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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

GUC 01 00:02:21.5±0.5, 34°.76S × 72°.00W, h12km±6km, ML3.6, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.68**	**112**	⇓*i* P	Pn	00 02 37.0	0.0
NICH				*i* S	Sb	00 02 45.6	+0.9
TALC	**Talca**	**0.71**	**155**	⇓*i* P	Pb	00 02 36.5	+0.7
TALC				*e* S	Sb	00 02 45.9	+0.3
COCH	**Cobquecura**	**1.52**	**205**	⇓*i* P	Pn	00 02 48.3	-0.2
COCH				*e* S	Sb	00 03 09.0	+0.2
SJCH	**San Jose de Ma**	**1.76**	**51**	⇑*i* P	Pn	00 02 52.4	+0.4
SJCH				*e* S	Sb	00 03 16.0	-0.1
CLCH	**Cerro Calan**	**1.82**	**42**	⇑*i* P	Pb	00 02 55.0	+0.1
CLCH				*i* S	Sg	00 03 19.8	-0.5
CLCH				AML	AML	00 03 23.3	
	comp=N,911nm,0.2s						
ROCH	**El Roble**	**1.96**	**25**	⇑*i* P	Pb	00 02 56.3	-1.2
ROCH				*e* S	Sb	00 03 22.5	+0.5

*IDC **01** 00:50:13.8±1.7, 36°.15S × 73°.40W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/22, mbtmp3.5/5, ML3.5/2, MS2.6/3, Ms1 2.6/3, ms1mx2.6/18, Error ellipse: s-maj=39.5km s-min=29.8km az=87.0*
*GUC **01** 00:50:15.7±0.6, 36°.25S × 73°.57W, h9km±5km, ML3.8*
*ISCJB **01** 00:50:16.6±1.0, 36°.22S±0°.06 × 73°.5W±0°.1, h33km, mb3.6/2, MS3.0/2, Error ellipse: s-maj=12.3km s-min=8.5km az=176.5*

ISC 01 00:50:18.4±1.2, 36°.26S±0°.06 × 73°.4W±0°.1, h35km, n11, σ1§25/11, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.54**	**76**	⇓*i* P	**Pn**	**00 50 28.5**	**-1.1**
COCH				*i* S	**Sn**	**00 50 37.9**	**+0.6**
CCSP	**San Pedro de C**	**0.64**	**156**	⇑*i* P	**Pn**	**00 50 29.7**	**-1.2**
CCSP				*i* S	**Sn**	**00 50 39.8**	**-0.1**
CCSP				AML	AML	00 50 42.7	
	comp=E,12μm,0.5s						
TALC	**Talca**	**1.70**	**60**	⇓*i* P	**Pn**	**00 50 46.9**	**+1.4**
NICH	**Los Niches**	**2.19**	**56**	*e* S	Sn	00 51 25.1	+7.0
PLCA	**Paso Flores**	**5.00**	**154**	Pn	**Pn**	**00 51 32.8**	**+1.8**
	comp=E,0.7nm,0.3s,baz=331,slow=13,SNR=10						
PLCA				Lg	Lg	00 52 49.7	
	comp=E,0.8nm,0.3s,baz=302,slow=11,SNR=4.0						
CFAA	**Coronel Fontan**	**6.34**	**44**	Pn	**Pn**	**00 51 47.5**	**-1.9**
	comp=E,0.3nm,0.3s,baz=190,slow=9.2,SNR=22						
CFAA				Sn	**Sn**	**00 52 59.8**	**-0.8**
	comp=E,0.0nm,0.3s,baz=210,slow=18,SNR=2.5						
CFAA				LR	LR	00 53 36.6	
	comp=E,6.0nm,20.2s,baz=228,slow=32						
LPAZ	**La Paz**	**20.45**	**15**	P	**P**	**00 54 53.6**	**+0.2**
	comp=E,1.6nm,0.8s,baz=192,slow=6.1,SNR=3.8						
SIV	**San Ignacio**	**22.99**	**32**	LR	LR	01 05 28.4	
	comp=E,43nm,18.5s,baz=200,slow=40						
ATAH	**Atahualpa**	**29.34**	**350**	LR	LR	01 05 15.1	
	comp=E,35nm,18.8s,baz=251,slow=31						
TXAR	**Lajitas Array**	**71.17**	**332**	P	**P**	**01 01 33.9**	**+0.3**
	comp=E,0.4nm,0.7s,baz=148,slow=7.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**86.05**	**71**	P	**P**	**01 02 55.5**	**-0.1**
	comp=E,0.6nm,0.9s,baz=244,slow=3.8,SNR=2.7						

MEX 01 01:00:13.8±0.6, 14°.58N × 93°.27W, h51km±30km, MD3.9, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.02**	**71**	*i* P	Pn	01 00 30.6	-1.2
THIG				*i* S	Sn	01 00 42.7	-2.5
PCIG		**1.12**	**2**	*i* P	Pn	01 00 31.9	-1.2
PCIG				*e* S	Sn	01 00 45.4	-2.1
CCIG	**Comitan**	**2.01**	**33**	⇓*i* P	Pn	01 00 43.2	-2.4
CCIG				*e* S	Sn	01 01 07.9	-1.8

*IDC **01** 01:01:19.6±0.9, 23°.36N × 123°.27E, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.8/26, mbtmp3.8/11, ML3.9/2, MS3.3/8, Ms1 3.4/8, ms1mx3.0/31, Error ellipse: s-maj=33.2km s-min=18.7km az=73.0*
*JMA **01** 01:01:21.9±0.2, 23°.37N × 123°.51E, h51km±4km, M3.3*
*ISCJB **01** 01:01:22.7±1.3, 23°.40N±0°.05 × 123°.53E±0°.05, h33km±9km, mb3.6/9, MS3.3/7, Error ellipse: s-maj=8.4km s-min=6.9km az=138.7*

ISC 01 01:01:23.0±1.0, 23°.45N±0°.10 × 123°.51E±0°.06, h21km±6km, n28, σ0§91/32, mb3.7/9, MS3.3/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.66**	**24**	P	**Pb**	**01 01 36.3**	**+0.4**
HATJ				S	**Sn**	**01 01 46.3**	**-0.7**
IRIF	**Iriomote-Funau**	**0.91**	**13**	P	**Pn**	**01 01 39.7**	**-0.9**
IRIF				*e* S	**Sn**	**01 01 52.8**	**-0.2**
JKRS	**Kuro-shima**	**0.91**	**30**	P	**Pn**	**01 01 40.0**	**-0.6**
JKRS				S	**Sn**	**01 01 52.5**	**-0.6**
JIJ	**Ishigaki jima**	**1.08**	**32**	P	**Pn**	**01 01 41.9**	**-1.0**
JIJ				S	**Sn**	**01 01 56.1**	**-1.2**
YOJ	**Yonaguni jima**	**1.11**	**336**	P	**Pn**	**01 01 42.8**	**-0.6**
YOJ				S	**Sb**	**01 01 57.5**	**0.0**
JYNG	**Yonagunijimaku**	**1.13**	**333**	P	**Pn**	**01 01 42.9**	**-0.7**
JYNG				S	**Sb**	**01 01 58.0**	**0.0**
JISG	**Ishigakijimahi**	**1.35**	**33**	P	**Pn**	**01 01 45.6**	**-1.0**
JISG				S	**Sn**	**01 02 02.5**	**-1.4**
JTJ	**Tarama**	**1.61**	**42**	P	**Pn**	**01 01 49.8**	**-0.4**
JTJ				S	**Sn**	**01 02 10.0**	**-0.4**
JIRB	**Irabujima**	**2.05**	**47**	P	**Pn**	**01 01 55.3**	**-0.9**
JIRB				S	**Sn**	**01 02 20.3**	**-0.9**
JMJ	**Miyako jima 2**	**2.12**	**50**	*e*S	**Sn**	**01 02 22.1**	**-0.9**
JIKM	**Ikemajima**	**2.16**	**47**	P	**Pn**	**01 01 57.2**	**-0.6**
JOGS	**Gusukube**	**2.17**	**53**	P	**Pn**	**01 01 57.7**	**-0.2**
KSRS	**Korea Array**	**14.46**	**14**	Pn	**Pn**	**01 04 47.8**	**+1.2**
	0.4nm,0.3s,baz=189,slow=14,SNR=4.7						
KSRS				LR	LR	01 11 23.8	
	comp=Z,125nm,19.0s,baz=200,slow=41						
MJAR	**Matsushiro Arr**	**18.20**	**41**	P	**P**	**01 05 35.4**	**+0.8**
	0.6nm,0.3s,baz=225,slow=9.0,SNR=11						
USRK	**Uesuriysk Ar.**	**21.84**	**17**	LR	LR	01 16 08.9	
	comp=Z,100nm,18.4s,baz=182,slow=40						
CMAR	**Chiang Mai Arr**	**23.46**	**262**	LR	LR	01 16 42.3	
	comp=Z,36nm,18.4s,baz=105,slow=40						
SONM	**Songino Array**	**27.90**	**335**	P	**P**	**01 07 10.8**	**-0.9**
	1.0nm,0.8s,baz=135,slow=8.3,SNR=7.8						
SONM				LR	LR	01 19 48.4	
	comp=Z,74nm,18.6s,baz=150,slow=40						
PETK	**Petropavlovsk-**	**39.31**	**32**	LR	LR	01 25 10.5	
	comp=Z,21nm,18.6s,baz=172,slow=36						
MKAR	**Makanchi Array**	**40.35**	**316**	P	**P**	**01 08 58.8**	**-0.5**
	0.3nm,0.7s,baz=104,slow=9.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**42.03**	**326**	P	**P**	**01 09 11.3**	**-1.5**
	0.5nm,0.3s,baz=107,slow=9.8,SNR=2.5						
WRA	**Warramunga Arr**	**44.40**	**165**	P	**P**	**01 09 31.4**	**-1.0**
	2.2nm,0.9s,baz=350,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**47.91**	**167**	P	**P**	**01 09 59.5**	**-0.5**
	0.7nm,0.5s,baz=353,slow=14,SNR=8.5						
ILAR	**Eielson Array**	**68.89**	**27**	P	**P**	**01 12 27.9**	**+2.0**
	0.4nm,0.7s,baz=292,slow=9.3,SNR=5.9						
FINES	**FINESS Array B**	**73.15**	**330**	P	**P**	**01 12 51.6**	**-0.2**
	0.6nm,0.7s,baz=169,slow=4.9,SNR=3.9						
FINES				LR	LR	01 49 05.9	
	comp=Z,43nm,21.0s,baz=39,slow=39						
HFS	**Hagfors**	**79.24**	**331**	LR	LR	01 52 45.1	
	comp=Z,32nm,19.8s,baz=56,slow=39						
NOA	**NORSAR Array B**	**79.86**	**333**	LR	LR	01 52 21.5	
	comp=Z,14nm,18.7s,baz=70,slow=38						
YKA	**Yellowknife Ar**	**82.81**	**23**	P	**P**	**01 13 46.2**	**+0.7**
	1.4nm,1.0s,baz=311,slow=5.3,SNR=17						
GERES	**GERESS Array B**	**84.75**	**321**	P	**P**	**01 13 56.3**	**+0.4**
	0.3nm,0.6s,baz=323,slow=3.3,SNR=4.5						

*DDA **01** 01:02:04.8, 41°.29N × 33°.62E, h7km, MD3.3*
*ISK **01** 01:02:05.3, 41°.28N × 33°.69E, h5km, MD3.6*
*ISCJB **01** 01:02:06.2±0.7, 41°.43N±0°.02 × 33°.64E±0°.03, h13km±5km, Error ellipse: s-maj=3.9km s-min=2.9km az=38.3*
*CSEM **01** 01:02:07.1±0.1, 41°.37N × 33°.69E, h10km, MD3.3, Error ellipse: s-maj=4.3km s-min=3.0km az=25.0*

ISC 01 01:02:06.2±1.1, 41°.30N±0°.03 × 33°.66E±0°.02, h10km±10km, n125, σ1§57/152, 21C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILGA	**Ilgaz**	**0.25**	**170**	*i* P	**Pg**	**01 02 10.3**	**-1.1**
TOS	**Tosya**	**0.38**	**133**	*e*PG	**Pg**	**01 02 13.2**	**-0.6**
TOS	**Tosya**	**0.38**	**133**	*e*Pg	**Pg**	**01 02 13.2**	**-0.6**
CANT	**Cankiri**	**0.69**	**182**	*e*PG	**Pg**	**01 02 18.6**	**-0.9**
CANT				*e*SG	**Sg**	**01 02 29.1**	**+0.4**
BZK	**Bozkurt**	**0.71**	**21**	*e*PG	**Pg**	**01 02 20.2**	**+0.2**
BZK				*e*SG	**Sb**	**01 02 31.1**	**+0.5**
BZK	**Bozkurt**	**0.71**	**21**	*e*Pg	**Pg**	**01 02 20.2**	**+0.2**
BZK				*e*Sg	**Sb**	**01 02 31.1**	**+0.5**
ELDT	**Eldivan**	**0.82**	**192**	*i* P	**Pg**	**01 02 20.8**	**-1.3**
ELDT				*i* S	**Sg**	**01 02 33.4**	**+0.5**
BYBT	**Boyabat**	**0.85**	**78**	*e*PG	**Pg**	**01 02 22.2**	**-0.4**
BYBT	**Boyabat**	**0.85**	**78**	*e*Pg	**Pg**	**01 02 22.2**	**-0.4**
BOYT	**Boyabat**	**0.95**	**82**	*i* P	**Pg**	**01 02 23.6**	**-0.8**
BOYT				*i* S	**Sb**	**01 02 37.8**	**+0.4**
BOYT	**Boyabat**	**0.95**	**82**	*i* P	**Pg**	**01 02 23.6**	**-0.8**
BOYT				*i* S	**Sb**	**01 02 37.8**	**+0.4**
CTKT	**Corum**	**1.09**	**128**	*i* S	**Sb**	**01 02 41.8**	**+0.2**
CTKT	**Corum**	**1.09**	**128**	*i* P	**Pg**	**01 02 26.5**	**-0.7**
CTKT				*i* S	**Sb**	**01 02 41.8**	**+0.2**
DIKM	**Dikmen**	**1.25**	**73**	*e*PN	**Pg**	**01 02 30.0**	**-0.3**
DIKM	**Dikmen**	**1.25**	**73**	*e*Pn	**Pg**	**01 02 30.0**	**-0.3**
BCAM	**Yenicaga**	**1.30**	**249**	*i* P	**Pn**	**01 02 28.7**	**-1.8**
BCAM				*i* S	**Sb**	**01 02 46.9**	**-0.6**
CORM	**Corum**	**1.34**	**146**	*e*PN	**Pb**	**01 02 31.3**	**-0.2**
CORM	**Corum**	**1.34**	**146**	*e*Pn	**Pb**	**01 02 31.3**	**-0.2**
LOD	**Lodumlu**	**1.56**	**206**	*e*PN	**Pn**	**01 02 34.8**	**+0.7**
LOD	**Lodumlu**	**1.56**	**206**	*e*Pn	**Pn**	**01 02 34.8**	**+0.7**
ANTO	**Ankara**	**1.57**	**205**	*e*PN	**Pb**	**01 02 35.1**	**-0.3**
ANTO	**Ankara**	**1.57**	**205**	⇑*i* P	**Pn**	**01 02 34.7**	**+0.4**
ANTO				S	**Sg**	**01 02 56.9**	**+0.2**
ANTO	**Ankara**	**1.57**	**205**	*e*Pn	**Pb**	**01 02 35.1**	**-0.3**
HAVZ	**Havza**	**1.57**	**97**	*i* P	**Pb**	**01 02 35.1**	**-0.3**
HAVZ				*i* S	**Sg**	**01 02 57.5**	**+0.8**
HAVZ	**Havza**	**1.57**	**97**	*i* P	**Pb**	**01 02 35.1**	**-0.3**
HAVZ				*i* S	**Sg**	**01 02 57.5**	**+0.8**
BBAL	**Bala**	**1.80**	**193**	*i* P	**Pn**	**01 02 38.4**	**+1.0**
BBAL				*i* S	**Sb**	**01 03 03.0**	**+1.0**
BBAL	**Bala**	**1.80**	**193**	*i* P	**Pn**	**01 02 38.4**	**+1.0**
BBAL				*i* S	**Sb**	**01 03 03.0**	**+1.0**
KVT	**Kavak**	**1.82**	**96**	*e*PN	**Pb**	**01 02 38.9**	**-0.7**
KVT	**Kavak**	**1.82**	**96**	*e*Pn	**Pb**	**01 02 38.9**	**-0.7**
AFSR	**Af˙ar-Bala (A**	**1.90**	**194**	*e*PN	**Pb**	**01 02 40.2**	**-0.8**
AFSR	**Af˙ar-Bala (A**	**1.90**	**194**	*e*Pn	**Pb**	**01 02 40.3**	**-0.8**
MDUB	**Mudurnu**	**2.04**	**247**	*e*PN	**Pn**	**01 02 42.0**	**+1.3**
MDUB	**Mudurnu**	**2.04**	**247**	*e*Pn	**Pn**	**01 02 42.0**	**+1.3**
YOZ	**Yozgat**	**2.09**	**142**	*e*PN	**Pn**	**01 02 42.3**	**+0.9**
YOZ	**Yozgat**	**2.09**	**142**	*e*Pn	**Pn**	**01 02 42.3**	**+0.9**
HENT	**Hendek**	**2.14**	**258**	*i* P	**Pn**	**01 02 43.8**	**+1.8**
HENT				*i* S	**Sb**	**01 03 11.7**	**0.0**
HENT	**Hendek**	**2.14**	**258**	*i* P	**Pn**	**01 02 43.8**	**+1.8**
HENT				*i* S	**Sb**	**01 03 11.7**	**0.0**
BTAS	**Taskesti**	**2.14**	**251**	*i* P	**Pn**	**01 02 41.8**	**-0.2**
BTAS				*i* S	**Sb**	**01 03 12.7**	**+1.0**
BTAS	**Taskesti**	**2.14**	**251**	*i* P	**Pn**	**01 02 41.8**	**-0.2**
BTAS				*i* S	**Sb**	**01 03 12.7**	**+1.0**
SVRH	**Sivrihisar-ESK**	**2.46**	**222**	*e*PN	**Pn**	**01 02 47.7**	**+1.2**
SVRH	**Sivrihisar-ESK**	**2.46**	**222**	*e*Pn	**Pn**	**01 02 47.7**	**+1.2**
GULT	**Gulveren**	**2.54**	**251**	*e*PN	**Pn**	**01 02 49.2**	**+1.7**
GULT	**Gulveren**	**2.54**	**251**	*e*Pn	**Pn**	**01 02 49.2**	**+1.7**
SPNC	**Sapanca-Adapaz**	**2.61**	**258**	*e*PN	**Pn**	**01 02 50.4**	**+2.0**
SPNC	**Sapanca-Adapaz**	**2.61**	**258**	*e*Pn	**Pn**	**01 02 50.4**	**+2.0**
GPA	**Golpazari**	**2.73**	**249**	*e*PN	**Pn**	**01 02 52.0**	**+1.8**
GPA	**Golpazari**	**2.73**	**249**	*e*Pn	**Pn**	**01 02 52.0**	**+1.8**
KIZT	**Kizilcal**	**2.77**	**210**	*e*PN	**Pn**	**01 02 52.5**	**+1.7**
KIZT	**Kizilcal**	**2.77**	**210**	*e*Pn	**Pn**	**01 02 52.5**	**+1.7**
ESKT	**Eskisehir**	**2.78**	**231**	*e*PN	**Pn**	**01 02 52.8**	**+1.8**
ESKT	**Eskisehir**	**2.78**	**231**	*e*Pn	**Pn**	**01 02 52.8**	**+1.8**
SVSK	**Karacayir**	**2.89**	**117**	*e*PN	**Pn**	**01 02 54.4**	**+2.1**
SVSK	**Karacayir**	**2.89**	**117**	*e*Pn	**Pn**	**01 02 54.4**	**+2.1**
RSDY	**Resadiye-TOKAT**	**2.92**	**107**	*e*PN	**Pn**	**01 02 54.2**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.92**	**107**	*e*Pn	**Pn**	**01 02 54.2**	**+1.4**
BNN	**Bunyan**	**2.96**	**145**	*e*PN	**Pn**	**01 02 55.2**	**+1.7**
BNN	**Bunyan**	**2.96**	**145**	*e*Pn	**Pn**	**01 02 55.2**	**+1.7**
SILT	**Sile**	**3.03**	**269**	*e*PN	**Pn**	**01 02 56.5**	**+2.3**
SILT	**Sile**	**3.03**	**269**	*e*Pn	**Pn**	**01 02 56.5**	**+2.3**
ADVT	**Abdulvahap**	**3.10**	**255**	*e*PN	**Pn**	**01 02 57.4**	**+2.3**
ADVT	**Abdulvahap**	**3.10**	**255**	*e*Pn	**Pn**	**01 02 57.4**	**+2.3**
SULT	**Sultanhani-AKS**	**3.10**	**182**	*e*PN	**Pn**	**01 02 57.2**	**+1.9**
SULT	**Sultanhani-AKS**	**3.10**	**182**	*e*Pn	**Pn**	**01 02 57.2**	**+1.9**
CAVI	**Cavuskoy**	**3.10**	**251**	*e*PN	**Pn**	**01 02 57.5**	**+2.3**
CAVI	**Cavuskoy**	**3.10**	**251**	*e*Pn	**Pn**	**01 02 57.5**	**+2.3**
LADK	**Ladik-KONYA**	**3.25**	**198**	*e*PN	**Pn**	**01 02 59.3**	**+1.9**
LADK	**Ladik-KONYA**	**3.25**	**198**	*e*Pn	**Pn**	**01 02 59.3**	**+1.9**
ISK	**Istanbul-Kandi**	**3.48**	**268**	*e*PN	**Pn**	**01 03 02.7**	**+2.3**
ISK	**Istanbul-Kandi**	**3.48**	**268**	*e*Pn	**Pn**	**01 03 02.7**	**+2.3**
KLYT	**Kilyos**	**3.48**	**271**	*e*PN	**Pn**	**01 03 03.0**	**+2.7**
KLYT	**Kilyos**	**3.48**	**271**	*e*Pn	**Pn**	**01 03 03.1**	**+2.7**
KONT	**Konya--Tatoy**	**3.49**	**197**	*e*PN	**Pn**	**01 03 03.0**	**+2.3**
KONT	**Konya--Tatoy**	**3.49**	**197**	*e*Pn	**Pn**	**01 03 03.0**	**+2.3**
ALT	**Altintas**	**3.52**	**232**	*e*PN	**Pn**	**01 03 03.4**	**+2.3**
ALT	**Altintas**	**3.52**	**232**	*e*Pn	**Pn**	**01 03 03.4**	**+2.3**
SHUT	**Suhut-Afyon**	**3.63**	**222**	*e*PN	**Pn**	**01 03 05.0**	**+2.3**
SHUT	**Suhut-Afyon**	**3.63**	**222**	*e*Pn	**Pn**	**01 03 05.0**	**+2.3**
BGKT	**Bogazkoy**	**3.69**	**270**	*e*PN	**Pn**	**01 03 05.7**	**+2.5**
BGKT	**Bogazkoy**	**3.69**	**270**	*e*Pn	**Pn**	**01 03 05.7**	**+2.5**
TVSB	**Tavsanli**	**3.70**	**241**	*e*PN	**Pn**	**01 03 06.0**	**+2.5**
TVSB	**Tavsanli**	**3.70**	**241**	*e*Pn	**Pn**	**01 03 06.0**	**+2.5**
ARMT	**Armutlu**	**3.71**	**260**	*e*PN	**Pn**	**01 03 06.0**	**+2.5**
ARMT	**Armutlu**	**3.71**	**260**	*e*Pn	**Pn**	**01 03 06.1**	**+2.5**
MDNY	**Mudanya-Bursa**	**3.74**	**257**	*e*PN	**Pn**	**01 03 06.6**	**+2.6**
MDNY	**Mudanya-Bursa**	**3.74**	**257**	*e*Pn	**Pn**	**01 03 06.6**	**+2.6**
CTKS	**Kestanelik-??a**	**3.88**	**271**	*e*PN	**Pn**	**01 03 08.5**	**+2.6**
CTKS	**Kestanelik-??a**	**3.88**	**271**	*e*Pn	**Pn**	**01 03 08.5**	**+2.6**
DARE	**Darende-Malaty**	**4.01**	**132**	*e*PN	**Pn**	**01 03 10.2**	**+2.4**
DARE	**Darende-Malaty**	**4.01**	**132**	*e*Pn	**Pn**	**01 03 10.2**	**+2.4**
SLVT	**Silivri**	**4.11**	**271**	*e*PN	**Pn**	**01 03 11.6**	**+2.6**
SLVT	**Silivri**	**4.11**	**271**	*e*Pn	**Pn**	**01 03 11.6**	**+2.6**
ILIC	**ilic-Erzincan**	**4.18**	**115**	*e*PN	**Pn**	**01 03 12.5**	**+2.4**
ILIC	**ilic-Erzincan**	**4.18**	**115**	*e*Pn	**Pn**	**01 03 12.5**	**+2.4**
GUMT	**Gumushane**	**4.49**	**99**	*e*PN	**Pn**	**01 03 17.1**	**+2.6**
GUMT	**Gumushane**	**4.49**	**99**	*e*Pn	**Pn**	**01 03 17.1**	**+2.6**
MANR	**Mangalia**	**4.51**	**306**	⇓*i* P	**Pn**	**01 03 15.3**	**+0.7**
MANR	**Mangalia**	**4.51**	**306**	⇓*i* P	**Pn**	**01 03 15.3**	**+0.7**
MANR				S	**Sn**	**01 04 04.8**	**-2.3**
EFOR	**EFORIE**	**4.63**	**309**	⇑*i* P	**Pn**	**01 03 16.4**	**+0.2**
EFOR	**EFORIE**	**4.63**	**309**	⇑*i* P	**Pn**	**01 03 16.4**	**+0.2**
PSN	**Preselentsi**	**4.70**	**302**	⇑*i* P	**Pn**	**01 03 17.3**	**+0.2**
PSN	**Preselentsi**	**4.70**	**302**	⇑*i* P	**Pn**	**01 03 17.3**	**+0.2**
TIRR	**Tirgusor**	**4.98**	**311**	⇓*i* P	**Pn**	**01 03 20.6**	**-0.4**
TIRR	**Tirgusor**	**4.98**	**311**	⇓*i* P	**Pn**	**01 03 20.6**	**-0.4**
TIRR				S	**Sn**	**01 04 16.9**	**-1.8**
MSAB	**Monastry St. A**	**5.12**	**305**	⇓*i* P	**Pn**	**01 03 23.4**	**+0.4**
MSAB	**Monastry St. A**	**5.12**	**305**	⇓*i* P	**Pn**	**01 03 23.4**	**+0.4**
MSAB				S	**Sn**	**01 04 21.7**	**-0.5**
TLCR		**5.25**	**319**	⇑*i* P	**Pn**	**01 03 23.5**	**-1.3**
TLCR		**5.25**	**319**	⇑*i* P	**Pn**	**01 03 23.5**	**-1.3**
TLCR				S	**Sn**	**01 04 23.5**	**-1.9**
TLB	**Topalu**	**5.27**	**310**	⇓*i* P	**Pn**	**01 03 24.6**	**-0.4**
TLB	**Topalu**	**5.27**	**310**	⇓*i* P	**Pn**	**01 03 24.6**	**-0.4**
TLB				S	**Sn**	**01 04 23.8**	**-2.0**
CFR	**Carcaliu**	**5.59**	**316**	⇑*i* P	**Pn**	**01 03 29.3**	**-0.1**
CFR	**Carcaliu**	**5.59**	**316**	⇑*i* P	**Pn**	**01 03 29.3**	**-0.1**
CFR				S	**Sn**	**01 04 31.7**	**-2.0**
VRI	**Vrincioaia**	**6.79**	**315**	S	**Sn**	**01 05 03.2**	**-0.2**
VRI	**Vrincioaia**	**6.79**	**315**	S	**Sn**	**01 05 03.2**	**-0.2**
PLOR	**Plostina**	**6.83**	**314**	⇑*i* P	**Pn**	**01 03 48.9**	**+2.5**
PLOR	**Plostina**	**6.83**	**314**	⇑*i* P	**Pn**	**01 03 48.9**	**+2.5**
MLR	**Muntele Rosu**	**7.01**	**309**	⇑*i* P	**Pn**	**01 03 49.4**	**+0.4**
MLR	**Muntele Rosu**	**7.01**	**309**	⇑*i* P	**Pn**	**01 03 49.4**	**+0.4**
MLR				S	**Sn**	**01 05 08.1**	**-0.7**
TESR	**Tescani**	**7.26**	**318**	⇑*i* P	**Pn**	**01 03 52.1**	**-0.3**
TESR	**Tescani**	**7.26**	**318**	⇑*i* P	**Pn**	**01 03 52.1**	**-0.3**
VOIR		**7.51**	**306**	⇑*i* P	**Pn**	**01 03 57.6**	**+1.7**
VOIR		**7.51**	**306**	⇑*i* P	**Pn**	**01 03 57.6**	**+1.7**
VOIR				S	**Sn**	**01 05 20.8**	**-0.3**
LOT	**Lotru**	**8.31**	**303**	⇑*i* P	**Pn**	**01 04 09.1**	**+2.2**
LOT	**Lotru**	**8.31**	**303**	⇑*i* P	**Pn**	**01 04 09.1**	**+2.2**
LOT				S	**Sn**	**01 05 38.8**	**-2.0**
BURAR	**Bucovina Array**	**8.73**	**319**	⇑*i* P	**Pn**	**01 04 12.5**	**-0.1**
BURAR	**Bucovina Array**	**8.73**	**319**	⇑*i* P	**Pn**	**01 04 12.5**	**-0.1**
BURAR				S	**Sn**	**01 05 50.6**	**-0.5**

*BGS **01** 01:36:35.3±0.2, 42°.85N × 0°.23E, h5km, ML4.4*
*IDC **01** 01:36:37.9±0.8, 42°.96N × 0°.29E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.5/38, mbtmp3.5/12, ML3.9/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/31, Error ellipse: s-maj=20.9km s-min=14.2km az=136.0*
*ISCJB **01** 01:36:38.6±0.2, 43°.06N±0°.01 × 0°.22E±0°.01, h27km±1km, mb3.5/10, Error ellipse: s-maj=2.2km s-min=1.6km az=158.3*
*CSEM **01** 01:36:38.8±0.1, 43°.06N × 0°.31E, h10km, ML4.4/16, Error ellipse: s-maj=1.7km s-min=1.3km az=156.0*
*STR **01** 01:36:39.8±0.1, 43°.02N × 0°.29E, h6km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **01** 01:36:39.5±0.0, 42°.98N × 0°.27E, h15km, Md3.9/6, Ml4.3/66, Error ellipse: s-maj=0.9km s-min=0.0km az=150.0*
*IASPEI **01** 01:36:39.3±0.8, 42°.99N±0°.03 × 0°.29E±0°.01, h18km±3km, mb3.5/10, Error ellipse: s-maj=4.5km s-min=1.9km az=13.7*
*NEIC **01** 01:36:39.5, 42°.98N × 0°.27E, h15km, ML4.3(LDG), After LDG.*
NEIC Felt in Andorra.
*SFS **01** 01:36:40.0, 42°.90N × 0°.20E, h0km, ML3.8*
*INMG **01** 01:36:40.9±1.8, 42°.92N × 0°.29E, h4km±3km, MD3.7, ML3.7, Error ellipse: s-maj=3.7km s-min=2.0km az=38.0*
*MDD **01** 01:36:40.2±0.2, 43°.02N × 0°.32E, h11km, mbLg3.9/82, Error ellipse: s-maj=1.8km s-min=1.3km az=0.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA-ESPAA.
*MRB **01** 01:36:40.4, 42°.98N × 0°.29E, h9km±9km, ML4.1/22, Error ellipse: s-maj=5.6km s-min=0.3km az=35.0*

ISC 01 01:36:39.2±0.6, 43°.00N±0°.01 × 0°.27E±0°.010, h18km±1km, n558, σ1§99/863, mb3.5/10, 8C-14D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPF	**Esparros**	**0.06**	**55**	*e*Pg	**Pg**	**01 36 42.8**	**+0.1**
	baz=235						
EPF				*e*Sg	**Sg**	**01 36 44.7**	**-0.3**
	33μm,0.2s,SNR=1.0						
EPF	**Esparros**	**0.06**	**55**	Pg	**Pg**	**01 36 42.8**	**+0.1**
EPF				Lg	Lg	01 36 44.7	
	17μm,0.2s						
EPF	**Esparros**	**0.06**	**55**	*e*Pg	**Pg**	**01 36 42.8**	**+0.1**
EPF				*e*Sg	**Sg**	**01 36 44.7**	**-0.3**
	17μm,0.2s,SNR=1.0						
EPF	**Esparros**	**0.06**	**55**	*e*Pg	**Pg**	**01 36 42.8**	**+0.1**
EPF				*e*Sg	**Sg

	949nm,0.2s,SNR=7.9							
OSSF	**Osses**	**1.16**	**283**	P	**Pn**	**01 37 00.8**	**+0.4**
OSSF				S	**Sg**	**01 37 17.7**	**+0.9**
OSSF	**Osses**	**1.16**	**283**	Pg	**Pn**	**01 37 01.0**	**+0.6**
OSSF				Sg	**Sg**	**01 37 17.6**	**+0.9**
OSSF	**Osses**	**1.16**	**283**	Pg	**Pn**	**01 37 01.0**	**+0.6**
OSSF				Sg	**Sg**	**01 37 17.6**	**+0.9**
IEPA	**Eparoz**	**1.16**	**260**	Pg	**Pg**	**01 37 02.2**	**+0.6**
	234nm,0.3s,SNR=7.9							
IEPA				Lg	Lg	01 37 17.6		
	3µm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**1.16**	**260**	Pg	**Pg**	**01 37 02.2**	**+0.6**
	234nm,0.3s,SNR=7.9							
IEPA				Lg	Lg	01 37 17.6		
	3µm,0.2s,SNR=7.9							
CAVN	**Les Avellanes**	**1.17**	**162**	P	**Pb**	**01 37 01.5**	**+0.7**
CAVN				S	**Sn**	**01 37 16.8**	**+0.7**
	4µm,0.3s							
CAVN	**Les Avellanes**	**1.17**	**162**	P	**Pb**	**01 37 01.6**	**+0.7**
LPEF	**Le Peyrat**	**1.20**	**92**	P	**Pb**	**01 37 02.3**	**+1.0**
LPEF				S	**Sn**	**01 37 17.8**	**+1.0**
EALK	**Alkurruntz**	**1.33**	**280**	Pg	**Pb**	**01 37 04.5**	**+1.0**
	37nm,0.1s,SNR=160							
EALK				Lg	Lg	01 37 22.7		
	868nm,0.4s,SNR=6.2							
EALK	**Alkurruntz**	**1.33**	**280**	Pg	**Pb**	**01 37 04.5**	**+1.0**
	37nm,0.1s,SNR=160							
EALK				Lg	Lg	01 37 22.7		
	868nm,0.4s,SNR=6.2							
IUNC	**Uncitti**	**1.33**	**260**	Pg	**Pg**	**01 37 05.7**	**+0.8**
	468nm,0.2s,SNR=7.9							
IUNC				Lg	Lg	01 37 23.5		
	2µm,0.2s,SNR=7.9							
IUNC	**Uncitti**	**1.33**	**260**	Pg	**Pg**	**01 37 05.7**	**+0.8**
	468nm,0.2s,SNR=7.9							
IUNC				Lg	Lg	01 37 23.5		
	2µm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**1.33**	**278**	Pg	**Pn**	**01 37 03.6**	**+0.7**
	77nm,0.2s,SNR=343							
ELIZ				Lg	Lg	01 37 23.7		
	682nm,0.3s,SNR=12							
ELIZ	**Elizondo**	**1.33**	**278**	Pg	**Pn**	**01 37 03.6**	**+0.7**
	77nm,0.2s,SNR=343							
ELIZ				Lg	Lg	01 37 23.7		
	682nm,0.3s,SNR=12							
IUSE	**Utxeti**	**1.34**	**268**	Pg	**Pb**	**01 37 05.0**	**+1.2**
	366nm,0.2s,SNR=7.9							
IUSE				Lg	Lg	01 37 23.9		
	1µm,0.1s,SNR=7.9							
IUSE	**Utxeti**	**1.34**	**268**	Pg	**Pb**	**01 37 05.0**	**+1.2**
	366nm,0.2s,SNR=7.9							
IUSE				Lg	Lg	01 37 24.0		
	1µm,0.1s,SNR=7.9							
FNEB	**N¯bias**	**1.35**	**93**	P	**Pn**	**01 37 04.4**	**+1.4**
FNEB				S	**Sb**	**01 37 22.7**	**+2.0**
	2µm,0.3s							
FNEB	**N¯bias**	**1.35**	**93**	P	**Pn**	**01 37 04.5**	**+1.4**
FNEB				S	**Sb**	**01 37 22.8**	**+2.0**
	2µm,0.3s							
CLLI	**Llivia**	**1.35**	**112**	Pg	**Pn**	**01 37 04.0**	**+0.7**
	48nm,0.1s,SNR=1150							
CLLI				Lg	Lg	01 37 22.5		
	575nm,0.2s,SNR=22							
CLLI	**Llivia**	**1.35**	**112**	Pg	**Pn**	**01 37 04.0**	**+0.7**
	48nm,0.1s,SNR=1000							
CLLI	**Llivia**	**1.35**	**112**	P	**Pn**	**01 37 04.3**	**+1.0**
CLLI				S	**Sn**	**01 37 21.8**	**+1.0**
	2µm,0.3s							
CLLI				Lg	Lg	01 37 22.5		
	575nm,0.2s,SNR=22							
CLLI	**Llivia**	**1.35**	**112**	Pg	**Pn**	**01 37 04.0**	**+0.7**
CLLI				*e*		01 37 22.5		
CARF	**Carcanieres**	**1.37**	**101**	P	**Pn**	**01 37 04.3**	**+0.8**
CARF				S	**Sb**	**01 37 23.3**	**+1.7**
CARF	**Carcanieres**	**1.37**	**101**	Pg	**Pb**	**01 37 05.2**	**+0.8**
CARF				Sg	**Sg**	**01 37 25.1**	**+1.4**
CARF	**Carcanieres**	**1.37**	**101**	Pg	**Pb**	**01 37 05.2**	**+0.8**
CARF				Sg	**Sg**	**01 37 25.1**	**+1.4**
EARA	**Aranguren**	**1.38**	**261**	Pg	**Pb**	**01 37 05.8**	**+1.3**
	48nm,0.2s,SNR=148							
EARA				Lg	Lg	01 37 24.8		
	350nm,0.2s							
EARA	**Aranguren**	**1.38**	**261**	Pg	**Pb**	**01 37 05.8**	**+1.3**
	48nm,0.2s,SNR=148							
EARA				Lg	Lg	01 37 24.8		
	350nm,0.2s							
VALF	**Valcebollere**	**1.41**	**114**	P	**Pb**	**01 37 05.8**	**+0.7**
VALF				S	**Sb**	**01 37 24.1**	**+1.2**
VALF	**Valcebollere**	**1.41**	**114**	Pg	**Pb**	**01 37 06.0**	**+0.9**
VALF				Sg	**Sg**	**01 37 26.8**	**+1.8**
VALF	**Valcebollere**	**1.41**	**114**	Pg	**Pb**	**01 37 06.0**	**+0.9**
VALF				Sg	**Sg**	**01 37 26.8**	**+1.8**
EMIR	**Miracle**	**1.42**	**139**	Pg	**Pb**	**01 37 06.0**	**+0.8**
	213nm,0.1s,SNR=798							
EMIR				Lg	Lg	01 37 24.3		
	505nm,0.1s,SNR=24							
EMIR	**Miracle**	**1.42**	**139**	Pg	**Pb**	**01 37 06.0**	**+0.8**
	213nm,0.1s,SNR=798							
EMIR				Lg	Lg	01 37 24.3		
	505nm,0.1s,SNR=24							
MTLF	**Montolieu**	**1.46**	**76**	*e*Pn	**Pn**	**01 37 04.0**	**-0.6**
	SNR=1.0							
MTLF	**Montolieu**	**1.46**	**76**	*e*Pg	**Pb**	**01 37 06.9**	**+1.1**
MTLF				*e*Sg	**Sb**	**01 37 25.7**	**+1.7**
	1µm,0.2s							
MTLF	**Montolieu**	**1.46**	**76**	Pn	**Pn**	**01 37 04.0**	**-0.6**
MTLF				Pg	**Pb**	**01 37 06.9**	**+1.1**
MTLF				Lg	Lg	01 37 25.7		
	547nm,0.2s							
MTLF	**Montolieu**	**1.46**	**76**	*e*Pn	**Pn**	**01 37 04.0**	**-0.6**
	SNR=1.0							
MTLF	**Montolieu**	**1.46**	**76**	*e*Pg	**Pb**	**01 37 06.9**	**+1.1**
MTLF				*e*Sg	**Sb**	**01 37 25.7**	**+1.7**
	547nm,0.2s							
MTLF	**Montolieu**	**1.46**	**76**	*e*Pn	**Pn**	**01 37 04.0**	**-0.6**
MTLF				*e*Pg	**Pb**	**01 37 06.9**	**+1.1**
MTLF				*e*Sg	**Sb**	**01 37 25.7**	**+1.7**
LRDF	**Laroque-de-Fa**	**1.66**	**91**	P	**Pg**	**01 37 12.2**	**+1.1**
LRDF				S	**Sg**	**01 37 33.1**	**+0.4**
LRDF	**Laroque-de-Fa**	**1.66**	**91**	Pg	**Pb**	**01 37 11.0**	**+1.8**
LRDF				Sg	**Sg**	**01 37 33.9**	**+1.1**
LRDF	**Laroque-de-Fa**	**1.66**	**91**	Pg	**Pb**	**01 37 11.0**	**+1.8**
LRDF				Sg	**Sg**	**01 37 33.9**	**+1.1**
CORI	**Orista**	**1.66**	**127**	P	**Pb**	**01 37 10.5**	**+1.2**
CORI				S	**Sg**	**01 37 32.6**	**-0.3**
	3µm,0.3s							
CORI	**Orista**	**1.66**	**127**	P	**Pb**	**01 37 10.5**	**+1.2**
CORI				S	**Sg**	**01 37 32.7**	**-0.2**
	3µm,0.3s							
FILF	**Fillols**	**1.74**	**104**	P	**Pb**	**01 37 10.5**	**0.0**
FILF				S	**Sn**	**01 37 30.4**	**+0.3**
FILF	**Fillols**	**1.74**	**104**	Pg	**Pb**	**01 37 10.7**	**+0.2**
FILF				Sg	**Sb**	**01 37 32.8**	**+0.8**
FILF	**Fillols**	**1.74**	**104**	Pg	**Pb**	**01 37 10.7**	**+0.2**
FILF				Sg	**Sb**	**01 37 32.8**	**+0.8**
EPOB	**Poblet**	**1.75**	**160**	⇓Pn	**Pn**	**01 37 09.9**	**+1.2**
	8.0nm,0.2s,SNR=18							
EPOB				Pg	**Pb**	**01 37 11.9**	**+1.1**
	214nm,0.1s,SNR=7.9							
EPOB				Lg	Lg	01 37 33.8		
	991nm,0.2s,SNR=68							
EPOB	**Poblet**	**1.75**	**160**	Pn	**Pn**	**01 37 09.9**	**+1.2**
	8.0nm,0.2s,SNR=18							
CBEU	**Beuda**	**1.92**	**112**	P	**Pb**	**01 37 14.3**	**+0.6**
CBEU				S	**Sb**	**01 37 40.1**	**+2.8**
	3µm,0.5s							
CBEU	**Beuda**	**1.92**	**112**	P	**Pb**	**01 37 14.4**	**+0.7**
CBEU				S	**Sg**	**01 37 40.2**	**-0.8**
	3µm,0.5s							
LFF	**La Frestale**	**1.97**	**10**	*e*Pn	**Pn**	**01 37 11.4**	**-0.2**
	SNR=1.0							
LFF	**La Frestale**	**1.97**	**10**	*e*Pg	**Pb**	**01 37 16.9**	**+2.4**
LFF				*e*Sn	**Sn**	**01 37 34.3**	**-1.5**
	SNR=1.0							
LFF				*e*Sg	**Sb**	**01 37 42.1**	**+3.5**
	2µm,0.3s,SNR=1.0							
LFF	**La Frestale**	**1.97**	**10**	Pn	**Pn**	**01 37 11.4**	**-0.2**
LFF				Pg	**Pb**	**01 37 16.9**	**+2.4**
LFF				Sn	**Sn**	**01 37 34.3**	**-1.5**
LFF				Lg	Lg	01 37 42.1	
	1µm,0.3s							
LFF	**La Frestale**	**1.97**	**10**	*e*Pn	**Pn**	**01 37 11.4**	**-0.2**
	SNR=1.0							
LFF	**La Frestale**	**1.97**	**10**	*e*Pg	**Pb**	**01 37 16.9**	**+2.4**
LFF				*e*Sn	**Sn**	**01 37 34.3**	**-1.5**
	SNR=1.0							
LFF				*e*Sg	**Sb**	**01 37 42.1**	**+3.5**
	1µm,0.3s,SNR=1.0							
LFF	**La Frestale**	**1.97**	**10**	*e*Pn	**Pn**	**01 37 11.4**	**-0.2**
LFF				*e*Pg	**Pb**	**01 37 16.9**	**+2.4**
LFF				*e*Sn	**Sn**	**01 37 34.3**	**-1.5**
LFF				*e*Sg	**Sb**	**01 37 42.1**	**+3.5**
	1µm,0.3s,SNR=1.0							
LFF	**La Frestale**	**1.97**	**10**	*e*Pn	**Pn**	**01 37 11.4**	**-0.2**
	SNR=1.0							
LFF	**La Frestale**	**1.97**	**10**	*e*Pg	**Pb**	**01 37 16.9**	**+2.4**
LFF				*e*Sn	**Sn**	**01 37 34.3**	**-1.5**
	SNR=1.0						

3.2nm,0.1s,SNR=9.3
EIBI Sn **Sn** **01 38 25.4 -1.7**
41nm,0.3s,SNR=7.1
EIBI **Ibiza** **4.05 168** Pn **Pn** **01 37 41.0 +0.8**
5.0nm,0.2s,SNR=27
GUD **Guadarrama** **4.06 236** ⇓Pn **Pn** **01 37 42.7 +2.1**
5.9nm,0.2s,SNR=18
GUD Pg **Pg** **01 37 54.6 -2.4**
22nm,0.3s,SNR=10
GUD Sn **Sn** **01 38 28.1 +0.4**
10nm,0.1s,SNR=6.2
GUD Lg Lg 01 38 46.6
44nm,0.2s,SNR=6.8
GUD **Guadarrama** **4.06 236** Pn **Pn** **01 37 42.7 +2.1**
5.9nm,0.2s,SNR=18
GUD **Guadarrama** **4.06 236** Pg **Pg** **01 37 54.6 -2.4**
22nm,0.3s,SNR=10
GUD Sn **Sn** **01 38 28.1 +0.4**
10nm,0.1s,SNR=6.2
GUD Lg Lg 01 38 46.6
44nm,0.2s,SNR=6.8
EBEN **Beniarda** **4.31 185** ⇓Pn **Pn** **01 37 44.7 +0.9**
3.9nm,0.2s,SNR=18
EBEN Pg Pb 01 37 58.1 +3.7
1.8nm,0.2s,SNR=4.9
EBEN Sn **Sn** **01 38 32.7 -0.9**
8.4nm,0.2s,SNR=7.9
EBEN Lg Lg 01 38 52.9
29nm,0.4s
EBEN **Beniarda** **4.31 185** Pn **Pn** **01 37 44.7 +0.9**
3.9nm,0.2s,SNR=18
MAHO **Mahon** **4.31 135** *i* P **Pn** **01 37 45.1 +1.3**
AVF **Avril sur Loir** **4.38 29** *e*Pn **Pn** **01 37 44.0 -0.7**
SNR=1.0
AVF **Avril sur Loir** **4.38 29** *e*Pg Pb 01 38 00.3 +4.8
AVF *e*Sn **Sn** **01 38 31.5 -3.6**
36nm,0.2s
AVF *e*Sg **Sg** **01 38 56.9 -2.7**
364nm,0.4s
AVF **Avril sur Loir** **4.38 29** Pn **Pn** **01 37 44.0 -0.7**
AVF Pg Pb 01 38 00.3 +4.8
AVF Sn **Sn** **01 38 31.5 -3.6**
18nm,0.2s
AVF Lg Lg 01 38 56.9
182nm,0.4s
AVF **Avril sur Loir** **4.38 29** *e*Pg Pb 01 38 00.3 +4.8
SNR=1.0
AVF **Avril sur Loir** **4.38 29** *e*Pg Pb 01 38 00.3 +4.8
AVF *e*Sn **Sn** **01 38 31.5 -3.6**
18nm,0.2s
AVF *e*Sg **Sg** **01 38 56.9 -2.7**
182nm,0.4s
AVF **Avril sur Loir** **4.38 29** *e*Pn **Pn** **01 37 44.0 -0.7**
AVF *e*Pg Pb 01 38 00.3 +4.8
AVF *e*Sn **Sn** **01 38 31.5 -3.6**
AVF *e*Sg **Sg** **01 38 56.9 -2.7**
SMF **Signal de Mont** **4.44 34** *e*Pn **Pn** **01 37 44.8 -0.8**
SNR=1.0
SMF **Signal de Mont** **4.44 34** *e*Pg Pg 01 38 01.8 -2.4
SMF *e*Sn **Sn** **01 38 33.0 -3.8**
32nm,0.2s
SMF *e*Sg **Sg** **01 38 58.9 -2.8**
199nm,0.3s,SNR=1.0
SMF **Signal de Mont** **4.44 34** Pn **Pn** **01 37 44.8 -0.8**
SMF Pg Pg 01 38 01.8 -2.4
SMF Sn **Sn** **01 38 33.0 -3.8**
16nm,0.2s
SMF Lg Lg 01 38 58.9
100nm,0.3s
SMF **Signal de Mont** **4.44 34** *e*Pn **Pn** **01 37 44.8 -0.8**
SNR=1.0
SMF **Signal de Mont** **4.44 34** *e*Pg Pg 01 38 01.8 -2.4
SMF *e*Sn **Sn** **01 38 33.0 -3.8**
16nm,0.2s
SMF *e*Sg **Sg** **01 38 58.9 -2.8**
100nm,0.3s,SNR=1.0
SMF **Signal de Mont** **4.44 34** *e*Pn **Pn** **01 37 44.8 -0.8**
SMF *e*Pg Pg 01 38 01.8 -2.4
SMF *e*Sn **Sn** **01 38 33.0 -3.8**
SMF *e*Sg **Sg** **01 38 58.9 -2.8**
ORIF **Oris-en-Rattie** **4.48 63** *e*Pn **Pn** **01 37 45.8 -0.4**
SNR=1.0
ORIF *e*Sg **Sg** **01 38 59.9 -3.0**
130nm,0.7s
ORIF **Oris-en-Rattie** **4.48 63** Pn **Pn** **01 37 45.8 -0.4**
ORIF Lg Lg 01 38 59.9
65nm,0.7s
ORIF **Oris-en-Rattie** **4.48 63** *e*Pn **Pn** **01 37 45.8 -0.4**
SNR=1.0
ORIF *e*Sg **Sg** **01 38 59.9 -3.0**
65nm,0.7s
ORIF **Oris-en-Rattie** **4.48 63** *e*Pn **Pn** **01 37 45.8 -0.4**
ORIF *e*Sg **Sg** **01 38 59.9 -3.0**
ETOB **Tobarra** **4.56 198** Pn **Pn** **01 37 48.1 +0.7**
3.6nm,0.3s,SNR=97
ETOB Pg **Pb** **01 38 00.9 +2.2**
4.4nm,0.2s,SNR=8.7
ETOB Sn **Sn** **01 38 39.2 -0.8**
8.0nm,0.2s,SNR=4.7
ETOB Lg Lg 01 39 02.7
28nm,0.2s
ETOB **Tobarra** **4.56 198** Pn **Pn** **01 37 48.1 +0.7**
3.6nm,0.3s,SNR=97
ETOB Sn **Sn** **01 38 39.2 -0.8**
8.0nm,0.2s,SNR=4.7
ETOB Lg Lg 01 39 02.7
28nm,0.2s
LMR **La Mourre** **4.57 84** *e*Pn **Pn** **01 37 47.3 0.0**
SNR=1.0
LMR *e*Sn **Sn** **01 38 35.9 -4.0**
40nm,0.3s
LMR *e*Sg **Sg** **01 39 02.3 -3.6**
39nm,0.3s,SNR=1.0
LMR **La Mourre** **4.57 84** Pn **Pn** **01 37 47.3 0.0**
LMR Sn **Sn** **01 38 35.9 -4.0**
20nm,0.3s
LMR Lg Lg 01 39 02.3
0.0nm,0.3s
LMR **La Mourre** **4.57 84** *e*Pn **Pn** **01 37 47.3 0.0**
SNR=1.0
LMR *e*Sg **Sg** **01 39 02.3 -3.6**
20nm,0.3s,SNR=1.0
LMR **La Mourre** **4.57 84** *e*Pn **Pn** **01 37 47.3 0.0**
LMR *e*Sn **Sn** **01 38 35.9 -4.0**
LMR *e*Sg **Sg** **01 39 02.3 -3.6**
HYF **Humbligny** **4.58 21** *e*Pn **Pn** **01 37 46.6 -1.0**
HYF **Humbligny** **4.58 21** *e*Pg Pb 01 38 03.8 +4.8
HYF *e*Sn **Sn** **01 38 36.3 -4.0**
HYF *e*Sg **Sg** **01 39 03.1 -3.2**
HYF **Humbligny** **4.58 21** Pn **Pn** **01 37 46.6 -1.0**
HYF Pg Pb 01 38 03.8 +4.8
HYF Sn **Sn** **01 38 36.3 -4.0**
HYF Lg Lg 01 39 03.1
HYF **Humbligny** **4.58 21** *e*Pn **Pn** **01 37 46.6 -1.0**
HYF **Humbligny** **4.58 21** *e*Pn **Pn** **01 37 46.6 -1.0**
HYF *e*Pg Pb 01 38 03.8 +4.8
HYF *e*Sn **Sn** **01 38 36.3 -4.0**
HYF *e*Sg **Sg** **01 39 03.1 -3.2**
ESDC **Sonseca Array** **4.61 225** ⇓Pn **Pn** **01 37 48.9 +1.0**
15nm,0.2s,baz=44,slow=14,SNR=18
ESDC Pg Pb 01 38 03.2 +3.7
5.6nm,0.2s,baz=45,slow=14,SNR=4.0
ESDC Sn **Sn** **01 38 38.7 -2.2**
50nm,0.3s,baz=47,slow=24,SNR=12
ESDC Lg Lg 01 39 02.7
23nm,0.4s,baz=48,slow=30,SNR=4.8
ESDC **Sonseca Array** **4.61 225** Pn **Pn** **01 37 48.9 +1.0**
13nm,0.3s,baz=46,slow=14,SNR=113
ESDC Sn **Sn** **01 38 38.9 -2.1**
102nm,0.3s,baz=47,slow=24,SNR=19
ESDC Lg Lg 01 39 03.0
46nm,0.3s,baz=48,slow=30,SNR=8.4
ESDC **Sonseca Array** **4.61 225** Pn **Pn** **01 37 48.9 +1.0**
15nm,0.2s,SNR=18
ESDC Lg Lg 01 39 02.7
23nm,0.4s,SNR=4.8
SSF **Saint Saulge** **4.66 28** *e*Pn **Pn** **01 37 47.7 -0.9**
SNR=1.0
SSF **Saint Saulge** **4.66 28** *e*Pg Pg 01 38 05.7 -2.7
SSF *e*Sn **Sn** **01 38 38.2 -4.0**
61nm,0.3s
SSF *e*Sg **Sg** **01 39 06.0 -2.8**
142nm,0.3s
SSF **Saint Saulge** **4.66 28** Pn **Pn** **01 37 47.7 -0.9**
SSF Pg Pg 01 38 05.7 -2.7
SSF Sn **Sn** **01 38 38.2 -4.0**
30nm,0.3s
SSF Lg Lg 01 39 06.0
71nm,0.3s
SSF **Saint Saulge** **4.66 28** *e*Pn **Pn** **01 37 47.7 -0.9**
SNR=1.0
SSF **Saint Saulge** **4.66 28** *e*Pg Pg 01 38 05.7 -2.7
SSF *e*Sg **Sg** **01 39 06.0 -2.8**
71nm,0.3s
SSF **Saint Saulge** **4.66 28** *e*Pn **Pn** **01 37 47.7 -0.9**
SSF *e*Pg Pg 01 38 05.7 -2.7
SSF *e*Sn **Sn** **01 38 38.2 -4.0**
SSF *e*Sg **Sg** **01 39 06.0 -2.8**
FRF **La Foret Royal** **4.68 81** *e*Pn **Pn** **01 37 48.7 -0.2**
SNR=1.0
FRF *e*Sn **Sn** **01 38 38.6 -4.2**
32nm,0.3s,SNR=1.0
FRF *e*Sg **Sg** **01 39 06.0 -3.5**
128nm,0.5s
FRF **La Foret Royal** **4.68 81** Pn **Pn** **01 37 48.7 -0.2**
FRF Sn **Sn** **01 38 38.6 -4.2**
16nm,0.3s
FRF Lg Lg 01 39 06.0
64nm,0.5s
FRF **La Foret Royal** **4.68 81** *e*Pn **Pn** **01 37 48.7 -0.2**
SNR=1.0
FRF *e*Sg **Sg** **01 39 06.0 -3.5**
64nm,0.5s
FRF **La Foret Royal** **4.68 81** *e*Pn **Pn** **01 37 48.7 -0.2**
FRF *e*Sn **Sn** **01 38 38.6 -4.2**
FRF *e*Sg **Sg** **01 39 06.0 -3.5**
EVIA **Vianos** **4.84 207** Pn **Pn** **01 37 51.7 +0.5**
1.2nm,0.1s,SNR=11
EVIA Pg Pg 01 38 08.8 -3.1
5.1nm,0.2s,SNR=8.2
EVIA Sn **Sn** **01 38 45.9 -0.9**
21nm,0.3s,SNR=10.0
EVIA Lg Lg 01 39 11.7
140nm,0.5s
EVIA **Vianos** **4.84 207** Pn **Pn** **01 37 51.7 +0.5**
1.2nm,0.1s,SNR=11
PAB **San Pablo** **4.90 227** Pn **Pn** **01 37 53.3 +1.2**
122nm,0.2s,SNR=7.9
PAB Pg Pb 01 38 08.5 +4.0
52nm,0.2s,SNR=7.9
PAB Sn **Sn** **01 38 47.3 -1.1**
61nm,0.1s,SNR=7.9
PAB Lg Lg 01 39 14.7
163nm,0.2s,SNR=7.9
PAB **San Pablo** **4.90 227** Pn **Pn** **01 37 53.3 +1.2**
122nm,0.2s,SNR=7.9
PAB *e*Sn **Sn** **01 38 46.9 -1.4**
PAB Lg Lg 01 39 14.7
163nm,0.2s,SNR=7.9
PAB **San Pablo** **4.90 227** *e*Pn **Pn** **01 37 53.1 +1.1**
PAB *e*Sn **Sn** **01 38 46.9 -1.4**
PAB *e*Sg **Sg** **01 39 13.2 -3.4**
LOR **Lormes** **4.96 29** *e*Pn **Pn** **01 37 51.5 -1.3**
baz=209,SNR=1.0
LOR **Lormes** **4.96 29** *e*Pg Pg 01 38 11.9 -2.3
LOR *e*Sn **Sn** **01 38 45.1 -4.6**
28nm,0.3s
LOR *e*Sg **Sg** **01 39 15.3 -3.1**
301nm,0.4s
LOR **Lormes** **4.96 29** Pn **Pn** **01 37 51.5 -1.3**
LOR Pg Pg 01 38 11.9 -2.3
LOR Sn **Sn** **01 38 45.1 -4.6**
14nm,0.3s
LOR Lg Lg 01 39 15.3
151nm,0.4s
LOR **Lormes** **4.96 29** *e*Pn **Pn** **01 37 51.5 -1.3**
SNR=1.0
LOR **Lormes** **4.96 29** *e*Pg Pg 01 38 11.9 -2.3
LOR *e*Sg **Sg** **01 39 15.3 -3.1**
151nm,0.4s
LOR **Lormes** **4.96 29** *e*Pn **Pn** **01 37 51.5 -1.3**
LOR *e*Pg Pg 01 38 11.9 -2.3
LOR *e*Sn **Sn** **01 38 45.1 -4.6**
LOR *e*Sg **Sg** **01 39 15.3 -3.1**
MBDF **Montbardon** **5.00 68** *e*Pn **Pn** **01 37 53.2 -0.2**
SNR=1.0
MBDF **Montbardon** **5.00 68** *e*Pg **Pg** **01 38 13.1 -1.9**
MBDF *e*Sn **Sn** **01 38 46.3 -4.5**
22nm,0.5s
MBDF *e*Sg **Sg** **01 39 16.1 -3.6**
48nm,0.7s
MBDF **Montbardon** **5.00 68** Pn **Pn** **01 37 53.2 -0.2**
MBDF Pg **Pg** **01 38 13.1 -1.9**
MBDF Sn **Sn** **01 38 46.3 -4.5**
11nm,0.5s
MBDF Lg Lg 01 39 16.1
24nm,0.7s
MBDF **Montbardon** **5.00 68** *e*Pn **Pn** **01 37 53.2 -0.2**
SNR=1.0
MBDF **Montbardon** **5.00 68** *e*Pg **Pg** **01 38 13.1 -1.9**
MBDF *e*Sg **Sg** **01 39 16.1 -3.6**
24nm,0.7s
MBDF **Montbardon** **5.00 68** *e*Pn **Pn** **01 37 53.2 -0.2**
MBDF *e*Pg **Pg** **01 38 13.1 -1.9**
MBDF *e*Sn **Sn** **01 38 46.3 -4.5**
MBDF *e*Sg **Sg** **01 39 16.1 -3.6**
BNI **Bardonecchia** **5.05 64** *e*Pn **Pn** **01 37 54.2 +0.1**
12nm,0.8s
BNI **Bardonecchia** **5.05 64** *e*Pg Pg 01 38 12.8 -3.1
BNI **Bardonecchia** **5.05 64** *e*Pn **Pn** **01 37 54.2 +0.1**
12nm,0.8s
BNI *e*Pg Pg 01 38 12.8 -3.1
BNI *e*Sg **Sg** **01 39 21.2 0.0**
RRL **Rocca Remolon** **5.08 66** P **Pn** **01 37 56.2 +1.6**
PZZ **Stroppo** **5.18 71** P **Pn** **01 37 56.3 +0.5**
STV **Sant Anna di V** **5.27 74** P **Pn** **01 37 57.6 +0.6**
LPL **La Plagne** **5.27 59** *e*Pn **Pn** **01 37 58.0 +0.8**
SNR=1.0
LPL *e*Sn **Sn** **01 38 53.2 -4.4**
23nm,0.5s
LPL *e*Sg **Sg** **01 39 25.0 -3.4**
136nm,0.8s
LPL **La Plagne** **5.27 59** Pn **Pn** **01 37 58.0 +0.8**
LPL Sn **Sn** **01 38 53.2 -4.4**
11nm,0.5s
LPL Lg Lg 01 39 25.0
68nm,0.8s
LPL **La Plagne** **5.27 59** *e*Pn **Pn** **01 37 58.0 +0.8**
SNR=1.0
LPL *e*Sg **Sg** **01 39 25.0 -3.4**
68nm,0.8s
LPL **La Plagne** **5.27 59** *e*Pn **Pn** **01 37 58.0 +0.8**
LPL *e*Sn **Sn** **01 38 53.2 -4.4**
LPL *e*Sg **Sg** **01 39 25.0 -3.4**
LPG **La Plagne** **5.28 60** *e*Pn **Pn** **01 37 57.8 +0.5**
SNR=1.0
LPG **La Plagne** **5.28 60** *e*Pg Pg 01 38 18.2 -2.0
LPG *e*Sn **Sn** **01 38 53.4 -4.4**
SNR=1.0
LPG *e*Sg **Sg** **01 39 25.2 -3.4**
57nm,0.6s,SNR=1.0
LPG **La Plagne** **5.28 60** Pn **Pn** **01 37 57.8 +0.5**
LPG Pg Pg 01 38 18.2 -2.0
LPG Sn **Sn** **01 38 53.4 -4.4**
LPG Lg Lg 01 39 25.2
29nm,0.6s
LPG **La Plagne** **5.28 60** *e*Pn **Pn** **01 37 57.8 +0.5**
SNR=1.0
LPG **La Plagne** **5.28 60** *e*Pg Pg 01 38 18.2 -2.0
LPG *e*Sg **Sg** **01 39 25.2 -3.4**
29nm,0.6s,SNR=1.0
LPG **La Plagne** **5.28 60** *e*Pn **Pn** **01 37 57.8 +0.5**
LPG *e*Pg Pg 01 38 18.2 -2.0
LPG *e*Sn **Sn** **01 38 53.4 -4.4**
LPG *e*Sg **Sg** **01 39 25.2 -3.4**
EMUR **La Murta** **5.28 193** Pn **Pn** **01 37 58.7 +1.5**
4.0nm,0.1s,SNR=44
EMUR Pg Pb 01 38 14.9 +4.0
3.8nm,0.2s,SNR=7.7
EMUR Sn **Sn** **01 38 55.4 -2.1**
24nm,0.4s,SNR=7.9
EMUR Lg Lg 01 39 24.4
39nm,0.4s
EMUR **La Murta** **5.28 193** Pn **Pn** **01 37 58.7 +1.5**
4.0nm,0.1s,SNR=44
EMUR Lg Lg 01 39 24.4
39nm,0.4s
SBF **Sospel** **5.28 78** *e*Pn **Pn** **01 37 57.0 -0.2**
SNR=1.0
SBF *e*Sn **Sn** **01 38 53.0 -4.6**
44nm,0.5s,SNR=1.0
SBF *e*Sg Sg 01 39 24.0 -4.7
126nm,0.6s
SBF **Sospel** **5.28 78** Pn **Pn** **01 37 57.0 -0.2**
SBF Sn **Sn** **01 38 53.0 -4.6**
22nm,0.5s
SBF Lg Lg 01 39 24.0
63nm,0.6s
SBF **Sospel** **5.28 78** *e*Pn **Pn** **01 37 57.0 -0.2**
SNR=1.0
SBF *e*Sg Sg 01 39 24.0 -4.7
63nm,0.6s
SBF **Sospel** **5.28 78** *e*Pn **Pn** **01 37 57.0 -0.2**
SBF *e*Sn **Sn** **01 38 53.0 -4.6**
SBF *e*Sg Sg 01 39 24.0 -4.7
ECAL **Calabor** **5.29 261** ⇓Pn **Pn** **01 37 59.4 +2.0**
58nm,0.2s,SNR=18
ECAL Sn **Sn** **01 38 55.7 -2.2**
36nm,0.3s,SNR=7.9
ECAL Lg Lg 01 39 24.5
84nm,0.3s
ECAL **Calabor** **5.29 261** Pn **Pn** **01 37 59.4 +2.0**
58nm,0.2s,SNR=18
ECAL Sn **Sn** **01 38 55.7 -2.2**
36nm,0.3s,SNR=7.9
ECAL Lg Lg 01 39 24.5
84nm,0.3s
SESP **Santiago Espad** **5.33 205** Pn **Pn** **01 37 59.2 +1.3**
2.3nm,0.1s,SNR=7.9
SESP Pg Pb 01 38 15.2 +3.4
6.0nm,0.2s,SNR=7.9
SESP Sn **Sn** **01 38 57.4 -1.5**
11nm,0.2s,SNR=7.9
SESP Lg Lg 01 39 24.1
27nm,0.2s,SNR=7.9
SESP **Santiago Espad** **5.33 205** Pn **Pn** **01 37 59.2 +1.3**
2.3nm,0.1s,SNR=7.9
SESP Lg Lg 01 39 24.1
27nm,0.2s,SNR=7.9
PBRG **Braganca** **5.33 259** *e*Pn **Pn** **01 37 59.8 +1.9**
PBRG *e*Sn **Sn** **01 38 57.6 -1.2**
PBRG A A 01 39 36.4
50nm,0.6s
PBRG **Braganca** **5.33 259** Pn **Pn** **01 37 59.8 +1.9**
PBRG Sn **Sn** **01 38 57.6 -1.2**
25nm,0.6s
PBRG **Braganca** **5.33 259** *e*Pn **Pn** **01 37 59.8 +1.9**
PBRG *e*Sn **Sn** **01 38 57.6 -1.2**
50nm,0.6s
BHB **Bricherasio** **5.37 68** P **Pn** **01 38 00.0 +1.6**
EPON **Pontenova** **5.44 276** Pn Pn 01 38 02.4 +3.1
26nm,0.2s,SNR=36
EPON Pg Pb 01 38 19.1 +5.5
14nm,0.2s,SNR=6.0
EPON Sn **Sn** **01 39 03.1 +1.6**
7.3nm,0.2s,SNR=5.8
EPON Lg Lg 01 39 34.7
28nm,0.3s
EPON **Pontenova** **5.44 276** Pn Pn 01 38 02.4 +3.1
26nm,0.2s,SNR=36
EPON Lg Lg 01 39 34.7
28nm,0.3s
GRR **Gorron** **5.45 352** *e*Pn **Pn** **01 37 58.6 -0.8**
SNR=1.0
GRR **Gorron** **5.45 352** *e*Pg Pg 01 38 20.6 -2.9
GRR *e*Sn **Sn** **01 38 57.4 -4.2**
45nm,0.2s
GRR *e*Sg **Sg** **01 39 30.6 -3.4**
207nm,0.3s
GRR **Gorron** **5.45 352** Pn **Pn** **01 37 58.6 -0.8**
GRR Pg Pg 01 38 20.6 -2.9
GRR Sn **Sn** **01 38 57.4 -4.2**
23nm,0.2s
GRR Lg Lg 01 39 30.6
104nm,0.3s
GRR **Gorron** **5.45 352** *e*Pn **Pn** **01 37 58.6 -0.8**
SNR=1.0
GRR **Gorron** **5.45 352** *e*Pg Pg 01 38 20.6 -2.9
GRR *e*Sg **Sg** **01 39 30.6 -3.4**
104nm,0.3s
GRR **Gorron** **5.45 352** *e*Pn **Pn** **01 37 58.6 -0.8**
GRR *e*Pg Pg 01 38 20.6 -2.9
GRR *e*Sn **Sn** **01 38 57.4 -4.2**
GRR *e*Sg **Sg** **01 39 30.6 -3.4**
RSP **Reno Superiore** **5.47 64** P **Pn** **01 38 01.4 +1.5**
QUIF **Quistinic** **5.48 335** *e*Pn **Pn** **01 37 59.4 -0.4**
SNR=1.0
QUIF *e*Sn **Sn** **01 38 58.2 -4.2**
82nm,0.3s
QUIF *e*Sg **Sg** **01 39 31.7 -3.3**
106nm,0.3s
QUIF **Quistinic** **5.48 335** Pn **Pn** **01 37 59.4 -0.4**
QUIF Sn **Sn** **01 38 58.2 -4.2**
41nm,0.3s
QUIF Lg Lg 01 39 31.7
53nm,0.3s
QUIF **Quistinic** **5.48 335** *e*Pn **Pn** **01 37 59.4 -0.4**
SNR=1.0
QUIF *e*Sg **Sg** **01 39 31.7 -3.3**
53nm,0.3s
QUIF **Quistinic** **5.48 335** *e*Pn **Pn** **01 37 59.4 -0.4**
QUIF *e*Sn **Sn** **01 38 58.2 -4.2**
QUIF *e*Sg **Sg** **01 39 31.7 -3.3**
CART **Cartagena** **5.49 191** P **Pn** **01 38 02.5 +2.4**
CART **Cartagena** **5.49 191** *e*P **Pn** **01 38 02.5 +2.4**
EPLA **Plasencia** **5.60 241** ⇑Pn **Pn** **01 38 03.2 +1.6**
8.7nm,0.1s,SNR=18
EPLA Sn **Sn** **01 39 04.6 -0.8**
12nm,0.2s,SNR=7.9
EPLA Lg Lg 01 39 37.2
18nm,0.3s
EPLA **Plasencia** **5.60 241** Pn **Pn** **01 38 03.2 +1.6**
8.7nm,0.1s,SNR=18
EPLA Lg Lg 01 39 37.2
18nm,0.3s
LDF **La Druitiere** **5.60 357** *e*Pn **Pn** **01 38 00.3 -1.2**
SNR=1.0
LDF *e*Sn Sn 01 39 00.6 -4.8
61nm,0.4s
LDF *e*Sg **Sg** **01 39 35.0 -3.9**
121nm,0.4s,SNR=1.0
LDF **La Druitiere** **5.60 357** *e*Pn **Pn** **01 38 00.3 -1.2**
SNR=1.0
LDF *e*Sg **Sg** **01 39 35.0 -3.9**
61nm,0.4s,SNR=1.0
LDF **La Druitiere** **5.60 357** *e*Pn **Pn** **01 38 00.3 -1.2**
LDF *e*Sn Sn 01 39 00.6 -4.8
LDF *e*Sg **Sg** **01 39 35.0 -3.9**
IMI **Imperia** **5.62 78** P **Pn** **01 38 01.8 0.0**
SGMF **Saint Gilles** **5.62 340** *e*Pn **Pn** **01 38 01.0 -0.7**
SNR=1.0
SGMF **Saint Gilles** **5.62 340** *e*Pg Pg 01 38 23.5 -3.2
SGMF *e*Sn **Sn** **01 39 01.3 -4.5**
63nm,0.5s
SGMF *e*Sg **Sg** **01 39 35.9 -3.5**
116nm,0.3s
SGMF **Saint Gilles** **5.62 340** Pn **Pn** **01 38 01.0 -0.7**
SGMF Pg Pg 01 38 23.5 -3.2
SGMF Sn **Sn** **01 39 01.3 -4.5**
32nm,0.5s
SGMF Lg Lg 01 39 35.9
58nm,0.3s
SGMF **Saint Gilles** **5.62 340** *e*Pn **Pn** **01 38 01.0 -0.7**
SNR=1.0
SGMF **Saint Gilles** **5.62 340** *e*Pg Pg 01 38 23.5 -3.2
SGMF *e*Sg **Sg** **01 39 35.9 -3.5**
58nm,0.3s
SGMF **Saint Gilles** **5.62 340** *e*Pn **Pn** **01 38 01.0 -0.7**
SGMF *e*Pg Pg 01 38 23.5 -3.2
SGMF *e*Sn **Sn** **01 39 01.3 -4.5**

SGMF eSg **Sg** **01 39 35.9 -3.5**
EHUE Huescar 5.62 204 Pn **Pn** **01 38 03.6 +1.7**
1.7nm,0.2s,SNR=7.9
EHUE Sn **Sn** **01 39 03.4 -2.7**
9.8nm,0.3s,SNR=4.0
EHUE Lg Lg 01 39 37.2
15nm,0.2s,SNR=7.9
EHUE Huescar 5.62 204 Pn **Pn** **01 38 03.6 +1.7**
1.7nm,0.2s,SNR=7.9
EHUE Lg Lg 01 39 37.2
15nm,0.2s,SNR=7.9
EBAN Banos Encina 5.74 214 Pn **Pn** **01 38 04.1 +0.7**
4.3nm,0.1s,SNR=12
EBAN Pg Pg 01 38 25.2 -3.8
4.4nm,0.2s,SNR=5.6
EBAN Sn **Sn** **01 39 05.8 -2.9**
9.9nm,0.1s,SNR=7.9
EBAN Lg Lg 01 39 38.5
26nm,0.2s
EBAN Banos Encina 5.74 214 Pn **Pn** **01 38 04.1 +0.7**
4.3nm,0.1s,SNR=12
EBAN Lg Lg 01 39 38.5
26nm,0.2s
MVO Moncorvo 5.74 254 ePn **Pn** **01 38 05.0 +1.5**
MVO eSn **Sn** **01 39 07.1 -1.8**
MVO A A 01 39 48.6
77nm,0.4s
MVO Moncorvo 5.74 254 ⇓Pn **Pn** **01 38 05.0 +1.5**
14nm,0.2s,SNR=18
MVO Pg **Pg** **01 38 26.7 -2.3**
6.4nm,0.1s,SNR=7.3
MVO Sn **Sn** **01 39 06.9 -2.0**
28nm,0.2s,SNR=6.5
MVO Lg Lg 01 39 42.4
35nm,0.3s
MVO Moncorvo 5.74 254 Pn **Pn** **01 38 05.0 +1.5**
14nm,0.2s,SNR=18
MVO Lg Lg 01 39 42.4
35nm,0.3s
RORO Rocca Rossa 5.77 76 P **Pn** **01 38 04.6 +0.8**
EQES Quesada 5.79 207 Pn **Pn** **01 38 05.6 +1.5**
1.0nm,0.1s,SNR=44
EQES Pg Pb 01 38 25.1 +5.6
3.5nm,0.2s,SNR=4.6
EQES Sn **Sn** **01 39 07.0 -3.1**
20nm,0.3s,SNR=6.5
EQES Lg Lg 01 39 41.4
14nm,0.3s
EQES Quesada 5.79 207 Pn **Pn** **01 38 05.6 +1.5**
1.0nm,0.1s,SNR=44
EQES Lg Lg 01 39 41.3
14nm,0.3s
FLN La Foliniere 5.79 355 ePn **Pn** **01 38 03.1 -1.0**
baz=169,SNR=1.0
FLN La Foliniere 5.79 355 ePg Pg 01 38 26.4 -3.6
FLN eSn **Sn** **01 39 05.6 -4.3**
35nm,0.2s
FLN eSg **Sg** **01 39 41.3 -3.6**
95nm,0.2s
FLN La Foliniere 5.79 355 Pn **Pn** **01 38 03.1 -1.0**
FLN Pg Pg 01 38 26.4 -3.6
FLN Sn **Sn** **01 39 05.6 -4.3**
18nm,0.2s
FLN Lg Lg 01 39 41.3
47nm,0.2s
FLN La Foliniere 5.79 355 ePn **Pn** **01 38 03.1 -1.0**
SNR=1.0
FLN La Foliniere 5.79 355 ePg Pg 01 38 26.4 -3.6
FLN eSg **Sg** **01 39 41.3 -3.6**
47nm,0.2s
FLN La Foliniere 5.79 355 ePn **Pn** **01 38 03.1 -1.0**
FLN ePg Pg 01 38 26.4 -3.6
FLN eSn **Sn** **01 39 05.6 -4.3**
FLN eSg **Sg** **01 39 41.3 -3.6**
ROSF Rostrenen 5.89 336 ePn **Pn** **01 38 05.0 -0.4**
SNR=1.0
ROSF Rostrenen 5.89 336 eP Pn 01 38 08.9 +3.5
ROSF eSn **Sn** **01 39 07.8 -4.6**
59nm,0.3s,SNR=1.0
ROSF eSg **Sg** **01 39 44.5 -3.6**
230nm,0.6s
ROSF Rostrenen 5.89 336 Pn **Pn** **01 38 05.0 -0.4**
ROSF Sn **Sn** **01 39 07.8 -4.6**
29nm,0.3s
ROSF Lg Lg 01 39 44.5
115nm,0.6s
ROSF Rostrenen 5.89 336 ePn **Pn** **01 38 05.0 -0.4**
SNR=1.0
ROSF eSg **Sg** **01 39 44.5 -3.6**
115nm,0.6s
ROSF Rostrenen 5.89 336 ePn **Pn** **01 38 05.0 -0.4**
ROSF eSn **Sn** **01 39 07.8 -4.6**
ROSF eSg **Sg** **01 39 44.5 -3.6**
GORA Gorafe 6.07 206 Pn **Pn** **01 38 10.0 +2.0**
4.3nm,0.2s,SNR=7.9
GORA Pg Pb 01 38 28.9 +4.5
4.6nm,0.2s,SNR=7.9
GORA Sn **Sn** **01 39 14.2 -2.9**
25nm,0.3s,SNR=7.9
GORA Lg Lg 01 39 50.9
89nm,0.4s,SNR=7.9
GORA Gorafe 6.07 206 Pn **Pn** **01 38 10.0 +2.0**
4.3nm,0.2s,SNR=7.9
GORA Lg Lg 01 39 50.9
89nm,0.4s,SNR=7.9
EAGO Agolada(Pontev 6.15 271 Pn **Pn** **01 38 11.1 +2.0**
54nm,0.3s,SNR=7.9
EAGO Sn **Sn** **01 39 17.3 -1.6**
8.2nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 6.15 271 Pn **Pn** **01 38 11.1 +2.0**
54nm,0.3s,SNR=7.9
PCP Piancastagn 6.18 73 P **Pn** **01 38 11.1 +1.6**
SFTF Sexfontaines 6.18 31 ePn **Pn** **01 38 08.3 -1.2**
baz=216
SFTF eSn Sn 01 39 14.5 -5.2
SFTF eSg **Sg** **01 39 53.3 -4.2**
98nm,0.4s
SFTF Sexfontaines 6.18 31 Pn **Pn** **01 38 08.3 -1.2**
SFTF Sn Sn 01 39 14.5 -5.2
SFTF Lg Lg 01 39 53.3
98nm,0.4s
SFTF Sexfontaines 6.18 31 ePn **Pn** **01 38 08.3 -1.2**
SFTF eSg **Sg** **01 39 53.3 -4.2**
49nm,0.4s
SFTF Sexfontaines 6.18 31 ePn **Pn** **01 38 08.3 -1.2**
SFTF eSn Sn 01 39 14.5 -5.2
SFTF eSg **Sg** **01 39 53.3 -4.2**
PVRL Vila Real 6.19 257 ePn **Pn** **01 38 11.1 +1.5**
PVRL eSn **Sn** **01 39 18.4 -1.5**
PVRL eSg Sg 01 39 49.6 -8.1
PVRL A A 01 40 00.0
58nm,0.5s
PVRL Vila Real 6.19 257 Pn **Pn** **01 38 11.1 +1.5**
PVRL Sn **Sn** **01 39 18.4 -1.5**
PVRL Lg Lg 01 39 49.6
29nm,0.5s
PVRL Vila Real 6.19 257 ePn **Pn** **01 38 11.1 +1.5**
POLO Lamas de Olo 6.21 258 ePn **Pn** **01 38 11.4 +1.4**
POLO eSn **Sn** **01 39 19.1 -1.5**
POLO A A 01 39 54.5
23nm,0.4s
POLO Lamas de Olo 6.21 258 ePn **Pn** **01 38 11.4 +1.4**
ELOB Lobios 6.27 262 ⇓Pn **Pn** **01 38 12.4 +1.5**
6.0nm,0.1s,SNR=18
ELOB Sn **Sn** **01 39 19.9 -2.1**
4.4nm,0.1s,SNR=14
ELOB Lg Lg 01 39 59.1
22nm,0.3s
ELOB Lobios 6.27 262 Pn **Pn** **01 38 12.4 +1.5**
6.0nm,0.1s,SNR=18
ELOB Lg Lg 01 39 59.1
22nm,0.3s
PCAB Cabril 6.29 261 i Pn **Pn** **01 38 12.5 +1.5**
PCAB eSn **Sn** **01 39 21.6 -0.7**
PCAB A A 01 40 03.1
38nm,0.3s
PCAB Cabril 6.29 261 ⇑Pn **Pn** **01 38 12.5 +1.5**
PCAB Sn **Sn** **01 39 21.6 -0.7**
19nm,0.3s
ENIJ Nijar 6.32 198 Pn **Pn** **01 38 13.7 +2.3**
21nm,0.5s,SNR=7.9
ENIJ Nijar 6.32 198 Pn **Pn** **01 38 13.7 +2.3**
21nm,0.5s,SNR=7.9
JDC Jersey Dam (Cr 6.39 346 eP **Pn** **01 38 12.0 -0.4**
JDC eS **Sn** **01 39 22.5 -2.3**
JDC Jersey Dam (Cr 6.39 346 eP **Pn** **01 38 12.0 -0.4**
JDG Jersey Dam (Ga 6.40 346 eP **Pn** **01 38 11.9 -0.6**
JDG Jersey Dam (Ga 6.40 346 eP **Pn** **01 38 11.9 -0.6**
PGAV Gavieira, Arco 6.40 264 ePn **Pn** **01 38 14.4 +1.8**
PGAV eSn **Sn** **01 39 25.0 -0.3**
PGAV A A 01 40 10.8
25nm,0.5s
PGAV Gavieira, Arco 6.40 264 ePn **Pn** **01 38 14.4 +1.8**
MTE Manteigas 6.41 249 ePn **Pn** **01 38 13.8 +1.2**
MTE eSn **Sn** **01 39 22.4 -2.9**
MTE A A 01 40 21.5
56nm,0.4s
MTE Manteigas 6.41 249 Pn **Pn** **01 38 13.8 +1.2**
MTE Sn **Sn** **01 39 22.4 -2.9**
28nm,0.4s
MTE Manteigas 6.41 249 ePn **Pn** **01 38 13.8 +1.2**
JSA Saint Aubin 6.42 345 eP **Pn** **01 38 12.1 -0.6**
JSA eS **Sn** **01 39 22.5 -2.9**
JSA AML AML 01 40 09.1
comp=N,62nm,0.3s
JSA AML AML 01 40 09.7
comp=E,116nm,0.6s
JSA Saint Aubin 6.42 345 eP **Pn** **01 38 12.1 -0.6**
ECOG Cogollos-Vega 6.43 209 Pn **Pn** **01 38 14.6 +1.6**
comp=E,2.1nm,0.2s,SNR=14
ECOG Sn **Sn** **01 39 24.0 -2.0**
comp=E,3.5nm,0.2s,SNR=7.9
ECOG Lg Lg 01 40 02.7
comp=E,45nm,0.4s
ECOG Cogollos-Vega 6.43 209 Pn **Pn** **01 38 14.6 +1.6**
comp=E,2.1nm,0.2s,SNR=14
ECOG Lg Lg 01 40 02.7
comp=E,45nm,0.4s
PGF Pioggiola 6.43 91 ePn **Pn** **01 38 11.3 -1.8**
SNR=1.0
PGF eSn Sn 01 39 20.6 -5.4
comp=E,23nm,0.3s,SNR=1.0
PGF Pioggiola 6.43 91 Pn **Pn** **01 38 11.3 -1.8**
PGF Sn Sn 01 39 20.6 -5.4
comp=E,0.0nm,0.3s
PGF Pioggiola 6.43 91 ePn **Pn** **01 38 11.3 -1.8**
SNR=1.0
PGF Pioggiola 6.43 91 ePn **Pn** **01 38 11.3 -1.8**
PGF eSn Sn 01 39 20.6 -5.4
MEZF Maizieres J'vi 6.44 30 ePn **Pn** **01 38 12.3 -0.7**
baz=209,SNR=1.0
MEZF eSg Sg 01 40 01.1 -4.5
comp=E,146nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 6.44 30 Pn **Pn** **01 38 12.3 -0.7**
MEZF Lg Lg 01 40 01.1
comp=E,146nm,0.4s
MEZF Maizieres J'vi 6.44 30 ePn **Pn** **01 38 12.3 -0.7**
SNR=1.0
MEZF eSg Sg 01 40 01.1 -4.5
comp=E,73nm,0.4s,SNR=1.0
MEZF Maizieres J'vi 6.44 30 ePn **Pn** **01 38 12.3 -0.7**
MEZF eSg Sg 01 40 01.1 -4.5
ELUQ Luque 6.45 214 Pn **Pn** **01 38 14.7 +1.5**
comp=E,2.2nm,0.2s,SNR=7.9
ELUQ Pg Pb 01 38 35.5 +4.7
comp=E,4.0nm,0.2s,SNR=7.9
ELUQ Sn **Sn** **01 39 23.9 -2.4**
comp=E,3.2nm,0.2s,SNR=7.9
ELUQ Lg Lg 01 40 03.7
comp=E,17nm,0.3s,SNR=7.9
ELUQ Luque 6.45 214 Pn **Pn** **01 38 14.7 +1.5**
comp=E,2.2nm,0.2s,SNR=7.9
ELUQ Lg Lg 01 40 03.7
comp=E,17nm,0.3s,SNR=7.9
EQUE Quentar 6.45 207 Pn **Pn** **01 38 15.4 +2.1**
comp=E,3.3nm,0.2s,SNR=6.0
EQUE Sn **Sn** **01 39 24.5 -2.0**
comp=E,2.3nm,0.1s,SNR=4.8
EQUE Lg Lg 01 40 02.3
comp=E,5.1nm,0.2s
EQUE Quentar 6.45 207 Pn **Pn** **01 38 15.4 +2.1**
comp=E,3.3nm,0.2s,SNR=6.0
EQUE Lg Lg 01 40 02.3
comp=E,5.1nm,0.2s
STS Santiago 6.48 272 Pn **Pn** **01 38 15.5 +1.9**
comp=E,6.0nm,0.2s,SNR=19
STS Sn **Sn** **01 39 24.7 -2.3**
comp=E,5.7nm,0.2s,SNR=7.9
STS Lg Lg 01 40 07.4
comp=E,9.8nm,0.2s
STS Santiago 6.48 272 Pn **Pn** **01 38 15.5 +1.9**
comp=E,6.0nm,0.2s,SNR=19
STS Lg Lg 01 40 07.4
comp=E,9.8nm,0.2s
PVIS Viseu 6.51 252 ePn **Pn** **01 38 15.1 +1.0**
PVIS eSn **Sn** **01 39 25.9 -2.1**
PVIS A A 01 40 18.0
comp=E,41nm,0.6s
PVIS Viseu 6.51 252 ⇑Pn **Pn** **01 38 15.1 +1.0**
PVIS Sn **Sn** **01 39 25.9 -2.1**
comp=E,20nm,0.6s
SELV Sierra Elvira 6.52 209 Pn **Pn** **01 38 15.8 +1.6**
comp=E,2.5nm,0.2s,SNR=7.9
SELV Pg Pb 01 38 37.4 +5.3
comp=E,3.5nm,0.2s,SNR=7.9
SELV Sn **Sn** **01 39 25.9 -2.2**
comp=E,1.6nm,0.2s,SNR=7.9
SELV Lg Lg 01 40 05.4
comp=E,8.0nm,0.4s,SNR=7.9
SELV Sierra Elvira 6.52 209 Pn **Pn** **01 38 15.8 +1.6**
comp=E,2.5nm,0.2s,SNR=7.9
SELV Lg Lg 01 40 05.4
comp=E,8.0nm,0.4s,SNR=7.9
ECAB El Cabril 6.56 223 Pn **Pn** **01 38 15.8 +1.1**
comp=E,6.5nm,0.1s,SNR=82
ECAB Sn **Sn** **01 39 25.9 -3.1**
comp=E,11nm,0.2s,SNR=9.5
ECAB Lg Lg 01 40 07.5
comp=E,39nm,0.5s
ECAB El Cabril 6.56 223 Pn **Pn** **01 38 15.8 +1.1**
comp=E,6.5nm,0.1s,SNR=82
ECAB Lg Lg 01 40 07.5
comp=E,39nm,0.5s
EBER Berja 6.56 203 Pn **Pn** **01 38 17.4 +2.5**
comp=E,2.4nm,0.2s,SNR=26
EBER Lg Lg 01 40 06.4
comp=E,65nm,0.9s
EBER Berja 6.56 203 Pn **Pn** **01 38 17.4 +2.5**
comp=E,2.4nm,0.2s,SNR=26
EBER Lg Lg 01 40 06.4
comp=E,65nm,0.9s
HAU Haudompre 6.58 38 ePn **Pn** **01 38 13.5 -1.4**
HAU Haudompre 6.58 38 ePg Pg 01 38 40.9 -4.1
HAU eSg Sg 01 40 05.3 -4.8
comp=E,60nm,0.3s
HAU Haudompre 6.58 38 Pn **Pn** **01 38 13.5 -1.4**
HAU Pg Pg 01 38 40.9 -4.1
HAU Lg Lg 01 40 05.3
comp=E,30nm,0.3s
HAU Haudompre 6.58 38 ePn **Pn** **01 38 13.5 -1.4**
HAU Haudompre 6.58 38 ePg Pg 01 38 40.9 -4.1
HAU eSg Sg 01 40 05.3 -4.8
comp=E,30nm,0.3s
HAU Haudompre 6.58 38 ePn **Pn** **01 38 13.5 -1.4**
HAU ePg Pg 01 38 40.9 -4.1
HAU eSg Sg 01 40 05.3 -4.8
PCBR Castelo Branco 6.63 244 ePn **Pn** **01 38 16.5 +0.9**
PCBR eSn **Sn** **01 39 28.4 -2.3**
PCBR A A 01 40 23.1
comp=E,42nm,0.6s
PCBR Castelo Branco 6.63 244 Pn **Pn** **01 38 16.5 +0.9**
PCBR Sn **Sn** **01 39 28.4 -2.3**
comp=E,21nm,0.6s
PCBR Castelo Branco 6.63 244 ePn **Pn** **01 38 16.5 +0.9**
HINF Hinteralfeld 6.68 42 ePn **Pn** **01 38 15.1 -1.2**
SNR=1.0
HINF Hinteralfeld 6.68 42 eP Pn 01 38 20.1 +3.8
HINF eSg **Sg** **01 40 09.1 -4.3**
comp=E,46nm,0.4s
HINF Hinteralfeld 6.68 42 Pn **Pn** **01 38 15.1 -1.2**
HINF Lg Lg 01 40 09.1
comp=E,23nm,0.4s
HINF Hinteralfeld 6.68 42 ePn **Pn** **01 38 15.1 -1.2**
SNR=1.0
HINF eSg **Sg** **01 40 09.1 -4.3**
comp=E,23nm,0.4s
HINF Hinteralfeld 6.68 42 ePn **Pn** **01 38 15.1 -1.2**
HINF eSg **Sg** **01 40 09.1 -4.3**
PAGF Fort de Pagny 6.74 33 ePn **Pn** **01 38 16.2 -0.9**
PAGF Pn 01 38 20.8 +3.7
PAGF eSg Sg 01 40 10.3 -4.9
comp=E,20nm,0.4s
PAGF Fort de Pagny 6.74 33 ePn **Pn** **01 38 16.2 -0.9**
PAGF eSg Sg 01 40 10.3 -4.9
comp=E,10.0nm,0.4s
PAGF Fort de Pagny 6.74 33 ePn **Pn** **01 38 16.2 -0.9**
PAGF eSg Sg 01 40 10.3 -4.9
EMAZ Mazaricos 6.79 273 Pn **Pn** **01 38 19.5 +1.6**
comp=E,6.7nm,0.2s,SNR=55
EMAZ Sn **Sn** **01 39 31.7 -3.0**
comp=E,7.6nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.79 273 Pn **Pn** **01 38 19.5 +1.6**
comp=E,6.7nm,0.2s,SNR=55
PMRV Marv??o 6.79 241 ePn **Pn** **01 38 19.1 +1.2**
PMRV eSn **Sn** **01 39 32.7 -2.1**
PMRV A A 01 40 20.4
comp=E,46nm,0.6s
PMRV Marv??o 6.79 241 Pn **Pn** **01 38 19.1 +1.2**
PMRV Sn **Sn** **01 39 32.7 -2.1**
comp=E,46nm,0.6s
PMRV Marv??o 6.79 241 ePn **Pn** **01 38 19.1 +1.2**
EGUA Guajares 6.83 207 Pn Pn 01 38 22.2 +3.8
comp=E,0.6nm,0.2s,SNR=7.9
EGUA Lg Lg 01 40 17.2
comp=E,4.8nm,0.4s,SNR=7.9
EGUA Guajares 6.83 207 Pn Pn 01 38 22.2 +3.8
comp=E,0.6nm,0.2s,SNR=7.9
EGUA Lg Lg 01 40 17.2
comp=E,4.8nm,0.4s,SNR=7.9
EBAD Badajoz 6.96 235 Pn **Pn** **01 38 21.0 +0.8**
comp=E,1.9nm,0.1s,SNR=35
EBAD Sn **Sn** **01 39 36.0 -2.9**
comp=E,16nm,0.2s,SNR=22
EBAD Badajoz 6.96 235 Pn **Pn** **01 38 21.0 +0.8**
comp=E,1.9nm,0.1s,SNR=35
ECH Echery 7.10 40 ePn **Pn** **01 38 21.6 -0.5**
comp=E,6.1nm,0.5s
ECH Echery 7.10 40 ePg **Pg** **01 38 53.2 -1.9**
ECH Echery 7.10 40 ePn **Pn** **01 38 21.6 -0.5**
comp=E,6.1nm,0.5s
ECH ePg **Pg** **01 38 53.2 -1.9**
ECH eS **Sg** **01 40 24.4 -2.5**
EMAL Malaga-Limoner 7.20 212 ⇓Pn **Pn** **01 38 26.2 +2.7**
EMAL Sn **Sn** **01 39 43.1 -1.7**
EMAL Malaga-Limoner 7.20 212 i P **Pn** **01 38 26.2 +2.7**
PCAS Casmilo, Conde 7.21 249 ePn **Pn** **01 38 25.6 +1.9**
PCAS eSn **Sn** **01 39 42.9 -2.2**
PCAS A A 01 40 36.9
comp=E,41nm,0.6s
PCAS Casmilo, Conde 7.21 249 ePn **Pn** **01 38 25.6 +1.9**
PESTR Estremoz 7.25 238 ePn **Pn** **01 38 25.1 +1.0**
PESTR eSn **Sn** **01 39 43.5 -2.4**
PESTR A A 01 40 34.1
comp=E,26nm,0.6s
PESTR Estremoz 7.25 238 ePn **Pn** **01 38 25.1 +1.0**
CDF Champ du Feu 7.30 40 ePn **Pn** **01 38 23.7 -1.2**
CDF Champ du Feu 7.30 40 eP Pn 01 38 28.7 +3.8
CDF eSg Sg 01 40 27.8 -5.4
comp=E,33nm,0.3s
CDF Champ du Feu 7.30 40 Pn **Pn** **01 38 23.7 -1.2**
CDF Lg Lg 01 40 27.8
comp=E,16nm,0.3s
CDF Champ du Feu 7.30 40 ePn **Pn** **01 38 23.7 -1.2**
CDF eSg Sg 01 40 27.8 -5.4
comp=E,16nm,0.3s
CDF Champ du Feu 7.30 40 ePn **Pn** **01 38 23.7 -1.2**
CDF eSg Sg 01 40 27.8 -5.4
PTOM Tomar 7.36 246 ePn **Pn** **01 38 27.2 +1.5**
PTOM eSn **Sn** **01 39 46.7 -2.0**
PTOM A A 01 40 47.3
comp=E,51nm,0.6s
PTOM Tomar 7.36 246 Pn **Pn** **01 38 27.2 +1.5**
PTOM Sn **Sn** **01 39 46.7 -2.0**
comp=E,26nm,0.6s
PTOM Tomar 7.36 246 ePn **Pn** **01 38 27.2 +1.5**
PBAR Barrancos 7.36 232 ePn **Pn** **01 38 26.8 +1.1**
PBAR eSn **Sn** **01 39 45.7 -3.0**
PBAR A A 01 40 44.3
comp=E,50nm,0.1s
PBAR Barrancos 7.36 232 Pn **Pn** **01 38 26.8 +1.1**
PBAR Sn **Sn** **01 39 45.7 -3.0**
comp=E,50nm,0.1s
PBAR Barrancos 7.36 232 ePn **Pn** **01 38 26.8 +1.1**
EMIN Mina Concepcio 7.45 228 Pn **Pn** **01 38 27.8 +0.9**
comp=E,1.8nm,0.2s,SNR=16
EMIN Sn **Sn** **01 39 46.0 -4.7**
comp=E,5.9nm,0.3s,SNR=7.5
EMIN Lg Lg 01 40 35.0
comp=E,5.8nm,0.3s,SNR=7.9
EMIN Mina Concepcio 7.45 228 Pn **Pn** **01 38 27.8 +0.9**
comp=E,1.8nm,0.2s,SNR=16
EMIN Lg Lg 01 40 35.0
comp=E,5.8nm,0.3s,SNR=7.9
LIJA Lijar 7.49 218 P **Pn** **01 38 29.2 +1.7**
LIJA S **Sn** **01 39 49.2 -2.7**
LIJA Lijar 7.49 218 i P **Pn** **01 38 29.2 +1.7**
EMIJ Mijas 7.51 213 Pn **Pn** **01 38 29.6 +1.8**
comp=E,2.4nm,0.2s,SNR=11
EMIJ Sn **Sn** **01 39 50.1 -2.3**
comp=E,4.6nm,0.3s,SNR=5.8
EMIJ Lg Lg 01 40 36.5
comp=E,9.1nm,0.4s,SNR=4.8
EMIJ Mijas 7.51 213 Pn **Pn** **01 38 29.6 +1.8**
comp=E,2.4nm,0.2s,SNR=11
EMIJ Lg Lg 01 40 36.5
comp=E,9.1nm,0.4s,SNR=4.8
PMTG Montargil 7.53 241 ePn **Pn** **01 38 28.8 +0.8**
PMTG eSn **Sn** **01 39 50.0 -2.9**
PMTG A A 01 40 50.2
comp=E,36nm,0.5s
PMTG Montargil 7.53 241 ePn **Pn** **01 38 28.8 +0.8**
BAIF Baives 7.56 20 ePn **Pn** **01 38 26.9 -1.5**
SNR=1.0
BAIF eSn Sn 01 39 47.3 -6.3
comp=E,10nm,0.3s
BAIF eSg Sb 01 40 36.4 +17
comp=E,48nm,0.5s
BAIF Baives 7.56 20 Pn **Pn** **01 38 26.9 -1.5**
BAIF Sn Sn 01 39 47.3 -6.3
comp=E,5.2nm,0.3s
BAIF Lg Lg 01 40 36.4
comp=E,24nm,0.5s
BAIF Baives 7.56 20 ePn **Pn** **01 38 26.9 -1.5**
SNR=1.0
BAIF eSg Sb 01 40 36.4 +17
comp=E,24nm,0.5s
BAIF Baives 7.56 20 ePn **Pn** **01 38 26.9 -1.5**
BAIF eSn Sn 01 39 47.3 -6.3
BAIF eSg Sb 01 40 36.4 +17
DOU Dourbes 7.70 21 PN **Pn** **01 38 29.3 -1.0**
DOU Dourbes 7.70 21 Pn **Pn** **01 38 29.2 -1.0**
EVO Evora 7.71 237 ePn **Pn** **01 38 31.9 +1.4**
EVO eSn **Sn** **01 39 52.2 -4.6**
EVO eSg Sb 01 40 42.9 +19
comp=E,50nm,0.5s
ESPR Espera 7.72 220 Pn **Pn** **01 38 33.1 +2.4**
comp=E,5.3nm,0.2s,SNR=15
ESPR Sn **Sn** **01 39 54.7 -2.9**
comp=E,8.4nm,0.3s,SNR=8.2
ESPR Lg Lg 01 40 46.6
comp=E,6.4nm,0.3s,SNR=4.0
ESPR Espera 7.72 220 Pn **Pn** **01 38 33.1 +2.4**
comp=E,5.3nm,0.2s,SNR=15
ESPR Lg Lg 01 40 46.6
comp=E,6.4nm,0.3s,SNR=4.0
GIVF Givet 7.76 22 ePn **Pn** **01 38 30.9 -0.3**
SNR=1.0
GIVF eSn Sn 01 39 52.5 -6.0
comp=E,34nm,0.5s
GIVF eSg Sb 01 40 42.9 +18
comp=E,80nm,0.6s
GIVF Givet 7.76 22 Pn **Pn** **01 38 30.9 -0.3**
GIVF Sn Sn 01 39 52.5 -6.0
comp=E,17nm,0.5s
GIVF Lg Lg 01 40 42.9
comp=E,40nm,0.6s
GIVF Givet 7.76 22 ePn **Pn** **01 38 30.9 -0.3**
SNR=1.0
GIVF eSg Sb 01 40 42.9 +18
comp=E,40nm,0.6s
GIVF Givet 7.76 22 ePn **Pn** **01 38 30.9 -0.3**
GIVF eSn Sn 01 39 52.5 -6.0
GIVF eSg Sb 01 40 42.9 +18
EVOP Sao Brissos 7.78 238 ePn **Pn** **01 38 31.9 +0.4**
EVOP eSg Sb 01 40 42.9 +17
comp=E,25nm,0.5s
EVOP Sao Brissos 7.78 238 ePn **Pn** **01 38 31.9 +0.4**

EVOP eSn Sn 01 39 52.8 -6.3
EVOP eSg Sb 01 40 42.9 +17
DAVOX Davos/Dischmat 7.79 58 Pn Pn 01 38 37.2 +5.4
comp=E,0.6nm,0.3s,baz=257,slow=8.5,SNR=9.4
DAVOX Lg Lg 01 40 47.5
comp=E,0.5nm,0.3s,baz=18,slow=20,SNR=2.4
DYA Yadsworthy 7.98 340 eP **Pn 01 38 32.9 -1.2**
DYA Yadsworthy 7.98 340 eP **Pn 01 38 32.9 -1.2**
SNF Seneffe 8.00 19 PN **Pn 01 38 34.0 -0.3**
SNF Seneffe 8.00 19 Pn **Pn 01 38 34.0 -0.3**
DAVA Damuels 8.03 54 ⇑i/Pn **Pn 01 38 36.7 +1.7**
DAVA Damuels 8.03 54 Pn **Pn 01 38 36.7 +1.7**
EGRO El Granado 8.06 230 Pn **Pn 01 38 35.4 +0.1**
comp=E,1.0nm,0.1s,SNR=5.5
EGRO Sn Sn 01 40 00.5 -5.4
comp=E,2.8nm,0.1s,SNR=5.2
EGRO Lg Lg 01 40 54.4
comp=E,11nm,0.4s,SNR=7.9
EGRO El Granado 8.06 230 Pn **Pn 01 38 35.4 +0.1**
comp=E,1.0nm,0.1s,SNR=5.5
EGRO Lg Lg 01 40 54.4
comp=E,11nm,0.4s,SNR=7.9
PACT Alcochete 8.09 242 ePn **Pn 01 38 37.8 +2.1**
PACT eSn **Sn 01 40 06.5 -0.2**
PACT A A 01 41 20.5
comp=E,38nm,0.6s
PACT Alcochete 8.09 242 ePn **Pn 01 38 37.8 +2.1**
CCA1 Carnmenellis 8.13 334 eP **Pn 01 38 35.9 -0.2**
CCA1 Carnmenellis 8.13 334 eP **Pn 01 38 35.9 -0.2**
ELSH Elham, Standar 8.17 4 eP **Pn 01 38 36.2 -0.6**
ELSH Elham, Standar 8.17 4 eP **Pn 01 38 36.2 -0.6**
BCLA Clavier 8.18 23 PN **Pn 01 38 37.4 +0.5**
BCLA Clavier 8.18 23 Pn **Pn 01 38 37.4 +0.5**
MESJ Messejana 8.28 234 ePn **Pn 01 38 40.1 +1.8**
MESJ eSn **Sn 01 40 08.5 -2.8**
MESJ A A 01 41 06.8
comp=E,17nm,0.5s
MESJ Messejana 8.28 234 Pn **Pn 01 38 40.1 +1.8**
MESJ Sn **Sn 01 40 08.5 -2.8**
comp=E,17nm,0.5s
MESJ Messejana 8.28 234 ePn **Pn 01 38 40.1 +1.8**
PMAFR Mafra 8.28 244 ePn **Pn 01 38 39.7 +1.4**
PMAFR eSn **Sn 01 40 09.2 -2.2**
PMAFR A A 01 41 19.1
comp=E,24nm,0.7s
PMAFR Mafra 8.28 244 Pn **Pn 01 38 39.5 +1.2**
comp=E,5.0nm,0.2s,SNR=7.9
PMAFR Sn **Sn 01 40 08.4 -3.0**
comp=E,26nm,0.3s,SNR=7.9
PMAFR Mafra 8.28 244 ePn **Pn 01 38 39.7 +1.4**
PVAQ Vaqueiros 8.28 230 ePn **Pn 01 38 38.5 +0.1**
PVAQ eSn Sn 01 40 06.2 -5.2
PVAQ A A 01 41 19.5
comp=E,21nm,0.6s
PVAQ Vaqueiros 8.28 230 Pn **Pn 01 38 38.5 +0.1**
PVAQ Sn Sn 01 40 06.2 -5.2
comp=E,21nm,0.6s
PVAQ Vaqueiros 8.28 230 ePn **Pn 01 38 38.5 +0.1**
PNCL Nicolau / Gran 8.29 237 ePn **Pn 01 38 38.9 +0.5**
PNCL eSn **Sn 01 40 09.6 -2.0**
PNCL A A 01 41 23.0
comp=E,13nm,0.6s
PNCL Nicolau / Gran 8.29 237 ePn **Pn 01 38 38.9 +0.5**
PCVE Castro Verde 8.31 233 ePn **Pn 01 38 39.2 +0.5**
PCVE eSn **Sn 01 40 07.9 -4.2**
PCVE A A 01 41 15.2
comp=E,2.1nm,0.6s
PCVE Castro Verde 8.31 233 Pn **Pn 01 38 39.2 +0.5**
PCVE Sn **Sn 01 40 07.9 -4.2**
comp=E,2.1nm,0.6s
PCVE Castro Verde 8.31 233 ePn **Pn 01 38 39.2 +0.5**
FETA Feichten 8.42 58 ⇑i/Pn Pn 01 38 42.6 +2.2
PBDV Barranco-do-Ve 8.52 230 ePn **Pn 01 38 41.8 +0.2**
PBDV eSn Sn 01 40 11.8 -5.4
PBDV A A 01 41 24.4
comp=E,16nm,0.6s
PBDV Barranco-do-Ve 8.52 230 Pn **Pn 01 38 41.8 +0.2**
PBDV Sn Sn 01 40 11.8 -5.4
comp=E,16nm,0.6s
PBDV Barranco-do-Ve 8.52 230 ePn **Pn 01 38 41.8 +0.2**
HEX Exmoor 8.54 342 eP **Pn 01 38 40.3 -1.4**
HEX Exmoor 8.54 342 eP **Pn 01 38 40.3 -1.4**
MEM Membach 8.56 25 PN **Pn 01 38 41.8 -0.4**
MEM Membach 8.56 25 Pn **Pn 01 38 41.7 -0.4**
HTL Hartland 8.63 340 eP **Pn 01 38 42.2 -0.8**
HTL Hartland 8.63 340 eP **Pn 01 38 42.2 -0.8**
SWN1 Swindon 8.63 351 eP **Pn 01 38 42.0 -1.1**
SWN1 Swindon 8.63 351 eP **Pn 01 38 42.0 -1.1**
RETA Reutte 8.65 55 ⇑i/Pn **Pn 01 38 44.5 +1.1**
RETA Reutte 8.65 55 Pn **Pn 01 38 44.5 +1.1**
PTEO Sao Teotonio 8.77 235 ePn **Pn 01 38 46.5 +1.5**
PTEO eSn **Sn 01 40 19.9 -3.5**
PTEO A A 01 41 29.9
comp=E,25nm,0.6s
PTEO Sao Teotonio 8.77 235 Pn **Pn 01 38 46.5 +1.5**
PTEO Sn **Sn 01 40 19.9 -3.5**
comp=E,13nm,0.6s
PTEO Sao Teotonio 8.77 235 ePn **Pn 01 38 46.5 +1.5**
MOTA Moosalm 8.79 57 ⇓i/Pn Pn 01 38 47.7 +2.2
OLDB Oldbury-Upon-S 8.88 349 eP **Pn 01 38 45.5 -0.9**
OLDB Oldbury-Upon-S 8.88 349 eP **Pn 01 38 45.5 -0.9**
MORF Marmelete 8.89 233 ePn **Pn 01 38 47.2 +0.5**
MORF eSn Sn 01 40 21.1 -5.3
MORF A A 01 41 42.6
comp=E,12nm,0.5s
MORF Marmelete 8.89 233 Pn **Pn 01 38 47.2 +0.5**
MORF Sn Sn 01 40 21.1 -5.3
comp=E,12nm,0.5s
MORF Marmelete 8.89 233 ePn **Pn 01 38 47.2 +0.5**
STRD Stroud 8.94 350 eP **Pn 01 38 46.2 -1.0**
STRD Stroud 8.94 350 eP **Pn 01 38 46.2 -1.0**
MONM Monmouth 9.09 348 eP **Pn 01 38 47.8 -1.5**
MONM Monmouth 9.09 348 eP **Pn 01 38 47.8 -1.5**
PFVI Vila Bisbo 9.11 233 ePn **Pn 01 38 50.9 +1.2**
PFVI eSn Sn 01 40 26.4 -5.3
PFVI A A 01 40 44.7
comp=E,10nm,0.7s
PFVI Vila Bisbo 9.11 233 Pn **Pn 01 38 49.6 0.0**
comp=E,2.1nm,0.2s,SNR=9.5
PFVI Sn Sn 01 40 25.7 -6.0
comp=E,2.5nm,0.1s,SNR=7.9
PFVI Vila Bisbo 9.11 233 ePn **Pn 01 38 50.9 +1.2**
MCH1 Michaelchurch 9.27 347 eP **Pn 01 38 50.5 -1.3**
MCH1 Michaelchurch 9.27 347 eP **Pn 01 38 50.5 -1.3**
LPW Lampeter 9.58 344 eP **Pn 01 38 55.2 -0.8**
LPW Lampeter 9.58 344 eP **Pn 01 38 55.2 -0.8**
HLM1 Long Mynd 9.76 349 eP **Pn 01 38 57.4 -1.1**
KEST Kesra 10.09 133 Pn **Pn 01 39 05.9 +2.7**
comp=E,0.1nm,0.3s,baz=138,slow=1.3,SNR=13
KEST Sn **Sn 01 40 56.9 +1.0**
comp=E,0.0nm,0.3s,baz=104,slow=12,SNR=1.7
FOEL Foel Wylfa 10.17 348 eP **Pn 01 39 03.4 -0.7**
GERES GERESS Array B 11.02 53 Pn **Pn 01 39 15.7 -0.2**
comp=E,0.2nm,0.3s,baz=263,slow=17,SNR=6.9
GERES Sn **Sn 01 41 16.5 -2.2**
comp=E,0.1nm,0.3s,baz=264,slow=14,SNR=2.7
GERES LR LR 01 43 18.5
comp=E,37nm,18.3s,baz=197,slow=36
HPK Haverah Park 11.04 354 eP **Pn 01 39 14.3 -1.7**
KHC Kasperske Hory 11.08 52 eP **Pn 01 39 18.2 +1.5**
KHC ex x 01 40 09.5
KHC eS **Sn 01 41 18.8 -1.3**
KHC ex x 01 41 38.2
KHC ex x 01 42 38.4
KHC Kasperske Hory 11.08 52 P **Pn 01 39 18.2 +1.5**
KHC S **Sn 01 41 18.8 -1.3**
DSB Dublin 11.17 339 ePn **Pn 01 39 16.7 -1.1**
DSB eS Sn 01 41 13.1 -9.0
ESK Eskdalemuir 12.54 351 ePn **Pn 01 39 34.6 -1.9**
ESK eS Sn 01 41 47.4 -9.0
EKA Eskdalemuir Ar 12.55 351 Pn Pn 01 39 34.0 -2.6
baz=165,slow=14,SNR=12
AKASG Malin Array Be 21.14 59 P **P 01 41 24.4 +1.5**
comp=E,0.1nm,0.3s,baz=250,slow=10,SNR=3.1
FINES FINESS Array B 24.03 31 P **P 01 41 53.9 +1.1**
comp=E,1.1nm,0.8s,baz=211,slow=10,SNR=3.4
BRTR Keskin Array B 25.16 86 P **P 01 42 05.2 +1.8**
comp=E,0.6nm,0.5s,baz=287,slow=8.3,SNR=4.1
ARCES ARCESS Array B 29.59 18 P P 01 42 44.9 +2.1
comp=E,1.7nm,0.9s,baz=222,slow=11,SNR=6.5
TORD Torodi Ar. Bea 29.77 177 P **P 01 42 45.6 +0.9**
comp=E,1.0nm,0.7s,baz=351,slow=9.2,SNR=7.4
TORD PcP **PcP 01 45 48.1 -0.1**
comp=E,0.2nm,0.7s,baz=352,slow=2.4,SNR=2.7
LIC Lamto 36.92 189 eP P 01 43 50.3 +3.3
comp=E,10.0nm,0.8s,baz=12
LIC Lamto 36.92 189 eP P 01 43 50.3 +3.3
comp=E,5.0nm,0.8s
LIC Lamto 36.92 189 eP P 01 43 50.3 +3.3
comp=E,10.0nm,0.8s
MKAR Makanchi Array 55.68 55 P **P 01 46 16.0 +1.9**
comp=E,0.1nm,0.4s,baz=324,slow=7.1,SNR=2.6
ULM Lac du Bonnet 61.93 314 P **P 01 46 58.8 +1.3**
comp=E,1.4nm,0.8s,baz=60,slow=8.1,SNR=3.2
YKA Yellowknife Ar 62.71 332 P P 01 47 04.5 +2.1
comp=E,0.2nm,0.6s,baz=54,slow=6.6,SNR=8.0
TXAR Lajitas Array 79.81 301 P P 01 48 49.6 +3.0
comp=E,0.1nm,0.5s,baz=64,slow=4.1,SNR=2.3

*DDA **01** 01:41:15.1,36°.30N×36°.05E,h5km,MD3.4,ML3.5*
*ISCJB **01** 01:41:16.7±0.5,36°.31N±0°.01×36°.05E±0°.03,h8km±4km,*
Error ellipse: s-maj=3.5km s-min=2.5km az=173.4
*NSSC **01** 01:41:16.7±1.5,36°.34N×36°.13E,h1km±4km,ML2.8*
*CSEM **01** 01:41:16.5±0.1,36°.31N×36°.01E,h2km,ML3.5,Error*
ellipse: s-maj=3.7km s-min=2.7km az=80.0
*ISK **01** 01:41:18.4,36°.33N×35°.95E,h25km,MD3.4*
ISC 01 01:41:16.3±1.1,36°.32N±0°.01×36°.04E±0°.02,h2km±9km,
n90,σ1s03/133,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.29**	**169**	*i* P	**Pg**	**01 41 20.5**	**-1.4**
YAYL				*i* S	**Sg**	**01 41 25.2**	**-0.6**
YAYL	**Yayladag**	**0.29**	**169**	*i* P	**Pg**	**01 41 20.5**	**-1.4**
YAYL				*i* S	**Sg**	**01 41 25.2**	**-0.6**
BTCH	**Batrach**	**0.44**	**130**	*e*P	**Pg**	**01 41 25.2**	**+0.4**
BTCH				AML	AML	01 41 36.2	
	comp=E,1μm,0.4s						
BTCH				AML	AML	01 41 41.4	
	comp=N,700nm,0.2s						
BTCH	**Batrach**	**0.44**	**130**	*e*P	**Pg**	**01 41 25.2**	**+0.4**
	SNR=93						
ARNB	**Al Arnab**	**0.47**	**187**	*e*P	**Pb**	**01 41 26.3**	**-0.9**
ARNB				*e*S	**Sg**	**01 41 32.5**	**+1.3**
ARNB				AML	AML	01 41 39.0	
	comp=N,359nm,0.5s						
ARNB				AML	AML	01 41 45.4	
	comp=E,253nm,0.5s						
ARNB	**Al Arnab**	**0.47**	**187**	*e*P	**Pb**	**01 41 26.3**	**-0.9**
	SNR=92						
ARNB				*e*S	**Sg**	**01 41 32.5**	**+1.3**
	comp=E,253nm,0.5s,SNR=59						
CEYT	**Ceyhan**	**0.72**	**341**	*e*PG	**Pb**	**01 41 32.5**	**+0.9**
CEYT				*e*SG	**Sb**	**01 41 43.1**	**+1.0**
CEYT	**Ceyhan**	**0.72**	**341**	*e*Pg	**Pb**	**01 41 32.6**	**+0.9**
CEYT				*e*Sg	**Sb**	**01 41 43.1**	**+1.0**
WRDH	**Warideh**	**0.87**	**160**	*e*P	**Pg**	**01 41 33.3**	**+0.4**
WRDH				*e*S	**Sg**	**01 41 45.0**	**+0.8**
WRDH				AML	AML	01 41 49.0	
	comp=E,524nm,0.4s						
WRDH				AML	AML	01 41 50.9	
	comp=N,394nm,0.3s						
WRDH	**Warideh**	**0.87**	**160**	*e*P	**Pg**	**01 41 33.3**	**+0.4**
	SNR=75						
WRDH				*e*S	**Sg**	**01 41 45.0**	**+0.8**
	comp=N,394nm,0.3s,SNR=59						
KUZU	**Kuzuini**	**0.95**	**61**	*i* P	**Pg**	**01 41 34.0**	**-0.5**
KUZU				*i* S	**Sg**	**01 41 46.8**	**+0.1**
KUZU	**Kuzuini**	**0.95**	**61**	*i* P	**Pg**	**01 41 34.0**	**-0.5**
KUZU				*i* S	**Sg**	**01 41 46.8**	**+0.1**
KARA	**Karaisali**	**1.23**	**320**	*e*PN	**Pg**	**01 41 38.9**	**-0.9**
KARA				*e*SN	**Sg**	**01 41 55.1**	**-0.6**
KARA	**Karaisali**	**1.23**	**320**	*e*Pn	**Pg**	**01 41 38.9**	**-0.9**
KARA				*e*Sn	**Sg**	**01 41 55.1**	**-0.6**
KFRA	**Kufra**	**1.27**	**151**	*e*P	**Pg**	**01 41 40.2**	**-0.4**
KFRA				*e*S	**Sb**	**01 41 57.7**	**0.0**
KFRA				AML	AML	01 42 03.4	
	comp=N,1μm,0.3s						
KFRA				AML	AML	01 42 05.4	
	comp=E,1μm,0.2s						
KFRA	**Kufra**	**1.27**	**151**	*e*P	**Pg**	**01 41 40.2**	**-0.4**
	SNR=57						
KFRA				*e*S	**Sb**	**01 41 57.7**	**0.0**
	comp=E,1μm,0.2s,SNR=49						
ANDN	**Andirin**	**1.28**	**11**	*i* P	**Pg**	**01 41 39.8**	**-1.0**
ANDN				*i* S	**Sg**	**01 41 57.8**	**+0.4**
ANDN	**Andirin**	**1.28**	**11**	*i* P	**Pg**	**01 41 39.8**	**-1.0**
ANDN				*i* S	**Sg**	**01 41 57.8**	**+0.4**
BIDA	**Albida**	**1.33**	**170**	*e*P	**Pg**	**01 41 41.2**	**-0.5**
BIDA				*e*S	**Sb**	**01 41 59.4**	**0.0**
BIDA				AML	AML	01 42 02.1	
	comp=N,427nm,0.4s						
BIDA				AML	AML	01 42 03.2	
	comp=E,1μm,0.5s						
BIDA	**Albida**	**1.33**	**170**	*e*P	**Pg**	**01 41 41.2**	**-0.5**
	SNR=57						
BIDA				*e*S	**Sb**	**01 41 59.4**	**0.0**
	comp=E,1μm,0.5s,SNR=49						
MERS	**Mersin**	**1.34**	**294**	*e*PN	**Pn**	**01 41 41.2**	**-0.9**
MERS	**Mersin**	**1.34**	**294**	*e*Pn	**Pn**	**01 41 41.2**	**-0.9**
KMRS	**Kahramanmaras**	**1.37**	**30**	*e*PN	**Pb**	**01 41 42.7**	**+0.1**
KMRS				*e*SN	**Sg**	**01 42 00.4**	**+0.2**
KMRS	**Kahramanmaras**	**1.37**	**30**	*e*Pn	**Pb**	**01 41 42.7**	**+0.1**
KMRS				*e*Sn	**Sg**	**01 42 00.4**	**+0.2**
GULE	**Gulek**	**1.40**	**314**	*i* P	**Pn**	**01 41 41.1**	**-1.9**
GULE				*i* S	**Sn**	**01 42 02.1**	**0.0**
GULE	**Gulek**	**1.40**	**314**	*i* P	**Pn**	**01 41 41.1**	**-1.9**
GULE				*i* S	**Sn**	**01 42 02.1**	**0.0**
SLMH	**Al Salmeh**	**1.53**	**94**	*e*P	**Pn**	**01 41 43.7**	**-1.0**
SLMH				*e*S	**Sn**	**01 42 02.4**	**-2.8**
SLMH				AML	AML	01 42 06.7	
	comp=N,807nm,0.6s						
SLMH				AML	AML	01 42 06.8	
	comp=E,545nm,0.6s						
SLMH				AML	AML	01 42 10.0	
	comp=Z,227nm,0.6s						
SLMH	**Al Salmeh**	**1.53**	**94**	*e*P	**Pn**	**01 41 43.7**	**-1.0**
	SNR=57						
SLMH				*e*S	**Sn**	**01 42 02.4**	**-2.8**
	comp=Z,227nm,0.6s,SNR=49						
KIZK	**Mersin**	**1.54**	**276**	*i* P	**Pn**	**01 41 44.5**	**-0.2**
KIZK				*i* S	**Sg**	**01 42 06.5**	**+0.8**
KIZK	**Mersin**	**1.54**	**276**	*i* P	**Pn**	**01 41 44.5**	**-0.2**
KIZK				*i* S	**Sg**	**01 42 06.5**	**+0.8**
GZT	**Gaziantep**	**1.60**	**49**	*i* P	**Pn**	**01 41 44.5**	**-1.2**
GZT				*i* S	**Sg**	**01 42 08.0**	**+0.3**
EREN	**Erenkoy**	**1.71**	**243**	*e*PN	**Pn**	**01 41 46.5**	**-0.7**
EREN	**Erenkoy**	**1.71**	**243**	*e*Pn	**Pn**	**01 41 46.5**	**-0.7**
HAWK	**Haweek**	**1.82**	**170**	*e*P	**Pn**	**01 41 48.4**	**-0.4**
HAWK				*e*S	**Sn**	**01 42 12.9**	**+0.4**
HAWK				AML	AML	01 42 14.8	
	comp=N,202nm,0.9s						
HAWK				AML	AML	01 42 24.1	
	comp=E,76nm,0.3s						
HAWK	**Haweek**	**1.82**	**170**	*e*P	**Pn**	**01 41 48.4**	**-0.4**
	SNR=45						
HAWK				*e*S	**Sn**	**01 42 12.9**	**+0.4**
	comp=E,76nm,0.3s,SNR=40						
HWQ	**Hawqa**	**2.04**	**182**	*e*P	**Pn**	**01 41 51.4**	**-0.5**
HWQ	**Hawqa**	**2.04**	**182**	*e*P	**Pn**	**01 41 51.3**	**-0.5**
NIG	**Nigde**	**2.12**	**328**	*e*PN	**Pn**	**01 41 52.5**	**-0.5**
NIG	**Nigde**	**2.12**	**328**	*e*Pn	**Pn**	**01 41 52.5**	**-0.5**
ATAB	**Bozova**	**2.14**	**57**	*i* P	**Pg**	**01 41 56.7**	**-0.6**
LFK	**Lefkose**	**2.29**	**244**	*e*PN	**Pn**	**01 41 54.3**	**-0.8**
LFK	**Lefkose**	**2.29**	**244**	*e*Pn	**Pn**	**01 41 54.3**	**-0.8**
MARH	**Ras Al Marh**	**2.32**	**171**	*e*P	**Pn**	**01 41 56.5**	**+0.7**
MARH				*e*S	**Sn**	**01 42 25.1**	**0.0**
MARH				AML	AML	01 42 36.3	
	comp=E,149nm,0.6s						
MARH				AML	AML	01 42 41.7	
	comp=N,83nm,0.6s						
MARH	**Ras Al Marh**	**2.32**	**171**	*e*P	**Pn**	**01 41 56.5**	**+0.7**
	SNR=45						
MARH				*e*S	**Sn**	**01 42 25.1**	**0.0**
	comp=N,83nm,0.6s,SNR=40						
BHL	**Bhannes**	**2.43**	**188**	*e*P	**Pn**	**01 41 56.8**	**-0.4**
BHL	**Bhannes**	**2.43**	**188**	*e*P	**Pn**	**01 41 56.8**	**-0.4**
URFA	**Urfa**	**2.49**	**63**	*e*PN	**Pn**	**01 41 59.2**	**+1.2**
URFA	**Urfa**	**2.49**	**63**	*e*Pn	**Pn**	**01 41 59.2**	**+1.2**
DARE	**Darende-Malaty**	**2.52**	**27**	*e*PN	**Pn**	**01 41 59.3**	**+0.9**
DARE	**Darende-Malaty**	**2.52**	**27**	*e*Pn	**Pn**	**01 41 59.3**	**+0.9**
BNN	**Bunyan**	**2.53**	**357**	*e*PN	**Pn**	**01 41 58.8**	**+0.3**
BNN	**Bunyan**	**2.53**	**357**	*e*Pn	**Pn**	**01 41 58.8**	**+0.3**
ERMK	**Ermenek**	**2.54**	**278**	*i* P	**Pn**	**01 41 59.9**	**+1.2**
ERMK	**Ermenek**	**2.54**	**278**	*i* P	**Pn**	**01 41 59.9**	**+1.2**
ERMK				*i* S	**Sb**	**01 42 35.2**	**+0.7**
CSS	**Prodhromos**	**2.59**	**239**	*e*PN	**Pn**	**01 41 58.9**	**-0.4**
CSS	**Prodhromos**	**2.59**	**239**	*e*Pn	**Pn**	**01 41 58.9**	**-0.4**
DQRL	**Deir Qamar**	**2.64**	**189**	*e*P	**Pn**	**01 42 00.1**	**+0.1**
DQRL	**Deir Qamar**	**2.64**	**189**	*e*P	**Pn**	**01 42 00.1**	**+0.1**
SULT	**Sultanhani-AKS**	**2.75**	**314**	*e*PN	**Pn**	**01 42 01.4**	**0.0**
SULT	**Sultanhani-AKS**	**2.75**	**314**	*e*Pn	**Pn**	**01 42 01.5**	**0.0**
MALT	**Malatya**	**2.75**	**43**	*e*PN	**Pn**	**01 42 03.0**	**+1.5**
MALT	**Malatya**	**2.75**	**43**	*e*Pn	**Pn**	**01 42 03.0**	**+1.5**
LEF	**Lefka**	**2.83**	**246**	*e*PN	**Pn**	**01 42 03.0**	**+0.5**
LEF	**Lefka**	**2.83**	**246**	*e*Pn	**Pn**	**01 42 03.0**	**+0.5**
BRBR	**Barbar**	**2.91**	**181**	*e*P	**Pn**	**01 42 04.6**	**+0.8**
BRBR				*e*S	**Sn**	**01 42 39.8**	**+0.4**
BRBR				AML	AML	01 42 54.6	
	comp=E,69nm,0.6s						
BRBR				AML	AML	01 42 57.5	
	comp=N,45nm,0.5s						
BRBR	**Barbar**	**2.91**	**181**	*e*P	**Pn**	**01 42 04.6**	**+0.8**
	SNR=45						
BRBR				*e*S	**Sn**	**01 42 39.8**	**+0.4**
	comp=N,45nm,0.5s,SNR=40						
SFNV	**Sufian**	**3.29**	**87**	*e*P	**Pn**	**01 42 09.7**	**+0.8**
SFNV				*i* S	**Sn**	**01 42 45.1**	**-3.5**
SFNV				*i* S	**Sn**	**01 42 48.4**	**-0.2**
SFNV	**Sufian**	**3.29**	**87**	*e*P	**Pn**	**01 42 09.7**	**+0.8**
	SNR=45						
SFNV				*i* S	**Sn**	**01 42 48.4**	**-0.2**
	SNR=40						
SVRC	**Sivrice-ELAZID**	**3.31**	**51**	*e*PN	**Pn**	**01 42 11.1**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.31**	**51**	*e*Pn	**Pn**	**01 42 11.1**	**+1.8**
KONT	**Konya--Tatoy**	**3.36**	**300**	*e*PN	**Pn**	**01 42 10.1**	**+0.3**
KONT	**Konya--Tatoy**	**3.36**	**300**	*e*Pn	**Pn**	**01 42 10.1**	**+0.3**
LADK	**Ladik-KONYA**	**3.48**	**304**	*e*PN	**Pn**	**01 42 11.2**	**-0.3**
LADK	**Ladik-KONYA**	**3.48**	**304**	*e*Pn	**Pn**	**01 42 11.3**	**-0.3**
ZALF	**Zalf**	**3.56**	**162**	*e*P	**Pn**	**01 42 13.7**	**+1.2**
ZALF				*e*S	**Sn**	**01 42 54.7**	**-0.5**
ZALF				AML	AML	01 43 13.3	
	comp=E,45nm,0.6s						
ZALF				AML	AML	01 43 14.3	
	comp=N,20nm,0.6s						
ZALF	**Zalf**	**3.56**	**162**	*e*P	**Pn**	**01 42 13.7**	**+1.2**
	SNR=45						
ZALF				*e*S	**Sn**	**01 42 54.7**	**-0.5**
	comp=N,20nm,0.6s,SNR=40						
SALA	**Sala**	**3.65**	**171**	*e*P	**Pn**	**01 42 15.7**	**+1.7**
SALA				*e*S	**Sn**	**01 42 57.6**	**0.0**
SALA				AML	AML	01 43 16.4	
	comp=N,35nm,0.6s						
SALA				AML	AML	01 43 18.7	
	comp=E,4.4nm,0.4s						
SALA	**Sala**	**3.65**	**171**	*e*P	**Pn**	**01 42 15.7**	**+1.7**
	SNR=45						
SALA				*e*S	**Sn**	**01 42 57.7**	**0.0**
	comp=E,4.4nm,0.4s,SNR=40						
DYBB	**Diyarbakir**	**3.66**	**62**	*e*PN	**Pn**	**01 42 16.1**	**+2.2**
SVSK	**Karacayir**	**3.67**	**12**	*e*PN	**Pn**	**01 42 15.0**	**+1.0**
SVSK	**Karacayir**	**3.67**	**12**	*e*Pn	**Pn**	**01 42 15.0**	**+1.0**
KBSD	**Kabsdagh**	**3.68**	**78**	*e*P	**Pn**	**01 42 13.9**	**-0.4**
KBSD				*e*S	**Sn**	**01 42 55.8**	**-2.5**
KBSD				AML	AML	01 43 26.9	
	comp=Z,75nm,0.4s						
KBSD	**Kabsdagh**	**3.68**	**78**	*e*P	**Pn**	**01 42 13.9**	**-0.4**
	SNR=45						
KBSD				*e*S	**Sn**	**01 42 55.8**	**-2.5**
	comp=Z,75nm,0.4s,SNR=40						
DIY	**Diyarbakir**	**3.70**	**64**	*e*Pn	**Pn**	**01 42 16.1**	**+1.6**
ILIC	**ilic-Erzincan**	**3.71**	**32**	*e*PN	**Pn**	**01 42 16.5**	**+1.8**
ILIC	**ilic-Erzincan**	**3.71**	**32**	*e*Pn	**Pn**	**01 42 16.5**	**+1.8**
CORM	**Corum**	**4.01**	**344**	*e*PN	**Pn**	**01 42 19.5**	**+0.7**
CORM	**Corum**	**4.01**	**344**	*e*Pn	**Pn**	**01 42 19.5**	**+0.7**
RSDY	**Resadiye-TOKAT**	**4.19**	**14**	*e*PN	**Pn**	**01 42 23.3**	**+2.0**
RSDY	**Resadiye-TOKAT**	**4.19**	**14**	*e*Pn	**Pn**	**01 42 23.3**	**+2.0**

IDC 01 01:44:07.8±2.4,37°.25S×73°.64W,h0km,mb3.5/2,
mb1 3.6/3,mb1mx3.5/15,mbtmp3.4/3,ML3.4/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.9/9,Error ellipse: s-maj=109.6km
s-min=36.2km az=54.0,Nature of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.23**	**146**	Pn	Pn	01 45 13.6	-0.1
	0.5nm,0.3s,baz=338,slow=18,SNR=7.2						
PLCA				LR	LR	01 46 54.4	
	comp=Z,264nm,18.6s,baz=292,slow=39						
TXAR	**Lajitas Array**	**71.97**	**333**	P	P	01 55 33.3	0.0
	0.2nm,0.7s,baz=143,slow=7.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**86.53**	**71**	P	P	01 56 53.0	0.0
	0.5nm,0.9s,baz=233,slow=5.1,SNR=5.4						

*IDC **01** 02:29:55.9±1.0,36°.93S×73°.50W,h0km,mb4.2/8,*
mb1 4.3/9,mb1mx4.2/19,mbtmp4.1/9,ML3.3/2,MS4.1/12,
Ms1 4.1/12,ms1mx3.9/17,Error ellipse: s-maj=26.2km
s-min=18.0km az=75.0
*ISCJB **01** 02:29:56.6±0.7,36°.91S±0°.06×73°.4W±0°.2,h14km,*
mb4.2/11,MS4.1/11,Error ellipse: s-maj=17.6km
s-min=8.1km az=172.5
*NEIC **01** 02:30:01.1±0.6,36°.90S×73°.44W,h35km,mb4.3/3,Error*
ellipse: s-maj=14.8km s-min=7.6km az=80.0
ISC 01 02:29:58.2±0.8,36°.92S±0°.08×73°.5W±0°.2,h14km,n32,
σ0s91/26,mb4.2/11,MS4.1/11,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.46**	**150**	Pn	**Pn**	**02 31 05.9**	**+0.5**
	0.7nm,0.3s,baz=304,slow=8.3,SNR=18						
PLCA				Lg	Lg	02 32 14.8	
	3.7nm,0.3s,baz=342,slow=4.3,SNR=3.7						
PLCA	**Paso Flores**	**4.46**	**150**	*e*Pn	**Pn**	**02 31 06.7**	**+1.3**
PLCA				Lg	Lg	02 32 14.8	
CFAA	**Coronel Fontan**	**6.86**	**41**	Pn	**Pn**	**02 31 39.1**	**+0.7**
	0.2nm,0.3s,baz=215,slow=10,SNR=6.4						
CFAA				Lg	Lg	02 33 32.1	
	0.1nm,0.3s,baz=117,slow=22,SNR=3.5						
CFAA				LR	LR	02 34 33.4	
	comp=Z,110nm,20.5s,baz=228,slow=40						
LCO	**Las Campanas**	**8.23**	**17**	*e*Pn	**Pn**	**02 31 56.1**	**-1.3**
	8.7nm,0.6s						
TRQA	**Tornquist**	**9.23**	**101**

3.0nm,1.0s,baz=266,slow=7.7,SNR=3.0
BOSA LR LR 03 14 41.6
comp=Z,50nm,19.0s,baz=172,slow=34
PDAR Pinedale Array 85.84 334 P **P 02 42 38.1 +0.8**
0.7nm,0.8s,baz=159,slow=4.5,SNR=4.8
TORD Torodi Ar. Bea 86.31 71 P **P 02 42 39.2 -0.8**
1.0nm,0.9s,baz=222,slow=4.8,SNR=8.0
TORD LR LR 03 18 22.1
comp=Z,68nm,20.9s,baz=205,slow=34
SCHQ Schefferville 91.56 4 LR LR 03 23 36.6
comp=Z,39nm,20.9s,baz=40,slow=35
ABKAR Akbulak array 144.38 55 *e*PKPdf **PKPab 02 49 31.5 0.0**
HYB Hyderabad 148.64 121 *i* PKP **PKPdf 02 49 43.5 +1.9**
BVAR Borovoye Array 150.20 46 PKPbc **PKPbc 02 49 48.2 +0.1**
0.5nm,0.6s,baz=316,slow=4.0,SNR=3.3
ZALV Zalesovo Beam 157.31 34 PKP **PKPdf 02 49 52.0 -1.0**
0.4nm,0.3s,baz=0.0,slow=0.7,SNR=4.2
MKAR Makanchi Array 159.52 54 PKPab **PKPab 02 50 33.7 -0.5**
0.4nm,0.7s,baz=268,slow=4.8,SNR=4.2

MEX 01 02:40:34.5±0.3, 18°.63N×101°.50W, h63km±13km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.02**	**178**	*i* P	Pn	02 40 51.2	-1.7
ZIIG				*e*S	Sn	02 41 04.7	-1.8
MOIG	**Morelia**	**1.08**	**16**	*i* P	Pn	02 40 52.8	-1.2
MOIG				*e*S	Sn	02 41 06.0	-2.6
ARIG	**Puente Sto Nin**	**1.15**	**107**	*i* P	Pn	02 40 53.0	-1.6
ARIG				*e*S	Sn	02 41 07.8	-1.9
MMIG	**Aquila**	**1.79**	**259**	*i* P	Pn	02 41 02.2	-0.9
MMIG				*e*S	Sn	02 41 23.2	-1.6
PLIG	**Platanillo**	**1.91**	**97**	*i* P	Pn	02 41 03.5	-1.4
PLIG				*e*S	Sn	02 41 26.6	-1.4
EZ5V		**2.16**	**293**	*i* P	Pn	02 41 06.6	-2.0
EZ5V				*e*S	Sn	02 41 33.0	-1.5
YAIG	**Yautepec**	**2.31**	**84**	*i* P	Pn	02 41 08.9	-1.6
YAIG				*e*S	Sn	02 41 36.7	-1.4

*ISCJB **01** 03:21:15.0±0.7, 32°.3N±0°.1×85°.3E±0°.1, h10km, mb3.9/14, MS3.1/2, Error ellipse: s-maj=19.8km s-min=11.9km az=144.0*
*IDC **01** 03:21:14.6±0.9, 32°.26N×85°.22E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/37, mbtmp3.8/12, ML2.7/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=26.9km s-min=19.2km az=50.0*
ISC 01 03:21:16.9±0.8, 32°.3N±0°.1×85°.4E±0°.1, h10km, n21, σ1§61/18, mb3.9/14, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.44**	**323**	LR	LR	03 30 04.1	
comp=Z,44nm,18.6s,baz=124,slow=40							
MKAR	**Makanchi Array**	**14.63**	**351**	Pn	**Pn**	**03 24 43.9**	**0.0**
0.0nm,0.3s,baz=167,slow=7.0,SNR=2.6							
CMAR	**Chiang Mai Arr**	**18.42**	**135**	P	**P**	**03 25 33.1**	**+0.8**
baz=332,slow=13,SNR=8.8							
CMAR				LR	LR	03 33 21.7	
comp=Z,55nm,18.1s,baz=327,slow=39							
KURBB	**Kurchatov Arra**	**18.96**	**346**	P	**P**	**03 25 37.2**	**-0.9**
0.0nm,0.3s,baz=163,slow=10,SNR=7.7							
ZALV	**Zalesovo Beam**	**21.60**	**359**	P	**P**	**03 26 07.1**	**+0.4**
4.1nm,0.8s,baz=186,slow=9.0,SNR=11							
SONM	**Songino Array**	**22.18**	**40**	P	**P**	**03 26 15.1**	**+1.9**
1.5nm,0.9s,baz=224,slow=12,SNR=7.9							
GEYT	**Alibeck**	**22.98**	**292**	P	**P**	**03 26 25.3**	**+3.6**
1.7nm,0.6s,baz=130,slow=14,SNR=3.8							
BVAR	**Borovoye Array**	**23.35**	**337**	LR	LR	03 36 28.9	
comp=Z,30nm,21.7s,baz=124,slow=39							
AKTO	**Aktyubinsk**	**27.14**	**320**	P	**P**	**03 27 01.4**	**+1.3**
0.3nm,0.4s,baz=100,slow=8.9,SNR=4.1							
AKASG	**Malin Array Be**	**44.74**	**311**	P	**P**	**03 29 28.4**	**-1.8**
0.2nm,0.3s,baz=78,slow=7.4,SNR=6.7							
FINES	**FINESS Array B**	**47.60**	**326**	P	**P**	**03 29 51.2**	**-1.3**
2.8nm,1.0s,baz=140,slow=11,SNR=4.4							
NB2	**NORSAR Subarra**	**54.75**	**325**	P	**P**	**03 30 45.2**	**-1.1**
comp=Z,4.7nm,1.1s,baz=88,slow=7.4							
NOA	**NORSAR Array B**	**54.75**	**325**	P	**P**	**03 30 45.3**	**-1.0**
comp=Z,1.1nm,0.9s,baz=83,slow=7.0,SNR=3.8							
GERES	**GERESS Array B**	**54.90**	**310**	P	**P**	**03 30 47.2**	**-0.5**
comp=Z,1.1nm,0.9s,baz=74,slow=5.7,SNR=7.9							
LPG	**La Plagne**	**60.30**	**307**	*e*P	**P**	**03 31 28.4**	**+2.3**
comp=Z,17nm,1.1s							
LPL	**La Plagne**	**60.31**	**307**	*e*P	**P**	**03 31 27.7**	**+1.7**
comp=Z,15nm,1.1s							
JAY	**Jayapura**	**62.71**	**112**	LR	LR	04 01 24.9	
comp=Z,31nm,18.1s,slow=38							
ASAR	**Alice Springs**	**72.42**	**134**	P	**P**	**03 32 43.1**	**-0.4**
comp=Z,0.8nm,0.8s,baz=310,slow=6.5,SNR=5.5							
ILAR	**Eielson Array**	**74.97**	**21**	P	**P**	**03 32 57.4**	**-0.6**
comp=Z,1.7nm,0.9s,baz=317,slow=4.3,SNR=7.6							
TORD	**Torodi Ar. Bea**	**77.86**	**278**	P	**P**	**03 33 13.7**	**-1.5**
comp=Z,1.2nm,0.9s,baz=45,slow=4.5,SNR=8.7							
YKA	**Yellowknife Ar**	**84.1**	**9**	P	**P**	**03 33 47.2**	**-0.5**
comp=Z,0.4nm,0.7s,baz=339,slow=5.2,SNR=12							

*ISCJB **01** 04:30:18.8±0.4, 70°.91N±0°.05×140°.0E±0°.2, h10km, mb3.6/12, MS3.2/14, Error ellipse: s-maj=8.7km s-min=6.5km az=12.8*
*IDC **01** 04:30:19.4±0.8, 71°.00N×140°.06E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/35, mbtmp3.8/13, ML3.1/2, MS3.2/15, Ms1 3.2/15, ms1mx3.0/34, Error ellipse: s-maj=22.6km s-min=15.2km az=142.0*
*MOS **01** 04:30:20.0±1.3, 70°.74N×139°.92E, h23km, mb4.0/7, Error ellipse: s-maj=30.7km s-min=12.5km az=85.9*
*YARS **01** 04:30:22.9±0.7, 70°.75N±0°.02×140°.01E±0°.08, h10km, MSV4.2*
ISC 01 04:30:20.1±0.5, 70°.78N±0°.04×139°.93E±0°.05, h10km, n46, σ1§46/33, mb3.7/12, MS3.2/14, 3C, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEPR	**Deputatskiy**	**1.40**	**180**	*e*P	**Pg**	**04 30 46.9**	**+0.1**
DEPR				Pm		04 30 46.9	
comp=Z,2µm,0.5s							
DEPR				*e*S	**Sg**	**04 31 05.3**	**+0.4**
DEPR				Sm		04 31 05.3	
comp=E,355nm,0.4s,comp=N,5µm,0.4s							
TIXI	**Tiksi**	**3.68**	**289**	*c*P	**Pn**	**04 31 17.0**	**+0.1**
TIXI	**Tiksi**	**3.68**	**289**	*e*P	**Pn**	**04 31 17.1**	**+0.1**
TIXI				*e*P	**Pg**	**04 31 30.6**	**+0.1**
TIXI				Pm		04 31 30.6	
comp=Z,97nm,0.6s							
TIXI				*e*S	Sn	04 31 52.3	-8.0
TIXI				*e*S	**Sg**	**04 32 16.7**	**-1.4**
TIXI				Sm		04 32 16.7	
comp=N,326nm,0.6s							
MOMR	**Moma**	**4.50**	**163**	*e*P	**Pn**	**04 31 31.3**	**+3.1**
MOMR				*e*P	Pg	04 31 42.8	-3.4
MOMR				Pm		04 31 42.8	
comp=Z,36nm,0.4s							
MOMR				*e*S	Sn	04 32 10.5	-10
MOMR				*e*S	**Sg**	**04 32 41.5**	**-2.8**
MOMR				Sm		04 32 41.5	
comp=E,518nm,0.8s,comp=N,1µm,0.8s							
UNR	**Ust'-Nera**	**6.37**	**167**	*e*S	Sg	04 33 38.0	-6.1
UNR				Sm		04 33 38.0	
comp=E,769nm,0.7s,comp=N,1µm,0.7s							
SEY	**Seymchan**	**9.26**	**142**	*e*P	**Pn**	**04 32 33.2**	**-0.2**
SEY	**Seymchan**	**9.26**	**142**	Pn	**Pn**	**04 32 33.5**	**+0.1**
comp=N,0.8nm,0.3s,baz=332,slow=17,SNR=4.6							
SEY				Lg	Lg	04 35 09.3	
comp=N,1.9nm,0.3s,baz=263,slow=5.5,SNR=4.4							
BILL	**Bilibino**	**9.63**	**94**	*i* P	**Pn**	**04 32 41.1**	**+2.6**
YAK	**Yakutsk**	**9.68**	**210**	*i* P	**Pn**	**04 32 37.9**	**-1.3**
YAK	**Yakutsk**	**9.68**	**210**	Lg	Lg	04 35 22.7	
comp=N,0.0nm,0.3s,baz=198,slow=6.4,SNR=2.4							
YAK				LR	LR	04 36 54.8	
comp=N,114nm,21.8s,baz=36,slow=40							
YAK	**Yakutsk**	**9.68**	**210**	*e*S	Sn	04 35 21.6	+54
YAK				Sm		04 35 21.6	
comp=E,158nm,0.1s							
NBS	**Nizhniy Bestya**	**9.74**	**209**	*e*S	**Sn**	**04 34 27.5**	**-1.7**
NBS				*e*S		04 35 25.1	
USMR	**Ust'-Maya**	**10.63**	**195**	*e*S	Sn	04 35 50.4	+59
CGD	**Chagda**	**12.69**	**203**	*e*S		04 36 54.4	
CGD				Sm		04 36 54.4	
comp=N,3.0nm,0.4s							
CLNS	**Chul'man**	**15.41**	**212**	*e*S	S	04 38 17.7	+74
CLNS				Sm		04 38 17.7	
comp=E,56nm,0.1s							
IENR	**Iengra**	**16.00**	**212**	*e*S	S	04 38 37.5	+81
PETK	**Petropavlovsk-**	**19.45**	**146**	P	**Pn**	**04 34 48.6**	**+1.0**
comp=E,0.1nm,0.3s,baz=294,slow=7.7,SNR=2.8							
PETK				LR	LR	04 42 22.8	
comp=E,50nm,21.2s,baz=103,slow=37							
KLR	**Kul'dur**	**21.96**	**194**	*e*P	**P**	**04 35 13.5**	**-0.1**
KLR				MLR	MLR		
comp=Z,900nm,12.5s							
TLY	**Talaya**	**25.23**	**240**	LR	LR	04 47 08.6	
comp=Z,50nm,18.3s,baz=4.5,slow=40							
COLA	**College**	**26.31**	**67**	*e*P	**P**	**04 35 56.1**	**+0.8**
ILAR	**Eielson Array**	**26.67**	**66**	P	**P**	**04 35 58.8**	**+0.1**
comp=Z,0.7nm,0.8s,baz=309,slow=8.7,SNR=9.7							
ASAJ	**Asahikawa**	**26.77**	**176**	LR	LR	04 46 55.3	
comp=Z,45nm,18.5s,baz=15,slow=37							
USRK	**Ussuriysk Ar.**	**26.94**	**193**	P	**P**	**04 36 05.3**	**+4.0**
comp=Z,1.3nm,0.8s,baz=350,slow=9.6,SNR=4.7							
ULN	**Ulaanbaatar**	**27.76**	**232**	*e*P	**P**	**04 36 07.0**	**-1.8**
ULN				pmax	pmax		
comp=Z,5.0nm,2.5s							
INK	**Inuvik**	**27.95**	**52**	P	**P**	**04 36 09.0**	**-1.0**
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**27.95**	**52**	P	**P**	**04 36 09.0**	**-1.0**
comp=Z,0.5nm,0.4s,baz=321,slow=18,SNR=5.6							
SONM	**Songino Array**	**27.96**	**233**	P	**P**	**04 36 12.8**	**+2.2**
comp=Z,0.3nm,0.8s,baz=27,slow=9.7,SNR=3.3							
SONM				LR	LR	04 48 38.5	
comp=Z,79nm,18.1s,baz=82,slow=39							
ZALV	**Zalesovo Beam**	**29.18**	**264**	LR	LR	04 50 04.4	
comp=Z,12nm,18.9s,baz=68,slow=40							
ARCES	**ARCESS Array B**	**33.37**	**324**	LR	LR	04 53 03.0	
comp=Z,31nm,20.3s,baz=21,slow=41							
KURK	**Kurchatov**	**33.96**	**267**	*e*P	**P**	**04 37 04.0**	**+0.9**
KSRS	**Korea Array**	**33.99**	**197**	LR	LR	04 51 52.9	
comp=Z,49nm,18.8s,baz=37,slow=38							
MJAR	**Matsushiro Arr**	**34.32**	**182**	LR	LR	04 51 43.4	
comp=Z,27nm,19.1s,baz=95,slow=37							
MKAR	**Makanchi Array**	**36.16**	**260**	P	**P**	**04 37 22.8**	**+0.6**
comp=Z,0.6nm,0.5s,baz=50,slow=8.1,SNR=14							
MKAR				LR	LR	04 53 33.8	
comp=Z,17nm,19.4s,baz=358,slow=38							
YKA	**Yellowknife Ar**	**37.37**	**47**	P	**P**	**04 37 31.9**	**-0.3**
YKA				pmax	pmax		
comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**37.37**	**47**	P	**P**	**04 37 31.9**	**-0.3**
comp=Z,0.6nm,0.7s,baz=333,slow=8.0,SNR=13							
FINES	**FINESS Array B**	**40.26**	**317**	P	**P**	**04 37 56.9**	**+0.4**
comp=Z,1.6nm,0.7s,baz=46,slow=6.6,SNR=6.0							
FINES				LR	LR	04 56 59.6	
comp=Z,29nm,18.4s,baz=31,slow=40							
NOA	**NORSAR Array B**	**43.66**	**327**	LR	LR	05 01 08.8	
comp=Z,28nm,18.4s,baz=10.0,slow=42							
GEYT	**Alibeck**	**52.06**	**277**	LR	LR	05 03 41.8	
comp=Z,40nm,21.0s,baz=345,slow=38							
ULM	**Lac du Bonnet**	**52.84**	**42**	P	**P**	**04 39 34.5**	**-0.7**
ULM				pmax	pmax		
comp=Z,2.0nm,0.6s							
ULM	**Lac du Bonnet**	**52.84**	**42**	P	**P**	**04 39 34.5**	**-0.7**
comp=Z,1.8nm,0.6s,baz=338,slow=9.3,SNR=4.8							
SCHQ	**Schefferville**	**53.23**	**19**	P	**P**	**04 39 36.7**	**-1.3**
comp=Z,1.9nm,0.7s,baz=6.3,slow=9.2,SNR=4.3							
GERES	**GERESS Array B**	**54.61**	**319**	LR	LR	05 05 58.3	
comp=Z,32nm,19.1s,baz=356,slow=39							
PDAR	**Pinedale Array**	**56.43**	**56**	P	**P**	**04 40 01.2**	**-0.4**
comp=Z,0.4nm,0.7s,baz=3.4,slow=4.5,SNR=3.9							
BRTR	**Keskin Array B**	**58.06**	**299**	LR	LR	05 07 45.6	
comp=Z,21nm,18.9s,baz=342,slow=39							
TXAR	**Lajitas Array**	**70.65**	**56**	P	**P**	**04 41 35.3**	**-0.3**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**70.65**	**56**	P	**P**	**04 41 35.3**	**-0.3**
comp=Z,0.5nm,0.9s,baz=354,slow=7.3,SNR=4.2							

MAN 01 04:51:10, 10°.67N×124°.96E, h0km, mb4.0, ML2.8, MS2.4, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.49**	**3**	*e*P	Pg	04 51 20.1	+0.6
PLP				*e*S	Sb	04 51 28.2	-1.2
OCLP	**Ormoc**	**0.51**	**318**	*e*P	Pg	04 51 20.2	+0.4
OCLP				*e*S	Sg	04 51 27.9	+1.4
MSLP	**Maasin**	**0.54**	**190**	*e*P	Pb	04 51 21.6	-0.8
MSLP				*e*S	Sb	04 51 29.4	-1.3
TBP	**Tagbilaran**	**1.45**	**228**	*e*P	Pn	04 51 36.9	-0.7
TBP				*e*S	Sn	04 51 58.0	+0.7

MEX 01 05:04:40.6±0.4, 18°.17N×103°.31W, h16km±4km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.12**	**346**	*i* P	Pg	05 04 43.5	-0.8
MMIG				*e*S	Sg	05 04 46.4	-0.3
EZ5V		**1.33**	**348**	*i* P	Pn	05 05 01.9	-3.1
EZ5V				*e*S	Sn	05 05 16.9	-5.7
ARIG	**Puente Sto Nin**	**2.82**	**87**	*i* P	Pn	05 05 22.6	-2.5
ARIG				*e*S	Sn	05 05 54.7	-4.2

*DDA **01** 05:07:10.9, 39°.78N×42°.81E, h7km, MD3.3*
*NSSP **01** 05:07:10.8, 39°.73N×42°.57E, h18km, Ms3.0*
*ISK **01** 05:07:11.5, 39°.72N×42°.79E, h2km, ML3.3*
*CSEM **01** 05:07:12.4±0.2, 39°.71N×42°.80E, h2km, ML3.3, Error ellipse: s-maj=4.9km s-min=4.0km az=43.0*
ISC 01 05:07:11.8±1.0, 39°.72N±0°.02×42°.77E±0°.02, h4km±9km, n85, σ1§61/101, 13C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.23**	**129**	PG	**Pg**	**05 07 16.8**	**+0.6**
AGRB				*e*SG	**Sg**	**05 07 20.9**	**+1.7**
AGRB	**Hanur-Agry**	**0.23**	**129**	*i* Pg	**Pg**	**05 07 16.8**	**+0.6**
AGRB				*e*Sg	**Sg**	**05 07 20.9**	**+1.7**
EATA	**Eleskirt**	**0.26**	**304**	*i* P	**Pg**	**05 07 16.2**	**-0.6**
EATA				*i* S	**Sg**	**05 07 20.7**	**+0.5**
EATA	**Eleskirt**	**0.26**	**304**	*i* P	**Pg**	**05 07 16.2**	**-0.6**
EATA				*i* S	**Sg**	**05 07 20.7**	**+0.5**
TUTA	**Tutak**	**0.32**	**173**	*i* P	Pg	05 07 14.3	-3.8
TUTA				*i* S	**Sg**	**05 07 20.0**	**-2.2**
TUTA	**Tutak**	**0.32**	**173**	*i* P	Pg	05 07 14.3	-3.8
TUTA				*i* S	**Sg**	**05 07 20.0**	**-2.2**
EKAR	**Karacoban**	**0.71**	**230**	*i* P	**Pg**	**05 07 25.7**	**+0.2**
EKAR				*i* S	**Sn**	**05 07 38.5**	**-2.0**
EKAR	**Karacoban**	**0.71**	**230**	*i* P	**Pg**	**05 07 25.7**	**+0.2**
EKAR				*i* S	**Sn**	**05 07 38.5**	**-2.0**
DYDN	**Diyadin**	**0.73**	**104**	*i* P	**Pg**	**05 07 24.9**	**-1.0**
DYDN				*i* S	**Sg**	**05 07 35.8**	**+0.4**
DYDN	**Diyadin**	**0.73**	**104**	*i* P	**Pg**	**05 07 24.9**	**-1.0**
DYDN				*i* S	**Sg**	**05 07 35.8**	**+0.4**
HOMI	**Horasan**	**0.74**	**296**	*i* P	**Pg**	**05 07 25.1**	**-0.9**
KARS	**Kars**	**0.94**	**15**	*e*PG	**Pg**	**05 07 30.1**	**+0.2**
KARS	**Kars**	**0.94**	**15**	*e*Pg	**Pg**	**05 07 30.1**	**+0.2**
NARZ	**Nor Artik**	**1.04**	**44**	*e*P	Pn	05 07 36.7	+3.2
NARZ				*e*S	**Sn**	**05 07 52.9**	**+4.3**
NARZ	**Nor Artik**	**1.04**	**44**	P	Pn	05 07 36.7	+3.2
CLDR	**Caldiran**	**1.06**	**122**	*e*PG	**Pg**	**05 07 31.8**	**-0.4**
CLDR				*e*SG	**Sb**	**05 07 47.1**	**-0.2**
CLDR	**Caldiran**	**1.06**	**122**	*e*Pg	**Pg**	**05 07 31.8**	**-0.4**
CLDR				*e*Sg	**Sb**	**05 07 47.1**	**-0.2**
ERZM	**Erzurum**	**1.09**	**280**	*i* P	**Pb**	**05 07 32.5**	**-1.0**
ERZM	**Erzurum**	**1.09**	**280**	*i* P	**Pb**	**05 07 32.5**	**-1.0**
EZM	**Erzurum**	**1.10**	**280**	*e*PN	**Pb**	**05 07 33.2**	**-0.3**
VRTB	**Varto-Mus**	**1.16**	**242**	*e*PN	**Pb**	**05 07 34.1**	**-0.4**
VANB	**Van**	**1.22**	**156**	*e*PN	**Pg**	**05 07 36.0**	**+0.7**
VANB	**Van**	**1.22**	**156**	*e*Pn	**Pg**	**05 07 36.0**	**+0.7**
LERZ	**Lernakert**	**1.24**	**47**	*i* P	Pg	05 07 39.9	+4.2
LERZ				*i* S	Sn	05 07 58.7	+5.1
LERZ	**Lernakert**	**1.24**	**47**	P	Pg	05 07 39.9	+4.2
TATV	**Tatvan**	**1.27**	**198**	*i* P	**Pn**	**05 07 34.2**	**-2.4**
TATV				*i* S	**Sg**	**05 07 54.0**	**+1.3**
TATV	**Tatvan**	**1.27**	**198**	*i* P	**Pn**	**05 07 34.2**	**-2.4**
TATV				*i* S	**Sg**	**05 07 54.0**	**+1.3**
TVAN	**Van**	**1.29**	**157**	*i* P	**Pn**	**05 07 36.1**	**-0.8**
TVAN	**Van**	**1.29**	**157**	*i* P	**Pn**	**05 07 36.1**	**-0.8**
TVAN				*i* S	**Sg**	**05 07 55.3**	**+2.0**
GYMZ	**Gyumri**	**1.36**	**36**	*e*P	**Pg**	**05 07 38.4**	**+0.4**
GYMZ				*e*S	**Sg**	**05 07 58.7**	**+3.1**
GYMZ	**Gyumri**	**1.36**	**36**	P	**Pg**	**05 07 38.3**	**+0.4**
HNAZ	**Hnaberd**	**1.40**	**49**	*i* P	Pg	05 07 42.2	+3.6
HNAZ				*i* S	Sg	05 08 03.5	+6.7
HNAZ	**Hnaberd**	**1.40**	**49**	P	Pg	05 07 42.2	+3.6
DDEM	**Demirkent**	**1.41**	**327**	*i* P	**Pn**	**05 07 37.3**	**-1.1**
DDEM	**Demirkent**	**1.41**	**327**	*i* P	**Pn**	**05 07 37.3**	**-1.1**
GEVA	**Gevas**	**1.42**	**171**	*i* P	**Pb**	**05 07 38.4**	**-0.7**
GEVA				*i* S	**Sg**	**05 07 58.5**	**+1.0**
GEVA	**Gevas**	**1.42**	**171**	*i* P	**Pb**	**05 07 38.4**	**-0.7**
GEVA				*i* S	**Sg**	**05 07 58.5**	**+1.0**
KAMZ	**Kamo**	**1.43**	**39**	*i* P	Pg	05 07 43.0	+3.8
KAMZ				*i* S	Sg	05 08 04.8	+7.0
KAMZ	**Kamo**	**1.43**	**39**	P	Pg	05 07 43.0	+3.8
BNGL	**BINGOL**	**1.47**	**239**	*i* P	**Pn**	**05 07 38.0**	**-1.3**
BNGL				*i* S	**Sg**	**05 08 00.5**	**+1.5**
DAGI	**Agillar**	**1.50**	**335**	*i* P	**Pn**	**05 07 39.1**	**-0.7**
DAGI				*i* S	**Sn**	**05 07 58.9**	**-1.0**
GNI	**Garni**	**1.58**	**74**	*i* P	**Pg**	**05 07 42.1**	**0.0**
GNI				*i* S	**Sg**	**05 08 06.1**	**+3.6**
GNI	**Garni**	**1.58**	**74**	P	**Pg**	**05 07 42.1**	**0.0**
ARTV	**Artvin**	**1.60**	**337**	*i* P	**Pn**	**05 07 40.9**	**-0.2**
ARTV				*i* S	**Sb**	**05 08 02.0**	**-0.7**
ARTV	**Artvin**	**1.60**	**337**	*i* P	**Pn**	**05 07 40.9**	**-0.2**
ARTV				*i* S	**Sb**	**05 08 02.0**	**-0.7**
KOPT	**Kop Dagi**	**1.77**	**280**	*i* P	**Pb**	**05 07 44.9**	**-0.2**
KOPT				*i* S	**Sg**	**05 08 12.6**	**+3.8**
KOPT	**Kop Dagi**	**1.77**	**280**	*i* P	**Pb**	**05 07 44.9**	**-0.2**
KOPT				*i* S	**Sg**	**05 08 12.6**	**+3.8**
BNGB	**Bing¨¶l**	**1.77**	**246**	*e*PN	**Pb**	**05 07 44.2**	**-0.8**
BTMT	**Batman**	**1.82**	**214**	*e*PN	**Pb**	**05 07 45.1**	**-0.7**
BTMT	**Batman**	**1.82**	**214**	*e*Pn	**Pb**	**05 07 45.1**	**-0.7**
BCA	**Borcka**	**1.93**	**334**	*e*PN	**Pb**	**05 07 46.5**	**-1.2**
BCA	**Borcka**	**1.93**	**334**	*e*Pn	**Pb**	**05 07 46.5**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.99**	**218**	*e*PN	**Pb**	**05 07 47.6**	**-1.0**
BAYT	**Ayd¨¬ntepe-Bay**	**2.12**	**289**	*e*PN	**Pb**	**05 07 50.3**	**-0.7**
BAYT	**Ayd¨¬ntepe-Bay**	**2.12**	**289**	*e*Pn	**Pb**	**05 07 50.3**	**-0.7**
SIRT	**Sirnak**	**2.23**	**187**	*e*PN	**Pb**	**05 07 51.0**	**-1.8**
SIRT	**Sirnak**	**2.23**	**187**	*e*Pn	**Pb**	**05 07 51.0**	**-1.8**
HKR	**Hakkari**	**2.27**	**160**	*e*PN	**Pn**	**05 07 51.3**	**+1.0**
HKR	**Hakkari**	**2.27**	**160**	*e*Pn	**Pn**	**05 07 51.3**	**+1.0**
VADZ	**Vardenis**	**2.33**	**78**	*e*P	**Pb**	**05 07 53.0**	**-1.6**
VADZ				*e*S	Sg	05 08 33.0	+6.1
VADZ	**Vardenis**	**2.33**	**78**	P	**Pb**	**05 07 53.0**	**-1.6**
ERZN	**Erzincan**	**2.35**	**268**	*e*PN	**Pb**	**05 07 52.8**	**-2.1**
CUKT	**Cukurca**	**2.56**	**165**	*e*PN	**Pn**	**05 07 55.5**	**+1.3**
CUKT	**Cukurca**	**2.56**	**165**	*e*Pn	**Pn**	**05 07 55.5**	**+1.3**
KTUT	**Trabzon**	**2.62**	**300**	*e*PN	**Pb**	**05 07 57.1**	**-2.2**
KTUT	**Trabzon**	**2.62**	**300**	*e*Pn	**Pb**	**05 07 57.1**	**-2.2**
GUMT	**Gumushane**	**2.63**	**287**	*e*PN	**Pb**	**05 07 57.0**	**-2.6**
GUMT	**Gumushane**	**2.63**	**287**	*e*Pn	**Pb**	**05 07 57.0**	**-2.6**
DIY	**Diyarbakir**	**2.69**	**228**	*e*Pn	**Pn**	**05 07 57.6**	**+1.6**
DYBB	**Diyarbakir**	**2.70**	**230**	*e*PN	**Pn**	**05 07 57.6**	**+1.4**
PTK	**Pertek**	**2.74**	**254**	*e*PN	**Pn**	**05 07 58.4**	**+1.5**
PTK	**Pertek**	**2.74**	**254**	*e*Pn	**Pn**	**05 07 58.4**	**+1.5**
MAZI	**Mazidag**	**2.90**	**220**	*e*PN	**Pn**	**05 08 00.7**	**+1.8**
MAZI	**Mazidag**	**2.90**	**220**	*e*Pn	**Pn**	**05 08 00.7**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.01**	**245**	*e*PN	**Pn**	**05 08 02.2**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.01**	**245**	*e*Pn	**Pn**	**05 08 02.2**	**+1.7**
CHVG	**Ch'k'valeri**	**3.04**	**350**	*e*PN	**Pb**	**05 08 03.6**	**-2.9**
CHVG	**Ch'k'valeri**	**3.04**	**350**	P	**Pn**	**05 07 59.3**	**-1.5**
CHVG	**Ch'k'valeri**	**3.04**	**350**	*e*Pn	**Pb**	**05 08 03.6**	**-2.9**
ILIC	**ilic-Erzincan**	**3.25**	**267**	*e*PN	**Pn**	**05 08 06.0**	**+2.2**
ILIC	**ilic-Erzincan**	**3.25**	**267**	*e*Pn	**Pn**	**05 08 06.0**	**+2.2**
ESPY	**Espiye-Giresun**	**3.31**	**292**	*e*PN	**Pn**	**05 08 06.4**	**+1.9**
ESPY	**Espiye-Giresun**	**3.31**	**292**

Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.34**	**238**	*e*P	Pn	05 33 58.7	0.0
HAWK				*e*S	Sn	05 34 06.5	+0.3
HAWK				AML	AML	05 34 09.2	
	comp=E,11nm,0.3s						
HAWK				AML	AML	05 34 09.6	
	comp=N,15nm,0.3s						
HAWK	**Haweek**	**0.34**	**238**	*e*P	Pn	05 33 58.7	+0.1
	SNR=143						
HAWK				*e*S	Sn	05 34 06.5	+0.3
	comp=N,15nm,0.3s,SNR=143						
BIDA	**Albida**	**0.47**	**311**	*e*P	Pn	05 34 00.6	+0.7
BIDA				*e*S	Sn	05 34 08.0	-0.3
BIDA				AML	AML	05 34 10.8	
	comp=E,23nm,0.3s						
BIDA				AML	AML	05 34 10.9	
	comp=N,11nm,0.3s						
BIDA	**Albida**	**0.47**	**311**	*e*P	Pn	05 34 00.6	+0.8
	SNR=130						
BIDA				*e*S	Sn	05 34 08.0	-0.4
	comp=N,11nm,0.3s,SNR=130						
ARNB	**Al Arnab**	**1.32**	**331**	*e*P	Pn	05 34 12.2	+1.8
ARNB				*e*S	Sn	05 34 26.3	-0.9
ARNB				AML	AML	05 34 32.9	
	comp=E,6.8nm,0.3s						
ARNB				AML	AML	05 34 36.9	
	comp=N,11nm,0.3s						
ARNB	**Al Arnab**	**1.32**	**331**	*e*P	Pn	05 34 12.2	+1.7
	SNR=102						
ARNB				*e*S	Sn	05 34 26.3	-0.9
	comp=N,11nm,0.3s,SNR=102						
BTCH	**Batrach**	**1.35**	**350**	*e*P	Pn	05 34 09.6	-1.3
BTCH				*e*S	Sn	05 34 27.7	-0.3
BTCH				AML	AML	05 34 33.1	
	comp=N,9.7nm,0.4s						
BTCH				AML	AML	05 34 34.4	
	comp=E,14nm,0.4s						
BTCH	**Batrach**	**1.35**	**350**	*e*P	Pn	05 34 09.6	-1.3
	SNR=102						
BTCH				*e*S	Sn	05 34 27.7	-0.3
	comp=E,14nm,0.4s,SNR=102						
BRBR	**Barbar**	**1.45**	**208**	*e*P	Pn	05 34 12.5	+0.1
BRBR				*e*S	Sn	05 34 29.6	-1.1
BRBR				AML	AML	05 34 33.6	
	comp=E,6.2nm,0.4s						
BRBR				AML	AML	05 34 35.0	
	comp=N,6.5nm,0.4s						
BRBR	**Barbar**	**1.45**	**208**	*e*P	Pn	05 34 12.5	+0.1
	SNR=101						
BRBR				*e*S	Sn	05 34 29.5	-1.2
	comp=N,6.5nm,0.4s,SNR=101						

*IDC **01** 05:35:47.1±63.0,2˚.62N×96˚.09E,h0km,mb3.9/3, mb1 3.9/3,mb1mx3.4/25,mbtmp3.9/3,MS2.9/1,Ms1 2.9/1, ms1mx2.5/30,Error ellipse: s-maj=1204.0km s-min=143.9km az=177.0*

*DJA **01** 05:35:49.8±1.4,2˚.1N±12˚×9˚.6E±1˚.9,h29km±7km,M3.3/4, MLv3.3/4*

ISC 01 05:35:44.7±2.1,17˚.8N±0˚.1×96˚.4E±0˚.1,h25km,n7,σ0§65/9, mb4.0/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.63**	**351**	P	**Pn**	**05 35 58.9**	**+0.8**
SNSI				*e*S	**Sb**	**05 36 05.5**	**-0.1**
TPTI		**1.65**	**27**	P	**Pb**	**05 36 13.9**	**-0.6**
TPTI				S	**Sb**	**05 36 34.9**	**0.0**
KCSI	**Kotacane, Aceh**	**2.19**	**38**	P	**Pb**	**05 36 24.4**	**+0.7**
KCSI				S	**Sb**	**05 36 49.9**	**-0.5**
KSRS	**Korea Array**	**45.82**	**35**	LR	LR	06 05 42.9	
	comp=Z,12nm,18.1s,baz=75,slow=40						
MKAR	**Makanchi Array**	**46.49**	**347**	P	**P**	**05 44 09.1**	**-0.8**
	0.9nm,0.5s,baz=159,slow=8.1,SNR=11						
SONM	**Songino Array**	**46.68**	**9**	P	**P**	**05 44 11.6**	**+0.1**
	0.7nm,0.7s,baz=185,slow=9.4,SNR=7.0						
ZALV	**Zalesovo Beam**	**52.87**	**351**	P	**P**	**05 44 58.0**	**-0.3**
	1.1nm,0.4s,baz=185,slow=8.0,SNR=6.6						

MEX 01 05:44:35.2±0.6,17˚.06N×100˚.46W,h5km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**94**	*i* P	Pg	05 44 38.4	-0.5
CAIG				*e*S	Sg	05 44 41.9	+0.5
ZIIG	**Zihuatanejo**	**1.10**	**300**	*i* P	Pg	05 44 53.5	-2.8
ZIIG				*e*S	Sg	05 45 07.8	-2.8
MEIG	**Mezcala**	**1.18**	**43**	*i* P	Pg	05 44 53.9	-4.1
MEIG				*e*S	Sg	05 45 09.5	-3.8
ARIG	**Puente Sto Nin**	**1.22**	**5**	*i* P	Pg	05 44 54.7	-3.9
ARIG				*i* S	Sg	05 45 10.9	-3.6
TLIG	**Tlapa**	**1.88**	**74**	*i* P	Pn	05 45 05.4	-2.8
TLIG				*i* S	Sn	05 45 28.5	-3.9

MAN 01 05:49:34,13˚.53N×120˚.94E,h27km,mb4.0,ML2.8,MS2.5, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.03**	**159**	*e*P	Pb	05 49 35.7	-2.9
PGP				*e*S	Sb	05 49 38.1	-3.6
LUBP	**Lubang**	**0.71**	**287**	*e*P	Pn	05 49 48.5	+0.2
LUBP				*e*S	Sn	05 49 58.4	+0.1
SJMP	**San Jose**	**1.07**	**171**	*e*P	Pn	05 49 53.3	0.0
SJMP				*e*S	Sb	05 50 07.9	+0.3

*DDA **01** 05:50:07.9,40˚.87N×28˚.70E,h7km,MD2.8*

*ISK **01** 05:50:07.9,40˚.90N×28˚.69E,h12km,MD2.8*

*ISCJB **01** 05:50:08.1±0.5,40˚.88N±0˚.03×28˚.69E±0˚.04,h10km,Error ellipse: s-maj=4.6km s-min=3.9km az=14.4*

*CSEM **01** 05:50:08.2±0.1,40˚.89N×28˚.71E,h15km,MD2.8,Error ellipse: s-maj=2.6km s-min=2.1km az=124.0*

ISC 01 05:50:07.9±0.9,40˚.91N±0˚.02×28˚.69E±0˚.03,h10km,n26, σ0§53/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.28**	**12**	*e*PG	**Pg**	**05 50 14.0**	**+0.4**
BGKT				*e*SG	**Sb**	**05 50 19.0**	**-0.9**
BGKT	**Bogazkoy**	**0.28**	**12**	*e*Pg	**Pg**	**05 50 14.0**	**+0.4**
BGKT				*e*Sg	**Sb**	**05 50 19.0**	**-0.9**
ELBA	**Catalca**	**0.31**	**320**	*i* P	**Pb**	**05 50 15.3**	**-0.3**
ELBA	**Catalca**	**0.31**	**320**	*i* P	**Pb**	**05 50 15.3**	**-0.3**
ELBA				*i* S	**Sb**	**05 50 20.0**	**-0.7**
ISK	**Istanbul-Kandi**	**0.32**	**60**	*e*PG	**Pg**	**05 50 14.7**	**+0.4**
ISK	**Istanbul-Kandi**	**0.32**	**60**	*e*Pg	**Pg**	**05 50 14.7**	**+0.4**
BUY	**Buyukada**	**0.33**	**99**	*i* P	**Pg**	**05 50 14.9**	**+0.5**
BUY				*i* S	**Sg**	**05 50 19.3**	**+0.5**
BUY	**Buyukada**	**0.33**	**99**	*i* P	**Pg**	**05 50 14.9**	**+0.5**
BUY				*i* S	**Sg**	**05 50 19.3**	**+0.5**
CTKS	**Kestanelik-??a**	**0.36**	**337**	*e*PG	**Pg**	**05 50 15.9**	**+0.9**
CTKS	**Kestanelik-??a**	**0.36**	**337**	*e*Pg	**Pg**	**05 50 15.9**	**+0.9**
ARMT	**Armutlu**	**0.36**	**159**	*e*PG	**Pg**	**05 50 15.4**	**+0.3**
ARMT	**Armutlu**	**0.36**	**159**	*e*Pg	**Pg**	**05 50 15.4**	**+0.3**
KLYT	**Kilyos**	**0.43**	**37**	*e*PG	**Pb**	**05 50 17.5**	**-0.2**
KLYT				*e*SG	**Sb**	**05 50 24.4**	**+0.1**
KLYT	**Kilyos**	**0.43**	**37**	*e*Pg	**Pb**	**05 50 17.5**	**-0.2**
KLYT				*e*Sg	**Sb**	**05 50 24.4**	**+0.1**
CTYL	**Yal??k??y-??at**	**0.64**	**332**	*e*PG	**Pg**	**05 50 20.9**	**+0.5**
CTYL	**Yal??k??y-??at**	**0.64**	**332**	*e*Pg	**Pg**	**05 50 20.9**	**+0.5**
SILT	**Sile**	**0.76**	**71**	*e*PG	**Pg**	**05 50 22.8**	**+0.2**
SILT	**Sile**	**0.76**	**71**	*e*Pg	**Pg**	**05 50 22.8**	**+0.2**
EDC	**Edincik**	**0.84**	**229**	*e*PG	**Pb**	**05 50 25.1**	**+0.4**
EDC	**Edincik**	**0.84**	**229**	*e*Pg	**Pb**	**05 50 25.1**	**+0.4**
MRMT	**Marmara Adasi**	**0.89**	**250**	*e*PG	**Pb**	**05 50 25.8**	**+0.4**
MRMT	**Marmara Adasi**	**0.89**	**250**	*e*Pg	**Pb**	**05 50 25.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.17**	**260**	*e*PN	**Pb**	**05 50 29.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.17**	**260**	*e*Pn	**Pb**	**05 50 29.6**	**-0.7**
DURS	**Dursunbey**	**1.31**	**187**	*i* P	**Pn**	**05 50 32.2**	**-0.2**
DURS				*i* S	**Sb**	**05 50 49.0**	**-0.7**
DURS	**Dursunbey**	**1.31**	**187**	*i* P	**Pn**	**05 50 32.1**	**-0.2**
DURS				*i* S	**Sb**	**05 50 49.0**	**-0.7**

MEX 01 05:51:17.3±0.4,18˚.09N×103˚.28W,h11km±2km,MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.21**	**343**	*e*P	Pg	05 51 21.2	-0.6
MMIG				*i* S	Sg	05 51 24.6	-0.2
R15V		**1.27**	**328**	*i* P	Pn	05 51 37.3	-3.8
R15V				*i* S	Sb	05 51 52.7	-5.0
EZ5V		**1.42**	**348**	*i* P	Pn	05 51 39.9	-3.5
EZ5V				*i* S	Sn	05 51 56.8	-5.5
ARIG	**Puente Sto Nin**	**2.80**	**86**	*i* P	Pn	05 51 59.0	-3.1
ARIG				*i* S	Sn	05 52 31.6	-4.2

IDC 01 06:17:54.7±2.8,53˚.98N×86˚.56E,h0km,mb1 2.8/2, mb1mx2.7/31,mbtmp2.8/2,ML2.5/2,Error ellipse: s-maj=22.0km s-min=13.8km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**269**	*i*		06 25 10.0	
	baz=88,slow=339,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.03**	**269**	Pg	Pg	06 18 13.7	-0.7
	0.7nm,0.3s,baz=85,slow=7.8,SNR=11						
ZALV				Lg	Lg	06 18 28.6	
	3.4nm,0.3s,baz=87,slow=28,SNR=27						
KURBB	**Kurchatov Arra**	**5.96**	**239**	Pn	Pn	06 19 24.9	+0.8
	0.1nm,0.3s,baz=58,slow=13,SNR=6.9						
KURBB				Lg	Lg	06 21 03.6	
	0.0nm,0.3s,baz=57,slow=31,SNR=5.1						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	06 19 48.9	+1.0
	0.1nm,0.3s,baz=26,slow=12,SNR=4.1						
MKAR				Lg	Lg	06 21 59.6	
	0.1nm,0.3s,baz=21,slow=32,SNR=3.9						

IDC 01 07:05:36.6±8.0,16˚.98S×173˚.80W,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.7/18,mbtmp3.9/3,Error ellipse: s-maj=364.2km s-min=33.9km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.13**	**258**	P	P	07 14 26.0	-0.5
	0.6nm,0.4s,baz=96,slow=6.9,SNR=4.2						
ASAR	**Alice Springs**	**49.28**	**253**	P	P	07 14 27.8	+0.2
	2.6nm,0.6s,baz=89,slow=8.1,SNR=46						
ILAR	**Eielson Array**	**84.06**	**11**	P	P	07 18 08.8	+0.1
	0.2nm,0.4s,baz=223,slow=5.6,SNR=10						
BRTR	**Keskin Array B**	**147.11**	**319**	PKPbc	PKPbc	07 25 21.1	-1.0
	0.6nm,0.7s,baz=33,slow=3.4,SNR=3.2						

*ISCJB **01** 07:19:57.3±0.5,13˚.65N±0˚.06×92˚.88E±0˚.06,h29km, mb4.2/24,Error ellipse: s-maj=9.7km s-min=8.0km az=40.4*

*NEIC **01** 07:19:59.9±0.3,13˚.61N×92˚.92E,h35km,mb4.9/5,Error ellipse: s-maj=9.8km s-min=9.0km az=209.0*

*IDC **01** 07:20:03.1±3.4,13˚.62N×92˚.83E,h62km±30km,mb3.8/17, mb1 4.0/19,mb1mx3.8/46,mbtmp4.1/19,ML4.1/2,MS2.9/2, Ms1 3.0/2,ms1mx2.5/48,Error ellipse: s-maj=20.3km s-min=16.1km az=55.0*

ISC 01 07:19:59.3±0.6,13˚.66N±0˚.09×92˚.88E±0˚.07,h29km,n52, σ0§88/48,mb4.2/24,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.53**	**50**	P	Pn	07 21 52.9	+5.6
	0.5nm,0.3s,baz=238,slow=16,SNR=9.8						
CMAR				S	**Sn**	**07 23 10.8**	**-1.0**
	0.8nm,0.3s,baz=238,slow=28,SNR=8.9						
CMAR				LR	LR	07 25 37.5	
	comp=Z,115nm,19.8s,baz=242,slow=44						
CHTO	**Chiang Mai**	**7.76**	**48**	*e*Pn	**Pn**	**07 21 50.9**	**+0.5**
	5.3nm,0.7s						
VIS	**Vishakhapatnam**	**10.04**	**295**	*e*P	**Pn**	**07 22 21.4**	**-0.3**
VIS				*e*S	Sn	07 23 56.4	-17
PSI	**Prapat**	**12.33**	**150**	LR	LR	07 28 27.4	
	comp=Z,41nm,19.9s,baz=10.0,slow=41						
PALK	**Pallekele**	**13.55**	**243**	P	**Pn**	**07 23 10.0**	**+0.4**
	2.0nm,0.3s,baz=68,slow=12,SNR=4.3						
PALK				S	Sn	07 25 26.8	-13
	4.4nm,0.3s,baz=159,slow=19,SNR=6.8						
HYB	**Hyderabad**	**14.30**	**287**	*i* P	P	07 23 33.0	+6.2
HYB				*e*S	**Sn**	**07 25 55.0**	**-2.7**
TAPN	**Taplejung**	**14.46**	**341**	*e*P	**Pn**	**07 23 21.6**	**-0.7**
PKI	**Pulchoki**	**15.50**	**334**	*e*P	**Pn**	**07 23 36.1**	**-0.2**
DMN	**Daman**	**15.66**	**334**	*e*P	**Pn**	**07 23 37.3**	**-1.0**
GKN	**Gorkha**	**16.21**	**333**	*e*P	**Pn**	**07 23 44.5**	**-0.7**
KOLN	**Koldanda**	**16.50**	**330**	*e*P	**Pn**	**07 23 48.3**	**-0.6**
DANN	**Dangsing**	**16.90**	**331**	*e*P	**Pn**	**07 23 53.6**	**-0.5**
	14nm,0.5s						
PYUN	**Piuthan**	**17.07**	**329**	*e*P	**Pn**	**07 23 56.0**	**-0.1**
H08S3	**Diego Garcia H**	**29.28**	**225**	T	T	07 56 02.3	
	baz=43,slow=76,SNR=16						
H08S2	**Diego Garcia H**	**29.28**	**225**	T	T	07 56 02.9	
	baz=43,slow=76,SNR=25						
H08S1	**Diego Garcia H**	**29.30**	**225**	T	T	07 56 05.9	
	baz=43,slow=76,SNR=24						
KAPI	**Kappang**	**32.49**	**123**	*e*P	**P**	**07 26 25.3**	**-2.4**
MKAR	**Makanchi Array**	**34.21**	**347**	P	**P**	**07 26 43.0**	**+0.7**
	1.7nm,0.7s,baz=164,slow=8.6,SNR=22						
SONM	**Songino Array**	**35.89**	**16**	P	**P**	**07 26 57.9**	**+1.0**
	0.5nm,0.5s,baz=194,slow=5.8,SNR=6.0						
SONM				PcP	**PcP**	**07 29 24.4**	**+0.7**
	0.4nm,0.6s,baz=172,slow=4.2,SNR=3.9						
KURK	**Kurchatov**	**38.74**	**346**	*e*P	**P**	**07 27 21.4**	**+0.6**
	0.9nm,0.6s						
GEYT	**Alibeck**	**39.18**	**314**	P	**P**	**07 27 26.5**	**+1.6**
	0.7nm,0.3s,baz=106,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**40.70**	**353**	P	**P**	**07 27 37.9**	**+0.7**
	3.3nm,0.7s,baz=176,slow=8.8,SNR=14						
AKTO	**Aktyubinsk**	**46.33**	**330**	P	**P**	**07 28 22.5**	**-0.1**
	1.4nm,0.5s,baz=104,slow=9.1,SNR=7.2						
WRA	**Warramunga Arr**	**52.71**	**128**	P	**P**	**07 29 11.0**	**-0.7**
	1.3nm,0.6s,baz=297,slow=9.5,SNR=3.4						
WRAB	**Tennant Creek**	**52.72**	**128**	*e*P	**P**	**07 29 11.7**	**0.0**
	6.1nm,0.8s						
ASAR	**Alice Springs**	**54.64**	**132**	P	**P**	**07 29 25.8**	**0.0**
	1.5nm,0.5s,baz=313,slow=7.0,SNR=4.7						
BRTR	**Keskin Array B**	**57.81**	**308**	P	**P**	**07 29 47.9**	**-0.5**
	2.4nm,0.8s,baz=117,slow=7.5,SNR=13						
FINES	**FINESS Array B**	**67.06**	**331**	P	**P**	**07 30 48.9**	**-0.8**
	1.4nm,0.6s,baz=120,slow=7.7,SNR=6.1						
ARCES	**ARCESS Array B**	**69.44**	**340**	P	**P**	**07 31 04.4**	**-0.1**
	3.4nm,0.9s,baz=92,slow=7.3,SNR=13						
BRG	**Berggiesshubel**	**72.56**	**319**	*e*(P)	**P**	**07 31 24.5**	**+0.8**
	4.3nm,1.1s						
GERES	**GERESS Array B**	**72.74**	**317**	P	**P**	**07 31 25.1**	**+0.2**
	2.0nm,0.6s,baz=90,slow=6.7,SNR=14						
NB2	**NORSAR Subarra**	**74.12**	**330**	P	**P**	**07 31 32.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=90,slow=5.9						
NOA	**NORSAR Array B**	**74.12**	**330**	P	**P**	**07 31 32.1**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=90,slow=5.8,SNR=5.6						
KEST	**Kesra**	**76.97**	**304**	P	**P**	**07 31 49.3**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=255,slow=6.0,SNR=4.1						
BOSA	**Boshof**	**77.67**	**236**	P	**P**	**07 31 54.4**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=72,slow=3.0,SNR=9.2						
LPG	**La Plagne**	**77.70**	**314**	*e*P	**P**	**07 31 53.7**	**-0.2**
	comp=Z,7.5nm,0.7s						
LPG	**La Plagne**	**77.70**	**314**	*e*P	**P**	**07 31 53.7**	**-0.2**
	comp=Z,7.5nm,0.7s						
LPL	**La Plagne**	**77.72**	**314**	*e*P	**P**	**07 31 53.8**	**0.0**
	comp=Z,13nm,0.7s						
LPL	**La Plagne**	**77.72**	**314**	*e*P	**P**	**07 31 53.8**	**0.0**
	comp=Z,13nm,0.7s						
SMF	**Signal de Mont**	**79.55**	**316**	*e*P	**P**	**07 32 03.0**	**-0.7**
	comp=Z,13nm,0.9s						
SMF	**Signal de Mont**	**79.55**	**316**	*e*P	**P**	**07 32 03.0**	**-0.7**
	comp=Z,13nm,0.9s						
CAF	**Calviac**	**81.06**	**314**	*e*P	**P**	**07 32 11.4**	**-0.5**
CAF	**Calviac**	**81.06**	**314**	*e*P	**P**	**07 32 11.4**	**-0.5**
LDF	**La Druitiere**	**81.86**	**318**	*e*P	**P**	**07 32 15.6**	**-0.3**
	comp=Z,16nm,0.8s						
LDF	**La Druitiere**	**81.86**	**318**	*e*P	**P**	**07 32 15.6**	**-0.3**
	comp=Z,16nm,0.8s						
TORD	**Torodi Ar. Bea**	**88.08**	**283**	P	**P**	**07 32 47.9**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=81,slow=3.8,SNR=6.9						
ILAR	**Eielson Array**	**89.88**	**22**	P	**P**	**07 32 54.7**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=303,slow=4.2,SNR=6.0						
INK	**Inuvik**	**91.80**	**16**	P	**P**	**07 33 04.2**	**0.0**
	comp=Z,0.8nm,1.0s,baz=254,slow=7.4,SNR=3.4						
LIC	**Lamto**	**96.18**	**278**	*e*P	**P**	**07 33 27.0**	**+1.6**
LIC	**Lamto**	**96.18**	**278**	*e*P	**P**	**07 33 27.0**	**+1.6**
SLMT	**Seeley Lake**	**114.94**	**19**	*e*PKPdf	PKPdf	07 38 35.0	-2.8
TXAR	**Lajitas Array**	**134.37**	**20**	PKP	**PKPdf**	**07 39 16.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=100,slow=0.9,SNR=5.2						

*MOS **01** 07:22:59.1±1.2,0˚.73S×127˚.86E,h36km,mb4.8/17,Error ellipse: s-maj=16.1km s-min=6.8km az=118.8*

*DJA **01** 07:23:00.9±0.2,1˚.5S±2˚×12˚.8E±˚,h10km,M4.7/36, mB5.3/12,mb5.0/36,MLv4.7/14,Mw(mB)4.7/12*

*ISCJB **01** 07:23:00.4±0.6,0˚.70S±0.03×127˚.71E±0˚.03,h36km±6km, mb4.6/48,MS3.3/8,Error ellipse: s-maj=5.9km s-min=4.9km az=23.1*

*IDC **01** 07:23:01.9±3.6,0˚.80S×127˚.68E,h40km±31km,mb4.2/20, mb1 4.3/20,mb1mx4.0/46,mbtmp4.4/20,MS3.4/10, Ms1 3.4/10,ms1mx3.1/28,Error ellipse: s-maj=21.9km s-min=9.5km az=69.0*

*BJI **01** 07:23:01.3,0˚.70S×127˚.70E,h35km,mB4.9/28,mb4.7/39, Ms4.7/16,Ms7 4.4/14*

*NEIC **01** 07:23:02.5±0.8,0˚.72S×127˚.76E,h42km±7km,mb4.8/17, Error ellipse: s-maj=7.8km s-min=5.7km az=62.0*

NEIC Felt [III] at Labuha.

ISC 01 07:23:02.5±0.4,0.71S±0˚.04×127˚.73E±0˚.04,h40km±2km, h40km:pP-P,n156,σ1§48/197,mb4.7/48,MS3.3/8,4C-3D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.23**	**287**	P	Pn	07 23 02.5	-7.7
LBMI				S	Sn	07 23 05.8	-10
TNTI	**Ternate**	**1.51**	**346**	P	**Pn**	**07 23 26.5**	**-0.6**
TNTI				S	**Sn**	**07 23 48.3**	**+2.7**
TNTI	**Ternate**	**1.51**	**346**	*e*Pn	**Pn**	**07 23 26.9**	**-0.2**
TNTI				*e*Sn	**Sn**	**07 23 47.5**	**+1.9**
SANI	**Sanana**	**2.19**	**232**	P	Pn	07 23 33.1	-3.3
SANI				S	**Sn**	**07 24 00.8**	**-1.5**
NLAI	**Namlea**	**2.59**	**194**	P	**Pn**	**07 23 41.7**	**-0.3**
MSAI	**Masohi**	**2.88**	**155**	P	**Pn**	**07 23 47.2**	**+1.2**
MSAI				S	**Sn**	**07 24 24.7**	**+5.2**
KMSI	**Cibinong**	**3.96**	**289**	P	**Pn**	**07 23 59.8**	**-0.9**
KMSI				S	**Sn**	**07 24 46.3**	**+0.4**
SGSI	**Sangihe**	**4.88**	**333**	P	Pn	07 24 18.5	+5.0
LUWI	**Luwuk**	**4.96**	**266**	P	**Pn**	**07 24 13.7**	**-0.9**
LUWI	**Luwuk**	**4.96**	**266**	*e*Pn	**Pn**	**07 24 13.5**	**-1.1**
LUWI				*e*Sn	**Sn**	**07 25 14.8**	**+4.1**
FAKI	**Fak Fak**	**5.03**	**116**	P	**Pn**	**07 24 16.1**	**+0.6**
	107nm,0.9s,0.4nm						
FAKI				S	**Sn**	**07 25 14.5**	**+2.1**
	107nm,0.9s,0.4nm						
FAKI	**Fak Fak**	**5.03**	**116**	*e*Pn	**Pn**	**07 24 16.1**	**+0.6**
FAKI				*e*Sn	**Sn**	**07 25 13.5**	**+1.2**
MRSI	**Marisa**	**5.90**	**281**	P	**Pn**	**07 24 25.5**	**-2.0**
	134nm,0.6s,1μm0.6nm						
MRSI				S	**Sn**	**07 25 34.6**	**+0.7**
	134nm,0.6s,1μm0.6nm						
APSI	**Ampana**	**6.08**	**268**	P	**Pn**	**07 24 27.9**	**-2.0**
	328nm,0.6s,4μm1.7nm						
MPSI	**Mapaga**	**7.89**	**278**	P	**Pn**	**07 24 55.3**	**+0.5**
	44nm,0.9s,0.2nm						
TTSI	**Tana Toraja**	**8.23**	**254**	P	**Pn**	**07 24 58.0**	**-1.5**
	108nm,0.7s,3μm						
BNSI	**Bone**	**8.45**	**244**	P	**Pn**	**07 25 02.8**	**+0.4**
	54nm,0.9s,613nm						
SPSI	**Sidrap Palu**	**8.58**	**248**	P	**Pn**	**07 25 03.7**	**-0.6**
	374nm,0.6s,4μm						
BKSI	**Bulukumba**	**8.87**	**239**	P	**Pn**	**07 25 09.0**	**+0.8**
	88nm,1.0s,731nm						
KAPI	**Kappang**	**9.04**	**242**	*e*Pn	**Pn**	**07 25 10.6**	**0.0**
KAPI				*e*Sn	**Sn**	**07 26 51.6**	**+0.5**
BATI	**Baumata**	**10.27**	**203**	LR	LR	07 29 29.1	
	comp=Z,297nm,21.2s,baz=17,slow=38						
KBKI	**Kotabaru**	**11.83**	**257**	P	Pn	07 26 01.0	+12
JAY	**Jayapura**	**13.10**	**98**	LR	LR	07 32 13.8	
	comp=Z,547nm,20.9s,baz=216,slow=42						
BBKI	**Banjar Baru**	**13.16**	**258**	P	P	07 26 21.0	+4.8
JAGI	**Jajag, Banyuwa**	**15.56**	**240**	P	**P**	**07 26 42.9**	**-0.1**
BLJI	**Banyuglugur**	**15.72**	**243**	P	**P**	**07 26 47.0**	**+2.3**
GMJI	**Gumukmas**	**16.09**	**242**	P	**P**	**07 26 50.7**	**+1.9**
PWJI	**Pagerwojo**	**17.45**	**245**	P	**P**	**07 27 04.6**	**+0.7**
	40nm,0.9s						
KSM	**Kuching**	**17.55**	**277**	*e*P	**P**	**07 27 05.8**	**+0.8**
	25nm,1.0s						
KSM				*e*S	**S**	**07 30 26.3**	**+1.0**
KPJI	**Karang Pucung**	**19.86**	**250**	P	**Pn**	**07 27 31.9**	**-0.3**
	98nm,1.0s,32μm						
WRAB	**Tennant Creek**	**20.18**	**162**	*e*P	**P**	**07 27 30.2**	**-3.6**
WRAB				pmax	pmax		
	comp=Z,81nm,2.5s						
WRAB	**Tennant Creek**	**20.18**	**162**	*e*P	**P**	**07 27 32.3**	**-1.5**
	comp=Z,34nm,1.3s						
WRAB				*e*S	**S**	**07 31 17.7**	**-0.5**
WRA	**Warramunga Arr**	**20.18**	**162**	P	**P**	**07 27 31.9**	**-1.9**
	comp=Z,4.3nm,0.8s,baz=345,slow=12,SNR=12						
WRA				S	**S**	**07 31 14.6**	**-3.7**
	comp=Z,1.1nm,0.6s,baz=344,slow=21,SNR=3.2						
WRA				LR	LR	07 36 30.6	
	comp=Z,188nm,19.6s,baz=330,slow=40						
CMJI	**Cimerak**	**20.46**	**249**

comp=Z,80nm,4.8s

GYA LN

comp=Z,480nm,17.4s

GYA LE

comp=Z,390nm,18.0s

GYA LZ

comp=Z,460nm,16.8s

CMAR Chiang Mai Arr 34.10 305 *ce*P **P 07 29 44.7 +1.0**

CMAR pmax pmax

comp=Z,1.0nm,0.3s

CMAR Chiang Mai Arr 34.10 305 P **P 07 29 43.1 -0.5**

comp=Z,1.2nm,0.3s,baz=134,slow=6.2,SNR=8.8

CMAR LR LR 07 45 10.2

comp=Z,18nm,20.4s,baz=140,slow=39

CHTO Chiang Mai 34.29 306 *e*P **P 07 29 46.6 +1.4**

CHTO pmax pmax

comp=Z,6.0nm,0.8s

CHTO Chiang Mai 34.29 306 *e*P **P 07 29 46.6 +1.4**

comp=Z,5.8nm,0.8s

ENH Enshi 35.37 332 *e*P **P 07 29 55.5 +1.0**

comp=Z,9.7nm,0.9s

KSAR Wonju Array Be 37.96 0 P **P 07 30 16.6 +0.3**

KSAR Wonju Array Be 37.96 0 P **P 07 30 16.6 +0.3**

KSRS Korea Array 37.97 0 P **P 07 30 16.6 +0.2**

comp=Z,3.7nm,1.0s,baz=178,slow=8.9,SNR=6.3

MJAR Matsushiro Arr 38.32 14 P **P 07 30 18.8 -0.7**

comp=Z,1.6nm,0.6s,baz=188,slow=9.5,SNR=5.3

MJAR LR LR 07 46 09.3

comp=Z,29nm,19.1s,baz=215,slow=36

XAN Xi'an 38.81 335 P **P 07 30 23.6 -0.1**

XAN PMZ

comp=Z,3.0nm,0.8s

CD2 Chengdu 38.83 326 *e*P **P 07 30 26.3 +2.5**

CD2 pP **pP 07 30 36.5 +1.4**

CD2 sP **sP 07 30 40.7 +0.8**

CD2 PP **PnPn 07 32 00.3 +4.5**

CD2 S **ScP 07 36 22.3 +2.5**

CD2 sS **sS 07 36 39.3 +1.5**

CD2 SS **SS 07 39 06.8 -4.4**

CD2 PMZ

comp=Z,10.0nm,0.5s

CD2 PMZ

comp=Z,120nm,5.4s

LZH Lanzhou 42.83 331 *e*P **P 07 30 58.2 +1.3**

LZH pP **pP 07 31 08.5 +0.2**

LZH sP **sP 07 31 12.0 -1.1**

LZH PMZ

comp=Z,21nm,1.0s

LZH PMZ

comp=Z,120nm,5.0s

SHL Shillong 43.38 310 *e*P **P 07 31 03.0 +1.5**

HHC Hu-ho-hao-te 43.90 342 *e*P **P 07 31 08.2 +2.9**

HHC pP **pP 07 31 18.0 +1.2**

HHC sP **sP 07 31 21.4 -0.2**

HHC PP **PcP 07 32 51.8 +0.8**

HHC S **S 07 37 38.2 +4.1**

HHC sS **sS 07 37 53.8 +0.7**

HHC PMZ

comp=Z,31nm,0.6s

HHC PMZ

comp=Z,160nm,5.4s

HHC LN

comp=Z,260nm,16.3s

HHC LE

comp=Z,470nm,16.2s

HHC LZ

comp=Z,94nm,17.3s

CN2 Changchun 44.36 358 *e*P **P 07 31 12.0 +3.2**

USRK Ussuriysk Ar. 44.87 4 P **P 07 31 13.3 +0.4**

comp=Z,3.6nm,0.9s,baz=181,slow=6.4,SNR=4.8

LSA Lhasa 46.16 314 *e*P **P 07 31 24.6 +0.6**

LSA pmax pmax

comp=Z,16nm,0.8s

LSA Lhasa 46.16 314 *e*P **P 07 31 24.6 +0.6**

comp=Z,16nm,0.8s

CHLP Challavanipeta 46.96 296 *e*P **P 07 31 29.0 -0.8**

YUK Yuzh-Kuril'sk 47.40 18 *e*P **P 07 31 30.3 -2.5**

GTA Gaotai 47.41 330 *e*P **P 07 31 34.1 +0.9**

GTA pP **pP 07 31 44.6 -0.1**

GTA sP **sP 07 31 48.5 -1.0**

GTA PcP **PcP 07 33 05.2 +1.9**

GTA PP **PP 07 33 21.9 -2.9**

GTA PMZ

comp=Z,10.0nm,0.9s

TAPN Taplejung 47.50 309 *e*P **P 07 31 34.9 +0.6**

ODAN Odare 47.52 308 *e*P **P 07 31 34.7 +0.4**

comp=Z,64nm,0.8s

RAMN Ramite 48.18 308 *e*P **P 07 31 40.0 +0.5**

comp=Z,79nm,0.7s

JIRN Jiri 48.83 309 *e*P **P 07 31 45.2 +0.5**

comp=Z,53nm,0.7s

GUN Gumba 49.19 309 *e*P **P 07 31 47.8 +0.4**

PKI Pulchoki 49.40 308 *e*P **P 07 31 49.0 0.0**

KKN Kakani 49.61 308 *e*P **P 07 31 50.7 +0.3**

DMN Daman 49.66 308 *e*P **P 07 31 51.2 +0.3**

comp=Z,85nm,1.0s

SKHT Srikalahasti 49.68 289 *e*P **P 07 31 50.9 +0.1**

SKHT *e* 07 34 27.9

ADKI Addanki 49.93 291 *e*P **P 07 31 51.4 -1.3**

ADKI *e* 07 40 09.3

GKN Gorkha 50.21 308 *e*P **P 07 31 55.1 +0.2**

comp=Z,66nm,0.9s

NJS Nagarjunasagar 50.73 292 *e*P **P 07 31 58.7 -0.1**

KOLN Koldanda 50.92 307 *e*P **P 07 32 01.0 +0.6**

comp=Z,78nm,0.8s

DANN Dangsing 51.06 308 *e*P **P 07 32 01.7 +0.2**

comp=Z,70nm,0.6s

RPR Rampur 51.37 295 *e*P **P 07 32 04.4 +0.8**

RPR *ep*P **pP 07 32 13.2 -2.0**

PYUN Piuthan 51.55 307 *e*P **P 07 32 05.6 +0.5**

comp=Z,102nm,0.5s

ULN Ulaanbaatar 51.62 342 *de*P **P 07 32 05.1 0.0**

ULN pmax pmax

comp=Z,7.0nm,1.0s

ULN Ulaanbaatar 51.62 342 *e*P **P 07 32 05.3 +0.1**

comp=Z,6.9nm,1.0s

HYB Hyderabad 51.65 293 *i*P **P 07 32 05.0 -0.7**

HYBB Hyderabad (bro 51.65 293 *e*P **P 07 32 06.0 +0.3**

HYBB *ep*P **pP 07 32 18.6 +1.2**

SONM Songino Array 51.79 342 P **P 07 32 06.6 +0.1**

comp=Z,2.8nm,0.8s,baz=154,slow=7.4,SNR=22

URV Uravakonda 52.26 289 *e*P P 07 32 06.6 -3.7

URV *ep*P **pP 07 34 06.6 -2.6**

ZAK Zakamensk 55.02 341 *e*P **P 07 32 28.8 -1.2**

ZAK pmax pmax

comp=Z,2.0nm,1.9s

WMQ Urumqi 56.92 326 *e*P **P 07 32 44.2 +0.5**

WMQ pP **pP 07 32 54.0 -1.5**

WMQ sP **sP 07 32 58.0 -2.2**

WMQ PcP **PcP 07 33 39.0 +0.2**

WMQ PP **PP 07 34 52.5 +1.9**

WMQ S **S 07 40 34.0 -1.0**

WMQ ScS **ScS 07 42 27.0 -3.0**

WMQ PMZ

comp=Z,13nm,0.6s

WMQ PMZ

comp=Z,120nm,5.0s

WMQ LN

comp=Z,220nm,30.0s

WMQ LE

comp=Z,580nm,27.0s

WMQ LZ

comp=Z,210nm,24.0s

HVS Khovu-Aksy 59.16 336 *ce*P **P 07 32 57.3 -2.0**

PETK Petropavlovsk- 59.17 21 P **P 07 33 00.6 +1.4**

comp=Z,2.3nm,0.5s,baz=184,slow=3.1,SNR=6.7

MK31 Makanchi Array 61.76 326 *i*P **P 07 33 16.2 -0.8**

MK31 pmax pmax

comp=Z,4.0nm,0.6s

MKAR Makanchi Array 61.76 326 P **P 07 33 16.8 -0.3**

comp=Z,3.2nm,0.5s,baz=121,slow=8.4,SNR=59

MKAR LR LR 08 00 46.4

comp=Z,26nm,20.6s,baz=109,slow=37

KSH Kashi 61.90 316 *e*P **P 07 33 18.5 +0.3**

KSH sP **sP 07 33 33.6 -1.2**

KSH PP **PP 07 35 37.8 +2.9**

KSH ScP **ScP 07 37 57.7 0.0**

KSH S **S 07 41 36.9 -2.6**

KSH ScS **SKKSac 07 43 03.8 -3.3**

KSH PMZ

comp=Z,4.0nm,0.8s

KSH PMZ

comp=Z,120nm,5.0s

KSH LN

comp=Z,98nm,4.5s

KSH LE

comp=Z,100nm,5.3s

KSH LZ

comp=Z,170nm,5.5s

YAK Yakutsk 62.59 1 *e*P **P 07 33 22.1 -0.1**

YAK pmax pmax

comp=Z,19nm,0.7s

YAK Yakutsk 62.59 1 *e*P **P 07 33 22.0 -0.2**

comp=Z,39nm,0.8s

KZA Kyzart 63.56 319 P **P 07 33 30.4 +0.7**

SNR=6.6

KZA Kyzart 63.56 319 *i*P **P 07 33 30.3 +0.7**

TKM2 Tokmak 2 63.73 320 P **P 07 33 30.1 -0.3**

SNR=5.7

TKM2 Tokmak 2 63.73 320 *e*P **P 07 33 30.2 -0.3**

TKM2 pmax pmax

comp=Z,5.0nm,0.8s

TKM2 Tokmak 2 63.73 320 *e*P **P 07 33 30.2 -0.3**

comp=Z,4.5nm,0.8s

UCH Uchtor 64.12 319 P **P 07 33 34.2 +0.9**

SNR=5.6

UCH Uchtor 64.12 319 *i*P **P 07 33 34.2 +0.9**

AAK Ala-Archa 64.31 319 *ce*P **P 07 33 34.8 +0.5**

AAK pmax pmax

comp=Z,24nm,2.5s

AAK Ala-Archa 64.31 319 P **P 07 33 34.4 +0.1**

comp=Z,2.6nm,0.9s,baz=166,slow=7.5,SNR=6.0

AAK Ala-Archa 64.31 319 *e*P **P 07 33 35.3 +1.0**

USP Ospenovka 64.60 320 P **P 07 33 35.9 -0.1**

SNR=5.7

USP Ospenovka 64.60 320 *i*P **P 07 33 35.9 -0.1**

AML Almayashu 64.62 318 *i*P **P 07 33 36.8 +0.2**

SNR=9.1

AML Almayashu 64.62 318 P **P 07 33 36.8 +0.2**

EKS2 Erkin-Say 64.80 319 *e*P **P 07 33 37.9 +0.5**

EKS2 pmax pmax

comp=Z,7.0nm,1.0s

EKS2 Erkin-Say 64.80 319 *e*P **P 07 33 37.9 +0.5**

comp=Z,7.5nm,1.0s

ZALV Zalesovo Beam 64.97 334 P **P 07 33 36.9 -1.2**

comp=Z,2.1nm,0.8s,baz=108,slow=4.8,SNR=8.9

MNAS Manas 65.57 318 P **P 07 33 42.4 0.0**

MNAS pmax pmax

comp=Z,13nm,1.3s

KURBB Kurchatov Arra 66.00 328 P **P 07 33 43.5 -1.2**

comp=Z,5.7nm,0.6s,baz=125,slow=5.7,SNR=7.9

KURK Kurchatov 66.00 328 *e*P **P 07 33 44.5 -0.3**

KURK Kurchatov 66.00 328 *e*P **P 07 33 44.5 -0.3**

SEY Seymchan 66.12 12 *e*P **P 07 33 44.8 -0.5**

NVS Novosibirsk 66.26 334 *e*P **P 07 33 43.5 -2.9**

KK31 Karatay Array 67.16 318 P **P 07 33 51.7 -0.7**

KK31 pmax pmax

comp=Z,2.0nm,0.6s

KKAR Karatay Array 67.16 318 *e*P **P 07 33 52.1 -0.3**

KKAR Karatay Array 67.16 318 *e*P **P 07 33 52.1 -0.3**

BVA0 Borovoye Array 71.57 328 *i*P **P 07 34 18.5 -0.9**

BVA0 pmax pmax

comp=Z,4.0nm,0.7s

BVAR Borovoye Array 71.57 328 P **P 07 34 18.3 -1.2**

comp=Z,3.3nm,0.7s,baz=126,slow=7.5,SNR=16

TIXI Tiksi 72.24 0 *e*P **P 07 34 22.4 -0.7**

TIXI pmax pmax

comp=Z,5.0nm,0.7s

TIXI Tiksi 72.24 0 *e*P **P 07 34 22.4 -0.7**

comp=Z,5.1nm,0.7s

BILL Bilibino 73.57 14 *e*P **P 07 34 30.1 -1.0**

AB31 Akbulak array 76.20 321 *i*P **P 07 34 45.6 -1.0**

AB31 pmax pmax

comp=Z,1.0nm,0.5s

AKTO Aktyubinsk 77.74 322 P **P 07 34 54.8 -0.5**

comp=Z,4.7nm,0.6s,baz=109,slow=7.5,SNR=17

VNDA Vanda 78.93 173 P **P 07 35 01.8 +0.4**

comp=Z,1.7nm,0.8s,baz=325,slow=5.5,SNR=5.7

ARU Arti 79.20 328 *e*P **P 07 35 02.0 -1.2**

ARU pmax pmax

comp=Z,3.0nm,0.2s

ARU Arti 79.20 328 *e*P **P 07 35 02.0 -1.2**

comp=Z,3.1nm,0.2s

OPO Ambohidratompo 80.80 251 P **P 07 35 12.6 -0.3**

comp=Z,7.5nm,0.7s,baz=63,slow=3.2,SNR=8.5

PPT Papeete 82.83 108 LR LR 08 11 33.2

comp=Z,10.0nm,18.3s,baz=254,slow=35

GNI Garni 85.08 310 *di*P **P 07 35 34.5 -0.1**

GNI pmax pmax

comp=Z,16nm,0.8s

GNI Garni 85.08 310 P **P 07 35 34.7 +0.1**

comp=Z,14nm,0.5s,baz=310,slow=2.8,SNR=7.4

ZEI Tsey 85.93 313 *e*P **P 07 35 37.6 -1.3**

ZEI pmax pmax

comp=Z,7.0nm,1.0s

ILAR Eielson Array 88.66 25 P **P 07 35 50.8 -0.5**

comp=Z,0.4nm,0.7s,baz=240,slow=5.1,SNR=7.5

BRTR Keskin Array B 93.60 310 LR LR 08 23 36.9

comp=Z,11nm,19.8s,baz=86,slow=39

TORD Torodi Ar. Bea 125.15 286 PKP **PKPdf 07 41 59.3 -0.4**

comp=Z,1.0nm,0.8s,baz=66,slow=3.0,SNR=4.0

*DSN **01** 07:31:40.2±99.0, 29°.26N×52°.89E, h30km, mb4.2/6, ML5.1/5, Error ellipse: s-maj=198.6km s-min=7.8km az=325.0*

*TEH **01** 07:31:56.9, 27°.27N×53°.70E, h5km, ML4.1*

*NEIC **01** 07:31:56.9, 27°.27N×53°.70E, h5km, mb3.8/1, MN4.1(TEH), After TEH.*

*IDC **01** 07:31:58.1±0.9, 27°.66N×53°.70E, h0km, mb3.9/20, mb1 4.0/23, mb1mx3.9/35, mbtmp3.9/23, ML3.8/3, Error ellipse: s-maj=19.6km s-min=16.2km az=178.0*

*THR **01** 07:31:59.7±0.4, 27°.46N×53°.60E, h40km±4km, ML3.9*

*CSEM **01** 07:32:03.9±0.2, 27°.67N×53°.67E, h40km, ML3.9, Error ellipse: s-maj=8.1km s-min=5.0km az=53.0*

*OMAN **01** 07:32:34.4±99.0, 26°.02N×55°.59E, h25km, Error ellipse: s-maj=133.6km s-min=6.5km az=317.0*

*ISN **01** 07:32:45.2±1.1, 28°.49N×46°.71E, h0km±5km, ML3.6*

ISC 01 07:31:58.8±0.5,**27°.41N**±0°.04×**53°.62E**±0°.04,**h16km**,**n88,** σ**0**§**98**/**85**,**mb3.9**/**21**,**5C-2D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.04**	**328**	*e*Pg	**Pb**	**07 32 18.4**	**0.0**
GHIR				AML	AML	07 32 42.6	
	comp=N,3μm,0.5s						
GHIR	**Ghir-Karzin**	**1.04**	**328**	*e*Pg	**Pb**	**07 32 18.5**	**0.0**
	comp=N,3μm,0.5s						
ISRV	**Sarvestan**	**2.02**	**347**	*e*Pn	**Pb**	**07 32 34.1**	**-1.2**
ISRV				*e*		07 33 07.4	
	comp=Z,22μm,0.5s						
ISRV	**Sarvestan**	**2.02**	**347**	*e*Pn	**Pb**	**07 32 34.1**	**-1.2**
BNDS	**Bandar-Abbas**	**2.27**	**90**	*e*Pn	**Pn**	**07 32 36.8**	**+0.9**
BNDS				AML	AML	07 33 16.5	
	comp=N,674nm,0.5s						
BNDS				AML	AML	07 33 33.9	
	comp=E,663nm,0.8s						
BNDS	**Bandar-Abbas**	**2.27**	**90**	*e*Pn	**Pn**	**07 32 36.8**	**+0.9**
	comp=E,663nm,0.8s						
IPAR	**Pars**	**2.48**	**349**	*e*Pn	**Pn**	**07 32 39.8**	**+0.9**
IPAR				*e*Sg	**Sg**	**07 33 18.6**	**+0.1**
IPAR				*e*		07 33 21.6	
	comp=Z,10μm,0.5s						
IPAR	**Pars**	**2.48**	**349**	*e*Pn	**Pn**	**07 32 39.8**	**+0.9**
IPAR				*e*Sg	**Sg**	**07 33 18.6**	**+0.1**
BANOM	**Banah**	**2.82**	**121**	P	**Pb**	**07 32 46.9**	**-1.9**
	SNR=23						
BANOM	**Banah**	**2.82**	**121**	⇑P	**Pb**	**07 32 46.9**	**-1.9**
	SNR=23						
IKAZ	**Kazeroun**	**2.83**	**327**	*e*Pn	**Pn**	**07 32 45.0**	**+1.2**
IKAZ				*e*		07 33 48.9	
	comp=Z,12μm,0.5s						
IKAZ	**Kazeroun**	**2.83**	**327**	*e*Pn	**Pn**	**07 32 45.0**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.03**	**142**	P	**Pb**	**07 32 52.5**	**+0.1**
NAZ	**Nazwa, Dubai**	**3.03**	**142**	⇑P	**Pb**	**07 32 52.5**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.17**	**151**	P	**Pb**	**07 32 55.5**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.17**	**151**	⇓P	**Pb**	**07 32 55.5**	**+0.7**
FAQ	**Al Faqa, Dubai**	**3.19**	**146**	P	**Pb**	**07 32 54.8**	**-0.4**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**3.19**	**146**	*i*P	**Pb**	**07 32 54.8**	**-0.4**
	SNR=19						
FAQ				*i*P	**Pb**	**07 32 54.8**	**-0.4**
	SNR=23						
HATD	**Hatta, Dubai**	**3.42**	**138**	P	**Pb**	**07 32 57.4**	**-1.8**
	SNR=6.3						
HATD	**Hatta, Dubai**	**3.42**	**138**	*i*P	**Pb**	**07 32 57.4**	**-1.8**
	SNR=6.3						
ASHO	**Ashiyiah**	**3.49**	**140**	⇑P	**Pb**	**07 32 58.1**	**-2.2**
	SNR=15						
KRBR	**Kerman**	**3.77**	**46**	*e*Pn	**Pn**	**07 32 57.1**	**+0.5**
KRBR				AML	AML	07 33 46.4	
	comp=N,184nm,0.6s						
KRBR	**Kerman**	**3.77**	**46**	*e*Pn	**Pn**	**07 32 57.1**	**+0.5**
	comp=N,184nm,0.6s						
IMEH	**Mehriz**	**4.06**	**12**	*e*		07 33 02.8	
	comp=Z,2μm,0.1s						
IMEH				*e*Pn	**Pn**	**07 33 01.4**	**+0.9**
ISAD	**Sadrabad**	**4.49**	**1**	*e*Pn	Pn	07 33 02.9	-3.6
ISAD				*e*		07 33 58.6	
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**4.49**	**1**	*e*Pn	Pn	07 33 02.9	-3.6
IBAF	**Bafgh**	**4.50**	**22**	*e*Pn	**Pn**	**07 33 06.2**	**-0.4**
IBAF				*e*		07 34 25.9	
	comp=Z,787nm,0.4s						
IBAF	**Bafgh**	**4.50**	**22**	*e*Pn	**Pn**	**07 33 06.2**	**-0.4**
ICHK	**Chekchek**	**4.87**	**8**	*e*Pn	**Pn**	**07 33 12.1**	**+0.4**
ICHK				*e*		07 33 13.0	
	comp=Z,1μm,0.1s						
ICHK	**Chekchek**	**4.87**	**8**	*e*Pn	**Pn**	**07 33 12.1**	**+0.4**
NASN	**Na'in**	**5.42**	**353**	*e*Pn	**Pn**	**07 33 19.5**	**+0.2**
NASN	**Na'in**	**5.42**	**353**	*e*Pn	**Pn**	**07 33 19.5**	**+0.2**
IZEF	**Zefreh**	**5.58**	**349**	*e*Pn	**Pn**	**07 33 21.3**	**-0.2**
IZEF				*e*		07 34 23.6	
	comp=Z,466nm,0.2s						
IZEF	**Zefreh**	**5.58**	**349**	*e*Pn	**Pn**	**07 33 21.3**	**-0.2**
IPIR	**Pirpir**	**5.76**	**336**	*e*Pn	**Pn**	**07 33 23.3**	**-0.7**
IPIR				*e*		07 34 33.1	
	comp=Z,633nm,0.3s						
IPIR	**Pirpir**	**5.76**	**336**	*e*Pn	**Pn**	**07 33 23.3**	**-0.7**
SMDO	**Samad**	**5.90**	**136**	⇑P	Pn	07 33 30.6	+4.8
	SNR=14						
SHGR	**Shooshtar-Gavs**	**6.28**	**319**	*e*Pn	**Pn**	**07 33 30.9**	**+0.1**
SHGR	**Shooshtar-Gavs**	**6.28**	**319**	*e*Pn	**Pn**	**07 33 30.9**	**+0.1**
WBK	**Wadi Bani Khal**	**6.81**	**133**	P	Pn	07 33 42.2	+4.0
	SNR=18						
GHVR	**GHOM**	**7.33**	**345**	*e*Pn	**Pn**	**07 33 46.0**	**+0.7**
GHVR	**GHOM**	**7.33**	**345**	*e*Pn	**Pn**	**07 33 46.0**	**+0.7**
NSR	**Nassriya**	**7.45**	**301**	*e*PG	Pn	07 33 42.6	-4.3
NSR				*e*SG	x	07 34 21.6	
ASAO	**Ashtian**	**7.76**	**337**	*e*Pn	**Pn**	**07 33 51.4**	**+0.1**
ASAO	**Ashtian**	**7.76**	**337**	*e*Pn	**Pn**	**07 33 51.4**	**+0.1**
RAYN	**Ar Rayn**	**8.29**	**244**	*e*Pn	**Pn**	**07 33 58.5**	**0.0**
	comp=Z,69nm,0.7s						
RAYN				*e*Sn	**Sn**	**07 35 29.2**	**-2.6**
RAYN	**Ar Rayn**	**8.29**	**244**	*e*Pn	**Pn**	**07 33 58.5**	**0.0**
	comp=Z,69nm,0.7s						
RAYN				*e*Sn	**Sn**	**07 35 29.2**	**-2.6**
SHRT	**Shahrakht**	**8.47**	**41**	*e*PN5	Pn	**07 34 01.3**	**+0.3**
IBDR	**Badra**	**8.74**	**312**	*e*PN	Pn	07 33 57.5	-7.1
IBDR				*e*SN	Px	07 34 49.2	
BHD	**Baghdad**	**9.89**	**308**	*e*PN	x	07 34 04.6	
BHD				*i* Sn	x	07 35 01.2	
GEYT	**Alibeck**	**11.15**	**19**	Pn	**Pn**	**07 34 36.7**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=158,slow=1.6,SNR=3.7						
MMAI	**Mount Meron Ar**	**16.70**	**294**	Pn	**P**	**07 35 55.0**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=96,slow=7.2,SNR=2.8						
KBZ	**Khabaz**	**18.45**	**335**	P	**Pn**	**07 36 14.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=160,slow=15,SNR=2.5						
KBZ	**Khabaz**	**18.45**	**335**	P	**Pn**	**07 36 14.0**	**+0.3**
BRTR	**Keskin Array B**	**20.63**	**312**	P	Pn	07 36 39.6	-0.5
	comp=Z,2.3nm,0.7s,baz=136,slow=13,SNR=11						
KKAR	**Karatay Array**	**20.81**	**37**	*e*P	**P**	**07 36 38.7**	**-0.8**
	comp=Z,3.1nm,0.7s						
KKAR				*e*S	**S**	**07 40 31.4**	**+0.2**
KKAR	**Karatay Array**	**20.81**	**37**	*e*P	**P**	**07 36 38.7**	**-0.8**
	comp=Z,3.1nm,0.7s						
KKAR				*e*S	**S**	**07 40 31.4**	**+0.2**
AAK	**Ala-Archa**	**22.78**	**43**	P	**P**	**07 37 01.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=192,slow=14,SNR=2.3						
AAK	**Ala-Archa**	**22.78**	**43**	*e*P	**P**	**07 37 01.7**	**+0.8**
AAK	**Ala-Archa**	**22.78**	**43**	*e*P	**P**	**07 37 01.7**	**+0.8**
AKTO	**Aktyubinsk**	**23.24**	**7**	P	**P**	**07 37 05.6**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=180,slow=14,SNR=4.2						
BVAR	**Borovoye Array**	**28.47**	**21**	P	**P**	**07 37 51.7**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=201,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**29.70**	**42**	P	**P**	**07 38 03.5**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=237,slow=10,SNR=11						
AKASG	**Malin Array Be**	**29.74**	**328**	P	**P**	**07 38 03.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=136,slow=8.2,SNR=4.1						
KURBB	**Kurchatov Arra**	**29.94**	**33**	P	**P**	**07 38 05.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=230,slow=9.0,SNR=6.9						
KURK	**Kurchatov**	**30.05**	**32**	P	**P**	**07 38 05.5**	**-1.5**
KURK	**Kurchatov**	**30.05**	**32**	P	**P**	**07 38 05.5**	**-1.5**
ZALV	**Zalesovo Beam**	**35.04**	**32**	P	**P**	**07 38 49.9**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=241,slow=9.5,SNR=6.0						
FINES	**FINESS Array B**	**38.71**	**339**	P	**P**	**07 39 21.6**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=134,slow=11,SNR=7.7						
FETA	**Feichten**	**38.78**	**312**	⇓*i*P	**P**	**07 39 21.8**	**-0.9**
	comp=Z,5.1nm,1.2s						
FETA	**Feichten**	**38.78**	**312**	P	**P**	**07 39 21.8**	**-0.9**
	comp=Z,5.1nm,1.2s						
DAVA	**Damuels**	**39.40**	**312**	⇑*i*pP	**P**	**07 39 29.1**	**+1.1**
	comp=Z,6.5nm,0.4s						
DAVA	**Damuels**	**39.40**	**312**	P	**P**	**07 39 29.1**	**+1.1**
	comp=Z,6.5nm,0.4s						
HFS	**Hagfors**	**42.47**	**332**	P	**P**	**07 39 52.7**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=131,slow=6.7,SNR=9.6						
CMAR	**Chiang Mai Arr**	**42.49**	**92**	P	**P**	**07 39 55.0**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=154,slow=27,SNR=6.9						
NOA	**NORSAR Array B**	**43.99**	**332**	P	**P**	**07 40 04.3**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=120,slow=8.1,SNR=3.4						
ARCES	**ARCESS Array B**	**45.22**	**346**	P	**P**	**07 40 14.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=141,slow=9.3,SNR=5.2						
SONM	**Songino Array**	**45.52**	**49**	P	**P**	**07 40 17.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=257,slow=8.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**50.39**	**264**	P	**P**	**07 40 57.4**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=66,slow=7.2,SNR=4.6						
BOSA	**Boshof**	**61.99**	**208**	P	P	07 42 23.0	+4.6
	comp=Z,1.9nm,0.7s,baz=26,slow=4.8,SNR=4.1						
BOSA	**Boshof**	**61.99**	**208**	P	P	07 42 23.0	+4.6
KSAR	**Wonju Array Be**	**62.03**	**60**	P	**P**	**07 42 18.4**	**-0.2**
KSAR	**Wonju Array Be**	**62.03**	**60**	P	**P**	**07 42 18.4**	**-0.2**
KSRS	**Korea Array**	**62.06**	**60**	P	**P**	**07 42 18.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=285,slow=8.2,SNR=3.4						
SCHQ	**Schefferville**	**83.52**	**330**	P	**P**	**07 44 26.0**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=61,slow=10,SNR=3.0						
YKA	**Yellowknife Ar**	**89.92**	**355**	P	**P**	**07 44 58.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=7,slow=5.3,SNR=6.3						
WRA	**Warramunga Arr**	**91.17**	**112**	P	**P**	**07 45 05.0**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=316,slow=4.1,SNR=2.7						
PV01	**Paradox Valley**	**112.70**	**345**	*e*PKPdf	**PKiKP**	**07 50 33.5**	**-1.7**

*TEH **01** 07:37:22.7, 27°.27N×53°.68E, h6km, ML4.2*

*NEIC **01** 07:37:22.7, 27°.27N×53°.68E, h6km, MN4.2(TEH), After TEH.*

*IDC **01** 07:37:23.6±2.0, 27°.57N×53°.74E, h0km, mb3.8/15, mb1 3.8/18, mb1mx3.7/35, mbtmp3.8/18, ML3.5/3, MS3.2/6, Ms1 3.2/6, ms1mx2.7/45, Error ellipse: s-maj=40.9km s-min=18.6km az=168.0*

*ISCJB **01** 07:37:25.6±0.4, 27°.64N±0°.04×53°.68E±0°.05, h16km, mb3.7/14, MS3.2/5, Error ellipse: s-maj=7.9km s-min=4.6km az=136.4*

*THR **01** 07:37:26.1±0.4, 27°.55N×53°.65E, h34km±4km, ML3.9*

*CSEM **01** 07:37:27.0±0.2, 27°.64N×53°.69E, h15km, ML3.9, Error ellipse: s-maj=10.9km s-min=5.8km az=52.0*

*DSN **01** 07:37:45.9±99.0, 26°.75N×54°.72E, h30km, mb3.1/4, ML3.5/3, Error ellipse: s-maj=22.8km s-min=2.8km az=322.0*

*ISN **01** 07:37:59.4±2.2, 26°.89N×47°.40E, h0km±12km, ML3.8*

*OMAN **01** 07:38:01.2±99.0, 25°.89N×55°.64E, h20km, Error ellipse: s-maj=95.1km s-min=10.9km az=309.0*

ISC 01 07:37:25.1±0.7,**27°.44N**±0°.06×**53°.71E**±0°.05,**h16km**,**n73,** σ**1**§**09**/**67**,**mb3.8**/**16**,**MS3.1**/**5**,**6C-2D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.06**	**323**	*e*Pg	**Pb**	**07 37 43.9**	**-1.3**
GHIR				AML	AML	07 38 04.8	
	comp=E,3μm,0.6s						
GHIR	**Ghir-Karzin**	**1.06**	**323**	*e*Pg	**Pb**	**07 37 43.9**	**-1.3**
	comp=E,3μm,0.6s						
ISRV	**Sarvestan**	**2.00**	**345**	*e*Pn	**Pn**	**07 37 59.4**	**+0.7**
ISRV				*e*		07 38 33.4	
	comp=Z,26μm,0.2s						
ISRV	**Sarvestan**	**2.00**	**345**	*e*Pn	**Pn**	**07 37 59.4**	**+0.7**
BNDS	**Bandar-Abbas**	**2.19**	**91**	*e*Pn	**Pb**	**07 38 03.0**	**-1.5**
BNDS	**Bandar-Abbas**	**2.19**	**91**	*e*Pn	**Pb**	**07 38 03.0**	**-1.5**
IPAR	**Pars**	**2.46**	**346**	*e*	**Sg**	**07 38 47.1**

	SNR=12								
BANOM	**Banah**	**2.77**	**123**	⇑P		**Pb**	**07 38 12.9**	**-1.4**
	SNR=12								
IKAZ	**Kazeroun**	**2.85**	**325**	*e*Pn		**Pn**	**07 38 10.5**	**+0.2**
IKAZ				*e*Sg		**Sg**	**07 38 55.6**	**-1.3**
IKAZ				*e*			07 39 14.4	
	comp=Z,13µm,0.5s								
IKAZ	**Kazeroun**	**2.85**	**325**	*e*Pn		**Pn**	**07 38 10.5**	**+0.2**
IKAZ				*e*Sg		**Sg**	**07 38 55.6**	**-1.3**
NAZ	**Nazwa, Dubai**	**3.01**	**144**	P		**Pb**	**07 38 17.4**	**-0.9**
NAZ	**Nazwa, Dubai**	**3.01**	**144**	⇑P		**Pb**	**07 38 17.4**	**-0.9**
ASUD	**Al Ashush, Dub**	**3.16**	**152**	P		**Pb**	**07 38 20.8**	**-0.1**
ASUD	**Al Ashush, Dub**	**3.16**	**152**	⇓P		**Pb**	**07 38 20.8**	**-0.1**
HATD	**Hatta, Dubai**	**3.39**	**140**	P		Pb	07 38 21.5	-3.4
HATD	**Hatta, Dubai**	**3.39**	**140**	⇑P		Pb	07 38 21.5	-3.4
ASHO	**Ashiyiah**	**3.46**	**142**	P		**Pb**	**07 38 23.8**	**-2.3**
	SNR=8.1								
ASHO	**Ashiyiah**	**3.46**	**142**	⇑P		**Pb**	**07 38 23.8**	**-2.3**
	SNR=8.1								
KRBR	**Kerman**	**3.69**	**46**	*e*Pn		**Pn**	**07 38 22.8**	**+1.0**
KRBR				AML		AML	07 39 24.7	
	comp=N,193nm,0.4s								
KRBR				AML		AML	07 39 28.5	
	comp=E,195nm,0.5s								
KRBR	**Kerman**	**3.69**	**46**	*e*Pn		**Pn**	**07 38 22.8**	**+1.0**
	comp=E,195nm,0.5s								
IMEH	**Mehriz**	**4.01**	**11**	*e*Pn		**Pn**	**07 38 27.2**	**+1.0**
IMEH				*e*			07 38 32.1	
	comp=Z,1µm,0.2s								
IMEH	**Mehriz**	**4.01**	**11**	*e*Pn		**Pn**	**07 38 27.2**	**+1.0**
IBAF	**Bafgh**	**4.44**	**21**	*e*Pn		**Pn**	**07 38 32.2**	**+0.2**
IBAF				*e*			07 40 05.5	
	comp=Z,1µm,0.6s								
IBAF	**Bafgh**	**4.44**	**21**	*e*Pn		**Pn**	**07 38 32.2**	**+0.2**
ISAD	**Sadrabad**	**4.46**	**360**	*e*Pn		**Pn**	**07 38 34.3**	**+1.9**
ISAD				*e*			07 39 24.2	
	comp=Z,2µm,0.3s								
ISAD	**Sadrabad**	**4.46**	**360**	*e*Pn		**Pn**	**07 38 34.3**	**+1.9**
ICHK	**Chekchek**	**4.83**	**7**	*e*Pn		**Pn**	**07 38 37.6**	**+0.2**
ICHK				*e*			07 38 40.0	
	comp=Z,1µm,0.1s								
ICHK	**Chekchek**	**4.83**	**7**	*e*Pn		**Pn**	**07 38 37.6**	**+0.2**
NASN	**Na'in**	**5.40**	**352**	*e*P		**Pn**	**07 38 45.1**	**-0.2**
SHGR	**Shooshtar-Gavs**	**6.31**	**319**	*e*Pn		**Pn**	**07 38 57.6**	**0.0**
SHGR	**Shooshtar-Gavs**	**6.31**	**319**	*e*Pn		**Pn**	**07 38 57.6**	**0.0**
WBK	**Wadi Bani Khal**	**6.77**	**134**	P		Pn	07 39 07.8	+3.9
	SNR=13								
WBK	**Wadi Bani Khal**	**6.77**	**134**	⇓P		Pn	07 39 07.8	+3.9
	SNR=13								
GHVR	**GHOM**	**7.32**	**344**	*e*Pn		**Pn**	**07 39 11.4**	**0.0**
GHVR	**GHOM**	**7.32**	**344**	*e*Pn		**Pn**	**07 39 11.4**	**0.0**
NSR	**Nassriya**	**7.51**	**300**	*e*PG		**Pb**	**07 39 33.6**	**-1.4**
NSR				*e*SG		**Sn**	**07 40 39.3**	**+0.5**
ASAO	**Ashtian**	**7.76**	**337**	*e*Pn		**Pn**	**07 39 17.5**	**-0.2**
ASAO	**Ashtian**	**7.76**	**337**	*e*Pn		**Pn**	**07 39 17.5**	**-0.2**
SHRT	**Shahrakht**	**8.39**	**41**	*e*PN5		**Pn**	**07 39 26.9**	**+0.7**
IBDR	**Badra**	**8.78**	**312**	*e*PN		x	07 39 34.4	
IBDR				*e*SN		x	07 40 44.2	
BHD	**Baghdad**	**9.93**	**308**	*e*PN		Pn	07 39 43.6	-3.6
GEYT	**Alibeck**	**11.10**	**18**	Pn		**Pn**	**07 40 03.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=193,slow=5.9,SNR=2.5								
GNI	**Garni**	**14.69**	**332**	LR		LR	07 47 22.1		
	comp=Z,45nm,21.6s,baz=103,slow=41								
MMAI	**Mount Meron Ar**	**16.76**	**294**	Pn		**Pn**	**07 41 20.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=104,slow=17,SNR=1.7								
KBZ	**Khabaz**	**18.45**	**335**	P		**Pn**	**07 41 40.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=183,slow=5.1,SNR=5.3								
BRTR	**Keskin Array B**	**20.68**	**311**	P		**P**	**07 42 05.7**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=136,slow=13,SNR=6.8								
KKAR	**Karatay Array**	**20.73**	**37**	*e*P		**P**	**07 42 04.7**	**-0.3**
	comp=Z,0.9nm,0.4s								
KKAR	**Karatay Array**	**20.73**	**37**	*e*P		**P**	**07 42 04.7**	**-0.3**
	comp=Z,0.9nm,0.4s								
AAK	**Ala-Archa**	**22.70**	**43**	LR		LR	07 53 01.2		
	comp=Z,42nm,18.9s,baz=206,slow=42								
AKTO	**Aktyubinsk**	**23.20**	**7**	P		**P**	**07 42 31.5**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=161,slow=9.9,SNR=3.2								
IDI	**Anoyia**	**25.76**	**295**	P		**P**	**07 42 57.0**	**+1.8**
	comp=Z,5.8nm,0.8s,baz=308,slow=19,SNR=2.1								
IDI	**Anoyia**	**25.76**	**295**	P		**P**	**07 42 57.0**	**+1.8**
BVAR	**Borovoye Array**	**28.41**	**21**	P		**P**	**07 43 19.3**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=212,slow=8.1,SNR=5.4								
MKAR	**Makanchi Array**	**29.62**	**42**	P		**P**	**07 43 29.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=234,slow=10.0,SNR=10								
AKASG	**Malin Array Be**	**29.76**	**328**	P		**P**	**07 43 29.9**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=126,slow=4.6,SNR=3.7								
KURBB	**Kurchatov Arra**	**29.87**	**32**	P		**P**	**07 43 31.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=230,slow=8.9,SNR=6.0								
KURK	**Kurchatov**	**29.97**	**32**	P		**P**	**07 43 31.8**	**-0.9**
KURK	**Kurchatov**	**29.97**	**32**	P		**P**	**07 43 31.8**	**-0.9**
ZALV	**Zalesovo Beam**	**34.96**	**32**	P		**P**	**07 44 15.6**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=240,slow=8.4,SNR=9.3								
ZALV				LR		LR	08 01 40.1		
	comp=Z,27nm,20.9s,baz=46,slow=42								
FINES	**FINESS Array B**	**38.71**	**339**	P		**P**	**07 44 47.5**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=141,slow=12,SNR=11								
FETA	**Feichten**	**38.82**	**312**	⇑*i*P		**P**	**07 44 50.0**	**+0.6**
	comp=Z,3.6nm,0.9s								
DAVA	**Damuels**	**39.44**	**312**	⇑*i*P		**P**	**07 44 55.0**	**+0.4**
	comp=Z,4.9nm,0.5s								
HFS	**Hagfors**	**42.48**	**332**	P		**P**	**07 45 19.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=115,slow=10,SNR=7.3								
NOA	**NORSAR Array B**	**44.00**	**332**	P		**P**	**07 45 30.0**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=119,slow=7.3,SNR=2.9								
NOA				LR		LR	08 05 36.0		
	comp=Z,22nm,19.2s,baz=240,slow=39								
NOA	**NORSAR Array B**	**44.00**	**332**	P		**P**	**07 45 30.0**	**-1.6**
NOA	**NORSAR Array B**	**44.00**	**332**	P		**P**	**07 45 30.0**	**-1.6**
ARCES	**ARCESS Array B**	**45.20**	**346**	P		**P**	**07 45 40.1**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=51,slow=7.1,SNR=3.2								
SONM	**Songino Array**	**45.44**	**49**	P		**P**	**07 45 44.2**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=267,slow=9.1,SNR=6.2								
TORD	**Torodi Ar. Bea**	**50.47**	**264**	P		**P**	**07 46 24.3**	**+1.7**
	comp=Z,0.6nm,1.1s,baz=67,slow=8.7,SNR=3.3								
BOSA	**Boshof**	**62.05**	**208**	LR		LR	08 14 35.5		
	comp=Z,44nm,18.2s,baz=158,slow=36								
YKA	**Yellowknife Ar**	**89.89**	**355**	P		**P**	**07 50 22.4**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=7,slow=5.1,SNR=5.1								
SADO	**Sadowa**	**96.25**	**328**	LR		LR	08 33 44.1		
	comp=Z,15nm,20.1s,baz=270,slow=35								

GUC 01 08:17:14.4±0.5, 20°31'S×69°47'W, h108km±3km, ML3.7, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HMBC	**Humberstone**	**0.40**	**275**	⇓*i*P		Pn	08 17 30.7	+0.2
HMBC				*i* S		Sn	08 17 42.8	+0.2
HMBC				AML		AML	08 17 43.5	
	comp=E,3µm,0.2s							
PB01	**IPOC Station P**	**0.73**	**181**	*i* P		Pn	08 17 33.3	+0.4
PB01				*i* S		Sn	08 17 47.2	+0.4
PB01				AML		AML	08 17 48.1	
	comp=N,4µm,0.2s							
PATCX	**Punta Patache**	**0.82**	**232**	⇑*i*P		Pn	08 17 34.3	+0.6
PATCX				*i* S		Sn	08 17 49.0	+0.8
PATCX				AML		AML	08 17 49.9	
	comp=N,4µm,0.2s							
PSGC	**Pisagua**	**0.94**	**319**	⇓*i*P		Pn	08 17 34.9	-0.1
PSGC				*e*S		Sn	08 17 50.2	-0.2
PSGC				AML		AML	08 17 51.4	
	comp=E,749nm,0.2s							
MNMC	**Minimini**	**1.18**	**354**	⇓*i*P		Pn	08 17 38.1	+0.4
MNMC				*e*S		Sn	08 17 55.8	+0.5
MNMC				AML		AML	08 17 58.1	
	comp=N,7µm,0.2s							
PB07	**IPOC Station P**	**1.46**	**195**	⇑*i*P		Pn	08 17 41.3	+0.4
PB07				*e*S		Sn	08 18 01.7	+0.8
PB07				AML		AML	08 18 04.5	
	comp=N,688nm,0.4s							
PB04	**IPOC Station P**	**1.94**	**181**	⇑*i*P		Pn	08 17 49.1	+2.5
PB04				*e*S		Sn	08 18 13.8	+2.7
PB06	**IPOC Station P**	**2.38**	**182**	⇑*i*P		Pn	08 17 52.6	+0.1
PB06				*i* S		Sn	08 18 21.1	-0.5
PB06				AML		AML	08 18 22.2	
	comp=N,181nm,0.2s							

*IDC **01** 08:29:23.2±0.8, 13°.95N×93°.08E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.8/28, mbtmp3.8/14, ML4.1/1, Error ellipse: s-maj=32.4km s-min=17.6km az=54.0*
*ISCJB **01** 08:29:26.2±0.7, 14°.0N±0°.1×93°.19E±0°.09, h32km, mb3.8/13, Error ellipse: s-maj=16.3km s-min=12.0km az=1.1*

ISC 01 08:29:28.4±0.8, 14°.0N±0°.1×93°.20E±0°.09, h32km, n16, σ0s77/18, mb3.9/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.05**	**51**	Pn		**Pn**	**08 31 10.4**	**+0.9**
	0.9nm,0.3s,baz=240,slow=15,SNR=5.9							
CMAR				Sn		**Sn**	**08 32 27.0**	**-1.6**
	0.9nm,0.3s,baz=241,slow=29,SNR=7.9							
VIS	**Vishakhapatnam**	**10.17**	**292**	*i* P		**Pn**	**08 31 51.9**	**-0.3**
VIS				*i* S		Sn	08 33 31.6	-14
VIS				*i* S		Sn	08 33 33.3	-12
VIS				*ex*		x	08 33 35.4	
	comp=N,32nm,0.5s							
VIS				*ex*		x	08 33 35.8	
	comp=E,25nm,0.4s							
MKAR	**Makanchi Array**	**33.91**	**347**	P		**P**	**08 36 08.9**	**+0.5**
	comp=E,1.3nm,0.7s,baz=164,slow=8.9,SNR=16							
SONM	**Songino Array**	**35.44**	**15**	P		**P**	**08 36 22.7**	**+1.0**
	comp=E,0.4nm,0.5s,baz=202,slow=9.9,SNR=5.2							
ZALV	**Zalesovo Beam**	**40.36**	**352**	P		**P**	**08 37 02.9**	**-0.1**
	comp=E,1.5nm,0.6s,baz=181,slow=7.2,SNR=7.5							
BVAR	**Borovoye Array**	**42.90**	**340**	P		**P**	**08 37 23.6**	**-0.2**
	comp=E,0.5nm,0.5s,baz=179,slow=5.8,SNR=3.6							
WRA	**Warramunga Arr**	**52.71**	**129**	P		**P**	**08 38 39.0**	**-1.4**
	comp=E,0.6nm,0.8s,baz=300,slow=11,SNR=5.1							
WRA				PcP		**PcP**	**08 39 50.9**	**+1.0**
	comp=E,0.3nm,0.6s,baz=315,slow=3.2,SNR=5.4							
ASAR	**Alice Springs**	**54.67**	**133**	P		**P**	**08 38 55.2**	**+0.5**
	comp=E,0.4nm,0.6s,baz=312,slow=7.2,SNR=7.2							
BRTR	**Keskin Array B**	**57.81**	**308**	P		**P**	**08 39 16.8**	**-0.3**
	comp=E,1.0nm,0.9s,baz=140,slow=6.3,SNR=4.0							
FINES	**FINESS Array B**	**66.87**	**331**	P		**P**	**08 40 16.8**	**-0.3**
	comp=E,0.9nm,0.7s,baz=90,slow=6.0,SNR=3.4							
ARCES	**ARCESS Array B**	**69.19**	**340**	P		**P**	**08 40 31.2**	**-0.3**
	comp=E,1.3nm,0.7s,baz=91,slow=5.2,SNR=6.7							
GERES	**GERESS Array B**	**72.67**	**317**	P		**P**	**08 40 53.4**	**+0.2**
	comp=E,0.4nm,0.3s,baz=60,slow=3.2,SNR=3.5							
NOA	**NORSAR Array B**	**73.95**	**330**	P		**P**	**08 40 59.7**	**-0.7**
	comp=E,0.7nm,0.8s,baz=94,slow=5.9,SNR=3.4							
TORD	**Torodi Ar. Bea**	**88.30**	**283**	P		**P**	**08 42 17.5**	**0.0**
	comp=E,0.7nm,0.8s,baz=72,slow=5.8,SNR=3.9							
ILAR	**Eielson Array**	**89.41**	**22**	P		**P**	**08 42 21.5**	**-0.2**
	comp=E,0.3nm,0.8s,baz=313,slow=4.7,SNR=4.1							
PPT	**Papeete**	**119.73**	**102**	PKP		**PKPdf**	**08 48 15.9**	**-0.3**
	comp=E,22nm,0.7s,baz=116,slow=13,SNR=3.7							

NNC 01 08:41:44.6±8.1, 37°.54N×70°.82E, h0km, mb3.6, mpv3.3, 4C-3D, Error ellipse: s-maj=63.4km s-min=52.2km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.24**	**39**	⇑P		Pn	08 42 37.3	+0.3
	2.0nm,0.2s							
SFK				⇓S		Sn	08 43 18.1	+1.5
	29nm,0.3s							
AML	**Almayashu**	**5.09**	**25**	P		Pn	08 43 01.7	-1.0
	SNR=18							
MNAS	**Manas**	**5.11**	**14**	⇑P		Pn	08 43 03.7	+1.1
	2.9nm,0.5s							
MNAS				⇑S		Sn	08 44 04.6	+2.1
	7.5nm,0.6s							
UCH	**Uchtor**	**5.48**	**30**	P		Pn	08 43 05.3	-2.7
	SNR=14							
KK31	**Karatay Array**	**5.57**	**358**	P		Pn	08 43 12.2	+3.5
	0.2nm,0.2s,baz=164,slow=13,SNR=17							
KK31				⇓S		Sn	08 44 12.0	-1.4
	2.4nm,0.4s,baz=180,slow=24,SNR=14							
KZA	**Kyzart**	**5.67**	**36**	P		Pn	08 43 06.1	-4.6
	SNR=6.6							
AAK	**Ala-Archa**	**5.82**	**28**	⇑P		Pn	08 43 09.9	-2.5
	1.2nm,0.3s							
AAK	**Ala-Archa**	**5.82**	**28**	P		Pn	08 43 10.2	-2.2
	SNR=5.4							
TKM2	**Tokmak 2**	**6.50**	**33**	⇓P		Pn	08 43 17.3	-4.5
	4.9nm,0.7s							
TKM2	**Tokmak 2**	**6.50**	**33**	P		Pn	08 43 17.5	-4.3
	SNR=9.0							

*THR **01** 08:43:06.8±0.4, 27°.45N×53°.56E, h34km±4km, ML3.7*
*ISCJB **01** 08:43:07.9±0.4, 27°.68N±0°.04×53°.68E±0°.07, h16km, mb3.6/14, MS3.3/1, Error ellipse: s-maj=9.9km s-min=3.8km az=145.2*
*IDC **01** 08:43:07.3±1.6, 27°.80N×53°.62E, h0km, mb3.7/14, mb1 3.8/14, mb1mx3.7/30, mbtmp3.7/14, MS3.1/2, Ms1 3.1/2, ms1mx2.4/49, Error ellipse: s-maj=32.9km s-min=21.6km az=174.0*
*TEH **01** 08:43:08.6, 27°.46N×53°.68E, h18km, ML3.7*
*CSEM **01** 08:43:08.6±0.2, 27°.67N×53°.70E, h5km, ML3.7, Error ellipse: s-maj=12.9km s-min=4.3km az=55.0*
*OMAN **01** 08:43:11.5±0.2, 27°.65N×53°.81E, h20km, Error ellipse: s-maj=23.9km s-min=4.1km az=44.0*

ISC 01 08:43:09.3±0.6, 27°.63N±0°.05×53°.68E±0°.07, h16km, n61, σ1s24/67, mb3.7/14, 7C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.89**	**317**	*e*Pg		**Pb**	**08 43 25.3**	**-1.3**
GHIR				AML		AML	08 43 49.0	
	comp=N,1µm,0.5s							
GHIR				AML		AML	08 43 50.0	
	comp=E,2µm,0.3s							
GHIR	**Ghir-Karzin**	**0.89**	**317**	*e*Pg		**Pb**	**08 43 25.3**	**-1.3**
	comp=E,2µm,0.3s							
ISRV	**Sarvestan**	**1.81**	**344**	*e*Pn		**Pn**	**08 43 41.7**	**+1.5**
ISRV				*e*Sg		**Sg**	**08 44 09.9**	**+2.1**
ISRV				*e*			08 44 15.1	
	comp=Z,16µm,0.5s							
ISRV	**Sarvestan**	**1.81**	**344**	*e*Pn		**Pn**	**08 43 41.7**	**+1.5**
ISRV				*e*Sg		**Sg**	**08 44 09.9**	**+2.1**
BNDS	**Bandar-Abbas**	**2.22**	**95**	*e*Pn		**Pn**	**08 43 44.9**	**-0.8**
BNDS				AML		AML	08 44 23.0	
	comp=N,392nm,0.3s							
BNDS	**Bandar-Abbas**	**2.22**	**95**	*e*Pn		**Pn**	**08 43 44.9**	**-0.8**
	comp=N,392nm,0.3s							
IPAR	**Pars**	**2.27**	**346**	*e*Pn		**Pn**	**08 43 48.4**	**+1.9**
IPAR				*e*Sg		**Sg**	**08 44 25.4**	**+2.9**
IPAR				*e*			08 44 29.8	
	comp=Z,7µm,0.5s							
IPAR	**Pars**	**2.27**	**346**	*e*Pn		**Pn**	**08 43 48.4**	**+1.9**
IPAR				*e*Sg		**Sg**	**08 44 25.3**	**+2.9**
IKAZ	**Kazeroun**	**2.68**	**323**	*e*Pn		**Pn**	**08 43 52.7**	**+0.6**
IKAZ				*e*			08 44 55.0	
	comp=Z,3µm,0.3s							
IKAZ	**Kazeroun**	**2.68**	**323**	*e*Pn		**Pn**	**08 43 52.7**	**+0.6**
BANOM	**Banah**	**2.90**	**125**	P		**Pn**	**08 43 56.1**	**+1.3**
	SNR=9.7							
BANOM	**Banah**	**2.90**	**125**	⇓P		**Pn**	**08 43 56.1**	**+1.3**
	SNR=9.7							
NAZ	**Nazwa, Dubai**	**3.18**	**146**	P		**Pn**	**08 44 00.4**	**+1.7**
	SNR=12							
NAZ	**Nazwa, Dubai**	**3.18**	**146**	⇓*i*P		**Pn**	**08 44 00.4**	**+1.7**
	SNR=12							
ASUD	**Al Ashush, Dub**	**3.34**	**153**	P		**Pn**	**08 44 03.2**	**+2.3**
ASUD	**Al Ashush, Dub**	**3.34**	**153**	⇑P		**Pn**	**08 44 03.2**	**+2.3**
FAQ	**Al Faqa, Dubai**	**3.35**	**149**	P		**Pn**	**08 44 02.4**	**+1.3**
FAQ	**Al Faqa, Dubai**	**3.35**	**149**	⇑P		**Pn**	**08 44 02.4**	**+1.3**
FAQ				⇑*i*P		Pb	08 44 02.8	-5.6
	SNR=9.3							
HATD	**Hatta, Dubai**	**3.56**	**141**	P		**Pn**	**08 44 04.8**	**+0.9**
	SNR=6.2							
HATD	**Hatta, Dubai**	**3.56**	**141**	⇑*i*P		**Pn**	**08 44 04.8**	**+0.9**
	SNR=6.2							
KRBR	**Kerman**	**3.58**	**48**	*e*Pn		**Pn**	**08 44 05.2**	**+0.8**
KRBR				AML		AML	08 44 51.5	
	comp=N,136nm,0.5s							
KRBR				AML		AML	08 45 11.9	
	comp=E,152nm,0.6s							
KRBR	**Kerman**	**3.58**	**48**	*e*Pn		**Pn**	**08 44 05.2**	**+0.8**
	comp=E,152nm,0.6s							
ASHO	**Ashiyiah**	**3.63**	**143**	P		**Pn**	**08 44 06.0**	**+1.0**
	SNR=44							
ASHO				S		**Sn**	**08 44 48.7**	**+1.2**
ASHO	**Ashiyiah**	**3.63**	**143**	⇓P		**Pn**	**08 44 06.0**	**+1.0**
	SNR=44							
ASHO				⇓S		**Sn**	**08 44 48.7**	**+1.2**
IBAF	**Bafgh**	**4.27**	**22**	*e*Pn		**Pn**	**08 44 14.4**	**+0.5**
IBAF				*e*			08 44 15.8	
	comp=Z,393nm,0.1s							
IBAF	**Bafgh**	**4.27**	**22**	*e*Pn		**Pn**	**08 44 14.4**	**+0.5**
NASN	**Na'in**	**5.20**	**352**	*e*Pn		**Pn**	**08 44 27.4**	**+0.6**
NASN	**Na'in**	**5.20**	**352**	*e*Pn		**Pn**	**08 44 27.5**	**+0.6**
IZEF	**Zefreh**	**5.37**	**348**	*e*Pn		**Pn**	**08 44 29.3**	**+0.2**
IZEF				*e*			08 44 31.0	
	comp=Z,198nm,0.2s							
IZEF	**Zefreh**	**5.37**	**348**	*e*Pn		**Pn**	**08 44 29.3**	**+0.2**
IPIR	**Pirpir**	**5.58**	**335**	*e*Pn		**Pn**	**08 44 31.4**	**-0.7**
IPIR				*e*			08 45 39.5	
	comp=Z,288nm,0.4s							
IPIR	**Pirpir**	**5.58**	**335**	*e*Pn		**Pn**	**08 44 31.3**	**-0.7**
SMDO	**Samad**	**6.03**	**138**	P		**Pn**	**08 44 38.2**	**+0.2**
	SNR=13							
SMDO				S		**Sn**	**08 45 47.7**	**+0.9**
SMDO	**Samad**	**6.03**	**138**	⇑P		**Pn**	**08 44 38.2**	**+0.2**
	SNR=13							
SMDO				⇑S		**Sn**	**08 45 47.7**	**+0.9**
SHGR	**Shooshtar-Gavs**	**6.15**	**318**	*e*Pn		**Pn**	**08 44 38.4**	**-1.2**
SHGR	**Shooshtar-Gavs**	**6.15**	**318**	*e*Pn		**Pn**	**08 44 38.4**	**-1.2**
CHBR	**Chabahar**	**6.42**	**107**	*e*Pn		**Pn**	**08 44 42.2**	**-1.0**
CHBR	**Chabahar**	**6.42**	**107**	*e*Pn		**Pn**	**08 44 42.2**	**-1.0**
WBK	**Wadi Bani Khal**	**6.93**	**135**	P		**Pn**	**08 44 49.8**	**-0.5**
	SNR=12							
WBK	**Wadi Bani Khal**	**6.93**	**135**	⇓P		**Pn**	**08 44 49.8**	**-0.5**
	SNR=12							
ASAO	**Ashtian**	**7.57**	**336**	*e*Pn		**Pn**	**08 44 59.6**	**+0.3**
ASAO	**Ashtian**	**7.57**	**336**	*e*Pn		**Pn**	**08 44 59.6**	**+0.3**
SNGE	**Sanandaj**	**9.20**	**326**	*e*Pn		**Pn**	**08 45 21.4**	**-0.1**
SNGE	**Sanandaj**	**9.20**	**326**	*e*Pn		**Pn**	**08 45 21.4**	**-0.1**
MMAI	**Mount Meron Ar**	**16.66**	**293**	LR		LR	08 55 25.6	
	comp=Z,29nm,18.7s,baz=75,slow=45							
BRTR	**Keskin Array B**	**20.53**	**311**	P		**P**	**08 47 47.4**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=134,slow=13,SNR=9.3							
AKTO	**Aktyubinsk**	**23.01**	**7**	P		**P**	**08 48 13.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=190,slow=11,SNR=2.0							
BVAR	**Borovoye Array**	**28.24**	**22**	P		**P**	**08 49 01.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=210,slow=8.6,SNR=6.7							
MKAR	**Makanchi Array**	**29.50**	**42**	P		**P**	**08 49 12.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=234,slow=11,SNR=8.8							
AKASG	**Malin Array Be**	**29.58**	**328**	P		**P**	**08 49 11.3**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=133,slow=7.9,SNR=5.8							
KURBB	**Kurchatov Arra**	**29.72**	**33**	P		**P**	**08 49 14.4**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=231,slow=9.3,SNR=7.3							
KMBO	**Kilima Mbogo**	**32.67**	**212**	LR		LR	09 03 49.1	
	comp=Z,68nm,20.0s,baz=88,slow=38							
ZALV	**Zalesovo Beam**	**34.81**	**32**	P		**P**	**08 49 58.4**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=241,slow=8.8,SNR=10							
FINES	**FINESS Array B**	**38.52**	**339**	P		**P**	**08 50 29.2**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=141,slow=10,SNR=11							
FETA	**Feichten**	**38.67**	**312**	⇑*i*P		**P**	**08 50 33.2**	**+0.9**
	comp=Z,2.7nm,0.8s							
NOA	**NORSAR Array B**	**43.82**	**332**	P		**P**	**08 51 12.7**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=135,slow=8.8,SNR=3.2							
ARCES	**ARCESS Array B**	**45.01**	**346**	P		**P**	**08 51 22.4**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=149,slow=7.5,SNR=8.5							
SONM	**Songino Array**	**45.33**	**49**	P		**P**	**08 51 27.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=271,slow=8.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**50.47**	**264**	P		**P**	**08 52 07.8**	**+1.0**
	comp=Z,0.2

APA0				Lg	Lg	09 01 29.4		
	baz=193,slow=28							
APA0	**Apatity Array**	**2.95**	**18**	Pn	**Pn**	**09 00 40.6**	**+0.5**	
	baz=188,slow=14							
APA0				Pg	**Pb**	**09 00 46.8**	**+1.4**	
	baz=196,slow=16							
APA0				Lg	Lg	09 01 29.4		
	baz=193,slow=28							
APA0	**Apatity Array**	**2.95**	**18**	Pn	**Pn**	**09 00 40.6**	**+0.5**	
	baz=188,slow=13,SNR=50							
APA0				Lg	Lg	09 01 29.4		
	baz=193,slow=26,SNR=107							
APA0	**Apatity Array**	**2.95**	**18**	P	**Pn**	**09 00 41.0**	**+1.0**	
APA0				S	**Sn**	**09 01 17.4**	**+1.3**	
VRF	**Varrio**	**2.96**	**353**	*eP*	**Pn**	**09 00 41.1**	**+0.9**	
VRF				*eS*	**Sn**	**09 01 16.3**	**-0.1**	
VRF				MSG		09 01 27.7		
	comp=Z,2.9nm,0.1s							
VRF	**Varrio**	**2.96**	**353**	P	**Pn**	**09 00 41.0**	**+0.9**	
VRF				S	**Sn**	**09 01 16.3**	**-0.1**	
APA	**Apatity**	**2.98**	**21**	P	**Pn**	**09 00 41.5**	**+1.1**	
APA				S	**Sn**	**09 01 18.1**	**+1.4**	
SGF	**Sodankyl**	**3.11**	**330**	*eS*	**Sn**	**09 01 21.5**	**+1.5**	
SGF	**Sodankyl**	**3.11**	**330**	S	**Sn**	**09 01 21.4**	**+1.5**	
KALU	**Kalix**	**3.21**	**292**	*eP*	**Pn**	**09 00 44.9**	**+1.3**	
KALU	**Kalix**	**3.21**	**292**	P	**Pn**	**09 00 44.9**	**+1.3**	
KALU	**Kalix**	**3.21**	**292**	P	**Pn**	**09 00 44.9**	**+1.3**	
KAF	**Kangasniemi**	**3.34**	**217**	*eP*	**Pn**	**09 00 46.5**	**+1.2**	
KAF				*eS*	**Sn**	**09 01 26.9**	**+1.2**	
KAF	**Kangasniemi**	**3.34**	**217**	P	**Pn**	**09 00 46.5**	**+1.2**	
KAF				S	**Sn**	**09 01 26.8**	**+1.2**	
KEF	**Keuruu**	**3.71**	**227**	*eP*	**Pn**	**09 00 52.0**	**+1.6**	
KEF				*eS*	**Sn**	**09 01 35.0**	**+0.3**	
KEF	**Keuruu**	**3.71**	**227**	P	**Pn**	**09 00 52.0**	**+1.6**	
KEF				S	**Sn**	**09 01 35.0**	**+0.3**	
PAJU	**Pajala**	**3.78**	**309**	*eP*	**Pn**	**09 00 52.3**	**+0.8**	
PAJU	**Pajala**	**3.78**	**309**	P	**Pn**	**09 00 52.3**	**+0.8**	
PAJU	**Pajala**	**3.78**	**309**	P	**Pn**	**09 00 52.3**	**+0.8**	
SJUU	**Sjulsmark**	**3.86**	**284**	*eP*	**Pn**	**09 00 53.3**	**+0.8**	
SJUU	**Sjulsmark**	**3.86**	**284**	P	**Pn**	**09 00 53.3**	**+0.8**	
SJUU	**Sjulsmark**	**3.86**	**284**	P	**Pn**	**09 00 53.3**	**+0.8**	
ERTU	**Ertsjaerv**	**3.89**	**300**	*eP*	**Pn**	**09 00 54.4**	**+1.5**	
ERTU	**Ertsjaerv**	**3.89**	**300**	P	**Pn**	**09 00 54.4**	**+1.5**	
ERTU	**Ertsjaerv**	**3.89**	**300**	P	**Pn**	**09 00 54.4**	**+1.5**	
VAF	**Ylistaro**	**3.93**	**247**	*eP*	**Pn**	**09 00 55.9**	**+2.3**	
VAF				*eS*	**Sn**	**09 01 41.3**	**+1.0**	
VAF	**Ylistaro**	**3.93**	**247**	P	**Pn**	**09 00 55.8**	**+2.3**	
VAF				S	**Sn**	**09 01 41.2**	**+1.0**	
FIA0	**FINESS Array S**	**3.97**	**213**	Pn	**Pn**	**09 00 54.4**	**+0.3**	
	baz=32,slow=12							
FIA0				Sn	**Sn**	**09 01 40.2**	**-1.0**	
	baz=27,slow=16							
FIA0				Lg	Lg	09 01 53.6		
	baz=22,slow=28							
FIA0				Rg	Rg	09 02 17.3		
	baz=32,slow=37							
FIA0	**FINESS Array S**	**3.97**	**213**	Pn	**Pn**	**09 00 54.4**	**+0.3**	
	baz=32,slow=12							
FIA0				Sn	**Sn**	**09 01 40.2**	**-1.0**	
	baz=27,slow=16							
FIA0				Lg	Lg	09 01 53.6		
	baz=22,slow=28							
FIA0				Rg	Rg	09 02 17.3		
	baz=32,slow=37							
FIA0	**FINESS Array S**	**3.97**	**213**	*eP*	**Pn**	**09 00 55.2**	**+1.2**	
FIA0				*eS*	**Sn**	**09 01 41.4**	**+0.2**	
FIA0	**FINESS Array S**	**3.97**	**213**	Pn	**Pn**	**09 00 54.3**	**+0.3**	
	baz=32,slow=12,SNR=3.0							
FIA0	**FINESS Array S**	**3.97**	**213**	P	**Pn**	**09 00 55.2**	**+1.2**	
FIA0				Sn	**Sn**	**09 01 40.2**	**-1.0**	
	baz=27,slow=15,SNR=50							
FIA0				S	**Sn**	**09 01 41.4**	**+0.2**	
FIA0				Lg	Lg	09 01 53.6		
	SNR=97							
FINES	**FINESS Array B**	**3.97**	**213**	Pn	**Pn**	**09 00 54.3**	**+0.3**	
	comp=Z,0.3nm,0.3s,baz=37,slow=13,SNR=8.3							
FINES				Lg	Lg	09 01 55.5		
	comp=Z,2.4nm,0.3s,baz=38,slow=28,SNR=18							
BURU	**Burvik**	**3.97**	**271**	*eP*	**Pn**	**09 00 54.3**	**+0.3**	
BURU				*eS*	**Sn**	**09 01 41.5**	**+0.3**	
BURU	**Burvik**	**3.97**	**271**	P	**Pn**	**09 00 54.3**	**+0.3**	
BURU				S	**Sn**	**09 01 41.5**	**+0.3**	
BURU	**Burvik**	**3.97**	**271**	P	**Pn**	**09 00 54.3**	**+0.3**	
BURU				S	**Sn**	**09 01 41.5**	**+0.3**	
HARU	**Harads**	**4.23**	**293**	*eP*	**Pn**	**09 00 58.7**	**+1.1**	
HARU	**Harads**	**4.23**	**293**	P	**Pn**	**09 00 58.6**	**+1.1**	
HARU	**Harads**	**4.23**	**293**	P	**Pn**	**09 00 58.7**	**+1.1**	
MASU	**Masugnsbyn**	**4.38**	**311**	*eP*	**Pn**	**09 01 01.8**	**+2.1**	
MASU	**Masugnsbyn**	**4.38**	**311**	P	**Pn**	**09 01 01.8**	**+2.1**	
MASU	**Masugnsbyn**	**4.38**	**311**	P	**Pn**	**09 01 01.8**	**+2.1**	
UMAU	**Umeaa**	**4.42**	**262**	*eP*	**Pn**	**09 00 59.4**	**-0.7**	
UMAU	**Umeaa**	**4.42**	**262**	P	**Pn**	**09 00 59.4**	**-0.7**	
UMAU	**Umeaa**	**4.42**	**262**	P	**Pn**	**09 00 59.4**	**-0.7**	
HEF	**Hetta**	**4.54**	**326**	*eP*	**Pn**	**09 01 02.8**	**+0.9**	
HEF				*eS*	**Sn**	**09 01 54.9**	**-0.3**	
HEF	**Hetta**	**4.54**	**326**	P	**Pn**	**09 01 02.7**	**+0.9**	
HEF				S	**Sn**	**09 01 54.8**	**-0.3**	
LILU	**Lilltraesk**	**4.58**	**281**	*eP*	**Pn**	**09 01 02.8**	**+0.5**	
LILU	**Lilltraesk**	**4.58**	**281**	P	**Pn**	**09 01 02.8**	**+0.5**	
LILU	**Lilltraesk**	**4.58**	**281**	P	**Pn**	**09 01 02.8**	**+0.5**	
DUNU	**Dundret**	**4.71**	**304**	*eP*	**Pn**	**09 01 05.4**	**+1.3**	
DUNU	**Dundret**	**4.71**	**304**	P	**Pn**	**09 01 05.4**	**+1.3**	
DUNU	**Dundret**	**4.71**	**304**	P	**Pn**	**09 01 05.4**	**+1.3**	
SVAU	**Svanoeiden**	**4.75**	**271**	*eP*	**Pn**	**09 01 04.9**	**+0.2**	
SVAU	**Svanoeiden**	**4.75**	**271**	P	**Pn**	**09 01 04.9**	**+0.2**	
SVAU	**Svanoeiden**	**4.75**	**271**	P	**Pn**	**09 01 04.9**	**+0.2**	
ARA0	**ARCESS Array S**	**5.13**	**340**	Pn	**Pn**	**09 01 10.1**	**+0.2**	
	baz=157,slow=14							
ARA0				Sn	**Sn**	**09 02 08.9**	**-0.8**	
	baz=152,slow=28							
ARA0				Lg	Lg	09 02 29.8		
	baz=152,slow=37							
ARA0	**ARCESS Array S**	**5.13**	**340**	Pn	**Pn**	**09 01 10.1**	**+0.2**	
	baz=157,slow=14							
ARA0				Sn	**Sn**	**09 02 08.9**	**-0.8**	
	baz=152,slow=28							
ARA0				Lg	Lg	09 02 29.8		
	baz=152,slow=37							
ARA0	**ARCESS Array S**	**5.13**	**340**	Pn	**Pn**	**09 01 10.1**	**+0.2**	
	baz=157,slow=13,SNR=50							
ARA0				Sn	**Sn**	**09 02 08.9**	**-0.8**	
	baz=152,slow=25,SNR=50							
ARCES	**ARCESS Array B**	**5.13**	**340**	Pn	**Pn**	**09 01 10.1**	**+0.2**	
	comp=Z,0.7nm,0.3s,baz=155,slow=13,SNR=20							
ARCES				Sn	**Sn**	**09 02 08.9**	**-0.8**	
	comp=Z,0.5nm,0.3s,baz=157,slow=25,SNR=5.7							
ARCES				Lg	Lg	09 02 31.8		
	comp=Z,1.3nm,0.3s,baz=148,slow=33,SNR=14							
ARE0	**ARCESS Array S**	**5.13**	**340**	*eP*	**Pn**	**09 01 10.2**	**+0.3**	
ARE0				*eS*	**Sn**	**09 02 07.5**	**-2.2**	
ARE0	**ARCESS Array S**	**5.13**	**340**	P	**Pn**	**09 01 10.1**	**+0.3**	
ARE0				S	**Sn**	**09 02 07.5**	**-2.2**	
KEV	**Kevo**	**5.14**	**346**	*eP*	**Pn**	**09 01 10.3**	**+0.2**	
KEV				*eS*	**Sn**	**09 02 08.9**	**-1.1**	
KEV	**Kevo**	**5.14**	**346**	P	**Pn**	**09 01 10.3**	**+0.2**	
KEV				S	**Sn**	**09 02 08.9**	**-1.1**	
RAF	**Rauma**	**5.55**	**231**	*eP*	**Pn**	**09 01 16.4**	**+0.6**	
RAF				*eS*	**Sn**	**09 02 19.3**	**-0.9**	
RAF	**Rauma**	**5.55**	**231**	P	**Pn**	**09 01 16.3**	**+0.6**	
RAF				S	**Sn**	**09 02 19.3**	**-0.9**	
KIF	**Kilpisjarvi**	**5.69**	**322**	*eS*	**Sn**	**09 02 22.5**	**-1.1**	
KIF	**Kilpisjarvi**	**5.69**	**322**	S	**Sn**	**09 02 22.5**	**-1.1**	
HFS	**Hagfors**	**9.12**	**247**	Pn	Pn	09 02 01.6	-3.0	
	baz=50,slow=16							
HFS				Lg	Lg	09 04 36.3		
	baz=56,slow=37							
HFS	**Hagfors**	**9.12**	**247**	Pn	Pn	09 02 01.6	-3.0	
	baz=50,slow=16							
HFS				Lg	Lg	09 04 36.3		
	baz=56,slow=37							
HFS	**Hagfors**	**9.12**	**247**	Pn	**Pn**	**09 02 05.4**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=4.1							
HFS				Lg	Lg	09 04 36.8		
	comp=Z,0.4nm,0.3s,baz=52,slow=30,SNR=4.2							
NB2	**NORSAR Subarra**	**9.60**	**256**	Pn	**Pn**	**09 02 11.6**	**+0.3**	
	baz=57,slow=14							
NB2	**NORSAR Subarra**	**9.60**	**256**	Pn	**Pn**	**09 02 11.6**	**+0.3**	
	baz=57,slow=14,SNR=50							
NB2	**NORSAR Subarra**	**9.60**	**256**	Pn	**Pn**	**09 02 11.6**	**+0.3**	
	baz=57,slow=14,SNR=50							
NOA	**NORSAR Array B**	**9.60**	**256**	Pn	**Pn**	**09 02 11.9**	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=64,slow=14,SNR=4.4							
SPA0	**Spitsbergen Ar**	**14.07**	**348**	Pn	**Pn**	**09 03 09.7**	**-2.6**	
	baz=137,slow=22							

*ISCJB **01** 09:13:00.5±2.1,51.6°N±0.4×178.5°E±0.1,h40km,mb3.1/5, Error ellipse: s-maj=54.3km s-min=9.8km az=9.7*
*IDC **01** 09:13:03.5±5.0,51.66°N×178.42°E,h52km±42km,mb2.8/5, mb1 3.2/6,mb1mx3.0/48,mbtmp3.1/6,ML2.6/1,Error ellipse: s-maj=66.2km s-min=21.4km az=3.0*
ISC 01 09:13:02.8±2.2,51.7°N±0.4×178.6°E±0.1,h40km,n9, σ1§00/7,mb3.3/5,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**3.52**	**292**	P	**Pn**	**09 13 56.2**	**+1.3**
	2.0nm,0.3s,baz=61,slow=14,SNR=38						
FX1				S	**Sn**	**09 14 34.2**	**-1.1**
	7.6nm,0.3s,baz=262,slow=21,SNR=9.9						
ILAR	**Eielson Array**	**22.07**	**40**	P	**P**	**09 17 54.5**	**+0.6**
	0.2nm,0.7s,baz=248,slow=9.6,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**33.17**	**200**	T	T	09 55 10.1	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.18**	**200**	T	T	09 55 11.6	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.19**	**200**	T	T	09 55 04.8	
	baz=11						
YKA	**Yellowknife Ar**	**36.22**	**46**	P	**P**	**09 20 01.3**	**-0.1**
	0.1nm,0.3s,baz=282,slow=9.0,SNR=6.3						
PDAR	**Pinedale Array**	**47.79**	**71**	P	**P**	**09 21 35.7**	**-0.5**
	0.1nm,0.3s,baz=320,slow=2.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**57.71**	**312**	P	**P**	**09 22 48.3**	**-0.7**
	0.1nm,0.4s,baz=44,slow=6.5,SNR=3.0						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**09 23 07.1**	**+0.1**
	0.2nm,0.5s,baz=303,slow=3.7,SNR=5.3						

*IDC **01** 09:20:20.9±1.5,2.80S×36.04E,h0km,mb3.9/3,mb1 4.0/5, mb1mx3.5/36,mbtmp3.9/5,ML3.9/2,MS3.0/1,Ms1 3.0/1, ms1mx2.3/47,Error ellipse: s-maj=69.6km s-min=20.6km az=121.0*
*ISCJB **01** 09:20:21.4±0.9,2.83S±0.08×35.99E±0.08,h12km, mb3.8/3,MS2.8/1,Error ellipse: s-maj=14.7km s-min=7.3km az=136.5*
ISC 01 09:20:22.5±1.0,2.80S±0.07×36.04E±0.09,h12km,n8, σ0§86/10,mb3.9/3,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**0.67**	**85**	*i* P	**Pg**	**09 20 35.5**	**0.0**
MAUS				*i* S	**Sg**	**09 20 44.4**	**+0.1**
KMBO	**Kilima Mbogo**	**2.06**	**36**	Pn	**Pn**	**09 20 57.0**	**-0.2**
	63nm,0.3s,baz=214,slow=16,SNR=246						
KMBO				Sn	**Sb**	**09 21 24.7**	**-1.0**
	452nm,0.3s,baz=296,slow=19,SNR=24						
DODT	**Dodoma, Tanzan**	**3.38**	**185**	*i* P	**Pn**	**09 21 15.9**	**+0.6**
DODT				*i* S	**Sg**	**09 22 09.4**	**-1.8**
LSZ	**Lusaka**	**14.61**	**211**	Pn	**Pn**	**09 23 49.5**	**+0.1**
	0.1nm,0.3s,baz=31,slow=12,SNR=2.2						
MSKU	**Masuku**	**22.43**	**272**	LR	LR	09 34 06.2	
	comp=Z,35nm,19.1s,baz=130,slow=37						
BOSA	**Boshof**	**27.65**	**201**	P	**P**	**09 26 10.6**	**+0.2**
	1.9nm,0.8s,baz=23,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**63.94**	**34**	P	**P**	**09 30 55.7**	**+0.1**
	0.1nm,0.3s,baz=224,slow=6.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**65.39**	**68**	P	**P**	**09 31 06.2**	**+0.7**
	1.3nm,0.4s,baz=265,slow=6.9,SNR=4.5						

*CSEM **01** 09:24:57.9±0.3,39.67°N×30.28E,h20km,MD2.4, Error ellipse: s-maj=10.5km s-min=5.8km az=15.0*
DDA 01 09:24:57.4,39.70°N×30.22E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEYT	**Eskypehyr**	**0.52**	**110**	*i* P	Pg	09 25 07.4	-0.3
SEYT				*i* S	Sb	09 25 15.8	-1.1
SEYT	**Eskypehyr**	**0.52**	**110**	*i* P	Pg	09 25 07.4	-0.2
SEYT				*i* S	Sg	09 25 15.8	+1.2
GDZ	**Gediz**	**0.83**	**223**	*i* P	Pg	09 25 13.3	-0.4
GDZ				*i* S	Sb	09 25 26.2	+0.2
GDZ	**Gediz**	**0.83**	**223**	*i* P	Pg	09 25 13.3	-0.4
GDZ				*i* S	Sb	09 25 26.2	+0.2
ULDT	**Uludag**	**0.94**	**298**	*i* P	Pb	09 25 16.1	-0.3
ULDT				*i* S	Sn	09 25 30.6	-0.7
ULDT	**Uludag**	**0.94**	**298**	*i* P	Pb	09 25 16.1	-0.2
ULDT				*i* S	Sn	09 25 30.6	-0.6
DURS	**Dursunbey**	**1.35**	**266**	*i* P	Pn	09 25 22.3	-0.5
DURS				*i* S	Sn	09 25 41.8	+0.7
DURS	**Dursunbey**	**1.35**	**266**	*i* P	Pn	09 25 22.3	-0.5
DURS				*i* S	Sn	09 25 41.8	+0.7

*ATH **01** 09:25:17.9,36.94N×29.60E,h9km±4km,MD3.6/4*
*ISCJB **01** 09:25:20.9±0.5,36.97N±0.02×29.35E±0.03,h0km±4km, Error ellipse: s-maj=4.2km s-min=3.4km az=149.3*
*ISK **01** 09:25:20.0,36.96N×29.35E,h5km,MD3.0,ML3.1*
*DDA **01** 09:25:21.3,36.96N×29.28E,h7km,MD3.2*
*CSEM **01** 09:25:21.2±0.1,36.96N×29.36E,h2km,MD3.2,Error ellipse: s-maj=3.3km s-min=2.8km az=158.0*
ISC 01 09:25:21.6±1.1,36.97N±0.02×29.37E±0.02,h6km±9km, n72,σ0§68/95,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.31**	**29**	*i* P	**Pg**	**09 25 28.3**	**+0.7**
GOLH				*i* S	**Sb**	**09 25 34.0**	**-1.0**
GOLH	**Golhisar**	**0.31**	**29**	*i* P	**Pg**	**09 25 28.3**	**+0.7**
GOLH				*i* S	**Sb**	**09 25 34.0**	**-1.0**
FETY	**Fethiye**	**0.40**	**215**	*e*PG	**Pg**	**09 25 28.8**	**-0.6**
FETY				*e*SG	**Sg**	**09 25 35.1**	**+0.4**
FETY	**Fethiye**	**0.40**	**215**	*e*Pg	**Pg**	**09 25 28.8**	**-0.6**
ELL	**Elmali**	**0.48**	**117**	*e*PG	**Pg**	**09 25 30.7**	**-0.2**
ELL				*e*SG	**Sb**	**09 25 38.6**	**-1.3**
ELL	**Elmali**	**0.48**	**117**	*e*Pg	**Pg**	**09 25 30.7**	**-0.2**
ELL				*e*Sg	**Sb**	**09 25 38.7**	**-1.3**
DALY	**Dalyan (Mu˘la**	**0.59**	**256**	*e*PG	**Pg**	**09 25 32.3**	**-0.7**
DALY	**Dalyan (Mu˘la**	**0.59**	**256**	*e*Pg	**Pg**	**09 25 32.3**	**-0.7**
TURN	**Turunc**	**0.62**	**262**	*i* P	**Pn**	**09 25 37.7**	**+0.8**
TURN	**Turunc**	**0.62**	**262**	*i* P	**Pn**	**09 25 37.7**	**+0.8**
TURN				*i* S	**Sn**	**09 25 49.5**	**+2.2**
AKAS	**Kas**	**0.76**	**166**	*i* P	**Pg**	**09 25 36.4**	**+0.3**
AKAS	**Kas**	**0.76**	**166**	*i* P	**Pg**	**09 25 36.4**	**+0.3**
AKAS				*i* S	**Sn**	**09 25 51.3**	**+0.6**
DNZL	**Cakiroluk**	**0.77**	**340**	*i* P	**Pg**	**09 25 35.8**	**-0.5**
DNZL				*i* S	**Sg**	**09 25 46.8**	**+0.5**
DNZL	**Cakiroluk**	**0.77**	**340**	*i* P	**Pg**	**09 25 35.8**	**-0.5**
DNZL				*i* S	**Sg**	**09 25 46.8**	**+0.5**
KORT	**Korkueli**	**0.78**	**87**	*i* P	**Pg**	**09 25 36.1**	**-0.6**
KORT	**Korkueli**	**0.78**	**87**	*i* P	**Pg**	**09 25 36.1**	**-0.6**
KORT				*i* S	**Sn**	**09 25 52.2**	**+0.7**
DENT	**Denizli**	**0.83**	**341**	*e*PG	**Pg**	**09 25 37.0**	**-0.6**
DENT	**Denizli**	**0.83**	**341**	*e*Pg	**Pg**	**09 25 37.0**	**-0.6**
YER	**Yerkesik**	**0.89**	**281**	*e*PG	**Pg**	**09 25 38.0**	**-0.6**
YER	**Yerkesik**	**0.89**	**281**	*e*Pg	**Pg**	**09 25 38.0**	**-0.6**
ANTB	**Antalya**	**1.03**	**93**	*e*PG	**Pg**	**09 25 41.2**	**-0.1**
ANTB	**Antalya**	**1.03**	**93**	*e*Pg	**Pg**	**09 25 41.2**	**-0.1**
BCK	**Bucak**	**1.09**	**63**	*e*PN	**Pg**	**09 25 42.1**	**-0.4**
BCK				*e*SN	**Sn**	**09 25 58.5**	**-0.5**
BCK	**Bucak**	**1.09**	**63**	*e*Pn	**Pg**	**09 25 42.1**	**-0.4**
ARG	**Arkhangelos**	**1.25**	**234**	*e*PG	**Pg**	**09 25 43.8**	**-1.8**
ARG				*e*SB	**Sn**	**09 26 03.4**	**+0.6**
ARG	**Arkhangelos**	**1.25**	**234**	*e*Pg	**Pg**	**09 25 43.8**	**-1.8**
ARG				*e*Sb	**Sn**	**09 26 03.4**	**+0.6**
ISP	**Isparta**	**1.25**	**47**	*e*PN	**Pb**	**09 25 45.3**	**-0.4**
ISP	**Isparta**	**1.25**	**47**	*e*Pn	**Pb**	**09 25 45.3**	**-0.4**
KHL	**Karahalli**	**1.36**	**5**	*e*PN	**Pn**	**09 25 47.1**	**-0.1**
KHL	**Karahalli**	**1.36**	**5**	*e*Pn	**Pn**	**09 25 47.1**	**-0.1**
AYDN	**Tasoluk**	**1.38**	**301**	*i* P	**Pg**	**09 25 48.6**	**+0.6**
AYDN				*i* S	**Sb**	**09 26 05.7**	**+0.1**
AYDN	**Tasoluk**	**1.38**	**301**	*i* P	**Pg**	**09 25 48.6**	**+0.6**
AYDN				*i* S	**Sb**	**09 26 05.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**310**	*e*PN	**Pn**	**09 25 49.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**310**	*e*Pn	**Pn**	**09 25 49.6**	**0.0**
KULA	**Kula-Manisa**	**1.64**	**340**	*e*PN	**Pn**	**09 25 51.1**	**+0.1**
KULA	**Kula-Manisa**	**1.64**	**340**	*e*Pn	**Pn**	**09 25 51.2**	**+0.1**
BODT	**Bodrum**	**1.65**	**274**	*e*PN	**Pn**	**09 25 51.1**	**0.0**
BODT	**Bodrum**	**1.65**	**274**	*e*Pn	**Pn**	**09 25 51.2**	**0.0**
MANT	**Manisa**	**1.65**	**337**	*i* P	**Pn**	**09 25 51.6**	**+0.2**
MANT				*i* S	**Sn**	**09 26 12.8**	**-0.2**
MANT	**Manisa**	**1.65**	**337**	*i* P	**Pn**	**09 25 51.6**	**+0.2**
MANT				*i* S	**Sn**	**09 26 12.8**	**-0.2**
NIS1	**Nisyros Isl.**	**1.80**	**259**	*e*PN	**Pn**	**09 25 53.0**	**-0.1**
NIS1	**Nisyros Isl.**	**1.80**	**259**	*e*PG	**Pb**	**09 25 54.5**	**-0.4**
NIS1				*e*SN	**Sg**	**09 26 20.1**	**+0.7**
NIS1	**Nisyros Isl.**	**1.80**	**259**	*e*Pn	**Pn**	**09 25 53.0**	**-0.1**
NIS1	**Nisyros Isl.**	**1.80**	**259**	*e*Pg	**Pb**	**09 25 54.5**	**-0.4**
NIS1				*e*Sn	**Sg**	**09 26 20.1**	**+0.7**
SHUT	**Suhut-Afyon**	**1.84**	**30**	*e*PN	**Pn**	**09 25 54.2**	**+0.4**
SHUT	**Suhut-Afyon**	**1.84**	**30**	*e*Pn	**Pn**	**09 25 54.2**	**+0.4**
GCAM	**G?zelcaml?**	**1.85**	**294**	*i* P	**Pn**	**09 25 53.8**	**-0.1**
GCAM				*i* S	**Sn**	**09 26 17.2**	**-0.4**
GCAM	**G?zelcaml?**	**1.85**	**294**	*i* P	**Pn**	**09 25 53.8**	**-0.1**
GCAM				*i* S	**Sn**	**09 26 17.2**	**-0.4**
BOLV	**Bolvadin**	**2.15**	**35**	*i* P	**Pb**	**09 26 00.5**	**-0.5**
SMG	**Samos**	**2.15**	**291**	*e*PB	**Pn**	**09 25 57.9**	**-0.1**
SMG	**Samos**	**2.15**	**291**	*e*Pb	**Pn**	**09 25 57.9**	**-0.1**
ALT	**Altintas**	**2.17**	**15**	*e*PN	**Pn**	**09 25 58.9**	**+0.6**
ALT	**Altintas**	**2.17**	**15**	*e*Pn	**Pn**	**09 25 58.9**	**+0.6**
IZM	**Izmir**	**2.20**	**311**	*e*PN	**Pn**	**09 25 59.0**	**+0.3**
IZM	**Izmir**	**2.20**	**311**	*e*Pn	**Pn**	**09 25 59.0**	**+0.3**
AKS	**Akhisar**	**2.27**	**328**	*e*PN	**Pn**	**09 25 59.7**	**0.0**
AKS	**Akhisar**	**2.27**	**328**	*e*Pn	**Pn**	**09 25 59.7**	**0.0**
KARP	**Karpathos**	**2.28**	**232**	*e*PN	**Pn**	**09 26 00.5**	**+0.7**
KARP				*e*SN	**Sn**	**09 26 29.5**	**+1.3**
KARP	**Karpathos**	**2.28**	**232**	*e*Pn	**Pn**	**09 26 00.5**	**+0.7**
KARP				*e*Sn	**Sn**	**09 26 29.5**	**+1.3**
TVSB	**Tavsanli**	**2.48**	**2**	*e*PN	**Pn**	**09 26 03.0**	**+0.4**
TVSB	**Tavsanli**	**2.48**	**2**	*e*Pn	**Pn**	**09 26 03.0**	**+0.4**
KONT	**Konya--Tatoy**	**2.57**	**67**	*e*PN	**Pn**	**09 26 04.3**	**+0.5**
KONT	**Konya--Tatoy**	**2.57**	**67**	*e*Pn	**Pn**	**09 26 04.3**	**+0.5**
KIZT	**Kizilcal**	**2.75**	**45**	*e*PN	**Pn**	**09 26 07.3**	**+0.9**
KIZT	**Kizilcal**	**2.75**	**45**	*e*Pn	**Pn**	**09 26 07.3**	**+0.9**
CHOS	**Chios island**	**2.99**	**299**	*e*PN	**Pn**	**09 26 10.3**	**+0.7**
CHOS	**Chios island**	**2.99**	**299**	*e*PB	**Pn**	**09 26 10.7**	**+1.1**
CHOS	**Chios island**	**2.99**	**299**	*e*Pn	**Pn**	**09 26 10.3**	**+0.7**
CHOS	**Chios island**	**2.99**	**299**	*e*Pb	**Pn**	**09 26 10.7**	**+1.1**
APE	**Apeiranthos**	**3.08**	**273**	*e*PN	**Pn**	**09 26 11.3**	**+0.6**
APE	**Apeiranthos**	**3.08**	**273**	*e*PN	**Pn**	**09 26 11.5**	**+0.7**
APE	**Apeiranthos**	**3.08**	**273**	*e*Pn	**Pn**	**09 26 11.5**	**+0.7**

KRSC 01 09:28:32.4±1.3,52.23N×158.12E,h164km±12km,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTVR	**Mutnovka**	**0.26**	**8**	*i* P	Pn	09 28 56.0	+1.3
MTVR				S	Sn	09 29 12.8	+1.0
RUS	**Russkaya**	**0.31**	**49**	P	Pn	09 28 55.6	+1.0
RUS				S	Sn	09 29 12.0	+0.4
MIPR	**Malaya Ipel'ka**	**0.84**	**274**	P	Pn	09 28 58.3	+1.0
MIPR				S	Sn	09 29 15.9	-0.5
PET	**Petropavlovsk**	**0.86**	**22**	P	Pn	09 28 59.0	+1.6
PET				S	Sn	09 29 17.0	+0.3
APC	**Apacha**	**0.91**

baz=81,slow=334,SNR=26
ZALV Zalesovo Beam 1.59 256 Pg Pn **10 11 54.8 -0.7**
4.5nm,0.3s,baz=83,slow=17,SNR=36
ZALV Lg Lg 10 12 16.5
1.3nm,0.3s,baz=83,slow=28,SNR=6.5
KURK Kurchatov 6.49 239 ⇑Pn Pn **10 13 03.6 +0.8**
2.7nm,1.3s
KURK ⇑Sn Sn **10 14 17.0 +1.5**
0.8nm,0.7s
KURK ⇑Lg Lg 10 14 50.9
3.4nm,1.1s
KURBB Kurchatov Arra 6.59 239 ⇓Pn Pn **10 13 04.8 +0.6**
0.7nm,0.4s,baz=57,slow=15
KURBB ⇑Sn Sn **10 14 17.8 -0.3**
3.7nm,0.7s
KURBB ⇓Lg Lg 10 14 52.1
9.9nm,0.9s,baz=64,slow=33
KURBB Kurchatov Arra 6.59 239 Pn Pn **10 13 05.1 +0.9**
0.1nm,0.3s,baz=54,slow=14,SNR=8.5
KURBB Sn Sn **10 14 18.5 +0.4**
0.0nm,0.3s,baz=56,slow=24,SNR=2.7
KURBB Lg Lg 10 14 54.7
0.0nm,0.3s,baz=56,slow=30,SNR=6.3
MK31 Makanchi Array 8.24 205 ⇓Pn Pn 10 13 32.6 +5.7
1.0nm,1.1s,baz=25,slow=14,SNR=4.1
MK31 ⇓Sn Sn **10 14 59.7 +0.9**
1.1nm,0.8s
MK31 ⇑Lg Lg 10 15 41.5
4.4nm,1.1s,baz=33,slow=32,SNR=6.6
MKAR Makanchi Array 8.24 205 Pn Pn **10 13 27.1 +0.1**
0.1nm,0.3s,baz=26,slow=15,SNR=3.6
MKAR Sn Sn **10 14 57.6 -1.2**
0.0nm,0.3s,baz=26,slow=25,SNR=3.0
MKAR Lg Lg 10 15 43.7
0.0nm,0.3s,baz=25,slow=29,SNR=4.4
BVAR Borovoye Array 10.20 269 Pn Pn **10 13 56.4 +2.8**
baz=80,slow=16,SNR=2.6
BVAR Sn Sn **10 15 43.5 -3.1**
0.2nm,0.3s,baz=75,slow=23,SNR=4.7

*IDC **01** 10:14:36.9±1.6, 62°.32N×1°.85E, h0km, mb3.3/1, mb1 3.5/7, mb1mx3.3/31, mbtmp3.4/7, ML3.6/5, Error ellipse: s-maj=27.6km s-min=18.2km az=21.0*
*ISCJB **01** 10:14:37.6±0.6, 62°.29N±0°.04×2°.20E±0°.07, h10km, mb3.4/1, Error ellipse: s-maj=5.2km s-min=4.4km az=155.1*
*BGS **01** 10:14:38.5±1.2, 61°.88N×3°.49E, h10km, ML3.3*
*CSEM **01** 10:14:40.1±0.3, 62°.26N×2°.18E, h10km, ML2.5, Error ellipse: s-maj=6.4km s-min=4.3km az=141.0*
*BER **01** 10:14:42.0, 62°.28N×2°.17E, h10km, MD2.6, ML2.5, ML3.3(BGS)*
*UPP **01** 10:14:43.2, 62°.27N×2°.54E, h0km, ML2.3*
*NAO **01** 10:14:44.6±6.1, 62°.30N×3°.00E, h3km±25km, ML2.5*
ISC 01 10:14:37.6±0.9, 62°.33N±0°.05×2°.09E±0°.04, h10km, n95, σ1§80/132, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.58**	**116**	*e*P			**Pb**	**10 15 07.6**	**+0.8**
FOO				*e*Sg			**Sb**	**10 15 27.4**	**+0.7**
FOO				IAML				10 15 29.0	
	comp=Z,46nm,0.1s								
FOO	**Floro**	**1.58**	**116**	*e*P			**Pb**	**10 15 07.6**	**+0.8**
	SNR=50								
FOO				*e*Sg			**Sb**	**10 15 27.4**	**+0.7**
	SNR=93								
SUE	**Sulen**	**1.80**	**134**	*e*P			**Pb**	**10 15 10.7**	**+0.1**
SUE				*e*Sg			**Sb**	**10 15 33.4**	**+0.2**
SUE				IAML				10 15 34.5	
	comp=Z,94nm,0.3s								
SUE	**Sulen**	**1.80**	**134**	*e*P			**Pb**	**10 15 10.7**	**+0.1**
	SNR=50								
SUE				*e*Sg			**Sb**	**10 15 33.4**	**+0.2**
	SNR=93								
HYA	**Hoyanger**	**2.27**	**119**	*e*P			**Pn**	**10 15 17.4**	**+2.3**
HYA				*e*Sg			**Sb**	**10 15 46.2**	**-0.6**
HYA				IAML				10 15 51.1	
	comp=Z,38nm,0.2s								
HYA	**Hoyanger**	**2.27**	**119**	*e*P			**Pn**	**10 15 17.4**	**+2.3**
	SNR=50								
HYA				*e*Sg			**Sb**	**10 15 46.2**	**-0.6**
	SNR=92								
AKN	**Aaknes**	**2.30**	**92**	Pn			**Pn**	**10 15 18.1**	**+2.5**
AKN				Lg			Lg	10 15 44.7	
AKN	**Aaknes**	**2.30**	**92**	Pn			**Pn**	**10 15 18.1**	**+2.5**
AKN				*e*S			**Sn**	**10 15 44.8**	**+0.9**
	comp=Z,123nm,0.1s								
AKN				IAML				10 15 46.5	
	comp=Z,123nm,0.1s								
AKN	**Aaknes**	**2.30**	**92**	Pn			**Pn**	**10 15 18.1**	**+2.5**
	SNR=50								
AKN				Lg			Lg	10 15 44.7	
AKN				*e*S			**Sn**	**10 15 44.8**	**+0.9**
	comp=Z,123nm,0.1s,SNR=50								
ASK	**Askoy**	**2.38**	**140**	*e*P			**Pn**	**10 15 18.8**	**+2.2**
ASK				*i*				10 15 19.4	
ASK				IAML				10 15 49.1	
	comp=Z,30nm,0.1s								
RUND	**Rundenannen**	**2.49**	**139**	*e*P			**Pn**	**10 15 19.3**	**+1.2**
RUND				*e*S			**Sn**	**10 15 48.7**	**+0.2**
RUND				IAML				10 15 50.3	
	comp=Z,53nm,0.1s								
RUND	**Rundenannen**	**2.49**	**139**	*e*P			**Pn**	**10 15 19.3**	**+1.2**
	SNR=50								
RUND				*e*S			**Sn**	**10 15 48.7**	**+0.2**
	SNR=50								
BER	**Bergen**	**2.50**	**140**	*e*P			**Pn**	**10 15 20.6**	**+2.4**
BER	**Bergen**	**2.50**	**140**	*e*P			**Pn**	**10 15 20.6**	**+2.4**
	SNR=50								
MOL	**Molde**	**2.55**	**82**	*e*P			**Pn**	**10 15 20.6**	**+1.6**
MOL				*e*S			**Sn**	**10 15 48.4**	**-1.6**
MOL				IAML				10 15 51.2	
	comp=Z,40nm,0.1s								
MOL	**Molde**	**2.55**	**82**	*e*P			**Pn**	**10 15 20.6**	**+1.6**
	SNR=50								
LRW	**Lerwick**	**2.71**	**217**	*e*P			**Pn**	**10 15 23.0**	**+1.9**
LRW				*e*S			**Sn**	**10 15 54.0**	**+0.2**
LRW				AML		AML		10 15 56.2	
	comp=N,28nm,0.6s								
LRW				AML		AML		10 15 57.0	
	comp=E,37nm,0.4s								
LRW	**Lerwick**	**2.71**	**217**	*e*P			**Pn**	**10 15 23.0**	**+1.9**
LRW				*e*S			**Sn**	**10 15 54.0**	**+0.2**
LRW				AML		AML		10 15 56.2	
	comp=N,28nm,0.6s								
LRW				AML		AML		10 15 57.0	
	comp=E,37nm,0.4s								
LRW				IAML				10 15 59.5	
	comp=Z,22nm,0.2s								
LRW	**Lerwick**	**2.71**	**217**	*e*P			**Pn**	**10 15 23.0**	**+1.9**
	SNR=50								
LRW				*e*S			**Sn**	**10 15 54.0**	**+0.2**
	comp=Z,37nm,0.4s								
ODD1	**Odda**	**3.28**	**136**	*e*P			**Pn**	**10 15 31.4**	**+2.4**
ODD1				*e*S			**Sn**	**10 16 08.3**	**+0.3**
ODD1				IAML				10 16 09.7	
	comp=Z,52nm,0.3s								
ODD1	**Odda**	**3.28**	**136**	*e*P			**Pn**	**10 15 31.4**	**+2.4**
	SNR=50								
ODD1				*e*S			**Sn**	**10 16 08.3**	**+0.3**
	SNR=50								
DOMB	**Dombas**	**3.28**	**92**	*e*P			**Pn**	**10 15 31.7**	**+2.6**
DOMB	**Dombas**	**3.28**	**92**	*e*P			**Pn**	**10 15 31.7**	**+2.6**
	SNR=50								
KMY	**Karmoy**	**3.49**	**152**	*e*P			**Pn**	**10 15 33.6**	**+1.8**
KMY				*e*S			**Sn**	**10 16 12.2**	**-0.9**
KMY				IAML				10 16 15.8	
	comp=Z,26nm,0.3s								
KMY	**Karmoy**	**3.49**	**152**	*e*P			**Pn**	**10 15 33.6**	**+1.8**
	SNR=50								
KMY				*e*S			**Sn**	**10 16 12.2**	**-0.9**
	SNR=50								
BLS5	**Blasjo**	**3.61**	**142**	*e*P			**Pn**	**10 15 35.9**	**+2.3**
BLS5				*e*S			**Sn**	**10 16 16.1**	**-0.2**
BLS5				IAML				10 16 17.0	
	comp=Z,24nm,0.1s								
BLS5	**Blasjo**	**3.61**	**142**	*e*P			**Pn**	**10 15 35.9**	**+2.3**
	SNR=50								
BLS5				*e*S			**Sn**	**10 16 16.1**	**-0.2**
	SNR=50								
NB2	**NORSAR Subarra**	**4.54**	**102**	Pn			**Pn**	**10 15 47.6**	**+1.4**
	baz=292,slow=12								
NB2				Sn			**Sn**	**10 16 39.6**	**+0.6**
	baz=286,slow=28								
NB2				Lg			Lg	10 16 55.7	
	baz=301,slow=37								
NB2	**NORSAR Subarra**	**4.54**	**102**	Pn			**Pn**	**10 15 47.7**	**+1.4**
	SNR=107								
NB2				Sn			**Sn**	**10 16 39.6**	**+0.6**
	SNR=2.9								
NB2				Lg			Lg	10 16 55.7	
	SNR=3.3								
NOA	**NORSAR Array B**	**4.54**	**102**	Pn			**Pn**	**10 15 47.6**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=292,slow=12,SNR=31								
NOA				Sn			**Sn**	**10 16 39.8**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=292,slow=20,SNR=4.8								
NOA				Lg			Lg	10 16 58.6	
	comp=Z,3.9nm,0.3s,baz=300,slow=20,SNR=5.3								
KONO	**Kongsberg**	**4.54**	**123**	*e*P			**Pn**	**10 15 48.3**	**+2.1**
KONO				*e*S			**Sn**	**10 16 37.9**	**-1.2**
KONO	**Kongsberg**	**4.54**	**123**	*e*P			**Pn**	**10 15 48.3**	**+2.1**
	SNR=49								
KONO				*e*S			**Sn**	**10 16 37.8**	**-1.2**
	SNR=49								
SNART	**Snartemo**	**4.74**	**145**	*e*P			**Pn**	**10 15 51.0**	**+2.0**
SNART				*e*S			**Sn**	**10 16 43.1**	**-0.8**
SNART				IAML				10 16 48.2	
	comp=Z,15nm,0.5s								
SNART	**Snartemo**	**4.74**	**145**	*e*P			**Pn**	**10 15 51.0**	**+2.0**
	SNR=49								
SNART				*e*S			**Sn**	**10 16 43.2**	**-0.8**
	SNR=49								
NC602	**NORSAR Array S**	**4.80**	**105**	*e*P			**Pn**	**10 15 51.5**	**+1.7**
NC602	**NORSAR Array S**	**4.80**	**105**	*e*P			**Pn**	**10 15 51.5**	**+1.7**
	SNR=49								
HOMB	**Homborsund**	**5.17**	**139**	*e*P			**Pn**	**10 15 57.2**	**+2.3**
HOMB				IAML				10 16 59.9	
	comp=Z,7.7nm,0.5s								
HOMB	**Homborsund**	**5.17**	**139**	*e*P			**Pn**	**10 15 57.2**	**+2.3**
	SNR=49								
MVH1	**Achvaich**	**5.41**	**218**	*e*P			**Pn**	**10 15 59.5**	**+1.2**
MVH1	**Achvaich**	**5.41**	**218**	*e*P			**Pn**	**10 15 59.5**	**+1.2**
MVH1	**Achvaich**	**5.41**	**218**	*e*P			**Pn**	**10 15 59.5**	**+1.2**
MVH1	**Achvaich**	**5.41**	**218**	*e*P			**Pn**	**10 15 59.5**	**+1.2**
	SNR=49								
MCD	**Coleburn Disti**	**5.46**	**212**	*e*S			**Sn**	**10 16 58.4**	**-3.3**
MCD				AML		AML		10 17 02.5	
	comp=Z,10nm,0.4s								
MCD				AML		AML		10 17 03.9	
	comp=N,16nm,0.3s

comp=E,0.2nm,0.1s
MK31 Makanchi Array 5.29 25 Pn **Pn 10 18 58.4 +2.4**
comp=E,63nm,0.5s,baz=204,slow=13,SNR=1791
MK31 ⇓Sn **Sn 10 19 59.3 +2.6**
comp=E,127nm,0.6s,baz=146,slow=40,SNR=4.7
MK31 ⇓Lg Lg 10 20 20.9
comp=E,147nm,0.7s,baz=208,slow=25,SNR=3.5
MKAR Makanchi Array 5.29 25 Pn **Pn 10 18 58.5 +2.5**
comp=E,38nm,0.3s,baz=206,slow=14,SNR=516
MKAR Sn **Sn 10 19 59.7 +3.0**
comp=E,27nm,0.3s,baz=204,slow=23,SNR=9.7
MKAR Lg Lg 10 20 23.9
comp=E,26nm,0.3s,baz=207,slow=28,SNR=6.6
MKAR LR LR 10 20 27.2
comp=E,53nm,21.7s,baz=214,slow=32
KK31 Karatay Array 6.34 282 ⇑Pn **Pn 10 19 11.1 +0.6**
comp=E,4.7nm,0.8s,baz=92,slow=13,SNR=32
KK31 ⇑Pg **Pb 10 19 27.9 +0.3**
comp=E,45nm,0.5s,baz=85,slow=14,SNR=130
KK31 ⇑Lg Lg 10 20 53.9
comp=E,38nm,0.4s
KKAR Karatay Array 6.34 282 *e*PN **Pn 10 19 11.5 +1.0**
KKAR Karatay Array 6.34 282 *e*Pn **Pn 10 19 11.5 +1.0**
WMQ Urumqi 6.63 72 *e*Pn **Pn 10 19 16.4 +2.0**
WMQ Sn Sn 10 20 35.0 +5.2
WMQ SMN
comp=E,150nm,1.1s
WMQ SME
comp=E,290nm,0.8s
WMQ LN
comp=E,1μm,4.0s
WMQ LE
comp=E,760nm,5.1s
WMQ LZ
comp=E,600nm,10.0s
KURBB Kurchatov Arra 8.57 358 ⇑Pn **Pn 10 19 43.6 +2.6**
comp=E,4.2nm,0.5s
KURBB ⇓Lg Lg 10 22 03.8
comp=E,700nm,1.1s
KURBB Kurchatov Arra 8.57 358 Pn **Pn 10 19 41.5 +0.6**
comp=E,0.4nm,0.3s,baz=186,slow=12,SNR=19
KURBB Sn **Sn 10 21 17.9 +0.7**
comp=E,1.0nm,0.3s,baz=182,slow=18,SNR=5.0
KURBB Lg Lg 10 22 06.8
comp=E,2.1nm,0.3s,baz=179,slow=30,SNR=14
KURK Kurchatov 8.66 358 ⇑Pn **Pn 10 19 43.5 +1.4**
comp=E,4.4nm,0.8s
KURK ⇓Lg Lg 10 22 07.2
comp=E,195nm,1.0s
KURK Kurchatov 8.66 358 *e*P **Pn 10 19 44.3 +2.2**
KURK 10 21 18.0
KURK Kurchatov 8.66 358 *e*Pn **Pn 10 19 44.3 +2.2**
KURK Sn **Sn 10 21 17.9 -1.6**
KURK Lg Lg 10 22 06.8
CEP Cherat 9.94 216 P **Pn 10 20 02.2 +2.2**
SMLA Simla 11.01 188 *i* P **Pn 10 20 15.1 +0.6**
SMLA *i* S Sn 10 22 10.5 -6.9
KKR Kurukshetra 12.21 189 *e*P Pn 10 20 27.0 -3.9
KKR AMB AMB 10 20 30.5
comp=E,70nm,0.5s
BVA0 Borovoye Array 12.40 335 ⇑Pn **Pn 10 20 32.8 -0.6**
comp=E,16nm,1.1s,baz=143,slow=13,SNR=41
BVA0 ⇑Sn **Sn 10 22 49.5 -1.7**
comp=E,20nm,0.8s,baz=147,slow=22,SNR=9.3
BVA0 ⇑Lg Lg 10 24 05.4
comp=E,78nm,1.1s,baz=156,slow=31,SNR=3.5
BVAR Borovoye Array 12.40 335 Pn **Pn 10 20 33.0 -0.4**
comp=E,2.0nm,0.3s,baz=152,slow=13,SNR=27
BVAR Sn **Sn 10 22 46.2 -5.0**
comp=E,2.3nm,0.3s,baz=146,slow=24,SNR=9.1
BVAR Lg Lg 10 24 00.6
comp=E,0.9nm,0.3s,baz=140,slow=30,SNR=3.1
BVAR LR LR 10 25 21.3
comp=Z,164nm,18.6s,baz=147,slow=37
ZALV Zalesovo Beam 12.51 16 Pn **Pn 10 20 36.0 +1.1**
comp=Z,1.6nm,0.3s,baz=203,slow=13,SNR=36
ZALV Sn **Sn 10 22 51.9 -2.0**
comp=Z,1.5nm,0.3s,baz=206,slow=19,SNR=4.0
ZALV Lg Lg 10 24 14.6
comp=Z,5.0nm,0.3s,baz=216,slow=28,SNR=32
ZALV LR LR 10 25 32.6
comp=Z,132nm,19.4s,baz=240,slow=38
KALG Kalgarh 12.53 181 *e*P Pn 10 20 30.9 -4.4
KALG AMB AMB 10 20 43.3
comp=Z,38nm,0.2s
KALG *e*S Sn 10 22 39.8 -15
NVS Novosibirsk 13.09 11 *e*P Pn 10 20 46.9 +4.2
NVS *e*S **Sn 10 23 02.3 -5.7**
NDI New Delhi 13.43 187 *e*P Pn 10 20 43.0 -4.6
HVS Khovu-Aksy 13.57 43 ⇑*e*P **Pn 10 20 51.3 +1.9**
AYAN Aya Nagar 13.64 187 *e*P **Pn 10 20 47.9 -2.5**
AYAN AMB AMB 10 20 49.9
comp=Z,22nm,0.7s
AYAN *ex* x 10 23 07.8
SONA Sohna 13.87 187 *e*P **Pn 10 20 51.0 -2.6**
SONA AMB AMB 10 20 52.8
comp=Z,8.9nm,0.9s
SONA *ex* x 10 23 23.1
KHET Khetri 14.20 192 *e*P Pn 10 20 54.6 -3.5
KHET AMB AMB 10 20 56.3
comp=Z,13nm,1.0s
KHET *ex* x 10 23 25.1
DANN Dangsing 14.22 163 *e*P Pn 10 20 54.9 -3.8
comp=Z,16nm,0.4s
PYUN Piuthan 14.31 166 *e*P Pn 10 20 55.2 -4.6
comp=Z,59nm,0.3s
KOLN Koldanda 14.75 164 *e*P Pn 10 21 01.3 -4.5
comp=Z,11nm,0.4s
GKN Gorkha 14.77 160 *e*P **Pn 10 21 03.1 -2.9**
comp=Z,28nm,0.6s
AGRA Agra 14.82 184 *e*P Pn 10 21 03.1 -3.5
AGRA AMB AMB 10 21 03.9
comp=Z,23nm,0.1s
AGRA *e*S **Sn 10 23 47.5 -3.2**
AB31 Akbulak array 15.11 305 Pn **Pn 10 21 08.8 -1.5**
comp=Z,5.7nm,0.5s,baz=109,slow=12,SNR=174
KKN Kakani 15.14 158 *e*P **Pn 10 21 08.1 -3.0**
comp=Z,19nm,0.6s
GUN Gumba 15.20 156 *e*P **Pn 10 21 09.4 -2.6**
comp=Z,96nm,1.1s
PKIN Phulchoki 15.37 158 *e*P **Pn 10 21 11.1 -3.1**
comp=Z,14nm,0.5s
PKI Pulchoki 15.38 158 *e*P **Pn 10 21 11.4 -3.0**
comp=Z,27nm,0.6s
JIRN Jiri 15.53 155 *e*P **Pn 10 21 14.1 -2.2**
comp=Z,26nm,0.5s
AJM Ajmer 15.95 194 *ex* **Pn 10 21 19.0 -2.5**
GTA Gaotai 16.00 93 *e*P **Pn 10 21 22.6 +0.4**
GTA pP **P 10 21 26.9 +1.2**
GTA sP **sP 10 21 29.8 -1.6**
GTA S **Sn 10 24 22.7 +3.2**
GTA sS **S 10 24 29.1 -4.2**
GTA SS SnSn 10 24 41.7 +9.4
GTA PMZ
comp=Z,5.0nm,1.5s
GTA PMZ
comp=Z,55nm,4.4s
GTA LN
comp=Z,160nm,14.7s
GTA LE
comp=Z,140nm,14.0s
RAMN Ramite 16.32 155 *e*P **Pn 10 21 22.5 -3.9**
TAPN Taplejung 16.32 151 *e*P **Pn 10 21 24.4 -2.1**
GEYT Alibeck 16.51 262 Pn **Pn 10 21 25.6 -3.0**
comp=Z,0.6nm,0.3s,baz=88,slow=9.1,SNR=4.3
GEYT Lg Lg 10 26 28.2
comp=Z,1.4nm,0.3s,baz=15,slow=27,SNR=4.0
GEYT LR LR 10 27 51.1
comp=Z,36nm,20.7s,baz=80,slow=37
ODAN Odare 16.66 153 *e*P **Pn 10 21 26.8 -3.9**
AKTO Aktyubinsk 16.70 307 ⇑Pn **Pn 10 21 30.3 -0.6**
comp=Z,16nm,1.0s
AKTO Aktyubinsk 16.70 307 Pn **Pn 10 21 29.8 -1.1**
comp=Z,0.5nm,0.3s,baz=113,slow=14,SNR=12
AKTO Lg Lg 10 26 25.3
comp=Z,0.2nm,0.3s,baz=30,slow=20,SNR=4.1
AKTO LR LR 10 28 24.1
comp=Z,126nm,18.8s,baz=119,slow=39
ZAK Zakamensk 18.69 55 *e*P **Pn 10 21 54.7 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 19.32 52 LR LR 10 29 16.9
comp=Z,38nm,20.1s,baz=2.0,slow=36
ARU Arti 19.50 324 *c i* P **P 10 22 04.1 +0.2**
ARU S **S 10 25 42.8 -0.8**
ARU pmax pmax
comp=Z,35nm,1.7s
ARU Arti 19.50 324 *e*P **P 10 22 04.3 +0.5**
comp=Z,16nm,0.6s
SHL Shillong 19.60 143 *ex* **Pn 10 22 06.0 -0.7**
SONM Songino Array 20.18 64 P Pn 10 22 12.3 -1.2
comp=Z,3.4nm,0.6s,baz=264,slow=10,SNR=21
SONM LR LR 10 30 35.1
comp=Z,110nm,20.3s,baz=258,slow=39
ULN Ulaanbaatar 20.62 64 *e*P Pn 10 22 17.8 -0.9
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN MLR MLR
comp=Z,100nm,18.0s
ULN Ulaanbaatar 20.62 64 *e*P Pn 10 22 17.8 -1.0
comp=Z,4.8nm,0.9s
ULN LR LR
comp=Z,100nm,18.0s
SOKR Solikamsk 22.28 330 *e*P **P 10 22 34.5 +0.7**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,80nm,15.0s
HHC Hu-ho-hao-te 24.37 82 *e*P **P 10 22 53.9 -1.2**
HHC sP **sP 10 23 02.3 +1.2**
HHC PP PnPn 10 23 32.6 +7.3
HHC S **S 10 27 10.8 -3.3**
HHC sS **sS 10 27 20.8 -0.3**
HHC SS **SnSn 10 28 05.1 +7.7**
HHC PMZ
comp=Z,16nm,0.9s
HHC PMZ
comp=Z,56nm,4.3s
HHC LN
comp=Z,140nm,13.6s
HHC LE
comp=Z,130nm,14.7s
HHC LZ
comp=Z,52nm,11.3s
GNI Garni 25.78 277 ⇓*e*P **P 10 23 11.0 +3.0**
GNI pmax pmax
comp=Z,6.0nm,0.7s
GNI Garni 25.78 277 P **P 10 23 08.5 +0.5**
comp=Z,2.9nm,0.3s,baz=147,slow=20,SNR=2.0
GNI LR LR 10 34 49.6
comp=Z,33nm,21.4s,baz=356,slow=40
ZEI Tsey 25.80 284 *e*P **P 10 23 09.7 +1.5**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 26.36 286 P **P 10 23 14.3 +1.3**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 26.36 286 P **P 10 23 14.3 +1.3**
comp=Z,2.1nm,0.9s,baz=103,slow=10,SNR=5.7
KIV Kislovodsk 26.48 286 *e*P **P 10 23 17.1 +2.9**
KIV pmax pmax
comp=Z,8.0nm,1.0s
VRHR Novokhopersk 26.97 302 *e*P **P 10 23 18.5 +0.1**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.8s
BOD Bodaibo 27.10 42 *e*P **P 10 23 22.1 +2.6**
BOD pmax pmax
comp=Z,3.0nm,1.7s
VORD Divnogorie 28.43 302 *e*P **P 10 23 31.2 -0.3**
VORD pmax pmax
comp=Z,10.0nm,1.6s
VORD pmax pmax
comp=N,10.0nm,2.2s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 28.52 302 ⇓*e*P **P 10 23 33.0 +0.7**
VSR pmax pmax
comp=Z,19nm,0.7s
CHTO Chiang Mai 28.72 138 PFAKE
CHTO LR LR 10 23 50.0 +16
comp=Z,100nm,19.0s
CMAR Chiang Mai Arr 29.02 138 P **P 10 23 37.3 +0.3**
comp=Z,1.3nm,0.3s,baz=316,slow=9.7,SNR=8.1
CMAR LR LR 10 37 14.0
comp=Z,29nm,19.1s,baz=100,slow=41
OBN Obninsk 30.44 310 ⇓*e*P **P 10 23 49.8 +0.6**
OBN *e* 10 24 51.2
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,76nm,19.0s
WHN Wuhan 30.52 101 P **P 10 23 51.3 +1.1**
BRTR Keskin Array B 34.06 282 P **P 10 24 22.2 +0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 34.06 282 P **P 10 24 22.2 +0.9**
comp=Z,4.6nm,0.7s,baz=93,slow=8.3,SNR=26
PALK Pallekele 34.68 177 PFAKE
PALK LR LR 10 24 40.0 +13
comp=Z,100nm,19.2s
AKASG Malin Array Be 34.81 302 P **P 10 24 26.7 -0.9**
comp=Z,0.4nm,0.2s,baz=70,slow=9.0,SNR=5.2
KIEV Kiev 34.83 302 *ce* **P 10 24 28.6 +1.0**
KIEV Kiev 34.83 302 *e*P **P 10 24 27.8 +0.2**
comp=Z,7.7nm,0.7s
FINES FINESS Array B 36.76 320 P **P 10 24 44.5 +0.4**
comp=Z,1.0nm,0.5s,baz=105,slow=8.8,SNR=12
FINES LR LR 10 40 34.6
comp=Z,55nm,20.0s,baz=344,slow=38
KSAR Wonju Array Be 37.47 80 P **P 10 24 52.2 +1.8**
KSAR Wonju Array Be 37.47 80 P **P 10 24 52.2 +1.8**
KSRS Korea Array 37.49 80 P **P 10 24 52.2 +1.6**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS Korea Array 37.49 80 P **P 10 24 52.2 +1.6**
comp=Z,0.8nm,0.6s,baz=291,slow=8.7,SNR=3.7
MLR Muntele Rosu 37.88 294 P **P 10 24 54.8 +0.9**
MLR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 37.88 294 P **P 10 24 54.8 +0.9**
comp=Z,0.8nm,0.8s,baz=168,slow=8.5,SNR=5.5
TIXI Tiksi 38.27 23 ⇑*e*P **P 10 24 57.0 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 38.27 23 *e*P **P 10 24 56.9 +0.2**
comp=Z,2.8nm,0.8s
ARCES ARCESS Array B 38.68 333 P **P 10 25 00.3 +0.1**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 38.68 333 P **P 10 25 00.3 +0.1**
comp=Z,2.5nm,0.7s,baz=98,slow=7.5,SNR=6.9
STHS Stebnicka Huta 40.09 301 *e*P **P 10 25 09.9 -2.4**
IPM Ipoh 42.27 146 PFAKE
IPM LR LR 10 25 40.0 +9.4
comp=Z,100nm,18.0s
DPC Dobruska-Polom 42.98 303 *e*P **P 10 25 36.6 +0.6**
DPC *e* 10 25 41.6
DPC Dobruska-Polom 42.98 303 *e*P **P 10 25 36.6 +0.6**
DPC *ex* x 10 25 41.6
DPC Dobruska-Polom 42.98 303 *e*P **P 10 25 36.6 +0.6**
comp=Z,40nm,1.0s
UPC Upice 43.14 304 *e*P **P 10 25 37.6 +0.4**
UPC Upice 43.14 304 *e*P **P 10 25 37.6 +0.4**
NB2 NORSAR Subarra 43.93 320 P **P 10 25 43.8 +0.3**
comp=Z,1.4nm,0.6s,baz=85,slow=8.6
NOA NORSAR Array B 43.93 320 P **P 10 25 43.6 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,48nm,21.5s
NOA NORSAR Array B 43.93 320 P **P 10 25 43.6 +0.1**
comp=Z,1.6nm,0.7s,baz=84,slow=8.1,SNR=9.3
NOA LR LR 10 44 36.4
comp=Z,48nm,21.5s,baz=90,slow=37
BRG Berggiesshubel 44.32 305 *e*P **P 10 25 48.6 +1.9**
BRG pmax pmax
comp=Z,13nm,1.7s
CLL Collm 44.78 306 *e*P **P 10 25 50.0 -0.4**
GERES GERESS Array B 45.03 302 P **P 10 25 53.3 +0.7**
comp=Z,0.5nm,0.5s,baz=61,slow=8.1,SNR=6.5
GERES LR LR 10 48 21.5
comp=Z,42nm,19.7s,baz=106,slow=41
GRF Grafenberg Arr 46.33 304 *e*P P 10 26 08.8 +6.1
comp=Z,6.0nm,1.0s
DAVOX Davos/Dischmat 48.14 300 P **P 10 26 16.0 -1.0**
DAVOX pmax pmax
comp=Z,1.0nm,0.4s
DAVOX Davos/Dischmat 48.14 300 P **P 10 26 16.0 -1.0**
comp=Z,1.2nm,0.4s,baz=63,slow=2.3,SNR=2.8
ORIF Oris-en-Rattie 51.43 300 *e*P **P 10 26 40.1 -1.9**
ORIF pmax pmax
comp=Z,32nm,1.2s
ORIF Oris-en-Rattie 51.43 300 *e*P **P 10 26 40.1 -1.9**
comp=Z,32nm,1.2s
AVF Avril sur Loir 52.27 303 *e*P **P 10 26 48.1 0.0**
AVF pmax pmax
comp=Z,22nm,1.0s
AVF Avril sur Loir 52.27 303 *e*P **P 10 26 48.1 0.0**
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 57.15 232 *i* P P 10 27 28.0 +3.9
KMBO pmax pmax
comp=Z,5.0nm,0.2s
ESDC Sonseca Array 60.33 298 P **P 10 27 47.8 +1.9**
comp=Z,0.6nm,0.5s,baz=53,slow=7.3,SNR=5.4
INK Inuvik 67.28 13 P **P 10 28 31.6 +0.6**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 67.28 13 P **P 10 28 31.6 +0.6**
comp=Z,1.9nm,0.6s,baz=341,slow=6.4,SNR=15
ILAR Eielson Array 67.61 19 P **P 10 28 33.3 +0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 67.61 19 P **P 10 28 33.2 +0.1**
comp=Z,1.0nm,0.7s,baz=317,slow=5.2,SNR=16
TORD Torodi Ar. Bea 71.92 272 P **P 10 28 59.4 -1.1**
comp=Z,4.4nm,0.7s,baz=43,slow=5.5,SNR=30
YKA Yellowknife Ar 75.22 6 P **P 10 29 19.2 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 75.22 6 P **P 10 29 19.2 +0.1**
comp=Z,2.1nm,0.7s,baz=344,slow=5.8,SNR=46
WRA Warramunga Arr 80.10 128 P **P 10 29 46.8 -0.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 80.10 128 P **P 10 29 46.8 -0.1**
comp=Z,1.3nm,0.6s,baz=327,slow=5.4,SNR=15
ASAR Alice Springs 82.76 131 P **P 10 30 00.4 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 82.76 131 P **P 10 30 00.4 -0.6**
comp=Z,0.6nm,0.7s,baz=324,slow=4.8,SNR=15
ULM Lac du Bonnet 87.96 357 P **P 10 30 25.7 -1.0**
ULM pmax pmax
comp=Z,2.0nm,0.9s
ULM Lac du Bonnet 87.96 357 P **P 10 30 25.6 -1.0**
comp=Z,2.1nm,0.9s,baz=23,slow=7.7,SNR=4.6
PDAR Pinedale Array 95.20 6 P **P 10 31 00.7 -0.1**
comp=Z,0.5nm,0.6s,baz=41,slow=1.9,SNR=5.1

*IDC **01** 10:31:59.2±0.9, 5.73N×125.45E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, MS3.1/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=50.0km s-min=18.5km az=70.0*
*ISCJB **01** 10:32:05.4±0.5, 5.69N±0.03×125.47E±0.06, h63km±6km, mb3.6/7, Error ellipse: s-maj=9.2km s-min=4.8km az=1.7*
*MAN **01** 10:32:06, 6.17N×126.32E, h18km, mb4.8, ML3.8, MS3.8*
*DJA **01** 10:32:09.5±0.6, 6°N±4°×12°5E±°, h67km±14km, M4.6/7, mb4.5/6, mB5.4/3, MLv4.7/7, Mw(mB)4.8/3*
ISC 01 10:32:06.3±1.0, **5.73N**±0.04×**125.47E**±0.07, **h52**km±11km, **n21**, σ1°54/28, **mb3.6**/7, **1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.63**	**305**	⇓*i*	*e*	P	**Pn**	**10 32 19.0**	**-0.5**
GSPH				*i*	S		**Sn**	**10 32 28.5**	**-0.5**
MATI	**Mati**	**1.44**	**33**	*e*	P		**Pn**	**10 32 29.5**	**-0.6**
MATI				*e*	S		**Sn**	**10 32 47.2**	**-0.8**
CTBH	**Cotabato--PC H**	**1.92**	**321**	⇑*i*	*p*	P	**Pn**	**10 32 38.8**	**+2.2**
SGSI	**Sangihe**	**2.03**	**178**		P		**Pn**	**10 32 39.1**	**+1.0**
SGSI					S		**Sn**	**10 33 02.2**	**-0.1**
BUKP	**Musuan**	**2.18**	**349**	*e*	P		**Pn**	**10 32 42.8**	**+2.5**
BUKP				*e*	S		**Sn**	**10 33 02.1**	**-3.9**
BIPH	**Bislig**	**2.60**	**20**	⇓*e*	P		**Pn**	**10 32 47.1**	**+1.2**
BIPH				*i*	S		**Sn**	**10 33 17.5**	**+1.2**
PAGZ	**Pagadian**	**2.96**	**316**	*e*	P		**Pn**	**10 32 53.2**	**+2.3**
PAGZ				*e*	S		**Sn**	**10 33 25.9**	**+0.7**
GTOI	**Gorontalo** 66nm,0.5s,2μm0.8nm	**5.62**	**206**	P			**Pn**	**10 33 27.2**	**-0.2**
MRSI	**Marisa** 26nm,0.8s,3μm0.8nm	**6.29**	**214**	P			**Pn**	**10 33 37.7**	**+1.1**
MRSI				S			**Sn**	**10 34 44.6**	**-2.6**
LBMI	**Labuha**	**6.64**	**162**	S			**Sn**	**10 34 56.9**	**+1.2**
LUWI	**Luwuk** 48nm,0.6s,6μm0.6nm	**7.24**	**202**	P			**Pn**	**10 33 50.2**	**+0.6**
LUWI				S			**Sn**	**10 35 09.2**	**-1.4**
APSI	**Ampana** 26nm,0.6s,0.2nm	**7.62**	**210**	P			**Pn**	**10 33 57.1**	**+2.3**
SANI	**Sanana** 20nm,0.9s,0.1nm	**7.74**	**176**	P			**Pn**	**10 33 55.6**	**-0.9**
PMG	**Port Moresby** comp=Z,20nm,21.3s,baz=104,slow=40	**26.33**	**125**	LR			LR	10 49 21.1	
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=330,slow=11,SNR=10	**26.96**	**161**	P			**P**	**10 37 43.5**	**+0.3**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=340,slow=7.1,SNR=14	**30.35**	**165**	P			**P**	**10 38 12.8**	**-0.5**
KSRS	**Korea Array** 1.0nm,0.6s,baz=191,slow=10,SNR=3.8	**31.66**	**4**	P			**P**	**10 38 25.3**	**+0.6**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=119,slow=7.0,SNR=7.4	**95.21**	**325**	P			**P**	**10 41 33.9**	**-0.1**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=125,slow=7.8,SNR=2.7	**59.39**	**327**	P			**P**	**10 42 03.4**	**0.0**
GEYT	**Alibeck** 1.1nm,0.4s,baz=72,slow=4.7,SNR=2.5	**68.68**	**308**	P			**P**	**10 43 04.4**	**-0.2**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=248,slow=4.8,SNR=6.3	**83.85**	**26**	P			**P**	**10 44 29.4**	**-0.7**
ILAR						LR	LR	11 26 47.5	
	comp=Z,27nm,19.4s,baz=244,slow=39								

*ISCJB **01** 10:37:18.5±0.4, 6.90S±0.05×125.09E±0.06, h543km, mb3.4/5, Error ellipse: s-maj=8.3km s-min=6.9km az=173.7*
*IDC **01** 10:37:18.9±1.3, 6.97S×125.08E, h540km±15km, mb3.1/5, mb1 3.4/8, mb1mx3.2/22, mbtmp4.1/8, Error ellipse: s-maj=46.0km s-min=11.9km az=69.0*
*DJA **01** 10:37:19.1±0.6, 7°S±4°×12°5E±°, h534km±12km, M4.1/18, mb4.1/14, mB4.5/6, MLv4.4/18, Mw(mB)3.7/6*
ISC 01 10:37:18.9±0.7, **6.97S**±0.08×**125.09E**±0.10, **h543**km, **n24**, σ0°80/29, **mb3.5**/5, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.88**	**196**	P		P	**P**	**10 38 33.0**	**+0.2**
MMRI	**Maumere**	**3.27**	**240**	P		P	**P**	**10 38 34.9**	**-0.3**
BATI	**Baumata**	**3.51**	**204**	P		P	**P**	**10 38 37.4**	**+0.6**
BATI	**Baumata** 46nm,0.3s,baz=50,slow=1.5,SNR=33	**3.51**	**204**	P		P	**P**	**10 38 37.5**	**+0.7**
BATI				S			**S**	**10 39 39.5**	**-0.7**
EDFI	**Ende, Flores** 19nm,0.3s,baz=291,slow=14,SNR=8.3	**3.80**	**242**	P		P	**P**	**10 38 39.0**	**0.0**
NLAI	**Namlea**	**4.21**	**28**	P		P	**P**	**10 38 40.8**	**-1.2**
SANI	**Sanana**	**4.97**	**10**	P		P	**P**	**10 38 47.6**	**-0.6**
BKSI	**Bulukumba** 55nm,0.6s,498nm0.2nm	**5.21**	**288**	P		P	**P**	**10 38 50.8**	**+0.6**
MSAI	**Masohi** 12nm,0.9s,0.1nm	**5.25**	**47**	P		P	**P**	**10 38 49.9**	**-0.7**
BNSI	**Bone** 93nm,0.7s,1μm0.4nm	**5.58**	**297**	P		P	**P**	**10 38 55.0**	**+1.5**
SPSI	**Sidrap Palu** 68nm,0.7s,896nm0.3nm	**6.08**	**299**	P		P	**P**	**10 38 58.8**	**+0.8**
WBSI	**Waikabubak, Su** 27nm,1.5s,0.7nm	**6.23**	**244**	P		P	**P**	**10 38 58.7**	**-0.8**
WBSI				S			**S**	**10 40 19.8**	**-1.8**
TTSI	**Tana Toraja** 36nm,0.9s,0.1nm	**6.54**	**306**	P		P	**P**	**10 39 03.6**	**+1.2**
LBMI	**Labuha** 50nm,0.9s,0.2nm	**6.74**	**21**	P		P	**P**	**10 39 03.8**	**-0.4**
APSI	**Ampana** 37nm,1.0s,0.1nm	**6.93**	**330**	P		P	**P**	**10 39 06.4**	**+0.3**
FAKI	**Fak Fak** 71nm,0.9s	**8.19**	**61**	P		P	**P**	**10 39 18.6**	**+0.1**
MPSI	**Mapaga**	**8.92**	**324**	P		P	**P**	**10 39 26.1**	**+0.3**
WRA	**Warramunga Arr** 2.4nm,0.3s,baz=336,slow=9.2,SNR=77	**15.71**	**146**	P		P	**P**	**10 40 35.1**	**-0.7**
WRA				S			**S**	**10 43 17.4**	**+0.1**
ASAR	**Alice Springs** 2.0nm,0.3s,baz=329,slow=9.1,SNR=104	**18.63**	**154**	P		P	**P**	**10 41 04.2**	**+1.2**

ASAR				S	**S**	**10 44 05.2**	**-0.1**
	0.1nm,0.3s,baz=336,slow=20,SNR=6.0							
ASAR				ScP	**ScP**	**10 47 48.0**	**-0.3**
	0.1nm,0.3s,baz=350,slow=2.0,SNR=11							
SONM	**Songino Array**	**57.02**	**345**	P	**P**	**10 46 13.5**	**+0.2**
	0.8nm,0.7s,baz=168,slow=7.6,SNR=5.7							
MKAR	**Makanchi Array**	**65.62**	**329**	P	**P**	**10 47 09.8**	**+0.3**
	0.7nm,0.4s,baz=133,slow=6.1,SNR=6.4							
PETK	**Petropavlovsk-**	**65.93**	**21**	P	**P**	**10 47 11.2**	**0.0**
	1.0nm,0.4s,baz=183,slow=5.8,SNR=2.5							
ZALV	**Zalesovo Beam**	**69.49**	**336**	P	**P**	**10 47 32.2**	**-0.7**
	1.1nm,0.6s,baz=129,slow=5.7,SNR=5.2							
VNDA	**Vanda**	**73.10**	**172**	P	**P**	**10 47 54.5**	**+0.9**
	0.7nm,0.7s,baz=317,slow=7.8,SNR=5.9							

MEX 01 10:38:11.7±0.4, 16.67N×98.37W, h20km±25km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**140**	*i* P	Pb	10 38 18.1	-1.3
PNIG				*e*S	Sb	10 38 23.1	-1.6
TLIG	**Tlapa**	**0.91**	**348**	*i* P	Pb	10 38 26.2	-2.8
TLIG				*e*S	Sb	10 38 37.3	-3.5
VHO	**Vista Hermosa**	**1.61**	**75**	*i* P	Pn	10 38 36.2	-3.2
VHO				*i* S	Sn	10 38 56.0	-3.8

NIED ***01*** *10:49:00, 31.70N×142.00E, h5km, Mw4.6 Best double couple: M0 1.01000×10^16 NP1:φs169.00000°, δ33.00000°, λ78.00000°. NP2:φs3.00000°, δ58.00000°, λ98.00000°.*
BJI ***01*** *10:49:17.6, 31.57N×141.73E, h5km, mB4.8/37, mb4.7/46, Ms4.4/38, Ms7 4.1/39*
ISCJB ***01*** *10:49:19.6±1.0, 31.62N±0.03×141.67E±0.03, h10km±6km, mb4.7/103, MS4.0/26, Error ellipse: s-maj=4.7km s-min=3.3km az=29.5*
IDC ***01*** *10:49:19.1±0.5, 31.61N×141.75E, h0km, mb4.5/34, mb1 4.6/36, mb1mx4.5/59, mbtmp4.5/36, ML4.2/1, MS3.8/25, Ms1 3.8/25, ms1mx3.7/42, Error ellipse: s-maj=13.9km s-min=13.9km az=130.0*
JMA ***01*** *10:49:20.1±0.3, 31.72N×141.95E, h20km, M4.4*
NEIC ***01*** *10:49:22.6±2.3, 31.62N×141.66E, h19km±14km, mb4.9/45, MW4.6(NIED), Error ellipse: s-maj=5.7km s-min=5.1km az=108.0*
MOS ***01*** *10:49:23.7±0.9, 32.03N×141.77E, h27km, mb4.9/56, Error ellipse: s-maj=10.8km s-min=4.7km az=112.8*
ISC 01 10:49:21.0±0.5, 31.63N±0.04×141.78E±0.04, h14km±2km, h13km:pP-P, n451, σt=17/489, mb4.8/106, MS4.0/27, 96C-86D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.21**	**311**	P	**Pn**	**10 49 57.4**	**+0.1**
JHJ2	**Mitsune**	**2.22**	**312**	P	**Pn**	**10 49 57.4**	**-0.1**
JHJ2	**Mitsune**	**2.22**	**312**	*e*Pn	**Pn**	**10 49 57.6**	**+0.2**
BSO1	**Boso 1**	**3.09**	**348**	P	**Pn**	**10 50 08.8**	**-0.1**
BSO3	**Boso 3**	**3.33**	**342**	P	**Pn**	**10 50 12.7**	**+0.2**
BSO4	**Boso 4**	**3.56**	**341**	P	**Pn**	**10 50 15.7**	**-0.1**
JOD2	**Odawara 2**	**4.26**	**329**	P	**Pn**	**10 50 25.9**	**+0.3**
JOD2				S	**Sn**	**10 51 16.2**	**+1.1**
CBIJ	**Chichi jima**	**4.54**	**175**	P	**Pn**	**10 50 30.3**	**+1.0**
CBIJ	**Chichi jima**	**4.54**	**175**	*e*Pn	**Pn**	**10 50 30.4**	**+1.0**
CBIJ				Sn	**Sn**	**10 51 18.7**	**-3.2**
JCJ	**Chichijima**	**4.54**	**175**	Pn	**Pn**	**10 50 29.2**	**-0.1**
	baz=81,slow=13						
JCJ				Sn	**Sn**	**10 51 18.7**	**-3.2**
	38nm,0.3s,baz=331,slow=19,SNR=3.8						
JCJ				LR	LR	10 52 07.7	
	comp=Z,998nm,18.2s,baz=40,slow=37						
JYN	**Shimob**	**4.71**	**326**	P	**Pn**	**10 50 33.5**	**+1.8**
JYN				S	**Sn**	**10 51 27.4**	**+1.2**
JRY	**Ryogami san**	**4.99**	**332**	P	**Pn**	**10 50 36.4**	**+0.9**
JRY				S	**Sn**	**10 51 33.4**	**+0.4**
JIE	**Ise**	**5.07**	**304**	P	**Pn**	**10 50 38.4**	**+1.7**
JAG	**Ashikaga**	**5.16**	**339**	P	**Pn**	**10 50 37.5**	**-0.3**
JAG				S	**Sn**	**10 51 37.2**	**+0.1**
MJAR	**Matsushiro Arr**	**5.72**	**330**	P	**Pn**	**10 50 46.9**	**+1.3**
MJAR						10 51 52.4	
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MJAR				smax	smax		
	comp=N,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.72**	**330**	Pn	**Pn**	**10 50 46.9**	**+1.3**
	comp=N,6.3nm,0.3s,baz=152,slow=12,SNR=40						
MJAR				Sn	**Sn**	**10 51 52.4**	**+1.3**
	comp=N,3.0nm,0.3s,baz=284,slow=28,SNR=4.4						
MJAR				LR	LR	10 53 17.5	
	comp=N,742nm,18.0s,baz=150,slow=42						
MAJO	**Matsushiro**	**5.72**	**330**	*c i*P	**Pn**	**10 50 46.4**	**+0.8**
MAJO	**Matsushiro**	**5.72**	**330**	*e*Pn	**Pn**	**10 50 46.9**	**+1.2**
MAT	**Matsushiro**	**5.72**	**330**	P	**Pn**	**10 50 46.5**	**+0.8**
MAT				S	**Sn**	**10 51 51.3**	**+0.1**
JNU	**Nakatsue**	**9.34**	**282**	Pn	Pn	10 51 41.6	+6.3
	comp=N,0.5nm,0.3s,baz=87,slow=11,SNR=7.0						
JNU				LR	LR	10 55 07.3	
	comp=N,547nm,18.8s,baz=98,slow=37						
ERM	**Erimo**	**10.42**	**6**	*d i*P	**Pn**	**10 51 47.2**	**-2.8**
ASAJ	**Asahikawa**	**12.48**	**3**	P	**Pn**	**10 52 15.1**	**-3.1**
ASAJ						10 54 27.1	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**12.48**	**3**	Pn	**Pn**	**10 52 15.1**	**-3.1**
	comp=N,2.3nm,0.3s,baz=226,slow=9.2,SNR=18						
ASAJ				Sn	Sn	10 54 27.1	-10
	comp=N,0.6nm,0.3s,baz=233,slow=20,SNR=5.1						
ASAJ				LR	LR	10 56 57.5	
	comp=N,265nm,19.6s,baz=259,slow=37						
ASAJ	**Asahikawa**	**12.48**	**3**	*e*Pn	**Pn**	**10 52 16.5**	**-1.6**
ASAJ				Sn	Sn	10 54 27.1	-10
KSRS	**Korea Array**	**12.81**	**301**	Pn	Pn	10 52 26.2	+3.5
	comp=N,0.3nm,0.3s,baz=110,slow=14,SNR=12						
KSRS				LR	LR	10 57 18.0	
	comp=N,647nm,18.8s,baz=111,slow=37						
KSAR	**Wonju Array Be**	**12.83**	**301**	P	Pn	10 52 26.2	+3.1
KSAR	**Wonju Array Be**	**12.83**	**301**	Pn	Pn	10 52 26.2	+3.1
YSS	**Yuzh-Sakhalins**	**15.32**	**3**	⇑*i*P	**Pn**	**10 52 53.8**	**-3.0**
YSS				*e*S	**Sn**	**10 55 41.0**	**-5.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS				MLR	MLR		
	comp=N,800nm,15.0s						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
YSS	**Yuzh-Sakhalins**	**15.32**	**3**	*e*Pn	**Pn**	**10 52 54.0**	**-2.8**
	comp=E,40nm,1.1s						
MDJ	**Mudanjiang**	**16.10**	**327**	P	**Pn**	**10 53 07.6**	**+0.7**
MDJ				pP	**pP**	**10 53 13.3**	**-0.8**
MDJ				sP	**sP**	**10 53 14.7**	**-1.2**
MDJ				S	**Sn**	**10 56 11.3**	**+6.1**
MDJ				PcP	**PcP**	**10 57 59.8**	**-2.7**
MDJ				ScP	**ScP**	**11 01 34.1**	**-2.5**
MDJ				PcS	**PcS**	**11 01 35.8**	**-2.2**
MDJ				ScS	**ScS**	**11 05 13.7**	**-1.6**
MDJ				PMZ			
	comp=E,14nm,1.1s						
MDJ				PMZ			
	comp=E,72nm,4.8s						
MDJ				LN			
	comp=E,300nm,24.1s						
MDJ				LE			
	comp=E,300nm,20.7s						
MDJ				LZ			
	comp=E,220nm,20.7s						
MDJ	**Mudanjiang**	**16.10**	**327**	*e*Pn	**Pn**	**10 53 06.8**	**-0.1**
	comp=E,14nm,1.0s						
UGL	**Uglegorsk**	**17.43**	**1**	P	**Pn**	**10 53 21.7**	**-1.9**
UGL				*e*S	**Sn**	**10 56 35.4**	**-1.9**
HABR	**Khabarovsk**	**17.58**	**345**	*e*P	**Pn**	**10 53 23.6**	**-1.9**
HABR				*e*S	**Sn**	**10 56 39.5**	**-1.5**
HABR				pmax	pmax		
	comp=Z,17nm,1.5s						
HABR				MLR	MLR		
	comp=Z,276nm,17.0s						
CN2	**Changchun**	**17.70**	**318**	*e*P	**Pn**	**10 53 27.2**	**+0.2**
CN2				*e*sP	**sP**	**10 53 34.0**	**+0.4**
CN2				*e*S	**Sn**	**10 56 41.2**	**-2.7**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,100nm,3.0s						
CN2				LN			
	comp=Z,500nm,14.0s						
CN2				LE			
	comp=Z,400nm,14.0s						
CN2				LZ			
	comp=Z,700nm,15.0s						
SNY	**Shenyang**	**17.75**	**310**	⇓P	**P**	**10 53 28.5**	**0.0**
SNY				PMZ			
	comp=Z,41nm,1.1s						
SNY				PMZ			
	comp=Z,1μm,5.2s						
SNY				LN			
	comp=Z,670nm,15.1s						
SNY				LE			
	comp=Z,380nm,12.5s						
SNY				LZ			
	comp=Z,310nm,18.4s						
KLR	**Kul'dur**	**19.13**	**340**	*e*P	P	10 53 38.6	-5.1
KLR				MLR	MLR		
	comp=N,700nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
NJ2	**Nanjing**	**19.48**	**277**	*e*P	**P**	**10 53 46.1**	**-1.5**
NJ2				S	**Sn**	**10 57 26.0**	**-1.2**
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
NJ2				LN			
	comp=Z,430nm,25.2s						
NJ2				LE			
	comp=Z,560nm,21.5s						
NJ2				LZ			
	comp=Z,710nm,27.2s						
YULB	**Yu-li**	**19.91**	**251**	*e*P	**P**	**10 53 52.4**	**0.0**
	comp=Z,17nm,0.7s						
SSLB	**Suanglung**	**20.01**	**252**	*e*Pn	Pn	10 53 54.6	-0.6
	comp=Z,35nm,1.0s						
BJI	**Beijing**	**22.33**	**299**	P	**P**	**10 54 17.3**	**-1.1**
BJI				pP	**pP**	**10 54 19.9**	**-2.4**
BJI				sP	**sP**	**10 54 21.8**	**-2.3**
BJI				S	**S**	**10 58 20.7**	**-2.8**
BJI				PMZ			
	comp=Z,14nm,0.7s						
BJI				PMZ			
	comp=Z,130nm,5.4s						
BJI				LN			
	comp=Z,470nm,22.6s						
BJI				LE			
	comp=Z,250nm,25.3s						
BJI				LZ			
	comp=Z,260nm,27.9s						
HIA	**Hailar**	**24.18**	**323**	*e*P	**P**	**10 54 36.1**	**-0.8**
HIA				pmax	pmax		
	comp=Z,24nm,0.8s						
HIA	**Hailar**	**24.18**	**323**	*e*P	**P**	**10 54 36.1**	**-0.8**
	comp=Z,24nm,0.8s						
PETK	**Petropavlovsk-**	**24.36**	**24**	LR	LR	11 07 01.9	
	comp=Z,114nm,18.6s,baz=219,slow=44						
H11N2	**WAKE ISLAND Hy**	**25.48**	**112**	T	T	11 21 33.2	
	baz=305,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.49**	**112**	T	T	11 21 35.4	
	baz=305,slow=74						
H11N3	**WAKE ISLAND Hy**	**25.50**	**112**	T	T	11 21 30.3	
	baz=305,slow=74						
HHC	**Hu-ho-hao-te**	**25.94**	**299**	*e*P	**P**	**10 54 53.1**	**0.0**
HHC				pP	**pP**	**10 54 57.5**	**+0.2**
HHC				sP	**sP**	**10 55 00.9**	**+1.9**
HHC				PP	**PnPn**	**10 55 33.5**	**+2.9**
HHC				S	**S**	**10 59 19.6**	**-3.5**
HHC				sS	**sS**	**10 59 28.3**	**-1.8**
HHC				PMZ			
	comp=Z,38nm,0.5s						
HHC				PMZ			
	comp=Z,190nm,5.9s						
HHC				LN			
	comp=Z,960nm,13.2s						
HHC				LE			
	comp=Z,520nm,14.1s						
HHC				LZ			
	comp=Z,330nm,13.2s						
H11S3	**WAKE ISLAND Hy**	**26.00**	**114**	T	T	11 22 25.5	
	baz=305,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.01**	**114**	T	T	11 22 20.5	
	baz=305						
H11S2	**WAKE ISLAND Hy**	**26.02**	**114**	T	T	11 22 15.6	
	baz=305,slow=74						
XAN	**Xi'an**	**27.65**	**284**	P	**P**	**10 55 07.3**	**-1.2**
XAN				pP	**pP**	**10 55 11.3**	**-1.4**
XAN				PMZ			
	comp=Z,6.0nm,1.2s						
XAN				PMZ			
	comp=Z,10.0nm,3.0s						
XAN				LN			
	comp=Z,160nm,15.9s						
XAN				LE			
	comp=Z,87nm,14.6s						
XAN				LZ			
	comp=Z,72nm,14.6s						
ULN	**Ulaanbaatar**	**30.92**	**312**	*c i*P	**P**	**10 55 38.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,15nm,1.2s						
ULN	**Ulaanbaatar**	**30.92**	**312**	*e*P	**P**	**10 55 38.5**	**+1.0**
	comp=Z,51nm,1.9s						
GYA	**Guiyang**	**31.04**	**269**	*e*P	**P**	**10 55 40.0**	**+1.2**
GYA				PP	**PnPn**	**10 56 41.8**	**+1.9**
GYA				S	**S**	**11 00 42.4**	**-1.3**
GYA				ScP	**ScP**	**11 02 18.0**	**+1.0**
GYA				SS	**SnSn**	**11 02 24.5**	**0.0**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,110nm,4.8s						
GYA				LN			
	comp=Z,520nm,17.8s						
GYA				LE			
	comp=Z,480nm,18.2s						
GYA				LZ			
	comp=Z,490nm,16.9s						
SONM	**Songino Array**	**31.33**	**311**	P	**P**	**10 55 42.1**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=120,slow=9.1,SNR=33						
SONM				LR	LR	11 08 43.2	
	comp=Z,294nm,18.1s,baz=100,slow=37						
QIZ	**Qiongzhong**	**31.36**	**254**	P	**P**	**10 55 40.0**	**-1.4**
QIZ				S	**S**	**11 00 48.4**	**0.0**
QIZ				PMZ			
	comp=Z,7.0nm,1.5s						
QIZ				PMZ			
	comp=Z,69nm,5.0s						
QIZ				LE			
	comp=Z,100nm,18.4s						
QIZ				LZ			
	comp=Z,210nm,33.0s						
YAK	**Yakutsk**	**31.41**	**349**	*e*P	**P**	**10 55 40.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,16nm,1.1s						
LZH	**Lanzhou**	**31.68**	**289**	*e*P	**P**	**10 55 46.9**	**+2.6**
LZH				pP	**pP**	**10 55 50.5**	**+1.9**
LZH				sP	**sP**	**10 55 53.2**	**+2.9**
LZH				PMZ			
	comp=Z,14nm,1.0s						
SEY	**Seymchan**	**32.04**	**9**	*e*P	**P**	**10 55 48.0**	**+1.0**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SEY	**Seymchan**	**32.04**	**9**	P	**P**	**10 55 48.0**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=186,slow=5.6,SNR=22						
BOD	**Bodaibo**	**32.35**	**332**	*e*P	**P**	**10 55 49.3**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.7s						
CD2	**Chengdu**	**32.40**	**279**	*e*P	**P**	**10 55 51.7**	**+1.1**
CD2				pP	**pP**	**10 55 56.1**	**+1.3**
CD2				sP	**sP**	**10 55 58.7**	**+2.2**
CD2				PP	**PnPn**	**10 56 58.9**	**+1.5**
CD2				S	**S**	**11 01 04.0**	**-0.6**
CD2				sS	**sS**	**11 01 10.8**	**-0.8**
CD2				SS	**SnSn**	**11 02 57.8**	**+0.5**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.4s						
CD2				LN			
	comp=Z,510nm,13.7s						
CD2				LE			
	comp=Z,480nm,16.7s						
CD2				LZ			
	comp=Z,570nm,11.2s						
ZAK	**Zakamensk**	**34.07**	**315**	*e*P	**P**	**10 56 04.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
TLY	**Talaya**	**34.30**	**317**	*e*P	**P**	**10 56 08.5**	**+1.7**
TLY				*e*S	**S**	**11 01 28.0**	**-5.6**
TLY				pmax	pmax		
	comp=Z,12nm,0.9s						
TLY				MLR	MLR		
	comp=Z,273nm,17.0s						
TLY	**Talaya**	**34.30**	**317**	*e*P	**P**	**10 56 08.7**	**+1.9**
	comp=Z,11nm,0.8s						
GTA	**Gaotai**	**34.78**	**295**	*e*P	**P**	**10 56 11.0**	**-0.3**
GTA				pP	**pP**	**10 56 15.4**	**-0.1**
GTA				sP	**sP**	**10 56 18.0**	**+0.7**
GTA				PP	**PP**	**10 57 30.2**	**+0.1**
GTA				S	**S**	**11 01 40.8**	**-0.7**
GTA				sS	**sS**	**11 01 47.2**	**-1.3**
GTA				SS	**SnSn**	**11 03 53.8**	**-1.1**
GTA				PMZ			
	comp=Z,6.0nm,0.9s						
GTA				PMZ			
	comp=Z,110nm,4.9s						
GTA				LN			
	comp=Z,320nm,15.7s						
GTA				LE			
	comp=Z,480nm,16.2s						
GTA				LZ			
	comp=Z,410nm,15.7s						
KMI	**Kunming**	**34.82**	**269**	P	**P**	**10 56 13.8**	**+1.9**
KMI				PMZ			
	comp=Z,12nm,0.7s						
KMI				LN			
	comp=Z,160nm,16.7s						
KMI				LE			
	comp=Z,290nm,16.4s						
KMI				LZ			
	comp=Z,340nm,17.1s						
BILL	**Bilibino**	**39.14**	**14**	*e*P	**P**	**10 56 48.1**	**+0.2**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL	**Bilibino**	**39.14**	**14**	*e*P	**P**	**10 56 48.1**	**+0.2**
	comp=Z,5.9nm,1.0s						
HVS	**Khovu-Aksy**	**40.15**	**313**	*ce*P	**P**	**10 56 57.6**	**+1.0**
HVS				pmax	pmax		
	comp=Z,100nm,1.0s						
CHTO	**Chiang Mai**	**40.55**	**262**	*e*P	**P**	**10 56 58.9**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**40.55**	**262**	*e*P	**P**	**10 56 58.9**	**-1.3**
	comp=Z,6.6nm,0.9s						
TIXI	**Tiksi**	**40.68**	**354**	⇑*e*P	**P**	**10 56 59.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TIXI	**Tiksi**	**40.68**	**354**	*e*P	**P**	**10 57 00.2**	**-0.3**
	comp=Z,2.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.72**	**262**	P	**P**	**10 57 00.7**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=48,slow=7.3,SNR=14						
CMAR				LR	LR	11 15 12.8	
	comp=Z,115nm,18.1s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**45.90**	**316**	P	**P**	**10 57 43.1**	**+0.1**
ZALV						10 59 19.9	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**45.90**	**316**	P	**P**	**10 57 43.1**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=97,slow=6.3,SNR=12						
ZALV				PcP	**PcP**	**10 59 19.9**	**0.0**
	comp=Z,2.5nm,0.6s,baz=107,slow=2.5,SNR=4.5						
ZALV				LR	LR	11 18 45.4	
	comp=Z,101nm,18.6s,baz=70,slow=38						
TAPN	**Taplejung**	**46.87**	**279**	*e*P	**P**	**10 57 51.0**	**-0.3**
	comp=Z,26nm,0.9s						
NVS	**Novosibirsk**	**46.90**	**317**	⇓*i*P	**P**	**10 57 50.1**	**-0.7**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.0s						
ODAN	**Odare**	**47.29**	**279**	*e*P	**P**	**10 57 53.5**	**-1.1**
MK31	**Makanchi Array**	**47.41**	**306**	*i* P	**P**	**10 57 55.2**	**+0.2**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MKAR	**Makanchi Array**	**47.41**	**306**	*ce*P	**P**	**10 57 55.7**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**47.41**	**306**	P	**P**	**10 57 55.5**	**+0.5**
	comp=Z,7.1nm,0.8s,baz=91,slow=9.7,SNR=30						
MKAR				LR	LR	11 19 36.5	
	comp=Z,131nm,18.1s,baz=82,slow=38						
MKAR	**Makanchi Array**	**47.41**	**306**	*e*P	**P**	**10 57 55.8**	**+0.8**
RAMN	**Ramite**	**47.93**	**279**	*e*P	**P**	**10 57 59.1**	**-0.4**
	comp=Z,56nm,0.9s						
JIRN	**Jiri**	**48.04**	**280**	*e*P	**P**	**10 58 00.6**	**0.0**
	comp=Z,42nm,0.7s						
GUN	**Gumba**	**48.22**	**281**	*e*P	**P**	**10 58 01.6**	**-0.3**
	comp=Z,75nm,1.0s						
PKI	**Pulchoki**	**48.73**	**280**	*e*P	**P**	**10 58 05.3**	**-0.5**
KKN	**Kakani**	**48.76**	**281**	*e*P	**P**	**10 58 05.6**	**-0.3**
	comp=Z,26nm,0.7s						
DMN	**Daman**	**48.97**	**281**	*e*P	**P**	**10 58 07.2**	**-0.4**
GKN	**Gorkha**	**49.23**	**281**	*e*P	**P**	**10 58 09.3**	**-0.2**
KURK	**Kurchatov**	**49.63**	**312**	P	**P**	**10 58 12.6**	**+0.7**
KURK				pmax	pmax		
	comp=Z,18nm,0.9s						
KURK	**Kurchatov**	**49.63**	**312**	P	**P**	**10 58 12.6**	**+0.7**
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**49.69**	**312**	P	**P**	**10 58 12.6**	**+0.2**
	comp=Z,18nm,0.9s,baz=86,slow=7.0,SNR=21						
PDGK	**Podgornoye**	**49.74**	**302**	P	**P**	**10 58 12.4**	**-0.5**
PDGK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DANN	**Dangsing**	**49.85**	**282**	*e*P	**P**	**10 58 14.6**	**+0.2**
KOLN	**Koldanda**	**50.18**	**281**	*e*P	**P**	**10 58 16.8**	**+0.1**
PYUN	**Piuthan**	**50.58**	**282**	*e*P	**P**	**10 58 20.0**	**+0.2**
	comp=Z,95nm,0.4s						
WRAB	**Tennant Creek**	**51.77**	**189**	⇓*e*P	**P**	**10 58 27.6**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,53nm,1.0s						
WRAB	**Tennant Creek**	**51.77**	**189**	*e*P	**P**	**10 58 28.6**	**+0.2**
	comp=Z,15nm,0.6s						
WB2	**Warramunga Arr**	**51.77**	**189**	*e*P	**P**	**10 58 28.3**	**-0.1**
WRA	**Warramunga Arr**	**51.78**	**189**	P	**P**	**10 58 28.5**	**+0.1**
WRA				pmax	pmax		
	comp=Z,17nm,0.6s						
WRA	**Warramunga Arr**	**51.78**	**189**	P	**P**	**10 58 28.4**	**+0.1**
	comp=Z,17nm,0.6s,baz=6.1,slow=7.6,SNR=256						
TKM2	**Tokmak 2**	**52.62**	**302**	*e*P	**P**	**10 58 36.1**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,28nm,1.9s						
TKM2	**Tokmak 2**	**52.62**	**302**	*e*P	**P**	**10 58 36.1**	**+1.3**
	comp=Z,28nm,1.9s						
KSH	**Kashi**	**53.05**	**298**	P	P	10 58 42.0	+4.1
KSH				sP	sP	10 58 49.7	+5.7
KSH				PP	PP	11 00 44.1	+6.5
KSH				S	**S**	**11 06 12.5**	**+4.9**
KSH				ScS	**ScS**	**11 08 28.1**	**+0.6**
KSH				SS	**SKiKP**	**11 09 52.1**	**-4.2**
KSH				PMZ			
	comp=Z,14nm,1.1s						
KSH				PMZ			
	comp=Z,87nm,5.0s						
KSH				LN			
	comp=Z,98nm,9.3s						
KSH				LE			
	comp=Z,100nm,5.2s						
KSH				LZ			
	comp=Z,360nm,17.9s						
AAK	**Ala-Archa**	**53.47**	**302**	*ce*P	**P**	**10 58 41.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,21nm,2.5s						
AAK	**Ala-Archa**	**53.47**	**302**	P	**P**	**10 58 41.1**	**0.0**
	comp=Z,2.3nm,0.8s,baz=121,slow=5.9,SNR=5.1						
AAK	**Ala-Archa**	**53.47**	**302**	*e*P	**P**	**10 58 41.4**	**+0.3**
COLA	**College**	**53.53**	**30**	⇓*e*P	**P**	**10 58 42.3**	**+1.4**
COLA				pmax	pmax		
	comp=Z,51nm,1.7s						
COLA	**College**	**53.53**	**30**	*e*P	**P**	**10 58 42.6**	**+1.

BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 54.52 315 P **P 10 58 47.8 -0.6**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 54.52 315 P **P 10 58 47.8 -0.6**
comp=Z,4.2nm,0.6s,baz=108,slow=8.2,SNR=21
MNAS Manas 54.94 302 P **P 10 58 52.0 +0.3**
MNAS pmax pmax
comp=Z,6.0nm,1.3s
AS31 Alice Springs 55.50 189 *e*P **P 10 58 55.9 +0.2**
ASAR Alice Springs 55.50 189 P **P 10 58 56.0 +0.3**
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 55.50 189 P **P 10 58 56.0 +0.3**
comp=Z,6.1nm,0.5s,baz=17,slow=13,SNR=129
ASAR LR LR 11 21 32.3
comp=Z,100nm,20.6s,baz=11,slow=35
KK31 Karatay Array 56.22 303 *i* P **P 10 59 01.1 +0.3**
KK31 pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 59.08 26 P **P 10 59 21.3 +0.9**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 59.08 26 P **P 10 59 21.3 +0.9**
comp=Z,4.0nm,0.8s,baz=304,slow=6.7,SNR=20
SVE Sverdlovsk 59.46 321 *e*P **P 10 59 22.6 -0.6**
SVE pmax pmax
comp=Z,23nm,1.2s
ARU Arti 60.66 321 *d i* P **P 10 59 31.3 -0.2**
ARU 11 00 13.3
ARU S **S 11 07 49.8 +2.4**
ARU pmax pmax
comp=Z,23nm,1.2s
ARU Arti 60.66 321 *e*P **P 10 59 31.5 0.0**
comp=Z,20nm,1.1s
AB31 Akbulak array 61.73 313 *i* P **P 10 59 39.0 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
AKTO Aktyubinsk 62.58 314 P **P 10 59 45.0 +0.4**
AKTO pmax pmax
comp=Z,7.0nm,0.9s
AKTO Aktyubinsk 62.58 314 P **P 10 59 45.0 +0.4**
comp=Z,7.2nm,0.9s,baz=72,slow=6.4,SNR=15
AKTO LR LR 11 30 26.2
comp=Z,83nm,19.6s,baz=82,slow=39
SPITS Spitsbergen Ar 65.87 349 P **P 11 00 06.6 +0.9**
SPITS pmax pmax
comp=Z,4.0nm,0.7s
SPITS Spitsbergen Ar 65.87 349 P **P 11 00 06.6 +0.9**
comp=Z,3.9nm,0.7s,baz=134,slow=4.2,SNR=4.9
GEYT Alibeck 66.80 301 P **P 11 00 13.3 +0.9**
comp=Z,5.9nm,0.9s,baz=57,slow=5.5,SNR=9.3
GEYT LR LR 11 34 08.4
comp=Z,84nm,18.7s,baz=70,slow=40
APA Apatity 67.74 337 ⇓ *i* P **P 11 00 19.4 +1.6**
APA MLR MLR
comp=Z,400nm,11.0s
RES Resolute Bay 67.75 14 *e*P **P 11 00 18.0 +0.3**
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 67.75 14 P **P 11 00 18.1 +0.4**
comp=Z,6.7nm,0.8s,baz=326,slow=6.1,SNR=35
RES LR LR 11 31 34.5
comp=Z,31nm,18.9s,baz=26,slow=37
RES Resolute Bay 67.75 14 *e*P **P 11 00 18.0 +0.3**
comp=Z,7.8nm,0.8s
YKA Yellowknife Ar 68.34 29 P **P 11 00 21.8 +0.2**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 68.34 29 P **P 11 00 21.8 +0.2**
comp=Z,2.5nm,0.8s,baz=294,slow=6.1,SNR=37
ARCES ARCESS Array B 69.16 340 P **P 11 00 26.1 -0.5**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,90nm,21.0s
ARCES ARCESS Array B 69.16 340 P **P 11 00 26.1 -0.5**
comp=Z,6.8nm,0.9s,baz=56,slow=6.7,SNR=7.6
ARCES LR LR 11 33 51.2
comp=Z,90nm,21.0s,baz=54,slow=39
JOF Joensuu 70.88 333 *e*P **P 11 00 38.1 +0.8**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 70.88 333 *e*p **P 11 00 38.1 +0.8**
comp=Z,2.9nm,0.7s
G03D McMinnville, O 71.51 48 ⇑P **P 11 00 41.8 +0.4**
baz=71
VRHR Novokhopersk 71.93 319 *e*P **P 11 00 42.4 -1.4**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.8s
MAK Makhachkala 72.08 310 *e*P P 11 00 49.5 +4.7
MAK MLR MLR
comp=Z,391nm,18.0s
I03D Drain, OR 72.14 49 ⇑P **P 11 00 45.9 +0.7**
baz=72
OBN Obninsk 72.63 324 *ce* P **P 11 00 47.9 0.0**
OBN *e* 11 03 25.9
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,135nm,17.0s
L02D Cave Junction, 72.66 51 ⇑P **P 11 00 49.6 +1.2**
baz=73
I04A Tendick Farm, 72.70 49 ⇑P **P 11 00 49.3 +0.7**
baz=73
G05D Wamic, OR 72.72 47 ⇓P **P 11 00 49.1 +0.3**
baz=73
PUL Pulkovo 73.01 330 *c i* P **P 11 00 49.2 -0.9**
PUL pmax pmax
comp=Z,146nm,0.5s
I05D Terrebonne, OR 73.13 48 ⇓P **P 11 00 51.9 +0.7**
baz=73
J04D Umpqua Nationa 73.15 49 ⇓P **P 11 00 52.3 +0.7**
baz=73
VSR Storozhevoye 73.22 320 ⇑ *e*P **P 11 00 51.8 +0.3**
VSR pmax pmax
comp=Z,24nm,0.8s
KAF Kangasniemi 73.25 334 *e*P **P 11 00 51.7 +0.2**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 73.25 334 *e*p **P 11 00 51.7 +0.2**
comp=Z,4.9nm,0.5s
J05D Fort Rock, OR 73.69 49 ⇓P **P 11 00 56.1 +1.4**
baz=74
FINES FINESS Array B 73.74 333 P **P 11 00 54.5 +0.1**
comp=Z,5.1nm,0.7s,baz=72,slow=6.2,SNR=15
FINES LR LR 11 36 27.0
comp=Z,56nm,18.7s,baz=19,slow=38
NEW Newport 73.82 43 P **P 11 00 56.1 +0.9**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 73.82 43 P **P 11 00 56.0 +0.9**
comp=Z,3.9nm,0.8s,baz=300,slow=5.6,SNR=10
NEW Newport 73.82 43 ⇓P **P 11 00 56.5 +1.3**
baz=74
NEW Newport 73.82 43 *e*P **P 11 00 56.5 +1.3**
M04C Macdoel 74.00 51 ⇑P **P 11 00 57.5 +1.0**
baz=74
ZEI Tsey 74.50 311 *e*P **P 11 00 58.9 -0.6**
ZEI pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 74.69 312 P **P 11 01 01.1 +0.9**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 74.69 312 P **P 11 01 01.1 +0.9**
comp=Z,7.3nm,0.9s,baz=88,slow=2.2,SNR=18
KIV Kislovodsk 74.71 312 *e*P **P 11 01 02.3 +1.8**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,92nm,18.0s
F10A Beach Ranch, E 74.89 45 *e*P **P 11 01 04.7 +3.1**
comp=Z,84nm,3.0s
WALA Waterton Lakes 75.26 41 *e*P **P 11 01 04.9 +1.3**
VSU Vasula 75.27 331 ⇑ *i*P **P 11 01 04.2 +0.9**
VSU pmax pmax
comp=Z,52nm,1.2s
JTMT Jette 75.73 43 *e*P **P 11 01 07.9 +1.5**
YBMT Yellow Bay 75.83 42 *e*P **P 11 01 07.1 +0.2**
comp=Z,5.3nm,1.1s
SWMT Swartz Lake 76.02 43 *e*P **P 11 01 09.2 +1.2**

SUMG Summit 76.07 0 *e*P **P 11 01 09.6 +1.4**
SUMG pmax pmax
comp=Z,134nm,2.8s
SUMG Summit 76.07 0 *e*P **P 11 01 09.6 +1.4**
comp=Z,134nm,2.8s
MSO Missoula 76.41 43 ⇑P **P 11 01 11.0 +0.8**
baz=76
MSO Missoula 76.41 43 *e*P **P 11 01 11.1 +0.9**
comp=Z,83nm,2.9s
SLMT Seeley Lake 76.45 43 *e*P **P 11 01 11.5 +0.9**
CHMT Chamberlain Mo 76.76 43 *e*P **P 11 01 13.2 +0.8**
MFID Camas Ranch 77.05 47 *e*P **P 11 01 15.3 +1.4**
comp=Z,4.6nm,0.9s
ANN Anapa 77.52 315 *e*P P 11 01 21.7 +5.4
ANN pmax pmax
comp=Z,42nm,1.7s
HRY Holter Researc 77.69 43 *e*P **P 11 01 18.8 +1.3**
LRM Limekiln Ridge 77.82 44 *e*P **P 11 01 19.7 +1.4**
HLID Hailey 77.85 46 ⇓P **P 11 01 19.8 +1.4**
baz=78
HLID Hailey 77.85 46 *e*P **P 11 01 19.9 +1.4**
comp=Z,3.0nm,0.9s
FFC Flin Flon 78.09 32 *e*P **P 11 01 19.4 0.0**
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 78.09 32 *e*P **P 11 01 19.4 0.0**
comp=Z,4.6nm,0.7s
EGMT Eagleton 78.14 41 ⇑P **P 11 01 20.7 +0.8**
baz=78
EGMT Eaglon 78.14 41 *e*P **P 11 01 21.3 +1.4**
comp=Z,7.3nm,1.0s
A19A Klindworth Far 78.18 39 ⇓P **P 11 01 21.1 +1.1**
baz=78,SNR=6.2
B19A Brinkman Farms 78.34 40 ⇓P **P 11 01 21.8 +0.9**
baz=78,SNR=5.3
A20A Cobblestone Ra 78.65 39 ⇓P **P 11 01 23.6 +1.0**
baz=78
C19A Slack Wire Ran 78.70 41 ⇓P **P 11 01 24.3 +1.3**
baz=78,SNR=8.2
AKASG Malin Array Be 78.77 323 P **P 11 01 23.2 +0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,178nm,18.7s
AKASG Malin Array Be 78.77 323 P **P 11 01 23.2 +0.1**
comp=Z,3.7nm,0.5s,baz=46,slow=5.5,SNR=28
AKASG LR LR 11 38 55.5
comp=Z,178nm,18.6s,baz=70,slow=38
KIEV Kiev 78.78 323 *c i* P **P 11 01 23.0 -0.2**
KIEV Kiev 78.78 323 *e*P **P 11 01 23.2 0.0**
comp=Z,20nm,1.2s
ELK Elko 78.83 49 P **P 11 01 25.3 +1.3**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 78.83 49 P **P 11 01 25.2 +1.3**
comp=Z,1.9nm,0.8s,baz=339,slow=5.0,SNR=10.0
ELK Elko 78.83 49 *e*P **P 11 01 26.0 +2.0**
QLMT Earthquake Lak 78.97 44 *e*P **P 11 01 26.6 +2.0**
D19A Cripps Ranch, 79.12 41 ⇑P **P 11 01 26.2 +0.9**
baz=79,SNR=5.8
A21A Bergtoll Ranch 79.12 39 ⇓P **P 11 01 26.2 +1.0**
baz=79,SNR=6.0
HFS Hagfors 79.13 336 P **P 11 01 25.0 0.0**
HFS pmax pmax
comp=Z,5.0nm,0.7s
HFS Hagfors 79.13 336 P **P 11 01 25.0 0.0**
comp=Z,4.9nm,0.7s,baz=65,slow=3.8,SNR=18
NB2 NORSAR Subarra 79.26 338 P **P 11 01 25.9 +0.1**
comp=Z,3.5nm,0.6s,baz=41,slow=5.6
NOA NORSAR Array B 79.28 338 P **P 11 01 26.0 +0.1**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 79.28 338 P **P 11 01 25.9 +0.1**
comp=Z,5.6nm,0.7s,baz=42,slow=5.4,SNR=23
NOA LR LR 11 41 09.8
comp=Z,70nm,18.9s,baz=40,slow=39
C20A Veseth Ranch, 79.29 40 ⇓P **P 11 01 27.4 +1.2**
baz=79
YMR Madison River 79.33 44 *e*P **P 11 01 28.9 +2.2**
comp=Z,7.2nm,0.9s
B21A Ellsworth Farm 79.41 39 ⇑P **P 11 01 27.5 +0.7**
baz=79
D20A Manuel Ranch, 79.57 41 ⇓P **P 11 01 28.9 +1.2**
baz=79,SNR=7.2
E19A Rath Farm, Rou 79.57 42 ⇑P **P 11 01 29.0 +1.2**
baz=79,SNR=13
A22A Carney Farms, 79.66 38 ⇓P **P 11 01 28.9 +0.7**
baz=80,SNR=8.0
H17A Grant Village 79.71 44 ⇓P **P 11 01 30.7 +1.8**
baz=80,SNR=7.5
H17A Grant Village 79.71 44 *e*P P 11 01 32.1 +3.3
comp=Z,7.5nm,0.9s
IMW Indian Meadow 79.78 45 *e*P **P 11 01 31.2 +2.0**
comp=Z,4.6nm,0.8s
FLWY Flagg Ranch 79.82 44 *e*P **P 11 01 32.1 +2.7**
comp=Z,27nm,1.8s
F19A Roth Farm, Mol 79.83 42 ⇓P **P 11 01 29.5 +0.3**
baz=80
FXWY Fox Creek 79.87 45 *e*P **P 11 01 31.4 +1.8**
comp=Z,53nm,2.8s
R11A Troy Canyon, C 79.87 51 ⇑P **P 11 01 31.0 +1.3**
baz=80
E20A Meyer Farm, Mu 79.92 41 ⇑P **P 11 01 30.8 +1.2**
baz=80
I17A Pilgrim Ck. 79.98 44 ⇑P **P 11 01 32.2 +2.0**
baz=80,SNR=7.7
TPAW Teton Pass 80.00 45 *e*P **P 11 01 32.4 +2.0**
comp=Z,6.1nm,0.8s
FURC Furnace Creek, 80.01 53 ⇑P **P 11 01 31.3 +1.1**
baz=80
H18A Shoshone NF, C 80.09 43 ⇑P **P 11 01 32.1 +1.2**
baz=80,SNR=5.5
TPNV Topopah Spring 80.17 53 *e*P **P 11 01 32.3 +1.0**
TPNV pmax pmax
comp=Z,45nm,2.3s
TPNV Topopah Spring 80.17 53 ⇓P **P 11 01 32.1 +0.8**
baz=80,SNR=5.1
TPNV Topopah Spring 80.17 53 *e*P **P 11 01 32.2 +1.0**
comp=Z,45nm,2.3s
D21A La Casta Ranch 80.22 40 ⇑P **P 11 01 32.7 +1.4**
baz=80
AHID Auburn Hatcher 80.32 46 *e*P **P 11 01 32.2 +0.2**
comp=Z,4.6nm,0.9s
F20A Billings 80.32 42 ⇑P **P 11 01 32.6 +0.8**
baz=80
C22A Vida 80.42 39 ⇓P **P 11 01 32.9 +0.6**
baz=80
B23A Brockton 80.47 38 ⇓P **P 11 01 33.3 +0.8**
baz=80
H19A Powell 80.49 43 ⇑P **P 11 01 34.0 +1.1**
baz=80
D22A Cohagen 80.62 40 ⇑P **P 11 01 34.3 +0.9**
baz=80
G20A Bridger 80.62 42 ⇑P **P 11 01 34.1 +0.6**
baz=80
DUG Dugway, Tooele 80.68 48 *e*P **P 11 01 35.2 +1.2**
DUG pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 80.68 48 ⇑P **P 11 01 34.8 +0.9**
baz=80,SNR=5.5
DUG Dugway, Tooele 80.68 48 *e*P **P 11 01 35.1 +1.2**
comp=Z,5.1nm,0.7s
C23A Lambert 80.77 39 ⇓P **P 11 01 34.8 +0.7**
baz=81
I19A Meeteetse 80.85 44 ⇓P **P 11 01 35.9 +1.0**
baz=81
D23A Lindsay 81.14 39 ⇑P **P 11 01 37.2 +1.0**
baz=81
H20A Greybull 81.17 43 ⇓P **P 11 01 37.6 +1.1**
baz=81
TUQ Turquoise Moun 81.20 54 ⇑P **P 11 01 37.5 +0.7**
baz=81
PDAR Pinedale Array 81.25 45 P **P 11 01 37.5 +0.5**
comp=Z,2.2nm,0.7s,baz=266,slow=1.9,SNR=21
PDAR LR LR 11 44 24.8
comp=Z,22nm,18.0s,baz=300,slow=41
J19A Crowheart 81.26 44 ⇑P **P 11 01 38.0 +0.9**
baz=81,SNR=5.1
F22A Rosebud 81.40 41 ⇓P **P 11 01 38.0 +0.4**
baz=81
E23A Ismay 81.49 40 ⇓P **P 11 01 39.0 +0.9**
baz=81
DAU Daniels Canyon 81.55 48 *e*P **P 11 01 40.3 +1.5**
DAU Daniels Canyon 81.55 48 *e*P **P 11 01 40.3 +1.5**
B25A Knox Farm, Ray 81.55 38 ⇓P **P 11 01 38.8 +0.5**
baz=81
H21A Big Horn, Sher 81.64 42 ⇑P **P 11 01 39.8 +0.8**
baz=82
D24A Glendive 81.65 39 ⇑P **P 11 01 39.4 +0.5**
baz=82
G22A Birney 81.71 41 ⇓P **P 11 01 40.2 +0.9**
baz=82
A26A Wade Farm, Ken 81.73 37 ⇑P **P 11 01 39.4 +0.2**
baz=82
GMRC Granite Mounta 81.74 54 ⇓P **P 11 01 40.0 +0.3**
baz=82
CCUT Cedar City 81.78 51 *e*P **P 11 01 38.6 -1.4**
comp=Z,45nm,2.4s
J20A Shoshoni 81.79 44 ⇓P **P 11 01 40.5 +0.7**
baz=82
PFO Pinyon Flats O 81.81 56 ⇑P **P 11 01 40.5 +0.5**
baz=82
C25A Freed Ranch, W 81.85 38 ⇑P **P 11 01 40.9 +1.1**
baz=82
F23A Volborg 81.91 41 ⇓P **P 11 01 41.1 +0.8**
baz=82
BELC Belle Mtn. Jos 81.92 55 ⇓P **P 11 01 41.1 +0.5**
baz=82
FRB Frobisher Bay 81.95 13 P **P 11 01 40.1 +0.1**
FRB pmax pmax
comp=Z,4.0nm,0.7s
FRB Frobisher Bay 81.95 13 P **P 11 01 40.1 +0.1**
comp=Z,4.4nm,0.7s,baz=338,slow=5.8,SNR=10
B26A Jensen Ranch, 81.96 37 ⇓P **P 11 01 41.4 +0.9**
baz=82
PPT Papeete 81.97 116 LR LR 11 34 05.3
comp=Z,66nm,19.6s,baz=330,slow=33
I21A Big Trails, Te 81.98 43 ⇓P **P 11 01 42.0 +1.2**
baz=82
A27A Ledoux Ranch, 82.10 36 ⇑P **P 11 01 42.2 +1.1**
baz=82
D25A Fairfield 82.16 39 ⇑P **P 11 01 42.3 +0.8**
baz=82
J21A Lysite 82.17 44 ⇓P **P 11 01 42.6 +0.8**
baz=82
G23A Biddle 82.23 41 ⇑P **P 11 01 42.4 +0.4**
baz=82
I22A 9 Mile Ranch, 82.40 43 ⇑P **P 11 01 43.8 +0.8**
baz=82
IRM Iron Mountain 82.43 55 ⇓P **P 11 01 43.8 +0.6**
baz=82
BC3 Big Chuckawall 82.49 55 ⇑P **P 11 01 44.5 +0.9**
baz=82
E25A Miller Ranch, 82.53 39 ⇓P **P 11 01 44.0 +0.5**
baz=82
A28A Rude Farm, Bot 82.62 36 ⇑P **P 11 01 44.5 +0.7**
baz=82
BRTR Keskin Array B 82.68 312 *ce* P **P 11 01 45.0 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 82.68 312 P **P 11 01 44.8 +0.2**
comp=Z,4.8nm,1.0s,baz=108,slow=4.0,SNR=15
BRTR LR LR 11 44 22.8
comp=Z,39nm,18.0s,baz=59,slow=40
J22A Midwest 82.69 43 ⇓P **P 11 01 45.0 +0.4**
baz=82,SNR=8.6
KWP Kalwaria Pacla 82.70 325 *e*P **P 11 01 45.3 +1.0**
KWP Kalwaria Pacla 82.70 325 *e*P **P 11 01 45.2 +1.0**
K21A Alcova 82.71 44 ⇑P **P 11 01 45.4 +0.8**
baz=83
SRU San Rafael Swe 82.75 48 *e*P **P 11 01 46.1 +1.1**
SRU pmax pmax
comp=Z,10.0nm,0.7s
SRU San Rafael Swe 82.75 48 *e*P **P 11 01 46.1 +1.1**
comp=Z,9.8nm,0.7s
C27A Sayler Ranch, 82.76 37 ⇓P **P 11 01 45.7 +1.1**
baz=83
W13A Hualapai Mount 82.78 53 ⇑P **P 11 01 46.0 +0.7**
baz=83
F25A Bowman 82.86 40 ⇓P **P 11 01 46.1 +0.9**
baz=83
B28A Dugan Ranch, T 82.87 36 ⇓P **P 11 01 45.7 +0.6**
baz=83
H24A Dirks Ranch, A 82.98 41 ⇓P **P 11 01 46.3 +0.4**
baz=83
E26A Carlson Angus 83.05 39 ⇓P **P 11 01 46.6 +0.4**
baz=83
PDMCI Parker Dam,Lak 83.05 54 ⇑P **P 11 01 46.8 +0.5**
baz=83
U15A North Rim 83.12 51 ⇑P **P 11 01 47.6 +0.5**
baz=83
K22A Casper 83.12 44 ⇓P **P 11 01 47.3 +0.5**
baz=83
A29A Manning Farm, 83.13 36 ⇑P **P 11 01 47.2 +0.7**
baz=83
D27A Center 83.14 38 ⇑P **P 11 01 47.8 +1.2**
baz=83
N20A Spence Gulch, 83.16 46 ⇓P **P 11 01 47.8 +0.7**
baz=83,SNR=10
F26A Lodgepole 83.33 39 ⇓P **P 11 01 48.4 +0.8**
baz=83
C28A Hausauer Farms 83.34 37 ⇑P **P 11 01 48.4 +0.8**
baz=83
B29A Wagenman Farm, 83.37 36 ⇑P **P 11 01 48.4 +0.7**
baz=83
KOLS Kolonicke sedl 83.38 325 *e*P **P 11 01 49.2 +1.4**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 83.38 325 *e*P **P 11 01 49.1 +1.3**
E27A Carson 83.55 38 ⇑P **P 11 01 49.7 +0.9**
baz=83
STHS Stebnicka Huta 83.56 326 *e*P **P 11 01 50.6 +1.9**
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 83.56 326 *e*P **P 11 01 50.6 +1.9**
A30A Hoffart Farm, 83.58 35 ⇓P **P 11 01 49.6 +0.8**
baz=83
O20A White River Ci 83.59 46 ⇓P **P 11 01 50.0 +0.8**
baz=83
O20A White River Ci 83.59 46 *e*P **P 11 01 50.2 +1.0**
comp=Z,6.8nm,0.8s
K23A Bowen Ranch, D 83.59 43 ⇓P **P 11 01 49.8 +0.6**
baz=83
OJC Ojcow 83.70 327 *e*P **P 11 01 50.0 +0.7**
OJC Ojcow 83.70 327 *e*P **P 11 01 50.1 +0.7**
G26A Maurine 83.72 40 ⇑P **P 11 01 50.3 +0.6**
baz=84
CRVS Cervenica-Dubn 83.80 325 *e*P **P 11 01 52.1 +1.3**
CRVS pmax pmax
comp=Z,9.0nm,1.5s
CRVS Cervenica-Dubn 83.80 325 *e*P **P 11 01 51.2 +1.3**
ULM Lac du Bonnet 83.84 33 P **P 11 01 49.8 -0.3**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 83.84 33 P **P 11 01 49.8 -0.3**
comp=Z,1.6nm,0.7s,baz=296,slow=3.0,SNR=4.5
B30A Myrvik Farm, E 83.89 35 ⇑P **P 11 01 51.1 +0.7**
baz=84
I25A Rochford 83.89 41 ⇓P **P 11 01 51.1 +0.4**
baz=84
E28A Huff 83.92 38 ⇓P **P 11 01 50.8 +0.1**
baz=84
L23A Garrett 83.94 44 ⇑P **P 11 01 51.3 +0.2**
baz=84
NIE Niedzica 84.00 326 *e*P **P 11 01 52.1 +1.1**
NIE Niedzica 84.00 326 *e*P **P 11 01 51.9 +0.9**
G27A Dupree 84.03 39 ⇑P **P 11 01 51.8 +0.5**
baz=84
Y14A Wickenburg 84.03 54 ⇑P **P 11 01 52.3 +0.8**
baz=84
D29A Pettibone, Tap 84.17 37 ⇓P **P 11 01 52.4 +0.5**
baz=84
WUAZ Wupatki 84.25 52 ⇓P **P 11 01 53.8 +1.1**
baz=84
C30A Mose, Pekin 84.31 36 ⇓P **P 11 01 53.5 +0.9**
baz=84
M23A Laramie 84.32 44 ⇓P **P 11 01 53.7 +0.7**
baz=84
F28A McLaughlin 84.33 39 ⇑P **P 11 01 53.7 +0.9**
baz=84
I26A New Underwood 84.38 41 ⇑P **P 11 01 53.9 +0.9**
baz=84
H27A Howes 84.43 40 ⇑P **P 11 01 53.9 +0.6**
baz=84
N23A Red Feather La 84.53 45 ⇓P **P 11 01 55.4 +1.3**
baz=84
N23A Red Feather La 84.53 45 *e*P **P 11 01 55.9 +1.7**
comp=Z,6.6nm,1.0s
KECS Kecovo 84.56 325 *e*P **P 11 01 54.6 +0.8**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 84.56 325 *e*P **P 11 01 54.6 +0.8**
D30A Buchanan 84.57 37 ⇓P **P 11 01 54.4 +0.5**
baz=84

O22A	Kremmling	84.61	46	⇑P		P		11 01 55.6	+1.0
	baz=84								
K25A	Mack Ranch, Ha	84.69	42	⇓P		P		11 01 55.6	+0.9
	baz=84								
J26A	Sides Ranch, S	84.71	42	⇓P		P		11 01 55.8	+1.0
	baz=84								
OKC	Ostrava-Krasne	84.73	327	*e*P		P		11 01 55.3	+0.7
OKC				*e*				11 01 58.7	
OKC	Ostrava-Krasne	84.73	327	*e*P		P		11 01 55.3	+0.7
OKC				*e*pP		pP		11 01 58.7	-0.5
G28A	Parade	84.78	39	⇓P		P		11 01 55.9	+0.9
	baz=85								
I27A	Quinn	84.80	41	⇓P		P		11 01 55.9	+0.7
	baz=85								
P22A	Eagle	84.82	46	⇑P		P		11 01 56.9	+1.3
	baz=85								
KSP	Ksiaz	84.85	329	⇑*e*P		P		11 01 55.9	+0.7
KSP	Ksiaz	84.85	329	*e*P		P		11 01 55.9	+0.7
E30A	Jud	84.89	37	⇑P		P		11 01 56.0	+0.4
	baz=85								
O23A	Lake Granby, G	84.97	45	⇑P		P		11 01 57.5	+1.1
	baz=85								
H28A	Mission Ridge	84.98	40	⇑P		P		11 01 55.8	-0.2
	baz=85								
MVCO	Mesa Verde	85.15	49	⇑P		P		11 01 57.2	-0.2
	baz=85								
KRLC	Kraliky	85.19	328	*e*P		P		11 01 57.5	+0.5
KRLC	Kraliky	85.19	328	*e*P		P		11 01 57.5	+0.5
DPC	Dobruska-Polom	85.19	328	*e*P		P		11 01 58.0	+1.0
DPC					pmax	pmax			
	comp=Z,46nm,0.8s								
DPC	Dobruska-Polom	85.19	328	*e*P		P		11 01 56.9	-0.1
DPC				*e*pP		PcP		11 02 00.5	+0.3
DPC	Dobruska-Polom	85.19	328	*e*P		P		11 01 58.0	+1.0
	comp=Z,46nm,0.8s								
AGMN	Agassiz Nation	85.20	34	⇑P		P		11 01 57.2	+0.2
	baz=85								
N24A	Carr	85.21	44	⇑P		P		11 01 58.7	+1.3
	baz=85								
UPC	Upice	85.22	329	*e*P		P		11 01 57.2	+0.1
UPC	Upice	85.22	329	*e*P		P		11 01 57.2	+0.1
G29A	Hoven	85.23	39	⇑P		P		11 01 57.3	0.0
	baz=85								
I28A	Midland	85.33	40	⇑P		P		11 01 58.7	+0.9
	baz=85								
VYHS	Vyhne	85.34	326	*e*P		P		11 01 58.6	+0.8
VYHS					pmax	pmax			
	comp=Z,6.0nm,1.1s								
VYHS	Vyhne	85.34	326	*e*P		P		11 01 58.6	+0.8
J27A	Elkhorn Farm,	85.35	41	⇑P		P		11 01 58.4	+0.4
	baz=85								
MMAI	Mount Meron Ar	85.36	306	P		P		11 01 59.1	+0.9
	comp=Z,0.7nm,0.3s,baz=62,slow=7.2,SNR=4.0								
O24A	Longmont	85.53	45	⇓P		P		11 01 60.0	+0.9
	baz=85								
J28A	Allard Ranch,	85.67	41	⇑P		P		11 02 00.4	+0.9
	baz=86								
G30A	Faulkton	85.69	38	⇑P		P		11 02 00.2	+0.7
	baz=86								
I29A	Vivian Onida	85.79	40	⇑P		P		11 02 00.9	+0.8
	baz=86								
VRAC	Vranov	85.82	328	P		P		11 02 00.9	+0.8
	comp=Z,4.7nm,0.6s,baz=53,slow=3.5,SNR=4.8								
VRAC					LR	LR		11 43 30.4	
	comp=Z,72nm,18.4s,baz=23,slow=38								
BRG	Berggiesshubel	85.86	330	*e*(P)		P		11 02 00.3	+0.1
	comp=Z,2.7nm,0.7s								
BRG	Berggiesshubel	85.86	330	*e*P		P		11 02 00.3	+0.1
BRG					pmax	pmax			
	comp=Z,3.0nm,0.7s								
BRG					MLR	MLR			
	comp=N,99nm,13.8s								
BRG					MLR	MLR			
	comp=E,149nm,18.2s								
BRG					MLR	MLR			
	comp=Z,197nm,13.3s								
L27A	T5 Ranch, Ells	85.92	42	⇓P		P		11 02 00.9	0.0
	baz=86								
CLL	Collm	85.93	331	*e*P		P		11 01 59.0	-1.6
CLL				*e*				11 02 05.0	
CLL					pmax	pmax			
	comp=Z,9.0nm,0.9s								
CLL	Collm	85.93	331	*e*P		P		11 01 59.0	-1.6
	comp=Z,9.0nm,0.9s								
CLL				*e*pP		pP		11 02 05.0	-0.2
CLL					Lm	MLR		13 55 00.0	
	comp=Z,200nm,22.0s								
J29A	Okreek	86.18	40	⇑P		P		11 02 02.8	+0.8
	baz=86								
BRSD	Miller	86.24	39	⇓P		P		11 02 03.1	+0.7
	baz=86								
R23A	Moffat	86.25	47	⇑P		P		11 02 03.4	+0.5
	baz=86								
I30A	Oacoma	86.34	39	⇑P		P		11 02 03.6	+0.8
	baz=86								
P25A	Willow Gulch B	86.45	45	⇓P		P		11 02 04.3	+0.6
	baz=86								
J30A	Dallas	86.69	40	⇑P		P		11 02 04.6	0.0
	baz=86								
S24A	Houchin Ranch,	86.98	47	⇑P		P		11 02 06.5	+0.1
	baz=87								
U23A	El Rito	87.16	49	⇑P		P		11 02 07.3	0.0
	baz=87								
N28A	Pribbeno Ranch	87.27	43	⇓P		P		11 02 07.4	0.0
	baz=87								
KHC	Kasperske Hory	87.30	329	*e*P		P		11 02 06.8	-0.6
KHC	Kasperske Hory	87.30	329	*e*P		P		11 02 06.8	-0.6
KHC				*ex*		x		11 02 09.2	
GERES	GERESS Array B	87.46	329	P		P		11 02 08.0	-0.3
GERES	GERESS Array B	87.46	329	P		P		11 02 08.0	-0.3
	comp=Z,0.4nm,0.4s,baz=32,slow=5.8,SNR=6.8								
GERES					LR	LR		11 45 40.9	
	comp=Z,56nm,19.7s,baz=36,slow=39								
O28A	Krutsinger Ran	87.49	43	⇓P		P		11 02 08.9	+0.3
	baz=87								
R26A	Arlington	87.65	46	⇑P		P		11 02 10.0	+0.6
	baz=88								
L31A	Butterfield Fa	87.82	40	⇓P		P		11 02 10.2	+0.1
	baz=88								
ECSD	EROS Data Cent	87.96	38	⇓P		P		11 02 10.7	0.0
	baz=88								
R27A	Eads	88.06	45	⇓P		P		11 02 11.4	+0.1
	baz=88								
SPMN	Marine on St.	88.86	35	⇓P		P		11 02 15.2	+0.4
	baz=89								
FETA	Feichten	90.15	329	⇓*i*PcP		P		11 02 21.4	+0.3
	comp=Z,6.7nm,1.2s								
DAVA	Damuels	90.31	330	⇑*i*PcP		P		11 02 22.0	+0.1
	comp=Z,6.2nm,0.9s								
FUORN	Ofenpass-Fuorn	90.66	329	*e*P		P		11 02 24.2	+0.6
	comp=Z,13nm,0.9s								
DAVOX	Davos/Dischmat	90.71	329	P		P		11 02 23.6	-0.1
DAVOX					pmax	pmax			
	comp=Z,4.0nm,0.8s								
DAVOX	Davos/Dischmat	90.71	329	P		P		11 02 23.6	-0.1
	comp=Z,4.4nm,0.8s,baz=354,slow=7.0,SNR=6.5								
GDL2	Guadalupe Moun	90.90	51	*e*P		P		11 02 18.1	-6.7
128A	Castleberry Fa	91.86	50	⇑P		P		11 02 29.2	0.0
	baz=92								
X31A	McDonald Ranch	92.15	47	⇓P		P		11 02 30.4	0.0
	baz=92								
W32A	Sentinel	92.28	46	⇓P		P		11 02 31.1	+0.1
	baz=92								
CABF	La Chapelle	92.45	331	*e*P		P		11 02 31.2	-0.5
CABF	La Chapelle	92.45	331	*e*P		P		11 02 31.2	-0.5
CABF	La Chapelle	92.45	331	*e*P		P		11 02 31.2	-0.5
S36A	Lake Cedric, C	92.67	42	⇑P		P		11 02 33.1	+0.3
	baz=92								
W33A	Caddo, Fort Co	92.73	45	⇓P		P		11 02 33.2	+0.1
	baz=93								
Y32A	R-V Farms, Ver	92.90	47	⇑P		P		11 02 33.9	0.0
	baz=93								
Z31A	Sharp Cattle R	92.91	48	⇑P		P		11 02 33.5	-0.5
	baz=93								
329A	Wagon Wheel Ra	92.92	50	⇓P		P		11 02 34.9	+0.8
	baz=93								
LPL	La Plagne	93.05	330	*e*P		P		11 02 34.7	+0.1
	comp=Z,19nm,0.9s								
LPL	La Plagne	93.05	330	*e*P		P		11 02 34.7	+0.1
LPL					pmax	pmax			
	comp=Z,19nm,0.9s								
LPL	La Plagne	93.05	330	*e*P		P		11 02 34.7	+0.1
	comp=Z,19nm,0.9s								
LPG	La Plagne	93.06	330	*e*P		P		11 02 34.8	0.0
	comp=Z,17nm,0.8s								
LPG	La Plagne	93.06	330	*e*P		P		11 02 34.8	0.0
LPG					pmax	pmax			
	comp=Z,17nm,0.8s								
SSF	Saint Saulge	93.11	333	*e*P		P		11 02 34.6	0.0
	comp=Z,22nm,1.1s								
SSF	Saint Saulge	93.11	333	*e*P		P		11 02 34.6	0.0
SSF					pmax	pmax			
	comp=Z,22nm,1.1s								
SSF	Saint Saulge	93.11	333	*e*P		P		11 02 34.6	0.0
	comp=Z,22nm,1.1s								
TXAR	Lajitas Array	93.16	53	P		P		11 02 36.2	+0.9
TXAR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
TXAR					MLR	MLR			
	comp=Z,40nm,18.4s								
TXAR	Lajitas Array	93.16	53	P		P		11 02 36.2	+0.9
	comp=Z,4.0nm,0.7s,baz=300,slow=3.0,SNR=63								
TXAR					LR	LR		11 43 51.8	
	comp=Z,40nm,18.4s,baz=0.0,slow=35								
SMF	Signal de Mont	93.33	332	*e*P		P		11 02 35.4	-0.2
SMF	Signal de Mont	93.33	332	*e*P		P		11 02 35.4	-0.2
SMF	Signal de Mont	93.33	332	*e*P		P		11 02 35.4	-0.2
AVF	Avril sur Loir	93.40	333	*e*P		P		11 02 35.8	-0.1
	comp=Z,16nm,0.9s								
AVF	Avril sur Loir	93.40	333	*e*P		P		11 02 35.8	-0.1
AVF					pmax	pmax			
	comp=Z,16nm,0.9s								
AVF	Avril sur Loir	93.40	333	*e*P		P		11 02 35.8	-0.1
	comp=Z,16nm,0.9s								
Y33A	Hilltop Ranch,	93.40	46	⇓P		P		11 02 36.4	+0.2
	baz=93								
529A	Stev Forest Ra	93.63	51	⇑P		P		11 02 38.1	+0.7
	baz=94								
MBDF	Montbardon	93.67	330	*e*P		P		11 02 37.4	0.0
	comp=Z,17nm,0.9s								
MBDF	Montbardon	93.67	330	*e*P		P		11 02 37.4	0.0
MBDF					pmax	pmax			
	comp=Z,17nm,0.9s								
MBDF	Montbardon	93.67	330	*e*P		P		11 02 37.4	0.0
	comp=Z,17nm,0.9s								
TUL1	Leonard	93.81	43	⇑P		P		11 02 38.4	+0.3
	baz=94								
430A	Baggett Ranch,	93.86	50	⇓P		P		11 02 38.4	0.0
	baz=94								
ORIF	Oris-en-Rattie	93.89	330	*e*P		P		11 02 38.2	-0.2
ORIF	Oris-en-Rattie	93.89	330	*e*P		P		11 02 38.2	-0.2
ORIF	Oris-en-Rattie	93.89	330	*e*P		P		11 02 38.2	-0.2
232A	Coleman	94.17	49	⇓P		P		11 02 40.5	+0.7
	baz=94								
530A	J-C Ranch, Com	94.20	51	⇑P		P		11 02 40.7	+0.7
	baz=94								
332A	Millersview	94.44	49	⇓P		P		11 02 41.5	+0.5
	baz=94								
VIVF	Saint-Julien-l	94.45	331	*e*P		P		11 02 40.7	-0.1
	comp=Z,45nm,1.3s								
VIVF	Saint-Julien-l	94.45	331	*e*P		P		11 02 40.7	-0.1
VIVF	Saint-Julien-l	94.45	331	*e*P		P		11 02 40.7	-0.1
	comp=Z,45nm,1.3s								
531A	Rocksprings	94.71	50	⇓P		P		11 02 43.1	+0.8
	baz=95								
334A	Lometa	95.43	48	⇑P		P		11 02 45.9	+0.3
	baz=95								
KEST	Kesra	99.49	322	LR		LR		11 54 37.1	
	comp=Z,17nm,18.4s,baz=292,slow=39								
TORD	Torodi Ar. Bea	121.29	313	PKP		PKPdf		11 08 13.6	-0.9
	comp=Z,0.7nm,0.8s,baz=40,slow=1.4,SNR=4.4								
SAML	Samuel	147.64	51	*e*PKPdf		PKPbc		11 09 05.1	-0.7
PLCA	Paso Flores	152.50	118	PKIKP		PKPbc		11 09 17.6	+0.6
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
PLCA	Paso Flores	152.50	118	PKPbc		PKPbc		11 09 17.6	+0.6
	comp=Z,2.1nm,0.8s,baz=225,slow=2.9,SNR=3.9								

IDC 01 10:52:31.4±3.0, 54.58N×86.66E, h0km, mb1 3.4/2, mb1mx3.1/29, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=23.4km s-min=15.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.25	240	*i*		11 00 50.0	
	baz=60,slow=337,SNR=0.6						
ZALV	Zalesovo Beam	1.25	240	Pg	Pg	10 52 54.0	-1.4
	5.5nm,0.3s,baz=57,slow=17,SNR=41						
ZALV				Lg	Lg	10 53 11.7	
	3.7nm,0.3s,baz=55,slow=30,SNR=15						
KURBB	Kurchatov Arra	6.34	235	Pn	Pn	10 54 07.1	+1.1
	0.4nm,0.3s,baz=50,slow=14,SNR=27						
KURBB				Sn	Sn	10 55 18.7	-0.4
	0.1nm,0.3s,baz=46,slow=22,SNR=5.2						
KURBB				Lg	Lg	10 55 51.8	
	0.0nm,0.3s,baz=48,slow=32,SNR=3.4						
MKAR	Makanchi Array	8.27	201	Pn	Pn	10 54 33.3	+0.8
	0.3nm,0.3s,baz=21,slow=14,SNR=3.8						
MKAR				Sn	Sn	10 56 05.5	-1.2
	0.2nm,0.3s,baz=23,slow=27,SNR=5.9						
MKAR				Lg	Lg	10 56 54.1	
	baz=24,slow=32,SNR=2.9						

SJA 01 11:13:00.5±1.5, 23.95S×67.41W, h162km±92km, ML3.1
ISCJB 01 11:13:04.3±1.0, 23.9S±0.1×67.04W±0.10, h181km, mb3.3/2, Error ellipse: s-maj=14.3km s-min=12.3km az=6.4
IDC 01 11:13:06.2±4.3, 23.85S×67.08W, h189km±36km, mb3.2/2, mb1 3.5/5, mb1mx3.2/24, mbtmp3.8/5, Error ellipse: s-maj=45.2km s-min=27.5km az=125.0
ISC 01 11:13:05.0±1.1, 23.9S±0.1×67.0W±0.1, h181km, n12, σ1s22/15, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.60	120	*i* P	Pn	11 13 37.2	-1.0
SLA				*i* S	Sn	11 14 02.4	-1.6
SLA				AML	AML	11 14 04.4	
	comp=Z,89nm,0.7s						
AZAP	Zapla	1.82	100	*i* P	Pn	11 13 40.0	-0.5
AZAP				*i* S	Sn	11 14 08.4	+0.4
ASTB	Santa Barbara	2.33	91	*i* P	Pn	11 13 45.3	-0.7
ALOL	LOMAS DE OLMED	2.81	88	*i* P	Pn	11 13 50.3	-1.1
ALOL				*i* S	Sn	11 14 29.0	+1.5
SIV	San Ignacio	9.69	36	P	Pn	11 15 20.2	-0.3
	comp=Z,0.6nm,0.3s,baz=236,slow=13,SNR=5.6						
PLCA	Paso Flores	17.01	189	P	Pn	11 16 54.5	+2.2
	comp=Z,0.2nm,0.3s,baz=347,slow=11,SNR=5.0						
BDFB	Brasilia	19.69	69	P	P	11 17 21.4	+0.8
	comp=Z,0.7nm,0.3s,baz=238,slow=9.8,SNR=9.4						
TORD	Torodi Ar. Bea	76.58	69	P	P	11 24 36.3	+0.4
	comp=Z,0.2nm,0.4s,baz=257,slow=5.4,SNR=7.4						
YKA	Yellowknife Ar	94.05	340	P	P	11 26 02.5	+0.4
	comp=Z,0.2nm,0.5s,baz=135,slow=4.6,SNR=6.4						
ASAR	Alice Springs	128.50	205	PKP	PKPdf	11 31 49.4	-1.7
	comp=Z,0.4nm,0.8s,baz=120,slow=1.6,SNR=4.5						
WRA	Warramunga Arr	131.67	207	PKP	PKPdf	11 31 56.1	-1.0
	comp=Z,0.3nm,0.8s,baz=156,slow=1.9,SNR=6.6						
MKAR	Makanchi Array	146.49	39	PKPbc	PKPab	11 32 25.5	-0.7
	comp=Z,0.6nm,0.6s,baz=313,slow=3.3,SNR=8.4						

ISCJB 01 11:35:24.3±1.0, 31.56S±0.09×68.7W±0.2, h110km±7km, mb3.6/1, Error ellipse: s-maj=24.9km s-min=8.2km az=30.0
SJA 01 11:35:24.2±0.8, 31.56S×68.71W, h104km±4km, ML3.4
IDC 01 11:35:24.0±1.5, 31.75S×68.64W, h102km±8km, mb3.6/1, mb1 3.4/2, mb1mx3.2/15, mbtmp3.7/2, Error ellipse: s-maj=43.5km s-min=25.4km az=100.0
ISC 01 11:35:24.5±1.0, 31.56S±0.08×68.8W±0.1, h107km±6km, n15, σ0s88/23, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	San Juan	0.17	78	*i* P	Pn	11 35 39.7	+0.2
SJA				*i* S	Sn	11 35 50.3	-0.5
SJA				AML	AML	11 35 50.9	
	comp=Z,736nm,0.2s						
RTLL	Cerro Villicun	0.33	46	*i* P	Pn	11 35 40.1	-0.1
CFAA	Coronel Fontan	0.44	96	P	Pn	11 35 40.5	-0.2
	comp=Z,23nm,0.3s,baz=250,slow=6.6,SNR=552						
CFAA				S	Sn	11 35 52.5	-0.5
	comp=Z,43nm,0.3s,baz=162,slow=20,SNR=193						
CFAA	Coronel Fontan	0.44	96	*i* P	Pn	11 35 40.5	-0.2
CFAA				*i* S	Sn	11 35 52.3	-0.6
RTLS	Leoncito	0.52	243	*i* P	Pn	11 35 42.3	+0.8
AUSP	Uspallata	0.85	219	*i* P	Pn	11 35 45.0	+0.7
ASAL	Salagasta	1.03	184	*i* P	Pn	11 35 46.4	+0.5
ASAL				*i* S	Sn	11 36 03.5	+1.5
ARCO	CERRO ARCO	1.28	187	*i* P	Pn	11 35 49.3	+0.5
ARCO				*i* S	Sn	11 36 07.6	+0.4
ARCO				AML	AML	11 36 09.4	
	comp=Z,932nm,0.4s						
AVFE	Valle Fertil	1.43	51	*i* P	Pn	11 35 50.7	+0.3
AVFE				*i* S	Sn	11 36 09.9	-0.2
AVFE				AML	AML	11 36 11.3	
	comp=Z,230nm,0.6s						
AAGR	Agrelo	1.52	182	*i* P	Pn	11 35 52.1	+0.6
AAGR				*i* P	Pn	11 35 52.1	+0.6
PLCA	Paso Flores	9.27	189	P	Pn	11 37 32.2	-2.9
	comp=Z,0.1nm,0.3s,baz=23,slow=15,SNR=3.4						
TORD	Torodi Ar. Bea	80.76	68	P	P	11 47 26.5	+0.1
	comp=Z,0.7nm,0.7s,baz=234,slow=6.9,SNR=6.0						
WRA	Warramunga Arr	124.20	206	PKP	PKPdf	11 54 10.5	-0.6
	comp=Z,0.3nm,0.5s,baz=154,slow=2.0,SNR=8.0						
ZALV	Zalesovo Beam	150.69	33	PKPbc	PKPbc	11 55 03.8	+0.3
	comp=Z,1.2nm,0.6s,baz=311,slow=3.3,SNR=5.2						
MKAR	Makanchi Array	153.08	47	PKPbc	PKPbc	11 55 09.2	0.0
	comp=Z,0.2nm,0.7s,baz=315,slow=1.0,SNR=2.6						
MKAR				PKPab	PKPab	11 55 21.3	+0.2
	comp=Z,0.3nm,0.7s,baz=291,slow=5.2,SNR=3.4						

IDC 01 11:53:53.6±1.1, 30.78N×131.85E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.3/52, mbtmp3.3/7, ML2.9/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/27, Error ellipse: s-maj=38.4km s-min=18.5km az=82.0
ISCJB 01 11:53:55.9±0.7, 30.85N±0.03×131.95E±0.05, h29km, mb3.4/4, Error ellipse: s-maj=6.1km s-min=4.7km az=17.1
JMA 01 11:53:57.3±0.1, 30.87N×131.88E, h51km±2km, M3.4
ISC 01 11:53:57.8±1.1, 30.86N±0.05×131.85E±0.07, h29km, n20, σ0s55/30, mb3.6/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	0.78	255	P	Pb	11 54 12.6	-0.2
JTN				S	Sn	11 54 24.1	+0.5
JNAR	Kushima--Naru	0.83	323	P	Pn	11 54 13.2	-0.3
JNAR				S	Sb	11 54 24.8	+0.3
JTSR	Tashiro 2	0.85	291	P	Pn	11 54 13.3	-0.6
JTSR				S	Sn	11 54 26.0	+0.5
JTZ	Takazaki	1.23	328	P	Pn	11 54 18.5	-0.5
JTZ				S	Sn	11 54 33.5	-1.1
JYAK	Yakushimahirau	1.32	242	P	Pn	11 54 20.0	-0.2
JYAK				*e*S	Sn	11 54 37.0	+0.2
JSU	Suzuyama	1.36	298	P	Pn	11 54 20.8	0.0
JSU				*e*S	Sn	11 54 37.2	-0.7
JTSN	Tsuno	1.41	348	P	Pn	11 54 20.9	-0.6
JTSN				S	Sn	11 54 38.6	-0.5
JKC	Kuchinoerabu	1.48	255	P	Pn	11 54 22.4	-0.1
JKC				S	Sn	11 54 41.2	+0.3
JZO	Okuchi	1.66	320	P	Pn	11 54 24.9	-0.2
JZO				S	Sn	11 54 45.8	+0.3
JIU2	Izumi 2	1.90	332	P	Pn	11 54 28.3	+0.1
JIU2				S	Sn	11 54 51.2	0.0
JNN	Nakanoshima	1.99	240	P	Pn	11 54 29.6	+0.1
JSJ	Shimokoshiki	2.00	294	P	Pn	11 54 28.7	-1.0
JNU	Nakatsue	2.40	340	Pn	Pn	11 54 35.5	+0.3
	3.1nm,0.3s,baz=190,slow=8.9,SNR=24						
JNU				Sn	Sn	11 55 04.0	+0.3
	12nm,0.3s,baz=95,slow=22,SNR=10						
KSRS	Korea Array	7.34	335	Pn	Pn	11 55 41.9	-1.0
	0.2nm,0.3s,baz=162,slow=14,SNR=3.4						
MJAR	Matsushiro Arr	7.75	41	Pn	Pn	11 55 49.0	+0.3
	0.5nm,0.3s,baz=246,slow=14,SNR=4.0						
USRK	Ussuriysk Ar.	13.31	0	LR	LR	12 01 05.2	
	comp=Z,36nm,20.3s,baz=94,slow=32						
SONM	Songino Array	25.80	318	P	P	11 59 27.3	+0.8
	0.3nm,0.6s,baz=116,slow=9.9,SNR=2.4						
WRA	Warramunga Arr	50.57	177	P	P	12 02 53.2	-0.6
	0.6nm,0.8s,baz=356,slow=8.0,SNR=3.1						
ASAR	Alice Springs	54.25	178	P	P	12 03 20.9	-0.3
	0.4nm,0.6s,baz=11,slow=13,SNR=11						
ILAR	Eielson Array	58.86	30	P	P	12 03 54.2	+0.7
	0.3nm,0.7s,baz=286,slow=7.3,SNR=6.4						

ISK 01 12:09:31.4, 37.84N×37.73E, h24km, MD2.8
DDA 01 12:09:32.9, 37.87N×37.69E, h7km, MD2.7
CSEM 01 12:09:31.4±0.4, 37.79N×37.77E, h19km±1km, MD2.7, Error ellipse: s-maj=7.3km s-min=4.9km az=151.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	Gaziantep	0.47	200	*i* P	Pn	12 09 41.9	+0.7
GZT				*i* S	Sn	12 09 51.6	+0.5
AKCD	Akcadag	0.52	14	*i* P	Pb	12 09 41.6	-0.5
AKCD				*i* S	Sb	12 09 49.7	+0.4
AKCD	Akcadag	0.52	14	*i* P	Pb	12 09 41.6	-0.5
AKCD				*i* S	Sb	12 09 49.7	+0.3
MALT	Malatya	0.74	45	*e*PG	Pg	12 09 46.5	+0.4
MALT				*e*SG	Sn	12 09 57.1	-0.7
MALT	Malatya	0.74	45	*e*Pg	Pg	12 09 46.5	+0.4
MALT				*e*Sg	Sn	12 09 57.1	-0.7
KMRS	Kahramanmaras	0.75	248	*e*PG	Pg	12 09 46.3	+0.2
KMRS				*e*SG	Sn	12 09 57.3	-0.5
KMRS	Kahramanmaras	0.75	248	*e*Pg	Pg	12 09 46.3	+0.1
KMRS				*e*Sg	Sn	12 09 57.3	-0.5
DARE	Darende-Malaty	0.81	344	*e*PG	Pb	12 09 46.7	-0.3
DARE				*e*SG	Sb	12 09 57.9	+0.1
DARE	Darende-Malaty	0.81	344	*e*Pg	Pb	12 09 46.7	-0.3
DARE				*e*Sg	Sb	12 09 57.9	+0.2
URFA	Urfa	0.91	112	*e*PG	Pb	12 09 48.8	+0.1
URFA	Urfa	0.91	112	*e*Pg	Pb	12 09 48.8	+0.2

baz=301
ILA *e*S **Sb** **12 13 08.7 -0.1**
baz=301
TWE **Neicheng** **1.16 298** *i* P **Pn** **12 12 54.8 -0.2**
baz=311
TWE *i* S **Sb** **12 13 09.2 -0.8**
baz=311
ENTT **Nioudou** **1.21 293** P **Pn** **12 12 55.5 -0.3**
baz=291
ENTT *e*S **Sb** **12 13 11.3 -0.1**
baz=291
JIJ **Ishigaki jima** **1.25 81** P **Pn** **12 12 55.8 -0.5**
JIJ S **Sb** **12 13 12.3 -0.3**
NWF **Wu-fen Shan** **1.28 315** *e*P **Pn** **12 12 56.0 -0.8**
baz=315
NWF *e*S **Sn** **12 13 14.1 +0.3**
baz=315
ESL **Shilin** **1.29 254** *e*P **Pn** **12 12 55.9 -1.0**
baz=239
ESL *e*S **Sn** **12 13 13.7 -0.1**
baz=239
NNS **Nan Shan** **1.32 282** *e*P **Pb** **12 12 57.7 -0.2**
baz=279
NNS *e*S **Sn** **12 13 14.6 -0.1**
baz=279
TWA **Mucha** **1.36 307** *e*P **Pn** **12 12 57.4 -0.4**
baz=322
TWA *e*S **Sb** **12 13 16.1 +0.3**
baz=322
WHF **Hehuan Shan** **1.39 269** ⇓*i*P **Pn** **12 12 58.9 +0.3**
baz=266
WHF *e*S **Sn** **12 13 17.0 0.0**
baz=266
NSK **Sanguang** **1.40 291** P **Pb** **12 12 59.1 -0.1**
baz=274
NSK *e*S **Sn** **12 13 16.3 -0.3**
baz=274
JISG **Ishigakijimahi** **1.45 73** P **Pn** **12 12 58.6 -0.4**
JISG S **Sn** **12 13 16.8 -0.9**
TWT **Tachien** **1.48 274** *e*P **Pb** **12 13 01.1 +0.4**
baz=270
TWT *e*S **Sb** **12 13 19.9 +0.7**
baz=270
EHY **Hungye** **1.50 244** *i* P **Pn** **12 12 59.6 -0.1**
baz=240
EHY *e*S **Sb** **12 13 19.5 -0.2**
baz=240
TWY **Chenhua** **1.54 316** *e*P **Pn** **12 13 00.5 +0.1**
baz=316
TWY *e*S **Sb** **12 13 21.1 0.0**
baz=316
TWS1 **Kuangyinshan** **1.56 307** *e*P **Pb** **12 13 01.8 0.0**
baz=321
TWS1 *e*S **Sb** **12 13 20.5 -0.8**
baz=321
WDT **Danda** **1.57 255** P **Pn** **12 13 01.2 +0.3**
baz=251
WDT *e*S **Sn** **12 13 21.9 +0.8**
baz=251
TWF1 **Yuli** **1.59 240** *i* P **Pn** **12 13 01.0 +0.1**
baz=235
TWF1 *e*S **Sn** **12 13 21.0 -0.3**
baz=235
CHKT **Chengkung** **1.69 231** *e*P **Pn** **12 13 01.1 -1.2**
baz=213
CHKT *e*S **Sn** **12 13 21.9 -1.6**
baz=213
NSTT **Nanjuang** **1.69 286** *e*P **Pb** **12 13 04.3 0.0**
baz=271
NSTT *e*S **Sb** **12 13 25.1 -0.2**
baz=271
SMLT **Sun Moon Lake** **1.75 261** ⇓P **Pb** **12 13 04.5 -0.8**
baz=258
SMLT *e*S **Sn** **12 13 25.4 +0.1**
baz=258
TYC **Yuchr** **1.79 262** ⇓P **Pb** **12 13 04.8 -1.0**
baz=259
TYC *e*S **Sb** **12 13 27.8 -0.2**
baz=259
JTJ **Tarama** **1.81 75** P **Pn** **12 13 04.2 +0.3**
JTJ S **Sn** **12 13 25.6 -0.9**
YUS **Yu-Shan** **1.81 248** P **Pn** **12 13 05.3 +0.8**
baz=245
YUS *e*S **Sn** **12 13 28.1 +0.7**
baz=245
TWQ1 **Liyutan** **1.85 276** *e*P **Pb** **12 13 06.3 -0.6**
baz=273
TWQ1 *e*S **Sb** **12 13 29.5 -0.3**
baz=273
NSY **Sanyi** **1.87 278** *e*P **Pb** **12 13 07.4 +0.2**
baz=276
ELDTW **Lidau** **1.90 239** *e*P **Pn** **12 13 05.0 -0.3**
baz=236
TCU **Taichung** **1.93 270** *e*P **Pb** **12 13 07.7 -0.6**
baz=267
TCU *e*S **Sn** **12 13 30.7 +1.1**
baz=267
ALS **Alishan** **1.93 251** ⇓P **Pn** **12 13 07.2 +1.3**
baz=247
ALS *e*S **Sn** **12 13 31.0 +0.9**
baz=247
WNT **Mingjian** **1.95 262** *e*P **Pb** **12 13 07.9 -0.6**
baz=259
CHN5 **Tsauling** **2.02 254** ⇓P **Pb** **12 13 08.9 -0.9**
baz=238
CHN5 *e*S **Sb** **12 13 34.0 -0.6**
baz=238
TWG **Pinlang** **2.07 230** *e*P **Pn** **12 13 07.1 -0.5**
baz=215
TWG *e*S **Sn** **12 13 33.0 -0.1**
baz=215
STYT **Tauyuan** **2.12 242** *e*P **Pn** **12 13 09.3 +1.0**
baz=227
STYT *e*S **Sb** **12 13 36.2 -1.3**
baz=227
CHN4 **Tsaushan** **2.17 248** *e*P **Pb** **12 13 11.1 -1.3**
baz=245
CHN4 *e*S **Sb** **12 13 39.5 +0.4**
baz=245
WTP **Ta-pu** **2.19 246** P **Pn** **12 13 10.9 +1.6**
baz=242
WTP *e*S **Sb** **12 13 38.3 -1.5**
baz=242
CHY **Chiayi** **2.27 253** *e*P **Pb** **12 13 13.6 -0.4**
baz=251
JIRB **Irabujima** **2.27 73** P **Pn** **12 13 10.5 +0.2**
JIRB S **Sn** **12 13 36.9 -1.0**
CHN1 **Nanshi** **2.29 245** *e*P **Pb** **12 13 12.9 -1.6**
baz=242
CHN1 *e*S **Sn** **12 13 40.5 +1.9**
baz=242
TWK **Hsinying** **2.29 247** *e*P **Pb** **12 13 13.0 -1.5**
baz=244
TWK *e*S **Sn** **12 13 38.7 +0.1**
baz=244
SGST **Jiashian** **2.29 242** *e*P **Pb** **12 13 13.2 -1.3**
baz=228
SGST *e*S **Sn** **12 13 40.5 +1.9**
baz=228
JIKM **Ikemajima** **2.36 71** P **Pn** **12 13 11.8 +0.2**
JIKM S **Sn** **12 13 39.5 -0.7**
JMJ **Miyako jima 2** **2.37 74** P **Pn** **12 13 12.5 +0.8**
JMJ S **Sn** **12 13 41.1 +0.6**
SSD **Sandimen** **2.44 235** *e*P **Pn** **12 13 14.7 +2.1**
baz=224
SSD *e*S **Sb** **12 13 45.3 -1.4**
baz=224
JOGS **Gusukube** **2.46 76** P **Pn** **12 13 13.8 +0.9**
JOGS S **Sn** **12 13 42.7 +0.1**
CHN3 **Shinhua** **2.48 244** *e*P **Pb** **12 13 16.4 -1.2**
baz=242
EAST **Anshuo** **2.52 226** *e*P **Pn** **12 13 13.8 0.0**
baz=222
TWM1 **Shoushan** **2.55 239** *e*P **Pn** **12 13 16.7 +2.5**
baz=236
SGLT **Jiouru** **2.55 236** *e*P **Pb** **12 13 16.8 -2.1**
baz=233
SGLT *e*S **Sn** **12 13 47.5 +2.6**
baz=233
SCZT **Fangliau** **2.68 229** *e*P **Pn** **12 13 18.1 +2.1**
baz=217
SCZT *e*S **Sb** **12 13 51.5 -2.2**
baz=217
TWK1 **Hengchun** **2.87 220** *e*P **Pn** **12 13 21.4 +2.9**
baz=216
TWK1 *e*S **Sn** **12 13 55.4 +2.5**
baz=216
TWP **Hsiaoliuchiu** **2.88 231** *e*P **Pb** **12 13 22.1 -2.3**
baz=244
PNG **Penghu** **3.02 259** *e*P **Pn** **12 13 22.0 +1.3**
baz=257
PNG *e*S **Sn** **12 13 57.6 +1.1**
baz=257
JKE **Kume jima 2** **4.21 58** P **Pn** **12 13 38.1 +1.1**

DJA 01 12:26:34.7±1.2,**1˚N**±9˝×**12˚3E**±˚,**h10**km,**M3.9/5,MLv3.9/5,**
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
GTOI	**Gorontalo**	**0.88**	**163**	P		Pg	12 26 47.5	-4.1
MRSI	**Marisa**	**1.28**	**219**	P		Pn	12 26 56.0	-2.7
MRSI				S		Sb	12 27 14.9	-0.6
LUWI	**Luwuk**	**2.50**	**180**	P		Pn	12 27 15.9	+0.4
APSI	**Ampana**	**2.62**	**205**	P		Pn	12 27 17.6	+0.5
MPSI	**Mapaga**	**3.07**	**248**	P		Pn	12 27 23.2	-0.1

*IDC **01** 12:28:11.1±1.8,1˚51N×123˚16E,h0km,mb3.7/3,*
mb1 3.9/3,mb1mx3.5/23,mbtmp3.7/3,MS3.2/1,Ms1 3.2/1,
ms1mx2.4/43,Error ellipse: s-maj=234.3km s-min=23.9km
az=69.0
*ISCJB **01** 12:28:15.9±1.1,1˚52N±0˙09×122˚62E±0˙06,h38km,*
mb3.6/3,Error ellipse: s-maj=12.8km s-min=9.0km
az=175.6
*DJA **01** 12:28:16.4±0.8,1˚N±7˚×12˚3E±˚,h10km,M4.4/7,MLv4.4/7*

ISC 01 12:28:16.8±1.3,**1˚4N**±0˙1×**122˙69E**±0˙08,**h38**km,**n10,**
σ1§72/9,mb3.8/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
MRSI	**Marisa**	**1.21**	**218**	P		**Pn**	**12 28 35.7**	**-1.5**
MRSI				S		**Sn**	**12 28 53.0**	**+0.7**
KMSI	**Cibinong**	**1.54**	**123**	P		**Pn**	**12 28 42.6**	**+0.8**
KMSI				S		Sn	12 29 04.1	+3.5
LUWI	**Luwuk**	**2.46**	**178**	P		**Pn**	**12 28 55.2**	**+0.8**
APSI	**Ampana**	**2.55**	**204**	P		**Pn**	**12 28 57.7**	**+2.1**
MPSI	**Mapaga**	**3.00**	**249**	P		**Pn**	**12 29 02.7**	**+1.0**
PCI	**Palu**	**3.68**	**231**	P		Pn	12 29 20.2	+9.0
BATI	**Baumata**	**11.60**	**175**	LR		LR	12 36 47.1	
	comp=Z,120nm,18.7s,baz=254,slow=44							
WRA	**Warramunga Arr**	**24.12**	**152**	P		**P**	**12 33 26.6**	**-2.7**
	2.4nm,0.5s,baz=337,slow=9.7,SNR=34							
ASAR	**Alice Springs**	**27.23**	**157**	P		**P**	**12 33 56.3**	**-1.1**
	0.4nm,0.7s,baz=343,slow=14,SNR=7.8							
SONM	**Songino Array**	**48.33**	**345**	P		**P**	**12 36 55.2**	**+0.5**
	1.3nm,1.2s,baz=159,slow=8.6,SNR=3.0							

*NNC **01** 12:34:40.9±2.8,54˚23N×86˚46E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=22.9km s-min=18.2km az=171.0
*IDC **01** 12:34:41.0±2.3,54˚28N×86˚19E,h0km,mb1 3.3/2,*
mb1mx3.0/29,mbtmp3.3/2,ML2.9/2,Error ellipse:
s-maj=17.7km s-min=11.4km az=53.0

ISC 01 12:34:42.0±4.7,**54˚5N**±0˙2×**86˚6E**±0˙2,**h35**km,**n7,**
σ1§46/10,5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
I46RU	**ZALESOVO INFRA**	**1.15**	**245**	*i*			12 40 20.0	
	baz=68,slow=332,SNR=2.2							
ZALV	**Zalesovo Beam**	**1.15**	**245**	Pg		Pn	12 34 55.8	-5.7
	1.1nm,0.3s,baz=65,slow=16,SNR=14							
ZALV				Lg		Lg	12 35 10.3	
	8.9nm,0.3s,baz=69,slow=28,SNR=52							
KURK	**Kurchatov**	**6.12**	**236**	⇑Pn		**Pn**	**12 36 09.6**	**-0.3**
	0.8nm,0.7s							
KURK				⇑Sn		**Sn**	**12 37 20.9**	**+2.3**
	0.6nm,1.0s							
KURK				⇑Lg		Lg	12 37 47.8	
	2.5nm,0.7s							
KURBB	**Kurchatov Arra**	**6.23**	**235**	⇑Pn		**Pn**	**12 36 10.8**	**-0.5**
	1.8nm,0.5s							
KURBB				⇓Sn		**Sn**	**12 37 22.4**	**+1.3**
	2.4nm,0.8s							
KURBB				⇑Lg		Lg	12 37 50.8	
	9.1nm,0.7s							
KURBB	**Kurchatov Arra**	**6.23**	**235**	Pn		**Pn**	**12 36 11.2**	**-0.1**
	0.1nm,0.3s,baz=52,slow=14,SNR=21							
KURBB				Sn		**Sn**	**12 37 18.5**	**-2.6**
	0.0nm,0.3s,baz=46,slow=17,SNR=3.0							
KURBB				Lg		Lg	12 37 49.5	
	0.1nm,0.3s,baz=51,slow=32,SNR=6.9							
MK31	**Makanchi Array**	**8.14**	**201**	⇓Pn		**Pn**	**12 36 38.0**	**+0.5**
	1.0nm,0.7s,baz=29,slow=13,SNR=23							
MK31				Sn		**Sn**	**12 38 08.0**	**-0.2**
	0.5nm,0.6s,baz=23,slow=25,SNR=5.1							
MK31				⇓Lg		Lg	12 38 51.0	
	1.6nm,0.8s							
MKAR	**Makanchi Array**	**8.14**	**201**	Pn		**Pn**	**12 36 37.8**	**+0.3**
	0.4nm,0.3s,baz=24,slow=13,SNR=19							
MKAR				Sn		**Sn**	**12 38 07.5**	**-0.7**
	0.3nm,0.3s,baz=21,slow=25,SNR=5.6							
MKAR				Lg		Lg	12 38 48.8	
	0.1nm,0.3s,baz=22,slow=34,SNR=5.3							

*GUC **01** 12:53:06.1±0.5,34˚70S×72˚06W,h29km±4km,ML4.8*
*ISCJB **01** 12:53:06.9±0.1,34˚62S±0˙03×71˚90W±0˙04,h16km,*
mb5.1/95,MS4.5/14,Error ellipse: s-maj=5.2km
s-min=3.5km az=151.3
*GCMT **01** 12:53:07.6±0.3,34˚87S×72˚22W,h12km,MW5.1/83,*
Moment Tensor Solution. s26,c32; s83,c116; Duration:
0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.24±.19;
$M_{\theta\theta}$2.10±.12; $M_{\phi\phi}$1.15±.19; $M_{r\theta}$-2.36±.50; $M_{r\phi}$4.05±.13;
$M_{\theta\phi}$2.53±.54; Best double couple: $M_0$6.01600×10^{16}
NP1:ϕ_s82.00000°,δ59.00000°,λ-39.00000°. NP2:
ϕ_s195.00000°,δ58.00000°,λ-142.00000°. Principal axes:
T 5.7040, Plg1.0000°, Azm139.0000°; N 0.6340,
Plg42.0000°, Azm229.0000°; P -6.3280, Plg48.0000°,
Azm48.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*NEIC **01** 12:53:07.6±0.8,34˚65S×71˚82W,h12km±5km,mb5.2/80,*
ML4.8(GUC) Error ellipse: s-maj=5.9km s-min=3.7km
az=82.0
NEIC Felt [V] at Pichilemu; [IV] at Romeral and San Fernando;
[III] at Constitucion, Linares, Longavi, Pencahue, Rio
Claro, San Javier and Talca; [II] at Cauquenes, Curico,
Molina, Parral, Santiago and Yerbas Buenas. Also felt at
Limache and Puente Alto. Felt at Mendoza, Argentina.
*MOS **01** 12:53:09.8±1.1,34˚58S×71˚85W,h33km,mb5.3/28,Error*
ellipse: s-maj=16.8km s-min=7.3km az=101.9
*IDC **01** 12:53:11.9±2.9,34˚63S×71˚86W,h42km±24km,mb4.7/15,*
mb1 4.8/17,mb1mx4.7/18,mbtmp4.9/17,ML3.9/2,MS4.3/14,
Ms1 4.3/14,ms1mx4.3/17,Error ellipse: s-maj=18.1km
s-min=14.1km az=83.0

ISC 01 12:53:08.2±0.3,**34˚67S**±0˙03×**71˚88W**±0˙05,**h16**km,**n667,**
σ0§98/701,mb5.2/95,MS4.5/14,197C-164D,Near coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
NICH	**Los Niches**	**0.63**	**122**	⇑*i*P		**Pg**	**12 53 20.0**	**-0.6**
NICH				*i* S		**Sb**	**12 53 30.5**	**+1.1**
NICH	**Los Niches**	**0.63**	**122**	⇑*i*P		**Pg**	**12 53 20.0**	**-0.6**
NICH				*i* S		**Sb**	**12 53 30.5**	**+1.1**
TALC	**Talca**	**0.76**	**165**	⇑*i*P		**Pb**	**12 53 20.4**	**-2.6**
TALC				*i* S		**Sg**	**12 53 31.4**	**-1.7**
TALC	**Talca**	**0.76**	**165**	⇑*i*P		**Pb**	**12 53 20.4**	**-2.6**
TALC				*i* S		**Sg**	**12 53 31.4**	**-1.7**
LNV	**Longovilo**	**0.81**	**29**	⇑*i*P		**Pb**	**12 53 22.4**	**-1.5**
LNV	**Longovilo**	**0.81**	**29**	⇑*i*P		**Pb**	**12 53 22.4**	**-1.5**
CACH	**El Canelo**	**1.19**	**63**	⇓*i*P		**Pn**	**12 53 29.7**	**-0.7**
CACH	**El Canelo**	**1.19**	**63**	⇓*i*P		**Pn**	**12 53 29.7**	**-0.7**
CHCH	**Chadas Angostu**	**1.25**	**55**	⇓*i*P		**Pn**	**12 53 30.0**	**-1.0**
CHCH	**Chadas Angostu**	**1.25**	**55**	⇓*i*P		**Pn**	**12 53 30.0**	**-1.0**
RCDM	**Rinconada Maip**	**1.47**	**37**	*e*P		**Pn**	**12 53 33.5**	**-0.6**
RCDM	**Rinconada Maip**	**1.47**	**37**	*e*P		**Pn**	**12 53 33.5**	**-0.6**
CLCH	**Cerro Calan**	**1.69**	**42**	*e*P		**Pn**	**12 53 37.0**	**-0.1**
CLCH					AML	AML	12 54 12.5	
	comp=E,17μm,0.7s							
CLCH					AML	AML	12 54 13.0	
	comp=E,20μm,0.8s							
YECH	**El Yeso**	**1.79**	**57**	⇓*i*P		**Pn**	**12 53 38.7**	**0.0**
YECH					AML	AML	12 54 09.7	
	comp=N,9μm,0.5s							
YECH	**El Yeso**	**1.79**	**57**	⇓*i*P		**Pn**	**12 53 38.7**	**0.0**
PEL	**Peldehue**	**1.81**	**33**	*e*P		**Pn**	**12 53 38.5**	**-0.3**
PEL	**Peldehue**	**1.81**	**33**	*e*P		**Pn**	**12 53 38.5**	**-0.3**
PEL					AML	AML	12 54 12.0	
	comp=N,16μm,0.7s							
PEL	**Peldehue**	**1.81**	**33**	*e*P		**Pn**	**12 53 38.5**	**-0.3**
ROCH	**El Roble**	**1.84**	**23**	AML		AML	12 54 14.9	
	comp=N,8μm,0.5s							
CFAA	**Coronel Fontan**	**4.32**	**46**	P		**Pn**	**12 54 16.1**	**+2.8**
	comp=N,1.7nm,0.3s,baz=215,slow=15,SNR=81							
CFAA				S		**Sb**	**12 55 14.3**	**-1.3**
	comp=N,3.2nm,0.3s,baz=277,slow=14,SNR=3.9							
CFAA				LR		LR	12 56 07.6	
	comp=N,437nm,19.2s,baz=233,slow=41							
LCO	**Las Campanas**	**5.72**	**10**	*e*Pn		**Pn**	**12 54 31.4**	**-1.4**
	comp=N,137nm,0.8s							
LCO				*e*Sn		**Sn**	**12 55 37.0**	**-1.4**
TRQA	**Tornquist**	**8.67**	**116**	*e*Pn		**Pn**	**12 55 15.3**	**+2.3**
LVC	**Limon Verde**	**12.29**	**13**	*e*Pn		Pn	12 55 58.7	-4.1
LPAZ	**La Paz**	**18.61**	**11**	P		**Pn**	**12 57 26.0**	**+0.2**
	comp=N,0.5nm,0.3s,baz=185,slow=8.8,SNR=62							
EFI	**East Falkland**	**19.70**	**154**	⇑*e*P		**Pn**	**12 57 39.6**	**+1.4**
EFI					pmax	pmax		
	comp=Z,417nm,1.7s							
EFI	**East Falkland**	**19.70**	**154**	*e*Pn		**Pn**	**12 57 39.5**	**+1.3**
	comp=Z,90nm,1.0s							
USHA	**Ushuaia**	**20.31**	**174**	P		**P**	**12 57 44.0**	**+0.7**
	comp=Z,30nm,0.8s,baz=34,slow=4.3,SNR=14							
SIV	**San Ignacio**	**20.98**	**30**	P		**P**	**12 57 50.3**	**-0.5**
	comp=Z,50nm,0.9s,baz=232,slow=13,SNR=70							
NNA	**Nana**	**23.02**	**347**	P		**P**	**12 58 13.8**	**+1.1**
	comp=Z,513nm,0.8s,SNR=6.6							
NNA	**Nana**	**23.02**	**347**	*e*P		**P**	**12 58 12.3**	**-0.4**
NNA	**Nana**	**23.02**	**347**	P		**P**	**12 58 13.1**	**+0.4**
	comp=Z,67nm,0.8s,baz=186,slow=11,SNR=31							
NNA	**Nana**	**23.02**	**347**	*e*P		**P**	**12 58 12.4**	**-0.4**
	comp=Z,76nm,0.9s							
SAML	**Samuel**	**26.81**	**19**	*e*P		**P**	**12 58 47.5**	**-0.3**
	comp=Z,6.3nm,1.1s							
ATAH	**Atahualpa**	**28.05**	**346**	P		**P**	**12 58 59.6**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=97,slow=8.1,SNR=2.7							
BDFB	**Brasilia**	**28.60**	**55**	P		**P**	**12 59 03.0**	**-1.0**
BDFB	**Brasilia**	**28.60**	**55**	P		**P**	**12 59 03.0**	**-1.0**
	comp=Z,9.5nm,0.8s,baz=227,slow=9.0,SNR=9.3							
BDFB					LR	LR	13 11 40.9	
	comp=Z,2μm,18.6s,baz=224,slow=39							
OTAV	**Otavalo**	**35.26**	**349**	*e*P		**P**	**13 00 03.8**	**+1.0**
	comp=Z,14nm,1.0s							
PTGA	**Pitinga**	**35.55**	**21**	*e*P		**P**	**13 00 03.9**	**-0.8**
	comp=Z,41nm,1.0s							
ROSC	**El Rosal**	**39.38**	**356**	P		**P**	**13 00 40.2**	**+2.6**
	comp=Z,10nm,0.8s,baz=264,slow=9.4,SNR=7.9							
ROSC					LR	LR	13 16 54.1	
	comp=Z,789nm,20.6s,baz=244,slow=36							
SDV	**Santo Domingo**	**43.33**	**2**	*e*P		**P**	**13 01 09.1**	**-0.7**
	comp=Z,35nm,1.0s							
JTS	**JuntasAbangare**	**46.40**	**342**	*c i*P		**P**	**13 01 34.9**	**+0.9**
JTS					pmax	pmax		
	comp=Z,19nm,1.0s							
VNA3	**Neumayer Olymp**	**48.69**	**158**	P		**P**	**13 01 51.7**	**+0.4**
VNA1	**Neumayer--Stat**	**49.01**	**157**	P		**P**	**13 01 56.3**	**+2.6**
VNA2	**Neumayer--Watz**	**49.35**	**157**	P		**P**	**13 01 56.5**	**+0.2**
SNAA	**Sanae**	**50.92**	**158**	P		**P**	**13 02 08.8**	**+0.5**
SNAA	**Sanae**	**50.92**	**158**	*c i*P		**P**	**13 02 09.1**	**+0.8**
SNAA					pmax	pmax		
	comp=Z,37nm,1.2s							
SNAA	**Sanae**	**50.92**	**158**	*e*P		**P**	**13 02 08.4**	**+0.1**
CELP	**Cerrillos**	**52.69**	**6**	*e*P		**P**	**13 02 20.6**	**-1.3**
QSPA	**South Pole Qui**	**55.57**	**180**	*e*P		**P**	**13 02 42.7**	**0.0**
RKT	**Rikitea**	**55.64**	**264**	*e*LQ		LQ	13 16 37.8	
	comp=Z,474nm,28.2s							
RKT				*e*LR		LR	13 18 50.6	
	comp=Z,270nm,31.2s							
RKT	**Rikitea**	**55.64**	**264**	*e*T		T	14 02 20.2	
	comp=Z,1.8nm,0.2s							
NVL	**N'lazarevskaya**	**55.66**	**156**	⇓*i*P		**P**	**13 02 43.0**	**0.0**
NVL					pmax	pmax		
	comp=Z,17nm,0.9s							
TEIG	**Tepich**	**56.77**	**342**	*e*P		**P**	**13 02 51.1**	**-0.4**
VNDA	**Vanda**	**63.48**	**191**	P		**P**	**13 03 38.0**	**+1.1**
VNDA	**Vanda**	**63.48**	**191**	P		**P**	**13 03 38.0**	**+1.1**
	comp=Z,5.0nm,1.1s,baz=144,slow=6.1,SNR=9.8							
VNDA					LR	LR	13 28 32.2	
	comp=Z,154nm,18.6s,baz=128,slow=33							
SYO	**Syowa Base**	**65.20**	**158**	⇑*e*P		**P**	**13 03 45.2**	**-3.0**
035A	**Encino**	**66.11**	**334**	⇓P		**P**	**13 03 55.7**	**+1.2**
	baz=66							
034A	**Hebbronville**	**66.44**	**334**	⇓P		**P**	**13 03 57.9**	**+1.3**
	baz=67							
TIGA	**Tifton**	**66.67**	**349**	*e*P		**P**	**13 03 57.8**	**-0.3**
	comp=Z,39nm,1.0s							
934A	**Benavides**	**66.86**	**334**	⇑P		**P**	**13 04 00.9**	**+1.5**
	baz=67							
933A	**Laredo**	**67.15**	**334**	⇑P		**P**	**13 04 02.6**	**+1.4**
	baz=68							
835A	**Beeville**	**67.25**	**335**	⇓P		**P**	**13 04 03.5**	**+1.7**
	baz=68							
TBI	**Tubuai**	**67.29**	**257**	*e*S		S	13 12 49.8	-7.4
	comp=Z,111nm,28.5s							
TBI	**Tubuai**	**67.29**	**257**	*e*LR		LR	13 24 28.2	
	comp=Z,351nm,27.0s,baz=136							
834A	**Tilden**	**67.35**	**335**	⇑P		**P**	**13 04 04.2**	**+1.7**
	baz=68							
735A	**Kenedy**	**67.76**	**336**	⇑P		**P**	**13 04 06.4**	**+1.3**
	baz=68							
833A	**Chaparral WMA,**	**67.84**	**334**	⇓P		**P**	**13 04 05.8**	**+0.3**
	baz=68,SNR=13							
832A	**Faith Ranch, C**	**68.01**	**333**	⇑P		**P**	**13 04 06.4**	**-0.2**
	baz=68,SNR=9.4							
734A	**La Parita Cree**	**68.02**	**335**	⇑P		**P**	**13 04 07.2**	**+0.6**
	baz=68							
636A	**Smothers Creek**	**68.09**	**336**	⇑P		**P**	**13 04 07.8**	**+0.7**
	baz=68,SNR=6.1							
733A	**Divot King Ran**	**68.16**	**334**	⇓P		**P**	**13 04 08.6**	**+1.1**
	baz=68							
537A	**Green Hill Far**	**68.40**	**337**	⇑P		**P**	**13 04 10.0**	**+1.0**
	baz=69							
732A	**Laxson Ranch,**	**68.42**	**334**	⇑P		**P**	**13 04 09.1**	**-0.1**
	baz=69,SNR=13							
GOGA	**Godfrey**	**68.59**	**350**	*e*P		**P**	**13 04 09.0**	**-1.1**
GOGA					pmax	pmax		
	comp=Z,13nm,0.9s							
GOGA	**Godfrey**	**68.59**	**350**	*e*P		**P**	**13 04 09.0**	**-1.1**
	comp=Z,13nm,0.9s							
633A	**Saathoff Ranch**	**68.79**	**335**	⇓P		**P**	**13 04 11.8**	**+0.3**
	baz=69							
LRAL	**Lakeview Retre**	**68.83**	**346**	*e*P		**P**	**13 04 10.2**	**-1.4**
	comp=Z,22nm,1.1s							
MEH	**Mehetia**	**68.89**	**262**	*e*T		T	14 18 53.9	
	comp=Z,27nm,0.2s							
632A	**Uvalde**	**69.05**	**334**	⇑P		**P**	**13 04 13.9**	**+0.8**
	baz=69							
534A	**Blanco**	**69.07**	**335**	⇑P		**P**	**13 04 13.8**	**+0.5**
	baz=69							
JSC	**Jenkinsville**	**69.15**	**352**	*e*P		**P**	**13 04 13.6**	**0.0**
JSC	**Jenkinsville**	**69.15**	**352**	*e*P		**P**	**13 04 13.6**	**0.0**
436A	**Wall Ranch, Ga**	**69.19**	**337**	⇑P		**P**	**13 04 14.6**	**+0.6**
	baz=70							
631A	**Perdido Creek**	**69.25**	**333**	⇓P		**P**	**13 04 14.7**	**+0.3**
	baz=70							
338A	**Crockett**	**69.28**	**339**	⇓P		**P**	**13 04 14.9**	**+0.4**
	baz=70							
533A	**Kerrville**	**69.30**	**335**	⇑P		**P**	**13 04 14.7**	**0.0**
	baz=70,SNR=5.8							
337A	**Centerville**	**69.42**	**338**	⇓P		**P**	**13 04 15.8**	**+0.5**
	baz=70							
239A	**Gary**	**69.65**	**340**	⇓P		**P**	**13 04 17.1**	**+0.3**
	baz=70							
532A	**Rocksprings**	**69.66**	**334**	⇑P		**P**	**13 04 16.9**	**0.0**
	baz=70,SNR=30							
434A	**Burnet**	**69.72**	**336**	⇑P		**P**	**13 04 16.6**	**-0.7**
	baz=70,SNR=9.2							
336A	**Riesel**	**69.78**	**337**	⇓P		**P**	**13 04 17.6**	**0.0**
	baz=70							
335A	**Moody**	**69.87**	**337**	⇓P		**P**	**13 04 18.3**	**+0.1**
	baz=70							
531A	**Rocksprings**	**69.92**	**334**	⇑P		**P**	**13 04 18.5**	**-0.1**
	baz=70,SNR=12							
JCT	**Junction City**	**69.94**	**335**	*e*P		**P**	**13 04 18.8**	**+0.1**
JCT					pmax	pmax		
	comp=Z,38nm,1.0s							
JCT	**Junction City**	**69.94**	**335**	⇑P		**P**	**13 04 18.3**	**-0.3**
	baz=70,SNR=16							
JCT	**Junction City**	**69.94**	**335**

baz=70,SNR=5.7
KMSC **Kings Mountain** 70.01 352 *e*P P 13 04 18.2 -0.7
comp=Z,13nm,0.8s
237A **Washetta, Mont** 70.03 338 ⇓P P 13 04 18.6 -0.5
baz=70
TIAR **Tiarei** 70.10 262 *e*T T 14 20 24.5
comp=Z,5.8nm,0.2s
334A **Lometa** 70.18 336 ⇓P P 13 04 20.1 0.0
baz=70,SNR=11
530A **J-C Ranch, Com** 70.20 333 ⇑P P 13 04 20.2 -0.1
baz=70,SNR=18
PAE **Paea** 70.24 262 *e*T T 14 20 34.8
comp=Z,2.0nm,0.4s
PPT2 **Papeete2** 70.27 262 *e*S S 13 13 28.4 -4.4
comp=Z,144nm,22.8s
PPT2 **Papeete2** 70.27 262 *e*LR LR 13 25 40.7
comp=Z,408nm,29.2s
PPT **Papeete** 70.28 262 P P 13 04 21.5 +0.4
comp=Z,36nm,0.8s,baz=302,slow=0.7,SNR=4.4
PPT LR LR 13 25 40.3
comp=Z,65nm,18.8s,baz=86,slow=28
432A **Menard** 70.30 335 ⇑P P 13 04 20.0 -0.8
baz=71,SNR=7.1
TXAR **Lajitas Array** 70.38 331 P P 13 04 21.2 -0.2
comp=Z,12nm,1.0s,baz=145,slow=9.0,SNR=30
TXAR LR LR 13 29 56.4
comp=Z,404nm,21.2s,baz=0.0,slow=31
431A **Sonora** 70.41 334 ⇑P P 13 04 21.2 -0.4
baz=71,SNR=11
529A **Stev Forest Ra** 70.51 332 ⇑P P 13 04 21.9 -0.3
baz=71,SNR=22
WHTX **Lake Whitney,** 70.53 337 ⇑P P 13 04 22.0 -0.2
baz=71
WHTX **Lake Whitney,** 70.53 337 *e*P P 13 04 22.6 +0.5
137A **Heron Place, G** 70.57 339 ⇓P P 13 04 22.7 +0.3
baz=71
430A **Baggett Ranch,** 70.74 333 ⇑P P 13 04 23.2 -0.4
baz=71,SNR=13
332A **Millersview** 70.74 335 ⇑P P 13 04 23.0 -0.6
baz=71,SNR=10
OXF **Oxford** 70.75 345 *e*P P 13 04 22.5 -0.9
OXF pmax pmax
comp=Z,73nm,1.0s
OXF **Oxford** 70.75 345 *e*P P 13 04 22.5 -0.9
comp=Z,73nm,1.0s
234A **Clairette** 70.77 337 ⇓P P 13 04 23.1 -0.5
baz=71
429A **Davenport Ranc** 70.84 333 ⇓P P 13 04 23.8 -0.4
baz=71,SNR=12
TKL **Tuckaleechee C** 70.84 350 *e*P P 13 04 23.1 -0.9
TKL **Tuckaleechee C** 70.84 350 *e*P P 13 04 23.1 -0.9
331A **San Angelo** 70.92 334 ⇑P P 13 04 24.1 -0.5
baz=71,SNR=9.6
233A **Rising Star** 71.03 336 ⇑P P 13 04 24.6 -0.7
baz=71,SNR=9.8
232A **Coleman** 71.17 335 ⇓P P 13 04 25.6 -0.6
baz=72,SNR=14
330A **Mertzon** 71.27 334 ⇑P P 13 04 25.8 -1.0
baz=72,SNR=13
231A **Bronte** 71.44 335 ⇓P P 13 04 27.0 -0.8
baz=72,SNR=12
133A **Hamilton Ranch** 71.58 336 ⇓P P 13 04 27.8 -0.8
baz=72,SNR=7.3
329A **Wagon Wheel Ra** 71.64 333 ⇓P P 13 04 28.7 -0.4
baz=72,SNR=15
TZTN **Tazewell** 71.67 350 *e*P P 13 04 28.2 -0.9
comp=Z,32nm,1.3s
UALR **University of** 71.69 342 *e*P P 13 04 28.6 -0.5
comp=Z,12nm,0.9s
230A **Sterling City** 71.69 334 ⇑P P 13 04 28.7 -0.6
baz=72
Z35A **Perchaven, San** 71.71 338 ⇑P P 13 04 28.6 -0.7
baz=72,SNR=8.7
MIAR **Mount Ida** 71.78 341 *e*P P 13 04 29.5 -0.2
MIAR pmax pmax
comp=Z,13nm,0.9s
MIAR **Mount Ida** 71.78 341 *e*P P 13 04 29.4 -0.2
comp=Z,13nm,0.9s
ABTX **Abilene, Hawle** 71.84 336 ⇓P P 13 04 29.6 -0.5
baz=72,SNR=6.1
ABTX **Abilene, Hawle** 71.84 336 *e*P P 13 04 30.1 0.0
BBTS **Babate** 71.87 57 LR LR 13 35 29.7
comp=Z,430nm,18.9s,baz=229,slow=35
VWCC **Virginia Weste** 71.94 353 *e*P P 13 04 30.2 -0.4
Z34A **Collier Ranch,** 71.95 337 ⇓P P 13 04 30.4 -0.3
baz=72
WVT **Waverly** 71.99 346 *e*P P 13 04 29.7 -1.2
WVT **Waverly** 71.99 346 *e*P P 13 04 29.7 -1.2
229A **Bryant Ranch,** 72.01 334 ⇓P P 13 04 30.6 -0.6
baz=72
131A **Roby** 72.14 335 ⇑P P 13 04 31.4 -0.5
baz=72,SNR=6.6
Z33A **Whitaker Ranch** 72.15 337 ⇓P P 13 04 31.5 -0.5
baz=72,SNR=9.6
JSRW **J. Sargeant Re** 72.21 355 *e*P P 13 04 32.4 +0.2
130A **Snyder** 72.27 334 ⇑P P 13 04 32.1 -0.7
baz=73
Z32A **Haskell** 72.41 336 ⇑P P 13 04 33.0 -0.5
baz=73,SNR=15
228A **UT Block 9, Go** 72.44 333 ⇓P P 13 04 32.9 -0.9
baz=73,SNR=14
Y34A **Reagan Ranch,** 72.44 338 ⇓P P 13 04 32.8 -0.9
baz=73,SNR=9.0
MAW **Mawson** 72.51 163 P P 13 04 33.6 -0.1
comp=Z,14nm,0.8s,baz=205,slow=9.7,SNR=6.5
MAW LR LR 13 34 53.3
comp=Z,667nm,21.6s,baz=233,slow=34
129A **Stewart Farms,** 72.63 334 ⇑P P 13 04 34.2 -0.7
baz=73
Z31A **Sharp Cattle R** 72.64 335 ⇓P P 13 04 34.2 -0.8
baz=73,SNR=13
Y33A **Hilltop Ranch,** 72.77 337 ⇓P P 13 04 34.8 -0.8
baz=73,SNR=7.1
128A **Castleberry Fa** 72.85 333 ⇑P P 13 04 35.4 -0.9
baz=73,SNR=10
Z30A **Sanderson Ranc** 72.95 335 ⇓P P 13 04 35.9 -0.9
baz=73,SNR=12
Y32A **R-V Farms, Ver** 73.03 336 ⇑P P 13 04 36.5 -0.7
baz=73
X34A **Smith Ranch, M** 73.06 338 ⇓P P 13 04 36.9 -0.5
baz=73,SNR=8.0
Z29A **Hungry Hill Ra** 73.14 334 ⇓P P 13 04 37.0 -1.0
baz=74,SNR=16
PBMO **Poplar Bluff** 73.15 345 *e*P P 13 04 37.2 -0.5
comp=Z,50nm,1.4s
MNTX **Cornudas Mount** 73.15 331 ⇓P P 13 04 36.7 -1.3
baz=74,SNR=28
MNTX **Cornudas Mount** 73.15 331 *e*P P 13 04 36.6 -1.3
comp=Z,17nm,0.9s
GDL2 **Guadalupe Moun** 73.19 332 *e*P P 13 04 39.1 +0.8
Y31A **Rekieta Farm,** 73.27 336 ⇓P P 13 04 38.0 -0.6
baz=74,SNR=8.7
X32A **Elmer** 73.36 337 ⇓P P 13 04 38.7 -0.5
baz=74
Y30A **Stafford Cattl** 73.41 335 ⇑P P 13 04 39.1 -0.4
baz=74
Z28A **Tucker Farm, M** 73.41 334 ⇓P P 13 04 38.9 -0.6
baz=74
WMOK **Wichita Mounta** 73.49 337 *e*P P 13 04 38.7 -1.2
WMOK pmax pmax
comp=Z,15nm,1.3s
WMOK **Wichita Mounta** 73.49 337 *e*P P 13 04 38.7 -1.2
comp=Z,14nm,1.3s
W34A **Bridge Creek,** 73.63 338 ⇑P P 13 04 40.4 -0.3
baz=74
W34A **Bridge Creek,** 73.63 338 *e*P P 13 04 40.9 +0.2
comp=Z,37nm,1.1s
Y29A **Porterfield Fa** 73.67 334 ⇑P P 13 04 40.2 -0.8
baz=74,SNR=6.9
TUL1 **Leonard** 73.68 340 ⇓P P 13 04 39.8 -1.1
baz=74,SNR=6.0
TUL1 **Leonard** 73.68 340 *e*P P 13 04 40.4 -0.6
comp=Z,33nm,0.9s
USIN **University of** 73.74 347 *e*P P 13 04 40.3 -0.9
W33A **Caddo, Fort Co** 73.77 338 ⇓P P 13 04 40.5 -1.1
baz=74,SNR=12
X31A **McDonald Ranch** 73.78 336 ⇑P P 13 04 40.8 -0.9
baz=74,SNR=11
SIUC **Southern Illin** 73.80 346 *e*P P 13 04 41.4 -0.2
comp=Z,40nm,1.1s
V35A **Meyer Ranch, C** 73.84 339 ⇓P P 13 04 41.0 -0.9
baz=74,SNR=8.5
Y28A **McKinney Farm,** 73.92 334 ⇓P P 13 04 41.9 -0.6
baz=74,SNR=5.4
X30A **Coker Ranch, T** 73.92 335 ⇑P P 13 04 42.2 -0.3
baz=74
W32A **Sentinel** 73.99 337 ⇓P P 13 04 42.0 -0.8
baz=74,SNR=24
V34A **Guthrie** 74.11 339 ⇓P P 13 04 42.8 -0.7
baz=74
MSTX **Muleshoe** 74.16 334 ⇓P P 13 04 43.2 -0.8
baz=74,SNR=5.4
MSTX **Muleshoe** 74.16 334 *e*P P 13 04 43.7 -0.3
comp=Z,30nm,0.9s
X29A **Tulia** 74.20 335 ⇑P P 13 04 43.5 -0.7
baz=74,SNR=6.2
W31A **Holland Ranch,** 74.28 336 ⇓P P 13 04 44.2 -0.4
baz=75
V33A **Lossen Ranch,** 74.33 338 ⇑P P 13 04 44.2 -0.6
baz=75,SNR=8.5
MVL **Millersville** 74.41 356 *e*P P 13 04 46.0 +1.0
comp=Z,22nm,1.2s
V32A **Arapaho** 74.48 337 ⇓P P 13 04 45.4 -0.2
baz=75
319A **Douglas** 74.53 327 ⇑P P 13 04 46.4 +0.2
baz=75,SNR=8.2
OLIL **Olney** 74.56 347 *e*P P 13 04 45.2 -0.8
AMTX **Amarillo** 74.59 335 ⇑P P 13 04 46.2 -0.2
baz=75
AMTX **Amarillo** 74.59 335 *e*P P 13 04 46.5 +0.1
comp=Z,50nm,1.1s
U34A **Anderson Ranch** 74.67 339 ⇓P P 13 04 46.7 0.0
baz=75
U34A **Anderson Ranch** 74.67 339 *e*P P 13 04 46.5 -0.2
BLO **Bloomington** 74.71 348 *e*P P 13 04 45.7 -1.2
BLO pmax pmax
comp=Z,30nm,1.1s
BLO **Bloomington** 74.71 348 *e*P P 13 04 45.7 -1.2
comp=Z,30nm,1.1s
V31A **Spring Creek L** 74.78 337 ⇑P P 13 04 48.0 +0.5
baz=75
W29A **Amarillo** 74.80 335 ⇑P P 13 04 47.0 -0.6
baz=75,SNR=8.8
U33A **Lingo Farm, Me** 74.84 338 ⇓P P 13 04 47.3 -0.4
baz=75
LIC **Lamto** 74.86 71 *e*P P 13 04 48.2 -0.2
comp=Z,46nm,1.3s
121A **Cookes Peak, D** 74.88 329 ⇑P P 13 04 48.4 +0.2
baz=75,SNR=17
121A **Cookes Peak, D** 74.88 329 *e*P P 13 04 48.5 +0.2
comp=Z,35nm,0.9s
SLM **Saint Louis** 74.89 345 *e*P P 13 04 47.5 -0.4
SLM pmax pmax
comp=Z,59nm,1.0s
SLM **Saint Louis** 74.89 345 *e*P P 13 04 47.5 -0.4
comp=Z,59nm,1.0s
V30A **Spur Ranch, Mi** 75.05 336 ⇓P P 13 04 50.0 +0.9
baz=75
U32A **Winter Ranch,** 75.07 338 ⇓P P 13 04 49.2 +0.2
baz=75
TIC **Toumodi** 75.12 71 *e*P P 13 04 49.9 0.0
comp=Z,6.8nm,0.2s
SSPA **Standing Stone** 75.14 355 *e*P P 13 04 49.2 -0.1
KIC **Kosan Boka** 75.17 71 *e*P P 13 04 50.2 0.0
comp=Z,71nm,1.2s
ACSO **Alum Creek Sta** 75.23 351 *e*P P 13 04 49.2 -0.7
comp=Z,39nm,0.8s
DBIC **Dimbokro** 75.27 71 P P 13 04 50.8 +0.1
comp=Z,12nm,0.9s,baz=213,slow=7.4,SNR=12
S36A **Lake Cedric, C** 75.32 341 ⇓P P 13 04 49.6 -0.9
baz=76,SNR=9.3
ODNJ **Ogdensburg** 75.42 358 *e*P P 13 04 51.2 +0.3
comp=Z,25nm,1.2s
T33A **Patterson Ranc** 75.48 338 ⇓P P 13 04 51.5 +0.1
baz=76
W26A **Owens Ranch, T** 75.53 333 ⇑P P 13 04 51.8 0.0
baz=76,SNR=8.3
V28A **Channing** 75.56 335 ⇓P P 13 04 52.1 0.0
baz=76
T32A **Huddler Ranch,** 75.78 338 ⇑P P 13 04 52.6 -0.6
baz=76,SNR=6.0
V27A **Dan Oppiter Fa** 75.79 334 ⇓P P 13 04 53.0 -0.4
baz,SNR=5.3
S33A **Kaszmaul Farm,** 75.88 339 ⇑P P 13 04 53.9 +0.2
baz=76
W25A **X Bar L Ranch,** 75.90 333 ⇑P P 13 04 53.5 -0.5
baz=76,SNR=12
T31A **Randall Ranch,** 75.94 337 ⇑P P 13 04 55.0 +0.9
baz=76
LENM **Lemitar** 75.95 331 *e*P P 13 04 57.0 +2.6
TUC **Tucson** 76.00 327 *e*P P 13 04 54.8 +0.2
TUC pmax pmax
comp=Z,19nm,1.2s
TUC **Tucson** 76.00 327 *e*P P 13 04 54.8 +0.2
comp=Z,19nm,1.2s
U28A **Mallet** 76.13 335 ⇑P P 13 04 55.7 +0.4
baz=76
V26A **Tequesquite Ra** 76.16 334 ⇑P P 13 04 55.0 -0.5
baz=76,SNR=9.4
T30A **Plains** 76.17 337 ⇑P P 13 04 56.0 +0.6
baz=76
LAZ **Lazon** 76.23 331 *e*P P 13 04 56.5 +0.5
comp=Z,9.1nm,1.1s
W24A **Lazy 6 Ranch,** 76.25 332 ⇑P P 13 04 56.5 +0.4
baz=77
S32A **Newby Ranch, P** 76.26 338 ⇑P P 13 04 55.6 -0.3
baz=77
S31A **Mullinville** 76.36 338 ⇓P P 13 04 56.6 +0.2
baz=77
U27A **Thompson Grove** 76.38 335 ⇑P P 13 04 56.3 -0.4
baz=77,SNR=11
ANMO **Albuquerque** 76.43 331 *c i*P P 13 04 57.8 +0.7
ANMO pmax pmax
comp=Z,77nm,1.0s
ANMO **Albuquerque** 76.43 331 *e*P P 13 04 57.4 +0.3
V25A **Rancho No Teng** 76.51 333 ⇓P P 13 04 57.1 -0.5
baz=77,SNR=19
T29A **Hugoton** 76.52 336 ⇑P P 13 04 57.4 0.0
baz=77
R33A **Olander Ranch,** 76.54 339 ⇑P P 13 04 57.5 +0.1
baz=77
214A **Organ Pipe Nat** 76.64 325 ⇓P P 13 04 58.3 +0.2
baz=77
V24A **Rampart Ranch,** 76.66 333 ⇓P P 13 04 58.5 +0.1
baz=77,SNR=7.0
U26A **Atchley Ranch,** 76.68 334 ⇑P P 13 04 57.9 -0.6
baz=77,SNR=7.3
S30A **Montezuma** 76.69 337 ⇓P P 13 04 58.3 0.0
baz=77
T28A **Walsh** 76.76 336 ⇑P P 13 04 58.1 -0.7
baz=77,SNR=24
ERPA **Erie** 76.77 354 *e*P P 13 04 58.6 0.0
R32A **Long Quarter,** 76.86 339 ⇓P P 13 04 58.7 -0.6
baz=77,SNR=6.4
S29A **Ulysses** 76.88 337 ⇑P P 13 04 59.3 -0.1
baz=77,SNR=6.9
T27A **Campo** 76.92 335 ⇑P P 13 04 59.5 -0.2
baz=77,SNR=21
U25A **Circle Dot Ran** 76.93 334 ⇓P P 13 04 59.8 -0.1
baz=77,SNR=11
R31A **Burdett** 76.99 338 ⇑P P 13 04 59.5 -0.5
baz=77,SNR=7.8
V23A **Ortiz Mt. (NFS** 77.02 332 ⇑P P 13 05 00.8 +0.3
baz=77
TRY **Troy** 77.04 359 *e*P P 13 05 01.4 +1.3
comp=Z,32nm,0.9s
S28A **Manter** 77.11 336 ⇓P P 13 05 00.4 -0.4
baz=78,SNR=10.0
Q33A **Connelly Farm,** 77.14 340 ⇑P P 13 05 01.0 +0.2
baz=78
R30A **Dighton** 77.22 337 ⇓P P 13 05 01.7 +0.4
baz=78
T26A **Comanche Natio** 77.33 335 ⇑P P 13 05 02.0 -0.1
baz=78,SNR=14
Q32A **Meitler Ranch,** 77.34 339 ⇑P P 13 05 01.5 -0.4
baz=78,SNR=6.0
V22A **San Miguel Ran** 77.45 331 ⇓P P 13 05 03.7 +0.8
baz=78,SNR=20
X18A **Snowflake** 77.51 329 ⇑P P 13 05 03.5 +0.3
baz=78,SNR=8.7
U23A **El Rito** 77.54 332 ⇑P P 13 05 03.9 +0.6
baz=78,SNR=6.4
T25A **Trinidad** 77.59 334 ⇓P P 13 05 04.0 +0.4
baz=78,SNR=24
T25A **Trinidad** 77.59 334 *e*P P 13 05 04.5 +0.9
Q31A **Ellis** 77.60 338 ⇓P P 13 05 03.0 -0.4
baz=78,SNR=7.2
R29A **Marienthal** 77.62 337 ⇑P P 13 05 03.4 -0.1
baz=78
S26A **Kim** 77.68 335 ⇓P P 13 05 04.4 +0.4
baz=78,SNR=28
ACCN **Adirondack Com** 77.69 359 *e*P P 13 05 04.5 +0.8
R28A **Tribune** 77.77 336 ⇓P P 13 05 04.1 -0.3
baz=78,SNR=6.6
Q30A **Quinter** 77.83 338 ⇓P P 13 05 04.4 -0.3
baz=78,SNR=14
Z14A **Wintersburg** 77.87 326 ⇑P P 13 05 06.2 +1.2
baz=78
T24B **San Luis** 77.88 333 ⇓P P 13 05 05.5 +0.1
baz=78
W18A **Petrified Fore** 77.92 329 ⇑P P 13 05 05.8 +0.3
baz=78,SNR=12
W18A **Petrified Fore** 77.92 329 *e*P P 13 05 06.3 +0.9
P32A **Huiting Farm,** 77.94 339 ⇑P P 13 05 05.0 -0.3
baz=78
Q29A **Oakley** 77.99 337 ⇓P P 13 05 05.3 -0.4
baz=78,SNR=6.7
R27A **Eads** 78.05 336 ⇑P P 13 05 05.7 -0.3
baz=78,SNR=23
X16A **Lo Mia Camp, P** 78.07 327 ⇑P P 13 05 06.4 0.0
baz=78,SNR=20
P31A **Stockton** 78.07 339 ⇑P P 13 05 06.0 -0.1
baz=78,SNR=12
T23A **Casias Ranch,** 78.10 333 ⇑P P 13 05 06.9 +0.4
baz=78
R26A **Arlington** 78.28 335 ⇑P P 13 05 07.5 +0.2
baz=79,SNR=19
NCB **Newcomb** 78.29 358 *e*P P 13 05 07.0 -0.1
MDV **Middlebury** 78.30 359 *e*P P 13 05 07.8 +0.7
S24A **Houchin Ranch,** 78.33 334 ⇓P P 13 05 08.3 +0.5
baz=79,SNR=16
P30A **Selden** 78.36 338 ⇓P P 13 05 07.8 +0.2
baz=79
Y14A **Wickenburg** 78.37 326 ⇓P P 13 05 08.4 +0.6
baz=79
Q28A **Sharon Springs** 78.42 337 ⇑P P 13 05 08.1 +0.1
baz=79
O32A **Brockman Farm,** 78.43 340 ⇓P P 13 05 08.3 +0.3
baz=79
R25A **Fountain Ranch** 78.44 334 ⇑P P 13 05 08.6 +0.4
baz=79
SDCO **Great Sand Dun** 78.52 333 ⇑P P 13 05 09.2 +0.3
baz=79,SNR=13
SDCO **Great Sand Dun** 78.52 333 *e*P P 13 05 09.3 +0.5
comp=Z,9.8nm,0.8s
P29A **Atwood** 78.63 337 ⇑P P 13 05 09.4 +0.2
baz=79,SNR=6.9
O31A **Woolen Ranch,** 78.64 339 ⇑P P 13 05 09.8 +0.7
baz=79
KSCO **Kaye Shedlock'** 78.64 336 ⇑P P 13 05 09.6 +0.3
baz=79
KSCO **Kaye Shedlock'** 78.64 336 *e*P P 13 05 10.2 +0.8
SCIA **State Center** 78.68 344 *e*P P 13 05 09.5 +0.2
comp=Z,58nm,1.1s
R24A **Sanders Place,** 78.81 334 ⇑P P 13 05 10.6 +0.3
baz=79,SNR=24
P28A **Saint Francis** 78.86 337 ⇑P P 13 05 10.5 +0.1
baz=79
Q26A **Hugo** 78.87 335 ⇑P P 13 05 10.9 +0.4
baz=79,SNR=8.8
O30A **MW Ranch, Wils** 78.88 338 ⇑P P 13 05 10.7 +0.2
baz=79
TSUM **Tsumeb** 78.91 106 *e*P P 13 05 11.5 +0.2
comp=Z,26nm,1.3s
LONY **Lake Ozonia** 78.95 358 *e*P P 13 05 10.8 +0.1
comp=Z,31nm,1.3s
WUAZ **Wupatki** 78.96 328 ⇑P P 13 05 11.9 +0.7
baz=79,SNR=11
WUAZ **Wupatki** 78.96 328 *e*P P 13 05 12.3 +1.1
comp=Z,24nm,1.1s
JFWS **Jewell Farm** 79.02 346 *e*P P 13 05 10.6 -0.5
JFWS pmax pmax
comp=Z,31nm,1.0s
JFWS **Jewell Farm** 79.02 346 *e*P P 13 05 10.6 -0.5
comp=Z,30nm,1.0s
S22A **4UR Ranch, Cre** 79.02 332 ⇓P P 13 05 11.9 +0.3
baz=79,SNR=8.8
S22A **4UR Ranch, Cre** 79.02 332 *e*P P 13 05 11.9 +0.3
R23A **Moffat** 79.04 333 ⇑P P 13 05 12.1 +0.4
baz=79,SNR=16
O29A **4D Ranch, Culb** 79.06 338 ⇑P P 13 05 12.3 +0.8
baz=79
Q25A **Bedland, Calha** 79.11 335 ⇓P P 13 05 12.0 0.0
baz=79
P27A **Ficken Ranch,** 79.12 336 ⇓P P 13 05 11.9 0.0
baz=80
MONP **Monument Peak,** 79.15 323 ⇑P P 13 05 13.3 +0.9
baz=80
MVCO **Mesa Verde** 79.21 331 ⇑P P 13 05 13.2 +0.6
baz=80,SNR=9.3
MVCO **Mesa Verde** 79.21 331 *e*P P 13 05 13.2 +0.6
comp=Z,18nm,1.0s
BC3 **Big Chuckawall** 79.29 324 ⇑P P 13 05 13.3 +0.3
baz=80,SNR=7.6
CASY **Casey** 79.36 181 *e*P P 13 05 13.2 +0.3
O28A **Krutsinger Ran** 79.37 337 ⇓P P 13 05 13.6 +0.3
baz=80
P26A **Davis Ranch, A** 79.38 336 ⇓P P 13 05 13.2 -0.1
baz=80,SNR=7.1
BGNE **Belgrade** 79.46 340 *e*P P 13 05 12.3 -1.3
Q24A **Divide** 79.47 334 ⇑P P 13 05 14.5 +0.4
baz=80,SNR=16
Q24A **Divide** 79.47 334 *e*P P 13 05 14.5 +0.4
IRM **Iron Mountain** 79.56 325 ⇓P P 13 05 14.7 +0.4
baz=80,SNR=5.5
P25A **Willow Gulch B** 79.62 335 ⇑P P 13 05 15.1 +0.4
baz=80,SNR=16
M31A **Lambtecht Ranc** 79.64 340 ⇑P P 13 05 15.4 +0.8
baz=80
N29A **Votaw Ranch, W** 79.64 338 ⇑P P 13 05 15.3 +0.6
baz=80
BOSA **Boshof** 79.64 118 *e*P P 13 05 15.0 -0.3
BOSA pmax pmax
comp=Z,32nm,1.0s
BOSA **Boshof** 79.64 118 P P 13 05 15.2 -0.1
comp=Z,23nm,0.8s,baz=229,slow=4.4,SNR=30
BOSA LR LR 13 37 29.1
comp=Z,162nm,18.8s,baz=230,slow=33
BOSA **Boshof** 79.64 118 *e*P P 13 05 15.0 -0.3
comp=Z,32nm,1.0s
O27A **Beecher Island** 79.66 337 ⇑P P 13 05 15.6 +0.8
baz=80
W13A **Hualapai Mount** 79.74 326 ⇓P P 13 05 16.1 +0.6
baz=80,SNR=11
PFO **Pinyon Flats O** 79.74 323 P P 13 05 16.5 +1.0
comp=Z,93nm,0.9s,SNR=6.2
PFO **Pinyon Flats O** 79.74 323 *e*P P 13 05 16.1 +0.6
PFO pmax pmax
comp=Z,14nm,0.9s
PFO **Pinyon Flats O** 79.74 323 ⇓P P 13 05 16.3 +0.8
baz=80,SNR=8.9
PFO **Pinyon Flats O** 79.74 323 *e*P P 13 05 16.1 +0.6
comp=Z,14nm,0.9s
BELC **Belle Mtn. Jos** 79.84 324 ⇓P P 13 05 16.6 +0.6
baz=80
O26A **Horse Wrangler** 79.98 336 ⇓P P 13 05 17.1 +0.5
baz=80,SNR=7.7
MURC **Murrieta** 80.11 323 ⇓P P 13 05 18.4 +1.1
baz=80
U15A **North Rim** 80.13 328 ⇑P P 13 05 18.6 +0.9
baz=80,SNR=18
N27A **Anderson Farm,** 80.23 337 ⇑P P 13 05 18.2 +0.3
baz=81
M29A **Burnside Ranch** 80.23 338 ⇓P P 13 05 18.0 +0.1
baz=81
LDFC **Landfair** 80.29 325 *e*P P 13 05 19.8 +1.4
comp=Z,23nm,1.0s
GMRC **Granite Mounta** 80.31 325 ⇓P P 13 05 19.3 +0.8
baz=81,SNR=12
SMCO **Snowmass** 80.33 333 *e*P P 13 05 19.2 +0.3
L31A **Butterfield Fa** 80.36 340 ⇓P P 13 05 18.6 +0.1
baz=81,SNR=13
ISCO **Idaho Springs** 80.38 334 *e*P P 13 05 19.1 +0.1
ISCO pmax pmax
comp=Z,21nm,1.4s
ISCO **Idaho Springs** 80.38 334 ⇑P P 13 05 19.1 +0.1
baz=81,SNR=12
ISCO **Idaho Springs** 80.38 334 *e*P P 13 05 19.1 +0.1
comp=Z,21nm,1.4s
M28A **Bar X Bar Ranc** 80.40 338 ⇓P P 13 05 19.5 +0.7
baz=81
L30A **Spencer Herefo** 80.41 339 ⇑P P 13 05 20.3 +1.5
baz=81
N26A **Koester Ranch,** 80.48 336 ⇓P P 13 05 19.2 -0.1
baz=81
P22A **Eagle** 80.62 333 ⇓P P 13 05 20.6 +0.5
baz=81,SNR=12
HEC **Hector,Ludlow** 80.67 324 ⇑P P 13 05 21.2 +0.9
baz=81,SNR=6.4
L29A **Maesberg Ranch** 80.74 339 ⇓P P 13 05 20.7 +0.1
baz=81
BFSC **Mount Baldy Ra** 80.84 323 ⇑P P 13 05 22.1 +0.8
baz=81,SNR=6.9
TUQ **Turquoise Moun** 80.97 325 ⇑P P 13 05 22.8 +0.8

baz=81,SNR=10
MWC Mount Wilson 81.03 323 *e*P P **P 13 05 23.9 +1.4**
MWC Mount Wilson 81.03 323 *e*P P **P 13 05 23.9 +1.4**
N24A Carr 81.04 335 ⇓P P **P 13 05 22.5 +0.2**
baz=81
O22A Kremmling 81.04 334 ⇑P P **P 13 05 22.6 +0.1**
baz=81,SNR=21
K30A Basset 81.05 340 ⇑P P **P 13 05 21.9 -0.2**
baz=81,SNR=10
ECSD EROS Data Cent 81.22 342 ⇑P P **P 13 05 22.5 -0.5**
baz=82,SNR=55
ECSD EROS Data Cent 81.22 342 *e*P P **P 13 05 22.3 -0.7**
comp=Z,77nm,1.2s
GSC Goldstone, Bar 81.28 324 *e*P P **P 13 05 24.2 +0.6**
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 81.28 324 ⇑P P **P 13 05 23.5 -0.2**
baz=82
GSC Goldstone, Bar 81.28 324 *e*P P **P 13 05 24.2 +0.6**
comp=Z,9.1nm,0.9s
M25A Palm-Egli Farm 81.30 336 ⇑P P **P 13 05 24.1 +0.5**
baz=82
K29A Lazy Trails An 81.33 339 ⇑P P **P 13 05 24.2 +0.5**
baz=82
N23A Red Feather La 81.47 335 ⇓P P **P 13 05 24.6 -0.1**
baz=82,SNR=6.7
N23A Red Feather La 81.47 335 *e*P P **P 13 05 25.1 +0.4**
SHPR Sheep Range 81.48 326 *e*P P **P 13 05 25.4 +0.6**
EDW2 Edwards Air Fo 81.52 323 ⇑P P **P 13 05 25.0 +0.1**
baz=82,SNR=7.1
CCUT Cedar City 81.54 328 *e*P P **P 13 05 26.5 +1.3**
comp=Z,19nm,1.1s
N22A Wattenberg Ran 81.57 334 ⇓P P **P 13 05 25.4 +0.2**
baz=82,SNR=14
M24A Cheyenne 81.59 336 ⇓P P **P 13 05 25.8 +0.6**
baz=82
K28A Ten Mile Ranch 81.60 338 ⇑P P **P 13 05 25.6 +0.5**
baz=82
J30A Dallas 81.61 340 ⇓P P **P 13 05 26.0 +0.9**
baz=82
O20A White River Ci 81.64 333 ⇓P P **P 13 05 25.7 +0.1**
baz=82,SNR=5.7
O20A White River Ci 81.64 333 *e*P P **P 13 05 25.9 +0.4**
SRU San Rafael Swe 81.66 331 *e*P P **P 13 05 25.8 +0.2**
SRU San Rafael Swe 81.66 331 *e*P P **P 13 05 25.8 +0.2**
PHWY Pilot Hill 81.66 335 *e*P P **P 13 05 25.9 +0.2**
comp=Z,23nm,1.3s
OSI Osito Audit: C 81.67 323 ⇑P P **P 13 05 26.8 +1.1**
baz=82
OSI Osito Audit: C 81.67 323 *e*P P **P 13 05 25.8 +0.1**
comp=Z,241nm,1.3s
SPMN Marine on St. 81.75 345 ⇑P P **P 13 05 25.3 -0.4**
baz=82
SPMN Marine on St. 81.75 345 *e*P P **P 13 05 24.8 -1.0**
ARUT Antelope Range 81.77 328 *e*P P **P 13 05 26.4 +0.1**
ARUT pmax pmax
comp=Z,38nm,1.1s
ARUT Antelope Range 81.77 328 *e*P P **P 13 05 26.4 +0.1**
comp=Z,38nm,1.1s
LRMC Laurel Mtn Rad 81.85 324 ⇑P P **P 13 05 27.4 +0.8**
baz=82,SNR=5.3
K27A Flueckinger Fa 81.86 338 ⇓P P **P 13 05 26.6 +0.1**
baz=82
LBTB Lobatse 81.91 115 *e*P P **P 13 05 27.4 0.0**
LBTB Lobatse 81.91 115 *e*P P **P 13 05 27.4 0.0**
J29A Okreek 81.92 339 ⇓P P **P 13 05 26.4 -0.3**
baz=82,SNR=16
TMUT Trail Mountain 82.09 330 *e*P P **P 13 05 29.1 +1.0**
comp=Z,8.6nm,0.8s
I30A Oacoma 82.14 340 ⇑P P **P 13 05 26.7 -1.2**
baz=82,SNR=5.1
M22A Cedar Creek Ra 82.15 334 ⇓P P **P 13 05 28.8 +0.6**
baz=82
J28A Allard Ranch, 82.21 339 ⇑P P **P 13 05 28.7 +0.4**
baz=83,SNR=15
MPMC Manual Prospec 82.22 324 ⇓P P **P 13 05 29.3 +0.6**
baz=82
FURC Furnace Creek, 82.25 325 ⇑P P **P 13 05 29.5 +1.0**
baz=83
J27A Elkhorn Farm, 82.28 338 ⇓P P **P 13 05 29.3 +0.6**
baz=83,SNR=5.6
TPNV Topopah Spring 82.35 326 *e*P P **P 13 05 30.1 +0.8**
TPNV pmax pmax
comp=Z,11nm,1.0s
TPNV Topopah Spring 82.35 326 ⇓P P **P 13 05 30.1 +0.8**
baz=83,SNR=10
TPNV Topopah Spring 82.35 326 *e*P P **P 13 05 30.1 +0.8**
comp=Z,11nm,1.0s
ISA Isabella, Lake 82.38 323 *e*P P **P 13 05 30.5 +1.1**
ISA Isabella, Lake 82.38 323 ⇓P P **P 13 05 30.2 +0.8**
baz=83,SNR=9.5
ISA Isabella, Lake 82.38 323 *e*P P **P 13 05 30.5 +1.1**
DAC Darwin (Calif) 82.44 324 *e*P P **P 13 05 30.7 +0.8**
DAC Darwin (Calif) 82.44 324 *e*P P **P 13 05 30.7 +0.8**
PKM Mcpherson Peak 82.45 322 ⇑P P **P 13 05 31.0 +1.1**
baz=83
I29A Vivian Onida 82.48 340 ⇑P P **P 13 05 29.6 -0.1**
baz=83,SNR=7.2
L22A Ellis Ranch, M 82.64 335 ⇑P P **P 13 05 31.3 +0.5**
baz=83
J26A Sides Ranch, S 82.67 338 ⇓P P **P 13 05 31.2 +0.5**
baz=83
K24A Anderson Ranch 82.70 336 ⇑P P **P 13 05 31.5 +0.5**
baz=83,SNR=12
I28A Midland 82.71 339 ⇓P P **P 13 05 31.2 +0.3**
baz=83,SNR=17
VES Vestal, Richgr 82.82 323 ⇓P P **P 13 05 31.8 +0.2**
baz=83
MPU Maple Canyon 82.88 330 *e*P P **P 13 05 33.1 +1.0**
comp=Z,19nm,1.1s
J25A Sunshine Ranch 82.97 337 ⇓P P **P 13 05 32.2 -0.1**
baz=83,SNR=5.4
K23A Bowen Ranch, D 83.00 336 ⇑P P **P 13 05 32.8 +0.2**
baz=83,SNR=8.2
NLU North Lily Min 83.00 330 *e*P P **P 13 05 33.4 +0.6**
comp=Z,12nm,1.1s
H29A Onida 83.01 340 ⇑P P **P 13 05 31.8 -0.5**
baz=83,SNR=8.6
I27A Quinn 83.04 339 ⇓P P **P 13 05 32.3 -0.2**
baz=83
DAU Daniels Canyon 83.06 331 *e*P P **P 13 05 35.0 +1.9**
DAU Daniels Canyon 83.06 331 *e*P P **P 13 05 35.0 +1.9**
G30A Faulkton 83.18 341 ⇑P P **P 13 05 32.5 -0.8**
baz=84,SNR=9.3
R11A Troy Canyon, C 83.19 327 *e*P P **P 13 05 34.0 +0.3**
comp=Z,14nm,1.0s
J24A Dixon Ranch, L 83.19 337 ⇓P P **P 13 05 33.9 +0.4**
baz=84,SNR=10
K22A Casper 83.22 335 ⇑P P **P 13 05 33.4 -0.3**
baz=84,SNR=8.5
K22A Casper 83.22 335 *e*P P **P 13 05 34.0 +0.3**
I26A New Underwood 83.25 338 ⇑P P **P 13 05 33.2 -0.5**
baz=84
H28A Mission Ridge 83.29 340 ⇑P P **P 13 05 33.1 -0.7**
baz=84,SNR=13
URZ Urewera 83.31 228 LR LR 13 33 12.6
comp=Z,231nm,19.9s,baz=348,slow=29
K21A Alcova 83.46 335 ⇑P P **P 13 05 35.0 0.0**
baz=84,SNR=21
I25A Rochford 83.51 337 ⇑P P **P 13 05 35.1 -0.1**
baz=84,SNR=14
DUG Dugway, Tooele 83.51 330 *e*P P **P 13 05 35.7 +0.5**
DUG pmax pmax
comp=Z,32nm,1.3s
DUG Dugway, Tooele 83.51 330 ⇓P P **P 13 05 35.4 +0.1**
baz=84,SNR=15
DUG Dugway, Tooele 83.51 330 *e*P P **P 13 05 35.7 +0.5**
comp=Z,32nm,1.3s
J23A Dilts Ranch, B 83.55 336 ⇑P P **P 13 05 35.0 -0.4**
baz=84
H27A Howes 83.56 339 ⇑P P **P 13 05 34.8 -0.5**
baz=84,SNR=16
G28A Parade 83.62 340 ⇓P P **P 13 05 35.1 -0.5**
baz=84,SNR=11
I24A Kuemmerle Ranc 83.65 337 ⇓P P **P 13 05 35.6 -0.2**
baz=84,SNR=6.1
RSSD Black Hills 83.70 337 *e*P P **P 13 05 36.1 -0.1**
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 83.70 337 *e*P P **P 13 05 36.0 -0.1**
comp=Z,11nm,0.9s
TPH Tonopah 83.71 326 *e*P P **P 13 05 37.1 +0.7**
TPH pmax pmax
comp=Z,20nm,1.1s
TPH Tonopah 83.71 326 *e*P P **P 13 05 37.1 +0.7**
comp=Z,20nm,1.1s
TCUT Toone Canyon 83.72 331 *e*P P **P 13 05 35.6 -0.8**
comp=Z,32nm,1.2s
MTUM Tungsten Hills 83.77 324 *e*P P **P 13 05 39.6 +2.9**
J22A Midwest 83.88 335 ⇑P P **P 13 05 36.6 -0.4**
baz=84,SNR=8.8
H25A Fruitdale 84.01 338 ⇑P P **P 13 05 37.7 +0.1**
baz=84,SNR=6.2
F29A Eureka 84.02 341 ⇓P P **P 13 05 37.0 -0.6**
baz=84
EYMN Ely 84.10 347 *e*P P **P 13 05 37.0 -0.8**
comp=Z,24nm,1.1s
MLAC Mammoth, Mammo 84.12 324 ⇑P P **P 13 05 39.0 +0.5**
baz=84
J21A Lysite 84.15 335 ⇓P P **P 13 05 38.3 -0.2**
baz=84,SNR=7.9
G27A Dupree 84.19 339 ⇑P P **P 13 05 38.0 -0.5**
baz=84,SNR=5.3
I22A 9 Mile Ranch, 84.30 336 ⇓P P **P 13 05 38.9 -0.3**
baz=85,SNR=16
TORD Torodi Ar. Bea 84.31 70 P P **P 13 05 39.2 -0.6**
comp=Z,15nm,1.1s,baz=245,slow=3.4,SNR=38
TORD LR LR 13 41 19.6
comp=Z,179nm,19.6s,baz=220,slow=34
G26A Maurine 84.31 339 ⇑P P **P 13 05 38.7 -0.4**
baz=85,SNR=11
J20A Shoshoni 84.39 334 ⇑P P **P 13 05 39.7 +0.1**
baz=85,SNR=30
E30A Jud 84.39 342 ⇑P P **P 13 05 39.2 -0.2**
baz=85
PDAR Pinedale Array 84.41 333 P P **P 13 05 39.5 -0.4**
comp=Z,7.1nm,1.0s,baz=148,slow=7.0,SNR=23
PDAR PKKPbc **PKKPbc 13 23 51.0 -2.1**
comp=Z,0.4nm,0.7s,baz=129,slow=0.9,SNR=3.6
PDAR LR LR 13 39 26.2
comp=Z,286nm,20.3s,baz=150,slow=33
BW06 Boulder Array 84.42 333 *e*P P **P 13 05 38.8 -1.1**
comp=Z,10nm,1.1s
H24A Dirks Ranch, A 84.42 337 ⇑P P **P 13 05 39.3 -0.5**
baz=85,SNR=13
I21A Big Trails, Te 84.51 335 ⇑P P **P 13 05 39.6 -0.7**
baz=85,SNR=28
E29A Napoleon 84.64 341 ⇓P P **P 13 05 40.1 -0.6**
baz=85
J19A Crowheart 84.66 334 ⇑P P **P 13 05 40.8 -0.2**
baz=85,SNR=36
F27A Lemon 84.67 339 ⇑P P **P 13 05 40.6 -0.2**
baz=85,SNR=17
HVU Hansel Valley 84.83 331 *e*P P **P 13 05 41.8 -0.1**
HVU Hansel Valley 84.83 331 *e*P P **P 13 05 41.8 -0.1**
F26A Lodgepole 84.84 339 ⇓P P **P 13 05 42.0 +0.2**
baz=85
G24A Alzada 84.90 338 ⇑P P **P 13 05 41.5 -0.6**
baz=85
D30A Buchanan 84.91 342 ⇑P P **P 13 05 41.5 -0.5**
baz=85,SNR=9.4
I20A Worland 84.92 335 ⇓P P **P 13 05 41.7 -0.5**
baz=85
E28A Huff 84.93 340 ⇓P P **P 13 05 41.7 -0.4**
baz=85
ELK Elko 85.00 328 *e*P P **P 13 05 43.1 +0.2**
ELK Elko 85.00 328 *e*P P **P 13 05 43.1 +0.2**
E27A Carson 85.04 340 ⇓P P **P 13 05 42.6 -0.1**
baz=85
D29A Pettibone, Tap 85.09 341 ⇓P P **P 13 05 43.1 +0.2**
baz=85
G23A Biddle 85.10 337 ⇑P P **P 13 05 42.1 -0.9**
baz=85,SNR=7.0
WAKR Walker 85.10 324 *e*P P **P 13 05 45.2 +1.8**
H21A Big Horn, Sher 85.14 336 ⇓P P **P 13 05 42.6 -0.8**
baz=86,SNR=5.9
F25A Bowman 85.14 338 ⇑P P **P 13 05 43.1 -0.2**
baz=86
CMB Columbia Colle 85.19 324 *e*P P 13 05 46.9 +3.2
CMB pmax pmax
comp=Z,29nm,1.8s
CMB Columbia Colle 85.19 324 *e*P P 13 05 46.9 +3.2
comp=Z,29nm,1.8s
I19A Meeteetse 85.31 334 ⇑P P **P 13 05 43.8 -0.5**
baz=86,SNR=11
AGMN Agassiz Nation 85.33 344 ⇑P P **P 13 05 43.2 -0.8**
baz=86,SNR=8.5
AGMN Agassiz Nation 85.33 344 *e*P P **P 13 05 43.2 -0.8**
comp=Z,52nm,1.8s
E26A Carlson Angus 85.34 339 ⇓P P **P 13 05 43.8 -0.4**
baz=86,SNR=5.5
H20A Grgull 85.34 335 ⇑P P **P 13 05 43.4 -1.0**
baz=86,SNR=14
F24A Ekalaka 85.37 338 ⇑P P **P 13 05 43.9 -0.6**
baz=86,SNR=12
C30A Mose, Pekin 85.39 342 ⇓P P **P 13 05 43.9 -0.5**
baz=86,SNR=14
G22A Birney 85.41 336 ⇑P P **P 13 05 43.7 -1.0**
baz=86,SNR=5.6
REDW Red Top Meadow 85.41 333 *e*P P **P 13 05 44.2 -0.7**
comp=Z,18nm,1.3s
D28A Regan 85.47 341 ⇑P P **P 13 05 44.6 -0.2**
baz=86
LOHW Long Hollow 85.53 333 *e*P P **P 13 05 45.3 -0.2**
F23A Volborg 85.56 337 ⇑P P **P 13 05 44.8 -0.6**
baz=86,SNR=21
BMN Battle Mountai 85.61 327 *e*P P **P 13 05 48.3 +2.4**
BMN Battle Mountai 85.61 327 *e*P P **P 13 05 48.3 +2.4**
E25A Miller Ranch, 85.64 339 ⇑P P **P 13 05 46.0 +0.2**
baz=86
FXWY Fox Creek 85.71 333 *e*P P **P 13 05 46.2 -0.2**
comp=Z,5.9nm,1.0s
G21A Lodge Grass 85.72 336 ⇓P P **P 13 05 45.8 -0.4**
baz=86,SNR=8.4
I17A Pilgrim Ck. 85.78 333 ⇑P P **P 13 05 46.4 -0.3**
baz=86,SNR=18
MDND Maddock 85.81 342 ⇓P P **P 13 05 47.1 +0.6**
baz=86
MDND Maddock 85.81 342 *e*P P **P 13 05 46.2 -0.3**
comp=Z,20nm,1.1s
D26A Manning 85.84 340 ⇑P P **P 13 05 46.6 -0.1**
baz=86
H19A Powell 85.85 334 ⇓P P **P 13 05 46.9 -0.1**
baz=86
IMW Indian Meadow 85.90 333 *e*P P **P 13 05 47.0 -0.4**
comp=Z,20nm,1.1s
FLWY Flagg Ranch 85.97 333 *e*P P **P 13 05 47.6 -0.1**
E24A Baker 85.97 338 ⇓P P **P 13 05 46.8 -0.5**
baz=86,SNR=8.6
B30A Myrvik Farm, E 86.05 343 ⇑P P **P 13 05 47.5 -0.2**
baz=86,SNR=26
G20A Bridger 86.06 335 ⇑P P **P 13 05 47.4 -0.5**
baz=86,SNR=26
H18A Shoshone NF, C 86.10 334 ⇑P P **P 13 05 48.0 -0.3**
baz=86,SNR=54
H17A Grant Village 86.19 333 ⇑P P **P 13 05 49.5 +0.8**
baz=86
C27A Sayler Ranch, 86.20 340 ⇑P P **P 13 05 48.1 -0.3**
baz=86,SNR=7.8
D25A Fairfield 86.21 339 ⇑P P **P 13 05 49.0 +0.5**
baz=86,SNR=8.5
E23A Ismay 86.22 338 ⇑P P **P 13 05 47.8 -0.8**
baz=87,SNR=7.1
B29A Wagenman Farm, 86.32 342 ⇑P P **P 13 05 48.3 -0.7**
baz=87,SNR=8.5
YFT Old Faithful 86.34 333 *e*P P **P 13 05 52.5 +3.1**
RLMT Red Lodge 86.34 334 *e*P P **P 13 05 48.3 -1.1**
comp=Z,24nm,1.1s
E22A Miles City 86.38 337 ⇓P P **P 13 05 48.4 -0.9**
baz=87,SNR=9.3
C26A Wahner Farm, P 86.47 340 ⇓P P **P 13 05 49.9 +0.1**
baz=87
D24A Glendive 86.47 338 ⇓P P **P 13 05 49.9 +0.1**
baz=87
A30A Hoffart Farm, 86.50 343 ⇑P P **P 13 05 48.9 -0.9**
baz=87
B28A Dugan Ranch, T 86.57 341 ⇑P P **P 13 05 49.9 -0.3**
baz=87,SNR=7.8
YMR Madison River 86.57 333 *e*P P **P 13 05 51.2 +0.7**
LAO LASA Array 86.69 337 *e*P P **P 13 05 50.1 -0.8**
comp=Z,48nm,1.1s
A29A Manning Farm, 86.71 342 ⇓P P **P 13 05 50.6 -0.3**
baz=87,SNR=8.3
OHCM Honcut 86.74 324 *e*P P **P 13 05 52.0 +0.7**
D23A Lindsay 86.80 338 ⇓P P **P 13 05 51.6 +0.2**
baz=87,SNR=14
E21A Keefer Ranch, 86.83 337 ⇑P P **P 13 05 51.7 +0.1**
baz=87
F19A Roth Farm, Mol 86.86 335 ⇓P P **P 13 05 51.3 -0.5**
baz=87,SNR=18
QLMT Earthquake Lak 86.88 333 *e*P P **P 13 05 52.9 +0.8**
A28A Rude Farm, Bot 86.97 342 ⇓P P **P 13 05 51.7 -0.5**
baz=87
HLID Hailey 86.98 331 ⇓P P **P 13 05 53.2 +0.7**
baz=87,SNR=27
HLID Hailey 86.98 331 *e*P P **P 13 05 52.5 -0.1**
comp=Z,19nm,1.1s
D22A Cohagen 87.08 337 ⇑P P **P 13 05 52.2 -0.5**
baz=87,SNR=24
E20A Meyer Farm, Mu 87.15 336 ⇓P P **P 13 05 52.7 -0.5**
baz=88,SNR=12
B25A Knox Farm, Ray 87.17 340 ⇓P P **P 13 05 53.2 0.0**
baz=88,SNR=10
ULM Lac du Bonnet 87.17 345 P P **P 13 05 51.6 -1.5**
comp=Z,15nm,0.9s,baz=163,slow=3.5,SNR=27
ULM LR LR 13 43 33.2
comp=Z,82nm,21.3s,baz=194,slow=35
E19A Rath Farm, Rou 87.34 335 ⇑P P **P 13 05 53.7 -0.4**
baz=88,SNR=31
C23A Lambert 87.35 338 ⇓P P **P 13 05 53.9 -0.2**
baz=88,SNR=23
MCMT McKenzie Canyo 87.42 332 *e*P P **P 13 05 54.9 +0.1**
comp=Z,18nm,1.2s
A26A Wade Farm, Ken 87.43 341 ⇓P P **P 13 05 54.4 0.0**
baz=88
MFID Camas Ranch 87.44 330 *e*P P **P 13 05 55.0 +0.3**
comp=Z,10nm,1.0s
C22A Vida 87.52 338 ⇑P P **P 13 05 54.9 +0.1**
baz=88
DGMT Dagmar 87.65 339 ⇓P P **P 13 05 55.0 -0.5**
baz=88,SNR=19
DGMT Dagmar 87.65 339 *e*P P **P 13 05 55.6 +0.1**
comp=Z,107nm,1.2s
D20A Manuel Ranch, 87.67 336 ⇑P P **P 13 05 54.8 -0.9**
baz=88
A25A Svangstu Ranch 87.76 340 ⇓P P **P 13 05 55.6 -0.4**
baz=88,SNR=12
DLMT Dillon 87.77 333 *e*P P **P 13 05 56.7 +0.4**
WVOR Wild Horse Val 87.86 327 *e*P P **P 13 05 57.3 +0.5**
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 87.86 327 *e*P P **P 13 05 57.3 +0.5**
comp=Z,9.0nm,1.1s
B23A Brockton 87.88 339 ⇓P P **P 13 05 56.2 -0.4**
baz=88,SNR=13
C21A Desert Coulee 87.97 337 ⇓P P **P 13 05 56.2 -0.8**
baz=88,SNR=8.1
D19A Cripps Ranch, 87.98 336 ⇓P P **P 13 05 56.6 -0.5**
baz=88,SNR=8.8
A24A Westby 88.00 339 ⇓P P **P 13 05 57.1 0.0**
baz=88
B22A Reddig Ranch S 88.04 338 ⇓P P **P 13 05 57.6 +0.2**
baz=88
LRM Limekiln Ridge 88.10 333 *e*P P **P 13 05 57.9 -0.1**
C20A Veseth Ranch, 88.17 337 ⇑P P **P 13 05 57.1 -0.8**
baz=88,SNR=14
MOD Modoc Plateau 88.19 326 *e*P P **P 13 05 58.9 +0.5**
WDC Whiskeytown Da 88.22 324 *e*P P **P 13 05 58.3 0.0**
WDC Whiskeytown Da 88.22 324 *e*P P **P 13 05 58.3 0.0**
A23A Redstone 88.29 339 ⇑P P **P 13 05 58.2 -0.3**
baz=89
C19A Slack Wire Ran 88.53 336 ⇑P P **P 13 05 59.2 -0.5**
baz=89,SNR=6.2
HRY Holter Researc 88.63 334 *e*P P **P 13 06 02.5 +2.2**
A22A Carney Farms, 88.63 338 ⇓P P **P 13 05 59.6 -0.6**
baz=89,SNR=19
M04C Macdoel 88.81 325 ⇑P P **P 13 06 01.4 +0.1**
baz=89
A21A Bergtoll Ranch 88.94 338 ⇓P P **P 13 06 01.6 0.0**
baz=89
EGMT Eagleton 89.02 336 ⇓P P **P 13 06 01.9 -0.2**
baz=89
EGMT Eagleton 89.02 336 *e*P P **P 13 06 01.3 -0.7**
comp=Z,19nm,1.3s
K05A Summer Lake 89.11 326 *e*P P **P 13 06 03.7 +1.0**
comp=Z,16nm,0.8s
A20A Cobblestone Ra 89.16 337 ⇑P P **P 13 06 02.0 -0.6**
baz=90,SNR=8.5
YBH Yreka Blue Hor 89.19 325 *e*P P **P 13 06 03.6 +0.6**
YBH Yreka Blue Hor 89.19 325 *e*P P **P 13 06 03.6 +0.6**
SCHQ Schefferville 89.24 3 P P **P 13 06 02.4 -0.4**
comp=Z,16nm,1.3s,baz=185,slow=11,SNR=4.5
SCHQ LR LR 13 45 35.7
comp=Z,98nm,21.3s,baz=216,slow=35
CHMT Chamberlain Mo 89.32 333 *e*P P **P 13 06 05.9 +2.2**
A19A Klindworth Far 89.47 337 ⇓P P **P 13 06 03.7 -0.4**
baz=90,SNR=7.3
LSZ Lusaka 89.47 108 *e*P P **P 13 06 04.7 -0.4**
LSZ pmax pmax
comp=Z,12nm,0.9s
LSZ Lusaka 89.47 108 *e*P P **P 13 06 04.7 -0.4**
comp=Z,12nm,0.9s
MSO Missoula 89.51 333 ⇓P P **P 13 06 05.3 +0.9**
baz=90
I07A Izee 89.55 328 *e*P P **P 13 06 05.3 +0.6**
comp=Z,33nm,1.6s
SLMT Seeley Lake 89.69 333 *e*P P **P 13 06 06.1 +0.8**
J05D Fort Rock, OR 89.70 326 ⇑P P **P 13 06 06.3 +0.8**
baz=90
SWMT Swartz Lake 90.10 333 *e*P P **P 13 06 06.8 -0.3**
comp=Z,7.0nm,0.9s
G08A Pilot Rock 90.28 329 *e*P P **P 13 06 08.3 +0.3**
comp=Z,7.1nm,1.1s
JTMT Jette 90.40 333 *e*P P **P 13 06 09.0 +0.4**
I05D Terrebonne, OR 90.57 327 ⇑P P **P 13 06 09.9 +0.6**
baz=91
BLMT Blacktail Moun 90.65 333 *e*P P **P 13 06 10.4 +0.6**
BSMT Bassoo Peak 90.68 333 *e*P P **P 13 06 10.4 +0.4**
HAWA Hanford 91.40 329 *e*P P **P 13 06 14.0 +0.9**
D08A Wollman Farm, 91.67 330 *e*P P **P 13 06 15.0 +0.7**
comp=Z,24nm,1.5s
NEW Newport 91.92 332 *e*P P **P 13 06 15.5 0.0**
NEW Newport 91.92 332 ⇓P P **P 13 06 15.6 0.0**
baz=92
NEW Newport 91.92 332 *e*P P **P 13 06 15.5 0.0**
C09A Chrisman Ranch 92.00 331 *e*P P **P 13 06 16.4 +0.5**
DZM Mont Dzumac 100.95 234 *e*LR LR 13 40 04.5
comp=Z,121nm,28.2s
YKA Yellowknife Ar 102.73 341 Pdiff **Pdif 13 07 02.6 -1.3**
comp=Z,0.8nm,0.9s,baz=139,slow=4.2,SNR=15
YKA PP **PP 13 11 18.5 +0.3**
comp=Z,0.6nm,1.0s,baz=136,slow=7.9,SNR=5.1
GERES GERRES Array B 112.53 45 PKiKP **PKiKP 13 11 43.1 -0.3**
comp=Z,0.6nm,0.6s,baz=296,slow=2.9,SNR=3.1
ILAR Eielson Array 114.85 333 PKP PKPdf 13 11 46.4 -0.7
comp=Z,1.5nm,1.2s,baz=165,slow=2.2,SNR=5.6
VYHS Vyhne 115.44 47 *e*PKIKP **PKPdf 13 11 49.0 +0.2**
VYHS Vyhne 115.44 47 *e*PKP **PKPdf 13 11 49.0 +0.2**
ASAR Alice Springs 117.03 207 PKP **PKPdf 13 11 50.7 -2.1**
comp=Z,1.5nm,1.1s,baz=129,slow=2.5,SNR=3.0
ASAR PKKPbc **PKKPbc 13 22 17.6 +0.4**
comp=Z,0.5nm,0.7s,baz=337,slow=3.3,SNR=4.8
KOLS Kolonicke sedl 117.71 48 *e*PKIKP **PKPdf 13 11 56.0 +2.8**
KOLS Kolonicke sedl 117.71 48 *e*PKP **PKPdf 13 11 56.0 +2.8**
WRA Warramunga Arr 120.25 209 PKP **PKPdf 13 11 57.3 -1.8**
comp=Z,0.9nm,0.6s,baz=156,slow=1.3,SNR=5.0
BRTR Keskin Array B 122.04 61 PKP **PKPdf 13 12 01.2 -0.8**
comp=Z,0.9nm,0.7s,baz=259,slow=2.3,SNR=5.3
KIEV Kiev 122.53 48 ⇑*i*PKIKP **PKPdf 13 12 01.8 -0.5**
AKASG Malin Array Be 122.54 48 PKP **PKPdf 13 12 00.8 -1.5**
comp=Z,0.4nm,0.3s,baz=264,slow=2.4,SNR=6.5
FINES FINESS Array B 123.46 35 PKP **PKPdf 13 12 03.4 -0.3**
comp=Z,2.1nm,0.9s,baz=224,slow=3.8,SNR=4.9
GAMB Gambell 124.73 328 *e*PKPdf **PKPdf 13 12 06.4 +0.3**
H11S2 WAKE ISLAND Hyl 125.89 269 T T 15 30 28.3
baz=118,slow=74,SNR=62
H11S1 WAKE ISLAND Hyl 125.90 269 T T 15 30 22.4
baz=118,slow=74,SNR=131
H11S3 WAKE ISLAND Hyl 125.91 269 T T 15 30 23.3
baz=118,slow=74,SNR=84
H11N3 WAKE ISLAND Hyl 126.32 270 T T 15 30 53.2
baz=115,slow=78,SNR=207
H11N1 WAKE ISLAND Hyl 126.33 270 T T 15 30 54.3
baz=115,slow=78,SNR=464
H11N2 WAKE ISLAND Hyl 126.34 270 T T 15 30 54.7
baz=115,slow=78,SNR=195
OBN Obninsk 127.83 44 ⇑*e*PKIKP **PKPdf 13 12 13.5 +1.2**
OBN *i* 13 14 16.0
OBN *e*SS SS 13 31 41.6 +15
OBN pmax pmax
comp=Z,30nm,1.6s
OBN MLR MLR
comp=Z,152nm,20.0s
VSR Storozhevoye 128.78 49 ⇑*e*PKIKP **PKPdf 13 12 14.5 +0.2**
KIV Kislovodsk 129.72 59 *i* PKIKP **PKPdf 13 12 16.5 0.0**
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 129.82 59 PKP **PKPdf 13 12 16.9 +0.4**
comp=Z,3.1nm,1.0s,baz=264,slow=2.9,SNR=5.3
ZEI Tsey 130.32 60 *i* PKIKP **PKPdf 13 12 18.3 +0.5**
ZEI pmax pmax
comp=Z,7.0nm,1.3s

SOKR	**Solikamsk**	**138.54**	**37**	*e*PKIKP	**PKPdf**	**13 12 34.9**	**+2.6**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GEYT	**Alibeck**	**139.95**	**70**	PKP	**PKPdf**	**13 12 36.5**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=255,slow=4.3,SNR=3.9						
ARU	**Arti**	**140.16**	**41**	*i* PKIKP	**PKPdf**	**13 12 35.8**	**+0.4**
ARU						13 15 32.0	
ARU				SS	SS	13 33 47.7	-7.8
AKTO	**Aktyubinsk**	**140.66**	**51**	PKhKP	PKPpre	13 12 29.0	
	comp=Z,0.9nm,0.7s,baz=315,slow=2.9,SNR=4.2						
AKTO				PKP	**PKPdf**	**13 12 36.0**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=195,slow=1.1,SNR=8.5						
PETK	**Petropavlovsk-**	**140.71**	**314**	PKhKP	PKPpre	13 12 29.0	
	comp=Z,2.2nm,0.8s,baz=69,slow=5.4,SNR=4.5						
PETK				PKP	**PKPdf**	**13 12 36.9**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=167,slow=3.8,SNR=4.1						
POO	**Poona**	**145.60**	**109**	*e*P	**PKPdf**	**13 12 45.0**	**-1.3**
URV	**Uravakonda**	**146.00**	**118**	*e*P	**PKPdf**	**13 12 46.5**	**-0.5**
KSM	**Kuching**	**146.91**	**184**	*e*PKPdf	**PKPdf**	**13 12 48.9**	**+0.2**
SKHT	**Srikalahasti**	**146.94**	**122**	*e*P	**PKPbc**	**13 12 50.9**	**+0.4**
BVAR	**Borovoye Array**	**147.67**	**44**	PKPbc	**PKPbc**	**13 12 50.9**	**-0.5**
	comp=Z,6.1nm,0.8s,baz=258,slow=2.8,SNR=16						
HYB	**Hyderabad**	**148.53**	**116**	*i* PKP	**PKPbc**	**13 12 53.5**	**-1.3**
HYBB	**Hyderabad (bro**	**148.53**	**116**	*e*P	**PKPbc**	**13 12 54.0**	**-0.8**
NJS	**Nagarjunasagar**	**148.54**	**118**	*e*P	**PKPbc**	**13 12 54.0**	**-0.8**
ADKI	**Addanki**	**148.55**	**119**	*e*P	**PKPbc**	**13 12 55.0**	**+0.2**
LHMI	**Lhok Sumawe**	**148.94**	**158**	*e*PKPdf	**PKPdf**	**13 12 51.9**	**-0.1**
LHMI				*e*PKPbc	**PKPbc**	**13 12 54.9**	**-1.0**
IPM	**Ipoh**	**149.25**	**166**	*e*PKPdf	**PKPdf**	**13 12 52.9**	**+0.4**
YAK	**Yakutsk**	**149.40**	**340**	*e*PKHKP	**PKPdf**	**13 12 51.0**	**-0.1**
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,69nm,1.3s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK	**Yakutsk**	**149.40**	**340**	PKPbc	**PKPbc**	**13 12 55.0**	**-0.5**
	comp=E,38nm,0.7s,baz=311,slow=0.9,SNR=4.6						
YAK	**Yakutsk**	**149.40**	**340**	*e*PKPdf	**PKPdf**	**13 12 51.0**	**-0.1**
YAK				PKPbc	**PKPbc**	**13 12 55.0**	**-0.5**
KKAR	**Karatay Array**	**149.74**	**62**	*e*PKP2	**PKPbc**	**13 12 56.7**	**-0.4**
KKAR	**Karatay Array**	**149.74**	**62**	*e*PKPbc	**PKPbc**	**13 12 56.7**	**-0.4**
YSS	**Yuzh-Sakhalins**	**151.29**	**306**	*e*PKIKP	**PKPbc**	**13 13 00.0**	**-0.6**
YSS				*e*		13 13 11.2	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**151.29**	**306**	*e*PKPbc	**PKPbc**	**13 12 59.8**	**-0.7**
AAK	**Ala-Archa**	**152.69**	**63**	PKIKP	**PKPdf**	**13 12 56.9**	**-0.2**
AAK				*e*		13 12 57.2	
AAK						13 13 04.1	
AAK						13 13 14.8	
AAK	**Ala-Archa**	**152.69**	**63**	PKP	**PKPdf**	**13 12 56.9**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=342,slow=3.2,SNR=4.6						
AAK				PKPbc	**PKPbc**	**13 13 04.1**	**-0.1**
	comp=Z,12nm,1.0s,baz=223,slow=4.5,SNR=12						
AAK				PKPab	**PKPab**	**13 13 14.8**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=290,slow=0.8,SNR=4.7						
AAK	**Ala-Archa**	**152.69**	**63**	PKP	**PKPdf**	**13 12 56.9**	**-0.2**
AAK				*e*PKPdf	**PKPdf**	**13 12 57.2**	**+0.1**
AAK				PKPbc	**PKPbc**	**13 13 04.1**	**-0.1**
AAK				PKPab	**PKPab**	**13 13 14.8**	**-0.2**
FRU	**Bishkek**	**152.76**	**63**	*e*PKIKP	**PKPbc**	**13 13 03.0**	**-1.2**
KURBB	**Kurchatov Arra**	**153.26**	**44**	PKP	**PKPdf**	**13 12 57.2**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=310,slow=2.6,SNR=5.9						
KURBB				PKPbc	**PKPbc**	**13 13 04.7**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=310,slow=2.8,SNR=23						
KURBB				PKPab	**PKPab**	**13 13 17.1**	**+0.3**
	comp=Z,3.8nm,1.1s,baz=296,slow=4.9,SNR=7.4						
KURBB				PP	**PP**	**13 16 55.1**	**+4.4**
	comp=Z,1.0nm,0.9s,baz=281,slow=5.7,SNR=4.8						
KURK	**Kurchatov**	**153.27**	**44**	PKIKP	**PKPdf**	**13 12 57.2**	**-0.2**
KURK						13 13 04.7	
KURK						13 16 55.1	
KURK	**Kurchatov**	**153.27**	**44**	PKP	**PKPdf**	**13 12 57.2**	**-0.2**
KURK				PKPbc	**PKPbc**	**13 13 04.7**	**-0.2**
KURK				PKPab	**PKPab**	**13 13 17.1**	**+0.3**
KURK				PP	**PP**	**13 16 55.1**	**+4.4**
NVS	**Novosibirsk**	**153.43**	**33**	*e*PKIKP	**PKPdf**	**13 12 56.8**	**-0.7**
KSH	**Kashi**	**153.98**	**70**	*e*PKPbc	**PKPdf**	**13 13 02.5**	**+3.5**
KSH				PKS	**PKSdf**	**13 16 34.6**	**+1.3**
KSH				SKS	**SKSdf**	**13 20 07.7**	**+2.4**
KSH				PPMZ			
	comp=Z,110nm,5.9s						
KSH				LN			
	comp=Z,99nm,5.2s						
KSH				LE			
	comp=Z,95nm,4.5s						
KSH				LZ			
	comp=Z,120nm,6.6s						
ZALV	**Zalesovo Beam**	**154.71**	**33**	PKP	**PKPdf**	**13 12 59.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=288,slow=1.4,SNR=5.1						
ZALV				PKPbc	**PKiKP**	**13 13 07.9**	**0.0**
	comp=Z,7.6nm,0.9s,baz=298,slow=1.5,SNR=6.7						
ZALV				PKPab	**PKPab**	**13 13 22.7**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=307,slow=5.4,SNR=4.4						
MKAR	**Makanchi Array**	**157.09**	**50**	PKP	**PKPdf**	**13 13 02.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=282,slow=2.8,SNR=5.4						
MKAR				PKPab	**PKPab**	**13 13 32.5**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=289,slow=3.9,SNR=4.6						
MKAR				PP	**PP**	**13 17 12.0**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=277,slow=1.2,SNR=3.7						
USRK	**Ussuriysk Ar.**	**159.31**	**305**	PKPab	**PKPab**	**13 13 42.9**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=57,slow=7.0,SNR=4.3						
WMQ	**Urumqi**	**161.76**	**54**	PKP	**PKPdf**	**13 13 06.6**	**-1.8**
WMQ				pPKP	**pPKPdf**	**13 13 17.0**	**+3.1**
WMQ				PKPab	**PKPab**	**13 13 54.0**	**+0.1**
WMQ				PKS	**PKSdf**	**13 16 38.5**	**-3.0**
WMQ				PP	**PP**	**13 17 38.5**	**+0.6**
WMQ				SKKS		13 24 21.5	
WMQ				SS	**SS**	**13 37 50.0**	**-5.7**
WMQ				PPMZ			
	comp=Z,190nm,4.6s						
WMQ				LN			
	comp=Z,620nm,14.0s						
WMQ				LE			
	comp=Z,580nm,12.0s						
WMQ				LZ			
	comp=Z,550nm,18.0s						
CMAR	**Chiang Mai Arr**	**161.91**	**151**	PKP	**PKPdf**	**13 13 08.1**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=236,slow=2.7,SNR=7.6						
CMAR				PKPab	**PKPab**	**13 13 54.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=225,slow=6.5,SNR=4.2						
SHL	**Shillong**	**163.29**	**119**	*e*P	**PKPab**	**13 14 00.6**	**-0.6**
KSRS	**Korea Array**	**163.75**	**286**	PKP	**PKPdf**	**13 13 09.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=22,slow=1.3,SNR=5.8						
KSRS				PKPab	**PKPab**	**13 14 03.1**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=94,slow=5.5,SNR=4.9						
KSAR	**Wonju Array Be**	**163.78**	**286**	PKIKP	**PKPdf**	**13 13 09.7**	**-0.7**
KSAR						13 14 03.1	
KSAR	**Wonju Array Be**	**163.78**	**286**	PKP	**PKPdf**	**13 13 09.7**	**-0.7**
KSAR				PKPab	**PKPab**	**13 14 03.1**	**+0.3**
CN2	**Changchun**	**163.79**	**309**	*e*PKP	**PKPdf**	**13 13 07.0**	**-3.2**
QIZ	**Qiongzhong**	**164.35**	**186**	PKP	**PKPdf**	**13 13 12.1**	**+0.6**
QIZ				PP	**PP**	**13 17 52.4**	**+2.1**
QIZ				SS	SS	13 38 23.3	+3.1
QIZ				LZ			
	comp=Z,160nm,24.9s						
SONM	**Songino Array**	**166.78**	**5**	PKP	**PKPdf**	**13 13 11.9**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=315,slow=1.9,SNR=3.9						
SONM				PKPab	**PKPab**	**13 14 15.5**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=340,slow=3.2,SNR=11						
SONM				PP	**PP**	**13 18 05.4**	**+2.3**
	comp=Z,1.2nm,1.1s,baz=0.0,slow=4.8,SNR=5.8						
GYA	**Guiyang**	**171.72**	**171**	*e*PKP	**PKPdf**	**13 13 16.0**	**-0.5**
GYA				PKPab	**PKPab**	**13 14 40.5**	**+2.4**
GYA				PKS	**PKSdf**	**13 16 47.2**	**-1.8**
GYA				PP	**PP**	**13 18 32.8**	**+4.8**
GYA				SKKS		13 25 16.3	
GYA				SS	**SS**	**13 39 37.0**	**+2.5**
GYA				PPMZ			
	comp=Z,120nm,8.0s						
GYA				LN			
	comp=Z,140nm,22.6s						
GYA				LE			
	comp=Z,120nm,24.0s						
GYA				LZ			
	comp=Z,150nm,22.4s						
GTA	**Gaotai**	**171.84**	**52**	*e*PKP	**PKPdf**	**13 13 17.5**	**+1.3**
GTA				sPKP		13 13 24.6	
GTA				PKPab	**PKPab**	**13 14 40.0**	**+1.4**
GTA				PP	**PP**	**13 18 32.6**	**+2.8**
GTA				SKS	**SKSdf**	**13 20 20.0**	**+1.1**
GTA				SKKS	**SKKSac**	**13 25 18.1**	**+2.3**
GTA				SS	**SS**	**13 39 37.3**	**-0.4**
GTA				PPMZ			
	comp=Z,130nm,6.7s						
GTA				LN			
	comp=Z,270nm,14.0s						
GTA				LE			
	comp=Z,160nm,21.4s						
GTA				LZ			
	comp=Z,210nm,18.1s						
HHC	**Hu-ho-hao-te**	**173.25**	**337**	*e*PKP	**PKPdf**	**13 13 19.0**	**+2.3**
HHC				PP	PP	13 18 41.1	+5.3
HHC				SKS	**SKSdf**	**13 20 20.8**	**+1.5**
HHC				SS	**SS**	**13 39 53.9**	**+4.1**
HHC				PPMZ			
	comp=Z,72nm,5.6s						
HHC				LN			
	comp=Z,220nm,20.4s						
HHC				LE			
	comp=Z,400nm,20.3s						
HHC				LZ			
	comp=Z,240nm,22.2s						
CD2	**Chengdu**	**174.75**	**134**	PKP	**PKPdf**	**13 13 17.6**	**+0.1**
CD2				PKS	**PKSdf**	**13 16 48.4**	**-1.3**
CD2				PP	**PP**	**13 18 47.2**	**+3.5**
CD2				SKS	**SKSdf**	**13 20 17.9**	**-2.1**
CD2				SKKS	**SKKSac**	**13 25 30.7**	**+0.9**
CD2				SS	**SS**	**13 40 05.6**	**+0.2**
CD2				PPMZ			
	comp=Z,160nm,6.2s						
LZH	**Lanzhou**	**176.23**	**67**	*e*PKP	**PKPdf**	**13 13 14.9**	**-2.9**
LZH				pPKP	**pPKPdf**	**13 13 19.0**	**-4.4**
LZH				sPKP		13 13 21.5	
XAN	**Xi'an**	**179.09**	**227**	PKP	**PKPdf**	**13 13 18.9**	**+0.8**

*KLM **01** 13:01:54.1,4.°04S×100.°40E,h39km,mb4.6,ML4.6,MS5.5*
*ISCJB **01** 13:01:56.3±0.4,3.°83S±0.°04×100.°80E±0.°04,h29km,*
mb4.5/36,MS3.6/7, Error ellipse: s-maj=7.6km
s-min=3.6km az=39.9
*BJI **01** 13:01:56.5,3.°70S×100.°90E,h34km,mB5.1/10,mb4.8/18,*
Ms4.6/2,Ms7 4.2/2
*MOS **01** 13:01:57.0±0.9,3.°72S×100.°95E,h33km,mb4.8/16, Error*
ellipse: s-maj=14.2km s-min=7.1km az=111.8
*DJA **01** 13:01:59.4±1.6,4.°S±5.°×10.°1E±.°,h22km±18km, M5.0/17,*
mb4.9/13,mB5.8/6,MLv4.8/17,Mw(mB)5.4/6
*NEIC **01** 13:02:01.0±1.2,3.°68S×101.°09E,h54km±9km, mb4.7/7,*
Error ellipse: s-maj=18.9km s-min=6.8km az=51.0
*IDC **01** 13:02:01.0±2.9,3.°59S×101.°12E,h45km±25km,mb4.2/20,*
mb1 4.3/22,mb1mx4.1/31,mbtmp4.4/22,ML4.2/2,MS3.6/9,
Ms1 3.6/9,ms1mx3.2/45, Error ellipse: s-maj=27.8km
s-min=11.8km az=48.0

ISC 01 13:01:57.9±0.5,**3.°82S**×0.°07×**100.°85E**×0.°06,**h29km,n126,**
σ1s36/125,mb4.5/36,MS3.5/7,9C-8D,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.16**	**104**	P		P	**Pn**	**13 02 34.7**	**+2.6**
MNAI				S		S	**Sb**	**13 03 02.6**	**-0.3**
MNAI	**Manna**	**2.16**	**104**	*e*Pn		P	**Pn**	**13 02 32.4**	**+0.4**
MNAI				*e*Sn		S	**Sn**	**13 02 59.7**	**+1.8**
LHSI	**Lahat**	**2.66**	**90**	P		P	**Pn**	**13 02 40.0**	**+1.1**
PDSI	**Padang**	**2.92**	**352**	P		P	**Pn**	**13 02 42.1**	**-0.3**
SDSI	**Sungai Dareh**	**2.93**	**11**	P		P	**Pn**	**13 02 43.9**	**+1.4**
MDSI	**Maura Dua**	**3.38**	**101**	P		P	**Pn**	**13 02 49.9**	**+1.1**
LWLI	**Liwa**	**3.41**	**111**	P		P	**Pn**	**13 02 51.9**	**+2.6**
JMBI	**JAMBI**	**3.53**	**52**	P		P	**Pn**	**13 02 52.2**	**+1.3**
KASI	**Kota Agung**	**4.01**	**115**	P		P	**Pn**	**13 02 58.4**	**+1.0**
BKNI	**Bangkinang**	**4.12**	**3**	P		P	**Pn**	**13 03 00.4**	**+1.4**
KLI	**Kotabumi**	**4.12**	**105**	P		P	Pn	13 03 02.3	+3.3
MNSI	**Mandailing Nat**	**4.76**	**344**	P		P	**Pn**	**13 03 08.6**	**+0.9**
CGJI	**Cibinong**	**5.56**	**120**	P		P	**Pn**	**13 03 21.0**	**+2.2**
	134nm,0.5s,2μm0.6nm								
TPRI	**Tanjung Pinang**	**5.97**	**38**	P		P	**Pn**	**13 03 25.7**	**+1.3**
	117nm,0.6s,54μm3.1nm								
KGM	**Kluang**	**6.30**	**23**	⇑P		P	**Pn**	**13 03 29.4**	**+0.4**
MYKOM	**Kota Tinggi**	**6.33**	**28**	⇓P		P	**Pn**	**13 03 30.6**	**+1.3**
CBJI	**Citeko**	**6.51**	**114**	P		P	Pn	13 03 38.6	+6.8
PSI	**Prapat**	**6.85**	**344**	P		P	**Pn**	**13 03 37.5**	**+0.9**
	2.6nm,0.3s,baz=164,slow=9.6,SNR=5.7								
PSI				LR		LR		13 06 45.0	
	comp=Z,444nm,20.1s,baz=161,slow=43								
FRIM	**Kepong**	**7.05**	**6**	⇓P		P	**Pn**	**13 03 39.2**	**-0.1**
CNJI	**Cibinong**	**7.14**	**119**	P		P	**Pn**	**13 03 39.8**	**-0.7**
LEM	**Lembang**	**7.37**	**114**	P		P	**Pn**	**13 03 45.9**	**+2.2**
	7.9nm,0.3s,baz=153,slow=18,SNR=4.7								
LEM				LR		LR		13 07 09.8	
	comp=Z,284nm,19.5s,baz=258,slow=43								
CISI	**Cisompet, Garu**	**7.86**	**118**	P		P	**Pn**	**13 03 49.8**	**-0.6**
CISI	**Cisompet, Garu**	**7.86**	**118**	*e*Pn		P	**Pn**	**13 03 49.1**	**-1.3**
TPTI		**7.93**	**332**	P		P	**Pn**	**13 03 53.6**	**+2.2**
	69nm,0.5s,23μm0.4nm								
IPM	**Ipoh**	**8.25**	**1**	⇑P		P	**Pn**	**13 03 54.2**	**-1.5**
IPM	**Ipoh**	**8.25**	**1**	*e*Pn		P	**Pn**	**13 03 57.7**	**+1.9**
	14nm,0.6s								
KPJI	**Karang Pucung**	**8.76**	**114**	P		P	**Pn**	**13 04 04.7**	**+1.9**
	52nm,1.0s								
KTGM	**Kuala Trenggan**	**9.37**	**14**	⇑P		P	**Pn**	**13 04 13.1**	**+2.0**
PWJI	**Pagerwojo**	**11.66**	**111**	P		P	Pn	13 04 46.5	+4.0
	35nm,0.8s								
SBUM	**Sibu**	**12.96**	**61**	⇓P		P	Pn	13 05 03.7	+3.5
KMMI	**Kalianget**	**13.44**	**104**	P		P	**Pn**	**13 05 08.8**	**+2.0**
	26nm,1.1s,4μm								
ABJI	**Asem Bagus**	**13.88**	**107**	P		P	**Pn**	**13 05 15.3**	**+2.4**
	91nm,0.7s								
BBKI	**Banjar Baru**	**13.96**	**89**	P		P	**Pn**	**13 05 16.4**	**+2.4**
TSM	**Tawau**	**18.82**	**65**	⇑P		P	**P**	**13 06 15.8**	**+0.3**
SDKM	**Sandakan**	**18.83**	**60**	⇓P		P	**P**	**13 06 16.0**	**+0.3**
KAPI	**Kappang**	**18.88**	**94**	*e*P		P	**P**	**13 06 12.0**	**-4.2**
	53nm,0.9s								
KDM	**Kudat**	**19.19**	**56**	⇓P		P	**P**	**13 06 20.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**22.22**	**355**	*ce*P		P	**P**	**13 06 51.4**	**-0.9**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**22.22**	**355**	P		P	**P**	**13 06 50.8**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=186,slow=9.2,SNR=14								
CMAR				PcP		PcP		**13 10 50.4**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=223,slow=4.5,SNR=4.1								
CMAR				LR		LR		13 16 15.3	
	comp=Z,64nm,21.5s,baz=176,slow=39								
BATI	**Baumata**	**23.50**	**107**	P		P	**P**	**13 07 03.9**	**-1.8**
	comp=Z,21nm,0.9s,baz=54,slow=8.3,SNR=3.0								
QIZ	**Qiongzhong**	**24.37**	**21**	P		P	**P**	**13 07 11.5**	**-2.2**
QIZ				S		S	**S**	**13 11 31.1**	**-0.5**
SLVN	**Son La**	**25.18**	**7**	*e*P		P	**P**	**13 07 18.4**	**-2.7**
	comp=Z,4.1nm,0.8s								
H08S2	**Diego Garcia H**	**28.47**	**261**	T		T		13 37 35.9	
	baz=84,slow=75,SNR=825								
H08S3	**Diego Garcia H**	**28.47**	**261**	T		T		13 37 36.5	
	baz=84,slow=75,SNR=999								
H08S1	**Diego Carcia H**	**28.48**	**261**	T		T		13 37 34.3	
	baz=84,slow=75,SNR=950								
ODAN	**Odare**	**33.16**	**338**	*e*P		P	**P**	**13 08 33.6**	**+1.3**
H01W3	**Cape Leeuwin H**	**33.27**	**160**	T		T		13 43 27.4	
	baz=336,slow=75,SNR=8.4								
H01W2	**Cape Leeuwin H**	**33.29**	**160**	T		T		13 43 26.1	
	baz=336,slow=75,SNR=8.1								
H01W1	**Cape Leeuwin H**	**33.29**	**160**	T		T		13 43 28.1	
	baz=336,slow=75,SNR=7.9								
TAPN	**Taplejung**	**33.49**	**338**	*e*P		P	**P**	**13 08 36.8**	**+1.6**
	comp=Z,65nm,0.9s								
RAMN	**Ramite**	**33.55**	**337**	*e*P		P	**P**	**13 08 37.7**	**+2.0**
JIRN	**Jiri**	**34.34**	**337**	*e*P		P	**P**	**13 08 44.3**	**+1.6**
	comp=Z,77nm,0.7s								
PKI	**Pulchoki**	**34.58**	**335**	*e*P		P	**P**	**13 08 45.9**	**+1.1**
PKIN	**Phulchoki**	**34.59**	**335**	*e*P		P	**P**	**13 08 46.2**	**+1.4**
LSA	**Lhasa**	**34.60**	**345**	*e*P		P	**P**	**13 08 44.4**	**-0.7**
LSA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
LSA	**Lhasa**	**34.60**	**345**	*e*P		P	**P**	**13 08 44.4**	**-0.7**
	comp=Z,6.4nm,0.9s								
GUN	**Gumba**	**34.69**	**336**	*e*P		P	**P**	**13 08 47.3**	**+1.6**
	comp=Z,116nm,0.7s								
DMN	**Daman**	**34.74**	**335**	*e*P		P	**P**	**13 08 47.4**	**+1.3**
	comp=Z,24nm,0.8s								
KKN	**Kakani**	**34.83**	**335**	*e*P		P	**P**	**13 08 48.1**	**+1.3**
	comp=Z,44nm,0.7s								
GKN	**Gorkha**	**35.29**	**335**	*e*P		P	**P**	**13 08 52.1**	**+1.5**
	comp=Z,44nm,0.9s								
KOLN	**Koldanda**	**35.54**	**333**	*e*P		P	**P**	**13 08 54.4**	**+1.5**
	comp=Z,21nm,0.8s								
DANN	**Dangsing**	**35.97**	**334**	*e*P		P	**P**	**13 08 57.9**	**+1.3**
	comp=Z,54nm,0.8s								
WRA	**Warramunga Arr**	**36.36**	**119**	P		P	**P**	**13 08 59.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=299,slow=11,SNR=74								
WRA				PcP		**PcP**		**13 11 24.7**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=316,slow=1.7,SNR=3.9								
WRAB	**Tennant Creek**	**36.36**	**119**	⇑*e*P		P	**P**	**13 08 59.6**	**-0.2**
WRAB				pmax	pmax				
	comp=Z,140nm,3.1s								
AS31	**Alice Springs**	**37.51**	**125**	*e*P		P	**P**	**13 09 10.0**	**+0.4**
ASAR	**Alice Springs**	**37.51**	**125**	P		P	**P**	**13 09 10.2**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=297,slow=7.7,SNR=37								
ASAR				PcP		**PcP**		**13 11 28.9**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=282,slow=1.7,SNR=5.0								
ASAR				LR		LR		13 25 11.0	
	comp=Z,37nm,20.6s,baz=325,slow=37								
GTA	**Gaotai**	**43.03**	**359**	*e*P		P	**P**	**13 09 55.3**	**+0.2**
GTA				pP		**pP**		**13 10 00.9**	**-2.9**
GTA				sP		**sP**		**13 10 04.1**	**-3.2**
GTA				PMZ					
	comp=Z,5.0nm,1.2s								
HHC	**Hu-ho-hao-te**	**45.52**	**11**	*e*P		P	**P**	**13 10 18.2**	**+3.1**
HHC				S		**S**		**13 16 57.4**	**+2.0**
HHC				PMZ					
	comp=Z,18nm,0.6s								
HHC				PMZ					
	comp=Z,100nm,4.7s								
HHC				LN					
	comp=Z,220nm,18.5s								
HHC				LE					
	comp=Z,260nm,16.0s								
HHC				LZ					
	comp=Z,78nm,13.6s								
CTA	**Charters Tower**	**47.07**	**114**	P		P	**P**	**13 10 27.0**	**-0.5**
CTA	**Charters Tower**	**47.07**	**114**	P		P	**P**	**13 10 26.9**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=311,slow=9.3,SNR=3.3								
KSAR	**Wonju Array Be**	**48.14**	**29**	P		P	**P**	**13 10 34.5**	**-0.9**
KSAR	**Wonju Array Be**	**48.14**	**29**	P		P	**P**	**13 10 34.5**	**-0.9**
KSRS	**Korea Array**	**48.16**	**29**	P		P	**P**	**13 10 34.5**	**-1.1**
	comp=Z,5.4nm,0.9s,baz=221,slow=8.7,SNR=15								
SFK	**Sufi-Kurgan**	**50.34**	**333**	P		P	**P**	**13 10 53.5**	**+1.0**
SFK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
PDGK	**Podgornoye**	**50.74**	**340**	P		P	**P**	**13 10 56.3**	**+1.1**
PDGK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
SONM	**Songino Array**	**51.67**	**5**	P		P	**P**	**13 11 02.7**	**+0.4**
	comp=Z,17nm,0.8s,baz=183,slow=8.8,SNR=130								
SONM				PcP		**PcP**		**13 12 15.7**	**+0.1**
	comp=Z,3.2nm,1.1s,baz=192,slow=3.3,SNR=4.5								
ULN	**Ulaanbaatar**	**51.76**	**5**	*c* *i*P		P	**P**	**13 11 03.1**	**+0.1**
ULN				pmax	pmax				
	comp=Z,12nm,0.8s								
ULN	**Ulaanbaatar**	**51.76**	**5**	*e*P		P	**P**	**13 11 00.7**	**-2.2**
	comp=Z,12nm,0.9s								
TKM2	**Tokmak 2**	**51.83**	**337**	P		P	**P**	**13 11 03.6**	**-0.1**
TKM2				pmax	pmax				
	comp=Z,6.0nm,0.7s								
TKM2	**Tokmak 2**	**51.83**	**337**	*e*P		P	**P**	**13 11 03.2**	**-0.4**
	comp=Z,4.9nm,0.6s								
AAK	**Ala-Archa**	**52.04**	**335**	*d* *i*P		P	**P**	**13 11 06.2**	**+1.0**
AAK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
AAK	**Ala-Archa**	**52.04**	**335**	P		P	**P**	**13 11 06.4**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=154,slow=7.1,SNR=5.2								
AAK				PcP		**PcP**		**13 12 19.3**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=146,slow=3.6,SNR=3.6								
EKS2	**Erkin-Say**	**52.36**	**335**	*e*P		P	**P**	**13 11 06.6**	**-1.0**
EKS2				pmax	pmax				
	comp=Z,8.0nm,0.8s								
EKS2	**Erkin-Say**	**52.36**	**335**	*e*P		P	**P**	**13 11 06.6**	**-1.0**
	comp=Z,8.4nm,0.8s								
MNAS	**Manas**	**52.77**	**334**	P		P	**P**	**13 11 11

ASAR	**Alice Springs**	**26.44**	**222**	P	P	13 31 45.6	+0.3
	0.2nm,0.6s,baz=57,slow=9.0,SNR=5.7							
FX1	**Attu Island--F**	**59.63**	**14**	LR	LR	13 58 23.7		
	comp=Z,107nm,19.9s,baz=104,slow=32							
PALK	**Pallekele**	**72.90**	**279**	LR	LR	14 12 36.9		
	comp=Z,243nm,18.7s,baz=214,slow=38							
MKAR	**Makanchi Array**	**80.06**	**319**	P	P	13 38 19.1	+0.8	
	0.3nm,0.5s,baz=109,slow=6.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	PKPbc	13 45 59.0	-1.8	
	0.2nm,0.3s,baz=57,slow=2.5,SNR=6.0							

*NEIC **01** 13:26:15.5, 34˚.45S×72˚.04W, h34km, ML4.3(GUC), After GUC.*
NEIC Felt [V] at Santa Cruz, [IV] at Pichilemu, [III] at Santiago and [II] at Navidad.

GUC 01 13:26:15.5±0.5, 34˚.45S×72˚.04W, h34km±3km, ML4.3, 8C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.71**	**47**	⇓*i*P	Pn	13 26 28.8	-0.3
LNV	**Longovilo**	**0.71**	**47**	⇓*i*P	Pn	13 26 28.8	-0.3
NICH	**Los Niches**	**0.87**	**130**	⇑*i*P	Pn	13 26 31.6	+0.3
NICH				*e*S	Sb	13 26 43.8	+0.2
NICH	**Los Niches**	**0.87**	**130**	⇑*i*P	Pn	13 26 31.6	+0.3
NICH				*e*S	Sb	13 26 43.8	+0.2
TALC	**Talca**	**1.01**	**161**	⇑*i*P	Pn	13 26 33.6	+0.4
TALC				*i* S	Sb	13 26 47.0	-0.5
TALC	**Talca**	**1.01**	**161**	⇑*i*P	Pn	13 26 33.6	+0.4
TALC				*i* S	Sb	13 26 47.0	-0.5
CACH	**El Canelo**	**1.23**	**75**	⇓*i*P	Pb	13 26 37.6	-0.9
CACH	**El Canelo**	**1.23**	**75**	⇓*i*P	Pb	13 26 37.6	-0.9
CHCH	**Chadas Angostu**	**1.26**	**66**	⇑*i*P	Pn	13 26 37.6	+0.9
CHCH	**Chadas Angostu**	**1.26**	**66**	⇑*i*P	Pn	13 26 37.6	+0.9
LNCH	**Linares**	**1.44**	**166**	*e*P	Pb	13 26 41.4	-0.5
LNCH				*i* S	Sb	13 26 59.9	0.0
LNCH	**Linares**	**1.44**	**166**	*e*P	Pb	13 26 41.4	-0.5
LNCH				*i* S	Sb	13 26 59.9	0.0
LACH	**Col Las Americ**	**1.60**	**52**	*e*P	Pn	13 26 42.6	+1.2
LACH				*i* S	Sb	13 27 03.7	-0.8
LACH				AML	AML	13 27 04.9	
	comp=N,4μm,0.3s						
LACH	**Col Las Americ**	**1.60**	**52**	*e*P	Pn	13 26 42.6	+1.2
LACH				*i* S	Sb	13 27 03.7	-0.8
CLCH	**Cerro Calan**	**1.63**	**50**	⇓*i*P	Pn	13 26 43.4	+1.5
CLCH				*i* S	Sb	13 27 04.6	-0.8
CLCH				AML	AML	13 27 11.9	
	comp=E,7μm,0.6s						
ROCH	**El Roble**	**1.70**	**30**	⇓*i*P	Pn	13 26 43.6	+0.5
ROCH				*i* S	Sn	13 27 05.4	+1.6
ROCH				AML	AML	13 27 14.3	
	comp=N,5μm,0.3s						
ROCH	**El Roble**	**1.70**	**30**	⇓*i*P	Pn	13 26 43.6	+0.5
ROCH				*i* S	Sn	13 27 05.4	+1.6
PEL	**Peldehue**	**1.72**	**41**	⇑*i*P	Pn	13 26 44.7	+1.6
PEL				*i* S	Sb	13 27 06.4	-1.5
PEL				AML	AML	13 27 09.7	
	comp=N,11μm,0.5s						
PEL	**Peldehue**	**1.72**	**41**	⇑*i*P	Pn	13 26 44.7	+1.6
PEL				*i* S	Sb	13 27 06.4	-1.5

GUC 01 13:36:51.4±0.5, 34˚.55S×72˚.21W, h15km±999km, ML3.7, 6C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.92**	**119**	⇑*i*P	Pb	13 37 08.1	-1.0
NICH				*e*S	Sb	13 37 20.5	-0.7
TALC	**Talca**	**0.96**	**151**	⇓*i*P	Pb	13 37 08.5	-1.3
TALC				*i* S	Sb	13 37 21.4	-1.0
LNCH	**Linares**	**1.38**	**159**	⇓*i*P	Pn	13 37 15.8	-0.4
LNCH				*e*S	Sn	13 37 33.1	-1.1
RCDM	**Rinconada Maip**	**1.58**	**48**	⇑*i*P	Pn	13 37 18.3	-0.6
RCDM				*e*S	Sn	13 37 38.1	-0.9
RCDM				AML	AML	13 37 43.6	
	comp=E,1μm,0.3s						
COCH	**Cobquecura**	**1.64**	**197**	⇓*i*P	Pn	13 37 19.5	-0.2
COCH				*e*S	Sn	13 37 40.3	-0.3
SJCH	**San Jose de Ma**	**1.79**	**60**	*i* P	Pn	13 37 21.5	-0.4
SJCH				*e*S	Sn	13 37 44.8	+0.4
SJCH				AML	AML	13 37 50.3	
	comp=N,966nm,0.3s						
CLCH	**Cerro Calan**	**1.81**	**51**	⇑*i*P	Pn	13 37 22.1	0.0
CLCH				⇑*i*P	Pb	13 37 22.1	-2.2
CLCH				*e*S	Sb	13 37 46.0	-0.8
CLCH				*e*S	Sn	13 37 47.3	+2.5
CLCH				AML	AML	13 37 58.0	
	comp=N,1μm,0.6s						
CLCH				AML	AML	13 37 58.5	
	comp=N,1μm,0.8s						
PEL	**Peldehue**	**1.89**	**42**	⇑*i*P	Pn	13 37 23.2	-0.1
PEL				*e*S	Sb	13 37 48.8	-0.5
PEL				AML	AML	13 37 53.9	
	comp=E,1μm,0.4s						
YECH	**El Yeso**	**1.97**	**64**	⇑*i*P	Pn	13 37 25.5	+0.8
YECH				*e*S	Sb	13 37 51.1	-1.0

*ISCJB **01** 13:41:33.3±0.8, 10˚.37N±0˚.05×62˚.68W±0˚.02, h3km±5km, Error ellipse: s-maj=8.0km s-min=3.3km az=163.7*
*FUNV **01** 13:41:34.0, 10˚.45N×62˚.61W, h1km, MW3.0*
*TRN **01** 13:41:35.7, 10˚.23N×62˚.46W, h2km, MD3.5*

ISC 01 13:41:33.6±1.1, 10˚.42N±0˚.04×62˚.66W±0˚.03, h7km±10km, n25, σ1°49/35, 1C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.37**	**228**	*e*P	**Pb**	**13 41 42.4**	**-0.1**
GUNV				*e*S	**Sb**	**13 41 49.1**	**+0.6**
GUIV	**Guiria**	**0.49**	**62**	⇑*i*P	**Pg**	**13 41 42.5**	**-0.6**
GUIV				*e*S	**Sg**	**13 41 48.7**	**-0.8**
CRUV	**Carupano**	**0.62**	**295**	*e*P	**Pg**	**13 41 45.8**	**+0.2**
CRUV				*e*S	**Sg**	**13 41 53.6**	**0.0**
TRN	**Trinidad (W)**	**1.26**	**79**	*e*P	**Pg**	**13 41 58.2**	**+0.4**
TRN				*e*S	**Sb**	**13 42 13.3**	**-0.8**
ORIV	**Oritupano**	**1.52**	**209**	*e*P	**Pg**	**13 42 03.2**	**+0.3**
ORIV				*e*S	**Sg**	**13 42 24.7**	**+2.0**
TBH	**Brigand Hill**	**1.57**	**87**	*e*P	**Pn**	**13 42 02.3**	**+0.3**
TBH				*e*S	**Sn**	**13 42 22.5**	**-0.1**
PCRV	**Puerto La Cruz**	**1.96**	**263**	*e*P	**Pn**	**13 42 08.0**	**+0.8**
GRW	**Mount Saint Ca**	**1.99**	**29**	*e*P	**Pg**	**13 42 11.9**	**+0.1**
GRW				*e*S	**Sg**	**13 42 39.0**	**+1.2**
TPR	**Prospect**	**2.00**	**67**	*e*P	**Pb**	**13 42 09.8**	**-0.6**
TPR				*e*S	**Sn**	**13 42 34.4**	**+1.1**
BOT	**Bacolet**	**2.05**	**68**	*e*P	**Pb**	**13 42 10.6**	**-0.6**
BOT				*e*S	**Sb**	**13 42 36.7**	**-0.2**
TOSP	**Speyside**	**2.27**	**67**	*e*P	**Pn**	**13 42 12.8**	**+1.3**
TOSP				*e*S	**Sb**	**13 42 41.8**	**-1.4**
PRGV	**PARIAGUAN**	**2.56**	**230**	*e*P	**Pn**	**13 42 17.1**	**+1.7**
PRGV				*e*S	**Sn**	**13 42 47.8**	**+0.9**
CUPV	**Cœpira**	**3.10**	**264**	*e*P	**Pn**	**13 42 22.9**	**-0.1**
CUPV				*e*S	**Sn**	**13 43 00.9**	**0.0**
SVB	**Belmont**	**3.16**	**26**	*e*P	**Pb**	**13 42 28.3**	**-1.7**
BIRV	**Birongo**	**3.55**	**271**	*e*P	**Pn**	**13 42 30.6**	**+1.4**
BIRV				*e*S	**Sn**	**13 43 11.8**	**+0.4**
MCLT	**Moule a Chique**	**3.68**	**27**	*e*P	Pb	13 42 35.5	-3.5
MCLT				*e*S	**Sn**	**13 43 19.2**	**+4.5**
LUEV	**Luepa**	**4.70**	**165**	*e*P	**Pn**	**13 42 44.0**	**-1.1**
TURV	**Turiamo**	**5.09**	**271**	*e*P	**Pn**	**13 42 51.0**	**+0.7**
BAUV	**El Baul**	**5.50**	**255**	*e*P	**Pn**	**13 42 56.1**	**+0.2**
BAUV				*e*S	**Sn**	**13 43 56.2**	**-3.4**
TAG	**Tarade**	**5.68**	**10**	⇓*i*P	Sn	13 43 55.7	-8.4
ECG	**Echelle**	**5.68**	**10**	⇓*i*P	Sn	13 43 55.5	-8.7
LKG	**Breislack**	**5.68**	**10**	⇓*i*P	Sn	13 43 55.4	-8.9
CRG	**Carmichael**	**5.69**	**10**	*e*P	Sn	13 43 55.2	-9.2
FNG	**Fond-Bernard**	**5.69**	**10**	*e*P	Sn	13 43 56.5	-7.9
MAPV	**Macapo**	**5.73**	**265**	*e*P	**Pn**	**13 42 59.3**	**+0.1**
MAPV				*e*S	**Sn**	**13 44 01.8**	**-3.6**

*BJI **01** 13:46:50.3, 56˚.40N×156˚.60W, h35km, mB5.0/7, mb4.7/8, Ms4.8/4, Ms7 4.4/4*
*ISCJB **01** 13:46:54.1±0.3, 56˚.62N±0˚.03×156˚.93W±0˚.04, h53km±3km, mb4.3/51, MS3.4/2, Error ellipse: s-maj=4.3km s-min=3.3km az=164.6*
*IDC **01** 13:46:54.9±2.7, 56˚.66N×156˚.99W, h46km±24km, mb3.9/31, mb1 4.1/34, mb1mx3.9/61, mbtmp4.2/34, ML4.2/3, MS3.4/3, Ms1 3.4/3, ms1mx2.8/59, Error ellipse: s-maj=17.9km*

s-min=10.2km az=15.0
*NEIC **01** 13:46:55.9, 56˚.36N×156˚.72W, h76km, mb4.6/22, After AEIC.*

ISC 01 13:46:55.4±0.8, 56˚.47N±0˚.06×156˚.87W±0˚.04, h55km±7km, n323, σ1°23/327, mb4.3/51, 61C-64D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK4	**Peulik 4**	**1.20**	**13**	P	**Pn**	**13 47 17.4**	**+1.5**
PLK3	**Peulik 3**	**1.26**	**15**	P	**Pn**	**13 47 18.2**	**+1.5**
PLK3				S	**Sn**	**13 47 36.2**	**+3.4**
PLK1	**Peulik 1**	**1.34**	**6**	P	**Pn**	**13 47 19.2**	**+1.4**
SII	**Sitkinak Islan**	**1.49**	**86**	*e*Pn	**Pn**	**13 47 18.8**	**-1.1**
PLWL	**Peulik Whale M**	**1.60**	**10**	P	**Pn**	**13 47 22.4**	**+1.0**
KABR	**Katmai Barrier**	**1.96**	**31**	P	**Pn**	**13 47 27.0**	**+0.8**
KCE	**Katmai Mt Cerb**	**2.00**	**27**	P	**Pn**	**13 47 28.1**	**+1.4**
KABU	**Katmai Buttres**	**2.00**	**25**	P	**Pn**	**13 47 28.4**	**+1.6**
KABU				S	**Sn**	**13 47 54.1**	**+3.4**
KELA	**Mount Kelaz**	**2.06**	**17**	P	**Pn**	**13 47 28.4**	**+0.7**
KAKN	**Katmai Knife C**	**2.08**	**27**	P	**Pn**	**13 47 29.0**	**+1.2**
KVTA	**Katmai Vly 10**	**2.10**	**23**	P	**Pn**	**13 47 29.1**	**+1.1**
OHAK	**Old Harbor**	**2.11**	**68**	*e*Pn	**Pn**	**13 47 27.3**	**-0.9**
SDPT	**Sand Point**	**2.32**	**242**	P	**Pn**	**13 47 32.3**	**+1.1**
SDPT				S	**Sn**	**13 48 00.6**	**+2.1**
KDAK	**Kodiak Island**	**2.68**	**59**	*e*Pn	**Pn**	**13 47 36.6**	**+0.6**
MCNL	**McNeil River**	**3.04**	**25**	P	**Pn**	**13 47 41.9**	**+1.0**
DT1	**Dutton Round H**	**3.35**	**248**	P	**Pn**	**13 47 45.5**	**+0.3**
AUH	**Augustine H**	**3.43**	**31**	P	**Pn**	**13 47 47.5**	**+1.2**
FALS	**False Pass**	**4.04**	**249**	*e*Pn	**Pn**	**13 47 56.0**	**+1.3**
HOM	**Homer**	**4.23**	**39**	P	**Pn**	**13 47 57.6**	**+0.4**
SSLW	**Shishaldin Wes**	**4.45**	**250**	P	**Pn**	**13 48 01.0**	**+0.7**
RSO	**Redoubt South**	**4.55**	**27**	*e*Pn	**Pn**	**13 48 03.4**	**+1.7**
RDWB	**Redoubt West**	**4.55**	**26**	P	**Pn**	**13 48 02.7**	**+1.0**
BRLK	**Bradley Lake**	**4.58**	**41**	P	**Pn**	**13 48 01.6**	**-0.5**
NCT	**North Crescent**	**4.59**	**25**	P	**Pn**	**13 48 03.8**	**+1.5**
SVW2	**Sparrevohn**	**4.69**	**8**	*e*Pn	**Pn**	**13 48 04.6**	**+1.1**
SLKM	**Skilak Lake**	**5.34**	**38**	P	**Pn**	**13 48 12.7**	**+0.3**
SPU	**Mount Spurr**	**5.34**	**26**	*e*Pn	**Pn**	**13 48 13.6**	**+1.0**
SEW	**Seward**	**5.34**	**44**	*e*Pn	**Pn**	**13 48 11.2**	**-1.3**
AKSA	**Akutan Strait**	**5.56**	**249**	P	**Pn**	**13 48 16.0**	**+0.6**
STLK	**Strandline Lak**	**5.67**	**25**	P	**Pn**	**13 48 18.2**	**+1.2**
FIB	**Fire Island**	**5.85**	**34**	P	**Pn**	**13 48 20.3**	**+1.0**
SUA	**Susitna One**	**5.92**	**30**	P	**Pn**	**13 48 20.8**	**+0.3**
RC01	**Rabbit Creek A**	**5.93**	**36**	*e*Pn	**Pn**	**13 48 20.8**	**+0.3**
UNV	**Unalaska Valle**	**6.12**	**249**	P	**Pn**	**13 48 22.7**	**-0.4**
MTBL	**Makushin Table**	**6.15**	**250**	P	**Pn**	**13 48 24.0**	**+0.4**
SKT	**Skwentna**	**6.17**	**24**	P	**Pn**	**13 48 23.9**	**+0.2**
MSW	**Makushin Switc**	**6.23**	**250**	P	**Pn**	**13 48 24.6**	**0.0**
MSOM	**Makushin Julie**	**6.36**	**249**	P	**Pn**	**13 48 25.9**	**-0.5**
TT01	**Tatalina**	**6.47**	**3**	P	**Pn**	**13 48 29.0**	**+1.1**
PMR	**Palmer**	**6.50**	**35**	*e*Pn	**Pn**	**13 48 27.7**	**-0.6**
HIN	**Hinchinbrook I**	**6.71**	**50**	P	**Pn**	**13 48 30.2**	**-1.1**
GLI	**Glacier Island**	**6.74**	**45**	P	**Pn**	**13 48 30.2**	**-1.4**
CUT	**Chulitna**	**6.83**	**27**	P	**Pn**	**13 48 33.1**	**+0.2**
PPLA	**Purkeypile**	**6.86**	**18**	*e*Pn	**Pn**	**13 48 35.3**	**+1.9**
JPK	**Jack Peak**	**7.04**	**45**	P	**Pn**	**13 48 34.1**	**-1.6**
OKFG	**Magazine Ridge**	**7.06**	**249**	P	**Pn**	**13 48 35.8**	**-0.2**
EYAK	**Cordova Ski Ar**	**7.11**	**50**	P	**Pn**	**13 48 35.8**	**-0.9**
VLZ	**Valdez**	**7.19**	**45**	P	**Pn**	**13 48 37.1**	**-0.6**
SCM	**Sheep Creek Mo**	**7.27**	**38**	P	**Pn**	**13 48 38.4**	**-0.6**
CAST	**Castle Rocks**	**7.37**	**17**	*e*Pn	**Pn**	**13 48 40.6**	**+0.4**
DIV	**Divide**	**7.41**	**46**	*e*Pn	**Pn**	**13 48 39.8**	**-1.1**
KLU	**Klutina**	**7.57**	**44**	P	**Pn**	**13 48 42.1**	**-0.9**
GOAT	**Goat Mountain**	**7.57**	**52**	P	**Pn**	**13 48 41.7**	**-1.3**
KTH	**Kantishna Hill**	**7.70**	**20**	*e*Pn	**Pn**	**13 48 44.9**	**+0.1**
TRF	**Thorofare Moun**	**7.74**	**23**	*e*Pn	**Pn**	**13 48 44.6**	**-0.8**
CHUM	**Lake Minchumin**	**7.77**	**15**	P	**Pn**	**13 48 46.9**	**+1.2**
BMRM	**Bremner River**	**7.81**	**50**	*e*Pn	**Pn**	**13 48 45.0**	**-1.2**
BERG	**Berg Lake**	**7.95**	**55**	P	**Pn**	**13 48 46.9**	**-1.2**
RND	**Reindeer**	**8.03**	**27**	P	**Pn**	**13 48 49.0**	**-0.2**
PS11	**TAPS Pump St11**	**8.10**	**41**	P	**Pn**	**13 48 49.7**	**-0.4**
KHIT	**Khitrov Hills**	**8.17**	**55**	P	**Pn**	**13 48 48.2**	**-3.1**
MCK	**McKinley**	**8.28**	**25**	*e*Pn	**Pn**	**13 48 52.0**	**-0.8**
GCSA	**Galena City Sc**	**8.30**	**360**	P	**Pn**	**13 48 52.4**	**-0.4**
GLB	**Gilahina Butte**	**8.38**	**48**	P	**Pn**	**13 48 53.1**	**-1.0**
HARP	**HAARP**	**8.42**	**40**	P	**Pn**	**13 48 54.5**	**-0.1**
VRDI	**Verde Repeater**	**8.43**	**50**	P	**Pn**	**13 48 53.0**	**-1.3**
ISLE	**Juniper Island**	**8.65**	**55**	P	**Pn**	**13 48 57.0**	**-0.8**
MCARA	**McCarthy VSAT**	**8.68**	**50**	P	**Pn**	**13 48 57.4**	**-0.8**
PAX	**Paxson**	**8.69**	**37**	*e*Pn	**Pn**	**13 48 57.3**	**-1.0**
BAGL	**Bagley Icefiel**	**8.72**	**56**	P	**Pn**	**13 48 58.3**	**-0.4**
KIAG	**Kiagna River**	**8.77**	**53**	P	**Pn**	**13 48 58.5**	**-1.0**
BALM	**Baldy**	**8.82**	**53**	P	**Pn**	**13 48 59.0**	**-1.1**
PTPK	**Patty Peak**	**8.83**	**52**	P	**Pn**	**13 48 59.5**	**-0.9**
GRNC	**Granite Creek**	**8.96**	**55**	P	**Pn**	**13 49 01.0**	**-1.2**
RKAV	**Rock Avalanche**	**9.01**	**58**	P	**Pn**	**13 49 02.0**	**-0.7**
CHX	**Chaix Hills**	**9.04**	**60**	P	Pn	13 48 59.8	-3.4
MLY	**Manley**	**9.09**	**17**	P	**Pn**	**13 49 02.9**	**-0.9**
WRH	**Wood River Hil**	**9.11**	**25**	P	**Pn**	**13 49 01.8**	**-2.1**
BARN	**Barnard Glacie**	**9.13**	**54**	P	**Pn**	**13 49 04.1**	**-0.4**
TABL	**Table Mountain**	**9.15**	**58**	P	**Pn**	**13 49 04.2**	**-0.5**
DDM	**Donnelly Dome**	**9.15**	**32**	P	**Pn**	**13 49 04.5**	**-0.1**
CCB	**Clear Creek Bu**	**9.32**	**25**	P	**Pn**	**13 49 04.6**	**-2.3**
PS08	**TAPS Pump Stn8**	**9.48**	**27**	P	**Pn**	**13 49 07.2**	**-1.8**
MDM	**Murphy Dome**	**9.50**	**25**	P	**Pn**	**13 49 07.7**	**-1.6**
COLA	**College**	**9.51**	**24**	*e*Pn	**Pn**	**13 49 07.8**	**-1.6**
DOT	**Dot Lake**	**9.62**	**36**	*e*Pn	**Pn**	**13 49 10.9**	**0.0**
IL1	**Eielson Array**	**9.65**	**26**	P	**Pn**	**13 49 09.1**	**-2.3**
ILAR	**Eielson Array**	**9.65**	**26**	P	**Pn**	**13 49 08.9**	**-2.4**
	1.3nm,0.3s,baz=216,slow=13,SNR=60						
ILAR				S	**Sn**	**13 50 54.4**	**-3.7**
	0.7nm,0.3s,baz=262,slow=30,SNR=3.9						
ILB	**Eielson Array**	**9.65**	**26**	P	**Pn**	**13 49 09.0**	**-2.4**
IM04	**Indian Mountai**	**9.65**	**8**	*e*Pn	**Pn**	**13 49 12.6**	**+1.2**
IM3	**Indian Mountai**	**9.66**	**8**	P	**Pn**	**13 49 12.5**	**+1.0**
SCRK	**Sand Creek**	**9.87**	**35**	P	**Pn**	**13 49 13.4**	**-1.0**
GAMB	**Gambell**	**10.38**	**321**	*e*Pn	**Pn**	**13 49 23.5**	**+2.2**
TNA	**Tin City**	**10.55**	**334**	*e*Pn	Pn	13 49 26.2	+2.6
EGAK	**Eagle**	**11.32**	**36**	*e*Pn	**Pn**	**13 49 33.9**	**-0.2**
DAWY	**Dawson**	**11.51**	**41**	*e*Pn	**Pn**	**13 49 36.6**	**-0.1**
INK	**Inuvik**	**15.91**	**33**	P	**Pn**	**13 50 33.5**	**-1.8**
	0.5nm,0.3s,baz=216,slow=12,SNR=21						
BBB	**Bella Bella**	**17.24**	**92**	LR	LR	13 55 47.8	
	comp=Z,121nm,20.2s,baz=276,slow=31						
FX1	**Attu Island--F**	**17.62**	**271**	P	**Pn**	**13 50 56.4**	**-0.4**
	1.9nm,0.3s,baz=37,slow=10,SNR=16						
BILL	**Bilibino**	**20.31**	**319**	*e*P	Pn	13 51 28.0	-0.8
	14nm,1.4s						
YKA	**Yellowknife Ar**	**21.96**	**57**	P	**P**	**13 51 43.6**	**-0.4**
	1.5nm,0.3s,baz=278,slow=9.8,SNR=77						
YKA				PcP	**PcP**	**13 55 40.1**	**-0.4**
	0.4nm,0.5s,baz=261,slow=1.7,SNR=5.1						
B08A	**Colville Reser**	**24.03**	**94**	*e*P	**P**	**13 52 05.3**	**+0.3**
	57nm,2.5s						
I04A	**Tendick Farm,**	**25.17**	**106**	⇓P	**P**	**13 52 17.7**	**+2.4**
	baz=25						
NEW	**Newport**	**25.31**	**92**	P	**P**	**13 52 17.3**	**+0.7**
	3.1nm,0.7s,baz=300,slow=7.1,SNR=6.5						
NEW	**Newport**	**25.31**	**92**	⇓P	**P**	**13 52 18.3**	**+1.7**
	baz=25						
J04D	**Umpqua Nationa**	**25.71**	**106**	⇑P	**P**	**13 52 23.0**	**+2.6**
	baz=26						
SEY	**Seymchan**	**25.79**	**305**	P	**P**	**13 52 19.1**	**-1.6**
	1.9nm,0.7s,baz=101,slow=12,SNR=12						
PETK	**Petropavlovsk-**	**26.04**	**282**	P	**P**	**13 52 22.2**	**-0.8**
	1.9nm,0.5s,baz=82,slow=12,SNR=25						
J05D	**Fort Rock, OR**	**26.14**	**105**	⇓P	**P**	**13 52 26.9**	**+2.6**
	baz=26,SNR=6.8						
M04C	**Macdoel**	**26.87**	**108**	⇑P	**P**	**13 52 33.0**	**+2.2**
	baz=27						
YBMT	**Yellow Bay**	**27.26**	**90**	*e*P	**P**	**13 52 35.0**	**+0.7**
MOD	**Modoc Plateau**	**27.60**	**106**	*e*P	**P**	**13 52 38.6**	**+1.3**
	5.0nm,0.6s						
RES	**Resolute Bay**	**29.39**	**29**	P	**P**	**13 52 52.0**	**-0.8**
	0.5nm,0.4s,baz=276,slow=8.8,SNR=4.1						
A19A	**Klindworth Far**	**29.59**	**84**	⇑P	**P**	**13 52 56.1**	**+1.3**
	baz=29						
HLID	**Hailey**	**29.67**	**98**	⇓P	**P**	**13 52 57.8**	**+2.0**
	baz=30						
A20A	**Cobblestone Ra**	**30.06**	**84**	⇑P	**P**	**13 53 00.3**	**+1.2**
	baz=30						
C19A	**Slack Wire Ran**	**30.09**	**86**	⇓P	**P**	**13 53 00.9**	**+1.6**
	baz=30						
B20A	**Solberg Farm,**	**30.25**	**84**	⇓P	**P**	**13 53 01.7**	**+0.9**
	baz=30						
D19A	**Cripps Ranch,**	**30.51**	**87**	⇓P	**P**	**13 53 04.4**	**+1.3**
	baz=30						
A21A	**Bergtoll Ranch**	**30.55**	**83**	⇓P	**P**	**13 53 04.8**	**+1.4**
	baz=30						
C20A	**Veseth Ranch,**	**30.68**	**86**	⇑P	**P**	**13 53 05.9**	**+1.4**
	baz=30						
A22A	**Carney Farms,**	**31.11**	**82**	⇓P	**P**	**13 53 09.3**	**+1.0**
	baz=31						
ELK	**Elko**	**31.13**	**102**	P	**P**	**13 53 10.8**	**+2.0**
	1.8nm,0.8s,baz=6.3,slow=9.2						
F19A	**Roth Farm, Mol**	**31.25**	**89**	⇑P	**P**	**13 53 11.6**	**+1.9**
	baz=31						
H17A	**Grant Village**	**31.25**	**93**	⇑P	**P**	**13 53 12.3**	**+2.4**
	baz=31						
I17A	**Pigrim Ck.**	**31.56**	**93**	⇑P	**P**	**13 53 15.2**	**+2.7**
	baz=31						
H18A	**Shoshone NF, C**	**31.58**	**92**	⇑P	**P**	**13 53 13.9**	**+1.2**
	baz=31						
B23A	**Brockton**	**31.91**	**82**	⇑P	**P**	**13 53 16.4**	**+1.1**
	baz=32						
D22A	**Cohagen**	**32.01**	**85**	⇓P	**P**	**13 53 17.6**	**+1.3**
	baz=32						
C23A	**Lambert**	**32.18**	**83**	⇑P	**P**	**13 53 18.8**	**+1.1**
	baz=32,SNR=5.1						
I19A	**Meeteetse**	**32.36**	**92**	⇑P	**P**	**13 53 21.1**	**+1.6**
	baz=32						
D23A	**Lindsay**	**32.54**	**84**	⇓P	**P**	**13 53 22.2**	**+1.4**
	baz=32						
A25A	**Svangstu Ranch**	**32.67**	**80**	⇓P	**P**	**13 53 23.0**	**+1.0**
	baz=32						
J19A	**Crowheart**	**32.83**	**93**	⇓P	**P**	**13 53 25.3**	**+1.7**
	baz=33						
PDAR	**Pinedale Array**	**32.87**	**94**	P	**P**	**13 53 25.1**	**+1.1**
	1.9nm,0.6s,baz=318,slow=4.3,SNR=18						
D24A	**Glendive**	**33.05**	**84**	⇑P	**P**	**13 53 27.0**	**+1.7**
	baz=33						
ISA	**Isabella, Lake**	**33.17**	**112**	⇓P	**P**	**13 53 28.3**	**+1.8**
	baz=33						
A26A	**Wade Farm, Ken**	**33.28**	**79**	⇑P	**P**	**13 53 28.1**	**+0.8**
	baz=33						
TPNV	**Topopah Spring**	**33.35**	**108**	⇓P	**P**	**13 53 30.0**	**+1.8**
	baz=33,SNR=5.9						
TPNV	**Topopah Spring**	**33.35**	**108**	*e*P	**P**	**13 53 29.6**	**+1.4**
	5.0nm,0.7s						
MPMC	**Manual Prospec**	**33.38**	**111**	⇑P	**P**	**13 53 30.5**	**+2.1**
	baz=33						
J22A	**Midwest**	**34.16**	**91**	⇑P	**P**	**13 53 36.8**	**+1.7**
	baz=34						
K21A	**Alcova**	**34.24**	**92**	⇓P	**P**	**13 53 37.0**	**+1.1**
	baz=34						
F26A	**Lodgepole**	**34.73**	**84**	⇓P	**P**	**13 53 41.2**	**+1.2**
	baz=34						
SRU	**San Rafael Swe**	**34.85**	**100**	*e*P	**P**	**13 53 43.3**	**+2.2**
	16nm,0.6s						
B29A	**Wagenman Farm,**	**34.99**	**78**	⇓P	**P**	**13 53 42.6**	**+0.5**
	baz=35						
D28A	**Regan**	**35.08**	**81**	⇑P	**P**	**13 53 43.9**	**+1.0**
	baz=35						
G26A	**Maurine**	**35.11**	**85**	⇓P	**P**	**13 53 44.5**	**+1.2**
	baz=35						
MDND	**Maddock**	**35.22**	**79**	⇓P	**P**	**13 53 44.9**	**+0.8**
	baz=35						
A30A	**Hoffart Farm,**	**35.29**	**77**	⇑P	**P**	**13 53 45.0**	**+0.4**
	baz=35						
**I25A

MNTX	**Cornudas Mount**	**43.15**	**103**	*e*P		**P**	**13 54 51.1 +0.8**
	4.7nm,0.7s						
U32A	**Winter Ranch,**	**43.16**	**92**	⇑P		**P**	**13 54 51.7 +1.3**
	baz=43						
Z30A	**Sanderson Ranc**	**44.27**	**97**	⇓P		**P**	**13 54 59.9 +0.5**
	baz=44						
Z31A	**Sharp Cattle R**	**44.79**	**96**	⇓P		**P**	**13 55 04.0 +0.6**
	baz=45						
130A	**Snyder**	**44.88**	**98**	⇓P		**P**	**13 55 04.8 +0.6**
	baz=45						
Y33A	**Hilltop Ranch,**	**45.11**	**94**	⇑P		**P**	**13 55 06.8 +0.8**
	baz=45						
131A	**Roby**	**45.14**	**97**	⇓P		**P**	**13 55 06.9 +0.7**
	baz=45						
Z32A	**Haskell**	**45.16**	**96**	⇓P		**P**	**13 55 07.0 +0.6**
	baz=45						
329A	**Wagon Wheel Ra**	**45.17**	**100**	⇓P		**P**	**13 55 07.4 +0.9**
	baz=45						
TUL1	**Leonard**	**45.28**	**90**	⇓P		**P**	**13 55 08.0 +0.7**
	baz=45						
230A	**Sterling City**	**45.34**	**99**	⇑P		**P**	**13 55 08.8 +0.9**
	baz=45						
SPITS	**Spitsbergen Ar**	**45.54**	**2**	P		**P**	**13 55 07.6 -1.2**
	1.9nm,0.4s,baz=72,slow=8.0,SNR=43						
SPITS				PcP		**PcP**	**13 56 46.1 -0.4**
	3.1nm,0.6s,baz=70,slow=4.8,SNR=4.7						
ABTX	**Abilene, Hawle**	**45.59**	**97**	⇓P		**P**	**13 55 10.7 +0.9**
	baz=45						
330A	**Mertzon**	**45.67**	**99**	⇓P		**P**	**13 55 11.2 +0.7**
	baz=46						
231A	**Bronte**	**45.74**	**98**	⇓P		**P**	**13 55 11.3 +0.3**
	baz=46						
429A	**Davenport Ranc**	**45.88**	**100**	⇑P		**P**	**13 55 12.9 +0.8**
	baz=46						
TXAR	**Lajitas Array**	**45.92**	**103**	P		**P**	**13 55 13.5 +1.0**
	4.0nm,0.7s,baz=312,slow=5.7,SNR=57						
TXAR				PcP		**PcP**	**13 56 48.7 0.0**
	0.4nm,0.7s,baz=354,slow=1.8,SNR=3.5						
133A	**Hamilton Ranch**	**46.00**	**96**	⇑P		**P**	**13 55 13.7 +0.7**
	baz=46						
529A	**Stev Forest Ra**	**46.09**	**101**	⇓P		**P**	**13 55 14.5 +0.7**
	baz=46,SNR=6.8						
430A	**Baggett Ranch,**	**46.11**	**100**	⇓P		**P**	**13 55 14.5 +0.5**
	baz=46						
232A	**Coleman**	**46.14**	**97**	⇑P		**P**	**13 55 14.9 +0.7**
	baz=46						
331A	**San Angelo**	**46.16**	**99**	⇑P		**P**	**13 55 15.1 +0.8**
	baz=46						
233A	**Rising Star**	**46.45**	**96**	⇑P		**P**	**13 55 17.3 +0.7**
	baz=46						
431A	**Sonora**	**46.54**	**99**	⇓P		**P**	**13 55 17.7 +0.4**
	baz=46,SNR=9.2						
530A	**J-C Ranch, Com**	**46.55**	**100**	⇓P		**P**	**13 55 18.0 +0.6**
	baz=46,SNR=13						
432A	**Menard**	**46.83**	**98**	⇓P		**P**	**13 55 20.3 +0.7**
	baz=47						
SFIN	**Lafayette**	**46.89**	**79**	⇑P		**P**	**13 55 19.5 -0.3**
	baz=47						
531A	**Rocksprings**	**46.97**	**100**	⇓P		**P**	**13 55 21.0 +0.3**
	baz=47,SNR=12						
JCT	**Junction City**	**47.13**	**99**	⇑P		**P**	**13 55 22.0 +0.1**
	baz=47,SNR=8.5						
SCHQ	**Schefferville**	**47.29**	**52**	P		**P**	**13 55 22.2 -0.6**
	1.9nm,0.4s,baz=304,slow=8.1,SNR=12						
433A	**Art**	**47.31**	**98**	⇑P		**P**	**13 55 23.8 +0.5**
	baz=47						
334A	**Lometa**	**47.34**	**97**	⇑P		**P**	**13 55 24.4 +0.8**
	baz=47						
631A	**Perdido Creek**	**47.54**	**100**	⇓P		**P**	**13 55 24.8 -0.2**
	baz=47,SNR=6.1						
434A	**Burnet**	**47.72**	**97**	⇓P		**P**	**13 55 26.9 +0.5**
	baz=48						
533A	**Kerrville**	**47.87**	**98**	⇓P		**P**	**13 55 27.9 +0.2**
	baz=48						
632A	**Uvalde**	**47.89**	**99**	⇓P		**P**	**13 55 27.7 -0.1**
	baz=48,SNR=6.2						
534A	**Blanco**	**48.21**	**98**	⇑P		**P**	**13 55 30.7 +0.5**
	baz=48						
732A	**Laxson Ranch,**	**48.40**	**100**	⇑P		**P**	**13 55 32.3 +0.6**
	baz=48						
832A	**Faith Ranch, C**	**48.74**	**101**	⇓P		**P**	**13 55 35.1 +0.8**
	baz=48						
733A	**Divot King Ran**	**48.78**	**100**	⇑P		**P**	**13 55 35.5 +0.9**
	baz=49						
833A	**Chaparral WMA,**	**49.03**	**100**	⇑P		**P**	**13 55 37.7 +1.1**
	baz=49						
933A	**Laredo**	**49.65**	**101**	⇓P		**P**	**13 55 42.3 +0.9**
	baz=50						
KSRS	**Korea Array**	**51.94**	**282**	P		**P**	**13 55 58.0 -0.4**
	1.6nm,0.6s,baz=43,slow=7.1,SNR=6.9						
KSAR	**Wonju Array Be**	**51.97**	**282**	P		**P**	**13 55 58.0 -0.6**
TKL	**Tuckaleechee C**	**52.11**	**81**	LR		LR	14 18 32.5
	comp=Z,31nm,18.7s,slow=36						
KMSC	**Kings Mountain**	**53.82**	**79**	⇑P		**P**	**13 56 11.5 -0.8**
	baz=54						
ARCES	**ARCESS Array B**	**54.28**	**359**	P		**P**	**13 56 13.8 -1.4**
	3.7nm,0.8s,baz=14,slow=7.0,SNR=6.9						
ARCES				PcP		**PcP**	**13 57 18.4 -0.2**
	7.1nm,1.0s,baz=2.9,slow=5.4,SNR=3.7						
SONM	**Songino Array**	**55.19**	**305**	P		**P**	**13 56 22.3 +0.1**
	3.3nm,0.8s,baz=45,slow=7.1,SNR=30						
SONM				PcP		**PcP**	**13 57 23.0 +0.3**
	0.8nm,0.6s,baz=64,slow=2.3,SNR=5.3						
HHC	**Hu-ho-hao-te**	**57.96**	**297**	*e*P		P	13 56 46.1 +4.2
HHC				pP		pP	13 56 56.8 -0.1
HHC				sP		sP	13 57 00.3 -2.8
HHC				PP		PP	13 58 57.3 +6.9
HHC				S		**S**	**14 04 42.8 +4.9**
HHC				sS		sS	14 04 57.7 -5.3
HHC				ScS		**ScS**	**14 06 29.8 +3.4**
HHC				PMZ			
	27nm,0.6s						
HHC				PMZ			
	110nm,5.8s						
HHC				LN			
	200nm,15.9s						
HHC				LE			
	330nm,15.9s						
HHC				LZ			
	140nm,15.9s						
ZALV	**Zalesovo Beam**	**58.97**	**323**	P		**P**	**13 56 47.7 -0.9**
	0.7nm,0.5s,baz=31,slow=6.7,SNR=4.4						
ZALV				PcP		**PcP**	**13 57 36.9 -0.2**
	0.6nm,0.5s,baz=48,slow=2.1,SNR=4.2						
FINES	**FINESS Array B**	**62.40**	**358**	P		**P**	**13 57 10.6 -1.2**
	0.7nm,0.3s,baz=10,slow=8.5,SNR=4.8						
NB2	**NORSAR Subarra**	**62.45**	**7**	P		**P**	**13 57 11.5 -0.8**
	comp=Z,0.8nm,0.6s,baz=353,slow=6.9						
NOA	**NORSAR Array B**	**62.45**	**7**	P		**P**	**13 57 11.8 -0.5**
	comp=Z,0.8nm,0.6s,baz=354,slow=6.8,SNR=5.1						
HFS	**Hagfors**	**63.50**	**5**	P		**P**	**13 57 18.1 -1.0**
	comp=Z,3.5nm,0.8s,baz=36,slow=7.7,SNR=6.8						
KURK	**Kurchatov**	**63.75**	**324**	P		**P**	**13 57 20.8 -0.1**
KURK				PcP		**PcP**	**13 57 56.0 -0.5**
KURBB	**Kurchatov Arra**	**63.86**	**324**	P		**P**	**13 57 20.8 -0.8**
	comp=Z,0.6nm,0.5s,baz=27,slow=6.5,SNR=7.2						
KURBB				PcP		**PcP**	**13 57 56.0 -1.0**
	comp=Z,0.7nm,0.4s,baz=38,slow=3.9,SNR=5.8						
BVAR	**Borovoye Array**	**64.18**	**330**	P		**P**	**13 57 22.6 -1.1**
	comp=Z,1.5nm,0.5s,baz=38,slow=5.2,SNR=11						
GTA	**Gaotai**	**64.72**	**304**	*e*P		**P**	**13 57 27.2 -0.5**
GTA				PMZ			
	comp=Z,5.0nm,0.7s						
LZH	**Lanzhou**	**65.46**	**299**	*e*P		P	13 57 36.5 +4.0
LZH				pP		pP	13 57 46.5 -1.2
LZH				sP		sP	13 57 50.0 -3.9
LZH				PMZ			
	comp=Z,13nm,1.0s						
MKAR	**Makanchi Array**	**65.86**	**320**	P		**P**	**13 57 33.3 -1.4**
	comp=Z,0.5nm,0.4s,baz=32,slow=5.3,SNR=15						
WMQ	**Urumqi**	**66.33**	**314**	*e*P		P	13 57 43.4 +5.5
WMQ				pP		pP	13 57 53.5 +0.4
WMQ				PMZ			
	comp=Z,8.0nm,0.6s						
WMQ				PMZ			
	comp=Z,87nm,5.0s						
EKA	**Eskdalemuir Ar**	**66.52**	**16**	P		**P**	**13 57 38.9 +0.1**
	comp=Z,4.0nm,0.7s,baz=336,slow=5.5,SNR=8.7						
AKTO	**Aktyubinsk**	**69.61**	**337**	P		**P**	**13 57 56.9 -1.3**
	comp=Z,1.6nm,0.6s,baz=18,slow=5.2,SNR=11						
CD2	**Chengdu**	**69.66**	**295**	*e*P		P	13 58 02.6 +3.6
AAK	**Ala-Archa**	**72.20**	**323**	P		**P**	**13 58 14.1 -0.2**
	comp=Z,1.0nm,0.4s,baz=106,slow=4.7,SNR=5.9						
CLL	**Coll m**	**72.26**	**7**	*e*P		**P**	**13 58 14.0 -0.3**
CLL				LmV			14 39 00.0
	comp=Z,100nm,19.0s						
BAIF	**Baives**	**72.68**	**13**	*e*P		**P**	**13 58 17.1 +0.3**
BAIF	**Baives**	**72.68**	**13**	*e*P		**P**	**13 58 17.1 +0.3**
AKASG	**Malin Array Be**	**73.07**	**356**	P		**P**	**13 58 17.8 -1.3**
	comp=Z,1.7nm,0.5s,baz=6.8,slow=5.7,SNR=11						
ROSF	**Rostrenen**	**73.26**	**18**	*e*P		**P**	**13 58 20.6 +0.3**
ROSF	**Rostrenen**	**73.26**	**18**	*e*P		**P**	**13 58 20.6 +0.3**
SGMF	**Saint Gilles**	**73.46**	**18**	*e*P		**P**	**13 58 21.6 +0.1**
SGMF	**Saint Gilles**	**73.46**	**18**	*e*P		**P**	**13 58 21.6 +0.1**
LDF	**La Druitiere**	**73.52**	**16**	*e*P		**P**	**13 58 22.0 +0.2**
LDF	**La Druitiere**	**73.52**	**16**	*e*P		**P**	**13 58 22.0 +0.2**
PAGF	**Fort de Pagny**	**74.34**	**12**	*e*P		**P**	**13 58 27.1 +0.5**
	comp=Z,2.1nm,0.5s						
PAGF	**Fort de Pagny**	**74.34**	**12**	*e*P		**P**	**13 58 27.1 +0.5**
	comp=Z,2.1nm,0.5s						
CDF	**Champ du Feu**	**74.65**	**11**	*e*P		**P**	**13 58 28.5 0.0**
	comp=Z,2.4nm,0.3s						
CDF	**Champ du Feu**	**74.65**	**11**	*e*P		**P**	**13 58 28.5 0.0**
	comp=Z,2.4nm,0.3s						
GERES	**GERESS Array B**	**74.76**	**6**	P		**P**	**13 58 29.1 -0.1**
	comp=Z,1.5nm,0.6s,baz=353,slow=4.2,SNR=11						
HAU	**Haudompre**	**74.95**	**12**	*e*P		**P**	**13 58 30.2 0.0**
HAU	**Haudompre**	**74.95**	**12**	*e*P		**P**	**13 58 30.2 0.0**
HINF	**Hinteralfeld**	**75.19**	**11**	*e*P		**P**	**13 58 31.5 -0.1**
HINF	**Hinteralfeld**	**75.19**	**11**	*e*P		**P**	**13 58 31.5 -0.1**
MFF	**Saint Martin d**	**75.46**	**16**	*e*P		**P**	**13 58 33.3 +0.2**
	comp=Z,11nm,0.6s						
MFF	**Saint Martin d**	**75.46**	**16**	*e*P		**P**	**13 58 33.3 +0.2**
	comp=Z,11nm,0.6s						
SSF	**Saint Saulge**	**75.53**	**14**	*e*P		**P**	**13 58 33.7 +0.2**
	comp=Z,7.3nm,0.5s						
SSF	**Saint Saulge**	**75.53**	**14**	*e*P		**P**	**13 58 33.7 +0.2**
	comp=Z,7.3nm,0.5s						
AVF	**Avril sur Loir**	**75.78**	**14**	*e*P		**P**	**13 58 34.8 -0.1**
	comp=Z,6.4nm,0.6s						
AVF	**Avril sur Loir**	**75.78**	**14**	*e*P		**P**	**13 58 34.8 -0.1**
	comp=Z,6.4nm,0.6s						
BGF	**Bois d'Agland**	**75.94**	**14**	*e*P		**P**	**13 58 36.5 +0.7**
	comp=Z,10nm,0.6s						
BGF	**Bois d'Agland**	**75.94**	**14**	*e*P		**P**	**13 58 36.5 +0.7**
	comp=Z,10nm,0.6s						
SMF	**Signal de Mont**	**75.99**	**14**	*e*P		**P**	**13 58 35.9 -0.2**
	comp=Z,4.8nm,0.5s						
SMF	**Signal de Mont**	**75.99**	**14**	*e*P		**P**	**13 58 35.9 -0.2**
	comp=Z,4.8nm,0.5s						
TCF	**Toulx Ste Croi**	**76.12**	**15**	*e*P		**P**	**13 58 36.7 -0.2**
	comp=Z,7.8nm,0.8s						
TCF	**Toulx Ste Croi**	**76.12**	**15**	*e*P		**P**	**13 58 36.7 -0.2**
	comp=Z,7.8nm,0.8s						
CABF	**La Chapelle**	**76.30**	**12**	*e*P		**P**	**13 58 38.3 +0.3**
	comp=Z,9.9nm,0.8s						
CABF	**La Chapelle**	**76.30**	**12**	*e*P		**P**	**13 58 38.3 +0.3**
	comp=Z,9.9nm,0.8s						
LFF	**La Frestale**	**77.22**	**16**	*e*P		**P**	**13 58 43.5 +0.4**
LFF	**La Frestale**	**77.22**	**16**	*e*P		**P**	**13 58 43.5 +0.4**
CAF	**Calviac**	**77.43**	**15**	*e*P		**P**	**13 58 44.5 +0.2**
	comp=Z,6.3nm,0.7s						
CAF	**Calviac**	**77.43**	**15**	*e*P		**P**	**13 58 44.5 +0.2**
	comp=Z,6.3nm,0.7s						
VIVF	**Saint-Julien-l**	**77.85**	**13**	*e*P		**P**	**13 58 46.9 +0.2**
VIVF	**Saint-Julien-l**	**77.85**	**13**	*e*P		**P**	**13 58 46.9 +0.2**
ORIF	**Oris-en-Rattie**	**77.94**	**12**	*e*P		**P**	**13 58 47.2 0.0**
ORIF	**Oris-en-Rattie**	**77.94**	**12**	*e*P		**P**	**13 58 47.2 0.0**
KBZ	**Khabaz**	**78.79**	**346**	P		**P**	**13 58 51.8 0.0**
	comp=Z,1.7nm,0.8s,baz=256,slow=5.1,SNR=4.1						
ETSF	**Etsaut**	**79.00**	**18**	*e*P		**P**	**13 58 53.8 +0.7**
ETSF	**Etsaut**	**79.00**	**18**	*e*P		**P**	**13 58 53.8 +0.7**
MTLF	**Montolieu**	**79.00**	**15**	*e*P		**P**	**13 58 52.8 -0.2**
	comp=Z,2.3nm,0.4s						
MTLF	**Montolieu**	**79.00**	**15**	*e*P		**P**	**13 58 52.8 -0.2**
	comp=Z,2.3nm,0.4s						
EPF	**Esparros**	**79.02**	**17**	*e*P		**P**	**13 58 53.3 +0.2**
EPF	**Esparros**	**79.02**	**17**	*e*P		**P**	**13 58 53.3 +0.2**
ESDC	**Sonseca Array**	**81.50**	**21**	P		**P**	**13 59 06.9 +0.3**
	comp=Z,0.5nm,0.4s,baz=341,slow=4.4,SNR=8.9						
CMAR	**Chiang Mai Arr**	**82.37**	**292**	P		**P**	**13 59 10.7 -0.7**
	comp=Z,1.5nm,0.7s,baz=13,slow=5.1,SNR=11						
BRTR	**Keskin Array B**	**83.75**	**352**	P		**P**	**13 59 18.4 0.0**
	comp=Z,1.9nm,0.7s,baz=24,slow=2.5,SNR=11						
BOSA	**Boshof**	**152.12**	**356**	PKPbc		**PKPbc**	**14 06 43.4 -0.9**
	comp=Z,1.7nm,0.4s,baz=24,slow=3.4,SNR=7.3						

*JMA **01** 13:47:18.8±0.4, 44°.06N×148°.24E, h0km, M3.3*
*SKHL **01** 13:47:18.8±0.4, 44°.45N×148°.57E, h35km, mb4.0/2*

ISC 01 13:47:17.3±3.9, 44°.4N±0°.1×148°.7E±0°.2, h55km, n10, σ1§51/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**325**	*e*P		**Pn**		**13 47 34.9**	**+0.1**
KUR				AMB		AMB		13 47 35.5	
	95nm,0.3s								
KUR				*e*S		**Sn**		**13 47 46.7**	**-1.1**
KUR				A		A		13 47 49.3	
	287nm,0.5s								
SHO	**Shikotan**	**1.44**	**247**	*e*P		**Pn**		**13 47 41.0**	**0.0**
SHO				*e*S		**Sn**		**13 47 57.9**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**2.06**	**260**	*e*P		**Pn**		**13 47 50.5**	**+1.1**
YUK				AMB		AMB		13 47 51.1	
	54nm,0.3s								
YUK				*e*S		**Sn**		**13 48 14.2**	**+0.4**
YUK				A		A		13 48 18.5	
	71nm,0.4s								
YUK				A		A		13 48 18.5	
	187nm,0.4s								
NEM2	**Nemuro 2**	**2.37**	**244**	P		**Pn**		**13 47 53.4**	**-0.3**
NEM2				*e*S		**Sn**		**13 48 18.6**	**-2.9**
JRA	**Rausu**	**2.60**	**260**	P		**Pn**		**13 47 58.0**	**+1.2**
JNK	**Nakash**	**2.97**	**255**	P		**Pn**		**13 48 02.9**	**+1.0**
JNK				*e*S		**Sn**		**13 48 34.5**	**-1.8**
JAK	**Akkeshi**	**3.22**	**245**	P		**Pn**		**13 48 05.6**	**+0.3**
JAK				*e*S		**Sn**		**13 48 40.2**	**-2.1**
JAR	**Ashorobuto**	**3.72**	**254**	P		**Pn**		**13 48 14.1**	**+1.9**
JAR				*e*S		**Sn**		**13 48 55.4**	**+0.7**
JCH	**Churui**	**4.26**	**247**	P		**Pn**		**13 48 21.4**	**+1.8**
JKB	**Kayabe**	**6.13**	**248**	P		**Pn**		**13 48 46.8**	**+1.5**

*IDC **01** 13:51:10.6±2.2, 4°.89N×93°.82E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/29, mbtmp3.6/8, ML3.8/2, Error ellipse: s-maj=78.5km s-min=19.1km az=58.0*
*ISCJB **01** 13:51:13.1±0.7, 4°.87N±0°.09×93°.85E±0°.08, h34km, mb3.8/8, Error ellipse: s-maj=14.6km s-min=9.1km az=36.9*
*NEIC **01** 13:51:15.7±1.1, 4°.94N×94°.00E, h35km, mb4.5/2, Error ellipse: s-maj=27.1km s-min=11.4km az=59.0*

ISC 01 13:51:15.2±1.2, 5°.0N±0°.2×93°.9E±0°.1, h34km, n19, σ1§56/16, mb3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.03**	**86**	*e*Pn		**Pn**		**13 51 59.1**	**-1.6**
LHMI				*e*Sn		**Sn**		**13 52 37.9**	**+2.2**
PSI	**Prapat**	**5.46**	**114**	Pn		**Pn**		**13 52 35.6**	**+1.3**
	3.2nm,0.3s,baz=320,slow=16,SNR=12								
CMAR	**Chiang Mai Arr**	**14.23**	**20**	Pn		Pn		13 54 37.1	+2.7
	0.1nm,0.3s,baz=210,slow=12,SNR=2.6								
H08S3	**Diego Garcia H**	**24.80**	**240**	T		T		14 22 41.2	
	baz=54								
H08S2	**Diego Garcia H**	**24.80**	**240**	T		T		14 22 37.3	
	baz=54								
H08S1	**Diego Carcia H**	**24.82**	**240**	T		T		14 22 38.5	
	baz=54								
KAPI	**Kappang**	**27.66**	**111**	*e*P		**P**		**13 56 57.6**	**-2.6**
MKAR	**Makanchi Array**	**42.81**	**348**	P		**P**		**13 59 10.8**	**+1.1**
	0.2nm,0.4s,baz=159,slow=8.7,SNR=3.7								
SONM	**Songino Array**	**43.98**	**12**	P		**P**		**13 59 19.2**	**-0.1**
	0.3nm,0.5s,baz=190,slow=7.3,SNR=2.9								
WRA	**Warramunga Arr**	**46.84**	**123**	P		**P**		**13 59 42.6**	**+0.3**
	0.8nm,0.5s,baz=302,slow=9.3,SNR=15								
WRAB	**Tennant Creek**	**46.85**	**123**	*e*P		**P**		**13 59 41.9**	**-0.4**
	6.8nm,1.1s								
WB2	**Warramunga Arr**	**46.85**	**123**	*e*P		**P**		**13 59 42.6**	**+0.3**
KURBB	**Kurchatov Arra**	**47.25**	**347**	P		**P**		**13 59 46.6**	**+1.7**
	0.6nm,0.5s,baz=172,slow=6.5,SNR=7.3								
KURK	**Kurchatov**	**47.31**	**347**	P		**P**		**13 59 46.6**	**+1.2**
ASAR	**Alice Springs**	**48.31**	**128**	P		**P**		**13 59 54.0**	**+0.4**
	0.4nm,0.5s,baz=301,slow=7.7,SNR=8.0								
AS31	**Alice Springs**	**48.31**	**128**	P		**P**		**13 59 51.5**	**-2.1**
ZALV	**Zalesovo Beam**	**49.34**	**353**	P		**P**		**14 00 02.8**	**+1.8**
	0.4nm,0.5s,baz=188,slow=9.9,SNR=3.8								
CTAO	**Charters Tower**	**57.15**	**118**	P		**P**		**14 00 59.7**	**+0.6**
	4.1nm,1.0s								
PET	**Petropavlovsk**	**70.97**	**35**	*e*P		**P**		**14 02 27.8**	**-1.5**

GUC 01 13:58:43.1±0.6, 34°.70S×71°.99W, h17km±7km, ML3.6, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.69**	**116**	⇑*i*P			Pg	13 58 56.8	0.0
NICH				*e*S			Sb	13 59 06.3	+0.2
TALC	**Talca**	**0.76**	**158**	⇓*i*P			Pb	13 58 57.3	-0.6
TALC				*i* S			Sb	13 59 07.9	0.0
LNV	**Longovilo**	**0.88**	**33**	⇑*i*P			Pb	13 58 59.1	-0.9
LNV				*e*S			Sg	13 59 11.7	-0.2
LNCH	**Linares**	**1.19**	**165**	⇑*i*P			Pn	13 59 04.5	-0.6
LNCH				*e*S			Sn	13 59 20.9	+0.1
LNCH				AML		AML		13 59 29.7	
	comp=N,2μm,0.3s								
CACH	**El Canelo**	**1.28**	**64**	⇓*i*P			Pn	13 59 06.5	-0.1
CACH				*e*S			Sg	13 59 24.5	-0.5
CHCH	**Chadas Angostu**	**1.34**	**56**	⇑*i*P			Pn	13 59 06.9	-0.3
RCDM	**Rinconada Maip**	**1.55**	**39**	⇑*i*P			Pn	13 59 10.1	+0.1
COCH	**Cobquecura**	**1.57**	**204**	⇑*i*P			Pn	13 59 10.5	+0.2
COCH				*e*S			Sn	13 59 30.1	-0.2
CLCH	**Cerro Calan**	**1.77**	**43**	⇑*i*P			Pb	13 59 14.2	-1.1
CLCH				⇑*i*P			Pg	13 59 15.3	-2.0
CLCH				*e*S			Sg	13 59 39.0	-1.3
CLCH				*i* S			Sb	13 59 39.7	+2.4
CLCH				AML		AML		13 59 43.6	
	comp=N,1μm,0.6s								
CLCH				AML		AML		13 59 44.1	
	comp=N,1μm,0.7s								

*IDC **01** 14:07:25.9±0.5, 30°.02N×69°.51E, h0km, mb4.4/33, mb1 4.5/35, mb1mx4.4/49, mbtmp4.5/35, ML4.3/3, MS3.9/18, Ms1 3.9/18, ms1mx3.6/40, Error ellipse: s-maj=12.3km s-min=10.6km az=28.0*
*MOS **01** 14:07:29.5±1.1, 30°.13N×69°.59E, h33km, mb4.9/58, Error ellipse: s-maj=5.7km s-min=3.5km az=103.0*
*ISCJB **01** 14:07:29.3±0.2, 30°.11N±0°.02×69°.56E±0°.02, h33km, mb4.7/113, MS4.0/21, Error ellipse: s-maj=3.0km s-min=2.4km az=19.6*
*BJI **01** 14:07:30.4, 30°.27N×69°.59E, h30km, mB4.9/38, mb4.8/51, Ms4.5/42, Ms7 4.1/39*
*NEIC **01** 14:07:30.9±0.2, 30°.09N×69°.54E, h35km, mb5.0/37, Error ellipse: s-maj=5.0km s-min=4.1km az=183.0*
NEIC Felt at Bahawalpur, Islamabad, Multan and Shikarpur.
*TEH **01** 14:07:31.0, 30°.15N×69°.58E, h35km, ML5.0*
*NNC **01** 14:07:31.1±7.6, 30°.23N×69°.72E, h19km±77km, mb4.9, Error ellipse: s-maj=61.8km s-min=35.6km az=151.0*
*SZGRF **01** 14:07:39.9, 32°.83N×70°.71E, h33km, mb4.8, Pakistan*

ISC 01 14:07:31.0±0.4, 30°.07N±0°.03×69°.58E±0°.03, h34km±1km, n431, σ1§43/486, mb4.7/113, MS4.0/21, 38C-27D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SARP	**Sargodha**	**3.24**	**54**	P		**Pn**		**14 08 20.2**	**+0.8**
THW	**Thamme Wali**	**3.29**	**34**	P		**Pn**		**14 08 21.8**	**+1.6**
CEP	**Cherat**	**4.24**	**27**	P		**Pn**		**14 08 34.8**	**+1.5**
CEP				S		**Sn**		**14 09 27.0**	**+5.3**
KBL	**Kabul**	**4.49**	**354**	P		**Pn**		**14 08 38.6**	**+1.8**
KBL				*e*				14 09 28.1	
KBL	**Kabul**	**4.49**	**354**	Pn		**Pn**		**14 08 38.6**	**+1.8**
KBL				*e*Sn		**Sn**		**14 09 28.1**	**+0.2**
DLH	**Dalhousie**	**6.00**	**64**	*e*P		**Pn**		**14 08 58.0**	**+0.4**
DLH				*ex*		x		14 10 09.0	
BHK	**Bhakra**	**6.04**	**75**	*e*P		**Pn**		**14 08 59.8**	**+1.9**
BHK				*ex*		x		14 10 11.8	
DHRM	**DHARAMSHALA**	**6.16**	**68**	*e*P		**Pn**		**14 09 00.8**	**+1.1**
DHRM				*ex*		x		14 10 13.8	
DHRM				AML		AML		14 10 59.2	
	comp=N,892nm,0.7s								
DHRM				AML		AML		14 11 06.6	
	comp=E,1μm,0.6s								
SDNR	**Sundarnagar**	**6.52**	**75**	*e*P		**Pn**		**14 09 05.0**	**+0.5**
SDNR				*ex*		x		14 11 01.0	
SMLA	**Simla**	**6.63**	**79**	*i* P		**Pn**		**14 09 07.3**	**+1.3**
SMLA				*i* S		**Sn**		**14 10 21.8**	**+1.5**
SMLA				AML		AML		14 10 23.4	
	comp=N,3μm,0.4s								
SMLA				AML		AML		14 10 26.3	
	comp=E,5μm,0.4s								
BHJ	**Bhuj**	**6.79**	**179**	*e*P		Pn		14 09 04.0	-4.2
IDAH	**Dahanechah**	**8.72**	**290**	*e

EKS2 eSn **Sn** **14 12 54.8 -2.5**
HATD Hatta, Dubai 13.03 250 ⇓P Pn 14 10 30.5 -3.3
KK31 Karatay Array 13.03 3 P **Pn** **14 10 32.7 -1.0**
comp=N,38nm,0.8s,baz=197,slow=17,SNR=225
KK31 ⇑S **Sn** **14 12 54.1 -3.4**
comp=N,27nm,0.8s
KK31 Karatay Array 13.03 3 *e*P **Pn** **14 10 32.7 -1.0**
KK31 S **Sn** **14 12 54.1 -3.4**
KK31 pmax pmax
comp=Z,12nm,0.3s
KK31 smax smax
comp=N,21nm,0.7s
KKAR Karatay Array 13.03 3 *e*P **Pn** **14 10 32.6 -1.1**
KKAR *e* 14 12 56.1
KKAR Karatay Array 13.03 3 *e*Pn **Pn** **14 10 32.6 -1.1**
KKAR eSn **Sn** **14 12 56.1 -1.4**
AAK Ala-Archa 13.15 16 ⇑P **Pn** **14 10 34.5 -1.0**
comp=N,29nm,0.6s
AAK ⇓S **Sn** **14 12 59.4 -1.1**
comp=N,89nm,2.0s
AAK Ala-Archa 13.15 16 Pn **Pn** **14 10 34.0 -1.5**
comp=N,47nm,0.5s,SNR=52
AAK Ala-Archa 13.15 16 P **Pn** **14 10 34.5 -1.0**
SNR=60
AAK Ala-Archa 13.15 16 ⇓*e*P **Pn** **14 10 33.8 -1.6**
AAK Ala-Archa 13.15 16 Pn **Pn** **14 10 34.6 -0.9**
comp=N,8.6nm,0.3s,baz=202,slow=12,SNR=50
AAK Sn **Sn** **14 12 58.9 -1.6**
comp=N,0.5nm,0.3s,baz=127,slow=24,SNR=7.6
AAK Ala-Archa 13.15 16 *e*Pn **Pn** **14 10 33.8 -1.6**
AAK eSn **Sn** **14 13 00.1 -0.5**
LATR Latur 13.22 150 *ex* **Sn** **14 13 03.0 +0.7**
KBK Karagaybulak 13.28 17 P **Pn** **14 10 37.3 0.0**
SNR=14
KBK Karagaybulak 13.28 17 *i* P **Pn** **14 10 37.3 0.0**
ULHL Ulahol 13.29 22 P **Pn** **14 10 36.7 -0.7**
SNR=9.8
ULHL Ulahol 13.29 22 *i* P **Pn** **14 10 36.6 -0.7**
GKN Gorkha 13.34 95 *e*P Pn 14 10 34.5 -3.6
NAZ Nazwa, Dubai 13.34 251 ⇑P **Pn** **14 10 37.2 -0.8**
FRU Bishkek 13.37 16 *e*P **Pn** **14 10 37.0 -1.3**
FRU eS **Sn** **14 13 09.0 +3.3**
FRU pmax pmax
comp=Z,90nm,1.8s
FRU pmax pmax
comp=Z,100nm,2.0s
FRU smax smax
comp=E,400nm,3.0s
FRU smax smax
comp=E,180nm,2.0s
FAQ Al Faqa, Dubai 13.50 250 ⇑P **Pn** **14 10 39.5 -0.7**
CHMS Chumysh 13.55 16 P **Pn** **14 10 39.7 -1.2**
SNR=16
CHMS Chumysh 13.55 16 *i* P **Pn** **14 10 39.6 -1.2**
TKM2 Tokmak 2 13.71 19 ⇓P **Pn** **14 10 40.8 -2.3**
comp=E,23nm,0.7s
TKM2 ⇓S **Sn** **14 13 12.1 -2.1**
comp=E,12nm,0.8s
TKM2 Tokmak 2 13.71 19 P **Pn** **14 10 42.8 -0.3**
SNR=35
TKM2 Tokmak 2 13.71 19 *e*P **Pn** **14 10 41.4 -1.7**
TKM2 *e* 14 13 14.4
TKM2 Tokmak 2 13.71 19 *e*Pn **Pn** **14 10 41.4 -1.7**
TKM2 eSn **Sn** **14 13 14.4 +0.2**
USP Ospenovka 13.75 15 P **Pn** **14 10 43.2 -0.4**
SNR=14
USP Ospenovka 13.75 15 *i* P **Pn** **14 10 43.1 -0.4**
DMN Daman 13.83 96 *e*P Pn 14 10 41.6 -3.3
KKN Kakani 13.94 96 *e*P Pn 14 10 43.0 -3.3
PKIN Phulchoki 14.09 96 *e*P **Pn** **14 10 45.3 -3.1**
PKI Pulchoki 14.10 96 *e*P Pn 14 10 45.3 -3.4
RPR Rampur 14.23 139 *e*Pn **Pn** **14 10 49.0 -1.1**
RPR eSn **Sn** **14 13 31.9 +5.0**
RPR IAMs_20 IAMs_20 14 15 12.9
comp=Z,1μm,6.6s
GUN Gumba 14.43 95 *e*P Pn 14 10 48.7 -4.5
IGLO Ghaloghah 14.65 300 *e*P **Pn** **14 10 55.8 -0.2**
JIRN Jiri 14.75 95 *e*P Pn 14 10 54.0 -3.6
comp=Z,66nm,0.5s
HYBB Hyderabad (bro 15.02 145 *e*P **P** **14 11 05.5 -0.5**
HYBB eSn **Sn** **14 13 50.9 +4.7**
HYBB IAMs_20 IAMs_20 14 15 48.0
comp=Z,1μm,5.9s
HYB Hyderabad 15.02 145 *i* P **P** **14 11 05.0 -1.0**
HYB eS S 14 13 55.0 -8.1
HYB Hyderabad 15.02 145 *e*P **Pn** **14 11 00.0 -0.9**
RAMN Ramite 15.28 98 *e*P **Pn** **14 11 00.5 -4.0**
IKAZ Kazeroun 15.39 273 *e*P **Pn** **14 11 01.6 -4.4**
PDGK Podgornoye 15.42 28 ⇓P **Pn** **14 11 03.7 -2.2**
comp=Z,62nm,1.3s
PDGK Podgornoye 15.42 28 P **Pn** **14 11 03.7 -2.2**
PDGK pmax pmax
comp=Z,62nm,1.3s
BOK Bokaro 15.82 109 *ex* **Pn** **14 11 07.0 -4.3**
ODAN Odare 15.99 97 *e*P **Pn** **14 11 10.0 -3.6**
comp=Z,84nm,0.9s
NJS Nagarjunasagar 16.13 144 *e*P **P** **14 11 18.3 +0.1**
NJS eSn **Sn** **14 14 13.1 -0.1**
NJS IAMs_20 IAMs_20 14 17 19.0
comp=Z,714nm,20.4s
TAPN Taplejung 16.14 95 *e*P **Pn** **14 11 11.0 -4.6**
URV Uravakonda 16.63 153 *e*Pn **Pn** **14 11 21.3 -0.3**
URV eSn **Sn** **14 14 28.6 +3.3**
URV IAMs_20 IAMs_20 14 16 29.4
comp=Z,381nm,14.9s
ADKI Addanki 17.07 144 *e*Pn **P** **14 11 29.5 +0.9**
ADKI eS **S** **14 14 44.0 -0.8**
ADKI IAMs_20 IAMs_20 14 16 50.5
comp=Z,1μm,6.3s
CHLP Challavanipeta 17.49 128 *e*P **Pn** **14 11 31.9 -0.4**
CHLP *e* 14 11 43.9
CHLP eS **S** **14 14 51.7 -1.7**
CHLP IAMs_20 IAMs_20 14 18 10.7
comp=Z,917nm,16.4s
LSA Lhasa 18.71 86 *e*P **P** **14 11 46.0 -1.1**
LSA pmax pmax
comp=Z,25nm,0.6s
LSA Lhasa 18.71 86 *e*P **P** **14 11 46.0 -1.1**
comp=Z,25nm,0.6s
SKHT Srikalahasti 18.75 148 *e*Pn **Pn** **14 11 48.2 +0.5**
SKHT eS **S** **14 15 19.5 +0.7**
SKHT IAMs_20 IAMs_20 14 18 21.6
comp=Z,483nm,18.2s
MK31 Makanchi Array 19.40 27 ⇑P **P** **14 11 54.3 +0.2**
comp=Z,13nm,0.7s
MK31 Makanchi Array 19.40 27 P **P** **14 11 54.3 +0.2**
MK31 pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 19.40 27 P **P** **14 11 54.2 +0.1**
comp=Z,0.9nm,0.3s,baz=208,slow=11,SNR=38
MKAR LR LR 14 19 40.6
comp=Z,176nm,21.2s,baz=220,slow=38
WMQ Urumqi 19.89 41 P **Pn** **14 12 01.3 -0.1**
WMQ pP **pP** **14 12 09.5 +1.0**
WMQ sP **sP** **14 12 14.5 +1.7**
WMQ PP **PnPn** **14 12 20.7 +4.9**
WMQ S **S** **14 15 40.5 -1.2**
WMQ sS **sS** **14 15 53.5 -2.4**
WMQ PMZ
comp=Z,35nm,1.1s
WMQ PMZ
comp=Z,220nm,4.0s
WMQ LN
comp=Z,1μm,8.6s
WMQ LE
comp=Z,930nm,9.4s
WMQ LZ
comp=Z,1μm,10.0s
SHL Shillong 20.22 97 *e*P Pn 14 12 05.0 -0.5
SHL *ex* x 14 18 28.5
AB31 Akbulak array 20.52 342 ⇓P **P** **14 12 06.0 -0.3**
comp=Z,12nm,0.7s,baz=110,slow=3.6,SNR=152
AB31 Akbulak array 20.52 342 *i* P **P** **14 12 05.9 -0.3**
AB31 pmax pmax
comp=Z,15nm,0.7s
ABKAR Akbulak array 20.52 342 *e*Pn **P** **14 12 06.4 +0.2**
KURBB Kurchatov Arra 21.61 16 ⇓P **P** **14 12 17.6 -0.3**
comp=Z,30nm,0.9s
KURBB Kurchatov Arra 21.61 16 P **P** **14 12 17.9 0.0**
comp=Z,18nm,0.9s,baz=209,slow=9.1,SNR=118
KURK Kurchatov 21.71 16 ⇓P **P** **14 12 18.3 -0.7**
comp=Z,19nm,0.9s
KURK Kurchatov 21.71 16 P **P** **14 12 19.0 0.0**
comp=Z,108nm,1.3s,SNR=32
KURK Kurchatov 21.71 16 *e*P **P** **14 12 18.0 -1.0**
KURK Kurchatov 21.71 16 *e*P **P** **14 12 18.0 -1.0**
MAK *e* 14 12 51.5
MAK *e*S **S** **14 16 21.0 +1.0**
MAK *e*SS **SnSn** **14 16 49.6 +3.5**
MAK pmax pmax
comp=Z,46nm,0.5s
AKTO Aktyubinsk 22.13 340 ⇑P **P** **14 12 25.9 +2.4**
comp=Z,86nm,1.0s
AKTO Aktyubinsk 22.13 340 P **P** **14 12 24.4 +1.0**
comp=Z,74nm,1.2s,baz=147,slow=9.4,SNR=26
AKTO LR LR 14 22 19.8
comp=Z,295nm,20.7s,baz=156,slow=40
RAYN Ar Rayn 22.43 259 P **P** **14 12 26.0 -1.1**
comp=Z,291nm,1.3s,SNR=22
RAYN Ar Rayn 22.43 259 *e*P **P** **14 12 25.7 -1.4**
comp=Z,208nm,1.8s
GNI Garni 22.61 303 ⇑*e*P **P** **14 12 30.3 +1.3**
GNI pmax pmax
comp=Z,83nm,1.2s
GNI Garni 22.61 303 P **P** **14 12 28.5 -0.4**
comp=Z,6.4nm,0.5s,baz=114,slow=12,SNR=13
GNI LR LR 14 22 32.9
comp=Z,82nm,19.0s,baz=104,slow=40
GNI Garni 22.61 303 ⇑*i*P **P** **14 12 29.1 +0.1**
SNR=7.1
GNI Garni 22.61 303 *e*P **P** **14 12 28.0 -1.0**
comp=Z,91nm,1.4s
DGRG David-gareji 22.61 307 P **P** **14 12 28.0 -0.9**
BVA0 Borovoye Array 22.95 1 P **P** **14 12 31.8 -0.5**
comp=Z,33nm,1.1s,baz=171,slow=11,SNR=130
BVA0 Borovoye Array 22.95 1 *i* P **P** **14 12 31.7 -0.5**
BVA0 pmax pmax
comp=Z,33nm,1.2s
BVAR Borovoye Array 22.95 1 P **P** **14 12 32.2 0.0**
BVAR pmax pmax
comp=Z,10.0nm,0.7s
BVAR Borovoye Array 22.95 1 P **P** **14 12 32.2 0.0**
comp=Z,9.9nm,0.7s,baz=183,slow=10,SNR=47
BRVK Borovoye 22.98 1 P **P** **14 12 32.3 -0.2**
comp=Z,220nm,0.8s,SNR=28
TBLG Delisi 23.16 307 P **P** **14 12 34.9 +0.4**
GOR Gori 23.69 307 P **P** **14 12 35.8 -3.9**
ZEI Tsey 24.14 309 *e*P **P** **14 12 44.5 +0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.3s
ONI Oni 24.37 308 P **P** **14 12 46.2 +0.1**
PALK Pallekele 24.97 153 P **P** **14 12 51.4 -0.2**
PALK pmax pmax
comp=Z,5.0nm,0.6s
PALK Pallekele 24.97 153 P **P** **14 12 51.4 -0.2**
comp=Z,5.0nm,0.6s,baz=338,slow=11,SNR=2.0
KBZ Khabaz 25.19 310 P **P** **14 12 53.3 0.0**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 25.19 310 P **P** **14 12 53.2 0.0**
comp=Z,9.7nm,0.9s,baz=119,slow=9.1,SNR=19
CHVG Ch'k'valeri 25.36 307 P **P** **14 12 56.0 +1.1**
KIV Kislovodsk 25.42 310 *e*P **P** **14 12 56.1 +0.5**
KIV *e*S **S** **14 17 21.2 +1.0**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 25.42 310 P **P** **14 12 54.4 -1.2**
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 26.30 21 P **P** **14 13 03.7 +0.4**
comp=Z,6.5nm,0.4s,baz=212,slow=8.7,SNR=18
ZALV LR LR 14 24 25.2
comp=Z,227nm,18.8s,baz=260,slow=39
GTA Gaotai 26.44 61 *e*P **P** **14 13 07.0 +2.2**
GTA pP **pP** **14 13 16.2 +1.7**
GTA sP **sP** **14 13 20.5 +1.9**
GTA PcP **PcP** **14 16 31.8 +2.2**
GTA S **S** **14 17 37.9 +1.5**
GTA sS **sS** **14 17 53.1 +0.7**
GTA PcS **PcS** **14 20 11.3 +0.5**
GTA PMZ
comp=Z,6.0nm,1.1s
GTA PMZ
comp=Z,70nm,3.9s
GTA LN
comp=Z,460nm,20.9s
GTA LE
comp=Z,180nm,20.0s
GTA LZ
comp=Z,250nm,13.3s
NVS Novosibirsk 26.63 18 *e*P **P** **14 13 05.4 -0.8**
NVS pmax pmax
comp=N,42nm,1.5s
NVS pmax pmax
comp=Z,49nm,1.5s
NVS pmax pmax
comp=E,5.0nm,0.9s
ARU Arti 27.48 347 *d i*P **P** **14 13 14.9 +1.1**
ARU 14 13 56.1
ARU S **S** **14 17 54.9 +2.8**
ARU SS **SnSn** **14 19 04.0 +0.3**
ARU pmax pmax
comp=Z,30nm,1.7s
ARU Arti 27.48 347 *e*P **P** **14 13 11.9 -2.0**
comp=Z,48nm,1.7s
SVE Sverdlovsk 27.48 349 *e*P **P** **14 13 15.1 +1.3**
SVE pmax pmax
comp=Z,19nm,1.8s
SVE MLR MLR
comp=Z,381nm,15.0s
HVS Khovu-Aksy 27.68 34 ⇓*e*P **P** **14 13 17.8 +2.0**
HVS pmax pmax
comp=Z,54nm,1.7s
MHMT Maesarieng 28.37 108 P P 14 13 30.3 +8.1
CHTO Chiang Mai 28.90 106 *e*P **P** **14 13 26.7 -0.3**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 28.90 106 *e*P **P** **14 13 26.6 -0.3**
comp=Z,18nm,1.1s
CHTO Chiang Mai 28.90 106 P **P** **14 13 28.3 +1.4**
comp=Z,85nm,1.7s
CMMT Chiang Mai 28.91 106 P **P** **14 13 28.2 +1.2**
comp=Z,24nm,1.7s
CMAR Chiang Mai Arr 29.07 107 P **P** **14 13 29.2 +0.7**
CMAR 14 16 36.7
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 29.07 107 P **P** **14 13 29.2 +0.7**
comp=Z,1.6nm,0.8s,baz=297,slow=8.0,SNR=19
CMAR PcP **PcP** **14 16 36.7 +0.5**
comp=Z,2.3nm,0.8s,baz=283,slow=4.9,SNR=5.9
CMAR LR LR 14 25 11.3
comp=Z,142nm,21.5s,baz=218,slow=37
MMAI Mount Meron Ar 29.20 285 LR LR 14 27 03.4
comp=Z,333nm,20.1s,baz=80,slow=40
LZH Lanzhou 29.23 69 *e*P **P** **14 13 31.5 +1.6**
LZH pP **pP** **14 13 41.6 +2.0**
LZH sP **sP** **14 13 45.2 +1.5**
LZH S **S** **14 18 18.0 -2.6**
LZH sS **sS** **14 18 35.4 -1.2**
LZH SS **SnSn** **14 19 51.0 +3.8**
LZH PMZ
comp=Z,13nm,1.0s
LZH PMZ
comp=Z,79nm,4.0s
LZH LN
comp=Z,370nm,12.7s
LZH LE
comp=Z,260nm,11.8s
LZH LZ
comp=Z,420nm,13.2s
CD2 Chengdu 29.40 80 *e*P **P** **14 13 32.6 +1.3**
CD2 pP **pP** **14 13 42.5 +1.5**
CD2 sP **sP** **14 13 46.7 +1.6**
CD2 PP **PnPn** **14 14 28.2 +2.4**
CD2 S **S** **14 18 22.3 -0.8**
CD2 sS **sS** **14 18 38.9 -0.3**
CD2 SS **SnSn** **14 19 54.9 +3.7**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,450nm,16.6s
CD2 LE
comp=Z,290nm,13.7s
CD2 LZ
comp=Z,390nm,13.2s
KMI Kunming 29.73 91 P **P** **14 13 35.9 +1.4**
KMI pP **pP** **14 13 41.1 -3.2**
KMI S **S** **14 18 27.1 -1.7**
KMI PMZ
comp=Z,13nm,1.2s
KMI PMZ
comp=Z,120nm,3.3s
KMI LN
comp=Z,450nm,18.4s
KMI LE
comp=Z,170nm,19.5s
KMI LZ
comp=Z,160nm,22.9s
UMPA Umpang Tak 30.15 111 P P 14 13 53.4 +15
UTTA Uttaradit 30.76 106 P **P** **14 13 45.1 +1.8**
comp=Z,4.1nm,0.8s,comp=Z,41nm
BRTR Keskin Array B 30.84 298 *ce*P **P** **14 13 44.5 +0.4**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 30.84 298 P **P** **14 13 44.2 +0.1**
comp=Z,7.1nm,0.7s,baz=114,slow=9.0,SNR=27
VSR Storozhevoye 30.93 322 ⇑*e*P **P** **14 13 44.4 -0.2**
VSR pmax pmax
comp=Z,17nm,1.2s
UTHA Uthaitani 30.97 111 P P 14 13 54.5 +9.3
PBKT Sadao Pong 31.68 108 P **P** **14 13 52.7 +1.2**
comp=Z,15nm,1.2s,comp=Z,902nm
MOY Mondy 31.70 38 *e*P **P** **14 13 54.2 +2.7**
ZAK Zakamensk 32.37 42 *e*P **P** **14 13 58.4 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
GYA Guiyang 32.77 87 ⇑*i*P **P** **14 14 02.1 +1.0**
GYA pP **pP** **14 14 12.8 +1.9**
GYA PP **PnPn** **14 15 11.5 +1.5**
GYA S **S** **14 19 16.0 0.0**
GYA sS **sS** **14 19 31.7 -0.4**
GYA ScP **ScP** **14 20 27.9 +0.4**
GYA SS **SnSn** **14 21 13.3 0.0**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,550nm,17.6s
GYA LE
comp=Z,520nm,18.2s
GYA LZ
comp=Z,560nm,16.9s
TLY Talaya 33.15 40 *e*P **P** **14 14 07.2 +3.1**
TLY pmax pmax
comp=Z,8.0nm,1.2s
TLY MLR MLR
comp=Z,209nm,17.0s
SONM Songino Array 33.28 47 P **P** **14 14 06.1 +0.7**
SONM 14 16 47.8
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 33.28 47 P **P** **14 14 06.1 +0.7**
comp=Z,4.2nm,0.8s,baz=249,slow=9.0,SNR=42
SONM PcP **PcP** **14 16 47.8 +0.7**
comp=Z,0.7nm,0.8s,baz=245,slow=4.7,SNR=3.0
XAN Xi'an 33.44 73 P **P** **14 14 07.5 +0.7**
XAN PMZ
comp=Z,2.0nm,0.7s
XAN PMZ
comp=Z,17nm,4.0s
ULN Ulaanbaatar 33.72 48 ⇑*e*P **P** **14 14 11.0 +1.8**
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 33.72 48 *e*P **P** **14 14 09.0 -0.2**
comp=Z,8.3nm,1.3s
MOS Moscow 34.20 328 *e*P **P** **14 14 14.2 +1.1**
OBN Obninsk 34.34 326 *de*P **P** **14 14 14.6 +0.3**
OBN *e* 14 15 29.5
OBN *e*PPP PPP 14 15 42.7
OBN pmax pmax
comp=Z,36nm,1.7s
OBN MLR MLR
comp=Z,464nm,20.0s
SURT Suratani 34.45 122 P P 14 14 20.3 +4.6
comp=Z,3.8nm,1.3s
PKDT Phuket 34.83 123 P **P** **14 14 21.3 +2.4**
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 35.55 61 *e*P **P** **14 14 25.6 +0.5**
HHC pP **pP** **14 14 34.4 -0.5**
HHC sP **sP** **14 14 39.2 +0.2**
HHC PP **PnPn** **14 15 45.1 +0.5**
HHC S **S** **14 19 57.2 -1.5**
HHC sS **sS** **14 20 12.3 -2.5**
HHC ScS **ScS** **14 24 40.6 -1.3**
HHC PMZ
comp=Z,28nm,0.6s
HHC PMZ
comp=Z,130nm,5.8s
HHC LN
comp=Z,290nm,15.4s
HHC LE
comp=Z,530nm,14.3s
HHC LZ
comp=Z,95nm,15.1s
KIS Kishinev 35.62 310 *e*P **P** **14 14 26.0 +0.5**
KIS *e* 14 14 38.0
KIS Kishinev 35.62 310 *e*P **P** **14 14 26.0 +0.5**
CFR Carcaliu 35.71 307 ⇑P **P** **14 14 26.6 +0.4**
CFR Carcaliu 35.71 307 ⇑*i*P **P** **14 14 26.6 +0.4**
UBPT Khong Chiam 36.06 106 P **P** **14 14 30.3 +0.7**
comp=Z,20nm,0.9s
AKASG Malin Array Be 36.41 316 P **P** **14 14 31.5 -0.7**
AKASG 14 15 54.1
AKASG 14 16 56.0
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 36.41 316 P **P** **14 14 31.5 -0.7**
comp=Z,4.2nm,0.6s,baz=103,slow=7.2,SNR=23
AKASG PP **PnPn** **14 15 54.1 -0.8**
comp=Z,0.3nm,0.3s,baz=105,slow=10,SNR=3.3
AKASG PcP **PcP** **14 16 56.0 +0.2**
comp=Z,0.9nm,0.5s,baz=104,slow=3.0,SNR=4.5
KIEV Kiev 36.42 316 ⇓*e*P **P** **14 14 31.8 -0.4**
KIEV Kiev 36.42 316 *e*P **P** **14 14 31.6 -0.6**
comp=Z,39nm,1.6s
VRI Vrincioaia 36.80 308 ⇑P **P** **14 14 37.0 +1.4**
VRI Vrincioaia 36.80 308 ⇑*i*P **P** **14 14 37.0 +1.4**
PLOR Plostina 36.86 307 ⇑P **P** **14 14 37.7 +1.6**
PLOR Plostina 36.86 307 ⇑*i*P **P** **14 14 37.7 +1.6**
TESR Tescani 36.98 309 ⇑*i*P **P** **14 14 37.8 +0.7**
MLR Muntele Rosu 37.28 307 ⇓P **P** **14 14 41.5 +1.6**
MLR Muntele Rosu 37.28 307 ⇓*i*P **P** **14 14 41.5 +1.6**
DOPR Dopca 37.74 307 ⇓*i*P **P** **14 14 44.3 +0.7**
VOIR 37.90 307 ⇓P **P** **14 14 45.4 +0.4**
VOIR 37.90 307 ⇓*i*P **P** **14 14 45.4 +0.4**
BURAR Bucovina Array 38.15 310 ⇑P **P** **14 14 47.7 +0.6**
BURAR Bucovina Array 38.15 310 ⇑*i*P **P** **14 14 47.7 +0.6**
PGB Panagyurishte 38.23 302 *e*P **P** **14 14 48.4 +0.6**
MPEP Malo Peshtene 38.60 303 *e*P **P** **14 14 51.6 +0.8**
VTS Vitosha 38.94 302 ⇑P **P** **14 14 54.9 +1.0**
VTS Vitosha 38.94 302 ⇑*i*P **P** **14 14 54.9 +1.0**
VTS Vitosha 38.94 302 *e*P **P** **14 14 54.5 +0.6**
KKB Krupnik 39.00 301 *e*P **P** **14 14 53.9 -0.3**
BJI Beijing 39.04 62 P **P** **14 14 53.6 -0.9**
BJI pP **pP** **14 15 02.6 -1.8**
BJI sP **sP** **14 15 06.3 -2.1**
BJI PcP **PcP** **14 17 04.0 -0.1**
BJI S **ScP** **14 20 49.9 -0.1**
BJI PMZ
comp=Z,16nm,0.6s
BJI LN
comp=Z,340nm,19.0s
BJI LE
comp=Z,83nm,11.8s
BJI LZ
comp=Z,180nm,21.3s
IPM Ipoh 39.10 124 P **P** **14 14 53.4 -1.9**
comp=Z,21nm,0.8s
IDID Didziasalis 39.43 322 *e*P **P** **14 14 58.0 +0.4**
IDID AMB AMB 14 15 05.5
comp=Z,7.4nm,1.4s
IIGN Ignalina 39.72 322 *e*P **P** **14 15 00.6 +0.6**
IIGN AMB AMB 14 15 07.9
comp=Z,9.1nm,1.0s
ISAL Salakas 39.85 322 *e*P **P** **14 15 01.6 +0.5**
ISAL AMB AMB 14 15 02.8
comp=Z,8.6nm,1.1s
TIA Tai'an 39.96 68 ⇓P **P** **14 15 04.7 +2.4**

TIA PMZ
comp=Z,20nm,1.1s
TRPA Tarpa 40.02 310⇑ iP P 14 15 05.7 +3.2
UZH Uzhgorod 40.26 311 eP P 14 15 04.5 -0.1
UZH e 14 15 16.1
UZH e 14 15 20.9
BZS Buzias 40.31 306 ⇓P P 14 15 05.7 +0.6
BZS Buzias 40.31 306 ⇓iP P 14 15 05.7 +0.6
KOLS Kolonicke sedl 40.33 311 eP P 14 15 06.0 +0.8
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 40.33 311 eP P 14 15 06.0 +0.8
VSU Vasula 40.70 327⇓ eP P 14 15 07.5 -0.5
VSU pmax pmax
comp=Z,62nm,1.5s
CRVS Cervenica-Dubn 40.85 311 eP P 14 15 09.9 +0.4
CRVS pmax pmax
comp=Z,12nm,1.4s
CRVS Cervenica-Dubn 40.85 311 eP P 14 15 09.9 +0.4
BOD Bodaibo 41.20 35 eP P 14 15 12.7 +0.5
BOD pmax pmax
comp=Z,4.0nm,1.9s
KECS Kecovo 41.42 311 eP P 14 15 14.8 +0.6
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 41.42 311 eP P 14 15 14.8 +0.6
NIE Niedzica 41.67 312 eP P 14 15 17.6 +1.3
PSZ Piszkesteto 41.74 310 ⇑P P 14 15 18.1 +1.2
PSZ Piszkesteto 41.74 310⇑ iP P 14 15 18.1 +1.2
PSZ Piszkesteto 41.74 310 eP P 14 15 14.2 -2.7
comp=Z,15nm,0.9s
PSZ Piszkesteto 41.74 310⇓ eP P 14 15 17.7 +0.8
NJ2 Nanjing 41.97 74 eP P 14 15 18.1 -0.7
NJ2 PMZ
comp=Z,70nm,0.6s
OJC Ojcow 42.13 313 eP P 14 15 20.5 +0.5
FINES FINESS Array B 42.33 331 P P 14 15 21.4 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 42.33 331 P P 14 15 21.4 +0.1
comp=Z,2.3nm,0.6s,baz=117,slow=11,SNR=9.9
OKC Ostrava-Krasne 43.13 312 eP P 14 15 27.9 -0.1
OKC Ostrava-Krasne 43.13 312 eP P 14 15 27.9 -0.1
OKC ex x 14 15 32.5
APA Apatity 43.21 341 eP P 14 15 31.4 +3.0
APA MLR MLR
comp=Z,400nm,20.0s
MORC Moravsky Berou 43.51 312 ⇑P P 14 15 32.1 +0.9
MORC Moravsky Berou 43.51 312 ⇑iP P 14 15 32.1 +0.9
MORC Moravsky Berou 43.51 312 eP P 14 15 29.2 -2.0
comp=Z,3.7nm,0.7s
KMBO Kilima Mbogo 43.73 231 ceP P 14 15 34.9 +1.4
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 43.73 231 P P 14 15 33.5 -0.1
comp=Z,0.9nm,0.3s,baz=19,slow=9.1,SNR=3.5
KRLC Kraliky 44.03 312 eP P 14 15 35.9 +0.5
KRLC Kraliky 44.03 312 eP P 14 15 35.9 +0.5
KRLC ex x 14 15 39.7
DPC Dobruska-Polom 44.36 313 eP P 14 15 38.8 +0.8
DPC Dobruska-Polom 44.36 313 eP P 14 15 38.8 +0.8
DPC ex x 14 15 42.8
DPC Dobruska-Polom 44.36 313 eP P 14 15 38.4 +0.4
comp=Z,201nm,1.6s
KSP Ksiaz 44.43 313 eP P 14 15 38.6 +0.1
KSP Ksiaz 44.43 313 eP P 14 15 38.4 -0.1
CUC Castrocucco 44.54 298 eP P 14 15 38.6 -1.0
comp=Z,16nm,0.8s
UPC Upice 44.57 313 eP P 14 15 39.8 +0.2
UPC Upice 44.57 313 eP P 14 15 39.8 +0.2
ARSA Arzberg 44.64 308⇑ iP P 14 15 40.5 +0.2
comp=Z,6.7nm,0.9s
TREC Trest 44.79 311 eP P 14 15 40.9 -0.5
TREC Trest 44.79 311 eP P 14 15 40.9 -0.5
PVCC Panska Ves 45.49 313 eP P 14 15 47.8 +0.9
PVCC Panska Ves 45.49 313 eP P 14 15 47.8 +0.9
MOA Molln 45.51 309⇓ iP P 14 15 47.2 0.0
comp=Z,8.4nm,0.7s
CN2 Changchun 45.89 57 eP P 14 15 49.1 -1.1
CN2 esP sP 14 16 04.0 -0.2
CN2 eS S 14 22 28.6 -3.7
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,600nm,15.0s
CN2 LE
comp=Z,400nm,15.0s
CN2 LZ
comp=Z,700nm,17.0s
BRG Berggiesshubel 45.92 313 eP P 14 15 50.6 +0.3
comp=Z,12nm,1.2s
BRG Berggiesshubel 45.92 313 eP P 14 15 50.6 +0.3
BRG pmax pmax
comp=Z,12nm,1.2s
GEC2 GERESS Array S 45.94 310 eP P 14 15 50.3 -0.3
GEC2 GERESS Array S 45.94 310 eP P 14 15 50.3 -0.3
GERES GERESS Array B 45.94 310 P P 14 15 50.5 -0.1
comp=Z,2.0nm,0.7s,baz=100,slow=7.5,SNR=15
GERES LR LR 14 39 06.2
comp=Z,60nm,18.1s,baz=66,slow=41
KHC Kasperske Hory 46.03 311 eP P 14 15 50.8 -0.5
KHC Kasperske Hory 46.03 311 eP P 14 15 50.8 -0.5
KBA Koelnbreinsper 46.12 308⇑ iP P 14 15 51.5 -0.7
comp=Z,14nm,1.3s
ARCES ARCESS Array B 46.71 340 P P 14 15 56.5 +0.2
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 46.71 340 P P 14 15 56.5 +0.2
comp=Z,3.5nm,0.6s,baz=126,slow=7.8,SNR=24
WTTA Wattenberg 47.28 308⇑ iP P 14 15 58.2 -3.1
comp=Z,7.3nm,0.7s
GRF Grafenberg Arr 47.59 312 eP P 14 16 03.6 +0.2
comp=Z,10.0nm,1.4s
MOTA Moosalm 47.65 308⇑ iP P 14 16 03.0 -1.0
comp=Z,5.8nm,0.6s
FETA Feichten 47.91 308⇑ iP P 14 16 05.4 -0.7
comp=Z,9.8nm,0.8s
KSAR Wonju Array Be 48.37 65 P P 14 16 10.4 +0.8
KSAR Wonju Array Be 48.37 65 P P 14 16 10.4 +0.8
KSRS Korea Array 48.40 65 P P 14 16 10.4 +0.6
KSRS pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 48.40 65 P P 14 16 10.4 +0.6
comp=Z,4.8nm,0.7s,baz=268,slow=8.2,SNR=19
DAVA Damuels 48.48 308⇑ iP P 14 16 09.4 -1.1
comp=Z,8.3nm,0.7s
DAVOX Davos/Dischmat 48.49 308 P P 14 16 10.2 -0.5
DAVOX pmax pmax
comp=Z,3.0nm,0.5s
DAVOX Davos/Dischmat 48.49 308 P P 14 16 10.2 -0.5
comp=Z,2.6nm,0.5s,baz=35,slow=8.1,SNR=5.2
MDJ Mudanjiang 48.83 55 P P 14 16 12.3 -0.7
MDJ PMZ
comp=Z,100nm,3.7s
NB2 NORSAR Subarra 48.95 327 P P 14 16 12.7 -1.1
comp=Z,7.3nm,0.8s,baz=103,slow=7.9
NOA NORSAR Array B 48.95 327 P P 14 16 13.1 -0.7
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 48.95 327 P P 14 16 13.1 -0.7
comp=Z,5.6nm,0.8s,baz=104,slow=7.7,SNR=27
YAK Yakutsk 49.96 32 eP P 14 16 20.7 -0.7
YAK pmax pmax
comp=Z,12nm,1.1s
YAK Yakutsk 49.96 32 eP P 14 16 20.4 -1.0
comp=Z,17nm,0.6s
KLR Kul'dur 50.08 49 eP P 14 16 20.0 -2.5
KLR pmax pmax
comp=Z,33nm,1.4s
KEST Kesra 50.21 293 P P 14 16 23.6 -0.2
comp=Z,3.9nm,0.7s,baz=90,slow=4.0,SNR=12
KEST Kesra 50.21 293 eP P 14 16 22.7 -1.1
SENIN Lac Senin/Sane 50.29 307 eP P 14 16 23.2 -1.2
SBF Sospel 50.42 304 eP P 14 16 24.2 -1.0
SBF Sospel 50.42 304 eP P 14 16 24.2 -1.0
SBF Sospel 50.42 304 eP P 14 16 24.2 -1.0
HINF Hinteralfeld 50.51 309 eP P 14 16 24.8 -1.0
HINF Hinteralfeld 50.51 309 eP P 14 16 24.8 -1.0
HINF Hinteralfeld 50.51 309 eP P 14 16 24.8 -1.0
USRK Ussuriysk Ar. 50.57 56 P P 14 16 27.3 +1.0
comp=Z,1.8nm,0.6s,baz=279,slow=7.2,SNR=6.3
USRK LR LR 14 40 53.8
comp=Z,132nm,18.2s,baz=274,slow=40

LPG La Plagne 50.74 306 eP P 14 16 27.2 -0.8
comp=Z,16nm,0.8s
LPG La Plagne 50.74 306 eP P 14 16 27.2 -0.8
LPG pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 50.74 306 eP P 14 16 27.2 -0.8
comp=Z,16nm,0.8s
LPL La Plagne 50.76 306 eP P 14 16 27.2 -0.8
comp=Z,28nm,1.1s
LPL La Plagne 50.76 306 eP P 14 16 27.2 -0.8
LPL pmax pmax
comp=Z,28nm,1.1s
LPL La Plagne 50.76 306 eP P 14 16 27.2 -0.8
comp=Z,28nm,1.1s
MBDF Montbardon 50.80 305 eP P 14 16 27.0 -1.2
comp=Z,29nm,1.0s
MBDF Montbardon 50.80 305 eP P 14 16 27.0 -1.2
MBDF pmax pmax
comp=Z,29nm,1.0s
MBDF Montbardon 50.80 305 eP P 14 16 27.0 -1.2
comp=Z,29nm,1.0s
HAU Haudompre 50.84 309 eP P 14 16 27.7 -0.6
HAU eR
comp=Z,65nm,18.5s
HAU Haudompre 50.84 309 eP P 14 16 27.7 -0.6
HAU Haudompre 50.84 309 eP P 14 16 27.7 -0.6
CABF La Chapelle 51.11 308 eP P 14 16 30.3 -0.1
comp=Z,37nm,1.1s
CABF La Chapelle 51.11 308 eP P 14 16 30.3 -0.1
CABF pmax pmax
comp=Z,37nm,1.1s
CABF La Chapelle 51.11 308 eP P 14 16 30.3 -0.1
comp=Z,37nm,1.1s
LMR La Mourre 51.15 303 eP P 14 16 29.1 -1.5
LMR La Mourre 51.15 303 eP P 14 16 29.1 -1.5
LMR La Mourre 51.15 303 eP P 14 16 29.1 -1.5
PAGF Fort de Pagny 51.22 310 eP P 14 16 31.2 +0.1
PAGF Fort de Pagny 51.22 310 eP P 14 16 31.2 +0.1
ORIF Oris-en-Rattie 51.41 305 eP P 14 16 32.0 -0.8
comp=Z,19nm,1.0s
ORIF eR
comp=Z,74nm,21.0s
ORIF Oris-en-Rattie 51.41 305 eP P 14 16 32.0 -0.8
ORIF pmax pmax
comp=Z,19nm,1.0s
ORIF Oris-en-Rattie 51.41 305 eP P 14 16 32.0 -0.8
comp=Z,19nm,1.0s
SFTF Sexfontaines 51.70 310 eP P 14 16 34.4 -0.3
SFTF Sexfontaines 51.70 310 eP P 14 16 34.4 -0.3
BAIF Baives 52.12 312 eP P 14 16 38.2 +0.4
BAIF Baives 52.12 312 eP P 14 16 38.2 +0.4
BAIF Baives 52.12 312 eP P 14 16 38.2 +0.4
TIXI Tiksi 52.19 20⇓ eP P 14 16 37.4 -0.6
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI MLR MLR
comp=Z,82nm,16.0s
TIXI Tiksi 52.19 20 eP P 14 16 37.7 -0.3
comp=Z,3.8nm,0.9s
VIVF Saint-Julien-l 52.27 305 eP P 14 16 38.4 -0.7
VIVF Saint-Julien-l 52.27 305 eP P 14 16 38.4 -0.7
VIVF Saint-Julien-l 52.27 305 eP P 14 16 38.4 -0.7
LOR Lormes 52.57 309 eP P 14 16 40.4 -0.8
LOR eR
comp=Z,68nm,22.8s
LOR Lormes 52.57 309 eP P 14 16 40.4 -0.8
LOR Lormes 52.57 309 eP P 14 16 40.4 -0.8
SMF Signal de Mont 52.65 308 eP P 14 16 41.3 -0.5
comp=Z,17nm,0.8s
SMF Signal de Mont 52.65 308 eP P 14 16 41.3 -0.5
SMF pmax pmax
comp=Z,17nm,0.8s
SMF Signal de Mont 52.65 308 eP P 14 16 41.3 -0.5
comp=Z,17nm,0.8s
SSF Saint Saulge 52.83 308 eP P 14 16 42.7 -0.4
comp=Z,15nm,0.7s
SSF Saint Saulge 52.83 308 eP P 14 16 42.7 -0.4
SSF pmax pmax
comp=Z,15nm,0.7s
SSF Saint Saulge 52.83 308 eP P 14 16 42.7 -0.4
comp=Z,15nm,0.7s
LASF Ste Croix 52.95 305 eP P 14 16 43.7 -0.4
LASF Ste Croix 52.95 305 eP P 14 16 43.7 -0.4
AVF Avril sur Loir 52.97 308 eP P 14 16 43.5 -0.6
AVF Avril sur Loir 52.97 308 eP P 14 16 43.5 -0.6
AVF Avril sur Loir 52.97 308 eP P 14 16 43.5 -0.6
BGF Bois d'Agland 53.34 308 eP P 14 16 46.1 -0.8
BGF Bois d'Agland 53.34 308 eP P 14 16 46.1 -0.8
BGF Bois d'Agland 53.34 308 eP P 14 16 46.1 -0.8
SPITS Spitsbergen Ar 53.50 348 P P 14 16 48.4 +0.8
SPITS pmax pmax
comp=Z,7.0nm,0.7s
SPITS Spitsbergen Ar 53.50 348 P P 14 16 48.4 +0.8
comp=Z,6.5nm,0.7s,baz=112,slow=15,SNR=21
TCF Toulx Ste Croi 53.81 308 eP P 14 16 50.2 -0.2
TCF Toulx Ste Croi 53.81 308 eP P 14 16 50.2 -0.2
TCF Toulx Ste Croi 53.81 308 eP P 14 16 50.2 -0.2
CAF Calviac 54.10 306 eP P 14 16 52.4 -0.1
comp=Z,12nm,0.8s
CAF Calviac 54.10 306 eP P 14 16 52.4 -0.1
CAF pmax pmax
comp=Z,13nm,0.8s
CAF Calviac 54.10 306 eP P 14 16 52.4 -0.1
comp=Z,12nm,0.8s
MTLF Montolieu 54.24 304 eP P 14 16 52.9 -0.7
MTLF Montolieu 54.24 304 eP P 14 16 52.9 -0.7
MTLF Montolieu 54.24 304 eP P 14 16 52.9 -0.7
LFF La Frestale 55.03 306 eP P 14 16 58.9 -0.3
LFF La Frestale 55.03 306 eP P 14 16 58.9 -0.3
LFF La Frestale 55.03 306 eP P 14 16 58.9 -0.3
LDF La Druitiere 55.08 311 eP P 14 16 58.9 -0.6
comp=Z,32nm,1.1s
LDF La Druitiere 55.08 311 eP P 14 16 58.9 -0.6
LDF pmax pmax
comp=Z,32nm,1.1s
LDF La Druitiere 55.08 311 eP P 14 16 58.9 -0.6
comp=Z,32nm,1.1s
ETSF Etsaut 56.32 304 eP P 14 17 08.2 -0.4
comp=Z,13nm,0.8s
ETSF Etsaut 56.32 304 eP P 14 17 08.2 -0.4
ETSF pmax pmax
comp=Z,13nm,0.8s
ETSF Etsaut 56.32 304 eP P 14 17 08.2 -0.4
comp=Z,13nm,0.8s
TAM Tamanrasset 57.18 279 eP P 14 17 14.1 -1.0
TAM pmax pmax
comp=Z,4.0nm,0.9s
TAM Tamanrasset 57.18 279 eP P 14 17 14.1 -1.0
comp=Z,4.2nm,0.9s
ROSF Rostrenen 57.19 311 eP P 14 17 14.1 -0.5
ROSF Rostrenen 57.19 311 eP P 14 17 14.1 -0.5
ROSF Rostrenen 57.19 311 eP P 14 17 14.1 -0.5
QUIF Quistinic 57.19 310 eP P 14 17 14.0 -0.6
QUIF Quistinic 57.19 310 eP P 14 17 14.0 -0.6
QUIF Quistinic 57.19 310 eP P 14 17 14.0 -0.6
YSS Yuzh-Sakhalins 57.65 51 eP P 14 17 18.0 +0.1
ESDC Sonseca Array 59.57 301 P P 14 17 30.8 -0.6
comp=Z,1.7nm,0.6s,baz=67,slow=6.7,SNR=20
DAG Danmarks Havn 60.58 345 iP P 14 17 38.0 +0.3
DAG pmax pmax
comp=Z,8.0nm,0.8s
DAG Danmarks Havn 60.58 345 iP P 14 17 38.0 +0.3
comp=Z,11nm,0.8s
MVO Moncorvo 61.42 303 eP P 14 17 43.7 -0.3
comp=Z,25nm,1.8s
MTE Manteigas 62.01 303 eP P 14 17 48.4 +0.4
comp=Z,32nm,2.3s
PCBR Castelo Branco 62.12 302 eP P 14 17 49.1 +0.4
comp=Z,23nm,1.9s
PMRV Marv??o 62.18 301 eP P 14 17 48.1 -1.0
comp=Z,22nm,1.9s
PBAR Barrancos 62.29 300 eP P 14 17 49.2 -0.7
comp=Z,38nm,1.3s
JCJ Chichijima 62.81 73 LR LR 14 47 03.1
comp=Z,501nm,21.5s,baz=284,slow=38
TORD Torodi Ar. Bea 64.50 271 P P 14 18 03.7 -1.1
comp=Z,3.9nm,0.8s,baz=58,slow=5.4,SNR=22
TORD LR LR 14 49 59.3
comp=Z,108nm,18.2s,baz=60,slow=40
BILL Bilibino 64.92 24 eP P 14 18 06.5 -0.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 64.92 24 eP P 14 18 06.5 -0.2
comp=Z,5.9nm,1.0s
ALE Alert 65.29 354 P P 14 18 03.6 -5.3
comp=Z,59nm,0.5s,SNR=5.2
PETK Petropavlovsk- 65.49 41 P P 14 18 10.5 -0.2
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 65.49 41 P P 14 18 10.5 -0.2
comp=Z,1.5nm,0.8s,baz=276,slow=5.8,SNR=4.3
BATI Baumata 65.62 119 LR LR 14 50 16.1
comp=Z,112nm,21.0s,baz=287,slow=39
SUMG Summit 66.77 342 eP P 14 18 18.4 -0.6
SUMG pmax pmax
comp=Z,12nm,0.7s
SUMG Summit 66.77 342 eP P 14 18 18.4 -0.6
comp=Z,12nm,0.7s
SUMG Summit 66.77 342 iP P 14 18 20.0 +1.0
comp=Z,12nm,0.7s
BOSA Boshof 72.07 220 P P 14 18 52.0 0.0
comp=Z,5.9nm,0.8s,baz=40,slow=5.8,SNR=9.7
BOSA LR LR 14 51 32.0
comp=Z,37nm,18.6s,baz=350,slow=37
DBIC Dimbokro 73.23 268 P P 14 18 58.9 -0.2
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC MLR MLR
comp=Z,91nm,19.8s
DBIC Dimbokro 73.23 268 P P 14 18 58.9 -0.2
comp=Z,3.6nm,1.0s,baz=58,slow=8.0,SNR=3.4
DBIC LR LR 14 54 53.5
comp=Z,91nm,19.8s,baz=34,slow=39
KIC Kosan Boka 73.28 268 eP P 14 18 59.4 0.0
comp=Z,35nm,1.3s
TIC Toumodi 73.38 268 eP P 14 18 55.9 -4.2
comp=Z,31nm,0.2s
LIC Lamto 73.59 268 eP P 14 18 59.5 -1.8
comp=Z,12nm,0.7s
LIC eR
comp=Z,202nm,18.5s
LIC Lamto 73.59 268 eP P 14 19 00.2 -1.1
comp=Z,41nm,1.4s
LIC Lamto 73.59 268 eP P 14 18 59.5 -1.8
comp=Z,12nm,0.7s
RES Resolute Bay 75.02 356 P P 14 19 09.2 +0.7
RES pmax pmax
comp=Z,1.0nm,0.9s
RES Resolute Bay 75.02 356 P P 14 19 09.2 +0.7
comp=Z,0.9nm,0.9s,baz=20,slow=6.0,SNR=3.7
COLD Coldfoot 78.47 15 eP P 14 19 26.3 -1.9
comp=Z,12nm,0.9s
IM04 Indian Mountai 78.65 17 eP P 14 19 28.4 -0.8
WRA Warramunga Arr 79.70 120 P P 14 19 35.7 +0.1
comp=Z,6.3nm,0.9s,baz=321,slow=5.0,SNR=36
WRA PKKPbc **PKKPbc 14 38 23.4 +0.8**
comp=Z,0.3nm,0.5s,baz=132,slow=1.9,SNR=8.7
INK Inuvik 80.43 9 P P 14 19 39.4 +0.6
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 80.43 9 P P 14 19 39.4 +0.6
comp=Z,7.1nm,0.6s,baz=338,slow=5.4,SNR=70
FRB Frobisher Bay 80.83 342 P P 14 19 41.4 +0.4
FRB pmax pmax
comp=Z,3.0nm,0.6s
FRB Frobisher Bay 80.83 342 P P 14 19 41.4 +0.4
comp=Z,3.3nm,0.6s,baz=27,slow=7.6,SNR=5.5
COLA College 80.98 15 dP P 14 19 42.6 +0.8
COLA pmax pmax
comp=Z,64nm,1.0s
COLA College 80.98 15 eP P 14 19 40.7 -1.0
comp=Z,14nm,0.9s
CAST Castle Rocks 81.15 18 eP P 14 19 43.8 +1.0
comp=Z,17nm,0.8s
ILAR Eielson Array 81.28 15 P P 14 19 43.2 -0.2
comp=Z,2.9nm,0.6s,baz=309,slow=4.7,SNR=39
ILAR PKKPbc **PKKPbc 14 38 18.2 -0.9**
comp=Z,0.3nm,0.6s,baz=198,slow=2.6,SNR=6.1
ILAR LR LR 15 00 21.3
comp=Z,136nm,18.8s,baz=319,slow=39
KTH Kantishna Hill 81.34 17 eP P 14 19 44.2 +0.3
comp=Z,39nm,1.6s
ASAR Alice Springs 81.64 123 P P 14 19 46.1 +0.1
comp=Z,4.1nm,0.7s,baz=310,slow=5.1,SNR=34
ASAR PKKPbc **PKKPbc 14 38 18.9 +0.4**
comp=Z,0.4nm,0.8s,baz=114,slow=2.9,SNR=4.6
ASAR LR LR 14 58 50.4
comp=Z,57nm,20.0s,baz=309,slow=38
AS31 Alice Springs 81.64 123 eP P 14 19 45.4 -0.6
MCK McKinley 81.69 16 eP P 14 19 45.4 -0.2
MCK pmax pmax
comp=Z,168nm,2.6s
MCK McKinley 81.69 16 eP P 14 19 45.4 -0.2
comp=Z,168nm,2.6s
EGAK Eagle 82.47 13 eP P 14 19 49.9 +0.3
comp=Z,16nm,1.4s
PAX Paxson 83.16 15 eP P 14 19 52.8 -0.6
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 83.16 15 eP P 14 19 52.8 -0.6
comp=Z,6.8nm,0.7s
DAWY Dawson 83.44 12 eP P 14 19 55.8 +1.0
SCHQ Schefferville 87.52 336 LR LR 15 00 58.6
comp=Z,91nm,19.6s,baz=61,slow=37
YKA Yellowknife Ar 87.70 2 P P 14 20 16.4 +0.5
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 87.70 2 P P 14 20 16.4 +0.5
comp=Z,3.6nm,0.6s,baz=349,slow=5.0,SNR=90
FFC Flin Flon 95.24 355 eP P 14 20 52.1 +1.0
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 95.24 355 eP P 14 20 52.0 +1.0
comp=Z,6.4nm,0.9s
ULM Lac du Bonnet 99.00 351 LR LR 15 10 25.1
comp=Z,38nm,18.0s,baz=355,slow=38
PDAR Pinedale Array 107.52 359 PKiKP PKiKP 14 25 55.0 +0.4
comp=Z,0.2nm,0.5s,baz=72,slow=2.9,SNR=3.5
VNA2 Neumayer--Watz 113.99 201 P PKiKP 14 26 06.1 +0.6
baz=354,slow=6.0
VNA3 Neumayer Olymp 114.79 200 P PKPdf 14 26 07.1 0.0
QSPA South Pole Qui 119.88 180 PKP PKPdf 14 26 16.9 -0.1
comp=Z,3.0nm,0.8s,baz=273,slow=1.2,SNR=21
QSPA South Pole Qui 119.88 180 PKP PKPdf 14 26 16.9 -0.1
QSPA ePKPdf PKiKP 14 26 17.6 +0.4
TXAR Lajitas Array 120.58 353 PKP PKPdf 14 26 20.4 +0.6
comp=Z,0.4nm,0.6s,baz=75,slow=1.0,SNR=5.1

*ISCJB **01** 14:09:58.7±1.0, 4.8S±0.1×153.5E±0.2, h56km, mb3.6/9, Error ellipse: s-maj=30.0km s-min=10.6km az=36.5*
*IDC **01** 14:10:02.3±1.1, 4.79S×153.43E, h75km±5km, mb3.4/9, mb1 3.5/10, mb1mx3.4/21, mbtmp3.8/10, MS2.9/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=34.2km s-min=17.3km az=111.0*
ISC 01 14:10:00.4±1.1, 4.9S±0.2×153.6E±0.2, h56km, n11, σ2.9 04/19, mb3.6/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.84**	**234**	P	**Pn**	**14 11 53.2**	**+1.3**
	1.1nm,0.3s,baz=38,slow=17,SNR=9.1						
PMG				S	**Sn**	**14 13 18.5**	**-0.8**
	1.0nm,0.3s,baz=180,slow=20,SNR=7.6						
PMG				LR	LR	14 15 04.9	
	comp=Z,82nm,19.1s,baz=118,slow=39						
WRA	**Warramunga Arr**	**24.02**	**230**	P	**P**	**14 15 09.6**	**-0.8**
	1.0nm,0.8s,baz=53,slow=10.0,SNR=6.7						
WRA				PcP	**PcP**	**14 18 50.4**	**-0.7**
	0.5nm,0.7s,baz=45,slow=2.3,SNR=3.6						
ASAR	**Alice Springs**	**26.66**	**224**	P	**P**	**14 15 33.6**	**-0.7**
	0.4nm,0.7s,baz=57,slow=8.9,SNR=4.7						
ASAR				PcP	**PcP**	**14 18 56.2**	**-0.9**
	0.4nm,0.7s,baz=54,slow=1.8,SNR=4.9						
SONM	**Songino Array**	**66.81**	**327**	P	**P**	**14 20 45.1**	**-1.3**
	0.4nm,0.8s,baz=145,slow=5.4,SNR=4.2						
VNDA	**Vanda**	**72.75**	**178**	P	**P**	**14 21 22.6**	**+0.4**
	0.6nm,0.7s,baz=343,slow=5.3,SNR=5.7						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**14 22 07.6**	**-1.1**
	0.5nm,0.5s,baz=98,slow=7.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**81.65**	**326**	P	**P**	**14 22 11.0**	**-1.4**
	0.3nm,0.4s,baz=96,slow=4.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**84.34**	**322**	P	**P**	**14 22 25.3**	**-1.2**
	0.3nm,0.5s,baz=102,slow=4.3,SNR=3.8						
KURBB				pP	**pP**	**14 22 46.0**	**+3.6**
	0.5nm,0.7s,baz=104,slow=4.3,SNR=3.7						
AAK	**Ala-Archa**	**85.29**	**313**	P	**P**	**14 22 31.2**	**-0.5**
	0.6nm,0.5s,baz=156,slow=12,SNR=3.4						
AAK				pP	**pP**	**14 22 51.9**	**+4.3**
	1.6nm,0.7s,baz=137,slow=9.6,SNR=3.7						
BVAR	**Borovoye Array**	**89.77**	**323**	P	**P**	**14 22 51.6**	**-1.1**
	0.7nm,0.8s,baz=102,slow=3.5,SNR=3.6						

BVAR				pP		**pP**	**14 23 11.6**	**+2.8**
	1.7nm,0.7s,baz=104,slow=6.6,SNR=7.7							
TORD	**Torodi Ar. Bea**	**151.09**	**288**	PKPbc		**PKPbc**	**14 29 46.6**	**-1.7**
	1.0nm,0.5s,baz=98,slow=2.0,SNR=18							
TORD				PKPab		**PKPab**	**14 29 54.4**	**-1.7**
	0.5nm,0.6s,baz=63,slow=3.3,SNR=4.7							
TORD				pPKPbc		**pPKPbc**	**14 30 07.9**	**+3.0**
	1.4nm,1.0s,baz=88,slow=1.5,SNR=5.6							

*IDC **01** 14:15:02.9±2.1,29°.97N×69°.72E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.4/31, mbtmp3.4/9, ML3.5/2, Error ellipse: s-maj=66.6km s-min=28.4km az=85.0*
*NNC **01** 14:15:10.7±5.6,30°.53N×70°.13E, h0km, mb4.1, Error ellipse: s-maj=132.7km s-min=45.4km az=98.0*

ISC 01 14:15:06.0±1.5,30°.2N±0°.1×69°.8E±0°.3, h12km, n12, σ1s31/16, mb3.5/7, 1C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**12.50**	**9**	⇓P		**Pn**	**14 18 05.2**	**+1.4**
	3.3nm,0.7s							
MNAS				⇓S		**Sn**	**14 20 21.1**	**-2.0**
	4.6nm,1.2s							
KK31	**Karatay Array**	**12.94**	**2**	⇓P		**Pn**	**14 18 09.7**	**0.0**
	1.0nm,0.4s,baz=157,slow=12,SNR=12							
KK31				⇓S		**Sn**	**14 20 32.8**	**-0.9**
	0.3nm,0.3s,baz=193,slow=24,SNR=4.6							
AAK	**Ala-Archa**	**13.01**	**15**	⇑P		**Pn**	**14 18 11.1**	**+0.3**
	2.3nm,0.8s							
AAK				⇓S		**Sn**	**14 20 33.2**	**-2.4**
	3.2nm,0.8s							
AAK	**Ala-Archa**	**13.01**	**15**	Pn		**Pn**	**14 18 11.9**	**+1.1**
	0.6nm,0.3s,baz=189,slow=11,SNR=6.3							
AAK				Sn		**Sn**	**14 20 37.0**	**+1.5**
	0.1nm,0.3s,baz=139,slow=19,SNR=3.8							
MKAR	**Makanchi Array**	**19.23**	**27**	P		**Pn**	**14 19 30.6**	**-0.3**
	0.1nm,0.3s,baz=213,slow=13,SNR=2.9							
KURBB	**Kurchatov Arra**	**21.47**	**15**	P		**P**	**14 19 54.7**	**+0.5**
	1.0nm,0.6s,baz=209,slow=9.3,SNR=5.0							
BVAR	**Borovoye Array**	**22.86**	**1**	P		**P**	**14 20 10.9**	**+1.9**
	0.4nm,0.5s,baz=177,slow=9.9,SNR=3.7							
ZALV	**Zalesovo Beam**	**26.15**	**20**	P		**P**	**14 20 40.1**	**+0.2**
	0.4nm,0.4s,baz=224,slow=8.1,SNR=2.5							
SONM	**Songino Array**	**33.07**	**47**	P		**P**	**14 21 42.8**	**+1.3**
	0.2nm,0.7s,baz=244,slow=9.1,SNR=2.3							
WRA	**Warramunga Arr**	**79.55**	**120**	P		**P**	**14 27 12.1**	**-1.0**
	0.5nm,0.9s,baz=322,slow=5.2,SNR=4.5							
ILAR	**Eielson Array**	**81.15**	**15**	P		**P**	**14 27 20.6**	**-0.5**
	0.2nm,0.5s,baz=309,slow=5.5,SNR=5.0							
YKA	**Yellowknife Ar**	**87.62**	**2**	P		**P**	**14 27 53.7**	**-0.1**
	0.2nm,0.6s,baz=350,slow=4.6,SNR=4.3							

*IDC **01** 14:18:56.5±1.8, 1°.74N×126°.87E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/36, mbtmp3.7/4, Error ellipse: s-maj=175.0km s-min=21.1km az=67.0*
*ISCJB **01** 14:19:02.3±0.9, 1°.69N±0°.10×126°.45E±0°.06, h47km, mb3.6/4, Error ellipse: s-maj=13.9km s-min=8.5km az=9.5*
*DJA **01** 14:19:04.3±1.3, 1°.6N×126°.6E±°, h11km±10km, M3.7/8, mb3.7/1, MLv3.7/8*

ISC 01 14:19:04.2±1.3, 1°.6N±0°.1×126°.44E±0°.07, h47km, n12, σ1s39/13, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.20**	**130**	P		**Pn**	**14 19 25.9**	**+1.3**
TNTI				S		Sn	14 19 45.1	+5.3
LBMI	**Labuha**	**2.42**	**154**	P		**Pn**	**14 19 43.0**	**+1.8**
KMSI	**Cibinong**	**2.64**	**249**	P		**Pn**	**14 19 44.1**	**-0.2**
KMSI				S		**Sn**	**14 20 15.7**	**+0.5**
GTOI	**Gorontalo**	**3.55**	**255**	P		**Pn**	**14 19 57.6**	**+0.9**
SANI	**Sanana**	**3.60**	**187**	P		**Pn**	**14 19 56.7**	**-0.8**
LUWI	**Luwuk**	**4.48**	**235**	P		**Pn**	**14 20 10.8**	**+1.2**
MRSI	**Marisa**	**4.62**	**257**	P		**Pn**	**14 20 12.3**	**+0.8**
APSI	**Ampana**	**5.38**	**243**	P		**Pn**	**14 20 24.5**	**+2.6**
WRA	**Warramunga Arr**	**22.72**	**160**	P		**P**	**14 24 00.7**	**-1.5**
	1.6nm,0.5s,baz=340,slow=10,SNR=41							
ASAR	**Alice Springs**	**26.09**	**164**	P		**P**	**14 24 32.7**	**-1.0**
	0.3nm,0.4s,baz=344,slow=9.3,SNR=8.8							
MKAR	**Makanchi Array**	**59.18**	**326**	P		**P**	**14 28 59.8**	**-0.7**
	0.5nm,0.6s,baz=121,slow=8.4,SNR=7.4							
KURBB	**Kurchatov Arra**	**63.42**	**328**	P		**P**	**14 29 28.6**	**-0.3**
	0.6nm,0.6s,baz=126,slow=6.7,SNR=5.6							

IDC 01 14:21:33.1±1.6, 35°.39S×72°.15W, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.8/15, mbtmp3.7/4, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/28, Error ellipse: s-maj=42.0km s-min=29.1km az=96.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.99**	**42**	Pn		Pn	14 22 49.8	+0.4
	0.3nm,0.3s,baz=220,slow=15,SNR=5.4							
CFAA				Sn		Sn	14 23 47.4	-0.5
	0.3nm,0.3s,baz=1.2,slow=23,SNR=6.4							
PLCA	**Paso Flores**	**5.48**	**167**	Pn		Pn	14 22 54.5	-1.7
	0.5nm,0.3s,baz=347,slow=12,SNR=7.3							
PLCA				Lg		Lg	14 24 36.0	
	baz=270,slow=20,SNR=1.7							
LPAZ	**La Paz**	**19.36**	**12**	P		P	14 25 59.1	-2.0
	baz=203,slow=13,SNR=2.7							
ATAH	**Atahualpa**	**28.70**	**347**	LR		LR	14 36 36.6	
	comp=Z,25nm,19.4s,baz=305,slow=32							
TXAR	**Lajitas Array**	**70.90**	**331**	P		P	14 32 52.3	+0.2
	0.4nm,0.7s,baz=152,slow=8.2,SNR=5.0							
TORD	**Torodi Ar. Bea**	**84.77**	**70**	P		P	14 34 10.3	+0.7
	0.7nm,0.3s,baz=250,slow=5.4,SNR=20							

*IDC **01** 14:25:18.8±1.2,38°.15S×75°.28W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.9/17, mbtmp3.8/7, ML3.9/2, MS2.7/3, Ms1 2.7/3, ms1mx2.6/29, Error ellipse: s-maj=32.6km s-min=23.6km az=69.0*
*ISCJB **01** 14:25:22.6±0.9, 38°.07S±0°.10×75°.0W±0°.2, h33km, mb3.9/6, MS3.6/2, Error ellipse: s-maj=17.8km s-min=13.9km az=167.0*
*NEIC **01** 14:25:24.4±0.7, 38°.08S×75°.03W, h35km, mb4.0/2, Error ellipse: s-maj=14.5km s-min=11.6km az=75.0*

ISC 01 14:25:24.2±0.9, 38°.0S±0°.1×75°.2W±0°.1, h35km, n18, σ1s57/11, mb3.9/6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.50**	**128**	Pn		**Pn**	**14 26 29.1**	**-0.8**
	2.9nm,0.3s,baz=297,slow=14,SNR=22							
PLCA				Sn		**Sn**	**14 27 24.0**	**+3.0**
	3.1nm,0.3s,baz=344,slow=19,SNR=4.5							
PLCA				LR		LR	14 28 23.0	
	comp=Z,140nm,20.8s,baz=286,slow=41							
CFAA	**Coronel Fontan**	**8.59**	**44**	Pn		**Pn**	**14 27 25.4**	**-0.6**
	0.2nm,0.3s,baz=216,slow=14,SNR=8.4							
CFAA				LR		LR	14 30 33.0	
	comp=Z,9.9nm,21.9s,baz=236,slow=36							
TRQA	**Tornquist**	**10.43**	**94**	P		**Pn**	**14 27 48.7**	**-2.5**
SIV	**San Ignacio**	**25.24**	**33**	P		**P**	**14 30 48.1**	**+1.2**
	2.3nm,0.7s,baz=221,slow=9.3,SNR=5.6							
BDFB	**Brasilia**	**32.74**	**54**	LR		LR	14 46 04.5	
	comp=Z,35nm,20.7s,baz=192,slow=38							
SNAA	**Sanae**	**48.87**	**156**	*eP*		**P**	**14 34 05.3**	**-0.7**
	1.9nm,1.2s							
QSPA	**South Pole Qui**	**52.21**	**180**	P		**P**	**14 34 30.7**	**-0.7**
	2.5nm,0.9s,baz=154,slow=5.2,SNR=4.8							
QSPA	**South Pole Qui**	**52.21**	**180**	*eP*		**P**	**14 34 31.1**	**-0.3**
	1.8nm,1.0s							
TXAR	**Lajitas Array**	**72.11**	**334**	P		**P**	**14 36 45.6**	**+0.6**
	0.9nm,0.7s,baz=150,slow=7.3,SNR=6.6							
PDAR	**Pinedale Array**	**86.28**	**335**	P		**P**	**14 38 02.7**	**+0.5**
	0.6nm,0.8s,baz=137,slow=6.8,SNR=4.9							
TORD	**Torodi Ar. Bea**	**87.95**	**72**	P		**P**	**14 38 10.2**	**-0.5**
	0.3nm,0.6s,baz=233,slow=5.1,SNR=3.6							
NEW	**Newport**	**93.66**	**333**	LR		LR	15 17 14.5	
	comp=Z,75nm,21.4s,baz=236,slow=33							
H11S2	**WAKE ISLAND Hyd**	**23.12**	**268**	T		T	16 58 58.1	
	baz=117,slow=74,SNR=7.1							
H11S1	**WAKE ISLAND Hyd**	**23.13**	**268**	T		T	16 58 56.0	
	baz=117,slow=74,SNR=10							
H11S3	**WAKE ISLAND Hyd**	**23.14**	**268**	T		T	16 58 59.8	
	baz=117,slow=74,SNR=7.6							
H11N3	**WAKE ISLAND Hyd**	**23.63**	**270**	T		T	16 59 27.4	
	baz=115,slow=78,SNR=6.5							
H11N1	**WAKE ISLAND Hyd**	**23.64**	**270**	T		T	16 59 28.5	
	baz=115,slow=78,SNR=21							
H11N2	**WAKE ISLAND Hyd**	**23.65**	**270**	T		T	16 59 28.9	
	baz=115,slow=78,SNR=12							

DJA 01 14:26:33.2±2.0, 2°.5S±18°.×10°.1E±1°.5, h59km±75km, M3.8/6, MLv3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.47**	**354**	P		Pn	14 26 57.6	+0.1
PDSI				S		Sn	14 27 16.3	+0.6
SDSI	**Sungai Dareh**	**1.65**	**29**	P		Pn	14 27 00.4	+0.5
MNAI	**Manna**	**3.05**	**130**	P		Pn	14 27 19.4	+0.4
MNAI				S		Sn	14 27 54.0	-0.4
MDSI	**Maura Dua**	**4.12**	**121**	P		Pn	14 27 33.7	0.0
KASI	**Kota Agung**	**4.97**	**129**	P		Pn	14 27 44.8	-0.5

WEL 01 14:54:37.3±0.5, 37°.08S×176°.20E, h273km±5km, ML3.5/5, 2C-1D, Error ellipse: s-maj=8.7km s-min=6.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.38**	**149**	⇑PN		Pn	14 55 17.4	+0.5
URZ				SN		S	14 55 48.6	+0.2
HAZ	**Te Kaha**	**1.43**	**119**	⇑PN		Pn	14 55 17.3	0.0
HAZ				SN		S	14 55 47.8	-1.2
MWZ	**Matawai**	**1.63**	**140**	PN		Pn	14 55 18.9	+0.1
MWZ				SN		S	14 55 51.2	-0.5
TWGZ	**Tauwhareparae**	**1.79**	**128**	PN		Pn	14 55 20.5	+0.5
SNGZ	**Shannon Statio**	**1.92**	**152**	PN		Pn	14 55 21.3	+0.3
RIGZ	**Rimuhau**	**2.04**	**143**	PN		Pn	14 55 21.8	-0.2
BKZ	**Black Stump Fm**	**2.09**	**174**	PN		Pn	14 55 22.8	+0.3
FWVZ	**Far West T-bar**	**2.23**	**193**	PN		Pn	14 55 23.6	-0.4
KNZ	**Kokohu**	**2.26**	**149**	PN		Pn	14 55 23.9	0.0
ARHZ	**Aropaoanui**	**2.26**	**164**	PN		Pn	14 55 24.2	+0.2
MCHZ	**McNeill Hill**	**2.39**	**171**	PN		Pn	14 55 25.5	+0.4
BHHZ	**Black Hill Sta**	**2.40**	**183**	⇓PN		Pn	14 55 25.8	+0.4
KRHZ	**Kereru**	**2.56**	**177**	PN		Pn	14 55 26.8	0.0
KAHZ	**Kahuranaki**	**2.76**	**169**	PN		Pn	14 55 28.4	-0.4
TSZ	**Takapari Road**	**2.98**	**184**	PN		Pn	14 55 30.8	-0.2
MRZ	**Mangatainoka R**	**3.61**	**188**	AML		AML	14 56 04.9	

IDC 01 15:04:29.5±2.7, 5°.96S×154°.07E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=199.5km s-min=31.1km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**232**	P		P	15 09 43.3	+0.2
	2.5nm,1.1s,baz=57,slow=9.4,SNR=6.3							
ASAR	**Alice Springs**	**26.20**	**226**	P		P	15 10 05.7	-0.4
	0.4nm,0.8s,baz=56,slow=8.7,SNR=4.4							
ILAR	**Eielson Array**	**82.75**	**22**	P		P	15 16 55.3	+0.2
	0.2nm,0.7s,baz=249,slow=6.0,SNR=4.4							

*ISCJB **01** 15:06:20.2±0.4, 50°.79N±0°.03×101°.78W±0°.05, h0km, mb2.8/1, Error ellipse: s-maj=4.7km s-min=3.1km az=34.0*
*OTT **01** 15:06:23.4±0.2, 50°.63N×101°.81W, h1km, MN3.1/9, 20km east from Esterhazy, Sk Induced.*
*IDC **01** 15:06:24.9±1.0, 50°.56N×102°.16W, h0km, mb2.7/1, mb1 3.4/4, mb1mx3.2/30, mbtmp3.0/4, ML3.3/2, Error ellipse: s-maj=13.0km s-min=11.1km az=143.0*

ISC 01 15:06:20.9±0.7, 50°.74N±0°.04×101°.68W±0°.04, h0km, n36, σ2s10/55, Manitoba

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
A27A	**Ledoux Ranch,**	**1.81**	**171**	P		**Pb**	**15 06 54.3**	**-0.6**
	baz=1.7							
A27A				Sb		**Sb**	**15 07 18.4**	**+0.3**
	baz=1.7							
A26A	**Wade Farm, Ken**	**1.86**	**187**	P		**Pn**	**15 06 54.9**	**+0.9**
	baz=1.7							
A26A				S		**Sn**	**15 07 18.1**	**-0.1**
	baz=1.7							
A25A	**Svangstu Ranch**	**2.03**	**208**	P		**Pb**	**15 06 57.7**	**-0.9**
	baz=1.9							
A25A				S		**Sn**	**15 07 21.9**	**-0.5**
	baz=1.9							
A28A	**Rude Farm, Bot**	**2.05**	**153**	Pb		**Pb**	**15 06 59.8**	**+0.8**
	baz=2.0							
B27A	**Peters Farms,**	**2.35**	**173**	P		**Pb**	**15 07 02.8**	**-1.3**
	baz=2.3							
B27A				S		**Sn**	**15 07 31.7**	**+1.4**
	baz=2.3							
A24A	**Westby**	**2.36**	**220**	P		**Pn**	**15 07 02.3**	**+1.4**
	baz=2.2							
A24A				S		**Sn**	**15 07 30.6**	**+0.1**
	baz=2.2							
B26A	**Jensen Ranch,**	**2.39**	**189**	Sb		**Sb**	**15 07 34.1**	**-0.8**
	baz=2.3							
A29A	**Manning Farm,**	**2.41**	**138**	S		**Sb**	**15 07 35.7**	**+0.3**
	baz=2.4							
B28A	**Dugan Ranch, T**	**2.45**	**159**	P		**Pb**	**15 07 04.8**	**-1.0**
	baz=2.4							
B28A				S		**Sb**	**15 07 35.2**	**-1.2**
	baz=2.4							
A23A	**Redstone**	**2.73**	**231**	P		**Pn**	**15 07 07.4**	**+1.4**
	baz=2.6							
A23A				S		**Sn**	**15 07 39.9**	**+0.2**
	baz=2.6							
DGMT	**Dagmar**	**2.80**	**217**	P		**Pn**	**15 07 08.1**	**+1.2**
	baz=2.7							
DGMT				S		**Sn**	**15 07 41.7**	**+0.3**
	baz=2.7							
C27A	**Sayler Ranch,**	**3.03**	**178**	P		**Pn**	**15 07 12.0**	**+1.9**
	baz=2.9							
C27A				S		**Sn**	**15 07 47.6**	**+0.5**
	baz=2.9							
B23A	**Brockton**	**3.13**	**225**	P		**Pn**	**15 07 13.0**	**+1.5**
	baz=3.0							
B23A				S		**Sn**	**15 07 49.1**	**-0.5**
	baz=3.0							
C25A	**Freed Ranch, W**	**3.20**	**199**	Sb		**Sb**	**15 07 57.5**	**-0.6**
	baz=3.1							
ULM	**Lac du Bonnet**	**3.74**	**95**	PN		Pn	15 07 23.3	+3.5
ULM				SN		**Sn**	**15 08 07.2**	**+2.8**
ULM				Trac			15 08 23.8	
	comp=Z,23nm,0.3s							
ULM	**Lac du Bonnet**	**3.74**	**95**	Pn		**Pb**	**15 07 27.1**	**-0.6**
	0.6nm,0.3s,baz=276,slow=17,SNR=7.2							
ULM				Sn		**Sb**	**15 08 13.9**	**+0.4**
	1.3nm,0.3s,baz=316,slow=11,SNR=3.1							
FFC	**Flin Flon**	**4.00**	**358**	PN		Pn	15 07 27.5	+4.2
FFC				SN		**Sn**	**15 08 16.0**	**+5.2**
FFC				Trac			15 08 38.0	
	comp=Z,346nm,0.4s							
SOLO	**Sioux Lookout**	**6.18**	**93**	PN		**Pn**	**15 07 55.4**	**+2.0**
SOLO				SN		**Sn**	**15 09 03.7**	**-1.0**
SOLO				Trac			15 09 12.1	
	comp=Z,4.5nm,0.2s							
ATKO	**Atikokan Iron**	**6.80**	**102**	PN		Pn	15 08 05.0	+3.2
ATKO				SN		**Sn**	**15 09 18.0**	**-2.0**
ATKO				LG		Lg	15 10 04.5	
ATKO				Trac			15 10 11.0	
	comp=Z,21nm,0.8s							
PKLO	**Pickle Lake**	**7.17**	**80**	PN		Pn	15 08 10.2	+3.3
PKLO				SN		**Sn**	**15 09 27.8**	**-1.3**
PKLO				Trac			15 09 36.3	
	comp=Z,1.9nm,0.2s							
EYMN	**Ely**	**7.22**	**109**	PN		**Pn**	**15 08 10.0**	**+2.4**
EYMN				SN		**Sn**	**15 09 27.9**	**-2.2**
EYMN				LG		Lg	15 10 06.4	
EYMN				LG		Lg	15 10 09.9	
EYMN				Trac			15 10 19.4	
	comp=Z,1.3nm,0.8s							
WALA	**Waterton Lakes**	**8.08**	**263**	PN		**Pn**	**15 08 18.9**	**-0.6**
WALA				SN		Sn	15 09 32.9	-19
WALA				Trac			15 10 05.3	
	comp=Z,1μm,5.5s							
TBO	**Thunder Bay**	**8.23**	**100**	PN		**Pn**	**15 08 23.6**	**+2.2**
TBO				SN		**Sn**	**15 09 52.6**	**-2.4**
TBO				Trac			15 10 42.8	
	comp=Z,3.5nm,0.2s							
FCC	**Fort Churchill**	**9.15**	**26**	PN		**Pn**	**15 08 36.6**	**+2.6**
FCC				SN		**Sn**	**15 10 16.1**	**-1.5**
FCC				Trac			15 10 25.6	
	comp=Z,152nm,2.5s							
FCC				LG		Lg	15 11 09.4	
NANO	**Nakina Ontario**	**9.38**	**87**	PN		Pn	15 08 41.2	+4.1
NANO				Trac			15 10 19.5	
	comp=Z,71nm,1.5s							
NANO				SN		**Sn**	**15 10 19.9**	**-3.3**
GTO	**Geraldton**	**9.49**	**90**	PN		**Pn**	**15 08 41.2**	**+2.5**
GTO				SN		**Sn**	**15 10 22.4**	**-3.5**
GTO				Trac			15 10 44.5	
	comp=Z,0.8nm,0.0s							
PDAR	**Pinedale Array**	**9.63**	**217**	Pn		**Pn**	**15 08 39.4**	**-1.5**
	0.0nm,0.3s,baz=38,slow=16,SNR=2.4							
PDAR				Sn		Sn	15 10 22.4	-7.4
	0.1nm,0.3s,baz=21,slow=25,SNR=2.1							
PDAR				Lg		Lg	15 11 12.2	
	0.1nm,0.3s,baz=36,slow=33,SNR=4.3							
PNPO	**Pukaskwa Natio**	**10.21**	**96**	PN		**Pn**	**15 08 50.7**	**+2.2**
PNPO				SN		**Sn**	**15 10 39.5**	**-4.1**
PNPO				Trac			15 10 53.7	
	comp=Z,18nm,0.7s							
SILO	**Sutton Inlier**	**10.86**	**63**	PN		**Pn**	**15 08 58.5**	**+1.2**
SILO				SN		Sn	15 10 54.1	-5.3
SILO				Trac			15 11 12.1	
	comp=Z,2.3nm,0.2s							
ARVN	**Arviat, NU**	**11.21**	**19**	PN		**Pn**	**15 09 04.7**	**+2.6**
ARVN				SN		**Sn**	**15 11 04.8**	**-3.2**
ARVN				LG		Lg	15 12 17.1	
ARVN				Trac			15 12 24.0	
	comp=Z,449nm,4.5s							
VIMO	**Victor Mine**	**11.30**	**72**	PN		**Pn**	**15 09 05.3**	**+1.8**
VIMO				SN		**Sn**	**15 11 05.8**	**-4.5**
VIMO				Trac			15 11 11.3	
	comp=Z,12nm,0.7s							
KAPO	**Kapuskasing**	**12.38**	**89**	SN		Sn	15 11 28.4	-8.4
KAPO				Trac			15 12 54.5	
	comp=Z,65nm,1.4s							
SNLN	**Sandy Lake, NW**	**12.54**	**347**	PN		**Pn**	**15 09 22.2**	**+1.9**
YKA	**Yellowknife Ar**	**13.72**	**334**	Pn		**Pn**	**15 09 35.9**	**-0.6**
	0.2nm,0.3s,baz=138,slow=13,SNR=29							
YKA				Sn		Sn	15 12 01.8	-7.6
	0.1nm,0.3s,baz=141,slow=21,SNR=5.5							
YKA				Lg		Lg	15 13 33.1	
	baz=142,slow=27,SNR=3.8							
SEDN	**First Sedna Si**	**13.75**	**20**	PN		**Pn**	**15 09 37.8**	**+1.0**
SEDN				SN		**Sn**	**15 12 05.5**	**-4.6**
SEDN				Trac			15 13 11.6	
	comp=Z,526nm,7.2s							
SEDN				LG		Lg	15 13 39.9	
TXAR	**Lajitas Array**	**21.43**	**185**	P		**P**	**15 11 13.3**	**+2.8**
	0.2nm,0.4s,baz=5.6,slow=10,SNR=2.7							

*ISCJB **01** 15:11:43.3±0.7, 6°.57S±0°.04×130°.63E±0°.08, h90km, mb3.8/5, Error ellipse: s-maj=10.8km s-min=6.1km az=169.5*
*IDC **01** 15:11:45.4±5.5, 6°.31S×130°.67E, h107km±51km, mb3.6/5, mb1 3.8/7, mb1mx3.5/28, mbtmp4.1/7, Error ellipse: s-maj=46.2km s-min=21.0km az=69.0*
*DJA **01** 15:11:47.6±0.7, 6°.5S±4°×13°.1E±°, h120km±10km, M4.5/6, mb4.7/2, mB4.8/1, MLv4.4/6, Mw(mB)4.0/1*

ISC 01 15:11:43.1±0.7, 6°.58S±0°.06×130°.68E±0°.09, h90km, n15, σ2s02/16, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.52**	**156**	P		Pn	15 12 19.0	+10
SAUI				S		Sn	15 12 42.4	+13
BNDI	**Bandanaira**	**2.19**	**339**	P		Pn	15 12 21.7	+3.9
BNDI				S		**Sn**	**15 12 45.5**	**+1.2**
FAKI	**Fak Fak**	**3.96**	**23**	P		**Pn**	**15 12 43.5**	**+1.8**
NLAI	**Namlea**	**4.87**	**313**	P		**Pn**	**15 12 56.3**	**+2.2**
SANI	**Sanana**	**6.49**	**314**	P		**Pn**	**15 13 16.6**	**+0.4**
	46nm,0.7s							
LBMI	**Labuha**	**6.70**	**332**	P		**Pn**	**15 13 18.5**	**-0.5**
BATI	**Baumata**	**7.82**	**242**	P		Pn	15 13 38.7	+4.4
	8.6nm,0.3s,baz=60,slow=4.8,SNR=14							
BATI				S		**Sn**	**15 15 02.4**	**+1.1**
	10nm,0.3s,baz=299,slow=20,SNR=7.1							
WRA	**Warramunga Arr**	**13.75**	**165**	P		**Pn**	**15 14 55.3**	**+1.0**
	0.7nm,0.3s,baz=346,slow=13,SNR=34							
WRA				S		**Sn**	**15 17 22.3**	**-3.3**
	2.6nm,0.3s,baz=354,slow=23,SNR=9.3							
ASAR	**Alice Springs**	**17.27**	**170**	P		**P**	**15 15 42.2**	**+3.3**
	1.3nm,0.3s,baz=348,slow=10,SNR=152							
ASAR				S		**Sn**	**15 18 47.8**	**-2.9**
	0.4nm,0.3s,baz=351,slow=27,SNR=8.5							
CMAR	**Chiang Mai Arr**	**39.99**	**309**	P		**P**	**15 19 07.9**	**-1.5**
	0.5nm,0.4s,baz=138,slow=7.3,SNR=5.7							
SONM	**Songino Array**	**58.26**	**341**	P		**P**	**15 21 27.1**	**-1.3**
	0.2nm,0.4s,baz=139,slow=6.8,SNR=3.8							
PETK	**Petropavlovsk-**	**63.72**	**18**	P		**P**	**15 22 03.6**	**-1.5**
	1.3nm,0.6s,baz=188,slow=6.6,SNR=2.5							
MKAR	**Makanchi Array**	**68.25**	**326**	P		**P**	**15 22 33.3**	**-1.0**
	1.6nm,0.4s,baz=116,slow=6.9,SNR=38							
VNDA	**Vanda**	**72.78**	**173**	P		**P**	**15 23 03.0**	**+1.7**
	1.0nm,0.8s,baz=309,slow=6.0,SNR=5.0							
TXAR	**Lajitas Array**	**124.13**	**59**	PKP		**PKPdf**	**15 30 32.4**	**+0.3**
	0.2nm,0.5s,baz=197,slow=2.8,SNR=2.7							

GUC 01 15:20:08.3±0.6, 35°.04S×72°.19W, h77km±36km, ML3.6, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.79**	**87**	⇑*i*P		Pn	15 20 24.7	-0.1
NICH				*e*S		Sn	15 20 35.4	-1.5
LNCH	**Linares**	**0.94**	**149**	⇓*i*P		Pn	15 20 26

baz=130,slow=12
ZALV Zalesovo Beam 19.52 25 P **P** **15 30 06.3 -2.5**
0.5nm,0.3s,baz=212,slow=11,SNR=8.3
TORD Torodi Ar. Bea 65.56 268 P **P** **15 36 22.6 -0.7**
0.2nm,0.5s,baz=45,slow=4.7,SNR=3.0

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*ISCJB **01** 15:30:04.5±0.5,58°54N±0°03×20°27E±0°05,h0km,Error ellipse: s-maj=5.7km s-min=3.0km az=144.7*
*IDC **01** 15:30:04.3±2.2,58°32N×20°37E,h0km,mb1 3.4/4, mb1mx3.0/29,mbtmp3.3/4,ML3.1/4,Error ellipse: s-maj=24.8km s-min=7.5km az=167.0*
*UPP **01** 15:30:05.8,58°54N×20°17E,h0km,ML1.7,Suspected Mining explosion.*
*CSEM **01** 15:30:05.9±0.2,58°53N×20°20E,h2km,ML1.7,Error ellipse: s-maj=6.0km s-min=3.1km az=142.0,Mining explosion.*
*HEL **01** 15:30:06.2±0.1,58°52N×20°21E,h0km,ML2.4, ML1.7(UPP), Explosion*
*NAO **01** 15:30:09.8±1.6,58°86N×20°07E,ML2.3*
*BER **01** 15:30:11.4±4.3,58°94N×20°02E,h0km,ML2.3(NAO), Suspected explosion*

ISC 01 15:30:04.7±0.7,58°47N±0°03×20°23E±0°03,h0km,n96, σ1$20/130,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOTU	**Gotland**	**1.19**	**229**	*eP*	**Pg**	**15 30 27.5**	**+0.1**
GOTU				*eS*	**Sg**	**15 30 43.3**	**+0.7**
GOTU	**Gotland**	**1.19**	**229**	P	**Pg**	**15 30 27.5**	**+0.1**
GOTU				S	**Sg**	**15 30 43.3**	**+0.7**
GOTU	**Gotland**	**1.19**	**229**	P	**Pg**	**15 30 27.5**	**+0.1**
GOTU				S	**Sg**	**15 30 43.3**	**+0.7**
NYNU	**Nynaeshamn**	**1.28**	**296**	*eP*	**Pg**	**15 30 28.2**	**-0.9**
NYNU	**Nynaeshamn**	**1.28**	**296**	P	**Pg**	**15 30 28.2**	**-0.9**
NYNU	**Nynaeshamn**	**1.28**	**296**	P	**Pg**	**15 30 28.2**	**-0.9**
NRTU	**Norrtaelje**	**1.46**	**326**	*eP*	**Pn**	**15 30 31.4**	**-0.9**
NRTU	**Norrtaelje**	**1.46**	**326**	P	**Pn**	**15 30 31.4**	**-0.9**
NRTU	**Norrtaelje**	**1.46**	**326**	P	**Pn**	**15 30 31.4**	**-0.9**
AAL	**Aland**	**1.71**	**356**	*eP*	**Pn**	**15 30 35.3**	**-0.4**
AAL				*eS*	**Sn**	**15 30 57.8**	**-0.5**
AAL	**Aland**	**1.71**	**356**	P	**Pn**	**15 30 35.3**	**-0.4**
AAL				S	**Sn**	**15 30 57.8**	**-0.5**
AAL	**Aland**	**1.71**	**356**	P	**Pn**	**15 30 35.3**	**-0.4**
VIKU	**Vikbolandet**	**1.85**	**272**	*eP*	**Pn**	**15 30 38.2**	**+0.5**
VIKU	**Vikbolandet**	**1.85**	**272**	P	**Pn**	**15 30 38.2**	**+0.5**
VIKU	**Vikbolandet**	**1.85**	**272**	P	**Pn**	**15 30 38.2**	**+0.5**
UPP	**Uppsala**	**1.93**	**317**	*eP*	**Pn**	**15 30 39.7**	**+1.0**
UPP	**Uppsala**	**1.93**	**317**	P	**Pn**	**15 30 39.7**	**+1.0**
UPP	**Uppsala**	**1.93**	**317**	P	**Pn**	**15 30 39.7**	**+1.0**
FLYU	**Flymyra**	**2.05**	**325**	*eP*	**Pn**	**15 30 41.5**	**+1.1**
FLYU	**Flymyra**	**2.05**	**325**	P	**Pn**	**15 30 41.4**	**+1.1**
FLYU	**Flymyra**	**2.05**	**325**	P	**Pn**	**15 30 41.5**	**+1.1**
GRAU	**Graesoe**	**2.06**	**336**	*eP*	**Pn**	**15 30 40.7**	**+0.3**
GRAU	**Graesoe**	**2.06**	**336**	P	**Pn**	**15 30 40.7**	**+0.3**
GRAU	**Graesoe**	**2.06**	**336**	P	**Pn**	**15 30 40.7**	**+0.3**
BYXU	**Byxelkrok**	**2.09**	**237**	*eP*	**Pb**	**15 30 43.1**	**-0.3**
BYXU	**Byxelkrok**	**2.09**	**237**	P	**Pb**	**15 30 43.1**	**-0.3**
BYXU	**Byxelkrok**	**2.09**	**237**	P	**Pb**	**15 30 43.1**	**-0.3**
BACU	**Backbrunna**	**2.12**	**312**	*eP*	**Pn**	**15 30 42.3**	**+1.0**
BACU	**Backbrunna**	**2.12**	**312**	P	**Pn**	**15 30 42.3**	**+1.0**
BACU	**Backbrunna**	**2.12**	**312**	P	**Pn**	**15 30 42.3**	**+1.0**
VSTU	**Vaestervik**	**2.13**	**249**	*eP*	**Pb**	**15 30 43.2**	**-0.8**
VSTU	**Vaestervik**	**2.13**	**249**	P	**Pb**	**15 30 43.2**	**-0.8**
VSTU	**Vaestervik**	**2.13**	**249**	P	**Pb**	**15 30 43.2**	**-0.8**
ESKU	**Eskilstuna**	**2.13**	**292**	*eP*	**Pn**	**15 30 42.2**	**+0.7**
ESKU	**Eskilstuna**	**2.13**	**292**	P	**Pn**	**15 30 42.2**	**+0.7**
ESKU	**Eskilstuna**	**2.13**	**292**	P	**Pn**	**15 30 42.2**	**+0.7**
baz=106							
FORU	**Forsmark**	**2.19**	**332**	*eP*	**Pn**	**15 30 42.9**	**+0.6**
FORU	**Forsmark**	**2.19**	**332**	P	**Pn**	**15 30 42.8**	**+0.6**
FORU	**Forsmark**	**2.19**	**332**	P	**Pn**	**15 30 42.9**	**+0.6**
ASPU	**Aespoe**	**2.21**	**243**	*eP*	**Pb**	**15 30 44.6**	**-0.8**
ASPU	**Aespoe**	**2.21**	**243**	P	**Pb**	**15 30 44.6**	**-0.8**
ASPU	**Aespoe**	**2.21**	**243**	P	**Pb**	**15 30 44.6**	**-0.8**
OSTU	**Oestervaala**	**2.37**	**319**	*eP*	**Pn**	**15 30 45.8**	**+1.1**
OSTU	**Oestervaala**	**2.37**	**319**	P	**Pn**	**15 30 45.8**	**+1.1**
OSTU	**Oestervaala**	**2.37**	**319**	P	**Pn**	**15 30 45.8**	**+1.1**
OSKU	**Oskarshamn**	**2.56**	**242**	*eP*	**Pn**	**15 30 49.0**	**+1.7**
OSKU	**Oskarshamn**	**2.56**	**242**	P	**Pn**	**15 30 49.0**	**+1.7**
OSKU	**Oskarshamn**	**2.56**	**242**	P	**Pn**	**15 30 49.0**	**+1.7**
RAF	**Rauma**	**2.67**	**16**	*eP*	**Pn**	**15 30 49.3**	**+0.4**
RAF				*eS*	**Sn**	**15 31 21.9**	**0.0**
RAF	**Rauma**	**2.67**	**16**	P	**Pn**	**15 30 49.3**	**+0.4**
RAF				S	**Sn**	**15 31 21.9**	**0.0**
MEF	**Metsahovi**	**2.76**	**49**	*eP*	**Pn**	**15 30 51.2**	**+1.1**
MEF				*eS*	**Sn**	**15 31 25.0**	**+1.0**
MEF	**Metsahovi**	**2.76**	**49**	P	**Pn**	**15 30 51.1**	**+1.1**
MEF				S	**Sn**	**15 31 25.0**	**+1.0**
VSU	**Vasula**	**3.42**	**87**	Pn	**Pb**	**15 31 06.4**	**+0.4**
VSU				Sn	**Sb**	**15 31 49.1**	**+1.1**
VSU	**Vasula**	**3.42**	**87**	Pn	**Pb**	**15 31 06.4**	**+0.4**
VSU				Sn	**Sb**	**15 31 49.1**	**+1.1**
PVF	**Pernaja**	**3.54**	**52**	*eP*	**Pn**	**15 31 01.7**	**+0.8**
PVF				*eS*	**Sn**	**15 31 44.1**	**+0.7**
PVF				MSG		15 31 52.5	
comp=Z,7.7nm,0.3s							
PVF	**Pernaja**	**3.54**	**52**	P	**Pn**	**15 31 01.6**	**+0.8**
PVF				S	**Sn**	**15 31 44.0**	**+0.7**
HFS	**Hagfors**	**3.74**	**299**	Pn	**Pn**	**15 31 04.0**	**+0.4**
baz=113,slow=14							
HFS				Pg	**Pb**	**15 31 12.5**	**+1.0**
baz=119,slow=22							
HFS				Lg	Lg	15 31 56.9	
baz=111,slow=37							
HFS	**Hagfors**	**3.74**	**299**	Pn	**Pn**	**15 31 04.0**	**+0.4**
baz=113,slow=14							
HFS				Pg	**Pb**	**15 31 12.5**	**+1.0**
baz=119,slow=22							
HFS				Lg	Lg	15 31 56.9	
baz=111,slow=37							
HFS	**Hagfors**	**3.74**	**299**	Pn	**Pn**	**15 31 03.3**	**-0.3**
comp=Z,0.8nm,0.3s,baz=112,slow=13,SNR=22							
HFS				Pg	**Pb**	**15 31 12.3**	**+0.8**
comp=Z,2.4nm,0.3s,baz=112,slow=19,SNR=28							
HFS				Sn	**Sn**	**15 31 49.3**	**+1.0**
comp=Z,1.2nm,0.3s,baz=93,slow=27,SNR=6.6							
HFS				Lg	Lg	15 32 01.2	
comp=Z,3.6nm,0.3s,baz=111,slow=32,SNR=8.5							
HFS	**Hagfors**	**3.74**	**299**	Pn	**Pn**	**15 31 04.0**	**+0.4**
SNR=50							
HFS	**Hagfors**	**3.74**	**299**	Pg	**Pb**	**15 31 12.5**	**+1.0**
SNR=90							
HFS				Lg	Lg	15 31 56.9	
FIA0	**FINESS Array S**	**4.18**	**42**	Pn	**Pn**	**15 31 10.2**	**+0.6**
baz=206,slow=14							
FIA0				Pg	**Pb**	**15 31 20.2**	**+1.2**
baz=223,slow=16							
FIA0				Lg	Lg	15 32 13.4	
baz=222,slow=37							
FIA0	**FINESS Array S**	**4.18**	**42**	Pn	**Pn**	**15 31 10.2**	**+0.6**
baz=206,slow=14							
FIA0				Pg	**Pb**	**15 31 20.2**	**+1.2**
baz=223,slow=16							
FIA0				Lg	Lg	15 32 13.4	
baz=222,slow=37							
FIA0	**FINESS Array S**	**4.18**	**42**	*eP*	**Pn**	**15 31 10.6**	**+1.0**
FIA0				*eS*	**Sn**	**15 31 58.4**	**-0.8**
FIA0				MSG		15 32 19.6	
comp=Z,8.9nm,0.3s							
FIA0	**FINESS Array S**	**4.18**	**42**	Pn	**Pn**	**15 31 10.2**	**+0.6**
SNR=50							
FIA0	**FINESS Array S**	**4.18**	**42**	P	**Pn**	**15 31 10.6**	**+1.0**
FIA0				S	**Sn**	**15 31 58.4**	**-0.8**
FIA0				Lg	Lg	15 32 13.4	
SNR=50							
FINES	**FINESS Array B**	**4.18**	**42**	Pn	**Pn**	**15 31 10.1**	**+0.5**
comp=Z,0.7nm,0.3s,baz=222,slow=13,SNR=23							
FINES				Pg	**Pb**	**15 31 19.6**	**+0.5**
comp=Z,2.3nm,0.3s,baz=229,slow=16,SNR=34							
FINES				Sn	**Sn**	**15 32 01.0**	**+1.8**
comp=Z,1.0nm,0.3s,baz=226,slow=26,SNR=5.3							
FINES				Lg	Lg	15 32 16.4	
comp=Z,4.7nm,0.3s,baz=230,slow=27,SNR=12							
VJF	**Virojoki**	**4.27**	**58**	*eP*	**Pn**	**15 31 12.4**	**+1.5**
VJF				*eS*	**Sn**	**15 32 00.8**	**-0.5**
VJF	**Virojoki**	**4.27**	**58**	P	**Pn**	**15 31 12.3**	**+1.5**
VJF				S	**Sn**	**15 32 00.7**	**-0.5**
ISAL	**Salakas**	**4.34**	**130**	*eP*	**Pb**	**15 31 23.3**	**+1.6**
ISAL				*eS*	**Sn**	**15 31 57.6**	**-5.5**
ISAL	**Salakas**	**4.34**	**130**	*eP*	**Pb**	**15 31 23.3**	**+1.6**
ISAL				*eS*	**Sn**	**15 31 57.6**	**-5.5**
KEF	**Keuruu**	**4.36**	**30**	*eP*	**Pn**	**15 31 13.7**	**+1.5**
KEF				*eS*	**Sn**	**15 32 02.4**	**-1.3**
KEF				MSG		15 32 04.8	
comp=Z,3.7nm,0.2s							
KEF	**Keuruu**	**4.36**	**30**	P	**Pn**	**15 31 13.6**	**+1.5**
KEF				S	**Sn**	**15 32 02.3**	**-1.3**
BSD	**Bornholm Skovb**	**4.46**	**223**	*i* P	**Pn**	**15 31 14.3**	**+0.9**
BSD	**Bornholm Skovb**	**4.46**	**223**	*i* P	**Pn**	**15 31 14.3**	**+0.9**
BSD				*i*		15 31 23.1	
IIGN	**Ignalina**	**4.54**	**131**	*eP*	**Pb**	**15 31 23.4**	**-1.7**
IIGN				*eS*	Sn	15 31 57.0	-11
VAF	**Ylistaro**	**4.74**	**14**	*eP*	**Pn**	**15 31 17.8**	**+0.5**
VAF				*eS*	**Sn**	**15 32 11.7**	**-1.2**
VAF	**Ylistaro**	**4.74**	**14**	P	**Pn**	**15 31 17.7**	**+0.5**
VAF				S	**Sn**	**15 32 11.6**	**-1.2**
KAF	**Kangasniemi**	**4.74**	**37**	*eP*	**Pn**	**15 31 17.8**	**+0.5**
KAF				*eS*	**Sn**	**15 32 12.6**	**-0.2**
KAF	**Kangasniemi**	**4.74**	**37**	P	**Pn**	**15 31 17.7**	**+0.5**
KAF				S	**Sn**	**15 32 12.6**	**-0.2**
IDID	**Didziasalis**	**4.77**	**129**	*eP*	**Pb**	**15 31 27.9**	**-1.2**
IDID				*eS*	Sn	15 32 00.3	-13
IDID	**Didziasalis**	**4.77**	**129**	*eP*	**Pb**	**15 31 27.9**	**-1.2**
IDID				*eS*	Sn	15 32 00.3	-13
NB2	**NORSAR Subarra**	**5.23**	**303**	Pn	**Pn**	**15 31 24.0**	**-0.1**
baz=122,slow=14							
NB2				Lg	Lg	15 32 45.7	
baz=114,slow=37							
NB2	**NORSAR Subarra**	**5.23**	**303**	Pn	**Pn**	**15 31 24.0**	**-0.1**
baz=122,slow=14							
NB2				Lg	Lg	15 32 45.7	
baz=114,slow=37							
NB2	**NORSAR Subarra**	**5.23**	**303**	Pn	**Pn**	**15 31 24.0**	**-0.1**
SNR=50							
NB2				Lg	Lg	15 32 45.7	
SNR=50							
NOA	**NORSAR Array B**	**5.23**	**303**	Pn	**Pn**	**15 31 23.1**	**-1.0**
comp=Z,0.7nm,0.3s,baz=123,slow=12,SNR=22							
NOA				Pg	**Pb**	**15 31 37.5**	**+0.6**
comp=Z,0.9nm,0.3s,baz=120,slow=13,SNR=10							
NOA				Sn	**Sn**	**15 32 25.9**	**+0.7**
comp=Z,0.7nm,0.3s,baz=117,slow=16,SNR=4.2							
NOA				Lg	Lg	15 32 46.7	
comp=Z,1.2nm,0.3s,baz=122,slow=21,SNR=4.6							
APA0	**Apatity Array**	**10.81**	**27**	Pn	**Pn**	**15 32 39.1**	**-1.3**
baz=225,slow=14							
APA0	**Apatity Array**	**10.81**	**27**	Pn	**Pn**	**15 32 39.1**	**-1.3**
baz=225,slow=14							
APA0	**Apatity Array**	**10.81**	**27**	Pn	**Pn**	**15 32 39.1**	**-1.3**
SNR=50							
ARA0	**ARCESS Array S**	**11.34**	**9**	Pn	**Pn**	**15 32 44.9**	**-2.8**
baz=196,slow=12							
ARA0				Sn	Sn	15 34 42.1	-13
baz=195,slow=28							
ARA0	**ARCESS Array S**	**11.34**	**9**	Pn	**Pn**	**15 32 44.9**	**-2.8**
baz=196,slow=12							
ARA0				Sn	Sn	15 34 42.1	-13
baz=195,slow=28							
ARCES	**ARCESS Array B**	**11.34**	**9**	Pn	**Pn**	**15 32 44.7**	**-2.9**
comp=Z,1.0nm,0.3s,baz=191,slow=14,SNR=70							
ARCES				Sn	Sn	15 34 46.3	-8.6
comp=Z,0.6nm,0.3s,baz=192,slow=23,SNR=6.4							
EKA	**Eskdalemuir Ar**	**13.14**	**266**	Pn	Pn	15 33 09.3	-3.0
baz=69,slow=14,SNR=4.1							
SPA0	**Spitsbergen Ar**	**19.84**	**358**	P	**P**	**15 34 36.2**	**-0.4**
SPA0	**Spitsbergen Ar**	**19.84**	**358**	P	**P**	**15 34 36.2**	**-0.4**
SPA0	**Spitsbergen Ar**	**19.84**	**358**	P	**P**	**15 34 36.2**	**-0.4**
SNR=47							

IDC 01 15:33:16.6±3.7,20°08S×175°30W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.6/18,mbtmp3.9/2,Error ellipse: s-maj=260.0km s-min=73.0km az=161.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.08**	**256**	P	P	15 41 50.4	-0.2
0.9nm,0.6s,baz=93,slow=7.8,SNR=14							
ASAR				PcP	PcP	15 43 21.9	-0.8
0.3nm,0.5s,baz=104,slow=3.7,SNR=5.0							
WRA	**Warramunga Arr**	**47.17**	**261**	P	P	15 41 51.4	+0.1
0.6nm,0.3s,baz=98,slow=8.2,SNR=30							
AKASG	**Malin Array Be**	**143.82**	**333**	PKP	PKPdf	15 52 53.9	+0.2
0.5nm,0.4s,baz=37,slow=3.7,SNR=6.3							

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*ISCJB **01** 15:41:04.2±0.4,34°91S±0°03×72°19W±0°05,h34km, mb4.7/27,MS4.8/125,Error ellipse: s-maj=6.2km s-min=3.8km az=5.5*
*IDC **01** 15:41:06.7±0.5,34°82S×71°74W,h37km±3km,mb4.4/13, mb1 4.5/14,mb1mx4.4/20,mbtmp4.6/14,ML4.9/1,MS3.5/7, Ms1 3.4/7,ms1mx3.3/26,Error ellipse: s-maj=20.2km s-min=12.8km az=93.0*
*NEIC **01** 15:41:07.1,34°89S×71°92W,h38km,mb4.9/14, MS4.9/120,After GUC.*
NEIC Felt [IV] at Maipo and Rancagua; [III] at Curico, Longavi, Melipilla, Rio Claro, Romeral, San Clemente, San Fernando, San Javier, Santa Cruz, Santiago, Villa Alegre and Yerbas Buenas; [II] at Casablanca, San Antonio and Valparaiso. Also felt at Graneros, Lampa, Rancagua and Talca.
*GUC **01** 15:41:07.1±0.5,34°89S×71°92W,h38km±4km,ML5.1*
ISC 01 15:41:06.1±0.5,34°85S±0°03×71°85W±0°06,h33km±1km, h33km:pP-P,n228,σ1$32/145,mb4.8/27,MS4.8/125, 4C-10D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.53**	**107**	*i*P	**Pn**	**15 41 19.1**	**+1.7**
NICH				*i* S	**Sn**	**15 41 27.5**	**+2.3**
NICH	**Los Niches**	**0.53**	**107**	*i*P	**Pn**	**15 41 19.1**	**+1.7**
NICH				*i* S	**Sn**	**15 41 27.5**	**+2.3**
TALC	**Talca**	**0.58**	**162**	*eP*	**Pn**	**15 41 18.9**	**+0.9**
TALC				*i* S	**Sn**	**15 41 27.2**	**+0.9**
TALC	**Talca**	**0.58**	**162**	*eP*	**Pn**	**15 41 18.9**	**+0.9**
TALC				*i* S	**Sn**	**15 41 27.2**	**+0.9**
LNCH	**Linares**	**1.02**	**169**	*eP*	**Pb**	**15 41 24.8**	**-0.5**
LNCH				*eS*	**Sb**	**15 41 38.5**	**+0.1**
LNCH	**Linares**	**1.02**	**169**	*eP*	**Pb**	**15 41 24.8**	**-0.5**
LNCH				*eS*	**Sb**	**15 41 38.5**	**+0.1**
RCDM	**Rinconada Maip**	**1.61**	**33**	*eP*	**Pb**	**15 41 35.1**	**-0.2**
RCDM				*eS*	**Sb**	**15 41 56.4**	**+1.3**
RCDM				AML	AML	15 42 02.4	
comp=E,24μm,0.2s							
RCDM	**Rinconada Maip**	**1.61**	**33**	*eP*	**Pb**	**15 41 35.1**	**-0.2**
RCDM				*eS*	**Sb**	**15 41 56.4**	**+1.3**
LACH	**Col Las Americ**	**1.77**	**38**	*eP*	**Pb**	**15 41 37.4**	**-0.6**
LACH				AML	AML	15 42 05.2	
comp=N,15μm,0.4s							
LACH	**Col Las Americ**	**1.77**	**38**	*eP*	**Pb**	**15 41 37.4**	**-0.6**
CLCH	**Cerro Calan**	**1.81**	**37**	*eP*	**Pb**	**15 41 38.0**	**-0.8**
CLCH				*eS*	**Sb**	**15 42 01.8**	**+0.7**
CLCH				AML	AML	15 42 05.8	
comp=N,34μm,0.5s							
CLCH				AML	AML	15 42 06.3	
comp=N,43μm,0.6s							
PEL	**Peldehue**	**1.95**	**30**	*eP*	**Pb**	**15 41 40.0**	**-1.1**
PEL				*eS*	**Sb**	**15 42 06.3**	**+1.1**
PEL				AML	AML	15 42 14.4	
comp=N,23μm,0.5s							
PEL	**Peldehue**	**1.95**	**30**	*eP*	**Pb**	**15 41 40.0**	**-1.1**
PEL				S	**Sb**	**15 42 06.3**	**+1.1**
FCH	**Farellones**	**1.99**	**41**	*eP*	**Pn**	**15 41 39.0**	**+1.2**
FCH				*eS*	**Sb**	**15 42 05.1**	**-1.4**
FCH				AML	AML	15 42 12.2	
comp=N,20μm,0.3s							
FCH	**Farellones**	**1.99**	**41**	*eP*	**Pn**	**15 41 39.0**	**+1.2**
FCH				*eS*	**Sb**	**15 42 05.1**	**-1.4**
ROCH	**El Roble**	**2.00**	**21**	*eP*	**Pb**	**15 41 40.7**	**-1.2**
ROCH				*eS*	**Sb**	**15 42 06.4**	**-0.1**
ROCH				AML	AML	15 42 12.8	
comp=N,19μm,0.5s							
ROCH	**El Roble**	**2.00**	**21**	*eP*	**Pb**	**15 41 40.7**	**-1.2**
ROCH				*eS*	**Sb**	**15 42 06.4**	**-0.1**
CFAA	**Coronel Fontan**	**4.43**	**44**	Pn	**Pn**	**15 42 13.8**	**+2.8**
CFAA				Sn	**Sb**	**15 43 12.7**	**-3.5**
comp=N,4.0nm,0.3s,baz=216,slow=12,SNR=55							
CFAA				LR	LR	15 44 09.4	
comp=N,9.6nm,0.3s,baz=111,slow=23,SNR=10							
comp=N,96nm,21.0s,baz=226,slow=42							
LCO	**Las Campanas**	**5.90**	**10**	*ePn*	**Pn**	**15 42 32.5**	**+1.0**
PLCA	**Paso Flores**	**5.96**	**170**	Pn	**Pn**	**15 42 34.5**	**+2.4**
comp=N,7.7nm,0.3s,baz=346,slow=13,SNR=65							
PLCA				LR	LR	15 44 48.8	
comp=N,203nm,20.4s,baz=292,slow=37							
PLCA	**Paso Flores**	**5.96**	**170**	*ePn*	**Pn**	**15 42 34.4**	**+2.2**
TRQA	**Tornquist**	**8.57**	**115**	*ePn*	**Pn**	**15 43 10.3**	**+2.4**
LVC	**Limon Verde**	**12.46**	**13**	*ePn*	**Pn**	**15 44 02.6**	**+1.2**
LPAZ	**La Paz**	**18.78**	**11**	P	**Pn**	**15 45 25.9**	**+2.0**
comp=N,0.8nm,0.3s,baz=178,slow=9.4,SNR=70							
LPAZ	**La Paz**	**18.78**	**11**	P	**Pn**	**15 45 25.9**	**+2.0**
LPAZ					*ePn*	**P**	**15 45 26.1**	**+2.8**
EFI	**East Falkland**	**19.53**	**154**	*eP*	**P**	**15 45 28.5**	**-2.0**
comp=N,97nm,1.4s							
USHA	**Ushuaia**	**20.12**	**174**	P	**P**	**15 45 37.7**	**+0.7**
comp=N,6.8nm,0.7s,baz=350,slow=6.6,SNR=5.8							
SIV	**San Ignacio**	**21.12**	**30**	P	**P**	**15 45 48.1**	**0.0**
comp=N,27nm,0.7s,baz=218,slow=10,SNR=87							
SIV					LR	LR	15 55 22.3	
comp=N,146nm,20.2s,baz=232,slow=41							
NNA	**Nana**	**23.21**	**348**	P	**P**	**15 46 11.0**	**+0.7**
comp=N,4.1nm,0.5s,baz=190,slow=15,SNR=3.2							
NNA	**Nana**	**23.21**	**348**	*eP*	P	15 46 04.9	-5.4
SAML	**Samuel**	**26.97**	**19**	*eP*	**P**	**15 46 44.4**	**-0.4**
comp=N,4.4nm,0.8s							
SAML					LR	LR		
comp=Z,100nm,19.4s							
ATAH	**Atahualpa**	**28.23**	**346**		LR	LR	15 55 30.4	
comp=Z,64nm,20.8s,baz=130,slow=31							
BDFB	**Brasilia**	**28.69**	**54**	P	**P**	**15 46 59.0**	**-1.4**
comp=Z,6.2nm,0.6s,baz=210,slow=8.0,SNR=10							
BDFB					LR	LR	15 59 42.8	
comp=Z,220nm,18.4s,baz=222,slow=39							
PMSA	**Palmer Station**	**30.33**	**173**		LR	LR	15 59 10.6	
comp=Z,191nm,18.4s,baz=33,slow=36							
RPN	**Rapa Nui**	**32.90**	**273**		LR	LR	15 57 42.5	
comp=Z,120nm,19.9s,baz=317,slow=30							
PTGA	**Pitinga**	**35.71**	**21**	P	**P**	**15 48 00.4**	**-1.2**
comp=Z,23nm,0.7s,baz=203,slow=10,SNR=38							
SDV	**Santo Domingo**	**43.51**	**2**	*eP*	**P**	**15 49 06.5**	**-0.3**
comp=Z,8.1nm,0.9s							
RCBR	**Riachuelo**	**43.96**	**57**	P	**P**	**15 49 09.6**	**-0.7**
comp=Z,5.6nm,0.9s,baz=234,slow=8.7,SNR=4.5							
RCBR	**Riachuelo**	**43.96**	**57**	P	**P**	**15 49 09.6**	**-0.7**
RCBR					LR	LR		
comp=Z,400nm,20.6s							
BCIP	**Isla Barro Col**	**44.42**	**349**		PFAKE		15 49 30.0	+16
BCIP					LR	LR		
comp=Z,200nm,20.6s							
JTS	**JuntasAbangare**	**46.58**	**342**		PFAKE		15 49 40.0	+9.0
JTS					LR	LR		
comp=Z,200nm,18.5s							
VNA3	**Neumayer Olymp**	**48.52**	**158**	P	**P**	**15 49 45.6**	**+0.2**
VNA2	**Neumayer--Watz**	**49.17**	**157**	P	**P**	**15 49 50.3**	**-0.2**
FDF	**Fort de France**	**50.34**	**13**	P	**P**	**15 49 58.4**	**-1.6**
SNAA	**Sanae**	**50.74**	**158**	P	**P**	**15 50 02.5**	**+0.1**
SNAA	**Sanae**	**50.74**	**158**	*eP*	**P**	**15 50 01.8**	**-0.7**
comp=Z,8.4nm,0.9s							
SNAA					LR	LR		
comp=Z,8μm,18.8s							
APG	**El Apazote**	**52.64**	**337**	P	P	15 50 13.0	-4.3
comp=Z,2.3nm,0.8s,baz=148,slow=9.5,SNR=4.1							
SEUS	**St. Eustatius**	**52.73**	**11**		PFAKE		15 50 30.0	+12
SEUS					LR	LR		
comp=Z,400nm,21.4s							
CDVI	**St. Croix**	**52.74**	**8**		PFAKE		15 50 30.0	+12
CDVI					LR	LR		
comp=Z,600nm,22.0s							
CRPR	**Cabo Rojo, PR**	**52.75**	**6**		PFAKE		15 50 30.0	+12
CRPR					LR	LR		
comp=Z,400nm,21.5s							
JAKH	**Jacmel**	**52.80**	**359**		PFAKE		15 50 30.0	+12
JAKH					LR	LR		
comp=Z,300nm,20.9s							
CELP	**Cerrillos**	**52.87**	**6**	*eP*	**P**	**15 50 18.0**	**-0.7**
CELP				*e*		15 50 36.0	
CPD	**Cerro la Pandu**	**52.89**	**7**		PFAKE		15 50 30.0	+11
CPD					LR	LR		
comp=Z,6μm,20.5s							
SJG	**San Juan**	**52.94**	**7**	P	**P**	**15 50 18.2**	**-1.1**
MPR	**Mayaguez**	**52.95**	**6**		PFAKE		15 50 30.0	+11
MPR					LR	LR		
comp=Z,600nm,21.3s							
HUMP	**Col San Antoni**	**53.00**	**7**		PFAKE		15 50 30.0	+10
HUMP					LR	LR		
comp=Z,200nm,20.5s							
AGP	**Aguadilla**	**53.15**	**6**		PFAKE		15 50 30.0	+9.2
AGP					LR	LR		
comp=Z,900nm,21.3s							
SMRT	**St. Maarten**	**53.26**	**10**		PFAKE		15 50 30.0	+8.3
SMRT					LR	LR		
comp=Z,300nm,21.8s							
STVI	**Saint Thomas**	**53.31**	**8**		PFAKE		15 50 30.0	+8.1
STVI					LR

BRYW					LR	LR					
	comp=Z,600nm,18.1s										
ALLY	**Alegheny Colle**	**76.51**	**354**		PFAKE			15 53 00.0	+7.5		
ALLY					LR	LR					
	comp=Z,400nm,19.9s										
TRY	**Troy**	**77.22**	**359**		PFAKE			15 53 10.0	+14		
TRY					LR	LR					
	comp=Z,800nm,21.3s										
MMNY	**Mt. Morris Dam**	**77.41**	**355**		PFAKE			15 53 10.0	+12		
MMNY					LR	LR					
	comp=Z,600nm,18.3s										
FFD	**Franklin Falls**	**77.94**	**0**		PFAKE			15 53 10.0	+10		
FFD					LR	LR					
	comp=Z,900nm,21.6s										
WVL	**Waterville**	**79.06**	**2**		PFAKE			15 53 20.0	+13		
WVL					LR	LR					
	comp=Z,1μm,19.1s										
PTN	**Potsdam (NY)**	**79.10**	**358**		PFAKE			15 53 20.0	+13		
PTN					LR	LR					
	comp=Z,800nm,19.4s										
FRNY	**Flat Rock**	**79.33**	**359**		PFAKE			15 53 20.0	+12		
FRNY					LR	LR					
	comp=Z,1μm,21.5s										
MVCO	**Mesa Verde**	**79.38**	**331**		PFAKE			15 53 20.0	+11		
MVCO					LR	LR					
	comp=Z,200nm,20.9s										
BOSA	**Boshof**	**79.54**	**117**		P		**P**	**15 53 09.8**	**-0.2**		
	comp=Z,18nm,0.8s,baz=239,slow=3.9,SNR=36										
BOSA	**Boshof**	**79.54**	**117**		*e*P		**P**	**15 53 09.3**	**-0.7**		
	comp=Z,16nm,0.9s										
BOSA					*e*			15 53 24.8			
BOSA					LR	LR					
	comp=Z,1μm,20.3s										
Q24A	**Divide**	**79.65**	**334**		PFAKE			15 53 20.0	+10		
Q24A					LR	LR					
	comp=Z,300nm,18.7s										
PKME	**Peaks-Kenny Pk**	**79.77**	**2**		PFAKE			15 53 20.0	+10		
PKME					LR	LR					
	comp=Z,399nm,18.8s										
SMCO	**Snowmass**	**80.50**	**333**		PFAKE			15 53 30.0	+15		
SMCO					LR	LR					
	comp=Z,300nm,20.0s										
ECSD	**EROS Data Cent**	**81.40**	**342**	*e*P			**P**	**15 53 19.2**	**-0.1**		
	comp=Z,7.1nm,0.8s										
CCUT	**Cedar City**	**81.71**	**328**	*e*P			**P**	**15 53 23.6**	**+2.3**		
	comp=Z,38nm,2.6s										
CCUT					LR	LR					
	comp=Z,500nm,19.3s										
LBTB	**Lobatse**	**81.81**	**115**	*e*P			**P**	**15 53 21.6**	**-0.7**		
	comp=Z,19nm,1.0s										
LBTB					LR	LR					
	comp=Z,1μm,20.5s										
PHWY	**Pilot Hill**	**81.83**	**335**		PFAKE			15 53 30.0	+8.0		
PHWY					LR	LR					
	comp=Z,300nm,20.1s										
COWI	**Conover**	**82.07**	**348**		PFAKE			15 53 30.0	+7.2		
COWI					LR	LR					
	comp=Z,400nm,19.9s										
BFZ	**Birch Farm**	**82.19**	**225**		PFAKE			15 53 40.0	+16		
BFZ					LR	LR					
	comp=Z,1μm,18.0s										
TMUT	**Trail Mountain**	**82.26**	**330**		PFAKE			15 53 40.0	+16		
TMUT					LR	LR					
	comp=Z,900nm,19.3s										
TPNV	**Topopah Spring**	**82.51**	**326**		PFAKE			15 53 40.0	+14		
TPNV					LR	LR					
	comp=Z,900nm,19.4s										
DAC	**Darwin (Calif)**	**82.61**	**324**		PFAKE			15 53 40.0	+14		
DAC					LR	LR					
	comp=Z,800nm,19.0s										
SNZO	**South Karori**	**82.67**	**224**		PFAKE			15 53 40.0	+14		
SNZO					LR	LR					
	comp=Z,1μm,21.1s										
RWWY	**Rawlins**	**82.79**	**334**		PFAKE			15 53 40.0	+13		
RWWY					LR	LR					
	comp=Z,900nm,18.0s										
BKZ	**Black Stump Fm**	**83.00**	**227**		PFAKE			15 53 40.0	+12		
BKZ					LR	LR					
	comp=Z,800nm,18.6s										
MPU	**Maple Canyon**	**83.05**	**330**		PFAKE			15 53 40.0	+12		
MPU					LR	LR					
	comp=Z,1μm,18.1s										
NLU	**North Lily Min**	**83.17**	**330**		PFAKE			15 53 40.0	+11		
NLU					LR	LR					
	comp=Z,500nm,18.5s										
TCUT	**Toone Canyon**	**83.89**	**331**		PFAKE			15 53 40.0	+7.4		
TCUT					LR	LR					
	comp=Z,700nm,18.2s										
TORD	**Torodi Ar. Bea**	**84.35**	**70**		P		**P**	**15 53 34.9**	**-0.4**		
	comp=Z,8.9nm,0.7s,baz=261,slow=4.2,SNR=55										
TORD					pP		**pP**	**15 53 45.7**	**-0.1**		
	comp=Z,6.5nm,1.0s,baz=245,slow=5.0,SNR=9.4										
PDAR	**Pinedale Array**	**84.59**	**333**		P		**P**	**15 53 36.2**	**+0.1**		
	comp=Z,0.8nm,0.8s,baz=151,slow=6.2,SNR=3.5										
PDAR					pP		**pP**	**15 53 47.0**	**+0.3**		
	comp=Z,0.6nm,0.6s,baz=132,slow=10,SNR=2.0										
AHID	**Auburn Hatcher**	**85.17**	**332**		PFAKE			15 53 50.0	+11		
AHID					LR	LR					
	comp=Z,400nm,21.5s										
AGMN	**Agassiz Nation**	**85.51**	**344**	*e*pP			pP	15 53 54.0	+3.1		
SNOW	**Snow King Moun**	**85.63**	**333**		PFAKE			15 53 50.0	+8.6		
SNOW					LR	LR					
	comp=Z,400nm,19.4s										
TPAW	**Teton Pass**	**85.73**	**333**		PFAKE			15 53 50.0	+8.1		
TPAW					LR	LR					
	comp=Z,400nm,18.4s										
BMN	**Battle Mountai**	**85.78**	**327**		PFAKE			15 53 50.0	+8.0		
BMN					LR	LR					
	comp=Z,400nm,21.3s										
FXWY	**Fox Creek**	**85.89**	**333**		PFAKE			15 53 50.0	+7.4		
FXWY					LR	LR					
	comp=Z,100nm,20.6s										
MDND	**Maddock**	**86.00**	**342**		PFAKE			15 53 50.0	+7.3		
MDND					LR	LR					
	comp=Z,100nm,19.1s										
YFT	**Old Faithful**	**86.51**	**333**		PFAKE			15 54 00.0	+14		
YFT					LR	LR					
	comp=Z,1μm,19.7s										
YNR	**Norris Junctio**	**86.68**	**333**		PFAKE			15 54 00.0	+14		
YNR					LR	LR					
	comp=Z,1μm,21.1s										
YMR	**Madison River**	**86.74**	**333**		PFAKE			15 54 00.0	+13		
YMR					LR	LR					
	comp=Z,1μm,21.4s										
DLMT	**Dillon**	**87.94**	**333**		PFAKE			15 54 00.0	+7.6		
DLMT					LR	LR					
	comp=Z,600nm,18.3s										
LSZ	**Lusaka**	**89.39**	**108**	*e*P			**P**	**15 54 01.7**	**+1.6**		
	comp=Z,4.1nm,0.9s										
SCHQ	**Schefferville**	**89.42**	**3**		PFAKE			15 54 10.0	+11		
SCHQ					LR	LR					
	comp=Z,300nm,21.0s										
G06A	**Carlson Farm,**	**91.12**	**328**		PFAKE			15 54 20.0	+13		
G06A					LR	LR					
	comp=Z,2μm,21.3s										
LTY	**Liberty**	**92.73**	**329**		PFAKE			15 54 30.0	+15		
LTY					LR	LR					
	comp=Z,200nm,20.2s										
NLWA	**Neilton Lookou**	**94.21**	**328**		PFAKE			15 54 30.0	+8.6		
NLWA					LR	LR					
	comp=Z,300nm,18.0s										
KNTN	**Kanton**	**96.52**	**262**		PFAKE			15 54 40.0	+7.2		
KNTN					LR	LR					
	comp=Z,3μm,19.9s										
SFJD	**Kangerlussuaq**	**102.81**	**8**		PFAKE			15 55 10.0	+11		
SFJD					LR	LR					
	comp=Z,200nm,19.4s										
DSB	**Dublin**	**104.44**	**34**		PFAKE			15 55 20.0	+13		
DSB					LR	LR					
	comp=Z,600nm,22.0s										
BBOO	**Buckleboo**	**107.78**	**204**		PFAKE			15 59 40.0			
BBOO					LR	LR					
	comp=Z,407nm,18.7s										
TUE	**Stuetta**	**108.91**	**46**		PFAKE			15 59 40.0			
TUE					LR	LR					
	comp=Z,200nm,18.1s										
CEL	**Celeste**	**108.98**	**56**		PFAKE			15 59 40.0			
CEL					LR	LR					
	comp=Z,100nm,19.7s										
MEM	**Membach**	**109.16**	**41**		PFAKE			15 59 40.0			
MEM					LR	LR					
	comp=Z,100nm,20.0s										
BFO	**Black Forest**	**109.27**	**44**		PFAKE			15 59 40.0			
BFO					LR	LR					
	comp=Z,100nm,19.0s										
AQU	**L'Aquila**	**109.35**	**52**		PFAKE			15 59 40.0			
AQU					LR	LR					
	comp=Z,100nm,19.6s										
FUORN	**Ofenpass-Fuorn**	**109.53**	**46**		PFAKE			15 59 50.0			
FUORN					LR	LR					
	comp=Z,100nm,19.4s										
CUC	**Castrocucco**	**109.78**	**55**		PFAKE			15 59 50.0			
CUC					LR	LR					
	comp=Z,100nm,19.4s										
TIP	**Timpagrande**	**110.02**	**56**		PFAKE			15 59 50.0			
TIP					LR	LR					
	comp=Z,100nm,20.1s										
TRI	**Trieste**	**111.20**	**49**		PFAKE			15 59 50.0			
TRI					LR	LR					
	comp=Z,100nm,18.9s										
FORT	**Forrest**	**112.08**	**198**		PFAKE			15 59 50.0			
FORT					LR	LR					
	comp=Z,1μm,20.2s										
BMRM	**Bremner River**	**112.19**	**330**		PFAKE			15 59 50.0			
BMRM					LR	LR					
	comp=Z,700nm,21.8s										
INK	**Inuvik**	**112.52**	**339**		PFAKE			15 59 50.0			
INK					LR	LR					
	comp=Z,500nm,21.5s										
DIV	**Divide**	**112.76**	**330**		PFAKE			15 59 50.0			
DIV					LR	LR					
	comp=Z,900nm,18.5s										
EGAK	**Eagle**	**112.92**	**334**		PFAKE			15 59 50.0			
EGAK					LR	LR					
	comp=Z,800nm,20.1s										
CLL	**Collm**	**113.36**	**43**		PFAKE			15 59 50.0			
CLL					LR	LR					
	comp=Z,200nm,18.1s										
PAX	**Paxson**	**113.58**	**331**		PFAKE			15 59 50.0			
PAX					LR	LR					
	comp=Z,700nm,19.0s										
RUE	**Ruedersdorf**	**114.31**	**42**		PFAKE			15 59 50.0	+8.3		
RUE					LR	LR					
	comp=Z,100nm,21.9s										
RC01	**Rabbit Creek A**	**114.41**	**329**		PFAKE			15 59 50.0	+8.4		
RC01					LR	LR					
	comp=Z,1μm,21.8s										
CTAO	**Charters Tower**	**114.46**	**220**		PFAKE			15 59 50.0	+6.8		
CTAO					LR	LR					
	comp=Z,600nm,18.0s										
DPC	**Dobruska-Polom**	**114.83**	**45**		PFAKE			16 00 00.0	+17		
DPC					LR	LR					
	comp=Z,800nm,18.1s										
SANT	**Santorini**	**114.85**	**62**		PFAKE			16 00 00.0	+17		
SANT					LR	LR					
	comp=Z,200nm,22.0s										
MORC	**Moravsky Berou**	**115.30**	**46**		PFAKE			16 00 00.0	+16		
MORC					LR	LR					
	comp=Z,100nm,19.0s										
MCK	**McKinley**	**115.32**	**331**		PFAKE			16 00 00.0	+17		
MCK					LR	LR					
	comp=Z,800nm,19.7s										
COLA	**College**	**115.43**	**333**		PFAKE			16 00 00.0	+17		
COLA					LR	LR					
	comp=Z,1μm,20.9s										
TRF	**Thorofare Moun**	**115.73**	**331**		PFAKE			16 00 00.0	+16		
TRF					LR	LR					
	comp=Z,1μm,21.5s										
PSZ	**Piszkesteto**	**115.96**	**48**		PFAKE			16 00 00.0	+15		
PSZ					LR	LR					
	comp=Z,100nm,19.8s										
KTH	**Kantishna Hill**	**116.03**	**331**		PFAKE			16 00 00.0	+15		
KTH					LR	LR					
	comp=Z,800nm,19.9s										
PPLA	**Purkeypile**	**116.26**	**330**		PFAKE			16 00 00.0	+15		
PPLA					LR	LR					
	comp=Z,900nm,20.6s										
CAST	**Castle Rocks**	**116.44**	**330**		PFAKE			16 00 00.0	+14		
CAST					LR	LR					
	comp=Z,600nm,21.0s										
OJC	**Ojcow**	**116.81**	**46**		PFAKE			16 00 00.0	+13		
OJC					LR	LR					
	comp=Z,100nm,19.4s										
ASAR	**Alice Springs**	**116.88**	**207**		PKP		**PKPdf**	**15 59 46.0**	**-1.8**		
	comp=Z,0.3nm,0.8s,baz=156,slow=1.3,SNR=5.0										
COLD	**Coldfoot**	**117.34**	**335**		PFAKE			16 00 00.0	+13		
COLD					LR	LR					
	comp=Z,1μm,20.4s										
KWP	**Kalwaria Pacla**	**118.33**	**47**		PFAKE			16 00 00.0	+10		
KWP					LR	LR					
	comp=Z,200nm,19.9s										
ISP	**Isparta**	**119.13**	**62**		PFAKE			16 00 00.0	+8.4		
ISP					LR	LR					
	comp=Z,300nm,22.0s										
DAMY	**Dhamar**	**119.62**	**92**		PFAKE			16 00 10.0	+17		
DAMY					LR	LR					
	comp=Z,700nm,21.6s										
UNV	**Unalaska Valle**	**119.85**	**317**		PFAKE			16 00 00.0	+7.7		
UNV					LR	LR					
	comp=Z,2μm,21.7s										
CSS	**Prodhromos**	**120.09**	**66**		PFAKE			16 00 10.0	+17		
CSS					LR	LR					
	comp=Z,100nm,19.8s										
WRA	**Warramunga Arr**	**120.10**	**209**		PKP		**PKPdf**	**15 59 52.6**	**-1.4**		
	comp=Z,0.6nm,0.7s,baz=161,slow=1.7,SNR=13										
WRA					pPKP		**pPKPdf**	**16 00 04.6**	**-0.3**		
	comp=Z,0.3nm,0.5s,baz=159,slow=1.8,SNR=2.1										
TIRR	**Tirgusor**	**120.13**	**55**		PFAKE			16 00 10.0	+17		
TIRR					LR	LR					
	comp=Z,200nm,19.9s										
COEN	**Coen**	**121.17**	**221**		PFAKE			16 00 10.0	+14		
COEN					LR	LR					
	comp=Z,400nm,19.9s										
ANTO	**Ankara**	**121.55**	**61**		PFAKE			16 00 10.0	+14		
ANTO					LR	LR					
	comp=Z,300nm,20.6s										
BRTR	**Keskin Array B**	**122.10**	**61**		PKP		**PKPdf**	**15 59 56.6**	**-0.7**		
	comp=Z,1.0nm,0.8s,baz=288,slow=0.5,SNR=6.1										
PMG	**Port Moresby**	**122.57**	**227**		PFAKE			16 00 10.0	+11		
PMG					LR	LR					
	comp=Z,300nm,18.0s										
KIEV	**Kiev**	**122.63**	**48**		PFAKE			16 00 10.0	+12		
KIEV					LR	LR					
	comp=Z,200nm,18.3s										
AKASG	**Malin Array Be**	**122.64**	**48**		PKP		**PKPdf**	**15 59 56.6**	**-1.2**		
	comp=Z,0.3nm,0.4s,baz=264,slow=2.2,SNR=5.0										
AKASG					pPKP		**pPKPdf**	**16 00 09.3**	**+0.6**		
	comp=Z,0.3nm,0.4s,baz=259,slow=2.8,SNR=1.7										
KBS	**Kingsbay**	**122.74**	**13**		PFAKE			16 00 10.0	+13		
KBS					LR	LR					
	comp=Z,200nm,21.9s										
TNA	**Tin City**	**123.61**	**330**		PFAKE			16 00 10.0	+11		
TNA					LR	LR					
	comp=Z,1μm,19.8s										
GAMB	**Gambell**	**124.90**	**328**		PFAKE			16 00 10.0	+8.3		
GAMB					LR	LR					
	comp=Z,900nm,20.3s										
KEV	**Kevo**	**125.26**	**25**		PFAKE			16 00 10.0	+7.8		
KEV					LR	LR					
	comp=Z,300nm,21.2s										
H11S2	**WAKE ISLAND Hyl**	**125.91**	**268**		T		T	18 19 58.4			
	baz=119										
H11S1	**WAKE ISLAND Hyl**	**125.92**	**268**		T		T	18 20 05.5			
	baz=119										
H11S3	**WAKE ISLAND Hyl**	**125.93**	**268**		T		T	18 20 03.7			
	baz=119										
H11N3	**WAKE ISLAND Hyl**	**126.35**	**270**		T		T	18 19 04.4			
	baz=118										
H11N1	**WAKE ISLAND Hyl**	**126.36**	**270**		T		T	18 19 03.2			
	baz=118										
H11N2	**WAKE ISLAND Hyl**	**126.36**	**270**		T		T	18 19 03.8			
	baz=118										
KIV	**Kislovodsk**	**129.80**	**59**		PFAKE			16 00 20.0	+8.2		
KIV					LR	LR					
	comp=Z,300nm,20.0s										
GNI	**Garni**	**130.35**	**64**		PFAKE			16 00 30.0	+17		
GNI					LR	LR					
	comp=Z,400nm,19.0s										
SOEI	**Soe**	**133.09**	**202**		PFAKE			16 00 30.0	+11		
SOEI					LR	LR					
	comp=Z,500nm,18.1s										
ABKAR	**Akbulak array**	**142.07**	**53**	*e*PKPpre		PKPpre		16 00 28.7			
URV	**Uravakonda**	**145.89**	**118**	*e*PKPab		**PKPdf**		**16 00 42.0**	**-0.1**		
URV				IVMs_BB		IVMs_BB		16 35 18.6			
	comp=Z,284nm,22.2s										
SKHT	**Srikalahasti**	**146.82**	**122**	*e*PKPab		**PKPbc**		**16 00 45.3**	**-0.1**		
SKHT				IVMs_BB		IVMs_BB		16 31 01.9			
	comp=Z,306nm,31.9s										
PSI	**Prapat**	**146.98**	**163**	PKPbc		**PKPbc**		**16 00 45.2**	**-0.8**		
	comp=Z,11nm,0.7s,baz=218,slow=5.5,SNR=11										
BVAR	**Borovoye Array**	**147.78**	**44**	PKPbc		**PKPbc**		**16 00 46.6**	**-0.4**		
	comp=Z,2.1nm,0.5s,baz=280,slow=4.4,SNR=13										
BVAR					pPKPbc		**pPKPbc**	**16 00 59.9**	**+2.1**		
	comp=Z,2.0nm,0.7s,baz=299,slow=3.1,SNR=4.7										
KBL	**Kabul**	**147.98**	**79**	*e*PKPbc		**PKPbc**		**16 00 47.1**	**-1.3**		
HYB	**Hyderabad**	**148.43**	**116**	*i* PKP		**PKPbc**		**16 00 48.5**	**-1.3**		
HYB				*e*				16 01 05.0			
HYBB	**Hyderabad (bro**	**148.43**	**116**	*e*PKiKP		**PKPbc**		**16 00 49.3**	**-0.5**		
HYBB				*e*PP		**PP**		**16 04 15.7**	**-3.1**		
HYBB				IVMs_BB		IVMs_BB		16 34 32.7			
	comp=Z,312nm,24.6s										
NJS	**Nagarjunasagar**	**148.43**	**118**	*e*PKiKP		**PKPbc**		**16 00 49.2**	**-0.5**		
NJS				*e*PP		**PP**		**16 04 15.2**	**-3.6**		
NJS				IVMs_BB		IVMs_BB		16 34 15.1			
	comp=Z,265nm,24.4s										
ADKI	**Addanki**	**148.44**	**120**	*e*PKPdf		**PKPdf**		**16 00 44.0**	**-2.2**		
ADKI				IVMs_BB		IVMs_BB		16 33 31.8			
	comp=Z,317nm,21.8s										
YAK	**Yakutsk**	**149.58**	**340**	*e*PKPbc		**PKPbc**		**16 00 49.9**	**-1.4**		
KKAR	**Karatay Array**	**149.80**	**63**	*e*PKPbc		**PKPbc**		**16 00 51.9**	**-0.6**		
RPR	**Rampur**	**149.87**	**114**	IVMs_BB		IVMs_BB		16 37 41.1			
	comp=Z,355nm,22.5s										
AML	**Almayashu**	**152.20**	**64**	P		**PKPbc**		**16 00 58.8**	**+0.2**		
	SNR=9.9										
EKS2	**Erkin-Say**	**152.22**	**63**	P		**PKPbc**		**16 00 59.1**	**+0.8**		
	SNR=13										
EKS2	**Erkin-Say**	**152.22**	**63**	*e*PKPbc		**PKPbc**		**16 00 58.3**	**0.0**		
USP	**Ospenovka**	**152.69**	**62**	P		**PKPbc**		**16 00 59.7**	**+0.5**		
	SNR=5.4										
AAK	**Ala-Archa**	**152.75**	**63**	P		**PKPbc**		**16 01 00.0**	**+0.4**		
	SNR=12										
AAK	**Ala-Archa**	**152.75**	**63**	PKPbc		**PKPbc**		**16 00 60.0**	**+0.4**		
	comp=Z,8.6nm,0.7s,baz=196,slow=3.1,SNR=44										
AAK				PKPab		**PKPab**		**16 01 08.9**	**-1.7**		
	comp=Z,2.4nm,0.6s,baz=210,slow=2.8,SNR=4.6										
UCH	**Uchtor**	**152.80**	**64**	P		**PKPbc**		**16 01 00.9**	**+0.9**		
	SNR=11										
CHLP	**Challavanipeta**	**153.11**	**121**	*e*PKiKP		**PKPbc**		**16 00 58.8**	**-1.9**		
CHLP				IVMs_BB		IVMs_BB		16 33 10.0			
	comp=Z,222nm,15.6s										
KZA	**Kyzart**	**153.36**	**64**	P		**PKPbc**		**16 01 02.1**	**+0.9**		
	SNR=6.1										
KURBB	**Kurchatov Arra**	**153.37**	**45**	PKPbc		**PKPbc**		**16 00 59.7**	**-0.6**		
	comp=Z,1.2nm,0.6s,baz=306,slow=2.8,SNR=15										
KURBB				PKPab		**PKPab**		**16 01 12.3**	**-0.2**		
	comp=Z,1.0nm,0.6s,baz=304,slow=3.1,SNR=6.7										
KURK	**Kurchatov**	**153.38**	**44**	PKPbc		**PKPbc**		**16 00 59.7**	**-0.7**		
KURK				PKPab		**PKPab**		**16 01 12.3**	**-0.3**		
TKM2	**Tokmak 2**	**153.53**	**62**	P		**PKPbc**		**16 01 01.3**	**0.0**		
	SNR=5.5										
TKM2	**Tokmak 2**	**153.53**	**62**	*e*PKPbc		**PKPbc**		**16 01 00.9**	**-0.4**		
KSH	**Kashi**	**154.02**	**70**	PKP		**PKPbc**		**16 01 01.9**	**-0.4**		
KSH				sPKP				16 01 16.2			
KSH				PKS		PKSdf		16 04 34.0	+5.4		
KSH				PP		PP		16 05 20.6	+29		
KSH				SKS		**SKSdf**		**16 08 01.4**	**+2.9**		
ZALV	**Zalesovo Beam**	**154.85**	**33**	PKPbc		**PKPbc**		**16 01 02.5**	**-0.9**		
	comp=Z,0.7nm,0.5s,baz=301,slow=3.1,SNR=4.5										
ZALV				PKPab		**PKPab**		**16 01 17.6**	**-1.1**		
	comp=Z,1.8nm,0.5s,baz=305,slow=5.2,SNR=7.4										
MKAR	**Makanchi Array**	**157.19**	**51**	PKPbc		PKPdf		16 01 07.9	+10		
	comp=Z,0.5nm,0.8s,baz=318,slow=1.6,SNR=4.1										
MKAR				PKPab		**PKPab**		**16 01 27.9**	**-1.2**		
	comp=Z,1.9nm,0.8s,baz=285,slow=3.6,SNR=9.9										
WMQ	**Urumqi**	**161.85**	**54**	PKP		**PKPdf**		**16 01 04.6**	**+0.9**		
WMQ				pPKP		**pPKPdf**		**16 01 15.0**	**+0.4**		
WMQ				sPKP				16 01 19.0			
WMQ				PKPab		**PKPab**		**16 01 52.0**	**+2.4**		
WMQ				PKS		**PKSdf**		**16 04 36.0**	**-0.8**		
WMQ				PP		**PP**		**16 05 37.0**	**+3.3**		
WMQ				SKS		**SKSdf**		**16 08 04.0**	**-2.0**		
WMQ				SKKS		**SKKSac**		**16 12 20.0**	**+0.8**		
WMQ				SS		**SS**		**16 25 48.0**	**-2.2**		
WMQ				PPMZ							
	comp=Z,190nm,5.0s										
WMQ				LN							
	comp=Z,140nm,19.8s										
WMQ				LE							
	comp=Z,170nm,19.0s										
WMQ				LZ							
	comp=Z,190nm,22.0s										
CN2	**Changchun**	**163.93**	**309**	*e*PKP		**PKPdf**		**16 01 08.0**	**+2.4**		
SONM	**Songino Array**	**166.96**	**5**	PKPab		**PKPab**		**16 02 11.3**	**-0.4**		
	comp=Z,0.7nm,0.8s,baz=345,slow=3.2,SNR=6.5										
HHC	**Hu-ho-hao-te**	**173.43**	**337**	*e*PKP		**PKPdf**		**16 01 12.6**	**+0.6**		
HHC				pPKP		**pPKPdf**		**16 01 22.1**	**-0.8**		
HHC				sPKP				16 01 27.0			
HHC				PP		PP		16 06 38.1	+6.1		
HHC				SKS		**SKSdf**		**16 08 11.2**	**-1.5**		
HHC				SS		**SS**		**16 27 47.3**	**+2.1**		
HHC				PPMZ							
	comp=Z,43nm,6.0s										
HHC				LN							
	comp=Z,180nm,19.1s										
HHC				LE							

TAU Tasmania Unive 18.79 344 eP P 15 51 09.6 -0.3
comp=Z,239nm,1.4s
CASY Casey 19.73 236 eP P 15 51 18.9 -1.1
comp=Z,528nm,2.2s
RPZ Rata Peaks 20.11 37 eP Pn 15 51 26.2 0.0
comp=Z,302nm,1.5s
RPZ LR LR
comp=Z,12µm,21.0s
KHZ Kahutara 22.05 40 eP P 15 51 46.1 +0.9
comp=Z,262nm,1.3s
KHZ LR LR
comp=Z,15µm,19.0s
SNZO South Karori 23.42 41 PFAKE 15 52 10.0 +10
SNZO LR LR
comp=Z,12µm,18.7s
BFZ Birch Farm 24.49 43 PFAKE 15 52 20.0 +10
BFZ LR LR
comp=Z,14µm,18.3s
BKZ Black Stump Fm 25.93 42 eP P 15 52 23.7 +0.8
comp=Z,44nm,1.1s
BKZ LR LR
comp=Z,8µm,18.0s
CAN Canberra 26.11 350 eP P 15 52 21.3 -3.2
CAN pmax pmax
comp=Z,92nm,1.5s
CAN Canberra 26.11 350 eP P 15 52 21.3 -3.2
comp=Z,92nm,1.5s
URZ Urewera 26.96 42 P P 15 52 33.1 +1.0
comp=Z,24nm,0.9s,baz=246,slow=7.7,SNR=9.8
URZ LR LR 16 03 44.7
comp=Z,7µm,18.2s,baz=214,slow=38
URZ Urewera 26.96 42 eP P 15 52 32.6 +0.5
comp=Z,38nm,1.1s
OUZ Omahuta 28.73 34 PFAKE 15 53 00.0 +12
OUZ LR LR
comp=Z,5µm,18.2s
QSPA South Pole Qui 28.91 180 P P 15 52 50.1 +0.6
comp=Z,15nm,1.0s,baz=357,slow=7.2,SNR=11
QSPA PcP PcP 15 55 57.3 -0.7
comp=Z,8.6nm,1.0s,baz=315,slow=1.4,SNR=5.2
QSPA LR LR 16 03 46.8
comp=Z,6µm,21.8s,baz=15,slow=35
QSPA South Pole Qui 28.91 180 eP P 15 52 49.9 +0.4
comp=Z,194nm,2.0s
QSPA PcP PcP 15 55 57.3 -0.7
BBOO Buckleboo 30.79 329 eP P 15 53 05.5 -0.7
comp=Z,70nm,1.4s
BBOO LR LR
comp=Z,4µm,18.9s
ARMA Armidale 30.82 355 PFAKE 15 53 20.0 +13
ARMA LR LR
comp=Z,6µm,20.1s
FORT Forrest 35.01 318 eP P 15 53 42.8 -0.2
comp=Z,215nm,1.5s
FORT LR LR
comp=Z,3µm,19.4s
EIDS Eidsvold 35.87 355 eP P 15 53 49.7 -0.8
comp=Z,67nm,1.5s
EIDS LR LR
comp=Z,8µm,18.6s
MAW Mawson 36.58 220 P P 15 53 55.8 -0.3
comp=Z,18nm,1.0s,baz=102,slow=10,SNR=5.6
MAW LR LR 16 09 01.5
comp=Z,7µm,18.3s,baz=111,slow=36
H01W1 Cape Leeuwin H 36.67 297 T T 16 32 45.4
baz=148,slow=76,SNR=370
H01W2 Cape Leeuwin H 36.67 297 T T 16 32 44.8
baz=148,slow=76,SNR=337
H01W3 Cape Leeuwin H 36.68 297 T T 16 32 45.1
baz=148,slow=76,SNR=447
RAO Raoul Island 36.85 43 PFAKE 15 54 10.0 +11
RAO LR LR
comp=Z,6µm,20.6s
DZM Mont Dzumac 39.97 18 eS S 16 00 20.2 -10
comp=Z,909nm,26.2s
DZM eLQ LQ 16 03 19.0
comp=Z,1µm,24.9s
DZM eLR LR 16 04 53.4
comp=Z,9µm,25.4s,baz=205
DZM Mont Dzumac 39.97 18 P P 15 54 24.7 -0.5
comp=Z,31nm,1.1s,baz=195,slow=11,SNR=5.6
AS31 Alice Springs 40.07 330 eP P 15 54 24.2 -1.7
ASAR Alice Springs 40.07 330 P P 15 54 24.8 -1.2
comp=Z,17nm,1.0s,baz=85,slow=8.4,SNR=52
ASAR PcP PcP 15 56 29.3 -1.2
comp=Z,1.9nm,0.9s,baz=156,slow=4.3,SNR=3.6
ASAR LR LR 16 09 00.3
comp=Z,2µm,19.4s,baz=154,slow=33
CTA Charters Tower 41.45 348 P P 15 54 36.1 -1.3
comp=Z,23nm,1.1s,baz=192,slow=9.7,SNR=8.1
CTAO Charters Tower 41.45 348 eP P 15 54 36.7 -0.7
CTAO MLR MLR
comp=Z,4µm,20.9s
CTAO Charters Tower 41.45 348 eP P 15 54 36.7 -0.7
CTAO LR LR
comp=Z,4µm,20.9s
SYO Syowa Base 42.03 209⇑ eP P 15 54 40.2 -1.4
SYO Syowa Base 42.03 209⇑ epP P 15 54 41.6 0.0
WB2 Warramunga Arr 43.55 332 eP P 15 54 52.9 -1.6
WRA Warramunga Arr 43.55 332 P P 15 54 52.3 -2.2
comp=Z,26nm,1.1s,baz=164,slow=6.7,SNR=36
WRA PcP PcP 15 56 41.1 -1.0
comp=Z,1.7nm,1.0s,baz=168,slow=2.6,SNR=3.3
WRA LR LR 16 10 44.4
comp=Z,2µm,21.4s,baz=155,slow=33
WRAB Tennant Creek 43.56 332 P P 15 54 53.0 -1.5
comp=Z,218nm,1.3s,SNR=6.5
WRAB Tennant Creek 43.56 332 d iP P 15 54 53.1 -1.5
WRAB pmax pmax
comp=Z,76nm,1.6s
WRAB MLR MLR
comp=Z,4µm,18.0s
WRAB Tennant Creek 43.56 332 eP P 15 54 52.7 -1.9
comp=Z,70nm,1.3s
WRAB LR LR
comp=Z,3µm,21.0s
NVL N'lazarevskaya 45.75 196⇓ iP P 15 55 09.2 -2.2
NVL eS S 16 01 59.1 +5.0
NVL pmax pmax
comp=Z,22nm,0.9s
NVL MLR MLR
comp=Z,5µm,12.0s
SNAA Sanae 46.49 190 P P 15 55 17.4 +0.1
SNAA Sanae 46.49 190 c iP P 15 55 16.6 -0.7
SNAA pmax pmax
comp=Z,50nm,2.8s
SNAA MLR MLR
comp=Z,8µm,18.0s
SNAA Sanae 46.49 190 eP P 15 55 16.9 -0.5
comp=Z,102nm,1.6s
SNAA ePcP PcP 15 56 51.0 -0.5
SNAA LR LR
comp=Z,8µm,18.8s
MSVF Nonsavu 46.54 32 PFAKE 15 55 30.0 +12
MSVF LR LR
comp=Z,4µm,20.0s
MBWA Marble Bar 46.70 313 eP P 15 55 17.4 -2.0
comp=Z,129nm,1.6s
MBWA LR LR
comp=Z,6µm,19.6s
VNA3 Neumayer Olymp 47.39 187 P P 15 55 23.8 -0.5
VNA2 Neumayer--Watz 47.56 188 P P 15 55 25.5 -0.1
COEN Coen 47.85 345 eP P 15 55 29.0 +0.5
comp=Z,119nm,1.5s
COEN LR LR
comp=Z,5µm,18.1s
VNA1 Neumayer--Stat 47.89 188 P P 15 55 28.2 +0.1
PMSA Palmer Station 51.11 160 PFAKE 15 56 10.0 +17
PMSA LR LR
comp=Z,2µm,18.0s
HNR Honiara 51.81 7 PFAKE 15 56 10.0 +11
HNR LR LR
comp=Z,5µm,18.0s
PMG Port Moresby 51.95 351 d iP P 15 55 59.3 -0.3
PMG pmax pmax
comp=Z,45nm,2.3s
PMG Port Moresby 51.95 351 eP P 15 55 58.6 -1.0
comp=Z,107nm,1.6s
PMG LR LR
comp=Z,4µm,18.8s
AFI Afiamalu 53.14 42 PFAKE 15 56 20.0 +11
AFI LR LR
comp=Z,3µm,21.5s
TBI Tubuai 53.64 71 eS S 16 03 43.0 -2.4
comp=Z,255nm,27.2s
TBI eLQ LQ 16 08 43.7
comp=Z,2µm,27.8s
TBI eLR LR 16 11 27.5
comp=Z,2µm,28.2s,baz=194
TBI Tubuai 53.64 71 eT T 16 53 43.1
comp=Z,144nm,0.3s
SAUI Saumlaki 55.80 332 PFAKE 15 56 40.0 +12
SAUI LR LR
comp=Z,3µm,19.1s
SOEI Soe 55.92 323 P P 15 56 36.2 +7.4
SOEI Soe 55.92 323 eP P 15 56 29.2 +0.4
comp=Z,113nm,1.4s
SOEI LR LR
comp=Z,3µm,19.1s
MMRI Maumere 57.59 321 P P 15 56 41.7 +1.2
comp=Z,55nm,2.4s,comp=Z,1µm
MMRI Maumere 57.59 321 eP P 15 56 38.3 -2.1
comp=Z,162nm,1.7s
MMRI LR LR
comp=Z,2µm,18.9s
PAE Paea 58.53 68 eT T 16 59 47.0
comp=Z,6.0nm,0.4s
PPT2 Papeete2 58.59 68 eS S 16 04 48.9 -2.7
comp=Z,754nm,26.0s
PPT2 eSS SS 16 08 42.7 -1.3
comp=Z,149nm,23.5s
PPT2 eLQ LQ 16 11 24.5
comp=Z,2µm,24.5s
PPT2 eLR LR 16 13 53.5
comp=Z,2µm,25.0s,baz=202
PPT2 Papeete2 58.59 68 eT T 16 59 52.4
comp=Z,9.2nm,0.3s
USHA Ushuaia 59.47 153 P P 15 56 54.0 +0.9
comp=Z,10nm,0.9s,baz=217,slow=8.3,SNR=3.3
SRBI Singaraja 60.40 314 P P 15 57 01.8 +1.9
comp=Z,42nm,1.0s,comp=Z,1µm
JAGI Jajag, Banyuwa 60.41 313 PFAKE 15 57 10.0 +10
JAGI LR LR
comp=Z,2µm,21.3s
FAKI Fak Fak 60.50 334 PFAKE 15 57 10.0 +9.3
FAKI LR LR
comp=Z,1µm,19.1s
RKT Rikitea 60.69 85 eS S 16 05 19.3 +1.0
comp=Z,1µm,28.8s
RKT eLQ LQ 16 12 24.6
comp=Z,1µm,27.0s
RKT eLR LR 16 14 46.7
comp=Z,3µm,28.5s,baz=209
RKT Rikitea 60.69 85 eT T 17 02 42.9
comp=Z,26nm,0.3s
GMJI Gumukmas 60.85 312 P P 15 57 05.0 +2.0
comp=Z,51nm,2.3s,comp=Z,2µm
NLAI Namlea 61.38 329 P P 15 57 06.7 +0.1
comp=Z,94nm,1.3s,comp=Z,1µm
VAH Vaihoa 61.54 69 eT T 17 03 32.6
comp=Z,73nm,0.3s
KAPI Kappang 61.77 320 eP P 15 57 07.8 -1.5
comp=Z,60nm,1.6s
KAPI LR LR
comp=Z,2µm,21.0s
KMMI Kalianget 61.79 313 P P 15 57 12.3 +2.9
comp=Z,81nm,1.4s,comp=Z,2µm
XMIS Christmas Isla 61.82 303 PFAKE 15 57 20.0 +10
XMIS LR LR
comp=Z,1µm,21.4s
UGM Wanagama 62.26 309 PFAKE 15 57 20.0 +7.4
UGM LR LR
comp=Z,2µm,21.8s
SANI Sanana 62.81 328 P P 15 57 16.0 -0.2
comp=Z,28nm,1.4s,comp=Z,757nm
KPJI Karang Pucung 63.39 308 P P 15 57 20.8 +0.7
comp=Z,45nm,1.5s,comp=Z,1µm
CISI Cisompet, Garu 63.62 306 P P 15 57 23.5 +1.8
comp=Z,38nm,1.4s,comp=Z,852nm
CISI Cisompet, Garu 63.62 306 eP P 15 57 20.4 -1.2
comp=Z,48nm,1.4s
CISI LR LR
comp=Z,1µm,21.3s
KNTN Kanton 63.65 38 PFAKE 15 57 40.0 +18
KNTN LR LR
comp=Z,2µm,20.0s
LBMI Labuha 63.79 330 P P 15 57 24.4 +1.7
comp=Z,73nm,1.2s,comp=Z,1µm
TARA Tarawa 63.98 21 PFAKE 15 57 40.0 +16
TARA LR LR
comp=Z,900nm,19.8s
COCO West Island 64.05 293 PFAKE 15 57 40.0 +16
COCO LR LR
comp=Z,2µm,20.4s
EFI East Falkland 64.53 158⇑ eP P 15 57 29.0 +1.8
EFI East Falkland 64.53 158 PFAKE 15 57 40.0 +13
EFI LR LR
comp=Z,1µm,18.3s
HOPE Hope Point 64.56 173 PFAKE 15 57 40.0 +13
HOPE LR LR
comp=Z,2µm,19.4s
LUWI Luwuk 64.64 325 PFAKE 15 57 40.0 +12
LUWI LR LR
comp=Z,2µm,19.3s
TNTI Ternate 65.18 330 PFAKE 15 57 40.0 +8.2
TNTI LR LR
comp=Z,900nm,19.0s
TOLI Toli-Toli 67.27 323 PFAKE 15 58 00.0 +15
TOLI LR LR
comp=Z,1µm,20.8s
MNAI Manna 68.46 303 PFAKE 15 58 00.0 +7.2
MNAI LR LR
comp=Z,1µm,21.0s
KSM Kuching 71.01 313 eP P 15 58 07.4 -1.0
comp=Z,53nm,1.5s
KSM ePP PP 16 00 43.2 -2.6
KSM LR LR
comp=Z,800nm,18.4s
SBUM Sibu 71.25 315 eP P 15 58 09.7 -0.1
comp=Z,55nm,1.8s
SBUM LR LR
comp=Z,800nm,19.7s
DAV Davao City (W) 71.68 330 PFAKE 15 58 20.0 +7.6
DAV LR LR
comp=Z,1µm,18.0s
PLCA Paso Flores 72.06 146 eP P 15 58 15.1 +0.4
PLCA pmax pmax
comp=Z,43nm,1.4s
PLCA Paso Flores 72.06 146 P P 15 58 15.0 +0.4
comp=Z,17nm,1.3s,baz=249,slow=7.2,SNR=7.9
PLCA LR LR 16 22 48.7
comp=Z,1µm,21.3s,baz=216,slow=30
PLCA Paso Flores 72.06 146 eP P 15 58 15.1 +0.4
comp=Z,43nm,1.4s
KKM Kota Kinabalu 73.31 320 eP P 15 58 21.1 -1.2
comp=Z,22nm,1.1s
KKM LR LR
comp=Z,900nm,21.2s
BKNI Bangkinang 73.49 303 P P 15 58 17.6 -5.6
comp=Z,44nm,0.4s
BKNI LR LR
comp=Z,700nm,20.1s
MYKOM Kota Tinggi 73.71 306 eP P 15 58 24.9 +0.4
comp=Z,236nm,2.7s
MYKOM LR LR
comp=Z,1µm,21.8s
GUMO Guam 74.91 350 P P 15 58 32.8 +1.4
GUMO Guam 74.91 350 P P 15 58 32.8 +1.4
TRQA Tornquist 76.75 151 PFAKE 15 58 50.0 +8.1
TRQA LR LR
comp=Z,1µm,20.0s
IPM Ipoh 77.28 305 eP P 15 58 43.2 -1.9
comp=Z,10nm,1.0s
IPM LR LR
comp=Z,700nm,20.2s
KULM Kulim 78.16 305 eP P 15 58 48.8 -1.2
comp=Z,97nm,1.5s
KULM LR LR
comp=Z,1µm,22.0s
H08S2 Diego Garcia H 79.45 273 T T 17 26 21.0
baz=150,slow=76,SNR=88
H08S1 Diego Carcia H 79.46 273 T T 17 26 20.4
baz=150,slow=76,SNR=93
H08S3 Diego Garcia H 79.47 273 T T 17 26 21.6
baz=150,slow=76,SNR=108
LHMI Lhok Sumawe 79.61 301 PFAKE 15 59 10.0 +12
LHMI LR LR
comp=Z,1µm,19.4s
DGAR Diego Garcia 79.67 273 PFAKE 15 59 10.0 +12
DGAR LR LR
comp=Z,1µm,19.4s
H08N1 Diego Garcia H 81.29 273 T T 17 28 47.7
baz=121
H08N3 Diego Garcia H 81.30 273 T T 17 28 47.2
baz=121
H08N2 Diego Garcia H 81.31 273 T T 17 28 44.2
baz=121
DLV T Lat 81.38 315 PFAKE 15 59 20.0 +12
DLV LR LR
comp=Z,900nm,20.8s
PKDT Phuket 81.46 304 P P 15 59 08.8 +1.0
comp=Z,20nm,2.2s
ABPO Ambohimpanom 81.49 246 PFAKE 15 59 20.0 +12
ABPO LR LR
comp=Z,600nm,18.6s
TRIS Tristan da Cun 81.50 191 PFAKE 15 59 20.0 +12
TRIS LR LR
comp=Z,3µm,21.8s
BOSA Boshof 81.50 224 P P 15 59 07.5 -0.6
comp=Z,9.6nm,0.9s,baz=152,slow=6.7,SNR=7.5
BOSA LR LR 16 33 20.4
comp=Z,746nm,19.0s,baz=160,slow=34
LCO Las Campanas 82.96 141 eP P 15 59 16.1 +0.1
comp=Z,118nm,2.2s
LCO LR LR
comp=Z,900nm,18.4s
SZP Santa 83.04 328 PFAKE 15 59 30.0 +14
SZP LR LR
comp=Z,900nm,21.6s
CHBT CHBT 84.34 309 P P 15 59 23.7 +1.1
comp=Z,13nm,1.9s,comp=Z,2µm
LBTB Lobatse 84.70 225 P P 15 59 24.4 -0.3
LBTB MLR MLR
comp=Z,1µm,20.5s
LBTB Lobatse 84.70 225 P P 15 59 24.4 -0.3
comp=Z,14nm,1.0s
LBTB Lobatse 84.70 225 P P 15 59 24.4 -0.3
LBTB LR LR
comp=Z,1µm,20.5s
SRDT SRDT 87.02 307 P P 15 59 37.6 +1.6
comp=Z,75nm,1.5s
QIZ Qiongzhong 87.53 318 P P 15 59 39.2 +0.8
QIZ S S 16 10 21.2 +1.8
QIZ SS SS 16 16 08.6 +3.1
QIZ PMZ
comp=Z,15nm,1.9s
QIZ PMZ
comp=Z,140nm,6.1s
QIZ LN
comp=Z,440nm,24.8s
QIZ LE
comp=Z,280nm,24.4s
QIZ LZ
comp=Z,510nm,26.6s
KHLT Khaolaem Dam 87.64 307 P P 15 59 40.5 +1.6
comp=Z,8.0nm,1.9s,comp=Z,236nm
TWG Pinlang 87.93 330 PFAKE 15 59 50.0 +10
TWG LR LR
comp=Z,2µm,20.9s
UTHA Uthaitani 88.00 308 P P 15 59 41.1 +0.4
comp=Z,4.1nm,0.8s,comp=Z,51nm
YULB Yu-li 88.42 330 PFAKE 15 59 50.0 +7.5
YULB LR LR
comp=Z,500nm,21.8s
TPUB Ta-pu 88.50 329 PFAKE 15 59 50.0 +7.1
TPUB LR LR
comp=Z,600nm,20.9s
CBIJ Chichi jima 88.52 349 PFAKE 15 59 50.0 +7.1
CBIJ LR LR
comp=Z,300nm,18.5s
PALK Pallekele 88.58 288 PFAKE 15 59 50.0 +6.4
PALK LR LR
comp=Z,1µm,20.0s
SSLB Suanglung 88.89 330 PFAKE 16 00 00.0 +15
SSLB LR LR
comp=Z,600nm,21.2s
YOJ Yonaguni jima 89.05 332 PFAKE 16 00 00.0 +15
YOJ LR LR
comp=Z,300nm,20.0s
NACB Ninganchiao 89.10 330 PFAKE 16 00 00.0 +14
NACB LR LR
comp=Z,300nm,18.9s
LVC Limon Verde 89.50 141 eP P 15 59 49.4 +1.2
comp=Z,39nm,1.5s
LVC LR LR
comp=Z,1µm,19.8s
YHNB Yeheng 89.63 330 PFAKE 16 00 00.0 +12
YHNB LR LR
comp=Z,500nm,20.0s
JOW Kunigami 90.23 337 PFAKE 16 00 00.0 +9.1
JOW LR LR
comp=Z,500nm,21.4s
MSEY Mahe Island 90.24 260 PFAKE 16 00 00.0 +8.5
MSEY LR LR
comp=Z,1µm,18.0s
CMAR Chiang Mai Arr 90.84 309 P P 15 59 52.8 -1.1
comp=Z,1.4nm,1.0s,baz=180,slow=3.9,SNR=11
CMAR LR LR 16 39 42.7
comp=Z,658nm,18.6s,baz=165,slow=35
CHTO Chiang Mai 91.16 309 eP P 15 59 54.9 -0.6
CHTO pmax pmax
comp=Z,136nm,2.8s
CHTO MLR MLR
comp=Z,700nm,20.0s
CHTO Chiang Mai 91.16 309 eP P 15 59 54.9 -0.6
comp=Z,136nm,2.8s
CHTO LR LR
comp=Z,700nm,20.0s
SLVN Son La 91.67 314 PFAKE 16 00 10.0 +12
SLVN LR LR
comp=Z,600nm,21.5s
LSZ Lusaka 92.71 231 eP P 16 00 03.0 0.0
LSZ pmax pmax
comp=Z,13nm,1.3s
LSZ Lusaka 92.71 231 eP P 16 00 03.0 0.0
comp=Z,13nm,1.3s
JHJ2 Mitsune 94.71 348 PFAKE 16 00 20.0 +8.6
JHJ2 LR LR
comp=Z,800nm,19.7s
KMI Kunming 95.56 314 P P 16 00 18.3 +2.4
KMI SKS SKSac 16 10 53.8 +2.0
KMI S S 16 11 30.3 -2.2
KMI SS SS 16 18 00.7 -0.9
KMI PMZ
comp=Z,8.0nm,0.9s
KMI LN
comp=Z,410nm,24.8s
KMI LE
comp=Z,370nm,20.5s
KMI LZ
comp=Z,830nm,26.5s
LPAZ La Paz 95.68 139 P P 16 00 18.2 +0.9
LPAZ MLR MLR
comp=Z,900nm,21.0s
LPAZ La Paz 95.68 139 P P 16 00 18.2 +0.9
comp=Z,3.0nm,1.1s,baz=197,slow=4.9,SNR=8.3
LPAZ La Paz 95.68 139 P P 16 00 18.2 +0.9
LPAZ LR LR
comp=Z,900nm,21.0s
SSE Sheshan 95.85 332 eP P 16 00 17.6 +0.9
SSE S S 16 11 33.4 -0.8
SSE PMZ
comp=Z,33nm,0.7s
SSE PMZ
comp=Z,200nm,3.5s
SSE LN
comp=Z,200nm,20.7s
SSE LE
comp=Z,72nm,20.6s
SSE LZ
comp=Z,300nm,20.9s
JNU Nakatsue 95.91 340 PFAKE 16 00 30.0 +13
JNU LR LR
comp=Z,300nm,19.3s
NJ2 Nanjing 97.31 330 eP P 16 00 23.1 -0.2
MJAR Matsushiro Arr 98.27 347 LR LR 16 43 33.6
comp=Z,216nm,19.4s,baz=150,slow=35
MAJO Matsushiro 98.28 347 PFAKE 16 00 40.0 +12
MAJO LR LR
comp=Z,500nm,22.0s
CD2 Chengdu 100.55 317 eP Pdif 16 00 40.8 +2.9
CD2 pP pP 16 00 45.6 +4.3
CD2 PP PP 16 04 50.8 +5.5
CD2 SKS 16 11 18.5
CD2 S Sdif 16 12 14.3 0.0
CD2 sS sS 16 12 21.9 +2.0
CD2 SS SS 16 19 14.9 +3.5
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ

CD2 LN
comp=Z,120nm,6.2s
CD2 LE
comp=Z,790nm,22.5s
CD2 LZ
comp=Z,610nm,21.1s
INCN **Inchon** 100.90 338 PFAKE 16 00 50.0 +11
INCN LR LR
comp=Z,710nm,23.0s
POO **Poona** 101.59 287 *ex* **Pdif** **16 00 41.0 -1.8**
LSA **Lhasa** 103.98 307 P **Pdif** **16 00 53.6 -0.1**
LSA **Lhasa** 103.98 307 P **Pdif** **16 00 53.6 -0.1**
SAML **Samuel** 104.13 142 PFAKE 16 01 10.0 +16
SAML LR LR
comp=Z,800nm,20.0s
LZH **Lanzhou** 105.29 320 *e*Pdif **Pdif** **16 00 56.5 -2.5**
LZH PPMZ
comp=Z,250nm,5.0s
LZH LN
comp=Z,280nm,17.3s
LZH LE
comp=Z,230nm,18.4s
LZH LZ
comp=Z,380nm,20.9s
ASAJ **Asahikawa** 105.38 351 PFAKE 16 05 20.0
ASAJ LR LR
comp=Z,400nm,21.5s
BJI **Beijing** 105.57 330 Pdif **Pdif** **16 01 01.2 +1.3**
BJI PP **PP** **16 05 27.2 +4.5**
BJI SS SS 16 20 23.0 +2.8
BJI LN
comp=Z,450nm,19.2s
BJI LE
comp=Z,400nm,20.6s
BJI LZ
comp=Z,400nm,20.1s
OTAV **Otavalo** 107.22 123 PFAKE 16 05 30.0
OTAV LR LR
comp=Z,400nm,21.9s
CN2 **Changchun** 107.24 338 Pdif **Pdif** **16 01 13.5 +6.2**
CN2 PP PP 16 05 45.2 +10
CN2 PPMZ
comp=Z,300nm,6.0s
CN2 LN
comp=Z,400nm,20.0s
CN2 LE
comp=Z,600nm,20.0s
CN2 LZ
comp=Z,300nm,21.0s
HHC **Hu-ho-hao-te** 107.49 327 Pdif **Pdif** **16 01 13.4 +4.8**
HHC PP PP 16 05 44.6 +7.6
HHC PPMZ
comp=Z,67nm,6.1s
HHC LN
comp=Z,430nm,17.6s
HHC LE
comp=Z,440nm,17.3s
HHC LZ
comp=Z,770nm,17.7s
YSS **Yuzh-Sakhalins** 108.19 352 PFAKE 16 05 30.0
YSS LR LR
comp=Z,300nm,20.5s
H06E1 **SOCORRO T-PHASE** 108.50 85 T T 18 02 37.6
SNR=25
ASCN **Ascension** 110.54 192 PFAKE 16 05 30.0
ASCN LR LR
comp=Z,3µm,21.0s
DAMY **Dhamar** 112.29 259 PFAKE 16 05 40.0
DAMY LR LR
comp=Z,700nm,21.6s
RCBR **Riachuelo** 112.71 169 PFAKE 16 05 40.0
RCBR LR LR
comp=Z,600nm,21.4s
PTGA **Pitinga** 112.88 142 PFAKE 16 05 40.0
PTGA LR LR
comp=Z,800nm,19.3s
PET **Petropavlovsk** 113.91 3 PFAKE 16 05 40.0
PET LR LR
comp=Z,900nm,20.4s
BCIP **Isla Barro Col** 114.71 118 PFAKE 16 05 40.0 +8.9
BCIP LR LR
comp=Z,900nm,22.0s
SONM **Songino Array** 115.34 326 PKP **PKPdf** **16 05 30.9 -0.5**
comp=Z,0.1nm,0.4s,baz=126,slow=3.7,SNR=2.6
SONM PP **PP** **16 06 32.1 -1.3**
comp=Z,0.5nm,0.8s,baz=159,slow=6.2,SNR=3.9
WMQ **Urumqi** 117.71 311 *e*PKP **PKPdf** **16 05 33.5 -2.5**
WMQ PP **PP** **16 06 50.5 +0.6**
WMQ PKS **PKSdf** **16 09 09.0 -3.6**
WMQ SS SS 16 22 59.0 -3.2
WMQ PPMZ
comp=Z,180nm,11.6s
WMQ LN
comp=Z,550nm,20.0s
WMQ LE
comp=Z,570nm,19.1s
WMQ LZ
comp=Z,800nm,22.8s
PASC **Pasadena Art C** 118.09 70 PFAKE 16 05 50.0 +13
PASC LR LR
comp=Z,1µm,18.8s
SDV **Santo Domingo** 118.20 127 PFAKE 16 05 50.0 +12
SDV LR LR
comp=Z,800nm,21.0s
KSH **Kashi** 118.64 300 *e*PKP **PKPdf** **16 05 41.3 +3.3**
KSH PP PP 16 07 04.2 +7.7
KSH PKS **PKSdf** **16 09 16.5 +1.8**
KSH SKS **SKSdf** **16 12 51.9 +2.1**
KSH SKKS **SKKSac** **16 13 55.6 -0.2**
KSH PPMZ
comp=Z,57nm,4.0s
KSH LN
comp=Z,120nm,5.9s
KSH LE
comp=Z,150nm,10.5s
KSH LZ
comp=Z,310nm,18.1s
UNV **Unalaska Valle** 118.81 25 PFAKE 16 05 50.0 +12
UNV LR LR
comp=Z,2µm,21.7s
MCCM **Marconi Confer** 119.31 64 PFAKE 16 05 50.0 +11
MCCM LR LR
comp=Z,600nm,18.8s
TLY **Talaya** 119.59 326 *i* PKIKP **PKPdf** **16 05 41.8 +2.5**
TLY pmax pmax
comp=Z,1.0nm,0.4s
TLY MLR MLR
comp=Z,156nm,18.0s
HOPS **Hopland Field** 119.94 63 PFAKE 16 05 50.0 +10
HOPS LR LR
comp=Z,700nm,19.2s
TUC **Tucson** 119.98 77 PFAKE 16 05 50.0 +9.2
TUC LR LR
comp=Z,800nm,18.1s
DAC **Darwin (Calif)** 120.11 69 PFAKE 16 05 50.0 +8.9
DAC LR LR
comp=Z,1µm,18.1s
CMB **Columbia Colle** 120.31 66 PFAKE 16 05 50.0 +8.8
CMB LR LR
comp=Z,800nm,19.0s
TEIG **Tepich** 120.63 104 PFAKE 16 05 50.0 +7.7
TEIG LR LR
comp=Z,400nm,18.6s
KMRM **Mail Ridge** 120.68 62 PFAKE 16 05 50.0 +8.1
KMRM LR LR
comp=Z,1µm,18.7s
KHMM **Horse Mountain** 121.21 61 PFAKE 16 06 00.0 +17
KHMM LR LR
comp=Z,800nm,18.7s
TPNV **Topopah Spring** 121.27 70 PFAKE 16 06 00.0 +17
TPNV LR LR
comp=Z,1µm,18.2s
WDC **Whiskeytown Da** 121.48 62 PFAKE 16 06 00.0 +17
WDC LR LR
comp=Z,500nm,19.4s
TKM2 **Tokmak 2** 121.64 302 PFAKE 16 06 00.0 +16
TKM2 LR LR
comp=Z,400nm,20.5s
TPH **Tonopah** 121.76 68 PFAKE 16 06 00.0 +16
TPH LR LR
comp=Z,900nm,19.0s
AAK **Ala-Archa** 121.85 301⇑ *i* PKIKP **PKPdf** **16 05 44.2 0.0**
AAK MLR MLR
comp=Z,783nm,17.0s
AAK **Ala-Archa** 121.85 301 PFAKE 16 06 00.0 +16
AAK LR LR
comp=Z,400nm,19.8s
MNTX **Cornudas Mount** 122.05 82 *e*PKPdf **PKPdf** **16 05 46.0 +1.3**
MNTX LR LR
comp=Z,1µm,18.1s
EKS2 **Erkin-Say** 122.17 301 PFAKE 16 06 00.0 +15
EKS2 LR LR
comp=Z,400nm,21.8s
KVTX **Kingsville** 122.22 91 PFAKE 16 06 00.0 +15
KVTX LR LR
comp=Z,2µm,18.2s
MKAR **Makanchi Array** 122.24 309 PKP **PKPdf** **16 05 44.8 +0.2**
comp=Z,0.5nm,0.8s,baz=108,slow=3.8,SNR=3.9
WUAZ **Wupatki** 122.34 74 PFAKE 16 06 00.0 +15
WUAZ LR LR
comp=Z,400nm,20.6s
YBH **Yreka Blue Hor** 122.36 62 PFAKE 16 06 00.0 +15
YBH LR LR
comp=Z,400nm,18.0s
KEBM **Edson Butte** 122.61 60 PFAKE 16 06 00.0 +15
KEBM LR LR
comp=Z,1µm,18.5s
W18A **Petrified Fore** 122.78 76 PFAKE 16 06 00.0 +14
W18A LR LR
comp=Z,500nm,18.8s
KNB **Kanab** 122.90 72 PFAKE 16 06 00.0 +14
KNB LR LR
comp=Z,700nm,18.5s
HUMO **Hull Mountain** 122.97 61 *e*PKPdf **PKPdf** **16 05 49.5 +3.3**
DBIC **Dimbokro** 123.44 205 PFAKE 16 06 00.0 +12
DBIC LR LR
comp=Z,1µm,21.5s
MOD **Modoc Plateau** 123.53 63 *e*PKPdf **PKPdf** **16 05 50.2 +2.8**
MOD LR LR
comp=Z,700nm,18.3s
BMN **Battle Mountai** 123.68 66 PFAKE 16 06 00.0 +12
BMN LR LR
comp=Z,900nm,18.4s
JCT **Junction City** 123.73 87 PFAKE 16 06 00.0 +12
JCT LR LR
comp=Z,500nm,18.1s
MTDJ **Mount Denham** 123.77 116 PFAKE 16 06 00.0 +12
MTDJ LR LR
comp=Z,600nm,19.6s
ANMO **Albuquerque** 124.19 79 PFAKE 16 06 00.0 +11
ANMO LR LR
comp=Z,700nm,19.9s
YAK **Yakutsk** 124.33 346 PFAKE 16 06 00.0 +12
YAK LR LR
comp=Z,400nm,20.6s
GRGR **Grenville** 124.45 136 PFAKE 16 06 00.0 +10
GRGR LR LR
comp=Z,900nm,19.1s
WVOR **Wild Horse Val** 124.68 64 *e*PKIKP **PKPdf** **16 05 52.8 +3.3**
WVOR MLR MLR
comp=Z,700nm,20.4s
WVOR **Wild Horse Val** 124.68 64 *e*PKPdf **PKPdf** **16 05 52.8 +3.3**
WVOR LR LR
comp=Z,700nm,20.4s
ELK **Elko** 124.82 68 PFAKE 16 06 00.0 +10
ELK LR LR
comp=Z,900nm,19.1s
MVCO **Mesa Verde** 125.07 75 PFAKE 16 06 00.0 +9.4
MVCO LR LR
comp=Z,500nm,18.8s
GEYT **Alibeck** 125.27 286 PKP **PKPdf** **16 05 49.9 -0.8**
comp=Z,3.0nm,0.9s,baz=222,slow=1.9,SNR=6.7
DUG **Dugway, Tooele** 125.47 70 PFAKE 16 06 00.0 +8.8
DUG LR LR
comp=Z,1µm,18.0s
TMUT **Trail Mountain** 125.49 72 PFAKE 16 06 00.0 +8.6
TMUT LR LR
comp=Z,1µm,21.9s
NLU **North Lily Min** 125.62 71 PFAKE 16 06 00.0 +8.4
NLU LR LR
comp=Z,1µm,18.6s
SRU **San Rafael Swe** 125.65 73 *e*PKIKP **PKPdf** **16 05 53.7 +2.1**
SRU MLR MLR
comp=Z,700nm,18.6s
SRU **San Rafael Swe** 125.65 73 *e*PKPdf **PKPdf** **16 05 53.7 +2.1**
SRU LR LR
comp=Z,700nm,18.6s
MPU **Maple Canyon** 125.87 71 PFAKE 16 06 00.0 +8.0
MPU LR LR
comp=Z,2µm,21.3s
BGU **Big Grassy Mou** 125.96 69 PFAKE 16 06 00.0 +7.9
BGU LR LR
comp=Z,17090µm,18.1s
S22A **4UR Ranch, Cre** 126.28 76 *e*PKPdf **PKPdf** **16 05 55.0 +1.9**
GTBY **Guantanamo Bay** 126.32 117 PFAKE 16 06 10.0 +17
GTBY LR LR
comp=Z,400nm,18.2s
CTU **Camp Tracy** 126.36 70 PFAKE 16 06 10.0 +17
CTU LR LR
comp=Z,481µm,18.6s
AMTX **Amarillo** 126.43 83 PFAKE 16 06 10.0 +17
AMTX LR LR
comp=Z,800nm,19.4s
MFID **Camas Ranch** 126.70 65 *e*PKPdf **PKPdf** **16 05 55.6 +2.2**
MFID LR LR
comp=Z,300nm,19.8s
HVU **Hansel Valley** 126.76 69 PFAKE 16 06 10.0 +16
HVU LR LR
comp=Z,18441µm,19.9s
KURBB **Kurchatov Arra** 126.80 310 PKP **PKPdf** **16 05 51.6 -1.5**
comp=Z,0.4nm,0.2s,baz=166,slow=2.2,SNR=7.2
G08A **Pilot Rock** 126.84 62 *e*PKPdf **PKPdf** **16 05 55.1 +1.5**
KURK **Kurchatov** 126.84 310 PKIKP **PKPdf** **16 05 51.6 -1.6**
KURK *e* 16 05 52.9
KURK **Kurchatov** 126.84 310 PKP **PKPdf** **16 05 51.6 -1.6**
KURK *e*PKPdf **PKiKP** **16 05 52.9 -0.8**
SDCO **Great Sand Dun** 126.91 77 PFAKE 16 06 10.0 +16
SDCO LR LR
comp=Z,500nm,21.9s
SDDR **Presa de Saban** 127.09 122 PFAKE 16 06 10.0 +15
SDDR LR LR
comp=Z,500nm,19.4s
HWUT **Hardware Ranch** 127.17 70 *e*PKPdf **PKPdf** **16 05 54.4 0.0**
HWUT LR LR
comp=Z,700nm,18.8s
BMO **Blue Mountains** 127.20 63 PFAKE 16 06 10.0 +16
BMO LR LR
comp=Z,800nm,18.5s
GAMB **Gambell** 127.23 18 PFAKE 16 06 10.0 +17
GAMB LR LR
comp=Z,900nm,20.3s
SMCO **Snowmass** 127.36 75 *e*PKPdf **PKPdf** **16 05 58.4 +3.2**
HLID **Hailey** 127.44 66 PFAKE 16 06 10.0 +15
HLID LR LR
comp=Z,600nm,20.3s
WMOK **Wichita Mounta** 127.70 85 PFAKE 16 06 10.0 +15
WMOK LR LR
comp=Z,1µm,19.8s
TORD **Torodi Ar. Bea** 128.11 215 PKP **PKPdf** **16 05 54.9 -1.9**
comp=Z,5.7nm,1.2s,baz=154,slow=1.0,SNR=12
ISCO **Idaho Springs** 128.49 76 *e*PKIKP **PKPdf** **16 06 00.1 +2.9**
ISCO **Idaho Springs** 128.49 76 *e*PKPdf **PKPdf** **16 06 00.1 +2.9**
REDW **Red Top Meadow** 128.88 69 *e*PKPdf **PKPdf** **16 06 00.8 +3.1**
TPAW **Teton Pass** 128.94 69 *e*PKPdf **PKPdf** **16 06 01.2 +3.4**
PDAR **Pinedale Array** 129.00 70 PKP **PKPdf** **16 05 58.3 +0.3**
comp=Z,2.8nm,1.2s,baz=254,slow=1.1,SNR=7.7
FXWY **Fox Creek** 129.02 69 *e*PKPdf **PKPdf** **16 05 60.0 +2.0**
LOHW **Long Hollow** 129.19 69 *e*PKPdf **PKPdf** **16 06 00.8 +2.6**
N23A **Red Feather La** 129.20 75 *e*PKPdf **PKPdf** **16 06 00.7 +2.2**
IMW **Indian Meadow** 129.26 69 *e*PKPdf **PKPdf** **16 06 01.2 +2.7**
FLWY **Flagg Ranch** 129.51 69 *e*PP PP 16 08 16.7 +7.0
MSO **Missoula** 130.21 64 *e*PKPdf **PKPdf** **16 06 03.6 +3.6**
CHMT **Chamberlain Mo** 130.57 64 *e*PKPdf **PKPdf** **16 06 03.4 +2.6**
YBMT **Yellow Bay** 130.97 63 *e*PKPdf **PKPdf** **16 06 00.4 -1.0**
BVAR **Borovoye Array** 131.81 306 PKP **PKPdf** **16 06 02.4 -0.2**
comp=Z,0.7nm,0.7s,baz=134,slow=4.2,SNR=5.0
WALA **Waterton Lakes** 131.93 62 PKPdf **PKPdf** **16 06 00.1 -3.1**
TIXI **Tiksi** 133.73 349⇑ *e*PKIKP **PKPdf** **16 06 06.8 +1.2**
DAWY **Dawson** 134.40 34 *e*PKPdf **PKPdf** **16 06 10.7 +3.5**
WCI **Wyandotte Cave** 136.53 93 *e*PKIKP **PKPdf** **16 06 12.7 +0.7**
WCI **Wyandotte Cave** 136.53 93 *e*PKPdf **PKPdf** **16 06 12.7 +0.7**
KBZ **Khabaz** 137.00 279 PKP **PKPdf** **16 06 11.6 -1.0**
comp=Z,2.1nm,1.0s,baz=103,slow=3.8,SNR=4.2
KIV **Kislovodsk** 137.27 279 *e*PKIKP **PKPdf** **16 06 13.5 +0.2**
KIV **Kislovodsk** 137.27 279 *e*PKPdf **PKPdf** **16 06 13.5 +0.2**
JFWS **Jewell Farm** 138.23 85 *e*PP PP 16 09 07.6 +2.7
BRTR **Keskin Array B** 138.42 267 PKhKP PKPpre 16 06 09.1
comp=Z,0.5nm,0.8s,baz=5.7,slow=1.4,SNR=2.7
BRTR PKP **PKPdf** **16 06 16.1 +0.5**
comp=Z,0.7nm,1.0s,baz=194,slow=4.6,SNR=4.0
ARU **Arti** 139.01 303 *i* PKIKP **PKPdf** **16 06 16.4 +0.5**
ARU 16 09 05.0
ARU MLR MLR
comp=Z,443nm,23.0s
ARU **Arti** 139.01 303 *e*PKPdf **PKPdf** **16 06 16.3 +0.5**
ARU *e*PKPdf **PKiKP** **16 06 16.8 -1.3**
INK **Inuvik** 139.17 33 PKP **PKPdf** **16 06 17.1 +1.3**
comp=Z,1.3nm,0.6s,baz=207,slow=3.9,SNR=4.0
ANN **Anapa** 140.43 275 *i* PKIKP **PKPdf** **16 06 18.5 -0.3**
ANN pmax pmax
comp=Z,32nm,1.4s
ANN MLR MLR
comp=Z,286nm,20.0s
ANN MLR MLR
comp=N,438nm,20.0s
YKA **Yellowknife Ar** 141.14 48 PKhKP PKPpre 16 06 13.9
comp=N,0.4nm,0.8s,baz=230,slow=2.2,SNR=5.4
YKA PKP **PKPdf** **16 06 20.1 +0.6**
comp=N,0.9nm,1.1s,baz=212,slow=2.3,SNR=5.8
EYMN **Ely** 141.31 79 *e*PKPdf **PKPdf** **16 06 17.2 -3.2**
KDZ **Kurdzhali** 143.87 261 ⇓PKIKP PKPbc 16 06 23.5 +0.6
KDZ **Kurdzhali** 143.87 261 ⇓*i*P PKPbc 16 06 23.5 +0.6
JMB **Yambol** 143.93 263 ⇑PKIKP **PKPdf** **16 06 24.8 -0.4**
JMB **Yambol** 143.93 263 ⇑*i*P **PKPdf** **16 06 24.8 -0.4**
PRD **Provadia** 144.09 265 *i* P PKPbc 16 06 24.4 +0.9
VSR **Storozhevoye** 144.10 284 ⇓*e*PKIKP PKPbc 16 06 23.1 -0.2
EFOR **EFORIE** 144.15 267 ⇑*i*P PKPdf 16 06 41.0 +16
RZN **Rozhen** 144.23 260 *i* P **PKPab** **16 06 23.9 0.0**
TIRR **Tirgusor** 144.54 267 ⇓PKIKP PKPdf 16 06 32.1 +5.9
TIRR **Tirgusor** 144.54 267 ⇓*i*P PKPdf 16 06 32.1 +5.9
BINY **Binghamton** 144.58 99 *e*PKPdf PKPbc 16 06 25.3 +0.1
MMB **Musomiste** 144.63 259 ⇑PKIKP **PKPab** **16 06 24.5 -0.7**
MMB **Musomiste** 144.63 259 ⇑*i*P **PKPab** **16 06 24.5 -0.7**
MMB **Musomiste** 144.63 259 *i* P **PKPab** **16 06 24.4 -0.7**
TLB **Topalu** 144.81 267 ⇓PKIKP **PKPdf** **16 06 26.4 -0.2**
TLB **Topalu** 144.81 267 ⇓*i*P **PKPdf** **16 06 26.4 -0.2**
SZH **Strazhica** 144.85 263 *i* P PKPbc 16 06 26.1 +0.2
TLCR 144.88 268 ⇓PKIKP **PKPdf** **16 06 27.0 +0.3**
TLCR 144.88 268 ⇓*i*P **PKPdf** **16 06 27.0 +0.3**
HARR **Harsova** 144.94 267 ⇓PKIKP **PKPdf** **16 06 27.5 +0.6**
HARR **Harsova** 144.94 267 ⇓*i*P **PKPdf** **16 06 27.5 +0.6**
VAY **Valandovo** 144.97 258 *e*PKP **PKPab** **16 06 25.6 -0.7**
KKB **Krupnik** 145.15 259 P **PKPdf** **16 06 27.3 -0.1**
CFR **Carcaliu** 145.20 268 ⇑PKIKP **PKPdf** **16 06 27.5 +0.2**
CFR **Carcaliu** 145.20 268 ⇑*i*P **PKPdf** **16 06 27.5 +0.2**
CEL **Celeste** 145.61 247 *e*PKPdf **PKPdf** **16 06 28.2 -0.1**
OHR **Ohrid** 145.64 256 *e*PKP **PKPdf** **16 06 27.7 -0.6**
VTS **Vitosha** 145.64 260 ⇑PKIKP **PKPdf** **16 06 28.1 -0.3**
VTS **Vitosha** 145.64 260 ⇑*i*P **PKPdf** **16 06 28.1 -0.3**
VTS **Vitosha** 145.64 260 *i* P **PKPbc** **16 06 28.6 -0.1**
TIP **Timpagrande** 145.97 249 *e*PKPdf **PKPab** **16 06 30.4 +0.1**
MPEP **Malo Peshtene** 145.97 261 *i* P **PKPab** **16 06 30.3 +0.3**
SKO **Skopje** 146.01 257 *e*PKP **PKPdf** **16 06 28.7 -0.1**
KIS **Kishinev** 146.18 270 *e*PKHKP **PKPdf** **16 06 26.0 -2.9**
KIS *e* 16 06 32.0
KIS **Kishinev** 146.18 270 *e*PKP **PKPdf** **16 06 26.0 -2.9**
KIS LRM MLR 17 27 06.0
comp=N,600nm,20.0s
KEST **Kesra** 146.28 237 PKPbc **PKPdf** **16 06 29.9 +0.3**
comp=N,7.1nm,1.1s,baz=201,slow=2.4,SNR=9.7
KEST **Kesra** 146.28 237 PKPbc **PKPdf** **16 06 29.9 +0.3**
KEST *e*PKPdf **PKPab** **16 06 31.6 0.0**
VRI **Vrincioaia** 146.38 267 ⇓PKP2 **PKPbc** **16 06 30.6 -0.1**
VRI **Vrincioaia** 146.38 267 ⇓*i*P **PKPbc** **16 06 30.6 -0.1**
PLOR **Plostina** 146.41 267 ⇓PKP2 **PKPbc** **16 06 30.8 0.0**
PLOR **Plostina** 146.41 267 ⇓*i*P **PKPbc** **16 06 30.8 0.0**
MLR **Muntele Rosu** 146.49 266 ⇓PKP2 **PKPbc** **16 06 31.1 0.0**
MLR **Muntele Rosu** 146.49 266 ⇓*i*P **PKPbc** **16 06 31.1 0.0**
VOIR 146.88 265 ⇑PKP2 **PKPbc** **16 06 31.8 -0.4**
VOIR 146.88 265 ⇑*i*P **PKPbc** **16 06 31.8 -0.4**
TESR **Tescani** 146.88 268 ⇓*i*P **PKPbc** **16 06 32.3 +0.2**
FCC **Fort Churchill** 147.05 63 *e*PKIKP **PKPdf** **16 06 30.2 +0.2**
FCC **Fort Churchill** 147.05 63 *e*PKPdf **PKPdf** **16 06 30.2 +0.2**
LONY **Lake Ozonia** 147.07 97 *e*PKPdf **PKPdf** **16 06 31.4 +0.8**
DOPR **Dopca** 147.10 266 ⇑*i*P **PKPdf** **16 06 31.5 +0.9**
LOT **Lotru** 147.51 264 ⇑*i*P **PKPbc** **16 06 33.4 -0.6**
MOS **Moscow** 147.66 289 *e*PKP2 **PKPbc** **16 06 33.8 -0.1**
MOS pmax pmax
comp=Z,62nm,0.9s
OBN **Obninsk** 147.78 288 *de*PKP2 **PKPbc** **16 06 33.0 -1.2**
OBN *e* 16 10 03.8
OBN *e* 16 13 20.7
OBN *e*SS SS 16 29 39.1 +32
OBN pmax pmax
comp=Z,100nm,1.5s
OBN **Obninsk** 147.78 288 *e*PKPbc **PKPbc** **16 06 34.9 +0.7**
GZR **Gura Zlata** 147.94 263 ⇑PKIKP **PKPbc** **16 06 35.6 +0.5**
GZR **Gura Zlata** 147.94 263 ⇑*i*P **PKPbc** **16 06 35.6 +0.5**
BURAR **Bucovina Array** 148.36 268 ⇑PKP2 **PKPbc** **16 06 37.8 +1.6**
BURAR **Bucovina Array** 148.36 268 ⇑*i*P **PKPbc** **16 06 37.8 +1.6**
AKASG **Malin Array Be** 148.50 276 *ce*PKIKP **PKPbc** **16 06 34.5 -1.7**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG **Malin Array Be** 148.50 276 PKPbc **PKPbc** **16 06 34.6 -1.7**
comp=Z,5.4nm,0.9s,baz=102,slow=1.9,SNR=25
KIEV **Kiev** 148.51 276⇑ *e*PKIKP **PKPdf** **16 06 34.1 +1.5**
KIEV **Kiev** 148.51 276 *e*PKPbc **PKPbc** **16 06 36.3 0.0**
BZS **Buzias** 148.67 262 ⇓PKP2 **PKPbc** **16 06 37.0 +0.1**
BZS **Buzias** 148.67 262 ⇓*i*P **PKPbc** **16 06 37.0 +0.1**
TRPA **Tarpa** 150.01 266 ⇑*i*P **PKPbc** **16 06 40.9 +0.8**
TRPA **Tarpa** 150.01 266 ⇓*e*PKPdf **PKPbc** **16 06 41.2 +1.1**
PKS6 **Bocsa** 150.36 261 ⇓*e*SKSac **PKPbc** **16 06 42.1 +1.1**
PKSN **Nyarlorinc** 150.43 262 ⇓*e*SKSac **PKPbc** **16 06 42.4 +1.2**
LVV **L'vov** 150.43 270 *e*PKP2 **PKPbc** **16 06 40.7 -0.4**
PKS2 **Kecel** 150.45 261 ⇓*e*SKSac **PKPbc** **16 06 42.1 +0.9**
UZH **Uzhgorod** 150.47 267 *e*PKIKP **PKPbc** **16 06 40.5 -0.7**
UZH *e* 16 06 47.1
PKSM **Moragy** 150.52 260 ⇓PKIKP **PKPbc** **16 06 41.9 +0.5**
PKSM **Moragy** 150.52 260 ⇓*i*P **PKPbc** **16 06 41.9 +0.5**
PKSM **Moragy** 150.52 260 ⇓*e*SKSac **PKPbc** **16 06 41.6 +0.2**
KOLS **Kolonicke sedl** 150.69 267 *e*PKIKP **PKPbc** **16 06 41.7 -0.1**
KOLS **Kolonicke sedl** 150.69 267 *e*PKP **PKPbc** **16 06 41.7 -0.1**
PKS7 **Kunszentmiklos** 150.88 262 ⇑*e*SKSac **PKPbc** **16 06 42.8 +0.6**
KWP **Kalwaria Pacla** 150.95 269 *e*PKIKP **PKPbc** **16 06 41.9 -0.4**
KWP **Kalwaria Pacla** 150.95 269 *e*PKP **PKPbc** **16 06 42.9 +0.6**
KWP **Kalwaria Pacla** 150.95 269 *e*PKPbc **PKPbc** **16 06 41.9 -0.4**
CRVS **Cervenica-Dubn** 151.06 267 *e*PKIKP **PKPbc** **16 06 43.4 +0.8**
CRVS **Cervenica-Dubn** 151.06 267 *e*PKP **PKPbc** **16 06 43.4 +0.8**
PSZ **Piszkesteto** 151.14 264 *e*PKIKP **PKPbc** **16 06 42.4 -0.5**
PSZ **Piszkesteto** 151.14 264 *e*PKPbc **PKPbc** **16 06 42.4 -0.5**
KECS **Kecovo** 151.25 265 *e*PKIKP **PKPbc** **16 06 43.7 +0.6**
KECS **Kecovo** 151.25 265 *e*PKP **PKPbc** **16 06 43.7 +0.6**
BUD **Budapest** 151.25 262 *e*SKSac **PKPbc** **16 06 43.4 +0.3**
PKSG 151.49 261 *e*SKSac **PKPbc** **16 06 43.8 +0.2**
STHS **Stebnicka Huta** 151.51 267 *e*PKIKP **PKPbc** **16 06 44.2 +0.5**
STHS **Stebnicka Huta** 151.51 267 *e*PKP **PKPbc** **16 06 44.2 +0.5**
CSKK **Cs˙ˇkako** 151.53 261 *e*SKSac **PKPbc** **16 06 44.1 +0.3**
NIE **Niedzica** 151.97 266 *e*PKP **PKPbc** **16 06 45.0 +0.3**
VYHS **Vyhne** 152.05 263 *e*PKIKP **PKPdf** **16 06 39.3 +1.0**
VYHS *e* 16 06 44.8
VYHS *e* 16 06 55.4
VYHS **Vyhne** 152.05 263 *e*PKP **PKPdf** **16 06 39.3 +1.0**
VYHS *e* 16 06 44.8
VYHS *e* 16 06 55.4
NACGM **Naroch** 152.25 281 *e* **PKPbc** **16 06 43.0 -2.1**
RES **Resolute Bay** 152.73 33 PKPbc **PKPbc** **16 06 45.6 0.0**
comp=Z,2.3nm,1.0s,baz=276,slow=3.2,SNR=5.3
ARSA **Arzberg** 152.76 258 ⇑*i*PKPdf **PKPdf** **16 06 39.5 +0.1**
comp=Z,14nm,1.4s
CONA **Conrad Observa** 153.08 260 ⇓*i*PKPbc **PKPbc** **16 06 48.5 +1.2**
comp=Z,3.9nm,1.2s
CONA ⇑*i*PKPab **PKPab** **16 06 59.9 +1.0**
comp=Z,11nm,1.3s
OKC **Ostrava-Krasne** 153.29 265 *e*PKIKP **PKPab** **16 06 58.7 -1.0**
OKC *e* 16 07 06.9
OKC MLR MLR
comp=Z,500nm,16.2s
OKC **Ostrava-Krasne** 153.29 265 *e*PKPAB **PKPab** **16 06 58.7 -1.0**
OKC *ex* x 16 07 06.9
OKC *ex* x 16 07 14.2
OKC AMS AMS 17 28 20.0
comp=Z,500nm,16.2s
KRLC **Kraliky** 154.11 264 *e*PKIKP **PKPbc** **16 06 50.3 +0.9**
KRLC *e* 16 07 03.8
KRLC **Kraliky** 154.11 264⇑ *e*PKP **PKPbc** **16 06 50.3 +0.9**
KRLC *e*PKPAB **PKPab** **16 07 03.8 +0.6**
KRLC *ex* x 16 07 17.7
TREC **Trest** 154.21 261 *e*PKIKP **PKPbc** **16 06 49.9 +0.3**
TREC MLR MLR
comp=Z,600nm,17.3s
TREC **Trest** 154.21 261⇑ *e*PKP **PKPbc** **16 06 49.9 +0.3**

TREC				*e*PKPAB	**PKPab**	**16 07 04.6**	**+1.0**
TREC				AMS	AMS	17 26 00.0	
	comp=Z,600nm,17.3s						
DPC	**Dobruska-Polom**	**154.51**	**264**	*e*PKP2	**PKPab**	**16 07 06.2**	**+1.3**
DPC	**Dobruska-Polom**	**154.51**	**264**⇑	*e*PKP	**PKPbc**	**16 06 51.0**	**+0.7**
DPC				*e*PKPAB	**PKPab**	**16 07 04.5**	**-0.4**
DPC				*ex*	x	16 07 14.6	
DPC				*e*SS	SS	16 30 20.5	-1.0
DPC	**Dobruska-Polom**	**154.51**	**264**	*e*PKPab	**PKPab**	**16 07 06.2**	**+1.3**
WTTA	**Wattenberg**	**154.59**	**254**	⇓PKPbc	**PKPbc**	**16 06 50.8**	**0.0**
	comp=Z,9.6nm,1.2s						
WTTA				⇑*i*PKPab	**PKPab**	**16 07 05.6**	**+0.1**
	comp=Z,16nm,1.4s						
ESDC	**Sonseca Array**	**154.67**	**222**	PKP	**PKPdf**	**16 06 41.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=2.8,SNR=3.4						
ESDC				PKPbc	**PKPbc**	**16 06 50.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=158,slow=1.4,SNR=7.9						
ESDC				PKPab	**PKPab**	**16 07 05.2**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=159,slow=3.0,SNR=8.0						
PAB	**San Pablo**	**154.68**	**221**	*e*PKP2	**PKPab**	**16 07 07.3**	**+1.4**
PAB	**San Pablo**	**154.68**	**221**	*e*PKPab	**PKPab**	**16 07 07.3**	**+1.4**
GEC2	**GERESS Array S**	**154.75**	**259**	*e*PKP2	**PKPab**	**16 07 07.1**	**+1.0**
GEC2	**GERESS Array S**	**154.75**	**259**	*e*PKPab	**PKPab**	**16 07 07.0**	**+1.0**
GERES	**GERESS Array B**	**154.75**	**259**	PKP	**PKPdf**	**16 06 40.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=183,slow=2.0,SNR=4.3						
GERES				PKPbc	**PKPbc**	**16 06 49.6**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=132,slow=2.0,SNR=7.0						
GERES				PKPab	**PKPab**	**16 07 02.5**	**-3.6**
	comp=Z,2.1nm,1.0s,baz=207,slow=0.6,SNR=3.5						
UPC	**Upice**	**154.77**	**264**	*e*PKIKP	**PKPbc**	**16 06 50.0**	**-0.8**
UPC				*e*		16 07 06.6	
UPC	**Upice**	**154.77**	**264**⇑	*e*PKP	**PKPbc**	**16 06 50.0**	**-0.8**
UPC				*e*PKPAB	**PKPab**	**16 07 06.6**	**+0.6**
KHC	**Kasperske Hory**	**155.00**	**259**	*e*PKP2	**PKPab**	**16 07 06.0**	**-1.1**
KHC				MLR	MLR		
	comp=Z,600nm,19.2s						
KHC	**Kasperske Hory**	**155.00**	**259**	*e*PKPAB	**PKPab**	**16 07 06.0**	**-1.1**
KHC				*ex*	x	16 07 17.6	
KHC				*ex*	x	16 07 24.9	
KHC				AMS	AMS	17 25 00.0	
	comp=Z,600nm,19.2s						
KHC	**Kasperske Hory**	**155.00**	**259**	*e*PKPab	**PKPab**	**16 07 06.7**	**-0.4**
PRU	**Pruhonice**	**155.13**	**262**	*e*PKP2	**PKPab**	**16 07 08.1**	**+0.6**
PRU				*e*SS	SS	16 30 25.4	-2.7
PRU				MLR	MLR		
	comp=Z,500nm,21.1s						
PRU	**Pruhonice**	**155.13**	**262**	*e*PKPAB	**PKPab**	**16 07 08.1**	**+0.6**
PRU				*ex*	x	16 07 21.4	
PRU				*e*SS	SS	16 30 25.4	-2.7
PRU				AMS	AMS	17 29 20.0	
	comp=Z,500nm,21.1s						
PRA	**Prague**	**155.24**	**262**	*e*PKP2	**PKPab**	**16 07 08.9**	**+0.9**
PRA	**Prague**	**155.24**	**262**	*e*PKPAB	**PKPab**	**16 07 08.9**	**+0.9**
PVCC	**Panska Ves**	**155.47**	**263**	*e*PKP2	**PKPab**	**16 07 08.7**	**-0.3**
PVCC	**Panska Ves**	**155.47**	**263**	*e*PKPAB	**PKPab**	**16 07 08.7**	**-0.3**
FINES	**FINESS Array B**	**155.72**	**294**	PKPbc	PKPdf	16 06 51.1	+8.1
	comp=Z,3.5nm,1.1s,baz=108,slow=6.2,SNR=4.6						
FINES				PKPab	**PKPab**	**16 07 09.2**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=115,slow=4.5,SNR=3.3						
BRG	**Berggiesshubel**	**156.00**	**263**	*e*PKP	**PKPab**	**16 07 12.1**	**+0.9**
	comp=Z,8.9nm,1.3s						
BRG				*e*		16 09 51.7	
	comp=Z,8.8nm,1.5s						
BRG				SS	SS	16 30 37.0	-0.5
	comp=N,316nm,22.1s						
	comp=E,274nm,16.4s						
	comp=Z,571nm,19.7s						
BRG	**Berggiesshubel**	**156.00**	**263**	*e*PKP2	**PKPab**	**16 07 12.1**	**+0.9**
BRG				SS	SS	16 30 37.0	-0.5
BRG				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BRG				MLR	MLR		
	comp=N,316nm,22.1s						
BRG				MLR	MLR		
	comp=E,274nm,16.4s						
BRG				MLR	MLR		
	comp=Z,571nm,19.7s						
GRF	**Grafenberg Arr**	**156.51**	**257**	*e*PKP	**PKPab**	**16 07 13.4**	**-0.1**
GRF				*e*L	L	17 21 34.4	
	comp=Z,366nm,20.9s						
CLL	**Collm**	**156.74**	**262**	*e*PKP2	**PKPab**	**16 07 13.0**	**-1.4**
CLL				pmax	pmax		
	comp=Z,15nm,1.4s						
CLL				MLR	MLR		
	comp=Z,800nm,21.8s						
CLL	**Collm**	**156.74**	**262**	*e*PKPab	**PKPab**	**16 07 13.0**	**-1.4**
	comp=Z,15nm,1.4s						
CLL				*e*PPS	PPS	16 24 00.0	
CLL				*e*		16 26 30.0	
CLL				*e*SS	SS	16 30 44.0	-1.4
CLL				*e*PSS	PSS	16 31 30.0	
CLL				*e*PSPS		16 32 14.0	
CLL				*e*SSS	SSS	16 36 30.0	
CLL				*e*SSSS		16 40 36.0	
CLL				Lm	MLR	17 28 00.0	
	comp=N,500nm,20.7s						
CLL				Lm	MLR	17 28 00.0	
	comp=E,300nm,21.3s						
CLL				Lm	MLR	17 28 00.0	
	comp=Z,800nm,21.8s						
CLL	**Collm**	**156.74**	**262**	*e*PKPab	**PKPab**	**16 07 15.5**	**+1.1**
ARCES	**ARCESS Array B**	**157.81**	**314**	PKPab	**PKPab**	**16 07 15.8**	**-2.7**
	comp=Z,3.1nm,0.8s,baz=38,slow=6.1,SNR=3.7						
DAG	**Danmarks Havn**	**164.16**	**354**	*e*PKP2	**PKPab**	**16 07 44.9**	**-1.2**
DAG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DAG	**Danmarks Havn**	**164.16**	**354**	*i* P	**PKPab**	**16 07 44.9**	**-1.2**
	comp=Z,2.4nm,1.0s						
SUMG	**Summit**	**167.54**	**18**	*e*PKP2	**PKPab**	**16 08 00.9**	**-0.7**
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SUMG	**Summit**	**167.54**	**18**	*i* P	**PKPab**	**16 08 00.9**	**-0.7**
	comp=Z,3.7nm,1.1s						

*ISCJB **01** 15:54:15.5±0.3,59.°17N±0.°03×152.°11W±0.°05, h82km±3km, mb3.7/6, Error ellipse: s-maj=4.8km s-min=3.3km az=145.9*

*IDC **01** 15:54:16.4±3.4,59.°44N× 152.°50W, h53km±30km, mb3.6/7, mb1 3.7/10, mb1mx3.3/49, mbtmp3.8/10, ML4.3/2, Error ellipse: s-maj=34.0km s-min=20.9km az=143.0*

*NEIC **01** 15:54:17.6,59.°16N×152.°11W, h64km, ML3.4(AEIC), After AEIC.*

ISC 01 15:54:16.6±0.8, 59.°18N±0.°04×152.°12W±0.°04, h73km±7km, n98, σ0.°74/107, mb3.8/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.54**	**27**	P	**Pn**	**15 54 29.5**	**-0.5**
HOM				S	**Sn**	**15 54 40.5**	**+0.6**
AUI	**Augustine Isla**	**0.69**	**284**	P	**Pn**	**15 54 31.6**	**0.0**
AUI				S	**Sn**	**15 54 42.5**	**-0.1**
AUP	**Augustine Pinn**	**0.69**	**286**	P	**Pn**	**15 54 31.9**	**+0.2**
AUL	**Augustine Lava**	**0.70**	**287**	P	**Pn**	**15 54 31.9**	**+0.2**
AUL				S	**Sn**	**15 54 43.1**	**+0.2**
OPT	**Oil Point**	**0.74**	**310**	P	**Pn**	**15 54 32.1**	**-0.1**
BRLK	**Bradley Lake**	**0.86**	**47**	P	**Pn**	**15 54 33.3**	**-0.3**
BRLK				S	**Sn**	**15 54 45.7**	**-0.5**
ILS	**Iliamna Low So**	**0.92**	**329**	P	**Pn**	**15 54 34.2**	**-0.2**
IVE	**Iliamna Volcan**	**0.95**	**332**	P	**Pn**	**15 54 34.5**	**-0.3**
MCNL	**McNeil River**	**1.14**	**271**	P	**Pn**	**15 54 36.2**	**-0.8**
RSO	**Redoubt South**	**1.32**	**346**	*e*Pn	**Pn**	**15 54 39.6**	**0.0**
RDWB	**Redoubt West**	**1.36**	**345**	P	**Pn**	**15 54 40.0**	**+0.1**
RDN	**Redoubt North**	**1.38**	**347**	P	**Pn**	**15 54 40.4**	**+0.2**
KDAK	**Kodiak Island**	**1.42**	**190**	P	**Pn**	**15 54 40.5**	**-0.1**
KDAK				S	**Sn**	**15 54 59.6**	**+0.9**
DFR	**Drift River**	**1.44**	**349**	P	**Pn**	**15 54 41.2**	**+0.2**
NCT	**North Crescent**	**1.44**	**344**	P	**Pn**	**15 54 41.2**	**+0.2**
SLKM	**Skilak Lake**	**1.64**	**35**	P	**Pn**	**15 54 43.9**	**+0.3**
SEW	**Seward**	**1.64**	**55**	P	**Pn**	**15 54 43.4**	**-0.1**
SEW				S	**Sn**	**15 55 03.7**	**-0.1**
KAKN	**Katmai Knife C**	**1.77**	**241**	P	**Pn**	**15 54 45.1**	**-0.2**
KABR	**Katmai Barrier**	**1.82**	**236**	P	**Pn**	**15 54 45.8**	**-0.2**
KCE	**Katmai Mt Cerb**	**1.85**	**241**	P	**Pn**	**15 54 46.8**	**+0.4**
KABU	**Katmai Buttres**	**1.88**	**242**	P	**Pn**	**15 54 47.4**	**+0.6**
KELA	**Mount Kelaz**	**2.02**	**250**	P	**Pn**	**15 54 48.3**	**-0.4**
CKL	**Chakachamna La**	**2.02**	**357**	P	**Pn**	**15 54 49.5**	**+0.8**
CKN	**Chakachatna No**	**2.05**	**359**	P	**Pn**	**15 54 50.0**	**+0.9**
OHAK	**Old Harbor**	**2.06**	**198**	P	**Pn**	**15 54 48.5**	**-0.6**
OHAK				S	**Sn**	**15 55 12.1**	**-1.7**
SPBG	**Spurr Blockage**	**2.09**	**357**	P	**Pn**	**15 54 50.4**	**+0.8**
BGL	**Barrier Glacie**	**2.09**	**356**	P	**Pn**	**15 54 50.5**	**+0.8**
FIB	**Fire Island**	**2.22**	**25**	P	**Pn**	**15 54 52.8**	**+1.6**
RC01	**Rabbit Creek A**	**2.26**	**31**	P	**Pn**	**15 54 52.4**	**+0.6**
STLK	**Strandline Lak**	**2.33**	**3**	P	**Pn**	**15 54 53.9**	**+1.1**
SUA	**Susitna One**	**2.39**	**16**	P	**Pn**	**15 54 54.3**	**+0.6**
SVW2	**Sparrevohn**	**2.59**	**320**	P	**Pn**	**15 54 55.9**	**-0.3**
PLK1	**Peulik 1**	**2.73**	**241**	P	**Pn**	**15 54 58.6**	**+0.5**
SKT	**Skwentna**	**2.82**	**6**	P	**Pn**	**15 55 00.1**	**+0.7**
PMR	**Palmer**	**2.84**	**30**	P	**Pn**	**15 54 59.8**	**+0.2**
SII	**Sitkinak Islan**	**2.85**	**204**	P	**Pn**	**15 54 59.5**	**-0.3**
MID	**Middleton Isla**	**2.98**	**83**	P	**Pn**	**15 55 01.7**	**+0.2**
GLI	**Glacier Island**	**3.04**	**54**	P	**Pn**	**15 55 01.7**	**-0.7**
HIN	**Hinchinbrook I**	**3.09**	**64**	P	**Pn**	**15 55 03.4**	**+0.3**
JPK	**Jack Peak**	**3.34**	**53**	P	**Pn**	**15 55 06.2**	**-0.3**
VLZ	**Valdez**	**3.49**	**53**	P	**Pn**	**15 55 09.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.50**	**64**	P	**Pn**	**15 55 08.4**	**-0.1**
SCM	**Sheep Creek Mo**	**3.56**	**40**	P	**Pn**	**15 55 10.4**	**+0.9**
DIV	**Divide**	**3.73**	**56**	P	**Pn**	**15 55 12.2**	**+0.4**
PPLA	**Purkeypile**	**3.73**	**360**	P	**Pn**	**15 55 12.8**	**+1.0**
KLU	**Klutina**	**3.86**	**50**	P	**Pn**	**15 55 13.8**	**+0.3**
GOAT	**Goat Mountain**	**3.98**	**66**	P	**Pn**	**15 55 15.6**	**+0.4**
PS12	**TAPS Pump St12**	**4.16**	**53**	P	**Pn**	**15 55 18.1**	**+0.5**
BMRM	**Bremner River**	**4.17**	**61**	P	**Pn**	**15 55 17.9**	**+0.1**
TT01	**Tatalina**	**4.19**	**335**	P	**Pn**	**15 55 18.1**	**+0.2**
NICHA	**Nichawak Mount**	**4.26**	**72**	P	**Pn**	**15 55 19.6**	**+0.5**
TRF	**Thorofare Moun**	**4.38**	**11**	P	**Pn**	**15 55 20.5**	**-0.2**
PS11	**TAPS Pump St11**	**4.38**	**46**	P	**Pn**	**15 55 21.6**	**+1.0**
KTH	**Kantishna Hill**	**4.42**	**7**	P	**Pn**	**15 55 21.5**	**+0.3**
RND	**Reindeer**	**4.52**	**19**	P	**Pn**	**15 55 23.1**	**+0.5**
KHIT	**Khitrov Hills**	**4.66**	**70**	P	**Pn**	**15 55 24.8**	**+0.3**
GLB	**Gilahina Butte**	**4.71**	**58**	P	**Pn**	**15 55 25.4**	**+0.2**
VRDI	**Verde Repeater**	**4.79**	**61**	P	**Pn**	**15 55 26.3**	**0.0**
MCK	**McKinley**	**4.82**	**17**	P	**Pn**	**15 55 27.3**	**+0.7**
PAX	**Paxson**	**4.99**	**38**	P	**Pn**	**15 55 29.3**	**+0.4**
BARK	**Barkley Ridge**	**5.02**	**72**	P	**Pn**	**15 55 30.1**	**+0.7**
MCARA	**McCarthy VSAT**	**5.04**	**60**	P	**Pn**	**15 55 29.8**	**+0.2**
ISLE	**Juniper Island**	**5.13**	**70**	P	**Pn**	**15 55 31.4**	**+0.5**
BWN	**Browne**	**5.17**	**13**	P	**Pn**	**15 55 32.2**	**+1.0**
KIAG	**Kiagna River**	**5.20**	**66**	P	**Pn**	**15 55 32.2**	**+0.3**
PTPK	**Patty Peak**	**5.22**	**63**	P	**Pn**	**15 55 32.7**	**+0.4**
BAGL	**Bagley Icefiel**	**5.23**	**71**	P	**Pn**	**15 55 32.6**	**+0.5**
BALM	**Baldy**	**5.23**	**65**	P	**Pn**	**15 55 32.4**	**+0.1**
MESA	**MESA**	**5.25**	**75**	P	**Pn**	**15 55 33.6**	**+0.9**
GRNC	**Granite Creek**	**5.44**	**69**	P	**Pn**	**15 55 35.9**	**+0.6**
DDM	**Donnelly Dome**	**5.51**	**30**	P	**Pn**	**15 55 37.0**	**+1.0**
BARN	**Barnard Glacie**	**5.56**	**66**	P	**Pn**	**15 55 37.0**	**+0.1**
WRH	**Wood River Hil**	**5.64**	**18**	P	**Pn**	**15 55 37.9**	**+0.1**
CHX	**Chaix Hills**	**5.66**	**76**	P	**Pn**	**15 55 39.2**	**+1.1**
HDA	**Harding Lake**	**5.79**	**23**	P	**Pn**	**15 55 39.9**	**+0.1**
CCB	**Clear Creek Bu**	**5.85**	**19**	P	**Pn**	**15 55 41.0**	**+0.4**
MLY	**Manley**	**5.91**	**6**	P	**Pn**	**15 55 42.4**	**+1.0**
PS08	**TAPS Pump Stn8**	**5.94**	**23**	P	**Pn**	**15 55 43.1**	**+1.4**
COLA	**College**	**6.05**	**18**	P	**Pn**	**15 55 44.2**	**+0.8**
MDM	**Murphy Dome**	**6.08**	**16**	P	**Pn**	**15 55 44.5**	**+0.7**
IL1	**Eielson Array**	**6.13**	**22**	P	**Pn**	**15 55 44.8**	**+0.3**
IL01	**Eielson Array**	**6.13**	**21**	P	**Pn**	**15 55 43.0**	**-1.4**
	1.5nm,0.3s,baz=207,slow=14,SNR=51						
ILAR				S	**Sn**	**15 56 49.1**	**-3.8**
	3.5nm,0.3s,baz=209,slow=29,SNR=15						
ILB	**Eielson Array**	**6.13**	**21**	P	**Pn**	**15 55 44.6**	**+0.2**
BCA3	**Beaver Creek A**	**6.34**	**48**	P	**Pn**	**15 55 48.0**	**+0.7**
IM3	**Indian Mountai**	**6.87**	**354**	P	**Pn**	**15 55 54.9**	**+0.4**
HYT	**Haines Junctio**	**7.51**	**71**	P	**Pn**	**15 56 02.8**	**-0.6**
COLD	**Coldfoot**	**8.12**	**5**	P	**Pn**	**15 56 11.4**	**-0.2**
WHY	**Whitehorse**	**8.79**	**353**	P	**Pn**	**15 56 20.2**	**-0.6**
DLBC	**Dease Lake**	**11.47**	**84**	P	**Pn**	**15 56 59.0**	**+1.6**
	2.1nm,0.3s,baz=272,slow=8.0,SNR=22						
YKA	**Yellowknife Ar**	**18.40**	**64**	P	**Pn**	**15 58 27.6**	**+1.3**
	0.0nm,0.3s,baz=276,slow=10,SNR=4.3						
FX1	**Attu Island--F**	**20.22**	**267**	P	**P**	**15 58 44.4**	**-0.9**
	21nm,0.8s,baz=99,slow=3.3,SNR=10.0						
ARCES	**ARCESS Array B**	**51.57**	**1**	P	**P**	**16 03 14.4**	**-0.2**
	2.5nm,0.8s,baz=25,slow=13,SNR=3.0						
KSRS	**Korea Array**	**53.80**	**284**	P	**P**	**16 03 31.6**	**+0.2**
	0.8nm,0.5s,baz=40,slow=6.8,SNR=3.7						
KSAR	**Wonju Array Be**	**53.83**	**284**	P	**P**	**16 03 31.6**	**0.0**
SONM	**Songino Array**	**55.64**	**307**	P	**P**	**16 03 44.5**	**-0.3**
	0.4nm,0.8s,baz=39,slow=5.5,SNR=3.6						
SONM				PcP	**PcP**	**16 04 44.4**	**+0.9**
	0.4nm,0.6s,baz=111,slow=3.2,SNR=3.8						
FINES	**FINESS Array B**	**59.70**	**1**	P	**P**	**16 04 13.2**	**+0.4**
	2.2nm,0.9s,baz=316,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**65.35**	**322**	P	**P**	**16 04 50.1**	**-0.7**
	0.2nm,0.5s,baz=35,slow=8.8,SNR=3.0						
AKASG	**Malin Array Be**	**70.47**	**359**	P	**P**	**16 05 22.8**	**+0.1**
	0.1nm,0.3s,baz=7.5,slow=5.5,SNR=3.4						

*CSEM **01** 16:06:33.7±0.3,46.°11N×13.°54E, h15km, ML0.9, Error ellipse: s-maj=6.3km s-min=4.9km az=33.0*

LJU 01 16:06:34.1,46.°15N×13.°56E, h16km, ML0.9, 5C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**0.06**	**67**⇑	*e*Pg	Pg	16 06 37.3	0.0
DRE				*e*Sg	Sg	16 06 39.5	+0.1
DRE	**Drenchia**	**0.06**	**67**	*e*P	Pg	16 06 37.3	0.0
DRE				*e*Sg	Sg	16 06 39.5	0.0
ROBS	**Robic**	**0.10**	**339**	*i* Pg	Pg	16 06 37.7	+0.1
ROBS				*i* Sg	Sb	16 06 40.1	0.0
	comp=Z,18nm,0.1s						
ROBS	**Robic**	**0.10**	**339**	*i* Pg	Pb	16 06 37.7	0.0
ROBS				*i* Sg	Sb	16 06 40.2	+0.1
	comp=Z,18nm,0.1s						
CADS	**Cadrg**	**0.15**	**57**⇑	*i* Pg	Pg	16 06 38.3	+0.1
CADS				*i* Sg	Sb	16 06 41.2	-0.3
	comp=Z,12nm,0.1s						
CADS	**Cadrg**	**0.15**	**57**⇑	*i* Pg	Pg	16 06 38.3	+0.1
CADS				*i* Sg	Sg	16 06 41.2	+0.3
	comp=Z,12nm,0.1s						
VOJS	**Vojsko**	**0.25**	**117**⇑	*i* Pg	Pg	16 06 39.7	-0.1
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.25**	**117**⇑	*i* Pg	Pg	16 06 39.7	-0.2
	comp=Z,4.0nm,0.1s						
GORS	**Gorjuse**	**0.34**	**61**	*i* Pg	Pg	16 06 41.2	-0.3
GORS				*i* Sg	Sb	16 06 47.2	-0.2
	comp=Z,2.0nm,0.1s						
GORS	**Gorjuse**	**0.34**	**61**	*i* Pg	Pg	16 06 41.2	-0.3
GORS				*i* Sg	Sb	16 06 47.2	-0.1
	comp=Z,2.0nm,0.1s						

*IDC **01** 16:46:48.2±0.9,39.°45N×144.°81E, h0km, mb3.5/10, mb1 3.7/13, mb1mx3.5/29, mbtmp3.5/13, ML3.2/3, Error ellipse: s-maj=22.3km s-min=18.1km az=123.0*

*JMA **01** 16:46:52.1±0.2,39.°71N×144.°58E, h41km, M3.8*

ISC 01 16:46:52.7±1.8, 39.°66N±0.°04×144.°64E±0.°04, h26km±14km, n37, σ1.°26/52, mb3.6/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**2.15**	**278**	P	**Pn**	**16 47 25.9**	**-1.0**
JTH				*e*S	Sn	16 47 51.0	-1.8
MIYJ	**Miyakonagasawa**	**2.18**	**269**	P	**Pn**	**16 47 26.6**	**-0.6**
MIYJ				*e*S	**Sn**	**16 47 51.7**	**-1.6**
OFUJ	**Ofunato**	**2.37**	**257**	P	**Pn**	**16 47 29.1**	**-0.7**
OFUJ				*e*S	**Sn**	**16 47 56.9**	**-1.2**
JANG	**Nango**	**2.50**	**288**	P	**Pn**	**16 47 30.6**	**-1.1**
JANG				*e*S	Sn	16 47 58.6	-2.7
JOM	**Ohasama**	**2.59**	**267**	P	**Pn**	**16 47 32.8**	**-0.1**
JOM				*e*S	Sn	16 48 01.6	-1.9
JMK	**Ichinoseki**	**2.74**	**256**	P	**Pn**	**16 47 34.3**	**-0.6**
JMK				*e*S	**Sn**	**16 48 05.9**	**-1.3**
JTM	**Tenmabayashi**	**2.96**	**294**	P	**Pn**	**16 47 37.6**	**-0.3**
JTM				*e*S	**Sn**	**16 48 11.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.98**	**332**	P	**Pn**	**16 47 38.5**	**+0.2**
JNBK				*e*S	**Sn**	**16 48 13.2**	**0.0**
JRG	**Rokugo**	**3.11**	**267**	P	**Pn**	**16 47 39.8**	**-0.2**
JRG				*e*S	**Sn**	**16 48 16.2**	**0.0**
JCH	**Churui**	**3.11**	**342**	P	**Pn**	**16 47 39.1**	**-0.9**
JCH				*e*S	**Sn**	**16 48 14.3**	**-2.0**
JAH	**Hinai**	**3.12**	**281**	P	**Pn**	**16 47 40.5**	**+0.3**
JAH				*e*S	**Sn**	**16 48 15.8**	**-0.8**
JOT	**Ohata**	**3.23**	**303**	P	**Pn**	**16 47 41.7**	**0.0**
JOT				*e*S	**Sn**	**16 48 17.9**	**-1.4**
JAK	**Akkeshi**	**3.34**	**1**	P	Pn	16 47 41.4	-1.7
JAK				*e*S	**Sn**	**16 48 19.2**	**-2.7**
JOU	**Okura**	**3.35**	**249**	P	**Pn**	**16 47 42.7**	**-0.7**
JOU				*e*S	**Sn**	**16 48 20.4**	**-1.9**
JYK	**Kaneyama**	**3.40**	**259**	P	**Pn**	**16 47 43.7**	**-0.3**
JYK				S	**Sn**	**16 48 21.6**	**-1.9**
JKB	**Kayabe**	**3.53**	**310**	P	**Pn**	**16 47 46.0**	**+0.2**
JKB				*e*S	**Sn**	**16 48 25.1**	**-1.6**
JAR	**Ashorobuto**	**3.70**	**350**	P	**Pn**	**16 47 47.1**	**-1.0**
JAR				*e*S	Sn	16 48 27.4	-3.4
NEM2	**Nemuro 2**	**3.80**	**12**	P	Pn	16 47 46.9	-2.6
NEM2				*e*S	Sn	16 48 28.2	-5.1
JFR	**Furan**	**3.83**	**337**	P	**Pn**	**16 47 50.1**	**+0.2**
JFR				*e*S	**Sn**	**16 48 32.0**	**-2.0**
JFT	**Otama**	**3.99**	**239**	P	**Pn**	**16 47 51.0**	**-1.1**
JFT				*e*S	Sn	16 48 35.3	-2.7
JTKR	**Abashiri--Toko**	**4.35**	**353**	P	**Pn**	**16 47 55.9**	**-1.1**
JTKR				*e*S	**Sn**	**16 48 44.5**	**-2.3**
JHR	**Hokuryu**	**4.63**	**333**	*e*S	**Sn**	**16 48 54.8**	**+1.0**
ASAJ	**Asahikawa**	**4.71**	**342**	Pn	**Pn**	**16 48 02.5**	**+0.5**
	1.0nm,0.3s,baz=178,slow=17,SNR=12						
ASAJ				Sn	**Sn**	**16 48 55.8**	**0.0**
	0.5nm,0.3s,baz=221,slow=20,SNR=3.8						
JRY	**Ryogami san**	**5.81**	**233**	P	**Pn**	**16 48 16.1**	**-1.1**
JRY				*e*S	Sn	16 49 18.7	-4.3
MJAR	**Matsushiro Arr**	**5.95**	**241**	Pn	**Pn**	**16 48 17.5**	**-1.5**
	1.7nm,0.3s,baz=54,slow=11,SNR=18						
MJAR				Sn	**Sn**	**16 49 27.6**	**+1.3**
	0.4nm,0.3s,baz=99,slow=18,SNR=3.4						
MAT	**Matsushiro**	**5.95**	**241**	P	**Pn**	**16 48 19.5**	**+0.5**
MAT				S	**Sn**	**16 49 28.7**	**+2.4**
USRK	**Ussuriysk Ar.**	**10.46**	**300**	Pn	**Pn**	**16 49 22.8**	**+2.0**
	0.3nm,0.3s,baz=106,slow=14,SNR=5.0						
SEY	**Seymchan**	**23.77**	**9**	P	**P**	**16 52 03.6**	**+0.8**
	1.4nm,0.8s,baz=197,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**42.09**	**310**	P	**P**	**16 54 44.3**	**+2.2**
	0.3nm,0.5s,baz=85,slow=7.9,SNR=2.2						
MKAR	**Makanchi Array**	**44.93**	**300**	P	**P**	**16 55 06.1**	**+1.0**
	0.4nm,0.9s,baz=86,slow=9.0,SNR=3.5						
ILAR	**Eielson Array**	**45.92**	**34**	P	**P**	**16 55 12.6**	**-0.2**
	0.7nm,0.9s,baz=268,slow=9.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**46.44**	**307**	P	**P**	**16 55 18.4**	**+1.4**
	0.5nm,0.6s,baz=79,slow=8.6,SNR=5.4						
WRA	**Warramunga Arr**	**60.06**	**191**	P	P	16 56 54.6	-2.8
	0.6nm,0.7s,baz=8.7,slow=7.0,SNR=5.7						
YKA	**Yellowknife Ar**	**60.26**	**32**	P	**P**	**16 56 57.7**	**-0.7**
	0.2nm,0.7s,baz=305,slow=6.9,SNR=3.6						
ASAR	**Alice Springs**	**63.78**	**191**	P	**P**	**16 57 21.6**	**-0.9**
	0.4nm,0.7s,baz=14,slow=8.7,SNR=3.4						
NVAR	**Mina Array Bea**	**71.40**	**55**	P	**P**	**16 58 11.8**	**+0.9**
	0.4nm,0.8s,baz=263,slow=6.3,SNR=3.2						
AKASG	**Malin Array Be**	**73.75**	**323**	P	**P**	**16 58 25.3**	**+1.1**
	0.4nm,0.5s,baz=39,slow=6.0,SNR=3.7						

*ISCJB **01** 16:51:41.7±1.7,34.°56S±0.°03×71.°97W±0.°07, h6km±10km, mb3.9/4, Error ellipse: s-maj=10.1km s-min=4.6km az=22.8*

*IDC **01** 16:51:41.1±1.1,34.°62S×72.°06W, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.9/18, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=33.3km s-min=24.3km az=101.0*

*GUC **01** 16:51:43.3±0.5,34.°56S×71.°88W, h35km±2

SNR=6.0
ULHL Ulahol 7.02 34 P **Pn** 16 54 19.4 +1.3
SNR=5.5
TKM2 Tokmak 2 7.31 28 ⇓P **Pn** 16 54 22.7 +0.9
9.5nm,0.7s
TKM2 ⇑S Sn 16 55 38.0 -6.5
0.2nm,0.3s
TKM2 Tokmak 2 7.31 28 P **Pn** 16 54 23.0 +1.2
SNR=17
MKAR Makanchi Array 13.29 36 P **Pn** 16 55 39.6 +0.8
0.1nm,0.3s,baz=218,slow=13,SNR=5.4
AB31 Akbulak array 15.03 331 P **P** 16 56 02.9 +1.8
0.3nm,0.6s,baz=137,slow=12,SNR=7.1
AKTO Aktyubinsk 16.72 330 ⇓P **Pn** 16 56 22.0 +1.2
2.1nm,0.9s
AKTO Aktyubinsk 16.72 330 P **P** 16 56 20.9 +1.1
0.2nm,0.3s,baz=128,slow=10,SNR=6.3
ZALV Zalesovo Beam 19.90 25 P **P** 16 56 55.1 +0.8
0.6nm,0.5s,baz=220,slow=11,SNR=4.1
FINES FINESS Array B 37.42 326 P **P** 16 59 33.1 +1.0
0.8nm,0.8s,baz=120,slow=13,SNR=3.8
ARCES ARCESS Array B 41.09 338 P **P** 17 00 02.3 0.0
3.0nm,0.9s,baz=42,slow=9.8,SNR=5.0
NOA NORSAR Array B 44.32 323 P **P** 17 00 28.7 +0.3
0.7nm,0.7s,baz=96,slow=7.8,SNR=4.0
TORD Torodi Ar. Bea 65.67 269 P **P** 17 03 00.3 -1.6
0.3nm,0.6s,baz=55,slow=5.9,SNR=4.3
YKA Yellowknife Ar 81.21 3 P **P** 17 04 32.3 +0.5
0.2nm,0.5s,baz=351,slow=5.5,SNR=4.8
WRA Warramunga Arr 82.05 122 P **P** 17 04 35.6 -1.2
0.6nm,1.0s,baz=324,slow=5.1,SNR=5.0
ASAR Alice Springs 84.32 125 P **P** 17 04 47.4 -1.1
0.2nm,0.6s,baz=298,slow=3.9,SNR=4.3

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*NIED **01** 17:09:00,26˚.00N×128˚.40E,h14km,Mw4.1 Best double couple: M0 1.82000×10^15 NP1:ϕs=350.00000°,δ61.00000°, λ=-159.00000°. NP2:ϕs=250.00000°,δ71.00000°, λ=-30.00000°.*
*IDC **01** 17:09:38.9±0.7,25˚.91N×128˚.42E,h0km,mb4.1/21, mb1 4.2/25,mb1mx4.1/46,mbtmp4.0/25,ML3.5/4,MS3.1/2, Ms1 3.1/2,ms1mx2.6/58,Error ellipse: s-maj=20.0km s-min=15.1km az=85.0*
*ISCJB **01** 17:09:41.0±0.8,25˚.90N±0˚.03×128˚.43E±0˚.03,h26km±5km, mb4.2/34,MS3.4/1,Error ellipse: s-maj=6.2km s-min=3.3km az=44.0*
*NEIC **01** 17:09:42.7±2.0,25˚.95N×128˚.48E,h21km±13km,mb4.3/7, Error ellipse: s-maj=11.5km s-min=9.5km az=122.0*
*MOS **01** 17:09:42.9±1.3,25˚.95N×128˚.42E,h36km,mb4.5/25,Error ellipse: s-maj=12.6km s-min=7.2km az=101.0*
*JMA **01** 17:09:43.0±0.3,25˚.99N×128˚.44E,h45km±4km,M4.1*
ISC 01 17:09:44.1±0.9,25˚.97N±0˚.05×128˚.37E±0˚.04,h30km±5km, n107,σ1§45/131,mb4.3/34,5C-2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
JJT2	**Tamagusuku 2**	**0.59**	**287**	P		**Pn**		**17 09 55.8**			**-0.6**
JJT2				S		**Sn**		**17 10 05.7**			**+0.7**
JNTH	**Nagotoyohara**	**0.63**	**330**	P		**Pb**		**17 09 55.6**			**-1.1**
JNTH				*e*S		**Sb**		**17 10 04.6**			**-0.7**
JOW	**Kunigami**	**0.86**	**354**	P		**Pn**		**17 09 58.9**			**-1.3**
JOW				*e*S		**Sb**		**17 10 10.3**			**-1.5**
JOW	**Kunigami**	**0.86**	**354**	*e*P		**Pn**		**17 09 58.6**			**-1.7**
JIH	**Iheya**	**1.12**	**341**	P		**Pn**		**17 10 03.2**			**-0.6**
JIH				S		**Sn**		**17 10 17.8**			**-0.4**
JAGN	**Aguni-jima**	**1.19**	**302**	P		**Pn**		**17 10 04.5**			**-0.2**
JAGN				*e*S		**Sb**		**17 10 20.3**			**-0.8**
JOKE	**Okinoerabujima**	**1.40**	**7**	P		**Pn**		**17 10 06.2**			**-1.4**
JOKE				S		**Sn**		**17 10 23.5**			**-1.5**
JKE	**Kume jima 2**	**1.47**	**284**	P		**Pn**		**17 10 07.8**			**-0.8**
JKE				*e*S		**Sn**		**17 10 26.1**			**-0.7**
JTK	**Tokunoshima**	**1.88**	**16**	P		**Pn**		**17 10 12.8**			**-1.4**
JTK				*e*S		**Sn**		**17 10 34.7**			**-2.2**
JAMN	**Amaminishikomi**	**2.37**	**17**	P		**Pn**		**17 10 19.4**			**-1.6**
JAMN				*e*S		**Sn**		**17 10 47.3**			**-1.8**
JMZ	**Minamidaito 2**	**2.57**	**93**	P		Pn		17 10 19.2			-4.5
JMZ				*e*S		Sn		17 10 46.1			-7.8
JAM	**Amami Oshima**	**2.67**	**24**	P		**Pn**		**17 10 23.1**			**-1.9**
JAM				*e*S		**Sn**		**17 10 54.8**			**-1.5**
JZK	**Kikaishima**	**2.73**	**31**	P		**Pn**		**17 10 25.1**			**-0.9**
JZK				*e*S		**Sn**		**17 10 56.2**			**-1.8**
JOGS	**Gusukube**	**2.94**	**246**	P		**Pn**		**17 10 27.9**			**-0.9**
JOGS				*e*S		**Sn**		**17 11 01.8**			**-1.3**
JIKM	**Ikemajima**	**3.01**	**250**	P		**Pn**		**17 10 28.9**			**-0.9**
JIKM				*e*S		**Sn**		**17 11 02.5**			**-2.3**
JMJ	**Miyako jima 2**	**3.01**	**248**	P		**Pn**		**17 10 28.7**			**-1.1**
JMJ				*e*S		**Sn**		**17 11 02.9**			**-2.0**
JIRB	**Irabujima**	**3.11**	**249**	P		**Pn**		**17 10 29.8**			**-1.3**
JIRB				*e*S		**Sn**		**17 11 05.1**			**-2.2**
JTJ	**Tarama**	**3.58**	**249**	P		**Pn**		**17 10 35.5**			**-2.0**
JTJ				*e*S		**Sn**		**17 11 15.7**			**-3.1**
JISG	**Ishigakijimahi**	**3.93**	**250**	P		**Pn**		**17 10 40.0**			**-2.4**
JIJ	**Ishigaki jima**	**4.15**	**248**	P		**Pn**		**17 10 43.0**			**-2.5**
JIJ				*e*S		**Sn**		**17 11 28.7**			**-4.3**
JKRS	**Kuro-shima**	**4.32**	**247**	P		**Pn**		**17 10 46.1**			**-1.6**
IRIF	**Iriomote-Funau**	**4.51**	**250**	P		**Pn**		**17 10 49.9**			**-0.5**
IRIF				*e*S		**Sn**		**17 11 39.0**			**-2.9**
YOJ	**Yonaguni jima**	**5.08**	**254**	P		**Pn**		**17 10 56.1**			**-2.2**
JYNG	**Yonagunijimaku**	**5.14**	**254**	P		**Pn**		**17 10 56.8**			**-2.3**
JYNG				*e*S		Sn		17 11 51.3			-6.2
JNU	**Nakatsue**	**7.45**	**16**	Pn		**Pn**		**17 11 30.3**			**-0.6**
	2.7nm,0.3s,baz=206,slow=8.4,SNR=15										
JNU				Sn		**Sn**		**17 12 51.8**			**-2.6**
	1.2nm,0.3s,baz=120,slow=20,SNR=3.8										
JNU				LR		LR		17 14 45.2			
	comp=Z,98nm,20.4s,baz=209,slow=41										
KSAR	**Wonju Array Be**	**11.45**	**358**	P		**Pn**		**17 12 25.0**			**-0.5**
KSAR	**Wonju Array Be**	**11.45**	**358**	Pn		**Pn**		**17 12 25.0**			**-0.5**
KSRS	**Korea Array**	**11.46**	**358**	P		**Pn**		**17 12 25.0**			**-0.6**
KSRS				MLR		MLR					
	comp=Z,137nm,18.6s										
KSRS	**Korea Array**	**11.46**	**358**	Pn		**Pn**		**17 12 25.0**			**-0.6**
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=4.8										
KSRS				LR		LR		17 17 16.7			
	comp=Z,137nm,18.6s,baz=176,slow=40										
MJAR	**Matsushiro Arr**	**13.47**	**36**	P		**Pn**		**17 12 53.0**			**-0.3**
MJAR	**Matsushiro Arr**	**13.47**	**36**	Pn		**Pn**		**17 12 53.0**			**-0.3**
	comp=Z,0.2nm,0.3s,baz=218,slow=8.5,SNR=3.0										
USRK	**Ussuriysk Ar.**	**18.42**	**8**	P		**Pn**		**17 13 57.7**			**+0.6**
	comp=Z,0.2nm,0.3s,baz=186,slow=10,SNR=3.5										
ERM	**Erimo**	**20.11**	**34**	⇓*e*P		Pn		17 14 17.0			-0.3
ERM				pmax		pmax					
	comp=Z,64nm,1.2s										
SLVN	**Son La**	**22.87**	**264**	*e*P		**P**		**17 14 48.5**			**+3.2**
	comp=Z,10nm,1.3s										
HABR	**Khabarovsk**	**23.07**	**11**	*e*P		**P**		**17 14 46.9**			**-0.1**
HABR				*e**PP		**pP**		**17 14 55.8**			**+0.7**
HABR				*e**SP		**sP**		**17 15 00.3**			**+1.4**
HABR				*e*				17 15 13.4			
HABR				*e*PPP		PPP		17 15 21.5			
HABR				*e*				17 18 33.6			
HABR				*e*S		**S**		**17 18 57.4**			**+1.6**
HABR				*e**SS		Sn		17 19 13.8			+0.3
HABR				*e*SS		**SnSn**		**17 19 34.3**			**+4.5**
HABR				*e*SSS		SSS		17 19 48.5			
HABR				*e*				17 25 54.5			
HABR				pmax		pmax					
	comp=Z,40nm,2.5s										
HABR				MLR		MLR					
	comp=Z,102nm,16.0s										
YSS	**Yuzh-Sakhalins**	**23.85**	**25**	*e*P		**P**		**17 14 56.2**			**+1.6**
YSS				*e*				17 15 02.6			
YSS				*e*S		**S**		**17 19 11.0**			**+2.4**
YSS				pmax		pmax					
	comp=Z,40nm,1.0s										
YSS	**Yuzh-Sakhalins**	**23.85**	**25**	*e*P		**P**		**17 14 56.0**			**+1.4**
	comp=Z,100nm,1.2s										
ULN	**Ulaanbaatar**	**27.55**	**328**	⇓*e*P		**P**		**17 15 29.3**			**+0.9**
ULN				pmax		pmax					
	comp=Z,10.0nm,1.7s										
ULN	**Ulaanbaatar**	**27.55**	**328**	*e*P		**P**		**17 15 29.9**			**+1.5**
	comp=Z,11nm,1.4s										
SONM	**Songino Array**	**27.84**	**327**	P		**P**		**17 15 32.7**			**+1.7**
SONM				pmax		pmax					
	comp=Z,4.0nm,0.5s										
SONM	**Songino Array**	**27.84**	**327**	P		**P**		**17 15 32.7**			**+1.7**
	comp=Z,3.7nm,0.5s,baz=140,slow=11,SNR=38										
CHTO	**Chiang Mai**	**28.09**	**261**	*e*P		**P**		**17 15 35.7**			**+2.4**
CHTO				pmax		pmax					
	comp=Z,10.0nm,1.6s										
CHTO	**Chiang Mai**	**28.09**	**261**	*e*P		**P**		**17 15 35.7**			**+2.4**
	comp=Z,9.6nm,1.6s										
CMAR	**Chiang Mai Arr**	**28.21**	**261**	P		**P**		**17 15 35.2**			**+0.8**
CMAR								17 18 46.7			
CMAR				pmax		pmax					
	comp=Z,1.0nm,0.9s										
CMAR				pmax		pmax					
	comp=Z,1.0nm,0.7s										
CMAR	**Chiang Mai Arr**	**28.21**	**261**	P		**P**		**17 15 35.1**			**+0.8**
	comp=Z,0.9nm,0.9s,baz=61,slow=7.2,SNR=6.6										
CMAR				PcP		**PcP**		**17 18 46.7**			**-1.0**
	comp=Z,0.5nm,0.7s,baz=41,slow=2.3,SNR=4.7										
TAPN	**Taplejung**	**36.26**	**281**	*e*P		**P**		**17 16 45.5**			**+0.3**
	comp=Z,21nm,1.1s										
ODAN	**Odare**	**36.60**	**281**	*e*P		**P**		**17 16 48.5**			**+0.4**
	comp=Z,46nm,0.8s										
GUN	**Gumba**	**37.80**	**283**	*e*P		**P**		**17 16 58.3**			**0.0**
PKI	**Pulchoki**	**38.25**	**282**	*e*P		**P**		**17 17 02.1**			**0.0**
PKIN	**Phulchoki**	**38.27**	**282**	*e*P		**P**		**17 17 01.7**			**-0.5**
	comp=Z,5.9nm,0.5s										
KKN	**Kakani**	**38.34**	**283**	*e*P		**P**		**17 17 03.0**			**+0.3**
DMN	**Daman**	**38.52**	**282**	*e*P		**P**		**17 17 04.5**			**+0.2**
SEY	**Seymchan**	**40.23**	**17**	P		**P**		**17 17 17.7**			**-0.1**
	comp=Z,0.3nm,0.4s,baz=249,slow=18,SNR=6.3										
MKAR	**Makanchi Array**	**41.80**	**312**	P		**P**		**17 17 30.2**			**-0.8**
MKAR								17 19 26.2			
MKAR				pmax		pmax					
	comp=Z,2.0nm,0.5s										
MKAR				pmax		pmax					
	comp=Z,1.0nm,0.7s										
MKAR	**Makanchi Array**	**41.80**	**312**	P		**P**		**17 17 30.2**			**-0.8**
	comp=Z,1.7nm,0.5s,baz=92,slow=10,SNR=39										
MKAR				PcP		**PcP**		**17 19 26.2**			**-0.5**
	comp=Z,0.5nm,0.7s,baz=99,slow=0.7,SNR=3.8										
ZALV	**Zalesovo Beam**	**42.53**	**323**	*i* P		**P**		**17 17 35.2**			**-1.6**
ZALV				pmax		pmax					
	comp=Z,1.0nm,0.5s										
ZALV	**Zalesovo Beam**	**42.53**	**323**	P		**P**		**17 17 35.0**			**-1.8**
	comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=6.4										
KURK	**Kurchatov**	**45.10**	**317**	P		**P**		**17 17 56.3**			**-1.1**
KURK				pmax		pmax					
	comp=Z,1.0nm,0.3s										
KURK	**Kurchatov**	**45.10**	**317**	P		**P**		**17 17 56.3**			**-1.1**
KURBB	**Kurchatov Arra**	**45.13**	**317**	P		**P**		**17 17 56.3**			**-1.4**
	comp=Z,0.9nm,0.3s,baz=104,slow=9.0,SNR=16										
TIXI	**Tiksi**	**45.72**	**0**	⇑*e*P		**P**		**17 18 03.8**			**+1.8**
TIXI				pmax		pmax					
	comp=Z,5.0nm,1.7s										
TIXI	**Tiksi**	**45.72**	**0**	*e*P		**P**		**17 18 01.5**			**-0.5**
	comp=Z,1.4nm,0.5s										
TKM2	**Tokmak 2**	**45.93**	**306**	*e*P		**P**		**17 18 05.0**			**+0.5**
TKM2				pmax		pmax					
	comp=Z,3.0nm,0.8s										
TKM2	**Tokmak 2**	**45.93**	**306**	*e*P		**P**		**17 18 05.0**			**+0.5**
	comp=Z,3.4nm,0.8s										
WRAB	**Tennant Creek**	**46.00**	**172**	⇑*e*P		**P**		**17 18 04.0**			**-0.8**
WRAB				pmax		pmax					
	comp=Z,107nm,2.5s										
WRA	**Warramunga Arr**	**46.00**	**172**	P		**P**		**17 18 03.5**			**-1.4**
WRA				pmax		pmax					
	comp=Z,7.0nm,0.6s										
WRA	**Warramunga Arr**	**46.00**	**172**	P		**P**		**17 18 03.5**			**-1.4**
	comp=Z,6.5nm,0.6s,baz=353,slow=8.4,SNR=67										
AAK	**Ala-Archa**	**46.73**	**305**	P		**P**		**17 18 10.9**			**+0.3**
AAK				pmax		pmax					
	comp=Z,1.0nm,0.5s										
AAK	**Ala-Archa**	**46.73**	**305**	P		**P**		**17 18 10.9**			**+0.3**
	comp=Z,0.7nm,0.5s,baz=159,slow=8.6,SNR=4.8										
BILL	**Bilibino**	**47.88**	**18**	*e*P		**P**		**17 18 20.0**			**+1.0**
BILL				pmax		pmax					
	comp=Z,3.0nm,0.9s										
BILL	**Bilibino**	**47.88**	**18**	*e*P		**P**		**17 18 19.9**			**+1.0**
	comp=Z,3.2nm,0.9s										
AS31	**Alice Springs**	**49.63**	**173**	*e*P		**P**		**17 18 32.2**			**-0.8**
ASAR	**Alice Springs**	**49.63**	**173**	P		**P**		**17 18 32.0**			**-1.0**
ASAR				pmax		pmax					
	comp=Z,2.0nm,0.5s										
ASAR	**Alice Springs**	**49.63**	**173**	P		**P**		**17 18 32.0**			**-1.0**
	comp=Z,2.2nm,0.5s,baz=3.6,slow=15,SNR=58										
KKAR	**Karatay Array**	**49.67**	**306**	*e*P		**P**		**17 18 34.9**			**+1.7**
KKAR	**Karatay Array**	**49.67**	**306**	*e*P		**P**		**17 18 34.9**			**+1.7**
BVAR	**Borovoye Array**	**50.55**	**318**	P		**P**		**17 18 39.7**			**0.0**
BVAR				pmax		pmax					
	comp=Z,2.0nm,0.6s										
BVAR	**Borovoye Array**	**50.55**	**318**	P		**P**		**17 18 39.7**			**0.0**
	comp=Z,2.3nm,0.6s,baz=75,slow=7.9,SNR=13										
ABKAR	**Akbulak array**	**56.92**	**313**	*e*P		**P**		**17 19 26.3**			**0.0**
ARU	**Arti**	**57.68**	**322**	*c i*P		**P**		**17 19 31.2**			**-0.3**
ARU				S		**S**		**17 27 28.4**			**+0.4**
ARU				SS		**SS**		**17 31 13.6**			**-4.5**
ARU				pmax		pmax					
	comp=Z,5.0nm,1.2s										
AKTO	**Aktyubinsk**	**58.11**	**315**	P		**P**		**17 19 35.0**			**+0.3**
AKTO				pmax		pmax					
	comp=Z,2.0nm,0.9s										
AKTO	**Aktyubinsk**	**58.11**	**315**	P		**P**		**17 19 35.0**			**+0.3**
	comp=Z,1.9nm,0.9s,baz=87,slow=11,SNR=6.6										
GEYT	**Alibeck**	**59.53**	**300**	P		**P**		**17 19 45.6**			**+0.8**
	comp=Z,1.1nm,0.4s,baz=45,slow=2.7,SNR=5.7										
ILAR	**Eielson Array**	**64.60**	**28**	P		**P**		**17 20 18.2**			**-0.2**
ILAR				pmax		pmax					
	comp=Z,1.0nm,1.1s										
ILAR	**Eielson Array**	**64.60**	**28**	P		**P**		**17 20 18.2**			**-0.2**
	comp=Z,0.6nm,1.1s,baz=264,slow=4.4,SNR=3.0										
KBZ	**Khabaz**	**69.42**	**309**	P		**P**		**17 20 49.6**			**+0.3**
KBZ				pmax		pmax					
	comp=Z,2.0nm,0.7s										
KBZ	**Khabaz**	**69.42**	**309**	P		**P**		**17 20 49.6**			**+0.3**
	comp=Z,2.2nm,0.7s,baz=59,slow=5.1,SNR=9.4										
KIV	**Kislovodsk**	**69.50**	**310**	*e*P		**P**		**17 20 50.1**			**+0.1**
KIV				pmax		pmax					
	comp=Z,4.0nm,1.1s										
OBN	**Obninsk**	**70.11**	**322**	⇑*e*P		**P**		**17 20 52.5**			**-0.9**
OBN				pmax		pmax					
	comp=Z,12nm,1.2s										
ARCES	**ARCESS Array B**	**70.30**	**339**	P		**P**		**17 20 53.6**			**-0.7**
ARCES				pmax		pmax					
	comp=Z,3.0nm,0.8s										
ARCES	**ARCESS Array B**	**70.30**	**339**	P		**P**		**17 20 53.6**			**-0.7**
	comp=Z,2.8nm,0.8s,baz=57,slow=6.6,SNR=3.0										
FINES	**FINESS Array B**	**73.15**	**331**	*i* P		**P**		**17 21 13.3**			**+1.7**
FINES				pmax		pmax					
	comp=Z,2.0nm,0.6s										
FINES	**FINESS Array B**	**73.15**	**331**	P		**P**		**17 21 11.2**			**-0.3**
	comp=Z,1.6nm,0.6s,baz=71,slow=5.3,SNR=13										
AKASG	**Malin Array Be**	**75.81**	**320**	*c e*P		**P**		**17 21 28.6**			**+1.4**
AKASG				pmax		pmax					
	comp=Z,1.0nm,0.4s										
AKASG	**Malin Array Be**	**75.81**	**320**	P		**P**		**17 21 26.7**			**-0.5**
	comp=Z,1.1nm,0.4s,baz=61,slow=6.5,SNR=13										
KIEV	**Kiev**	**75.83**	**320**	*e*P		**P**		**17 21 27.9**			**+0.6**
KIEV	**Kiev**	**75.83**	**320**	*e*P		**P**		**17 21 27.9**			**+0.6**
BRTR	**Keskin Array B**	**77.30**	**308**	*i* P		**P**		**17 21 37.0**			**+0.9**
BRTR				pmax		pmax					
	comp=Z,8.0nm,1.2s										
BRTR	**Keskin Array B**	**77.30**	**308**	P		**P**		**17 21 36.7**			**+0.6**
	comp=Z,3.2nm,1.0s,baz=94,slow=3.7,SNR=10										
YKA	**Yellowknife Ar**	**78.71**	**25**	P		**P**		**17 21 43.3**			**+0.1**
	comp=Z,0.3nm,0.5s,baz=299,slow=5.4,SNR=7.8										
NB2	**NORSAR Subarra**	**79.60**	**334**	P		**P**		**17 21 48.1**			**-0.1**
	comp=Z,1.7nm,0.7s,baz=54,slow=5.6										
NOA	**NORSAR Array B**	**79.60**	**334**	P		**P**		**17 21 48.1**			**-0.1**
NOA				pmax		pmax					
	comp=Z,1.0nm,0.5s										
NOA	**NORSAR Array B**	**79.60**	**334**	P		**P**		**17 21 48.1**			**-0.1**
	comp=Z,1.2nm,0.5s,baz=54,slow=5.5,SNR=7.6										
SUMG	**Summit**	**81.30**	**356**	*e*P		P		17 22 01.9			+4.3
SUMG	**Summit**	**81.30**	**356**	*e*P		P		17 22 01.9			+4.3
GERES	**GERESS Array B**	**85.48**	**323**	P		**P**		**17 22 18.3**			**-0.9**
GERES				pmax		pmax					
	comp=Z,1.0nm,0.7s										
GERES	**GERESS Array B**	**85.48**	**323**	P		**P**		**17 22 18.3**			**-0.9**
	comp=Z,0.5nm,0.7s,baz=52,slow=6.4,SNR=3.0										

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*KRSC **01** 17:15:16.7±3.1,48˚.92N×155˚.81E,h101km±48km,ML5.0*
*ISCJB **01** 17:15:19.4±0.3,49˚.32N±0˚.04×154˚.85E±0˚.06,h75km, mb4.1/42,Error ellipse: s-maj=7.1km s-min=2.5km az=44.8*
*MOS **01** 17:15:21.2±1.2,49˚.45N×154˚.86E,h97km,mb4.2/23,Error ellipse: s-maj=10.5km s-min=5.3km az=67.8*
*SKHL **01** 17:15:21.0±0.4,49˚.26N×154˚.95E,h95km±7km,mb5.2/4, msh5.7/5*
*BJI **01** 17:15:22.5,49˚.40N×154˚.70E,h90km,mB4.8/10,mb4.5/12, Ms4.0/2*
*NEIC **01** 17:15:24.7±0.7,49˚.51N×154˚.75E,h110km±6km,mb4.5/9,*
Error ellipse: s-maj=8.3km s-min=4.3km az=145.0
*IDC **01** 17:15:25.2±1.8,49˚.51N×154˚.73E,h115km±16km, mb3.8/29,mb1 4.0/35,mb1mx3.9/54,mbtmp4.2/35,MS3.1/2, Ms1 3.1/2,ms1mx2.7/53,Error ellipse: s-maj=13.1km s-min=8.2km az=155.0*
ISC 01 17:15:20.8±0.4,49.32N±0˚.04×154.90E±0˚.04,h75km,n162, σ1§48/174,mb4.2/42,6C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
SKR	**Severo-Kuril's**	**1.57**	**30**	*e*PN		**Pn**		**17 15 46.0**			**-0.8**
SKR				*e*S		**Sn**		**17 16 05.4**			**-1.1**
SKR				pmax		pmax					
	comp=Z,280nm,0.5s										
SKR				pmax		pmax					
	comp=N,210nm,0.2s										
SKR				pmax		pmax					
	comp=E,80nm,0.4s										
SKR				smax		smax					
	comp=N,3μm,0.2s										
SKR				smax		smax					
	comp=E,4μm,0.2s										
SKR				smax		smax					
	comp=E,4μm,2.0s										
SKR	**Severo-Kuril's**	**1.57**	**30**	*i* P		**Pn**		**17 15 48.1**			**+1.2**
SKR				*i* S		**Sn**		**17 16 07.7**			**+1.2**
SKR	**Severo-Kuril's**	**1.57**	**30**	*e*P		**Pn**		**17 15 48.0**			**+1.2**
SKR				AMB		AMB		17 15 50.5			
	comp=E,453nm,0.3s										
SKR				*e*S		**Sn**		**17 16 08.0**			**+1.5**
SKR				A		A		17 16 10.0			
	comp=E,3μm,0.2s										
SKR				A		A		17 16 10.0			
	comp=E,4μm,0.2s										
PAU	**Pauzhetka**	**2.47**	**29**	PN		**Pn**		**17 16 00.7**			**+1.9**
PAU				S		**Sn**		**17 16 30.1**			**+2.1**
PAU	**Pauzhetka**	**2.47**	**29**	*e*P		**Pn**		**17 16 00.7**			**+1.9**
PAU	**Pauzhetka**	**2.47**	**29**	*e*P		**Pn**		**17 16 00.8**			**+1.9**
PAU				*e*S		**Sn**		**17 16 30.5**			**+2.5**
PAU				A		A		17 16 37.3			
	comp=E,644nm,0.4s										
MIPR	**Malaya Ipel'ka**	**3.18**	**21**	*i* P		Pn		17 16 11.0			+2.5
MIPR				S		**Sn**		**17 16 46.9**			**+1.5**
MTVR	**Mutnovka**	**3.79**	**32**	*e*P		**Pn**		**17 16 18.5**			**+1.7**
MTVR				*e*S		**Sn**		**17 17 00.8**			**+0.6**
RUS	**Russkaya**	**3.86**	**35**	PN		**Pn**		**17 16 18.2**			**+0.4**
RUS				S		**Sn**		**17 17 00.1**			**-1.8**
RUS	**Russkaya**	**3.86**	**35**	*i* P		**Pn**		**17 16 18.2**			**+0.4**
RUS				*e*S		**Sn**		**17 17 00.1**			**-1.8**
APC	**Apacha**	**3.88**	**21**	*e*P		Pn		17 16 20.3			+2.4
PETK	**Petropavlovsk-**	**4.18**	**24**	P		Pn		17 16 25.1			+3.0
	comp=E,27nm,0.3s,baz=181,slow=12,SNR=103										
PETK				LR		LR		17 17 52.2			
	comp=E,118nm,18.9s,baz=141,slow=36										
PET	**Petropavlovsk**	**4.39**	**31**	*e*PN		**Pn**		**17 16 26.5**			**+1.5**
PET				*e*S		**Sn**		**17 17 16.9**			**+2.1**
PET				pmax		pmax					
	comp=Z,66nm,0.5s										
PET				smax		smax					
	comp=E,506nm,0.6s										
PET	**Petropavlovsk**	**4.39**	**31**	*e*P		**Pn**		**17 16 26.4**			**+1.5**
PET				*e*S		**Sn**		**17 17 14.8**			**0.0**
PET	**Petropavlovsk**	**4.39**	**31**	*e*P		**Pn**		**17 16 26.4**			**+1.5**
PET				AMB		AMB		17 16 30.0			
	comp=E,123nm,1.0s										
PET				*e*S		**Sn**		**17 17 15.8**			**+1.0**
PET				A		A		17 17 23.2			
	comp=E,417nm,0.7s										
PET	**Petropavlovs

SEY	**Seymchan**	**13.71**	**355**	P		**Pn**	**17 18 32.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=2.9							
USRK	**Ussuriysk Ar.**	**16.49**	**261**	P		**P**	**17 19 09.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=66,slow=11,SNR=12							
MAJO	**Matsushiro**	**17.63**	**230**	*eP*		**P**	**17 19 22.0**	**+0.7**
MAJO	**Matsushiro**	**17.63**	**230**	*eP*		**P**	**17 19 22.0**	**+0.7**
MJAR	**Matsushiro Arr**	**17.63**	**230**	P		**Pn**	**17 19 23.1**	**+1.8**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**17.63**	**230**	P		**Pn**	**17 19 23.1**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=36,slow=8.2,SNR=8.4							
MDJ	**Mudanjiang**	**17.87**	**264**	*eP*		**P**	**17 19 23.8**	**-0.1**
	comp=Z,7.5nm,0.9s							
YAK	**Yakutsk**	**18.92**	**322**	*eP*		**Pn**	**17 19 36.5**	**-0.1**
YAK				*eS*		**S**	**17 23 01.4**	**-4.4**
YAK				pmax	pmax			
	comp=E,19nm,1.2s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,44nm,0.7s							
YAK				smax	smax			
	comp=N,128nm,4.5s							
YAK				smax	smax			
	comp=E,127nm,3.8s							
YAK	**Yakutsk**	**18.92**	**322**	P		**Pn**	**17 19 35.6**	**-1.0**
	comp=E,0.0nm,0.3s,baz=60,slow=0.3,SNR=22							
YAK	**Yakutsk**	**18.92**	**322**	*eP*		**Pn**	**17 19 35.4**	**-1.2**
YAK	**Yakutsk**	**18.92**	**322**	P		**Pn**	**17 19 35.6**	**-1.0**
YAK				ePn		**P**	**17 19 35.7**	**+0.5**
BILL	**Bilibino**	**19.61**	**13**	*eP*		**P**	**17 19 41.0**	**-1.8**
BILL	**Bilibino**	**19.61**	**13**	*eP*		**P**	**17 19 41.0**	**-1.8**
KSRS	**Korea Array**	**22.78**	**249**	P		**P**	**17 20 18.0**	**+1.0**
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KSRS	**Korea Array**	**22.78**	**249**	P		**P**	**17 20 18.0**	**+1.0**
	comp=Z,3.0nm,0.5s,baz=49,slow=10,SNR=19							
KSAR	**Wonju Array Be**	**22.81**	**249**	P		**P**	**17 20 18.0**	**+0.7**
KSAR	**Wonju Array Be**	**22.81**	**249**	P		**P**	**17 20 18.0**	**+0.7**
GAMB	**Gambell**	**23.05**	**39**	*eP*		**P**	**17 20 18.6**	**-0.8**
	comp=Z,45nm,2.0s							
JNU	**Nakatsue**	**24.11**	**237**	P		**P**	**17 20 30.7**	**+1.3**
	comp=Z,4.7nm,0.4s,baz=124,slow=2.2,SNR=5.0							
TNA	**Tin City**	**25.23**	**36**	*eP*		**P**	**17 20 39.2**	**-0.1**
	comp=Z,10nm,0.8s							
TIK	**Tiksi**	**25.36**	**341**	*eP*		**P**	**17 20 39.6**	**-0.8**
TIXI	**Tiksi**	**25.38**	**341**	⇓*eP*		**P**	**17 20 39.6**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.0s							
TIXI	**Tiksi**	**25.38**	**341**	*eP*		**P**	**17 20 39.4**	**-1.1**
BOD	**Bodaibo**	**25.38**	**305**	*eP*		**P**	**17 20 41.2**	**+0.5**
BOD				pmax	pmax			
	comp=Z,2.0nm,1.6s							
H11N2	**WAKE ISLAND Hy**	**31.05**	**158**	T		T	17 54 04.3	
	baz=345,slow=77,SNR=95							
H11N1	**WAKE ISLAND Hy**	**31.07**	**158**	T		T	17 53 54.0	
	baz=345,slow=77,SNR=185							
H11N3	**WAKE ISLAND Hy**	**31.07**	**158**	T		T	17 54 01.3	
	baz=345,slow=77,SNR=154							
SONM	**Songino Array**	**31.69**	**286**	P		**P**	**17 21 36.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=71,slow=8.4,SNR=5.6							
SONM				PcP		**PcP**	**17 24 24.8**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=96,slow=3.2,SNR=3.2							
KTH	**Kantishna Hill**	**32.04**	**43**	*eP*		**P**	**17 21 40.7**	**+0.7**
	comp=Z,16nm,1.2s							
H11S1	**WAKE ISLAND Hy**	**32.18**	**159**	T		T	17 55 31.6	
	baz=346,slow=76,SNR=2368							
H11S3	**WAKE ISLAND Hy**	**32.19**	**159**	T		T	17 55 24.1	
	baz=346,slow=76,SNR=2058							
H11S2	**WAKE ISLAND Hy**	**32.20**	**159**	T		T	17 55 28.0	
	baz=346,slow=76,SNR=1127							
COLA	**College**	**33.39**	**41**⇑	*eP*		**P**	**17 21 51.6**	**0.0**
COLA				*i* *PP		**pP**	**17 22 11.9**	**+2.6**
COLA	**College**	**33.39**	**41**	*eP*		**P**	**17 21 51.6**	**0.0**
COLA	**College**	**33.39**	**41**	*eP*		**P**	**17 21 52.0**	**+0.4**
	comp=Z,18nm,0.8s							
ILAR	**Eielson Array**	**33.80**	**41**	P		**P**	**17 21 54.9**	**-0.3**
ILAR							17 24 30.8	
ILAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ILAR	**Eielson Array**	**33.80**	**41**	P		**P**	**17 21 54.9**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=258,slow=5.6,SNR=39							
ILAR				PcP		**PcP**	**17 24 30.8**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=266,slow=3.4,SNR=3.2							
EGAK	**Eagle**	**36.25**	**41**	*eP*		**P**	**17 22 15.6**	**-0.6**
	comp=Z,12nm,0.8s							
INK	**Inuvik**	**38.84**	**34**	P		**P**	**17 22 38.4**	**+0.4**
INK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
INK	**Inuvik**	**38.84**	**34**	P		**P**	**17 22 38.4**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=296,slow=6.7,SNR=27							
ZALV	**Zalesovo Beam**	**42.12**	**304**	*i* P		**P**	**17 23 04.0**	**-1.2**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**42.12**	**304**	P		**P**	**17 23 03.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=62,slow=7.6,SNR=4.4							
ZALV				PcP		**PcP**	**17 24 57.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=74,slow=3.9,SNR=5.0							
DLBC	**Dease Lake**	**42.96**	**48**	P		**P**	**17 23 11.7**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=317,slow=4.1,SNR=8.8							
MKAR	**Makanchi Array**	**46.86**	**296**	P		**P**	**17 23 42.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=65,slow=8.2,SNR=26							
MKAR				PcP		**PcP**	**17 25 13.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=69,slow=5.0,SNR=3.0							
KURK	**Kurchatov**	**46.97**	**302**	*eP*		**P**	**17 23 42.4**	**-1.5**
KURK	**Kurchatov**	**46.97**	**302**	*eP*		**P**	**17 23 42.4**	**-1.5**
KURK	**Kurchatov**	**46.97**	**302**	*eP*		**P**	**17 23 42.4**	**-1.5**
KURK				ScP		**ScP**	**17 28 58.8**	**-3.1**
KURBB	**Kurchatov Arra**	**47.06**	**302**	P		**P**	**17 23 43.5**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=66,slow=8.4,SNR=27							
KURBB				ScP		**ScP**	**17 28 58.8**	**-3.5**
	comp=Z,0.6nm,0.9s,baz=70,slow=4.0,SNR=4.6							
YKA	**Yellowknife Ar**	**48.15**	**39**	P		**P**	**17 23 53.0**	**+0.1**
YKA	**Yellowknife Ar**	**48.15**	**39**	P		**P**	**17 23 52.9**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=299,slow=7.6,SNR=55							
BVAR	**Borovoye Array**	**50.17**	**308**	P		**P**	**17 24 07.4**	**-1.0**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**50.17**	**308**	P		**P**	**17 24 07.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=58,slow=8.0,SNR=12							
LSA	**Lhasa**	**51.35**	**272**	*eP*		**P**	**17 24 18.5**	**+0.4**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LSA	**Lhasa**	**51.35**	**272**	*eP*		**P**	**17 24 18.5**	**+0.4**
	comp=Z,3.3nm,0.6s							
AAK	**Ala-Archa**	**53.79**	**296**	P		**P**	**17 24 34.6**	**-1.0**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AAK	**Ala-Archa**	**53.79**	**296**	P		**P**	**17 24 34.6**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=139,slow=8.3,SNR=5.2							
ARU	**Arti**	**53.94**	**317**	*d* *iP*		**P**	**17 24 35.4**	**-0.9**
ARU				*PP		**pP**	**17 24 58.4**	**+3.2**
ARU							17 26 34.2	
ARU				S		**S**	**17 32 05.1**	**-0.7**
ARU				SS		**SS**	**17 35 44.1**	**-3.0**
ARU				pmax	pmax			
	comp=Z,4.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**54.15**	**256**	*i* P		**P**	**17 24 39.7**	**+1.4**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**54.15**	**256**	P		**P**	**17 24 39.4**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=32,slow=7.2,SNR=24							
TAPN	**Taplejung**	**55.16**	**273**	*eP*		**P**	**17 24 46.6**	**+0.6**
	comp=Z,3.2nm,0.3s							
YBH	**Yreka Blue Hor**	**55.50**	**64**	P		**P**	**17 24 49.2**	**+1.2**
YBH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YBH	**Yreka Blue Hor**	**55.50**	**64**	P		**P**	**17 24 49.2**	**+1.2**
	comp=Z,3.2nm,0.8s,baz=342,slow=3.2,SNR=5.0							
ARCES	**ARCESS Array B**	**55.81**	**341**	P		**P**	**17 24 46.8**	**-2.9**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**55.81**	**341**	P		**P**	**17 24 46.8**	**-2.9**
	comp=Z,2.4nm,0.8s,baz=49,slow=7.8,SNR=6.8							
JIRN	**Jiri**	**55.95**	**274**	*eP*		**P**	**17 24 52.8**	**+1.1**
GUN	**Gumba**	**55.98**	**275**	*eP*		**P**	**17 24 51.5**	**-0.4**
	comp=Z,11nm,0.4s							
RAMN	**Ramite**	**56.16**	**273**	*eP*		**P**	**17 24 53.4**	**+0.4**
	comp=Z,15nm,0.6s							
KKN	**Kakani**	**56.45**	**275**	*eP*		**P**	**17 24 54.9**	**-0.2**
	comp=Z,8.5nm,0.5s							
PKI	**Pulchoki**	**56.52**	**275**	*eP*		**P**	**17 24 56.2**	**+0.5**
	comp=Z,4.7nm,0.4s							
PKIN	**Phulchoki**	**56.52**	**275**	*eP*		**P**	**17 24 56.5**	**+0.9**
ABKAR	**Akbulak array**	**57.71**	**309**	*eP*		**P**	**17 25 01.8**	**-1.6**
	comp=Z,1.7nm,0.6s							
AKTO	**Aktyubinsk**	**57.91**	**311**	P		**P**	**17 25 01.7**	**-3.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**57.91**	**311**	P		**P**	**17 25 01.7**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=173,slow=8.1,SNR=2.8							
FFC	**Flin Flon**	**58.01**	**42**	*eP*		**P**	**17 25 06.1**	**+0.8**
SUMG	**Summit**	**58.04**	**5**	*eP*		**P**	**17 25 04.7**	**-1.1**
SUMG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
SUMG	**Summit**	**58.04**	**5**	*eP*		**P**	**17 25 04.7**	**-1.1**
	comp=Z,2.2nm,0.4s							
PMG	**Port Moresby**	**58.87**	**189**	LR		LR	17 49 25.6	
	comp=Z,38nm,20.4s,baz=210,slow=35							
JOF	**Joensuu**	**59.56**	**334**	*eP*		**P**	**17 25 14.8**	**-1.1**
JOF	**Joensuu**	**59.56**	**334**	*ep*		**P**	**17 25 14.8**	**-1.1**
	comp=Z,0.4nm,0.3s							
NVAR	**Mina Array Bea**	**60.21**	**65**	P		**P**	**17 25 21.3**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=294,slow=6.8,SNR=23							
ELK	**Elko**	**60.47**	**61**	P		**P**	**17 25 23.5**	**+0.6**
ELK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ELK	**Elko**	**60.47**	**61**	P		**P**	**17 25 23.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=44,slow=4.1,SNR=5.3							
FINES	**FINESS Array B**	**62.22**	**335**	*i* P		**P**	**17 25 32.5**	**-1.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**62.22**	**335**	P		**P**	**17 25 31.5**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=40,slow=7.7,SNR=12							
FINES	**FINESS Array B**	**62.22**	**335**	*eP*		**P**	**17 25 32.5**	**-1.5**
PDAR	**Pinedale Array**	**62.28**	**56**	P		**P**	**17 25 35.1**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=334,slow=1.4,SNR=14							
ULM	**Lac du Bonnet**	**63.80**	**42**	P		**P**	**17 25 42.8**	**-1.9**
ULM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ULM	**Lac du Bonnet**	**63.80**	**42**	P		**P**	**17 25 42.8**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=315,slow=8.4,SNR=6.1							
GEYT	**Alibeck**	**66.31**	**301**	P		**P**	**17 26 01.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=350,slow=3.3,SNR=4.2							
ANMO	**Albuquerque**	**69.49**	**60**⇓	*eP*		**P**	**17 26 21.3**	**-0.1**
ANMO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KBZ	**Khabaz**	**69.93**	**314**	P		**P**	**17 26 22.4**	**-1.2**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KBZ	**Khabaz**	**69.93**	**314**	P		**P**	**17 26 22.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=43,slow=11,SNR=4.2							
AKASG	**Malin Array Be**	**70.06**	**327**	*ceP*		**P**	**17 26 24.1**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**70.06**	**327**	P		**P**	**17 26 22.3**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=33,slow=6.1,SNR=8.0							
SCHQ	**Schefferville**	**70.47**	**24**	P		**P**	**17 26 26.4**	**-0.4**
	comp=Z,6.8nm,0.3s,baz=347,slow=6.1,SNR=55							
WRA	**Warramunga Arr**	**71.34**	**200**	P		**P**	**17 26 32.0**	**-0.4**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**71.34**	**200**	P		**P**	**17 26 32.0**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=18,slow=6.8,SNR=15							
ASAR	**Alice Springs**	**75.03**	**200**	P		**P**	**17 26 54.5**	**+0.4**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**75.03**	**200**	P		**P**	**17 26 54.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=12,slow=5.3,SNR=21							
TXAR	**Lajitas Array**	**75.21**	**62**	P		**P**	**17 26 55.8**	**+0.4**
TXAR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
TXAR	**Lajitas Array**	**75.21**	**62**	P		**P**	**17 26 55.8**	**+0.4**
	comp=Z,6.8nm,0.6s,baz=299,slow=4.4,SNR=31							
GERES	**GERESS Array B**	**76.65**	**335**	P		**P**	**17 27 02.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.8,SNR=2.9							
BRTR	**Keskin Array B**	**77.32**	**317**	P		**P**	**17 27 05.8**	**-1.4**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**77.32**	**317**	P		**P**	**17 27 05.8**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=58,slow=5.4,SNR=3.2							
PLCA	**Paso Flores**	**147.18**	**92**	PKP2		**PKPbc**	**17 34 54.6**	**-0.3**
PLCA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
PLCA	**Paso Flores**	**147.18**	**92**	PKPbc		**PKPbc**	**17 34 54.6**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=22,slow=5.1,SNR=3.7							

*IDC **01** 17:19:17.2±2.0,3˚.50S×130˚.88E,h0km,mb3.3/2, mb1 3.7/4,mb1mx3.3/41,mbtmp3.6/4,ML3.5/2,Error ellipse: s-maj=64.0km s-min=27.4km az=78.0*

*DJA **01** 17:19:26.0±0.8,4˚.5±6˚×13˚.0E±˚,h29km±13km,M3.5/8, MLv3.5/8*

ISC 01 17:19:23.6±1.0,**3˚.72S**±0˚.08×**130˚.30E**±0˚.09,**h31**km,**n10,** σ1ᵗ**19**/10,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.89**	**206**	P	**Pb**	**17 19 41.8**	**+1.3**
BNDI				S	**Sb**	**17 19 52.7**	**+0.6**
MSAI	**Masohi**	**1.42**	**285**	P	**Pn**	**17 19 47.2**	**0.0**
FAKI	**Fak Fak**	**2.10**	**68**	P	**Pb**	**17 20 02.5**	**+1.4**
NLAI	**Namlea**	**3.23**	**278**	P	**Pn**	**17 20 13.4**	**+1.3**
LBMI	**Labuha**	**4.14**	**318**	P	**Pn**	**17 20 24.9**	**+0.2**
SANI	**Sanana**	**4.61**	**291**	P	**Pn**	**17 20 30.4**	**-0.8**
BATI	**Baumata**	**9.21**	**225**	Pn	Pn	17 21 40.4	+6.0
	1.1nm,0.3s,baz=81,slow=7.0,SNR=3.6						
WRA	**Warramunga Arr**	**16.60**	**167**	P	**Pn**	**17 23 12.9**	**-1.3**
	0.1nm,0.3s,baz=350,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**20.14**	**170**	P	**P**	**17 23 54.0**	**-1.3**
	1.7nm,0.5s,baz=350,slow=11,SNR=50						
MKAR	**Makanchi Array**	**65.67**	**326**	P	**P**	**17 30 04.5**	**-0.6**
	0.1nm,0.7s,baz=133,slow=6.3,SNR=3.4						

*BKK **01** 17:27:10.8±3.0,26˚N±25˚×9˚9E±2˚2,h10km,M5.0/8, mB5.2/7,mb4.7/8,MLv5.6/5,Mw(mB)4.5/7*

*IDC **01** 17:27:21.5±0.6,24˚.96N×98˚.41E,h0km,mb4.0/21, mb1 4.1/22,mb1mx3.9/64,mbtmp4.0/22,ML4.2/1,MS3.6/12, Ms1 3.6/12,ms1mx3.3/49,Error ellipse: s-maj=19.8km s-min=12.8km az=62.0*

*ISCJB **01** 17:27:22.2±0.2,24˚.96N±0˚.03×98˚.46E±0˚.03,h15km, mb4.1/32,MS3.6/11,Error ellipse: s-maj=4.4km s-min=4.1km az=137.0*

*MOS **01** 17:27:24.6±1.1,24˚.91N×98˚.46E,h32km,mb4.4/14,Error ellipse: s-maj=15.6km s-min=6.8km az=105.3*

*BJI **01** 17:27:24.0,24˚.96N×98˚.35E,h11km,mB4.6/7,mb4.3/20, ML4.5/10,Ms4.3/14,Ms7 4.0/11*

*NEIC **01** 17:27:26.9±0.7,24˚.95N×98˚.44E,h37km±8km,mb4.1/6, Error ellipse: s-maj=8.8km s-min=6.5km az=51.0*

ISC 01 17:27:24.2±0.4,**24˚.99N**±0˚.05×**98˚.49E**±0˚.04,**h15**km,**n94,** σ1ᵗ**39**/99,**mb4.2**/32,**MS3.6**/11,**7C-3D,Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.86**	**87**	Pg	**Pg**	**17 28 38.6**	**+0.4**
KMI				Sg	**Sg**	**17 29 28.9**	**+0.6**
KMI				SMN			
	1μm,1.1s						
KMI				SME			
	780nm,0.8s						
KMI				LN			
	2μm,5.7s						
KMI				LE			
	3μm,7.9s						
KMI				LZ			
	2μm,7.1s						
IMP	**Imphal**	**4.14**	**268**	*eP*	**Pn**	**17 28 27.0**	**+0.1**
IMP				*eS*	**Sb**	**17 29 30.0**	**+3.3**
CRAI	**Chiangrai**	**5.05**	**159**	P	**Pn**	**17 28 36.5**	**-2.9**
	81nm,0.8s,4μm0.7nm						
CMAI	**Chiengmai2**	**5.06**	**174**	P	**Pn**	**17 28 40.2**	**+0.6**
	151nm,0.9s,6μm1.6nm						
SHL	**Shillong**	**6.00**	**277**	*eP*	**Pn**	**17 28 53.3**	**+0.6**
CHTO	**Chiang Mai**	**6.16**	**176**	*eP*	**Pn**	**17 28 54.8**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,34nm,0.6s						
CHTO	**Chiang Mai**	**6.16**	**176**	*eP*	**Pn**	**17 28 54.8**	**+0.2**
	comp=Z,34nm,0.6s						
CHTO	**Chiang Mai**	**6.16**	**176**	P	**Pn**	**17 28 55.1**	**+0.5**
	comp=Z,277nm,1.1s,comp=Z,3μmcomp=Z,4.9nm						
CMMT	**Chiang Mai**	**6.16**	**176**	P	**Pn**	**17 28 55.0**	**+0.3**
	comp=Z,81nm,1.1s,comp=Z,854nmcomp=Z,1.4nm						
SLVN	**Son La**	**6.17**	**125**	*eP*	**Pn**	**17 28 56.6**	**+1.7**
	comp=Z,40nm,0.9s						
CMAR	**Chiang Mai Arr**	**6.51**	**176**	Pn	**Pn**	**17 29 00.0**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=351,slow=13,SNR=44						
CMAR				Pg	Pb	17 29 21.6	+4.4
CMAR				Lg	Lg	17 30 48.0	
	comp=Z,3.3nm,0.3s,baz=360,slow=30,SNR=4.9						
CMAR				LR	LR	17 31 19.5	
	comp=Z,223nm,21.0s,baz=345,slow=37						
LAMP	**Lampang**	**6.52**	**170**	P	Pg	17 29 25.2	-3.9
UTTA	**Uttaradit**	**7.46**	**165**	P	**Pn**	**17 29 13.1**	**+0.6**
	comp=Z,5.7nm,0.8s,comp=Z,173nm						
CD2	**Chengdu**	**7.52**	**37**	Pn	**Pn**	**17 29 12.6**	**-0.7**
CD2				Pg	Pb	17 29 42.8	+8.5
CD2				Sn	**Sn**	**17 30 35.6**	**-2.8**
CD2				Sg	Sb	17 31 27.9	+24
CD2				SMN			
	comp=Z,1μm,0.1s						
CD2				SME			
	comp=Z,2μm,0.1s						
GYA	**Guiyang**	**7.52**	**77**⇑	*i* Pn	**Pn**	**17 29 16.2**	**+2.8**
GYA				Sn	Sn	17 30 47.0	+8.5
GYA				LN			
	comp=Z,3μm,13.4s						
GYA				LE			
	comp=Z,950nm,10.3s						
GYA				LZ			
	comp=Z,1μm,9.0s						
LSA	**Lhasa**	**8.04**	**307**	*eP*	**Pn**	**17 29 20.3**	**-0.5**
LSA				pmax	pmax		
	comp=Z,18nm,0.4s						
LSA	**Lhasa**	**8.04**	**307**	*eP*	**Pn**	**17 29 20.3**	**-0.5**
	comp=Z,18nm,0.4s						
PBKT	**Sadao Pong**	**8.69**	**164**	P	**Pn**	**17 29 29.9**	**+0.5**
	comp=Z,7.5nm,0.7s						
UTHA	**Uthaitani**	**9.42**	**174**	P	**Pn**	**17 29 40.7**	**+1.2**
ENH	**Enshi**	**11.08**	**59**	*eP*	**Pn**	**17 30 03.0**	**+0.8**
BOK	**Bokaro**	**11.54**	**267**	*eP*	**Pn**	**17 30 07.9**	**-0.6**
BOK				AMB	AMB	17 30 21.5	
	comp=Z,11nm,0.7s						
QIZ	**Qiongzhong**	**12.09**	**117**	P	**Pn**	**17 30 13.0**	**-2.9**
QIZ				S	Sn	17 32 22.2	-8.3
QIZ				pmax	pmax		
	comp=Z,60nm,4.8s						
QIZ				LR	LR		
	comp=N,510nm,12.0s						
QIZ				LR	LR		
	comp=E,240nm,10.5s						
QIZ				LR	LR		
	comp=Z,320nm,10.7s						
XAN	**Xi'an**	**12.80**	**43**	P	**Pn**	**17 30 26.5**	**+0.9**
XAN				PMZ			
	comp=Z,1.0nm,0.8s						
XAN				LN			
	comp=Z,250nm,9.6s						
XAN				LE			
	comp=Z,160nm,12.6s						
XAN				LZ			
	comp=Z,200nm,12.2s						
GTA	**Gaotai**	**14.43**	**4**	*eP*	**Pn**	**17 30 48.0**	**0.0**
GTA				pP	P	17 30 51.4	-3.4
GTA				sP		17 30 55.0	
GTA				PP	**PnPn**	**17 30 59.6**	**+3.6**
GTA				S	**Sn**	**17 33 29.6**	**+1.9**
GTA				sS	sS	17 33 35.1	
GTA				SS	**S**	**17 33 47.0**	**-0.6**
GTA				PMZ			
	comp=Z,2.0nm,1.0s						
GTA				PMZ			
	comp=Z,73nm,6.1s						
GTA				LN			
	comp=Z,310nm,12.1s						
GTA				LE			
	comp=Z,2μm,12.2s						
GTA				LZ			
	comp=Z,340nm,10.5s						
WHN	**Wuhan**	**15.09**	**65**	P	**P**	**17 30 59.7**	**-2.4**
WHN				LZ			
	comp=Z,2μm,5.2s						
VIS	**Vishakhapatnam**	**15.85**	**246**	*eP*	**Pn**	**17 31 05.6**	**-1.3**
BHPL	**Bhopal**	**19.30**	**269**	*eP*	**P**	**17 31 48.1**	**-0.6**
BHPL				*eP*	**Pn**	**17 31 49.5**	**-0.4**
BHPL				AMB	AMB	17 31 52.9	
	comp=Z,19nm,0.7s						
TIA	**Tai'an**	**19.52**	**51**	⇓P	**Pn**	**17 31 53.9**	**+1.6**
SMLA	**Simla**	**19.77**	**293**	*eP*	**P**	**17 31 52.6**	**-1.1**
HYB	**Hyderabad**	**20.04**	**252**	*eP*	**P**	**17 31 56.5**	**-0.3**
DHRM	**DHARAMSHALA**	**20.75**	**295**	*eP*	**P**	**17 32 03.7**	**-1.1**
DHRM				*eP*	Pn	17 32 03.9	-3.2
DHRM				AMB	AMB	17 32 09.5	
	comp=Z,30nm,1.2s						
WMQ	**Urumqi**	**20.76**	**338**	*eP*	**P**	**17 32 03.4**	**-1.0**
WMQ				PP	**PnPn**	**17 32 25.5**	**+2.8**
WMQ				*eS*	**S**	**17 35 50.0**	**-5.7**
WMQ				PMZ			
	comp=Z,10.0nm,0.6s						
WMQ				LN			

GEYT	**Alibeck**	**36.50**	**301**	P		**P**	**17 34 27.3**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=116,slow=13,SNR=4.1							
ABKAR	**Akbulak array**	**38.52**	**319**	*e*P		**P**	**17 34 46.5**	**+0.7**
	comp=Z,0.9nm,0.8s							
ASAJ	**Asahikawa**	**40.47**	**51**	P		**P**	**17 35 02.9**	**+0.7**
	comp=Z,23nm,0.6s,baz=249,slow=6.4,SNR=33							
SVE	**Sverdlovsk**	**41.85**	**330**	*e*P		**P**	**17 35 15.1**	**+1.7**
YAK	**Yakutsk**	**42.57**	**21**	*e*P		**P**	**17 35 19.2**	**+0.1**
YAK	**Yakutsk**	**42.57**	**21**	LR	LR	LR	17 56 21.0	
	comp=Z,150nm,21.5s,baz=273,slow=41							
ARU	**Arti**	**42.61**	**328**	*d* i P		**P**	**17 35 20.1**	**+0.5**
ARU							17 36 58.2	
ARU				S		**S**	**17 41 42.0**	**+0.2**
ARU				SS		SS	17 44 42.7	-9.1
ARU				pmax		pmax		
	comp=Z,14nm,2.5s							
BATI	**Baumata**	**42.74**	**142**	LR		LR	17 54 58.9	
	comp=Z,63nm,19.4s,baz=291,slow=39							
KIV	**Kislovodsk**	**48.78**	**307**	*e*P		**P**	**17 36 09.1**	**+0.4**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.1s							
TIXI	**Tiksi**	**49.73**	**12** ⇑	*e*P		**P**	**17 36 15.3**	**0.0**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.2s							
TIXI	**Tiksi**	**49.73**	**12**	*e*P		**P**	**17 36 15.2**	**-0.2**
	comp=Z,1.4nm,0.6s							
SEY	**Seymchan**	**51.82**	**28**	*e*P		**P**	**17 36 31.8**	**+0.6**
OBN	**Obninsk**	**53.89**	**321**	LR		LR	18 01 34.9	
	comp=Z,96nm,19.5s,baz=132,slow=38							
BRTR	**Keskin Array B**	**55.60**	**302**	*c*e P		**P**	**17 37 01.9**	**+2.3**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**55.60**	**302**	P		**P**	**17 36 58.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=121,slow=9.1,SNR=3.7							
WRA	**Warramunga Arr**	**56.67**	**139**	*i* P		**P**	**17 37 07.0**	**-0.1**
WRA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
WRA	**Warramunga Arr**	**56.67**	**139**	P		**P**	**17 37 07.1**	**0.0**
	comp=Z,2.6nm,1.0s,baz=330,slow=7.6,SNR=7.7							
AKASG	**Malin Array Be**	**58.09**	**316**	*c*e P		**P**	**17 37 18.2**	**+1.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**58.09**	**316**	P		**P**	**17 37 15.6**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=80,slow=6.3,SNR=5.5							
AKASG				LR		LR	18 05 26.6	
	comp=Z,66nm,18.8s,baz=310,slow=39							
BILL	**Bilibino**	**58.78**	**24**	*i* P		**P**	**17 37 21.6**	**+0.2**
ASAR	**Alice Springs**	**59.31**	**142**	P		**P**	**17 37 25.0**	**-0.7**
ASAR	**Alice Springs**	**59.31**	**142**	P		**P**	**17 37 24.9**	**-0.7**
	comp=Z,2.1nm,1.1s,baz=316,slow=5.9,SNR=6.4							
ASAR				LR		LR	18 06 04.2	
	comp=Z,74nm,18.5s,baz=294,slow=39							
FINES	**FINESS Array B**	**59.99**	**328**	P		**P**	**17 37 29.2**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=116,slow=9.4,SNR=2.6							
ARCES	**ARCESS Array B**	**60.88**	**337**	LR		LR	18 06 42.8	
	comp=Z,62nm,18.3s,baz=177,slow=39							
SPITS	**Spitsbergen Ar**	**64.11**	**347**	P		**P**	**17 37 56.7**	**-0.5**
	comp=Z,6.3nm,0.9s,baz=111,slow=16,SNR=3.9							
HFS	**Hagfors**	**66.11**	**327**	P		**P**	**17 38 10.2**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=90,slow=8.9,SNR=6.1							
NB2	**NORSAR Subarra**	**67.17**	**328**	P		**P**	**17 38 16.4**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=80,slow=6.5							
NOA	**NORSAR Array B**	**67.17**	**328**	P		**P**	**17 38 16.7**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=81,slow=6.4,SNR=7.7							
NOA				LR		LR	18 09 09.2	
	comp=Z,35nm,19.9s,baz=100,slow=37							
GERES	**GERESS Array B**	**68.29**	**315**	P		**P**	**17 38 24.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=73,slow=4.6,SNR=3.7							
ILAR	**Eielson Array**	**77.44**	**24**	P		**P**	**17 39 17.2**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=302,slow=5.3,SNR=7.7							
INK	**Inuvik**	**79.50**	**17**	P		**P**	**17 39 30.0**	**+0.2**
INK	**Inuvik**	**79.50**	**17**	P		**P**	**17 39 29.9**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=333,slow=9.9,SNR=6.5							
RES	**Resolute Bay**	**80.19**	**4**	P		**P**	**17 39 34.0**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=327,slow=7.8,SNR=3.5							
YKA	**Yellowknife Ar**	**88.91**	**15**	P		**P**	**17 40 17.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=326,slow=4.4,SNR=8.9							
SDV	**Santo Domingo**	**144.70**	**341**	*e*PKPdf		**PKPab**	**17 46 58.8**	**-1.3**

IDC 01 17:31:43.7±3.1, 4.68S×134.71E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.1/35, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=142.8km s-min=31.6km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.18**	**181**	Pn	Pn	17 35 17.9	-1.6
	0.1nm,0.3s,baz=0.9,slow=13,SNR=11						
ASAR	**Alice Springs**	**18.89**	**192**	P	Pn	17 36 06.8	+0.3
	0.1nm,0.3s,baz=356,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**68.98**	**324**	P	P	17 42 50.9	0.0
	0.2nm,0.8s,baz=109,slow=7.8,SNR=2.5						

GUC 01 17:32:24.7±0.6, 34.73S×71.68W, h59km±7km, ML3.5, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.46**	**127** ⇑	*i* P	Pn	17 32 36.7	+0.5
NICH				*i* S	Sn	17 32 44.3	-0.2
TALC	**Talca**	**0.67**	**177** ⇑	*i* P	Pn	17 32 39.6	+1.0
TALC				*e*S	Sn	17 32 49.2	+0.6
LNCH	**Linares**	**1.12**	**177** ⇑	*i* P	Pn	17 32 44.3	0.0
LNCH				*e*S	Sn	17 32 57.7	-1.1
RCDM	**Rinconada Maip**	**1.43**	**31** ⇑	*i* P	Pn	17 32 48.6	+0.1
RCDM				*e*S	Sn	17 33 07.5	+1.0
CLCH	**Cerro Calan**	**1.63**	**36** ⇓	*i* P	Pn	17 32 53.5	+2.3
CLCH				*e*S	Sn	17 33 14.3	+2.9
CLCH				AML	AML	17 33 18.4	
	comp=E,617nm,0.5s						
PEL	**Peldehue**	**1.79**	**28** ⇑	*i* P	Pn	17 32 56.4	+3.1
PEL				*i* S	Sn	17 33 18.7	+3.7
PEL				AML	AML	17 33 24.6	
	comp=N,895nm,0.7s						
FCH	**Farellones**	**1.81**	**40** ⇑	*i* P	Pn	17 32 54.3	+0.2
FCH				*e*S	Sn	17 33 18.3	+2.1
FCH				AML	AML	17 33 21.5	
	comp=N,548nm,0.3s						

*ISCJB **01** 17:50:04.2±0.8, 2.1S±0.1×67.8E±0.1, h10km, mb3.7/10, MS3.3/1, Error ellipse: s-maj=21.5km s-min=20.6km az=37.3*

*IDC **01** 17:50:04.5±1.1, 2.1S×67.74E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/30, mbtmp3.7/10, MS3.6/2, Ms1 3.6/2, ms1mx2.9/33, Error ellipse: s-maj=28.2km s-min=25.6km az=65.0*

ISC 01 17:50:06.1±1.1, 2.1S±0.2×67.7E±0.2, h10km, n18, σ0 39/10, mb3.8/10, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**5.31**	**142**	T	T	17 56 40.8	
	baz=325,slow=75,SNR=1267						
H08N3	**Diego Garcia H**	**5.32**	**143**	T	T	17 56 41.7	
	baz=325,slow=75,SNR=1124						
H08N1	**Diego Garcia H**	**5.33**	**142**	T	T	17 56 42.5	
	baz=325,slow=75,SNR=1151						
H08S3	**Diego Garcia H**	**7.25**	**139**	T	T	17 59 13.4	
	baz=296						
H08S1	**Diego Garcia H**	**7.25**	**140**	T	T	17 59 14.7	
	baz=296						
H08S2	**Diego Garcia H**	**7.26**	**139**	T	T	17 59 14.2	
	baz=296						
PALK	**Pallekele**	**15.94**	**54**	LR	LR	17 58 18.8	
	comp=Z,310nm,21.6s,baz=273,slow=31						
PSI	**Prapat**	**31.55**	**81**	LR	LR	18 07 31.1	
	comp=Z,69nm,21.2s,baz=316,slow=36						
CMAR	**Chiang Mai Arr**	**36.88**	**55**	P		**P**	**17 57 15.2**	**+0.1**
	0.2nm,0.3s,baz=249,slow=11,SNR=5.5							
LSZ	**Lusaka**	**41.13**	**249**	P		**P**	**17 57 51.2**	**+0.2**
	0.6nm,0.4s,baz=58,slow=15,SNR=1.9							
AAK	**Ala-Archa**	**44.94**	**7**	P		**P**	**17 58 22.0**	**+0.5**
	1.0nm,0.9s,baz=169,slow=3.5,SNR=5.2							
MKAR	**Makanchi Array**	**50.34**	**13**	P		**P**	**17 59 02.9**	**-0.3**
	0.5nm,0.9s,baz=201,slow=7.7,SNR=4.1							
KURBB	**Kurchatov Array**	**53.33**	**9**	P		**P**	**17 59 25.4**	**+0.1**
	1.4nm,1.0s,baz=206,slow=7.5,SNR=7.8							
ZALV	**Zalesovo Beam**	**57.63**	**12**	P		**P**	**17 59 55.8**	**-0.5**
	0.5nm,0.5s,baz=217,slow=8.6,SNR=4.6							
SONM	**Songino Array**	**60.07**	**29**	P		**P**	**18 00 14.0**	**+0.4**
	1.1nm,0.9s,baz=213,slow=7.3,SNR=7.8							
WRA	**Warramunga Arr**	**67.31**	**111**	P		**P**	**18 01 01.6**	**-0.2**
	0.5nm,0.7s,baz=285,slow=6.0,SNR=4.7							
ASAR	**Alice Springs**	**67.37**	**115**	P		**P**	**18 01 02.0**	**-0.1**
	0.4nm,0.8s,baz=272,slow=5.4,SNR=4.2							
VRAC	**Vranov**	**67.49**	**327**	P		**P**	**18 01 01.9**	**-0.5**
	1.5nm,0.6s,baz=80,slow=19,SNR=2.9							

*IDC **01** 18:00:09.7±1.0, 33.60S×72.30W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/24, mbtmp3.8/6, ML3.6/3, MS2.8/2, Ms1 2.8/2, ms1mx2.7/18, Error ellipse: s-maj=34.9km s-min=23.0km az=102.0*

*ISCJB **01** 18:00:11.1±1.4, 33.68S±0.05×72.27W±0.06, h24km±12km, mb3.8/4, MS3.5/1, Error ellipse: s-maj=9.6km s-min=7.4km az=41.9*

*GUC **01** 18:00:11.3±0.5, 33.68S×72.19W, h59km±8km, ML4.1*

ISC 01 18:00:10.7±2.0, 33.71S±0.05×72.15W±0.07, h8km±12km, n22, σ0 86/27, mb3.9/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.80**	**32**	*e*P	**Pb**	**18 00 27.2**	**+0.3**
RCDM	**Rinconada Maip**	**1.14**	**79**	*e*P	**Pb**	**18 00 32.7**	**0.0**
RCDM				*e*S	**Sn**	**18 00 49.0**	**0.0**
ROCH	**El Roble**	**1.20**	**53**	*e*P	**Pg**	**18 00 33.9**	**+0.1**
PEL	**Peldehue**	**1.35**	**66**	*e*P	**Pn**	**18 00 35.8**	**0.0**
PEL				*e*S	**Sb**	**18 00 53.9**	**+0.2**
PEL				AML	AML	18 01 03.7	
	comp=E,8μm,0.5s						
FSR	**Penalolen**	**1.37**	**81**	*e*P	**Pn**	**18 00 35.8**	**-0.4**
FSR				*e*S	**Sg**	**18 00 54.9**	**+0.1**
CLCH	**Cerro Calan**	**1.38**	**77**	*e*P	**Pn**	**18 00 36.4**	**0.0**
CLCH				*e*P	**Pb**	**18 00 36.5**	**-0.3**
CLCH				*e*S	**Sn**	**18 00 55.0**	**+0.1**
CLCH				AML	AML	18 01 05.6	
	comp=N,3μm,0.6s						
NICH	**Los Niches**	**1.50**	**150**	*e*P	**Pn**	**18 00 38.0**	**+0.1**
NICH				*e*S	**Sb**	**18 00 58.1**	**+0.1**
SJCH	**San Jose de Ma**	**1.50**	**88**	*e*P	**Pn**	**18 00 37.8**	**-0.2**
SJCH				*e*S	**Sb**	**18 00 58.1**	**0.0**
TALC	**Talca**	**1.74**	**166**	*e*P	**Pn**	**18 00 40.9**	**-0.3**
TALC				*e*S	**Sn**	**18 01 02.4**	**-1.1**
CFAA	**Coronel Fontan**	**3.91**	**59**	Pn	**Pn**	**18 01 13.8**	**+2.7**
	comp=N,0.4nm,0.3s,baz=226,slow=13,SNR=27						
CFAA				Sn	**Sb**	**18 02 05.9**	**-1.5**
	comp=N,0.9nm,0.3s,baz=148,slow=14,SNR=3.9						
CFAA				LR	LR	18 02 30.6	
	comp=N,12nm,18.4s,baz=306,slow=36						
PLCA	**Paso Flores**	**7.13**	**170**	Pn	**Pn**	**18 01 56.1**	**+0.8**
	comp=N,0.6nm,0.3s,baz=322,slow=11,SNR=4.3						
LPAZ	**La Paz**	**17.72**	**13**	P	**Pn**	**18 04 17.4**	**-1.1**
	comp=N,0.1nm,0.3s,baz=183,slow=8.7,SNR=7.9						
USHA	**Ushuaia**	**21.28**	**174**	LR	LR	18 12 34.3	
	comp=N,222nm,21.6s,baz=227,slow=35						
BDFB	**Brasilia**	**28.25**	**56**	P	**P**	**18 06 03.8**	**-0.7**
	comp=N,2.6nm,0.5s,baz=258,slow=9.7,SNR=4.3						
QSPA	**South Pole Qui**	**56.53**	**180**	P	**P**	**18 09 54.6**	**+1.3**
	comp=N,0.5nm,0.6s,baz=143,slow=5.1,SNR=2.3						
TXAR	**Lajitas Array**	**69.44**	**331**	P	**P**	**18 11 18.7**	**-0.7**
	comp=N,0.3nm,0.6s,baz=151,slow=8.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.20**	**70**	P	**P**	**18 12 43.4**	**+0.4**
	comp=N,1.1nm,0.7s,baz=291,slow=5.7,SNR=5.4						
H11S2	**WAKE ISLAND Hyl**	**125.68**	**269**	T	T	20 38 10.7	
	baz=116						
H11S1	**WAKE ISLAND Hyl**	**125.69**	**269**	T	T	20 38 10.7	
	baz=116						
H11S3	**WAKE ISLAND Hyl**	**125.70**	**269**	T	T	20 38 10.4	
	baz=116						
ZALV	**Zalesovo Beam**	**154.03**	**32**	PKPbc	**PKPbc**	**18 20 10.6**	**+0.3**
	comp=N,0.3nm,0.3s,baz=339,slow=3.6,SNR=2.7						
MKAR	**Makanchi Array**	**156.64**	**48**	PKPab	**PKPab**	**18 20 36.1**	**+0.7**
	comp=N,0.2nm,0.7s,baz=295,slow=1.7,SNR=3.2						

WEL 01 18:02:28.6±0.1, 39.34S×175.36E, h5km, ML3.6/40, 22C-15D, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PKVZ	**Pokaka**	**0.05**	**350**	⇓P*	Pg	18 02 31.2	+1.2
PKVZ				S*	Sg	18 02 33.3	+2.3
PKVZ				AML	AML	18 02 33.8	
MTVZ	**Mangateitei**	**0.10**	**118**	⇓PG	Pg	18 02 31.3	+0.4
MTVZ				SG	Sg	18 02 33.8	+1.5
MTVZ				AML	AML	18 02 34.2	
TRVZ	**Turoa**	**0.15**	**75**	⇓PG	Pg	18 02 32.2	+0.1
TRVZ				AML	AML	18 02 35.2	
TRVZ				AML	AML	18 02 35.2	
DRZ	**Dome Shelter**	**0.17**	**68**	⇑PG	Pg	18 02 32.5	0.0
DRZ				AML	AML	18 02 36.2	
DRZ				AML	AML	18 02 37.3	
FWVZ	**Far West T-bar**	**0.17**	**61**	⇓PG	Pg	18 02 32.5	+0.1
FWVZ				AML	AML	18 02 35.6	
FWVZ				AML	AML	18 02 37.3	
WNVZ	**Wahianoa**	**0.19**	**86**	⇓PG	Pg	18 02 32.5	-0.1
WNVZ				AML	AML	18 02 36.2	
WNVZ				AML	AML	18 02 38.0	
WHVZ	**Whangaehu Hut**	**0.19**	**72**	⇓PG	Pg	18 02 32.5	-0.2
WPVZ	**Whakapapa**	**0.20**	**48**	PG	Pg	18 02 32.8	+0.1
WPVZ				AML	AML	18 02 36.6	
WPVZ				AML	AML	18 02 36.9	
COVZ	**Chateau Observ**	**0.20**	**46**	⇓PG	Pg	18 02 33.0	0.0
TUVZ	**Tukino**	**0.24**	**73**	⇓PG	Pg	18 02 33.5	-0.1
TUVZ				AML	AML	18 02 38.0	
TUVZ				AML	AML	18 02 38.3	
NGZ	**Ngauruhoe**	**0.25**	**49**	PG	Pg	18 02 33.5	-0.2
NGZ				AML	AML	18 02 38.1	
NGZ				AML	AML	18 02 38.3	
TWVZ	**Taurewa**	**0.28**	**13**	PG	Pg	18 02 33.9	-0.3
TWVZ				AML	AML	18 02 39.0	
TWVZ				AML	AML	18 02 39.2	
WTVZ	**West Tongariro**	**0.29**	**39**	⇑PG	Pg	18 02 34.1	-0.2
WTVZ				AML	AML	18 02 40.0	
WTVZ				AML	AML	18 02 40.1	
OTVZ	**Oturere**	**0.30**	**54**	⇑PG	Pg	18 02 34.4	-0.3
OTVZ				AML	AML	18 02 39.7	
OTVZ				AML	AML	18 02 39.8	
MOVZ	**Moawhango**	**0.31**	**103**	⇑PG	Pg	18 02 34.2	-0.6
MOVZ				AML	AML	18 02 38.3	
MOVZ				AML	AML	18 02 38.7	
KRVZ	**Karewarewa**	**0.33**	**42**	⇑PG	Pg	18 02 34.7	-0.5
KRVZ				AML	AML	18 02 40.4	
KRVZ				AML	AML	18 02 40.8	
KATZ	**Kakaramea**	**0.45**	**36**	⇑PG	Pg	18 02 36.8	-0.7
KATZ				AML	AML	18 02 46.6	
KATZ				AML	AML	18 02 48.8	
WAZ	**Wanganui**	**0.51**	**215**	⇑PG	Pg	18 02 38.0	-0.4
WAZ				AML	AML	18 02 46.6	
WAZ				AML	AML	18 02 47.4	
VRZ	**Vera Road**	**0.51**	**295**	⇑PG	Pg	18 02 38.4	-0.1
VRZ				AML	AML	18 02 48.4	
VRZ				AML	AML	18 02 49.3	
RITZ	**Rihia Road**	**0.53**	**47**	⇑PG	Pg	18 02 38.4	-0.5
RITZ				AML	AML	18 02 48.6	
RITZ				AML	AML	18 02 53.3	
BHHZ	**Black Hill Sta**	**0.57**	**105**	⇑PG	Pg	18 02 38.6	-1.0
RATZ	**Rangitukua**	**0.57**	**34**	⇑PG	Pg	18 02 39.1	-0.6
RATZ				AML	AML	18 02 51.4	
RATZ				AML	AML	18 02 51.9	
WATZ	**Wairara**	**0.69**	**25**	⇑P*	Pg	18 02 41.1	-0.9
WATZ				AML	AML	18 02 53.3	
WATZ				AML	AML	18 02 57.0	
HATZ	**Hinemaiaia**	**0.73**	**52**	P*	Pg	18 02 41.3	-1.4
HATZ				AML	AML	18 02 53.0	
HATZ				AML	AML	18 02 53.1	
LREZ	**Lake Rotokare**	**0.75**	**261**	P*	Pg	18 02 42.8	-0.2
WHTZ	**Whakaora**	**0.82**	**35**	P*	Pg	18 02 44.0	-0.5
KRHZ	**Kereru**	**0.84**	**112**	⇑P*	Pg	18 02 43.9	-1.0
MHEZ	**Mangahewa**	**0.84**	**288**	⇓P*	Pg	18 02 45.0	+0.1
TSZ	**Takapari Road**	**0.86**	**147**	⇑P*	Pg	18 02 44.2	-1.0
TSZ				AML	AML	18 02 56.5	
TSZ				AML	AML	18 02 57.9	
PNHZ	**Pukenui**	**0.87**	**132**	⇑P*	Pg	18 02 44.4	-1.0
BKZ	**Black Stump Fm**	**0.90**	**79**	⇑P*	Pg	18 02 44.8	-1.2
BKZ				AML	AML	18 02 57.9	
BKZ				AML	AML	18 02 58.3	
DREZ	**Durham Road**	**0.91**	**279**	P*	Pg	18 02 46.2	+0.1
HIZ	**Hauiti**	**0.91**	**334**	⇑P*	Pg	18 02 45.2	-1.0
HIZ				AML	AML	18 02 59.3	
HIZ				AML	AML	18 02 59.5	
PREZ	**Palmer Road**	**0.93**	**270**	⇑P*	Pg	18 02 46.7	+0.2
TLZ	**Tolley Road**	**1.02**	**8**	⇑P*	Pg	18 02 45.9	-2.3
WPRZ	**Whakapapatarin**	**1.03**	**38**	P*	Pg	18 02 47.3	-1.2
KHEZ	**Kahui Hut**	**1.04**	**272**	⇓P*	Pg	18 02 48.6	-0.2
MCHZ	**McNeill Hill**	**1.04**	**96**	P*	Pg	18 02 48.8	+0.1
PKE	**Pukeiti**	**1.07**	**277**	⇓P*	Pg	18 02 48.9	-0.4
PKE				AML	AML	18 03 05.0	
PKE				AML	AML	18 03 05.9	
ALRZ	**Allen Road**	**1.09**	**45**	P*	Pg	18 02 48.1	-1.6
POWZ	**Post Office Ro**	**1.10**	**163**	⇑P*	Pg	18 02 48.6	-1.2
WPHZ	**Waipukurau**	**1.11**	**131**	P*	Pg	18 02 49.4	-0.5
DVHZ	**Dannevirke**	**1.14**	**147**	P*	Pg	18 02 49.6	-1.1
NMEZ	**Namu Road**	**1.15**	**266**	P*	Pg	18 02 50.3	-0.4
NWEZ	**Newall Road**	**1.16**	**273**	P*	Pg	18 02 50.4	-0.5
KAHZ	**Kahuranaki**	**1.26**	**112**	P*	Pg	18 02 52.7	-0.2
ARHZ	**Aropaoanui**	**1.27**	**87**	P*	Pg	18 02 52.6	-0.5
PRWZ	**Pori Road**	**1.30**	**159**	⇑P*	Pn	18 02 52.7	-0.9
MRZ	**Mangatainoka R**	**1.33**	**173**	⇓P*	Pn	18 02 53.2	-0.7
MRZ				AML	AML	18 03 10.7	
MRZ				AML	AML	18 03 12.5	
UTU	**Utuhina**	**1.33**	**30**	⇓P*	Pn	18 02 53.3	-0.6
UTU				AML	AML	18 02 57.7	
UTU				AML	AML	18 02 58.6	
PXZ	**Pawanui**	**1.35**	**121**	PN	Pn	18 02 53.7	-0.4
PXZ				AML	AML	18 03 18.9	
PXZ				AML	AML	18 03 19.0	
PXZ				AML	AML	18 03 20.0	
PRHZ	**Porangahau**	**1.35**	**134**	PN	Pn	18 02 54.1	-0.1
RAHZ	**Arahi**	**1.41**	**73**	⇓PN	Pn	18 02 54.9	-0.1
ANWZ	**Angora Road**	**1.41**	**143**	⇓PN	Pn	18 02 54.9	-0.1
WHHZ	**Waihua**	**1.48**	**80**	PN	Pn	18 02 55.4	-0.6
KARZ	**Kaharoa**	**1.49**	**28**	P*	Pn	18 02 55.8	-0.3
TIWZ	**Tintock**	**1.49**	**164**	PN	Pn	18 02 55.7	-0.5
TIWZ				AML	AML	18 03 18.9	
TIWZ				AML	AML	18 03 21.8	
BFZ	**Birch Farm**	**1.50**	**153**	PN	Pn	18 02 55.8	-0.4
KIW	**Kapiti Island**	**1.56**	**193**	⇑PN	Pn	18 02 55.4	-1.7
KIW				AML	AML	18 03 19.6	
KIW				AML	AML	18 03 20.4	
HOWZ	**Holdsworth Sta**	**1.56**	**176**	PN	Pn	18 02 56.6	-0.6
TOZ	**Tahuroa Road**	**1.61**	**4**	P*	Pn	18 02 55.0	-2.7
SNGZ	**Shannon Statio**	**1.64**	**71**	PN	Pn	18 02 57.9	-0.3
CPWZ	**Castlepoint**	**1.70**	**158**	PN	Pb	18 03 00.2	-0.1
URZ	**Urewera**	**1.74**	**52**	P*	Pn	18 02 57.9	-1.7
TGRZ	**Tauranga**	**1.76**	**24**	P*	Pn	18 02 59.8	+0.1
CAW	**Cannon Point**	**1.78**	**187**	PN	Pn	18 02 59.5	-0.6
CAW				AML	AML	18 03 24.3	
CAW				AML	AML	18 03 25.9	
TMWZ	**Te Maipa**	**1.81**	**167**	PN	Pn	18 02 59.7	-0.9
MTW	**Mount Morrison**	**1.82**	**177**	PN	Pn	18 02 59.6	-1.0
MTW				AML	AML	18 03 27.8	
MTW				AML	AML	18 03 31.0	
KNZ	**Kokohu**	**1.83**	**81**	PN	Pn	18 02 59.4	-1.3
DUWZ	**D'Urville Isla**	**1.83**	**217**	PN	Pn	18 02 59.5	-1.3
DUWZ				AML	AML	18 03 32.1	
MWZ	**Matawai**	**1.97**	**60**	P*	Pn	18 03 01.0	-1.7
WEL	**Wellington**	**2.00**	**193**	PN	Pn	18 03 02.8	-0.2
WEL				AML	AML	18 03 35.9	
PAWZ	**Paruwai Farm**	**2.04**	**179**	PN	Pn	18 03 00.1	-3.5
PAWZ				AML	AML	18 03 36.0	
PAWZ				AML	AML	18 03 39.5	
TCW	**Tory Channel**	**2.04**	**204**	PN	Pn	18 03 02.7	-1.0
TCW				AML	AML	18 03 34.6	
TCW				AML	AML	18 03 36.2	
TRWZ	**Traveller**	**2.07**	**173**	PN	Pn	18 03 03.0	-1.1
MSWZ	**Moikau Station**	**2.08**	**182**	PN	Pn	18 03 03.0	-1.1
MSWZ				AML	AML	18 03 36.3	
MSWZ				AML	AML	18 03 39.9	
BHW	**Baring Head**	**2.10**	**190**	PN	Pn	18 03 07.9	-0.8
BHW				AML	AML	18 03 35.7	
BHW				AML	AML	18 03 41.8	
PLWZ	**Palliser**	**2.23**	**182**	PN	Pn	18 03 04.8	-1.5
KBAZ	**Karaka Road Bo**	**2.27**	**351**	PN	Pn	18 03 05.2	-1.6
TUWZ	**Tuamarina**	**2.35**	**207**	PN	Pn	18 03 07.9	0.0
TUWZ				AML	AML	18 03 46.6	
TUWZ				AML	AML	18 03 47.1	
ETAZ	**East Tamaki Re**	**2.41**	**352**	PN	Pn	18 03 07.0	-1.7
NNZ	**Nelson**	**2.41**	**218**	PN	Pn	18 03 08.3	-0.4
HAZ	**Te Kaha**	**2.47**	**51**	P*	Pn	18 03 08.1	-1.5
WTAZ	**Waiatarua**	**2.48**	**345**	PN	Pn	18 03 08.4	-1.3
BSWZ	**Blackbirch Sta**	**2.63**	**205**	PN	Pn	18 03 11.2	-0.5
RVAZ	**Riverhead Bore**	**2.64**	**346**	PN	Pn	18 03 10.5	-1.4
THZ	**Tophouse**	**3.06**	**217**	PN	Pn	18 03 17.4	-0.4
THZ				AML	AML	18 04 09.6	
THZ				AML	AML	18 04 12.7	
KHZ	**Kahutara**	**3.37**	**204**	PN	Pn	18 03 20.3	-1.6
WCZ	**Waipu Ca

KIF				S		Sn	18 37 06.4	-0.9	
HOPEN	**Hopen**	**4.28**	**29**	Pn		**Pn**	**18 36 20.1**	**+0.9**	
HOPEN				Sn		**Sn**	**18 37 06.5**	**-2.6**	
HOPEN	**Hopen**	**4.28**	**29**	*eP*		**Pn**	**18 36 20.1**	**+0.9**	
HOPEN				*i*			18 36 21.2		
HOPEN				Sn		**Sn**	**18 37 06.5**	**-2.6**	
HOPEN				IAML			18 37 08.5		
	comp=Z,13nm,0.4s								
HOPEN	**Hopen**	**4.28**	**29**	*eP*		**Pn**	**18 36 20.1**	**+0.9**	
	SNR=53								
HOPEN				Sn		**Sn**	**18 37 06.5**	**-2.6**	
ARA0	**ARCESS Array S**	**4.53**	**134**	Pn		**Pn**	**18 36 24.4**	**+1.8**	
	baz=332,slow=14								
ARA0				Sn		**Sn**	**18 37 14.9**	**-0.2**	
	baz=315,slow=22								
ARA0	**ARCESS Array S**	**4.53**	**134**	Pn		**Pn**	**18 36 24.4**	**+1.8**	
	baz=332,slow=14								
ARA0				Sn		**Sn**	**18 37 14.9**	**-0.2**	
	baz=315,slow=22								
ARA0	**ARCESS Array S**	**4.53**	**134**	*eP*		**Pn**	**18 36 24.4**	**+1.8**	
ARA0				*eS*		**Sn**	**18 37 14.9**	**-0.2**	
ARA0	**ARCESS Array S**	**4.53**	**134**	P		**Pn**	**18 36 24.3**	**+1.8**	
ARA0				S		**Sn**	**18 37 14.9**	**-0.2**	
ARCES	**ARCESS Array B**	**4.53**	**134**	Pn		**Pn**	**18 36 24.4**	**+1.9**	
	comp=Z,2.1nm,0.3s,baz=329,slow=11,SNR=134								
ARCES				Sn		**Sn**	**18 37 14.4**	**-0.8**	
	comp=Z,25nm,0.3s,baz=328,slow=23,SNR=17								
ARCES				LR		LR	18 38 22.3		
	comp=Z,39nm,21.9s,baz=17,slow=42								
ARE0	**ARCESS Array S**	**4.53**	**134**	*eP*		**Pn**	**18 36 25.1**	**+2.6**	
ARE0				*eS*		**Sn**	**18 37 13.0**	**-2.1**	
ARE0	**ARCESS Array S**	**4.53**	**134**	P		**Pn**	**18 36 25.1**	**+2.6**	
ARE0				S		**Sn**	**18 37 13.0**	**-2.1**	
KTK1	**Kautokeino**	**4.54**	**146**	*eP*		**Pn**	**18 36 25.4**	**+2.6**	
KTK1				*eS*		**Sn**	**18 37 16.2**	**+0.6**	
KTK1				IAML			18 37 19.9		
	comp=N,195nm,0.5s								
KTK1	**Kautokeino**	**4.54**	**146**	*eP*		**Pn**	**18 36 25.4**	**+2.6**	
KTK1				*eS*		**Sn**	**18 37 16.2**	**+0.6**	
KTK1				IAML			18 37 19.9		
	comp=N,195nm,0.5s								
KTK1	**Kautokeino**	**4.54**	**146**	P		**Pn**	**18 36 25.4**	**+2.6**	
KTK1				*eS*		**Sn**	**18 37 16.2**	**+0.6**	
	SNR=53								
KEV	**Kevo**	**4.69**	**127**	*eP*		**Pn**	**18 36 26.7**	**+1.9**	
KEV				*eS*		**Sn**	**18 37 16.8**	**-2.4**	
KEV				MSN			18 37 21.3		
	comp=Z,66nm,0.2s								
KEV	**Kevo**	**4.69**	**127**	P		**Pn**	**18 36 26.6**	**+1.9**	
KEV				S		**Sn**	**18 37 16.7**	**-2.4**	
STEI	**Steigen**	**5.03**	**184**	*eS*		**Sn**	**18 37 23.7**	**-3.8**	
STEI				IAML			18 37 27.1		
	comp=Z,9.1nm,0.6s								
STEI	**Steigen**	**5.03**	**184**	*eS*		**Sn**	**18 37 23.7**	**-3.8**	
STEI				IAML			18 37 27.1		
	comp=Z,9.1nm,0.6s								
STEI	**Steigen**	**5.03**	**184**	S		**Sn**	**18 37 23.6**	**-3.8**	
HEF	**Hetta**	**5.16**	**148**	*eP*		**Pn**	**18 36 33.7**	**+2.4**	
HEF				*eS*		**Sn**	**18 37 29.4**	**-1.3**	
HEF	**Hetta**	**5.16**	**148**	P		**Pn**	**18 36 33.6**	**+2.4**	
HEF				S		**Sn**	**18 37 29.4**	**-1.3**	
NIKU	**Nikkaluokta**	**5.17**	**168**	*eP*		**Pn**	**18 36 33.0**	**+1.6**	
NIKU				*eS*		**Sn**	**18 37 29.6**	**-1.3**	
NIKU	**Nikkaluokta**	**5.17**	**168**	P		**Pn**	**18 36 32.9**	**+1.6**	
NIKU	**Nikkaluokta**	**5.17**	**168**	P		**Pn**	**18 36 33.0**	**+1.6**	
NIKU				S		**Sn**	**18 37 29.6**	**-1.3**	
KUA	**Kurravaara**	**5.18**	**163**	*eP*		**Pn**	**18 36 32.9**	**+1.4**	
KUA				*eS*		**Sn**	**18 37 30.4**	**-0.8**	
KUA	**Kurravaara**	**5.18**	**163**	P		**Pn**	**18 36 32.9**	**+1.4**	
KUA	**Kurravaara**	**5.18**	**163**	P		**Pn**	**18 36 32.9**	**+1.4**	
KUA				S		**Sn**	**18 37 30.4**	**-0.8**	
LANU	**Lannavaara**	**5.26**	**156**	*eP*		Pn	18 36 36.1	+3.5	
LANU				*eS*		**Sn**	**18 37 31.1**	**-2.1**	
LANU	**Lannavaara**	**5.26**	**156**	P		**Pn**	**18 36 33.7**	**+1.1**	
LANU				S		**Sn**	**18 37 32.0**	**-1.2**	
LANU	**Lannavaara**	**5.26**	**156**	P		**Pn**	**18 36 33.7**	**+1.1**	
LANU				S		**Sn**	**18 37 32.0**	**-1.2**	
SPA0	**Spitsbergen Ar**	**5.29**	**0**	Pn		**Pn**	**18 36 32.4**	**-0.6**	
	baz=160,slow=22								
SPA0	**Spitsbergen Ar**	**5.29**	**0**	Pn		**Pn**	**18 36 32.4**	**-0.6**	
	baz=160,slow=22								
SPA0	**Spitsbergen Ar**	**5.29**	**0**	*e*		**Pn**	**18 36 32.4**	**-0.6**	
SPA0	**Spitsbergen Ar**	**5.29**	**0**	Pn		**Pn**	**18 36 32.4**	**-0.6**	
	baz=160,slow=21,SNR=3.6								
SPITS	**Spitsbergen Ar**	**5.29**	**0**	Pn		**Pn**	**18 36 32.3**	**-0.7**	
	baz=173,slow=26,SNR=35								
SPITS				Sn		Sn	18 37 27.1	-6.7	
	baz=151,slow=30,SNR=7.5								
SALU	**Saltoluokta**	**5.62**	**171**	*eP*		**Pn**	**18 36 40.0**	**+2.3**	
SALU				*eS*		**Sn**	**18 37 40.3**	**-1.9**	
SALU	**Saltoluokta**	**5.62**	**171**	P		**Pn**	**18 36 39.9**	**+2.3**	
SALU	**Saltoluokta**	**5.62**	**171**	P		**Pn**	**18 36 40.0**	**+2.3**	
SALU				S		**Sn**	**18 37 40.3**	**-1.9**	
MASU	**Masugnsbyn**	**5.83**	**158**	*eP*		**Pn**	**18 36 42.1**	**+1.6**	
MASU	**Masugnsbyn**	**5.83**	**158**	P		**Pn**	**18 36 42.0**	**+1.6**	
MASU	**Masugnsbyn**	**5.83**	**158**	P		**Pn**	**18 36 42.1**	**+1.6**	
DUNU	**Dundret**	**6.01**	**164**	*eP*		**Pn**	**18 36 44.7**	**+1.7**	
DUNU	**Dundret**	**6.01**	**164**	P		**Pn**	**18 36 44.6**	**+1.7**	
DUNU	**Dundret**	**6.01**	**164**	P		**Pn**	**18 36 44.7**	**+1.7**	
KBS	**Kingsbay**	**6.13**	**352**	*eP*		**Pn**	**18 36 43.7**	**-0.7**	
KBS	**Kingsbay**	**6.13**	**352**	*eP*		**Pn**	**18 36 43.7**	**-0.7**	
KBS	**Kingsbay**	**6.13**	**352**	P		**Pn**	**18 36 43.7**	**-0.7**	
PAJU	**Pajala**	**6.37**	**155**	*eP*		**Pn**	**18 36 49.5**	**+1.6**	
PAJU	**Pajala**	**6.37**	**155**	P		**Pn**	**18 36 49.5**	**+1.6**	
PAJU	**Pajala**	**6.37**	**155**	P		**Pn**	**18 36 49.5**	**+1.6**	
SGF	**Sodankyl**	**6.51**	**143**	*eP*		**Pn**	**18 36 51.3**	**+1.6**	
SGF				*eS*		**Sn**	**18 38 00.3**	**-3.6**	
SGF	**Sodankyl**	**6.51**	**143**	P		**Pn**	**18 36 51.3**	**+1.6**	
KONS	**Konsvik**	**6.55**	**191**	*eS*		Sn	18 37 57.8	-7.0	
KONS				IAML			18 37 59.1		
	comp=Z,11nm,0.2s								
KONS	**Konsvik**	**6.55**	**191**	*eS*		Sn	18 37 57.8	-7.0	
KONS				IAML			18 37 59.1		
	comp=Z,11nm,0.2s								
FLOS	**Flostrand**	**6.69**	**190**	*eS*		**Sn**	**18 38 04.5**	**-3.9**	
FLOS	**Flostrand**	**6.69**	**190**	*eS*		**Sn**	**18 38 04.5**	**-3.9**	
STOK	**Stokkvaagen**	**6.72**	**191**	*eP*		**Pn**	**18 36 53.3**	**+0.7**	
STOK				*eS*		Sn	18 38 02.3	-6.7	
STOK	**Stokkvaagen**	**6.72**	**191**	*eP*		**Pn**	**18 36 53.3**	**+0.7**	
STOK				*eS*		Sn	18 38 02.3	-6.7	
STOK	**Stokkvaagen**	**6.72**	**191**	*eP*		**Pn**	**18 36 53.3**	**+0.7**	
	SNR=51								
ERTU	**Ertsjaerv**	**6.72**	**159**	*eP*		**Pn**	**18 36 54.1**	**+1.4**	
ERTU	**Ertsjaerv**	**6.72**	**159**	P		**Pn**	**18 36 54.1**	**+1.4**	
ERTU	**Ertsjaerv**	**6.72**	**159**	P		**Pn**	**18 36 54.1**	**+1.4**	
MOR8	**Moi Rana**	**6.81**	**186**	*eP*		**Pn**	**18 36 52.9**	**-1.1**	
MOR8				*eS*		Sn	18 38 05.6	-5.9	
MOR8				IAML			18 38 07.9		
	comp=Z,10nm,0.4s								
MOR8	**Moi Rana**	**6.81**	**186**	*eP*		**Pn**	**18 36 52.9**	**-1.1**	
MOR8				*eS*		Sn	18 38 05.6	-5.9	
MOR8				IAML			18 38 07.9		
	comp=Z,10nm,0.4s								
MOR8	**Moi Rana**	**6.81**	**186**	P		**Pn**	**18 36 52.9**	**-1.1**	
VRF	**Varrio**	**6.86**	**133**	*eP*		**Pn**	**18 36 56.7**	**+2.0**	
VRF				*eS*		**Sn**	**18 38 09.7**	**-2.9**	
VRF				MSN			18 38 16.1		
	comp=Z,33nm,0.2s								
VRF	**Varrio**	**6.86**	**133**	P		**Pn**	**18 36 56.6**	**+2.0**	
HARU	**Harads**	**6.99**	**164**	*eP*		**Pn**	**18 36 58.0**	**+1.6**	
HARU	**Harads**	**6.99**	**164**	P		**Pn**	**18 36 57.9**	**+1.6**	
HARU	**Harads**	**6.99**	**164**	P		**Pn**	**18 36 58.0**	**+1.6**	
RNF	**Rovaniemi**	**7.18**	**147**	*eP*		**Pn**	**18 37 00.7**	**+1.8**	
RNF				*eS*		**Sn**	**18 38 17.2**	**-3.1**	
RNF	**Rovaniemi**	**7.18**	**147**	P		**Pn**	**18 37 00.7**	**+1.8**	
KALU	**Kalix**	**7.52**	**157**	*eP*		**Pn**	**18 37 05.3**	**+1.7**	
KALU	**Kalix**	**7.52**	**157**	P		**Pn**	**18 37 05.2**	**+1.7**	
KALU	**Kalix**	**7.52**	**157**	P		**Pn**	**18 37 05.3**	**+1.7**	
SJUU	**Sjulsmark**	**7.69**	**163**	*eP*		**Pn**	**18 37 07.0**	**+1.1**	
SJUU	**Sjulsmark**	**7.69**	**163**	P		**Pn**	**18 37 07.0**	**+1.1**	
SJUU	**Sjulsmark**	**7.69**	**163**	P		**Pn**	**18 37 07.0**	**+1.1**	
APA0	**Apatity Array**	**7.75**	**125**	Pn		**Pn**	**18 37 08.0**	**+1.1**	
	baz=321,slow=11								
APA0				Sn		**Sn**	**18 38 30.2**	**-4.3**	
	baz=333,slow=22								
APA0	**Apatity Array**	**7.75**	**125**	Pn		**Pn**	**18 37 08.0**	**+1.1**	
	baz=321,slow=11								
APA0				*eS*		**Sn**	**18 38 30.2**	**-4.3**	
APA0	**Apatity Array**	**7.75**	**125**	*eP*		**Pn**	**18 37 08.0**	**+1.1**	
APA0				*eS*		**Sn**	**18 38 30.2**	**-4.3**	
APA0	**Apatity Array**	**7.75**	**125**	P		**Pn**	**18 37 07.9**	**+1.1**	
APA0	**Apatity Array**	**7.75**	**125**	P		**Pn**	**18 37 07.6**	**+0.8**	
APA0				S		**Sn**	**18 38 29.8**	**-4.7**	
LILU	**Lilltraesk**	**7.78**	**169**	*eP*		**Pn**	**18 37 08.5**	**+1.3**	
LILU	**Lilltraesk**	**7.78**	**169**	P		**Pn**	**18 37 08.5**	**+1.3**	
LILU	**Lilltraesk**	**7.78**	**169**	P		**Pn**	**18 37 08.5**	**+1.3**	
APA	**Apatity**	**7.88**	**124**	P		**Pn**	**18 37 09.0**	**+0.4**	
APA				S		**Sn**	**18 38 32.5**	**-5.2**	
MSF	**Maaselka**	**8.33**	**141**	*eP*		**Pn**	**18 37 16.6**	**+1.8**	
MSF				*eS*		**Sn**	**18 38 43.5**	**-5.3**	
MSF	**Maaselka**	**8.33**	**141**	P		**Pn**	**18 37 16.6**	**+1.8**	
KU6	**Riekki**	**8.39**	**139**	*eP*		**Pn**	**18 37 17.2**	**+1.6**	
KU6				*eS*		**Sn**	**18 38 45.6**	**-4.6**	
KU6	**Riekki**	**8.39**	**139**	P		**Pn**	**18 37 17.2**	**+1.6**	
SVAU	**Svanoeiden**	**8.55**	**170**	*eP*		**Pn**	**18 37 19.6**	**+1.9**	
SVAU	**Svanoeiden**	**8.55**	**170**	P		**Pn**	**18 37 19.6**	**+1.9**	
SVAU	**Svanoeiden**	**8.55**	**170**	P		**Pn**	**18 37 19.6**	**+1.9**	
BURU	**Burvik**	**8.58**	**165**	*eP*		**Pn**	**18 37 19.7**	**+1.6**	
BURU	**Burvik**	**8.58**	**165**	P		**Pn**	**18 37 19.7**	**+1.6**	
BURU	**Burvik**	**8.58**	**165**	P		**Pn**	**18 37 19.7**	**+1.6**	
OUL	**Oulu**	**8.58**	**152**	*eP*		**Pn**	**18 37 19.5**	**+1.3**	
OUL				*eS*		**Sn**	**18 38 50.6**	**-4.3**	
OUL	**Oulu**	**8.58**	**152**	P		**Pn**	**18 37 19.5**	**+1.3**	
BREU	**Bredtraesk**	**9.12**	**173**	*eP*		**Pn**	**18 37 26.6**	**+1.2**	
BREU	**Bredtraesk**	**9.12**	**173**	P		**Pn**	**18 37 26.6**	**+1.2**	
BREU	**Bredtraesk**	**9.12**	**173**	P		**Pn**	**18 37 26.6**	**+1.2**	
UMAU	**Umeaa**	**9.22**	**168**	*eP*		**Pn**	**18 37 28.3**	**+1.4**	
UMAU	**Umeaa**	**9.22**	**168**	P		**Pn**	**18 37 28.3**	**+1.4**	
UMAU	**Umeaa**	**9.22**	**168**	P		**Pn**	**18 37 28.3**	**+1.4**	
NB2	**NORSAR Subarra**	**12.09**	**192**	Pn		**Pn**	**18 38 05.6**	**-0.6**	
NB2	**NORSAR Subarra**	**12.09**	**192**	Pn		**Pn**	**18 38 05.6**	**-0.6**	
NB2	**NORSAR Subarra**	**12.09**	**192**	Pn		**Pn**	**18 38 05.6**	**-0.6**	
NOA	**NORSAR Array B**	**12.09**	**192**	Pn		**Pn**	**18 38 07.6**	**+1.4**	
	comp=Z,0.2nm,0.3s,baz=11,slow=13,SNR=2.7								
FIA0	**FINESS Array S**	**12.11**	**157**	Pn		**Pn**	**18 38 06.3**	**-0.1**	
	baz=354,slow=12								
FIA0				Sn		Sn	18 40 13.9	-7.4	
	baz=352,slow=22								
FIA0	**FINESS Array S**	**12.11**	**157**	Pn		**Pn**	**18 38 06.3**	**-0.1**	
	baz=354,slow=12								
FIA0				Sn		Sn	18 40 13.9	-7.4	
	baz=352,slow=22								
FIA0	**FINESS Array S**	**12.11**	**157**	Pn		**Pn**	**18 38 06.3**	**-0.1**	
	baz=354,slow=12,SNR=2.0								
FINES	**FINESS Array B**	**12.11**	**157**	Pn		**Pn**	**18 38 06.3**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=351,slow=12,SNR=15								
FINES				Sn		Sn	18 40 14.7	-6.7	
	comp=Z,1.0nm,0.3s,baz=355,slow=23,SNR=9.1								
HFS	**Hagfors**	**12.88**	**186**	Pn		**Pn**	**18 38 16.1**	**-0.9**	
	comp=Z,0.1nm,0.3s,baz=2.3,slow=11,SNR=3.8								
AKASG	**Malin Array Be**	**23.02**	**159**	P		**P**	**18 40 19.2**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=346,slow=9.6,SNR=2.1								
GERES	**GERESS Array B**	**24.19**	**184**	P		**P**	**18 40 31.5**	**+1.1**	
	comp=Z,0.4nm,0.7s,baz=2.3,slow=7.4,SNR=2.6								
KURBB	**Kurchatov Arra**	**34.51**	**96**	P		**P**	**18 42 04.5**	**+2.6**	
	comp=Z,0.7nm,0.9s,baz=334,slow=7.3,SNR=5.7								
MKAR	**Makanchi Array**	**39.05**	**95**	P		**P**	**18 42 42.3**	**+1.7**	
	comp=Z,0.2nm,0.7s,baz=351,slow=7.9,SNR=3.2								
PETK	**Petropavlovsk-**	**51.47**	**29**	LR		LR	19 07 16.4		
	comp=Z,16nm,19.4s,baz=98,slow=37								
TORD	**Torodi Ar. Bea**	**60.36**	**196**	P		**P**	**18 45 24.0**	**+1.0**	
	comp=Z,0.6nm,0.8s,baz=358,slow=4.9,SNR=3.3								
TXAR	**Lajitas Array**	**70.31**	**307**	LR		LR	19 16 53.8		
	comp=Z,27nm,19.1s,baz=0.0,slow=36								

IDC 01 18:38:48.5±4.9, 39°.35N×110°.58E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/36, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=103.1km s-min=21.8km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**9.01**	**342**	Pn		Pn	18 41 00.7	+0.7
	0.1nm,0.3s,baz=156,slow=13,SNR=18							
SONM				Sn		Sn	18 42 41.8	-0.4
	baz=154,slow=21,SNR=4.0							
SONM				Lg		Lg	18 43 30.6	
	0.1nm,0.3s,baz=161,slow=32,SNR=3.8							
MKAR	**Makanchi Array**	**21.88**	**299**	P		P	18 43 42.9	-0.1
	1.6nm,0.8s,baz=99,slow=12,SNR=16							
ZALV	**Zalesovo Beam**	**22.76**	**318**	P		P	18 43 53.2	+1.0
	0.3nm,0.2s,baz=115,slow=9.7,SNR=3.2							
CMAR	**Chiang Mai Arr**	**23.14**	**209**	P		P	18 43 55.8	-0.6
	2.0nm,0.7s,baz=13,slow=9.4,SNR=21							
KURBB	**Kurchatov Arra**	**25.12**	**307**	P		P	18 44 14.9	0.0
	0.8nm,1.0s,baz=109,slow=10,SNR=4.3							

GUC 01 18:43:27.2±0.6, 34°.75S×72°.43W, h31km±3km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.92**	**135**	*i* P		Pn	18 43 44.0	0.0
TALC				*i* S		Sn	18 43 56.2	0.0
NICH	**Los Niches**	**1.02**	**105**	*i* P		Pn	18 43 45.4	0.0
NICH				*i* S		Sb	18 43 59.4	0.0
NICH				AML		AML	18 44 09.1	
	comp=E,4μm,0.7s							
LNCH	**Linares**	**1.29**	**149**	*i* P		Pn	18 43 49.8	+0.7
LNCH				*i* S		Sb	18 44 06.8	-0.4
COCH	**Cobquecura**	**1.41**	**192**	*i* P		Pn	18 43 51.6	+0.9
COCH				*i* S		Sb	18 44 09.9	-0.7
RCDM	**Rinconada Maip**	**1.84**	**48**	*i* P		Pb	18 43 58.6	-1.7
RCDM				*i* S		Sb	18 44 21.7	-1.2
CLCH	**Cerro Calan**	**2.07**	**50**	*i* P		Pb	18 44 02.1	-2.1
CLCH				*i* P		Pb	18 44 02.1	-2.1
CLCH				*i* S		Sb	18 44 28.5	-1.1
CLCH				*i* S		Sn	18 44 28.5	+3.8
CLCH				AML		AML	18 44 37.3	
	comp=N,1μm,0.8s							
PEL	**Peldehue**	**2.16**	**43**	*i* P		Pn	18 44 03.1	+2.0
PEL				*i* S		Sb	18 44 30.0	-2.1
FCH	**Farellones**	**2.27**	**52**	AML		AML	18 44 37.8	
	comp=N,594nm,0.6s							

*CSEM **01** 18:43:34.7, 33°.99N×25°.71E, h16km, MD3.5*
ATH 01 18:43:34.7, 33°.99N×25°.71E, h16km±4km, MD3.5/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAST	**Lasithi**	**1.18**	**351**	*e*PN		Pn	18 43 56.4	-0.3
LAST				*e*SN		Sg	18 44 14.0	+0.7
LAST	**Lasithi**	**1.18**	**351**	*e*Pn		Pn	18 43 56.4	-0.3
LAST				*e*Sn		Sg	18 44 14.0	+0.7
ZKR	**Zakros**	**1.20**	**20**	*e*PN		Pg	18 43 57.6	-0.3
ZKR				*e*SN		Sg	18 44 13.4	-0.1
ZKR	**Zakros**	**1.20**	**20**	*e*Pn		Pg	18 43 57.6	-0.3
ZKR				*e*Sn		Sg	18 44 13.4	-0.1
SIVA	**Sivas**	**1.27**	**324**	*e*PN		Pg	18 43 56.8	-0.3
SIVA				*e*SN		Pg	18 44 15.5	-0.2
SIVA	**Sivas**	**1.27**	**324**	*e*Pn		Pg	18 43 58.8	-0.3
SIVA				*e*Sn		Sg	18 44 15.5	-0.2
NPS	**Neapolis**	**1.27**	**356**	*e*PN		Pg	18 43 59.2	-0.1
NPS	**Neapolis**	**1.27**	**356**	*e*Pn		Pg	18 43 59.2	-0.1
KARP	**Karpathos**	**1.96**	**37**	*e*PN		Pb	18 44 09.0	-1.1
KARP				*e*SN		Sb	18 44 35.2	+0.9
KARP	**Karpathos**	**1.96**	**37**	*e*Pn		Pb	18 44 09.0	-1.1
KARP				*e*Sn		Sb	18 44 35.2	+0.9

KRSC 01 18:46:24.2±0.7, 55°.70N×162°.32E, h60km±16km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.58**	**29**	P		Pn	18 46 37.8	+0.8
KBTR				S		Sn	18 46 46.8	+0.5
BZGR	**Bezymyannyi-Gr**	**0.95**	**285**	S		Sn	18 46 55.5	+0.9
SMKR	**Semkarok**	**1.00**	**332**	P		Pn	18 46 43.4	+1.1
SMKR				S		Sn	18 46 55.8	0.0
BZWR	**Bezymyannyi-We**	**1.06**	**285**	P		Pn	18 46 45.0	+1.8
BZWR				S		Sn	18 46 58.8	+1.4
BDR	**Baidarnaya**	**1.07**	**325**	P		Pn	18 46 44.6	+1.4
BDR				S		Sn	18 46 59.0	+1.7
KRSR	**Krestovskiy**	**1.11**	**298**	P		Pn	18 46 44.6	+0.8
KRSR				S		Sn	18 46 58.9	+0.5
KLY	**Klyuchi**	**1.12**	**304**	P		Pn	18 46 43.5	-0.2
KLY				S		Sn	18 46 56.4	-1.9
KIRR	**Kirishev**	**1.14**	**284**	S		Sn	18 47 00.7	+1.4
SRKR	**Sorokina**	**1.15**	**326**	P		Pn	18 46 45.7	+1.4
SRKR				S		Sn	18 47 01.0	+1.8
KMNR	**Kamenistaya**	**1.18**	**273**	P		Pn	18 46 47.0	+2.3
KMNR				S		Sn	18 47 02.6	+2.6
MKZ	**Mys Kozlova**	**1.20**	**197**	P		Pn	18 46 46.6	+1.9
MKZ				S		Sn	18 47 02.2	+2.1
KPT	**Kopyto**	**1.21**	**283**	P		Pn	18 46 46.9	+1.8
KPT				S		Sn	18 47 02.2	+1.5
KZV	**Kizimen**	**1.30**	**244**	P		Pn	18 46 48.3	+2.0
TUMR	**Tumrok**	**1.31**	**252**	P		Pn	18 46 49.0	+2.6
TUMR				S		Sn	18 47 06.3	+3.3
KOZ	**Kozyrevsk**	**1.42**	**286**	P		Pn	18 46 50.9	+3.1
KOZ				S		Sn	18 47 08.9	+3.3
SRDR	**Sredinnyy**	**1.59**	**294**	P		Pn	18 46 52.5	+2.4
SRDR				S		Sn	18 47 12.5	+2.9
ESO	**Esso**	**2.06**	**278**	P		Pn	18 46 59.3	+2.9
ESO				S		Sn	18 47 23.5	+2.6
BKI	**Bering**	**2.14**	**102**	P		Pn	18 47 00.7	+3.3
BKI				S		Sn	18 47 25.9	+3.1
KII	**Karymskiy**	**2.35**	**226**	P		Pn	18 47 01.7	+1.2
SPN	**Mys Shipunski**	**2.94**	**208**	P		Pn	18 47 10.6	+2.3
SPN				S		Sn	18 47 43.6	+1.3
NLC	**Nalytchevo**	**3.07**	**216**	S		Sn	18 47 48.3	+2.6
SDLR	**Sedlovina**	**3.15**	**221**	P		Pn	18 47 14.9	+3.5
SDLR				S		Sn	18 47 51.0	+3.1
KRX	**Arik**	**3.18**	**224**	P		Pn	18 47 15.4	+3.6
KRER	**Koryakskii**	**3.18**	**222**	P		Pn	18 47 14.9	+3.0
SMAR	**Somma**	**3.19**	**221**	P		Pn	18 47 15.4	+3.3
SMAR				S		Sn	18 47 51.6	+2.5
AVH	**Avacha**	**3.21**	**222**	P		Pn	18 47 15.0	+2.7
AVH				S		Sn	18 47 51.4	+2.0
UGLR	**Uglovaya**	**3.23**	**221**	P		Pn	18 47 15.4	+2.9
KOK	**Koryaka**	**3.23**	**223**	P		Pn	18 47 16.1	+3.6
GNL	**Ganaly**	**3.24**	**233**	P		Pn	18 47 16.0	+3.3
OSSR	**Ossora**	**3.58**	**6**	P		Pn	18 47 20.1	+3.0
RUS	**Russkaya**	**3.97**	**216**	P		Pn	18 47 24.3	+1.9
RUS				S		Sn	18 48 08.7	+1.0
MTVR	**Mutnovka**	**4.04**	**219**	P		Pn	18 47 27.2	+3.5
MTVR				S		Sn	18 48 11.8	+2.0
APC	**Apacha**	**4.11**	**229**	P		Pn	18 47 29.0	+4.7

*IDC **01** 19:26:38.5±0.6, 15°.91S×171°.50W, h0km, mb4.2/9, mb1 4.6/9, mb1mx4.2/29, mbtmp4.2/9, MS3.7/8, Ms1 3.7/8, ms1mx3.4/42, Error ellipse: s-maj=33.6km s-min=14.5km az=122.0*
*NEIC **01** 19:26:40.1±0.5, 15°.77S×171°.58W, h10km, mb4.8/4, Error ellipse: s-maj=18.4km s-min=10.8km az=116.0*
*ISCJB **01** 19:26:41.8±0.5, 15°.70S±0°.06×171°.6W±0°.1, h33km, mb4.4/13, MS3.6/8, Error ellipse: s-maj=15.4km s-min=8.5km az=13.8*
ISC 01 19:26:43.7±0.6, 15°.66S±0°.08×171°.5W±0°.1, h35km, n44, σ1§40/30, mb4.5/13, MS3.6/8, 2C-1D, Samoa Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res

LEM				S	Sn	19 31 56.6	-10
CISI	**Cisompet, Garu**	**2.25**	**109**	P	Pn	19 31 46.7	+0.1
CISI				S	Sn	19 32 11.8	-2.7
KLSI		**2.30**	**336**	P	Pn	19 31 46.9	-0.3
CMJI	**Cimerak**	**2.92**	**110**	P	Pn	19 31 55.9	+0.3
KPJI	**Karang Pucung**	**3.28**	**99**	P	Pn	19 32 00.9	+0.3

*IDC **01** 19:42:56.7±0.4,34°.24S×72°.04W,h0km,mb4.6/15, mb1 4.7/17,mb1mx4.6/28,mbtmp4.6/17,ML4.5/3,MS4.7/16, Ms1 4.7/16,ms1mx4.4/31,Error ellipse: s-maj=17.5km s-min=11.6km az=97.0*

*ISCJB **01** 19:42:58.8±0.2,34°.18S±0°.03×72°.20W±0°.05,h19km, mb4.9/43,MS4.7/21,Error ellipse: s-maj=5.8km s-min=3.3km az=153.2*

*GUC **01** 19:42:59.6±0.6,34°.21S×72°.31W,h32km±4km,ML5.1*

*MOS **01** 19:43:00.9±1.2,34°.25S×72°.25W,h33km,mb5.3/10,Error ellipse: s-maj=19.0km s-min=9.4km az=95.1*

*GCMT **01** 19:43:02.3±0.3,34°.28S×72°.25W,h24km±1km,MW5.1/53, Moment Tensor Solution. s30,c43; s53,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r2.84±.23; $M_{\theta\theta}$0.78±.13; $M_{\phi\phi}$-3.62±.17; $M_{r\theta}$0.65±.19; $M_{\theta\phi}$0.59±.10; $M_{\phi r}$-5.27±.51; Best double couple: M◎2.23500×10^{16} NP1:ϕ_s173.00000°,δ16.00000°,λ90.00000°. NP2: ϕ_s352.00000°,δ16.00000°,λ89.00000°. Principal axes: T 5.8070, Plg61.0000°, Azm83.0000°; N 0.8610, Plg0.0000°, Azm353.0000°; P -6.6640, Plg29.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 19:43:02.3±0.7,34°.20S×72°.10W,h36km±5km,mb5.0/28, ML5.1(GUC) Error ellipse: s-maj=8.2km s-min=4.3km az=85.0*

NEIC Felt [V] at Pichilemu; [IV] at Curico and San Antonio; [III] at Molina, Paredones, Quillota, San Felipe, San Fernando, Santa Cruz, Santiago and Valparaiso; [II] at Navidad, Puchuncavi, Rancagua and Vina del Mar. Also felt at Chiguayante, Quilpue and Talca.

ISC 01 19:42:59.9±0.3,34°.16S±0°.03×72°.14W±0°.05,h19km,n273, σ1.22/298,mb5.0/43,MS4.7/21,21C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.64**	**72**	⇑	*i*	P	**Pn**	**19 43 14.1**	**+0.2**
LNV	**Longovilo**	**0.64**	**72**	⇑	*i*	P	**Pn**	**19 43 14.1**	**+0.2**
NICH	**Los Niches**	**1.13**	**138**	⇑	*i*	P	**Pn**	**19 43 20.3**	**-0.4**
NICH					*i*	S	**Sg**	**19 43 36.6**	**0.0**
NICH	**Los Niches**	**1.13**	**138**	⇑	*i*	P	**Pn**	**19 43 20.3**	**-0.4**
NICH					*i*	S	**Sg**	**19 43 36.6**	**0.0**
IHA	**Instituto Hidr**	**1.21**	**20**	⇑	*i*	P	**Pb**	**19 43 22.1**	**-0.1**
IHA	**Instituto Hidr**	**1.21**	**20**	⇑	*i*	P	**Pb**	**19 43 22.1**	**-0.1**
CHCH	**Chadas Angostu**	**1.26**	**80**	⇑	*i*	P	**Pb**	**19 43 23.6**	**+0.6**
CHCH	**Chadas Angostu**	**1.26**	**80**	⇑	*i*	P	**Pb**	**19 43 23.6**	**+0.6**
CACH	**El Canelo**	**1.28**	**88**	⇓	*i*	P	**Pg**	**19 43 24.4**	**-0.3**
CACH	**El Canelo**	**1.28**	**88**	⇓	*i*	P	**Pg**	**19 43 24.4**	**-0.3**
RCDM	**Rinconada Maip**	**1.30**	**59**		*eP*		**Pb**	**19 43 23.9**	**+0.2**
RCDM	**Rinconada Maip**	**1.30**	**59**		*eP*		**Pb**	**19 43 23.9**	**+0.2**
TALC	**Talca**	**1.30**	**161**	⇑	*i*	P	**Pn**	**19 43 22.6**	**-0.5**
TALC					*i*	S	**Sn**	**19 43 39.6**	**-0.3**
TALC	**Talca**	**1.30**	**161**	⇑	*i*	P	**Pn**	**19 43 22.6**	**-0.5**
TALC					*i*	S	**Sn**	**19 43 39.6**	**-0.3**
LACH	**Col Las Americ**	**1.52**	**63**	⇑	*i*	P	**Pb**	**19 43 28.2**	**+0.7**
LACH	**Col Las Americ**	**1.52**	**63**	⇑	*i*	P	**Pb**	**19 43 28.2**	**+0.7**
CLCH	**Cerro Calan**	**1.54**	**61**	⇑	*i*	P	**Pb**	**19 43 28.6**	**+0.8**
CLCH	comp=N,28μm,0.5s					AML	AML	19 43 58.0	
CLCH	comp=N,35μm,0.5s					AML	AML	19 43 58.6	
PEL	**Peldehue**	**1.58**	**51**		*i*	P	**Pg**	**19 43 30.0**	**-0.4**
PEL	**Peldehue**	**1.58**	**51**	⇑	*i*	P	**Pg**	**19 43 30.0**	**-0.4**
PEL	comp=E,46μm,0.8s					AML	AML	19 44 02.1	
PEL	**Peldehue**	**1.58**	**51**		*i*	P	**Pg**	**19 43 30.0**	**-0.4**
LNCH	**Linares**	**1.74**	**165**	⇓	*i*	P	**Pn**	**19 43 28.9**	**-0.2**
LNCH					*i*	S	**Sn**	**19 43 51.1**	**+0.4**
LNCH	**Linares**	**1.74**	**165**	⇓	*i*	P	**Pn**	**19 43 28.9**	**-0.2**
LNCH					*i*	S	**Sn**	**19 43 51.1**	**+0.4**
FCH	**Farellones**	**1.75**	**62**			AML	AML	19 44 09.4	
CFAA	comp=E,18μm,0.6s **Coronel Fontan** comp=E,3.6nm,0.3s,baz=227,slow=11,SNR=35	**4.16**	**53**			Pn	**Pn**	**19 44 03.2**	**+0.8**
CFAA	comp=E,111nm,21.0s,baz=228,slow=31					LR	LR	19 45 05.3	
CFAA	comp=E,9.1nm,0.3s,baz=234,slow=8.7,SNR=10					Lg	Lg	19 45 05.6	
LCO	**Las Campanas** comp=E,261nm,0.7s	**5.28**	**14**		*eP*		**Pn**	**19 44 17.5**	**-0.5**
PLCA	**Paso Flores**	**6.68**	**170**		*eP*		**Pn**	**19 44 37.2**	**+0.1**
PLCA	comp=Z,6.0nm,0.3s					pmax	pmax		
PLCA	**Paso Flores** comp=Z,3.4nm,0.3s,baz=337,slow=13,SNR=22	**6.68**	**170**			Pn	**Pn**	**19 44 36.8**	**-0.3**
PLCA	comp=Z,2.9nm,0.3s,baz=290,slow=15,SNR=2.1					Lg	Lg	19 46 22.1	
PLCA	comp=Z,3μm,18.8s,baz=352,slow=41					LR	LR	19 47 24.0	
PLCA	**Paso Flores** comp=Z,5.6nm,0.3s	**6.68**	**170**		*eP*		**Pn**	**19 44 37.2**	**+0.1**
PLCA						Lg	Lg	19 46 22.1	
TRQA	**Tornquist** comp=Z,57nm,0.8s	**9.10**	**118**		*eP*		**Pn**	**19 45 11.3**	**+1.1**
LVC	**Limon Verde** comp=Z,25nm,0.8s	**11.85**	**15**		*eP*		Pn	19 45 43.4	-4.8
LPAZ	**La Paz**	**18.16**	**12**		*eP*		**P**	**19 47 12.5**	**+0.6**
LPAZ	comp=Z,83nm,1.3s					pmax	pmax		
LPAZ	**La Paz** comp=Z,1.7nm,0.3s,baz=183,slow=7.8,SNR=38	**18.16**	**12**			P	**P**	**19 47 13.0**	**+1.0**
LPAZ	**La Paz** comp=Z,83nm,1.3s	**18.16**	**12**		*eP*		**P**	**19 47 12.5**	**+0.6**
EFI	**East Falkland**	**20.25**	**154**	⇑	*eP*		Pn	19 47 35.2	-0.7
EFI	comp=Z,258nm,1.7s					pmax	pmax		
SIV	**San Ignacio** comp=Z,73nm,1.1s,baz=210,slow=7.4,SNR=52	**20.66**	**32**			P	**P**	**19 47 38.8**	**+0.1**
SIV	comp=Z,5μm,19.3s,baz=226,slow=42					LR	LR	19 57 15.8	
USHA	**Ushuaia** comp=Z,9.4nm,0.9s,baz=17,slow=7.0,SNR=4.7	**20.83**	**174**			P	**P**	**19 47 40.1**	**-0.1**
USHA	comp=Z,2μm,19.1s,baz=335,slow=40					LR	LR	19 56 37.8	
SAML	**Samuel** comp=Z,31nm,0.9s	**26.41**	**20**		*eP*		**P**	**19 48 34.9**	**-0.5**
BDFB	**Brasilia** comp=Z,20nm,0.9s,baz=222,slow=8.0,SNR=22	**28.50**	**56**			P	**P**	**19 48 53.1**	**-1.2**
BDFB	comp=Z,4μm,19.1s,baz=222,slow=39					LR	LR	20 01 33.7	
PMSA	**Palmer Station** comp=Z,2μm,20.8s,baz=350,slow=36	**31.04**	**173**			LR	LR	20 01 22.4	
OTAV	**Otavalo** comp=Z,4.1nm,0.6s	**34.73**	**349**		*eP*		**P**	**19 49 51.6**	**+2.2**
PTGA	**Pitinga** comp=Z,39nm,1.0s	**35.16**	**21**		*eP*		**P**	**19 49 51.8**	**-0.8**
ROSC	**El Rosal** comp=Z,28nm,0.3s,baz=262,slow=18,SNR=15	**38.86**	**357**			P	**P**	**19 50 26.2**	**+1.7**
SDV	**Santo Domingo** comp=Z,24nm,0.9s	**42.84**	**2**		*eP*		**P**	**19 50 56.5**	**-0.6**
RCBR	**Riachuelo** comp=Z,3μm,18.3s,baz=213,slow=38	**43.80**	**58**			LR	LR	20 10 44.4	
PCRV	**Puerto La Cruz** comp=Z,23nm,1.1s,baz=153,slow=4.5,SNR=4.0	**44.67**	**11**			P	**P**	**19 51 11.7**	**+0.1**
JTS	**JuntasAbangare**	**45.85**	**342**	⇑	*eP*		**P**	**19 51 22.4**	**+1.4**
JTS	comp=Z,37nm,2.5s					pmax	pmax		
JTS	**JuntasAbangare** comp=Z,2.3nm,0.6s,baz=259,slow=14,SNR=2.3	**45.85**	**342**			P	**P**	**19 51 20.4**	**-0.6**
VNA3	**Neumayer Olymp**	**49.24**	**158**			P	**P**	**19 51 47.3**	**+0.5**
VNA1	**Neumayer--Stat**	**49.56**	**157**			P	**P**	**19 51 49.8**	**+0.7**
VNA2	**Neumayer--Watz**	**49.90**	**157**			P	**P**	**19 51 52.5**	**+0.7**
SNAA	**Sanae**	**51.47**	**158**		*eP*		**P**	**19 52 03.6**	**-0.1**
SNAA	**Sanae**	**51.47**	**158**		*eP*		**P**	**19 52 03.3**	**-0.4**
SNAA	comp=Z,47nm,1.4s					pmax	pmax		
SNAA	**Sanae** comp=Z,47nm,1.4s	**51.47**	**158**		*eP*		**P**	**19 52 03.3**	**-0.4**
CRPR	**Cabo Rojo, PR** comp=Z,18nm,0.7s	**52.10**	**6**		*eP*		**P**	**19 52 08.9**	**+0.2**
CELP	**Cerrillos**	**52.22**	**7**		*eP*		**P**	**19 52 08.6**	**-1.1**
LRS	**Lares**	**52.40**	**6**		*eP*		**P**	**19 52 09.8**	**-1.3**
RKT	**Rikitea** comp=Z,305nm,27.2s	**55.47**	**264**		*eS*		**S**	**20 00 17.3**	**-0.6**
RKT	comp=Z,498nm,26.5s,baz=118				*eLR*		LR	20 08 41.3	
RKT	**Rikitea** comp=Z,1.2nm,0.3s	**55.47**	**264**		*eT*		T	20 52 19.4	
QSPA	**South Pole Qui** comp=Z,6.4nm,1.0s,baz=285,slow=0.5,SNR=12	**56.08**	**180**			P	**P**	**19 52 37.5**	**0.0**
QSPA	**South Pole Qui** comp=Z,37nm,1.0s	**56.08**	**180**		*eP*		**P**	**19 52 37.9**	**+0.4**
TEIG	**Tepich** comp=Z,18nm,0.8s	**56.23**	**342**		*eP*		**P**	**19 52 38.4**	**-0.5**
VNDA	**Vanda** comp=Z,0.8nm,0.4s,baz=139,slow=7.2,SNR=14	**63.93**	**191**			P	**P**	**19 53 31.2**	**+0.1**
VNDA	comp=Z,185nm,19.2s,baz=132,slow=33					LR	LR	20 18 16.1	
H06E1	**SOCORRO T-PHAS**	**64.31**	**319**			T	T	21 03 47.9	
SYO	**Syowa Base**	**65.75**	**158**	⇑	*eP*		**P**	**19 53 41.0**	**-2.0**
TBI	**Tubuai** comp=Z,217nm,25.5s	**67.19**	**257**		*eS*		**S**	**20 02 46.3**	**-0.6**
TBI	**Tubuai** comp=Z,1μm,26.0s,baz=118	**67.19**	**257**		*eLR*		LR	20 14 13.1	
732A	**Laxson Ranch,** baz=68	**67.87**	**334**			P	**P**	**19 53 58.3**	**+1.3**
GOGA	**Godfrey**	**68.05**	**350**		*eP*		**P**	**19 53 58.0**	**0.0**
GOGA	comp=Z,5.0nm,0.8s					pmax	pmax		
GOGA	**Godfrey** comp=Z,4.6nm,0.8s	**68.05**	**350**		*eP*		**P**	**19 53 58.0**	**0.0**
632A	**Ualde** baz=69	**68.50**	**334**			P	**P**	**19 54 02.4**	**+1.5**
MEH	**Mehetia** comp=Z,36nm,0.2s	**68.74**	**262**		*eT*		T	21 08 54.4	
532A	**Rocksprings** baz=70	**69.11**	**334**			P	**P**	**19 54 06.1**	**+1.3**
434A	**Burnet** baz=70	**69.17**	**336**			P	**P**	**19 54 06.1**	**+1.1**
JCT	**Junction City**	**69.39**	**335**			P	**P**	**19 54 08.2**	**+1.7**
JCT	comp=Z,34nm,1.4s					pmax	pmax		
JCT	**Junction City** comp=Z,34nm,1.4s	**69.39**	**335**			P	**P**	**19 54 08.2**	**+1.7**
433A	**Art** baz=70	**69.39**	**335**			P	**P**	**19 54 07.3**	**+0.8**
KMSC	**Kings Mountain** baz=70	**69.48**	**352**			P	**P**	**19 54 07.5**	**+0.6**
334A	**Lometa** baz=70	**69.64**	**336**			P	**P**	**19 54 08.8**	**+0.9**
530A	**J-C Ranch, Com** baz=70	**69.66**	**333**			P	**P**	**19 54 10.0**	**+1.8**
432A	**Menard** baz=70	**69.75**	**335**			P	**P**	**19 54 10.0**	**+1.3**
TXAR	**Lajitas Array** comp=Z,1.5nm,0.6s,baz=158,slow=9.0,SNR=12	**69.83**	**331**			P	**P**	**19 54 10.6**	**+1.2**
TXAR	comp=Z,399nm,18.3s,baz=0.0,slow=32					LR	LR	20 20 28.4	
333A	**Richland Sprin** baz=70	**69.88**	**336**			P	**P**	**19 54 10.2**	**+0.7**
TIAR	**Tiarei** comp=Z,4.9nm,0.2s	**69.95**	**262**		*eT*		T	21 10 25.2	
529A	**Stev Forest Ra** baz=70	**69.97**	**332**			P	**P**	**19 54 11.3**	**+1.3**
PPT2	**Papeete2** comp=Z,289nm,23.0s	**70.12**	**262**		*eS*		**S**	**20 03 21.0**	**-1.0**
PPT2	**Papeete2** comp=Z,944nm,26.8s,baz=113	**70.12**	**262**		*eLR*		LR	20 15 37.6	
PPT	**Papeete** comp=Z,436nm,18.3s,baz=116,slow=30	**70.14**	**262**			LR	LR	20 17 24.9	
430A	**Baggett Ranch,** baz=71	**70.19**	**334**			P	**P**	**19 54 12.4**	**+1.0**
332A	**Millersview** baz=71	**70.19**	**335**			P	**P**	**19 54 12.5**	**+1.1**
OXF	**Oxford**	**70.21**	**345**			P	**P**	**19 54 11.7**	**+0.4**
OXF	comp=Z,26nm,0.8s					pmax	pmax		
OXF	**Oxford** comp=Z,26nm,0.8s	**70.21**	**345**			P	**P**	**19 54 11.7**	**+0.4**
429A	**Davenport Ranc** baz=71	**70.29**	**333**			P	**P**	**19 54 13.8**	**+1.7**
330A	**Mertzon** baz=71	**70.73**	**334**			P	**P**	**19 54 15.2**	**+0.6**
133A	**Hamilton Ranch** baz=71	**71.03**	**336**			P	**P**	**19 54 17.2**	**+0.7**
MIAR	**Mount Ida**	**71.24**	**341**			P	**P**	**19 54 16.5**	**-1.1**
MIAR	**Mount Ida**	**71.24**	**341**			P	**P**	**19 54 16.5**	**-1.1**
WVT	**Waverly**	**71.45**	**347**		*eP*		**P**	**19 54 17.5**	**-1.4**
WVT	comp=Z,37nm,0.8s					pmax	pmax		
WVT	**Waverly** comp=Z,37nm,0.8s	**71.45**	**347**		*eP*		**P**	**19 54 17.5**	**-1.4**
131A	**Roby** baz=72	**71.59**	**335**			P	**P**	**19 54 20.6**	**+0.7**
Z33A	**Whitaker Ranch** baz=72	**71.60**	**337**			P	**P**	**19 54 20.8**	**+0.9**
JSRW	**J. Sargeant Re**	**71.69**	**355**		*eP*		**P**	**19 54 20.5**	**+0.3**
JSRW					*e*			19 54 30.6	
Z32A	**Haskell** baz=72	**71.86**	**336**			P	**P**	**19 54 22.2**	**+0.7**
Z31A	**Sharp Cattle R** baz=72	**72.09**	**336**			P	**P**	**19 54 23.8**	**+0.9**
Z30A	**Sanderson Ranc** baz=73	**72.41**	**335**			P	**P**	**19 54 25.3**	**+0.5**
MNTX	**Cornudas Mount** baz=73	**72.61**	**331**			P	**P**	**19 54 26.3**	**+0.3**
MAW	**Mawson** comp=Z,599nm,18.3s,baz=232,slow=38	**73.05**	**164**			LR	LR	20 29 19.6	
W31A	**Holland Ranch,** baz=74	**73.73**	**337**			P	**P**	**19 54 33.1**	**+0.5**
ACSO	**Alum Creek Sta** comp=Z,16nm,0.6s	**74.70**	**351**		*eP*		**P**	**19 54 38.2**	**+0.2**
ACSO					*e*			19 54 47.4	
SUR	**Sutherland**	**74.83**	**119**		*eP*		**P**	**19 54 38.5**	**-1.0**
SUR	comp=Z,37nm,3.4s					AMB	AMB	19 54 40.3	
SUR	**Sutherland** comp=Z,37nm,3.3s	**74.83**	**119**			P	**P**	**19 54 38.5**	**-1.0**
LIC	**Lanio** comp=Z,48nm,1.5s	**74.91**	**72**		*eP*		**P**	**19 54 39.3**	**-0.6**
TIC	**Toumodi** comp=Z,5.5nm,0.2s	**75.17**	**71**		*eP*		**P**	**19 54 41.1**	**-0.3**
KIC	**Kosan Boka** comp=Z,46nm,1.1s	**75.22**	**72**		*eP*		**P**	**19 54 41.2**	**-0.5**
DBIC	**Dimbokro**	**75.31**	**71**		*eP*		**P**	**19 54 42.1**	**-0.1**
DBIC	**Dimbokro** comp=Z,15nm,1.1s,baz=221,slow=5.7,SNR=7.5	**75.31**	**71**			P	**P**	**19 54 42.9**	**+0.7**
DBIC	comp=Z,487nm,19.0s,baz=217,slow=34					LR	LR	20 26 13.0	
ANMO	**Albuquerque**	**75.88**	**331**	⇓	*eP*		**P**	**19 54 47.6**	**+2.4**
ANMO	comp=Z,17nm,1.0s					pmax	pmax		
V22A	**San Miguel Ran** baz=77	**76.91**	**332**			P	**P**	**19 54 52.3**	**+1.2**
S25A	**Robets Cordova** baz=78	**77.51**	**334**			P	**P**	**19 54 55.8**	**+1.4**
HVD	**Gariep Dam**	**79.16**	**120**		*eP*		**P**	**19 55 04.3**	**+0.4**
HVD	comp=Z,46nm,3.3s					AMB	AMB	19 55 20.0	
HVD	**Gariep Dam**	**79.16**	**120**			P	**P**	**19 55 04.3**	**+0.4**
HVD	comp=Z,46nm,3.3s					pmax	pmax		
HVD	**Gariep Dam** comp=Z,46nm,3.3s	**79.16**	**120**			P	**P**	**19 55 04.3**	**+0.4**
TSUM	**Tsumeb**	**79.25**	**106**		*eP*		**P**	**19 55 05.6**	**+1.1**
TSUM	**Tsumeb**	**79.25**	**106**			P	**P**	**19 55 05.6**	**+1.1**
U15A	**North Rim** baz=80	**79.59**	**328**			P	**P**	**19 55 08.2**	**+2.2**
GMRC	**Granite Mounta** baz=80	**79.77**	**325**			P	**P**	**19 55 09.0**	**+2.1**
BOSA	**Boshof**	**80.07**	**118**		*eP*		**P**	**19 55 08.4**	**-0.4**
BOSA	comp=Z,48nm,6.5s					AMB	AMB	19 55 18.0	
BOSA	**Boshof** comp=Z,15nm,1.0s,baz=238,slow=5.4,SNR=14	**80.07**	**118**			P	**P**	**19 55 08.1**	**-0.7**
BOSA	comp=Z,265nm,18.1s,baz=230,slow=35					LR	LR	20 29 08.9	
O23A	**Lake Granby, G** baz=81	**80.31**	**334**			P	**P**	**19 55 11.7**	**+2.0**
ECSD	**EROS Data Cent** baz=81	**80.67**	**342**			P	**P**	**19 55 12.0**	**+0.7**
ECSD	**EROS Data Cent** comp=Z,14nm,0.9s	**80.67**	**342**		*eP*		**P**	**19 55 11.8**	**+0.5**
SHPR	**Sheep Range** comp=Z,19nm,1.5s	**80.94**	**326**		*eP*		**P**	**19 55 14.8**	**+1.7**
CCUT	**Cedar City** comp=Z,31nm,1.8s	**81.00**	**328**		*eP*		**P**	**19 55 15.3**	**+1.9**
SEK	**Senekal**	**81.97**	**119**		*eP*		**P**	**19 55 19.2**	**+0.3**
SEK	comp=Z,30nm,2.2s					AMB	AMB	19 55 35.9	
SEK	**Senekal**	**81.97**	**119**			P	**P**	**19 55 19.2**	**+0.3**
LBTB	**Lobatse** comp=Z,30nm,2.2s	**82.31**	**115**		*eP*		**P**	**19 55 20.7**	**0.0**
LBTB						AMB	AMB	19 55 29.8	
LBTB	**Lobatse** comp=Z,26nm,1.6s	**82.31**	**115**		*eP*		**P**	**19 55 20.6**	**-0.2**
LBTB	comp=Z,25nm,1.2s					pmax	pmax		
LBTB	**Lobatse** comp=Z,25nm,1.2s	**82.31**	**115**		*eP*		**P**	**19 55 20.6**	**-0.2**
PRYS	**Parys**	**82.56**	**117**		*eP*		**P**	**19 55 21.0**	**-1.0**
PRYS	comp=Z,18nm,3.8s					AMB	AMB	19 55 36.7	
PRYS	**Parys** comp=Z,18nm,3.8s	**82.56**	**117**			P	**P**	**19 55 21.0**	**-1.0**
R11A	**Troy Canyon, C** baz=83	**82.64**	**327**			P	**P**	**19 55 24.1**	**+2.0**
R11A	**Troy Canyon, C** comp=Z,7.4nm,1.2s	**82.64**	**327**		*eP*		**P**	**19 55 23.8**	**+1.7**
H28A	**Mission Ridge** baz=83	**82.74**	**340**			P	**P**	**19 55 23.2**	**+1.0**
K21A	**Alcova** baz=83	**82.91**	**335**			P	**P**	**19 55 24.4**	**+1.0**
I25A	**Rochford** baz=83	**82.96**	**338**			P	**P**	**19 55 24.4**	**+0.8**
H27A	**Howes** baz=83	**83.01**	**339**			P	**P**	**19 55 24.7**	**+1.0**
I24A	**Kuemmerle Ranc** baz=84	**83.11**	**337**			P	**P**	**19 55 25.1**	**+0.8**
RSSD	**Black Hills**	**83.15**	**337**		*eP*		**P**	**19 55 24.0**	**-0.6**
RSSD	comp=Z,4.0nm,0.8s					pmax	pmax		
RSSD	**Black Hills** comp=Z,3.6nm,0.8s	**83.15**	**337**		*eP*		**P**	**19 55 24.0**	**-0.6**
I22A	**9 Mile Ranch,** baz=84	**83.75**	**336**			P	**P**	**19 55 28.3**	**+0.7**
J20A	**Shoshoni** baz=84	**83.84**	**334**			P	**P**	**19 55 29.6**	**+1.6**
PDAR	**Pinedale Array** comp=Z,0.9nm,0.8s,baz=156,slow=3.9,SNR=8.0	**83.87**	**333**			P	**P**	**19 55 28.7**	**+0.4**
PDAR	comp=Z,280nm,18.9s,baz=154,slow=33					LR	LR	20 29 36.1	
H24A	**Dirks Ranch, A** baz=84	**83.88**	**337**			P	**P**	**19 55 28.6**	**+0.5**
SLR	**Silverton**	**83.91**	**117**		*eP*		**P**	**19 55 27.0**	**-2.0**
SLR	comp=Z,32nm,3.1s					AMB	AMB	19 55 35.8	
SLR	**Silverton**	**83.91**	**117**			P	**P**	**19 55 27.0**	**-2.0**
SLR	comp=Z,32nm,3.1s					pmax	pmax		
SLR	**Silverton** comp=Z,32nm,3.1s	**83.91**	**117**			P	**P**	**19 55 27.0**	**-2.0**
NVAR	**Mina Array Bea** comp=Z,1.6nm,0.8s,baz=157,slow=6.2,SNR=9.4	**83.97**	**325**			P	**P**	**19 55 29.6**	**+0.7**
J19A	**Crowheart** baz=84	**84.11**	**334**			P	**P**	**19 55 29.5**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,13nm,1.0s,baz=248,slow=4.7,SNR=45	**84.35**	**70**			P	**P**	**19 55 31.1**	**0.0**
TORD	comp=Z,645nm,18.8s,baz=235,slow=35					LR	LR	20 32 15.8	
AGMN	**Agassiz Nation** baz=85	**84.79**	**344**			P	**P**	**19 55 32.7**	**+0.1**
AGMN	**Agassiz Nation** comp=Z,6.3nm,0.8s	**84.79**	**344**		*eP*		**P**	**19 55 32.5**	**0.0**
E26A	**Carlson Angus** baz=85	**84.79**	**339**			P	**P**	**19 55 33.6**	**+0.9**
C30A	**Inose, Pekin** baz=85	**84.85**	**342**			P	**P**	**19 55 34.0**	**+1.1**
G22A	**Birney** baz=85	**84.86**	**337**			P	**P**	**19 55 33.6**	**+0.5**
I17A	**Pilgrim Ck.** baz=86	**85.24**	**333**			P	**P**	**19 55 35.1**	**-0.1**
MDND	**Maddock** comp=Z,5.9nm,0.9s	**85.27**	**342**		*eP*		**P**	**19 55 35.8**	**+0.9**
D26A	**Manning** baz=86	**85.29**	**340**			P	**P**	**19 55 36.0**	**+0.9**
E24A	**Baker** baz=86	**85.42**	**338**			P	**P**	**19 55 36.5**	**+0.7**
B30A	**Myrvik Farm, E** baz=86	**85.51**	**343**			P	**P**	**19 55 36.6**	**+0.4**
G20A	**Bridger** baz=86	**85.51**	**335**			P	**P**	**19 55 36.6**	**+0.2**
H18A	**Shoshone NF, C** baz=86	**85.55**	**334**			P	**P**	**19 55 37.4**	**+0.6**
C27A	**Sayler Ranch,** baz=86	**85.65**	**341**			P	**P**	**19 55 38.0**	**+1.0**
B29A	**Wagenman Farm,** baz=86	**85.78**	**342**			P	**P**	**19 55 38.5**	**+1.0**
RLMT	**Red Lodge** comp=Z,4.2nm,0.8s	**85.80**	**335**		*eP*		**P**	**19 55 38.7**	**+0.8**
D24A	**Glendive** baz=86	**85.93**	**339**			P	**P**	**19 55 39.1**	**+0.8**
A30A	**Hoffart Farm,** baz=86	**85.96**	**343**			P	**P**	**19 55 38.7**	**+0.3**
A29A	**Manning Farm,** baz=87	**86.17**	**342**			P	**P**	**19 55 40.0**	**+0.6**
D23A	**Lindsay** baz=87	**86.25**	**338**			P	**P**	**19 55 40.7**	**+0.8**
F19A	**Roth Farm, Mol** baz=87	**86.31**	**335**			P	**P**	**19 55 41.0**	**+0.6**
A28A	**Rude Farm, Bot** baz=87	**86.42**	**342**			P	**P**	**19 55 41.1**	**+0.4**
HLID	**Hailey** baz=87	**86.43**	**331**			P	**P**	**19 55 41.8**	**+0.7**
D22A	**Cohagen** baz=87	**86.53**	**337**			P	**P**	**19 55 41.9**	**+0.6**
ULM	**Lac du Bonnet** comp=Z,4.9nm,0.9s,baz=151,slow=4.4,SNR=9.7	**86.63**	**345**			P	**P**	**19 55 41.8**	**+0.1**
E19A	**Rath Farm, Rou** baz=87	**86.79**	**336**			P	**P**	**19 55 43.3**	**+0.7**
C23A	**Lambert** baz=87	**86.80**	**338**			P	**P**	**19 55 42.9**	**+0.3**
MCMT	**McKenzie Canyo** comp=Z,7.3nm,1.2s	**86.87**	**332**		*eP*		**P**	**19 55 45.2**	**+1.9**
A26A	**Wade Farm, Ken** baz=87	**86.88**	**341**			P	**P**	**19 55 43.2**	**+0.2**
DGMT	**Dagmar** baz=88	**87.10**	**339**			P	**P**	**19 55 44.9**	**+0.8**
DGMT	**Dagmar** comp=Z,23nm,0.8s	**87.10**	**339**		*eP*		**P**	**19 55 44.6**	**+0.5**
D20A	**Manuel Ranch,** baz=88	**87.12**	**336**			P	**P**	**19 55 45.0**	**+0.8**
MSNA	**Messina**	**87.16**	**115**		*eP*		**P**	**19 55 45.6**	**+0.4**
MSNA	comp=Z,23nm,4.2s					AMB	AMB	19 56 00.0	
MSNA	**Messina** comp=Z,23nm,4.2s	**87.16**	**115**			P	**P**	**19 55 45.6**	**+0.4**
C21A	**Desert Coulee** baz=88	**87.42**	**337**			P	**P**	**19 55 46.1**	**+0.4**
B22A	**Reddig Ranch S** baz=88	**87.50**	**338**			P	**P**	**19 55 46.6**	**+0.7**
LRM	**Limekiln Ridge** comp=Z,63nm,1.2s	**87.56**	**333**		*eP*		**P**	**19 55 46.2**	**-0.4**
A22A	**Carney Farms,** baz=88	**88.08**	**339**			P	**P**	**19 55 49.8**	**+1.0**
A20A	**Cobblestone Ra** baz=89	**88.61**	**337**			P	**P**	**19 55 51.9**	**+0.6**
SCHQ	**Schefferville** com

comp=Z,0.3nm,0.6s,baz=138,slow=1.6,SNR=4.5
ASAR PKKPbc **PKKPbc** **20 12 06.4 -0.8**
comp=Z,0.3nm,0.6s,baz=330,slow=3.5,SNR=4.5
WRA Warramunga Arr 120.58 209 PKP **PKPdf** **20 01 49.1 -1.8**
comp=Z,0.6nm,0.4s,baz=162,slow=1.7,SNR=26
BRTR Keskin Array B 121.99 61 PKP **PKPdf** **20 01 51.5 -1.6**
comp=Z,1.1nm,0.9s,baz=198,slow=3.6,SNR=5.9
KIEV Kiev 122.35 48⇓ *e*PKIKP **PKPdf** **20 01 52.2 -1.0**
AKASG Malin Array Be 122.36 48 PKP **PKPdf** **20 01 52.3 -0.9**
comp=Z,0.2nm,0.3s,baz=260,slow=2.7,SNR=8.7
PMG Port Moresby 122.85 228⇑ *e*PKIKP **PKPdf** **20 01 52.4 -2.9**
SPITS Spitsbergen Ar 122.85 14 PKP **PKPdf** **20 01 53.4 -0.1**
comp=Z,4.0nm,0.9s,baz=270,slow=2.9,SNR=4.4
FINES FINESS Array B 123.17 35 PKP **PKPdf** **20 01 54.2 -0.2**
comp=Z,1.5nm,0.8s,baz=242,slow=4.1,SNR=3.7
ARCES ARCESS Array B 124.20 25 PKP **PKPdf** **20 01 54.8 -1.4**
comp=Z,2.8nm,1.0s,baz=292,slow=3.8,SNR=5.7
H11S2 WAKE ISLAND Hyl 25.68 269 T T 22 20 28.6
baz=118,slow=74,SNR=63
H11S1 WAKE ISLAND Hyl 25.69 269 T T 22 20 28.1
baz=118,slow=74,SNR=102
H11S3 WAKE ISLAND Hyl 25.70 269 T T 22 20 28.6
baz=118,slow=74,SNR=62
H11N3 WAKE ISLAND Hyl 26.10 271 T T 22 20 58.5
baz=120
H11N1 WAKE ISLAND Hyl 26.11 271 T T 22 20 58.0
baz=120
H11N2 WAKE ISLAND Hyl 26.12 271 T T 22 20 59.7
baz=120
VSR Storozhevoye 128.62 49⇑ *e*PKIKP **PKPdf** **20 02 05.3 +0.1**
KIV Kislovodsk 129.65 58 *i* PKIKP **PKPdf** **20 02 08.4 +0.9**
KIV *e* 20 04 16.7
KIV *e*PS **PS** **20 14 28.9 -0.1**
KIV *e*SS SS 20 21 43.2 +1.9
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,106nm,20.0s
ARU Arti 139.92 41 *i* PKIKP **PKPdf** **20 02 26.9 +0.7**
ARU 20 05 19.8
ARU MLR MLR
comp=Z,271nm,20.0s
GEYT Alibeck 139.99 70 PKP **PKPdf** **20 02 26.9 -0.1**
comp=Z,0.6nm,0.6s,baz=262,slow=4.4,SNR=3.6
SEY Seymchan 140.13 330 PKP **PKPdf** **20 02 26.9 +0.5**
comp=Z,1.8nm,0.6s,baz=81,slow=4.3,SNR=11
AKTO Aktyubinsk 140.51 50 PKP **PKPdf** **20 02 27.8 +0.3**
comp=Z,0.6nm,0.5s,baz=317,slow=5.9,SNR=4.6
TIXI Tiksi 140.84 350⇑ *e*PKIKP **PKPdf** **20 02 27.8 +0.4**
TIXI Tiksi 140.84 350 *e*PKPpre PKPpre 20 02 18.9
URV Uravakonda 146.43 117 *e*PKPab **PKPbc** **20 02 39.7 -0.6**
SKHT Srikalahasti 147.40 122 *e*PKPbc **PKPdf** **20 02 40.8 +0.3**
BVAR Borovoye Array 147.46 43 PKPbc **PKPbc** **20 02 40.8 -1.3**
comp=Z,4.1nm,0.5s,baz=292,slow=1.3,SNR=19
KBL Kabul 148.09 78 *e*PKP2 **PKPbc** **20 02 43.5 -1.1**
KBL Kabul 148.09 78 *e*PKPbc **PKPbc** **20 02 43.5 -1.1**
YAK Yakutsk 148.85 340 PKP **PKPdf** **20 02 41.6 +0.1**
comp=Z,5.0nm,0.4s,baz=49,slow=1.7,SNR=2.7
YAK PKPbc **PKPbc** **20 02 45.0 -0.4**
comp=Z,5.0nm,0.4s,baz=52,slow=2.3,SNR=6.3
YAK Yakutsk 148.85 340 PKP **PKPdf** **20 02 41.6 +0.1**
YAK PKPbc **PKPbc** **20 02 45.0 -0.4**
YAK *e*PKPbc **PKiKP** **20 02 45.2 -1.5**
HYB Hyderabad 148.94 115 *i* PKP **PKPbc** **20 02 46.0 -1.0**
HYB *e* 20 02 50.5
HYB *e* 20 02 54.5
HYBB Hyderabad (bro 148.94 115 *e*PKPbc **PKPbc** **20 02 45.7 -1.4**
NJS Nagarjunasagar 148.96 117 *e*PKiKP **PKPbc** **20 02 47.2 +0.2**
ADKI Addanki 148.99 119 *e*PKiKP **PKPbc** **20 02 47.3 +0.2**
KKAR Karatay Array 149.70 62 *e*PKP2 **PKPbc** **20 02 47.9 -0.3**
KKAR Karatay Array 149.70 62 *e*PKPbc **PKPbc** **20 02 47.9 -0.3**
RPR Rampur 150.37 114 *e*PKiKP **PKPbc** **20 02 50.4 0.0**
AAK Ala-Archa 152.66 62 PKIKP **PKPdf** **20 02 48.2 -0.1**
AAK *e* 20 02 48.8
AAK 20 02 55.3
AAK *e* 20 02 55.7
AAK 20 03 05.5
AAK Ala-Archa 152.66 62 PKP **PKPdf** **20 02 48.2 -0.1**
comp=Z,0.5nm,0.5s,baz=11,slow=8.9,SNR=3.7
AAK PKPbc **PKPbc** **20 02 55.3 0.0**
comp=Z,4.6nm,0.8s,baz=205,slow=2.9,SNR=20
AAK PKPab **PKPab** **20 03 05.5 -0.6**
comp=Z,7.5nm,1.0s,baz=201,slow=14,SNR=11
AAK Ala-Archa 152.66 62 PKP **PKPdf** **20 02 48.2 -0.1**
AAK *e*PKPdf **PKPdf** **20 02 48.8 +0.5**
AAK PKPbc **PKPbc** **20 02 55.3 0.0**
AAK *e*PKPbc **PKPbc** **20 02 55.6 +0.4**
AAK PKPab **PKPab** **20 03 05.5 -0.6**
KURBB Kurchatov Arra 153.05 43 PKP **PKPdf** **20 02 48.6 +0.3**
comp=Z,4.4nm,1.3s,baz=294,slow=2.4,SNR=4.8
KURBB PKPbc **PKPbc** **20 02 55.1 -0.5**
comp=Z,4.3nm,0.7s,baz=309,slow=3.2,SNR=36
KURBB PKPab **PKPab** **20 03 05.5 -1.6**
comp=Z,2.1nm,0.7s,baz=308,slow=3.1,SNR=5.1
KURK Kurchatov 153.06 43 PKIKP **PKPdf** **20 02 48.6 +0.3**
KURK 20 02 55.1
KURK 20 03 05.6
KURK Kurchatov 153.06 43 PKP **PKPdf** **20 02 48.6 +0.3**
KURK PKPbc **PKPbc** **20 02 55.1 -0.5**
KURK PKPab **PKPab** **20 03 05.5 -1.6**
NVS Novosibirsk 153.12 32⇑ *i*PKIKP **PKPbc** **20 02 54.6 -1.0**
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s
NVS pmax pmax
comp=E,4.0nm,0.8s
TKM2 Tokmak 2 153.43 61 *e*PKIKP **PKPbc** **20 02 56.7 -0.3**
TKM2 Tokmak 2 153.43 61 *e*PKPbc **PKPbc** **20 02 56.7 -0.3**
ZALV Zalesovo Beam 154.41 32 PKP **PKPdf** **20 02 49.6 -0.5**
comp=E,0.9nm,0.6s,baz=300,slow=2.9,SNR=6.2
ZALV PKPbc **PKiKP** **20 02 58.9 +0.4**
comp=E,10nm,0.9s,baz=298,slow=3.2,SNR=28
MKAR Makanchi Array 156.94 49 PKP **PKPdf** **20 02 53.9 0.0**
comp=E,0.7nm,0.9s,baz=280,slow=2.1,SNR=5.0
MKAR PKPbc PKPbc 20 03 04.0
comp=E,1.7nm,0.9s,baz=286,slow=1.1,SNR=3.8
MKAR PKPab **PKPab** **20 03 24.5 +0.6**
comp=E,3.7nm,0.9s,baz=276,slow=4.8,SNR=9.3
WMQ Urumqi 161.64 52 PKP **PKPdf** **20 02 59.0 -0.4**
WMQ pPKP **pPKPdf** **20 03 09.0 +3.0**
WMQ sPKP 20 03 13.0
WMQ PKPab **PKPab** **20 03 45.0 +0.5**
WMQ PKS **PKSdf** **20 06 30.0 -2.6**
WMQ PP **PP** **20 07 31.0 +2.6**
WMQ SKS **SKSdf** **20 09 59.0 -4.3**
WMQ SKKS **SKKSac** **20 14 14.0 -1.5**
WMQ SS **SS** **20 27 41.0 -4.2**
WMQ PPMZ
comp=E,140nm,6.4s
WMQ LN
comp=E,210nm,17.8s
WMQ LE
comp=E,110nm,19.3s
WMQ LZ
comp=E,170nm,20.0s
TLY Talaya 162.23 9 PKPab **PKPab** **20 03 46.3 -0.4**
comp=E,2.2nm,0.7s,baz=11,slow=6.3,SNR=5.2
CMAR Chiang Mai Arr 162.45 151 PKP **PKPdf** **20 03 00.3 -0.6**
comp=E,1.1nm,1.0s,baz=223,slow=2.4,SNR=6.8
CN2 Changchun 163.30 310 *e*PKP **PKPdf** **20 03 01.0 0.0**
KSRS Korea Array 163.40 287 PKPab **PKPab** **20 03 53.1 +0.8**
comp=E,0.9nm,0.8s,baz=87,slow=2.6,SNR=4.2
KSAR Wonju Array Be 163.43 287 PKP2 **PKPab** **20 03 53.2 +0.7**
KSAR Wonju Array Be 163.43 287 PKPab **PKPab** **20 03 53.1 +0.7**
ZAK Zakamensk 163.45 10 *e*PKP2 **PKPab** **20 03 51.2 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
QIZ Qiongzhong 164.82 187 PKP **PKPdf** **20 03 04.5 +1.4**
QIZ PP **PP** **20 07 46.6 +2.6**
QIZ SS SS 20 28 22.1 +6.2
QIZ LZ
comp=Z,150nm,20.4s
LSA Lhasa 165.13 103 *e*PKIKP **PKPdf** **20 03 04.0 +0.3**
LSA Lhasa 165.13 103 *e*PKPdf **PKPdf** **20 03 04.0 +0.3**
SONM Songino Array 166.30 4 PKP **PKPdf** **20 03 03.3 -0.4**
comp=Z,0.4nm,0.9s,baz=325,slow=1.8,SNR=3.4
SONM PKPab **PKPab** **20 04 04.4 -0.4**
comp=Z,1.8nm,0.9s,baz=336,slow=3.7,SNR=9.7
BJI Beijing 171.14 314 PKP **PKPdf** **20 03 09.1 +2.3**
BJI PKS **PKSdf** **20 06 39.8 +0.8**
BJI SS SS 20 29 26.9 +5.9
BJI PPMZ
comp=Z,85nm,5.3s
BJI LN
comp=Z,200nm,17.3s
BJI LE
comp=Z,150nm,19.4s
BJI LZ
comp=Z,150nm,24.8s
GTA Gaotai 171.69 49 *e*PKP **PKPdf** **20 03 07.3 0.0**
GTA pPKP **pPKPdf** **20 03 16.6 +2.7**
GTA sPKP 20 03 20.9
GTA PKPab **PKPab** **20 04 29.5 +0.4**
GTA PP **PP** **20 08 22.6 +2.5**
GTA SKS **SKSdf** **20 10 05.7 -4.0**
GTA SKKS **SKKSac** **20 15 04.3 -1.6**
GTA SS **SS** **20 29 23.4 -3.5**
GTA PPMZ
comp=Z,69nm,8.0s
GTA LN
comp=Z,150nm,18.1s
GTA LE
comp=Z,160nm,17.8s
GTA LZ
comp=Z,280nm,19.5s
GYA Guiyang 172.25 172 *e*PKP **PKPdf** **20 03 08.0 +0.1**
GYA PKPab **PKPab** **20 04 33.8 +2.2**
GYA PKS **PKSdf** **20 06 39.2 -1.3**
GYA PP **PP** **20 08 26.4 +4.6**
GYA SKKS 20 15 09.6
GYA SS **SS** **20 29 31.5 +1.0**
GYA PPMZ
comp=Z,120nm,8.2s
GYA LN
comp=Z,120nm,22.4s
GYA LE
comp=Z,110nm,24.1s
GYA LZ
comp=Z,130nm,22.8s
HHC Hu-ho-hao-te 172.70 337 *e*PKP **PKPdf** **20 03 06.3 -1.4**
HHC pPKP **pPKPdf** **20 03 17.3 +3.1**
HHC sPKP 20 03 21.6
HHC PP **PP** **20 08 27.2 +2.9**
HHC SKS **SKSdf** **20 10 06.0 -4.0**
HHC SS **SS** **20 29 32.9 -2.5**
HHC PPMZ
comp=Z,46nm,5.7s
HHC LN
comp=Z,280nm,21.7s
HHC LE
comp=Z,310nm,21.1s
HHC LZ
comp=Z,280nm,22.2s
CD2 Chengdu 175.26 132 PKP **PKPdf** **20 03 09.4 +0.6**
CD2 pPKP **pPKPdf** **20 03 20.2 +4.8**
CD2 PKS **PKSdf** **20 06 40.2 -0.9**
CD2 PP **PP** **20 08 40.9 +3.5**
CD2 SKS **SKSdf** **20 10 08.7 -2.3**
CD2 SKKS **SKKSac** **20 15 23.4 +0.3**
CD2 SS **SS** **20 30 00.1 -1.2**
CD2 PPMZ
comp=Z,160nm,6.4s

IDC 01 19:44:36.4±10.0, 19°23S×177°73W, h573km±97km, mb3.4/4, mb1 3.5/5, mb1mx3.1/35, mbtmp4.3/5, Error ellipse: s-maj=198.2km s-min=43.4km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.08**	**256**	P	P	19 47 45.5	-0.8
	0.5nm,0.3s,baz=74,slow=20,SNR=4.8						
CTA	**Charters Tower**	**33.88**	**262**	P	P	19 50 33.2	+0.5
	5.2nm,0.4s,baz=86,slow=10,SNR=23						
WRA	**Warramunga Arr**	**45.04**	**261**	P	P	19 52 01.5	-0.6
	1.9nm,0.4s,baz=97,slow=7.5,SNR=100						
ASAR	**Alice Springs**	**45.06**	**255**	P	P	19 52 02.0	-0.3
	4.4nm,0.4s,baz=87,slow=8.6,SNR=101						
ILAR	**Eielson Array**	**87.03**	**13**	P	P	19 56 21.0	-0.1
	0.4nm,0.8s,baz=218,slow=5.7,SNR=3.5						

*IDC **01** 19:52:25.4±2.1, 36°.55N×83°.33E, h0km, mb3.3/2, mb1 3.4/7, mb1mx3.2/31, mbtmp3.4/7, ML3.0/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=30.0km s-min=28.8km az=95.0*
*BJI **01** 19:52:25.8, 36°.51N×83°.46E, h4km, ML3.9/8, Ms3.5/1*
*NNC **01** 19:52:33.1±4.1, 36°.84N×83°.27E, h22km±20km, mb3.9, mpv3.8, Error ellipse: s-maj=28.9km s-min=23.5km az=121.0*

ISC 01 19:52:30.4±2.1, 36°.9N±0°.1×83°.43E±0°.09, h10km, n16, σ2s42/20, 8C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**6.43**	**296**	*e*Pn	**Pn**	**19 54 08.1**	**+2.9**
KSH				Sn	**Sn**	**19 55 23.7**	**+4.9**
KSH				SMN			
	150nm,1.0s						
KSH				SME			
	74nm,0.9s						
PDGK	**Podgornoye**	**7.11**	**336**	⇓Pn	**Pn**	**19 54 15.2**	**+0.7**
	2.5nm,0.4s						
PDGK				⇓Pg	**Pg**	**19 54 44.2**	**-2.2**
	7.7nm,0.5s						
PDGK				⇓Sn	**Sn**	**19 55 38.2**	**+2.9**
	33nm,0.6s						
PDGK				⇑Lg	Lg	19 56 19.2	
	48nm,0.8s						
WMQ	**Urumqi**	**7.66**	**24**	*e*P	**Pn**	**19 54 22.9**	**+0.9**
WMQ				sP		19 54 29.0	
WMQ				*e*S	**Sn**	**19 55 54.5**	**+5.6**
WMQ				SMN			
	39nm,0.8s						
WMQ				SME			
	32nm,0.9s						
SFK	**Sufi-Kurgan**	**8.39**	**295**	⇑Pn	**Pn**	**19 54 30.9**	**-1.3**
	3.1nm,0.8s						
SFK				⇑Sn	**Sn**	**19 56 05.0**	**-2.1**
	12nm,1.1s						
SFK				⇑Lg	Lg	19 56 52.5	
	40nm,1.1s						
TKM2	**Tokmak 2**	**8.52**	**318**	⇑Pn	**Pn**	**19 54 36.5**	**+2.5**
	1.4nm,0.6s						
TKM2				⇑Lg	Lg	19 57 00.0	
	5.2nm,0.7s						
AAK	**Ala-Archa**	**8.96**	**313**	⇑Pn	Pn	19 54 43.6	+3.7
	2.1nm,0.8s						
AAK				⇓Pg	Pg	19 55 11.5	-11
	2.9nm,0.7s						
AAK				⇓Lg	Lg	19 57 20.1	
	8.5nm,0.9s						
AAK	**Ala-Archa**	**8.96**	**313**	Pn	**Pn**	**19 54 39.1**	**-0.9**
	0.0nm,0.3s,baz=186,slow=18,SNR=2.9						
AAK				Pg	Pg	19 55 11.4	-11
	0.5nm,0.3s,baz=122,slow=7.7,SNR=7.7						
AAK				Lg	Lg	19 57 17.0	
	0.3nm,0.3s,baz=236,slow=22,SNR=3.9						
AAK				LR	LR	19 58 35.2	
	comp=Z,50nm,18.7s,baz=26,slow=40						
MK31	**Makanchi Array**	**9.94**	**355**	⇑Pn	**Pn**	**19 54 53.5**	**+0.2**
	0.7nm,0.4s,baz=184,slow=11,SNR=69						
MK31				⇓Sn	**Sn**	**19 56 44.4**	**-0.5**
	3.8nm,0.8s,baz=179,slow=22,SNR=6.4						
MK31				⇓Lg	Lg	19 57 49.6	
	8.6nm,0.8s						
MKAR	**Makanchi Array**	**9.94**	**355**	Pn	**Pn**	**19 54 53.6**	**+0.4**
	0.6nm,0.3s,baz=173,slow=13,SNR=34						
MKAR				Sn	**Sn**	**19 56 46.8**	**+1.9**
	0.7nm,0.3s,baz=179,slow=22,SNR=5.9						
KURBB	**Kurchatov Arra**	**14.18**	**347**	Pn	**Pn**	**19 55 51.3**	**+0.2**
	0.0nm,0.3s,baz=164,slow=11,SNR=5.9						
ZALV	**Zalesovo Beam**	**17.10**	**3**	Pn	**Pn**	**19 56 28.1**	**-1.2**
	0.1nm,0.3s,baz=184,slow=14,SNR=8.0						
BVAR	**Borovoye Array**	**18.55**	**335**	Pn	**P**	**19 56 45.7**	**-1.3**
	0.3nm,0.3s,baz=141,slow=11,SNR=7.8						
SONM	**Songino Array**	**20.12**	**50**	P	**P**	**19 57 04.6**	**+0.1**
	0.8nm,1.0s,baz=249,slow=12,SNR=6.6						
AB31	**Akbulak array**	**21.05**	**313**	P	**P**	**19 57 14.4**	**+0.1**
	0.7nm,0.6s,baz=113,slow=9.5,SNR=13						
AKTO	**Aktyubinsk**	**22.70**	**315**	LR	LR	20 06 29.0	
	comp=Z,38nm,21.3s,baz=63,slow=37						
TORD	**Torodi Ar. Bea**	**75.68**	**276**	P	P	20 04 12.5	-3.7
	0.4nm,0.7s,baz=50,slow=5.0,SNR=3.5						

*IDC **01** 19:58:54.0±0.7, 34°.26S×72°.33W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/33, mbtmp3.9/11, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx3.1/25, Error ellipse: s-maj=32.0km s-min=17.7km az=94.0*
*ISCJB **01** 19:58:55.7±1.9, 34°.22S±0°.04×72°.43W±0°.09, h19km±14km, mb3.9/7, MS3.6/1, Error ellipse: s-maj=12.9km s-min=6.2km az=7.2*
*NEIC **01** 19:58:58.6, 34°.20S×72°.35W, h15km, mb3.6/1, ML4.2(GUC), After GUC.*
*GUC **01** 19:58:58.6±0.8, 34°.20S×72°.35W, h15km±9km, ML4.2*

ISC 01 19:58:57.8±2.3, 34°.24S±0°.04×72°.33W±0°.10, h25km±16km, n40, σ0s86/44, mb3.9/7, 4C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.19**	**130**⇑ *i*P		**Pn**	**19 59 18.3**	**-0.5**
NICH				*i* S	**Sb**	**19 59 34.0**	**-0.5**
NICH	**Los Niches**	**1.19**	**130**⇑ *i*P		**Pn**	**19 59 18.3**	**-0.5**
NICH				*i* S	**Sb**	**19 59 34.0**	**-0.5**
TALC	**Talca**	**1.29**	**154**⇓ *i*P		**Pn**	**19 59 20.1**	**-0.1**
TALC				*i* S	**Sn**	**19 59 36.5**	**-0.2**
TALC	**Talca**	**1.29**	**154**⇓ *i*P		**Pn**	**19 59 20.1**	**-0.1**
TALC				*i* S	**Sn**	**19 59 36.5**	**-0.2**
IHA	**Instituto Hidr**	**1.34**	**26**⇓ *i*P		**Pn**	**19 59 20.2**	**-0.6**
IHA	**Instituto Hidr**	**1.34**	**26**⇓ *i*P		**Pn**	**19 59 20.2**	**-0.6**
ROCH	**El Roble**	**1.67**	**41**⇓ *i*P		**Pn**	**19 59 26.0**	**+0.3**
ROCH				AML	AML	19 59 55.1	
	comp=E,4μm,0.7s						
ROCH	**El Roble**	**1.67**	**41**⇓ *i*P		**Pn**	**19 59 26.0**	**+0.3**
LACH	**Col Las Americ**	**1.69**	**63** *e*P		**Pn**	**19 59 25.7**	**-0.1**
LACH	**Col Las Americ**	**1.69**	**63** *e*P		**Pn**	**19 59 25.7**	**-0.1**
LNCH	**Linares**	**1.71**	**160**⇑ *i*P		**Pn**	**19 59 26.9**	**+0.8**
LNCH				*i* S	**Sn**	**19 59 48.2**	**+1.0**
LNCH	**Linares**	**1.71**	**160**⇑ *i*P		**Pn**	**19 59 26.9**	**+0.8**
LNCH				*i* S	**Sn**	**19 59 48.2**	**+1.0**
PEL	**Peldehue**	**1.75**	**52**⇓ *i*P		**Pn**	**19 59 26.8**	**+0.2**
PEL				*i* S	**Sn**	**19 59 47.8**	**-0.3**
PEL				AML	AML	19 59 55.3	
	comp=E,5μm,0.6s						
PEL	**Peldehue**	**1.75**	**52**⇓ *i*P		**Pn**	**19 59 26.8**	**+0.2**
PEL				*i* S	**Sn**	**19 59 47.8**	**-0.3**
FCH	**Farellones**	**1.92**	**62**⇓ *i*P		**Pb**	**19 59 32.1**	**-0.3**
FCH				*i* S	**Sb**	**19 59 56.8**	**+0.8**
FCH				AML	AML	20 00 05.1	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.92**	**62**⇓ *i*P		**Pb**	**19 59 32.1**	**-0.3**
FCH				*i* S	**Sb**	**19 59 56.8**	**+0.8**
CFAA	**Coronel Fontan**	**4.33**	**54**	Pn	**Pn**	**20 00 03.2**	**+1.1**
	comp=N,0.5nm,0.3s,baz=216,slow=12,SNR=28						
CFAA				Lg	Lg	20 01 00.9	
	comp=N,1.2nm,0.3s,baz=315,slow=17,SNR=4.3						
CFAA				LR	LR	20 01 56.1	
	comp=N,106nm,19.1s,baz=204,slow=42						
LCO	**Las Campanas**	**5.39**	**15** *e*P		**Pn**	**20 00 15.5**	**-1.4**
	comp=N,29nm,0.7s						
PLCA	**Paso Flores**	**6.64**	**168**	Pn	**Pn**	**20 00 30.7**	**-3.1**
	comp=N,0.7nm,0.3s,baz=331,slow=10,SNR=16						
PLCA	**Paso Flores**	**6.64**	**168** *e*Pn		**Pn**	**20 00 34.6**	**+0.8**
	comp=N,22nm,1.0s						
TRQA	**Tornquist**	**9.20**	**117** *e*Pn		**Pn**	**20 01 10.1**	**+1.2**
LPAZ	**La Paz**	**18.27**	**13** P		**P**	**20 03 11.0**	**+0.7**
	comp=N,0.2nm,0.3s,baz=170,slow=7.2,SNR=7.4						
LPAZ	**La Paz**	**18.27**	**13** *e*Pn		**P**	**20 03 10.8**	**+0.5**
	comp=N,5.0nm,1.0s						
SIV	**San Ignacio**	**20.80**	**32** P		**P**	**20 03 36.5**	**-0.9**
	comp=N,4.2nm,0.9s,baz=224,slow=10,SNR=3.8						
SIV				LR	LR	20 13 05.9	
	comp=N,212nm,18.1s,baz=202,slow=41						
QSPA	**South Pole Qui**	**56.00**	**180** P		**P**	**20 08 34.4**	**+0.3**
	comp=N,4.8nm,0.9s,baz=137,slow=2.4,SNR=14						
VNDA	**Vanda**	**63.82**	**191** P		**P**	**20 09 28.1**	**+0.7**
	comp=N,0.7nm,0.8s,baz=119,slow=10.0,SNR=3.4						
TXAR	**Lajitas Array**	**69.82**	**331** P		**P**	**20 10 07.3**	**+1.0**
	comp=N,0.5nm,0.5s,baz=149,slow=9.0,SNR=6.0						
PDAR	**Pinedale Array**	**83.86**	**333** P		**P**	**20 11 25.2**	**-0.1**
	comp=N,0.7nm,0.9s,baz=174,slow=4.5,SNR=4.9						
NVAR	**Mina Array Bea**	**83.94**	**325** P		**P**	**20 11 26.2**	**+0.4**
	comp=N,0.6nm,0.4s,baz=167,slow=4.4,SNR=4.4						
ELK	**Elko**	**84.44**	**329** P		**P**	**20 11 27.8**	**-0.5**
	comp=N,0.6nm,0.7s,baz=213,slow=5.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.52**	**70** P		**P**	**20 11 28.6**	**-0.4**
	comp=N,0.8nm,0.8s,baz=242,slow=5.6,SNR=4.5						
H11S2	**WAKE ISLAND Hyl**	**25.53**	**269** T		T	22 36 20.6	
	baz=113						
H11S1	**WAKE ISLAND Hyl**	**25.54**	**269** T		T	22 36 17.8	
	baz=113						
H11S3	**WAKE ISLAND Hyl**	**25.55**	**269** T		T	22 36 20.6	
	baz=113						
H11N3	**WAKE ISLAND Hyl**	**25.95**	**271** T		T	22 36 53.0	
	baz=116						
H11N1	**WAKE ISLAND Hyl**	**25.96**	**271** T		T	22 36 54.2	
	baz=116						
H11N2	**WAKE ISLAND Hyl**	**25.96**	**271** T		T	22 36 56.8	
	baz=116						
SEY	**Seymchan**	**140.12**	**330** PKP		**PKPdf**	**20 18 21.4**	**-1.9**
	comp=N,9.7nm,0.3s,baz=73,slow=19,SNR=69						
YAK	**Yakutsk**	**148.87**	**340** PKPbc		**PKPbc**	**20 18 41.7**	**-0.8**
	comp=N,5.9nm,0.4s,baz=17,slow=0.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**154.55**	**32** PKPbc		**PKPbc**	**20 18 55.9**	**+0.1**
	comp=N,1.0nm,0.6s,baz=301,slow=4.3,SNR=5.4						

*ISCJB **01** 20:09:42.3±0.4, 8°.69S±0°.07×116°.67E±0°.03, h35km, mb4.0/7, Error ellipse: s-maj=10.3km s-min=4.0km az=10.8*
*DJA **01** 20:09:43.0±0.3, 9°.5S×117°.7E±°, h10km, M4.7/6, mb4.7/2, MLv4.7/6*
*NEIC **01** 20:09:44.3±0.8, 8°.69S×116°.62E, h45km±8km, mb4.2/1, Error ellipse: s-maj=11.7km s-min=7.2km az=208.0*
*IDC **01** 20:09:46.1±6.0, 8°.63S×116°.77E, h62km±56km, mb3.7/8, mb1 4.0/9, mb1mx3.6/39, mbtmp4.1/9, ML4.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=43.0km s-min=20.0km az=70.0*

ISC 01 20:09:44.3±0.7, 8°.9S±0°.1×116°.59E±0°.05, h35km, n39, σ1s05/34, mb4.0/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**1.37**	**278** P		**Pn**	**20 10 06.2**	**-0.8**
DNP				S	**Sn**	**20 10 25.6**	**+1.6**
IGBI	**Denpasar**	**1.43**	**272** P		**Pn**	**20 10 06.5**	**-1.2**
IGBI				S	**Sn**	**20 10 26.0**	**+0.8**
SRBI	**Singaraja**	**1.56**	**299** P		**Pn**	**20 10 09.4**	**-0.2**
JAGI	**Jajag, Banyuwa**	**2.44**	**279** P		**Pn**	**20 10 22.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.44**	**279** *e*P		**Pn**	**20 10 21.3**	**-0.4**
KMMI	**Kalianget**	**3.16**	**305** P		**Pn**	**20 10 32.6**	**+1.0**
GMJI	**Gumukmas**	**3.16**	**280** P		**Pn**	**20 10 31.8**	**+0.2**
WSI	**Waingapu**	**3.75**	**103** P		**Pn**	**20 10 41.7**	**+2.0**
GRJI	**Gresik**	**4.50**	**295** P		**Pn**	**20 10 49.9**	**-0.2**
PWJI	**Pagerwojo**	**4.80**	**280** P		**Pn**	**20 10 54.5**	**+0.3**
BWJI	**Bawean**	**4.91**	**307** P		**Pn**	**20 10 54.9**	**-0.8**
KAPI	**Kappang**	**4.95**	**40** *e*P		Pn	20 10 54.0	-2.2
TBJI	**Tambak Boyo**	**5.12**	**293** P		**Pn**	**20 10 58.6**	**+0.1**
MMRI	**Maumere**	**5.59**	**88** P		**Pn**	**20 11 06.2**	**+1.2**
MMRI	**Maumere**	**5.59**	**88** *e*P		**Pn**	**20 11 05.0**	**0.0**
	202nm,0.8s						
BBKI	**Banjar Baru**	**5.64**	**342** P		Pn	20 11 03.9	-1.8
UGM	**Wanagama**	**6.07**	**278** P		**Pn**	**20 11 12.1**	**+0.4**
	103nm,1.6s						
UWJI	**Ujung Watu**	**6.09**	**293** P		**Pn**	**20 11 11.9**	**-0.1**
BATI	**Baumata**	**7.11**	**101** P		**Pn**	**20 11 28.0**	**+2.1**
BATI	**Baumata**	**7.11**	**101** P		**Pn**	**20 11 26.0**	**+0.1**
	8.9nm,0.3s,baz=297,slow=3.2,SNR=22						
BATI				S	**Sn**	**20 12 46.0**	**+0.5**
	3.0nm,0.3s,baz=293,slow=23,SNR=2.3						
SOEI	**Soe**	**7.63**	**97** P		**Pn**	**20 11 34.7**	**+1.5**
SOEI	**Soe**	**7.63**	**97** *e*P		**Pn**	**20 11 33.2**	**0.0**
	109nm,0.8s						
CISI	**Cisompet,

MKAR	**Makanchi Array**	**63.27**	**334**	P		P	20 20 06.7	-2.8
	0.5nm,0.6s,baz=157,slow=6.8,SNR=5.9							
ZALV	**Zalesovo Beam**	**68.09**	**340**	P		P	20 20 38.0	-2.3
	0.5nm,0.5s,baz=134,slow=4.2,SNR=2.2							
ZALV	**Zalesovo Beam**	**68.09**	**340**	P		P	20 20 38.0	-2.3
VNDA	**Vanda**	**72.50**	**171**	P		**P**	**20 21 07.7**	**+0.6**
	1.1nm,0.7s,baz=320,slow=6.0,SNR=6.8							
KMBO	**Kilima Mbogo**	**79.29**	**271**	P		**P**	**20 21 47.6**	**+0.3**
	0.6nm,0.3s,baz=336,slow=3.1,SNR=3.8							
BOSA	**Boshof**	**86.98**	**242**	P		**P**	**20 22 27.0**	**+0.4**
	2.4nm,0.8s,baz=66,slow=6.1,SNR=5.1							
YKA	**Yellowknife Ar**	**115.03**	**24**	PKP		**PKPdf**	**20 28 19.4**	**-1.9**
	0.2nm,0.8s,baz=295,slow=1.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**116.09**	**280**	PKP		**PKPdf**	**20 28 23.0**	**-1.8**
	0.7nm,0.5s,baz=66,slow=1.5,SNR=13							
DBIC	**Dimbokro**	**121.99**	**272**	PKP		**PKPdf**	**20 28 34.7**	**-1.4**
	0.9nm,0.5s,baz=45,slow=4.3,SNR=1.3							

*ISCJB **01** 20:10:39.0±0.8,44°.03N×0°.10×147°.2E±0°.1, h112km±4km, mb3.5/7, Error ellipse: s-maj=19.2km s-min=5.9km az=143.1*

*IDC **01** 20:10:39.6±2.6,46°.14N×146°.38E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/41, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=64.7km s-min=24.6km az=150.0*

*SKHL **01** 20:10:40.5±0.3,43°.98N×147°.29E, h100km±4km, mb5.1/2, msh5.6/2*

*JMA **01** 20:10:40.6±0.2,43°.87N×147°.28E, h96km±4km, M3.5*

*MOS **01** 20:10:42.0±1.8,44°.74N×146°.78E, h108km, mb3.9/3, Error ellipse: s-maj=22.7km s-min=14.3km az=69.1*

ISC 01 20:10:38.9±1.1,43°.98N±0°.10×147°.32E±0°.07,h107km±6km, n38,σ1°45/46,mb3.5/7,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.37**	**253**	*e*P	**Pn**	**20 10 55.2**	**+0.7**
SHO				*e*S	**Sn**	**20 11 06.0**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.05**	**273**	*d i* PN	**Pn**	**20 11 00.8**	**+0.5**
YUK				*i* S	**Sn**	**20 11 16.2**	**-0.3**
YUK				pmax	pmax		
	comp=N,302nm,0.2s						
YUK				pmax	pmax		
	comp=E,242nm,0.2s						
YUK				pmax	pmax		
	comp=Z,711nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.05**	**273**	*e*P	**Pn**	**20 11 00.8**	**+0.5**
YUK				AMB	AMB	20 11 01.7	
	comp=E,711nm,0.2s						
YUK				*e*S	**Sn**	**20 11 16.2**	**-0.3**
YUK				A	A	20 11 17.2	
	comp=E,2μm,0.2s						
YUK				A	A	20 11 17.2	
	comp=E,1μm,0.2s						
NEM2	**Nemuro 2**	**1.30**	**242**	P	**Pn**	**20 11 03.6**	**+0.6**
NEM2				*e*S	**Sn**	**20 11 20.6**	**-0.8**
KUR	**Kuril'sk**	**1.31**	**17**	*d i* PN	**Pn**	**20 11 03.8**	**+0.6**
KUR				*i* S	**Sn**	**20 11 21.4**	**-0.2**
KUR				pmax	pmax		
	comp=N,49nm,0.4s						
KUR				pmax	pmax		
	comp=E,47nm,0.4s						
KUR				pmax	pmax		
	comp=Z,183nm,0.4s						
KUR				smax	smax		
	comp=N,293nm,0.4s						
KUR				smax	smax		
	comp=E,189nm,0.4s						
KUR	**Kuril'sk**	**1.31**	**17**	*e*P	**Pn**	**20 11 03.8**	**+0.6**
KUR				AMB	AMB	20 11 04.2	
	comp=E,183nm,0.4s						
KUR				*e*S	**Sn**	**20 11 21.4**	**-0.2**
KUR				A	A	20 11 22.0	
	comp=E,293nm,0.4s						
KUR				A	A	20 11 22.0	
	comp=E,189nm,0.4s						
JRA	**Rausu**	**1.59**	**269**	P	**Pn**	**20 11 07.7**	**+1.2**
JRA				*e*S	**Sn**	**20 11 28.1**	**+0.6**
JNK	**Nakash**	**1.92**	**259**	P	**Pn**	**20 11 11.6**	**+0.9**
JNK				*e*S	**Sn**	**20 11 34.8**	**-0.2**
JAK	**Akkeshi**	**2.15**	**244**	P	**Pn**	**20 11 14.4**	**+0.9**
JAK				*e*S	**Sn**	**20 11 39.5**	**-0.6**
JTKR	**Abashiri--Tokoo**	**2.46**	**271**	P	**Pn**	**20 11 18.9**	**+1.3**
JAR	**Ashorobuto**	**2.67**	**256**	P	**Pn**	**20 11 22.3**	**+2.0**
JAR				*e*S	**Sn**	**20 11 53.6**	**+1.4**
JOB	**Onbets**	**2.76**	**248**	P	**Pn**	**20 11 23.0**	**+1.5**
JOB				*e*S	**Sn**	**20 11 54.2**	**-0.1**
JCH	**Churui**	**3.19**	**246**	P	**Pn**	**20 11 28.4**	**+1.1**
JCH				*e*S	**Sn**	**20 12 03.9**	**-0.8**
ASAJ	**Asahikawa**	**3.41**	**274**	PN	**Pn**	**20 11 32.8**	**+2.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**3.41**	**274**	Pn	**Pn**	**20 11 32.8**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=139,slow=7.7,SNR=9.9						
ERM	**Erimo**	**3.63**	**239**	*i* PN	Pn	20 11 39.0	+5.9
ERM	**Erimo**	**3.63**	**239**	*e*P	Pn	20 11 38.6	+5.5
SKR	**Severo-Kuril's**	**8.97**	**39**	*e*P	**Pn**	**20 12 47.8**	**+2.4**
SEY	**Seymchan**	**19.21**	**7**	*e*P	**P**	**20 14 50.0**	**-4.1**
SEY	**Seymchan**	**19.21**	**7**	*e*P	**P**	**20 14 50.0**	**-4.1**
SONM	**Songino Array**	**28.50**	**292**	*e*P	**P**	**20 16 23.8**	**-0.2**
SONM	**Songino Array**	**28.50**	**292**	P	**P**	**20 16 24.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=86,slow=8.9,SNR=4.2						
COLA	**College**	**40.81**	**36**	*e*P	P	20 18 13.3	+4.0
COLA	**College**	**40.81**	**36**	*e*P	P	20 18 13.3	+4.0
ILAR	**Eielson Array**	**41.23**	**36**	P	**P**	**20 18 14.7**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=277,slow=9.6,SNR=2.1						
MKAR	**Makanchi Array**	**44.59**	**297**	*i* P	**P**	**20 18 40.4**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**44.59**	**297**	P	**P**	**20 18 40.7**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=77,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**44.59**	**297**	*e*P	**P**	**20 18 40.3**	**+0.2**
KURK	**Kurchatov**	**45.50**	**304**	*e*P	**P**	**20 18 45.3**	**-2.0**
INK	**Inuvik**	**46.14**	**30**	P	**P**	**20 18 53.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=269,slow=5.9,SNR=1.4						
FINES	**FINESS Array B**	**64.72**	**333**	*e*P	**P**	**20 21 03.0**	**-2.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.72**	**333**	P	**P**	**20 21 04.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=45,slow=7.8,SNR=12						
NOA	**NORSAR Array B**	**69.43**	**339**	P	**P**	**20 21 34.4**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=31,slow=6.6,SNR=4.5						
NOA	**NORSAR Array B**	**69.43**	**339**	*e*P	**P**	**20 21 35.3**	**+0.3**
HFS	**Hagfors**	**69.53**	**337**	P	**P**	**20 21 35.3**	**-0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	**Hagfors**	**69.53**	**337**	P	**P**	**20 21 35.3**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=64,slow=3.4,SNR=5.9						
CLL	**Collm**	**77.17**	**333**	*e*P	**P**	**20 22 21.0**	**+0.5**
CLL	**Collm**	**77.17**	**333**	*e*P	**P**	**20 22 21.0**	**+0.5**

IDC 01 20:15:06.1±9.6,10°.59S×161°.68E,h141km±97km,mb3.5/6, mb1 3.8/8,mb1mx3.5/36,mbtmp4.1/8,MS2.7/1,Ms1 2.7/1, ms1mx2.5/13,Error ellipse: s-maj=58.4km s-min=25.9km az=166.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.29**	**159**	P	Pn	20 17 57.5	+0.8
DZM				S	Sn	20 20 11.4	-1.1
	0.9nm,0.3s,baz=6.0,slow=8.8,SNR=13						
	0.3nm,0.3s,baz=198,slow=19,SNR=1.6						
PMG	**Port Moresby**	**14.35**	**273**	LR	LR	20 22 24.6	
	comp=Z,37nm,21.9s,baz=54,slow=31						
CTA	**Charters Tower**	**17.60**	**236**	P	Pn	20 19 03.8	+0.9
	1.0nm,0.3s,baz=63,slow=12,SNR=14						
WRA	**Warramunga Arr**	**27.92**	**247**	P	P	20 20 42.9	-0.5
	4.0nm,0.7s,baz=76,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**29.48**	**240**	P	P	20 20 56.4	-0.8
	0.8nm,0.7s,baz=68,slow=11,SNR=6.2						
CMAR	**Chiang Mai Arr**	**68.28**	**295**	P	P	20 25 53.1	+0.7
	0.5nm,0.6s,baz=129,slow=5.3,SNR=6.4						
SONM	**Songino Array**	**75.98**	**325**	P	P	20 26 37.7	-0.1
	0.9nm,0.8s,baz=145,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**84.40**	**20**	P	P	20 27 21.7	-0.6
	0.8nm,1.0s,baz=245,slow=4.5,SNR=4.5						
MKAR	**Makanchi Array**	**90.47**	**318**	P	P	20 27 51.5	-0.5
	0.5nm,0.6s,baz=93,slow=6.9,SNR=10.0						
ARCES	**ARCESS Array B**	**114.86**	**344**	PKP	PKPdf	20 33 30.5	+0.9
	4.0nm,1.0s,baz=57,slow=2.6,SNR=7.2						

*IDC **01** 20:49:55.0±1.6,9°.26N×83°.41W, h0km, mb4.0/9, mb1 4.3/11,mb1mx4.0/40,mbtmp4.1/11,ML4.8/2,MS3.5/11, Ms1 3.5/11,ms1mx3.3/29,Error ellipse: s-maj=59.4km s-min=13.3km az=27.0*

*ISCJB **01** 20:50:02.0±0.5,9°.28N×0°.09×83°.57W±0°.05, h60km±4km, mb4.0/13,MS3.5/7,Error ellipse: s-maj=16.1km s-min=3.9km az=26.6*

*NEIC **01** 20:50:01.4±1.3,9°.16N×83°.73W, h47km±10km, mb4.4/5, Error ellipse: s-maj=20.7km s-min=9.2km az=211.0*

NEIC Felt [III] at Escazu, Grecia, Quepos and San Jose; [II] at Alajuela, Curridabat, Heredia and Santa Ana. Also felt at Alajuelita, Atenas, Calle Blancos, Cartago, Desamparados, Golfito, Guadalupe, Jaco, Palmar, Parrita, Puerto Cortes, Sabanilla, San Isidro, San Pedro, San Rafael, San Vicente, Santiago and Santo Domingo. Felt at Almirante and Changuinola, Panama.

*CASC **01** 20:50:02.0±4.5,9°.20N×83°.58W, h68km±25km, MD3.9*

ISC 01 20:50:02.6±1.1,9°.16N±0°.10×83°.63W±0°.06,h48km±7km, n83,σ1°56/79,mb4.2/13,MS3.6/7,1C-1D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.42**	**342**	*e*P	**Pn**	**20 50 11.4**	**-1.9**
URSC	**Urasca**	**0.69**	**348**	*e*P	**Pn**	**20 50 15.2**	**-1.1**
SJS	**Escuela Geolog**	**0.89**	**332**	*e*P	**Pn**	**20 50 17.6**	**-1.3**
SJS				*e*S	**Sn**	**20 50 29.1**	**-1.6**
BRU2	**Volcan**	**0.99**	**111**	*e*P	**Pn**	**20 50 19.1**	**-1.1**
BRU2				*e*S	**Sn**	**20 50 33.7**	**+0.3**
BRU	**Baru**	**1.11**	**108**	*e*P	**Pn**	**20 50 20.6**	**-1.5**
CNI	**Changuinola**	**1.13**	**77**	*e*P	**Pn**	**20 50 21.8**	**-0.1**
CNI				*e*S	**Sn**	**20 50 40.2**	**+3.9**
CGA2	**Cerro Gallo 2**	**1.19**	**316**	*e*P	**Pn**	**20 50 21.6**	**-1.4**
JCR	**Jicaral**	**1.62**	**295**	*e*P	Pn	20 50 25.5	-3.3
FORC	**Fortuna**	**1.66**	**322**	*i* P	**Pn**	**20 50 29.6**	**+0.3**
FORC				*i* S	**Sn**	**20 50 52.1**	**+2.7**
CEDE	**Laguna Cedeˆ–o**	**1.69**	**321**	*i* P	**Pn**	**20 50 29.9**	**+0.1**
JTS	**JuntasAbangare**	**1.73**	**311**	*e*P	**Pn**	**20 50 28.8**	**-1.4**
JTS				*e*S	**Sn**	**20 50 53.3**	**+2.2**
JTS	**JuntasAbangare**	**1.73**	**311**	Pn	**Pn**	**20 50 28.6**	**-1.6**
	1μm,0.3s,baz=101,slow=21,SNR=1168						
JTS				Pg		20 50 30.3	
	1μm,0.3s,baz=110,slow=17,SNR=132						
JTS				LR	LR	20 50 51.3	
	comp=Z,169nm,18.3s,baz=224,slow=31						
JTS				Lg		20 50 52.8	
	640nm,0.3s,baz=313,slow=22,SNR=14						
AMAS	**Alto Masis**	**1.98**	**317**	*i* P	**Pn**	**20 50 33.1**	**-0.6**
PTEN	**Parque Tenorio**	**2.05**	**319**	*i* P	**Pn**	**20 50 34.1**	**-0.5**
PTEN				*i* S	**Sn**	**20 51 02.9**	**+3.8**
CUI	**Cuipilapa**	**2.13**	**315**	*i* P	**Pn**	**20 50 35.2**	**-0.5**
CUI				*i* S	**Sn**	**20 51 04.7**	**+3.7**
COLC	**Colonia**	**2.16**	**314**	*i* P	**Pn**	**20 50 35.7**	**-0.4**
MESS	**Mesas**	**2.21**	**316**	*i* P	**Pn**	**20 50 35.9**	**-0.9**
GUAB	**Guayabo de Bag**	**2.21**	**314**	*i* P	**Pn**	**20 50 37.4**	**+0.6**
LIM1	**Limonal**	**2.22**	**314**	*i* P	**Pn**	**20 50 36.0**	**-0.9**
GPS3	**Bodega del ICE**	**2.34**	**313**	*i* P	**Pn**	**20 50 39.1**	**+0.5**
GPS1	**Guardaparques**	**2.34**	**314**	*i* P	**Pn**	**20 50 39.0**	**+0.4**
LAPC	**Finca la Perla**	**2.39**	**312**	*i* P	**Pn**	**20 50 38.5**	**-0.8**
BUEV	**Buena Vista**	**2.40**	**312**	*i* P	**Pn**	**20 50 38.5**	**-0.9**
GB1A	**Borinquen Arri**	**2.40**	**314**	*i* P	**Pn**	**20 50 38.7**	**-0.8**
GBS3	**Finca las Im¯¡**	**2.42**	**312**	*i* P	**Pn**	**20 50 40.0**	**+0.3**
GBS2	**Las Lilas**	**2.46**	**313**	*i* P	**Pn**	**20 50 40.5**	**+0.3**
BCIP	**Isla Barro Col**	**3.74**	**90**	*e*P	**Pn**	**20 50 57.5**	**-0.3**
BCIP				*e*S	**Sn**	**20 51 40.6**	**0.0**
BCIP	**Isla Barro Col**	**3.74**	**90**	*e*Pn	**Pn**	**20 50 57.4**	**-0.4**
UPA	**Univ. de Panam**	**4.05**	**92**	*e*P	**Pn**	**20 51 02.0**	**0.0**
CNCH	**Conchagua**	**5.81**	**315**	*e*P	**Pn**	**20 51 27.3**	**+0.9**
CNCH				*e*S	**Sn**	**20 52 31.2**	**-0.7**
BLLM	**Bellamira**	**6.21**	**314**	*e*P	**Pn**	**20 51 33.2**	**+1.4**
VSM	**San Miguel**	**6.23**	**313**	*e*P	**Pn**	**20 51 33.9**	**+1.7**
CAHU	**Cacaocatique**	**6.42**	**316**	*e*P	**Pn**	**20 51 36.4**	**+1.6**
SNVI	**San Vicente**	**6.76**	**311**	*e*P	**Pn**	**20 51 41.0**	**+1.6**
LFRS	**El Faro**	**6.94**	**310**	*e*P	**Pn**	**20 51 42.4**	**+0.6**
LBRS	**Las Brisas**	**6.99**	**311**	*e*P	**Pn**	**20 51 43.5**	**+1.0**
BOQS	**Boqueron**	**7.17**	**310**	*e*P	**Pn**	**20 51 45.6**	**+0.5**
SBLS	**San Blas**	**7.50**	**309**	*e*P	**Pn**	**20 51 50.6**	**+1.1**
SNJE	**San Jose**	**7.50**	**309**	*e*P	**Pn**	**20 51 51.2**	**+1.6**
RBDL	**Robledal**	**7.71**	**310**	*e*P	**Pn**	**20 51 53.4**	**+0.9**
APG	**El Apazote**	**8.86**	**312**	Pn	Pn	20 52 04.7	-3.6
	8.7nm,0.3s,baz=128,slow=9.4,SNR=71						
ROSC	**El Rosal**	**10.17**	**114**	LR	LR	20 55 54.5	
	comp=Z,201nm,19.5s,baz=272,slow=36						
OTAV	**Otavalo**	**10.25**	**150**	P	Pn	20 52 33.5	+6.0
	20nm,1.4s						
MTDJ	**Mount Denham**	**10.78**	**33**	P	**Pn**	**20 52 35.2**	**+0.7**
TEIG	**Tepich**	**11.89**	**338**	LR	LR	20 57 29.7	
	comp=Z,278nm,18.6s,baz=104,slow=38						
TEIG	**Tepich**	**11.89**	**338**	Pn	Pn	20 52 45.9	-3.6
	36nm,1.3s						
SDV	**Santo Domingo**	**12.84**	**90**	Pn	**Pn**	**20 53 03.6**	**+0.9**
	18nm,0.8s						
CMIG	**Matias Romero**	**13.50**	**307**	Pn	**Pn**	**20 53 10.9**	**-0.6**
	5.9nm,0.3s,baz=112,slow=8.6,SNR=35						
GTBY	**Guantanamo Bay**	**13.51**	**37**	*e*P	Pn	20 53 04.7	-6.9
ATAH	**Atahualpa**	**17.00**	**162**	LR	LR	20 59 57.6	
	comp=Z,220nm,18.7s,baz=346,slow=35						
PCRV	**Puerto La Cruz**	**18.75**	**85**	LR	LR	21 02 28.3	
	comp=Z,127nm,21.4s,baz=276,slow=41						
PTGA	**Pitinga**	**25.53**	**111**	LR	LR	21 07 19.6	
	comp=Z,84nm,18.3s,baz=289,slow=41						
TKL	**Tuckaleechee C**	**26.38**	**360**	LR	LR	21 06 27.5	
	comp=Z,172nm,18.8s,baz=190,slow=38						
MIAR	**Mount Ida**	**26.87**	**342**	P	**P**	**20 55 37.0**	**-1.8**
	5.9nm,0.9s						
SAML	**Samuel**	**27.17**	**131**	*e*P	**P**	**20 55 43.8**	**+2.2**
	16nm,1.5s						
TXAR	**Lajitas Array**	**27.50**	**320**	LR	LR	21 08 32.6	
	comp=Z,62nm,18.3s,baz=0.0,slow=41						
ANMO	**Albuquerque**	**33.10**	**324**	P	**P**	**20 56 33.0**	**-1.2**
	1.8nm,0.7s,baz=266,slow=4.9,SNR=4.8						
ANMO	**Albuquerque**	**33.10**	**324**	*e*P	P	20 56 26.2	-8.0
	9.5nm,1.2s						
PFO	**Pinyon Flats O**	**38.78**	**314**	P	**P**	**20 57 23.8**	**+0.9**
	3.1nm,0.6s,baz=165,slow=4.2,SNR=3.8						
AGMN	**Agassiz Nation**	**40.35**	**347**	P	**P**	**20 57 33.2**	**-2.3**
	5.2nm,1.0s						
PDAR	**Pinedale Array**	**40.46**	**330**	P	**P**	**20 57 34.7**	**-2.0**
	0.4nm,0.5s,baz=128,slow=9.3,SNR=4.4						
ULM	**Lac du Bonnet**	**42.21**	**348**	P	**P**	**20 57 48.1**	**-2.5**
	12nm,1.0s,baz=162,slow=6.5,SNR=16						
NVAR	**Mina Array Bea**	**42.64**	**319**	P	**P**	**20 57 55.1**	**+0.5**
	2.3nm,0.8s,baz=121,slow=6.3,SNR=9.1						
HLID	**Hailey**	**43.52**	**327**	P	**P**	**20 58 00.6**	**-1.0**
SCHQ	**Schefferville**	**47.48**	**13**	LR	LR	21 18 00.6	
	comp=Z,83nm,21.1s,baz=62,slow=36						
YKA	**Yellowknife Ar**	**57.79**	**344**	P	**P**	**20 59 47.1**	**-1.5**
	0.7nm,0.6s,baz=138,slow=6.8,SNR=15						
SUMG	**Summit**	**68.87**	**13**	*e*P	**P**	**21 01 01.2**	**-1.1**
	6.2nm,1.0s						
ILAR	**Eielson Array**	**70.53**	**336**	P	**P**	**21 01 11.2**	**-0.9**
	1.3nm,0.9s,baz=126,slow=4.9,SNR=8.2						
ESDC	**Sonseca Array**	**76.28**	**51**	P	**P**	**21 01 46.7**	**+0.2**
	0.3nm,0.4s,baz=71,slow=38,SNR=4.1						
TORD	**Torodi Ar. Bea**	**83.44**	**78**	P	**P**	**21 02 25.0**	**-0.7**
	0.6nm,0.8s,baz=261,slow=3.4,SNR=3.4						
NOA	**NORSAR Array B**	**84.40**	**29**	LR	LR	21 39 18.9	
	comp=Z,8.9nm,18.7s,baz=70,slow=35						
GERES	**GERESS Array B**	**87.97**	**41**	LR	LR	21 36 35.6	
	comp=Z,44nm,20.1s,baz=282,slow=32						
AKASG	**Malin Array Be**	**97.00**	**36**	LR	LR	21 43 14.6	
	comp=Z,37nm,21.2s,baz=270,slow=33						
SONM	**Songino Array**	**122.57**	**352**	PKP	**PKPdf**	**21 08 51.5**	**-1.7**
	0.6nm,0.7s,baz=327,slow=1.3,SNR=4.7						
KSRS	**Korea Array**	**125.02**	**329**	PKP	**PKPdf**	**21 08 56.3**	**-1.6**
	1.7nm,0.7s,baz=349,slow=3.0,SNR=4.9						
KSAR	**Wonju Array Be**	**125.05**	**329**	PKP	**PKPdf**	**21 08 56.4**	**-1.7**
WMQ	**Urumqi**	**126.69**	**8**	*e*PKP	**PKPdf**	**21 09 03.0**	**+1.9**
WMQ				LN			
	100nm,20.0s						
WMQ				LE			
	84nm,21.6s						
WMQ				LZ			
	88nm,24.9s						
KSH	**Kashi**	**128.00**	**20**	*e*PKP	**PKPdf**	**21 09 06.8**	**+3.0**
KSH				sPKP		21 09 21.2	
KSH				PP	PP	21 11 14.6	+8.9
KSH				PKS	**PKSdf**	**21 12 41.4**	**+0.9**
KSH				SKS	**SKSdf**	**21 16 13.7**	**+1.8**
KSH				SKKS	**SKKSac**	**21 18 01.4**	**+0.8**
HHC	**Hu-ho-hao-te**	**128.31**	**345**	*e*PKP	**PKPdf**	**21 09 05.7**	**+1.4**
HHC				PP	**PP**	**21 11 11.5**	**+3.9**
HHC				SKS	**SKSdf**	**21 16 13.8**	**+1.4**
HHC				SS	**SS**	**21 28 16.9**	**-1.7**
HHC				PPMZ			
	53nm,6.1s						
HHC				LN			
	120nm,21.8s						
HHC				LE			
	120nm,20.6s						
HHC				LZ			
	100nm,22.2s						
CD2	**Chengdu**	**139.54**	**350**	PKP	**PKPdf**	**21 09 25.1**	**-0.5**
ASAR	**Alice Springs**	**141.36**	**243**	PKhKP	PKPpre	21 09 22.9	
	0.3nm,0.8s,baz=98,slow=2.8,SNR=3.2						
WRA	**Warramunga Arr**	**141.81**	**249**	PKhKP	PKPpre	21 09 24.5	
	0.8nm,0.8s,baz=105,slow=2.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**152.44**	**355**	PKPbc	**PKPbc**	**21 09 53.2**	**-1.2**
	2.0nm,0.9s,baz=331,slow=3.0,SNR=11						

GUC 01 20:50:34.8±0.4,34°.89S×72°.36W,h36km±4km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.78**	**131**	*i* P	Pn	20 50 49.2	0.0
TALC				*i* S	Sn	20 50 59.2	-0.5
NICH	**Los Niches**	**0.93**	**97**	*i* P	Pn	20 50 51.6	+0.3
NICH				*i* S	Sn	20 51 04.5	+1.0
LNCH	**Linares**	**1.14**	**147**	*i* P	Pn	20 50 55.3	+1.1
LNCH				*i* S	Sn	20 51 10.2	+1.6
COCH	**Cobquecura**	**1.29**	**196**	*i* P	Pn	20 50 57.3	+1.1
COCH				*i* S	Sn	20 51 13.9	+1.8
RCDM	**Rinconada Maip**	**1.90**	**43**	*i* P	Pn	20 51 06.5	+1.8
RCDM				*i* S	Sn	20 51 30.5	+3.1
CLCH	**Cerro Calan**	**2.12**	**46**	*i* P	Pn	20 51 10.0	+2.1
CLCH				*i* P	Pn	20 51 10.0	+2.2
CLCH				*i* S	Sn	20 51 36.6	+3.6
CLCH				*i* S	Sn	20 51 36.7	+3.7
CLCH				AML	AML	20 51 47.1	
	comp=E,668nm,0.4s						
CLCH				AML	AML	20 51 47.7	
	comp=E,755nm,0.5s						
ROCH	**El Roble**	**2.22**	**31**	*i* S	Sn	20 51 39.6	+3.9
PEL	**Peldehue**	**2.23**	**39**	*i* P	Pn	20 51 11.5	+2.2
PEL				*i* S	Sn	20 51 39.2	+3.6
PEL				AML	AML	20 51 45.7	
	comp=E,820nm,0.4s						

*CSEM **01** 20:54:58.5,37°.79N×23°.76E, h18km, MD2.9*

ATH 01 20:54:58.5,37°.79N×23°.76E,h18km,MD2.9/8,ML1.5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.18**	**349**	*e*PB	Pb	20 55 03.1	+0.1
ATH				*e*SB	Sg	20 55 06.4	-0.1
ATH	**Athens Observa**	**0.18**	**349**	*e*Pb	Pb	20 55 03.1	+0.1
ATH				*e*Sb	Sg	20 55 06.4	-0.1
PTL	**Penteli**	**0.27**	**18**	*e*PB	Pg	20 55 04.2	-0.5
PTL				*e*SB	Sg	20 55 08.4	-0.4
PTL	**Penteli**	**0.27**	**18**	*e*Pb	Pg	20 55 04.2	-0.5
PTL				*e*Sb	Sg	20 55 08.4	-0.4
LTK	**Loutraki**	**0.67**	**291**	*e*PN	Pb	20 55 11.6	-0.1
LTK	**Loutraki**	**0.67**	**291**	*e*Pn	Pb	20 55 11.6	-0.1
GUR	**Goura**	**1.13**	**278**	*e*PN	Pg	20 55 20.5	-0.1
GUR	**Goura**	**1.13**	**278**	*e*Pn	Pg	20 55 20.5	-0.1
VLI	**Veliai**	**1.25**	**212**	*e*PN	Pb	20 55 22.1	+0.4
VLI	**Veliai**	**1.25**	**212**	*e*Pn	Pb	20 55 22.1	+0.4
KLV	**Kalavryta, Ach**	**1.30**	**282**	*e*PN	Pb	20 55 23.0	+0.5
KLV	**Kalavryta, Ach**	**1.30**	**282**	*e*Pn	Pb	20 55 23.0	+0.5
AOS	**Alonnisos**	**1.38**	**4**	*e*PN	Pg	20 55 24.6	-0.6
AOS	**Alonnisos**	**1.38**	**4**	*e*Pn	Pg	20 55 24.6	-0.6
APE	**Apeiranthos**	**1.58**	**117**	*e*PN	Pb	20 55 27.8	+0.5
APE	**Apeiranthos**	**1.58**	**117**	*e*Pn	Pb	20 55 27.8	+0.5
AGG	**Agios Georgios**	**1.67**	**318**	*e*PN	Pb	20 55 28.8	+0.1
AGG	**Agios Georgios**	**1.67**	**318**	*e*Pn

MDNY	**Mudanya-Bursa**	**2.58**	**315**	*e*PN	**Pn**	**20**	**56**	**19.7 +0.7**
MDNY	**Mudanya-Bursa**	**2.58**	**315**	*e*Pn	**Pn**	**20**	**56**	**19.7 +0.7**
ARMT	**Armutlu**	**2.73**	**318**	*e*PN	**Pn**	**20**	**56**	**22.5 +1.4**
ARMT	**Armutlu**	**2.73**	**318**	*e*Pn	**Pn**	**20**	**56**	**22.5 +1.4**
SILT	**Sile**	**2.88**	**335**	*e*PN	**Pn**	**20**	**56**	**24.2 +1.1**
SILT	**Sile**	**2.88**	**335**	*e*Pn	**Pn**	**20**	**56**	**24.2 +1.1**

*ISCJB **01** 20:55:55.7±0.9, 37.07°S±0.07°×177.7°E±0.1, h184km±6km, mb4.0/2, Error ellipse: s-maj=13.2km s-min=11.8km az=12.5*

*IDC **01** 20:55:55.8±3.3, 36.93°S×177.75E, h165km±23km, mb3.8/2, mb1 4.0/2, mb1mx3.4/25, mbtmp4.2/2, Error ellipse: s-maj=56.5km s-min=30.5km az=33.0*

*WEL **01** 20:55:55.5±0.4, 36.72°S×177.63E, h157km±3km, ML4.4/12, Error ellipse: s-maj=3.7km s-min=2.8km az=0.0*

ISC 01 20:55:55.9±1.1, 36.92°S±0.08°×177.61E±0.07°, h171km±7km, n71, σ1.15/80, 6C-5D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.85**	**170**	⇑PN	**Pn**	**20 56 21.0**	**-0.5**
HAZ				SN	**Sn**	**20 56 40.2**	**-1.2**
MXZ	**Matakaoa Point**	**0.85**	**139**	PN	**Pn**	**20 56 21.1**	**-0.4**
MXZ				SN	**Sn**	**20 56 40.1**	**-1.3**
MXZ				AML	AML	20 56 41.8	
WMGZ	**Waiomatatini S**	**1.11**	**145**	PN	**Pn**	**20 56 23.5**	**0.0**
WMGZ				SN	**Sn**	**20 56 45.0**	**+0.1**
PUZ	**Puketiti**	**1.27**	**156**	⇑PN	**Pn**	**20 56 24.7**	**-0.2**
PUZ				SN	**Sn**	**20 56 46.5**	**-0.8**
PUZ				AML	AML	20 56 57.5	
TWGZ	**Tauwhareparae**	**1.29**	**167**	⇑PN	**Pn**	**20 56 25.8**	**+0.7**
TWGZ				SN	**Sn**	**20 56 48.3**	**+0.5**
EDRZ	**Edgecumbe**	**1.37**	**210**	PN	**Pn**	**20 56 26.6**	**+0.7**
URZ	**Urewera**	**1.40**	**196**	PN	**Pn**	**20 56 26.2**	**+0.2**
URZ	**Urewera**	**1.40**	**196**	P	**Pn**	**20 56 26.2**	**+0.2**
	31nm,0.3s,baz=280,slow=3.7,SNR=72						
URZ				S	**Sn**	**20 56 48.6**	**-0.8**
	119nm,0.3s,baz=242,slow=22,SNR=11						
MWZ	**Matawai**	**1.42**	**182**	⇑PN	**Pn**	**20 56 26.3**	**0.0**
MWZ				AML	AML	20 56 59.3	
MWZ				AML	AML	20 56 59.3	
MWZ				AML	AML	20 56 59.6	
KUZ	**Kuaotunu**	**1.52**	**276**	⇓PN	**Pn**	**20 56 26.2**	**-1.0**
KUZ				SN	**Sn**	**20 56 48.4**	**-3.0**
KARZ	**Kaharoa**	**1.54**	**224**	⇓PN	**Pn**	**20 56 28.0**	**+0.5**
TARZ	**Mount Tarawera**	**1.58**	**213**	⇓PN	**Pn**	**20 56 29.0**	**+1.0**
CNGZ	**Carnagh Statio**	**1.64**	**163**	PN	**Pn**	**20 56 28.3**	**-0.1**
CNGZ				SN	**Sn**	**20 56 55.2**	**+1.5**
RRRZ	**Republican Roa**	**1.66**	**211**	PN	**Pn**	**20 56 29.6**	**+0.9**
RIGZ	**Rimuhau**	**1.79**	**176**	⇓PN	**Pn**	**20 56 30.5**	**+0.4**
PRRZ	**Plateau Road**	**1.85**	**211**	PN	**Pn**	**20 56 31.8**	**+1.2**
SNGZ	**Shannon Statio**	**1.87**	**186**	PN	**Pn**	**20 56 31.5**	**+0.5**
SNGZ				SN	**Sn**	**20 56 58.5**	**+0.3**
ALRZ	**Allen Road**	**1.92**	**211**	PN	**Pn**	**20 56 32.1**	**+0.7**
PRGZ	**Paritu Road**	**2.02**	**174**	PN	**Pn**	**20 56 33.0**	**+0.6**
PRGZ				SN	**Sn**	**20 56 59.5**	**-1.5**
RAHZ	**Arahi**	**2.04**	**191**	PN	**Pn**	**20 56 33.4**	**+0.7**
KNZ	**Kokohu**	**2.10**	**179**	PN	**Pn**	**20 56 33.9**	**+0.5**
WHHZ	**Waihua**	**2.17**	**188**	PN	**Pn**	**20 56 34.9**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.25**	**174**	PN	**Pn**	**20 56 35.8**	**+0.8**
ARHZ	**Aropaoanui**	**2.39**	**191**	PN	**Pn**	**20 56 37.0**	**+0.2**
BKZ	**Black Stump Fm**	**2.41**	**201**	PN	**Pn**	**20 56 37.7**	**+0.7**
BKZ				AML	AML	20 57 13.7	
BKZ				AML	AML	20 57 14.6	
MCHZ	**McNeill Hill**	**2.62**	**196**	PN	**Pn**	**20 56 40.1**	**+0.7**
KRVZ	**Karewarewa**	**2.67**	**215**	PN	**Pn**	**20 56 42.3**	**+2.1**
OTVZ	**Oturere**	**2.72**	**214**	⇑PN	**Pn**	**20 56 41.4**	**+0.6**
TWVZ	**Taurewa**	**2.75**	**218**	PN	**Pn**	**20 56 41.8**	**+0.7**
NGZ	**Ngauruhoe**	**2.75**	**214**	PN	**Pn**	**20 56 42.0**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.77**	**188**	PN	**Pn**	**20 56 41.5**	**+0.3**
WPVZ	**Whakapapa**	**2.80**	**215**	PN	**Pn**	**20 56 42.6**	**+0.9**
BHHZ	**Black Hill Sta**	**2.84**	**205**	PN	**Pn**	**20 56 42.0**	**-0.2**
FWVZ	**Far West T-bar**	**2.84**	**214**	⇓PN	**Pn**	**20 56 42.6**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.85**	**213**	PN	**Pn**	**20 56 42.6**	**+0.1**
TRVZ	**Turoa**	**2.88**	**214**	PN	**Pn**	**20 56 42.9**	**+0.1**
WNVZ	**Wahianoa**	**2.88**	**213**	PN	**Pn**	**20 56 43.1**	**+0.3**
MOVZ	**Moawhango**	**2.88**	**210**	PN	**Pn**	**20 56 42.3**	**-0.4**
KRHZ	**Kereru**	**2.89**	**199**	PN	**Pn**	**20 56 42.3**	**-0.5**
KAHZ	**Kahuranaki**	**2.93**	**191**	PN	**Pn**	**20 56 43.4**	**+0.2**
PKVZ	**Pokaka**	**2.96**	**216**	PN	**Pn**	**20 56 44.8**	**+1.1**
MTVZ	**Mangateitei**	**2.98**	**214**	PN	**Pn**	**20 56 45.2**	**+1.3**
PXZ	**Pawanui**	**3.16**	**190**	⇑PN	**Pn**	**20 56 45.7**	**-0.4**
PXZ				AML	AML	20 57 27.7	
PXZ				AML	AML	20 57 27.8	
PXZ				AML	AML	20 57 28.2	
PXZ				AML	AML	20 57 28.2	
PNHZ	**Pukenui**	**3.19**	**200**	PN	**Pn**	**20 56 45.8**	**-0.7**
WPHZ	**Waipukurau**	**3.27**	**196**	PN	**Pn**	**20 56 47.1**	**-0.4**
TSZ	**Takapari Road**	**3.39**	**202**	PN	**Pn**	**20 56 47.8**	**-1.2**
TSZ				AML	AML	20 57 35.3	
TSZ				AML	AML	20 57 45.0	
PRHZ	**Porangahau**	**3.43**	**193**	PN	**Pn**	**20 56 48.7**	**-0.8**
WAZ	**Wanganui**	**3.50**	**215**	PN	**Pn**	**20 56 50.8**	**+0.4**
DVHZ	**Dannevirke**	**3.56**	**198**	PN	**Pn**	**20 56 50.3**	**-0.8**
ANWZ	**Angora Road**	**3.65**	**194**	PN	**Pn**	**20 56 51.7**	**-0.5**
PKE	**Pukeiti**	**3.65**	**230**	PN	**Pn**	**20 56 54.6**	**+2.4**
POWZ	**Post Office Ro**	**3.76**	**202**	PN	**Pn**	**20 56 52.4**	**-1.1**
PRWZ	**Pori Road**	**3.85**	**199**	PN	**Pn**	**20 56 54.2**	**-0.5**
BFZ	**Birch Farm**	**3.91**	**195**	PN	**Pn**	**20 56 54.1**	**-1.4**
MRZ	**Mangatainoka R**	**4.06**	**202**	PN	**Pn**	**20 56 56.2**	**-1.2**
MRZ				AML	AML	20 57 46.5	
MRZ				AML	AML	20 57 48.2	
TIWZ	**Tintock**	**4.08**	**199**	PN	**Pn**	**20 56 56.5**	**-1.3**
TIWZ				AML	AML	20 57 48.8	
TIWZ				AML	AML	20 57 51.7	
CPWZ	**Castlepoint**	**4.13**	**195**	PN	**Pn**	**20 56 57.8**	**-0.6**
HOWZ	**Holdsworth Sta**	**4.30**	**202**	PN	**Pn**	**20 56 58.2**	**-2.3**
TMWZ	**Te Maipa**	**4.39**	**197**	PN	**Pn**	**20 56 59.8**	**-1.9**
KIW	**Kapiti Island**	**4.46**	**207**	PN	**Pn**	**20 57 00.5**	**-2.1**
MTW	**Mount Morrison**	**4.54**	**200**	PN	**Pn**	**20 57 01.2**	**-2.4**
MTW				AML	AML	20 57 58.4	
CAW	**Cannon Point**	**4.63**	**204**	PN	**Pn**	**20 57 02.5**	**-2.2**
CAW				AML	AML	20 58 04.3	
CAW				AML	AML	20 58 10.2	
TRWZ	**Traveller**	**4.72**	**198**	PN	**Pn**	**20 57 04.1**	**-1.8**
TRWZ				AML	AML	20 58 01.3	
TRWZ				AML	AML	20 58 02.5	
PAWZ	**Paruwai Farm**	**4.77**	**200**	PN	**Pn**	**20 57 04.0**	**-2.6**
DUWZ	**D'Urville Isla**	**4.83**	**215**	PN	**Pn**	**20 57 06.1**	**-1.3**
MSWZ	**Moikau Station**	**4.85**	**201**	PN	**Pn**	**20 57 05.1**	**-2.6**
TCW	**Tory Channel**	**5.01**	**210**	AML	AML	20 58 10.6	
ASAR	**Alice Springs**	**39.65**	**277**	P	**P**	**21 03 12.8**	**+1.5**
	2.2nm,0.5s,baz=120,slow=7.7,SNR=62						
WRA	**Warramunga Arr**	**41.25**	**282**	P	**P**	**21 03 25.5**	**+1.1**
	1.9nm,0.5s,baz=120,slow=7.9,SNR=26						
FINES	**FINESS Array B**	**149.66**	**333**	PKPbc	**PKPbc**	**21 15 24.4**	**+0.1**
	0.4nm,0.3s,baz=66,slow=2.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**156.05**	**190**	PKPab	**PKPab**	**21 15 58.3**	**0.0**
	0.4nm,0.5s,baz=169,slow=3.4,SNR=11						

*ISCJB **01** 20:56:14.3±0.5, 22.84°S±0.04°×68.71°W±0.05, h97km±3km, mb4.4/25, Error ellipse: s-maj=8.6km s-min=6.2km az=162.0*

*NEIC **01** 20:56:15.8, 22.86°S×68.91°W, h96km, mb4.6/7, After GUC. NEIC Felt [III] at Calama and San Pedro.*

*GUC **01** 20:56:15.8±0.5, 22.86°S×68.91°W, h96km±3km, ML5.0*

*IDC **01** 20:56:16.6±0.4, 22.72°S×68.68°W, h101km±2km, mb4.3/17, mb1 4.3/20, mb1mx4.2/32, mbtmp4.6/20, Error ellipse: s-maj=13.7km s-min=11.1km az=77.0*

ISC 01 20:56:16.2±0.4, 22.88S±0.05°×68.80W±0.06, h100km±3km, n208, σ0.92/211, mb4.4/25, 81C-62D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.29**	**339**	*e*P	**Pn**	**20 56 30.3**	**-0.8**
LVC	**Limon Verde**	**0.29**	**339**	*e*P	**Pn**	**20 56 30.3**	**-0.8**
SPCH	**San Pedro de A**	**0.56**	**93**	*i*P	Pn	20 56 38.4	+5.6
SPCH				*i*S	Sn	20 56 51.7	+6.5
SPCH				AML	AML	20 56 52.5	
	comp=E,96μm,0.6s						
PB06	**IPOC Station P**	**0.73**	**284**	⇑*i*P	**Pn**	**20 56 33.0**	**-1.1**
PB06				*i*S	**Sn**	**20 56 45.8**	**-1.7**
PB06				AML	AML	20 56 46.8	
	comp=E,73μm,0.3s						
PB06	**IPOC Station P**	**0.73**	**284**	⇑*i*P	**Pn**	**20 56 33.0**	**-1.1**
PB06				*i*S	**Sn**	**20 56 45.8**	**-1.7**
PB04	**IPOC Station P**	**0.88**	**314**	⇑*i*P	Pn	20 56 39.9	+4.5
PB04				*i*S	Sn	20 56 57.8	+7.9
PB04				AML	AML	20 57 01.9	
	comp=E,17μm,0.3s						
PB04	**IPOC Station P**	**0.88**	**314**	⇑*i*P	Pn	20 56 39.9	+4.5
PB04				*i*S	Sn	20 56 57.8	+7.9
PB09	**IPOC Station P**	**1.16**	**339**	⇑*i*P	**Pn**	**20 56 38.0**	**-0.6**
PB09				*i*S	**Sn**	**20 56 54.3**	**-1.1**
PB09				AML	AML	20 56 55.2	
	comp=E,103μm,0.5s						
PB09	**IPOC Station P**	**1.16**	**339**	⇑*i*P	**Pn**	**20 56 38.0**	**-0.6**
PB09				*i*S	**Sn**	**20 56 54.3**	**-1.1**
PB07	**IPOC Station P**	**1.53**	**319**	⇑*i*P	**Pn**	**20 56 41.8**	**-1.2**
PB07				AML	AML	20 57 04.0	
	comp=E,20μm,0.3s						
PB07	**IPOC Station P**	**1.53**	**319**	⇑*i*P	**Pn**	**20 56 41.8**	**-1.2**
PB10	**IPOC Station P**	**1.73**	**248**	⇑*i*P	**Pn**	**20 56 44.2**	**-1.1**
PB10				*i*S	**Sn**	**20 57 05.9**	**-1.6**
PB10				AML	AML	20 57 18.9	
	comp=N,20μm,0.5s						
PB01	**IPOC Station P**	**1.94**	**341**	AML	AML	20 57 11.7	
	comp=E,9μm,0.5s						
PSGC	**Pisagua**	**3.50**	**339**	AML	AML	20 58 12.7	
	comp=N,2μm,0.5s						
LCO	**Las Campanas**	**6.34**	**195**	*e*Pn	Pn	20 57 43.3	-4.0
	comp=N,182nm,0.7s						
LPAZ	**La Paz**	**6.59**	**6**	P	**Pn**	**20 57 50.8**	**-0.3**
	comp=N,1.5nm,0.3s,baz=199,slow=8.2,SNR=17						
CFAA	**Coronel Fontan**	**8.70**	**177**	P	**Pn**	**20 58 17.1**	**-2.1**
	comp=N,0.2nm,0.3s,baz=357,slow=7.1,SNR=23						
CFAA				S	**Sn**	**20 59 51.1**	**-4.5**
	comp=N,0.3nm,0.3s,baz=196,slow=22,SNR=1.0						
SIV	**San Ignacio**	**10.01**	**48**	P	Pn	20 58 33.1	-3.9
	comp=N,8.6nm,0.3s,baz=248,slow=12,SNR=48						
SIV				S	Sn	21 00 16.3	-11
	comp=N,0.9nm,0.3s,baz=233,slow=17,SNR=1.3						
SAML	**Samuel**	**14.87**	**22**	*e*Pn	Pn	20 59 37.6	-3.7
	comp=N,5.1nm,0.9s						
TRQA	**Tornquist**	**16.22**	**160**	*e*P	**Pn**	**20 59 57.2**	**-0.9**
	comp=N,27nm,1.0s						
PLCA	**Paso Flores**	**17.86**	**184**	P	**Pn**	**21 00 18.5**	**+0.4**
	comp=N,0.5nm,0.3s,baz=360,slow=8.1,SNR=12						
BDFB	**Brasilia**	**20.89**	**74**	P	**P**	**21 00 48.8**	**-1.8**
	comp=N,20nm,0.5s,baz=254,slow=12,SNR=29						
PTGA	**Pitinga**	**23.64**	**23**	P	**P**	**21 01 16.2**	**-2.2**
	comp=N,10nm,0.5s,baz=200,slow=11,SNR=21						
RCBR	**Riachuelo**	**35.97**	**67**	P	**P**	**21 03 06.6**	**-0.9**
	comp=N,23nm,0.8s,baz=228,slow=10,SNR=16						
RCBR	**Riachuelo**	**35.97**	**67**	*e*P	**P**	**21 03 06.4**	**-1.1**
	comp=N,17nm,0.8s						
CMIG	**Matias Romero**	**47.22**	**325**	P	**P**	**21 04 38.8**	**-0.3**
	comp=N,2.7nm,0.6s,baz=88,slow=5.9,SNR=4.0						
VNA3	**Neumayer Olymp**	**58.74**	**161**	P	**P**	**21 06 04.0**	**+0.8**
833A	**Chaparral WMA,**	**58.84**	**328**	⇑P	**P**	**21 06 03.6**	**-0.8**
	baz=59						
340A	**Bronson**	**59.10**	**335**	⇓P	**P**	**21 06 05.5**	**-0.6**
	baz=59						
VNA2	**Neumayer--Watz**	**59.32**	**160**	P	**P**	**21 06 08.0**	**+0.9**
631A	**Perdido Creek**	**60.32**	**328**	⇓P	**P**	**21 06 14.4**	**-0.2**
	baz=60						
SNAA	**Sanae**	**60.95**	**161**	*e*P	**P**	**21 06 18.8**	**+0.5**
	comp=N,15nm,1.3s						
529A	**Stev Forest Ra**	**61.72**	**327**	⇑P	**P**	**21 06 24.1**	**+0.1**
	baz=62						
MIAR	**Mount Ida**	**61.77**	**337**	*e*P	**P**	**21 06 23.3**	**-1.0**
	comp=N,13nm,1.1s						
232A	**Coleman**	**61.95**	**330**	⇑P	**P**	**21 06 25.1**	**-0.4**
	baz=62						
429A	**Davenport Ranc**	**61.96**	**328**	⇓P	**P**	**21 06 26.0**	**+0.3**
	baz=62						
Z34A	**Collier Ranch,**	**62.45**	**333**	⇓P	**P**	**21 06 28.0**	**-0.8**
	baz=63						
ABTX	**Abilene, Hawle**	**62.57**	**331**	⇓P	**P**	**21 06 29.4**	**-0.3**
	baz=63						
Y34A	**Reagan Ranch,**	**62.89**	**333**	⇓P	**P**	**21 06 30.8**	**-0.9**
	baz=63						
Z30A	**Sanderson Ranc**	**63.80**	**330**	⇑P	**P**	**21 06 37.5**	**-0.3**
	baz=64						
W34A	**Bridge Creek,**	**64.00**	**334**	⇑P	**P**	**21 06 38.0**	**-1.0**
	baz=64						
Z29A	**Hungry Hill Ra**	**64.04**	**330**	⇓P	**P**	**21 06 39.1**	**-0.3**
	baz=64						
W32A	**Sentinel**	**64.52**	**333**	⇑P	**P**	**21 06 41.6**	**-0.8**
	baz=65						
MNTX	**Cornudas Mount**	**64.59**	**326**	⇑P	**P**	**21 06 42.5**	**-0.4**
	baz=65						
V33A	**Lossen Ranch,**	**64.71**	**334**	⇑P	**P**	**21 06 41.9**	**-1.7**
	baz=65						
W31A	**Holland Ranch,**	**64.87**	**332**	⇑P	**P**	**21 06 43.0**	**-1.7**
	baz=65						
S36A	**Lake Cedric, C**	**65.34**	**337**	⇓P	**P**	**21 06 46.7**	**-1.0**
	baz=66						
V28A	**Channing**	**66.35**	**331**	⇓P	**P**	**21 06 54.2**	**-0.1**
	baz=66						
121A	**Cookes Peak, D**	**66.51**	**325**	⇑P	**P**	**21 06 56.7**	**+1.2**
	baz=67						
V27A	**Dan Oppiter Fa**	**66.63**	**330**	⇑P	**P**	**21 06 55.8**	**-0.3**
	baz=67						
U28A	**Mallet**	**66.87**	**331**	⇑P	**P**	**21 06 57.2**	**-0.4**
	baz=67						
W25A	**X Bar L Ranch,**	**66.95**	**329**	⇑P	**P**	**21 06 58.1**	**-0.1**
	baz=67						
QSPA	**South Pole Qui**	**67.31**	**180**	P	**P**	**21 07 01.6**	**+1.5**
	comp=N,17nm,0.5s,baz=321,slow=1.0,SNR=234						
QSPA				pP	**PcP**	**21 07 27.1**	**0.0**
	comp=N,8.3nm,0.5s,baz=150,slow=0.8,SNR=6.2						
QSPA				sP	**sP**	**21 07 37.6**	**+1.3**
	comp=N,6.2nm,0.7s,baz=176,slow=3.7,SNR=3.3						
R30A	**Dighton**	**67.64**	**334**	⇓P	**P**	**21 07 04.1**	**+1.7**
	baz=68						
ANMO	**Albuquerque**	**67.71**	**327**	P	**P**	**21 07 03.0**	**0.0**
	comp=N,3.0nm,0.6s,baz=125,slow=9.5,SNR=8.9						
SADO	**Sadowa**	**67.98**	**352**	P	**P**	**21 07 03.4**	**-0.9**
	comp=N,5.1nm,0.8s,baz=140,slow=2.7,SNR=4.5						
T26A	**Comanche Natio**	**68.14**	**331**	⇑P	**P**	**21 07 06.2**	**+0.5**
	baz=68						
Q30A	**Quinter**	**68.21**	**334**	⇑P	**P**	**21 07 05.9**	**0.0**
	baz=68						
LIC	**Lamto**	**68.68**	**73**	*e*P	**P**	**21 07 11.8**	**+2.5**
	comp=N,6.7nm,0.2s						
V22A	**San Miguel Ran**	**68.70**	**327**	⇑P	**P**	**21 07 09.6**	**+0.3**
	baz=69						
T24B	**San Luis**	**68.88**	**329**	⇓P	**P**	**21 07 11.1**	**+0.6**
	baz=69						
TIC	**Toumodi**	**68.88**	**73**	*e*P	P	21 07 14.7	+4.1
	comp=N,5.1nm,0.2s						
214A	**Organ Pipe Nat**	**68.89**	**321**	⇓P	**P**	**21 07 11.9**	**+1.6**
	baz=69						
S25A	**Robets Cordova**	**68.92**	**330**	⇑P	**P**	**21 07 10.4**	**-0.2**
	baz=69						
KIC	**Kosan Boka**	**69.00**	**73**	*e*P	**P**	**21 07 11.5**	**+0.2**
	comp=N,21nm,0.8s						
DBIC	**Dimbokro**	**69.04**	**73**	P	**P**	**21 07 11.1**	**-0.5**
	comp=N,4.0nm,0.7s,baz=236,slow=7.5,SNR=8.7						
DBIC				pP	**pP**	**21 07 36.5**	**-0.3**
	comp=N,5.9nm,0.6s,baz=190,slow=6.5,SNR=4.6						
BGNE	**Belgrade**	**69.52**	**337**	⇓P	**P**	**21 07 13.6**	**-0.4**
	baz=70						
R24A	**Sanders Place,**	**69.70**	**330**	⇑P	**P**	**21 07 16.3**	**+0.9**
	baz=70						
X16A	**Lo Mia Camp, P**	**69.92**	**323**	⇑P	**P**	**21 07 18.2**	**+1.4**
	baz=70						
113A	**Mohawk Valley,**	**70.03**	**321**	⇓P	**P**	**21 07 18.7**	**+1.5**
	baz=70						
Q24A	**Divide**	**70.31**	**331**	⇑P	**P**	**21 07 19.5**	**+0.3**
	baz=70						
P25A	**Willow Gulch B**	**70.32**	**332**	⇓P	**P**	**21 07 19.3**	**+0.2**
	baz=70						
MVCO	**Mesa Verde**	**70.51**	**327**	⇓P	**P**	**21 07 20.7**	**+0.3**
	baz=71						
WUAZ	**Wupatki**	**70.71**	**324**	⇑P	**P**	**21 07 23.1**	**+1.6**
	baz=71						
ECSD	**EROS Data Cent**	**71.04**	**339**	⇓P	**P**	**21 07 22.1**	**-1.1**
	baz=71						
ISCO	**Idaho Springs**	**71.20**	**331**	⇑P	**P**	**21 07 25.1**	**+0.6**
	baz=71						
K29A	**Lazy Trails An**	**71.49**	**336**	⇑P	**P**	**21 07 26.3**	**+0.3**
	baz=72						
P22A	**Eagle**	**71.56**	**330**	⇓P	**P**	**21 07 27.4**	**+0.8**
	baz=72						
BC3	**Big Chuckawall**	**71.66**	**320**	⇓P	**P**	**21 07 28.5**	**+1.3**
	baz=72						
O23A	**Lake Granby, G**	**71.67**	**331**	⇓P	**P**	**21 07 27.9**	**+0.5**
	baz=72						
W13A	**Hualapai Mount**	**71.78**	**322**	⇓P	**P**	**21 07 29.4**	**+1.3**
	baz=72						
IRM	**Iron Mountain**	**71.84**	**321**	⇑P	**P**	**21 07 29.9**	**+1.7**
	baz=72						
U15A	**North Rim**	**71.88**	**324**	⇓P	**P**	**21 07 30.1**	**+1.3**
	baz=72						
O22A	**Kremmling**	**71.91**	**330**	⇑P	**P**	**21 07 29.1**	**+0.3**
	baz=72						
M24A	**Cheyenne**	**72.21**	**332**	⇑P	**P**	**21 07 31.2**	**+0.7**
	baz=72						
PFO	**Pinyon Flats O**	**72.22**	**320**	⇓P	**P**	**21 07 32.1**	**+1.5**
	baz=72						
N23A	**Red Feather La**	**72.23**	**331**	⇓P	**P**	**21 07 31.0**	**+0.3**
	baz=72						
N22A	**Wattenberg Ran**	**72.39**	**331**	⇑P	**P**	**21 07 32.3**	**+0.7**
	baz=73						
J28A	**Allard Ranch,**	**72.41**	**336**	⇓P	**P**	**21 07 31.6**	**+0.1**
	baz=73						
J27A	**Elkhorn Farm,**	**72.56**	**335**	⇑P	**P**	**21 07 32.9**	**+0.6**
	baz=73						
GMRC	**Granite Mounta**	**72.57**	**321**	⇑P	**P**	**21 07 34.2**	**+1.6**
	baz=73						
M23A	**Laramie**	**72.60**	**332**	⇑P	**P**	**21 07 33.3**	**+0.5**
	baz=73						
HEC	**Hector,Ludlow**	**73.00**	**321**	⇑P	**P**	**21 07 36.9**	**+1.8**
	baz=73						
H29A	**Onida**	**73.06**	**337**	⇑P	**P**	**21 07 35.2**	**0.0**
	baz=73						
L23A	**Garrett**	**73.12**	**332**	⇓P	**P**	**21 07 36.1**	**+0.3**
	baz=73						
I27A	**Quinn**	**73.27**	**336**	⇑P	**P**	**21 07 36.7**	**+0.2**
	baz=74						
CCUT	**Cedar City**	**73.29**	**324**	*e*P	**P**	**21 07 38.5**	**+1.5**
	comp=N,8.0nm,1.2s						
BFSC	**Mount Baldy Ra**	**73.37**	**319**	⇑P	**P**	**21 07 39.2**	**+1.8**
	baz=74						
H28A	**Mission Ridge**	**73.40**	**337**	⇑P	**P**	**21 07 37.0**	**-0.2**
	baz=74						
K23A	**Bowen Ranch, D**	**73.61**	**333**	⇑P	**P**	**21 07 38.8**	**+0.1**
	baz=74						
J24A	**Dixon Ranch, L**	**73.68**	**334**	⇑P	**P**	**21 07 39.4**	**+0.4**
	baz=74						
I25A	**Rochford**	**73.88**	**335**	⇑P	**P**	**21 07 40.5**	**+0.3**
	baz=74						
K21A	**Alcova**	**74.21**	**332**	⇓P	**P**	**21 07 42.8**	**+0.6**
	baz=74,SNR=11						
TPNV	**Topopah Spring**	**74.44**	**322**	⇑P	**P**	**21 07 45.5**	**+1.8**
	baz=75						
J22A	**Midwest**	**74.51**	**332**	⇓P	**P**	**21 07 43.4**	**-0.4**
	baz=75,SNR=6.0						
G26A	**Maurine**	**74.51**	**336**	⇑P	**P**	**21 07 43.2**	**-0.5**
	baz=75						
MPMC	**Manual Prospec**	**74.53**	**321**	⇓P	**P**	**21 07 44.8**	**+0.6**
	baz=75						
D30A	**Buchanan**	**74.73**	**339**	⇓P	**P**	**21 07 45.2**	**+0.3**
	baz=75						
F27A	**Lemmon**	**74.79**	**337**	⇑P	**P**	**21 07 45.2**	**-0.1**
	baz=75						
H24A	**Dirks Ranch, A**	**74.81**	**334**	⇑P	**P**	**21 07 44.9**	**-0.6**
	baz=75,SNR=7.3						
ISA	**Isabella, Lake**	**74.84**	**320**	⇑P	**P**	**21 07 47.6**	**+1.7**
	baz=75						
J21A	**Lysite**	**74.87**	**332**	⇑P	**P**	**21 07 46.2**	**+0.1**
	baz=75						
I22A	**9 Mile Ranch,**	**74.90**	**333**	⇑P	**P**	**21 07 45.7**	**-0.4**
	baz=75,SNR=5.4						
DUG	**Dugway, Tooele**	**74.96**	**327**	⇑P	**P**	**21 07 47.5**	**+1.0**
	baz=75						
H23A	**Clabaugh Cattl**	**75.00**	**334**	⇓P	**P**	**21 07 46.7**	**+0.1**
	baz=75						
F26A	**Lodgepole**	**75.01**	**336**	⇓P	**P**	**21 07 46.7**	**+0.1**
	baz=75						
J20A	**Shoshoni**	**75.16**	**331**	⇑P	**P**	**21 07 48.3**	**+0.8**
	baz=75						
C30A	**Mose, Pekin**	**75.16**	**340**	⇓P	**P**	**21 07 47.3**	**-0.1**
	baz=75						
SYO	**Syowa Base**	**75.18**	**159**	⇑*e*P	**P**	**21 07 46.8**	**-0.4**
I21A	**Big Trails, Te**	**75.18**	**332

E19A	Rath Farm, Rou	77.93	333	⇓P		P	21 08 03.2	+0.1
	baz=78,SNR=13							
B23A	Brockton	78.06	336	⇓P		P	21 08 03.7	0.0
	baz=78							
A24A	Westby	78.09	337	⇓P		P	21 08 04.0	+0.2
	baz=78							
HLID	Hailey	78.26	328	⇓P		P	21 08 06.5	+1.3
	baz=78							
HLID	Hailey	78.26	328	eP		P	21 08 05.9	+0.8
C21A	Desert Coulee	78.34	335	⇑P		P	21 08 05.4	+0.1
	baz=79							
D19A	Cripps Ranch,	78.53	333	⇑P		P	21 08 06.6	+0.2
	baz=79							
C20A	Veseth Ranch,	78.61	334	⇓P		P	21 08 06.5	-0.2
	baz=79							
B21A	Ellsworth Farm	78.80	335	⇓P		P	21 08 07.7	-0.1
	baz=79							
A22A	Carney Farms,	78.85	336	⇑P		P	21 08 08.7	+0.7
	baz=79,SNR=6.1							
C19A	Slack Wire Ran	79.05	334	⇓P		P	21 08 09.2	0.0
	baz=79							
A20A	Cobblestone Ra	79.52	335	⇑P		P	21 08 11.9	+0.2
	baz=80,SNR=8.5							
EGMT	Eagleton	79.57	333	⇑P		P	21 08 12.1	0.0
	baz=80							
B19A	Brinkman Farms	79.58	334	⇑P		P	21 08 11.8	-0.3
	baz=80							
A19A	Klindworth Far	79.88	335	⇑P		P	21 08 13.7	+0.1
	baz=80							
MSO	Missoula	80.47	330	⇑P		P	21 08 18.5	+1.5
	baz=81							
BMO	Blue Mountains	80.63	327	eP		P	21 08 17.7	-0.1
	comp=N,6.0nm,1.2s							
J05D	Fort Rock, OR	81.58	324	⇑P		P	21 08 24.0	+1.1
	baz=82							
I05D	Terrebonne, OR	82.35	325	⇑P		P	21 08 27.9	+1.0
	baz=82							
BOSA	Boshof	82.71	118	P		P	21 08 29.4	0.0
	comp=N,3.0nm,0.8s,baz=271,slow=2.7,SNR=7.6							
BOSA				pP		pP	21 08 56.6	+1.2
	comp=N,3.8nm,0.8s,baz=186,slow=9.2,SNR=3.3							
BOSA				sP		sP	21 09 06.8	+0.6
	comp=N,3.8nm,0.7s,baz=269,slow=3.5,SNR=3.5							
MAW	Mawson	82.98	163	P		P	21 08 30.8	+1.0
	comp=N,9.6nm,0.9s,baz=220,slow=7.9,SNR=2.8							
MAW				pP		pP	21 08 56.5	+0.7
	comp=N,9.5nm,0.6s,baz=188,slow=7.3,SNR=4.2							
LBTB	Lobatse	84.35	115	eP		P	21 08 38.1	+0.3
ESDC	Sonseca Array	86.75	44	P		P	21 08 49.5	+0.4
	comp=N,0.1nm,0.4s,baz=247,slow=4.4,SNR=2.0							
YKA	Yellowknife Ar	92.52	341	P		P	21 09 15.1	-0.4
	comp=N,3.2nm,0.7s,baz=136,slow=4.6,SNR=50							
YKA				pP		pP	21 09 41.8	-0.2
	comp=N,2.5nm,0.7s,baz=136,slow=4.6,SNR=10							
YKA				sP		sP	21 09 51.9	-0.7
	comp=N,2.0nm,0.7s,baz=136,slow=4.4,SNR=6.0							
KBZ	Khabaz	120.90	52	PKP		PKPdf	21 14 57.4	+0.7
	comp=N,1.9nm,0.9s,baz=58,slow=1.4,SNR=6.4							
H11S2	WAKE ISLAND Hyl	28.14	276	T		T	23 35 26.9	
	SNR=94							
H11S1	WAKE ISLAND Hyl	28.15	276	T		T	23 35 30.5	
	baz=105,slow=74,SNR=45							
H11S3	WAKE ISLAND Hyl	28.15	276	T		T	23 35 26.9	
	baz=341,slow=74,SNR=54							
H11N3	WAKE ISLAND Hyl	28.25	278	T		T	23 35 40.0	
	baz=103,slow=75,SNR=35							
H11N2	WAKE ISLAND Hyl	28.27	278	T		T	23 35 44.4	
	baz=103,slow=75,SNR=34							
H11N1	WAKE ISLAND Hyl	28.27	278	T		T	23 35 41.2	
	baz=103,slow=75,SNR=27							
ASAR	Alice Springs	128.73	207	PKP		PKPdf	21 15 12.7	+0.1
	comp=N,1.9nm,0.7s,baz=131,slow=2.0,SNR=18							
ASAR				pPKP		pPKPdf	21 15 40.0	-0.1
	comp=N,1.1nm,0.7s,baz=130,slow=2.2,SNR=4.8							
WRA	Warramunga Arr	131.81	210	PKP		PKPdf	21 15 18.7	+0.3
	comp=N,1.4nm,0.5s,baz=156,slow=1.7,SNR=9.6							
WRA				pPKP		pPKPdf	21 15 46.2	+0.2
	comp=N,1.0nm,0.5s,baz=154,slow=1.8,SNR=4.6							
KURK	Kurchatov	142.42	34	PKPpre		PKPpre	21 15 33.4	
KURBB	Kurchatov Arra	142.43	34	PKhKP		PKPpre	21 15 33.4	
	comp=N,0.4nm,0.6s,baz=306,slow=3.5,SNR=4.5							
ZALV	Zalesovo Beam	143.15	26	PKP		PKPbc	21 15 35.4	+0.1
	comp=N,2.2nm,0.5s,baz=294,slow=2.6,SNR=12							
AAK	Ala-Archa	143.76	48	ePKPdf		PKPbc	21 15 38.0	+0.3
SOEI	Soe	145.13	203	ePKPdf		PKPdf	21 15 44.0	+1.1
MKAR	Makanchi Array	146.68	37	PKPbc		PKPdf	21 15 45.2	+0.7
	comp=N,1.9nm,0.6s,baz=319,slow=2.4,SNR=30							
MKAR				pPKPbc		pPKPbc	21 16 13.0	-0.5
	comp=N,3.8nm,0.7s,baz=315,slow=3.2,SNR=8.1							
CISI	Cisompet, Garu	149.57	173	ePKPbc		PKPbc	21 15 54.7	-0.2
KAPI	Kappang	151.04	198	ePKPbc		PKPbc	21 15 56.3	-2.0
USRK	Ussuriysk Ar.	152.72	326	PKPbc		PKPbc	21 16 00.9	-0.3
	comp=N,4.4nm,1.0s,baz=114,slow=2.3,SNR=5.9							
MJAR	Matsushiro Arr	152.99	306	PKPbc		PKPbc	21 16 01.4	-0.8
	comp=N,1.2nm,0.7s,baz=125,slow=2.4,SNR=4.4							
MJAR				PKPab		PKPab	21 16 13.4	-0.3
	comp=N,2.3nm,0.8s,baz=122,slow=4.5,SNR=4.2							
SONM	Songino Array	154.81	8	PKP		PKPdf	21 15 57.7	+0.5
	comp=N,0.9nm,0.8s,baz=345,slow=1.8,SNR=8.6							
KSRS	Korea Array	159.56	319	PKP		PKPdf	21 16 04.4	+1.2
	comp=N,4.2nm,1.1s,baz=220,slow=31,SNR=4.3							
KSAR	Wonju Array Be	159.59	319	PKP		PKPdf	21 16 04.4	+1.1

*IDC **01** 20:57:40.1±1.3, 17°.21N×85°.23W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.7/38, mbtmp3.8/9, ML3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/35, Error ellipse: s-maj=26.6km s-min=24.2km az=32.0*

*ISCJB **01** 20:57:41.8±0.8, 17°.14N±0°.08×85°.4W±0°.1, h28km, mb3.8/5, Error ellipse: s-maj=14.9km s-min=10.1km az=153.0*

ISC 01 20:57:44.0±0.9, 17°.18N±0°.10×85°.3W±0°.1, h28km, n11, σ1s53/11, mb3.9/5, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
TEIG	Tepich	4.14	317	Pn		Pn	20 58 45.2			-0.2
	96nm,0.3s,baz=95,slow=2.3,SNR=314									
TEIG					Sn	Sn	20 59 31.4			-1.6
	83nm,0.3s,baz=58,slow=20,SNR=17									
APG	El Apazote	5.42	247	Pn		Pn	20 59 02.0			-1.2
	1.7nm,0.3s,baz=94,slow=13,SNR=8.9									
JTS	JuntasAbangare	6.86	177	Pn		Pn	20 59 21.2			-1.6
	0.9nm,0.3s,baz=111,slow=22,SNR=5.4									
JTS					Lg	Lg	21 01 10.1			
	1.5nm,0.3s,baz=252,slow=14,SNR=3.7									
JTS					LR	LR	21 02 17.8			
	comp=Z,47nm,19.2s,baz=314,slow=40									
CMIG	Matias Romero	9.17	271	Pn		Pn	20 59 55.6			+1.1
	1.5nm,0.3s,baz=56,slow=8.5,SNR=11									
TXAR	Lajitas Array	20.73	309	P		P	21 02 24.3			+1.7
	1.4nm,0.7s,baz=127,slow=12,SNR=12									
PDAR	Pinedale Array	32.82	326	P		P	21 04 15.9			+0.6
	1.4nm,0.8s,baz=130,slow=11,SNR=5.1									
SCHQ	Schefferville	40.18	16	P		P	21 05 15.5			-2.1
	1.7nm,0.6s,baz=266,slow=14,SNR=3.8									
YKA	Yellowknife Ar	49.68	343	P		P	21 06 33.5			+0.4
	0.1nm,0.6s,baz=136,slow=7.9,SNR=3.4									
ILAR	Eielson Array	62.60	335	P		P	21 08 05.2			-0.1
	1.6nm,0.7s,baz=115,slow=4.2,SNR=17									
TORD	Torodi Ar. Bea	83.38	78	P		P	21 10 11.0			+1.7
	0.9nm,0.6s,baz=252,slow=5.8,SNR=2.8									
ASAR	Alice Springs	142.79	253	PKhKP		PKPpre	21 17 10.5			
	0.6nm,0.7s,baz=111,slow=3.8,SNR=5.8									

*IDC **01** 21:02:07.5±1.6, 34°.51S×72°.10W, h0km, mb4.2/6, mb1 4.2/9, mb1mx4.0/27, mbtmp4.1/9, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=48.3km s-min=23.8km az=89.0*

*ISCJB **01** 21:02:08.8±1.2, 34°.47S±0°.04×72°.15W±0°.06, h18km±9km, mb4.3/5, Error ellipse: s-maj=9.3km s-min=4.9km az=25.9*

*GUC **01** 21:02:10.2±0.7, 34°.52S×72°.03W, h38km±3km, ML4.3*

*NEIC **01** 21:02:11.3, 34°.46S×72°.09W, h15km, mb3.7/1, ML4.3(GUC), After GUC.*

NEIC Felt [IV] at San Fernando, [III] at Paredones and Santa Cruz and [II] at Navidad and San Antonio.

ISC 01 21:02:08.7±1.6, 34°.48S±0°.03×72°.06W±0°.06, h7km±10km, n44, σ0s91/57, mb4.2/5, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
NICH	Los Niches	0.86	127	⇑iP		Pg	21 02 25.7			+0.5
NICH				iS		Sb	21 02 37.1			-0.5
NICH	Los Niches	0.86	127	⇑iP		Pb	21 02 26.1			+0.2
NICH				iS		Sb	21 02 37.2			-0.5
TALC	Talca	0.98	159	⇑iP		Pg	21 02 27.2			-0.3
TALC				iS		Sg	21 02 39.9			-0.3
TALC	Talca	0.98	159	⇓iP		Pg	21 02 27.1			-0.3
TALC				iS		Sg	21 02 39.9			-0.3
LNCH	Linares	1.41	165	eP		Pn	21 02 34.3			-0.5
LNCH	Linares	1.41	165	⇓iP		Pn	21 02 34.9			0.0
LNCH				S		Sg	21 02 53.9			-0.3
RCDM	Rinconada Maip	1.44	47	⇑iP		Pn	21 02 34.8			-0.4
RCDM				eS		Sn	21 02 54.0			-0.4
RCDM	Rinconada Maip	1.44	47	⇓iP		Pn	21 02 34.8			-0.4
IHA	Instituto Hidr	1.49	14	eP		Pn	21 02 35.7			-0.2
IHA				eS		Sn	21 02 55.9			+0.2
IHA	Instituto Hidr	1.49	14	eP		Pn	21 02 35.4			-0.6
FSR	Penalolen	1.62	52	eP		Pb	21 03 38.7			-0.2
FSR				eS		Sn	21 02 59.3			+0.4
LACH	Col Las Americ	1.63	51	eP		Pn	21 02 37.9			0.0
LACH				iS		Sn	21 02 59.2			-0.1
SJCH	San Jose de Ma	1.65	60	eP		Pn	21 02 37.9			-0.3
SJCH				eS		Sn	21 02 59.0			-0.6
CLCH	Cerro Calan	1.67	50	⇓iP		Pn	21 02 38.6			+0.2
CLCH				iS		Sn	21 02 59.7			-0.4
CLCH					AML	AML	21 03 05.5			
	comp=E,5μm,0.4s									
CLCH					AML	AML	21 03 06.0			
	comp=E,6μm,0.4s									
ROCH	El Roble	1.74	30	⇑iP		Pn	21 02 38.9			-0.7
ROCH				iS		Sn	21 02 02.6			+0.5
ROCH					AML	AML	21 03 05.7			
	comp=N,5μm,0.5s									
ROCH	El Roble	1.74	30	P		Pn	21 02 38.9			-0.7
ROCH				eS		Sn	21 03 01.4			-0.8
COCH	Cobquecura	1.75	200	⇓iP		Pn	21 02 39.2			-0.3
COCH				eS		Sn	21 03 00.4			-1.6
PEL	Peldehue	1.76	41	⇑iP		Pn	21 02 39.9			+0.2
PEL				eS		Sn	21 03 01.8			-0.6
PEL					AML	AML	21 03 08.0			
	comp=N,9μm,0.4s									
PEL	Peldehue	1.76	41	⇑iP		Pn	21 02 39.9			+0.2
PEL				iS		Sn	21 03 00.9			-1.4
YECH	El Yeso	1.83	64	⇑iP		Pb	21 02 42.5			-0.3
YECH				iS		Sb	21 03 06.0			+0.1
YECH					AML	AML	21 03 10.0			
	comp=N,4μm,0.6s									
FCH	Farellones	1.87	52	⇓iP		Pn	21 02 38.6			-2.8
FCH				iS		Sn	21 03 02.9			-2.5
FCH					AML	AML	21 03 08.2			
	comp=N,3μm,0.2s									
CFAA	Coronel Fontan	4.30	49	Pn		Pn	21 03 17.1			+2.4
	comp=N,1.7nm,0.3s,baz=225,slow=11,SNR=12									
CFAA					Lg	Lg	21 04 14.4			
	comp=N,1.1nm,0.3s,baz=39,slow=21,SNR=3.1									
LCO	Las Campanas	5.58	12	ePn		Pn	21 03 32.1			-0.3
LCO				eSn		Sn	21 04 36.7			-0.1
PLCA	Paso Flores	6.35	170	Pn		Pn	21 03 44.3			+1.4
	comp=N,1.0nm,0.3s,baz=340,slow=11,SNR=14									
PLCA					Lg	Lg	21 05 23.2			
	comp=N,0.8nm,0.3s,baz=254,slow=18,SNR=4.0									
PLCA					LR	LR	21 05 36.2			
	comp=N,106nm,19.5s,baz=270,slow=33									
PLCA	Paso Flores	6.35	170	ePn		Pn	21 03 44.2			+1.4
	comp=N,15nm,0.9s									
PLCA					Lg	Lg	21 05 23.2			
TRQA	Tornquist	8.89	117	ePn		Pn	21 04 19.7			+2.1
LPAZ	La Paz	18.46	12	P		Pn	21 06 26.9			+1.2
	comp=N,0.3nm,0.3s,baz=176,slow=8.6,SNR=9.3									
LPAZ	La Paz	18.46	12	ePn		Pn	21 06 26.4			+0.7
	comp=N,4.4nm,0.8s									
SIV	San Ignacio	20.89	31	P		P	21 06 52.8			+1.1
	comp=N,3.3nm,0.6s,baz=215,slow=11,SNR=7.0									
SAML	Samuel	26.69	20	eP		P	21 07 47.9			-0.6
PTGA	Pitinga	35.43	21	P		P	21 09 05.2			-0.4
	comp=N,4.8nm,0.6s,baz=202,slow=15,SNR=7.5									
SNAA	Sanae	51.15	158	eP		P	21 11 12.1			+0.2
QSPA	South Pole Qui	55.76	180	eP		P	21 11 46.7			+0.8
DBIC	Dimbokro	75.35	71	P		P	21 13 52.9			-0.2
	comp=N,4.1nm,0.8s,baz=240,slow=5.6,SNR=4.6									
BOSA	Boshof	79.86	118	P		P	21 14 18.6			+0.1
	comp=N,2.2nm,0.9s,baz=208,slow=7.9,SNR=3.1									
TORD	Torodi Ar. Bea	84.39	70	P		P	21 14 41.7			-0.4
	comp=N,1.0nm,0.7s,baz=267,slow=4.3,SNR=13									
ULM	Lac du Bonnet	86.96	345	P		P	21 14 54.5			+0.5
	comp=N,0.7nm,0.4s,baz=153,slow=6.8,SNR=2.8									
H11S2	WAKE ISLAND Hyl	25.75	269	T		T	23 39 29.9			
H11S1	WAKE ISLAND Hyl	25.76	269	T		T	23 39 29.1			
	baz=326,slow=74,SNR=31									
H11S3	WAKE ISLAND Hyl	25.76	269	T		T	23 39 32.0			
	baz=119,slow=74,SNR=18									
H11N3	WAKE ISLAND Hyl	26.17	270	T		T	23 40 01.9			
	baz=120,slow=75,SNR=23									
H11N1	WAKE ISLAND Hyl	26.18	270	T		T	23 40 00.4			
	baz=120,slow=75,SNR=46									
H11N2	WAKE ISLAND Hyl	26.19	270	T		T	23 40 03.4			
	baz=120,slow=75,SNR=25									
MKAR	Makanchi Array	157.09	50	PKPab		PKPab	21 22 34.7			-0.7
	comp=N,0.3nm,0.8s,baz=254,slow=2.8,SNR=3.2									

*IDC **01** 21:23:55.4±2.5, 29°.97S×71°.23W, h0km, mb3.9/1, mb1 4.0/2, mb1mx3.6/22, mbtmp3.9/2, ML4.2/1, Error ellipse: s-maj=104.9km s-min=72.1km az=90.0*

*ISCJB **01** 21:24:03.5±1.0, 29°.35S±0°.04×71°.7W±0°.1, h55km, mb3.7/1, Error ellipse: s-maj=14.9km s-min=5.3km az=3.0*

*GUC **01** 21:24:05.4±0.5, 29°.37S×71°.17W, h84km±3km, ML4.3*

*SJA **01** 21:24:06.4±0.9, 29°.22S×71°.02W, h40km±999km, ML3.3*

ISC 01 21:24:04.0±1.2, 29°.31S±0°.04×71°.7W±0°.1, h55km, n20, σ1s33/28, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
LSCH	La Serena	0.73	145	iP		Pn	21 24 19.6			+1.2
LSCH				iS		Sn	21 24 30.0			+1.2
VACH	Vallenar	1.12	50	iP		Pn	21 24 23.8			+0.3
VACH				iS		Sn	21 24 36.4			-1.7
VACH					AML	AML	21 24 38.6			
	comp=E,17μm,0.1s									
CMCH	Combarbala	1.96	161	iP		Pn	21 24 35.0			0.0
CMCH				iS		Sn	21 24 57.5			-0.9
CMCH					AML	AML	21 24 59.8			
	comp=N,3μm,0.4s									
CPCH	Copiapo	2.29	32	iP		Pn	21 24 39.3			-0.1
RTLS	Leoncito	3.25	140	iP		Pn	21 24 54.5			+1.8
RTLL	Cerro Villicun	3.46	126	iP		Pn	21 24 54.2			-1.2
AUSP	Uspallata	3.54	146	iP		Pn	21 24 59.1			+2.4
AUSP				iS		Sn	21 25 37.1			-0.3
ROCH	El Roble	3.70	171	iP		Pn	21 24 59.6			+0.7
CFAA	Coronel Fontan	3.79	128	iP		Pn	21 24 59.4			-0.5
CFAA				iP		Pn	21 24 59.4			-0.5
PEL	Peldehue	3.92	167	iP		Pn	21 25 02.0			+0.2
PEL				iS		Sn	21 25 44.7			-1.9
ASAL	Salagasta	4.11	143	iP		Pn	21 25 05.5			+1.1
FCH	Farellones	4.19	163	iP		Pn	21 25 05.3			-0.4
CLCH	Cerro Calan	4.20	166	iP		Pn	21 25 05.5			-0.1
CLCH				iS		Sn	21 25 51.2			-2.2
RCDM	Rinconada Maip	4.24	169	iS		Sn	21 25 52.6			-1.7
ARCO	CERRO ARCO	4.26	146	iP		Pn	21 25 08.2			+1.7
ARCO				iS		Sn	21 25 55.1			+0.1
ARCO					AML	AML	21 25 56.6			
	comp=Z,39nm,0.3s									
LPAZ	La Paz	13.38	15	Pn		Pn	21 27 14.4			+2.6
	comp=Z,0.4nm,0.3s,baz=197,slow=17,SNR=8.3									
TORD	Torodi Ar. Bea	82.38	70	P		P	21 36 18.7			-1.8
	comp=Z,0.9nm,0.9s,baz=247,slow=7.4,SNR=9.1									
KURBB	Kurchatov Arra	149.15	38	PKPbc		PKPbc	21 43 45.9			0.0
	comp=Z,0.2nm,0.4s,baz=311,slow=3.3,SNR=5.8									
ZALV	Zalesovo Beam	150.05	28	PKPbc		PKPbc	21 43 48.1			+0.1
	comp=Z,1.1nm,0.5s,baz=301,slow=4.0,SNR=6.2									
MKAR	Makanchi Array	153.29	42	PKPbc		PKPbc	21 43 55.0			-0.7
	comp=Z,0.2nm,0.5s,baz=287,slow=2.0,SNR=2.4									

MEX 01 21:27:43.2±0.3, 16°.93N×100°.08W, h7km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
CAIG	El Cayaco	0.21	304	iP		Pg	21 27 47.1			-0.3
CAIG				eS		Sg	21 27 50.5			+0.2
MEIG	Mezcala	1.09	24	iP		Pg	21 28 00.9			-3.4
MEIG				eS		Sg	21 28 14.9			-3.6
ARIG	Puente Sto Nin	1.37	349	iP		Pn	21 28 05.1			-3.8
ARIG				eS		Sb	21 28 21.7			-5.3
ZIIG	Zihuatanejo	1.48	297	iP		Pn	21 28 07.0			-3.4
ZIIG				eS		Sn	21 28 24.9			-5.1
PLIG	Platanillo	1.56	21	iP		Pn	21 28 07.8			-3.7
PLIG				eS		Sn	21 28 27.7			-4.4
TLIG	Tlapa	1.58	66	iP		Pn	21 28 08.2			-3.7
TLIG				eS		Sn	21 28 28.1			-4.7

*ISCJB **01** 21:44:45.1±1.6, 36°.82S±0°.05×73°.71W±0°.08, h10km±8km, mb3.7/5, MS3.7/4, Error ellipse: s-maj=11.0km s-min=7.3km az=18.3*

*IDC **01** 21:44:45.0±1.3, 36°.88S×73°.76W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/23, mbtmp3.6/7, ML3.5/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/18, Error ellipse: s-maj=42.1km s-min=22.5km az=93.0*

*GUC **01** 21:44:47.6±0.5, 36°.80S×73°.62W, h8km±2km, ML3.6*

ISC 01 21:44:45.7±2.3, 36°.83S±0°.05×73°.7W±0°.1, h4km±13km, n14, σ0s89/17, mb3.7/5, MS3.7/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
CCSP	San Pedro de C	0.43	92	eP		Pb	21 44 55.4			-0.5
CCSP				eS		Sg	21 45 00.7			+1.0
COCH	Cobquecura	0.99	45	eP		Pg	21 45 04.5			-0.1
COCH				eS		Sg	21 45 17.0			-0.4
COCH					AML	AML	21 45 19.2			
	comp=N,3μm,0.3s									
AGCH	Angol	1.23	142	eP		Pg	21 45 09.1			-0.3
AGCH				eS		Sg	21 45 25.3			-0.1
LNCH	Linares	1.93	60	eP		Pn	21 45 19.0			-0.3
LNCH				eS		Sn	21 45 43.5			-0.4
TALC	Talca	2.17	49	eP		Pn	21 45 23.0			+0.4
TALC				eS		Sn	21 45 50.1			+0.1
PLCA	Paso Flores	4.58	149	Pn		Pn	21 45 56.5			+0.7
	comp=N,1.2nm,0.3s,baz=320,slow=11,SNR=24									
PLCA					Lg	Lg	21 47 07.8			
	comp=N,6.0nm,0.3s,baz=232,slow=22,SNR=6.2									
CFAA	Coronel Fontan	6.88	42	Pn		Pn	21 46 27.4			0.0
	comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=10.0									
CFAA					Sn	Sn	21 47 54.4			+8.3
	comp=N,0.1nm,0.3s,baz=280,slow=22,SNR=1.6									
CFAA					Lg	Lg	21 48 20.5			
	comp=N,0.0nm,0.3s,baz=115,slow=12,SNR=2.5									
CFAA					LR	LR	21 49 05.9			
	comp=N,31nm,19.6s,baz=223,slow=37									
LPAZ	La Paz	21.04	15	P		P	21 49 31.7			+0.4
	comp=N,1.1nm,0.7s,baz=200,slow=12,SNR=4.3									
SIV	San Ignacio	23.57	32	P		P	21 50 00.0			+2.6
	comp=N,1.2nm,0.5s,baz=227,slow=7.4,SNR=3.0									
SIV					LR	LR	21 58 28.2			
	comp=N,57nm,19.9s,baz=224,slow=35									
BDFB	Brasilia	31.04	54	LR		LR	22 04 47.1			
	comp=N,190nm,18.5s,baz=220,slow=39									
QSPA	South Pole Qui	53.41	180	P		P	21 54 06.0			-0.4
	comp=N,2.6nm,0.8s,baz=111,slow=8.6,SNR=5.4									
MAW	Mawson	70.84	164	LR		LR	22 29 06.0			
	comp=N,172nm,18.2s,baz=61,slow=38									
TXAR	Lajitas Array	71.60	333	P		P	21 56 08.2			0.0
	comp=N,1.1nm,0.8s,baz=150,slow=8.7,SNR=5.5									
TXAR					LR	LR	22 22 35.5			
	comp=N,39nm,19.0s,baz=0.0,slow=32									
TORD	Torodi Ar. Bea	86.40	71	P		P	21 57 28.6			-1.0
	comp=N,0.4nm,0.9s,baz=232,slow=3.3,SNR=2.3									

CASC 01 21:44:47.1±2.5, 8°.79N×83°.92W, h23km±20km, MD4.0, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
					Op	ISC	h	m	s	ISC
BUS	Buena Vista	0.78	12	⇓eP		Pb	21 45 01.5			-1.1
URSC	Urasca	1.05	8	eP		Pn	21 45 05.9			-0.8
SJS	Escuela Geolog	1.15	353	eP		Pn	21 45 07.4			-0.6
SJS				eS		Sn	21 45 24.4			+1.2
CGA2	Cerro Gallo 2	1.33	336	eP		Pn	21 45 09.9			-0.7
CGA2				eS		Sn	21 45 27

IENR	**Iengra**	**1.21**	**123**	*e*P		**Pn**	**21 57 00.9**	**-1.6**
IENR				Pm			21 57 00.9	
	comp=Z,297nm,0.1s							
IENR				*e*S		**Sb**	**21 57 16.3**	**-1.8**
IENR				Sm			21 57 16.3	
	comp=E,918nm,0.5s,comp=N,2µm,0.5s							
KHN	**Khani**	**1.79**	**272**	*e*P		**Pn**	**21 57 09.8**	**-0.7**
KHN				Pm			21 57 09.8	
	comp=Z,304nm,0.2s							
KHN				*e*S		**Sn**	**21 57 32.2**	**-0.5**
KHN				Sm			21 57 32.2	
	comp=N,160nm,0.4s							
TNDR	**Tynda**	**1.99**	**151**	*e*P		**Pn**	**21 57 14.4**	**+1.2**
TNDR				Pm			21 57 14.4	
	comp=Z,183nm,0.2s							
TNDR				*e*S		**Sb**	**21 57 41.4**	**+0.8**
TNDR				Sm			21 57 41.4	
	comp=N,39nm,0.2s							
ALDR	**Aldan**	**2.13**	**35**	*e*P		**Pn**	**21 57 16.1**	**+0.9**
ALDR				Pm			21 57 16.1	
	comp=Z,95nm,0.2s							
ALDR				*e*S		**Sn**	**21 57 42.0**	**+0.9**
ALDR				Sm			21 57 42.0	
	comp=N,954nm,0.3s							
TUP	**Tupik**	**3.04**	**217**	*e*P		**Pn**	**21 57 27.1**	**-0.5**
TUP				*e*P		**Pb**	**21 57 33.2**	**-0.9**
TUP				Pm			21 57 33.2	
	comp=Z,222nm,0.7s							
TUP				*e*S		**Sn**	**21 58 03.6**	**+0.2**
TUP				*e*S		**Sb**	**21 58 12.5**	**+1.8**
TUP				Sm			21 58 12.5	
	comp=E,383nm,0.2s,comp=N,2µm,0.2s							
BMKR	**Bomnak**	**3.94**	**121**	*e*P		**Pb**	**21 57 48.4**	**-0.9**
BMKR				Pm			21 57 48.4	
	comp=Z,189nm,0.5s							
BMKR				*e*S		**Sb**	**21 58 41.9**	**+5.4**
BMKR				Sm			21 58 41.9	
	comp=E,425nm,0.6s							
CGD	**Chagda**	**4.45**	**62**	*e*P		**Pn**	**21 57 47.6**	**+0.6**
CGD				*e*P		**Pb**	**21 57 58.7**	**+0.6**
CGD				Pm			21 57 58.7	
	comp=Z,12nm,0.4s							
CGD				*e*S		**Sn**	**21 58 35.7**	**-2.5**
CGD				*e*S		**Sb**	**21 58 54.3**	**+3.0**
CGD				Sm			21 58 54.3	
	comp=N,87nm,0.3s							
NBS	**Nizhniy Bestya**	**6.14**	**32**	*e*P		**Pn**	**21 58 09.1**	**-1.0**
NBS				*e*P		**Pb**	**21 58 26.5**	**-0.3**
NBS				*e*S		**Sn**	**21 59 15.8**	**-3.8**
NBS				*e*S		Sb	21 59 46.1	+6.4
YAK	**Yakutsk**	**6.16**	**31**	*e*P		**Pn**	**21 58 10.4**	**0.0**
YAK				*e*			21 59 16.1	
YAK				pmax	pmax			
	comp=Z,39nm,0.6s							
YAK				pmax	pmax			
	comp=N,10.0nm,0.4s							
YAK				pmax	pmax			
	comp=E,10.0nm,0.4s							
YAK				smax	smax			
	comp=N,68nm,0.6s							
YAK				smax	smax			
	comp=E,46nm,0.6s							
YAK				smax	smax			
	comp=Z,71nm,6.0s							
YAK	**Yakutsk**	**6.16**	**31**	Pn		**Pn**	**21 58 10.9**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=14,slow=1.7,SNR=8.5							
YAK				Sn		**Sn**	**21 59 16.4**	**-3.7**
	comp=Z,0.0nm,0.3s,baz=248,slow=15,SNR=1.7							
YAK				Lg		Lg	21 59 43.7	
	comp=Z,0.1nm,0.3s,baz=296,slow=23,SNR=11							
YAK				LR		LR	22 00 43.3	
	comp=Z,72nm,20.6s,baz=234,slow=40							
YAK	**Yakutsk**	**6.16**	**31**	*e*Pn		**Pn**	**21 58 09.2**	**-1.2**
	comp=Z,46nm,0.6s							
YAK				*e*Sn		**Sn**	**21 59 20.9**	**+0.8**
YAK				Lg		Lg	21 59 43.7	
YAK	**Yakutsk**	**6.16**	**31**	*e*P		**Pn**	**21 58 10.1**	**-0.3**
YAK				*e*P		**Pb**	**21 58 27.5**	**+0.4**
YAK				Pm			21 58 27.5	
	comp=Z,27nm,0.5s							
YAK				*e*S		**Sn**	**21 59 16.1**	**-4.0**
YAK				*e*S		Sb	21 59 46.8	+6.5
YAK				Sm			21 59 46.8	
	comp=N,681nm,0.6s							
USMR	**Ust'-Maya**	**6.95**	**55**	*e*P		**Pb**	**21 58 41.9**	**+1.2**
USMR				*e*S		Sb	22 00 10.9	+7.7
HIA	**Hailar**	**7.90**	**196**⇑	*e*P		Pn	21 58 41.7	+7.3
HIA				pmax	pmax			
	comp=Z,10.0nm,1.7s							
HIA	**Hailar**	**7.90**	**196**	*e*Pn		**Pn**	**21 58 32.2**	**-2.2**
HIA				*e*Sg			22 00 44.7	
KLR	**Kul'dur**	**9.29**	**142**	*e*P		**Pn**	**21 58 51.0**	**-2.4**
KLR				*e*			22 00 39.0	
HABR	**Khabarovsk**	**11.13**	**134**	*e*P		Pn	21 59 27.6	+9.0
HABR				pmax	pmax			
	comp=Z,71nm,2.5s							
TLY	**Talaya**	**12.46**	**253**	Lg		Lg	22 03 07.1	
	comp=Z,0.0nm,0.3s,baz=256,slow=12,SNR=5.0							
ULN	**Ulaanbaatar**	**13.28**	**234**⇑	*e*P		**Pn**	**21 59 49.1**	**+1.0**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.7s							
ULN	**Ulaanbaatar**	**13.28**	**234**	*e*Pn		**Pn**	**21 59 47.7**	**-0.4**
ZAK	**Zakamensk**	**13.39**	**249**	*e*P		**Pn**	**21 59 47.6**	**-2.0**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**13.60**	**235**	Pn		**Pn**	**21 59 51.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=41,slow=11,SNR=13							
SONM				Lg		Lg	22 03 44.2	
	comp=Z,1.7nm,0.3s,baz=15,slow=18,SNR=8.9							
MOY	**Mondy**	**13.88**	**257**	*e*P		P	21 59 59.7	-4.7
USRK	**Usuriysk Ar.**	**13.91**	**152**	Pn		**P**	**22 00 04.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=336,slow=14,SNR=8.8							
USRK				Lg		Lg	22 04 04.1	
	comp=Z,0.2nm,0.3s,baz=346,slow=30,SNR=4.7							
TIXI	**Tiksi**	**15.01**	**7**⇓	*e*P		Pn	22 00 06.1	-5.3
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.5s							
TIXI	**Tiksi**	**15.01**	**7**	*e*Pn		Pn	22 00 06.2	-5.1
TIXI				*e*Sn		Sn	22 02 41.8	-15
SEY	**Seymchan**	**15.80**	**55**	P		**P**	**22 00 23.8**	**-1.6**
SEY	**Seymchan**	**15.80**	**55**	Pn		**Pn**	**22 00 22.1**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=264,slow=11,SNR=40							
SEY				Lg		Lg	22 04 49.4	
	comp=Z,0.2nm,0.3s,baz=304,slow=14,SNR=5.1							
KSRS	**Korea Array**	**19.72**	**168**	LR		LR	22 09 51.7	
	comp=Z,34nm,20.4s,baz=358,slow=40							
PETK	**Petropavlovsk-**	**20.09**	**86**	P		Pn	22 01 15.1	+0.4
PETK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
PETK	**Petropavlovsk-**	**20.09**	**86**	P		Pn	22 01 15.1	+0.4
	comp=Z,6.0nm,0.9s,baz=332,slow=5.9,SNR=5.4							
ZALV	**Zalesovo Beam**	**21.70**	**278**	P		**P**	**22 01 30.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=69,slow=10,SNR=12							
ZALV				LR		LR	22 10 25.4	
	comp=Z,35nm,18.5s,baz=68,slow=38							
NVS	**Novosibirsk**	**22.22**	**282**	*e*P		**P**	**22 01 32.7**	**-2.9**
BILL	**Bilibino**	**22.33**	**43**	*e*P		**P**	**22 01 37.3**	**+0.5**
BILL				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BILL	**Bilibino**	**22.33**	**43**	*e*P		**P**	**22 01 37.3**	**+0.5**
	comp=Z,5.2nm,0.7s							
MJAR	**Matsushiro Arr**	**22.76**	**147**	LR		LR	22 10 18.4	
	comp=Z,35nm,18.4s,baz=300,slow=36							
GTA	**Gaotai**	**23.18**	**231**	*e*P		**P**	**22 01 48.2**	**+2.1**
GTA				pP		**pP**	**22 01 51.6**	**-0.2**
GTA				sP		**sP**	**22 01 54.2**	**-0.1**
GTA				PMZ				
	comp=Z,3.0nm,1.6s							
JNU	**Nakatsue**	**24.38**	**164**	LR		LR	22 12 23.2	
	comp=Z,36nm,18.4s,baz=6.0,slow=39							
KURK	**Kurchatov**	**26.56**	**276**	P		**P**	**22 02 17.2**	**+0.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**26.56**	**276**	P		**P**	**22 02 17.2**	**+0.2**
KURBB	**Kurchatov Arra**	**26.66**	**276**	P		**P**	**22 02 17.2**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=62,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**26.75**	**265**	*e*P		P	22 02 23.6	+4.8
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**26.75**	**265**	P		**P**	**22 02 18.1**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=55,slow=7.5,SNR=6.9							
TKM2	**Tokmak 2**	**32.88**	**265**	*e*P		**P**	**22 03 13.3**	**0.0**
TKM2				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TKM2	**Tokmak 2**	**32.88**	**265**	*e*P		**P**	**22 03 13.3**	**0.0**
	comp=Z,2.2nm,0.8s							
AAK	**Ala-Archa**	**33.67**	**266**	*ce*P		**P**	**22 03 20.9**	**+0.7**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
AAK	**Ala-Archa**	**33.67**	**266**	*e*P		**P**	**22 03 20.5**	**+0.3**
	comp=Z,1.9nm,0.7s							
EKS2	**Erkin-Say**	**34.05**	**267**	*e*P		**P**	**22 03 22.4**	**-1.0**
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.7s							
EKS2	**Erkin-Say**	**34.05**	**267**	*e*P		**P**	**22 03 22.4**	**-1.0**
	comp=Z,1.7nm,0.7s							
ARU	**Arti**	**34.27**	**297**	*c i*P		**P**	**22 03 24.7**	**-0.3**
ARU							22 04 32.9	
ARU				S		**S**	**22 08 49.1**	**-1.5**
ARU				pmax	pmax			
	comp=Z,5.0nm,1.2s							
KKAR	**Karatay Array**	**35.55**	**270**	*e*P		**P**	**22 03 35.4**	**-0.8**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KKAR	**Karatay Array**	**35.55**	**270**	*e*P		**P**	**22 03 35.4**	**-0.8**
	comp=Z,1.2nm,0.7s							
KTH	**Kantishna Hill**	**40.13**	**44**	*e*P		**P**	**22 04 15.1**	**+0.4**
COLA	**College**	**40.56**	**41**⇑	*e*P		**P**	**22 04 20.7**	**+2.5**
COLA				pmax	pmax			
	comp=Z,11nm,0.9s							
COLA	**College**	**40.56**	**41**	*e*P		**P**	**22 04 18.4**	**+0.2**
	comp=Z,4.7nm,0.7s							
ARCES	**ARCESS Array B**	**40.78**	**328**	LR		LR	22 24 37.2	
	comp=Z,32nm,18.1s,baz=45,slow=41							
ILAR	**Eielson Array**	**40.97**	**41**	P		**P**	**22 04 22.0**	**+0.5**
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ILAR	**Eielson Array**	**40.97**	**41**	P		**P**	**22 04 22.0**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=290,slow=5.4,SNR=23							
INK	**Inuvik**	**43.22**	**32**	P		**P**	**22 04 41.1**	**+1.3**
INK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**43.22**	**32**	P		**P**	**22 04 41.1**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=332,slow=7.5,SNR=5.0							
FINES	**FINESS Array B**	**45.48**	**318**	P		**P**	**22 04 57.6**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=62,slow=7.8,SNR=15							
FINES				LR		LR	22 25 49.3	
	comp=Z,44nm,18.2s,baz=40,slow=38							
GEYT	**Alibeck**	**45.93**	**274**	P		**P**	**22 05 02.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=52,slow=2.4,SNR=5.6							
VSR	**Storozhevoye**	**46.63**	**301**⇑	*e*P		**P**	**22 05 06.7**	**-0.4**
VSR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KIV	**Kislovodsk**	**49.87**	**291**	*e*P		**P**	**22 05 33.7**	**+1.3**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,25nm,16.0s							
KIV	**Kislovodsk**	**49.87**	**291**	*e*P		**P**	**22 05 32.4**	**0.0**
	comp=Z,5.9nm,0.8s							
NOA	**NORSAR Array B**	**50.88**	**324**	LR		LR	22 30 08.1	
	comp=Z,20nm,18.4s,baz=270,slow=40							
AKASG	**Malin Array Be**	**51.54**	**306**	*ce*P		**P**	**22 05 44.2**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**51.54**	**306**	P		**P**	**22 05 44.2**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=40,slow=8.6,SNR=8.8							
YKA	**Yellowknife Ar**	**52.83**	**29**	P		**P**	**22 05 54.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=330,slow=7.1,SNR=12							
DPC	**Dobruska-Polom**	**57.27**	**313**	*e*P		**P**	**22 06 27.0**	**+0.5**
DPC	**Dobruska-Polom**	**57.27**	**313**	*e*P		**P**	**22 06 27.0**	**+0.5**
KRLC	**Kraliky**	**57.30**	**313**	*e*P		**P**	**22 06 27.1**	**+0.4**
KRLC	**Kraliky**	**57.30**	**313**	*e*P		**P**	**22 06 27.1**	**+0.4**
BRTR	**Keskin Array B**	**57.55**	**294**	*ce*P		**P**	**22 06 29.7**	**+0.9**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**57.55**	**294**	P		**P**	**22 06 29.4**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=66,slow=3.7,SNR=8.0							
KHC	**Kasperske Hory**	**59.32**	**314**	*e*P		**P**	**22 06 40.5**	**-0.3**
KHC	**Kasperske Hory**	**59.32**	**314**	*e*P		**P**	**22 06 40.5**	**-0.3**
GERES	**GERESS Array B**	**59.50**	**314**	P		**P**	**22 06 42.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=64,slow=3.1,SNR=4.3							
PMG	**Port Moresby**	**68.99**	**154**⇑	*e*P		**P**	**22 07 47.7**	**+3.2**
PMG				pmax	pmax			
	comp=Z,20nm,2.5s							
PDAR	**Pinedale Array**	**71.32**	**38**	P		**P**	**22 07 58.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=88,slow=2.9,SNR=4.0							
NVAR	**Mina Array Bea**	**71.89**	**46**	P		**P**	**22 08 03.8**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=316,slow=3.8,SNR=4.1							
WRA	**Warramunga Arr**	**77.13**	**169**	P		**P**	**22 08 32.6**	**+0.1**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**77.13**	**169**	P		**P**	**22 08 32.6**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=351,slow=6.6,SNR=19							
ASAR	**Alice Springs**	**80.77**	**170**	P		**P**	**22 08 53.0**	**+0.5**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**80.77**	**170**	P		**P**	**22 08 53.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=352,slow=6.3,SNR=5.3							

MEX 01 22:12:34.4±0.4, 16°.10N×97°.05W, h12km±4km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.96**	**110**	*i* P	Pg	22 12 50.0	-3.0
HUIG				*i* S	Sg	22 13 02.1	-3.5
VHO	**Vista Hermosa**	**1.01**	**17**	*i* P	Pb	22 12 50.8	-3.5
VHO				*e*S	Sg	22 13 03.5	-4.3
PNIG	**Pinotepa**	**1.08**	**286**	*e*P	Pb	22 12 51.8	-3.3
PNIG				*i* S	Sb	22 13 05.0	-4.2
CMIG	**Matias Romero**	**2.30**	**64**	*i* P	Pn	22 13 09.1	-3.2
CMIG				*i* S	Sn	22 13 36.4	-4.1

GUC 01 22:19:29.9±0.4, 35°.38S×73°.27W, h35km±4km, ML4.3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.33**	**91**	*i* P	Pn	22 19 53.1	+1.1
TALC				*i* S	Sn	22 20 10.6	+2.1
LNCH	**Linares**	**1.43**	**110**	*i* P	Pn	22 19 54.8	+1.4
LNCH				*i* S	Sn	22 20 13.5	+2.5
NICH	**Los Niches**	**1.71**	**78**	*i* P	Pn	22 19 59.0	+1.8
NICH				*i* S	Sn	22 20 21.5	+3.7
NICH				AML	AML	22 20 33.4	
	comp=E,5µm,0.9s						
LNV	**Longovilo**	**2.08**	**48**	*i* P	Pn	22 20 04.3	+2.0
CLCH	**Cerro Calan**	**3.00**	**50**	*i* P	Pn	22 20 17.0	+2.0
CLCH				AML	AML	22 21 17.0	
	comp=E,999nm,1.2s						
ROCH	**El Roble**	**3.04**	**39**	*i* P	Pn	22 20 18.2	+2.4
ROCH				AML	AML	22 21 18.2	
	comp=E,499nm,0.5s						
PEL	**Peldehue**	**3.09**	**45**	AML	AML	22 21 17.4	
	comp=N,824nm,0.1s						

*IDC **01** 22:23:42.4±2.5, 7°.36S×68°.50E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.2/32, mbtmp3.5/4, Error ellipse: s-maj=55.9km s-min=34.4km az=54.0*

ISC 01 22:23:44.1±1.6, 7°.3S±0°.2×68°.5E±0°.1, h10km, n10, σ0§40/13, mb3.6/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**2.65**	**69**	Pn	**Pn**	**22 24 26.2**	**-0.4**
H08N3				Sn	**Sn**	**22 24 59.0**	**+0.3**
H08N3				T	T	22 27 25.7	
	baz=246,slow=75,SNR=4809						
H08N2	**Diego Garcia H**	**2.66**	**68**	Pn	**Pn**	**22 24 26.4**	**-0.4**
H08N2				Sn	**Sn**	**22 24 59.2**	**+0.2**
H08N2				T	T	22 27 21.5	
	baz=246,slow=75,SNR=4644						
H08N1	**Diego Garcia H**	**2.67**	**69**	Pn	**Pn**	**22 24 26.5**	**-0.4**
H08N1				Sn	**Sn**	**22 24 59.3**	**+0.1**
H08N1				T	T	22 27 27.4	
	baz=246,slow=75,SNR=5088						
H08S1	**Diego Garcia H**	**3.95**	**95**	Pn	**Pn**	**22 24 44.2**	**-0.3**
	baz=306,slow=14,SNR=73						
H08S3	**Diego Garcia H**	**3.96**	**95**	Pn	**Pn**	**22 24 44.7**	**+0.1**
	baz=306,slow=14,SNR=56						
H08S2	**Diego Garcia H**	**3.97**	**95**	Pn	**Pn**	**22 24 44.5**	**-0.2**
	baz=306,slow=14,SNR=66						
MKAR	**Makanchi Array**	**55.25**	**11**	P	**P**	**22 33 17.1**	**-0.4**
	0.2nm,0.7s,baz=208,slow=7.4,SNR=2.1						
SONM	**Songino Array**	**64.28**	**27**	P	**P**	**22 34 20.5**	**+0.8**
	0.3nm,0.7s,baz=225,slow=7.7,SNR=3.2						
ASAR	**Alice Springs**	**64.58**	**113**	P	**P**	**22 34 22.1**	**-0.1**
	0.5nm,0.9s,baz=269,slow=6.7,SNR=2.8						
WRA	**Warramunga Arr**	**64.85**	**109**	P	**P**	**22 34 23.8**	**-0.2**
	1.0nm,0.8s,baz=281,slow=6.6,SNR=6.0						

NNC 01 22:47:12.1±3.4, 37°.93N×71°.57E, h0km, mb3.8, mpv3.4, 4C-2D, Error ellipse: s-maj=25.8km s-min=21.5km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.57**	**35**	⇑P	Pn	22 47 55.3	0.0
	27nm,0.4s						
SFK				⇑S	Sn	22 48 29.3	+1.8
	10nm,0.2s						
MNAS	**Manas**	**4.61**	**9**	⇑P	Pn	22 48 23.4	+0.2
	4.2nm,0.3s						
MNAS				⇓S	Sn	22 49 18.6	+1.0
	5.9nm,0.4s						
AAK	**Ala-Archa**	**5.20**	**24**	⇓P	Pn	22 48 29.7	-1.7
	1.7nm,0.4s						
AAK				⇑S	Sn	22 49 31.3	-1.0
	2.8nm,0.6s						
KK31	**Karatay Array**	**5.23**	**351**	P	Pn	22 48 32.6	+1.0
	0.4nm,0.3s,baz=162,slow=12,SNR=28						
KK31				S	Sn	22 49 34.0	+1.3
	2.6nm,0.3s,baz=150,slow=16,SNR=29						

*GUC **01** 22:48:05.9±0.3, 28°.11S×70°.82W, h36km±2km, ML2.8*
*ISCJB **01** 22:48:06.2±1.7, 28°.10S±0°.07×70°.9W±0°.3, h38km, mb3.8/1, Error ellipse: s-maj=33.5km s-min=6.4km az=13.8*
*IDC **01** 22:48:11.6±2.5, 28°.65S×70°.46W, h0km, mb3.9/1, mb1 3.7/2, mb1mx3.4/29, mbtmp3.7/2, ML3.0/1, MS1.4/1, Ms1 1.4/1, ms1mx1.4/21, Error ellipse: s-maj=106.5km s-min=22.3km az=64.0*

ISC 01 22:48:06.9±1.7, 28°.09S±0°.07×70°.9W±0°.2, h38km, n9, σ1§41/8, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.50**	**167**	*e*P	**Pn**	**22 48 15.8**	**-1.8**
VACH				*e*S	**Sn**	**22 48 23.6**	**-1.5**
CPCH	**Copiapo**	**0.87**	**33**	*e*P	**Pn**	**22 48 21.9**	**-0.8**
CPCH				*e*S	**Sn**	**22 48 33.8**	**-0.3**
LSCH	**La Serena**	**1.84**	**190**	*e*P	**Pn**	**22 48 36.1**	**+0.1**
LSCH				AML	AML	22 49 01.2	
	comp=N,142nm,0.5s						
CMCH	**Combarbala**	**3.08**	**182**	*e*S	**Sn**	**22 49 29.1**	**+0.4**
CFAA	**Coronel Fontan**	**4.20**	**147**	Pn	**Pn**	**22 49 09.8**	**+1.4**
	comp=N,1.2nm,0.3s,baz=325,slow=11,SNR=50						
CFAA				Lg	Lg	22 50 01.9	
	comp=N,0.6nm,0.3s,baz=217,slow=18,SNR=9.2						
CFAA				LR	LR	22 50 18.4	
	comp=N,5.4nm,21.3s,baz=258,slow=36						
TORD	**Torodi Ar. Bea**	**81.27**	**70**	P	P	23 00 29.5	+10
	comp=N,0.9nm,0.8s,baz=256,slow=4.0,SNR=4.7						
KURBB	**Kurchatov Arra**	**147.73**	**37**	PKPbc	PKPab	23 07 58.1	+8.5
	comp=N,0.4nm,0.6s,baz=309,slow=3.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**148.63**	**28**	PKPbc	PKPab	23 08 00.2	+7.1
	comp=N,0.9nm,0.5s,baz=304,slow=4.1,SNR=4.9						
MKAR	**Makanchi Array**	**151.89**	**41**	PKPbc	**PKPab**	**23 08 08.1**	**+1.2**
	comp=N,0.3nm,0.6s,baz=298,slow=1.4,SNR=4.9						

*ISCJB **01** 23:23:04.4±0.6, 36°.92N±0°.05×2°.63E±0°.06, h14km, Error ellipse: s-maj=8.2km s-min=4.6km az=41.3*
*MDD **01** 23:23:05.1±0.6, 36°.82N×2°.62E, h0km, mb3.5/2, Error ellipse: s-maj=10.0km s-min=5.0km az=38.0, PRXIMO*
*CSEM **01** 23:23:05.0±0.2, 36°.79N×2°.67E, h10km, mb3.5, Error ellipse: s-maj=7.7km s-min=4.0km az=36.0*
*CRAAG **01** 23:23:07.8, 36°.71N×2°.92E, Ml3.0*

ISC 01 23:23:04.7±1.1, 36°.83N±0°.05×2°.67E±0°.05, h14km, n25, σ1§36/33, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.30**	**96**	P	**Pg**	**23 23 11.2**	**+0.3**
ABA	**Alger-Bouzarea**	**0.30**	**96**	P	**Pg**	**23 23 11.2**	**+0.3**
ABA	**Alger-Bouzarea**	**0.30**	**96**	P	**Pg**	**23 23 11.2**	**+0.3**
ABMS	**Boumerdes**	**0.66**	**97**	P	**Pg**	**23 23 17.6**	**0.0**
ABMS	**Boumerdes**	**0.66**	**97**	P	**Pg**	**23 23 17.6**	**0.0**
ABMS	**Boumerdes**	**0.66**	**97**	P	**Pg**	**23 23 17.6**	**0.0**
EMHD	**Djebel Mahouad**	**0.67**	**160**	P	**Pg**	**23 23 16.8**	**-1.0**
EMHD	**Djebel Mahouad**	**0.67**	**160**	P	**Pg**	**23 23 16.8**	**-1.0**
EMHD	**Djebel Mahouad**	**0.67**	**160**	P	**Pg**	**23 23 16.8**	**-1.0**
AKET	**Djebel Ketaf**	**1.25**	**128**	P	**Pg**	**23 23 28.8**	**-0.1**
AKET	**Djebel Ketaf**	**1.25**	**128**	P	**Pg**	**23 23 28.8**	**-0.1**
AKET	**Djebel Ketaf**	**1.25**	**128**	P	**Pg**	**23 23 28.8**	**-0.1**
EIBI	**Ibiza**	**2.43**	**335**	P	**Pn**	**23 23 45.1**	**+1.1**
	1.3nm,0.2s,SNR=7.5						
EIBI				S	**Sn**	**23 24 12.2**	**-1.2**
	2.4nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.43**	**335**	P	**Pn**	**23 23 45.1**	**+1.1**
	1.3nm,0.2s,SNR=7.5						
ETOS	**Mallorca**	**2.93**	**2**	P	**Pn**	**23 23 52.1**	**+1.2**
	0.8nm,0.2s,SNR=7.9						
ETOS				S

	comp=E,706nm,0.7s								
ROCH	**El Roble**	**2.02**	**32**	*i* P		Pb		23 24 29.0	-1.2
ROCH				*i* S		Sb		23 24 56.0	+0.3
ROCH				AML		AML		23 25 02.3	
	comp=N,436nm,0.4s								
PEL	**Peldehue**	**2.04**	**41**	*i* P		Pn		23 24 28.7	+1.2
PEL				*i* S		Sb		23 24 56.0	+0.1
PEL				AML		AML		23 25 02.9	
	comp=N,679nm,0.4s								

IDC ***01*** *23:27:27.8±1.8,24˚.99N×98˚.64E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.0/36, mbtmp3.1/3, ML3.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/15, Error ellipse: s-maj=66.4km s-min=19.4km az=86.0*

ISCJB ***01*** *23:27:28.2±1.1,24˚.9N±0˚.1×98˚.67E±0˚.07, h15km, mb3.0/2, MS2.8/2, Error ellipse: s-maj=15.1km s-min=9.2km az=179.5*

BJI ***01*** *23:27:28.2, 24˚.99N×98˚.32E, h12km, ML3.5/6*

ISC 01 23:27:28.9±1.2, 25˚.1N±0˚.1×98˚.54E±0˚.08, h15km, n7, σ1°98/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.81**	**88**	Pg	**Pg**	**23 28 41.7**	**-0.2**
KMI				Sg	**Sg**	**23 29 31.5**	**+0.2**
KMI				SMN			
	140nm,1.0s						
KMI				SME			
	97nm,0.8s						
CMAR	**Chiang Mai Arr**	**6.57**	**177**	Pn	**Pn**	**23 29 04.8**	**-0.2**
	0.3nm,0.3s,baz=352,slow=14,SNR=3.4						
CMAR				Pg	Pg	23 29 28.0	-6.7
	0.6nm,0.3s,baz=347,slow=18,SNR=12						
CMAR				Lg	Lg	23 30 52.9	
	0.7nm,0.3s,baz=12,slow=24,SNR=7.6						
WMQ	**Urumqi**	**20.72**	**337**	*e*P	**P**	**23 32 06.1**	**-2.7**
WMQ				pP	**pP**	**23 32 13.0**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.4s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.4s						
SONM	**Songino Array**	**23.58**	**13**	P	**P**	**23 32 39.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=186,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**25.28**	**333**	P	**P**	**23 32 57.5**	**+2.8**
	comp=Z,0.4nm,0.8s,baz=148,slow=9.3,SNR=4.5						
TLY	**Talaya**	**26.88**	**7**	LR	LR	23 44 32.8	
	comp=Z,17nm,21.9s,baz=0.0,slow=38						
JNU	**Nakatsue**	**29.30**	**67**	LR	LR	23 45 31.9	
	comp=Z,32nm,20.0s,baz=313,slow=37						

KRSC 01 23:34:49.9±2.7, 49˚.28N×156˚.90E, h7km±42km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.49**	**341**	P	Pn	23 35 15.7	-1.3
SKR				*e*S	Sn	23 35 34.5	-2.2
PAU	**Pauzhetka**	**2.19**	**359**	S	Sb	23 35 55.8	-1.2
MTVR	**Mutnovka**	**3.31**	**14**	P	Pb	23 35 46.2	-2.8
MTVR				S	Sb	23 36 26.9	-2.7
RUS	**Russkaya**	**3.31**	**17**	*e*P	Pn	23 35 44.7	+2.6
UGLR	**Uglovaya**	**4.11**	**16**	P	Pb	23 35 58.2	-4.5
AVH	**Avacha**	**4.15**	**15**	P	Pb	23 35 58.7	-4.6
KOK	**Koryaka**	**4.16**	**15**	P	Pn	23 35 58.4	+4.5
KRER	**Koryakskii**	**4.19**	**15**	P	Pn	23 35 58.7	+4.3
SDLR	**Sedlovina**	**4.19**	**17**	P	Pn	23 35 58.2	+3.9
KRX	**Arik**	**4.23**	**14**	P	Pn	23 35 58.8	+3.9
GNL	**Ganaly**	**4.46**	**8**	P	Pn	23 36 01.5	+3.4
MKZ	**Mys Kozlova**	**6.07**	**28**	P	Pn	23 36 23.2	+3.3

GUC ***02*** *00:04:42.8±0.3, 34˚.65S×72˚.13W, h32km±2km, ML3.5*

IDC ***02*** *00:04:42.7±1.6, 35˚.01S×71˚.26W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/23, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=46.5km s-min=33.9km az=87.0*

ISCJB ***02*** *00:04:44.9±1.1, 34˚.72S±0˚.05×72˚.1W±0˚.1, h45km±17km, mb3.2/2, Error ellipse: s-maj=17.5km s-min=6.2km az=20.3*

ISC 02 00:04:46.1±1.6, 34˚.75S±0˚.05×72˚.0W±0˚.1, h41km±21km, n12, σ1°23/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.67**	**112**	*i* P	**Pn**	**00 04 57.9**	**-1.3**
NICH				*i* S	**Sn**	**00 05 09.3**	**+0.7**
TALC	**Talca**	**0.71**	**156**	*i* P	**Pn**	**00 04 58.2**	**-1.5**
TALC				*i* S	**Sn**	**00 05 10.0**	**+0.5**
LNCH	**Linares**	**1.14**	**164**	*i* P	**Pn**	**00 05 06.3**	**+0.6**
LNCH				*i* S	**Sn**	**00 05 22.0**	**+1.9**
COCH	**Cobquecura**	**1.53**	**205**	*i* P	Pn	00 05 08.8	-2.1
COCH				*i* S	**Sn**	**00 05 30.1**	**+0.6**
CLCH	**Cerro Calan**	**1.81**	**42**	*i* P	**Pn**	**00 05 14.0**	**-0.8**
CLCH				*i* S	**Sn**	**00 05 37.6**	**+1.0**
CLCH				AML	AML	00 05 48.0	
	comp=N,893nm,0.6s						
PEL	**Peldehue**	**1.93**	**34**	*i* P	**Pn**	**00 05 15.5**	**-1.1**
PEL				*i* S	**Sn**	**00 05 40.2**	**+0.6**
ROCH	**El Roble**	**1.95**	**25**	AML	AML	00 05 46.5	
	comp=E,494nm,0.7s						
FCH	**Farellones**	**2.00**	**45**	*i* P	**Pn**	**00 05 17.5**	**-0.2**
FCH				*i* S	**Sn**	**00 05 43.7**	**+2.1**
FCH				AML	AML	00 05 52.4	
	comp=E,404nm,0.3s						
CFAA	**Coronel Fontan**	**4.44**	**46**	Pn	**Pn**	**00 05 50.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=213,slow=16,SNR=8.1						
CFAA				Lg	Lg	00 06 52.8	
	comp=E,0.5nm,0.3s,baz=42,slow=16,SNR=14						
PLCA	**Paso Flores**	**6.08**	**170**	Pn	Pn	00 06 10.7	-2.8
	comp=E,0.4nm,0.3s,baz=356,slow=14,SNR=4.7						
PLCA				Lg	Lg	00 07 50.5	
	comp=E,0.1nm,0.3s,baz=281,slow=19,SNR=1.6						
TXAR	**Lajitas Array**	**70.41**	**331**	P	P	00 16 02.0	+6.0
	comp=E,0.2nm,0.4s,baz=153,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**00 17 14.2**	**-0.5**
	comp=E,0.1nm,0.7s,baz=244,slow=5.9,SNR=3.4						

IDC ***02*** *00:07:18.0±0.9, 24˚.60S×176˚.09W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/33, mbtmp4.2/8, MS3.6/3, Ms1 3.6/3, ms1mx3.1/29, Error ellipse: s-maj=43.1km s-min=23.7km az=156.0*

ISCJB ***02*** *00:07:22.0±0.9, 24˚.8S±0˚.1×176˚.2W±0˚.2, h33km, mb4.2/10, MS3.6/3, Error ellipse: s-maj=21.0km s-min=14.9km az=13.8*

NEIC ***02*** *00:07:25.4±2.0, 24˚.80S×176˚.11W, h57km±16km, mb4.6/1, Error ellipse: s-maj=19.9km s-min=14.1km az=96.0*

ISC 02 00:07:23.2±0.8, 24˚.8S±0˚.1×176˚.0W±0˚.2, h35km, n29, σ1°05/23, mb4.3/10, MS3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.94**	**321**	*e*Pn	**Pn**	**00 09 31.5**	**+1.5**
URZ	**Urewera**	**14.63**	**202**	*e*Pn	**Pn**	**00 10 48.0**	**+0.4**
DZM	**Mont Dzumac**	**16.32**	**276**	*e*LR	LR	00 14 57.4	
	214nm,22.6s						
PPT2	**Papeete2**	**25.65**	**79**	*e*LR	LR	00 19 08.1	
	153nm,25.8s						
PPT	**Papeete**	**25.66**	**79**	LR	LR	00 21 13.5	
	comp=Z,69nm,19.1s,baz=98,slow=32						
CTA	**Charters Tower**	**35.10**	**270**	P	**P**	**00 14 13.3**	**-0.1**
	1.9nm,0.4s,baz=97,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**45.47**	**261**	P	**P**	**00 15 38.8**	**-0.5**
	0.8nm,0.4s,baz=91,slow=6.8,SNR=28						
ASAR				PcP	**PcP**	**00 17 18.5**	**+0.6**
	0.8nm,0.8s,baz=108,slow=4.0,SNR=4.1						
ASAR				LR	LR	00 34 33.0	
	comp=Z,126nm,18.2s,baz=120,slow=36						
WB2	**Warramunga Arr**	**45.95**	**266**	*e*P	**P**	**00 15 41.9**	**-1.2**
WRA	**Warramunga Arr**	**45.96**	**266**	P	**P**	**00 15 41.9**	**-1.3**
	1.8nm,0.6s,baz=103,slow=8.1,SNR=7.7						
WRA				PcP	**PcP**	**00 17 20.5**	**+0.9**
	1.0nm,0.8s,baz=104,slow=4.1,SNR=3.6						
PETK	**Petropavlovsk-**	**80.88**	**344**	P	**P**	**00 19 33.5**	**+0.2**
	4.2nm,0.7s,baz=126,slow=9.5,SNR=3.1						
KSRS	**Korea Array**	**81.30**	**318**	P	P	00 19 38.9	+3.0
	1.3nm,0.7s,baz=151,slow=6.6,SNR=4.1						
KSAR	**Wonju Array Be**	**81.32**	**318**	P	P	00 19 38.9	+2.9
USRK	**Ussuriysk Ar.**	**83.53**	**325**	P	**P**	**00 19 47.2**	**-0.2**
	3.9nm,0.8s,baz=90,slow=6.1,SNR=6.5						
TXAR	**Lajitas Array**	**87.87**	**56**	P	**P**	**00 20 10.2**	**+0.7**
	0.3nm,0.6s,baz=230,slow=5.6,SNR=3.4						

ILAR	**Eielson Array**	**92.11**	**12**	P		**P**		**00 20 27.4**	**-0.8**
	1.3nm,1.1s,baz=206,slow=6.0,SNR=3.4								
CMAR	**Chiang Mai Arr**	**93.24**	**289**	P		**P**		**00 20 35.4**	**+0.8**
	0.7nm,0.3s,baz=138,slow=3.9,SNR=5.9								
CHTO	**Chiang Mai**	**93.39**	**289**	*e*P		**P**		**00 20 34.9**	**-0.4**
	1.7nm,0.7s								
LPAZ	**La Paz**	**98.74**	**112**	LR		LR		00 55 58.4	
	comp=Z,26nm,21.7s,baz=252,slow=30								
MKAR	**Makanchi Array**	**115.44**	**312**	PKP		**PKPdf**		**00 25 59.7**	**-1.5**
	0.4nm,0.8s,baz=101,slow=3.8,SNR=3.6								
KURK	**Kurchatov**	**118.36**	**316**	PKP		**PKPdf**		**00 26 05.8**	**-0.8**
KURBB	**Kurchatov Arra**	**118.41**	**316**	PKP		**PKPdf**		**00 26 05.8**	**-0.9**
	0.3nm,0.7s,baz=103,slow=2.8,SNR=4.3								
NOA	**NORSAR Array B**	**143.44**	**354**	PKP		PKPbc		00 26 51.4	+0.6
	0.7nm,0.8s,baz=33,slow=2.6,SNR=2.7								
HFS	**Hagfors**	**144.05**	**352**	PKP		PKPbc		00 26 52.3	-0.2
	2.4nm,0.9s,baz=63,slow=2.7,SNR=4.7								
AKASG	**Malin Array Be**	**147.64**	**330**	PKPbc		**PKPbc**		**00 27 02.4**	**-1.3**
	1.9nm,0.7s,baz=40,slow=4.3,SNR=8.1								
EKA	**Eskdalemuir Ar**	**149.05**	**8**	PKPbc		**PKPbc**		**00 27 06.6**	**-0.7**
	2.2nm,0.8s,baz=350,slow=3.6,SNR=3.1								
BRTR	**Keskin Array B**	**151.00**	**308**	PKPbc		**PKPbc**		**00 27 11.1**	**-1.6**
	1.4nm,0.8s,baz=132,slow=3.7,SNR=8.8								
MMAI	**Mount Meron Ar**	**151.38**	**294**	PKPbc		**PKPbc**		**00 27 14.0**	**+0.3**
	baz=66,slow=3.6								
CLL	**Collm**	**152.64**	**348**	*e*PKPbc		**PKPbc**		**00 27 17.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**168.21**	**169**	PKPab		**PKPab**		**00 28 36.8**	**+1.9**
	0.6nm,0.9s,baz=181,slow=3.3,SNR=4.3								

LDG ***02*** *00:18:53.4±0.2, 44˚.42N×7˚.28E, h3km, Md1.7/3, Ml1.7/8, Error ellipse: s-maj=3.9km s-min=1.8km az=79.0*

GEN ***02*** *00:18:53.5, 44˚.44N×7˚.28E, h12km, ML1.2*

CSEM 02 00:18:52.9±0.1, 44˚.43N×7˚.27E, h12km, ML1.6/8, Error ellipse: s-maj=1.8km s-min=1.3km az=56.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.14**	**306**	P	Pb	00 18 57.2	-0.4
PZZ				S	Sg	00 18 59.6	+0.6
STV	**Sant Anna di V**	**0.19**	**167**	P	Pb	00 18 57.9	-0.5
BHB	**Bricherasio**	**0.41**	**360**	P	Pg	00 19 01.2	0.0
BHB				S	Sg	00 19 06.1	-0.7
MBDF	**Montbardon**	**0.47**	**310**	*e*Pg	Pb	00 19 02.9	-0.4
MBDF				*e*Sg	Sg	00 19 09.0	+0.3
	9.4nm,0.2s						
MBDF	**Montbardon**	**0.47**	**310**	*e*Pg	Pb	00 19 02.9	-0.4
MBDF				*e*Sg	Sg	00 19 09.0	+0.3
	4.7nm,0.2s						
SBF	**Sospel**	**0.58**	**168**	*e*Pg	Pg	00 19 04.1	-0.2
SBF				*e*Sg	Sg	00 19 11.7	-0.3
	4.3nm,0.2s						
SBF	**Sospel**	**0.58**	**168**	*e*Pg	Pg	00 19 04.1	-0.2
SBF				*e*Sg	Sg	00 19 11.7	-0.3
	2.2nm,0.2s						
RRL	**Rocca Remolon**	**0.60**	**326**	P	Pg	00 19 05.1	+0.1
RRL				S	Sg	00 19 12.7	-0.5
RORO	**Rocca Rossa**	**0.65**	**118**	P	Pg	00 19 05.8	+0.2
RORO				S	Sg	00 19 14.4	+0.1
IMI	**Imperia**	**0.68**	**139**	P	Pb	00 19 06.6	-0.3
IMI				S	Sg	00 19 15.6	+0.2
RSP	**Reno Superiore**	**0.72**	**360**	P	Pg	00 19 06.7	-0.4
RSP				S	Sg	00 19 15.7	-1.0
ROTM	**Rocchetta Tana**	**0.88**	**61**	P	Pb	00 19 10.6	+0.4
PCP	**Piancastagn**	**0.92**	**82**	P	Pg	00 19 10.8	0.0
PCP				S	Sg	00 19 22.4	-0.5
FRF	**La Foret Royal**	**0.97**	**208**	*e*Pg	Pn	00 19 12.2	-0.2
FRF				*e*Sg	Sg	00 19 23.8	-0.7
	2.9nm,0.2s						
FRF	**La Foret Royal**	**0.97**	**208**	*e*Pg	Pn	00 19 12.2	-0.2
FRF				*e*Sg	Sg	00 19 23.8	-0.7
	1.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.11**	**297**	*e*Pg	Pn	00 19 14.8	+0.4
ORIF				*e*Sg	Sb	00 19 28.7	+0.1
	2.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.11**	**297**	*e*Pg	Pn	00 19 14.8	+0.4
ORIF				*e*Sg	Sb	00 19 28.7	+0.1
	1.1nm,0.3s						
LPG	**La Plagne**	**1.13**	**341**	*e*Pg	Pb	00 19 14.9	+0.1
LPG				*e*Sg	Sb	00 19 29.7	-0.1
	1.6nm,0.3s						
LPG	**La Plagne**	**1.13**	**341**	*e*Pg	Pb	00 19 14.9	+0.1
LPG				*e*Sg	Sb	00 19 29.7	-0.1
	0.8nm,0.3s						
LPL	**La Plagne**	**1.15**	**341**	*e*Pg	Pn	00 19 15.3	+0.1
LPL				*e*Sg	Sb	00 19 30.3	0.0
	0.9nm,0.2s						
LPL	**La Plagne**	**1.15**	**341**	*e*Pg	Pn	00 19 15.3	+0.1
LPL				*e*Sg	Sb	00 19 30.3	0.0
	0.4nm,0.2s						
LMR	**La Mourre**	**1.22**	**207**	*e*Pg	Pb	00 19 15.9	0.0
LMR				*e*Sg	Sn	00 19 32.1	-0.2
	4.8nm,0.3s						
LMR	**La Mourre**	**1.22**	**207**	*e*Pg	Pb	00 19 15.9	0.0
SMRF	**Simiane la Rot**	**1.30**	**250**	*e*Pg	Pg	00 19 17.8	-0.2
SMRF				*e*Sg	Sg	00 19 34.6	-0.3
	1.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.30**	**250**	*e*Pg	Pg	00 19 17.8	-0.2
SMRF				*e*Sg	Sg	00 19 34.6	-0.3
	0.6nm,0.2s						
VIVF	**Saint-Julien-l**	**1.90**	**284**	*e*Pn	Pn	00 19 25.2	0.0
VIVF				*e*Sn	Sn	00 19 48.5	-0.7
	1.0nm,0.3s						
VIVF	**Saint-Julien-l**	**1.90**	**284**	*e*Pn	Pn	00 19 25.2	0.0
VIVF				*e*Sn	Sn	00 19 48.5	-0.7
	0.5nm,0.3s						

IDC ***02*** *00:18:49.5±0.9, 11˚.73N×86˚.27W, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/48, mbtmp3.7/12, ML2.9/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/39, Error ellipse: s-maj=36.5km s-min=11.0km az=53.0*

ISCJB ***02*** *00:18:53.1±0.5, 11˚.53N±0˚.05×86˚.63W±0˚.05, h35km, mb3.8/10, MS3.2/3, Error ellipse: s-maj=9.6km s-min=3.9km az=138.7*

CASC ***02*** *00:18:54.6±3.3, 11˚.60N×86˚.51W, h31km±26km, MD4.1*

ISC 02 00:18:54.7±0.7, 11˚.65N±0˚.06×86˚.47W±0˚.09, h35km, n32, σ1°46/34, mb3.9/10, MS3.2/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.55**	**348**	*e*P	**Pn**	**00 19 06.2**	**+0.2**
HUEN		**0.75**	**23**	*e*P	**Pn**	**00 19 09.4**	**+0.6**
HUEN				*e*S	**Sn**	**00 19 22.4**	**+3.5**
CNGN	**Cerro Negro**	**0.88**	**346**	*e*P	**Pn**	**00 19 11.2**	**+0.6**
GB1A	**Boringuen Arri**	**1.34**	**128**	*i* P	**Pn**	**00 19 14.9**	**-2.0**
BUEV	**Buena Vista**	**1.34**	**129**	*i* P	**Pn**	**00 19 15.9**	**-1.1**
GPS2	**Hotel Rinc˜‡n**	**1.41**	**129**	*i* P	**Pn**	**00 19 18.7**	**+0.8**
GPS2				*i* S	**Sn**	**00 19 35.7**	**+0.3**
LIM1	**Limonal**	**1.52**	**128**	*i* P	**Pn**	**00 19 18.6**	**-0.9**
MESS	**Mesas**	**1.54**	**125**	*i* P	**Pn**	**00 19 18.7**	**-1.0**
COLC	**Colonia**	**1.58**	**128**	*i* P	**Pn**	**00 19 20.6**	**+0.3**
JTS	**JuntasAbangare**	**2.01**	**132**	Pn	**Pn**	**00 19 25.3**	**-0.9**
	17nm,0.3s,baz=323,slow=15,SNR=44						
JTS				Lg	Lg	00 19 49.5	
	79nm,0.3s,baz=305,slow=19,SNR=7.5						
CNCH	**Conchagua**	**2.10**	**321**	*e*P	**Pn**	**00 19 27.7**	**+0.3**
JCR	**Jicaral**	**2.23**	**143**	*e*P	**Pn**	**00 19 31.1**	**+1.9**
JCR				*e*S	**Sn**	**00 19 60.0**	**+4.4**
VSM	**San Miguel**	**2.50**	**315**	*e*P	**Pn**	**00 19 33.7**	**+0.7**
CGA2	**Cerro Gallo 2**	**2.55**	**129**	*e*P	**Pn**	**00 19 35.2**	**+1.5**
CGA2				*e*S	**Sn**	**00 20 04.4**	**+0.8**
BUS	**Buena Vista**	**3.38**	**128**	*e*P	**Pn**	**00 19 46.5**	**+1.1**
BUS				*e*S	**Sn**	**00 20 26.9**	**+2.4**
APG	**El Apazote**	**5.12**	**311**	Pn	**Pn**	**00 20 07.9**	**-1.3**
	0.2nm,0.3s,baz=131,slow=18,SNR=2.7						
APG				Lg	Lg	00 21 41.4	
	baz=151,slow=19,SNR=1.6						
TEIG	**Tepich**	**8.71**	**349**	LR	LR	00 24 37.6	
	comp=Z,160nm,21.7s,baz=134,slow=40						
CMIG	**Matias Romero**	**9.78**	**305**	Pn	**Pn**	**00 21 14.2**	**+1.2**
	0.2nm,0.3s,baz=122,slow=13,SNR=2.2						
TXAR	**Lajitas Array**	**23.80**	**320**	P	**P**	**00 24 05.4**	**+1.0**
	5.4nm,0.7s,baz=138,slow=9.7,SNR=55						
TKL	**Tuckaleechee C**	**24.03**	**5**	P	**P**	**00 24 06.1**	**-0.4**
	2.0nm,0.8s,baz=174,slow=11,SNR=2.6						
TKL				LR	LR	00 32 52.4	
	comp=Z,33nm,18.8s,baz=207,slow=35						
PTGA	**Pitinga**	**29.06**	**113**	LR	LR	00 37 41.0	
	comp=Z,59nm,19.6s,baz=348,slow=39						
ANMO	**Albuquerque**	**29.46**	**325**	P	**P**	**00 24 56.3**	**+0.7**
	1.3nm,0.6s,baz=164,slow=8.1,SNR=6.4						

PDAR	**Pinedale Array**	**36.93**	**331**	P		**P**		**00 26 00.8**	**+0.2**
	0.3nm,0.6s,baz=134,slow=13,SNR=4.8								
ULM	**Lac du Bonnet**	**39.26**	**350**	P		**P**		**00 26 18.2**	**-1.6**
	2.2nm,0.7s,baz=166,slow=8.8,SNR=6.7								
SCHQ	**Schefferville**	**45.78**	**16**	P		**P**		**00 27 11.9**	**-0.9**
	1.3nm,0.5s,baz=214,slow=6.6,SNR=7.2								
BDFB	**Brasilia**	**46.74**	**125**	P		**P**		**00 27 20.2**	**-0.7**
	0.6nm,0.4s,baz=256,slow=8.3,SNR=2.5								
PLCA	**Paso Flores**	**54.16**	**165**	P		**P**		**00 28 16.6**	**+0.1**
	1.5nm,0.9s,baz=353,slow=6.1,SNR=3.2								
YKA	**Yellowknife Ar**	**54.64**	**344**	P		**P**		**00 28 18.6**	**-1.0**
	0.3nm,0.8s,baz=135,slow=7.9,SNR=6.9								
ILAR	**Eielson Array**	**67.14**	**336**	P		**P**		**00 29 44.2**	**-0.4**
	0.2nm,0.5s,baz=97,slow=7.4,SNR=3.0								
MDT	**Midelt**	**77.00**	**59**	LR		LR		01 03 04.0	
	comp=Z,26nm,18.3s,baz=310,slow=35								
ASAR	**Alice Springs**	**139.85**	**247**	PKHKP		PKPpre		00 38 14.7	
	0.3nm,0.7s,baz=112,slow=3.8,SNR=4.5								
ASAR				PKP		**PKPdf**		**00 38 20.3**	**+0.3**
	0.7nm,0.7s,baz=106,slow=2.2,SNR=7.2								
WRA	**Warramunga Arr**	**139.96**	**253**	PKP		**PKPdf**		**00 38 21.0**	**+0.8**
	0.5nm,0.5s,baz=100,slow=3.3,SNR=4.8								

IDC 02 00:19:04.1±11.0, 33˚.79S×56˚.88E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.2/42, mbtmp3.6/2, Error ellipse: s-maj=832.0km s-min=51.5km az=30.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**29.74**	**32**	T	T	00 53 05.5	
	baz=206,slow=76,SNR=25						
H08S2	**Diego Carcia H**	**29.75**	**33**	T	T	00 53 04.4	
	baz=206,slow=76,SNR=11						
H08S3	**Diego Carcia H**	**29.76**	**32**	T	T	00 53 10.1	
	baz=206,slow=76,SNR=24						
H08N3	**Diego Carcia H**	**30.28**	**29**	T	T	00 53 51.4	
	baz=207,slow=76						
H08N1	**Diego Carcia H**	**30.29**	**29**	T	T	00 53 53.2	
	baz=207						
H08N2	**Diego Carcia H**	**30.30**	**29**	T	T	00 53 53.2	
	baz=207,slow=76						
H01W2	**Cape Leeuwin H**	**46.72**	**108**	T	T	01 16 46.1	
	baz=257,slow=75,SNR=9.2						
H01W3	**Cape Leeuwin H**	**46.73**	**108**	T	T	01 16 50.2	
	baz=257,slow=75,SNR=7.8						
H01W1	**Cape Leeuwin H**	**46.74**	**108**	T	T	01 16 51.4	
	baz=257,slow=75,SNR=8.1						
ASAR	**Alice Springs**	**66.90**	**104**	P	P	00 29 58.5	0.0
	0.3nm,0.5s,baz=239,slow=6.2,SNR=6.6						
WRA	**Warramunga Arr**	**69.04**	**100**	P	P	00 30 12.1	0.0
	0.2nm,0.3s,baz=241,slow=4.8,SNR=2.7						
YKA	**Yellowknife Ar**	**150.77**	**352**	PKPbc	PKPbc	00 38 57.3	-0.3
	0.2nm,0.6s,baz=358,slow=2.9,SNR=7.4						

ROM 02 00:20:22.9±0.2, 42˚.45N×13˚.33E, h13km±3km, Md1.5/5, Ml1.0/3, Error ellipse: s-maj=1.9km s-min=1.2km az=93.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.09**	**178**	Pg	Pg	00 20 26.2	+0.3
T0104				Sg	Sg	00 20 28.5	+0.5
AQU	**L'Aquila**	**0.11**	**152**	Pg	Pg	00 20 26.4	+0.3
AQU				Sg	Sg	00 20 28.8	+0.4
	59nm,1.1s						
AQU	**L'Aquila**	**0.11**	**152**	Pg	Pg	00 20 26.4	+0.3
T0106	**Roio Piano**	**0.15**	**165**	Pg	Pg	00 20 27.1	+0.3
T0106				Sg	Sg	00 20 30.1	+0.7
SMA1	**SAN MARTINO**	**0.18**	**1**	Pg	Pg	00 20 27.4	+0.2
SMA1				Sg	Sg	00 20 30.9	+0.7
	22nm,0.2s						
FAGN	**Fagnano**	**0.26**	**135**	Pg	Pg	00 20 28.4	-0.1
FAGN				Sg	Sb	00 20 33.4	-0.7
	34nm,0.1s						
FAGN	**Fagnano**	**0.26**	**135**	Pg	Pg	00 20 28.4	-0.1

IDC 02 00:23:25.2±28.0, 18˚.14S×178˚.29W, h539km±242km, mb3.6/2, mb1 3.8/2, mb1mx3.0/28, mbtmp4.5/2, Error ellipse: s-maj=249.3km s-min=75.3km az=117.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.70**	**260**	P	P	00 30 50.0	-0.6
	1.3nm,0.4s,baz=95,slow=7.0,SNR=8.9						
WRA				PcP	PcP	00 32 20.8	-0.7
	0.2nm,0.3s,baz=104,slow=3.2,SNR=3.0						
**ASAR

KBS			IAML			00 27 53.1
	comp=Z,797nm,0.5s					
KBS	**Kingsbay**	**2.43 329**	Pn	**Pn**	**00 27 11.9**	**-1.5**
KBS	**Kingsbay**	**2.43 329**	Pg	**Pb**	**00 27 17.3**	**-0.4**
KBS			Lg	Lg	00 27 46.1	
KBS			*e*Sg	**Sb**	**00 27 46.4**	**-0.9**
	SNR=91					
BJO	**Bjornoya**	**2.43 175**	*e*Pg	**Pg**	**00 27 20.9**	**-0.2**
BJO			*e*Sg	**Sg**	**00 27 53.2**	**+0.7**
BJO			IAML		00 28 00.8	
	comp=Z,298nm,0.6s					
BJO	**Bjornoya**	**2.43 175**	*e*Pg	**Pg**	**00 27 20.9**	**-0.2**
	SNR=91					
BJO			*e*Sg	**Sg**	**00 27 53.2**	**+0.7**
	SNR=91					
KEV	**Kevo**	**7.60 157**	*e*p	**Pn**	**00 28 26.7**	**+2.4**
	comp=Z,1.3nm,0.3s					
ARA0	**ARCESS Array S**	**7.69 161**	Pn	**Pn**	**00 28 26.5**	**+0.9**
	baz=357,slow=14					
ARA0			Sn	**Sn**	**00 29 47.2**	**-5.0**
	baz=358,slow=22					
ARA0	**ARCESS Array S**	**7.69 161**	P	**Pn**	**00 28 26.5**	**+0.9**
	baz=357,slow=14					
ARA0			S	**Sn**	**00 29 47.2**	**-5.0**
	baz=358,slow=22					
ARA0	**ARCESS Array S**	**7.69 161**	P	**Pn**	**00 28 26.5**	**+0.9**
	SNR=51					
ARCES	**ARCESS Array B**	**7.69 161**	Pn	**Pn**	**00 28 26.5**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=351,slow=13,SNR=31					
ARCES			Sn	**Sn**	**00 29 48.4**	**-3.9**
	comp=Z,2.6nm,0.3s,baz=0.3,slow=21,SNR=5.0					
ARCES			LR	LR	00 31 44.1	
	comp=Z,36nm,19.1s,baz=323,slow=40					
APA0	**Apatity Array**	**10.31 147**	Pn	**Pn**	**00 29 00.0**	**-1.4**
	baz=350,slow=12					
APA0	**Apatity Array**	**10.31 147**	P	**Pn**	**00 29 00.0**	**-1.4**
	baz=350,slow=12					
APA0	**Apatity Array**	**10.31 147**	P	**Pn**	**00 29 00.0**	**-1.4**
	SNR=51					
JOF	**Joensuu**	**14.68 156**	*e*p	**Pn**	**00 29 59.3**	**-1.8**
	comp=Z,0.3nm,0.3s					
KAF	**Kangasniemi**	**15.11 166**	*e*p	**Pn**	**00 30 07.1**	**+0.3**
	comp=Z,0.2nm,0.3s					
FIA0	**FINESS Array S**	**15.76 166**	Pn	**Pn**	**00 30 14.8**	**-0.5**
	baz=12,slow=10					
FIA0	**FINESS Array S**	**15.76 166**	P	**Pn**	**00 30 14.8**	**-0.5**
	baz=12,slow=10					
FIA0	**FINESS Array S**	**15.76 166**	Pn	**Pn**	**00 30 14.9**	**-0.5**
	SNR=4.7					
FINES	**FINESS Array B**	**15.76 166**	Pn	**Pn**	**00 30 15.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=2.7,slow=8.8,SNR=4.8					
FINES			Sn	Sn	00 33 00.5	-8.8
	comp=Z,0.1nm,0.3s,baz=7.8,slow=22,SNR=2.6					
FINES			LR	LR	00 36 00.2	
	comp=Z,40nm,19.7s,baz=357,slow=36					
NOA	**NORSAR Array B**	**16.13 193**	Pn	**Pn**	**00 30 19.8**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=10.0,slow=13,SNR=2.5					
NOA			LR	LR	00 37 32.6	
	comp=Z,16nm,18.6s,baz=290,slow=41					
HFS	**Hagfors**	**16.94 188**	P	**P**	**00 30 34.3**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=17,slow=11,SNR=6.9					
KURBB	**Kurchatov Arra**	**34.63 104**	P	P	00 33 25.1	+2.8
	comp=Z,0.6nm,0.8s,baz=347,slow=7.7,SNR=5.8					
BRTR	**Keskin Array B**	**37.88 161**	P	**P**	**00 33 53.1**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=1.4,slow=5.8,SNR=3.7					
ILAR	**Eielson Array**	**38.25 350**	P	**P**	**00 33 53.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=2.6,slow=6.3,SNR=4.3					
MKAR	**Makanchi Array**	**39.08 102**	P	**P**	**00 34 02.3**	**+2.1**
	comp=Z,0.8nm,0.9s,baz=1.2,slow=6.6,SNR=5.8					
SONM	**Songino Array**	**43.55 78**	P	P	00 34 40.3	+3.3
	comp=Z,0.2nm,0.6s,baz=336,slow=8.3,SNR=2.9					
TORD	**Torodi Ar. Bea**	**64.36 198**	P	**P**	**00 37 11.2**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=7.4,slow=4.5,SNR=2.5					
CMAR	**Chiang Mai Arr**	**70.01 95**	LR	LR	01 12 20.1	
	comp=Z,5.4nm,18.2s,baz=55,slow=39					
ASAR	**Alice Springs**	**118.60 70**	PKP	**PKPdf**	**00 45 22.6**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=8.5,slow=1.9,SNR=3.5					

DDA ***02*** *00:48:24.9,36˚.95N×30˚.57E,h7km,MD2.8*
ISCJB ***02*** *00:48:26.7±0.8,36˚.84N±0˚.05×30˚.32E±0˚.05,h3km±9km, Error ellipse: s-maj=9.3km s-min=5.0km az=151.1*
ISK ***02*** *00:48:26.3,36˚.82N×30˚.33E,h6km,MD2.8*
CSEM ***02*** *00:48:26.6±0.3,36˚.83N×30˚.33E,h2km,MD2.8, Error ellipse: s-maj=8.4km s-min=3.6km az=153.0*

ISC 02 00:48:26.6±1.1,36˚.85N±0˚.04×30˚.34E±0˚.03,h6km±9km, n22,σ0§70/32,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KORT	**Korkueli**	**0.15**	**4**	*i* P		**Pg**	**00 48 29.1**	**-0.6**
KORT				*i* S		**Sg**	**00 48 31.6**	**-0.2**
KORT	**Korkueli**	**0.15**	**4**	*i* P		**Pg**	**00 48 29.1**	**-0.6**
KORT				*i* S		**Sg**	**00 48 31.6**	**-0.2**
ANTB	**Antalya**	**0.26**	**80**	*e*PG		**Pg**	**00 48 32.1**	**+0.5**
ANTB				*e*SG		**Sb**	**00 48 36.8**	**-1.5**
ANTB	**Antalya**	**0.26**	**80**	*e*Pg		**Pg**	**00 48 32.1**	**+0.5**
ANTB				*e*Sg		**Sb**	**00 48 36.8**	**-1.5**
ELL	**Elmali**	**0.36**	**253**	*e*PG		**Pg**	**00 48 33.3**	**-0.3**
ELL				*e*SG		**Sg**	**00 48 39.5**	**+1.1**
ELL	**Elmali**	**0.36**	**253**	*e*Pg		**Pg**	**00 48 33.3**	**-0.3**
ELL				*e*Sg		**Sg**	**00 48 39.5**	**+1.1**
BCK	**Bucak**	**0.64**	**18**	*e*PG		**Pg**	**00 48 39.2**	**+0.3**
BCK				*e*SG		**Sb**	**00 48 49.8**	**+0.4**
BCK	**Bucak**	**0.64**	**18**	*e*Pg		**Pg**	**00 48 39.2**	**+0.3**
BCK				*e*Sg		**Sb**	**00 48 49.8**	**+0.4**
GOLH	**Golhisar**	**0.73**	**302**	*i* P		**Pg**	**00 48 41.0**	**+0.4**
GOLH				*i* S		**Sn**	**00 48 54.2**	**-0.8**
GOLH	**Golhisar**	**0.73**	**302**	*i* P		**Pg**	**00 48 41.0**	**+0.4**
GOLH				*i* S		**Sn**	**00 48 54.2**	**-0.8**
ISP	**Isparta**	**0.98**	**9**	*e*PG		**Pb**	**00 48 46.1**	**+0.1**
ISP	**Isparta**	**0.98**	**9**	*e*Pg		**Pb**	**00 48 46.1**	**+0.1**
FETY	**Fethiye**	**1.03**	**258**	*e*PG		**Pg**	**00 48 46.0**	**-0.4**
FETY	**Fethiye**	**1.03**	**258**	*e*Pg		**Pg**	**00 48 46.0**	**-0.4**
DALY	**Dalyan (Mu˘la**	**1.35**	**269**	*e*PN		**Pb**	**00 48 52.1**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.35**	**269**	*e*Pn		**Pb**	**00 48 52.1**	**-0.2**
YER	**Yerkesik**	**1.67**	**280**	*e*PN		**Pb**	**00 48 57.1**	**-0.6**
YER	**Yerkesik**	**1.67**	**280**	*e*Pn		**Pb**	**00 48 57.2**	**-0.6**
SHUT	**Suhut-Afyon**	**1.70**	**6**	*e*PN		**Pb**	**00 48 57.9**	**-0.5**
SHUT	**Suhut-Afyon**	**1.70**	**6**	*e*Pn		**Pb**	**00 48 57.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.23**	**300**	*e*PN		**Pn**	**00 49 05.2**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.23**	**300**	*e*Pn		**Pn**	**00 49 05.2**	**+1.0**

IDC ***02*** *00:48:59.8±0.7,39˚.10N×140˚.79E,h0km,mb3.8/17, mb1 3.9/19,mb1mx3.7/49,mbtmp3.8/19,ML3.5/2,MS2.8/4, Ms1 2.8/4,ms1mx2.5/44, Error ellipse: s-maj=20.5km s-min=13.5km az=121.0*
ISCJB ***02*** *00:49:00.6±0.6,39˚.07N±0˚.03×140˚.87E±0˚.05,h17km±5km, mb3.8/17,MS2.7/2, Error ellipse: s-maj=6.2km s-min=5.4km az=142.2*
JMA ***02*** *00:49:00.9,39˚.06N×140˚.85E,h6km±1km,M3.7 Broadband fault plane solution: P waves. NP1: ϕs300.00000°,δ56.00000°,λ109.00000°. NP2: ϕs89.00000°,δ38.00000°,λ65.00000°. Principal axes: T Plg72.0000°, Azm258.0000°; N Plg15.0000°, Azm110.0000°; P Plg9.0000°, Azm17.0000°;*
JMA Felt I J1.
NIED ***02*** *00:49:00,39˚.10N×140˚.90E,h5km,Mw3.8 Best double couple: M0 4.94000×1014 NP1:ϕs98.00000°,δ39.00000°, λ62.00000°. NP2:ϕs312.00000°,δ57.00000°,λ110.00000°.*

ISC 02 00:48:59.9±1.5,39˚.10N±0˚.05×140˚.82E±0˚.05,h1km±11km, n29,σ0§86/32,mb3.9/17,1C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JRG	**Rokugo**	**0.33**	**334**	⇓P		**Pb**	**00 49 08.4**	**-0.3**
JRG				S		**Sb**	**00 49 14.1**	**-0.4**
JMK	**Ichinoseki**	**0.34**	**115**	⇑P		**Pg**	**00 49 06.7**	**+0.2**
JMK				S		**Sg**	**00 49 10.9**	**0.0**
JYK	**Kaneyama**	**0.40**	**244**	P		**Pb**	**00 49 09.1**	**-0.7**
JYK				S		**Sb**	**00 49 15.0**	**-1.4**
JOM	**Ohasama**	**0.53**	**44**	⇓P		**Pb**	**00 49 11.1**	**-0.9**
JOU	**Okura**	**0.74**	**190**	⇓P		**Pg**	**00 49 14.6**	**+0.5**
JOU				S		**Sg**	**00 49 23.9**	**+0.3**
JIO	**Ouri**	**0.76**	**147**	P		**Pg**	**00 49 14.3**	**-0.2**
JIO				S		**Sg**	**00 49 23.9**	**-0.5**
MAT	**Matsushiro**	**3.28**	**220**	P		**Pn**	**00 49 54.1**	**+1.6**
MAT				*e*S		**Sb**	**00 50 38.4**	**-1.0**
MJAR	**Matsushiro Arr**	**3.28**	**220**	Pn		**Pn**	**00 49 54.0**	**+1.5**
	2.2nm,0.3s,baz=27,slow=14,SNR=12							
MJAR				Lg		Lg	00 50 43.8	
	1.1nm,0.3s,baz=20,slow=26,SNR=5.2							
MJAR				LR		LR	00 51 19.5	
	comp=Z,162nm,19.7s,baz=50,slow=43							
KSRS	**Korea Array**	**10.27 265**		Pn		**Pn**	**00 51 28.9**	**+0.4**
	0.7nm,0.3s,baz=91,slow=15,SNR=3.0							
PETK	**Petropavlovsk-**	**18.19 34**		LR		LR	01 00 28.2	
	comp=Z,21nm,19.1s,baz=182,slow=38							
YAK	**Yakutsk**	**23.96 347**		LR		LR	01 02 44.4	
	comp=Z,29nm,20.4s,baz=164,slow=34							
TLY	**Talaya**	**28.66 308**		LR		LR	01 06 11.5	
	comp=Z,22nm,21.1s,baz=172,slow=36							
ZALV	**Zalesovo Beam**	**40.20 311**		P		**P**	**00 56 38.0**	**+0.3**
	0.4nm,0.4s,baz=89,slow=10,SNR=3.5							
MKAR	**Makanchi Array**	**42.65 300**		P		**P**	**00 56 57.4**	**-0.5**
	0.8nm,0.8s,baz=81,slow=9.3,SNR=9.3							
KURBB	**Kurchatov Arra**	**44.39 306**		P		**P**	**00 57 11.9**	**+0.1**
	1.3nm,0.7s,baz=83,slow=8.5,SNR=12							
ILAR	**Eielson Array**	**48.02 33**		P		**P**	**00 57 41.2**	**+1.0**
	0.4nm,0.7s,baz=264,slow=5.8,SNR=4.4							
INK	**Inuvik**	**52.78 28**		P		**P**	**00 58 17.9**	**+1.8**
	0.4nm,0.4s,baz=264,slow=6.7,SNR=4.8							
WRA	**Warramunga Arr**	**59.04 187**		P		**P**	**00 59 01.0**	**-0.5**
	0.8nm,0.4s,baz=3.7,slow=7.2,SNR=3.3							
RES	**Resolute Bay**	**60.73 15**		P		**P**	**00 59 12.6**	**+0.2**
	1.4nm,0.6s,baz=314,slow=8.2,SNR=7.7							
YKA	**Yellowknife Ar**	**62.27 31**		P		**P**	**00 59 21.4**	**-1.7**
	0.1nm,0.7s,baz=299,slow=6.0,SNR=2.9							
ASAR	**Alice Springs**	**62.77 187**		P		**P**	**00 59 26.8**	**0.0**
	0.7nm,0.7s,baz=357,slow=6.6,SNR=2.9							
FINES	**FINESS Array B**	**66.78 332**		P		**P**	**00 59 51.9**	**-0.7**
	1.5nm,0.8s,baz=35,slow=9.0,SNR=6.3							
KBZ	**Khabaz**	**69.22 310**		P		**P**	**01 00 08.5**	**+0.3**
	1.6nm,1.0s,baz=16,slow=2.0,SNR=5.0							
NOA	**NORSAR Array B**	**72.11 337**		P		**P**	**01 00 25.5**	**-0.1**
	0.8nm,0.9s,baz=38,slow=6.1,SNR=3.1							
AKASG	**Malin Array Be**	**72.39 322**		P		**P**	**01 00 26.6**	**-0.8**
	0.5nm,0.4s,baz=45,slow=5.6,SNR=4.5							
FRB	**Frobisher Bay**	**74.88 13**		P		**P**	**01 00 41.8**	**+0.1**
	2.7nm,0.8s,baz=346,slow=8.3,SNR=4.6							
PDAR	**Pinedale Array**	**76.56 45**		P		**P**	**01 00 52.8**	**+0.7**
	0.4nm,0.8s,baz=289,slow=2.8,SNR=3.1							
GERES	**GERESS Array B**	**80.72 328**		P		**P**	**01 01 15.5**	**+0.8**
	0.2nm,0.4s,baz=356,slow=4.1,SNR=3.9							
IDI	**Anoyia**	**85.25 312**		P		**P**	**01 01 37.9**	**-0.5**
	2.4nm,0.6s,baz=96,slow=4.0,SNR=4.9							

IDC ***02*** *00:51:22.5±0.6,5˚.96N×126˚.03E,h0km,mb4.1/12, mb1 4.2/12,mb1mx3.8/46,mbtmp4.1/12,MS3.2/2, Ms1 3.3/2,ms1mx2.6/27, Error ellipse: s-maj=58.5km s-min=15.8km az=70.0*
DJA ***02*** *00:51:33.6±0.6,6˚.N±5˚×12˚.5E±1˚.1,h10km,M4.8/4, mb5.1/2,mB5.2/2,MLv4.8/4,Mw(mB)4.6/2*

ISC 02 00:51:26.1±2.0,6˚.04N±0˚.05×126˚.20E±0˚.09,h22km±13km, n32,σ1§14/32,mb4.2/11,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**0.90**	**3**	*e*P		**Pn**	**00 51 44.5**	**+1.0**
MATI				*e*S		**Sn**	**00 51 57.5**	**+1.6**
GSPH	**General Santos**	**1.25**	**272**	⇓*e*P		**Pb**	**00 51 48.9**	**-0.2**
GSPH				*e*S		**Sb**	**00 52 05.8**	**+1.0**
BIPH	**Bislig**	**2.14**	**4**	⇓*e*P		**Pb**	**00 52 03.2**	**-1.1**
BIPH				*e*S		**Sb**	**00 52 29.5**	**-0.8**
BUKP	**Musuan**	**2.15**	**328**	*e*P		**Pb**	**00 52 04.7**	**+0.2**
BUKP				*e*S		**Sb**	**00 52 30.8**	**0.0**
CTBH	**Cotabato--PC H**	**2.27**	**301**	⇑*i*P		**Pb**	**00 52 06.0**	**-0.5**
CGP	**Cagayan de Oro**	**2.83**	**328**	⇓*e*P		**Pb**	**00 52 13.7**	**-2.3**
CGP				*e*S		**Sb**	**00 52 51.3**	**+1.0**
BUTP	**Butuan**	**2.97**	**349**	*e*P		**Pb**	**00 52 19.6**	**+1.2**
PAGZ	**Pagadian**	**3.33**	**303**	*e*P		**Pb**	**00 52 21.9**	**-2.6**
PAGZ				*e*S		Sn	00 52 41.6	-14
IPIL	**Ipil**	**4.00**	**296**	*e*P		Pb	00 52 32.5	-3.5
TNTI	**Ternate**	**5.36**	**167**	P		Pb	00 53 15.1	+16
GTOI	**Gorontalo**	**6.24**	**211**	P		**Pn**	**00 52 58.8**	**+1.9**
	118nm,0.5s,1μm0.4nm							
LUWI	**Luwuk**	**7.82**	**206**	P		Pn	00 53 24.9	+6.2
LUWI				S		**Sn**	**00 54 46.1**	**-0.5**
WRA	**Warramunga Arr**	**27.03**	**163**	P		**P**	**00 57 05.3**	**-1.6**
	0.9nm,0.5s,baz=341,slow=9.3,SNR=7.1							
WRA				PcP		**PcP**	**01 00 28.3**	**+0.1**
	0.5nm,0.6s,baz=325,slow=2.9,SNR=2.6							
ASAR	**Alice Springs**	**30.46**	**166**	P		**P**	**00 57 37.6**	**+0.1**
	2.1nm,0.6s,baz=343,slow=6.9,SNR=38							
ASAR				PcP		**PcP**	**01 00 36.8**	**+0.1**
	0.9nm,0.6s,baz=351,slow=2.3,SNR=11							
H11S3	**WAKE ISLAND Hy**	**41.34**	**69**	T		T	01 42 58.8	
	baz=258,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**41.36**	**69**	T		T	01 43 02.3	
	baz=258,slow=75,SNR=24							
H11S2	**WAKE ISLAND Hy**	**41.36**	**69**	T		T	01 43 00.8	
	baz=258,slow=75,SNR=42							
H11N1	**WAKE ISLAND Hy**	**41.80**	**67**	T		T	01 43 37.8	
	baz=255,slow=75,SNR=5.4							
H11N2	**WAKE ISLAND Hy**	**41.81**	**67**	T		T	01 43 41.3	
	baz=255,slow=75,SNR=6.6							
H11N3	**WAKE ISLAND Hy**	**41.82**	**67**	T		T	01 43 39.1	
	baz=255,slow=75,SNR=5.3							
SONM	**Songino Array**	**44.96**	**341**	P		**P**	**00 59 41.2**	**+1.5**
	1.2nm,0.6s,baz=157,slow=7.6,SNR=11							
SONM				PcP		**PcP**	**01 01 21.4**	**+0.6**
	1.0nm,0.7s,baz=160,slow=4.0,SNR=7.0							
MKAR	**Makanchi Array**	**55.38**	**325**	P		**P**	**01 00 59.0**	**+0.4**
	0.9nm,0.5s,baz=134,slow=7.8,SNR=10							
MKAR				PcP		**PcP**	**01 01 58.8**	**-0.1**
	1.0nm,0.6s,baz=112,slow=4.0,SNR=4.6							
MKAR				LR		LR	01 26 17.5	
	comp=Z,16nm,19.9s,baz=78,slow=38							
ZALV	**Zalesovo Beam**	**58.31**	**333**	P		**P**	**01 01 18.1**	**-1.0**
	1.1nm,0.5s,baz=111,slow=6.5,SNR=6.3							
KURBB	**Kurchatov Arra**	**59.53**	**327**	P		**P**	**01 01 27.0**	**-0.7**
	1.7nm,0.6s,baz=126,slow=6.4,SNR=20							
ILAR	**Eielson Array**	**83.26**	**26**	P		**P**	**01 03 50.6**	**-0.2**
	0.3nm,0.6s,baz=250,slow=4.3,SNR=4.9							
VNDA	**Vanda**	**85.77**	**173**	P		**P**	**01 04 03.4**	**+0.3**
	0.9nm,0.5s,baz=317,slow=5.8,SNR=4.9							
ARCES	**ARCESS Array B**	**88.12**	**340**	P		**P**	**01 04 14.4**	**-0.4**
	2.2nm,0.7s,baz=77,slow=6.1,SNR=12							
FINES	**FINESS Array B**	**89.56**	**332**	P		**P**	**01 04 20.8**	**-0.9**
	1.0nm,0.7s,baz=80,slow=5.4,SNR=11							
NB2	**NORSAR Subarra**	**96.50**	**334**	P		**P**	**01 04 52.3**	**-1.5**
	comp=Z,2.2nm,1.0s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**96.50**	**334**	P		**P**	**01 04 52.6**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=65,slow=4.8,SNR=4.0							
NOA				LR		LR	01 51 35.1	
	comp=Z,16nm,20.1s,baz=60,slow=37							
YKA	**Yellowknife Ar**	**97.62**	**24**	P		Pdif	01 05 00.4	+1.7
	comp=Z,0.1nm,0.4s,baz=290,slow=2.6,SNR=2.6							
TORD	**Torodi Ar. Bea**	**121.68**	**289**	PKP		**PKPdf**	**01 10 18.8**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=64,slow=1.6,SNR=22							

NNC ***02*** *01:01:38.9±1.4,36˚.71N×70˚.84E,h147km±35km,mb2.8, mpv3.7, Error ellipse: s-maj=19.2km s-min=11.3km az=75.0*

ISC 02 01:01:39.1±3.4,36˚.7N±0˚.2×70˚.9E±0˚.1,h150km,n11, σ0§67/15,6C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**3.90**	**31**	⇓P		**Pn**	**01 02 38.0**	**-0.3**
	14nm,0.4s							
SFK				⇑S		**Sn**	**01 03 24.8**	**+0.5**
	11nm,0.3s							
AML	**Almayashu**	**5.85**	**21**	P		**Pn**	**01 03 03.2**	**-0.9**
	SNR=37							
MNAS	**Manas**	**5.92**	**12**	⇓P		**Pn**	**01 03 04.1**	**-0.7**
	1.8nm,0.4s							
MNAS				⇑S		**Sn**	**01 04 12.7**	**+0.8**
	7.2nm,0.5s							
UCH	**Uchtor**	**6.20**	**26**	P		**Pn**	**01 03 08.6**	**-0.3**
	SNR=9.1							
KZA	**Kyzart**	**6.35**	**31**	P		**Pn**	**01 03 10.1**	**-0.7**
	SNR=6.2							
EKS2	**Erkin-Say**	**6.36**	**20**	P		**Pn**	**01 03 11.7**	**+1.0**
	SNR=7.7							
KK31	**Karatay Array**	**6.41**	**358**	⇓P		**Pn**	**01 03 10.7**	**-0.5**
	2.6nm,0.4s,baz=181,slow=13,SNR=61							
KK31				⇑S		**Sn**	**01 04 22.8**	**-0.4**
	2.5nm,0.6s,baz=179,slow=22,SNR=8.5							
AAK	**Ala-Archa**	**6.55**	**24**	⇑P		**Pn**	**01 03 13.4**	**+0.1**
	2.5nm,0.5s							
AAK				⇑S		**Sn**	**01 04 26.5**	**-0.5**
	5.4nm,0.8s							
AAK	**Ala-Archa**	**6.55**	**24**	P		**Pn**	**01 03 13.7**	**+0.4**
	SNR=9.9							
USP	**Ospenovka**	**7.13**	**22**	P		**Pn**	**01 03 20.3**	**-0.5**
	SNR=5.9							
AB31	**Akbulak array**	**14.86**	**331**	⇑P		**Pn**	**01 05 02.1**	**+0.4**
	0.2nm,0.3s,baz=149,slow=12,SNR=9.2							

DDA ***02*** *01:05:23.7,35˚.84N×31˚.11E,h29km,MD3.6*
ISK ***02*** *01:05:24.9,35˚.92N×31˚.05E,h43km,ML3.4*
NEIC ***02*** *01:05:24.0,35˚.91N×31˚.05E,h48km,mb4.0/3, After ISK.*
NSSC ***02*** *01:05:24.9±1.1,35˚.91N×31˚.07E,h37km±306km,ML3.1*
ISCJB ***02*** *01:05:24.9±0.2,35˚.88N±0˚.02×31˚.05E±0˚.02,h72km±4km, mb3.6/13, Error ellipse: s-maj=2.9km s-min=2.2km az=30.2*
IDC ***02*** *01:05:25.7±1.6,35˚.92N×31˚.14E,h60km±16km,mb3.4/10, mb1 3.6/15,mb1mx3.4/33,mbtmp3.7/15, Error ellipse: s-maj=13.4km s-min=11.9km az=85.0*
HLW ***02*** *01:05:26.9,35˚.96N×30˚.96E,h29km±35km,Md3.9,Ml4.3*
CSEM ***02*** *01:05:26.4±0.1,35˚.89N×31˚.06E,h60km,ML3.4, Error ellipse: s-maj=2.5km s-min=1.8km az=38.0*
NIC ***02*** *01:05:27.4,36˚.14N×31˚.25E,h27km,mb4.2,ML4.0*
THE ***02*** *01:05:27.0,35˚.83N×31˚.00E,h28km±41km,ML4.3/2, Error ellipse: s-maj=41.9km s-min=1.8km az=133.0*

ISC 02 01:05:25.6±0.8,35˚.88N±0˚.03×31˚.06E±0˚.02,h61km±9km, n331,σ1§27/370,mb3.8/13,4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANTB	**Antalya**	**1.07**	**342**	*e*PG		**Pn**	**01 05 44.0**	**-0.7**
ANTB	**Antalya**	**1.07**	**342**	*e*Pg		**Pn**	**01 05 44.0**	**-0.7**
GAZI	**Gazipasa**	**1.08**	**70**	*i* S		**Sn**	**01 05 58.1**	**-0.8**
GAZI	**Gazipasa**	**1.08**	**70**	*i* P		**Pn**	**01 05 44.2**	**-0.2**
GAZI				*i* S		**Sn**	**01 05 58.1**	**-0.8**
AKAS	**Kas**	**1.23**	**287**	*i* P		**Pn**	**01 05 46.9**	**0.0**
AKAS				*i* S		**Sn**	**01 06 01.8**	**-0.9**
AKAS	**Kas**	**1.23**	**287**	*i* P		**Pn**	**01 05 46.9**	**0.0**
AKAS				*i* S		**Sn**	**01 06 01.8**	**-0.9**
KORT	**Korkueli**	**1.26**	**333**	*i* P		**Pn**	**01 05 48.4**	**+1.2**
KORT	**Korkueli**	**1.26**	**333**	*i* P		**Pn**	**01 05 48.4**	**+1.2**
ELL	**Elmali**	**1.27**	**313**	*e*PN		**Pn**	**01 05 46.1**	**-1.3**
ELL				*e*SN		**Sn**	**01 06 02.7**	**-1.0**
ELL	**Elmali**	**1.27**	**313**	*e*Pn		**Pn**	**01 05 46.1**	**-1.3**
ELL				*e*Sn		**Sn**	**01 06 02.7**	**-1.0**
AKMC	**Akamas**	**1.34**	**129**	P		**Pn**	**01 05 49.9**	**+1.7**
	baz=321							
AKMC	**Akamas**	**1.34**	**129**	P		**Pn**	**01 05 49.9**	**+1.7**
PPCY	**Paphos**	**1.44**	**133**	⇓P		**Pn**	**01 05 51.1**	**+1.5**
	baz=324							
PPCY	**Paphos**	**1.44**	**133**	⇓P		**Pn**	**01 05 51.1**	**+1.5**
ALFC	**Alevga**	**1.45**	**119**	P		**Pn**	**01 05 50.0**	**+0.3**
	baz=312							
ALFC				S		**Sn**	**01 06 08.3**	**+0.6**
ALFC	**Alevga**	**1.45**	**119**	P		**Pn**	**01 05 50.0**	**+0.3**
ALFC				S		**Sn**	**01 06 08.3**	**+0.6**
BCK	**Bucak**	**1.62**	**347**	*e*PN		**Pn**	**01 05 51.3**	**-0.8**
BCK				*e*SN		**Sn**	**01 06 11.2**	**-0.9**
BCK	**Bucak**	**1.62**	**347**	*e*Pn		**Pn**	**01 05 51.3**	**-0.8**
BCK				*e*Sn		**Sn**	**01 06 11.2**	**-0.9**
AKDN	**Akdeniz- K¯–br**	**1.66**	**110**	*e*PN		**Pn**	**01 05 53.1**	**+0.6**
AKDN	**Akdeniz- K¯–br**	**1.66**	**110**	*e*Pn		**Pn**	**01 05 53.1**	**+0.6**
LEF	**Lefka**	**1.67**	**116**	*e*PN		**Pn**	**01 05 53.0**	**+0.3**
LEF	**Lefka**	**1.67**	**

ALT	**Altintas**	**3.26**	**347**	P		**Pn**	**01 06 15.9**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**3.27**	**310**	*e*PN		**Pn**	**01 06 14.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**3.27**	**310**	*e*PN		**Pn**	**01 06 14.9**	**+0.3**
GULE	**Gulek**	**3.30**	**64**	*i* P		**Pn**	**01 06 17.7**	**+2.7**
GULE	**Gulek**	**3.30**	**64**	*i* P		**Pn**	**01 06 17.7**	**+2.7**
KARA	**Karaisali**	**3.50**	**66**	*e*PN		**Pn**	**01 06 18.4**	**+0.8**
KARA	**Karaisali**	**3.50**	**66**	*e*PN		**Pn**	**01 06 18.4**	**+0.8**
SVRH	**Sivrihisar-ESK**	**3.58**	**6**	*e*PN		**Pn**	**01 06 19.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**3.58**	**6**	*e*PN		**Pn**	**01 06 19.3**	**+0.5**
NIG	**Nigde**	**3.61**	**51**	*e*PN		**Pn**	**01 06 20.7**	**+1.4**
NIG	**Nigde**	**3.61**	**51**	*e*Pn		**Pn**	**01 06 20.7**	**+1.4**
ESKT	**Eskisehir**	**3.64**	**357**	*e*PN		**Pn**	**01 06 19.4**	**-0.2**
ESKT	**Eskisehir**	**3.64**	**357**	*e*Pn		**Pn**	**01 06 19.4**	**-0.2**
TVSB	**Tavsanli**	**3.78**	**341**	*e*PN		**Pn**	**01 06 22.0**	**+0.4**
TVSB	**Tavsanli**	**3.78**	**341**	*e*Pn		**Pn**	**01 06 22.0**	**+0.4**
SMG	**Samos**	**3.85**	**300**	P		**Pn**	**01 06 22.4**	**0.0**
SMG	**Samos**	**3.85**	**300**	*e*P		**Pn**	**01 06 22.3**	**-0.1**
SMG	**Samos**	**3.85**	**300**	P		**Pn**	**01 06 22.4**	**0.0**
SMG	**Samos**	**3.85**	**300**	P		**Pn**	**01 06 22.4**	**0.0**
AFSR	**Af˙ar-Bala (A**	**3.90**	**24**	*e*PN		**Pn**	**01 06 24.1**	**+0.9**
AFSR	**Af˙ar-Bala (A**	**3.90**	**24**	*e*Pn		**Pn**	**01 06 24.1**	**+0.9**
IZM	**Izmir**	**3.94**	**311**	*e*PN		**Pn**	**01 06 24.1**	**+0.5**
IZM	**Izmir**	**3.94**	**311**	*e*Pn		**Pn**	**01 06 24.1**	**+0.5**
CEYT	**Ceyhan**	**3.94**	**72**	*e*PN		**Pn**	**01 06 24.7**	**+1.1**
CEYT	**Ceyhan**	**3.94**	**72**	*e*Pn		**Pn**	**01 06 24.7**	**+1.1**
AKS	**Akhisar**	**3.96**	**320**	*e*PN		**Pn**	**01 06 24.3**	**+0.4**
AKS	**Akhisar**	**3.96**	**320**	*e*Pn		**Pn**	**01 06 24.3**	**+0.4**
ZKR	**Zakros**	**4.03**	**260**	P		**Pn**	**01 06 25.6**	**+0.8**
ZKR	**Zakros**	**4.03**	**260**	*e*P		**Pn**	**01 06 25.7**	**+0.9**
ZKR	**Zakros**	**4.03**	**260**	P		**Pn**	**01 06 25.6**	**+0.8**
ZKR	**Zakros**	**4.03**	**260**	P		**Pn**	**01 06 25.6**	**+0.8**
BLCB	**Balcova**	**4.07**	**309**	*e*PN		**Pn**	**01 06 25.9**	**+0.5**
BLCB	**Balcova**	**4.07**	**309**	*e*Pn		**Pn**	**01 06 25.9**	**+0.5**
KOZT	**Kozan**	**4.15**	**66**	*e*PN		**Pn**	**01 06 27.1**	**+0.6**
KOZT	**Kozan**	**4.15**	**66**	*e*Pn		**Pn**	**01 06 27.1**	**+0.6**
ANTO	**Ankara**	**4.21**	**18**	*e*PN		**Pn**	**01 06 28.1**	**+0.7**
ANTO	**Ankara**	**4.21**	**18**	*e*Pn		**Pn**	**01 06 28.1**	**+0.7**
LOD	**Lodumlu**	**4.22**	**18**	*e*PN		**Pn**	**01 06 28.5**	**+0.9**
LOD	**Lodumlu**	**4.22**	**18**	*e*Pn		**Pn**	**01 06 28.5**	**+0.9**
BHL	**Bhannes**	**4.26**	**116**	*e*P		**Pn**	**01 06 27.6**	**-0.5**
BHL	**Bhannes**	**4.26**	**116**	*e*P		**Pn**	**01 06 27.6**	**-0.5**
DQRL	**Deir Qamar**	**4.30**	**119**	*e*P		**Pn**	**01 06 28.1**	**-0.5**
DQRL	**Deir Qamar**	**4.30**	**119**	*e*P		**Pn**	**01 06 28.1**	**-0.5**
HWQ	**Hawqa**	**4.31**	**110**	*e*P		**Pn**	**01 06 29.4**	**+0.6**
HWQ	**Hawqa**	**4.31**	**110**	*e*P		**Pn**	**01 06 29.4**	**+0.6**
BRTR	**Keskin Array B**	**4.35**	**27**	P		**Pn**	**01 06 29.4**	**+0.1**
	1.5nm,0.3s,baz=205,slow=14,SNR=72							
BRTR				S		**Sn**	**01 07 18.2**	**-0.5**
	2.4nm,0.3s,baz=197,slow=25,SNR=8.8							
NAQL	**Naqoura**	**4.35**	**128**	*e*P		**Pn**	**01 06 29.7**	**+0.5**
NAQL	**Naqoura**	**4.35**	**128**	*e*P		**Pn**	**01 06 29.7**	**+0.5**
WRDH	**Warideh**	**4.37**	**93**	*e*P		**Pn**	**01 06 29.1**	**-0.5**
WRDH				*e*S		**Sn**	**01 07 16.0**	**-3.2**
WRDH				AML	AML		01 07 22.0	
	comp=E,53nm,0.2s							
WRDH				AML	AML		01 07 31.5	
	comp=N,21nm,0.4s							
WRDH	**Warideh**	**4.37**	**93**	*e*P		**Pn**	**01 06 29.1**	**-0.5**
	SNR=57							
WRDH				*e*S		**Sn**	**01 07 16.0**	**-3.2**
	comp=N,21nm,0.4s,SNR=58							
BIDA	**Albida**	**4.38**	**100**	*e*P		**Pn**	**01 06 29.6**	**-0.1**
BIDA				*e*S		**Sn**	**01 07 16.0**	**-3.5**
BIDA				AML	AML		01 07 18.7	
	comp=N,82nm,0.3s							
BIDA				AML	AML		01 07 19.9	
	comp=E,255nm,0.5s							
BIDA	**Albida**	**4.38**	**100**	*e*P		**Pn**	**01 06 29.6**	**-0.1**
	SNR=57							
BIDA				*e*S		**Sn**	**01 07 16.0**	**-3.5**
	comp=E,255nm,0.5s,SNR=58							
NPS	**Neapolis**	**4.48**	**264**	P		**Pn**	**01 06 31.6**	**+0.5**
NPS	**Neapolis**	**4.48**	**264**	*e*P		**Pn**	**01 06 31.7**	**+0.6**
NPS	**Neapolis**	**4.48**	**264**	P		**Pn**	**01 06 31.6**	**+0.5**
NPS	**Neapolis**	**4.48**	**264**	P		**Pn**	**01 06 31.6**	**+0.5**
BALB	**Balikesir**	**4.52**	**327**	*e*PN		**Pn**	**01 06 32.8**	**+1.3**
BALB	**Balikesir**	**4.52**	**327**	*e*Pn		**Pn**	**01 06 32.8**	**+1.3**
SANT	**Santorini**	**4.56**	**278**	P		**Pn**	**01 06 32.4**	**+0.2**
SANT	**Santorini**	**4.56**	**278**	*e*P		**Pn**	**01 06 32.6**	**+0.4**
SANT	**Santorini**	**4.56**	**278**	P		**Pn**	**01 06 32.4**	**+0.2**
SANT	**Santorini**	**4.56**	**278**	P		**Pn**	**01 06 32.4**	**+0.2**
THR1	**Thera Island**	**4.56**	**278**	*e*PN		**Pn**	**01 06 33.1**	**+0.9**
THR1	**Thera Island**	**4.56**	**278**	*e*Pn		**Pn**	**01 06 33.1**	**+0.9**
GULT	**Gulveren**	**4.57**	**355**	*e*PN		**Pn**	**01 06 33.4**	**+1.2**
GULT	**Gulveren**	**4.57**	**355**	*e*Pn		**Pn**	**01 06 33.4**	**+1.2**
ANDN	**Andirin**	**4.57**	**67**	*i* P		**Pn**	**01 06 32.1**	**-0.3**
ANDN	**Andirin**	**4.57**	**67**	*i* P		**Pn**	**01 06 32.1**	**-0.3**
HAWK	**Haweek**	**4.58**	**106**	*e*P		**Pn**	**01 06 32.1**	**-0.4**
HAWK				*e*S		**Sn**	**01 07 21.9**	**-2.5**
HAWK				AML	AML		01 07 24.5	
	comp=N,66nm,0.4s							
HAWK				AML	AML		01 07 26.8	
	comp=E,40nm,0.4s							
HAWK	**Haweek**	**4.58**	**106**	*e*P		**Pn**	**01 06 32.1**	**-0.4**
	SNR=57							
HAWK				*e*S		**Sn**	**01 07 21.9**	**-2.5**
	comp=E,40nm,0.4s,SNR=58							
MMAI	**Mount Meron Ar**	**4.58**	**127**	P		**Pn**	**01 06 33.7**	**+1.2**
	comp=E,12nm,0.3s,baz=313,slow=12,SNR=119							
MMAI				S		**Sn**	**01 07 23.6**	**-0.9**
	comp=E,28nm,0.3s,baz=313,slow=27,SNR=15							
MDUB	**Mudurnu**	**4.59**	**1**	*e*PN		**Pn**	**01 06 33.6**	**+1.0**
MDUB	**Mudurnu**	**4.59**	**1**	*e*Pn		**Pn**	**01 06 33.6**	**+1.0**
RCY	**Rachaya**	**4.59**	**120**	*e*P		**Pn**	**01 06 33.0**	**+0.3**
RCY	**Rachaya**	**4.59**	**120**	*e*P		**Pn**	**01 06 33.0**	**+0.3**
LAST	**Lasithi**	**4.61**	**263**	P		**Pn**	**01 06 33.6**	**+0.7**
LAST	**Lasithi**	**4.61**	**263**	*e*P		**Pn**	**01 06 33.9**	**+1.0**
LAST	**Lasithi**	**4.61**	**263**	P		**Pn**	**01 06 33.6**	**+0.7**
LAST	**Lasithi**	**4.61**	**263**	P		**Pn**	**01 06 33.6**	**+0.7**
APE	**Apeiranthos**	**4.61**	**287**	P		**Pn**	**01 06 33.1**	**+0.2**
APE	**Apeiranthos**	**4.61**	**287**	*e*PN		**Pn**	**01 06 34.5**	**+1.6**
APE	**Apeiranthos**	**4.61**	**287**	*e*P		**Pn**	**01 06 32.9**	**0.0**
APE	**Apeiranthos**	**4.61**	**287**	P		**Pn**	**01 06 33.1**	**+0.2**
APE	**Apeiranthos**	**4.61**	**287**	*e*Pn		**Pn**	**01 06 34.5**	**+1.6**
APE	**Apeiranthos**	**4.61**	**287**	P		**Pn**	**01 06 33.1**	**+0.2**
THR5	**Thira Island,**	**4.66**	**278**	*e*PN		**Pn**	**01 06 34.8**	**+1.4**
THR5	**Thira Island,**	**4.66**	**278**	*e*Pn		**Pn**	**01 06 34.8**	**+1.4**
KAMA	**Osmaniye**	**4.70**	**72**	*i* P		**Pn**	**01 06 35.5**	**+1.4**
CHOS	**Chios island**	**4.72**	**304**	P		**Pn**	**01 06 34.8**	**+0.4**
CHOS	**Chios island**	**4.72**	**304**	*e*PN		**Pn**	**01 06 35.7**	**+1.4**
CHOS	**Chios island**	**4.72**	**304**	*e*P		**Pn**	**01 06 34.7**	**+0.4**
CHOS	**Chios island**	**4.72**	**304**	P		**Pn**	**01 06 34.8**	**+0.4**
CHOS	**Chios island**	**4.72**	**304**	*e*Pn		**Pn**	**01 06 35.7**	**+1.4**
CHOS	**Chios island**	**4.72**	**304**	P		**Pn**	**01 06 34.8**	**+0.4**
BRBR	**Barbar**	**4.72**	**120**	*e*P		**Pn**	**01 06 35.1**	**+0.6**
BRBR				*e*S		**Sn**	**01 07 24.5**	**-3.6**
BRBR				AML	AML		01 07 27.0	
	comp=E,110nm,0.6s							
BRBR				AML	AML		01 07 28.7	
	comp=N,77nm,0.3s							
BRBR	**Barbar**	**4.72**	**120**	*e*P		**Pn**	**01 06 35.1**	**+0.6**
	SNR=57							
BRBR				*e*S		**Sn**	**01 07 24.5**	**-3.6**
	comp=N,77nm,0.3s,SNR=58							
GEMT	**Gemlik**	**4.78**	**343**	*e*PN		**Pn**	**01 06 36.4**	**+1.3**
GEMT	**Gemlik**	**4.78**	**343**	*e*Pn		**Pn**	**01 06 36.4**	**+1.3**
BNN	**Bunyan**	**4.83**	**51**	*e*PN		**Pn**	**01 06 37.3**	**+1.4**
BNN	**Bunyan**	**4.83**	**51**	*e*Pn		**Pn**	**01 06 37.3**	**+1.4**
KCTX	**Karacabey (Bur**	**4.87**	**335**	*e*PN		**Pn**	**01 06 38.0**	**+1.6**
KCTX	**Karacabey (Bur**	**4.87**	**335**	*e*Pn		**Pn**	**01 06 38.0**	**+1.6**
HCB	**Kahramanmara˙**	**4.92**	**71**	*i* P		**Pn**	**01 06 37.5**	**+0.4**
KUZU	**Kuzuini**	**4.94**	**78**	*i* P		**Pn**	**01 06 36.9**	**-0.4**
KUZU	**Kuzuini**	**4.94**	**78**	*i* P		**Pn**	**01 06 36.9**	**-0.4**
KMRS	**Kahramanmaras**	**4.96**	**69**	*e*PN		**Pn**	**01 06 38.1**	**+0.5**
KMRS	**Kahramanmaras**	**4.96**	**69**	*e*Pn		**Pn**	**01 06 38.2**	**+0.5**
ARMT	**Armutlu**	**4.99**	**340**	*e*PN		**Pn**	**01 06 39.3**	**+1.3**
ARMT	**Armutlu**	**4.99**	**340**	*e*Pn		**Pn**	**01 06 39.3**	**+1.3**
IDI	**Anoyia**	**5.06**	**265**	P		**Pn**	**01 06 39.0**	**0.0**
	comp=N,9.3nm,0.3s,baz=93,slow=14,SNR=206							
IDI				S		**Sn**	**01 07 35.7**	**-0.6**
	comp=N,16nm,0.3s,baz=332,slow=15,SNR=12							
TOTH	**TOTAH**	**5.09**	**118**	*e*P		**Pn**	**01 06 40.1**	**+0.7**
TOTH				*e*S		**Sn**	**01 07 33.9**	**-2.9**
TOTH				AML	AML		01 07 36.9	
	comp=E,82nm,0.4s							
TOTH				AML	AML		01 07 37.5	
	comp=N,55nm,0.6s							
TOTH	**TOTAH**	**5.09**	**118**	*e*P		**Pn**	**01 06 40.1**	**+0.7**
	SNR=57							
TOTH				*e*S		**Sn**	**01 07 33.9**	**-2.9**
	comp=N,55nm,0.6s,SNR=58							
EDC	**Edincik**	**5.12**	**331**	*e*PN		**Pn**	**01 06 40.9**	**+1.1**
EDC	**Edincik**	**5.12**	**331**	*e*Pn		**Pn**	**01 06 40.9**	**+1.1**
CORM	**Corum**	**5.13**	**32**	*e*PN		**Pn**	**01 06 41.3**	**+1.2**
CORM	**Corum**	**5.13**	**32**	*e*Pn		**Pn**	**01 06 41.3**	**+1.2**
SIVA	**Sivas**	**5.17**	**262**	P		**Pn**	**01 06 41.6**	**+1.1**
SIVA	**Sivas**	**5.17**	**262**	*e*P		**Pn**	**01 06 41.6**	**+1.1**
SIVA	**Sivas**	**5.17**	**262**	P		**Pn**	**01 06 41.6**	**+1.1**
SIVA	**Sivas**	**5.17**	**262**	P		**Pn**	**01 06 41.6**	**+1.1**
SIGR	**SIGRI**	**5.31**	**310**	*e*PN		**Pn**	**01 06 44.6**	**+2.3**
SIGR	**SIGRI**	**5.31**	**310**	*e*Pn		**Pn**	**01 06 44.6**	**+2.3**
SILT	**Sile**	**5.38**	**349**	*e*PN		**Pn**	**01 06 44.7**	**+1.4**
SILT	**Sile**	**5.38**	**349**	*e*Pn		**Pn**	**01 06 44.7**	**+1.4**
HBRG	**Burj al ‘Arab**	**5.39**	**191**	P		**Pn**	**01 06 45.6**	**+2.1**
HBRG	**Burj al ‘Arab**	**5.39**	**191**	P		**Pn**	**01 06 45.6**	**+2.1**
	baz=191							
HBRG				AMP			01 07 00.0	
	comp=E,580µm,0.5s,logA/T=6.0,baz=191							
KRBG	**Karabiga-Canak**	**5.40**	**328**	*e*PN		**Pn**	**01 06 45.8**	**+2.3**
KRBG	**Karabiga-Canak**	**5.40**	**328**	*e*Pn		**Pn**	**01 06 45.8**	**+2.3**
MRMT	**Marmara Adasi**	**5.45**	**331**	*e*PN		**Pn**	**01 06 45.8**	**+1.5**
MRMT	**Marmara Adasi**	**5.45**	**331**	*e*Pn		**Pn**	**01 06 45.8**	**+1.5**
SAFT	**Safranbolu**	**5.50**	**13**	*e*PN		**Pn**	**01 06 46.5**	**+1.5**
SAFT	**Safranbolu**	**5.50**	**13**	*e*Pn		**Pn**	**01 06 46.5**	**+1.5**
AMAG	**Maghara**	**5.52**	**160**	P		**Pn**	**01 06 46.4**	**+1.1**
AMAG	**Maghara**	**5.52**	**160**	P		**Pn**	**01 06 46.4**	**+1.1**
	baz=159							
AMAG	**Maghara**	**5.52**	**160**	P		**Pn**	**01 06 46.3**	**+0.9**
	baz=159							
MATC	**Matruh**	**5.54**	**216**	P		**Pn**	**01 06 46.2**	**+0.8**
	baz=216							
MATC	**Matruh**	**5.54**	**216**	P		**Pn**	**01 06 45.9**	**+0.5**
	baz=217							
KLYT	**Kilyos**	**5.59**	**344**	*e*PN		**Pn**	**01 06 47.8**	**+1.6**
KLYT	**Kilyos**	**5.59**	**344**	*e*Pn		**Pn**	**01 06 47.8**	**+1.6**
VAM	**Vamos**	**5.61**	**267**	P		**Pn**	**01 06 45.0**	**-1.4**
VAM	**Vamos**	**5.61**	**267**	P		**Pn**	**01 06 45.0**	**-1.4**
VAM	**Vamos**	**5.61**	**267**	P		**Pn**	**01 06 45.0**	**-1.4**
LPK	**Lapseki**	**5.62**	**324**	*e*PN		**Pn**	**01 06 48.8**	**+2.2**
LPK	**Lapseki**	**5.62**	**324**	*e*Pn		**Pn**	**01 06 48.8**	**+2.2**
RKY	**Sarkoy-Tekirda**	**5.69**	**329**	*e*PN		**Pn**	**01 06 49.4**	**+1.8**
RKY	**Sarkoy-Tekirda**	**5.69**	**329**	*e*Pn		**Pn**	**01 06 49.4**	**+1.8**
CTKS	**Kestanelik-??a**	**5.71**	**340**	*e*PN		**Pn**	**01 06 50.1**	**+2.3**
CTKS	**Kestanelik-??a**	**5.71**	**340**	*e*Pn		**Pn**	**01 06 50.1**	**+2.3**
GELI	**Tayfur-Gelibol**	**5.78**	**323**	*e*PN		**Pn**	**01 06 50.3**	**+1.5**
GELI	**Tayfur-Gelibol**	**5.78**	**323**	*e*Pn		**Pn**	**01 06 50.3**	**+1.5**
SLVT	**Silivri**	**5.79**	**338**	*e*PN		**Pn**	**01 06 50.7**	**+1.8**
SLVT	**Silivri**	**5.79**	**338**	*e*Pn		**Pn**	**01 06 50.7**	**+1.8**
KARN	**Karanos**	**5.84**	**267**	P		**Pn**	**01 06 49.9**	**+0.3**
KARN	**Karanos**	**5.84**	**267**	*e*P		**Pn**	**01 06 50.2**	**+0.6**
KARN	**Karanos**	**5.84**	**267**	P		**Pn**	**01 06 49.9**	**+0.3**
KARN	**Karanos**	**5.84**	**267**	P		**Pn**	**01 06 49.9**	**+0.3**
KOT	**Kottamia**	**5.97**	**174**	P		**Pn**	**01 06 52.9**	**+1.4**
KOT	**Kottamia**	**5.97**	**174**	P		**Pn**	**01 06 52.9**	**+1.4**
	baz=172							
KOT				AMP			01 08 00.0	
	comp=E,170µm,0.2s,logA/T=6.0,baz=172							
KOT	**Kottamia**	**5.97**	**174**	P		**Pn**	**01 06 52.8**	**+1.3**
	baz=172							
HHAG	**Hagoai**	**5.97**	**171**	P		**Pn**	**01 06 53.3**	**+1.8**
	baz=170							
HHAG				AMP			01 08 00.0	
	comp=E,110µm,0.2s,logA/T=5.6,baz=170							
SQR		**5.98**	**179**	P		**Pn**	**01 06 53.6**	**+2.0**
SQR		**5.98**	**179**	P		**Pn**	**01 06 53.6**	**+2.0**
	baz=178							
SQR		**5.98**	**179**	P		**Pn**	**01 06 53.4**	**+1.8**
	baz=178							
HMYD	**Mayadein**	**6.07**	**182**	P		**Pn**	**01 06 55.0**	**+2.2**
HMYD	**Mayadein**	**6.07**	**182**	P		**Pn**	**01 06 55.0**	**+2.2**
	baz=182							
HMYD	**Mayadein**	**6.07**	**182**	P		**Pn**	**01 06 55.2**	**+2.4**
	baz=182							
AYT	**Al ‘Ayyat**	**6.16**	**179**	P		**Pn**	**01 06 56.3**	**+2.3**
AYT	**Al ‘Ayyat**	**6.16**	**179**	P		**Pn**	**01 06 56.3**	**+2.3**
	baz=178							
FYM	**Al Fayyum**	**6.17**	**180**	P		**Pn**	**01 06 56.8**	**+2.6**
FYM	**Al Fayyum**	**6.17**	**180**	P		**Pn**	**01 06 56.8**	**+2.6**
	baz=179							
SUZ		**6.20**	**166**	P		**Pn**	**01 06 55.9**	**+1.3**
SUZ		**6.20**	**166**	P		**Pn**	**01 06 56.0**	**+1.3**
	baz=165							
SUZ		**6.20**	**166**	P		**Pn**	**01 06 56.0**	**+1.3**
	baz=164							
HNAT	**Natroun**	**6.24**	**184**	P		**Pn**	**01 06 57.2**	**+2.1**
HNAT	**Natroun**	**6.24**	**184**	P		**Pn**	**01 06 57.2**	**+2.1**
	baz=183							
HNAT	**Natroun**	**6.24**	**184**	P		**Pn**	**01 06 57.2**	**+2.1**
	baz=183							
HSAF	**As Saff**	**6.26**	**176**	P		**Pn**	**01 06 56.5**	**+1.2**
HSAF	**As Saff**	**6.26**	**176**	P		**Pn**	**01 06 56.5**	**+1.2**
	baz=175							
HSAF	**As Saff**	**6.26**	**176**	P		**Pn**	**01 06 56.6**	**+1.2**
	baz=175							
HSAF				S		**Sn**	**01 08 02.5**	**-3.0**
	baz=175							
ANKY	**Antikythira Is**	**6.30**	**272**	P		**Pn**	**01 06 56.3**	**+0.4**
ANKY	**Antikythira Is**	**6.30**	**272**	*e*P		**Pn**	**01 06 56.6**	**+0.7**
ANKY	**Antikythira Is**	**6.30**	**272**	P		**Pn**	**01 06 56.3**	**+0.4**
ANKY	**Antikythira Is**	**6.30**	**272**	P		**Pn**	**01 06 56.3**	**+0.4**
GLL	**Jalalah**	**6.31**	**175**	P		**Pn**	**01 06 57.5**	**+1.4**
GLL	**Jalalah**	**6.31**	**175**	P		**Pn**	**01 06 57.5**	**+1.4**
	baz=174							
GLL	**Jalalah**	**6.31**	**175**	P		**Pn**	**01 06 57.5**	**+1.4**
	baz=174							
HNKL	**Nakhl**	**6.42**	**157**	P		**Pn**	**01 06 58.4**	**+0.8**
HNKL	**Nakhl**	**6.42**	**157**	P		**Pn**	**01 06 58.4**	**+0.8**
	baz=156							
HNKL	**Nakhl**	**6.42**	**157**	P		**Pn**	**01 06 58.4**	**+0.8**
	baz=155							
SLUM		**6.55**	**230**	P		**Pn**	**01 06 59.5**	**+0.2**
SLUM		**6.55**	**230**	P		**Pn**	**01 06 59.5**	**+0.2**
	baz=229							
SLUM		**6.55**	**230**	P		**Pn**	**01 06 59.6**	**+0.2**
	baz=231							
VLI	**Veliai**	**6.62**	**280**	P		**Pn**	**01 07 00.5**	**+0.3**
VLI	**Veliai**	**6.62**	**280**	*e*P		**Pn**	**01 07 00.7**	**+0.5**
VLI	**Veliai**	**6.62**	**280**	P		**Pn**	**01 07 00.5**	**+0.3**
VLI	**Veliai**	**6.62**	**280**	P		**Pn**	**01 07 00.5**	**+0.3**
ZNM		**6.66**	**166**	P		**Pn**	**01 07 02.9**	**+2.0**
ZNM		**6.66**	**166**	P		**Pn**	**01 07 02.9**	**+2.0**
	baz=165							
HBNS	**Bani Suwayf**	**6.91**	**179**	P		**Pn**	**01 07 06.1**	**+1.8**
HBNS	**Bani Suwayf**	**6.91**	**179**	P		**Pn**	**01 07 06.1**	**+1.8**
	baz=178							
HBST	**Basata**	**7.33**	**154**	P		**Pn**	**01 07 11.2**	**+1.2**
HBST	**Basata**	**7.33**	**154**	P		**Pn**	**01 07 11.2**	**+1.2**
	baz=153							
KLV	**Kalavryta, Ach**	**7.45**	**289**	*e*P		**Pn**	**01 07 13.8**	**+2.0**
ITM	**Ithomi**	**7.47**	**283**	*e*P		**Pn**	**01 07 13.1**	**+1.2**
AMT	**Artemida-Makis**	**7.69**	**285**	*e*P		**Pn**	**01 07 17.0**	**+2.0**
HKAT	**Jabal Katrina**	**7.74**	**160**	P		**Pn**	**01 07 16.5**	**+0.6**
HKAT	**Jabal Katrina**	**7.74**	**160**	P		**Pn**	**01 07 16.5**	**+0.6**
	baz=160							
HKAT	**Jabal Katrina**	**7.74**	**160**	P		**Pn**	**01 07 16.5**	**+0.6**
	baz=159							
AWBH		**7.75**	**194**	P		**Pn**	**01 07 16.3**	**+0.4**
AWBH		**7.75**	**194**	P		**Pn**	**01 07 16.3**	**+0.4**
	baz=194							
TR2		**7.80**	**162**	P		**Pn**	**01 07 17.4**	**+0.9**
	baz=161							
SWA2		**8.13**	**217**	P		**Pn**	**01 07 21.0**	**0.0**
SWA2		**8.13**	**217**	P		**Pn**	**01 07 21.0**	**0.0**
	baz=217							
SWA2				S		**Sn**	**01 08 48.1**	**-3.4**
	baz=217							
HFRF	**Wahat Farafira**	**9.01**	**196**	P		**Pn**	**01 07 33.8**	**+0.7**
	baz=196							
KBZ	**Khabaz**	**12.00**	**46**	P		**Pn**	**01 08 13.7**	**-0.1**
	comp=E,0.0nm,0.3s,baz=246,slow=12,SNR=2.8							
AKASG	**Malin Array Be**	**14.88**	**355**	P		**Pn**	**01 08 52.5**	**+0.3**
	comp=E,0.7nm,0.3s,baz=182,slow=10.0,SNR=5.2							
GEYT	**Alibeck**	**21.71**	**77**	P		**P**	**01 10 11.4**	**-0.2**
	comp=E,1.0nm,0.3s,baz=276,slow=9.9,SNR=3.8							
AKTO	**Aktyubinsk**	**24.29**	**45**	P		**P**	**01 10 36.9**	**-0.1**
	comp=E,1.6nm,0.5s,baz=247,slow=8.0,SNR=8.7							
ABKAR	**Akbulak array**	**24.94**	**49**	*e*P		**P**	**01 10 43.0**	**0.0**
	comp=E,0.9nm,0.4s							
ABKAR	**Akbulak array**	**24.94**	**49**	*e*P		**P**	**01 10 43.0**	**0.0**
	comp=E,0.9nm,0.4s							
FINES	**FINESS Array B**	**25.78**	**354**	P		**P**	**01 10 49.0**	**-1.5**
	comp=E,0.6nm,0.4s,baz=159,slow=12,SNR=11							
ESDC	**Sonseca Array**	**27.83**	**288**	P		**P**	**01 11 10.3**	**+1.0**
	comp=E,0.4nm,0.6s,baz=80,slow=8.3,SNR=4.3							
KKAR	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**01 11 38.2**	**+0.4**
	comp=E,1.8nm,0.5s							
KKAR	**Karatay Array**	**31.07**	**64**	*e*P		**P**	**01 11 38.2**	**+0.4**
	comp=E,1.8nm,0.5s							
ARCES	**ARCESS Array B**	**33.85**	**356**	P		**P**	**01 11 60.0**	**-1.9**
	comp=E,1.1nm,0.8s,baz=155,slow=6.9,SNR=5.9							
AAK	**Ala-Archa**	**34.01**	**65**	*e*P		**P**	**01 12 03.9**	**+0.2**
	comp=E,2.1nm,0.6s							
AAK	**Ala-Archa**	**34.01**	**65**	*e*P		**P**	**01 12 03.9**	**+0.2**
	comp=E,2.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**34.78**	**237**	P		**P**	**01 12 11.4**	**+1.0**
	comp=E,0.3nm,0.6s,baz=33,slow=7.4,SNR=5.2							
TORD				PcP		**PcP**	**01 14 43.7**	**+0.8**
	comp=E,0.2nm,0.6s,baz=43,slow=2.6,SNR=3.1							
MKAR	**Makanchi Array**	**39.34**	**58**	P		**P**	**01 12 48.9**	**0.0**
	comp=E,1.1nm,0.6s,baz=276,slow=6.9,SNR=13							
ZALV	**Zalesovo Beam**	**41.02**	**47**	P		**P**	**01 13 01.5**	**-1.1**
	comp=E,1.5nm,0.5s,baz=271,slow=8.6,SNR=7.6							
SONM	**Songino Array**	**55.27**	**52**	P		**P**	**01 14 52.1**	**-0.6**
	comp=E,0.5nm,0.5s,baz=286,slow=7.9,SNR=7.6							
YKA	**Yellowknife Ar**	**78.15**	**344**	P		**P**	**01 17 18.1**	**+0.3**
	comp=E,0.1nm,0.7s,baz=35,slow=5.5,SNR=3.1							

MEX 02 01:27:50.7±0.5, 16.13N×97.09W, h11km±9km, MD3.7, Oaxaca

| Code | Station Name | Δ° | AZ° | Phase

GYA PMZ
comp=Z,10.0nm,0.8s
GYA LN
comp=Z,480nm,16.8s
GYA LE
comp=Z,370nm,17.0s
GYA LZ
comp=Z,450nm,16.6s
ODAN Odare 31.25 337 *e*P **P** **02 27 34.9 +0.3**
TAPN Taplejung 31.57 338 *e*P **P** **02 27 37.8 +0.3**
comp=Z,35nm,1.0s
RAMN Ramite 31.64 336 *e*P **P** **02 27 39.0 +0.9**
JIRN Jiri 32.44 336 *e*P **P** **02 27 45.6 +0.4**
LSA Lhasa 32.66 345 *e*P **P** **02 27 47.6 +0.4**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 32.66 345 *e*P **P** **02 27 47.6 +0.4**
comp=Z,13nm,0.8s
CD2 Chengdu 32.78 5 *e*P **P** **02 27 50.1 +2.3**
CD2 pP **pP** **02 28 09.5 +2.3**
CD2 sP **sP** **02 28 19.6 +2.8**
CD2 PP **PP** **02 29 02.7 -0.7**
CD2 S **S** **02 33 00.5 +1.7**
CD2 sS **sS** **02 33 34.2 +2.0**
CD2 PcS **PcS** **02 34 17.3 +0.5**
CD2 SS **SnSn** **02 35 04.5 +1.2**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
GUN Gumba 32.78 336 *e*P **P** **02 27 48.7 +0.4**
comp=Z,39nm,0.6s
XAN Xi'an 36.62 12 P **P** **02 28 19.2 -1.7**
XAN PMZ
comp=Z,3.0nm,0.6s
XAN PMZ
comp=Z,13nm,5.9s
WRA Warramunga Arr 37.65 121 P **P** **02 28 29.0 -0.8**
comp=Z,3.6nm,0.7s,baz=300,slow=9.1,SNR=12
WRA PcP **PcP** **02 30 47.0 +1.1**
comp=Z,0.7nm,0.5s,baz=312,slow=2.5,SNR=3.2
WRA S **S** **02 34 11.7 -2.2**
comp=Z,0.8nm,0.7s,baz=283,slow=15,SNR=4.6
WRAB Tennant Creek 37.66 121⇑ *e*P **P** **02 28 29.3 -0.6**
WRAB pmax pmax
comp=Z,42nm,2.5s
WRAB Tennant Creek 37.66 121 *e*P **P** **02 28 29.1 -0.8**
comp=Z,5.7nm,0.7s
LZH Lanzhou 37.92 4 *e*P **P** **02 28 32.0 0.0**
LZH pP **pP** **02 28 50.6 -1.1**
LZH sP **sP** **02 29 00.6 -0.7**
LZH PMZ
comp=Z,17nm,1.0s
NJ2 Nanjing 38.00 26 *e*P **P** **02 28 32.6 +0.1**
NJ2 PMZ
comp=Z,50nm,0.8s
ASAR Alice Springs 38.94 126 P **P** **02 28 41.0 +0.3**
comp=Z,8.0nm,0.8s,baz=302,slow=7.8,SNR=87
ASAR PcP **PcP** **02 30 51.2 +1.4**
comp=Z,1.4nm,0.7s,baz=307,slow=2.4,SNR=7.5
ASAR S **S** **02 34 33.2 -0.2**
comp=Z,0.3nm,0.6s,baz=297,slow=14,SNR=3.0
AS31 Alice Springs 38.95 126 *e*P **P** **02 28 40.5 -0.1**
GTA Gaotai 41.11 359 *e*P **P** **02 28 57.7 -0.7**
GTA pP **pP** **02 29 17.4 -0.9**
GTA sP **sP** **02 29 27.0 -0.9**
GTA PMZ
comp=Z,4.0nm,1.2s
COEN Coen 43.88 108 *e*P **P** **02 29 20.0 -1.1**
BJI Beijing 44.15 17 P **P** **02 29 23.1 +0.3**
BJI pP **pP** **02 29 42.7 -0.2**
BJI sP **sP** **02 29 52.7 +0.3**
BJI PcP **PP** **02 31 07.2 -0.1**
BJI PP **PcP** **02 31 09.7 +3.2**
BJI S **S** **02 35 50.5 +0.8**
BJI PMZ
comp=Z,15nm,0.6s
BJI LN
comp=Z,270nm,17.4s
BJI LE
comp=Z,230nm,23.5s
BJI LZ
comp=Z,140nm,29.8s
KSAR Wonju Array Be 46.67 30 P **P** **02 29 43.4 +0.6**
KSAR Wonju Array Be 46.67 30 P **P** **02 29 43.4 +0.6**
KSRS Korea Array 46.70 30 P **P** **02 29 43.4 +0.3**
comp=Z,0.8nm,0.3s,baz=234,slow=8.0,SNR=4.1
WMQ Urumqi 46.93 347⇓ *i*P **P** **02 29 46.0 +1.2**
WMQ pP **pP** **02 30 06.0 +0.8**
WMQ sP **sP** **02 30 17.0 +2.4**
WMQ PcP **PcP** **02 31 18.0 +1.8**
WMQ PP **PP** **02 31 36.0 -0.2**
WMQ PcS **PcS** **02 35 16.0 +4.7**
WMQ ScS **ScS** **02 39 29.0 -2.3**
WMQ PMZ
comp=Z,8.0nm,0.9s
WMQ PMZ
comp=Z,120nm,4.0s
WMQ LN
comp=Z,130nm,16.4s
WMQ LE
comp=Z,190nm,20.5s
WMQ LZ
comp=Z,160nm,18.2s
KSH Kashi 46.94 334 *e*P **P** **02 29 44.2 -0.9**
KSH sP **sP** **02 30 11.5 -3.3**
KSH PcS **PcS** **02 35 12.2 +0.6**
KSH S S 02 36 24.1 -6.1
KSH SS SS 02 39 44.6 -14
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,57nm,4.7s
KSH LN
comp=Z,100nm,4.7s
KSH LE
comp=Z,110nm,5.6s
KSH LZ
comp=Z,97nm,8.7s
CTAO Charters Tower 48.23 115 *e*P **P** **02 29 53.7 -1.5**
CTAO pmax pmax
comp=Z,5.0nm,0.8s
CTAO Charters Tower 48.23 115 *e*P **P** **02 29 53.7 -1.5**
comp=Z,4.9nm,0.8s
SFK Sufi-Kurgan 48.46 332 P **P** **02 29 57.5 +0.6**
SFK pmax pmax
comp=Z,10.0nm,0.9s
PDGK Podgornoye 48.81 340 P **P** **02 29 59.5 +0.3**
PDGK pmax pmax
comp=Z,34nm,0.9s
ULHL Ulahol 49.10 336 P **P** **02 30 02.5 +0.8**
SNR=14
ULHL Ulahol 49.10 336 *i*P **P** **02 30 02.5 +0.8**
KZA Kyzart 49.36 335 P **P** **02 30 04.7 +0.6**
SNR=10.0
KZA Kyzart 49.36 335 *i*P **P** **02 30 04.6 +0.6**
UCH Uchtor 49.80 335 P **P** **02 30 08.0 +0.6**
SNR=13
UCH Uchtor 49.80 335 *i*P **P** **02 30 08.0 +0.6**
SONM Songino Array 49.80 5 P **P** **02 30 07.0 +0.1**
comp=Z,5.7nm,0.8s,baz=187,slow=9.2,SNR=48
SONM PcP **PcP** **02 31 27.3 +0.7**
comp=Z,1.5nm,0.7s,baz=186,slow=4.3,SNR=6.8
ULN Ulaanbaatar 49.89 6⇓ *e*P **P** **02 30 08.1 +0.5**
ULN pmax pmax
comp=Z,4.0nm,1.7s
ULN Ulaanbaatar 49.89 6 *e*P **P** **02 30 07.7 +0.1**
TKM2 Tokmak 2 49.92 336 P **P** **02 30 09.0 +0.9**
SNR=32
TKM2 Tokmak 2 49.92 336 P **P** **02 30 08.4 +0.4**
TKM2 pmax pmax
comp=Z,19nm,0.7s
TKM2 Tokmak 2 49.92 336 *e*P **P** **02 30 08.9 +0.9**
comp=Z,22nm,0.7s
KBK Karagaybulak 49.97 335 P **P** **02 30 09.7 +1.3**
SNR=9.8
KBK Karagaybulak 49.97 335 *i*P **P** **02 30 09.7 +1.3**
AML Almayashu 50.07 334 P **P** **02 30 10.2 +0.8**
SNR=19
AML Almayashu 50.07 334 *i*P **P** **02 30 10.2 +0.8**
AAK Ala-Archa 50.14 335 P **P** **02 30 10.8 +1.2**
SNR=6.3
AAK Ala-Archa 50.14 335 P **P** **02 30 10.3 +0.7**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 50.14 335 *e*P **P** **02 30 10.6 +1.0**
comp=Z,5.2nm,0.7s
FRU Bishkek 50.25 335 *e*P **P** **02 30 10.0 -0.3**
FRU *i* 02 30 29.0
CHMS Chumysh 50.33 336 P **P** **02 30 11.6 +0.6**
SNR=6.9
CHMS Chumysh 50.33 336 *i*P **P** **02 30 11.5 +0.6**
EKS2 Erkin-Say 50.47 335 P **P** **02 30 13.3 +1.3**
SNR=29
EKS2 Erkin-Say 50.47 335 *e*P **P** **02 30 13.2 +1.2**
EKS2 pmax pmax
comp=Z,22nm,0.8s
EKS2 Erkin-Say 50.47 335 *e*P **P** **02 30 13.2 +1.2**
comp=Z,22nm,0.8s
USP Ospenovka 50.66 336 P **P** **02 30 14.1 +0.7**
SNR=18
USP Ospenovka 50.66 336 *i*P **P** **02 30 14.0 +0.7**
CN2 Changchun 50.71 23 *e*P **P** **02 30 13.0 -0.7**
MNAS Manas 50.88 333 P **P** **02 30 15.9 +0.7**
MNAS pmax pmax
comp=Z,26nm,1.3s
MK31 Makanchi Array 51.05 344 *i*P **P** **02 30 15.9 -0.4**
MK31 pmax pmax
comp=Z,16nm,0.7s
MKAR Makanchi Array 51.05 344 *ce*P **P** **02 30 16.2 -0.1**
MKAR pmax pmax
comp=Z,15nm,0.6s
MKAR Makanchi Array 51.05 344 P **P** **02 30 16.3 +0.1**
comp=Z,15nm,0.6s,baz=147,slow=8.0,SNR=197
KK31 Karatay Array 52.27 332 *i*P **P** **02 30 23.9 -1.5**
KKAR Karatay Array 52.27 332 *e*P **P** **02 30 25.6 +0.2**
KKAR Karatay Array 52.27 332 *e*P **P** **02 30 25.6 +0.2**
MDJ Mudanjiang 53.10 26 P **P** **02 30 32.4 +1.0**
MDJ PMZ
comp=Z,4.0nm,0.6s
MDJ PMZ
comp=Z,89nm,3.8s
USRK Ussuriysk Ar. 53.85 28 P **P** **02 30 37.4 +0.4**
comp=Z,9.6nm,0.7s,baz=231,slow=6.4,SNR=20
KURK Kurchatov 55.64 343 P **P** **02 30 49.2 -0.5**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 55.64 343 *e*P **P** **02 30 49.8 +0.1**
comp=Z,18nm,0.8s
GEYT Alibeck 55.66 320 P **P** **02 30 50.0 -0.2**
comp=Z,4.2nm,0.9s,baz=156,slow=8.1,SNR=9.9
ZALV Zalesovo Beam 57.15 349 P **P** **02 31 00.1 -0.3**
comp=Z,30nm,0.8s,baz=172,slow=5.4,SNR=107
NVS Novosibirsk 58.31 348 *e*P **P** **02 31 05.7 -2.8**
HABR Khabarovsk 58.47 26 *e*P **P** **02 31 09.4 -0.3**
HABR *e**PP **pP** **02 31 29.5 -1.2**
HABR *e* 02 31 58.5
HABR *e*S **S** **02 39 06.6 -0.1**
HABR *e* 02 40 51.1
HABR *e*SS **SS** **02 43 02.4 +1.9**
HABR pmax pmax
comp=Z,14nm,1.3s
BOD Bodaibo 60.51 8 *e*P P 02 31 19.7 -3.9
BOD pmax pmax
comp=Z,5.0nm,1.0s
AB31 Akbulak array 61.77 331 P **P** **02 31 31.5 -0.8**
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 61.77 331 *e*P **P** **02 31 32.0 -0.3**
ABKAR *e*pP pP 02 31 46.0 -7.5
AKTO Aktyubinsk 63.49 331 P **P** **02 31 42.7 -1.0**
AKTO pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 65.77 316⇓ *e*P **P** **02 32 00.0 +1.0**
GNI pmax pmax
comp=Z,10.0nm,1.7s
GNI Garni 65.77 316 *e*P **P** **02 31 59.6 +0.5**
ARU Arti 67.30 336 *ce*P **P** **02 32 07.6 -0.6**
ARU *PP **pP** **02 32 27.2 -2.5**
ARU S **S** **02 40 58.2 +1.4**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 67.30 336 *e*P **P** **02 32 07.8 -0.4**
comp=Z,8.4nm,1.1s
YAK Yakutsk 67.53 14 *i*P **P** **02 32 08.9 -0.6**
KBZ Khabaz 68.53 319 P **P** **02 32 16.8 +0.6**
comp=Z,4.9nm,0.7s,baz=126,slow=6.6,SNR=22
KIV Kislovodsk 68.76 319⇓ *e*P **P** **02 32 18.6 +0.8**
KIV *i* 02 32 33.3
KIV *e* 02 34 50.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 68.76 319 *e*P **P** **02 32 17.9 +0.1**
comp=Z,8.0nm,0.9s
VRHR Novokhopersk 72.50 326 *e*P **P** **02 32 39.0 -1.2**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
CSS Prodhromos 72.52 307 *e*P **P** **02 32 39.9 -0.8**
comp=Z,3.4nm,1.1s
BRTR Keskin Array B 73.59 312 P **P** **02 32 46.9 -0.2**
comp=Z,1.8nm,0.8s,baz=133,slow=7.6,SNR=15
VSR Storozhevoye 73.95 325 *di*P **P** **02 32 48.4 -0.3**
VSR pmax pmax
comp=Z,19nm,1.0s
TIXI Tiksi 75.69 9 *ce*P **P** **02 32 57.4 -0.9**
TIXI pmax pmax
comp=Z,25nm,1.7s
TIXI Tiksi 75.69 9 *e*P **P** **02 32 57.6 -0.7**
PRGR Permogore 75.76 336 P **P** **02 32 55.9 -3.0**
PRGR pmax pmax
comp=Z,6.0nm,0.4s
OBN Obninsk 76.95 328 *de*P **P** **02 33 06.4 +0.6**
OBN *i* 02 33 26.4
OBN pmax pmax
comp=Z,23nm,2.5s
AKASG Malin Array Be 79.68 322 P **P** **02 33 20.7 -0.3**
comp=Z,0.2nm,0.3s,baz=83,slow=4.5,SNR=4.1
KIEV Kiev 79.69 322 *e*P **P** **02 33 20.7 -0.3**
KIEV pmax pmax
comp=Z,2.0nm,0.7s
KIEV Kiev 79.69 322 *e*P **P** **02 33 20.7 -0.3**
comp=Z,2.2nm,0.7s
VRI Vrincioaia 80.09 317⇓ P **P** **02 33 24.3 +1.0**
VRI Vrincioaia 80.09 317⇓ *i*P **P** **02 33 24.3 +1.0**
TESR Tescani 80.29 318⇓ *i*P **P** **02 33 25.5 +1.1**
MLR Muntele Rosu 80.54 317⇓ P **P** **02 33 27.0 +1.1**
MLR Muntele Rosu 80.54 317⇓ *i*P **P** **02 33 27.0 +1.1**
PRAR RASCA 80.76 318⇑ *i*P **P** **02 33 28.1 +1.2**
MMB Musomiste 81.35 312 ⇑P **P** **02 33 29.7 -0.5**
MMB Musomiste 81.35 312 ⇑ *i*P **P** **02 33 29.7 -0.5**
BURAR Bucovina Array 81.48 319⇓ P **P** **02 33 32.8 +1.9**
BURAR Bucovina Array 81.48 319⇓ *i*P **P** **02 33 32.8 +1.9**
VTS Vitosha 81.91 313⇓ P **P** **02 33 33.7 +0.4**
VTS Vitosha 81.91 313⇓ *i*P **P** **02 33 33.7 +0.4**
JOF Joensuu 82.32 334 *e*P **P** **02 33 33.9 -0.8**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 82.32 334 *ep* **P** **02 33 33.9 -0.8**
comp=Z,1.8nm,0.6s
IDID Didziasalis 82.34 326 *e*P **P** **02 33 35.5 +0.5**
IDID AMB AMB 02 33 36.5
comp=Z,5.4nm,1.1s
IIGN Ignalina 82.64 326 *e*P **P** **02 33 37.0 +0.5**
IIGN AMB AMB 02 33 38.2
comp=Z,4.3nm,0.8s
TSUM Tsumeb 82.65 251 *e*P **P** **02 33 38.9 +1.3**
comp=Z,11nm,1.3s
ISAL Salakas 82.75 327 *e*P **P** **02 33 37.6 +0.5**
ISAL AMB AMB 02 33 40.7
comp=Z,6.5nm,1.5s
BZS Buzias 83.55 316⇓ *e*P **P** **02 33 42.5 +1.0**
BZS Buzias 83.55 316⇓ *i*P **P** **02 33 42.5 +1.0**
KOLS Kolonicke sedl 83.67 320 *e*P **P** **02 33 43.4 +1.3**
KOLS pmax pmax
comp=Z,11nm,1.6s
KOLS Kolonicke sedl 83.67 320 *e*P **P** **02 33 43.4 +1.3**
FINES FINESS Array B 84.23 332 *i*P **P** **02 33 45.0 +0.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 84.23 332 P **P** **02 33 45.1 +0.5**
comp=Z,1.9nm,0.6s,baz=115,slow=6.5,SNR=18
KAF Kangasniemi 84.30 333 *e*P **P** **02 33 44.3 -0.6**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 84.30 333 *ep* **P** **02 33 44.3 -0.6**
comp=Z,4.2nm,0.6s
STHS Stebnicka Huta 84.42 320 *e*P **P** **02 33 46.7 +0.8**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 84.42 320 *e*P **P** **02 33 46.7 +0.8**
ARCES ARCESS Array B 86.53 340 P **P** **02 33 56.5 +0.6**
comp=Z,2.2nm,0.7s,baz=87,slow=6.2,SNR=5.3
MORC Moravsky Berou 86.85 320 *e*P **P** **02 33 57.3 -0.7**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 86.85 320 *e*P **P** **02 33 57.2 -0.7**
comp=Z,2.8nm,0.9s
GERES GERESS Array B 89.27 319 P **P** **02 34 09.1 -0.4**
comp=Z,0.6nm,0.8s,baz=76,slow=5.6,SNR=6.0
CLL Collm 89.87 321 *e*P **P** **02 34 12.0 -0.1**
HFS Hagfors 90.01 330 P **P** **02 34 13.4 +0.8**
comp=Z,1.1nm,0.7s,baz=123,slow=5.3,SNR=6.8
NOA NORSAR Array B 91.28 331 P **P** **02 34 18.0 -0.5**
comp=Z,1.2nm,0.8s,baz=93,slow=4.6,SNR=3.7
KEST Kesra 92.00 306 P **P** **02 34 24.3 +1.8**
comp=Z,1.7nm,0.9s,baz=90,slow=8.0,SNR=4.7
KEST Kesra 92.00 306 *e*P **P** **02 34 22.4 -0.1**
YKA Yellowknife Ar 114.14 17 PKP PKPdf 02 39 51.6 -0.2
comp=Z,0.2nm,0.7s,baz=0.1,slow=2.1,SNR=5.1
RSSD Black Hills 132.68 24 *e*PKPdf **PKPdf** **02 40 26.4 -1.8**
WMOK Wichita Mounta 142.73 27 *e*PKHKP PKPpre 02 40 39.6
WMOK *e* 02 40 46.2
WMOK Wichita Mounta 142.73 27 *e*PKPpre PKPpre 02 40 39.6
WMOK *e*PKPdf **PKPdf** **02 40 46.2 -0.6**
TXAR Lajitas Array 144.34 38 PKP **PKPdf** **02 40 49.8 0.0**
comp=Z,4.3nm,0.6s,baz=251,slow=1.1,SNR=51
MIAR Mount Ida 144.98 20 *e*PKIKP **PKPab** **02 40 50.3 +0.2**
MIAR Mount Ida 144.98 20 *e*PKPdf **PKPab** **02 40 50.3 +0.2**
CFAA Coronel Fontan 144.99 197 PKP **PKPdf** **02 40 51.9 +1.1**
comp=Z,0.7nm,0.6s,baz=158,slow=2.3,SNR=13
WVT Waverly 145.08 12 *e*PKIKP **PKPbc** **02 40 50.0 -0.3**
WVT Waverly 145.08 12 *e*PKPdf **PKPbc** **02 40 50.0 -0.3**
JCT Junction City 145.69 32 *e*PKP2 **PKPab** **02 40 53.0 +0.1**
JCT Junction City 145.69 32 *e*PKPbc **PKPab** **02 40 53.0 +0.1**
LVC Limon Verde 153.52 202 *e*PKPdf **PKPdf** **02 41 03.8 -1.1**
LVC *e*PKPbc **PKPbc** **02 41 10.8 -1.9**
JTS JuntasAbangare 170.08 33 *e*PKIKP **PKPdf** **02 41 19.8 -1.9**
JTS *e* 02 42 36.3
JTS JuntasAbangare 170.08 33 *e*PKPdf **PKPdf** **02 41 19.8 -1.9**
JTS *e*PKPab **PKPab** **02 42 36.3 -0.9**
OTAV Otavalo 178.02 214 *e*PKPdf **PKPdf** **02 41 26.0 +0.9**

ISCJB ***02*** *02:26:35.8±0.8, 19°.9S±0°.1×178°.4W±0°.2, h602km, mb3.5/7, Error ellipse: s-maj=20.2km s-min=13.6km az=16.4*
IDC ***02*** *02:26:38.8±4.7, 19°.96S×178°.35W, h627km±62km, mb2.9/7, mb1 3.2/8, mb1mx3.0/32, mbtmp4.0/8, Error ellipse: s-maj=26.2km s-min=16.8km az=84.0*
ISC 02 02:26:36.9±0.9, 19°.9S±0°.1×178°.3W±0°.2, h602km, n8, σ0§43/9, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**18.72**	**191**	P		**P**	**02 30 19.3**	**+0.5**
	2.1nm,0.3s,baz=346,slow=8.3,SNR=14							
URZ				S		**S**	**02 33 18.1**	**-0.5**
	0.2nm,0.3s,baz=23,slow=17,SNR=3.0							
CTA	**Charters Tower**	**33.27**	**264**	P		**P**	**02 32 26.7**	**+0.2**
	2.2nm,0.4s,baz=79,slow=10.0,SNR=8.1							
JAY	**Jayapura**	**43.59**	**288**	P		**P**	**02 33 49.8**	**+0.2**
	3.5nm,0.5s,baz=90,slow=6.1,SNR=3.7							
ASAR	**Alice Springs**	**44.38**	**256**	P		**P**	**02 33 55.7**	**0.0**
	1.8nm,0.7s,baz=90,slow=8.2,SNR=21							
WRA	**Warramunga Arr**	**44.40**	**262**	P		**P**	**02 33 55.1**	**-0.7**
	0.8nm,0.3s,baz=98,slow=9.1,SNR=4.7							
TXAR	**Lajitas Array**	**86.98**	**57**	P		**P**	**02 38 19.6**	**-0.2**
	0.1nm,0.6s,baz=213,slow=7.4,SNR=3.0							
ILAR	**Eielson Array**	**87.80**	**13**	P		**P**	**02 38 22.7**	**+0.1**
	0.3nm,0.9s,baz=204,slow=5.3,SNR=3.0							
PDAR	**Pinedale Array**	**88.73**	**43**	P		**P**	**02 38 27.7**	**0.0**
	0.3nm,0.6s,baz=268,slow=4.5,SNR=2.6							

MEX 02 02:28:37.3±0.6, 16°.02N×97°.57W, h16km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.65**	**304**	*i* P		Pg	02 28 47.7	-2.4
PNIG				*i* S		Sg	02 28 56.0	-2.8
VHO	**Vista Hermosa**	**1.31**	**37**	*e*P		Pn	02 28 57.4	-3.9
VHO				*i* S		Sn	02 29 12.8	-5.9
CMIG	**Matias Romero**	**2.79**	**67**	*e*P		Pn	02 29 18.3	-3.0
CMIG				*i* S		Sn	02 29 51.0	-3.6
PCIG		**4.20**	**94**	*i* P		Pn	02 29 41.6	+0.9

BJI ***02*** *02:42:01.0, 8°.17S×127°.82E, h176km, mB5.1/50, mb5.2/64*
IDC ***02*** *02:42:06.9±1.0, 7°.58S×127°.45E, h167km±8km, mb4.6/29, mb1 4.7/33, mb1mx4.6/39, mbtmp5.1/33, MS3.9/12, Ms1 3.9/12, ms1mx3.7/29, Error ellipse: s-maj=9.6km s-min=7.4km az=68.0*
GCMT ***02*** *02:42:07.5±0.1, 7°.73S×127°.54E, h173km, MW5.4/113, Moment Tensor Solution. s97,c133; s113,c220; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr 1.17±.02; Mθθ-1.03±.02; Mϕϕ-0.13±.02; Mrθ 0.23±.02; Mθϕ 0.67±.02; Mϕr 0.57±.02; Best double couple: M0 1.43100×10^17 NP1:ϕs 322.00000°, δ52.00000°, λ124.00000°. NP2:ϕs 95.00000°, δ49.00000°, λ55.00000°. Principal axes: T 1.4690, Plg64.0000°, Azm295.0000°; N -0.0740, Plg26.0000°, Azm120.0000°; P -1.3920, Plg2.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
KLM ***02*** *02:42:07.2, 7°.89S×127°.54E, h161km, mb5.3, MS6.7*
ISCJB ***02*** *02:42:07.5±0.3, 7°.77S±0°.02×127°.50E±0°.02, h197km±2km, mb4.9/105, Error ellipse: s-maj=4.0km s-min=3.7km az=157.8*
NEIC ***02*** *02:42:07.5±0.4, 7°.63S×127°.49E, h177km±3km, mb5.1/54, Error ellipse: s-maj=4.2km s-min=3.5km az=217.0*
NEIC Felt at Dili, Timor-Leste and at Darwin, Australia.
MOS ***02*** *02:42:07.6±0.9, 7°.34S×127°.40E, h179km, mb5.1/38, Error ellipse: s-maj=9.9km s-min=5.8km az=122.3*
DJA ***02*** *02:42:08.5±0.2, 8°S±2°×12°8E±°, h179km±3km, M5.1/87, mb5.2/87, mB5.6/66, MLv6.0/20, Mw(mB)5.1/66, Mwp6.0/1*
ISC 02 02:42:07.7±0.3, 7°.61S±0°.03×127°.46E±0°.03, h179km±1km, h179km:pP-P, n1014, σ1§16/1134, mb5.0/105, 278C-182D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**3.81**	**236**	P		**Pn**	**02 43 06.7**	**+0.2**
SOEI				S		**Sn**	**02 43 51.6**	**-0.9**
SOEI	**Soe**	**3.81**	**236**	*e*Pn		**Pn**	**02 43 06.3**	**-0.2**
SOEI				*e*Sn		**Sn**	**02 43 54.5**	**+2.0**
SAUI	**Saumlaki**	**3.82**	**96**	P		**Pn**	**02 43 05.8**	**-0.7**
SAUI				S		**Sn**	**02 43 48.8**	**-3.6**
SAUI	**Saumlaki**	**3.82**	**96**	*e*Pn		**Pn**	**02 43 05.0**	**-1.4**
BNDI	**Bandanaira**	**3.91**	**38**	P		**Pn**	**02 43 08.7**	**+1.0**
NLAI	**Namlea**	**4.36**	**355**	P		Pn	02 43 17.1	+3.7
MSAI	**Masohi**	**4.48**	**19**	P		**Pn**	**02 43 17.0**	**+2.0**
BATI	**Baumata**	**4.56**	**235**	P		**Pn**	**02 43 16.1**	**+0.2**
BATI				S		**Sn**	**02 44 09.7**	**+0.2**
BATI	**Baumata**	**4.56**	**235**	P		**Pn**	**02 43 16.2**	**+0.2**
	1μm,0.3s,baz=122,slow=1.6,SNR=1172							
BATI				S		**Sn**	**02 44 08.6**	**-0.9**
	2μm,0.3s,baz=0.0,slow=20,SNR=16							
MMRI	**Maumere**	**5.27**	**258**	P		**Pn**	**02 43 25.7**	**+0.5**
	2μm,1.0s,26μm16nm							
MMRI				S		**Sn**	**02 44 28.2**	**+2.1**
	2μm,1.0s,26μm16nm							
MMRI	**Maumere**	**5.27**	**258**	*e*Pn		**Pn**	**02 43 25.8**	**+0.5**
MMRI				*e*Sn		**Sn**	**02 44 24.5**	**-1.6**
SANI	**Sanana**	**5.72**	**345**	P		**Pn**	**02 43 34.1**	**+3.1**
	622nm,1.2s,10μm2.4nm							
EDFI	**Ende, Flores**	**5.83**	**258**	P		**Pn**	**02 43 33.3**	**+0.7**
	1μm,1.2s,13μm4.9nm							
EDFI				S		**Sn**	**02 44 39.8**	**+0.5**
	1μm,1.2s,13μm4.9nm							
FAKI	**Fak Fak**	**6.66**	**46**	P		**Pn**	**02 43 41.2**	**-2.3**
	383nm,0.7s,7μm2.6nm							
FAKI				S		**Sn**	**02 44 55.5**	**-3.5**
	383nm,0.7s,7μm2.6nm							
FAKI	**Fak Fak**	**6.66**	**46**	*e*Pn		**Pn**	**02 43 41.2**	**-2.3**
FAKI				*e*Sn		Sn	02 44 51.1	-7.9
LBMI	**Labuha**	**6.93**	**0**	P		Pn	02 43 50.5	+3.6
	1μm,1.2s,16μm4.6nm							

BSSI **Bau Bau, Buton** 7.08 281 P Pn 02 43 51.2 +2.3
362nm,1.0s,12µm1.7nm
BASI **Baing, Sumba** 7.28 249 P Pn 02 43 51.0 -0.6
2µm,0.9s,58µm27nm
BASI S Sn 02 45 11.2 -2.4
2µm,0.9s,58µm27nm
WSI **Waingapu** 7.38 253 P Pn 02 43 52.1 -0.7
9µm,0.6s,281µm146nm
WSI S Sn 02 45 11.3 -4.6
9µm,0.6s,281µm146nm
BKSI **Bulukumba** 7.64 287 P Pn 02 43 58.5 +2.2
227nm,1.2s,2µm0.8nm
BNSI **Bone** 7.98 293 P Pn 02 44 03.2 +2.4
383nm,1.4s,5µm
LUWI **Luwuk** 8.03 324 P Pn 02 44 05.1 +3.7
357nm,1.2s,5µm
LUWI **Luwuk** 8.03 324 *e*Pn Pn 02 44 05.4 +4.0
KAPI **Kappang** 8.09 288 Pn Pn 02 44 04.2 +2.0
515nm,1.0s,SNR=17
KAPI **Kappang** 8.09 288 *e*Pn Pn 02 44 04.5 +2.3
TNTI **Ternate** 8.33 359 P Pn 02 44 08.1 +2.7
777nm,1.5s,13µm
TNTI **Ternate** 8.33 359 *e*Pn Pn 02 44 07.2 +1.8
2µm,1.5s
SPSI **Sidrap Palu** 8.47 295 P Pn 02 44 09.4 +2.2
158nm,1.1s,2µm
APSI **Ampana** 8.82 319 P Pn 02 44 15.8 +3.9
316nm,1.2s,4µm
KMSI **Cibinong** 8.84 337 P Pn 02 44 16.3 +4.2
732nm,0.9s,10µm
TTSI **Tana Toraja** 8.86 300 P Pn 02 44 16.1 +3.7
207nm,1.2s,2µm
RKPI **Ransiki, Papua** 9.03 48 P Pn 02 44 12.4 -2.2
465nm,0.7s
RKPI S Sn 02 45 50.2 -5.2
465nm,0.7s
GTOI **Gorontalo** 9.32 331 P Pn 02 44 25.3 +6.9
259nm,0.8s,2µm
MRSI **Marisa** 9.74 325 P Pn 02 44 27.9 +4.0
101nm,0.8s,1µm
PCI **Palu** 10.11 311 P P 02 44 33.5 -4.1
276nm,1.4s,4µm
MPSI **Mapaga** 10.92 316 P Pn 02 44 42.8 +3.5
269nm,1.3s,3µm
SGSI **Sangihe** 11.39 350 P Pn 02 44 47.9 +2.5
692nm,1.1s,13µm
KBKI **Kotabaru** 12.03 290 P P 02 44 56.7 -2.4
60nm,1.3s,4µm
SRBI **Singaraja** 12.15 267 P Pn 02 44 54.0 -1.1
77nm,0.7s,2µm
IGBI **Denpasar** 12.25 264 P Pn 02 44 54.5 -2.0
192nm,0.6s,5µm
BKB **Balikpapan** 12.28 300 P P 02 45 03.7 +1.9
SMPI **Sarmi** 12.52 64 P Pn 02 44 58.3 -1.6
125nm,1.2s
ABJI **Asem Bagus** 13.11 268 P Pn 02 45 08.8 +1.4
144nm,1.2s,2µm
JAGI **Jajag, Banyuwa** 13.21 265 P Pn 02 45 05.0 -3.7
142nm,0.8s,2µm
JAGI **Jajag, Banyuwa** 13.21 265 *e*Pn Pn 02 45 04.4 -4.3
66nm,0.4s
JAGI *e*Sn Sn 02 47 23.0 -13
BBKI **Banjar Baru** 13.22 287 P P 02 45 12.6 +0.3
879nm,1.3s,9µm
KMMI **Kalianget** 13.40 272 P P 02 45 17.0 +2.7
GENI **Genyeen** 13.60 69 P Pn 02 45 14.6 +1.1
474nm,0.7s,5µm
BLJI **Banyuglugur** 13.75 269 P P 02 45 18.1 -0.1
146nm,0.8s
GMJI **Gumukmas** 13.90 266 P P 02 45 19.4 -0.5
70nm,1.1s
GMJI S Sn 02 47 40.4 -12
70nm,1.1s
WRAB **Tennant Creek** 13.95 152 Pn Pn 02 45 13.0 -5.0
774nm,0.6s
WRAB **Tennant Creek** 13.95 152 *de*P Pn 02 45 12.6 -5.3
WRAB pmax pmax
comp=Z,592nm,1.7s
WRAB **Tennant Creek** 13.95 152 *e*Pn Pn 02 45 13.0 -5.0
WRAB *e*Sn Sn 02 47 39.8 -14
WRA **Warramunga Arr** 13.95 152 P Pn 02 45 13.3 -4.7
comp=Z,14nm,0.3s,baz=316,slow=14,SNR=216
WRA S Sn 02 47 39.6 -14
comp=Z,75nm,0.3s,baz=334,slow=22,SNR=11
WRA LR LR 02 51 18.7
comp=Z,852nm,18.7s,baz=320,slow=40
WB2 **Warramunga Arr** 13.96 152 *e*Pn Pn 02 45 12.8 -5.2
WB2 *e*Sn Sn 02 47 39.4 -14
JAY **Jayapura** 14.12 70 P Pn 02 45 16.4 -3.8
comp=Z,182nm,0.9s,comp=Z,9µm
JAY **Jayapura** 14.12 70 P Pn 02 45 19.3 -0.9
comp=Z,3.1nm,0.3s,baz=262,slow=7.2,SNR=24
JAY S Sn 02 47 54.0 -3.6
comp=Z,0.4nm,0.3s,baz=338,slow=19,SNR=3.7
JAY LR LR 02 51 59.9
comp=Z,885nm,20.9s,baz=204,slow=42
MTKI **Muara Teweh, K** 14.17 297 P P 02 45 24.3 +1.4
comp=Z,43nm,1.0s
CTBH **Cotabato--PC H** 15.08 348 ⇓*i*P P 02 45 34.2 +1.3
TSM **Tawau** 15.21 321 ⇑P P 02 45 37.0 +2.6
MBWA **Marble Bar** 15.40 208 *e*Pn Pn 02 45 33.0 -2.8
comp=Z,180nm,1.1s
PWJI **Pagerwojo** 15.52 267 P Pn 02 45 36.5 -0.8
comp=Z,124nm,0.7s,comp=Z,2µm
BIPH **Bislig** 15.73 356 *e*P P 02 45 44.7 +4.6
PCJI **Pacitan** 16.14 267 P P 02 45 42.8 -1.9
comp=Z,177nm,0.8s,comp=Z,3µmcomp=Z,37µm
WOJI **Wonogiri, Jawa** 16.39 268 P P 02 45 47.5 0.0
comp=Z,162nm,1.2s
PBKI **Pangkalan Bun** 16.46 286 P Pn 02 45 52.0 +3.2
comp=Z,693nm,1.3s,comp=Z,12µm
DCPH **Dipolog City** 16.60 346⇑*e*P Pn 02 45 55.1 +4.7
COEN **Coen** 16.67 114 *e*Pn P 02 45 50.5 0.0
comp=Z,14nm,0.8s
SDKM **Sandakan** 16.68 322 ⇑P Pn 02 45 55.3 +3.9
UGM **Wanagama** 16.79 268 P P 02 45 51.9 0.0
comp=Z,124nm,1.0s
UGM **Wanagama** 16.79 268 *e*P P 02 45 51.9 0.0
comp=Z,99nm,0.7s
AS31 **Alice Springs** 17.12 160 *e*P P 02 45 54.8 -0.7
ASAR **Alice Springs** 17.12 160 P P 02 45 55.6 +0.2
comp=Z,23nm,0.3s,baz=342,slow=12,SNR=392
ASAR S S 02 48 55.5 -9.2
comp=Z,15nm,0.3s,baz=320,slow=17,SNR=6.1
ASAR LR LR 02 52 55.9
comp=Z,640nm,19.8s,baz=326,slow=38
KKM **Kota Kinabalu** 17.60 320 *e*P Pn 02 46 03.3 +0.9
comp=Z,394nm,1.1s
STKI **Sintang** 17.67 295 P Pn 02 46 04.3 +1.2
comp=Z,769nm,1.2s,comp=Z,14µm
KPJI **Karang Pucung** 18.38 270 P P 02 46 08.1 -1.1
comp=Z,122nm,0.9s,comp=Z,2µm
CMJI **Cimerak** 18.84 268 P P 02 46 11.5 -2.8
comp=Z,266nm,1.0s,comp=Z,2µm
KSM **Kuching** 19.35 297 *e*P Pn 02 46 21.6 -1.3
comp=Z,2µm,2.5s
CISI **Cisompet, Garu** 19.48 269 P P 02 46 17.9 -3.3
CISI **Cisompet, Garu** 19.48 269 *e*P P 02 46 18.1 -3.1
comp=Z,139nm,0.5s
CISI *e*S S 02 49 41.6 -10
PMG **Port Moresby** 19.56 97 *e*P P 02 46 22.8 +0.8
PMG S S 02 49 53.6 +0.3
PMG pmax pmax
comp=Z,29nm,1.0s
PMG **Port Moresby** 19.56 97 P P 02 46 23.4 +1.4
comp=Z,3.4nm,0.3s,baz=286,slow=2.9,SNR=26
PMG S S 02 49 53.6 +0.3
comp=Z,0.9nm,0.3s,baz=189,slow=19,SNR=5.0
PMG **Port Moresby** 19.56 97 *e*P P 02 46 22.8 +0.8
comp=Z,29nm,1.0s
PMG S S 02 49 53.6 +0.3
LEM **Lembang** 19.70 271 P P 02 46 24.7 +0.9
comp=Z,172nm,1.0s,comp=Z,2µm
LEM **Lembang** 19.70 271 P P 02 46 23.2 -0.5
comp=Z,2.6nm,0.3s,baz=75,slow=10,SNR=11
LEM S S 02 49 53.9 -2.5
comp=Z,5.1nm,0.3s,baz=309,slow=12,SNR=5.1
LEM LR LR 02 55 26.3
comp=Z,422nm,19.4s,baz=98,slow=41
CNJI **Cibinong** 20.16 270 P P 02 46 25.1 -3.4
TPI **Tanjungpandan** 20.30 283 P P 02 46 30.9 +0.9
comp=Z,113nm,1.8s,comp=Z,2µm
CGJI **Cibinong** 21.63 271 P P 02 46 39.9 -4.1
XMIS **Christmas Isla** 21.73 261 *e*P P 02 46 42.5 -2.6
comp=Z,42nm,0.9s
XMIS *e*S S 02 50 34.9 +1.4
CTA **Charters Tower** 22.03 126 P P 02 46 47.6 -0.5
comp=Z,19nm,0.9s,baz=309,slow=11,SNR=13
CTAO **Charters Tower** 22.03 126 *e*P P 02 46 49.4 +1.4
CTAO pmax pmax
comp=Z,54nm,1.0s
CTAO **Charters Tower** 22.03 126 *e*P P 02 46 49.4 +1.4
comp=Z,54nm,1.0s
TGY **Tagaytay City** 22.52 343 P P 02 46 53.6 +0.9
comp=Z,654nm,0.5s,baz=204,slow=1.2,SNR=28
KASI **Kota Agung** 22.91 274 P P 02 46 53.3 -3.0
comp=Z,106nm,1.3s,comp=Z,1µm
FORT **Forrest** 23.06 179 *e*P P 02 46 57.7 +0.3
comp=Z,211nm,0.8s
MDSI **Maura Dua** 23.36 276 P P 02 46 59.4 -1.0
comp=Z,87nm,1.5s
SZP **Santa** 25.94 345 *e*P P 02 47 23.6 -0.1
comp=Z,55nm,0.7s
BBOO **Buckleboo** 26.32 164 *e*P P 02 47 27.2 +0.3
comp=Z,3.7nm,0.8s
NWAO **Narrogin (SRO)** 26.92 199 P P 02 47 32.0 -0.3
NWAO **Narrogin (SRO)** 26.92 199 P P 02 47 32.0 -0.3
comp=Z,25nm,0.6s,baz=33,slow=7.2,SNR=27
DLV **T Lat** 27.08 316 *e*P P 02 47 36.9 +2.7
comp=Z,18nm,0.5s
IPM **Ipoh** 28.98 294 *e*P P 02 47 51.0 +0.1
comp=Z,152nm,1.0s
IPM *e*PP PP 02 49 01.4 +1.4
MNSI **Mandailing Nat** 29.04 286 P P 02 47 50.4 -0.9
comp=Z,194nm,1.1s,comp=Z,2µm
KULM **Kulim** 29.66 295 *e*P P 02 47 57.0 +0.1
comp=Z,169nm,0.9s
KULM *e*PcP PcP 02 50 56.6 -0.3
PSI **Prapat** 30.30 289 P P 02 48 02.1 -0.5
comp=Z,161nm,1.1s,baz=90,slow=9.5,SNR=118
PSI S S 02 52 47.1 -2.6
comp=Z,2.3nm,0.4s,baz=318,slow=23,SNR=6.5
KCSI **Kotacane, Aceh** 31.62 289 P P 02 48 12.9 -1.2
comp=Z,65nm,1.7s,comp=Z,1µm
QIZ **Qiongzhong** 31.66 327 P P 02 48 16.1 +1.7
QIZ sP **sP** 02 49 10.4 -1.7
QIZ S S 02 53 12.1 +1.6
QIZ sS **sS** 02 54 20.9 +4.5
QIZ PMZ
comp=Z,230nm,6.3s
TPTI **32.09 289** P P 02 48 16.7 -1.5
comp=Z,32nm,1.5s
HNR **Honiara** 32.17 96 LR LR 03 02 17.6
comp=Z,141nm,19.0s,baz=276,slow=38
LHMI **Lhok Sumawe** 33.01 292 P P 02 48 27.0 +0.8
comp=Z,339nm,1.1s,comp=Z,4µm
LHMI **Lhok Sumawe** 33.01 292 *e*P P 02 48 26.6 +0.4
comp=Z,262nm,0.7s
KHON **Khomkaen** 34.07 314 P P 02 48 38.1 +2.8
comp=Z,22nm,0.8s,comp=Z,2µm
CHAI **Chaiyaphum** 34.38 313 P P 02 48 38.5 +0.5
comp=Z,15nm,0.8s,comp=Z,243nm
UTHA **Uthaitani** 36.06 310 P P 02 48 52.9 +0.6
comp=Z,18nm,0.7s,comp=Z,197nm
UTTA **Uttaradit** 36.62 314 P P 02 48 57.7 +0.6
comp=Z,15nm,0.8s,comp=Z,147nm
SLVN **Son La** 36.91 322 *e*P P 02 49 00.6 +1.1
comp=Z,55nm,1.4s
LAMP **Lampang** 37.79 314 P P 02 49 08.1 +1.2
comp=Z,19nm,0.7s,comp=Z,152nm
CMAR **Chiang Mai Arr** 38.25 313 P P 02 49 11.2 +0.5
comp=Z,20nm,0.6s,baz=140,slow=6.7,SNR=70
CMAR PcP PcP 02 51 22.6 +1.2
comp=Z,12nm,0.6s,baz=161,slow=2.9,SNR=9.3
CMAR ScP ScP 02 54 54.9 +2.4
comp=Z,3.6nm,0.6s,baz=162,slow=3.3,SNR=12
CHTO **Chiang Mai** 38.48 313 *e*P P 02 49 13.4 +0.7
CHTO *e* 02 50 45.9
CHTO *e* 02 51 22.7
CHTO pmax pmax
comp=Z,20nm,0.5s
CHTO **Chiang Mai** 38.48 313 *e*P P 02 49 13.4 +0.7
comp=Z,20nm,0.5s
CHTO *e*PP PP 02 50 45.9 +1.2
CHTO *e*PcP PcP 02 51 22.7 +0.6
CHTO **Chiang Mai** 38.48 313 P P 02 49 13.2 +0.5
comp=Z,188nm,0.8s,comp=Z,3µm
SSE **Sheshan** 38.95 351 P P 02 49 17.8 +1.4
SSE sP **sP** 02 50 16.5 +1.5
SSE S S 02 55 05.4 +3.8
SSE PMZ
comp=Z,44nm,0.7s
SSE PMZ
comp=Z,160nm,6.1s
SSE LN
comp=Z,82nm,19.2s
SSE LE
comp=Z,110nm,19.2s
SSE LZ
comp=Z,140nm,23.5s
GYA **Guiyang** 39.43 330⇑*i*P P 02 49 21.4 +0.8
GYA pP **pP** 02 50 01.6 +2.7
GYA sP **sP** 02 50 23.0 +3.8
GYA PcP **PcP** 02 51 26.1 +1.0
GYA ScP **ScP** 02 54 58.2 +1.2
GYA S S 02 55 11.9 +2.8
GYA ScS **ScS** 02 59 10.0 +0.2
GYA PMZ
comp=Z,50nm,0.8s
GYA PMZ
comp=Z,230nm,6.2s
WHN **Wuhan** 39.97 342⇓*i*P P 02 49 26.3 +1.5
WHN pP **pP** 02 50 01.0 -2.2
WHN S S 02 55 17.1 +0.3
WHN SS **SS** 02 58 23.9 +2.4
WHN PMZ
comp=Z,310nm,1.4s
DZM **Mont Dzumac** 40.19 115 *e*S S 02 55 24.5 +3.9
comp=Z,211nm,29.8s
DZM *e*LR LR 03 00 46.3
comp=Z,618nm,30.4s
DZM **Mont Dzumac** 40.19 115 P P 02 49 27.1 +0.1
comp=Z,14nm,1.0s,baz=279,slow=13,SNR=3.7
NJ2 **Nanjing** 40.29 349 *e*P P 02 49 29.3 +1.9
NJ2 PMZ
comp=Z,50nm,0.8s
KMI **Kunming** 40.48 324 P P 02 49 31.6 +2.2
KMI pP pP 02 50 13.1 +5.2
KMI S S 02 55 26.9 +1.9
KMI PMZ
comp=Z,75nm,1.2s
KMI PMZ
comp=Z,400nm,6.1s
KMI LN
comp=Z,250nm,16.3s
KMI LE
comp=Z,240nm,16.7s
KMI LZ
comp=Z,310nm,18.5s
ENH **Enshi** 41.43 336 *e*P P 02 49 36.9 0.0
comp=Z,12nm,0.5s
CD2 **Chengdu** 44.53 330 ⇑P P 02 50 02.1 +0.3
CD2 pP **pP** 02 50 41.1 +0.2
CD2 sP **sP** 02 51 01.3 +0.3
CD2 PcP **PcP** 02 51 41.4 -0.5
CD2 PP **PP** 02 51 50.0 +0.4
CD2 PcS **PcS** 02 55 34.0 -1.6
CD2 S S 02 56 24.9 +1.1
CD2 sS **sS** 02 57 33.7 +1.4
CD2 ScS **ScS** 02 59 37.9 -3.0
CD2 SS **SS** 02 59 43.0 -5.7
CD2 PMZ
comp=Z,140nm,0.6s
CD2 PMZ
comp=Z,370nm,5.7s
CD2 LN
comp=Z,530nm,15.6s
CD2 LE
comp=Z,450nm,20.0s
CD2 LZ
comp=Z,530nm,13.7s
TIA **Tai'an** 44.66 348 ⇓P P 02 50 02.6 0.0
TIA PMZ
comp=Z,30nm,0.6s
TIA PMZ
comp=Z,350nm,8.1s
KSAR **Wonju Array Be** 44.82 0 P P 02 50 04.0 +0.2
KSAR **Wonju Array Be** 44.82 0 P P 02 50 04.0 +0.2
KSRS **Korea Array** 44.83 1 P P 02 50 04.0 +0.1
comp=Z,7.0nm,0.7s,baz=180,slow=9.0,SNR=14
XAN **Xi'an** 45.00 338 P P 02 50 04.9 -0.5
XAN pP **pP** 02 50 43.5 -1.1
XAN sP **sP** 02 51 03.5 -1.2
XAN PP **PP** 02 51 52.5 -1.9
XAN S **S** 02 56 26.1 -4.3
XAN PMZ
comp=Z,16nm,1.3s
XAN PMZ
comp=Z,47nm,3.7s
MAJO **Matsushiro** 45.06 12 *e*P P 02 50 06.2 +0.4
MAJO pmax pmax
comp=Z,8.0nm,0.4s
MAJO **Matsushiro** 45.06 12 *e*P P 02 50 06.2 +0.4
comp=Z,7.6nm,0.4s
MAT **Matsushiro** 45.06 12 P P 02 50 04.1 -1.7
MAT S S 02 56 13.4 -18
MJAR **Matsushiro Arr** 45.06 12 P P 02 50 04.4 -1.5
comp=Z,5.1nm,0.7s,baz=190,slow=9.2,SNR=9.0
MJAR ScP **ScP** 02 55 20.5 +1.2
comp=Z,1.9nm,0.6s,baz=192,slow=4.9,SNR=3.5
SHL **Shillong** 47.80 315 *e*P P 02 50 28.6 +1.1
SHL *ex* x 02 51 46.0
BJT **Baijiatuao** 48.53 348 *e*P P 02 50 32.5 -0.1
BJT pmax pmax
comp=Z,29nm,0.8s
BJT **Baijiatuao** 48.53 348 *e*P P 02 50 32.5 -0.1
comp=Z,29nm,0.8s
BJI **Beijing** 48.55 348 P P 02 50 31.9 -0.8
BJI pP **pP** 02 51 13.8 +1.3
BJI sP **sP** 02 51 32.6 +0.2
BJI PcP **PcP** 02 51 57.8 +2.1
BJI S S 02 57 16.2 -4.2
BJI sS **sS** 02 58 30.0 +0.1
BJI ScS **ScS** 03 00 04.8 -1.9
BJI PMZ
comp=Z,39nm,0.6s
BJI PMZ
comp=Z,230nm,4.5s
BJI LN
comp=Z,220nm,15.4s
BJI LE
comp=Z,270nm,17.7s
BJI LZ
comp=Z,220nm,35.0s
LZH **Lanzhou** 48.81 334 ⇑P P 02 50 36.3 +1.2
LZH pP **pP** 02 51 15.3 +0.4
LZH sP **sP** 02 51 35.0 +0.2
LZH PP **PP** 02 52 34.0 +3.8
LZH S S 02 57 23.2 -1.5
LZH SS **SS** 03 00 57.1 -0.8
LZH PMZ
comp=Z,210nm,1.5s
LZH PMZ
comp=Z,610nm,5.6s
LZH LN
comp=Z,550nm,14.4s
LZH LE
comp=Z,380nm,13.7s
LZH LZ
comp=Z,710nm,16.2s
PALK **Pallekele** 48.92 286 P P 02 50 36.1 0.0
comp=Z,44nm,1.0s,baz=135,slow=6.9,SNR=11
PALK **Pallekele** 48.92 286⇓*i*P P 02 50 35.6 -0.5
SNR=5.6
PALK *i* P P 02 50 36.1 0.0
SNR=6.1
PALK **Pallekele** 48.92 286 *e*P P 02 50 33.9 -2.3
comp=Z,183nm,1.8s
SNY **Shenyang** 49.33 356 ⇑P P 02 50 38.6 0.0
SNY pP **pP** 02 51 21.1 +2.6
SNY PMZ
comp=Z,18nm,1.2s
SNY PMZ
comp=Z,290nm,5.5s
HHC **Hu-ho-hao-te** 50.39 344 *e*P P 02 50 46.4 -0.5
HHC pP **pP** 02 51 24.4 -2.6
HHC PP **PP** 02 52 44.3 -0.1
HHC S S 02 57 45.1 -1.3
HHC sS **sS** 02 58 55.1 -1.2
HHC SS **SS** 03 01 24.8 +2.0
HHC PMZ
comp=Z,41nm,1.0s
HHC PMZ
comp=Z,470nm,6.1s
LSA **Lhasa** 50.94 318 *e*P P 02 50 52.8 +1.2
LSA pmax pmax
comp=Z,59nm,0.6s
LSA **Lhasa** 50.94 318 *e*P P 02 50 52.8 +1.2
comp=Z,59nm,0.6s
CN2 **Changchun** 51.20 358 *e*P P 02 50 57.4 +4.7
CN2 PMZ
comp=Z,10.0nm,0.7s
USRK **Ussuriysk Ar.** 51.73 4 P P 02 50 57.1 +0.5
comp=Z,15nm,0.6s,baz=195,slow=8.6,SNR=33
ODAN **Odare** 51.79 313 *e*P P 02 50 57.8 +0.1
comp=Z,66nm,0.4s
TAPN **Taplejung** 51.85 314 *e*P P 02 50 58.4 +0.2
comp=Z,114nm,0.5s
MDJ **Mudanjiang** 52.02 2 P P 02 51 02.1 +3.3
MDJ pP pP 02 51 40.5 +1.4
MDJ sP sP 02 51 59.7 +0.9
MDJ PP **PP** 02 53 02.6 +3.7
MDJ S S 02 58 07.8 -0.5
MDJ sS sS 02 59 17.6 -1.0
MDJ PMZ
comp=Z,12nm,1.5s
MDJ PMZ
comp=Z,59nm,4.3s
MDJ LN
comp=Z,150nm,24.2s
MDJ LE
comp=Z,220nm,19.6s
MDJ LZ
comp=Z,190nm,19.6s
RPZ **Rata Peaks** 52.32 141 *e*P P 02 51 01.4 +0.3
comp=Z,80nm,1.4s
RAMN **Ramite** 52.42 313 *e*P P 02 51 02.9 +0.5
comp=Z,247nm,0.6s
JIRN **Jiri** 53.12 313 *e*P P 02 51 07.9 +0.2
comp=Z,80nm,0.6s
GTA **Gaotai** 53.34 333 ⇑P P 02 51 09.8 +1.1
GTA pP **pP** 02 51 49.8 +0.6
GTA sP **sP** 02 52 09.5 +0.5
GTA PcP **PcP** 02 52 15.3 +1.5
GTA PP **PP** 02 53 11.9 +0.8
GTA ScP **ScP** 02 55 56.4 +1.8
GTA PcS **PcS** 02 56 12.7 -0.4
GTA S S 02 58 25.5 -1.2
GTA sS **sS** 02 59 35.4 -1.9
GTA SS **SKiKP** 03 02 06.9 +0.7
GTA PMZ
comp=Z,73nm,0.9s
GTA PMZ
comp=Z,350nm,4.4s
GTA LN
comp=Z,410nm,18.5s
GTA LE
comp=Z,430nm,18.8s
GTA LZ
comp=Z,260nm,19.9s
GUN **Gumba** 53.49 313 *e*P P 02 51 10.5 +0.2
comp=Z,183nm,0.7s
PKI **Pulchoki** 53.64 312 *e*P P 02 51 11.3 -0.1
comp=Z,77nm,0.5s
KKN **Kakani** 53.86 313 *e*P P 02 51 13.0 +0.2
comp=Z,40nm,0.5s
DMN **Daman** 53.88 312 *e*P P 02 51 13.3 +0.2
comp=Z,56nm,0.6s
URZ **Urewera** 54.10 132 P P 02 51 13.4 -0.8
comp=Z,6.8nm,0.6s,baz=292,slow=2.8,SNR=11
URZ **Urewera** 54.10 132 *e*P P 02 51 13.6 -0.5
comp=Z,6.6nm,0.6s
HYB **Hyderabad** 54.35 298 *i* P P 02 51 14.5 -1.8
comp=Z,100nm,1.0s
HYB *e* 02 52 02.5
HYB *e*PcP PcP 02 52 18.0 0.0
YSS **Yuzh-Sakhalins** 56.00 13 *e*P P 02 51 27.6 +0.1
HABR **Khabarovsk** 56.24 6 *e*P P 02 51 27.4 -1.8
HABR *e**PP pP 02 52 08.3 -1.8
HABR *e**SP sP 02 52 28.6 -1.1
HABR *e* 02 53 35.0
HABR *e*S S 02 59 04.1 -0.6
HABR pmax pmax
comp=Z,8.0nm,0.7s
KLR **Kul'dur** 56.72 3 *e*P P 02 51 26.6 -6.0
KLR *e* 02 52 05.2
KLR pmax pmax
comp=Z,50nm,1.8s

HIA **Hailar** 57.04 354⇑ *e*P **P** 02 51 35.2 +0.3
HIA pmax pmax
comp=Z,12nm,1.2s
ULN **Ulaanbaatar** 58.11 344 *e*P **P** 02 51 43.0 +0.5
ULN pmax pmax
comp=Z,11nm,0.6s
ULN **Ulaanbaatar** 58.11 344 *e*P **P** 02 51 43.0 +0.5
comp=Z,11nm,0.6s
SONM **Songino Array** 58.26 343 P **P** 02 51 44.3 +0.7
comp=Z,9.6nm,0.6s,baz=170,slow=7.4,SNR=45
POO **Poona** 58.91 297⇓ *i*PN **P** 02 51 47.0 -1.5
comp=Z,70nm,1.0s
AGRA **Agra** 59.13 308 *e*P **P** 02 51 48.2 -1.6
KALG **Kalgarh** 59.62 311 *ex* P 02 51 58.8 +5.7
CASY **Casey** 59.74 188 *e*P **P** 02 51 53.5 +0.3
comp=Z,42nm,1.3s
ASOR **Ausora** 59.99 309 *e*P **P** 02 51 55.5 -0.1
ASOR AMB AMB 02 51 58.7
comp=Z,92nm,0.9s
NDI **New Delhi** 60.38 309 *e*P **P** 02 51 56.5 -1.9
BHGR **Bahadurgarh** 60.60 309 *e*P **P** 02 51 59.0 -0.7
KUDL **Kundal** 60.69 308 *e*P **P** 02 51 58.6 -1.9
KUDL AMB AMB 02 51 59.8
comp=Z,91nm,1.6s
KHET **Khetri** 61.20 308 *e*P **P** 02 52 02.8 -1.1
KHET AMB AMB 02 52 04.0
comp=Z,80nm,1.4s
KKR **Kurukshetra** 61.30 310 *e*P **P** 02 52 03.8 -0.8
AJM **Ajmer** 61.41 306 *ex* P 02 52 04.0 -1.3
ZAK **Zakamensk** 61.45 343 *e*P **P** 02 52 05.4 +0.2
ZAK *e* 02 52 41.7
ZAK pmax pmax
comp=Z,10.0nm,2.2s
SMLA **Simla** 61.62 311 *e*P **P** 02 52 07.2 +0.7
SMLA *i* P **P** 02 52 07.2 +0.7
TLY **Talaya** 62.51 344 *e*P **P** 02 52 13.8 +1.7
TLY *e* 02 52 52.4
TLY pmax pmax
comp=Z,14nm,1.3s
TLY **Talaya** 62.51 344 P **P** 02 52 13.8 +1.7
comp=Z,3.9nm,0.4s,baz=217,slow=18,SNR=4.7
WMQ **Urumqi** 62.56 329⇑ *i*P **P** 02 52 13.5 +0.8
WMQ PcP **PcP** 02 52 51.0 +0.9
WMQ pP **pP** 02 52 57.2 +2.7
WMQ sP **sP** 02 53 14.0 +0.1
WMQ PP **PP** 02 54 35.0 +2.2
WMQ PcS PcS 02 56 47.0 -6.6
WMQ S **S** 03 00 25.0 -1.3
WMQ ScS **SKSac** 03 01 45.0 -2.7
WMQ SS **SS** 03 04 35.0 +0.9
WMQ PMZ
comp=Z,56nm,0.9s
WMQ PMZ
comp=Z,240nm,5.0s
WMQ LN
comp=Z,370nm,18.0s
WMQ LE
comp=Z,240nm,15.6s
WMQ LZ
comp=Z,390nm,24.0s
MOY **Mondy** 63.27 342 *e*P **P** 02 52 18.1 +0.8
MOY pmax pmax
comp=Z,83nm,2.8s
HVS **Khovu-Aksy** 65.35 337 *c i*P **P** 02 52 31.5 +0.7
HVS pmax pmax
comp=Z,205nm,1.2s
PETK **Petropavlovsk-** 65.71 19 P **P** 02 52 33.3 +0.4
comp=Z,14nm,0.6s,baz=190,slow=6.7,SNR=18
PET **Petropavlovsk** 65.96 20 *e*P P 02 52 28.9 -5.6
PET *e*S **S** 03 01 04.3 -3.1
PET MLR MLR 02 57 11.9
comp=Z,100nm,16.0s
BOD **Bodaibo** 66.12 352 *e*P **P** 02 52 34.8 -0.6
BOD *e* 02 53 14.4
BOD *e*S **S** 03 01 11.0 +1.8
BOD pmax pmax
comp=Z,13nm,1.6s
BOD pmax pmax
comp=Z,16nm,1.4s
PDGK **Podgornoye** 66.78 324 P **P** 02 52 39.7 -0.2
PDGK pmax pmax
comp=Z,25nm,0.7s
KSH **Kashi** 66.79 319⇑ *i*P **P** 02 52 41.0 +0.7
KSH pP **pP** 02 53 20.4 -2.2
KSH PP **PP** 02 55 11.4 +1.5
KSH PcS 02 57 11.9
KSH S **S** 03 01 14.0 -4.3
KSH PMZ
comp=Z,25nm,0.6s
KSH PMZ
comp=Z,98nm,5.0s
KSH LN
comp=Z,100nm,4.9s
KSH LE
comp=Z,97nm,5.2s
KSH LZ
comp=Z,200nm,9.8s
MK31 **Makanchi Array** 67.38 328 *e*P **P** 02 52 43.7 0.0
MK31 pmax pmax
comp=Z,16nm,0.5s
MKAR **Makanchi Array** 67.38 328 P **P** 02 52 44.2 +0.4
comp=Z,27nm,0.6s,baz=124,slow=7.8,SNR=522
ULHL **Ulahol** 68.11 321 P **P** 02 52 49.1 +0.4
SNR=26
ULHL **Ulahol** 68.11 321 *i*P **P** 02 52 49.0 +0.4
KZA **Kyzart** 68.63 321 P **P** 02 52 53.2 +1.1
SNR=36
KZA **Kyzart** 68.63 321 *i*P **P** 02 52 53.2 +1.1
SFK **Sufi-Kurgan** 68.67 318 P **P** 02 52 52.4 +0.2
SFK pmax pmax
comp=Z,14nm,0.6s
TKM2 **Tokmak 2** 68.88 322 P **P** 02 52 53.9 +0.6
SNR=35
TKM2 **Tokmak 2** 68.88 322 *e*P **P** 02 52 53.5 +0.2
TKM2 pmax pmax
comp=Z,18nm,0.6s
TKM2 **Tokmak 2** 68.88 322 *e*P **P** 02 52 53.5 +0.2
comp=Z,18nm,0.6s
KBK **Karagaybulak** 69.13 321 P **P** 02 52 55.9 +0.9
SNR=12
KBK **Karagaybulak** 69.13 321 *i*P **P** 02 52 55.8 +0.9
UCH **Uchtor** 69.17 321 P **P** 02 52 56.2 +0.6
SNR=19
UCH **Uchtor** 69.17 321 *i*P **P** 02 52 56.1 +0.6
KBL **Kabul** 69.25 311 *e*P **P** 02 52 56.0 +0.2
KBL *e**PP **pP** 02 53 41.3 +2.9
KBL pmax pmax
comp=Z,26nm,0.9s
KBL **Kabul** 69.25 311 *e*P **P** 02 52 56.0 +0.2
comp=Z,26nm,0.9s
KBL *e*pP **pP** 02 53 41.3 +2.9
AAK **Ala-Archa** 69.40 321 P **P** 02 52 57.0 +0.5
comp=Z,232nm,0.6s,SNR=28
AAK **Ala-Archa** 69.40 321 P **P** 02 52 57.4 +0.9
SNR=40
AAK **Ala-Archa** 69.40 321 *c i*P **P** 02 52 57.1 +0.5
AAK pmax pmax
comp=Z,203nm,2.0s
AAK **Ala-Archa** 69.40 321 P **P** 02 52 57.5 +0.9
comp=Z,22nm,0.6s,baz=122,slow=6.4,SNR=83
AAK **Ala-Archa** 69.40 321 *e*P **P** 02 52 57.0 +0.5
comp=Z,22nm,0.6s
FRU **Bishkek** 69.43 321 *e*P **P** 02 52 56.0 -0.6
FRU pmax pmax
comp=Z,125nm,2.2s
YAK **Yakutsk** 69.45 1 *e*P **P** 02 52 54.7 -1.4
YAK *e* 02 53 14.1
YAK *e**PP **pP** 02 53 34.3 -4.4
YAK *e*S **S** 03 01 46.5 -2.1
YAK *e* 03 02 38.9
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,0.6s
YAK smax smax
comp=E,144nm,2.3s
YAK smax smax
comp=N,233nm,2.5s
YAK **Yakutsk** 69.45 1 *e*P **P** 02 52 56.0 -0.1
comp=N,53nm,0.8s
AML **Almayashu** 69.64 320 P **P** 02 52 59.2 +0.9
SNR=66
AML **Almayashu** 69.64 320 *i*P **P** 02 52 59.2 +0.9
USP **Ospenovka** 69.74 322 P **P** 02 52 58.9 +0.5
SNR=21
USP **Ospenovka** 69.74 322 *i*P **P** 02 52 58.9 +0.5
EKS2 **Erkin-Say** 69.87 321 P **P** 02 53 00.4 +1.1
SNR=28
EKS2 **Erkin-Say** 69.87 321 *i*P **P** 02 53 00.4 +1.1
EKS2 **Erkin-Say** 69.87 321 *e*P **P** 02 53 00.1 +0.8
comp=N,16nm,0.6s
ZALV **Zalesovo Beam** 71.04 335 P **P** 02 53 05.6 -0.4
comp=N,43nm,0.6s,baz=131,slow=5.3,SNR=140
MSEY **Mahe Island** 71.56 268 *i*P **P** 02 53 10.5 +0.4
MSEY **Mahe Island** 71.56 268⇑ *i*P **P** 02 53 10.1 +0.1
SNR=7.0
MSEY **Mahe Island** 71.56 268 *e*P **P** 02 53 09.3 -0.8
comp=N,15nm,1.0s
KURBB **Kurchatov Arra** 71.74 330 P **P** 02 53 10.5 +0.3
comp=N,47nm,0.6s,baz=133,slow=5.1,SNR=654
KURBB PKiKP **PKiKP** 02 59 12.5 -0.9
comp=N,0.4nm,0.6s,baz=106,slow=2.1,SNR=4.1
KURK **Kurchatov** 71.75 330 P **P** 02 53 10.0 -0.3
comp=N,277nm,0.6s,SNR=74
KURK **Kurchatov** 71.75 330 *e*P **P** 02 53 10.4 +0.1
KURK *e**PP **pP** 02 53 51.7 -1.5
KURK *e*S **S** 03 02 13.6 -2.1
KURK pmax pmax
comp=Z,66nm,0.8s
KURK **Kurchatov** 71.75 330 *e*P **P** 02 53 10.3 +0.1
comp=Z,66nm,0.8s
KURK *e*pP **pP** 02 53 51.6 -1.5
KURK PKiKP **PKiKP** 02 59 12.5 -0.9
KURK *e*S **S** 03 02 13.6 -2.1
KK31 **Karatay Array** 72.16 320 P **P** 02 53 13.0 0.0
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR **Karatay Array** 72.16 320 *e*P **P** 02 53 13.5 +0.5
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR **Karatay Array** 72.16 320 *e*P **P** 02 53 13.5 +0.5
comp=Z,6.0nm,0.8s
VNDA **Vanda** 72.16 173 *e*P **P** 02 53 12.9 +0.5
VNDA pmax pmax
comp=Z,11nm,0.6s
VNDA **Vanda** 72.16 173 P **P** 02 53 13.0 +0.5
comp=Z,14nm,0.6s,baz=320,slow=6.4,SNR=149
VNDA LR LR 03 26 08.5
comp=Z,384nm,18.1s,baz=356,slow=37
VNDA **Vanda** 72.16 173 *e*P **P** 02 53 12.9 +0.5
comp=Z,11nm,0.6s
NVS **Novosibirsk** 72.33 335⇑ *i*P **P** 02 53 12.1 -1.5
NVS *i**PP **pP** 02 53 52.9 -3.7
NVS *i*S **S** 03 02 17.9 -4.2
NVS pmax pmax
comp=Z,131nm,1.4s
NVS pmax pmax
comp=N,25nm,0.6s
NVS pmax pmax
comp=E,18nm,0.4s
NVS smax smax
comp=N,14nm,1.3s
NVS smax smax
comp=E,45nm,1.9s
WBK **Wadi Bani Khal** 73.41 296 P **P** 02 53 21.5 +0.7
SNR=5.5
MAW **Mawson** 73.47 201 P **P** 02 53 21.5 +1.3
comp=E,5.7nm,0.5s,baz=108,slow=5.2,SNR=7.2
MAW LR LR 03 22 49.7
comp=E,203nm,19.7s,baz=58,slow=33
JMDO **Jabal Madar** 74.12 296 P **P** 02 53 24.8 -0.1
SNR=7.1
BSY **Bisya** 75.02 296 ⇓P **P** 02 53 29.7 -0.4
SNR=8.5
IDAH **Dahanechah** 75.66 306 *e*P **P** 02 53 34.9 +1.0
IKOO **Kooshah** 76.25 306 *e*P **P** 02 53 37.7 +0.5
HATD **Hatta, Dubai** 76.50 298⇓ *i*P **P** 02 53 38.4 -0.1
SNR=5.5
RBK **Rabkut** 76.52 290 ⇑P **P** 02 53 38.0 -0.6
SNR=7.9
FAQ **Al Faqa, Dubai** 76.96 298⇑ *i*P **P** 02 53 40.8 -0.1
SNR=9.7
NAZ **Nazwa, Dubai** 76.96 298⇑ *i*P **P** 02 53 40.8 -0.2
SNR=7.4
BVA0 **Borovoye Array** 77.25 329 *i*P **P** 02 53 41.7 -0.3
BVA0 pmax pmax
comp=Z,134nm,1.5s
BVAR **Borovoye Array** 77.25 329 P **P** 02 53 42.2 +0.2
comp=Z,19nm,0.7s,baz=134,slow=6.4,SNR=105
BRVK **Borovoye** 77.33 329 P **P** 02 53 42.6 +0.2
comp=Z,461nm,1.4s,SNR=30
ABTO **Aybut** 77.33 290 ⇓P **P** 02 53 42.4 -0.8
SNR=11
IAKL **Akhelmad** 77.78 310 *e*P **P** 02 53 46.1 +0.4
ISFR **Sfrayin** 78.51 310 *e*P **P** 02 53 50.4 +0.7
GEYT **Alibeck** 78.70 311 P **P** 02 53 51.0 +0.6
comp=Z,26nm,1.0s,baz=126,slow=2.0,SNR=63
GEYT LR LR 03 34 23.1
comp=Z,46nm,19.5s,baz=40,slow=40
IBAF **Bafgh** 78.80 304 *e*P **P** 02 53 51.3 +0.1
ISHV **Shirvan** 78.88 311 *e*P **P** 02 53 53.0 +1.4
TIXI **Tiksi** 79.10 0 *e*P **P** 02 53 50.9 -0.8
TIXI pmax pmax
comp=Z,13nm,0.5s
TIXI **Tiksi** 79.10 0 *e*P **P** 02 53 50.9 -0.8
comp=Z,13nm,0.5s
IMEH **Mehriz** 79.53 304 *e*P **P** 02 53 54.2 -1.0
ISRV **Sarvestan** 80.26 301 *e*P **P** 02 53 58.7 -0.6
BILL **Bilibino** 80.29 14⇑ *i*P **P** 02 53 58.7 +0.5
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL **Bilibino** 80.29 14 *e*P **P** 02 53 57.8 -0.4
comp=Z,3.4nm,0.6s
ISAD **Sadrabad** 80.43 304 *e*P **P** 02 53 59.7 -0.5
TBI **Tubuai** 80.69 112 *e*LR LR 03 19 47.1
comp=Z,263nm,30.5s
PPT2 **Papeete2** 81.06 107 *e*LR LR 03 19 55.3
comp=Z,209nm,30.5s
PPT **Papeete** 81.06 107 LR LR 03 24 59.4
comp=Z,44nm,21.0s,baz=280,slow=32
IKAZ **Kazeroun** 81.43 302 *e*P **P** 02 54 04.7 -0.9
ABKAR **Akbulak array** 81.43 322 *e*P **P** 02 54 04.2 -0.5
comp=Z,7.5nm,0.5s
IZEF **Zefreh** 81.79 305 *e*P **P** 02 54 06.0 -1.3
ILAS **Lasjerd** 81.92 307 *e*P **P** 02 54 07.8 -0.1
SYO **Syowa Base** 82.18 201⇑ *e*P **P** 02 54 07.3 -1.0
QSPA **South Pole Qui** 82.37 180 P **P** 02 54 09.8 +0.3
comp=Z,25nm,0.8s,baz=317,slow=1.6,SNR=142
QSPA **South Pole Qui** 82.37 180 *e*P **P** 02 54 09.4 -0.1
comp=Z,84nm,1.3s
IKLH **Kolahrood** 82.50 305 *e*P **P** 02 54 11.4 +0.4
IPRN **Peran** 82.63 308 *e*P **P** 02 54 10.9 -0.6
IDMV **Damavand** 82.70 307 *e*P **P** 02 54 11.8 -0.2
IPIR **Pirpir** 82.91 304 *e*P **P** 02 54 11.6 -1.6
AKTO **Aktyubinsk** 83.03 323 P **P** 02 54 13.1 +0.1
comp=Z,26nm,0.7s,baz=104,slow=5.8,SNR=71
SVE **Sverdlovsk** 84.00 329 *d i*P **P** 02 54 17.9 +0.2
SVE pmax pmax
comp=Z,161nm,1.6s
IRAZ **Razeghan** 84.32 307 *e*P **P** 02 54 20.5 +0.3
GAMB **Gambell** 84.45 23 *e*P **P** 02 54 19.9 +0.1
comp=Z,21nm,0.7s
ARU **Arti** 84.90 329 P **P** 02 54 22.0 -0.3
comp=Z,352nm,1.4s,SNR=5.9
ARU **Arti** 84.90 329 *c i*P **P** 02 54 21.7 -0.6
ARU *e**PP **pP** 02 55 07.1 +0.6
ARU *e*SP **sP** 02 55 22.6 -2.7
ARU 02 57 34.6
ARU S **SKSac** 03 04 28.2 -1.4
ARU *e*SS **sS** 03 05 48.0 -4.5
ARU SS **SS** 03 10 09.3 -3.3
ARU pmax pmax
comp=Z,125nm,1.7s
ARU **Arti** 84.90 329 *e*P **P** 02 54 22.2 0.0
comp=Z,114nm,1.4s
ARU *e*pP **pP** 02 55 08.7 +2.2
RAYN **Ar Rayn** 85.70 294 P **P** 02 54 27.0 -0.1
comp=Z,412nm,0.8s,SNR=42
RAYN **Ar Rayn** 85.70 294 *e*P **P** 02 54 26.7 -0.4
comp=Z,110nm,1.2s
RAYN *e*pP **pP** 02 55 14.4 +3.0
IKOM **Komasi** 86.00 305 *e*P **P** 02 54 27.1 -1.4
ISRB **Sarab** 86.63 309 *e*P **P** 02 54 32.0 +0.4
TNA **Tin City** 86.72 22 *e*P **P** 02 54 31.0 0.0
comp=Z,7.2nm,0.7s
SOKR **Solikamsk** 86.93 331 *d i*P **P** 02 54 31.7 -0.4
SOKR pmax pmax
comp=Z,50nm,1.3s
IDHR **Dehrash** 87.01 305 *e*P **P** 02 54 31.4 -2.0
IHRS **Heris** 87.22 309 *e*P **P** 02 54 33.9 -0.5
IAZR **Azarshahr** 87.91 308 *e*P **P** 02 54 37.9 +0.2
IMRD **Marand** 88.33 309 *e*P **P** 02 54 39.8 +0.2
DGRG **David-gareji** 89.10 312 P **P** 02 54 43.9 +1.0
GNI **Garni** 89.33 311 *e*P **P** 02 54 44.4 +0.2
GNI pmax pmax
comp=Z,21nm,1.5s
GNI **Garni** 89.33 311 P **P** 02 54 44.7 +0.5
comp=Z,1.4nm,0.3s,baz=182,slow=5.2,SNR=6.5
GNI **Garni** 89.33 311 *e*P **P** 02 54 44.4 +0.2
comp=Z,21nm,1.5s
TBLG **Delisi** 89.61 312 P **P** 02 54 45.6 +0.2
KMBO **Kilima Mbogo** 90.06 269 *e*P **P** 02 54 48.9 +0.6
KMBO pmax pmax
comp=Z,10.0nm,1.6s
KMBO **Kilima Mbogo** 90.06 269 P **P** 02 54 48.6 +0.2
comp=Z,1.0nm,0.3s,baz=83,slow=4.3,SNR=15
KMBO **Kilima Mbogo** 90.06 269 *e*P **P** 02 54 48.9 +0.6
comp=Z,9.7nm,1.6s
ONI **Oni** 90.71 313 P **P** 02 54 49.9 -0.5
NVL **N'lazarevskaya** 91.03 197 *e*P **P** 02 54 51.7 +0.4
NVL pmax pmax
comp=Z,6.0nm,0.8s
KBZ **Khabaz** 91.29 314 P **P** 02 54 52.7 -0.3
comp=Z,1.9nm,0.6s,baz=37,slow=1.7,SNR=8.3
KBZ LR LR 03 43 50.5
comp=Z,24nm,19.9s,baz=86,slow=41
KIV **Kislovodsk** 91.48 314 *c i*P **P** 02 54 53.4 -0.6
KIV *i* 02 58 41.1
KIV pmax pmax
comp=Z,14nm,2.0s
KIV **Kislovodsk** 91.48 314 *e*P **P** 02 54 53.9 -0.1
comp=Z,3.6nm,0.5s
CHVG **Ch'k'valeri** 91.72 313 P P 02 54 45.2 -10
PRGR **Permogore** 92.77 332 P **P** 02 54 57.6 -1.8
PRGR pmax pmax
comp=Z,15nm,1.0s
VRHR **Novokhopersk** 93.25 321 *e*P **P** 02 54 59.8 -2.1
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
MCK **McKinley** 93.94 26 *e*P **P** 02 55 04.5 -0.3
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK **McKinley** 93.94 26 *e*P **P** 02 55 04.5 -0.3
comp=Z,8.7nm,0.9s
COLD **Coldfoot** 94.00 23 *e*P **P** 02 55 05.0 0.0
comp=Z,7.6nm,0.6s
SNAA **Sanae** 94.48 194 *e*P **P** 02 55 08.0 +0.7
SNAA pmax pmax
comp=Z,11nm,0.9s
SNAA **Sanae** 94.48 194 *e*P **P** 02 55 08.0 +0.7
comp=Z,11nm,0.9s
VORD **Divnogorie** 94.70 321 *e*P P 02 55 05.1 -3.4
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR **Storozhevoye** 94.80 321⇑ *i*P **P** 02 55 07.4 -1.6
VSR pmax pmax
comp=Z,24nm,1.0s
ILAR **Eielson Array** 94.97 25 P **P** 02 55 07.9 -1.6
comp=Z,1.0nm,0.7s,baz=238,slow=5.2,SNR=24
ILAR PKiKP **PKiKP** 02 59 50.1 -0.1
comp=Z,1.3nm,1.1s,baz=265,slow=3.3,SNR=4.4
ILAR PKKPbc **PKKPdf** 03 12 04.7 -1.9
comp=Z,1.0nm,0.8s,baz=31,slow=2.5,SNR=11
VNA2 **Neumayer--Watz** 96.06 194 P **P** 02 55 15.5 +1.1
VNA3 **Neumayer Olymp** 96.35 193 P **P** 02 55 16.6 +0.9
VNA1 **Neumayer--Stat** 96.46 194 P **P** 02 55 17.0 +0.9
OBN **Obninsk** 96.69 325⇑ *e*P **P** 02 55 16.2 -1.3
OBN pmax pmax
comp=Z,38nm,1.4s
LSZ **Lusaka** 96.88 254 *e*P **P** 02 55 18.9 -0.5
LSZ pmax pmax
comp=Z,4.0nm,0.9s
LSZ **Lusaka** 96.88 254 *e*P **P** 02 55 18.9 -0.5
comp=Z,3.9nm,0.9s
BOSA **Boshof** 96.99 240 *e*P **P** 02 55 19.6 -0.1
BOSA pmax pmax
comp=Z,11nm,1.1s
BOSA **Boshof** 96.99 240 P **P** 02 55 19.0 -0.7
comp=Z,4.0nm,0.6s,baz=122,slow=2.8,SNR=9.3
BOSA LR LR 03 33 18.4
comp=Z,41nm,21.7s,baz=102,slow=32
BOSA **Boshof** 96.99 240 *e*P **P** 02 55 19.6 -0.1
comp=Z,11nm,1.1s
LBTB **Lobatse** 97.45 244 *e*P Pdif 02 55 21.9 +0.1
LBTB pmax pmax
comp=Z,19nm,1.2s
LBTB **Lobatse** 97.45 244 *e*P Pdif 02 55 21.9 +0.1
comp=Z,19nm,1.2s
BRTR **Keskin Array B** 97.74 309 P **P** 02 55 21.4 -1.5
comp=Z,1.6nm,0.6s,baz=132,slow=4.9,SNR=15
BRTR LR LR 03 50 09.2
comp=Z,18nm,18.0s,baz=88,slow=42
JOF **Joensuu** 99.53 333 *e*P **Pdif** 02 55 27.5 -2.5
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF **Joensuu** 99.53 333 *ep* **Pdif** 02 55 27.5 -2.5
comp=Z,0.9nm,0.4s
INK **Inuvik** 100.36 22 P **Pdif** 02 55 33.0 -0.6
comp=Z,1.3nm,0.8s,baz=336,slow=8.0,SNR=7.8
AKASG **Malin Array Be** 101.06 320 P **Pdif** 02 55 36.0 -1.1
comp=Z,1.3nm,0.6s,baz=77,slow=4.0,SNR=14
AKASG PKiKP **PKiKP** 03 00 01.5 +0.2
comp=Z,1.5nm,0.5s,baz=70,slow=2.2,SNR=11
KIEV **Kiev** 101.07 320⇑ *e*P **Pdif** 02 55 36.4 -0.8
KIEV **Kiev** 101.07 320 *e*Pdif **Pdif** 02 55 36.6 -0.5
ARCES **ARCESS Array B** 101.27 339 P **Pdif** 02 55 37.1 -0.6
comp=Z,4.9nm,0.6s,baz=81,slow=5.4,SNR=21
ARCES PKiKP **PKiKP** 03 00 01.4 +0.2
comp=Z,2.3nm,0.7s,baz=104,slow=1.9,SNR=20
SPITS **Spitsbergen Ar** 101.67 349 P **Pdif** 02 55 38.8 -0.5
comp=Z,5.2nm,0.6s,baz=104,slow=17,SNR=26
KAF **Kangasniemi** 101.91 332 *e*P **Pdif** 02 55 37.9 -2.7
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF **Kangasniemi** 101.91 332 *ep* **Pdif** 02 55 37.9 -2.7
comp=Z,1.1nm,0.6s
KAF **Kangasniemi** 101.91 332 *e*pkp **PKiKP** 03 00 01.9 -0.6
PSN **Preselentsi** 101.92 313⇑ *i*P **PKiKP** 03 00 03.3 +0.2
FINES **FINESS Array B** 102.09 331 P **Pdif** 02 55 40.0 -1.4
comp=Z,0.9nm,0.6s,baz=111,slow=10,SNR=13
FINES PKiKP **PKiKP** 03 00 03.6 +0.8
comp=Z,2.0nm,0.6s,baz=112,slow=2.6,SNR=9.5
VRI **Vrincioaia** 102.89 315⇑ *i*P PKiKP 02 59 57.4 -7.4
PLOR **Plostina** 102.95 315⇓ *i*P PKiKP 02 59 51.5 -13
MLR **Muntele Rosu** 103.46 315⇑ *i*P **PKiKP** 03 00 02.4 -3.6
MLR **Muntele Rosu** 103.46 315 Pdiff **Pdif** 02 55 47.7 -0.4
comp=Z,0.7nm,0.8s,baz=106,slow=5.6,SNR=7.9
MLR PKiKP **PP** 03 00 06.8 +0.7
comp=Z,2.9nm,1.3s,baz=88,slow=4.4,SNR=5.6
DOPR **Dopca** 103.82 315⇑ *i*P **PKiKP** 03 00 10.0 +3.4
BURAR **Bucovina Array** 103.84 317⇑ *i*P **PKiKP** 03 00 09.2 +2.6
MMB **Musomiste** 105.28 311⇑ *i*P **PKiKP** 03 00 04.5 -4.9
VTS **Vitosha** 105.60 312⇑ *i*P **PKiKP** 03 00 10.2 +0.1
KOLS **Kolonicke sedl** 105.68 319 *i* P **Pdif** 02 55 59.0 +1.3
KOLS **Kolonicke sedl** 105.68 319 PDIF **Pdif** 02 55 59.0 +1.3
TSUM **Tsumeb** 106.00 248 *e*PKP **PKiKP** 03 00 12.2 +0.7
STHS **Stebnicka Huta** 106.29 319 *i* P **Pdif** 02 56 02.1 +1.7
STHS **Stebnicka Huta** 106.29 319 PDIF **Pdif** 02 56 02.1 +1.7
PSZ **Piszkesteto** 107.38 318 *e*PKP **PKiKP** 03 00 13.4 +0.2
HFS **Hagfors** 108.29 331 Pdiff **Pdif** 02 56 07.8 -1.3
comp=Z,1.4nm,0.5s,baz=85,slow=3.1,SNR=10.0
HFS PKiKP **PKiKP** 03 00 13.4 -0.9
comp=Z,2.0nm,0.7s,baz=108,slow=4.7,SNR=5.1
MORC **Moravsky Berou** 108.61 320⇓ *i*P **PKiKP** 03 00 16.2 +0.9
MORC **Moravsky Berou** 108.61 320 *e*PKP **PKiKP** 03 00 15.2 -0.1
MORC *e*PP **PP** 03 00 40.9 -2.8
KRLC **Kraliky** 109.04 320 *e*PKP **PKiKP** 03 00 16.8 +0.7
NB2 **NORSAR Subarra** 109.17 332 PKPdf **PKiKP** 03 00 15.2 -0.8
comp=Z,1.1nm,0.7s,baz=68,slow=1.9
NOA **NORSAR Array B** 109.17 332 Pdiff **Pdif** 02 56 11.5 -1.5
comp=Z,2.0nm,1.1s,baz=72,slow=4.3,SNR=2.7
NOA PKiKP **PKiKP** 03 00 16.0 -0.1
comp=Z,2.5nm,0.8s,baz=263,slow=3.1,SNR=9.0
DPC **Dobruska-Polom** 109.27 321 *e*PKP **PKiKP** 03 00 17.1 +0.5
YKA **Yellowknife Ar** 109.40 26 Pdiff **Pdif** 02 56 13.4 -0.5

comp=Z,0.2nm,0.8s,baz=291,slow=4.5,SNR=3.8
YKA PKiKP **PKiKP** 03 00 16.1 -0.2
comp=Z,4.4nm,0.6s,baz=293,slow=1.6,SNR=124
YKA PKKPbc **PKKPbc** 03 11 22.1 -2.6
comp=Z,1.3nm,0.6s,baz=112,slow=3.4,SNR=28
UPC Upice 109.44 321 *e*PKP **PKiKP** 03 00 17.4 +0.6
J04D Umpqua Nationa 110.04 47 ⇓PKiKP **PKiKP** 03 00 18.5 +0.1
baz=110
G05D Wamic, OR 110.28 45 ⇓PKiKP **PKiKP** 03 00 18.9 +0.3
baz=110
PVCC Panska Ves 110.33 321 *e*PKIKP **PKiKP** 03 00 18.9 +0.4
PVCC Panska Ves 110.33 321 *e*PKP **PKiKP** 03 00 18.9 +0.4
I05D Terrebonne, OR 110.42 46 ⇑PKiKP **PKiKP** 03 00 19.5 +0.6
baz=110
M04C Macdoel 110.45 48 ⇓PKiKP **PKiKP** 03 00 20.0 +0.9
baz=110
PRU Pruhonice 110.47 321 *e*PKIKP **PKiKP** 03 00 19.0 +0.2
PRU *e* 03 01 05.5
PRU Pruhonice 110.47 321 *e*PKP **PKiKP** 03 00 19.0 +0.2
PRU *ex* 03 01 05.5
BRG Berggiesshubel 110.64 322 *e*PKP **PKiKP** 03 00 19.2 +0.2
comp=Z,6.9nm,0.9s
BRG Berggiesshubel 110.64 322 *e*PKIKP **PKiKP** 03 00 19.2 +0.2
BRG pmax pmax
comp=Z,7.0nm,1.0s
J05D Fort Rock, OR 110.66 47 ⇓PKiKP **PKiKP** 03 00 20.3 +0.8
baz=111
TIP Timpagrande 110.81 309 *e*PKP **PKiKP** 03 00 20.2 +0.4
TIP *e*PP **PP** 03 00 58.2 -1.8
CLL Collm 111.10 322 *i* PKIKP **PKiKP** 03 00 19.9 0.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 111.10 322 *i* PKiKP **PKiKP** 03 00 19.9 0.0
comp=Z,5.0nm,0.7s
CLL *e*PP **PP** 03 01 00.0 -1.5
CLL *es*PP 03 02 00.0
CLL *e*SKSac **SKSac** 03 06 42.0 -1.6
CLL *es*Sdiff **sSdif** 03 09 48.0 +5.3
CLL *e*PS **PS** 03 10 33.0 -2.4
CLL *es*PS 03 11 31.0
CLL *es*PPS 03 12 27.0
CLL *e*SS SS 03 16 28.0 +8.5
CLL *e*(SSS) 03 21 06.0
CLL *e* 03 22 00.0
CLL *e* 03 24 54.0
CLL LmH 03 41 00.0
comp=N,100nm,21.2s
CLL LmH 03 41 00.0
comp=E,100nm,19.6s
GERES GERESS Array B 111.26 320 PKiKP **PKiKP** 03 00 20.5 +0.1
comp=E,4.0nm,0.6s,baz=65,slow=1.7,SNR=53
KHC Kasperske Hory 111.28 320 *e*PKIKP **PKiKP** 03 00 19.7 -0.7
KHC Kasperske Hory 111.28 320 *e*PKP **PKiKP** 03 00 19.7 -0.7
KBA Koelnbreinsper 111.89 318 ⇑*i*PKiKP **PKiKP** 03 00 20.7 -1.1
comp=E,9.8nm,1.4s
NEW Newport 112.47 41 ⇑PKiKP **PKiKP** 03 00 23.6 +0.9
baz=112
ABTA Abfaltersbach 112.53 318 ⇑*i*PKiKP **PKiKP** 03 00 22.1 -0.8
comp=E,18nm,1.3s
AQU L'Aquila 112.82 313 *e*PKIKP **PKiKP** 03 00 23.6 0.0
AQU L'Aquila 112.82 313 *e*PKP **PKiKP** 03 00 23.6 0.0
PKM Mcpherson Peak 112.93 55 ⇑PKiKP **PKiKP** 03 00 25.0 +0.9
baz=113
WTTA Wattenberg 112.98 318 ⇑*i*PKiKP **PKiKP** 03 00 23.9 0.0
comp=E,29nm,0.6s
MOTA Moosalm 113.31 318 ⇑*i*PKiKP **PKiKP** 03 00 24.2 -0.3
comp=E,8.4nm,0.6s
EDM Edmonton 113.31 35 *e*PKIKP **PKiKP** 03 00 24.0 -0.1
EDM Edmonton 113.31 35 *e*PKP **PKiKP** 03 00 24.0 -0.1
VES Vestal, Richgr 113.41 54 ⇓PKiKP **PKiKP** 03 00 24.9 +0.1
baz=113
RETA Reutte 113.50 319 ⇑*i*PKiKP **PKiKP** 03 00 24.4 -0.3
comp=E,4.3nm,0.6s
NVAR Mina Array Bea 113.64 51 PKiKP **PKiKP** 03 00 25.4 0.0
comp=E,2.0nm,0.8s,baz=231,slow=1.0,SNR=7.6
NVAR PKKPab **PKKPab** 03 11 17.3 +0.6
comp=E,0.9nm,0.7s,baz=112,slow=5.1,SNR=5.4
FETA Feichten 113.64 318 ⇑*i*PKiKP **PKiKP** 03 00 25.0 -0.1
comp=E,6.0nm,1.0s
ISA Isabella, Lake 113.92 54 ⇓PKiKP **PKiKP** 03 00 26.5 +0.6
baz=114
BSMT Bassoo Peak 114.09 41 *e*PKPdf PKPdf 03 00 26.0 0.0
DAVA Damuels 114.13 319 ⇑*i*PKPdf PKPdf 03 00 25.2 -0.9
comp=E,17nm,0.9s
STU Stuttgart 114.16 320 *e*PKIKP PKPdf 03 00 25.9 +0.1
STU Stuttgart 114.16 320 *e*PKP PKPdf 03 00 25.9 +0.1
DAVOX Davos/Dischmat 114.27 318 PKiKP **PKiKP** 03 00 26.4 +0.1
baz=78,slow=4.4
EDW2 Edwards Air Fo 114.42 55 ⇓PKiKP **PKiKP** 03 00 27.8 +1.0
baz=114
GRAC Grapevine Rang 114.60 53 ⇓PKiKP **PKiKP** 03 00 28.2 +1.1
baz=115
MPMC Manual Prospec 114.66 54 ⇑PKiKP **PKiKP** 03 00 28.2 +0.7
baz=115
SWMT Swartz Lake 114.69 41 *e*PKP PKPdf 03 00 26.9 -0.2
BFSC Mount Baldy Ra 114.78 56 ⇑PKiKP **PKiKP** 03 00 28.2 +0.5
baz=115
MSO Missoula 114.92 42 ⇓PKiKP PKPdf 03 00 27.8 +0.3
baz=115
LRW Lerwick 115.07 334 *e*P **PKPdf** 03 00 27.1 -0.1
FURC Furnace Creek, 115.09 53 ⇓PKiKP **PKPdf** 03 00 29.4 +1.4
baz=115
SLMT Seeley Lake 115.10 41 *e*PKPdf **PKPdf** 03 00 27.4 -0.5
MURC Murrieta 115.25 57 ⇓PKiKP **PKPdf** 03 00 29.2 +0.7
baz=115
GSC Goldstone, Bar 115.32 55 ⇑PKiKP **PKPdf** 03 00 29.8 +1.2
baz=115
CHMT Chamberlain Mo 115.35 41 *e*PKPdf **PKPdf** 03 00 28.3 -0.2
109C Camp Elliot, M 115.42 57 ⇑PKiKP **PKiKP** 03 00 28.8 0.0
baz=115
HLID Hailey 115.47 45 ⇑PKiKP **PKPdf** 03 00 29.7 +0.9
baz=116
HLID Hailey 115.47 45 *e*PKPdf **PKPdf** 03 00 29.9 +1.1
CDF Champ du Feu 115.48 320 ⇑*i*PKIKP **PKPdf** 03 00 27.7 -0.8
comp=E,10.0nm,0.8s
CDF Champ du Feu 115.48 320 ⇑*i*PKiKP **PKPdf** 03 00 27.7 -0.8
CDF Champ du Feu 115.48 320 ⇑*i*PKPdf **PKPdf** 03 00 27.7 -0.8
TPNV Topopah Spring 115.50 53 ⇑PKiKP **PKiKP** 03 00 29.8 +0.8
baz=116
MEM Membach 115.53 323 PKP **PKPdf** 03 00 28.7 +0.3
SHOC Shoshone, Teco 115.65 54 ⇑PKiKP **PKiKP** 03 00 30.3 +1.2
baz=116
R11A Troy Canyon, C 115.76 51 ⇑PKiKP **PKiKP** 03 00 30.5 +1.0
baz=116
WLF Walferdange 115.77 322 *e*PKIKP **PKPdf** 03 00 29.9 +1.0
WLF Walferdange 115.77 322 *e*PKPdf **PKPdf** 03 00 29.9 +1.0
PFO Pinyon Flats O 115.86 56 ⇓PKiKP **PKiKP** 03 00 30.7 +1.0
baz=116
HINF Hinteralfeld 115.94 320 ⇑*i*PKiKP **PKPdf** 03 00 28.8 -0.6
comp=E,18nm,0.6s
HINF Hinteralfeld 115.94 320 ⇑*i*PKIKP **PKPdf** 03 00 28.8 -0.6
HINF Hinteralfeld 115.94 320 ⇑*i*PKPdf **PKPdf** 03 00 28.8 -0.6
MONP Monument Peak, 115.99 57 ⇑PKiKP **PKiKP** 03 00 32.1 +1.9
baz=116
TUQ Turquoise Moun 116.01 54 ⇑PKiKP **PKiKP** 03 00 31.6 +1.6
baz=116
BCLA Clavier 116.02 323 PKP **PKPdf** 03 00 29.8 +0.4
BELC Belle Mtn. Jos 116.18 56 ⇑PKiKP **PKiKP** 03 00 32.1 +1.7
baz=116
HAU Haudompre 116.20 320 ⇑*i*PKIKP **PKPdf** 03 00 29.5 -0.3
comp=E,21nm,0.8s
HAU *eR*
comp=E,80nm,22.8s
HAU Haudompre 116.20 320 ⇑*i*PKiKP **PKPdf** 03 00 29.5 -0.3
HAU Haudompre 116.20 320 ⇑*i*PKPdf **PKPdf** 03 00 29.5 -0.3
MCMT McKenzie Canyo 116.22 44 *e*PKPdf **PKPdf** 03 00 31.1 +0.8
GMRC Granite Mounta 116.33 55 ⇑PKiKP **PKiKP** 03 00 32.4 +1.7
baz=116
GIVF Givet 116.42 323 *e*PKIKP **PKPdf** 03 00 29.7 -0.4
comp=E,11nm,0.7s
GIVF Givet 116.42 323 *e*PKiKP **PKPdf** 03 00 29.7 -0.4
GIVF Givet 116.42 323 *e*PKPdf **PKPdf** 03 00 29.7 -0.4
SHPR Sheep Range 116.44 53 *e*PKPdf **PKPdf** 03 00 32.0 +1.2
DOU Dourbes 116.56 323 PKP **PKPdf** 03 00 31.0 +0.6
BC3 Big Chuckawall 116.68 56 ⇑PKiKP **PKiKP** 03 00 32.7 +1.3
baz=117
LPG La Plagne 116.72 317 ⇑*i*PKiKP **PKPdf** 03 00 31.2 -0.1
comp=E,11nm,0.7s
LPG La Plagne 116.72 317 ⇑*i*PKIKP **PKPdf** 03 00 31.2 -0.1
LPG La Plagne 116.72 317 ⇑*i*PKPdf **PKPdf** 03 00 31.2 -0.1
SBF Sospel 116.72 315 *e*PKIKP **PKPdf** 03 00 30.6 -0.4
comp=E,51nm,0.8s
SBF Sospel 116.72 315 *e*PKiKP **PKPdf** 03 00 30.6 -0.4
SBF Sospel 116.72 315 *e*PKPdf **PKPdf** 03 00 30.6 -0.4
LPL La Plagne 116.73 317 ⇑*i*PKiKP **PKPdf** 03 00 31.1 -0.1
comp=E,18nm,0.6s
LPL La Plagne 116.73 317 ⇑*i*PKIKP **PKPdf** 03 00 31.1 -0.1
LPL La Plagne 116.73 317 ⇑*i*PKPdf **PKPdf** 03 00 31.1 -0.1
BAIF Baives 116.81 323 *e*PKIKP **PKPdf** 03 00 31.1 +0.2
comp=E,15nm,0.9s
BAIF Baives 116.81 323 *e*PKIKP **PKPdf** 03 00 31.1 +0.2
BAIF Baives 116.81 323 *e*PKPdf **PKPdf** 03 00 31.1 +0.2
CABF La Chapelle 116.81 319 ⇑*i*PKIKP **PKPdf** 03 00 31.2 +0.1
comp=E,27nm,0.6s
CABF La Chapelle 116.81 319 ⇑*i*PKiKP **PKPdf** 03 00 31.2 +0.1
CABF La Chapelle 116.81 319 ⇑*i*PKPdf **PKPdf** 03 00 31.2 +0.1
IRM Iron Mountain 116.85 56 ⇑PKiKP **PKiKP** 03 00 32.7 +1.2
baz=117
BNI Bardonecchia 116.90 317 *e*PKIKP **PKPdf** 03 00 31.3 -0.1
BNI Bardonecchia 116.90 317 *e*PKPdf **PKPdf** 03 00 31.2 -0.1
MBDF Montbardon 116.93 317 *e*PKIKP **PKPdf** 03 00 31.0 -0.5
comp=E,20nm,0.7s
MBDF Montbardon 116.93 317 *e*PKiKP **PKPdf** 03 00 31.0 -0.5
MBDF Montbardon 116.93 317 *e*PKPdf **PKPdf** 03 00 31.0 -0.5
HVU Hansel Valley 117.09 47 *e*PKIKP **PKPdf** 03 00 32.6 +0.7
HVU Hansel Valley 117.09 47 *e*PKPdf **PKPdf** 03 00 32.6 +0.7
KEST Kesra 117.17 306 PKP **PKPdf** 03 00 32.8 +0.6
comp=E,1.9nm,0.7s,baz=131,slow=2.8,SNR=7.4
KEST Kesra 117.17 306 *e*PKPdf **PKPdf** 03 00 32.4 +0.2
KEST PKP **PKPdf** 03 00 32.8 +0.6
KEST *e*PP **PP** 03 01 41.8 -3.1
QLMT Earthquake Lak 117.18 43 *e*PKPdf **PKPdf** 03 00 33.2 +1.1
EGMT Eagleton 117.25 39 ⇑PKiKP **PKiKP** 03 00 32.1 +0.2
baz=117
EGMT Eagleton 117.25 39 *e*PKPdf **PKPdf** 03 00 31.8 -0.1
GLA Glamis 117.29 57 ⇓PKiKP **PKiKP** 03 00 33.6 +1.2
baz=117
MCD Coleburn Disti 117.33 333 *e*P **PKPdf** 03 00 31.6 -0.1
FRF La Foret Royal 117.36 315 *e*PKIKP **PKPdf** 03 00 32.0 -0.2
comp=E,31nm,0.9s
FRF La Foret Royal 117.36 315 *e*PKiKP **PKPdf** 03 00 32.0 -0.2
FRF La Foret Royal 117.36 315 *e*PKPdf **PKPdf** 03 00 32.0 -0.2
DUG Dugway, Tooele 117.45 49 *e*PKiKP **PKPdf** 03 00 33.5 +0.8
DUG Dugway, Tooele 117.45 49 ⇑PKiKP **PKiKP** 03 00 34.0 +1.3
baz=117
DUG Dugway, Tooele 117.45 49 *e*PKPdf **PKPdf** 03 00 33.5 +0.8
ORIF Oris-en-Rattie 117.48 317 ⇑*i*PKIKP **PKPdf** 03 00 32.2 -0.3
comp=E,16nm,0.6s
ORIF *eR*
comp=E,104nm,22.5s
ORIF Oris-en-Rattie 117.48 317 ⇑*i*PKiKP **PKPdf** 03 00 32.2 -0.3
ORIF Oris-en-Rattie 117.48 317 ⇑*i*PKPdf **PKPdf** 03 00 32.2 -0.3
LMR La Mourre 117.52 315 *e*PKIKP **PKPdf** 03 00 32.2 -0.3
LMR La Mourre 117.52 315 *e*PKiKP **PKPdf** 03 00 32.2 -0.3
LMR La Mourre 117.52 315 *e*PKPdf **PKPdf** 03 00 32.2 -0.3
ARUT Antelope Range 117.53 51 *e*PKIKP **PKPdf** 03 00 30.7 -2.2
ARUT Antelope Range 117.53 51 *e*PKPdf **PKPdf** 03 00 30.7 -2.2
YMR Madison River 117.55 43 *e*PKPdf **PKPdf** 03 00 32.4 -0.4
A19A Klindworth Far 117.55 38 ⇓PKiKP **PKiKP** 03 00 32.8 +0.3
baz=118
CCUT Cedar City 117.64 52 *e*PKPdf **PKPdf** 03 00 31.9 -1.3
PDMCI Parker Dam,Lak 117.65 55 ⇑PKiKP **PKiKP** 03 00 34.1 +1.1
baz=118
W13A Hualapai Mount 117.71 54 ⇓PKiKP **PKiKP** 03 00 34.8 +1.3
baz=118
C19A Slack Wire Ran 117.79 40 ⇓PKiKP **PKiKP** 03 00 33.8 +0.8
baz=118
H17A Grant Village 117.90 43 ⇑PKiKP **PKiKP** 03 00 35.1 +1.5
baz=118
H17A Grant Village 117.90 43 *e*PKPdf **PKPdf** 03 00 34.9 +1.3
ESY Stoneypath 117.91 331 *e*P **PKPdf** 03 00 32.9 0.0
SMRF Simiane la Rot 117.98 316 *e*PKIKP **PKPdf** 03 00 33.7 +0.3
comp=E,25nm,0.8s
SMRF Simiane la Rot 117.98 316 *e*PKPdf **PKPdf** 03 00 33.7 +0.3
HWUT Hardware Ranch 118.01 47 *e*PKPdf **PKPdf** 03 00 34.1 +0.3
LOR Lormes 118.03 320 ⇑*i*PKIKP **PKPdf** 03 00 33.2 -0.2
comp=E,26nm,0.9s
LOR *eR*
comp=E,70nm,21.5s
LOR Lormes 118.03 320 ⇑*i*PKiKP **PKPdf** 03 00 33.2 -0.2
LOR Lormes 118.03 320 ⇑*i*PKPdf **PKPdf** 03 00 33.2 -0.2
I17A Pilgrim Ck. 118.04 44 ⇓PKiKP **PKiKP** 03 00 35.0 +1.2
baz=118
A20A Cobblestone Ra 118.07 38 ⇑PKiKP **PKiKP** 03 00 33.7 +0.2
baz=118
D19A Cripps Ranch, 118.10 40 ⇑PKiKP **PKiKP** 03 00 33.9 +0.2
baz=118
B20A Solberg Farm, 118.18 38 ⇑PKiKP **PKiKP** 03 00 34.3 +0.6
baz=118
EBL Broad Law 118.19 331 *e*P **PKPdf** 03 00 33.7 +0.3
113A Mohawk Valley, 118.22 57 ⇓PKiKP **PKiKP** 03 00 34.6 +0.5
baz=118
TCUT Toone Canyon 118.25 47 *e*PKPdf **PKPdf** 03 00 34.9 +0.6
SMF Signal de Mont 118.26 319 ⇑*i*PKIKP **PKPdf** 03 00 33.5 -0.3
comp=E,17nm,0.8s
SMF Signal de Mont 118.26 319 ⇑*i*PKiKP **PKPdf** 03 00 33.5 -0.3
SMF Signal de Mont 118.26 319 ⇑*i*PKPdf **PKPdf** 03 00 33.5 -0.3
VIVF Saint-Julien-l 118.31 317 ⇑*i*PKIKP **PKPdf** 03 00 33.9 -0.1
comp=E,28nm,1.0s
VIVF Saint-Julien-l 118.31 317 ⇑*i*PKiKP **PKPdf** 03 00 33.9 -0.1
VIVF Saint-Julien-l 118.31 317 ⇑*i*PKPdf **PKPdf** 03 00 33.9 -0.1
SSF Saint Saulge 118.33 320 ⇑*i*PKIKP **PKPdf** 03 00 33.9 0.0
comp=E,23nm,0.6s
SSF Saint Saulge 118.33 320 ⇑*i*PKiKP **PKPdf** 03 00 33.9 0.0
SSF Saint Saulge 118.33 320 ⇑*i*PKPdf **PKPdf** 03 00 33.9 0.0
HPK Haverah Park 118.39 329 *e*P **PKPdf** 03 00 33.9 +0.1
HPK AMB AMB 03 00 34.9
comp=Z,112nm,2.7s
E19A Rath Farm, Rou 118.41 41 ⇑PKiKP **PKiKP** 03 00 35.1 +0.8
baz=118
H18A Shoshone NF, C 118.43 43 ⇑PKiKP **PKiKP** 03 00 34.6 +0.1
baz=118
C20A Veseth Ranch, 118.46 39 ⇓PKiKP **PKiKP** 03 00 34.8 +0.5
baz=118
EKA Eskdalemuir Ar 118.47 330 PKP **PKPdf** 03 00 33.8 -0.1
comp=Z,3.6nm,0.6s,baz=14,slow=2.5,SNR=24
ESK Eskdalemuir 118.50 330 *e*PKIKP **PKPdf** 03 00 33.9 -0.1
ESK Eskdalemuir 118.50 330 *e*P **PKPdf** 03 00 33.6 -0.4
ESK Eskdalemuir 118.50 330 *e*PKPdf **PKPdf** 03 00 33.9 -0.1
CMAH Djebel Manchou 118.52 308 P **PKPdf** 03 00 34.9 +0.2
F19A Roth Farm, Mol 118.52 41 ⇓PKiKP **PKiKP** 03 00 34.9 +0.4
baz=118
AVF Avril sur Loir 118.53 320 ⇑*i*PKIKP **PKPdf** 03 00 33.9 -0.4
comp=Z,17nm,0.8s
AVF Avril sur Loir 118.53 320 ⇑*i*PKiKP **PKPdf** 03 00 33.9 -0.4
AVF Avril sur Loir 118.53 320 ⇑*i*PKPdf **PKPdf** 03 00 33.9 -0.4
ABSA Djebel Ababsia 118.55 307 P **PKPdf** 03 00 35.3 +0.5
KPL Plockton 118.55 333 *e*P **PKPdf** 03 00 34.1 +0.1
D20A Manuel Ranch, 118.60 40 ⇓PKiKP **PKiKP** 03 00 34.8 +0.2
baz=119
A21A Bergtoll Ranch 118.63 38 ⇑PKiKP **PKiKP** 03 00 34.7 +0.2
baz=119
Y14A Wickenburg 118.64 56 ⇓PKiKP **PKiKP** 03 00 35.3 +0.2
baz=119
LHO Holmfirth 118.71 328 *e*P **PKPdf** 03 00 34.0 -0.5
U15A North Rim 118.72 53 ⇑PKiKP **PKiKP** 03 00 36.9 +1.5
baz=119
FFC Flin Flon 118.75 30 *e*PKIKP **PKPdf** 03 00 34.2 -0.3
FFC Flin Flon 118.75 30 *e*PKPdf **PKPdf** 03 00 34.2 -0.3
Z14A Wintersburg 118.80 56 ⇓PKiKP **PKiKP** 03 00 36.2 +0.9
baz=119
B21A Ellsworth Farm 118.80 38 ⇑PKiKP **PKiKP** 03 00 35.7 +0.8
baz=119
E20A Meyer Farm, Mu 118.82 41 ⇓PKiKP **PKiKP** 03 00 35.4 +0.3
baz=119
KESW Keswick, Cumbr 118.83 330 *e*P **PKPdf** 03 00 34.3 -0.3
KESW AMB AMB 03 00 35.3
comp=Z,91nm,3.1s
TMUT Trail Mountain 118.88 49 *e*PKPdf **PKPdf** 03 00 36.5 +0.8
H19A Powell 118.89 43 ⇓PKiKP **PKiKP** 03 00 36.2 +0.9
baz=119
BGF Bois d'Agland 118.94 320 ⇑*i*PKiKP **PKPdf** 03 00 35.3 +0.2
comp=Z,49nm,0.6s
BGF Bois d'Agland 118.94 320 ⇑*i*PKIKP **PKPdf** 03 00 35.3 +0.2
BGF Bois d'Agland 118.94 320 ⇑*i*PKPdf **PKPdf** 03 00 35.3 +0.2
C21A Desert Coulee 118.98 39 ⇑PKiKP **PKiKP** 03 00 36.2 +0.9
baz=119
F20A Billings 119.06 41 ⇑PKiKP **PKiKP** 03 00 36.7 +1.1
baz=119
I19A Meeteetse 119.09 43 ⇑PKiKP **PKiKP** 03 00 36.6 +0.8
baz=119
PDAR Pinedale Array 119.10 45 PKP **PKPdf** 03 00 36.5 +0.6
comp=Z,5.4nm,0.7s,baz=239,slow=0.8,SNR=32
PDAR PKKPbc **PKKPbc** 03 10 52.0 +0.6
comp=Z,2.3nm,0.6s,baz=119,slow=5.9,SNR=18
LASF Ste Croix 119.12 317 *e*PKIKP **PKPdf** 03 00 35.6 0.0
LASF Ste Croix 119.12 317 *e*PKPdf **PKPdf** 03 00 35.6 0.0
214A Organ Pipe Nat 119.15 58 ⇓PKiKP **PKiKP** 03 00 36.6 +0.6
baz=119
G20A Bridger 119.22 42 ⇓PKiKP **PKiKP** 03 00 36.9 +0.9
baz=119
A22A Carney Farms, 119.24 37 ⇓PKiKP **PKiKP** 03 00 36.4 +0.6
baz=119
J19A Crowheart 119.30 44 ⇓PKiKP **PKiKP** 03 00 36.9 +0.7
baz=119
CTEI Djebel Teioual 119.44 307 P **PKPdf** 03 00 36.7 +0.1
SRU San Rafael Swe 119.44 49 *e*PKIKP **PKPdf** 03 00 37.1 +0.5
SRU San Rafael Swe 119.44 49 *e*PKPdf **PKPdf** 03 00 37.1 +0.5
TCF Toulx Ste Croi 119.44 319 ⇑*i*PKIKP **PKPdf** 03 00 36.2 +0.1
comp=Z,68nm,1.2s
TCF Toulx Ste Croi 119.44 319 ⇑*i*PKiKP **PKPdf** 03 00 36.2 +0.1
TCF Toulx Ste Croi 119.44 319 ⇑*i*PKPdf **PKPdf** 03 00 36.2 +0.1
GAL1 Galloway 119.48 331 *e*P **PKPdf** 03 00 35.5 -0.3
H20A Greybull 119.61 43 ⇓PKiKP **PKiKP** 03 00 37.5 +0.8
baz=120
WUAZ Wupatki 119.64 53 ⇓PKiKP **PKiKP** 03 00 37.9 +0.8
baz=120
WUAZ Wupatki 119.64 53 *e*PKPdf **PKPdf** 03 00 38.2 +1.2
I20A Worland 119.71 43 ⇑PKiKP **PKiKP** 03 00 37.7 +0.8
baz=120
STRD Stroud 119.73 327 *e*P **PKPdf** 03 00 35.8 -0.6
FOEL Foel Wylfa 119.74 328 *e*P **PKPdf** 03 00 36.9 +0.4
DFRA Djebel Bou Aff 119.75 308 P **PKPdf** 03 00 37.9 +0.8
HLM1 Long Mynd 119.76 328 *e*P **PKPdf** 03 00 36.2 -0.3
C22A Vida 119.77 39 ⇑PKiKP **PKiKP** 03 00 37.8 +1.0
baz=120
D22A Cohagen 119.82 39 ⇓PKiKP **PKiKP** 03 00 37.9 +0.9
baz=120
G21A Lodge Grass 119.88 42 ⇓PKiKP **PKiKP** 03 00 37.8 +0.6
baz=120
WPM1 Penmaenmawr 119.92 329 *e*P **PKPdf** 03 00 36.7 -0.1
FCC Fort Churchill 119.93 24 *e*PKIKP **PKPdf** 03 00 36.0 -0.6
FCC Fort Churchill 119.93 24 *e*PKPdf **PKPdf** 03 00 36.0 -0.6
J20A Shoshoni 119.94 44 ⇓PKiKP **PKiKP** 03 00 38.2 +0.8
baz=120
LAO LASA Array 119.97 40 *e*PKPdf **PKPdf** 03 00 38.0 +0.9
LDF La Druitiere 119.99 323 ⇑*i*PKIKP **PKPdf** 03 00 36.8 -0.2
comp=Z,42nm,1.1s
LDF La Druitiere 119.99 323 ⇑*i*PKiKP **PKPdf** 03 00 36.8 -0.2
LDF La Druitiere 119.99 323 ⇑*i*PKPdf **PKPdf** 03 00 36.8 -0.2
B23A Brockton 120.02 38 ⇓PKiKP **PKiKP** 03 00 38.0 +0.7
baz=120
CAF Calviac 120.03 318 ⇑*i*PKIKP **PKPdf** 03 00 37.7 +0.4
comp=Z,44nm,1.0s
CAF Calviac 120.03 318 ⇑*i*PKiKP **PKPdf** 03 00 37.7 +0.4
CAF Calviac 120.03 318 ⇑*i*PKPdf **PKPdf** 03 00 37.7 +0.4
FLN La Foliniere 120.13 323 *e*PKIKP **PKPdf** 03 00 37.1 -0.2
comp=Z,27nm,1.0s
FLN *eR*
comp=E,130nm,19.8s
FLN La Foliniere 120.13 323 *e*PKIKP **PKPdf** 03 00 37.1 -0.2
FLN La Foliniere 120.13 323 *e*PKPdf **PKPdf** 03 00 37.1 -0.2
WLF1 Llynfaes 120.16 329 *e*P **PKPdf** 03 00 36.5 -0.7
C23A Lambert 120.17 38 ⇑PKiKP **PKiKP** 03 00 38.6 +1.0
baz=120
H21A Big Horn, Sher 120.20 42 ⇑PKiKP **PKiKP** 03 00 38.5 +0.6
baz=120
E22A Miles City 120.24 40 ⇑PKiKP **PKiKP** 03 00 38.7 +0.9
baz=120
F22A Rosebud 120.30 41 ⇓PKiKP **PKiKP** 03 00 38.7 +0.7
baz=120
I21A Big Trails, Te 120.32 43 ⇓PKiKP **PKiKP** 03 00 38.6 +0.4
baz=120
J21A Lysite 120.38 44 ⇑PKiKP **PKiKP** 03 00 38.7 +0.4
baz=120
A24A Westby 120.41 37 ⇑PKiKP **PKiKP** 03 00 38.8 +0.7
baz=120
D23A Lindsay 120.42 39 ⇑PKiKP **PKiKP** 03 00 39.1 +1.0
baz=120
G22A Birney 120.48 41 ⇓PKiKP **PKiKP** 03 00 39.3 +0.9
baz=120
MTLF Montolieu 120.49 316 ⇑*i*PKIKP **PKPdf** 03 00 38.0 -0.2
comp=Z,34nm,1.0s
MTLF Montolieu 120.49 316 ⇑*i*PKiKP **PKPdf** 03 00 38.0 -0.2
MTLF Montolieu 120.49 316 ⇑*i*PKPdf **PKPdf** 03 00 38.0 -0.2
DGMT Dagmar 120.49 37 ⇓PKiKP **PKiKP** 03 00 39.0 +0.8
baz=120
DGMT Dagmar 120.49 37 *e*PKPdf **PKPdf** 03 00 38.7 +0.6
GRR Gorron 120.52 323 *e*PKIKP **PKPdf** 03 00 38.0 -0.1
comp=Z,13nm,0.6s
GRR Gorron 120.52 323 *e*PKIKP **PKPdf** 03 00 38.0 -0.1
GRR Gorron 120.52 323 *e*PKPdf **PKPdf** 03 00 38.0 -0.1
LPW Lampeter 120.59 328 *e*P **PKPdf** 03 00 38.0 -0.1
E23A Ismay 120.63 40 ⇓PKiKP **PKiKP** 03 00 39.3 +0.8
baz=121
H22A Clearmont 120.68 42 ⇓PKiKP **PKiKP** 03 00 38.9 +0.1
baz=121
C24A Savage 120.75 38 ⇑PKiKP **PKiKP** 03 00 39.7 +0.9
baz=121
K21A Alcova 120.75 45 ⇓PKiKP **PKiKP** 03 00 39.4 +0.3
baz=121
MFF Saint Martin d 120.83 321 ⇑*i*PKIKP **PKPdf** 03 00 38.6 -0.1
comp=Z,63nm,0.9s
MFF Saint Martin d 120.83 321 ⇑*i*PKiKP **PKPdf** 03 00 38.6 -0.1
MFF Saint Martin d 120.83 321 ⇑*i*PKPdf **PKPdf** 03 00 38.6 -0.1
I22A 9 Mile Ranch, 120.84 43 ⇑PKiKP **PKiKP** 03 00 39.3 +0.2
baz=121
O20A White River Ci 120.84 48 ⇓PKiKP **PKiKP** 03 00 40.6 +1.2
baz=121
O20A White River Ci 120.84 48 *e*PKPdf **PKPdf** 03 00 40.1 +0.8
F23A Volborg 120.87 41 ⇑PKiKP **PKiKP** 03 00 39.5 +0.4
baz=121
LFF La Frestale 120.90 318 *e*PKIKP **PKPdf** 03 00 39.4 +0.5
comp=Z,32nm,0.7s
LFF La Frestale 120.90 318 *e*PKiKP **PKPdf** 03 00 39.4 +0.5
LFF La Frestale 120.90 318 *e*PKPdf **PKPdf** 03 00 39.4 +0.5
A25A Svangstu Ranch 120.93 36 ⇓PKiKP **PKiKP** 03 00 39.7 +0.7
baz=121
HEX Exmoor 120.97 326 *e*P **PKPdf** 03 00 38.8 0.0
D24A Glendive 120.99 39 ⇓PKiKP **PKiKP** 03 00 40.0 +0.8
baz=121
X18A Snowflake 121.00 54 ⇓PKiKP **PKiKP** 03 00 40.9 +1.1
baz=121
J22A Midwest 121.02 43 ⇑PKiKP **PKiKP** 03 00 39.7 +0.1
baz=121
W18A Petrified Fore 121.03 54 ⇑PKiKP **PKiKP** 03 00 40.5 +0.6
baz=121
G23A Biddle 121.08 41 ⇑PKiKP **PKiKP** 03 00 39.9 +0.4
baz=121
PV01 Paradox Valley 121.17 50 *e*PKPdf **PKPdf** 03 00 40.8 +0.8
B25A Knox Farm, Ray 121.20 37 ⇑PKiKP **PKiKP** 03 00 40.8 +1.2
baz=121
E24A Baker 121.23 39 ⇓PKiKP **PKiKP** 03 00 40.7 +0.9
baz=121
K22A Casper 121.25 44 ⇑PKiKP **PKiKP** 03 00 40.3 +0.2
baz=121
K22A Casper 121.25 44 *e*PKPdf **PKPdf** 03 00 39.4 -0.6
C25A Freed Ranch, W 121.39 38 ⇑PKiKP **PKiKP** 03 00 40.9 +0.9
baz=121
F24A Ekalaka 121.44 40 ⇓PKiKP **PKiKP** 03 00 40.5 +0.3
baz=121
MVCO Mesa Verde 121.48 51 ⇓PKiKP **PKiKP** 03 00 42.1 +1.3
baz=122
MVCO Mesa Verde 121.48 51 *e*PKPdf **PKPdf** 03 00 41.5 +0.9
L22A Ellis Ranch, M 121.53 45 ⇓PKiKP **PKiKP** 03 00 41.0 +0.4
baz=122
A26A Wade Farm, Ken 121.58 36 ⇓PKiKP **PKiKP** 03 00 41.0 +0.7
baz=122
SGMF Saint Gilles 121.59 323 *e*PKIKP **PKPdf** 03 00 39.8 -0.3
comp=Z,54nm,0.9s
SGMF Saint Gilles 121.59 323 *e*PKIKP **PKPdf** 03 00 39.8 -0.3
SGMF Saint Gilles 121.59 323 *e*PKPdf **PKPdf** 03 00 39.8 -0.3
D25A Fairfield 121.60 38 ⇓PKiKP **PKiKP** 03 00 41.4 +0.9
baz=122
M22A Cedar Creek Ra 121.63 46 ⇓PKiKP **PKiKP** 03 00

L23A Garrett 122.01 45 ⇓PKiKP PKiKP 03 00 41.6 -0.1
baz=122
F25A Bowman 122.03 40 ⇑PKiKP PKiKP 03 00 42.0 +0.6
baz=122
C26A Wahner Farm, P 122.04 37 ⇑PKiKP PKiKP 03 00 42.1 +0.8
baz=122
O22A Kremmling 122.07 47 ⇓PKiKP PKiKP 03 00 42.1 +0.1
baz=122
P22A Eagle 122.09 48 ⇑PKiKP PKiKP 03 00 42.7 +0.8
baz=122
I24A Kuemmerle Ranc 122.10 42 ⇑PKiKP PKPdf 03 00 41.1 -0.3
baz=122
QUIF Quistinic 122.11 323 *e*PKiKP PKPdf 03 00 40.9 -0.2
comp=Z,25nm,0.7s
QUIF Quistinic 122.11 323 *e*PKiKP PKPdf 03 00 40.9 -0.2
QUIF Quistinic 122.11 323 *e*PKPdf PKPdf 03 00 40.9 -0.2
D26A Manning 122.19 38 ⇑PKiKP PKiKP 03 00 42.0 +0.4
baz=122
319A Douglas 122.22 58 ⇓PKiKP PKiKP 03 00 43.1 +0.9
baz=122
M23A Laramie 122.22 45 ⇑PKiKP PKiKP 03 00 42.1 0.0
baz=122
N23A Red Feather La 122.26 46 ⇓PKiKP PKiKP 03 00 42.3 +0.1
baz=122
J24A Dixon Ranch, L 122.28 43 ⇓PKiKP PKPdf 03 00 41.6 -0.2
baz=122
TAM Tamanrasset 122.32 292 *e*PKiKP PKPdf 03 00 43.4 +0.9
TAM Tamanrasset 122.32 292 *e*PKPdf PKPdf 03 00 43.4 +0.9
G25A Newell 122.36 41 ⇑PKiKP PKPdf 03 00 41.9 0.0
baz=122
RSSD Black Hills 122.39 42 *e*PKiKP PKPdf 03 00 41.8 -0.3
RSSD Black Hills 122.39 42 *e*PKPdf PKPdf 03 00 41.8 -0.3
K24A Anderson Ranch 122.40 44 ⇑PKiKP PKPdf 03 00 41.8 -0.3
baz=122
E26A Carlson Angus 122.42 39 ⇓PKiKP PKiKP 03 00 42.1 0.0
baz=122
C27A Sayler Ranch, 122.45 37 ⇑PKiKP PKiKP 03 00 42.3 +0.2
baz=122
H25A Fruitdale 122.48 41 ⇓PKiKP PKiKP 03 00 42.2 -0.1
baz=122
O23A Lake Granby, G 122.51 47 ⇓PKiKP PKiKP 03 00 43.1 +0.4
baz=122
ETSF Etsaut 122.54 317 *i*PKiKP PKPdf 03 00 43.0 +0.7
comp=Z,30nm,0.8s
ETSF Etsaut 122.54 317 ⇑*i*PKiKP PKPdf 03 00 43.0 +0.7
ETSF Etsaut 122.54 317 ⇑*i*PKPdf PKPdf 03 00 43.0 +0.7
F26A Lodgepole 122.56 40 ⇓PKiKP PKiKP 03 00 42.7 +0.3
baz=122
A28A Rude Farm, Bot 122.60 35 ⇑PKiKP PKiKP 03 00 42.8 +0.5
baz=123
S22A 4UR Ranch, Cre 122.60 50 ⇓PKiKP PKiKP 03 00 44.1 +1.0
baz=123
I25A Rochford 122.63 42 ⇑PKiKP PKPdf 03 00 42.5 -0.1
baz=123
B28A Dugan Ranch, T 122.77 36 ⇓PKiKP PKiKP 03 00 42.9 +0.2
baz=123
J25A Sunshine Ranch 122.83 43 ⇓PKiKP PKPdf 03 00 42.9 0.0
baz=123
G26A Maurine 122.84 40 ⇑PKiKP PKPdf 03 00 42.8 0.0
baz=123
M24A Cheyenne 122.85 45 ⇓PKiKP PKiKP 03 00 43.5 +0.3
baz=123
ISCO Idaho Springs 122.86 47 ⇑PKiKP PKiKP 03 00 43.7 +0.2
baz=123
SJPF Ste Jean 122.91 317 *e*PKiKP PKPdf 03 00 43.5 +0.6
comp=Z,27nm,0.9s
SJPF Ste Jean 122.91 317 *e*PKiKP PKPdf 03 00 43.5 +0.6
SJPF Ste Jean 122.91 317 *e*PKPdf PKPdf 03 00 43.5 +0.6
F27A Lemmon 122.96 39 ⇑PKiKP PKiKP 03 00 43.2 +0.1
baz=123
U22A Llaves 122.98 51 ⇑PKiKP PKiKP 03 00 45.0 +1.3
baz=123
Q23A Hartsel 122.99 48 ⇑PKiKP PKiKP 03 00 44.3 +0.5
baz=123
E27A Carson 123.00 39 ⇓PKiKP PKiKP 03 00 43.4 +0.2
baz=123
H26A Fairpoint 123.02 41 ⇑PKiKP PKiKP 03 00 43.5 +0.1
baz=123
N24A Carr 123.04 46 ⇓PKiKP PKiKP 03 00 44.2 +0.5
baz=123
V22A San Miguel Ran 123.06 52 ⇑PKiKP PKiKP 03 00 45.3 +1.4
baz=123
K25A Mack Ranch, Ha 123.09 43 ⇑PKiKP PKiKP 03 00 43.7 +0.1
baz=123
C28A Hausauer Farms 123.11 37 ⇓PKiKP PKiKP 03 00 43.8 +0.4
baz=123
O24A Longmont 123.15 47 ⇑PKiKP PKiKP 03 00 44.4 +0.5
baz=123
A29A Manning Farm, 123.19 35 ⇑PKiKP PKiKP 03 00 43.4 0.0
baz=123
I26A New Underwood 123.20 42 ⇑PKiKP PKiKP 03 00 43.7 0.0
baz=123
121A Cookes Peak, D 123.21 56 ⇓PKiKP PKiKP 03 00 45.0 +0.8
baz=123
121A Cookes Peak, D 123.21 56 *e*PKPdf PKPdf 03 00 44.9 +0.9
R23A Moffat 123.22 49 ⇑PKiKP PKiKP 03 00 45.3 +1.0
baz=123
G27A Dupree 123.23 40 ⇑PKiKP PKiKP 03 00 43.6 -0.1
baz=123
D28A Regan 123.25 37 ⇑PKiKP PKiKP 03 00 43.8 +0.1
baz=123
B29A Wagenman Farm, 123.35 36 ⇓PKiKP PKiKP 03 00 43.7 -0.1
baz=123
J26A Sides Ranch, S 123.35 42 ⇓PKiKP PKiKP 03 00 44.0 -0.1
baz=123
M25A Palm-Egli Farm 123.41 45 ⇑PKiKP PKiKP 03 00 44.7 +0.4
baz=123
T23A Casias Ranch, 123.42 50 ⇑PKiKP PKiKP 03 00 45.8 +1.1
baz=123
H27A Howes 123.46 41 ⇓PKiKP PKiKP 03 00 44.2 0.0
baz=123
E28A Huff 123.47 38 ⇑PKiKP PKiKP 03 00 44.2 +0.1
baz=123
Q24A Divide 123.48 48 ⇓PKiKP PKiKP 03 00 45.0 +0.2
baz=124
U23A El Rito 123.50 51 ⇓PKiKP PKiKP 03 00 45.9 +1.1
baz=124
MDND Maddock 123.51 36 ⇓PKiKP PKiKP 03 00 44.0 -0.1
baz=124
K26A Motz Farm, Whi 123.53 43 ⇓PKiKP PKPdf 03 00 44.2 0.0
baz=124
SDCO Great Sand Dun 123.61 49 ⇓PKiKP PKiKP 03 00 45.9 +0.9
baz=124
V23A Ortiz Mt. (NFS 123.68 52 ⇓PKiKP PKiKP 03 00 46.9 +1.8
baz=124
ANMO Albuquerque 123.68 53 ⇓*i*PKiKP PKPdf 03 00 46.3 +1.4
ANMO pmax pmax
comp=Z,63nm,1.2s
A30A Hoffart Farm, 123.70 35 ⇑PKiKP PKiKP 03 00 44.4 -0.1
baz=124
I27A Quinn 123.72 41 ⇓PKiKP PKPdf 03 00 44.6 +0.1
baz=124
F28A McLaughlin 123.73 39 ⇑PKiKP PKiKP 03 00 44.6 -0.1
baz=124
R24A Sanders Place, 123.75 49 ⇑PKiKP PKiKP 03 00 45.8 +0.6
baz=124
O25A Wiggins 123.84 46 ⇑PKiKP PKiKP 03 00 45.4 +0.2
baz=124
L26A Underwood Farm 123.85 44 ⇑PKiKP PKiKP 03 00 45.3 +0.2
baz=124
S24A Houchin Ranch, 123.86 49 ⇓PKiKP PKiKP 03 00 46.2 +0.7
baz=124
T24B San Luis 123.91 50 ⇑PKiKP PKiKP 03 00 46.6 +0.9
baz=124
B30A Myrvik Farm, E 123.94 35 ⇓PKiKP PKiKP 03 00 44.8 -0.1
baz=124
G28A Parade 124.01 40 ⇓PKiKP PKiKP 03 00 45.2 0.0
baz=124
P25A Willow Gulch B 124.01 47 ⇓PKiKP PKiKP 03 00 46.1 +0.5
baz=124
J27A Elkhorn Farm, 124.09 42 ⇑PKiKP PKiKP 03 00 46.0 +0.5
baz=124
H28A Mission Ridge 124.12 40 ⇓PKiKP PKPdf 03 00 45.2 0.0
baz=124
Q25A Bedland, Calha 124.16 48 ⇑PKiKP PKiKP 03 00 46.0 +0.1
baz=124
C30A Mose, Pekin 124.24 36 ⇑PKiKP PKPdf 03 00 45.4 +0.1
baz=124
ULM Lac du Bonnet 124.31 32 PKP PKPdf 03 00 44.9 -0.5
comp=Z,17nm,0.6s,baz=318,slow=2.6,SNR=62
I28A Midland 124.32 41 ⇓PKiKP PKPdf 03 00 45.6 0.0
baz=124
O26A Horse Wrangler 124.37 46 ⇑PKiKP PKiKP 03 00 46.4 +0.2
baz=124
D30A Buchanan 124.37 37 ⇑PKiKP PKiKP 03 00 45.8 -0.1
baz=124
R25A Fountain Ranch 124.39 49 ⇓PKiKP PKiKP 03 00 46.7 +0.4
baz=124

V24A Rampart Ranch, 124.39 52 ⇓PKiKP PKiKP 03 00 47.6 +1.0
baz=124
W24A Lazy 6 Ranch, 124.44 52 ⇓PKiKP PKiKP 03 00 47.3 +0.7
baz=124
S25A Robets Cordova 124.44 49 ⇓PKiKP PKiKP 03 00 47.3 +0.8
baz=124
J28A Allard Ranch, 124.53 42 ⇑PKiKP PKPdf 03 00 46.1 +0.1
baz=124
M27A Reverse DX Ran 124.53 44 ⇓PKiKP PKPdf 03 00 45.7 -0.4
baz=124
E30A Jud 124.58 37 ⇑PKiKP PKPdf 03 00 45.9 0.0
baz=124
P26A Davis Ranch, A 124.59 47 ⇑PKiKP PKiKP 03 00 47.1 +0.4
baz=125
T25A Trinidad 124.62 50 ⇓PKiKP PKiKP 03 00 47.8 +0.8
baz=125
H29A Onida 124.66 40 ⇑PKiKP PKPdf 03 00 46.3 +0.1
baz=125
Q26A Hugo 124.69 47 ⇑PKiKP PKiKP 03 00 47.0 +0.1
baz=125
N27A Anderson Farm, 124.70 45 ⇓PKiKP PKiKP 03 00 47.2 +0.3
baz=125
K28A Ten Mile Ranch 124.74 42 ⇓PKiKP PKPdf 03 00 46.6 +0.1
baz=125
U25A Circle Dot Ran 124.86 51 ⇓PKiKP PKiKP 03 00 47.7 +0.3
baz=125
V25A Rancho No Teng 124.87 51 ⇓PKiKP PKiKP 03 00 48.0 +0.6
baz=125
I29A Vivian Onida 124.88 41 ⇑PKiKP PKiKP 03 00 46.9 -0.1
baz=125
R26A Arlington 124.96 48 ⇓PKiKP PKiKP 03 00 47.8 +0.3
baz=125
O27A Beecher Island 124.98 46 ⇑PKiKP PKiKP 03 00 47.5 0.0
baz=125
G30A Faulkton 125.10 39 ⇑PKiKP PKPdf 03 00 46.8 -0.2
baz=125
J29A Okreek 125.13 41 ⇓PKiKP PKiKP 03 00 47.4 -0.2
baz=125
P27A Ficken Ranch, 125.14 46 ⇑PKiKP PKiKP 03 00 48.2 +0.4
baz=125
S26A Kim 125.17 49 ⇑PKiKP PKiKP 03 00 48.3 +0.4
baz=125
W25A X Bar L Ranch, 125.18 52 ⇓PKiKP PKiKP 03 00 48.4 +0.3
baz=125
T26A Comanche Natio 125.23 50 ⇓PKiKP PKiKP 03 00 48.6 +0.5
baz=125
KSCO Kaye Shedlock' 125.31 47 ⇑PKiKP PKiKP 03 00 48.5 +0.3
baz=125
U26A Atchley Ranch, 125.37 50 ⇑PKiKP PKiKP 03 00 49.0 +0.5
baz=125
MNTX Cornudas Mount 125.39 56 ⇓PKiKP PKiKP 03 00 48.9 +0.5
baz=125
AGMN Agassiz Nation 125.41 34 ⇓PKiKP PKPdf 03 00 47.0 -0.5
baz=125
AGMN Agassiz Nation 125.41 34 *e*PKPdf PKPdf 03 00 46.6 -0.9
K29A Lazy Trails An 125.42 42 ⇑PKiKP PKPdf 03 00 47.5 -0.2
baz=125
R27A Eads 125.44 48 ⇑PKiKP PKiKP 03 00 48.5 +0.1
baz=125
N28A Pribbeno Ranch 125.45 45 ⇑PKiKP PKPdf 03 00 47.9 -0.1
baz=125
I30A Oacoma 125.49 40 ⇓PKiKP PKPdf 03 00 47.8 0.0
baz=125
V26A Teuesquite Ra 125.52 51 ⇓PKiKP PKiKP 03 00 48.8 +0.1
baz=126
J30A Dallas 125.71 41 ⇑PKiKP PKiKP 03 00 48.6 -0.1
baz=126
P28A Saint Francis 125.73 46 ⇓PKiKP PKiKP 03 00 49.1 +0.2
baz=126
W26A Owens Ranch, T 125.76 52 ⇓PKiKP PKiKP 03 00 49.5 +0.3
baz=126
Q28A Sharon Springs 125.87 47 ⇑PKiKP PKiKP 03 00 49.5 +0.3
baz=126
T27A Campo 125.92 49 ⇑PKiKP PKiKP 03 00 49.8 +0.3
baz=126
K30A Basset 125.92 42 ⇓PKiKP PKiKP 03 00 49.0 -0.1
baz=126
N29A Votaw Ranch, W 126.03 44 ⇓PKiKP PKiKP 03 00 49.7 +0.3
baz=126
U27A Thompson Grove 126.06 50 ⇑PKiKP PKiKP 03 00 49.9 +0.2
baz=126
R28A Tribune 126.15 48 ⇓PKiKP PKiKP 03 00 49.8 0.0
baz=126
ESDC Sonseca Array 126.15 314 PKP PKPdf 03 00 49.5 +0.3
comp=Z,4.3nm,0.8s,baz=31,slow=2.4,SNR=23
O29A 4D Ranch, Culb 126.19 45 ⇑PKiKP PKiKP 03 00 49.9 +0.1
baz=126
M30A Dale-Ortello V 126.25 43 ⇓PKiKP PKiKP 03 00 50.0 +0.1
baz=126
V27A Dan Oppiter Fa 126.27 51 ⇓PKiKP PKiKP 03 00 50.3 +0.2
baz=126
P29A Atwood 126.30 46 ⇑PKiKP PKiKP 03 00 50.5 +0.4
baz=126
S28A Manter 126.35 48 ⇑PKiKP PKiKP 03 00 50.6 +0.4
baz=126
T28A Walsh 126.36 49 ⇓PKiKP PKiKP 03 00 50.7 +0.5
baz=126
N30A Hueftle Ranch, 126.40 44 ⇓PKiKP PKiKP 03 00 51.5 +1.4
baz=126
TORD Torodi Ar. Bea 126.45 281 PKP PKPdf 03 00 50.2 -0.2
comp=Z,14nm,0.8s,baz=78,slow=2.0,SNR=65
U28A Mallet 126.53 50 ⇑PKiKP PKiKP 03 00 50.9 +0.3
baz=126
Q29A Oakley 126.55 47 ⇑PKiKP PKiKP 03 00 50.9 +0.4
baz=126
O30A MW Ranch, Wils 126.69 45 ⇑PKiKP PKiKP 03 00 50.7 0.0
baz=127
V28A Channing 126.74 51 ⇓PKiKP PKiKP 03 00 51.2 +0.1
baz=127
P30A Selden 126.81 46 ⇑PKiKP PKiKP 03 00 50.9 -0.1
baz=127
MSTX Muleshoe 126.88 53 ⇑PKiKP PKiKP 03 00 51.3 -0.1
baz=127
S29A Ulysses 126.92 48 ⇑PKiKP PKiKP 03 00 51.8 +0.4
baz=127
M31A Lambtecht Ranc 126.94 43 ⇓PKiKP PKiKP 03 00 51.3 +0.1
baz=127
T29A Hugoton 126.96 49 ⇑PKiKP PKiKP 03 00 51.8 +0.4
baz=127
Q30A Quinter 127.06 46 ⇑PKiKP PKiKP 03 00 51.8 +0.2
baz=127
X28A Dimmitt 127.16 52 ⇓PKiKP PKiKP 03 00 52.6 +0.7
baz=127
N31A Bailey Ranch, 127.18 44 ⇓PKiKP PKiKP 03 00 52.5 +0.8
baz=127
V29A Stinnett 127.24 50 ⇑PKiKP PKiKP 03 00 52.4 +0.4
baz=127
R30A Dighton 127.29 47 ⇑PKiKP PKiKP 03 00 52.3 +0.3
baz=127
Y28A McKinney Farm, 127.31 53 ⇓PKiKP PKiKP 03 00 52.7 +0.4
baz=127
ECSD EROS Data Cent 127.36 39 ⇑PKiKP PKiKP 03 00 51.8 -0.1
baz=127
ECSD EROS Data Cent 127.36 39 *e*PKPdf PKPdf 03 00 51.3 -0.1
Z28A Tucker Farm, M 127.39 54 ⇓PKiKP PKPdf 03 00 51.7 -0.2
baz=127
W29A Amarillo 127.39 51 ⇑PKiKP PKiKP 03 00 52.6 +0.2
baz=127
S30A Montezuma 127.39 48 ⇑PKiKP PKiKP 03 00 52.8 +0.5
baz=127
TXAR Lajitas Array 127.40 59 PKP PKPdf 03 00 53.1 +1.1
comp=Z,1.2nm,0.6s,baz=204,slow=1.7,SNR=20
P31A Stockton 127.44 45 ⇑PKiKP PKiKP 03 00 52.5 +0.2
baz=127
AMTX Amarillo 127.45 52 ⇓PKiKP PKiKP 03 00 53.0 +0.5
baz=127
BGNE Belgrade 127.47 43 ⇓PKiKP PKiKP 03 00 52.3 +0.1
baz=127
128A Castleberry Fa 127.51 55 ⇑PKiKP PKiKP 03 00 52.8 +0.1
baz=128
228A UT Block 9, Go 127.57 55 ⇓PKiKP PKiKP 03 00 53.0 +0.2
baz=128
T30A Plains 127.57 49 ⇓PKiKP PKiKP 03 00 53.0 +0.4
baz=128
X29A Tulia 127.57 52 ⇓PKiKP PKiKP 03 00 53.0 +0.3
baz=128
U30A WK&E Inc. Balk 127.67 49 ⇑PKiKP PKiKP 03 00 53.4 +0.6
baz=128
Y29A Porterfield Fa 127.78 53 ⇑PKiKP PKiKP 03 00 53.7 +0.5
baz=128
R31A Burdett 127.83 47 ⇑PKiKP PKiKP 03 00 53.7 +0.7
baz=128
O32A Brockman Farm, 127.89 44 ⇑PKiKP PKiKP 03 00 53.6 +0.5
baz=128
P32A Huiting Farm, 127.94 45 ⇓PKiKP PKiKP 03 00 53.4 +0.2
baz=128
Z29A Hungry Hill Ra 127.94 54 ⇓PKiKP PKiKP 03 00 53.6 +0.1
baz=128

129A Stewart Farms, 128.00 54 ⇓PKiKP PKiKP 03 00 53.7 +0.1
baz=128
PCAB Cabril 128.06 318 *e*PKPdf PKPdf 03 00 55.4 +2.6
POLO Lamas de Olo 128.06 318 *e*PKPdf PKPdf 03 00 54.4 +1.5
PGAV Gavieira, Arco 128.10 319 *e*PKPdf PKPdf 03 00 54.4 +1.4
S31A Mullinville 128.12 48 ⇓PKiKP PKiKP 03 00 54.0 +0.4
baz=128
T31A Randall Ranch, 128.18 48 ⇑PKiKP PKiKP 03 00 54.4 +0.6
baz=128
W30A Crocket Farms 128.20 51 ⇑PKiKP PKiKP 03 00 54.9 +1.0
baz=128
X30A Coker Ranch, T 128.22 52 ⇓PKiKP PKiKP 03 00 54.0 0.0
baz=128
329A Wagon Wheel Ra 128.24 56 ⇓PKiKP PKiKP 03 00 54.0 -0.1
baz=128
229A Bryant Ranch, 128.25 55 ⇓PKiKP PKiKP 03 00 54.2 0.0
baz=128
MTE Manteigas 128.34 316 *e*PKPdf PKPdf 03 00 55.1 +1.7
R32A Long Quarter, 128.36 46 ⇓PKiKP PKiKP 03 00 54.2 +0.1
baz=128
Y30A Stafford Cattl 128.39 52 ⇓PKiKP PKiKP 03 00 54.6 +0.2
baz=128
Z30A Sanderson Ranc 128.39 53 ⇓PKiKP PKPdf 03 00 54.0 +0.2
baz=128
529A Stev Forest Ra 128.42 57 ⇑PKiKP PKiKP 03 00 55.1 +0.6
baz=128
PVIS Viseu 128.43 317 *e*PKPdf PKPdf 03 00 56.2 +2.6
PCBR Castelo Branco 128.54 316 *e*PKPdf PKPdf 03 00 55.3 +1.6
V31A Spring Creek L 128.55 50 ⇓PKiKP PKiKP 03 00 54.9 +0.3
baz=128
429A Davenport Ranc 128.56 57 ⇓PKiKP PKiKP 03 00 54.8 0.0
baz=128
PMRV Marv??o 128.66 315 *e*PKPdf PKPdf 03 00 55.0 +1.0
W31A Holland Ranch, 128.68 51 ⇓PKiKP PKiKP 03 00 55.4 +0.5
baz=129
T32A Huddler Ranch, 128.70 48 ⇑PKiKP PKiKP 03 00 55.3 +0.4
baz=129
130A Snyder 128.74 54 ⇑PKiKP PKiKP 03 00 55.2 +0.1
baz=129
Q33A Connelly Farm, 128.74 45 ⇓PKiKP PKiKP 03 00 55.0 +0.1
baz=129
230A Sterling City 128.84 55 ⇓PKiKP PKiKP 03 00 55.5 +0.2
baz=129
X31A McDonald Ranch 128.85 51 ⇓PKiKP PKiKP 03 00 55.5 +0.3
baz=129
Y31A Rekieta Farm, 128.86 52 ⇓PKiKP PKiKP 03 00 55.3 +0.1
baz=129
SPMN Marine on St. 128.88 36 ⇑PKiKP PKiKP 03 00 54.8 -0.1
baz=129
330A Mertzon 128.93 56 ⇑PKiKP PKiKP 03 00 55.6 +0.1
baz=129
R33A Olander Ranch, 128.93 46 ⇓PKiKP PKiKP 03 00 55.4 +0.2
baz=129
PBAR Barrancos 128.95 314 *e*PKPdf PKPdf 03 00 56.2 +1.7
U32A Winter Ranch, 128.96 49 ⇑PKiKP PKiKP 03 00 55.6 +0.2
baz=129
PESTR Estremoz 129.05 315 *e*PKPdf PKPdf 03 00 55.6 +0.9
430A Baggett Ranch, 129.05 56 ⇑PKiKP PKiKP 03 00 55.9 +0.2
baz=129
PLCA Paso Flores 129.12 162 *e*PKiKP PKPdf 03 00 55.8 +0.8
PLCA Paso Flores 129.12 162 PKP PKPdf 03 00 56.2 +1.3
comp=Z,2.8nm,0.6s,baz=244,slow=2.2,SNR=5.8
PLCA Paso Flores 129.12 162 *e*PKPdf PKPdf 03 00 55.8 +0.8
PLCA PKP PKPdf 03 00 56.2 +1.3
530A J-C Ranch, Com 129.15 57 ⇓PKiKP PKiKP 03 00 56.1 +0.2
baz=129
PCAS Casmilo, Conde 129.15 317 *e*PKPdf PKPdf 03 00 56.3 +1.4
Z31A Sharp Cattle R 129.16 53 ⇑PKiKP PKiKP 03 00 56.1 +0.3
baz=129
V32A Arapaho 129.17 50 ⇑PKiKP PKiKP 03 00 56.2 +0.3
baz=129
131A Roby 129.18 54 ⇑PKiKP PKiKP 03 00 56.3 +0.4
baz=129
W32A Sentinel 129.24 50 ⇑PKiKP PKiKP 03 00 56.0 +0.1
baz=129
T33A Patterson Ranc 129.24 48 ⇓PKiKP PKiKP 03 00 56.2 +0.3
baz=129
X32A Elmer 129.46 51 ⇑PKiKP PKiKP 03 00 56.3 -0.1
baz=129
231A Bronte 129.47 55 ⇑PKiKP PKiKP 03 00 56.5 -0.1
baz=129
Y32A R-V Farms, Ver 129.48 52 ⇓PKiKP PKiKP 03 00 56.1 -0.4
baz=130
EVO Evora 129.49 315 *e*PKiKP PKPdf 03 00 56.3 +0.7
comp=Z,78nm,1.4s
EVO Evora 129.49 315 *e*PKPdf PKPdf 03 00 57.2 +1.6
331A San Angelo 129.57 55 ⇓PKiKP PKiKP 03 00 56.7 -0.1
baz=130
EVOP Sao Brissos 129.57 315 *e*PKiKP PKPdf 03 00 56.3 +0.6
EVOP Sao Brissos 129.57 315 *e*PKPdf PKPdf 03 00 56.3 +0.6
431A Sonora 129.60 56 ⇑PKiKP PKiKP 03 00 56.7 -0.1
baz=130
Z32A Haskell 129.69 53 ⇑PKiKP PKiKP 03 00 56.6 -0.3
baz=130
V33A Lossen Ranch, 129.70 49 ⇑PKiKP PKiKP 03 00 56.7 -0.2
baz=130
PVAQ Vaqueiros 129.76 313 *e*PKPdf PKPdf 03 00 57.9 +1.8
ABTX Abilene, Hawle 129.79 54 ⇑PKiKP PKiKP 03 00 57.1 -0.1
baz=130
531A Rocksprings 129.80 57 ⇑PKiKP PKiKP 03 00 57.7 +0.4
baz=130
S34A Willow Spring 129.81 46 ⇑PKiKP PKiKP 03 00 57.2 +0.2
baz=130
W33A Caddo, Fort Co 129.82 50 ⇓PKiKP PKiKP 03 00 57.7 +0.6
baz=130
PCVE Castro Verde 129.89 314 *e*PKPdf PKPdf 03 00 57.6 +1.2
MESJ Messejana 129.94 314 *e*PKPdf PKPdf 03 00 57.7 +1.3
631A Perdido Creek 129.99 58 ⇑PKiKP PKiKP 03 00 57.7 +0.1
baz=130
U34A Anderson Ranch 130.02 48 ⇑PKiKP PKiKP 03 00 57.5 0.0
baz=130
U34A Anderson Ranch 130.02 48 *e*PKPdf PKPdf 03 00 57.1 +0.5
U34A *e*SKPab SKPbc 03 04 03.7 +0.9
X33A Lawton 130.02 51 ⇑PKiKP PKiKP 03 00 57.9 +0.3
baz=130
232A Coleman 130.02 54 ⇑PKiKP PKiKP 03 00 57.4 -0.3
baz=130
PNCL Nicolau / Gran 130.04 314 *e*PKPdf PKPdf 03 00 58.4 +1.8
332A Millersview 130.10 55 ⇓PKiKP PKiKP 03 00 57.9 +0.1
baz=130
Y33A Hilltop Ranch, 130.12 51 ⇓PKiKP PKiKP 03 00 57.7 -0.1
baz=130
432A Menard 130.22 56 ⇑PKiKP PKiKP 03 00 58.0 -0.1
baz=130
Z33A Whitaker Ranch 130.26 52 ⇑PKiKP PKiKP 03 00 58.1 0.0
baz=130
V34A Guthrie 130.27 49 ⇑PKiKP PKiKP 03 00 58.2 +0.2
baz=130
V34A Guthrie 130.27 49 *e*PKPdf PKPdf 03 00 58.3 +1.2
V34A *e*SKPbc SKPab 03 04 04.8 +1.0
W34A Bridge Creek, 130.31 50 ⇑PKiKP PKiKP 03 00 58.4 +0.3
baz=130
JCT Junction City 130.33 56 *e*PKiKP PKPdf 03 00 57.7 +0.3
JCT Junction City 130.33 56 ⇑PKiKP PKiKP 03 00 58.3 0.0
baz=130
JCT Junction City 130.33 56 *e*PKPdf PKPdf 03 00 57.7 +0.3
JCT *e*SKPbc SKPab 03 04 04.7 +0.5
532A Rocksprings 130.34 57 ⇑PKiKP PKiKP 03 00 58.3 -0.1
baz=130
133A Hamilton Ranch 130.37 53 ⇓PKiKP PKiKP 03 00 58.5 +0.2
baz=130
COWI Conover 130.41 33 *e*PKPdf PKPdf 03 00 56.9 -0.2
MORF Marmelete 130.47 313 *e*PKPdf PKPdf 03 00 58.8 +1.3
X34A Smith Ranch, M 130.51 50 ⇑PKiKP PKiKP 03 00 59.0 +0.5
baz=130
233A Rising Star 130.58 54 ⇑PKiKP PKiKP 03 00 59.1 +0.3
baz=131
632A Uvalde 130.62 57 ⇑PKiKP PKiKP 03 00 59.0 +0.1
baz=131
PFVI Vila Ilisbo 130.67 313 *e*PKPdf PKPdf 03 00 56.2 -1.7
732A Laxson Ranch, 130.68 59 ⇑PKiKP PKiKP 03 00 59.8 +0.8
baz=131
333A Richland Sprin 130.74 55 ⇑PKiKP PKiKP 03 00 59.4 +0.3
baz=131
832A Faith Ranch, C 130.79 59 ⇑PKiKP PKiKP 03 01 00.2 +1.0
baz=131
Y34A Reagan Ranch, 130.81 51 ⇓PKiKP PKiKP 03 00 59.2 +0.1
baz=131
V35A Meyer Ranch, C 130.81 49 ⇑PKiKP PKiKP 03 00 59.8 +0.8
baz=131
433A Art 130.83 56 ⇓PKiKP PKiKP 03 00 59.0 -0.3
baz=131
S36A Lake Cedric, C 130.88 46 ⇓PKiKP PKiKP 03 00 59.1 -0.1
baz=131
134A White-Moore Ra 131.05 53 ⇑PKiKP PKiKP 03 01 00.2 +0.5
baz=131
533A Kerrville 131.08 57 ⇑PKiKP PKiKP 03 01 00.1 +0.3

	baz=131									
633A	**Saathoff Ranch**	**131.14**	**57**	⇓PKiKP	**PKiKP**	**03 01 00.2**	**+0.3**
	baz=131									
234A	**Clairette**	**131.20**	**54**	⇑PKiKP	**PKiKP**	**03 01 00.2**	**+0.2**
	baz=131									
733A	**Divot King Ran**	**131.25**	**58**	⇓PKiKP	**PKiKP**	**03 01 00.2**	**0.0**
	baz=131									
833A	**Chaparral WMA,**	**131.28**	**59**	⇓PKiKP	**PKiKP**	**03 01 00.5**	**+0.3**
	baz=131									
334A	**Lometa**	**131.34**	**55**	⇓PKiKP	**PKiKP**	**03 01 00.4**	**+0.1**
	baz=131									
434A	**Burnet**	**131.48**	**55**	⇓PKiKP	**PKiKP**	**03 01 00.8**	**+0.1**
	baz=132									
TUL1	**Leonard**	**131.52**	**48**	⇓PKiKP	**PKiKP**	**03 01 00.8**	**+0.3**
	baz=132									
TUL1	**Leonard**	**131.52**	**48**	*e*PKPdf	**PKPdf**	**03 00 59.8**	**+0.3**
TUL1				*e*SKPbc	**SKPab**	**03 04 08.9**	**0.0**
SCHQ	**Schefferville**	**131.53**	**11**	PKP	**PKPdf**	**03 00 59.6**	**+0.7**
	comp=Z,9.6nm,0.6s,baz=316,slow=1.3,SNR=40									
SCHQ				SKPbc	**SKPab**	**03 04 08.3**	**0.0**
	comp=Z,12nm,1.0s,baz=358,slow=5.1,SNR=7.8									
534A	**Blanco**	**131.56**	**56**	⇑PKiKP	**PKiKP**	**03 01 00.9**	**+0.1**
	baz=132									
933A	**Laredo**	**131.57**	**60**	⇓PKiKP	**PKiKP**	**03 01 01.3**	**+0.5**
	baz=132									
135A	**Vickery Place,**	**131.58**	**53**	⇓PKiKP	**PKiKP**	**03 01 01.3**	**+0.6**
	baz=132									
JFWS	**Jewell Farm**	**131.71**	**37**	*e*PKiKP	**PKPdf**	**03 00 59.2**	**-0.5**
JFWS	**Jewell Farm**	**131.71**	**37**	*e*PKPdf	**PKPdf**	**03 00 59.2**	**-0.5**
JFWS				*e*SKPbc	**SKPbc**	**03 04 08.7**	**-0.1**
335A	**Moody**	**132.01**	**54**	⇓PKiKP	**PKiKP**	**03 01 02.0**	**+0.4**
	baz=132									
034A	**Hebbronville**	**132.22**	**60**	⇓PKiKP	**PKiKP**	**03 01 02.8**	**+0.6**
	baz=132									
535A	**Dale**	**132.30**	**56**	⇓PKiKP	**PKiKP**	**03 01 02.8**	**+0.5**
	baz=132									
635A	**Leesville**	**132.33**	**57**	⇑PKiKP	**PKiKP**	**03 01 02.8**	**+0.5**
	baz=132									
336A	**Riesel**	**132.44**	**54**	⇑PKiKP	**PKiKP**	**03 01 03.2**	**+0.7**
	baz=132									
KIC	**Kosan Boka**	**132.56**	**272**	*e*P	**PKPdf**	**03 01 02.0**	**-0.1**
	comp=Z,58nm,1.5s									
DBIC	**Dimbokro**	**132.70**	**272**	*e*PKIKP	**PKPdf**	**03 01 02.6**	**+0.3**
DBIC	**Dimbokro**	**132.70**	**272**	PKP	**PKPdf**	**03 01 02.9**	**+0.6**
	comp=Z,6.4nm,0.6s,baz=107,slow=2.4,SNR=20									
DBIC				SKPbc	**SKPbc**	**03 04 12.4**	**-0.6**
	comp=Z,7.6nm,0.9s,baz=104,slow=3.6,SNR=5.9									
DBIC	**Dimbokro**	**132.70**	**272**	*e*PKPdf	**PKPdf**	**03 01 02.6**	**+0.3**
DBIC				PKP	**PKPdf**	**03 01 02.9**	**+0.6**
DBIC				SKPbc	**SKPbc**	**03 04 12.4**	**-0.6**
LIC	**Lamto**	**132.84**	**271**	*e*PKIKP	**PKPdf**	**03 01 02.2**	**-0.4**
	comp=Z,9.0nm,0.6s									
LIC	**Lamto**	**132.84**	**271**	*e*P	**PKPdf**	**03 01 02.4**	**-0.2**
	comp=Z,37nm,1.2s									
LIC	**Lamto**	**132.84**	**271**	*e*PKPdf	**PKPdf**	**03 01 02.2**	**-0.4**
TIC	**Toumodi**	**132.86**	**272**	*e*P	**PKPdf**	**03 01 03.9**	**+1.2**
	comp=Z,12nm,0.5s									
636A	**Smothers Creek**	**132.90**	**57**	⇓PKiKP	**PKiKP**	**03 01 03.4**	**0.0**
	baz=133									
TRQA	**Tornquist**	**133.72**	**170**	*e*PKPdf	**PKPdf**	**03 01 04.6**	**+0.9**
MIAR	**Mount Ida**	**133.75**	**49**	*e*PKIKP	**PKPdf**	**03 01 04.1**	**+0.3**
MIAR	**Mount Ida**	**133.75**	**49**	*e*PKPdf	**PKPdf**	**03 01 04.1**	**+0.3**
MIAR				*e*SKPbc	**SKPbc**	**03 04 16.3**	**+0.3**
MIAR				*e*SKPdf	**SKPdf**	**03 04 22.0**	**-0.2**
UALR	**University of**	**134.55**	**48**	*e*PKPdf	**PKPdf**	**03 01 05.7**	**+0.5**
UALR				*e*SKPbc	**SKPbc**	**03 04 19.0**	**+0.4**
340A	**Bronson**	**134.78**	**53**	⇑PKiKP	**PKiKP**	**03 01 06.9**	**-0.3**
	baz=135									
OLIL	**Oliney**	**135.45**	**40**	*e*PKPdf	**PKPdf**	**03 01 07.8**	**+1.0**
OLIL				*e*SKPbc	**SKPbc**	**03 04 20.9**	**-0.4**
WCI	**Wyandotte Cave**	**136.90**	**40**	*e*PKIKP	**PKPdf**	**03 01 11.1**	**+1.5**
WCI	**Wyandotte Cave**	**136.90**	**40**	*e*PKPdf	**PKPdf**	**03 01 11.1**	**+1.5**
WVT	**Waverly**	**137.08**	**43**	*e*PKHKP	PKPpre	03 01 01.4	
WVT				*e*		03 01 11.2	
WVT	**Waverly**	**137.08**	**43**	*e*PKPpre	PKPpre	03 01 01.4	
WVT				*e*PKPdf	**PKiKP**	**03 01 11.2**	**-0.6**
ACSO	**Alum Creek Sta**	**137.64**	**35**	*e*PKPpre	PKPpre	03 01 02.8	
ACSO				*e*PKPdf	**PKPdf**	**03 01 10.4**	**-0.4**
ACSO				*e*SKPbc	**SKPbc**	**03 04 27.0**	**-0.8**
CMIG	**Matias Romero**	**137.66**	**73**	SKPbc	**SKPbc**	**03 04 29.8**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=247,slow=4.6,SNR=4.6									
ERPA	**Erie**	**137.94**	**31**	*e*PKPdf	**PKPdf**	**03 01 11.1**	**-0.2**
CFAA	**Coronel Fontan**	**138.22**	**160**	PKP	**PKPdf**	**03 01 13.8**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=234,slow=3.2,SNR=9.7									
CFAA				SKPbc	**SKPbc**	**03 04 31.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=249,slow=3.1,SNR=5.6									
LONY	**Lake Ozonia**	**138.44**	**24**	*e*PKPpre	PKPpre	03 01 04.0	
LONY				*e*PKPdf	**PKPdf**	**03 01 13.1**	**+0.9**
ASCN	**Ascension**	**138.93**	**249**	*e*PKPdf	**PKPdf**	**03 01 13.7**	**-0.2**
LRAL	**Lakeview Retre**	**139.28**	**47**	*e*PKPpre	PKPpre	03 01 06.6	
LRAL				*e*PKPdf	**PKPdf**	**03 01 14.6**	**+0.5**
LRAL				*e*SKPbc	**SKPbc**	**03 04 32.1**	**-0.6**
BINY	**Binghamton**	**139.80**	**27**	*e*PKPpre	PKPpre	03 01 08.6	
BINY				*e*PKPdf	**PKPdf**	**03 01 15.0**	**+0.3**
TKL	**Tuckaleechee C**	**140.05**	**41**	*e*PKHKP	PKPpre	03 01 08.0	
TKL				*e*		03 01 15.8	
TKL	**Tuckaleechee C**	**140.05**	**41**	*e*PKPpre	PKPpre	03 01 08.0	
TKL				*e*PKPdf	**PKPdf**	**03 01 15.8**	**+0.5**
SSPA	**Standing Stone**	**140.09**	**31**	*e*PKPpre	PKPpre	03 01 07.5	
SSPA				*e*PKPdf	**PKPdf**	**03 01 16.3**	**+1.1**
BLA	**Blacksburg**	**141.15**	**37**	*e*PKPpre	PKPpre	03 01 14.0	
BLA				*e*PKPdf	**PKPdf**	**03 01 17.2**	**-0.1**
GOGA	**Godfrey**	**141.57**	**44**	*e*PKHKP	PKPpre	03 01 12.5	
GOGA				*e*		03 01 18.5	
GOGA	**Godfrey**	**141.57**	**44**	*e*PKPpre	PKPpre	03 01 12.5	
GOGA				*e*PKPdf	**PKPdf**	**03 01 18.5**	**+0.4**
KMSC	**Kings Mountain**	**141.94**	**40**	⇓PKiKP	**PKPdf**	**03 01 19.6**	**+0.8**
	baz=142									
KMSC	**Kings Mountain**	**141.94**	**40**	*e*PKPpre	PKPpre	03 01 14.4	
KMSC				*e*PKPdf	**PKPdf**	**03 01 18.7**	**0.0**
CBN	**Corbin Frederi**	**142.16**	**33**	*e*PKPdf	**PKPdf**	**03 01 17.3**	**-1.7**
JSRW	**J. Sargeant Re**	**142.26**	**34**	*e*PKPpre	PKPpre	03 01 14.8	
TIGA	**Tifton**	**142.58**	**47**	⇑PKiKP	**PKPdf**	**03 01 21.1**	**+1.1**
	baz=142									
TIGA	**Tifton**	**142.58**	**47**	*e*PKPdf	**PKPdf**	**03 01 18.9**	**-1.2**
NHHC	**New Hope**	**143.96**	**41**	*e*PKPdf	PKPbc	03 01 21.1	+0.4
CSU	**Charleston Sou**	**144.10**	**42**	*e*PKPdf	PKPbc	03 01 21.0	-0.1
LVC	**Limon Verde**	**145.95**	**152**	*e*PKPbc	**PKPbc**	**03 01 27.6**	**+0.1**
JTS	**JuntasAbangare**	**147.88**	**83**	*e*PKP2	**PKPbc**	**03 01 33.2**	**+0.4**
JTS	**JuntasAbangare**	**147.88**	**83**	*e*PKPbc	**PKPbc**	**03 01 33.2**	**+0.4**
NNA	**Nana**	**148.96**	**129**	*e*PKIKP	**PKPdf**	**03 01 31.1**	**-0.3**
NNA				*e*		03 01 40.4	
NNA	**Nana**	**148.96**	**129**	PKPbc	**PKPbc**	**03 01 36.5**	**+0.9**
	comp=Z,24nm,0.9s,baz=239,slow=8.4,SNR=8.0									
NNA	**Nana**	**148.96**	**129**	*e*PKPdf	**PKPdf**	**03 01 31.1**	**-0.3**
NNA				*e*PKPbc	**PKPbc**	**03 01 35.9**	**+0.3**
NNA				*e*PKPab	**PKPab**	**03 01 40.4**	**+0.2**
ATAH	**Atahualpa**	**150.34**	**119**	PKPbc	**PKPbc**	**03 01 41.5**	**+2.0**
	comp=Z,19nm,0.6s,baz=212,slow=3.3,SNR=14									
LPAZ	**La Paz**	**151.68**	**147**	PKP	**PKPdf**	**03 01 36.8**	**+0.6**
	comp=Z,3.1nm,1.1s,baz=267,slow=2.9,SNR=12									
LPAZ				PKPbc	**PKiKP**	**03 01 43.9**	**+0.8**
	comp=Z,17nm,0.6s,baz=210,slow=2.1,SNR=70									
LPAZ				PKPab	**PKPab**	**03 01 53.3**	**+1.4**
	comp=Z,15nm,0.8s,baz=223,slow=12,SNR=11									
LPAZ	**La Paz**	**151.68**	**147**	*e*PKPdf	**PKPdf**	**03 01 36.9**	**+0.6**
LPAZ				*e*PKPbc	**PKiKP**	**03 01 43.4**	**+0.4**
OTAV	**Otavalo**	**153.15**	**105**	*e*PKPdf	**PKPdf**	**03 01 38.5**	**+0.1**
OTAV				*e*PKPbc	**PKiKP**	**03 01 47.0**	**+1.0**
OTAV				*e*PKPab	**PKPab**	**03 01 57.4**	**-0.8**
SIV	**San Ignacio**	**155.07**	**160**	PKP	**PKPdf**	**03 01 41.3**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=167,slow=1.8,SNR=6.0									
SIV				PKPab	**PKPab**	**03 02 06.3**	**+0.8**
	comp=Z,5.5nm,0.7s,baz=196,slow=5.3,SNR=10.0									
BDFB	**Brasilia**	**156.47**	**191**	PKP	**PKPdf**	**03 01 42.4**	**0.0**
	comp=Z,3.0nm,0.9s,baz=177,slow=4.3,SNR=5.0									
BDFB				PKPab	**PKPab**	**03 02 12.5**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=146,slow=3.6,SNR=4.1									
RCBR	**Riachuelo**	**158.70**	**232**	*e*PKPab	**PKPab**	**03 02 22.4**	**+1.0**
SAML	**Samuel**	**160.43**	**147**	*e*PKPdf	**PKPdf**	**03 01 47.3**	**+0.3**
SAML				*e*PKPab	**PKPab**	**03 02 28.7**	**0.0**
SDV	**Santo Domingo**	**162.04**	**85**	*e*PKPdf	**PKPdf**	**03 01 49.0**	**0.0**
PTGA	**Pitinga**	**168.88**	**138**	PKP	**PKPdf**	**03 01 53.4**	**-1.1**
	comp=Z,3.4nm,1.0s,baz=192,slow=3.0,SNR=4.0									

TAP ***02*** *02:46:10.9,24.˚16N×121.˚78E,h7km,ML3.8,C*
JMA ***02*** *02:46:11.0±0.2,24.˚13N×121.˚74E,h0km,M3.4*
ISC 02 02:46:12.0±1.0,**24.˚17N**±0.˚02×**121.˚78E**±0.˚02,**h5**km±8km,
n60,σ1§**14**/**97**,**6C-5D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.15**	**348**	*e*S	**Sg**	**02 46 17.4**	**+0.4**
TWD	**Chiawan**	**0.18**	**243**	⇓*i*P	**Pg**	**02 46 14.9**	**-0.8**
	baz=255						
TWD				*e*S	**Sg**	**02 46 19.3**	**+1.2**
	baz=255						
HWA	**Hwalien**	**0.24**	**220**	P	**Pg**	**02 46 16.9**	**+0.1**
	baz=242						
HWA				*e*S	**Sg**	**02 46 22.4**	**+2.4**
	baz=242						
ENA	**Nanau**	**0.26**	**353**	⇑*i*P	**Pg**	**02 46 16.7**	**-0.5**
	baz=341						
ENA				*e*S	**Sg**	**02 46 21.4**	**+0.7**
	baz=341						
ESF	**Shoufeng Towns**	**0.38**	**220**	*e*P	**Pb**	**02 46 20.4**	**-0.9**
	baz=235						
ESF				*e*S	**Sg**	**02 46 23.6**	**-0.9**
	baz=235						
TWC	**Suao**	**0.45**	**9**	*i* P	**Pg**	**02 46 20.2**	**-0.4**
	baz=357						
TWC				*e*S	**Sg**	**02 46 26.7**	**+0.2**
	baz=357						
NNS	**Nan Shan**	**0.46**	**307**	*i* P	**Pg**	**02 46 20.6**	**-0.3**
	baz=307						
NNS				S	**Sg**	**02 46 27.2**	**+0.4**
	baz=307						
WHF	**Hehuan Shan**	**0.47**	**268**	⇓*i*P	**Pg**	**02 46 20.4**	**-0.7**
	baz=272						
WHF				*e*S	**Sg**	**02 46 27.5**	**+0.3**
	baz=272						
ESL	**Shilin**	**0.47**	**222**	⇓*i*P	**Pg**	**02 46 20.2**	**-0.8**
	baz=239						
TEGC	**Jichi Village**	**0.50**	**205**	*e*S	**Sb**	**02 46 33.3**	**+2.3**
	baz=190						
ENTT	**Nioudou**	**0.51**	**338**	⇑*i*P	**Pg**	**02 46 21.6**	**-0.2**
	baz=336						
ENTT				*e*S	**Sg**	**02 46 29.2**	**+0.7**
	baz=336						
TWT	**Tachien**	**0.56**	**279**	⇑*i*P	**Pg**	**02 46 22.9**	**+0.2**
	baz=281						
TWT				*e*S	**Sg**	**02 46 30.8**	**+0.8**
	baz=281						
TWE	**Neicheng**	**0.56**	**350**	⇑*i*P	**Pg**	**02 46 22.6**	**-0.2**
	baz=347						
TWE				S	**Sg**	**02 46 31.1**	**+0.9**
	baz=347						
ILA	**Ilan**	**0.60**	**358**	*e*S	**Sb**	**02 46 34.0**	**+0.2**
	baz=346						
NSK	**Sanguang**	**0.64**	**323**	⇑*i*P	**Pg**	**02 46 24.2**	**-0.1**
	baz=323						
NSK				*e*S	**Sg**	**02 46 32.6**	**0.0**
	baz=323						
WDT	**Danda**	**0.72**	**235**	*i* P	**Pg**	**02 46 25.1**	**-0.6**
	baz=251						
WDT				*e*S	**Sb**	**02 46 38.2**	**+0.8**
	baz=251						
EHY	**Hungye**	**0.78**	**212**	⇓*i*P	**Pg**	**02 46 26.2**	**-0.8**
	baz=231						
EHY				*e*S	**Sn**	**02 46 40.0**	**-1.7**
	baz=231						
TWA	**Mucha**	**0.83**	**348**	⇑*i*P	**Pg**	**02 46 27.6**	**-0.3**
	baz=336						
TWA				*e*S	**Sb**	**02 46 40.9**	**+0.4**
	baz=336						
NSTT	**Nanjuang**	**0.84**	**303**	*i* P	**Pb**	**02 46 28.7**	**-0.5**
	baz=304						
NSTT				*e*S	**Sb**	**02 46 40.4**	**-0.5**
	baz=304						
SMLT	**Sun Moon Lake**	**0.85**	**251**	*i* P	**Pg**	**02 46 27.9**	**-0.5**
	baz=256						
SMLT				*e*S	**Sb**	**02 46 40.9**	**-0.2**
	baz=256						
TWB1	**Santiao Chiao**	**0.86**	**13**	*e*P	Pg	02 46 24.9	-3.7
	baz=4.0						
TWB1				*e*S	**Sb**	**02 46 40.5**	**-0.9**
	baz=4.0						
TYC	**Yuchr**	**0.88**	**253**	*i* P	**Pg**	**02 46 28.4**	**-0.5**
	baz=258						
TYC				*e*S	**Sn**	**02 46 43.5**	**-0.7**
	baz=258						
TAP1	**Taipei**	**0.90**	**345**	*e*P	**Pn**	**02 46 30.9**	**-0.5**
	baz=344						
NWF	**Wu-fen Shan**	**0.90**	**0**	P	**Pg**	**02 46 29.5**	**+0.1**
	baz=348						
NWF				*e*S	**Sg**	**02 46 41.4**	**+0.4**
	baz=348						
TWF1	**Yuli**	**0.92**	**209**	P	**Pg**	**02 46 29.3**	**-0.4**
	baz=210						
TWF1				*e*S	**Sn**	**02 46 44.1**	**-1.3**
	baz=210						
TWQ1	**Liyutan**	**0.93**	**281**	P	**Pb**	**02 46 30.4**	**-0.4**
	baz=284						
TWQ1				*e*S	**Sn**	**02 46 44.4**	**-1.3**
	baz=284						
NSY	**Sanyi**	**0.96**	**285**	P	**Pn**	**02 46 31.6**	**-0.7**
	baz=285						
NSY				S	**Sb**	**02 46 44.4**	**+0.2**
	baz=285						
NCU	**National Centr**	**0.96**	**326**	*e*P	**Pn**	**02 46 31.6**	**-0.7**
	baz=325						
NCU				*e*S	**Sb**	**02 46 44.4**	**+0.1**
	baz=325						
TWS1	**Kuangyinshan**	**0.99**	**341**	*e*S	**Sn**	**02 46 48.0**	**+1.1**
	baz=346						
TCU	**Taichung**	**1.00**	**269**	P	**Pn**	**02 46 32.8**	**0.0**
	baz=273						
TCU				*e*S	**Sn**	**02 46 47.5**	**+0.2**
	baz=273						
YUS	**Yu-Shan**	**1.01**	**228**	P	**Pg**	**02 46 31.1**	**-0.3**
	baz=236						
YUS				*e*S	**Sn**	**02 46 47.0**	**-1.2**
	baz=236						
WNT	**Mingjian**	**1.04**	**254**	*e*P	**Pn**	**02 46 33.0**	**-0.3**
	baz=261						
WNT				*e*S	**Sn**	**02 46 48.1**	**-0.1**
	baz=261						
ALS	**Alishan**	**1.10**	**234**	P	**Pg**	**02 46 33.0**	**-0.2**
	baz=241						
ALS				*e*S	**Sb**	**02 46 48.5**	**-0.1**
	baz=241						
JYNG	**Yonagunijimaku**	**1.10**	**75**	*e*S	**Sn**	**02 46 50.9**	**+1.1**
TWY	**Chenhua**	**1.12**	**352**	*e*P	**Pn**	**02 46 34.0**	**-0.4**
	baz=340						
CHKT	**Chengkung**	**1.13**	**200**	*i* P	**Pg**	**02 46 33.2**	**-0.5**
	baz=175						
CHKT				*e*S	**Sn**	**02 46 50.8**	**+0.5**
	baz=175						
CHN5	**Tsauling**	**1.15**	**241**	P	**Pn**	**02 46 34.5**	**-0.5**
	baz=258						
CHN5				*e*S	**Sn**	**02 46 52.7**	**+1.6**
	baz=258						
YOJ	**Yonaguni jima**	**1.17**	**75**	P	**Pn**	**02 46 35.7**	**+0.7**
YOJ				*e*S	**Sn**	**02 46 53.5**	**+2.2**
ELDTW	**Lidau**	**1.20**	**216**	*e*P	**Pg**	**02 46 33.8**	**-1.1**
	baz=198						
ELDTW				*e*S	**Sn**	**02 46 52.0**	**-0.3**
	baz=198						
CHN2	**Minshiung**	**1.35**	**242**	*e*S	**Sn**	**02 46 60.0**	**+4.1**
	baz=251						
CHN4	**Tsaushan**	**1.35**	**233**	P	**Pg**	**02 46 37.9**	**-0.1**
	baz=244						
CHN4				*e*S	**Sn**	**02 46 59.3**	**+3.3**
	baz=244						
STYT	**Tauyuan**	**1.37**	**223**	⇓*i*P	**Pn**	**02 46 37.1**	**-0.7**
	baz=234						
STYT				*e*S	**Sn**	**02 46 58.0**	**+1.6**
	baz=234						
WTP	**Ta-pu**	**1.40**	**230**	P	**Pb**	**02 46 38.5**	**-0.3**
	baz=240						
WTP				*e*S	**Sg**	**02 46 59.0**	**+1.8**
	baz=240						
CHY	**Chiayi**	**1.41**	**242**	*e*S	**Sg**	**02 46 58.3**	**+1.1**
	baz=251						
TWK	**Hsinying**	**1.48**	**233**	P	**Pg**	**02 46 40.1**	**-0.3**
	baz=244						
TWK				*e*S	**Sg**	**02 47 01.7**	**+2.1**
	baz=244						
TWG	**Pinlang**	**1.49**	**206**	*e*P	**Pn**	**02 46 36.6**	**-2.9**
	baz=208						
CHN1	**Nanshi**	**1.50**	**230**	*e*P	**Pb**	**02 46 40.1**	**-0.3**
	baz=241						
CHN1				*e*S	**Sg**	**02 47 03.6**	**+3.3**
	baz=241						
SGST	**Jiashian**	**1.54**	**226**	P	**Pg**	**02 46 41.0**	**-0.5**
	baz=237						
SGST				*e*S	**Sg**	**02 47 04.4**	**+3.0**
	baz=237						
SSD	**Sandimen**	**1.76**	**217**	*e*S	**Sn**	**02 47 05.9**	**-0.2**
	baz=207						
IRIF	**Iriomote-Funau**	**1.79**	**84**	P	**Pb**	**02 46 44.8**	**-0.6**
TWM1	**Shoushan**	**1.82**	**223**	*e*P	**Pg**	**02 46 46.3**	**-0.7**
	baz=232						
EAST	**Anshuo**	**1.97**	**206**	*e*P	**Pn**	**02 46 45.1**	**-1.0**
	baz=186						
EAST				*e*S	**Sg**	**02 47 14.0**	**-1.3**
	baz=186						
JKRS	**Kuro-shima**	**2.04**	**88**	P	**Pb**	**02 46 49.3**	**-0.3**
SCZT	**Fangliau**	**2.08**	**211**	*e*P	**Pn**	**02 46 48.2**	**+0.7**
	baz=192						
PNG	**Penghu**	**2.12**	**254**	*e*S	**Sb**	**02 47 17.1**	**-0.4**
	baz=263						
WDGT	**Dungji**	**2.14**	**246**	*e*S	**Sb**	**02 47 18.3**	**+0.1**
	baz=256						
JIJ	**Ishigaki jima**	**2.17**	**84**	P	**Pn**	**02 46 48.0**	**-0.8**
JISG	**Ishigakijimahi**	**2.35**	**79**	P	**Pn**	**02 46 50.6**	**-0.7**
TWK1	**Hengchun**	**2.39**	**202**	*e*S	**Sn**	**02 47 20.4**	**-1.1**
	baz=182						
JIRB	**Irabujima**	**3.16**	**77**	P	**Pn**	**02 47 02.1**	**-0.4**

ISCJB ***02*** *03:13:06.8±0.9,6.˚79S±0.˚06×104.˚00E±0.˚05,h48km,*
mb4.0/8,MS2.8/1,Error ellipse: s-maj=10.0km
s-min=5.3km az=41.3
DJA ***02*** *03:13:08.6±1.1,7.˚5S±3.˚×10.˚4E±.˚,h22km±13km,M4.2/15,*
mb4.2/3,MLv4.2/15
IDC ***02*** *03:13:15.3±1.9,5.˚92S×103.˚98E,h56km±8km,mb3.7/8,*
mb1 3.8/9,mb1mx3.6/24,mbtmp4.0/9,MS2.9/2,Ms1 3.0/2,
ms1mx2.6/25,Error ellipse: s-maj=59.0km s-min=17.8km
az=50.0
ISC 02 03:13:09.4±1.1,**6.˚71S**±0.˚08×**104.˚03E**±0.˚08,**h48**km,**n26,**
σ1§**23**/**30**,**mb4.1**/**8**,**Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.26**	**22**	P	**Pn**	**03 13 29.6**	**-1.1**
KASI				S	**Sn**	**03 13 45.2**	**-1.4**
CGJI	**Cibinong**	**1.66**	**87**	P	**Pn**	**03 13 35.8**	**-0.2**
CGJI				S	**Sn**	**03 13 55.2**	**-0.9**
LWLI	**Liwa**	**1.68**	**1**	P	**Pn**	**03 13 35.9**	**-0.6**
LWLI				S	**Sn**	**03 13 56.9**	**0.0**
BLSI	**Bandar Lampung**	**1.80**	**42**	P	**Pn**	**03 13 38.6**	**+0.6**
BLSI				S	**Sn**	**03 14 00.3**	**+0.6**
KLI	**Kotabumi**	**2.01**	**24**	P	**Pn**	**03 13 41.3**	**+0.4**
MDSI	**Maura Dua**	**2.21**	**4**	P	**Pn**	**03 13 43.4**	**-0.3**
MNAI	**Manna**	**2.56**	**335**	P	**Pn**	**03 13 48.8**	**+0.3**
LHSI	**Lahat**	**2.91**	**350**	P	**Pn**	**03 13 54.0**	**+0.8**
CNJI	**Cibinong**	**3.13**	**101**	P	**Pn**	**03 13 55.6**	**-0.7**
CNJI				S	**Sn**	**03 14 30.6**	**-2.0**
LEM	**Lembang**	**3.56**	**92**	P	Pn	03 14 08.8	+6.4
	5.8nm,0.3s,baz=44,slow=18,SNR=3.6						
LEM				S	**Sn**	**03 14 47.0**	**+3.6**
	5.0nm,0.3s,baz=154,slow=21,SNR=3.7						
LEM				LR	LR	03 15 53.0	
	comp=Z,140nm,18.3s,baz=262,slow=42						
CMJI	**Cimerak**	**4.51**	**104**	P	**Pn**	**03 14 15.1**	**-0.2**
CMJI				S	**Sn**	**03 15 04.4**	**-2.1**
TPI	**Tanjungpandan**	**5.33**	**43**	P	**Pn**	**03 14 26.7**	**+0.2**
	12nm,0.8s,0.1nm						
UGM	**Wanagama**	**6.55**	**101**	P	**Pn**	**03 14 44.7**	**+1.4**
	60nm,1.5s,0.4nm						
PCJI	**Pacitan**	**7.24**	**102**	P	**Pn**	**03 14 53.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**25.50**	**349**	P	**P**	**03 18 31.2**	**-2.3**
	1.7nm,0.4s,baz=187,slow=9.0,SNR=5.5						
CMAR				LR	LR	03 28 55.2	
	comp=Z,29nm,21.6s,baz=70,slow=38						
H01W3	**Cape Leeuwin H**	**29.55**	**163**	T	T	03 50 12.5	
	baz=340,slow=76,SNR=4.0						
H01W2	**Cape Leeuwin H**	**29.56**	**163**	T	T	03 50 09.5	
	baz=340,slow=76,SNR=5.6						
H01W1	**Cape Leeuwin H**	**29.56**	**163**	T	T	03 50 09.5	
	baz=340,slow=76,SNR=5.3						
WRA	**Warramunga Arr**	**32.22**	**117**	P	P	03 19 42.6	+9.2
	0.3nm,0.3s,baz=289,slow=9.8,SNR=2.9						
ASAR	**Alice Springs**	**33.28**	**124**	P	P	03 19 52.7	+10
	0.2nm,0.3s,baz=306,slow=8.3,SNR=6.4						
KSRS	**Korea Array**	**49.27**	**25**	P	**P**	**03 21 53.5**	**+0.1**
	2.5nm,0.8s,baz=230,slow=6.7,SNR=5.2						
SONM	**Songino Array**	**54.34**	**2**	P	**P**	**03 22

comp=Z,1µm,27.8s,baz=235
PPT Papeete 25.68 79 LR LR 04 04 31.4
comp=Z,396nm,18.1s,baz=252,slow=33
CTAO Charters Tower 35.05 270 *e*P **P 03 57 12.5 -0.8**
CTAO pmax pmax
comp=Z,20nm,1.1s
CTAO Charters Tower 35.05 270 *e*P **P 03 57 12.5 -0.8**
comp=Z,20nm,1.1s
RKT Rikitea 37.53 96 *e*LR LR 04 07 05.4
comp=Z,532nm,33.0s,baz=257
RKT Rikitea 37.53 96 *e*T T 04 37 02.4
comp=Z,1.4nm,0.4s
PMG Port Moresby 38.11 287⇓*e*P **P 03 57 38.7 -0.7**
PMG pmax pmax
comp=Z,38nm,1.2s
PMG Port Moresby 38.11 287 P **P 03 57 38.4 -1.0**
comp=Z,17nm,0.8s,baz=137,slow=9.2,SNR=8.3
PMG LR LR 04 10 48.4
comp=Z,392nm,20.3s,baz=181,slow=32
PMG Port Moresby 38.11 287 *e*P **P 03 57 38.5 -0.9**
comp=Z,6.8nm,1.0s
AS31 Alice Springs 45.44 260 *e*P **P 03 58 38.6 -0.8**
ASAR Alice Springs 45.45 260 P **P 03 58 38.6 -0.7**
comp=Z,7.9nm,1.0s,baz=91,slow=6.5,SNR=38
ASAR PcP **PcP 04 00 18.4 +0.3**
comp=Z,1.0nm,0.6s,baz=104,slow=3.0,SNR=5.6
ASAR LR LR 04 17 42.2
comp=Z,859nm,18.1s,baz=111,slow=36
WRAB Tennant Creek 45.91 266 P **P 03 58 42.0 -1.1**
comp=Z,50nm,1.0s,SNR=6.1
WRAB Tennant Creek 45.91 266⇓*e*P **P 03 58 41.4 -1.7**
WRAB pmax pmax
comp=Z,38nm,1.7s
WRAB Tennant Creek 45.91 266 *e*P **P 03 58 41.5 -1.5**
comp=Z,23nm,1.3s
WRA Warramunga Arr 45.92 266 P **P 03 58 42.0 -1.1**
comp=Z,5.5nm,0.8s,baz=102,slow=8.3,SNR=21
WRA PcP **PcP 04 00 20.3 +0.5**
comp=Z,4.0nm,1.0s,baz=100,slow=3.6,SNR=4.9
WRA LR LR 04 17 16.3
comp=Z,897nm,19.1s,baz=105,slow=35
JAY Jayapura 47.09 291 LR LR 04 18 01.5
comp=Z,366nm,18.0s,slow=35
FORT Forrest 49.42 250 *e*P **P 03 59 08.8 -1.3**
comp=Z,24nm,0.7s
SBA Scott Base 53.93 184 *e*P **P 03 59 46.0 +3.0**
SBA pmax pmax
comp=Z,227nm,2.6s
SBA Scott Base 53.93 184 *e*P **P 03 59 46.0 +3.0**
comp=Z,227nm,2.6s
VNDA Vanda 54.01 186 *e*P **P 03 59 45.8 +2.1**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 54.01 186 P **P 03 59 45.5 +1.7**
comp=Z,4.3nm,1.0s,baz=23,slow=5.3,SNR=11
VNDA LR LR 04 18 32.7
comp=Z,154nm,21.4s,baz=17,slow=31
VNDA Vanda 54.01 186 *e*P **P 03 59 45.8 +2.1**
comp=Z,8.3nm,1.1s
MBWA Marble Bar 58.77 259 *e*P **P 04 00 18.1 -0.4**
comp=Z,15nm,1.1s
BATI Baumata 58.84 273 LR LR 04 24 45.6
comp=Z,612nm,21.1s,baz=132,slow=35
QSPA South Pole Qui 65.49 180 P **P 04 01 03.7 +0.7**
comp=Z,13nm,0.9s,baz=33,slow=4.4,SNR=28
QSPA South Pole Qui 65.49 180 *e*P **P 04 01 03.6 +0.7**
comp=Z,33nm,1.0s
KKM Kota Kinabalu 72.53 285 *e*P **P 04 01 47.1 -0.4**
comp=Z,23nm,1.2s
MJAR Matsushiro Arr 74.54 323 P **P 04 01 57.0 -1.7**
comp=Z,2.7nm,0.7s,baz=155,slow=5.9,SNR=5.5
MJAR LR LR 04 29 48.8
comp=Z,98nm,21.9s,baz=125,slow=32
MAJO Matsushiro 74.55 323 *e*P **P 04 01 58.0 -0.7**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 74.55 323 *e*P **P 04 01 58.0 -0.7**
comp=Z,12nm,0.9s
LEM Lembang 74.75 269 LR LR 04 35 03.8
comp=Z,422nm,19.8s,slow=36
JNU Nakatsue 76.46 316 LR LR 04 30 22.5
comp=Z,108nm,21.2s,baz=175,slow=32
MAW Mawson 78.32 200 P **P 04 02 21.6 +2.0**
comp=Z,5.6nm,1.0s,baz=152,slow=5.0,SNR=4.3
MAW LR LR 04 37 30.7
comp=Z,196nm,18.2s,baz=68,slow=36
YSS Yuzh-Sakhalins 80.34 333 *e*P **P 04 02 31.7 +0.9**
YSS Yuzh-Sakhalins 80.34 333 *e*P **P 04 02 31.4 +0.6**
comp=Z,80nm,1.2s
PETK Petropavlovsk- 80.67 344 P **P 04 02 33.2 +0.7**
comp=Z,11nm,0.8s,baz=129,slow=8.4,SNR=9.9
PETK LR LR 04 35 32.1
comp=Z,117nm,18.5s,baz=165,slow=34
VES Vestal, Richgr 80.71 44 P **P 04 02 33.4 +0.3**
baz=81
EDW2 Edwards Air Fo 80.80 45 P **P 04 02 33.8 +0.1**
baz=81
KMRM Mail Ridge 80.84 38 *e*P **P 04 02 35.5 +1.7**
comp=Z,28nm,1.0s
ISA Isabella, Lake 80.98 44 *e*P **P 04 02 35.3 +0.7**
ISA Isabella, Lake 80.98 44 P **P 04 02 34.7 +0.1**
baz=81
ISA Isabella, Lake 80.98 44 *e*P **P 04 02 35.3 +0.7**
SWSC Sam W. Stewart 81.06 48 P **P 04 02 35.1 0.0**
baz=81
KSRS Korea Array 81.11 318 P **P 04 02 36.8 +1.6**
comp=Z,8.0nm,1.0s,baz=140,slow=5.7,SNR=16
KSRS LR LR 04 37 43.6
comp=Z,90nm,18.1s,baz=137,slow=35
KSAR Wonju Array Be 81.13 318 P **P 04 02 36.8 +1.5**
KSAR Wonju Array Be 81.13 318 P **P 04 02 36.8 +1.5**
CMB Columbia Colle 81.31 41 *e*P **P 04 02 35.6 -0.7**
CMB pmax pmax
comp=Z,16nm,1.3s
CMB Columbia Colle 81.31 41 *e*P **P 04 02 35.6 -0.7**
comp=Z,16nm,1.3s
LRMC Laurel Mtn Rad 81.36 45 P **P 04 02 36.7 0.0**
baz=82
BELC Belle Mtn. Jos 81.56 47 P **P 04 02 37.6 -0.3**
baz=82
BC3 Big Chuckawall 81.72 47 P **P 04 02 39.1 +0.4**
baz=82
GSC Goldstone, Bar 81.83 45 P **P 04 02 39.4 +0.3**
baz=82
MPMC Manual Prospec 81.85 44 P **P 04 02 39.7 +0.3**
baz=82
MTUM Tungsten Hills 81.99 43 *e*P **P 04 02 41.0 +0.9**
WAKR Walker 82.18 41 *e*P **P 04 02 41.6 +0.5**
IRM Iron Mountain 82.22 47 P **P 04 02 42.0 +0.8**
baz=82
113A Mohawk Valley, 82.34 49 P **P 04 02 41.7 -0.1**
baz=83
FURC Furnace Creek, 82.50 44 P **P 04 02 42.8 +0.3**
baz=83
GRAC Grapevine Rang 82.51 44 P **P 04 02 43.0 +0.4**
baz=83
SHOC Shoshone, Teco 82.53 45 P **P 04 02 43.0 +0.2**
baz=83
LDFC Landfair 82.80 46 *e*P **P 04 02 45.3 +1.0**
NVAR Mina Array Bea 82.82 42 P **P 04 02 44.0 -0.4**
comp=Z,5.9nm,0.9s,baz=220,slow=8.7,SNR=23
PDMCI Parker Dam,Lak 82.98 47 P **P 04 02 45.6 +0.5**
baz=83
SYO Syowa Base 83.12 192⇑*e*PcP **PcP 04 02 48.4 -1.5**
TPNV Topopah Spring 83.19 44 *e*P **P 04 02 46.5 +0.2**
TPNV Topopah Spring 83.19 44 P **P 04 02 46.6 +0.3**
baz=84
TPNV Topopah Spring 83.19 44 *e*P **P 04 02 46.5 +0.2**
Z14A Wintersburg 83.25 49 P **P 04 02 47.1 +0.6**
baz=84
TPH Tonopah 83.27 43 *e*P **P 04 02 46.9 +0.1**
TPH Tonopah 83.27 43 *e*P **P 04 02 46.9 +0.1**
USRK Ussuriysk Ar. 83.33 325 P **P 04 02 47.8 +1.2**
comp=Z,24nm,0.9s,baz=131,slow=3.4,SNR=32
Y14A Wickenburg 83.54 48 P **P 04 02 48.2 +0.1**
baz=84
SHPR Sheep Range 83.61 45 *e*P **P 04 02 48.9 +0.3**
W13A Hualapai Mount 83.62 47 P **P 04 02 48.6 0.0**
baz=84
J04D Umpqua Nationa 83.76 36 P **P 04 02 49.6 +0.4**
baz=84
NJ2 Nanjing 83.84 309 *e*P **P 04 02 51.6 +2.0**
NJ2 PMZ
comp=Z,60nm,0.7s
SNAA Sanae 83.87 178 *e*P **P 04 02 48.5 -0.8**
SNAA pmax pmax
comp=Z,16nm,1.1s
SNAA Sanae 83.87 178 *e*P **P 04 02 48.5 -0.8**
comp=Z,16nm,1.1s
MOD Modoc Plateau 83.88 38 *e*P **P 04 02 50.2 +0.5**
VNA3 Neumayer Olymp 83.94 176 P **P 04 02 49.1 -0.5**
K05A Summer Lake 84.09 37 *e*P **P 04 02 51.7 +0.9**
comp=Z,25nm,1.1s
QIZ Qiongzhong 84.14 294 P **P 04 02 51.4 0.0**
QIZ S **S 04 13 16.2 +2.1**
QIZ PMZ
comp=Z,170nm,8.6s
QIZ LZ
comp=Z,200nm,10.6s
TUC Tucson 84.15 51 *e*P **P 04 02 50.8 -0.5**
TUC Tucson 84.15 51 *e*P **P 04 02 50.8 -0.5**
J05D Fort Rock, OR 84.27 37 P **P 04 02 52.2 +0.5**
baz=85
VNA2 Neumayer--Watz 84.40 176 P **P 04 02 52.3 +0.4**
baz=167,slow=3.9
R11A Troy Canyon, C 84.45 43 P **P 04 02 52.7 -0.1**
baz=85
R11A Troy Canyon, C 84.45 43 *e*P **P 04 02 53.0 +0.2**
VNA1 Neumayer--Stat 84.62 176 P **P 04 02 53.4 +0.4**
319A Douglas 84.71 52 P **P 04 02 55.0 +0.8**
baz=85
HABR Khabarovsk 84.87 330 *e*P **P 04 02 55.7 +1.4**
HABR *e**PP **pP 04 03 03.0 -2.4**
HABR *e*S S 04 13 13.0 -7.1
HABR *e*SS **SS 04 18 51.4 -2.3**
HABR *e*SSS SSS 04 22 21.7
HABR pmax pmax
comp=Z,94nm,1.6s
HABR MLR MLR
comp=Z,92nm,16.0s
MDJ Mudanjiang 84.87 324 P **P 04 02 56.3 +1.8**
MDJ pP **pP 04 03 05.9 +0.3**
MDJ sP **sP 04 03 09.6 0.0**
MDJ PP **PP 04 06 11.1 -0.6**
MDJ PMZ
comp=Z,22nm,1.2s
MDJ PMZ
comp=Z,100nm,4.3s
MDJ LN
comp=Z,99nm,16.1s
MDJ LE
comp=Z,120nm,18.5s
MDJ Mudanjiang 84.87 324 *e*P **P 04 02 55.5 +1.0**
comp=Z,29nm,1.3s
X16A Lo Mia Camp, P 84.87 49 P **P 04 02 55.8 +0.7**
baz=85
I05D Terrebonne, OR 84.91 36 P **P 04 02 55.5 +0.7**
baz=85
WVOR Wild Horse Val 85.17 39 *e*P **P 04 02 56.6 +0.4**
WVOR pmax pmax
comp=Z,25nm,1.7s
WVOR Wild Horse Val 85.17 39 *e*P **P 04 02 56.6 +0.4**
comp=Z,25nm,1.7s
PLCA Paso Flores 85.19 133 LR LR 04 34 43.4
comp=Z,71nm,19.6s,baz=268,slow=31
CCUT Cedar City 85.39 45 *e*P **P 04 02 58.2 +0.6**
comp=Z,8.5nm,1.1s
IPM Ipoh 85.40 277 *e*P **P 04 02 58.1 +0.2**
U15A North Rim 85.44 47 P **P 04 02 58.6 +0.7**
baz=86
ARUT Antelope Range 85.48 45 *e*P **P 04 02 58.1 +0.2**
ARUT pmax pmax
comp=Z,2.0nm,1.4s
ARUT Antelope Range 85.48 45 *e*P **P 04 02 58.1 +0.2**
comp=Z,1.7nm,1.4s
WUAZ Wupatki 85.54 48 P **P 04 02 59.2 +1.0**
baz=86
WUAZ Wupatki 85.54 48 *e*P **P 04 02 59.2 +1.0**
comp=Z,31nm,1.9s
X18A Snowflake 85.96 49 P **P 04 03 00.6 +0.2**
baz=86
WHN Wuhan 86.28 306 P **P 04 03 03.3 +1.5**
121A Cookes Peak, D 86.40 52 P **P 04 03 03.0 +0.4**
baz=87
CN2 Changchun 86.61 322 *e*P **P 04 03 04.4 +1.3**
CN2 *e*pP **pP 04 03 14.9 +0.7**
CN2 *e*S **S 04 13 38.9 +1.4**
CN2 PMZ
comp=Z,30nm,1.3s
CN2 PMZ
comp=Z,200nm,5.0s
MVU Marysvale 86.68 45 *e*P **P 04 03 04.4 +0.5**
comp=Z,7.5nm,1.4s
G08A Pilot Rock 86.81 36 *e*P **P 04 03 04.6 +0.3**
comp=Z,15nm,1.4s
KLR Kul'dur 86.94 329 *e*P **P 04 03 01.8 -2.8**
TIA Tai'an 87.33 312⇓P **P 04 03 08.1 +1.2**
TIA PMZ
comp=Z,50nm,0.9s
MNTX Cornudas Mount 87.71 54 P **P 04 03 08.8 -0.1**
baz=88
MNTX Cornudas Mount 87.71 54 *e*P **P 04 03 08.7 -0.2**
TMUT Trail Mountain 87.78 45 *e*P **P 04 03 10.2 +0.9**
comp=Z,7.7nm,0.8s
TXAR Lajitas Array 87.80 56 P **P 04 03 09.2 -0.2**
comp=Z,2.4nm,0.9s,baz=215,slow=8.3,SNR=20
TXAR LR LR 04 34 02.5
comp=Z,70nm,22.0s,baz=0.0,slow=30
LAZ Ladron 87.85 51 *e*P **P 04 03 10.0 +0.4**
comp=Z,7.9nm,1.5s
SRU San Rafael Swe 88.11 45 *e*P **P 04 03 11.1 +0.3**
SRU San Rafael Swe 88.11 45 *e*P **P 04 03 11.1 +0.3**
ANMO Albuquerque 88.61 50⇓*e*P **P 04 03 12.6 -0.6**
ANMO pmax pmax
comp=Z,28nm,1.2s
ANMO Albuquerque 88.61 50 *e*P **P 04 03 13.2 0.0**
C09A Chrisman Ranch 88.79 35 *e*P **P 04 03 13.8 +0.3**
comp=Z,13nm,1.2s
W24A Lazy 6 Ranch, 89.48 51 P **P 04 03 17.7 +0.3**
baz=90
NEW Newport 89.68 35 P **P 04 03 17.4 -0.3**
baz=90
429A Davenport Ranc 89.77 56 P **P 04 03 17.1 -1.5**
baz=90
ENH Enshi 89.79 304 *e*P **P 04 03 20.0 +1.4**
comp=Z,16nm,1.2s
S22A 4UR Ranch, Cre 89.81 48 P **P 04 03 18.9 0.0**
baz=90
S22A 4UR Ranch, Cre 89.81 48 *e*P **P 04 03 19.4 +0.4**
BJI Beijing 90.03 315 P **P 04 03 21.0 +1.5**
BJI S **S 04 14 10.4 +0.3**
BJI PMZ
comp=Z,14nm,1.2s
BJI LN
comp=Z,150nm,8.2s
BJI LE
comp=Z,140nm,4.6s
TRF Thorofare Moun 90.09 11 *e*P **P 04 03 18.3 -1.1**
comp=Z,8.6nm,0.8s
TNA Tin City 90.09 3 *e*P **P 04 03 18.2 -0.9**
comp=Z,8.9nm,1.1s
SLVN Son La 90.14 293 *e*P **P 04 03 22.8 +2.2**
W25A X Bar L Ranch, 90.16 51 P **P 04 03 20.2 -0.2**
baz=90
GYA Guiyang 90.19 299 *e*P **P 04 03 21.5 +0.7**
GYA pP pP 04 03 36.0 +4.1
GYA PP **PP 04 06 58.2 +3.2**
GYA SKS **SKSac 04 13 47.8 -1.8**
GYA S **S 04 14 11.6 -0.9**
GYA SS **SS 04 20 14.0 +1.3**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.6s
GYA LN
comp=Z,510nm,20.6s
GYA LE
comp=Z,490nm,21.2s
GYA LZ
comp=Z,530nm,20.8s
REDW Red Top Meadow 90.29 41 *e*P **P 04 03 21.3 +0.3**
732A Laxson Ranch, 90.35 58 P **P 04 03 20.3 -0.9**
baz=91
V25A Rancho No Teng 90.36 50 P **P 04 03 21.2 -0.2**
baz=91
MSO Missoula 90.51 37 P **P 04 03 20.8 -1.0**
baz=91
IMW Indian Meadow 90.54 41 *e*P **P 04 03 22.8 +0.6**
531A Rocksprings 90.58 57 P **P 04 03 22.0 -0.4**
baz=91
MCK McKinley 90.59 12 *e*P **P 04 03 21.3 -0.3**
MCK pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 90.59 12 *e*P **P 04 03 21.3 -0.3**
comp=Z,10nm,1.1s
SDCO Great Sand Dun 90.72 48 P **P 04 03 22.8 -0.3**
baz=91
SDCO Great Sand Dun 90.72 48 *e*P **P 04 03 23.2 +0.1**
comp=Z,5.3nm,1.4s
R23A Moffat 90.72 48 P **P 04 03 23.2 +0.1**
baz=91
MSTX Muleshoe 90.75 53 P **P 04 03 22.3 -0.8**
baz=91
PDAR Pinedale Array 90.75 42 P **P 04 03 22.2 -0.9**
comp=Z,1.5nm,0.9s,baz=208,slow=3.9,SNR=8.8
PDAR LR LR 04 41 36.7
comp=Z,61nm,19.2s,baz=240,slow=34
I17A Pilgrim Ck. 90.77 41 P **P 04 03 23.6 +0.4**
baz=91
QLMT Earthquake Lak 90.78 40 *e*P **P 04 03 23.4 +0.2**
U25A Circle Dot Ran 90.78 50 P **P 04 03 23.2 -0.1**
baz=91
FLWY Flagg Ranch 90.79 41 *e*P **P 04 03 24.0 +0.8**
632A Uvalde 90.85 58 P **P 04 03 23.3 -0.4**
baz=91
V26A Tequesquite Ra 90.92 51 P **P 04 03 23.8 -0.1**
baz=91
532A Rocksprings 91.05 57 P **P 04 03 23.8 -0.7**
baz=91
Z29A Hungry Hill Ra 91.18 54 P **P 04 03 24.4 -0.8**
baz=91
U26A Atchley Ranch, 91.25 50 P **P 04 03 25.2 -0.3**
baz=92
O22A Kremmling 91.27 46 P **P 04 03 25.9 +0.3**
baz=92
J19A Crowheart 91.33 42 P **P 04 03 25.5 -0.2**
baz=92
X28A Dimmitt 91.43 53 P **P 04 03 26.1 -0.2**
baz=92
432A Menard 91.48 57 P **P 04 03 25.5 -1.0**
baz=92
Y29A Porterfield Fa 91.49 53 P **P 04 03 26.0 -0.6**
baz=92
DOT Dot Lake 91.49 14 *e*P **P 04 03 26.4 +0.6**
V27A Dan Oppiter Fa 91.57 51 P **P 04 03 26.8 -0.1**
baz=92
231A Bronte 91.58 56 P **P 04 03 26.2 -0.8**
baz=92
HRY Holter Researc 91.62 38 *e*P **P 04 03 27.3 +0.4**
533A Kerrville 91.69 58 P **P 04 03 26.9 -0.7**
baz=92
X29A Tulia 91.75 53 P **P 04 03 27.6 -0.2**
baz=92
I19A Meeteetse 91.79 42 P **P 04 03 28.1 +0.3**
baz=92
COLA College 91.83 12⇑*i*P **P 04 03 26.9 -0.3**
COLA pmax pmax
comp=Z,44nm,1.2s
COLA College 91.83 12 *e*P **P 04 03 26.3 -0.9**
comp=Z,15nm,1.4s
ILAR Eielson Array 91.92 12 P **P 04 03 26.7 -1.0**
comp=Z,3.8nm,1.1s,baz=211,slow=5.1,SNR=12
433A Art 91.96 57 P **P 04 03 28.2 -0.5**
baz=92
AMTX Amarillo 91.98 52 P **P 04 03 28.2 -0.6**
baz=92
XAN Xi'an 92.00 307 P **P 04 03 30.3 +1.4**
XAN PMZ
comp=Z,4.0nm,1.1s
XAN PMZ
comp=Z,28nm,4.3s
232A Coleman 92.06 56 P **P 04 03 28.6 -0.6**
baz=92
534A Blanco 92.11 58 P **P 04 03 28.4 -1.1**
baz=92
H19A Powell 92.14 41 P **P 04 03 29.6 +0.2**
baz=92
TRQA Tornquist 92.25 134 *e*P **P 04 03 29.7 -0.4**
comp=Z,16nm,1.0s
333A Richland Sprin 92.31 57 P **P 04 03 29.5 -0.8**
baz=92
J21A Lysite 92.36 43 P **P 04 03 30.9 +0.4**
baz=93
Y31A Rekieta Farm, 92.57 54 P **P 04 03 30.9 -0.6**
baz=93
434A Burnet 92.62 57 P **P 04 03 30.9 -0.9**
baz=93
I21A Big Trails, Te 92.71 43 P **P 04 03 31.7 -0.4**
baz=93
KMI Kunming 92.76 296 P **P 04 03 35.4 +2.6**
KMI pP **pP 04 03 45.5 +1.5**
KMI sP **sP 04 03 49.6 +1.6**
KMI PMZ
comp=Z,17nm,1.1s
KMI LN
comp=Z,240nm,20.0s
KMI LE
comp=Z,140nm,20.9s
F19A Roth Farm, Mol 92.81 40 P **P 04 03 31.9 -0.5**
baz=93
L23A Garrett 92.82 45 P **P 04 03 33.0 +0.3**
baz=93
334A Lometa 92.88 57 P **P 04 03 32.2 -0.7**
baz=93
J22A Midwest 93.00 43 P **P 04 03 33.0 -0.4**
baz=93
CMAR Chiang Mai Arr 93.13 289 P **P 04 03 36.5 +2.1**
comp=Z,6.7nm,0.8s,baz=127,slow=3.3,SNR=36
CMAR LR LR 04 45 16.0
comp=Z,28nm,18.1s,baz=156,slow=35
E19A Rath Farm, Rou 93.23 40 P **P 04 03 34.4 +0.1**
baz=94
I22A 9 Mile Ranch, 93.25 43 P **P 04 03 34.5 -0.1**
baz=94
CHTO Chiang Mai 93.28 289 *e*P **P 04 03 37.0 +1.9**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 93.28 289 *e*P **P 04 03 37.0 +1.9**
comp=Z,14nm,0.9s
BILL Bilibino 93.28 353⇓*e*P **P 04 03 33.6 -0.3**
BILL *e* 04 07 20.3
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 93.28 353 *e*P **P 04 03 34.3 +0.4**
Z33A Whitaker Ranch 93.37 55 P **P 04 03 34.7 -0.4**
baz=94
HHC Hu-ho-hao-te 93.46 314 *e*P **P 04 03 33.4 -2.2**
HHC SKS **SKSac 04 14 03.4 -4.0**
HHC S **S 04 14 38.0 -3.3**
HHC PMZ
comp=Z,42nm,1.5s
HHC PMZ
comp=Z,210nm,9.0s
HHC LN
comp=Z,250nm,17.9s
HHC LE
comp=Z,320nm,17.8s
HHC LZ
comp=Z,220nm,17.6s
X32A Elmer 93.50 54 P **P 04 03 35.0 -0.8**
baz=94
134A White-Moore Ra 93.56 56 P **P 04 03 35.1 -0.9**
baz=94
E20A Meyer Farm, Mu 93.63 40 P **P 04 03 36.6 +0.5**
baz=94
C19A Slack Wire Ran 93.77 39 P **P 04 03 37.0 +0.2**
baz=94
D20A Manuel Ranch, 93.94 39 P **P 04 03 37.9 +0.4**
baz=94
CD2 Chengdu 94.47 302 *e*P **P 04 03 40.8 +0.5**
CD2 pP **pP 04 03 51.6 +0.1**
CD2 sP **sP 04 03 55.5 0.0**
CD2 PP **PP 04 07 31.6 +3.1**
CD2 SKS **SKSac 04 14 12.0 -1.2**
CD2 S **S 04 14 48.3 -2.1**
CD2 sS **sS 04 15 06.4 -2.5**
CD2 SS **SS 04 21 16.2 +2.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
A19A Klindworth Far 94.58 38 P **P 04 03 41.0 +0.5**
baz=95
F23A Volborg 94.84 42 P **P 04 03 41.4 -0.3**
baz=95
H24A Dirks Ranch, A 94.88 43 P **P 04 03 41.1 -0.8**
baz=95
RSSD Black Hills 94.89 43 *e*P **P 04 03 41.2 -0.9**
RSSD Black Hills 94.89 43 *e*P **P 04 03 41.2 -0.9**
I25A Rochford 95.03 44 P **P 04 03 42.7 -0.1**

baz=95
J26A Sides Ranch, S 95.09 44 P **P** 04 03 43.3 +0.3
baz=95
LVC Limon Verde 95.17 118 *e*P **P** 04 03 44.0 -0.1
comp=Z,7.4nm,0.8s
H25A Fruitdale 95.40 43 P **P** 04 03 44.7 +0.3
baz=96
LZH Lanzhou 96.64 307 *e*P **P** 04 03 51.7 +1.4
LZH pP **pP** 04 04 01.8 +0.4
LZH sP **sP** 04 04 05.0 -0.4
LZH PMZ
comp=Z,12nm,1.0s
LPAZ La Paz 98.86 112 *e*P P 04 03 56.8 -4.5
LPAZ pmax pmax
comp=Z,2.0nm,1.1s
LPAZ La Paz 98.86 112 LR LR 04 40 34.9
comp=Z,51nm,18.5s,baz=191,slow=30
LPAZ La Paz 98.86 112 *e*P P 04 03 56.8 -4.5
comp=Z,2.1nm,1.1s
YKA Yellowknife Ar 99.49 24 P **Pdif** **04 04 02.0 -0.1**
comp=Z,0.4nm,0.8s,baz=238,slow=4.1,SNR=10
SONM Songino Array 99.99 318 P **Pdif** **04 04 06.2 +1.3**
comp=Z,0.5nm,1.0s,baz=123,slow=5.3,SNR=2.9
SONM LR LR 04 44 55.0
comp=Z,60nm,21.1s,baz=138,slow=33
GTA Gaotai 100.91 308 *e*P **Pdif** **04 04 11.4 +2.1**
GTA pP pP 04 04 22.0 +1.4
GTA sP sP 04 04 25.8 +1.3
SAML Samuel 106.62 108 *e*PKP **PKiKP** **04 08 44.8 -1.0**
WMQ Urumqi 110.92 310 PKP **PKiKP** **04 08 53.3 +0.3**
WMQ sPKP 04 09 07.7
WMQ PP **PP** **04 09 36.5 +4.8**
WMQ PKS **PKSdf** **04 12 29.0 -0.6**
WMQ SKS **SKSdf** **04 16 00.5 -2.0**
WMQ SKKS **SKKSac** **04 16 27.0 -4.4**
WMQ SS **SS** **04 25 02.5 +1.9**
WMQ PPMZ
comp=Z,160nm,5.4s
WMQ LN
comp=Z,200nm,22.7s
WMQ LE
comp=Z,360nm,20.5s
WMQ LZ
comp=Z,210nm,18.0s
MKAR Makanchi Array 115.27 312 PKIKP **PKPdf** **04 09 00.0 -1.2**
MKAR Makanchi Array 115.27 312 PKP **PKPdf** **04 08 60.0 -1.2**
comp=Z,0.7nm,0.8s,baz=73,slow=2.5,SNR=6.7
KURK Kurchatov 118.18 316 *e*PKIKP **PKPdf** **04 09 04.6 -2.0**
KURK Kurchatov 118.18 316 *e*PKPdf **PKPdf** **04 09 04.6 -2.0**
KSH Kashi 118.64 303 *e*PKP **PKPdf** **04 09 10.6 +2.6**
KSH sPKP 04 09 24.9
KSH PKS **PKSdf** **04 12 45.1 +0.3**
KSH SKS **SKSdf** **04 16 17.4 -0.2**
KSH PPMZ
comp=Z,140nm,4.9s
KSH LN
comp=Z,110nm,6.0s
KSH LE
comp=Z,90nm,5.1s
KSH LZ
comp=Z,200nm,5.0s
TKM2 Tokmak 2 119.41 307 *e*PKIKP **PKPdf** **04 09 08.0 -1.5**
TKM2 Tokmak 2 119.41 307 *e*PKPdf **PKPdf** **04 09 08.0 -1.5**
AAK Ala-Archa 120.18 306 ⇓*i*PKIKP **PKPdf** **04 09 10.4 -0.6**
AAK Ala-Archa 120.18 306 *e*PKPdf **PKPdf** **04 09 10.6 -0.4**
EKS2 Erkin-Say 120.71 306 *e*PKIKP **PKPdf** **04 09 11.5 -0.5**
EKS2 Erkin-Say 120.71 306 *e*PKPdf **PKPdf** **04 09 11.4 -0.5**
KKAR Karatay Array 123.14 307 *e*PKIKP **PKPdf** **04 09 15.5 -1.0**
KKAR Karatay Array 123.14 307 *e*PKPdf **PKPdf** **04 09 15.5 -1.0**
BOSA Boshof 123.25 202 *e*PKIKP **PKPdf** **04 09 16.9 -0.4**
BOSA Boshof 123.25 202 *e*PKPdf **PKPdf** **04 09 16.9 -0.4**
KBL Kabul 123.35 296 *e*PKIKP **PKPdf** **04 09 16.3 -1.1**
KBL Kabul 123.35 296 *e*PKPdf **PKPdf** **04 09 16.3 -1.1**
LBTB Lobatse 126.40 205 *e*PKIKP **PKPdf** **04 09 24.0 +0.6**
LBTB Lobatse 126.40 205 *e*PKPdf **PKPdf** **04 09 24.0 +0.6**
ARU Arti 129.56 324 *i* PKIKP **PKPdf** **04 09 28.3 +0.1**
ARU 04 11 37.9
ARU Arti 129.56 324 *e*PKPdf **PKPdf** **04 09 28.6 +0.3**
ABKAR Akbulak array 130.24 315 *e*PKPdf **PKPdf** **04 09 28.8 -1.0**
RCBR Riachuelo 130.83 123 *e*PKPdf **PKPdf** **04 09 30.9 -1.2**
LSZ Lusaka 133.82 213 *e*PKIKP **PKPdf** **04 09 36.5 -1.3**
LSZ Lusaka 133.82 213 *e*PKPdf **PKPdf** **04 09 36.5 -1.3**
TSUM Tsumeb 134.47 198 *e*PKPdf **PKPdf** **04 09 38.1 -0.8**
FINES FINESS Array B 140.19 344 PKP **PKPdf** **04 09 49.0 +1.1**
comp=Z,1.1nm,0.8s,baz=48,slow=2.1,SNR=4.8
VSR Storozhevoye 142.13 324 ⇑*i*PKIKP **PKPdf** **04 09 54.0 +2.3**
ASCN Ascension 143.08 149 *e*PKPdf **PKPdf** **04 09 54.5 -0.1**
NOA NORSAR Array B 143.24 354 PKP **PKPdf** **04 09 54.5 +1.0**
comp=Z,1.2nm,1.0s,baz=16,slow=4.5,SNR=3.6
IDID Didziasalis 145.01 337 *e*P **PKPbc** **04 09 55.9 -0.2**
IDID AMB AMB 04 09 56.5
comp=Z,8.5nm,1.1s
ISAL Salakas 145.02 338 *e*P **PKPbc** **04 09 56.1 +0.1**
ISAL AMB AMB 04 09 58.0
comp=Z,7.3nm,1.7s
IIGN Ignalina 145.17 338 *e*P **PKPbc** **04 09 56.5 0.0**
IIGN AMB AMB 04 09 57.1
comp=Z,10nm,1.3s
NACGM Naroch 145.32 337 *e* **PKPbc** **04 09 55.0 -2.0**
SUW Suwalki 147.28 339 *e*PKP2 **PKPbc** **04 10 02.4 -0.5**
SUW Suwalki 147.28 339 *e*PKP **PKPbc** **04 10 02.3 -0.6**
SUW Suwalki 147.28 339 *e*PKPbc **PKPbc** **04 10 03.1 +0.2**
AKASG Malin Array Be 147.44 330 PKPbc **PKPdf** **04 10 02.3 +1.4**
comp=Z,4.4nm,0.7s,baz=39,slow=3.6,SNR=19
KIEV Kiev 147.45 330 *e*PKP2 **PKPdf** **04 10 02.1 +1.2**
KIEV Kiev 147.45 330 *e*PKPdf **PKPdf** **04 10 02.1 +1.2**
MALT Malatya 147.74 303 ⇑*i*PKP2 **PKPbc** **04 10 05.3 +0.4**
MALT Malatya 147.74 303 ⇑*i*P **PKPbc** **04 10 05.3 +0.4**
LVV L'vov 150.35 333 *e*PKIKP **PKPbc** **04 10 11.0 +0.1**
BRTR Keskin Array B 150.83 308 PKPbc **PKPbc** **04 10 11.8 -0.8**
comp=Z,4.5nm,1.0s,baz=116,slow=3.4,SNR=18
KWP Kalwaria Pacla 151.03 334 *e*PKIKP **PKPbc** **04 10 12.1 -0.5**
KWP *e* 04 10 21.7
KWP Kalwaria Pacla 151.03 334 *e*PKP **PKPbc** **04 10 12.7 +0.2**
KWP Kalwaria Pacla 151.03 334 ⇑*i*P **PKPbc** **04 10 12.8 +0.2**
KWP Kalwaria Pacla 151.03 334 *e*PKPbc **PKPbc** **04 10 12.1 -0.5**
KWP *e*PKPab **PKPab** **04 10 21.7 +1.6**
ANTO Ankara 151.38 309 *e*PKIKP **PKPbc** **04 10 13.9 +0.1**
ANTO *e* 04 10 21.8
ANTO Ankara 151.38 309 *e*PKPbc **PKPbc** **04 10 13.9 +0.1**
ANTO *e*PKPab **PKPab** **04 10 21.8 -0.2**
BURAR Bucovina Array 151.48 329 ⇑PKIKP **PKPbc** **04 10 14.8 +1.0**
BURAR Bucovina Array 151.48 329 ⇑*i*P **PKPbc** **04 10 14.8 +1.0**
TESR Tescani 151.55 326 ⇑*i*P **PKPbc** **04 10 14.3 +0.5**
OJC Ojcow 151.61 338 *e*PKIKP **PKPbc** **04 10 14.2 +0.4**
OJC Ojcow 151.61 338 *e*PKP **PKPbc** **04 10 13.6 -0.2**
CFR Carcaliu 151.62 322 ⇑PKIKP **PKPbc** **04 10 12.9 -1.1**
CFR Carcaliu 151.62 322 ⇑*i*P **PKPbc** **04 10 12.9 -1.1**
KOLS Kolonicke sedl 151.76 334 *e*PKIKP **PKPbc** **04 10 14.8 +0.6**
KOLS *e* 04 10 25.5
KOLS Kolonicke sedl 151.76 334 *e*PKP **PKPbc** **04 10 14.8 +0.6**
KOLS *e* 04 10 25.5
STHS Stebnicka Huta 151.76 336 *e*PKIKP **PKPbc** **04 10 15.0 +0.7**
STHS *e* 04 10 24.8
STHS Stebnicka Huta 151.76 336 *e*PKP **PKPbc** **04 10 15.0 +0.7**
STHS *e* 04 10 24.8
TIRR Tirgusor 151.90 321 ⇓PKIKP **PKPbc** **04 10 14.4 -0.3**
TIRR Tirgusor 151.90 321 ⇓*i*P **PKPbc** **04 10 14.4 -0.3**
VRI Vrincioaia 151.94 325 ⇑PKIKP **PKPbc** **04 10 15.1 +0.3**
VRI Vrincioaia 151.94 325 ⇑*i*P **PKPbc** **04 10 15.1 +0.3**
UZH Uzhgorod 151.99 334 *e*PKIKP **PKPbc** **04 10 13.9 -0.8**
UZH *e* 04 10 21.9
TLB Topalu 152.04 321 ⇑PKIKP **PKPbc** **04 10 14.8 -0.2**
TLB Topalu 152.04 321 ⇑*i*P **PKPbc** **04 10 14.8 -0.2**
CRVS Cervenica-Dubn 152.10 335 *e*PKP **PKPab** **04 10 25.5 +0.9**
NIE Niedzica 152.10 337 *e*PKIKP **PKPbc** **04 10 16.0 +0.9**
NIE Niedzica 152.10 337 *e*PKP **PKPbc** **04 10 15.5 +0.4**
KSP Ksiaz 152.11 343 *e*PKIKP **PKPbc** **04 10 15.2 +0.2**
KSP Ksiaz 152.11 343 *e*PKP **PKPbc** **04 10 15.2 +0.2**
TRPA Tarpa 152.28 333 ⇑*i*P **PKPdf** **04 10 10.3 +1.7**
CLL Collm 152.44 348 ⇑*i*PKIKP **PKPbc** **04 10 15.6 -0.1**
CLL *i* 04 10 25.9
CLL pmax pmax
comp=Z,15nm,1.3s
CLL Collm 152.44 348 ⇑*i*PKPbc **PKPbc** **04 10 15.6 -0.1**
comp=Z,15nm,1.3s
CLL *i* PKPab **PKPab** **04 10 25.9 0.0**
comp=Z,10.0nm,1.1s
CLL *i* pPKPab **pPKPab** **04 10 35.2 -1.9**
OKC Ostrava-Krasne 152.47 340 *e*PKIKP **PKPbc** **04 10 17.0 +1.2**
OKC Ostrava-Krasne 152.47 340 ⇑*e*PKP **PKPbc** **04 10 17.0 +1.2**
UPC Upice 152.49 343 *e*PKIKP **PKPbc** **04 10 15.7 -0.1**
UPC *e* 04 10 26.8
UPC Upice 152.49 343 ⇑*e*PKP **PKPbc** **04 10 15.7 -0.1**
UPC *e*PKPAB **PKPab** **04 10 26.8 +0.6**
DPC Dobruska-Polom 152.55 343 *e*PKIKP **PKPbc** **04 10 16.7 +0.7**
DPC *e* 04 10 26.7
DPC Dobruska-Polom 152.55 343 ⇑*e*PKP **PKPbc** **04 10 16.7 +0.7**
DPC *e*PKPAB **PKPab** **04 10 26.7 +0.2**
CSS Prodhromos 152.55 299 *e*PKPbc **PKPbc** **04 10 15.5 -1.0**
CSS *e*PKPab **PKPab** **04 10 27.7 +0.6**
DOPR Dopca 152.56 326 ⇑*i*P **PKPdf** **04 10 12.0 +2.8**
MLR Muntele Rosu 152.60 325 ⇑PKIKP **PKPbc** **04 10 16.8 +0.4**
MLR Muntele Rosu 152.60 325 ⇑*i*P **PKPbc** **04 10 16.8 +0.4**
BRG Berggiesshubel 152.65 346 *e*PKP **PKPdf** **04 10 08.8 -0.3**
comp=Z,9.0nm,1.5s
BRG *e* 04 10 16.0
comp=Z,12nm,1.4s
BRG *e* 04 10 26.0
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 152.65 346 *e*PKIKP **PKPdf** **04 10 08.8 -0.3**
BRG *e* 04 10 16.0
BRG *e* 04 10 26.0
BRG pmax pmax
comp=Z,9.0nm,1.5s
MORC Moravsky Berou 152.71 341 ⇑PKIKP **PKPbc** **04 10 17.2 +0.8**
MORC Moravsky Berou 152.71 341 ⇑*i*P **PKPbc** **04 10 17.2 +0.8**
MORC Moravsky Berou 152.71 341 *e*PKPdf **PKPdf** **04 10 09.5 +0.2**
MORC *e*PKPbc **PKiKP** **04 10 16.8 +0.1**
MORC *e*PKPab **PKPab** **04 10 27.5 +0.4**
KECS Kecovo 152.82 335 *e*PKIKP **PKPbc** **04 10 16.8 +0.2**
KECS *e* 04 10 28.2
KECS Kecovo 152.82 335 *e*PKP **PKPbc** **04 10 16.8 +0.2**
KECS *e* 04 10 28.2
PVCC Panska Ves 152.83 345 *e*PKIKP **PKPdf** **04 10 12.0 +2.6**
PVCC Panska Ves 152.83 345 *e*PKPDF **PKPdf** **04 10 12.0 +2.6**
VOIR 153.10 326 ⇑*i*P PKPbc 04 10 23.2 +5.7
PRU Pruhonice 153.34 345 *e*PKIKP **PKPbc** **04 10 17.7 0.0**
PRU Pruhonice 153.34 345 ⇑*e*PKP **PKPbc** **04 10 17.7 0.0**
PRU AMS AMS 05 22 20.0
VRAC Vranov 153.41 341 ⇑PKP2 **PKPab** **04 10 30.3 +0.2**
VRAC Vranov 153.41 341 ⇑*i*P **PKPab** **04 10 30.3 +0.2**
PSZ Piszkesteto 153.51 335 ⇓PKP2 **PKPab** **04 10 30.2 -0.4**
PSZ Piszkesteto 153.51 335 ⇓*i*P **PKPab** **04 10 30.2 -0.4**
PSZ Piszkesteto 153.51 335 *e*PKPdf **PKPdf** **04 10 10.5 -0.1**
PSZ *e*PKPab **PKPab** **04 10 31.5 +0.9**
GRF Grafenberg Arr 154.31 349 *e*PKP **PKPab** **04 10 34.1 +0.2**
KHC Kasperske Hory 154.37 345 *e*PKIKP **PKPbc** **04 10 19.1 -0.9**
KHC *e* 04 10 34.2
KHC Kasperske Hory 154.37 345 ⇑*e*PKP **PKPbc** **04 10 19.1 -0.9**
KHC *e*PKPAB **PKPab** **04 10 34.2 0.0**
GERES GERESS Array B 154.61 345 PKPbc **PKPbc** **04 10 22.0 +1.4**
comp=Z,0.5nm,0.8s,baz=318,slow=5.7,SNR=3.7
GERES PKPab **PKPab** **04 10 35.6 +0.3**
comp=Z,0.7nm,0.8s,baz=60,slow=3.2,SNR=5.5
CONA Conrad Observa 154.87 341 ⇓*i*PKPab **PKPab** **04 10 37.8 +1.4**
comp=Z,16nm,1.7s
WLF Walferdange 154.92 357 *e*PKP2 **PKPab** **04 10 34.3 -2.2**
WLF Walferdange 154.92 357 *e*PKPab **PKPab** **04 10 34.2 -2.2**
VTS Vitosha 156.01 323 ⇑PKP2 **PKPab** **04 10 43.0 +1.4**
VTS Vitosha 156.01 323 ⇑*i*P **PKPab** **04 10 43.0 +1.4**
SOKA Soboth 156.24 341 ⇑*i*PKPab **PKPab** **04 10 42.8 +0.5**
comp=Z,10nm,1.2s
MMB Musomiste 156.38 321 ⇑PKP2 **PKPab** **04 10 44.1 +1.0**
MMB Musomiste 156.38 321 ⇑*i*P **PKPab** **04 10 44.1 +1.0**
ABTA Abfaltersbach 156.85 345 ⇑*i*PKPab **PKPab** **04 10 44.9 0.0**
comp=Z,9.2nm,1.1s
CRES Cresnjev 156.87 339 *i* PKPbc **PKPab** **04 10 45.1 +0.2**
VISS Visnje 157.08 340 *i* PKPbc **PKPab** **04 10 46.3 +0.5**
BOJS Bojanci 157.22 339 *i* PKPbc **PKPab** **04 10 46.6 +0.2**
DBIC Dimbokro 160.29 153 *e*PKP2 PKPab 04 10 55.4 -5.1
DBIC Dimbokro 160.29 153 *e*PKPab PKPab 04 10 55.4 -5.1
AQU L'Aquila 160.63 338 *e*PKIKP **PKPdf** **04 10 18.9 -0.9**
AQU L'Aquila 160.63 338 *e*PKPdf **PKPdf** **04 10 18.9 -0.9**
TIP Timpagrande 161.86 326 *e*PKPdf **PKPdf** **04 10 20.8 -0.4**
ESDC Sonseca Array 163.57 22 PKP **PKPdf** **04 10 23.1 +0.2**
comp=Z,1.8nm,1.0s,baz=336,slow=2.8,SNR=7.0
TORD Torodi Ar. Bea 168.41 169 PKP **PKPdf** **04 10 25.6 -1.7**
comp=Z,1.7nm,1.1s,baz=202,slow=0.4,SNR=6.6
TORD PKPab **PKPab** **04 11 36.2 0.0**
comp=Z,1.7nm,0.8s,baz=187,slow=4.4,SNR=7.1
MDT Midelt 168.91 41 PKPab **PKPab** **04 11 38.3 +0.1**
comp=Z,2.5nm,0.9s,baz=350,slow=5.3,SNR=3.8
TAM Tamanrasset 177.67 220 *e*PKIKP **PKPdf** **04 10 30.7 -0.3**
TAM Tamanrasset 177.67 220 *e*PKPdf **PKPdf** **04 10 30.7 -0.3**

CSEM ***02*** *03:53:21.4±0.6,50.17N×19.09E, h2km, Error ellipse: s-maj=13.2km s-min=5.5km az=13.0*
PRU 02 03:53:21.9,50.16N×19.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.14**	**334**	*e*Pg	Pg	03 53 27.9	+3.2
CHZP				*e*Sg	Sg	03 53 31.3	+4.6
OJC	**Ojcow**	**0.46**	**82**	*e*Pg	Pg	03 53 29.5	-1.3
OJC				*e*Sg	Sg	03 53 35.1	-1.6
OKC	**Ostrava-Krasne**	**0.69**	**242**	*e*PG	Pg	03 53 35.0	-0.1
OKC				*e*SG	Sg	03 53 44.1	0.0
comp=Z,5.6nm,0.4s							
OKC	**Ostrava-Krasne**	**0.69**	**242**	Pg	Pg	03 53 35.0	-0.1
OKC				Sg	Sg	03 53 44.1	0.0
5.6nm,0.4s							
LANS	**Liptovska Anna**	**1.04**	**166**	*e*Pg	Pg	03 53 40.9	-1.0
LANS				*e*Sg	Sg	03 53 54.2	-1.3
MORC	**Moravsky Berou**	**1.07**	**250**	*e*Pg	Pb	03 53 43.0	-0.4
MORC				*e*Sg	Sb	03 53 58.0	0.0
NIE	**Niedzica**	**1.09**	**133**	*e*Pg	Pg	03 53 41.4	-1.4
NIE				*e*Sg	Sg	03 53 56.5	-0.4
STHS	**Stebnicka Huta**	**1.58**	**117**	*e*Pn	Pn	03 53 50.8	-0.4
STHS				*e*Sn	Sg	03 54 13.8	+1.0
STHS	**Stebnicka Huta**	**1.58**	**117**	*e*PN	Pn	03 53 50.8	-0.4
STHS				*e*SN	Sg	03 54 13.8	+1.0
DPC	**Dobruska-Polom**	**1.79**	**277**	*e*PG	Pn	03 53 54.4	+0.3
DPC				*e*SG	Sb	03 54 18.7	+0.1
DPC	**Dobruska-Polom**	**1.79**	**277**	Pg	Pn	03 53 54.4	+0.3
DPC				Sg	Sb	03 54 18.7	+0.1
VRAC	**Vranov**	**1.83**	**243**	*e*Sg	Sn	03 54 18.9	+0.4
PRU	**Pruhonice**	**2.94**	**268**	*e*SG	Sg	03 54 56.1	-0.1
comp=Z,2.0nm,0.4s							
PRU	**Pruhonice**	**2.94**	**268**	Sg	Sg	03 54 56.1	-0.1
2.0nm,0.4s							
KHC	**Kasperske Hory**	**3.73**	**256**	*e*SG	Sg	03 55 21.3	-0.5
KHC	**Kasperske Hory**	**3.73**	**256**	Sg	Sg	03 55 21.3	-0.5

ISCJB ***02*** *04:00:08.8±0.5,37.19S±0.04×74.08W±0.06, h10km, mb4.2/18, MS3.9/4, Error ellipse: s-maj=6.8km s-min=5.6km az=26.3*
IDC ***02*** *04:00:09.3±0.9,37.14S×73.66W, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.1/31, mbtmp4.2/12, ML3.2/3, MS3.5/6, Ms1 3.5/6, ms1mx3.3/25, Error ellipse: s-maj=29.2km s-min=17.5km az=90.0*
GUC ***02*** *04:00:11.2±0.5,37.17S×73.90W, h8km±3km, ML4.0*
NEIC ***02*** *04:00:13.5±3.1,37.12S×73.70W, h29km±21km, mb4.4/12, Error ellipse: s-maj=15.0km s-min=7.3km az=87.0*
ISC 02 04:00:10.4±0.6, 37.14S±0.05×73.89W±0.07, h10km, n40, σ1s90/43, mb4.2/18, MS3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.69**	**65**	*i* P	**Pb**	**04 00 25.5**	**+1.0**
CCSP				*i* S	**Sn**	**04 00 36.2**	**-0.7**
CCSP				AML	AML	04 00 40.5	
comp=E,21μm,0.5s							
AGCH	**Angol**	**1.16**	**126**	*i* S	**Sn**	**04 00 49.4**	**+0.8**
COCH	**Cobquecura**	**1.34**	**42**	*i* P	**Pg**	**04 00 36.3**	**+0.2**
COCH				*i* S	**Sg**	**04 00 55.2**	**+1.7**
PSCH	**Puerto Saavedr**	**1.70**	**167**	*i* P	**Pn**	**04 00 41.1**	**+1.0**
TALC	**Talca**	**2.52**	**47**	*i* P	**Pb**	**04 00 54.8**	**-0.9**
TALC				*i* S	**Sb**	**04 01 27.7**	**+1.0**
PLCA	**Paso Flores**	**4.43**	**145**	Pn	**Pn**	**04 01 18.2**	**+0.5**
comp=E,0.5nm,0.3s,baz=312,slow=14,SNR=18							
PLCA				LR	LR	04 02 25.7	
comp=E,128nm,21.6s,baz=312,slow=32							
PLCA				Lg	Lg	04 02 30.6	
comp=E,3.4nm,0.3s,baz=319,slow=5.5,SNR=4.7							
PLCA	**Paso Flores**	**4.43**	**145**	*e*Pn	**Pn**	**04 01 18.0**	**+0.3**
PLCA				*e*Sn	**Sn**	**04 02 07.3**	**-2.2**
PLCA				Lg	Lg	04 02 30.6	
CFAA	**Coronel Fontan**	**7.23**	**42**	Pn	**Pn**	**04 01 55.1**	**-1.1**
comp=E,0.1nm,0.3s,baz=220,slow=15,SNR=12							
CFAA				Sn	**Sn**	**04 03 16.8**	**-1.6**
baz=330,slow=20,SNR=3.2							
CFAA				Lg	Lg	04 03 39.9	
comp=E,0.1nm,0.3s,baz=87,slow=18,SNR=4.3							
CFAA				LR	LR	04 05 09.7	
comp=E,81nm,21.7s,baz=222,slow=42							
TRQA Tornquist 9.50 99 *e*Pn **Pn** **04 02 27.8 +0.6**							
comp=E,30nm,1.1s							
TRQA *e*Lg Lg 04 05 18.7							
USHA Ushuaia 18.09 170 P **Pn** **04 04 21.1 -0.5**							
comp=E,0.1nm,0.3s,baz=329,slow=8.8,SNR=1.8							
LPAZ La Paz 21.39 15 P **P** **04 05 00.2 +1.4**							
comp=E,9.4nm,0.8s,baz=196,slow=5.6,SNR=23							
LPAZ La Paz 21.39 15 *e*P **P** **04 04 59.6 +0.8**							
comp=E,9.0nm,0.8s							
SIV San Ignacio 23.93 32 P **P** **04 05 24.0 -0.7**							
comp=E,5.9nm,0.7s,baz=227,slow=13,SNR=9.4							
SIV LR LR 04 16 39.8							
comp=E,380nm,19.1s,baz=222,slow=42							
PMSA Palmer Station 28.29 171 LR LR 04 15 44.8							
comp=E,152nm,18.6s,baz=358,slow=33							
SAML Samuel 29.69 22 *e*P **P** **04 06 15.8 -0.8**							
comp=E,3.6nm,1.1s							
BDFB Brasilia 31.37 54 P **P** **04 06 30.1 -1.4**							
comp=E,5.1nm,0.8s,baz=235,slow=9.3,SNR=7.0							
OTAV Otavalo 37.43 352 *e*P **P** **04 07 24.7 +0.4**							
comp=E,2.8nm,1.0s							
PTGA Pitinga 38.45 23 P **P** **04 07 31.4 -1.0**							
comp=E,1.3nm,0.3s,baz=207,slow=9.0,SNR=4.5							
VNA3 Neumayer Olymp 47.06 157 P **P** **04 08 42.5 +0.8**							
VNA2 Neumayer--Watz 47.74 156 P **P** **04 08 48.0 +1.0**							
baz=293,slow=9.0							
SNAA Sanae 49.28 157 *e*P **P** **04 08 58.6 -0.3**							
comp=E,7.6nm,1.1s							
QSPA South Pole Qui 53.10 180 P **P** **04 09 28.1 +0.3**							
comp=E,3.0nm,0.9s,baz=134,slow=5.3,SNR=6.7							
QSPA South Pole Qui 53.10 180 *e*P **P** **04 09 28.7 +0.9**							
comp=E,55nm,1.9s							
PPT Papeete 68.36 264 LR LR 04 32 48.5							
comp=E,72nm,18.6s,baz=90,slow=29							
TXAR Lajitas Array 71.78 333 P **P** **04 11 33.7 +0.7**							
comp=E,0.9nm,0.8s,baz=159,slow=8.5,SNR=11							
WVT Waverly 74.04 348 *e*P **P** **04 11 46.1 -0.1**							
comp=E,1.9nm,0.7s							
DBIC Dimbokro 77.60 72 P **P** **04 12 07.3 +0.3**							
comp=E,5.8nm,0.9s,baz=187,slow=7.9,SNR=4.4							
DBIC Dimbokro 77.60 72 *e*P **P** **04 12 06.2 -0.8**							
comp=E,11nm,1.1s							
ANMO Albuquerque 77.85 333 *e*P **P** **04 12 09.6 +1.4**							
comp=E,5.1nm,1.3s							
BOSA Boshof 79.94 118 P **P** **04 12 19.7 -0.3**							
comp=E,3.1nm,0.9s,baz=231,slow=8.3,SNR=3.8							
BOSA Boshof 79.94 118 *e*P **P** **04 12 19.6 -0.4**							
comp=E,4.5nm,0.9s							
MVCO Mesa Verde 80.61 333 *e*P **P** **04 12 23.0 -0.3**							
comp=E,2.1nm,0.8s							
ISCO Idaho Springs 81.93 336 *e*P **P** **04 12 30.6 +0.3**							
comp=E,1.2nm,0.7s							
LBTB Lobatse 82.34 115 *e*P **P** **04 12 32.4 -0.4**							
comp=E,5.1nm,0.7s							
PDAR Pinedale Array 85.91 335 P **P** **04 12 52.9 +2.4**							
comp=E,0.5nm,1.0s,baz=157,slow=4.9,SNR=3.5							
TORD Torodi Ar. Bea 86.68 71 P **P** **04 12 54.3 -0.3**							
comp=E,0.9nm,0.6s,baz=211,slow=4.2,SNR=8.1							
SCHQ Schefferville 91.80 4 LR LR 04 55 45.8							
comp=E,62nm,19.1s,baz=49,slow=36							
TIXI Tiksi 143.48 348 *e*PKPdf **PKPdf** **04 19 45.0 +0.9**							
ZALV Zalesovo Beam 157.67 34 PKP **PKPdf** **04 20 04.8 -1.6**							
comp=E,0.7nm,0.7s,baz=245,slow=3.0,SNR=2.9							
ZALV PKPab **PKPab** **04 20 38.5 -0.2**							
comp=E,1.1nm,0.7s,baz=307,slow=5.2,SNR=3.7							
MKAR Makanchi Array 159.90 54 PKPab **PKPab** **04 20 48.2 -0.5**							
comp=E,1.1nm,0.8s,baz=307,slow=3.2,SNR=7.2							

ISCJB ***02*** *04:07:35.8±1.0,9.28S±0.06×112.80E±0.04, h52km±9km, mb4.2/17, Error ellipse: s-maj=8.7km s-min=4.3km az=9.5*
NEIC ***02*** *04:07:36.1±0.8,9.16S×112.81E, h52km±8km, mb4.4/5, Error ellipse: s-maj=12.4km s-min=7.8km az=199.0*
DJA ***02*** *04:07:36.7±0.8,9°S±3°×11°3E±°, h29km±9km, M4.8/31, mb5.0/8, mB5.4/6, MLv4.6/31, Mw(mB)4.9/6*
IDC ***02*** *04:07:38.1±2.8,8.88S×112.97E, h63km±24km, mb4.0/12, mb1 4.2/14, mb1mx4.0/34, mbtmp4.3/14, ML4.6/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/32, Error ellipse: s-maj=27.9km s-min=14.3km az=46.0*
ISC 02 04:07:35.8±1.0, 9.28S±0.06×112.80E±0.04, h52km±9km, n62, σ1s44/69, mb4.4/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.18**	**32**	P	**Pn**	**04 07 55.4**	**-0.7**
GMJI				S	**Sn**	**04 08 09.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**1.56**	**59**	P	**Pn**	**04 08 01.2**	**+0.1**
JAGI				S	**Sn**	**04 08 19.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.56**	**59**	*e*Pn	**Pn**	**04 08 00.9**	**-0.2**
JAGI				*e*Sn	**Sn**	**04 08 18.7**	**-1.5**
PWJI	**Pagerwojo**	**1.59**	**322**	P	**Pn**	**04 08 01.5**	**-0.1**
PWJI				S	**Sn**	**04 08 19.7**	**-1.4**
BLJI	**Banyuglugur**	**1.71**	**27**	P	**Pn**	**04 08 04.4**	**+1.1**
PCJI	**Pacitan**	**1.94**	**304**	P	**Pn**	**04 08 06.3**	**0.0**
ABJI	**Asem Bagus**	**2.04**	**44**	P	**Pn**	**04 08 09.5**	**+1.7**
WOJI	**Wonogiri, Jawa**	**2.35**	**307**	P	**Pn**	**04 08 12.8**	**+0.9**
WOJI				S	**Sn**	**04 08 40.0**	**+0.4**
IGBI	**Denpasar**	**2.36**	**79**	P	**Pn**	**04 08 12.0**	**+0.5**
GRJI	**Gresik**	**2.37**	**352**	P	**Pn**	**04 08 14.0**	**+1.7**
DNP	**Denpasar**	**2.45**	**76**	P	**Pn**	**04 08 15.1**	**+1.7**
KMMI	**Kalianget**	**2.50**	**28**	P	**Pn**	**04 08 15.1**	**+1.1**
TBJI	**Tambak Boyo**	**2.62**	**339**	P	**Pn**	**04 08 18.3**	**+2.6**
UGM	**

	2.5nm,0.3s,baz=164,slow=8.1,SNR=7.3							
PMG	**Port Moresby**	**33.89**	**93**	*eP*	**P**	**04 14 14.4**	**+0.4**	
	4.7nm,1.1s							
SHL	**Shillong**	**40.18**	**330**	*ex*	**P**	**04 15 07.7**	**+0.3**	
MJAR	**Matsushiro Arr**	**51.46**	**26**	P	**P**	**04 16 33.7**	**-2.2**	
	2.2nm,0.6s,baz=205,slow=8.3,SNR=4.3							
USRK	**Ussuriysk Ar.**	**56.00**	**17**	P	**P**	**04 17 07.4**	**-1.5**	
	4.2nm,0.8s,baz=216,slow=4.6,SNR=6.5							
ULN	**Ulaanbaatar**	**57.12**	**355**	*eP*	**P**	**04 17 16.0**	**-1.1**	
	2.1nm,0.5s							
SONM	**Songino Array**	**57.15**	**355**	P	**P**	**04 17 16.3**	**-0.9**	
	1.9nm,0.6s,baz=176,slow=8.2,SNR=27							
SONM				PcP	**PcP**	**04 18 11.4**	**0.0**	
	0.7nm,0.5s,baz=176,slow=3.7,SNR=7.0							
MKAR	**Makanchi Array**	**62.10**	**337**	P	**P**	**04 17 50.0**	**-1.3**	
	1.2nm,0.5s,baz=144,slow=7.2,SNR=22							
ZALV	**Zalesovo Beam**	**67.29**	**343**	P	**P**	**04 18 22.9**	**-2.0**	
	1.9nm,0.4s,baz=159,slow=4.5,SNR=12							
VNDA	**Vanda**	**72.72**	**170**	*eP*	**P**	**04 18 59.4**	**+1.5**	
	0.7nm,0.8s							
ABKAR	**Akbulak array**	**74.37**	**327**	*eP*	**P**	**04 19 07.0**	**-1.0**	
	3.1nm,0.5s							
KBZ	**Khabaz**	**82.21**	**317**	P	**P**	**04 19 51.7**	**+0.3**	
	3.3nm,0.8s,baz=160,slow=4.2,SNR=10							
LSZ	**Lusaka**	**82.45**	**256**	*eP*	**P**	**04 19 55.2**	**+1.7**	
	2.2nm,0.8s							
BRTR	**Keskin Array B**	**87.64**	**311**	P	**P**	**04 20 19.0**	**-0.1**	
	3.0nm,0.8s,baz=128,slow=5.6,SNR=18							
AKASG	**Malin Array Be**	**93.06**	**321**	P	**P**	**04 20 42.2**	**-1.6**	
	0.4nm,0.5s,baz=83,slow=4.2,SNR=5.8							
FINES	**FINESS Array B**	**96.51**	**331**	P	**P**	**04 20 59.0**	**-0.3**	
	1.4nm,1.0s,baz=96,slow=8.7,SNR=3.3							
FINES				LR	LR	05 09 12.8		
	comp=Z,53nm,18.7s,baz=66,slow=38							
YKA	**Yellowknife Ar**	**116.88**	**23**	PKP	**PKPdf**	**04 26 14.4**	**+0.2**	
	0.2nm,0.6s,baz=310,slow=1.8,SNR=4.1							
WVT	**Waverly**	**147.34**	**32**	*e*PKPbc	**PKPbc**	**04 27 14.3**	**+0.2**	
BDFB	**Brasilia**	**148.79**	**218**	PKPbc	**PKPab**	**04 27 20.9**	**-1.5**	
	0.9nm,0.3s,baz=135,slow=2.9,SNR=4.1							
LPAZ	**La Paz**	**154.58**	**178**	PKP	**PKPdf**	**04 27 26.1**	**+1.9**	
	1.0nm,0.8s,baz=187,slow=8.3,SNR=4.4							

IDC ***02*** *04:14:26.1±2.1,0.°94N×126.°37E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.5/34,mbtmp3.8/3, Error ellipse: s-maj=193.9km s-min=24.6km az=65.0*

ISCJB ***02*** *04:14:31.6±0.8,0.°9N±0.°1×126.°26E±0.°04,h47km,mb3.8/3, Error ellipse: s-maj=17.7km s-min=5.9km az=2.2*

DJA ***02*** *04:14:31.5±1.0,1.°1N±8.°3×12.°6E±.°,h52km±16km,M4.0/8, mb4.2/3,mB4.6/1,MLv3.9/8,Mw(mB)3.8/1*

ISC 02 04:14:31.6±1.8,1.°1N±0.°2×126.°30E±0.°06,h47km,n12, σ1§63/14,mb3.9/3,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**108**	P	**Pn**	**04 14 51.2**	**+0.2**
TNTI				S	**Sn**	**04 15 06.7**	**+1.4**
LBMI	**Labuha**	**2.12**	**146**	P	**Pn**	**04 15 04.1**	**-0.6**
LBMI				S	**Sn**	**04 15 33.0**	**+3.1**
KMSI	**Cibinong**	**2.38**	**257**	P	**Pn**	**04 15 07.1**	**-1.1**
KMSI				S	**Sn**	**04 15 36.6**	**+0.4**
GTOI	**Gorontalo**	**3.32**	**262**	P	**Pn**	**04 15 22.4**	**+1.3**
LUWI	**Luwuk**	**4.13**	**239**	P	**Pn**	**04 15 33.7**	**+1.5**
MRSI	**Marisa**	**4.41**	**262**	P	**Pn**	**04 15 37.0**	**+1.0**
APSI	**Ampana**	**5.07**	**246**	P	**Pn**	**04 15 45.2**	**+0.1**
	59nm,1.1s,710nm0.2nm						
SPSI	**Sidrap Palu**	**8.26**	**232**	P	**Pn**	**04 16 28.4**	**-0.4**
	11nm,0.7s						
BKSI	**Bulukumba**	**8.89**	**224**	P	**Pn**	**04 16 37.2**	**-0.4**
WRA	**Warramunga Arr**	**22.37**	**160**	P	**P**	**04 19 22.8**	**-3.2**
	3.4nm,0.7s,baz=338,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**25.73**	**164**	P	**P**	**04 19 57.5**	**-0.4**
	0.5nm,0.3s,baz=344,slow=10.0,SNR=15						
MKAR	**Makanchi Array**	**59.45**	**326**	P	P	04 24 32.1	+2.4
	0.4nm,0.4s,baz=120,slow=8.2,SNR=9.3						

GUC 02 04:23:16.4±0.5,34.°07S×72.°30W,h44km±8km,ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.29**	**137**	*i* P	Pn	04 23 38.8	+0.9
NICH				*i* S	Sn	04 23 55.8	+1.7
NICH				AML	AML	04 24 02.1	
	comp=E,6μm,0.7s						
CHCH	**Chadas Angostu**	**1.38**	**85**	*i* P	Pn	04 23 39.9	+0.6
CACH	**El Canelo**	**1.42**	**93**	*i* P	Pn	04 23 41.1	+1.2
TALC	**Talca**	**1.44**	**158**	*i* P	Pn	04 23 41.1	+1.1
TALC				*i* S	Sn	04 23 59.3	+1.6
ROCH	**El Roble**	**1.54**	**45**	*i* P	Pn	04 23 41.7	+0.1
ROCH				*i* S	Sn	04 24 02.3	+1.7
ROCH				AML	AML	04 24 16.2	
	comp=N,6μm,0.5s						
CLCH	**Cerro Calan**	**1.62**	**66**	*i* P	Pn	04 23 43.4	+0.8
CLCH				*i* P	Pn	04 23 43.6	+1.1
CLCH				*i* S	Sn	04 24 04.0	+1.7
CLCH				*i* S	Sn	04 24 04.3	+2.0
PEL	**Peldehue**	**1.63**	**56**	*i* P	Pn	04 23 43.7	+0.9
PEL				*i* S	Sn	04 24 04.4	+1.8
SJCH	**San Jose de Ma**	**1.68**	**76**	*i* P	Pn	04 23 43.5	+0.1
SJCH				*i* S	Sn	04 24 05.3	+1.5
CCSP	**San Pedro de C**	**2.85**	**193**	AML	AML	04 23 45.2	
	comp=N,1μm,0.1s						

ISCJB ***02*** *04:47:05.2±0.8,9.°70S±0.°06×120.°03E±0.°06,h33km, mb3.7/3,MS3.4/1, Error ellipse: s-maj=10.1km s-min=6.7km az=145.7*

DJA ***02*** *04:47:07.8±0.4,10.°5S±3.°×12.°0E±.°,h31km±4km,M4.1/12, mb4.2/3,MLv4.0/12*

IDC ***02*** *04:47:18.1±5.2,9.°49S×120.°88E,h159km±38km,mb3.3/3, mb1 3.3/6,mb1mx3.2/28,mbtmp3.7/6,MS3.3/3,Ms1 3.3/3, ms1mx2.8/16,Error ellipse: s-maj=119.8km s-min=13.0km az=55.0*

ISC 02 04:47:06.8±0.9,9.°71S±0.°06×120.°15E±0.°08,h35km,n17, σ1§86/17,mb3.9/3,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.15**	**75**	P	**Pn**	**04 47 13.6**	**+0.4**
WSI				S	**Sn**	**04 47 20.9**	**+3.3**
BASI	**Baing, Sumba**	**0.66**	**140**	P	**Pn**	**04 47 20.3**	**+0.6**
BASI				S	**Sn**	**04 47 30.3**	**+1.4**
EDFI	**Ende, Flores**	**1.80**	**58**	P	**Pn**	**04 47 38.3**	**+2.9**
EDFI				S	**Sn**	**04 47 56.7**	**-0.4**
MMRI	**Maumere**	**2.32**	**63**	P	**Pn**	**04 47 43.4**	**+0.8**
MMRI				S	**Sn**	**04 48 09.8**	**-0.1**
BATI	**Baumata**	**3.50**	**98**	P	Pn	04 48 03.2	+4.4
	13nm,0.3s,baz=308,slow=5.5,SNR=10						
BATI				S	Sn	04 48 46.9	+7.9
	10nm,0.3s,baz=176,slow=23,SNR=8.8						
BATI				LR	LR	04 49 49.4	
	comp=Z,599nm,18.6s,baz=302,slow=53						
SOEI	**Soe**	**4.06**	**91**	P	Pn	04 48 09.5	+2.9
BKSI	**Bulukumba**	**4.36**	**360**	P	**Pn**	**04 48 11.7**	**+1.1**
BNSI	**Bone**	**5.27**	**360**	P	**Pn**	**04 48 25.2**	**+2.0**
	36nm,0.8s,0.1nm						
SPSI	**Sidrap Palu**	**5.72**	**356**	P	**Pn**	**04 48 30.3**	**+1.0**
	16nm,0.9s,0.1nm						
TTSI	**Tana Toraja**	**6.63**	**357**	P	**Pn**	**04 48 43.5**	**+1.7**
LEM	**Lembang**	**12.73**	**282**	LR	LR	04 55 55.4	
	comp=Z,74nm,21.9s,baz=246,slow=39						
WRA	**Warramunga Arr**	**17.07**	**128**	P	**Pn**	**04 51 01.0**	**-1.8**
	0.5nm,0.3s,baz=300,slow=13,SNR=3.9						
WRA				S	Sn	04 54 03.0	-8.7
	baz=297,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**19.11**	**138**	P	**Pn**	**04 51 27.5**	**-0.4**
	0.2nm,0.3s,baz=318,slow=12,SNR=15						
ASAR				S	Sn	04 54 51.4	-10
	0.1nm,0.3s,baz=317,slow=24,SNR=5.0						
HNR	**Honiara**	**39.23**	**93**	LR	LR	05 12 28.8	
	comp=Z,51nm,18.9s,baz=332,slow=39						
SONM	**Songino Array**	**58.58**	**349**	P	**P**	**04 56 58.4**	**-1.7**
	0.6nm,0.6s,baz=166,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**65.60**	**332**	P	**P**	**04 57 44.6**	**-2.6**
	0.4nm,0.6s,baz=145,slow=7.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**70.11**	**339**	P	**P**	**04 58 13.5**	**-1.9**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=3.0						

MAN 02 04:48:21,12.°51N×120.°36E,h19km,mb4.3,ML3.2,MS3.0, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.53**	**197**	*e*P	Pn	04 48 32.9	-0.7
BUSP				*e*S	Sn	04 48 42.5	+0.5
SJMP	**San Jose**	**0.74**	**94**	*e*P	Pb	04 48 34.4	-1.0
SJMP				*e*S	Sb	04 48 44.3	-0.8
PGP	**Puerto Galera**	**1.14**	**30**	*i*P	Pn	04 48 40.5	-1.5
PGP				*i* S	Sb	04 48 54.4	-2.3
LUBP	**Lubang**	**1.22**	**355**	*e*P	Pn	04 48 42.3	-0.7
OTRP	**Odiongan**	**1.63**	**95**	*e*P	Pn	04 48 49.5	+0.8
CUYO	**Cuyo Island**	**1.77**	**159**	*e*P	Pg	04 48 54.7	-0.5

IDC ***02*** *05:00:48.5±1.8,50.°82N×169.°07W,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.5/48,mbtmp3.6/10,ML3.7/1, Error ellipse: s-maj=46.9km s-min=20.7km az=8.0*

NEIC ***02*** *05:00:50.7,51.°02N×169.°15W,h25km,ML3.5(AEIC), After AEIC.*

ISCJB ***02*** *05:00:51.8±0.7,51.°01N±0.°06×169.°1W±0.°1,h33km, mb3.6/9,Error ellipse: s-maj=11.3km s-min=7.1km az=40.8*

ISC 02 05:00:54.2±1.0,51.°1N±0.°1×169.°13W±0.°08,h35km,n20, σ1§26/24,mb3.6/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.94**	**5**	P	**Pn**	**05 01 22.4**	**-2.2**
NIKH				S	**Sn**	**05 01 48.2**	**+0.6**
OKFG	**Magazine Ridge**	**2.48**	**17**	P	**Pn**	**05 01 30.5**	**-1.6**
OKFG				S	**Sn**	**05 02 01.3**	**+0.2**
MSOM	**Makushin Julie**	**3.08**	**25**	P	**Pn**	**05 01 39.3**	**-0.9**
MREP	**Makushin Rep't**	**3.13**	**27**	P	**Pn**	**05 01 40.1**	**-1.0**
MSW	**Makushin Switc**	**3.21**	**26**	P	**Pn**	**05 01 40.9**	**-1.2**
MSW				S	**Sn**	**05 02 19.5**	**+0.3**
UNV	**Unalaska Valle**	**3.23**	**29**	P	**Pn**	**05 01 40.8**	**-1.6**
UNV				S	**Sn**	**05 02 18.6**	**-1.0**
KOVP	**Korovin Flat P**	**3.33**	**294**	P	**Pn**	**05 01 42.5**	**-1.3**
ADK	**Adak**	**4.79**	**283**	P	**Pn**	**05 02 01.4**	**-2.5**
DRIA	**Deer Island**	**5.71**	**44**	P	**Pn**	**05 02 15.6**	**-0.8**
SDPT	**Sand Point**	**6.75**	**47**	P	**Pn**	**05 02 29.4**	**-1.3**
ILAR	**Eielson Array**	**17.98**	**32**	P	**P**	**05 05 02.1**	**+0.7**
	0.1nm,0.3s,baz=224,slow=10,SNR=13						
INK	**Inuvik**	**24.38**	**32**	P	**P**	**05 06 08.8**	**+0.2**
	1.1nm,0.4s,baz=253,slow=8.0,SNR=17						
YKA	**Yellowknife Ar**	**31.02**	**47**	P	**P**	**05 07 08.8**	**+0.8**
	0.5nm,0.9s,baz=270,slow=7.6,SNR=7.8						
PDAR	**Pinedale Array**	**40.52**	**78**	P	**P**	**05 08 29.5**	**-0.5**
	1.0nm,0.9s,baz=330,slow=5.2,SNR=6.8						
SONM	**Songino Array**	**52.11**	**302**	P	P	**05 10 00.9**	**+0.1**
	0.2nm,0.6s,baz=46,slow=6.2,SNR=2.4						
TXAR	**Lajitas Array**	**52.63**	**88**	P	**P**	**05 10 03.7**	**-1.1**
	0.3nm,0.7s,baz=304,slow=5.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**63.57**	**319**	P	**P**	**05 11 22.6**	**+1.7**
	0.3nm,0.4s,baz=50,slow=7.0,SNR=3.6						
BVAR	**Borovoye Array**	**64.87**	**325**	P	**P**	**05 11 29.9**	**+0.5**
	0.7nm,0.4s,baz=49,slow=6.5,SNR=4.8						
FINES	**FINESS Array B**	**67.20**	**352**	P	**P**	**05 11 45.7**	**+1.6**
	0.8nm,0.8s,baz=28,slow=6.3,SNR=3.1						
NOA	**NORSAR Array B**	**68.26**	**360**	P	**P**	**05 11 51.5**	**+0.5**
	0.4nm,0.8s,baz=359,slow=6.0,SNR=2.9						

IDC ***02*** *05:07:25.1±1.0,28.°71S×177.°91W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.9/24,mbtmp4.1/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/24,Error ellipse: s-maj=36.5km s-min=14.1km az=80.0*

ISCJB ***02*** *05:07:27.4±2.0,28.°61S±0.°09×177.°7W±0.°3,h35km, mb4.3/5, Error ellipse: s-maj=37.5km s-min=12.2km az=176.0*

NEIC ***02*** *05:07:30.0±0.6,28.°73S×177.°83W,h35km,mb4.5/3,Error ellipse: s-maj=18.2km s-min=13.3km az=79.0*

ISC 02 05:07:30.1±1.1,28.°71S±0.°09×177.°9W±0.°3,h35km,n19, σ0§64/18,mb4.5/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.54**	**186**	Pn	**Pn**	**05 07 41.0**	**-0.3**
	1μm,0.3s,baz=79,slow=7.6,SNR=146						
RAO				Sn	**Sn**	**05 07 49.3**	**+0.1**
	2μm,0.3s,baz=30,slow=20,SNR=40						
RAO	**Raoul Island**	**0.54**	**186**	*e*Pg	**Pn**	**05 07 41.0**	**-0.3**
RAO				*e*Sg	**Sn**	**05 07 49.9**	**+0.7**
DZM	**Mont Dzumac**	**15.65**	**291**	LR	LR	05 16 10.8	
	comp=Z,110nm,18.3s,baz=83,slow=34						
CTAO	**Charters Tower**	**33.70**	**277**	*e*P	P	05 14 12.2	+4.1
	7.4nm,1.0s						
ASAR	**Alice Springs**	**43.36**	**265**	P	**P**	**05 15 28.8**	**-0.5**
	0.9nm,0.6s,baz=98,slow=6.9,SNR=22						
WB2	**Warramunga Arr**	**44.18**	**270**	*e*P	**P**	**05 15 36.4**	**+0.6**
WRAB	**Tennant Creek**	**44.19**	**270**	*e*P	**P**	**05 15 36.4**	**+0.5**
	13nm,1.3s						
WRA	**Warramunga Arr**	**44.19**	**270**	P	**P**	**05 15 35.7**	**-0.2**
	2.2nm,0.6s,baz=110,slow=7.6,SNR=6.0						
QSPA	**South Pole Qui**	**61.39**	**180**	P	**P**	**05 17 42.2**	**-0.2**
	3.4nm,0.7s,baz=34,slow=0.5,SNR=25						
QSPA	**South Pole Qui**	**61.39**	**180**	*e*P	**P**	**05 17 42.4**	**0.0**
	2.0nm,0.6s						
KURK	**Kurchatov**	**119.97**	**314**	PKP	**PKPdf**	**05 26 15.4**	**-1.1**
KURBB	**Kurchatov Arra**	**120.01**	**314**	PKP	**PKPdf**	**05 26 15.4**	**-1.2**
	0.2nm,0.3s,baz=86,slow=1.5,SNR=4.2						
FINES	**FINESS Array B**	**143.60**	**341**	PKP	PKPbc	05 26 59.2	+1.2
	2.1nm,0.5s,baz=78,slow=2.0,SNR=28						
NB2	**NORSAR Subarra**	**147.10**	**352**	PKP	**PKPbc**	**05 27 09.5**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**147.10**	**352**	PKPbc	**PKPbc**	**05 27 09.4**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=17,slow=4.7,SNR=4.1						
HFS	**Hagfors**	**147.62**	**349**	PKPbc	**PKPbc**	**05 27 10.7**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=29,slow=3.3,SNR=5.6						
AKASG	**Malin Array Be**	**150.02**	**325**	PKPbc	**PKPbc**	**05 27 17.1**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=46,slow=2.7,SNR=9.6						
MMAI	**Mount Meron Ar**	**151.21**	**287**	PKPbc	**PKPbc**	**05 27 20.1**	**0.0**
	comp=Z,0.8nm,0.4s,baz=90,slow=9.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**164.51**	**178**	PKPab	**PKPab**	**05 28 25.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=165,slow=3.8,SNR=6.3						

GUC 02 05:16:18.4±0.6,34.°25S×72.°22W,h30km±18km,ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.73**	**66**	*e*P	Pb	05 16 31.9	-0.7
LNV				*e*S	Sb	05 16 42.3	0.0
NICH	**Los Niches**	**1.11**	**133**	*e*P	Pn	05 16 38.0	+0.1
NICH				*e*S	Sb	05 16 52.9	-0.2
NICH				AML	AML	05 16 57.1	
	comp=E,3μm,0.7s						
TACH	**Talagante**	**1.22**	**61**	*e*P	Pn	05 16 39.8	+0.3
TACH				*e*S	Sb	05 16 56.0	-0.4
TALC	**Talca**	**1.24**	**157**	*e*P	Pn	05 16 40.0	+0.3
CHCH	**Chadas Angostu**	**1.34**	**77**	*e*P	Pn	05 16 41.3	+0.2
CHCH				*e*S	Sb	05 16 58.9	-0.8
CACH	**El Canelo**	**1.35**	**85**	*e*P	Pn	05 16 41.9	+0.5
CACH				*e*S	Sb	05 17 00.1	-0.2
SAN	**Santiago**	**1.52**	**59**	*e*P	Pn	05 16 44.5	+0.9
SAN				*e*S	Sb	05 17 04.3	-0.6
ROCH	**El Roble**	**1.62**	**39**	*e*P	Pb	05 16 46.8	-1.3
ROCH				AML	AML	05 17 17.5	
	comp=N,2μm,1.6s						
SJCH	**San Jose de Ma**	**1.67**	**69**	*e*P	Pn	05 16 45.9	+0.2
SJCH				*e*S	Sn	05 17 06.8	+0.6
SJCH				AML	AML	05 17 09.7	
	comp=N,424nm,0.6s						
LNCH	**Linares**	**1.67**	**163**	*e*P	Pn	05 16 46.9	+1.2
LNCH				*e*S	Sb	05 17 08.2	-1.0
PEL	**Peldehue**	**1.69**	**50**	*e*P	Pn	05 16 47.2	+1.2
PEL				*e*S	Sb	05 17 09.0	-0.8
PEL				AML	AML	05 17 15.2	
	comp=N,653nm,0.5s						

GUC 02 05:27:22.2±0.6,34.°71S×72.°05W,h5km±3km,ML3.6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.73**	**113**	*e*P	Pg	05 27 35.9	-0.4
NICH				*e*S	Sg	05 27 45.4	-0.5
TALC	**Talca**	**0.76**	**154**	*e*P	Pg	05 27 36.0	-0.9
TALC				*e*S	Sg	05 27 46.3	-0.5
LNV	**Longovilo**	**0.92**	**35**	*e*P	Pg	05 27 38.7	-1.2
LNCH	**Linares**	**1.19**	**162**	*e*P	Pg	05 27 43.3	-1.8
LNCH				*e*S	Sg	05 27 59.1	-1.4
LNCH				AML	AML	05 28 01.9	
	comp=N,2μm,0.4s						
CACH	**El Canelo**	**1.34**	**64**	*e*P	Pn	05 27 45.8	-2.0
CHCH	**Chadas Angostu**	**1.39**	**56**	*e*P	Pn	05 27 46.2	-2.2
COCH	**Cobquecura**	**1.54**	**203**	*e*P	Pn	05 27 48.5	-1.8
COCH				*e*S	Sn	05 28 08.2	-2.5
SJCH	**San Jose de Ma**	**1.77**	**53**	*e*P	Pn	05 27 52.2	-1.4
SJCH				*e*S	Sn	05 28 15.2	-1.3
CLCH	**Cerro Calan**	**1.82**	**44**	*e*P	Pn	05 27 54.3	+0.1
CLCH				*e*S	Sn	05 28 17.8	0.0
PEL	**Peldehue**	**1.93**	**36**	*e*P	Pn	05 27 56.1	+0.2
PEL				*e*S	Sn	05 28 21.0	+0.4
PEL				AML	AML	05 28 25.1	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**1.94**	**27**	*e*P	Pn	05 27 55.8	-0.3
ROCH				*e*S	Sn	05 28 20.4	-0.7

ISCJB ***02*** *05:32:25.0±1.2,44.°5N±0.°1×147.°5E±0.°1,h139km±8km, Error ellipse: s-maj=22.2km s-min=9.5km az=141.7*

SKHL ***02*** *05:32:25.5±0.3,44.°25N×147.°81E,h115km±4km,mb5.0/2, msh5.4/2*

JMA ***02*** *05:32:27.0±0.4,44.°40N×147.°39E,h137km±5km,M3.6*

ISC 02 05:32:22.7±2.8,44.°5N±0.°1×147.°6E±0.°1,h155km±15km, n14,σ1§67/24,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.80**	**11**	*e*P	**Pn**	**05 32 46.8**	**+0.4**
KUR				AMB	AMB	05 32 47.3	
	209nm,0.1s						
KUR				*e*S	**Sn**	**05 33 03.0**	**-1.6**
KUR				A	A	05 33 03.6	
	90nm,0.2s						
KUR				A	A	05 33 03.6	
	300nm,0.2s						
SHO	**Shikotan**	**0.83**	**225**	*e*P	**Pn**	**05 32 47.9**	**+1.2**
SHO				*e*S	**Sn**	**05 33 04.5**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.35**	**252**	*e*P	**Pn**	**05 32 52.2**	**+1.1**
YUK				AMB	AMB	05 32 53.3	
	391nm,0.5s						
YUK				*e*S	**Sn**	**05 33 13.0**	**+0.1**
YUK				A	A	05 33 13.4	
	370nm,0.3s						
YUK				A	A	05 33 13.4	
	890nm,0.3s						
NEM2	**Nemuro 2**	**1.75**	**232**	P	**Pn**	**05 32 56.5**	**+1.1**
NEM2				*e*S	**Sn**	**05 33 19.1**	**-1.3**
JRA	**Rausu**	**1.89**	**255**	P	**Pn**	**05 32 58.0**	**+1.2**
JRA				*e*S	**Sn**	**05 33 22.0**	**-1.0**
JNK	**Nakash**	**2.28**	**249**	P	**Pn**	**05 33 03.0**	**+1.5**
JAK	**Akkeshi**	**2.59**	**237**	P	**Pn**	**05 33 06.5**	**+1.4**
JAK				*e*S	**Sn**	**05 33 36.8**	**-1.0**
JTKR	**Abashiri--Toko**	**2.73**	**261**	P	**Pn**	**05 33 07.9**	**+1.0**
JTKR				*e*S	**Sn**	**05 33 39.8**	**-1.2**
JAR	**Ashorobuto**	**3.03**	**249**	P	**Pn**	**05 33 12.6**	**+1.9**
JKK2	**Kamakawa 2**	**3.57**	**262**	P	**Pn**	**05 33 19.4**	**+1.9**
JCH	**Churui**	**3.62**	**241**	P	**Pn**	**05 33 19.5**	**+1.4**
JCH				*e*S	**Sn**	**05 34 00.1**	**-1.0**
JNBK	**Urakawa-nobuka**	**4.17**	**240**	P	**Pn**	**05 33 26.0**	**+0.6**
JNBK				*e*S	**Sn**	**05 34 11.1**	**-3.0**
JEW	**Eniwo**	**4.78**	**252**	P	**Pn**	**05 33 35.5**	**+2.3**
JKB	**Kayabe**	**5.47**	**244**	P	**Pn**	**05 33 43.1**	**+0.7**
JKB				*e*S	**Sn**	**05 34 41.3**	**-3.4**

IDC ***02*** *05:33:14.4±1.3,10.°46N×126.°36E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.7/31,mbtmp3.8/6, Error ellipse: s-maj=67.6km s-min=20.5km az=64.0*

ISCJB ***02*** *05:33:20.4±0.8,10.°36N±0.°06×126.°15E±0.°07,h51km, mb3.8/6, Error ellipse: s-maj=10.4km s-min=8.8km az=23.1*

MAN ***02*** *05:33:23.10.°30N×125.°92E,h60km,mb4.6,ML3.5,MS3.4*

ISC 02 05:33:22.4±1.1,10.°34N±0.°07×126.°0E±0.°1,h51km,n18, σ1§33/15,mb3.7/6,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.77**	**225**	*e*P	**Pn**	**05 33 36.8**	**-0.3**
SCPH				*e*S	**Sn**	**05 33 46.3**	**-1.6**
MSLP	**Maasin**	**1.18**	**260**	*e*P	**Pn**	**05 33 43.1**	**+0.5**
MSLP				*e*S	**Sn**	**05 33 57.9**	**+0.4**
BUTP	**Butuan**	**1.42**	**197**	*e*P	**Pn**	**05 33 48.3**	**+2.5**
BUTP				*e*S	**Sn**	**05 34 05.1**	**+1.7**
OCLP	**Ormoc**	**1.57**	**297**	*e*P	**Pn**	**05 33 50.0**	**+2.0**
GUIM	**Jordan**	**3.40**	**275**	*e*P	**Pn**	**05 34 13.9**	**+0.9**
PAGZ	**Pagadian**	**3.60**	**227**	*e*P	**Pn**	**05 34 16.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**27.43**	**290**	P	**P**	**05 39 04.2**	**+0.6**

MAN 02 05:39:30.8±99N×125°47E, h32km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.15**	**98**	*e*P	Pn	05 39 37.7	+1.5
BUTP				*e*S	Sb	05 39 47.3	+7.1
SCPH	**Surigao**	**0.79**	**2**	*e*P	Pb	05 39 45.5	+0.2
BUKP	**Musuan**	**1.18**	**200**	*e*P	Pn	05 39 50.9	+0.6
BUKP				*e*S	Sn	05 40 05.6	+0.3
BIPH	**Bislig**	**1.19**	**132**	*e*P	Pn	05 39 38.2	-12
BIPH				*e*S	Sn	05 39 48.2	-17

*ISCJB **02** 05:46:16.1±1.1, 4.1°S±0.1°×142.8°E±0.1°, h115km, mb3.6/4, Error ellipse: s-maj=21.1km s-min=10.8km az=148.0*
*IDC **02** 05:46:17.2±1.0, 4.04°S×142.81°E, h112km±9km, mb3.6/3, mb1 4.2/6, mb1mx3.7/28, mbtmp4.4/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/22, Error ellipse: s-maj=20.1km s-min=12.8km az=53.0*

ISC 02 05:46:17.4±1.0, 4.1°S±0.1°×142.8°E±0.1°, h115km, n8, σ0.78/11, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.60**	**307**	P	**Pn**	**05 46 58.9**	**+0.6**
	6.9nm,0.3s,baz=159,slow=9.9,SNR=24						
JAY				S	**Sn**	**05 47 29.3**	**-0.5**
	20nm,0.3s,baz=305,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**17.76**	**207**	P	**Pn**	**05 50 17.2**	**-0.3**
	6.6nm,0.3s,baz=27,slow=10,SNR=43						
BATI	**Baumata**	**19.90**	**251**	P	**Pn**	**05 50 42.3**	**-0.5**
	12nm,0.3s,baz=56,slow=4.8,SNR=8.6						
ASAR	**Alice Springs**	**21.25**	**203**	P	**P**	**05 50 54.0**	**-0.5**
	1.4nm,0.3s,baz=27,slow=12,SNR=31						
ASAR				pP	**pP**	**05 51 16.0**	**0.0**
	6.8nm,0.8s,baz=33,slow=9.5,SNR=10						
ASAR				LR	LR	06 00 25.6	
	comp=Z,40nm,18.4s,baz=52,slow=40						
KSRS	**Korea Array**	**43.59**	**343**	LR	LR	06 09 37.4	
	comp=Z,8.2nm,21.3s,baz=170,slow=32						
MKAR	**Makanchi Array**	**73.38**	**321**	P	**P**	**05 57 38.0**	**+1.1**
	0.1nm,0.3s,baz=116,slow=5.0,SNR=4.5						
MKAR				pP	**pP**	**05 58 05.7**	**-0.1**
	0.5nm,0.8s,baz=108,slow=7.8,SNR=4.3						
VNDA	**Vanda**	**74.07**	**176**	P	**P**	**05 57 41.4**	**+1.1**
	0.9nm,0.7s,baz=330,slow=6.2,SNR=6.1						
ILAR	**Eielson Array**	**85.43**	**24**	P	**P**	**05 58 40.8**	**-1.0**
	1.4nm,0.9s,baz=259,slow=4.2,SNR=11						
ILAR				pP	**pP**	**05 59 10.9**	**-0.5**
	0.7nm,1.0s,baz=251,slow=3.5,SNR=2.2						

*IDC **02** 06:00:37.1±2.5, 37.86N×119.14W, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.3/36, mbtmp3.1/3, ML3.9/1, Error ellipse: s-maj=51.0km s-min=11.8km az=152.0*
*NEIC **02** 06:00:38.6, 38.36N×119.39W, h8km, ML3.7(REN), MW3.6(BRK), After REN.*
NEIC Felt [III] at Tuolumne and [II] at Arnold, Coleville, Murphys, Sonora and Twain Harte. Also felt at Bridgeport, Columbia, El Portal, Fresno, Mi-Wuk Village, Mokelumne Hill, Oakdale, Pioneer and Volcano and in Yosemite National Park. Felt at Wellington, Nevada.

ISC 02 06:00:38.7±0.7, 38.36N±0.02×119.34W±0.02, h13km±4km, n48, σ1.88/70, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAKR	**Walker**	**0.17**	**333**	*e*Pg	**Pg**	**06 00 41.5**	**-1.4**
WAKR				*e*Sg	**Sg**	**06 00 44.3**	**-1.5**
NVAR	**Mina Array Bea**	**0.82**	**84**	Pg	**Pg**	**06 00 54.0**	**-0.6**
	324nm,0.3s,baz=256,slow=19,SNR=3205						
NVAR				Lg	Lg	06 01 05.1	
	457nm,0.3s,baz=59,slow=28,SNR=18						
MLAC	**Mammoth, Mammo**	**0.82**	**151**	P	**Pb**	**06 00 54.8**	**-0.3**
	baz=0.9						
MLAC				S	**Sb**	**06 01 06.2**	**0.0**
	baz=0.9						
CMB	**Columbia Colle**	**0.89**	**249**	*e*Pg	**Pg**	**06 00 54.2**	**-1.7**
CMB				*e*Sg	**Sg**	**06 01 05.4**	**-2.1**
NV11	**Mina Array Sit**	**0.93**	**85**	*e*Pg	**Pg**	**06 00 56.4**	**-0.4**
NV11				*e*Sg	**Sn**	**06 01 13.6**	**+2.6**
TIN	**Tinemaha, Big**	**1.57**	**145**	Pb	**Pg**	**06 01 08.5**	**-0.4**
	baz=1.6						
TPH	**Tonopah**	**1.69**	**99**	*e*Pn	**Pn**	**06 01 08.7**	**+0.5**
RCTC	**Rector, Farmer**	**2.04**	**178**	Pb	**Pb**	**06 01 15.4**	**-0.3**
	baz=2.1						
RCTC				Sb	**Sb**	**06 01 41.7**	**+0.8**
	baz=2.1						
GRAC	**Grapevine Rang**	**2.07**	**130**	Pb	**Pg**	**06 01 18.0**	**-0.4**
	baz=2.1						
GRAC				Sb	**Sg**	**06 01 46.5**	**+1.4**
	baz=2.1						
SAO	**San Andreas Ge**	**2.31**	**227**	*e*Pn	**Pn**	**06 01 18.0**	**+1.6**
SAO				*e*Sg	**Sb**	**06 01 48.0**	**-0.6**
DAC	**Darwin (Calif)**	**2.50**	**146**	*e*Pg	**Pb**	**06 01 23.1**	**-0.4**
VES	**Vestal, Richgr**	**2.52**	**175**	Pb	**Pb**	**06 01 23.2**	**-0.6**
	baz=2.5						
VES				Sb	**Sb**	**06 01 56.5**	**+1.9**
	baz=2.5						
SAC	**San Andreas**	**2.55**	**253**	*e*Pn	**Pn**	**06 01 21.3**	**+1.5**
SAC				*e*Sg	**Sb**	**06 01 54.0**	**-1.6**
BMN	**Battle Mountai**	**2.64**	**38**	*e*Pn	**Pn**	**06 01 21.6**	**+0.4**
BMN				*e*Sg	**Sg**	**06 02 01.5**	**-2.2**
FURC	**Furnace Creek,**	**2.73**	**133**	Pb	**Pg**	**06 01 29.5**	**-1.5**
	baz=2.8						
ISA	**Isabella, Lake**	**2.77**	**165**	Pb	**Pb**	**06 01 28.5**	**+0.3**
	baz=2.8						
ISA				Sb	**Sg**	**06 02 04.8**	**-3.1**
	baz=2.8						
ISA	**Isabella, Lake**	**2.77**	**165**	*e*Pg	**Pb**	**06 01 26.6**	**-1.6**
ISA				*e*Sg	**Sb**	**06 02 04.0**	**+1.9**
MCCM	**Marconi Confer**	**2.80**	**267**	*e*Pn	**Pn**	**06 01 25.5**	**+2.4**
TPNV	**Topopah Spring**	**2.83**	**119**	Pb	**Pb**	**06 01 30.4**	**+1.3**
	baz=2.9						
R11A	**Troy Canyon, C**	**2.95**	**89**	Sb	**Sg**	**06 02 11.7**	**-1.8**
	baz=3.0						
R11A	**Troy Canyon, C**	**2.95**	**89**	*e*Pn	**Pn**	**06 01 25.5**	**0.0**
R11A				*e*Pg	**Pb**	**06 01 31.8**	**+0.5**
R11A				*e*Sg	**Sg**	**06 02 12.8**	**-0.7**
HOPS	**Hopland Field**	**2.99**	**283**	*e*Pn	**Pn**	**06 01 26.1**	**+0.2**
LRMC	**Laurel Mtn Rad**	**3.16**	**155**	Sb	**Sg**	**06 02 18.3**	**-2.0**
	baz=3.2						
WDC	**Whiskeytown Da**	**3.33**	**313**	*e*Pn	**Pn**	**06 01 31.5**	**+1.1**
KIPM	**Iron Peak**	**3.54**	**296**	*e*Pn	**Pn**	**06 01 34.5**	**+1.1**
KCPM	**Cahto Peak**	**3.56**	**293**	*e*Pn	Pn	06 01 37.3	+3.5
MOD	**Modoc Plateau**	**3.62**	**349**	*e*Pg	**Pb**	**06 01 44.0**	**+1.3**
EDW2	**Edwards Air Fo**	**3.63**	**162**	Sb	**Sg**	**06 02 31.2**	**-4.2**
	baz=3.7						
GSC	**Goldstone, Bar**	**3.66**	**146**	*e*Pg	**Pg**	**06 01 49.0**	**+0.1**
SHPR	**Sheep Range**	**3.80**	**118**	*e*Pn	**Pn**	**06 01 38.6**	**+1.4**
SHPR				*e*Pg	**Pg**	**06 01 49.3**	**-2.3**
SHPR				*e*Sg	**Sg**	**06 02 40.4**	**-0.5**
WVOR	**Wild Horse Val**	**4.11**	**7**	*e*Pg	**Pg**	**06 01 54.6**	**-2.9**
YBH	**Yreka Blue Hor**	**4.25**	**324**	*e*Pn	**Pn**	**06 01 45.5**	**+2.3**
YBH				*e*Pg	**Pb**	**06 01 55.8**	**+2.4**
ARUT	**Antelope Range**	**4.69**	**95**	*e*Pn	**Pn**	**06 01 50.0**	**+0.7**
ARUT				*e*Pg	**Pg**	**06 02 06.0**	**-2.6**
ARUT				*e*Sg	**Sg**	**06 03 09.1**	**-0.2**
CCUT	**Cedar City**	**4.79**	**98**	*e*Pn	**Pn**	**06 01 52.0**	**+1.2**
CCUT				*e*Pg	**Pg**	**06 02 07.8**	**-2.7**
CCUT				*e*Sg	**Sg**	**06 03 11.7**	**-0.9**
HUMO	**Hull Mountain**	**5.06**	**328**	*e*Pn	Pn	06 01 57.9	+3.5
	18nm,1.0s						
DUG	**Dugway, Tooele**	**5.39**	**68**	*e*Pn	**Pn**	**06 02 00.4**	**+1.5**
	8.3nm,0.7s						
DUG				*e*Sg	**Sg**	**06 03 30.4**	**-1.2**
BGU	**Big Grassy Mou**	**5.50**	**60**	*e*Pn	**Pn**	**06 02 01.2**	**+0.7**
	7.0nm,0.6s						
BGU				*e*Sg	**Sg**	**06 03 32.4**	**-3.1**
MVU	**Marysvale**	**5.60**	**86**	*e*Pn	Pn	06 02 05.4	+3.6
	8.8nm,0.5s						
MVU				*e*Pg	**Pg**	**06 02 23.3**	**-2.7**
MVU				*e*Sg	**Sg**	**06 03 35.7**	**-2.8**
HVU	**Hansel Valley**	**6.09**	**54**	*e*Pn	**Pn**	**06 02 09.3**	**+0.8**
	6.2nm,0.6s						
HVU				*e*Sg	**Sg**	**06 03 50.2**	**-3.9**
HLID	**Hailey**	**6.40**	**34**	*e*Pn	**Pn**	**06 02 13.8**	**+1.1**
	3.8nm,0.6s						
TCUT	**Toone Canyon**	**6.71**	**63**	*e*Pn	**Pn**	**06 02 20.2**	**+3.1**
	15nm,0.6s						
SRU	**San Rafael Swe**	**6.93**	**81**	*e*Pn	Pn	06 02 23.9	+3.8
	10nm,0.6s						
WUAZ	**Wupatki**	**6.98**	**112**	*e*Pg	**Pg**	**06 02 49.6**	**-2.8**
	8.1nm,0.8s						
PDAR	**Pinedale Array**	**8.65**	**56**	Pn	Pn	06 02 48.2	+4.5
	0.1nm,0.3s,baz=226,slow=12,SNR=10						
YKA	**Yellowknife Ar**	**24.34**	**5**	P	**P**	**06 05 59.0**	**+3.1**
	0.2nm,0.8s,baz=189,slow=9.8,SNR=4.1						
ILAR	**Eielson Array**	**31.01**	**337**	P	P	06 07 01.9	+6.3
	0.3nm,0.9s,baz=151,slow=7.3,SNR=4.0						
WMQ	**Urumqi**	**94.62**	**341**	*e*P	**P**	**06 13 59.5**	**+0.2**
WMQ				pP	**pP**	**06 14 04.0**	**+0.2**
WMQ				sP	**sP**	**06 14 07.0**	**+1.6**
WMQ	**Urumqi**	**94.62**	**341**	S	**S**	**06 25 07.5**	**-4.4**
WMQ				pmax	pmax		
	comp=Z,120nm,4.4s						

GUC 02 06:06:24.0±0.3, 35.97S×72.00W, h67km±3km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.65**	**28**	*e*P	Pn	06 06 38.2	+0.2
TALC				*e*S	Sn	06 06 48.7	+0.3
COCH	**Cobquecura**	**0.66**	**256**	*e*P	Pn	06 06 39.1	+1.0
COCH				*e*S	Sn	06 06 50.0	+1.5
NICH	**Los Niches**	**1.16**	**33**	*e*P	Pn	06 06 44.6	+0.3
NICH				*e*S	Sn	06 07 00.4	+0.9
CLCH	**Cerro Calan**	**2.84**	**26**	*e*P	Pn	06 07 07.6	+0.4
CLCH				*e*S	Sn	06 07 40.9	+0.6
CLCH				AML	AML	06 07 47.4	
	comp=E,173nm,0.2s						
PEL	**Peldehue**	**3.02**	**21**	*e*P	Pn	06 07 10.0	+0.4
PEL				AML	AML	06 07 53.1	
	comp=E,158nm,0.4s						
ROCH	**El Roble**	**3.10**	**16**	*e*P	Pn	06 07 06.9	-4.0
ROCH				*e*S	Sn	06 07 43.1	-4.0
ROCH				AML	AML	06 07 55.3	
	comp=N,95nm,0.1s						

*CSEM **02** 06:10:15.9±0.2, 42.77N×7.18W, h5km, ML3.0/9, Error ellipse: s-maj=3.7km s-min=3.2km az=153.0*
*INMG **02** 06:10:17.3±1.8, 42.81N×7.15W, h11km±10km, ML2.2, Error ellipse: s-maj=4.6km s-min=3.4km az=92.0*

MDD 02 06:10:17.0±0.4, 42.79N×7.21W, h0km, mbLg2.4/23, 1C, Error ellipse: s-maj=3.5km s-min=3.3km az=32.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.54**	**5**	Pg	Pg	06 10 26.9	-0.5
	14nm,0.1s,SNR=4.0						
EPON				Lg	Lg	06 10 33.2	
	56nm,0.2s,SNR=18						
EPON	**Pontenova**	**0.54**	**5**	Pg	Pg	06 10 26.9	-0.5
	14nm,0.1s,SNR=4.0						
EPON				Lg	Lg	06 10 33.2	
	56nm,0.2s,SNR=18						
EAGO	**Agolada(Pontev**	**0.65**	**271**	⇑Pg	Pg	06 10 29.1	-0.3
	20nm,0.1s,SNR=18						
EAGO				Lg	Lg	06 10 37.5	
	210nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**0.65**	**271**	Pg	Pg	06 10 29.1	-0.3
	20nm,0.1s,SNR=18						
EAGO				Lg	Lg	06 10 37.5	
	210nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.92**	**157**	Pg	Pg	06 10 34.9	+0.2
	8.5nm,0.1s,SNR=13						
ECAL				Lg	Lg	06 10 46.5	
	56nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**0.92**	**157**	Pg	Pg	06 10 34.9	+0.2
	8.5nm,0.1s,SNR=13						
ECAL				Lg	Lg	06 10 46.5	
	56nm,0.2s,SNR=5.0						
STS	**Santiago**	**0.99**	**276**	Pg	Pg	06 10 35.4	-0.5
	3.8nm,0.1s,SNR=6.8						
STS				Lg	Lg	06 10 48.1	
	30nm,0.2s,SNR=22						
STS	**Santiago**	**0.99**	**276**	Pg	Pg	06 10 35.4	-0.6
	3.8nm,0.1s,SNR=6.8						
STS				Lg	Lg	06 10 48.1	
	30nm,0.2s,SNR=22						
PBRG	**Braganca**	**1.05**	**160**	*e*S	Sg	06 10 50.2	-0.5
PBRG				A	A	06 10 50.8	
	29nm,0.3s						
PBRG	**Braganca**	**1.05**	**160**	S	Sg	06 10 50.2	-0.5
	14nm,0.3s						
PBRG	**Braganca**	**1.05**	**160**	*e*S	Sg	06 10 50.2	-0.5
	29nm,0.3s						
ELOB	**Lobios**	**1.12**	**215**	Pn	Pg	06 10 36.5	-2.0
	1.0nm,0.1s,SNR=7.9						
ELOB				Pg	Pb	06 10 38.3	-1.0
	13nm,0.1s,SNR=30						
ELOB				Lg	Lg	06 10 52.3	
	24nm,0.2s,SNR=10						
ELOB	**Lobios**	**1.12**	**215**	Pn	Pg	06 10 36.5	-2.0
	1.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**1.12**	**215**	Pg	Pg	06 10 38.3	-0.2
	13nm,0.1s,SNR=30						
ELOB				Lg	Lg	06 10 52.3	
	24nm,0.2s,SNR=10						
PGAV	**Gavieira, Arco**	**1.14**	**224**	*e*P	Pg	06 10 37.3	-1.6
PGAV				*e*S	Sg	06 10 52.9	-0.9
PGAV				A	A	06 10 54.9	
	27nm,0.2s						
PGAV	**Gavieira, Arco**	**1.14**	**224**	*e*P	Pg	06 10 37.3	-1.6
PGAV				*e*S	Sg	06 10 52.9	-0.9
	27nm,0.2s						
PCAB	**Cabril**	**1.24**	**209**	*e*P	Pg	06 10 40.2	-0.6
PCAB				*e*S	Sg	06 10 55.6	-1.3
PCAB				A	A	06 10 57.4	
	30nm,0.1s						
PCAB	**Cabril**	**1.24**	**209**	P	Pg	06 10 40.2	-0.6
PCAB				S	Sg	06 10 55.6	-1.3
	15nm,0.1s						
PCAB	**Cabril**	**1.24**	**209**	*e*P	Pg	06 10 40.2	-0.6
PCAB				*e*S	Sg	06 10 55.6	-1.3
	30nm,0.1s						
EMAZ	**Mazaricos**	**1.31**	**278**	Pg	Pg	06 10 41.0	-1.1
	10.0nm,0.1s,SNR=6.6						
EMAZ				Lg	Lg	06 10 58.0	
	21nm,0.1s,SNR=16						
EMAZ	**Mazaricos**	**1.31**	**278**	Pg	Pg	06 10 41.0	-1.1
	10.0nm,0.1s,SNR=6.6						
EMAZ				Lg	Lg	06 10 58.0	
	21nm,0.1s,SNR=16						
POLO	**Lamas de Olo**	**1.48**	**197**	*e*Sn	Sn	06 11 59.7	+55
POLO				A	A	06 12 00.2	
	6.6nm,0.2s						
POLO	**Lamas de Olo**	**1.48**	**197**	*e*Pg	Pn	06 10 44.6	-0.4
POLO				*e*Sg	Sg	06 11 03.5	-1.3
POLO				A	A	06 11 05.2	
	8.9nm,0.1s						
EARI	**Arriondas**	**1.56**	**70**	Pg	Pn	06 10 45.5	-0.5
	2.5nm,0.2s,SNR=19						
EARI				Lg	Lg	06 11 05.5	
	10nm,0.2s,SNR=9.6						
EARI	**Arriondas**	**1.56**	**70**	Pg	Pn	06 10 45.5	-0.5
	2.5nm,0.2s,SNR=19						
EARI				Lg	Lg	06 11 05.4	
	10nm,0.2s,SNR=9.6						
PVRL	**Vila Real**	**1.56**	**194**	*e*Sg	Sn	06 11 06.3	-0.7
PVRL				A	A	06 11 08.4	
	34nm,0.2s						
PVRL	**Vila Real**	**1.56**	**194**	Lg	Lg	06 11 06.3	
	17nm,0.2s						
PVRL	**Vila Real**	**1.56**	**194**	*e*Sg	Sn	06 11 06.3	-0.7
	34nm,0.2s						
MVO	**Moncorvo**	**1.63**	**175**	*e*Sn	Sg	06 12 03.7	+54
MVO				A	A	06 12 04.5	
	13nm,0.1s						
MVO	**Moncorvo**	**1.63**	**175**	*e*Pg	Pn	06 10 46.6	-0.5
MVO				*e*Sg	Sn	06 11 08.1	-0.7
MVO				A	A	06 11 10.0	
	18nm,0.2s						
MVO	**Moncorvo**	**1.63**	**175**	Pg	Pn	06 10 46.5	-0.6
	2.3nm,0.1s,SNR=5.8						
MVO				Lg	Lg	06 11 08.1	
	25nm,0.2s,SNR=15						
MVO	**Moncorvo**	**1.63**	**175**	*e*Pg	Pn	06 10 46.6	-0.5
MVO				Lg	Lg	06 11 08.1	
	25nm,0.2s,SNR=15						
MVO				*e*Sg	Sg	06 11 08.1	-1.5
	18nm,0.2s						
PVIS	**Viseu**	**2.13**	**194**	*e*Pn	Pn	06 10 52.0	-2.0
PVIS				*e*Sg	Sb	06 11 23.7	0.0
PVIS				A	A	06 11 25.1	
	12nm,0.1s						
PVIS	**Viseu**	**2.13**	**194**	Pn	Pn	06 10 52.0	-2.0
PVIS				Lg	Lg	06 11 23.7	
	6.2nm,0.1s						
MTE	**Manteigas**	**2.40**	**186**	*e*Sg	Sb	06 11 32.2	+0.8
MTE				A	A	06 11 36.7	
	11nm,0.8s						
MTE	**Manteigas**	**2.40**	**186**	Lg	Lg	06 11 32.2	
	5.5nm,0.8s						
MTE	**Manteigas**	**2.40**	**186**	*e*Sg	Sb	06 11 32.2	+0.8
	11nm,0.8s						
ELAN	**Lanestosa**	**2.81**	**80**	Pn	Pn	06 11 02.7	-0.4
	0.2nm,0.2s,SNR=7.9						
ELAN				Pg	Pb	06 11 07.9	0.0
	0.8nm,0.2s,SNR=6.0						
ELAN				Sn	Sn	06 11 35.9	-1.7
	3.2nm,0.4s,SNR=6.4						
ELAN				Lg	Lg	06 11 44.4	
	4.5nm,0.2s,SNR=6.0						
ELAN	**Lanestosa**	**2.81**	**80**	Pn	Pn	06 11 02.7	-0.4
	0.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.81**	**80**	Pg	Pb	06 11 07.9	-0.1
	0.8nm,0.2s,SNR=6.0						
ELAN				Sn	Sn	06 11 35.9	-1.7
	3.2nm,0.4s,SNR=6.4						
ELAN				Lg	Lg	06 11 44.4	
	4.5nm,0.2s,SNR=6.0						
EPLA	**Plasencia**	**2.85**	**162**	Pn	Pn	06 11 02.3	-1.5
	0.3nm,0.1s,SNR=7.9						
EPLA				Lg	Lg	06 11 46.0	
	6.5nm,0.3s,SNR=7.7						
EPLA	**Plasencia**	**2.85**	**162**	Pn	Pn	06 11 02.3	-1.5
	0.3nm,0.1s,SNR=7.9						
EPLA				Lg	Lg	06 11 46.0	
	6.5nm,0.3s,SNR=7.7						
GUD	**Guadarrama**	**3.14**	**132**	Pn	Pn	06 11 06.7	-1.2
	0.2nm,0.2s,SNR=7.9						
GUD				Pg	Pb	06 11 15.1	+1.3
	0.9nm,0.2s,SNR=7.9						
GUD				Lg	Lg	06 11 53.5	
	5.8nm,0.4s,SNR=6.6						
GUD	**Guadarrama**	**3.14**	**132**	Pn	Pn	06 11 06.7	-1.2
	0.2nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.14**	**132**	Pg	Pb	06 11 15.1	+1.3
	0.9nm,0.2s,SNR=7.9						
GUD				Lg	Lg	06 11 53.5	
	5.8nm,0.4s,SNR=6.6						
PAB	**San Pablo**	**3.90**	**145**	Pn	Pn	06 11 17.5	-0.7
	0.5nm,0.3s,SNR=7.9						
PAB				Sn	Sn	06 12 01.2	-3.6
	1.9nm,0.2s,SNR=7.9						
PAB				Lg	Lg	06 12 17.6	
	5.9nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**3.90**	**145**	Pn	Pn	06 11 17.5	-0.7
	0.5nm,0.3s,SNR=7.9						
PAB				Sn	Sn	06 12 01.2	-3.6
	1.9nm,0.2s,SNR=7.9						
PAB				Lg	Lg	06 12 17.6	
	5.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.96**	**141**	Lg	Lg	06 12 21.6	
	1.2nm,0.1s,baz=326,slow=30,SNR=5.5						
ESDC	**Sonseca Array**	**3.96**	**141**	Lg	Lg	06 12 21.6	
	1.2nm,0.1s,SNR=5.5						
EBAD	**Badajoz**	**4.03**	**178**	Pn	Pn	06 11 18.6	-1.4
	0.5nm,0.3s,SNR=7.9						
EBAD				Sn	Sn	06 12 03.3	-4.6
	0.7nm,0.1s,SNR=4.6						
EBAD				Lg	Lg	06 12 22.5	
	2.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.03**	**178**	Pn	Pn	06 11 18.6	-1.4
	0.5nm,0.3s,SNR=7.9						
EBAD				Sn	Sn	06 12 03.3	-4.6
	0.7nm,0.1s,SNR=4.6						
EBAD				Lg	Lg	06 12 22.5	
	2.6nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**4.15**	**88**	Lg	Lg	06 12 29.9	
	2.0nm,0.3s,SNR=7.9						
EARA	**Aranguren**	**4.15**	**88**	Lg	Lg	06 12 29.9	
	2.0nm,0.3s,SNR=7.9						
ETOR	**Torete**	**4.33**	**115**	Pg	Pb	06 11 36.7	+2.6
	1.8nm,0.3s,SNR=7.9						
ETOR				Lg	Lg	06 12 32.9	
	6.9nm,0.5s,SNR=7.9						
ETOR	**Torete**	**4.33**	**115**	Pg	Pb	06 11 36.7	+2.6
	1.8nm,0.3s,SNR=7.9						
ETOR				Lg	Lg	06 12 32.9	
	6.9nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**4.91**	**163**	Sn	Sn	06 12 24.5	-5.0
	0.4nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	06 12 47.9	
	1.8nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**4.91**	**163**	Sn	Sn	06 12 24.5	-5.0
	0.4nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	06 12 47.9	
	1.8nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.03**	**175**	Lg	Lg	06 12 54.0	
	1.3nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.03**	**175**	Lg	Lg	06 12 54.0	
	1.3nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**5.25**	**182**	Lg	Lg	06 13 03.9	
	1.0nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**5.25**	**182**	Lg	Lg	06 13 03.9	
	1.0nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.97**	**132**	Lg	Lg	06 13 26.4	
	0.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.97**	**132**	Lg	Lg	06 13 26.4	
	0.9nm,0.3s,SNR=7.9						

*CSEM **02** 06:10:59.9±0.1, 42.81N×7.21W, h5km, ML2.6, Error ellipse: s-maj=2.1km s-min=1.9km az=34.0*
*INMG **02** 06:11:01.5±1.5, 42.84N×7.08W, h12km±9km, ML2.4, Error ellipse: s-maj=5.5km s-min=5.1km az=88.0*

MDD 02 06:11:01.4±0.6, 42.81N×7.22W, h12km, mbLg2.5/21, Error ellipse: s-maj=4.9km s-min=4.4km az=38.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.52**	**5**	Lg	Lg	06 11 17.6	
	40nm,0.1

	33nm,0.2s							
PCAB	**Cabril**	**1.26**	**209**	*e*S	Sg	06 11 52.0	+10	
PCAB				A	A	06 11 52.5		
	181nm,0.2s							
PCAB	**Cabril**	**1.26**	**209**	*e*P	Pn	06 11 24.2	-0.6	
PCAB				*e*S	Sb	06 11 40.5	-0.8	
PCAB				A	A	06 11 43.5		
	45nm,0.1s							
PCAB	**Cabril**	**1.26**	**209**	P	Pn	06 11 24.2	-0.6	
PCAB				S	Sb	06 11 40.5	-0.8	
	22nm,0.1s							
PCAB	**Cabril**	**1.26**	**209**	*e*P	Pn	06 11 24.2	-0.6	
PCAB				*e*S	Sb	06 11 40.5	-0.8	
	45nm,0.1s							
EMAZ	**Mazaricos**	**1.30**	**277**	Pg	Pn	06 11 25.1	-0.4	
	8.6nm,0.1s,SNR=7.9							
EMAZ				Lg	Lg	06 11 41.9		
	46nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**1.30**	**277**	Pg	Pn	06 11 25.1	-0.4	
	8.6nm,0.1s,SNR=7.9							
EMAZ				Lg	Lg	06 11 41.9		
	46nm,0.2s,SNR=7.9							
POLO	**Lamas de Olo**	**1.50**	**197**	*e*Pg	Pn	06 11 28.7	+0.4	
POLO				*e*Sn	Sn	06 11 47.6	-0.3	
POLO				A	A	06 11 49.0		
	11nm,0.2s							
POLO	**Lamas de Olo**	**1.50**	**197**	*e*Pg	Pn	06 11 28.7	+0.4	
POLO				*e*Sn	Sn	06 11 47.6	-0.3	
	11nm,0.2s							
EARI	**Arriondas**	**1.55**	**71**	Pg	Pb	06 11 29.5	-0.6	
	3.7nm,0.2s,SNR=7.9							
EARI				Lg	Lg	06 11 49.4		
	7.3nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**1.55**	**71**	Pg	Pn	06 11 29.5	+0.6	
	3.7nm,0.2s,SNR=7.9							
EARI				Lg	Lg	06 11 49.3		
	7.3nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**1.58**	**194**	*e*Sn	Sg	06 12 01.7	+9.3	
PVRL				A	A	06 12 03.2		
	30nm,0.2s							
PVRL	**Vila Real**	**1.58**	**194**	*e*Pg	Pb	06 11 30.4	-0.2	
PVRL				*e*Sg	Sb	06 11 51.0	+0.3	
PVRL				A	A	06 11 51.6		
	61nm,0.1s							
PVRL	**Vila Real**	**1.58**	**194**	Pg	Pb	06 11 30.4	-0.2	
PVRL				Lg	Lg	06 11 51.0		
	30nm,0.1s							
PVRL	**Vila Real**	**1.58**	**194**	*e*Pg	Pb	06 11 30.4	-0.2	
PVRL				*e*Sg	Sb	06 11 51.0	+0.3	
	61nm,0.1s							
MVO	**Moncorvo**	**1.65**	**175**	*e*Pg	Pb	06 11 31.4	-0.5	
MVO				*e*Sg	Sn	06 11 52.0	+0.4	
MVO				A	A	06 11 53.7		
	25nm,0.3s							
MVO	**Moncorvo**	**1.65**	**175**	Pg	Pb	06 11 31.3	-0.6	
	3.5nm,0.1s,SNR=7.9							
MVO				Lg	Lg	06 11 52.4		
	45nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**1.65**	**175**	*e*Pg	Pb	06 11 31.4	-0.5	
MVO				*e*Sg	Sn	06 11 52.0	+0.4	
MVO				A	A	06 11 53.7		
	25nm,0.3s							
MVO	**Moncorvo**	**1.65**	**175**	Pg	Pb	06 11 31.3	-0.6	
	3.5nm,0.1s,SNR=7.9							
MVO				Lg	Lg	06 11 52.4		
	45nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**1.65**	**175**	*e*Pg	Pb	06 11 31.4	-0.5	
MVO				*e*Sg	Sn	06 11 52.0	+0.4	
MVO				A	A	06 11 53.7		
	25nm,0.3s							
PVIS	**Viseu**	**2.16**	**194**	*e*Sg	Sb	06 12 07.7	+0.5	
PVIS				A	A	06 12 09.0		
	17nm,0.2s							
PVIS	**Viseu**	**2.16**	**194**	Lg	Lg	06 12 07.7		
	8.3nm,0.2s							
PVIS	**Viseu**	**2.16**	**194**	*e*Sg	Sb	06 12 07.7	+0.5	
	17nm,0.2s							
MTE	**Manteigas**	**2.42**	**186**	*e*Sg	Sg	06 12 17.3	-2.1	
MTE				A	A	06 12 20.5		
	14nm,0.2s							
MTE	**Manteigas**	**2.42**	**186**	*e*Sg	Sg	06 12 17.3	-2.1	
	14nm,0.2s							
ELAN	**Lanestosa**	**2.80**	**80**	Lg	Lg	06 12 27.6		
	5.9nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**2.80**	**80**	Lg	Lg	06 12 27.6		
	5.9nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**2.88**	**162**	Lg	Lg	06 12 28.7		
	4.1nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**2.88**	**162**	Lg	Lg	06 12 28.7		
	4.1nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.15**	**132**	Lg	Lg	06 12 36.4		
	8.6nm,0.5s,SNR=7.9							
GUD	**Guadarrama**	**3.15**	**132**	Lg	Lg	06 12 36.4		
	8.6nm,0.5s,SNR=7.9							
PAB	**San Pablo**	**3.92**	**146**	Lg	Lg	06 13 00.7		
	9.3nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**3.92**	**146**	Lg	Lg	06 13 00.7		
	9.3nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**3.98**	**141**	Lg	Lg	06 13 04.4		
	3.3nm,0.2s,baz=315,slow=29,SNR=7.9							
ESDC	**Sonseca Array**	**3.98**	**141**	Lg	Lg	06 13 04.4		
	3.3nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.06**	**178**	Lg	Lg	06 13 06.8		
	3.6nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.06**	**178**	Lg	Lg	06 13 06.8		
	3.6nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**4.16**	**203**	Lg	Lg	06 13 08.3		
	25nm,0.6s,SNR=4.0							
PMAFR	**Mafra**	**4.16**	**203**	Lg	Lg	06 13 08.3		
	25nm,0.6s,SNR=4.0							
ETOR	**Torete**	**4.34**	**116**	Lg	Lg	06 13 11.6		
	7.0nm,0.3s,SNR=7.9							
ETOR	**Torete**	**4.34**	**116**	Lg	Lg	06 13 11.6		
	7.0nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**4.93**	**163**	Lg	Lg	06 13 31.8		
	4.8nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**4.93**	**163**	Lg	Lg	06 13 31.8		
	4.8nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.06**	**175**	Lg	Lg	06 13 33.1		
	2.7nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.06**	**175**	Lg	Lg	06 13 33.1		
	2.7nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**5.99**	**132**	Lg	Lg	06 14 05.9		
	0.8nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.99**	**132**	Lg	Lg	06 14 05.9		
	0.8nm,0.3s,SNR=7.9							

CSEM ***02*** *06:11:41.3±0.1, 42°.78N×7°.23W, h8km, ML2.2, Error ellipse: s-maj=3.1km s-min=1.9km az=89.0*

MDD 02 06:11:41.6±0.6, 42°.80N×7°.22W, h0km, mbLg2.1/13, Error ellipse: s-maj=5.2km s-min=4.0km az=91.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.53**	**6**	Pg	Pg	06 11 51.8	-0.1
	5.3nm,0.1s,SNR=7.9						
EPON				Lg	Lg	06 11 57.6	
	16nm,0.1s,SNR=5.0						
EPON	**Pontenova**	**0.53**	**6**	Pg	Pg	06 11 51.8	-0.1
	5.3nm,0.1s,SNR=7.9						
EPON				Lg	Lg	06 11 57.6	
	16nm,0.1s,SNR=5.0						
EAGO	**Agolada(Pontev**	**0.64**	**271**	Pg	Pg	06 11 53.6	-0.4
	6.6nm,0.1s,SNR=4.0						
EAGO				Lg	Lg	06 12 01.9	
	63nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**0.64**	**271**	Pg	Pg	06 11 53.6	-0.3
	6.6nm,0.1s,SNR=4.0						
EAGO				Lg	Lg	06 12 01.9	
	63nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**0.93**	**157**	Pg	Pg	06 11 59.6	+0.1
	5.7nm,0.1s,SNR=7.9						
ECAL				Lg	Lg	06 12 11.1	
	23nm,0.1s,SNR=5.8						
ECAL	**Calabor**	**0.93**	**157**	Pg	Pg	06 11 59.6	+0.1
	5.7nm,0.1s,SNR=7.9						
ECAL				Lg	Lg	06 12 11.1	
	23nm,0.1s,SNR=5.8						
STS	**Santiago**	**0.98**	**276**	Lg	Lg	06 12 12.6	
	15nm,0.2s,SNR=7.9						
STS	**Santiago**	**0.98**	**276**	Lg	Lg	06 12 12.6	
	15nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**1.05**	**160**	*e*S	Sg	06 12 14.7	-0.9
PBRG				A	A	06 12 15.1	
	13nm,0.2s						
PBRG	**Braganca**	**1.05**	**160**	S	Sg	06 12 14.7	-0.9
	6.7nm,0.2s						
PBRG	**Braganca**	**1.05**	**160**	*e*S	Sg	06 12 14.7	-0.9
	13nm,0.2s						
ELOB	**Lobios**	**1.12**	**214**	Pg	Pg	06 12 02.8	-0.4
	5.1nm,0.1s,SNR=7.9						
ELOB				Lg	Lg	06 12 17.3	
	8.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**1.12**	**214**	Pg	Pg	06 12 02.8	-0.4
	5.1nm,0.1s,SNR=7.9						
ELOB				Lg	Lg	06 12 17.3	
	8.2nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**1.14**	**223**	*e*S	Sg	06 12 18.2	-0.2
PGAV				A	A	06 12 19.6	
	13nm,0.1s						
PGAV	**Gavieira, Arco**	**1.14**	**223**	*e*S	Sg	06 12 18.2	-0.2
	13nm,0.1s						
PCAB	**Cabril**	**1.24**	**209**	*e*S	Sg	06 12 20.7	-0.9
PCAB				A	A	06 12 23.9	
	16nm,0.1s						
PCAB	**Cabril**	**1.24**	**209**	S	Sg	06 12 20.7	-0.9
	7.8nm,0.1s						
PCAB	**Cabril**	**1.24**	**209**	*e*S	Sg	06 12 20.7	-0.9
	16nm,0.1s						
EMAZ	**Mazaricos**	**1.30**	**277**	Lg	Lg	06 12 22.1	
	14nm,0.1s,SNR=5.5						
EMAZ	**Mazaricos**	**1.30**	**277**	Lg	Lg	06 12 22.1	
	14nm,0.1s,SNR=5.5						
POLO	**Lamas de Olo**	**1.48**	**197**	*e*Sg	Sg	06 12 28.6	-1.0
POLO				A	A	06 12 29.6	
	4.6nm,0.2s						
POLO	**Lamas de Olo**	**1.48**	**197**	*e*Sg	Sg	06 12 28.6	-1.0
	4.6nm,0.2s						
EARI	**Arriondas**	**1.56**	**70**	Lg	Lg	06 12 29.8	
	5.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**1.56**	**70**	Lg	Lg	06 12 29.8	
	5.3nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**1.56**	**194**	*e*Sg	Sn	06 12 30.9	-0.8
PVRL				A	A	06 12 32.2	
	16nm,0.2s						
PVRL	**Vila Real**	**1.56**	**194**	Lg	Lg	06 12 30.9	
	8.1nm,0.2s						
PVRL	**Vila Real**	**1.56**	**194**	*e*Sg	Sn	06 12 30.9	-0.8
	16nm,0.2s						
MVO	**Moncorvo**	**1.64**	**175**	*e*Sg	Sn	06 12 32.6	-1.0
MVO				A	A	06 12 34.5	
	10nm,0.2s						
MVO	**Moncorvo**	**1.64**	**175**	Lg	Lg	06 12 32.6	
	14nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**1.64**	**175**	*e*Sg	Sn	06 12 32.6	-1.0
	10nm,0.2s						
MVO				Lg	Lg	06 12 32.7	
	14nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**2.14**	**194**	*e*Sg	Sb	06 12 48.3	-0.2
PVIS				A	A	06 12 49.6	
	4.3nm,0.1s						
PVIS	**Viseu**	**2.14**	**194**	Lg	Lg	06 12 48.3	
	2.2nm,0.1s						
PVIS	**Viseu**	**2.14**	**194**	*e*Sg	Sb	06 12 48.3	-0.2
	4.3nm,0.1s						
MTE	**Manteigas**	**2.41**	**186**	*e*Sg	Sg	06 12 57.9	-1.3
MTE				A	A	06 12 58.4	
	3.8nm,0.2s						
MTE	**Manteigas**	**2.41**	**186**	Lg	Lg	06 12 57.9	
	1.9nm,0.2s						
MTE	**Manteigas**	**2.41**	**186**	*e*Sg	Sg	06 12 57.9	-1.3
	3.8nm,0.2s						

GUC 02 06:48:19.9±0.7, 34°.73S×71°.65W, h29km±3km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.44**	**128**	*i* P	Pb	06 48 29.2	-0.2
NICH				*e*P	Pn	06 48 29.2	-1.1
NICH				*i* S	Sb	06 48 36.1	+0.2
TALC	**Talca**	**0.67**	**179**	*e*P	Pb	06 48 32.7	-0.3
TALC				*e*S	Sb	06 48 41.9	-0.1
SJCH	**San Jose de Ma**	**1.53**	**45**	*e*P	Pn	06 48 45.5	+0.1
SJCH				*e*S	Sb	06 49 05.8	-1.1
LACH	**Col Las Americ**	**1.58**	**36**	*e*P	Pn	06 48 46.8	+0.8
LACH				*e*S	Sb	06 49 07.5	-0.8
CLCH	**Cerro Calan**	**1.62**	**35**	*e*P	Pn	06 48 47.7	+1.0
CLCH				*e*P	Pb	06 48 48.5	-0.8
CLCH				*e*S	Sb	06 49 09.0	-0.5
CLCH				*e*S	Sn	06 49 09.1	+2.4
YECH	**El Yeso**	**1.68**	**51**	*e*P	Pb	06 48 49.3	-1.3
YECH				*e*S	Sb	06 49 11.5	-0.2
IHA	**Instituto Hidr**	**1.70**	**0**	*e*P	Pn	06 48 48.8	+1.2
PEL	**Peldehue**	**1.78**	**27**	*e*P	Pn	06 48 50.3	+1.6
PEL				*e*S	Sb	06 49 13.3	-0.5
PEL				AML	AML	06 49 15.6	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**1.83**	**17**	*e*P	Pn	06 48 51.3	+1.5
ROCH				*e*S	Sb	06 49 14.8	-1.1
ROCH				AML	AML	06 49 17.1	
	comp=N,1μm,0.3s						

IDC ***02*** *06:50:23.9±0.9, 13°.30S×166°.66E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.0/33, mbtmp4.2/9, ML4.3/1, MS3.6/8, Ms1 3.6/8, ms1mx3.2/32, Error ellipse: s-maj=37.6km s-min=21.4km az=116.0*

ISCJB ***02*** *06:50:28.7±0.6, 13°.30S±0°.06×166°.6E±0°.1, h39km, mb4.2/11, MS3.6/6, Error ellipse: s-maj=18.7km s-min=8.2km az=0.7*

NEIC ***02*** *06:50:31.9±2.6, 13°.44S×166°.76E, h60km±24km, mb4.4/4, Error ellipse: s-maj=21.8km s-min=15.4km az=152.0*

ISC 02 06:50:30.2±0.7, 13°.18S±0°.07×166°.7E±0°.2, h39km, n30, σ1§46/31, mb4.3/11, MS3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.55**	**299**	LR	LR	06 55 17.6	
	comp=Z,190nm,20.2s,baz=135,slow=39						
DZM	**Mont Dzumac**	**8.84**	**181**	*e*Pn	**Pn**	**06 52 33.6**	**-1.9**
	29nm,0.2s						
DZM				*e*Sn	**Sn**	**06 54 18.3**	**+4.3**
	24nm,0.3s						
DZM				*e*LR	LR	06 54 43.7	
	412nm,22.4s						
DZM	**Mont Dzumac**	**8.84**	**181**	Pn	**Pn**	**06 52 33.6**	**-1.9**
	3.0nm,0.3s,baz=123,slow=23,SNR=38						
DZM				Sn	**Sn**	**06 54 14.8**	**+0.8**
	2.8nm,0.3s,baz=338,slow=19,SNR=2.5						
DZM				LR	LR	06 55 33.1	
	comp=Z,380nm,20.6s,baz=23,slow=36						
DZM	**Mont Dzumac**	**8.84**	**181**	*e*Pn	**Pn**	**06 52 33.6**	**-1.9**
	36nm,0.5s						
DZM				*e*Sn	**Sn**	**06 54 13.8**	**-0.1**
NOUC	**Port Laguerre**	**8.88**	**182**	*e*P	**Pn**	**06 52 35.4**	**-0.5**
NOUC				*e*S	Sn	06 54 21.1	+6.5
BAYA	**Yate Dam**	**8.93**	**179**	*e*P	**Pn**	**06 52 38.3**	**+1.7**
BAYA				*e*S	Sn	06 54 24.7	+8.8
EIDS	**Eidsvold**	**19.02**	**228**	*e*P	**P**	**06 54 49.2**	**+0.3**
	8.3nm,0.9s						
URZ	**Urewera**	**26.65**	**161**	LR	LR	07 05 21.2	
	comp=Z,183nm,19.7s,baz=360,slow=34						
JAY	**Jayapura**	**27.76**	**290**	LR	LR	07 07 57.8	
	comp=Z,77nm,19.5s,baz=136,slow=38						
WB2	**Warramunga Arr**	**31.64**	**253**	*e*P	**P**	**06 56 51.2**	**+1.3**
WRA	**Warramunga Arr**	**31.65**	**253**	P	**P**	**06 56 48.0**	**-2.0**
	0.4nm,0.5s,baz=86,slow=8.9,SNR=4.7						
WRA				PcP	**PcP**	**06 59 41.4**	**-0.2**
	0.3nm,0.3s,baz=81,slow=2.8,SNR=4.9						
WRA				LR	LR	07 09 13.7	
	comp=Z,189nm,18.7s,baz=105,slow=36						
ASAR	**Alice Springs**	**32.69**	**247**	P	**P**	**06 56 57.2**	**-1.9**
	0.6nm,0.6s,baz=74,slow=9.0,SNR=12						
ASAR				PcP	**PcP**	**06 59 43.9**	**-0.5**
	1.1nm,0.7s,baz=76,slow=2.4,SNR=8.2						
ASAR				ScP	**ScP**	**07 03 27.2**	**+1.8**
	1.0nm,0.9s,baz=71,slow=3.4,SNR=6.0						
ASAR				LR	LR	07 09 43.9	
	comp=Z,184nm,18.9s,baz=74,slow=36						
BATI	**Baumata**	**42.16**	**269**	LR	LR	07 15 32.8	
	comp=Z,96nm,20.0s,baz=127,slow=36						
KSRS	**Korea Array**	**62.13**	**326**	LR	LR	07 26 23.0	
	comp=Z,16nm,19.8s,baz=137,slow=35						
SEY	**Seymchan**	**76.69**	**353**	P	**P**	**07 02 17.8**	**+1.0**
	1.9nm,0.6s,baz=166,slow=7.3,SNR=8.0						
QSPA	**South Pole Qui**	**76.83**	**180**	*e*P	**P**	**07 02 16.4**	**-1.5**
	4.3nm,0.8s						
ULN	**Ulaanbaatar**	**80.54**	**324**	*e*P	**P**	**07 02 40.2**	**+1.7**
	2.8nm,0.8s						
SONM	**Songino Array**	**80.90**	**324**	P	**P**	**07 02 41.9**	**+1.5**
	1.2nm,0.7s,baz=144,slow=5.7,SNR=12						
COLA	**College**	**85.03**	**18**	*e*P	**P**	**07 03 01.9**	**+0.7**
	6.2nm,0.9s						
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**07 03 01.8**	**-0.5**
	1.3nm,0.4s,baz=229,slow=5.5,SNR=22						
MKAR	**Makanchi Array**	**95.67**	**317**	P	**P**	**07 03 52.9**	**+1.1**
	1.5nm,0.7s,baz=95,slow=6.3,SNR=18						
ZALV	**Zalesovo Beam**	**95.79**	**324**	P	**P**	**07 03 52.4**	**+0.2**
	2.3nm,0.7s,baz=132,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**96.46**	**27**	P	**P**	**07 03 54.2**	**-0.8**
	0.1nm,0.4s,baz=258,slow=4.8,SNR=6.6						
ARCES	**ARCESS Array B**	**118.61**	**345**	PKP	**PKPdf**	**07 09 12.8**	**-0.6**
	3.9nm,1.0s,baz=73,slow=1.8,SNR=26						
FINES	**FINESS Array B**	**124.07**	**338**	PKP	**PKPdf**	**07 09 23.5**	**-0.5**
	1.4nm,0.8s,baz=54,slow=2.4,SNR=5.0						
NOA	**NORSAR Array B**	**128.98**	**345**	PKP	**PKPdf**	**07 09 33.3**	**-0.2**
	0.8nm,0.8s,baz=32,slow=2.1,SNR=3.2						
BRTR	**Keskin Array B**	**131.04**	**312**	PKP	**PKPdf**	**07 09 38.1**	**-0.1**
	0.3nm,0.4s,baz=78,slow=1.3,SNR=2.9						
KEST	**Kesra**	**149.63**	**322**	PKPbc	**PKPbc**	**07 10 16.1**	**-0.1**
	1.2nm,0.8s,baz=333,slow=2.3,SNR=4.7						
ESDC	**Sonseca Array**	**152.34**	**344**	PKPbc	**PKPbc**	**07 10 22.3**	**0.0**
	0.2nm,0.4s,baz=17,slow=3.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.34**	**272**	PKP	**PKPdf**	**07 10 30.1**	**-1.3**
	1.2nm,1.1s,baz=88,slow=1.0,SNR=4.5						

IDC 02 07:16:25.7±2.5, 54°.02N×86°.48E, h0km, mb1 3.2/2, mb1mx2.9/55, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=22.1km s-min=13.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**267**	*i*		07 23 10.0	
	baz=84,slow=332,SNR=0.5						
ZALV	**Zalesovo Beam**	**0.98**	**266**	Pg	Pg	07 16 43.0	-1.7
	0.9nm,0.3s,baz=88,slow=18,SNR=11						
ZALV				Lg	Lg	07 16 58.6	
	1.6nm,0.3s,baz=89,slow=23,SNR=8.7						
KURBB	**Kurchatov Arra**	**5.95**	**238**	Pn	Pn	07 17 56.3	+1.4
	0.1nm,0.3s,baz=55,slow=13,SNR=11						
MKAR	**Makanchi Array**	**7.71**	**202**	Pn	Pn	07 18 20.0	+0.8
	0.2nm,0.3s,baz=24,slow=13,SNR=12						

ISCJB ***02*** *07:22:48.1±0.8, 20°.2S±0°.1×169°.7E±0°.1, h84km, mb3.7/7, Error ellipse: s-maj=20.1km s-min=10.6km az=149.2*

IDC ***02*** *07:22:51.7±3.9, 20°.25S×169°.53E, h105km±34km, mb3.5/7, mb1 3.8/9, mb1mx3.7/19, mbtmp3.9/9, Error ellipse: s-maj=31.4km s-min=23.9km az=29.0*

ISC 02 07:22:49.4±0.8, 20°.1S±0°.1×169°.6E±0°.1, h84km, n11, σ1§33/12, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.56**	**236**	P	**Pn**	**07 23 44.5**	**+2.0**
	6.5nm,0.3s,baz=72,slow=6.5,SNR=72						
DZM				S	**Sn**	**07 24 22.2**	**-1.4**
	44nm,0.3s,baz=328,slow=22,SNR=32						
URZ	**Urewera**	**19.20**	**162**	P	**P**	**07 27 06.8**	**+0.2**
	1.0nm,0.3s,baz=302,slow=2.4,SNR=12						
CTA	**Charters Tower**	**21.96**	**266**	P	**P**	**07 27 37.5**	**+1.0**
	2.0nm,0.4s,baz=88,slow=10.0,SNR=6.2						
ASAR	**Alice Springs**	**33.30**	**257**	P	**P**	**07 29 18.6**	**-0.7**
	1.7nm,0.7s,baz=92,slow=9.0,SNR=22						
VNDA	**Vanda**	**57.57**	**182**	P	**P**	**07 32 28.6**	**-1.3**
	0.5nm,0.6s,baz=353,slow=8.9,SNR=4.2						
SONM	**Songino Array**	**88.15**	**323**	P	**P**	**07 35 31.0**	**0.0**
	0.1nm,0.3s,baz=134,slow=4.4,SNR=2.5						
NVAR	**Mina Array Bea**	**89.09**	**48**	P	**P**	**07 35 36.4**	**+0.7**
	0.3nm,0.7s,baz=215,slow=7.3,SNR=3.6						
ILAR	**Eielson Array**	**90.95**	**17**	P	**P**	**07 35 42.0**	**-1.5**
	0.3nm,0.7s,baz=243,slow=4.7,SNR=6.5						
TXAR	**Lajitas Array**	**96.85**	**61**	P	**P**	**07 36 13.2**	**+1.7**
	0.4nm,0.9s,baz=251,slow=2.8,SNR=3.2						
EKA	**Eskdalemuir Ar**	**144.42**	**353**	PKP	**PKPab**	**07 42 12.8**	**-1.2**
	0.6nm,0.4s,baz=4.9,slow=2.9,SNR=7.3						
GERES	**GERESS Array B**	**145.44**	**332**	PKPbc	**PKPdf**	**07 42 17.4**	**-0.3**
	0.9nm,0.6s,baz=32,slow=5.2,SNR=6.7						

IDC ***02*** *07:27:46.6±0.8, 35°.88S×74°.34W, h0km, mb4.0/9, mb1 4.1/11, mb1mx4.0/29, mbtmp4.0/11, ML4.0/2, MS3.5/3, Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=24.5km s-min=20.2km az=93.0*

ISCJB ***02*** *07:27:49.5±0.5, 35°.94S±0°.04×74°.34W±0°.05, h33km, mb4.0/11, MS3.5/2, Error ellipse: s-maj=6.1km s-min=5.4km az=9.2*

GUC ***02*** *07:27:50.2±0.6, 36°.03S×74°.30W, h37km±3km, ML4.1*

NEIC ***02*** *07:27:51.9±0.6, 35°.84S×74°.25W, h35km, mb4.3/5, Error ellipse: s-maj=14.2km s-min=10.7km az=79.0*

ISC 02 07:27:51.3±0.6, 35°.95S±0°.05×74°.37W±0°.07, h35km, n31, σ1§23/38, mb4.0/11, 7C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.29**	**98**	*i*P	**Pn**	**07 28 11.3**	**-1.5**
COCH				*i* S	**Sn**	**07 28 27.6**	**-1.3**
CCSP	**San Pedro de C**	**1.35**	**132**	*i*P	**Pn**	**07 28 12.4**	**-1.3**
CCSP				*i* S	**Sn**	**07 28 29.0**	**-1.3**
CCSP				AML	AML	07 28 30.9	
	comp=E,7μm,0.6s						
LNCH	**Linares**	**2.25**	**88**	*i*P	**Pn**	**07 28 25.4**	**-0.6**
LNCH				*i* S	**Sn**	**07 28 52.3**	**-0.2**
TALC	**Talca**	**2.29**	**77**	*i*P	**Pn**	**07

comp=E,0.6nm,0.5s,baz=329,slow=5.4,SNR=3.0
MKAR Makanchi Array 159.48 51 PKP **PKPdf 07 47 46.4 +0.6**
comp=E,0.6nm,0.8s,baz=225,slow=0.3,SNR=3.7
MKAR PKPab **PKPab 07 48 24.1 +0.2**
comp=E,0.7nm,0.8s,baz=321,slow=3.1,SNR=4.4

IDC ***02*** *07:31:00.6±0.7, 6°.08N×126°.42E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/48, mbtmp3.6/7, MS3.2/3, Ms1 3.2/3, ms1mx2.6/44, Error ellipse: s-maj=70.1km s-min=17.3km az=71.0*

MAN ***02*** *07:31:02, 7°.20N×127°.33E, h16km, mb4.9, ML3.9, MS4.0*

ISC 02 07:31:10.2±0.7, 6°.09N±0°.10×126°.3E±0°.1, h74km, n24, σ0s95/18, mb3.6/7, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.85**	**356**	*e*P	Pn	07 31 22.5	-4.7
GSPH	**General Santos**	**1.36**	**270**	ǁ *i*P	Pn	07 31 27.2	-6.5
GSPH				*i* S	Sn	07 31 44.0	-7.3
BIPH	**Bislig**	**2.08**	**1**	ǁ *e*P	**Pn**	**07 31 41.6**	**-1.4**
BIPH				*e*S	Sn	07 32 10.6	+2.5
BUKP	**Musuan**	**2.17**	**325**	*e*P	**Pn**	**07 31 42.8**	**-1.6**
BUKP				*e*S	**Sn**	**07 32 10.7**	**+0.3**
CTBH	**Cotabato--PC H**	**2.34**	**299**	ǁ *i*P	**Pn**	**07 31 45.2**	**-1.5**
PAGZ	**Pagadian**	**3.40**	**301**	*e*P	**Pn**	**07 32 00.3**	**-0.7**
PMG	**Port Moresby**	**25.85**	**126**	LR	LR	07 48 00.3	
	comp=Z,31nm,19.2s,baz=59,slow=40						
WRA	**Warramunga Arr**	**27.05**	**163**	P	**P**	**07 36 44.7**	**-1.1**
	1.0nm,1.0s,baz=344,slow=9.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**29.38**	**297**	LR	LR	07 47 53.7	
	comp=Z,12nm,21.6s,baz=190,slow=34						
ASAR	**Alice Springs**	**30.49**	**166**	P	**P**	**07 37 15.7**	**-0.7**
	0.4nm,0.3s,baz=343,slow=7.1,SNR=15						
ASAR				PcP	**PcP**	**07 40 15.2**	**+0.9**
	0.4nm,0.5s,baz=354,slow=1.7,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**41.21**	**69**	T	T	08 22 39.6	
	baz=258,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**41.23**	**69**	T	T	08 22 41.0	
	baz=258,slow=75,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**41.23**	**69**	T	T	08 22 41.3	
	baz=258,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**41.67**	**67**	T	T	08 23 18.4	
	baz=249						
H11N2	**WAKE ISLAND Hy**	**41.68**	**67**	T	T	08 23 17.6	
	baz=249						
H11N3	**WAKE ISLAND Hy**	**41.69**	**67**	T	T	08 23 17.0	
	baz=249						
SONM	**Songino Array**	**44.94**	**341**	P	**P**	**07 39 19.2**	**+1.2**
	0.4nm,0.5s,baz=154,slow=6.9,SNR=3.8						
SONM				PcP	**PcP**	**07 40 59.3**	**+1.1**
	0.3nm,0.4s,baz=132,slow=2.1,SNR=4.8						
DZM	**Mont Dzumac**	**48.24**	**127**	LR	LR	07 58 23.0	
	comp=Z,193nm,19.4s,baz=166,slow=34						
MKAR	**Makanchi Array**	**55.40**	**325**	P	**P**	**07 40 36.6**	**-0.3**
	0.3nm,0.5s,baz=118,slow=7.3,SNR=3.0						
MKAR				PcP	**PcP**	**07 41 36.9**	**+0.4**
	0.3nm,0.5s,baz=113,slow=3.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**58.31**	**333**	P	**P**	**07 40 57.8**	**+0.5**
	0.3nm,0.4s,baz=127,slow=3.8,SNR=2.4						
ZALV				PcP	**PcP**	**07 41 48.1**	**+0.4**
	0.4nm,0.5s,baz=94,slow=4.3,SNR=2.5						
ILAR	**Eielson Array**	**83.16**	**26**	P	**P**	**07 43 27.6**	**-0.4**
	0.4nm,1.0s,baz=250,slow=5.0,SNR=5.9						
VNDA	**Vanda**	**85.81**	**173**	P	**P**	**07 43 40.9**	**-0.1**
	0.4nm,0.5s,baz=315,slow=6.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**121.78**	**289**	PKP	**PKPdf**	**07 49 56.8**	**0.0**
	0.4nm,0.8s,baz=53,slow=4.8,SNR=3.3						
CFAA	**Coronel Fontan**	**151.19**	**154**	PKPbc	**PKPbc**	**07 50 56.2**	**+0.4**
	0.2nm,0.5s,baz=185,slow=4.3,SNR=3.6						

IDC ***02*** *07:32:08.7±1.7, 31°.62S×178°.40W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/33, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=45.7km s-min=31.5km az=54.0*

ISCJB ***02*** *07:32:18.6±2.0, 32°.1S±0°.1×178°.9W±0°.3, h61km, mb3.7/3, Error ellipse: s-maj=38.1km s-min=15.8km az=8.3*

ISC 02 07:32:18.9±1.6, 32°.0S±0°.1×178°.8W±0°.3, h61km, n6, σ0s99/7, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.08**	**207**	Pn	**Pn**	**07 34 00.6**	**+0.7**
	1.1nm,0.3s,baz=342,slow=19,SNR=12						
URZ				Sn	**Sn**	**07 35 17.7**	**-1.1**
	2.1nm,0.3s,baz=97,slow=17,SNR=10						
ASAR	**Alice Springs**	**42.37**	**269**	P	**P**	**07 40 07.7**	**+0.3**
	0.6nm,0.6s,baz=101,slow=7.6,SNR=8.6						
WRA	**Warramunga Arr**	**43.50**	**274**	P	**P**	**07 40 16.6**	**+0.1**
	0.6nm,0.3s,baz=114,slow=8.0,SNR=3.5						
QSPA	**South Pole Qui**	**58.11**	**180**	P	**P**	**07 42 06.5**	**+0.7**
	1.1nm,1.0s,baz=53,slow=5.1,SNR=7.2						
FINES	**FINESS Array B**	**146.40**	**339**	PKPbc	**PKPdf**	**07 51 49.8**	**-1.0**
	1.0nm,0.6s,baz=16,slow=6.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**161.22**	**182**	PKPab	**PKPab**	**07 52 55.9**	**-0.8**
	0.2nm,0.6s,baz=198,slow=4.1,SNR=2.4						

BJI ***02*** *07:37:12.3, 41°.10N×34°.23E, h5km, mB4.9/7, mb4.5/12, Ms4.6/5, Ms7 4.2/5*

NEIC ***02*** *07:37:15.5, 40°.54N×34°.99E, h5km, mb4.3/17, ML4.5(ISK), After ISK.*

NEIC Felt at Ankara, Corum, Samsun and Yozgat.

IDC ***02*** *07:37:15.6±0.4, 40°.48N×34°.99E, h0km, mb4.1/23, mb1 4.2/34, mb1mx4.1/47, mbtmp4.1/34, ML3.9/9, MS3.3/24, Ms1 3.3/24, ms1mx3.3/46, Error ellipse: s-maj=9.4km s-min=6.9km az=160.0*

ISCJB ***02*** *07:37:16.3±0.4, 40°.57N±0°.01×35°.00E±0°.01, h10km±3km, mb4.2/47, MS3.4/14, Error ellipse: s-maj=2.1km s-min=1.7km az=179.7*

DDA ***02*** *07:37:16.1, 40°.49N×35°.05E, h19km, ML4.8*

CSEM ***02*** *07:37:16.9±0.1, 40°.56N×35°.03E, h2km, mb4.3/25, Ms3.2, Error ellipse: s-maj=2.3km s-min=2.0km az=179.0*

ISK ***02*** *07:37:16.3, 40°.55N×34°.99E, h8km, ML4.5*

MOS ***02*** *07:37:17.0±1.7, 40°.59N×35°.20E, h10km, mb4.6/34, Error ellipse: s-maj=5.4km s-min=4.0km az=113.7*

NSSC ***02*** *07:37:32.2±1.4, 39°.54N×35°.79E, h0km, 999KM*

ISC 02 07:37:18.6±0.4, 40°.54N±0°.02×35°.03E±0°.01, h15km±2km, n633, σ1s67/697, mb4.3/47, MS3.4/14, 26C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.20**	**296**	*i* P	**Pg**	**07 37 21.9**	**-1.5**
CTKT	**Corum**	**0.20**	**296**	*i* P	**Pg**	**07 37 21.9**	**-1.5**
CORM	**Corum**	**0.47**	**220**	PG	**Pg**	**07 37 25.9**	**-2.0**
CORM				*e*SG	**Sg**	**07 37 33.0**	**-1.2**
CORM	**Corum**	**0.47**	**220**	*i* Pg	**Pg**	**07 37 25.9**	**-2.0**
CORM				*e*Sg	**Sg**	**07 37 33.0**	**-1.2**
HAVZ	**Havza**	**0.75**	**44**	*i* P	**Pg**	**07 37 30.9**	**-2.3**
HAVZ				*i* S	**Sg**	**07 37 41.9**	**-1.3**
HAVZ	**Havza**	**0.75**	**44**	*i* P	**Pg**	**07 37 30.9**	**-2.3**
HAVZ				*i* S	**Sg**	**07 37 41.9**	**-1.3**
TOS	**Tosya**	**0.91**	**304**	*e*PG	**Pg**	**07 37 33.8**	**-2.4**
TOS	**Tosya**	**0.91**	**304**	*e*Pg	**Pg**	**07 37 33.8**	**-2.4**
YOZ	**Yozgat**	**0.92**	**166**	*e*PG	Pg	07 37 33.2	-3.3
YOZ	**Yozgat**	**0.92**	**166**	*e*Pg	Pg	07 37 33.2	-3.3
KVT	**Kavak**	**0.95**	**55**	*e*PG	**Pg**	**07 37 34.4**	**-2.5**
KVT				*e*SG	**Sb**	**07 37 48.4**	**-0.7**
KVT	**Kavak**	**0.95**	**55**	*e*Pg	**Pg**	**07 37 34.4**	**-2.5**
KVT				*e*Sg	**Sb**	**07 37 48.4**	**-0.7**
BYBT	**Boyabat**	**0.95**	**348**	*e*PG	**Pg**	**07 37 34.8**	**-2.2**
BYBT	**Boyabat**	**0.95**	**348**	*e*Pg	**Pg**	**07 37 34.8**	**-2.2**
CDAG	**Cicekdag**	**1.04**	**209**	*i* P	Pg	07 37 35.5	-3.2
CDAG	**Cicekdag**	**1.04**	**209**	*i* P	Pg	07 37 35.5	-3.2
CDAG				*i* S	**Sg**	**07 37 48.8**	**-3.4**
CANT	**Cankiri**	**1.07**	**274**	*e*PG	**Pb**	**07 37 36.9**	**-1.9**
ILGA	**Ilgaz**	**1.12**	**298**	*i* P	**Pb**	**07 37 38.1**	**-1.6**
ILGA				*i* S	**Sb**	**07 37 53.4**	**-0.8**
ILGA	**Ilgaz**	**1.12**	**298**	*i* P	**Pb**	**07 37 38.1**	**-1.6**
ILGA				*i* S	**Sb**	**07 37 53.4**	**-0.8**
DIKM	**Dikmen**	**1.13**	**9**	*e*Pn	**Pb**	**07 37 38.8**	**-0.9**
DIKM	**Dikmen**	**1.13**	**9**	*e*Pn	**Pb**	**07 37 38.8**	**-0.9**
TOKA	**Tokat**	**1.13**	**100**	*i* P	**Pb**	**07 37 37.1**	**-2.7**
TOKA				*i* S	**Sg**	**07 37 52.2**	**-2.9**
TOKA	**Tokat**	**1.13**	**100**	*i* P	**Pb**	**07 37 37.1**	**-2.7**
TOKA				*i* S	**Sg**	**07 37 52.2**	**-2.9**
ELDT	**Eldivan**	**1.22**	**268**	*i* P	**Pn**	**07 37 39.1**	**-2.1**
ELDT				*i* S	**Sb**	**07 37 55.0**	**-2.0**
ELDT	**Eldivan**	**1.22**	**268**	*i* P	**Pn**	**07 37 39.1**	**-2.1**
ELDT				*i* S	**Sb**	**07 37 55.0**	**-2.0**
ERBA	**Erbaa**	**1.32**	**83**	*i* P	**Pn**	**07 37 39.8**	**-2.8**
ERBA				*i* S	**Sb**	**07 37 58.6**	**-1.4**
ERBA	**Erbaa**	**1.32**	**83**	*i* P	**Pn**	**07 37 39.8**	**-2.8**
ERBA				*i* S	**Sb**	**07 37 58.6**	**-1.4**
BRTR	**Keskin Array B**	**1.33**	**233**	*i* P	**Pn**	**07 37 40.0**	**-2.8**
BRTR				pmax	pmax		
	comp=Z,5μm,0.6s						
BRTR	**Keskin Array B**	**1.33**	**233**	Pg	**Pn**	**07 37 40.5**	**-2.3**
	comp=Z,793nm,0.3s,baz=65,slow=15						
BRTR				Lg	Lg	07 37 58.3	
	comp=Z,390nm,0.3s,baz=60,slow=23,SNR=22						
BRTR				LR	LR	07 38 23.4	
	comp=Z,1μm,21.5s,baz=89,slow=53						
BRTR	**Keskin Array B**	**1.33**	**233**	*i* P	**Pn**	**07 37 40.0**	**-2.8**
	comp=Z,5μm,0.6s						
BZK	**Bozkurt**	**1.62**	**332**	*e*PN	**Pn**	**07 37 45.5**	**-1.1**
BZK	**Bozkurt**	**1.62**	**332**	*e*Pn	**Pn**	**07 37 45.5**	**-1.1**
SVSK	**Karacayir**	**1.63**	**112**	*e*PN	**Pn**	**07 37 46.4**	**-0.3**
SVSK	**Karacayir**	**1.63**	**112**	*e*Pn	**Pn**	**07 37 46.4**	**-0.3**
SCER	**sogukcermik**	**1.75**	**112**	*i* P	**Pn**	**07 37 48.0**	**-0.5**
SCER				*i* S	**Sb**	**07 37 48.0**	**-0.5**
SCER	**sogukcermik**	**1.75**	**112**	*i* P	**Pn**	**07 37 48.0**	**-0.5**
SCER				*i* S	**Sb**	**07 37 48.0**	**-0.5**
RSDY	**Resadiye-TOKAT**	**1.76**	**94**	*e*PN	**Pn**	**07 37 48.3**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.76**	**94**	*e*Pn	**Pn**	**07 37 48.3**	**-0.2**
BBAL	**Bala**	**1.77**	**236**	*i* P	**Pn**	**07 37 48.3**	**-0.4**
BBAL				*i* S	**Sb**	**07 38 12.7**	**0.0**
BBAL	**Bala**	**1.77**	**236**	*i* P	**Pn**	**07 37 48.3**	**-0.4**
BBAL				*i* S	**Sb**	**07 38 12.7**	**0.0**
BNN	**Bunyan**	**1.80**	**159**	*e*PN	**Pn**	**07 37 48.9**	**-0.2**
BNN	**Bunyan**	**1.80**	**159**	*e*Pn	**Pn**	**07 37 48.9**	**-0.2**
ANTO	**Ankara**	**1.83**	**249**	*e*PN	**Pn**	**07 37 49.0**	**-0.5**
ANTO	**Ankara**	**1.83**	**249**	*e*P	**Pn**	**07 37 49.3**	**-0.3**
ANTO				*e*		07 38 18.4	
ANTO	**Ankara**	**1.83**	**249**	ǁ *i*P	**Pn**	**07 37 49.4**	**-0.2**
ANTO	**Ankara**	**1.83**	**249**	S	**Sn**	**07 38 12.7**	**+0.1**
ANTO	**Ankara**	**1.83**	**249**	*e*P	**Pn**	**07 37 49.3**	**-0.3**
ANTO				*e*S	**Sg**	**07 38 18.4**	**+0.8**
ANTO	**Ankara**	**1.83**	**249**	*e*Pn	**Pn**	**07 37 49.3**	**-0.3**
ANTO				*e*Sg	**Sg**	**07 38 18.4**	**+0.8**
LOD	**Lodumlu**	**1.85**	**250**	*e*PN	**Pn**	**07 37 49.7**	**-0.6**
LOD	**Lodumlu**	**1.85**	**250**	*e*Pn	**Pn**	**07 37 49.2**	**-0.6**
AFSR	**Afˇar-Bala (A**	**1.85**	**235**	*e*PN	**Pn**	**07 37 49.7**	**-0.2**
AFSR	**Afˇar-Bala (A**	**1.85**	**235**	*e*Pn	**Pn**	**07 37 49.7**	**-0.2**
SAFT	**Safranbolu**	**1.91**	**292**	*e*PN	**Pn**	**07 37 49.4**	**-1.1**
SAFT	**Safranbolu**	**1.91**	**292**	*e*Pn	**Pn**	**07 37 49.4**	**-1.1**
PINB	**Pinarbasi**	**2.14**	**150**	*i* P	**Pn**	**07 37 53.9**	**-0.1**
PINB				*i* S	**Sn**	**07 38 21.2**	**+0.8**
PINB	**Pinarbasi**	**2.14**	**150**	*i* P	**Pn**	**07 37 53.9**	**-0.1**
PINB				*i* S	**Sn**	**07 38 21.2**	**+0.8**
BCAM	**Yenicaga**	**2.27**	**278**	*i* P	**Pn**	**07 37 55.3**	**-0.3**
BCAM	**Yenicaga**	**2.27**	**278**	*i* P	**Pn**	**07 37 55.3**	**-0.3**
BCAM				*i* S	**Sb**	**07 38 27.7**	**+0.5**
NIG	**Nigde**	**2.44**	**188**	*e*PN	**Pn**	**07 37 57.6**	**-0.5**
NIG	**Nigde**	**2.44**	**188**	*e*Pn	**Pn**	**07 37 57.6**	**-0.5**
SUSE	**Susehri**	**2.45**	**97**	*i* P	**Pn**	**07 37 59.1**	**+1.0**
SUSE	**Susehri**	**2.45**	**97**	*i* P	**Pn**	**07 37 59.1**	**+1.0**
SUSE				*i* S	**Sb**	**07 38 31.0**	**-1.4**
GRSN	**GIRESUNGRSN**	**2.50**	**80**	*i* P	**Pn**	**07 37 58.0**	**-0.6**
GRSN	**GIRESUNGRSN**	**2.50**	**80**	*i* P	**Pn**	**07 37 58.0**	**-0.6**
GRSN				*i* S	**Sb**	**07 38 32.3**	**-1.3**
SULT	**Sultanhani-AKS**	**2.61**	**207**	*e*PN	**Pn**	**07 38 00.8**	**+0.5**
SULT	**Sultanhani-AKS**	**2.61**	**207**	*e*Pn	**Pn**	**07 38 00.8**	**+0.5**
DARE	**Darende-Malaty**	**2.73**	**135**	*e*PN	**Pn**	**07 38 02.2**	**+0.2**
DARE	**Darende-Malaty**	**2.73**	**135**	*e*Pn	**Pn**	**07 38 02.2**	**+0.2**
KDZE	**Karadeniz Ereo**	**2.82**	**287**	*e*PN	**Pn**	**07 38 02.9**	**-0.3**
KDZE	**Karadeniz Ereo**	**2.82**	**287**	*e*Pn	**Pn**	**07 38 02.9**	**-0.3**
ESPY	**Espiye-Giresun**	**2.84**	**81**	*e*PN	**Pn**	**07 38 04.5**	**+1.1**
ESPY	**Espiye-Giresun**	**2.84**	**81**	*e*Pn	**Pn**	**07 38 04.5**	**+1.1**
SVRH	**Sivrihisar-ESK**	**2.90**	**249**	*e*PN	**Pn**	**07 38 03.6**	**-0.7**
SVRH	**Sivrihisar-ESK**	**2.90**	**249**	*e*Pn	**Pn**	**07 38 03.6**	**-0.7**
MDUB	**Mudurnu**	**2.92**	**270**	*e*PN	**Pn**	**07 38 04.3**	**-0.2**
MDUB	**Mudurnu**	**2.92**	**270**	*e*Pn	**Pn**	**07 38 04.3**	**-0.2**
ILIC	**ilic-Erzincan**	**2.93**	**111**	*e*PN	**Pn**	**07 38 05.8**	**+1.1**
ILIC	**ilic-Erzincan**	**2.93**	**111**	*e*Pn	**Pn**	**07 38 05.8**	**+1.1**
KIZT	**Kizilcal**	**2.94**	**237**	*e*PN	**Pn**	**07 38 04.3**	**-0.5**
KIZT	**Kizilcal**	**2.94**	**237**	*e*Pn	**Pn**	**07 38 04.3**	**-0.5**
KEMA	**Kemaliye**	**2.95**	**114**	*i* P	**Pn**	**07 38 04.8**	**-0.2**
KEMA	**Kemaliye**	**2.95**	**114**	*i* P	**Pn**	**07 38 04.8**	**-0.2**
KEMA				*i* S	**Sn**	**07 38 37.8**	**-2.4**
KDHN	**Kadinhani**	**3.02**	**229**	*i* P	**Pn**	**07 38 05.2**	**-0.7**
KDHN				*i* S	**Sn**	**07 38 42.0**	**+0.2**
KDHN	**Kadinhani**	**3.02**	**229**	*i* P	**Pn**	**07 38 05.2**	**-0.7**
KDHN				*i* S	**Sn**	**07 38 42.0**	**+0.2**
BTAS	**Taskesti**	**3.07**	**272**	*i* P	**Pn**	**07 38 06.6**	**+0.1**
BTAS				*i* S	**Sn**	**07 38 45.4**	**+2.5**
BTAS	**Taskesti**	**3.07**	**272**	*i* P	**Pn**	**07 38 06.6**	**+0.1**
BTAS				*i* S	**Sn**	**07 38 45.4**	**+2.5**
LADK	**Ladik-KONYA**	**3.11**	**222**	*e*PN	**Pn**	**07 38 07.7**	**+0.5**
LADK	**Ladik-KONYA**	**3.11**	**222**	*e*Pn	**Pn**	**07 38 07.7**	**+0.5**
KOZT	**Kozan**	**3.11**	**168**	*e*PN	**Pn**	**07 38 07.3**	**+0.2**
KOZT	**Kozan**	**3.11**	**168**	*e*Pn	**Pn**	**07 38 07.3**	**+0.2**
ANDN	**Andirin**	**3.12**	**160**	*i* P	**Pn**	**07 38 07.5**	**+0.1**
ANDN	**Andirin**	**3.12**	**160**	*i* P	**Pn**	**07 38 07.5**	**+0.1**
ANDN				*i* S	**Sb**	**07 38 54.5**	**+2.6**
AKCD	**Akcadag**	**3.17**	**134**	*i* P	**Pn**	**07 38 07.8**	**-0.2**
AKCD	**Akcadag**	**3.17**	**134**	*i* P	**Pn**	**07 38 07.8**	**-0.2**
AKCD				*i* S	**Sb**	**07 38 54.5**	**+1.4**
GULE	**Gulek**	**3.25**	**183**	*i* P	**Pn**	**07 38 09.1**	**-0.1**
GULE	**Gulek**	**3.25**	**183**	*i* P	**Pn**	**07 38 09.1**	**-0.1**
GULE				*i* S	**Sb**	**07 38 54.4**	**-1.2**
KELT	**Kelkit**	**3.26**	**95**	*i* P	**Pn**	**07 38 08.9**	**-0.4**
KELT	**Kelkit**	**3.26**	**95**	*i* P	**Pn**	**07 38 08.9**	**-0.4**
KELT				*i* S	**Sg**	**07 39 00.8**	**-2.4**
KARA	**Karaisali**	**3.27**	**180**	*e*PN	**Pn**	**07 38 09.6**	**+0.3**
KARA	**Karaisali**	**3.27**	**180**	*e*Pn	**Pn**	**07 38 09.6**	**+0.3**
KONT	**Konya--Tatoy**	**3.31**	**220**	*e*PN	**Pn**	**07 38 09.1**	**-0.8**
KONT	**Konya--Tatoy**	**3.31**	**220**	*e*Pn	**Pn**	**07 38 09.1**	**-0.8**
KMRS	**Kahramanmaras**	**3.36**	**154**	*e*PN	**Pn**	**07 38 11.2**	**+0.7**
KMRS	**Kahramanmaras**	**3.36**	**154**	*e*Pn	**Pn**	**07 38 11.2**	**+0.7**
ESKT	**Eskisehir**	**3.36**	**254**	*e*PN	**Pn**	**07 38 10.2**	**-0.5**
ESKT	**Eskisehir**	**3.36**	**254**	*e*Pn	**Pn**	**07 38 10.2**	**-0.5**
SEYT	**Eskypehyr**	**3.36**	**254**	*i* P	**Pn**	**07 38 09.8**	**-0.8**
SEYT	**Eskypehyr**	**3.36**	**254**	*i* P	**Pn**	**07 38 09.8**	**-0.8**
GUMT	**Gumushane**	**3.40**	**90**	*e*PN	**Pn**	**07 38 11.9**	**+0.7**
GUMT	**Gumushane**	**3.40**	**90**	*e*Pn	**Pn**	**07 38 11.9**	**+0.7**
GULT	**Gulveren**	**3.44**	**270**	*e*PN	**Pn**	**07 38 11.8**	**+0.1**
GULT	**Gulveren**	**3.44**	**270**	*e*Pn	**Pn**	**07 38 11.8**	**+0.1**
MALT	**Malatya**	**3.44**	**129**	*e*PN	**Pn**	**07 38 12.3**	**+0.5**
MALT	**Malatya**	**3.44**	**129**	ǁ *i*P	**Pn**	**07 38 11.2**	**-0.6**
MALT	**Malatya**	**3.44**	**129**	ǁ *i*P	**Pn**	**07 38 11.2**	**-0.6**
MALT	**Malatya**	**3.44**	**129**	*e*Pn	**Pn**	**07 38 12.3**	**+0.5**
HCB	**Kahramanmara˜**	**3.51**	**155**	*i* P	**Pn**	**07 38 12.1**	**-0.5**
HCB				*i* S	**Sb**	**07 39 03.9**	**+1.1**
BORA	**Eskisehir**	**3.56**	**261**	*i* P	**Pn**	**07 38 12.7**	**-0.7**
BORA	**Eskisehir**	**3.56**	**261**	*i* P	**Pn**	**07 38 12.7**	**-0.7**
BORA				*i* S	**Sn**	**07 38 52.8**	**-2.5**
CEYT	**Ceyhan**	**3.56**	**171**	*e*PN	**Pn**	**07 38 13.3**	**0.0**
CEYT	**Ceyhan**	**3.56**	**171**	*e*Pn	**Pn**	**07 38 13.3**	**0.0**
KTUT	**Trabzon**	**3.63**	**81**	*e*PN	**Pn**	**07 38 15.4**	**+1.2**
KTUT	**Trabzon**	**3.63**	**81**	*e*Pn	**Pn**	**07 38 15.4**	**+1.2**
MERS	**Mersin**	**3.68**	**186**	*e*PN	**Pn**	**07 38 16.3**	**+1.3**
MERS	**Mersin**	**3.68**	**186**	*e*Pn	**Pn**	**07 38 16.3**	**+1.3**
ERZN	**Erzincan**	**3.73**	**103**	*e*PN	**Pn**	**07 38 16.1**	**+0.4**
PTK	**Pertek**	**3.75**	**115**	*e*PN	**Pn**	**07 38 16.0**	**0.0**
PTK	**Pertek**	**3.75**	**115**	*e*Pn	**Pn**	**07 38 16.0**	**0.0**
BAYT	**Ayd˜–ntepe-Bay**	**3.91**	**90**	*e*PN	**Pn**	**07 38 19.5**	**+1.4**
BAYT	**Ayd˜–ntepe-Bay**	**3.91**	**90**	*e*Pn	**Pn**	**07 38 19.5**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.95**	**122**	*e*PN	**Pn**	**07 38 18.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.95**	**122**	*e*Pn	**Pn**	**07 38 18.9**	**+0.1**
CAVI	**Cavuskoy**	**3.97**	**267**	*e*PN	**Pn**	**07 38 18.5**	**-0.4**
CAVI	**Cavuskoy**	**3.97**	**267**	*e*Pn	**Pn**	**07 38 18.5**	**-0.4**
SHUT	**Suhut-Afyon**	**3.98**	**242**	*e*PN	**Pn**	**07 38 19.5**	**+0.3**
SHUT	**Suhut-Afyon**	**3.98**	**242**	*e*Pn	**Pn**	**07 38 19.5**	**+0.3**
YAL	**Yalta**	**4.00**	**351**	ǁ *i*P	**Pn**	**07 38 19.3**	**0.0**
YAL				*e*S	**Sn**	**07 39 08.1**	**+2.2**
YAL	**Yalta**	**4.00**	**351**	*i* P	**Pn**	**07 38 19.3**	**0.0**
YAL				*e*S	**Sn**	**07 39 08.1**	**+2.2**
ADVT	**Abdulvahap**	**4.03**	**270**	*e*PN	**Pn**	**07 38 20.0**	**+0.3**
ADVT	**Abdulvahap**	**4.03**	**270**	*e*Pn	**Pn**	**07 38 20.0**	**+0.3**
ALT	**Altintas**	**4.06**	**250**	P	**Pn**	**07 38 19.9**	**-0.4**
ALT	**Altintas**	**4.06**	**250**	*e*PN	**Pn**	**07 38 21.2**	**+0.9**
ALT	**Altintas**	**4.06**	**250**	P	**Pn**	**07 38 19.9**	**-0.4**
ALT	**Altintas**	**4.06**	**250**	*e*Pn	**Pn**	**07 38 21.2**	**+0.9**
HRT	**Hereke**	**4.08**	**276**	*e*PN	**Pn**	**07 38 20.6**	**+0.1**
HRT	**Hereke**	**4.08**	**276**	*e*Pn	**Pn**	**07 38 20.6**	**+0.1**
KUZU	**Kuzuini**	**4.08**	**156**	*i* P	**Pn**	**07 38 20.5**	**0.0**
KUZU	**Kuzuini**	**4.08**	**156**	*i* P	**Pn**	**07 38 20.5**	**0.0**
KUZU				*i* S	**Sb**	**07 39 22.6**	**+3.2**
KIZK	**Mersin**	**4.11**	**190**	*i* P	**Pn**	**07 38 22.2**	**+1.4**
KIZK	**Mersin**	**4.11**	**190**	*i* P	**Pn**	**07 38 22.2**	**+1.4**
KIZK				*i* S	**Sb**	**07 39 19.8**	**-0.2**
SILT	**Sile**	**4.13**	**280**	*e*PN	**Pn**	**07 38 21.4**	**+0.3**
SILT	**Sile**	**4.13**	**280**	*e*Pn	**Pn**	**07 38 21.4**	**+0.3**
SEV	**Sevastopol'**	**4.13**	**346**	ǁ *e*P	**Pn**	**07 38 20.2**	**-0.9**
SEV				*e*S	**Sn**	**07 39 08.1**	**-1.0**
SEV	**Sevastopol'**	**4.13**	**346**	*e*P	**Pn**	**07 38 20.2**	**-0.9**
SEV				*e*S	**Sn**	**07 39 08.1**	**-1.0**
ALU	**Alushta**	**4.17**	**354**	*e*P	**Pn**	**07 38 19.8**	**-1.8**
ALU				*e*S	**Sn**	**07 39 07.6**	**-2.4**
ALU	**Alushta**	**4.17**	**354**	*e*P	**Pn**	**07 38 19.8**	**-1.8**
ALU				*e*S	**Sn**	**07 39 07.6**	**-2.4**
URFA	**Urfa**	**4.28**	**135**	*e*PN	**Pn**	**07 38 25.1**	**+1.9**
URFA	**Urfa**	**4.28**	**135**	*e*Pn	**Pn**	**07 38 25.1**	**+1.9**
SUDU	**Sudak**	**4.35**	**360**	*e*P	**Pn**	**07 38 23.4**	**-0.7**
SUDU				*e*S	**Sn**	**07 39 13.4**	**-1.1**
SUDU	**Sudak**	**4.35**	**360**	*e*P	**Pn**	**07 38 23.4**	**-0.7**
SUDU				*e*S	**Sn**	**07 39 13.4**	**-1.1**
TVSB	**Tavsanli**	**4.41**	**258**	*e*PN	**Pn**	**07 38 24.6**	**-0.4**
TVSB	**Tavsanli**	**4.41**	**258**	*e*Pn	**Pn**	**07 38 24.6**	**-0.4**
ISP	**Isparta**	**4.42**	**234**	P	**Pn**	**07 38 24.5**	**-0.7**
ISP	**Isparta**	**4.42**	**234**	*e*PN	**Pn**	**07 38 24.6**	**-0.6**

DALY Dalyan (Mu˙la 6.21 235 *e*PN **Pn 07 38 50.8 +1.1**
DALY Dalyan (Mu˙la 6.21 235 *e*Pn **Pn 07 38 50.8 +1.1**
YER Yerkesik 6.26 239 *e*Pn **Pn 07 38 51.0 +0.6**
YER Yerkesik 6.26 239 *e*Pn **Pn 07 38 51.1 +0.6**
TIRR Tirgusor 6.26 311 *e*P **Pn 07 38 49.1 -1.3**
TIRR *e* 07 39 58.9
TIRR Tirgusor 6.26 311 ⇑*i*P **Pn 07 38 49.4 -1.0**
TIRR Tirgusor 6.26 311 S **Sn 07 39 58.7 -2.9**
TIRR Tirgusor 6.26 311 *e*P **Pn 07 38 49.1 -1.3**
TIRR Tirgusor 6.26 311 *e*Pn **Pn 07 38 49.1 -1.3**
TIRR *e*Sn **Sn 07 39 58.9 -2.7**
LPK Lapseki 6.31 271 *e*PN **Pn 07 38 52.2 +1.2**
LPK Lapseki 6.31 271 *e*Pn **Pn 07 38 52.2 +1.2**
IZM Izmir 6.37 253 *e*PN **Pn 07 38 52.4 +0.5**
IZM Izmir 6.37 253 *e*Pn **Pn 07 38 52.4 +0.5**
EDRB Edirne 6.38 285 *e*PN **Pn 07 38 53.6 +1.6**
EDRB Edirne 6.38 285 *e*Pn **Pn 07 38 53.6 +1.6**
ERIK Erikli-Kesan 6.48 274 *e*PN **Pn 07 38 54.3 +1.0**
ERIK Erikli-Kesan 6.48 274 *e*Pn **Pn 07 38 54.3 +1.0**
GELI Tayfur-Gelibol 6.52 272 *e*PN **Pn 07 38 54.5 +0.6**
GELI Tayfur-Gelibol 6.52 272 *e*Pn **Pn 07 38 54.5 +0.6**
BLCB Balcova 6.54 253 *e*PN **Pn 07 38 54.8 +0.6**
BLCB Balcova 6.54 253 *e*Pn **Pn 07 38 54.8 +0.6**
TLB Topalu 6.55 310 ⇑*i*P **Pn 07 38 53.3 -1.0**
TLB Topalu 6.55 310 S **Sn 07 40 04.8 -4.0**
MARH Ras Al Marh 6.60 169 *e*P **Pn 07 38 57.5 +2.2**
MARH Ras Al Marh 6.60 169 *e*P **Pn 07 38 57.4 +2.1**
MARH Ras Al Marh 6.60 169 *e*P **Pn 07 38 57.4 +2.1**
SNR=112
MARH Ras Al Marh 6.60 169 *e*P **Pn 07 38 57.5 +2.1**
SNR=46
JMB Yambol 6.62 290 P **Pn 07 38 57.6 +2.3**
KIV Kislovodsk 6.63 56 *e*P **Pn 07 38 55.7 +0.2**
KIV Kislovodsk 6.63 56 *e*P **Pn 07 38 55.7 +0.2**
KIV Kislovodsk 6.63 56 *e*Pn **Pn 07 38 55.7 +0.2**
ONI Oni 6.65 69 P **Pn 07 38 55.7 0.0**
KBZ Khabaz 6.67 59 Pn **Pn 07 38 56.3 +0.5**
comp=Z,1.4nm,0.3s,baz=259,slow=12,SNR=28
KBZ LR LR 07 42 11.6
comp=Z,81nm,19.9s,baz=260,slow=44
HARR Harsova 6.68 311 ⇓*i*P **Pn 07 38 55.4 -0.7**
EZN Ezine 6.70 267 *e*PN **Pn 07 38 56.8 +0.5**
EZN Ezine 6.70 267 *e*Pn **Pn 07 38 56.8 +0.5**
ALN Alexandroupoli 6.83 276 P **Pn 07 38 57.5 -0.7**
ALN Alexandroupoli 6.83 276 *e*P **Pn 07 38 57.4 -0.7**
PRK Paraskevi 6.85 262 *e*P **Pn 07 38 58.3 -0.2**
CFR Carcaliu 6.87 315 ⇑*i*P **Pn 07 38 57.4 -1.2**
CFR Carcaliu 6.87 315 S **Sn 07 40 12.0 -4.4**
SMG Samos 6.96 249 *e*P **Pn 07 39 00.6 +0.6**
ZEI Tsey 7.02 68 *e*P **Pn 07 39 00.8 -0.1**
ZEI pmax pmax
comp=Z,33nm,0.9s
ZEI Tsey 7.02 68 *e*P **Pn 07 39 00.8 -0.1**
comp=Z,33nm,0.9s
QASN Qassioun 7.06 171 *e*P **Pn 07 39 01.7 +0.3**
QASN Qassioun 7.06 171 *e*P **Pn 07 39 02.1 +0.7**
QASN Qassioun 7.06 171 *e*P **Pn 07 39 02.1 +0.7**
SNR=100
QASN Qassioun 7.06 171 *e*P **Pn 07 39 01.7 +0.3**
SNR=46
BRBR Barbar 7.15 174 *e*P **Pn 07 39 04.2 +1.4**
BRBR Barbar 7.15 174 *e*P **Pn 07 39 03.4 +0.6**
BRBR Barbar 7.15 174 *e*P **Pn 07 39 03.4 +0.6**
SNR=98
BRBR Barbar 7.15 174 *e*P **Pn 07 39 04.2 +1.4**
SNR=46
SIGR SIGRI 7.18 262 P **Pn 07 39 02.5 -0.4**
SIGR SIGRI 7.18 262 *e*P **Pn 07 39 02.5 -0.4**
RDO Rodhopi 7.22 278 P **Pn 07 39 03.3 -0.2**
RDO Rodhopi 7.22 278 *e*P **Pn 07 39 03.4 -0.1**
SMTH Samothraki Isl 7.24 273 P **Pn 07 39 02.8 -1.0**
SMTH Samothraki Isl 7.24 273 *e*P **Pn 07 39 02.8 -1.0**
TOTH TOTAH 7.25 171 *e*P **Pn 07 39 05.6 +1.6**
TOTH TOTAH 7.25 171 *e*P **Pn 07 39 05.6 +1.6**
TOTH TOTAH 7.25 171 *e*P **Pn 07 39 05.6 +1.6**
SNR=97
TOTH TOTAH 7.25 171 *e*P **Pn 07 39 05.6 +1.6**
SNR=46
CHOS Chios island 7.26 256 P **Pn 07 39 03.6 -0.6**
CHOS Chios island 7.26 256 *e*P **Pn 07 39 04.2 0.0**
KDZ Kurdzhali 7.34 282 ⇑*i*P **Pn 07 39 08.3 +0.1**
TBLG Delisi 7.43 78 P Pn 07 39 11.6 +5.2
GNI Garni 7.43 90 Pn **Pn 07 39 07.1 +0.5**
comp=Z,2.2nm,0.3s,baz=234,slow=21,SNR=3.4
GNI LR LR 07 41 42.0
comp=Z,202nm,18.9s,baz=320,slow=36
MMAI Mount Meron Ar 7.51 178 Pn **Pn 07 39 07.5 -0.1**
comp=Z,17nm,0.3s,baz=354,slow=13,SNR=39
MMAI Sn **Sn 07 40 27.0 -5.6**
baz=342,slow=18,SNR=1.9
LIA Limnos Island 7.56 268 P **Pn 07 39 08.1 -0.1**
LIA Limnos Island 7.56 268 *e*P **Pn 07 39 08.2 0.0**
ISR Istrita 7.73 309 ⇑*i*P **Pn 07 39 10.9 +0.3**
ISR Istrita 7.73 309 S **Sn 07 40 38.1 +0.2**
DGRG David-gareji 7.88 80 P Pn 07 39 18.2 +5.6
TCHB Talchebab 7.89 174 *e*P **Pn 07 39 14.6 +1.9**
TCHB Talchebab 7.89 174 *e*P **Pn 07 39 14.6 +1.9**
SNR=46
SALA Sala 7.93 170 *e*P **Pn 07 39 14.5 +1.1**
SALA Sala 7.93 170 *e*P **Pn 07 39 14.5 +1.1**
SNR=46
KAVA Kavala 7.99 277 P **Pn 07 39 12.8 -1.3**
KAVA Kavala 7.99 277 *e*P **Pn 07 39 13.6 -0.5**
VRI Vrincioaia 8.07 314 ⇓*i*P **Pn 07 39 15.8 +0.7**
PLOR Plostina 8.10 314 ⇓*i*P **Pn 07 39 15.9 +0.3**
APE Apeiranthos 8.18 248 *e*P **Pn 07 39 17.4 +0.6**
APE Apeiranthos 8.18 248 ⇓*i*P **Pn 07 39 17.6 +0.8**
MLR Muntele Rosu 8.29 310 ⇑*i*P **Pn 07 39 17.8 -0.5**
MLR Muntele Rosu 8.29 310 Pn **Pn 07 39 17.8 -0.5**
comp=Z,0.4nm,0.3s,baz=34,slow=20,SNR=13
MLR Sn **Sn 07 40 48.0 -3.7**
comp=Z,0.3nm,0.3s,baz=101,slow=16,SNR=2.5
MLR LR LR 07 43 30.7
comp=Z,79nm,19.1s,baz=136,slow=45
NVR Nevrokopi 8.49 279 P **Pn 07 39 20.1 -0.9**
NVR Nevrokopi 8.49 279 *e*P **Pn 07 39 21.1 +0.1**
TESR Tescani 8.52 317 ⇑*i*P **Pn 07 39 20.3 -1.1**
MMB Musomiste 8.60 281 ⇑*i*P **Pn 07 39 22.3 -0.2**
SRS Serrai 8.69 278 P **Pn 07 39 21.4 -2.3**
PAIG Paliouri 8.70 270 *e*P **Pn 07 39 22.5 -1.3**
VOIR 8.80 307 ⇓*i*P **Pn 07 39 25.6 +0.4**
DOPR Dopca 8.88 311 ⇑*i*P **Pn 07 39 25.7 -0.6**
MRKA Markates 9.01 262 *e*P **Pn 07 39 27.8 -0.4**
VTS Vitosha 9.09 287 ⇑*i*P **Pn 07 39 28.9 -0.5**
NEO Neokhori 9.15 266 *e*P **Pn 07 39 29.4 -0.6**
XOR Xorichti 9.16 267 *e*P **Pn 07 39 29.6 -0.6**
KNT Kendrikon 9.21 278 P **Pn 07 39 30.5 -0.4**
KNT Kendrikon 9.21 278 *e*P **Pn 07 39 31.7 +0.8**
IDI Anoyia 9.57 240 Pn **Pn 07 39 35.7 -0.1**
comp=Z,0.5nm,0.3s,baz=57,slow=12,SNR=9.9
IDI LR LR 07 44 08.6
comp=Z,168nm,18.5s,baz=73,slow=43
LOT Lotru 9.60 304 ⇑*i*P **Pn 07 39 36.6 +0.4**
MAK Makhachkala 9.64 71 *e*P Pn 07 39 41.2 +4.6
LTK Loutraki 9.68 259 *e*P **Pn 07 39 37.7 +0.4**
AGG Agios Georgios 9.89 265 *e*P **Pn 07 39 40.1 -0.1**
BURAR Bucovina Array 9.99 318 ⇓*i*P **Pn 07 39 40.8 -0.7**
MAKR Makrakomi, Fth 10.04 265 P **Pn 07 39 42.6 +0.3**
MAKR Makrakomi, Fth 10.04 265 *e*P **Pn 07 39 42.9 +0.6**
KALE Kalithea 10.19 262 *e*P **Pn 07 39 44.6 +0.3**
VLI Veliai 10.20 252 P **Pn 07 39 44.6 +0.3**
VLI Veliai 10.20 252 *e*P **Pn 07 39 45.5 +1.2**
KLV Kalavryta, Ach 10.29 260 *e*P **Pn 07 39 45.9 +0.3**
VLX Vlachokerasia 10.34 256 P **Pn 07 39 47.5 +1.0**
VLX Vlachokerasia 10.34 256 *e*P **Pn 07 39 47.4 +1.0**
EFP Efpalio 10.36 262 *e*P **Pn 07 39 47.4 +0.9**
DSL Palaion Diasel 10.80 267 *e*P **Pn 07 39 53.1 +0.4**
VORD Divnogorie 10.85 14 *e*P **Pn 07 39 52.5 -0.7**
VORD *e*S **Sn 07 41 49.8 -4.4**
VORD pmax pmax
comp=Z,20nm,1.8s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
VORD smax smax
comp=E,210nm,1.0s
VORD smax smax
comp=Z,120nm,1.6s
VORD smax smax
comp=N,150nm,0.9s
VORD Divnogorie 10.85 14 *e*P **Pn 07 39 52.5 -0.7**
comp=N,30nm,0.8s
KIEV Kiev 10.94 340 *e*P **Pn 07 39 51.7 -2.8**
KIEV *e* 07 41 52.2
KIEV Kiev 10.94 340 *e*P **Pn 07 39 51.7 -2.8**
KIEV Kiev 10.94 340 *e*Pn **Pn 07 39 51.6 -2.8**
KIEV *e*Sn **Sn 07 41 52.2 -4.3**
AKASG Malin Array Be 10.94 340 Pn **Pn 07 39 51.8 -2.6**
comp=N,3.8nm,0.3s,baz=155,slow=13,SNR=13
AKASG Sn Sn 07 41 44.5 -12
comp=N,15nm,0.3s,baz=151,slow=24,SNR=10
VSR Storozhevoye 11.06 14 *e*P **Pn 07 39 53.9 -2.2**
VSR *e*S Sn 07 41 52.4 -7.1
VSR pmax pmax
comp=Z,30nm,0.4s
VSR pmax pmax
comp=N,20nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR smax smax
comp=E,140nm,0.7s
VSR smax smax
comp=Z,80nm,1.2s
VSR smax smax
comp=N,100nm,1.1s
VSR Storozhevoye 11.06 14 *e*P **Pn 07 39 53.9 -2.2**
comp=N,30nm,0.4s
VRHR Novokhopersk 11.52 21 *e*P **Pn 07 40 02.2 -0.1**
VRHR *e*S **Sn 07 42 08.9 -1.6**
VRHR pmax pmax
comp=Z,60nm,1.0s
VRHR pmax pmax
comp=N,40nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR smax smax
comp=N,580nm,2.0s
VRHR smax smax
comp=Z,90nm,1.2s
VRHR smax smax
comp=E,260nm,1.6s
VRHR Novokhopersk 11.52 21 *e*P **Pn 07 40 02.2 -0.1**
comp=E,40nm,0.8s
VRHR *e*S **Sn 07 42 08.9 -1.6**
comp=E,90nm,1.2s
UZH Uzhgorod 12.15 316 *e*P **Pn 07 40 10.7 -0.3**
UZH *e*S **Sn 07 42 24.9 -1.2**
UZH Uzhgorod 12.15 316 *e*P **Pn 07 40 10.7 -0.3**
UZH *e*S **Sn 07 42 24.9 -1.2**
KOLS Kolonicke sedl 12.34 317 *e*P **Pn 07 40 15.2 +1.5**
KOLS Kolonicke sedl 12.34 317 *e*P **Pn 07 40 15.2 +1.5**
KOLS Kolonicke sedl 12.34 317 *e* **Pn 07 40 15.2 +1.5**
CRVS Cervenica-Dubn 12.75 315 *e*P **Pn 07 40 18.7 -0.6**
CRVS Cervenica-Dubn 12.75 315 *e*P **Pn 07 40 18.7 -0.6**
CRVS Cervenica-Dubn 12.75 315 *e*PN **Pn 07 40 18.7 -0.6**
KECS Kecovo 13.05 312 *e*P Pn 07 40 27.9 +4.5
KECS Kecovo 13.05 312 *e* Pn 07 40 27.9 +4.5
PSZ Piszkesteto 13.11 309 *e*P Pn 07 40 28.5 +4.3
PSZ Piszkesteto 13.11 309 *e*Pn Pn 07 40 28.5 +4.3
STHS Stebnicka Huta 13.17 317 *e*P **Pn 07 40 24.4 -0.6**
STHS Stebnicka Huta 13.17 317 *e*P **Pn 07 40 24.4 -0.6**
STHS Stebnicka Huta 13.17 317 *e*PN **Pn 07 40 24.4 -0.6**
TIP Timpagrande 14.10 270 *e*Pn **Pn 07 40 38.6 +0.9**
TIP Timpagrande 14.10 270 *e*Pn **Pn 07 40 38.6 +0.9**
OBN Obninsk 14.62 4 Sn Sn 07 43 18.0 -8.4
comp=E,1.6nm,0.3s,baz=336,slow=22,SNR=3.2
OBN LR LR 07 46 57.9
comp=E,39nm,20.9s,baz=94,slow=40
CUC Castrocucco 14.68 274 *e*Pn **Pn 07 40 47.3 +1.6**
CUC Castrocucco 14.68 274 *e*Pn **Pn 07 40 47.3 +1.6**
CEL Celeste 14.97 267 *e*P **Pn 07 40 48.0 -1.5**
comp=E,13nm,1.1s
OKC Ostrava-Krasne 15.07 314 AMS AMS 07 49 20.0
comp=E,200nm,11.1s
MOS Moscow 15.31 6 *e*P **P 07 41 00.8 +2.1**
MOS *e* 07 43 53.5
MOS Moscow 15.31 6 *e*P **P 07 41 00.8 +2.1**
MORC Moravsky Berou 15.38 313 *e*P **P 07 41 02.1 +2.6**
MORC pmax pmax
comp=Z,12nm,1.0s
MORC Moravsky Berou 15.38 313 *e*P **P 07 41 02.1 +2.6**
comp=Z,12nm,1.0s
MORC Moravsky Berou 15.38 313 *e*P **P 07 41 02.1 +2.6**
comp=Z,12nm,1.0s
NACGM Naroch 15.39 342 *e*P Pn 07 40 50.0 -5.0
CONA Conrad Observa 15.57 305 ⇑*i*P **P 07 41 03.8 +2.1**
comp=Z,17nm,1.0s,SNR=17
CONA Conrad Observa 15.57 305 P **P 07 41 03.8 +2.1**
comp=Z,17nm,1.0s,SNR=17
VRAC Vranov 15.70 310 Pn **Pn 07 40 59.3 +0.3**
comp=Z,0.3nm,0.3s,baz=196,slow=15,SNR=1.9
VRAC LR LR 07 48 17.2
comp=Z,108nm,19.0s,baz=120,slow=42
SOKA Soboth 15.71 300 ⇑*i*P **P 07 41 05.0 +1.7**
comp=Z,17nm,1.1s,SNR=6.6
SOKA Soboth 15.71 300 P **P 07 41 05.0 +1.7**
comp=Z,17nm,1.1s,SNR=6.6
IDID Didziasalis 15.78 342 *e*P **P 07 41 02.3 -1.5**
IDID AMB AMB 07 41 07.7
comp=Z,14nm,1.1s
IDID Didziasalis 15.78 342 *e*P **P 07 41 02.3 -1.5**
IDID AMB AMB 07 41 07.7
comp=Z,14nm,1.1s
IDID Didziasalis 15.78 342 *e*P **P 07 41 02.3 -1.5**
comp=Z,14nm,1.1s,SNR=35
IIGN Ignalina 15.93 341 *e*P **P 07 41 04.0 -1.5**
IIGN AMB AMB 07 41 09.6
comp=Z,17nm,1.1s
IIGN Ignalina 15.93 341 *e*P **P 07 41 04.0 -1.5**
IIGN AMB AMB 07 41 09.6
comp=Z,17nm,1.1s
IIGN Ignalina 15.93 341 *e*P **P 07 41 04.1 -1.5**
comp=Z,17nm,1.1s,SNR=35
KRLC Kraliky 15.95 313 *e*P **P 07 41 10.0 +4.1**
KRLC Kraliky 15.95 313 *e*P **P 07 41 10.0 +4.1**
ISAL Salakas 16.16 342 *e*P **P 07 41 06.5 -1.6**
ISAL AMB AMB 07 41 12.0
comp=Z,10nm,1.2s
ISAL Salakas 16.16 342 *e*P **P 07 41 06.5 -1.6**
ISAL AMB AMB 07 41 12.0
comp=Z,10nm,1.2s
ISAL Salakas 16.16 342 *e*P **P 07 41 06.5 -1.6**
comp=Z,10nm,1.2s,SNR=35
TREC Trest 16.34 309 *e*P **P 07 41 14.6 +4.4**
TREC Trest 16.34 309 *e*P **P 07 41 14.6 +4.4**
DPC Dobruska-Polom 16.35 313 *e*P **P 07 41 14.3 +4.0**
DPC pmax pmax
comp=Z,84nm,1.2s
DPC Dobruska-Polom 16.35 313 *e*P **P 07 41 14.1 +3.8**
DPC *e*x x 07 41 21.2
DPC AMS AMS 07 50 00.0
DPC Dobruska-Polom 16.35 313 *e*P **P 07 41 14.3 +4.0**
comp=Z,84nm,1.2s
MOA Molln 16.56 303 ⇑*i*P **P 07 41 16.2 +3.6**
comp=Z,42nm,1.2s,SNR=10
KSP Ksiaz 16.61 315 *e*P **P 07 41 16.4 +3.2**
MYKA Terra Mystica 16.62 299 ⇑*i*P P 07 41 20.7 +7.2
comp=Z,12nm,1.1s
KBA Koelnbreinsper 16.93 300 ⇓*i*P **P 07 41 20.5 +3.6**
comp=Z,26nm,1.1s,SNR=5.9
PRU Pruhonice 17.19 310 *e*P **P 07 41 22.9 +3.3**
PRU MLR MLR
comp=Z,300nm,5.8s
PRU Pruhonice 17.19 310 *e*P **P 07 41 22.9 +3.3**
PRU AMS AMS 07 50 00.0
comp=Z,300nm,5.8s
GEC2 GERESS Array S 17.25 306 *e*P **P 07 41 23.7 +3.4**
GEC2 GERESS Array S 17.25 306 *e*Pn **P 07 41 23.7 +3.4**
GERES GERESS Array B 17.25 306 Pn **P 07 41 20.4 0.0**
comp=Z,0.1nm,0.3s,baz=102,slow=12,SNR=15
GERES LR LR 07 49 26.6
comp=Z,131nm,19.2s,baz=109,slow=42
KHC Kasperske Hory 17.43 307 *e*P **P 07 41 24.7 +2.5**
KHC MLR MLR
comp=Z,200nm,7.1s
KHC Kasperske Hory 17.43 307 *e*P **P 07 41 24.7 +2.5**
KHC *e*x x 07 41 38.0
KHC AMS AMS 07 51 00.0
comp=Z,200nm,7.1s
KHC Kasperske Hory 17.43 307 *e*P **P 07 41 23.0 +0.8**
comp=Z,10.0nm,1.2s
KHC Kasperske Hory 17.43 307 *e*P **P 07 41 22.9 +0.8**
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 17.93 312 *e*P **P 07 41 30.4 +2.7**
comp=Z,8nm,1.5s
comp=N,239nm,15.7s
comp=E,285nm,20.7s
comp=Z,264nm,22.5s
BRG Berggiesshubel 17.93 312 *e*P **P 07 41 30.4 +2.7**
BRG MLR MLR
comp=N,8µm,15.7s
GEYT Alibeck 18.07 91 P **P 07 41 29.1 -0.4**
comp=N,0.4nm,0.3s,baz=282,slow=15,SNR=6.8
GEYT LR LR 07 49 41.0
comp=N,99nm,20.5s,baz=240,slow=41
MOTA Moosalm 18.48 300 ⇑*i*P **Pn 07 41 37.6 +3.5**
comp=N,12nm,0.9s
CLL Collm 18.65 313 *e*P **Pn 07 41 39.0 +3.0**
CLL *e*S **Sn 07 45 06.0 +1.8**
CLL Collm 18.65 313 *e*(sP) **Pn 07 41 39.0 +3.0**
comp=Z,7.0nm,1.0s
CLL *e* 07 42 05.0
CLL *e*S **Sn 07 45 06.0 +1.8**
CLL Lm MLR 07 49 00.0
comp=N,200nm,21.8s
CLL Lm MLR 07 49 00.0
comp=E,300nm,21.8s
CLL LmV 07 51 00.0
comp=Z,100nm,19.3s
CLL Collm 18.65 313 *e*Pn **Pn 07 41 39.6 +3.6**
comp=Z,8.4nm,1.0s
FETA Feichten 18.66 298 ⇑*i*P **Pn 07 41 39.3 +3.0**
comp=Z,9.8nm,0.9s
AKTK Aktyubinsk 18.85 51 P **P 07 41 37.5 -0.3**
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 18.85 51 P **P 07 41 37.5 -0.3**
comp=Z,0.8nm,0.3s,baz=247,slow=10.0,SNR=34
AKTO LR LR 07 51 47.0
comp=Z,64nm,18.8s,baz=231,slow=46
FUORN Ofenpass-Fuorn 18.90 297 *e*Pn Pn 07 41 45.1 +5.7
comp=Z,17nm,1.1s
RAYN Ar Rayn 19.12 149 *e*P **P 07 41 41.0 -0.1**
comp=Z,15nm,1.9s
RAYN Ar Rayn 19.12 149 *e*P **P 07 41 41.0 -0.1**
comp=Z,15nm,1.9s
DAVOX Davos/Dischmat 19.19 297 P **P 07 41 42.1 +0.3**
comp=Z,0.3nm,0.3s,baz=143,slow=20,SNR=2.5
DAVOX LR LR 07 50 07.3
comp=Z,146nm,19.6s,baz=82,slow=40
DAVA Damuels 19.28 299 ⇑*i*P **P 07 41 43.2 +0.4**
comp=Z,33nm,1.1s
DAVA Damuels 19.28 299 P **P 07 41 43.2 +0.4**
comp=Z,33nm,1.1s
PGF Pioggiola 19.56 284 *e*P **Pn 07 41 49.8 +2.6**
comp=Z,138nm,1.4s
PGF Pioggiola 19.56 284 *e*P **Pn 07 41 49.8 +2.6**
PGF pmax pmax
comp=Z,139nm,1.4s
PGF Pioggiola 19.56 284 *e*P **Pn 07 41 49.8 +2.6**
comp=Z,138nm,1.4s
ABKAR Akbulak array 19.62 55 *e*P **P 07 41 46.1 -0.1**
comp=Z,6.9nm,0.8s
ABKAR Akbulak array 19.62 55 *e*P **P 07 41 46.1 -0.1**
comp=Z,6.9nm,0.8s
VSL Villasalto 19.66 275 *e*P **P 07 41 47.3 +0.5**
comp=Z,26nm,1.0s
VSL Villasalto 19.66 275 *e*P **P 07 41 47.3 +0.5**
comp=Z,26nm,1.0s
STU Stuttgart 20.06 303 *e*P Pn 07 41 53.9 +0.9
STU pmax pmax
comp=Z,29nm,1.1s
STU Stuttgart 20.06 303 *e*P Pn 07 41 53.9 +0.9
comp=Z,30nm,1.1s
BFO Black Forest 20.52 301 *e*P Pn 07 41 58.9 +0.5
BFO pmax pmax
comp=Z,29nm,1.1s
BFO Black Forest 20.52 301 *e*P Pn 07 41 58.9 +0.5
comp=Z,29nm,1.1s
SBF Sospel 20.67 288 *e*P Pn 07 42 01.6 +1.4
SBF Sospel 20.67 288 *e*P Pn 07 42 01.6 +1.4
SBF Sospel 20.67 288 *e*P Pn 07 42 01.6 +1.4
KEST Kesra 20.73 265 P **P 07 41 58.0 -0.5**
comp=Z,5.4nm,1.0s,baz=347,slow=6.4,SNR=11
KEST LR LR 07 51 27.7
comp=Z,72nm,18.9s,baz=344,slow=41
KEST Kesra 20.73 265 *e*P **P 07 41 59.3 +0.7**
KEST Kesra 20.73 265 *e*P **P 07 41 59.3 +0.7**
SENIN Lac Senin/Sane 20.89 295 *e*P Pn 07 42 02.3 -0.7
SENIN Lac Senin/Sane 20.89 295 *e*P Pn 07 42 02.4 -0.7
MBDF Montbardon 21.16 291 *e*P **P 07 42 06.9 +3.7**
comp=Z,28nm,0.9s
MBDF Montbardon 21.16 291 *e*P **P 07 42 06.9 +3.7**
MBDF pmax pmax
comp=Z,28nm,0.9s
MBDF Montbardon 21.16 291 *e*P **P 07 42 06.9 +3.7**
comp=Z,28nm,0.9s
LPG La Plagne 21.20 293 *e*P **P 07 42 07.9 +4.1**
comp=Z,23nm,1.0s
LPG La Plagne 21.20 293 *e*P **P 07 42 07.9 +4.1**
LPG pmax pmax
comp=Z,23nm,1.0s
LPG La Plagne 21.20 293 *e*P **P 07 42 07.9 +4.1**
comp=Z,23nm,1.0s
LPL La Plagne 21.22 293 *e*P **P 07 42 07.0 +3.1**
LPL La Plagne 21.22 293 *e*P **P 07 42 07.0 +3.1**
LPL La Plagne 21.22 293 *e*P **P 07 42 07.0 +3.1**
CDF Champ du Feu 21.22 301 *e*P **P 07 42 07.2 +3.4**
comp=Z,21nm,1.0s
CDF Champ du Feu 21.22 301 *e*P **P 07 42 07.2 +3.4**
CDF pmax pmax
comp=Z,21nm,1.0s
CDF Champ du Feu 21.22 301 *e*P **P 07 42 07.2 +3.4**
comp=Z,21nm,1.0s
BNI Bardonecchia 21.23 292 *e*P **P 07 42 08.0 +4.1**
BNI pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 21.23 292 *e*P **P 07 42 08.0 +4.1**
comp=Z,16nm,1.0s
FRF La Foret Royal 21.25 288 *e*P **P 07 42 08.6 +4.6**
FRF La Foret Royal 21.25 288 *e*P **P 07 42 08.6 +4.6**
FRF La Foret Royal 21.25 288 *e*P **P 07 42 08.6 +4.6**
ECH Echery 21.26 300 *e*P **P 07 42 06.9 +2.7**
ECH pmax pmax
comp=Z,15nm,1.0s
ECH Echery 21.26 300 *e*P **P 07 42 06.8 +2.7**
comp=Z,15nm,1.0s
ECH Echery 21.26 300 *e*P **P 07 42 06.8 +2.7**
comp=Z,15nm,1.0s
LMR La Mourre 21.35 287 *e*P **P 07 42 08.9 +3.8**
LMR La Mourre 21.35 287 *e*P **P 07 42 08.9 +3.8**
LMR La Mourre 21.35 287 *e*P **P 07 42 08.9 +3.8**
FINES FINESS Array B 21.64 348 P **P 07 42 07.8 -0.2**
FINES S S 07 45 57.8 -9.2
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES smax smax
comp=N,2.0nm,0.6s
FINES FINESS Array B 21.64 348 P **P 07 42 07.8 -0.2**
comp=N,5.2nm,0.7s,baz=144,slow=12,SNR=17
FINES S S 07 45 57.8 -9.2
comp=N,1.6nm,0.6s,baz=157,slow=26,SNR=3.3
FINES LR LR 07 52 18.4
comp=N,77nm,19.4s,baz=159,slow=42
CABF La Chapelle 21.75 296 *e*P **P 07 42 13.1 +3.6**
comp=N,50nm,1.2s
CABF La Chapelle 21.75 296 *e*P **P 07 42 13.1 +3.6**
CABF pmax pmax
comp=Z,50nm,1.2s
CABF La Chapelle 21.75 296 *e*P **P 07 42 13.1 +3.6**
comp=Z,50nm,1.2s
HAU Haudompre 21.76 300 *e*P P 07 42 14.4 +4.9
comp=Z,35nm,1.1s
HAU *e*R
comp=Z,126nm,21.2s
HAU Haudompre 21.76 300 *e*P P 07 42 14.4 +4.9
HAU pmax pmax
comp=Z,35nm,1.1s
HAU Haudompre 21.76 300 *e*P P 07 42 14.4 +4.9
comp=Z,35nm,1.1s
ORIF Oris-en-Rattie 21.79 291 *e*P **P 07 42 12.2 +2.2**
comp=Z,30nm,0.9s
ORIF *e*R
comp=Z,173nm,22.5s
ORIF Oris-en-Rattie 21.79 291 *e*P **P 07 42 12.2 +2.2**
ORIF pmax pmax
comp=Z,30nm,0.9s
ORIF Oris-en-Rattie 21.79 291 *e*P **P 07 42 12.2 +2.2**
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 21.79 291 *e*P **P 07 42 12.2 +2.2**
comp=Z,30nm,0.9s
SMRF Simiane la Rot 22.01 289 *e*P **P 07 42 15.2 +3.0**
comp=Z,41nm,1.2s
SMRF Simiane la Rot 22.01 289 *e*P **P 07 42 15.2 +3.0**

	comp=Z,41nm,1.2s								
PRGR	**Permogore**	**22.10**	**14**	*e*P		**P**	**07 42 11.1**	**-1.8**	
PRGR				S		S	07 46 08.4	-7.4	
PRGR				pmax		pmax			
	comp=Z,36nm,0.9s								
PRGR	**Permogore**	**22.10**	**14**	*e*P		**P**	**07 42 11.1**	**-1.8**	
	comp=Z,36nm,0.9s								
ARU	**Arti**	**22.11**	**36**	*d i*P		**P**	**07 42 12.1**	**-1.0**	
ARU				S		**S**	**07 46 17.2**	**+1.1**	
ARU				SS		**SnSn**	**07 46 44.5**	**+1.9**	
ARU				pmax		pmax			
	comp=Z,13nm,0.8s								
ARU	**Arti**	**22.11**	**36**	*i* P		**P**	**07 42 12.1**	**-1.0**	
	comp=Z,13nm,0.8s								
ARU				S		**S**	**07 46 17.2**	**+1.1**	
ARU	**Arti**	**22.11**	**36**	*e*P		**P**	**07 42 11.8**	**-1.3**	
	comp=Z,14nm,0.6s								
KAF	**Kangasniemi**	**22.24**	**349**	*e*P		**P**	**07 42 14.0**	**-0.5**	
KAF				pmax		pmax			
	comp=Z,8.0nm,0.7s								
KAF	**Kangasniemi**	**22.24**	**349**	*e*p		**P**	**07 42 14.0**	**-0.5**	
	comp=Z,8.4nm,0.7s								
KAF	**Kangasniemi**	**22.24**	**349**	*e*P		**P**	**07 42 14.0**	**-0.5**	
	comp=Z,8.0nm,0.7s								
PAGF	**Fort de Pagny**	**22.26**	**301**	*e*P		**P**	**07 42 18.5**	**+3.6**	
	comp=Z,10nm,1.0s								
PAGF	**Fort de Pagny**	**22.26**	**301**	*e*P		**P**	**07 42 18.5**	**+3.6**	
	comp=Z,10nm,1.0s								
JOF	**Joensuu**	**22.53**	**356**	*e*P		**P**	**07 42 19.6**	**+2.1**	
JOF				pmax		pmax			
	comp=Z,9.0nm,0.8s								
JOF	**Joensuu**	**22.53**	**356**	*e*p		**P**	**07 42 19.6**	**+2.1**	
	comp=Z,8.9nm,0.8s								
JOF	**Joensuu**	**22.53**	**356**	*e*P		**P**	**07 42 19.6**	**+2.1**	
	comp=Z,9.0nm,0.8s								
VIVF	**Saint-Julien-l**	**22.65**	**291**	*e*P		**P**	**07 42 22.5**	**+3.4**	
VIVF	**Saint-Julien-l**	**22.65**	**291**	*e*P		**P**	**07 42 22.5**	**+3.4**	
VIVF	**Saint-Julien-l**	**22.65**	**291**	*e*P		**P**	**07 42 22.5**	**+3.4**	
GIVF	**Givet**	**23.15**	**305**	*e*P		**P**	**07 42 26.7**	**+2.5**	
GIVF	**Givet**	**23.15**	**305**	*e*P		**P**	**07 42 26.7**	**+2.5**	
GIVF	**Givet**	**23.15**	**305**	*e*P		**P**	**07 42 26.7**	**+2.5**	
GIVF	**Givet**	**23.15**	**305**	*e*P		**P**	**07 42 26.7**	**+2.5**	
SVE	**Sverdlovsk**	**23.28**	**37**	*e*P		**P**	**07 42 25.9**	**+0.5**	
SVE				pmax		pmax			
	comp=Z,26nm,1.1s								
SVE	**Sverdlovsk**	**23.28**	**37**	*e*P		**P**	**07 42 25.9**	**+0.5**	
	comp=Z,26nm,1.1s								
SMF	**Signal de Mont**	**23.30**	**296**	*e*P		**P**	**07 42 28.1**	**+2.4**	
	comp=Z,55nm,1.4s								
SMF	**Signal de Mont**	**23.30**	**296**	*e*P		**P**	**07 42 28.1**	**+2.4**	
SMF				pmax		pmax			
	comp=Z,55nm,1.4s								
SMF	**Signal de Mont**	**23.30**	**296**	*e*P		**P**	**07 42 28.1**	**+2.4**	
	comp=Z,26nm,1.4s								
SMF	**Signal de Mont**	**23.30**	**296**	*e*P		**P**	**07 42 28.1**	**+2.4**	
	comp=Z,55nm,1.4s								
LOR	**Lormes**	**23.34**	**297**	*e*P		**P**	**07 42 28.8**	**+2.7**	
	comp=Z,17nm,1.0s								
LOR				*e*R					
	comp=Z,152nm,19.8s								
LOR	**Lormes**	**23.34**	**297**	*e*P		**P**	**07 42 28.8**	**+2.7**	
LOR				pmax		pmax			
	comp=Z,17nm,1.0s								
LOR	**Lormes**	**23.34**	**297**	*e*P		**P**	**07 42 28.8**	**+2.7**	
	comp=Z,8.6nm,1.0s								
LOR	**Lormes**	**23.34**	**297**	*e*P		**P**	**07 42 28.8**	**+2.7**	
	comp=Z,17nm,1.0s								
SOKR	**Solikamsk**	**23.45**	**28**	*e*P		**P**	**07 42 29.3**	**+2.3**	
SOKR				pmax		pmax			
	comp=Z,20nm,0.8s								
SSF	**Saint Saulge**	**23.56**	**297**	*e*P		**P**	**07 42 31.4**	**+3.1**	
	comp=Z,20nm,1.0s								
SSF	**Saint Saulge**	**23.56**	**297**	*e*P		**P**	**07 42 31.4**	**+3.1**	
SSF				pmax		pmax			
	comp=Z,20nm,1.0s								
SSF	**Saint Saulge**	**23.56**	**297**	*e*P		**P**	**07 42 31.4**	**+3.1**	
	comp=Z,20nm,1.0s								
AVF	**Avril sur Loir**	**23.64**	**296**	*e*P		**P**	**07 42 32.0**	**+2.9**	
AVF	**Avril sur Loir**	**23.64**	**296**	*e*P		**P**	**07 42 32.0**	**+2.9**	
AVF	**Avril sur Loir**	**23.64**	**296**	*e*P		**P**	**07 42 32.0**	**+2.9**	
AVF	**Avril sur Loir**	**23.64**	**296**	*e*P		**P**	**07 42 32.0**	**+2.9**	
HFS	**Hagfors**	**23.68**	**333**	P		**P**	**07 42 30.5**	**+1.2**	
HFS				S		**S**	**07 46 45.0**	**+1.6**	
HFS				pmax		pmax			
	comp=Z,7.0nm,0.8s								
HFS				smax		smax			
	comp=N,1.0nm,0.7s								
HFS	**Hagfors**	**23.68**	**333**	P		**P**	**07 42 30.5**	**+1.2**	
	comp=N,7.2nm,0.8s,baz=140,slow=12,SNR=10								
HFS				S		**S**	**07 46 45.0**	**+1.6**	
	comp=N,1.2nm,0.7s,baz=115,slow=21,SNR=2.6								
HFS				LR		LR	07 52 59.9		
	comp=N,147nm,20.1s,baz=134,slow=40								
TMCR	**Tamitsa**	**23.73**	**3**	*e*P		**P**	**07 42 33.9**	**+4.2**	
TMCR				*e*			07 43 02.3		
TMCR				*e*			07 46 10.1		
TMCR				pmax		pmax			
	comp=Z,56nm,1.3s								
TCF	**Toulx Ste Croi**	**24.41**	**295**	*e*P		**P**	**07 42 38.9**	**+2.6**	
	comp=Z,21nm,1.0s								
TCF	**Toulx Ste Croi**	**24.41**	**295**	*e*P		**P**	**07 42 38.9**	**+2.6**	
TCF				pmax		pmax			
	comp=Z,21nm,1.0s								
TCF	**Toulx Ste Croi**	**24.41**	**295**	*e*P		**P**	**07 42 38.9**	**+2.6**	
	comp=Z,11nm,1.0s								
TCF	**Toulx Ste Croi**	**24.41**	**295**	*e*P		**P**	**07 42 38.9**	**+2.6**	
	comp=Z,21nm,1.0s								
MTLF	**Montolieu**	**24.48**	**287**	*e*P		**P**	**07 42 39.4**	**+2.4**	
MTLF	**Montolieu**	**24.48**	**287**	*e*P		**P**	**07 42 39.4**	**+2.4**	
MTLF	**Montolieu**	**24.48**	**287**	*e*P		**P**	**07 42 39.4**	**+2.4**	
MTLF	**Montolieu**	**24.48**	**287**	*e*P		**P**	**07 42 39.4**	**+2.4**	
NB2	**NORSAR Subarra**	**25.19**	**333**	P		**P**	**07 42 45.5**	**+2.3**	
	comp=Z,3.0nm,0.9s,baz=130,slow=10								
NB2	**NORSAR Subarra**	**25.19**	**333**	P		**P**	**07 42 45.5**	**+2.3**	
	comp=Z,3.0nm,0.9s,SNR=5.7								
NOA	**NORSAR Array B**	**25.19**	**333**	P		**P**	**07 42 43.5**	**+0.3**	
	comp=Z,1.3nm,0.8s,baz=135,slow=9.4,SNR=4.6								
NOA				LR		LR	07 53 57.2		
	comp=Z,102nm,21.4s,baz=135,slow=40								
BVAR	**Borovoye Array**	**26.95**	**50**	P		**P**	**07 43 00.9**	**+1.6**	
	comp=Z,0.3nm,0.5s,baz=271,slow=11,SNR=2.3								
BVAR				LR		LR	07 56 01.2		
	comp=Z,104nm,21.8s,baz=258,slow=42								
SJPF	**Ste Jean**	**27.00**	**288**	*e*P		**P**	**07 43 02.7**	**+2.9**	
	comp=Z,17nm,0.9s								
SJPF	**Ste Jean**	**27.00**	**288**	*e*P		**P**	**07 43 02.7**	**+2.9**	
SJPF				pmax		pmax			
	comp=Z,17nm,0.9s								
SJPF	**Ste Jean**	**27.00**	**288**	*e*P		**P**	**07 43 02.7**	**+2.9**	
	comp=Z,17nm,0.9s								
EKA	**Eskdalemuir Ar**	**29.12**	**313**	P		**P**	**07 43 17.0**	**-1.5**	
EKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**29.12**	**313**	P		**P**	**07 43 17.0**	**-1.5**	
	comp=Z,0.8nm,0.6s,baz=92,slow=10,SNR=2.4								
EKA	**Eskdalemuir Ar**	**29.12**	**313**	P		**P**	**07 43 17.0**	**-1.5**	
	comp=Z,1.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**29.12**	**313**	P		**P**	**07 43 17.0**	**-1.5**	
AAK	**Ala-Archa**	**29.42**	**73**	P		**P**	**07 43 21.4**	**-0.1**	
	comp=Z,2.1nm,0.8s,baz=242,slow=9.0,SNR=3.0								
AAK				LR		LR	07 58 42.9		
	comp=Z,85nm,20.5s,baz=249,slow=44								
ARCES	**ARCESS Array B**	**29.50**	**353**	P		**P**	**07 43 21.4**	**-0.4**	
	comp=Z,1.5nm,0.5s,baz=170,slow=8.6,SNR=10								
ARCES				LR		LR	07 57 38.2		
	comp=Z,60nm,18.0s,baz=156,slow=41								
ESDC	**Sonseca Array**	**29.67**	**281**	P		**P**	**07 43 21.8**	**-1.9**	
	comp=Z,1.4nm,0.5s,baz=69,slow=9.1,SNR=14								
TKM2	**Tokmak 2**	**30.17**	**72**	*e*P		**P**	**07 43 28.8**	**+0.5**	
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.6s								
TKM2	**Tokmak 2**	**30.17**	**72**	*e*P		**P**	**07 43 28.8**	**+0.5**	
	comp=Z,4.2nm,0.6s								
TKM2	**Tokmak 2**	**30.17**	**72**	*e*P		**P**	**07 43 28.8**	**+0.5**	
	comp=Z,4.2nm,0.6s								
TAM	**Tamanrasset**	**30.51**	**244**	*e*P		**P**	**07 43 31.4**	**0.0**	
TAM				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TAM	**Tamanrasset**	**30.51**	**244**	*e*P		**P**	**07 43 31.4**	**0.0**	
	comp=Z,4.9nm,1.0s								
TAM	**Tamanrasset**	**30.51**	**244**	*e*P		**P**	**07 43 31.4**	**0.0**	
	comp=Z,4.9nm,1.0s								
KSH	**Kashi**	**31.18**	**78**	*e*P		**P**	**07 43 36.8**	**-0.3**	
KSH				pP		**pP**	**07 43 41.2**	**-0.5**	
KSH				PcP		**PcP**	**07 46 33.0**	**+1.2**	
KSH				S		**S**	**07 48 40.6**	**-2.0**	
KSH				PMZ					
	comp=Z,110nm,5.2s								
KSH				LN					
	comp=Z,160nm,7.8s								
KSH				LE					
	comp=Z,130nm,6.6s								
KSH				LZ					
	comp=Z,170nm,5.5s								
KURBB	**Kurchatov Arra**	**31.66**	**57**	P		**P**	**07 43 41.0**	**0.0**	
	comp=Z,1.2nm,0.6s,baz=275,slow=8.9,SNR=5.9								
KURBB				PcP		**PcP**	**07 46 32.1**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=267,slow=3.1,SNR=4.2								
KURK	**Kurchatov**	**31.72**	**56**	P		**P**	**07 43 41.0**	**-0.5**	
KURK							07 46 32.1		
KURK				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KURK				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KURK	**Kurchatov**	**31.72**	**56**	P		**P**	**07 43 41.0**	**-0.5**	
	comp=Z,1.0nm,0.6s								
KURK	**Kurchatov**	**31.72**	**56**	PcP		**PcP**	**07 46 32.1**	**-0.7**	
	comp=Z,1.0nm,0.6s								
KURK	**Kurchatov**	**31.72**	**56**	P		**P**	**07 43 41.0**	**-0.5**	
KURK				PcP		**PcP**	**07 46 32.1**	**-0.7**	
MDT	**Midelt**	**32.50**	**269**	P		**P**	**07 43 46.2**	**-2.5**	
	comp=Z,4.5nm,1.2s,baz=54,slow=19,SNR=3.4								
MKAR	**Makanchi Array**	**34.34**	**63**	P		**P**	**07 44 05.0**	**+0.5**	
MKAR							07 46 38.9		
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**34.34**	**63**	P		**P**	**07 44 05.0**	**+0.5**	
	comp=Z,2.0nm,0.7s,baz=282,slow=6.3,SNR=16								
MKAR				PcP		**PcP**	**07 46 38.9**	**-1.3**	
	comp=Z,0.5nm,0.6s,baz=300,slow=6.5,SNR=2.3								
MKAR				LR		LR	07 59 43.4		
	comp=Z,59nm,21.9s,baz=280,slow=39								
MKAR	**Makanchi Array**	**34.34**	**63**	P		**P**	**07 44 05.0**	**+0.5**	
	comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**35.61**	**51**	P		**P**	**07 44 14.3**	**-1.1**	
	comp=Z,0.6nm,0.4s,baz=262,slow=9.6,SNR=3.5								
ZALV				LR		LR	08 01 12.5		
	comp=Z,53nm,21.3s,baz=252,slow=40								
WMQ	**Urumqi**	**38.63**	**67**	*e*P		**P**	**07 44 43.2**	**+2.0**	
WMQ				pP		**pP**	**07 44 47.0**	**+1.1**	
WMQ				sP		**sP**	**07 44 50.0**	**+2.3**	
WMQ				PP		**PnPn**	**07 46 15.0**	**+3.4**	
WMQ				PcP		**PcP**	**07 46 55.0**	**+1.8**	
WMQ				*e*S		**S**	**07 50 39.0**	**+2.0**	
WMQ				SS		**SnSn**	**07 53 22.0**	**-2.8**	
WMQ				PMZ					
	comp=Z,11nm,0.6s								
WMQ				PMZ					
	comp=Z,140nm,4.4s								
WMQ				LN					
	comp=Z,230nm,24.0s								
WMQ				LE					
	comp=Z,160nm,26.9s								
WMQ				LZ					
	comp=Z,150nm,21.8s								
TORD	**Torodi Ar. Bea**	**39.95**	**236**	P		**P**	**07 44 51.5**	**-0.9**	
	comp=Z,4.3nm,0.7s,baz=34,slow=8.0,SNR=23								
TORD				PcP		**PcP**	**07 46 56.6**	**-1.1**	
	comp=Z,0.3nm,0.7s,baz=51,slow=2.1,SNR=2.6								
TORD				LR		LR	08 06 05.0		
	comp=Z,55nm,18.5s,baz=25,slow=43								
GTA	**Gaotai**	**48.63**	**69**	*e*P		P	07 46 05.2	+3.3	
GTA				pP		pP	07 46 08.7	+2.1	
GTA				sP		sP	07 46 11.2	+2.7	
GTA				PMZ					
	comp=Z,4.0nm,1.1s								
MSEY	**Mahe Island**	**48.75**	**152**	*i* P		**P**	**07 46 03.1**	**+0.3**	
MSEY	**Mahe Island**	**48.75**	**152**	*i* P		**P**	**07 46 03.1**	**+0.3**	
DBIC	**Dimbokro**	**49.03**	**238**	P		**P**	**07 46 03.0**	**-2.0**	
DBIC				pmax		pmax			
	comp=Z,4.0nm,1.0s								
DBIC	**Dimbokro**	**49.03**	**238**	P		**P**	**07 46 03.0**	**-2.0**	
	comp=Z,4.1nm,1.0s,baz=15,slow=8.3,SNR=3.4								
LIC	**Lamto**	**49.48**	**237**	*e*P		**P**	**07 46 07.1**	**-1.3**	
LIC	**Lamto**	**49.48**	**237**	*e*P		**P**	**07 46 07.1**	**-1.3**	
LIC	**Lamto**	**49.48**	**237**	*e*P		**P**	**07 46 07.1**	**-1.3**	
SONM	**Songino Array**	**50.03**	**56**	P		**P**	**07 46 13.2**	**+0.8**	
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SONM				MLR		MLR			
	comp=Z,56nm,18.0s								
SONM	**Songino Array**	**50.03**	**56**	P		**P**	**07 46 13.2**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=276,slow=7.3,SNR=7.6								
SONM				LR		LR	08 09 51.8		
	comp=Z,56nm,18.0s,baz=182,slow=39								
BOD	**Bodaibo**	**51.33**	**42**	*e*P		P	07 46 17.4	-4.5	
LZH	**Lanzhou**	**52.94**	**71**	*e*P		**P**	**07 46 35.2**	**+0.8**	
LZH				pP		**pP**	**07 46 40.8**	**+1.6**	
LZH				sP		**sP**	**07 46 43.6**	**+2.6**	
LZH				PMZ					
	comp=Z,17nm,1.0s								
CD2	**Chengdu**	**55.35**	**77**	*e*P		**P**	**07 46 53.1**	**+1.1**	
HHC	**Hu-ho-hao-te**	**56.19**	**63**	*e*P		**P**	**07 46 58.4**	**+0.5**	
HHC				pP		**pP**	**07 47 02.5**	**-0.2**	
HHC				PP		**PP**	**07 49 04.9**	**+2.0**	
HHC				S		**S**	**07 54 44.0**	**-2.9**	
HHC				PMZ					
	comp=Z,170nm,7.0s								
HHC				LN					
	comp=Z,150nm,16.5s								
HHC				LE					
	comp=Z,230nm,16.8s								
HHC				LZ					
	comp=Z,140nm,16.8s								
YAK	**Yakutsk**	**57.20**	**34**	LR		LR	08 17 09.0		
	comp=Z,41nm,18.3s,baz=8.0,slow=42								
CMAR	**Chiang Mai Arr**	**58.55**	**92**	*i* P		**P**	**07 47 15.0**	**+0.3**	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**58.55**	**92**	P		**P**	**07 47 13.7**	**-1.0**	
	comp=Z,1.1nm,0.4s,baz=297,slow=7.6,SNR=5.6								
CMAR				LR		LR	08 16 05.2		
	comp=Z,35nm,18.6s,baz=26,slow=40								
SCHQ	**Schefferville**	**64.06**	**321**	P		**P**	**07 47 50.8**	**-0.7**	
	comp=Z,2.0nm,0.9s,baz=67,slow=8.9,SNR=3.9								
KSAR	**Wonju Array Be**	**68.80**	**59**	P		**P**	**07 48 21.9**	**-0.2**	
KSAR	**Wonju Array Be**	**68.80**	**59**	P		**P**	**07 48 21.9**	**-0.2**	
KSRS	**Korea Array**	**68.82**	**58**	P		**P**	**07 48 21.9**	**-0.3**	
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KSRS	**Korea Array**	**68.82**	**58**	P		**P**	**07 48 21.9**	**-0.3**	
	comp=Z,2.9nm,0.7s,baz=302,slow=6.1,SNR=6.2								
BOSA	**Boshof**	**69.39**	**189**	*e*P		**P**	**07 48 24.8**	**-1.0**	
BOSA				pmax		pmax			
	comp=Z,23nm,1.8s								
BOSA	**Boshof**	**69.39**	**189**	P		**P**	**07 48 24.1**	**-1.7**	
	comp=Z,2.5nm,0.8s,baz=359,slow=7.5,SNR=3.9								
BOSA				LR		LR	08 19 32.4		
	comp=Z,54nm,20.0s,baz=348,slow=37								
BOSA	**Boshof**	**69.39**	**189**	*e*P		**P**	**07 48 24.8**	**-1.0**	
	comp=Z,23nm,1.8s								
YKA	**Yellowknife Ar**	**74.45**	**346**	P		**P**	**07 48 55.6**	**0.0**	
YKA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
YKA	**Yellowknife Ar**	**74.45**	**346**	P		**P**	**07 48 55.6**	**0.0**	
	comp=Z,3.9nm,0.8s,baz=24,slow=5.9,SNR=53								
ILAR	**Eielson Array**	**75.02**	**1**	P		**P**	**07 49 00.1**	**+1.1**	
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**75.02**	**1**	P		**P**	**07 49 00.1**	**+1.1**	
	comp=Z,0.6nm,0.9s,baz=350,slow=6.2,SNR=5.9								
ULM	**Lac du Bonnet**	**79.86**	**330**	P		**P**	**07 49 27.8**	**+1.5**	
ULM				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ULM	**Lac du Bonnet**	**79.86**	**330**	P		**P**	**07 49 27.8**	**+1.5**	
	comp=Z,2.5nm,0.9s,baz=40,slow=3.2,SNR=5.2								
QSPA	**South Pole Qui**	**130.37**	**180**	PKP		**PKPdf**	**07 56 26.3**	**-1.0**	
	comp=Z,1.8nm,1.0s,baz=303,slow=2.0,SNR=6.0								
URZ	**Urewera**	**150.76**	**98**	PKP		**PKPdf**	**07 57 04.2**	**-0.2**	
	comp=Z,5.9nm,1.0s,baz=252,slow=19,SNR=2.2								
URZ				PKPbc		**PKiKP**	**07 57 10.4**	**-0.2**	
	comp=Z,5.4nm,0.7s,baz=196,slow=5.2,SNR=4.0								

*IDC **02** 07:46:39.5±0.6,21.°67S×174.°65W,h0km,mb4.3/13, mb1 4.6/14,mb1mx4.4/32,mbtmp4.3/14,ML3.8/1,MS3.9/4, Ms1 3.9/4,ms1mx3.4/31,Error ellipse: s-maj=25.1km s-min=17.9km az=122.0*
*ISCJB **02** 07:46:42.5±0.4,21.°77S±0.°09×174.°7W±0.°1,h30km, mb4.6/23,MS3.9/4,Error ellipse: s-maj=16.4km s-min=9.9km az=38.6*
*NEIC **02** 07:46:45.0±0.3,21.°68S×174.°63W,h35km,mb4.9/12, Error ellipse: s-maj=12.5km s-min=7.6km az=132.0*

ISC 02 07:46:44.1±0.5,21.°66S±0.°09×174.°6W±0.°1,h30km,n47, σ1$46/41,mb4.7/23,MS3.9/4,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.98**	**298**	*e*Pn		Pn	07 48 46.9	+8.7
	78nm,0.9s							
AFI	**Afiamalu**	**8.15**	**19**	*e*Pn		Pn	07 48 36.6	-4.0
AFI				*e*Sn		**Sn**	**07 50 07.3**	**-4.5**
DZM	**Mont Dzumac**	**17.64**	**265**	*e*LR		LR	07 55 06.4	
	327nm,23.3s							
URZ	**Urewera**	**18.03**	**202**	P		**Pn**	**07 50 49.1**	**-3.3**
	0.3nm,0.3s,baz=346,slow=12,SNR=4.0							
URZ				S		Sn	07 53 51.7	-21
	0.3nm,0.3s,baz=68,slow=16,SNR=2.7							
URZ	**Urewera**	**18.03**	**202**	*e*P		**Pn**	**07 50 51.6**	**-0.8**
	6.1nm,0.8s							
URZ				S		Sn	07 53 51.7	-21
KHZ	**Kahutara**	**22.98**	**203**	*e*P		**P**	**07 51 42.4**	**-3.8**
	59nm,1.5s							
TBI	**Tubuai**	**23.25**	**99**	*e*LR		LR	07 56 46.2	
	406nm,31.2s							
PPT2	**Papeete2**	**23.87**	**85**	*e*LR		LR	07 57 19.5	
	483nm,25.0s							
PPT	**Papeete**	**23.88**	**85**	LR		LR	07 59 27.2	
	comp=Z,304nm,19.1s,baz=252,slow=32							
RPZ	**Rata Peaks**	**25.03**	**205**	*e*P		**P**	**07 52 05.8**	**+0.3**
	7.2nm,0.6s							
RKT	**Rikitea**	**36.56**	**100**	*e*LR		LR	08 02 55.5	
	380nm,32.2s							
CTAO	**Charters Tower**	**36.58**	**265**	*e*P		**P**	**07 53 48.5**	**+0.7**
	6.8nm,0.8s							
PMG	**Port Moresby**	**38.73**	**282**	LR		LR	08 08 39.6	
	comp=Z,186nm,18.9s,baz=138,slow=34							
ASAR	**Ice Springs**	**47.39**	**257**	P		**P**	**07 55 15.5**	**-0.5**
	8.9nm,1.1s,baz=94,slow=8.3,SNR=35							
ASAR				LR		LR	08 14 19.7	
	comp=Z,132nm,19.0s,baz=93,slow=35							
WB2	**Warramunga Arr**	**47.61**	**262**	*e*P		**P**	**07 55 16.8**	**-0.9**
WRAB	**Tennant Creek**	**47.62**	**262**	*e*P		**P**	**07 55 17.0**	**-0.7**
	22nm,1.3s							
WRA	**Warramunga Arr**	**47.62**	**262**	P		**P**	**07 55 16.9**	**-1.0**
	10nm,1.1s,baz=98,slow=6.9,SNR=20							
FORT	**Forrest**	**51.80**	**247**	*e*P		**P**	**07 55 49.0**	**-0.5**
	19nm,0.6s							
VNDA	**Vanda**	**57.07**	**186**	P		**P**	**07 56 27.7**	**+0.7**
	0.6nm,0.4s,baz=337,slow=22,SNR=12							
VNDA	**Vanda**	**57.07**	**186**	*e*P		**P**	**07 56 27.6**	**+0.6**
	2.1nm,1.0s							
SOEI	**Soe**	**59.74**	**271**	*e*P		**P**	**07 56 48.6**	**+1.9**
	37nm,0.9s							
QSPA	**South Pole Qui**	**68.41**	**180**	P		**P**	**07 57 42.5**	**-0.4**
	2.8nm,1.0s,baz=67,slow=2.5,SNR=5.5							
QSPA	**South Pole Qui**	**68.41**	**180**	*e*P		**P**	**07 57 42.9**	**-0.1**
	20nm,1.5s							
MJAR	**Matsushiro Arr**	**73.07**	**322**	P		**P**	**07 58 10.0**	**-1.5**
	3.9nm,0.8s,baz=156,slow=6.3,SNR=6.7							
PETK	**Petropavlovsk-**	**78.25**	**343**	P		**P**	**07 58 41.5**	**+0.7**
	6.0nm,0.8s,baz=138,slow=9.2,SNR=5.9							
NVAR	**Mina Array Bea**	**79.71**	**42**	P		**P**	**07 58 49.5**	**+0.1**
	2.5nm,1.0s,baz=226,slow=8.2,SNR=10							
TMUT	**Trail Mountain**	**84.71**	**44**	*e*P		**P**	**07 59 16.3**	**+0.6**
	9.4nm,1.0s							
TXAR	**Lajitas Array**	**85.01**	**56**	P		**P**	**07 59 17.8**	**+0.7**
	2.3nm,1.0s,baz=216,slow=6.2,SNR=13							
ANMO	**Albuquerque**	**85.66**	**50**	*e*P		**P**	**07 59 20.5**	**+0.2**
	5.4nm,1.0s							
PLCA	**Paso Flores**	**86.14**	**132**	LR		LR	08 29 32.0	
	comp=Z,72nm,21.1s,baz=264,slow=30							
MCK	**McKinley**	**87.45**	**11**	*e*P		**P**	**07 59 27.9**	**-0.3**
	7.6nm,1.1s							
PDAR	**Pinedale Array**	**87.64**	**42**	P		**P**	**07 59 29.6**	**-0.3**
	1.5nm,0.9s,baz=215,slow=4.7,SNR=9.9							
SEY	**Seymchan**	**88.26**	**346**	P		**P**	**07 59 33.4**	**+1.3**
	1.8nm,0.7s,baz=122,slow=5.6

MKAR	**Makanchi Array**	**139.19**	**23**	PKP		**PKPdf**	**08 07 47.8**	**+2.2**
	0.2nm,0.7s,baz=82,slow=3.1,SNR=2.9							
SONM	**Songino Array**	**142.66**	**358**	PKP		**PKPdf**	**08 07 52.8**	**+0.9**
	0.2nm,0.5s,baz=350,slow=1.8,SNR=2.8							

*ISCJB **02** 07:59:45.6±0.9, 52.°19N±0.°09×35.°4E±0.°1, h10km, mb3.1/3, Error ellipse: s-maj=14.3km s-min=9.5km az=141.5*
*IDC **02** 07:59:47.5±1.3, 52.°18N×35.°91E, h0km, mb3.0/3, mb1 3.3/7, mb1mx3.2/29, mbtmp3.2/7, ML3.0/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/24, Error ellipse: s-maj=20.6km s-min=14.7km az=122.0*

ISC 02 07:59:48.1±1.0, 52.°19N±0.°09×35.°48E±0.°08, h10km, n10, σ1s97/10, mb3.4/3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.19**	**252**	Pn	**Pn**	**08 00 54.4**	**+2.4**
	1.3nm,0.3s,baz=63,slow=12,SNR=5.6						
AKASG				Pg	**Pg**	**08 01 05.7**	**-2.6**
	2.0nm,0.3s,baz=60,slow=17,SNR=11						
AKASG				Sn	**Sn**	**08 01 40.0**	**-1.0**
	1.1nm,0.3s,baz=62,slow=24,SNR=3.1						
AKASG				Lg	Lg	08 01 58.9	
	2.1nm,0.3s,baz=68,slow=30,SNR=8.5						
I43RU	**DUBNA INFRASON**	**4.65**	**12**	*i*		08 26 10.0	
	baz=194,slow=320,SNR=1.6						
MICGM	**Minsk**	**5.11**	**300**	*e*	**Sb**	**08 02 21.0**	**+2.2**
FINES	**FINESS Array B**	**10.60**	**335**	Pn	**Pn**	**08 02 17.6**	**-2.1**
	0.1nm,0.3s,baz=151,slow=14,SNR=5.1						
FINES				Sn	Sn	08 04 09.4	-8.9
	0.2nm,0.3s,baz=147,slow=23,SNR=5.7						
VRAC	**Vranov**	**12.30**	**264**	LR	LR	08 07 22.1	
	comp=Z,33nm,18.5s,baz=56,slow=36						
BRTR	**Keskin Array B**	**12.54**	**187**	Pn	**Pn**	**08 02 46.1**	**-0.5**
	0.1nm,0.3s,baz=3.1,slow=7.9,SNR=2.9						
ARCES	**ARCESS Array B**	**18.02**	**349**	P	**P**	**08 03 58.4**	**-0.4**
	0.3nm,0.3s,baz=156,slow=12,SNR=9.9						
BVAR	**Borovoye Array**	**21.09**	**74**	P	**P**	**08 04 32.2**	**-0.3**
	0.1nm,0.3s,baz=309,slow=9.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**47.43**	**227**	P	**P**	**08 08 24.5**	**+1.7**
	0.2nm,0.6s,baz=10,slow=8.8,SNR=2.3						
YKA	**Yellowknife Ar**	**63.24**	**345**	P	**P**	**08 10 17.1**	**+1.0**
	0.2nm,0.6s,baz=16,slow=6.9,SNR=4.6						

*IDC **02** 07:59:50.0±1.3, 30.°21S×179.°51W, h289km±12km, mb3.2/4, mb1 3.5/5, mb1mx3.4/18, mbtmp4.0/5, Error ellipse: s-maj=24.2km s-min=20.2km az=110.0*

ISC 02 07:59:53.7±1.2, 30.°8S±0.°1×179.°5W±0.°3, h300km, n64, σ1s77/60, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.05**	**41**	P	Pn	08 00 33.7	-7.2
	61nm,0.3s,baz=309,slow=9.4,SNR=4.8						
RAO				S	S	08 00 59.3	-19
	200nm,0.3s,baz=185,slow=8.8,SNR=7.1						
WMGZ	**Waiomatatini S**	**7.21**	**194**	PN	**Pn**	**08 01 36.8**	**-0.6**
WMGZ				SN	**S**	**08 03 01.9**	**+0.5**
HAZ	**Te Kaha**	**7.29**	**197**	PN	**Pn**	**08 01 38.5**	**+0.1**
HAZ				SN	**S**	**08 03 05.1**	**+1.8**
PUZ	**Puketiti**	**7.48**	**194**	PN	**Pn**	**08 01 40.1**	**-0.7**
PUZ				SN	**S**	**08 03 08.2**	**+0.6**
TWGZ	**Tauwhareparae**	**7.64**	**195**	PN	**Pn**	**08 01 42.3**	**-0.5**
CNGZ	**Carnagh Statio**	**7.89**	**193**	*e*PN	**Pn**	**08 01 44.9**	**-0.9**
MWZ	**Matawai**	**7.91**	**197**	*e*PN	**Pn**	**08 01 43.7**	**-2.3**
TKGZ	**Te Karaka**	**7.92**	**195**	*e*PN	**Pn**	**08 01 43.9**	**-2.3**
URZ	**Urewera**	**7.95**	**200**	P	**Pn**	**08 01 48.1**	**+1.6**
	21nm,0.3s,baz=104,slow=17,SNR=115						
URZ				S	**S**	**08 03 20.0**	**+2.0**
	15nm,0.3s,baz=6.0,slow=19,SNR=15						
URZ	**Urewera**	**7.95**	**200**	*e*PN	**Pn**	**08 01 44.7**	**-1.8**
RIGZ	**Rimuhau**	**8.20**	**195**	PN	**Pn**	**08 01 50.5**	**+0.9**
RIGZ				SN	**S**	**08 03 25.3**	**+1.6**
SNGZ	**Shannon Statio**	**8.37**	**197**	PN	**Pn**	**08 01 49.4**	**-2.4**
KNZ	**Kokohu**	**8.52**	**195**	*e*PN	**Pn**	**08 01 52.0**	**-1.4**
MHGZ	**Mahia Peninsul**	**8.60**	**194**	PN	**Pn**	**08 01 55.2**	**+0.8**
WHHZ	**Waihua**	**8.68**	**197**	PN	**Pn**	**08 01 56.2**	**+0.8**
ARHZ	**Aropaoanui**	**8.92**	**198**	PN	**Pn**	**08 01 59.3**	**+1.0**
BKZ	**Black Stump Fm**	**8.97**	**201**	PN	**Pn**	**08 01 56.9**	**-2.2**
HIZ	**Hauiti**	**8.99**	**210**	PN	**Pn**	**08 02 01.6**	**+2.3**
MCHZ	**McNeill Hill**	**9.17**	**199**	PN	**Pn**	**08 02 02.2**	**+0.7**
TUVZ	**Tukino**	**9.34**	**204**	*e*PN	**Pn**	**08 02 05.1**	**+1.4**
FWVZ	**Far West T-bar**	**9.36**	**204**	*e*PN	**Pn**	**08 02 04.7**	**+0.7**
BHHZ	**Black Hill Sta**	**9.40**	**202**	PN	**Pn**	**08 02 03.7**	**-0.6**
TRVZ	**Turoa**	**9.40**	**204**	*e*PN	**Pn**	**08 02 05.2**	**+0.6**
WNVZ	**Wahianoa**	**9.41**	**204**	PN	**Pn**	**08 02 04.8**	**+0.2**
MOVZ	**Moawhango**	**9.43**	**203**	PN	**Pn**	**08 02 05.3**	**+0.6**
KRHZ	**Kereru**	**9.45**	**200**	PN	**Pn**	**08 02 01.7**	**-3.2**
KAHZ	**Kahuranaki**	**9.45**	**197**	PN	**Pn**	**08 02 02.1**	**-2.8**
PKVZ	**Pokaka**	**9.47**	**205**	*e*PN	**Pn**	**08 02 05.8**	**+0.7**
MTVZ	**Mangateitei**	**9.51**	**204**	PN	**Pn**	**08 02 07.1**	**+1.4**
PXZ	**Pawanui**	**9.68**	**197**	PN	**Pn**	**08 02 05.7**	**-2.0**
PNHZ	**Pukenui**	**9.75**	**200**	PN	**Pn**	**08 02 08.0**	**-0.6**
WPHZ	**Waipukurau**	**9.82**	**199**	*e*PN	**P**	**08 02 10.7**	**-2.5**
TSZ	**Takapari Road**	**9.95**	**201**	PN	Pn	08 02 07.2	-3.9
PRHZ	**Porangahau**	**9.96**	**198**	PN	**Pn**	**08 02 11.3**	**+0.2**
WAZ	**Wanganui**	**10.01**	**205**	PN	**Pn**	**08 02 11.0**	**-0.7**
DVHZ	**Dannevirke**	**10.11**	**199**	PN	**Pn**	**08 02 12.6**	**-0.4**
POWZ	**Post Office Ro**	**10.32**	**201**	PN	**Pn**	**08 02 15.5**	**0.0**
PRWZ	**Pori Road**	**10.41**	**200**	PN	**Pn**	**08 02 16.2**	**-0.4**
BFZ	**Birch Farm**	**10.45**	**198**	PN	**Pn**	**08 02 17.5**	**+0.4**
MRZ	**Mangatainoka R**	**10.62**	**201**	PN	Pn	08 02 15.3	-3.9
HOWZ	**Holdsworth Sta**	**10.86**	**201**	PN	**Pn**	**08 02 20.1**	**-2.0**
TMWZ	**Te Maipa**	**10.94**	**199**	PN	**Pn**	**08 02 21.5**	**-1.7**
KIW	**Kapiti Island**	**11.02**	**203**	PN	**Pn**	**08 02 21.5**	**-2.6**
MTW	**Mount Morrison**	**11.10**	**200**	PN	**Pn**	**08 02 23.7**	**-1.3**
CAW	**Cannon Point**	**11.19**	**202**	PN	**Pn**	**08 02 23.4**	**-2.8**
MSWZ	**Moikau Station**	**11.41**	**200**	PN	**Pn**	**08 02 27.3**	**-1.6**
TCW	**Tory Channel**	**11.55**	**204**	PN	**Pn**	**08 02 27.9**	**-2.6**
NNZ	**Nelson**	**11.89**	**207**	PN	**Pn**	**08 02 32.4**	**-2.2**
QRZ	**Quartz Range**	**11.91**	**211**	PN	**Pn**	**08 02 33.6**	**-1.4**
THZ	**Tophouse**	**12.54**	**207**	PN	Pn	08 02 38.8	-3.8
KHZ	**Kahutara**	**12.87**	**204**	PN	Pn	08 02 43.2	-3.3
DSZ	**Denniston Nort**	**12.98**	**210**	PN	**Pn**	**08 02 45.0**	**-2.9**
FOZ	**Fox Glacier**	**15.37**	**211**	PN	**P**	**08 03 13.6**	**-0.9**
ASAR	**Alice Springs**	**41.83**	**268**	P	P	08 07 11.9	-3.1
	0.2nm,0.3s,baz=106,slow=7.9,SNR=10						
ASAR				ScP	**ScP**	**08 12 24.1**	**-1.9**
	0.3nm,0.7s,baz=110,slow=4.2,SNR=4.5						
WRA	**Warramunga Arr**	**42.85**	**273**	P	P	08 07 20.8	-2.4
	0.8nm,0.3s,baz=111,slow=7.7,SNR=3.2						
QSPA	**South Pole Qui**	**59.30**	**180**	P	**P**	**08 09 26.0**	**+1.9**
	2.0nm,0.6s,baz=329,slow=15,SNR=24						
NVAR	**Mina Array Bea**	**89.40**	**43**	P	P	08 12 12.0	-4.8
	0.4nm,0.8s,baz=219,slow=7.0,SNR=2.9						
KBZ	**Khabaz**	**144.28**	**303**	PKP	PKPbc	08 18 49.5	-3.5
	1.3nm,0.5s,baz=79,slow=5.2,SNR=5.4						
KAF	**Kangasniemi**	**144.50**	**339**	*ep*	PKPbc	08 18 47.5	-5.5
	2.2nm,0.5s						
FINES	**FINESS Array B**	**145.08**	**339**	PKP	**PKPdf**	**08 18 50.0**	**-4.6**
	2.4nm,0.3s,baz=74,slow=3.3,SNR=66						
NB2	**NORSAR Subarra**	**148.95**	**350**	PKP	**PKPdf**	**08 19 00.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**148.95**	**350**	PKPbc	**PKPdf**	**08 19 01.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=14,slow=4.1,SNR=6.0						
AKASG	**Malin Array Be**	**150.84**	**321**	PKPbc	**PKPdf**	**08 19 06.7**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=49,slow=2.5,SNR=6.4						
BRTR	**Keskin Array B**	**151.68**	**297**	PKPbc	**PKPdf**	**08 19 09.5**	**+3.3**
	comp=Z,0.6nm,0.6s,baz=72,slow=4.0,SNR=5.3						

*IDC **02** 08:10:47.9±0.9, 34.°08S×72.°03W, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/17, mbtmp4.1/8, ML4.0/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/23, Error ellipse: s-maj=36.9km s-min=24.3km az=99.0*
*ISCJB **02** 08:10:48.2±0.6, 34.°00S±0.°03×72.°56W±0.°05, h17km, mb4.1/9, MS3.4/2, Error ellipse: s-maj=6.6km s-min=4.6km az=9.3*
*GUC **02** 08:10:49.1±0.8, 34.°02S×72.°37W, h20km±12km, ML4.1*
*NEIC **02** 08:10:53.4±1.6, 33.°99S×72.°24W, h38km±12km, mb4.3/5, Error ellipse: s-maj=22.3km s-min=9.9km az=89.0*

ISC 02 08:10:50.2±0.6, 34.°01S±0.°04×72.°30W±0.°06, h17km, n35, σ0s93/44, mb4.3/9, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.12**	**29**	⇑*i*P	**Pb**	**08 11 11.1**	**-0.1**
IHA				*i* S	**Sg**	**08 11 27.0**	**+0.4**
NICH	**Los Niches**	**1.32**	**139**	*e*P	**Pn**	**08 11 14.0**	**+0.1**
NICH				*i* S	**Sg**	**08 11 32.9**	**-0.1**
TALC	**Talca**	**1.49**	**159**	⇓*i*P	**Pn**	**08 11 16.3**	**+0.1**
TALC				*i* S	**Sb**	**08 11 36.6**	**+0.6**
ROCH	**El Roble**	**1.49**	**46**	⇑*i*P	**Pb**	**08 11 17.0**	**-0.6**
ROCH				*i* S	**Sg**	**08 11 39.1**	**+0.6**
ROCH				AML	AML	08 11 48.5	
	comp=N,3μm,0.6s						
LACH	**Col Las Americ**	**1.57**	**70**	*e*P	**Pb**	**08 11 18.2**	**-0.7**
CLCH	**Cerro Calan**	**1.59**	**68**	⇑*i*P	**Pb**	**08 11 18.6**	**-0.6**
CLCH				*i* S	**Sg**	**08 11 41.2**	**-0.3**
CLCH				AML	AML	08 11 45.9	
	comp=E,3μm,0.4s						
CLCH				AML	AML	08 11 46.5	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.60**	**58**	⇓*i*P	**Pb**	**08 11 19.0**	**-0.3**
PEL				*i* S	**Sg**	**08 11 41.4**	**-0.4**
PEL				AML	AML	08 11 50.2	
	comp=N,7μm,0.4s						
SJCH	**San Jose de Ma**	**1.66**	**78**	*e*P	**Pn**	**08 11 18.9**	**+0.3**
SJCH				*i* S	**Sb**	**08 11 41.7**	**+0.7**
YECH	**El Yeso**	**1.87**	**80**	⇑*i*P	**Pb**	**08 11 23.7**	**-0.5**
YECH				*i* S	**Sg**	**08 11 50.8**	**+0.2**
LNCH	**Linares**	**1.92**	**163**	⇓*i*P	**Pn**	**08 11 22.9**	**+0.8**
LNCH				*i* S	**Sb**	**08 11 48.6**	**+0.2**
CFAA	**Coronel Fontan**	**4.17**	**56**	Pn	**Pn**	**08 11 54.2**	**+1.1**
	comp=N,0.5nm,0.3s,baz=227,slow=13,SNR=26						
CFAA				Lg	Lg	08 12 55.6	
	comp=N,0.6nm,0.3s,baz=274,slow=9.3,SNR=4.4						
CFAA				LR	LR	08 13 09.9	
	comp=N,14nm,19.2s,baz=254,slow=35						
LCO	**Las Campanas**	**5.17**	**16**	*e*Pn	**Pn**	**08 12 06.4**	**-0.6**
	comp=N,49nm,0.8s						
PLCA	**Paso Flores**	**6.85**	**169**	LR	LR	08 15 14.1	
	comp=N,310nm,18.0s,baz=309,slow=40						
PLCA	**Paso Flores**	**6.85**	**169**	*e*Pn	**Pn**	**08 12 30.8**	**+0.8**
TRQA	**Tornquist**	**9.28**	**119**	*e*Pn	**Pn**	**08 13 06.3**	**+3.1**
LPAZ	**La Paz**	**18.04**	**13**	P	**P**	**08 15 00.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=197,slow=8.7,SNR=13						
LPAZ	**La Paz**	**18.04**	**13**	*e*P	**P**	**08 15 01.8**	**+0.6**
	comp=N,3.8nm,0.8s						
SIV	**San Ignacio**	**20.60**	**32**	P	**P**	**08 15 28.2**	**-0.3**
	comp=N,3.6nm,0.6s,baz=215,slow=9.4,SNR=15						
SIV				LR	LR	08 24 59.9	
	comp=N,154nm,18.3s,baz=238,slow=42						
SAML	**Samuel**	**26.32**	**21**	*e*P	**P**	**08 16 27.9**	**+2.8**
	comp=N,3.2nm,0.8s						
BDFB	**Brasilia**	**28.52**	**56**	P	**P**	**08 16 43.5**	**-1.6**
	comp=N,2.2nm,0.7s,baz=162,slow=13,SNR=4.4						
BDFB				LR	LR	08 29 19.1	
	comp=N,95nm,18.5s,baz=78,slow=39						
SNAA	**Sanae**	**51.66**	**158**	*e*P	**P**	**08 19 55.4**	**-0.3**
	comp=N,4.6nm,1.0s						
QSPA	**South Pole Qui**	**56.23**	**180**	P	**P**	**08 20 28.9**	**-0.3**
	comp=N,2.6nm,0.9s,baz=115,slow=1.9,SNR=6.5						
QSPA	**South Pole Qui**	**56.23**	**180**	*e*P	**P**	**08 20 29.8**	**+0.6**
	comp=N,3.7nm,1.0s						
TXAR	**Lajitas Array**	**69.64**	**331**	P	**P**	**08 21 59.8**	**+1.1**
	comp=N,0.2nm,0.5s,baz=157,slow=10.0,SNR=5.0						
WVT	**Waverly**	**71.27**	**347**	*e*P	**P**	**08 22 08.7**	**+0.3**
	comp=N,2.7nm,0.5s						
DBIC	**Dimbokro**	**75.38**	**71**	P	**P**	**08 22 31.2**	**-2.0**
	comp=N,1.5nm,0.5s,baz=214,slow=6.4,SNR=2.0						
BOSA	**Boshof**	**80.25**	**118**	P	**P**	**08 22 60.0**	**-0.5**
	comp=N,1.7nm,0.8s,baz=279,slow=4.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**08 23 22.2**	**+0.1**
	comp=N,1.7nm,0.7s,baz=270,slow=4.3,SNR=11						
AKASG	**Malin Array Be**	**122.36**	**48**	PKP	**PKPdf**	**08 29 42.6**	**-1.2**
	comp=N,0.3nm,0.4s,baz=264,slow=2.5,SNR=5.0						
BVAR	**Borovoye Array**	**147.43**	**43**	PKPbc	**PKPbc**	**08 30 33.3**	**+0.6**
	comp=N,1.8nm,0.6s,baz=282,slow=3.5,SNR=12						
AAK	**Ala-Archa**	**152.70**	**62**	PKPbc	**PKPbc**	**08 30 46.7**	**+0.6**
	comp=N,1.4nm,0.6s,baz=233,slow=3.3,SNR=6.3						
KURBB	**Kurchatov Arra**	**153.02**	**43**	PKPbc	**PKPbc**	**08 30 46.6**	**+0.4**
	comp=N,1.5nm,0.6s,baz=302,slow=2.8,SNR=16						
KURK	**Kurchatov**	**153.03**	**43**	*e*PKPbc	**PKPbc**	**08 30 45.7**	**-0.6**
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc	**PKPbc**	**08 30 49.4**	**+0.4**
	comp=N,2.3nm,0.6s,baz=308,slow=3.4,SNR=12						
ZALV				PKPab	**PKPab**	**08 31 03.5**	**+0.3**
	comp=N,1.5nm,0.6s,baz=316,slow=4.0,SNR=5.5						
MKAR	**Makanchi Array**	**156.93**	**49**	PKPbc	PKPbc	08 30 53.5	
	comp=N,0.3nm,0.6s,baz=259,slow=0.6,SNR=4.1						
MKAR				PKPab	**PKPab**	**08 31 14.6**	**0.0**
	comp=N,0.7nm,0.6s,baz=298,slow=4.3,SNR=8.9						

NNC 02 08:13:29.3±0.6, 50.°01N×78.°74E, h0km, mb3.7, mpv3.3, 10C-8D, Error ellipse: s-maj=7.9km s-min=2.8km az=88.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.62**	**348**	⇑P	Pg	08 13 41.6	+0.3
	50nm,0.2s						
KURBB				⇓S	Sg	08 13 50.7	+1.3
	206nm,0.5s						
KURK	**Kurchatov**	**0.71**	**354**	⇑P	Pg	08 13 43.0	+0.1
	15nm,0.3s						
KURK				⇑S	Sg	08 13 52.8	+0.8
	32nm,0.9s						
MK31	**Makanchi Array**	**4.00**	**142**	⇑Pn	Pn	08 14 34.0	+2.1
	0.4nm,0.1s,baz=323,slow=10,SNR=179						
MK31				⇑Pg	Pb	08 14 40.3	-0.4
	5.2nm,0.6s,baz=334,slow=16,SNR=6.5						
MK31				Lg	Lg	08 15 34.6	
	7.5nm,0.4s,baz=337,slow=30,SNR=25						
OTUK	**Ortayu**	**4.56**	**250**	⇓Pn	Pn	08 14 40.6	+1.1
	4.1nm,0.3s						
OTUK				⇓Pg	Pb	08 14 52.7	+2.5
	1.3nm,0.3s						
OTUK				⇑Lg	Lg	08 15 53.5	
	9.0nm,0.5s						
BVA0	**Borovoye Array**	**6.02**	**303**	⇓Pn	Pn	08 15 01.2	+1.7
	0.9nm,0.3s,baz=93,slow=16,SNR=12						
BVA0				⇑Sn	Sn	08 16 09.3	+0.1
	1.4nm,0.4s,baz=114,slow=21,SNR=5.3						
BVA0				⇓Lg	Lg	08 16 39.8	
	4.2nm,0.7s,baz=129,slow=30,SNR=5.3						
PDGK	**Podgornoye**	**6.71**	**175**	⇓Lg	Lg	08 17 01.2	
	7.6nm,0.7s						
TKM2	**Tokmak 2**	**7.42**	**198**	⇓Lg	Lg	08 17 22.3	
	3.2nm,0.6s						
AAK	**Ala-Archa**	**7.94**	**203**	⇑Lg	Lg	08 17 40.1	
	4.5nm,0.7s						
MNAS	**Manas**	**8.68**	**212**	⇓Lg	Lg	08 18 02.4	
	1.3nm,0.5s						
KK31	**Karatay Array**	**8.93**	**222**	Pn	Pn	08 15 38.6	-1.0
	0.2nm,0.2s,baz=31,slow=11,SNR=9.4						
KK31				⇑Sn	Sn	08 17 20.5	-0.4
	0.7nm,0.5s,baz=31,slow=11,SNR=9.4						
KK31				⇑Lg	Lg	08 18 10.0	
	2.5nm,0.6s,baz=28,slow=26,SNR=5.6						

*ISCJB **02** 08:15:49.2±0.2, 61.°85N±0.°02×147.°41W±0.°04, h45km±7km, mb3.5/1, MS3.3/2, Error ellipse: s-maj=3.8km s-min=3.1km az=19.6*
*IDC **02** 08:15:49.5±7.2, 61.°84N×147.°35W, h64km±58km, mb3.1/1, mb1 3.1/3, mb1mx2.7/53, mbtmp3.0/3, ML2.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/13, Error ellipse: s-maj=55.2km s-min=33.8km az=30.0*
*NEIC **02** 08:15:50.5, 61.°84N×147.°39W, h30km, ML3.0(AEIC), After AEIC.*

ISC 02 08:15:49.8±0.7, 61.°81N±0.°02×147.°41W±0.°02, h44km±8km, n77, σ0s89/74, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCM	**Sheep Creek Mo**	**0.05**	**61**	P	Pn	08 15 55.4	-1.5
SCM				S	**Sn**	**08 16 00.4**	**-1.3**
KLU	**Klutina**	**0.78**	**113**	P	**Pn**	**08 16 03.5**	**-1.0**
KLU				S	**Sn**	**08 16 14.9**	**-0.2**
PMR	**Palmer**	**0.85**	**256**	P	**Pn**	**08 16 04.0**	**-1.3**
JPK	**Jack Peak**	**0.85**	**152**	P	**Pn**	**08 16 04.5**	**-1.0**
VMT	**TAPS TI Valdez**	**0.89**	**145**	P	**Pn**	**08 16 05.0**	**-0.8**
GLI	**Glacier Island**	**0.95**	**170**	P	**Pn**	**08 16 06.5**	**-0.2**
PS11	**TAPS Pump St11**	**0.96**	**73**	P	**Pn**	**08 16 06.5**	**-0.2**
PS11				S	**Sn**	**08 16 20.7**	**+1.5**
DIV	**Divide**	**1.04**	**130**	*e*Pn	**Pn**	**08 16 06.7**	**-1.4**
DIV				*e*Sn	**Sn**	**08 16 21.1**	**-0.4**
PS12	**TAPS Pump St12**	**1.14**	**106**	P	**Pn**	**08 16 08.5**	**-0.7**
PS12				S	**Sn**	**08 16 25.7**	**+2.1**
HARP	**HAARP**	**1.22**	**60**	P	**Pn**	**08 16 09.9**	**-0.5**
HARP				S	**Sn**	**08 16 26.9**	**+1.1**
PTE	**Portage**	**1.23**	**220**	P	**Pn**	**08 16 10.8**	**+0.3**
RC01	**Rabbit Creek A**	**1.33**	**238**	P	**Pn**	**08 16 12.5**	**+0.6**
RC01				S	**Sn**	**08 16 30.7**	**+2.3**
CUT	**Chulitna**	**1.47**	**295**	P	**Pn**	**08 16 13.4**	**-0.3**
FIB	**Fire Island**	**1.47**	**245**	P	Pn	08 16 15.3	+1.5
PAX	**Paxson**	**1.48**	**37**	P	**Pn**	**08 16 13.2**	**-0.8**
HIN	**Hinchinbrook I**	**1.49**	**162**	P	**Pn**	**08 16 15.3**	**+1.3**
EYAK	**Cordova Ski Ar**	**1.50**	**147**	P	Pn	08 16 15.4	+1.2
WASW	**Wrangell South**	**1.54**	**84**	P	**Pn**	**08 16 14.9**	**-0.1**
HUR	**Hurricane**	**1.56**	**320**	P	**Pn**	**08 16 14.7**	**-0.5**
BMRM	**Bremner River**	**1.59**	**121**	P	**Pn**	**08 16 15.5**	**-0.1**
SUA	**Susitna One**	**1.63**	**259**	P	**Pn**	**08 16 16.4**	**+0.4**
RND	**Reindeer**	**1.73**	**338**	P	**Pn**	**08 16 17.4**	**-0.1**
GLB	**Gilahina Butte**	**1.76**	**101**	P	**Pn**	**08 16 17.9**	**+0.1**
PS10	**TAPS Pump St10**	**1.79**	**24**	P	**Pn**	**08 16 18.8**	**+0.6**
GOAT	**Goat Mountain**	**1.79**	**132**	P	**Pn**	**08 16 19.0**	**+0.7**
SLKM	**Skilak Lake**	**1.89**	**227**	P	Pn	08 16 21.1	+1.5
RAGM	**Ragged Mountai**	**1.95**	**136**	P	Pn	08 16 21.9	+1.5
SKT	**Skwentna**	**1.96**	**277**	P	**Pn**	**08 16 20.9**	**+0.4**
SEW	**Seward**	**1.98**	**211**	P	Pn	08 16 22.2	+1.5
VRDI	**Verde Repeater**	**1.99**	**105**	P	**Pn**	**08 16 21.6**	**+0.5**
MCK	**McKinley**	**2.05**	**341**	P	**Pn**	**08 16 22.1**	**+0.2**
MENT	**Mentasta**	**2.06**	**55**	P	**Pn**	**08 16 22.1**	**+0.2**
DDM	**Donnelly Dome**	**2.11**	**19**	P	Pn	08 16 23.6	+1.0
TRF	**Thorofare Moun**	**2.12**	**322**	P	**Pn**	**08 16 22.5**	**-0.3**
STLK	**Strandline Lak**	**2.13**	**264**	P	**Pn**	**08 16 24.0**	**+1.1**
MCARA	**McCarthy VSAT**	**2.14**	**100**	P	**Pn**	**08 16 23.7**	**+0.7**
BERG	**Berg Lake**	**2.30**	**127**	P	**Pn**	**08 16 25.9**	**+0.8**
NICHA	**Nichawak Mount**	**2.30**	**132**	P	Pn	08 16 26.5	+1.2
CKN	**Chakachatna No**	**2.36**	**258**	P	**Pn**	**08 16 26.9**	**+0.9**
KTH	**Kantishna Hill**	**2.38**	**319**	P	**Pn**	**08 16 26.5**	**+0.1**
DOT	**Dot Lake**	**2.41**	**38**	P	**Pn**	**08 16 27.3**	**+0.6**
CKL	**Chakachamna La**	**2.44**	**258**	P	**Pn**	**08 16 28.4**	**+1.2**
KHIT	**Khitrov Hills**	**2.44**	**122**	P	**Pn**	**08 16 27.8**	**+0.6**
BGL	**Barrier Glacie**	**2.45**	**259**	P	**Pn**	**08 16 28.4**	**+1.1**
PTPK	**Patty Peak**	**2.45**	**103**	P	**Pn**	**08 16 28.1**	**+0.6**
PPLA	**Purkeypile**	**2.48**	**298**	P	**Pn**	**08 16 28.1**	**+0.3**
BWN	**Browne**	**2.55**	**339**	P	**Pn**	**08 16 28.5**	**-0.1**
BALM	**Baldy**	**2.56**	**105**	P	**Pn**	**08 16 29.0**	**+0.1**
KIAG	**Kiagna River**	**2.59**	**108**	P	**Pn**	**08 16 29.4**	**+0.1**
HDA	**Harding Lake**	**2.61**	**4**	P	Pn	08 16 30.5	+1.0
BRLK	**Bradley Lake**	**2.67**	**221**	P	Pn	08 16 31.7	+1.4
SCRK	**Sand Creek**	**2.68**	**34**	P	**Pn**	**08 16 30.6**	**0.0**
WRH	**Wood River Hil**	**2.69**	**354**	P	**Pn**	**08 16 30.6**	**+0.1**
CAST	**Castle Rocks**	**2.69**	**309**	P	**Pn**	**08 16 31.4**	**+0.8**
ISLE	**Juniper Island**	**2.74**	**114**	P	**Pn**	**08 16 31.4**	**+0.1**
BARK	**Barkley Ridge**	**2.78**	**118**	P	**Pn**	**08 16 32.3**	**+0.5**
CCB

KOK					S		**Sb**	**08 25 12.8**	**+0.4**
KRX	**Arik**	**1.68**	**316**	*e*P			**Pb**	**08 24 52.5**	**-0.3**
KII	**Karymskiy**	**2.00**	**340**	*e*P			**Pn**	**08 24 56.1**	**+0.9**
KII					S		**Sn**	**08 25 19.5**	**-0.3**
PETK	**Petropavlovsk-**	**2.00**	**299**		PN		**Pb**	**08 24 57.4**	**-0.7**
PETK					pmax	pmax			
	comp=Z,39nm,0.3s								
PETK	**Petropavlovsk-**	**2.00**	**299**		Pn		**Pb**	**08 24 57.4**	**-0.7**
	comp=Z,38nm,0.3s,baz=106,slow=16,SNR=139								
GNL	**Ganaly**	**2.22**	**315**	*e*P			**Pb**	**08 25 00.9**	**-1.0**
GNL					S		**Sn**	**08 25 27.6**	**+2.3**
APC	**Apacha**	**2.23**	**291**	*e*P			**Pb**	**08 25 01.3**	**-0.7**
APC					S		**Sb**	**08 25 28.6**	**-0.7**
MIPR	**Malaya Ipel'ka**	**2.36**	**274**		P		**Pb**	**08 25 03.6**	**-0.6**
PAU	**Pauzhetka**	**2.45**	**255**		PN		Pb	08 25 04.3	-1.4
PAU	**Pauzhetka**	**2.45**	**255**		P		Pb	08 25 04.3	-1.4
MKZ	**Mys Kozlova**	**2.50**	**15**		PN		Pn	08 25 00.5	-1.4
MKZ	**Mys Kozlova**	**2.50**	**15**	*e*P			Pn	08 25 00.5	-1.4
MKZ					*e*S		Sn	08 25 27.2	-4.7
TUMR	**Tumrok**	**3.14**	**355**	*e*P			**Pn**	**08 25 12.2**	**+1.3**
TUMR					S		**Sn**	**08 25 47.3**	**-0.7**
SKR	**Severo-Kuril's**	**3.17**	**244**	*e*PN			**Pn**	**08 25 11.2**	**0.0**
SKR	**Severo-Kuril's**	**3.17**	**244**		P		**Pn**	**08 25 12.9**	**+1.7**
SKR					*e*S		**Sn**	**08 25 48.6**	**+0.2**
ESO	**Esso**	**3.93**	**344**		PN		**Pn**	**08 25 23.1**	**+1.4**
ESO	**Esso**	**3.93**	**344**		P		**Pn**	**08 25 23.1**	**+1.4**
KBTR	**Krutoberegovo**	**4.26**	**17**		PN		**Pn**	**08 25 25.7**	**-0.5**
KBTR	**Krutoberegovo**	**4.26**	**17**	*e*P			**Pn**	**08 25 25.7**	**-0.5**
KBTR					S		Sn	08 26 10.8	-4.6
BKI	**Bering**	**4.42**	**44**		PN		Pn	08 25 26.2	-2.1
BKI	**Bering**	**4.42**	**44**		P		Pn	08 25 26.2	-2.1
BKI					*e*S		Sn	08 26 11.3	-8.0
SMKR	**Semkarok**	**4.46**	**6**		P		**Pn**	**08 25 29.3**	**+0.3**
ASAJ	**Asahikawa**	**14.43**	**243**		P		**Pn**	**08 27 43.9**	**-1.6**
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**14.43**	**243**		Pn		**Pn**	**08 27 43.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=352,slow=15,SNR=3.2								
BILL	**Bilibino**	**16.17**	**8**	⇓*e*P			**Pn**	**08 28 08.9**	**+0.7**
BILL					pmax	pmax			
	comp=Z,13nm,1.1s								
BILL	**Bilibino**	**16.17**	**8**	*e*P			**P**	**08 28 12.1**	**+0.7**
	comp=Z,10.0nm,0.9s								
YAK	**Yakutsk**	**19.29**	**313**	*e*P			**P**	**08 28 43.1**	**-2.6**
YAK					pmax	pmax			
	comp=Z,32nm,0.9s								
YAK					pmax	pmax			
	comp=E,13nm,1.3s								
YAK					pmax	pmax			
	comp=N,6.0nm,1.1s								
YAK	**Yakutsk**	**19.29**	**313**		P		**P**	**08 28 44.7**	**-1.0**
	comp=N,0.0nm,0.3s,baz=199,slow=1.9,SNR=6.7								
YAK					LR		LR	08 37 25.2	
	comp=N,106nm,18.6s,baz=109,slow=41								
USRK	**Ussuriysk Ar.**	**20.56**	**259**		P		**P**	**08 28 59.6**	**-0.2**
	comp=N,4.7nm,0.9s,baz=60,slow=9.1,SNR=5.2								
MJA0	**Matsu Arr-Jizo**	**22.20**	**234**	*e*P			**P**	**08 29 19.9**	**+2.3**
MJA0					pmax	pmax			
	comp=Z,3.0nm,0.7s								
MAJO	**Matsushiro**	**22.22**	**234**	*e*P			**P**	**08 29 16.9**	**-0.9**
MAJO					pmax	pmax			
	comp=Z,6.0nm,0.5s								
MAJO	**Matsushiro**	**22.22**	**234**	*e*P			**P**	**08 29 16.9**	**-0.9**
	comp=Z,5.6nm,0.5s								
MJAR	**Matsushiro Arr**	**22.22**	**234**		P		**P**	**08 29 17.7**	**0.0**
MJAR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
MJAR	**Matsushiro Arr**	**22.22**	**234**		P		**P**	**08 29 17.7**	**0.0**
	comp=Z,2.9nm,0.7s,baz=36,slow=9.7,SNR=7.2								
TIXI	**Tiksi**	**24.06**	**336**	⇓*i*P			**P**	**08 29 35.1**	**-0.9**
TIXI					pmax	pmax			
	comp=Z,6.0nm,1.0s								
TIXI	**Tiksi**	**24.06**	**336**	*e*P			**P**	**08 29 34.9**	**-1.0**
	comp=Z,3.5nm,0.7s								
CN2	**Changchun**	**24.76**	**264**	*e*P			**P**	**08 29 42.5**	**-0.2**
HIA	**Hailar**	**25.78**	**280**	*i* P			**P**	**08 29 51.5**	**-0.4**
HIA					pmax	pmax			
	comp=Z,8.0nm,0.8s								
HIA	**Hailar**	**25.78**	**280**	*e*P			**P**	**08 29 51.9**	**0.0**
	comp=Z,7.8nm,0.7s								
BOD	**Bodaibo**	**26.87**	**301**	*e*P			**P**	**08 29 58.1**	**-3.5**
BOD					pmax	pmax			
	comp=Z,5.0nm,1.4s								
ILAR	**Eielson Array**	**29.27**	**44**		P		**P**	**08 30 22.1**	**-0.8**
	comp=Z,0.1nm,0.8s,baz=277,slow=7.0,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**32.74**	**169**		T		T	09 06 44.9	
	baz=352,slow=76,SNR=16								
H11N3	**WAKE ISLAND Hy**	**32.75**	**169**		T		T	09 06 47.3	
	baz=352,slow=76,SNR=18								
H11N1	**WAKE ISLAND Hy**	**32.76**	**169**		T		T	09 06 42.1	
	baz=352,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy**	**33.92**	**170**		T		T	09 08 16.0	
	baz=350								
H11S3	**WAKE ISLAND Hy**	**33.94**	**170**		T		T	09 08 17.7	
	baz=350								
H11S2	**WAKE ISLAND Hy**	**33.94**	**170**		T		T	09 08 16.6	
	baz=350								
SONM	**Songino Array**	**34.42**	**285**		P		**P**	**08 31 09.7**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=62,slow=7.7,SNR=3.8								
SONM					PcP		**PcP**	**08 33 43.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=50,slow=2.3,SNR=3.5								
SONM					LR		LR	08 47 07.5	
	comp=Z,149nm,18.9s,baz=28,slow=40								
INK	**Inuvik**	**34.43**	**37**		P		**P**	**08 31 08.4**	**+0.3**
INK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**34.43**	**37**		P		**P**	**08 31 08.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=288,slow=5.2,SNR=2.8								
ZAK	**Zakamensk**	**35.10**	**290**	*e*P			**P**	**08 31 13.8**	**-0.5**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.4s								
ZALV	**Zalesovo Beam**	**43.54**	**304**		P		**P**	**08 32 23.0**	**-1.5**
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**43.54**	**304**		P		**P**	**08 32 23.0**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=67,slow=8.0,SNR=3.4								
ZALV					LR		LR	08 51 14.6	
	comp=Z,56nm,19.2s,baz=68,slow=37								
YKA	**Yellowknife Ar**	**43.65**	**42**		P		**P**	**08 32 25.4**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=301,slow=8.1,SNR=6.9								
NVS	**Novosibirsk**	**43.90**	**306**	*i* P			**P**	**08 32 25.5**	**-1.8**
KURK	**Kurchatov**	**48.49**	**303**	*e*P			**P**	**08 33 01.9**	**-1.6**
KURK					pmax	pmax			
	comp=Z,16nm,1.0s								
KURK	**Kurchatov**	**48.49**	**303**	*e*P			**P**	**08 33 01.9**	**-1.6**
	comp=Z,16nm,1.0s								
KURBB	**Kurchatov Arra**	**48.59**	**303**		P		**P**	**08 33 03.3**	**-1.0**
	comp=Z,6.7nm,0.9s,baz=58,slow=7.9,SNR=42								
MKAR	**Makanchi Array**	**48.84**	**297**		P		**P**	**08 33 06.3**	**0.0**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**48.84**	**297**		P		**P**	**08 33 05.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=58,slow=7.1,SNR=14								
BVAR	**Borovoye Array**	**51.21**	**309**		P		**P**	**08 33 23.9**	**-0.3**
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**	**51.21**	**309**		P		**P**	**08 33 23.9**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=60,slow=8.8,SNR=12								
DAG	**Danmarks Havn**	**51.34**	**360**	*i* P			**P**	**08 33 24.2**	**-0.6**
DAG					pmax	pmax			
	comp=Z,2.0nm,0.9s								
DAG	**Danmarks Havn**	**51.34**	**360**	*i* P			**P**	**08 33 24.2**	**-0.6**
	comp=Z,1.8nm,0.9s								
ARCES	**ARCESS Array B**	**54.27**	**342**		P		**P**	**08 33 46.4**	**-0.2**
ARCES					pmax	pmax			
	comp=Z,7.0nm,1.1s								
ARCES	**ARCESS Array B**	**54.27**	**342**		P		**P**	**08 33 46.4**	**-0.2**
	comp=Z,6.5nm,1.1s,baz=25,slow=9.4,SNR=5.2								
ARU	**Arti**	**54.29**	**318**	*c i*P			**P**	**08 33 46.8**	**-0.1**
ARU					*PP		pP	08 34 02.5	+10
ARU								08 34 49.0	
ARU								08 35 47.3	
ARU					S		**S**	**08 41 20.6**	**-2.7**
ARU					SS		**SS**	**08 45 02.0**	**-2.6**
ARU					pmax	pmax			
	comp=Z,3.0nm,0.7s								
SUMG	**Summit**	**54.85**	**7**	*e*P			**P**	**08 33 52.1**	**+0.9**
SUMG					pmax	pmax			
	comp=Z,6.0nm,0.9s								
SUMG	**Summit**	**54.85**	**7**	*e*P			**P**	**08 33 52.1**	**+0.9**
	comp=Z,6.5nm,0.9s								
SUMG	**Summit**	**54.85**	**7**	*i* P			**P**	**08 33 53.0**	**+1.8**
	comp=Z,5.8nm,1.0s								
NVAR	**Mina Array Bea**	**55.78**	**70**		P		**P**	**08 33 59.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=287,slow=8.0,SNR=4.3								
PDAR	**Pinedale Array**	**57.72**	**61**		P		**P**	**08 34 12.8**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=291,slow=4.1,SNR=4.3								
PDAR					LR		LR	08 59 18.1	
	comp=Z,32nm,18.1s,baz=336,slow=36								
CMAR	**Chiang Mai Arr**	**58.29**	**259**		P		**P**	**08 34 16.4**	**+0.5**
CMAR					pmax	pmax			
	comp=Z,2.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**58.29**	**259**		P		**P**	**08 34 16.4**	**+0.5**
	comp=Z,2.4nm,0.3s,baz=23,slow=7.0,SNR=4.4								
JOF	**Joensuu**	**58.54**	**335**	*e*P			**P**	**08 34 17.3**	**+0.3**
JOF					pmax	pmax			
	comp=Z,2.0nm,0.7s								
JOF	**Joensuu**	**58.54**	**335**	*ep*			**P**	**08 34 17.3**	**+0.3**
	comp=Z,2.1nm,0.7s								
AKTO	**Aktyubinsk**	**58.68**	**313**		P		**P**	**08 34 17.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=44,slow=14,SNR=3.7								
KAF	**Kangasniemi**	**60.46**	**337**	*e*P			**P**	**08 34 30.6**	**+0.3**
KAF					pmax	pmax			
	comp=Z,1.0nm,0.5s								
KAF	**Kangasniemi**	**60.46**	**337**	*ep*			**P**	**08 34 30.6**	**+0.3**
	comp=Z,1.3nm,0.5s								
FINES	**FINESS Array B**	**61.10**	**337**		P		**P**	**08 34 35.4**	**+0.8**
FINES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
FINES					MLR	MLR			
	comp=Z,87nm,18.1s								
FINES	**FINESS Array B**	**61.10**	**337**		P		**P**	**08 34 35.4**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=46,slow=7.6,SNR=12								
FINES					LR		LR	09 06 04.9	
	comp=Z,86nm,18.1s,baz=34,slow=41								
PMG	**Port Moresby**	**62.40**	**195**	*e*P			**P**	**08 34 42.3**	**-1.6**
PMG					pmax	pmax			
	comp=Z,8.0nm,0.8s								
PMG	**Port Moresby**	**62.40**	**195**	*e*P			**P**	**08 34 42.3**	**-1.6**
	comp=Z,8.2nm,0.8s								
OBN	**Obninsk**	**63.47**	**328**		LR		LR	09 04 52.8	
	comp=Z,43nm,18.7s,baz=102,slow=38								
NB2	**NORSAR Subarra**	**64.52**	**344**		P		**P**	**08 34 57.7**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=23,slow=6.9								
NOA	**NORSAR Array B**	**64.52**	**344**		P		**P**	**08 34 57.9**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=22,slow=6.6,SNR=7.6								
NOA					LR		LR	09 05 09.3	
	comp=Z,21nm,20.6s,baz=0.0,slow=38								
HFS	**Hagfors**	**64.93**	**342**		P		**P**	**08 35 00.4**	**+0.3**
HFS					pmax	pmax			
	comp=Z,1.0nm,0.5s								
HFS	**Hagfors**	**64.93**	**342**		P		**P**	**08 35 00.4**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.3,SNR=12								
GEYT	**Alibeck**	**67.85**	**304**		P		**P**	**08 35 20.0**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=332,slow=36,SNR=3.8								
AKASG	**Malin Array Be**	**69.57**	**329**		P		**P**	**08 35 29.5**	**-0.2**
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**69.57**	**329**		P		**P**	**08 35 29.5**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=29,slow=6.4,SNR=12								
KIEV	**Kiev**	**69.58**	**329**	*e*P			**P**	**08 35 29.7**	**0.0**
KIEV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KIEV	**Kiev**	**69.58**	**329**	*e*P			**P**	**08 35 29.7**	**0.0**
	comp=Z,6.5nm,1.0s								
KBZ	**Khabaz**	**70.42**	**317**		P		**P**	**08 35 35.8**	**+0.8**
KBZ					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KBZ	**Khabaz**	**70.42**	**317**		P		**P**	**08 35 35.8**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=27,slow=2.3,SNR=9.1								
TXAR	**Lajitas Array**	**70.72**	**67**		P		**P**	**08 35 38.1**	**+0.8**
TXAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
TXAR	**Lajitas Array**	**70.72**	**67**		P		**P**	**08 35 38.1**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=291,slow=4.2,SNR=6.1								
ZEI	**Tsey**	**70.76**	**316**	*e*P			**P**	**08 35 36.5**	**-0.9**
ZEI					pmax	pmax			
	comp=Z,5.0nm,1.4s								
CLL	**Collm**	**73.33**	**339**	*i* P			**P**	**08 35 53.3**	**+0.9**
	comp=Z,10.0nm,1.2s								
BURAR	**Bucovina Array**	**73.53**	**330**	⇑*i*P			**P**	**08 35 54.3**	**+0.5**
VRAC	**Vranov**	**74.37**	**336**		P		**P**	**08 35 59.9**	**+1.4**
VRAC					pmax	pmax			
	comp=Z,2.0nm,0.5s								
VRAC	**Vranov**	**74.37**	**336**		P		**P**	**08 35 59.9**	**+1.4**
	comp=Z,2.0nm,0.5s,baz=307,slow=4.5,SNR=3.1								
MLR	**Muntele Rosu**	**75.20**	**329**		P		**P**	**08 36 04.5**	**+0.9**
MLR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
MLR	**Muntele Rosu**	**75.20**	**329**	⇑*i*P			**P**	**08 36 04.4**	**+0.9**
MLR	**Muntele Rosu**	**75.20**	**329**		P		**P**	**08 36 04.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=4.4,slow=13,SNR=6.7								
GERES	**GERESS Array B**	**75.49**	**338**		P		**P**	**08 36 05.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=35,slow=4.9,SNR=5.7								
VOIR		**75.53**	**329**	⇑*i*P			**P**	**08 36 06.8**	**+1.4**
GZR	**Gura Zlata**	**76.27**	**331**	⇓*i*P			**P**	**08 36 10.3**	**+0.7**
BRTR	**Keskin Array B**	**77.53**	**321**		P		**P**	**08 36 17.5**	**+0.6**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**77.53**	**321**		P		**P**	**08 36 17.5**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=56,slow=3.1,SNR=6.8								
ASAR	**Alice Springs**	**79.03**	**205**		P		**P**	**08 36 26.9**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=34,slow=6.9,SNR=3.4								
MMAI	**Mount Meron Ar**	**82.59**	**316**		P		**P**	**08 36 45.4**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=24,slow=8.7,SNR=4.8								

MEX 02 08:25:08.6±0.5, 18°.07N×103°.27W, h5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.23**	**341**	*i* P		08 25 12.7	-0.5
MMIG				*i* S		08 25 15.6	-0.6
EZ5V		**1.44**	**347**	*e*P		08 25 32.0	-3.7
EZ5V				*e*S		08 25 50.5	-4.7
ZIIG	**Zihuatanejo**	**1.78**	**105**	*e*P		08 25 36.3	-3.7
ZIIG				*i* S		08 25 57.8	-5.2

WEL 02 08:25:47.3±0.4, 39°.53S×174°.30E, h224km±2km, ML3.5/14, 6C-2D, Error ellipse: s-maj=2.7km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.10**	**48**	PN	Pn	08 26 16.6	+0.1
LREZ				SN	S	08 26 38.0	-1.1
PREZ	**Palmer Road**	**0.22**	**329**	PN	Pn	08 26 16.5	-0.1
KHEZ	**Kahui Hut**	**0.32**	**316**	PN	Pn	08 26 17.0	+0.1
KHEZ				SN	S	08 26 38.8	-1.1
WAZ	**Wanganui**	**0.57**	**113**	⇑PN	Pn	08 26 18.0	+0.5
WAZ				SN	S	08 26 39.8	-1.2
PKVZ	**Pokaka**	**0.84**	**74**	PN	Pn	08 26 18.4	-0.3
MTVZ	**Mangateitei**	**0.92**	**81**	PN	Pn	08 26 19.0	-0.1
TRVZ	**Turoa**	**0.99**	**77**	PN	Pn	08 26 19.6	-0.2
FWVZ	**Far West T-bar**	**1.01**	**75**	⇓PN	Pn	08 26 19.6	-0.3
WPVZ	**Whakapapa**	**1.02**	**72**	PN	Pn	08 26 19.5	-0.4
WNVZ	**Wahianoa**	**1.02**	**79**	PN	Pn	08 26 19.8	-0.2
TUVZ	**Tukino**	**1.08**	**76**	PN	Pn	08 26 20.3	0.0
HIZ	**Hauiti**	**1.10**	**23**	PN	Pn	08 26 19.4	-0.9
MOVZ	**Moawhango**	**1.13**	**84**	PN	Pn	08 26 20.0	-0.5
DUWZ	**D'Urville Isla**	**1.31**	**193**	PN	Pn	08 26 21.7	+0.1
BHHZ	**Black Hill Sta**	**1.36**	**89**	PN	Pn	08 26 21.7	-0.5
TSZ	**Takapari Road**	**1.38**	**113**	PN	Pn	08 26 22.3	+0.1
KIW	**Kapiti Island**	**1.41**	**161**	PN	Pn	08 26 22.4	-0.1
MRZ	**Mangatainoka R**	**1.50**	**140**	⇑PN	Pn	08 26 23.0	-0.1
PNHZ	**Pukenui**	**1.51**	**105**	PN	Pn	08 26 23.5	+0.1
KRHZ	**Kereru**	**1.60**	**95**	PN	Pn	08 26 24.1	+0.1
DVHZ	**Dannevirke**	**1.63**	**119**	PN	Pn	08 26 24.2	0.0
PRWZ	**Pori Road**	**1.64**	**129**	PN	Pn	08 26 24.6	+0.2
HOWZ	**Holdsworth Sta**	**1.65**	**146**	PN	Pn	08 26 24.3	-0.2
TCW	**Tory Channel**	**1.68**	**181**	PN	Pn	08 26 24.8	+0.2
TCW				AML	AML	08 26 52.0	
TCW				AML	AML	08 26 52.0	
CAW	**Cannon Point**	**1.68**	**160**	PN	Pn	08 26 24.6	-0.1
CAW				AML	AML	08 26 52.3	
BKZ	**Black Stump Fm**	**1.74**	**79**	PN	Pn	08 26 24.8	-0.5
NNZ	**Nelson**	**1.83**	**202**	PN	Pn	08 26 26.0	0.0
MCHZ	**McNeill Hill**	**1.85**	**88**	⇓PN	Pn	08 26 27.0	+0.7
MTW	**Mount Morrison**	**1.87**	**151**	PN	Pn	08 26 26.1	-0.3
QRZ	**Quartz Range**	**1.88**	**226**	PN	Pn	08 26 25.7	-0.7
BFZ	**Birch Farm**	**1.88**	**128**	PN	Pn	08 26 26.7	+0.1
TUWZ	**Tuamarina**	**1.92**	**188**	PN	Pn	08 26 26.9	0.0
TUWZ				AML	AML	08 26 27.5	
PRHZ	**Porangahau**	**1.94**	**113**	PN	Pn	08 26 27.4	+0.3
TMWZ	**Te Maipa**	**1.99**	**143**	PN	Pn	08 26 27.5	-0.1
KAHZ	**Kahuranaki**	**2.00**	**98**	PN	Pn	08 26 28.2	+0.4
MSWZ	**Moikau Station**	**2.02**	**159**	PN	Pn	08 26 27.5	-0.4
PXZ	**Pawanui**	**2.04**	**105**	AML	AML	08 27 01.2	
BSWZ	**Blackbirch Sta**	**2.21**	**188**	PN	Pn	08 26 30.2	+0.5
THZ	**Tophouse**	**2.47**	**205**	⇑PN	Pn	08 26 32.2	-0.3
SNGZ	**Shannon Statio**	**2.48**	**73**	PN	Pn	08 26 32.2	-0.4
URZ	**Urewera**	**2.53**	**61**	PN	Pn	08 26 31.7	-1.4
KNZ	**Kokohu**	**2.67**	**80**	PN	Pn	08 26 34.2	-0.3
MWZ	**Matawai**	**2.78**	**66**	⇑PN	Pn	08 26 34.9	-1.0
RIGZ	**Rimuhau**	**2.81**	**74**	PN	Pn	08 26 35.9	-0.3
DSZ	**Denniston Nort**	**2.92**	**220**	⇑PN	Pn	08 26 36.7	-0.6
KHZ	**Kahutara**	**2.94**	**191**	*e*PN	Pn	08 26 37.2	-0.3
TKGZ	**Te Karaka**	**2.97**	**70**	PN	Pn	08 26 37.6	-0.3
HAZ	**Te Kaha**	**3.25**	**58**	⇑PN	Pn	08 26 39.3	-1.8
LTZ	**Lake Taylor**	**3.59**	**205**	PN	Pn	08 26 44.6	-0.5
OXZ	**Oxford**	**4.16**	**203**	PN	Pn	08 26 50.7	-1.2
MQZ	**McQueen's Vall**	**4.35**	**196**	PN	Pn	08 26 52.4	-1.8
FOZ	**Fox Glacier**	**5.31**	**219**	PN	Pn	08 27 04.4	-1.7

GUC 02 08:30:14.2±0.4, 37°.69S×71°.71W, h67km±11km, ML3.8, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.40**	**307**	*e*P	Pn	08 30 32.9	-4.7
CCSP				*e*S	Sn	08 30 50.6	-4.7
CCSP				AML	AML	08 30 51.4	
	comp=N,1μm,0.6s						
PSCH	**Puerto Saavedr**	**1.73**	**230**	AML	AML	08 31 00.8	
	comp=N,3μm,0.4s						
COCH	**Cobquecura**	**1.78**	**331**	*e*P	Pn	08 30 42.5	-0.2
COCH				*e*S	Sn	08 31 04.2	-0.2
VLCH	**Valdivia**	**2.43**	**209**	*e*P	Pn	08 30 51.5	-0.1
VLCH				*e*S	Sn	08 31 19.6	-0.6
OSCH	**Osorno**	**3.09**	**200**	*e*S	Sn	08 31 35.8	-0.4

SZGRF ***02*** *08:29:33.4, 22°.80S×177°.23W, h33km, South of Fiji Islands*
IDC ***02*** *08:30:28.1±1.5, 21°.37S×178°.32W, h468km±15km, mb3.7/21, mb1 3.8/23, mb1mx3.7/39, mbtmp4.5/23, Error ellipse: s-maj=13.6km s-min=11.2km az=129.0*
ISCJB ***02*** *08:30:33.3±0.5, 21°.37S±0°.06×178°.5W±0°.1, h536km, mb3.9/21, Error ellipse: s-maj=13.3km s-min=8.1km az=12.4*

ISC 02 08:30:34.0±0.5, 21°.49S±0°.08×178°.5W±0°.1, h536km, n61, σ1°.31/67, mb4.0/21, 4C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.04**	**265**	P	**P**	**08 33 30.9**	**-3.0**
	0.6nm,0.3s,baz=87,slow=20,SNR=5.5						
HAZ	**Te Kaha**	**16.54**	**191**	*e*PN	**P**	**08 33 55.3**	**-3.6**
HAZ				SN	**S**	**08 36 45.1**	**-1.2**
URZ	**Urewera**	**17.15**	**192**	P	**P**	**08 34 01.4**	**-3.2**
	2.4nm,0.3s,baz=280,slow=5.2,SNR=15						
URZ				S	**S**	**08 36 57.9**	**+1.5**
	0.6nm,0.3s,baz=73,slow=19,SNR=4.5						
URZ	**Urewera**	**17.15**	**192**	PN	**P**	**08 34 02.0**	**-2.6**
URZ				SN	**S**	**08 36 57.0**	**+0.6**
CTA	**Charters Tower**	**32.98**	**266**	P	**P**	**08 36 25.2**	**+0.3**
	7.3nm,0.6s,baz=98,slow=10,SNR=12						
ASAR	**Alice Springs**	**43.88**	**258**	P	**P**	**08 37 53.3**	**0.0**
	7.3nm,0.9s,baz=99,slow=8.0,SNR=51						
ASAR				PcP	**PcP**	**08 39 28.4**

KDZ	**Kurdzhali**	**151.56**	**320**	⇑*iP*	**PKPbc**	**08 49 28.2**	**+0.5**
PKSM	**Moragy**	**151.66**	**335**	⇓*iP*	**PKPbc**	**08 49 27.9**	**+0.2**
RJOB	**Jochberg**	**152.28**	**344**	*e*PKPbc	**PKPbc**	**08 49 29.8**	**+0.6**
RJOB				*e*PKPab	**PKPab**	**08 49 42.6**	**+0.9**
MMB	**Musomiste**	**152.59**	**322**	⇓*iP*	**PKPbc**	**08 49 30.0**	**0.0**
TORD	**Torodi Ar. Bea**	**171.71**	**181**	PKP	**PKPdf**	**08 49 41.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=344,slow=1.7,SNR=4.6						
TORD				PKPab	**PKPab**	**08 51 08.5**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=180,slow=2.7,SNR=6.1						

IDC 02 08:32:44.5±3.9,53°80S×149°59E,h165km±36km,mb2.7/3, mb1 3.0/4,mb1mx2.8/36,mbtmp3.3/4,Error ellipse: s-maj=118.2km s-min=32.6km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.32**	**214**	P	Pn	08 33 50.4	+1.2
	1.3nm,0.3s,baz=37,slow=6.8,SNR=5.4						
PMG				S	Sn	08 34 39.8	0.0
	4.0nm,0.3s,baz=44,slow=17,SNR=8.1						
WRA	**Warramunga Arr**	**20.43**	**225**	P	P	08 37 08.4	-0.7
	0.6nm,0.9s,baz=51,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.31**	**219**	P	P	08 37 38.5	+0.6
	0.2nm,0.4s,baz=58,slow=8.5,SNR=6.8						
ILAR	**Eielson Array**	**84.30**	**23**	P	P	08 44 57.2	-0.2
	0.3nm,0.7s,baz=244,slow=4.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**147.54**	**285**	PKPbc	PKPbc	08 52 09.4	-0.8
	0.1nm,0.4s,baz=86,slow=3.0,SNR=2.5						

IDC 02 08:37:52.6±3.8,53°83N×88°21E,h0km,mb1 2.5/1, mb1mx2.5/41,mbtmp2.5/1,ML2.3/1,Error ellipse: s-maj=33.5km s-min=18.5km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**275**	*i*		08 51 00.0	
	baz=92,slow=337,SNR=13						
ZALV	**Zalesovo Beam**	**2.01**	**275**	Pg	Pn	08 38 28.9	+1.1
	0.7nm,0.3s,baz=91,slow=13,SNR=10						
ZALV				Lg	Lg	08 38 56.7	
	2.1nm,0.3s,baz=93,slow=25,SNR=16						
MKAR	**Makanchi Array**	**8.00**	**211**	Pn	Pn	08 39 51.2	+1.2
	0.1nm,0.3s,baz=29,slow=13,SNR=4.6						
MKAR				Lg	Lg	08 42 06.4	
	0.0nm,0.3s,baz=28,slow=31,SNR=3.2						

*IDC **02** 08:48:14.8±2.8,53°62N×87°84E,h0km,mb1 3.4/2, mb1mx3.1/35,mbtmp3.4/2,ML3.1/2,Error ellipse: s-maj=24.8km s-min=14.5km az=62.0*
*NNC **02** 08:48:22.4±2.9,53°32N×87°31E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=22.7km s-min=18.5km az=16.0*
ISC 02 08:48:19.2±4.0,53°7N±0°1×87°8E±0°2,h35km,n7, σ1s22/10,3C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**280**	*i*		08 59 59.5	
	baz=99,slow=332,SNR=22						
ZALV	**Zalesovo Beam**	**1.79**	**280**	Pg	**Pn**	**08 48 47.3**	**-0.3**
	4.6nm,0.3s,baz=103,slow=15,SNR=38						
ZALV				Lg	Lg	08 49 12.4	
	8.8nm,0.3s,baz=103,slow=27,SNR=12						
KURK	**Kurchatov**	**6.38**	**246**	⇑Pn	**Pn**	**08 49 52.9**	**+2.3**
	0.8nm,0.6s						
KURK				⇑Sn	**Sn**	**08 51 01.7**	**-0.6**
	0.9nm,0.6s						
KURK				⇓Lg	Lg	08 51 34.4	
	6.6nm,1.2s						
KURBB	**Kurchatov Arra**	**6.48**	**245**	⇓Pn	**Pn**	**08 49 53.2**	**+1.2**
	2.5nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 51 03.4**	**-1.3**
	3.5nm,0.5s						
KURBB				⇓Lg	Lg	08 51 36.3	
	11nm,0.7s						
KURBB	**Kurchatov Arra**	**6.48**	**245**	Pn	**Pn**	**08 49 51.7**	**-0.3**
	0.3nm,0.3s,baz=63,slow=14,SNR=8.5						
KURBB				Lg	Lg	08 51 40.6	
	0.1nm,0.3s,baz=63,slow=33,SNR=11						
MK31	**Makanchi Array**	**7.75**	**209**	⇓Pn	**Pn**	**08 50 09.1**	**-0.5**
	0.4nm,0.6s,baz=118,slow=44,SNR=17						
MK31				⇓Sn	**Sn**	**08 51 35.3**	**-0.7**
	3.0nm,1.1s,baz=36,slow=29,SNR=5.3						
MK31				⇓Lg	Lg	08 52 14.4	
	2.2nm,0.7s,baz=31,slow=29,SNR=5.4						
MKAR	**Makanchi Array**	**7.75**	**209**	Pn	**Pn**	**08 50 09.2**	**-0.3**
	0.4nm,0.3s,baz=28,slow=12,SNR=15						
MKAR				Sn	**Sn**	**08 51 37.1**	**+1.1**
	0.2nm,0.3s,baz=30,slow=25,SNR=10						
MKAR				Lg	Lg	08 52 17.5	
	0.2nm,0.3s,baz=28,slow=31,SNR=7.4						

*IDC **02** 08:53:28.0±0.9,35°74S×72°68W,h0km,mb4.0/8, mb1 4.2/10,mb1mx4.0/25,mbtmp4.0/10,ML4.0/2,MS3.4/6, Ms1 3.4/6,ms1mx3.2/25,Error ellipse: s-maj=29.5km s-min=19.5km az=94.0*
*ISCJB **02** 08:53:29.1±0.5,35°63S±0°04×72°90W±0°05,h17km, mb4.1/11,MS3.6/5,Error ellipse: s-maj=7.1km s-min=5.4km az=44.2*
*NEIC **02** 08:53:32.1,35°72S×72°76W,h13km,mb4.4/6, ML4.7(GUC),After GUC.*
NEIC Felt [IV] at Cauquenes, Chanco and Constitucion; [II] at Pencahue and Talca.
*GUC **02** 08:53:32.1±0.5,35°72S×72°76W,h13km±5km,ML4.7*
ISC 02 08:53:30.6±0.6,35°69S±0°05×72°82W±0°06,h17km,n36, σ0s73/36,mb4.2/11,MS3.6/5,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.00**	**100**	⇓*iP*	**Pb**	**08 53 49.4**	**-0.1**
LNCH				*i* S	**Sb**	**08 54 02.0**	**-0.3**
LNCH	**Linares**	**1.00**	**100**	⇓*iP*	**Pb**	**08 53 49.4**	**-0.1**
LNCH				*i* S	**Sb**	**08 54 02.0**	**-0.3**
TALC	**Talca**	**1.01**	**74**	*eP*	**Pb**	**08 53 49.2**	**-0.4**
TALC				*i* S	**Sb**	**08 54 02.5**	**0.0**
TALC	**Talca**	**1.01**	**74**	*eP*	**Pb**	**08 53 49.2**	**-0.4**
TALC				*i* S	**Sb**	**08 54 02.5**	**0.0**
CCSP	**San Pedro de C**	**1.18**	**192**	⇓*iP*	**Pn**	**08 53 52.3**	**0.0**
CCSP				*i* S	**Sn**	**08 54 07.9**	**0.0**
CCSP				AML	AML	08 54 11.5	
	comp=E,11μm,0.4s						
CCSP	**San Pedro de C**	**1.18**	**192**	⇓*iP*	**Pn**	**08 53 52.3**	**0.0**
CCSP				*i* S	**Sn**	**08 54 07.9**	**0.0**
NICH	**Los Niches**	**1.47**	**63**	*i* P	**Pb**	**08 53 57.2**	**-0.2**
NICH				*i* S	**Sb**	**08 54 16.0**	**+0.3**
NICH	**Los Niches**	**1.47**	**63**	*i* P	**Pb**	**08 53 57.2**	**-0.2**
NICH				*i* S	**Sb**	**08 54 16.0**	**+0.3**
CLCH	**Cerro Calan**	**2.96**	**40**	AML	AML	08 55 08.1	
	comp=N,3μm,0.8s						
CLCH				AML	AML	08 55 08.6	
	comp=N,4μm,0.8s						
PEL	**Peldehue**	**3.09**	**35**	AML	AML	08 55 12.8	
	comp=N,3μm,0.7s						
ROCH	**El Roble**	**3.09**	**29**	AML	AML	08 55 14.3	
	comp=E,2μm,0.3s						
PLCA	**Paso Flores**	**5.34**	**161**	Pn	**Pn**	**08 54 49.1**	**-0.5**
	comp=E,1.4nm,0.3s,baz=343,slow=9.5,SNR=20						
PLCA	**Paso Flores**	**5.34**	**161**	*ePn*	**Pn**	**08 54 52.4**	**+2.8**
	comp=E,22nm,0.7s						
CFAA	**Coronel Fontan**	**5.58**	**44**	Pn	**Pn**	**08 54 51.9**	**-1.0**
	comp=E,0.2nm,0.3s,baz=192,slow=4.3,SNR=19						
CFAA				Lg	Lg	08 56 11.3	
	comp=E,1.1nm,0.3s,baz=312,slow=15,SNR=5.5						
CFAA				LR	LR	08 57 08.9	
	comp=E,54nm,18.1s,baz=222,slow=40						
TRQA	**Tornquist**	**9.00**	**108**	*ePn*	**Pn**	**08 55 41.2**	**+1.5**
	comp=E,16nm,1.0s						
LPAZ	**La Paz**	**19.77**	**13**	P	**Pn**	**08 58 02.4**	**+0.4**
	comp=E,0.2nm,0.3s,baz=193,slow=6.0,SNR=12						
LPAZ	**La Paz**	**19.77**	**13**	*eP*	**Pn**	**08 58 02.4**	**+0.4**
	comp=E,6.6nm,0.9s						
SIV	**San Ignacio**	**22.25**	**31**	P	**P**	**08 58 26.4**	**-0.2**
	comp=E,7.5nm,0.9s,baz=225,slow=8.7,SNR=27						
SIV				LR	LR	09 07 45.5	
	comp=E,90nm,19.9s,baz=210,slow=39						
ATAH	**Atahualpa**	**28.88**	**348**	LR	LR	09 09 52.3	
	comp=E,46nm,19.4s,baz=221,slow=34						
BDFB	**Brasilia**	**29.82**	**54**	P	**P**	**08 59 36.1**	**-0.9**
	comp=E,2.8nm,0.9s,baz=212,slow=6.2,SNR=4.6						
BDFB				LR	LR	09 12 42.5	
	comp=E,156nm,18.7s,baz=176,slow=39						
PTGA	**Pitinga**	**36.78**	**22**	*eP*	**P**	**09 00 37.5**	**0.0**
	comp=E,3.0nm,0.8s						
QSPA	**South Pole Qui**	**54.55**	**180**	P	**P**	**09 02 57.2**	**-0.4**
	comp=E,0.8nm,0.9s,baz=129,slow=2.1,SNR=3.5						
QSPA				LR	LR	09 24 51.9	
	comp=E,52nm,19.5s,baz=100,slow=35						
PPT	**Papeete**	**69.39**	**263**	LR	LR	09 25 41.3	
	comp=E,160nm,21.6s,baz=257,slow=28						
TXAR	**Lajitas Array**	**70.90**	**332**	P	**P**	**09 04 46.8**	**-0.1**
	comp=E,0.4nm,0.6s,baz=148,slow=7.7,SNR=6.4						
WVT	**Waverly**	**72.81**	**347**	*eP*	**P**	**09 04 58.8**	**+0.8**
	comp=E,4.6nm,0.9s						
DBIC	**Dimbokro**	**76.32**	**71**	P	**P**	**09 05 18.4**	**-0.6**
	comp=E,4.4nm,0.7s,baz=181,slow=6.0,SNR=5.8						
DBIC	**Dimbokro**	**76.32**	**71**	*eP*	**P**	**09 05 18.6**	**-0.4**
	comp=E,3.7nm,0.6s						
BOSA	**Boshof**	**79.85**	**118**	P	**P**	**09 05 38.1**	**-0.5**
	comp=E,3.4nm,0.7s,baz=225,slow=6.4,SNR=6.5						
BOSA	**Boshof**	**79.85**	**118**	*eP*	**P**	**09 05 38.0**	**-0.6**
	comp=E,3.5nm,0.7s						
LBTB	**Lobatse**	**82.17**	**115**	*eP*	**P**	**09 05 50.3**	**-0.7**
	comp=E,2.9nm,0.8s						
NVAR	**Mina Array Bea**	**84.91**	**326**	P	**P**	**09 06 05.9**	**+1.2**
	comp=E,0.3nm,0.8s,baz=149,slow=3.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**85.38**	**70**	P	**P**	**09 06 06.8**	**-0.5**
	comp=E,1.1nm,0.8s,baz=263,slow=4.5,SNR=5.4						
H11S2	**WAKE ISLAND Hyl**	**125.10**	**268**	T	T	11 30 09.1	
	baz=110						
H11S1	**WAKE ISLAND Hyl**	**125.11**	**268**	T	T	11 30 11.9	
	baz=110						
H11S3	**WAKE ISLAND Hyl**	**125.11**	**268**	T	T	11 30 10.8	
	baz=110						
BVAR	**Borovoye Array**	**148.94**	**45**	PKPbc	**PKPbc**	**09 13 17.5**	**+0.6**
	comp=E,0.7nm,0.7s,baz=298,slow=6.2,SNR=3.4						

*CSEM **02** 09:01:02.8±0.5,39°69N×29°49E,h10km,MD2.7,Error ellipse: s-maj=12.6km s-min=5.0km az=69.0*
DDA 02 09:01:02.9,39°67N×29°47E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.22**	**182**	PG	Pg	09 01 08.2	+0.8
TVSB				*e*SG	Sg	09 01 12.3	+1.9
TVSB	**Tavsanli**	**0.22**	**182**	*i* Pg	Pg	09 01 08.2	+0.8
TVSB				*e*Sg	Sg	09 01 12.4	+1.9
ULDT	**Uludag**	**0.54**	**331**	*i* P	Pg	09 01 13.2	-0.4
ULDT				*i* S	Sg	09 01 22.0	+1.1
ULDT	**Uludag**	**0.54**	**331**	*i* P	Pg	09 01 13.2	-0.4
ULDT				*i* S	Sg	09 01 22.0	+1.1
GDZ	**Gediz**	**0.58**	**179**	*i* P	Pg	09 01 14.4	+0.1
GDZ				*i* S	Sg	09 01 22.9	+0.9
GDZ	**Gediz**	**0.58**	**179**	*i* P	Pg	09 01 14.4	+0.1
GDZ				*i* S	Sg	09 01 22.9	+0.9
DURS	**Dursunbey**	**0.77**	**265**	*i* P	Pg	09 01 17.6	-0.3
DURS				*i* S	Sb	09 01 29.3	-0.4
DURS	**Dursunbey**	**0.77**	**265**	*i* P	Pg	09 01 17.6	-0.3
DURS				*i* S	Sb	09 01 29.3	-0.4

*ISCJB **02** 09:04:21.8±0.7,39°69N±0°04×29°43E±0°05,h7km±8km, Error ellipse: s-maj=7.3km s-min=5.7km az=155.2*
*DDA **02** 09:04:21.8,39°68N×29°42E,h7km,MD2.7*
*CSEM **02** 09:04:21.2±0.3,39°69N×29°44E,h15km,MD2.7,Error ellipse: s-maj=6.8km s-min=6.1km az=62.0*
ISC 02 09:04:21.5±1.1,39°71N±0°04×29°46E±0°04,h12km±10km, n10,σ0s47/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.26**	**180**	*e*PG	**Pg**	**09 04 26.3**	**-0.6**
TVSB				*e*SG	**Sg**	**09 04 31.3**	**+0.7**
TVSB	**Tavsanli**	**0.26**	**180**	*e*Pg	**Pg**	**09 04 26.3**	**-0.6**
TVSB				*e*Sg	**Sg**	**09 04 31.3**	**+0.7**
ULDT	**Uludag**	**0.50**	**330**	*i* P	**Pg**	**09 04 31.3**	**-0.1**
ULDT				*i* S	**Sb**	**09 04 39.8**	**+0.1**
ULDT	**Uludag**	**0.50**	**330**	*i* P	**Pg**	**09 04 31.3**	**-0.1**
ULDT				*i* S	**Sb**	**09 04 39.8**	**+0.1**
GDZ	**Gediz**	**0.62**	**178**	*i* P	**Pg**	**09 04 33.5**	**0.0**
GDZ				*i* S	**Sg**	**09 04 41.9**	**+0.2**
GDZ	**Gediz**	**0.62**	**178**	*i* P	**Pg**	**09 04 33.5**	**0.0**
GDZ				*i* S	**Sg**	**09 04 41.9**	**+0.2**
DURS	**Dursunbey**	**0.77**	**262**	*i* P	**Pg**	**09 04 35.7**	**-0.7**
DURS				*i* S	**Sb**	**09 04 47.6**	**+0.4**
DURS	**Dursunbey**	**0.77**	**262**	*i* P	**Pg**	**09 04 35.7**	**-0.7**
DURS				*i* S	**Sb**	**09 04 47.6**	**+0.4**
BORA	**Eskisehir**	**0.79**	**77**	*i* P	**Pg**	**09 04 36.3**	**-0.4**
BORA				*i* S	**Sn**	**09 04 50.0**	**-0.1**
BORA	**Eskisehir**	**0.79**	**77**	*i* P	**Pg**	**09 04 36.3**	**-0.4**
BORA				*i* S	**Sn**	**09 04 50.0**	**-0.1**

IDC 02 09:04:37.9±2.5,53°71N×86°84E,h0km,mb1 2.8/2, mb1mx2.7/36,mbtmp2.8/2,ML2.6/2,Error ellipse: s-maj=22.7km s-min=13.9km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**282**	*i*		09 12 50.0	
	baz=100,slow=335,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.22**	**282**	Pg	Pg	09 04 59.9	-1.4
	1.8nm,0.3s,baz=104,slow=15,SNR=21						
ZALV				Lg	Lg	09 05 18.2	
	1.7nm,0.3s,baz=101,slow=29,SNR=9.8						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	Pn	09 06 08.3	+0.9
	0.1nm,0.3s,baz=58,slow=13,SNR=5.7						
KURBB				Lg	Lg	09 07 46.5	
	0.0nm,0.3s,baz=54,slow=28,SNR=3.5						
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	09 06 29.9	+1.3
	0.2nm,0.3s,baz=22,slow=13,SNR=10						

*ISK **02** 09:05:21.3,37°72N×37°82E,h3km,MD2.7*
*CSEM **02** 09:05:22.3±0.2,37°73N×37°84E,h5km,MD2.7,Error ellipse: s-maj=7.1km s-min=4.2km az=146.0*
*DDA **02** 09:05:22.0,37°69N×37°92E,h7km,MD2.8*
ISC 02 09:05:21.9±1.6,37°72N±0°04×37°82E±0°03,h3km±13km, n15,σ0s51/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.76**	**254**	*e*PG	**Pg**	**09 05 36.3**	**-0.2**
KMRS				*e*SG	**Sb**	**09 05 48.0**	**-0.5**
KMRS	**Kahramanmaras**	**0.76**	**254**	*e*Pg	**Pg**	**09 05 36.3**	**-0.2**
KMRS				*e*Sg	**Sb**	**09 05 48.0**	**-0.5**
MALT	**Malatya**	**0.77**	**39**	*e*PG	**Pg**	**09 05 36.9**	**+0.3**
MALT				*e*SG	**Sb**	**09 05 48.0**	**-0.8**
MALT	**Malatya**	**0.77**	**39**	*e*Pg	**Pg**	**09 05 36.9**	**+0.3**
MALT				*e*Sg	**Sb**	**09 05 48.0**	**-0.8**
URFA	**Urfa**	**0.84**	**109**	*e*PG	**Pg**	**09 05 38.3**	**+0.2**
URFA	**Urfa**	**0.84**	**109**	*e*Pg	**Pg**	**09 05 38.3**	**+0.2**
DARE	**Darende-Malaty**	**0.89**	**343**	*e*PG	**Pg**	**09 05 39.0**	**-0.1**
DARE	**Darende-Malaty**	**0.89**	**343**	*e*Pg	**Pg**	**09 05 39.0**	**-0.1**
KAMA	**Osmaniye**	**1.06**	**240**	*i* P	**Pg**	**09 05 42.4**	**+0.3**
KAMA				*i* S	**Sb**	**09 05 57.4**	**+0.3**
KUZU	**Kuzuini**	**1.11**	**212**	*i* P	**Pn**	**09 05 44.3**	**-0.1**
KUZU				*i* S	**Sn**	**09 05 59.9**	**-0.4**
KUZU	**Kuzuini**	**1.11**	**212**	*i* P	**Pn**	**09 05 44.3**	**-0.1**
KUZU				*i* S	**Sn**	**09 05 59.9**	**-0.4**
ANDN	**Andirin**	**1.18**	**264**	*i* P	**Pn**	**09 05 45.4**	**0.0**
ANDN				*i* S	**Sn**	**09 06 03.1**	**+1.1**
ANDN	**Andirin**	**1.18**	**264**	*i* P	**Pn**	**09 05 45.4**	**0.0**
ANDN				*i* S	**Sn**	**09 06 03.1**	**+1.1**
PTK	**Pertek**	**1.71**	**46**	*e*PN	**Pn**	**09 05 52.9**	**+0.1**
PTK	**Pertek**	**1.71**	**46**	*e*Pn	**Pn**	**09 05 52.9**	**+0.1**

*ISCJB **02** 09:11:32.4±0.5,29°91S±0°03×177°71W±0°07,h35km, mb4.4/15,MS3.9/13,Error ellipse: s-maj=9.4km s-min=3.9km az=6.9*
*IDC **02** 09:11:34.0±2.1,29°83S×177°64W,h37km±15km,mb4.3/11, mb1 4.4/13,mb1mx4.3/24,mbtmp4.4/13,ML3.6/2,MS3.9/14, Ms1 3.9/14,ms1mx3.6/38,Error ellipse: s-maj=20.4km s-min=15.7km az=102.0*
*NEIC **02** 09:11:33.2±0.3,29°85S×177°53W,h35km,mb4.4/5,Error ellipse: s-maj=10.4km s-min=7.0km az=109.0*
ISC 02 09:11:33.8±0.5,29°83S±0°05×177°64W±0°08,h35km,n86, σ1s57/75,mb4.5/15,MS3.9/13,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.62**	**337**	Pn	**Pn**	**09 11 46.1**	**-0.1**
	8μm,0.3s,baz=96,slow=7.7,SNR=252						
RAO				Sn	**Sn**	**09 11 54.9**	**+0.1**
	7μm,0.3s,baz=73,slow=19,SNR=26						
RAO				LR	LR	09 12 07.1	
	comp=Z,37μm,21.2s,baz=352,slow=53						
WMGZ	**Waiomatatini S**	**8.62**	**201**	*e*PN	**Pn**	**09 13 36.5**	**+0.6**
WMGZ				SN	**Sn**	**09 15 13.7**	**+1.8**
HAZ	**Te Kaha**	**8.78**	**204**	*e*PN	**Pn**	**09 13 38.2**	**+0.1**
HAZ				SN	**Sn**	**09 15 19.3**	**+3.6**
TWGZ	**Tauwhareparae**	**9.08**	**202**	PN	**Pn**	**09 13 41.7**	**-0.7**
TWGZ				*e*SN	**Sn**	**09 15 24.4**	**+0.9**
OUZ	**Omahuta**	**9.14**	**232**	PN	Pn	09 13 53.2	+10
OUZ	**Omahuta**	**9.14**	**232**	Pn	**Pn**	**09 13 44.1**	**+0.9**
	44nm,0.6s						
CNGZ	**Carnagh Statio**	**9.29**	**201**	*e*PN	**Pn**	**09 13 44.1**	**-1.2**
TKGZ	**Te Karaka**	**9.37**	**202**	PN	**Pn**	**09 13 44.7**	**-1.5**
TKGZ				SN	**Sn**	**09 15 29.8**	**-0.5**
MWZ	**Matawai**	**9.38**	**204**	*e*PN	**Pn**	**09 13 45.1**	**-1.4**
MWZ				SN	**Sn**	**09 15 30.9**	**+0.2**
URZ	**Urewera**	**9.47**	**206**	Pn	**Pn**	**09 13 46.3**	**-1.3**
	1.2nm,0.3s,baz=292,slow=3.6,SNR=26						
URZ				Sn	**Sn**	**09 15 34.0**	**+1.2**
	9.4nm,0.3s,baz=53,slow=20,SNR=18						
URZ	**Urewera**	**9.47**	**206**	PN	**Pn**	**09 13 46.7**	**-0.9**
KNZ	**Kokohu**	**9.95**	**202**	PN	**Pn**	**09 13 51.4**	**-2.8**
KNZ				SN	**Sn**	**09 15 40.0**	**-4.5**
BKZ	**Black Stump Fm**	**10.49**	**206**	PN	**Pn**	**09 13 58.9**	**-2.8**
KAHZ	**Kahuranaki**	**10.91**	**203**	*e*PN	Pn	09 14 03.0	-4.4
THZ	**Tophouse**	**14.15**	**210**	*e*PN	Pn	09 14 46.5	-5.3
KHZ	**Kahutara**	**14.43**	**207**	*e*Pn	**Pn**	**09 14 55.6**	**+0.2**
	27nm,0.8s						
DZM	**Mont Dzumac**	**16.26**	**295**	*eP*	**P**	**09 15 26.4**	**+4.1**
	115nm,1.4s						
DZM				*e*LR	LR	09 19 11.3	
	1μm,25.2s						
DZM	**Mont Dzumac**	**16.26**	**295**	Pn	**Pn**	**09 15 19.6**	**0.0**
	0.1nm,0.3s,baz=88,slow=17,SNR=2.0						
DZM				LR	LR	09 20 16.6	
	comp=Z,709nm,20.0s,baz=176,slow=32						
DZM	**Mont Dzumac**	**16.26**	**295**	*ePn*	**Pn**	**09 15 19.4**	**-0.1**
	58nm,1.4s						
DZM				*e*Sn	**Sn**	**09 18 17.3**	**-1.6**
RPZ	**Rata Peaks**	**16.53**	**210**	*ePn*	**Pn**	**09 15 22.5**	**-0.4**
	10nm,0.5s						
RPZ				Sn	**Sn**	**09 18 22.1**	**-3.2**
ODZ	**Otahua Downs**	**17.78**	**208**	*ePn*	**P**	**09 15 39.2**	**+0.3**
ODZ				*e*Sn	**Sn**	**09 18 55.1**	**-0.4**
TBI	**Tubuai**	**25.97**	**82**	*e*LR	LR	09 23 34.7	
	600nm,27.2s						
TBI	**Tubuai**	**25.97**	**82**	*eT*	T	09 43 39.5	
	19nm,0.3s						
EIDS	**Eidsvold**	**28.03**	**272**	*eP*	**P**	**09 17 24.2**	**+2.5**
	7.9nm,0.8s						
PAE	**Paea**	**28.32**	**71**	*eT*	T	09 46 40.1	
	6.6nm,0.3s						
PPT2	**Papeete2**	**28.35**	**71**	*e*LR	LR	09 24 34.9	
	578nm,26.5s						
PPT2	**Papeete2**	**28.35**	**71**	*eT*	T	09 46 44.0	
	7.4nm,0.4s						
TVO	**Taravao**	**28.52**	**72**	*eT*	T	09 46 56.1	
	2.2nm,0.3s						
HNR	**Honiara**	**29.17**	**309**	LR	LR	09 27 09.9	
	comp=Z,142nm,20.8s,baz=140,slow=32						
MEH	**Mehetia**	**29.46**	**73**	*eT*	T	09 48 05.2	
	25nm,0.3s						
VAH	**Vaihoa**	**31.18**	**69**	*eT*	T	09 50 15.3	
	25nm,0.2s						
CTA	**Charters Tower**	**34.02**	**278**	P	**P**	**09 18 15.8**	**+1.2**
	9.7nm,0.6s,baz=104,slow=11,SNR=16						
CTA				LR	LR	09 30 58.7	
	comp=Z,461nm,21.1s,baz=169,slow=34						
RKT	**Rikitea**	**38.60**	**90**	*e*LR	LR	09 29 12.5	
	392nm,29.8s						
RKT	**Rikitea**	**38.60**	**90**	*eT*	T	09 59 22.6	
	0.8nm,0.3s						
AS31	**Alice Springs**	**43.45**	**266**	*eP*	**P**	**09 19 33.5**	**-0.2**
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**09 19 33.5**	**-0.1**
	6.1nm,0.6s,baz=101,slow=7.2,SNR=73						
ASAR				ScP	**ScP**	**09 25 08.0**	**-2.3**
	0.8nm,1.0s,baz=118,slow=4.1,SNR=2.8						
ASAR				LR	LR	09 37 18.4	
	comp=Z,286nm,18.2s,baz=110,slow=36						
WB2	**Warramunga Arr**	**44.38**	**271**	*eP*	**P**	**09 19 41.1**	**0.0**
WRA	**Warramunga Arr**	**44.39**	**271**	P	**P**	**09 19 41.1**	**-0.1**
	19nm,0.6s,baz=109,slow=7.8,SNR=50						
WRA				ScP	**ScP**	**09 25 13.5**	**-0.6**
	0.4nm,0.7s,baz=105,slow=4.0,SNR=3.2						
WRA				S	**S**	**09 26 09.4**	**-4.2**
	0.6nm,0.3s,baz=108,slow=13,SNR=5.7						
WRA				LR	LR	09 36 57.1	
	comp=Z,121nm,18.7s,baz=110,slow=34						
JAY	**Jayapura**	**47.92**	**297**	LR	LR	09 38 11.7	
	comp=Z,62nm,20.7s,baz=146,slow=33						
VNDA	**Vanda**	**48.69**	**186**	P	**P**	**09 20 16.8**	**+2.7**
	1.0nm,0.6s,baz=5.4,slow=7.1,SNR=9.9						
VNDA				LR	LR	09 40 42.7	
	comp=Z,27nm,18.1s,baz=16,slow=36				

H10N1	**ASCENSION HYDR** baz=206	**39.19**	**154**	T	T	12 07 31.5		
H10N2	**ASCENSION HYDR** baz=206	**39.21**	**154**	T	T	12 07 31.5		
FINES	**FINESS Array B** 9.8nm,0.6s,baz=65,slow=2.5,SNR=25	**144.72**	**340**	PKP	**PKPab**	**09 31 04.0**	**-0.9**	
KBZ	**Khabaz** 2.2nm,0.7s,baz=350,slow=8.7,SNR=2.9	**145.05**	**305**	PKPbc	**PKPbc**	**09 31 06.5**	**-0.1**	
NB2	**NORSAR Subarra** comp=Z,16nm,0.8s,baz=12,slow=2.8	**148.23**	**352**	PKP	**PKPbc**	**09 31 14.6**	**-0.8**	
NOA	**NORSAR Array B** comp=Z,10nm,0.7s,baz=13,slow=4.4,SNR=31	**148.23**	**352**	PKPbc	**PKPbc**	**09 31 14.6**	**-0.8**	
NACGM	**Naroch**	**149.43**	**332**	*e*	**PKPdf**	**09 31 16.0**	**+1.9**	
AKASG	**Malin Array Be** comp=Z,10nm,0.6s,baz=47,slow=2.9,SNR=56	**151.03**	**324**	PKPbc	**PKPbc**	**09 31 21.9**	**-0.7**	
KIEV	**Kiev**	**151.04**	**324**	*e*PKPbc	**PKPbc**	**09 31 21.8**	**-0.8**	
BRTR	**Keskin Array B** comp=Z,2.8nm,0.8s,baz=129,slow=3.3,SNR=12	**152.60**	**300**	PKPbc	**PKPbc**	**09 31 25.9**	**-0.9**	
CLL	**Collm** comp=Z,10.0nm,0.9s	**157.12**	**343**	∥*i*PKPab	**PKPab**	**09 31 56.9**	**+0.9**	
BRG	**Berggiesshubel** comp=Z,5.5nm,0.8s	**157.25**	**341**	*e*PKP	**PKPab**	**09 31 58.1**	**+1.5**	
GERES	**GERESS Array B** comp=Z,0.9nm,0.6s,baz=23,slow=4.5,SNR=8.3	**159.12**	**339**	PKPab	**PKPab**	**09 32 05.9**	**+1.0**	
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,1.0s,baz=151,slow=1.5,SNR=3.0	**163.39**	**178**	PKP	**PKPdf**	**09 31 33.5**	**+0.1**	
TORD	comp=Z,1.7nm,0.5s,baz=179,slow=3.5,SNR=17			PKPab	**PKPab**	**09 32 25.1**	**+1.0**	

KRSC 02 09:15:31.5±1.3, 54.54N×164.18E, h53km±23km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.23**	**57**	*i* P	Pn	09 15 53.7	+1.4
BKI				*e*S	Sn	09 16 07.9	+0.1
MKZ	**Mys Kozlova**	**1.43**	**272**	*e*P	Pn	09 15 58.1	+3.1
MKZ				*e*S	Sn	09 16 15.3	+2.6
KBTR	**Krutoberegovo**	**1.84**	**336**	*e*P	Pn	09 16 02.3	+1.6
KBTR				*e*S	Sn	09 16 22.9	+0.1
KZV	**Kizimen**	**2.32**	**286**	P	Pn	09 16 11.4	+4.0
TUMR	**Tumrok**	**2.45**	**289**	*i* P	Pn	09 16 13.4	+4.3
TUMR				S	Sn	09 16 41.5	+3.6
SMKR	**Semkarok**	**2.56**	**324**	S	Sn	09 16 43.5	+2.9
KMNR	**Kamenistaya**	**2.57**	**300**	P	Pn	09 16 14.5	+3.7
KII	**Karymskiy**	**2.82**	**262**	P	Pn	09 16 17.5	+3.3
KII				S	Sn	09 16 49.4	+2.4
SPN	**Mys Shipunski**	**2.86**	**241**	P	Pn	09 16 17.4	+2.8
SPN				*e*S	Sn	09 16 48.3	+0.6
SDLR	**Sedlovina**	**3.38**	**250**	*e*P	Pn	09 16 26.1	+4.2
SDLR				*e*S	Sn	09 17 03.4	+2.6
ESO	**Esso**	**3.43**	**296**	P	Pn	09 16 26.4	+4.0
SMAR	**Somma**	**3.43**	**250**	*e*P	Pn	09 16 26.8	+4.1
UGLR	**Uglovaya**	**3.44**	**249**	*e*P	Pn	09 16 26.8	+4.1
KRER	**Koryakskii**	**3.44**	**251**	*e*P	Pn	09 16 26.9	+4.0
KRER				S	Sn	09 17 04.9	+2.3
AVH	**Avacha**	**3.47**	**251**	*e*P	Pn	09 16 27.4	+4.4
AVH				S	Sn	09 17 05.9	+3.1
KRX	**Arik**	**3.48**	**252**	P	Pn	09 16 27.4	+4.2
KRX				S	Sn	09 17 05.9	+2.6
KOK	**Koryaka**	**3.51**	**251**	*e*P	Pn	09 16 27.5	+3.9
GNL	**Ganaly**	**3.77**	**260**	*e*P	Pn	09 16 32.2	+5.0
MTVR	**Mutnovka**	**4.13**	**242**	P	Pn	09 16 35.8	+3.6
MTVR				*e*S	Sn	09 17 20.6	+1.2

*CSEM **02** 09:18:11.6±0.3, 38.90N×27.34E, h10km, MD2.6, Error ellipse: s-maj=19.7km s-min=6.0km az=3.0*

DDA 02 09:18:17.8, 38.98N×27.84E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.10**	**189**	*i* P	Pg	09 18 20.2	+0.1
AKHS				*i* S	Sg	09 18 23.1	+1.4
AKHS	**Akhisar**	**0.10**	**189**	*i* P	Pg	09 18 20.2	+0.1
AKHS				*i* S	Sg	09 18 23.1	+1.3
AKS	**Akhisar**	**0.10**	**190**	*e*PG	Pg	09 18 20.1	0.0
AKS				*e*SG	Sg	09 18 22.4	+0.6
AKS	**Akhisar**	**0.10**	**190**	*e*Pg	Pg	09 18 20.1	0.0
AKS				*e*Sg	Sg	09 18 22.4	+0.7
MANT	**Manisa**	**0.75**	**131**	*i* P	Pg	09 18 31.8	-0.6
MANT				*i* S	Sg	09 18 42.5	+0.1
MANT	**Manisa**	**0.75**	**131**	*i* P	Pg	09 18 31.8	-0.6
MANT				*i* S	Sg	09 18 42.5	+0.1
DURS	**Dursunbey**	**0.79**	**38**	*i* P	Pg	09 18 33.6	+0.4
DURS				*i* S	Sb	09 18 45.6	+0.5
DURS	**Dursunbey**	**0.79**	**38**	*i* P	Pb	09 18 33.6	-0.4
DURS				*i* S	Sb	09 18 45.6	+0.5

*ISCJB **02** 09:18:39.2±0.7, 39.29N±0.02×24.76E±0.02, h9km±5km, Error ellipse: s-maj=3.4km s-min=2.2km az=169.6*
*THE **02** 09:18:39.4, 39.29N×24.78E, h7km, ML2.8/12, Error ellipse: s-maj=0.9km s-min=0.5km az=103.0*
*ISK **02** 09:18:39.0, 39.27N×24.76E, h6km, MD3.4*
*ATH **02** 09:18:39.3, 39.32N×24.77E, h34km±1km, MD3.2/14, ML2.7*
*CSEM **02** 09:18:39.2±0.1, 39.28N×24.73E, h8km, MD3.2, Error ellipse: s-maj=4.0km s-min=2.9km az=166.0*
*DDA **02** 09:18:42.0, 39.30N×25.10E, h20km, MD3.4*

ISC 02 09:18:39.0±1.1, 39.29N±0.02×24.77E±0.01, h8km±9km, n118, σ0=81/163, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.69**	**28**	P	**Pg**	**09 18 52.8**	**+0.5**
LIA				S	**Sg**	**09 19 01.9**	**+0.6**
LIA	**Limnos Island**	**0.69**	**28**	*e*PN	**Pg**	**09 18 52.8**	**+0.5**
LIA				*e*SN	**Sb**	**09 19 02.5**	**-0.5**
LIA	**Limnos Island**	**0.69**	**28**	P	**Pg**	**09 18 52.8**	**+0.5**
LIA				S	**Sg**	**09 19 01.9**	**+0.6**
LIA				*e*Sn	**Sb**	**09 19 02.5**	**-0.5**
AOS	**Alonnisos**	**0.70**	**261**	P	**Pg**	**09 18 53.0**	**+0.5**
AOS				S	**Sb**	**09 19 03.3**	**+0.1**
AOS	**Alonnisos**	**0.70**	**261**	*e*PG	**Pg**	**09 18 53.0**	**+0.5**
AOS				*e*SG	**Sb**	**09 19 03.4**	**+0.1**
AOS	**Alonnisos**	**0.70**	**261**	*e*PN	**Pg**	**09 18 53.1**	**+0.5**
AOS	**Alonnisos**	**0.70**	**261**	*e*Pg	**Pg**	**09 18 53.0**	**+0.5**
AOS				S	**Sb**	**09 19 03.3**	**+0.1**
AOS	**Alonnisos**	**0.70**	**261**	P	**Pg**	**09 18 53.0**	**+0.5**
SIGR	**SIGRI**	**0.85**	**95**	P	**Pg**	**09 18 55.7**	**+0.4**
SIGR				S	**Sb**	**09 19 07.2**	**-0.3**
SIGR	**SIGRI**	**0.85**	**95**	*e*PG	**Pg**	**09 18 55.7**	**+0.4**
SIGR				*e*SG	**Sb**	**09 19 08.4**	**+0.9**
SIGR	**SIGRI**	**0.85**	**95**	*e*PN	**Pg**	**09 18 55.8**	**+0.4**
SIGR				*e*SN	**Sb**	**09 19 08.1**	**+0.6**
SIGR	**SIGRI**	**0.85**	**95**	P	**Pg**	**09 18 55.7**	**+0.4**
SIGR				S	**Sb**	**09 19 07.2**	**-0.3**
SIGR				*e*Sn	**Sb**	**09 19 08.1**	**+0.6**
SIGR				*e*Sg	**Sb**	**09 19 08.4**	**+0.9**
SKIA	**Skiathos**	**1.02**	**264**	P	**Pg**	**09 18 58.9**	**+0.3**
SKIA	**Skiathos**	**1.02**	**264**	*e*PN	**Pg**	**09 18 58.7**	**+0.1**
SKIA				*e*SN	**Sb**	**09 19 13.4**	**+0.9**
SKIA	**Skiathos**	**1.02**	**264**	*e*Pn	**Pg**	**09 18 58.7**	**+0.1**
SKIA				*e*Sn	**Sb**	**09 19 13.4**	**+0.9**
SKIA	**Skiathos**	**1.02**	**264**	P	**Pg**	**09 18 58.9**	**+0.3**
PAIG	**Paliouri**	**1.06**	**308**	P	**Pg**	**09 18 59.0**	**-0.3**
PAIG				S	**Sn**	**09 19 14.6**	**-0.5**
PAIG	**Paliouri**	**1.06**	**308**	*e*PN	**Pg**	**09 18 59.1**	**-0.3**
PAIG				*e*SN	**Sb**	**09 19 13.7**	**+0.1**
PAIG	**Paliouri**	**1.06**	**308**	*e*Pn	**Pg**	**09 18 59.1**	**-0.3**
PAIG				*e*Sn	**Sb**	**09 19 13.7**	**+0.1**
PAIG				S	**Sn**	**09 19 14.6**	**-0.5**
PAIG	**Paliouri**	**1.06**	**308**	P	**Pg**	**09 18 59.0**	**-0.3**
MRKA	**Markates**	**1.09**	**238**	P	**Pg**	**09 18 59.9**	**0.0**
MRKA				S	**Sn**	**09 19 15.5**	**-0.3**
MRKA	**Markates**	**1.09**	**238**	*e*PN	**Pg**	**09 18 59.7**	**-0.2**
MRKA				*e*SN	**Sn**	**09 19 15.6**	**-0.3**
MRKA	**Markates**	**1.09**	**238**	*e*Pn	**Pg**	**09 18 59.7**	**-0.2**
MRKA				*e*Sn	**Sn**	**09 19 15.6**	**-0.3**
MRKA	**Markates**	**1.09**	**238**	P	**Pg**	**09 18 59.9**	**0.0**
BOZC	**Bozcaada**	**1.14**	**60**	*i* P	**Pg**	**09 19 00.1**	**-0.8**
BOZC				*i* S	**Sg**	**09 19 15.2**	**-0.5**
PRK	**Paraskevi**	**1.17**	**91**	P	**Pg**	**09 19 01.5**	**+0.1**
PRK				S	**Sn**	**09 19 17.8**	**0.0**
PRK	**Paraskevi**	**1.17**	**91**	P	**Pg**	**09 19 01.5**	**+0.1**
PRK				S	**Sn**	**09 19 17.8**	**0.0**
NEO	**Neokhori**	**1.20**	**272**	P	**Pb**	**09 19 01.7**	**-0.3**
NEO				S	**Sn**	**09 19 19.5**	**+0.9**
NEO	**Neokhori**	**1.20**	**272**	*e*PN	**Pb**	**09 19 01.7**	**-0.3**

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NEO	**Neokhori**	**1.20**	**272**	*e*Pn	**Pb**	**09 19 01.7**	**-0.3**	
NEO				S	**Sn**	**09 19 19.5**	**+0.9**	
NEO	**Neokhori**	**1.20**	**272**	P	**Pb**	**09 19 01.7**	**-0.3**	
OUR	**Ouranopolis**	**1.21**	**330**	P	**Pb**	**09 19 01.5**	**-0.6**	
OUR				S	**Sn**	**09 19 18.7**	**-0.1**	
OUR	**Ouranopolis**	**1.21**	**330**	*e*PN	**Pn**	**09 19 02.5**	**+0.2**	
OUR	**Ouranopolis**	**1.21**	**330**	*e*PN	**Pb**	**09 19 01.6**	**-0.6**	
OUR	**Ouranopolis**	**1.21**	**330**	P	**Pb**	**09 19 01.5**	**-0.6**	
OUR	**Ouranopolis**	**1.21**	**330**	*e*Pn	**Pn**	**09 19 02.5**	**+0.2**	
OUR				S	**Sn**	**09 19 18.7**	**-0.1**	
XOR	**Xorichti**	**1.23**	**274**	P	**Pb**	**09 19 02.0**	**-0.5**	
XOR				S	**Sn**	**09 19 19.7**	**+0.4**	
XOR	**Xorichti**	**1.23**	**274**	*e*PN	**Pb**	**09 19 02.2**	**-0.3**	
XOR	**Xorichti**	**1.23**	**274**	*e*Pn	**Pb**	**09 19 02.2**	**-0.3**	
XOR				S	**Sn**	**09 19 19.7**	**+0.4**	
XOR	**Xorichti**	**1.23**	**274**	P	**Pb**	**09 19 02.0**	**-0.5**	
MRMA	**Marmari**	**1.26**	**194**	P	**Pn**	**09 19 02.2**	**-0.8**	
MRMA	**Marmari**	**1.26**	**194**	P	**Pn**	**09 19 02.2**	**-0.8**	
SMIA	**Simia**	**1.28**	**252**	P	**Pn**	**09 19 03.5**	**+0.3**	
SMIA				S	**Sn**	**09 19 21.2**	**+0.6**	
SMIA	**Simia**	**1.28**	**252**	P	**Pn**	**09 19 03.5**	**+0.3**	
EZN	**Ezine**	**1.32**	**65**	*e*PN	**Pg**	**09 19 04.7**	**+0.4**	
EZN	**Ezine**	**1.32**	**65**	*e*Pn	**Pg**	**09 19 04.7**	**+0.4**	
SMTH	**Samothraki Isl**	**1.32**	**26**	P	**Pn**	**09 19 02.4**	**-1.4**	
SMTH				S	**Sn**	**09 19 21.8**	**+0.2**	
SMTH	**Samothraki Isl**	**1.32**	**26**	*e*PN	**Pn**	**09 19 02.4**	**-1.4**	
SMTH	**Samothraki Isl**	**1.32**	**26**	P	**Pn**	**09 19 02.4**	**-1.4**	
SMTH				S	**Sn**	**09 19 21.8**	**+0.2**	
CHOS	**Chios island**	**1.35**	**131**	P	**Pn**	**09 19 03.9**	**-0.3**	
CHOS				S	**Sb**	**09 19 21.8**	**-0.2**	
CHOS	**Chios island**	**1.35**	**131**	*e*PN	**Pn**	**09 19 04.4**	**+0.2**	
CHOS	**Chios island**	**1.35**	**131**	*e*PN	**Pb**	**09 19 04.2**	**0.0**	
CHOS	**Chios island**	**1.35**	**131**	P	**Pn**	**09 19 03.9**	**-0.3**	
CHOS	**Chios island**	**1.35**	**131**	*e*Pn	**Pn**	**09 19 04.2**	**0.0**	
CHOS				S	**Sb**	**09 19 21.8**	**-0.2**	
PTL	**Penteli**	**1.42**	**210**	P	**Pn**	**09 19 04.5**	**-0.7**	
PTL				S	**Sn**	**09 19 24.0**	**-0.1**	
PTL	**Penteli**	**1.42**	**210**	*e*PN	**Pn**	**09 19 04.5**	**-0.7**	
PTL	**Penteli**	**1.42**	**210**	P	**Pn**	**09 19 04.5**	**-0.7**	
PTL				S	**Sn**	**09 19 24.0**	**-0.1**	
PLG	**Polygyros**	**1.49**	**317**	P	**Pn**	**09 19 05.7**	**-0.4**	
PLG	**Polygyros**	**1.49**	**317**	*e*PB	**Pn**	**09 19 06.0**	**-0.1**	
PLG	**Polygyros**	**1.49**	**317**	*e*Pb	**Pn**	**09 19 06.0**	**-0.1**	
PLG	**Polygyros**	**1.49**	**317**	P	**Pn**	**09 19 05.7**	**-0.4**	
AYVA	**Ayvalik**	**1.49**	**89**	*i* P	**Pn**	**09 19 04.9**	**-1.2**	
AYVA				*i* S	**Sn**	**09 19 26.0**	**+0.2**	
AYVA	**Ayvalik**	**1.49**	**89**	*i* P	**Pn**	**09 19 04.9**	**-1.2**	
AYVA				*i* S	**Sn**	**09 19 26.0**	**+0.2**	
LKR	**Lokris**	**1.52**	**246**	*e*PN	**Pn**	**09 19 06.1**	**-0.1**	
LKR	**Lokris**	**1.52**	**246**	*e*Pn	**Pn**	**09 19 06.4**	**-0.1**	
ATH	**Athens Observa**	**1.55**	**212**	*e*PN	**Pn**	**09 19 06.3**	**-0.6**	
ATH	**Athens Observa**	**1.55**	**212**	*e*Pn	**Pn**	**09 19 06.3**	**-0.6**	
ZEY	**˙zmir**	**1.71**	**127**	*i* P	**Pb**	**09 19 11.1**	**+0.4**	
ZEY				*i* S	**Sn**	**09 19 31.9**	**+0.7**	
GELI	**Tayfur-Gelibol**	**1.72**	**49**	*e*PN	**Pb**	**09 19 10.6**	**-0.3**	
GELI	**Tayfur-Gelibol**	**1.72**	**49**	*e*Pn	**Pb**	**09 19 10.6**	**-0.3**	
KAVA	**Kavala**	**1.72**	**354**	P	**Pn**	**09 19 08.2**	**-1.1**	
KAVA	**Kavala**	**1.72**	**354**	*e*PN	**Pn**	**09 19 07.9**	**-1.4**	
KAVA	**Kavala**	**1.72**	**354**	*e*Pn	**Pn**	**09 19 07.9**	**-1.4**	
KAVA	**Kavala**	**1.72**	**354**	P	**Pn**	**09 19 08.2**	**-1.1**	
ENEZ	**Enez**	**1.80**	**36**	*e*PN	**Pb**	**09 19 11.7**	**-0.5**	
ENEZ	**Enez**	**1.80**	**36**	*e*Pn	**Pb**	**09 19 11.7**	**-0.5**	
HORT	**Hortiatis**	**1.83**	**316**	*e*PN	**Pn**	**09 19 11.7**	**+0.8**	
HORT	**Hortiatis**	**1.83**	**316**	*e*PB	**Pn**	**09 19 11.1**	**+0.2**	
HORT	**Hortiatis**	**1.83**	**316**	*e*Pn	**Pn**	**09 19 11.7**	**+0.8**	
LPK	**Lapseki**	**1.88**	**54**	*e*PN	**Pb**	**09 19 12.8**	**-0.8**	
LPK	**Lapseki**	**1.88**	**54**	*e*Pn	**Pb**	**09 19 12.8**	**-0.8**	
ALN	**Alexandroupoli**	**1.89**	**31**	P	**Pn**	**09 19 10.3**	**-1.2**	
ALN				S	**Sn**	**09 19 35.9**	**+0.4**	
ALN	**Alexandroupoli**	**1.89**	**31**	*e*PN	**Pb**	**09 19 13.0**	**-0.6**	
ALN	**Alexandroupoli**	**1.89**	**31**	*e*PN	**Pn**	**09 19 10.5**	**-1.0**	
ALN	**Alexandroupoli**	**1.89**	**31**	*e*Pn	**Pn**	**09 19 10.5**	**-1.0**	
ALN				S	**Sn**	**09 19 35.9**	**+0.4**	
AGG	**Agios Georgios**	**1.91**	**263**	P	**Pn**	**09 19 11.7**	**-0.2**	
AGG	**Agios Georgios**	**1.91**	**263**	*e*PN	**Pn**	**09 19 11.8**	**-0.2**	
AGG	**Agios Georgios**	**1.91**	**263**	*e*Pn	**Pn**	**09 19 11.8**	**-0.2**	
AGG	**Agios Georgios**	**1.91**	**263**	P	**Pn**	**09 19 11.7**	**-0.3**	
ERIK	**Erikli-Kesan**	**1.93**	**44**	*e*PN	**Pb**	**09 19 13.5**	**-0.9**	
ERIK	**Erikli-Kesan**	**1.93**	**44**	*e*Pn	**Pb**	**09 19 13.5**	**-0.9**	
RDO	**Rodhopi**	**1.95**	**17**	*e*PN	**Pn**	**09 19 11.6**	**-0.8**	
RDO	**Rodhopi**	**1.95**	**17**	*e*Pn	**Pn**	**09 19 11.6**	**-0.8**	
SRS	**Serrai**	**2.04**	**334**	*e*PN	**Pn**	**09 19 12.6**	**-1.1**	
SRS	**Serrai**	**2.04**	**334**	*e*Pn	**Pn**	**09 19 12.6**	**-1.1**	
THL	**Klokotos Trika**	**2.15**	**278**	*e*PB	**Pn**	**09 19 16.6**	**+1.4**	
KRBG	**Karabiga-Canak**	**2.24**	**60**	*e*PN	**Pn**	**09 19 18.2**	**+1.8**	
KRBG	**Karabiga-Canak**	**2.24**	**60**	*e*Pn	**Pn**	**09 19 18.2**	**+1.8**	
RKY	**Sarkoy-Tekirda**	**2.32**	**52**	*e*PN	**Pn**	**09 19 19.4**	**+1.8**	
RKY	**Sarkoy-Tekirda**	**2.32**	**52**	*e*Pn	**Pn**	**09 19 19.4**	**+1.8**	
SART	**Tekirdag**	**2.32**	**52**	*i* P	**Pn**	**09 19 19.0**	**+1.4**	
SART	**Tekirdag**	**2.32**	**52**	*i* P	**Pn**	**09 19 19.0**	**+1.4**	
SART				*i* S	**Sn**	**09 19 47.5**	**+1.1**	
GUR	**Goura**	**2.33**	**235**	*e*PN	**Pn**	**09 19 17.2**	**-0.5**	
GUR	**Goura**	**2.33**	**235**	*e*Pn	**Pn**	**09 19 17.2**	**-0.5**	
KNT	**Kendrikon**	**2.36**	**323**	*e*PN	**Pn**	**09 19 18.6**	**+0.5**	
KNT	**Kendrikon**	**2.36**	**323**	*e*Pn	**Pn**	**09 19 18.6**	**+0.5**	
GRG	**Griva**	**2.47**	**313**	*e*PN	**Pn**	**09 19 19.6**	**0.0**	
GRG	**Griva**	**2.47**	**313**	*e*Pn	**Pn**	**09 19 19.6**	**0.0**	
MRMT	**Marmara Adasi**	**2.54**	**58**	*e*PN	**Pn**	**09 19 21.9**	**+1.4**	
MRMT	**Marmara Adasi**	**2.54**	**58**	*e*Pn	**Pn**	**09 19 22.0**	**+1.4**	
EDC	**Edincik**	**2.61**	**65**	*e*PN	**Pn**	**09 19 22.8**	**+1.3**	
EDC	**Edincik**	**2.61**	**65**	*e*Pn	**Pn**	**09 19 22.8**	**+1.3**	
DURS	**Dursunbey**	**2.89**	**83**	*i* P	**Pb**	**09 19 28.6**	**-2.2**	
DURS	**Dursunbey**	**2.89**	**83**	*i* P	**Pb**	**09 19 28.6**	**-2.2**	
DURS				*i* S	**Sg**	**09 20 10.7**	**-1.0**	
EDRB	**Edirne**	**2.97**	**30**	*e*PN	**Pn**	**09 19 28.6**	**+2.2**	
EDRB	**Edirne**	**2.97**	**30**	*e*Pn	**Pn**	**09 19 28.6**	**+2.2**	
ARMT	**Armutlu**	**3.40**	**67**	*e*PN	**Pn**	**09 19 34.4**	**+2.0**	
ARMT	**Armutlu**	**3.40**	**67**	*e*Pn	**Pn**	**09 19 34.4**	**+2.0**	

IDC 02 09:21:13.5±1.5, 31.70N×104.17E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/47, mbtmp3.4/5, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=93.8km s-min=22.6km az=70.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.1nm,0.3s,baz=188,slow=12,SNR=2.6	**16.20**	**5**	Pn	Pn	09 25 04.0	+1.4
AAK	**Ala-Archa** comp=Z,32nm,19.6s,baz=3.5,slow=42	**25.92**	**303**	LR	LR	09 39 22.8	
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=124,slow=8.9,SNR=2.8	**26.21**	**334**	P	P	09 26 49.5	-0.3
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=341,slow=7.6,SNR=2.6	**58.94**	**147**	P	P	09 31 14.8	0.0
ASAR	**Alice Springs** 0.4nm,0.8s,baz=331,slow=6.4,SNR=5.1	**61.97**	**149**	P	P	09 31 35.4	-0.1
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=327,slow=5.2,SNR=13	**81.10**	**17**	P	P	09 33 30.3	0.0

*IDC **02** 09:30:04.7±2.8, 53.57N×87.84E, h0km, mb1 3.2/2, mb1mx2.9/47, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=22.9km s-min=14.6km az=61.0*
*NNC **02** 09:30:09.6±2.8, 53.51N×87.59E, h18km±14km, mb3.3, mpv3.0, Error ellipse: s-maj=18.4km s-min=17.3km az=26.0*

ISC 02 09:30:09.2±3.9, 53.6N±0.1×87.8E±0.2, h35km, n8, σ0=75/11, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=97,slow=335,SNR=7.5	**1.81**	**282**	*i*		09 42 12.1	
ZALV	**Zalesovo Beam** 3.3nm,0.3s,baz=101,slow=15,SNR=37	**1.81**	**282**	Pg	**Pn**	**09 30 37.1**	**-0.8**
ZALV				Lg	Lg	09 31 03.1	
KURK	**Kurchatov** 1.5nm,1.3s	**6.36**	**247**	⇓Pn	**Pn**	**09 31 39.6**	**-0.7**
KURK				⇓Lg	Lg	09 33 26.5	
KURBB	**Kurchatov Arra** 1.7nm,0.5s	**6.46**	**246**	⇑Pn	**Pn**	**09 31 41.6**	**0.0**
KURBB				⇓Sn	**Sn**	**09 32 53.4**	**-0.6**
KURBB				⇑Lg	Lg	09 33 31.5	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=61,slow=14,SNR=8.7	**6.46**	**246**	Pn	**Pn**	**09 31 41.6**	**0.0**
KURBB				Sn	**Sn**	**09 32 54.0**	**0.0**
KURBB	0.0nm,0.3s,baz=64,slow=25,SNR=2.5			Lg	Lg	09 33 29.9	
MK31	**Makanchi Array** 0.1nm,0.3s,baz=63,slow=33,SNR=10	**7.69**	**210**	⇓Pn	**Pn**	**09 31 58.7**	**+0.1**
MK31	1.8nm,1.1s			⇑Sn	**Sn**	**09 33 24.8**	**+0.4**
MK31	3.8nm,1.1s,baz=41,slow=28,SNR=5.0			⇓Lg	Lg	09 34 06.0	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=26,slow=13,SNR=7.7	**7.69**	**210**	Pn	**Pn**	**09 31 58.8**	**+0.2**
MKAR	0.1nm,0.3s,baz=30,slow=20,SNR=5.3			Sn	**Sn**	**09 33 24.9**	**+0.4**
MKAR	0.2nm,0.3s,baz=31,slow=31,SNR=7.3			Lg	Lg	09 34 07.2	
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=87,slow=14,SNR=3.4	**10.45**	**274**	Pn	**Pn**	**09 32 38.0**	**+1.6**

*ATH **02** 09:30:48.6, 36.65N×28.23E, h53km±2km, MD3.4/10*
*CSEM **02** 09:30:49.0±0.1, 36.56N×28.28E, h60km, ML3.4, Error ellipse: s-maj=3.8km s-min=3.3km az=74.0*
*DDA **02** 09:30:49, 36.67N×28.18E, h50km, MD3.3*
*ISK **02** 09:30:49.7, 36.71N×28.23E, h46km, ML3.4*
*THE **02** 09:30:50.7, 36.67N×28.17E, h43km±4km, ML3.0/4, Error ellipse: s-maj=4.3km s-min=0.8km az=123.0*
*HLW **02** 09:30:53.7, 36.18N×28.70E, h11km±29km, Md4.0*

ISC 02 09:30:49.7±1.0, 36.66N±0.02×28.23E±0.02, h27km±9km, n147, σ0=82/185, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.37**	**55**	*i* P	**Pb**	**09 30 57.2**	**-0.8**
TURN				*i* S	**Sb**	**09 31 03.4**	**-0.3**
TURN	**Turunc**	**0.37**	**55**	*i* P	**Pb**	**09 30 57.2**	**-0.8**
TURN				*i* S	**Sb**	**09 31 03.4**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.38**	**65**	*e*PG	**Pn**	**09 30 59.2**	**-0.2**
DALY				*e*SG	**Sn**	**09 31 06.4**	**+0.6**
DALY	**Dalyan (Mu˘la**	**0.38**	**65**	*e*Pg	**Pn**	**09 30 59.2**	**-0.2**
DALY				*e*Sg	**Sn**	**09 31 06.4**	**+0.6**
ARG	**Arkhangelos**	**0.45**	**190**	P	**Pn**	**09 31 00.3**	**-0.1**
ARG				S	**Sn**	**09 31 08.2**	**+0.7**
ARG	**Arkhangelos**	**0.45**	**190**	*e*P	**Pn**	**09 31 00.3**	**-0.1**
ARG				*e*S	**Sn**	**09 31 08.2**	**+0.7**
ARG	**Arkhangelos**	**0.45**	**190**	P	**Pn**	**09 31 00.3**	**-0.1**
ARG				S	**Sn**	**09 31 08.2**	**+0.7**
YER	**Yerkesik**	**0.48**	**6**	*e*PG	**Pn**	**09 31 00.6**	**-0.3**
YER	**Yerkesik**	**0.48**	**6**	*e*Pg	**Pn**	**09 31 00.6**	**-0.3**
FETY	**Fethiye**	**0.69**	**92**	*e*PG	**Pb**	**09 31 03.4**	**+0.2**
FETY	**Fethiye**	**0.69**	**92**	*e*Pg	**Pb**	**09 31 03.4**	**+0.2**
BDRM	**Kayabasi**	**0.75**	**303**	*i* P	**Pb**	**09 31 04.4**	**+0.2**
BDRM				*i* S	**Sn**	**09 31 15.1**	**+0.1**
BDRM	**Kayabasi**	**0.75**	**303**	*i* P	**Pb**	**09 31 04.4**	**+0.2**
BDRM				*i* S	**Sn**	**09 31 15.1**	**+0.1**
BODT	**Bodrum**	**0.84**	**299**	*e*PG	**Pn**	**09 31 05.3**	**-0.4**
BODT	**Bodrum**	**0.84**	**299**	*e*Pg	**Pn**	**

SHUT	**Suut-Afyon**	**2.64**	**44**	*e*Pn	**Pn**	**09 31 31.1**	**+0.4**
LAST	**Lasithi**	**2.68**	**237**	P	**Pn**	**09 31 30.5**	**-0.7**
LAST				S	**Sn**	**09 32 01.0**	**-1.8**
LAST	**Lasithi**	**2.68**	**237**	*e*P	**Pn**	**09 31 31.1**	**-0.1**
LAST				*e*S	**Sn**	**09 32 01.4**	**-1.4**
LAST	**Lasithi**	**2.68**	**237**	P	**Pn**	**09 31 30.5**	**-0.7**
LAST				*e*S	**Sn**	**09 32 01.4**	**-1.4**
DST	**Dursunbey**	**2.96**	**6**	*e*PN	**Pn**	**09 31 34.8**	**-0.1**
DST	**Dursunbey**	**2.96**	**6**	*e*Pn	**Pn**	**09 31 34.8**	**-0.1**
BALB	**Balikesir**	**2.99**	**355**	*e*PN	**Pn**	**09 31 35.4**	**+0.1**
BALB	**Balikesir**	**2.99**	**355**	*e*Pn	**Pn**	**09 31 35.4**	**+0.1**
PRK	**Paraskevi**	**3.01**	**330**	*e*P	**Pn**	**09 31 35.8**	**+0.2**
PRK	**Paraskevi**	**3.01**	**330**	*e*P	**Pn**	**09 31 35.8**	**+0.2**
BALY	**Balya**	**3.11**	**351**	*i* P	**Pn**	**09 31 36.9**	**-0.2**
BALY				*i* S	**Sn**	**09 32 11.1**	**-2.3**
BALY	**Balya**	**3.11**	**351**	*i* P	**Pn**	**09 31 36.9**	**-0.2**
BALY				*i* S	**Sn**	**09 32 11.1**	**-2.3**
SIGR	**SIGRI**	**3.16**	**324**	P	**Pn**	**09 31 37.6**	**-0.1**
SIGR				S	**Sn**	**09 32 13.1**	**-1.4**
SIGR	**SIGRI**	**3.16**	**324**	*e*PN	**Pn**	**09 31 38.0**	**+0.3**
SIGR	**SIGRI**	**3.16**	**324**	P	**Pn**	**09 31 37.6**	**-0.1**
SIGR	**SIGRI**	**3.16**	**324**	*e*Pn	**Pn**	**09 31 38.0**	**+0.3**
SIGR				S	**Sn**	**09 32 13.1**	**-1.4**
ORLT	**Orhaneli**	**3.42**	**9**	*e*PN	**Pn**	**09 31 42.1**	**+0.7**
ORLT	**Orhaneli**	**3.42**	**9**	*e*Pn	**Pn**	**09 31 42.1**	**+0.7**
EZN	**Ezine**	**3.50**	**335**	*e*PN	**Pn**	**09 31 42.7**	**+0.4**
EZN	**Ezine**	**3.50**	**335**	*e*Pn	**Pn**	**09 31 42.7**	**+0.4**
KONT	**Konya--Tatoy**	**3.54**	**67**	*e*PN	**Pn**	**09 31 44.1**	**+1.2**
KONT	**Konya--Tatoy**	**3.54**	**67**	*e*Pn	**Pn**	**09 31 44.1**	**+1.2**
BOZC	**Bozcaada**	**3.61**	**332**	*i* P	**Pn**	**09 31 43.9**	**+0.1**
BOZC				*i* S	**Sn**	**09 32 24.8**	**-0.8**
KIZT	**Kizilcal**	**3.65**	**51**	*e*PN	**Pn**	**09 31 44.7**	**+0.2**
KIZT	**Kizilcal**	**3.65**	**51**	*e*Pn	**Pn**	**09 31 44.7**	**+0.2**
EDC	**Edincik**	**3.69**	**356**	*e*PN	**Pn**	**09 31 45.6**	**+0.6**
EDC	**Edincik**	**3.69**	**356**	*e*Pn	**Pn**	**09 31 45.6**	**+0.6**
KRBG	**Karabiga-Canak**	**3.80**	**349**	*e*PN	**Pn**	**09 31 46.4**	**0.0**
KRBG	**Karabiga-Canak**	**3.80**	**349**	*e*Pn	**Pn**	**09 31 46.4**	**0.0**
LPK	**Lapseki**	**3.88**	**343**	*e*PN	**Pn**	**09 31 47.9**	**+0.3**
LPK	**Lapseki**	**3.88**	**343**	*e*Pn	**Pn**	**09 31 47.9**	**+0.3**
MRMT	**Marmara Adasi**	**3.97**	**353**	*e*PN	**Pn**	**09 31 49.0**	**+0.1**
MRMT	**Marmara Adasi**	**3.97**	**353**	*e*Pn	**Pn**	**09 31 49.0**	**+0.1**
GELI	**Tayfur-Gelibol**	**3.98**	**340**	*e*PN	**Pn**	**09 31 49.8**	**+0.9**
GELI	**Tayfur-Gelibol**	**3.98**	**340**	*e*Pn	**Pn**	**09 31 49.8**	**+0.9**
LIA	**Limnos Island**	**4.02**	**324**	*e*P	**Pn**	**09 31 50.0**	**+0.5**
LIA	**Limnos Island**	**4.02**	**324**	*e*P	**Pn**	**09 31 50.0**	**+0.5**
RKY	**Sarkoy-Tekirda**	**4.11**	**349**	*e*PN	**Pn**	**09 31 51.0**	**+0.3**
RKY	**Sarkoy-Tekirda**	**4.11**	**349**	*e*Pn	**Pn**	**09 31 51.0**	**+0.3**
ERIK	**Erikli-Kesan**	**4.22**	**342**	*e*PN	**Pn**	**09 31 52.8**	**+0.5**
ERIK	**Erikli-Kesan**	**4.22**	**342**	*e*Pn	**Pn**	**09 31 52.8**	**+0.5**
VLI	**Veliai**	**4.25**	**272**	*e*P	**Pn**	**09 31 53.3**	**+0.6**
VLI	**Veliai**	**4.25**	**272**	*e*P	**Pn**	**09 31 53.3**	**+0.6**
SMTH	**Samothraki Isl**	**4.35**	**332**	*e*P	**Pn**	**09 31 54.2**	**+0.1**
SMTH	**Samothraki Isl**	**4.35**	**332**	*e*P	**Pn**	**09 31 54.2**	**+0.1**
ALN	**Alexandroupoli**	**4.56**	**339**	*e*P	**Pn**	**09 31 57.2**	**+0.3**
ALN	**Alexandroupoli**	**4.56**	**339**	*e*P	**Pn**	**09 31 57.2**	**+0.3**
RDO	**Rodhopi**	**4.95**	**336**	*e*P	**Pn**	**09 32 02.2**	**0.0**
RDO	**Rodhopi**	**4.95**	**336**	*e*P	**Pn**	**09 32 02.2**	**0.0**
HNAT	**Natroun**	**7.29**	**163**	P	Pn	09 32 30.1	-4.3
HNAT	**Natroun**	**7.29**	**163**	P	Pn	09 32 30.1	-4.3
	baz=165						
AMAG	**Maghara**	**7.30**	**144**	S	Sn	09 33 43.2	-13
AMAG	**Maghara**	**7.30**	**144**	P	Pn	09 32 30.0	-4.5
	baz=144						
AMAG				S	Sn	09 33 43.2	-13
	baz=144						
KOT	**Kottamia**	**7.36**	**155**	P	Pn	09 32 31.9	-3.5
KOT	**Kottamia**	**7.36**	**155**	P	Pn	09 32 31.9	-3.5
	baz=156						
GLL	**Jalalah**	**7.64**	**157**	P	Pn	09 32 34.9	-4.4
GLL	**Jalalah**	**7.64**	**157**	P	Pn	09 32 34.9	-4.4
	baz=158						
SUZ		**7.82**	**149**	P	Pn	09 32 38.0	-3.7
SUZ		**7.82**	**149**	P	Pn	09 32 38.0	-3.7
	baz=150						
HNKL	**Nakhl**	**8.26**	**143**	P	Pn	09 32 42.9	-4.8
HNKL	**Nakhl**	**8.26**	**143**	P	Pn	09 32 42.9	-4.8
	baz=143						
HBST	**Basata**	**9.21**	**142**	P	Pn	09 32 56.6	-4.3
HBST	**Basata**	**9.21**	**142**	P	Pn	09 32 56.6	-4.3
	baz=142						
TR2		**9.46**	**149**	P	Pn	09 32 59.3	-4.9
TR2		**9.46**	**149**	P	Pn	09 32 59.3	-4.9
	baz=150						
TR1		**9.89**	**149**	P	Pn	09 33 05.4	-4.7
TR1		**9.89**	**149**	P	Pn	09 33 05.5	-4.7
	baz=149						

IDC 02 09:38:25.5±2.8, 37°53′S×73°87′W, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.4/25, mbtmp3.3/4, ML3.3/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/13, Error ellipse: s-maj=59.1km s-min=21.2km az=74.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.11**	**142**	Pn	Pn	09 39 30.0	+0.3
	0.7nm,0.3s,baz=320,slow=10,SNR=23						
PLCA				Lg	Lg	09 40 37.0	
	2.3nm,0.3s,baz=255,slow=16,SNR=4.8						
PLCA				LR	LR	09 40 37.6	
	comp=Z,66nm,20.4s,baz=270,slow=32						
CFAA	**Coronel Fontan**	**7.51**	**40**	Pn	Pn	09 40 16.1	-0.3
	0.1nm,0.3s,baz=208,slow=12,SNR=5.8						
CFAA				Sn	Sn	09 41 43.0	+0.6
	0.1nm,0.3s,baz=252,slow=20,SNR=2.1						
LPAZ	**La Paz**	**21.76**	**15**	P	P	09 43 20.5	+1.0
	0.8nm,0.6s,baz=190,slow=6.1,SNR=3.3						
SIV	**San Ignacio**	**24.25**	**31**	LR	LR	09 55 17.2	
	comp=Z,42nm,19.8s,baz=236,slow=42						
TORD	**Torodi Ar. Bea**	**86.79**	**71**	P	P	09 51 11.5	-0.4
	0.3nm,0.6s,baz=224,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**160.11**	**55**	PKPab	PKPab	09 59 05.7	-0.8
	0.2nm,0.4s,baz=316,slow=4.0,SNR=5.4						

*IDC **02** 09:40:43.2±2.3, 25°11′N×122°29′E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/40, mbtmp3.5/3, Error ellipse: s-maj=355.1km s-min=26.9km az=70.0*
*JMA **02** 09:40:45.5±0.1, 24°84′N×122°00′E, h28km, M3.1*
*TAP **02** 09:40:45.2, 24°84′N×122°03′E, h1km±1km, ML3.3, D*
ISC 02 09:40:45.0±1.1, 24°85′N±0°03′×122°09′E±0°02, h6km±9km, n48, σ0°68/60, mb3.5/3, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.18**	**331**	⇓*i* P	**Pg**	**09 40 48.8**	**0.0**
	baz=351						
ILA	**Ilan**	**0.32**	**255**	*e*S	**Sg**	**09 40 55.0**	**-0.5**
	baz=252						
TWC	**Suao**	**0.32**	**222**	*i* P	**Pg**	**09 40 51.4**	**+0.2**
	baz=213						
TWC				S	**Sg**	**09 40 55.1**	**-0.4**
	baz=213						
NWF	**Wu-fen Shan**	**0.36**	**309**	⇓*i* P	**Pg**	**09 40 52.2**	**+0.2**
	baz=316						
NWF				S	**Sg**	**09 40 56.7**	**0.0**
	baz=316						
TWE	**Neicheng**	**0.40**	**252**	⇓*i* P	**Pg**	**09 40 52.6**	**-0.2**
	baz=248						
TWA	**Mucha**	**0.47**	**286**	*i* P	**Pg**	**09 40 54.2**	**0.0**
	baz=289						
TWA				*e*S	**Sg**	**09 41 00.7**	**+0.3**
	baz=289						
ENTT	**Nioudou**	**0.52**	**247**	*i* P	**Pg**	**09 40 54.9**	**-0.1**
	baz=243						
ENA	**Nanau**	**0.52**	**217**	*e*P	**Pg**	**09 40 55.9**	**+0.7**
	baz=211						
ENA				*e*S	**Sg**	**09 41 01.4**	**-0.6**
	baz=211						
TAP1	**Taipei**	**0.55**	**291**	*e*P	**Pg**	**09 40 55.1**	**-0.5**
	baz=292						
TAP	**Taipei**	**0.56**	**290**	*e*P	**Pg**	**09 40 56.2**	**+0.4**
	baz=292						
TAP				*e*S	**Sg**	**09 41 03.2**	**0.0**
	baz=292						
TWY	**Chenhua**	**0.61**	**314**	*i* P	**Pg**	**09 40 57.3**	**+0.5**
	baz=318						
TWS1	**Kuangyinshan**	**0.66**	**293**	P	**Pb**	**09 40 58.4**	**-0.5**
	baz=295						
TWS1				*e*S	**Sb**	**09 41 09.0**	**+0.7**
	baz=295						
NSK	**Sanguang**	**0.68**	**256**	⇓*e*P	**Pg**	**09 40 57.5**	**-0.7**
	baz=254						
NSK				*e*S	**Sb**	**09 41 08.6**	**-0.5**
	baz=254						
NNS	**Nan Shan**	**0.76**	**238**	*e*P	**Pg**	**09 40 59.9**	**+0.2**
	baz=235						
NCU	**National Centr**	**0.82**	**279**	P	**Pb**	**09 41 01.9**	**+0.1**
	baz=279						
NCU				*e*S	**Sb**	**09 41 13.7**	**+0.5**
	baz=279						
JYNG	**Yonagunijimaku**	**0.88**	**117**	P	**Pb**	**09 41 02.7**	**+0.1**
JYNG				*e*S	**Sb**	**09 41 15.3**	**+0.7**
TWD	**Chiawan**	**0.88**	**210**	*e*P	**Pg**	**09 41 02.3**	**+0.3**
	baz=206						
TWD				*e*S	**Sg**	**09 41 12.9**	**-0.6**
	baz=206						
YOJ	**Yonaguni jima**	**0.93**	**114**	P	**Pg**	**09 41 03.1**	**+0.3**
YOJ				*e*S	**Sb**	**09 41 16.5**	**+0.5**
NSTT	**Nanjuang**	**1.01**	**258**	*e*P	**Pb**	**09 41 05.0**	**+0.1**
	baz=257						
NSTT				*e*S	**Sb**	**09 41 18.7**	**+0.2**
	baz=257						
HSN	**Hsinchu**	**1.01**	**268**	*e*P	**Pb**	**09 41 04.8**	**-0.2**
	baz=269						
TWT	**Tachien**	**1.02**	**235**	*e*P	**Pb**	**09 41 05.5**	**+0.3**
	baz=233						
TWT				*e*S	**Sn**	**09 41 20.1**	**-0.5**
	baz=233						
WHF	**Hehuan Shan**	**1.02**	**227**	*e*P	**Pg**	**09 41 04.8**	**+0.1**
	baz=224						
ESL	**Shilin**	**1.19**	**210**	*e*P	**Pg**	**09 41 07.5**	**-0.4**
	baz=207						
NSY	**Sanyi**	**1.28**	**251**	*e*P	**Pg**	**09 41 10.6**	**+1.0**
	baz=249						
TWQ1	**Liyutan**	**1.29**	**248**	*e*P	**Pg**	**09 41 11.0**	**+1.1**
	baz=246						
WDT	**Danda**	**1.39**	**219**	*e*P	**Pn**	**09 41 11.3**	**0.0**
	baz=216						
SMLT	**Sun Moon Lake**	**1.45**	**229**	*e*P	**Pg**	**09 41 13.1**	**+0.3**
	baz=226						
TCU	**Taichung**	**1.46**	**242**	*e*P	Pg	09 41 16.7	+3.6
	baz=240						
TYC	**Yuchr**	**1.46**	**230**	*e*P	**Pg**	**09 41 13.0**	**-0.1**
	baz=228						
EHY	**Hungye**	**1.51**	**208**	*e*P	**Pg**	**09 41 13.8**	**-0.2**
	baz=205						
IRIF	**Iriomote-Funau**	**1.58**	**108**	P	**Pn**	**09 41 12.8**	**-0.8**
TWF1	**Yuli**	**1.65**	**206**	*e*P	**Pb**	**09 41 15.7**	**-0.2**
	baz=203						
HATJ	**Hateruma jima**	**1.75**	**116**	P	**Pn**	**09 41 15.6**	**-0.3**
CHN5	**Tsauling**	**1.79**	**226**	*e*P	**Pg**	**09 41 19.2**	**-0.1**
	baz=224						
JKRS	**Kuro-shima**	**1.85**	**109**	P	**Pn**	**09 41 17.0**	**-0.3**
ELDTW	**Lidau**	**1.92**	**211**	*e*P	**Pb**	**09 41 19.9**	**-0.6**
	baz=209						
JIJ	**Ishigaki jima**	**1.93**	**104**	P	**Pn**	**09 41 18.7**	**+0.3**
CHN4	**Tsaushan**	**2.02**	**223**	*e*P	**Pb**	**09 41 22.9**	**+0.8**
	baz=221						
JISG	**Ishigakijimahi**	**2.04**	**97**	P	**Pn**	**09 41 20.4**	**+0.5**
WTP	**Ta-pu**	**2.08**	**220**	*e*P	**Pb**	**09 41 23.8**	**+0.5**
	baz=218						
TWK	**Hsinying**	**2.15**	**223**	*e*P	**Pg**	**09 41 25.7**	**-0.5**
	baz=221						
CHN1	**Nanshi**	**2.18**	**221**	*e*P	**Pb**	**09 41 24.7**	**-0.2**
	baz=219						
SGST	**Jiashian**	**2.23**	**218**	*e*P	**Pg**	**09 41 27.1**	**-0.7**
	baz=216						
JTJ	**Tarama**	**2.39**	**94**	P	**Pn**	**09 41 25.6**	**+0.9**
EAST	**Anshuo**	**2.70**	**205**	*e*P	**Pn**	**09 41 31.4**	**+2.3**
	baz=203						
SONM	**Songino Array**	**26.09**	**336**	P	**P**	**09 46 17.2**	**-2.4**
	1.2nm,1.0s,baz=157,slow=8.9,SNR=5.6						
WRA	**Warramunga Ar**	**46.09**	**164**	P	**P**	**09 49 09.8**	**-0.2**
	0.5nm,0.5s,baz=346,slow=8.5,SNR=2.8						
ASAR	**Alice Springs**	**49.57**	**166**	P	**P**	**09 49 38.5**	**+1.4**
	0.2nm,0.7s,baz=344,slow=9.3,SNR=4.7						

*IDC **02** 09:47:48.9±6.0, 24°.91S×175°.46W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/40, mbtmp3.7/4, MS3.2/2, Ms1 3.2/2, ms1mx2.9/33, Error ellipse: s-maj=359.1km s-min=31.4km az=157.0*
ISC 02 09:47:55.6±4.0, 24°S±1°×175°.9W±0°.6, h27km, n8, σ1°s62/6, mb3.6/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.32**	**273**	LR	LR	09 57 15.9	
	comp=Z,80nm,18.3s,baz=44,slow=34						
HNR	**Honiara**	**27.13**	**298**	LR	LR	10 02 38.4	
	comp=Z,46nm,18.6s,baz=210,slow=32						
ASAR	**Alice Springs**	**45.70**	**260**	P	**P**	**09 56 14.1**	**-0.5**
	0.2nm,0.5s,baz=91,slow=6.3,SNR=7.1						
WRA	**Warramunga Arr**	**46.12**	**265**	P	**P**	**09 56 16.6**	**-1.3**
	1.4nm,0.8s,baz=104,slow=7.9,SNR=6.2						
NVAR	**Mina Array Bea**	**82.18**	**42**	P	**P**	**10 00 13.9**	**-0.5**
	0.1nm,0.3s,baz=228,slow=5.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**93.02**	**289**	P	**P**	**10 01 09.1**	**+1.9**
	0.6nm,0.4s,baz=142,slow=2.8,SNR=6.0						
AKASG	**Malin Array Be**	**146.86**	**330**	PKPbc	**PKPab**	**10 07 35.3**	**-1.2**
	0.7nm,0.5s,baz=51,slow=2.4,SNR=6.2						
BRTR	**Keskin Array B**	**150.47**	**309**	PKPbc	**PKPbc**	**10 07 46.0**	**+0.9**
	0.3nm,0.4s,baz=86,slow=2.2,SNR=3.3						

*NIED **02** 10:00:00.27°.90N×127°.80E, h5km, Mw4.2 Best double couple: M0 2.39000×10^15 NP1:φs183.00000°, δ43.00000°, λ-168.00000°. NP2:φs84.00000°, δ82.00000°, λ-48.00000°.*
*ISCJB **02** 10:00:53.7±1.8, 27°.90N±0°.03×127°.75E±0°.04, h8km±12km, mb3.6/12, MS3.6/5, Error ellipse: s-maj=6.0km s-min=5.0km az=175.2*
*IDC **02** 10:00:53.8±0.7, 27°.60N×127°.40E, h0km, mb3.6/12, mb1 3.8/15, mb1mx3.7/46, mbtmp3.7/15, ML3.7/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=22.9km s-min=12.5km az=55.0*
*JMA **02** 10:00:54.2±0.2, 27°.91N×127°.76E, h12km±3km, M4.2*
ISC 02 10:00:54.8±1.6, 27°83N±0°04×127°79E±0°05, h5km±10km, n28, σ1°17/33, mb3.7/12, MS3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.81**	**169**	P	**Pb**	**10 01 10.9**	**-0.4**
JIH				S	**Sb**	**10 01 22.6**	**+0.1**
JOKE	**Okinoerabujima**	**0.83**	**124**	P	**Pg**	**10 01 11.1**	**+0.3**
JOKE				S	**Sb**	**10 01 22.8**	**-0.5**
JTK	**Tokunoshima**	**1.03**	**92**	P	**Pg**	**10 01 13.8**	**-0.7**
JTK				S	**Sg**	**10 01 27.8**	**0.0**
JOW	**Kunigami**	**1.08**	**157**	P	**Pg**	**10 01 15.7**	**+0.1**
JOW				S	**Sn**	**10 01 31.2**	**-0.8**
JOW	**Kunigami**	**1.08**	**157**	Pn	**Pb**	**10 01 16.0**	**-0.1**
	90nm,0.3s,baz=348,slow=14,SNR=495						
JOW				Sn	**Sn**	**10 01 32.2**	**+0.2**
	131nm,0.3s,baz=163,slow=19,SNR=22						
JAMN	**Amaminishikomi**	**1.29**	**71**	P	**Pn**	**10 01 18.0**	**-1.4**
JNTH	**Nagotoyohara**	**1.32**	**171**	P	**Pn**	**10 01 19.6**	**-0.3**
JNTH				*e*S	**Sn**	**10 01 37.2**	**-0.7**
JAGN	**Aguni-jima**	**1.33**	**202**	P	**Pn**	**10 01 18.9**	**-1.1**
JAGN				S	**Sg**	**10 01 37.9**	**+0.3**
JJT2	**Tamagusuku 2**	**1.69**	**181**	P	**Pb**	**10 01 25.7**	**-0.6**
JJT2				S	**Sg**	**10 01 50.8**	**+1.8**
JAM	**Amami Oshima**	**1.70**	**70**	P	**Pn**	**10 01 24.8**	**-0.3**
JAM				*e*S	**Sn**	**10 01 45.9**	**-1.4**
JKE	**Kume jima 2**	**1.75**	**211**	P	**Pn**	**10 01 24.9**	**-0.9**
JNU	**Nakatsue**	**5.91**	**26**	Pn	Pn	10 02 27.9	+4.9
	2.4nm,0.3s,baz=156,slow=4.8,SNR=13						
KSRS	**Korea Array**	**9.60**	**1**	LR	LR	10 07 05.9	
	comp=Z,122nm,18.7s,baz=180,slow=38						
MJAR	**Matsushiro Arr**	**12.37**	**43**	Pn	Pn	10 03 56.6	+5.0
	0.2nm,0.3s,baz=217,slow=18,SNR=3.4						
MJAR				LR	LR	10 08 43.8	
	comp=Z,59nm,19.6s,baz=190,slow=37						
USRK	**Ussuriysk Ar.**	**16.68**	**11**	Pn	**P**	**10 04 53.2**	**+1.6**
	0.1nm,0.3s,baz=185,slow=14,SNR=2.3						
SONM	**Songino Array**	**26.01**	**326**	P	**P**	**10 06 29.1**	**+0.3**
	1.5nm,0.7s,baz=135,slow=11,SNR=12						
SONM				LR	LR	10 17 41.1	
	comp=Z,45nm,21.7s,baz=156,slow=39						
MKAR	**Makanchi Array**	**40.19**	**311**	P	**P**	**10 08 31.1**	**-1.0**
	1.1nm,0.7s,baz=104,slow=9.2,SNR=14						
KURBB	**Kurchatov Arra**	**43.44**	**315**	P	**P**	**10 08 57.2**	**-1.4**
	0.8nm,0.6s,baz=103,slow=8.9,SNR=1.7						
AAK	**Ala-Archa**	**45.25**	**304**	LR	LR	10 30 27.3	
	comp=Z,45nm,18.6s,baz=42,slow=39						
WRA	**Warramunga Arr**	**47.91**	**172**	P	**P**	**10 09 32.8**	**-1.4**
	0.6nm,0.7s,baz=351,slow=8.1,SNR=3.6						
BVAR	**Borovoye Array**	**48.83**	**317**	P	**P**	**10 09 39.3**	**-1.7**
	0.6nm,0.5s,baz=88,slow=10.0,SNR=2.0						
BVAR				LR	LR	10 31 36.7	
	comp=Z,94nm,20.3s,baz=86,slow=38						
ASAR	**Alice Springs**	**51.54**	**173**	P	**P**	**10 10 00.5**	**-1.3**
	0.5nm,0.8s,baz=2.7,slow=14,SNR=3.6						
AKTO	**Aktyubinsk**	**56.44**	**314**	P	**P**	**10 10 36.8**	**-0.7**
	0.8nm,0.5s,baz=129,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**63.22**	**29**	P	**P**	**10 11 25.9**	**+2.0**
	0.3nm,0.9s,baz=284,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**71.28**	**330**	P	**P**	**10 12 14.9**	**-0.1**
	0.5nm,0.6s,baz=95,slow=7.4,SNR=4.3						
FINES				LR	LR	10 47 26.8	
	comp=Z,54nm,18.8s,baz=42,slow=39						
AKASG	**Malin Array Be**	**74.07**	**319**	P	**P**	**10 12 31.2**	**-0.5**
	0.2nm,0.3s,baz=61,slow=6.9,SNR=3.4						
AKASG				LR	LR	10 46 59.9	
	comp=Z,51nm,19.8s,baz=25,slow=37						
YKA	**Yellowknife Ar**	**77.24**	**25**	P	**P**	**10 12 51.6**	**+1.9**
	0.3nm,0.7s,baz=295,slow=5.6,SNR=7.2						
NVAR	**Mina Array Bea**	**89.68**	**46**	P	**P**	**10 13 57.0**	**+2.6**
	0.2nm,0.5s,baz=305,slow=13,SNR=2.9						

*SKHL **02** 10:09:47.8±0.9, 47°.55N×153°.74E, h123km±7km, mb5.4/4, msh5.9/4*
*ISCJB **02** 10:09:48.9±0.4, 48°.04N±0°.05×153°.00E±0°.08, h128km, mb4.1/29, Error ellipse: s-maj=9.9km s-min=3.4km az=135.2*
*BJI **02** 10:09:48.5, 48°.20N×152°.90E, h107km, mB4.9/10, mb4.6/13*
*MOS **02** 10:09:50.5±1.1, 48°.14N×153°.03E, h144km, mb4.3/19, Error ellipse: s-maj=12.0km s-min=8.3km az=71.5*
*IDC **02** 10:09:52.5±0.8, 48°.13N×152°.92E, h143km±7km, mb3.7/24, mb1 3.9/28, mb1mx3.7/44, mbtmp4.1/28, Error ellipse: s-maj=14.3km s-min=9.1km az=152.0*
ISC 02 10:09:50.8±0.6, 48°12N±0°07×152°90E±0°06, h128km, n125, σ1°72/132, mb4.0/29, 5C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.32**	**38**	*e*PN	**Pn**	**10 10 40.0**	**-1.4**
SKR				*e*S	**Sn**	**10 11 18.5**	**-2.0**
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=N,100nm,0.4s						
SKR				smax	smax		
	comp=N,180nm,0.5s						
SKR				smax	smax		
	comp=E,330nm,0.4s						
SKR	**Severo-Kuril's**	**3.32**	**38**	*e*P	**Pn**	**10 10 41.0**	**-0.4**
SKR				AMB	AMB	10 10 43.0	
	comp=E,650nm,1.3s						
SKR				*e*S	**Sn**	**10 11 20.9**	**+0.4**
SKR				A	A	10 11 24.2	
	comp=E,508nm,0.5s						
PAU	**Pauzhetka**	**4.20**	**36**	*e*P	**Pn**	**10 10 53.3**	**+0.2**
PAU				AMB	AMB	10 11 03.9	
	comp=E,892nm,1.0s						
PAU				*e*S	**Sn**	**10 11 41.7**	**+0.2**
PAU				A	A	10 11 43.1	
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**4.51**	**232**	*c i* PN	**Pn**	**10 10 58.9**	**+1.7**
KUR				*e*S	**Sn**	**10 11 52.9**	**+4.1**
KUR				pmax	pmax		
	comp=Z,30nm,0.3s						
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=E,35nm,0.6s						
KUR				smax	smax		
	comp=N,159nm,0.6s						
KUR				smax	smax		
	comp=E,149nm,0.6s						
KUR	**Kuril'sk**	**4.51**	**232**	*e*P	**Pn**	**10 10 58.9**	**+1.7**
KUR				AMB	AMB	10 11 01.1	
	comp=E,110nm,0.3s						
KUR				*e*S	**Sn**	**10 11 52.9**	**+4.1**
KUR				A	A	10 11 57.0	
	comp=E,160nm,0.6s						
KUR				A	A	10 11 57.0	
	comp=E,150nm,0.6s						
PETK	**Petropavlovsk-**	**5.86**	**30**	PN	**Pn**	**10 11 17.4**	**+2.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.86**	**30**	P	**Pn**	**10 11 17.4**	**+2.1**
	comp=Z,1.1nm,0.3s,baz=192,slow=14,SNR=4.0						
SHO	**Shikotan**	**5.99**	**227**	*e*P	**Pn**	**10 11 15.5**	**-1.6**
SHO				AMB	AMB	10 11 16.5	
	comp=Z,185nm,0.7s						
SHO				*e*S	**Sn**	**10 12 19.1**	**-5.4**
SHO				A	A	10 12 27.4	
	comp=Z,208nm,0.6s						
PET	**Petropavlovsk**	**6.13**	**35**	*e*PN	**Pn**	**10 11 16.5**	**-2.3**
PET				*e*S	**Sn**	**10 12 24.7**	**-2.9**
PET				smax	smax		
	comp=N,56nm,0.5s	

HHC				S	**S**	**10 20 37.2**	**+0.2**	
HHC				sS	**sS**	**10 21 20.3**	**-5.0**	
HHC				SS	**SnSn**	**10 22 20.7**	**-3.8**	
HHC				PMZ				
	comp=Z,27nm,0.8s							
HHC				PMZ				
	comp=Z,150nm,4.8s							
H11N2	**WAKE ISLAND Hy**	**30.50**	**153**	T	T	10 48 05.8		
	baz=342,slow=76,SNR=1.0							
H11N1	**WAKE ISLAND Hy**	**30.52**	**153**	T	T	10 48 09.9		
	baz=342,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**30.52**	**153**	T	T	10 48 07.2		
	baz=342,slow=76,SNR=11							
SONM	**Songino Array**	**30.77**	**287**	P	**P**	**10 15 54.4**	**+0.4**	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**30.77**	**287**	P	**P**	**10 15 54.4**	**+0.4**	
	comp=Z,1.5nm,0.7s,baz=67,slow=8.8,SNR=17							
TLY	**Talaya**	**31.44**	**295**	*eP*	**P**	**10 16 00.5**	**+0.8**	
H11S1	**WAKE ISLAND Hy**	**31.60**	**154**	T	T	10 49 31.5		
	baz=343,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**31.61**	**154**	T	T	10 49 29.9		
	baz=343,slow=76,SNR=22							
H11S2	**WAKE ISLAND Hy**	**31.62**	**154**	T	T	10 49 28.1		
	baz=343,slow=76,SNR=20							
WHN	**Wuhan**	**34.16**	**253**	⇓*i*P	**P**	**10 16 24.1**	**+0.5**	
ILAR	**Eielson Array**	**35.58**	**40**	P	**P**	**10 16 35.3**	**-0.1**	
	comp=Z,0.4nm,0.7s,baz=256,slow=6.2,SNR=7.0							
GTA	**Gaotai**	**38.63**	**277**	*eP*	**P**	**10 17 02.9**	**+1.3**	
GTA				PMZ				
	comp=Z,8.0nm,1.1s							
INK	**Inuvik**	**40.58**	**33**	P	**P**	**10 17 17.4**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=274,slow=6.1,SNR=8.0							
ZALV	**Zalesovo Beam**	**41.71**	**304**	*i* P	**P**	**10 17 27.1**	**+0.5**	
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**41.71**	**304**	P	**P**	**10 17 26.3**	**-0.3**	
	comp=Z,3.4nm,0.6s,baz=68,slow=7.7,SNR=16							
NVS	**Novosibirsk**	**42.25**	**306**	*eP*	**P**	**10 17 29.5**	**-1.5**	
MKAR	**Makanchi Array**	**46.20**	**296**	*ce*P	**P**	**10 18 02.7**	**+0.2**	
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MKAR	**Makanchi Array**	**46.20**	**296**	P	**P**	**10 18 02.8**	**+0.2**	
	comp=Z,5.1nm,0.7s,baz=67,slow=8.0,SNR=54							
KURK	**Kurchatov**	**46.50**	**302**	*e*P	**P**	**10 18 04.4**	**-0.4**	
BVAR	**Borovoye Array**	**49.89**	**308**	P	**P**	**10 18 30.7**	**-0.1**	
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.4s							
BVAR	**Borovoye Array**	**49.89**	**308**	P	**P**	**10 18 30.7**	**-0.1**	
	comp=Z,3.0nm,0.4s,baz=60,slow=7.9,SNR=25							
YKA	**Yellowknife Ar**	**49.92**	**37**	P	**P**	**10 18 31.5**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=297,slow=7.0,SNR=12							
YKA				pP	**pP**	**10 19 02.8**	**+2.4**	
	comp=Z,0.5nm,0.7s,baz=298,slow=7.4,SNR=6.8							
SHL	**Shillong**	**52.28**	**267**	⇑*i*P	**P**	**10 18 51.0**	**+1.8**	
CMAR	**Chiang Mai Arr**	**52.57**	**255**	P	**P**	**10 18 52.7**	**+1.5**	
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**52.57**	**255**	P	**P**	**10 18 52.7**	**+1.5**	
	comp=Z,3.9nm,0.8s,baz=35,slow=7.0,SNR=16							
CMAR	**Chiang Mai Arr**	**52.57**	**255**	*eP*	**P**	**10 18 52.6**	**+1.4**	
AAK	**Ala-Archa**	**53.11**	**295**	*ce*P	**P**	**10 18 55.7**	**+0.6**	
AAK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AAK	**Ala-Archa**	**53.11**	**295**	P	**P**	**10 18 55.4**	**+0.3**	
	comp=Z,1.3nm,0.3s,baz=68,slow=6.6,SNR=6.2							
AAK	**Ala-Archa**	**53.11**	**295**	*e*P	**P**	**10 18 55.7**	**+0.6**	
TAPN	**Taplejung**	**53.89**	**272**	*e*P	**P**	**10 19 02.2**	**+1.0**	
	comp=Z,9.6nm,0.4s							
ARU	**Arti**	**53.91**	**317**	*d i*P	**P**	**10 19 00.3**	**-0.2**	
ARU						10 21 01.9		
ARU				S	**S**	**10 26 27.5**	**+1.9**	
ARU				SS	**SS**	**10 30 04.2**	**-3.5**	
ARU				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ARU	**Arti**	**53.91**	**317**	*e*P	**P**	**10 19 00.3**	**-0.2**	
JIRN	**Jiri**	**54.71**	**273**	*e*P	**P**	**10 19 08.2**	**+1.1**	
	comp=Z,35nm,0.7s							
GUN	**Gumba**	**54.75**	**274**	*e*P	**P**	**10 19 08.3**	**+0.9**	
	comp=Z,22nm,0.5s							
RAMN	**Ramite**	**54.90**	**273**	*e*P	**P**	**10 19 09.1**	**+0.7**	
	comp=Z,31nm,0.4s							
KKN	**Kakani**	**55.23**	**274**	*e*P	**P**	**10 19 11.5**	**+0.8**	
	comp=Z,17nm,0.5s							
PKI	**Pulchoki**	**55.29**	**274**	*e*P	**P**	**10 19 12.0**	**+0.7**	
PKIN	**Phulchoki**	**55.29**	**274**	*e*P	**P**	**10 19 12.2**	**+1.0**	
	comp=Z,13nm,0.6s							
DMN	**Daman**	**55.46**	**274**	*e*P	**P**	**10 19 13.9**	**+1.4**	
	comp=Z,21nm,0.6s							
GKN	**Gorkha**	**55.52**	**275**	*e*P	**P**	**10 19 13.7**	**+1.0**	
	comp=Z,32nm,0.5s							
DANN	**Dangsing**	**55.88**	**276**	*e*P	**P**	**10 19 16.7**	**+1.3**	
	comp=Z,26nm,0.5s							
KOLN	**Koldanda**	**56.36**	**275**	*e*P	**P**	**10 19 19.6**	**+0.8**	
	comp=Z,18nm,0.7s							
ARCES	**ARCESS Array B**	**56.52**	**340**	P	**P**	**10 19 18.8**	**-0.2**	
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARCES	**ARCESS Array B**	**56.52**	**340**	P	**P**	**10 19 18.8**	**-0.2**	
	comp=Z,3.7nm,1.0s,baz=26,slow=7.7,SNR=6.6							
ARCES	**ARCESS Array B**	**56.52**	**340**	*e*P	**P**	**10 19 19.4**	**+0.4**	
PYUN	**Piuthan**	**56.55**	**276**	*e*P	**P**	**10 19 21.1**	**+0.9**	
	comp=Z,31nm,0.4s							
AKTO	**Aktyubinsk**	**57.71**	**311**	P	**P**	**10 19 27.4**	**-0.3**	
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKTO	**Aktyubinsk**	**57.71**	**311**	P	**P**	**10 19 27.4**	**-0.3**	
	comp=Z,1.0nm,0.5s,baz=70,slow=9.7,SNR=4.5							
JOF	**Joensuu**	**60.05**	**333**	*e*P	**P**	**10 19 42.3**	**-1.3**	
JOF				pmax	pmax			
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**60.05**	**333**	*ep*	**P**	**10 19 42.3**	**-1.3**	
	comp=Z,1.6nm,0.5s							
NVAR	**Mina Array Bea**	**61.93**	**63**	P	**P**	**10 19 57.3**	**+0.2**	
	comp=Z,1.3nm,0.7s,baz=296,slow=7.2,SNR=10							
NVAR				pP	**pP**	**10 20 31.2**	**+3.4**	
	comp=Z,0.8nm,0.8s,baz=286,slow=5.5,SNR=3.0							
KAF	**Kangasniemi**	**62.14**	**335**	*e*P	**P**	**10 19 56.2**	**-1.5**	
KAF				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KAF	**Kangasniemi**	**62.14**	**335**	*ep*	**P**	**10 19 56.2**	**-1.5**	
	comp=Z,1.1nm,0.5s							
FINES	**FINESS Array B**	**62.74**	**334**	P	**P**	**10 20 01.4**	**-0.3**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
FINES	**FINESS Array B**	**62.74**	**334**	P	**P**	**10 20 01.4**	**-0.3**	
	comp=Z,1.7nm,0.4s,baz=38,slow=6.8,SNR=33							
PDAR	**Pinedale Array**	**64.06**	**54**	P	**P**	**10 20 11.3**	**+0.3**	
	comp=Z,1.0nm,0.7s,baz=311,slow=1.7,SNR=11							
PDAR				pP	**PcP**	**10 20 45.0**	**-0.3**	
	comp=Z,1.5nm,1.0s,baz=350,slow=4.5,SNR=5.6							
NB2	**NORSAR Subarra**	**66.89**	**341**	P	**P**	**10 20 29.1**	**+0.4**	
	comp=Z,0.6nm,0.5s,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**66.89**	**341**	P	**P**	**10 20 29.1**	**+0.4**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**66.89**	**341**	P	**P**	**10 20 29.1**	**+0.4**	
	comp=Z,0.9nm,0.5s,baz=25,slow=6.3,SNR=8.5							
WRA	**Warramunga Arr**	**69.76**	**199**	P	**P**	**10 20 46.0**	**-0.9**	
WRA	**Warramunga Arr**	**69.76**	**199**	P	**P**	**10 20 46.0**	**-0.9**	
	comp=Z,0.9nm,0.9s,baz=27,slow=5.8,SNR=3.4							
KBZ	**Khabaz**	**69.81**	**313**	P	**P**	**10 20 46.9**	**-0.2**	
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**69.81**	**313**	P	**P**	**10 20 46.9**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=139,slow=20,SNR=5.7							
AKASG	**Malin Array Be**	**70.33**	**326**	P	**P**	**10 20 50.0**	**-0.1**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**70.33**	**326**	P	**P**	**10 20 50.0**	**-0.1**	
	comp=Z,0.8nm,0.3s,baz=34,slow=6.2,SNR=6.9							
ASAR	**Alice Springs**	**73.46**	**199**	P	**P**	**10 21 09.2**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=12,slow=6.1,SNR=9.4							
STHS	**Stebnicka Huta**	**74.26**	**330**	*e*P	**P**	**10 21 13.2**	**-0.3**	
STHS	**Stebnicka Huta**	**74.26**	**330**	*e*P	**P**	**10 21 13.2**	**-0.3**	
CLL	**Collm**	**75.16**	**335**	*i* P	**P**	**10 21 18.8**	**+0.2**	
CLL				pmax	pmax			
	comp=Z,6.0nm,0.6s							
CLL	**Collm**	**75.16**	**335**	*i* P	**P**	**10 21 18.8**	**+0.2**	
	comp=Z,6.0nm,0.6s							
BRG	**Berggiesshubel**	**75.28**	**335**	*e*(P)	**P**	**10 21 21.9**	**+2.5**	
	comp=Z,7.7nm,1.3s							
BRG	**Berggiesshubel**	**75.28**	**335**	*e*P	**P**	**10 21 21.9**	**+2.5**	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.3s							
KHC	**Kasperske Hory**	**76.94**	**334**	*e*P	**P**	**10 21 29.4**	**+0.6**	
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**10 21 29.1**	**-0.2**	
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR	**Lajitas Array**	**76.95**	**61**	P	**P**	**10 21 29.1**	**-0.2**	
	comp=Z,1.5nm,0.6s,baz=290,slow=4.3,SNR=12							
GERES	**GERESS Array B**	**77.16**	**334**	P	**P**	**10 21 30.2**	**0.0**	
	comp=Z,0.8nm,0.5s,baz=32,slow=5.8,SNR=11							
BRTR	**Keskin Array B**	**77.30**	**316**	*ce*P	**P**	**10 21 32.0**	**+0.9**	
BRTR	**Keskin Array B**	**77.30**	**316**	P	**P**	**10 21 31.4**	**+0.2**	
	comp=Z,1.3nm,0.9s,baz=63,slow=5.7,SNR=5.4							
H06S1	**SOCORRO T**	**80.27**	**73**	T	T	11 48 41.3		
	SNR=2.8							

IDC ***02*** *10:24:43.1±0.4, 17.°04N×147.°34E, h0km, mb4.7/36, mb1 4.7/37, mb1mx4.7/45, mbtmp4.7/37, ML5.2/1, MS4.2/27, Ms1 4.2/27, ms1mx4.0/47, Error ellipse: s-maj=14.9km s-min=11.2km az=83.0*

DJA ***02*** *10:24:45.7±2.5, 17.°N±6.°×14.°E±.°, h26km±21km, M5.3/37, mB5.8/15, mb5.2/37, Mw(mB)5.4/15*

MOS ***02*** *10:24:46.8±1.0, 17.°07N×147.°25E, h33km, mb5.1/61, MS4.2/15, Error ellipse: s-maj=9.4km s-min=5.4km az=109.5*

ISCJB ***02*** *10:24:48.7±0.1, 17.°06N±0.°03×147.°22E±0.°03, h45km, mb4.9/144, MS4.3/35, Error ellipse: s-maj=4.0km s-min=3.3km az=149.1*

BJI ***02*** *10:24:48.3, 17.°00N×147.°30E, h45km, mB5.1/42, mb5.0/46, Ms4.7/42, MS7 4.4/39*

NEIC ***02*** *10:24:49.8±1.1, 17.°04N×147.°28E, h44km±9km, mb5.0/50, Error ellipse: s-maj=6.0km s-min=4.5km az=113.0*

GCMT ***02*** *10:24:49.8±0.4, 16.°73N×147.°53E, h20km±1km, MW5.0/74, Moment Tensor Solution. s18,c20; s74,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.68±.25; $M_{\theta\theta}$1.04±.14; $M_{\phi\phi}$-3.72±.17; $M_{r\theta}$1.70±.33; $M_{\theta\phi}$-0.17±.10; $M_{\phi r}$0.40±.27; Best double couple: $M_0$3.75900×10^{16} NP1:ϕ30.00000°,δ57.00000°,λ129.00000°. NP2: ϕ154.00000°,δ49.00000°,λ46.00000°. Principal axes: T 3.7560, Plg58.0000°, Azm356.0000°; N 0.0070, Plg32.0000°, Azm186.0000°; P -3.7620, Plg5.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 10:24:50.0±0.4, 17.°06N±0.°04×147.°35E±0.°05, h46km±2km, h46km:pP-P,n351,σ1⇕36/416,mb4.9/146,MS4.3/35, 12C-9D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.20**	**215**		*e*P		**Pn**	**10 25 51.5**	**-0.1**
GUMO					e			10 26 41.5	
GUMO	**Guam**	**4.20**	**215**		*e*Pn		**Pn**	**10 25 51.5**	**-0.1**
GUMO					*e*Sn		**Sn**	**10 26 41.5**	**+2.2**
CBIJ	**Chichi jima**	**11.07**	**335**		Pn		**Pn**	**10 27 23.7**	**-2.1**
CBIJ					Sn		**Sn**	**10 29 28.2**	**0.0**
JCJ	**Chichijima**	**11.07**	**335**		Pn		**Pn**	**10 27 23.7**	**-2.1**
	16nm,0.3s,baz=279,slow=23,SNR=8.4								
JCJ					Sn		**Sn**	**10 29 28.2**	**0.0**
	6.1nm,0.3s,baz=131,slow=23,SNR=4.1								
JAY	**Jayapura**	**20.53**	**199**	P		P	**P**	**10 29 24.3**	**-0.4**
JAY				pmax		pmax			
	comp=Z,19nm,0.7s								
JAY				MLR		MLR			
	comp=Z,636nm,18.6s								
JAY	**Jayapura**	**20.53**	**199**	P		P	**P**	**10 29 24.2**	**-0.4**
	comp=Z,19nm,0.7s,baz=358,slow=5.2,SNR=8.1								
JAY				LR		LR		10 38 07.6	
	comp=Z,636nm,18.6s,baz=4.0,slow=39								
SMPI	**Sarmi**	**20.76**	**205**	P		P	**P**	**10 29 27.3**	**+0.2**
	comp=Z,70nm,1.4s,comp=Z,2μm								
GENI	**Genyem**	**20.77**	**201**	P		P	**P**	**10 29 28.0**	**+0.7**
	comp=Z,125nm,1.5s,comp=Z,3μm								
MJAR	**Matsushiro Arr**	**21.03**	**339**	P		P	**P**	**10 29 29.6**	**-0.2**
	comp=Z,18nm,0.7s,baz=173,slow=11,SNR=37								
MJAR				LR		LR		10 38 16.6	
	comp=Z,440nm,19.3s,baz=145,slow=39								
MAJO	**Matsushiro**	**21.03**	**339**	*e*P		P	**P**	**10 29 30.3**	**+0.4**
MAJO				pmax		pmax			
	comp=Z,485nm,2.2s								
MAJO	**Matsushiro**	**21.03**	**339**	*e*P		P	**P**	**10 29 30.3**	**+0.4**
	comp=Z,485nm,2.2s								
MAT	**Matsushiro**	**21.03**	**339**	P		P	**P**	**10 29 29.3**	**-0.6**
MAT				S		Sn		10 33 27.2	-2.5
JNU	**Nakatsue**	**21.82**	**320**	P		P	**P**	**10 29 38.5**	**0.0**
	comp=Z,4.8nm,0.8s,baz=252,slow=20,SNR=2.7								
JNU				LR		LR		10 37 22.4	
	comp=Z,433nm,18.8s,baz=80,slow=35								
FAKI	**Fak Fak**	**24.83**	**218**	P		P	**P**	**10 30 06.5**	**-1.6**
	comp=Z,35nm,1.3s								
FAKI	**Fak Fak**	**24.83**	**218**	*e*P		P	**P**	**10 30 07.5**	**-0.6**
	comp=Z,53nm,1.3s								
YHNB	**Yeheng**	**25.40**	**292**	*e*P		P	**P**	**10 30 13.0**	**-0.3**
	comp=Z,64nm,0.6s								
SSLB	**Suanglung**	**25.60**	**290**	*e*P		P	**P**	**10 30 15.0**	**-0.2**
	comp=Z,213nm,1.9s								
PMG	**Port Moresby**	**26.30**	**180**	⇓*i*P		P	**P**	**10 30 20.0**	**-1.4**
PMG				pmax		pmax			
	comp=Z,75nm,1.7s								
PMG	**Port Moresby**	**26.30**	**180**	P		P	**P**	**10 30 20.5**	**-0.9**
	comp=Z,25nm,0.6s,baz=351,slow=6.0,SNR=16								
PMG	**Port Moresby**	**26.30**	**180**	*e*P		P	**P**	**10 30 20.9**	**-0.5**
LBMI	**Labuha**	**26.31**	**230**	P		P	**P**	**10 30 22.3**	**+0.7**
	comp=Z,46nm,0.7s								
KSRS	**Korea Array**	**26.56**	**324**	P		P	**P**	**10 30 21.8**	**-1.9**
KSRS								10 33 47.0	
KSRS				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KSRS				MLR		MLR			
	comp=Z,697nm,18.0s								
KSRS	**Korea Array**	**26.56**	**324**	P		P	**P**	**10 30 21.8**	**-1.9**
	comp=Z,4.8nm,0.7s,baz=146,slow=9.5,SNR=13								
KSRS				PcP		**PcP**	**10 33 47.0**	**-0.3**	
	comp=Z,2.5nm,0.9s,baz=138,slow=1.3,SNR=5.2								
KSRS				LR		LR		10 41 35.8	
	comp=Z,697nm,18.0s,baz=125,slow=38								
KSAR	**Wonju Array Be**	**26.58**	**324**	P		P	**P**	**10 30 21.8**	**-2.0**
KSAR								10 33 47.0	
KSAR	**Wonju Array Be**	**26.58**	**324**	P		P	**P**	**10 30 21.8**	**-2.0**
KSAR				PcP		**PcP**	**10 33 47.0**	**-0.3**	
ASAJ	**Asahikawa**	**27.27**	**353**	P		P	**P**	**10 30 30.3**	**+0.4**
ASAJ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
ASAJ	**Asahikawa**	**27.27**	**353**	P		P	**P**	**10 30 30.3**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=210,slow=20,SNR=3.5								
SSE	**Sheshan**	**27.59**	**305**	P		P	**P**	**10 30 33.7**	**+0.8**
SSE				S		S	**S**	**10 35 13.1**	**+1.8**
SSE				sS		sS	**sS**	**10 35 35.4**	**+3.7**
SSE				PMZ					
	comp=Z,42nm,0.7s								
SSE				PMZ					
	comp=Z,150nm,6.0s								
SSE				LN					
	comp=Z,360nm,15.3s								
SSE				LE					
	comp=Z,320nm,15.3s								
SSE				LZ					
	comp=Z,510nm,15.2s								
HNR	**Honiara**	**29.12**	**154**	LR		LR		10 43 23.3	
	comp=Z,609nm,18.2s,baz=323,slow=38								
NJ2	**Nanjing**	**29.79**	**305**	*e*P		P	**P**	**10 30 49.8**	**-2.7**
NJ2				pP		**pP**	**10 31 05.0**	**+0.3**	
NJ2				sP		**sP**	**10 31 08.6**	**-1.6**	
NJ2				S		**S**	**10 35 47.5**	**+1.5**	
NJ2				sS		**sS**	**10 36 07.0**	**+0.6**	
NJ2				pmax		pmax			
	comp=Z,30nm,1.2s								
NJ2				pmax		pmax			
	comp=Z,220nm,9.0s								
NJ2				LR		LR			
	comp=N,890nm,15.9s								
NJ2				LR		LR			
	comp=E,1μm,12.2s								
NJ2				LR		LR			
	comp=Z,7μm,17.0s								
MRSI	**Marisa**	**29.96**	**239**	P		P	**P**	**10 30 53.3**	**-0.9**
	comp=Z,31nm,1.3s								
USRK	**Ussuriysk Ar.**	**30.01**	**338**	P		P	**P**	**10 30 54.1**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=137,slow=9.3,SNR=7.8								
MYLDM	**Lahad Datu**	**30.62**	**251**	⇓P		P	**P**	**10 30 58.3**	**-1.7**
MYLDM	**Lahad Datu**	**30.62**	**251**	*e*P		P	**P**	**10 30 59.2**	**-0.8**
	comp=Z,29nm,1.0s								
MDJ	**Mudanjiang**	**31.28**	**335**	P		P	**P**	**10 31 05.7**	**+0.2**
MDJ				pP		**pP**	**10 31 16.7**	**-0.9**	
MDJ				sP		**sP**	**10 31 21.8**	**-1.3**	
MDJ				PcP		**PcP**	**10 33 58.2**	**-0.8**	
MDJ				S		**S**	**10 36 10.4**	**+1.4**	
MDJ				sS		**sS**	**10 36 28.1**	**-1.3**	
MDJ				PMZ					
	comp=Z,13nm,1.4s								
MDJ				PMZ					
	comp=Z,120nm,5.1s								
MDJ				LN					
	comp=Z,270nm,13.3s								
MDJ				LE					
	comp=Z,230nm,17.6s								
MDJ				LZ					
	comp=Z,390nm,15.8s								
KDM	**Kudat**	**31.46**	**255**	⇑P		P	**P**	**10 31 04.6**	**-2.9**
SDKM	**Sandakan**	**31.61**	**253**	⇑P		P	**P**	**10 31 06.7**	**-2.1**
MPSI	**Mapaga**	**31.73**	**241**	P		P	**P**	**10 31 09.9**	**+0.1**
	comp=Z,16nm,1.6s,comp=Z,546nm								
KKM	**Kota Kinabalu**	**32.35**	**254**	⇑P		P	**P**	**10 31 15.4**	**0.0**
KKM	**Kota Kinabalu**	**32.35**	**254**	*e*P		P	**P**	**10 31 15.6**	**+0.2**
CN2	**Changchun**	**32.47**	**330**	*e*P		P	**P**	**10 31 14.7**	**-1.3**
CN2				*e*S		S	**S**	**10 36 26.9**	**-0.7**
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
CN2				PMZ					
	comp=Z,200nm,6.0s								
CN2				LN					
	comp=Z,400nm,12.0s								
CN2				LE					
	comp=Z,800nm,12.0s								
CN2				LZ					
	comp=Z,300nm,13.0s								
HABR	**Khabarovsk**	**32.91**	**345**	*e*P		P	**P**	**10 31 18.0**	**-1.7**
HABR				*e*PP		**pP**	**10 31 27.3**	**-4.6**	
HABR				*e*SP		sP	10 31 31.6	-5.8	
HABR				*e*			10 32 28.1		
HABR				*e*PPP		PPP	10 32 39.2		
HABR				*e*			10 34 01.2		
HABR				*e*S		S	**10 36 34.8**	**+0.6**	
HABR				*e*SS		**sS**	**10 36 51.1**	**-3.6**	
HABR				*e*SSS		SSS	10 38 51.7		
HABR				*e*			10 41 42.7		
HABR				pmax		pmax			
	comp=Z,65nm,1.3s								
HABR				MLR		MLR			
	comp=Z,558nm,18.0s								
TTSI	**Tana Toraja**	**33.73**	**236**	P		P	**P**	**10 31 27.2**	**-0.1**
	comp=Z,15nm,0.7s,comp=Z,774nm								
SPSI	**Sidrap Palu**	**34.33**	**235**	P		P	**P**	**10 31 32.3**	**-0.2**
	comp=Z,12nm,1.1s								
BNSI	**Bone**	**34.34**	**234**	P		P	**P**	**10 31 32.6**	**0.0**
	comp=Z,39nm,1.6s								
KLR	**Kul'dur**	**34.50**	**342**	*e*P		P		10 31 30.0	-3.6
KLR				pmax		pmax			
	comp=E,42nm,1.8s								
KLR				pmax		pmax			
	comp=Z,70nm,1.8s								
KAPI	**Kappang**	**35.00**	**234**	*e*P		P	**P**	**10 31 37.1**	**-1.2**
BJI	**Beijing**	**35.40**	**317**	P		P	**P**	**10 31 41.8**	**+0.3**
BJI				PP		**PP**	**10 33 02.9**	**+0.5**	
BJI				S		**S**	**10 37 08.7**	**-4.3**	
BJI				ScS		**ScS**	**10 41 57.7**	**+0.4**	
BJI				PMZ					
	comp=Z,11nm,0.5s								
BJI				PMZ					
	comp=Z,120nm,4.8s								
BJI				LN					
	comp=Z,470nm,18.1s								
BJI				LE					
	comp=Z,350nm,14.5s								
BJI				LZ					
	comp=Z,250nm,30.2s								
QIZ	**Qiongzhong**	**35.68**	**279**	P		P	**P**	**10 31 43.8**	**-0.3**
QIZ				S		S	**10 37 20.0**	**+2.2**	
QIZ				sS		**sS**	**10 37 37.7**	**-0.6**	
QIZ				LE					
	comp=Z,230nm,16.4s								
QIZ				LZ					
	comp=Z,370nm,18.8s								
MTKI	**Muara Teweh, K**	**36.65**	**244**	P		P	**P**	**10 31 52.3**	**-0.2**
	comp=Z,62nm,0.5s,comp=Z,10μm								
PETK	**Petropavlovsk-**	**36.88**	**10**	P		P	**P**	**10 31 53.4**	**-0.5**
	comp=Z,10nm,1.1s,baz=213,slow=5.0,SNR=3.8								
PETK				LR		LR		10 49 17.3	
	comp=Z,248nm,18.1s,baz=191,slow=40								
PET	**Petropavlovsk**	**36.97**	**11**	*e*P		P	**P**	**10 31 55.0**	**+0.4**
PET				*e*S		S	**S**	**10 37 40.8**	**+4.2**
PET				*e*SS		SnSn	**10 40 14.6**	**+1.9**	
PET				MLR		MLR			
	comp=Z,700nm,17.0s								
SBUM	**Sibu**	**37.44**	**251**	⇑P		P	**P**	**10 31 58.9**	**-0.3**
SBUM	**Sibu**	**37.44**	**251**	*e*P		P	**P**	**10 31 59.1**	**-0.1**
DLV	**T Lat**	**37.92**	**268**	*e*P		P	**P**	**10 32 04.7**	**+1.2**

comp=Z,160nm,5.8s
CD2 LN
comp=Z,630nm,13.7s
CD2 LE
comp=Z,450nm,15.2s
CD2 LZ
comp=Z,550nm,17.1s
KMI Kunming 42.24 289 P **P** **10 32 40.1 +0.9**
KMI S **S** **10 38 56.6 -0.3**
KMI sS **sS** **10 39 20.3 +2.6**
KMI SS **SS** **10 42 02.5 -3.8**
KMI PMZ
comp=Z,16nm,1.6s
KMI PMZ
comp=Z,130nm,3.7s
KMI LN
comp=Z,250nm,11.7s
KMI LE
comp=Z,360nm,12.2s
KMI LZ
comp=Z,190nm,14.1s
AS31 Alice Springs 42.55 198 *e*P **P** **10 32 41.8 +0.3**
ASAR Alice Springs 42.56 198 P **P** **10 32 40.5 -1.0**
ASAR 10 34 33.4
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR MLR MLR
comp=Z,220nm,18.2s
ASAR Alice Springs 42.56 198 P **P** **10 32 40.5 -1.0**
comp=Z,4.9nm,0.6s,baz=19,slow=8.6,SNR=78
ASAR PcP **PcP** **10 34 33.4 0.0**
comp=Z,2.1nm,0.7s,baz=30,slow=2.5,SNR=4.1
ASAR ScP **ScP** **10 38 23.6 +3.0**
comp=Z,0.6nm,0.9s,baz=354,slow=2.9,SNR=3.6
ASAR LR LR 10 52 43.1
comp=Z,220nm,18.2s,baz=22,slow=40
KHON Khomkaen 42.59 276 P **P** **10 32 44.2 +2.3**
comp=Z,14nm,1.0s
LZH Lanzhou 42.87 305 *e*P **P** **10 32 46.2 +2.1**
LZH pP **pP** **10 32 57.6 +1.0**
LZH sP **sP** **10 33 01.2 -0.8**
LZH *e*S **S** **10 39 09.0 +3.2**
LZH sS **sS** **10 39 30.3 +3.6**
LZH SS SS 10 42 09.0 -9.3
LZH PMZ
comp=Z,38nm,1.0s
LZH PMZ
comp=Z,120nm,4.3s
LZH LN
comp=Z,520nm,14.8s
LZH LE
comp=Z,630nm,14.3s
LZH LZ
comp=Z,810nm,15.8s
PWJI Pagerwojo 43.09 237 P **P** **10 32 44.5 -1.4**
comp=Z,100nm,0.7s
DZM Mont Dzumac 43.15 154 *e*S S 10 38 40.9 -29
comp=Z,656nm,32.1s
DZM *e*LR LR 10 44 29.2
comp=Z,711nm,23.3s
CLNS Chul'man 43.16 342 *e*P **P** **10 32 44.4 -1.6**
CLNS pmax pmax
comp=Z,16nm,1.6s
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS pmax pmax
comp=N,13nm,1.4s
PCJI Pacitan 43.69 238 P **P** **10 32 49.7 -1.1**
comp=N,84nm,0.6s
LOEI Loei 43.92 278 P **P** **10 32 50.4 -2.3**
comp=N,13nm,1.3s
PBKT Sadao Pong 44.32 276 P **P** **10 32 56.8 +1.0**
comp=N,31nm,1.5s,comp=N,1µm
CRAI Chiangrai 44.51 282 P **P** **10 32 55.5 -1.9**
comp=N,10nm,1.1s,comp=N,10µm
UTTA Uttaradit 44.57 278 P **P** **10 32 58.3 +0.5**
comp=N,9.2nm,0.8s,comp=N,71nm
ULN Ulaanbaatar 45.03 322 *e*P **P** **10 33 01.4 +0.2**
ULN *e* 10 34 43.5
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 45.03 322 *e*P **P** **10 33 01.4 +0.2**
comp=Z,4.8nm,0.6s
ULN *e*PcP **PcP** **10 34 43.5 +1.9**
KPJI Karang Pucung 45.06 241 P **P** **10 33 00.4 -1.3**
comp=Z,36nm,1.3s,comp=Z,2µm
LAMP Lampang 45.36 279 P **P** **10 33 06.5 +2.4**
comp=Z,5.1nm,1.2s,comp=Z,102nm
SONM Songino Array 45.40 322 P **P** **10 33 03.8 -0.4**
SONM 10 34 43.3
SONM pmax pmax
comp=Z,9.0nm,0.6s
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM MLR MLR
comp=Z,371nm,18.6s
SONM Songino Array 45.40 322 P **P** **10 33 03.8 -0.4**
comp=Z,8.1nm,0.6s,baz=136,slow=8.9,SNR=52
SONM PcP **PcP** **10 34 43.3 +0.4**
comp=Z,4.3nm,0.9s,baz=144,slow=4.4,SNR=5.2
SONM LR LR 10 52 05.3
comp=Z,371nm,18.6s,baz=116,slow=36
SUKH Sukhothai 45.48 278 P **P** **10 33 05.9 +0.9**
comp=Z,9.1nm,0.8s,comp=Z,96nm
CMAI Chiengmai2 45.78 281 P **P** **10 33 08.2 +0.6**
comp=Z,23nm,1.3s,comp=Z,796nm
UTHA Uthaitani 45.91 275 P **P** **10 33 09.5 +1.0**
comp=Z,11nm,0.8s,comp=Z,86nm
SEY Seymchan 45.96 3 P **P** **10 33 08.9 +0.7**
SEY pmax pmax
comp=Z,2.0nm,0.6s
SEY Seymchan 45.96 3 P **P** **10 33 08.9 +0.7**
comp=Z,1.6nm,0.6s,baz=201,slow=7.7,SNR=7.7
CMMT Chiang Mai 45.98 280 P **P** **10 33 09.6 +0.6**
comp=Z,19nm,1.2s
CHTO Chiang Mai 45.98 280 *e*P **P** **10 33 09.2 +0.2**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 45.98 280 *e*P **P** **10 33 09.2 +0.2**
comp=Z,6.6nm,0.7s
CHTO Chiang Mai 45.98 280 P **P** **10 33 09.6 +0.6**
comp=Z,64nm,1.3s
CMAR Chiang Mai Arr 46.02 279 P **P** **10 33 10.2 +0.9**
CMAR pmax pmax
comp=Z,15nm,0.8s
CMAR Chiang Mai Arr 46.02 279 P **P** **10 33 10.2 +0.9**
comp=Z,15nm,0.8s,baz=70,slow=6.6,SNR=58
CISI Cisompet, Garu 46.11 241 P **P** **10 33 07.9 -2.2**
comp=Z,49nm,0.6s,comp=Z,1µm
CISI Cisompet, Garu 46.11 241 *e*P **P** **10 33 07.7 -2.4**
comp=Z,29nm,0.6s
CISI *e*pP **pP** **10 33 21.1 -1.6**
SRDT SRDT 46.42 274 P **P** **10 33 14.0 +1.5**
comp=Z,56nm,1.8s,comp=Z,15µm
YAK Yakutsk 46.62 349 *e*P **P** **10 33 13.3 -0.1**
YAK *e**PP **pP** **10 33 25.6 -0.4**
YAK *e* 10 34 49.5
YAK *e* 10 35 01.1
YAK *e*S **S** **10 39 54.0 -5.0**
YAK *e**SS **sS** **10 40 19.1 -1.0**
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,14nm,1.3s
YAK smax smax
comp=E,147nm,10.6s
YAK smax smax
comp=N,76nm,11.4s
YAK Yakutsk 46.62 349 P **P** **10 33 14.7 +1.3**
comp=N,34nm,0.6s,baz=210,slow=2.4,SNR=7.9
YAK LR LR 10 53 20.5
comp=N,156nm,19.9s,baz=134,slow=37
YAK Yakutsk 46.62 349 *e*P **P** **10 33 14.7 +1.3**
comp=N,30nm,0.6s
MBWA Marble Bar 46.65 217 *e*P **P** **10 33 13.5 -0.7**
comp=N,11nm,0.6s
GTA Gaotai 46.79 308 *e*P **P** **10 33 15.2 -0.1**
GTA pP **pP** **10 33 28.3 +0.4**
GTA sP **sP** **10 33 33.8 +0.5**

GTA PcP **PcP** **10 34 49.1 +1.1**
GTA PP **PP** **10 35 05.2 -0.6**
GTA S **S** **10 40 02.3 -0.2**
GTA sS **sS** **10 40 23.7 +0.1**
GTA SS **SS** **10 43 22.3 -7.0**
GTA PMZ
comp=N,9.0nm,1.6s
GTA PMZ
comp=N,94nm,4.6s
GTA LN
comp=N,270nm,17.8s
GTA LE
comp=N,450nm,18.3s
GTA LZ
comp=N,590nm,17.8s
KHLT Khaolaem Dam 46.85 274 P **P** **10 33 18.0 +2.1**
comp=N,8.5nm,1.3s
MHMT Maesarieng 47.00 279 P **P** **10 33 18.5 +1.5**
comp=N,25nm,1.0s,comp=N,3µm
IPM Ipoh 47.06 260 *e*P **P** **10 33 17.5 -0.1**
comp=N,36nm,1.2s
KULM Kulim 47.16 261 *e*P **P** **10 33 19.4 +1.1**
comp=N,31nm,0.7s
BOD Bodaibo 47.63 337 *e*P **P** **10 33 20.5 -0.8**
BOD pmax pmax
comp=Z,13nm,1.5s
MDSI Maura Dua 47.71 247 P **P** **10 33 21.3 -1.3**
comp=Z,25nm,1.6s,comp=Z,540nm
SURT Suratani 47.89 267 P **P** **10 33 25.2 +1.3**
comp=Z,21nm,1.3s,comp=Z,266nm
ZAK Zakamensk 48.40 323⇑ *i*P **P** **10 33 26.5 -1.0**
ZAK *e* 10 34 54.5
ZAK pmax pmax
comp=Z,7.0nm,1.3s
IRK Irkutsk 48.74 326 *e*P **P** **10 33 28.8 -1.2**
IRK pmax pmax
comp=Z,23nm,0.8s
TLY Talaya 48.80 325 *e*P **P** **10 33 30.3 -0.2**
TLY *e*S **S** **10 40 30.0 -0.4**
TLY *e* 10 43 18.3
TLY pmax pmax
comp=Z,14nm,1.4s
TLY MLR MLR
comp=Z,193nm,13.0s
TLY Talaya 48.80 325 P **P** **10 33 30.2 -0.4**
comp=Z,4.9nm,0.6s,baz=98,slow=2.3,SNR=7.5
TLY LR LR 10 55 01.9
comp=Z,287nm,18.0s,baz=115,slow=37
KCSI Kotacane, Aceh 50.44 260 P **P** **10 33 43.6 +0.1**
comp=Z,34nm,1.4s,comp=Z,677nm
BBOO Buckleboo 50.75 192 *e*P **P** **10 33 45.8 +0.4**
comp=Z,12nm,0.6s
SHL Shillong 52.06 289⇑ *i*P **P** **10 33 56.5 +0.8**
SHL *e*S **S** **10 41 20.0 +3.3**
BILL Bilibino 52.37 9⇓ *i*P **P** **10 33 58.4 +1.3**
BILL pmax pmax
comp=Z,23nm,1.9s
BILL MLR MLR
comp=Z,165nm,18.0s
BILL Bilibino 52.37 9 *e*P **P** **10 33 58.1 +0.9**
comp=Z,7.9nm,0.8s
LSA Lhasa 52.65 295 *e*P **P** **10 34 01.1 +0.7**
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 52.65 295 *e*P **P** **10 34 01.1 +0.7**
comp=Z,23nm,0.6s
HVS Khovu-Aksy 54.30 321 *i*P **P** **10 34 13.3 +1.7**
HVS pmax pmax
comp=Z,215nm,2.0s
TIXI Tiksi 55.67 353 *ce*P **P** **10 34 20.9 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,1.5s
TIXI Tiksi 55.67 353 *e*P **P** **10 34 21.7 +0.6**
comp=Z,6.0nm,0.6s
TAPN Taplejung 55.72 292 *e*P **P** **10 34 22.4 -0.2**
comp=Z,20nm,0.7s
ODAN Odare 56.03 291 *e*P **P** **10 34 25.1 +0.4**
WMQ Urumqi 56.57 312⇓ *i*P **P** **10 34 28.6 +0.5**
WMQ pP **pP** **10 34 41.0 0.0**
WMQ sP **sP** **10 34 47.0 +0.7**
WMQ PcP **PcP** **10 35 24.0 -0.2**
WMQ PP **PP** **10 36 37.0 +2.8**
WMQ ScP **ScP** **10 39 19.0 -1.1**
WMQ S **S** **10 42 17.0 +0.3**
WMQ ScS **ScS** **10 44 10.0 -3.7**
WMQ PMZ
comp=Z,46nm,1.4s
WMQ PMZ
comp=Z,140nm,5.1s
WMQ LN
comp=Z,690nm,19.2s
WMQ LE
comp=Z,550nm,17.9s
WMQ LZ
comp=Z,720nm,21.2s
RAMN Ramite 56.73 291 *e*P **P** **10 34 29.4 -0.3**
JIRN Jiri 57.05 292 *e*P **P** **10 34 31.8 -0.4**
GUN Gumba 57.31 293 *e*P **P** **10 34 33.5 -0.5**
comp=Z,31nm,0.7s
PKI Pulchoki 57.75 292 *e*P **P** **10 34 36.6 -0.4**
KKN Kakani 57.85 292 *e*P **P** **10 34 36.8 -0.8**
DMN Daman 58.02 292 *e*P **P** **10 34 38.5 -0.3**
comp=Z,20nm,0.6s
GKN Gorkha 58.41 293 *e*P **P** **10 34 40.5 -0.9**
comp=Z,38nm,0.8s
DANN Dangsing 59.16 293 *e*P **P** **10 34 46.6 -0.2**
comp=Z,68nm,0.6s
KOLN Koldanda 59.34 292 *e*P **P** **10 34 47.8 -0.2**
comp=Z,23nm,0.6s
PYUN Piuthan 59.85 293 *e*P **P** **10 34 51.5 0.0**
comp=Z,34nm,0.5s
CHLP Challavanipeta 60.01 282 *e*P **P** **10 34 50.6 -1.8**
ZALV Zalesovo Beam 60.27 323 P **P** **10 34 52.8 -0.8**
ZALV pmax pmax
comp=Z,11nm,0.6s
ZALV MLR MLR
comp=Z,222nm,19.1s
ZALV Zalesovo Beam 60.27 323 P **P** **10 34 52.8 -0.8**
comp=Z,11nm,0.6s,baz=114,slow=9.3,SNR=31
ZALV LR LR 11 01 11.5
comp=Z,222nm,19.1s,baz=68,slow=36
MK31 Makanchi Array 60.73 314 *e*P **P** **10 34 56.6 -0.3**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 60.73 314 P **P** **10 34 56.5 -0.4**
comp=Z,5.3nm,0.5s,baz=89,slow=7.8,SNR=82
MKAR LR LR 11 02 00.3
comp=Z,158nm,20.0s,baz=88,slow=37
NVS Novosibirsk 61.36 324⇑ *i*P **P** **10 34 58.9 -2.1**
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,24nm,1.4s
NVS pmax pmax
comp=Z,34nm,1.4s
PDGK Podgornoye 62.46 310 P **P** **10 35 08.0 -0.6**
PDGK pmax pmax
comp=Z,25nm,0.9s
KURK Kurchatov 63.54 319 P **P** **10 35 14.4 -1.2**
comp=Z,119nm,1.2s,SNR=20
KURK Kurchatov 63.54 319 P **P** **10 35 14.4 -1.2**
KURK pmax pmax
comp=Z,32nm,1.3s
KURK Kurchatov 63.54 319 P **P** **10 35 15.2 -0.4**
KURBB Kurchatov Arra 63.59 318 P **P** **10 35 15.2 -0.7**
comp=Z,17nm,0.6s,baz=94,slow=7.3,SNR=106
ADKI Addanki 64.33 280 *e*P **P** **10 35 22.4 +1.0**
RPR Rampur 64.40 283 *e*P **P** **10 35 22.1 +0.3**
ILAR Eielson Array 64.42 26 P **P** **10 35 19.6 -1.6**
comp=Z,2.3nm,1.0s,baz=257,slow=2.7,SNR=21
ILAR LR LR 11 01 34.0
comp=Z,125nm,20.9s,baz=272,slow=34
PAX Paxson 64.61 28 *e*P **P** **10 35 24.5 +1.9**
PAX pmax pmax
comp=Z,15nm,1.2s
PAX Paxson 64.61 28 *e*P **P** **10 35 24.5 +1.9**
comp=Z,15nm,1.2s
NJS Nagarjunasagar 64.81 281 *e*P **P** **10 35 24.5 -0.1**
ULHL Ulahol 64.83 309 P **P** **10 35 25.9 +1.3**
SNR=9.9
ULHL Ulahol 64.83 309 *i*P **P** **10 35 25.9 +1.3**
SKHT Srikalahasti 65.02 277 *e*P **P** **10 35 26.0 +0.1**
KSH Kashi 65.10 306 P **P** **10 35 29.0 +2.7**
KSH pP **pP** **10 35 42.2 +2.8**
KSH PcP **PcP** **10 36 00.7 +1.9**
KSH PcS 10 40 03.8

KSH S **S** **10 44 08.1 +2.3**
KSH ScS **SKSac** **10 45 16.6 -1.2**
KSH PMZ
comp=Z,100nm,2.0s
KSH PMZ
comp=Z,92nm,5.8s
KSH LN
comp=Z,170nm,10.2s
KSH LE
comp=Z,100nm,5.9s
KSH LZ
comp=Z,240nm,11.3s
TKM2 Tokmak 2 65.30 310 P **P** **10 35 27.7 +0.1**
SNR=17
TKM2 Tokmak 2 65.30 310 P **P** **10 35 27.1 -0.5**
TKM2 pmax pmax
comp=Z,26nm,1.4s
TKM2 Tokmak 2 65.30 310 *e*P **P** **10 35 28.0 +0.3**
comp=Z,26nm,1.3s
HYB Hyderabad 65.36 282 *i*P **P** **10 35 27.0 -1.1**
HYBB Hyderabad (bro 65.36 282 *e*P **P** **10 35 27.8 -0.4**
KZA Kyzart 65.58 309 P **P** **10 35 30.5 +0.8**
SNR=20
KZA Kyzart 65.58 309 *i*P **P** **10 35 30.5 +0.8**
FRU Bishkek 66.03 310⇓ *i*P **P** **10 35 32.0 -0.1**
FRU pmax pmax
comp=Z,72nm,2.0s
USP Ospenovka 66.10 310 P **P** **10 35 31.8 -0.8**
SNR=5.7
USP Ospenovka 66.10 310 *i*P **P** **10 35 31.7 -0.8**
UCH Uchtor 66.12 309 P **P** **10 35 33.8 +0.5**
SNR=26
UCH Uchtor 66.12 309 *i*P **P** **10 35 33.7 +0.5**
AAK Ala-Archa 66.12 310 P **P** **10 35 32.0 -0.9**
comp=Z,50nm,1.6s,SNR=5.1
AAK Ala-Archa 66.12 310 *ce*P **P** **10 35 32.5 -0.4**
AAK pmax pmax
comp=Z,44nm,1.7s
AAK Ala-Archa 66.12 310 P **P** **10 35 32.3 -0.5**
comp=Z,3.1nm,0.8s,baz=87,slow=8.2,SNR=12
EKS2 Erkin-Say 66.65 310 P **P** **10 35 37.4 +1.2**
SNR=5.9
EKS2 Erkin-Say 66.65 310 *e*P **P** **10 35 37.0 +0.8**
EKS2 pmax pmax
comp=Z,37nm,1.7s
EKS2 Erkin-Say 66.65 310 *e*P **P** **10 35 37.0 +0.8**
comp=Z,37nm,1.7s
AML Almayashu 66.73 309 P **P** **10 35 37.2 +0.2**
SNR=13
AML Almayashu 66.73 309 *i*P **P** **10 35 37.2 +0.2**
URV Uravakonda 67.07 279 *e*P **P** **10 35 38.0 -1.2**
MNAS Manas 67.60 309 P **P** **10 35 41.7 -0.5**
MNAS pmax pmax
comp=Z,33nm,1.8s
BVAR Borovoye Array 68.73 321 P **P** **10 35 48.8 -0.2**
comp=Z,20nm,0.6s,baz=96,slow=7.8,SNR=86
BVAR LR LR 11 06 11.0
comp=Z,187nm,20.1s,baz=114,slow=36
BRVK Borovoye 68.80 321 P **P** **10 35 49.9 +0.6**
comp=Z,186nm,0.7s,SNR=9.1
KK31 Karatay Array 69.02 310 P **P** **10 35 49.6 -1.4**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 69.02 310 *e*P **P** **10 35 50.6 -0.4**
KKAR pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 69.02 310 *e*P **P** **10 35 50.6 -0.4**
comp=Z,6.8nm,0.6s
DZET Dzherino 70.69 306 P **P** **10 36 01.2 -0.2**
PPT Papeete 70.99 116 LR LR 11 00 17.9
comp=Z,275nm,19.5s,baz=277,slow=30
PPT2 Papeete2 71.00 116 *e*LR LR 10 57 34.7
comp=Z,560nm,28.0s
KBL Kabul 71.06 301 *e*P **P** **10 36 03.7 -0.2**
KBL pmax pmax
comp=Z,64nm,1.3s
KBL Kabul 71.06 301 *e*P **P** **10 36 03.7 -0.2**
comp=Z,64nm,1.3s
TBI Tubuai 73.64 121 *e*LR LR 10 58 52.2
comp=Z,148nm,27.2s
SVE Sverdlovsk 74.12 325 *e*P **P** **10 36 22.9 +1.6**
SVE pmax pmax
comp=Z,38nm,1.5s
ARU Arti 75.31 325 *d*/*i*P **P** **10 36 29.1 +0.9**
ARU 10 39 14.6
ARU PPP PPP 10 41 01.0
ARU S **S** **10 46 09.2 +5.0**
ARU SS **SS** **10 50 54.8 +0.6**
ARU pmax pmax
comp=Z,59nm,1.7s
ARU MLR MLR
comp=Z,168nm,19.0s
ABKAR Akbulak array 75.61 317 *e*P **P** **10 36 29.4 -0.6**
comp=Z,6.1nm,0.6s
AKTO Aktyubinsk 76.63 319 P **P** **10 36 35.4 -0.5**
comp=Z,2.1nm,0.6s,baz=57,slow=11,SNR=6.9
AKTO LR LR 11 12 04.4
comp=Z,165nm,18.3s,baz=74,slow=37
YKA Yellowknife Ar 78.69 28 P **P** **10 36 46.9 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 78.69 28 P **P** **10 36 46.9 -0.2**
comp=Z,1.5nm,0.6s,baz=283,slow=5.7,SNR=33
YBH Yreka Blue Hor 78.81 50 P **P** **10 36 48.5 +0.2**
YBH pmax pmax
comp=Z,6.0nm,0.6s
YBH Yreka Blue Hor 78.81 50 P **P** **10 36 48.5 +0.2**
comp=Z,5.7nm,0.6s,baz=11,slow=5.2,SNR=11
N02D Trinity Center 78.98 50 P **P** **10 36 49.4 +0.1**
baz=79
GEYT Alibeck 79.13 306 P **P** **10 36 49.8 -0.3**
comp=Z,1.8nm,0.3s,baz=64,slow=3.4,SNR=10
GEYT LR LR 11 16 11.7
comp=Z,131nm,18.0s,baz=75,slow=39
ALE Alert 79.64 4 P **P** **10 36 53.0 +1.0**
comp=Z,96nm,0.5s,SNR=9.1
PRGR Permogore 80.60 332 *e*P **P** **10 36 57.9 +0.4**
PRGR pmax pmax
comp=Z,33nm,0.7s
RES Resolute Bay 80.64 14 *e*P **P** **10 36 58.4 +1.0**
RES pmax pmax
comp=Z,13nm,1.3s
RES Resolute Bay 80.64 14 *e*P **P** **10 36 58.4 +1.0**
comp=Z,13nm,1.3s
NEW Newport 81.06 42 P **P** **10 37 00.5 +0.2**
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW Newport 81.06 42 P **P** **10 37 00.5 +0.2**
comp=Z,3.3nm,0.6s,baz=254,slow=2.5,SNR=7.7
NEW Newport 81.06 42 P **P** **10 37 00.8 +0.5**
baz=81
CMB Columbia Colle 81.43 53 *e*P **P** **10 37 02.2 -0.3**
CMB pmax pmax
comp=Z,5.0nm,0.6s
CMB Columbia Colle 81.43 53 *e*P **P** **10 37 02.2 -0.3**
comp=Z,4.7nm,0.6s
WVOR Wild Horse Val 81.58 48 *e*P **P** **10 37 03.7 +0.4**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 81.58 48 *e*P **P** **10 37 03.7 +0.4**
comp=Z,5.6nm,0.9s
BMO Blue Mountains 81.86 46 *e*P **P** **10 37 05.1 +0.4**
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO Blue Mountains 81.86 46 *e*P **P** **10 37 05.1 +0.4**
comp=Z,6.6nm,0.9s
EDM Edmonton 81.95 37 *e*P **P** **10 37 05.1 +0.2**
EDM Edmonton 81.95 37 *e*P **P** **10 37 05.1 +0.2**
WAKR Walker 82.03 52 *e*P **P** **10 37 06.7 +0.8**
comp=Z,4.6nm,0.7s
BSMT Bassoo Peak 82.68 42 *e*P **P** **10 37 09.9 +0.9**
comp=Z,19nm,1.5s
NVAR Mina Array Bea 82.90 52 P **P** **10 37 11.1 +0.6**
comp=Z,2.8nm,0.5s,baz=276,slow=5.5,SNR=28
TMCR Tamitsa 82.91 335 *e*P **P** **10 37 09.1 -0.5**
TMCR *e* 10 40 22.8
TMCR pmax pmax
comp=Z,68nm,1.1s
VES Vestal, Richgr 83.01 55 P **P** **10 37 10.7 -0.1**
baz=83
JTMT Jette 83.04 42 *e*P **P** **10 37 11.3 +0.5**
comp=Z,3.6nm,1.0s
APA Apatity 83.09 339⇓ *i*P **P** **10 37 10.2 -0.3**
APA MLR MLR
comp=Z,200nm,15.0s
MFID Camas Ranch 83.29 47 *e*P **P** **10 37 12.8 +0.7**

comp=Z,13nm,1.2s
SWMT Swartz Lake 83.29 42 *e*P **P** **10 37 13.0 +0.9**
KEV Kevo 83.97 342 *e*P **P** **10 37 14.9 0.0**
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 83.97 342 *e*p **P** **10 37 14.9 0.0**
comp=Z,7.2nm,0.6s
MPMC Manual Prospec 84.19 54 P **P** **10 37 17.3 +0.2**
baz=84
LRMC Laurel Mtn Rad 84.20 55 P **P** **10 37 17.2 +0.2**
baz=84
HLID Hailey 84.22 46 P **P** **10 37 17.4 +0.3**
baz=84
ELK Elko 84.50 49 P **P** **10 37 19.3 +0.7**
ELK pmax pmax
comp=Z,4.0nm,0.5s
ELK Elko 84.50 49 P **P** **10 37 19.2 +0.7**
comp=Z,3.5nm,0.5s,baz=333,slow=1.9,SNR=15
ARCES ARCESS Array B 84.53 343 P **P** **10 37 18.5 +0.7**
comp=Z,6.1nm,0.6s,baz=59,slow=5.8,SNR=33
ARCES LR LR 11 21 41.7
comp=Z,119nm,19.5s,baz=34,slow=40
FURC Furnace Creek, 84.56 54 P **P** **10 37 19.3 +0.7**
baz=84
LRM Limekiln Ridge 84.84 44 *e*P **P** **10 37 20.6 +0.4**
comp=Z,30nm,0.6s
TPNV Topopah Spring 84.89 53 P **P** **10 37 20.8 +0.3**
baz=85
MCMT McKenzie Canyo 84.89 45 *e*P **P** **10 37 20.9 +0.4**
comp=Z,1.7nm,1.0s
GSC Goldstone, Bar 84.95 55 P **P** **10 37 20.8 0.0**
baz=85
HRY Holter Researc 84.95 43 *e*P **P** **10 37 21.2 +0.6**
comp=Z,7.6nm,0.6s
R11A Troy Canyon, C 84.97 52 P **P** **10 37 21.0 +0.1**
baz=85
MURC Murrieta 85.14 56 P **P** **10 37 22.0 +0.4**
baz=85
BOZ Bozeman (W) 85.44 44 *e*P **P** **10 37 23.4 +0.3**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 85.44 44 *e*P **P** **10 37 23.4 +0.3**
comp=Z,3.6nm,0.8s
TUQ Turquoise Moun 85.59 54 P **P** **10 37 24.1 +0.1**
baz=86
PFO Pinyon Flats O 85.73 56 P **P** **10 37 24.9 +0.1**
baz=86
RKT Rikitea 85.75 116 *e*LR LR 11 04 15.8
comp=Z,339nm,33.5s
EGMT Eagleton 85.82 41 P **P** **10 37 25.3 +0.4**
baz=86
QLMT Earthquake Lak 85.84 44 *e*P **P** **10 37 26.3 +1.1**
comp=Z,0.7nm,0.6s
SHPR Sheep Range 85.86 53 *e*P **P** **10 37 26.1 +0.7**
comp=Z,2.7nm,0.8s
HVU Hansel Valley 85.94 48 *e*P **P** **10 37 26.4 +0.7**
HVU pmax pmax
comp=Z,17nm,1.4s
HVU Hansel Valley 85.94 48 *e*P **P** **10 37 26.4 +0.7**
comp=Z,17nm,1.4s
BELC Belle Mtn. Jos 85.97 56 P **P** **10 37 26.0 +0.1**
baz=86
MONP Monument Peak, 85.97 57 P **P** **10 37 26.0 -0.1**
baz=86
DAG Danmarks Havn 85.99 357 *i* P **P** **10 37 25.1 +0.1**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 85.99 357 *i* P **P** **10 37 25.1 +0.1**
comp=Z,3.2nm,0.8s
GMRC Granite Mounta 86.00 55 P **P** **10 37 26.0 -0.1**
baz=86
A19A Klindworth Far 86.13 40 P **P** **10 37 26.8 +0.5**
baz=86
JOF Joensuu 86.16 336 *e*P **P** **10 37 24.9 -1.1**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 86.16 336 *e*p **P** **10 37 24.9 -1.1**
comp=Z,11nm,0.6s
YMR Madison River 86.21 44 *e*P **P** **10 37 28.4 +1.4**
comp=Z,10.0nm,0.6s
C19A Slack Wire Ran 86.37 41 P **P** **10 37 28.0 +0.5**
baz=86
YNR Norris Junctio 86.39 44 *e*P **P** **10 37 30.6 +2.6**
comp=Z,22nm,1.2s
DUG Dugway, Tooele 86.43 49 *e*P **P** **10 37 28.6 +0.5**
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 86.43 49 P **P** **10 37 28.3 +0.2**
baz=86
DUG Dugway, Tooele 86.43 49 *e*P **P** **10 37 28.6 +0.5**
comp=Z,6.4nm,0.8s
BC3 Big Chuckawall 86.51 56 P **P** **10 37 28.3 -0.3**
baz=86
H17A Grant Village 86.57 45 *e*P **P** **10 37 31.2 +2.4**
comp=Z,9.0nm,1.1s
IRM Iron Mountain 86.59 55 P **P** **10 37 29.1 +0.2**
baz=86
A20A Cobblestone Ra 86.64 40 P **P** **10 37 29.1 +0.3**
baz=87
D19A Cripps Ranch, 86.69 42 P **P** **10 37 29.3 +0.2**
baz=87
E19A Rath Farm, Rou 87.00 42 P **P** **10 37 31.2 +0.5**
baz=87
C20A Veseth Ranch, 87.03 41 P **P** **10 37 31.4 +0.7**
baz=87
F19A Roth Farm, Mol 87.12 43 P **P** **10 37 31.6 +0.3**
baz=87
RLMT Red Lodge 87.18 44 *e*P **P** **10 37 33.3 +1.5**
comp=Z,24nm,1.5s
D20A Manuel Ranch, 87.19 41 P **P** **10 37 32.2 +0.7**
baz=87
A21A Bergtoll Ranch 87.21 39 P **P** **10 37 32.0 +0.4**
baz=87
W13A Hualapai Mount 87.28 54 P **P** **10 37 32.3 -0.1**
baz=87
PDMCI Parker Dam,Lak 87.34 55 P **P** **10 37 32.5 +0.1**
baz=87
DAU Daniels Canyon 87.48 49 *e*P **P** **10 37 34.0 +0.6**
DAU Daniels Canyon 87.48 49 *e*P **P** **10 37 34.0 +0.6**
comp=Z,0.3nm,0.8s
OBN Obninsk 87.50 327 ⇓ *i*P **P** **10 37 32.2 -0.5**
OBN pmax pmax
comp=Z,40nm,1.5s
OBN MLR MLR
comp=Z,176nm,17.0s
H19A Powell 87.53 44 P **P** **10 37 34.4 +1.0**
baz=87
C21A Desert Coulee 87.56 41 P **P** **10 37 33.6 +0.3**
baz=88
FFC Flin Flon 87.61 33 *e*P **P** **10 37 33.3 0.0**
FFC pmax pmax
comp=Z,8.0nm,1.2s
FFC Flin Flon 87.61 33 *e*P **P** **10 37 33.3 0.0**
comp=Z,8.5nm,1.2s
I19A Meeteetse 87.76 45 P **P** **10 37 35.2 +0.7**
baz=88
A22A Carney Farms, 87.82 39 P **P** **10 37 35.0 +0.4**
baz=88
G20A Bridger 87.84 43 P **P** **10 37 35.3 +0.5**
baz=88
PDAR Pinedale Array 87.84 46 P **P** **10 37 34.8 -0.2**
comp=Z,1.2nm,0.5s,baz=225,slow=2.5,SNR=10
PDAR LR LR 11 09 16.9
comp=Z,48nm,21.0s,baz=317,slow=30
J19A Crowheart 88.00 45 P **P** **10 37 36.1 +0.5**
baz=88
U15A North Rim 88.07 53 P **P** **10 37 36.8 +0.5**
baz=88
ZEI Tsey 88.08 314 *e*P **P** **10 37 33.1 -3.0**
ZEI pmax pmax
comp=Z,13nm,1.4s
H20A Greybull 88.25 44 P **P** **10 37 37.4 +0.6**
baz=88
Y14A Wickenburg 88.35 55 P **P** **10 37 38.1 +0.8**
baz=88
I20A Worland 88.37 44 P **P** **10 37 38.1 +0.8**
baz=88
KBZ Khabaz 88.41 315 P **P** **10 37 36.3 -1.0**
comp=Z,6.9nm,1.1s,baz=232,slow=3.0,SNR=7.5
KBZ LR LR 11 22 18.8
comp=Z,104nm,18.1s,baz=58,slow=39
KIV Kislovodsk 88.47 316 ⇓ *i*P **P** **10 37 37.1 -0.6**
KIV pmax pmax
comp=Z,13nm,1.0s
KAF Kangasniemi 88.55 336 *e*P **P** **10 37 36.4 -1.2**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 88.55 336 *e*p **P** **10 37 36.4 -1.2**
comp=Z,4.1nm,0.7s
J20A Shoshoni 88.62 45 P **P** **10 37 38.6 0.0**
baz=88
I21A Big Trails, Te 88.98 44 P **P** **10 37 40.5 +0.2**
baz=89
FINES FINESS Array B 89.02 336 P **P** **10 37 38.7 -1.1**
comp=Z,8.3nm,0.6s,baz=78,slow=4.3,SNR=55
FINES LR LR 11 22 14.1
comp=Z,114nm,18.9s,baz=20,slow=39
WUAZ Wupatki 89.08 53 P **P** **10 37 41.1 +0.3**
baz=89
WUAZ Wupatki 89.08 53 *e*P **P** **10 37 42.0 +1.1**
comp=Z,10nm,0.9s
214A Organ Pipe Nat 89.16 57 *e*P **P** **10 37 41.9 +0.7**
comp=Z,10nm,1.1s
K21A Alcova 89.47 45 P **P** **10 37 42.7 +0.1**
baz=89
D24A Glendive 89.56 40 P **P** **10 37 43.1 +0.3**
baz=90
J22A Midwest 89.68 44 P **P** **10 37 44.2 +0.7**
baz=90
O20A White River Ci 89.73 48 P **P** **10 37 44.0 +0.2**
baz=90
PV01 Paradox Valley 90.24 50 *e*P **P** **10 37 46.7 +0.3**
comp=Z,385nm,0.7s
X18A Snowflake 90.52 54 P **P** **10 37 47.6 -0.1**
baz=90
L23A Garrett 90.72 45 P **P** **10 37 48.8 +0.3**
baz=91
O22A Kremmling 90.92 47 P **P** **10 37 50.0 +0.4**
baz=91
M23A Laramie 90.97 46 P **P** **10 37 50.6 +0.9**
baz=91
RSSD Black Hills 91.01 43 *e*P **P** **10 37 50.5 +0.7**
RSSD pmax pmax
comp=Z,15nm,1.6s
RSSD Black Hills 91.01 43 *e*P **P** **10 37 50.5 +0.7**
comp=Z,15nm,1.6s
N23A Red Feather La 91.05 47 P **P** **10 37 50.4 +0.3**
baz=91
I25A Rochford 91.25 43 P **P** **10 37 51.1 +0.2**
baz=91
S22A 4UR Ranch, Cre 91.66 50 P **P** **10 37 53.7 +0.7**
baz=92
ISCO Idaho Springs 91.72 47 P **P** **10 37 53.3 0.0**
baz=92
E28A Huff 92.04 40 P **P** **10 37 54.3 +0.1**
baz=92
IDID Didziasalis 92.25 331 *e*P **P** **10 37 54.9 -0.1**
IDID AMB AMB 10 37 56.4
comp=Z,9.8nm,0.9s
ISAL Salakas 92.39 331 *e*P **P** **10 37 55.4 -0.2**
ISAL AMB AMB 10 37 57.1
comp=Z,11nm,1.0s
IIGN Ignalina 92.47 331 *e*P **P** **10 37 55.8 -0.2**
IIGN AMB AMB 10 37 57.4
comp=Z,9.1nm,0.8s
SDCO Great Sand Dun 92.63 49 P **P** **10 37 56.6 -0.9**
baz=92
U23A El Rito 92.69 51 P **P** **10 37 57.7 0.0**
baz=93
ANMO Albuquerque 93.03 52 *c e*P **P** **10 37 58.8 -0.5**
ANMO pmax pmax
comp=Z,25nm,1.7s
ULM Lac du Bonnet 93.04 35 P **P** **10 37 57.2 -1.5**
comp=Z,1.7nm,0.9s,baz=14,slow=4.3,SNR=3.2
ULM LR LR 11 26 15.8
comp=Z,121nm,18.1s,baz=314,slow=40
AKASG Malin Array Be 93.54 326 P **P** **10 38 00.5 -0.5**
comp=Z,0.2nm,0.3s,baz=44,slow=4.1,SNR=8.1
AKASG LR LR 11 23 08.2
comp=Z,138nm,18.2s,baz=40,slow=38
RAYN Ar Rayn 93.70 296 *e*P **P** **10 38 01.3 -1.1**
comp=Z,4.1nm,0.8s
NB2 NORSAR Subarra 94.64 340 P **P** **10 38 05.2 -0.7**
comp=Z,2.9nm,0.9s,baz=44,slow=5.1
NOA NORSAR Array B 94.64 340 P **P** **10 38 04.7 -1.2**
comp=Z,0.9nm,0.6s,baz=45,slow=4.4,SNR=4.9
NOA LR LR 11 24 46.7
comp=Z,80nm,21.1s,baz=35,slow=38
BRTR Keskin Array B 96.38 315 P **P** **10 38 13.2 -1.2**
comp=Z,2.8nm,1.0s,baz=85,slow=2.7,SNR=11
BRTR LR LR 11 28 00.8
comp=Z,59nm,18.0s,baz=32,slow=39
TXAR Lajitas Array 97.44 56 LR LR 11 21 14.3
comp=Z,205nm,18.0s,baz=0.0,slow=35
CLL Collm 101.11 333 *e*P **Pdif** **10 38 34.0 -1.2**
CLL pmax pmax
comp=Z,42nm,2.3s
CLL MLR MLR
comp=Z,200nm,18.2s
CLL Collm 101.11 333 *e*Pdif **Pdif** **10 38 34.0 -1.2**
comp=Z,42nm,2.3s
CLL *e* 10 38 58.0
CLL *e*PP **PP** **10 42 47.0 +3.6**
CLL *e*PS **PS** **10 51 48.0 +1.2**
CLL *e*SS SS 10 57 12.0 +2.8
CLL Lm MLR 11 29 00.0
comp=Z,200nm,18.2s
TORD Torodi Ar. Bea 134.71 309 PKP **PKPdf** **10 44 04.5 0.0**
comp=Z,2.5nm,0.7s,baz=19,slow=1.8,SNR=14
DBIC Dimbokro 143.80 308 PKIKP PKPbc 10 44 19.5 +0.7
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 143.80 308 PKP PKPbc 10 44 19.4 +0.7
comp=Z,3.2nm,0.6s,baz=58,slow=3.3,SNR=6.1
KIC Kosan Boka 143.91 308 *e*P PKPbc 10 44 18.9 -0.2
comp=Z,34nm,1.3s
TIC Toumodi 143.94 309 *e*P PKPab 10 44 16.7 -1.9
comp=Z,9.7nm,0.3s
LIC Lamto 144.22 308 *e*P **PKPab** **10 44 19.2 -0.5**
comp=Z,79nm,1.8s
BBTS Babate 144.70 332 PKP PKPbc 10 44 21.9 +0.4
comp=Z,32nm,0.8s,baz=17,slow=2.5,SNR=6.2
LPAZ La Paz 146.03 94 PKP2 **PKPab** **10 44 27.3 +0.2**
LPAZ pmax pmax
comp=Z,6.0nm,0.5s
LPAZ La Paz 146.03 94 PKPbc **PKPab** **10 44 27.3 +0.2**
comp=Z,5.9nm,0.5s,baz=322,slow=0.7,SNR=7.0
PTGA Pitinga 148.59 62 PKPbc **PKPbc** **10 44 32.2 -0.8**
comp=Z,14nm,1.1s,baz=296,slow=1.3,SNR=10

IDC ***02*** *10:38:19.5±0.5, 36.67S×73.27W, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.3/33, mbtmp4.4/16, ML4.1/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/28, Error ellipse: s-maj=20.5km s-min=14.1km az=78.0*
GUC ***02*** *10:38:20.5±0.4, 36.70S×73.61W, h27km±2km, ML4.9*
ISCJB ***02*** *10:38:23.1±1.0, 36.68S±0.04×73.21W±0.07, h31km±7km, mb4.7/57, MS3.8/9, Error ellipse: s-maj=9.4km s-min=6.6km az=30.2*
NEIC ***02*** *10:38:24.1±0.4, 36.74S×73.18W, h29km±2km, mb4.8/40, ML4.9(GUC), Error ellipse: s-maj=6.1km s-min=5.0km az=91.0*
NEIC Felt [IV] at Concepcion and [III] at Angol. Also felt at Los Angeles, Penco, San Antonio, Santiago and Talca.
BJI ***02*** *10:38:41.5, 34.50S×75.50W, h35km, mB5.1/5, Ms5.3/5, Ms7 5.2/4*

ISC 02 10:38:23.4±0.5, 36°68S±0°05×73°33W±0°06, h26km±3km, n401, σ1§08/443, mb4.8/57, MS3.7/9, 145C-126D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
CCSP	**San Pedro de C**	**0.24**	**132**	*i* P		**Pb**	**10**	**38**	**29.4**	**-0.3**
CCSP					AML	AML	10	38	34.8	
	comp=N,175μm,0.5s									
CCSP	**San Pedro de C**	**0.24**	**132**	⇓ *i* P		**Pb**	**10**	**38**	**29.4**	**-0.3**
LNCH	**Linares**	**1.63**	**60**	*i* P		**Pb**	**10**	**38**	**51.5**	**-1.3**
LNCH				*i* S		**Sb**	**10**	**39**	**14.9**	**+2.1**
LNCH	**Linares**	**1.63**	**60**	⇓ *i* P		**Pb**	**10**	**38**	**51.5**	**-1.3**
LNCH				*i* S		**Sb**	**10**	**39**	**14.9**	**+2.1**
TALC	**Talca**	**1.88**	**47**	*e*P		**Pn**	**10**	**38**	**54.3**	**+0.5**
TALC				*i* S		**Sb**	**10**	**39**	**20.6**	**+0.5**
TALC	**Talca**	**1.88**	**47**	*e*P		**Pn**	**10**	**38**	**54.3**	**+0.5**
TALC				*i* S		**Sb**	**10**	**39**	**20.6**	**+0.5**
NICH	**Los Niches**	**2.39**	**46**	*i* P		**Pn**	**10**	**39**	**01.7**	**+0.8**
NICH				*i* S		**Sb**	**10**	**39**	**33.0**	**-1.8**
NICH	**Los Niches**	**2.39**	**46**	*i* P		**Pn**	**10**	**39**	**01.7**	**+0.8**
NICH				*i* S		**Sb**	**10**	**39**	**33.1**	**-1.8**
VLCH	**Valdivia**	**3.12**	**179**	*e*P		**Pn**	**10**	**39**	**09.0**	**-1.8**
VLCH	**Valdivia**	**3.12**	**179**	*e*P		**Pn**	**10**	**39**	**09.0**	**-1.8**
TACH	**Talagante**	**3.60**	**34**	*i* P		**Pn**	**10**	**39**	**17.9**	**+0.4**
TACH	**Talagante**	**3.60**	**34**	*i* P		**Pn**	**10**	**39**	**17.9**	**+0.4**

SAN Santiago 3.90 35 *i* P **Pn** **10 39 22.0 +0.4**
SAN Santiago 3.90 35 *i* P **Pn** **10 39 22.0 +0.4**
PLCA Paso Flores 4.59 153 Pn **Pn** **10 39 32.1 +0.9**
comp=N,2.0nm,0.3s,baz=325,slow=11,SNR=42
PLCA Lg Lg 10 40 44.8
comp=N,14nm,0.3s,baz=64,slow=22,SNR=5.9
PLCA Paso Flores 4.59 153 *e*Pn **Pn** **10 39 32.9 +1.7**
PLCA Lg Lg 10 40 44.8
CFAA Coronel Fontan 6.59 41 Pn **Pn** **10 39 58.1 -0.6**
comp=N,3.3nm,0.3s,baz=212,slow=14,SNR=150
CFAA Sn **Sn** **10 41 14.6 +1.5**
comp=N,1.4nm,0.3s,baz=246,slow=20,SNR=2.4
CFAA LR LR 10 42 49.9
comp=N,73nm,18.1s,baz=223,slow=41
LCO Las Campanas 7.96 17 *e*Pn **Pn** **10 40 16.3 -1.4**
comp=N,36nm,0.4s
TRQA Tornquist 9.14 102 *e*Pn **Pn** **10 40 32.1 -1.5**
comp=N,31nm,1.0s
LVC Limon Verde 14.54 16 *e*Pn **Pn** **10 41 49.5 +1.8**
LVC *e*Sn **Sn** **10 44 28.1 +0.1**
USHA Ushuaia 18.46 171 LR LR 10 49 53.9
comp=N,304nm,18.8s,baz=360,slow=38
LPAZ La Paz 20.83 14 P **P** **10 43 04.5 +0.8**
comp=N,3.7nm,0.5s,baz=188,slow=6.4,SNR=18
LPAZ La Paz 20.83 14 *e*P **P** **10 43 05.2 +1.5**
comp=N,13nm,0.8s
SIV San Ignacio 23.31 31 P **P** **10 43 29.4 0.0**
comp=N,16nm,0.8s,baz=243,slow=10,SNR=18
SIV LR LR 10 54 14.9
comp=N,276nm,19.3s,baz=216,slow=41
NNA Nana 24.79 352 LR LR 10 51 42.1
comp=N,139nm,18.3s,baz=182,slow=32
PMSA Palmer Station 28.67 172 LR LR 10 55 07.0
comp=N,182nm,19.1s,baz=296,slow=35
SAML Samuel 29.11 21 *e*P **P** **10 44 22.0 0.0**
comp=N,5.3nm,0.8s
ATAH Atahualpa 29.77 350 LR LR 10 54 16.6
comp=N,104nm,19.7s,baz=179,slow=32
BDFB Brasilia 30.74 54 P **P** **10 44 35.6 -1.0**
comp=N,3.5nm,0.7s,baz=208,slow=14,SNR=5.8
BDFB LR LR 10 58 05.0
comp=N,276nm,20.0s,baz=183,slow=39
PTGA Pitinga 37.85 22 P **P** **10 45 37.2 -0.9**
comp=N,6.2nm,0.6s,baz=201,slow=9.7,SNR=5.8
VNA3 Neumayer Olymp 47.30 157 P P 10 47 03.2 +9.0
VNA2 Neumayer--Watz 47.97 156 P P 10 47 09.7 +10
baz=280,slow=9.7
SNAA Sanae 49.52 157 *e*P **P** **10 47 10.3 -1.0**
comp=N,7.3nm,1.0s
QSPA South Pole Qui 53.56 180 P **P** **10 47 42.9 +1.2**
comp=N,3.3nm,0.8s,baz=322,slow=2.2,SNR=16
QSPA LR LR 11 10 09.6
comp=N,9.6nm,21.3s,baz=76,slow=36
QSPA South Pole Qui 53.56 180 *e*P **P** **10 47 41.1 -0.6**
APG El Apazote 53.89 339 P P 10 47 40.7 -4.1
comp=N,8.0nm,0.9s,baz=261,slow=23,SNR=8.7
TEIG Tepich 58.34 343 P **P** **10 48 16.3 +0.1**
comp=N,17nm,0.7s,baz=293,slow=0.7,SNR=10.0
034A Hebbronville 67.75 336 ⇑ P **P** **10 49 19.9 +1.3**
baz=68
934A Benavides 68.20 336 ⇑ P **P** **10 49 22.4 +1.0**
baz=69
933A Laredo 68.46 335 ⇑ P **P** **10 49 23.9 +0.9**
baz=69
834A Tilden 68.69 336 ⇑ P **P** **10 49 26.0 +1.5**
baz=69
735A Kenedy 69.13 337 ⇑ P **P** **10 49 28.3 +1.1**
baz=70
833A Chaparral WMA, 69.15 336 ⇓ P **P** **10 49 28.4 +1.0**
baz=70
832A Faith Ranch, C 69.31 335 ⇓ P **P** **10 49 29.0 +0.6**
baz=70
734A La Parita Cree 69.36 336 ⇑ P **P** **10 49 29.8 +1.2**
baz=70
733A Divot King Ran 69.48 336 ⇑ P **P** **10 49 30.8 +1.4**
baz=70
636A Smothers Creek 69.49 338 ⇑ P **P** **10 49 30.7 +1.3**
baz=70
635A Leesville 69.62 337 ⇑ P **P** **10 49 30.8 +0.6**
baz=70
732A Laxson Ranch, 69.72 335 ⇑ P **P** **10 49 31.7 +0.9**
baz=70,SNR=6.5
634A China Grove, S 69.79 337 ⇑ P **P** **10 49 31.9 +0.6**
baz=70
537A Green Hill Far 69.83 339 ⇑ P **P** **10 49 32.8 +1.3**
baz=70
536A Bastrop 70.05 338 ⇑ P **P** **10 49 34.1 +1.3**
baz=70
633A Saathoff Ranch 70.13 336 ⇑ P **P** **10 49 34.5 +1.2**
baz=71
535A Dale 70.15 338 ⇓ P **P** **10 49 34.9 +1.4**
baz=71
GOGA Godfrey 70.37 351 *e*P **P** **10 49 34.9 +0.1**
comp=N,6.2nm,0.8s
GOGA *e*pP **pP** **10 49 42.5 -0.7**
632A Uvalde 70.37 336 ⇑ P **P** **10 49 36.0 +1.1**
baz=71,SNR=5.3
340A Bronson 70.43 341 ⇑ P **P** **10 49 36.8 +1.7**
baz=71
534A Blanco 70.43 337 ⇑ P **P** **10 49 36.4 +1.2**
baz=71
LRAL Lakeview Retre 70.53 348 *e*P **P** **10 49 36.5 +0.9**
comp=N,7.7nm,1.0s
LRAL *e*pP **pP** **10 49 43.7 -0.4**
631A Perdido Creek 70.55 335 ⇓ P **P** **10 49 37.1 +1.1**
baz=71
533A Kerrville 70.65 337 ⇓ P **P** **10 49 37.6 +1.0**
baz=71
338A Crockett 70.75 340 ⇓ P **P** **10 49 39.1 +2.1**
baz=71
435B Jarrell 70.86 338 ⇑ P **P** **10 49 39.2 +1.4**
baz=71
337A Centerville 70.87 340 ⇓ P **P** **10 49 39.8 +2.0**
baz=71
MAW Mawson 70.91 164 LR LR 11 22 17.3
comp=N,130nm,18.0s,baz=75,slow=37
532A Rocksprings 70.98 336 ⇓ P **P** **10 49 39.6 +1.0**
baz=71,SNR=9.8
434A Burnet 71.10 337 ⇓ P **P** **10 49 40.0 +0.7**
baz=72,SNR=8.1
239A Gary 71.15 341 ⇓ P **P** **10 49 41.0 +1.5**
baz=72
336A Riesel 71.21 339 ⇓ P **P** **10 49 41.0 +1.1**
baz=72
531A Rocksprings 71.23 335 ⇓ P **P** **10 49 41.1 +1.0**
baz=72
JCT Junction City 71.28 336 ⇑ P **P** **10 49 41.1 +0.7**
baz=72,SNR=5.1
JCT Junction City 71.28 336 *e*P **P** **10 49 41.4 +1.0**
comp=N,14nm,0.8s
JCT *e*pP **pP** **10 49 48.8 0.0**
335A Moody 71.28 338 ⇓ P **P** **10 49 41.6 +1.3**
baz=72
433A Art 71.30 337 ⇑ P **P** **10 49 41.2 +0.7**
baz=72
530A J-C Ranch, Com 71.49 335 ⇓ P **P** **10 49 42.8 +1.1**
baz=72,SNR=9.9
334A Lometa 71.57 338 ⇑ P **P** **10 49 42.9 +0.8**
baz=72,SNR=11
TXAR Lajitas Array 71.58 332 P **P** **10 49 43.6 +1.2**
comp=N,2.8nm,0.6s,baz=152,slow=8.4,SNR=16
432A Menard 71.64 336 ⇓ P **P** **10 49 43.0 +0.4**
baz=72
431A Sonora 71.73 335 ⇑ P **P** **10 49 43.6 +0.5**
baz=72
529A Stev Forest Ra 71.77 334 ⇑ P **P** **10 49 44.2 +0.8**
baz=72,SNR=6.5
333A Richland Sprin 71.80 337 ⇑ P **P** **10 49 43.8 +0.3**
baz=72,SNR=5.7
KMSC Kings Mountain 71.85 353 *e*P **P** **10 49 43.8 +0.1**
KMSC *e*pP **pP** **10 49 51.7 -0.4**
WHTX Lake Whitney, 71.95 339 ⇑ P **P** **10 49 45.3 +1.0**
baz=72
430A Baggett Ranch, 72.04 335 ⇑ P **P** **10 49 45.2 +0.2**
baz=72,SNR=8.3
137A Heron Place, G 72.04 340 ⇓ P **P** **10 49 46.1 +1.2**
baz=72
332A Millersview 72.09 336 ⇑ P **P** **10 49 45.6 +0.3**
baz=72,SNR=6.2
429A Davenport Ranc 72.11 334 ⇓ P **P** **10 49 45.9 +0.4**
baz=72,SNR=7.3
331A San Angelo 72.24 336 ⇓ P **P** **10 49 46.7 +0.5**
baz=73,SNR=10.0
OXF Oxford 72.40 346 *e*P **P** **10 49 46.8 -0.1**
comp=N,17nm,1.1s
OXF *e*pP **pP** **10 49 54.6 -0.7**
233A Rising Star 72.41 337 ⇑ P **P** **10 49 47.5 +0.4**
baz=73,SNR=6.7

135A	Vickery Place, baz=73	72.47	339	⇓P	P	10 49 48.0 +0.6
232A	Coleman baz=73,SNR=6.0	72.53	337	⇓P	P	10 49 48.2 +0.3
330A	Mertzon baz=73	72.58	335	⇑P	P	10 49 48.7 +0.5
TKL	Tuckaleechee C	72.63	351	eP	P	10 49 48.2 -0.1
TKL				epP	pP	10 49 55.6 -1.1
134A	White-Moore Ra baz=73	72.68	338	⇓P	P	10 49 49.3 +0.6
231A	Bronte baz=73,SNR=5.2	72.79	336	⇓P	P	10 49 49.6 +0.2
329A	Wagon Wheel Ra baz=73,SNR=6.6	72.93	335	⇓P	P	10 49 50.8 +0.5
133A	Hamilton Ranch baz=73	72.97	338	⇓P	P	10 49 51.2 +0.8
230A	Sterling City baz=73	73.00	336	⇑P	P	10 49 51.1 +0.4
Z35A	Perchaven, San baz=74	73.15	339	⇓P	P	10 49 52.4 +0.9
ABTX	Abilene, Hawle baz=74,SNR=6.1	73.21	337	⇓P	P	10 49 52.1 +0.2
ABTX	Abilene, Hawle comp=N,15nm,0.7s	73.21	337	eP	P	10 49 52.6 +0.8
ABTX				epP	pP	10 50 00.4 +0.1
229A	Bryant Ranch, baz=74	73.31	335	⇑P	P	10 49 53.2 +0.6
MIAR	Mount Ida comp=N,2.2nm,0.8s	73.33	343	eP	P	10 49 53.0 +0.5
MIAR				epP	pP	10 50 00.6 -0.4
131A	Roby baz=74	73.49	336	⇑P	P	10 49 54.1 +0.6
Z33A	Whitaker Ranch baz=74,SNR=5.7	73.55	338	⇓P	P	10 49 54.3 +0.5
130A	Snyder baz=74	73.61	336	⇓P	P	10 49 54.7 +0.4
WVT	Waverly comp=N,6.9nm,0.8s	73.69	348	eP	P	10 49 54.4 -0.2
WVT				epP	pP	10 50 02.4 -0.6
228A	UT Block 9, Go baz=74	73.72	334	⇑P	P	10 49 55.6 +0.6
Z32A	Haskell baz=74,SNR=5.8	73.79	337	⇓P	P	10 49 55.7 +0.4
Y34A	Reagan Ranch, baz=74	73.88	339	⇑P	P	10 49 56.3 +0.5
129A	Stewart Farms, baz=74	73.94	335	⇑P	P	10 49 56.5 +0.3
Z31A	Sharp Cattle R baz=74	74.01	337	⇑P	P	10 49 56.9 +0.4
128A	Castleberry Fa baz=75,SNR=7.5	74.14	335	⇓P	P	10 49 57.5 +0.1
Y33A	Hilltop Ranch, baz=75	74.18	338	⇓P	P	10 49 57.9 +0.4
Z30A	Sanderson Ranc baz=75	74.29	336	⇓P	P	10 49 58.6 +0.3
MNTX	Cornudas Mount baz=75,SNR=8.5	74.35	332	⇑P	P	10 49 58.3 -0.3
MNTX	Cornudas Mount comp=N,6.6nm,0.8s	74.35	332	eP	P	10 49 58.5 -0.1
MNTX				epP	pP	10 50 06.2 -0.9
Y32A	R-V Farms, Ver baz=75	74.42	338	⇓P	P	10 49 59.4 +0.5
Z29A	Hungry Hill Ra baz=75	74.46	336	⇓P	P	10 49 59.7 +0.4
X34A	Smith Ranch, M baz=75	74.50	339	⇑P	P	10 50 00.4 +1.0
Y31A	Rekieta Farm, baz=75	74.64	337	⇑P	P	10 50 01.2 +1.0
Z28A	Tucker Farm, M baz=75	74.71	335	⇓P	P	10 50 01.3 +0.5
X32A	Elmer baz=75	74.76	338	⇓P	P	10 50 01.8 +0.9
WMOK	Wichita Mounta comp=N,6.7nm,0.9s	74.91	338	eP	P	10 50 02.0 +0.3
WMOK				epP	pP	10 50 09.6 -0.6
Y29A	Porterfield Fa baz=75	75.00	336	⇑P	P	10 50 02.9 +0.5
W34A	Bridge Creek, baz=76	75.08	339	⇑P	P	10 50 03.2 +0.4
X31A	McDonald Ranch baz=76,SNR=5.7	75.17	338	⇓P	P	10 50 03.6 +0.3
TUL1	Leonard baz=76	75.18	341	⇓P	P	10 50 04.1 +0.8
TUL1	Leonard comp=N,19nm,0.8s	75.18	341	eP	P	10 50 03.7 +0.4
TUL1				epP	pP	10 50 11.3 -0.4
W33A	Caddo, Fort Co baz=76	75.20	339	⇓P	P	10 50 04.4 +1.0
Y28A	McKinney Farm, baz=76	75.23	335	⇓P	P	10 50 04.4 +0.6
X30A	Coker Ranch, T baz=76	75.28	337	⇓P	P	10 50 05.0 +1.1
V35A	Meyer Ranch, C baz=76,SNR=5.1	75.32	340	⇑P	P	10 50 04.3 +0.2
W32A	Sentinel baz=76,SNR=9.1	75.40	338	⇑P	P	10 50 05.4 +0.8
MSTX	Muleshoe baz=76	75.47	335	⇓P	P	10 50 05.8 +0.8
MSTX	Muleshoe comp=N,2.4nm,0.4s	75.47	335	eP	P	10 50 05.7 +0.6
MSTX				epP	pP	10 50 13.2 -0.4
X29A	Tulia baz=76	75.54	336	⇑P	P	10 50 06.5 +1.0
319A	Douglas baz=76	75.61	329	⇓P	P	10 50 06.5 +0.5
W31A	Holland Ranch, baz=76	75.67	338	⇑P	P	10 50 07.1 +0.9
V33A	Lossen Ranch, baz=76	75.78	339	⇓P	P	10 50 08.0 +1.3
V32A	Arapaho baz=76	75.90	339	⇑P	P	10 50 08.7 +1.2
AMTX	Amarillo baz=76	75.94	336	⇓P	P	10 50 08.5 +0.7
AMTX	Amarillo comp=N,23nm,1.0s	75.94	336	eP	P	10 50 08.4 +0.7
AMTX				epP	pP	10 50 16.3 0.0
121A	Cookes Peak, D baz=76	76.02	330	⇑P	P	10 50 09.5 +1.1
U34A	Anderson Ranch baz=77	76.14	340	⇑P	P	10 50 10.5 +1.7
W29A	Amarillo baz=77	76.15	336	⇓P	P	10 50 09.7 +0.8
V31A	Spring Creek L baz=77	76.19	338	⇓P	P	10 50 10.8 +1.7
U32A	Winter Ranch, baz=77	76.50	339	⇑P	P	10 50 12.0 +1.1
LIC	Lamto comp=N,35nm,1.2s	76.62	72	eP	P	10 50 12.2 +0.2
W26A	Owens Ranch, T baz=77	76.82	335	⇓P	P	10 50 13.5 +0.7
TIC	Toumodi comp=N,12nm,0.2s	76.89	71	eP	P	10 50 13.0 -0.6
V28A	Channing baz=77	76.91	336	⇑P	P	10 50 14.6 +1.3
KIC	Kosan Boka comp=N,14nm,0.7s	76.93	72	eP	P	10 50 14.3 +0.5
T33A	Patterson Ranc baz=77	76.94	340	⇓P	P	10 50 14.5 +1.2
DBIC	Dimbokro comp=N,4.7nm,0.7s,baz=198,slow=6.0,SNR=6.4	77.03	71	P	P	10 50 15.2 +0.9
ACSO	Alum Creek Sta comp=N,9.5nm,0.8s	77.05	352	eP	P	10 50 13.3 -0.5
ACSO				epP	pP	10 50 21.3 -1.0
TUC	Tucson comp=N,5.3nm,1.0s	77.06	328	eP	P	10 50 15.9 +1.8
TUC				epP	PcP	10 50 24.1 -0.8
U30A	WK&E Inc. Balk baz=78	77.13	338	⇑P	P	10 50 15.9 +1.4
LPM	Los Pinos Moun	77.15	332	eP	P	10 50 16.9 +2.2
LPM				epP	pP	10 50 24.3 +1.1
W25A	X Bar L Ranch, baz=78,SNR=5.3	77.18	334	⇑P	P	10 50 15.4 +0.6
T32A	Huddler Ranch, baz=78	77.22	339	⇓P	P	10 50 16.3 +1.4
S33A	Kaszmaul Farm, baz=78	77.36	340	⇓P	P	10 50 16.1 +0.5
T31A	Randall Ranch, baz=78	77.37	339	⇑P	P	10 50 17.1 +1.4
V26A	Tequesquite Ra baz=78	77.47	335	⇓P	P	10 50 17.3 +0.9
W24A	Lazy 6 Ranch, baz=78	77.51	334	⇓P	P	10 50 17.9 +1.2
214A	Organ Pipe Nat baz=78	77.64	326	⇓P	P	10 50 18.8 +1.4
ANMO	Albuquerque comp=N,9.5nm,0.9s	77.65	333	eP	P	10 50 18.9 +1.4
ANMO				epP	pP	10 50 26.9 +0.8
S32A	Newby Ranch, P baz=78	77.71	339	⇓P	P	10 50 18.8 +1.2
U27A	Thompson Grove baz=78	77.72	336	⇑P	P	10 50 18.6 +0.8
V25A	Rancho No Teng baz=78,SNR=8.0	77.79	334	⇑P	P	10 50 19.2 +0.9
S31A	Mullinville baz=78	77.80	339	⇑P	P	10 50 19.2 +1.1
T29A	Hugoton baz=78	77.91	337	⇑P	P	10 50 19.8 +1.1
V24A	Rampart Ranch, baz=78	77.92	334	⇓P	P	10 50 20.2 +1.1
U26A	Atchley Ranch, baz=78	78.00	335	⇑P	P	10 50 20.3 +0.8
R33A	Olander Ranch, baz=78	78.02	340	⇓P	P	10 50 19.8 +0.5
S30A	Montezuma baz=78	78.10	338	⇑P	P	10 50 21.0 +1.2
T28A	Walsh baz=79	78.13	337	⇑P	P	10 50 20.5 +0.5
U25A	Circle Dot Ran baz=79,SNR=5.2	78.23	335	⇓P	P	10 50 21.8 +1.1
V23A	Ortiz Mt. (NFS baz=79	78.26	333	⇑P	P	10 50 22.1 +1.1
T27A	Campo baz=79	78.27	336	⇓P	P	10 50 21.9 +1.1
S29A	Ulysses baz=79	78.28	338	⇓P	P	10 50 21.6 +0.8
R32A	Long Quarter, baz=79	78.33	340	⇓P	P	10 50 22.2 +1.2
R31A	Burdett baz=79	78.43	339	⇑P	P	10 50 22.7 +1.1
S28A	Manter baz=79	78.49	337	⇑P	P	10 50 23.3 +1.2
X18A	Snowflake baz=79	78.64	330	⇓P	P	10 50 24.2 +1.2
T26A	Comanche Natio baz=79	78.66	336	⇑P	P	10 50 24.4 +1.4
V22A	San Miguel Ran baz=79,SNR=11	78.68	333	⇓P	P	10 50 25.3 +2.0
113A	Mohawk Valley, baz=79	78.75	326	⇑P	P	10 50 25.0 +1.6
U23A	El Rito baz=79,SNR=5.4	78.79	333	⇓P	P	10 50 25.2 +1.4
T25A	Trinidad baz=79,SNR=7.5	78.90	335	⇑P	P	10 50 25.6 +1.2
T25A	Trinidad comp=N,15nm,0.8s	78.90	335	eP	P	10 50 26.3 +1.9
S26A	Kim baz=80,SNR=7.4	79.02	336	⇑P	P	10 50 26.3 +1.3
R29A	Marienthal baz=80	79.03	338	⇑P	P	10 50 26.4 +1.5
Q31A	Ellis baz=80	79.06	340	⇑P	P	10 50 26.1 +1.1
W18A	Petrified Fore baz=80	79.06	330	⇓P	P	10 50 28.1 +2.8
R28A	Tribune baz=80	79.16	338	⇑P	P	10 50 26.8 +1.1
T24B	San Luis baz=80	79.16	334	⇓P	P	10 50 27.7 +1.7
Q30A	Quinter baz=80	79.27	339	⇓P	P	10 50 27.6 +1.4
T23A	Casias Ranch, baz=80	79.37	334	⇓P	P	10 50 28.5 +1.5
S25A	Robets Cordova baz=80	79.38	335	⇑P	P	10 50 28.2 +1.2
R27A	Eads baz=80	79.41	337	⇑P	P	10 50 28.0 +1.0
P32A	Huiting Farm, baz=80	79.42	340	⇓P	P	10 50 28.4 +1.5
S24A	Houchin Ranch, baz=80,SNR=6.0	79.62	335	⇓P	P	10 50 29.9 +1.4
R26A	Arlington baz=80	79.63	336	⇓P	P	10 50 29.7 +1.5
BOSA	Boshof comp=N,6.1nm,1.1s,baz=193,slow=6.0,SNR=4.4	79.75	118	P	P	10 50 30.2 +0.8
P30A	Selden baz=80	79.80	339	⇑P	P	10 50 30.1 +1.0
SDCO	Great Sand Dun baz=80,SNR=5.6	79.82	335	⇑P	P	10 50 30.5 +1.0
SDCO	Great Sand Dun comp=N,5.4nm,1.0s	79.82	335	eP	P	10 50 30.8 +1.3
SDCO				epP	pP	10 50 38.1 +0.1
O32A	Brockman Farm, baz=80	79.93	341	⇑P	P	10 50 31.4 +1.6
S23A	Nye Farm, Mont baz=80	79.95	334	⇑P	P	10 50 31.3 +1.1
KSCO	Kaye Shedlock' baz=80	80.02	337	⇑P	P	10 50 31.9 +1.5
P29A	Atwood baz=80	80.05	339	⇓P	P	10 50 32.1 +1.6
WUAZ	Wupatki baz=80	80.07	329	⇑P	P	10 50 33.7 +2.9
WUAZ	Wupatki	80.07	329	epP	pP	10 50 40.8 +1.5
R24A	Sanders Place, baz=81	80.12	335	⇑P	P	10 50 32.5 +1.4
Q26A	Hugo baz=81	80.22	337	⇑P	P	10 50 32.7 +1.2
BC3	Big Chuckawall baz=81	80.26	325	⇓P	P	10 50 33.0 +1.2
S22A	4UR Ranch, Cre baz=81	80.28	334	⇑P	P	10 50 33.3 +1.2
S22A	4UR Ranch, Cre	80.28	334	eP	P	10 50 33.4 +1.3
R23A	Moffat baz=81	80.33	335	⇓P	P	10 50 33.8 +1.6
MVCO	Mesa Verde baz=81	80.42	332	⇓P	P	10 50 34.0 +1.3
MVCO	Mesa Verde comp=N,9.9nm,0.8s	80.42	332	eP	P	10 50 34.2 +1.5
MVCO				epP	pP	10 50 41.8 +0.6
IRM	Iron Mountain baz=81	80.54	326	⇑P	P	10 50 34.4 +1.2
PFO	Pinyon Flats O comp=N,3.7nm,0.9s,baz=243,slow=7.2,SNR=3.3	80.68	325	P	P	10 50 35.4 +1.3
PFO				LR	LR	11 16 52.9
PFO	comp=N,111nm,19.0s,baz=190,slow=29 Pinyon Flats O baz=81	80.68	325	⇓P	P	10 50 36.2 +2.1
JFWS	Jewell Farm	80.71	347	eP	P	10 50 33.7 -0.1
P26A	Davis Ranch, A baz=81	80.75	337	⇓P	P	10 50 35.9 +1.6
W13A	Hualapai Mount baz=81	80.77	327	⇑P	P	10 50 36.9 +2.3
Q24A	Divide baz=81	80.79	335	⇑P	P	10 50 36.4 +1.6
Q24A	Divide	80.79	335	eP	P	10 50 36.2 +1.5
BELC	Belle Mtn. Jos baz=81	80.80	325	⇓P	P	10 50 35.4 +0.7
P25A	Willow Gulch B baz=81	80.97	336	⇑P	P	10 50 37.1 +1.6
O27A	Beecher Island baz=82	81.06	338	⇑P	P	10 50 37.4 +1.5
U15A	North Rim baz=82	81.23	329	⇑P	P	10 50 38.9 +1.8
PV01	Paradox Valley comp=N,653nm,0.9s	81.26	333	eP	P	10 50 38.7 +1.6
PV01				epP	pP	10 50 46.7 +1.0
GMRC	Granite Mounta baz=82	81.29	326	⇑P	P	10 50 38.6 +1.3
O26A	Horse Wrangler baz=82	81.36	337	⇑P	P	10 50 39.5 +2.0
SMCO	Snowmass	81.61	334	eP	P	10 50 41.1 +1.9
N27A	Anderson Farm, baz=82	81.64	338	⇓P	P	10 50 40.6 +1.7
ISCO	Idaho Springs baz=82	81.70	335	⇓P	P	10 50 40.6 +1.0
ISCO	Idaho Springs comp=N,2.9nm,0.8s	81.70	335	eP	P	10 50 40.9 +1.3
L30A	Spencer Herefo baz=82	81.89	340	⇓P	P	10 50 41.9 +1.7
P22A	Eagle baz=82	81.91	335	⇓P	P	10 50 42.3 +1.7
TUQ	Turquoise Moun baz=82	81.96	326	⇑P	P	10 50 42.5 +1.7
LBTB	Lobatse comp=N,5.5nm,0.8s	82.13	115	eP	P	10 50 42.1 0.0
LBTB				epP	pP	10 50 50.6 -0.1
O23A	Lake Granby, G baz=83,SNR=5.5	82.17	335	⇑P	P	10 50 43.0 +1.0
L29A	Maesberg Ranch baz=83	82.21	340	⇓P	P	10 50 43.4 +1.5
O22A	Kremmling baz=83,SNR=6.3	82.34	335	⇑P	P	10 50 43.6 +0.7
SHPR	Sheep Range	82.51	327	eP	P	10 50 45.9 +2.2
SHPR				epP	pP	10 50 53.4 +1.1
K30A	Basset baz=83	82.54	341	⇑P	P	10 50 44.9 +1.3
CCUT	Cedar City comp=N,7.8nm,1.0s	82.63	329	eP	P	10 50 46.8 +2.4
CCUT				epP	pP	10 50 54.7 +1.7
ECSD	EROS Data Cent baz=83	82.79	343	⇓P	P	10 50 45.6 +0.8
ECSD	EROS Data Cent comp=N,15nm,0.8s	82.79	343	eP	P	10 50 45.3 +0.5
N23A	Red Feather La baz=83	82.80	336	⇑P	P	10 50 46.7 +1.4
N23A	Red Feather La comp=N,6.2nm,0.9s	82.80	336	eP	P	10 50 47.1 +1.8
N23A				epP	pP	10 50 54.9 +1.1
K29A	Lazy Trails An baz=83	82.81	340	⇓P	P	10 50 46.2 +1.2
SRU	San Rafael Swe comp=N,10nm,0.8s	82.85	332	eP	P	10 50 46.2 +0.8
SRU				epP	pP	10 50 54.4 +0.4
N22A	Wattenberg Ran baz=83	82.88	335	⇑P	P	10 50 47.2 +1.5
O20A	White River Ci baz=83	82.91	334	⇓P	P	10 50 47.2 +1.5
O20A	White River Ci	82.91	334	eP	P	10 50 47.0 +1.3
O20A				epP	pP	10 50 54.5 +0.2
M24A	Cheyenne baz=83	82.95	337	⇓P	P	10 50 47.2 +1.3
MVU	Marysvale	82.98	330	eP	P	10 50 40.9 -5.3
MVU				epP	pP	10 50 55.6 +0.9
K28A	Ten Mile Ranch baz=84	83.05	340	⇑P	P	10 50 48.1 +1.9
FURC	Furnace Creek, baz=84	83.24	326	⇓P	P	10 50 48.7 +1.5
M23A	Laramie baz=84	83.24	336	⇓P	P	10 50 49.1 +1.6
TMUT	Trail Mountain comp=N,7.0nm,0.8s	83.27	331	eP	P	10 50 49.5 +1.7
K27A	Flueckinger Fa baz=84	83.29	339	⇑P	P	10 50 49.2 +1.7
L25A	Engebretsen Ra baz=84	83.31	338	⇑P	P	10 50 50.2 +2.5
ISA	Isabella, Lake baz=84	83.31	324	⇓P	P	10 50 49.3 +1.5
TPNV	Topopah Spring baz=84	83.36	327	⇑P	P	10 50 50.1 +1.9
TPNV	Topopah Spring	83.36	327	epP	pP	10 50 57.8 +1.1
DAC	Darwin (Calif)	83.41	325	eP	P	10 50 50.5 +2.1
J29A	Okreek baz=84	83.41	341	⇑P	P	10 50 49.1 +1.1
M22A	Cedar Creek Ra baz=84	83.47	335	⇑P	P	10 50 51.8 +3.2
I30A	Oacoma baz=84	83.65	341	⇑P	P	10 50 49.7 +0.5
J28A	Allard Ranch, baz=84	83.67	340	⇓P	P	10 50 50.4 +0.9
J27A	Elkhorn Farm, baz=84	83.73	339	⇑P	P	10 50 51.1 +1.3
BRSD	Miller	84.02	342	eP	P	10 50 51.9 +0.8
BRSD				epP	pP	10 50 59.6 -0.1
MPU	Maple Canyon comp=N,13nm,1.0s	84.06	331	eP	P	10 50 53.5 +1.8
MPU				epP	pP	10 51 01.1 +0.9
J26A	Sides Ranch, S baz=84	84.09	339	⇓P	P	10 50 52.7 +1.1
NLU	North Lily Min comp=N,43nm,2.2s	84.18	331	eP	P	10 50 54.4 +2.1
I28A	Midland baz=85	84.19	340	⇑P	P	10 50 53.0 +1.0
R11A	Troy Canyon, C baz=85	84.24	328	⇑P	P	10 50 53.7 +1.1
R11A	Troy Canyon, C	84.24	328	eP	P	10 50 54.7 +2.1
DAU	Daniels Canyon	84.26	332	eP	P	10 50 54.4 +1.6
K23A	Bowen Ranch, D baz=85	84.37	337	⇑P	P	10 50 53.9 +0.9
J25A	Sunshine Ranch baz=85	84.38	338	⇓P	P	10 50 54.2 +1.1
I27A	Quinn baz=85	84.50	340	⇓P	P	10 50 54.5 +0.9
H29A	Onida baz=85	84.52	341	⇑P	P	10 50 58.7 +5.1
K22A	Casper baz=85,SNR=5.1	84.56	336	⇓P	P	10 50 54.8 +0.7
K22A	Casper comp=N,8.9nm,0.8s	84.56	336	eP	P	10 50 54.9 +0.7
K22A				epP	pP	10 51 03.1 +0.4
J24A	Dixon Ranch, L baz=85	84.59	338	⇑P	P	10 50 55.9 +1.8
DUG	Dugway, Tooele baz=85	84.67	331	⇓P	P	10 50 56.1 +1.4
DUG	Dugway, Tooele comp=N,7.7nm,0.9s	84.67	331	eP	P	10 50 56.3 +1.6
DUG				epP	pP	10 51 04.1 +0.9
TPH	Tonopah comp=N,9.2nm,1.0s	84.73	327	eP	P	10 50 57.0 +1.9
TPH				epP	pP	10 51 04.9 +1.2
K21A	Alcova baz=85,SNR=6.3	84.79	336	⇑P	P	10 50 55.8 +0.5
TCUT	Toone Canyon comp=N,5.7nm,0.7s	84.93	332	eP	P	10 50 57.5 +1.4
TCUT				epP	pP	10 51 05.6 +0.9
I25A	Rochford baz=85,SNR=5.6	84.94	338	⇓P	P	10 50 56.8 +0.9
H27A	Howes baz=86	85.02	340	⇓P	P	10 50 56.7 +0.5
I24A	Kuemmerle Ranc baz=86	85.06	338	⇑P	P	10 50 56.6 +0.1
RSSD	Black Hills comp=N,4.7nm,0.8s	85.12	338	eP	P	10 50 57.4 +0.5
RSSD				epP	pP	10 51 05.9 +0.4
J22A	Midwest baz=86	85.23	336	⇑P	P	10 50 57.8 +0.4
H25A	Fruitdale baz=86	85.44	339	⇓P	P	10 50 59.1 +0.8
J21A	Lysite baz=86	85.49	336	⇓P	P	10 50 59.7 +0.9
NVAR	Mina Array Bea comp=N,1.0nm,0.8s,baz=135,slow=7.6,SNR=6.9	85.50	326	P	P	10 50 59.9 +0.9
I22A	9 Mile Ranch, baz=86,SNR=5.1	85.66	337	⇓P	P	10 50 59.7 +0.1
G27A	Dupree baz=86	85.67	340	⇑P	P	10 51 00.0 +0.6
PDAR	Pinedale Array comp=N,2.6nm,1.0s,baz=160,slow=4.8,SNR=13	85.69	334	P	P	10 51 00.2 +0.4
J20A	Shoshoni baz=86	85.70	335	⇑P	P	10 51 01.3 +1.5
G26A	Maurine baz=86,SNR=6.1	85.78	340	⇑P	P	10 50 59.7 -0.3
H24A	Dirks Ranch, A baz=86	85.84	338	⇑P	P	10 51 00.5 +0.1
I21A	Big Trails, Te baz=86	85.85	336	⇓P	P	10 51 00.6 +0.1
G25A	Newell baz=86	85.92	339	⇓P	P	10 51 01.3 +0.6
J19A	Crowheart baz=86	85.96	335	⇓P	P	10 51 02.0 +0.9
HVU	Hansel Valley	86.02	332	eP	P	10 51 01.8 +0.4
HVU				epP	pP	10 51 10.2 +0.2
TORD	Torodi Ar. Bea comp=N,2.0nm,0.9s,baz=225,slow=3.6,SNR=8.4	86.11	71	P	P	10 51 01.2 -1.1
ELK	Elko	86.11	329	eP	P	10 51 03.4 +1.4
F27A	Lemmon baz=87	86.15	340	⇑P	P	10 51 02.5 +0.7
I20A	Worland baz=87	86.25	336	⇑P	P	10 51 03.2 +0.8
H22A	Clearmont baz=87	86.25	337	⇓P	P	10 51 02.6 +0.2
F26A	Lodgepole baz=87	86.31	340	⇓P	P	10 51 02.9 +0.3
E28A	Huff baz=87	86.45	341	⇓P	P	10 51 04.1 +0.9
D30A	Buchanan baz=87	86.47	343	⇓P	P	10 51 04.4 +1.1
H21A	Big Horn, Sher baz=87	86.50	337	⇓P	P	10 51 03.6 -0.1
G23A	Biddle baz=87	86.50	338	⇓P	P	10 51 03.7 +0.1
E27A	Carson baz=87	86.54	341	⇑P	P	10 51 04.2 +0.5
F25A	Bowman baz=87	86.60	339	⇑P	P	10 51 04.4 +0.4
I19A	Meeteetse baz=87	86.62	335	⇓P	P	10 51 04.5 +0.2
REDW	Red Top Meadow comp=N,4.2nm,0.8s	86.67	334	eP	P	10 51 05.5 +0.8
REDW				epP	pP	10 51 13.0 -0.3
H20A	Greybull baz=87	86.68	336	⇑P	P	10 51 04.8 +0.3
G22A	Birney baz=87	86.80	337	⇓P	P	10 51 04.7 -0.3
LOHW	Long Hollow	86.80	334	eP	P	10 51 06.0 +0.8
LOHW				epP	pP	10 51 12.4 -1.5

F24A	**Ekalaka**	**86.81**	**339**	⇑P		**P**	**10 51 05.6**	**+0.5**
	baz=87								
TPAW	**Teton Pass**	**86.82**	**334**	*e*P		**P**	**10 51 06.5**	**+1.0**
	comp=N,11nm,0.9s								
TPAW				*e*pP		**pP**	**10 51 14.2**	**+0.1**
E26A	**Carlson Angus**	**86.82**	**340**	⇓P		**P**	**10 51 05.8**	**+0.7**
	baz=87								
AGMN	**Agassiz Nation**	**86.96**	**345**	⇑P		**P**	**10 51 06.1**	**+0.5**
	baz=87								
C30A	**Mose, Pekin**	**86.97**	**343**	⇑P		**P**	**10 51 06.4**	**+0.7**
	baz=87								
FXWY	**Fox Creek**	**86.97**	**334**	*e*P		**P**	**10 51 07.0**	**+0.8**
	comp=N,3.9nm,0.9s								
FXWY				*e*pP		**pP**	**10 51 14.7**	**-0.1**
F23A	**Volborg**	**86.98**	**338**	⇓P		**P**	**10 51 06.1**	**+0.2**
	baz=87								
I17A	**Pilgrim Ck.**	**87.06**	**334**	⇑P		**P**	**10 51 07.7**	**+1.1**
	baz=88								
E25A	**Miller Ranch,**	**87.11**	**340**	⇑P		**P**	**10 51 06.9**	**+0.4**
	baz=88								
IMW	**Indian Meadow**	**87.17**	**334**	*e*P		**P**	**10 51 08.1**	**+1.0**
	comp=N,8.8nm,1.0s								
H19A	**Powell**	**87.17**	**335**	⇓P		**P**	**10 51 07.0**	**0.0**
	baz=88								
FLWY	**Flagg Ranch**	**87.25**	**334**	*e*P		**P**	**10 51 08.8**	**+1.4**
FLWY				*e*pP		**pP**	**10 51 16.6**	**+0.6**
F22A	**Rosebud**	**87.29**	**338**	⇓P		**P**	**10 51 07.7**	**+0.4**
	baz=88								
D26A	**Manning**	**87.33**	**341**	⇓P		**P**	**10 51 07.8**	**+0.3**
	baz=88,SNR=7.1								
G20A	**Bridger**	**87.41**	**336**	⇓P		**P**	**10 51 08.2**	**+0.2**
	baz=88								
H18A	**Shoshone NF, C**	**87.41**	**335**	⇑P		**P**	**10 51 08.4**	**+0.2**
	baz=88								
E24A	**Baker**	**87.42**	**339**	⇓P		**P**	**10 51 08.3**	**+0.3**
	baz=88								
C28A	**Hausauer Farms**	**87.44**	**342**	⇑P		**P**	**10 51 08.5**	**+0.5**
	baz=88								
B30A	**Myrvik Farm, E**	**87.64**	**344**	⇑P		**P**	**10 51 09.3**	**+0.4**
	baz=88								
E23A	**Ismay**	**87.65**	**339**	⇑P		**P**	**10 51 09.4**	**+0.3**
	baz=88								
D25A	**Fairfield**	**87.68**	**340**	⇑P		**P**	**10 51 09.9**	**+0.7**
	baz=88								
C27A	**Sayler Ranch,**	**87.72**	**341**	⇑P		**P**	**10 51 09.9**	**+0.5**
	baz=88								
E22A	**Miles City**	**87.79**	**338**	⇑P		**P**	**10 51 10.0**	**+0.3**
	baz=88								
YMR	**Madison River**	**87.85**	**334**	*e*P		**P**	**10 51 11.7**	**+1.4**
YMR				*e*pP		**pP**	**10 51 19.8**	**+0.9**
D24A	**Glendive**	**87.93**	**339**	⇑P		**P**	**10 51 11.0**	**+0.6**
	baz=88								
C26A	**Wahner Farm, P**	**87.97**	**341**	⇑P		**P**	**10 51 11.2**	**+0.6**
	baz=88								
A30A	**Hoffart Farm,**	**88.09**	**344**	⇑P		**P**	**10 51 11.3**	**+0.3**
	baz=88								
B28A	**Dugan Ranch, T**	**88.11**	**342**	⇓P		**P**	**10 51 11.9**	**+0.7**
	baz=89								
HLID	**Hailey**	**88.17**	**331**	⇑P		**P**	**10 51 13.1**	**+1.3**
	baz=89								
F19A	**Roth Farm, Mol**	**88.20**	**336**	⇑P		**P**	**10 51 12.0**	**+0.2**
	baz=89								
D23A	**Lindsay**	**88.23**	**339**	⇑P		**P**	**10 51 12.4**	**+0.6**
	baz=89								
A29A	**Manning Farm,**	**88.29**	**343**	⇑P		**P**	**10 51 12.1**	**+0.1**
	baz=89,SNR=8.5								
C24A	**Savage**	**88.33**	**340**	⇓P		**P**	**10 51 13.0**	**+0.7**
	baz=89								
D22A	**Cohagen**	**88.50**	**338**	⇑P		**P**	**10 51 13.8**	**+0.7**
	baz=89								
E20A	**Meyer Farm, Mu**	**88.52**	**337**	⇓P		**P**	**10 51 13.7**	**+0.4**
	baz=89								
MCMT	**McKenzie Canyo**	**88.66**	**333**	*e*P		**P**	**10 51 15.8**	**+1.6**
	comp=N,2.7nm,0.9s								
MCMT				*e*pP		**pP**	**10 51 23.4**	**+0.6**
B25A	**Knox Farm, Ray**	**88.67**	**341**	⇑P		**P**	**10 51 14.6**	**+0.7**
	baz=89								
E19A	**Rath Farm, Rou**	**88.69**	**336**	⇓P		**P**	**10 51 14.3**	**+0.3**
	baz=89								
C23A	**Lambert**	**88.80**	**339**	⇑P		**P**	**10 51 14.8**	**+0.4**
	baz=89								
ULM	**Lac du Bonnet**	**88.82**	**346**	P		**P**	**10 51 14.2**	**-0.2**
	comp=N,3.3nm,0.8s,baz=171,slow=3.9,SNR=7.9								
D20A	**Manuel Ranch,**	**89.04**	**337**	⇑P		**P**	**10 51 15.9**	**+0.2**
	baz=90								
D19A	**Cripps Ranch,**	**89.34**	**337**	⇑P		**P**	**10 51 19.2**	**+2.1**
	baz=90								
B22A	**Reddig Ranch S**	**89.48**	**339**	⇑P		**P**	**10 51 17.8**	**+0.1**
	baz=90								
A20A	**Cobblestone Ra**	**90.57**	**338**	⇓P		**P**	**10 51 23.5**	**+0.7**
	baz=91								
MDT	**Midelt**	**94.31**	**52**	LR		LR	11 36 02.6		
	comp=N,101nm,18.3s,slow=37								
GERES	**GERESS Array B**	**114.78**	**47**	PKP		PKPdf	10 56 59.9	-1.3	
	comp=N,0.3nm,0.5s,baz=180,slow=3.7,SNR=4.4								
WRA	**Warramunga Arr**	**117.91**	**210**	PKP		**PKPdf**	**10 57 07.1**	**-0.9**	
	comp=N,0.2nm,0.5s,baz=157,slow=1.6,SNR=5.0								
BRTR	**Keskin Array B**	**124.03**	**63**	PKP		**PKPdf**	**10 57 18.3**	**-1.0**	
	comp=N,0.8nm,0.6s,baz=174,slow=2.4,SNR=4.6								
AKASG	**Malin Array Be**	**124.76**	**49**	PKP		**PKPdf**	**10 57 18.6**	**-1.5**	
	comp=N,0.1nm,0.2s,baz=270,slow=2.2,SNR=5.8								
AKASG				PP		**PP**	**10 59 07.5**	**-1.0**	
	comp=N,0.6nm,0.4s,baz=256,slow=3.8,SNR=6.3								
ARCES	**ARCESS Array B**	**126.89**	**26**	PKP		**PKPdf**	**10 57 22.5**	**-1.2**	
	comp=N,2.9nm,1.0s,baz=340,slow=1.4,SNR=3.5								
BVAR	**Borovoye Array**	**149.94**	**46**	PKPbc		**PKPbc**	**10 58 11.4**	**+0.7**	
	comp=N,1.7nm,0.5s,baz=304,slow=3.4,SNR=11								
YAK	**Yakutsk**	**150.85**	**338**	PKPbc		**PKPbc**	**10 58 12.5**	**0.0**	
	comp=N,12nm,0.4s,baz=62,slow=0.5,SNR=6.1								
YAK				PKPab		**PKPab**	**10 58 19.4**	**-0.5**	
	comp=N,26nm,0.7s,baz=121,slow=0.5,SNR=7.8								
KKAR	**Karatay Array**	**151.68**	**66**	*e*PKPdf		**PKPdf**	**10 58 08.6**	**-0.3**	
KKAR				*e*PKPbc		**PKPbc**	**10 58 15.0**	**-0.2**	
KKAR				*e*PKPab		**PKPab**	**10 58 23.7**	**-0.4**	
AAK	**Ala-Archa**	**154.62**	**66**	PKPbc		**PKPbc**	**10 58 22.3**	**+0.5**	
	comp=N,1.5nm,0.6s,baz=195,slow=8.7,SNR=4.1								
AAK				PKPab		**PKPab**	**10 58 36.8**	**+0.1**	
	comp=N,4.9nm,0.9s,baz=247,slow=4.5,SNR=6.1								
AAK	**Ala-Archa**	**154.62**	**66**	*e*PKPbc		**PKPbc**	**10 58 22.8**	**+0.9**	
AAK				PKPab		**PKPab**	**10 58 36.8**	**+0.1**	
AAK				*e*PKPab		PKiKP	10 58 37.3	+15	
TKM2	**Tokmak 2**	**155.42**	**66**	*e*PKPdf		**PKPdf**	**10 58 15.6**	**+1.1**	
TKM2				*e*PKPab		**PKPab**	**10 58 40.6**	**+0.5**	
KURBB	**Kurchatov Arra**	**155.51**	**46**	PKP		**PKPdf**	**10 58 13.4**	**-0.6**	
	comp=N,0.9nm,0.9s,baz=292,slow=2.1,SNR=6.1								
KURBB				PKPab		**PKPab**	**10 58 39.8**	**-0.2**	
	comp=N,0.9nm,0.7s,baz=283,slow=4.9,SNR=7.0								
KURK	**Kurchatov**	**155.53**	**46**	PKP		**PKPdf**	**10 58 13.4**	**-0.6**	
KURK				PKPab		**PKPab**	**10 58 39.8**	**-0.2**	
KSH	**Kashi**	**155.74**	**74**	*e*PKP		PKPab	10 58 34.8	-6.7	
KSH				pPKP		pPKPdf	10 58 45.6	+22	
KSH				PKS		PP	11 02 08.0	-11	
KSH				SKS		SKSdf	11 05 34.8	+15	
KSH				PPMZ					
	comp=N,130nm,5.8s								
KSH				LN					
	comp=N,140nm,6.2s								
KSH				LE					
	comp=N,100nm,6.5s								
KSH				LZ					
	comp=N,180nm,5.6s								
ZALV	**Zalesovo Beam**	**157.04**	**34**	PKP		**PKPdf**	**10 58 15.6**	**-0.3**	
	comp=N,1.6nm,0.6s,baz=264,slow=3.0,SNR=7.8								
ZALV				PKPab		**PKPab**	**10 58 46.5**	**+0.1**	
	comp=N,4.2nm,0.9s,baz=300,slow=6.2,SNR=6.2								
MKAR	**Makanchi Array**	**159.27**	**53**	PKP		**PKPdf**	**10 58 18.4**	**-0.6**	
	comp=N,0.7nm,0.8s,baz=225,slow=1.5,SNR=6.6								
MKAR				PKPab		**PKPab**	**10 58 56.5**	**+0.1**	
	comp=N,1.4nm,0.6s,baz=276,slow=5.2,SNR=9.9								
MKAR				PP		**PP**	**11 02 37.3**	**-0.6**	
	comp=N,0.7nm,0.9s,baz=284,slow=5.9,SNR=3.8								
WMQ	**Urumqi**	**163.87**	**58**	*e*PKP		PKPdf	10 58 40.0	+16	
WMQ				pPKP		pPKPdf	10 58 50.0	+17	
WMQ				sPKP			10 58 54.0		
WMQ				PKPab		PKPab	10 59 38.0	+21	
WMQ				PP		PP	11 03 25.0	+22	
WMQ				SKKS			11 10 08.0		
WMQ				PPMZ					
	comp=N,110nm,8.3s								
WMQ				LN					
	comp=N,110nm,24.7s								
WMQ				LE					
	comp=N,98nm,21.6s								
WMQ				LZ					
	comp=N,82nm,16.2s								
SONM	**Songino Array**	**168.85**	**1**	PKPab		**PKPab**	**10 59 38.6**	**+0.2**	
	comp=N,0.2nm,0.4s,baz=330,slow=2.9,SNR=4.7								
NJ2	**Nanjing**	**168.92**	**249**	*e*PKP		PKPdf	10 58 43.7	+16	
CD2	**Chengdu**	**173.75**	**156**	PKP		PKPdf	10 58 46.2	+16	
GTA	**Gaotai**	**173.94**	**61**	*e*PKP		PKPdf	10 58 48.2	+18	
GTA				pPKP		pPKPdf	10 58 58.9	+20	
GTA				sPKP			10 59 03.1		
GTA				PKPab		PKPab	11 00 18.6	+17	
HHC	**Hu-ho-hao-te**	**174.35**	**319**	*e*PKP		PKPdf	10 58 43.3	+13	
HHC				pPKP		pPKPdf	10 58 53.0	+14	
HHC				sPKP			10 58 59.1		
HHC				PKS		PKSdf	11 02 14.3	+12	
HHC				PP		PP	11 04 01.6	+6.4	
HHC				SKS		SKSdf	11 05 39.2	+7.3	
HHC				SKKS		**SKKSac**	**11 10 38.9**	**-1.0**	
HHC				SS		SS	11 25 00.7	-13	
HHC				PPMZ					
	comp=N,230nm,9.3s								
HHC				LN					
	comp=N,270nm,22.2s								
HHC				LE					
	comp=N,270nm,22.1s								
HHC				LZ					
	comp=N,200nm,22.5s								
LZH	**Lanzhou**	**177.64**	**104**	*e*PKP		PKPdf	10 58 46.7	+15	
LZH				pPKP		pPKPdf	10 58 57.8	+17	
LZH				sPKP			10 59 01.2		
LZH				PKPab		PKPab	11 00 38.8	+21	

IDC ***02*** *10:51:12.1±4.5, 36°.29N×70°.89E, h156km±38km, mb3.3/7, mb1 3.4/12, mb1mx3.2/41, mbtmp3.8/12, Error ellipse: s-maj=32.3km s-min=19.9km az=34.0*

ISCJB ***02*** *10:51:15.2±0.5, 36°.54N±0°.04×70°.89E±0°.07, h188km, mb3.5/6, Error ellipse: s-maj=8.2km s-min=4.3km az=154.5*

NNC ***02*** *10:51:20.9±0.9, 36°.95N×70°.83E, h196km±7km, mb2.8, mpv3.9, Error ellipse: s-maj=9.4km s-min=4.6km az=163.0*

ISC 02 10:51:15.6±0.7, 36°.53N±0°.06×70°.92E±0°.07, h188km, n40, σ1s70/48, mb3.5/6, 9C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.81**	**324**	⇓P			**Pn**	**10 52 04.1**	**+1.6**
	24nm,0.3s								
DZET				⇑S			**Sn**	**10 52 38.0**	**-1.1**
	299nm,0.5s								
SFK	**Sufi-Kurgan**	**4.03**	**30**	⇓P			**Pn**	**10 52 19.3**	**+1.9**
	7.7nm,0.4s								
SFK				⇓S			**Sn**	**10 53 05.1**	**-1.0**
	99nm,0.7s								
AML	**Almayashu**	**5.99**	**20**	P			**Pn**	**10 52 44.1**	**+1.2**
	SNR=104								
MNAS	**Manas**	**6.07**	**11**	⇑P			**Pn**	**10 52 44.6**	**+0.9**
	5.4nm,0.4s								
MNAS				⇓S			**Sn**	**10 53 50.9**	**-2.4**
	103nm,0.4s								
UCH	**Uchtor**	**6.33**	**25**	P			**Pn**	**10 52 48.4**	**+1.0**
	SNR=22								
KZA	**Kyzart**	**6.48**	**30**	P			Pn	10 52 52.6	+3.4
	SNR=6.9								
EKS2	**Erkin-Say**	**6.51**	**19**	P			**Pn**	**10 52 50.6**	**+1.3**
	SNR=11								
KK31	**Karatay Array**	**6.57**	**357**	P			**Pn**	**10 52 51.0**	**+0.9**
	5.0nm,0.5s,baz=182,slow=12,SNR=142								
KK31				⇑S			**Sn**	**10 54 00.6**	**-4.2**
	22nm,0.5s,baz=184,slow=21,SNR=28								
AAK	**Ala-Archa**	**6.69**	**23**	⇑P			**Pn**	**10 52 53.0**	**+1.2**
	2.2nm,0.3s								
AAK				⇑S			**Sn**	**10 54 06.9**	**-0.9**
	26nm,0.9s								
AAK	**Ala-Archa**	**6.69**	**23**	P			**Pn**	**10 52 53.3**	**+1.5**
	SNR=9.5								
AAK	**Ala-Archa**	**6.69**	**23**	P			**Pn**	**10 52 53.2**	**+1.4**
	3.4nm,0.3s,baz=160,slow=6.8,SNR=26								
AAK				S			**Sn**	**10 54 07.0**	**-0.9**
	2.1nm,0.3s,baz=84,slow=19,SNR=12								
USP	**Ospenovka**	**7.27**	**21**	P			**Pn**	**10 53 00.2**	**+1.0**
	SNR=7.0								
TKM2	**Tokmak 2**	**7.33**	**28**	⇑P			**Pn**	**10 53 01.2**	**+1.1**
	14nm,0.6s								
TKM2	**Tokmak 2**	**7.33**	**28**	P			**Pn**	**10 53 01.1**	**+1.0**
	SNR=26								
SMLA	**Simla**	**7.48**	**134**	*i* P			**Pn**	**10 53 02.7**	**+0.6**
SMLA				*i* S			**Sn**	**10 54 22.5**	**-3.9**
SMLA				*i* S			**Sn**	**10 54 22.6**	**-3.9**
SMLA				AML		AML		10 54 25.0	
	comp=N,540nm,0.2s								
SMLA				AML		AML		10 54 27.6	
	comp=E,859nm,0.3s								
PYUN	**Piuthan**	**13.21**	**126**	*e*P			**Pn**	**10 54 16.8**	**+0.4**
	comp=E,30nm,0.4s								
MK31	**Makanchi Array**	**13.30**	**36**	⇑P			**Pn**	**10 54 17.5**	**+0.4**
	comp=E,0.6nm,0.6s,baz=226,slow=13,SNR=6.4								
MKAR	**Makhi Array**	**13.30**	**36**	P			**Pn**	**10 54 17.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=228,slow=13,SNR=8.3								
DANN	**Dangsing**	**13.56**	**123**	*e*P			**Pn**	**10 54 21.1**	**+0.3**
	comp=E,7.1nm,0.4s								
GKN	**Gorkha**	**14.37**	**122**	*e*P			**Pn**	**10 54 31.7**	**+0.9**
	comp=E,10.0nm,0.4s								
DMN	**Daman**	**14.94**	**123**	*e*P			**Pn**	**10 54 38.6**	**+0.7**
	comp=E,11nm,0.5s								
AB31	**Akbulak array**	**15.03**	**331**	⇓P			**Pn**	**10 54 37.8**	**-0.6**
	comp=E,1.1nm,0.4s,baz=144,slow=12,SNR=36								
AB31				⇓S			**Sn**	**10 57 20.7**	**-5.5**
	comp=E,2.2nm,0.7s,baz=151,slow=24,SNR=6.0								
KURBB	**Kurchatov Arra**	**15.12**	**19**	⇑P			**Pn**	**10 54 38.6**	**-0.9**
	comp=E,1.0nm,0.6s								
KURBB	**Kurchatov Arra**	**15.12**	**19**	P			**Pn**	**10 54 38.4**	**-1.1**
	comp=E,0.1nm,0.3s,baz=205,slow=10,SNR=8.8								
PKIN	**Phulchoki**	**15.16**	**122**	*e*P			**P**	**10 54 41.6**	**+0.3**
	comp=E,10.0nm,0.4s								
PKI	**Pulchoki**	**15.17**	**122**	*e*P			**P**	**10 54 41.6**	**+0.1**
	comp=E,7.9nm,0.4s								
KURK	**Kurchatov**	**15.22**	**19**	⇓P			**Pn**	**10 54 40.2**	**-0.6**
	comp=E,1.4nm,1.3s								
GUN	**Gumba**	**15.29**	**120**	*e*P			**P**	**10 54 43.8**	**+1.0**
	comp=E,5.6nm,0.3s								
JIRN	**Jiri**	**15.66**	**120**	*e*P			**P**	**10 54 48.0**	**+1.1**
	comp=E,18nm,0.5s								
BVAR	**Borovoye Array**	**16.50**	**359**	P			**Pn**	**10 54 57.8**	**+1.6**
	comp=E,0.5nm,0.3s,baz=161,slow=14,SNR=7.3								
AKTO	**Aktyubinsk**	**16.72**	**330**	⇑P			**Pn**	**10 54 59.7**	**+0.8**
	comp=E,3.8nm,0.6s								
AKTO	**Aktyubinsk**	**16.72**	**330**	P			**Pn**	**10 54 60.0**	**+1.0**
	comp=E,1.0nm,0.3s,baz=138,slow=11,SNR=16								
TAPN	**Taplejung**	**16.92**	**118**	*e*P			**Pn**	**10 55 02.1**	**+0.3**
	comp=E,7.0nm,0.4s								
ZALV	**Zalesovo Beam**	**19.91**	**25**	P			**P**	**10 55 34.0**	**+1.4**
	comp=E,1.5nm,0.4s,baz=222,slow=12,SNR=11								
ARCES	**ARCESS Array B**	**41.09**	**338**	P			**P**	**10 58 42.1**	**+1.6**
	comp=E,4.2nm,1.0s,baz=120,slow=8.9,SNR=6.2								
NOA	**NORSAR Array B**	**44.32**	**323**	P			**P**	**10 59 07.5**	**+0.9**
	comp=E,0.3nm,0.5s,baz=99,slow=7.7,SNR=2.9								
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P			**P**	**11 01 38.9**	**-1.1**
	comp=E,0.2nm,0.4s,baz=59,slow=5.5,SNR=4.6								
YKA	**Yellowknife Ar**	**81.22**	**3**	P			**P**	**11 03 11.5**	**+1.5**
	comp=E,0.3nm,0.4s,baz=352,slow=5.4,SNR=18								
WRA	**Warramunga Arr**	**82.06**	**122**	P			**P**	**11 03 14.5**	**-0.5**
	comp=E,0.4nm,0.3s,baz=140,slow=3.3,SNR=4.7								
ASAR	**Alice Springs**	**84.32**	**125**	P			**P**	**11 03 26.4**	**-0.2**
	comp=E,0.8nm,0.6s,baz=309,slow=5.0,SNR=16								

ISCJB ***02*** *10:55:18.4±0.7, 33°.99S±0°.03×72°.49W±0°.06, h17km, mb4.2/3, MS3.2/1, Error ellipse: s-maj=7.8km s-min=4.6km az=7.7*

IDC ***02*** *10:55:18.0±1.1, 34°.04S×72°.17W, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/29, mbtmp4.0/6, ML3.7/3, MS2.9/3, Ms1 2.9/3, ms1mx2.8/31, Error ellipse: s-maj=36.3km s-min=16.7km az=109.0*

GUC ***02*** *10:55:19.9±0.6, 34°.00S×72°.37W, h47km±7km, ML4.1*

NEIC ***02*** *10:55:22.8±0.7, 33°.97S×72°.34W, h35km, mb4.3/1, Error ellipse: s-maj=17.1km s-min=8.5km az=89.0*

ISC 02 10:55:20.2±0.8, 34°.00S±0°.04×72°.33W±0°.07, h17km, n24, σ0s71/33, mb4.2/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.13**	**31**	*e*P			**Pn**	**10 55 41.0**	**-0.2**
TACH	**Talagante**	**1.21**	**74**	*e*P			**Pn**	**10 55 42.2**	**-0.2**
NICH	**Los Niches**	**1.36**	**138**	*e*P			**Pn**	**10 55 44.0**	**-0.3**
NICH				*e*S			**Sb**	**10 56 02.6**	**+0.4**
SAN	**Santiago**	**1.49**	**69**	*e*P			**Pn**	**10 55 46.5**	**+0.2**
ROCH	**El Roble**	**1.50**	**48**	*e*P			**Pn**	**10 55 47.0**	**+0.4**
ROCH				*e*S			**Sb**	**10 56 07.7**	**+0.9**
TALC	**Talca**	**1.51**	**158**	*e*P			**Pn**	**10 55 46.3**	**-0.2**
TALC				*e*S			**Sb**	**10 56 06.3**	**-0.4**
CLCH	**Cerro Calan**	**1.61**	**69**	*e*P			**Pn**	**10 55 48.6**	**+0.6**
CLCH				*e*S			**Sb**	**10 56 10.2**	**+0.5**
CLCH				AML		AML		10 56 25.1	
	comp=N,2μm,0.6s								
PEL	**Peldehue**	**1.62**	**59**	*e*P			**Pb**	**10 55 49.0**	**-0.7**
PEL				*e*S			**Sb**	**10 56 10.1**	**+0.3**
PEL				*e*S			**Sg**	**10 56 10.8**	**-1.6**
PEL				AML		AML		10 56 20.1	
	comp=E,7μm,0.6s								
SJCH	**San Jose de Ma**	**1.69**	**78**	*e*P			**Pn**	**10 55 48.7**	**-0.3**
SJCH				*e*S			**Sn**	**10 56 10.7**	**+0.5**
LNCH	**Linares**	**1.94**	**162**	*i* P			**Pn**	**10 55 52.5**	**0.0**
LNCH				*i* S			**Sn**	**10 56 17.2**	**+0.7**
CFAA	**Coronel Fontan**	**4.19**	**56**	Pn			**Pn**	**10 56 24.1**	**+0.6**
	comp=E,0.9nm,0.3s,baz=231,slow=12,SNR=23								
CFAA				Lg			Lg	10 57 28.2	
	comp=E,1.9nm,0.3s,baz=13,slow=17,SNR=8.0								
CFAA				LR			LR	10 58 21.7	
	comp=E,25nm,18.5s,baz=239,slow=45								
LCO	**Las Campanas**	**5.16**	**16**	*e*Pn			**Pn**	**10 56 36.6**	**-0.4**
	comp=E,21nm,0.6s								
PLCA	**Paso Flores**	**6.87**	**169**	Pn			**Pn**	**10 57 00.6**	**+0.3**
	comp=E,0.7nm,0.3s,baz=346,slow=10,SNR=20								
PLCA				Lg			Lg	10 58 53.7	
	comp=E,0.4nm,0.3s,baz=83,slow=23,SNR=3.6								
PLCA				LR			LR	10 59 44.1	
	comp=E,203nm,20.1s,baz=282,slow=39								
TRQA	**Tornquist**	**9.31**	**119**	*e*Pn			**Pn**	**10 57 36.0**	**+2.3**
LPAZ	**La Paz**	**18.04**	**13**	P			**P**	**10 59 31.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=205,slow=7.5,SNR=6.7								
SIV	**San Ignacio**	**20.60**	**32**	P			**P**	**10 59 57.9**	**-0.7**
	comp=E,2.3nm,0.8s,baz=205,slow=10,SNR=7.2								
SIV				LR			LR	11 09 31.4	
	comp=E,101nm,21.0s,baz=210,slow=42								
OTAV	**Otavalo**	**34.53**	**349**	*e*P			**P**	**11 02 08.7**	**+0.3**
QSPA	**South Pole Qui**	**56.24**	**180**	P			**P**	**11 04 59.6**	**+0.2**
	comp=E,1.7nm,0.9s,baz=289,slow=1.2,SNR=6.3								
QSPA	**South Pole Qui**	**56.24**	**180**	*e*P			**P**	**11 04 59.5**	**+0.2**
	comp=E,2.8nm,1.0s								
BOSA	**Boshof**	**80.29**	**118**	P			**P**	**11 07 29.7**	**-0.9**
	comp=E,2.3nm,0.8s,baz=12,slow=3.8,SNR=3.7								
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P			**P**	**11 07 51.9**	**-0.4**
	comp=E,1.8nm,0.9s,baz=282,slow=6.8,SNR=9.6								
AAK	**Ala-Archa**	**152.72**	**62**	PKPbc			**PKPbc**	**11 15 16.9**	**+0.8**
	comp=E,1.7nm,0.4s,baz=209,slow=3.4,SNR=5.4								
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc			**PKPbc**	**11 15 19.4**	**+0.4**
	comp=E,2.1nm,0.6s,baz=303,slow=3.1,SNR=9.5								
ZALV				PKPab			**PKPab**	**11 15 33.2**	**0.0**
	comp=E,0.4nm,0.4s,baz=316,slow=6.2,SNR=4.1								
MKAR	**Makanchi Array**	**156.94**	**49**	PKPab			**PKPab**	**11 15 44.6**	**0.0**
	comp=E,0.6nm,0.7s,baz=306,slow=3.2,SNR=7.6								

IDC 02 11:02:20.3±2.1, 53°.68N×86°.82E, h0km, mb1 3.0/3, mb1mx2.9/31, mbtmp3.0/3, ML2.5/2, Error ellipse: s-maj=20.1km s-min=13.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**284**	*i*				11 11 00.0	
	baz=100,slow=334,SNR=4.2								
ZALV	**Zalesovo Beam**	**1.22**	**284**	Pg			Pg	11 02 42.3	-1.3
	1.3nm,0.3s,baz=102,slow=16,SNR=16								
ZALV				Lg			Lg	11 03 00.8	
	1.6nm,0.3s,baz=106,slow=27,SNR=6.4								
KURBB	**Kurchatov Arra**	**5.95**	**242**	Pn			Pn	11 03 50.3	+0.8
	0.1nm,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.16**	**347**	P	**Pg**	**12 12 55.4**	**-1.3**
	baz=350						
EHP				S	**Sg**	**12 12 58.3**	**-1.0**
	baz=350						
NACB	**Ninganchiao**	**0.17**	**278**	*e*Pn	**Pg**	**12 12 54.6**	**-2.1**
NACB				*e*Sn	**Sg**	**12 12 58.6**	**-1.0**
TWD	**Chiawan**	**0.18**	**247**	⇓*i*P	**Pg**	**12 12 55.1**	**-1.7**
	baz=258						
TWD				*e*S	**Sg**	**12 12 58.9**	**-0.9**
	baz=258						
HWA	**Hwalien**	**0.24**	**223**	P	**Pg**	**12 12 56.9**	**-0.8**
	baz=238						
ENA	**Nanau**	**0.28**	**353**	⇑*i*P	**Pg**	**12 12 57.0**	**-1.5**
	baz=353						
ENA				S	**Sg**	**12 13 01.1**	**-1.4**
	baz=353						
ESF	**Shoufeng Towns**	**0.37**	**222**	*e*P	**Pg**	**12 12 59.6**	**-0.5**
	baz=239						
TWC	**Suao**	**0.46**	**8**	⇑*i*P	**Pg**	**12 13 00.5**	**-1.2**
	baz=1.0						
TWC				S	**Sg**	**12 13 07.3**	**-0.6**
	baz=1.0						
ESL	**Shilin**	**0.46**	**223**	⇓*i*P	**Pg**	**12 13 00.5**	**-1.3**
	baz=242						
NNS	**Nan Shan**	**0.47**	**308**	⇓*i*P	**Pg**	**12 13 00.8**	**-1.1**
	baz=310						
NNS				*i* S	**Sg**	**12 13 07.1**	**-1.2**
	baz=310						
WHF	**Hehuan Shan**	**0.47**	**269**	⇓*i*P	**Pg**	**12 13 00.7**	**-1.3**
	baz=273						
WHF				*e*S	**Sg**	**12 13 07.8**	**-0.6**
	baz=273						
TEGC	**Jichi Village**	**0.49**	**207**	*e*P	**Pb**	**12 13 03.2**	**+0.4**
	baz=207						
ENTT	**Nioudou**	**0.52**	**338**	⇑*i*P	**Pg**	**12 13 01.8**	**-1.1**
	baz=339						
ENTT				*e*S	**Sg**	**12 13 09.3**	**-0.6**
	baz=339						
TWT	**Tachien**	**0.56**	**281**	⇓*i*P	**Pg**	**12 13 02.9**	**-0.7**
	baz=282						
TWT				S	**Sg**	**12 13 10.8**	**-0.3**
	baz=282						
ILA	**Ilan**	**0.61**	**357**	*e*P	**Pg**	**12 13 03.7**	**-0.8**
	baz=350						
ILA				*e*S	**Sn**	**12 13 14.8**	**-1.3**
	baz=350						
YHNB	**Yeheng**	**0.63**	**325**	*e*Pn	**Pg**	**12 13 04.0**	**-0.9**
YHNB				*e*Sn	**Sn**	**12 13 15.9**	**-0.9**
NSK	**Sanguang**	**0.65**	**324**	⇑*i*P	**Pg**	**12 13 04.4**	**-0.9**
	baz=325						
NSK				S	**Sg**	**12 13 13.1**	**-0.7**
	baz=325						
WDT	**Danda**	**0.71**	**236**	*e*P	**Pg**	**12 13 05.2**	**-1.3**
	baz=250						
WDT				*e*S	**Sg**	**12 13 16.5**	**+0.6**
	baz=250						
EHY	**Hungye**	**0.77**	**213**	⇓*i*P	**Pg**	**12 13 06.3**	**-1.1**
	baz=215						
SSLB	**Suanglung**	**0.84**	**245**	*e*Pn	**Pb**	**12 13 07.4**	**-1.4**
SSLB				*e*Sn	**Sn**	**12 13 21.0**	**-0.8**
TWA	**Mucha**	**0.84**	**348**	⇑*i*P	**Pb**	**12 13 08.2**	**-0.7**
	baz=347						
TWA				S	**Sg**	**12 13 20.2**	**+0.2**
	baz=347						
SMLT	**Sun Moon Lake**	**0.85**	**252**	⇓*i*P	**Pb**	**12 13 08.0**	**-0.9**
	baz=262						
NSTT	**Nanjuang**	**0.86**	**304**	⇓*i*P	**Pb**	**12 13 08.7**	**-0.4**
	baz=306						
NSTT				*e*S	**Sb**	**12 13 19.8**	**-0.5**
	baz=306						
TATO	**Taipei**	**0.86**	**342**	*e*Pn	**Pb**	**12 13 08.3**	**-0.8**
TATO				*e*Sn	**Sg**	**12 13 21.4**	**+0.8**
TWB1	**Santiao Chiao**	**0.87**	**12**	P	**Pb**	**12 13 08.1**	**-1.2**
	baz=4.0						
YULB	**Yu-li**	**0.88**	**210**	*e*Pn	**Pb**	**12 13 08.1**	**-1.2**
YULB				*e*Sn	**Sn**	**12 13 23.6**	**+0.9**
TYC	**Yuchr**	**0.88**	**254**	⇓*i*P	**Pb**	**12 13 08.4**	**-1.0**
	baz=258						
TYC				*e*S	**Sb**	**12 13 20.5**	**-0.5**
	baz=258						
TWF1	**Yuli**	**0.91**	**209**	*e*P	**Pb**	**12 13 08.4**	**-1.5**
	baz=226						
TAP1	**Taipei**	**0.91**	**345**	*e*P	**Pb**	**12 13 09.6**	**-0.4**
	baz=344						
TAP1				*e*S	**Sb**	**12 13 21.5**	**-0.4**
	baz=344						
NWF	**Wu-fen Shan**	**0.92**	**0**	⇑*i*P	**Pb**	**12 13 09.5**	**-0.6**
	baz=359						
TAP	**Taipei**	**0.92**	**344**	*e*P	**Pb**	**12 13 09.6**	**-0.5**
	baz=344						
TAP				*e*S	**Sb**	**12 13 21.6**	**-0.5**
	baz=344						
TWQ1	**Liyutan**	**0.94**	**282**	⇓*i*P	**Pg**	**12 13 10.7**	**0.0**
	baz=287						
NSY	**Sanyi**	**0.97**	**286**	P	**Pg**	**12 13 11.3**	**+0.1**
	baz=289						
NSY				*e*S	**Sn**	**12 13 26.6**	**+1.6**
	baz=289						
NCU	**National Centr**	**0.98**	**327**	*e*P	**Pg**	**12 13 11.4**	**-0.1**
	baz=327						
NCU				*e*S	**Sn**	**12 13 26.4**	**+1.2**
	baz=327						
HSN	**Hsinchu**	**0.98**	**311**	*e*P	**Pg**	**12 13 11.6**	**+0.1**
	baz=316						
HSN				*e*S	**Sn**	**12 13 25.4**	**+0.1**
	baz=316						
TWS1	**Kuangyinshan**	**1.00**	**341**	*e*P	**Pb**	**12 13 11.5**	**0.0**
	baz=341						
TWS1				*e*S	**Sn**	**12 13 25.8**	**0.0**
	baz=341						
YUS	**Yu-Shan**	**1.00**	**229**	P	**Pb**	**12 13 11.2**	**-0.6**
	baz=234						
YUS				*e*S	**Sg**	**12 13 26.1**	**+0.8**
	baz=234						
TCU	**Taichung**	**1.01**	**270**	*i* P	**Pn**	**12 13 12.6**	**+0.6**
	baz=273						
TCU				S	**Sn**	**12 13 26.2**	**+0.3**
	baz=273						
WNT	**Mingjian**	**1.04**	**255**	⇑*i*P	**Pg**	**12 13 13.0**	**+0.4**
	baz=259						
WNT				*e*S	**Sn**	**12 13 27.2**	**+0.5**
	baz=259						
ALS	**Alishan**	**1.10**	**235**	*e*P	**Pb**	**12 13 12.4**	**-1.0**
	baz=242						
JYNG	**Yonagunijimaku**	**1.10**	**74**	P	**Pb**	**12 13 11.5**	**-1.8**
CHKT	**Chengkung**	**1.11**	**200**	*e*P	**Pb**	**12 13 12.0**	**-1.4**
	baz=203						
CHKT				*e*S	**Sg**	**12 13 29.9**	**+1.3**
	baz=203						
TWY	**Chenhua**	**1.13**	**352**	*e*P	**Pb**	**12 13 13.5**	**-0.2**
	baz=352						
CHN5	**Tsauling**	**1.15**	**242**	⇓P	**Pb**	**12 13 14.4**	**+0.3**
	baz=247						
CHN5				*e*S	**Sg**	**12 13 31.7**	**+2.0**
	baz=247						
YOJ	**Yonaguni jima**	**1.17**	**74**	P	**Pn**	**12 13 13.8**	**-0.4**
YOJ				S	**Sg**	**12 13 36.0**	**+5.8**
YOJ	**Yonaguni jima**	**1.17**	**74**	P	**Pn**	**12 13 14.0**	**-0.2**
	baz=60						
YOJ				*e*S	**Sg**	**12 13 33.3**	**+3.1**
	baz=60						
YOJ	**Yonaguni jima**	**1.17**	**74**	*e*Pn	**Pn**	**12 13 14.1**	**0.0**
YOJ				*e*Sn	**Sb**	**12 13 28.9**	**-0.3**
ELDTW	**Lidau**	**1.19**	**216**	*e*P	**Pn**	**12 13 13.2**	**-1.4**
	baz=201						
WGK	**Gukeng**	**1.21**	**248**	*e*P	**Pb**	**12 13 15.1**	**+0.1**
	baz=257						
CHN2	**Minshiung**	**1.34**	**243**	*e*P	**Pb**	**12 13 17.5**	**+0.2**
	baz=254						
CHN4	**Tsaushan**	**1.35**	**234**	⇓*i*P	**Pg**	**12 13 18.0**	**-0.5**
	baz=228						
CHN4				*e*S	**Sg**	**12 13 38.3**	**+2.3**
	baz=228						
TPUB	**Ta-pu**	**1.35**	**231**	*e*Pn	**Pn**	**12 13 15.8**	**-1.0**
TPUB				*e*Sn	**Sn**	**12 13 31.1**	**-3.4**
STYT	**Tauyuan**	**1.36**	**224**	⇓*i*P	**Pn**	**12 13 17.1**	**+0.1**
	baz=229						
STYT				*e*S	**Sg**	**12 13 37.0**	**+0.6**
	baz=229						
WTP	**Ta-pu**	**1.40**	**230**	P	**Pb**	**12 13 18.1**	**-0.2**
	baz=236						
WTP				*e*S	**Sg**	**12 13 38.5**	**+0.8**
	baz=236						
WTCT	**Ta-ch'eng**	**1.40**	**259**	*e*P	**Pb**	**12 13 18.0**	**-0.3**
	baz=264						
WTCT				*e*S	**Sg**	**12 13 38.2**	**+0.5**
	baz=264						
CHY	**Chiayi**	**1.40**	**243**	P	**Pg**	**12 13 18.9**	**-0.5**
	baz=248						
CHY				*e*S	**Sg**	**12 13 38.0**	**+0.2**
	baz=248						
TWG	**Pinlang**	**1.48**	**206**	*e*P	**Pn**	**12 13 16.3**	**-2.2**
	baz=207						
TWG	**Pinlang**	**1.48**	**206**	*e*Pn	**Pn**	**12 13 16.2**	**-2.2**
TWG				*e*Sn	Sn	12 13 29.7	-7.8
TWK	**Hsinying**	**1.48**	**234**	P	**Pb**	**12 13 19.8**	**+0.2**
	baz=240						
TWK				*e*S	**Sg**	**12 13 41.4**	**+1.3**
	baz=240						
PCYT	**Pengchaiyu**	**1.50**	**10**	*e*P	**Pn**	**12 13 19.2**	**+0.5**
	baz=7.0						
CHN1	**Nanshi**	**1.50**	**230**	P	**Pb**	**12 13 20.1**	**+0.1**
	baz=236						
CHN1				*e*S	**Sg**	**12 13 42.4**	**+1.6**
	baz=236						
TTN	**Taitung**	**1.51**	**203**	*e*P	**Pn**	**12 13 17.8**	**-1.1**
	baz=204						
WSF	**Szhu**	**1.52**	**251**	*e*P	**Pb**	**12 13 20.2**	**-0.1**
	baz=256						
WSF				*e*S	**Sg**	**12 13 43.1**	**+1.8**
	baz=256						
SGST	**Jiashian**	**1.53**	**226**	P	**Pb**	**12 13 20.8**	**+0.3**
	baz=232						
SGST				*e*S	**Sg**	**12 13 42.5**	**+0.7**
	baz=232						
CHN8	**Yiju**	**1.65**	**241**	*e*P	**Pn**	**12 13 21.6**	**+0.8**
	baz=253						
CHN3	**Shinhua**	**1.68**	**231**	*e*P	**Pb**	**12 13 23.0**	**-0.1**
	baz=243						
ECL	**Taimali**	**1.72**	**206**	*e*P	**Pn**	**12 13 20.3**	**-1.6**
	baz=193						
SSD	**Sandimen**	**1.75**	**217**	*e*P	**Pn**	**12 13 23.1**	**+0.9**
	baz=238						
SSD				*e*S	**Sg**	**12 13 48.0**	**-1.0**
	baz=238						
IRIF	**Iriomote-Funau**	**1.79**	**84**	P	**Pn**	**12 13 22.7**	**-0.1**
IRIF				*e*S	**Sb**	**12 13 47.4**	**+0.2**
TAI1	**Yung-k'ang**	**1.80**	**232**	*e*P	**Pn**	**12 13 22.6**	**-0.4**
	baz=246						
TWM1	**Shoushan**	**1.82**	**224**	*e*P	**Pb**	**12 13 26.3**	**+0.8**
	baz=225						
SGLT	**Jiouru**	**1.85**	**220**	*e*P	**Pb**	**12 13 25.9**	**0.0**
	baz=210						
HATJ	**Hateruma jima**	**1.85**	**93**	P	**Pn**	**12 13 24.2**	**+0.5**
EAST	**Anshuo**	**1.96**	**206**	*e*P	**Pn**	**12 13 23.7**	**-1.4**
	baz=194						
JKRS	**Kuro-shima**	**2.04**	**87**	P	**Pn**	**12 13 26.9**	**+0.7**
JKRS				S	**Sg**	**12 13 58.7**	**+0.6**
SCZT	**Fangliau**	**2.07**	**211**	*e*P	**Pn**	**12 13 28.0**	**+1.4**
	baz=219						
SCZT				*e*S	**Sb**	**12 13 56.0**	**+0.8**
	baz=219						
PNG	**Penghu**	**2.12**	**255**	*e*P	**Pn**	**12 13 28.0**	**+0.7**
	baz=262						
PNG				*e*S	**Sb**	**12 13 55.5**	**-1.1**
	baz=262						
WDGT	**Dungji**	**2.14**	**246**	*e*P	**Pn**	**12 13 28.3**	**+0.8**
	baz=238						
WDGT				*e*S	**Sb**	**12 13 56.8**	**-0.4**
	baz=238						
JIJ	**Ishigaki jima**	**2.17**	**84**	P	**Pn**	**12 13 27.7**	**-0.3**
JIJ				S	**Sb**	**12 13 56.6**	**-1.5**
TWP	**Hsiaoliuchiu**	**2.22**	**216**	*e*P	**Pb**	**12 13 32.9**	**+0.6**
	baz=225						
HEN	**Hengchun**	**2.34**	**204**	*e*P	**Pb**	**12 13 32.6**	**-1.8**
	baz=195						
JISG	**Ishigakijimahi**	**2.35**	**79**	P	**Pn**	**12 13 30.4**	**-0.1**
TWK1	**Hengchun**	**2.37**	**202**	*e*P	**Pn**	**12 13 31.5**	**+0.7**
	baz=192						
JTJ	**Tarama**	**2.71**	**79**	P	**Pn**	**12 13 37.4**	**+2.0**
QZH	**Quanzhou**	**3.01**	**286**	⇑Pn	**Pn**	**12 13 40.3**	**+0.8**
QZH				Sn	**Sn**	**12 14 16.2**	**+0.9**
QZH				SMN			
	840nm,0.8s						
QZH				SME			
	560nm,1.0s						
KNM	**Kinmen**	**3.06**	**276**	*e*P	**Pn**	**12 13 41.9**	**+1.5**
	baz=283						
JNU	**Nakatsue**	**11.98**	**40**	LR	LR	12 21 36.6	
	comp=Z,112nm,18.1s,baz=20,slow=43						
GYA	**Guiyang**	**13.87**	**283**	*e*P	**P**	**12 16 17.2**	**+0.3**
GYA				LN			
	560nm,7.1s						
GYA				LE			
	600nm,9.0s						
GYA				LZ			
	750nm,9.3s						
KSRS	**Korea Array**	**14.27**	**20**	P	**P**	**12 16 21.1**	**0.0**
	0.6nm,0.3s,baz=197,slow=12,SNR=17						
KSRS				LR	LR	12 22 46.7	
	comp=Z,157nm,18.2s,baz=168,slow=41						
XAN	**Xi'an**	**14.93**	**314**	P	**P**	**12 16 31.7**	**+3.1**
XAN				PMZ			
	1.0nm,1.1s						
XAN				LN			
	480nm,12.9s						
XAN				LE			
	150nm,11.9s						
XAN				LZ			
	170nm,10.1s						
USRK	**Ussuriysk Ar.**	**21.68**	**20**	P	**P**	**12 17 45.5**	**+3.1**
	2.7nm,0.8s,baz=224,slow=8.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**22.01**	**259**	P	**P**	**12 17 47.5**	**+1.1**
	0.6nm,0.7s,baz=64,slow=7.8,SNR=4.3						
CMAR				LR	LR	12 27 35.7	
	comp=Z,108nm,18.9s,baz=80,slow=40						
GTA	**Gaotai**	**24.00**	**315**	*e*P	**P**	**12 18 08.9**	**+2.2**
GTA				pP	**pP**	**12 18 13.3**	**+2.0**
GTA				sP	**sP**	**12 18 16.0**	**+2.7**
GTA				PMZ			
	1.0nm,1.0s						
GTA				PMZ			
	62nm,4.1s						
GTA				LN			
	210nm,14.3s						
GTA				LE			
	380nm,11.9s						
GTA				LZ			
	270nm,11.9s						
ASAJ	**Asahikawa**	**26.20**	**35**	LR	LR	12 28 46.2	
	comp=Z,81nm,21.5s,baz=120,slow=36						
ULN	**Ulaanbaatar**	**26.40**	**337**	*e*P	**P**	**12 18 28.5**	**0.0**
	3.1nm,0.8s						
SONM	**Songino Array**	**26.61**	**336**	P	**P**	**12 18 30.9**	**+0.6**
	2.6nm,0.9s,baz=153,slow=9.4,SNR=15						
SONM				LR	LR	12 30 28.3	
	comp=Z,80nm,18.1s,baz=146,slow=39						
PSI	**Prapat**	**30.62**	**230**	LR	LR	12 32 48.3	
	comp=Z,60nm,18.4s,slow=39						
MKAR	**Makanchi Array**	**38.74**	**316**	P	**P**	**12 20 17.2**	**+1.1**
	1.4nm,0.6s,baz=100,slow=11,SNR=19						
PETK	**Petropavlovsk-**	**39.59**	**34**	LR	LR	12 37 08.9	
	comp=Z,320nm,20.3s,baz=152,slow=36						
ZALV	**Zalesovo Beam**	**40.57**	**327**	P	**P**	**12 20 29.8**	**-1.4**
	1.0nm,0.4s,baz=104,slow=8.0,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**41.95**	**87**	T	T	13 05 59.2	
	baz=283,slow=74,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**41.95**	**87**	T	T	13 05 57.4	
	baz=283,slow=74,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**41.96**	**87**	T	T	13 05 58.3	
	baz=283,slow=74,SNR=4.4						
TKM2	**Tokmak 2**	**42.21**	**308**	*e*P	**P**	**12 20 43.7**	**-1.4**
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.48**	**320**	P	**P**	**12 20 46.7**	**-0.2**
	0.7nm,0.4s,baz=114,slow=7.4,SNR=4.5						
COEN	**Coen**	**43.26**	**149**	*e*P	**P**	**12 20 53.5**	**0.0**
	7.4nm,0.6s						
WRA	**Warramunga Arr**	**45.50**	**163**	P	**P**	**12 21 09.9**	**-1.6**
	1.7nm,0.6s,baz=346,slow=8.8,SNR=15						
TIXI	**Tiksi**	**47.70**	**3**	*e*P	**P**	**12 21 26.9**	**-1.1**
	2.9nm,0.6s						
BVAR	**Borovoye Array**	**48.04**	**321**	P	**P**	**12 21 31.3**	**+0.3**
	1.5nm,0.6s,baz=96,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**48.97**	**165**	P	**P**	**12 21 38.0**	**-0.4**
	0.9nm,0.8s,baz=344,slow=6.8,SNR=14						
ABKAR	**Akbulak array**	**53.85**	**314**	*e*P	**P**	**12 22 15.2**	**+0.4**
	1.2nm,0.6s						
KBZ	**Khabaz**	**65.92**	**309**	P	**P**	**12 23 39.2**	**+1.4**
	1.5nm,0.9s,baz=82,slow=3.1,SNR=2.8						
ILAR	**Eielson Array**	**68.99**	**27**	P	**P**	**12 23 56.1**	**-0.8**
	0.6nm,0.6s,baz=296,slow=8.4,SNR=13						
ILAR				LR	LR	12 57 31.0	
	comp=Z,50nm,19.3s,baz=152,slow=39						
SPITS	**Spitsbergen Ar**	**69.63**	**348**	P	**P**	**12 23 59.5**	**-1.2**
	6.0nm,1.0s,baz=223,slow=5.9,SNR=2.6						
FINES	**FINESS Array B**	**71.75**	**330**	P	**P**	**12 24 13.7**	**-0.1**
	0.8nm,0.5s,baz=73,slow=6.4,SNR=9.5						
FINES				LR	LR	12 58 13.4	
	comp=Z,53nm,19.5s,baz=96,slow=38						
AKASG	**Malin Array Be**	**73.26**	**318**	LR	LR	12 57 03.6	
	comp=Z,299nm,18.5s,baz=325,slow=36						
BRTR	**Keskin Array B**	**73.63**	**307**	P	**P**	**12 24 25.4**	**-0.2**
	1.1nm,0.8s,baz=113,slow=4.7,SNR=5.7						
NB2	**NORSAR Subarra**	**78.51**	**332**	P	**P**	**12 24 51.8**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=59,slow=5.6						
NOA	**NORSAR Array B**	**78.51**	**332**	P	**P**	**12 24 51.9**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=62,slow=5.4,SNR=5.2						
NOA				LR	LR	13 03 02.7	
	comp=Z,40nm,19.5s,baz=100,slow=38						
YKA	**Yellowknife Ar**	**82.79**	**23**	P	**P**	**12 25 14.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=312,slow=5.0,SNR=38						
GERES	**GERESS Array B**	**83.21**	**321**	P	**P**	**12 25 15.7**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.2,SNR=3.0						

GUC 02 12:32:57.9±0.4, 34°20S × 72°23W, h41 km ± 2 km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**70**	*e*P	Pn	12 33 11.5	-0.2
NICH	**Los Niches**	**1.15**	**134**	*e*P	Pn	12 33 18.5	+1.0
NICH				*e*S	Sn	12 33 33.6	+1.6
NICH				AML	AML	12 33 38.7	
	comp=N,6μm,0.5s						
TALC	**Talca**	**1.29**	**158**	*e*P	Pn	12 33 20.8	+1.4
TALC				*e*S	Sn	12 33 37.6	+2.1
TALC				AML	AML	12 33 40.0	
	comp=E,4μm,0.3s						
ROCH	**El Roble**	**1.59**	**40**	*e*P	Pn	12 33 25.3	+1.4
ROCH				*e*S	Sn	12 33 46.7	+3.2
CLCH	**Cerro Calan**	**1.62**	**61**	*e*P	Pn	12 33 25.7	+1.6
CLCH				*e*S	Sn	12 33 46.8	+2.9
CLCH				AML	AML	12 33 54.2	
	comp=E,2μm,0.4s						
SJCH	**San Jose de Ma**	**1.66**	**71**	*e*P	Pn	12 33 25.4	+0.8
SJCH				*e*S	Sn	12 33 47.0	+2.2
PEL	**Peldehue**	**1.67**	**51**	*e*P	Pn	12 33 26.4	+1.7
PEL				*e*S	Sn	12 33 48.3	+3.4
PEL				AML	AML	12 33 59.2	
	comp=N,4μm,0.4s						
LNCH	**Linares**	**1.72**	**163**	*i* P	Pn	12 33 26.8	+1.4
LNCH				*i* S	Sn	12 33 48.7	+2.6
YECH	**El Yeso**	**1.86**	**74**	*e*P	Pn	12 33 30.7	+3.0
YECH				*e*S	Sn	12 33 55.0	+4.7

*IDC **02** 12:44:53.9±2.0, 53°.64N × 169°.83E, h0 km, mb3.7/7, mb1 4.1/8, mb1mx3.7/32, mbtmp3.8/8, ML3.4/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/33, Error ellipse: s-maj=58.8km s-min=31.7km az=170.0*
*ISCJB **02** 12:44:56.3±0.6, 53°.56N±0°.09 × 169°.58E±0°.07, h35 km, mb3.7/7, Error ellipse: s-maj=12.7km s-min=5.6km az=1.7*
*KRSC **02** 12:44:59.2±1.1, 53°.55N × 169°.21E, h90 km ± 28 km, ML4.2*
*MOS **02** 12:45:01.5±0.6, 53°.69N × 169°.12E, h99 km, mb4.0/1, Error ellipse: s-maj=24.1km s-min=20.6km az=33.1*

ISC 02 12:44:57.7±0.9, 53°.49N±0°.10 × 169°.57E±0°.06, h35 km, n31, σ1§40/33, mb3.6/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.72**	**311**	PN	**Pn**	**12 45 39.8**	**+1.0**
BKI				S	**Sn**	**12 46 10.7**	**+0.3**
BKI	**Bering**	**2.72**	**311**	*e*P	**Pn**	**12 45 39.8**	**+1.0**
BKI				*e*S	**Sn**	**12 46 10.7**	**+0.3**
MKZ	**Mys Kozlova**	**4.75**	**286**	PN	**Pn**	**12 46 07.5**	**+0.9**
MKZ				S	**Sn**	**12 46 59.3**	**-1.1**
MKZ	**Mys Kozlova**	**4.75**	**286**	*e*P	**Pn**	**12 46 07.5**	**+0.9**
MKZ				*e*S	**Sn**	**12 46 59.3**	**-1.1**
KBTR	**Krutoberegovo**	**4.76**	**308**	PN	**Pn**	**12 46 07.9**	**+1.0**
KBTR				S	**Sn**	**12 46 59.4**	**-1.3**
KBTR	**Krutoberegovo**	**4.76**	**308**	*e*P	**Pn**	**12 46 07.9**	**+1.0**
KBTR				*e*S	**Sn**	**12 46 59.4**	**-1.3**
TUMR	**Tumrok**	**5.79**	**292**	P	**Pn**	**12 46 23.2**	**+2.0**
SDLR	**Sedlovina**	**6.40**	**272**	*e*P	**Pn**	**12 46 30.5**	**+1.0**
UGLR	**Uglovaya**	**6.44**	**272**	*e*P	**Pn**	**12 46 31.5**	**+1.4**
KRER	**Koryakskii**	**6.48**	**273**	*e*P	**Pn**	**12 46 32.0**	**+1.4**
AVH	**Avacha**	**6.49**	**272**	*e*P	**Pn**	**12 46 31.7**	**+1.0**
RUS	**Russkaya**	**6.76**	**265**	PN	**Pn**	**12 46 35.9**	**+1.5**
RUS	**Russkaya**	**6.76**	**265**	P	**Pn**	**12 46 35.9**	**+1.5**
GNL	**Ganaly**	**6.93**	**276**	*e*P	**Pn**	**12 46 38.8**	**+2.1**
MTVR	**Mutnovka**	**6.95**	**266**	*e*P	**Pn**	**12 46 38.6**	**+1.5**
MTVR				*e*S	**Sn**	**12 47 51.1**	**-3.8**
PETK	**Petropavlovsk-**	**7.13**	**272**	PN	**Pn**	**12 46 41.5**	**+2.1**
PETK						12 47 58.8	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.13**	**272**	Pn	**Pn**	**12 46 41.5**	**+2.1**
	comp=N,3.3nm,0.3s,baz=94,slow=19,SNR=12						
PETK				Sn	**Sn**	**12 47 58.8**	**-0.2**
	comp=N,1.3nm,0.3s,baz=104,slow=12,SNR=3.8						
PETK				LR	LR	12 49 35.5	
	comp=N,32nm,20.8s,baz=109,slow=39						
ILAR	**Eielson Array**	**24.48**	**45**	P	**P**	**12 50 11.8**	**-1.3**
	comp=N,0.8nm,0.7s,baz=246,slow=7.2,SNR=10						
INK	**Inuvik**	**30.05**	**38**	P	**P**	**12 51 02.6**	**-0.3**
	comp=N,0.6nm,0.5s,baz=275,slow=5.2,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**33.76**	**185**	T	T	13 27 21.9	
	baz=3.1						
H11N3	**WAKE ISLAND Hy**	**33.77**	**185**	T	T	13 27 22.6	
	baz=3.1						
H11N1	**WAKE ISLAND Hy**	**33.77**	**185**	T	T	13 27 24.3	
	baz=3.1						
H11S1	**WAKE ISLAND Hy**	**34.98**	**185**	T	T	13 28 53.7	
	baz=2.1						
H11S3	**WAKE ISLAND Hy**	**34.99**	**185**	T	T	13 28 55.3	
	baz=2.1						
H11S2	**WAKE ISLAND Hy**	**35.00**	**185**	T	T	13 29 01.8	
	baz=2.1						
YKA	**Yellowknife Ar**	**38.91**	**46**	P	**P**	**12 52 19.6**	**+0.1**
	comp=N,0.4nm,0.5s,baz=293,slow=7.9,SNR=7.7						
NVAR	**Mina Array Bea**	**50.18**	**77**	P	**P**	**12 53 50

MJAR	**Matsushiro Arr**	**21.04**	**339**	P		**P**	**13 03 13.3**	**-0.8**	
	1.3nm,0.7s,baz=166,slow=10,SNR=3.4								
WRA	**Warramunga Arr**	**38.99**	**200**	P		**P**	**13 05 55.6**	**-0.6**	
	0.8nm,0.7s,baz=23,slow=9.2,SNR=15								
ASAR	**Alice Springs**	**42.61**	**199**	P		**P**	**13 06 25.9**	**-0.2**	
	0.3nm,0.7s,baz=18,slow=11,SNR=6.2								
SONM	**Songino Array**	**45.45**	**322**	P		**P**	**13 06 48.7**	**0.0**	
	0.4nm,0.5s,baz=142,slow=6.3,SNR=3.2								
CMAR	**Chiang Mai Arr**	**46.12**	**279**	P		**P**	**13 06 55.0**	**+0.8**	
	1.5nm,0.9s,baz=67,slow=6.0,SNR=8.4								
ZALV	**Zalesovo Beam**	**60.31**	**323**	P		**P**	**13 08 37.4**	**-0.7**	
	0.6nm,0.3s,baz=98,slow=11,SNR=5.6								
MKAR	**Makanchi Array**	**60.79**	**314**	P		**P**	**13 08 41.8**	**+0.3**	
	0.4nm,0.5s,baz=90,slow=8.8,SNR=6.1								
YKA	**Yellowknife Ar**	**78.62**	**28**	P		**P**	**13 10 31.4**	**+0.4**	
	0.1nm,0.6s,baz=287,slow=5.5,SNR=3.2								
FINES	**FINESS Array B**	**89.04**	**336**	P		**P**	**13 11 24.1**	**0.0**	
	0.7nm,0.7s,baz=81,slow=3.5,SNR=3.4								
LPAZ	**La Paz**	**145.92**	**94**	PKPbc		**PKPab**	**13 18 11.2**	**+0.2**	
	0.5nm,0.5s,baz=333,slow=2.3,SNR=3.8								

IDC 02 13:01:59.5±18.0, 38.73S×93.23W, h0km, mb3.8/3, mb1 4.3/3, mb1mx3.9/15, mbtmp3.8/3, MS3.2/4, Ms1 3.2/4, ms1mx3.1/15, Error ellipse: s-maj=632.0km s-min=340.2km az=115.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
RPN	**Rapa Nui**	**17.76**	**306**	LR		LR	13 10 03.4	
	comp=Z,36nm,21.2s,baz=134,slow=27							
LPAZ	**La Paz**	**31.36**	**52**	LR		LR	13 17 02.2	
	comp=Z,24nm,19.9s,baz=202,slow=29							
BDFB	**Brasilia**	**45.75**	**73**	LR		LR	13 27 53.6	
	comp=Z,82nm,18.5s,baz=213,slow=34							
ROSC	**El Rosal**	**46.76**	**26**	LR		LR	13 28 46.8	
	comp=Z,37nm,19.1s,baz=28,slow=34							
TXAR	**Lajitas Array**	**68.41**	**350**	P		P	13 13 02.9	-0.1
	0.5nm,0.8s,baz=178,slow=8.0,SNR=4.5							
NVAR	**Mina Array Bea**	**80.17**	**340**	P		P	13 14 12.0	+0.4
	0.6nm,0.8s,baz=178,slow=6.9,SNR=4.4							
PDAR	**Pinedale Array**	**82.46**	**348**	P		P	13 14 23.6	-0.1
	1.9nm,0.8s,baz=153,slow=6.4,SNR=16							

MAN 02 13:29:10, 16.57N×119.67E, h16km, mb4.4, ML3.2, MS3.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
BOLP	**Bolinao**	**0.30**	**128**	*e*P		Pn	13 29 18.4	-1.3
BOLP				*e*S		Sn	13 29 24.7	-1.1
SCZP	**Santa Cruz**	**0.82**	**163**	*e*P		Pb	13 29 24.6	-1.4
BCPH	**Baguio City Da**	**0.90**	**102**	↑*i*P		Pb	13 29 26.6	-0.8
BCPH				*i* S		Sb	13 29 38.0	-1.3
APYP	**Conner**	**1.98**	**49**	*e*P		Pn	13 29 43.3	+0.4
APYP				*e*S		Sn	13 30 08.1	+0.7
BALP	**Baler**	**2.01**	**114**	*e*P		Pn	13 29 44.7	+1.4
BALP				*e*S		Sn	13 30 08.8	+0.7
PVCP	**Virac**	**5.25**	**124**	↑*i*P		Pg	13 30 58.1	+7.6
PVCP				*i* S		Sn	13 31 07.6	-20

*IDC **02** 13:34:57.7±6.0, 6.28S×149.50E, h72km±45km, mb3.5/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.9/5, ML2.8/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/18, Error ellipse: s-maj=85.9km s-min=32.6km az=110.0*

*ISCJB **02** 13:35:00.8±2.7, 5.80S±0.09×148.0E±0.6, h49km, mb3.5/3, Error ellipse: s-maj=84.0km s-min=11.7km az=3.8*

ISC 02 13:35:01.7±2.5, 5.8S±0.1×148.1E±0.6, h49km, n6, σ1§15/7, mb3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
PMG	**Port Moresby**	**3.70**	**195**	P		**Pn**	**13 35 57.0**	**+0.6**
	5.2nm,0.3s,baz=348,slow=7.2,SNR=23							
PMG				S		**Sn**	**13 36 38.9**	**+0.1**
	46nm,0.3s,baz=32,slow=19,SNR=20							
PMG					LR	LR	13 37 19.3	
	comp=Z,56nm,19.0s,baz=27,slow=36							
WRA	**Warramunga Arr**	**19.41**	**222**	P		**Pn**	**13 39 25.0**	**-0.4**
	12nm,0.5s,baz=52,slow=10,SNR=138							
ASAR	**Alice Springs**	**22.41**	**216**	P		**P**	**13 39 56.2**	**-0.2**
	3.7nm,0.5s,baz=55,slow=8.9,SNR=135							
SONM	**Songino Array**	**64.77**	**330**	P		**P**	**13 45 36.6**	**+1.3**
	0.1nm,0.3s,baz=120,slow=5.7,SNR=2.3							
MKAR	**Makanchi Array**	**78.04**	**320**	P		**P**	**13 46 54.8**	**-0.5**
	0.3nm,0.9s,baz=87,slow=7.4,SNR=2.6							
TORD	**Torodi Ar. Bea**	**146.10**	**285**	PKPbc		**PKPdf**	**13 54 34.8**	**-1.7**
	0.5nm,0.5s,baz=87,slow=2.6,SNR=9.6							

IDC 02 14:16:27.4±11.0, 18.40S×173.69W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/24, mbtmp3.9/3, Error ellipse: s-maj=371.7km s-min=61.6km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
WRA	**Warramunga Arr**	**48.96**	**259**	P		P	14 25 15.5	-0.5
	0.3nm,0.4s,baz=97,slow=7.2,SNR=16							
ASAR	**Alice Springs**	**48.98**	**254**	P		P	14 25 16.4	+0.2
	1.6nm,0.6s,baz=94,slow=7.4,SNR=47							
SONM	**Songino Array**	**96.88**	**318**	P		P	14 30 00.5	-0.2
	0.1nm,0.5s,baz=104,slow=3.0,SNR=2.3							

*IDC **02** 14:49:02.0±0.6, 34.07S×72.12W, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/27, mbtmp4.1/12, ML3.9/2, MS3.7/6, Ms1 3.7/6, ms1mx3.4/22, Error ellipse: s-maj=27.6km s-min=15.9km az=83.0*

*ISCJB **02** 14:49:03.4±0.6, 33.99S±0.05×72.46W±0.05, h19km, mb4.1/11, MS3.6/5, Error ellipse: s-maj=6.7km s-min=6.1km az=166.2*

*GUC **02** 14:49:04.6±0.5, 33.96S×72.44W, h46km±12km, ML4.1*

*NEIC **02** 14:49:07.1±0.5, 34.04S×72.24W, h35km, mb4.3/3, Error ellipse: s-maj=16.0km s-min=9.3km az=96.0*

ISC 02 14:49:05.0±0.5, 34.03S±0.04×72.25W±0.05, h19km, n36, σ1§27/46, mb4.3/11, MS3.7/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
NICH	**Los Niches**	**1.29**	**139**	*i* P		**Pb**	**14 49 28.3**	**-0.3**
NICH				*i* S		**Sg**	**14 49 48.2**	**+1.5**
FSR	**Penalolen**	**1.54**	**70**	*i* S		**Sg**	**14 49 53.9**	**-0.8**
CLCH	**Cerro Calan**	**1.56**	**67**	*i* P		**Pb**	**14 49 32.7**	**-0.6**
CLCH				*i* P		**Pn**	**14 49 32.9**	**+1.1**
CLCH				*i* S		**Sg**	**14 49 54.4**	**-1.1**
CLCH				*i* S		**Sb**	**14 49 54.5**	**+1.8**
CLCH					AML	AML	14 50 09.9	
	comp=N,5μm,0.5s							
PEL	**Peldehue**	**1.57**	**56**	*i* P		**Pb**	**14 49 33.0**	**-0.5**
PEL				*i* S		**Sb**	**14 49 54.0**	**+0.8**
SJCH	**San Jose de Ma**	**1.62**	**77**	*i* P		**Pb**	**14 49 33.8**	**-0.6**
SJCH				*i* S		**Sg**	**14 49 56.3**	**-1.2**
FCH	**Farellones**	**1.78**	**67**	AML		AML	14 50 08.0	
	comp=N,2μm,0.6s							
CFAA	**Coronel Fontan**	**4.15**	**56**	Pn		**Pn**	**14 50 10.3**	**+2.9**
	comp=N,0.6nm,0.3s,baz=234,slow=12,SNR=29							
CFAA					LR	LR	14 51 08.6	
	comp=N,20nm,21.2s,baz=249,slow=31							
CFAA					Lg	Lg	14 51 10.3	
	comp=N,1.3nm,0.3s,baz=86,slow=17,SNR=4.7							
LCO	**Las Campanas**	**5.17**	**15**	*e*Pn		**Pn**	**14 50 21.0**	**-0.7**
	comp=N,56nm,0.7s							
LCO				*e*Sn		**Sn**	**14 51 20.9**	**-0.1**
PLCA	**Paso Flores**	**6.83**	**169**	Pn		**Pn**	**14 50 44.5**	**+0.2**
	comp=N,0.4nm,0.3s,baz=339,slow=12,SNR=16							
PLCA					Lg	Lg	14 52 35.5	
	comp=N,0.5nm,0.3s,baz=325,slow=8.8,SNR=3.5							
PLCA					LR	LR	14 53 27.1	
	comp=N,636nm,19.5s,baz=314,slow=39							
PLCA	**Paso Flores**	**6.83**	**169**	*e*Pn		**Pn**	**14 50 44.5**	**+0.2**
PLCA				*e*Sn		**Sn**	**14 51 58.8**	**-2.6**
PLCA					Lg	Lg	14 52 35.5	
LPAZ	**La Paz**	**18.05**	**13**	P		**P**	**14 53 16.3**	**+0.5**
	comp=N,0.3nm,0.3s,baz=183,slow=9.3,SNR=15							
LPAZ	**La Paz**	**18.05**	**13**	*e*Pn		**P**	**14 53 16.1**	**+0.3**
	comp=N,9.9nm,0.8s							
SIV	**San Ignacio**	**20.59**	**32**	P		**P**	**14 53 42.6**	**-0.4**
	comp=N,5.8nm,0.6s,baz=243,slow=2.4,SNR=22							
SIV					LR	LR	15 03 14.5	
	comp=N,350nm,19.2s,baz=228,slow=41							
NNA	**Nana**	**22.34**	**348**	P		**P**	**14 54 03.1**	**+1.3**
	comp=N,8.1nm,0.7s,baz=218,slow=9.5,SNR=4.0							
NNA					LR	LR	15 01 14.8	
	comp=N,75nm,18.4s,baz=158,slow=33							
SAML	**Samuel**	**26.32**	**21**	*e*P		**P**	**14 54 39.3**	**-0.4**
	comp=N,6.8nm,0.8s							
ATAH	**Atahualpa**	**27.36**	**347**	LR		LR	15 04 00.4	
	comp=N,68nm,18.3s,baz=184,slow=33							
BDFB	**Brasilia**	**28.49**	**56**	P		**P**	**14 54 58.0**	**-1.4**
	comp=N,5.0nm,0.8s,baz=215,slow=6.5,SNR=8.3							
RPN	**Rapa Nui**	**32.53**	**272**	LR		LR	15 05 39.3	
	comp=N,238nm,18.3s,baz=48,slow=31							
QSPA	**South Pole Qui**	**56.21**	**180**	P		**P**	**14 58 44.1**	**+0.5**
	comp=N,3.7nm,0.9s,baz=162,slow=2.1,SNR=6.4							
TXAR	**Lajitas Array**	**69.67**	**331**	P		**P**	**15 00 13.9**	**+0.5**
	comp=N,0.6nm,0.8s,baz=155,slow=7.7,SNR=5.3							
TXAR					pP	**pP**	**15 00 23.2**	**+3.6**
	comp=N,0.8nm,0.6s,baz=153,slow=8.1,SNR=8.1							
WVT	**Waverly**	**71.30**	**347**	*e*P		**P**	**15 00 21.6**	**-1.5**
	comp=N,5.9nm,0.8s							
MAW	**Mawson**	**73.20**	**164**	LR		LR	15 34 12.7	
	comp=N,79nm,18.7s,baz=242,slow=37							
BOSA	**Boshof**	**80.21**	**118**	P		**P**	**15 01 14.4**	**-0.2**
	comp=N,1.0nm,0.5s,baz=240,slow=2.8,SNR=5.3							
PDAR	**Pinedale Array**	**83.71**	**333**	P		**P**	**15 01 32.5**	**-0.1**
	comp=N,0.4nm,0.9s,baz=194,slow=1.9,SNR=2.9							
NVAR	**Mina Array Bea**	**83.81**	**325**	P		**P**	**15 01 33.8**	**+0.6**
	comp=N,0.5nm,0.7s,baz=166,slow=4.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**84.38**	**70**	P		**P**	**15 01 35.8**	**-0.7**
	comp=N,3.5nm,0.8s,baz=248,slow=3.6,SNR=21							
ULM	**Lac du Bonnet**	**86.48**	**345**	P		**P**	**15 01 47.8**	**+1.8**
	comp=N,0.7nm,0.4s,baz=18,slow=20,SNR=2.4							
YKA	**Yellowknife Ar**	**102.03**	**341**	P		**Pdif**	**15 02 56.1**	**-1.1**
	comp=N,0.1nm,0.6s,baz=139,slow=4.7,SNR=5.0							
WRA	**Warramunga Arr**	**120.65**	**209**	PKP		**PKPdf**	**15 07 54.8**	**-1.4**
	comp=N,0.2nm,0.9s,baz=171,slow=1.6,SNR=5.1							
BRTR	**Keskin Array B**	**122.00**	**61**	PKP		**PKPdf**	**15 07 58.0**	**-0.2**
	comp=N,0.7nm,0.8s,baz=195,slow=7.7,SNR=3.6							
BRTR	**Keskin Array B**	**122.00**	**61**	PKP		**PKPdf**	**15 07 58.0**	**-0.2**
AKASG	**Malin Array Be**	**122.34**	**48**	PKP		**PKPdf**	**15 07 57.0**	**-1.3**
	comp=N,0.1nm,0.3s,baz=254,slow=2.3,SNR=5.3							
SEY	**Seymchan**	**139.97**	**330**	PKP		**PKPdf**	**15 08 29.1**	**-2.1**
	comp=N,0.8nm,0.6s,baz=20,slow=12,SNR=4.9							
ZALV	**Zalesovo Beam**	**154.34**	**32**	PKP		**PKPdf**	**15 08 55.0**	**-0.2**
	comp=N,0.8nm,0.7s,baz=354,slow=3.0,SNR=4.0							
ZALV					PKPbc	**PKiKP**	**15 09 03.5**	**0.0**
	comp=N,4.3nm,0.7s,baz=306,slow=3.1,SNR=19							
ZALV					PKPab	**PKPab**	**15 09 18.0**	**+0.4**
	comp=N,2.4nm,0.6s,baz=295,slow=4.8,SNR=5.2							
MKAR	**Makanchi Array**	**156.91**	**49**	PKP		**PKPdf**	**15 08 59.2**	**+0.3**
	comp=N,0.3nm,0.8s,baz=330,slow=2.3,SNR=2.8							
MKAR					pPKP	**pPKPdf**	**15 09 08.2**	**+2.8**
	comp=N,0.4nm,0.8s,baz=18,slow=0.5,SNR=3.8							
MKAR					PKPab	**PKPab**	**15 09 28.8**	**-0.2**
	comp=N,1.1nm,0.6s,baz=309,slow=3.9,SNR=10							
SONM	**Songino Array**	**166.17**	**4**	PKP		**PKPdf**	**15 09 07.6**	**-1.1**
	comp=N,0.3nm,0.8s,baz=305,slow=46,SNR=2.5							
SONM					PKPab	**PKPab**	**15 10 09.4**	**+0.1**
	comp=N,0.7nm,0.9s,baz=316,slow=4.1,SNR=4.3							

IDC 02 14:49:56.8±1.3, 23.02S×179.76W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/41, mbtmp3.9/4, ML4.8/1, Error ellipse: s-maj=47.0km s-min=37.3km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
URZ	**Urewera**	**15.43**	**189**	Pn		Pn	14 53 36.1	+0.3
	3.5nm,0.3s,baz=30,slow=3.7,SNR=30							
ASAR	**Alice Springs**	**42.41**	**260**	P		P	14 57 52.3	-1.1
	1.2nm,1.1s,baz=96,slow=7.3,SNR=9.2							
WRA	**Warramunga Arr**	**42.70**	**265**	P		P	14 57 56.5	+0.7
	0.1nm,0.3s,baz=100,slow=7.6,SNR=5.3							
YKA	**Yellowknife Ar**	**99.47**	**25**	P		Pdif	15 03 39.1	-1.9
	0.1nm,0.5s,baz=225,slow=5.8,SNR=3.8							
ARCES	**ARCESS Array B**	**131.07**	**349**	PKP		PKPdf	15 09 11.1	+1.3
	9.3nm,1.2s,baz=25,slow=5.0,SNR=3.8							
FINES	**FINESS Array B**	**137.68**	**342**	PKhKP		PKPpre	15 09 15.2	
	2.3nm,1.1s,baz=354,slow=2.8,SNR=4.3							
NB2	**NORSAR Subarra**	**141.24**	**351**	PKP		PKPdf	15 09 28.4	-0.6
	comp=Z,1.5nm,0.6s,baz=20,slow=3.3							
NOA	**NORSAR Array B**	**141.24**	**351**	PKP		PKPdf	15 09 28.5	-0.5
	comp=Z,2.3nm,0.7s,baz=22,slow=3.8,SNR=10							
BRTR	**Keskin Array B**	**147.22**	**309**	PKPbc		PKPbc	15 09 41.8	-0.6
	comp=Z,1.4nm,0.4s,baz=76,slow=7.0,SNR=5.3							
MMAI	**Mount Meron Ar**	**147.53**	**296**	PKPbc		PKPbc	15 09 42.6	-0.8
	comp=Z,1.4nm,0.4s,baz=76,slow=7.0,SNR=5.3							
TORD	**Torodi Ar. Bea**	**170.09**	**188**	PKPab		PKPab	15 11 21.8	-0.6
	comp=Z,0.5nm,0.8s,baz=237,slow=4.5,SNR=2.1							

*ISCJB **02** 14:58:09.1±0.6, 34.79S±0.04×71.16W±0.1, h63km±4km, mb4.3/12, Error ellipse: s-maj=14.6km s-min=5.2km az=13.1*

*GUC **02** 14:58:09.2±0.3, 34.81S×71.59W, h61km±4km, ML4.6*

*IDC **02** 14:58:09.6±0.6, 34.71S×71.49W, h47km±5km, mb4.0/12, mb1 4.1/14, mb1mx4.0/25, mbtmp4.3/14, MS2.9/2, Ms1 2.9/2, ms1mx2.8/18, Error ellipse: s-maj=21.8km s-min=15.3km az=82.0*

*NEIC **02** 14:58:09.2, 34.81S×71.59W, h61km, mb4.6/3, After GUC.*

NEIC Felt [IV] at San Fernando; [III] at Curico, Molina and Pichilemu; [II] at Colbun, Constitucion, Linares, Rio Claro, San Antonio, San Javier and Santiago.

ISC 02 14:58:09.3±0.5, 34.79S±0.03×71.62W±0.06, h51km±4km, n51, σ1§12/69, mb4.4/12, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
NICH	**Los Niches**	**0.39**	**124**	*i* P		**Pn**	**14 58 20.2**	**+0.8**
NICH				*i* S		**Sn**	**14 58 28.2**	**+1.6**
NICH	**Los Niches**	**0.39**	**124**	*i* P		**Pn**	**14 58 20.2**	**+0.8**
NICH				*i* S		**Sn**	**14 58 28.2**	**+1.6**
TALC	**Talca**	**0.61**	**181**	*i* P		**Pn**	**14 58 22.5**	**+0.5**
TALC				*i* S		**Sn**	**14 58 32.3**	**+1.2**
TALC	**Talca**	**0.61**	**181**	↑*i*P		**Pn**	**14 58 22.5**	**+0.5**
TALC				*i* S		**Sn**	**14 58 32.3**	**+1.2**
LNV	**Longovilo**	**0.85**	**12**	↓*i*P		**Pn**	**14 58 24.8**	**-0.2**
LNV				*i* S		**Sn**	**14 58 37.4**	**+0.9**
LNV	**Longovilo**	**0.85**	**12**	↓*i*P		**Pn**	**14 58 24.8**	**-0.2**
LNV				*i* S		**Sn**	**14 58 37.4**	**+0.9**
CACH	**El Canelo**	**1.08**	**52**	↓*i*P		**Pn**	**14 58 28.9**	**+0.7**
CACH				*i* S		**Sn**	**14 58 44.1**	**+2.0**
CACH	**El Canelo**	**1.08**	**52**	↓*i*P		**Pn**	**14 58 28.9**	**+0.7**
CACH				*i* S		**Sn**	**14 58 44.1**	**+2.0**
CHCH	**Chadas Angostu**	**1.17**	**44**	↑*i*P		**Pn**	**14 58 30.0**	**+0.6**
CHCH	**Chadas Angostu**	**1.17**	**44**	↑*i*P		**Pn**	**14 58 30.0**	**+0.6**
LACH	**Col Las Americ**	**1.61**	**35**	↓*i*P		**Pn**	**14 58 35.9**	**+0.5**
LACH				*i* S		**Sn**	**14 58 56.3**	**+1.3**
LACH	**Col Las Americ**	**1.61**	**35**	↓*i*P		**Pn**	**14 58 35.9**	**+0.5**
LACH				*i* S		**Sn**	**14 58 56.3**	**+1.3**
CLCH	**Cerro Calan**	**1.65**	**33**	*i* P		**Pn**	**14 58 36.8**	**+0.8**
CLCH				*i* S		**Sn**	**14 58 57.5**	**+1.3**
CLCH					AML	AML	14 59 14.4	
	comp=E,9μm,0.8s							
CLCH					AML	AML	14 59 14.9	
	comp=E,11μm,0.8s							
PEL	**Peldehue**	**1.81**	**26**	*e*P		**Pn**	**14 58 39.1**	**+0.9**
PEL				*i* S		**Sn**	**14 59 01.4**	**+1.4**
PEL					AML	AML	14 59 08.3	
	comp=E,13μm,0.7s							
PEL	**Peldehue**	**1.81**	**26**	*e*P		**Pn**	**14 58 39.1**	**+0.9**
PEL				*i* S		**Sn**	**14 59 01.4**	**+1.4**
FCH	**Farellones**	**1.83**	**38**	AML		AML	14 59 04.8	
	comp=N,5μm,0.3s							
ROCH	**El Roble**	**1.88**	**16**	AML		AML	14 59 10.6	
	comp=N,9μm,0.5s							
CCSP	**San Pedro de C**	**2.38**	**210**	AML		AML	14 59 27.1	
	comp=N,4μm,0.4s							
CFAA	**Coronel Fontan**	**4.26**	**43**	P		**Pn**	**14 59 13.3**	**+1.7**
	comp=N,0.7nm,0.3s,baz=212,slow=19,SNR=49							
CFAA					S	Sn	15 00 08.8	+8.8
	comp=N,2.6nm,0.3s,baz=334,slow=14,SNR=8.6							
CFAA					LR	LR	15 01 04.7	
	comp=N,53nm,19.6s,baz=230,slow=42							
PLCA	**Paso Flores**	**6.00**	**172**	P		**Pn**	**14 59 38.6**	**+3.1**
	comp=N,2.7nm,0.3s,baz=345,slow=12,SNR=41							
PLCA					LR	LR	15 02 04.8	
	comp=N,231nm,18.0s,baz=312,slow=39							
TRQA	**Tornquist**	**8.43**	**116**	*e*Pn		**Pn**	**15 00 07.7**	**-1.1**
	comp=N,12nm,0.6s							
TRQA					*e*Sn	**Sn**	**15 01 40.4**	**-2.1**
LPAZ	**La Paz**	**18.68**	**11**	P		**Pn**	**15 02 25.2**	**+0.4**
	comp=N,0.3nm,0.3s,baz=177,slow=6.6,SNR=18							
USHA	**Ushuaia**	**20.17**	**175**	P		Pn	15 02 40.7	-0.8
	comp=N,6.5nm,0.8s,baz=354,slow=8.9,SNR=3.6							
SIV	**San Ignacio**	**20.97**	**29**	P		**P**	**15 02 47.8**	**-0.5**
	comp=N,13nm,0.8s,baz=214,slow=9.7,SNR=25							
BDFB	**Brasilia**	**28.50**	**54**	P		**P**	**15 03 59.1**	**-1.0**
	comp=N,1.8nm,0.6s,baz=235,slow=12,SNR=3.8							
VNA3	**Neumayer Olymp**	**48.50**	**158**	P		**P**	**15 06 47.6**	**+1.0**
VNA2	**Neumayer--Watz**	**49.16**	**157**	P		**P**	**15 06 52.8**	**+1.2**
	baz=291,slow=9.4							
QSPA	**South Pole Qui**	**55.45**	**180**	P		**P**	**15 07 40.0**	**+1.4**
	comp=N,4.1nm,0.9s,baz=143,slow=5.0,SNR=11							
QSPA	**South Pole Qui**	**55.45**	**180**	*e*P		**P**	**15 07 37.6**	**-0.9**
	comp=N,2.3nm,0.8s							
TXAR	**Lajitas Array**	**70.59**	**331**	P		**P**	**15 09 20.1**	**+0.8**
	comp=N,0.6nm,0.6s,baz=154,slow=8.5,SNR=6.9							
TXAR					pP	**pP**	**15 09 32.9**	**-0.7**
	comp=N,0.7nm,0.5s,baz=160,slow=8.0,SNR=8.2							
MIAR	**Mount Ida**	**71.97**	**341**	*e*P		**P**	**15 09 26.6**	**-0.7**
	comp=N,5.3nm,0.6s							
WVT	**Waverly**	**72.15**	**346**	*e*P		**P**	**15 09 25.9**	**-2.5**
	comp=N,14nm,0.8s							
DBIC	**Dimbokro**	**75.11**	**71**	P		**P**	**15 09 46.3**	**0.0**
	comp=N,4.8nm,0.6s,baz=218,slow=5.2,SNR=7.2							
BOSA	**Boshof**	**79.40**	**117**	P		**P**	**15 10 10.8**	**+0.3**
	comp=N,8.2nm,0.8s,baz=246,slow=2.8,SNR=17							
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P		**P**	**15 10 35.3**	**0.0**
	comp=N,4.2nm,0.8s,baz=250,slow=4.1,SNR=22							
TORD					pP	**pP**	**15 10 48.0**	**-2.0**
	comp=N,1.5nm,0.9s,baz=227,slow=3.9,SNR=4.3							
PDAR	**Pinedale Array**	**84.62**	**333**	P		**P**	**15 10 37.4**	**+0.1**
	comp=N,0.7nm,0.8s,baz=142,slow=4.6,SNR=4.9							
PDAR					pP	**pP**	**15 10 52.2**	**+0.2**
	comp=N,0.8nm,0.8s,baz=156,slow=7.5,SNR=4.4							
NVAR	**Mina Array Bea**	**84.72**	**325**	P		**P**	**15 10 39.2**	**+1.3**
	comp=N,0.5nm,0.8s,baz=153,slow=7.0,SNR=4.5							
NVAR					pP	**pP**	**15 10 52.6**	**-0.1**
	comp=N,0.6nm,0.7s,baz=162,slow=5.3,SNR=4.2							
ULM	**Lac du Bonnet**	**87.34**	**345**	P		**P**	**15 10 49.5**	**-0.8**
	comp=N,1.7nm,0.8s,baz=180,slow=3.0,SNR=4.0							
MDT	**Midelt**	**92.04**	**51**	P		**P**	**15 11 11.8**	**-1.1**
	comp=N,1.2nm,0.7s,baz=270,slow=2.0							
WRA	**Warramunga Arr**	**120.24**	**208**	PKP		**PKPdf**	**15 16 54.3**	**-0.9**
	comp=N,0.7nm,1.1s,baz=158,slow=1.6,SNR=6.1							
WRA					pPKP	**pPKPdf**	**15 17 08.6**	**-1.9**
	comp=N,0.2nm,0.4s,baz=156,slow=1.7,SNR=2.2							
BRTR	**Keskin Array B**	**121.91**	**61**	PKP		**PKPdf**	**15 16 58.1**	**+0.2**
	comp=N,0.6nm,0.6s,baz=195,slow=3.8,SNR=4.0							
H11N3	**WAKE ISLAND Hyl**	**126.53**	**270**	T		T	17 36 12.7	
	baz=115,slow=78,SNR=6.7							
H11N1	**WAKE ISLAND Hyl**	**126.54**	**270**	T		T	17 36 13.5	
	baz=115,slow=78,SNR=11							
H11N2	**WAKE ISLAND Hyl**	**126.55**	**270**	T		T	17 36 14.3	
	baz=115,slow=78,SNR=11							
BVAR	**Borovoye Array**	**147.61**	**44**	PKPbc		**PKPbc**	**15 17 48.4**	**+0.9**
	comp=N,2.6nm,0.7s,baz=277,slow=3.4,SNR=15							
BVAR					pPKPbc	**pPKPbc**	**15 18 02.6**	**-0.1**
	comp=N,2.1nm,0.7s,baz=285,slow=3.4,SNR=8.1							
YAK	**Yakutsk**	**149.59**	**340**	PKP		**PKPdf**	**15 17 48.2**	**+0.6**
	comp=N,9.4nm,0.6s,baz=92,slow=2.0,SNR=3.0							
YAK					PKPbc	**PKPbc**	**15 17 52.1**	**-0.1**
	comp=N,1.4nm,0.3s,baz=222,slow=1.0,SNR=7.0							
EKS2	**Erkin-Say**	**152.03**	**63**	*e*PKPdf		**PKPdf**	**15 17 52.5**	**+0.3**
EKS2				*e*PKPbc		**PKiKP**	**15 17 59.4**	**+0.2**
AAK	**Ala-

JKB					*e*S		**Sn**	15 05 36.8	-3.5
JANG	**Nango**	**6.74**	**235**		*e*S		**Sn**	15 05 48.1	-5.1
PETK	**Petropavlovsk-**	**10.47**	**31**	P			**Pn**	15 05 30.4	+1.5
	comp=E,0.2nm,0.3s,baz=206,slow=13,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**28.89**	**143**	T		T		15 39 43.9	
	baz=333,slow=76,SNR=211								
H11N1	**WAKE ISLAND Hy**	**28.91**	**143**	T		T		15 39 47.3	
	baz=333,slow=76,SNR=173								
H11N3	**WAKE ISLAND Hy**	**28.91**	**143**	T		T		15 39 43.3	
	baz=333,slow=76,SNR=172								
H11S1	**WAKE ISLAND Hy**	**29.89**	**144**	T		T		15 41 00.5	
	baz=334,slow=76,SNR=219								
H11S3	**WAKE ISLAND Hy**	**29.90**	**144**	T		T		15 41 08.6	
	baz=334,slow=76,SNR=195								
H11S2	**WAKE ISLAND Hy**	**29.91**	**144**	T		T		15 41 03.5	
	baz=334,slow=76,SNR=144								
YKA	**Yellowknife Ar**	**54.57**	**34**	P		P		**15 12 24.6**	**+0.6**
	comp=E,0.1nm,0.5s,baz=292,slow=6.6,SNR=4.0								
FINES	**FINESS Array B**	**64.79**	**333**	P		P		**15 13 32.8**	**-1.5**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**	**64.79**	**333**	P		P		**15 13 32.8**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=5.5,slow=16,SNR=3.4								
WRA	**Warramunga Arr**	**65.42**	**195**	P		P		**15 13 39.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=16,slow=7.1,SNR=3.9								
NVAR	**Mina Array Bea**	**66.22**	**59**	P		P		**15 13 45.7**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=310,slow=7.3,SNR=5.2								
PDAR	**Pinedale Array**	**68.56**	**51**	P		P		**15 13 58.2**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=247,slow=3.7,SNR=3.5								
ASAR	**Alice Springs**	**69.13**	**195**	P		P		**15 14 01.2**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=12,slow=7.0,SNR=4.0								
TXAR	**Lajitas Array**	**81.29**	**57**	P		P		**15 15 12.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=299,slow=3.3,SNR=6.1								

IDC 02 15:03:50.5±1.9, 9°40S×126°37E, h0km, mb4.4/1, mb1 3.5/4, mb1mx3.1/36, mbtmp3.4/4, ML2.8/3, Error ellipse: s-maj=37.1km s-min=32.7km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.79**	**253**	Pn	Pn	15 04 36.0	-0.4
	2.4nm,0.3s,baz=108,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**13.00**	**145**	Pn	Pn	15 06 55.8	-0.9
	0.1nm,0.3s,baz=322,slow=14,SNR=1.6						
WRA				Sn	Sn	15 09 22.8	+0.6
	0.0nm,0.3s,baz=322,slow=25,SNR=1.8						
ASAR	**Alice Springs**	**15.91**	**154**	Pn	Pn	15 07 37.3	+1.3
	0.0nm,0.3s,baz=319,slow=11,SNR=1.9						
PETK	**Petropavlovsk-**	**67.75**	**20**	P	P	15 14 50.0	+0.1
	3.7nm,0.9s,baz=218,slow=13,SNR=1.8						

*IDC **02** 15:24:10.5±1.4, 25°23S×70°77W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=50.3km s-min=48.9km az=71.0*
*ISCJB **02** 15:24:15.3±1.8, 25°05S×70°6W±0°3, h36km, mb3.6/3, Error ellipse: s-maj=46.3km s-min=33.3km az=22.0*

ISC 02 15:24:16.5±1.3, 25°1S±0°2×70°7W±0°3, h38km, n7, σ0°59/7, mb3.7/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**9.09**	**16**	Pn	**Pn**	**15 26 25.5**	**-0.1**
	0.1nm,0.3s,baz=181,slow=6.8,SNR=3.4						
NVAR	**Mina Array Bea**	**77.34**	**324**	P	**P**	**15 36 08.1**	**+0.6**
	0.2nm,0.5s,baz=163,slow=3.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**80.11**	**70**	P	**P**	**15 36 23.1**	**+0.2**
	0.7nm,0.7s,baz=259,slow=5.2,SNR=6.8						
YKA	**Yellowknife Ar**	**94.03**	**341**	P	**P**	**15 37 29.4**	**-0.6**
	0.2nm,0.7s,baz=142,slow=4.7,SNR=4.2						
ASAR	**Alice Springs**	**125.98**	**208**	PKP	**PKPdf**	**15 43 14.6**	**-0.6**
	0.7nm,1.0s,baz=140,slow=1.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**145.89**	**26**	PKPbc	**PKPab**	**15 43 52.0**	**+0.1**
	0.6nm,0.4s,baz=307,slow=5.0,SNR=4.3						
MKAR	**Makanchi Array**	**149.49**	**38**	PKPbc	**PKPbc**	**15 44 01.9**	**+0.4**
	0.6nm,0.5s,baz=305,slow=3.1,SNR=6.9						

*IDC **02** 15:39:23.7±2.0, 1°33N×126°52E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.5/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/29, Error ellipse: s-maj=171.2km s-min=25.1km az=66.0*
*DJA **02** 15:39:37.3±1.1, 1°N±4°×12°7E±°, h144km±10km, M3.3/5, MLv3.3/5*
*ISCJB **02** 15:39:38.3±1.1, 1°40N±0°08×127°1E±0°1, h150km, mb3.5/3, Error ellipse: s-maj=18.5km s-min=10.6km az=167.9*

ISC 02 15:39:39.4±1.3, 1°38N±0°10×127°2E±0°1, h150km, n9, σ1§60/11, mb3.4/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.63**	**164**	P	**Pn**	**15 39 59.6**	**-1.9**
TNTI				S	**Sn**	**15 40 18.2**	**-0.1**
LBMI	**Labuha**	**2.03**	**171**	P	**Pn**	**15 40 15.7**	**+0.8**
LBMI				S	**Sn**	**15 40 44.8**	**+2.6**
SANI	**Sanana**	**3.61**	**199**	P	**Pn**	**15 40 34.1**	**-0.5**
SANI				S	**Sn**	**15 41 14.7**	**-2.8**
GTOI	**Gorontalo**	**4.24**	**260**	P	**Pn**	**15 40 43.7**	**+0.9**
NLAI	**Namlea**	**4.59**	**181**	S	**Sn**	**15 41 40.1**	**-0.3**
WRA	**Warramunga Arr**	**22.32**	**162**	P	**P**	**15 44 25.1**	**+0.3**
	1.3nm,0.4s,baz=339,slow=10,SNR=32						
ASAR	**Alice Springs**	**25.74**	**166**	P	**P**	**15 44 56.9**	**+0.8**
	0.4nm,0.4s,baz=344,slow=8.0,SNR=14						
JCJ	**Chichijima**	**29.34**	**28**	LR	LR	15 55 50.2	
	comp=Z,220nm,19.8s,baz=144,slow=33						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**15 49 28.2**	**-0.2**
	0.2nm,0.4s,baz=120,slow=7.6,SNR=6.0						

*IDC **02** 15:39:50.7±0.8, 35°22S×72°99W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/22, mbtmp3.7/7, ML3.6/2, MS2.6/2, Ms1 2.6/2, ms1mx2.5/22, Error ellipse: s-maj=28.9km s-min=19.2km az=107.0*
*GUC **02** 15:39:53.1±0.5, 35°25S×72°85W, h18km±7km, ML4.4*
*ISCJB **02** 15:39:54.5±0.6, 35°24S±0°04×72°84W±0°06, h33km, mb4.0/8, MS3.1/1, Error ellipse: s-maj=7.0km s-min=5.9km az=16.7.*
*NEIC **02** 15:39:56.1±0.5, 35°25S×72°89W, h35km, mb4.3/2, Error ellipse: s-maj=18.6km s-min=8.8km az=95.0*

ISC 02 15:39:56.1±0.6, 35°22S±0°06×72°81W±0°07, h35km, n30, σ1§41/29, mb3.9/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.98**	**101**	*e*P	**Pn**	**15 40 11.1**	**-2.2**
TALC				*e*S	**Sn**	**15 40 24.7**	**-1.2**
LNCH	**Linares**	**1.17**	**123**	*e*P	**Pn**	**15 40 14.4**	**-1.6**
LNCH				*e*S	**Sn**	**15 40 30.1**	**-0.6**
NICH	**Los Niches**	**1.31**	**81**	*e*P	**Pn**	**15 40 16.9**	**-1.0**
NICH				*e*S	**Sn**	**15 40 35.0**	**+0.7**
NICH				AML	AML	15 40 41.8	
	comp=E,13μm,0.4s						
CCSP	**San Pedro de C**	**1.64**	**188**	*e*P	**Pn**	**15 40 21.0**	**-1.5**
CCSP				*e*S	**Sn**	**15 40 41.8**	**-0.6**
CLCH	**Cerro Calan**	**2.61**	**47**	AML	AML	15 41 19.9	
	comp=E,1μm,0.6s						
CFAA	**Coronel Fontan**	**5.25**	**48**	Pn	**Pn**	**15 41 12.6**	**+0.4**
	comp=E,0.3nm,0.3s,baz=218,slow=9.2,SNR=8.9						
CFAA				Lg	Lg	15 42 40.6	
	comp=E,0.5nm,0.3s,baz=132,slow=18,SNR=4.7						
CFAA				LR	LR	15 43 40.7	
	comp=E,13nm,19.1s,baz=274,slow=43						
PLCA	**Paso Flores**	**5.79**	**163**	Pn	**Pn**	**15 41 19.2**	**-0.3**
	comp=E,1.0nm,0.3s,baz=334,slow=12,SNR=25						
PLCA				Lg	Lg	15 42 49.0	
	comp=E,0.5nm,0.3s,baz=256,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**5.79**	**163**	*e*Pn	**Pn**	**15 41 19.3**	**-0.3**
	comp=E,27nm,0.9s						
PLCA				*e*Sn	**Sn**	**15 42 26.5**	**+1.8**
PLCA				Lg	Lg	15 42 49.0	
LPAZ	**La Paz**	**19.31**	**14**	P	**Pn**	**15 44 20.7**	**+0.6**
	comp=E,0.1nm,0.3s,baz=174,slow=7.8,SNR=4.4						
SIV	**San Ignacio**	**21.84**	**32**	P	**P**	**15 44 47.1**	**+1.5**
	comp=E,1.8nm,0.6s,baz=220,slow=14,SNR=6.5						
BDFB	**Brasilia**	**29.55**	**55**	LR	LR	15 58 32.8	
	comp=E,44nm,20.1s,baz=238,slow=38						
PMSA	**Palmer Station**	**30.06**	**173**	P	**P**	**15 46 01.7**	**+0.1**
	comp=E,33nm,0.9s,baz=8.7,slow=13,SNR=2.9						
VNA3	**Neumayer Olymp**	**48.48**	**157**	P	**P**	**15 48 35.6**	**+0.6**
VNA2	**Neumayer--Watz**	**49.14**	**157**	P	**P**	**15 48 40.6**	**+0.6**

	baz=280,slow=9.1								
SNAA	**Sanae**	**50.70**	**157**	*e*P		**P**		**15 48 52.1**	**+0.2**
	comp=E,9.2nm,1.0s								
QSPA	**South Pole Qui**	**55.02**	**180**	P		**P**		**15 49 24.6**	**+0.6**
	comp=E,0.9nm,0.6s								
TXAR	**Lajitas Array**	**70.49**	**332**	P		**P**		**15 51 07.5**	**+0.3**
	comp=E,0.2nm,0.5s,baz=156,slow=8.6,SNR=4.3								
TXAR				pP		**pP**		**15 51 14.9**	**-3.2**
	comp=E,0.6nm,0.7s,baz=157,slow=8.4,SNR=4.6								
PDAR	**Pinedale Array**	**84.56**	**334**	P		**P**		**15 52 26.0**	**+0.2**
	comp=E,0.2nm,0.5s,baz=134,slow=2.6,SNR=2.7								
TORD	**Torodi Ar. Bea**	**85.22**	**70**	P		**P**		**15 52 29.3**	**0.0**
	comp=E,0.6nm,0.7s,baz=250,slow=3.7,SNR=4.3								
TORD				pP		**PcP**		**15 52 36.4**	**+3.9**
	comp=E,0.4nm,0.7s,baz=282,slow=2.2,SNR=4.1								
ULM	**Lac du Bonnet**	**87.51**	**345**	P		**P**		**15 52 39.4**	**-0.3**
	comp=E,1.6nm,0.7s,baz=197,slow=7.4,SNR=4.5								
WRA	**Warramunga Arr**	**119.39**	**210**	PKP		**PKPdf**		**15 58 41.8**	**-0.6**
	comp=E,0.3nm,0.7s,baz=155,slow=1.7,SNR=4.2								
BRTR	**Keskin Array B**	**122.97**	**62**	PKP		**PKPdf**		**15 58 49.1**	**+0.4**
	comp=E,0.4nm,0.6s,baz=242,slow=3.1,SNR=2.8								
H11S2	**WAKE ISLAND Hyl**	**25.11**	**269**	T		T		18 16 42.7	
	baz=120								
H11S1	**WAKE ISLAND Hyl**	**25.13**	**269**	T		T		18 16 33.6	
	baz=120								
H11S3	**WAKE ISLAND Hyl**	**25.13**	**269**	T		T		18 16 43.8	
	baz=120								
H11N3	**WAKE ISLAND Hyl**	**25.56**	**270**	T		T		18 17 07.7	
	baz=117								
H11N1	**WAKE ISLAND Hyl**	**25.57**	**270**	T		T		18 17 00.0	
	baz=117,slow=74								
H11N2	**WAKE ISLAND Hyl**	**25.57**	**270**	T		T		18 17 11.8	
	baz=117,slow=74								
ZALV	**Zalesovo Beam**	**155.59**	**33**	PKP		**PKPdf**		**15 59 45.1**	**-0.4**
	comp=E,0.7nm,0.8s,baz=352,slow=2.9,SNR=3.3								
SONM	**Songino Array**	**167.38**	**2**	PKPab		**PKPab**		**16 01 01.3**	**-2.1**
	comp=E,0.3nm,0.9s,baz=72,slow=4.7,SNR=2.8								

MAN 02 15:42:10.7±0.4, 7°94N×124°56E, h1km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.50**	**97**	*e*P	Pg	15 42 20.1	+0.4
CGP	**Cagayan de Oro**	**0.53**	**15**	↑*i*P	Pg	15 42 20.3	+0.2
CGP				*i* S	Sg	15 42 27.3	+0.3
CTBH	**Cotabato--PC H**	**0.78**	**203**	↓*i*P	Pb	15 42 25.9	-0.6
CTBH				*i* S	Pb	15 42 25.9	-0.6
PAGZ	**Pagadian**	**1.17**	**265**	*e*P	Pg	15 42 32.6	+0.2
PAGZ				*e*S	Sn	15 42 50.4	+0.3
BUTP	**Butuan**	**1.46**	**46**	*e*P	Pn	15 42 37.4	-0.2
IPIL	**Ipil**	**1.98**	**266**	*e*P	Pb	15 42 46.2	-0.6
MSLP	**Maasin**	**2.20**	**8**	*e*P	Pn	15 42 48.2	+0.5
OCLP	**Ormoc**	**3.09**	**1**	*e*P	Pn	15 43 01.1	+1.2
GUIM	**Jordan**	**3.30**	**324**	*e*P	Pn	15 43 00.5	-2.3

WEL 02 15:42:26.1±0.2, 40°39S×174°33E, h110km±2km, ML3.7/16, 14C-6D, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.52**	**217**	↑PN	Pn	15 42 42.5	-0.7
KIW	**Kapiti Island**	**0.65**	**137**	↑PN	Pn	15 42 43.6	-0.5
KIW				AML	AML	15 42 56.5	
KIW				AML	AML	15 42 56.7	
WAZ	**Wanganui**	**0.81**	**39**	↑PN	Pn	15 42 46.7	+0.2
WAZ				SN	Sn	15 42 59.3	-0.8
TCW	**Tory Channel**	**0.82**	**183**	↑PN	Pn	15 42 45.6	0.0
TCW				AML	AML	15 42 58.6	
TCW				AML	AML	15 42 59.1	
CAW	**Cannon Point**	**0.91**	**142**	↑PN	Pn	15 42 46.5	0.0
CAW				AML	AML	15 43 02.4	
CAW				AML	AML	15 43 02.4	
LREZ	**Lake Rotokare**	**0.93**	**3**	PN	Pn	15 42 46.6	0.0
LREZ				SN	Sn	15 43 01.7	-0.4
WEL	**Wellington**	**0.95**	**160**	PN	Pn	15 42 46.9	0.0
WEL				AML	AML	15 42 47.5	
WEL				AML	AML	15 42 47.7	
MRZ	**Mangatainoka R**	**0.99**	**106**	↑PN	Pn	15 42 47.1	-0.2
MRZ				AML	AML	15 43 01.9	
MRZ				AML	AML	15 43 03.0	
HOWZ	**Holdsworth Sta**	**1.03**	**120**	PN	Pn	15 42 47.5	-0.2
NMEZ	**Namu Road**	**1.04**	**340**	PN	Pn	15 42 47.3	-0.4
NMEZ				SN	Sn	15 43 02.1	-0.8
PREZ	**Palmer Road**	**1.05**	**353**	PN	Pn	15 42 47.9	-0.2
PREZ				SN	Sn	15 43 03.8	-0.7
TUWZ	**Tuamarina**	**1.08**	**196**	PN	Pn	15 42 47.9	-0.3
TUWZ				AML	AML	15 43 03.4	
TUWZ				AML	AML	15 43 04.4	
BHW	**Baring Head**	**1.10**	**158**	↑PN	Pn	15 42 48.3	0.0
BHW				AML	AML	15 43 04.4	
BHW				AML	AML	15 43 05.3	
POWZ	**Post Office Ro**	**1.10**	**91**	PN	Pn	15 42 48.0	-0.3
NNZ	**Nelson**	**1.10**	**221**	PN	Pn	15 42 48.1	-0.2
KHEZ	**Kahui Hut**	**1.12**	**347**	↓PN	Pn	15 42 48.5	-0.3
NEZ	**North Egmont**	**1.13**	**351**	↑PN	Pn	15 42 48.5	-0.4
NWEZ	**Newall Road**	**1.17**	**342**	PN	Pn	15 42 49.1	-0.1
MTW	**Mount Morrison**	**1.18**	**131**	PN	Pn	15 42 49.1	-0.1
MTW				AML	AML	15 43 06.5	
MTW				AML	AML	15 43 06.6	
DRUZ	**Durham Road**	**1.20**	**355**	↓PN	Pn	15 42 49.6	0.0
PKE	**Pukeiti**	**1.22**	**347**	PN	Pn	15 42 49.6	-0.2
MSWZ	**Moikau Station**	**1.24**	**146**	↑PN	Pn	15 42 50.0	+0.1
MSWZ				AML	AML	15 43 07.8	
MSWZ				AML	AML	15 43 08.2	
TIWZ	**Tintock**	**1.25**	**109**	PN	Pn	15 42 49.9	-0.2
TIWZ				AML	AML	15 43 07.8	
TIWZ				AML	AML	15 43 08.3	
PRWZ	**Pori Road**	**1.26**	**98**	↑PN	Pn	15 42 50.3	+0.1
TSZ	**Takapari Road**	**1.29**	**76**	PN	Pn	15 42 50.1	-0.5
TSZ				AML	AML	15 43 08.8	
TSZ				AML	AML	15 43 09.2	
PAWZ	**Paruwai Farm**	**1.29**	**140**	↑PN	Pn	15 42 50.6	+0.1
PAWZ				AML	AML	15 43 08.9	
PAWZ				AML	AML	15 43 09.1	
VRZ	**Vera Road**	**1.30**	**15**	↓PN	Pn	15 42 50.8	0.0
MHEZ	**Mangahewa**	**1.31**	**360**	PN	Pn	15 42 51.1	+0.3
MTVZ	**Mangateitei**	**1.33**	**42**	PN	Pn	15 42 50.8	-0.3
PKVZ	**Pokaka**	**1.35**	**36**	*e*PN	Pn	15 42 51.1	-0.2
BSWZ	**Blackbirch Sta**	**1.37**	**194**	PN	Pn	15 42 51.7	+0.3
BSWZ				AML	AML	15 43 10.9	
BSWZ				AML	AML	15 43 11.2	
PLWZ	**Palliser**	**1.37**	**150**	↑PN	Pn	15 42 51.5	0.0
TMWZ	**Te Maipa**	**1.38**	**122**	PN	Pn	15 42 51.6	-0.1
DVHZ	**Dannevirke**	**1.41**	**87**	PN	Pn	15 42 51.3	-0.5
TRVZ	**Turoa**	**1.44**	**41**	*e*PN	Pn	15 42 52.3	-0.3
QRZ	**Quartz Range**	**1.44**	**252**	↑PN	Pn	15 42 51.3	-0.9
TRWZ	**Traveller**	**1.44**	**135**	PN	Pn	15 42 52.2	-0.1
TRWZ				AML	AML	15 43 12.9	
TRWZ				AML	AML	15 43 14.3	
WNVZ	**Wahianoa**	**1.44**	**43**	PN	Pn	15 42 52.4	-0.1
MOVZ	**Moawhango**	**1.47**	**49**	PN	Pn	15 42 52.2	-0.5
WHVZ	**Whangaehu Hut**	**1.47**	**42**	PN	Pn	15 42 52.8	-0.1
FWVZ	**Far West T-bar**	**1.47**	**40**	PN	Pn	15 42 52.6	-0.4
BFZ	**Birch Farm**	**1.49**	**102**	PN	Pn	15 42 52.5	-0.3
PNHZ	**Pukenui**	**1.51**	**72**	↓PN	Pn	15 42 52.5	-0.7
WPVZ	**Whakapapa**	**1.51**	**39**	PN	Pn	15 43 53.1	-0.8
COVZ	**Chateau Observ**	**1.51**	**39**	PN	Pn	15 42 53.0	-0.3
TUVZ	**Tukino**	**1.51**	**43**	*e*PN	Pn	15 42 53.3	0.0
NGZ	**Ngauruhoe**	**1.56**	**39**	*e*PN	Pn	15 42 53.5	-0.4
TWVZ	**Taurewa**	**1.57**	**33**	*e*PN	Pn	15 42 53.6	-0.3
OTVZ	**Oturere**	**1.60**	**40**	PN	Pn	15 42 54.3	-0.1
WTVZ	**West Tongariro**	**1.60**	**38**	PN	Pn	15 42 54.0	-0.4
BHHZ	**Black Hill Sta**	**1.61**	**56**	PN	Pn	15 42 53.7	-0.6
ANWZ	**Angora Road**	**1.64**	**93**	PN	Pn	15 42 54.3	-0.2
KRVZ	**Karewarewa**	**1.64**	**38**	*e*PN	Pn	15 42 55.3	+0.5
WPHZ	**Waipukurau**	**1.65**	**79**	PN	Pn	15 42 54.3	-0.5
KRHZ	**Kereru**	**1.73**	**65**	PN	Pn	15 42 55.0	-0.8
THZ	**Tophouse**	**1.75**	**218**	PN	Pn	15 42 56.0	0.0
KATZ	**Kakaramea**	**1.76**	**37**	*e*PN	Pn	15 42 56.6	+0.3
PRHZ	**Porangahau**	**1.77**	**87**	PN	Pn	15 42 56.1	-0.1
RITZ	**Rihia Road**	**1.84**	**40**	*e*PN	Pn	15 42 57.0	-0.1
HIZ	**Hauiti**	**1.92**	**12**	↓PN	Pn	15 42 58.0	-0.1
PXZ	**Pawanui**	**1.97**	**80**	PN	Pn	15 42 58.1	-0.6
PXZ				AML	AML	15 43 24.6	
PXZ				AML	AML	15 43 24.6	
PXZ				AML	AML	15 43 25.3	
PXZ				AML	AML	15 43 25.3	
KAHZ	**Kahuranaki**	**2.04**	**74**	PN	Pn	15 42 59.2	-0.5
MCHZ	**McNeill Hill**	**2.05**	**63**	PN	Pn	15 42 59.3	-0.5
BKZ	**Black Stump Fm**	**2.06**	**54**	PN	Pn	15 42 59.2	-0.9
KHZ	**Kahutara**	**2.11**	**196**	↑PN	Pn	15 43 00.8	+0.3
KHZ				AML	AML	15 43 26.9	
KHZ				AML	AML	15 43 27.0	
TLZ	**Tolley Road**	**2.26**	**25**	*e*PN	Pn	15 43 03.0	+0.4
ARHZ	**Aropaoanui**	**2.34**	**62**	PN	Pn	15 43 02.4	-1.1
DSZ	**Dennistone Nort**	**2.34**	**234**	↓PN	Pn	15 43 03.1	-0.5
WHHZ	**Waihua**	**2.59**	**61**	PN	Pn	15 43 05.5	-1.3
TOZ	**Tahuroa Road**	**2.81**	**19**	*e*PN	Pn	15 43 09.2	-0.4
SNGZ	**Shannon Statio**	**2.83**	**56**	*e*PN	Pn	15 43 08.5	-1.4
LTZ	**Lake Taylor**	**2.85**	**212**	*e*PN	Pn	15 43 09.6	-0.6
KNZ	**Kokohu**	**2.92**	**63**	PN	Pn	15 43 09.3	-1.7
MHGZ	**Mahia Peninsul**	**3.02**	**67**	PN	Pn	15 43 10.9	-1.4
URZ	**Urewera**	**3.03**	**46**	PN	Pn	15 43 10.5	-2.0
RIGZ	**Rimuhau**	**3.14**	**59**	PN	Pn	15 43 12.3	-1.7
MWZ	**Matawai**	**3.22**	**51**	PN	Pn	15 43 13.0	-2.1
KBAZ	**Karaka Road Bo**	**3.32**	**8**	*e*PN	Pn	15 43 16.9	+0.6
MKAZ	**Moumakai**	**3.34**	**12**	PN	Pn	15 43 16.7	0.0
CRLZ	**Canterbury Las**	**3.43**	**201**	*e*PN	Pn	15 43 16.3	-1.5
WTAZ	**Waiatarua**	**3.46**	**3**	PN	Pn	15 43 19.0	+0.8
ETAZ	**East Tamaki Re**	**3.46**	**8**	PN	Pn	15 43 18.8	+0.4
MQZ	**McQueen's Vall**	**3.54**	**200**	PN	Pn	15 43 17.4	-1.9
RVAZ	**Riverhead Bore**	**3.62**	**3**	PN	Pn	15 43 20.5	+0.1
HAZ	**Te Kaha**	**3.76**	**47**	*e*PN	Pn	15 43 23.1	+0.8
KUZ	**Kuaotunu**	**3.80**	**17**	PN	Pn	15 43 23.0	+0.2
WCZ	**Waipu Caves**	**4.44**	**0**	*e*PN	Pn	15 43 32.2	+0.7
FOZ	**Fox Glacier**	**4.69**	**226**	PN	Pn	15 43 32.0	-2.8
ODZ	**Otahua Downs**	**5.39**	**209**	PN	Pn	15 43 43.3	-0.8

GUC 02 15:46:46.9±0.3, 33°11S×73°06W, h26km±9km, ML3.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**1.73**	**86**	*e*P	Pn	15 47 15.5	-0.1
ROCH				*e*S	Sn	15 47 38.1	+1.1
ROCH				AML	AML	15 47 40.9	
	comp=N,123nm,0.3s						
PEL	**Peldehue**	**1.99**	**92**	*e*P	Pn	15 47 20.3	+1.2
PEL				*e*S	Sb	15 47 45.7	-1.3
PEL				AML	AML	15 47 51.9	
	comp=E,136nm,0.5s						
CLCH	**Cerro Calan**	**2.13**	**99**	*e*S	Sb	15 47 49.2	-2.0
CLCH				AML	AML	15 47 50.4	
	comp=E,269nm,0.8s						
FCH	**Farellones**	**2.33**	**96**	*e*P	Pn	15 47 25.7	+1.6
FCH				*e*S	Sb	15 47 55.2	-2.2
FCH				AML	AML	15 47 58.1	
	comp=N,152nm,0.4s						
PLCA	**Paso Flores**	**7.87**	**166**	Pn	Pn	15 48 49.0	+9.1
	comp=N,2.2nm,0.3s,baz=303,slow=13,SNR=30						
PLCA				Lg	Lg	15 49 47.2	
	comp=N,6.0nm,0.3s,baz=48,slow=22,SNR=4.9						
PLCA				LR	LR	15 49 55.2	
	comp=N,59nm,21.3s,baz=268,slow=34						

*IDC **02** 15:47:50.9±2.1, 38°20S×73°88W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/29, mbtmp3.6/4, ML3.9/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/18, Error ellipse: s-maj=70.3km s-min=19.9km az=54.0*
*GUC **02** 15:48:21.9±0.4, 34°42S×72°02W, h36km±7km, ML3.2*

ISC 02 15:47:57.5±1.6, 36°9S±0°2×73°1W±0°3, h10km, n15, σ1§27/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.90**	**38**	*e*P	Pg	15 48 40.3	+6.4
TALC				*e*S	**Sn**	**15 48 54.3**	**+0.5**
NICH	**Los Niches**	**2.41**	**38**	*e*P	**Pn**	**15 48 37.9**	**+0.9**
NICH				*e*S	Sn	15 48 50.0	-17

ASAJ Asahikawa 6.09 0 P Pn 16 05 49.1 +0.2
0.5nm,0.3s,baz=216,slow=19,SNR=4.8
USRK Ussuriysk Ar. 10.10 311 P Pn 16 06 46.5 +2.7
0.2nm,0.3s,baz=87,slow=16,SNR=2.7
KSRS Korea Array 11.62 272 LR LR 16 11 29.1
comp=Z,32nm,20.1s,baz=90,slow=37
SEY Seymchan 25.65 10 P P 16 09 48.6 +1.3
0.9nm,0.6s,baz=199,slow=6.3,SNR=5.9
H11N2 WAKE ISLAND Hy 27.89 124 T T 16 39 19.5
baz=316,slow=75,SNR=50
H11N1 WAKE ISLAND Hy 27.90 124 T T 16 39 20.0
baz=316,slow=75,SNR=19
H11N3 WAKE ISLAND Hy 27.91 124 T T 16 39 25.2
baz=316,slow=75,SNR=21
SONM Songino Array 28.03 302 P P 16 10 09.3 +0.2
0.5nm,0.6s,baz=114,slow=7.6,SNR=5.5
H11S1 WAKE ISLAND Hy 28.65 126 T T 16 40 20.3
baz=317,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 28.65 126 T T 16 40 17.5
baz=317,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 28.67 126 T T 16 40 21.0
baz=317,slow=76,SNR=12
ZALV Zalesovo Beam 41.95 312 P P 16 12 07.7 -0.7
0.6nm,0.5s,baz=76,slow=6.1,SNR=3.2
MKAR Makanchi Array 44.39 301 P P 16 12 28.2 -0.1
0.7nm,0.7s,baz=84,slow=9.4,SNR=5.8
KURBB Kurchatov Arra 46.13 307 P P 16 12 41.3 -0.8
2.0nm,0.3s,baz=82,slow=8.0,SNR=5.8
WRA Warramunga Arr 58.17 189 P P 16 14 10.7 -1.0
0.4nm,0.7s,baz=7.3,slow=7.5,SNR=4.0

*ISCJB **02** 16:04:26.4±0.8,5.°62N±0.°06×126.°48E±0.°08, h66km, mb3.8/8, Error ellipse: s-maj=11.2km s-min=7.5km az=157.4*
*MAN **02** 16:04:27,5.°75N×126.°61E, h90km, mb5.0, ML3.9, MS4.0*
*IDC **02** 16:04:38.2±7.2,5.°48N×125.°77E, h165km±66km, mb3.3/7, mb1 3.5/8, mb1mx3.3/25, mbtmp3.9/8, Error ellipse: s-maj=97.6km s-min=16.2km az=67.0*
ISC 02 16:04:27.4±0.8,**5.°64N**±0.°07×**126.°46E**±0.°09,**h66**km,**n18,** σ1§**72**/22,**mb3.7**/8,**3C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.31**	**351**	*eP*	**Pn**	**16 04 50.5**	**+0.8**
GSPH	**General Santos**	**1.56**	**287**	⇓*i*P	**Pn**	**16 04 53.1**	**-0.1**
GSPH				*i* S	**Sn**	**16 05 12.2**	**-0.5**
BIPH	**Bislig**	**2.53**	**358**	⇑*e*P	**Pn**	**16 05 06.3**	**+0.1**
BIPH				*e*S	**Sn**	**16 05 36.3**	**+0.5**
BUKP	**Musuan**	**2.62**	**328**	*e*P	**Pn**	**16 05 08.8**	**+1.3**
BUKP				*e*S	**Sn**	**16 05 36.4**	**-1.8**
CTBH	**Cotabato--PC H**	**2.70**	**306**	⇑*i*P	**Pn**	**16 05 09.3**	**+0.9**
CGP	**Cagayan de Oro**	**3.30**	**328**	⇑*e*P	Pn	16 05 22.5	+5.9
CGP				*e*S	**Sn**	**16 05 57.9**	**+3.2**
BUTP	**Butuan**	**3.41**	**346**	*e*P	**Pn**	**16 05 19.7**	**+1.6**
PAGZ	**Pagadian**	**3.76**	**306**	*e*P	**Pn**	**16 05 24.7**	**+1.8**
BATI	**Baumata**	**15.99**	**190**	P	**P**	**16 08 12.8**	**+2.1**
2.9nm,0.3s,baz=29,slow=17,SNR=8.5							
WRA	**Warramunga Arr**	**26.58**	**163**	P	**P**	**16 10 01.8**	**+2.3**
0.2nm,0.4s,baz=340,slow=10,SNR=12							
ASAR	**Alice Springs**	**30.02**	**166**	P	**P**	**16 10 30.8**	**+0.6**
0.5nm,0.5s,baz=346,slow=7.6,SNR=7.9							
ASAR				PcP	**PcP**	**16 13 30.4**	**-0.7**
0.5nm,0.7s,baz=348,slow=2.2,SNR=4.2							
SONM	**Songino Array**	**45.41**	**341**	P	**P**	**16 12 41.8**	**+2.2**
0.2nm,0.6s,baz=159,slow=7.4,SNR=2.8							
MKAR	**Makanchi Array**	**55.84**	**325**	P	**P**	**16 13 55.9**	**-2.3**
0.6nm,0.4s,baz=120,slow=7.4,SNR=13							
ZALV	**Zalesovo Beam**	**58.77**	**333**	P	**P**	**16 14 18.1**	**-0.5**
0.3nm,0.3s,baz=98,slow=10,SNR=3.0							
BVAR	**Borovoye Array**	**65.58**	**327**	P	**P**	**16 15 02.0**	**-2.2**
0.3nm,0.5s,baz=100,slow=9.7,SNR=3.0							
SPITS	**Spitsbergen Ar**	**88.56**	**349**	P	**P**	**16 17 11.8**	**-0.7**
14nm,1.1s,baz=87,slow=6.1,SNR=3.5							
ARCES	**ARCESS Array B**	**88.57**	**340**	P	**P**	**16 17 10.6**	**-2.1**
6.1nm,1.1s,baz=79,slow=6.7,SNR=7.3							
TORD	**Torodi Ar. Bea**	**122.05**	**289**	PKP	**PKPdf**	**16 23 13.8**	**-1.8**
0.4nm,0.5s,baz=64,slow=2.6,SNR=5.2							

*NNC **02** 16:12:38.1±0.5,39.°17N×69.°89E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=9.1km s-min=2.3km az=148.0*
*KRNET **02** 16:12:39.7±0.1,39.°13N×70.°37E, h1km, mb3.7*
ISC 02 16:12:36.9±2.8,**39.°06N**±0.°07×**69.°87E**±0.°04,**h10**km±21km, **n12,** σ2§**05**/26,**7C-13D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**0.85**	**253**	⇑P	**Pb**	**16 12 55.3**	**+1.3**
42nm,0.3s							
DZET				⇓S	**Sn**	**16 13 08.5**	**+0.7**
320nm,0.4s							
BTK	**Batken**	**1.23**	**36**	*i* P	**Pn**	**16 12 58.2**	**-2.2**
baz=20							
BTK				*e*S	**Sb**	**16 13 14.1**	**-2.4**
baz=20							
DRK	**Karamyk**	**1.55**	**74**	*e*P	**Pn**	**16 13 04.2**	**-0.8**
baz=72							
DRK				*e*S	Sn	16 13 18.5	-6.9
baz=72							
CHVK	**Chauvay**	**2.10**	**59**	*e*P	**Pn**	**16 13 12.1**	**-0.3**
baz=54							
CHVK				*e*S	**Sn**	**16 13 37.2**	**-1.6**
baz=54							
SFK	**Sufi-Kurgan**	**2.96**	**70**	⇑Pn	**Pn**	**16 13 25.4**	**+1.1**
SFK				⇑Pg	**Pb**	**16 13 29.2**	**-0.8**
12nm,0.5s							
SFK				⇓Sn	**Sn**	**16 14 03.9**	**+3.8**
20nm,0.4s							
SFK				⇓Lg	Lg	16 14 10.9	
57nm,0.5s							
SALK	**Salom-Alik**	**3.54**	**58**	*e*P	**Pn**	**16 13 33.7**	**+1.6**
baz=55							
SALK				*e*S	**Sn**	**16 14 16.1**	**+2.0**
baz=55							
MNAS	**Manas**	**3.96**	**29**	⇓Pn	**Pn**	**16 13 39.0**	**+1.0**
1.6nm,0.2s							
MNAS				⇑Sn	**Sn**	**16 14 27.4**	**+2.9**
26nm,0.7s							
KK31	**Karatay Array**	**4.07**	**7**	Pn	**Pn**	**16 13 40.9**	**+1.7**
1.1nm,0.3s,baz=186,slow=10,SNR=26							
KK31				⇓Pg	**Pb**	**16 13 50.4**	**+1.8**
3.7nm,0.3s,baz=184,slow=16,SNR=17							
KK31				⇓Sn	**Sn**	**16 14 29.0**	**+2.0**
3.4nm,0.3s,baz=189,slow=17,SNR=9.1							
KK31				⇓Lg	Lg	16 14 44.1	
13nm,0.6s,baz=193,slow=31,SNR=3.8							
AAK	**Ala-Archa**	**5.00**	**43**	⇑Pn	**Pn**	**16 13 54.0**	**+1.8**
1.9nm,0.4s							
AAK				⇓Pg	**Pb**	**16 14 05.0**	**+0.3**
4.6nm,0.6s							
AAK				⇓Sn	**Sn**	**16 14 53.0**	**+2.8**
5.4nm,0.5s							
AAK				⇑Lg	Lg	16 15 11.2	
16nm,0.8s							
TKM2	**Tokmak 2**	**5.80**	**47**	⇓Pn	**Pn**	**16 14 05.6**	**+2.3**
5.5nm,0.9s							
TKM2				⇓Sn	**Sn**	**16 15 11.7**	**+1.8**
8.0nm,0.7s							
AB31	**Akbulak array**	**12.42**	**328**	⇓P	**Pn**	**16 15 32.1**	**-1.7**
1.2nm,0.4s,baz=138,slow=13,SNR=46							
AB31				S	**Sn**	**16 17 49.3**	**-2.9**
0.9nm,0.4s,baz=152,slow=24,SNR=6.8							
AKTO	**Aktyubinsk**	**14.13**	**327**	⇓P	**Pn**	**16 15 55.6**	**-1.4**
2.3nm,0.8s							
AKTO				⇑S	**Sn**	**16 18 32.6**	**-1.2**
4.8nm,1.2s							

JMA 02 16:15:44.4±0.1,**26.°67N**×**141.°49E, h114**km,**M3.9, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.62**	**94**	P	Pn	16 16 02.5	0.0
JHHJ				*e*S	Sn	16 16 16.6	+0.5
CBIJ	**Chichi jima**	**0.75**	**55**	P	Pn	16 16 03.7	+0.1
CBIJ				*e*S	Sn	16 16 18.1	+0.1
BSO3	**Boso 3**	**8.15**	**354**	P	Pn	16 17 38.7	-0.8
JHU	**Hanno**	**9.35**	**349**	P	Pn	16 17 55.1	-1.0
JAG	**Ashikaga**	**9.88**	**350**	P	Pn	16 18 00.8	-2.5
JHO	**Hitachi**	**9.94**	**356**	P	Pn	16 18 01.8	-2.3
JHO				S	Sn	16 19 44.8	-9.0

GUC 02 16:20:19.7±0.8,**34.°01S**×**72.°48W, h26**km±5km,**ML3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.43**	**134**	*e*P	Pn	16 20 44.1	+0.1
NICH				*e*S	Sb	16 21 03.0	-0.6
TALC	**Talca**	**1.55**	**154**	*e*P	Pn	16 20 46.5	+0.8
TALC				*e*S	Sb	16 21 06.7	-0.3
CLCH	**Cerro Calan**	**1.73**	**70**	*e*P	Pn	16 20 49.0	+0.7
CLCH				*e*P	Pb	16 20 49.4	-1.5
CLCH				*e*S	Sb	16 21 11.4	-0.9
CLCH				*e*S	Sn	16 21 11.5	+1.9
CLCH				AML	AML	16 21 19.1	
comp=E,781nm,0.6s							
CLCH				AML	AML	16 21 19.7	
comp=E,891nm,0.6s							
SJCH	**San Jose de Ma**	**1.81**	**79**	*e*P	Pn	16 20 44.3	-5.0
SJCH				*e*S	Sn	16 21 08.2	-3.2
SJCH				AML	AML	16 21 17.5	
comp=N,566nm,0.5s							
FCH	**Farellones**	**1.95**	**70**	*e*P	Pb	16 20 53.4	-1.5
FCH				AML	AML	16 21 19.0	
comp=N,671nm,0.2s							
LNCH	**Linares**	**1.97**	**159**	*e*P	Pn	16 20 52.8	+1.3
LNCH				*e*S	Sb	16 21 17.3	-1.8

*ISCJB **02** 16:23:35.2±1.2,28.°01S±0.°04×71.°2W±0.°1, h35km, mb3.6/1, MS2.9/1, Error ellipse: s-maj=15.1km s-min=5.7km az=10.9*
*GUC **02** 16:23:37.0±0.5,28.°11S×70.°95W, h40km±4km, ML3.3*
*IDC **02** 16:23:43.6±1.4,27.°61S×69.°48W, h42km±7km, mb3.5/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.5/3, ML3.0/2, MS2.4/2, Ms1 2.4/2, ms1mx2.3/13, Error ellipse: s-maj=54.7km s-min=13.9km az=83.0*
ISC 02 16:23:36.6±1.0,**27.°98S**±0.°05×**71.°2W**±0.°1,**h35**km,**n11,** σ1§**96**/17,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.70**	**148**	*e*P	Pn	16 23 47.5	-2.6
VACH				*e*S	**Sn**	**16 23 55.9**	**-3.7**
CPCH	**Copiapo**	**0.96**	**50**	*e*P	**Pn**	**16 23 53.8**	**+0.2**
CPCH				*e*S	**Sn**	**16 24 06.7**	**+0.6**
LSCH	**La Serena**	**1.92**	**182**	*e*P	**Pn**	**16 24 07.0**	**+0.2**
LSCH				*e*S	**Sn**	**16 24 29.1**	**-0.6**
LSCH				AML	AML	16 24 34.5	
comp=E,425nm,0.1s							
CMCH	**Combarbala**	**3.18**	**177**	*e*P	**Pn**	**16 24 25.5**	**+1.2**
CMCH				*e*S	**Sn**	**16 25 01.2**	**+0.2**
CFAA	**Coronel Fontan**	**4.42**	**145**	P	**Pn**	**16 24 44.0**	**+2.7**
comp=E,1.8nm,0.3s,baz=338,slow=5.6,SNR=39							
CFAA				S	**Sn**	**16 25 32.0**	**+0.5**
comp=E,2.6nm,0.3s,baz=212,slow=17,SNR=10							
CFAA				LR	LR	16 26 34.3	
comp=E,11nm,20.3s,baz=256,slow=41							
LPAZ	**La Paz**	**11.97**	**14**	P	**Pn**	**16 26 25.1**	**-0.3**
comp=E,0.0nm,0.3s,baz=79,slow=10,SNR=2.0							
PTGA	**Pitinga**	**29.15**	**24**	LR	LR	16 42 04.8	
comp=E,30nm,21.0s,baz=158,slow=39							
TORD	**Torodi Ar. Bea**	**81.48**	**70**	P	**P**	**16 35 48.3**	**-2.3**
comp=E,0.7nm,1.0s,baz=289,slow=4.4,SNR=3.1							
TORD				pP	**pP**	**16 36 01.6**	**-0.1**
comp=E,1.5nm,0.6s,baz=272,slow=4.2,SNR=4.7							
TORD				sP	**sP**	**16 36 06.4**	**+0.7**
comp=E,1.7nm,0.7s,baz=264,slow=5.1,SNR=7.0							
WRA	**Warramunga Arr**	**126.34**	**210**	PKP	PKPdf	16 42 44.3	+8.0
comp=E,0.6nm,1.0s,baz=105,slow=13,SNR=4.2							
ZALV	**Zalesovo Beam**	**148.65**	**28**	PKP	**PKPbc**	**16 43 18.4**	**-1.2**
comp=E,1.5nm,0.9s,baz=308,slow=3.4,SNR=4.7							
ZALV				pPKP	**pPKPdf**	**16 43 31.2**	**+4.0**
comp=E,1.7nm,0.8s,baz=305,slow=3.9,SNR=5.3							
MKAR	**Makanchi Array**	**151.98**	**41**	PKP	**PKPbc**	**16 43 26.0**	**-1.9**
comp=E,0.3nm,0.7s,baz=304,slow=2.0,SNR=3.3							
MKAR				pPKP	**PKPab**	**16 43 39.0**	**+1.8**
comp=E,1.2nm,0.7s,baz=329,slow=2.1,SNR=12							

MEX 02 16:52:18.0±0.4,**13.°96N**×**91.°37W, h95**km±9km,**MD4.0, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.42**	**342**	*e*P	Pn	16 52 55.1	-1.2
CCIG				*i* S	Sn	16 53 24.1	-1.4
PCIG		**2.49**	**314**	*e*P	Pn	16 52 56.2	-0.6
PCIG				*i* S	Sn	16 53 24.4	-2.3
CMIG	**Matias Romero**	**4.60**	**313**	*e*P	Pn	16 53 24.4	-0.9
CMIG				*i* S	Sn	16 54 16.7	-1.0
TEIG	**Tepich**	**6.89**	**25**	*e*P	Pn	16 53 55.4	-1.1

MAN 02 16:53:05,9.°24N×125.°55E, h8km,**mb4.8, ML3.7, MS3.7, 4C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.28**	**165**	*e*P	Pb	16 53 11.6	-0.8
BUTP				*e*S	Sb	16 53 17.0	-0.3
SCPH	**Surigao**	**0.54**	**354**	⇑*e*P	Pb	16 53 16.3	-0.4
MSLP	**Maasin**	**1.11**	**323**	*e*P	Pg	16 53 26.1	-0.4
MSLP				*e*S	Sb	16 53 41.8	+0.6
CGP	**Cagayan de Oro**	**1.15**	**227**	⇑*i*P	Pg	16 53 24.9	-2.2
CGP				*i* S	Sn	16 53 43.6	+0.2
BIPH	**Bislig**	**1.32**	**142**	⇑*e*P	Pn	16 53 28.1	-1.8
BIPH				*e*S	Sb	16 53 45.1	-2.2
BUKP	**Musuan**	**1.44**	**199**	*e*P	Pb	16 53 32.0	-0.1
BUKP				*e*S	Sg	16 53 53.3	+1.8
OCLP	**Ormoc**	**2.02**	**333**	*e*P	Pn	16 53 40.2	+0.8
DCPH	**Dipolog City**	**2.27**	**253**	⇑*e*P	Pn	16 53 43.0	+0.3
DCPH				*e*S	Sn	16 54 12.5	+1.6
CTBH	**Cotabato--PC H**	**2.39**	**213**	⇓*i*P	Pn	16 53 44.6	+0.2
MATI	**Mati**	**2.39**	**163**	*e*P	Pn	16 53 45.6	+1.1
PAGZ	**Pagadian**	**2.55**	**237**	*e*P	Pn	16 53 48.2	+1.5
GUIM	**Jordan**	**3.22**	**296**	*e*P	Pn	16 53 56.2	+0.3

*ISCJB **02** 17:07:29.8±0.7,2.°52N±0.°07×128.°30E±0.°07, h150km, mb3.5/6, Error ellipse: s-maj=10.8km s-min=7.8km az=41.3*
*IDC **02** 17:07:29.3±6.4,2.°60N×128.°67E, h127km±60km, mb3.3/6, mb1 3.5/6, mb1mx3.2/32, mbtmp3.7/6, Error ellipse: s-maj=57.0km s-min=14.8km az=78.0*
*DJA **02** 17:07:36.6±1.1,2.°N±7.°×12.°8E±.°, h118km±11km, M4.2/8, mb4.5/4, mB5.1/2, MLv4.0/8, Mw(mB)4.4/2, Mwp6.4/1*
ISC 02 17:07:31.1±1.0,**2.°43N**±0.°08×**128.°32E**±0.°09,**h150**km,**n15,** σ1§**29**/20,**mb3.5**/6,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.90**	**210**	P	**Pn**	**17 08 06.0**	**+0.8**
TNTI				S	**Sn**	**17 08 32.7**	**+1.4**
KMSI	**Cibinong**	**4.71**	**247**	P	**Pn**	**17 08 41.2**	**+0.5**
KMSI				S	**Sn**	**17 09 33.0**	**-2.0**
SANI	**Sanana**	**5.03**	**208**	P	**Pn**	**17 08 44.6**	**-0.3**
SANI				S	**Sn**	**17 09 39.9**	**-2.6**
GTOI	**Gorontalo**	**5.60**	**251**	P	**Pn**	**17 08 53.6**	**+1.1**
112nm,0.6s,1μm0.5nm							
NLAI	**Namlea**	**5.76**	**192**	P	**Pn**	**17 08 54.3**	**-0.4**
17nm,1.0s,0.1nm							
MRSI	**Marisa**	**6.66**	**253**	P	**Pn**	**17 09 08.0**	**+1.3**
39nm,0.5s,3μm342μm0.2nm							
MRSI				S	**Sn**	**17 10 21.0**	**-0.6**
39nm,0.5s,3μm342μm0.2nm							
APSI	**Ampana**	**7.45**	**244**	P	**Pn**	**17 09 17.7**	**+0.5**
TTSI	**Tana Toraja**	**10.09**	**237**	P	**Pn**	**17 09 52.1**	**-0.3**
WRA	**Warramunga Arr**	**23.01**	**165**	P	**P**	**17 12 23.9**	**+0.9**
0.7nm,0.4s,baz=344,slow=10,SNR=13							
WRA				PcP	**PcP**	**17 16 08.9**	**+0.8**
0.5nm,1.1s,baz=342,slow=2.2,SNR=3.9							
ASAR	**Alice Springs**	**26.51**	**168**	P	**P**	**17 12 56.0**	**+1.2**
0.2nm,0.4s,baz=349,slow=7.5,SNR=6.5							
ASAR				PcP	**PcP**	**17 16 17.2**	**+1.3**
0.4nm,0.4s,baz=355,slow=2.2,SNR=16							
KSRS	**Korea Array**	**34.85**	**359**	P	**P**	**17 14 06.2**	**-1.7**
0.4nm,0.4s,baz=181,slow=8.9,SNR=2.9							
MJAR	**Matsushiro Arr**	**35.15**	**14**	P	**P**	**17 14 08.7**	**-1.8**
0.8nm,0.3s,baz=181,slow=8.4,SNR=5.2							
SONM	**Songino Array**	**49.03**	**341**	P	P	17 16 03.9	+1.0
0.7nm,0.7s,baz=153,slow=9.1,SNR=6.6							
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	17 17 19.6	+1.0
1.3nm,0.4s,baz=117,slow=8.2,SNR=36							
MKAR				PcP	**PcP**	**17 18 05.0**	**+0.4**
0.5nm,0.8s,baz=137,slow=3.4,SNR=5.2							
TORD	**Torodi Ar. Bea**	**124.82**	**288**	PKP	**PKPdf**	**17 26 15.0**	**+0.8**
0.2nm,0.4s,baz=41,slow=2.0,SNR=3.3							

*IDC **02** 17:22:21.1±5.3,21.°51S×178.°73W, h478km±55km, mb3.2/5, mb1 3.4/6, mb1mx3.1/30, mbtmp4.1/6, Error ellipse: s-maj=38.7km s-min=24.2km az=35.0*
*ISCJB **02** 17:22:25.7±1.3,21.°7S±0.°2×179.°0W±0.°2, h536km, mb3.7/5, Error ellipse: s-maj=28.3km s-min=24.1km az=158.4*
ISC 02 17:22:26.4±1.1,**21.°7S**±0.°2×**178.°9W**±0.°2,**h536**km,**n11,** σ0§**97**/11,**mb3.7**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.87**	**191**	P	**P**	**17 25 52.6**	**-1.8**
0.8nm,0.3s,baz=297,slow=3.9,SNR=9.6							
CTA	**Charters Tower**	**32.57**	**266**	P	**P**	**17 28 14.1**	**+0.3**
3.2nm,0.6s,baz=93,slow=12,SNR=7.0							
ASAR	**Alice Springs**	**43.45**	**258**	P	**P**	**17 29 42.7**	**+0.4**
3.8nm,0.8s,baz=86,slow=8.3,SNR=70							
ASAR				PcP	**pP**	**17 31 19.2**	**0.0**
0.3nm,0.6s,baz=108,slow=4.0,SNR=5.9							
WRA	**Warramunga Arr**	**43.63**	**263**	P	**P**	**17 29 43.2**	**-0.5**
0.9nm,0.4s,baz=94,slow=7.9,SNR=71							
QSPA	**South Pole Qui**	**68.38**	**180**	P	**P**	**17 32 35.8**	**+1.5**
0.7nm,0.7s,baz=58,slow=1.6,SNR=5.3							
ILAR	**Eielson Array**	**89.66**	**13**	P	**P**	**17 34 26.4**	**-0.2**
0.9nm,1.2s,baz=210,slow=5.2,SNR=4.1							
ARCES	**ARCESS Array B**	**129.93**	**349**	PKP	**PKPdf**	**17 40 33.3**	**-1.1**
2.4nm,0.8s,baz=57,slow=4.5,SNR=6.3							
FINES	**FINESS Array B**	**136.67**	**343**	PKP	**PKPdf**	**17 40 47.7**	**+0.5**
2.0nm,1.0s,baz=108,slow=4.5,SNR=4.8							
AKASG	**Malin Array Be**	**143.63**	**330**	PKP	PKPbc	17 40 58.2	-0.6
0.1nm,0.3s,baz=40,slow=4.4,SNR=11							
BRTR	**Keskin Array B**	**147.00**	**310**	PKPbc	**PKPbc**	**17 41 09.4**	**+0.1**
0.5nm,0.6s,baz=131,slow=5.3,SNR=3.9							
GERES	**GERESS Array B**	**151.10**	**343**	PKPbc	**PKPbc**	**17 41 18.9**	**-0.1**
0.2nm,0.4s,baz=53,slow=5.2,SNR=5.6							

*NEIC **02** 17:25:12.9, 16.°38N×99.°54W, h16km, MD4.1(MEX), After MEX.*
MEX 02 17:25:12.9±0.4,**16.°38N**×**99.°54W, h16**km±37km,**MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.96**	**313**	*e*P	Pb	17 25 28.0	-3.2
CAIG				*i* S	Sb	17 25 39.3	-4.5
CAIG	**El Cayaco**	**0.96**	**313**	*e*P	Pb	17 25 28.0	-3.2
CAIG				*i* S	Sb	17 25 39.3	-4.5
PNIG	**Pinotepa**	**1.35**	**89**	*e*P	Pn	17 25 33.3	-3.9
PNIG				*e*S	Sn	17 25 49.4	-5.4
PNIG	**Pinotepa**	**1.35**	**89**	*e*P	Pn	17 25 33.3	-3.9
PNIG				*e*S	Sn	17 25 49.4	-5.4
TLIG	**Tlapa**	**1.50**	**38**	*e*P	Pn	17 25 35.5	-3.8
TLIG				*e*S	Sn	17 25 53.2	-5.4
ARIG	**Puente Sto Nin**	**2.04**	**338**	*e*P	Pn	17 25 44.0	-2.6
ARIG				*e*S	Sn	17 26 07.4	-4.5
YAIG	**Yautepec**	**2.50**	**10**	*i* P	Pn	17 25 50.1	-3.1
YAIG				*i* S	Sn	17 26 19.4	-4.2
YAIG	**Yautepec**	**2.50**	**10**	*i* P	Pn	17 25 50.1	-3.1
YAIG				*i* S	Sn	17 26 19.4	-4.2
VHO	**Vista Hermosa**	**2.77**	**75**	*e*P	Pn	17 25 54.4	-2.5
VHO				*e*S	Sn	17 26 25.8	-4.5
VHO	**Vista Hermosa**	**2.77**	**75**	*e*P	Pn	17 25 54.4	-2.5
VHO				*e*S	Sn	17 26 25.8	-4.5
HUIG	**Huatulco**	**3.35**	**100**	*i* P	Pn	17 26 02.0	-2.7
HUIG				*i* S	Sn	17 26 40.8	-3.4
HUIG	**Huatulco**	**3.35**	**100**	*i* P	Pn	17 26 02.0	-2.7
HUIG				*i* S	Sn	17 26 40.8	-3.4

IDC 02 17:27:16.6±3.3,**33.°83S**×**178.°93W, h0**km,**mb3.2**/2, **mb1 3.5**/3,**mb1mx3.3**/29,**mbtmp3.3**/3,**ML3.4**/1,**Error ellipse: s-maj=74.6km s-min=36.9km az=115.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.46**	**215**	Pn	Pn	17 28 39.0	-0.2
1.2nm,0.3s,baz=284,slow=3.3,SNR=10							
URZ				Sn	Sn	17 29 41.3	-1.4
0.9nm,0.3s,baz=199,slow=20,SNR=7.5							
ASAR	**Alice Springs**	**42.26**	**271**	P	P	17 35 11.7	-0.3
0.1nm,0.5s,baz=112,slow=7.9,SNR=6.4							
WRA	**Warramunga Arr**	**43.56**	**276**	P	P	17 35 22.9	+0.4
0.1nm,0.3s,baz=115,slow=8.2,SNR=4.3							
FINES	**FINESS Array B**	**148.04**	**337**	PKPbc	PKPbc	17 47 02.4	-0.9
0.7nm,0.8s,baz=90,slow=1.4,SNR=3.6							

*IDC **02** 17:39:24.1±1.3,0.°76N×125.°33E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.4/43, mbtmp3.8/5, Error ellipse: s-maj=161.4km s-min=19.2km az=66.0*
*ISCJB **02** 17:39:27.5±0.6,1.°41N±0.°06×126.°49E±0.°04, h39km, mb4.0/7, Error ellipse: s-maj=8.7km s-min=5.8km az=20.3*
*NEIC **02** 17:39:28.5±0.8,1.°30N×126.°41E, h35km, mb4.2/2, Error ellipse: s-maj=19.5km s-min=12.7km az=49.0*
*DJA **02** 17:39:30.0±1.0,1.°N±5.°×12.°6E±.°, h26km±16km, M3.9/9, mb4.0/1, MLv3.9/9*
ISC 02 17:39:29.6±1.1,**1.°32N**±0.°09×**126.°46E**±0.°05,**h39**km,**n19,** σ1§**59**/24,**mb4.1**/7,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.06**	**121**	P	**Pn**	**17 39 48.8**	**+0.9**
TNTI				S	**Sn**	**17 40 03.7**	**+2.3**
TNTI	**Ternate**	**1.06**

IDC ***02*** *17:47:23.2±0.8,25°.54N×60°.11E, h0km, mb3.8/19, mb1 4.0/19, mb1mx3.7/38, mbtmp3.9/19, MS3.2/5, Ms1 3.2/5, ms1mx2.8/44, Error ellipse: s-maj=18.9km s-min=15.9km az=154.0*

CSEM ***02*** *17:47:24.7±0.6,25°.54N×60°.20E, h20km, ML3.7, Error ellipse: s-maj=16.5km s-min=8.0km az=102.0*

DSN ***02*** *17:47:27.9±10.0, 25°.49N×59°.84E, h10km, mb3.8/4, Error ellipse: s-maj=116.5km s-min=23.7km az=85.0*

OMAN ***02*** *17:47:28.3±0.0,25°.22N×60°.26E, h30km, Error ellipse: s-maj=2.6km s-min=1.0km az=286.0*

TEH ***02*** *17:47:41.1,26°.49N×59°.58E, h32km, ML3.7*

ISC 02 17:47:24.4±0.7, 25°.46N±0°.06×60°.07E±0°.09, h10km, n66, σ1s27/62, mb3.9/19, MS3.3/4, 4C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBK	**Wadi Bani Khal**	**3.01**	**200**	P	**Pn**	**17 48 11.8**	**-0.4**
	SNR=32						
WBK				S	**Sn**	**17 48 45.8**	**-2.5**
WBK	**Wadi Bani Khal**	**3.01**	**200**	⇓P	**Pn**	**17 48 11.8**	**-0.4**
	SNR=32						
WBK				⇑S	**Sn**	**17 48 45.8**	**-2.5**
SMDO	**Samad**	**3.02**	**218**	P	**Pn**	**17 48 12.3**	**0.0**
	SNR=24						
SMDO	**Samad**	**3.02**	**218**	P	**Pn**	**17 48 12.3**	**0.0**
	SNR=24						
BANOM	**Banah**	**3.43**	**278**	P	**Pn**	**17 48 17.3**	**-0.6**
	SNR=31						
BANOM	**Banah**	**3.43**	**278**	⇑P	**Pn**	**17 48 17.3**	**-0.6**
	SNR=31						
JMDO	**Jabal Madar**	**3.56**	**211**	P	**Pn**	**17 48 21.0**	**+1.2**
	SNR=13						
JMDO	**Jabal Madar**	**3.56**	**211**	P	**Pn**	**17 48 21.0**	**+1.2**
	SNR=13						
ASHO	**Ashiyiah**	**3.72**	**259**	P	**Pn**	**17 48 23.9**	**+2.0**
	SNR=9.3						
ASHO	**Ashiyiah**	**3.72**	**259**	⇓P	**Pn**	**17 48 23.9**	**+2.0**
	SNR=9.3						
IBND	**Bandar-abas**	**3.73**	**303**	*e*Pn	Pn	17 48 25.1	+3.1
IBND				*e*Sn	Sn	17 48 56.2	-10
IBND				*e*		17 49 17.6	
	comp=Z,2μm,0.3s						
IBND	**Bandar-abas**	**3.73**	**303**	*e*Pn	Pn	17 48 25.1	+3.1
IBND				*e*Sn	Sn	17 48 56.2	-10
BSYO	**Bisya**	**3.75**	**224**	P	**Pn**	**17 48 24.0**	**+1.7**
	SNR=36						
BSY	**Bisya**	**3.77**	**225**	⇓P	**Pn**	**17 48 24.0**	**+1.5**
	SNR=36						
ARQ	**Araqi**	**3.86**	**238**	P	**Pn**	**17 48 26.4**	**+2.5**
	SNR=18						
ARQ	**Araqi**	**3.86**	**238**	⇓P	**Pn**	**17 48 26.4**	**+2.5**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**4.12**	**261**	Pn	**Pn**	**17 48 28.5**	**+1.1**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**4.12**	**261**	⇑*i*Pn	**Pn**	**17 48 28.5**	**+1.1**
	SNR=11						
ASUD	**Al Ashush, Dub**	**4.38**	**260**	Pn	**Pn**	**17 48 32.3**	**+1.4**
	SNR=21						
ASUD	**Al Ashush, Dub**	**4.38**	**260**	⇑*i*Pn	**Pn**	**17 48 32.3**	**+1.4**
	SNR=21						
IKOO	**Kooshah**	**7.00**	**353**	*e*		17 49 16.8	
	comp=Z,209nm,0.1s						
IKOO				*e*Pn	**Pn**	**17 49 06.4**	**-0.8**
IDAH	**Dahanechah**	**7.25**	**359**	*e*		17 49 24.9	
	comp=Z,155nm,0.3s						
IDAH				*e*Pn	**Pn**	**17 49 10.0**	**-0.7**
IDAH	**Dahanechah**	**7.25**	**359**	*e*Pn	**Pn**	**17 49 10.0**	**-0.7**
IBAF	**Bafgh**	**7.27**	**328**	*e*Pn	**Pn**	**17 49 12.6**	**+1.7**
IBAF				*e*		17 49 26.7	
	comp=Z,134nm,0.2s						
IBAF	**Bafgh**	**7.27**	**328**	*e*Pn	**Pn**	**17 49 12.6**	**+1.7**
ISRV	**Sarvestan**	**7.31**	**304**	*e*Pn	**Pn**	**17 49 12.3**	**+0.8**
ISRV				*e*		17 49 32.9	
	comp=Z,339nm,0.1s						
ISRV	**Sarvestan**	**7.31**	**304**	*e*Pn	**Pn**	**17 49 12.3**	**+0.8**
IPAR	**Pars**	**7.60**	**307**	*e*Pn	**Pn**	**17 49 15.7**	**+0.2**
IPAR				*e*		17 50 44.9	
	comp=Z,231nm,0.3s						
IPAR	**Pars**	**7.60**	**307**	*e*Pn	**Pn**	**17 49 15.7**	**+0.2**
IMEH	**Mehriz**	**7.61**	**322**	*e*Pn	**Pn**	**17 49 14.3**	**-1.2**
IMEH				*e*		17 49 20.7	
	comp=Z,163nm,0.1s						
IMEH	**Mehriz**	**7.61**	**322**	*e*Pn	**Pn**	**17 49 14.3**	**-1.2**
ICHK	**Chekchek**	**8.38**	**325**	*e*Pn	**Pn**	**17 49 25.1**	**-1.0**
ICHK				*e*		17 49 28.9	
	comp=Z,137nm,0.2s						
ICHK	**Chekchek**	**8.38**	**325**	*e*Pn	**Pn**	**17 49 25.1**	**-1.0**
IKAZ	**Kazeroun**	**8.47**	**302**	*e*Pn	**Pn**	**17 49 25.9**	**-1.5**
IKAZ				*e*		17 49 29.8	
	comp=Z,681nm,0.1s						
IKAZ	**Kazeroun**	**8.47**	**302**	*e*Pn	**Pn**	**17 49 25.9**	**-1.5**
ISAD	**Sadrabad**	**8.53**	**320**	*e*Pn	**Pn**	**17 49 27.8**	**-0.4**
ISAD				*e*		17 49 36.1	
	comp=Z,236nm,0.1s						
ISAD	**Sadrabad**	**8.53**	**320**	*e*Pn	**Pn**	**17 49 27.8**	**-0.4**
IZEF	**Zefreh**	**10.03**	**319**	*e*Pn	**Pn**	**17 49 47.0**	**-1.7**
IZEF				*e*		17 49 49.5	
	comp=Z,115nm,0.2s						
IZEF	**Zefreh**	**10.03**	**319**	*e*Pn	**Pn**	**17 49 47.0**	**-1.7**
IPIR	**Pirpir**	**10.77**	**314**	*e*Pn	**Pn**	**17 49 57.3**	**-1.7**
IPIR				*e*		17 50 16.8	
	comp=Z,110nm,0.2s						
IPIR	**Pirpir**	**10.77**	**314**	*e*Pn	**Pn**	**17 49 57.3**	**-1.7**
GNI	**Garni**	**19.46**	**323**	LR	LR	17 59 38.2	
	comp=Z,36nm,21.1s,baz=108,slow=38						
AML	**Almayashu**	**20.07**	**31**	Pn	**P**	**17 51 57.0**	**-1.3**
	SNR=9.2						
AAK	**Ala-Archa**	**20.83**	**31**	P	**P**	**17 52 05.9**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=190,slow=8.8,SNR=9.5						
AAK				LR	LR	18 01 54.0	
	comp=Z,104nm,18.7s,baz=220,slow=42						
MMAI	**Mount Meron Ar**	**22.77**	**295**	P	**P**	**17 52 27.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=104,slow=14,SNR=4.4						
KBZ	**Khabaz**	**22.98**	**327**	P	**P**	**17 52 30.2**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=135,slow=7.1,SNR=3.5						
AKTO	**Aktyubinsk**	**24.98**	**357**	P	**P**	**17 52 48.3**	**+0.3**
	comp=Z,4.9nm,0.7s,baz=171,slow=8.7,SNR=12						
AKTO				LR	LR	18 04 22.7	
	comp=Z,29nm,19.6s,baz=167,slow=41						
BRTR	**Keskin Array B**	**26.30**	**309**	P	**P**	**17 53 01.2**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=124,slow=11,SNR=14						
MKAR	**Makanchi Array**	**27.67**	**34**	P	**P**	**17 53 12.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=224,slow=6.8,SNR=6.0						
MKAR				LR	LR	18 05 58.0	
	comp=Z,75nm,18.9s,baz=225,slow=40						
BVAR	**Borovoye Array**	**28.60**	**13**	P	**P**	**17 53 20.2**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=198,slow=9.3,SNR=9.9						
KURBB	**Kurchatov Arra**	**28.86**	**25**	P	**P**	**17 53 22.3**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=223,slow=8.9,SNR=6.0						
H08N2	**Diego Garcia H**	**33.34**	**160**	T	T	18 29 06.4	
	baz=341,slow=76,SNR=86						
H08N3	**Diego Garcia H**	**33.35**	**160**	T	T	18 29 00.1	
	baz=341,slow=76,SNR=49						
H08N1	**Diego Garcia H**	**33.36**	**160**	T	T	18 29 04.5	
	baz=341,slow=76,SNR=63						
ZALV	**Zalesovo Beam**	**33.89**	**26**	P	**P**	**17 54 05.8**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=241,slow=8.2,SNR=6.0						
AKASG	**Malin Array Be**	**34.56**	**325**	P	**P**	**17 54 11.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=127,slow=8.6,SNR=3.7						
JOF	**Joensuu**	**42.02**	**341**	*e*p	**P**	**17 55 15.0**	**-0.6**
	comp=Z,1.5nm,0.6s						
SONM	**Songino Array**	**42.56**	**46**	P	**P**	**17 55 20.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=249,slow=8.4,SNR=6.1						
SONM				LR	LR	18 15 55.2	
	comp=Z,52nm,19.5s,baz=192,slow=40						
FINES	**FINESS Array B**	**42.68**	**337**	P	**P**	**17 55 20.8**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=142,slow=9.8,SNR=12						
ARCES	**ARCESS Array B**	**48.54**	**345**	P	**P**	**17 56 06.6**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=141,slow=7.8,SNR=4.7						
ESDC	**Sonseca Array**	**54.73**	**302**	P	**P**	**17 56 54.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=72,slow=6.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**56.05**	**269**	P	**P**	**17 57 03.5**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=62,slow=7.0,SNR=14						
BOSA	**Boshof**	**63.33**	**214**	P	**P**	**17 57 55.4**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=61,slow=7.4,SNR=3.4						
DBIC	**Dimbokro**	**64.54**	**265**	P	**P**	**17 58 03.6**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=187,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**85.09**	**115**	P	**P**	**18 00 01.7**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=310,slow=4.1,SNR=7.4						
ASAR	**Alice Springs**	**86.56**	**118**	P	**P**	**18 00 08.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=299,slow=4.8,SNR=6.2						

IDC ***02*** *18:03:33.5±1.0,20°.31N×100°.85E, h0km, mb3.8/15, mb1 3.9/16, mb1mx3.7/41, mbtmp3.8/16, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/41, Error ellipse: s-maj=24.8km s-min=13.6km az=113.0*

BKK ***02*** *18:03:35.5±1.1,20°.N±10°.×10°.1E±°, h10km, M4.2/6, MLv4.2/6*

PLV ***02*** *18:03:36.2±1.8,20°.44N×100°.88E, h10km±11km, ML3.8*

ISC 02 18:03:35.5±1.7, 20°.41N±0°.08×100°.84E±0°.07, h10km±12km, n32, σ0s81/38, mb3.8/15, Laos

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRAI	**Chiangrai**	**0.47**	**248**	P	Pg	18 03 39.6	-5.2
CRAI				S	Sg	18 03 45.5	-5.6
CMAI	**Chiengmai2**	**1.75**	**255**	P	Pn	18 04 04.0	-2.1
CMAI				S	**Sn**	**18 04 28.9**	**+0.3**
LAMP	**Lampang**	**2.19**	**212**	P	**Pn**	**18 04 12.1**	**0.0**
DBV	**Dienbien**	**2.26**	**64**	*e*Pn	**Pn**	**18 04 12.7**	**-0.4**
DBV				*e*Pg	**Pg**	**18 04 18.0**	**-1.0**
DBV				*e*Sg	**Sg**	**18 04 48.8**	**+0.4**
CMMT	**Chiang Mai**	**2.39**	**229**	P	**Pn**	**18 04 13.6**	**-1.1**
CMMT				S	**Sb**	**18 04 49.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**2.64**	**223**	Pn	**Pn**	**18 04 17.3**	**-0.9**
	7.5nm,0.3s,baz=34,slow=12,SNR=112						
CMAR				Pg	Pb	18 04 19.8	-3.2
	29nm,0.3s,baz=30,slow=13,SNR=290						
CMAR				Lg	Lg	18 04 56.5	
	59nm,0.3s,baz=58,slow=35,SNR=13						
UTTA	**Uttaradit**	**2.66**	**186**	P	**Pn**	**18 04 18.7**	**+0.2**
TGV	**Tuan Giao**	**2.68**	**63**	*e*Pn	**Pn**	**18 04 18.3**	**-0.4**
TGV				*e*Pg	**Pg**	**18 04 25.7**	**-1.2**
TGV				*e*Sg	**Sg**	**18 05 01.3**	**-0.4**
MLVB	**Muong La stati**	**2.70**	**53**	*e*Pg	Pg	18 04 36.5	+9.1
MLVB				*e*Sg	Sg	18 05 18.8	+16
TTVN	**Tram Tau**	**3.45**	**71**	*e*Pn	**Pn**	**18 04 29.8**	**+0.4**
TTVN				*e*Pg	**Pg**	**18 04 42.5**	**+0.8**
TTVN				*e*Sg	**Sg**	**18 05 27.6**	**+1.1**
TTVN				AML	AML	18 05 41.9	
	comp=N,202nm,0.6s						
MHMT	**Maesarieng**	**3.53**	**232**	P	**Pn**	**18 04 30.7**	**+0.2**
MHMT				S	**Sb**	**18 05 22.9**	**+1.8**
MCVV	**Moc Chau**	**3.59**	**83**	*e*Pn	**Pn**	**18 04 31.4**	**0.0**
VTVB	**Vinh Tuy**	**4.21**	**63**	*e*Pn	**Pn**	**18 04 40.0**	**+0.2**
HGVB	**Ha Giang**	**4.56**	**57**	*e*Pg	**Pg**	**18 05 03.3**	**+0.5**
HGVB				*e*Sg	**Sg**	**18 06 01.6**	**-0.3**
MTZV	**Met**	**5.26**	**77**	*e*Pn	**Pn**	**18 04 54.5**	**+0.2**
MTZV				*e*Sg	**Sg**	**18 06 24.1**	**-0.5**
SONM	**Songino Array**	**27.73**	**8**	P	**P**	**18 09 26.1**	**+1.9**
	comp=N,0.8nm,1.0s,baz=190,slow=7.9,SNR=3.8						
KSRS	**Korea Array**	**29.01**	**48**	LR	LR	18 20 54.8	
	comp=N,21nm,18.4s,baz=25,slow=36						
MKAR	**Makanchi Array**	**30.36**	**334**	P	**P**	**18 09 48.2**	**+0.7**
	comp=N,1.6nm,0.6s,baz=140,slow=8.9,SNR=22						
AAK	**Ala-Archa**	**31.33**	**321**	P	**P**	**18 09 56.3**	**0.0**
	comp=N,1.1nm,0.6s,baz=129,slow=5.7,SNR=5.7						
KURBB	**Kurchatov Arra**	**34.92**	**335**	P	**P**	**18 10 26.3**	**-1.0**
	comp=N,1.0nm,0.7s,baz=148,slow=8.9,SNR=13						
ZALV	**Zalesovo Beam**	**35.66**	**344**	P	**P**	**18 10 34.7**	**+1.1**
	comp=N,1.5nm,0.8s,baz=142,slow=7.5,SNR=7.0						
BVAR	**Borovoye Array**	**40.12**	**332**	P	**P**	**18 11 11.2**	**-0.2**
	comp=N,1.1nm,0.6s,baz=132,slow=10,SNR=10						
GEYT	**Alibeck**	**40.79**	**305**	P	**P**	**18 11 16.7**	**-0.5**
	comp=N,1.4nm,0.8s,baz=131,slow=8.8,SNR=4.5						
AKTO	**Aktyubinsk**	**45.06**	**322**	P	**P**	**18 11 51.8**	**+0.3**
	comp=N,0.3nm,0.3s,baz=142,slow=3.8,SNR=3.6						
ASAR	**Alice Springs**	**54.38**	**142**	P	**P**	**18 13 01.6**	**-1.3**
	comp=N,0.4nm,0.7s,baz=320,slow=7.8,SNR=6.1						
FINES	**FINESS Array B**	**65.01**	**329**	P	**P**	**18 14 15.5**	**-0.1**
	comp=N,0.9nm,0.7s,baz=104,slow=6.1,SNR=5.2						
ARCES	**ARCESS Array B**	**65.92**	**338**	P	**P**	**18 14 21.4**	**0.0**
	comp=N,2.2nm,0.8s,baz=65,slow=9.1,SNR=3.5						
NOA	**NORSAR Array B**	**72.20**	**329**	P	**P**	**18 15 01.1**	**+0.6**
	comp=N,1.5nm,0.9s,baz=80,slow=5.9,SNR=3.1						
GERES	**GERESS Array B**	**73.08**	**316**	P	**P**	**18 15 06.1**	**0.0**
	comp=N,0.3nm,0.7s,baz=86,slow=6.0,SNR=3.3						
DAVOX	**Davos/Dischmat**	**76.06**	**315**	LR	LR	18 53 06.9	
	comp=N,37nm,18.5s,baz=96,slow=39						
YKA	**Yellowknife Ar**	**92.74**	**16**	P	**P**	**18 16 47.3**	**-0.5**
	comp=N,0.3nm,0.9s,baz=326,slow=4.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**93.84**	**285**	P	**P**	**18 16 52.7**	**-1.0**
	comp=N,0.2nm,0.6s,baz=101,slow=3.6,SNR=2.4						

IDC ***02*** *18:16:19.2±0.9,55°.30S×29°.15W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/29, mbtmp4.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/19, Error ellipse: s-maj=41.1km s-min=26.0km az=74.0*

ISCJB ***02*** *18:16:20.8±0.8,55°.4S±0°.1×29°.3W±0°.2, h24km, mb4.2/6, MS3.5/1, Error ellipse: s-maj=23.7km s-min=14.1km az=138.2*

NEIC ***02*** *18:16:20.2±0.5,55°.31S×29°.19W, h10km, mb4.4/3, Error ellipse: s-maj=18.4km s-min=12.7km az=220.0*

ISC 02 18:16:22.4±0.7, 55°.3S±0°.1×29°.49W±0°.10, h24km, n14, σ1s77/14, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.18**	**282**	*e*Pn	**Pn**	**18 17 24.7**	**+0.2**
HOPE				*e*Sn	**Sn**	**18 18 09.0**	**-3.6**
SNAA	**Sanae**	**19.94**	**155**	*e*P	**P**	**18 20 51.1**	**-1.1**
	11nm,1.0s						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**18 23 13.0**	**+1.1**
	1.8nm,0.7s,baz=209,slow=2.3,SNR=12						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**18 23 13.0**	**+1.1**
BDFB	**Brasilia**	**42.10**	**333**	P	**P**	**18 24 14.1**	**+1.6**
	0.8nm,0.4s,baz=147,slow=8.0,SNR=3.2						
LVC	**Limon Verde**	**43.81**	**302**	*e*P	**P**	**18 24 28.4**	**+2.0**
	4.8nm,0.9s						
LPAZ	**La Paz**	**48.90**	**307**	P	**P**	**18 25 08.2**	**+1.3**
	2.6nm,0.5s,baz=134,slow=6.0,SNR=18						
RCBR	**Riachuelo**	**49.62**	**352**	LR	LR	18 42 54.9	
	comp=Z,45nm,18.2s,baz=170,slow=32						
TSUM	**Tsumeb**	**50.50**	**64**	*e*P	**P**	**18 25 15.6**	**-3.0**
	8.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**73.10**	**32**	P	**P**	**18 27 50.7**	**+0.3**
	1.0nm,0.6s,baz=198,slow=6.9,SNR=8.5						
YKA	**Yellowknife Ar**	**134.76**	**319**	PKP	**PKPdf**	**18 35 37.7**	**+0.4**
	0.4nm,0.8s,baz=130,slow=2.2,SNR=6.8						
INK	**Inuvik**	**144.42**	**322**	PKP	**PKPdf**	**18 35 54.1**	**-0.6**
	1.9nm,0.9s,baz=28,slow=3.5,SNR=6.6						
ILAR	**Eielson Array**	**148.66**	**313**	PKPbc	**PKPbc**	**18 36 06.3**	**+0.5**
	2.8nm,0.8s,baz=123,slow=1.8,SNR=25						
SONM	**Songino Array**	**151.99**	**87**	PKPbc	**PKPbc**	**18 36 14.3**	**-0.2**
	1.1nm,0.7s,baz=231,slow=2.8,SNR=10.0						

ISCJB ***02*** *18:16:29.3±0.8,41°.8S±0°.2×84°.9E±0°.2, h10km, mb4.2/14, MS4.0/14, Error ellipse: s-maj=24.8km s-min=19.1km az=43.6*

NEIC ***02*** *18:16:30.4±0.8,41°.76S×84°.80E, h10km, mb4.6/4, Error ellipse: s-maj=25.4km s-min=20.0km az=49.0*

IDC ***02*** *18:16:30.4±3.4,41°.55S×84°.99E, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/38, mbtmp4.1/10, MS3.9/14, Ms1 3.9/14, ms1mx3.7/28, Error ellipse: s-maj=106.4km s-min=28.4km az=21.0*

ISC 02 18:16:30.5±1.0, 41°.8S±0°.2×84°.8E±0°.2, h10km, n29, σ1s14/15, mb4.3/14, MS4.0/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAF	**Port-aux-Franc**	**12.74**	**228**	R		18 21 00.0	
H01W2	**Cape Leeuwin H**	**23.91**	**83**	T	T	18 46 19.7	
	baz=245,slow=74,SNR=27						
H01W3	**Cape Leeuwin H**	**23.91**	**83**	T	T	18 46 21.0	
	baz=245,slow=74,SNR=28						
H01W1	**Cape Leeuwin H**	**23.92**	**83**	T	T	18 46 22.1	
	baz=245,slow=74,SNR=31						
H08S2	**Diego Garcia H**	**35.69**	**339**	T	T	19 01 02.4	
	baz=164,slow=76,SNR=119						
H08S1	**Diego Garcia H**	**35.70**	**339**	T	T	19 00 58.9	
	baz=164,slow=76,SNR=150						
H08S3	**Diego Garcia H**	**35.71**	**339**	T	T	19 00 60.0	
	baz=164,slow=76,SNR=126						
ASAR	**Alice Springs**	**44.41**	**82**	P	**P**	**18 24 41.5**	**0.0**
	1.5nm,0.9s,baz=226,slow=7.4,SNR=10						
ASAR				LR	LR	18 41 12.9	
	comp=Z,281nm,20.2s,baz=236,slow=34						
VNDA	**Vanda**	**46.83**	**163**	LR	LR	18 42 52.1	
	comp=Z,168nm,19.3s,baz=274,slow=34						
WRA	**Warramunga Arr**	**46.99**	**78**	P	**P**	**18 25 02.5**	**+0.6**
	3.4nm,0.9s,baz=233,slow=7.7,SNR=12						
WRAB	**Tennant Creek**	**47.01**	**78**	P	**P**	**18 25 02.2**	**+0.2**
QSPA	**South Pole Qui**	**48.40**	**180**	LR	LR	18 43 42.9	
	comp=Z,155nm,19.3s,baz=266,slow=34						
QSPA	**South Pole Qui**	**48.40**	**180**	*e*P	**P**	**18 25 12.2**	**-0.2**
	8.6nm,1.2s						
PALK	**Pallekele**	**48.94**	**355**	LR	LR	18 40 56.0	
	comp=Z,638nm,21.4s,baz=144,slow=30						
BOSA	**Boshof**	**49.52**	**265**	LR	LR	18 42 31.0	
	comp=Z,161nm,18.9s,baz=162,slow=31						
CMAR	**Chiang Mai Arr**	**61.32**	**15**	P	**P**	**18 26 45.8**	**-0.4**
	2.2nm,1.0s,baz=207,slow=6.5,SNR=10						
CMAR				LR	LR	18 49 17.2	
	comp=Z,50nm,21.2s,baz=195,slow=32						
LSA	**Lhasa**	**71.34**	**6**	*e*P	**P**	**18 27 50.4**	**-0.4**
	5.5nm,1.0s						
GEYT	**Alibeck**	**82.97**	**339**	P	**P**	**18 28 56.6**	**+1.2**
	1.6nm,0.6s,baz=241,slow=4.9,SNR=5.5						
GEYT				LR	LR	19 00 48.5	
	comp=Z,34nm,20.9s,baz=35,slow=32						
AAK	**Ala-Archa**	**84.53**	**352**	P	**P**	**18 29 05.5**	**+2.1**
	0.6nm,0.6s,baz=170,slow=11,SNR=3.7						
KKAR	**Karatay Array**	**85.46**	**350**	P	**P**	**18 29 05.3**	**-2.6**
	3.6nm,1.0s						
MKAR	**Makanchi Array**	**88.20**	**358**	P	**P**	**18 29 21.4**	**+0.2**
	0.7nm,0.8s,baz=163,slow=4.6,SNR=6.7						
MKAR				LR	LR	19 06 45.7	
	comp=Z,59nm,19.3s,baz=170,slow=34						
SONM	**Songino Array**	**91.23**	**14**	P	**P**	**18 29 35.2**	**-0.3**
	0.7nm,0.9s,baz=175,slow=3.5,SNR=4.9						
SONM				LR	LR	19 07 54.6	
	comp=Z,53nm,21.5s,baz=170,slow=34						
KURBB	**Kurchatov Arra**	**92.17**	**356**	P	**P**	**18 29 40.0**	**+0.5**
	0.8nm,0.4s,baz=189,slow=4.6,SNR=6.6						
KURBB	**Kurchatov**	**92.25**	**356**	*e*P	**P**	**18 29 40.1**	**+0.1**
	10nm,1.6s						
KBZ	**Khabaz**	**93.07**	**331**	P	**P**	**18 29 44.0**	**+0.1**
	1.5nm,1.1s,baz=198,slow=3.2,SNR=2.6						
KBZ				LR	LR	19 07 23.5	
	comp=Z,47nm,21.2s,baz=178,slow=33						
BRTR	**Keskin Array B**	**93.49**	**323**	LR	LR	19 08 17.4	
	comp=Z,20nm,18.7s,baz=132,slow=33						
TORD	**Torodi Ar. Bea**	**93.61**	**284**	LR	LR	19 09 25.1	
	comp=Z,62nm,19.4s,baz=0.0,slow=34						
DBIC	**Dimbokro**	**94.16**	**275**	LR	LR	19 07 44.6	
	comp=Z,72nm,20.0s,baz=126,slow=33						
ZALV	**Zalesovo Beam**	**95.33**	**360**	P	**P**	**18 29 55.3**	**+1.2**
	0.3nm,0.4s,baz=153,slow=0.6,SNR=2.6						
ZALV				LR	LR	19 10 20.0	
	comp=Z,50nm,21.6s,baz=250,slow=34						

NIED ***02*** *18:32:00,38°.00N×142°.60E, h26km, Mw4.1 Best double couple: M0 1.44000×10^15 NP1:φs 207.00000°, δ22.00000°, λ100.00000°. NP2:φs 16.00000°, δ69.00000°, λ86.00000°.*

IDC ***02*** *18:32:50.2±0.9,37°.92N×142°.68E, h0km, mb3.9/19, mb1 4.0/23, mb1mx3.9/55, mbtmp3.9/23, ML3.5/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/35, Error ellipse: s-maj=20.7km s-min=17.0km az=104.0*

JMA ***02*** *18:32:53.9±0.2, 38°.01N×142°.63E, h31km±2km, M4.3*

ISCJB ***02*** *18:32:54.4±1.0,37°.98N±0°.05×142°.65E±0°.08, h41km±7km, mb4.0/28, MS3.5/3, Error ellipse: s-maj=11.7km s-min=6.6km az=36.2*

NEIC ***02*** *18:32:56.5±1.0,37°.97N×142°.61E, h42km±8km, mb4.3/9, Error ellipse: s-maj=10.8km s-min=7.1km az=115.0*

ISC 02 18:32:56.6±0.9, 38°.01N±0°.07×142°.6E±0°.1, h39km±7km, n68, σ0s89/64, mb4.0/28, MS3.4/3, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.06**	**295**	⇓P	**Pn**	**18 33 13.4**	**-1.5**
JIO				*e*S	**Sn**	**18 33 27.3**	**-1.2**
OFUJ	**Ofunato**	**1.28**	**327**	⇓P	**Pn**	**18 33 16.4**	**-1.6**
JMM	**Marumori**	**1.42**	**265**	⇓P	**Pn**	**18 33 18.4**	**-1.4**
JMM				*e*S	**Sn**	**18 33 36.8**	**-0.4**
JMK	**Ichinoseki**	**1.42**	**312**	P	**Pn**	**18 33 18.9**	**-0.9**
JFK	**Kawauchi**	**1.50**	**245**	P	**Pn**	**18 33 19.3**	**-1.6**
JFK				*e*S	**Sn

WRAB Tennant Creek 58.15 189 *eP* **P 18 42 46.1 -0.2**
9.3nm,1.3s
WB2 Warramunga Arr 58.16 189 P P 18 42 51.9 +5.4
WRA Warramunga Arr 58.16 189 P P **18 42 45.2 -1.2**
1.0nm,0.8s,baz=3.7,slow=7.1,SNR=6.6
AKTO Aktyubinsk 58.71 312 P P **18 42 49.2 -0.9**
1.6nm,0.9s,baz=75,slow=11,SNR=8.0
ASAR Alice Springs 61.89 189 P P **18 43 11.3 -0.7**
0.5nm,0.8s,baz=12,slow=6.4,SNR=6.4
YKA Yellowknife Ar 62.50 31 P P **18 43 15.1 -0.5**
0.3nm,0.9s,baz=295,slow=6.9,SNR=4.2
GEYT Alibeck 64.17 299 P P **18 43 27.9 +0.7**
1.3nm,0.8s,baz=343,slow=1.5,SNR=3.9
FINES FINESS Array B 68.38 332 P P **18 43 53.2 -0.4**
2.8nm,0.9s,baz=42,slow=8.9,SNR=7.2
KBZ Khabaz 70.96 311 P P **18 44 09.8 0.0**
1.5nm,0.8s,baz=61,slow=1.0,SNR=6.3
HFS Hagfors 73.57 336 P P **18 44 25.5 +0.3**
1.2nm,0.8s,baz=270,slow=1.4,SNR=3.2
NOA NORSAR Array B 73.64 338 P P **18 44 24.8 -0.8**
0.7nm,0.8s,baz=99,slow=9.4,SNR=2.7
AKASG Malin Array Be 74.08 323 P P **18 44 27.2 -1.1**
0.8nm,0.5s,baz=43,slow=5.9,SNR=8.0
GERES GERESS Array B 82.36 329 P P **18 45 14.2 -0.1**
0.2nm,0.5s,baz=338,slow=2.9,SNR=3.5
H06S1 SOCORRO T 90.94 65 T T 20 27 10.3
SNR=6.7
KEST Kesra 94.80 323 LR LR 19 34 33.6
comp=Z,28nm,18.9s,baz=232,slow=39

*ISCJB **02** 18:32:58.0±0.4,37.17S±0.04×72.57W±0.08, h35km, mb4.5/17, MS3.4/5, Error ellipse: s-maj=8.7km s-min=6.2km az=169.7*
*NEIC **02** 18:32:58.4,37.28S×72.94W, h59km, mb4.8/5, After GUC.*
*GUC **02** 18:32:58.4±0.4,37.28S×72.94W, h59km±10km, ML4.8*
*IDC **02** 18:33:00.3±0.7,37.11S×72.60W, h44km±6km, mb4.0/10, mb1 4.1/13, mb1mx4.0/33, mbtmp4.2/13, ML4.0/3, MS3.3/7, Ms1 3.3/7, ms1mx3.2/20, Error ellipse: s-maj=24.6km s-min=14.2km az=87.0*
ISC 02 18:32:59.2±0.5, 37.18S±0.05×72.80W±0.06, h35km, n46, σ1§99/61, mb4.6/17, MS3.4/5, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.42**	**323**	⇑*iP*	**Pn**	**18 33 09.7**	**+1.0**
CCSP				*i* S	**Sn**	**18 33 18.8**	**+3.5**
CCSP				AML	AML	18 33 19.9	
	comp=E,36μm,0.3s						
CCSP	**San Pedro de C**	**0.42**	**323**	⇑*iP*	**Pn**	**18 33 09.7**	**+1.0**
CCSP				*i* S	**Sn**	**18 33 18.8**	**+3.5**
LNCH	**Linares**	**1.64**	**36**	*eP*	**Pn**	**18 33 27.4**	**+1.8**
LNCH				*eS*	**Sn**	**18 33 49.6**	**+4.1**
LNCH				AML	AML	18 34 04.7	
	comp=N,10μm,0.8s						
LNCH	**Linares**	**1.64**	**36**	*eP*	**Pn**	**18 33 27.4**	**+1.8**
LNCH				*eS*	**Sn**	**18 33 49.6**	**+4.1**
TALC	**Talca**	**2.01**	**28**	⇑*iP*	**Pn**	**18 33 32.4**	**+1.7**
TALC				*i* S	**Sn**	**18 33 58.2**	**+3.6**
TALC				AML	AML	18 34 09.5	
	comp=N,16μm,0.6s						
TALC	**Talca**	**2.01**	**28**	⇑*iP*	**Pn**	**18 33 32.4**	**+1.7**
TALC				*i* S	**Sn**	**18 33 58.2**	**+3.6**
NICH	**Los Niches**	**2.52**	**31**	⇓*iP*	**Pn**	**18 33 39.4**	**+1.8**
NICH				*i* S	**Sn**	**18 34 10.6**	**+3.5**
NICH				AML	AML	18 34 28.1	
	comp=E,8μm,0.4s						
NICH	**Los Niches**	**2.52**	**31**	⇓*iP*	**Pn**	**18 33 39.4**	**+1.8**
NICH				*i* S	**Sn**	**18 34 10.6**	**+3.5**
PLCA	**Paso Flores**	**3.95**	**154**	P	**Pn**	**18 33 59.6**	**+2.2**
	comp=E,6.3nm,0.3s,baz=327,slow=11,SNR=150						
PLCA				LR	LR	18 35 11.1	
	comp=E,66nm,20.8s,baz=334,slow=33						
PLCA	**Paso Flores**	**3.95**	**154**	*ePn*	**Pn**	**18 33 58.8**	**+1.4**
CFAA	**Coronel Fontan**	**6.72**	**35**	P	**Pn**	**18 34 35.6**	**+0.2**
	comp=E,1.0nm,0.3s,baz=210,slow=12,SNR=73						
CFAA				S	**Sn**	**18 35 50.3**	**-0.4**
	comp=E,0.3nm,0.3s,baz=206,slow=11,SNR=3.2						
LCO	**Las Campanas**	**8.34**	**13**	*ePn*	**Pn**	**18 34 56.5**	**-1.3**
	comp=E,36nm,0.6s						
LCO				*eSn*	**Sn**	**18 36 28.0**	**-2.8**
TRQA	**Tornquist**	**8.63**	**99**	*ePn*	**Pn**	**18 35 02.9**	**+1.4**
	comp=E,34nm,0.8s						
LVC	**Limon Verde**	**14.90**	**14**	*ePn*	**Pn**	**18 36 24.9**	**-2.6**
USHA	**Ushuaia**	**17.91**	**172**	P	**P**	**18 37 06.4**	**+0.9**
	comp=E,0.2nm,0.3s,baz=11,slow=5.2,SNR=3.4						
USHA				LR	LR	18 43 54.9	
	comp=E,188nm,19.9s,baz=12,slow=36						
LPAZ	**La Paz**	**21.22**	**12**	P	**P**	**18 37 43.1**	**+0.5**
	comp=E,9.3nm,0.9s,baz=155,slow=5.8,SNR=14						
SIV	**San Ignacio**	**23.52**	**29**	P	**P**	**18 38 05.4**	**-0.8**
	comp=E,4.3nm,0.6s,baz=208,slow=9.3,SNR=14						
SIV				LR	LR	18 47 21.3	
	comp=E,104nm,20.6s,baz=249,slow=37						
NNA	**Nana**	**25.35**	**351**	LR	LR	18 46 53.7	
	comp=E,42nm,18.2s,baz=164,slow=33						
SAML	**Samuel**	**29.43**	**20**	*eP*	**P**	**18 38 58.5**	**-1.0**
	comp=E,3.7nm,0.6s						
SAML				*e*		18 39 09.7	
BDFB	**Brasilia**	**30.70**	**52**	P	**P**	**18 39 08.9**	**-2.0**
	comp=E,4.5nm,0.8s,baz=224,slow=9.4,SNR=6.9						
BDFB				LR	LR	18 52 14.9	
	comp=E,120nm,20.0s,baz=217,slow=38						
RPN	**Rapa Nui**	**32.35**	**277**	LR	LR	18 49 43.2	
	comp=E,146nm,20.2s,baz=48,slow=31						
SDV	**Santo Domingo**	**45.87**	**3**	*eP*	**P**	**18 41 17.7**	**-0.6**
	comp=E,18nm,1.6s						
VNA3	**Neumayer Olymp**	**46.67**	**157**	P	**P**	**18 41 23.8**	**0.0**
VNA2	**Neumayer--Watz**	**47.34**	**156**	P	**P**	**18 41 29.9**	**+0.8**
	baz=280,slow=9.0						
SNAA	**Sanae**	**48.89**	**157**	*eP*	**P**	**18 41 40.1**	**-1.1**
	comp=E,23nm,1.4s						
QSPA	**South Pole Qui**	**53.06**	**180**	P	**P**	**18 42 13.2**	**+0.6**
	comp=E,3.7nm,0.8s,baz=334,slow=2.5,SNR=18						
QSPA				pP	**pP**	**18 42 26.9**	**+3.7**
	comp=E,6.8nm,0.8s,baz=85,slow=2.7,SNR=8.8						
QSPA	**South Pole Qui**	**53.06**	**180**	*eP*	**P**	**18 42 13.1**	**+0.5**
	comp=E,10nm,1.0s						
QSPA				pP	**pP**	**18 42 26.9**	**+3.7**
QSPA				*e*		18 42 28.5	
TXAR	**Lajitas Array**	**72.22**	**332**	P	**P**	**18 44 21.2**	**+0.5**
	comp=E,0.6nm,0.5s,baz=155,slow=8.8,SNR=9.4						
TXAR				pP	**pP**	**18 44 33.2**	**+1.6**
	comp=E,1.8nm,0.7s,baz=153,slow=8.6,SNR=13						
LIC	**Lamto**	**76.37**	**71**	*eP*	**P**	**18 44 44.3**	**-0.8**
	comp=E,31nm,1.0s						
TIC	**Toumodi**	**76.65**	**71**	*eP*	**P**	**18 44 45.8**	**-0.9**
	comp=E,6.8nm,0.2s						
KIC	**Kosan Boka**	**76.68**	**71**	*eP*	**P**	**18 44 46.1**	**-0.8**
	comp=E,16nm,0.5s						
DBIC	**Dimbokro**	**76.79**	**71**	P	**P**	**18 44 46.9**	**-0.6**
	comp=E,5.3nm,0.5s,baz=205,slow=7.2,SNR=15						
BOSA	**Boshof**	**79.14**	**118**	P	**P**	**18 44 59.7**	**-0.9**
	comp=E,6.9nm,1.0s,baz=233,slow=6.4,SNR=6.8						
BOSA				LR	LR	19 15 21.4	
	comp=E,17nm,19.9s,baz=170,slow=32						
LBTB	**Lobatse**	**81.53**	**115**	*eP*	**P**	**18 45 11.9**	**-1.6**
	comp=E,6.3nm,0.7s						
LBTB				*e*		18 45 28.8	
TORD	**Torodi Ar. Bea**	**85.87**	**70**	P	**P**	**18 45 34.3**	**-1.3**
	comp=E,2.5nm,0.9s,baz=229,slow=5.1,SNR=10.0						
NVAR	**Mina Aryes Bea**	**86.15**	**326**	pP	pP	18 45 49.0	+1.2
	comp=E,1.0nm,0.7s,baz=152,slow=6.9,SNR=3.6						
PDAR	**Pinedale Array**	**86.33**	**334**	P	**P**	**18 45 38.2**	**+0.7**
	comp=E,0.2nm,0.5s,baz=139,slow=1.9,SNR=3.2						
PDAR				pP	**pP**	**18 45 50.4**	**+1.8**
	comp=E,2.1nm,1.1s,baz=127,slow=3.9,SNR=4.2						
ULM	**Lac du Bonnet**	**89.41**	**345**	P	**P**	**18 45 51.1**	**-0.5**
	comp=E,0.7nm,0.5s,baz=171,slow=1.3,SNR=4.2						
BRTR	**Keskin Array B**	**123.87**	**63**	PKP	**PKPdf**	**18 51 52.5**	**-1.0**
	comp=E,0.5nm,0.5s,baz=202,slow=3.7,SNR=4.6						
AKASG	**Malin Array Be**	**124.76**	**49**	PKP	**PKPdf**	**18 51 52.0**	**-2.5**
	comp=E,0.6nm,0.6s,baz=257,slow=2.6,SNR=5.1						
KBZ	**Khabaz**	**131.72**	**61**	PKP	**PKPdf**	**18 52 08.2**	**+0.1**
	comp=E,1.0nm,0.8s,baz=78,slow=2.4,SNR=3.9						
BVAR	**Borovoye Array**	**149.97**	**46**	PKPbc	**PKPbc**	**18 52 45.0**	**-0.2**
	comp=E,1.1nm,0.6s,baz=300,slow=4.2,SNR=8.3						
KURBB	**Kurchatov Arra**	**155.54**	**48**	PKPbc	PKPdf	18 52 57.6	+9.1
	comp=E,0.5nm,0.6s,baz=294,slow=2.1,SNR=5.7						
KURBB				PKPab	**PKPab**	**18 53 14.0**	**-0.6**
	comp=E,1.9nm,0.9s,baz=287,slow=4.6,SNR=12						
KURK	**Kurchatov**	**155.56**	**47**	PKPbc	PKPdf	18 52 57.6	+9.1
KURK				PKPab	**PKPab**	**18 53 14.0**	**-0.6**
ZALV	**Zalesovo Beam**	**157.21**	**36**	PKP	**PKPdf**	**18 52 48.9**	**-1.7**
	comp=E,1.3nm,0.9s,baz=204,slow=3.3,SNR=5.9						
ZALV				PKPab	**PKPab**	**18 53 21.4**	**-0.1**
	comp=E,1.2nm,0.6s,baz=313,slow=5.2,SNR=5.0						
MKAR	**Makanchi Array**	**159.22**	**55**	PKP	**PKPdf**	**18 52 52.3**	**-1.0**
	comp=E,0.6nm,0.8s,baz=277,slow=2.0,SNR=5.7						
MKAR				pPKP	**pPKPdf**	**18 53 04.8**	**0.0**
	comp=E,0.5nm,0.8s,baz=52,slow=0.9,SNR=3.4						
MKAR				PKPab	**PKPab**	**18 53 28.5**	**-2.1**
	comp=E,2.2nm,0.8s,baz=284,slow=3.8,SNR=14						
MKAR				pPKPab	**pPKPab**	**18 53 44.1**	**+2.3**
	comp=E,0.9nm,0.6s,baz=258,slow=3.9,SNR=5.3						

MAN 02 18:33:22,13.38N×120.37E, h5km, mb4.3, ML3.2, MS3.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.37**	**342**	*eP*	Pb	18 33 30.8	-0.2
PGP	**Puerto Galera**	**0.58**	**78**	⇑*eP*	Pb	18 33 34.4	-0.4
PGP				*i* S	Sn	18 33 47.7	+0.7
SJMP	**San Jose**	**1.17**	**141**	*eP*	Pn	18 33 45.8	+0.7
SJMP				*eS*	Sn	18 34 06.6	+5.1
BUSP	**Coron**	**1.38**	**187**	*eP*	Pg	18 33 48.8	+0.3
BUSP				*eS*	Sn	18 34 08.0	+1.4
ENPP	**El Nido**	**2.35**	**203**	*eP*	Pn	18 34 01.6	+0.3

*IDC **02** 18:37:47.3±1.1,4.45S×153.09E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/28, mbtmp3.6/7, ML2.3/1, Error ellipse: s-maj=33.9km s-min=21.8km az=120.0*
*ISCJB **02** 18:37:53.3±0.9,4.65S±0.1×153.1E±0.1, h55km, mb3.5/6, Error ellipse: s-maj=23.8km s-min=11.6km az=136.1*
ISC 02 18:37:54.6±1.0,4.6S±0.2×153.1E±0.2, h55km, n8, σ1§13/9, mb3.5/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.64**	**231**	P	**Pn**	**18 39 42.1**	**-1.3**
	0.2nm,0.3s,baz=131,slow=19,SNR=2.3						
PMG				Sn	**Sn**	**18 41 10.0**	**+1.4**
	1.0nm,0.3s,baz=78,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**21.66**	**145**	P	**P**	**18 42 41.6**	**+0.8**
	3.3nm,0.6s,baz=327,slow=13,SNR=6.0						
WRA	**Warramunga Arr**	**23.85**	**229**	P	**P**	**18 43 03.3**	**+0.2**
	2.1nm,0.7s,baz=52,slow=9.8,SNR=8.1						
ASAR	**Alice Springs**	**26.55**	**223**	P	**P**	**18 43 26.9**	**-0.8**
	0.3nm,0.6s,baz=54,slow=9.3,SNR=7.8						
MKAR	**Makanchi Array**	**80.37**	**319**	P	**P**	**18 50 01.8**	**+1.5**
	0.2nm,0.5s,baz=96,slow=8.3,SNR=4.1						
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**18 50 07.0**	**-0.5**
	0.3nm,0.9s,baz=240,slow=5.1,SNR=4.1						
BVAR	**Borovoye Array**	**89.26**	**323**	P	**P**	**18 50 44.6**	**-0.2**
	0.2nm,0.4s,baz=101,slow=6.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.55**	**289**	PKPbc	**PKPbc**	**18 57 40.8**	**-0.6**
	1.6nm,0.9s,baz=64,slow=3.8,SNR=8.0						

IDC 02 18:38:10.2±4.9, 3.67S×105.58W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/30, mbtmp3.5/3, Error ellipse: s-maj=293.8km s-min=104.4km az=91.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**46.36**	**356**	P	P	18 46 39.4	+0.9
	0.5nm,0.8s,baz=174,slow=9.8,SNR=2.5						
YKA	**Yellowknife Ar**	**66.34**	**355**	P	P	18 48 59.7	-0.7
	0.3nm,0.7s,baz=165,slow=6.3,SNR=7.0						
ILAR	**Eielson Array**	**74.70**	**343**	P	P	18 49 50.9	-0.6
	0.5nm,0.9s,baz=139,slow=7.0,SNR=4.6						
H11N3	**WAKE ISLAND Hy 88.89**	**290**		T	T	20 29 00.7	
	baz=96,slow=74,SNR=9.5						
H11N2	**WAKE ISLAND Hy 88.90**	**290**		T	T	20 29 06.8	
	baz=96,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy 88.90**	**290**		T	T	20 28 58.7	
	baz=96,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy 88.99**	**288**		T	T	20 29 05.7	
	baz=95,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy 88.99**	**289**		T	T	20 29 06.0	
	baz=95,slow=75,SNR=9.5						
H11S3	**WAKE ISLAND Hy 89.00**	**288**		T	T	20 29 08.2	
	baz=95,slow=75,SNR=8.6						
MKAR	**Makanchi Array**	**136.50**	**352**	PKP	PKPdf	18 57 35.1	+0.6
	0.1nm,0.5s,baz=347,slow=5.9,SNR=3.2						

*ATH **02** 18:44:00.6,41.58N×19.87E, h5km±3km, MD3.6/34*
*IDC **02** 18:44:01.7±2.3,41.32N×19.90E, h0km, mb3.2/3, mb1 3.3/6, mb1mx3.1/40, mbtmp3.2/6, ML3.1/3, MS2.7/2, Ms1 2.7/2, ms1mx2.1/19, Error ellipse: s-maj=32.3km s-min=17.3km az=179.0*
*TIR **02** 18:44:02.4±0.6,41.46N×19.97E, h2km±30km, ML3.2*
*ISCJB **02** 18:44:03.5±0.4,41.46N±0.01×19.91E±0.02, h1km±2km, mb3.3/2, Error ellipse: s-maj=3.1km s-min=1.8km az=145.3*
*PDG **02** 18:44:03.6±0.3,41.40N×19.96E, h8km, MD3.4/4, ML3.4/10, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*THE **02** 18:44:04.7,41.46N×19.93E, h0km±3km, ML3.1/4, Error ellipse: s-maj=3.0km s-min=1.0km az=12.0*
*SKO **02** 18:44:04.7,41.40N×19.99E, h0km, M2.9, ML3.3*
*CSEM **02** 18:44:04.7±0.1,41.42N×19.93E, h2km, ML3.1, Ms3.4, Error ellipse: s-maj=3.9km s-min=2.0km az=57.0*
*VIE **02** 18:44:05.7±0.5,41.41N×19.82E, h9km±6km, mb2.8/5, Ms3.4/3, Error ellipse: s-maj=7.6km s-min=2.1km az=100.0*
ISC 02 18:44:04.5±0.8, 41.41N±0.01×19.95E±0.02, h5km±6km, n238, σ1§32/331, 31C-31D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.09**	**224**	*i* PG	**Pg**	**18 44 06.0**	**-0.4**
TIR				*i* SG	**Sg**	**18 44 08.2**	**+0.5**
TIR	**Tirane**	**0.09**	**224**	P	**Pg**	**18 44 05.9**	**-0.6**
TIR				S	**Sg**	**18 44 08.3**	**+0.5**
TIR	**Tirane**	**0.09**	**224**	P	**Pg**	**18 44 05.9**	**-0.6**
TIR				S	**Sg**	**18 44 08.3**	**+0.5**
PHP	**Peshkopia**	**0.46**	**54**	*i* PG	**Pg**	**18 44 12.4**	**-0.9**
PHP				*i* SG	**Sg**	**18 44 20.3**	**+1.0**
PHP	**Peshkopia**	**0.46**	**54**	P	**Pg**	**18 44 12.7**	**-0.6**
PHP				S	**Sg**	**18 44 20.3**	**+1.0**
PHP	**Peshkopia**	**0.46**	**54**	*i* Pg	**Pg**	**18 44 12.4**	**-0.9**
	SNR=94						
PHP	**Peshkopia**	**0.46**	**54**	P	**Pg**	**18 44 12.7**	**-0.6**
PHP				S	**Sg**	**18 44 20.3**	**+1.0**
PUK	**Puka**	**0.63**	**356**	*i* PG	**Pg**	**18 44 16.4**	**-0.2**
PUK				*i* SG	**Sb**	**18 44 27.6**	**+0.4**
PUK	**Puka**	**0.63**	**356**	*i* Pg	**Pg**	**18 44 16.4**	**-0.2**
	SNR=93						
PUK				*i* Sg	**Sb**	**18 44 27.5**	**+0.4**
	SNR=93						
OHR	**Ohrid**	**0.71**	**115**	*i* Pg	**Pg**	**18 44 16.3**	**-1.8**
OHR				*i* Sg	**Sg**	**18 44 26.3**	**-1.0**
OHR				*e*Lg	Lg	18 44 28.5	
	comp=N,1μm,0.5s						
OHR				*e*Lg	Lg	18 44 31.8	
	comp=E,3μm,1.2s						
OHR	**Ohrid**	**0.71**	**115**	*i* Pg	**Pg**	**18 44 16.2**	**-1.8**
OHR				*i* Sg	**Sg**	**18 44 26.2**	**-1.0**
OHR				*e*Lg	Lg	18 44 31.8	
	comp=E,3μm,1.2s						
ULC	**Ulcinj**	**0.76**	**316**	⇑*i* Pg	**Pg**	**18 44 17.8**	**-1.3**
ULC				*e*Sg	**Sb**	**18 44 30.4**	**-0.5**
ULC	**Ulcinj**	**0.76**	**316**	⇑*i* Pg	**Pg**	**18 44 17.8**	**-1.3**
ULC				*e*Sg	**Sb**	**18 44 30.4**	**-0.5**
BCI	**Bajram Curri**	**0.96**	**5**	*i* PN	**Pg**	**18 44 22.0**	**-0.9**
BCI				*i* SN	**Sn**	**18 44 39.9**	**+1.3**
BCI	**Bajram Curri**	**0.96**	**5**	*i* Pn	**Pg**	**18 44 22.0**	**-0.9**
BCI				*i* Sn	**Sn**	**18 44 39.9**	**+1.3**
DRME	**Dracevica, Mon**	**0.96**	**324**	⇓*i* Pg	**Pg**	**18 44 21.5**	**-1.4**
DRME				*e*Sg	**Sb**	**18 44 37.4**	**+0.8**
DRME	**Dracevica, Mon**	**0.96**	**324**	⇓*i* Pg	**Pg**	**18 44 21.5**	**-1.4**
DRME				*e*Sg	**Sb**	**18 44 37.4**	**+0.8**
KBN	**Korca**	**1.01**	**141**	*i* PN	**Pg**	**18 44 23.4**	**-0.5**
KBN				*i* SN	Sn	18 44 46.6	+6.7
KBN	**Korca**	**1.01**	**141**	P	**Pg**	**18 44 24.5**	**+0.6**
KBN				S	**Sn**	**18 44 39.9**	**-0.1**
KBN	**Korca**	**1.01**	**141**	*i* Pn	**Pg**	**18 44 23.4**	**-0.5**
KBN	**Korca**	**1.01**	**141**	P	**Pg**	**18 44 24.5**	**+0.6**
KBN				S	**Sn**	**18 44 39.9**	**-0.1**
BIA	**Bitola**	**1.11**	**110**	P	**Pg**	**18 44 26.0**	**+0.2**
BIA	**Bitola**	**1.11**	**110**	P	**Pg**	**18 44 26.0**	**+0.2**
PDG	**Podgorica**	**1.14**	**333**	P	**Pg**	**18 44 24.7**	**-1.7**
PDG				S	**Sb**	**18 44 41.6**	**-0.1**

PDG	**Podgorica**	**1.14**	**333**	P	**Pg**	**18 44 24.7**	**-1.7**
PDG				S	**Sb**	**18 44 41.6**	**-0.1**
PDG				*e*Sg	**Sn**	**18 44 42.7**	**-0.3**
TTG	**Podgorica**	**1.14**	**333**	⇑*i* Pg	**Pg**	**18 44 24.9**	**-1.5**
TTG				*e*Sg	**Sn**	**18 44 42.7**	**-0.3**
PVY	**Plav**	**1.18**	**0**	⇑*i* Pg	**Pg**	**18 44 25.7**	**-1.4**
PVY				*e*Sg	**Sn**	**18 44 45.2**	**+1.0**
PVY	**Plav**	**1.18**	**0**	⇑*i* Pg	**Pg**	**18 44 25.7**	**-1.4**
PVY				*e*Sg	**Sn**	**18 44 45.2**	**+1.0**
BUM	**Brajici-Budva**	**1.19**	**319**	⇓*i* Pg	**Pg**	**18 44 26.1**	**-1.1**
BUM				*e*Sg	**Sn**	**18 44 45.2**	**+0.9**
BUM	**Brajici-Budva**	**1.19**	**319**	⇓*i* Pg	**Pg**	**18 44 26.1**	**-1.1**
BUM				*e*Sg	**Sn**	**18 44 45.2**	**+0.9**
SKO	**Skopje**	**1.25**	**63**	*i* Pg	**Pg**	**18 44 26.7**	**-1.7**
SKO				*i* Sg	**Sg**	**18 44 44.4**	**-0.2**
SKO				*e*Lg	Lg	18 44 45.8	
	comp=N,527nm,0.6s						
SKO				*e*Lg	Lg	18 44 48.0	
	comp=E,613nm,0.8s						
SKO	**Skopje**	**1.25**	**63**	*i* Pg	**Pg**	**18 44 26.7**	**-1.7**
SKO				*i* Sg	**Sg**	**18 44 44.4**	**-0.2**
SKO				*e*Lg	Lg	18 44 48.0	
	comp=E,613nm,0.8s						
FNA	**Florina**	**1.25**	**120**	P	**Pg**	**18 44 26.6**	**-1.9**
FNA				S	**Sn**	**18 44 47.9**	**+2.1**
FNA	**Florina**	**1.25**	**120**	*e*PG	**Pg**	**18 44 26.6**	**-1.9**
FNA	**Florina**	**1.25**	**120**	P	**Pg**	**18 44 26.6**	**-1.9**
FNA				S	**Sn**	**18 44 47.9**	**+2.1**
NEST	**Nestorio**	**1.30**	**140**	P	**Pn**	**18 44 28.6**	**-0.7**
NEST				S	**Sn**	**18 44 49.5**	**+2.4**
NEST	**Nestorio**	**1.30**	**140**	*e*PB	**Pn**	**18 44 28.7**	**-0.6**
NEST	**Nestorio**	**1.30**	**140**	P	**Pn**	**18 44 28.6**	**-0.7**
NEST				S	**Sn**	**18 44 49.5**	**+2.4**
BEY	**Berane**	**1.46**	**358**	⇑*i* Pg	**Pn**	**18 44 30.4**	**-1.1**
BEY				*e*Sg	**Sg**	**18 44 54.0**	**+2.6**
IVA	**Berane**	**1.46**	**358**	⇑*i* Pg	**Pn**	**18 44 30.4**	**-1.1**
IVA				*e*Sg	**Sg**	**18 44 54.0**	**+2.6**
HCY	**Herceg Novi**	**1.50**	**314**	⇓*i* Pg	**Pn**	**18 44 31.4**	**-0.6**
HCY				*e*Sg	**Sg**	**18 44 55.0**	**+2.3**
HCY	**Herceg Novi**	**1.50**	**314**	⇓*i* Pg	**Pn**	**18 44 31.4**	**-0.6**
HCY				*e*Sg	**Sg**	**18 44 55.0**	**+2.3**
SRN	**Sarande**	**1.53**	**179**	P	**Pb**	**18 44 33.2**	**-0.1**
SRN				S	**Sg**	**18 44 55.3**	**+1.6**
SRN	**Sarande**	**1.53**	**179**	P	**Pb**	**18 44 33.2**	**-0.1**
SRN				S	**Sg**	**18 44 55.3**	**+1.6**
NKME	**Niksic**	**1.54**	**332**	⇑*i* Pg	**Pn**	**18 44 32.5**	**-0.1**
NKME				*e*Sg	**Sg**	**18 44 56.2**	**+2.1**
NKME	**Niksic**	**1.54**	**332**	⇑*i* Pg	**Pn**	**18 44 32.5**	**-0.1**
NKME				*e*Sg	**Sg**	**18 44 56.2**	**+2.1**
NKY	**Niksic**	**1.57**	**333**	⇓*i* Pn	**Pn**	**18 44 33.1**	**0.0**
NKY				*e*Sn	**Sg**	**18 44 56.5**	**+1.6**
NKY	**Niksic**	**1.57**	**333**	⇓*i* Pn	**Pn**	**18 44 33.1**	**0.0**
NKY				*e*Sn	**Sg**	**18 44 56.5**	**+1.6**
KEK	**Kerkira**	**1.70**	**184**	P	**Pn**	**18 44 35.0**	**+0.2**
KEK				S	**Sg**	**18 44 59.9**	**+0.7**
KEK	**Kerkira**	**1.70**	**184**	*e*PG	**Pn**	**18 44 35.5**	**+0.7**
KEK				*e*SN	**Sg**	**18 45 01.6**	**+2.4**
KEK	**Kerkira**	**1.70**	**184**	P	**Pn**	**18 44 35.0**	**+0.2**
KEK	**Kerkira**	**1.70**	**184**	*e*Pg	**Pn**	**18 44 35.5**	**+0.7**
KEK				S	**Sg**	**18 44 59.9**	**+0.7**
KEK				*e*Sn	**Sg**	**18 45 01.6**	**+2.4**
KZN	**Kozani**	**1.77**	**128**	P	**Pn**	**18 44 37.0**	**-0.4**
KZN	**Kozani**	**1.77**	**128**	*e*PN	**Pb**	**18 44 37.8**	**+0.4**
KZN				*e*SN	**Sg**	**18 45 03.5**	**+2.2**
KZN	**Kozani**	**1.77**	**128**	P	**Pb**	**18 44 37.0**	**-0.4**
KZN	**Kozani**	**1.77**	**128**	*e*Pn	**Pb**	**18 44 37.8**	**+0.4**
JAN	**Janina**	**1.88**	**158**	P	**Pb**	**18 44 39.7**	**+0.4**
JAN	**Janina**	**1.88**	**158**	*e*PG	**Pb**	**18 44 38.9**	**-0.4**
JAN	**Janina**	**1.88**	**158**	*e*Pg	**Pb**	**18 44 38.9**	**-0.4**
JAN	**Janina**	**1.88**	**158**	P	**Pb**	**18 44 39.7**	**+0.4**
IGT	**Igoumenitsa**	**1.90**	**171**	P	**Pn**	**18 44 38.3**	**+0.8**
IGT				S	**Sb**	**18 45 04.5**	**+0.9**
IGT	**Igoumenitsa**	**1.90**	**171**	*e

AGG	**Agios Georgios**	**3.00**	**142**	*e*PN	**Pn**	**18 44 54.5**	**+1.8**
AGG	**Agios Georgios**	**3.00**	**142**	P	**Pn**	**18 44 54.3**	**+1.6**
PAIG	**Paliouri**	**3.20**	**116**	P	**Pn**	**18 44 55.8**	**+0.4**
PAIG	**Paliouri**	**3.20**	**116**	P	**Pn**	**18 44 55.8**	**+0.4**
XOR	**Xorichti**	**3.21**	**128**	P	**Pn**	**18 44 56.5**	**+0.9**
XOR	**Xorichti**	**3.21**	**128**	P	**Pn**	**18 44 56.5**	**+0.9**
OUR	**Ouranopolis**	**3.24**	**108**	P	**Pn**	**18 44 57.1**	**+1.2**
OUR	**Ouranopolis**	**3.24**	**108**	P	**Pn**	**18 44 57.1**	**+1.2**
NEO	**Neokhori**	**3.27**	**129**	*e*PN	**Pn**	**18 44 57.5**	**+1.2**
NEO	**Neokhori**	**3.27**	**129**	*e*Pn	**Pn**	**18 44 57.5**	**+1.2**
VLS	**Valsamata**	**3.27**	**171**	*e*PN	**Pn**	**18 44 55.7**	**-0.6**
VLS	**Valsamata**	**3.27**	**171**	*e*Pn	**Pn**	**18 44 55.7**	**-0.6**
EFP	**Efpalio**	**3.34**	**153**	*e*PB	**Pn**	**18 44 59.5**	**+2.2**
EFP	**Efpalio**	**3.34**	**153**	*e*Pb	**Pn**	**18 44 59.5**	**+2.2**
AXAR	**Agios Charalam**	**3.36**	**141**	*e*PN	**Pn**	**18 44 59.2**	**+1.6**
AXAR	**Agios Charalam**	**3.36**	**141**	*e*Pn	**Pn**	**18 44 59.2**	**+1.6**
KALE	**Kalithea**	**3.46**	**150**	*e*PB	**Pn**	**18 45 01.3**	**+2.3**
KALE	**Kalithea**	**3.46**	**150**	*e*Pb	**Pn**	**18 45 01.3**	**+2.3**
KAVA	**Kavala**	**3.47**	**95**	P	**Pn**	**18 44 59.7**	**+0.7**
KAVA	**Kavala**	**3.47**	**95**	*e*PN	**Pn**	**18 44 59.6**	**+0.6**
KAVA	**Kavala**	**3.47**	**95**	P	**Pn**	**18 44 59.7**	**+0.7**
SKIA	**Skiathos**	**3.50**	**129**	*e*PN	**Pn**	**18 45 00.7**	**+1.2**
SKIA	**Skiathos**	**3.50**	**129**	*e*Pn	**Pn**	**18 45 00.7**	**+1.2**
SMIA	**Simia**	**3.56**	**134**	*e*PB	**Pn**	**18 45 02.6**	**+2.3**
SMIA	**Simia**	**3.56**	**134**	*e*Pb	**Pn**	**18 45 02.6**	**+2.3**
AOS	**Alonnisos**	**3.75**	**125**	*e*PN	**Pn**	**18 45 03.8**	**+0.9**
AOS	**Alonnisos**	**3.75**	**125**	*e*Pn	**Pn**	**18 45 03.8**	**+0.9**
KLV	**Kalavryta, Ach**	**3.77**	**153**	*e*PN	**Pn**	**18 45 05.1**	**+1.9**
KLV	**Kalavryta, Ach**	**3.77**	**153**	*e*Pn	**Pn**	**18 45 05.1**	**+1.9**
MRKA	**Markates**	**3.89**	**133**	*e*PN	**Pn**	**18 45 06.9**	**+2.1**
MRKA	**Markates**	**3.89**	**133**	*e*Pn	**Pn**	**18 45 06.9**	**+2.1**
GUR	**Goura**	**3.93**	**151**	*e*PN	**Pn**	**18 45 06.8**	**+1.3**
GUR	**Goura**	**3.93**	**151**	*e*Pn	**Pn**	**18 45 06.8**	**+1.3**
SRE	**Strehaia**	**4.03**	**35**⇑	*i*P	**Pn**	**18 45 08.1**	**+1.3**
SRE	**Strehaia**	**4.03**	**35**⇑	*i*P	**Pn**	**18 45 08.1**	**+1.3**
RDO	**Rodhopi**	**4.22**	**92**	*e*PN	**Pn**	**18 45 09.4**	**0.0**
RDO	**Rodhopi**	**4.22**	**92**	*e*Pn	**Pn**	**18 45 09.4**	**0.0**
SMTH	**Samothraki Isl**	**4.33**	**101**	*e*PN	**Pn**	**18 45 11.4**	**+0.5**
SMTH	**Samothraki Isl**	**4.33**	**101**	*e*Pn	**Pn**	**18 45 11.4**	**+0.5**
UDBI	**Udbina**	**4.37**	**317**	*e*Pn	**Pn**	**18 45 12.7**	**+1.1**
UDBI				Sn	**Sn**	**18 46 01.9**	**-0.9**
UDBI	**Udbina**	**4.37**	**317**	*e*Pn	**Pn**	**18 45 12.6**	**+1.1**
UDBI				Sn	**Sn**	**18 46 01.9**	**-0.9**
BZS	**Buzias**	**4.37**	**16**⇓	*i*P	**Pn**	**18 45 12.4**	**+0.9**
BZS	**Buzias**	**4.37**	**16**⇓	*i*P	**Pn**	**18 45 12.4**	**+0.9**
BZS				S	**Sn**	**18 46 04.8**	**+2.0**
GZR	**Gura Zlata**	**4.48**	**26**⇓	*i*P	**Pn**	**18 45 13.8**	**+0.8**
GZR	**Gura Zlata**	**4.48**	**26**⇓	*i*P	**Pn**	**18 45 13.8**	**+0.8**
GZR				S	**Sn**	**18 46 08.7**	**+3.2**
NVLJ	**Novalja**	**4.88**	**312**	*e*Pn	**Pn**	**18 45 17.9**	**-0.5**
NVLJ				Sn	**Sn**	**18 46 14.2**	**-0.9**
NVLJ	**Novalja**	**4.88**	**312**	*e*Pn	**Pn**	**18 45 17.9**	**-0.5**
NVLJ				Sn	**Sn**	**18 46 14.2**	**-0.9**
PKSM	**Moragy**	**4.89**	**349**⇑	*i*P	**Pn**	**18 45 19.4**	**+0.8**
PKSM	**Moragy**	**4.89**	**349**⇑	*i*P	**Pn**	**18 45 19.4**	**+0.8**
PKSM				*e*Sn	**Sn**	**18 46 14.5**	**-1.0**
PKSM	**Moragy**	**4.89**	**349**	*e*P	**Pn**	**18 45 19.2**	**+0.6**
PKSM				*e*		18 46 14.5	
LOT	**Lotru**	**4.90**	**33**⇑	*i*P	**Pn**	**18 45 19.6**	**+0.8**
LOT	**Lotru**	**4.90**	**33**⇑	*i*P	**Pn**	**18 45 19.6**	**+0.8**
PKS2	**Kecel**	**5.11**	**354**⇓	*e*Pn	**Pn**	**18 45 23.9**	**+2.4**
PKS2	**Kecel**	**5.11**	**354**⇓	*e*P	**Pn**	**18 45 23.9**	**+2.4**
PKS6	**Bocsa**	**5.19**	**357**⇓	*e*Pn	**Pn**	**18 45 25.0**	**+2.3**
PKS6	**Bocsa**	**5.19**	**357**⇓	*e*P	**Pn**	**18 45 25.0**	**+2.3**
VLI	**Veliai**	**5.23**	**153**	*e*PN	**Pn**	**18 45 26.5**	**+3.2**
VLI	**Veliai**	**5.23**	**153**	*e*Pn	**Pn**	**18 45 26.5**	**+3.2**
BOJS	**Bojanci**	**5.33**	**322**	*i* Pn	**Pn**	**18 45 25.6**	**+0.8**
BOJS				*i* Sn	**Sn**	**18 46 25.5**	**-0.8**
BOJS	**Bojanci**	**5.33**	**322**	*i* Pn	**Pn**	**18 45 25.4**	**+0.8**
BOJS				*i* Sn	**Sn**	**18 46 25.5**	**-0.8**
VOIR		**5.47**	**41**⇑	*i*P	**Pn**	**18 45 28.0**	**+1.3**
VOIR		**5.47**	**41**⇑	*i*P	**Pn**	**18 45 28.0**	**+1.3**
PKSN	**Nyarlorinc**	**5.48**	**359**	*e*Pn	**Pn**	**18 45 27.9**	**+1.2**
PKSN	**Nyarlorinc**	**5.48**	**359**	*e*P	**Pn**	**18 45 27.9**	**+1.2**
CRES	**Cresnjev**	**5.49**	**325**	*i* Pn	**Pn**	**18 45 27.8**	**+1.0**
CRES				*i* Sn	**Sn**	**18 46 29.1**	**-1.2**
CRES	**Cresnjev**	**5.49**	**325**	*i* Pn	**Pn**	**18 45 27.8**	**+1.0**
CRES				*i* Sn	**Sn**	**18 46 29.0**	**-1.2**
PKS7	**Kunszentmiklos**	**5.66**	**355**	*e*Pn	**Pn**	**18 45 29.0**	**-0.1**
PKS7	**Kunszentmiklos**	**5.66**	**355**	*e*P	**Pn**	**18 45 29.0**	**-0.1**
VISS	**Visnje**	**5.75**	**322**	*i* Pn	**Pn**	**18 45 31.5**	**+1.1**
VISS				*e*Sn	**Sn**	**18 46 38.5**	**+1.9**
VISS	**Visnje**	**5.75**	**322**	*i* Pn	**Pn**	**18 45 31.5**	**+1.1**
VISS				*e*Sn	**Sn**	**18 46 38.5**	**+1.9**
MLR	**Muntele Rosu**	**5.97**	**45**⇓	*i*P	**Pn**	**18 45 35.5**	**+2.0**
MLR	**Muntele Rosu**	**5.97**	**45**	Pn	**Pn**	**18 45 33.8**	**+0.2**
	comp=E,0.2nm,0.3s,baz=236,slow=6.4,SNR=14						
MLR				Sn	**Sn**	**18 46 44.6**	**+2.3**
	baz=119,slow=19						
MLR	**Muntele Rosu**	**5.97**	**45**⇓	*i*P	**Pn**	**18 45 35.5**	**+2.0**
PKSG		**6.08**	**350**	*e*P	Pn	18 45 38.6	+3.7
JAVS	**Javornik**	**6.19**	**318**	*e*Pn	**Pn**	**18 45 36.8**	**+0.3**
JAVS				*i* Sn	**Sn**	**18 46 47.7**	**+0.1**
JAVS	**Javornik**	**6.19**	**318**	*e*Pn	**Pn**	**18 45 36.8**	**+0.3**
JAVS				*i* Sn	**Sn**	**18 46 47.7**	**+0.1**
SOKA	**Soboth**	**6.34**	**328**⇓	*i*Pn	**Pn**	**18 45 38.9**	**+0.3**
SOKA				⇑*i*Sn	**Sn**	**18 46 51.6**	**+0.2**
SOKA	**Soboth**	**6.34**	**328**	Pn	**Pn**	**18 45 38.9**	**+0.3**
SOKA				Sn	**Sn**	**18 46 51.6**	**+0.2**
OBKA	**Obir**	**6.41**	**324**⇑	*i*Pn	**Pn**	**18 45 40.0**	**+0.4**
OBKA				⇑*i*Sn	**Sn**	**18 46 54.3**	**+1.1**
OBKA	**Obir**	**6.41**	**324**	Pn	**Pn**	**18 45 40.0**	**+0.4**
OBKA				Sn	**Sn**	**18 46 54.3**	**+1.1**
PSN	**Preselentsi**	**6.49**	**67**⇓	*i*P	**Pn**	**18 45 41.8**	**+1.2**
PSN	**Preselentsi**	**6.49**	**67**⇓	*i*P	**Pn**	**18 45 41.8**	**+1.2**
PSZ	**Piszkesteto**	**6.50**	**360**⇑	*i*P	**Pn**	**18 45 42.1**	**+1.3**
PSZ	**Piszkesteto**	**6.50**	**360**	*e*Pn	**Pn**	**18 45 41.8**	**+1.0**
PSZ	**Piszkesteto**	**6.50**	**360**⇑	*i*P	**Pn**	**18 45 42.1**	**+1.3**
PSZ				*e*Sn	**Sn**	**18 46 55.5**	**+0.1**
PSZ	**Piszkesteto**	**6.50**	**360**	*e*pP	**Pn**	**18 45 41.8**	**+1.0**
PSZ				*e*PKKPab	**Sn**	**18 46 55.5**	**+0.1**
PLOR	**Plostina**	**6.58**	**45**⇑	*i*P	**Pn**	**18 45 43.9**	**+2.1**
PLOR	**Plostina**	**6.58**	**45**⇑	*i*P	**Pn**	**18 45 43.9**	**+2.1**
VRI	**Vrincioaia**	**6.63**	**46**⇑	*i*P	**Pn**	**18 45 44.4**	**+1.9**
VRI	**Vrincioaia**	**6.63**	**46**⇑	*i*P	**Pn**	**18 45 44.4**	**+1.9**
TRPA	**Tarpa**	**6.96**	**14**⇑	*i*P	**Pn**	**18 45 48.5**	**+1.5**
TRPA	**Tarpa**	**6.96**	**14**⇑	*i*P	**Pn**	**18 45 48.5**	**+1.5**
KECS	**Kecovo**	**7.08**	**3**	*e*PN	**Pn**	**18 45 51.0**	**+2.4**
KECS				*e*SN	**Sn**	**18 47 10.4**	**+1.0**
VYHS	**Vyhne**	**7.12**	**354**	*e*Pn	**Pn**	**18 45 52.2**	**+2.9**
VYHS				*e*Sn	**Sn**	**18 47 11.8**	**+1.3**
VYHS	**Vyhne**	**7.12**	**354**	*e*PN	**Pn**	**18 45 52.2**	**+2.9**
VYHS				*e*SN	**Sn**	**18 47 11.8**	**+1.3**
BURAR	**Bucovina Array**	**7.25**	**29**⇓	*i*P	**Pn**	**18 45 52.5**	**+1.4**
BURAR	**Bucovina Array**	**7.25**	**29**⇓	*i*P	**Pn**	**18 45 52.5**	**+1.4**
KBA	**Koelnbreinsper**	**7.38**	**322**⇑	*i*Pn	**Pn**	**18 45 53.0**	**0.0**
KBA				⇓*i*Sn	**Sn**	**18 47 17.8**	**+0.6**
KBA	**Koelnbreinsper**	**7.38**	**322**	Pn	**Pn**	**18 45 53.0**	**0.0**
KBA				Sn	**Sn**	**18 47 17.8**	**+0.6**
ABTA	**Abfaltersbach**	**7.55**	**317**⇓	*i*Pn	**Pn**	**18 45 55.4**	**+0.2**
ABTA				⇓*i*Sn	**Sn**	**18 47 21.9**	**+0.7**
ABTA	**Abfaltersbach**	**7.55**	**317**	Pn	**Pn**	**18 45 55.4**	**+0.2**
ABTA				Sn	**Sn**	**18 47 21.9**	**+0.7**
CRVS	**Cervenica-Dubn**	**7.56**	**8**	*e*Pn	**Pn**	**18 45 57.1**	**+1.8**
CRVS	**Cervenica-Dubn**	**7.56**	**8**	*e*PN	**Pn**	**18 45 57.1**	**+1.8**
KOLS	**Kolonicke sedl**	**7.70**	**12**	*e*Pn	**Pn**	**18 45 59.7**	**+2.6**
KOLS	**Kolonicke sedl**	**7.70**	**12**	*e*PN	**Pn**	**18 45 59.7**	**+2.6**
KOLS				*e*SN	**Sn**	**18 47 21.6**	**-3.0**
VRAC	**Vranov**	**8.24**	**344**	LR	LR	18 50 07.8	
	comp=E,36nm,19.9s,baz=213,slow=44						
GERES	**GERESS Array B**	**8.64**	**331**	Pn	**Pn**	**18 46 10.2**	**0.0**
	comp=E,0.1nm,0.3s,baz=159,slow=14,SNR=6.6						
GERES				LR	LR	18 50 08.7	
	comp=E,50nm,18.2s,baz=142,slow=42						
DAVOX	**Davos/Dischmat**	**9.01**	**310**	Pn	**Pn**	**18 46 15.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=130,slow=17,SNR=3.4						
DAVOX				Sn	**Sn**	**18 47 54.5**	**-2.7**
	comp=E,0.2nm,0.3s,baz=9.5,slow=18,SNR=2.9						
FINES	**FINESS Array B**	**20.40**	**8**	P	**P**	**18 48 40.0**	**-2.0**
	comp=E,0.8nm,0.6s,baz=202,slow=9.9,SNR=7.6						
MKAR	**Makanchi Array**	**44.05**	**61**	P	**P**	**18 52 11.7**	**-1.3**
	comp=E,0.2nm,0.5s,baz=290,slow=7.0,SNR=6.7						
SONM	**Songino Array**	**58.78**	**52**	P	**P**	**18 54 02.7**	**-0.8**
	comp=E,0.4nm,1.0s,baz=332,slow=4.5,SNR=2.5						

*IDC **02** 18:53:25.1±1.3,0.°90S×123.°69E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/27, mbtmp3.3/4, Error ellipse: s-maj=193.5km s-min=22.0km az=66.0*
*DJA **02** 18:53:27.4±0.3, 1.°5S×12.°5E±, h10km, M3.6/16, mb4.0/4, MLv3.5/13, MLv3.6/16*

*ISCJB **02** 18:53:29.0±0.5, 0.°51S×0.°06×124.°82E±0.°04, h52km, mb3.2/4, Error ellipse: s-maj=8.9km s-min=5.1km az=31.2*

ISC 02 18:53:31.1±0.9, 0.°53S×0.°06×124.°85E±0.°05, h52km, n18, σ1s51/20, mb3.3/4, Southern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.40**	**321**	P	Pn	18 53 49.5	-4.8
KMSI				S	**Sn**	**18 54 10.4**	**-1.2**
SANI	**Sanana**	**1.89**	**143**	P	**Pn**	**18 53 58.2**	**-2.8**
SANI				S	**Sn**	**18 54 23.8**	**+0.1**
LUWI	**Luwuk**	**2.14**	**256**	P	**Pn**	**18 54 03.1**	**-1.3**
LUWI				S	**Sn**	**18 54 31.3**	**+1.5**
GTOI	**Gorontalo**	**2.17**	**302**	P	**Pn**	**18 54 05.4**	**+0.6**
LBMI	**Labuha**	**2.65**	**92**	P	**Pn**	**18 54 10.4**	**-1.0**
TNTI	**Ternate**	**2.83**	**63**	P	**Pn**	**18 54 12.8**	**-1.0**
MRSI	**Marisa**	**3.08**	**289**	P	**Pn**	**18 54 15.2**	**-2.0**
APSI	**Ampana**	**3.23**	**263**	P	**Pn**	**18 54 17.9**	**-1.4**
NLAI	**Namlea**	**3.51**	**140**	P	**Pn**	**18 54 22.9**	**-0.2**
MSAI	**Masohi**	**4.94**	**125**	P	**Pn**	**18 54 42.4**	**-0.5**
MPSI	**Mapaga**	**5.03**	**280**	P	**Pn**	**18 54 42.6**	**-1.4**
	10nm,0.8s,0.0nm						
PCI	**Palu**	**5.03**	**266**	P	**Pn**	**18 54 43.2**	**-0.8**
	34nm,1.2s,0.1nm0.1nm						
TTSI	**Tana Toraja**	**5.62**	**244**	P	**Pn**	**18 54 51.0**	**-1.1**
	14nm,0.7s,0.1nm						
BKSI	**Bulukumba**	**6.71**	**225**	P	**Pn**	**18 55 05.5**	**-1.5**
WRA	**Warramunga Arr**	**21.41**	**155**	P	**P**	**18 58 17.3**	**+2.5**
	1.0nm,1.0s,baz=333,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**24.62**	**160**	P	**P**	**18 58 47.9**	**+1.0**
	0.3nm,0.8s,baz=339,slow=7.0,SNR=3.2						
SONM	**Songino Array**	**50.78**	**344**	P	**P**	**19 02 27.7**	**+1.5**
	0.4nm,0.7s,baz=166,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**60.04**	**328**	P	**P**	**19 03 31.4**	**-1.3**
	0.3nm,0.6s,baz=124,slow=8.7,SNR=4.5						

*CSEM **02** 19:04:44.9, 34.°00N×25.°31E, h20km, MD3.6*

ATH 02 19:04:44.9, 34.°00N×25.°31E, h20km±1km, MD3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.10**	**338**	*e*PN	Pb	19 05 06.0	+0.8
SIVA				*e*SN	Sn	19 05 20.8	+1.1
SIVA	**Sivas**	**1.10**	**338**	*e*Pn	Pb	19 05 06.0	+0.8
SIVA				*e*Sn	Sn	19 05 20.8	+1.1
LAST	**Lasithi**	**1.17**	**7**	*e*PN	Pb	19 05 07.0	+0.5
LAST	**Lasithi**	**1.17**	**7**	*e*Pn	Pb	19 05 07.0	+0.5
NPS	**Neapolis**	**1.28**	**11**	*e*PN	Pb	19 05 09.0	+0.6
NPS	**Neapolis**	**1.28**	**11**	*e*Pn	Pb	19 05 09.0	+0.6
ZKR	**Zakros**	**1.34**	**34**	*e*PN	Pb	19 05 10.0	+0.6
ZKR				*e*SN	Sb	19 05 28.8	+2.7
ZKR	**Zakros**	**1.34**	**34**	*e*Pn	Pb	19 05 10.0	+0.6
ZKR				*e*Sn	Sb	19 05 28.8	+2.7
VAM	**Vamos**	**1.68**	**327**	*e*PN	Pb	19 05 15.1	0.0
VAM				*e*SN	Sb	19 05 37.8	+2.0
VAM	**Vamos**	**1.68**	**327**	*e*Pn	Pb	19 05 15.1	0.0
VAM				*e*Sn	Sb	19 05 37.8	+2.0
KARN	**Karanos**	**1.81**	**321**	*e*PN	Pb	19 05 17.3	-0.1
KARN	**Karanos**	**1.81**	**321**	*e*Pn	Pb	19 05 17.3	-0.1
KYTH	**Kithira**	**2.94**	**321**	*e*PN	Pn	19 05 33.1	+2.6
KYTH	**Kithira**	**2.94**	**321**	*e*Pn	Pn	19 05 33.1	+2.6

PGC 02 19:11:47.0±0.0, 50.°56N×130.°26W, h10km, ML3.1/3, Mw3.7, 6D, 201km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHC	**Port Hardy**	**1.81**	**84**	⇓Pn	Pn	19 12 16.2	-2.0
PHC				⇓Sn	Sn	19 12 37.1	-4.1
BBB	**Bella Bella**	**2.11**	**39**	⇓Pn	Pn	19 12 20.6	-1.7
TLCB	**Telegraph Cove**	**2.19**	**89**	⇓Pn	Pn	19 12 21.9	-1.5
TLCB				⇑Sn	Sn	19 12 47.0	-3.5
WOSB	**Woss**	**2.40**	**98**	⇓Pn	Pn	19 12 24.5	-1.9
NCRB	**Newcastle Ridg**	**2.69**	**92**	⇓Pn	Pn	19 12 28.4	-2.1

*ISCJB **02** 19:14:06.3±2.0, 34.°1S±0.°1×72.°8W±0.°4, h17km, mb3.6/1, Error ellipse: s-maj=44.8km s-min=15.2km az=6.7*
*IDC **02** 19:14:06.3±2.3, 34.°06S×72.°71W, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.4/31, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=68.1km s-min=30.4km az=100.0*

ISC 02 19:14:08.7±1.8, 34.°1S±0.°1×72.°7W±0.°3, h17km, n6, σ0s92/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.51**	**58**	Pn	**Pn**	**19 15 16.6**	**+0.4**
	0.1nm,0.3s,baz=236,slow=12,SNR=9.6						
PLCA	**Paso Flores**	**6.87**	**166**	Pn	**Pn**	**19 15 48.4**	**-0.3**
	0.2nm,0.3s,baz=340,slow=10,SNR=5.9						
LPAZ	**La Paz**	**18.19**	**14**	P	**Pn**	**19 18 20.9**	**-0.1**
	0.0nm,0.3s,baz=211,slow=13,SNR=3.3						
SIV	**San Ignacio**	**20.84**	**33**	P	**P**	**19 18 48.6**	**-1.1**
	1.1nm,0.6s,baz=199,slow=9.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.77**	**70**	P	**P**	**19 26 42.5**	**+0.1**
	0.4nm,0.7s,baz=242,slow=6.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**154.59**	**32**	PKPbc	**PKPbc**	**19 34 09.0**	**+1.0**
	0.6nm,0.5s,baz=319,slow=4.2,SNR=3.5						

*IDC **02** 19:14:40.2±1.4, 34.°04S×72.°95W, h0km, mb4.1/4, mb1 4.0/7, mb1mx3.8/31, mbtmp4.0/7, ML3.6/3, MS3.4/2, Ms1 3.3/2, ms1mx3.0/20, Error ellipse: s-maj=38.8km s-min=29.2km az=94.0*
*ISCJB **02** 19:14:44.0±0.9, 34.°11S±0.°08×72.°6W±0.°2, h33km, mb4.2/7, MS3.8/1, Error ellipse: s-maj=23.4km s-min=11.4km az=7.4*
*NEIC **02** 19:14:46.4±2.7, 34.°10S×72.°65W, h40km±25km, mb4.5/4, Error ellipse: s-maj=37.5km s-min=16.0km az=102.0*

ISC 02 19:14:46.8±1.0, 34.°1S±0.°1×72.°5W±0.°2, h35km, n15, σ1s44/12, mb4.3/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.38**	**56**	Pn	**Pn**	**19 15 51.8**	**+0.9**
	0.3nm,0.3s,baz=230,slow=16,SNR=4.7						
CFAA				Sn	Sn	19 16 51.4	+11
	0.9nm,0.3s,baz=7.0,slow=15,SNR=4.4						
LCO	**Las Campanas**	**5.33**	**17**	*e*Pn	Pn	19 16 00.3	-3.9
PLCA	**Paso Flores**	**6.76**	**167**	Pn	**Pn**	**19 16 23.8**	**+0.2**
	0.6nm,0.3s,baz=338,slow=11,SNR=5.6						
PLCA				LR	LR	19 18 32.8	
	comp=Z,118nm,18.9s,baz=300,slow=34						
LPAZ	**La Paz**	**18.20**	**14**	P	**Pn**	**19 18 56.7**	**-0.7**
	0.1nm,0.3s,baz=183,slow=9.3,SNR=8.5						
SIV	**San Ignacio**	**20.79**	**32**	P	**P**	**19 19 24.6**	**-0.4**
	2.5nm,0.7s,baz=224,slow=10,SNR=7.0						
SAML	**Samuel**	**26.49**	**21**	*e*P	**P**	**19 20 20.8**	**-0.2**
	1.7nm,0.8s						
BDFB	**Brasilia**	**28.72**	**56**	P	**P**	**19 20 40.1**	**-1.0**
	1.8nm,0.7s,baz=167,slow=10,SNR=3.9						
RCBR	**Riachuelo**	**44.04**	**59**	LR	LR	19 42 25.0	
	comp=Z,986nm,18.5s,baz=220,slow=38						
APG	**El Apazote**	**51.78**	**338**	P	P	19 23 47.2	-4.2
	3.2nm,0.9s,baz=190,slow=5.5,SNR=4.1						
QSPA	**South Pole Qui**	**56.10**	**180**	P	**P**	**19 24 22.4**	**+0.1**
	4.1nm,1.0s						
TEIG	**Tepich**	**56.11**	**342**	P	**P**	**19 24 24.0**	**+1.3**
	10nm,0.8s						
SRU	**San Rafael Swe**	**80.95**	**331**	P	P	19 27 03.3	+5.7
	3.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**19 27 17.3**	**+0.3**
	1.7nm,0.8s,baz=270,slow=4.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**154.54**	**32**	PKPbc	**PKPbc**	**19 34 43.8**	**+0.6**
	2.3nm,0.7s,baz=302,slow=3.6,SNR=9.0						
MKAR	**Makanchi Array**	**157.14**	**49**	PKP	**PKPdf**	**19 34 35.0**	**-3.5**
	0.2nm,0.6s,baz=339,slow=3.6,SNR=3.2						
MKAR				PKPab	**PKPab**	**19 35 10.6**	**+1.2**
	0.5nm,0.7s,baz=302,slow=4.2,SNR=6.4						

IDC 02 19:19:33.0±3.9, 28.°30S×178.°34W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/35, mbtmp3.4/2, Error ellipse: s-maj=95.9km s-min=20.1km az=49.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.01**	**159**	Pn	Pn	19 19 55.2	+0.7
	158nm,0.3s,baz=15,slow=20,SNR=5.5						
RAO				Sn	Sn	19 20 08.6	-0.9
	381nm,0.3s,baz=87,slow=19,SNR=7.4						
ASAR	**Alice Springs**	**42.96**	**265**	P	P	19 27 33.6	-0.5
	0.2nm,0.6s,baz=104,slow=7.1,SNR=5.3						
WRA	**Warramunga Arr**	**43.76**	**270**	P	P	19 27 40.7	+0.2
	0.4nm,0.4s,baz=109,slow=7.9,SNR=5.7						
FINES	**FINESS Array B**	**143.08**	**341**	PKP	PKPdf	19 39 07.1	-1.1
	0.6nm,0.7s,baz=20,slow=1.6,SNR=4.8						

*IDC **02** 19:24:32.4±0.9, 34.°14S×72.°15W, h0km, mb4.1/5, mb1 4.2/7, mb1mx3.9/31, mbtmp4.1/7, ML3.9/2, Error ellipse: s-maj=35.1km s-min=21.2km az=105.0*
*ISCJB **02** 19:24:33.3±1.4, 34.°01S±0.°04×72.°57W±0.°07, h24km±10km, mb4.0/6, Error ellipse: s-maj=10.3km s-min=6.2km az=1.8*
*NEIC **02** 19:24:35.1, 34.°05S×72.°34W, h8km, mb4.1/3, ML4.1(GUC), After GUC.*
*GUC **02** 19:24:35.1±0.7, 34.°05S×72.°34W, h8km±5km, ML4.1*

ISC 02 19:24:33.4±1.8, 34.°01S±0.°03×72.°44W±0.°07, h10km±11km, n41, σ1s03/53, mb4.2/6, 14C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.85**	**87**⇓	*i*P	**Pg**	**19 24 50.1**	**+0.3**
LNV	**Longovilo**	**0.85**	**87**⇓	*i*P	**Pg**	**19 24 50.1**	**+0.3**
IHA	**Instituto Hidr**	**1.18**	**34**	*e*P	**Pg**	**19 24 56.2**	**+0.1**
IHA				*e*S	**Sn**	**19 25 12.6**	**+0.5**
IHA	**Instituto Hidr**	**1.18**	**34**	*e*P	**Pg**	**19 24 56.2**	**+0.1**
IHA				*e*S	**Sn**	**19 25 12.6**	**+0.5**
TACH	**Talagante**	**1.30**	**75**⇑	*i*P	**Pn**	**19 24 57.0**	**-0.5**
TACH	**Talagante**	**1.30**	**75**⇑	*i*P	**Pn**	**19 24 57.0**	**-0.5**
NICH	**Los Niches**	**1.41**	**135**⇑	*i*P	**Pn**	**19 24 58.8**	**-0.2**
NICH				*i* S	**Sn**	**19 25 16.6**	**-1.1**
NICH	**Los Niches**	**1.41**	**135**⇑	*i*P	**Pn**	**19 24 58.8**	**-0.2**
NICH				*i* S	**Sn**	**19 25 16.6**	**-1.1**
CHCH	**Chadas Angostu**	**1.49**	**88**⇓	*i*P	**Pn**	**19 25 00.1**	**0.0**
CHCH	**Chadas Angostu**

comp=Z,114nm,19.3s,baz=261,slow=37
YKA Yellowknife Ar 29.02 50 P **P 19 33 51.5 -0.5**
0.3nm,0.4s,baz=272,slow=7.6,SNR=7.4
TXAR Lajitas Array 51.74 91 P **P 19 36 58.1 -1.5**
0.6nm,0.5s,baz=307,slow=6.0,SNR=6.3

IDC 02 19:29:28.4±2.1,27.56S×178.48W,h280km±16km, mb2.8/3,mb1 3.0/4,mb1mx2.9/39,mbtmp3.6/4,Error ellipse: s-maj=39.9km s-min=26.9km az=40.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.75**	**164**	P		Pn	19 30 11.6	+0.3
	156nm,0.3s,baz=54,slow=22,SNR=8.5							
URZ	**Urewera**	**11.29**	**198**	P		Pn	19 32 00.6	-1.9
	0.5nm,0.3s,baz=269,slow=4.9,SNR=8.5							
URZ				S		S	19 34 00.4	-8.2
	1.2nm,0.3s,baz=269,slow=22,SNR=12							
ASAR	**Alice Springs**	**42.91**	**264**	P		P	19 36 59.9	-0.4
	0.1nm,0.5s,baz=104,slow=6.8,SNR=4.5							
WRA	**Warramunga Arr**	**43.64**	**269**	P		P	19 37 06.3	+0.2
	0.4nm,0.4s,baz=109,slow=7.7,SNR=10							
QSPA	**South Pole Qui**	**62.54**	**180**	P		P	19 39 23.2	+0.5
	0.5nm,0.5s,baz=116,slow=6.2,SNR=7.2							
FINES	**FINESS Array B**	**142.34**	**341**	PKP		PKPdf	19 48 24.1	-2.9
	0.3nm,0.5s,baz=78,slow=6.4,SNR=3.5							
BRTR	**Keskin Array B**	**150.80**	**303**	PKPbc		PKPbc	19 48 48.0	+0.1
	0.3nm,0.6s,baz=90,slow=2.9,SNR=2.7							

*IDC **02** 19:34:05.1±0.4,36.10S×72.74W,h0km,mb4.7/16, mb1 4.8/18,mb1mx4.7/25,mbtmp4.7/18,ML4.1/3,MS4.1/18, Ms1 4.1/18,ms1mx4.0/27,Error ellipse: s-maj=19.8km s-min=11.3km az=86.0*

*ISCJB **02** 19:34:08.3±0.1,36.12S±0.02×72.83W±0.04,h28km, mb5.0/104,MS4.1/15,Error ellipse: s-maj=4.2km s-min=3.4km az=17.0*

*MOS **02** 19:34:09.2±1.0,36.07S×72.76W,h33km,mb5.3/29,Error ellipse: s-maj=17.9km s-min=7.1km az=99.4*

*GUC **02** 19:34:09.0±0.4,36.12S×72.90W,h29km±3km,ML5.5*

*NEIC **02** 19:34:10.8±0.5,36.12S×72.70W,h38km±4km,mb5.1/85, Error ellipse: s-maj=6.3km s-min=3.6km az=86.0*

NEIC Felt [IV] at Chanco, Chillan and San Carlos; [III] at Cauquenes, Concepcion, Linares, Longavi and Parral.

*BJI **02** 19:34:10.8,36.05S×72.70W,h47km,mB5.1/16,Ms5.3/16, Ms7 5.0/14*

ISC 02 19:34:09.3±0.2,36.13S±0.03×72.84W±0.05,h28km,n669, σ1ş17/706,mb5.1/104,MS4.2/15,167C-193D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.75**	**197**	*i* P		**Pb**	**19 34 22.8**	**-1.0**
CCSP				*i* S		**Sb**	**19 34 33.1**	**-0.6**
CCSP				AML		AML	19 34 34.8	
	comp=E,252μm,0.3s							
CCSP	**San Pedro de C**	**0.75**	**197**	*i* P		**Pb**	**19 34 22.8**	**-1.0**
CCSP				*i* S		**Sb**	**19 34 33.1**	**-0.6**
LNCH	**Linares**	**1.04**	**75**	⇓*i*P		**Pn**	**19 34 28.2**	**+0.2**
LNCH				*i* S		**Sb**	**19 34 42.7**	**+0.8**
LNCH	**Linares**	**1.04**	**75**	⇓*i*P		**Pn**	**19 34 28.2**	**+0.2**
LNCH				*i* S		**Sb**	**19 34 42.7**	**+0.8**
TALC	**Talca**	**1.22**	**54**	⇓*i*P		**Pn**	**19 34 30.4**	**0.0**
TALC				*i* S		**Sb**	**19 34 47.2**	**+0.1**
TALC	**Talca**	**1.22**	**54**	⇓*i*P		**Pn**	**19 34 30.4**	**0.0**
TALC				*i* S		**Sb**	**19 34 47.2**	**+0.1**
NICH	**Los Niches**	**1.73**	**50**	⇑*i*P		**Pn**	**19 34 39.0**	**+1.6**
NICH				*i* S		**Sb**	**19 35 01.5**	**0.0**
NICH	**Los Niches**	**1.73**	**50**	⇑*i*P		**Pn**	**19 34 39.0**	**+1.6**
NICH				*i* S		**Sb**	**19 35 01.5**	**0.0**
CHCH	**Chadas Angostu**	**2.83**	**40**	*i* P		**Pn**	**19 34 54.1**	**+1.5**
CHCH	**Chadas Angostu**	**2.83**	**40**	*i* P		**Pn**	**19 34 54.1**	**+1.5**
LACH	**Col Las Americ**	**3.27**	**36**	AML		AML	19 35 59.8	
	comp=N,5μm,0.5s							
CLCH	**Cerro Calan**	**3.32**	**35**	AML		AML	19 36 04.6	
	comp=N,14μm,0.7s							
CLCH				AML		AML	19 36 05.2	
	comp=N,17μm,0.8s							
YECH	**El Yeso**	**3.34**	**43**	AML		AML	19 36 10.9	
	comp=N,8μm,0.3s							
PEL	**Peldehue**	**3.46**	**31**	*e*P		**Pn**	**19 35 02.7**	**+1.3**
PEL				*i* S		**Sn**	**19 35 43.3**	**+1.7**
PEL	**Peldehue**	**3.46**	**31**	*e*P		**Pn**	**19 35 02.7**	**+1.3**
PEL				*i* S		**Sn**	**19 35 43.3**	**+1.7**
PEL				AML		AML	19 36 09.1	
	comp=E,10μm,0.5s							
PEL	**Peldehue**	**3.46**	**31**	*e*P		**Pn**	**19 35 02.7**	**+1.3**
PEL				*i* S		**Sn**	**19 35 43.3**	**+1.7**
ROCH	**El Roble**	**3.49**	**26**	AML		AML	19 36 12.2	
	comp=E,8μm,0.6s							
FCH	**Farellones**	**3.49**	**38**	AML		AML	19 36 08.0	
	comp=N,4μm,0.9s							
VLCH	**Valdivia**	**3.69**	**185**	*i* P		**Pn**	**19 35 05.3**	**+0.9**
VLCH	**Valdivia**	**3.69**	**185**	*i* P		**Pn**	**19 35 05.3**	**+0.9**
PLCA	**Paso Flores**	**4.94**	**159**	Pn		**Pn**	**19 35 22.1**	**+0.4**
	comp=N,3.9nm,0.3s,baz=330,slow=11,SNR=79							
PLCA				Lg		Lg	19 36 43.6	
	comp=N,17nm,0.3s,baz=86,slow=24,SNR=4.2							
PLCA				LR		LR	19 37 15.5	
	comp=N,2μm,19.1s,baz=335,slow=39							
CFAA	**Coronel Fontan**	**5.91**	**42**	Pn		**Pn**	**19 35 35.1**	**0.0**
	comp=N,1.7nm,0.3s,baz=207,slow=10,SNR=49							
CFAA				Sn		**Sn**	**19 36 43.2**	**+1.2**
	comp=N,1.7nm,0.3s,baz=222,slow=15,SNR=1.9							
CFAA				LR		LR	19 38 03.3	
	comp=N,301nm,18.3s,baz=229,slow=41							
LCO	**Las Campanas**	**7.32**	**15**	*e*Pn		**Pn**	**19 35 53.6**	**-1.0**
TRQA	**Tornquist**	**8.89**	**106**	*e*Pn		**Pn**	**19 36 19.1**	**+3.2**
PB06	**IPOC Station P**	**13.67**	**13**	*e*P		**Pn**	**19 37 22.9**	**+1.4**
LVC	**Limon Verde**	**13.89**	**15**	*e*Pn		**Pn**	**19 37 22.6**	**-2.0**
PB04	**IPOC Station P**	**14.12**	**13**	*e*P		**P**	**19 37 36.0**	**+1.3**
PB07	**IPOC Station P**	**14.58**	**11**	*e*P		**P**	**19 37 38.6**	**-1.5**
PB09	**IPOC Station P**	**14.62**	**13**	*e*P		**Pn**	**19 37 36.9**	**+2.5**
PB01	**IPOC Station P**	**15.31**	**12**	*e*P		**Pn**	**19 37 43.4**	**-0.2**
PATCX	**Punta Patache**	**15.43**	**9**	*e*P		**P**	**19 37 51.4**	**+2.0**
HMBC	**Humberstone**	**16.00**	**10**	*e*P		**Pn**	**19 37 54.3**	**+1.8**
PB11	**IPOC Station P**	**16.54**	**11**	*e*P		**P**	**19 38 03.8**	**+1.9**
PSGC	**Pisagua**	**16.64**	**9**	*e*P		**P**	**19 38 05.5**	**+2.6**
MNMC	**Minimini**	**17.17**	**10**	*e*P		**Pn**	**19 38 07.7**	**+0.2**
EFI	**East Falkland**	**18.78**	**150**	*e*P		**Pn**	**19 38 29.5**	**+2.7**
EFI				pmax		pmax		
	comp=Z,108nm,1.2s							
EFI	**East Falkland**	**18.78**	**150**	*e*P		**Pn**	**19 38 29.5**	**+2.7**
	comp=Z,108nm,1.2s							
USHA	**Ushuaia**	**18.95**	**172**	P		**Pn**	**19 38 29.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=328,slow=5.7,SNR=7.3							
USHA				LR		LR	19 46 15.5	
	comp=Z,885nm,18.9s,baz=348,slow=38							
LPAZ	**La Paz**	**20.20**	**13**	P		**P**	**19 38 43.2**	**+0.7**
	comp=Z,13nm,0.8s,baz=179,slow=7.4,SNR=46							
LPAZ				LR		LR	19 47 06.2	
	comp=Z,338nm,19.9s,baz=161,slow=39							
LPAZ	**La Paz**	**20.20**	**13**	P		**P**	**19 38 43.2**	**+0.7**
LPAZ				*e*Pn		Pn	19 38 44.0	-0.6
SIV	**San Ignacio**	**22.63**	**31**	P		**P**	**19 39 08.5**	**+0.4**
	comp=Z,15nm,0.7s,baz=227,slow=9.5,SNR=47							
SIV				LR		LR	19 49 20.4	
	comp=Z,324nm,20.1s,baz=198,slow=41							
NNA	**Nana**	**24.30**	**350**	P		**P**	**19 39 24.3**	**-0.2**
	comp=Z,26nm,0.8s,baz=204,slow=11,SNR=9.7							
NNA	**Nana**	**24.30**	**350**	P		**P**	**19 39 24.3**	**-0.2**
NNA				*e*Pn		**P**	**19 39 24.5**	**-0.1**
SAML	**Samuel**	**28.45**	**20**	*e*P		**P**	**19 40 00.8**	**-1.0**
	comp=Z,3.3nm,0.8s							
PMSA	**Palmer Station**	**29.17**	**172**	LR		LR	19 51 32.0	
	comp=Z,776nm,18.4s,baz=321,slow=36							
ATAH	**Atahualpa**	**29.30**	**349**	P		**P**	**19 40 09.9**	**0.0**
	comp=Z,11nm,1.1s,baz=190,slow=6.0,SNR=5.5							
ATAH				LR		LR	19 49 24.4	
	comp=Z,222nm,21.0s,baz=191,slow=31							
BDFB	**Brasilia**	**30.09**	**54**	P		**P**	**19 40 15.2**	**-1.4**
	comp=Z,5.5nm,0.8s,baz=210,slow=7.8,SNR=7.6							
BDFB				LR		LR	19 53 26.3	
	comp=Z,639nm,20.8s,baz=218,slow=39							
OTAV	**Otavalo**	**36.55**	**351**	*e*P		**P**	**19 41 14.2**	**+1.0**
	comp=Z,35nm,1.3s							
OTAV				*e*PcP		**PcP**	**19 43 35.9**	**-0.6**
PTGA	**Pitinga**	**37.19**	**22**	*e*P		**P**	**19 41 16.7**	**-1.4**
	comp=Z,17nm,0.8s							
ROSC	**El Rosal**	**40.79**	**358**	P		**P**	**19 41 49.6**	**+0.9**
	comp=Z,12nm,0.7s,baz=90,slow=21,SNR=7.2							
ROSC				LR		LR	19 58 22.7	
	comp=Z,177nm,20.0s,baz=194,slow=36							
ROSC	**El Rosal**	**40.79**	**358**	*e*P		**P**	**19 41 48.6**	**-0.1**
SDV	**Santo Domingo**	**44.82**	**3**	*e*P		**P**	**19 42 20.6**	**-0.5**
	comp=Z,22nm,1.1s							
JTS	**JuntasAbangare**	**47.56**	**344**	P		**P**	**19 42 43.6**	**+1.1**
JTS				pmax		pmax		
	comp=Z,17nm,1.0s							
JTS	**JuntasAbangare**	**47.56**	**344**	P		**P**	**19 42 43.6**	**+1.1**
	comp=Z,17nm,1.0s							
VNA3	**Neumayer Olymp**	**47.65**	**157**	P		**P**	**19 42 43.3**	**+0.7**
VNA2	**Neumayer--Watz**	**48.32**	**156**	P		**P**	**19 42 48.9**	**+1.1**
SNAA	**Sanae**	**49.88**	**157**	*e*P		**P**	**19 43 00.5**	**+0.7**
SNAA	**Sanae**	**49.88**	**157**	P		**P**	**19 43 00.5**	**+0.7**
SNAA	**Sanae**	**49.88**	**157**	P		**P**	**19 43 00.5**	**+0.7**
FDF	**Fort de France**	**51.78**	**14**	*e*P		**P**	**19 43 14.6**	**0.0**
FDF	**Fort de France**	**51.78**	**14**	*e*P		**P**	**19 43 14.6**	**0.0**
ICMP	**Isla Caja de M**	**54.05**	**7**	*e*P		**P**	**19 43 29.7**	**-1.5**
QSPA	**South Pole Qui**	**54.12**	**180**	P		**P**	**19 43 32.5**	**+1.0**
	baz=147,slow=3.8							
QSPA	**South Pole Qui**	**54.12**	**180**	P		**P**	**19 43 32.5**	**+1.0**
QSPA				*e*			19 43 40.8	
NVL	**N'lazarevskaya**	**54.64**	**156**	*e*P		**P**	**19 43 34.7**	**-0.3**
NVL				pmax		pmax		
	comp=Z,13nm,0.9s							
RKT	**Rikitea**	**54.72**	**266**	*e*T		T	20 42 03.5	
	comp=Z,1.7nm,0.2s							
SDDR	**Presa de Saban**	**54.83**	**2**	*e*P		**P**	**19 43 36.1**	**-0.8**
	comp=Z,14nm,0.9s							
GTBY	**Guantanamo Bay**	**55.79**	**357**	P		**P**	**19 43 44.1**	**+0.3**
TEIG	**Tepich**	**57.92**	**343**	*e*P		**P**	**19 43 58.6**	**-0.3**
	comp=Z,46nm,0.8s							
SBA	**Scott Base**	**60.87**	**192**	*e*P		**P**	**19 44 19.9**	**+1.3**
SBA	**Scott Base**	**60.87**	**192**	*e*P		**P**	**19 44 19.9**	**+1.3**
VNDA	**Vanda**	**61.89**	**192**	P		**P**	**19 44 26.7**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=137,slow=5.0,SNR=8.1							
VNDA				LR		LR	20 07 55.4	
	comp=Z,58nm,19.1s,baz=132,slow=33							
SYO	**Syowa Base**	**64.14**	**158**	⇓*e*P		**P**	**19 44 39.0**	**-1.6**
DWPF	**Disney Wildern**	**64.41**	**352**	P		**P**	**19 44 42.4**	**-0.3**
TBI	**Tubuai**	**66.20**	**258**	*e*LR		LR	20 04 55.2	
	comp=Z,222nm,23.8s							
035Z	**Hargill**	**66.65**	**335**	⇑P		**P**	**19 44 58.6**	**+1.3**
	baz=67							
035A	**Encino**	**67.10**	**336**	⇑P		**P**	**19 45 02.0**	**+1.8**
	baz=67							
034A	**Hebbronville**	**67.41**	**335**	⇓P		**P**	**19 45 03.2**	**+1.1**
	baz=68,SNR=5.6							
934A	**Benavides**	**67.85**	**335**	⇑P		**P**	**19 45 06.7**	**+1.8**
	baz=68							
MEH	**Mehetia**	**67.94**	**264**	*e*T		T	20 58 34.1	
	comp=Z,29nm,0.2s							
TIGA	**Tifton**	**67.96**	**350**	⇓P		**P**	**19 45 05.5**	**0.0**
	baz=68							
TIGA	**Tifton**	**67.96**	**350**	*e*P		**P**	**19 45 05.0**	**-0.5**
933A	**Laredo**	**68.12**	**335**	⇑P		**P**	**19 45 07.9**	**+1.3**
	baz=68,SNR=8.2							
835A	**Beeville**	**68.26**	**336**	⇓P		**P**	**19 45 09.7**	**+2.2**
	baz=69							
834A	**Tilden**	**68.35**	**336**	⇑P		**P**	**19 45 09.9**	**+1.9**
	baz=69							
735A	**Kenedy**	**68.78**	**337**	⇑P		**P**	**19 45 12.0**	**+1.3**
	baz=69							
833A	**Chaparral WMA,**	**68.81**	**335**	⇑P		**P**	**19 45 12.2**	**+1.3**
	baz=69,SNR=6.6							
832A	**Faith Ranch, C**	**68.98**	**334**	⇓P		**P**	**19 45 12.8**	**+0.9**
	baz=69,SNR=11							
734A	**La Parita Cree**	**69.01**	**336**	⇑P		**P**	**19 45 13.3**	**+1.2**
	baz=69							
636A	**Smothers Creek**	**69.12**	**337**	⇑P		**P**	**19 45 14.5**	**+1.7**
	baz=70,SNR=10							
TIAR	**Tiarei**	**69.13**	**263**	*e*T		T	21 00 04.2	
	comp=Z,4.2nm,0.3s							
733A	**Divot King Ran**	**69.14**	**335**	⇑P		**P**	**19 45 13.7**	**+0.7**
	baz=70							
PPT2	**Papeete2**	**69.30**	**263**	*e*LR		LR	20 06 25.6	
	comp=Z,283nm,23.5s							
PPT	**Papeete**	**69.31**	**263**	LR		LR	20 08 23.0	
	comp=Z,108nm,19.1s,baz=192,slow=30							
732A	**Laxson Ranch,**	**69.38**	**335**	⇑P		**P**	**19 45 15.4**	**+1.0**
	baz=70,SNR=15							
537A	**Green Hill Far**	**69.45**	**338**	⇓P		**P**	**19 45 16.0**	**+1.2**
	baz=70							
536A	**Bastrop**	**69.68**	**338**	⇓P		**P**	**19 45 17.4**	**+1.1**
	baz=70							
633A	**Saathoff Ranch**	**69.78**	**336**	⇓P		**P**	**19 45 17.8**	**+0.8**
	baz=70,SNR=8.7							
535A	**Dale**	**69.79**	**337**	⇓P		**P**	**19 45 18.3**	**+1.4**
	baz=70							
GOGA	**Godfrey**	**69.89**	**351**	*e*P		**P**	**19 45 17.0**	**-0.4**
GOGA				pmax		pmax		
	comp=Z,18nm,0.8s							
GOGA	**Godfrey**	**69.89**	**351**	*e*P		**P**	**19 45 17.0**	**-0.4**
	comp=Z,18nm,0.8s							
340A	**Bronson**	**70.03**	**341**	⇓P		**P**	**19 45 19.2**	**+0.8**
	baz=70							
632A	**Uvalde**	**70.03**	**335**	⇑P		**P**	**19 45 19.6**	**+1.1**
	baz=70,SNR=18							
LRAL	**Lakeview Retre**	**70.07**	**347**	*e*P		**P**	**19 45 17.9**	**-0.7**
	comp=Z,17nm,1.1s							
534A	**Blanco**	**70.08**	**336**	⇑P		**P**	**19 45 19.2**	**+0.4**
	baz=70							
631A	**Perdido Creek**	**70.22**	**334**	⇓P		**P**	**19 45 20.0**	**+0.4**
	baz=71,SNR=7.7							
436A	**Wall Ranch, Ga**	**70.24**	**338**	⇑P		**P**	**19 45 20.8**	**+1.1**
	baz=71							
533A	**Kerrville**	**70.30**	**336**	⇓P		**P**	**19 45 20.8**	**+0.7**
	baz=71,SNR=10.0							
338A	**Crockett**	**70.36**	**340**	⇑P		**P**	**19 45 22.0**	**+1.6**
	baz=71							
JSC	**Jenkinsville**	**70.48**	**353**	*e*P		**P**	**19 45 21.4**	**+0.3**
JSC				pmax		pmax		
	comp=Z,15nm,0.9s							
JSC	**Jenkinsville**	**70.48**	**353**	*e*P		**P**	**19 45 21.4**	**+0.3**
	comp=Z,15nm,0.9s							
337A	**Centerville**	**70.49**	**339**	⇑P		**P**	**19 45 22.8**	**+1.6**
	baz=71							
435B	**Jarrell**	**70.50**	**338**	⇓P		**P**	**19 45 22.6**	**+1.4**
	baz=71							
532A	**Rocksprings**	**70.64**	**335**	⇑P		**P**	**19 45 23.3**	**+1.1**
	baz=71,SNR=46							
434A	**Burnet**	**70.74**	**337**	⇑P		**P**	**19 45 23.3**	**+0.5**
	baz=71,SNR=18							
239A	**Gary**	**70.76**	**341**	⇓P		**P**	**19 45 23.8**	**+1.0**
	baz=71							
336A	**Riesel**	**70.83**	**338**	⇓P		**P**	**19 45 24.0**	**+0.7**
	baz=71,SNR=9.7							
531A	**Rocksprings**	**70.90**	**335**	⇓P		**P**	**19 45 24.8**	**+1.0**
	baz=71,SNR=28							
335A	**Moody**	**70.91**	**338**	⇓P		**P**	**19 45 24.4**	**+0.6**
	baz=71							
JCT	**Junction City**	**70.93**	**336**	*e*P		**P**	**19 45 24.4**	**+0.4**
JCT				pmax		pmax		
	comp=Z,47nm,0.9s							
JCT	**Junction City**	**70.93**	**336**	⇑P		**P**	**19 45 24.6**	**+0.6**
	baz=71,SNR=13							
JCT	**Junction City**	**70.93**	**336**	*e*P		**P**	**19 45 24.4**	**+0.4**
	comp=Z,47nm,0.9s							
433A	**Art**	**70.95**	**336**	⇓P		**P**	**19 45 24.5**	**+0.4**
	baz=71,SNR=34							
237A	**Washetta, Mont**	**71.11**	**339**	⇓P		**P**	**19 45 25.5**	**+0.6**
	baz=72							
530A	**J-C Ranch, Com**	**71.16**	**334**	⇓P		**P**	**19 45 26.4**	**+1.0**
	baz=72,SNR=36							
334A	**Lometa**	**71.21**	**337**	⇑P		**P**	**19 45 26.3**	**+0.7**
	baz=72,SNR=30							
TXAR	**Lajitas Array**	**71.28**	**332**	P		**P**	**19 45 27.2**	**+1.0**
	comp=Z,14nm,0.8s,baz=150,slow=8.7,SNR=91							
TXAR				LR		LR	20 11 37.1	
	comp=Z,191nm,19.9s,baz=0.0,slow=32							
432A	**Menard**	**71.29**	**336**	⇓P		**P**	**19 45 26.6**	**+0.4**
	baz=72,SNR=11							
MAW	**Mawson**	**71.33**	**164**	P		**P**	**19 45 26.4**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=22,slow=4.0,SNR=4.3							
MAW				LR		LR	20 15 29.9	
	comp=Z,270nm,21.7s,baz=239,slow=35							
KMSC	**Kings Mountain**	**71.34**	**353**	⇓P		**P**	**19 45 26.1**	**-0.2**
	baz=72,SNR=7.2							
KMSC	**Kings Mountain**	**71.34**	**353**	*e*P		**P**	**19 45 26.1**	**-0.2**
	comp=Z,17nm,0.8s							
431A	**Sonora**	**71.39**	**335**	⇑P		**P**	**19 45 27.4**	**+0.6**
	baz=72,SNR=14							
333A	**Richland Sprin**	**71.44**	**337**	⇓P		**P**	**19 45 27.4**	**+0.4**
	baz=72,SNR=19							
529A	**Stev Forest Ra**	**71.45**	**333**	⇓P		**P**	**19 45 28.0**	**+0.8**
	baz=72,SNR=36							
138A	**Matatall Enter**	**71.53**	**340**	⇓P		**P**	**19 45 28.7**	**+1.3**
	baz=72							
WHTX	**Lake Whitney,**	**71.58**	**338**	⇓P		**P**	**19 45 28.4**	**+0.6**
	baz=72,SNR=10							
WHTX	**Lake Whitney,**	**71.58**	**338**	*e*P		**P**	**19 45 28.2**	**+0.4**
	comp=Z,53nm,0.9s							
137A	**Heron Place, G**	**71.66**	**340**	⇓P		**P**	**19 45 29.0**	**+0.8**
	baz=72							
430A	**Baggett Ranch,**	**71.70**	**334**	⇑P		**P**	**19 45 29.4**	**+0.8**
	baz=72,SNR=22							
332A	**Millersview**	**71.74**	**336**	⇑P		**P**	**19 45 29.1**	**+0.3**
	baz=72,SNR=14							
429A	**Davenport Ranc**	**71.79**	**334**	⇓P		**P**	**19 45 29.8**	**+0.6**
	baz=72,SNR=20							
234A	**Clairette**	**71.80**	**338**	⇑P		**P**	**19 45 29.6**	**+0.4**
	baz=72,SNR=9.5							
331A	**San Angelo**	**71.90**	**335**	⇑P		**P**	**19 45 30.3**	**+0.5**
	baz=72,SNR=18							
OXF	**Oxford**	**71.96**	**346**	*e*P		**P**	**19 45 29.2**	**-0.8**
OXF				pmax		pmax		
	comp=Z,50nm,1.2s							
OXF	**Oxford**	**71.96**	**346**	*e*P		**P**	**19 45 29.2**	**-0.8**
	comp=Z,50nm,1.2s							
233A	**Rising Star**	**72.06**	**337**	⇑P		**P**	**19 45 31.1**	**+0.4**
	baz=72,SNR=11							
135A	**Vickery Place,**	**72.10**	**338**	⇓P		**P**	**19 45 31.1**	**+0.2**
	baz=72							
TKL	**Tuckaleechee C**	**72.14**	**351**	*e*P		**P**	**19 45 30.8**	**-0.3**
TKL	**Tuckaleechee C**	**72.14**	**351**	*e*P		**P**	**19 45 30.8**	**-0.3**
232A	**Coleman**	**72.17**	**336**	⇓P		**P**	**19 45 31.8**	**+0.3**
	baz=72,SNR=7.4							
330A	**Mertzon**	**72.25**	**335**	⇓P		**P**	**19 45 32.2**	**+0.3**
	baz=73,SNR=14							
134A	**White-Moore Ra**	**72.31**	**338**	⇓P		**P**	**19 45 32.2**	**0.0**
	baz=73							
231A	**Bronte**	**72.44**	**336**	⇑P		**P**	**19 45 33.3**	**+0.3**
	baz=73,SNR=13							
329A	**Wagon Wheel Ra**	**72.60**	**334**	⇓P		**P**	**19 45 34.7**	**+0.6**
	baz=73,SNR=14							
133A	**Hamilton Ranch**	**72.61**	**337**	⇓P		**P**	**19 45 34.4**	**+0.4**
	baz=73,SNR=8.7							
230A	**Sterling City**	**72.67**	**335**	⇓P		**P**	**19 45 34.1**	**-0.2**
	baz=73							
Z35A	**Perchaven, San**	**72.77**	**339**	⇑P		**P**	**19 45 35.2**	**+0.3**
	baz=73,SNR=12							
ABTX	**Abilene, Hawle**	**72.85**	**337**	⇑P		**P**	**19 45 36.0**	**+0.6**
	baz=73,SNR=9.7							
ABTX	**Abilene, Hawle**	**72.85**	**337**	*e*P		**P**	**19 45 35.7**	**+0.3**
	comp=Z,45nm,0.9s							
MIAR	**Mount Ida**	**72.92**	**342**	*e*P		**P**	**19 45 35.8**	**0.0**
MIAR				pmax		pmax		
	comp=Z,27nm,1.6s							
MIAR	**Mount Ida**	**72.92**	**342**	*e*P		**P**	**19 45 35.8**	**0.0**
	comp=Z,27nm,1.6s							
229A	**Bryant Ranch,**	**72.98**	**334**	⇑P		**P**	**19 45 36.7**	**+0.4**
	baz=73,SNR=10							
Z34A	**Collier Ranch,**	**73.01**	**338**	⇓P		**P**	**19 45 36.5**	**+0.2**
	baz=73							
131A	**Roby**	**73.14**	**336**	⇑P		**P**	**19 45 37.6**	**+0.4**
	baz=74,SNR=6.9							
Z33A	**Whitaker Ranch**	**73.19**	**338**	⇑P		**P**	**19 45 37.9**	**+0.5**
	baz=74,SNR=12							
WVT	**Waverly**	**73.23**	**347**	*e*P		**P**	**19 45 37.3**	**-0.2**
WVT				pmax		pmax		
	comp=Z,51nm,1.0s							
WVT	**Waverly**	**73.23**	**347**	*e*P		**P**	**19 45 37.3**	**-0.2**
	comp=Z,51nm,1.0s							
130A	**Snyder**	**73.26**	**335**	⇑P		**P**	**19 45 38.2**	**+0.3**
	baz=74,SNR=6.5							
228A	**UT Block 9, Go**	**73.39**	**334**	⇓P		**P**	**19 45 39.0**	**+0.3**
	baz=74,SNR=16							
Z32A	**Haskell**	**73.43**	**337**	⇑P		**P**	**19 45 39.3**	**+0.5**
	baz=74,SNR=14							
Y34A	**Reagan Ranch,**	**73.50**	**339**	⇑P		**P**	**19 45 39.5**	**+0.3**
	baz=74,SNR=6.8							
JSRW	**J. Sargeant Re**	**73.60**	**356**	*e*P		**P**	**19 45 40.4**	**+0.7**
129A	**Stewart Farms,**	**73.60**	**335**	⇑P		**P**	**19 45 40.0**	**+0.1**
	baz=74							
Z31A	**Sharp Cattle R**	**73.65**	**336**	⇑P		**P**	**19 45 40.6**	**+0.4**
	baz=74,SNR=8.9							
128A	**

baz=76,SNR=9.8
U33A Lingo Farm, Me 75.92 339 ⇑P P 19 45 53.5 +0.3
baz=76
LIC Lamto 76.07 72 *e*P P 19 45 54.5 -0.1
comp=Z,46nm,0.9s
V30A Spur Ranch, Mi 76.08 337 ⇓P P 19 45 55.7 +1.5
baz=76
U32A Winter Ranch, 76.13 338 ⇑P P 19 45 55.1 +0.7
baz=76
TIC Toumodi 76.34 71 *e*P P 19 45 57.1 +1.0
comp=Z,4.2nm,0.2s
KIC Kosan Boka 76.37 72 *e*P P 19 45 56.4 +0.1
comp=Z,41nm,0.9s
S36A Lake Cedric, C 76.44 342 ⇓P P 19 45 56.1 0.0
baz=77,SNR=7.0
DBIC Dimbokro 76.48 71 *e*P P 19 45 57.0 +0.1
DBIC Dimbokro 76.48 71 P P 19 45 56.6 -0.3
comp=Z,6.0nm,0.8s,baz=189,slow=6.9,SNR=7.3
DBIC LR LR 20 15 52.3
comp=Z,132nm,20.9s,baz=204,slow=33
W26A Owens Ranch, T 76.49 334 ⇓P P 19 45 57.4 +0.8
baz=77,SNR=7.0
ACSO Alum Creek Sta 76.56 352 *e*P P 19 45 56.5 -0.2
comp=Z,32nm,0.8s
T33A Patterson Ranc 76.56 339 ⇑P P 19 45 57.4 +0.6
baz=77,SNR=6.8
V28A Channing 76.56 336 ⇓P P 19 45 57.8 +0.9
baz=77
U30A WK&E Inc. Balk 76.77 337 ⇓P P 19 45 58.9 +0.9
baz=77,SNR=5.3
V27A Dan Oppiter Fa 76.77 335 ⇑P P 19 45 58.8 +0.6
baz=77
TUC Tucson 76.80 328 *e*P P 19 45 59.6 +1.3
TUC pmax pmax
comp=Z,15nm,1.0s
TUC Tucson 76.80 328 *e*P P 19 45 59.6 +1.3
comp=Z,14nm,1.0s
S34A Willow Spring 76.82 340 ⇓P P 19 45 58.6 +0.4
baz=77
LPM Los Pinos Moun 76.85 332 *e*P P 19 45 59.7 +1.0
T32A Huddler Ranch, 76.85 339 ⇓P P 19 45 59.2 +0.8
baz=77,SNR=6.4
LENM Lemitar 76.85 331 *e*P P 19 46 00.4 +1.7
comp=Z,3.7nm,0.9s
W25A X Bar L Ranch, 76.85 334 ⇑P P 19 45 59.1 +0.4
baz=77,SNR=6.1
S33A Kaszmaul Farm, 76.97 340 ⇑P P 19 45 59.3 +0.2
baz=77
T31A Randall Ranch, 76.99 338 ⇓P P 19 45 59.7 +0.4
baz=77
LAZ Ladron 77.12 331 *e*P P 19 46 01.7 +1.5
comp=Z,14nm,1.3s
V26A Tequesquite Ra 77.13 335 ⇑P P 19 46 00.8 +0.5
baz=78
W24A Lazy 6 Ranch, 77.19 333 ⇓P P 19 46 01.2 +0.6
baz=78
T30A Plains 77.21 338 ⇑P P 19 46 01.3 +0.8
baz=78
SFIN Lafayette 77.25 349 ⇑P P 19 45 59.4 -1.2
baz=78
S32A Newby Ranch, P 77.33 339 ⇓P P 19 46 01.9 +0.8
baz=78,SNR=5.9
ANMO Albuquerque 77.34 332 *i*P P 19 46 02.5 +1.0
ANMO pmax pmax
comp=Z,92nm,1.2s
ANMO Albuquerque 77.34 332 *e*P P 19 46 02.6 +1.0
comp=Z,17nm,1.0s
U27A Thompson Grove 77.37 336 ⇓P P 19 46 02.3 +0.7
baz=78,SNR=6.5
214A Organ Pipe Nat 77.39 326 ⇑P P 19 46 03.6 +1.9
baz=78,SNR=6.5
214A Organ Pipe Nat 77.39 326 *e*P P 19 46 03.4 +1.7
comp=Z,22nm,1.3s
S31A Mullinville 77.42 339 ⇑P P 19 46 02.0 +0.3
baz=78
V25A Rancho No Teng 77.46 334 ⇓P P 19 46 02.9 +0.8
baz=78,SNR=9.3
T29A Hugoton 77.55 337 ⇑P P 19 46 03.0 +0.5
baz=78
R33A Olander Ranch, 77.63 340 ⇓P P 19 46 03.1 +0.3
baz=78
U26A Atchley Ranch, 77.66 335 ⇓P P 19 46 03.5 +0.3
baz=78
S30A Montezuma 77.73 338 ⇑P P 19 46 03.8 +0.4
baz=78
T28A Walsh 77.78 336 ⇓P P 19 46 04.4 +0.7
baz=78,SNR=16
CASY Casey 77.89 181 *e*P P 19 46 05.2 +1.3
U25A Circle Dot Ran 77.89 334 ⇑P P 19 46 05.4 +0.8
baz=78,SNR=7.9
S29A Ulysses 77.92 337 ⇓P P 19 46 05.1 +0.6
baz=78
T27A Campo 77.92 336 ⇓P P 19 46 05.4 +0.8
baz=78,SNR=5.3
R32A Long Quarter, 77.94 339 ⇑P P 19 46 04.7 +0.2
baz=78
R31A Burdett 78.05 339 ⇓P P 19 46 05.5 +0.3
baz=78
S28A Manter 78.13 337 ⇓P P 19 46 06.2 +0.5
baz=78,SNR=8.5
Q33A Connelly Farm, 78.23 340 ⇑P P 19 46 06.4 +0.2
baz=79
R30A Dighton 78.27 338 ⇓P P 19 46 07.0 +0.6
baz=79
T26A Comanche Natio 78.31 335 ⇑P P 19 46 07.9 +1.1
baz=79,SNR=8.6
X18A Snowflake 78.36 329 ⇓P P 19 46 08.6 +1.5
baz=79
V22A San Miguel Ran 78.37 332 ⇓P P 19 46 09.1 +1.9
baz=79,SNR=12
Q32A Meitler Ranch, 78.43 340 ⇑P P 19 46 07.6 +0.4
baz=79
U23A El Rito 78.47 333 ⇓P P 19 46 09.6 +1.8
baz=79,SNR=6.2
TRY Troy 78.49 359 *e*P P 19 46 08.3 +0.9
comp=Z,33nm,1.1s
113A Mohawk Valley, 78.51 326 ⇑P P 19 46 09.6 +1.9
baz=79
T25A Trinidad 78.56 335 ⇓P P 19 46 09.8 +1.5
baz=79,SNR=14
T25A Trinidad 78.56 335 *e*P P 19 46 09.4 +1.1
comp=Z,44nm,1.1s
Z14A Wintersburg 78.64 327 ⇑P P 19 46 10.2 +1.6
baz=79
R29A Marienthal 78.66 338 ⇑P P 19 46 09.3 +0.7
baz=79
S26A Kim 78.68 336 ⇓P P 19 46 10.0 +1.2
baz=79,SNR=12
Q31A Ellis 78.68 339 ⇑P P 19 46 09.1 +0.5
baz=79
HVD Gariep Dam 78.69 120 *e*P P 19 46 09.6 +0.3
HVD AMB AMB 19 46 19.7
comp=Z,34nm,4.0s
HVD Gariep Dam 78.69 120 P P 19 46 09.6 +0.3
HVD pmax pmax
comp=Z,34nm,4.0s
HVD Gariep Dam 78.69 120 P P 19 46 09.6 +0.3
comp=Z,34nm,4.0s
W18A Petrified Fore 78.78 330 ⇑P P 19 46 10.5 +1.0
baz=79
R28A Tribune 78.80 337 ⇓P P 19 46 10.0 +0.6
baz=79,SNR=6.2
T24B San Luis 78.83 334 ⇓P P 19 46 10.7 +0.8
baz=79
X16A Lo Mia Camp, P 78.88 328 ⇓P P 19 46 11.4 +1.4
baz=79,SNR=6.6
Q30A Quinter 78.89 339 ⇓P P 19 46 10.7 +0.8
baz=79,SNR=8.5
P32A Huiting Farm, 79.03 340 ⇓P P 19 46 11.0 +0.5
baz=79
S25A Robets Cordova 79.04 335 ⇓P P 19 46 12.0 +1.2
baz=79,SNR=9.6
Q29A Oakley 79.04 338 ⇓P P 19 46 11.2 +0.5
baz=79,SNR=5.2
T23A Casias Ranch, 79.04 333 ⇑P P 19 46 11.8 +0.8
baz=79
R27A Eads 79.06 336 ⇓P P 19 46 11.4 +0.6
baz=79,SNR=11
ACCN Adirondack Com 79.14 359 *e*P P 19 46 11.9 +1.0
comp=Z,19nm,1.1s
P31A Stockton 79.15 339 ⇓P P 19 46 11.8 +0.6
baz=80
Y14A Wickenburg 79.16 327 ⇓P P 19 46 12.8 +1.4
baz=80
GLA Glamis 79.24 325 ⇓P P 19 46 13.4 +1.5
baz=80
TSUM Tsumeb 79.27 106 *e*P P 19 46 11.6 -1.0
TSUM Tsumeb 79.27 106 *e*P P 19 46 11.9 -0.6
comp=Z,5.7nm,1.2s
R26A Arlington 79.28 336 ⇓P P 19 46 13.0 +0.9
baz=80,SNR=15
S24A Houchin Ranch, 79.29 334 ⇓P P 19 46 13.8 +1.4
baz=80,SNR=14
R25A Fountain Ranch 79.42 335 ⇑P P 19 46 13.6 +0.7
baz=80
SDCO Great Sand Dun 79.48 334 ⇑P P 19 46 14.4 +1.0
baz=80,SNR=8.8
SDCO Great Sand Dun 79.48 334 *e*P P 19 46 14.1 +0.8
comp=Z,10.0nm,1.1s
O32A Brockman Farm, 79.54 340 ⇓P P 19 46 14.2 +0.9
baz=80
SWSC Sam W. Stewart 79.60 324 ⇑P P 19 46 15.6 +1.9
baz=80
BOSA Boshof 79.66 118 *e*P P 19 46 14.3 -0.3
BOSA AMB AMB 19 46 19.4
comp=Z,25nm,3.4s
BOSA AMS AMS 20 16 58.7
comp=Z,272nm,5.4s
BOSA Boshof 79.66 118 *e*P P 19 46 14.8 +0.2
BOSA *e* 19 46 23.6
BOSA pmax pmax
comp=Z,24nm,1.1s
BOSA Boshof 79.66 118 P P 19 46 14.8 +0.2
comp=Z,17nm,0.9s,baz=232,slow=4.8,SNR=16
BOSA LR LR 20 17 17.8
comp=Z,95nm,19.7s,baz=183,slow=33
BOSA Boshof 79.66 118 *e*P P 19 46 14.8 +0.2
comp=Z,24nm,1.1s
BOSA *e* 19 46 23.6
KSCO Kaye Shedlock' 79.66 337 ⇑P P 19 46 15.2 +1.1
baz=80
P29A Atwood 79.68 338 ⇑P P 19 46 15.2 +1.0
baz=80
MDV Middlebury 79.75 360 *e*P P 19 46 14.8 +0.5
R24A Sanders Place, 79.78 335 ⇓P P 19 46 16.4 +1.5
baz=80,SNR=12
WUAZ Wupatki 79.80 329 ⇑P P 19 46 16.6 +1.6
baz=80
WUAZ Wupatki 79.80 329 *e*P P 19 46 16.6 +1.6
comp=Z,27nm,1.2s
MONP Monument Peak, 79.85 324 ⇓P P 19 46 16.7 +1.3
baz=80
SCIA State Center 79.87 345 *e*P P 19 46 15.4 +0.4
comp=Z,57nm,1.4s
Q26A Hugo 79.87 336 ⇓P P 19 46 16.4 +1.1
baz=80
P28A Saint Francis 79.91 338 ⇑P P 19 46 16.3 +0.9
baz=80
O30A MW Ranch, Wils 79.96 339 ⇓P P 19 46 16.6 +1.0
baz=80
S22A 4UR Ranch, Cre 79.96 333 ⇑P P 19 46 17.0 +1.0
baz=80
S22A 4UR Ranch, Cre 79.96 333 *e*P P 19 46 17.1 +1.1
comp=Z,13nm,1.3s
PDMCI Parker Dam,Lak 79.97 326 ⇓P P 19 46 17.0 +1.3
baz=80
R23A Moffat 80.00 334 ⇑P P 19 46 17.3 +1.1
baz=80,SNR=6.0
BC3 Big Chuckawall 80.03 325 ⇓P P 19 46 17.6 +1.4
baz=80,SNR=9.0
Q25A Bedland, Calha 80.11 336 ⇓P P 19 46 17.4 +0.8
baz=80,SNR=7.0
MVCO Mesa Verde 80.11 332 ⇓P P 19 46 17.7 +0.9
baz=80
MVCO Mesa Verde 80.11 332 P P 19 46 12.2 -4.5
comp=Z,31nm,1.4s
JFWS Jewell Farm 80.25 347 *e*P P 19 46 16.6 -0.4
JFWS pmax pmax
comp=Z,23nm,1.0s
JFWS Jewell Farm 80.25 347 *e*P P 19 46 16.6 -0.4
comp=Z,22nm,1.0s
IRM Iron Mountain 80.31 326 ⇑P P 19 46 19.2 +1.6
baz=81,SNR=6.7
PTN Potsdam (NY) 80.34 358 *e*P P 19 46 18.2 +0.7
PTN pmax pmax
comp=Z,26nm,0.9s
PTN Potsdam (NY) 80.34 358 *e*P P 19 46 18.2 +0.7
comp=Z,26nm,0.9s
LONY Lake Ozonia 80.39 359 *e*P P 19 46 18.4 +0.7
comp=Z,21nm,1.1s
O28A Krutsinger Ran 80.42 338 ⇓P P 19 46 18.7 +0.5
baz=81
Q24A Divide 80.45 335 ⇓P P 19 46 19.8 +1.2
baz=81,SNR=7.0
Q24A Divide 80.45 335 *e*P P 19 46 20.0 +1.4
comp=Z,14nm,0.9s
PFO Pinyon Flats O 80.46 324 ⇑P P 19 46 20.2 +1.6
baz=81
W13A Hualapai Mount 80.52 327 ⇓P P 19 46 20.3 +1.3
baz=81
BELC Belle Mtn. Jos 80.57 325 ⇓P P 19 46 20.7 +1.5
baz=81
BGNE Belgrade 80.58 341 ⇓P P 19 46 19.1 +0.3
baz=81
P25A Willow Gulch B 80.62 336 ⇑P P 19 46 19.8 +0.4
baz=81
M31A Lambtecht Ranc 80.74 340 ⇓P P 19 46 20.3 +0.5
baz=81
MURC Murrieta 80.81 324 ⇑P P 19 46 22.1 +1.8
baz=81
N28A Pribbeno Ranch 80.86 338 ⇓P P 19 46 21.1 +0.6
baz=81
PV01 Paradox Valley 80.95 332 *e*P P 19 46 21.9 +0.7
comp=Z,1μm,1.1s
U15A North Rim 80.96 329 ⇓P P 19 46 22.9 +1.6
baz=81,SNR=13
O26A Horse Wrangler 81.00 337 ⇓P P 19 46 22.5 +1.2
baz=81
LDFC Landfair 81.05 326 *e*P P 19 46 23.3 +1.6
comp=Z,31nm,1.2s
GMRC Granite Mounta 81.06 326 ⇑P P 19 46 23.7 +2.0
baz=81,SNR=12
N27A Anderson Farm, 81.27 338 ⇓P P 19 46 23.8 +1.1
baz=82
SMCO Snowmass 81.28 334 *e*P P 19 46 24.7 +1.5
comp=Z,16nm,1.0s
M29A Burnside Ranch 81.31 339 ⇓P P 19 46 23.9 +1.1
baz=82
ISCO Idaho Springs 81.36 335 *e*P P 19 46 23.8 +0.3
ISCO pmax pmax
comp=Z,9.0nm,1.1s
ISCO Idaho Springs 81.36 335 ⇓P P 19 46 24.4 +1.0
baz=82,SNR=5.9
ISCO Idaho Springs 81.36 335 *e*P P 19 46 23.8 +0.3
comp=Z,9.2nm,1.1s
HEC Hector,Ludlow 81.41 325 ⇑P P 19 46 25.5 +2.0
baz=82,SNR=10
M28A Bar X Bar Ranc 81.46 339 ⇓P P 19 46 25.0 +1.3
baz=82
L31A Butterfield Fa 81.47 341 ⇓P P 19 46 24.6 +1.0
baz=82
L30A Spencer Herefo 81.50 340 ⇑P P 19 46 25.0 +1.2
baz=82
SEK Senekal 81.52 119 *e*P P 19 46 24.7 0.0
SEK AMB AMB 19 46 29.9
comp=Z,22nm,5.7s
SEK Senekal 81.52 119 P P 19 46 24.7 0.0
comp=Z,22nm,5.7s
BFSC Mount Baldy Ra 81.55 324 ⇓P P 19 46 25.9 +1.6
baz=82,SNR=6.8
P22A Eagle 81.58 334 ⇑P P 19 46 25.5 +1.0
baz=82
TUQ Turquoise Moun 81.72 326 ⇑P P 19 46 27.1 +1.9
baz=82,SNR=12
URZ Urewera 81.75 228 LR LR 20 15 08.7
comp=Z,116nm,20.7s,baz=102,slow=30
L29A Maesberg Ranch 81.82 340 ⇓P P 19 46 26.4 +0.9
baz=82
O23A Lake Granby, G 81.83 335 ⇑P P 19 46 27.2 +1.3
baz=82,SNR=6.5
M27A Reverse DX Ran 81.89 338 ⇓P P 19 46 26.9 +1.0
baz=82
LBTB Lobatse 82.00 115 *e*P P 19 46 27.2 -0.1
LBTB AMB AMB 19 46 51.2
comp=Z,16nm,1.9s
LBTB Lobatse 82.00 115 *e*P P 19 46 27.1 -0.1
LBTB pmax pmax
comp=Z,41nm,1.6s
LBTB Lobatse 82.00 115 *e*P P 19 46 27.1 -0.1
comp=Z,41nm,1.6s
O22A Kremmling 82.01 335 ⇓P P 19 46 27.8 +0.9
baz=82,SNR=12
GSC Goldstone, Bar 82.01 325 ⇑P P 19 46 28.2 +1.5
baz=82,SNR=6.8
N24A Carr 82.04 336 ⇑P P 19 46 27.7 +0.9
baz=82
K30A Basset 82.15 340 ⇓P P 19 46 27.9 +0.8
baz=82
PRYS Parys 82.16 118 *e*P P 19 46 26.4 -1.6
PRYS AMB AMB 19 47 15.7
comp=Z,9.9nm,2.4s
PRYS Parys 82.16 118 P P 19 46 26.4 -1.6
comp=Z,9.9nm,2.4s
EDW2 Edwards Air Fo 82.23 324 ⇓P P 19 46 29.2 +1.4
baz=83,SNR=5.5
SHPR Sheep Range 82.26 327 *e*P P 19 46 29.1 +1.1
BSC Santa Cruz Isl 82.31 322 ⇓P P 19 46 30.0 +1.8
baz=83
M25A Palm-Egli Farm 82.32 337 ⇓P P 19 46 28.9 +0.6
baz=83
CCUT Cedar City 82.36 329 *e*P P 19 46 30.3 +1.6
comp=Z,19nm,1.0s
ECSD EROS Data Cent 82.37 343 ⇓P P 19 46 28.4 +0.1
baz=83,SNR=24
ECSD EROS Data Cent 82.37 343 *e*P P 19 46 28.1 -0.2
comp=Z,38nm,0.9s
L27A T5 Ranch, Ells 82.37 338 ⇑P P 19 46 29.0 +0.6
baz=83
K29A Lazy Trails An 82.42 340 ⇑P P 19 46 29.1 +0.5
baz=83
N23A Red Feather La 82.45 335 ⇓P P 19 46 30.0 +0.9
baz=83,SNR=6.5
N22A Wattenberg Ran 82.55 335 ⇓P P 19 46 31.0 +1.4
baz=83,SNR=10
SRU San Rafael Swe 82.55 331 *e*P P 19 46 30.0 +0.5
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael Swe 82.55 331 *e*P P 19 46 30.0 +0.5
comp=Z,12nm,1.0s
LRMC Laurel Mtn Rad 82.57 325 ⇑P P 19 46 31.5 +1.9
baz=83
O20A White River Ci 82.58 333 ⇑P P 19 46 30.9 +1.2
baz=83
ARUT Antelope Range 82.60 329 *e*P P 19 46 31.3 +1.5
ARUT pmax pmax
comp=Z,4.0nm,1.4s
ARUT Antelope Range 82.60 329 *e*P P 19 46 31.3 +1.5
comp=Z,4.3nm,1.4s
M24A Cheyenne 82.60 336 ⇑P P 19 46 31.0 +1.2
baz=83
K28A Ten Mile Ranch 82.67 339 ⇑P P 19 46 31.0 +1.0
baz=83
MVU Marysvale 82.70 330 *e*P P 19 46 31.2 +0.8
comp=Z,12nm,1.0s
M23A Laramie 82.89 336 ⇑P P 19 46 32.2 +0.8
baz=83
K27A Flueckinger Fa 82.92 339 ⇑P P 19 46 32.1 +0.8
baz=83
MPMC Manual Prospec 82.95 325 ⇑P P 19 46 33.3 +1.6
baz=83,SNR=6.0
SPMN Marine on St. 82.97 346 ⇓P P 19 46 31.2 -0.1
baz=83
SPMN Marine on St. 82.97 346 *e*P P 19 46 30.4 -0.9
comp=Z,5.4nm,0.6s
TMUT Trail Mountain 82.98 331 *e*P P 19 46 32.0 +0.1
comp=Z,20nm,1.2s
FURC Furnace Creek, 83.00 326 ⇓P P 19 46 33.5 +1.9
baz=83
J29A Okreek 83.02 340 ⇓P P 19 46 32.4 +0.7
baz=83,SNR=5.3
ISA Isabella, Lake 83.09 324 ⇑P P 19 46 34.0 +1.7
baz=83,SNR=11
TPNV Topopah Spring 83.12 326 *e*P P 19 46 33.3 +0.8
TPNV pmax pmax
comp=Z,17nm,1.0s
TPNV Topopah Spring 83.12 326 ⇓P P 19 46 34.5 +2.0
baz=84,SNR=9.4
TPNV Topopah Spring 83.12 326 *e*P P 19 46 33.3 +0.8
comp=Z,17nm,1.0s
PKM Mcpherson Peak 83.12 323 ⇑P P 19 46 34.7 +2.1
baz=84,SNR=7.4
M22A Cedar Creek Ra 83.13 335 ⇓P P 19 46 33.3 +0.7
baz=84
L24A Wheatland 83.15 337 ⇑P P 19 46 33.7 +1.1
baz=84
DAC Darwin (Calif) 83.18 325 *e*P P 19 46 34.4 +1.5
DAC pmax pmax
comp=Z,21nm,0.9s
DAC Darwin (Calif) 83.18 325 *e*P P 19 46 34.4 +1.5
comp=Z,20nm,0.9s
N20A Spence Gulch, 83.21 334 ⇑P P 19 46 34.0 +1.1
baz=84,SNR=6.1
I30A Oacoma 83.25 341 ⇑P P 19 46 33.7 +0.8
baz=84
J28A Allard Ranch, 83.29 340 ⇓P P 19 46 33.8 +0.7
baz=84
J27A Elkhorn Farm, 83.35 339 ⇓P P 19 46 34.8 +1.3
baz=84,SNR=5.9
L23A Garrett 83.47 336 ⇑P P 19 46 34.7 +0.4
baz=84
VES Vestal, Richgr 83.53 324 ⇓P P 19 46 36.5 +2.1
baz=84
SLR Silverton 83.53 117 *e*P P 19 46 34.4 -0.7
SLR AMB AMB 19 46 35.9
comp=Z,14nm,1.4s
SLR AMS AMS 20 17 47.9
comp=Z,356nm,5.5s
SLR Silverton 83.53 117 P P 19 46 34.4 -0.7
SLR pmax pmax
comp=Z,14nm,1.4s
SLR Silverton 83.53 117 P P 19 46 34.4 -0.7
comp=Z,14nm,1.4s
BRSD Miller 83.62 342 ⇓P P 19 46 35.3 +0.6
baz=84
L22A Ellis Ranch, M 83.63 335 ⇓P P 19 46 36.2 +1.1
baz=84
GRAC Grapevine Rang 83.67 326 ⇑P P 19 46 36.9 +1.7
baz=84
J26A Sides Ranch, S 83.72 338 ⇑P P 19 46 36.5 +1.2
baz=84,SNR=5.7
K24A Anderson Ranch 83.72 337 ⇓P P 19 46 36.3 +0.8
baz=84
MPU Maple Canyon 83.76 331 *e*P P 19 46 36.5 +0.7
comp=Z,18nm,1.0s
I28A Midland 83.80 340 ⇓P P 19 46 36.6 +0.9
baz=84
NLU North Lily Min 83.88 331 *e*P P 19 46 37.6 +1.1
comp=Z,26nm,1.5s
DAU Daniels Canyon 83.96 332 *e*P P 19 46 38.1 +1.1
DAU Daniels Canyon 83.96 332 *e*P P 19 46 38.1 +1.1
R11A Troy Canyon, C 83.98 328 ⇓P P 19 46 38.7 +1.8
baz=84,SNR=23
R11A Troy Canyon, C 83.98 328 *e*P P 19 46 38.2 +1.3
comp=Z,15nm,1.0s
J25A Sunshine Ranch 84.01 338 ⇑P P 19 46 37.3 +0.4
baz=84
K23A Bowen Ranch, D 84.01 336 ⇑P P 19 46 38.0 +1.0
baz=84,SNR=6.0
TIN Tinemaha, Big 84.11 325 ⇓P P 19 46 39.3 +1.8
baz=84
H29A Onida 84.12 341 ⇑P P 19 46 37.4 +0.1
baz=84
K22A Casper 84.22 336 ⇓P P 19 46 38.9 +0.9
baz=85,SNR=9.7
K22A Casper 84.22 336 *e*P P 19 46 38.2 +0.2
comp=Z,34nm,1.1s
J24A Dixon Ranch, L 84.22 337 ⇓P P 19 46 39.1 +1.1
baz=85,SNR=6.4
G30A Faulkton 84.31 342 ⇑P P 19 46 38.4 +0.2
baz=85
I26A New Underwood 84.31 339 ⇑P P 19 46 38.9 +0.5
baz=85
DUG Dugway, Tooele 84.38 330 *e*P P 19 46 39.7 +0.8
DUG pmax pmax
comp=Z,26nm,1.1s
DUG Dugway, Tooele 84.38 330 ⇑P P 19 46 40.3 +1.4
baz=85,SNR=16
DUG Dugway, Tooele 84.38 330 *e*P P 19 46 39.7 +0.8
comp=Z,26nm,1.1s
K21A Alcova 84.45 335 ⇓P P 19 46 39.7 +0.4
baz=85,SNR=16
TPH Tonopah 84.48 326 *e*P P 19 46 40.7 +1.1
TPH pmax pmax
comp=Z,30nm,1.0s
TPH Tonopah 84.48 326 *e*P P 19 46 40.7 +1.1
comp=Z,30nm,1.0s
I25A Rochford 84.56 338 ⇑P P 19 46 40.4 +0.6
baz=85,SNR=15
H27A Howes 84.64 339 ⇓P P 19 46 40.4 +0.4
baz=85
I24A Kuemmerle Ranc 84.69 337 ⇑P P 19 46 41.0 +0.7
baz=85
G28A Parade 84.72 340 ⇓P P 19 46 40.8 +0.5
baz=85

RSSD **Black Hills** 84.75 338 eP P 19 46 40.7 -0.1
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD **Black Hills** 84.75 338 eP P 19 46 40.7 -0.1
comp=Z,13nm,0.9s
MLAC **Mammoth, Mammo** 84.86 325 ⇑P P 19 46 43.0 +1.5
baz=85
J22A **Midwest** 84.88 336 ⇑P P 19 46 41.5 +0.1
baz=85,SNR=8.4
F30A **Leola** 84.94 342 ⇑P P 19 46 41.8 +0.4
baz=85
H25A **Fruitdale** 85.07 338 ⇓P P 19 46 43.2 +1.0
baz=85
HWUT **Hardware Ranch** 85.10 332 eP P 19 46 43.0 +0.5
comp=Z,29nm,1.2s
J21A **Lysite** 85.14 335 ⇓P P 19 46 43.2 +0.5
baz=86
NVAR **Mina Array Bea** 85.26 326 P P 19 46 44.3 +0.8
comp=Z,10.0nm,0.9s,baz=153,slow=5.9,SNR=34
G27A **Dupree** 85.28 340 ⇓P P 19 46 43.5 +0.4
baz=86
I22A **9 Mile Ranch,** 85.31 336 ⇑P P 19 46 43.7 +0.2
baz=86,SNR=15
PDAR **Pinedale Array** 85.37 334 P P 19 46 44.1 +0.2
comp=Z,4.6nm,1.0s,baz=145,slow=5.4,SNR=23
PDAR LR LR 20 21 22.4
comp=Z,141nm,18.9s,baz=169,slow=33
G26A **Maurine** 85.39 339 ⇑P P 19 46 43.7 0.0
baz=86,SNR=9.0
H24A **Dirks Ranch, A** 85.47 338 ⇓P P 19 46 44.2 0.0
baz=86,SNR=10
I21A **Big Trails, Te** 85.51 336 ⇓P P 19 46 44.7 +0.3
baz=86,SNR=19
E30A **Jud** 85.53 342 ⇓P P 19 46 44.4 +0.1
baz=86
G25A **Newell** 85.54 339 ⇑P P 19 46 44.6 +0.1
baz=86,SNR=7.7
TORD **Torodi Ar. Bea** 85.55 70 P P 19 46 44.4 -0.8
comp=Z,4.0nm,0.9s,baz=261,slow=3.9,SNR=18
J19A **Crowheart** 85.62 334 ⇓P P 19 46 45.5 +0.4
baz=86,SNR=13
F27A **Lemmon** 85.76 340 ⇓P P 19 46 45.7 +0.1
baz=86,SNR=5.8
E29A **Napoleon** 85.78 342 ⇑P P 19 46 45.8 +0.2
baz=86
ELK **Elko** 85.84 329 eP P 19 46 47.2 +0.9
ELK pmax pmax
comp=Z,15nm,1.2s
ELK **Elko** 85.84 329 eP P 19 46 47.2 +0.9
comp=Z,15nm,1.2s
WAKR **Walker** 85.84 325 eP P 19 46 48.0 +1.7
H22A **Clearmont** 85.90 337 ⇓P P 19 46 46.3 0.0
baz=86,SNR=6.8
CMB **Columbia Colle** 85.91 324 eP P 19 46 48.3 +1.8
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB **Columbia Colle** 85.91 324 eP P 19 46 48.3 +1.8
comp=Z,9.6nm,1.1s
I20A **Worland** 85.91 335 ⇑P P 19 46 47.0 +0.6
baz=86,SNR=6.2
F26A **Lodgepole** 85.92 340 ⇓P P 19 46 46.6 +0.2
baz=86
G24A **Alzada** 85.96 338 ⇓P P 19 46 46.6 0.0
baz=86
D30A **Buchanan** 86.06 343 ⇑P P 19 46 46.8 -0.2
baz=86
DRLN **Deer Lake** 86.09 10 eP P 19 46 47.3 +0.3
comp=Z,29nm,1.2s
G23A **Biddle** 86.14 338 ⇓P P 19 46 47.5 0.0
baz=86,SNR=7.8
H21A **Big Horn, Sher** 86.15 336 ⇓P P 19 46 47.5 -0.1
baz=86,SNR=5.5
F25A **Bowman** 86.22 339 ⇓P P 19 46 48.1 +0.2
baz=87,SNR=5.4
I19A **Meeteetse** 86.28 335 ⇑P P 19 46 48.9 +0.5
baz=87,SNR=6.5
H20A **Greybull** 86.34 336 ⇓P P 19 46 48.5 0.0
baz=87,SNR=6.4
REDW **Red Top Meadow** 86.35 333 eP P 19 46 49.4 +0.6
comp=Z,16nm,1.1s
F24A **Ekalaka** 86.43 338 ⇑P P 19 46 49.0 +0.1
baz=87,SNR=7.3
E26A **Carlson Angus** 86.43 340 ⇑P P 19 46 49.0 +0.2
baz=87,SNR=7.9
G22A **Birney** 86.44 337 ⇑P P 19 46 48.9 -0.1
baz=87,SNR=7.0
TPAW **Teton Pass** 86.50 333 eP P 19 46 49.8 +0.3
comp=Z,16nm,1.0s
AGMN **Agassiz Nation** 86.53 345 ⇑P P 19 46 49.0 -0.1
baz=87,SNR=7.1
AGMN **Agassiz Nation** 86.53 345 eP P 19 46 49.1 -0.1
comp=Z,13nm,0.9s
C30A **Mose, Pekin** 86.55 343 ⇓P P 19 46 49.6 +0.3
baz=87,SNR=9.8
D28A **Regan** 86.59 341 ⇓P P 19 46 50.3 +0.8
baz=87
F23A **Volborg** 86.61 338 ⇓P P 19 46 49.7 -0.1
baz=87,SNR=9.9
FXWY **Fox Creek** 86.66 333 eP P 19 46 50.8 +0.6
comp=Z,6.5nm,1.1s
E25A **Miller Ranch,** 86.72 339 ⇑P P 19 46 50.8 +0.5
baz=87
G21A **Lodge Grass** 86.73 336 ⇑P P 19 46 50.8 +0.4
baz=87
I17A **Pilgrim Ck.** 86.74 334 ⇓P P 19 46 51.6 +1.0
baz=87,SNR=9.8
D27A **Center** 86.77 341 ⇓P P 19 46 50.6 +0.2
baz=87
IMW **Indian Meadow** 86.85 333 eP P 19 46 52.2 +1.0
comp=Z,15nm,1.1s
FLWY **Flagg Ranch** 86.92 334 eP P 19 46 52.1 +0.6
comp=Z,17nm,1.0s
F22A **Rosebud** 86.93 337 ⇓P P 19 46 51.9 +0.6
baz=87
D26A **Manning** 86.94 340 ⇓P P 19 46 51.6 +0.3
baz=87,SNR=17
MDND **Maddock** 86.96 342 ⇓P P 19 46 51.5 +0.2
baz=87
E24A **Baker** 87.04 339 ⇑P P 19 46 52.2 +0.4
baz=87,SNR=7.7
G20A **Bridger** 87.06 336 ⇓P P 19 46 51.8 -0.3
baz=87,SNR=9.1
H18A **Shoshone NF, C** 87.07 335 ⇓P P 19 46 52.6 +0.3
baz=87,SNR=13
B30A **Myrvik Farm, E** 87.22 343 ⇓P P 19 46 52.6 +0.1
baz=88,SNR=5.7
E23A **Ismay** 87.28 338 ⇑P P 19 46 53.3 +0.3
baz=88
D25A **Fairfield** 87.29 340 ⇓P P 19 46 53.7 +0.7
baz=88,SNR=7.0
C27A **Sayler Ranch,** 87.32 341 ⇑P P 19 46 53.5 +0.4
baz=88,SNR=7.0
E22A **Miles City** 87.42 338 ⇓P P 19 46 53.7 +0.1
baz=88
YMR **Madison River** 87.53 334 eP P 19 46 55.8 +1.4
comp=Z,20nm,1.1s
D24A **Glendive** 87.55 339 ⇑P P 19 46 54.9 +0.6
baz=88,SNR=8.6
F20A **Billings** 87.55 336 ⇑P P 19 46 54.5 +0.1
baz=88
C26A **Wahner Farm, P** 87.58 341 ⇑P P 19 46 54.6 +0.3
baz=88,SNR=6.7
A30A **Hoffart Farm,** 87.67 344 ⇓P P 19 46 55.1 +0.3
baz=88
B28A **Dugan Ranch, T** 87.70 342 ⇑P P 19 46 55.2 +0.3
baz=88
C25A **Freed Ranch, W** 87.79 340 ⇓P P 19 46 55.7 +0.3
baz=88
D23A **Lindsay** 87.86 339 ⇑P P 19 46 56.4 +0.6
baz=88,SNR=8.8
F19A **Roth Farm, Mol** 87.86 336 ⇓P P 19 46 56.0 +0.1
baz=88
HLID **Hailey** 87.87 331 ⇑P P 19 46 57.3 +1.2
baz=88,SNR=6.6
HLID **Hailey** 87.87 331 eP P 19 46 57.3 +1.2
comp=Z,8.0nm,1.0s
A29A **Manning Farm,** 87.87 343 ⇑P P 19 46 56.1 +0.4
baz=88
B27A **Peters Farms,** 87.89 341 ⇓P P 19 46 56.3 +0.5
baz=88
C24A **Savage** 87.95 339 ⇑P P 19 46 56.8 +0.6
baz=88,SNR=5.8
A28A **Rude Farm, Bot** 88.11 342 ⇑P P 19 46 56.9 0.0
baz=88
D22A **Cohagen** 88.13 338 ⇑P P 19 46 57.8 +0.8
baz=88
E20A **Meyer Farm, Mu** 88.17 336 ⇑P P 19 46 57.6 +0.3
baz=88,SNR=7.0

B25A **Knox Farm, Ray** 88.27 340 ⇑P P 19 46 58.3 +0.6
baz=89
E19A **Rath Farm, Rou** 88.34 336 ⇑P P 19 46 58.3 +0.2
baz=89,SNR=7.9
MCMT **McKenzie Canyo** 88.35 333 eP P 19 46 59.5 +1.2
comp=Z,9.4nm,1.2s
ULM **Lac du Bonnet** 88.38 345 P P 19 46 57.1 -0.9
comp=Z,16nm,0.8s,baz=169,slow=2.8,SNR=32
C23A **Lambert** 88.42 339 ⇑P P 19 46 58.4 0.0
baz=89,SNR=8.0
A26A **Wade Farm, Ken** 88.55 341 ⇑P P 19 46 59.0 +0.1
baz=89
C22A **Vida** 88.58 338 ⇓P P 19 46 59.4 +0.3
baz=89
DGMT **Dagmar** 88.74 340 ⇑P P 19 46 59.9 +0.1
baz=89,SNR=7.1
DGMT **Dagmar** 88.74 340 eP P 19 47 00.1 +0.3
comp=Z,36nm,1.0s
DGMT e 19 47 09.5
A25A **Svangstu Ranch** 88.87 341 ⇓P P 19 47 00.6 +0.1
baz=89
B23A **Brockton** 88.96 339 ⇑P P 19 47 01.4 +0.5
baz=89
MOD **Modoc Plateau** 88.97 327 eP P 19 47 02.8 +1.5
comp=Z,16nm,0.9s
C21A **Desert Coulee** 89.01 338 ⇓P P 19 47 01.3 +0.2
baz=89
C20A **Veseth Ranch,** 89.20 337 ⇓P P 19 47 01.6 -0.4
baz=90
B21A **Ellsworth Farm** 89.53 338 ⇑P P 19 47 03.2 -0.3
baz=90
M04C **Macdoel** 89.56 326 ⇑P P 19 47 04.7 +0.7
baz=90
A22A **Carney Farms,** 89.70 339 ⇑P P 19 47 04.3 0.0
baz=90
LSZ **Lusaka** 89.76 109 eP P 19 47 01.9 -3.8
LSZ e 19 47 14.6
LSZ pmax pmax
comp=Z,10.0nm,1.6s
LSZ **Lusaka** 89.76 109 eP P 19 47 01.9 -3.8
comp=Z,10nm,1.6s
LSZ e 19 47 14.6
A21A **Bergtoll Ranch** 90.00 338 ⇓P P 19 47 05.3 -0.5
baz=90
B19A **Brinkman Farms** 90.15 337 ⇑P P 19 47 06.1 -0.4
baz=90
A20A **Cobblestone Ra** 90.20 338 ⇑P P 19 47 06.0 -0.7
baz=91
MSO **Missoula** 90.45 333 ⇑P P 19 47 08.2 +0.2
baz=91
J05D **Fort Rock, OR** 90.48 327 ⇑P P 19 47 08.6 +0.3
baz=91
FCC **Fort Churchill** 96.18 349 eP P 19 47 33.5 -0.4
FCC **Fort Churchill** 96.18 349 eP P 19 47 33.5 -0.4
ESDC **Sonseca Array** 98.51 47 P P 19 47 44.5 -0.5
comp=Z,0.8nm,0.9s,baz=253,slow=3.9,SNR=3.3
DZM **Mont Dzumac** 99.46 234 eLR LR 20 20 21.6
comp=Z,155nm,25.0s
DZM **Mont Dzumac** 99.46 234 LR LR 20 22 03.7
comp=Z,114nm,20.8s,baz=18,slow=29
YKA **Yellowknife Ar** 103.86 341 Pdiff Pdif 19 48 07.8 -0.3
comp=Z,0.5nm,0.8s,baz=140,slow=4.2,SNR=9.8
YKA PP PKiKP 19 52 23.9 -1.7
comp=Z,0.5nm,0.9s,baz=145,slow=7.9,SNR=5.2
YKA PKKPbc PKKPbc 20 03 57.8 -2.4
comp=Z,0.1nm,0.6s,baz=325,slow=2.8,SNR=5.7
GERES **GERESS Array B** 114.10 46 PKP PKPdf 19 52 43.2 -2.3
comp=Z,0.3nm,0.6s,baz=297,slow=0.9,SNR=4.8
GERES PKKPbc PKKPab 20 03 32.7 +1.8
comp=Z,0.1nm,0.3s,baz=104,slow=5.6,SNR=3.7
ASAR **Alice Springs** 115.38 207 PKP PKPdf 19 52 48.0 -0.9
comp=Z,0.4nm,0.7s,baz=148,slow=2.1,SNR=6.6
ASAR PKKPbc PKKPbc 20 03 22.5 +0.5
comp=Z,0.7nm,0.8s,baz=344,slow=3.1,SNR=5.6
ILAR **Eielson Array** 115.78 333 PKP PKPdf 19 52 46.9 -1.3
comp=Z,0.8nm,0.9s,baz=160,slow=1.0,SNR=6.1
ILAR PP PP 19 53 55.3 +3.0
comp=Z,0.9nm,1.0s,baz=113,slow=4.9,SNR=4.4
VYHS **Vyhne** 117.00 48 ePKIKP PKPdf 19 52 51.1 +0.1
VYHS **Vyhne** 117.00 48 ePKP PKPdf 19 52 51.1 +0.1
WRA **Warramunga Arr** 118.59 209 PKP PKPdf 19 52 54.7 -0.4
comp=Z,1.4nm,0.7s,baz=161,slow=1.7,SNR=8.0
MLR **Muntele Rosu** 120.28 54 ⇓iP PKPdf 19 52 57.6 +0.1
BURAR **Bucovina Array** 120.60 51 ⇓iP PKPdf 19 52 59.6 +1.6
VRI **Vrincioaia** 120.92 53 ⇓iP PKPdf 19 52 56.9 -1.7
CSS **Prodhromos** 121.33 67 ePKPdf PKPdf 19 52 59.8 +0.1
TIRR **Tirgusor** 121.52 55 ⇓iP PKPdf 19 52 59.9 +0.2
BRTR **Keskin Array B** 123.42 62 PKP PKPdf 19 53 02.5 -1.2
comp=Z,1.7nm,0.8s,baz=196,slow=3.4,SNR=12
KIEV **Kiev** 124.08 49 iPKIKP PKPdf 19 53 03.5 -1.0
AKASG **Malin Array Be** 124.10 49 PKP PKPdf 19 53 03.0 -1.5
comp=Z,0.5nm,0.4s,baz=272,slow=2.7,SNR=5.7
AKASG PP PP 19 54 46.6 -3.2
comp=Z,0.2nm,0.3s,baz=250,slow=8.8,SNR=5.1
TNA **Tin City** 124.31 330 ePKPdf PKPdf 19 53 05.5 +1.1
FINES **FINESS Array B** 125.10 35 PKP PKPdf 19 53 05.8 -0.3
comp=Z,1.1nm,0.8s,baz=21,slow=4.8,SNR=3.8
H11N1 **WAKE ISLAND Hyl** 125.54 269 T T 22 11 19.5
baz=122,slow=74,SNR=4.1
H11N2 **WAKE ISLAND Hyl** 125.55 270 T T 22 11 18.3
baz=272,slow=74,SNR=2.7
RAYN **Ar Rayn** 125.85 85 ePKPdf PKPdf 19 53 09.6 +0.8
MALT **Malatya** 126.40 66 ⇑iP PKPdf 19 53 10.1 +0.6
OBN **Obninsk** 129.42 45 ePKIKP PKPdf 19 53 15.2 +0.7
OBN pmax pmax
comp=Z,11nm,1.3s
KIV **Kislovodsk** 131.14 60 ⇑iPKIKP PKPdf 19 53 19.3 +1.0
KIV e 19 53 28.2
KIV pmax pmax
comp=Z,10.0nm,1.5s
KIV **Kislovodsk** 131.14 60 ePKPdf PKPdf 19 53 19.3 +1.0
KBZ **Khabaz** 131.24 60 PKIKP PKPdf 19 53 19.0 +0.7
KBZ **Khabaz** 131.24 60 PKP PKPdf 19 53 19.0 +0.7
comp=Z,1.6nm,0.9s,baz=168,slow=0.9,SNR=4.8
PRGR **Permogore** 134.43 36 PKIKP PKPdf 19 53 18.2 -5.6
PRGR pmax pmax
comp=Z,6.0nm,0.9s
GEYT **Alibeck** 141.16 72 PKhKP PKPpre 19 53 31.0
comp=Z,1.3nm,0.6s,baz=270,slow=7.4,SNR=4.0
GEYT PKP PKPdf 19 53 38.2 +1.2
comp=Z,1.7nm,0.6s,baz=250,slow=4.4,SNR=6.4
TIXI **Tiksi** 142.66 349 ePKHKP PKPpre 19 53 33.0
TIXI e 19 53 38.9
TIXI **Tiksi** 142.66 349 ePKPpre PKPpre 19 53 33.0
TIXI ePKPdf PKPdf 19 53 38.9 +0.3
AB31 **Akbulak array** 143.49 54 iPKIKP PKPab 19 53 37.3 +0.2
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR **Akbulak array** 143.49 54 ePKPpre PKPab 19 53 37.5 +0.4
KSM **Kuching** 145.40 186 ePKPdf PKPab 19 53 45.7 +0.5
KSM e 19 53 53.3
MYKOM **Kota Tinggi** 145.70 174 ePKPdf PKPdf 19 53 45.7 0.0
MYKOM ePKPab PKiKP 19 53 55.2 +5.5
POO **Poona** 145.83 112 ⇓iP PKPdf 19 53 45.0 -0.8
comp=Z,30nm,1.0s
URV **Uravakonda** 145.98 121 ePKPdf PKPdf 19 53 45.4 -0.8
SBUM **Sibu** 146.17 189 ePKPab PKPab 19 53 48.3 +0.2
SKHT **Srikalahasti** 146.79 125 ePKPab PKPbc 19 53 49.5 +0.3
IPM **Ipoh** 148.00 168 ePKPbc PKPbc 19 53 52.5 -0.2
NJS **Nagarjunasagar** 148.51 121 ePKiKP PKPbc 19 53 53.8 -0.1
HYB **Hyderabad** 148.56 119 iPKP PKPbc 19 53 53.0 -1.0
HYB e 19 54 02.5
HYBB **Hyderabad (bro** 148.56 119 ePKiKP PKPbc 19 53 54.5 +0.5
KULM **Kulim** 148.73 167 ePKPbc PKPbc 19 53 53.9 -0.6
KBL **Kabul** 148.99 82 ePKP2 PKPbc 19 53 54.3 -0.6
KBL **Kabul** 148.99 82 ePKPbc PKPbc 19 53 54.3 -0.6
BVA0 **Borovoye Array** 149.26 45 iPKHKP PKPdf 19 53 51.2 +0.8
BVA0 pmax pmax
comp=Z,7.0nm,0.9s
BVAR **Borovoye Array** 149.26 45 PKP PKPdf 19 53 50.6 +0.3
comp=Z,3.4nm,0.9s,baz=349,slow=1.5,SNR=25
BVAR PKPbc PKPbc 19 53 55.0 +0.3
comp=Z,3.6nm,0.6s,baz=296,slow=3.2,SNR=27
RPR **Rampur** 150.04 118 ePKPbc PKPbc 19 53 56.1 -1.5
YAK **Yakutsk** 150.49 338 ePKIKP PKPdf 19 53 50.2 -1.8
YAK pmax pmax
comp=Z,70nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK **Yakutsk** 150.49 338 ePKPbc PKPbc 19 53 57.0 -0.3
KK31 **Karatay Array** 151.09 65 iPKIKP PKPbc 19 53 59.0 -0.5
KK31 pmax pmax
comp=Z,14nm,1.2s
KKAR **Karatay Array** 151.09 65 ePKIKP PKPdf 19 53 54.0 +0.4

KKAR e 19 53 59.4
KKAR **Karatay Array** 151.09 65 ePKPdf PKPdf 19 53 54.0 +0.4
KKAR ePKPbc PKPbc 19 53 59.4 0.0
OTUK **Ortayu** 151.74 54 PKIKP PKPbc 19 54 00.4 -0.4
OTUK pmax pmax
comp=Z,25nm,1.2s
SFK **Sufi-Kurgan** 153.31 71 PKIKP PKPdf 19 54 00.1 +2.8
SFK pmax pmax
comp=Z,14nm,0.9s
EKS2 **Erkin-Say** 153.51 65 ePKIKP PKPdf 19 53 57.5 +0.1
EKS2 e 19 54 05.4
EKS2 e 19 54 14.8
EKS2 **Erkin-Say** 153.51 65 ePKPdf PKPdf 19 53 57.5 +0.1
EKS2 ePKPbc PKPbc 19 54 05.4 +0.3
EKS2 ePKPab PKPab 19 54 14.8 -2.8
AAK **Ala-Archa** 154.03 65 ePKIKP PKPdf 19 53 58.6 +0.4
AAK e 19 54 07.0
AAK e 19 54 16.2
AAK **Ala-Archa** 154.03 65 ePKPdf PKPdf 19 53 58.6 +0.4
AAK ePKPbc PKiKP 19 54 07.0 +0.7
AAK ePKPab PKPab 19 54 16.2 -3.7
FRU **Bishkek** 154.11 65 ePKIKP PKPdf 19 53 58.0 -0.1
KURK **Kurchatov** 154.85 46 ePKIKP PKPdf 19 53 57.9 -0.9
KURK e 19 54 07.7
KURK **Kurchatov** 154.85 46 ePKPdf PKPdf 19 53 57.9 -0.9
KURK ePKPbc PKPbc 19 54 07.7 +0.3
NVS **Novosibirsk** 155.08 34 ePKIKP PKPdf 19 53 57.2 -1.7
NVS pmax pmax
comp=N,1.0nm,1.2s
NVS pmax pmax
comp=Z,10.0nm,1.2s
KSH **Kashi** 155.19 73 PKPbc PKPdf 19 53 59.8 0.0
KSH sPKP 19 54 13.9
KSH PKS PKSdf 19 57 32.6 -1.4
KSH PP PP 19 58 02.7 +1.0
KSH SKS SKSdf 20 01 00.5 -3.9
KSH SKKS SKKSac 20 04 46.5 -2.6
KSH SS SS 20 17 39.9 -4.9
KSH PPMZ
comp=Z,210nm,5.0s
KSH LN
comp=Z,92nm,5.0s
KSH LE
comp=Z,110nm,5.2s
KSH LZ
comp=Z,140nm,6.1s
ZALV **Zalesovo Beam** 156.36 34 PKP PKPdf 19 54 00.3 -0.4
comp=Z,3.5nm,0.9s,baz=282,slow=2.7,SNR=16
ZALV PKPab PKPab 19 54 29.3 +0.2
comp=Z,5.7nm,0.9s,baz=299,slow=3.6,SNR=6.2
PDGK **Podgornoye** 157.60 63 PKIKP PKPdf 19 54 02.9 +0.3
PDGK pmax pmax
comp=Z,5.0nm,1.1s
BOD **Bodaibo** 157.82 350 ePKP2 PKPab 19 54 34.3 -1.0
BOD pmax pmax
comp=Z,11nm,1.0s
PYUN **Piuthan** 158.06 105 eP PKPab 19 54 37.4 -0.2
KOLN **Koldanda** 158.38 106 eP PKPab 19 54 38.7 -0.3
MKAR **Makanchi Array** 158.62 52 ePKIKP PKPdf 19 54 04.0 +0.2
MKAR 19 54 38.0
MKAR **Makanchi Array** 158.62 52 PKP PKPdf 19 54 03.9 +0.1
comp=Z,3.3nm,0.9s,baz=288,slow=1.1,SNR=28
MKAR PKPab PKPab 19 54 38.0 -1.2
comp=Z,3.9nm,1.0s,baz=290,slow=3.5,SNR=8.5
DANN **Dangsing** 158.77 105 eP PKPab 19 54 40.5 -0.3
comp=Z,18nm,0.8s
GKN **Gorkha** 159.29 107 eP PKPab 19 54 42.8 -0.1
DMN **Daman** 159.47 108 eP PKPab 19 54 44.0 +0.3
comp=Z,41nm,0.9s
PKIN **Phulchoki** 159.67 109 eP PKPab 19 54 44.3 -0.4
PKI **Pulchoki** 159.68 109 eP PKPab 19 54 44.7 -0.1
KKN **Kakani** 159.69 108 eP PKPab 19 54 44.7 0.0
comp=Z,39nm,0.9s
GUN **Gumba** 160.21 108 eP PKPab 19 54 46.9 -0.2
RAMN **Ramite** 160.26 112 eP PKPab 19 54 47.2 0.0
JIRN **Jiri** 160.32 109 eP PKPab 19 54 47.6 0.0
comp=Z,11nm,0.6s
ODAN **Odare** 160.80 113 eP PKPab 19 54 49.2 -0.3
comp=Z,20nm,0.9s
CMAR **Chiang Mai Arr** 160.96 155 PKP PKPdf 19 54 07.7 +0.3
comp=Z,2.0nm,0.9s,baz=239,slow=2.6,SNR=11
CMAR PKPab PKPab 19 54 50.1 +0.1
comp=Z,1.1nm,1.0s,baz=216,slow=4.5,SNR=3.1
TAPN **Taplejung** 161.31 112 eP PKPab 19 54 52.7 +0.9
QIZ **Qiongzhong** 162.81 189 PKP PKPdf 19 54 09.4 +0.2
QIZ PP PP 19 58 44.6 +3.2
QIZ SS SS 20 19 02.4 +0.1
QIZ LE
comp=Z,150nm,13.0s
QIZ LZ
comp=Z,280nm,15.3s
WMQ **Urumqi** 163.24 57 ePKP PKPdf 19 54 08.6 -0.3
WMQ pPKP pPKPdf 19 54 19.0 +0.7
WMQ sPKP 19 54 23.0
WMQ PKPab PKPab 19 55 01.0 +1.4
WMQ PP PP 19 58 46.0 +1.0
WMQ SKKS 20 05 28.0
WMQ SS SS 20 19 03.0 -6.1
WMQ PPMZ
comp=Z,140nm,6.0s
WMQ LN
comp=Z,180nm,27.9s
WMQ LE
comp=Z,230nm,27.9s
WMQ LZ
comp=Z,180nm,26.7s
KSRS **Korea Array** 163.31 281 PKPab PKPab 19 55 01.3 +1.3
comp=Z,0.7nm,0.5s,baz=94,slow=6.2,SNR=5.0
KSAR **Wonju Array Be** 163.34 281 PKP2 PKPab 19 55 01.3 +1.2
KSAR **Wonju Array Be** 163.34 281 PKPab PKPab 19 55 01.3 +1.2
CN2 **Changchun** 164.04 304 ePKP PKPdf 19 54 08.4 -1.2
ZAK **Zakamensk** 165.48 10 ePKP2 PKPab 19 55 08.4 -0.7
ZAK pmax pmax
comp=Z,3.0nm,1.8s
ULN **Ulaanbaatar** 168.27 0 ePKIKP PKPdf 19 54 11.3 -1.7
ULN e 19 55 21.8
ULN **Ulaanbaatar** 168.27 0 ePKPdf PKPdf 19 54 11.3 -1.7
ULN ePKPab PKPab 19 55 21.8 +0.3
SONM **Songino Array** 168.29 3 PKP PKPdf 19 54 12.0 -1.0
comp=Z,0.5nm,0.8s,baz=168,slow=0.5,SNR=4.6
SONM PKPab PKPab 19 55 22.3 +0.7
comp=Z,3.0nm,0.9s,baz=338,slow=4.8,SNR=17
SONM PP PP 19 59 07.5 -2.6
comp=Z,1.1nm,1.0s,baz=347,slow=3.9,SNR=4.8
NJ2 **Nanjing** 169.49 251 ePKP PKPdf 19 54 15.6 +1.5
GYA **Guiyang** 170.35 177 ePKP PKPdf 19 54 15.0 +0.1
GYA pPKP pPKPdf 19 54 29.6 +5.3
GYA sPKP 19 54 35.8
GYA PKPab PKPab 19 55 33.0 +1.8
GYA PKS PKSdf 19 57 46.2 -1.3
GYA PP PP 19 59 25.4 +5.0
GYA SKKS 20 06 05.5
GYA SS SS 20 20 19.7 +0.8
GYA PPMZ
comp=Z,130nm,8.5s
GYA LN
comp=Z,120nm,22.0s
GYA LE
comp=Z,110nm,24.5s
GYA LZ
comp=Z,130nm,22.6s
WHN **Wuhan** 171.81 229 PKP PKPdf 19 54 06.7 -8.7
GTA **Gaotai** 173.32 58 ePKP PKPdf 19 54 16.3 +0.4
GTA pPKP pPKPdf 19 54 27.1 +1.8
GTA sPKP 19 54 30.7
GTA PKPab PKPab 19 55 45.4 +1.0
GTA PP PP 19 59 38.8 +2.4
GTA SKS SKSdf 20 01 14.1 -3.1
GTA SKKS SKKSac 20 06 20.0 -0.8
GTA SS SS 20 20 47.5 -2.9
GTA PPMZ
comp=Z,65nm,8.5s
GTA LN
comp=Z,81nm,15.0s
GTA LE
comp=Z,120nm,15.4s
GTA LZ
comp=Z,82nm,17.1s
CD2 **Chengdu** 174.07 150 PKP PKPdf 19 54 16.0 -0.4
CD2 pPKP pPKPdf 19 54 30.5 +4.8
CD2 sPKP 19 54 35.7
CD2 PKS PKSdf 19 57 46.8 -1.9
CD2 PP PP 19 59 42.6 +3.5
CD2 SKS SKSdf 20 01 12.4 -5.2

CD2				SKKS	**SKKSac**	**20 06 22.1**	**-2.1**
CD2				SS	**SS**	**20 20 53.9**	**-2.0**
CD2				PPMZ			
	comp=Z,120nm,5.6s						
CD2				LE			
	comp=Z,330nm,19.6s						
CD2				LZ			
	comp=Z,270nm,16.6s						
HHC	**Hu-ho-hao-te**	**174.16**	**325**	*e*PKP	**PKPdf**	**19 54 14.9**	**-1.3**
HHC				pPKP	**pPKPdf**	**19 54 25.9**	**+0.4**
HHC				PKS	**PKSdf**	**19 57 48.6**	**+0.2**
HHC				PP	PP	19 59 45.6	+5.8
HHC				SKS	**SKSdf**	**20 01 11.5**	**-5.8**
HHC				SS	**SS**	**20 20 51.3**	**-5.9**
HHC				PPMZ			
	comp=Z,130nm,9.1s						
HHC				LN			
	comp=Z,300nm,22.8s						
HHC				LE			
	comp=Z,270nm,22.5s						
HHC				LZ			
	comp=Z,180nm,22.2s						
LZH	**Lanzhou**	**177.31**	**90**	*e*PKP	**PKPdf**	**19 54 17.7**	**+0.5**
LZH				pPKP	**pPKPdf**	**19 54 28.6**	**+2.1**
LZH				sPKP		19 54 31.4	
LZH				PKPab	PKPab	19 56 06.2	+3.9

*IDC **02** 19:34:35.9±2.5,9.°12S×114.°69E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/19, Error ellipse: s-maj=114.9km s-min=21.6km az=52.0*

*DJA **02** 19:34:38.9±0.8, 10.°S±5.°×11.°4E±.°, h13km±9km, MA3.3/24, mb4.5/6, mB5.0/2, MLv4.4/6, MLv4.1/24, Mw(mB)4.4/2*

ISC 02 19:34:38.7±1.1, 9.70S±0.09×114.°11E±0.°07, h31km, n24, σ1§44/23, mb3.6/4, MS2.9/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**1.34**	**50**	P	**Pb**	**19 35 02.9**	**-0.4**
DNP	**Denpasar**	**1.48**	**47**	P	**Pb**	**19 35 06.2**	**+0.5**
GMJI	**Gumukmas**	**1.56**	**335**	P	**Pn**	**19 35 04.8**	**+0.5**
ABJI	**Asem Bagus**	**1.89**	**4**	P	**Pb**	**19 35 12.6**	**0.0**
SRBI	**Singaraja**	**1.94**	**34**	P	**Pb**	**19 35 12.5**	**-0.9**
BLJI	**Banyuglugur**	**2.00**	**345**	P	**Pb**	**19 35 13.4**	**-1.2**
BLJI				S	**Sb**	**19 35 39.2**	**+0.1**
KMMI	**Kalianget**	**2.63**	**357**	P	**Pb**	**19 35 22.6**	**-2.7**
PWJI	**Pagerwojo**	**2.82**	**306**	P	**Pn**	**19 35 22.3**	**+0.6**
PWJI				S	**Sn**	**19 35 56.3**	**+1.6**
GRJI	**Gresik**	**3.20**	**330**	P	**Pn**	**19 35 29.4**	**+2.5**
PCJI	**Pacitan**	**3.26**	**297**	P	**Pn**	**19 35 28.8**	**+1.1**
WOJI	**Wonogiri, Jawa**	**3.65**	**300**	P	**Pn**	**19 35 35.1**	**+2.0**
UGM	**Wanagama**	**3.96**	**296**	P	**Pn**	**19 35 38.1**	**+0.6**
UWJI	**Ujung Watu**	**4.52**	**316**	P	**Pn**	**19 35 47.4**	**+2.3**
KPJI	**Karang Pucung**	**5.63**	**294**	P	**Pn**	**19 36 03.1**	**+2.7**
	15nm,0.6s,2μm0.1nm						
CMJI	**Cimerak**	**5.91**	**288**	P	**Pn**	**19 36 04.5**	**+0.3**
	52nm,1.0s,0.3nm0.3nm						
CISI	**Cisompet, Garu**	**6.58**	**288**	P	**Pn**	**19 36 14.9**	**+1.5**
	43nm,1.2s,0.3nm						
CNJI	**Cibinong**	**7.30**	**288**	P	**Pn**	**19 36 23.4**	**+0.1**
BKSI	**Bulukumba**	**7.38**	**54**	P	Pn	19 36 27.0	+2.7
WRA	**Warramunga Arr**	**22.02**	**120**	P	**P**	**19 39 30.4**	**-0.4**
	0.8nm,0.6s,baz=298,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**23.46**	**129**	P	**P**	**19 39 45.6**	**-0.1**
	1.4nm,0.7s,baz=304,slow=8.7,SNR=30						
ASAR				LR	LR	19 49 20.0	
	comp=Z,40nm,19.6s,baz=66,slow=38						
TGY	**Tagaytay City**	**24.59**	**16**	LR	LR	19 51 32.6	
	comp=Z,15nm,20.0s,baz=122,slow=43						
CMAR	**Chiang Mai Arr**	**31.73**	**332**	P	**P**	**19 41 00.1**	**0.0**
	0.5nm,0.7s,baz=159,slow=8.9,SNR=4.8						
SONM	**Songino Array**	**57.68**	**354**	P	**P**	**19 44 24.9**	**-1.5**
	0.5nm,0.4s,baz=170,slow=8.1,SNR=12						
RAO	**Raoul Island**	**66.14**	**118**	LR	LR	20 15 11.0	
	comp=Z,254nm,18.2s,baz=130,slow=37						

NDI 02 19:41:38.0±1.8, 32.°65N×76.°53E, h10km, ML3.7, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**0.49**	**257**	*e*P	Pg	19 41 48.0	+0.2
DLH				*e*S	Sg	19 41 55.0	+0.5
BHK	**Bhakra**	**1.24**	**184**	*e*P	Pg	19 42 02.6	+0.8
BHK				*e*S	Sn	19 42 22.2	+4.0
SMLA	**Simla**	**1.62**	**160**	*i* P	Pn	19 42 06.8	+0.3
SMLA				*i* S	Sb	19 42 28.9	+0.5
SMLA				*i* S	Sg	19 42 28.9	-1.0
SMLA				AML	AML	19 42 31.0	
	comp=E,3μm,0.2s						
SMLA				AML	AML	19 42 31.6	
	comp=N,4μm,0.2s						
KKR	**Kurukshetra**	**2.70**	**175**	*e*S	Sn	19 42 52.8	-1.4
JOSI	**Joshimath**	**3.33**	**128**	*e*P	Pg	19 42 54.5	+12
JOSI				*e*S	Sg	19 43 31.1	+5.7
JOSI				AML	AML	19 43 34.2	
	comp=E,289nm,0.9s						
JOSI				AMP		19 43 34.8	
	comp=N,330nm,0.5s						
KALG	**Kalgarh**	**3.67**	**148**	*e*P	Pg	19 42 50.3	+1.9
KALG				*e*S	Sg	19 43 32.2	-3.8
BISR	**Bishrakh**	**4.14**	**169**	*ex*	Sn	19 43 34.3	+4.5
KHET	**Khetri**	**4.61**	**188**	*e*P	Pn	19 42 47.5	-0.3
KHET				*ex*	Sb	19 43 52.2	-2.4
KHET				AML	AML	19 44 01.2	
	comp=E,74nm,0.1s						
KHET				AML	AML	19 44 03.0	
	comp=N,81nm,0.1s						

*ISK **02** 19:49:52.7, 37.°85N×27.°25E, h18km, MD2.5*

*CSEM **02** 19:49:53.8±0.4, 37.°86N×27.°21E, h10km, MD2.7, Error ellipse: s-maj=8.8km s-min=5.5km az=65.0*

DDA 02 19:49:55.1, 37.°85N×27.°31E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDB	**Zeytinkoy-Aydi**	**0.47**	**78**	*e*PG	Pg	19 50 03.5	-0.9
AYDB				*e*SG	Sg	19 50 11.4	+0.7
AYDB	**Zeytinkoy-Aydi**	**0.47**	**78**	*e*Pg	Pg	19 50 03.5	-0.9
AYDB				*e*Sg	Sg	19 50 11.4	+0.7
AYDN	**Tasoluk**	**0.49**	**113**	*i* P	Pg	19 50 04.0	-0.7
AYDN				*i* S	Sb	19 50 13.0	-0.6
AYDN	**Tasoluk**	**0.49**	**113**	*i* P	Pg	19 50 04.0	-0.7
AYDN				*i* S	Sb	19 50 13.0	-0.6
IZM	**Izmir**	**0.55**	**356**	*e*PG	Pg	19 50 04.5	-1.3
IZM				*e*SG	Sg	19 50 12.3	-0.7
IZM	**Izmir**	**0.55**	**356**	*e*Pg	Pg	19 50 04.5	-1.3
IZM				*e*Sg	Sg	19 50 12.3	-0.7
BLCB	**Balcova**	**0.57**	**338**	*e*PG	Pg	19 50 04.4	-1.8
BLCB				*e*SG	Sg	19 50 12.2	-1.5
BLCB	**Balcova**	**0.57**	**338**	*e*Pg	Pg	19 50 04.4	-1.8
BLCB				*e*Sg	Sg	19 50 12.2	-1.5
BODT	**Bodrum**	**0.79**	**180**	*e*PG	Pg	19 50 08.3	-2.1
BDRM	**Kayabasi**	**0.79**	**172**	*i* P	Pg	19 50 10.3	-0.1
BDRM				*i* S	Sb	19 50 22.0	-0.2
BDRM	**Kayabasi**	**0.79**	**172**	*i* P	Pg	19 50 10.3	-0.1
BDRM				*i* S	Sb	19 50 22.0	-0.2
AKHS	**Akhisar**	**1.10**	**21**	*i* P	Pg	19 50 16.2	-0.1
AKHS				*i* S	Sn	19 50 32.0	-0.4
AKHS	**Akhisar**	**1.10**	**21**	*i* P	Pg	19 50 16.2	-0.1
AKHS				*i* S	Sn	19 50 32.0	-0.5
CHOS	**Chios island**	**1.12**	**299**	*e*PN	Pg	19 50 13.6	-3.3
CHOS	**Chios island**	**1.12**	**299**	*e*Pn	Pg	19 50 13.6	-3.3

IDC 02 19:53:15.9±2.0, 9.°19S×123.°43E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.0/26, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=229.8km s-min=31.4km az=55.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.01**	**137**	Pn	Pn	19 56 48.1	-1.4
	0.1nm,0.3s,baz=320,slow=14,SNR=6.1						
WRA				Sn	Sn	19 59 23.9	-13
	0.1nm,0.3s,baz=317,slow=23,SNR=2.4						
ASAR	**Alice Springs**	**17.53**	**146**	P	Pn	19 57 22.4	+0.3
	0.1nm,0.3s,baz=316,slow=11,SNR=8.5						
ASAR				S	Sn	20 00 31.6	-6.5
	0.1nm,0.3s,baz=315,slow=18,SNR=3.4						
MKAR	**Makanchi Array**	**66.70**	**331**	P	P	20 04 08.9	+0.1
	0.1nm,0.6s,baz=136,slow=5.1,SNR=2.4						

*ROM **02** 20:04:45.1±0.2, 37.°80N×15.°15E, h3km±1km, Md4.1/1, Ml4.0/29, Error ellipse: s-maj=1.8km s-min=1.1km az=137.0*

*ISCJB **02** 20:04:45.6±0.2, 37.°81N±0.°02×15.°13E±0.°02, h11km±2km, mb4.0/21, MS3.4/11, Error ellipse: s-maj=3.0km s-min=2.4km az=36.6*

*IDC **02** 20:04:46.2±1.1, 37.°91N×15.°13E, h0km, mb3.5/8, mb1 3.7/16, mb1mx3.6/44, mbtmp3.6/16, ML3.4/6, MS3.2/18, Ms1 3.2/18, ms1mx3.1/38, Error ellipse: s-maj=19.5km s-min=16.9km az=110.0*

*PDG **02** 20:04:46.6±0.9, 37.°79N×15.°15E, h7km±1km, ML4.0/11, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0*

*NEIC **02** 20:04:46.1±1.2, 37.°78N×15.°15E, h8km±8km, mb4.2/7, ML4.2(ROM), Error ellipse: s-maj=10.3km s-min=6.8km az=166.0*

NEIC Felt [IV] at Giarre and Linguaglossa; [III] at Acireale, Catania, Fiumefreddo di Sicilia, Mascali, Santa Venerina and Randazzo; [II] at Messina and Reggio di Calabria.

*CSEM **02** 20:04:46.2±0.1, 37.°78N×15.°11E, h2km, mb3.9/14, Error ellipse: s-maj=4.5km s-min=3.1km az=142.0*

*MOS **02** 20:04:47.2±1.8, 37.°93N×15.°13E, h10km, mb4.3/13, Error ellipse: s-maj=8.8km s-min=4.0km az=69.6*

ISC 02 20:04:46.9±0.6, 37.°79N±0.°02×15.°14E±0.°02, h12km±3km, n332, σ1§51/340, mb4.1/21, MS3.2/11, 35C-19D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.16**	**233**	Pg	**Pg**	**20 04 48.4**	**-2.4**
ESLN				Sg	**Sg**	**20 04 51.9**	**-1.7**
	141μm,1.1s						
MMME	**Mongiuffi-Meli**	**0.17**	**33**	Pg	**Pg**	**20 04 49.2**	**-1.7**
MMME				Sg	**Sg**	**20 04 51.8**	**-1.8**
	94μm,1.0s						
MNO	**Monte Soro**	**0.38**	**292**	P	**Pg**	**20 04 53.3**	**-1.3**
MNO	**Monte Soro**	**0.38**	**292**	Pg	**Pg**	**20 04 53.5**	**-1.1**
MNO				Sg	**Sg**	**20 05 00.5**	**+0.8**
	109μm,2.1s						
MNO	**Monte Soro**	**0.38**	**292**	Pg	**Pg**	**20 04 53.5**	**-1.1**
MNO				Sg	**Sg**	**20 05 00.5**	**+0.8**
	109μm,2.1s						
MNO	**Monte Soro**	**0.38**	**292**	P	**Pg**	**20 04 53.3**	**-1.3**
ECNV	**Catenanuova**	**0.39**	**240**	Pg	**Pg**	**20 04 54.3**	**-0.4**
ECNV				Sg	**Sg**	**20 05 00.5**	**+0.5**
	31μm,0.9s						
ECNV	**Catenanuova**	**0.39**	**240**	Pg	**Pg**	**20 04 54.3**	**-0.4**
ECNV				Sg	**Sg**	**20 05 00.5**	**+0.5**
	31μm,0.9s						
GALF	**Gagliano Caste**	**0.46**	**260**	Pg	**Pg**	**20 04 55.1**	**-0.9**
	17μm,0.7s						
GALF	**Gagliano Caste**	**0.46**	**260**	Pg	**Pg**	**20 04 55.1**	**-0.9**
	17μm,0.7s						
MILZ	**Milazzo**	**0.48**	**9**	Pg	**Pg**	**20 04 55.2**	**-1.2**
MILZ				Sg	**Sg**	**20 05 03.3**	**+0.4**
	25μm,1.1s						
MTTG	**Motta San Giov**	**0.49**	**64**	Pg	**Pg**	**20 04 56.0**	**-0.4**
MTTG				Sg	**Sg**	**20 05 02.9**	**-0.1**
	14μm,1.2s						
MTTG	**Motta San Giov**	**0.49**	**64**	P	**Pg**	**20 04 56.1**	**-0.4**
MTTG	**Motta San Giov**	**0.49**	**64**	P	**Pg**	**20 04 56.1**	**-0.4**
HCRL	**Carlentini**	**0.52**	**189**	Pg	**Pg**	**20 04 55.9**	**-1.1**
HCRL				Sg	**Sb**	**20 05 05.1**	**-0.2**
	15μm,1.1s						
HCRL	**Carlentini**	**0.52**	**189**	Pg	**Pg**	**20 04 55.9**	**-1.1**
AGST	**Augusta-Monte**	**0.54**	**172**	Pg	**Pg**	**20 04 56.7**	**-0.8**
AGST				Sg	**Sb**	**20 05 06.6**	**+0.6**
	17μm,1.7s						
AGST	**Augusta-Monte**	**0.54**	**172**	Pg	**Pg**	**20 04 56.7**	**-0.8**
MSRU	**Castanea**	**0.55**	**32**	Pg	**Pg**	**20 04 56.6**	**-1.1**
	41μm,1.5s						
VPL	**Vulcano Piano**	**0.60**	**348**	Pg	**Pg**	**20 04 57.3**	**-1.3**
SSY	**Sortino**	**0.64**	**185**	Pg	**Pg**	**20 04 58.1**	**-1.3**
	6μm,1.0s						
SSY	**Sortino**	**0.64**	**185**	Pg	**Pg**	**20 04 58.1**	**-1.3**
	6μm,1.0s						
LLI	**Lipari**	**0.67**	**347**	Pg	**Pg**	**20 04 59.2**	**-0.7**
	47μm,0.8s						
LLI	**Lipari**	**0.67**	**347**	Pg	**Pg**	**20 04 59.2**	**-0.7**
	47μm,0.8s						
CEL	**Celeste**	**0.76**	**52**	Pg	**Pg**	**20 05 00.4**	**-1.2**
	14μm,1.3s						
CEL	**Celeste**	**0.76**	**52**	*e*Pg	**Pg**	**20 05 00.1**	**-1.5**
CEL	**Celeste**	**0.76**	**52**	*e*Pg	**Pg**	**20 05 00.1**	**-1.5**
SOI	**Samo**	**0.78**	**69**	Pg	**Pg**	**20 05 00.8**	**-1.2**
	3μm,0.9s						
PLLN	**Pollina**	**0.81**	**284**	Pg	**Pg**	**20 05 01.2**	**-1.4**
	29μm,1.4s						
PLLN	**Pollina**	**0.81**	**284**	Pg	**Pg**	**20 05 01.2**	**-1.4**
	29μm,1.4s						
HAVL	**Avola**	**0.83**	**181**	Pg	**Pg**	**20 05 01.6**	**-1.4**
HAVL				Sg	**Sg**	**20 05 13.9**	**0.0**
	7μm,1.3s						
HAVL	**Avola**	**0.83**	**181**	Pg	**Pg**	**20 05 01.6**	**-1.4**
CSLB	**Castelbuono**	**0.87**	**280**	Pg	**Pg**	**20 05 02.0**	**-1.7**
	4μm,0.8s						
CSLB	**Castelbuono**	**0.87**	**280**	Pg	**Pg**	**20 05 02.0**	**-1.7**
	4μm,0.8s						
RESU	**Resuttano**	**0.87**	**261**	Pg	**Pb**	**20 05 04.0**	**0.0**
RESU	**Resuttano**	**0.87**	**261**	Pg	**Pb**	**20 05 04.0**	**0.0**
HMDC	**Modica**	**0.88**	**199**	Pg	**Pg**	**20 05 01.9**	**-2.0**
HMDC				Sg	**Sb**	**20 05 15.7**	**-0.2**
	7μm,1.2s						
HMDC	**Modica**	**0.88**	**199**	Pg	**Pg**	**20 05 01.9**	**-2.0**
GIB	**Gibilmanna**	**0.90**	**283**	Pg	**Pg**	**20 05 03.0**	**-1.3**
	14μm,1.0s						
GIB	**Gibilmanna**	**0.90**	**283**	Pg	**Pg**	**20 05 03.0**	**-1.3**
	14μm,1.0s						
IACL	**Alicudi**	**0.96**	**320**	Pg	**Pg**	**20 05 03.8**	**-1.7**
	17μm,1.4s						
IACL	**Alicudi**	**0.96**	**320**	Pg	**Pg**	**20 05 03.8**	**-1.7**
	17μm,1.4s						
STR3	**STROMBOLI 3**	**1.00**	**4**	Pg	**Pg**	**20 05 04.6**	**-1.7**
ALJA	**Alia**	**1.10**	**268**	Pg	**Pb**	**20 05 07.2**	**-0.7**
	14μm,1.4s						
ALJA	**Alia**	**1.10**	**268**	Pg	**Pb**	**20 05 07.2**	**-0.7**
	14μm,1.4s						
PLAC	**Placanica**	**1.22**	**57**	Pg	**Pn**	**20 05 08.8**	**-1.0**
	13μm,1.7s						
PLAC	**Placanica**	**1.22**	**57**	Pg	**Pn**	**20 05 08.8**	**-1.0**
	13μm,1.7s						
FAVR	**Favara**	**1.28**	**246**	Pg	**Pb**	**20 05 11.0**	**0.0**
FAVR	**Favara**	**1.28**	**246**	Pg	**Pb**	**20 05 11.0**	**0.0**
CORL	**Corleone**	**1.46**	**275**	Pg	**Pn**	**20 05 13.3**	**+0.2**
	14μm,1.5s						
CORL	**Corleone**	**1.46**	**275**	Pg	**Pn**	**20 05 13.3**	**+0.2**
	14μm,1.5s						
CLTB	**Caltabellotta**	**1.54**	**263**	*e*Pn	**Pn**	**20 05 14.6**	**+0.3**
CLTB	**Caltabellotta**	**1.54**	**263**	*e*Pn	**Pn**	**20 05 14.6**	**+0.3**
CRJA	**Costa Raja**	**1.69**	**271**	Pg	**Pb**	**20 05 17.6**	**-0.4**
SERS	**Sersale**	**1.74**	**44**	Pg	**Pn**	**20 05 16.6**	**-0.4**
	4μm,1.5s						
SERS	**Sersale**	**1.74**	**44**	Pg	**Pn**	**20 05 16.6**	**-0.4**
	4μm,1.5s						
USI	**Ustica**	**1.79**	**301**	Pg	**Pn**	**20 05 15.3**	**-2.4**
	4μm,1.2s						
USI	**Ustica**	**1.79**	**301**	Pg	**Pn**	**20 05 15.3**	**-2.4**
	4μm,1.2s						
TIP	**Timpagrande**	**1.88**	**42**	*e*Pn	**Pn**	**20 05 18.9**	**0.0**
TIP	**Timpagrande**	**1.88**	**42**	*e*Pn	**Pn**	**20 05 18.9**	**0.0**
MTGR	**Montagna Grand**	**1.89**	**274**	Pg	**Pn**	**20 05 19.3**	**+0.3**
	1μm,1.5s						
MTGR	**Montagna Grand**	**1.89**	**274**	Pg	**Pn**	**20 05 19.3**	**+0.3**
	1μm,1.5s						
WDD	**Wield Dalam**	**1.98**	**195**	*e*Pn	**Pn**	**20 05 19.6**	**-0.7**
WDD	**Wield Dalam**	**1.98**	**195**	*e*Pn	**Pn**	**20 05 19.6**	**-0.7**
MMN	**Mormanno**	**2.20**	**17**	Pg	**Pn**	**20 05 22.2**	**-1.0**
MMN	**Mormanno**	**2.20**	**17**	Pg	**Pn**	**20 05 22.2**	**-1.0**
CUC	**Castrocucco**	**2.26**	**13**	Pg	**Pn**	**20 05 22.4**	**-1.7**
	942nm,0.9s						
CUC	**Castrocucco**	**2.26**	**13**	*e*Pn	**Pn**	**20 05 22.0**	**-2.1**
CUC	**Castrocucco**	**2.26**	**13**	Pg	**Pn**	**20 05 22.4**	**-1.7**
	942nm,0.9s						
CUC	**Castrocucco**	**2.26**	**13**	*e*Pn	**Pn**	**20 05 22.0**	**-2.1**
SCHR	**S. Chirico Rap**	**2.51**	**17**	Pg	**Pn**	**20 05 27.8**	**+0.2**
	2μm,1.6s						
SGO	**Sicignano**	**2.77**	**3**	Pg	**Pn**	**20 05 30.6**	**-0.5**
	531nm,1.2s						
SGO	**Sicignano**	**2.77**	**3**	Pg	**Pn**	**20 05 30.6**	**-0.5**
	531nm,1.2s						
MRLC	**Muro Lucano**	**2.97**	**5**	Pg	**Pn**	**20 05 33.8**	**-0.1**
	1μm,1.6s						
MRLC	**Muro Lucano**	**2.97**	**5**	Pg	**Pn**	**20 05 33.8**	**-0.1**
	1μm,1.6s						
MCRV	**Calabrutti - M**	**2.98**	**0**	Pg	**Pn**	**20 05 34.5**	**+0.3**
	475nm,1.5s						
MCRV	**Calabrutti - M**	**2.98**	**0**	Pg	**Pn**	**20 05 34.5**	**+0.3**
	475nm,1.5s						
ACER	**Acerenza**	**3.05**	**12**	Pg	**Pn**	**20 05 35.4**	**+0.4**
ACER	**Acerenza**	**3.05**	**12**	Pg	**Pn**	**20 05 35.4**	**+0.4**
LTRZ	**Laterza**	**3.10**	**24**	Pg	**Pn**	**20 05 35.7**	**+0.1**
	14μm,7.4s						
LTRZ	**Laterza**	**3.10**	**24**	Pg	**Pn**	**20 05 35.7**	**+0.1**
	14μm,7.4s						
SNAL	**S. Angelo Dei**	**3.13**	**1**	Pg	**Pn**	**20 05 36.8**	**+0.7**
SNAL	**S. Angelo Dei**	**3.13**	**1**	Pg	**Pn**	**20 05 36.8**	**+0.7**
TAR1	**Taranto**	**3.20**	**31**	*e*Pn	**Pn**	**20 05 36.7**	**-0.3**
SG1	**Sgolgore (BA)**	**3.27**	**21**	*e*Pn	**Pn**	**20 05 38.4**	**+0.4**
AMUR	**Altamura**	**3.31**	**20**	Pg	**Pn**	**20 05 38.2**	**-0.3**
	381nm,0.9s						
AMUR	**Altamura**	**3.31**	**20**	Pg	**Pn**	**20 05 38.2**	**-0.3**
	381nm,0.9s						
NOCI	**Noci**	**3.34**	**26**	Pg	**Pn**	**20 05 39.0**	**0.0**
	1μm,2.0s						
NOCI	**Noci**	**3.34**	**26**	Pg	**Pn**	**20 05 39.0**	**0.0**
	1μm,2.0s						
CDT	**Castel del Mon**	**3.40**	**15**	*e*Pn	**Pn**	**20 05 41.1**	**+1.3**
BAI	**Bari**	**3.57**	**22**	*e*Pn	**Pn**	**20 05 42.2**	**+0.1**
MS1	**Monte Sant'Ang**	**3.96**	**9**	*e*Pn	**Pn**	**20 05 47.5**	**0.0**
IGT	**Igoumenitsa**	**4.42**	**65**	*e*P	**Sn**	**20 06 43.9**	**-1.3**
AQU	**L'Aquila**	**4.75**	**344**	*e*P	Pn	20 06 02.4	+4.1
AQU	**L'Aquila**	**4.75**	**344**	*e*P	Pn	20 06 02.4	+4.1
AQU	**L'Aquila**	**4.75**	**344**	*e*Pn	Pn	20 06 02.4	+4.1
VSL	**Villasalto**	**4.82**	**292**	*e*Pn	**Pn**	**20 05 58.2**	**-1.1**
VSL				*e*Sn	**Sn**	**20 06 56.1**	**+1.1**
VSL	**Villasalto**	**4.82**	**292**	*e*Pn	**Pn**	**20 05 58.1**	**-1.1**
VSL				*e*Sn	**Sn**	**20 06 56.1**	**+1.1**
PDO	**Prodromos**	**4.83**	**79**	*e*P	**Pn**	**20 05 57.9**	**-1.5**
DSL	**Palaion Diasel**	**4.86**	**72**	*e*P	**Pn**	**20 06 00.1**	**+0.2**
KEST	**Kesra**	**5.08**	**248**	Pn	**Pn**	**20 06 03.2**	**+0.2**
	0.2nm,0.3s,baz=273,slow=0.8,SNR=22						
KEST				LR	LR	20 08 24.6	
	comp=Z,142nm,21.2s,baz=6.0,slow=43						
KEST	**Kesra**	**5.08**	**248**	*e*Pn	**Pn**	**20 06 02.8**	**-0.2**
KEST	**Kesra**	**5.08**	**248**	*e*Pn	**Pn**	**20 06 02.8**	**-0.2**
AMT	**Artemida-Makis**	**5.22**	**91**	*e*P	**Pn**	**20 06 04.0**	**-0.8**
ULC	**Ulcinj**	**5.23**	**36**	⇓*i*Pn	**Pn**	**20 06 06.2**	**+1.3**
ULC				*e*Sn	**Sn**	**20 07 06.6**	**+1.5**
ULC	**Ulcinj**	**5.23**	**36**	⇓*i*Pn	**Pn**	**20 06 06.2**	**+1.3**
ULC				*e*Sn	**Sn**	**20 07 06.6**	**+1.5**
NEST	**Nestorio**	**5.29**	**59**	*e*P	**Pn**	**20 06 07.1**	**+1.3**
HCY	**Herceg Novi**	**5.31**	**28**	⇓*i*Pn	**Pn**	**20 06 08.0**	**+2.0**
HCY				*e*Sn	**Sn**	**20 07 08.9**	**+1.8**
HCY	**Herceg Novi**	**5.31**	**28**	⇓*i*Pn	**Pn**	**20 06 08.0**	**+2.0**
HCY				*e*Sn	**Sn**	**20 07 08.9**	**+1.8**
PYL	**PYLOS**	**5.34**	**98**	*e*P	**Pn**	**20 06 05.9**	**-0.5**
BUM	**Brajici-Budva**	**5.34**	**31**	⇑*i*Pn	**Pn**	**20 06 07.9**	**+1.4**
BUM				*e*Sn	**Sn**	**20 07 09.8**	**+1.8**
BUM	**Brajici-Budva**	**5.34**	**31**	⇑*i*Pn	**Pn**	**20 06 07.9**	**+1.4**
BUM				*e*Sn	**Sn**	**20 07 09.8**	**+1.8**
EVR	**Evrytania**	**5.36**	**76**	*e*P	**Pn**	**20 06 07.1**	**+0.3**
EFP	**Efpalio**	**5.37**	**81**	*e*P	**Pn**	**20 06 07.5**	**+0.6**
DRME	**Dracevica, Mon**	**5.38**	**34**	⇑*i*Pn	**Pn**	**20 06 06.5**	**-0.4**
DRME				*e*Sn	**Sn**	**20 07 09.8**	**+1.1**
DRME	**Dracevica, Mon**	**5.38**	**34**	⇑*i*Pn	**Pn**	**20 06 06.5**	**-0.4**
DRME				*e*Sn	**Sn**	**20 07 09.8**	**+1.1**
ITM	**Ithomi**	**5.43**	**94**	*e*P	**Pn**	**20 06 05.8**	**-1.9**
STON	**Ston**	**5.44**	**20**	*i* Pn	**Pn**	**20 06 07.5**	**-0.3**
STON				Sn	**Sn**	**20 07 07.0**	**-3.2**
STON	**Ston**	**5.44**	**20**	*i* Pn	**Pn**	**20 06 07.4**	**-0.3**
KLV	**Kalavryta, Ach**	**5.55**	**85**	*e*P	**Pn**	**20 06 12.5**	**+3.1**
KALE	**Kalithea**	**5.55**	**82**	*e*P	**Pn**	**20 06 12.5**	**+3.1**
PDG	**Podgorica**	**5.60**	**33**	⇓*i*Pn	**Pn**	**20 06 11.6**	**+1.6**
PDG				*e*Sn	**Sn**	**20 07 16.6**	**+2.3**
TTG	**Podgorica**	**5.60**	**33**	⇓*i*Pn	**Pn**	**20 06 11.6**	**+1.6**
TTG				*e*Sn	**Sn**	**20 07 16.6**	**+2.3**
MAKR	**Makrakomi, Fth**	**5.63**	**75**	*e*P	**Pn**	**20 06 11.5**	**+1.1**
FNA	**Florina**	**5.69**	**56**	*e*P	**Pn**	**20 06 13.2**	**+2.0**
GUR	**Goura**	**5.70**	**86**	*e*P	**Pn**	**20

DRGR		**10.59**	**30**	P	**Pn**	**20 07 20.1 +1.6**	
VOIR		**10.64**	**41**	⇑P	**Pn**	**20 07 19.8 +0.6**	
VOIR		**10.64**	**41**	⇑*i*P	**Pn**	**20 07 19.8 +0.6**	
VOIR		**10.64**	**41**	P	**Pn**	**20 07 19.8 +0.6**	
PSZ	**Piszkesteto**	**10.70**	**17**	*e*P	**Pn**	**20 07 20.4 +0.4**	
PSZ	**Piszkesteto**	**10.70**	**17**	*e*P	**Pn**	**20 07 20.4 +0.4**	
PSZ	**Piszkesteto**	**10.70**	**17**	*e*Pn	**Pn**	**20 07 20.4 +0.4**	
VYHS	**Vyhne**	**11.03**	**13**	*e*P	**Pn**	**20 07 27.1 +2.7**	
VYHS	**Vyhne**	**11.03**	**13**	*e*P	**Pn**	**20 07 27.1 +2.7**	
VYHS	**Vyhne**	**11.03**	**13**	*e*	**Pn**	**20 07 27.1 +2.7**	
GERES	**GERESS Array B**	**11.10**	**355**	Pn	**Pn**	**20 07 24.6 -0.8**	
	0.2nm,0.3s,baz=175,slow=12,SNR=14						
GERES				LR	LR	20 12 31.0	
	comp=Z,116nm,19.0s,baz=184,slow=42						
MLR	**Muntele Rosu**	**11.15**	**43**	⇑P	**Pn**	**20 07 28.3 +2.1**	
MLR	**Muntele Rosu**	**11.15**	**43**	⇑*i*P	**Pn**	**20 07 28.3 +2.1**	
MLR	**Muntele Rosu**	**11.15**	**43**	Pn	**Pn**	**20 07 27.5 +1.3**	
	0.1nm,0.3s,baz=155,slow=12,SNR=7.0						
MLR				LR	LR	20 12 20.5	
	comp=Z,43nm,20.4s,baz=242,slow=41						
MLR	**Muntele Rosu**	**11.15**	**43**	P	**Pn**	**20 07 28.3 +2.1**	
KECS	**Kecovo**	**11.37**	**18**	*e*P	**Pn**	**20 07 31.3 +2.2**	
KECS	**Kecovo**	**11.37**	**18**	*e*P	**Pn**	**20 07 31.3 +2.2**	
KECS	**Kecovo**	**11.37**	**18**	*e*PN	**Pn**	**20 07 31.3 +2.2**	
KHC	**Kasperske Hory**	**11.39**	**355**	*e*P	**Pn**	**20 07 32.4 +3.0**	
KHC	**Kasperske Hory**	**11.39**	**355**	*e*P	**Pn**	**20 07 32.4 +3.0**	
KHC				*ex*	x	20 07 39.6	
KHC				AMS	AMS	20 11 30.0	
KHC	**Kasperske Hory**	**11.39**	**355**	*e*P	**Pn**	**20 07 32.4 +3.0**	
VRAC	**Vranov**	**11.56**	**5**	⇑P	**Pn**	**20 07 32.3 +0.6**	
VRAC	**Vranov**	**11.56**	**5**	⇑*i*P	**Pn**	**20 07 32.3 +0.6**	
VRAC	**Vranov**	**11.56**	**5**	Pn	**Pn**	**20 07 31.2 -0.5**	
	0.1nm,0.3s,baz=169,slow=12,SNR=3.2						
VRAC				LR	LR	20 12 24.4	
	comp=Z,136nm,21.0s,baz=204,slow=40						
VRAC	**Vranov**	**11.56**	**5**	P	**Pn**	**20 07 32.3 +0.6**	
PLOR	**Plostina**	**11.76**	**43**	⇓P	**Pn**	**20 07 35.2 +0.7**	
PLOR	**Plostina**	**11.76**	**43**	⇓*i*P	**Pn**	**20 07 35.2 +0.7**	
PLOR	**Plostina**	**11.76**	**43**	P	**Pn**	**20 07 35.2 +0.7**	
VRI	**Vrincioaia**	**11.81**	**43**	⇑P	**Pn**	**20 07 36.3 +1.1**	
VRI	**Vrincioaia**	**11.81**	**43**	⇑*i*P	**Pn**	**20 07 36.3 +1.1**	
VRI	**Vrincioaia**	**11.81**	**43**	P	**Pn**	**20 07 36.3 +1.1**	
CRVS	**Cervenica-Dubn**	**12.01**	**20**	*e*P	Pn	20 07 43.4 +5.5	
CRVS	**Cervenica-Dubn**	**12.01**	**20**	*e*P	Pn	20 07 43.4 +5.5	
CRVS	**Cervenica-Dubn**	**12.01**	**20**	*e*	Pn	20 07 43.4 +5.5	
UZH	**Uzhgorod**	**12.02**	**23**	*e*P	Pn	20 07 42.7 +4.8	
UZH				*e*S	Sn	20 09 58.7 +6.9	
UZH				MLR	MLR		
	comp=N,700nm,12.0s						
UZH				MLR	MLR		
	comp=E,500nm,12.0s						
UZH				MLR	MLR		
	comp=Z,260nm,12.0s						
UZH	**Uzhgorod**	**12.02**	**23**	*e*P	Pn	20 07 42.7 +4.8	
UZH				*e*S	Sn	20 09 58.7 +6.9	
MORC	**Moravsky Berou**	**12.10**	**7**	⇓P	**Pn**	**20 07 40.1 +1.0**	
MORC	**Moravsky Berou**	**12.10**	**7**	⇓*i*P	**Pn**	**20 07 40.1 +1.0**	
MORC	**Moravsky Berou**	**12.10**	**7**	P	**Pn**	**20 07 40.1 +1.0**	
MORC	**Moravsky Berou**	**12.10**	**7**	*e*Pn	**Pn**	**20 07 41.2 +2.1**	
MORC	**Moravsky Berou**	**12.10**	**7**	*e*Pn	**Pn**	**20 07 41.2 +2.1**	
PRU	**Pruhonice**	**12.20**	**358**	*e*P	P	20 07 48.3 -4.6	
PRU	**Pruhonice**	**12.20**	**358**	*e*P	P	20 07 48.3 -4.6	
PRU				*ex*	x	20 07 56.0	
PRU				AMS	AMS	20 12 20.0	
PRU	**Pruhonice**	**12.20**	**358**	*e*P	P	20 07 48.3 -4.6	
CFR	**Carcaliu**	**12.21**	**49**	⇑P	**P**	**20 07 50.8 -2.3**	
CFR	**Carcaliu**	**12.21**	**49**	⇑*i*P	**P**	**20 07 50.8 -2.3**	
CFR	**Carcaliu**	**12.21**	**49**	P	**P**	**20 07 50.8 -2.3**	
GRA1	**Grafenberg Arr**	**12.22**	**348**	*e*Pn	P	20 07 58.3 +5.1	
GRF	**Grafenberg Arr**	**12.22**	**348**	*e*Pn	P	20 07 58.3 +5.1	
OKC	**Ostrava-Krasne**	**12.23**	**9**	*e*P	Pn	20 07 44.3 +3.5	
OKC	**Ostrava-Krasne**	**12.23**	**9**	*e*P	Pn	20 07 44.3 +3.5	
OKC				AMS	AMS	20 12 30.0	
OKC	**Ostrava-Krasne**	**12.23**	**9**	*e*P	Pn	20 07 44.3 +3.5	
KOLS	**Kolonicke sedl**	**12.28**	**23**	*e*P	**Pn**	**20 07 44.5 +3.0**	
KOLS	**Kolonicke sedl**	**12.28**	**23**	*e*P	**Pn**	**20 07 44.5 +3.0**	
KOLS	**Kolonicke sedl**	**12.28**	**23**	*e*PN	**Pn**	**20 07 44.5 +3.0**	
BURAR	**Bucovina Array**	**12.29**	**34**	⇑P	**Pn**	**20 07 43.7 +2.0**	
BURAR	**Bucovina Array**	**12.29**	**34**	⇑*i*P	**Pn**	**20 07 43.7 +2.0**	
KRLC	**Kraliky**	**12.34**	**5**	*e*P	**Pn**	**20 07 40.0 -2.3**	
KRLC	**Kraliky**	**12.34**	**5**	*e*P	**Pn**	**20 07 40.0 -2.3**	
KRLC				*ex*	x	20 07 45.3	
KRLC	**Kraliky**	**12.34**	**5**	*e*P	**Pn**	**20 07 40.0 -2.3**	
DPC	**Dobruska-Polom**	**12.58**	**3**	*e*P	**P**	**20 07 57.4 +0.1**	
DPC	**Dobruska-Polom**	**12.58**	**3**	*e*P	**P**	**20 07 57.4 +0.1**	
UPC	**Upice**	**12.73**	**3**	*e*P	**Pn**	**20 07 48.4 +0.8**	
UPC	**Upice**	**12.73**	**3**	*e*P	**Pn**	**20 07 48.4 +0.8**	
UPC				*ex*	x	20 07 53.5	
UPC	**Upice**	**12.73**	**3**	*e*P	**Pn**	**20 07 48.4 +0.8**	
BRG	**Berggiesshubel**	**13.11**	**357**	*e*P	**P**	**20 08 00.8 -2.2**	
	comp=Z,9.3nm,1.4s						
BRG				*e*		20 08 09.4	
	comp=Z,5.9nm,1.1s						
BRG	**Berggiesshubel**	**13.11**	**357**	*e*P	**P**	**20 08 00.8 -2.2**	
BRG				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BRG	**Berggiesshubel**	**13.11**	**357**	*e*P	**P**	**20 08 00.8 -2.2**	
	comp=Z,3.0nm,1.4s						
CLL	**Collm**	**13.60**	**354**	*e*P	Pn	20 08 03.0 +3.6	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL	**Collm**	**13.60**	**354**	*e*(P)	Pn	20 08 03.0 +3.6	
	comp=Z,6.0nm,1.1s						
CLL				*i*		20 08 13.0	
CLL				*i*		20 08 20.9	
CLL				*e*		20 08 57.0	
CLL				Lm	MLR	20 12 36.0	
	comp=N,100nm,18.2s						
CLL				Lm	MLR	20 12 36.0	
	comp=E,500nm,19.1s						
CLL				Lm	MLR	20 12 36.0	
	comp=Z,100nm,20.7s						
CLL	**Collm**	**13.60**	**354**	*e*P	Pn	20 08 03.0 +3.6	
	comp=Z,6.0nm,1.1s						
BRTR	**Keskin Array B**	**14.57**	**77**	Pn	**Pn**	**20 08 15.8 +2.8**	
	comp=Z,0.0nm,0.3s,baz=241,slow=11,SNR=5.6						
BRTR				LR	LR	20 14 15.8	
	comp=Z,36nm,19.8s,baz=266,slow=39						
CSS	**Prodhromos**	**14.93**	**95**	Pn	**Pn**	**20 08 17.5 -0.2**	
	comp=Z,2.5nm,1.0s						
CSS	**Prodhromos**	**14.93**	**95**	Pn	**Pn**	**20 08 17.5 -0.2**	
	comp=Z,2.5nm,1.0s						
KIEV	**Kiev**	**16.33**	**33**	⇓*e*P	**Pn**	**20 08 36.5 +0.6**	
KIEV	**Kiev**	**16.33**	**33**	*e*P	**Pn**	**20 08 36.5 +0.6**	
AKASG	**Malin Array Be**	**16.34**	**33**	P	**Pn**	**20 08 36.2 +0.1**	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	**Malin Array Be**	**16.34**	**33**	Pn	**Pn**	**20 08 36.1 +0.1**	
	comp=Z,1.9nm,0.3s,baz=227,slow=10,SNR=12						
RGN	**Rugen**	**16.80**	**356**	Pn	**Pn**	**20 08 40.5 -1.3**	
	comp=Z,106nm,1.1s						
RGN	**Rugen**	**16.80**	**356**	Pn	**Pn**	**20 08 40.5 -1.3**	
	comp=Z,106nm,1.1s						
MDT	**Midelt**	**16.86**	**259**	LR	LR	20 16 18.9	
	comp=Z,179nm,19.5s,baz=60,slow=41						
SUW	**Suwalki**	**17.14**	**16**	*e*P	**Pn**	**20 08 43.3 -2.8**	
SUW				pmax	pmax		
	comp=Z,18nm,0.8s						
SUW	**Suwalki**	**17.14**	**16**	*e*Pn	**Pn**	**20 08 43.3 -2.8**	
	comp=Z,18nm,0.8s						
MMAI	**Mount Meron Ar**	**17.19**	**100**	P	**P**	**20 08 48.9 +0.4**	
	comp=Z,0.2nm,0.3s,baz=291,slow=12,SNR=3.5						
ANN	**Anapa**	**18.12**	**60**	*e*P	**P**	**20 09 02.3 +3.6**	
ANN				pmax	pmax		
	comp=Z,73nm,1.8s						
ANN	**Anapa**	**18.12**	**60**	*e*P	**P**	**20 09 02.3 +3.6**	
	comp=Z,73nm,1.8s						
SOC	**Sochi**	**19.48**	**65**	*e*P	**Pn**	**20 09 15.0 +0.2**	
SOC				*e*S	**S**	**20 12 54.2 +0.7**	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,49nm,6.0s						
SOC	**Sochi**	**19.48**	**65**	*e*P	**Pn**	**20 09 15.0 +0.2**	
	comp=Z,49nm,6.0s						
SOC				*e*S	**S**	**20 12 54.2 +0.7**	
EKA	**Eskdalemuir Ar**	**21.47**	**331**	P	**P**	**20 09 36.2 +1.1**	
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**21.47**	**331**	P	**P**	**20 09 36.2 +1.1**	
	comp=Z,1.3nm,0.7s,baz=141,slow=11,SNR=4.0						
EKA	**Eskdalemuir Ar**	**21.47**	**331**	P	**P**	**20 09 36.2 +1.1**	
	comp=Z,2.0nm,0.8s						
VORD	**Divnogorie**	**21.59**	**45**	*e*P	P	20 09 43.9 +7.5	
VORD				pmax	pmax		
	comp=Z,10.0nm,1.6s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,20nm,0.7s						
VORD	**Divnogorie**	**21.59**	**45**	*e*P	P	20 09 43.9 +7.5	
	comp=E,10.0nm,0.6s						
NEY	**Neytrino**	**21.61**	**67**	*i* P	**P**	**20 09 41.0 +4.1**	
VSR	**Storozhevoye**	**21.64**	**44**	*e*P	**P**	**20 09 39.8 +2.9**	
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,9.0nm,1.0s						
VSR	**Storozhevoye**	**21.64**	**44**	*e*P	**P**	**20 09 39.8 +2.9**	
	comp=E,10.0nm,0.9s						
KIV	**Kislovodsk**	**21.66**	**65**	*i* P	**P**	**20 09 38.5 +1.2**	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV	**Kislovodsk**	**21.66**	**65**	*e*P	**P**	**20 09 37.2 -0.1**	
	comp=Z,13nm,1.3s						
KIV	**Kislovodsk**	**21.66**	**65**	*e*P	**P**	**20 09 37.2 -0.1**	
	comp=Z,13nm,1.3s						
KBZ	**Khabaz**	**21.79**	**65**	P	**P**	**20 09 40.9 +2.4**	
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**21.79**	**65**	P	**P**	**20 09 40.9 +2.4**	
	comp=Z,1.2nm,0.7s,baz=278,slow=17,SNR=6.5						
NCK	**Nalchik**	**22.27**	**66**	*i* P	**P**	**20 09 47.9 +4.1**	
NCK	**Nalchik**	**22.27**	**66**	*i* P	**P**	**20 09 47.9 +4.1**	
HFS	**Hagfors**	**22.38**	**358**	P	**P**	**20 09 45.2 +0.5**	
	comp=Z,2.4nm,0.7s,baz=163,slow=11,SNR=6.9						
HFS				LR	LR	20 19 30.6	
	comp=Z,89nm,18.1s,baz=179,slow=40						
ZEI	**Tsey**	**22.44**	**68**	*e*P	**P**	**20 09 49.5 +3.6**	
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ZEI	**Tsey**	**22.44**	**68**	*e*P	**P**	**20 09 49.5 +3.6**	
	comp=Z,7.0nm,1.4s						
OBN	**Obninsk**	**22.61**	**33**	⇑*e*P	P	20 09 53.4 +6.2	
OBN				pmax	pmax		
	comp=Z,27nm,1.6s						
VRHR	**Novokhopersk**	**22.96**	**46**	*e*P	**P**	**20 09 55.5 +4.5**	
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.3s						
VRHR				pmax	pmax		
	comp=E,9.0nm,0.6s						
GNI	**Garni**	**23.09**	**75**	P	**P**	**20 09 53.1 +0.5**	
GNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**23.09**	**75**	P	**P**	**20 09 55.9 +3.3**	
	comp=Z,1.1nm,0.4s,baz=158,slow=19,SNR=4.5						
GNI				LR	LR	20 21 14.6	
	comp=Z,50nm,18.4s,baz=264,slow=43						
GNI	**Garni**	**23.09**	**75**	P	**P**	**20 09 53.1 +0.5**	
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**23.09**	**75**	P	**P**	**20 09 53.1 +0.5**	
	comp=Z,10.0nm,1.1s						
NB2	**NORSAR Subarra**	**23.40**	**355**	P	**P**	**20 09 54.7 -0.7**	
	comp=Z,11nm,1.2s,baz=171,slow=10						
NB2	**NORSAR Subarra**	**23.40**	**355**	P	**P**	**20 09 54.7 -0.7**	
	comp=Z,11nm,1.2s,SNR=3.7						
NOA	**NORSAR Array B**	**23.40**	**355**	P	**P**	**20 09 56.4 +1.0**	
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA	**NORSAR Array B**	**23.40**	**355**	P	**P**	**20 09 56.4 +1.0**	
	comp=Z,1.8nm,1.0s,baz=172,slow=13,SNR=3.0						
NOA				LR	LR	20 19 39.7	
	comp=Z,63nm,21.1s,baz=165,slow=38						
NOA	**NORSAR Array B**	**23.40**	**355**	P	**P**	**20 09 56.4 +1.0**	
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**24.64**	**13**	*i* P	**P**	**20 10 07.6 +0.6**	
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**24.64**	**13**	P	**P**	**20 10 05.3 -1.7**	
	comp=Z,4.8nm,1.1s,baz=180,slow=11,SNR=7.0						
FINES				LR	LR	20 20 14.2	
	comp=Z,62nm,21.8s,baz=216,slow=38						
FINES	**FINESS Array B**	**24.64**	**13**	*i* P	**P**	**20 10 07.6 +0.6**	
	comp=Z,5.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**27.32**	**210**	P	**P**	**20 10 34.4 +2.8**	
	comp=Z,0.5nm,0.9s,baz=13,slow=14,SNR=3.8						
TORD				LR	LR	20 21 19.2	
	comp=Z,134nm,18.9s,baz=265,slow=36						
ARCES	**ARCESS Array B**	**32.29**	**7**	LR	LR	20 24 35.8	
	comp=Z,49nm,18.6s,baz=208,slow=37						
GEYT	**Alibeck**	**33.71**	**76**	LR	LR	20 27 43.5	
	comp=Z,26nm,19.4s,baz=70,slow=41						
ABKAR	**Akbulak array**	**33.97**	**56**	P	**P**	**20 11 27.9 -2.2**	
	comp=Z,3.3nm,1.2s						
KKAR	**Karatay Array**	**41.82**	**65**	P	**P**	**20 12 37.0 +0.5**	
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**41.82**	**65**	P	**P**	**20 12 37.0 +0.5**	
	comp=Z,1.9nm,0.9s						
KKAR	**Karatay Array**	**41.82**	**65**	P	**P**	**20 12 37.0 +0.5**	
	comp=Z,1.9nm,0.9s						
EKS2	**Erkin-Say**	**44.26**	**64**	*e*P	**P**	**20 12 56.2 -0.1**	
EKS2				pmax	pmax		
	comp=Z,5.0nm,1.1s						
EKS2	**Erkin-Say**	**44.26**	**64**	*e*P	**P**	**20 12 56.2 -0.1**	
	comp=Z,5.5nm,1.1s						
EKS2	**Erkin-Say**	**44.26**	**64**	*e*P	**P**	**20 12 56.2 -0.1**	
	comp=Z,5.5nm,1.1s						
AAK	**Ala-Archa**	**44.78**	**64**	*i* P	P	20 13 04.4 +3.8	
AAK				pmax	pmax		
	comp=Z,11nm,2.4s						
AAK	**Ala-Archa**	**44.78**	**64**	*i* P	P	20 13 04.4 +3.8	
	comp=Z,11nm,2.4s						
NVS	**Novosibirsk**	**48.03**	**46**	*e*P	P	20 13 38.4 +13	
NVS				pmax	pmax		
	comp=E,5.0nm,1.8s						
NVS				pmax	pmax		
	comp=N,12nm,1.8s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.3s						
ZALV	**Zalesovo Beam**	**49.09**	**47**	P	**P**	**20 13 32.9 -1.0**	
	comp=N,0.3nm,0.4s,baz=347,slow=3.3,SNR=2.6						
ZALV				LR	LR	20 37 31.2	
	comp=N,48nm,18.8s,baz=250,slow=40						
MKAR	**Makanchi Array**	**49.10**	**57**	P	**P**	**20 13 33.4 -0.7**	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**49.10**	**57**	P	**P**	**20 13 33.4 -0.7**	
	comp=Z,0.5nm,0.8s,baz=279,slow=5.8,SNR=4.8						
WMQ	**Urumqi**	**53.63**	**59**	*e*P	**P**	**20 14 08.8 +0.6**	
WMQ				pP	**pP**	**20 14 13.0 +1.0**	
WMQ				sP	**sP**	**20 14 15.5 +2.0**	
WMQ				*e*S	**S**	**20 21 40.0 -1.5**	
WMQ				ScS	**ScS**	**20 23 54.0 -3.5**	
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,78nm,5.3s						
WMQ				LR	LR		
	comp=N,190nm,18.3s						
WMQ				LR	LR		
	comp=E,130nm,14.4s						
WMQ				LR	LR		
	comp=Z,130nm,17.5s						
CD2	**Chengdu**	**70.83**	**65**	*e*P	**P**	**20 16 04.1 +0.4**	
SEY	**Seymchan**	**73.95**	**19**	LR	LR	20 51 53.7	
	comp=Z,51nm,18.1s,baz=160,slow=38						
BDFB	**Brasilia**	**79.56**	**241**	LR	LR	20 53 46.5	
	comp=Z,40nm,18.0s,baz=46,slow=37						
ASAR	**Alice Springs**	**126.38**	**93**	PKIKP	**PKPdf**	**20 23 51.4 +1.4**	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**126.38**	**93**	PKP	**PKPdf**	**20 23 51.4 +1.4**	
	comp=Z,0.6nm,0.9s,baz=343,slow=2.6,SNR=4.2						

IDC 02 20:06:08.7±6.8, 23°.25S×179°.46W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/26, mbtmp4.1/2, Error ellipse: s-maj=337.5km s-min=63.7km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.63**	**260**	P	P	20 14 06.7	-0.5
	1.3nm,0.4s,baz=93,slow=7.5,SNR=89						
WRA	**Warramunga Arr**	**42.95**	**265**	P	P	20 14 10.1	+0.4
	1.1nm,0.4s,baz=102,slow=8.6,SNR=6.7						
NB2	**NORSAR Subarra**	**141.51**	**352**	PKP	PKPdf	20 25 39.2	-2.2
	comp=Z,0.8nm,0.7s,baz=16,slow=3.2						
BRTR	**Keskin Array B**	**147.57**	**308**	PKPbc	PKPbc	20 25 54.5	-0.8
	comp=Z,0.3nm,0.5s,baz=79,slow=0.9,SNR=3.1						

IDC 02 20:10:31.6±2.8, 18°.68S×70°.79W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=86.2km s-min=42.4km az=176.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.48**	**47**	Pn	Pn	20 11 27.6	-0.3
	0.7nm,0.3s,baz=225,slow=5.7,SNR=17						
SIV	**San Ignacio**	**9.66**	**75**	Pn	Pn	20 12 52.3	+0.2
	0.8nm,0.3s,baz=278,slow=15,SNR=6.8						
TORD	**Torodi Ar. Bea**	**78.12**	**72**	P	P	20 22 33.1	0.0
	0.4nm,0.6s,baz=255,slow=5.6,SNR=6.7						
YKA	**Yellowknife Ar**	**87.96**	**341**	P	P	20 23 23.0	0.0
	0.2nm,0.7s,baz=131,slow=4.9,SNR=5.4						

*BKK **02** 20:26:27.9±3.0, 23°.N±25°×10°.0E±1°, h10km, mb4.3/3, mB4.7/3, MLv5.2/9, Mw(mB)3.9/3*
*ISCJB **02** 20:26:29.2±0.3, 22°.39N±0°.03×100°.40E±0°.02, h10km, mb4.1/22, MS3.4/9, Error ellipse: s-maj=4.1km s-min=2.7km az=17.4*
*IDC **02** 20:26:30.1±0.7, 22°.34N×100°.41E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/42, mbtmp4.0/15, ML3.9/1, MS3.4/9, Ms1 3.4/9, ms1mx3.0/37, Error ellipse: s-maj=23.7km s-min=13.5km az=80.0*
*BJI **02** 20:26:31.0, 22°.39N×100°.23E, h10km, mB4.3/6, mb3.9/13, ML4.6/8, Ms4.1/10, Ms7 3.9/9*
*NEIC **02** 20:26:32.7±0.4, 22°.28N×100°.29E, h20km, mb4.2/8, Error ellipse: s-maj=11.9km s-min=8.3km az=54.0*
*PLV **02** 20:26:35.3±2.0, 22°.44N×100°.61E, h15km±8km, MD3.3, ML3.9*

ISC 02 20:26:31.5±0.4, 22°.28N±0°.03×100°.29E±0°.03, h10km, n75, σ1s82/98, mb4.2/22, MS3.4/9, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAI	**Chiengmai2**	**2.61**	**207**	P	**Pb**	**20 27 19.1**	**+0.6**
CMAI				Pg	**Pb**	**20 27 19.1**	**+0.6**
DBV	**Dienbien**	**2.69**	**109**	*e*Pn	**Pn**	**20 27 14.7**	**-0.3**
DBV				*e*Pg	**Pg**	**20 27 22.9**	**-0.2**
DBV				*e*Sg	**Sg**	**20 27 56.5**	**-1.5**
TGV	**Tuan Giao**	**2.98**	**103**	*e*Pn	**Pn**	**20 27 18.6**	**-0.3**
TGV				*e*Pg	**Pg**	**20 27 27.8**	**-0.9**
TGV				*e*Sg	**Sg**	**20 28 05.3**	**-2.0**
SPV	**Sa-pa**	**3.28**	**88**	*e*Pn	**Pn**	**20 27 23.5**	**+0.4**
SPV				*e*Pg	**Pg**	**20 27 33.2**	**-1.2**
SLVN	**Son La**	**3.49**	**105**	*e*Pn	**Pn**	**20 27 24.9**	**-1.0**
SLVN				*e*Pg	**Pg**	**20 27 37.4**	**-1.0**
SLVN				*e*Sg	**Sb**	**20 28 20.1**	**+4.3**
KMI	**Kunming**	**3.61**	**38**	Pg	**Pb**	**20 27 37.2**	**+1.6**
KMI				Sg	**Sg**	**20 28 25.0**	**-2.5**
KMI				SMN			
	260nm,1.2s						
KMI				SME			
	280nm,1.0s						
KMI				LN			
	810nm,3.8s						
KMI				LE			
	660nm,3.8s						
KMI				LZ			
	340nm,4.5s						
CHTO	**Chiang Mai**	**3.68**	**200**	*e*Pn	**Pn**	**20 27 28.9**	**+0.5**
CHTO				*e*Pg	**Pg**	**20 27 40.7**	**-1.3**
CHTO				*e*Sg	**Sg**	**20 28 29.7**	**+0.1**
CHTO	**Chiang Mai**	**3.68**	**200**	P	Pb	20 27 29.6	-7.0
CHTO				Pn	**Pn**	**20 27 29.2**	**+0.8**
CMMT	**Chiang Mai**	**3.68**	**200**	P	Pb	20 27 29.5	-7.1
CMMT				Pn	**Pn**	**20 27 29.1**	**+0.7**
LAMP	**Lampang**	**3.79**	**190**	P	Pb	20 27 35.0	-3.6
LAMP				Pn	**Pn**	**20 27 31.4**	**+1.4**
TTVN	**Tram Tau**	**3.86**	**101**	*e*Pn	**Pn**	**20 27 31.2**	**+0.3**
TTVN				*e*Pg	**Pg**	**20 27 45.1**	**-0.4**
TTVN				*e*Sg	**Sg**	**20 28 33.5**	**-2.0**
TTVN				AML	AML	20 28 44.8	
	comp=N,222nm,0.7s						
CMAR	**Chiang Mai Arr**	**4.01**	**199**	Pn	**Pn**	**20 27 33.5**	**+0.5**
	comp=N,1.8nm,0.3s,baz=7.4,slow=13,SNR=28						
CMAR				Pg	**Pg**	**20 27 46.7**	**-1.7**
	comp=N,71nm,0.3s,baz=7.1,slow=17,SNR=258						
CMAR				Lg	Lg	20 28 40.2	
	comp=N,31nm,0.3s,baz=156,slow=28,SNR=4.3						
VTVB	**Vinh Tuy**	**4.27**	**90**	*e*Pn	**Pn**	**20 27 36.1**	**-0.4**
VTVB				*e*Pg	**Pg**	**20 27 52.6**	**-0.7**
VTVB				*e*Sg	**Sg**	**20 28 45.3**	**-3.3**
MCVV	**Moc Chau**	**4.32**	**109**

	comp=N,34nm,0.9s							
PYUN	**Piuthan**	**16.69**	**294**	*eP*		Pn	20 30 20.2	-5.6
GTA	**Gaotai**	**17.08**	**359**	*eP*		**Pn**	**20 30 31.8**	**+1.3**
GTA				pP		**pP**	**20 30 35.9**	**+0.8**
GTA				sP		**sP**	**20 30 38.9**	**+2.5**
GTA				PP		**PnPn**	**20 30 46.1**	**+5.7**
GTA				S		**Sn**	**20 33 44.9**	**+4.4**
GTA				sS		**S**	**20 33 49.2**	**-1.1**
GTA				PMZ				
	comp=N,2.0nm,1.0s							
GTA				PMZ				
	comp=N,50nm,4.1s							
GTA				LN				
	comp=N,240nm,10.0s							
GTA				LE				
	comp=N,1μm,14.5s							
GTA				LZ				
	comp=N,280nm,9.3s							
SMLA	**Simla**	**22.43**	**298**	*ex*		**P**	**20 31 29.0**	**-1.5**
DHRM	**DHARAMSHALA**	**23.48**	**300**	*ex*		**P**	**20 31 40.2**	**-1.5**
DHRM				AML		AML	20 31 45.8	
	comp=E,26nm,0.8s							
DHRM				AML		AML	20 31 48.3	
	comp=N,25nm,0.5s							
WMQ	**Urumqi**	**23.88**	**337**	*eP*		P	20 31 40.6	-4.7
WMQ				PP		**PnPn**	**20 32 13.0**	**-0.4**
WMQ				*eS*		S	20 35 52.0	-9.4
WMQ				PMZ				
	comp=N,9.0nm,1.2s							
WMQ				LN				
	comp=N,510nm,12.6s							
WMQ				LE				
	comp=N,320nm,6.3s							
WMQ				LZ				
	comp=N,590nm,9.4s							
SONM	**Songino Array**	**25.96**	**9**	P		**P**	**20 32 04.1**	**-0.2**
	comp=N,1.6nm,0.7s,baz=188,slow=10,SNR=11							
SONM				LR		LR	20 42 30.2	
	comp=N,74nm,18.6s,baz=319,slow=37							
ULN	**Ulaanbaatar**	**26.10**	**10**	*ePn*		**P**	**20 32 06.5**	**+1.0**
	comp=N,1.7nm,0.7s							
KSRS	**Korea Array**	**28.20**	**51**	LR		LR	20 44 26.2	
	comp=N,44nm,18.0s,baz=335,slow=38							
MKAR	**Makanchi Array**	**28.46**	**334**	P		**P**	**20 32 25.6**	**-1.0**
	comp=N,2.1nm,0.5s,baz=139,slow=10.0,SNR=24							
AAK	**Ala-Archa**	**29.56**	**319**	P		**P**	**20 32 36.2**	**-0.5**
	comp=N,0.9nm,0.6s,baz=96,slow=5.3,SNR=4.7							
AAK				LR		LR	20 46 19.3	
	comp=N,51nm,19.6s,baz=206,slow=40							
AAK	**Ala-Archa**	**29.56**	**319**	*eP*		**P**	**20 32 36.0**	**-0.6**
	comp=N,2.8nm,1.1s							
LEM	**Lembang**	**29.81**	**165**	LR		LR	20 44 57.9	
	comp=N,124nm,20.6s,baz=250,slow=37							
EKS2	**Erkin-Say**	**30.02**	**319**	*eP*		**P**	**20 32 40.4**	**-0.3**
	comp=N,4.4nm,1.1s							
KKAR	**Karatay Array**	**32.28**	**317**	*eP*		**P**	**20 32 59.3**	**-1.1**
	comp=N,1.1nm,0.6s							
ZALV	**Zalesovo Beam**	**33.72**	**343**	P		**P**	**20 33 11.7**	**-1.2**
	comp=N,7.2nm,0.7s,baz=156,slow=9.7,SNR=30							
BVAR	**Borovoye Array**	**38.24**	**331**	LR		LR	20 51 24.7	
	comp=N,55nm,19.8s,baz=279,slow=39							
GEYT	**Alibeck**	**39.33**	**303**	P		**P**	**20 34 02.3**	**+1.3**
	comp=N,2.8nm,0.7s,baz=116,slow=6.8,SNR=10							
ABKAR	**Akbulak array**	**41.64**	**320**	*eP*		**P**	**20 34 17.9**	**-2.0**
	comp=N,3.2nm,0.6s							
AKTO	**Aktyubinsk**	**43.27**	**321**	LR		LR	20 56 54.3	
	comp=N,48nm,18.2s,baz=311,slow=42							
GNI	**Garni**	**49.93**	**304**	*eP*		**P**	**20 35 25.1**	**-0.7**
	comp=N,5.6nm,1.0s							
KIV	**Kislovodsk**	**51.75**	**309**	P		P	20 35 36.3	-3.1
	comp=N,7.3nm,1.0s							
TIXI	**Tiksi**	**52.03**	**11**	*eP*		**P**	**20 35 41.1**	**+0.3**
	comp=N,4.7nm,1.1s							
WRA	**Warramunga Arr**	**53.55**	**139**	P		**P**	**20 35 51.5**	**-1.2**
	comp=N,0.9nm,0.8s,baz=329,slow=8.2,SNR=5.4							
ASAR	**Alice Springs**	**56.17**	**142**	P		**P**	**20 36 11.4**	**-0.3**
	comp=N,0.9nm,0.7s,baz=320,slow=6.4,SNR=12							
BRTR	**Keskin Array B**	**58.46**	**304**	P		**P**	**20 36 29.3**	**+1.3**
	comp=N,0.5nm,0.8s,baz=117,slow=4.4,SNR=3.6							
AKASG	**Malin Array Be**	**61.18**	**317**	P		**P**	**20 36 46.0**	**-0.3**
	comp=N,2.0nm,0.8s,baz=79,slow=6.4,SNR=8.3							
FINES	**FINESS Array B**	**63.15**	**329**	P		**P**	**20 36 58.5**	**-0.7**
	comp=N,1.7nm,0.7s,baz=98,slow=9.8,SNR=5.9							
FINES				LR		LR	21 07 10.9	
	comp=N,35nm,18.8s,baz=140,slow=39							
ADK	**Adak**	**68.56**	**41**	P		**P**	**20 37 33.8**	**-0.5**
	comp=N,51nm,1.1s							
NB2	**NORSAR Subarra**	**70.33**	**329**	P		**P**	**20 37 45.0**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=80,slow=6.2							
NOA	**NORSAR Array B**	**70.33**	**329**	P		**P**	**20 37 46.0**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=81,slow=6.1,SNR=4.6							
NOA				LR		LR	21 10 19.4	
	comp=Z,15nm,19.9s,baz=80,slow=37							
GERES	**GERESS Array B**	**71.37**	**316**	P		**P**	**20 37 53.5**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=69,slow=7.3,SNR=6.9							
GERES				LR		LR	21 16 05.3	
	comp=Z,27nm,18.1s,baz=44,slow=42							
INK	**Inuvik**	**81.57**	**18**	P		**P**	**20 38 50.8**	**+1.7**
	comp=Z,2.6nm,1.2s,baz=326,slow=7.9,SNR=3.6							
YKA	**Yellowknife Ar**	**91.08**	**15**	P		**P**	**20 39 37.2**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=330,slow=4.9,SNR=5.3							

*IDC **02** 20:32:31.0±2.8, 5.°43S×116.°23E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/33, mbtmp3.2/3, Error ellipse: s-maj=266.4km s-min=26.2km az=53.0*
*DJA **02** 20:33:10.4±0.3, 9.°5S×11.°7E±.°, h10km, M4.1/15, mb4.3/1, mB4.6/1, MLv4.1/9, MLv4.0/15, Mw(mB)3.9/1*
*ISCJB **02** 20:33:11.1±0.6, 8.°8S±0.°1×117.°43E±0.°06, h129km, mb3.3/1, Error ellipse: s-maj=20.9km s-min=6.9km az=10.0*

ISC 02 20:33:11.7±1.4, 8.°9S±0.°1×117.°40E±0.°06, h129km, n13, σ1s53/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DNP	**Denpasar**	**2.18**	**277**	P		**Pn**	**20 33 47.3**	**-0.5**
IGBI	**Denpasar**	**2.23**	**273**	P		**Pn**	**20 33 46.1**	**-2.3**
SRBI	**Singaraja**	**2.32**	**291**	P		**Pn**	**20 33 47.9**	**-1.6**
WSI	**Waingapu**	**2.96**	**105**	P		**Pn**	**20 33 57.0**	**-0.7**
ABJI	**Asem Bagus**	**3.33**	**290**	P		**Pn**	**20 34 03.6**	**+1.1**
KMMI	**Kalianget**	**3.88**	**299**	P		**Pn**	**20 34 10.9**	**+1.1**
BLJI	**Banyuglugur**	**3.94**	**287**	P		**Pn**	**20 34 12.1**	**+1.4**
GMJI	**Gumukmas**	**3.96**	**279**	P		**Pn**	**20 34 12.4**	**+1.5**
EDFI	**Ende, Flores**	**4.25**	**88**	P		**Pn**	**20 34 13.1**	**-1.7**
BKSI	**Bulukumba**	**4.49**	**37**	P		**Pn**	**20 34 17.2**	**-0.8**
BATI	**Baumata**	**6.31**	**102**	P		**Pn**	**20 34 43.7**	**+1.3**
WRA	**Warramunga Arr**	**19.70**	**126**	P		**Pn**	**20 37 34.6**	**+0.8**
	0.3nm,0.8s,baz=302,slow=12,SNR=2.5							
ASAR	**Alice Springs**	**21.54**	**135**	P		P	20 37 56.2	+5.3
	0.6nm,0.5s,baz=312,slow=8.8,SNR=10							

*IDC **02** 20:36:15.2±1.9, 51.°70N×169.°70W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/48, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=56.9km s-min=33.1km az=160.0*
*NEIC **02** 20:36:20.1, 51.°92N×169.°68W, h33km, ML3.0(AEIC), After AEIC.*

ISC 02 20:36:20.4±1.4, 52.°0N±0.°2×169.°83W±0.°10, h30km, n11, σ1s43/14, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**1.15**	**31**	P		**Pn**	**20 36 40.1**	**-0.3**
NIKH				S		**Sn**	**20 36 56.1**	**+0.9**
OKFG	**Magazine Ridge**	**1.84**	**39**	P		**Pn**	**20 36 50.1**	**+0.2**
OKFG				S		**Sn**	**20 37 13.7**	**+1.6**
MREP	**Makushin Rep't**	**2.61**	**44**	P		**Pn**	**20 37 01.1**	**+0.5**
KOFP	**Korovin Flat P**	**2.65**	**278**	P		**Pb**	**20 37 04.5**	**-2.7**
MSW	**Makushin Switc**	**2.67**	**43**	P		**Pn**	**20 37 01.6**	**+0.4**
UNV	**Unalaska Valle**	**2.74**	**46**	P		**Pn**	**20 37 02.3**	**0.0**
UNV				S		**Sn**	**20 37 35.6**	**+1.3**
ADK	**Adak**	**4.25**	**271**	P		**Pn**	**20 37 25.6**	**+2.7**
PETK	**Petropavlovsk-**	**19.69**	**286**	P		**Pn**	**20 40 48.0**	**-0.6**
	0.6nm,0.3s,baz=96,slow=12,SNR=7.3							
YKA	**Yellowknife Ar**	**30.70**	**48**	P		**P**	**20 42 32.7**	**+0.6**
	0.1nm,0.4s,baz=272,slow=8.5,SNR=5.4							
BVAR	**Borovoye Array**	**53.85**	**324**	P		**P**	**20 46 50.4**	**+0.9**
	0.4nm,0.4s,baz=55,slow=4.5,SNR=4.9							
ASAR	**Alice Springs**	**89.94**	**230**	P		**P**	**20 49 15.6**	**-1.0**
	0.2nm,0.6s,baz=27,slow=5.6,SNR=4.3							

*IDC **02** 20:38:54.0±5.8, 32.°68N×86.°63E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.2/41, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=152.2km s-min=36.4km az=95.0*

ISC 02 20:38:56.7±1.5, 32.°5N±0.°1×86.°8E±0.°1, h10km, n18, σ1s28/16, mb3.4/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**4.62**	**126**	P		**Pn**	**20 40 08.1**	**+1.0**
LSA				pmax		pmax		
	comp=Z,30nm,1.0s							
GUN	**Gumba**	**4.63**	**191**	*eP*		**Pg**	**20 40 25.9**	**+0.4**
JIRN	**Jiri**	**4.84**	**187**	*eP*		**Pg**	**20 40 27.4**	**-2.0**
	comp=Z,20nm,0.6s							
GKN	**Gorkha**	**4.85**	**204**	*eP*		**Pg**	**20 40 30.1**	**+0.4**
	comp=Z,5.6nm,0.3s							
KKN	**Kakani**	**4.87**	**196**	*eP*		**Pg**	**20 40 29.2**	**-0.8**
	comp=Z,8.2nm,0.5s							
DANN	**Dangsing**	**4.90**	**214**	*eP*		Pg	20 40 33.8	+3.2
	comp=Z,8.9nm,0.5s							
PKIN	**Phulchoki**	**5.05**	**195**	*eP*		**Pg**	**20 40 31.9**	**-1.5**
	comp=Z,6.9nm,0.5s							
PKI	**Pulchoki**	**5.05**	**195**	*eP*		**Pg**	**20 40 31.8**	**-1.6**
DMN	**Daman**	**5.08**	**198**	*eP*		**Pg**	**20 40 33.5**	**-0.6**
	comp=Z,9.4nm,0.5s							
TAPN	**Taplejung**	**5.17**	**171**	*eP*		**Pb**	**20 40 27.3**	**-0.1**
	comp=Z,14nm,0.5s							
PYUN	**Piuthan**	**5.49**	**218**	*eP*		**Pg**	**20 40 41.4**	**-0.5**
	comp=Z,19nm,0.3s							
RAMN	**Ramite**	**5.52**	**182**	*eP*		**Pb**	**20 40 34.5**	**+1.2**
	comp=Z,19nm,0.5s							
ODAN	**Odare**	**5.62**	**175**	*eP*		**Pb**	**20 40 33.4**	**-1.7**
	comp=Z,27nm,0.7s							
WMQ	**Urumqi**	**11.34**	**3**	*eP*		Pn	20 41 50.0	+11
WMQ				pmax		pmax		
	comp=Z,6.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**17.71**	**139**	P		**P**	**20 43 05.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=325,slow=12,SNR=3.9							
SONM	**Songino Array**	**21.32**	**38**	P		**P**	**20 43 42.1**	**-1.7**
	comp=Z,1.5nm,1.0s,baz=221,slow=12,SNR=8.6							
WRA	**Warramunga Arr**	**69.15**	**132**	P		**P**	**20 50 03.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=321,slow=7.4,SNR=5.9							
ASAR	**Alice Springs**	**71.67**	**135**	P		**P**	**20 50 19.4**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=305,slow=4.6,SNR=5.3							

IDC 02 20:48:47.4±1.8, 13.°26S×166.°80E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/28, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=53.8km s-min=38.5km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.77**	**182**	Pn		Pn	20 50 55.8	+0.1
	0.5nm,0.3s,baz=357,slow=17,SNR=5.6							
DZM				Sn		Sn	20 52 26.2	-9.2
	0.5nm,0.3s,baz=126,slow=19,SNR=2.5							
WRA	**Warramunga Arr**	**31.77**	**254**	P		P	20 55 13.7	0.0
	0.2nm,0.4s,baz=85,slow=9.1,SNR=3.5							
ASAR	**Alice Springs**	**32.80**	**247**	P		P	20 55 22.6	-0.1
	0.4nm,0.5s,baz=75,slow=9.4,SNR=8.3							
ARCES	**ARCESS Array B**	**118.72**	**345**	PKP		PKPdf	21 07 37.0	0.0
	2.4nm,0.9s,baz=50,slow=2.1,SNR=5.8							
FINES	**FINESS Array B**	**124.19**	**338**	PKP		PKPdf	21 07 47.2	-0.5
	0.6nm,0.6s,baz=48,slow=2.1,SNR=4.9							

*ISCJB **02** 20:57:32.1±1.2, 18.°40N±0.°05×122.°51E±0.°06, h11km±7km, mb3.6/8, MS3.4/5, Error ellipse: s-maj=10.6km s-min=6.8km az=43.2*
*IDC **02** 20:57:33.8±0.9, 18.°72N×122.°56E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/33, mbtmp3.7/9, ML4.3/2, MS3.5/5, Ms1 3.5/5, ms1mx3.0/28, Error ellipse: s-maj=32.1km s-min=17.0km az=75.0*
*MAN **02** 20:57:34, 18.°13N×122.°44E, h9km, mb4.8, ML3.7, MS3.7*

ISC 02 20:57:33.3±1.7, 18.°28N±0.°05×122.°49E±0.°07, h14km±10km, n26, σ1s23/23, mb3.5/8, MS3.5/5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.43**	**265**	*eP*		**Pg**	**20 57 42.4**	**+0.6**
SGCP				*eS*		**Sg**	**20 57 47.6**	**+0.1**
CVP	**Callao Caves**	**0.86**	**228**	*i P*		**Pg**	**20 57 50.1**	**+0.3**
CVP				*i S*		**Sg**	**20 58 00.6**	**-0.5**
APYP	**Conner**	**1.26**	**251**	*eP*		**Pn**	**20 57 56.1**	**-0.3**
APYP				*eS*		**Sb**	**20 58 11.1**	**-1.8**
PIP	**Pasuquin**	**1.78**	**272**	*↓iP*		**Pn**	**20 58 04.5**	**+0.8**
PIP				*eS*		**Sn**	**20 58 26.8**	**+0.7**
ABRA	**Dolores**	**1.81**	**250**	*eP*		**Pn**	**20 58 04.6**	**+0.6**
ABRA				*eS*		**Sn**	**20 58 27.6**	**+0.8**
BALP	**Baler**	**2.67**	**199**	*eP*		**Pn**	**20 58 17.6**	**+1.6**
PCPH	**Palayan**	**3.01**	**207**	*↑eP*		**Pn**	**20 58 23.3**	**+2.7**
PCPH				*eS*		**Sb**	**20 59 02.2**	**-1.2**
GQP	**Guinayangan**	**4.35**	**181**	*↑eP*		**Pn**	**20 58 39.8**	**+0.8**
GQP				*eS*		**Sn**	**20 59 29.4**	**-0.2**
TGY	**Tagaytay City**	**4.41**	**200**	Pn		**Pb**	**20 58 49.3**	**-1.4**
	58nm,0.3s,baz=55,slow=6.9,SNR=5.7							
KSRS	**Korea Array**	**19.69**	**13**	P		**P**	**21 02 00.9**	**-1.2**
	0.2nm,0.3s,baz=199,slow=13,SNR=5.1							
CMAR	**Chiang Mai Arr**	**22.35**	**274**	P		**P**	**21 02 33.2**	**+2.2**
	1.0nm,0.8s,baz=72,slow=11,SNR=11							
CMAR				LR		LR	21 11 06.9	
	comp=Z,61nm,19.4s,baz=138,slow=36							
JAY	**Jayapura**	**27.36**	**137**	LR		LR	21 14 06.3	
	comp=Z,70nm,18.1s,baz=183,slow=36							
SONM	**Songino Array**	**32.28**	**340**	P		**P**	**21 04 01.8**	**0.0**
	0.5nm,0.7s,baz=158,slow=10,SNR=9.2							
SONM				LR		LR	21 18 35.5	
	comp=Z,95nm,18.6s,baz=164,slow=40							
WRA	**Warramunga Arr**	**39.72**	**162**	P		P	21 05 11.3	+5.8
	1.1nm,0.9s,baz=344,slow=9.3,SNR=5.1							
H11S3	**WAKE ISLAND Hy**	**41.86**	**82**	T		T	21 50 08.1	
	baz=277,slow=75,SNR=225							
H11S1	**WAKE ISLAND Hy**	**41.87**	**82**	T		T	21 50 05.8	
	baz=277,slow=75,SNR=161							
H11S2	**WAKE ISLAND Hy**	**41.88**	**82**	T		T	21 50 06.9	
	baz=277,slow=75,SNR=130							
H11N1	**WAKE ISLAND Hy**	**41.92**	**81**	T		T	21 50 09.8	
	baz=275,slow=75,SNR=125							
H11N2	**WAKE ISLAND Hy**	**41.92**	**81**	T		T	21 50 10.1	
	baz=275,slow=75,SNR=81							
H11N3	**WAKE ISLAND Hy**	**41.93**	**81**	T		T	21 50 14.5	
	baz=275,slow=75,SNR=81							
ASAR	**Alice Springs**	**43.15**	**165**	P		P	21 05 40.0	+6.3
	0.8nm,0.7s,baz=348,slow=7.5,SNR=10							
MKAR	**Makanchi Array**	**43.52**	**320**	P		**P**	**21 05 37.7**	**+1.2**
	0.9nm,0.5s,baz=113,slow=9.5,SNR=22							
ZALV	**Zalesovo Beam**	**45.90**	**330**	P		**P**	**21 05 54.9**	**-0.4**
	0.2nm,0.3s,baz=93,slow=12,SNR=2.2							
FINES	**FINESS Array B**	**77.15**	**331**	P		**P**	**21 09 25.5**	**-0.8**
	0.5nm,0.7s,baz=62,slow=4.5,SNR=4.0							
FINES				LR		LR	21 44 23.2	
	comp=Z,39nm,19.8s,baz=113,slow=37							
AKASG	**Malin Array Be**	**78.11**	**320**	LR		LR	21 47 50.0	
	comp=Z,26nm,18.9s,baz=290,slow=39							
YKA	**Yellowknife Ar**	**87.91**	**23**	P		**P**	**21 10 22.2**	**-0.2**
	0.7nm,0.9s,baz=307,slow=4.5,SNR=10							

*IDC **02** 21:00:08.2±3.3, 9.°58S×112.°61E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/28, mbtmp3.6/4, Error ellipse: s-maj=180.1km s-min=27.3km az=53.0*
*DJA **02** 21:00:14.8±0.8, 10.°5S±6.°×11.°3E±.°, h10km±6km, M3.5/15, MLv3.5/15*
*ISCJB **02** 21:00:16.1±1.2, 9.°6S±0.°1×112.°85E±0.°04, h79km±11km, mb3.5/4, Error ellipse: s-maj=18.2km s-min=6.6km az=7.2*

ISC 02 21:00:18.2±1.6, 9.°5S±0.°1×112.°93E±0.°04, h70km±15km, n16, σ1s91/23, mb3.8/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GMJI	**Gumukmas**	**1.28**	**24**	P		**Pn**	**21 00 38.5**	**-1.7**
GMJI				S		**Sn**	**21 00 53.1**	**-3.6**
PWJI	**Pagerwojo**	**1.80**	**322**	P		**Pn**	**21 00 44.8**	**-2.3**
PWJI				S		**Sn**	**21 01 08.9**	**-0.2**
BLJI	**Banyuglugur**	**1.82**	**21**	P		**Pn**	**21 00 48.2**	**+0.8**
BLJI				S		**Sn**	**21 01 12.4**	**+2.8**
ABJI	**Asem Bagus**	**2.09**	**38**	P		**Pn**	**21 00 51.9**	**+0.8**
PCJI	**Pacitan**	**2.13**	**306**	P		**Pn**	**21 00 51.5**	**-0.1**
PCJI				S		**Sn**	**21 01 20.3**	**+3.2**
IGBI	**Denpasar**	**2.28**	**74**	P		**Pn**	**21 00 53.0**	**-0.6**
IGBI				S		**Sn**	**21 01 21.9**	**+1.2**
DNP	**Denpasar**	**2.38**	**71**	S		**Sn**	**21 01 24.6**	**+1.4**
WOJI	**Wonogiri, Jawa**	**2.55**	**309**	P		**Pn**	**21 00 56.7**	**-0.5**
GRJI	**Gresik**	**2.56**	**350**	P		**Pn**	**21 00 57.6**	**+0.2**
KMMI	**Kalianget**	**2.60**	**23**	P		**Pn**	**21 00 58.6**	**+0.7**
SRBI	**Singaraja**	**2.64**	**59**	P		**Pn**	**21 00 58.6**	**+0.2**
SRBI				S		**Sn**	**21 01 32.0**	**+2.6**
UGM	**Wanagama**	**2.82**	**303**	P		**Pn**	**21 01 00.7**	**-0.3**
UGM				S		**Sn**	**21 01 37.8**	**+3.8**
ASAR	**Alice Springs**	**24.53**	**128**	P		**P**	**21 05 31.4**	**-0.1**
	0.4nm,0.6s,baz=302,slow=8.7,SNR=8.5							
SONM	**Songino Array**	**57.33**	**355**	P		**P**	**21 09 58.6**	**-0.5**
	0.4nm,0.6s,baz=177,slow=6.6,SNR=6.1							
MKAR	**Makanchi Array**	**62.31**	**337**	P		**P**	**21 10 32.9**	**-0.2**
	0.6nm,0.6s,baz=148,slow=7.8,SNR=11							
ZALV	**Zalesovo Beam**	**67.49**	**342**	P		**P**	**21 11 05.1**	**-1.4**
	0.5nm,0.5s,baz=137,slow=3.3,SNR=3.8							

MEX 02 21:16:04.5±0.6, 16.°01N×91.°07W, h15km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCIG	**Comitan**	**1.06**	**285**	*eP*		Pb	21 16 20.8	-4.1
CCIG				*eS*		Sb	21 16 34.6	-4.2
PCIG		**2.09**	**262**	*eP*		Pn	21 16 36.1	-2.9
PCIG				*i S*		Sn	21 17 00.4	-4.4
CMIG	**Matias Romero**	**3.82**	**287**	*eP*		Pn	21 17 00.8	-2.0
CMIG				*i S*		Sn	21 17 44.7	-2.8
TEIG	**Tepich**	**4.97**	**32**	*eP*		Pn	21 17 20.3	+1.7

IDC 02 21:26:14.6±8.2, 20.°32S×177.°57W, h472km±95km, mb3.2/5, mb1 3.5/6, mb1mx3.2/26, mbtmp4.0/6, Error ellipse: s-maj=48.8km s-min=29.4km az=8.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**18.46**	**193**	P		P	21 29 59.7	-0.9
	0.9nm,0.3s,baz=294,slow=2.8,SNR=8.0							
ASAR	**Alice Springs**	**44.96**	**256**	P		P	21 33 47.1	+0.3
	3.8nm,0.5s,baz=93,slow=7.6,SNR=91							
WRA	**Warramunga Arr**	**45.03**	**262**	P		P	21 33 47.4	-0.1
	2.1nm,0.5s,baz=98,slow=8.3,SNR=13							
MJAR	**Matsushiro Arr**	**70.31**	**323**	P		P	21 36 39.2	-0.7
	0.8nm,0.5s,baz=162,slow=7.0,SNR=4.5							
TXAR	**Lajitas Array**	**86.62**	**57**	P		P	21 38 09.0	+1.4
	0.2nm,0.5s,baz=210,slow=8.8,SNR=3.4							
ILAR	**Eielson Array**	**88.05**	**13**	P		P	21 38 13.2	-0.3
	0.4nm,0.8s,baz=209,slow=7.2,SNR=3.5							
BRTR	**Keskin Array B**	**147.02**	**313**	PKPbc		PKPbc	21 45 03.3	-0.9
	0.4nm,0.3s,baz=110,slow=3.4,SNR=2.9							
GERES	**GERESS Array B**	**150.14**	**345**	PKPbc		PKPbc	21 45 10.6	-0.9
	0.3nm,0.8s,baz=40,slow=2.3,SNR=3.6							

*NIED **02** 21:41:00, 33.°90N×142.°00E, h5km, Mw3.9 Best double couple: M0:6.87000×10^14 NP1:φ1=137.00000°, δ27.00000°, λ-116.00000°. NP2:φ2=346.00000°, δ66.00000°, λ-78.00000°.*
*JMA **02** 21:41:30.4±0.3, 33.°93N×142.°04E, h54km, M4.1*
*ISCJB **02** 21:41:31.1±0.9, 33.°91N±0.°04×141.°97E±0.°06, h36km±7km, mb3.9/17, MS4.4/1, Error ellipse: s-maj=8.6km s-min=6.8km az=169.6*
*IDC **02** 21:41:35.4±0.6, 33.°94N×141.°87E, h56km±4km, mb3.7/17, mb1 3.9/19, mb1mx3.8/40, mbtmp3.9/19, MS3.6/2, Ms1 3.6/2, ms1mx2.7/43, Error ellipse: s-maj=15.0km s-min=11.9km az=35.0*

ISC 02 21:41:35.4±0.6, 33.°95N±0.°06×141.°81E±0.°07, h55km±4km, n52, σ1s09/68, mb3.9/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**0.98**	**316**	P		**Pn**	**21 41 50.3**	**-2.2**
BSO1				*eS*		**Sn**	**21 42 05.8**	**+0.6**
BSO3	**Boso 3**	**1.37**	**309**	P		**Pn**	**21 41 56.3**	**-1.7**
BSO4	**Boso 4**	**1.60**	**311**	P		**Pn**	**21 42 00.1**	**-1.1**
BSO4				*eS*		**Sn**	**21 42 21.5**	**+0.8**
KTR	**Katsuura**	**1.72**	**315**	P		**Pn**	**21 42 01.2**	**-1.7**
KTR				*eS*		**Sn**	**21 42 24.0**	**+0.3**
JHJ2	**Mitsune**	**1.86**	**244**	P		**Pn**	**21 42 03.7**	**-1.2**
JHJ2				*eS*		**Sn**	**21 42 26.9**	**-0.4**
JHCJ	**Hachijojimakas**	**1.89**	**243**	P		**Pn**	**21 42 03.9**	**-1.4**
JHCJ				*eS*		**Sn**	**21 42 27.4**	**-0.7**
JIM2	**Oshima 3**	**2.11**	**292**	P		**Pn**	**21 42 06.0**	**-2.3**
JIM

0.9nm,0.6s,baz=64,slow=6.1,SNR=5.2
RAO Raoul Island 73.50 144 LR LR 22 20 15.0
comp=Z,197nm,20.3s,baz=120,slow=32
NVAR Mina Array Bea 76.59 53 pP pP 21 53 36.0 +0.1
1.1nm,0.8s,baz=289,slow=4.5,SNR=3.3
AKASG Malin Array Be 76.94 323 P **P** **21 53 20.8 -1.0**
1.1nm,0.5s,baz=45,slow=6.0,SNR=8.1
AKASG pP **pP** **21 53 36.6 -0.7**
0.7nm,0.4s,baz=46,slow=5.7,SNR=3.8
NB2 NORSAR Subarra 77.15 338 P pP 21 53 38.7 +0.3
comp=Z,1.3nm,0.8s,baz=39,slow=5.9
NOA NORSAR Array B 77.15 338 P **P** **21 53 21.4 -1.5**
comp=Z,1.5nm,1.0s,baz=62,slow=4.5,SNR=3.3
NOA pP **pP** **21 53 38.2 -0.2**
comp=Z,1.6nm,0.7s,baz=38,slow=5.8,SNR=4.8
PDAR Pinedale Array 79.60 45 P **P** **21 53 36.1 -0.9**
comp=Z,0.6nm,0.8s,baz=38,slow=4.6,SNR=3.3
PDAR pP **pP** **21 53 52.2 -0.4**
comp=Z,1.0nm,0.9s,baz=270,slow=2.4,SNR=5.4
BRTR Keskin Array B 81.14 312 P **P** **21 53 45.0 -0.3**
comp=Z,0.9nm,0.7s,baz=57,slow=4.6,SNR=6.6
BRTR pP **pP** **21 54 01.8 +0.9**
comp=Z,1.5nm,0.9s,baz=107,slow=4.1,SNR=5.0
GERES GERESS Array B 85.50 329 P **P** **21 54 06.8 -0.6**
comp=Z,0.5nm,0.6s,baz=28,slow=6.0,SNR=6.5
GERES pP **pP** **21 54 23.7 +0.6**
comp=Z,0.6nm,0.7s,baz=40,slow=5.2,SNR=5.6
TORD Torodi Ar. Bea 119.72 314 PKP **PKPdf** **22 00 20.2 +0.4**
comp=Z,0.3nm,0.5s,baz=17,slow=1.7,SNR=9.2

IDC 02 21:58:03.5±4.9, 30.58S×178.22W, h36km±8km, mb3.6/2, mb1 3.9/2, mb1mx3.5/24, mbtmp3.8/2, Error ellipse: s-maj=201.6km s-min=40.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.91**	**267**	P	P	22 05 58.6	-0.2
	0.6nm,0.6s,baz=105,slow=7.8,SNR=8.9						
ASAR				pP	pP	22 06 09.2	-0.2
	0.7nm,0.6s,baz=108,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**43.91**	**272**	P	P	22 06 06.7	-0.3
	0.7nm,0.3s,baz=111,slow=8.1,SNR=19						
WRA				pP	pP	22 06 17.9	+0.4
	0.7nm,0.5s,baz=113,slow=7.8,SNR=4.4						
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	PKPbc	22 17 35.7	-0.5
	0.8nm,0.8s,baz=49,slow=4.4,SNR=5.1						
FINES				pPKPbc	pPKPbc	22 17 46.7	-1.4
	0.6nm,0.7s,baz=75,slow=1.6,SNR=1.2						

ISCJB ***02*** *22:07:41.9±0.8, 71.17N±0.02×9.73W±0.07, h6km±4km, mb4.4/79, MS3.5/27, Error ellipse: s-maj=3.7km s-min=3.1km az=31.3*

CSEM ***02*** *22:07:42.7±0.1, 71.21N×9.43W, h5km, mb4.7/46, Ms3.3, Error ellipse: s-maj=3.7km s-min=3.3km az=32.0*

MOS ***02*** *22:07:42.4±1.3, 71.35N×9.14W, h10km, mb4.5/21, Error ellipse: s-maj=15.8km s-min=4.6km az=100.5*

IDC ***02*** *22:07:42.4±0.4, 71.20N×9.02W, h0km, mb4.0/23, mb1 4.1/31, mb1mx4.0/51, mbtmp4.0/31, ML3.9/7, MS3.5/31, Ms1 3.6/31, ms1mx3.5/53, Error ellipse: s-maj=13.3km s-min=7.6km az=43.0*

NEIC ***02*** *22:07:43.9±0.9, 71.30N×9.08W, h9km±6km, mb4.8/25, Error ellipse: s-maj=4.1km s-min=2.8km az=221.0*

REY ***02*** *22:07:43.6, 71.02N×9.74W, h10km, ML4.1, ML3.6*

BJI ***02*** *22:07:43.9, 71.30N×9.20W, h5km, mB4.9/15, mb4.5/24, Ms4.9/8, Ms7 4.5/7*

SZGRF ***02*** *22:07:49.0, 70.80N×8.81W, h33km, mb4.2, Jan Mayen Island region*

ISC 02 22:07:45.2±0.4, 71.19N±0.04×9.35W±0.04, h17km±2km, h17km:pP-P, n411, σ1°44/435, mb4.5/79, MS3.5/27, 20C-23D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.34**	**118**	⇑*i* P	**Pg**	**22 07 51.5**	**-0.9**
JNW	**Jan Mayen West**	**0.34**	**118**	⇑*i* P	**Pg**	**22 07 51.5**	**-0.9**
JMIC	**Jan Mayen**	**0.34**	**127**	*i* P	**Pg**	**22 07 51.6**	**-0.8**
JMIC				*e*S	**Sg**	**22 07 56.6**	**-0.7**
JMIC				IAML		22 07 58.4	
	comp=Z,24µm,0.5s						
JMIC	**Jan Mayen**	**0.34**	**127**	Pn	**Pg**	**22 07 51.7**	**-0.8**
	comp=Z,7µm,0.3s,baz=203,slow=1.9,SNR=1713						
JMIC				Sn	**Sg**	**22 07 56.5**	**-0.8**
	comp=Z,6µm,0.3s,baz=76,slow=19,SNR=132						
ILEI	**Leirhofn**	**5.46**	**212**	P	**Pn**	**22 09 02.8**	**-2.7**
ILEI				S	**Sn**	**22 10 06.8**	**-1.0**
ILEI	**Leirhofn**	**5.46**	**212**	P	**Pn**	**22 09 02.8**	**-2.7**
	baz=211						
ILEI				S	**Sn**	**22 10 06.8**	**-1.0**
	baz=211						
IGRI	**Grimsey**	**5.62**	**218**	S	**Sn**	**22 10 09.8**	**-2.0**
IGRI	**Grimsey**	**5.62**	**218**	S	**Sn**	**22 10 09.8**	**-2.0**
	baz=218						
IGRA	**Granastaoir**	**6.09**	**214**	P	**Pn**	**22 09 12.1**	**-2.1**
IGRA				S	**Sn**	**22 10 22.4**	**-1.0**
IGRA	**Granastaoir**	**6.09**	**214**	P	**Pn**	**22 09 12.1**	**-2.1**
	baz=213						
IGRA				S	**Sn**	**22 10 22.4**	**-1.0**
	baz=213						
IGRS	**Grimsstaoir**	**6.11**	**207**	P	**Pn**	**22 09 12.4**	**-2.1**
IGRS				S	**Sn**	**22 10 23.8**	**-0.1**
IGRS	**Grimsstaoir**	**6.11**	**207**	P	**Pn**	**22 09 12.4**	**-2.1**
	baz=207						
IGRS				S	**Sn**	**22 10 23.8**	**-0.1**
	baz=207						
DAG	**Danmarks Havn**	**6.16**	**340**	*i* P	**Pn**	**22 09 12.5**	**-2.6**
DAG				*e*S	Sn	22 10 16.3	-8.7
DAG	**Danmarks Havn**	**6.16**	**340**	*i* P	**Pn**	**22 09 12.5**	**-2.6**
DAG				*e*S	Sn	22 10 16.3	-8.7
ISIG	**Siglufjorour**	**6.16**	**219**	S	**Sn**	**22 10 24.4**	**-0.6**
ISIG	**Siglufjorour**	**6.16**	**219**	S	**Sn**	**22 10 24.4**	**-0.6**
	baz=219						
IHLA	**Hella**	**6.22**	**216**	P	**Pn**	**22 09 14.9**	**-1.1**
IHLA				S	**Sn**	**22 10 25.8**	**-0.7**
IHLA	**Hella**	**6.22**	**216**	P	**Pn**	**22 09 14.9**	**-1.1**
	baz=216						
IHLA				S	**Sn**	**22 10 25.8**	**-0.7**
	baz=216						
IREN	**Reynihlio**	**6.22**	**210**	P	**Pn**	**22 09 14.0**	**-2.1**
IREN	**Reynihlio**	**6.22**	**210**	P	**Pn**	**22 09 14.0**	**-2.1**
	baz=210						
IMEL	**Melhnausar**	**6.26**	**209**	P	**Pn**	**22 09 14.3**	**-2.2**
IMEL	**Melhnausar**	**6.26**	**209**	P	**Pn**	**22 09 14.3**	**-2.2**
	baz=208						
ISVA	**Svartarkot**	**6.57**	**210**	P	**Pn**	**22 09 18.8**	**-2.0**
ISVA				S	**Sn**	**22 10 35.9**	**+0.7**
ISVA	**Svartarkot**	**6.57**	**210**	P	**Pn**	**22 09 18.8**	**-2.0**
	baz=210						
ISVA				S	**Sn**	**22 10 35.9**	**+0.7**
	baz=210						
IGLU	**Glumsstadir**	**6.60**	**202**	P	**Pn**	**22 09 19.9**	**-1.3**
IGLU				S	**Sn**	**22 10 36.2**	**+0.4**
IGLU	**Glumsstadir**	**6.60**	**202**	P	**Pn**	**22 09 19.9**	**-1.3**
	baz=201						
IGLU				S	**Sn**	**22 10 36.2**	**+0.4**
	baz=201						
IADA	**Aoalbol**	**6.62**	**204**	P	**Pn**	**22 09 19.9**	**-1.6**
IADA				S	**Sn**	**22 10 36.7**	**+0.2**
IADA	**Aoalbol**	**6.62**	**204**	P	**Pn**	**22 09 19.9**	**-1.6**
	baz=203						
IADA				S	**Sn**	**22 10 36.7**	**+0.2**
	baz=203						
IHVA	**Hvannstoosfjol**	**6.72**	**204**	P	**Pn**	**22 09 21.3**	**-1.6**
IHVA				S	**Sn**	**22 10 38.7**	**-0.3**
IHVA	**Hvannstoosfjol**	**6.72**	**204**	P	**Pn**	**22 09 21.3**	**-1.6**
	baz=204						
IHVA				S	**Sn**	**22 10 38.7**	**-0.3**
	baz=204						
IASK	**Askja**	**6.74**	**207**	P	**Pn**	**22 09 21.6**	**-1.6**
IASK	**Askja**	**6.74**	**207**	P	**Pn**	**22 09 21.6**	**-1.6**
	baz=207						
IMKO	**Mokollar**	**6.76**	**206**	P	**Pn**	**22 09 22.0**	**-1.5**
IMKO				S	**Sn**	**22 10 40.6**	**+0.6**
IMKO	**Mokollar**	**6.76**	**206**	P	**Pn**	**22 09 22.0**	**-1.5**
	baz=205						
IMKO				S	**Sn**	**22 10 40.6**	**+0.6**
	baz=205						
IVSH	**V-Sauoahnukur**	**6.84**	**204**	P	**Pn**	**22 09 23.0**	**-1.6**
IVSH				S	**Sn**	**22 10 42.2**	**+0.2**
IVSH	**V-Sauoahnukur**	**6.84**	**204**	P	**Pn**	**22 09 23.0**	**-1.6**
	baz=203						
IVSH				S	**Sn**	**22 10 42.2**	**+0.2**
	baz=203						
BORG	**Borgarnes**	**7.87**	**221**	P	**Pn**	**22 09 40.7**	**+2.1**
BORG						22 11 11.7	
BORG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BORG				smax	smax		
	comp=N,1.0nm,0.3s						
BORG	**Borgarnes**	**7.87**	**221**	Pn	**Pn**	**22 09 40.7**	**+2.1**
	comp=N,2.3nm,0.3s,baz=9.3,slow=5.9,SNR=5.5						
BORG				Sn	**Sn**	**22 11 11.7**	**+4.6**
	comp=N,1.1nm,0.3s,baz=14,slow=23,SNR=6.2						
BORG				LR	LR	22 12 06.4	
	comp=N,404nm,19.3s,baz=45,slow=33						
BORG	**Borgarnes**	**7.87**	**221**	*e*Pn	Pn	22 09 41.8	+3.2
BORG				*e*Sn	**Sn**	**22 11 10.3**	**+3.3**
SUMG	**Summit**	**9.12**	**292**	*e*P	**Pn**	**22 09 56.8**	**+0.8**
SUMG				*e*		22 11 34.3	
SUMG	**Summit**	**9.12**	**292**	*e*P	**Pn**	**22 09 56.8**	**+0.8**
SUMG				*i* S	**Sn**	**22 11 36.4**	**-1.8**
SUMG	**Summit**	**9.12**	**292**	*e*Pn	**Pn**	**22 09 56.8**	**+0.8**
SUMG				*e*Sn	**Sn**	**22 11 34.2**	**-4.0**
SUMG	**Summit**	**9.12**	**292**	*i* P	**Pn**	**22 09 57.7**	**+1.7**
SUMG				*i* S	**Sn**	**22 11 36.4**	**-1.8**
KBS	**Kingsbay**	**9.42**	**25**	*e*P	**Pn**	**22 09 56.8**	**-3.0**
KBS				*e*		22 11 36.3	
KBS	**Kingsbay**	**9.42**	**25**	*e*Pn	**Pn**	**22 09 56.8**	**-3.0**
KBS				*e*Sn	Sn	22 11 36.3	-8.7
SPA0	**Spitsbergen Ar**	**9.64**	**32**	*e*Pn	**Pn**	**22 10 01.6**	**-1.3**
SPA0	**Spitsbergen Ar**	**9.64**	**32**	*e*Pn	**Pn**	**22 10 01.6**	**-1.3**
SPITS	**Spitsbergen Ar**	**9.64**	**32**	Pn	**Pn**	**22 10 01.6**	**-1.3**
	baz=213,slow=17,SNR=693						
ARA0	**ARCESS Array S**	**11.73**	**81**	*e*Pn	**Pn**	**22 10 28.8**	**-2.7**
ARA0	**ARCESS Array S**	**11.73**	**81**	*e*Pn	**Pn**	**22 10 28.8**	**-2.7**
ARCES	**ARCESS Array B**	**11.73**	**81**	Pn	**Pn**	**22 10 28.8**	**-2.7**
	comp=N,0.8nm,0.3s,baz=288,slow=12,SNR=26						
ARCES				LR	LR	22 14 22.4	
	comp=N,193nm,20.9s,baz=275,slow=34						
KEV	**Kevo**	**12.12**	**79**	*e*P	**Pn**	**22 10 34.5**	**-2.2**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KEV	**Kevo**	**12.12**	**79**	*e*p	**Pn**	**22 10 34.5**	**-2.2**
	comp=Z,1.7nm,0.3s						
KEV	**Kevo**	**12.12**	**79**	*e*P	**Pn**	**22 10 34.5**	**-2.2**
	comp=Z,2.0nm,0.3s						
KEV	**Kevo**	**12.12**	**79**	*e*Pn	**Pn**	**22 10 35.3**	**-1.4**
KEV	**Kevo**	**12.12**	**79**	*e*Pn	**Pn**	**22 10 35.3**	**-1.4**
NB200	**NORSAR Array S**	**13.06**	**131**	*e*Pn	**Pn**	**22 10 47.3**	**-2.3**
NB200	**NORSAR Array S**	**13.06**	**131**	*e*Pn	**Pn**	**22 10 47.3**	**-2.3**
NOA	**NORSAR Array B**	**13.06**	**131**	Pn	**Pn**	**22 10 47.3**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=321,slow=12,SNR=5.3						
NOA				LR	LR	22 15 23.5	
	comp=Z,143nm,19.9s,baz=325,slow=36						
KONO	**Kongsberg**	**13.91**	**137**	*e*P	**Pn**	**22 11 00.3**	**-0.9**
KONO	**Kongsberg**	**13.91**	**137**	*e*P	**Pn**	**22 11 00.3**	**-0.9**
KONO	**Kongsberg**	**13.91**	**137**	*e*Pn	**Pn**	**22 11 00.3**	**-0.9**
HFS	**Hagfors**	**14.46**	**128**	Pn	**Pn**	**22 11 06.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=342,slow=14,SNR=8.2						
HFS				LR	LR	22 16 07.0	
	comp=Z,259nm,20.7s,baz=327,slow=35						
SFJD	**Kangerlussuaq**	**15.06**	**274**	*i* P	**Pn**	**22 11 16.2**	**-0.6**
SFJD	**Kangerlussuaq**	**15.06**	**274**	Pn	**Pn**	**22 11 15.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=28,slow=12,SNR=4.5						
SFJD	**Kangerlussuaq**	**15.06**	**274**	*e*Pn	**Pn**	**22 11 16.4**	**-0.4**
SFJD	**Kangerlussuaq**	**15.06**	**274**	*e*Pn	**Pn**	**22 11 16.4**	**-0.4**
SFJD	**Kangerlussuaq**	**15.06**	**274**	*i* P	**Pn**	**22 11 16.2**	**-0.6**
APA	**Apatity**	**15.22**	**83**	‖*i* P	**P**	**22 11 24.0**	**+0.2**
APA	**Apatity**	**15.22**	**83**	*i* P	**P**	**22 11 24.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**16.15**	**167**	Pn	**Pn**	**22 11 30.2**	**-0.7**
	baz=356,slow=13,SNR=14						
ESK	**Eskdalemuir**	**16.16**	**167**	*e*P	**P**	**22 11 33.1**	**-1.2**
ESK	**Eskdalemuir**	**16.16**	**167**	*e*P	**P**	**22 11 33.1**	**-1.2**
ESK	**Eskdalemuir**	**16.16**	**167**	*e*Pn	**P**	**22 11 33.1**	**-1.2**
KAF	**Kangasniemi**	**16.51**	**105**	*e*P	**Pn**	**22 11 33.8**	**-1.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	**16.51**	**105**	*e*p	**Pn**	**22 11 33.8**	**-1.7**
	comp=Z,1.2nm,0.3s						
FIA0	**FINESS Array S**	**16.95**	**107**	*e*P	**Pn**	**22 11 39.2**	**-1.9**
FIA0	**FINESS Array S**	**16.95**	**107**	*e*Pn	**Pn**	**22 11 39.2**	**-1.9**
FIA0	**FINESS Array S**	**16.95**	**107**	*e*Pn	**Pn**	**22 11 39.2**	**-1.9**
FINES	**FINESS Array B**	**16.95**	**107**	Pn	**Pn**	**22 11 39.2**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=312,slow=12,SNR=27						
FINES				LR	LR	22 17 26.8	
	comp=Z,136nm,18.2s,baz=317,slow=35						
JOF	**Joensuu**	**17.51**	**98**	*e*P	**Pn**	**22 11 45.1**	**-3.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**17.51**	**98**	*e*p	**Pn**	**22 11 45.1**	**-3.0**
	comp=Z,0.7nm,0.3s						
WTSB	**Winterswijk**	**20.62**	**151**	*e*P	**P**	**22 12 24.2**	**+1.0**
	comp=Z,58nm,1.3s						
UCC	**Uccle**	**21.41**	**156**	P	**P**	**22 12 33.3**	**+1.7**
GKP	**Gorka Klasztor**	**21.49**	**133**	*e*P	**P**	**22 12 33.5**	**+1.0**
GKP	**Gorka Klasztor**	**21.49**	**133**	*e*P	**P**	**22 12 33.5**	**+1.0**
GKP	**Gorka Klasztor**	**21.49**	**133**	*e*P	**P**	**22 12 33.5**	**+1.0**
BEBN	**Eben Emael**	**21.59**	**153**	P	**P**	**22 12 34.9**	**+1.2**
	comp=Z,18nm,1.2s						
HGN	**Heimansgroeve**	**21.66**	**153**	*e*P	**P**	**22 12 35.5**	**+1.1**
	comp=Z,67nm,1.1s						
HGN				*e*L	L	22 20 05.1	
	comp=Z,139nm,22.0s						
HGN	**Heimansgroeve**	**21.66**	**153**	*e*P	**P**	**22 12 35.5**	**+1.1**
	comp=Z,67nm,1.1s						
SNF	**Seneffe**	**21.68**	**156**	P	**P**	**22 12 38.9**	**+4.3**
ISAL	**Salakas**	**21.79**	**117**	*e*P	**P**	**22 12 35.2**	**-0.5**
ISAL				AMB	AMB	22 12 42.7	
	comp=Z,16nm,1.8s						
ISAL	**Salakas**	**21.79**	**117**	*e*P	**P**	**22 12 35.2**	**-0.5**
	comp=Z,16nm,1.8s,SNR=35						
MEM	**Membach**	**21.82**	**153**	P	**P**	**22 12 37.2**	**+1.0**
	comp=Z,34nm,1.2s						
BCLA	**Clavier**	**21.91**	**154**	P	**P**	**22 12 38.6**	**+1.5**
IIGN	**Ignalina**	**22.01**	**118**	*e*P	**P**	**22 12 37.6**	**-0.5**
IIGN				AMB	AMB	22 12 43.6	
	comp=Z,8.2nm,1.3s						
IIGN	**Ignalina**	**22.01**	**118**	*e*P	**P**	**22 12 37.6**	**-0.5**
	comp=Z,8.2nm,1.3s,SNR=34						
BAIF	**Baives**	**22.11**	**156**	⇑*i* P	**P**	**22 12 39.6**	**+0.4**
	comp=Z,52nm,0.9s						
BAIF	**Baives**	**22.11**	**156**	*e*P	**P**	**22 12 39.6**	**+0.4**
BAIF	**Baives**	**22.11**	**156**	⇑*i* P	**P**	**22 12 39.6**	**+0.4**
	comp=Z,26nm,0.9s						
BAIF	**Baives**	**22.11**	**156**	*e*P	**P**	**22 12 39.6**	**+0.4**
DOU	**Dourbes**	**22.12**	**156**	P	**P**	**22 12 40.2**	**+0.8**
GIVF	**Givet**	**22.15**	**155**	*e*P	**P**	**22 12 39.9**	**+0.2**
GIVF	**Givet**	**22.15**	**155**	*e*P	**P**	**22 12 39.9**	**+0.2**
GIVF	**Givet**	**22.15**	**155**	*e*P	**P**	**22 12 39.9**	**+0.2**
GIVF	**Givet**	**22.15**	**155**	*e*P	**P**	**22 12 39.9**	**+0.2**
IDID	**Didziasalis**	**22.19**	**117**	*e*P	**P**	**22 12 39.4**	**-0.6**
IDID				AMB	AMB	22 12 45.5	
	comp=Z,5.3nm,0.9s						
IDID	**Didziasalis**	**22.19**	**117**	*e*P	**P**	**22 12 39.4**	**-0.6**
	comp=Z,5.3nm,0.9s,SNR=34						
SUW	**Suwalki**	**22.33**	**123**	*e*P	**P**	**22 12 42.5**	**+0.9**
SUW	**Suwalki**	**22.33**	**123**	*e*P	**P**	**22 12 42.5**	**+0.9**
SUW	**Suwalki**	**22.33**	**123**	*e*P	**P**	**22 12 42.5**	**+0.9**
CLL	**Collm**	**22.38**	**141**	*i* P	**P**	**22 12 41.9**	**-0.3**
CLL				*i*		22 12 46.9	
CLL				*e*S	**S**	**22 16 48.0**	**+0.9**
CLL				pmax	pmax		
	comp=Z,23nm,1.3s						
CLL	**Collm**	**22.38**	**141**	*i* P	**P**	**22 12 41.9**	**-0.3**
	comp=Z,23nm,1.3s						
CLL				*i* sP	**sP**	**22 12 46.9**	**-2.4**
CLL				*i*		22 12 57.0	
CLL				*e*S	**S**	**22 16 48.0**	**+0.9**
	comp=N,100nm,22.2s						
CLL				*e*S	**S**	**22 16 48.0**	**+0.9**
	comp=E,200nm,27.9s						
CLL	**Collm**	**22.38**	**141**	*i* P	**P**	**22 12 41.9**	**-0.3**
	comp=E,23nm,1.3s						
WLF	**Walferdange**	**22.77**	**153**	P	**P**	**22 12 48.2**	**+1.9**
	comp=Z,14nm,1.8s						
FRB	**Frobisher Bay**	**22.91**	**281**	LR	LR	22 20 47.1	
	comp=Z,224nm,20.5s,baz=35,slow=34						
BRG	**Berggiesshubel**	**22.99**	**140**	*e*P	**P**	**22 12 48.4**	**-0.1**
	comp=Z,15nm,1.5s						
BRG	**Berggiesshubel**	**22.99**	**140**	*e*P	**P**	**22 12 48.4**	**-0.1**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.5s						
PRGR	**Permogore**	**23.07**	**86**	*e*P	**P**	**22 12 46.0**	**-3.3**
PRGR				pmax	pmax		
	comp=Z,29nm,1.5s						
LDF	**La Druitiere**	**23.08**	**164**	*e*P	**P**	**22 12 49.2**	**-0.3**
	comp=Z,164nm,1.5s						
LDF	**La Druitiere**	**23.08**	**164**	*e*P	**P**	**22 12 49.2**	**-0.3**
LDF	**La Druitiere**	**23.08**	**164**	*e*P	**P**	**22 12 49.2**	**-0.3**
	comp=Z,82nm,1.5s						
LDF	**La Druitiere**	**23.08**	**164**	*e*P	**P**	**22 12 49.2**	**-0.3**
ROSF	**Rostrenen**	**23.11**	**170**	*e*P	**P**	**22 12 49.9**	**+0.1**
ROSF	**Rostrenen**	**23.11**	**170**	*e*P	**P**	**22 12 49.9**	**+0.1**
ROSF	**Rostrenen**	**23.11**	**170**	*e*P	**P**	**22 12 49.9**	**+0.1**
ROSF	**Rostrenen**	**23.11**	**170**	*e*P	**P**	**22 12 49.9**	**+0.1**
RES	**Resolute Bay**	**23.27**	**318**	*e*P	**P**	**22 12 51.0**	**-0.3**
RES				pmax	pmax		
	comp=Z,45nm,0.9s						
RES	**Resolute Bay**	**23.27**	**318**	P	**P**	**22 12 51.4**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=45,slow=12,SNR=8.8						
RES				LR	LR	22 21 57.5	
	comp=Z,276nm,18.7s,baz=7.5,slow=37						
RES	**Resolute Bay**	**23.27**	**318**	*e*P	**P**	**22 12 51.0**	**-0.3**
	comp=Z,45nm,0.9s						
RES	**Resolute Bay**	**23.27**	**318**	*e*P	**P**	**22 12 51.0**	**-0.3**
	comp=Z,45nm,0.9s						
KSP	**Ksiaz**	**23.52**	**137**	*e*P	**P**	**22 12 55.1**	**+1.2**
KSP	**Ksiaz**	**23.52**	**137**	*e*P	**P**	**22 12 55.6**	**+1.7**
GRA1	**Grafenberg Arr**	**23.58**	**145**	*e*P	**P**	**22 12 56.0**	**+1.5**
	comp=Z,11nm,1.4s						
GRF	**Grafenberg Arr**	**23.58**	**145**	*e*P	**P**	**22 12 56.0**	**+1.5**
	comp=Z,11nm,1.4s						
PRA	**Prague**	**23.85**	**140**	*e*P	**P**	**22 12 58.4**	**+1.3**
PRA	**Prague**	**23.85**	**140**	*e*P	**P**	**22 12 58.4**	**+1.3**
PRA	**Prague**	**23.85**	**140**	P	**P**	**22 12 58.4**	**+1.3**
PRU	**Pruhonice**	**23.95**	**140**	*e*P	**P**	**22 12 59.1**	**+1.1**
PRU				*e*		22 13 06.0	
PRU	**Pruhonice**	**23.95**	**140**	*e*P	**P**	**22 12 59.1**	**+1.1**
PRU				*e*x		22 13 06.0	
PRU	**Pruhonice**	**23.95**	**140**	P	**P**	**22 12 59.1**	**+1.1**
DPC	**Dobruska-Polom**	**23.99**	**137**	*e*P	**P**	**22 12 59.5**	**+1.0**
DPC				*e*		22 13 05.4	
DPC	**Dobruska-Polom**	**23.99**	**137**	*e*P	**P**	**22 12 59.5**	**+1.0**
DPC				*e*pP	**pP**	**22 13 05.4**	**+1.7**
DPC	**Dobruska-Polom**	**23.99**	**137**	P	**P**	**22 12 59.5**	**+1.0**
SFTF	**Sexfontaines**	**24.04**	**156**	*e*P	**P**	**22 12 58.7**	**-0.2**
	comp=Z,85nm,1.2s						
SFTF	**Sexfontaines**	**24.04**	**156**	*e*P	**P**	**22 12 58.7**	**-0.2**
	comp=Z,42nm,1.2s						
SFTF	**Sexfontaines**	**24.04**	**156**	*e*P	**P**	**22 12 58.7**	**-0.2**
KRLC	**Kraliky**	**24.35**	**137**	*e*P	**P**	**22 13 02.3**	**+0.5**
KRLC	**Kraliky**	**24.35**	**137**	*e*P	**P**	**22 13 02.3**	**+0.5**
KRLC	**Kraliky**	**24.35**	**137**	P	**P**	**22 13 02.3**	**+0.5**
BFO	**Black Forest**	**24.40**	**151**	*e*P	**P**	**22 13 02.9**	**+0.7**
BFO	**Black Forest**	**24.40**	**151**	*e*P	**P**	**22 13 03.6**	**+1.4**
	comp=Z,56nm,1.9s						
BFO	**Black Forest**	**24.40**	**151**	*e*P	**P**	**22 13 03.6**	**+1.4**
	comp=Z,56nm,1.9s						
HAU	**Haudompre**	**24.41**	**154**	*e*P	**P**	**22 13 02.1**	**-0.3**
	comp=Z,26nm,1.2s						
HAU				*e*R			
	comp=Z,165nm,18.8s						
HAU	**Haudompre**	**24.41**	**154**	*e*P	**P**	**22 13 02.1**	**-0.3**
HAU	**Haudompre**	**24.41**	**154**	*e*P	**P**	**22 13 02.1**	**-0.3**
	comp=Z,13nm,1.2s						
HAU	**Haudompre**	**24.41**	**154**	*e*P	**P**	**22 13 02.1**	**-0.3**
KHC	**Kasperske Hory**	**24.57**	**142**	*e*P	**P**	**22 13 04.2**	**+0.4**
KHC				*e*		22 13 09.1	
KHC	**Kasperske Hory**	**24.57**	**142**	*e*P	**P**	**22 13 04.2**	**+0.4**
KHC				*e*pP	**pP**	**22 13 09.1**	**+0.1**
KHC	**Kasperske Hory**	**24.57**	**142**	P	**P**	**22 13 04.2**	**+0.4**
HINF	**Hinteralfeld**	**24.67**	**153**	*e*P	**P**	**22 13 04.3**	**-0.4**
	comp=Z,22nm,1.3s						
HINF	**Hinteralfeld**	**24.67**	**153**	*e*P	**P**	**22 13 04.3**	**-0.4**
HINF	**Hinteralfeld**	**24.67**	**153**	*e*P	**P**	**22 13 04.3**	**-0.4**
	comp=Z,11nm,1.3s						
HINF	**Hinteralfeld**	**24.67**	**153**	*e*P	**P**	**22 13 04.3**	**-0.4**
MORC	**Moravsky Berou**	**24.80**	**136**	‖*i* P	**P**	**22 13 07.9**	**+2.0**
MORC	**Moravsky Berou**	**24.80**	**136**	‖*i* P	**P**	**22 13 07.9**	**+2.0**
MORC	**Moravsky Berou**	**24.80**	**136**	*e*P	**P**	**22 13 07.0**	**+1.1**
MORC	**Moravsky Berou**	**24.80**	**136**	*e*P	**P**	**22 13 07.0**	**+1.1**
TREC	**Trest**	**24.81**	**139**	*e*P	**P**	**22 13 08.0**	**+2.1**
TREC	**

LPG La Plagne 26.93 154 *e*P **P** **22 13 25.9 +0.5**
comp=Z,32nm,1.3s
LPG La Plagne 26.93 154 *e*P **P** **22 13 25.9 +0.5**
LPG La Plagne 26.93 154 *e*P **P** **22 13 25.9 +0.5**
comp=Z,16nm,1.3s
LPG La Plagne 26.93 154 *e*P **P** **22 13 25.9 +0.5**
AKASG Malin Array Be 26.96 119 P **P** **22 13 24.9 -0.4**
comp=Z,0.4nm,0.3s,baz=334,slow=9.6,SNR=4.4
AKASG LR LR 22 23 25.2
comp=Z,152nm,20.2s,baz=340,slow=35
AKBB Malin Array Si 26.96 119 *e*P **P** **22 13 24.9 -0.4**
AKBB Malin Array Si 26.96 119 *e*P **P** **22 13 24.9 -0.4**
AKBB Malin Array Si 26.96 119 *e*P **P** **22 13 24.9 -0.4**
KIEV Kiev 26.97 119 *e*P **P** **22 13 26.2 +0.8**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 26.97 119 *e*P **P** **22 13 26.2 +0.8**
comp=Z,9.3nm,1.1s
KIEV Kiev 26.97 119 *e*P **P** **22 13 26.2 +0.8**
comp=Z,9.3nm,1.1s
UZH Uzhgorod 27.00 130 *e*P **P** **22 13 25.3 -0.4**
UZH *i* 22 13 30.3
UZH *e*S **S** **22 17 58.2 -3.9**
UZH *e*SS **SnSn** **22 19 16.5 +8.6**
VIVF Saint-Julien-l 27.28 158 *e*P **P** **22 13 29.2 +0.9**
comp=Z,31nm,1.3s
VIVF Saint-Julien-l 27.28 158 *e*P **P** **22 13 29.2 +0.9**
VIVF Saint-Julien-l 27.28 158 *e*P **P** **22 13 29.2 +0.9**
comp=Z,15nm,1.3s
VIVF Saint-Julien-l 27.28 158 *e*P **P** **22 13 29.2 +0.9**
ORIF Oris-en-Rattie 27.38 156 *e*P **P** **22 13 30.3 +1.1**
comp=Z,27nm,1.1s
ORIF *e*R
comp=Z,151nm,18.8s
ORIF Oris-en-Rattie 27.38 156 *e*P **P** **22 13 30.3 +1.1**
ORIF Oris-en-Rattie 27.38 156 *e*P **P** **22 13 30.3 +1.1**
comp=Z,14nm,1.1s
ORIF Oris-en-Rattie 27.38 156 *e*P **P** **22 13 30.3 +1.1**
MBDF Montbardon 27.68 155 *e*P **P** **22 13 32.1 +0.1**
comp=Z,12nm,0.8s
MBDF Montbardon 27.68 155 *e*P **P** **22 13 32.1 +0.1**
MBDF Montbardon 27.68 155 *e*P **P** **22 13 32.1 +0.1**
comp=Z,6.2nm,0.8s
MBDF Montbardon 27.68 155 *e*P **P** **22 13 32.1 +0.1**
LASF Ste Croix 27.96 159 *e*P **P** **22 13 35.1 +0.8**
comp=Z,57nm,1.4s
LASF Ste Croix 27.96 159 *e*P **P** **22 13 35.1 +0.8**
comp=Z,28nm,1.4s
LASF Ste Croix 27.96 159 *e*P **P** **22 13 35.1 +0.8**
PKSM Moragy 28.41 137 ⇑P P 22 13 42.7 +4.4
PKSM Moragy 28.41 137 ⇑*i*P P 22 13 42.7 +4.4
BURAR Bucovina Array 28.69 127 ⇓P **P** **22 13 43.1 +2.2**
BURAR Bucovina Array 28.69 127 ⇓*i*P **P** **22 13 43.1 +2.2**
DRGR 28.82 131 ⇓P P 22 13 49.3 +7.3
DRGR 28.82 131 ⇓*i*P P 22 13 49.3 +7.3
SCHQ Schefferville 29.26 267 P **P** **22 13 47.1 +1.3**
comp=Z,1.0nm,0.7s,baz=313,slow=3.8,SNR=4.2
SCHQ LR LR 22 24 09.2
comp=Z,172nm,19.8s,baz=60,slow=34
SCHQ Schefferville 29.26 267 *e*P **P** **22 13 47.5 +1.7**
comp=Z,56nm,2.3s
SCHQ Schefferville 29.26 267 *e*P **P** **22 13 47.5 +1.7**
comp=Z,56nm,2.3s
BZS Buzias 29.66 133 ⇓P **P** **22 13 50.8 +1.4**
BZS Buzias 29.66 133 ⇓*i*P **P** **22 13 50.8 +1.4**
BZS Buzias 29.66 133 ⇓*i*P **P** **22 13 50.8 +1.4**
TESR Tescani 30.08 126 ⇓*i*P P 22 13 56.6 +3.5
PLOR Plostina 30.69 126 ⇓P P 22 14 03.9 +5.3
PLOR Plostina 30.69 126 ⇓*i*P P 22 14 03.9 +5.3
VRI Vrincioaia 30.70 126 ⇑P P 22 14 02.0 +3.4
VRI Vrincioaia 30.70 126 ⇑*i*P P 22 14 02.0 +3.4
MLR Muntele Rosu 30.84 128 ⇓P P 22 14 03.7 +3.7
MLR Muntele Rosu 30.84 128 ⇓*i*P P 22 14 03.7 +3.7
MLR Muntele Rosu 30.84 128 LR LR 22 26 54.4
comp=Z,102nm,20.1s,baz=342,slow=37
ARU Arti 31.32 82 P **P** **22 14 03.1 -0.8**
CFR Carcaliu 31.71 125 ⇑P **P** **22 14 06.2 -1.3**
CFR Carcaliu 31.71 125 ⇑*i*P **P** **22 14 06.2 -1.3**
CFR Carcaliu 31.71 125 ⇑*i*P **P** **22 14 06.2 -1.3**
ESDC Sonseca Array 31.71 172 P **P** **22 14 08.6 +1.0**
comp=Z,1.0nm,0.8s,baz=3.3,slow=8.1,SNR=5.8
ESDC LR LR 22 25 54.4
comp=Z,114nm,20.5s,baz=310,slow=34
TLB Topalu 32.23 126 ⇓P **P** **22 14 12.2 +0.1**
TLB Topalu 32.23 126 ⇓*i*P **P** **22 14 12.2 +0.1**
TLB Topalu 32.23 126 ⇓*i*P **P** **22 14 12.2 +0.1**
TIRR Tirgusor 32.45 125 ⇓P **P** **22 14 16.4 +2.4**
TIRR Tirgusor 32.45 125 ⇓*i*P **P** **22 14 16.4 +2.4**
TIRR Tirgusor 32.45 125 ⇓*i*P **P** **22 14 16.4 +2.4**
INK Inuvik 35.86 328 P **P** **22 14 42.3 -1.0**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 35.86 328 P **P** **22 14 42.3 -1.0**
comp=Z,3.7nm,1.0s,baz=29,slow=9.6,SNR=8.6
KEST Kesra 36.88 154 LR LR 22 29 49.5
comp=Z,29nm,20.3s,baz=308,slow=36
KIV Kislovodsk 37.02 109 *e*P **P** **22 14 54.8 +1.2**
KIV *i* 22 15 00.4
KIV *e*S S 22 20 46.8 +8.6
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,80nm,20.0s
KIV Kislovodsk 37.02 109 *e*P **P** **22 14 54.4 +0.8**
comp=Z,5.0nm,0.9s
KIV Kislovodsk 37.02 109 *e*P **P** **22 14 54.4 +0.8**
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 37.04 312 P **P** **22 14 53.4 0.0**
YKA 22 17 13.9
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 37.04 312 P **P** **22 14 53.4 0.0**
comp=Z,3.9nm,0.8s,baz=30,slow=8.8,SNR=31
YKA PcP **PcP** **22 17 13.9 +0.3**
comp=Z,0.3nm,0.7s,baz=25,slow=3.3,SNR=3.6
YKB5 Yellowknife Ar 37.04 312 *e*P **P** **22 14 53.4 0.0**
YKB5 Yellowknife Ar 37.04 312 *e*PcP **PcP** **22 17 13.9 +0.3**
YKB5 Yellowknife Ar 37.04 312 *e*P **P** **22 14 53.4 0.0**
YKB5 *e*PcP **PcP** **22 17 13.9 +0.3**
KBZ Khabaz 37.30 109 P **P** **22 14 56.1 +0.3**
KBZ pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 37.30 109 P **P** **22 14 56.0 +0.3**
comp=Z,0.6nm,0.7s,baz=353,slow=8.7,SNR=3.1
ABKAR Akbulak array 37.84 88 *e*P **P** **22 15 00.0 -0.3**
ABKAR Akbulak array 37.84 88 *e*P **P** **22 14 60.0 -0.3**
BR101 Keskin Array S 38.27 122 *e*P **P** **22 15 04.2 0.0**
BR101 Keskin Array S 38.27 122 *e*P **P** **22 15 04.2 0.0**
BRTR Keskin Array B 38.27 122 P **P** **22 15 04.2 0.0**
comp=Z,0.9nm,0.8s,baz=327,slow=6.3,SNR=6.9
BRTR LR LR 22 31 10.5
comp=Z,51nm,21.4s,baz=328,slow=37
MDT Midelt 38.52 174 P **P** **22 15 08.0 +1.7**
comp=Z,2.6nm,1.0s,baz=329,slow=6.1,SNR=4.0
MDT LR LR 22 29 54.4
comp=Z,96nm,20.9s,baz=356,slow=35
NVS Novosibirsk 40.26 63 *e*P **P** **22 15 20.0 -0.4**
NVS pmax pmax
comp=Z,11nm,1.6s
NVS pmax pmax
comp=N,2.0nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.9s
EGAK Eagle 40.35 330 *e*P **P** **22 15 20.7 -0.4**
comp=E,59nm,2.3s
EGAK Eagle 40.35 330 *e*P **P** **22 15 20.7 -0.4**
comp=E,59nm,2.3s
FFC Flin Flon 40.37 297 *e*P **P** **22 15 22.3 +0.8**
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC Flin Flon 40.37 297 *e*P **P** **22 15 22.2 +0.8**
comp=Z,8.9nm,0.8s
FFC Flin Flon 40.37 297 *e*P **P** **22 15 22.2 +0.8**
comp=Z,8.9nm,0.8s
MALT Malatya 40.93 117 ⇑P P 22 15 29.7 +3.3
MALT Malatya 40.93 117 ⇑*i*P P 22 15 29.6 +3.2
GNI Garni 41.12 109 *e*P **P** **22 15 27.0 -1.0**
GNI pmax pmax
comp=Z,38nm,2.0s
GNI Garni 41.12 109 *e*P **P** **22 15 27.0 -1.0**
comp=Z,38nm,2.0s
GNI Garni 41.12 109 *e*P **P** **22 15 27.0 -1.0**
comp=Z,38nm,2.0s
ILAR Eielson Array 41.23 334 P **P** **22 15 28.0 -0.4**
comp=Z,3.9nm,1.0s,baz=11,slow=7.4,SNR=30
ILAR LR LR 22 33 52.8
comp=Z,57nm,19.6s,baz=141,slow=38
ILB Eielson Array 41.23 334 *e*P **P** **22 15 28.0 -0.4**
ILB Eielson Array 41.23 334 *e*P **P** **22 15 28.0 -0.4**
ZAA1 Zalesovo Array 41.49 63 *e*P **P** **22 15 30.2 -0.4**
ZAA1 Zalesovo Array 41.49 63 *e*P **P** **22 15 30.2 -0.4**
ZALV Zalesovo Beam 41.49 63 P **P** **22 15 30.2 -0.4**
comp=Z,0.5nm,0.6s,baz=324,slow=9.8,SNR=3.8
ZALV LR LR 22 35 18.0
comp=Z,55nm,19.6s,baz=250,slow=40
ULM Lac du Bonnet 42.45 288 P **P** **22 15 38.6 +0.1**
ULM pmax pmax
comp=Z,3.0nm,0.9s
ULM MLR MLR
comp=Z,84nm,20.5s
ULM Lac du Bonnet 42.45 288 P **P** **22 15 38.5 +0.1**
comp=Z,3.5nm,0.9s,baz=17,slow=10,SNR=5.6
ULM LR LR 22 34 08.7
comp=Z,84nm,20.5s,baz=305,slow=37
MCK McKinley 42.50 335 *e*P **P** **22 15 37.6 -1.2**
MCK pmax pmax
comp=Z,27nm,1.1s
MCK McKinley 42.50 335 *e*P **P** **22 15 37.6 -1.2**
comp=Z,27nm,1.1s
MCK McKinley 42.50 335 *e*P **P** **22 15 37.6 -1.2**
comp=Z,27nm,1.1s
RC01 Rabbit Creek A 45.14 334 *e*P **P** **22 16 00.4 +0.4**
comp=Z,22nm,0.9s
RC01 Rabbit Creek A 45.14 334 *e*P **P** **22 16 00.4 +0.4**
comp=Z,22nm,0.9s
BOD Bodaibo 45.28 39 *e*P **P** **22 16 01.3 +0.2**
KKAR Karatay Array 46.70 82 *e*P **P** **22 16 12.5 0.0**
KKAR Karatay Array 46.70 82 *e*P **P** **22 16 12.5 0.0**
KKAR Karatay Array 46.70 82 *e*P **P** **22 16 12.5 0.0**
MK32 Makanchi Array 47.08 70 *e*P **P** **22 16 14.5 -1.0**
MK32 Makanchi Array 47.08 70 *e*P **P** **22 16 14.5 -1.0**
MKAR Makanchi Array 47.08 70 *e*P **P** **22 16 15.4 -0.1**
MKAR Makanchi Array 47.08 70 P **P** **22 16 14.5 -1.0**
comp=Z,2.3nm,0.9s,baz=340,slow=5.3,SNR=17
MKAR LR LR 22 38 14.8
comp=Z,59nm,19.4s,baz=330,slow=39
MKAR Makanchi Array 47.08 70 *e*P **P** **22 16 14.7 -0.8**
MKAR Makanchi Array 47.08 70 *e*P **P** **22 16 14.7 -0.8**
GEYT Alibeck 47.37 97 P **P** **22 16 17.2 -0.6**
comp=Z,3.0nm,0.8s,baz=321,slow=12,SNR=11
GEYT LR LR 22 35 20.4
comp=Z,96nm,18.3s,baz=120,slow=35
MOY Mondy 47.94 52 *e*P **P** **22 16 24.0 +1.8**
EKS2 Erkin-Say 48.14 80 *e*P **P** **22 16 23.0 -0.9**
EKS2 pmax pmax
comp=Z,23nm,2.4s
EKS2 Erkin-Say 48.14 80 *e*P **P** **22 16 23.0 -0.9**
comp=Z,23nm,2.4s
EKS2 Erkin-Say 48.14 80 *e*P **P** **22 16 23.0 -0.9**
comp=Z,23nm,2.4s
AAK Ala-Archa 48.39 79 ⇑*i*P **P** **22 16 26.3 +0.4**
AAK pmax pmax
comp=Z,6.0nm,1.1s
EGMT Eagleton 48.56 298 *e*P **P** **22 16 27.5 +0.5**
comp=Z,36nm,1.5s
EGMT Eagleton 48.56 298 *e*P **P** **22 16 27.5 +0.5**
comp=Z,36nm,1.5s
TLY Talaya 48.60 50 *e*P P 22 16 31.6 +4.4
TLY *e* 22 23 28.0
TLY pmax pmax
comp=Z,3.0nm,1.3s
BBB Bella Bella 49.51 315 LR LR 22 38 31.5
comp=Z,152nm,19.6s,baz=321,slow=37
MSO Missoula 50.83 301 *e*P **P** **22 16 44.3 0.0**
comp=Z,101nm,2.6s
MSO Missoula 50.83 301 *e*P **P** **22 16 44.3 0.0**
comp=Z,101nm,2.6s
WMQ Urumqi 51.40 67 *e*P **P** **22 16 51.4 +2.8**
WMQ pP **pP** **22 16 56.0 +1.9**
WMQ sP **sP** **22 16 58.5 +2.3**
WMQ *e*S **S** **22 24 09.0 +1.9**
WMQ ScS **ScS** **22 26 39.0 +1.4**
WMQ PMZ
comp=Z,6.0nm,0.5s
WMQ PMZ
comp=Z,70nm,4.2s
WMQ LN
comp=Z,280nm,23.0s
WMQ LE
comp=Z,320nm,22.0s
WMQ LZ
comp=Z,240nm,24.0s
KSH Kashi 51.69 79 *e*P P 22 16 54.5 +3.6
KSH S **S** **22 24 15.2 +4.0**
KSH PMZ
comp=Z,96nm,5.5s
KSH LN
comp=Z,130nm,4.5s
KSH LE
comp=Z,130nm,4.7s
KSH LZ
comp=Z,140nm,6.3s
K22A Casper 52.51 293 *e*P **P** **22 16 56.8 -0.2**
comp=Z,6.4nm,0.8s
K22A Casper 52.51 293 *e*P **P** **22 16 56.8 -0.2**
comp=Z,6.5nm,0.8s
SONA0 Songino Array 52.84 50 *e*P **P** **22 16 58.4 -0.9**
SONA0 Songino Array 52.84 50 *e*P **P** **22 16 58.4 -0.9**
SONM Songino Array 52.84 50 P **P** **22 16 58.4 -0.9**
comp=Z,0.2nm,0.3s,baz=30,slow=3.5,SNR=1.9
SONM LR LR 22 42 16.6
comp=Z,58nm,18.4s,baz=2.0,slow=39
BW06 Boulder Array 53.30 295 *e*P **P** **22 17 02.8 -0.1**
comp=Z,5.0nm,1.1s
BW06 Boulder Array 53.30 295 *e*P **P** **22 17 02.8 -0.1**
comp=Z,5.0nm,1.1s
PD31 Pinedale Array 53.30 295 *e*P **P** **22 17 03.3 +0.4**
PD31 Pinedale Array 53.30 295 *e*P **P** **22 17 03.3 +0.4**
PDAR Pinedale Array 53.30 295 P **P** **22 17 03.3 +0.4**
comp=Z,2.3nm,0.9s,baz=45,slow=5.7,SNR=15
N23A Red Feather La 53.94 291 *e*P **P** **22 17 08.3 +0.7**
comp=Z,11nm,1.2s
N23A Red Feather La 53.94 291 *e*P **P** **22 17 08.3 +0.7**
comp=Z,11nm,1.2s
HWUT Hardware Ranch 54.95 296 *e*P **P** **22 17 15.4 +0.5**
comp=Z,32nm,2.2s
HWUT Hardware Ranch 54.95 296 *e*P **P** **22 17 15.3 +0.5**
comp=Z,32nm,2.2s
O20A White River Ci 55.33 293 *e*P **P** **22 17 17.6 -0.1**
comp=Z,11nm,1.0s
O20A White River Ci 55.33 293 *e*P **P** **22 17 17.6 -0.1**
comp=Z,11nm,1.0s
PETK Petropavlovsk- 55.66 9 LR LR 22 38 46.6
comp=Z,24nm,21.2s,baz=30,slow=34
DUG Dugway, Tooele 56.61 297 *e*P **P** **22 17 27.7 +0.9**
DUG pmax pmax
comp=Z,88nm,2.8s
DUG Dugway, Tooele 56.61 297 *e*P **P** **22 17 27.7 +0.9**
comp=Z,88nm,2.8s
DUG Dugway, Tooele 56.61 297 *e*P **P** **22 17 27.7 +0.9**
comp=Z,88nm,2.8s
BBTS Babate 56.68 188 LR LR 22 40 17.1
comp=Z,40nm,19.1s,baz=86,slow=34
SRU San Rafael Swe 56.95 294 *e*P **P** **22 17 30.1 +0.9**
SRU pmax pmax
comp=Z,5.0nm,1.1s
SRU San Rafael Swe 56.95 294 *e*P **P** **22 17 30.1 +0.9**
comp=Z,4.9nm,1.1s
SRU San Rafael Swe 56.95 294 *e*P **P** **22 17 30.1 +0.9**
comp=Z,4.9nm,1.1s
TMUT Trail Mountain 56.98 295 *e*P **P** **22 17 29.3 -0.3**
comp=Z,82nm,2.7s
TMUT Trail Mountain 56.98 295 *e*P **P** **22 17 29.3 -0.3**
comp=Z,82nm,2.7s
PV01 Paradox Valley 57.27 292 *e*P **P** **22 17 32.5 +0.9**
PV01 Paradox Valley 57.27 292 *e*P **P** **22 17 32.5 +0.9**
MVCO Mesa Verde 58.10 292 *e*P **P** **22 17 37.9 +0.5**
comp=Z,16nm,1.4s
MVCO Mesa Verde 58.10 292 *e*P **P** **22 17 37.9 +0.5**
comp=Z,16nm,1.4s
TOA0 Torodi Ar. Sit 58.41 167 *e*P **P** **22 17 40.4 +1.0**
TOA0 Torodi Ar. Sit 58.41 167 *e*P **P** **22 17 40.4 +1.0**
TORD Torodi Ar. Bea 58.41 167 P **P** **22 17 40.4 +1.0**
comp=Z,4.4nm,0.8s,baz=339,slow=7.8,SNR=26
TORD LR LR 22 42 31.6
comp=Z,42nm,20.0s,baz=225,slow=36
GTA Gaotai 58.96 59 *e*P P 22 17 51.2 +8.0
GTA pP pP 22 17 55.9 +7.1
GTA sP sP 22 17 58.2 +7.3
GTA PMZ
comp=Z,5.0nm,1.3s

ARUT Antelope Range 59.03 296 *e*P **P** **22 17 44.3 +0.5**
ARUT Antelope Range 59.03 296 *e*P **P** **22 17 44.2 +0.5**
ARUT Antelope Range 59.03 296 *e*P **P** **22 17 44.2 +0.5**
R11A Troy Canyon, C 59.12 298 *e*P **P** **22 17 45.2 +0.7**
comp=Z,5.4nm,1.0s
R11A Troy Canyon, C 59.12 298 *e*P **P** **22 17 45.2 +0.7**
comp=Z,5.4nm,1.0s
NV01 Mina Array Sit 59.81 301 *e*P **P** **22 17 48.1 -1.2**
NV01 Mina Array Sit 59.81 301 *e*P **P** **22 17 48.1 -1.2**
NVAR Mina Array Bea 59.81 301 P **P** **22 17 48.1 -1.1**
comp=Z,0.8nm,0.4s,baz=12,slow=5.0,SNR=5.3
HHC Hu-ho-hao-te 60.66 48 *e*P **P** **22 17 54.1 -0.8**
HHC pP **pP** **22 17 58.4 -2.1**
HHC PP **PP** **22 20 10.8 +2.7**
HHC S **S** **22 26 08.6 -1.7**
HHC PMZ
comp=Z,27nm,1.1s
HHC PMZ
comp=Z,260nm,7.3s
HHC LN
comp=Z,320nm,17.0s
HHC LE
comp=Z,350nm,17.0s
HHC LZ
comp=Z,180nm,16.5s
CN2 Changchun 60.86 36 *e*P P 22 18 00.6 +4.6
DAC Darwin (Calif) 61.63 299 *e*P **P** **22 18 00.4 -1.2**
DAC pmax pmax
comp=Z,40nm,2.3s
DAC Darwin (Calif) 61.63 299 *e*P **P** **22 18 00.4 -1.2**
comp=Z,40nm,2.3s
DAC Darwin (Calif) 61.63 299 *e*P **P** **22 18 00.4 -1.2**
comp=Z,40nm,2.3s
LZH Lanzhou 63.18 57 *e*P **P** **22 18 13.3 +1.4**
LZH pP **pP** **22 18 18.2 +0.7**
LZH sP **sP** **22 18 20.5 +0.9**
LZH PMZ
comp=Z,14nm,1.0s
ASAJ Asahikawa 63.25 22 LR LR 22 46 34.6
comp=Z,41nm,18.3s,slow=37
LTX Lajitas 63.91 284 *e*P **P** **22 18 17.2 +0.4**
LTX Lajitas 63.91 284 *e*P **P** **22 18 17.2 +0.4**
LTX Lajitas 63.91 284 *e*P **P** **22 18 17.2 +0.4**
TXAR Lajitas Array 63.91 284 P **P** **22 18 17.2 +0.4**
comp=Z,1.4nm,0.8s,baz=60,slow=7.4,SNR=7.3
TXAR LR LR 22 46 53.0
comp=Z,99nm,21.2s,baz=0.0,slow=37
DBIC Dimbokro 64.51 175 LR LR 22 46 31.7
comp=Z,30nm,20.3s,baz=347,slow=36
LSA Lhasa 65.49 70 *e*P **P** **22 18 26.8 -0.7**
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 65.49 70 *e*P **P** **22 18 26.8 -0.7**
comp=Z,4.6nm,0.9s
LSA Lhasa 65.49 70 *e*P **P** **22 18 26.8 -0.7**
comp=Z,4.6nm,0.9s
CD2 Chengdu 68.03 58 *e*P **P** **22 18 44.3 +1.1**
CD2 pP **pP** **22 18 49.0 +0.2**
CD2 sP **sP** **22 18 51.3 +0.4**
CD2 PP **PP** **22 21 15.5 +2.7**
CD2 PcS 22 23 14.6
CD2 S **S** **22 27 40.1 -1.4**
CD2 SKS **SKSac** **22 28 39.5 -1.0**
CD2 SS **SS** **22 32 02.6 -0.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
NJ2 Nanjing 70.78 45 *e*P **P** **22 19 02.5 +2.4**
NJ2 PMZ
comp=Z,30nm,1.2s
KMI Kunming 73.21 61 P **P** **22 19 18.0 +3.0**
KMI PMZ
comp=Z,7.0nm,1.0s
CM31 Chiang Mai Arr 78.40 67 *e*P **P** **22 19 44.5 0.0**
CM31 Chiang Mai Arr 78.40 67 *e*P **P** **22 19 44.5 0.0**
CMAR Chiang Mai Arr 78.40 67 P **P** **22 19 44.6 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 78.40 67 P **P** **22 19 44.5 +0.1**
comp=Z,0.5nm,0.7s,baz=312,slow=5.6,SNR=3.9
MAW Mawson 146.70 138 PKP2 **PKPbc** **22 27 23.3 -0.6**
MAW pmax pmax
comp=Z,6.0nm,0.9s
MAW Mawson 146.70 138 PKPbc **PKPbc** **22 27 23.3 -0.6**
comp=Z,5.8nm,0.9s,baz=294,slow=9.6,SNR=3.6

IDC ***02*** *22:11:39.2±1.7,39.°15N×141.°32E,h0km,mb3.5/4, mb1 3.6/7,mb1mx3.2/47,mbtmp3.4/7,ML2.7/3,Error ellipse: s-maj=45.7km s-min=22.7km az=68.0*
ISCJB ***02*** *22:11:41.6±0.5,39.°10N±0.°03×140.°94E±0.°05,h20km±5km, mb3.5/4,Error ellipse: s-maj=6.5km s-min=5.4km az=166.0*
JMA ***02*** *22:11:42.1,39.°09N×140.°91E,h5km±1km,M3.2 Broadband fault plane solution: P waves. NP1: ϕs347.00000°,δ66.00000°,λ45.00000°. NP2: ϕs235.00000°,δ50.00000°,λ148.00000°. Principal axes: T Plg48.0000°, Azm209.0000°; N Plg40.0000°, Azm9.0000°; P Plg10.0000°, Azm108.0000°;*
JMA Felt I J1.
ISC 02 22:11:42.1±1.0,**39.°08N**±0.°03×**140.°93E**±0.°04,**h10**km±8km, **n16**,σ0.°**63**/18,**mb3.8**/4,**2C-3D**,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.26**	**120**	P	**Pg**	**22 11 47.4**	**0.0**
JMK				S	**Sg**	**22 11 51.0**	**0.0**
JRG	**Rokugo**	**0.39**	**324**	⇓P	**Pg**	**22 11 49.6**	**-0.2**
JRG				S	**Sg**	**22 11 55.0**	**+0.1**
JYK	**Kaneyama**	**0.47**	**250**	⇓P	**Pg**	**22 11 51.2**	**-0.2**
JYK				S	**Sg**	**22 11 57.2**	**-0.4**
JOM	**Ohasama**	**0.48**	**36**	⇑P	**Pg**	**22 11 51.4**	**-0.1**
JOM				S	**Sg**	**22 11 57.9**	**0.0**
JIO	**Ouri**	**0.71**	**152**	⇓P	**Pg**	**22 11 55.5**	**-0.3**
JIO				S	**Sg**	**22 12 05.0**	**-0.1**
JOU	**Okura**	**0.75**	**196**	⇑P	**Pg**	**22 11 56.4**	**-0.1**
JOU				S	**Sg**	**22 12 06.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.33**	**221**	Pn	**Pn**	**22 12 36.0**	**+1.7**
	0.5nm,0.3s,baz=34,slow=11,SNR=5.6						
USRK	**Ussuriysk Ar.**	**8.42**	**310**	Pn	**Pn**	**22 13 44.0**	**-0.1**
	0.2nm,0.3s,baz=114,slow=14,SNR=3.8						
KSRS	**Korea Array**	**10.36**	**265**	Pn	Pn	22 14 15.1	+4.4
	0.3nm,0.3s,baz=78,slow=14,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**29.56**	**123**	T	T	22 48 20.2	
	baz=317,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**29.57**	**123**	T	T	22 48 20.9	
	baz=317,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**29.58**	**123**	T	T	22 48 21.6	
	baz=317,slow=75,SNR=28						
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**22 19 39.3**	**-0.1**
	0.2nm,0.5s,baz=86,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**59.04**	**187**	P	**P**	**22 21 40.9**	**-1.4**
	0.3nm,0.4s,baz=3.6,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**62.77**	**187**	P	**P**	**22 22 07.6**	**0.0**
	0.6nm,0.9s,baz=352,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**66.83**	**332**	P	**P**	**22 22 33.6**	**-0.1**
	0.3nm,0.4s,baz=101,slow=9.9,SNR=3.9						

ATH ***02*** *22:26:38.8,38.°19N×21.°22E,h17km±1km,MD3.2/23*
ISCJB ***02*** *22:26:39.2±0.3,38.°18N±0.°02×21.°22E±0.°03,h22km±3km, Error ellipse: s-maj=3.7km s-min=3.0km az=143.6*
THE ***02*** *22:26:39.2,38.°19N×21.°24E,h14km±1km,ML2.2/7,Error ellipse: s-maj=1.1km s-min=0.6km az=225.0*
CSEM ***02*** *22:26:39.0±0.2,38.°18N×21.°21E,h20km,ML2.2,Error ellipse: s-maj=5.0km s-min=4.0km az=48.0*
ISC 02 22:26:39.0±0.8,**38.°20N**±0.°02×**21.°23E**±0.°02,**h16**km±6km, **n73**,σ0.°**63**/115,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.23**	**126**	P	**Pg**	**22 26 43.8**	**-0.4**
RLS				S	**Sg**	**22 26 48.0**	**+0.3**
RLS	**Riolos of Patr**	**0.23**	**126**	*e*PB	**Pg**	**22 26 43.8**	**-0.4**
RLS				*e*SB	**Sg**	**22 26 47.7**	**0.0**
RLS	**Riolos of Patr**	**0.23**	**126**	P	**Pg**	**22 26 43.8**	**-0.4**
RLS				*e*Sb	**Sg**	**22 26 47.7**	**0.0**
RLS				S	**Sg**	**22 26 48.0**	**+0.3**
VTN	**Vitineika**	**0.28**	**186**	P	**Pg**	**22 26 45.2**	**+0.3**
VTN				S	**Sb**	**22 26 49.8**	**-0.3**
VTN	**Vitineika**	**0.28**	**186**	P	**Pg**	**22 26 45.2**	**+0.3**

VTN				S	**Sb**	**22 26 49.8**	**-0.3**
KFL	**Anninata**	**0.35**	**256**	P	**Pb**	**22 26 46.6**	**-0.3**
KFL				S	**Sb**	**22 26 52.7**	**+0.4**
KFL	**Anninata**	**0.35**	**256**	P	**Pb**	**22 26 46.6**	**-0.3**
KFL				S	**Sb**	**22 26 52.7**	**+0.4**
PDO	**Prodromos**	**0.41**	**355**	P	**Pg**	**22 26 47.3**	**+0.1**
PDO				S	**Sb**	**22 26 54.2**	**+0.4**
PDO	**Prodromos**	**0.41**	**355**	*e*PB	**Pg**	**22 26 47.3**	**+0.1**
PDO				*e*SB	**Sb**	**22 26 53.5**	**-0.3**
PDO	**Prodromos**	**0.41**	**355**	P	**Pg**	**22 26 47.3**	**+0.1**
PDO				*e*Sb	**Sb**	**22 26 53.5**	**-0.3**
PDO				S	**Sb**	**22 26 54.2**	**+0.4**
UPR	**University Cam**	**0.45**	**78**	P	**Pg**	**22 26 48.4**	**+0.4**
UPR	**University Cam**	**0.45**	**78**	P	**Pg**	**22 26 48.4**	**+0.4**
DRO	**Drossia**	**0.45**	**122**	P	**Pg**	**22 26 47.2**	**-0.8**
DRO				S	**Sg**	**22 26 54.5**	**+0.3**
DRO	**Drossia**	**0.45**	**122**	P	**Sg**	**22 26 47.2**	**-0.8**
DRO				S	**Sg**	**22 26 54.5**	**+0.3**
PVO	**Paravola**	**0.48**	**29**	P	**Pg**	**22 26 48.9**	**+0.3**
PVO				S	**Sb**	**22 26 56.5**	**+0.5**
PVO	**Paravola**	**0.48**	**29**	P	**Pg**	**22 26 48.9**	**+0.3**
PVO				S	**Sb**	**22 26 56.5**	**+0.5**
VLS	**Valsamata**	**0.50**	**268**	P	**Pg**	**22 26 48.4**	**-0.5**
VLS				S	**Sb**	**22 26 56.9**	**+0.3**
VLS	**Valsamata**	**0.50**	**268**	*e*PB	**Pg**	**22 26 48.3**	**-0.6**
VLS				*e*SB	**Sb**	**22 26 56.5**	**-0.1**
VLS	**Valsamata**	**0.50**	**268**	P	**Pg**	**22 26 48.4**	**-0.5**
VLS				*e*Sb	**Sb**	**22 26 56.5**	**-0.1**
VLS				S	**Sb**	**22 26 56.9**	**+0.3**
EFP	**Efpalio**	**0.58**	**66**	P	**Pg**	**22 26 49.8**	**-0.7**
EFP				S	**Sb**	**22 26 59.3**	**+0.4**
EFP	**Efpalio**	**0.58**	**66**	*e*PN	**Pg**	**22 26 49.7**	**-0.7**
EFP				*e*SN	**Sb**	**22 26 59.4**	**+0.5**
EFP	**Efpalio**	**0.58**	**66**	P	**Pg**	**22 26 49.8**	**-0.7**
EFP				S	**Sb**	**22 26 59.3**	**+0.4**
LKD2	**Lefkada island**	**0.74**	**323**	P	**Pb**	**22 26 52.7**	**-0.9**
LKD2				S	**Sn**	**22 27 05.2**	**-0.7**
LKD2	**Lefkada island**	**0.74**	**323**	*e*PN	**Pb**	**22 26 52.9**	**-0.7**
LKD2				*e*SN	**Sb**	**22 27 03.5**	**0.0**
LKD2	**Lefkada island**	**0.74**	**323**	P	**Pb**	**22 26 52.7**	**-0.9**
LKD2				*e*Sn	**Sb**	**22 27 03.5**	**0.0**
LKD2				S	**Sn**	**22 27 05.2**	**-0.7**
KLV	**Kalavryta, Ach**	**0.74**	**101**	P	**Pb**	**22 26 52.6**	**-1.0**
KLV				S	**Sg**	**22 27 04.2**	**+0.9**
KLV	**Kalavryta, Ach**	**0.74**	**101**	*e*PB	**Pb**	**22 26 52.6**	**-1.0**
KLV				*e*SN	**Sg**	**22 27 04.3**	**+0.9**
KLV	**Kalavryta, Ach**	**0.74**	**101**	P	**Pb**	**22 26 52.6**	**-1.0**
KLV				*e*Sn	**Sg**	**22 27 04.3**	**+0.9**
KALE	**Kalithea**	**0.75**	**74**	P	**Pb**	**22 26 52.5**	**-1.1**
KALE	**Kalithea**	**0.75**	**74**	*e*PB	**Pb**	**22 26 52.5**	**-1.1**
KALE	**Kalithea**	**0.75**	**74**	P	**Pb**	**22 26 52.5**	**-1.1**
AMT	**Artemida-Makis**	**0.76**	**150**	P	**Pb**	**22 26 53.1**	**-0.8**
AMT				S	**Sg**	**22 27 04.9**	**+1.0**
AMT	**Artemida-Makis**	**0.76**	**150**	*e*PN	**Pb**	**22 26 53.8**	**-0.1**
AMT				*e*SN	**Sg**	**22 27 04.8**	**+0.9**
AMT	**Artemida-Makis**	**0.76**	**150**	P	**Pb**	**22 26 53.1**	**-0.8**
AMT	**Artemida-Makis**	**0.76**	**150**	*e*Pn	**Pb**	**22 26 53.8**	**-0.1**
AMT				*e*Sn	**Sg**	**22 27 04.8**	**+0.9**
EVR	**Evrytania**	**0.85**	**32**	P	**Pb**	**22 26 54.7**	**-0.8**
EVR				S	**Sn**	**22 27 08.6**	**-0.1**
EVR	**Evrytania**	**0.85**	**32**	*e*PB	**Pb**	**22 26 54.7**	**-0.8**
EVR	**Evrytania**	**0.85**	**32**	P	**Pb**	**22 26 54.7**	**-0.8**
GUR	**Goura**	**0.92**	**106**	P	**Pb**	**22 26 55.4**	**-1.2**
GUR				S	**Sg**	**22 27 09.7**	**+0.8**
GUR	**Goura**	**0.92**	**106**	*e*PN	**Pb**	**22 26 55.3**	**-1.3**
GUR				*e*SN	**Sb**	**22 27 08.7**	**+0.1**
GUR	**Goura**	**0.92**	**106**	P	**Pb**	**22 26 55.4**	**-1.2**
GUR				*e*Sn	**Sb**	**22 27 08.7**	**+0.1**
GUR				S	**Sg**	**22 27 09.7**	**+0.8**
DSL	**Palaion Diasel**	**0.94**	**354**	P	**Pb**	**22 26 56.1**	**-0.9**
DSL				S	**Sg**	**22 27 10.1**	**+0.4**
DSL	**Palaion Diasel**	**0.94**	**354**	*e*PN	**Pb**	**22 26 56.4**	**-0.6**
DSL	**Palaion Diasel**	**0.94**	**354**	P	**Pb**	**22 26 56.1**	**-0.9**
DSL	**Palaion Diasel**	**0.94**	**354**	*e*Pn	**Pb**	**22 26 56.4**	**-0.6**
DSL				S	**Sg**	**22 27 10.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.08**	**41**	P	**Pb**	**22 26 59.2**	**-0.2**
MAKR				S	**Sg**	**22 27 14.8**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.08**	**41**	*e*PN	**Pn**	**22 26 59.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.08**	**41**	P	**Pb**	**22 26 59.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.08**	**41**	*e*Pn	**Pn**	**22 26 59.8**	**+0.2**
ITM	**Ithomi**	**1.16**	**151**	P	**Pb**	**22 27 00.5**	**-0.1**
ITM				S	**Sg**	**22 27 16.9**	**+0.5**
ITM	**Ithomi**	**1.16**	**151**	*e*PN	**Pb**	**22 27 00.9**	**+0.3**
ITM	**Ithomi**	**1.16**	**151**	P	**Pb**	**22 27 00.5**	**-0.1**
ITM	**Ithomi**	**1.16**	**151**	*e*Pn	**Pb**	**22 27 00.9**	**+0.3**
AGG	**Agios Georgios**	**1.20**	**46**	*e*PN	**Pg**	**22 27 02.2**	**+0.1**
AGG	**Agios Georgios**	**1.20**	**46**	*e*Pn	**Pg**	**22 27 02.2**	**+0.1**
AXAR	**Agios Charalam**	**1.26**	**63**	*e*PB	**Pn**	**22 27 01.7**	**-0.3**
AXAR	**Agios Charalam**	**1.26**	**63**	*e*Pb	**Pn**	**22 27 01.7**	**-0.3**
PYL	**PYLOS**	**1.36**	**162**	*e*PN	**Pb**	**22 27 04.4**	**+0.3**
PYL	**PYLOS**	**1.36**	**162**	*e*Pn	**Pb**	**22 27 04.4**	**+0.3**
LTK	**Loutraki**	**1.38**	**97**	*e*PN	**Pg**	**22 27 05.3**	**-0.3**
LTK	**Loutraki**	**1.38**	**97**	*e*Pn	**Pg**	**22 27 05.3**	**-0.3**
LKR	**Lokris**	**1.47**	**71**	*e*PN	**Pb**	**22 27 06.3**	**+0.4**
LKR	**Lokris**	**1.47**	**71**	*e*Pn	**Pb**	**22 27 06.3**	**+0.4**
THL	**Klokotos Trika**	**1.50**	**24**	*e*PN	**Pg**	**22 27 07.9**	**+0.1**
THL	**Klokotos Trika**	**1.50**	**24**	*e*Pn	**Pg**	**22 27 07.9**	**+0.1**
SMIA	**Simia**	**1.70**	**66**	*e*PN	**Pb**	**22 27 09.7**	**-0.2**
SMIA	**Simia**	**1.70**	**66**	*e*Pn	**Pb**	**22 27 09.7**	**-0.2**
NEO	**Neokhori**	**1.92**	**54**	*e*PB	**Pn**	**22 27 12.2**	**+1.2**
NEO	**Neokhori**	**1.92**	**54**	*e*Pb	**Pn**	**22 27 12.2**	**+1.2**
MRKA	**Markates**	**1.92**	**74**	*e*PN	**Pb**	**22 27 13.0**	**-0.7**
MRKA	**Markates**	**1.92**	**74**	*e*Pn	**Pb**	**22 27 13.0**	**-0.7**
PTL	**Penteli**	**2.09**	**93**	*e*PN	**Pb**	**22 27 15.3**	**-1.2**
PTL	**Penteli**	**2.09**	**93**	*e*Pn	**Pb**	**22 27 15.3**	**-1.2**

TIR ***02*** *22:27:27.7±0.9, 42°.01N×20°.26E, h0km±263km*
SKO ***02*** *22:27:30.8, 41°.95N×20°.24E, h8km, M1.4, ML1.8*
BEO ***02*** *22:27:30.6±0.7, 41°.98N×20°.21E, h0km, ML1.8/5*
CSEM 02 22:27:29.9±0.2, 41°.98N×20°.23E, h2km, ML1.8, Error ellipse: s-maj=4.4km s-min=2.9km az=57.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.26**	**284**	*i* PG	Pg	22 27 34.7	-0.3
PUK				*i* SG	Sg	22 27 39.2	+0.7
PUK	**Puka**	**0.26**	**284**	*i* Pg	Pg	22 27 34.7	-0.3
	SNR=92						
PUK				*i* Sg	Sg	22 27 39.2	+0.7
	SNR=92						
PHP	**Peshkopia**	**0.34**	**152**	*i* PG	Pg	22 27 36.3	-0.2
PHP				*i* SG	Sg	22 27 42.4	+1.5
PHP	**Peshkopia**	**0.34**	**152**	*i* Pg	Pg	22 27 36.3	-0.1
	SNR=91						
PHP				*i* Sg	Sg	22 27 42.4	+1.6
	SNR=91						
BCI	**Bajram Curri**	**0.41**	**343**	*i* PG	Pg	22 27 37.7	-0.1
BCI				*i* SG	Sg	22 27 43.6	+0.5
BCI	**Bajram Curri**	**0.41**	**343**	*i* Pg	Pg	22 27 37.7	-0.1
	SNR=91						
BCI				*i* Sg	Sg	22 27 43.6	+0.5
	SNR=91						
PDG	**Podgorica**	**0.85**	**302**	*e*Pg	Pg	22 27 45.4	-0.9
PDG	**Podgorica**	**0.85**	**302**	*e*Pg	Pg	22 27 45.4	-0.9
SKO	**Skopje**	**0.90**	**90**	*i* Pg	Pg	22 27 46.7	-0.5
SKO				*i* Sg	Sg	22 27 59.1	+0.2
SKO				*e*Lg	Lg	22 27 59.2	
	comp=E,15nm,0.3s						
SKO				*e*Lg	Lg	22 28 01.2	
	comp=N,33nm,0.7s						
SKO	**Skopje**	**0.90**	**90**	*i* Pg	Pg	22 27 46.7	-0.5
SKO				*i* Sg	Sg	22 27 59.1	+0.2
SKO				*e*Lg	Lg	22 27 59.2	
	comp=N,15nm,0.3s						
OHR	**Ohrid**	**0.97**	**154**	*i* Pg	Pg	22 27 48.1	-0.5
OHR				*i* Sg	Sb	22 28 02.0	-0.8
OHR				*e*Lg	Lg	22 28 04.5	
	comp=N,16nm,0.4s						
OHR				*e*Lg	Lg	22 28 06.5	
	comp=E,22nm,0.5s						
OHR	**Ohrid**	**0.97**	**154**	*i* Pg	Pg	22 27 48.0	-0.6
OHR				*i* Sg	Sb	22 28 02.0	-0.8
OHR				*e*Lg	Lg	22 28 04.4	
	comp=E,16nm,0.4s						
SJES	**Sjenica**	**1.29**	**352**	*e*Pg	Pg	22 27 54.8	-0.1
SJES				*e*Sg	Sb	22 28 12.3	0.0
SELS	**Selova**	**1.40**	**28**	*e*Pn	Pn	22 27 56.5	0.0
SELS				*e*Sn	Sn	22 28 17.7	+2.0
BARS	**Barje**	**1.44**	**54**	*e*Sg	Sn	22 28 17.7	+1.1
BARS	**Barje**	**1.44**	**54**	*e*Sg	Sn	22 28 17.7	+1.1
IVAS	**Ivanjica**	**1.60**	**358**	*e*Pg	Pn	22 27 58.3	-1.0
IVAS				*e*Sg	Sn	22 28 20.7	+0.2
IVAS	**Ivanjica**	**1.60**	**358**	*e*Pg	Pn	22 27 58.3	-1.0
GRUS	**Gruza**	**1.94**	**10**	*e*Pg	Pn	22 28 04.1	+0.2
GRUS	**Gruza**	**1.94**	**10**	*e*Pg	Pn	22 28 04.1	+0.2
BBLS	**Lazići**	**1.98**	**342**	*e*Sg	Sb	22 28 32.7	+0.7
BBLS	**Lazići**	**1.98**	**342**	*e*Sg	Sb	22 28 32.7	+0.7
STON	**Ston**	**2.08**	**296**	*e*Pn	Pn	22 28 06.3	+0.6
STON				*e*Sn	Sb	22 28 33.3	-1.2
STON	**Ston**	**2.08**	**296**	*e*Pn	Pn	22 28 06.3	+0.6
STON				*e*Sn	Sb	22 28 33.3	-1.2
DIVS	**Divibare**	**2.12**	**355**	*e*Pg	Pb	22 28 09.7	+0.4
DIVS				*e*Sg	Sg	22 28 38.7	+0.3
DIVS	**Divibare**	**2.12**	**355**	*e*Pg	Pb	22 28 09.7	+0.4
DIVS				*e*Sg	Sg	22 28 38.7	+0.3

CSEM ***02*** *22:28:50.0±0.1, 40°.52N×27°.22E, h10km, MD2.6, Error ellipse: s-maj=3.3km s-min=2.3km az=10.0*
DDA ***02*** *22:28:50.2, 40°.54N×27°.21E, h11km, MD2.6*
ISK 02 22:28:49.4, 40°.50N×27°.22E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKY	**Sarkoy-Tekirda**	**0.19**	**351**	*e*PG	Pg	22 28 53.9	+0.4
RKY				*e*SG	Sg	22 28 57.0	+0.8
RKY	**Sarkoy-Tekirda**	**0.19**	**351**	*e*Pg	Pg	22 28 53.9	+0.5
RKY				*e*Sg	Sg	22 28 57.0	+0.8
SART	**Tekirdag**	**0.19**	**352**	*i* S	Sg	22 28 57.0	+0.8
SART	**Tekirdag**	**0.19**	**352**	*i* P	Pg	22 28 53.9	+0.4
SART				*i* S	Sg	22 28 57.0	+0.8
MRMT	**Marmara Adasi**	**0.31**	**70**	*e*PG	Pg	22 28 56.0	+0.4
MRMT				*e*SG	Sg	22 29 00.9	+1.2
MRMT	**Marmara Adasi**	**0.31**	**70**	*e*Pg	Pg	22 28 56.0	+0.4
MRMT				*e*Sg	Sg	22 29 01.0	+1.2
LPK	**Lapseki**	**0.37**	**250**	*e*PG	Pg	22 28 57.2	+0.5
LPK				*e*SG	Sb	22 29 03.0	-1.2
LPK	**Lapseki**	**0.37**	**250**	*e*Pg	Pg	22 28 57.2	+0.5
LPK				*e*Sg	Sb	22 29 03.0	-1.2
EDC	**Edincik**	**0.52**	**107**	*e*PG	Pg	22 28 60.0	+0.5
EDC				*e*SG	Sb	22 29 07.3	-1.1
EDC	**Edincik**	**0.52**	**107**	*e*Pg	Pg	22 29 00.0	+0.6
EDC				*e*Sg	Sg	22 29 07.3	+1.1
ERIK	**Erikli-Kesan**	**0.56**	**288**	*e*PG	Pg	22 29 00.9	+0.6
ERIK	**Erikli-Kesan**	**0.56**	**288**	*e*Pg	Pg	22 29 00.9	+0.6
GELI	**Tayfur-Gelibol**	**0.58**	**260**	*e*PG	Pg	22 29 00.6	+0.1
GELI	**Tayfur-Gelibol**	**0.58**	**260**	*e*Pg	Pg	22 29 00.6	+0.1
BALY	**Balya**	**0.82**	**158**	*i* P	Pn	22 29 06.8	-0.5
BALY				*i* S	Sn	22 29 19.1	-0.5
BALY	**Balya**	**0.82**	**158**	*i* P	Pn	22 29 06.8	-0.5
BALY				*i* S	Sn	22 29 19.1	-0.6
ENEZ	**Enez**	**0.84**	**287**	*e*PG	Pb	22 29 06.1	-0.2
ENEZ	**Enez**	**0.84**	**287**	*e*Pg	Pb	22 29 06.1	-0.2
KCTX	**Karacabey (Bur**	**0.90**	**105**	*e*PG	Pg	22 29 06.5	-0.3
KCTX	**Karacabey (Bur**	**0.90**	**105**	*e*Pg	Pg	22 29 06.5	-0.3
EZN	**Ezine**	**0.96**	**226**	*e*PG	Pn	22 29 09.2	0.0
EZN	**Ezine**	**0.96**	**226**	*e*Pg	Pn	22 29 09.2	+0.1
ALN	**Alexandroupoli**	**0.98**	**294**	*e*PG	Pb	22 29 08.4	-0.1
ALN	**Alexandroupoli**	**0.98**	**294**	*e*Pg	Pb	22 29 08.4	-0.2
BALB	**Balikesir**	**1.00**	**149**	*e*PG	Pn	22 29 09.4	-0.3
BALB	**Balikesir**	**1.00**	**149**	*e*Pg	Pn	22 29 09.4	-0.3
BOZC	**Bozcaada**	**1.11**	**234**	*i* P	Pb	22 29 10.9	+0.1
BOZC				*i* S	Sn	22 29 26.5	-0.1
CTKS	**Kestanelik-??a**	**1.23**	**53**	*e*PN	Pg	22 29 13.0	+0.1
CTKS	**Kestanelik-??a**	**1.23**	**53**	*e*Pn	Pg	22 29 13.0	+0.1
ARMT	**Armutlu**	**1.25**	**86**	*e*PN	Pg	22 29 13.9	+0.3
ARMT	**Armutlu**	**1.25**	**86**	*e*Pn	Pg	22 29 13.9	+0.3
EDRB	**Edirne**	**1.39**	**345**	*e*PN	Pg	22 29 16.0	-0.1
EDRB	**Edirne**	**1.39**	**345**	*e*Pn	Pg	22 29 16.0	-0.2

NIED ***02*** *22:31:00, 24°.80N×125°.20E, h32km, Mw3.8 Best double couple: M0=5.68000×10^14 NP1:φs=359.00000°, δ26.00000°, λ23.00000°. NP2:φs=247.00000°, δ80.00000°, λ114.00000°.*
ISCJB ***02*** *22:31:05.6±0.4, 24°.76N±0°.08×125°.22E±0°.05, h48km±3km, mb3.7/10, MS4.0/1, Error ellipse: s-maj=14.0km s-min=4.1km az=155.6*
JMA ***02*** *22:31:06.0±0.1, 24°.74N×125°.23E, h43km±1km, M3.9*
JMA Felt I J1.
IDC ***02*** *22:31:06.4±0.8, 24°.70N×125°.15E, h42km±8km, mb3.6/10, mb1 3.6/12, mb1mx3.5/40, mbtmpg3.8/12, ML2.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=24.0km s-min=16.4km az=68.0*
ISC 02 22:31:06.5±0.7, 24°.77N±0°.08×125°.21E±0°.05, h40km±4km, n32, σ0°.71/43, mb3.7/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIRB	**Irabujima**	**0.06**	**332**	P	**Pn**	**22 31 12.8**	**-0.2**
JIRB				S	**Sn**	**22 31 17.8**	**+0.3**
JMJ	**Miyako jima 2**	**0.09**	**62**	P	**Pn**	**22 31 12.9**	**-0.2**
JMJ				S	**Sn**	**22 31 18.1**	**+0.4**
JIKM	**Ikemajima**	**0.16**	**14**	P	**Pn**	**22 31 13.5**	**0.0**
JIKM				S	**Sn**	**22 31 18.8**	**+0.5**
JOGS	**Gusukube**	**0.18**	**93**	P	**Pn**	**22 31 13.3**	**-0.3**
JOGS				S	**Sn**	**22 31 18.8**	**+0.1**
JTJ	**Tarama**	**0.48**	**254**	P	**Pn**	**22 31 16.9**	**0.0**
JTJ				S	**Sn**	**22 31 24.6**	**+0.4**
JISG	**Ishigakijimahi**	**0.83**	**257**	P	**Pn**	**22 31 21.3**	**-0.4**
JISG				S	**Sn**	**22 31 32.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.05**	**247**	P	**Pn**	**22 31 24.7**	**0.0**
JIJ				S	**Sn**	**22 31 38.6**	**+0.5**
JKRS	**Kuro-shima**	**1.21**	**244**	P	**Pn**	**22 31 27.5**	**+0.6**
IRIF	**Iriomote-Funau**	**1.41**	**252**	P	**Pn**	**22 31 29.6**	**-0.1**
IRIF				*e*S	**Sn**	**22 31 47.6**	**+0.6**
HATJ	**Hateruma jima**	**1.46**	**241**	P	**Pn**	**22 31 32.4**	**+2.1**
YOJ	**Yonaguni jima**	**2.02**	**262**	P	**Pn**	**22 31 38.0**	**0.0**
YOJ				*e*S	**Sn**	**22 32 01.6**	**-0.5**
JYNG	**Yonagunijimaku**	**2.08**	**262**	P	**Pn**	**22 31 38.9**	**0.0**
JYNG				S	**Sn**	**22 32 04.2**	**+0.6**
JKE	**Kume jima 2**	**2.11**	**42**	P	**Pn**	**22 31 39.3**	**+0.1**
JAGN	**Aguni-jima**	**2.58**	**45**	P	**Pn**	**22 31 46.8**	**+1.1**
JJT2	**Tamagusuku 2**	**2.67**	**59**	P	**Pn**	**22 31 48.2**	**+1.2**
JNTH	**Nagotoyohara**	**3.08**	**55**	P	**Pn**	**22 31 53.0**	**+0.4**
JIH	**Iheya**	**3.36**	**47**	*e*S	**Sn**	**22 32 33.9**	**-1.1**
JOW	**Kunigami**	**3.44**	**53**	P	**Pn**	**22 31 58.7**	**+1.1**
JOW	**Kunigami**	**3.44**	**53**	P	**Pn**	**22 31 57.7**	**+0.1**
	0.6nm,0.3s,baz=109,slow=20,SNR=9.5						
KSRS	**Korea Array**	**12.85**	**10**	LR	LR	22 39 18.3	
	comp=Z,30nm,18.8s,baz=199,slow=38						
MJAR	**Matsushiro Arr**	**16.19**	**41**	P	**P**	**22 34 53.3**	**-0.5**
	0.2nm,0.3s,baz=220,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**40.52**	**314**	P	**P**	**22 38 41.1**	**-0.5**
	0.9nm,0.6s,baz=100,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**41.81**	**325**	P	**P**	**22 38 51.1**	**-0.9**
	0.6nm,0.4s,baz=116,slow=7.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**44.07**	**318**	P	**P**	**22 39 10.1**	**-0.2**
	0.4nm,0.4s,baz=108,slow=9.7,SNR=4.1						
KURBB				pP	**pP**	**22 39 22.2**	**+0.4**
	0.3nm,0.5s,baz=110,slow=7.9,SNR=2.0						
WRA	**Warramunga Arr**	**45.33**	**168**	P	**P**	**22 39 19.4**	**-1.2**
	1.5nm,0.8s,baz=350,slow=8.5,SNR=5.7						
WRA				pP	**pP**	**22 39 32.1**	**-0.1**
	1.8nm,1.1s,baz=349,slow=8.5,SNR=5.0						
ASAR	**Alice Springs**	**48.88**	**169**	P	**P**	**22 39 47.5**	**-0.9**
	0.4nm,0.6s,baz=355,slow=14,SNR=4.7						
GEYT	**Alibeck**	**57.66**	**300**	P	**P**	**22 40 54.0**	**+1.1**
	1.4nm,0.5s,baz=349,slow=1.5,SNR=6.2						
INK	**Inuvik**	**71.29**	**23**	P	**P**	**22 42 22.4**	**+1.1**
	0.8nm,0.8s,baz=288,slow=7.7,SNR=3.1						
FINES	**FINESS Array B**	**72.78**	**330**	P	**P**	**22 42 30.0**	**-0.3**
	1.2nm,0.8s,baz=76,slow=6.7,SNR=6.6						
BRTR	**Keskin Array B**	**75.75**	**307**	P	**P**	**22 42 47.4**	**-1.0**
	1.3nm,1.0s,baz=77,slow=5.6,SNR=8.1						
URZ	**Urewera**	**79.36**	**141**	LR	LR	23 15 07.6	
	comp=Z,70nm,18.0s,baz=298,slow=33						
YKA	**Yellowknife Ar**	**80.98**	**24**	P	**P**	**22 43 16.9**	**+0.4**
	0.2nm,0.4s,baz=310,slow=4.7,SNR=6.4						
YKA				pP	**pP**	**22 43 29.2**	**+0.4**
	0.7nm,0.9s,baz=306,slow=4.9,SNR=4.5						

NEIC ***02*** *22:33:14.9, 34°.40S×71°.97W, h16km±6km, ML3.5(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu and [III] at Paredones.
GUC 02 22:33:14.9±0.6, 34°.40S×71°.97W, h16km±6km, ML3.5, 13C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.64**	**47**	⇑*i* P	Pg	22 33 27.0	-0.6
LNV				*i* S	Sg	22 33 36.0	-0.1
LNV	**Longovilo**	**0.64**	**47**	⇑*i* P	Pg	22 33 27.0	-0.6
LNV				*i* S	Sg	22 33 36.0	-0.1
NICH	**Los Niches**	**0.86**	**135**	⇑*i* P	Pb	22 33 30.4	-1.1
NICH				*i* S	Sb	22 33 42.1	-0.5
NICH	**Los Niches**	**0.86**	**135**	⇑*i* P	Pb	22 33 30.4	-1.1
NICH				*i* S	Sb	22 33 42.1	-0.5
TALC	**Talca**	**1.03**	**165**	⇑*i* P	Pb	22 33 32.8	-1.6
TALC				*i* S	Sb	22 33 46.5	-1.2
TALC	**Talca**	**1.03**	**165**	⇑*i* P	Pb	22 33 32.8	-1.6
TALC				*i* S	Sb	22 33 46.5	-1.2
CACH	**El Canelo**	**1.17**	**76**	⇑*i* P	Pn	22 33 35.9	-0.9
CACH	**El Canelo**	**1.17**	**76**	⇑*i* P	Pn	22 33 35.9	-0.9
CHCH	**Chadas Angostu**	**1.19**	**67**	⇑*i* P	Pn	22 33 35.7	-1.2
CHCH	**Chadas Angostu**	**1.19**	**67**	⇑*i* P	Pn	22 33 35.7	-1.2
LNCH	**Linares**	**1.48**	**168**	⇑*i* P	Pn	22 33 40.4	-0.4
LNCH				*i* S	Sn	22 33 59.7	-0.1
LNCH	**Linares**	**1.48**	**168**	⇑*i* P	Pn	22 33 40.4	-0.4
LNCH				*i* S	Sn	22 33 59.7	-0.1
CLCH	**Cerro Calan**	**1.56**	**50**	⇑*i* P	Pn	22 33 41.6	-0.5
CLCH				*i* S	Sn	22 34 01.8	-0.2
CLCH				AML	AML	22 34 09.1	
	comp=E,771nm,0.9s						
CLCH				AML	AML	22 34 09.7	
	comp=E,1μm,0.9s						
PEL	**Peldehue**	**1.65**	**41**	⇑*i* P	Pn	22 33 43.0	-0.3
PEL				AML	AML	22 34 10.0	
	comp=E,1μm,1.5s						
PEL	**Peldehue**	**1.65**	**41**	⇑*i* P	Pn	22 33 43.0	-0.3
FCH	**Farellones**	**1.76**	**53**	AML	AML	22 34 16.5	
	comp=N,678nm,0.2s						

IDC ***02*** *22:50:52.2±2.5, 9°.94S×112°.32E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/32, mbtmpg3.6/5, Error ellipse: s-maj=118.5km s-min=21.2km az=49.0*
ISCJB ***02*** *22:51:01.9±1.0, 9°.50S±0°.09×112°.86E±0°.05, h80km±10km, mb3.5/5, Error ellipse: s-maj=14.8km s-min=7.9km az=5.8*
DJA ***02*** *22:51:03.4±1.0, 9°.5±4°×11°.3E±°, h29km±11km, M3.8/9, MLv3.8/9*
ISC 02 22:51:02.4±1.7, 9°.5S±0°.1×112°.87E±0°.05, h65km±16km, n16, σ1°.26/21, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.34**	**25**	P	**Pn**	**22 51 25.0**	**-0.2**
GMJI				S	**Sn**	**22 51 39.2**	**-3.0**
PWJI	**Pagerwojo**	**1.81**	**324**	P	**Pn**	**22 51 30.4**	**-1.0**
PWJI				S	**Sn**	**22 51 54.3**	**+1.0**
BLJI	**Banyuglugur**	**1.88**	**22**	P	**Pn**	**22 51 33.2**	**+0.8**
BLJI				S	**Sn**	**22 51 56.9**	**+1.7**
PCJI	**Pacitan**	**2.12**	**308**	P	**Pn**	**22 51 35.3**	**-0.2**
PCJI				S	**Sn**	**22 52 02.6**	**+1.8

BLJI				S	Sn	22 54 40.2	-0.8	
PWJI	**Pagerwojo**	**1.66**	**317**	P	Pn	22 54 19.9	-1.3	
ABJI	**Asem Bagus**	**1.93**	**42**	P	Pn	22 54 25.8	+1.0	
PCJI	**Pacitan**	**2.04**	**301**	P	Pn	22 54 26.6	+0.3	
PCJI				S	Sn	22 54 50.6	-0.1	
IGBI	**Denpasar**	**2.22**	**79**	P	Pn	22 54 29.0	+0.3	
IGBI				S	Sn	22 54 57.1	+1.9	
DNP	**Denpasar**	**2.31**	**76**	P	Pn	22 54 30.5	+0.5	
DNP				S	Sn	22 54 59.3	+1.9	
GRJI	**Gresik**	**2.37**	**349**	P	Pn	22 54 31.7	+0.9	
KMMI	**Kalianget**	**2.41**	**25**	P	Pn	22 54 31.8	+0.4	
WOJI	**Wonogiri, Jawa**	**2.44**	**305**	P	Pn	22 54 32.4	+0.7	
SRBI	**Singaraja**	**2.53**	**63**	P	Pn	22 54 33.3	+0.4	
TBJI	**Tambak Boyo**	**2.65**	**336**	P	Pn	22 54 36.1	+1.5	
UGM	**Wanagama**	**2.74**	**299**	P	Pn	22 54 36.8	+1.0	
UGM				S	Sn	22 55 08.4	+0.6	
BWJI	**Bawean**	**3.39**	**355**	P	Pn	22 54 45.8	+1.1	
KPJI	**Karang Pucung**	**4.40**	**295**	P	Pn	22 54 59.6	+1.1	
CISI	**Cisompet, Garu**	**5.34**	**288**	P	Pn	22 55 12.9	+1.4	
CGJI	**Cibinong**	**7.64**	**290**	P	Pn	22 55 43.4	+0.5	
WRA	**Warramunga Arr**	**23.24**	**120**	P	**P**	**22 58 53.3**	**-2.6**	
	1.0nm,0.8s,baz=291,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**24.64**	**128**	P	**P**	**22 59 06.6**	**-2.0**	
	1.5nm,0.7s,baz=302,slow=8.7,SNR=18							
CMAR	**Chiang Mai Arr**	**30.81**	**333**	P	**P**	**23 00 04.2**	**+0.4**	
	0.6nm,0.3s,baz=166,slow=7.8,SNR=4.5							
HNR	**Honiara**	**46.35**	**94**	LR	LR	23 26 48.3		
	comp=Z,55nm,19.0s,baz=103,slow=43							
SONM	**Songino Array**	**57.13**	**355**	P	**P**	**23 03 33.9**	**0.0**	
	1.4nm,0.7s,baz=176,slow=8.2,SNR=13							
MKAR	**Makanchi Array**	**62.13**	**337**	P	**P**	**23 04 08.0**	**-0.2**	
	1.5nm,0.5s,baz=149,slow=7.6,SNR=28							
OPO	**Ambohidratompo**	**64.21**	**254**	LR	LR	23 27 43.3		
	comp=Z,184nm,19.0s,baz=17,slow=32							
ZALV	**Zalesovo Beam**	**67.31**	**342**	P	**P**	**23 04 41.1**	**-0.5**	
	1.5nm,0.5s,baz=150,slow=8.7,SNR=12							
GEYT	**Alibeck**	**69.40**	**316**	P	**P**	**23 04 55.1**	**0.0**	
	0.7nm,0.5s,baz=85,slow=1.6,SNR=3.0							
BRTR	**Keskin Array B**	**87.73**	**311**	P	**P**	**23 06 36.6**	**+0.6**	
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.4							

*IDC **02** 22:54:00.5±1.7,38˚.21S×73˚.06W,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.6/24,mbtmp3.6/5,ML3.2/2,Error ellipse: s-maj=51.6km s-min=28.2km az=68.0*

*GUC **02** 22:54:01.7±0.4,38˚.23S×73˚.43W,h60km±5km,ML4.3*

ISC 02 22:54:03.3±1.4**,38˚.22S**±0˚.05×**73˚.6W**±0˚.3**,h35km,n13,** σ1**s27/14,mb3.5/4,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.59**	**166**	*eP*		**Pn**		**22 54 14.2**	**-1.0**
PSCH					AML	AML		22 54 26.1	
	comp=N,46μm,0.4s								
CCSP	**San Pedro de C**	**1.43**	**15**	*eP*		**Pn**		**22 54 25.8**	**-0.9**
CCSP				*eS*		**Sn**		**22 54 43.6**	**-0.6**
CCSP					AML	AML		22 54 55.2	
	comp=N,3μm,0.6s								
VLCH	**Valdivia**	**1.60**	**171**	*eP*		**Pn**		**22 54 28.1**	**-0.9**
VLCH				*eS*		**Sn**		**22 54 47.7**	**-0.8**
VLCH					AML	AML		22 54 59.0	
	comp=E,10μm,0.2s								
COCH	**Cobquecura**	**2.18**	**17**	*eP*		**Pn**		**22 54 35.9**	**-1.2**
OSCH	**Osorno**	**2.38**	**172**		AML	AML		22 55 30.2	
	comp=E,1μm,0.7s								
PLCA	**Paso Flores**	**3.43**	**138**	Pn		**Pn**		**22 54 53.8**	**-0.5**
	comp=E,1.6nm,0.3s,baz=300,slow=8.6,SNR=18								
PLCA				Lg		Lg		22 55 52.2	
	comp=E,3.0nm,0.3s,baz=39,slow=21,SNR=9.3								
CFAA	**Coronel Fontan**	**7.92**	**35**	Pn		**Pn**		**22 55 53.8**	**-2.2**
	comp=E,0.1nm,0.3s,baz=213,slow=16,SNR=9.5								
LPAZ	**La Paz**	**22.37**	**14**	P		**P**		**22 59 00.7**	**+1.6**
	comp=E,0.8nm,0.6s,baz=205,slow=5.5,SNR=3.2								
TXAR	**Lajitas Array**	**72.86**	**333**	P		P		23 05 33.6	+5.0
	comp=E,0.3nm,0.6s,baz=166,slow=11,SNR=3.7								
DBIC	**Dimbokro**	**77.71**	**71**	P		**P**		**23 05 58.9**	**+2.1**
	comp=E,2.2nm,0.8s,baz=211,slow=5.9,SNR=2.5								
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P		**P**		**23 06 44.1**	**-0.1**
	comp=E,0.4nm,0.9s,baz=219,slow=4.3,SNR=4.2								
BVAR	**Borovoye Array**	**151.14**	**47**	PKPbc		**PKPbc**		**23 13 52.2**	**+0.2**
	comp=E,0.9nm,0.4s,baz=267,slow=3.0,SNR=3.9								
BVAR				PKPab		**PKPab**		**23 13 59.7**	**-0.2**
	comp=E,0.7nm,0.6s,baz=289,slow=3.3,SNR=5.8								
MKAR	**Makanchi Array**	**160.31**	**56**	PKPab		**PKPab**		**23 14 38.8**	**-0.7**
	comp=E,0.3nm,0.8s,baz=267,slow=2.3,SNR=3.1								

*IDC **02** 22:58:04.1±0.3,36˚.21S×72˚.73W,h0km,mb5.3/28, mb1 5.3/30,mb1mx5.3/34,mbtmp5.3/30,ML5.2/2,MS5.7/21, Ms1 5.7/21,ms1mx5.5/30,Error ellipse: s-maj=15.0km s-min=10.0km az=85.0*

*GUC **02** 22:58:06.6±0.9,36˚.22S×73˚.16W,h28km±9km,ML5.9*

*NEIC **02** 22:58:07.6±0.1,36˚.23S×72˚.88W,h24km,mb6.1/200, MS5.7/149,MW5.9,MW5.9,ML5.9(GUC),Error ellipse: s-maj=3.8km s-min=2.6km az=82.0,Moment Tensor Solution. s44 Moment tensor: Scale 10^{17}Nm; M_{rr}5.51; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$-4.36; $M_{r\theta}$0.17; $M_{r\phi}$ 1.75; $M_{\theta\phi}$-6.02; Best double couple: M_o8.00000×10^{17} NP1:ϕs172.00000°, δ70.00000°, λ100.00000°. NP2:ϕs325.00000°, δ23.00000°, λ65.00000°. Principal axes: T 8.4000, Plg64.0000°, Azm98.0000°; N -0.7600, Plg9.0000°, Azm348.0000°; P -7.6300, Plg23.0000°, Azm254.0000°;*

NEIC Felt [VI] at Cauquenes, Chillan and Longavi; [V] at Chanco, Concepcion, Constitucion, Lebu, Linares, Los Angeles, Lota, Retiro, San Javier, Talca and Tome; [IV] at Angol, Chiguayante, Parral and Talcahuano; [III] at Curacautin, Puerto Saavedra and Temuco; [II] at Rancagua and Santiago. Also felt at Arauco, Canete, Coronel, Curico, Graneros, Penco, Puente Alto, San Antonio, Valdivia and Yumbel. Felt at Bariloche, Mendoza, Neuquen and San Rafael, Argentina.

*GCMT **02** 22:58:07.6±0.1,36˚.33S×73˚.20W,h30km,MW6.0/119, Moment Tensor Solution. s119,c236; s119,c344; Duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.52±.01; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$-0.57±.01; $M_{r\theta}$-0.09±.01; $M_{r\phi}$-0.12±.00; $M_{\theta r}$-0.98±.02; Best double couple: M_o1.13100×10^{18} NP1:ϕs186.00000°, δ75.00000°, λ87.00000°. NP2:ϕs17.00000°, δ15.00000°, λ101.00000°. Principal axes: T 1.0970, Plg60.0000°, Azm92.0000°; N 0.0700, Plg3.0000°, Azm187.0000°; P -1.1660, Plg30.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **02** 22:58:08.1±1.0,36˚.17S×72˚.94W,h33km,mb6.1/55, MS5.7/41 Error ellipse: s-maj=11.8km s-min=5.9km az=98.9*

*ISCJB **02** 22:58:08.7±0.1,36˚.15S±0˚.03×72˚.79W±0˚.04,h40km, mb5.9/245,MS5.8/200,Error ellipse: s-maj=4.4km s-min=3.5km az=157.4*

*NEIC **02** 22:58:09.0±0.0,36˚.59S×72˚.77W,h35km Best double couple: NP1:ϕs189.00000°, δ72.00000°, λ88.00000°. NP2:ϕs15.00000°, δ17.00000°, λ95.00000°. Principal axes: T 0.9200, Plg62.0000°, Azm96.0000°; N 0.1000, Plg1.0000°, Azm189.0000°; P -1.0100, Plg27.0000°, Azm280.0000°;*

ISC 02 22:58:09.2±0.4**,36˚.26S**±0˚.03×**72˚.93W**±0˚.04**,h34**km±1km**, h34**km**:pP-P,n1548,**σ1**s21**/1542**,mb6.0**/245**,MS5.8**/201**, 281C-272D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.60**	**194**	⇑*iP*		**Pn**		**22 58 18.7**	**-2.5**
CCSP				*i* S		**Sn**		**22 58 27.2**	**-2.5**
CCSP					AML	AML		22 58 29.0	
	comp=E,762μm,0.4s								
CCSP	**San Pedro de C**	**0.60**	**194**	⇑*iP*		**Pn**		**22 58 18.7**	**-2.5**
LNCH	**Linares**	**1.15**	**69**	*eP*		**Pn**		**22 58 29.6**	**+0.7**
LNCH				*i* S		**Sb**		**22 58 46.5**	**+1.2**
LNCH	**Linares**	**1.15**	**69**	*eP*		**Pn**		**22 58 29.6**	**+0.7**
LNCH				*i* S		**Sb**		**22 58 46.5**	**+1.2**
TALC	**Talca**	**1.36**	**51**	⇑*iP*		**Pn**		**22 58 31.9**	**+0.2**
TALC				*i* S		**Sb**		**22 58 51.5**	**+0.3**
TALC	**Talca**	**1.36**	**51**	⇑*iP*		**Pn**		**22 58 31.9**	**+0.2**
TALC				*i* S		**Sb**		**22 58 51.5**	**+0.3**
NICH	**Los Niches**	**1.87**	**48**	*eP*		**Pn**		**22 58 39.8**	**+1.1**
NICH	**Los Niches**	**1.87**	**48**	*eP*		**Pn**		**22 58 39.8**	**+1.1**
IHA	**Instituto Hidr**	**3.40**	**19**	*eP*		**Pn**		**22 58 58.9**	**-0.9**
IHA	**Instituto Hidr**	**3.40**	**19**	*eP*		**Pn**		**22 58 58.9**	**-0.9**
YECH	**El Yeso**	**3.49**	**43**	⇓*iP*		**Pn**		**22 59 01.8**	**+0.5**
YECH					AML	AML		23 00 09.3	
	comp=N,28μm,0.6s								
YECH	**El Yeso**	**3.49**	**43**	⇓*iP*		**Pn**		**22 59 01.8**	**+0.5**
VLCH	**Valdivia**	**3.55**	**184**	*eP*		**Pn**		**22 59 01.8**	**0.0**
VLCH	**Valdivia**	**3.55**	**184**	*eP*		**Pn**		**22 59 01.8**	**0.0**
PEL	**Peldehue**	**3.62**	**31**	⇓*iP*		**Pn**		**22 59 02.7**	**-0.2**
PEL	**Peldehue**	**3.62**	**31**	⇓*iP*		**Pn**		**22 59 02.7**	**-0.2**
PEL	**Peldehue**	**3.62**	**31**	⇓*iP*		**Pn**		**22 59 02.7**	**-0.2**
ROCH	**El Roble**	**3.64**	**26**	⇓*iP*		**Pn**		**22 59 03.6**	**+0.2**
ROCH	**El Roble**	**3.64**	**26**	⇓*iP*		**Pn**		**22 59 03.6**	**+0.2**
PLCA	**Paso Flores**	**4.84**	**158**	P		**Pn**		**22 59 19.7**	**+0.1**
PLCA					pmax	pmax			
	comp=E,37nm,0.3s								
PLCA					MLR	MLR			
	comp=E,60μm,18.8s								
PLCA	**Paso Flores**	**4.84**	**158**	Pn		**Pn**		**22 59 19.7**	**+0.1**
	comp=E,37nm,0.3s,baz=330,slow=11,SNR=143								
PLCA					Lg	Lg		23 00 33.6	
	comp=E,67nm,0.3s,baz=3.5,slow=5.6,SNR=3.0								
PLCA					LR	LR		23 01 09.0	
	comp=E,60μm,18.8s,baz=330,slow=38								
PLCA	**Paso Flores**	**4.84**	**158**	*eP*	n	**Pn**		**22 59 21.4**	**+1.8**
CFAA	**Coronel Fontan**	**6.06**	**41**	Pn		**Pn**		**22 59 35.1**	**-1.4**
	comp=E,3.1nm,0.3s,baz=213,slow=13,SNR=61								
CFAA					Sn	**Sn**		**23 00 44.7**	**0.0**
	comp=E,4.9nm,0.3s,baz=234,slow=16,SNR=4.7								
CFAA					Lg	Lg		23 01 03.1	
	comp=E,16nm,0.3s,baz=130,slow=19,SNR=4.7								
CFAA					LR	LR		23 02 11.5	
	comp=E,13μm,19.4s,baz=226,slow=42								
CFAA	**Coronel Fontan**	**6.06**	**41**	*eP*	n	**Pn**		**22 59 35.1**	**-1.4**
LCO	**Las Campanas**	**7.47**	**15**	*eP*	n	**Pn**		**22 59 54.2**	**-1.8**
LCO				*e*	Sn	**Sn**		**23 01 16.4**	**-3.3**
TRQA	**Tornquist**	**8.92**	**105**	*eP*	n	**Pn**		**23 00 18.0**	**+2.3**
LVC	**Limon Verde**	**14.04**	**15**	*eP*	n	Pn		23 01 20.2	-5.8
EFI	**East Falkland**	**18.70**	**150**	*eP*		**Pn**		**23 02 25.5**	**+0.5**
EFI	**East Falkland**	**18.70**	**150**	*eP*		**P**		**23 02 23.7**	**-0.7**
	comp=Z,322nm,1.0s								
USHA	**Ushuaia**	**18.83**	**172**	P		**Pn**		**23 02 27.2**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=327,slow=9.0,SNR=50								
USHA					LR	LR		23 10 01.0	
	comp=E,17μm,18.2s,baz=328,slow=38								
USHA	**Ushuaia**	**18.83**	**172**	*eP*		**Pn**		**23 02 27.2**	**+0.7**
LPAZ	**La Paz**	**20.35**	**13**	*eP*		**P**		**23 02 42.7**	**-0.6**
LPAZ	**La Paz**	**20.35**	**13**	P		**P**		**23 02 43.4**	**0.0**
	comp=Z,32nm,1.0s,baz=183,slow=9.2,SNR=76								
LPAZ	**La Paz**	**20.35**	**13**	*eP*		**P**		**23 02 43.4**	**0.0**
	comp=Z,1μm,2.0s								
SIV	**San Ignacio**	**22.78**	**31**	P		**P**		**23 03 07.7**	**-1.2**
	comp=Z,189nm,1.2s,baz=230,slow=13,SNR=165								
SIV					LR	LR		23 13 44.8	
	comp=Z,26μm,18.9s,baz=222,slow=42								
SIV	**San Ignacio**	**22.78**	**31**	*eP*		**P**		**23 03 07.7**	**-1.2**
NNA	**Nana**	**24.43**	**351**	P		**P**		**23 03 24.1**	**-0.7**
NNA					pmax	pmax			
	comp=E,65nm,0.9s								
NNA	**Nana**	**24.43**	**351**	P		**P**		**23 03 24.1**	**-0.7**
	comp=E,65nm,0.9s,baz=201,slow=12,SNR=22								
NNA	**Nana**	**24.43**	**351**	*eP*		**P**		**23 03 24.2**	**-0.5**
	comp=E,87nm,0.9s								
NNA					LR	LR			
	comp=E,12μm,19.0s								
SAML	**Samuel**	**28.60**	**20**	*eP*		**P**		**23 04 01.8**	**-0.5**
	comp=E,131nm,1.4s								
SAML					LR	LR			
	comp=E,16μm,19.0s								
PMSA	**Palmer Station**	**29.04**	**172**	P		**P**		**23 04 07.2**	**+1.5**
	comp=Z,144nm,1.1s,baz=359,slow=9.8,SNR=7.8								
PMSA					LR	LR		23 15 29.5	
	comp=E,15μm,19.3s,baz=342,slow=36								
PMSA	**Palmer Station**	**29.04**	**172**	*eP*		**P**		**23 04 05.9**	**+0.2**
	comp=Z,204nm,1.1s								
PMSA					LR	LR			
	comp=E,14μm,19.0s								
ATAH	**Atahualpa**	**29.42**	**349**	P		**P**		**23 04 10.1**	**0.0**
	comp=Z,1.9nm,0.4s,baz=192,slow=6.4,SNR=10.0								
ATAH					LR	LR		23 13 59.0	
	comp=E,10μm,20.0s,baz=182,slow=32								
ATAH	**Atahualpa**	**29.42**	**349**	*eP*		**P**		**23 04 10.1**	**0.0**
BDFB	**Brasilia**	**30.23**	**54**	P		**P**		**23 04 15.6**	**-1.3**
BDFB					pmax	pmax			
	comp=E,11nm,0.6s								
BDFB	**Brasilia**	**30.23**	**54**	P		**P**		**23 04 15.6**	**-1.3**
	comp=Z,10nm,0.6s,baz=214,slow=8.7,SNR=19								
BDFB					LR	LR		23 17 34.4	
	comp=Z,43μm,18.5s,baz=222,slow=39								
BDFB	**Brasilia**	**30.23**	**54**	*eP*		**P**		**23 04 16.0**	**-1.0**
HOPE	**Hope Point**	**30.88**	**137**	*eP*		**P**		**23 04 22.6**	**+0.6**
	comp=Z,2μm,2.2s								
HOPE					LR	LR			
	comp=E,13μm,19.0s								
RPN	**Rapa Nui**	**32.13**	**276**	P		**P**		**23 04 35.2**	**+1.7**
RPN					pmax	pmax			
	comp=E,45nm,1.0s								
RPN	**Rapa Nui**	**32.13**	**276**	P		**P**		**23 04 35.2**	**+1.7**
	comp=Z,45nm,1.0s,baz=346,slow=4.2,SNR=2.5								
RPN	**Rapa Nui**	**32.13**	**276**	*eP*		**P**		**23 04 35.2**	**+1.7**
OTAV	**Otavalo**	**36.68**	**351**	*eP*		**P**		**23 05 14.6**	**+1.3**
	comp=Z,251nm,1.4s								
OTAV					LR	LR			
	comp=E,6μm,19.0s								
PTGA	**Pitinga**	**37.34**	**22**	*eP*		**P**		**23 05 17.4**	**-1.1**
	comp=Z,257nm,1.0s								
PTGA					LR	LR			
	comp=E,9μm,20.0s								
PAYG	**Puerto Ayora**	**38.90**	**332**	*eP*		**P**		**23 05 32.0**	**+0.3**
	comp=Z,64nm,1.2s								
PAYG					LR	LR			
	comp=E,12μm,19.0s								
ROSC	**El Rosal**	**40.92**	**358**	P		**P**		**23 05 49.9**	**+1.0**
	comp=Z,9.2nm,0.5s,baz=197,slow=3.3,SNR=22								
ROSC	**El Rosal**	**40.92**	**358**	*eP*		**P**		**23 05 49.7**	**+0.8**
SDV	**Santo Domingo**	**44.96**	**3**	*eP*		**P**		**23 06 20.1**	**-1.2**
	comp=Z,130nm,1.0s								
SDV					LR	LR			
	comp=E,6μm,19.0s								
RCBR	**Riachuelo**	**45.47**	**57**	*eP*		**P**		**23 06 23.7**	**-1.5**
	comp=Z,254nm,1.5s								
RCBR					LR	LR			
	comp=E,18μm,20.0s								
BCIP	**Isla Barro Col**	**45.65**	**350**	*eP*		**P**		**23 06 26.2**	**-0.3**
	comp=Z,1μm,2.0s								
BCIP					LR	LR			
	comp=E,3μm,19.0s								
VNA3	**Neumayer Olymp**	**47.55**	**157**	P		**P**		**23 06 42.6**	**+1.7**
JTS	**JuntasAbangare**	**47.67**	**344**	⇓*iP*		**P**		**23 06 44.0**	**+1.6**
JTS					pmax	pmax			
	comp=Z,214nm,2.5s								
JTS	**JuntasAbangare**	**47.67**	**344**	*eP*		**P**		**23 06 43.7**	**+1.4**
	comp=Z,287nm,1.5s								
JTS					LR	LR			
	comp=E,5μm,21.0s								
TRIS	**Tristan da Cun**	**47.88**	**110**	*eP*		**P**		**23 06 45.2**	**+1.4**
TRIS	**Tristan da Cun**	**47.88**	**110**	*eP*		**P**		**23 06 43.0**	**-0.9**
	comp=Z,968nm,2.0s								
TRIS					LR	LR			
	comp=E,12μm,20.0s								
VNA1	**Neumayer--Stat**	**47.89**	**156**	P		**P**		**23 06 45.2**	**+1.8**
VNA2	**Neumayer--Watz**	**48.22**	**156**	P		**P**		**23 06 47.8**	**+1.7**
GRGR	**Grenville**	**49.30**	**15**	*eP*		**P**		**23 06 54.0**	**-0.9**
	comp=Z,383nm,0.9s								
GRGR					LR	LR			
	comp=E,7μm,20.0s								
SNAA	**Sanae**	**49.78**	**157**	⇑*iP*		**P**		**23 06 58.6**	**+0.6**
SNAA	**Sanae**	**49.78**	**157**	*eP*		**P**		**23 06 58.1**	**+0.1**
SNAA					pmax	pmax			
	comp=Z,508nm,1.2s								
SNAA	**Sanae**	**49.78**	**157**	*eP*		**P**		**23 06 58.1**	**+0.1**
	comp=Z,508nm,1.2s								
PTCN	**Pitcairn Islan**	**49.79**	**266**	PFAKE					
PTCN					LR	LR		23 07 10.0	+11
	comp=Z,9μm,19.0s								
BBGH	**Gun Hill**	**50.74**	**17**	PFAKE					
BBGH					LR	LR		23 07 20.0	+14
	comp=Z,8μm,21.0s								
H05S1	**Guadeloupe/Mar**	**51.69**	**15**	P		**P**		**23 07 11.4**	**-1.5**
	SNR=43								
FDF	**Fort de France**	**51.93**	**15**	PFAKE					
FDF					LR	LR		23 07 30.0	+15
	comp=E,6μm,21.0s								
APG	**El Apazote**	**53.62**	**339**	LR		LR		23 25 06.2	
	comp=Z,7μm,21.3s,baz=155,slow=30								
QSPA	**South Pole Qui**	**53.98**	**180**	P		**P**		**23 07 30.4**	**+0.9**
	comp=Z,262nm,1.0s,baz=145,slow=3.8,SNR=195								
QSPA	**South Pole Qui**	**53.98**	**180**	*eP*		**P**		**23 07 30.4**	**+0.9**
QSPA					LR	LR			
	comp=Z,2μm,19.0s								
ICMP	**Isla Caja de M**	**54.19**	**8**	*eP*		**P**		**23 07 30.5**	**-0.8**
CRPR	**Cabo Rojo, PR**	**54.25**	**7**	*eP*		**P**		**23 07 30.3**	**-1.4**
	comp=Z,309nm,1.1s								
CDVI	**St. Croix**	**54.27**	**10**	*eP*		**P**		**23 07 28.8**	**-3.1**
	comp=Z,118nm,0.9s								
OBIP	**Obispado Ponce**	**54.34**	**7**	*eP*		**P**		**23 07 31.5**	**-0.9**
	comp=Z,372nm,1.0s								
MTDJ	**Mount Denham**	**54.37**	**355**	*eP*		**P**		**23 07 31.3**	**-1.4**
	comp=Z,489nm,1.6s								
MTDJ					LR	LR			
	comp=Z,2μm,22.0s								
CELP	**Cerrillos**	**54.38**	**7**	*eP*		**P**		**23 07 31.7**	**-1.0**
LSP	**Las Mesas**	**54.42**	**7**	*eP*		**P**		**23 07 31.5**	**-1.5**
MPR	**Mayaguez**	**54.45**	**7**	*eP*		**P**		**23 07 31.9**	**-1.3**
	comp=Z,156nm,1.2s								
SDD	**Santo Domingo**	**54.50**	**4**	*eP*		**P**		**23 07 32.5**	**-1.0**
	comp=Z,1μm,1.2s								
MTP	**Monte Pirata**	**54.51**	**9**	*eP*		**P**		**23 07 32.3**	**-1.4**
	comp=Z,206nm,1.3s								
HUMP	**Col San Antoni**	**54.52**	**8**	*eP*		**P**		**23 07 31.9**	**-1.8**
	comp=Z,221nm,1.3s								
NVL	**N'lazarevskaya**	**54.54**	**156**	*c iP*		**P**		**23 07 33.3**	**0.0**
NVL				*e**PP		**pP**		**23 07 39.0**	**-4.7**
NVL				*e*				23 08 36.6	
NVL				*e*PPP		PPP		23 10 46.2	
NVL					pmax	pmax			
	comp=Z,259nm,1.0s								
LRS	**Lares**	**54.56**	**7**	*eP*		**P**		**23 07 32.5**	**-1.6**
RKT	**Rikitea**	**54.64**	**266**	*eP*		P		23 07 42.4	+7.7
	comp=Z,129nm,1.3s								
RKT				*eS*		**S**		**23 15 17.7**	**+5.3**
	comp=Z,5μm,28.5s								
RKT				*eSS*		**SS**		**23 18 58.7**	**+3.3**
	comp=Z,2μm,28.8s								
RKT				*eLQ*		LQ		23 21 17.0	
	comp=Z,3μm,29.5s								
RKT				*eLR*		LR		23 23 33.2	
	comp=Z,12μm,27.5s,baz=124								
RKT	**Rikitea**	**54.64**	**266**	*eT*		T		00 05 53.9	
	comp=Z,4.0nm,0.2s								
PCDR	**Punta Cana, DR**	**54.65**	**5**	*eP*		**P**		**23 07 34.0**	**-0.6**
ANWB	**Willy Bob**	**54.66**	**13**	*eP*		**P**		**23 07 32.4**	**-2.3**
	comp=Z,527nm,1.8s								
ANWB					LR	LR			
	comp=Z,4μm,20.0s								
SMRT	**St. Maarten**	**54.82**	**11**	*eP*		**P**		**23 07 33.7**	**-2.2**
	comp=Z,120nm,1.4s								
STVI	**Saint Thomas**	**54.84**	**9**	*eP*		**P**		**23 07 34.2**	**-1.8**
	comp=Z,126nm,1.1s								
SDDR	**Presa de Saban**	**54.97**	**2**	*eP*		**P**		**23 07 36.0**	**-1.0**
	comp=Z,131nm,1.1s								
SDDR					LR	LR			
	comp=Z,4μm,21.0s								
SMN1	**Samana, DR**	**55.26**	**4**	*eP*		**P**		**23 07 38.2**	**-0.8**
GTBY	**Guantanamo Bay**	**55.92**	**358**	*eP*		**P**		**23 07 42.7**	**-1.0**
	comp=Z,344nm,1.3s								
GTBY					LR	LR			
	comp=Z,3μm,19.0s								
GRTK	**Grand Turk**	**57.49**	**2**	*eP*		**P**		**23 07 55.1**	**+0.2**
	comp=Z,319nm,1.0s								
GRTK					LR	LR			
	comp=Z,3μm,22.0s								
TEIG	**Tepich**	**58.03**	**343**	P		**P**		**23 07 59.2**	**+0.5**
	comp=Z,80nm,0.6s,baz=129,slow=2.0,SNR=54								
TEIG	**Tepich**	**58.03**	**343**	*eP*		**P**		**23 07 58.5**	**-0.2**
	comp=Z,1μm,2.2s								
TEIG					LR	LR			
	comp=Z,3μm,21.0s								
ASCN	**Ascension**	**60.12**	**77**	PFAKE				23 08 30.0	+17
ASCN					LR	LR			
	comp=Z,9μm,19.0s								
SBA	**Scott Base**	**60.72**	**192**	*eP*		**P**		**23 08 17.6**	**+1.0**
SBA					pmax	pmax			
	comp=Z,155nm,1.4s								
SBA					MLR	MLR			
	comp=Z,2μm,19.0s								
SBA	**Scott Base**	**60.72**	**192**	*eP*		**P**		**23 08 17.6**	**+1.0**
	comp=Z,155nm,1.4s								
SBA					LR	LR			
	comp=Z,2μm,19.0s								
VNDA	**Vanda**	**61.74**	**192**	P	

comp=Z,62nm,1.5s
PAE Paea 69.18 263 *e*T T 00 24 01.7
comp=Z,1.6nm,0.2s
PPT2 Papeete2 69.21 263 *e*P P 23 09 21.2 +8.3
comp=Z,358nm,1.3s
PPT2 *e*S **S 23 18 22.1 +5.3**
comp=Z,8µm,26.2s
PPT2 Papeete2 69.21 263 *e*LR LR 23 30 25.0
comp=Z,23µm,24.0s,baz=123
PPT2 Papeete2 69.21 263 *e*T T 00 24 03.7
comp=Z,4.3nm,0.2s
CSU Charleston Sou 69.21 354 *e*P **P 23 09 11.5 -0.8**
636A Smothers Creek 69.22 338 ⇑P **P 23 09 13.2 +0.8**
baz=70,SNR=18
PPT Papeete 69.22 263 *e*P **P 23 09 13.7 +0.8**
PPT Papeete 69.22 263 LR LR 23 31 46.6
comp=Z,12µm,19.7s,baz=104,slow=29
PPT Papeete 69.22 263 *e*P **P 23 09 13.7 +0.8**
733A Divot King Ran 69.24 335 ⇓P **P 23 09 12.9 +0.4**
baz=70
PMOR Pomariorio Ree 69.26 266 *e*P P 23 09 21.1 +8.0
comp=Z,93nm,1.0s
HKT Hockley 69.29 339 *e*P **P 23 09 12.4 -0.4**
HKT pmax pmax
comp=Z,334nm,1.7s
HKT Hockley 69.29 339 *e*P **P 23 09 12.4 -0.4**
comp=Z,334nm,1.7s
NHSC New Hope 69.34 354 PFAKE
NHSC LR LR
comp=Z,3µm,22.0s
635A Leesville 69.36 337 ⇓P **P 23 09 13.4 +0.2**
baz=70
538A Harpers Horsep 69.45 339 ⇑P **P 23 09 14.7 +0.9**
baz=70
732A Laxson Ranch, 69.48 335 ⇑P **P 23 09 13.9 -0.1**
baz=70,SNR=24
634A China Grove, S 69.54 336 ⇓P **P 23 09 14.3 -0.1**
baz=70
537A Green Hill Far 69.56 338 ⇑P **P 23 09 14.6 +0.1**
baz=70,SNR=6.9
536A Bastrop 69.78 338 ⇓P **P 23 09 15.7 -0.2**
baz=70,SNR=8.4
633A Saathoff Ranch 69.88 336 ⇓P **P 23 09 16.6 +0.1**
baz=70,SNR=6.4
535A Dale 69.89 337 ⇑P **P 23 09 16.1 -0.4**
baz=70,SNR=5.8
438A Sam Houston St 69.94 339 ⇓P **P 23 09 17.4 +0.6**
baz=70
GOGA Godfrey 70.01 351 *e*P **P 23 09 16.6 -0.6**
GOGA pmax pmax
comp=Z,343nm,1.4s
GOGA MLR MLR
comp=Z,3µm,19.0s
GOGA Godfrey 70.01 351 *e*P **P 23 09 16.6 -0.6**
comp=Z,343nm,1.4s
GOGA LR LR
comp=Z,3µm,19.0s
VBMS Vicksburg 70.09 344 *e*P **P 23 09 18.1 +0.4**
comp=Z,303nm,1.0s
632A Uvalde 70.13 335 ⇑P **P 23 09 17.9 -0.1**
baz=70,SNR=41
340A Bronson 70.14 341 ⇑P **P 23 09 18.3 +0.3**
baz=70
534A Blanco 70.18 337 ⇑P **P 23 09 17.9 -0.5**
baz=70,SNR=7.9
LRAL Lakeview Retre 70.19 347 *e*P **P 23 09 17.5 -0.8**
comp=Z,286nm,1.4s
437A Phantom Ranch, 70.21 339 ⇑P **P 23 09 18.7 +0.2**
baz=70
339A Huntington 70.24 340 ⇑P **P 23 09 19.0 +0.4**
baz=70
631A Perdido Creek 70.31 335 ⇓P **P 23 09 18.9 -0.3**
baz=71,SNR=13
436A Wall Ranch, Ga 70.34 338 ⇓P **P 23 09 19.7 +0.4**
baz=71,SNR=5.6
533A Kerrville 70.40 336 ⇑P **P 23 09 19.8 +0.1**
baz=71,SNR=19
338A Crockett 70.47 340 ⇑P **P 23 09 21.2 +1.1**
baz=71,SNR=7.6
435B Jarrell 70.60 338 ⇑P **P 23 09 20.9 +0.1**
baz=71,SNR=7.9
532A Rocksprings 70.74 335 ⇓P **P 23 09 22.1 +0.3**
baz=71,SNR=70
434A Burnet 70.84 337 ⇑P **P 23 09 22.0 -0.3**
baz=71,SNR=46
239A Gary 70.86 341 ⇓P **P 23 09 22.8 +0.4**
baz=71,SNR=5.8
336A Riesel 70.94 338 ⇓P **P 23 09 22.9 0.0**
baz=71,SNR=20
531A Rocksprings 70.99 335 ⇑P **P 23 09 23.8 +0.5**
baz=71,SNR=49
335A Moody 71.01 338 ⇑P **P 23 09 23.7 +0.3**
baz=71,SNR=12
238A Jacksonville 71.02 340 ⇓P **P 23 09 24.3 +0.9**
baz=71
JCT Junction City 71.03 336 *e*P **P 23 09 23.5 0.0**
JCT pmax pmax
comp=Z,384nm,1.4s
JCT MLR MLR
comp=Z,1µm,20.0s
JCT Junction City 71.03 336 ⇓P **P 23 09 23.8 +0.2**
baz=71,SNR=20
JCT Junction City 71.03 336 *e*P **P 23 09 23.5 0.0**
comp=Z,384nm,1.4s
JCT LR LR
comp=Z,1µm,20.0s
433A Art 71.05 336 ⇓P **P 23 09 23.5 -0.1**
baz=71,SNR=44
237A Washetta, Mont 71.21 340 ⇑P **P 23 09 24.7 +0.1**
baz=72,SNR=5.4
MAW Mawson 71.22 164 *e*P **P 23 09 23.7 -0.5**
MAW Mawson 71.22 164 P **P 23 09 24.7 +0.5**
comp=Z,121nm,1.0s,baz=212,slow=7.4,SNR=42
MAW LR LR 23 40 20.9
comp=Z,7µm,20.5s,baz=230,slow=36
MAW Mawson 71.22 164 *e*P **P 23 09 23.7 -0.5**
530A J-C Ranch, Com 71.25 334 ⇓P **P 23 09 25.4 +0.5**
baz=72,SNR=53
CNNC Cliffs of the 71.29 356 *e*P **P 23 09 24.4 -0.5**
comp=Z,341nm,1.2s
CNNC LR LR
comp=Z,2µm,20.0s
334A Lometa 71.31 337 ⇑P **P 23 09 25.4 +0.2**
baz=72,SNR=45
TXAR Lajitas Array 71.37 332 P **P 23 09 26.1 +0.4**
TXAR pmax pmax
comp=Z,13nm,0.6s
TXAR MLR MLR
comp=Z,7µm,18.4s
TXAR Lajitas Array 71.37 332 P **P 23 09 26.1 +0.4**
comp=Z,13nm,0.6s,baz=152,slow=8.2,SNR=144
TXAR LR LR 23 36 10.0
comp=Z,7µm,18.4s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 23 37 23.4 +9.5
comp=Z,1.5nm,1.0s,baz=317,slow=5.1,SNR=6.3
LTX Lajitas 71.37 332 *e*P **P 23 09 26.1 +0.4**
LTX Lajitas 71.37 332 *e*P **P 23 09 26.1 +0.4**
432A Menard 71.39 336 ⇑P **P 23 09 25.3 -0.4**
baz=72,SNR=19
KMSC Kings Mountain 71.47 353 ⇓P **P 23 09 25.5 -0.6**
baz=72,SNR=22
KMSC Kings Mountain 71.47 353 *e*P **P 23 09 25.2 -0.8**
comp=Z,326nm,1.3s
431A Sonora 71.48 335 ⇑P **P 23 09 26.3 0.0**
baz=72,SNR=26
333A Richland Sprin 71.54 337 ⇓P **P 23 09 26.5 -0.1**
baz=72,SNR=22
529A Stev Forest Ra 71.54 333 ⇑P **P 23 09 26.5 -0.2**
baz=72,SNR=34
138A Matatall Enter 71.64 340 ⇓P **P 23 09 27.8 +0.7**
baz=72
WHTX Lake Whitney, 71.68 338 ⇑P **P 23 09 27.5 +0.1**
baz=72,SNR=7.9
WHTX Lake Whitney, 71.68 338 *e*P **P 23 09 27.1 -0.3**
comp=Z,530nm,1.5s
137A Heron Place, G 71.76 340 ⇓P **P 23 09 28.4 +0.5**
baz=72
430A Baggett Ranch, 71.80 335 ⇓P **P 23 09 28.4 +0.2**
baz=72,SNR=31
332A Millersview 71.84 336 ⇑P **P 23 09 28.2 -0.2**
baz=72,SNR=13
429A Davenport Ranc 71.88 334 ⇑P **P 23 09 28.9 +0.2**
baz=72,SNR=31
234A Clairette 71.90 338 ⇓P **P 23 09 28.8 +0.1**
baz=72
331A San Angelo 72.00 335 ⇓P **P 23 09 29.4 0.0**
baz=72,SNR=39
OXF Oxford 72.07 346 *e*P **P 23 09 28.3 -1.4**
OXF pmax pmax
comp=Z,214nm,0.9s
OXF Oxford 72.07 346 *e*P **P 23 09 28.3 -1.4**
comp=Z,214nm,0.9s
SWET Sewanee 72.14 349 *e*P **P 23 09 29.5 -0.6**
233A Rising Star 72.15 337 ⇓P **P 23 09 30.1 -0.2**
baz=72,SNR=15
135A Vickery Place, 72.20 338 ⇓P **P 23 09 30.4 -0.1**
baz=72,SNR=7.6
TKL Tuckaleechee C 72.27 351 *e*P **P 23 09 29.9 -0.9**
TKL Tuckaleechee C 72.27 351 P **P 23 09 30.6 -0.2**
comp=Z,30nm,0.9s,baz=167,slow=8.1,SNR=37
TKL Tuckaleechee C 72.27 351 *e*P **P 23 09 29.9 -0.9**
232A Coleman 72.27 336 ⇑P **P 23 09 30.9 -0.1**
baz=73,SNR=26
330A Mertzon 72.34 335 ⇑P **P 23 09 31.4 0.0**
baz=73,SNR=18
134A White-Moore Ra 72.41 338 ⇓P **P 23 09 31.9 +0.1**
baz=73,SNR=6.9
ELIM Elim 72.44 120 *e*P **P 23 09 32.6 +0.3**
ELIM AMB AMB 23 09 33.6
comp=Z,210nm,1.7s
ELIM Elim 72.44 120 *e*P **P 23 09 32.6 +0.3**
231A Bronte 72.53 336 ⇑P **P 23 09 32.6 0.0**
baz=73,SNR=34
329A Wagon Wheel Ra 72.69 334 ⇑P **P 23 09 33.8 +0.2**
baz=73,SNR=25
133A Hamilton Ranch 72.70 337 ⇓P **P 23 09 33.2 -0.3**
baz=73,SNR=26
230A Sterling City 72.76 335 ⇓P **P 23 09 33.9 0.0**
baz=73,SNR=9.0
Z35A Perchaven, San 72.87 339 ⇓P **P 23 09 34.3 -0.2**
baz=73,SNR=19
ABTX Abilene, Hawle 72.95 337 ⇑P **P 23 09 35.3 +0.3**
baz=73,SNR=16
ABTX Abilene, Hawle 72.95 337 *e*P **P 23 09 34.9 -0.1**
comp=Z,452nm,1.4s
UALR University of 72.96 343 *e*P **P 23 09 34.6 -0.3**
comp=Z,155nm,1.3s
MIAR Mount Ida 73.03 342 *e*P **P 23 09 35.2 -0.2**
MIAR pmax pmax
comp=Z,305nm,1.5s
MIAR MLR MLR
comp=Z,2µm,19.0s
MIAR Mount Ida 73.03 342 *e*P **P 23 09 35.2 -0.2**
comp=Z,305nm,1.5s
MIAR LR LR
comp=Z,2µm,19.0s
229A Bryant Ranch, 73.07 335 ⇑P **P 23 09 35.9 +0.1**
baz=73,SNR=17
Z34A Collier Ranch, 73.11 338 ⇑P **P 23 09 35.6 -0.3**
baz=73,SNR=12
131A Roby 73.24 336 ⇑P **P 23 09 36.7 0.0**
baz=74,SNR=20
Z33A Whitaker Ranch 73.29 338 ⇑P **P 23 09 36.8 -0.1**
baz=74,SNR=21
WVT Waverly 73.35 347 *e*P **P 23 09 36.9 -0.3**
WVT pmax pmax
comp=Z,737nm,1.3s
WVT Waverly 73.35 347 *e*P **P 23 09 36.9 -0.3**
comp=Z,737nm,1.3s
130A Snyder 73.36 336 ⇑P **P 23 09 37.4 0.0**
baz=74,SNR=14
KOMG Komaggas 73.37 115 ⇑*i*P **P 23 09 38.8 +0.9**
KOMG AMB AMB 23 09 39.8
comp=Z,256nm,1.7s
KOMG AMS AMS 23 38 58.9
comp=Z,7µm,19.6s
KOMG Komaggas 73.37 115 *e*P **P 23 09 38.8 +0.9**
HALT Halls 73.41 346 *e*P **P 23 09 36.8 -0.8**
VWCC Virginia Weste 73.43 354 *e*P **P 23 09 36.7 -1.0**
BLA Blacksburg 73.44 354 *e*P **P 23 09 37.2 -0.6**
BLA pmax pmax
comp=Z,349nm,1.6s
BLA MLR MLR
comp=Z,2µm,20.0s
BLA Blacksburg 73.44 354 *e*P **P 23 09 37.2 -0.6**
comp=Z,349nm,1.6s
BLA LR LR
comp=Z,2µm,20.0s
228A UT Block 9, Go 73.48 334 ⇑P **P 23 09 38.0 -0.2**
baz=74,SNR=20
Z32A Haskell 73.53 337 ⇑P **P 23 09 38.1 -0.3**
baz=74,SNR=24
URVA University of 73.59 356 *e*P **P 23 09 38.3 -0.3**
GNAR Gosnell 73.60 346 *e*P **P 23 09 38.6 -0.1**
Y34A Reagan Ranch, 73.61 339 ⇓P **P 23 09 38.8 0.0**
baz=74,SNR=16
129A Stewart Farms, 73.69 335 ⇑P **P 23 09 39.7 +0.2**
baz=74,SNR=14
JSRW J. Sargeant Re 73.73 356 *e*P **P 23 09 39.7 +0.3**
Z31A Sharp Cattle R 73.75 336 ⇑P **P 23 09 39.6 -0.1**
baz=74,SNR=16
GLAT Glass 73.75 346 *e*P **P 23 09 39.4 -0.2**
128A Castleberry Fa 73.90 334 ⇑P **P 23 09 40.6 -0.1**
baz=74,SNR=28
Y33A Hilltop Ranch, 73.91 338 ⇑P **P 23 09 40.5 -0.1**
baz=74,SNR=23
Z30A Sanson Ranc 74.04 336 ⇑P **P 23 09 41.2 -0.2**
baz=74,SNR=21
MNTX Cornudas Mount 74.14 332 ⇑P **P 23 09 41.3 -0.7**
baz=74,SNR=73
Y32A R-V Farms, Ver 74.16 337 ⇓P **P 23 09 41.8 -0.3**
baz=74,SNR=10
GDL2 Guadalupe Moun 74.20 333 *e*P P 23 09 39.1 -3.4
CBN Corbin Frederi 74.21 356 PFAKE 23 09 50.0 +7.8
CBN LR LR
comp=Z,2µm,20.0s
Z29A Hungry Hill Ra 74.21 335 ⇓P **P 23 09 42.1 -0.4**
baz=74,SNR=14
PARMO Parma 74.22 346 *e*P **P 23 09 42.3 0.0**
X34A Smith Ranch, M 74.23 339 ⇓P **P 23 09 42.7 +0.3**
baz=74,SNR=12
DRV Dumont d'Urvil 74.34 193 P P 23 09 16.0 -27
DRV S SKiKP 23 18 45.0 -22
DRV SS SS 23 24 07.0 +7.7
DRV L L 23 28 00.0
DRV R 23 32 00.0
X33A Lawton 74.37 338 ⇓P **P 23 09 42.8 -0.5**
baz=75
SUR Sutherland 74.38 119 ⇑*i*P **P 23 09 45.2 +1.3**
SUR AMB AMB 23 09 46.1
comp=Z,183nm,1.6s
SUR AMS AMS 23 36 30.8
comp=Z,4µm,21.3s
SUR Sutherland 74.38 119 P **P 23 09 45.8 +1.9**
SNR=11
SUR Sutherland 74.38 119 *e*P **P 23 09 43.8 -0.2**
comp=Z,45nm,1.0s
SUR LR LR
comp=Z,7µm,20.0s
Y31A Rekieta Farm, 74.38 337 ⇓P **P 23 09 43.7 +0.3**
baz=75,SNR=11
PBMO Poplar Bluff 74.47 345 *e*P **P 23 09 43.2 -0.6**
comp=Z,264nm,1.3s
Z28A Tucker Farm, M 74.47 335 ⇓P **P 23 09 44.0 -0.1**
baz=75,SNR=7.3
X32A Elmer 74.50 338 ⇓P **P 23 09 43.9 -0.1**
baz=75,SNR=9.3
Y30A Stafford Cattl 74.51 336 ⇓P **P 23 09 44.1 -0.1**
baz=75
WMOK Wichita Mounta 74.64 338 *e*P **P 23 09 43.8 -1.0**
WMOK pmax pmax
comp=Z,220nm,1.4s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK Wichita Mounta 74.64 338 *e*P **P 23 09 43.8 -1.0**
comp=Z,220nm,1.4s
WMOK LR LR
comp=Z,2µm,21.0s
Y29A Porterfield Fa 74.75 335 ⇓P **P 23 09 45.3 -0.3**
baz=75
CPRX Cap Rock 74.76 333 *e*P P 23 09 39.0 -6.7
W34A Bridge Creek, 74.80 339 ⇑P **P 23 09 45.4 -0.4**
baz=75,SNR=6.2
W34A Bridge Creek, 74.80 339 *e*P **P 23 09 45.2 -0.5**
comp=Z,416nm,1.5s
TUL1 Leonard 74.89 341 ⇓P **P 23 09 45.8 -0.4**
baz=75,SNR=19
TUL1 Leonard 74.89 341 *e*P **P 23 09 45.2 -1.1**
comp=Z,275nm,1.1s
X31A McDonald Ranch 74.91 337 ⇓P **P 23 09 46.3 -0.2**
baz=75,SNR=19
W33A Caddo, Fort Co 74.93 339 ⇓P **P 23 09 46.9 +0.4**
baz=75,SNR=17
Y28A McKinney Farm, 74.99 335 ⇑P **P 23 09 46.7 -0.3**
baz=75,SNR=7.1
X30A Coker Ranch, T 75.02 336 ⇑P **P 23 09 47.0 -0.1**
baz=75,SNR=5.3
V35A Meyer Ranch, C 75.03 340 ⇑P **P 23 09 46.4 -0.7**
baz=75,SNR=15
USIN University of 75.11 348 *e*P **P 23 09 46.3 -1.1**
comp=Z,504nm,1.2s
W32A Sentinel 75.14 338 ⇑P **P 23 09 47.8 +0.1**
baz=76,SNR=44
WCI Wyandotte Cave 75.15 349 *e*P **P 23 09 46.3 -1.4**
WCI pmax pmax
comp=Z,352nm,1.9s
WCI Wyandotte Cave 75.15 349 *e*P **P 23 09 46.2 -1.4**
comp=Z,352nm,1.9s
MSTX Muleshoe 75.22 335 ⇑P **P 23 09 48.3 -0.1**
baz=76,SNR=9.1
MSTX Muleshoe 75.22 335 *e*P **P 23 09 48.3 -0.1**
comp=Z,174nm,1.2s
V34A Guthrie 75.29 340 ⇑P **P 23 09 48.1 -0.4**
baz=76,SNR=11
V34A Guthrie 75.29 340 *e*P **P 23 09 47.8 -0.7**
comp=Z,342nm,1.3s
X29A Tulia 75.29 336 ⇓P **P 23 09 48.3 -0.4**
baz=76,SNR=10
W31A Holland Ranch, 75.41 337 ⇓P **P 23 09 49.0 -0.3**
baz=76,SNR=9.5
319A Douglas 75.43 328 ⇑P **P 23 09 50.6 +1.0**
baz=76,SNR=17
V33A Lossen Ranch, 75.50 339 ⇓P **P 23 09 49.8 0.0**
baz=76,SNR=23
X28A Dimmitt 75.53 335 ⇑P **P 23 09 50.0 0.0**
baz=76
W30A Crocket Farms 75.60 337 ⇓P **P 23 09 50.4 -0.1**
baz=76
V32A Arapaho 75.63 338 ⇑P **P 23 09 51.2 +0.6**
baz=76,SNR=7.3
AMTX Amarillo 75.69 336 ⇑P **P 23 09 51.3 +0.4**
baz=76
AMTX Amarillo 75.69 336 *e*P **P 23 09 50.8 -0.2**
comp=Z,449nm,1.4s
121A Cookes Peak, D 75.82 330 ⇑P **P 23 09 53.1 +1.2**
baz=76,SNR=23
U34A Anderson Ranch 75.86 340 ⇑P **P 23 09 51.9 +0.1**
baz=76,SNR=12
U34A Anderson Ranch 75.86 340 *e*P **P 23 09 51.4 -0.4**
comp=Z,376nm,1.3s
W29A Amarillo 75.89 336 ⇓P **P 23 09 52.1 0.0**
baz=76,SNR=23
V31A Spring Creek L 75.92 338 ⇑P **P 23 09 53.1 +0.8**
baz=76,SNR=14
OLIL Olney 75.93 348 *e*P **P 23 09 50.8 -1.4**
comp=Z,411nm,1.5s
MVL Millersville 75.95 357 *e*P **P 23 09 52.0 -0.2**
comp=Z,227nm,1.4s
U33A Lingo Farm, Me 76.02 339 ⇑P **P 23 09 52.4 -0.3**
baz=76
BLO Bloomington 76.11 349 *e*P **P 23 09 51.9 -1.2**
BLO pmax pmax
comp=Z,162nm,1.0s
BLO Bloomington 76.11 349 *e*P **P 23 09 51.9 -1.2**
comp=Z,162nm,1.0s
V30A Spur Ranch, Mi 76.17 337 ⇑P **P 23 09 54.7 +1.0**
baz=76,SNR=6.8
LIC Lamto 76.18 72 *e*P **P 23 09 53.6 -0.6**
comp=Z,488nm,1.3s,baz=235
LIC Lamto 76.18 72 *e*P **P 23 09 53.0 -1.2**
comp=Z,496nm,1.3s
LIC Lamto 76.18 72 *e*P **P 23 09 53.6 -0.6**
W28A Vega 76.20 336 ⇓P **P 23 09 54.3 +0.3**
baz=76
SLM Saint Louis 76.23 346 *e*P **P 23 09 53.2 -0.6**
SLM pmax pmax
comp=Z,496nm,1.2s
SLM Saint Louis 76.23 346 *e*P **P 23 09 53.2 -0.6**
comp=Z,496nm,1.2s
U32A Winter Ranch, 76.23 339 ⇑P **P 23 09 54.3 +0.4**
baz=76,SNR=18
TIC Toumodi 76.45 71 *e*P **P 23 09 54.6 -1.1**
comp=Z,232nm,1.2s
U31A Nine Bar Ranch 76.47 338 ⇑P **P 23 09 55.8 +0.5**
baz=77
KIC Kosan Boka 76.49 72 *e*P **P 23 09 54.8 -1.1**
comp=Z,554nm,1.2s
LUPA Lehigh Univers 76.52 358 *e*P **P 23 09 54.3 -1.2**
comp=Z,40nm,1.7s
V29A Stinnett 76.54 336 ⇑P **P 23 09 56.2 +0.4**
baz=77
S36A Lake Cedric, C 76.55 342 ⇑P **P 23 09 55.3 -0.4**
baz=77,SNR=12
W26A Owens Ranch, T 76.58 334 ⇓P **P 23 09 56.5 +0.4**
baz=77,SNR=10
BRNJ Basking Ridge 76.59 359 *e*P **P 23 09 57.1 +1.3**
comp=Z,693nm,1.4s
DBIC Dimbokro 76.59 71 ⇑*i*P **P 23 09 56.6 +0.1**
DBIC Dimbokro 76.59 71 *e*P **P 23 09 56.3 -0.2**
DBIC pmax pmax
comp=Z,333nm,1.3s
DBIC Dimbokro 76.59 71 P **P 23 09 56.8 +0.3**
comp=Z,52nm,0.6s,baz=206,slow=5.5,SNR=92
DBIC LR LR 23 40 00.9
comp=Z,8µm,20.9s,baz=204,slow=33
DBIC Dimbokro 76.59 71 *e*P **P 23 09 56.3 -0.2**
comp=Z,333nm,1.3s
V28A Channing 76.66 336 ⇓P **P 23 09 56.8 +0.3**
baz=77,SNR=7.4
SSPA Standing Stone 76.66 356 *e*P **P 23 09 55.5 -0.7**
comp=Z,262nm,1.6s
T33A Patterson Ranc 76.66 339 ⇓P **P 23 09 56.5 +0.2**
baz=77,SNR=8.0
ACSO Alum Creek Sta 76.68 352 *e*P **P 23 09 55.5 -0.8**
comp=Z,868nm,1.5s
ACSO LR LR
comp=Z,4µm,20.0s
CPNY Central Park 76.69 359 *e*P **P 23 09 55.9 -0.5**
comp=Z,67nm,1.3s
BNM Barren Site 76.79 332 *e*P **P 23 09 57.8 +0.4**
Y22D IRIS PASSCAL I 76.83 332 ⇑P **P 23 09 59.0 +1.4**
baz=77
U30A WK&E Inc. Balk 76.87 337 ⇑P **P 23 09 57.9 +0.3**
baz=77,SNR=7.2
V27A Dan Oppiter Fa 76.87 335 ⇑P **P 23 09 58.1 +0.5**
baz=77
TUC Tucson 76.88 328 *e*P **P 23 09 58.8 +1.0**
TUC pmax pmax
comp=Z,185nm,1.5s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 76.88 328 *e*P **P 23 09 58.8 +1.0**
comp=Z,184nm,1.5s
TUC LR LR
comp=Z,3µm,19.0s
PAL Palisades 76.90 359 *e*P **P 23 09 56.5 -1.0**
PAL pmax pmax
comp=Z,102nm,1.4s
PAL Palisades 76.90 359 *e*P **P 23 09 56.5 -1.0**
comp=Z,102nm,1.4s
S34A Willow Spring 76.93 341 ⇓P **P 23 09 58.0 +0.2**
baz=77
LPM Los Pinos Moun 76.93 332 *e*P **P 23 09 59.1 +0.9**
LENM Lemitar 76.94 332 *e*P **P 23 09 58.2 0.0**
W25A X Bar L Ranch, 76.94 334 ⇓P **P 23 09 58.2 0.0**
baz=77,SNR=17
T32A Huddler Ranch, 76.95 339 ⇓P **P 23 09 58.1 +0.1**
baz=77,SNR=9.1
ODNJ Ogdensburg 76.99 359 *e*P **P 23 09 57.8 -0.3**
comp=Z,182nm,1.4s
U29A Oasis Ranch, S 76.99 337 ⇓P **P 23 09 58.6 +0.3**
baz=77
S33A Kaszmaul Farm, 77.07 340 ⇓P **P 23 09 58.6 -0.1**
baz=77,SNR=6.1
T31A Randall Ranch, 77.09 338 ⇑P **P 23 09 59.1 +0.3**
baz=77,SNR=7.1
YLE Yale 77.20 360 *e*P **P 23 09 58.6 -0.7**
comp=Z,539nm,1.4s
LAZ Ladron 77.21 332 *e*P **P 23 10 00.1 +0.3**
V26A Tequesquite Ra 77.23 335 ⇓P **P 23 09 59.7 -0.1**
baz=78,SNR=9.0
U28A Mallet 77.23 336 ⇑P **P 23 09 59.9 +0.2**
baz=78,SNR=5.0
W24A Lazy 6 Ranch, 77.28 333 ⇓P **P 23 10 00.7 +0.5**
baz=78,SNR=13
T30A Plains 77.31 338 ⇓P **P 23 10 00.5 +0.5**
baz=78
SFIN Lafayette 77.37 349 ⇓P **P 23 09 58.8 -1.4**
baz=78,SNR=6.2
SFIN Lafayette 77.37 349 *e*P **P 23 09 58.7 -1.5**
comp=Z,287nm,1.5s
ANMO Albuquerque 77.43 332 ⇑*e*P **P 23 10 01.6 +0.7**
ANMO pmax pmax

comp=Z,241nm,2.0s
ANMO Albuquerque 77.43 332 P P 23 10 02.5 +1.6
comp=Z,14nm,1.0s,baz=165,slow=5.9,SNR=34
ANMO LR LR 23 39 37.3
comp=Z,6µm,19.2s,baz=162,slow=32
ANMO Albuquerque 77.43 332 eP P 23 10 01.7 +0.7
comp=Z,168nm,1.3s
ANMO LR LR
comp=Z,7µm,20.0s
S32A Newby Ranch, P 77.44 339 ⇑P P 23 10 01.2 +0.5
baz=78
214A Organ Pipe Nat 77.47 326 ⇑P P 23 10 02.1 +1.1
baz=78,SNR=11
U27A Thompson Grove 77.47 336 ⇑P P 23 10 01.4 +0.3
baz=78,SNR=9.7
KSPA Keystone Colle 77.49 358 eP P 23 10 00.2 -0.7
comp=Z,122nm,1.4s
S31A Mullinville 77.52 339 ⇓P P 23 10 01.3 +0.1
baz=78,SNR=5.2
V25A Rancho No Teng 77.56 334 ⇓P P 23 10 01.9 +0.2
baz=78,SNR=13
T29A Hugoton 77.64 337 ⇑P P 23 10 02.1 +0.2
baz=78
R33A Olander Ranch, 77.73 340 ⇓P P 23 10 02.2 -0.2
baz=78,SNR=5.6
CASY Casey 77.75 181 eP P 23 10 01.9 -0.3
comp=Z,168nm,1.3s
CASY LR LR
comp=Z,4µm,20.0s
U26A Atchley Ranch, 77.75 335 ⇑P P 23 10 03.0 +0.2
baz=78,SNR=8.8
BRYW Bryant College 77.82 1 eP P 23 10 03.0 +0.3
comp=Z,318nm,1.3s
ALLY Alegheny Colle 77.82 354 eP P 23 10 02.0 -0.7
comp=Z,260nm,1.3s
GRM Grahamstown 77.82 122 ⇑iP P 23 10 03.4 +0.1
GRM AMS AMS 23 39 53.7
comp=Z,8µm,22.1s
GRM Grahamstown 77.82 122 eP P 23 10 03.4 +0.1
GRM Grahamstown 77.82 122 eP P 23 10 03.4 +0.1
S30A Montezuma 77.83 338 ⇓P P 23 10 03.4 +0.4
baz=78,SNR=9.7
T28A Walsh 77.87 337 ⇓P P 23 10 03.5 +0.2
baz=78,SNR=29
U25A Circle Dot Ran 77.99 334 ⇑P P 23 10 04.8 +0.7
baz=78,SNR=17
S29A Ulysses 78.02 337 ⇓P P 23 10 04.2 +0.2
baz=78,SNR=6.9
T27A Campo 78.02 336 ⇑P P 23 10 04.2 +0.1
baz=78,SNR=16
V23A Ortiz Mt. (NFS 78.04 333 ⇑P P 23 10 05.0 +0.6
baz=78,SNR=6.6
R32A Long Quarter, 78.05 340 ⇓P P 23 10 04.3 +0.2
baz=78,SNR=11
KSU1 Kansas State U 78.11 341 ⇓P P 23 10 04.0 -0.4
baz=78
KSU1 Kansas State U 78.11 341 eP P 23 10 04.1 -0.3
comp=Z,107nm,1.0s
KSU1 LR LR
comp=Z,2µm,21.0s
R31A Burdett 78.16 339 ⇑P P 23 10 05.0 +0.3
baz=78,SNR=10
QUA2 Belchertown 78.17 0 eP P 23 10 04.5 -0.1
comp=Z,220nm,1.3s
S28A Manter 78.23 337 ⇑P P 23 10 05.5 +0.3
baz=79,SNR=17
ERPA Erie 78.27 355 eP P 23 10 04.8 -0.5
comp=Z,318nm,1.4s
ERPA LR LR
comp=Z,2µm,20.0s
U24A Moreno Valley 78.30 334 ⇑P P 23 10 06.9 +0.9
baz=79
Q33A Connelly Farm, 78.34 340 ⇓P P 23 10 05.9 +0.2
baz=79
R30A Dighton 78.37 338 ⇓P P 23 10 06.5 +0.6
baz=79
HRV Adam Dziewonsk 78.41 1 eP P 23 10 05.5 -0.4
HRV pmax pmax
comp=Z,245nm,1.3s
HRV Adam Dziewonsk 78.41 1 eP P 23 10 05.5 -0.4
comp=Z,245nm,1.3s
T26A Comanche Natio 78.41 335 ⇓P P 23 10 07.1 +0.7
baz=79,SNR=16
X18A Snowflake 78.44 330 ⇑P P 23 10 07.5 +1.0
baz=79,SNR=9.9
V22A San Miguel Ran 78.46 332 ⇑P P 23 10 08.1 +1.4
baz=79,SNR=24
Q32A Meitler Ranch, 78.53 340 ⇓P P 23 10 07.2 +0.4
baz=79,SNR=5.7
U23A El Rito 78.56 333 ⇓P P 23 10 08.4 +1.1
baz=79,SNR=11
113A Mohawk Valley, 78.58 326 ⇑P P 23 10 08.2 +1.0
baz=79,SNR=7.9
TRY Troy 78.62 359 eP P 23 10 07.6 +0.5
comp=Z,318nm,1.3s
S27A Las Animas 78.64 336 ⇓P P 23 10 08.1 +0.6
baz=79
T25A Trinidad 78.65 335 ⇑P P 23 10 08.6 +0.8
baz=79,SNR=32
T25A Trinidad 78.65 335 eP P 23 10 08.3 +0.5
comp=Z,391nm,1.4s
HVD Gariep Dam 78.68 120 ⇑iP P 23 10 08.7 +0.4
HVD AMS AMS 23 40 54.3
comp=Z,8µm,19.7s
HVD Gariep Dam 78.68 120 eP P 23 10 08.7 +0.4
HVD Gariep Dam 78.68 120 eP P 23 10 08.7 +0.4
P33A Williams Farm, 78.71 341 ⇑P P 23 10 08.1 +0.3
baz=79
Z14A Wintersburg 78.72 327 ⇓P P 23 10 09.2 +1.3
baz=79
MMNY Mt. Morris Dam 78.75 356 eP P 23 10 07.3 -0.6
comp=Z,710nm,1.4s
R29A Marienthal 78.76 338 ⇓P P 23 10 08.3 +0.2
baz=79,SNR=5.6
S26A Kim 78.77 336 ⇓P P 23 10 08.8 +0.6
baz=79,SNR=28
Q31A Ellis 78.78 339 ⇑P P 23 10 08.4 +0.3
baz=79,SNR=9.1
AAM Ann Arbor 78.80 352 eP P 23 10 07.2 -0.9
AAM pmax pmax
comp=Z,351nm,1.4s
AAM MLR MLR
comp=Z,4µm,20.0s
AAM Ann Arbor 78.80 352 eP P 23 10 07.2 -0.9
comp=Z,351nm,1.4s
AAM LR LR
comp=Z,4µm,20.0s
W18A Petrified Fore 78.86 330 ⇑P P 23 10 09.7 +0.9
baz=79,SNR=6.3
W18A Petrified Fore 78.86 330 eP P 23 10 09.4 +0.5
comp=Z,347nm,1.4s
R28A Tribune 78.89 337 ⇓P P 23 10 09.3 +0.4
baz=79,SNR=10
T24B San Luis 78.92 334 ⇓P P 23 10 10.4 +1.1
baz=79,SNR=12
X16A Lo Mia Camp, P 78.96 328 ⇑P P 23 10 10.7 +1.2
baz=79,SNR=18
Q30A Quinter 79.00 339 ⇑P P 23 10 09.7 +0.3
baz=79,SNR=14
S25A Robets Cordova 79.13 335 ⇑P P 23 10 11.2 +0.8
baz=80,SNR=27
P32A Huiting Farm, 79.13 340 ⇓P P 23 10 10.3 +0.3
baz=80
T23A Casias Ranch, 79.13 334 ⇑P P 23 10 11.3 +0.8
baz=79,SNR=7.2
Q29A Oakley 79.14 338 ⇑P P 23 10 10.3 +0.1
baz=80,SNR=5.6
R27A Eads 79.16 336 ⇑P P 23 10 10.6 +0.2
baz=80,SNR=15
Y14A Wickenburg 79.23 327 ⇑P P 23 10 11.6 +0.8
baz=80,SNR=5.6
P31A Stockton 79.26 339 ⇓P P 23 10 10.9 +0.1
baz=80,SNR=7.1
ACCN Adirondack Com 79.28 359 eP P 23 10 09.8 -0.9
comp=Z,253nm,1.4s
TSUM Tsumeb 79.30 106 ⇑iP P 23 10 12.6 +0.8
TSUM Tsumeb 79.30 106 eP P 23 10 11.9 +0.1
comp=Z,187nm,1.4s
TSUM LR LR
comp=Z,8µm,20.0s
GLA Glamis 79.31 325 eP P 23 10 11.9 +0.7
GLA pmax pmax
comp=Z,204nm,1.4s
GLA Glamis 79.31 325 ⇑P P 23 10 12.7 +1.5
baz=80,SNR=9.0
GLA Glamis 79.31 325 eP P 23 10 11.9 +0.7
comp=Z,204nm,1.4s
FFD Franklin Falls 79.37 1 eP P 23 10 12.1 +1.0
comp=Z,260nm,1.3s
R26A Arlington 79.38 336 ⇑P P 23 10 12.2 +0.6
baz=80,SNR=30
S24A Houchin Ranch, 79.38 334 ⇓P P 23 10 13.0 +1.2
baz=80,SNR=26
R25A Fountain Ranch 79.52 335 ⇑P P 23 10 13.2 +0.8
baz=80
P30A Selden 79.53 339 ⇓P P 23 10 12.9 +0.6
baz=80,SNR=6.7
Q28A Sharon Springs 79.56 338 ⇓P P 23 10 13.4 +0.9
baz=80
HNH Hanover 79.59 0 eP P 23 10 12.7 +0.3
comp=Z,212nm,1.4s
O32A Brockman Farm, 79.64 341 ⇑P P 23 10 12.7 -0.1
baz=80
BOSA Boshof 79.66 118 ⇑iP P 23 10 13.8 +0.1
BOSA AMB AMB 23 10 14.2
comp=Z,288nm,1.6s
BOSA AMS AMS 23 40 36.1
comp=Z,5µm,20.3s
BOSA Boshof 79.66 118 P P 23 10 13.7 +0.1
BOSA pmax pmax
comp=Z,187nm,0.9s
BOSA Boshof 79.66 118 P P 23 10 13.7 +0.1
comp=Z,187nm,0.9s,baz=239,slow=5.2,SNR=129
BOSA LR LR 23 43 45.1
comp=Z,6µm,18.2s,baz=237,slow=34
BOSA Boshof 79.66 118 eP P 23 10 13.7 +0.1
SWSC Sam W. Stewart 79.67 324 ⇓P P 23 10 14.7 +1.6
baz=80,SNR=7.4
S23A Nye Farm, Mont 79.72 334 ⇑P P 23 10 14.3 +0.7
baz=80
Y12C Blythe 79.75 326 ⇓P P 23 10 14.7 +1.1
baz=80,SNR=7.1
KSCO Kaye Shedlock' 79.76 337 ⇓P P 23 10 14.3 +0.7
baz=80
KSCO Kaye Shedlock' 79.76 337 eP P 23 10 14.5 +0.9
comp=Z,526nm,1.5s
P29A Atwood 79.78 338 ⇑P P 23 10 14.1 +0.4
baz=80,SNR=5.9
O31A Woolen Ranch, 79.83 340 ⇑P P 23 10 14.2 +0.4
baz=80
BAR Barrett 79.87 324 eP P 23 10 13.4 -0.8
NCB Newcomb 79.87 359 PFAKE 23 10 30.0 +16
NCB LR LR
comp=Z,3µm,20.0s
R24A Sanders Place, 79.88 335 ⇑P P 23 10 15.1 +0.7
baz=80,SNR=30
WUAZ Wupatki 79.88 329 ⇑P P 23 10 15.4 +1.0
baz=80,SNR=21
WUAZ Wupatki 79.88 329 eP P 23 10 15.3 +1.0
comp=Z,261nm,1.5s
WUAZ LR LR
comp=Z,3µm,20.0s
MDV Middlebury 79.89 360 eP P 23 10 13.5 -0.5
MONP Monument Peak, 79.92 324 ⇓P P 23 10 16.0 +1.3
baz=80,SNR=5.5
Q26A Hugo 79.97 336 ⇓P P 23 10 15.5 +0.7
baz=80,SNR=9.9
SCIA State Center 79.98 345 eP P 23 10 14.1 -0.5
comp=Z,472nm,1.4s
SCIA LR LR
comp=Z,2µm,22.0s
P28A Saint Francis 80.00 338 ⇓P P 23 10 15.4 +0.5
baz=80
PDMCI Pard Dam,Lak 80.04 326 ⇑P P 23 10 16.1 +1.0
baz=80
S22A 4UR Ranch, Cre 80.05 333 ⇓P P 23 10 16.6 +1.2
baz=80,SNR=18
S22A 4UR Ranch, Cre 80.05 333 eP P 23 10 15.9 +0.5
comp=Z,242nm,1.6s
O30A MW Ranch, Wils 80.06 339 ⇓P P 23 10 15.5 +0.4
baz=80,SNR=7.1
R23A Moffat 80.09 334 ⇓P P 23 10 16.3 +0.7
baz=80,SNR=7.7
BC3 Big Chuckawall 80.10 325 ⇑P P 23 10 16.9 +1.3
baz=80,SNR=46
N32A Stulken Farm, 80.12 341 ⇓P P 23 10 15.7 +0.3
baz=80
MVCO Mesa Verde 80.20 332 ⇑P P 23 10 17.1 +1.0
baz=80,SNR=14
MVCO Mesa Verde 80.20 332 eP P 23 10 16.6 +0.5
comp=Z,181nm,1.4s
MVCO LR LR
comp=Z,10µm,20.0s
Q25A Bedland, Calha 80.20 336 ⇑P P 23 10 16.4 +0.3
baz=80,SNR=10
O29A 4D Ranch, Culb 80.22 339 ⇑P P 23 10 16.5 +0.5
baz=81
P27A Ficken Ranch, 80.24 337 ⇑P P 23 10 16.8 +0.6
baz=81
109C Camp Elliot, M 80.25 323 ⇓P P 23 10 17.2 +0.9
baz=80
N31A Bailey Ranch, 80.35 340 ⇓P P 23 10 17.0 +0.4
baz=81
JFWS Jewell Farm 80.37 347 eP P 23 10 15.9 -0.7
JFWS pmax pmax
comp=Z,584nm,1.5s
JFWS MLR MLR
comp=Z,3µm,20.0s
JFWS Jewell Farm 80.37 347 eP P 23 10 15.9 -0.7
comp=Z,584nm,1.5s
JFWS LR LR
comp=Z,3µm,20.0s
IRM Iron Mountain 80.38 326 ⇑P P 23 10 17.8 +0.8
baz=81,SNR=13
PTN Potsdam (NY) 80.48 359 eP P 23 10 16.8 -0.3
PTN pmax pmax
comp=Z,366nm,1.4s
PTN Potsdam (NY) 80.48 359 eP P 23 10 16.8 -0.3
comp=Z,366nm,1.4s
P26A Davis Ranch, A 80.49 337 ⇑P P 23 10 18.4 +0.8
baz=81,SNR=8.1
O28A Krutsinger Ran 80.52 338 ⇓P P 23 10 18.3 +0.7
baz=81,SNR=7.2
LONY Lake Ozonia 80.52 359 eP P 23 10 16.8 -0.6
comp=Z,219nm,1.3s
LONY LR LR
comp=Z,2µm,19.0s
PFO Pinyon Flats O 80.53 324 P P 23 10 20.4 +2.5
PFO pmax pmax
comp=Z,13nm,0.8s
PFO MLR MLR
comp=Z,4µm,18.1s
PFO Pinyon Flats O 80.53 324 P P 23 10 20.4 +2.5
comp=Z,13nm,0.8s,baz=150,slow=4.5,SNR=12
PFO LR LR 23 39 42.3
comp=Z,4µm,18.1s,baz=150,slow=31
PFO Pinyon Flats O 80.53 324 ⇓P P 23 10 18.9 +1.1
baz=81,SNR=7.5
PFO Pinyon Flats O 80.53 324 eP P 23 10 20.4 +2.5
comp=Z,233nm,1.4s
PFO LR LR
comp=Z,3µm,19.0s
Q24A Divide 80.55 335 ⇑P P 23 10 18.6 +0.4
baz=81,SNR=7.4
Q24A Divide 80.55 335 eP P 23 10 18.0 -0.1
comp=Z,316nm,1.5s
W13A Hualapai Mount 80.60 327 ⇑P P 23 10 19.4 +1.0
baz=81
BELC Belle Mtn. Jos 80.64 325 ⇓P P 23 10 19.3 +0.8
baz=81,SNR=7.0
N30A Hueftle Ranch, 80.64 339 ⇑P P 23 10 18.6 +0.3
baz=81
NEE2 Needles Airpor 80.65 326 ⇓P P 23 10 19.5 +1.1
baz=81
BGNE Belgrade 80.68 341 ⇓P P 23 10 18.6 +0.2
baz=81
BGNE Belgrade 80.68 341 eP P 23 10 17.9 -0.5
comp=Z,537nm,1.4s
P25A Willow Gulch B 80.72 336 ⇑P P 23 10 19.8 +1.0
baz=81,SNR=18
Q23A Hartsel 80.73 335 ⇑P P 23 10 19.6 +0.6
baz=81
EMMW East Machias 80.75 4 eP P 23 10 18.3 -0.2
comp=Z,239nm,1.4s
ODZ Otahua Downs 80.77 220 eP P 23 10 19.8 +0.6
comp=Z,84nm,1.3s
O27A Beecher Island 80.79 337 ⇑P P 23 10 19.8 +0.6
baz=81
N29A Votaw Ranch, W 80.82 339 ⇓P P 23 10 19.8 +0.6
baz=81,SNR=5.2
M31A Lambtecht Ranc 80.84 340 ⇑P P 23 10 19.7 +0.4
baz=81
SADO Sadowa 80.85 356 P P 23 10 18.7 -0.5
comp=Z,18nm,0.8s,baz=189,slow=4.5,SNR=23
SADO Sadowa 80.85 356 eP P 23 10 18.7 -0.5
MURC Murrieta 80.87 324 ⇓P P 23 10 21.0 +1.4
baz=81,SNR=8.0
P24A Kohler Place, 80.96 335 ⇑P P 23 10 20.8 +0.6
baz=81
N28A Pribbeno Ranch 80.96 338 ⇓P P 23 10 20.5 +0.6
baz=81
KHZ Kahutara 80.98 223 eP P 23 10 20.2 0.0
comp=Z,73nm,1.2s
PV01 Paradox Valley 81.04 332 eP P 23 10 21.3 +0.6
U15A North Rim 81.04 329 ⇓P P 23 10 22.0 +1.2
baz=81,SNR=24
SNZO South Karori 81.05 225 PFAKE 23 10 30.0 +9.4
SNZO LR LR
comp=Z,3µm,21.0s
O26A Horse Wrangler 81.10 337 ⇑P P 23 10 21.8 +1.0
baz=81,SNR=7.5
LDFC Landfair 81.13 326 eP P 23 10 21.7 +0.6
comp=Z,265nm,1.3s
GMRC Granite Mounta 81.13 326 ⇑P P 23 10 22.2 +1.1
baz=81,SNR=20
P23A Jefferson 81.15 335 ⇑P P 23 10 22.3 +0.9
baz=82
PV05 Paradox Valley 81.19 332 eP P 23 10 22.3 +0.9
PKME Peaks-Kenny Pk 81.22 3 eP P 23 10 20.1 -0.9
comp=Z,71nm,1.3s
PKME LR LR
comp=Z,1µm,20.0s
O25A Wiggins 81.24 336 ⇓P P 23 10 22.6 +1.1
baz=82
M30A Dale-Ortello V 81.27 340 ⇑P P 23 10 21.5 0.0
baz=82
BBRC Big Bear Solar 81.28 324 ⇑P P 23 10 23.2 +1.1
baz=82
CIS Catalina Islan 81.30 323 ⇑P P 23 10 23.9 +2.0
baz=82
OGNE Ogallala 81.35 338 ⇓P P 23 10 22.6 +0.5
baz=82
OGNE Ogallala 81.35 338 PFAKE 23 10 30.0 +8.0
OGNE LR LR
comp=Z,2µm,20.0s
N27A Anderson Farm, 81.37 338 ⇓P P 23 10 22.7 +0.5
baz=82,SNR=11
SMCO Snowmass 81.38 334 eP P 23 10 23.0 +0.4
comp=Z,197nm,1.4s
BKZ Black Stump Fm 81.40 227 eP P 23 10 23.2 +0.6
comp=Z,261nm,1.6s
M29A Burnside Ranch 81.41 339 ⇓P P 23 10 23.0 +0.7
baz=82
PV10 Paradox Valley 81.43 332 eP P 23 10 22.8 +0.1
KSD Kokstad 81.45 122 ⇑iP P 23 10 23.4 +0.2
KSD AMB AMB 23 10 36.1
comp=Z,45nm,2.0s
KSD Kokstad 81.45 122 eP P 23 10 23.4 +0.2
ISCO Idaho Springs 81.46 335 eP P 23 10 23.0 +0.1
ISCO pmax pmax
comp=Z,212nm,1.8s
ISCO MLR MLR
comp=Z,3µm,19.0s
ISCO Idaho Springs 81.46 335 ⇓P P 23 10 23.5 +0.6
baz=82,SNR=33
ISCO Idaho Springs 81.46 335 eP P 23 10 23.0 +0.1
comp=Z,212nm,1.8s
ISCO LR LR
comp=Z,3µm,19.0s
RPZ Rata Peaks 81.46 221 eP P 23 10 23.3 +0.5
comp=Z,108nm,1.2s
HEC Hector Ludlow 81.48 325 ⇑P P 23 10 23.9 +1.0
baz=82,SNR=7.6
FMP Fort Macarthur 81.49 323 ⇓P P 23 10 23.8 +0.9
baz=82
SEK Senekal 81.52 119 ⇑iP P 23 10 23.7 +0.1
SEK AMB AMB 23 10 24.6
comp=Z,259nm,1.5s
SEK AMS AMS 23 40 59.4
comp=Z,6µm,21.9s
SEK Senekal 81.52 119 eP P 23 10 23.7 +0.1
WHZ Wether Hill Ro 81.56 218 eP P 23 10 23.4 +0.1
comp=Z,140nm,1.5s
M28A Bar X Bar Ranc 81.56 339 ⇓P P 23 10 24.2 +1.0
baz=82
O24A Longmont 81.56 336 ⇑P P 23 10 23.8 +0.5
baz=82
PV09 Paradox Valley 81.57 332 eP P 23 10 23.8 +0.3
L31A Butterfield Fa 81.58 341 ⇓P P 23 10 23.6 +0.4
baz=82,SNR=7.8
N26A Koester Ranch, 81.61 337 ⇑P P 23 10 24.3 +0.9
baz=82
L30A Spencer Herefo 81.61 340 ⇑P P 23 10 24.0 +0.6
baz=82
URZ Urewera 81.61 228 P P 23 10 25.6 +1.9
comp=Z,17nm,1.0s,baz=26,slow=3.1,SNR=6.1
URZ Urewera 81.61 228 eP P 23 10 24.5 +0.8
comp=Z,86nm,1.3s
BFSC Mount Baldy Ra 81.61 324 ⇑P P 23 10 24.7 +1.0
baz=82,SNR=8.7
P22A Eagle 81.67 334 ⇑P P 23 10 24.6 +0.6
baz=82,SNR=9.4
RUDU RUNDU 81.69 106 ⇑iP P 23 10 25.4 +0.8
RUDU AMB AMB 23 10 26.6
comp=Z,298nm,1.6s
RUDU AMS AMS 23 45 06.3
comp=Z,6µm,18.3s
RUDU RUNDU 81.69 106 eP P 23 10 25.4 +0.8
KNB Kanab 81.76 329 eP P 23 10 25.4 +1.0
KNB pmax pmax
comp=Z,1µm,2.4s
KNB Kanab 81.76 329 eP P 23 10 25.4 +1.0
comp=Z,1µm,2.4s
TUQ Turquoise Moun 81.79 326 ⇓P P 23 10 25.6 +1.1
baz=82,SNR=8.8
MWC Mount Wilson 81.79 324 eP P 23 10 25.1 +0.4
MWC Mount Wilson 81.79 324 eP P 23 10 25.1 +0.4
PASC Pasadena Art C 81.81 323 eP P 23 10 25.3 +0.7
comp=Z,261nm,1.8s
RRX Edison Barstow 81.83 325 ⇑P P 23 10 25.8 +1.1
baz=82
N25A Grover 81.86 337 ⇓P P 23 10 25.8 +0.9
baz=82
L29A Maesberg Ranch 81.92 340 ⇑P P 23 10 25.6 +0.6
baz=82
O23A Lake Granby, G 81.93 335 ⇑P P 23 10 26.0 +0.6
baz=82,SNR=18
DECC Green Verdugo 81.94 323 ⇑P P 23 10 26.4 +1.1
baz=82
M27A Reverse DX Ran 81.99 338 ⇓P P 23 10 26.1 +0.6
baz=82
LBTB Lobatse 82.01 115 ⇑iP P 23 10 26.1 -0.1
LBTB AMB AMB 23 10 27.1
comp=Z,282nm,1.6s
LBTB AMS AMS 23 45 36.3
comp=Z,6µm,18.0s
LBTB Lobatse 82.01 115 eP P 23 10 25.8 -0.4
LBTB pmax pmax
comp=Z,189nm,0.9s
LBTB Lobatse 82.01 115 eP P 23 10 25.8 -0.4
comp=Z,189nm,0.9s
GSC Goldstone, Bar 82.08 325 eP P 23 10 26.9 +0.8
GSC pmax pmax
comp=Z,241nm,1.8s
GSC Goldstone, Bar 82.08 325 ⇓P P 23 10 26.8 +0.7
baz=82,SNR=10
GSC Goldstone, Bar 82.08 325 eP P 23 10 26.9 +0.8
comp=Z,241nm,1.8s
O22A Kremmling 82.10 335 ⇓P P 23 10 26.7 +0.4
baz=82,SNR=20
N24A Carr 82.14 336 ⇓P P 23 10 27.4 +1.1
baz=82
M26A McRoberts Ranc 82.16 338 ⇓P P 23 10 27.0 +0.6
baz=82
PRYS Parys 82.16 118 ⇑iP P 23 10 26.7 -0.3
PRYS AMS AMS 23 44 45.6
comp=Z,4µm,18.8s
PRYS Parys 82.16 118 eP P 23 10 26.7 -0.3
L28A Connealy Angus 82.17 339 ⇑P P 23 10 27.1 +0.8
baz=82
K30A Basset 82.25 340 ⇓P P 23 10 27.5 +0.8
baz=83
EDW2 Edwards Air Fo 82.30 324 ⇓P P 23 10 27.6 +0.5
baz=83,SNR=5.8
SHOC Shoshone, Teco 82.34 326 ⇓P P 23 10 28.2 +0.9
baz=83
SHPR Sheep Range 82.34 327 eP P 23 10 28.9 +1.4
BSC Santa Cruz Isl 82.37 322 ⇓P P 23 10 28.5 +1.0
baz=83
M25A Palm-Egli Farm 82.42 337 ⇑P P 23 10 28.5 +0.8
baz=83
OSI Osito Audit: C 82.43 323 ⇑P P 23 10 29.1 +1.2
baz=83

OSI **Osito Audit: C** 82.43 323 eP P 23 10 27.1 -0.7
comp=Z,38nm,1.3s
CCUT **Cedar City** 82.44 329 eP P 23 10 29.3 +1.2
comp=Z,379nm,1.7s
KSR **Koster** 82.47 116⇑ iP P 23 10 28.5 -0.1
KSR AMB AMB 23 10 29.6
comp=Z,113nm,1.5s
KSR **Koster** 82.47 116 eP P 23 10 28.5 -0.1
L27A **T5 Ranch, Ells** 82.47 338 ⇑P P 23 10 28.5 +0.5
baz=83
ECSD **EROS Data Cent** 82.48 343 ⇑P P 23 10 27.6 -0.3
baz=83,SNR=59
ECSD **EROS Data Cent** 82.48 343 eP P 23 10 27.5 -0.3
comp=Z,344nm,1.1s
ECSD LR LR
comp=Z,2μm,22.0s
WDLM **Western Deep L** 82.50 117 eP P 23 10 28.4 -0.4
WDLM AMB AMB 23 10 29.6
comp=Z,124nm,1.5s
K29A **Lazy Trails An** 82.53 340 ⇑P P 23 10 28.6 +0.5
baz=83,SNR=5.5
N23A **Red Feather La** 82.55 335 ⇓P P 23 10 29.2 +0.6
baz=83,SNR=12
N23A **Red Feather La** 82.55 335 eP P 23 10 28.6 0.0
comp=Z,170nm,1.5s
SRU **San Rafael Swe** 82.64 331 eP P 23 10 29.4 +0.4
SRU pmax pmax
comp=Z,137nm,1.3s
SRU **San Rafael Swe** 82.64 331 eP P 23 10 29.4 +0.4
comp=Z,138nm,1.3s
LRMC **Laurel Mtn Rad** 82.64 325 ⇑P P 23 10 30.0 +1.0
baz=83
N22A **Wattenberg Ran** 82.64 335 ⇓P P 23 10 29.9 +0.9
baz=83,SNR=16
L26A **Underwood Farm** 82.66 338 ⇓P P 23 10 29.8 +0.9
baz=83
O20A **White River Ci** 82.68 333 ⇓P P 23 10 29.3 +0.2
baz=83,SNR=8.8
O20A **White River Ci** 82.68 333 eP P 23 10 28.4 -0.8
comp=Z,227nm,1.5s
ARUT **Antelope Range** 82.68 329 eP P 23 10 29.6 +0.4
ARUT **Antelope Range** 82.68 329 eP P 23 10 29.6 +0.4
PQI **Presque Isle** 82.68 3 eP P 23 10 28.3 -0.4
comp=Z,184nm,1.3s
KLOF **Kloof** 82.68 117 eP P 23 10 29.6 -0.1
KLOF AMB AMB 23 10 30.5
comp=Z,168nm,1.6s
KLOF **Kloof** 82.68 117 eP P 23 10 29.6 -0.1
M24A **Cheyenne** 82.69 336 ⇑P P 23 10 30.1 +0.9
baz=83,SNR=8.7
PHWY **Pilot Hill** 82.75 336 eP P 23 10 29.5 -0.1
comp=Z,216nm,1.5s
K28A **Ten Mile Ranch** 82.78 339 ⇓P P 23 10 30.0 +0.6
baz=83,SNR=9.0
MVU **Marysvale** 82.78 330 eP P 23 10 30.7 +0.9
comp=Z,182nm,1.5s
J30A **Dallas** 82.83 341 ⇓P P 23 10 29.8 +0.2
baz=83
ARVC **Arvin** 82.90 324 ⇓P P 23 10 31.1 +0.9
baz=83
M23A **Laramie** 82.99 336 ⇑P P 23 10 31.0 +0.2
baz=83,SNR=5.7
K27A **Flueckinger Fa** 83.02 339 ⇓P P 23 10 31.5 +0.8
baz=83
MPMC **Manual Prospec** 83.02 325 ⇓P P 23 10 31.8 +0.7
baz=83,SNR=27
L25A **Engebretsen Ra** 83.04 337 ⇑P P 23 10 31.6 +0.7
baz=83
TMUT **Trail Mountain** 83.06 331 eP P 23 10 32.2 +0.9
comp=Z,445nm,1.7s
FURC **Furnace Creek,** 83.07 326 ⇑P P 23 10 32.5 +1.5
baz=83,SNR=5.8
SPMN **Marine on St.** 83.08 346 ⇑P P 23 10 29.7 -1.3
baz=83,SNR=7.4
SPMN **Marine on St.** 83.08 346 eP P 23 10 29.6 -1.3
comp=Z,232nm,1.4s
J29A **Okreek** 83.12 340 ⇓P P 23 10 31.5 +0.3
baz=84,SNR=21
ISA **Isabella, Lake** 83.16 324 eP P 23 10 31.3 -0.4
ISA pmax pmax
comp=Z,924nm,2.8s
ISA **Isabella, Lake** 83.16 324 ⇑P P 23 10 33.1 +1.5
baz=84,SNR=7.0
ISA **Isabella, Lake** 83.16 324 eP P 23 10 31.2 -0.4
comp=Z,924nm,2.8s
PKM **Mcpherson Peak** 83.19 323 ⇑P P 23 10 33.3 +1.4
baz=84,SNR=11
TPNV **Topopah Spring** 83.19 326 eP P 23 10 32.6 +0.7
TPNV pmax pmax
comp=Z,840nm,2.6s
TPNV **Topopah Spring** 83.19 326 ⇓P P 23 10 33.0 +1.1
baz=84,SNR=8.7
TPNV **Topopah Spring** 83.19 326 eP P 23 10 32.6 +0.7
comp=Z,840nm,2.6s
M22A **Cedar Creek Ra** 83.22 335 ⇑P P 23 10 32.7 +0.6
baz=84,SNR=7.5
L24A **Wheatland** 83.25 337 ⇓P P 23 10 32.7 +0.7
baz=84
DAC **Darwin (Calif)** 83.25 325 eP P 23 10 32.4 +0.1
DAC pmax pmax
comp=Z,86nm,1.1s
DAC **Darwin (Calif)** 83.25 325 eP P 23 10 32.4 +0.1
comp=Z,86nm,1.1s
COWI **Conover** 83.28 349 eP P 23 10 31.0 -0.9
comp=Z,175nm,1.3s
COWI LR LR
comp=Z,2μm,20.0s
K26A **Motz Farm, Whi** 83.30 338 ⇑P P 23 10 32.7 +0.5
baz=84
N20A **Spence Gulch,** 83.30 334 ⇑P P 23 10 33.0 +0.6
baz=84,SNR=10.0
I30A **Oacoma** 83.36 341 ⇑P P 23 10 31.9 -0.5
baz=84
J28A **Allard Ranch,** 83.39 340 ⇑P P 23 10 33.0 +0.3
baz=84,SNR=12
K25A **Mack Ranch, Ha** 83.43 338 ⇓P P 23 10 33.6 +0.7
baz=84
J27A **Elkhorn Farm,** 83.46 339 ⇓P P 23 10 33.9 +0.9
baz=84,SNR=15
SLR **Silverton** 83.53 117⇑ iP P 23 10 33.8 -0.3
SLR AMS AMS 23 44 31.2
comp=Z,8μm,19.5s
SLR **Silverton** 83.53 117 eP P 23 10 33.8 -0.3
SLR **Silverton** 83.53 117 eP P 23 10 33.8 -0.3
L23A **Garrett** 83.56 336 ⇑P P 23 10 33.8 0.0
baz=84,SNR=7.0
VES **Vestal, Richgr** 83.59 324 ⇑P P 23 10 34.8 +1.1
baz=84,SNR=6.1
SMMC **Simmler** 83.61 323 ⇑P P 23 10 35.6 +1.7
baz=84,SNR=6.6
I29A **Vivian Onida** 83.69 341 ⇓P P 23 10 34.1 0.0
baz=84
BRSD **Miller** 83.73 342 ⇓P P 23 10 34.2 -0.1
baz=84
BRSD **Miller** 83.73 342 eP P 23 10 34.1 -0.2
comp=Z,197nm,1.0s
L22A **Ellis Ranch, M** 83.73 336 ⇓P P 23 10 35.1 +0.5
baz=84
GRAC **Grapevine Rang** 83.74 326 ⇑P P 23 10 35.8 +1.2
baz=84
K24A **Anderson Ranch** 83.82 337 ⇑P P 23 10 35.5 +0.5
baz=84
J26A **Sides Ranch, S** 83.82 338 ⇑P P 23 10 35.5 +0.7
baz=84,SNR=14
MPU **Maple Canyon** 83.85 331 eP P 23 10 35.1 -0.1
comp=Z,201nm,1.4s
CRZF **Crozet Islands** 83.89 145 P P 23 10 12.0 -23
CRZF **Crozet Islands** 83.89 145 S S 23 20 17.0 -39
CRZF R 23 37 00.0
I28A **Midland** 83.91 340 ⇓P P 23 10 35.2 0.0
baz=84,SNR=17
NLU **North Lily Min** 83.97 331 eP P 23 10 36.5 +0.6
comp=Z,201nm,1.5s
DAU **Daniels Canyon** 84.04 332 eP P 23 10 36.2 -0.2
DAU **Daniels Canyon** 84.04 332 eP P 23 10 36.2 -0.2
RCTC **Rector, Farmer** 84.05 324 ⇓P P 23 10 37.0 +0.9
baz=84
RAO **Raoul Island** 84.05 238 PFAKE 23 10 50.0 +13
RAO LR LR
comp=Z,3μm,20.0s
R11A **Troy Canyon, C** 84.06 328 ⇑P P 23 10 37.6 +1.3
baz=84,SNR=27
R11A **Troy Canyon, C** 84.06 328 eP P 23 10 37.2 +0.9
comp=Z,81nm,1.1s
K23A **Bowen Ranch, D** 84.11 336 ⇓P P 23 10 36.6 +0.1
baz=84,SNR=10
J25A **Sunshine Ranch** 84.11 338 ⇓P P 23 10 37.1 +0.7
baz=84
TIN **Tinemaha, Big** 84.18 325 ⇑P P 23 10 37.4 +0.5
baz=84,SNR=5.5
I27A **Quinn** 84.22 339 ⇓P P 23 10 37.1 +0.3
baz=84,SNR=6.3
H29A **Onida** 84.23 341 ⇓P P 23 10 36.6 -0.2
baz=85
K22A **Casper** 84.31 336 ⇑P P 23 10 37.8 +0.4
baz=85,SNR=22
K22A **Casper** 84.31 336 eP P 23 10 37.0 -0.5
comp=Z,494nm,1.5s
J24A **Dixon Ranch, L** 84.32 337 ⇑P P 23 10 37.9 +0.4
baz=85,SNR=11
G30A **Faulkton** 84.42 342 ⇓P P 23 10 37.8 0.0
baz=85
I26A **New Underwood** 84.42 339 ⇓P P 23 10 38.0 +0.2
baz=85
DUG **Dugway, Tooele** 84.47 330 eP P 23 10 38.7 +0.4
DUG pmax pmax
comp=Z,350nm,1.5s
DUG MLR MLR
comp=Z,4μm,20.0s
DUG **Dugway, Tooele** 84.47 330 ⇓P P 23 10 39.1 +0.8
baz=85,SNR=25
DUG **Dugway, Tooele** 84.47 330 eP P 23 10 38.7 +0.4
comp=Z,350nm,1.5s
DUG LR LR
comp=Z,4μm,20.0s
CTU **Camp Tracy** 84.47 331 eP P 23 10 36.9 -1.4
comp=Z,42nm,1.2s
H28A **Mission Ridge** 84.49 340 ⇑P P 23 10 38.4 +0.2
baz=85
H07S1 **FLORES T-PHASE** 84.53 31 eP P 23 10 40.1 +1.6
H07S1 **FLORES T-PHASE** 84.53 31 P P 23 10 39.0 +0.5
SNR=14
K21A **Alcova** 84.54 335 ⇑P P 23 10 39.0 +0.3
baz=85,SNR=15
TPH **Tonopah** 84.56 326 eP P 23 10 39.3 +0.4
TPH pmax pmax
comp=Z,147nm,1.1s
TPH **Tonopah** 84.56 326 eP P 23 10 39.3 +0.4
comp=Z,147nm,1.1s
I25A **Rochford** 84.67 338 ⇑P P 23 10 39.4 +0.1
baz=85,SNR=23
J23A **Dilts Ranch, B** 84.67 337 ⇓P P 23 10 39.3 0.0
baz=85
G29A **Hoven** 84.68 341 ⇑P P 23 10 39.1 0.0
baz=85
TCUT **Toone Canyon** 84.71 332 eP P 23 10 40.0 +0.4
comp=Z,320nm,1.4s
H27A **Howes** 84.74 340 ⇓P P 23 10 39.4 0.0
baz=85,SNR=14
I24A **Kuemmerle Ranc** 84.79 338 ⇑P P 23 10 40.3 +0.4
baz=85,SNR=5.8
G28A **Parade** 84.83 340 ⇑P P 23 10 40.1 +0.2
baz=85
RSSD **Black Hills** 84.85 338 eP P 23 10 39.7 -0.5
RSSD pmax pmax
comp=Z,114nm,1.3s
RSSD **Black Hills** 84.85 338 eP P 23 10 39.7 -0.5
comp=Z,114nm,1.3s
MLAC **Mammoth, Mammo** 84.93 325 ⇓P P 23 10 40.7 -0.1
baz=85
J22A **Midwest** 84.98 336 ⇑P P 23 10 40.7 -0.1
baz=85,SNR=11
PICO **Pico** 85.00 34 eP pP 23 10 52.8 +1.0
F30A **Leola** 85.05 342 ⇓P P 23 10 40.9 0.0
baz=85
I23A **Meade Ranch, G** 85.14 337 ⇑P P 23 10 41.3 -0.3
baz=86
H25A **Fruitdale** 85.17 339 ⇑P P 23 10 41.7 0.0
baz=86,SNR=7.8
BGU **Big Grassy Mou** 85.17 331 eP P 23 10 41.7 -0.2
comp=Z,557nm,1.6s
J21A **Lysite** 85.24 335 ⇓P P 23 10 42.1 -0.1
baz=86,SNR=7.4
F29A **Eureka** 85.25 341 ⇑P P 23 10 41.7 -0.2
baz=86
PMAN **Manadas** 85.26 34 eP P 23 10 43.3 +1.2
comp=Z,186nm,1.3s
PMAN eP pP 23 10 56.2 +3.2
ROSA **Rosais** 85.26 34 eP P 23 10 41.9 -0.2
comp=Z,271nm,1.8s
TOPO **Topo** 85.30 34 eP P 23 10 43.7 +1.3
TOPO eP pP 23 10 55.9 +2.6
PSMA **Santa Maria** 85.31 37 eP P 23 10 43.0 +0.6
comp=Z,106nm,1.2s
NV01 **Mina Array Sit** 85.33 326 eP P 23 10 43.6 +0.8
NVAR **Mina Array Bea** 85.33 326 P P 23 10 43.6 +0.8
comp=Z,12nm,0.8s,baz=302,slow=22,SNR=5.0
NVAR PKKPbc PKKPbc 23 28 49.9 +1.3
comp=Z,3.0nm,0.8s,baz=261,slow=2.2,SNR=7.5
PSMN **Pico do Norte,** 85.34 37 eP P 23 10 42.8 +0.2
comp=Z,213nm,1.4s
G27A **Dupree** 85.39 340 ⇓P P 23 10 42.9 +0.2
baz=86
I22A **9 Mile Ranch,** 85.41 336 ⇑P P 23 10 42.8 -0.1
baz=86,SNR=27
BW06 **Boulder Array** 85.46 334 PFAKE 23 10 50.0 +6.7
BW06 LR LR
comp=Z,2μm,19.0s
PD31 **Pinedale Array** 85.46 334 eP P 23 10 42.2 -1.2
PDAR **Pinedale Array** 85.46 334 P P 23 10 42.8 -0.5
comp=Z,11nm,1.1s,baz=134,slow=4.3,SNR=35
PDAR PKKPbc PKKPbc 23 28 47.5 -1.1
comp=Z,2.2nm,0.7s,baz=115,slow=0.8,SNR=15
PDAR PKPPKP P'P'df 23 36 57.1 +8.2
comp=Z,1.4nm,1.1s,baz=270,slow=0.3,SNR=4.6
EYMN **Ely** 85.46 348 eP P 23 10 42.0 -0.9
comp=Z,226nm,1.4s
EYMN LR LR
comp=Z,2μm,20.0s
G26A **Maurine** 85.50 339 ⇓P P 23 10 42.9 -0.3
baz=86,SNR=14
F28A **McLaughlin** 85.52 341 ⇓P P 23 10 43.5 +0.2
baz=86
H24A **Dirks Ranch, A** 85.57 338 ⇓P P 23 10 43.3 -0.4
baz=86,SNR=21
I21A **Big Trails, Te** 85.60 336 ⇓P P 23 10 43.5 -0.4
baz=86,SNR=30
E30A **Jud** 85.64 342 ⇑P P 23 10 43.8 -0.1
baz=86
G25A **Newell** 85.64 339 ⇑P P 23 10 43.9 -0.1
baz=86,SNR=18
PDA **Ponta Delgada** 85.66 36 eP pP 23 10 54.4 -0.6
TOA0 **Torodi Ar. Sit** 85.66 70 eP P 23 10 44.5 -0.2
TORD **Torodi Ar. Bea** 85.66 70 P P 23 10 44.5 -0.2
comp=Z,52nm,1.0s,baz=242,slow=4.7,SNR=150
TORD PKKPbc PKKPdf 23 28 40.2 +0.8
comp=Z,1.8nm,1.2s,baz=46,slow=5.1,SNR=4.3
TORD LR LR 23 45 17.7
comp=Z,6μm,21.1s,baz=240,slow=33
ADH **Angra Heroismo** 85.66 34 eP pP 23 10 56.5 +1.5
H23A **Clabaugh Cattl** 85.67 337 ⇑P P 23 10 43.9 -0.3
baz=86
J19A **Crowheart** 85.72 334 ⇓P P 23 10 44.3 -0.2
baz=86,SNR=25
OUZ **Omahuta** 85.73 229 eP P 23 10 45.1 +0.3
comp=Z,74nm,1.3s
HVU **Hansel Valley** 85.80 331 eP P 23 10 43.8 -1.2
HVU pmax pmax
comp=Z,217nm,1.6s
HVU **Hansel Valley** 85.80 331 eP P 23 10 43.8 -1.2
comp=Z,217nm,1.6s
F27A **Lemmon** 85.87 340 ⇑P P 23 10 44.7 -0.3
baz=86,SNR=10.0
E29A **Napoleon** 85.88 342 ⇑P P 23 10 45.2 +0.1
baz=86
BART **Pico Bartolome** 85.91 36 eP P 23 10 46.0 +0.5
comp=Z,352nm,1.5s
WAKR **Walker** 85.91 325 eP P 23 10 46.0 +0.4
ELK **Elko** 85.92 329 eP P 23 10 45.9 +0.2
ELK pmax pmax
comp=Z,120nm,1.5s
ELK **Elko** 85.92 329 P P 23 10 46.9 +1.2
comp=Z,12nm,1.0s,baz=177,slow=3.1,SNR=28
ELK LR LR 23 45 48.1
comp=Z,2μm,18.1s,baz=158,slow=33
ELK **Elko** 85.92 329 eP P 23 10 45.9 +0.2
comp=Z,120nm,1.5s
CMB **Columbia Colle** 85.98 324 eP P 23 10 45.4 -0.4
CMB pmax pmax
comp=Z,53nm,1.1s
CMB **Columbia Colle** 85.98 324 eP P 23 10 45.4 -0.4
comp=Z,53nm,1.1s
H22A **Clearmont** 85.99 337 ⇓P P 23 10 45.5 -0.3
baz=86,SNR=10
I20A **Worland** 86.00 335 ⇓P P 23 10 45.7 -0.1
baz=86,SNR=24
F26A **Lodgepole** 86.03 340 ⇓P P 23 10 45.7 -0.2
baz=86,SNR=10
G24A **Alzada** 86.06 338 ⇓P P 23 10 45.8 -0.3
baz=86,SNR=11
E28A **Huff** 86.16 341 ⇑P P 23 10 46.4 0.0
baz=86
D30A **Buchanan** 86.17 343 ⇓P P 23 10 46.5 0.0
baz=86
MSKU **Masuku** 86.23 89 eP P 23 10 47.1 -0.6
comp=Z,571nm,2.0s
G23A **Biddle** 86.24 338 ⇑P P 23 10 46.3 -0.6
baz=87,SNR=11
DRLN **Deer Lake** 86.24 10 eP P 23 10 45.9 -0.8
comp=Z,176nm,1.1s
H21A **Big Horn, Sher** 86.25 336 ⇓P P 23 10 46.2 -0.8
baz=87,SNR=13
E27A **Carson** 86.25 341 ⇑P P 23 10 47.1 +0.2
baz=87,SNR=7.1
FUL **Funchal** 86.29 45 epP pP 23 11 00.9 +2.7
FUL A A 23 11 02.3
comp=Z,411nm,1.5s
F25A **Bowman** 86.32 339 ⇑P P 23 10 47.1 -0.2
baz=87,SNR=12
D29A **Pettibone, Tap** 86.33 342 ⇑P P 23 10 47.3 0.0
baz=87
PMAR **Madeira** 86.33 44 epP pP 23 11 01.2 +2.5
PMAR A A 23 11 08.0
comp=Z,429nm,1.4s
I19A **Meeteetse** 86.38 335 ⇓P P 23 10 47.8 0.0
baz=87,SNR=11
H20A **Greybull** 86.44 336 ⇓P P 23 10 47.5 -0.5
baz=87,SNR=20
REDW **Red Top Meadow** 86.44 333 eP P 23 10 47.9 -0.3
comp=Z,138nm,1.3s
SNOW **Snow King Moun** 86.50 333 eP P 23 10 48.7 +0.2
comp=Z,59nm,1.1s
BMN **Battle Mountai** 86.50 328 eP P 23 10 47.5 -0.9
BMN pmax pmax
comp=Z,91nm,1.8s
BMN **Battle Mountai** 86.50 328 eP P 23 10 47.5 -0.9
comp=Z,91nm,1.8s
F24A **Ekalaka** 86.53 339 ⇑P P 23 10 48.2 -0.1
baz=87,SNR=16
G22A **Birney** 86.53 337 ⇓P P 23 10 48.1 -0.3
baz=87
E26A **Carlson Angus** 86.54 340 ⇑P P 23 10 48.3 -0.1
baz=87,SNR=15
LOHW **Long Hollow** 86.57 334 eP P 23 10 48.4 -0.4
comp=Z,101nm,1.3s
TPAW **Teton Pass** 86.59 333 eP P 23 10 49.1 +0.1
comp=Z,134nm,1.4s
AGMN **Agassiz Nation** 86.64 345 ⇓P P 23 10 48.7 0.0
baz=87,SNR=14
AGMN **Agassiz Nation** 86.64 345 eP P 23 10 48.0 -0.7
comp=Z,293nm,1.5s
AGMN LR LR
comp=Z,2μm,20.0s
C30A **Mose, Pekin** 86.66 343 ⇑P P 23 10 48.9 0.0
baz=87,SNR=18
D28A **Regan** 86.70 342 ⇓P P 23 10 49.2 +0.1
baz=87,SNR=6.2
F23A **Volborg** 86.71 338 ⇓P P 23 10 48.6 -0.6
baz=87,SNR=14
FXWY **Fox Creek** 86.75 333 eP P 23 10 49.4 -0.3
comp=Z,99nm,1.3s
XMAS **Kiritimati** 86.77 275 eP P 23 10 48.9 -1.4
comp=Z,272nm,1.1s
XMAS LR LR
comp=Z,9μm,19.0s
E25A **Miller Ranch,** 86.83 339 ⇑P P 23 10 49.9 +0.2
baz=87,SNR=8.4
I17A **Pilgrim Ck.** 86.83 334 ⇓P P 23 10 50.6 +0.6
baz=87,SNR=16
G21A **Lodge Grass** 86.83 337 ⇓P P 23 10 49.4 -0.5
baz=87,SNR=16
MSNA **Messina** 86.85 115⇑ iP P 23 10 51.3 +0.7
MSNA AMB AMB 23 10 52.2
comp=Z,135nm,3.0s
MSNA AMS AMS 23 47 12.3
comp=Z,5μm,19.3s
MSNA **Messina** 86.85 115 eP P 23 10 51.3 +0.7
D27A **Center** 86.87 341 ⇓P P 23 10 50.0 +0.1
baz=87,SNR=10
PMPS **Porto Santo** 86.91 45 epP pP 23 11 04.3 +3.0
PMPS A A 23 11 07.9
comp=Z,317nm,2.0s
H19A **Powell** 86.93 335 ⇓P P 23 10 50.6 +0.2
baz=87,SNR=8.6
IMW **Indian Meadow** 86.94 334 eP P 23 10 50.5 -0.2
comp=Z,191nm,1.4s
FLWY **Flagg Ranch** 87.01 334 eP P 23 10 51.2 +0.3
comp=Z,270nm,1.4s
F22A **Rosebud** 87.03 337 ⇓P P 23 10 50.2 -0.5
baz=87,SNR=12
D26A **Manning** 87.04 340 ⇑P P 23 10 51.0 +0.2
baz=87,SNR=20
MDND **Maddock** 87.07 342 ⇓P P 23 10 50.7 -0.1
baz=87
MDND **Maddock** 87.07 342 eP P 23 10 50.8 -0.1
comp=Z,4μm,1.4s
C28A **Hausauer Farms** 87.14 342 ⇓P P 23 10 51.2 0.0
baz=88
E24A **Baker** 87.14 339 ⇑P P 23 10 51.6 +0.3
baz=88
G20A **Bridger** 87.16 336 ⇓P P 23 10 50.9 -0.6
baz=88,SNR=17
H18A **Shoshone NF, C** 87.17 335 ⇓P P 23 10 51.4 -0.3
baz=88,SNR=24
H17A **Grant Village** 87.24 334 eP P 23 10 51.4 -0.7
comp=Z,69nm,1.5s
B30A **Myrvik Farm, E** 87.33 343 ⇑P P 23 10 52.1 0.0
baz=88,SNR=20
F21A **Absaloka Mine,** 87.34 337 ⇑P P 23 10 52.3 +0.1
baz=88
E23A **Ismay** 87.38 338 ⇑P P 23 10 52.2 -0.2
baz=88
YFT **Old Faithful** 87.38 334 eP P 23 10 52.6 -0.1
comp=Z,143nm,1.3s
D25A **Fairfield** 87.40 340 ⇑P P 23 10 52.7 +0.1
baz=88,SNR=15
RLMT **Red Lodge** 87.42 335 PFAKE 23 11 00.0 +7.1
RLMT LR LR
comp=Z,1μm,22.0s
C27A **Sayler Ranch,** 87.42 341 ⇑P P 23 10 52.5 0.0
baz=88,SNR=19
E22A **Miles City** 87.52 338 ⇓P P 23 10 52.9 -0.3
baz=88
YNR **Norris Junctio** 87.56 334 eP P 23 10 53.5 -0.1
comp=Z,151nm,2.0s
B29A **Wagenman Farm,** 87.58 343 ⇑P P 23 10 53.0 -0.2
baz=88,SNR=6.9
YMR **Madison River** 87.62 334 eP P 23 10 54.4 +0.5
comp=Z,462nm,1.7s
F20A **Billings** 87.65 336 ⇓P P 23 10 53.6 -0.2
baz=88
D24A **Glendive** 87.65 339 ⇑P P 23 10 53.9 +0.1
baz=88,SNR=14
C26A **Wahner Farm, P** 87.68 341 ⇓P P 23 10 53.9 +0.1
baz=88,SNR=17
A30A **Hoffart Farm,** 87.78 344 ⇓P P 23 10 53.7 -0.5
baz=88,SNR=5.8
B28A **Dugan Ranch, T** 87.81 342 ⇓P P 23 10 54.0 -0.4
baz=88,SNR=5.1
C25A **Freed Ranch, W** 87.89 340 ⇑P P 23 10 55.1 +0.3
baz=88
QLMT **Earthquake Lak** 87.92 334 eP P 23 10 55.5 +0.2
HLID **Hailey** 87.95 331 ⇓P P 23 10 55.7 +0.3
baz=88,SNR=17
HLID **Hailey** 87.95 331 eP P 23 10 55.6 +0.1
comp=Z,144nm,1.5s
HLID LR LR
comp=Z,2μm,20.0s
F19A **Roth Farm, Mol** 87.96 336 ⇓P P 23 10 54.5 -0.8
baz=88,SNR=9.8
D23A **Lindsay** 87.96 339 ⇑P P 23 10 55.3 +0.1
baz=88,SNR=12
E21A **Keefer Ranch,** 87.96 337 ⇓P P 23 10 55.1 -0.2
baz=88
A29A **Manning Farm,** 87.98 343 ⇑P P 23 10 54.6 -0.6
baz=88,SNR=20
B27A **Peters Farms,** 88.00 342 ⇑P P 23 10 55.3 0.0
baz=88
C24A **Savage** 88.06 339 ⇓P P 23 10 55.5 -0.1
baz=88,SNR=12
A28A **Rude Farm, Bot** 88.22 342 ⇓P P 23 10 56.3 -0.1
baz=88

B26A Jensen Ranch, 88.23 341 ⇓P **P** **23 10 56.6 +0.2**
baz=89

D22A Cohagen 88.23 338 ⇓P **P** **23 10 56.3 -0.1**
baz=89,SNR=8.5

E20A Meyer Farm, Mu 88.26 337 ⇓P **P** **23 10 56.5 -0.2**
baz=89,SNR=14

B25A Knox Farm, Ray 88.38 340 ⇓P **P** **23 10 57.7 +0.5**
baz=89

MFID Camas Ranch 88.39 330 *e*P **P** **23 10 58.2 +0.8**
comp=Z,213nm,1.7s

MCMT McKenzie Canyo 88.44 333 *e*P **P** **23 10 58.2 +0.4**

E19A Rath Farm, Rou 88.44 336 ⇑P **P** **23 10 56.9 -0.6**
baz=89,SNR=15

ULM Lac du Bonnet 88.50 346 P **P** **23 10 56.8 -0.7**
ULM pmax pmax
comp=Z,27nm,0.8s

ULM Lac du Bonnet 88.50 346 P **P** **23 10 56.8 -0.7**
comp=Z,27nm,0.8s,baz=177,slow=3.8,SNR=58
ULM PKKPbc **PKKPbc** **23 28 39.0 -2.2**
comp=Z,4.6nm,0.9s,baz=27,slow=4.7,SNR=6.4

ULM Lac du Bonnet 88.50 346 *e*P **P** **23 10 56.6 -0.9**
comp=Z,274nm,1.4s

C23A Lambert 88.52 339 ⇑P **P** **23 10 57.6 -0.2**
baz=89,SNR=12

A26A Wade Farm, Ken 88.65 341 ⇑P **P** **23 10 58.3 0.0**
baz=89,SNR=10

C22A Vida 88.68 338 ⇓P **P** **23 10 58.3 -0.2**
baz=89,SNR=7.1

PAF Port-aux-Franc 88.70 157 P P 23 10 31.0 -28

PAF Port-aux-Franc 88.70 157 S S 23 21 12.0 -31

PAF L L 23 34 00.0

PAF R 23 39 00.0

PAF Port-aux-Franc 88.70 157 PFAKE 23 11 10.0 +11

PAF LR LR
comp=Z,3μm,19.0s

WVOR Wild Horse Val 88.75 328 *e*P **P** **23 10 59.5 +0.4**

WVOR pmax pmax
comp=Z,151nm,1.3s

WVOR MLR MLR
comp=Z,3μm,20.0s

WVOR Wild Horse Val 88.75 328 *e*P **P** **23 10 59.5 +0.4**
comp=Z,151nm,1.3s

WVOR LR LR
comp=Z,3μm,20.0s

D20A Manuel Ranch, 88.78 337 ⇑P **P** **23 10 59.2 +0.1**
baz=89

DLMT Dillon 88.80 333 *e*P **P** **23 10 59.5 +0.2**
comp=Z,146nm,1.4s

DGMT Dagmar 88.84 340 ⇓P **P** **23 10 59.3 0.0**
baz=89,SNR=10

DGMT Dagmar 88.84 340 *e*P **P** **23 10 59.0 -0.3**
comp=Z,625nm,1.5s

DGMT LR LR
comp=Z,2μm,19.0s

AFI Afiamalu 88.86 254 PFAKE 23 11 10.0 +10

AFI LR LR
comp=Z,7μm,22.0s

A25A Svangstu Ranch 88.97 341 ⇓P **P** **23 10 60.0 +0.1**
baz=89,SNR=5.7

WDC Whiskeytown Da 89.01 325 *e*P **P** **23 11 00.1 -0.1**

WDC pmax pmax
comp=Z,81nm,1.4s

WDC Whiskeytown Da 89.01 325 *e*P **P** **23 11 00.1 -0.1**
comp=Z,81nm,1.4s

MOD Modoc Plateau 89.04 327 *e*P **P** **23 11 00.9 +0.3**
comp=Z,112nm,1.1s

B23A Brockton 89.06 339 ⇑P **P** **23 10 60.0 -0.4**
baz=89,SNR=5.5

D19A Cripps Ranch, 89.09 336 ⇓P **P** **23 11 00.3 -0.2**
baz=89

C21A Desert Coulee 89.11 338 ⇓P **P** **23 10 59.8 -0.8**
baz=89,SNR=5.1

LRM Limekiln Ridge 89.14 334 *e*P **P** **23 11 01.2 +0.2**

A24A Westby 89.20 340 ⇓P **P** **23 11 01.1 +0.2**
baz=90

B22A Reddig Ranch S 89.21 339 ⇑P **P** **23 11 00.8 -0.3**
baz=90,SNR=5.7

C20A Veseth Ranch, 89.29 337 ⇑P **P** **23 11 00.8 -0.7**
baz=90,SNR=7.2

N02D Trinity Center 89.40 325 ⇑P **P** **23 11 02.3 +0.1**
baz=90

A23A Redstone 89.48 340 ⇑P **P** **23 11 02.4 +0.2**
baz=90

B21A Ellsworth Farm 89.63 338 ⇓P **P** **23 11 02.9 -0.1**
baz=90

M04C Macdoel 89.64 326 ⇑P **P** **23 11 03.8 +0.5**
baz=90,SNR=7.6

C19A Slack Wire Ran 89.64 337 ⇓P **P** **23 11 02.8 -0.3**
baz=90

HRY Holter Researc 89.69 334 *e*P **P** **23 11 03.2 -0.2**

LSZ Lusaka 89.78 109 ⇑*i*P **P** **23 11 06.0 +1.3**

LSZ Lusaka 89.78 109 *e*P **P** **23 11 05.2 +0.5**

LSZ pmax pmax
comp=Z,75nm,1.3s

LSZ MLR MLR
comp=Z,12μm,19.0s

LSZ Lusaka 89.78 109 P **P** **23 11 06.6 +1.9**
SNR=35

LSZ Lusaka 89.78 109 *e*P **P** **23 11 05.2 +0.5**
comp=Z,75nm,1.3s

LSZ LR LR
comp=Z,12μm,19.0s

M02C Callahan 89.80 325 ⇑P **P** **23 11 03.7 -0.4**
baz=90

A22A Carney Farms, 89.81 339 ⇑P **P** **23 11 03.5 -0.4**
baz=90,SNR=7.6

B20A Solberg Farm, 89.94 337 ⇓P **P** **23 11 04.2 -0.3**
baz=90

K05A Summer Lake 89.96 327 *e*P **P** **23 11 04.0 -1.0**

YBH Yreka Blue Hor 90.00 325 *e*P **P** **23 11 03.9 -1.1**

YBH pmax pmax
comp=Z,47nm,1.3s

YBH Yreka Blue Hor 90.00 325 LR LR 23 45 06.4
comp=Z,2μm,20.4s,baz=156,slow=31

YBH Yreka Blue Hor 90.00 325 *e*P **P** **23 11 03.9 -1.1**
comp=Z,47nm,1.3s

A21A Bergtoll Ranch 90.10 338 ⇓P **P** **23 11 04.3 -0.9**
baz=90,SNR=7.0

EGMT Eagleton 90.13 336 *e*P **P** **23 11 04.5 -0.9**
comp=Z,114nm,1.8s

EGMT LR LR
comp=Z,2μm,19.0s

BMO Blue Mountains 90.18 330 PFAKE 23 11 20.0 +14

BMO LR LR
comp=Z,1μm,20.0s

B19A Brinkman Farms 90.25 337 ⇓P **P** **23 11 05.7 -0.2**
baz=91

A20A Cobblestone Ra 90.30 338 ⇓P **P** **23 11 05.0 -1.2**
baz=91,SNR=7.5

I07A Izee 90.45 328 *e*P **P** **23 11 06.9 -0.2**
comp=Z,155nm,1.5s

MSO Missoula 90.54 333 ⇑P **P** **23 11 08.1 +0.7**
baz=91

MSO Missoula 90.54 333 *e*P **P** **23 11 07.6 +0.2**
comp=Z,70nm,1.4s

J05D Fort Rock, OR 90.56 327 ⇓P **P** **23 11 08.4 +0.7**
baz=91

A19A Klindworth Far 90.60 337 ⇓P **P** **23 11 06.9 -0.7**
baz=91,SNR=6.2

SLMT Seeley Lake 90.73 334 *e*P **P** **23 11 07.8 -0.5**

PINOR Pine Mountain 90.82 327 *e*P **P** **23 11 08.1 -0.5**
comp=Z,294nm,1.7s

SCHQ Schefferville 90.88 4 P **P** **23 11 08.3 -0.3**
comp=Z,8.1nm,1.0s,baz=146,slow=3.3,SNR=9.5
SCHQ PP **PP** **23 14 49.8 +4.4**
comp=Z,9.7nm,1.1s,baz=164,slow=2.4,SNR=3.6

SCHQ LR LR 23 52 12.2
comp=Z,1μm,20.5s,baz=180,slow=36

SCHQ Schefferville 90.88 4 *e*P **P** **23 11 07.6 -1.0**
comp=Z,58nm,1.3s

F10A Beach Ranch, E 91.07 331 *e*P **P** **23 11 10.0 +0.2**
comp=Z,122nm,1.5s

SWMT Swartz Lake 91.14 334 *e*P **P** **23 11 08.6 -1.5**

G08A Pilot Rock 91.21 329 *e*P **P** **23 11 11.3 +0.8**
comp=Z,77nm,1.3s

JTMT Jette 91.44 334 *e*P **P** **23 11 11.8 +0.2**

YBMT Yellow Bay 91.44 334 *e*P **P** **23 11 12.3 +0.7**

BLMT Blacktail Moun 91.69 334 *e*P **P** **23 11 12.9 0.0**

BSMT Bassoo Peak 91.71 333 *e*P **P** **23 11 13.3 +0.4**

G06A Carlson Farm, 91.86 328 *e*P **P** **23 11 12.2 -1.3**
comp=Z,275nm,1.6s

E09A Wood Farm, Sta 91.88 331 *e*P **P** **23 11 13.4 -0.1**
comp=Z,62nm,1.6s

H04A Detroit Lake 92.09 327 *e*P **P** **23 11 14.1 -0.4**
comp=Z,759nm,2.9s

HAWA Hanford 92.33 330 *e*P **P** **23 11 16.7 +1.1**
comp=Z,146nm,1.5s

HAWA LR LR
comp=Z,5μm,22.0s

WALA Waterton Lakes 92.42 334 *e*P **P** **23 11 16.1 0.0**
comp=Z,99nm,1.4s

D08A Wollman Farm, 92.63 331 *e*P **P** **23 11 17.6 +0.7**
comp=Z,82nm,1.4s

NEW Newport 92.92 332 *e*P **P** **23 11 17.7 -0.6**

NEW pmax pmax
comp=Z,54nm,1.4s

NEW MLR MLR
comp=Z,2μm,20.0s

NEW Newport 92.92 332 P **P** **23 11 18.4 +0.1**
comp=Z,3.3nm,0.7s,baz=120,slow=7.1,SNR=6.8

NEW Newport 92.92 332 ⇑P **P** **23 11 18.0 -0.3**
baz=93

NEW Newport 92.92 332 *e*P **P** **23 11 17.7 -0.6**
comp=Z,54nm,1.4s

NEW LR LR
comp=Z,2μm,20.0s

C09A Chrisman Ranch 92.98 331 *e*P **P** **23 11 18.8 +0.2**
comp=Z,166nm,1.6s

TAU Tasmania Unive 93.08 208 PFAKE 23 11 30.0 +11

TAU LR LR
comp=Z,2μm,19.0s

RTC Rabat Centre 93.17 50 PFAKE 23 11 30.0 +10

RTC LR LR
comp=Z,10μm,20.0s

LTY Liberty 93.50 330 *e*P **P** **23 11 20.6 -0.4**
comp=Z,68nm,1.6s

B08A Colville Reser 93.85 331 *e*P **P** **23 11 22.4 -0.2**

FFC Flin Flon 94.01 344 *e*P **P** **23 11 22.1 -0.9**

FFC pmax pmax
comp=Z,26nm,1.3s

FFC MLR MLR
comp=Z,3μm,20.0s

FFC Flin Flon 94.01 344 *e*P **P** **23 11 22.1 -0.9**
comp=Z,26nm,1.3s

FFC LR LR
comp=Z,3μm,20.0s

MSVF Nonsavu 94.17 245 PFAKE 23 11 40.0 +15

MSVF LR LR
comp=Z,4μm,22.0s

MORF Marmelete 94.34 46 *e*P **P** **23 11 24.8 -0.4**

MORF *e*PP **PP** **23 15 11.8 -1.2**

MORF *e*S **SKSac** **23 21 56.6 -0.9**

MORF AMS AMS 23 55 35.6
comp=Z,6μm,17.1s

MORF Marmelete 94.34 46 *e*pP **pP** **23 11 38.6 +2.5**

MORF A A 23 11 39.5
comp=Z,75nm,1.7s

MORF Marmelete 94.34 46 *e*P **P** **23 11 24.7 -0.4**

MORF *e* 23 15 11.8

MORF *e*S **SKSac** **23 21 56.6 -0.9**

TAM Tamanrasset 94.44 65 PFAKE 23 11 40.0 +14

TAM LR LR
comp=Z,6μm,20.0s

PTEO Sao Teotonio 94.46 46 *e*pP **pP** **23 11 38.6 +2.1**

PTEO A A 23 11 40.1
comp=Z,139nm,1.4s

PBDV Barranco-do-Ve 94.72 47 *e*pP **pP** **23 11 40.1 +2.3**

PBDV A A 23 11 41.5
comp=Z,126nm,1.6s

PCVE Castro Verde 94.92 46 *e*P **P** **23 11 28.1 +0.4**
comp=Z,22nm,1.7s

PCVE *e*pP **pP** **23 11 40.8 +2.1**

PVAQ Vaqueiros 94.95 47 *e*pP **pP** **23 11 41.0 +2.2**

PVAQ A A 23 11 44.5
comp=Z,101nm,1.8s

PVAQ Vaqueiros 94.95 47 *e*PP PP 23 15 17.9 +0.1

PVAQ *e*SKS **SKSac** **23 21 57.2 -3.5**

PVAQ Vaqueiros 94.95 47 *e*LQ LQ 23 34 25.1

PVAQ *e*LR LR 23 43 23.9
comp=Z,4μm,18.0s

MESJ Messejana 94.96 46 *e*P **P** **23 11 27.6 -0.2**

MESJ *e*PP **PP** **23 15 16.4 -1.3**

MESJ *e*S **SKSac** **23 22 01.1 +0.5**

MESJ AMS AMS 23 55 46.2
comp=Z,6μm,21.8s

MESJ Messejana 94.96 46 *e*pP **pP** **23 11 41.0 +2.2**

MESJ A A 23 11 43.3
comp=Z,82nm,1.9s

MESJ Messejana 94.96 46 *e*P **P** **23 11 27.6 -0.2**

MESJ *e* 23 15 16.4

MESJ *e*S **SKSac** **23 22 01.1 +0.5**

PNCL Nicolau / Gran 94.96 46 *e*P **P** **23 11 28.5 +0.6**
comp=Z,57nm,1.6s

PNCL *e*pP **pP** **23 11 40.8 +2.0**

LIS Lisbon 95.02 45 *e*P **P** **23 11 28.0 -0.2**

LIS *e*PP **PP** **23 15 17.0 -1.3**

LIS AMS AMS 23 52 20.0
comp=Z,3μm,19.1s

LIS Lisbon 95.02 45 *e*P **P** **23 11 27.9 -0.2**

LIS *e* 23 15 16.9

EVOP Sao Brissos 95.48 45 *e*P **P** **23 11 29.9 -0.3**

EVOP Sao Brissos 95.48 45 *e*P **P** **23 11 29.9 -0.3**

EVO Evora 95.54 46 ⇑*i*P **P** **23 11 29.9 -0.6**
comp=Z,97nm,1.4s

POHA Pohakuloa 95.73 290 PFAKE 23 11 40.0 +7.8

POHA LR LR
comp=Z,2μm,19.0s

EDM Edmonton 95.77 337 *e*P **P** **23 11 30.1 -1.2**

EDM pmax pmax
comp=Z,96nm,1.3s

EDM Edmonton 95.77 337 *e*P **P** **23 11 30.1 -1.2**
comp=Z,96nm,1.3s

PBAR Barrancos 95.87 46 *e*pP **pP** **23 11 44.7 +1.7**

PBAR A A 23 11 46.2
comp=Z,90nm,1.6s

PESTR Estremoz 96.01 46 *e*P **P** **23 11 32.8 +0.1**
comp=Z,56nm,1.4s

PESTR *e*pP **pP** **23 11 45.6 +1.9**

PTOM Tomar 96.05 45 *e*pP **pP** **23 11 45.4 +1.6**

PTOM A A 23 11 46.7
comp=Z,76nm,1.3s

FCC Fort Churchill 96.31 349 *e*P **P** **23 11 32.4 -1.0**

FCC pmax pmax
comp=Z,54nm,1.5s

FCC Fort Churchill 96.31 349 *e*P **P** **23 11 32.4 -1.0**
comp=Z,54nm,1.5s

PMRV Marv??o 96.51 45 *e*pP **pP** **23 11 47.1 +1.2**

PMRV A A 23 11 48.0
comp=Z,38nm,1.3s

PMRV Marv??o 96.51 45 *e*PP PP 23 15 29.9 +0.1

PMRV *e*SKS **SKSac** **23 22 11.3 +2.5**

PMRV Marv??o 96.51 45 *e*LR LR 23 42 43.9
comp=Z,3μm,16.0s

PCBR Castelo Branco 96.73 45 *e*pP **pP** **23 11 48.0 +1.1**

PCBR A A 23 11 49.6
comp=Z,61nm,1.5s

MTE Manteigas 97.07 44 *e*P Pdif 23 11 38.0 +0.4

MTE *e*pP pP 23 11 50.2 +1.7

MTE Manteigas 97.07 44 *e*PP PP 23 15 35.7 +1.5

MTE *e*SKS **SKSac** **23 22 17.6 +5.8**

MTE Manteigas 97.07 44 *e*LQ LQ 23 37 02.4

MTE *e*LR LR 23 43 47.1
comp=Z,3μm,18.0s

MTE Manteigas 97.07 44 *e*P **P** **23 11 35.6 -1.9**
comp=Z,46nm,1.2s

MTE LR LR
comp=Z,3μm,19.0s

PVRL Vila Real 97.56 44 *e*pP **pP** **23 11 52.2 +1.5**

PVRL A A 23 11 52.9
comp=Z,83nm,1.3s

PGAV Gavieira, Arco 97.72 43 *e*PP PP 23 15 37.9 -1.3

PGAV *e*LQ LQ 23 38 54.6

PGAV *e*LR LR 23 44 16.7
comp=Z,3μm,20.0s

MVO Moncorvo 97.87 44 *e*P Pdif 23 11 41.8 +0.6
comp=Z,66nm,1.2s

MVO *e*pP pP 23 11 53.7 +1.6

MVO Moncorvo 97.87 44 *e*PP PP 23 15 36.9 -3.5

MVO Moncorvo 97.87 44 *e*LR LR 23 43 34.2
comp=Z,3μm,18.0s

PAB San Pablo 98.35 47 *e*P **P** **23 11 41.5 -1.8**

PAB pmax pmax
comp=Z,37nm,1.3s

PAB MLR MLR
comp=Z,3μm,19.0s

PAB San Pablo 98.35 47 *e*P **P** **23 11 41.5 -1.8**
comp=Z,37nm,1.3s

PAB LR LR
comp=Z,3μm,19.0s

KIP Kipapa 98.59 290 PFAKE 23 12 00.0 +15

KIP LR LR
comp=Z,4μm,19.0s

ESDC Sonseca Array 98.66 47 P **P** **23 11 43.5 -1.2**
comp=Z,2.2nm,0.7s,baz=251,slow=4.4,SNR=11

ESDC PP **PP** **23 15 50.0 +3.6**
comp=Z,4.6nm,1.2s,baz=235,slow=6.6,SNR=6.7

ESDC LR LR 23 56 20.2
comp=Z,2μm,18.4s,baz=255,slow=36

ESDC Sonseca Array 98.66 47 *e*P **P** **23 11 43.5 -1.2**

ESDC *e*PP **PP** **23 15 50.0 +3.6**

CAN Canberra 98.79 214 PFAKE 23 12 00.0 +14

CAN LR LR
comp=Z,2μm,19.0s

ETRT Tiaret 99.21 53 P **Pdif** **23 11 48.3 +1.0**

DZM Mont Dzumac 99.32 234 *e*PP PP 23 15 47.0 -3.9
comp=Z,244nm,27.1s

DZM *e*SP SP 23 24 52.9 +8.8
comp=Z,1μm,26.4s

DZM *e*SS SS 23 30 17.4 +11
comp=Z,2μm,25.0s

DZM *e*LQ LQ 23 39 57.0
comp=Z,3μm,32.4s

DZM *e*LR LR 23 44 19.8
comp=Z,9μm,24.7s,baz=141

EANR 'Ain N'Sour 99.42 52 P **Pdif** **23 11 49.8 +1.6**

ECHA Ech Chlef 99.72 52 P **Pdif** **23 11 50.7 +1.3**

FRB Frobisher Bay 99.73 2 PP PP 23 16 00.0 +6.1
comp=Z,9.5nm,1.1s,baz=191,slow=12,SNR=4.9

FRB Frobisher Bay 99.73 2 *e*PP PP 23 16 00.0 +6.1

EBNR Beni Rached 99.91 52 P **Pdif** **23 11 53.2 +2.9**

EMHD Djebel Mahouad 100.77 53 P Pdif 23 11 43.1 -11

ABPO Ambohimpanom 101.15 124 PFAKE 23 12 10.0 +13

ABPO LR LR
comp=Z,5μm,21.0s

AIS Amsterdam Isla 101.41 157 Pdif Pdif 23 11 45.0 -12

AIS PP PP 23 15 54.0 -12

AIS SP SP 23 25 32.0 +27

AIS R 23 45 00.0

SJPF Ste Jean 102.43 45 *e*P **Pdif** **23 12 02.4 +1.1**
comp=Z,38nm,1.1s

SJPF Ste Jean 102.43 45 *e*P **Pdif** **23 12 02.4 +1.1**

SJPF Ste Jean 102.43 45 *e*Pdif **Pdif** **23 12 02.4 +1.1**

ETSF Etsaut 102.68 46 *e*P **Pdif** **23 12 03.6 +1.1**
comp=Z,65nm,1.5s

ETSF Etsaut 102.68 46 *e*P **Pdif** **23 12 03.6 +1.1**

ETSF Etsaut 102.68 46 *e*Pdif **Pdif** **23 12 03.6 +1.1**

EPF Esparros 103.29 46 *e*P **Pdif** **23 12 06.2 +1.0**
comp=Z,65nm,1.5s

EPF Esparros 103.29 46 *e*P **Pdif** **23 12 06.2 +1.0**

EPF Esparros 103.29 46 *e*Pdif **Pdif** **23 12 06.2 +1.0**

YKA Yellowknife Ar 103.97 341 P **Pdif** **23 12 07.0 -0.6**
YKA 23 16 25.3

YKA pmax pmax
comp=Z,1.0nm,0.8s

YKA pmax pmax
comp=Z,1.0nm,0.8s

YKA Yellowknife Ar 103.97 341 Pdiff **Pdif** **23 12 07.0 -0.6**
comp=Z,1.1nm,0.8s,baz=143,slow=4.2,SNR=21

YKA PP **PKiKP** **23 16 25.3 +0.5**
comp=Z,0.5nm,0.8s,baz=144,slow=8.0,SNR=5.0

YKA PKKPbc **PKKPbc** **23 27 57.3 -1.5**
comp=Z,1.0nm,0.7s,baz=326,slow=3.4,SNR=13

YKA PKPPKP P'P'df 23 36 27.5 +14
comp=Z,0.5nm,1.0s,baz=348,slow=2.7,SNR=3.9

YKB5 Yellowknife Ar 103.97 341 *e*Pdif **Pdif** **23 12 07.0 -0.5**

YKB5 *e*PP **PKiKP** **23 16 25.3 +0.5**

SFJD Kangerlussuaq 104.34 9 PFAKE 23 12 20.0 +11

SFJD LR LR
comp=Z,2μm,20.0s

SFJD Kangerlussuaq 104.34 9 *i*P **PP** **23 16 27.5 -1.0**

SFJD *i* 23 26 38.8
comp=Z,1μm,23.0s

MTLF Montolieu 104.57 47 *e*P **Pdif** **23 12 11.3 +0.5**
comp=Z,125nm,1.8s

MTLF Montolieu 104.57 47 *e*P **Pdif** **23 12 11.3 +0.5**

MTLF Montolieu 104.57 47 *e*Pdif **Pdif** **23 12 11.3 +0.5**

RER Riviere de l'E 105.07 131 PFAKE 23 16 40.0

RER LR LR
comp=Z,2μm,19.0s

CAF Calviac 105.42 45 *e*P **Pdif** **23 12 15.3 +0.7**
comp=Z,58nm,1.3s

CAF Calviac 105.42 45 *e*P **Pdif** **23 12 15.3 +0.7**

CAF Calviac 105.42 45 *e*Pdif **Pdif** **23 12 15.3 +0.7**

KMBO Kilima Mbogo 105.50 103 PFAKE 23 16 40.0

KMBO LR LR
comp=Z,10μm,19.0s

DLBC Dease Lake 105.66 333 PKKPbc PKKPbc 23 27 53.4 -0.2
comp=Z,5.4nm,0.9s,baz=320,slow=3.2,SNR=6.3

DLBC Dease Lake 105.66 333 *e*PKKPbc PKKPbc 23 27 53.4 -0.2

TCF Toulx Ste Croi 106.29 44 *e*P **Pdif** **23 12 18.8 +0.4**
comp=Z,120nm,1.8s

TCF Toulx Ste Croi 106.29 44 *e*P **Pdif** **23 12 18.8 +0.4**

TCF Toulx Ste Croi 106.29 44 *e*Pdif **Pdif** **23 12 18.8 +0.4**

VSL Villasalto 106.82 53 PFAKE 23 16 40.0

VSL LR LR
comp=Z,5μm,19.0s

SSB Saint Sauveur 107.05 46 PFAKE 23 16 40.0

SSB LR LR
comp=Z,3μm,22.0s

AVF Avril sur Loir 107.23 44 *e*P **Pdif** **23 12 22.9 +0.4**
comp=Z,80nm,1.7s

AVF Avril sur Loir 107.23 44 *e*P **Pdif** **23 12 22.9 +0.4**

AVF Avril sur Loir 107.23 44 *e*Pdif **Pdif** **23 12 22.9 +0.4**

SMF Signal de Mont 107.42 45 *e*P **Pdif** **23 12 24.2 +0.8**
comp=Z,64nm,1.3s

SMF Signal de Mont 107.42 45 *e*P **Pdif** **23 12 24.2 +0.8**

SMF Signal de Mont 107.42 45 *e*Pdif **Pdif** **23 12 24.2 +0.8**

LOR Lormes 107.78 44 *e*P **Pdif** **23 12 25.3 +0.3**
comp=Z,54nm,1.4s

LOR Lormes 107.78 44 *e*P **Pdif** **23 12 25.3 +0.3**

LOR Lormes 107.78 44 *e*Pdif **Pdif** **23 12 25.3 +0.3**

BNI Bardonecchia 108.18 47 PFAKE 23 16 40.0

BNI LR LR
comp=Z,6μm,19.0s

WDD Wield Dalam 108.32 59 PFAKE 23 16 50.0

WDD LR LR
comp=Z,15μm,19.0s

CLTB Caltabellotta 108.33 57 PFAKE 23 16 50.0

CLTB LR LR
comp=Z,6μm,20.0s

BORG Borgarnes 108.46 21 PFAKE 23 16 40.0

BORG LR LR
comp=Z,2μm,20.0s

LPG La Plagne 108.47 47 *e*P **Pdif** **23 12 30.1 +1.6**
comp=Z,41nm,1.5s

LPG La Plagne 108.47 47 *e*P **Pdif** **23 12 30.1 +1.6**

LPG La Plagne 108.47 47 *e*Pdif **Pdif** **23 12 30.1 +1.6**

ESK Eskdalemuir 108.85 35 PFAKE 23 16 50.0

ESK LR LR
comp=Z,4μm,20.0s

VLC Villacollemand 109.94 50 PFAKE 23 16 50.0

VLC LR LR
comp=Z,2μm,19.0s

ECH Echery 110.17 45 PFAKE 23 16 50.0

ECH LR LR
comp=Z,3μm,20.0s

WLF Walferdange 110.38 43 PFAKE 23 16 50.0

WLF LR LR
comp=Z,5μm,21.0s

CEL Celeste 110.49 57 PFAKE 23 16 50.0

CEL LR LR
comp=Z,13μm,21.0s

TUE Stuetta 110.52 47 PFAKE 23 16 50.0

TUE LR LR
comp=Z,3μm,22.0s

BFO Black Forest 110.89 45 PFAKE 23 16 50.0

BFO LR LR
comp=Z,2μm,19.0s

AQU L'Aquila 110.91 52 PFAKE 23 16 50.0

AQU LR LR
comp=Z,5μm,21.0s

SUMG Summit 111.15 11 *i*P **PP** **23 17 19.7 +1.0**

SUMG *i* 23 26 48.8
comp=Z,1μm,22.0s

CUC Castrocucco 111.31 56 PFAKE 23 16 50.0

CUC LR LR
comp=Z,4μm,20.0s

TIP Timpagrande 111.54 57 PFAKE 23 16 50.0

TIP LR LR
comp=Z,5μm,22.0s

RES Resolute Bay 111.63 354 *e*PKiKP **PKiKP** **23 16 41.2 +2.4**

WTTA Wattenberg 112.28 47 ⇑*i*PKiKP **PKiKP** **23 16 42.0 +0.9**
comp=Z,13nm,1.3s

HNR Honiara 112.67 238 PFAKE 23 16 50.0

HNR LR LR
comp=Z,30nm,20.0s

CTAO	**Charters Tower**	**112.81**	**220**	PFAKE			23 16 50.0		
CTAO				LR	LR				
	comp=Z,1μm,19.0s								
GRF	**Grafenberg Arr**	**113.22**	**45**	*e*		**PKiKP**	**23 16 43.0**	**+0.4**	
GRF				*e*PP	PP		23 17 18.5	-15	
GRF				*e*L	L		00 07 18.1		
	comp=Z,4μm,18.1s								
INK	**Inuvik**	**113.53**	**339**	PKiKP		**PKiKP**	**23 16 42.1**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=117,slow=2.7,SNR=3.0								
INK				PKKPbc		**PKKPbc**	**23 27 27.4**	**-0.7**	
	comp=Z,4.2nm,0.9s,baz=298,slow=4.6,SNR=10.0								
EGAK	**Eagle**	**113.81**	**334**	PFAKE			23 16 50.0		
EGAK				LR	LR				
	comp=Z,2μm,19.0s								
GEC2	**GERESS Array S**	**114.25**	**46**	*e*PKIKP		PKPdf	23 16 43.6	-1.1	
GEC2	**GERESS Array S**	**114.25**	**46**	*e*PKiKP		PKPdf	23 16 43.6	-1.1	
GEC2				*e*PKKPbc		**PKKPab**	**23 27 30.2**	**+1.0**	
GERES	**GERESS Array B**	**114.25**	**46**	PKiKP		PKPdf	23 16 43.8	-0.9	
GERES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
GERES	**GERESS Array B**	**114.25**	**46**	PKP		PKPdf	23 16 43.8	-0.9	
	comp=Z,2.3nm,0.6s,baz=209,slow=1.5,SNR=20								
GERES				PKKPbc		**PKKPab**	**23 27 30.2**	**+1.0**	
	comp=Z,1.4nm,0.9s,baz=76,slow=5.6,SNR=8.5								
PDO	**Prodromos**	**114.29**	**59**	*e*P		PKPdf	23 16 44.8	-0.2	
KHC	**Kasperske Hory**	**114.31**	**46**	*e*PKIKP		PKPdf	23 16 43.3	-1.4	
KHC				*e*			23 16 56.5		
KHC				*e*SP	SP		23 27 19.6	+5.0	
KHC				MLR	MLR				
	comp=Z,4μm,17.4s								
KHC	**Kasperske Hory**	**114.31**	**46**	*e*PKP		PKPdf	23 16 43.3	-1.4	
KHC				*ex*	x		23 16 56.5		
KHC				*e*PP	**PP**		**23 17 36.5**	**-4.9**	
KHC				*ex*	x		23 17 50.0		
KHC				*e*PS	**PS**		**23 27 19.6**	**+0.5**	
KHC				AMS	AMS		00 07 30.0		
	comp=Z,4μm,17.4s								
KHC	**Kasperske Hory**	**114.31**	**46**	*e*PKiKP		PKPdf	23 16 42.4	-2.4	
ANKY	**Antikythira Is**	**114.50**	**63**	*e*P		PKPdf	23 16 50.4	+4.9	
ARSA	**Arzberg**	**114.60**	**48**	⇑*i*PKiKP		**PKiKP**	**23 16 46.1**	**+0.8**	
	comp=Z,6.2nm,0.8s								
KDAK	**Kodiak Island**	**114.81**	**325**	PFAKE			23 17 00.0	+15	
KDAK				LR	LR				
	comp=Z,3μm,19.0s								
CLL	**Collm**	**114.99**	**44**	*e*P		**Pdif**	**23 13 04.0**	**+7.1**	
CLL				*i*			23 16 45.9		
CLL				*i*			23 16 57.8		
CLL				*e*			23 17 44.0		
CLL				*e*			23 27 29.0		
CLL				pmax	pmax				
	comp=Z,33nm,2.0s								
CLL				MLR	MLR				
	comp=Z,3μm,18.1s								
CLL	**Collm**	**114.99**	**44**	*e*pPdif		**Pdif**	**23 13 04.0**	**+7.1**	
CLL				*i* PKiKP		**PKiKP**	**23 16 45.9**	**0.0**	
	comp=Z,33nm,2.0s								
CLL				*i* pPKiKP		**pPKiKP**	**23 16 53.6**	**-3.5**	
CLL				*i* sPKiKP		sPKiKP	23 16 57.8	-3.2	
	comp=Z,31nm,1.5s								
CLL				*e*PP		**PP**	**23 17 44.0**	**-2.0**	
CLL				*i* pPP			23 17 52.2		
CLL				*i*			23 18 01.1		
CLL				*e*SKSac		**SKSac**	**23 23 30.0**	**-1.1**	
CLL				*e*SKKSac		**SKKSac**	**23 24 42.0**	**-1.9**	
CLL				*e*Sdif		**Sdif**	**23 25 30.0**	**+3.0**	
CLL				*e*PS		**PKKPab**	**23 27 27.0**	**+1.3**	
CLL				*e*PKKPab		PKKPbc	23 27 29.0	+6.3	
CLL				*e*pPPS			23 28 44.0		
CLL				*e*SS		**SS**	**23 33 36.0**	**-3.7**	
CLL				*e*SSS		SSS	23 37 48.0		
CLL				*e*SSSS			23 41 24.0		
CLL				LmH			00 06 00.0		
	comp=N,1μm,19.3s								
CLL				LmH			00 06 00.0		
	comp=E,2μm,19.8s								
CLL				LmV			00 08 00.0		
	comp=Z,3μm,18.1s								
CONA	**Conrad Observa**	**115.11**	**48**	⇓*i*PKPdf		**PKPdf**	**23 16 46.3**	**0.0**	
	comp=Z,4.9nm,0.8s								
AS12	**Alice Springs**	**115.22**	**207**	*e*PKPdf		**PKPdf**	**23 16 46.6**	**-0.8**	
AS12				*e*PKKPbc		**PKKPbc**	**23 27 21.7**	**+0.2**	
ASAR	**Alice Springs**	**115.22**	**207**	PKiKP		**PKPdf**	**23 16 46.7**	**-0.8**	
ASAR							23 27 21.7		
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ASAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ASAR	**Alice Springs**	**115.22**	**207**	PKP		**PKPdf**	**23 16 46.6**	**-0.8**	
	comp=Z,2.2nm,0.7s,baz=148,slow=2.0,SNR=18								
ASAR				PKKPbc		**PKKPbc**	**23 27 21.7**	**+0.2**	
	comp=Z,2.9nm,0.8s,baz=339,slow=3.0,SNR=9.1								
PRU	**Pruhonice**	**115.26**	**45**	*e*PKiKP		**PKPdf**	**23 16 46.7**	**+0.2**	
PRU				*e*			23 16 59.1		
PRU				*e*SP	SP		23 27 30.2	+7.1	
PRU				MLR	MLR				
	comp=Z,4μm,18.0s								
PRU	**Pruhonice**	**115.26**	**45**	*e*PKP		**PKPdf**	**23 16 46.7**	**+0.2**	
PRU				*ex*	x		23 16 59.1		
PRU				*e*PP	PP		23 17 39.3	-8.7	
PRU				*e*SDIF			23 25 37.6		
PRU				*e*PS	**PS**		**23 27 30.2**	**+2.5**	
PRU				AMS	AMS		00 08 20.0		
	comp=Z,4μm,18.0s								
AGG	**Agios Georgios**	**115.28**	**59**	*e*P		**PKPdf**	**23 16 46.7**	**-0.2**	
THL	**Klokotos Trika**	**115.30**	**58**	*e*P		**PKPdf**	**23 16 49.1**	**+2.2**	
BRG	**Berggiesshubel**	**115.32**	**44**	PDIFF		**Pdif**	**23 13 01.0**	**+2.6**	
BRG	**Berggiesshubel**	**115.32**	**44**	*e*PKP		**PKPdf**	**23 16 47.0**	**+0.4**	
	comp=Z,18nm,1.7s								
BRG				*e*			23 16 58.9		
	comp=Z,19nm,1.3s								
BRG				*e*PP		**PP**	**23 17 43.6**	**-4.7**	
	comp=Z,18nm,1.5s								
BRG				SDIFF			23 25 40.0		
BRG				*e*			23 27 28.4		
	comp=Z,7.4nm,1.3s								
BRG				*e*PKKP		**PKKPab**	**23 27 29.0**	**+4.7**	
BRG				SS		**SS**	**23 33 44.0**	**-0.1**	
	comp=N,2μm,19.8s								
	comp=E,2μm,20.9s								
	comp=Z,4μm,22.6s								
BRG	**Berggiesshubel**	**115.32**	**44**	*e*PKIKP		**PKPdf**	**23 16 47.0**	**+0.4**	
BRG				*e*			23 16 58.9		
BRG				*e*			23 27 28.4		
BRG				*e*			23 27 29.0		
BRG				SS	SS		23 33 44.0	-0.1	
BRG				pmax	pmax				
	comp=Z,15nm,1.7s								
BRG				MLR	MLR				
	comp=N,7μm,19.8s								
BRG				MLR	MLR				
	comp=E,2μm,20.9s								
BRG				MLR	MLR				
	comp=Z,2μm,22.6s								
AXAR	**Agios Charalam**	**115.39**	**59**	*e*P		**PKPdf**	**23 16 47.7**	**+0.6**	
FNA	**Florina**	**115.42**	**57**	*e*P		**PKPdf**	**23 16 47.4**	**+0.2**	
TREC	**Trest**	**115.50**	**46**	*e*PKIKP		**PKPdf**	**23 16 46.9**	**-0.1**	
TREC				*e*			23 16 57.6		
TREC				*e*SP	SP		23 27 34.0	+8.6	
TREC				MLR	MLR				
	comp=Z,3μm,17.3s								
TREC	**Trest**	**115.50**	**46**	*e*PKP		**PKPdf**	**23 16 46.9**	**-0.1**	
TREC				*ep*PKP		**pPKiKP**	**23 16 57.6**	**-0.6**	
TREC				*e*PP		**PP**	**23 17 45.4**	**-4.4**	
TREC				*e*PS		**PS**	**23 27 34.0**	**+4.0**	
TREC				AMS	AMS		00 13 30.0		
	comp=Z,3μm,17.3s								
PVCC	**Panska Ves**	**115.52**	**45**	*e*PKP		**PKPdf**	**23 16 47.2**	**+0.3**	
PVCC				*ex*	x		23 16 59.5		
PVCC				AMS	AMS		00 10 50.0		
	comp=Z,3μm,17.7s								
ILAR	**Eielson Array**	**115.87**	**333**	PKIKP		**PKPdf**	**23 16 46.9**	**-0.3**	
ILAR							23 17 58.4		
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ILAR				pmax	pmax				
	comp=Z,2.0nm,1.1s								
ILAR	**Eielson Array**	**115.87**	**333**	PKP		**PKPdf**	**23 16 46.9**	**-0.3**	
	comp=Z,1.7nm,0.9s,baz=187,slow=1.1,SNR=12								
ILAR				PP	PP		23 17 58.4	+6.4	
	comp=Z,2.1nm,1.1s,baz=123,slow=4.1,SNR=5.0								
ILAR				PKKPbc		**PKKPbc**	**23 27 18.9**	**-1.2**	
	comp=Z,1.5nm,0.9s,baz=281,slow=4.0,SNR=8.0								
ILB	**Eielson Array**	**115.87**	**333**	*e*PKPdf		**PKPdf**	**23 16 45.8**	**-1.5**	
XOR	**Xorichti**	**116.03**	**59**	*e*P		**PKPdf**	**23 16 48.1**	**-0.2**	
PKSM	**Moragy**	**116.05**	**51**	⇓PKiKP		**PKPdf**	**23 16 48.0**	**-0.1**	
PKSM	**Moragy**	**116.05**	**51**	⇓*i*P		**PKPdf**	**23 16 48.0**	**-0.1**	
PKST	**T˜˜s**	**116.13**	**49**	*e*PKPdf		PKPdf	23 16 57.9	+10	
VRAC	**Vranov**	**116.16**	**47**	⇓PKiKP		**PKPdf**	**23 16 48.2**	**0.0**	
VRAC	**Vranov**	**116.16**	**47**	⇓*i*P		**PKPdf**	**23 16 48.2**	**0.0**	
GRG	**Griva**	**116.19**	**57**	*e*P		**PKPdf**	**23 16 49.4**	**+0.8**	
COLA	**College**	**116.28**	**333**	PFAKE			23 17 00.0	+12	
COLA				LR	LR				
	comp=Z,2μm,19.0s								
SANT	**Santorini**	**116.29**	**63**	PFAKE			23 17 00.0	+11	
SANT				LR	LR				
	comp=Z,2μm,21.0s								
CSKK	**Cs˜ˇkako**	**116.31**	**49**	*e*PKPdf		**PKPdf**	**23 16 48.3**	**-0.3**	
UPC	**Upice**	**116.34**	**45**	*e*PKiKP		**PKPdf**	**23 16 47.5**	**-1.0**	
UPC				*e*			23 16 59.1		
UPC	**Upice**	**116.34**	**45**	*e*PKP		**PKPdf**	**23 16 47.5**	**-1.0**	
UPC				*ep*PKP		pPKPdf	23 16 59.1	-0.7	
PKSG		**116.41**	**49**	*e*PKPdf		PKPdf	23 16 57.6	+8.9	
AOS	**Alonnisos**	**116.42**	**60**	*e*P		**PKPdf**	**23 16 48.6**	**-0.5**	
THE	**Thessaloniki**	**116.43**	**58**	*e*P		**PKPdf**	**23 16 49.4**	**+0.4**	
DPC	**Dobruska-Polom**	**116.45**	**46**	*e*PKiKP		**PKPdf**	**23 16 49.2**	**+0.4**	
DPC				*e*			23 17 00.0		
DPC				*e*			23 18 00.0		
DPC				*e*SP	SP		23 27 41.2	+7.2	
DPC	**Dobruska-Polom**	**116.45**	**46**	*e*PKP		**PKPdf**	**23 16 49.2**	**+0.4**	
DPC				*ep*PKP		pPKPdf	23 17 00.0	-0.1	
DPC				*e*PP		**PP**	**23 18 00.0**	**+3.6**	
DPC				*ex*	x		23 25 06.5		
DPC				*e*PS		**PS**	**23 27 41.2**	**+2.6**	
DPC				AMS	AMS		00 09 40.0		
DPC	**Dobruska-Polom**	**116.45**	**46**	*e*PKPdf		**PKPdf**	**23 16 49.0**	**+0.1**	
VAY	**Valandovo**	**116.47**	**57**	*e*P		**PKPdf**	**23 16 48.0**	**-1.0**	
HORT	**Hortiatis**	**116.51**	**58**	*e*P		**PKPdf**	**23 16 49.7**	**+0.4**	
PKS2	**Kecel**	**116.53**	**51**	*e*PKPdf		PKPdf	23 16 57.0	+8.0	
KRLC	**Kraliky**	**116.60**	**46**	*e*PKIKP		**PKPdf**	**23 16 48.8**	**-0.3**	
KRLC				*e*			23 17 00.1		
KRLC	**Kraliky**	**116.60**	**46**	*e*PKP		**PKPdf**	**23 16 48.8**	**-0.3**	
KRLC				*ep*PKP		pPKPdf	23 17 00.1	-0.3	
PAIG	**Paliouri**	**116.61**	**59**	*e*P		**PKPdf**	**23 16 46.2**	**-3.2**	
KNT	**Kendrikon**	**116.62**	**57**	*e*P		**PKPdf**	**23 16 49.6**	**+0.2**	
COP	**Copenhagen**	**116.64**	**39**	*i* P		**PP**	**23 17 58.6**	**+1.1**	
COP				*i*			23 27 47.2		
KSP	**Ksiaz**	**116.64**	**45**	*e*PKP		**PKPdf**	**23 16 48.7**	**-0.4**	
KSP				*ep*PP		**PP**	**23 17 58.0**	**+0.3**	
KSP				LMZ	LR		00 05 35.7		
PLG	**Polygyros**	**116.65**	**58**	*e*P		**PKPdf**	**23 16 49.7**	**+0.2**	
PKS7	**Kunszentmiklos**	**116.73**	**50**	*e*PKPdf		pPKPdf	23 17 02.4	+1.8	
SOH	**Sokhos**	**116.78**	**58**	*e*P		**PKPdf**	**23 16 49.9**	**+0.1**	
PKS6	**Bocsa**	**116.79**	**51**	*e*PKPdf		pPKPdf	23 17 01.9	+1.2	
MORC	**Moravsky Berou**	**116.92**	**47**	⇓PKiKP		**PKPdf**	**23 16 49.7**	**0.0**	
MORC	**Moravsky Berou**	**116.92**	**47**	⇓*i*P		**PKPdf**	**23 16 49.7**	**0.0**	
MORC	**Moravsky Berou**	**116.92**	**47**	*e*PKPdf		**PKPdf**	**23 16 49.2**	**-0.6**	
MSEY	**Mahe Island**	**116.92**	**119**	PFAKE			23 17 00.0	+9.1	
MSEY				LR	LR				
	comp=Z,3μm,21.0s								
KONO	**Kongsberg**	**117.00**	**34**	PFAKE			23 17 00.0	+11	
KONO				LR	LR				
	comp=Z,3μm,21.0s								
PPLA	**Purkeypile**	**117.03**	**330**	*e*PKPdf		**PKPdf**	**23 16 50.1**	**+0.4**	
SRS	**Serrai**	**117.07**	**57**	*e*P		**PKPdf**	**23 16 49.3**	**-1.0**	
PKSN	**Nyarlorinc**	**117.11**	**50**	*e*PKPdf		pPKPdf	23 17 00.4	-0.9	
VYHS	**Vyhne**	**117.15**	**48**	*e*PKIKP		**PKPdf**	**23 16 50.0**	**-0.2**	
VYHS				*e*			23 17 01.4		
VYHS	**Vyhne**	**117.15**	**48**	*e*PKP		**PKPdf**	**23 16 50.0**	**-0.2**	
VYHS				*e*			23 17 01.4		
VYHS				*e*			23 27 19.3		
OKC	**Ostrava-Krasne**	**117.30**	**47**	*e*PKIKP		**PKPdf**	**23 16 51.0**	**+0.6**	
OKC				*e*			23 17 02.3		
OKC				*e*			23 18 04.2		
OKC				*e*SP	SP		23 27 51.8	+10	
OKC				MLR	MLR				
	comp=Z,2μm,20.2s								
OKC	**Ostrava-Krasne**	**117.30**	**47**	*e*PKP		**PKPdf**	**23 16 51.0**	**+0.6**	
OKC				*ex*	x		23 17 02.3		
OKC				*e*PP		**PP**	**23 18 04.2**	**+1.9**	
OKC				*e*PS		**PS**	**23 27 51.8**	**+5.6**	
OKC				AMS	AMS		00 08 10.0		
	comp=Z,2μm,20.2s								
NVR	**Nevrokopi**	**117.36**	**57**	*e*P		**PKPdf**	**23 16 50.0**	**-0.8**	
MMB	**Musomiste**	**117.37**	**57**	⇓PKiKP		**PKPdf**	**23 16 51.4**	**+0.5**	
MMB	**Musomiste**	**117.37**	**57**	⇓*i*P		**PKPdf**	**23 16 51.4**	**+0.5**	
MMB	**Musomiste**	**117.37**	**57**	*i* P		**PKPdf**	**23 16 50.0**	**-0.9**	
VTS	**Vitosha**	**117.44**	**56**	⇑PKiKP		**PKPdf**	**23 16 51.1**	**0.0**	
VTS	**Vitosha**	**117.44**	**56**	⇑*i*P		**PKPdf**	**23 16 51.1**	**0.0**	
VTS	**Vitosha**	**117.44**	**56**	*i* P		**PKPdf**	**23 16 50.0**	**-1.1**	
PSZ	**Piszkesteto**	**117.55**	**49**	PFAKE			23 17 00.0	+8.9	
PSZ				LR	LR				
	comp=Z,3μm,20.0s								
CHOS	**Chios Island**	**117.60**	**61**	*e*P		**PKPdf**	**23 16 48.1**	**-3.4**	
BZS	**Buzias**	**117.67**	**52**	⇓PKiKP		**PKPdf**	**23 16 51.3**	**0.0**	
BZS	**Buzias**	**117.67**	**52**	⇓*i*P		**PKPdf**	**23 16 51.3**	**0.0**	
BSD	**Bornholm Skovb**	**117.68**	**40**	*i* P		**PP**	**23 18 02.3**	**-2.5**	
PRK	**Paraskevi**	**118.12**	**60**	*e*P		**PKPdf**	**23 16 52.0**	**-0.3**	
KECS	**Kecovo**	**118.14**	**49**	*e*PKIKP		**PKPdf**	**23 16 52.1**	**0.0**	
KECS				*e*			23 17 02.3		
KECS	**Kecovo**	**118.14**	**49**	*e*PKP		**PKPdf**	**23 16 52.1**	**0.0**	
KECS				*e*			23 17 02.3		
GKP	**Gorka Klasztor**	**118.18**	**43**	*e*PKIKP		**PKPdf**	**23 16 53.1**	**+1.2**	
GKP				*e*			23 17 03.6		
GKP	**Gorka Klasztor**	**118.18**	**43**	*e*PKPdf		**PKPdf**	**23 16 53.1**	**+1.2**	
GKP				*ep*PKPdf		**pPKPdf**	**23 17 03.6**	**+0.4**	
GKP				LMZ	LR		00 03 10.3		
NB2	**NORSAR Subarra**	**118.31**	**33**	PKPdf		**PKPdf**	**23 16 52.3**	**+0.2**	
	comp=Z,39nm,2.0s,baz=248,slow=1.9								
NB2	**NORSAR Subarra**	**118.31**	**33**	PKPdf		**PKPdf**	**23 16 52.3**	**+0.2**	
	baz=248,slow=1.9								
NB200	**NORSAR Array S**	**118.31**	**33**	*e*PKPdf		**PKPdf**	**23 16 52.0**	**-0.1**	
NB200				*e*PP		PP	23 18 17.7	+8.6	
NB200				*e*PKKPbc		**PKKPbc**	**23 27 12.9**	**+1.6**	
NOA	**NORSAR Array B**	**118.31**	**33**	PKIKP		**PKPdf**	**23 16 52.0**	**-0.1**	
NOA							23 18 17.7		
NOA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NOA				pmax	pmax				
	comp=Z,9.0nm,1.2s								
NOA	**NORSAR Array B**	**118.31**	**33**	PKP		**PKPdf**	**23 16 52.0**	**-0.1**	
	comp=Z,1.6nm,0.7s,baz=250,slow=2.1,SNR=9.5								
NOA				PP	PP		23 18 17.7	+8.6	
	comp=Z,8.6nm,1.2s,baz=242,slow=6.8,SNR=3.8								
NOA				PKKPbc		**PKKPbc**	**23 27 12.9**	**+1.6**	
	comp=Z,4.6nm,0.9s,baz=67,slow=4.5,SNR=10								
GZR	**Gura Zlata**	**118.33**	**53**	⇓PKIKP		**PKPdf**	**23 16 51.3**	**-1.3**	
GZR	**Gura Zlata**	**118.33**	**53**	⇓*i*P		**PKPdf**	**23 16 51.3**	**-1.3**	
NIE	**Niedzica**	**118.41**	**48**	*e*PKIKP		**PKPdf**	**23 16 53.0**	**+0.4**	
NIE				*e*			23 18 08.4		
NIE	**Niedzica**	**118.41**	**48**	*e*PKPdf		**PKPdf**	**23 16 52.8**	**+0.2**	
NIE				*ep*PKPdf		**pPKPdf**	**23 17 04.6**	**+0.7**	
NIE				*e*PP		**PP**	**23 18 08.4**	**-1.7**	
NIE				LMZ	LR		00 04 21.9		
RDO	**Rodhopi**	**118.42**	**58**	*e*P		**PKPdf**	**23 16 52.5**	**-0.3**	
OJC	**Ojcow**	**118.43**	**47**	*e*PKIKP		**PKPdf**	**23 16 51.6**	**-1.0**	
OJC	**Ojcow**	**118.43**	**47**	*e*PKPdf		**PKPdf**	**23 16 52.8**	**+0.2**	
OJC				*ep*PKPdf		**pPKPdf**	**23 17 03.8**	**0.0**	
OJC				LMZ	LR		00 03 16.1		
OJC	**Ojcow**	**118.43**	**47**	*e*PKPdf		**PKPdf**	**23 16 51.6**	**-1.0**	
WRA	**Warramunga Arr**	**118.44**	**209**	PKIKP		**PKPdf**	**23 16 53.2**	**-0.5**	
WRA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
WRA	**Warramunga Arr**	**118.44**	**209**	PKP		**PKPdf**	**23 16 53.1**	**-0.5**	
	comp=Z,5.7nm,0.7s,baz=152,slow=1.5,SNR=26								
WRA				PKKPbc		**PKKPab**	**23 27 20.8**	**+4.5**	
	comp=Z,7.8nm,1.1s,baz=335,slow=3.5,SNR=6.0								
WRA	**Warramunga Arr**	**118.44**	**209**	*e*PKPdf		**PKPdf**	**23 16 53.1**	**-0.5**	
WRA				*e*PKKPbc		**PKKPab**	**23 27 20.8**	**+4.5**	
WRAB	**Tennant Creek**	**118.44**	**209**	PFAKE			23 17 10.0	+16	
WRAB				LR	LR				
	comp=Z,3μm,19.0s								
KDZ	**Kurdzhali**	**118.54**	**58**	⇓PKIKP		**PKPdf**	**23 16 52.5**	**-0.6**	
KDZ	**Kurdzhali**	**118.54**	**58**	⇓*i*P		**PKPdf**	**23 16 52.5**	**-0.6**	
KDZ	**Kurdzhali**	**118.54**	**58**	*i* P		**PKPdf**	**23 16 52.0**	**-1.1**	
ALN	**Alexandroupoli**	**118.66**	**59**	*e*P		**PKPdf**	**23 16 49.0**	**-4.3**	
DRGR		**118.84**	**51**	⇓PKIKP		**PKPdf**	**23 16 52.6**	**-1.0**	
DRGR		**118.84**	**51**	⇓*i*P		**PKPdf**	**23 16 52.6**	**-1.0**	
CRVS	**Cervenica-Dubn**	**118.90**	**49**	*e*PKIKP		**PKPdf**	**23 16 54.0**	**+0.5**	
CRVS				*e*			23 17 05.5		
CRVS	**Cervenica-Dubn**	**118.90**	**49**	*e*PKP		**PKPdf**	**23 16 54.0**	**+0.5**	
CRVS				*e*			23 17 05.5		
CRVS				*e*			23 27 10.1		
CRVS				*e*			23 27 22.5		
LOT	**Lotru**	**118.99**	**53**	⇑*i*P		**PKPdf**	**23 16 53.3**	**-0.7**	
IM04	**Indian Mountai**	**118.99**	**332**	*e*PKPdf		**PKPdf**	**23 16 53.4**	**+0.2**	
TRPA	**Tarpa**	**119.26**	**50**	⇓*i*P		**PKPdf**	**23 16 53.1**	**-1.1**	
TRPA	**Tarpa**	**119.26**	**50**	*e*PKPdf		**PKPdf**	**23 16 54.8**	**+0.6**	
UZH	**Uzhgorod**	**119.30**	**49**	*i* PKIKP		PKPdf	23 17 01.3	+7.0	
UZH				*e*			23 17 07.5		
UZH				*i*			23 18 25.3		
UZH				*e*			23 23 52.1		
UZH				*i*			23 27 57.3		
UZH				*e*SS	SS		23 34 34.1	-1.9	
UZH				MLR	MLR				
	comp=Z,900nm,18.0s								
UZH				MLR	MLR				
	comp=N,1μm,18.0s								
UZH				MLR	MLR				
	comp=E,2μm,18.0s								
KOLS	**Kolonicke sedl**	**119.41**	**49**	*e*PKIKP		**PKPdf**	**23 16 55.2**	**+0.7**	
KOLS				*e*			23 17 05.8		
KOLS	**Kolonicke sedl**	**119.41**	**49**	*e*PKP		**PKPdf**	**23 16 55.2**	**+0.7**	
KOLS				*e*			23 17 05.8		
KOLS				*e*			23 27 06.2		
KOLS				*e*			23 27 21.4		
ARR	**Arges**	**119.52**	**53**	⇓*i*P		**PKPdf**	**23 16 54.7**	**-0.2**	
SZH	**Strazhica**	**119.55**	**56**	*i* P		**PKPdf**	**23 16 54.0**	**-0.9**	
BEL	**Belsk**	**119.63**	**45**	*e*PKIKP		**PKPdf**	**23 16 55.7**	**+0.9**	
BEL				*e*			23 17 06.1		
BEL				*e*			23 18 16.3		
BEL	**Belsk**	**119.63**	**45**	*e*PKPdf		**PKPdf**	**23 16 55.7**	**+0.9**	
BEL				*ep*PKPdf		**pPKPdf**	**23 17 06.0**	**0.0**	
BEL				*e*PP		**PP**	**23 18 16.3**	**-2.0**	
BEL				LMZ	LR		00 01 46.8		
JMB	**Yambol**	**119.67**	**57**	⇓PKIKP		**PKPdf**	**23 16 57.6**	**+2.4**	
JMB	**Yambol**	**119.67**	**57**	⇓*i*P		**PKPdf**	**23 16 57.6**	**+2.4**	
JMB	**Yambol**	**119.67**	**57**	*i* P		**PKPdf**	**23 16 56.0**	**+0.8**	
VOIR		**119.81**	**53**	⇓PKIKP		**PKPdf**	**23 16 55.3**	**-0.2**	
VOIR		**119.81**	**53**	⇓*i*P		**PKPdf**	**23 16 55.3**	**-0.2**	
KWP	**Kalwaria Pacla**	**119.94**	**48**	*e*PKIKP		**PKPdf**	**23 16 56.0**	**+0.5**	
KWP				*e*			23 17 07.4		
KWP				*e*			23 18 18.7		
KWP				MLR	MLR				
	comp=Z,3μm,23.4s								
KWP	**Kalwaria Pacla**	**119.94**	**48**	*e*PKPdf		**PKPdf**	**23 16 56.0**	**+0.5**	
KWP				*ep*PKPdf		**pPKPdf**	**23 17 07.3**	**+0.6**	
KWP				*e*PP		**PP**	**23 18 18.7**	**-1.9**	
KWP				LMZ	LR		00 06 01.5		
KWP	**Kalwaria Pacla**	**119.94**	**48**	⇓*i*P		**PKPdf**	**23 16 56.1**	**+0.5**	
KWP	**Kalwaria Pacla**	**119.94**	**48**	PFAKE			23 17 10.0	+14	
KWP				LR	LR				
	comp=Z,2μm,19.0s								
DOPR	**Dopca**	**120.23**	**53**	⇑*i*P		**PKPdf**	**23 16 54.7**	**-1.5**	
SECR		**120.32**	**54**	⇓*i*P		**PKPdf**	**23 16 55.8**	**-0.6**	
MLR	**Muntele Rosu**	**120.42**	**54**	⇑PKiKP		**PKPdf**	**23 16 56.0**	**-0.7**	
MLR	**Muntele Rosu**	**120.42

KBS LR LR
comp=Z,1μm,20.0s
TNA Tin City 124.39 330 *e*PKPdf **PKPdf 23 17 03.3 -0.2**
CORM Corum 124.42 62 *e*P **PKPdf 23 17 04.0 -0.6**
MNK Minsk 124.50 44 *e*PKIKP **PKPdf 23 17 03.0 -1.1**
MICGM Minsk 124.53 44 *e*P **PKPdf 23 17 03.0 -1.1**
H11S2 WAKE ISLAND Hyl 24.99 268 T T 01 34 35.2
baz=116
H11S1 WAKE ISLAND Hyl 25.00 268 T T 01 34 27.9
baz=116
H11S3 WAKE ISLAND Hyl 25.00 268 T T 01 34 33.4
baz=116
KMRS Kahramanmaras 125.10 66 *e*P **PKPdf 23 17 06.2 +0.4**
FIA0 FINESS Array S 125.26 36 *e*PKIKP **PKPdf 23 17 03.6 -1.7**
FIA0 FINESS Array S 125.26 36 *e*PKPdf **PKPdf 23 17 03.6 -1.7**
FINES FINESS Array B 125.26 36 PKIKP **PKPdf 23 17 03.6 -1.7**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 125.26 36 PKP **PKPdf 23 17 03.6 -1.7**
comp=Z,3.8nm,0.8s,baz=165,slow=3.2,SNR=14
H11N3 WAKE ISLAND Hyl 25.46 269 T T 01 34 44.2
baz=115,slow=78,SNR=8.0
H11N1 WAKE ISLAND Hyl 25.47 269 T T 01 35 04.3
baz=115,slow=78,SNR=14
H11N2 WAKE ISLAND Hyl 25.47 269 T T 01 34 57.5
baz=115,slow=78,SNR=15
KAF Kangasniemi 125.50 35 *e*PKIKP **PKPdf 23 17 04.5 -1.3**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 125.50 35 *e*p **PKPdf 23 17 04.5 -1.3**
comp=Z,9.4nm,0.6s
ADK Adak 125.54 312 PFAKE 23 17 20.0 +14
ADK LR LR
comp=Z,3μm,20.0s
GAMB Gambell 125.62 327 *e*PKPdf **PKPdf 23 17 06.5 +0.6**
SIM Simferopol' 125.65 57 *c i*PKIKP **PKPdf 23 17 06.4 -0.2**
SIM SS SS 23 36 14.1 +17
SIM pmax pmax
comp=Z,41nm,1.0s
DGAR Diego Garcia 125.74 136 PFAKE 23 17 20.0 +12
DGAR LR LR
comp=Z,3μm,19.0s
H08N3 Diego Garcia H 125.77 134 PKP **PKPdf 23 17 08.7 +1.2**
baz=231,slow=7.0,SNR=3.9
H08N1 Diego Garcia H 125.79 134 PKP **PKPdf 23 17 07.4 0.0**
baz=231,slow=7.0,SNR=4.7
H08N2 Diego Garcia H 125.79 134 PKP **PKPdf 23 17 08.1 +0.7**
baz=231,slow=7.0,SNR=6.3
DARE Darende-Malaty 125.92 65 *e*P **PKPdf 23 17 08.0 +0.5**
RAYN Ar Rayn 125.94 86 *e*PKPdf **PKPdf 23 17 07.8 -0.1**
RAYN LR LR
comp=Z,6μm,19.0s
ARA0 ARCESS Array S 126.37 26 *e*PKPdf **PKPdf 23 17 07.1 -0.2**
ARCES ARCESS Array B 126.37 26 PKIKP **PKPdf 23 17 07.1 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 126.37 26 PKP **PKPdf 23 17 07.1 -0.2**
comp=Z,2.8nm,0.6s,baz=260,slow=2.9,SNR=16
RSDY Resadiye-TOKAT 126.43 63 *e*P **PKPdf 23 17 07.5 -0.8**
URFA Urfa 126.50 67 *e*P **PKPdf 23 17 09.2 +0.6**
MALT Malatya 126.52 66 *e*P **PKPdf 23 17 09.4 +0.8**
MALT Malatya 126.52 66 ⇑PKIKP **PKPdf 23 17 09.3 +0.7**
MALT Malatya 126.52 66 *i*P **PKPdf 23 17 09.3 +0.7**
KEV Kevo 126.91 25 PFAKE 23 17 20.0 +12
KEV LR LR
comp=Z,2μm,21.0s
SVRC Sivrice-ELAZID 127.19 66 *e*P **PKPdf 23 17 10.4 +0.4**
PTK Pertek 127.43 65 *e*P **PKPdf 23 17 10.9 +0.4**
ESPY Espiye-Giresun 127.61 63 *e*P **PKPdf 23 17 09.5 -1.0**
DYBB Diyarbakir 127.66 67 *e*P **PKPdf 23 17 11.8 +1.0**
MAZI Mazidag 127.72 67 *e*P **PKPdf 23 17 11.4 +0.4**
ANN Anapa 127.86 58 *i* PKIKP **PKPdf 23 17 10.2 -0.6**
ANN *e* 23 19 10.9
ANN *e* 23 24 21.2
ANN *e*SS SS 23 36 23.3 -1.2
ANN pmax pmax
comp=Z,42nm,1.0s
ANN MLR MLR
comp=Z,2μm,23.0s
JOF Joensuu 127.92 34 *e*PKIKP **PKPdf 23 17 06.7 -3.7**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 127.92 34 *e*p **PKPdf 23 17 06.7 -3.7**
comp=Z,3.5nm,0.7s
KTUT Trabzon 128.38 63 *e*P **PKPdf 23 17 11.8 -0.2**
BNGB Bing ¶ll 128.41 66 *e*P **PKPdf 23 17 12.9 +0.6**
BAYT Ayd¯ntepe-Bay 128.46 64 *e*P **PKPdf 23 17 12.3 -0.1**
SVAN Silvan-Diyarba 128.51 67 *e*P **PKPdf 23 17 12.9 +0.5**
VRTB Varto-Mus 129.03 66 *e*P **PKPdf 23 17 13.1 -0.4**
SOC Sochi 129.10 60 *c i*PKIKP **PKPdf 23 17 13.2 0.0**
SOC *i* 23 19 20.0
SOC *e*PPP PPP 23 22 28.3
SOC *e*SS SS 23 36 35.6 -4.4
SOC *e*SSS SSS 23 41 27.0
SOC pmax pmax
comp=Z,39nm,1.1s
ABTO Aybut 129.10 97 PKPdf **PKPdf 23 17 14.7 +0.6**
SNR=13
APA Apatity 129.13 28 ⇑*i*PKIKP **PKPdf 23 17 13.2 +0.7**
APA *i* 23 19 22.0
APA *i* 23 24 26.0
APA *i* PS **PS 23 29 28.0 -2.6**
SIRT Sirnak 129.22 68 *e*P **PKPdf 23 17 14.1 +0.3**
OBN Obninsk 129.57 45 ⇓*i*PKIKP **PKPdf 23 17 13.5 -0.2**
OBN *i* 23 17 26.4
OBN *i* 23 19 27.4
OBN *e* 23 24 22.6
OBN pmax pmax
comp=Z,86nm,1.6s
OBN Obninsk 129.57 45 *e*PKPdf **PKPdf 23 17 12.8 -0.9**
OBN LR LR
comp=Z,2μm,19.0s
LVZ Lovozero 129.60 28 PFAKE 23 17 30.0 +16
LVZ LR LR
comp=Z,2μm,20.0s
BCA Borcka 129.85 63 *e*P **PKPdf 23 17 14.4 -0.3**
MOS Moscow 130.25 44 *e*PKIKP **PKPdf 23 17 11.8 -3.2**
MOS *e* 23 17 26.5
MOS *e* 23 19 36.5
MOS pmax pmax
comp=Z,92nm,1.8s
MOS pmax pmax
comp=Z,400nm,3.1s
MOS MLR MLR
comp=Z,3μm,19.0s
MOS MLR MLR
comp=E,3μm,20.0s
VANB Van 130.29 67 *e*P **PKPdf 23 17 16.6 +0.7**
AGRB Hanur-Agry 130.30 66 *e*P **PKPdf 23 17 16.9 +1.0**
VSR Storozhevoye 130.47 50 *e*PKIKP **PKPdf 23 17 13.3 -2.3**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,330nm,4.3s
VSR pmax pmax
comp=N,70nm,2.4s
VSR pmax pmax
comp=E,210nm,3.3s
VSR MLR MLR
comp=E,2μm,21.0s
VSR MLR MLR
comp=Z,2μm,21.0s
VSR MLR MLR
comp=N,2μm,20.0s
CHVG Ch'k'valeri 130.53 61 P pPKPdf 23 17 30.2 +3.0
KARS Kars 130.67 64 *e*P **PKPdf 23 17 17.6 +1.1**
CLDR Caldiran 130.85 67 *e*P **PKPdf 23 17 17.2 +0.2**
TMCR Tamitsa 131.00 33 *e*PKIKP **PKPdf 23 17 16.6 +0.5**
TMCR *e* 23 17 27.7
TMCR pmax pmax
comp=Z,49nm,1.4s
NEY Neytrino 131.12 61 *i* PKIKP **PKPdf 23 17 18.1 +0.8**
AKH Akhalkalaki 131.19 64 P **PKPdf 23 17 18.7 +1.2**
KIV Kislovodsk 131.27 60 ⇑*i*PKIKP **PKPdf 23 17 17.7 +0.2**
KIV *i* 23 17 28.3
KIV *i* 23 19 33.9
KIV *i* PS **PS 23 29 53.3 +3.1**
KIV pmax pmax
comp=Z,52nm,1.3s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 131.27 60 ⇓*i*PKPdf **PKPdf 23 17 16.9 -0.6**
SNR=16
KIV Kislovodsk 131.27 60 PKPdf **PKPdf 23 17 17.9 +0.4**
SNR=39
KIV Kislovodsk 131.27 60 *e*PKPdf **PKPdf 23 17 17.4 -0.1**
KIV LR LR
comp=Z,2μm,21.0s
IDHR Dehrash 131.28 73 *e*P **PKPdf 23 17 17.9 0.0**
IGHG Ghaleghazi 131.29 73 *e*P **PKPdf 23 17 17.8 -0.2**
KBZ Khabaz 131.37 60 PKIKP **PKPdf 23 17 17.1 -0.4**
KBZ pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 131.37 60 PKP **PKPdf 23 17 17.1 -0.4**
comp=Z,10nm,1.1s,baz=163,slow=1.6,SNR=4.3
KBZ Khabaz 131.37 60 *e*PKPdf **PKPdf 23 17 17.1 -0.4**
SOEI Soe 131.45 203 *e*PKPdf **PKPdf 23 17 17.8 -1.0**
ONI Oni 131.47 62 P **PKPdf 23 17 17.2 -0.6**
GNI Garni 131.75 65 *e*PKIKP **PKPdf 23 17 18.8 +0.2**
GNI MLR MLR
comp=Z,3μm,21.0s
GNI Garni 131.75 65 PKP **PKPdf 23 17 19.7 +1.1**
comp=Z,4.8nm,0.6s,baz=197,slow=2.3,SNR=21
GNI Garni 131.75 65 ⇓*i*PKPdf **PKPdf 23 17 19.1 +0.5**
SNR=11
GNI Garni 131.75 65 PKPdf **PKPdf 23 17 19.4 +0.8**
SNR=24
GNI Garni 131.75 65 *e*PKPdf **PKPdf 23 17 18.8 +0.2**
GNI *e*PKPdf **PKPdf 23 17 19.7 +1.1**
GNI LR LR
comp=Z,3μm,21.0s
NCK Nalchik 131.80 61 ⇓*i*PKIKP **PKPdf 23 17 18.8 +0.4**
ZEI Tsey 131.84 62 *i* PKIKP **PKPdf 23 17 16.6 -2.2**
ZEI pmax pmax
comp=Z,63nm,1.3s
KZR Kazreti 131.85 64 P **PKPdf 23 17 19.7 +1.1**
IAZR Azarshahr 131.95 69 *e*P **PKPdf 23 17 19.0 -0.2**
IKOM Komasi 131.97 74 *e*P **PKPdf 23 17 19.6 +0.4**
VRHR Novokhopersk 131.98 50 *e*PKIKP **PKPdf 23 17 17.2 -1.2**
VRHR pmax pmax
comp=Z,40nm,1.8s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,240nm,3.7s
VRHR pmax pmax
comp=N,320nm,7.5s
VRHR pmax pmax
comp=E,640nm,10.2s
VRHR MLR MLR
comp=N,530nm,19.0s
VRHR MLR MLR
comp=E,1μm,19.0s
VRHR MLR MLR
comp=Z,2μm,19.0s
IMRD Marand 132.05 68 *e*P **PKPdf 23 17 18.5 -0.7**
GUDG Gudauri 132.18 62 P pPKPdf 23 17 32.6 +1.9
TBLG Delisi 132.18 63 *e*P **PKPdf 23 17 19.1 -0.1**
TBLG Delisi 132.18 63 P **PKPdf 23 17 19.3 +0.1**
ITBZ Tabriz 132.24 68 *e*P PKPdf 23 17 13.5 -6.1
DGRG David-gareji 132.56 64 P **PKPdf 23 17 24.3 +4.3**
IHRS Heris 132.94 69 *e*P **PKPdf 23 17 17.4 -3.6**
ISRB Sarab 133.26 69 *e*P **PKPdf 23 17 20.4 -1.2**
IPIR Pirpir 134.09 77 *e*P **PKPdf 23 17 22.8 -0.6**
MAK Makhachkala 134.46 62 *i* PKIKP **PKPdf 23 17 24.7 +1.3**
MAK *e* 23 19 53.8
MAK *e*PPP PPP 23 22 55.3
MAK *e*SS SS 23 37 43.4 -1.9
MAK pmax pmax
comp=Z,90nm,0.9s
BILL Bilibino 134.53 333 *i* PKIKP **PKPdf 23 17 23.3 +0.5**
BILL *i* 23 17 36.5
BILL *e* 23 24 28.7
BILL *e*PS **PS 23 30 13.7 -3.5**
BILL pmax pmax
comp=Z,28nm,1.6s
BILL Bilibino 134.53 333 *e*PKPdf **PKPdf 23 17 22.4 -0.4**
BILL LR LR
comp=Z,3μm,21.0s
PRGR Permogore 134.58 36 *e*PKIKP **PKPdf 23 17 20.1 -2.9**
PRGR pmax pmax
comp=Z,23nm,0.9s
ISRV Sarvestan 134.63 83 *e*P **PKPdf 23 17 23.7 -0.8**
IPAR Pars 134.75 82 *e*P PKPpre 23 17 18.7
IGZV Ghazvin 134.78 72 *e*P **PKPdf 23 17 23.6 -1.0**
IVRN Varamin 135.52 75 *e*P **PKPdf 23 17 25.4 -0.3**
ISAD Sadrabad 136.03 80 *e*P **PKPdf 23 17 28.1 +1.0**
IMEH Mehriz 136.58 81 *e*P PKPpre 23 17 19.8
ILAS Lasjerd 136.60 74 *e*P **PKPdf 23 17 27.7 -0.3**
ICHK Chekchek 136.72 79 *e*P **PKPdf 23 17 28.1 -0.2**
ISHM Shahmirzad 136.99 74 *e*P **PKPdf 23 17 29.0 +0.2**
IBAF Bafgh 137.42 81 *e*P **PKPdf 23 17 29.2 -0.3**
GUMO Guam 139.33 246 PFAKE 23 17 50.0 +17
GUMO LR LR
comp=Z,225nm,20.0s
SOKR Solikamsk 140.33 38 *i* PKHKP PKPpre 23 17 27.5
SOKR 23 20 34.4
SOKR SS SS 23 38 55.4 +1.7
SOKR pmax pmax
comp=Z,10.0nm,0.9s
PET Petropavlovsk 140.60 312 PFAKE 23 17 50.0 +16
PET LR LR
comp=Z,2μm,21.0s
ISHV Shirvan 140.86 73 *e*P PKPpre 23 17 29.9
ISFR Sfrayin 140.98 74 *e*P PKPpre 23 17 28.0
TRD Trivandrum 141.09 128 *e*P **PKPdf 23 17 35.5 -1.0**
PEA2 Petropavlovsk- 141.16 312 *e*PKPdf **PKPdf 23 17 35.8 +0.4**
PETK Petropavlovsk- 141.16 312 PKIKP **PKPdf 23 17 35.8 +0.4**
PETK pmax pmax
comp=Z,11nm,1.0s
PETK Petropavlovsk- 141.16 312 PKP **PKPdf 23 17 35.8 +0.4**
comp=Z,11nm,1.0s,baz=110,slow=6.9,SNR=4.4
GEYT Alibeck 141.27 72 PKhKP PKPpre 23 17 30.2
comp=Z,3.4nm,0.7s,baz=276,slow=5.8,SNR=18
GEYT PKP **PKPdf 23 17 36.1 0.0**
comp=Z,12nm,1.0s,baz=261,slow=8.8,SNR=18
IKRD Kardeh 141.31 74 *e*P PKPpre 23 17 34.1
SEY Seymchan 141.60 328 *i* PKHKP PKPpre 23 17 30.7
SEY pmax pmax
comp=Z,4.0nm,0.7s
SEY Seymchan 141.60 328 PKhKP PKPpre 23 17 30.7
comp=Z,3.6nm,0.7s,baz=126,slow=2.7,SNR=12
SEY Seymchan 141.60 328 *e*PKPpre PKPpre 23 17 30.7
IPAY Payeh 141.60 75 *e*P PKPpre 23 17 32.7
ARU Arti 141.92 42 *i* PKHKP PKPpre 23 17 31.8
ARU 23 20 45.7
ARU MLR MLR
comp=Z,4μm,21.0s
ARU Arti 141.92 42 *e*PKPpre PKPpre 23 17 30.9
ARU LR LR
comp=Z,4μm,21.0s
ISRO Mashad 141.94 75 *e*P PKPpre 23 17 32.7
AKTO Aktyubinsk 142.32 52 *i* PKHKP PKPpre 23 17 32.7
AKTO pmax pmax
comp=Z,5.0nm,0.6s
AKTO Aktyubinsk 142.32 52 PKhKP PKPpre 23 17 32.7
comp=Z,4.7nm,0.6s,baz=233,slow=2.9,SNR=17
AKTO Aktyubinsk 142.32 52 *e*PKPpre PKPpre 23 17 32.7
PALK Pallekele 142.41 134 *i* PKIKP PKPpre 23 17 35.7
PALK pmax pmax
comp=Z,38nm,1.0s
PALK Pallekele 142.41 134 PKhKP PKPpre 23 17 35.7
comp=Z,38nm,1.0s,baz=199,slow=3.3,SNR=7.3
PALK Pallekele 142.41 134 ⇓*i*PKPdf PKPpre 23 17 33.4
SNR=7.3
PALK Pallekele 142.41 134 *e*PKPpre PKPpre 23 17 32.7
IMYA Miami 142.44 76 *e*P PKPpre 23 17 34.6
TIXI Tiksi 142.78 349 *i* PKHKP PKPpre 23 17 32.3
TIXI Tiksi 142.78 349 *e*PKPpre PKPpre 23 17 32.1
TIXI LR LR
comp=Z,2μm,22.0s
SVE Sverdlovsk 142.95 41 *i* PKIKP PKPpre 23 17 35.4
SVE pmax pmax
comp=Z,74nm,1.9s
SVE MLR MLR
comp=Z,3μm,22.0s
SVE MLR MLR
comp=E,2μm,23.0s
ABKAR Akbulak array 143.63 54 *e*PKPpre PKPpre 23 17 36.2
GOA Goa 143.90 116 *e*P PKPbc 23 17 39.7 +0.6
GOA AMS AMS 00 20 48.7
comp=Z,4μm,19.6s
BHJ Bhuj 145.24 101 *e*P **PKPbc 23 17 41.2 -2.0**
BHJ AMB AMB 00 29 50.0
comp=Z,2μm,19.7s
KSM Kuching 145.25 186 *e*PKPbc **PKPbc 23 17 43.1 -0.5**
KSM LR LR
comp=Z,1μm,20.0s
MYKOM Kota Tinggi 145.57 174 ⇑P **PKPab 23 17 44.6 -0.1**
MYKOM Kota Tinggi 145.57 174 *e*PKPdf **PKPdf 23 17 44.2 -0.2**
KGM Kluang 145.75 173 ⇓P **PKPab 23 17 45.3 -0.2**
POO Poona 145.84 112 ⇓*i*PKPS **PKPdf 23 17 43.0 -1.7**
comp=Z,727nm,1.2s
POO *i* PKPP 23 17 48.0
POO *i* PP PP 23 21 13.0 +6.4
POO *i* PKS **PKSdf 23 21 23.0 +2.6**
POO *i* SKKS 23 28 02.0
POO *i* SKSP 23 31 25.0
POO *e*PPS PPS 23 33 44.0
POO *i* SS SS 23 40 12.0 +13
POO *i* LR LR 00 07 54.0
POO Poona 145.84 112 *e*P **PKPbc 23 17 45.1 -0.2**
POO AMS AMS 00 30 06.8
comp=Z,1μm,23.6s
URV Uravakonda 145.97 121 *e*PKPab **PKPdf 23 17 45.4 +0.3**
URV *e*PP **PP 23 21 07.3 +0.1**
URV *e*SS SS 23 40 10.0 +10
URV IVMs_BB IVMs_BB 00 15 51.4
comp=Z,908nm,19.3s
SBUM Sibu 146.02 189 ⇑P **PKPdf 23 17 43.8 -1.3**
SBUM Sibu 146.02 189 *e*PKPdf **PKPdf 23 17 45.3 +0.1**
DAV Davao City (W) 146.37 215 PFAKE 23 18 00.0 +12
DAV LR LR
comp=Z,1μm,20.0s
MDRS Chennai 146.62 127 *ex* PKPdf 23 17 36.3 -10
MDRS AMS AMS 00 24 33.8
comp=Z,3μm,18.3s
BTM Bintulu 146.63 191 ⇑P **PKPdf 23 17 46.4 +0.1**
SKHT Srikalahasti 146.77 125 *e*PKPbc **PKPdf 23 17 46.6 +0.3**
SKHT *e*PKiKP **PKiKP 23 17 50.1 -0.7**
SKHT *es*PKiKP sPKiKP 23 18 00.8 -5.1
SKHT *e*PP **PP 23 21 09.3 -2.4**
SKHT *e*SS **SS 23 40 14.8 +6.1**
SKHT IVMs_BB IVMs_BB 00 14 35.8
comp=Z,924nm,23.0s
LHMI Lhok Sumawe 147.74 161 *e*PKPbc **PKPbc 23 17 50.9 0.0**
LATR Latur 147.78 115 *ex* **PKPdf 23 17 47.0 -0.9**
IPM Ipoh 147.88 169 ⇑P **PKPdf 23 17 47.9 -0.5**
IPM Ipoh 147.88 169 *e*PKPdf **PKPdf 23 17 47.2 -1.1**
KUR Kuril'sk 148.11 299 *c i*PKP2 **PKPab 23 17 53.0 -0.8**
KUR *i* 23 21 19.0
KUR *i* SS SS 23 40 27.3 +3.1
KUR MLR MLR
comp=Z,1μm,15.0s
KUR MLR MLR
comp=N,1μm,15.0s
KUR MLR MLR
comp=E,221nm,5.0s
SDKM Sandakan 148.14 199 ⇑P **PKPbc 23 17 52.0 0.0**
ADKI Addanki 148.46 123 *e*PKPdf **PKPdf 23 17 47.0 -2.0**
ADKI *e*PKiKP **PKPbc 23 17 52.7 0.0**
ADKI *es*PKiKP sPKiKP 23 18 04.8 -4.6
ADKI *e*PP **PP 23 21 23.2 +1.5**
ADKI *e*SS **SS 23 40 29.3 +1.5**
ADKI IVMs_BB IVMs_BB 00 36 22.0
comp=Z,915nm,15.7s
CMBY CAMPBELL BAY 148.50 154 *e*P **PKPdf 23 17 49.2 -0.1**
CMBY AMS AMS 00 17 14.7
comp=Z,2μm,16.7s
NJS Nagarjunasagar 148.50 121 *e*PKPdf **PKPdf 23 17 48.6 -0.6**
NJS *e*PKPbc **PKPbc 23 17 52.6 -0.2**
NJS *e*PP **PP 23 21 22.5 +0.5**
NJS *e*SS SS 23 40 30.7 +2.3
NJS IVMs_BB IVMs_BB 00 17 57.8
comp=Z,947nm,19.4s
HYB Hyderabad 148.56 119 *i* PKP **PKPdf 23 17 49.0 -0.3**
HYB *e* 23 17 52.0
HYB *e*PP **PP 23 21 24.0 +1.6**
HYB *e*SKKS 23 28 12.0
HYB *e*PPS PPS 23 34 16.0
HYB Hyderabad 148.56 119 *e*P **PKPdf 23 17 48.9 -0.3**
HYB AMS AMS 00 23 54.5
comp=Z,3μm,14.3s
HYBB Hyderabad (bro 148.56 119 *e*PKPdf **PKPdf 23 17 48.2 -1.1**
HYBB *e*PKiKP **PKPbc 23 17 52.8 -0.2**
HYBB *es*PKiKP sPKiKP 23 18 05.0 -4.6
HYBB *e*PP **PP 23 21 22.6 +0.2**
HYBB *e*SS **SS 23 40 36.4 +7.2**
HYBB IVMs_BB IVMs_BB 00 23 47.2
comp=Z,1μm,17.6s
KULM Kulim 148.62 168 ⇑P **PKPdf 23 17 49.6 +0.1**
KULM Kulim 148.62 168 *e*PKPdf **PKPdf 23 17 49.0 -0.5**
KULM LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 148.78 198 ⇑P **PKPdf 23 17 50.7 +0.8**
KKM Kota Kinabalu 148.78 198 *e*PKPbc **PKPbc 23 17 53.3 -0.4**
KKM LR LR
comp=Z,1μm,19.0s
KBL Kabul 149.08 82 *e*PKIKP **PKPdf 23 17 49.6 -0.3**
KBL Kabul 149.08 82 *e*PKPdf **PKPdf 23 17 49.6 -0.3**
BVAR Borovoye Array 149.41 45 PKIKP **PKPdf 23 17 48.6 -0.9**
BVAR 23 17 54.6
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BVAR pmax pmax
comp=Z,27nm,0.6s
BVAR Borovoye Array 149.41 45 PKP **PKPdf 23 17 48.6 -0.9**
comp=Z,7.5nm,0.8s,baz=259,slow=2.4,SNR=40
BVAR PKPbc **PKiKP 23 17 54.6 -0.5**
comp=Z,27nm,0.6s,baz=298,slow=3.1,SNR=115
YUK Yuzh-Kuril'sk 149.57 297 *i* PKHKP PKPpre 23 17 53.6
YUK *i* 23 21 28.4
YUK *i* SS SS 23 41 25.5 +45
RPR Rampur 150.04 118 *e*PKPdf **PKPdf 23 17 51.1 -0.4**
RPR *e*PKiKP **PKPbc 23 17 56.3 -0.2**
RPR *es*PKiKP sPKiKP 23 18 08.2 -4.4
RPR *e*PP **PP 23 21 29.8 -1.2**
RPR *e*SS **SS 23 40 50.8 +5.0**
RPR IVMs_BB IVMs_BB 00 25 27.8
comp=Z,912nm,18.6s
YAK Yakutsk 150.59 338 *c i*PKIKP **PKPbc 23 17 55.8 -0.7**
YAK *i* 23 18 02.9
YAK *e* 23 18 07.0
YAK *e* 23 21 32.5
YAK *e* 23 24 55.0
YAK pmax pmax
comp=Z,240nm,1.0s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,403nm,2.8s
YAK pmax pmax
comp=E,95nm,2.3s
YAK pmax pmax
comp=N,130nm,2.2s
YAK Yakutsk 150.59 338 PKP **PKPdf 23 17 50.0 -1.0**
comp=N,8.2nm,0.4s,baz=240,slow=0.9,SNR=4.3
YAK PKPbc **PKPbc 23 17 55.3 -1.2**
comp=N,153nm,0.7s,baz=37,slow=0.1,SNR=38
YAK Yakutsk 150.59 338 *e*PKPdf **PKPdf 23 17 50.0 -1.0**
YAK *e*PKPdf PKPbc 23 17 50.7 -5.8
YAK *e*PKPbc **PKPbc 23 17 55.3 -1.2**
YAK *e*PKPbc PKPab 23 17 56.3 -7.1
YAK LR LR
comp=Z,1μm,19.0s
AJM Ajmer 150.76 100 *ex* **PKPdf 23 17 52.0 -0.6**
KKAR Karatay Array 151.21 65 *e*PKIKP **PKPdf 23 17 52.3 -0.4**
KKAR *e* 23 17 59.1
KKAR Karatay Array 151.21 65 *e*PKPdf **PKPdf 23 17 52.3 -0.4**
KKAR *e*PKPbc **PKiKP 23 17 59.0 -0.1**
BHPL Bhopal 151.30 109 *e*P **PKPdf 23 17 52.9 -0.6**
BHPL AMS AMS 00 31 20.7
comp=Z,1μm,16.7s
NGP Nagpur 151.31 114 *e*P **PKPdf 23 17 52.3 -1.2**
NGP *ex* x 23 18 01.1
YSS Yuzh-Sakhalins 151.49 303 *e*PKIKP **PKPdf 23 17 51.6 -1.4**
YSS MLR MLR
comp=Z,993nm,20.0s
YSS Yuzh-Sakhalins 151.49 303 *e*PKPdf **PKPdf 23 17 51.6 -1.4**
YSS LR LR
comp=Z,993nm,20.0s
ERM Erimo 151.57 293 *c i*PKP2 PKPab 23 18 13.9 +5.7
ERM pmax pmax

comp=Z,254nm,1.7s
ERM Erimo 151.57 293 *e*PKPbc **PKPbc** **23 17 58.9 -0.6**
ERM LR LR
comp=Z,4μm,21.0s
ASAJ Asahikawa 151.92 297 PKIKP **PKPbc** **23 17 59.9 -0.3**
ASAJ 23 18 10.8
ASAJ pmax pmax
comp=Z,25nm,1.0s
ASAJ pmax pmax
comp=Z,127nm,1.2s
ASAJ Asahikawa 151.92 297 PKPbc **PKPbc** **23 17 59.9 -0.3**
comp=Z,25nm,1.0s,baz=232,slow=5.8,SNR=6.4
ASAJ PKPab **PKPab** **23 18 10.8 +1.2**
comp=Z,127nm,1.2s,baz=249,slow=8.7,SNR=11
ASAJ Asahikawa 151.92 297 *e*PKPdf **PKPdf** **23 17 53.6 -0.1**
VIS Vishakhapatnam 152.04 125 *e*P **PKPdf** **23 17 53.9 -0.8**
PBA Port Blair 152.29 149 *e*P PKPdf 23 17 55.5 +0.4
PBA AMS AMS 00 24 18.9
comp=Z,2μm,11.9s
CHLP Challavanipeta 153.08 125 *e*PKPdf **PKPdf** **23 17 55.1 -1.1**
CHLP *e*PKiKP **PKPbc** **23 18 03.4 -0.2**
CHLP *es*PKiKP sPKiKP 23 18 14.5 -4.3
CHLP *e*PP **PP** **23 21 45.2 -3.0**
CHLP *e*SS **SS** **23 41 21.7 +2.7**
CHLP IVMs_BB IVMs_BB 00 24 49.6
comp=Z,799nm,22.5s
AML Almayashu 153.59 67 P **PKPdf** **23 17 57.1 +0.3**
SNR=21
EKS2 Erkin-Say 153.63 66 P **PKPdf** **23 17 57.2 +0.7**
SNR=22
EKS2 Erkin-Say 153.63 66 *e*PKIKP **PKPdf** **23 17 57.0 +0.5**
EKS2 MLR MLR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 153.63 66 *e*PKPdf **PKPdf** **23 17 57.0 +0.5**
EKS2 LR LR
comp=Z,2μm,21.0s
DGPR DIGLIPUR 153.73 147 *e*P **PKPdf** **23 17 55.8 -1.4**
DGPR AMS AMS 00 22 00.1
comp=Z,3μm,25.1s
NDI New Delhi 153.78 98 *e*PKP **PKPdf** **23 17 58.0 +1.1**
NDI *ex* x 23 21 56.0
NDI *ex* x 23 31 08.0
USP Ospenovka 154.12 64 P **PKPdf** **23 17 57.3 +0.3**
SNR=22
AAK Ala-Archa 154.16 66 P **PKPdf** **23 17 57.8 +0.5**
SNR=16
AAK Ala-Archa 154.16 66 PKIKP **PKPdf** **23 17 56.2 -1.1**
AAK 23 18 05.4
AAK 23 18 19.0
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK pmax pmax
comp=Z,36nm,0.8s
AAK pmax pmax
comp=Z,59nm,0.7s
AAK Ala-Archa 154.16 66 PKP **PKPdf** **23 17 56.2 -1.1**
comp=Z,9.1nm,0.9s,baz=187,slow=2.5,SNR=40
AAK PKPbc **PKPbc** **23 18 05.4 0.0**
comp=Z,36nm,0.8s,baz=315,slow=4.4,SNR=46
AAK PKPab **PKPab** **23 18 19.0 -0.3**
comp=Z,59nm,0.7s,baz=226,slow=3.8,SNR=22
AAK Ala-Archa 154.16 66 PKPdf **PKPdf** **23 17 58.1 +0.9**
SNR=23
AAK Ala-Archa 154.16 66 *e*PKPdf **PKPdf** **23 17 56.2 -1.1**
AAK *e*PKPdf **PKPdf** **23 17 57.3 0.0**
AAK *e*PKPdf **PKPdf** **23 17 57.5 +0.2**
AAK *e*PKPbc **PKPbc** **23 18 05.4 0.0**
AAK *e*PKPbc **PKPbc** **23 18 05.6 +0.2**
AAK *e*PKPbc **PKPbc** **23 18 05.9 +0.5**
AAK *e*PKPab **PKPab** **23 18 18.7 -0.6**
AAK *e*PKPab **PKPab** **23 18 19.0 -0.3**
AAK LR LR
comp=Z,3μm,21.0s
UCH Uchtor 154.19 67 P **PKPdf** **23 17 58.4 +0.7**
SNR=34
FRU Bishkek 154.24 65 ⇑*i* PKIKP **PKPdf** **23 17 57.0 -0.2**
FRU *i* 23 18 05.0
FRU *i* 23 18 18.0
FRU pmax pmax
comp=Z,444nm,2.4s
DHRM DHARAMSHALA 154.31 90 *e*P **PKPdf** **23 17 58.7 +0.8**
CHMS Chumysh 154.32 65 P **PKPdf** **23 17 58.2 +0.9**
SNR=7.6
KBK Karagaybulak 154.49 66 P **PKPdf** **23 17 58.8 +1.0**
SNR=9.9
SDNR Sundarnagar 154.62 92 *ex* **PKPdf** **23 18 00.0 +1.9**
SMLA Simla 154.65 93 *i* P **PKPdf** **23 17 57.2 -0.8**
SMLA AMS AMS 00 26 39.8
comp=Z,2μm,15.6s
KZA Kyzart 154.75 67 P **PKPdf** **23 17 59.1 +0.7**
SNR=19
TKM2 Tokmak 2 154.95 65 P **PKPdf** **23 17 58.1 -0.3**
SNR=21
TKM2 Tokmak 2 154.95 65 *e*PKIKP **PKPdf** **23 17 58.3 -0.1**
TKM2 *e* 23 18 07.4
TKM2 MLR MLR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 154.95 65 *e*PKPdf **PKPdf** **23 17 58.3 -0.1**
TKM2 *e*PKPbc **PKiKP** **23 18 07.4 +0.2**
TKM2 LR LR
comp=Z,2μm,22.0s
KURBB Kurchatov Arra 154.99 46 PKP **PP** **23 17 57.7 -0.2**
comp=Z,9.0nm,0.9s,baz=296,slow=2.0,SNR=50
KURBB PP **PP** **23 22 02.1 +3.5**
comp=Z,15nm,1.2s,baz=286,slow=6.3,SNR=5.3
MJAR Matsushiro Arr 154.99 280 PKIKP **PKPbc** **23 18 08.1 +0.9**
MJAR 23 18 24.8
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 154.99 280 PKPbc **PKPbc** **23 18 08.1 +0.9**
comp=Z,4.7nm,0.9s,baz=230,slow=1.7,SNR=7.6
MJAR PKPab **PKPab** **23 18 24.8 +1.9**
comp=Z,5.0nm,0.8s,baz=161,slow=2.9,SNR=5.3
MAJO Matsushiro 154.99 280 *e*PKIKP **PKPbc** **23 18 09.3 +2.1**
MAJO *e* 23 18 24.8
MAJO MLR MLR
comp=Z,3μm,20.0s
MAJO Matsushiro 154.99 280 *e*PKPbc **PKPbc** **23 18 09.3 +2.1**
MAJO *e*PKPab **PKPab** **23 18 24.8 +1.9**
MAJO LR LR
comp=Z,3μm,20.0s
KURK Kurchatov 155.00 46 PKIKP **PKPdf** **23 17 57.7 -0.2**
KURK 23 22 02.1
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK pmax pmax
comp=Z,15nm,1.2s
KURK Kurchatov 155.00 46 PKPdf **PKPdf** **23 17 58.1 +0.2**
SNR=18
KURK Kurchatov 155.00 46 *e*PKPdf **PKPdf** **23 17 57.7 -0.2**
KURK *e*PKPdf **PKPdf** **23 17 57.8 -0.2**
KURK *e*PKPbc PKPbc 23 18 06.6
KURK *e*PKPab **PKPab** **23 18 22.8 +0.4**
KURK *e*PP **PP** **23 22 02.1 +3.4**
KURK LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 155.23 34 *i* PKIKP **PKPdf** **23 17 56.1 -2.0**
NVS *e* 23 21 57.6
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,34nm,1.4s
NVS pmax pmax
comp=Z,117nm,1.4s
KSH Kashi 155.30 73 PKPbc **PKPdf** **23 17 58.7 -0.2**
KSH pPKP **pPKPdf** **23 18 08.8 -1.4**
KSH sPKP 23 18 12.7
KSH PKS **PKSdf** **23 21 31.3 -1.7**
KSH PP **PP** **23 22 01.7 +0.4**
KSH SKS **SKSdf** **23 24 59.1 -3.7**
KSH SKKS **SKKSac** **23 28 48.6 +0.6**
KSH PPMZ
comp=Z,1μm,7.6s
KSH LN
comp=Z,180nm,6.5s
KSH LE
comp=Z,100nm,9.8s
KSH LZ
comp=Z,2μm,37.0s
ULHL Ulahol 155.47 66 P **PKPdf** **23 17 59.7 +0.5**
SNR=30
DLV T Lat 155.75 183 *e*PKPdf **PKPdf** **23 17 57.6 -2.6**
HABR Khabarovsk 156.14 309 PKIKP **PKPdf** **23 17 59.5 0.0**
HABR *e* 23 18 09.9
HABR *e* 23 18 27.0
HABR *e* 23 22 05.1
HABR *e* 23 25 02.5
HABR *e*SS SS 23 41 53.1 +1.0
HABR pmax pmax
comp=Z,142nm,2.0s
HABR pmax pmax
comp=E,91nm,2.0s
HABR pmax pmax
comp=N,73nm,2.0s
LGTI Lohaghat 156.51 99 *e*P **PKPdf** **23 18 01.1 +0.5**
ZAA1 Zalesovo Array 156.51 34 *e*PKPdf **PKPdf** **23 17 58.9 -1.0**
ZAA1 *e*PKPab **PKPab** **23 18 28.6 -0.2**
ZALV Zalesovo Beam 156.51 34 PKIKP **PKPdf** **23 17 58.9 -0.9**
ZALV pmax pmax
comp=Z,27nm,0.9s
ZALV Zalesovo Beam 156.51 34 PKP **PKPdf** **23 17 58.9 -0.9**
comp=Z,28nm,0.9s,baz=281,slow=2.4,SNR=98
ZALV PKPab **PKPab** **23 18 28.6 -0.2**
comp=Z,27nm,0.9s,baz=297,slow=4.8,SNR=7.0
KLR Kul'dur 157.84 313 *e*PKIKP PKPpre 23 17 54.9
BOK Bokaro 157.90 118 *e*P **PKPdf** **23 18 02.8 +0.2**
BOD Bodaibo 157.95 350 *e*PKP2 **PKPab** **23 18 33.8 -0.9**
BOD pmax pmax
comp=Z,67nm,1.1s
PYUN Piuthan 158.09 105 *e*P **PKPdf** **23 18 02.2 -0.8**
KOLN Koldanda 158.41 106 *e*P **PKPdf** **23 18 02.6 -0.7**
MK32 Makanchi Array 158.76 53 *e*PKPdf **PKPdf** **23 18 02.4 -0.6**
MK32 *e*PKPab **PKPab** **23 18 38.3 -0.4**
MK32 *e*PP **PP** **23 22 19.2 -0.5**
MKAR Makanchi Array 158.76 53 PKIKP **PKPdf** **23 18 02.4 -0.5**
MKAR 23 18 38.3
MKAR 23 22 19.3
MKAR pmax pmax
comp=Z,19nm,0.8s
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 158.76 53 PKP **PKPdf** **23 18 02.4 -0.5**
comp=Z,19nm,0.8s,baz=297,slow=0.8,SNR=120
MKAR PKPab **PKPab** **23 18 38.3 -0.4**
comp=Z,13nm,0.8s,baz=276,slow=3.1,SNR=16
MKAR PP **PP** **23 22 19.2 -0.5**
comp=Z,7.4nm,1.0s,baz=278,slow=0.9,SNR=6.2
MKAR Makanchi Array 158.76 53 *e*PKPdf **PKPdf** **23 18 01.9 -1.0**
MKAR *e*PKPab **PKPab** **23 18 39.2 +0.5**
DANN Dangsing 158.81 105 *e*P **PKPdf** **23 18 03.5 -0.4**
GKN Gorkha 159.32 107 *e*P **PKPdf** **23 18 03.6 -0.8**
USRK Ussuriysk Ar. 159.45 300 PKPab **PKPab** **23 18 46.0 +4.2**
comp=Z,5.1nm,0.9s,baz=76,slow=0.8,SNR=6.3
DMN Daman 159.49 109 *e*P **PKPdf** **23 18 04.2 -0.5**
PBKT Sadao Pong 159.65 163 P **PKPdf** **23 18 05.2 +0.4**
comp=Z,24nm,1.3s
PKIN Phulchoki 159.70 109 *e*P **PKPdf** **23 18 04.0 -0.9**
PKI Pulchoki 159.70 109 *e*P **PKPdf** **23 18 04.1 -0.9**
KKN Kakani 159.72 108 *e*P **PKPdf** **23 18 04.2 -0.7**
GUN Gumba 160.23 109 *e*P **PKPdf** **23 18 05.2 -0.4**
RAMN Ramite 160.28 112 *e*P **PKPdf** **23 18 05.4 -0.2**
JIRN Jiri 160.34 110 *e*P **PKPdf** **23 18 04.8 -1.0**
UTTA Uttaradit 160.67 161 P **PKPdf** **23 18 06.6 +0.7**
ODAN Odare 160.81 114 *e*P **PKPdf** **23 18 05.9 -0.3**
CM31 Chiang Mai Arr 160.87 156 *e*PKPdf **PKPdf** **23 18 06.4 +0.3**
CM31 *e*PKPab **PKPab** **23 18 46.9 -1.6**
CM31 *e*PP **PP** **23 22 35.3 +5.0**
CMAR Chiang Mai Arr 160.87 156 PKIKP **PKPdf** **23 18 06.4 +0.3**
CMAR 23 18 46.9
CMAR 23 22 35.3
CMAR pmax pmax
comp=Z,12nm,1.0s
CMAR pmax pmax
comp=Z,13nm,0.9s
CMAR pmax pmax
comp=Z,5.0nm,1.1s
CMAR Chiang Mai Arr 160.87 156 PKP **PKPdf** **23 18 06.4 +0.3**
comp=Z,12nm,1.0s,baz=247,slow=2.6,SNR=44
CMAR PKPab **PKPab** **23 18 46.9 -1.6**
comp=Z,13nm,0.9s,baz=222,slow=5.0,SNR=12
CMAR PP **PP** **23 22 35.3 +5.0**
comp=Z,5.2nm,1.1s,baz=201,slow=4.6,SNR=4.3
MDJ Mudanjiang 160.98 303 PKP **PKPdf** **23 18 05.7 +0.3**
MDJ pPKP **pPKPdf** **23 18 15.6 -1.1**
MDJ sPKP 23 18 19.2
MDJ PP PP 23 22 38.0 +6.2
MDJ SS SS 23 42 46.3 +2.5
MDJ PPMZ
comp=Z,600nm,9.4s
MDJ LN
comp=Z,570nm,27.6s
MDJ LE
comp=Z,1μm,24.7s
MDJ LZ
comp=Z,980nm,26.6s
MDJ Mudanjiang 160.98 303 PFAKE 23 18 20.0 +15
MDJ LR LR
comp=Z,2μm,21.0s
LAMP Lampang 161.15 158 P **PKPdf** **23 18 07.9 +1.5**
comp=Z,6.4nm,1.4s
CHTO Chiang Mai 161.20 155 *e*PKIKP **PKPdf** **23 18 05.8 -0.7**
CHTO *e* 23 18 49.6
CHTO MLR MLR
comp=Z,2μm,21.0s
CHTO Chiang Mai 161.20 155 PKPdf **PKPdf** **23 18 06.1 -0.4**
SNR=16
CHTO Chiang Mai 161.20 155 *e*PKPdf **PKPdf** **23 18 05.8 -0.7**
CHTO *e*PKPab **PKPab** **23 18 49.6 -0.3**
CHTO LR LR
comp=Z,2μm,21.0s
CHTO Chiang Mai 161.20 155 P **PKPdf** **23 18 06.3 -0.2**
comp=Z,95nm,1.6s
CMMT Chiang Mai 161.20 155 P **PKPdf** **23 18 06.2 -0.3**
comp=Z,50nm,1.0s
TAPN Taplejung 161.32 113 *e*P **PKPdf** **23 18 06.4 -0.4**
QIZ Qiongzhong 162.66 189 PKP **PKPdf** **23 18 07.5 -0.4**
QIZ PKPab **PKPab** **23 18 55.8 -0.4**
QIZ PP **PP** **23 22 40.7 +1.1**
QIZ SS SS 23 43 02.4 +3.2
QIZ LN
comp=Z,1μm,20.7s
QIZ LZ
comp=Z,1μm,22.5s
QIZ Qiongzhong 162.66 189 PFAKE 23 18 20.0 +12
QIZ LR LR
comp=Z,2μm,21.0s
YHNB Yeheng 163.12 231 PFAKE 23 18 20.0 +12
YHNB LR LR
comp=Z,2μm,22.0s
SHL Shillong 163.18 125 *e*P **PKPdf** **23 18 06.0 -2.5**
SHL AMS AMS 00 26 20.8
comp=Z,2μm,34.2s
KSRS Korea Array 163.27 280 PKP **PKPdf** **23 18 07.3 -0.7**
comp=Z,3.9nm,1.0s,baz=99,slow=1.2,SNR=9.0
KSRS PKPab **PKPab** **23 18 59.0 +0.2**
comp=Z,2.4nm,0.8s,baz=104,slow=5.1,SNR=4.5
TATO Taipei 163.27 232 PFAKE 23 18 20.0 +12
TATO LR LR
comp=Z,2μm,19.0s
KS15 Wonju Array Si 163.30 280 *e*PKPdf **PKPdf** **23 18 07.3 -0.7**
KS15 *e*PKPab **PKPab** **23 18 59.0 +0.1**
WMQ Urumqi 163.37 57 PKP **PKPdf** **23 18 07.8 -0.2**
WMQ pPKP **pPKPdf** **23 18 16.8 -2.5**
WMQ sPKP 23 18 20.8
IRK Irkutsk 163.90 6 *e*PKIKP PKPdf 23 18 19.4 +11
IRK *e* 23 19 01.1
IRK *e* 23 22 46.2
IRK pmax pmax
comp=Z,61nm,2.8s
IMP Imphal 163.92 132 *ex* x 23 18 16.0
IMP *ex* **PKPab** **23 19 04.0 +2.1**
HIA Hailar 164.05 328 PFAKE 23 18 20.0 +12
HIA LR LR
comp=Z,3μm,20.0s
CN2 Changchun 164.06 304 *e*PKP **PKPdf** **23 18 05.7 -2.8**
CN2 PP **PP** **23 22 49.7 +1.5**
CN2 SS SS 23 43 14.0 -1.8
CN2 LN
comp=Z,300nm,19.0s
CN2 LE
comp=Z,300nm,19.0s
CN2 LZ
comp=Z,300nm,21.0s
INCN Inchon 164.30 280 PFAKE 23 18 20.0 +11
INCN LR LR
comp=Z,2μm,22.0s
TLY Talaya 164.39 8 *i* PKIKP **PKPdf** **23 18 07.5 -1.1**
TLY *e* 23 19 02.5
TLY *e* 23 22 50.0
TLY *e*SS SS 23 43 20.8 +3.6
TLY pmax pmax
comp=Z,26nm,2.0s
TLY pmax pmax
comp=Z,53nm,2.0s
TLY Talaya 164.39 8 PKPab **PKPab** **23 19 01.6 -1.5**
comp=Z,2.6nm,0.5s,baz=5.4,slow=6.1,SNR=4.4
TLY Talaya 164.39 8 *e*PKPdf **PKPdf** **23 18 06.7 -1.9**
TLY *e*PKPab **PKPab** **23 19 01.6 -1.5**
TLY *e*PKPab PKPab 23 19 03.6 +0.5
TLY LR LR
comp=Z,3μm,22.0s
SLVN Son La 164.87 169 *e*PKPdf **PKPdf** **23 18 09.7 -0.3**
LSA Lhasa 165.13 112 *e*PKIKP **PKPdf** **23 18 08.9 -1.6**
LSA *e* 23 19 07.7
LSA MLR MLR
comp=Z,3μm,21.0s
LSA Lhasa 165.13 112 *e*PKPdf **PKPdf** **23 18 08.9 -1.6**
LSA *e*PKPab **PKPab** **23 19 07.7 0.0**
LSA LR LR
comp=Z,3μm,21.0s
ZAK Zakamensk 165.62 10 *e*PKIKP **PKPdf** **23 18 09.1 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,2.1s
GZH Guangzhou 165.79 204 PKP **PKPdf** **23 18 09.6 -1.0**
GZH PP **PP** **23 22 58.5 +2.3**
GZH SKS **SKSdf** **23 25 06.9 -5.4**
GZH SS SS 23 43 42.2 +10
GZH LN
comp=Z,1μm,21.4s
GZH LE
comp=Z,2μm,21.1s
SNY Shenyang 166.03 298 ⇑PKP **PKPdf** **23 18 06.6 -3.6**
SNY PP PP 23 23 05.1 +6.6
SNY SKKS 23 29 46.1
SNY LN
comp=Z,1μm,19.0s
SNY LE
comp=Z,940nm,20.0s
SNY LZ
comp=Z,2μm,23.1s
SSE Sheshan 167.17 250 PKP **PKPdf** **23 18 10.7 -0.8**
SSE PP **PP** **23 23 07.8 +3.2**
SSE SS SS 23 43 46.7 -1.3
SSE PPMZ
comp=Z,630nm,9.7s
SSE LN
comp=Z,1μm,20.2s
SSE LE
comp=Z,960nm,20.2s
SSE LZ
comp=Z,2μm,20.5s
KMI Kunming 168.29 160 PKP **PKPdf** **23 18 12.3 -0.5**
KMI pPKP **pPKPdf** **23 18 22.4 -1.7**
KMI sPKP 23 18 25.6
ULN Ulaanbaatar 168.41 0 PFAKE 23 18 20.0 +8.0
ULN LR LR
comp=Z,2μm,21.0s
SONA0 Songino Array 168.43 2 *e*PKPdf **PKPdf** **23 18 10.6 -1.4**
SONA0 *e*PKPab **PKPab** **23 19 19.7 -1.5**
SONA0 *e*PP PP 23 23 15.0 +5.3
SONM Songino Array 168.43 2 PKIKP **PKPdf** **23 18 10.6 -1.4**
SONM 23 19 19.7
SONM 23 23 15.0
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM pmax pmax
comp=Z,8.0nm,1.2s
SONM Songino Array 168.43 2 PKP **PKPdf** **23 18 10.6 -1.4**
comp=Z,1.9nm,0.7s,baz=318,slow=1.9,SNR=3.5
SONM PKPab **PKPab** **23 19 19.7 -1.5**
comp=Z,6.8nm,0.8s,baz=334,slow=3.5,SNR=5.4
SONM PP PP 23 23 15.0 +5.3
comp=Z,8.1nm,1.1s,baz=357,slow=5.8,SNR=6.4
GYA Guiyang 170.22 178 *i* PKP **PKPdf** **23 18 12.8 -1.0**
GYA pPKP **pPKPdf** **23 18 26.2 +1.1**
GYA PKPab **PKPab** **23 19 29.1 -0.5**
GYA PKS **PKSdf** **23 21 44.0 -2.4**
GYA SKKS 23 30 04.5
GYA SS **SS** **23 44 15.5 -0.5**
GYA PPMZ
comp=Z,360nm,6.5s
GYA LN
comp=Z,850nm,21.1s
GYA LE
comp=Z,1μm,22.4s
GYA LZ
comp=Z,2μm,21.8s
WHN Wuhan 171.66 229 PKP **PKPdf** **23 18 14.3 +0.1**
WHN PKPab PKPab 23 19 43.0 +7.1
WHN PP **PP** **23 23 28.2 +1.5**
WHN LN
comp=Z,4μm,19.8s
WHN LE
comp=Z,4μm,23.7s
WHN LZ
comp=Z,4μm,19.2s
TIA Tai'an 171.88 273 PKP **PKPdf** **23 18 13.5 -0.7**
TIA SKKS 23 30 12.2
TIA PPMZ
comp=Z,1μm,8.4s
TIA LN
comp=Z,1μm,17.3s
TIA LE
comp=Z,1μm,21.0s
TIA LZ
comp=Z,2μm,19.4s
BJI Beijing 171.90 300 PKP **PKPdf** **23 18 13.9 -0.1**
BJI PP **PP** **23 23 33.3 +5.1**
BJI PPMZ
comp=Z,760nm,7.9s
BJI LN
comp=Z,600nm,21.3s
BJI LE
comp=Z,2μm,23.1s
BJI LZ
comp=Z,2μm,28.4s
BJT Baijiatuan 171.91 300 PFAKE 23 18 20.0 +6.0
BJT LR LR
comp=Z,2μm,22.0s
GTA Gaotai 173.45 59 ⇑PKP **PKPdf** **23 18 14.7 -0.2**
GTA pPKP **pPKPdf** **23 18 25.3 -0.9**
GTA sPKP 23 18 29.3
GTA PKPab **PKPab** **23 19 44.7 +0.8**
GTA PP **PP** **23 23 36.0 -0.1**
GTA SKS **SKSdf** **23 25 13.0 -2.5**
GTA SKKS **SKKSac** **23 30 17.5 -2.3**
GTA SS **SS** **23 44 45.5 -4.6**
GTA PPMZ
comp=Z,2μm,5.9s
GTA LN
comp=Z,2μm,20.0s
GTA LE
comp=Z,2μm,22.8s
GTA LZ
comp=Z,4μm,24.2s
ENH Enshi 173.69 199 *e*PKPdf **PKPdf** **23 18 14.2 -1.0**
ENH LR LR
comp=Z,838nm,20.0s
BTO Baotou 175.09 333 *e*PKP **PKPdf** **23 18 14.4 -1.0**
TIY Taiyuan 175.47 290 PKP **PKPdf** **23 18 14.6 -0.9**
TIY PKPab PKPab 23 19 59.4 +6.5
TIY PP PP 23 23 53.3 +7.3
TIY SKKS 23 30 28.0
TIY SS **SS** **23 45 07.5 -2.4**
TIY PPMZ
comp=Z,840nm,7.9s
TIY LN
comp=Z,1μm,17.1s
TIY LE
comp=Z,2μm,19.9s
TIY LZ
comp=Z,2μm,20.1s
XAN Xi'an 177.31 215 PKP **PKPdf** **23 18 15.3 -0.7**
XAN pPKP **pPKPdf** **23 18 26.2 -1.1**
XAN sPKP 23 18 28.5
XAN PKS **PKSdf** **23 21 45.9 -2.3**
XAN SKS **SKSdf** **23 25 13.3 -3.1**
XAN PPMZ

	comp=Z,350nm,17.8s								
XAN				LN					
	comp=Z,1μm,24.9s								
XAN				LE					
	comp=Z,560nm,22.6s								
XAN				LZ					
	comp=Z,590nm,22.6s								
LZH	**Lanzhou**	**177.38**	**93**	PKP	**PKPdf**	**23 18 17.5**	**+1.4**		
LZH				pPKP	**pPKPdf**	**23 18 26.6**	**-0.8**		
LZH				sPKP		23 18 30.2			
LZH				PKPab	PKPab	23 20 03.2	+1.6		
LZH				PP	**PP**	**23 23 56.0**	**+0.6**		
LZH				SKKS		23 30 35.3			
LZH				SS	SS	23 45 19.6	-9.0		
LZH				PPMZ					
	comp=Z,620nm,6.4s								
LZH				LN					
	comp=Z,530nm,19.5s								
LZH				LE					
	comp=Z,660nm,17.7s								
LZH				LZ					
	comp=Z,760nm,20.1s								

IDC 02 23:01:16.0±5.3, 5°12S×132°41E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/35, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=344.9km s-min=31.4km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.86**	**173**	Pn	Pn	23 04 46.5	-1.0
	0.1nm,0.3s,baz=354,slow=13,SNR=2.6						
WRA				Sn	Sn	23 07 21.3	-12
	0.2nm,0.3s,baz=341,slow=23,SNR=2.7						
ASAR	**Alice Springs**	**18.50**	**176**	P	Pn	23 05 34.2	+0.2
	0.1nm,0.3s,baz=345,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**68.01**	**325**	P	P	23 12 17.2	0.0
	0.1nm,0.3s,baz=113,slow=7.2,SNR=7.1						

*IDC **02** 23:13:14.3±1.5, 53°14N×107°56E, h0km, mb3.4/1, mb1 3.3/5, mb1mx3.2/53, mbtmp3.2/5, ML2.7/4, MS4.2/1, Ms1 4.4/1, ms1mx2.8/29, Error ellipse: s-maj=24.9km s-min=14.3km az=137.0*

*MOS **02** 23:13:14.7±1.2, 53°08N×107°72E, h11km, mb4.0/1, Error ellipse: s-maj=16.5km s-min=8.7km az=65.9*

*BYKL **02** 23:13:16.0±0.3, 53°18N×107°45E*

ISC 02 23:13:14.4±1.1, 53°10N±0°02×107°65E±0°02, h1km±9km, n49, σ1s63/105, 11C-17D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OGRR	**Ongureny**	**0.54**	**357**	⇓*i* Pg	**Pb**	**23 13 26.5**	**-0.3**
OGRR				*e*		23 13 33.6	
OGRR				pmax	pmax		
	comp=Z,639nm,0.2s						
OGRR				smax	smax		
	comp=N,4μm,0.3s						
OGRR	**Ongureny**	**0.54**	**357**	⇓*i* Pg	**Pb**	**23 13 26.5**	**-0.3**
OGRR				⇑*i*		23 13 27.0	
OGRR				*i* Sg	**Sg**	**23 13 33.6**	**+1.7**
OGRR				Pmax			
	comp=N,632nm,0.2s						
OGRR				Smax			
	comp=N,4μm,0.3s						
ZRHB	**Zarechye**	**0.62**	**209**	⇓*i* Pg	**Pn**	**23 13 28.9**	**-1.5**
ZRHB				*i* Sg	**Sn**	**23 13 38.4**	**-2.7**
ZRHB				*e* Sb	**Sb**	**23 13 40.6**	**+3.2**
ZRHB				Pmax			
	comp=N,567nm,0.1s						
ZRHB				Smax			
	comp=N,8μm,0.7s						
MXMB	**Maximikha**	**0.68**	**76**	⇓*i* Pg	**Pn**	**23 13 30.3**	**-0.9**
MXMB				*e* Pb	Pb	23 13 32.8	+3.7
MXMB				*i* Sg	**Sn**	**23 13 40.7**	**-1.8**
MXMB				max			
	comp=N,231nm,0.1s						
MXMB				Smax			
	comp=N,2μm,0.5s						
TRG	**Tyrgan**	**0.86**	**247**	*e* PG	**Pg**	**23 13 31.1**	**+0.3**
TRG				*e*		23 13 42.0	
TRG				pmax	pmax		
	comp=Z,420nm,0.1s						
TRG				smax	smax		
	comp=N,4μm,0.2s						
TRG	**Tyrgan**	**0.86**	**247**	⇓*i* Pg	**Pg**	**23 13 31.1**	**+0.3**
TRG				⇑*i* Pb	**Pb**	**23 13 32.1**	**0.0**
TRG				*e* Sg	**Sg**	**23 13 42.3**	**+0.4**
TRG				*e* Sb	**Sb**	**23 13 43.9**	**-0.2**
TRG				max			
	comp=N,421nm,0.1s						
TRG				max			
	comp=N,4μm,0.2s						
KAB	**Kabansk**	**1.22**	**210**	⇑*i* PG	**Pg**	**23 13 38.6**	**+0.9**
KAB				*e*		23 13 55.1	
KAB				pmax	pmax		
	comp=Z,696nm,0.3s						
KAB				smax	smax		
	comp=N,3μm,0.6s						
KAB	**Kabansk**	**1.22**	**210**	⇓*i* Pg	**Pg**	**23 13 38.5**	**+0.9**
KAB				*i* Sg	**Sn**	**23 13 55.8**	**+0.2**
KAB				Pmax			
	comp=N,698nm,0.3s						
KAB				Smax			
	comp=N,3μm,0.4s						
UUDB	**Ulan-Yde**	**1.24**	**180**	⇓*i* Pg	**Pg**	**23 13 39.1**	**+1.0**
UUDB				*i* Sg	**Sn**	**23 13 56.1**	**-0.1**
UUDB				Pmax			
	comp=N,590nm,0.4s						
UUDB				Smax			
	comp=N,2μm,0.4s						
SYVR	**Suvo**	**1.52**	**67**	*e* PG	**Pg**	**23 13 43.4**	**0.0**
SYVR				*e*		23 13 44.3	
SYVR				*e*		23 14 05.3	
SYVR				pmax	pmax		
	comp=Z,134nm,0.5s						
SYVR				smax	smax		
	comp=N,247nm,0.3s						
SYVR	**Suvo**	**1.52**	**67**	*e* Pn	**Pg**	**23 13 43.5**	**0.0**
SYVR				⇓*i* Pg	**Pb**	**23 13 44.4**	**+1.1**
	comp=N,6.0nm,0.3s						
SYVR				⇓*i* Pg	**Pb**	**23 13 44.4**	**+1.1**
	comp=N,8.0nm,0.3s						
SYVR				⇓*i* Pg	**Pb**	**23 13 44.4**	**+1.1**
	comp=N,15nm,0.3s						
SYVR				*e*		23 13 49.7	
SYVR				*e* Sg	**Sg**	**23 14 05.4**	**+2.4**
SYVR				max			
	comp=N,134nm,0.6s						
SYVR				Smax			
	comp=N,246nm,0.3s						
HRMR	**Khuramsha**	**1.54**	**196**	⇑*i* Pn	**Pb**	**23 13 43.0**	**-0.7**
	comp=N,75nm,0.5s						
HRMR				⇑*i* Pn	**Pb**	**23 13 43.0**	**-0.7**
	comp=N,16nm,0.5s						
HRMR				⇓*i* Pn	**Pb**	**23 13 43.0**	**-0.7**
	comp=N,161nm,0.5s						
HRMR				⇓*i* Pg	**Pg**	**23 13 44.2**	**+0.4**
HRMR				*e*		23 13 49.0	
HRMR				*e* Sg	**Sg**	**23 14 05.2**	**+1.5**
HRMR				Pmax			
	comp=N,475nm,0.2s						
HRMR				Smax			
	comp=N,4μm,0.2s						
LSTR	**Listvyanka**	**2.12**	**235**	⇑*i* Pn	**Pn**	**23 13 50.5**	**-0.5**
	comp=N,27nm,0.5s						
LSTR				⇑*i* Pn	**Pn**	**23 13 50.5**	**-0.5**
	comp=N,53nm,0.5s						
LSTR				⇓*i* Pn	**Pn**	**23 13 50.5**	**-0.5**
	comp=N,47nm,0.5s						
LSTR				*e* Pg	**Pb**	**23 13 53.0**	**-0.6**
LSTR				*e* Sn	**Sn**	**23 14 15.4**	**-2.5**
LSTR				*e* Sg	**Sb**	**23 14 19.6**	**-0.8**
LSTR				Pmax			
	comp=N,37nm,0.1s						
LSTR				Smax			
	comp=N,351nm,0.3s						
IRK	**Irkutsk**	**2.23**	**249**	*e* PN	**Pb**	**23 13 55.6**	**+0.1**
IRK				*e* S	**Sn**	**23 14 19.4**	**-1.2**
IRK				*e*		23 14 22.5	
IRK				pmax	pmax		
	comp=Z,278nm,0.2s						
IRK				smax	smax		
	comp=N,1μm,0.2s						
IRK	**Irkutsk**	**2.23**	**249**	*e*		13 14 19.3	
IRK				*e* Pg	**Pb**	**23 13 54.6**	**-0.9**
IRK				*e* Sg	**Sb**	**23 14 23.1**	**-0.4**
IRK				Pmax			
	comp=N,273nm,0.1s						
IRK				Smax			
	comp=N,983nm,0.2s						
YLYR	**Ulyunkhan**	**2.73**	**48**	*e* PN	**Pn**	**23 14 00.1**	**+0.7**
YLYR				*e*		23 14 04.9	
YLYR				*e*		23 14 40.9	
YLYR				pmax	pmax		
	comp=Z,26nm,0.4s						
YLYR				smax	smax		
	comp=N,126nm,0.5s						
YLYR	**Ulyunkhan**	**2.73**	**48**	⇓*i* Pn	**Pn**	**23 14 00.2**	**+0.8**
YLYR				⇓*i* Pg	**Pg**	**23 14 05.1**	**-1.6**
YLYR				*e* PgPg	**PbPb**	**23 14 09.4**	**+2.2**
YLYR				*i* Sg	**Sg**	**23 14 41.2**	**-0.9**
YLYR				*e* SgSg	**SnSn**	**23 14 44.8**	**+0.9**
YLYR				max			
	comp=N,19nm,0.3s						
YLYR				Smax			
	comp=N,178nm,0.9s						
TLY	**Talaya**	**2.84**	**241**	*c i* PN	**Pn**	**23 14 00.4**	**-0.5**
TLY				*e*		23 14 05.6	
TLY				*e*		23 14 41.0	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TLY				smax	smax		
	comp=E,214nm,0.9s						
TLY	**Talaya**	**2.84**	**241**	*e* Pn	**Pn**	**23 14 00.1**	**-0.7**
TLY				*e* Pg	**Pb**	**23 14 05.7**	**-0.1**
TLY				⇑*i*		23 14 07.3	
TLY				*e* Sg	**Sb**	**23 14 42.6**	**+1.6**
TLY				max			
	comp=E,20nm,0.3s						
TLY				Smax			
	comp=E,238nm,0.4s						
TLY	**Talaya**	**2.84**	**241**	Pn	**Pn**	**23 14 00.3**	**-0.5**
	comp=E,0.0nm,0.3s,baz=53,slow=6.3,SNR=9.0						
TLY				Pg	**Pb**	**23 14 05.4**	**-0.4**
	comp=E,0.1nm,0.3s,baz=25,slow=8.3,SNR=11						
TLY				Lg	Lg	23 14 41.5	
	comp=E,0.4nm,0.3s,baz=230,slow=18,SNR=14						
NIZ	**Nizh Angarsk**	**2.90**	**22**	*e* PN	**Pn**	**23 14 02.1**	**+0.4**
NIZ				*e*		23 14 07.1	
NIZ				*e* S	**Sn**	**23 14 35.8**	**-1.4**
NIZ				*e*		23 14 43.8	
NIZ				pmax	pmax		
	comp=Z,29nm,0.3s						
NIZ				smax	smax		
	comp=N,246nm,0.4s						
NIZ	**Nizh Angarsk**	**2.90**	**22**	⇓*i* Pn	**Pn**	**23 14 02.4**	**+0.7**
NIZ				*e* Pg	**Pb**	**23 14 06.9**	**0.0**
NIZ				*e* PgPg	**Pg**	**23 14 10.2**	**+0.3**
NIZ				*e* Sn	**Sn**	**23 14 35.7**	**-1.4**
NIZ				*e* Sg	**Sb**	**23 14 44.5**	**+1.7**
NIZ				max			
	comp=N,34nm,0.4s						
NIZ				Smax			
	comp=N,259nm,0.5s						
ARS	**Arshan**	**3.41**	**252**	*e* Pn	**Pn**	**23 14 08.9**	**+0.2**
ARS				⇓*i* Pg	**Pb**	**23 14 13.8**	**-1.7**
ARS				*e*		23 14 22.9	
ARS				*e*		23 14 49.2	
ARS				*i* Sg	**Sb**	**23 14 57.1**	**-0.3**
ARS				max			
	comp=N,73nm,0.6s						
ARS				Smax			
	comp=N,912nm,0.7s						
KMO	**Kumora**	**3.48**	**35**	*e* PN	**Pn**	**23 14 09.8**	**+0.2**
KMO				*e*		23 14 16.8	
KMO	**Kumora**	**3.48**	**35**	⇑*i* Pn	**Pn**	**23 14 10.2**	**+0.6**
KMO				*e* Pg	**Pb**	**23 14 17.5**	**+0.8**
KMO				*e*		23 14 24.4	
KMO				*e*		23 14 59.4	
KMO				*i* Sg	**Sg**	**23 15 03.9**	**-2.1**
KMO				max			
	comp=N,40nm,0.3s						
KMO				Smax			
	comp=N,180nm,0.9s						
CIT	**Chita**	**3.76**	**104**	*e* Sg	**Sg**	**23 15 16.7**	**+1.5**
CIT				Smax			
	comp=N,258nm,0.2s						
ZAK	**Zakamensk**	**3.84**	**227**	*e* Pn	**Pn**	**23 14 15.0**	**+0.2**
ZAK				*e* Pg	**Pb**	**23 14 25.1**	**+2.0**
ZAK				*e* Sg	**Sg**	**23 15 15.9**	**-2.0**
ZAK				*e* SgSg	**SbSb**	**23 15 18.9**	**+3.7**
ZAK				Pmax			
	comp=N,9.0nm,0.3s						
ZAK				max			
	comp=N,71nm,0.4s						
YOA	**Uoyan**	**3.85**	**36**	Pg	Pg	23 14 25.7	-2.5
YOA				*e* Sg	**Sg**	**23 15 16.9**	**-1.2**
YOA				*e*		23 15 21.2	
YOA				Pmax			
	comp=N,104nm,0.4s						
YOA				max			
	comp=N,451nm,1.2s						
UKT	**Uakit**	**4.24**	**53**	*e* PN	**Pb**	**23 14 31.8**	**+2.0**
UKT				*e*		23 15 27.5	
UKT				pmax	pmax		
	comp=Z,15nm,0.8s						
UKT				smax	smax		
	comp=N,69nm,0.8s						
UKT	**Uakit**	**4.24**	**53**	*e* Pn	**Pn**	**23 14 21.8**	**+1.6**
UKT				*e*		23 14 29.7	
UKT				*e* Pg	**Pb**	**23 14 31.2**	**+1.4**
UKT				*e*		23 14 33.7	
UKT				*e* Sg	**Sg**	**23 15 27.9**	**-2.7**
UKT				max			
	comp=N,12nm,0.8s						
UKT				Smax			
	comp=N,70nm,1.3s						
MOY	**Mondy**	**4.32**	**253**	*e* PN	**Pn**	**23 14 23.3**	**+1.9**
MOY				*e*		23 14 33.1	
MOY	**Mondy**	**4.32**	**253**	*e* Pn	**Pn**	**23 14 23.7**	**+1.9**
MOY				*e*		23 14 26.7	
MOY				*e* Pg	**Pb**	**23 14 30.5**	**-0.7**
MOY				*e*		23 14 35.0	
MOY				*i* Sn	**Sn**	**23 15 11.8**	**-0.6**
MOY				*e* Sg	**Sb**	**23 15 25.3**	**+1.4**
MOY				*e*		23 15 38.2	
MOY				max			
	comp=N,24nm,0.5s						
MOY				Smax			
	comp=N,310nm,1.6s						
KPC	**Khapcheranga**	**4.51**	**137**	*e* PN	**Pn**	**23 14 23.1**	**-0.8**
KPC				*e*		23 14 38.6	
KPC				*e*		23 15 37.3	
KPC				pmax	pmax		
	comp=Z,33nm,0.6s						
KPC				smax	smax		
	comp=E,129nm,1.0s						
KPC	**Khapcheranga**	**4.51**	**137**	⇑*i*	**Pn**	**23 14 23.1**	**-0.8**
KPC				*e*		23 14 39.5	
KPC				*e*		23 15 13.1	
KPC				*e* Sg	**Sg**	**23 15 37.6**	**-1.6**
KPC				max			
	comp=E,21nm,0.6s						
KPC				Smax			
	comp=E,129nm,0.7s						
SVKR	**Severomuysk**	**4.58**	**46**	*e*	**Sn**	**23 15 22.3**	**+3.8**
SVKR				*e* Sg	**Sg**	**23 15 40.1**	**-1.2**
SVKR				Smax			
	comp=E,228nm,1.0s						
ORL	**Orlik**	**4.79**	**266**	*e* PN	**Pn**	**23 14 28.8**	**+1.1**
ORL				*e*		23 14 41.4	
ORL				*e* S	**Sn**	**23 15 21.6**	**-2.3**
ORL				*e*		23 15 41.3	
ORL				pmax	pmax		
	comp=Z,23nm,0.5s						
ORL				smax	smax		
	comp=N,79nm,0.9s						
ORL	**Orlik**	**4.79**	**266**	*i* Pn	**Pn**	**23 14 28.5**	**+0.8**
ORL				*e*		23 14 37.4	
ORL				Pg	**Pb**	**23 14 39.3**	**+0.2**
ORL				*e* Sn	**Sn**	**23 15 21.9**	**-2.0**
ORL				*e* Sg	**Sb**	**23 15 41.4**	**+4.1**
ORL				Pmax			
	comp=N,16nm,1.1s						
ORL				Smax			
	comp=N,79nm,1.0s						
SONM	**Songino Array**	**5.33**	**189**	PN	**Pn**	**23 14 35.7**	**+0.5**
SONM						23 14 52.1	
SONM						23 15 41.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				smax	smax		
	comp=N,3.0nm,0.3s						
SONM	**Songino Array**	**5.33**	**189**	Pn	**Pn**	**23 14 35.7**	**+0.5**
	comp=N,0.8nm,0.3s,baz=2.4,slow=14,SNR=30						
SONM				Pg	Pb	23 14 52.1	+3.7
	comp=N,1.0nm,0.3s,baz=5.5,slow=16,SNR=6.8						
SONM				Sn	Sn	23 15 41.9	+4.5
	comp=N,2.8nm,0.3s,baz=18,slow=16,SNR=4.6						
SONM				Lg	Lg	23 16 03.2	
	comp=N,8.7nm,0.3s,baz=4.3,slow=29,SNR=13						
NLYR	**Nelyaty**	**5.76**	**51**	*e*	**Pb**	**23 14 53.6**	**-2.1**
NLYR				*e*		23 15 00.2	
NLYR				*e* Sg	**Sg**	**23 16 14.6**	**-4.8**
NLYR				max			
	comp=N,5.0nm,0.5s						
NLYR				Smax			
	comp=N,53nm,1.2s						
BOD	**Bodaibo**	**5.95**	**35**	*e* Pn	**Pn**	**23 14 45.2**	**+1.6**
BOD				*e*		23 14 57.5	
BOD				*e* Sg	**Sg**	**23 16 21.2**	**-4.2**
BOD				Smax			
	comp=N,36nm,1.2s						
CRS	**Chara**	**7.20**	**54**	*e* Sg	**Sg**	**23 17 01.6**	**-3.7**
CRS				*e*		23 17 24.6	
CRS				max			
	comp=N,57nm,1.5s						
TUP	**Tupik**	**7.42**	**75**	*e* PG	Pb	23 15 28.0	+4.2
TUP				*e* S	**Sn**	**23 16 28.3**	**-0.1**
TUP				*e*		23 17 07.4	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TUP				smax	smax		
	comp=N,61nm,1.0s						
TUP	**Tupik**	**7.42**	**75**	*e*	**Pn**	**23 15 01.9**	**-1.8**
TUP				*e*		23 15 15.9	
TUP				Pg	Pb	23 15 29.3	+5.5
TUP				*e* Sg	**Sg**	**23 17 08.1**	**-4.2**
TUP				Pmax			
	comp=N,4.0nm,0.3s						
TUP				Smax			
	comp=N,58nm,0.9s						
MKAR	**Makanchi Array**	**17.44**	**259**	P	**P**	**23 17 18.9**	**-1.2**
	comp=N,0.0nm,0.3s,baz=63,slow=11,SNR=5.2						
KURK	**Kurchatov**	**18.02**	**274**	P	**P**	**23 17 27.5**	**+1.1**
KURBB	**Kurchatov Arra**	**18.10**	**274**	P	**P**	**23 17 27.5**	**+0.1**
	comp=N,0.0nm,0.3s,baz=61,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**35.23**	**194**	LR	LR	23 36 42.7	
	comp=N,456nm,21.9s,baz=214,slow=40						
ILAR	**Eielson Array**	**49.32**	**33**	P	**P**	**23 22 03.9**	**-0.6**
	comp=N,0.3nm,0.6s,baz=303,slow=6.9,SNR=4.0						

IDC 02 23:14:24.6±2.0, 9°92S×112°36E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/43, mbtmp4.0/5, Error ellipse: s-maj=111.8km s-min=20.9km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.43**	**118**	P	P	23 19 34.9	-0.8
	1.2nm,0.7s,baz=289,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**24.70**	**126**	P	P	23 19 48.5	+0.8
	2.1nm,0.6s,baz=304,slow=8.7,SNR=28						
MKAR	**Makanchi Array**	**62.52**	**337**	P	P	23 24 50.4	+0.2
	1.5nm,0.7s,baz=149,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**67.77**	**343**	P	P	23 25 22.9	-1.1
	2.4nm,0.8s,baz=159,slow=5.7,SNR=4.6						
AKTO	**Aktyubinsk**	**76.37**	**328**	P	P	23 26 16.4	+0.6
	0.6nm,0.7s,baz=112,slow=5.4,SNR=4.3						

*IDC **02** 23:15:07.7±1.9, 36°23S×73°41W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/20, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=82.0km s-min=21.5km az=70.0*

*ISCJB **02** 23:15:09.3±1.1, 36°26S±0°07×73°1W±0°1, h25km±6km, mb3.5/1, Error ellipse: s-maj=17.4km s-min=6.9km az=33.3*

*GUC **02** 23:15:09.7±0.5, 36°28S×73°00W, h27km±2km, ML4.0*

ISC 02 23:15:10.2±1.2, 36°28S±0°07×73°0W±0°1, h21km±2km, n8, σ0s77/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.23**	**52**	*e* P	**Pb**	**23 15 16.0**	**-0.1**
COCH				*e* S	**Sb**	**23 15 20.2**	**-0.1**
CCSP	**San Pedro de C**	**0.57**	**188**	*e* P	**Pb**	**23 15 20.8**	**-0.9**
CCSP				*e* S	**Sb**	**23 15 29.0**	**-0.4**
CCSP				AML	AML	23 15 30.0	
	comp=E,8μm,0.5s						
LNCH	**Linares**	**1.22**	**70**	*e* P	**Pn**	**23 15 31.7**	**-0.3**
LNCH				*e* S	**Sn**	**23 15 47.7**	**-0.3**
LNCH				AML	AML	23 15 50.6	
	comp=E,6μm,0.4s						
TALC	**Talca**	**1.42**	**52**	*e* P	**Pn**	**23 15 33.8**	**-1.1**
TALC				*e* S	**Sn**	**23 15 52.6**	**-0.3**
NICH	**Los Niches**	**1.93**	**49**	*e* P	**Pn**	**23 15 42.2**	**+0.3**
NICH				*e* S	**Sn**	**23 16 06.5**	**+1.0**
NICH				AML	AML	23 16 17.4	
	comp=N,3μm,0.3s						
PLCA	**Paso Flores**	**4.85**	**157**	Pn	**Pn**	**23 16 23.2**	**+1.1**
	comp=N,0.1nm,0.3s,baz=338,slow=16,SNR=2.2						
PLCA				Lg	Lg	23 17 48.9	
	baz=34,slow=18,SNR=3.1						
LPAZ	**La Paz**	**20.38**	**14**	P	**P**	**23 19 47.1**	**+0.8**
	comp=N,0.7nm,0.6s,baz=200,slow=8.3,SNR=2.8						
TXAR	**Lajitas Array**	**71.34**	**332**	P	**P**	**23 26 28.4**	**-0.2**
	comp=N,0.4nm,0.6s,baz=145,slow=8.9,SNR=4.6						

*IDC **02** 23:15:23.5±0.5, 0°73N×126°45E, h34km±3km, mb4.8/31, mb1 4.7/31, mb1mx4.6/43, mbtmp4.9/31, Error ellipse: s-maj=17.0km s-min=9.3km az=75.0*

*MOS **02** 23:15:28.0±1.0, 0°83N×126°41E, h91km, mb5.1/28, Error ellipse: s-maj=18.4km s-min=7.3km az=118.9*

*BJI **02** 23:15:28.0, 0°64N×126°61E, h102km, mB5.3/25, mb5.1/40*

*ISCJB **02** 23:15:29.7±0.4, 0°79N±0°03×126°47E±0°03, h107km±3km, mb5.0/76, Error ellipse: s-maj=5.5km s-min=4.4km az=164.9*

*NEIC **02** 23:15:30.3±2.6, 0°80N×126°46E, h97km±6km, mb5.0/34, Error ellipse: s-maj=12.4km s-min=10.6km az=204.0*

NEIC Felt [III] at Manado and Ternate and [II] at Labuha, Indonesia.

*DJA **02** 23:15:32.5±0.3, 1°N±3°×12°6E±°, h88km±6km, M5.2/13, mB5.4/6, mb5.2/13, MLv5.4/10, Mw(mB)4.9/6*

ISC 02 23:15:31.1±0.4, 0°79N±0°03×126°47E±0°04, h104km±2km, h104km:pP-P, n223, σ1s52/274, mb5.0/76, 14C-17D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.90**	**91**	P	**Pn**	**23 15 51.0**	**+0.3**
TNTI				S	**Sn**	**23 16 05.4**	**-0.1**
TNTI	**Ternate**	**0.90**	**91**	*e* Pn	**Pn**	**23 15 50.7**	**0.0**
TNTI				*e* Sn	**Sn**	**23 16 04.1**	**-1.4**
SANI	**Sanana**	**2.86**	**190**	P	**Pn**	**23 16 13.6**	**-1.5**
SANI				S	**Sn**	**23 16 44.8**	**-4.2**
SANI	**Sanana**	**2.86**	**190**	PKP	**Pn**	**23 16 13.4**	**-1.7**
GTOI	**Gorontalo**	**3.46**	**267**	P	**Pn**	**23 16 24.9**	**+1.8**
LUWI	**Luwuk**	**4.12**	**244**	P	**Pn**	**23 16 33.1**	**+1.1**
LUWI				S	**Sn**	**23 17 20.2**	**+0.9**
LUWI	**Luwuk**	**4.12**	**244**	*e* Pn	**Pn**	**23 16 32.6**	**+0.6**
LUWI				*e* Sn	**Sn**	**23 17 20.7**	**+1.5**
GSPH	**General Santos**	**5.48**	**344**	⇓*i* P	**Pn**	**23 16 49.8**	**-0.6**
GSPH				*i* S	**Sn**	**23 17 46.9**	**-5.4**
TOLI	**Toli-Toli**	**5.69**	**273**	*e* Pn	**Pn**	**23 16 52.3**	**-0.9**
MATI	**Mati**	**6.12**	**358**	*e* P	**Pn**	**23 16 59.3**	**+0.2**
BNDI	**Bandanaira**	**6.29**	**147**	P	**Pn**	**23 17 01.7**	**+0.3**
	337nm,0.9s,1.9nm						
DAV	**Davao City (W)**	**6.30**	**352**	*e* Pn	**Pn**	**23 17 01.8**	**+0.2**
DAV				*e* Sn	**Sn**	**23 18 13.4**	**+1.2**
CTBH	**Cotabato--PC H**	**6.76**	**341**	⇑*i* P	**Pn**	**23 17 07.8**	**0.0**
PCI	**Palu**	**6.84**	**256**	P	**Pn**	**23 17 09.4**	**+0.5**
	278nm,0.9s,2μm0.8nm						
FAKI	**Fak Fak**	**6.85**	**123**	P	**Pn**	**23 17 09.9**	**+0.9**
	452nm,0.8s,3μm1.4nm						
FAKI	**Fak Fak**	**6.85**	**123**	PKP	**Pn**	**23 17 09.1**	**+0.1**
FAKI	**Fak Fak**	**6.85**	**123**	*e* Pn	**Pn**	**23 17 09.6**	**+0.6**

BUKP Musuan 7.18 349 eP Pn 23 17 12.7 -0.8
BIPH Bislig 7.35 359⇑eP Pn 23 17 17.3 +1.5
BIPH eS Sn 23 18 33.9 -3.7
PAGZ Pagadian 7.66 336 eP Pn 23 17 19.4 -0.6
CGP Cagayan de Oro 7.82 347⇓eP Pn 23 17 27.4 +5.3
IPIL Ipil 7.96 331 eP Pn 23 17 24.1 -0.1
BUTP Butuan 8.17 354 eP Pn 23 17 27.0 +0.1
KAPI Kappang 8.85 229 ePn Pn 23 17 30.2 -5.9
KAPI eSn Sn 23 19 10.1 -4.1
BKB Balikpapan 9.79 258 P Pn 23 17 48.5 -0.4
134nm,1.0s
SAUI Saumlaki 9.96 151 P Pn 23 17 50.3 -0.9
131nm,0.8s
SOEI Soe 10.70 192 ePn Pn 23 18 05.7 +4.2
DLV T Lat 21.01 303 eP P 23 20 07.4 +0.7
74nm,1.1s
WRAB Tennant Creek 22.00 160 P P 23 20 16.0 -1.0
431nm,0.5s,SNR=56
WRAB Tennant Creek 22.00 160c iP P 23 20 16.9 -0.1
WRAB pmax pmax
comp=Z,161nm,1.4s
WRAB Tennant Creek 22.00 160 eP P 23 20 16.6 -0.4
comp=Z,48nm,0.7s
WRA Warramunga Arr 22.00 160 P P 23 20 15.5 -1.5
comp=Z,16nm,0.3s,baz=340,slow=11,SNR=61
WRA S S 23 24 09.9 -3.7
comp=Z,14nm,1.1s,baz=335,slow=17,SNR=11
COEN Coen 22.10 132 eP P 23 20 17.5 -0.7
comp=Z,46nm,1.1s
TWG Pinlang 22.52 347 eP P 23 20 19.7 -2.7
comp=Z,177nm,0.6s
PMG Port Moresby 22.96 117 eP P 23 20 27.3 +0.4
PMG pmax pmax
comp=Z,8.0nm,0.8s
PMG Port Moresby 22.96 117 eP P 23 20 27.3 +0.4
comp=Z,7.8nm,0.8s
YULB Yu-li 23.02 348 eP P 23 20 24.7 -2.6
comp=Z,96nm,1.5s
TPUB Ta-pu 23.08 346 eP P 23 20 25.8 -2.1
comp=Z,84nm,0.9s
SSLB Suanglung 23.48 347 eP P 23 20 30.9 -0.7
comp=Z,40nm,0.8s
XMIS Christmas Isla 23.54 241 eP P 23 20 31.3 -1.0
comp=Z,60nm,0.8s
NACB Ninganchiao 23.72 349 eP P 23 20 32.5 -1.3
comp=Z,27nm,0.9s
YHNB Yeheng 24.25 349 eP P 23 20 36.1 -2.5
comp=Z,79nm,0.9s
QIZ Qiongzhong 24.38 319 P P 23 20 38.8 -1.0
QIZ PMZ
comp=Z,24nm,1.3s
AS12 Alice Springs 25.36 164 eP P 23 20 48.5 -0.3
AS12 eS S 23 25 12.1 +4.4
ASAR Alice Springs 25.36 164 P P 23 20 48.5 -0.3
comp=Z,13nm,0.8s,baz=343,slow=8.4,SNR=55
ASAR S S 23 25 12.1 +4.4
comp=Z,2.8nm,0.7s,baz=350,slow=19,SNR=5.1
JOW Kunigami 25.95 4 P P 23 20 54.2 +0.3
comp=Z,12nm,0.6s,baz=190,slow=8.7,SNR=20
JOW Kunigami 25.95 4 eP P 23 20 54.0 0.0
comp=Z,140nm,0.6s
CTA Charters Tower 28.40 138 P P 23 21 15.9 -0.1
comp=Z,4.7nm,0.9s,baz=305,slow=12,SNR=3.0
CBI Chichi jima 30.20 29 eP P 23 21 31.1 -0.7
JCJ Chichijima 30.20 29 P P 23 21 31.1 -0.8
comp=Z,54nm,0.5s,baz=247,slow=4.4,SNR=3.8
FORT Forrest 31.43 177 eP P 23 21 42.9 +0.3
comp=Z,90nm,1.4s
GYA Guiyang 31.85 325 P P 23 21 48.8 +2.2
GYA pP pP 23 22 11.4 +1.7
GYA sP sP 23 22 23.6 +1.9
GYA PP PP 23 22 58.0 -2.5
GYA S S 23 26 51.5 +1.6
GYA sS sS 23 27 31.8 +1.6
GYA ScP ScP 23 28 09.4 +0.1
GYA ScS ScS 23 32 07.0 -1.1
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
CM31 Chiang Mai Arr 32.23 305 eP P 23 21 49.4 -0.3
CM31 ePcP PcP 23 24 36.8 +0.6
CMAR Chiang Mai Arr 32.23 305 P P 23 21 49.4 -0.3
comp=Z,0.8nm,0.3s,baz=128,slow=5.8,SNR=5.3
CMAR PcP PcP 23 24 36.8 +0.6
comp=Z,1.3nm,0.4s,baz=158,slow=1.6,SNR=4.7
JNU Nakatsue 32.43 7 P P 23 21 51.2 -0.2
comp=Z,48nm,0.9s,baz=182,slow=0.9,SNR=4.7
JNU Nakatsue 32.43 7 eP P 23 21 50.7 -0.7
comp=Z,61nm,1.0s
BBOO Buckleboo 34.62 166 eP P 23 22 09.7 -0.7
comp=Z,17nm,1.4s
TIA Tai'an 36.30 347 ⇑P P 23 22 25.7 +1.0
TIA PMZ
comp=Z,40nm,0.8s
TIA LN
comp=Z,1μm,12.9s
TIA LE
comp=Z,1μm,13.7s
TIA LZ
comp=Z,650nm,23.2s
KS15 Wonju Array Si 36.49 2 eP P 23 22 27.2 +0.9
KSRS Korea Array 36.51 2 P P 23 22 27.2 +0.8
comp=Z,20nm,0.7s,baz=180,slow=9.8,SNR=50
CD2 Chengdu 36.89 326 P P 23 22 32.4 +2.5
CD2 pP pP 23 22 55.8 +2.3
CD2 sP sP 23 23 07.8 +2.4
CD2 PP PnPn 23 24 01.8 +4.4
CD2 S S 23 28 09.8 +2.6
CD2 PcS PcS 23 28 38.9 +1.0
CD2 sS sS 23 28 50.3 +2.3
CD2 SS SnSn 23 30 44.8 -5.9
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.4s
CD2 LN
comp=Z,1μm,22.5s
CD2 LE
comp=Z,2μm,26.5s
CD2 LZ
comp=Z,900nm,25.5s
MAJO Matsushiro 37.20 16 eP P 23 22 31.3 -1.1
MAJO pmax pmax
comp=Z,18nm,0.8s
MAJO Matsushiro 37.20 16 eP P 23 22 31.3 -1.1
comp=Z,18nm,0.8s
MAT Matsushiro 37.20 16 P P 23 22 31.2 -1.2
MJAR Matsushiro Arr 37.20 16 P P 23 22 31.3 -1.1
comp=Z,13nm,0.8s,baz=185,slow=9.7,SNR=25
ARMA Armidale 39.20 144 eP P 23 22 50.2 +0.8
comp=Z,122nm,2.0s
BJT Baijiatuau 40.16 348 eP P 23 22 57.0 0.0
BJT pmax pmax
comp=Z,154nm,0.7s
BJT Baijiatuau 40.16 348 eP P 23 22 57.0 0.0
comp=Z,154nm,0.7s
BJI Beijing 40.18 348 P P 23 22 57.8 +0.7
BJI pP pP 23 23 21.9 +0.9
BJI S S 23 29 00.0 +3.8
BJI PMZ
comp=Z,210nm,0.8s
BJI LN
comp=Z,410nm,10.0s
BJI LE
comp=Z,730nm,20.0s
BJI LZ
comp=Z,830nm,27.8s
LZH Lanzhou 40.92 332 eP P 23 23 05.1 +1.5
LZH pP pP 23 23 24.7 -2.8
LZH PP PnPn 23 24 46.5 +1.4
LZH eS S 23 29 08.0 +0.2
LZH sS sS 23 29 49.0 -0.1
LZH SS SS 23 32 12.3 -1.3
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,92nm,4.3s
LZH LN
comp=Z,490nm,14.3s
LZH LE
comp=Z,670nm,13.8s
LZH LZ
comp=Z,810nm,15.2s
HHC Hu-ho-hao-te 42.10 343 eP P 23 23 14.4 +1.3
HHC pP pP 23 23 39.7 +2.6
HHC sP sP 23 23 50.0 +1.1
HHC PP PP 23 24 56.4 +3.8
HHC S S 23 29 25.1 0.0
HHC sS sS 23 30 10.0 +3.5
HHC SS SS 23 32 28.8 -7.9
HHC PMZ
comp=Z,94nm,0.9s
HHC PMZ
comp=Z,470nm,5.9s
H11S3 WAKE ISLAND Hy 43.20 64 T T 00 10 32.7
baz=252,slow=75,SNR=13
H11S2 WAKE ISLAND Hy 43.22 64 T T 00 10 43.6
baz=252,slow=75,SNR=6.1
H11S1 WAKE ISLAND Hy 43.22 63 T T 00 10 54.4
baz=252,slow=75,SNR=4.6
USRK Ussuriysk Ar. 43.50 6 P P 23 23 24.7 +0.5
comp=Z,36nm,0.8s,baz=191,slow=6.5,SNR=51
MDJ Mudanjiang 43.73 3 eP P 23 23 26.0 0.0
comp=Z,58nm,1.0s
ASAJ Asahikawa 45.46 16 P P 23 23 39.9 +0.1
comp=Z,25nm,0.7s,baz=226,slow=14,SNR=11
ASAJ Asahikawa 45.46 16 eP P 23 23 39.4 -0.4
comp=Z,275nm,2.2s
TAPN Taplejung 45.59 309 eP P 23 23 40.3 -1.2
ODAN Odare 45.61 308 eP P 23 23 40.3 -1.3
RAMN Ramite 46.28 308 eP P 23 23 46.0 -0.8
comp=Z,26nm,0.8s
JIRN Jiri 46.93 308 eP P 23 23 51.3 -0.7
comp=Z,14nm,0.5s
GUN Gumba 47.29 308 eP P 23 23 53.9 -0.9
comp=Z,53nm,0.8s
PKI Pulchoki 47.50 308 eP P 23 23 55.9 -0.5
PKIN Phulchoki 47.51 308 eP P 23 23 55.9 -0.6
KKN Kakani 47.70 308 eP P 23 23 56.7 -1.2
DMN Daman 47.76 308 eP P 23 23 57.3 -1.0
HABR Khabarovsk 48.07 8 eP P 23 23 59.1 -0.9
HABR e*SP sP 23 24 33.7 -2.5
HABR e 23 25 24.3
HABR e 23 25 51.2
HABR eS S 23 30 51.0 +0.4
HABR e*SS sS 23 31 31.1 -1.7
HABR e 23 33 41.0
HABR eSS SS 23 34 21.4 +0.3
HABR eSSS SSS 23 35 39.1
HABR pmax pmax
comp=Z,87nm,1.5s
YSS Yuzh-Sakhalins 48.13 15 eP P 23 24 01.2 +0.7
GKN Gorkha 48.31 308 eP P 23 24 01.2 -1.2
KOLN Koldanda 49.03 307 eP P 23 24 07.4 -0.6
comp=Z,30nm,0.7s
DANN Dangsing 49.15 308 eP P 23 24 08.2 -0.9
comp=Z,41nm,0.8s
PYUN Piuthan 49.66 307 eP P 23 24 12.3 -0.5
comp=Z,73nm,0.7s
ULN Ulaanbaatar 49.83 343 eP P 23 24 14.2 +0.5
ULN pmax pmax
comp=Z,87nm,1.0s
ULN Ulaanbaatar 49.83 343 eP P 23 24 14.2 +0.5
comp=Z,87nm,1.0s
HYB Hyderabad 49.92 292 i P P 23 24 13.0 -1.7
HYB e 23 24 29.0
HYB e 23 24 35.5
SONA0 Songino Array 49.99 342 eP P 23 24 15.8 +0.9
SONM Songino Array 49.99 342 P P 23 24 15.8 +0.9
comp=Z,45nm,0.8s,baz=153,slow=9.1,SNR=54
TLY Talaya 54.23 343 eP P 23 24 48.8 +2.7
TLY pmax pmax
comp=Z,15nm,0.6s
TLY Talaya 54.23 343 P P 23 24 47.6 +1.5
comp=Z,16nm,0.7s,baz=245,slow=4.1,SNR=11
WMQ Urumqi 54.99 326 P P 23 24 52.9 +1.1
WMQ pP pP 23 25 16.3 -0.6
WMQ PcP PcP 23 25 52.5 +0.2
WMQ PP PP 23 26 59.0 +3.0
WMQ PcS PcS 23 29 50.1 -2.2
WMQ S S 23 32 25.5 -0.6
WMQ sS sS 23 33 10.0 +0.9
WMQ ScS ScS 23 34 29.0 -2.1
WMQ SS SS 23 36 10.5 -0.8
WMQ PMZ
comp=Z,19nm,1.2s
WMQ PMZ
comp=Z,200nm,7.7s
WMQ LN
comp=Z,1μm,14.2s
WMQ LE
comp=Z,550nm,15.7s
WMQ LZ
comp=Z,570nm,15.4s
MOY Mondy 55.05 341 eP P 23 24 53.6 +1.5
MOY pmax pmax
comp=Z,70nm,1.8s
HVS Khovu-Aksy 57.29 336c iP P 23 25 09.1 +1.0
BOD Bodaibo 57.72 352 eP P 23 25 07.6 -3.2
BOD pmax pmax
comp=Z,18nm,1.0s
PETK Petropavlovsk- 58.24 22 P P 23 25 15.4 +0.9
comp=Z,23nm,0.6s,baz=181,slow=4.2,SNR=64
PETK pP pP 23 25 25.6 -14
comp=Z,15nm,0.5s,baz=186,slow=4.8,SNR=9.6
PEA2 Petropavlovsk- 58.24 22 eP P 23 25 15.4 +0.9
MK32 Makanchi Array 59.83 326 eP P 23 25 26.1 +0.4
MK32 ePcP PcP 23 26 11.3 0.0
MKAR Makanchi Array 59.83 326ceP P 23 25 30.6 +4.9
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 59.83 326 P P 23 25 26.1 +0.4
comp=Z,18nm,0.6s,baz=119,slow=7.6,SNR=150
MKAR pP pP 23 25 36.9 -14
comp=Z,12nm,0.5s,baz=119,slow=7.9,SNR=11
MKAR PcP PcP 23 26 11.3 0.0
comp=Z,8.6nm,0.7s,baz=114,slow=5.5,SNR=5.5
MKAR Makanchi Array 59.83 326 eP P 23 25 26.6 +0.9
KSH Kashi 59.95 316 eP P 23 25 31.6 +4.8
KSH sP sP 23 26 07.0 +3.3
KSH PP PP 23 27 47.3 +7.0
KSH PcS PcS 23 30 17.8 +3.3
KSH S S 23 33 37.1 +5.8
KSH PMZ
comp=Z,320nm,6.0s
KSH LN
comp=Z,170nm,7.5s
KSH LE
comp=Z,390nm,14.9s
KSH LZ
comp=Z,400nm,23.0s
YAK Yakutsk 61.13 2 eP P 23 25 33.1 -1.1
YAK e 23 25 54.1
YAK e 23 26 06.3
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 61.13 2 P P 23 25 34.5 +0.3
comp=E,37nm,0.5s,baz=51,slow=0.5,SNR=9.0
TKM2 Tokmak 2 61.78 320 eP P 23 25 39.4 +0.1
TKM2 pmax pmax
comp=Z,13nm,0.6s
TKM2 Tokmak 2 61.78 320 eP P 23 25 39.4 +0.1
comp=Z,13nm,0.6s
AAK Ala-Archa 62.37 319ceP P 23 25 44.7 +1.6
AAK pmax pmax
comp=Z,57nm,2.5s
AAK Ala-Archa 62.37 319 P P 23 25 43.8 +0.7
comp=Z,3.0nm,0.6s,baz=82,slow=6.5,SNR=6.6
EKS2 Erkin-Say 62.85 319 eP P 23 25 46.7 +0.4
EKS2 pmax pmax
comp=Z,57nm,1.6s
EKS2 Erkin-Say 62.85 319 eP P 23 25 46.7 +0.4
comp=Z,56nm,1.6s
ZALV Zalesovo Beam 63.09 334 P P 23 25 47.1 -0.3
comp=Z,9.5nm,0.6s,baz=120,slow=5.9,SNR=22
ZAA1 Zalesovo Array 63.09 334 eP P 23 25 47.1 -0.3
KBL Kabul 63.12 309 eP P 23 25 47.8 -0.5
KBL pmax pmax
comp=Z,12nm,0.7s
KBL Kabul 63.12 309 eP P 23 25 47.8 -0.5
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 64.07 328 P P 23 25 54.5 +0.5
comp=Z,110nm,0.8s,baz=129,slow=6.0,SNR=514
KURK Kurchatov 64.08 328 P P 23 25 54.9 +0.9
comp=Z,851nm,0.8s,SNR=52
KURK Kurchatov 64.08 328 eP P 23 25 54.5 +0.5
KURK pmax pmax
comp=Z,217nm,0.8s
KURK Kurchatov 64.08 328 eP P 23 25 54.5 +0.5
comp=Z,216nm,0.8s
NVS Novosibirsk 64.37 334 eP P 23 25 54.0 -1.8
NVS eS S 23 34 23.9 -2.0
NVS pmax pmax
comp=N,14nm,1.0s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,21nm,1.0s
NVS smax smax
comp=N,7.0nm,1.4s
NVS smax smax
comp=E,7.0nm,1.4s
SEY Seymchan 64.94 13 P P 23 26 00.0 +0.7
comp=E,15nm,0.9s,baz=212,slow=6.1,SNR=25
KKAR Karatay Array 65.21 318 eP P 23 26 01.9 +0.3
KKAR Karatay Array 65.21 318 eP P 23 26 01.9 +0.3
BVAR Borovoye Array 69.64 328 P P 23 26 29.6 +0.3
comp=E,19nm,0.8s,baz=136,slow=7.6,SNR=42
BVAR pP PcP 23 26 39.9 -12
comp=E,16nm,0.9s,baz=142,slow=5.3,SNR=7.7
BRVK Borovoye 69.71 328 P P 23 26 30.0 +0.3
comp=E,216nm,1.3s,SNR=13
TIXI Tiksi 70.77 1 ⇓iP P 23 26 34.4 -1.3
TIXI pmax pmax
comp=Z,21nm,1.4s
TIXI Tiksi 70.77 1 eP P 23 26 34.6 -1.1
comp=Z,14nm,1.0s
BILL Bilibino 72.44 15 ⇓iP P 23 26 45.7 -0.1
BILL i 23 27 02.2
BILL e 23 29 26.7
BILL pmax pmax
comp=Z,21nm,2.0s
BILL Bilibino 72.44 15 eP P 23 26 45.8 -0.1
comp=Z,23nm,1.5s
GEYT Alibeck 72.54 310 P P 23 26 48.4 +1.2
comp=Z,25nm,0.9s,baz=145,slow=3.6,SNR=38
GEYT pP PcP 23 26 58.7 -5.5
comp=Z,4.5nm,0.7s,baz=134,slow=4.3,SNR=5.2
ABKAR Akbulak array 74.26 321 eP P 23 26 56.5 -0.4
AKTO Aktyubinsk 75.80 322 eP P 23 27 06.0 +0.2
AKTO Aktyubinsk 75.80 322 P P 23 27 06.0 +0.2
comp=Z,13nm,0.8s,baz=103,slow=7.4,SNR=38
SVE Sverdlovsk 76.32 329 eP P 23 27 08.1 -0.5
SVE pmax pmax
comp=Z,24nm,0.9s
GAMB Gambell 77.17 24 eP P 23 27 14.0 +0.8
comp=Z,17nm,1.0s
ARU Arti 77.27 328 P P 23 27 13.8 -0.1
comp=Z,124nm,0.7s,SNR=5.3
ARU Arti 77.27 328c iP P 23 27 13.0 -0.9
ARU *PP pP 23 27 38.0 -2.5
ARU 23 30 03.8
ARU S S 23 36 55.4 +0.1
ARU SS SS 23 41 53.2 -2.3
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 77.27 328 eP P 23 27 13.2 -0.8
comp=Z,16nm,0.8s
TNA Tin City 79.38 23 eP P 23 27 25.5 +0.2
comp=Z,5.5nm,0.9s
VNDA Vanda 80.56 173 P P 23 27 31.4 -0.1
comp=Z,1.0nm,0.8s,baz=298,slow=7.2,SNR=5.2
VNDA pP PcP 23 27 42.9 +4.8
comp=Z,3.0nm,0.7s,baz=312,slow=6.9,SNR=9.3
RAYN Ar Rayn 81.40 294 P P 23 27 37.0 -0.2
comp=Z,116nm,0.9s,SNR=10
RAYN Ar Rayn 81.40 294 eP P 23 27 36.5 -0.7
comp=Z,13nm,1.0s
GNI Garni 83.16 310 eP P 23 27 44.4 -1.7
GNI pmax pmax
comp=Z,12nm,1.1s
GNI Garni 83.16 310 eP P 23 27 44.4 -1.7
comp=Z,12nm,1.1s
SVW2 Sparrevohn 83.49 29 eP P 23 27 46.0 -1.1
comp=Z,35nm,1.0s
ZEI Tsey 84.00 313 eP P 23 27 47.9 -2.5
ZEI pmax pmax
comp=Z,17nm,1.4s
NCK Nalchik 84.28 313 ⇓iP P 23 27 52.3 +0.7
RSO Redoubt South 84.76 29 eP P 23 27 53.2 -0.6
KBZ Khabaz 84.80 314 P P 23 27 54.4 +0.2
comp=Z,6.4nm,1.1s,baz=90,slow=4.1,SNR=8.7
NEY Neytrino 84.90 313 i P P 23 27 53.1 -1.8
NEY pmax pmax
comp=Z,4.0nm,1.3s
PRGR Permogore 84.95 332 eP P 23 27 52.9 -1.6
PRGR pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 84.97 314⇑eP P 23 27 52.1 -3.0
KIV pmax pmax
comp=Z,13nm,1.3s
VRHR Novokhopersk 86.14 321 eP P 23 27 58.9 -1.7
VRHR pmax pmax
comp=Z,20nm,1.1s
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,30nm,0.7s
VORD Divnogorie 87.61 321 eP P 23 28 05.7 -2.0
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,8.0nm,0.7s
VORD pmax pmax
comp=N,7.0nm,0.6s
VSR Storozhevoye 87.69 321 ⇓iP P 23 28 07.6 -0.6
VSR pmax pmax
comp=Z,18nm,0.8s
ILAR Eielson Array 87.85 25 P P 23 28 07.5 -1.2
comp=Z,1.8nm,0.9s,baz=247,slow=4.7,SNR=8.1
ILAR pP PcP 23 28 18.6 +8.2
comp=Z,1.4nm,0.8s,baz=247,slow=4.7,SNR=3.0
ILB Eielson Array 87.85 25 eP P 23 28 07.5 -1.2
ILB ePcP PcP 23 28 18.6 +8.2
MALT Malatya 87.98 308 ⇓P P 23 28 08.9 -1.1
MALT Malatya 87.98 308 ⇓iP P 23 28 08.9 -1.1
ANN Anapa 88.76 315 eP P 23 28 11.4 -1.9
ANN e*PP pP 23 28 37.0 -3.5
ANN pmax pmax
comp=Z,24nm,1.0s
KMBO Kilima Mbogo 89.23 269 eP P 23 28 16.3 -0.3
KMBO pmax pmax
comp=Z,20nm,3.0s
KMBO Kilima Mbogo 89.23 269 P P 23 28 16.3 -0.3
comp=Z,1.1nm,0.4s,baz=42,slow=7.5,SNR=4.0
KMBO Kilima Mbogo 89.23 269 eP P 23 28 16.3 -0.3
comp=Z,20nm,3.0s
OBN Obninsk 89.30 325⇑iP P 23 28 14.4 -1.2
OBN pmax pmax
comp=Z,18nm,1.0s
SYO Syowa Base 89.61 201⇑ePcP PcP 23 28 19.8 +1.8
BR101 Keskin Array S 91.68 310 eP P 23 28 26.2 -1.1
BRTR Keskin Array B 91.68 310ceP P 23 28 26.2 -1.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 91.68 310 P P 23 28 26.2 -1.1
comp=Z,2.3nm,0.9s,baz=126,slow=5.9,SNR=9.3
INK Inuvik 92.97 22 P P 23 28 31.7 -0.7
comp=Z,7.7nm,1.2s,baz=292,slow=2.9,SNR=5.1
ARA0 ARCESS Array S 93.10 340 eP P 23 28 32.3 -0.7
ARCES ARCESS Array B 93.10 340 P P 23 28 32.3 -0.7
comp=Z,3.4nm,0.6s,baz=78,slow=4.2,SNR=14
FIA0 FINESS Array S 94.28 332 eP P 23 28 37.4 -1.2
FIA0 FINESS Array S 94.28 332 eP P 23 28 37.4 -1.2
FINES FINESS Array B 94.28 332 iP P 23 28 37.2 -1.4
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 94.28 332 P P 23 28 37.4 -1.2
comp=Z,2.2nm,0.8s,baz=92,slow=4.6,SNR=6.4
TESR Tescani 96.19 317 ⇓iP P 23 28 47.3 -0.4
VRI Vrincioaia 96.23 316 ⇓P P 23 28 47.9 +0.1
VRI Vrincioaia 96.23 316 ⇓iP P 23 28 47.9 +0.1
PLOR Plostina 96.28 316 ⇓P P 23 28 47.7 -0.4
PLOR Plostina 96.28 316 ⇓iP P 23 28 47.7 -0.4
MLR Muntele Rosu 96.82 316 ⇓P P 23 28 50.6 -0.1
MLR Muntele Rosu 96.82 316 ⇓iP P 23 28 50.6 -0.1
BURAR Bucovina Array 97.00 318 ⇑P P 23 28 51.2 -0.2
BURAR Bucovina Array 97.00 318 ⇑iP P 23 28 51.2 -0.2
KOLS Kolonicke sedl 98.71 320 iP Pdif 23 28 59.2 +0.2
KOLS Kolonicke sedl 98.71 320 PDIF Pdif 23 28 59.2 +0.2
UZH Uzhgorod 98.76 319 eP Pdif 23 29 02.5 +3.4

UZH					*e**PP	pP	23 29 32.9	+6.4	
UZH					*e*S	**S**	**23 40 19.3**	**-0.8**	
UZH					MLR	MLR			
	comp=N,1µm,16.0s								
UZH					MLR	MLR			
	comp=E,2µm,16.0s								
UZH					MLR	MLR			
	comp=Z,900nm,16.0s								
DRGR		**98.83**	**318**	⇓P		**P**	**23 28 58.6**	**-1.0**	
DRGR		**98.83**	**318**	⇓*i*P		**P**	**23 28 58.6**	**-1.0**	
CRVS	**Cervenica-Dubn**	**99.24**	**320**	*i* P		**Pdif**	**23 29 01.0**	**-0.3**	
CRVS	**Cervenica-Dubn**	**99.24**	**320**	PDIF		**Pdif**	**23 29 01.0**	**-0.3**	
KECS	**Kecovo**	**99.96**	**320**	*i* P		**Pdif**	**23 29 04.6**	**0.0**	
KECS	**Kecovo**	**99.96**	**320**	PDIF		**Pdif**	**23 29 04.5**	**0.0**	
VYHS	**Vyhne**	**101.03**	**320**	*i* P		**Pdif**	**23 29 09.6**	**+0.3**	
VYHS	**Vyhne**	**101.03**	**320**	PDIF		**Pdif**	**23 29 09.6**	**+0.3**	
YKA	**Yellowknife Ar**	**102.26**	**25**	P		**Pdif**	**23 29 14.8**	**+0.4**	
	comp=Z,0.4nm,0.6s,baz=292,slow=4.3,SNR=4.3								
YKB5	**Yellowknife Ar**	**102.26**	**25**	*e*Pdif		**Pdif**	**23 29 14.8**	**+0.4**	
ULM	**Lac du Bonnet**	**117.64**	**29**	PKP		**PKPdf**	**23 34 04.7**	**-0.5**	
	comp=Z,1.5nm,0.7s,baz=259,slow=19,SNR=3.5								
TOA0	**Torodi Ar. Sit**	**123.54**	**286**	*e*PKPdf		**PKPdf**	**23 34 17.4**	**0.0**	
TORD	**Torodi Ar. Bea**	**123.54**	**286**	PKP		**PKPdf**	**23 34 17.4**	**0.0**	
	comp=Z,4.1nm,0.8s,baz=59,slow=2.0,SNR=26								
LTX	**Lajitas**	**123.57**	**54**	*e*PKIKP		**PKPdf**	**23 34 17.1**	**-0.2**	
LTX	**Lajitas**	**123.57**	**54**	*e*PKPdf		**PKPdf**	**23 34 17.1**	**-0.2**	
TXAR	**Lajitas Array**	**123.57**	**54**	PKP		**PKPdf**	**23 34 17.1**	**-0.2**	
	comp=Z,0.9nm,0.8s,baz=175,slow=0.6,SNR=9.2								
TXAR				pPKP	PKiKP		23 34 27.6	+10	
	comp=Z,0.7nm,0.6s,baz=318,slow=1.7,SNR=6.0								
529A	**Stev Forest Ra**	**124.40**	**52**	P		**PKPdf**	**23 34 19.3**	**+0.4**	
	baz=124								
429A	**Davenport Ranc**	**124.45**	**51**	P		**PKPdf**	**23 34 19.1**	**+0.2**	
	baz=124								
430A	**Baggett Ranch,**	**124.89**	**51**	P		**PKPdf**	**23 34 20.1**	**+0.4**	
	baz=125								
530A	**J-C Ranch, Com**	**125.09**	**52**	P		**PKPdf**	**23 34 20.5**	**+0.3**	
	baz=125								
431A	**Sonora**	**125.43**	**51**	P		**PKPdf**	**23 34 21.2**	**+0.5**	
	baz=125								
631A	**Perdido Creek**	**126.00**	**52**	P		**PKPdf**	**23 34 22.5**	**+0.6**	
	baz=126								
JCT	**Junction City**	**126.14**	**51**	P		**PKPdf**	**23 34 22.3**	**+0.2**	
	baz=126								
333A	**Richland Sprin**	**126.38**	**49**	P		**PKPdf**	**23 34 22.9**	**+0.4**	
	baz=126								
433A	**Art**	**126.56**	**50**	P		**PKPdf**	**23 34 23.1**	**+0.2**	
	baz=126								
832A	**Faith Ranch, C**	**126.95**	**53**	P		**PKPdf**	**23 34 25.0**	**+1.3**	
	baz=127								
534A	**Blanco**	**127.37**	**50**	P		**PKPdf**	**23 34 25.2**	**+0.7**	
	baz=127								
TKL	**Tuckaleechee C**	**134.07**	**35**	PKP		**PKPdf**	**23 34 37.4**	**+0.4**	
	comp=Z,4.9nm,0.9s,baz=79,slow=2.0,SNR=6.2								

GUC 02 23:15:31.0±0.7, 36°41′S×72°77′W, h17km±5km, ML4.4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.28**	**357**	*e*P	Pb	23 15 37.7	+0.1
COCH				*e*S	Sb	23 15 42.3	+0.2
CCSP	**San Pedro de C**	**0.51**	**212**	*e*P	Pb	23 15 41.8	+0.3
CCSP				*e*S	Sb	23 15 49.4	+0.8
CCSP				AML	AML	23 15 53.7	
	comp=N,25µm,0.3s						
LNCH	**Linares**	**1.10**	**60**	*e*P	Pg	23 15 54.4	+2.0
LNCH				*e*S	Sg	23 16 10.6	+3.7
LNCH				AML	AML	23 16 12.8	
	comp=E,15µm,0.7s						
TALC	**Talca**	**1.37**	**43**	*e*S	Sg	23 16 15.0	-0.3
AGCH	**Angol**	**1.39**	**178**	*e*S	Sg	23 16 15.5	-0.6
YECH	**El Yeso**	**3.52**	**40**	AML	AML	23 17 23.1	
	comp=N,843nm,0.5s						
FCH	**Farellones**	**3.69**	**34**	AML	AML	23 17 31.7	
	comp=E,409nm,0.5s						

*ISCJB **02** 23:24:48.7±0.5, 20°17′S±0°04′×69°20′W±0°09, h105km±6km, mb3.9/4, Error ellipse: s-maj=14.5km s-min=6.8km az=175.0*
*GUC **02** 23:24:49.6±0.6, 20°19′S×69°31′W, h101km±4km, ML4.1*
*IDC **02** 23:24:52.3±2.9, 20°18′S×68°97′W, h120km±23km, mb3.7/6, mb1 3.7/8, mb1mx3.4/36, mbtmp4.1/8, Error ellipse: s-maj=29.5km s-min=24.1km az=74.0*

ISC 02 23:24:49.6±0.7, 20°17′S±0°05′×69°19′W±0°09, h96km±7km, n25, σ0°88/27, mb4.0/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.60**	**313**	*e*P	**Pn**	**23 25 06.1**	**+0.2**
PB11				*e*S	**Sn**	**23 25 18.9**	**+0.8**
HMBC	**Humberstone**	**0.66**	**261**	*e*P	**Pn**	**23 25 06.1**	**-0.3**
HMBC				*e*S	**Sn**	**23 25 18.8**	**-0.2**
HMBC				AML	AML	23 25 20.5	
	comp=E,10µm,0.4s						
PB01	**IPOC Station P**	**0.91**	**198**	*e*P	**Pn**	**23 25 08.7**	**-0.2**
PB01				*e*S	**Sn**	**23 25 23.3**	**0.0**
PB01				AML	AML	23 25 24.7	
	comp=E,7µm,0.4s						
PSGC	**Pisagua**	**1.04**	**303**	*e*P	**Pn**	**23 25 10.2**	**-0.1**
PSGC				*e*S	**Sn**	**23 25 25.9**	**0.0**
PSGC				AML	AML	23 25 28.8	
	comp=N,5µm,0.3s						
MNMC	**Minimini**	**1.10**	**340**	*e*P	**Pn**	**23 25 12.5**	**+1.4**
MNMC				*e*S	**Sn**	**23 25 29.6**	**+2.2**
MNMC				AML	AML	23 25 32.0	
	comp=N,12µm,0.5s						
PATCX	**Punta Patache**	**1.11**	**234**	*e*P	**Pn**	**23 25 10.8**	**-0.1**
PATCX				*e*S	**Sn**	**23 25 26.7**	**-0.4**
PATCX				AML	AML	23 25 31.4	
	comp=E,3µm,0.3s						
PB09	**IPOC Station P**	**1.62**	**182**	*e*P	**Pn**	**23 25 17.8**	**+0.5**
PB09				*e*S	**Sn**	**23 25 40.1**	**+1.8**
PB09				AML	AML	23 25 46.2	
	comp=E,6µm,0.4s						
PB07	**IPOC Station P**	**1.68**	**203**	*e*P	**Pn**	**23 25 18.1**	**+0.1**
PB07				*e*S	**Sn**	**23 25 40.2**	**+0.6**
PB07				AML	AML	23 25 46.2	
	comp=E,2µm,0.9s						
LPAZ	**La Paz**	**3.99**	**15**	P	Pn	23 25 52.9	+3.7
	comp=E,3.1nm,0.3s,baz=181,slow=5.4,SNR=103						
SIV	**San Ignacio**	**8.77**	**63**	P	**Pn**	**23 26 52.0**	**-1.6**
	comp=E,1.1nm,0.3s,baz=270,slow=12,SNR=16						
PLCA	**Paso Flores**	**20.53**	**183**	P	**P**	**23 29 21.1**	**+0.9**
	comp=E,3.7nm,0.8s,baz=18,slow=17,SNR=4.8						
BDFB	**Brasilia**	**20.65**	**81**	P	**P**	**23 29 21.4**	**-0.4**
	comp=E,2.0nm,0.4s,baz=235,slow=7.1,SNR=7.7						
ULM	**Lac du Bonnet**	**73.98**	**343**	P	**P**	**23 36 13.9**	**-0.4**
	comp=E,1.1nm,0.5s,baz=158,slow=5.8,SNR=3.0						
SCHQ	**Schefferville**	**74.72**	**1**	P	**P**	**23 36 18.4**	**-0.2**
	comp=E,1.8nm,0.8s,baz=189,slow=3.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.17**	**71**	P	**P**	**23 36 32.2**	**-1.1**
	comp=E,0.6nm,0.3s,baz=255,slow=5.3,SNR=26						
TORD				pP	**pP**	**23 36 57.6**	**-0.6**
	comp=E,1.2nm,0.7s,baz=250,slow=5.8,SNR=5.3						
YKA	**Yellowknife Ar**	**89.85**	**341**	P	**P**	**23 37 37.8**	**+0.7**
	comp=E,0.9nm,0.6s,baz=133,slow=4.6,SNR=25						
H11S2	**WAKE ISLAND Hyl**	**27.44**	**278**	T	T	02 03 30.1	
	baz=102,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hyl**	**27.44**	**278**	T	T	02 03 34.7	
	baz=102,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hyl**	**27.45**	**278**	T	T	02 03 32.1	
	baz=102,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hyl**	**27.48**	**280**	T	T	02 03 34.5	
	baz=102,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hyl**	**27.50**	**280**	T	T	02 03 36.3	
	baz=102,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**27.50**	**280**	T	T	02 03 35.8	
	baz=102,slow=74,SNR=13						
ZALV	**Zalesovo Beam**	**140.86**	**24**	PKP	**PKPdf**	**23 44 08.6**	**+0.6**
	comp=E,0.5nm,0.6s,baz=54,slow=3.7,SNR=3.4						
MKAR	**Makanchi Array**	**144.71**	**35**	PKP	**PKPab**	**23 44 14.3**	**+0.2**
	comp=E,0.5nm,0.5s,baz=309,slow=3.3,SNR=7.8						
SONM	**Songino Array**	**152.17**	**6**	PKPbc	**PKPbc**	**23 44 34.0**	**-0.1**
	comp=E,0.6nm,0.6s,baz=330,slow=1.5,SNR=5.0						

*ISCJB **02** 23:27:58.0±0.6, 67°84′N±0°02′×20°28′E±0°10, h0km, Error ellipse: s-maj=5.3km s-min=3.5km az=0.6*
*CSEM **02** 23:27:58.5±0.1, 67°85′N×20°25′E, h2km, ML1.2, Error ellipse: s-maj=2.5km s-min=2.1km az=160.0, Mining explosion.*

*UPP **02** 23:27:58.8, 67°85′N×20°21′E, h0km, ML1.2, Mining explosion.*
*HEL **02** 23:27:59.0±0.1, 67°85′N×20°13′E, h0km, ML1.5, ML1.2(UPP), Explosion*

ISC 02 23:27:58.2±0.9, 67°83′N±0°02′×20°22′E±0°03, h0km, n32, σ0°89/47, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**20**	*i* P	**Pg**	**23 28 01.3**	**+0.6**
KUA				*i* S	**Sg**	**23 28 03.0**	**+0.6**
KUA	**Kurravaara**	**0.13**	**20**	P	**Pg**	**23 28 01.3**	**+0.6**
KUA				S	**Sg**	**23 28 03.0**	**+0.6**
NIKU	**Nikkaluokta**	**0.45**	**275**	*i* P	**Pg**	**23 28 07.4**	**+0.5**
NIKU	**Nikkaluokta**	**0.45**	**275**	P	Pn	23 28 16.0	+4.0
NIKU	**Nikkaluokta**	**0.45**	**275**	P	**Pg**	**23 28 07.3**	**+0.5**
LANU	**Lannavaara**	**0.70**	**71**	*e*P	**Pg**	**23 28 12.0**	**+0.3**
LANU				*e*S	**Sg**	**23 28 20.8**	**0.0**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 28 12.0**	**+0.3**
LANU				S	**Sg**	**23 28 20.8**	**0.0**
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	**Pg**	**23 28 13.8**	**+0.6**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**23 28 13.7**	**+0.6**
SALU	**Saltoluokta**	**0.80**	**236**	*i* P	**Pg**	**23 28 13.9**	**+0.4**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Sg**	**23 28 22.6**	**-1.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**23 28 13.9**	**+0.4**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	**Pg**	**23 28 21.5**	**+0.3**
KIF				*e*S	**Sg**	**23 28 36.5**	**-0.1**
KIF	**Kilpisjarvi**	**1.20**	**10**	Pb	**Pg**	**23 28 21.5**	**+0.3**
KIF				S	**Sg**	**23 28 36.5**	**-0.1**
PAJU	**Pajala**	**1.38**	**125**	*e*P	**Pn**	**23 28 24.4**	**-0.4**
PAJU	**Pajala**	**1.38**	**125**	P	**Pn**	**23 28 24.4**	**-0.4**
HEF	**Hetta**	**1.41**	**64**	*e*PG	**Pn**	**23 28 24.9**	**-0.3**
HEF				*e*S	**Sg**	**23 28 43.3**	**-0.3**
HEF				MSG		23 28 47.2	
	comp=Z,2.3nm,0.3s						
HEF	**Hetta**	**1.41**	**64**	Pg	**Pn**	**23 28 24.8**	**-0.3**
HEF				S	**Sg**	**23 28 43.3**	**-0.3**
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	**Pn**	**23 28 26.4**	**0.0**
ERTU				*e*S	**Sg**	**23 28 46.3**	**0.0**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**23 28 26.3**	**0.0**
ERTU				S	**Sg**	**23 28 46.2**	**0.0**
HARU	**Harads**	**1.70**	**170**	*e*P	**Pn**	**23 28 30.0**	**+0.8**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**23 28 29.9**	**+0.8**
KALU	**Kalix**	**2.34**	**146**	*e*PB	**Pn**	**23 28 39.7**	**+1.9**
KALU				*e*SB	**Sb**	**23 29 10.5**	**-0.1**
KALU	**Kalix**	**2.34**	**146**	Pb	**Pn**	**23 28 39.7**	**+1.9**
KALU				Sb	**Sb**	**23 29 10.4**	**-0.1**
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	**Pb**	**23 28 42.0**	**-1.0**
SGF				*e*SG	**Sb**	**23 29 15.2**	**+1.6**
SGF	**Sodankyl**	**2.44**	**96**	Pb	**Pb**	**23 28 42.0**	**-1.0**
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	**Pb**	**23 28 43.9**	**-1.3**
RNF				*e*SB	**Sb**	**23 29 17.4**	**+0.3**
RNF	**Rovaniemi**	**2.57**	**116**	Pb	**Pb**	**23 28 43.8**	**-1.3**
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*PB	**Pn**	**23 28 43.3**	**+2.0**
ARE0				*e*SB	**Sb**	**23 29 16.2**	**-1.3**
ARE0	**ARCESS Array S**	**2.58**	**46**	Pb	**Pn**	**23 28 43.2**	**+2.0**
ARE0				Sb	**Sb**	**23 29 16.2**	**-1.3**
KEV	**Kevo**	**3.13**	**49**	*e*SB	**Sb**	**23 29 32.7**	**-0.8**
KEV				MSG		23 29 42.8	
	comp=Z,1.5nm,0.2s						
KEV	**Kevo**	**3.13**	**49**	Sb	**Sb**	**23 29 32.6**	**-0.8**

*SJA **02** 23:44:04.4±0.3, 38°05′S×68°55′W, h305km±123km, MD3.6, ML3.6*
*GUC **02** 23:44:14.2±0.7, 36°35′S×72°94′W, h21km±3km, ML4.0*

ISC 02 23:44:14.0±1.4, 36°36′S±0°06′×72°93′W±0°09, h22km±3km, n10, σ0°91/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.25**	**27**	*e*P	**Pb**	**23 44 20.1**	**0.0**
COCH				*e*S	**Sb**	**23 44 24.6**	**+0.2**
CCSP	**San Pedro de C**	**0.51**	**197**	*e*P	**Pb**	**23 44 24.2**	**-0.1**
CCSP				*e*S	**Sb**	**23 44 31.5**	**+0.3**
CCSP				AML	AML	23 44 33.3	
	comp=E,12µm,0.4s						
LNCH	**Linares**	**1.19**	**65**	*e*P	**Pn**	**23 44 35.2**	**-0.1**
LNCH				*e*S	**Sb**	**23 44 50.5**	**-0.3**
LNCH				AML	AML	23 44 54.8	
	comp=N,2µm,0.5s						
TALC	**Talca**	**1.42**	**48**	*e*P	**Pn**	**23 44 38.3**	**-0.3**
TALC				*e*S	**Sn**	**23 44 57.2**	**+0.6**
NICH	**Los Niches**	**1.93**	**46**	*e*P	**Pn**	**23 44 46.6**	**+1.0**
NICH				*e*S	**Sb**	**23 45 11.9**	**-0.3**
NICH				AML	AML	23 45 19.4	
	comp=N,3µm,0.6s						
CANA	**Caviahue**	**2.13**	**136**	*i* P	**Pb**	**23 44 51.7**	**-0.3**
CANA				*e*S	Sb	23 45 26.8	+8.6
CANA				IAML		23 45 30.9	
	comp=Z,120nm,0.6s						
CLCH	**Cerro Calan**	**3.55**	**34**	*e*P	**Pn**	**23 45 09.0**	**+1.1**
CLCH				*e*S	**Sn**	**23 45 51.3**	**+2.1**
CLCH				AML	AML	23 46 05.3	
	comp=E,407nm,0.1s						
ROCH	**El Roble**	**3.73**	**26**	*e*P	**Pn**	**23 45 09.4**	**-1.1**
ROCH				*e*S	**Sn**	**23 45 53.7**	**-0.2**
ROCH				AML	AML	23 46 20.2	
	comp=N,299nm,0.4s						
AMOG	**MOGNA**	**6.55**	**36**	*e*P	**Pn**	**23 45 47.8**	**-1.3**
AGUA	**GUANDACOL**	**7.80**	**30**	*e*P	**Pn**	**23 46 05.7**	**-0.6**

IDC 03 00:02:58.7±1.9, 1°81′S×128°37′E, h0km, mb3.7/1, mb1 4.2/2, mb1mx3.5/29, mbtmp4.0/2, ML4.3/1, Error ellipse: s-maj=121.6km s-min=25.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.95**	**162**	P	P	00 07 21.3	-0.2
	1.0nm,0.3s,baz=342,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**22.38**	**167**	P	P	00 07 58.6	-0.1
	0.9nm,0.3s,baz=346,slow=12,SNR=25						
MKAR	**Makanchi Array**	**63.02**	**326**	P	P	00 13 27.7	+0.1
	0.1nm,0.6s,baz=110,slow=8.3,SNR=1.7						

*ISCJB **03** 00:05:13.8±0.3, 37°78′N±0°02′×15°13′E±0°03, h8km±3km, mb3.3/2, Error ellipse: s-maj=4.4km s-min=3.1km az=41.4*
*ROM **03** 00:05:13.2±0.2, 37°78′N×15°13′E, h2km±2km, Ml3.4/20, Error ellipse: s-maj=2.0km s-min=1.3km az=140.0*
*IDC **03** 00:05:14.3±2.2, 37°99′N×15°10′E, h0km, mb3.2/2, mb1 3.2/5, mb1mx3.1/30, mbtmp3.0/5, ML2.8/3, Error ellipse: s-maj=47.1km s-min=24.1km az=144.0*
*CSEM **03** 00:05:14.3±0.1, 37°78′N×15°11′E, h2km, ML3.7/6, Error ellipse: s-maj=3.8km s-min=2.7km az=137.0*

ISC 03 00:05:14.2±1.0, 37°77′N±0°02′×15°13′E±0°02, h3km±8km, n81, σ1°08/93, 3C-2D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.15**	**237**	Pg	**Pg**	**00 05 16.0**	**-1.1**
ESLN				Sg	**Sg**	**00 05 19.2**	**+0.1**
	29µm,1.2s						
ESLN	**Serra La Nave**	**0.15**	**237**	Pg	**Pg**	**00 05 16.0**	**-1.1**
ESLN				Sg	**Sg**	**00 05 19.2**	**+0.1**
	29µm,1.2s						
MMME	**Mongiuffi-Meli**	**0.19**	**32**	Pg	**Pg**	**00 05 18.0**	**+0.1**
MMME				Sg	**Sg**	**00 05 20.3**	**-0.1**
	17µm,0.7s						
MMME	**Mongiuffi-Meli**	**0.19**	**32**	Pg	**Pg**	**00 05 18.0**	**+0.1**
MMME				Sg	**Sg**	**00 05 20.3**	**-0.1**
	17µm,0.7s						
ECNV	**Catenanuova**	**0.38**	**242**	Pg	**Pg**	**00 05 22.1**	**+0.7**
ECNV				Sg	**Sb**	**00 05 28.2**	**-1.5**
	18µm,2.1s						
ECNV	**Catenanuova**	**0.38**	**242**	Pg	**Pg**	**00 05 22.1**	**+0.7**
ECNV				Sg	**Sb**	**00 05 28.2**	**-1.5**
	18µm,2.1s						
MNO	**Monte Soro**	**0.38**	**295**	Pg	**Pg**	**00 05 21.3**	**-0.2**
MNO				Sg	**Sg**	**00 05 27.4**	**+0.9**
	8µm,0.8s						
MNO	**Monte Soro**	**0.38**	**295**	Pg	**Pg**	**00 05 21.3**	**-0.2**
MNO				Sg	**Sg**	**00 05 27.4**	**+0.9**
	8µm,0.8s						
GALF	**Gagliano Caste**	**0.45**	**262**	Pg	**Pg**	**00 05 23.5**	**+0.6**
GALF	**Gagliano Caste**	**0.45**	**262**	Pg	**Pg**	**00 05 23.5**	**+0.6**
HCRL	**Carlentini**	**0.49**	**189**	Pg	**Pg**	**00 05 23.8**	**+0.1**
HCRL				Sg	**Sb**	**00 05 32.9**	**-0.2**
	5µm,1.3s						
HCRL	**Carlentini**	**0.49**	**189**	Pg	**Pg**	**00 05 23.8**	**+0.1**
HCRL				Sg	**Sb**	**00 05 32.9**	**-0.2**
	5µm,1.3s						
MTTG	**Motta San Giov**	**0.50**	**63**	Pg	**Pg**	**00 05 24.8**	**+0.9**
	2µm,0.9s						
MTTG	**Motta San Giov**	**0.50**	**63**	Pg	**Pg**	**00 05 24.8**	**+0.9**
	2µm,0.9s						
MILZ	**Milazzo**	**0.50**	**9**	Pg	**Pg**	**00 05 23.6**	**-0.3**
MILZ				Sg	**Sg**	**00 05 31.8**	**+1.4**
	3µm,0.6s						
MILZ	**Milazzo**	**0.50**	**9**	Pg	**Pg**	**00 05 23.6**	**-0.3**
MILZ				Sg	**Sg**	**00 05 31.8**	**+1.4**
	3µm,0.6s						
AGST	**Augusta-Monte**	**0.52**	**171**	Pg	**Pg**	**00 05 24.9**	**+0.7**
	4µm,1.5s						
AGST	**Augusta-Monte**	**0.52**	**171**	Pg	**Pg**	**00 05 24.9**	**+0.7**
	4µm,1.5s						
MSRU	**Castanea**	**0.57**	**31**	Pg	**Pg**	**00 05 25.2**	**0.0**
	2µm,0.6s						
MSRU	**Castanea**	**0.57**	**31**	Pg	**Pg**	**00 05 25.2**	**0.0**
	2µm,0.6s						
VPL	**Vulcano Piano**	**0.61**	**349**	Pg	**Pg**	**00 05 25.5**	**-0.5**
VPL				Sg	**Sb**	**00 05 36.7**	**0.0**
	5µm,0.5s						
VPL	**Vulcano Piano**	**0.61**	**349**	Pg	**Pg**	**00 05 25.5**	**-0.5**
SSY	**Sortino**	**0.62**	**184**	Pg	**Pg**	**00 05 26.1**	**0.0**
	1µm,0.6s						
SSY	**Sortino**	**0.62**	**184**	Pg	**Pg**	**00 05 26.1**	**0.0**
	1µm,0.6s						
LLI	**Lipari**	**0.69**	**348**	Pg	**Pg**	**00 05 27.4**	**0.0**
	11µm,0.8s						
LLI	**Lipari**	**0.69**	**348**	Pg	**Pg**	**00 05 27.4**	**0.0**
	11µm,0.8s						
MPAZ	**Palizzi**	**0.72**	**75**	Pg	**Pb**	**00 05 29.0**	**-0.3**
MPAZ	**Palizzi**	**0.72**	**75**	Pg	**Pb**	**00 05 29.0**	**-0.3**
CEL	**Celeste**	**0.78**	**51**	Pg	**Pg**	**00 05 29.1**	**0.0**
	2µm,1.0s						
CEL	**Celeste**	**0.78**	**51**	Pg	**Pg**	**00 05 29.1**	**0.0**
	2µm,1.0s						
SOI	**Samo**	**0.79**	**68**	Pg	**Pg**	**00 05 29.5**	**+0.1**
	488nm,0.6s						
SOI	**Samo**	**0.79**	**68**	Pg	**Pg**	**00 05 29.5**	**+0.1**
	488nm,0.6s						
PLLN	**Pollina**	**0.81**	**286**	Pg	**Pg**	**00 05 29.9**	**+0.2**
	4µm,1.6s						
PLLN	**Pollina**	**0.81**	**286**	Pg	**Pg**	**00 05 29.9**	**+0.2**
	4µm,1.6s						
HAVL	**Avola**	**0.81**	**180**	Pg	**Pg**	**00 05 29.5**	**-0.3**
	820nm,0.7s						
HAVL	**Avola**	**0.81**	**180**	Pg	**Pg**	**00 05 29.5**	**-0.3**
	820nm,0.7s						
HMDC	**Modica**	**0.86**	**199**	Pg	**Pg**	**00 05 29.8**	**-0.9**
	823nm,0.7s						
HMDC	**Modica**	**0.86**	**199**	Pg	**Pg**	**00 05 29.8**	**-0.9**
	823nm,0.7s						
CSLB	**Castelbuono**	**0.86**	**281**	Pg	**Pg**	**00 05 30.5**	**-0.3**
	927nm,1.0s						
CSLB	**Castelbuono**	**0.86**	**281**	Pg	**Pg**	**00 05 30.5**	**-0.3**
	927nm,1.0s						
GIB	**Gibilmanna**	**0.90**	**284**	Pg	**Pg**	**00 05 30.9**	**-0.5**
	4µm,1.4s						
GIB	**Gibilmanna**	**0.90**	**284**	Pg	**Pg**	**00 05 30.9**	**-0.5**
	4µm,1.4s						
IACL	**Alicudi**	**0.97**	**322**	Pg	**Pg**	**00 05 31.8**	**-1.1**
	2µm,0.7s						
IACL	**Alicudi**	**0.97**	**322**	Pg	**Pg**	**00 05 31.8**	**-1.1**
	2µm,0.7s						
ALJA	**Alia**	**1.09**	**269**	Pg	**Pg**	**00 05 35.2**	**+0.1**
ALJA	**Alia**	**1.09**	**269**	Pg	**Pg**	**00 05 35.2**	**+0.1**
PLAC	**Placanica**	**1.23**	**56**	Pg	**Pg**	**00 05 37.1**	**-0.8**
	856nm,0.9s						
PLAC	**Placanica**	**1.23**	**56**	Pg	**Pg**	**00 05 37.1**	**-0.8**
	856nm,0.9s						
CORL	**Corleone**	**1.45**	**275**	Pg	**Pn**	**00 05 41.0**	**-0.3**
	1µm,1.3s						
CORL	**Corleone**	**1.45**	**275**	Pg	**Pn**	**00 05 41.0**	**-0.3**
	1µm,1.3s						
CRJA	**Costa Raja**	**1.68**	**272**	Pg	**Pb**	**00 05 45.9**	**+0.1**
	752nm,0.7s						
CRJA	**Costa Raja**	**1.68**	**272**	Pg	**Pb**	**00 05 45.9**	**+0.1**
	752nm,0.7s						
SERS	**Sersale**	**1.76**	**44**	Pg	**Pn**	**00 05 44.8**	**-0.8**
	483nm,1.2s						
TAR1	**Taranto**	**3.22**	**31**	*e*Pn	**Pn**	**00 06 05.4**	**-0.2**
CDT	**Castel del Mon**	**3.42**	**15**	*e*Pn	**Pn**	**00 06 09.7**	**+1.3**
BAI	**Bari**	**3.59**	**22**	*e*Pn	**Pn**	**00 06 11.4**	**+0.7**
MS1	**Monte Sant'Ang**	**3.98**	**9**	*e*Pn	**Pn**	**00 06 18.2**	**+2.1**
KEST	**Kesra**	**5.07**	**248**	Pn	**Pn**	**00 06 32.7**	**+1.6**
	0.1nm,0.3s,baz=55,slow=12,SNR=5.3						
KEST				Sn	**Sn**	**00 07 34.4**	**+4.2**
	0.0nm,0.3s,baz=47,slow=19,SNR=2.1						
NEST	**Nestorio**	**5.31**

CLCH	**Cerro Calan**	**3.53**	**38**	AML	AML	00 14 13.9
	comp=E,620nm,0.6s					
PLCA	**Paso Flores**	**4.93**	**157**	*e*Pn	**Pn**	**00 13 29.1 +1.1**
LCO	**Las Campanas**	**7.47**	**16**	*e*Pn	**Pn**	**00 14 02.2 -0.9**
TRQA	**Tornquist**	**9.08**	**105**	*e*Pn	**Pn**	**00 14 26.3 +1.4**
LPAZ	**La Paz**	**20.34**	**14**	*e*P	Pn	00 16 54.0 +1.1
	comp=E,1.1nm,0.6s					
QSPA	**South Pole Qui**	**54.02**	**180**	*e*P	**P**	**00 21 38.4 +1.3**
	comp=E,7.2nm,1.3s					

GUC 03 00:21:49.7±0.6, 35°14S×72°59W, h14km±3km, ML3.9, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.82**	**109**	⇓*i*P	Pg	00 22 01.6	-4.1
TALC				*i* S	Sg	00 22 12.5	-4.0
COCH	**Cobquecura**	**1.00**	**189**	⇑*i*P	Pb	00 22 07.5	-1.3
COCH				*i* S	Sb	00 22 20.8	-1.2
LNCH	**Linares**	**1.07**	**132**	⇑*i*P	Pb	00 22 09.2	-0.9
LNCH				*i* S	Sb	00 22 24.0	0.0
NICH	**Los Niches**	**1.12**	**83**	⇓*i*P	Pb	00 22 09.2	-1.7
NICH				*i* S	Sb	00 22 24.5	-1.0
CLCH	**Cerro Calan**	**2.43**	**45**	*e*P	Pn	00 22 29.8	+0.6
CLCH				*i* S	Sn	00 23 00.8	+2.0
CLCH				AML	AML	00 23 13.6	
	comp=E,775nm,0.5s						
ROCH	**El Roble**	**2.53**	**32**	*e*P	Pn	00 22 28.8	-1.9
ROCH				*e*S	Sn	00 23 00.6	-0.9
ROCH				AML	AML	00 23 10.6	
	comp=N,447nm,0.5s						
PEL	**Peldehue**	**2.54**	**39**	⇑*i*P	Pn	00 22 31.6	+1.0
PEL				*i* S	Sn	00 23 03.4	+2.0
PEL				AML	AML	00 23 10.0	
	comp=E,655nm,0.5s						

*IDC **03** 00:37:51.9±0.8, 54°.04N×35°.32W, h0km, mb3.5/13, mb1 3.7/16, mb1mx3.6/48, mbtmp3.5/16, ML3.0/3, Error ellipse: s-maj=27.2km s-min=13.0km az=8.0*
*ISCJB **03** 00:37:52.5±0.7, 54°.1N±0°.2×35°.3W±0°.1, h16km, mb3.5/13, Error ellipse: s-maj=22.0km s-min=9.1km az=7.7*
ISC 03 00:37:54.3±0.8, 54°.1N±0°.2×35°.34W±0°.08, h16km, n17, σ0°68/17, mb3.5/13, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.26**	**285**	P	**P**	**00 42 07.0**	**+0.2**
	0.3nm,0.3s,baz=70,slow=9.0,SNR=8.7						
EKA	**Eskdalemuir Ar**	**18.56**	**73**	P	**Pn**	**00 42 10.6**	**+0.2**
	baz=272,slow=11,SNR=4.1						
FRB	**Frobisher Bay**	**19.47**	**313**	P	**Pn**	**00 42 20.6**	**-0.6**
	0.1nm,0.3s,baz=104,slow=10,SNR=4.2						
ESDC	**Sonseca Array**	**25.57**	**111**	P	**P**	**00 43 23.0**	**+0.7**
	0.6nm,0.7s,baz=312,slow=9.5,SNR=4.1						
SADO	**Sadowa**	**29.54**	**270**	P	**P**	**00 43 57.8**	**-0.1**
	2.8nm,0.8s,baz=54,slow=8.7,SNR=2.8						
GERES	**GERESS Array B**	**30.49**	**79**	P	**P**	**00 44 05.5**	**-0.8**
	0.3nm,0.7s,baz=294,slow=9.6,SNR=2.9						
AKASG	**Malin Array Be**	**38.33**	**68**	P	**P**	**00 45 14.0**	**+0.1**
	0.4nm,0.4s,baz=310,slow=8.7,SNR=4.1						
YKA	**Yellowknife Ar**	**39.97**	**315**	P	**P**	**00 45 26.4**	**-1.1**
	0.4nm,0.6s,baz=62,slow=8.7,SNR=8.9						
BRTR	**Keskin Array B**	**47.37**	**78**	P	**P**	**00 46 28.1**	**+0.7**
	1.1nm,1.0s,baz=347,slow=5.1,SNR=4.0						
PDAR	**Pinedale Array**	**48.35**	**288**	P	**P**	**00 46 35.6**	**+0.4**
	0.5nm,0.6s,baz=56,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**50.13**	**130**	P	**P**	**00 46 47.9**	**-0.9**
	0.8nm,0.8s,baz=329,slow=7.7,SNR=8.0						
ILAR	**Eielson Array**	**50.43**	**329**	P	**P**	**00 46 51.2**	**+0.7**
	0.3nm,0.8s,baz=51,slow=5.9,SNR=3.2						
TXAR	**Lajitas Array**	**54.28**	**272**	P	**P**	**00 47 20.4**	**+0.7**
	0.2nm,0.6s,baz=58,slow=8.6,SNR=3.0						
BVAR	**Borovoye Array**	**56.82**	**44**	P	**P**	**00 47 38.2**	**+0.7**
	0.3nm,0.6s,baz=336,slow=6.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**61.55**	**36**	P	**P**	**00 48 10.4**	**+0.3**
	0.3nm,0.5s,baz=317,slow=8.1,SNR=2.6						
MKAR	**Makanchi Array**	**66.48**	**42**	P	**P**	**00 48 42.3**	**-0.4**
	0.2nm,0.6s,baz=343,slow=5.6,SNR=2.9						
ASAR	**Alice Springs**	**148.59**	**19**	PKPbc	**PKPbc**	**00 57 39.7**	**-0.6**
	0.8nm,0.6s,baz=352,slow=2.5,SNR=14						

IDC 03 00:39:30.2±2.1, 5°41S×129°47E, h0km, mb3.7/1, mb1 4.3/3, mb1mx3.6/25, mbtmp4.1/3, ML4.1/2, Error ellipse: s-maj=137.5km s-min=29.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.21**	**162**	Pn	Pn	00 43 07.7	+1.2
	0.6nm,0.3s,baz=341,slow=12,SNR=8.9						
WRA				Sn	Sn	00 45 44.5	-11
	0.3nm,0.3s,baz=345,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**18.65**	**167**	P	P	00 43 49.1	-0.8
	1.2nm,0.3s,baz=345,slow=10,SNR=101						
ASAR				S	Sn	00 47 00.3	-19
	0.1nm,0.3s,baz=350,slow=22,SNR=3.6						
MKAR	**Makanchi Array**	**66.61**	**327**	P	P	00 50 22.6	0.0
	0.4nm,0.4s,baz=126,slow=8.1,SNR=9.3						

IDC 03 00:57:26.5±1.9, 7°74S×123°70E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/36, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=202.6km s-min=27.3km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.92**	**141**	Pn	Pn	01 01 10.8	-1.4
	0.4nm,0.3s,baz=332,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**18.62**	**149**	P	Pn	01 01 46.3	+0.3
	0.5nm,0.3s,baz=342,slow=11,SNR=38						
SONM	**Songino Array**	**57.41**	**346**	P	P	01 07 17.8	+0.8
	0.4nm,0.5s,baz=148,slow=8.5,SNR=4.3						
MKAR	**Makanchi Array**	**65.58**	**330**	P	P	01 08 11.5	-0.6
	0.1nm,0.5s,baz=128,slow=6.9,SNR=3.8						

MAN 03 00:57:55, 15°57N×120°83E, h35km, mb4.3, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.25**	**92**	⇓*i*P	Pn	00 58 04.7	+2.3
PCPH				*i* S	Sn	00 58 10.9	+3.5
BALP	**Baler**	**0.73**	**77**	*e*P	Pn	00 58 12.9	+4.1
BALP				*e*S	Sn	00 58 23.4	+4.6
SCZP	**Santa Cruz**	**0.91**	**283**	*e*P	Pn	00 58 11.9	+0.6
SCZP				*e*S	Sn	00 58 20.8	-2.5
BOLP	**Bolinao**	**1.20**	**312**	*e*P	Pn	00 58 17.8	+2.6
BOLP				*e*S	Sn	00 58 27.4	-2.8
APYP	**Conner**	**2.31**	**10**	*e*P	Pn	00 58 31.7	+1.1
APYP				*e*S	Sn	00 58 56.6	-1.2

WEL 03 00:58:14.1±0.3, 37°59S×178°30E, h38km±2km, ML3.7/4, 2C-1D, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.03**	**15**	⇓PN	Pn	00 58 20.1	-0.1
MXZ				SN	Sn	00 58 24.9	+0.4
MXZ				AML	AML	00 58 25.4	
MXZ				AML	AML	00 58 26.1	
MXZ				AML	AML	00 58 26.2	
WMGZ	**Waiomatatini S**	**0.24**	**157**	⇑PN	Pn	00 58 21.5	-0.9
WMGZ				SN	Sn	00 58 27.3	-2.4
HAZ	**Te Kaha**	**0.44**	**248**	PN	Pn	00 58 23.4	-0.4
HAZ				SN	Sn	00 58 30.4	-0.3
HAZ				SN		00 58 30.5	
PUZ	**Puketiti**	**0.48**	**184**	PN	Pn	00 58 24.0	-0.5
PUZ				SN	Sn	00 58 31.9	+0.1
PUZ				AML	AML	00 58 32.9	
TWGZ	**Tauwhareparae**	**0.63**	**203**	PN	Pn	00 58 26.6	-0.2
TWGZ				SN	Sn	00 58 37.3	+1.6
CNGZ	**Carnagh Statio**	**0.89**	**185**	PN	Pn	00 58 29.9	-0.2
MWZ	**Matawai**	**0.96**	**219**	PN	Pn	00 58 31.0	-0.1
MWZ				AML	AML	00 58 45.1	
MWZ				AML	AML	00 58 46.3	
MWZ				AML	AML	00 58 49.7	
MWZ				AML	AML	00 58 49.7	
URZ	**Urewera**	**1.15**	**234**	⇑PN	Pn	00 58 33.6	-0.1
URZ				SN	Sn	00 58 48.3	+0.2
URZ				AML	AML	00 58 51.2	
RIGZ	**Rimuhau**	**1.19**	**201**	PN	Pn	00 58 33.6	-0.6
PRGZ	**Paritu Road**	**1.37**	**194**	PN	Pn	00 58 35.6	-1.1
SNGZ	**Shannon Statio**	**1.41**	**212**	PN	Pn	00 58 37.3	+0.1
KNZ	**Kokohu**	**1.51**	**199**	PN	Pn	00 58 36.4	-2.1
TARZ	**Mount Tarawera**	**1.56**	**245**	PN	Pn	00 58 39.6	+0.3
MHGZ	**Mahia Peninsul**	**1.59**	**191**	PN	Pn	00 58 38.3	-1.4
RRRZ	**Republican Roa**	**1.59**	**242**	PN	Pn	00 58 39.7	-0.1
ARHZ	**Aropaoanui**	**1.96**	**211**	PN	Pn	00 58 44.6	-0.1
BKZ	**Black Stump Fm**	**2.12**	**222**	PN	Pn	00 58 46.8	-0.2
KAHZ	**Kahuranaki**	**2.46**	**206**	PN	Pn	00 58 49.9	-1.8
PXZ	**Pawanui**	**2.68**	**204**	PN	Pn	00 58 52.1	-2.6
PXZ				SN	Sn	00 59 22.6	-3.2
FWVZ	**Far West T-bar**	**2.72**	**232**	PN	Pn	00 58 55.5	-0.1
WNVZ	**Wahianoa**	**2.74**	**230**	PN	Pn	00 58 55.3	-0.3

*DDA **03** 01:01:53.6, 34°.38N×26°.91E, h26km, ML3.2*
*CSEM **03** 01:01:54.9±0.3, 34°.29N×27°.46E, h80km, ML3.3, Error ellipse: s-maj=8.6km s-min=3.5km az=175.0*
*IDC **03** 01:01:54.6±1.3, 34°.78N×27°.13E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.4/32, mbtmp3.5/10, ML3.8/3, Error ellipse: s-maj=25.5km s-min=22.4km az=169.0*
*ISCJB **03** 01:01:59.0±0.7, 34°.70N±0°.05×27°.23E±0°.03, h68km±6km, mb3.3/7, Error ellipse: s-maj=8.9km s-min=4.0km az=162.5*
*ATH **03** 01:02:02.7, 34°.92N×26°.97E, h75km±2km, ML3.3*
*THE **03** 01:02:04.1, 34°.84N×27°.04E, h58km±4km, ML3.0/3, Error ellipse: s-maj=4.4km s-min=1.0km az=343.0*
ISC 03 01:02:01.0±1.1, 34°.72N±0°.06×27°.19E±0°.03, h59km±11km, n175, σ1°12/183, mb3.3/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.82**	**358**	P	**Pn**	**01 02 17.9**	**+1.2**
KARP				S	**Sn**	**01 02 28.3**	**-0.1**
KARP	**Karpathos**	**0.82**	**358**	*e*P	**Pn**	**01 02 18.0**	**+1.2**
KARP	**Karpathos**	**0.82**	**358**	*e*P	**Pn**	**01 02 18.0**	**+1.2**
ZKR	**Zakros**	**0.89**	**296**	P	**Pn**	**01 02 17.3**	**-0.3**
ZKR				S	**Sn**	**01 02 28.9**	**-0.9**
ZKR	**Zakros**	**0.89**	**296**	*e*P	**Pn**	**01 02 17.7**	**+0.1**
ZKR	**Zakros**	**0.89**	**296**	*e*P	**Pn**	**01 02 17.7**	**+0.1**
NPS	**Neapolis**	**1.40**	**293**	P	**Pn**	**01 02 25.0**	**+0.6**
NPS	**Neapolis**	**1.40**	**293**	*e*P	**Pn**	**01 02 24.8**	**+0.4**
NPS	**Neapolis**	**1.40**	**293**	*e*P	**Pn**	**01 02 24.8**	**+0.4**
LAST	**Lasithi**	**1.47**	**288**	P	**Pn**	**01 02 25.8**	**+0.4**
LAST	**Lasithi**	**1.47**	**288**	*e*P	**Pn**	**01 02 25.7**	**+0.4**
LAST	**Lasithi**	**1.47**	**288**	*e*P	**Pn**	**01 02 25.7**	**+0.4**
ARG	**Arkhangelos**	**1.68**	**27**	P	**Pn**	**01 02 30.1**	**+2.1**
ARG				S	**Sn**	**01 02 50.0**	**+1.5**
ARG	**Arkhangelos**	**1.68**	**27**	*e*P	**Pn**	**01 02 30.4**	**+2.4**
ARG	**Arkhangelos**	**1.68**	**27**	P	**Pn**	**01 02 30.1**	**+2.1**
ARG				S	**Sn**	**01 02 50.0**	**+1.5**
NIS1	**Nisyros Isl.**	**1.88**	**360**	P	**Pn**	**01 02 31.6**	**+0.8**
NIS1				S	**Sn**	**01 02 53.1**	**-0.3**
NIS1	**Nisyros Isl.**	**1.88**	**360**	*e*Pn	**Pn**	**01 02 31.0**	**+0.2**
NIS1	**Nisyros Isl.**	**1.88**	**360**	*e*P	**Pn**	**01 02 31.8**	**+1.0**
NIS1	**Nisyros Isl.**	**1.88**	**360**	*e*Pn	**Pn**	**01 02 31.0**	**+0.2**
NIS1	**Nisyros Isl.**	**1.88**	**360**	P	**Pn**	**01 02 31.6**	**+0.8**
IDI	**Anoyia**	**1.97**	**287**	Pn	**Pn**	**01 02 32.9**	**+0.8**
	6.8nm,0.3s,baz=152,slow=5.9,SNR=95						
IDI				Sn	**Sn**	**01 02 55.4**	**-0.4**
	8.7nm,0.3s,baz=171,slow=22,SNR=6.1						
SIVA	**Sivas**	**1.98**	**279**	P	**Pn**	**01 02 33.0**	**+0.8**
SIVA	**Sivas**	**1.98**	**279**	*e*P	**Pn**	**01 02 32.9**	**+0.8**
SIVA	**Sivas**	**1.98**	**279**	*e*P	**Pn**	**01 02 32.9**	**+0.8**
SANT	**Santorini**	**2.17**	**320**	*e*P	**Pn**	**01 02 34.7**	**-0.1**
SANT	**Santorini**	**2.17**	**320**	*e*P	**Pn**	**01 02 34.7**	**-0.1**
THR6	**Thira Island,**	**2.19**	**319**	P	**Pn**	**01 02 35.4**	**+0.4**
THR6	**Thira Island,**	**2.19**	**319**	P	**Pn**	**01 02 35.4**	**+0.4**
THR2	**Thira island,**	**2.24**	**321**	P	**Pn**	**01 02 35.2**	**-0.5**
THR2	**Thira island,**	**2.24**	**321**	P	**Pn**	**01 02 35.2**	**-0.5**
THR5	**Thira Island,**	**2.26**	**319**	P	**Pn**	**01 02 36.0**	**0.0**
THR5	**Thira Island,**	**2.26**	**319**	*e*PN	**Pn**	**01 02 35.5**	**-0.5**
THR5	**Thira Island,**	**2.26**	**319**	*e*Pn	**Pn**	**01 02 35.5**	**-0.5**
THR5	**Thira Island,**	**2.26**	**319**	P	**Pn**	**01 02 36.0**	**0.0**
BODT	**Bodrum**	**2.34**	**2**	*e*PN	**Pn**	**01 02 37.2**	**+0.1**
BODT	**Bodrum**	**2.34**	**2**	*e*Pn	**Pn**	**01 02 37.2**	**+0.1**
BDRM	**Kayabasi**	**2.35**	**5**	*i* P	**Pn**	**01 02 37.8**	**+0.6**
BDRM				*i* S	**Sn**	**01 03 05.9**	**+1.0**
BDRM	**Kayabasi**	**2.35**	**5**	*i* P	**Pn**	**01 02 37.8**	**+0.6**
BDRM				*i* S	**Sn**	**01 03 05.9**	**+1.0**
TURN	**Turunc**	**2.44**	**28**	*i* S	**Sn**	**01 03 05.2**	**-1.7**
TURN	**Turunc**	**2.44**	**28**	*i* P	**Pn**	**01 02 37.2**	**-1.2**
TURN				*i* S	**Sn**	**01 03 05.2**	**-1.7**
FETY	**Fethiye**	**2.45**	**38**	*e*PN	**Pn**	**01 02 36.7**	**-2.0**
FETY	**Fethiye**	**2.45**	**38**	*e*Pn	**Pn**	**01 02 36.7**	**-2.0**
AKAS	**Kas**	**2.48**	**52**	*i* P	**Pn**	**01 02 40.1**	**+1.0**
AKAS				*i* S	**Sn**	**01 03 09.9**	**+1.6**
AKAS	**Kas**	**2.48**	**52**	*i* P	**Pn**	**01 02 40.1**	**+1.0**
AKAS				*i* S	**Sn**	**01 03 09.9**	**+1.6**
VAM	**Vamos**	**2.55**	**286**	P	**Pn**	**01 02 39.5**	**-0.5**
VAM	**Vamos**	**2.55**	**286**	*e*P	**Pn**	**01 02 39.4**	**-0.5**
VAM				*e*S	**Sn**	**01 03 07.8**	**-1.9**
VAM	**Vamos**	**2.55**	**286**	*e*P	**Pn**	**01 02 39.4**	**-0.5**
VAM				*e*S	**Sn**	**01 03 07.8**	**-1.9**
YER	**Yerkesik**	**2.57**	**20**	*e*PN	**Pn**	**01 02 39.4**	**-0.8**
YER	**Yerkesik**	**2.57**	**20**	*e*Pn	**Pn**	**01 02 39.4**	**-0.8**
APE	**Apeiranthos**	**2.70**	**331**	P	**Pn**	**01 02 42.0**	**-0.1**
APE				S	**Sn**	**01 03 12.2**	**-1.4**
APE	**Apeiranthos**	**2.70**	**331**	*e*PN	**Pn**	**01 02 41.9**	**-0.2**
APE	**Apeiranthos**	**2.70**	**331**	*e*P	**Pn**	**01 02 42.2**	**+0.1**
APE				*e*S	**Sn**	**01 03 10.7**	**-2.9**
APE	**Apeiranthos**	**2.70**	**331**	*e*Pn	**Pn**	**01 02 41.9**	**-0.2**
APE	**Apeiranthos**	**2.70**	**331**	*e*P	**Pn**	**01 02 42.2**	**+0.1**
APE				*e*S	**Sn**	**01 03 10.7**	**-2.9**
KARN	**Karanos**	**2.77**	**285**	P	**Pn**	**01 02 43.9**	**+1.0**
KARN	**Karanos**	**2.77**	**285**	*e*P	**Pn**	**01 02 44.0**	**+1.0**
KARN	**Karanos**	**2.77**	**285**	P	**Pn**	**01 02 43.9**	**+1.0**
SMG	**Samos**	**3.00**	**355**	*e*P	**Pn**	**01 02 46.1**	**+0.1**
SMG	**Samos**	**3.00**	**355**	*e*P	**Pn**	**01 02 46.1**	**+0.1**
ELL	**Elmali**	**3.00**	**47**	*e*PN	**Pn**	**01 02 43.1**	**-3.0**
ELL	**Elmali**	**3.00**	**47**	*e*Pn	**Pn**	**01 02 43.2**	**-3.0**
AYDB	**Zeytinkoy-Aydi**	**3.27**	**10**	*e*PN	**Pn**	**01 02 50.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**3.27**	**10**	*e*Pn	**Pn**	**01 02 50.2**	**+0.3**
ANKY	**Antikythira Is**	**3.38**	**291**	*e*P	**Pn**	**01 02 51.4**	**+0.1**
ANKY	**Antikythira Is**	**3.38**	**291**	*e*P	**Pn**	**01 02 51.4**	**+0.1**
KORT	**Korkueli**	**3.43**	**48**	*i* P	**Pn**	**01 02 54.0**	**+2.0**
KORT				*i* S	**Sn**	**01 03 35.1**	**+3.6**
ANTB	**Antalya**	**3.56**	**51**	*e*PN	Pn	01 02 50.1	-3.5
ANTB	**Antalya**	**3.56**	**51**	*e*Pn	Pn	01 02 50.2	-3.5
BLCB	**Balcova**	**3.66**	**358**	*e*PN	**Pn**	**01 02 55.0**	**-0.1**
BLCB	**Balcova**	**3.66**	**358**	*e*Pn	**Pn**	**01 02 55.0**	**-0.1**
KYTH	**Kithira**	**3.73**	**296**	*e*P	**Pn**	**01 02 55.8**	**-0.3**
KYTH	**Kithira**	**3.73**	**296**	*e*P	**Pn**	**01 02 55.8**	**-0.3**
BCK	**Bucak**	**3.88**	**44**	*e*PN	**Pn**	**01 02 55.0**	**-3.2**
KULA	**Kula-Manisa**	**3.97**	**17**	*e*PN	**Pn**	**01 02 58.8**	**-0.6**
KULA	**Kula-Manisa**	**3.97**	**17**	*e*Pn	**Pn**	**01 02 58.8**	**-0.6**
VLI	**Veliai**	**3.99**	**301**	*e*P	**Pn**	**01 02 59.0**	**-0.7**
VLI	**Veliai**	**3.99**	**301**	*e*P	**Pn**	**01 02 59.0**	**-0.7**
AKS	**Akhisar**	**4.18**	**7**	*e*PN	**Pn**	**01 03 02.5**	**+0.3**
AKS	**Akhisar**	**4.18**	**7**	*e*Pn	**Pn**	**01 03 02.5**	**+0.3**
PTL	**Penteli**	**4.27**	**322**	*e*P	**Pn**	**01 03 03.8**	**+0.3**
PTL	**Penteli**	**4.27**	**322**	*e*P	**Pn**	**01 03 03.8**	**+0.3**
ATH	**Athens Observa**	**4.29**	**320**	*e*P	**Pn**	**01 03 04.4**	**+0.7**
ATH	**Athens Observa**	**4.29**	**320**	*e*P	**Pn**	**01 03 04.4**	**+0.7**
SHUT	**Suhut-Afyon**	**4.68**	**34**	*e*PN	**Pn**	**01 03 06.8**	**-2.4**
SHUT	**Suhut-Afyon**	**4.68**	**34**	*e*Pn	**Pn**	**01 03 06.8**	**-2.4**
LEF	**Lefka**	**4.70**	**84**	*e*PN	Pn	01 03 00.4	-9.0
LEF	**Lefka**	**4.70**	**84**	*e*Pn	Pn	01 03 00.4	-9.0
VLX	**Vlachokerasia**	**4.71**	**306**	*e*P	**Pn**	**01 03 09.0**	**-0.6**
VLX	**Vlachokerasia**	**4.71**	**306**	*e*P	**Pn**	**01 03 09.0**	**-0.6**
LTK	**Loutraki**	**4.74**	**315**	*e*P	**Pn**	**01 03 10.6**	**+0.7**
LTK	**Loutraki**	**4.74**	**315**	*e*P	**Pn**	**01 03 10.6**	**+0.7**
MRKA	**Markates**	**4.92**	**325**	*e*P	**Pn**	**01 03 12.9**	**+0.5**
MRKA	**Markates**	**4.92**	**325**	*e*P	**Pn**	**01 03 12.9**	**+0.5**
ITM	**Ithomi**	**4.92**	**301**	*e*P	**Pn**	**01 03 12.1**	**-0.4**
ITM	**Ithomi**	**4.92**	**301**	*e*P	**Pn**	**01 03 12.1**	**-0.4**
BALB	**Balikesir**	**4.94**	**6**	*e*PN	**Pn**	**01 03 12.8**	**+0.2**
BALB	**Balikesir**	**4.94**	**6**	*e*Pn	**Pn**	**01 03 12.8**	**+0.2**
CSS	**Prodhromos**	**5.05**	**86**	*e*PN	Pn	01 03 04.9	-9.3
CSS	**Prodhromos**	**5.05**	**86**	*e*Pn	Pn	01 03 04.9	-9.3
TVSB	**Tavsanli**	**5.06**	**20**	*e*PN	**Pn**	**01 03 13.3**	**-1.0**
TVSB	**Tavsanli**	**5.06**	**20**	*e*Pn	**Pn**	**01 03 13.3**	**-1.0**
GUR	**Goura**	**5.06**	**311**	*e*P	**Pn**	**01 03 13.7**	**-0.7**
GUR	**Goura**	**5.06**	**311**	*e*P	**Pn**	**01 03 13.7**	**-0.7**
LKR	**Lokris**	**5.17**	**321**	*e*P	**Pn**	**01 03 16.5**	**+0.7**
LKR	**Lokris**	**5.17**	**321**	*e*P	**Pn**	**01 03 16.5**	**+0.7**
SMIA	**Simia**	**5.24**	**324**	*e*P	**Pn**	**01 03 16.6**	**-0.1**
SMIA	**Simia**	**5.24**	**324**	*e*P	**Pn**	**01 03 16.6**	**-0.1**
KLV	**Kalavryta, Ach**	**5.25**	**311**	*e*P	**Pn**	**01 03 16.8**	**-0.1**
KLV	**Kalavryta, Ach**	**5.25**	**311**	*e*P	**Pn**	**01 03 16.8**	**-0.1**
AMT	**Artemida-Makis**	**5.25**	**304**	*e*P	**Pn**	**01 03 17.3**	**+0.4**
AMT	**Artemida-Makis**	**5.25**	**304**	*e*P	**Pn**	**01 03 17.3**	**+0.4**
KONT	**Konya--Tatoy**	**5.27**	**51**	*e*PN	Pn	01 03 13.3	-3.9
KONT	**Konya--Tatoy**	**5.27**	**51**	*e*Pn	Pn	01 03 13.3	-3.9
AXAR	**Agios Charalam**	**5.43**	**319**	*e*P	**Pn**	**01 03 20.3**	**+0.9**
AXAR	**Agios Charalam**	**5.43**	**319**	*e*P	**Pn**	**01 03 20.3**	**+0.9**
KALE	**Kalithea**	**5.47**	**313**	*e*P	**Pn**	**01 03 20.4**	**+0.4**
KALE	**Kalithea**	**5.47**	**313**	*e*P	**Pn**	**01 03 20.4**	**+0.4**
NEO	**Neokhori**	**5.57**	**326**	*e*P	**Pn**	**01 03 21.2**	**-0.1**
NEO	**Neokhori**	**5.57**	**326**	*e*P	**Pn**	**01 03 21.2**	**-0.1**
EFP	**Efpalio**	**5.63**	**313**	*e*P	**Pn**	**01 03 22.0**	**-0.2**
EFP	**Efpalio**	**5.63**	**313**	*e*P	**Pn**	**01 03 22.0**	**-0.2**
KRBG	**Karabiga-Canak**	**5.66**	**1**	*e*PN	**Pn**	**01 03 22.5**	**0.0**
KRBG	**Karabiga-Canak**	**5.66**	**1**	*e*Pn	**Pn**	**01 03 22.5**	**0.0**
RLS	**Riolos of Patr**	**5.69**	**307**	*e*P	**Pn**	**01 03 23.6**	**+0.7**
RLS	**Riolos of Patr**	**5.69**	**307**	*e*P	**Pn**	**01 03 23.6**	**+0.7**
GELI	**Tayfur-Gelibol**	**5.70**	**354**	*e*PN	**Pn**	**01 03 23.0**	**0.0**
GELI	**Tayfur-Gelibol**	**5.70**	**354**	*e*Pn	**Pn**	**01 03 23.0**	**0.0**
EREN	**Erenkoy**	**5.78**	**80**	*e*PN	Pn	01 03 15.5	-8.6
EREN	**Erenkoy**	**5.78**	**80**	*e*Pn	Pn	01 03 15.5	-8.6
AGG	**Agios Georgios**	**5.80**	**319**	*e*P	**Pn**	**01 03 25.3**	**+0.9**
AGG	**Agios Georgios**	**5.80**	**319**	*e*P	**Pn**	**01 03 25.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**5.90**	**318**	*e*P	**Pn**	**01 03 26.6**	**+0.8**
MAKR	**Makrakomi, Fth**	**5.90**	**318**	*e*P	**Pn**	**01 03 26.6**	**+0.8**
EVR	**Evrytania**	**6.01**	**316**	*e*P	**Pn**	**01 03 28.0**	**+0.6**
EVR	**Evrytania**	**6.01**	**316**	*e*P	**Pn**	**01 03 28.0**	**+0.6**
PDO	**Prodromos**	**6.19**	**310**	*e*P	**Pn**	**01 03 29.3**	**-0.4**
PDO	**Prodromos**	**6.19**	**310**	*e*P	**Pn**	**01 03 29.3**	**-0.4**
ALN	**Alexandroupoli**	**6.23**	**352**	*e*P	**Pn**	**01 03 31.8**	**+1.5**
ALN	**Alexandroupoli**	**6.23**	**352**	*e*P	**Pn**	**01 03 31.8**	**+1.5**
VLS	**Valsamata**	**6.34**	**305**	*e*P	**Pn**	**01 03 31.0**	**-0.8**
VLS	**Valsamata**	**6.34**	**305**	*e*P	**Pn**	**01 03 31.0**	**-0.8**
THL	**Klokotos Trika**	**6.36**	**321**	*e*P	**Pn**	**01 03 33.2**	**+1.1**
THL				*e*S	Sn	01 04 37.7	-5.6
THL	**Klokotos Trika**	**6.36**	**321**	*e*P	**Pn**	**01 03 33.2**	**+1.1**
THL				*e*S	Sn	01 04 37.7	-5.6
DSL	**Palaion Diasel**	**6.57**	**314**	*e*P	**Pn**	**01 03 34.7**	**-0.3**
DSL	**Palaion Diasel**	**6.57**

FIAM				Sg	Sg	01 06 13.3	+1.2		
	47nm,0.4s								
LNSS	**Leonessa**	**0.25**	**304**	Pg	Pg	01 06 09.0	+0.4		
LNSS				Sg	Sg	01 06 13.1	+0.9		
	53nm,0.2s								
LNSS	**Leonessa**	**0.25**	**304**	Pg	Pg	01 06 09.0	+0.4		
LNSS				Sg	Sg	01 06 13.1	+0.9		
	53nm,0.2s								
TERO	**Teramo**	**0.26**	**53**	Pg	Pg	01 06 09.0	+0.2		
TERO				Sg	Sg	01 06 13.3	+0.7		
	41nm,0.1s								
TERO	**Teramo**	**0.26**	**53**	Pg	Pg	01 06 09.0	+0.2		
TERO				Sg	Sg	01 06 13.3	+0.7		
	41nm,0.1s								
FAGN	**Fagnano**	**0.28**	**135**	Pg	Pg	01 06 09.5	+0.4		
FAGN				Sg	Sb	01 06 14.6	-0.6		
	75nm,0.3s								
FAGN	**Fagnano**	**0.28**	**135**	Pg	Pg	01 06 09.5	+0.4		
FAGN				Sg	Sb	01 06 14.6	-0.6		
	75nm,0.3s								
VCEL	**Villa Celiera**	**0.39**	**100**	Pg	Pg	01 06 11.8	+0.5		
VCEL				Sg	Sb	01 06 17.7	-0.9		
VCEL	**Villa Celiera**	**0.39**	**100**	Pg	Pg	01 06 11.8	+0.5		
VCEL				Sg	Sb	01 06 17.7	-0.9		
NRCA	**Norcia**	**0.40**	**338**	Pg	Pg	01 06 11.4	0.0		
NRCA				Sg	Sg	01 06 17.6	+0.8		
	102nm,0.1s								
NRCA	**Norcia**	**0.40**	**338**	Pg	Pg	01 06 11.4	0.0		
NRCA				Sg	Sg	01 06 17.6	+0.8		
	102nm,0.1s								
T0110	**Collepietro**	**0.42**	**125**	Pg	Pg	01 06 11.7	0.0		
PTQR	**Pietraquaria**	**0.45**	**172**	Pg	Pg	01 06 12.1	-0.1		
PTQR				Sg	Sg	01 06 18.9	+0.7		
	3.0nm,0.2s								
PTQR	**Pietraquaria**	**0.45**	**172**	Pg	Pg	01 06 12.1	-0.1		
PTQR				Sg	Sg	01 06 18.9	+0.7		
	3.0nm,0.2s								
MNS	**Montasola**	**0.48**	**261**	Pg	Pg	01 06 12.6	-0.2		
MNS	**Montasola**	**0.48**	**261**	Pg	Pg	01 06 12.6	-0.2		
FDMO	**Fiordimonte**	**0.60**	**344**	Pg	Pg	01 06 15.0	0.0		
FDMO				Sg	Sb	01 06 24.1	-0.2		
FDMO	**Fiordimonte**	**0.60**	**344**	Pg	Pg	01 06 15.0	0.0		
FDMO				Sg	Sb	01 06 24.1	-0.2		
CESI	**CESI - Serrava**	**0.62**	**331**	Pg	Pg	01 06 15.3	-0.2		
CESI				Sg	Sb	01 06 25.1	0.0		
CESI	**CESI - Serrava**	**0.62**	**331**	Pg	Pg	01 06 15.3	-0.2		
CESI				Sg	Sb	01 06 25.1	0.0		

*KRSC **03** 01:12:25.1±0.7, 55.15N×160.35E, h-1km±3km, ML3.9*
*MOS **03** 01:12:25.2±1.3, 55.17N×160.38E, h2km, mb4.2/1, Error ellipse: s-maj=28.1km s-min=11.2km az=90.8*

ISC 03 01:12:26.1±1.0, 55.14N±0.02×160.34E±0.03, h6km±7km, n37, σ099/59, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.04**	**226**	*i* P	**Pg**	**01 12 27.6**	**0.0**
TUMR	**Tumrok**	**0.18**	**322**	*i* P	**Pg**	**01 12 29.7**	**-0.1**
KMNR	**Kamenistaya**	**0.62**	**355**	*i* P	**Pg**	**01 12 37.7**	**-0.4**
KMNR				*e*S	**Sb**	**01 12 48.4**	**-0.1**
KIRR	**Kirishev**	**0.82**	**0**	S	**Sb**	**01 12 54.6**	**+0.5**
KPT	**Kopyto**	**0.83**	**355**	P	**Pb**	**01 12 42.9**	**-0.1**
KOZ	**Kozyrevsk**	**0.96**	**344**	P	**Pb**	**01 12 44.7**	**-0.5**
KOZ				S	**Sn**	**01 13 01.2**	**+1.1**
KOZR	**Kozyr**	**0.96**	**345**	PN	**Pb**	**01 12 44.7**	**-0.5**
KOZR				S	**Sn**	**01 13 01.2**	**+1.0**
MKZ	**Mys Kozlova**	**0.99**	**125**	PN	**Pg**	**01 12 44.8**	**-0.4**
MKZ				S	**Sn**	**01 13 00.0**	**-0.8**
MKZ	**Mys Kozlova**	**0.99**	**125**	P	**Pg**	**01 12 44.8**	**-0.4**
MKZ				*e*S	**Sn**	**01 13 00.0**	**-0.8**
KLY	**Klyuchi**	**1.19**	**8**	S	**Sn**	**01 13 06.2**	**+0.5**
ESO	**Esso**	**1.22**	**311**	PN	**Pg**	**01 12 47.3**	**-2.2**
ESO				S	**Sg**	**01 13 05.1**	**-0.3**
ESO	**Esso**	**1.22**	**311**	P	**Pg**	**01 12 47.3**	**-2.2**
ESO				S	**Sg**	**01 13 05.1**	**-0.3**
KII	**Karymskiy**	**1.22**	**206**	*e*P	**Pb**	**01 12 49.5**	**-0.2**
KII				*e*S	**Sn**	**01 13 07.5**	**+0.9**
SRDR	**Sredinnyy**	**1.23**	**344**	*e*P	**Pn**	**01 12 49.9**	**0.0**
BDR	**Baidarnaya**	**1.51**	**18**	*e*P	**Pn**	**01 12 53.3**	**-0.5**
BDR				*e*S	**Sn**	**01 13 16.6**	**+2.7**
SMKR	**Semkarok**	**1.58**	**23**	P	**Pb**	**01 12 55.4**	**-0.4**
SMKR				S	**Sg**	**01 13 18.7**	**+1.8**
SRKR	**Sorokina**	**1.59**	**17**	P	**Pg**	**01 12 56.4**	**-0.2**
KBTR	**Krutoberegovo**	**1.77**	**52**	PN	**Pn**	**01 12 56.9**	**-0.3**
KBTR				S	**Sb**	**01 13 21.0**	**-0.2**
KBTR	**Krutoberegovo**	**1.77**	**52**	*e*P	**Pn**	**01 12 56.9**	**-0.3**
KBTR				*e*S	**Sb**	**01 13 21.0**	**-0.2**
GNL	**Ganaly**	**2.02**	**225**	*e*P	**Pn**	**01 13 01.4**	**+0.7**
GNL				*e*S	**Sb**	**01 13 29.6**	**+1.1**
KRX	**Arik**	**2.04**	**210**	*e*P	**Pn**	**01 13 02.4**	**+1.3**
KRX				*e*S	**Sg**	**01 13 31.0**	**-0.7**
SDLR	**Sedlovina**	**2.05**	**205**	P	**Pn**	**01 13 02.2**	**+1.0**
SPN	**Mys Shipunski**	**2.05**	**185**	PN	**Pn**	**01 13 01.1**	**0.0**
SPN				S	**Sb**	**01 13 28.8**	**-0.7**
SPN	**Mys Shipunski**	**2.05**	**185**	*e*P	**Pn**	**01 13 01.1**	**0.0**
SPN				*e*S	**Sb**	**01 13 28.8**	**-0.7**
NLC	**Nalytchevo**	**2.06**	**197**	PN	**Pb**	**01 13 03.5**	**-0.3**
NLC				S	**Sg**	**01 13 32.1**	**-0.1**
NLC	**Nalytchevo**	**2.06**	**197**	P	**Pb**	**01 13 03.5**	**-0.3**
NLC				S	**Sg**	**01 13 32.1**	**-0.1**
KRER	**Koryakskii**	**2.06**	**208**	*e*P	**Pb**	**01 13 03.7**	**-0.4**
SMAR	**Somma**	**2.09**	**206**	P	**Pn**	**01 13 03.0**	**+1.2**
SMAR				S	**Sb**	**01 13 31.1**	**+0.4**
AVH	**Avacha**	**2.10**	**207**	*e*P	**Pb**	**01 13 03.8**	**-0.8**
KOK	**Koryaka**	**2.10**	**209**	*e*P	**Pb**	**01 13 03.5**	**-1.2**
UGLR	**Uglovaya**	**2.13**	**205**	*e*P	**Pb**	**01 13 04.0**	**-1.2**
PET	**Petropavlovsk**	**2.34**	**206**	*e*PN	**Pb**	**01 13 08.3**	**-0.4**
PET				*e*S	**Sg**	**01 13 42.1**	**+0.8**
PET				smax	smax		
	comp=N,127nm,0.9s						
PET				smax	smax		
	comp=E,87nm,0.6s						
PET	**Petropavlovsk**	**2.34**	**206**	P	**Pb**	**01 13 07.5**	**-1.2**
PET				S	**Sb**	**01 13 38.7**	**+0.9**
APC	**Apacha**	**2.91**	**222**	*e*P	**Pn**	**01 13 14.2**	**+1.4**
RUS	**Russkaya**	**2.92**	**203**	PN	**Pn**	**01 13 14.2**	**+1.2**
RUS	**Russkaya**	**2.92**	**203**	P	**Pn**	**01 13 14.2**	**+1.2**
MTVR	**Mutnovka**	**2.95**	**207**	P	**Pn**	**01 13 16.2**	**+2.6**
MTVR				S	**Sb**	**01 13 54.4**	**-1.1**

*IDC **03** 01:12:41.4±2.7, 30.43N×67.45E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.3/49, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=65.9km s-min=29.3km az=141.0*
*ISCJB **03** 01:12:42.2±2.5, 30.6N±0.3×67.4E±0.3, h14km, mb3.5/5, Error ellipse: s-maj=56.0km s-min=26.2km az=144.7*

ISC 03 01:12:43.8±2.7, 30.5N±0.4×67.5E±0.3, h14km, n6, σ095/6, mb3.5/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.92**	**31**	P	**P**	**01 17 14.1**	**-1.0**
	0.1nm,0.3s,baz=216,slow=10.0,SNR=7.1						
AKTO	**Aktyubinsk**	**21.14**	**343**	P	**P**	**01 17 27.8**	**-0.4**
	0.5nm,0.4s,baz=143,slow=15,SNR=2.7						
ZALV	**Zalesovo Beam**	**26.59**	**23**	P	**P**	**01 18 22.6**	**+1.2**
	1.4nm,0.6s,baz=217,slow=11,SNR=7.9						
FINES	**FINESS Array B**	**41.06**	**331**	P	**P**	**01 20 26.9**	**+0.3**
	1.0nm,0.9s,baz=113,slow=11,SNR=2.0						
TORD	**Torodi Ar. Bea**	**62.66**	**270**	P	**P**	**01 23 08.0**	**-0.3**
	0.3nm,0.7s,baz=54,slow=6.6,SNR=3.0						
YKA	**Yellowknife Ar**	**87.32**	**1**	P	**P**	**01 25 30.1**	**+0.2**
	0.2nm,0.6s,baz=349,slow=4.8,SNR=5.9						

*ISCJB **03** 01:26:03.3±1.1, 19.1N±0.2×145.5E±0.3, h214km, mb3.3/6, Error ellipse: s-maj=45.3km s-min=24.5km az=13.0*
*IDC **03** 01:26:11.8±17.0, 19.05N×145.48E, h283km±182km, mb3.0/6, mb1 3.3/6, mb1mx2.9/58, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.8/12, Error ellipse: s-maj=36.6km s-min=34.4km az=82.0*

ISC 03 01:26:04.8±1.2, 19.1N±0.2×145.5E±0.3, h214km, n7, σ072/6, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.51**	**340**	LR	LR	01 30 20.4	
	comp=Z,175nm,19.8s,baz=100,slow=29						
WRA	**Warramunga Arr**	**40.32**	**196**	P	**P**	**01 33 21.7**	**+0.1**
	0.2nm,0.3s,baz=21,slow=8.4,SNR=2.6						
MKAR	**Makanchi Array**	**58.03**	**314**	P	**P**	**01 35 35.8**	**+0.4**
	0.1nm,0.4s,baz=94,slow=5.8,SNR=2.5						
ILAR	**Eielson Array**	**63.37**	**26**	P	**P**	**01 36 11.1**	**0.0**
	0.4nm,0.7s,baz=254,slow=6.3,SNR=4.8						
YKA	**Yellowknife Ar**	**77.72**	**28**	P	**P**	**01 37 37.9**	**+0.2**
	0.3nm,0.5s,baz=288,slow=5.6,SNR=7.0						
ARCES	**ARCESS Array B**	**82.04**	**342**	P	**P**	**01 38 01.1**	**+0.3**
	5.7nm,1.1s,baz=49,slow=6.1,SNR=2.6						
FINES	**FINESS Array B**	**86.42**	**335**	P	**P**	**01 38 21.8**	**-1.1**
	1.0nm,0.9s,baz=73,slow=4.8,SNR=8.7						

*ISCJB **03** 01:35:32.7±1.2, 31.39S±0.03×176.95W±0.04, h11km±7km, mb5.1/84, MS4.8/96, Error ellipse: s-maj=6.6km s-min=2.9km az=34.3*
*IDC **03** 01:35:32.1±0.4, 31.03S×176.92W, h0km, mb4.7/18, mb1 4.9/19, mb1mx4.7/33, mbtmp4.7/19, ML4.7/1, MS4.3/13, Ms1 4.4/13, ms1mx4.2/23, Error ellipse: s-maj=17.1km s-min=16.7km az=54.0*
*MOS **03** 01:35:36.6±1.5, 31.16S×176.91W, h33km, mb5.5/25, MS4.8/27, Error ellipse: s-maj=11.8km s-min=9.5km az=103.0*
*GCMT **03** 01:35:38.0±0.2, 31.05S×176.74W, h52km±1km, MW5.3/97, Moment Tensor Solution. s73,c104; s97,c140; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷Nm; Mrr0.48±.03; Mθθ-0.41±.03; Mϕϕ-0.07±.03; Mrθ0.10±.02; Mθϕ-0.79±.02; Mϕr-0.43±.02; Best double couple: M₀1.00300×10¹⁷ NP1:ϕs195.00000°, δ67.00000°, λ38.00000°. NP2:ϕs88.00000°, δ55.00000°, λ152.00000°. Principal axes: T 0.9360, Plg43.0000°, Azm56.0000°; N 0.1360, Plg46.0000°, Azm221.0000°; P -1.0710, Plg8.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 01:35:38.0±0.6, 31.25S×176.98W, h40km±5km, mb5.3/59, MS4.9/82 Error ellipse: s-maj=6.0km s-min=4.8km az=139.0*

ISC 03 01:35:36.0±0.6, 31.30S±0.04×176.81W±0.06, h25km±3km, h25km:pP-P, n673, σ1§31/598, mb5.2/77, MS4.8/96, 87C-87D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.25**	**335**	*e*P	**Pn**	**01 36 10.5**	**-1.2**
RAO				e		01 36 33.5	
RAO	**Raoul Island**	**2.25**	**335**	P	**Pn**	**01 36 10.7**	**-1.0**
	6µm,0.3s,baz=159,slow=17,SNR=305						
RAO				Sn	**Sn**	**01 36 33.3**	**-5.3**
	5µm,0.3s,baz=158,slow=19,SNR=5.7						
RAO	**Raoul Island**	**2.25**	**335**	*e*Pn	**Pn**	**01 36 10.5**	**-1.2**
RAO				*e*Sn	**Sn**	**01 36 33.5**	**-5.2**
MXZ	**Matakaoa Point**	**7.44**	**211**	PN	**Pn**	**01 37 22.7**	**-0.3**
MXZ				SN	**Sn**	**01 38 46.1**	**-0.4**
WMGZ	**Waiomatatini S**	**7.60**	**210**	PN	**Pn**	**01 37 25.9**	**+0.6**
WMGZ				SN	**Sn**	**01 38 52.3**	**+1.7**
HAZ	**Te Kaha**	**7.83**	**213**	PN	**Pn**	**01 37 28.2**	**-0.2**
PUZ	**Puketiti**	**7.88**	**210**	PN	**Pn**	**01 37 28.5**	**-0.6**
PUZ				*e*SN	**Sn**	**01 38 39.1**	**-1.1**
TWGZ	**Tauwhareparae**	**8.09**	**211**	PN	**Pn**	**01 37 31.7**	**-0.2**
CNGZ	**Carnagh Statio**	**8.26**	**208**	PN	**Pn**	**01 37 34.0**	**-0.2**
CNGZ				SN	**Sn**	**01 39 02.6**	**-4.0**
MWZ	**Matawai**	**8.42**	**212**	PN	**Pn**	**01 37 35.2**	**-1.3**
OPRZ	**Ohinepanea**	**8.52**	**218**	PN	**Pn**	**01 37 38.4**	**+0.7**
URZ	**Urewera**	**8.56**	**214**	Pn	**Pn**	**01 37 37.4**	**-0.9**
	8.1nm,0.3s,baz=36,slow=18,SNR=40						
URZ				Sn	**Sn**	**01 39 12.3**	**-1.7**
	56nm,0.3s,baz=137,slow=19,SNR=9.1						
URZ	**Urewera**	**8.56**	**214**	PN	**Pn**	**01 37 37.4**	**-0.9**
URZ	**Urewera**	**8.56**	**214**	*e*Pn	**Pn**	**01 37 37.0**	**-1.2**
URZ				*e*Sn	**Sn**	**01 39 12.9**	**-1.1**
RIGZ	**Rimuhau**	**8.63**	**210**	PN	**Pn**	**01 37 38.2**	**-1.1**
PRGZ	**Paritu Road**	**8.76**	**208**	*e*PN	**Pn**	**01 37 39.6**	**-1.5**
PRGZ				SN	**Sn**	**01 39 17.9**	**-1.2**
SNGZ	**Shannon Statio**	**8.87**	**211**	PN	**Pn**	**01 37 42.5**	**-0.2**
SNGZ				SN	**Sn**	**01 39 19.7**	**-2.1**
KNZ	**Kokohu**	**8.93**	**209**	PN	**Pn**	**01 37 41.2**	**-2.2**
OUZ	**Omahuta**	**8.93**	**241**	*e*Pn	Pn	01 37 49.1	+5.6
	125nm,0.9s						
MHGZ	**Mahia Peninsul**	**8.95**	**207**	PN	**Pn**	**01 37 42.4**	**-1.3**
RAHZ	**Arahi**	**9.10**	**212**	PN	**Pn**	**01 37 45.8**	**+0.1**
RAHZ				SN	**Sn**	**01 39 27.0**	**-0.3**
WHHZ	**Waihua**	**9.16**	**210**	SN	**Sn**	**01 39 28.1**	**-0.8**
ARHZ	**Aropaoanui**	**9.42**	**211**	PN	**Pn**	**01 37 48.2**	**-1.9**
BKZ	**Black Stump Pn**	**9.57**	**213**	*e*Pn	**Pn**	**01 37 53.9**	**+1.6**
MCHZ	**McNeill Hill**	**9.70**	**211**	PN	**Pn**	**01 37 53.4**	**-0.6**
KAHZ	**Kahuranaki**	**9.91**	**209**	PN	**Pn**	**01 37 54.1**	**-2.9**
KRHZ	**Kereru**	**10.01**	**212**	PN	**Pn**	**01 37 56.2**	**-2.1**
KRHZ				SN	**Sn**	**01 39 45.3**	**-4.5**
BHHZ	**Black Hill Sta**	**10.03**	**213**	*e*PN	**Pn**	**01 37 59.0**	**+0.4**
FWVZ	**Far West T-bar**	**10.10**	**216**	PN	**Pn**	**01 37 59.2**	**-0.4**
PXZ	**Pawanui**	**10.12**	**209**	*e*PN	**Pn**	**01 37 57.2**	**-2.5**
BFZ	**Birch Farm**	**10.92**	**209**	*e*Pn	**Pn**	**01 38 07.7**	**-2.9**
MRZ	**Mangatainoka R**	**11.19**	**211**	PN	**Pn**	**01 38 12.1**	**-2.2**
TMWZ	**Te Maipa**	**11.42**	**209**	PN	**Pn**	**01 38 15.5**	**-2.1**
KIW	**Kapiti Island**	**11.65**	**213**	*e*PN	Pn	01 38 16.0	-4.7
KIW				*e*SN	Sn	01 40 21.3	-8.7
CTZ	**Chatham Island**	**12.42**	**179**	PN	**Pn**	**01 38 30.7**	**-0.4**
NNZ	**Nelson**	**12.67**	**216**	*e*SN	Sn	01 40 46.4	-8.3
KHZ	**Kahutara**	**13.51**	**212**	*e*PN	Pn	01 38 42.8	-3.3
KHZ				*e*SN	Sn	01 41 03.6	-12
KHZ	**Kahutara**	**13.51**	**212**	*e*Pn	**Pn**	**01 38 44.2**	**-1.8**
KHZ				*e*Sn	Sn	01 41 06.6	-8.8
NIUE	**Niue**	**13.66**	**29**	P	Pn	01 38 41.0	-7.2
	baz=13,SNR=4.2						
NIUE				S	Sn	01 40 54.7	-25
	baz=13,SNR=8.8						
MSVF	**Nonsavu**	**14.29**	**340**	Pn	**Pn**	**01 38 56.0**	**-0.9**
	3µm,1.1s,SNR=34						
MSVF	**Nonsavu**	**14.29**	**340**	*e*P	**Pn**	**01 38 55.8**	**-1.1**
MSVF	**Nonsavu**	**14.29**	**340**	*e*Pn	**Pn**	**01 38 55.8**	**-1.1**
OXZ	**Oxford**	**14.91**	**213**	SN	Sn	01 41 36.6	-13
MQZ	**McQueen's Vall**	**14.93**	**211**	*e*PN	Pn	01 38 59.8	-5.6
MQZ				*e*SN	Sn	01 41 34.9	-15
RPZ	**Rata Peaks**	**15.67**	**214**	*e*Pn	**Pn**	**01 39 13.9**	**-1.3**
	65nm,0.8s						
RPZ				*e*Sn	Sn	01 41 56.0	-12
ODZ	**Otahua Downs**	**16.87**	**212**	*e*Pn	**Pn**	**01 39 29.4**	**-1.1**
	171nm,1.1s						
ODZ				*e*Sn	Sn	01 42 25.0	-12
DZM	**Mont Dzumac**	**17.54**	**298**	*e*P	**P**	**01 39 41.6**	**+1.6**
	469nm,1.4s						
DZM				*e*LR	LR	01 43 48.1	
	6µm,26.7s,baz=128						
DZM	**Mont Dzumac**	**17.54**	**298**	LR	LR	01 44 13.0	
	comp=Z,1µm,20.8s,baz=134,slow=30						
DZM	**Mont Dzumac**	**17.54**	**298**	*e*Pn	**P**	**01 39 41.3**	**+1.4**
	187nm,1.1s						
NOUC	**Port Laguerre**	**17.63**	**297**	*e*P	**P**	**01 39 42.5**	**+1.6**
AFI	**Afiamalu**	**17.91**	**16**	*e*P	Pn	01 39 38.5	-5.1
AFI				pmax	pmax		
	comp=Z,48nm,0.9s						
AFI	**Afiamalu**	**17.91**	**16**	*e*Pn	Pn	01 39 38.5	-5.1
	comp=Z,48nm,0.9s						
AFI				*e*Sn	Sn	01 42 41.5	-21
WHZ	**Wether Hill Ro**	**18.77**	**215**	*e*P	**P**	**01 39 52.6**	**-0.7**
	comp=Z,41nm,0.8s						
TBI	**Tubuai**	**25.51**	**79**	*e*LQ	LQ	01 45 57.4	
	comp=Z,2µm,28.8s						
TBI				*e*LR	LR	01 47 20.2	
	comp=Z,3µm,27.2s,baz=238						
TBI	**Tubuai**	**25.51**	**79**	*e*T	T	02 07 25.0	
	comp=Z,49nm,0.4s						
ARMA	**Armidale**	**27.06**	**264**	*e*P	**P**	**01 41 16.6**	**-0.1**
	comp=Z,24nm,0.8s						
PAE	**Paea**	**28.16**	**68**	*e*T	T	02 10 38.5	
	comp=Z,12nm,0.3s						
PPT2	**Papeete2**	**28.21**	**67**	*e*LQ	LQ	01 47 13.7	
	comp=Z,1µm,25.8s						
PPT2				*e*LR	LR	01 48 15.6	
	comp=Z,3µm,28.5s,baz=232						
PPT2	**Papeete2**	**28.21**	**67**	*e*T	T	02 10 42.5	
	comp=Z,9.8nm,0.3s						
PPT	**Papeete**	**28.22**	**67**	LR	LR	01 51 00.8	
	comp=Z,787nm,18.7s,baz=244,slow=33						
TVO	**Taravao**	**28.36**	**68**	*e*T	T	02 10 53.4	
	comp=Z,3.0nm,0.3s						
CAN	**Canberra**	**28.77**	**253**	PFAKE		01 41 40.0	+8.1
CAN				LR	LR		
	comp=Z,979nm,19.0s						
EIDS	**Eidsvold**	**28.81**	**274**	P	P	01 41 45.6	+13
	baz=30,SNR=5.4						
EIDS	**Eidsvold**	**28.81**	**274**	*e*P	**P**	**01 41 33.8**	**+1.5**
	comp=Z,20nm,0.8s						
MEH	**Mehetia**	**29.25**	**70**	*e*T	T	02 12 01.3	
	comp=Z,24nm,0.3s						
RMQ	**Roma**	**30.45**	**270**	P	**P**	**01 41 49.4**	**+2.6**
	baz=31,SNR=9.0						
TAU	**Tasmania Unive**	**30.64**	**238**	PFAKE		01 42 00.0	+12
TAU				LR	LR		
	comp=Z,936nm,19.0s						
VAH	**Vaihoa**	**31.08**	**66**	*e*T	T	02 14 16.0	
	comp=Z,40nm,0.3s						
TOO	**Toolangi**	**31.56**	**248**	P	P	01 42 07.9	+11
	baz=32,SNR=4.1						
CMSA	**Cobar Meteorol**	**31.90**	**260**	P	**P**	**01 42 01.5**	**+2.0**
	baz=33,SNR=9.0						
QLP	**Quilpie**	**34.29**	**268**	P	**P**	**01 42 21.1**	**+0.7**
	baz=35,SNR=14						
CTA	**Charters Tower**	**34.95**	**280**	P	**P**	**01 42 25.4**	**-0.9**
	comp=Z,16nm,0.8s,baz=105,slow=10,SNR=24						
CTAO	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**01 42 27.6**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,56nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,1µm,19.0s						
CTAO	**Charters Tower**	**34.95**	**280**	*e*P	**P**	**01 42 27.6**	**+1.3**
	comp=Z,56nm,0.8s						
CTAO				LR	LR		
	comp=Z,1µm,19.0s						
RKT	**Rikitea**	**37.91**	**88**	*e*LR	LR	01 52 51.9	
	comp=Z,3µm,29.5s,baz=250						
BBOO	**Buckleboo**	**39.72**	**255**	*e*P	**P**	**01 43 07.3**	**+0.8**
PMG	**Port Moresby**	**39.91**	**295**	*e*P	**P**	**01 43 07.0**	**-1.2**
PMG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PMG				MLR	MLR		
	comp=Z,521nm,21.0s						
PMG	**Port Moresby**	**39.91**	**295**	*e*P	**P**	**01 43 07.0**	**-1.2**
	comp=Z,4.5nm,1.1s						
PMG				LR	LR		
	comp=Z,521nm,21.0s						
COEN	**Coen**	**40.50**	**286**	P	P	01 43 22.3	+9.2
	baz=41,SNR=5.4						
COEN	**Coen**	**40.50**	**286**	*e*P	**P**	**01 43 12.1**	**-1.1**
AS31	**Alice Springs**	**44.08**	**267**	*e*P	**P**	**01 43 41.2**	**-1.2**
ASAR	**Alice Springs**	**44.08**	**267**	P	**P**	**01 43 41.2**	**-1.1**
	comp=Z,8.5nm,0.6s,baz=106,slow=7.5,SNR=102						
ASAR				ScP	**ScP**	**01 49 20.6**	**+2.9**
	comp=Z,1.7nm,0.8s,baz=114,slow=4.1,SNR=3.2						
ASAR				LR	LR	02 02 32.2	
	comp=Z,783nm,18.2s,baz=118,slow=37						
WB2	**Warramunga Arr**	**45.14**	**272**	*e*P	**P**	**01 43 49.3**	**-1.5**
WRAB	**Tennant Creek**	**45.15**	**272**	P	**P**	**01 43 49.8**	**-1.1**
	comp=Z,175nm,0.7s,SNR=13						
WRAB	**Tennant Creek**	**45.15**	**272**	↑*e*P	**P**	**01 43 50.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,79nm,1.5s						
WRAB	**Tennant Creek**	**45.15**	**272**	*e*P	**P**	**01 43 49.6**	**-1.2**
	comp=Z,45nm,0.8s						
WRAB				LR	LR		
	comp=Z,896nm,21.0s						
WRA	**Warramunga Arr**	**45.15**	**272**	P	**P**	**01 43 49.5**	**-1.4**
	comp=Z,12nm,0.6s,baz=113,slow=7.6,SNR=48						
WRA				LR	LR	02 03 04.7	
	comp=Z,742nm,18.1s,baz=115,slow=37						
SBA	**Scott Base**	**47.23**	**185**	*e*pP	pP	01 44 20.3	+6.3
VNDA	**Vanda**	**47.31**	**186**	*e*P	**P**	**01 44 06.1**	**-1.0**
VNDA				*e**PP	pP	01 44 20.3	+5.6
VNDA				pmax	pmax		
	comp=Z,26nm,1.7s						
VNDA	**Vanda**	**47.31**	**186**	LR	LR	01 59 01.0	
	comp=Z,179nm,21.0s,baz=24,slow=30						
VNDA	**Vanda**	**47.31**	**186**	*e*P	**P**	**01 44 06.1**	**-1.0**
	comp=Z,26nm,1.7s						
VNDA				*e*pP	pP	01 44 20.3	+5.6
WRKA	**Warakurna**	**48.38**	**263**	P	**P**	**01 44 15.1**	**-1.1**
	baz=49,SNR=17						
KDU	**Kakadu**	**50.08**	**280**	P	**P**	**01 44 30.2**	**+1.1**
	baz=51,SNR=5.0						
MTN	**Manton Dam**	**51.13**	**279**	P	**P**	**01 44 36.8**	**-0.3**
	baz=52,SNR=3.9						
KNRA	**Kununurra**	**51.79**	**274**	P	**P**	**01 44 41.5**	**-0.5**
	baz=52,SNR=5.7						
CASY	**Casey**	**54.83**	**208**	*e*P	**P**	**01 45 03.4**	**-0.3**
	comp=Z,30nm,0.9s						
MEEK	**Meekatharra**	**55.98**	**257**	P	**P**	**01 45 11.8**	**-0.8**
	baz=57,SNR=3.8						
MBWA	**Marble Bar**	**57.14**	**264**	*e*P	**P**	**01 45 19.4**	**-1.5**

PKM **Mcpherson Peak** 84.90 44 ⇓P P 01 48 09.8 +0.8
baz=85
FMP **Fort Macarthur** 85.01 46 ⇑P P 01 48 09.8 +0.5
baz=85
SMMC **Simmler** 85.08 43 ⇑P P 01 48 10.4 +0.7
baz=85
OSI **Osito Audit: C** 85.36 45 ⇑P P 01 48 12.0 +0.9
baz=86
MURC **Murrieta** 85.60 46 ⇓P P 01 48 13.2 +0.8
baz=86
MONP **Monument Peak,** 85.61 47 ⇑P P 01 48 13.8 +1.2
baz=86
IPM **Ipoh** 85.62 278 *e*P P 01 48 12.1 -0.8
comp=Z,13nm,0.6s
ARVC **Arvin** 85.65 44 ⇑P P 01 48 13.7 +1.2
baz=86
KSRS **Korea Array** 85.69 319 P P 01 48 11.9 -0.7
comp=Z,0.6nm,0.3s,baz=121,slow=5.8,SNR=3.7
KSAR **Wonju Array Be** 85.70 319 P P 01 48 11.9 -0.8
KSAR **Wonju Array Be** 85.70 319 P P 01 48 11.9 -0.8
BFSC **Mount Baldy Ra** 85.75 45 ⇓P P 01 48 13.4 +0.2
baz=86,SNR=6.9
EDW2 **Edwards Air Fo** 85.98 45 ⇓P P 01 48 14.9 +0.6
baz=86,SNR=10
VES **Vestal, Richgr** 85.98 44 ⇓P P 01 48 15.1 +1.0
baz=86,SNR=6.2
YSS **Yuzh-Sakhalins** 86.00 334 *e*P P 01 48 14.5 +0.6
YSS pmax pmax
comp=Z,30nm,0.9s
YSS **Yuzh-Sakhalins** 86.00 334 *e*P P 01 48 14.7 +0.8
comp=Z,35nm,0.9s
SWSC **Sam W. Stewart** 86.04 48 ⇓P P 01 48 15.9 +1.4
baz=86
PFO **Pinyon Flats O** 86.07 47 P P 01 48 14.7 -0.1
PFO MLR MLR
comp=Z,595nm,20.0s
PFO **Pinyon Flats O** 86.07 47 P P 01 48 14.7 -0.1
comp=Z,5.3nm,0.7s,baz=236,slow=2.6,SNR=7.2
PFO **Pinyon Flats O** 86.07 47 ⇓P P 01 48 15.5 +0.7
baz=86,SNR=5.4
PFO **Pinyon Flats O** 86.07 47 P P 01 48 14.7 -0.1
PFO LR LR
comp=Z,595nm,20.0s
RCTC **Rector, Farmer** 86.22 43 ⇓P P 01 48 15.8 +0.5
baz=86
BBRC **Big Bear Solar** 86.22 46 ⇑P P 01 48 16.5 +0.9
baz=86
ISA **Isabella, Lake** 86.22 44 *e*P P 01 48 16.5 +1.0
ISA pmax pmax
comp=Z,41nm,1.2s
ISA **Isabella, Lake** 86.22 44 ⇓P P 01 48 16.8 +1.3
baz=86,SNR=12
ISA **Isabella, Lake** 86.22 44 *e*P P 01 48 16.5 +1.0
comp=Z,41nm,1.2s
QIZ **Qiongzhong** 86.30 295 P P 01 48 18.0 +1.9
QIZ S S 01 58 51.1 +0.9
QIZ PMZ
comp=Z,23nm,1.8s
QIZ LZ
comp=Z,260nm,38.3s
QIZ **Qiongzhong** 86.30 295 PFAKE 01 48 30.0 +14
QIZ LR LR
comp=Z,540nm,20.0s
KULM **Kulim** 86.37 278 *e*P P 01 48 15.2 -1.4
comp=Z,30nm,1.2s
INCN **Inchon** 86.44 318 PFAKE 01 48 30.0 +14
INCN LR LR
comp=Z,502nm,19.0s
LRMC **Laurel Mtn Rad** 86.57 45 ⇓P P 01 48 18.1 +0.9
baz=87
RRX **Edison Barstow** 86.58 45 ⇓P P 01 48 18.6 +1.4
baz=87
BELC **Belle Mtn. Jos** 86.61 47 ⇓P P 01 48 18.1 +0.6
baz=87,SNR=9.1
BC3 **Big Chuckawall** 86.73 47 ⇓P P 01 48 18.9 +0.9
baz=87,SNR=8.2
GLA **Glamis** 86.73 48 *e*P P 01 48 19.0 +1.0
GLA pmax pmax
comp=Z,24nm,1.0s
GLA **Glamis** 86.73 48 ⇓P P 01 48 19.0 +1.0
baz=87,SNR=6.2
GLA **Glamis** 86.73 48 *e*P P 01 48 19.0 +1.0
comp=Z,24nm,1.0s
CMB **Columbia Colle** 86.75 41 *e*P P 01 48 17.8 -0.2
CMB *e**PP pP 01 48 28.3 +2.3
CMB pmax pmax
comp=Z,21nm,1.0s
CMB **Columbia Colle** 86.75 41 *e*P P 01 48 17.8 -0.2
comp=Z,21nm,1.0s
CMB *e*pP pP 01 48 28.3 +2.3
GSI **Gunungsitoli** 86.92 273 *e*P P 01 48 19.3 0.0
comp=Z,36nm,0.7s
GSI *e*pP pP 01 48 29.4 +2.0
PETK **Petropavlovsk-** 86.94 345 P P 01 48 17.3 -1.1
comp=Z,1.8nm,0.6s,baz=134,slow=4.3,SNR=3.9
HEC **Hector,Ludlow** 86.96 46 ⇑P P 01 48 19.5 +0.5
baz=87,SNR=9.5
GSC **Goldstone, Bar** 86.98 45 *e*P P 01 48 19.9 +0.7
GSC pmax pmax
comp=Z,38nm,1.3s
GSC **Goldstone, Bar** 86.98 45 ⇑P P 01 48 20.0 +0.7
baz=87,SNR=8.8
GSC **Goldstone, Bar** 86.98 45 *e*P P 01 48 19.9 +0.7
comp=Z,38nm,1.3s
MPMC **Manual Prospec** 87.08 44 ⇓P P 01 48 20.5 +0.8
baz=87,SNR=15
DAC **Darwin (Calif)** 87.16 44 *e*P P 01 48 19.9 -0.3
DAC pmax pmax
comp=Z,7.0nm,0.8s
DAC **Darwin (Calif)** 87.16 44 *e*P P 01 48 19.9 -0.3
comp=Z,6.7nm,0.8s
113A **Mohawk Valley,** 87.22 49 ⇓P P 01 48 21.5 +1.2
baz=88,SNR=8.7
IRM **Iron Mountain** 87.25 47 ⇓P P 01 48 21.5 +1.0
baz=88,SNR=17
TIN **Tinemaha, Big** 87.32 43 ⇑P P 01 48 22.5 +1.7
baz=88
214A **Organ Pipe Nat** 87.32 50 ⇓P P 01 48 22.2 +1.4
baz=88,SNR=8.1
MTUM **Tungsten Hills** 87.33 43 *e*P P 01 48 22.1 +1.1
GMRC **Granite Mounta** 87.34 46 ⇑P P 01 48 21.9 +0.9
baz=88,SNR=7.2
Y12C **Blythe** 87.37 48 ⇑P P 01 48 22.4 +1.4
baz=88
WDC **Whiskeytown Da** 87.38 38 *e*P P 01 48 21.4 +0.6
WDC pmax pmax
comp=Z,39nm,1.4s
WDC **Whiskeytown Da** 87.38 38 *e*P P 01 48 21.4 +0.6
comp=Z,39nm,1.4s
N02D **Trinity Center** 87.57 38 ⇓P P 01 48 23.3 +1.4
baz=88
WAKR **Walker** 87.62 41 *e*P P 01 48 21.9 -0.4
LCO **Las Campanas** 87.63 123 *e*P P 01 48 23.5 +0.6
comp=Z,14nm,1.0s
LCO LR LR
comp=Z,1µm,20.0s
UBPT **Khong Chiam** 87.69 289 P sP 01 48 34.2 +0.3
comp=Z,19nm,1.2s
SHOC **Shoshone, Teco** 87.70 45 ⇓P P 01 48 23.5 +0.9
baz=88
FURC **Furnace Creek,** 87.73 44 ⇓P P 01 48 23.6 +1.0
baz=88
GRAC **Grapevine Rang** 87.78 44 ⇓P P 01 48 24.1 +1.2
baz=88
M02C **Callahan** 87.80 38 ⇓P P 01 48 24.3 +1.4
baz=88
CFAA **Coronel Fontan** 87.89 126 LR LR 02 19 08.3
comp=Z,44nm,20.3s,slow=30
PDMCI **Parker Dam,Lak** 87.97 47 ⇑P P 01 48 25.0 +1.1
baz=88,SNR=9.3
TRQA **Tornquist** 88.08 134 *e*P P 01 48 25.0 +0.4
comp=Z,7.1nm,1.0s
Z14A **Wintersburg** 88.13 49 ⇓P P 01 48 26.6 +1.9
baz=88
NVAR **Mina Array Bea** 88.21 42 P P 01 48 24.8 -0.3
comp=Z,9.5nm,0.8s,baz=224,slow=6.3,SNR=12
TPNV **Topopah Spring** 88.42 44 *e*P P 01 48 27.3 +1.2
TPNV pmax pmax
comp=Z,20nm,0.9s
TPNV **Topopah Spring** 88.42 44 ⇑P P 01 48 26.8 +0.7
baz=89
TPNV **Topopah Spring** 88.42 44 *e*P P 01 48 27.3 +1.2
comp=Z,20nm,0.9s
Y14A **Wickenburg** 88.46 48 ⇑P P 01 48 27.5 +1.3
baz=89,SNR=9.3
USRK **Ussuriysk Ar.** 88.47 326 P P 01 48 25.7 -0.2
comp=Z,3.9nm,0.7s,baz=138,slow=4.4,SNR=8.3

TPH **Tonopah** 88.59 43 *e*P P 01 48 26.9 -0.1
TPH *e**PP pP 01 48 37.5 +2.4
TPH pmax pmax
comp=Z,37nm,1.2s
TPH **Tonopah** 88.59 43 *e*P P 01 48 26.9 -0.1
comp=Z,37nm,1.2s
TPH *e*pP pP 01 48 37.5 +2.4
M04C **Macdoel** 88.61 38 ⇑P P 01 48 28.1 +1.2
baz=89
W13A **Hualapai Mount** 88.65 47 ⇓P P 01 48 28.4 +1.1
baz=89
SHPR **Sheep Range** 88.78 45 *e*P P 01 48 28.2 +0.3
TUC **Tucson** 88.88 51 *e*P P 01 48 29.4 +1.1
TUC pmax pmax
comp=Z,11nm,0.7s
TUC **Tucson** 88.88 51 *e*P P 01 48 29.4 +1.1
comp=Z,11nm,0.7s
CHBT **CHBT** 88.89 286 P sP 01 48 39.1 -0.5
comp=Z,21nm,1.1s
I03D **Drain, OR** 89.21 36 ⇓P P 01 48 31.3 +1.9
baz=90
K04D **Chiloquin, OR** 89.25 37 ⇓P P 01 48 31.1 +1.2
baz=90
319A **Douglas** 89.31 52 ⇓P P 01 48 31.7 +1.3
baz=90,SNR=9.2
R11A **Troy Canyon, C** 89.74 44 ⇓P P 01 48 33.0 +0.7
baz=90
R11A **Troy Canyon, C** 89.74 44 *e*P P 01 48 33.3 +0.9
X16A **Lo Mia Camp, P** 89.77 49 ⇓P P 01 48 33.8 +1.2
baz=90,SNR=22
K05A **Summer Lake** 89.77 38 *e*P P 01 48 32.3 -0.1
comp=Z,494nm,2.6s
SURT **Suratani** 89.85 281 P sP 01 48 44.5 +0.4
comp=Z,7.1nm,0.9s
MDJ **Mudanjiang** 89.94 325 PFAKE
MDJ LR LR
comp=Z,297nm,22.0s
J05D **Fort Rock, OR** 89.99 37 ⇑P P 01 48 34.4 +1.1
baz=90
BMN **Battle Mountai** 90.18 41 *e*P P 01 48 30.7 -3.6
BMN **Battle Mountai** 90.18 41 *e*P P 01 48 30.7 -3.6
HABR **Khabarovsk** 90.33 330 *e*P P 01 48 34.6 +0.1
HABR *e* 01 52 07.0
HABR PPP PPP 01 54 04.6
HABR *e*S SKSac 01 59 04.1 +0.3
HABR *e* 01 59 31.2
HABR *e*SS SS 02 05 28.1 -0.1
HABR *e*SSS SSS 02 09 04.5
HABR pmax pmax
comp=Z,22nm,1.5s
HABR MLR MLR
comp=Z,197nm,22.0s
G03D **McMinnville, O** 90.35 35 ⇓P P 01 48 35.7 +1.0
baz=91
KHON **Khomkaen** 90.40 289 P sP 01 48 46.9 +0.3
comp=Z,798nmcomp=Z,21nm,1.2s
U15A **North Rim** 90.49 47 ⇓P P 01 48 36.9 +0.9
baz=91
WUAZ **Wupatki** 90.50 48 ⇓P P 01 48 37.0 +1.1
baz=91
WUAZ **Wupatki** 90.50 48 *e*P P 01 48 36.3 +0.4
comp=Z,26nm,1.0s
H04A **Detroit Lake** 90.50 36 *e*P P 01 48 36.6 +1.1
comp=Z,771nm,3.0s
CCUT **Cedar City** 90.55 45 *e*P P 01 48 37.7 +1.5
comp=Z,30nm,1.3s
I05D **Terrebonne, OR** 90.68 36 ⇓P P 01 48 37.5 +1.1
baz=91
WVOR **Wild Horse Val** 90.76 39 *e*P P 01 48 37.2 +0.3
WVOR pmax pmax
comp=Z,38nm,1.6s
WVOR **Wild Horse Val** 90.76 39 *e*P P 01 48 37.2 +0.3
comp=Z,38nm,1.6s
X18A **Snowflake** 90.80 49 ⇓P P 01 48 38.5 +1.1
baz=91
121A **Cookes Peak, D** 91.02 52 ⇑P P 01 48 39.6 +1.2
baz=91
F04D **Rainier, OR** 91.10 34 ⇓P P 01 48 40.1 +1.9
baz=91
W18A **Petrified Fore** 91.30 49 ⇓P P 01 48 41.0 +1.3
baz=92
W18A **Petrified Fore** 91.30 49 *e*P P 01 48 41.0 +1.3
TIA **Tai'an** 91.33 312 ⇑P P 01 48 41.4 +1.9
G05D **Wamic, OR** 91.33 36 ⇑P P 01 48 40.2 +0.8
baz=92
CN2 **Changchun** 91.47 322 *e*P P 01 48 41.2 +1.2
CN2 *e*pP pP 01 48 46.1 -2.0
CN2 *e*S S 01 59 39.2 +1.3
CN2 PMZ
comp=Z,20nm,0.4s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,600nm,23.0s
CN2 LE
comp=Z,400nm,23.0s
CN2 LZ
comp=Z,200nm,20.0s
ELK **Elko** 91.52 42 *e*P P 01 48 41.1 +0.5
ELK *e**PP pP 01 48 49.9 +1.2
ELK **Elko** 91.52 42 *e*P P 01 48 41.1 +0.5
ELK *e*pP pP 01 48 49.9 +1.2
G06A **Carlson Farm,** 91.67 36 *e*P P 01 48 41.4 +0.5
comp=Z,65nm,1.3s
MVU **Marysvale** 91.86 45 *e*P P 01 48 43.7 +1.5
TXAR **Lajitas Array** 92.02 57 P P 01 48 43.0 0.0
TXAR **Lajitas Array** 92.02 57 P P 01 48 43.0 0.0
comp=Z,4.0nm,1.0s,baz=209,slow=5.9,SNR=25
TXAR LR LR 02 22 49.1
comp=Z,243nm,19.4s,baz=0.0,slow=31
PBKT **Sadao Pong** 92.03 288 P sP 01 48 53.8 -0.4
comp=Z,2µmcomp=Z,21nm,1.2s
MNTX **Cornudas Mount** 92.17 54 ⇓P P 01 48 44.1 +0.5
baz=92
MNTX **Cornudas Mount** 92.17 54 *e*P P 01 48 43.6 0.0
comp=Z,6.1nm,0.9s
NNA **Nana** 92.20 105 PFAKE 01 49 00.0 +16
NNA LR LR
comp=Z,393nm,19.0s
KLR **Kul'dur** 92.32 329 *e*P P 01 48 44.9 +1.1
SRDT **SRDT** 92.38 285 P P 01 48 55.9 +11
comp=Z,48nm,1.1s,comp=Z,4µm
G08A **Pilot Rock** 92.56 37 *e*P P 01 48 45.2 +0.1
comp=Z,20nm,1.0s
G08A *e*pP pP 01 48 56.8 +3.6
DUG **Dugway, Tooele** 92.57 44 *e*P P 01 48 46.6 +1.2
DUG pmax pmax
comp=Z,15nm,1.1s
DUG **Dugway, Tooele** 92.57 44 ⇓P P 01 48 46.9 +1.5
baz=93
DUG **Dugway, Tooele** 92.57 44 *e*P P 01 48 46.6 +1.2
comp=Z,15nm,1.1s
LVC **Limon Verde** 92.61 118 *e*P P 01 48 47.1 +0.8
comp=Z,7.1nm,0.7s
LVC LR LR
comp=Z,543nm,19.0s
UTHA **Uthaitani** 92.74 286 P sP 01 48 57.7 +0.2
comp=Z,56nmcomp=Z,3.8nm,1.0s
LPM **Los Pinos Moun** 92.86 51 *e*P P 01 48 46.5 -0.4
NLU **North Lily Min** 92.86 44 *e*P P 01 48 47.3 +0.5
GYA **Guiyang** 92.88 299 *e*P P 01 48 48.2 +1.1
GYA PP PP 01 52 33.8 +3.7
GYA SKS SKSac 01 59 21.0 +1.3
GYA S S 01 59 51.6 0.0
GYA SS SS 02 06 10.7 +4.6
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,5.8s
GYA LN
comp=Z,560nm,20.8s
GYA LE
comp=Z,520nm,21.4s
GYA LZ
comp=Z,580nm,20.6s
MFID **Camas Ranch** 92.95 40 *e*P P 01 48 47.5 +0.5
MFID *e*pP pP 01 48 58.2 +3.1
TMUT **Trail Mountain** 92.96 45 *e*P P 01 48 47.6 +0.2
comp=Z,16nm,1.1s
UTTA **Uttaradit** 92.98 289 P P 01 48 58.2 +11
comp=Z,3.7nm,0.9s
HAWA **Hanford** 93.03 36 *e*P P 01 48 47.8 +0.6
comp=Z,33nm,1.4s
BMO **Blue Mountains** 93.12 38 PFAKE 01 49 00.0 +12
BMO LR LR
comp=Z,446nm,19.0s

MPU **Maple Canyon** 93.16 44 *e*P P 01 48 45.9 -2.3
comp=Z,30nm,1.5s
SRU **San Rafael Swe** 93.27 46 *e*P P 01 48 46.7 -2.0
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU **San Rafael Swe** 93.27 46 *e*P P 01 48 46.7 -2.0
comp=Z,10nm,0.9s
ANMO **Albuquerque** 93.34 51 *e*P P 01 48 49.7 +0.5
MVCO **Mesa Verde** 93.37 48 ⇓P P 01 48 50.5 +1.2
baz=94
MVCO **Mesa Verde** 93.37 48 PFAKE 01 49 00.0 +11
MVCO LR LR
comp=Z,415nm,20.0s
529A **Stev Forest Ra** 93.50 57 ⇓P P 01 48 50.5 +0.7
baz=94
V22A **San Miguel Ran** 93.62 50 ⇑P P 01 48 52.0 +1.5
baz=94
D08A **Wollman Farm,** 93.79 35 *e*P P 01 48 51.2 +0.5
comp=Z,133nm,2.1s
E09A **Wood Farm, Sta** 93.81 36 *e*P P 01 48 51.7 +1.0
comp=Z,19nm,1.0s
HLID **Hailey** 93.82 40 *e*P P 01 48 51.0 -0.1
comp=Z,13nm,1.1s
F10A **Beach Ranch, E** 93.91 37 *e*P P 01 48 51.0 -0.3
V23A **Ortiz Mt. (NFS** 94.00 50 ⇑P P 01 48 53.2 +1.0
baz=94
429A **Davenport Ranc** 94.02 57 ⇑P P 01 48 52.6 +0.4
baz=94
832A **Faith Ranch, C** 94.11 59 ⇓P P 01 48 52.6 0.0
baz=94
LAMP **Lampang** 94.13 289 P P 01 49 04.2 +11
comp=Z,5.8nm,0.9s
530A **J-C Ranch, Com** 94.15 57 ⇑P P 01 48 52.8 +0.1
baz=94
HWUT **Hardware Ranch** 94.20 43 *e*P P 01 48 52.2 -0.7
comp=Z,14nm,1.3s
W24A **Lazy 6 Ranch,** 94.20 51 ⇓P P 01 48 53.6 +0.5
baz=94,SNR=6.8
933A **Laredo** 94.27 60 ⇑P P 01 48 54.1 +0.8
baz=94
BJT **Baijiatuan** 94.27 315 PFAKE 01 49 00.0 +7.0
BJT LR LR
comp=Z,270nm,20.0s
BJI **Beijing** 94.28 315 P P 01 48 54.3 +1.3
BJI PP PP 01 52 41.5 +0.9
BJI S S 02 00 07.2 +4.3
BJI SS SS 02 06 29.6 +4.3
BJI PMZ
comp=Z,8.0nm,0.5s
BJI LN
comp=Z,2µm,13.6s
BJI LE
comp=Z,780nm,14.3s
BJI LZ
comp=Z,460nm,14.3s
631A **Perdido Creek** 94.29 58 ⇑P P 01 48 53.7 +0.3
baz=95
U23A **El Rito** 94.33 50 ⇓P P 01 48 54.6 +0.9
baz=95
228A **UT Block 9, Go** 94.36 55 ⇓P P 01 48 54.3 +0.5
baz=95
732A **Laxson Ranch,** 94.36 59 ⇑P P 01 48 54.0 +0.3
baz=95
034A **Hebbronville** 94.41 61 ⇓P P 01 48 55.1 +1.1
baz=95
329A **Wagon Wheel Ra** 94.44 56 ⇑P P 01 48 54.8 +0.7
baz=95
833A **Chaparral WMA,** 94.56 60 ⇓P P 01 48 55.8 +1.1
baz=95
430A **Baggett Ranch,** 94.58 57 ⇑P P 01 48 55.4 +0.7
baz=95
CMAR **Chiang Mai Arr** 94.66 289 P P 01 48 54.6 -0.7
comp=Z,1.0nm,0.4s,baz=139,slow=3.5,SNR=2.6
CMAR PP PP 01 52 44.1 +0.2
comp=Z,0.9nm,0.3s,baz=128,slow=5.8,SNR=4.6
CMAR LR LR 02 33 50.3
comp=Z,61nm,19.4s,baz=127,slow=37
128A **Castleberry Fa** 94.72 55 ⇓P P 01 48 55.9 +0.5
baz=95
531A **Rocksprings** 94.73 58 ⇓P P 01 48 55.7 +0.2
baz=95
229A **Bryant Ranch,** 94.82 55 ⇓P P 01 48 56.3 +0.5
baz=95
CHTO **Chiang Mai** 94.84 289 *e*P P 01 49 00.9 +4.7
CHTO MLR MLR
comp=Z,261nm,19.0s
CHTO **Chiang Mai** 94.84 289 *e*P P 01 49 00.9 +4.7
CHTO LR LR
comp=Z,261nm,19.0s
CHTO **Chiang Mai** 94.84 289 P P 01 49 07.5 +11
comp=Z,42nm,1.3s
733A **Divot King Ran** 94.85 59 ⇑P P 01 48 56.2 +0.2
baz=95
632A **Uvalde** 94.92 58 ⇓P P 01 48 56.5 +0.2
baz=95
330A **Mertzon** 94.96 56 ⇑P P 01 48 56.7 +0.2
baz=95
431A **Sonora** 94.97 57 ⇑P P 01 48 57.6 +1.1
baz=95
834A **Tilden** 95.08 60 ⇓P P 01 48 58.0 +0.9
baz=95
V25A **Rancho No Teng** 95.09 51 ⇓P P 01 48 58.0 +0.9
baz=95
KMI **Kunming** 95.13 296 P P 01 49 02.7 +5.1
KMI PMZ
comp=Z,11nm,1.1s
Z28A **Tucker Farm, M** 95.16 54 ⇓P P 01 48 57.4 -0.1
baz=95
532A **Rocksprings** 95.17 58 ⇓P P 01 48 57.9 +0.4
baz=96
AHID **Auburn Hatcher** 95.19 42 PFAKE 01 49 10.0 +13
AHID LR LR
comp=Z,626nm,19.0s
W26A **Owens Ranch, T** 95.23 52 ⇑P P 01 48 58.1 +0.4
baz=96
KVTX **Kingsville** 95.26 61 PFAKE 01 49 10.0 +12
KVTX LR LR
comp=Z,942nm,19.0s
230A **Sterling City** 95.27 56 ⇓P P 01 48 58.5 +0.6
baz=96
MSTX **Muleshoe** 95.27 53 ⇑P P 01 48 57.9 -0.1
baz=96
MSTX **Muleshoe** 95.27 53 *e*P P 01 48 58.1 +0.2
CMAI **Chiengmai2** 95.33 290 P P 01 49 10.1 +11
633A **Saathoff Ranch** 95.34 59 ⇑P P 01 48 59.2 +1.0
baz=96
JCT **Junction City** 95.44 58 *e*P P 01 48 58.7 0.0
JCT MLR MLR
comp=Z,643nm,21.0s
JCT **Junction City** 95.44 58 *e*P P 01 48 58.7 0.0
JCT LR LR
comp=Z,643nm,21.0s
331A **San Angelo** 95.44 57 ⇑P P 01 48 58.9 +0.2
baz=96
SDCO **Great Sand Dun** 95.61 49 *e*P P 01 48 59.7 +0.1
comp=Z,8.4nm,1.4s
Z29A **Hungry Hill Ra** 95.61 54 ⇓P P 01 48 59.3 -0.2
baz=96
432A **Menard** 95.66 57 ⇓P P 01 48 59.6 -0.1
baz=96
REDW **Red Top Meadow** 95.70 42 *e*P P 01 49 00.1 +0.3
comp=Z,11nm,1.0s
TPAW **Teton Pass** 95.72 42 *e*P P 01 49 01.2 +1.3
T25A **Trinidad** 95.97 50 ⇑P P 01 49 01.1 -0.1
baz=96
LOHW **Long Hollow** 96.00 42 *e*P P 01 49 01.3 +0.2
Z30A **Sanderson Ranc** 96.03 55 ⇑P P 01 49 01.4 0.0
baz=96
BW06 **Boulder Array** 96.08 43 PFAKE 01 49 10.0 +8.4
BW06 LR LR
comp=Z,341nm,21.0s
PDAR **Pinedale Array** 96.08 43 P P 01 49 01.0 -0.6
comp=Z,1.7nm,0.9s,baz=202,slow=3.3,SNR=8.5
PDAR PKKPbc PKKPbc 02 05 49.4 -0.5
comp=Z,0.5nm,0.6s,baz=83,slow=3.7,SNR=3.8
PDAR LR LR 02 26 38.8
comp=Z,242nm,19.6s,baz=259,slow=32
433A **Art** 96.10 58 ⇑P P 01 49 01.5 -0.1
baz=96,SNR=5.8
534A **Blanco** 96.16 59 ⇑P P 01 49 01.6 -0.4
baz=96
H17A **Grant Village** 96.50 41 ⇑P P 01 49 03.4 -0.1
baz=97
U27A **Thompson Grove** 96.61 51 ⇓P P 01 49 04.3 +0.3
baz=97
R25A **Fountain Ranch** 96.62 49 ⇑P P 01 49 05.3 +1.3
baz=97

J19A Crowheart 96.68 43 ⇑P P 01 49 04.7 +0.5
baz=97
BOZ Bozeman (W) 96.68 40 *e*P P 01 49 04.0 -0.1
BOZ pmax pmax
comp=Z,10.0nm,1.4s
BOZ MLR MLR
comp=Z,514nm,19.0s
BOZ Bozeman (W) 96.68 40 *e*P P 01 49 04.0 -0.1
comp=Z,9.9nm,1.4s
BOZ LR LR
comp=Z,514nm,19.0s
ABTX Abilene, Hawle 96.72 56 ⇑P P 01 49 04.3 -0.1
baz=97
434A Burnet 96.73 58 ⇑P P 01 49 05.1 +0.5
baz=97
O23A Lake Granby, G 96.77 47 ⇓P P 01 49 05.6 +0.8
baz=97
JTS JuntasAbangare 96.84 82 *e*P P 01 49 06.1 +0.7
JTS pmax pmax
comp=Z,30nm,1.9s
JTS JuntasAbangare 96.84 82 PFAKE 01 49 20.0 +15
JTS LR LR
comp=Z,283nm,20.0s
LPAZ La Paz 96.85 114 P P 01 49 07.0 +0.8
comp=Z,2.0nm,0.7s,baz=238,slow=4.2,SNR=12
LPAZ LR LR 02 26 01.0
comp=Z,101nm,18.4s,baz=242,slow=31
S26A Kim 96.86 50 ⇑P P 01 49 06.1 +1.0
baz=97
636A Smothers Creek 96.91 60 ⇑P P 01 49 05.2 -0.1
baz=97
P24A Kohler Place, 97.00 48 ⇓P P 01 49 05.8 0.0
baz=97
334A Lometa 97.03 58 ⇓P Pdif 01 49 06.0 0.0
baz=97
T27A Campo 97.04 51 ⇓P Pdif 01 49 06.4 +0.4
baz=97
M22A Cedar Creek Ra 97.04 46 ⇓P Pdif 01 49 07.0 +0.9
baz=97
SEY Seymchan 97.08 346 P P 01 49 04.3 -1.0
comp=Z,1.3nm,0.5s,baz=139,slow=2.6,SNR=3.8
I19A Meeteetse 97.18 42 ⇑P Pdif 01 49 07.5 +0.9
baz=98
H18A Shoshone NF, C 97.18 42 ⇑P Pdif 01 49 07.7 +1.0
baz=98
OTAV Otavalo 97.27 94 *e*P Pdif 01 49 08.1 0.0
comp=Z,2.2nm,0.9s
OTAV LR LR
comp=Z,331nm,21.0s
K21A Alcova 97.37 44 ⇓P Pdif 01 49 07.5 0.0
baz=98
CD2 Chengdu 97.43 302 P Pdif 01 49 09.7 +1.9
CD2 pP pP 01 49 14.5 -1.3
CD2 sP sP 01 49 16.7 -2.0
CD2 PP **PP** **01 53 09.9 +4.6**
CD2 SKS **SKSac** **01 59 45.9 +2.3**
CD2 S **ScS** **02 00 31.2 +0.2**
CD2 sS sS 02 00 38.7 -5.6
CD2 SS **SS** **02 07 14.4 +3.9**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
CD2 LN
comp=Z,970nm,18.6s
CD2 LE
comp=Z,1μm,12.7s
CD2 LZ
comp=Z,1μm,12.2s
HHC Hu-ho-hao-te 97.59 313 *e*P Pdif 01 49 09.3 +1.0
HHC sP sP 01 49 17.1 -2.2
HHC PP **PP** **01 53 10.9 +4.5**
HHC SKS **SKSac** **01 59 46.3 +2.2**
HHC S **S** **02 00 31.1 -0.7**
HHC PMZ
comp=Z,49nm,1.3s
HHC PMZ
comp=Z,390nm,8.7s
HHC LN
comp=Z,380nm,18.7s
HHC LE
comp=Z,490nm,17.4s
HHC LZ
comp=Z,510nm,14.9s
Y32A R-V Farms, Ver 97.60 55 ⇓P Pdif 01 49 09.4 +1.0
baz=98
I20A Worland 97.63 43 ⇑P Pdif 01 49 08.9 +0.4
baz=98
J21A Lysite 97.67 44 ⇑P Pdif 01 49 09.2 +0.5
baz=98
V30A Spur Ranch, Mi 97.69 53 ⇑P P 01 49 08.7 -0.1
baz=98
T29A Hugoton 98.04 51 ⇑P Pdif 01 49 10.3 -0.1
baz=98
HIA Hailar 98.04 324 PFAKE 01 49 20.0 +10
HIA LR LR
comp=Z,294nm,19.0s
HKT Hockley 98.06 60 *e*P Pdif 01 49 10.5 0.0
comp=Z,6.5nm,1.1s
V31A Spring Creek L 98.27 53 ⇑P P 01 49 11.2 -0.2
baz=99
WMOK Wichita Mounta 98.45 55 PFAKE 01 49 20.0 +7.8
WMOK LR LR
comp=Z,173nm,19.0s
COLA College 98.49 12 *e*P P 01 49 10.5 -1.1
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 98.49 12 *e*P P 01 49 10.4 -1.1
comp=Z,3.5nm,0.8s
ILAR Eielson Array 98.57 12 P P 01 49 10.7 -1.3
comp=Z,0.7nm,0.7s,baz=222,slow=5.5,SNR=13
ILAR PP **PP** **01 53 11.2 -2.1**
comp=Z,1.4nm,1.0s,baz=224,slow=8.2,SNR=4.9
ILAR PKKPbc **PKKPbc** **02 05 40.3 -3.1**
comp=Z,0.1nm,0.3s,baz=18,slow=2.9,SNR=3.8
ILAR LR LR 02 28 46.9
comp=Z,89nm,19.6s,baz=196,slow=32
U31A Nine Bar Ranch 98.59 53 ⇑P P 01 49 12.8 0.0
baz=99
H21A Big Horn, Sher 98.66 43 ⇓P Pdif 01 49 13.4 +0.4
baz=99
F20A Billings 98.71 41 ⇑P Pdif 01 49 14.9 +1.7
baz=99
337A Centerville 98.73 59 ⇑P Pdif 01 49 13.7 +0.2
baz=99
TEIG Tepich 99.04 72 PFAKE 01 49 30.0 +15
TEIG LR LR
comp=Z,142nm,22.0s
OGNE Ogallala 99.63 48 PFAKE 01 49 30.0 +13
OGNE LR LR
comp=Z,327nm,19.0s
BILL Bilibino 99.84 354 *e*P **Pdif** **01 49 20.2 +2.7**
BILL pmax pmax
comp=Z,6.0nm,1.6s
NATX Nacogdoches 99.86 59 *e*Pdif **Pdif** **01 49 19.2 +0.7**
LZH Lanzhou 100.07 306 *e*P **Pdif** **01 49 21.2 +1.6**
LZH pP pP 01 49 25.4 -2.3
LZH sP sP 01 49 28.1 -2.5
LZH PMZ
comp=Z,14nm,1.0s
RSSD Black Hills 100.14 44 *e*P **Pdif** **01 49 19.6 -0.1**
RSSD Black Hills 100.14 44 *e*Pdif **Pdif** **01 49 19.6 -0.1**
BCIP Isla Barro Col 100.63 86 PFAKE 01 49 30.0 +7.7
BCIP LR LR
comp=Z,354nm,19.0s
MIAR Mount Ida 102.04 57 PFAKE 01 49 40.0 +12
MIAR LR LR
comp=Z,374nm,20.0s
KSU1 Kansas State U 102.20 52 PFAKE 01 49 40.0 +11
KSU1 LR LR
comp=Z,293nm,19.0s
YAK Yakutsk 102.47 337 PFAKE 01 49 40.0 +11
YAK LR LR
comp=Z,308nm,20.0s
ULN Ulaanbaatar 104.12 318 PFAKE 01 49 50.0 +13
ULN LR LR
comp=Z,302nm,22.0s
PALK Pallekele 104.39 270 *e*P **Pdif** **01 49 39.5 +0.3**
PALK Pallekele 104.39 270 *e*Pdif **Pdif** **01 49 39.5 +0.3**
SONM Songino Array 104.49 317 PKKPbc PKKPbc 02 05 24.9 -0.7
comp=Z,0.6nm,0.6s,baz=313,slow=4.9,SNR=4.3
ECSD EROS Data Cent 104.50 48 PFAKE 01 49 50.0 +11
ECSD LR LR
comp=Z,457nm,19.0s
SAML Samuel 105.02 110 PFAKE 01 54 10.0
SAML LR LR
comp=Z,386nm,20.0s
BRAL Brewton 105.18 63 PFAKE 01 54 10.0
BRAL LR LR
comp=Z,413nm,19.0s
YKA Yellowknife Ar 105.81 25 Pdiff **Pdif** **01 49 43.7 -0.5**
comp=Z,0.2nm,0.7s,baz=234,slow=4.4,SNR=4.4
YKA PKIKP **PKiKP** **01 53 55.8 -0.9**
comp=Z,0.4nm,0.6s,baz=263,slow=1.5,SNR=14
YKA PKKPbc **PKKPbc** **02 05 19.7 -2.1**
comp=Z,0.3nm,0.8s,baz=35,slow=3.1,SNR=6.0
LSA Lhasa 106.34 295 PFAKE 01 54 10.0
LSA LR LR
comp=Z,237nm,20.0s
WVT Waverly 106.93 58 *e*PKP 01 53 57.1
WVT *e*PP **PP** **01 54 14.7 -1.9**
MTDJ Mount Denham 106.97 79 PFAKE 01 54 10.0
MTDJ LR LR
comp=Z,583nm,21.0s
TLY Talaya 107.93 320 PFAKE 01 54 10.0
TLY LR LR
comp=Z,176nm,19.0s
SDV Santo Domingo 108.36 91 PFAKE 01 54 10.0
SDV LR LR
comp=Z,342nm,19.0s
WCI Wyandotte Cave 108.94 56 *e*PKP 01 54 03.5
TIXI Tiksi 109.40 344 PFAKE 01 54 10.0
TIXI LR LR
comp=Z,190nm,19.0s
NHSC New Hope 111.35 64 PFAKE 01 54 20.0
NHSC LR LR
comp=Z,334nm,20.0s
ACSO Alum Creek Sta 112.11 56 PFAKE 01 54 20.0
ACSO LR LR
comp=Z,610nm,19.0s
PTGA Pitinga 112.33 105 PFAKE 01 54 20.0
PTGA LR LR
comp=Z,145nm,21.0s
SDDR Presa de Saban 112.58 81 PFAKE 01 54 20.0
SDDR LR LR
comp=Z,372nm,22.0s
FCC Fort Churchill 112.62 34 *e*PKiKP **PKiKP** **01 54 08.2 -1.3**
FCC Fort Churchill 112.62 34 *e*PKP **PKiKP** **01 54 08.2 -1.3**
CNNC Cliffs of the 113.93 62 PFAKE 01 54 20.0
CNNC LR LR
comp=Z,139nm,22.0s
ABPO Ambohimpanom 114.50 226 PFAKE 01 54 30.0 +15
ABPO LR LR
comp=Z,194nm,19.0s
WMQ Urumqi 114.58 308 *e*PKP PKPdf 01 54 11.0 -2.9
WMQ PP **PP** **01 55 13.0 +1.3**
WMQ PKS **PKSdf** **01 57 46.0 -4.5**
WMQ SS SS 02 11 01.0 -3.0
WMQ PPMZ
comp=Z,130nm,5.2s
WMQ LN
comp=Z,210nm,26.0s
WMQ LE
comp=Z,460nm,26.8s
WMQ LZ
comp=Z,420nm,25.4s
BOSA Boshof 116.82 202 *e*PKiKP **PKPdf** **01 54 19.1 +0.2**
BOSA Boshof 116.82 202 *e*PKPdf **PKPdf** **01 54 19.1 +0.2**
GRGR Grenville 117.64 92 PFAKE 01 54 30.0 +9.5
GRGR LR LR
comp=Z,381nm,19.0s
BINY Binghamton 117.74 56 PFAKE 01 54 30.0 +10
BINY LR LR
comp=Z,712nm,19.0s
RES Resolute Bay 117.80 17 *e*PKiKP **PKPdf** **01 54 18.6 -0.5**
RES Resolute Bay 117.80 17 *e*PKPdf **PKPdf** **01 54 18.6 -0.5**
MSEY Mahe Island 118.69 244 PFAKE 01 54 30.0 +7.3
MSEY LR LR
comp=Z,192nm,20.0s
MKAR Makanchi Array 119.13 309 PKP **PKPdf** **01 54 21.0 -1.5**
comp=Z,0.7nm,0.6s,baz=105,slow=0.9,SNR=9.6
MKAR PKKPbc **PKKPab** **02 04 37.1 +0.4**
comp=Z,0.6nm,0.6s,baz=291,slow=3.9,SNR=8.5
ZALV Zalesovo Beam 119.38 318 PKP **PKPdf** **01 54 20.8 -1.9**
comp=Z,1.0nm,0.6s,baz=144,slow=1.2,SNR=5.9
NCB Newcomb 119.50 54 PFAKE 01 54 30.0 +6.7
NCB LR LR
comp=Z,959nm,21.0s
BBGH Gun Hill 119.91 92 *e*PKPdf **PKPdf** **01 54 26.5 +1.5**
LBTB Lobatse 120.04 204 *e*PKiKP **PKPdf** **01 54 24.7 -0.5**
LBTB Lobatse 120.04 204 *e*PKPdf **PKPdf** **01 54 24.7 -0.5**
ANWB Willy Bob 120.08 87 PFAKE 01 54 40.0 +15
ANWB LR LR
comp=Z,246nm,19.0s
NVS Novosibirsk 120.48 319 *e*PKiKP **PKPdf** **01 54 22.0 -2.8**
NVS pmax pmax
comp=Z,7.0nm,1.3s
NVS pmax pmax
comp=N,3.0nm,1.6s
NVS pmax pmax
comp=E,4.0nm,1.6s
KSH Kashi 121.57 300 *e*PKP PKPdf 01 54 33.1 +5.5
KSH PPMZ
comp=E,150nm,5.5s
KSH LN
comp=E,120nm,5.5s
KSH LE
comp=E,110nm,5.0s
KSH LZ
comp=E,210nm,11.1s
KURK Kurchatov 122.41 313 *e*PKiKP **PKPdf** **01 54 26.3 -2.3**
KURK MLR MLR
comp=Z,305nm,19.0s
KURK Kurchatov 122.41 313 *e*PKPdf **PKPdf** **01 54 26.3 -2.3**
KURK LR LR
comp=Z,305nm,19.0s
TKM2 Tokmak 2 122.74 304 *e*PKiKP **PKPdf** **01 54 28.7 -1.1**
TKM2 MLR MLR
comp=Z,241nm,19.0s
TKM2 Tokmak 2 122.74 304 *e*PKPdf **PKPdf** **01 54 28.7 -1.1**
TKM2 LR LR
comp=Z,241nm,19.0s
PKME Peaks-Kenny Pk 123.23 54 PFAKE 01 54 40.0 +10
PKME LR LR
comp=Z,441nm,21.0s
BBSR BB Station 123.24 70 PFAKE 01 54 40.0 +9.2
BBSR LR LR
comp=Z,1μm,22.0s
AAK Ala-Archa 123.46 303 *e*PKiKP **PKPdf** **01 54 30.3 -0.9**
AAK MLR MLR
comp=Z,224nm,20.0s
AAK Ala-Archa 123.46 303 *e*PKPdf **PKPdf** **01 54 30.3 -0.9**
AAK LR LR
comp=Z,224nm,20.0s
EKS2 Erkin-Say 123.98 303 *e*PKiKP **PKPdf** **01 54 31.4 -0.7**
EKS2 MLR MLR
comp=Z,241nm,21.0s
EKS2 Erkin-Say 123.98 303 *e*PKPdf **PKPdf** **01 54 31.4 -0.7**
EKS2 LR LR
comp=Z,241nm,21.0s
KBL Kabul 125.51 292 *e*PKiKP **PKPdf** **01 54 35.5 +0.1**
KBL Kabul 125.51 292 *e*PKPdf **PKPdf** **01 54 35.5 +0.1**
SCHQ Schefferville 126.22 42 PKP **PKPdf** **01 54 35.5 -0.3**
comp=Z,4.8nm,0.9s,baz=192,slow=1.9,SNR=7.1
KKAR Karatay Array 126.42 303 *e*PKiKP **PKPdf** **01 54 36.0 -0.6**
KKAR Karatay Array 126.42 303 *e*PKPdf **PKPdf** **01 54 36.0 -0.6**
RCBR Riachuelo 127.51 128 *e*PKPdf **PKPdf** **01 54 40.3 +0.6**
RCBR LR LR
comp=Z,364nm,20.0s
LSZ Lusaka 127.84 211 *e*PKiKP **PKPdf** **01 54 40.3 0.0**
LSZ MLR MLR
comp=Z,235nm,20.0s
LSZ Lusaka 127.84 211 *e*PKPdf **PKPdf** **01 54 40.3 0.0**
LSZ LR LR
comp=Z,235nm,20.0s
TSUM Tsumeb 127.92 197 *e*PKPdf **PKPdf** **01 54 40.9 +0.4**
TSUM LR LR
comp=Z,284nm,19.0s
KBS Kingsbay 132.12 358 PFAKE 01 55 00.0 +14
KBS LR LR
comp=Z,214nm,21.0s
ABKAR Akbulak array 134.27 310 *e*PKPdf **PKPdf** **01 54 51.9 +0.6**
KMBO Kilima Mbogo 134.34 232 PKiKP **PKPdf** **01 54 53.8 +0.9**
KMBO MLR MLR
comp=Z,210nm,20.0s
KMBO Kilima Mbogo 134.34 232 PKP **PKPdf** **01 54 53.8 +0.9**
comp=Z,10.0nm,0.3s,baz=133,slow=4.4,SNR=3.7
KMBO Kilima Mbogo 134.34 232 PKP **PKPdf** **01 54 53.8 +0.9**
KMBO LR LR
comp=Z,210nm,20.0s
ARU Arti 134.43 320 *e*PKiKP **PKPdf** **01 54 51.6 +0.3**
ARU MLR MLR
comp=Z,364nm,22.0s
ARU Arti 134.43 320 *e*PKPdf **PKPdf** **01 54 51.6 +0.3**
ARU LR LR
comp=Z,364nm,22.0s
GEYT Alibeck 134.86 294 PKP **PKPdf** **01 54 52.9 +0.1**
comp=Z,2.0nm,0.7s,baz=108,slow=0.5,SNR=4.5
GEYT PKKP **PKKPdf** **02 04 42.3 +5.1**
comp=Z,1.2nm,0.5s,baz=275,slow=7.3,SNR=3.7
AKTO Aktyubinsk 135.46 312 PKiKP **PKPdf** **01 54 53.0 -0.5**
AKTO Aktyubinsk 135.46 312 PKP **PKPdf** **01 54 53.0 -0.5**
comp=Z,1.6nm,0.7s,baz=49,slow=2.6,SNR=8.0
ASCN Ascension 137.53 154 *e*PKPdf **PKPdf** **01 54 57.8 -0.7**
ASCN LR LR
comp=Z,900nm,22.0s
LVZ Lovozero 139.01 342 PFAKE 01 55 10.0 +10
LVZ LR LR
comp=Z,237nm,19.0s
KEV Kevo 139.22 348 *e*PKiKP **PKPdf** **01 54 59.7 -0.1**
KEV Kevo 139.22 348 *e*p **PKPdf** **01 54 59.7 -0.1**
ARCES ARCESS Array B 139.68 348 PKhKP PKPpre 01 54 53.3
comp=Z,2.9nm,0.7s,baz=20,slow=2.9,SNR=8.3
ARCES PKP **PKPdf** **01 54 59.7 -1.0**
comp=Z,3.7nm,0.6s,baz=50,slow=1.9,SNR=15
RAYN Ar Rayn 141.83 269 *e*PKPdf **PKPdf** **01 55 03.7 -2.4**
JOF Joensuu 143.62 339 *e*p PKPab 01 55 03.6 -0.9
comp=Z,6.1nm,0.6s
DGRG David-gareji 144.86 299 P **PKPdf** **01 55 10.5 -0.3**
TBLG Delisi 145.31 299 *e*P **PKPab** **01 55 12.9 +1.3**
TBLG Delisi 145.31 299 P **PKPab** **01 55 12.2 +0.7**
GNI Garni 145.39 296 *e*PKiKP **PKPab** **01 55 12.4 +0.3**
GNI MLR MLR
comp=Z,148nm,19.0s
GNI Garni 145.39 296 PKPbc **PKPdf** **01 55 11.9 0.0**
comp=Z,2.4nm,0.4s,baz=170,slow=4.3,SNR=18
GNI Garni 145.39 296 *e*PKPbc **PKPab** **01 55 12.4 +0.3**
GNI LR LR
comp=Z,148nm,19.0s
GUDG Gudauri 145.45 301 P **PKPdf** **01 55 11.8 -0.3**
VRHR Novokhopersk 145.49 316 *e*PKP2 **PKPdf** **01 55 08.5 -3.0**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
KZR Kazreti 145.58 299 P **PKPab** **01 55 13.3 +0.7**
MOS Moscow 145.65 325 *e*PKP2 **PKPdf** **01 55 10.0 -1.6**
MOS pmax pmax
comp=Z,125nm,0.8s
MOS pmax pmax
comp=Z,200nm,1.0s
KAF Kangasniemi 145.73 341 *e*PKiKP **PKPdf** **01 55 10.0 -1.6**
KAF pmax pmax
comp=Z,18nm,0.7s
KAF Kangasniemi 145.73 341 *e*p **PKPdf** **01 55 10.0 -1.6**
comp=Z,18nm,0.7s
MSKU Masuku 145.76 199 PKPbc **PKPab** **01 55 14.2 +0.2**
comp=Z,20nm,0.5s,baz=170,slow=4.3,SNR=13
ZEI Tsey 145.84 301 *i* PKP2 **PKPdf** **01 55 12.8 +0.1**
ZEI pmax pmax
comp=Z,77nm,1.3s
CLDR Caldiran 146.04 295 *e*P **PKPab** **01 55 14.5 -0.2**
HKR Hakkari 146.17 292 *e*P **PKPab** **01 55 15.0 -0.1**
ONI Oni 146.19 301 P **PKPbc** **01 55 14.5 +0.3**
CUKT Cukurca 146.26 291 *e*P **PKPbc** **01 55 14.8 +0.1**
AKH Akhalkalaki 146.27 299 P **PKPab** **01 55 17.0 +1.7**
FINES FINESS Array B 146.33 340 PKPbc **PKPdf** **01 55 12.6 0.0**
comp=Z,27nm,0.6s,baz=76,slow=2.4,SNR=111
KBZ Khabaz 146.46 303 PKPbc **PKPdf** **01 55 13.8 +0.5**
comp=Z,5.8nm,0.9s,baz=156,slow=5.1,SNR=15
VANB Van 146.46 294 *e*P **PKPab** **01 55 16.5 +0.4**
OBN Obninsk 146.49 325‖ *e*PKP2 **PKPdf** **01 55 13.6 +0.6**
OBN pmax pmax
comp=Z,112nm,1.5s
OBN Obninsk 146.49 325 PFAKE 01 55 20.0 +4.5
OBN LR LR
comp=Z,244nm,22.0s
KIV Kislovodsk 146.57 303 *e*PKP2 **PKPab** **01 55 17.0 +0.6**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV Kislovodsk 146.57 303 *e*PKPbc **PKPbc** **01 55 14.6 -0.7**
KIV LR LR
comp=Z,184nm,21.0s
KARS Kars 146.63 297 *e*P **PKPdf** **01 55 13.5 -0.6**
AGRB Hanur-Agry 146.75 296 *e*P **PKPdf** **01 55 14.9 +0.6**
VSR Storozhevoye 146.88 317 *e*PKiKP **PKPdf** **01 55 13.2 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,1.0s
VORD Divnogorie 146.91 317 *e*PKiKP **PKPdf** **01 55 12.9 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,100nm,0.7s
VORD pmax pmax
comp=E,40nm,0.6s
CHVG Ch'k'valeri 147.18 301 P **PKPbc** **01 55 16.1 -0.9**
SIRT Sirnak 147.20 292 *e*P **PKPab** **01 55 18.2 -0.8**
BCA Borcka 147.67 299 *e*P **PKPbc** **01 55 18.1 -0.2**
BTMT Batman 147.95 293 *e*P **PKPdf** **01 55 17.3 +1.1**
SVAN Silvan-Diyarba 148.18 293 *e*P **PKPbc** **01 55 19.7 -0.1**
BNGB Bing'¶l 148.57 295 *e*P **PKPbc** **01 55 20.5 -0.4**
SOC Sochi 148.76 303 *i* PKP2 **PKPbc** **01 55 20.5 -0.6**
SOC pmax pmax
comp=Z,30nm,1.3s
SOC MLR MLR
comp=Z,278nm,21.0s
DYBB Diyarbakir 149.02 293 *e*P **PKPbc** **01 55 21.8 -0.3**
ERZN Erzincan 149.27 296 *e*P **PKPbc** **01 55 23.8 +1.1**
GUMT Gumushane 149.38 298 *e*P **PKPbc** **01 55 23.0 0.0**
SVRC Sivrice-ELAZID 149.66 293 *e*P **PKPbc** **01 55 23.8 0.0**
NB2 NORSAR Subarra 149.78 352 PKP **PKPbc** **01 55 21.6 -1.5**
comp=Z,31nm,1.4s,baz=10,slow=3.2
NOA NORSAR Array B 149.78 352 PKPbc **PKPbc** **01 55 22.3 -0.9**
comp=Z,9.2nm,0.8s,baz=14,slow=4.1,SNR=24
ESPY Espiye-Giresun 149.90 299 *e*P **PKPbc** **01 55 21.8 -2.3**
MALT Malatya 150.36 293 *e*P **PKPbc** **01 55 24.6 -0.8**
MALT Malatya 150.36 293 ⇑PKiKP **PKPbc** **01 55 25.6 +0.2**
MALT Malatya 150.36 293 ⇑*i*P **PKPbc** **01 55 25.6 +0.2**
IDID Didziasalis 150.78 332 *e*P **PKPbc** **01 55 24.9 -0.7**
IDID AMB AMB 01 55 36.3
comp=Z,13nm,1.1s
ISAL Salakas 150.83 333 *e*P **PKPbc** **01 55 25.0 -0.7**
ISAL AMB AMB 01 55 27.4
comp=Z,14nm,1.4s
IIGN Ignalina 150.96 333 *e*P **PKPbc** **01 55 25.3 -0.8**
IIGN AMB AMB 01 55 36.9
comp=Z,20nm,1.0s
RSDY Resadiye-TOKAT 151.02 298 *e*P **PKPbc** **01 55 25.4 -1.4**
NACGM Naroch 151.05 331 *e* **PKPdf** **01 55 23.0 +2.5**
DARE Darende-Malaty 151.08 294 *e*P **PKPbc** **01 55 26.2 -0.9**
SVSK Karacayir 151.33 297 *e*P **PKPbc** **01 55 27.4 0.0**
KMRS Kahramanmaras 151.60 292 *e*P **PKPbc** **01 55 27.0 -1.2**
KVT Kavak 151.88 300 *e*P **PKPab** **01 55 36.7 -1.3**
SIM Simferopol' 152.30 308 *i* PKiKP **PKPdf** **01 55 25.6 +2.9**
SIM pmax pmax
comp=Z,29nm,1.1s
BNN Bunyan 152.34 295 *e*P **PKPdf** **01 55 18.7 -4.5**
DIKM Dikmen 152.36 301 *e*P **PKPbc** **01 55 28.2 -1.5**
KOZT Kozan 152.46 292 *e*P **PKPbc** **01 55 31.9 +1.7**
AKASG Malin Array Be 152.63 323 PKPbc **PKPbc** **01 55 29.2 -0.8**
comp=Z,5.2nm,0.6s,baz=48,slow=2.5,SNR=29
AKASG PKPab **PKPab** **01 55 39.4 -1.3**
comp=Z,18nm,0.8s,baz=47,slow=3.5,SNR=26
KIEV Kiev 152.64 323 *e*PKiKP **PKPbc** **01 55 28.9 -1.1**
KIEV *e* 01 55 39.2
KIEV MLR MLR
comp=Z,297nm,19.0s
KIEV Kiev 152.64 323 *e*PKPbc **PKPbc** **01 55 28.9 -1.1**
KIEV *e*PKPab **PKPab** **01 55 39.2 -1.5**
KIEV LR LR
comp=Z,297nm,19.0s
MMAI Mount Meron Ar 152.73 282 PKPbc **PKPbc** **01 55 31.2 +0.2**
comp=Z,3.4nm,0.4s,baz=98,slow=5.0,SNR=37
MMAI PKPab **PKPab** **01 55 41.0 -0.8**
comp=Z,3.9nm,0.6s,baz=69,slow=4.9,SNR=4.8
KARA Karaisali 153.08 291 *e*P **PKPbc** **01 55 29.8 -1.7**
CORM Corum 153.09 298 *e*P **PKPbc** **01 55 31.0 -0.6**
SUW Suwalki 153.13 333 *e*PKiKP **PKPdf** **01 55 23.0 -0.6**
SUW *e* 01 55 30.1

SUW				*e*		01 55 40.4		
SUW	**Suwalki**	**153.13 333**		*e*PKP	**PKPbc**	**01 55 30.3**	**-0.7**	
SUW				*e*		01 55 40.5		
SUW	**Suwalki**	**153.13 333**		*e*PKPdf	**PKPdf**	**01 55 23.0**	**-0.6**	
SUW				*e*PKPbc	**PKPbc**	**01 55 30.1**	**-0.9**	
SUW				*e*PKPab	**PKPab**	**01 55 40.4**	**-2.3**	
BZK	**Bozkurt**	**153.21 302**		*e*P	**PKPdf**	**01 55 25.0**	**+0.9**	
EREN	**Erenkoy**	**153.85 288**		*e*P	**PKPbc**	**01 55 31.0**	**-2.1**	
LIC	**Lamto**	**153.90 161**		*e*PKIKP	**PKPbc**	**01 55 34.5**	**+0.6**	
	comp=Z,61nm,1.6s							
BRTR	**Keskin Array B**	**153.92 297**		PKPbc	**PKPbc**	**01 55 32.5**	**-0.9**	
	comp=Z,0.8nm,0.9s,baz=108,slow=3.2,SNR=4.0							
BRTR				PKPab	**PKPab**	**01 55 44.8**	**-2.0**	
	comp=Z,3.1nm,0.8s,baz=134,slow=4.2,SNR=11							
KIC	**Kosan Boka**	**154.10 162**		*e*PKIKP	**PKPbc**	**01 55 34.2**	**-0.2**	
	comp=Z,63nm,1.3s							
SULT	**Sultanhani-AKS**	**154.22 294**		*e*P	PKPab	01 55 41.1	-6.9	
TIC	**Toumodi**	**154.30 161**		*e*PKIKP	**PKPbc**	**01 55 34.5**	**-0.3**	
	comp=Z,4.1nm,0.2s							
DBIC	**Dimbokro**	**154.37 161**		*e*PKIKP	**PKPdf**	**01 55 25.9**	**-0.7**	
DBIC				*e*		01 55 35.0		
DBIC				*e*		01 55 48.9		
DBIC	**Dimbokro**	**154.37 161**		PKPbc	**PKPbc**	**01 55 35.8**	**+0.8**	
	comp=Z,3.7nm,0.8s,baz=180,slow=4.0,SNR=5.5							
DBIC				PKPab	**PKPab**	**01 55 49.4**	**+0.5**	
	comp=Z,5.3nm,0.9s,baz=162,slow=4.3,SNR=3.0							
DBIC	**Dimbokro**	**154.37 161**		*e*PKPdf	**PKPdf**	**01 55 25.9**	**-0.7**	
DBIC				*e*PKPbc	**PKiKP**	**01 55 35.0**	**0.0**	
DBIC				*e*PKPab	**PKPab**	**01 55 48.9**	**0.0**	
AFSR	**Af ar-Bala (A**	**154.40 297**		*e*P	**PKPbc**	**01 55 37.5**	**+3.1**	
ANTO	**Ankara**	**154.54 298**		*e*P	**PKPdf**	**01 55 29.1**	**+2.9**	
ANTO	**Ankara**	**154.54 298**		*e*PKIKP	**PKPdf**	**01 55 25.7**	**-0.5**	
ANTO				*e*		01 55 34.7		
ANTO				MLR	MLR			
	comp=Z,151nm,19.0s							
ANTO	**Ankara**	**154.54 298**	⇓	*i*P	**PKPbc**	**01 55 35.7**	**+1.1**	
ANTO	**Ankara**	**154.54 298**		*e*PKPdf	**PKPdf**	**01 55 25.6**	**-0.5**	
ANTO				*e*PKPbc	**PKiKP**	**01 55 34.7**	**0.0**	
ANTO				LR	LR			
	comp=Z,151nm,19.0s							
CSS	**Prodhromos**	**154.54 286**		*e*P	**PKPdf**	**01 55 26.5**	**+0.3**	
CSS	**Prodhromos**	**154.54 286**		*e*PKPdf	**PKPdf**	**01 55 24.5**	**-1.7**	
CSS				*e*PKPbc	**PKPbc**	**01 55 32.9**	**-1.9**	
CSS				*e*PKPab	**PKPab**	**01 55 48.5**	**-0.8**	
CSS				LR	LR			
	comp=Z,40nm,20.0s							
LOD	**Lodumlu**	**154.56 298**		*e*P	**PKPbc**	**01 55 33.5**	**-1.2**	
LEF	**Lefka**	**154.90 287**		*e*P	PKPab	01 55 45.6	-5.3	
LADK	**Ladik-KONYA**	**155.12 294**		*e*P	PKPab	01 55 42.8	-9.1	
LEOM	**Leova**	**155.44 315**	⇓	*i*P	PKPab	01 56 05.0	+12	
SVRH	**Sivrihisar-ESK**	**155.58 297**		*e*P	**PKPdf**	**01 55 30.6**	**+3.0**	
MDUB	**Mudurnu**	**155.61 300**		*e*P	PKPdf	01 55 40.3	+13	
TLCR		**155.69 312**	⇑⇑	PKP2	**PKPab**	**01 55 53.7**	**-0.1**	
TLCR		**155.69 312**	⇑	*i*P	**PKPab**	**01 55 53.7**	**-0.1**	
BEL	**Belsk**	**155.73 333**		*e*PKP2	PKPab	01 55 47.0	-6.8	
BEL	**Belsk**	**155.73 333**		*e*PKP	PKPab	01 55 46.9	-6.8	
BEL				*e*		01 56 01.3		
CFR	**Carcaliu**	**156.12 313**	⇑⇑	PKP2	PKPab	01 55 47.5	-8.2	
CFR	**Carcaliu**	**156.12 313**	⇑	*i*P	PKPab	01 55 47.5	-8.2	
GULT	**Gulveren**	**156.13 300**		*e*P	PKPdf	01 55 37.5	+9.2	
TIRR	**Tirgusor**	**156.26 311**	⇑⇑	PKP2	**PKPab**	**01 55 54.4**	**-1.9**	
TIRR	**Tirgusor**	**156.26 311**	⇑	*i*P	**PKPab**	**01 55 54.4**	**-1.9**	
TIRR	**Tirgusor**	**156.26 311**		*e*PKPab	**PKPab**	**01 55 55.2**	**-1.1**	
TESR	**Tescani**	**156.37 317**	⇑	*i*P	**PKPab**	**01 55 55.4**	**-1.4**	
TLB	**Topalu**	**156.44 311**	⇑⇑	PKP2	**PKPab**	**01 55 54.9**	**-2.2**	
TLB	**Topalu**	**156.44 311**	⇑	*i*P	**PKPab**	**01 55 54.9**	**-2.2**	
KWP	**Kalwaria Pacla**	**156.54 327**		*e*PKIKP	**PKPdf**	**01 55 27.0**	**-1.5**	
KWP				*e*		01 55 56.7		
KWP				MLR	MLR			
	comp=Z,362nm,21.0s							
KWP	**Kalwaria Pacla**	**156.54 327**		*e*PKP	PKPab	01 55 47.2	-10	
KWP				*e*		01 55 57.1		
KWP	**Kalwaria Pacla**	**156.54 327**	⇑	*i*P	**PKPab**	**01 55 57.3**	**-0.1**	
KWP	**Kalwaria Pacla**	**156.54 327**		*e*PKPdf	**PKPdf**	**01 55 27.0**	**-1.5**	
KWP				*e*PKPab	**PKPab**	**01 55 56.7**	**-0.7**	
KWP				LR	LR			
	comp=Z,362nm,21.0s							
BURAR	**Bucovina Array**	**156.57 320**	⇑⇑	PKP2	**PKPab**	**01 55 57.8**	**+0.1**	
BURAR	**Bucovina Array**	**156.57 320**	⇑	*i*P	**PKPab**	**01 55 57.8**	**+0.1**	
ISP	**Isparta**	**156.62 294**		PFAKE		01 55 40.0	+11	
ISP				LR	LR			
	comp=Z,189nm,19.0s							
VRI	**Vrincioaia**	**156.66 315**	⇓⇓	PKP2	PKPab	01 55 50.5	-7.5	
VRI	**Vrincioaia**	**156.66 315**	⇓	*i*P	PKPab	01 55 50.5	-7.5	
PLOR	**Plostina**	**156.71 315**	⇑⇑	PKP2	**PKPab**	**01 55 59.1**	**+0.8**	
PLOR	**Plostina**	**156.71 315**	⇑	*i*P	**PKPab**	**01 55 59.1**	**+0.8**	
PSN	**Preselentsi**	**156.73 309**	⇑⇑	PKP2	**PKPab**	**01 55 59.1**	**+0.7**	
PSN	**Preselentsi**	**156.73 309**	⇑	*i*P	**PKPab**	**01 55 59.1**	**+0.7**	
MSAB	**Monastry St. A**	**156.79 310**	⇑	*i*P	**PKPab**	**01 55 56.5**	**-2.1**	
PGOR	**Pogoanele**	**156.97 313**	⇑	*i*P	PKPab	01 56 06.8	+7.4	
KOLS	**Kolonicke sedl**	**157.23 326**		*e*PKP2	**PKPab**	**01 56 00.6**	**+0.2**	
KOLS	**Kolonicke sedl**	**157.23 326**		*e*PKP	**PKPab**	**01 56 00.6**	**+0.2**	
MLR	**Muntele Rosu**	**157.32 315**	⇑⇑	PKP2	PKPab	01 55 52.3	-8.8	
MLR	**Muntele Rosu**	**157.32 315**	⇑	*i*P	PKPab	01 55 52.3	-8.8	
STHS	**Stebnicka Huta**	**157.37 328**		*e*PKP2	**PKPab**	**01 56 01.4**	**+0.5**	
STHS	**Stebnicka Huta**	**157.37 328**		*e*PKP	**PKPab**	**01 56 01.4**	**+0.5**	
DOPR	**Dopca**	**157.40 317**	⇓	*i*P	**PKPab**	**01 55 49.1**	**+0.6**	
UZH	**Uzhgorod**	**157.43 326**		*e*PKP2	**PKPab**	**01 56 01.0**	**-0.2**	
SULR		**157.53 313**	⇑	*i*P	**PKPab**	**01 56 02.4**	**+0.6**	
CRVS	**Cervenica-Dubn**	**157.63 327**		*e*PKP2	**PKPab**	**01 56 02.6**	**+0.5**	
CRVS	**Cervenica-Dubn**	**157.63 327**		*e*PKP	**PKPab**	**01 56 02.6**	**+0.5**	
TRPA	**Tarpa**	**157.65 324**	⇓	*i*P	**PKPab**	**01 56 02.2**	**+0.1**	
VOIR		**157.89 316**	⇓⇓	PKP2	**PKPab**	**01 56 06.0**	**+2.6**	
VOIR		**157.89 316**	⇓	*i*P	**PKPab**	**01 56 06.0**	**+2.6**	
ARR	**Arges**	**158.17 316**	⇓	*i*P	**PKPdf**	**01 55 31.3**	**+0.5**	
KSP	**Ksiaz**	**158.18 337**		*e*PKP2	**PKPab**	**01 56 04.8**	**+0.5**	
KSP	**Ksiaz**	**158.18 337**		*e*PKP	**PKPab**	**01 56 05.0**	**+0.7**	
OKC	**Ostrava-Krasne**	**158.34 333**		*e*PKP2	**PKPab**	**01 56 02.6**	**-2.5**	
OKC	**Ostrava-Krasne**	**158.34 333**		*e*PKPAB	**PKPab**	**01 56 02.6**	**-2.5**	
KECS	**Kecovo**	**158.39 328**		*e*PKP2	**PKPab**	**01 56 05.5**	**+0.1**	
KECS	**Kecovo**	**158.39 328**		*e*PKP	**PKPab**	**01 56 05.5**	**+0.1**	
DRGR		**158.43 321**	⇓⇓	PKP2	**PKPab**	**01 56 06.5**	**+0.8**	
DRGR		**158.43 321**	⇓	*i*P	**PKPab**	**01 56 06.5**	**+0.8**	
UPC	**Upice**	**158.56 337**		*e*PKP2	**PKPab**	**01 56 05.9**	**+0.5**	
UPC	**Upice**	**158.56 337**		*e*PKPAB	**PKPab**	**01 56 06.5**	**+0.5**	
DPC	**Dobruska-Polom**	**158.59 336**		*e*PKP2	**PKPab**	**01 56 05.9**	**-0.3**	
DPC	**Dobruska-Polom**	**158.59 336**		*e*PKPAB	**PKPab**	**01 56 05.9**	**-0.3**	
DPC				*e*pPKP	pPKP	01 56 16.1		
MORC	**Moravsky Berou**	**158.62 334**		*e*PKIKP	**PKPdf**	**01 55 29.8**	**-1.3**	
MORC				*e*		01 56 06.1		
MORC	**Moravsky Berou**	**158.62 334**		*e*PKPdf	**PKPdf**	**01 55 29.8**	**-1.3**	
MORC				*e*PKPab	**PKPab**	**01 56 06.1**	**-0.3**	
KRLC	**Kraliky**	**158.66 335**		*e*PKP2	**PKPab**	**01 56 05.9**	**-0.6**	
KRLC	**Kraliky**	**158.66 335**		*e*PKPAB	**PKPab**	**01 56 05.9**	**-0.6**	
KRLC				*e*pPKP	pPKP	01 56 15.1		
CLL	**Collm**	**158.73 343**		*e*PKPdiff	PKPdf	01 55 47.0	+16	
CLL			⇓	*i*PKPab	**PKPab**	**01 56 05.9**	**-0.8**	
	comp=Z,9.0nm,0.8s							
CLL				*i*		01 56 14.7		
CLL				*i*		01 56 32.4		
CLL				*e*PP	PP	01 59 54.0	+7.2	
CLL				*e*SS	SS	02 19 42.0	-5.3	
CLL				*e*PSS	PSS	02 20 36.0		
CLL				*e*SSS	SSS	02 25 48.0		
CLL				*e*SSSS		02 30 18.0		
CLL				LmV		03 05 00.0		
	comp=Z,200nm,21.4s							
BRG	**Berggiesshubel**	**158.87 341**		*e*PKP	PKPab	01 56 00.3	-7.0	
	comp=Z,7.4nm,1.2s							
BRG				*e*		01 56 07.5		
BRG				*e*		01 56 15.1		
	comp=Z,9.0nm,0.8s							
BRG	**Berggiesshubel**	**158.87 341**		*e*PKP2	PKPab	01 56 00.3	-7.0	
BRG				pmax	pmax			
	comp=Z,2μm,1.3s							
PVCC	**Panska Ves**	**159.00 339**		*e*PKP2	**PKPab**	**01 56 08.3**	**+0.4**	
PVCC	**Panska Ves**	**159.00 339**		*e*PKPAB	**PKPab**	**01 56 08.3**	**+0.4**	
PVCC				*e*pPKP	pPKP	01 56 17.5		
PSZ	**Piszkesteto**	**159.07 327**		*e*PKIKP	**PKPdf**	**01 55 32.6**	**+0.8**	
PSZ				*e*		01 56 08.1		
PSZ				MLR	MLR			
	comp=Z,309nm,19.0s							
PSZ	**Piszkesteto**	**159.07 327**		*e*PKPdf	**PKPdf**	**01 55 32.5**	**+0.8**	
PSZ				*e*PKPab	**PKPab**	**01 56 08.1**	**-0.3**	
PSZ				LR	LR			
	comp=Z,309nm,19.0s							
VYHS	**Vyhne**	**159.11 330**		*e*PKP2	**PKPab**	**01 56 08.4**	**-0.1**	
VYHS	**Vyhne**	**159.11 330**		*e*PKP	**PKPab**	**01 56 08.4**	**-0.1**	
VRAC	**Vranov**	**159.36 334**	⇑⇑	PKP2	**PKPab**	**01 56 09.7**	**+0.1**	
VRAC	**Vranov**	**159.36 334**	⇑	*i*P	**PKPab**	**01 56 09.7**	**+0.1**	
PRU	**Pruhonice**	**159.48 339**		*e*PKP2	**PKPab**	**01 56 09.7**	**-0.3**	
PRU	**Pruhonice**	**159.48 339**		*e*PKPAB	**PKPab**	**01 56 09.7**	**-0.3**	
PRU				*e*pPKP	pPKP	01 56 19.7		
BZS	**Buzias**	**159.75 320**	⇑⇑	PKIKP	**PKPdf**	**01 55 32.1**	**-0.4**	
BZS	**Buzias**	**159.75 320**	⇑	*i*P	**PKPdf**	**01 55 32.1**	**-0.4**	
TREC	**Trest**	**159.77 336**		*e*PKP2	**PKPab**	**01 56 11.4**	**+0.1**	
TREC	**Trest**	**159.77 336**		*e*PKPAB	**PKPab**	**01 56 11.4**	**+0.1**	
TREC				*e*pPKP	pPKP	01 56 20.6		
NKC	**Novy Kostel**	**159.85 343**		*e*PKP2	**PKPab**	**01 56 11.4**	**-0.3**	
NKC	**Novy Kostel**	**159.85 343**		*e*PKPAB	**PKPab**	**01 56 11.4**	**-0.3**	
NKC				*e*pPKP	pPKP	01 56 20.9		
VTS	**Vitosha**	**160.48 311**	⇓⇓	PKP2	**PKPab**	**01 56 14.9**	**0.0**	
VTS	**Vitosha**	**160.48 311**	⇓	*i*P	**PKPab**	**01 56 14.9**	**0.0**	
VTS	**Vitosha**	**160.48 311**		*i* P	**PKPab**	**01 56 16.0**	**+1.1**	
KHC	**Kasperske Hory**	**160.53 339**		*e*PKP2	**PKPab**	**01 56 13.9**	**-0.8**	
KHC	**Kasperske Hory**	**160.53 339**		*e*PKPAB	**PKPab**	**01 56 13.9**	**-0.8**	
KHC				*e*pPKP	pPKP	01 56 22.6		
MMB	**Musomiste**	**160.59 308**	⇓⇓	PKP2	**PKPab**	**01 56 15.7**	**+0.4**	
MMB	**Musomiste**	**160.59 308**	⇓	*i*P	**PKPab**	**01 56 15.7**	**+0.4**	
MMB	**Musomiste**	**160.59 308**		*i* P	**PKPab**	**01 56 15.0**	**-0.3**	
GRF	**Grafenberg Arr**	**160.66 344**		*e*PKP	**PKPab**	**01 56 14.8**	**-0.4**	
GRF				*e*L	L	03 14 34.4		
	comp=Z,180nm,19.7s							
GERES	**GERESS Array B**	**160.75 339**		PKP	**PKPdf**	**01 55 32.8**	**-0.8**	
	comp=Z,0.3nm,0.7s,baz=41,slow=1.8,SNR=3.4							
GERES				PKPab	**PKPab**	**01 56 14.0**	**-1.7**	
	comp=Z,1.7nm,1.0s,baz=70,slow=4.4,SNR=7.4							
SANT	**Santorini**	**160.83 291**		PFAKE		01 55 40.0	+5.9	
SANT				LR	LR			
	comp=Z,138nm,20.0s							
PKSM	**Moragy**	**160.89 326**	⇓⇓	PKIKP	**PKPdf**	**01 55 34.0**	**+0.3**	
PKSM	**Moragy**	**160.89 326**	⇓	*i*P	**PKPdf**	**01 55 34.0**	**+0.3**	
KKB	**Krupnik**	**160.90 309**		*e*P	**PKPab**	**01 56 14.0**	**-2.6**	
WLF	**Walferdange**	**161.52 354**		*e*PKP2	**PKPab**	**01 56 18.0**	**-0.9**	
WLF				MLR	MLR			
	comp=Z,463nm,20.0s							
WLF	**Walferdange**	**161.52 354**		*e*PKPab	**PKPab**	**01 56 18.0**	**-0.9**	
WLF				LR	LR			
	comp=Z,463nm,20.0s							
TORD	**Torodi Ar. Bea**	**161.88 175**		PKP	**PKPdf**	**01 55 35.2**	**-0.5**	
	comp=Z,1.1nm,0.9s,baz=227,slow=0.6,SNR=6.3							
TORD				PKPab	**PKPab**	**01 56 21.6**	**+0.4**	
	comp=Z,6.4nm,0.7s,baz=181,slow=3.2,SNR=26							
STU	**Stuttgart**	**161.96 347**		*e*PKIKP	**PKPdf**	**01 55 34.6**	**-0.2**	
STU	**Stuttgart**	**161.96 347**		*e*PKPdf	**PKPdf**	**01 55 34.6**	**-0.2**	
TUE	**Stuetta**	**164.12 344**		PFAKE		01 55 50.0	+13	
TUE				LR	LR			
	comp=Z,344nm,20.0s							
VLC	**Villacollemand**	**165.96 338**		PFAKE		01 55 50.0	+11	
VLC				LR	LR			
	comp=Z,249nm,20.0s							
BNI	**Bardonecchia**	**166.00 350**		*e*PKIKP	**PKPdf**	**01 55 39.5**	**+0.7**	
BNI	**Bardonecchia**	**166.00 350**		*e*PKPdf	**PKPdf**	**01 55 39.5**	**+0.7**	
AQU	**L'Aquila**	**166.28 326**		*e*PKP2	**PKPab**	**01 56 40.5**	**+0.3**	
AQU				MLR	MLR			
	comp=Z,283nm,20.0s							
AQU	**L'Aquila**	**166.28 326**		*e*PKPab	**PKPab**	**01 56 40.5**	**+0.3**	
AQU				LR	LR			
	comp=Z,283nm,20.0s							
TIP	**Timpagrande**	**166.41 309**		*e*PKPab	**PKPab**	**01 56 39.8**	**-1.2**	
TIP				LR	LR			
	comp=Z,218nm,21.0s							
CUC	**Castrocucco**	**166.57 314**		PFAKE		01 55 50.0	+11	
CUC				LR	LR			
	comp=Z,146nm,19.0s							
CEL	**Celeste**	**167.46 307**		PFAKE		01 55 50.0	+10	
CEL				LR	LR			
	comp=Z,213nm,22.0s							
WDD	**Wield Dalam**	**169.51 299**		PFAKE		01 55 50.0	+8.7	
WDD				LR	LR			
	comp=Z,343nm,19.0s							
CLTB	**Caltabellotta**	**169.62 310**		PFAKE		01 55 50.0	+8.5	
CLTB				LR	LR			
	comp=Z,151nm,22.0s							
PAB	**San Pablo**	**169.73 35**		PFAKE		01 55 50.0	+8.5	
PAB				LR	LR			
	comp=Z,229nm,19.0s							
ESDC	**Sonseca Array**	**169.81 33**		PKP	**PKPdf**	**01 55 41.1**	**-0.4**	
	comp=Z,0.7nm,0.8s,baz=5.7,slow=3.9,SNR=2.9							
VSL	**Villasalto**	**170.39 330**		PFAKE		01 55 50.0	+8.2	
VSL				LR	LR			
	comp=Z,207nm,21.0s							
RTC	**Rabat Centre**	**171.12 70**		PFAKE		01 55 50.0	+7.7	
RTC				LR	LR			
	comp=Z,245nm,20.0s							
TAM	**Tamanrasset**	**171.28 194**		*e*PKIKP	**PKPdf**	**01 55 44.1**	**+1.2**	
TAM				*e*		01 57 03.2		
TAM				MLR	MLR			
	comp=Z,226nm,19.0s							
TAM	**Tamanrasset**	**171.28 194**		*e*PKPdf	**PKPdf**	**01 55 44.1**	**+1.2**	
TAM				*e*PKPab	**PKPab**	**01 57 03.2**	**+0.4**	
TAM				LR	LR			
	comp=Z,226nm,19.0s							
KEST	**Kesra**	**173.22 312**		*e*PKPdf	**PKPdf**	**01 55 40.5**	**-2.8**	
KEST				*e*PKPab	**PKPab**	**01 57 11.0**	**-0.1**	

*ISCJB **03** 01:36:40.6±0.1, 51°.532N±0°.009×16°.05E±0°.01, h0km, mb4.4/41, MS4.7/1, Error ellipse: s-maj=1.4km s-min=1.2km az=176.6*

*BNS **03** 01:36:40.5±0.8, 51°.63N×16°.60E, h5km, ML4.1*

*MOS **03** 01:36:41.8±1.0, 51°.53N×15°.97E, h10km, mb4.7/30, Error ellipse: s-maj=4.3km s-min=3.1km az=80.8*

*BJI **03** 01:36:41.4, 51°.50N×16°.10E, h5km, mB4.9/8, mb4.7/15, Ms4.8/5, Ms7 4.5/4*

*CSEM **03** 01:36:42.7±0.1, 51°.55N×16°.07E, h2km, mb4.5/30, ML4.8/15, Ms4.5, Error ellipse: s-maj=1.5km s-min=1.4km az=158.0*

*LDG **03** 01:36:42.3±0.1, 51°.54N×16°.24E, h1km, Ml5.0/42, Error ellipse: s-maj=3.2km s-min=2.2km az=173.0, Suspected Mining induced.*

*IDC **03** 01:36:42.9±0.4, 51°.52N×16°.00E, h0km, mb4.1/19, mb1 4.2/29, mb1mx4.0/49, mbtmp4.1/29, ML3.6/10, MS4.6/1, Ms1 4.6/1, ms1mx2.7/52, Error ellipse: s-maj=7.5km s-min=5.0km az=91.0*

*NEIC **03** 01:36:43.8, 51°.49N×16°.12E, h1km, mb4.6/20, ML4.4(SZGRF), After SZGRF.*

NEIC Felt at Glowgow and Poznan. Also felt at Hradec Kralove, Czech Republic.

*BGR **03** 01:36:43.8±0.4, 51°.49N×16°.12E, h1km, ML4.4/15, Error ellipse: s-maj=6.7km s-min=2.2km az=14.0*

*PRU **03** 01:36:43.9, 51°.53N×16°.06E, h0km, M4.6, Felt In Korenov, Ponikla, Harrachov*

*VIE **03** 01:36:45.4±0.3, 51°.30N×16°.04E, h0km, mb3.7/14, ML3.8/13, Ms4.5/3, Error ellipse: s-maj=2.2km s-min=1.6km az=10.0 71 km WNW of Wroclaw Suspected Mining induced.*

*STR **03** 01:36:45.3±0.4, 51°.57N×15°.89E, h5km, Ml4.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*UPP **03** 01:36:48.9, 51°.90N×15°.70E, h0km, ML3.1, Suspected Mining explosion.*

ISC 03 01:36:42.9±0.3, 51°.51N±0°.02×16°.11E±0°.02, h0km, n705, σ1°.45/891, mb4.4/41, 40C-38D, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pb**		**01 36 57.0**	**-0.6**
KSP				*e*Sg	**Sb**		**01 37 06.8**	**-0.6**
KSP	**Ksiaz**	**0.68**	**170**	⇓*i*P	**Pb**		**01 36 56.9**	**-0.6**
KSP				*e*			01 37 08.8	
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pb**		**01 36 56.8**	**-0.7**
KSP				*e*Sg	**Sb**		**01 37 06.7**	**-0.7**
KSP	**Ksiaz**	**0.68**	**170**	*i* P	**Pb**		**01 36 56.9**	**-0.6**
KSP				Sg	**Sb**		**01 37 06.8**	**-0.6**
KSP				*e*S	**Sn**		**01 37 08.8**	**-2.2**
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pb**		**01 36 57.0**	**-0.6**
KSP				*e*Sg	**Sb**		**01 37 06.8**	**-0.6**
UPC	**Upice**	**1.00**	**184**	*i* P	**Pb**		**01 37 02.9**	**-0.2**
UPC				*e*			01 37 16.7	
UPC				smax	smax			
	comp=N,1μm,0.5s							
UPC	**Upice**	**1.00**	**184**	*i* PG	**Pb**		**01 37 02.9**	**-0.2**
UPC				*e*SG	**Sb**		**01 37 16.7**	**-0.2**
	comp=N,1μm,0.5s							
UPC	**Upice**	**1.00**	**184**	Pg	**Pb**		**01 37 02.9**	**-0.2**
UPC				Sg	**Sb**		**01 37 16.7**	**-0.2**
	comp=N,1μm,0.5s							
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pb**		**01 37 05.7**	**-0.2**
DPC	**Dobruska-Polom**	**1.17**	**173**	*i* P	**Pb**		**01 37 05.7**	**-0.2**
DPC				*e*			01 37 21.4	
DPC	**Dobruska-Polom**	**1.17**	**173**	*i* PG	**Pb**		**01 37 05.7**	**-0.2**
DPC				*e*SG	**Sb**		**01 37 21.4**	**-0.2**
DPC				AMS	AMS		01 37 40.0	
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pb**		**01 37 05.9**	**0.0**
DPC				Sg	**Sb**		**01 37 21.4**	**-0.2**
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pb**		**01 37 05.9**	**0.0**
PVCC	**Panska Ves**	**1.38**	**225**	*i* P	**Pg**		**01 37 09.4**	**+0.1**
PVCC				*e*			01 37 29.0	
PVCC				smax	smax			
	comp=N,5μm,0.7s							
PVCC				MLR	MLR			
	comp=Z,8μm,4.0s							
PVCC	**Panska Ves**	**1.38**	**225**	*i* PG	**Pg**		**01 37 09.4**	**+0.1**
PVCC				*e*SG	**Sn**		**01 37 29.0**	**+0.7**
	comp=Z,5μm,0.7s							
PVCC				AMS	AMS		01 37 40.0	
	comp=Z,8μm,4.0s							
PVCC	**Panska Ves**	**1.38**	**225**	Pg	**Pg**		**01 37 09.4**	**+0.1**
PVCC				Sg	**Sn**		**01 37 29.0**	**+0.7**
	comp=Z,5μm,0.7s							
KRLC	**Kraliky**	**1.50**	**163**	*i* P	**Pn**		**01 37 11.0**	**0.0**
KRLC				*e*			01 37 32.0	
KRLC	**Kraliky**	**1.50**	**163**	*i* PG	**Pn**		**01 37 11.0**	**0.0**
KRLC				*e*SG	**Sn**		**01 37 32.0**	**+0.7**
KRLC	**Kraliky**	**1.50**	**163**	Pg	**Pn**		**01 37 11.0**	**0.0**
KRLC				Sg	**Sn**		**01 37 32.0**	**+0.7**
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**		**01 37 10.5**	**-0.6**
BRG				PG	**Pg**		**01 37 12.4**	**+0.7**
BRG				SG	**Sn**		**01 37 32.6**	**+1.3**
	comp=Z,2μm,0.7s							
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**		**01 37 10.5**	**-0.6**
BRG				*e*Sg	**Sn**		**01 37 32.7**	**+1.3**
BRG	**Berggiesshubel**	**1.50**	**246**	P	**Pn**		**01 37 10.5**	**-0.6**
BRG							01 37 32.6	
BRG				smax	smax			
	comp=N,4.0nm,0.7s							
BRG	**Berggiesshubel**	**1.50**	**246**	Pn	**Pn**		**01 37 10.5**	**-0.6**
BRG				Sg	**Sn**		**01 37 32.7**	**+1.3**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**		**01 37 13.4**	**-0.9**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pg	**Pg**		**01 37 18.0**	**+1.8**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**		**01 37 13.4**	**-0.9**
RUE				*e*Pg	**Pg**		**01 37 18.0**	**+1.8**
RUE				*e*Sn	**Sb**		**01 37 37.9**	**-0.1**
RUE				*e*Sg	**Sg**		**01 37 40.8**	**+2.1**
PRU	**Pruhonice**	**1.82**	**214**	*e*P	**Pn**		**01 37 15.4**	**0.0**
PRU				*e*			01 37 42.3	
PRU				smax	smax			
	comp=N,1μm,0.4s							
PRU				MLR	MLR			
	comp=Z,5μm,5.1s							
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**		**01 37 15.4**	**0.0**
PRU				*i* PG	**Pg**		**01 37 17.9**	**+0.2**
PRU

OJC	**Ojcow**	**2.67**	**117**	*e*P	**Pn**	**01 37 25.3**	**-1.8**
OJC				*e*		01 38 08.9	
OJC	**Ojcow**	**2.67**	**117**	*e*Pn	**Pn**	**01 37 25.3**	**-1.8**
OJC				*e*Pg	**Pg**	**01 37 33.2**	**-0.8**
OJC				*e*Sg	**Sg**	**01 38 08.9**	**+0.3**
OJC	**Ojcow**	**2.67**	**117**	Pn	**Pn**	**01 37 25.4**	**-1.7**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*P	**Pn**	**01 37 29.6**	**-0.4**
KHC				*e*		01 38 05.3	
KHC				smax	smax		
	comp=N,328nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PN	**Pn**	**01 37 29.6**	**-0.4**
KHC				*i* PG	**Pb**	**01 37 36.2**	**+1.1**
KHC				*e*SN	**Sn**	**01 38 05.3**	**-0.1**
KHC				*e*SG	**Sg**	**01 38 16.5**	**+1.2**
	comp=N,328nm,0.4s						
KHC				AMS	AMS	01 38 30.0	
	comp=N,2µm,5.7s						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pn	**Pn**	**01 37 29.7**	**-0.4**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pg	**Pb**	**01 37 36.5**	**+1.4**
KHC				Sn	**Sn**	**01 38 05.3**	**-0.1**
KHC				Sg	**Sg**	**01 38 16.5**	**+1.2**
	comp=N,328nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pn	**Pn**	**01 37 29.7**	**-0.4**
KHC				*e*Pg	**Pb**	**01 37 36.5**	**+1.4**
KHC				*e*Sn	**Sn**	**01 38 04.9**	**-0.5**
BEL	**Belsk**	**2.94**	**82**	*e*P	**Pn**	**01 37 30.8**	**+0.1**
BEL				*e*		01 38 08.7	
BEL	**Belsk**	**2.94**	**82**	*e*Pn	**Pn**	**01 37 30.8**	**+0.1**
BEL				*e*Pg	**Pg**	**01 37 40.6**	**+1.5**
BEL				*e*Sn	**Sn**	**01 38 08.7**	**+2.0**
BEL	**Belsk**	**2.94**	**82**	*e*P	**Pn**	**01 37 30.8**	**+0.1**
BEL	**Belsk**	**2.94**	**82**	*e*Pg	**Pg**	**01 37 40.7**	**+1.6**
BEL				*e*S	**Sn**	**01 38 08.7**	**+2.0**
MANZ	**Manzenberg**	**2.96**	**241**	*e*Pn	**Pn**	**01 37 31.5**	**+0.3**
MANZ	**Manzenberg**	**2.96**	**241**	Pn	**Pn**	**01 37 31.5**	**+0.3**
MOX	**Moxa**	**2.96**	**255**	*e*Pn	**Pn**	**01 37 30.9**	**-0.2**
MOX				*e*Sg	**Sg**	**01 38 19.4**	**+1.4**
MOX	**Moxa**	**2.96**	**255**	Pn	**Pn**	**01 37 30.9**	**-0.2**
MOX				Sg	**Sg**	**01 38 19.4**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn	**Pn**	**01 37 32.5**	**+0.3**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	Pn	**Pn**	**01 37 32.5**	**+0.3**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**01 37 32.9**	**+0.1**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*P	**Pn**	**01 37 33.1**	**+0.2**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*P	**Pn**	**01 37 33.1**	**+0.2**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**01 37 33.1**	**+0.2**
GERES	**GERESS Array B**	**3.08**	**211**	P	**Pn**	**01 37 32.0**	**-0.9**
GERES						01 38 10.1	
GERES				pmax	pmax		
	comp=Z,13nm,0.3s						
GERES				smax	smax		
	comp=N,28nm,0.3s						
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**01 37 32.0**	**-0.9**
	comp=N,13nm,0.3s,baz=33,slow=10,SNR=344						
GERES				Sn	**Sn**	**01 38 10.1**	**-0.4**
	comp=N,28nm,0.3s,baz=30,slow=22,SNR=6.4						
GERES				Lg	Lg	01 38 20.2	
	comp=N,50nm,0.3s,baz=33,slow=24,SNR=7.8						
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**01 37 33.9**	**+0.2**
WET	**Wettzell**	**3.14**	**222**	Pn	**Pn**	**01 37 33.9**	**+0.2**
LANS	**Liptovska Anna**	**3.19**	**136**	*e*P	**Pn**	**01 37 35.0**	**+0.6**
LANS	**Liptovska Anna**	**3.19**	**136**	*e*P	**Pn**	**01 37 35.0**	**+0.6**
LANS				*e*Sg	**Sg**	**01 38 26.1**	**+0.7**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pn**	**01 37 37.9**	**+0.7**
NIE	**Niedzica**	**3.40**	**126**	*e*Pn	**Pn**	**01 37 37.9**	**+0.7**
NIE				*e*Pg	**Pg**	**01 37 47.9**	**-0.2**
NIE				*e*Sg	**Sg**	**01 38 33.4**	**+1.2**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pn**	**01 37 37.9**	**+0.7**
RGN	**Rugen**	**3.48**	**332**	*e*Pn	**Pn**	**01 37 38.2**	**0.0**
RGN	**Rugen**	**3.48**	**332**	*e*Pg	**Pg**	**01 37 51.9**	**+2.4**
RGN	**Rugen**	**3.48**	**332**	*e*Pn	**Pn**	**01 37 38.2**	**0.0**
RGN				*e*Pg	**Pg**	**01 37 51.9**	**+2.4**
RGN				*e*Sn	**Sn**	**01 38 21.8**	**+1.8**
RGN				*e*Sg	**Sg**	**01 38 36.7**	**+2.1**
VYHS	**Vyhne**	**3.49**	**149**	*e*P	**Pn**	**01 37 38.4**	**0.0**
VYHS	**Vyhne**	**3.49**	**149**	*e*P	**Pn**	**01 37 38.4**	**0.0**
VYHS	**Vyhne**	**3.49**	**149**	*e*Pg	**Pg**	**01 37 51.3**	**+1.5**
VYHS				*e*Sg	**Sg**	**01 38 39.1**	**+4.1**
VYHS	**Vyhne**	**3.49**	**149**	*e*PN	**Pn**	**01 37 38.4**	**0.0**
VYHS				*e*PG	**Pg**	**01 37 51.3**	**+1.5**
CLZ	**Clausthal**	**3.59**	**278**	*e*Pn	**Pn**	**01 37 40.4**	**+0.7**
CLZ	**Clausthal**	**3.59**	**278**	Pn	**Pn**	**01 37 40.4**	**+0.7**
CONA	**Conrad Observa**	**3.59**	**183**	⇑*i*Pn	**Pn**	**01 37 40.1**	**+0.3**
	SNR=59						
CONA				⇑*i*Sg	**Sg**	**01 38 37.9**	**-0.1**
	comp=N,508nm,0.5s						
CONA	**Conrad Observa**	**3.59**	**183**	Pn	**Pn**	**01 37 40.1**	**+0.3**
	SNR=59						
CONA				Sg	**Sg**	**01 38 37.9**	**-0.1**
	comp=N,508nm,0.5s						
GRA1	**Grafenberg Arr**	**3.60**	**242**	Pn	**Pn**	**01 37 40.6**	**+0.6**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pn	**Pn**	**01 37 40.6**	**+0.6**
GRFO	**Grafenberg**	**3.61**	**242**	*e*P	**Pn**	**01 37 40.3**	**+0.3**
GRFO				*e*		01 38 22.1	
GRFO	**Grafenberg**	**3.61**	**242**	*e*Pn	**Pn**	**01 37 40.2**	**+0.3**
GRFO	**Grafenberg**	**3.61**	**242**	*e*Pg	**Pg**	**01 37 52.6**	**+0.6**
GRFO				*e*S	**Sn**	**01 38 22.1**	**-1.1**
GRFO	**Grafenberg**	**3.61**	**242**	*e*Pn	**Pn**	**01 37 40.2**	**+0.3**
GRFO				*e*Pg	**Pg**	**01 37 52.6**	**+0.6**
GRFO				*e*Sn	**Sn**	**01 38 22.1**	**-1.1**
GRFO				*e*Sg	**Sg**	**01 38 38.0**	**-0.7**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**01 37 39.5**	**-1.5**
BSD				*i* S	**Sn**	**01 38 21.3**	**-3.8**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**01 37 39.5**	**-1.5**
BSD				*i* S	**Sn**	**01 38 21.3**	**-3.8**
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**01 37 39.5**	**-1.5**
BSD				*i* S	**Sn**	**01 38 21.3**	**-3.8**
SOP	**Sopron**	**3.84**	**175**	⇓*e*Pn	**Pn**	**01 37 43.7**	**+0.5**
SOP				*e*		01 38 44.9	
MOA	**Molln**	**3.85**	**199**	⇓*i*Pn	**Pn**	**01 37 43.9**	**+0.5**
	SNR=76						
MOA				⇑*i*Sg	**Sg**	**01 38 46.1**	**-0.5**
	comp=N,711nm,0.7s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**01 37 43.9**	**+0.5**
	SNR=76						
MOA				Sg	**Sg**	**01 38 46.1**	**-0.5**
	comp=N,711nm,0.7s						
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*P	**Pn**	**01 37 44.7**	**+0.8**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*P	**Pn**	**01 37 44.7**	**+0.8**
STHS				*e*Sg	**Sg**	**01 38 52.1**	**+4.3**
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*PN	**Pn**	**01 37 44.7**	**+0.8**
STHS				*e*SG	**Sg**	**01 38 52.1**	**+4.3**
KECS	**Kecovo**	**4.14**	**135**	*e*P	**Pn**	**01 37 47.1**	**-0.2**
KECS	**Kecovo**	**4.14**	**135**	*e*P	**Pn**	**01 37 47.1**	**-0.2**
KECS	**Kecovo**	**4.14**	**135**	*e*PN	**Pn**	**01 37 47.1**	**-0.2**
KECS				*e*PG	**Pg**	**01 38 03.3**	**+1.1**
KECS				*e*SG	**Sg**	**01 39 00.5**	**+4.7**
ARSA	**Arzberg**	**4.28**	**185**	⇑*i*Pn	**Pn**	**01 37 50.0**	**+0.8**
	SNR=28						
ARSA				⇓*i*Sg	**Sg**	**01 38 59.1**	**-1.1**
	comp=N,385nm,0.6s						
ARSA	**Arzberg**	**4.28**	**185**	Pn	**Pn**	**01 37 50.0**	**+0.8**
	SNR=28						
ARSA				Sg	**Sg**	**01 38 59.1**	**-1.1**
	comp=N,385nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*P	**Pn**	**01 37 50.0**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*P	**Pn**	**01 37 50.0**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN	**Pn**	**01 37 50.0**	**+0.3**
CRVS				*e*PG	**Pg**	**01 38 05.9**	**+0.4**
CRVS				*e*SG	Sg	01 39 07.8	+6.4
PSZ	**Piszkesteto**	**4.35**	**144**	⇑P	**Pn**	**01 37 51.2**	**+0.9**
PSZ	**Piszkesteto**	**4.35**	**144**	⇑*i*P	**Pn**	**01 37 51.2**	**+0.9**
PSZ	**Piszkesteto**	**4.35**	**144**	S	Pg	01 38 11.9	+5.7
PSZ	**Piszkesteto**	**4.35**	**144**	*e*Pn	**Pn**	**01 37 50.9**	**+0.6**
PSZ	**Piszkesteto**	**4.35**	**144**	*e*Pn	**Pn**	**01 37 50.9**	**+0.6**
PSZ	**Piszkesteto**	**4.35**	**144**	⇑*e*Pn	**Pn**	**01 37 51.0**	**+0.6**
CSKK	**Cs˘‡kako**	**4.38**	**160**	*e*sPn	**Pb**	**01 38 00.3**	**-0.4**
CSKK				*e*sn	**Sg**	**01 39 01.6**	**-1.9**
PKSG		**4.38**	**159**	⇑*e*P	**Pn**	**01 37 51.2**	**+0.6**
PKSG		**4.38**	**159**	⇑*e*Pn	**Pn**	**01 37 51.2**	**+0.6**
PKSG				*e*Sb	**Sb**	**01 38 51.9**	**-2.1**
PKST	**T˘'s**	**4.43**	**163**	⇑*e*P	**Pn**	**01 37 51.9**	**+0.5**
PKST	**T˘'s**	**4.43**	**163**	⇑*e*Pn	**Pn**	**01 37 51.9**	**+0.5**
PKST				*e*Sb	**Sb**	**01 38 59.8**	**+4.2**
LLD	**Lille Linde**	**4.48**	**330**	*i* P	**Pn**	**01 37 49.7**	**-2.3**
LLD	**Lille Linde**	**4.48**	**330**	*i* P	**Pn**	**01 37 49.7**	**-2.3**
LLD	**Lille Linde**	**4.48**	**330**	*i* P	**Pn**	**01 37 49.7**	**-2.3**
LLD				*i*		01 38 12.9	
KWP	**Kalwaria Pacla**	**4.61**	**111**	⇓P	**Pn**	**01 37 53.7**	**0.0**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pn	**Pn**	**01 37 53.4**	**-0.3**
KWP				*e*Pg	**Pg**	**01 38 08.2**	**-2.9**
KWP				*e*Sn	**Sb**	**01 38 59.6**	**-0.9**
KWP				*e*Sg	**Sg**	**01 39 11.5**	**+0.7**
KWP	**Kalwaria Pacla**	**4.61**	**111**	⇓*i*P	**Pn**	**01 37 53.7**	**0.0**
KWP	**Kalwaria Pacla**	**4.61**	**111**	S	**Pg**	**01 38 09.2**	**-1.9**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pn	**Pn**	**01 37 52.8**	**-0.9**
KWP	**Kalwaria Pacla**	**4.61**	**111**	P	**Pn**	**01 37 53.7**	**0.0**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pn	**Pn**	**01 37 52.8**	**-0.9**
KWP				*e*Pg	**Pg**	**01 38 08.2**	**-2.9**
KWP				*e*Sg	**Sg**	**01 39 10.9**	**+0.2**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*P	**Pn**	**01 37 55.3**	**0.0**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*P	**Pn**	**01 37 55.3**	**0.0**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN	**Pn**	**01 37 55.3**	**0.0**
KOLS				*e*PG	**Pg**	**01 38 14.0**	**+0.7**
KOLS				*e*SG	**Sg**	**01 39 18.6**	**+4.1**
COP	**Copenhagen**	**4.72**	**334**	*e*S	**Sn**	**01 38 45.3**	**-5.4**
COP	**Copenhagen**	**4.72**	**334**	*i* P	Pg	01 38 18.2	+4.9
COP				*e*S	**Sn**	**01 38 45.3**	**-5.4**
KBA	**Koelnbreinsper**	**4.79**	**203**	⇓*i*Pn	**Pn**	**01 37 57.1**	**+0.7**
	SNR=69						
KBA				⇑*i*Sg	**Sg**	**01 39 17.1**	**+0.5**
	comp=N,243nm,0.7s						
KBA	**Koelnbreinsper**	**4.79**	**203**	Pn	**Pn**	**01 37 57.1**	**+0.7**
	SNR=69						
KBA				Sg	**Sg**	**01 39 17.1**	**+0.5**
	comp=N,243nm,0.7s						
SOKA	**Soboth**	**4.88**	**189**	⇓*i*Pn	**Pn**	**01 37 57.8**	**+0.2**
	SNR=15						
SOKA	**Soboth**	**4.88**	**189**	Pn	**Pn**	**01 37 57.8**	**+0.2**
	SNR=15						
PKS7	**Kunszentmiklos**	**4.89**	**155**	*e*P	**Pn**	**01 37 57.2**	**-0.4**
PKS7	**Kunszentmiklos**	**4.89**	**155**	*e*Pn	**Pn**	**01 37 57.2**	**-0.4**
UZH	**Uzhgorod**	**4.91**	**123**	*e*P	**Pn**	**01 37 58.1**	**+0.2**
UZH				*e*S	**Sn**	**01 38 55.3**	**-0.2**
UZH				smax	smax		
	comp=N,250nm,1.0s						
UZH				smax	smax		
	comp=E,460nm,1.0s						
UZH	**Uzhgorod**	**4.91**	**123**	*e*P	**Pn**	**01 37 58.1**	**+0.2**
UZH				*e*S	**Sn**	**01 38 55.3**	**-0.2**
SUW	**Suwalki**	**4.97**	**57**	*e*P	**Pn**	**01 37 57.7**	**-1.1**
SUW				*e*		01 38 54.9	
SUW	**Suwalki**	**4.97**	**57**	*e*Pn	**Pn**	**01 37 58.3**	**-0.4**
SUW				*e*Pb	**Pb**	**01 38 09.6**	**-1.2**
SUW				*e*Pg	**Pg**	**01 38 17.4**	**-0.7**
SUW				*e*Sn	**Sn**	**01 38 54.7**	**-2.2**
SUW	**Suwalki**	**4.97**	**57**	*e*P	**Pn**	**01 37 57.7**	**-1.1**
SUW	**Suwalki**	**4.97**	**57**	*e*Pg	**Pg**	**01 38 17.5**	**-0.7**
SUW				*e*S	**Sn**	**01 38 54.9**	**-2.0**
SUW	**Suwalki**	**4.97**	**57**	*e*Pn	**Pn**	**01 37 57.7**	**-1.1**
SUW				*e*Pg	**Pg**	**01 38 17.8**	**-0.3**
SUW				*e*Sn	**Sn**	**01 38 54.9**	**-2.0**
SUW				*e*Sg	**Sg**	**01 39 23.6**	**+1.0**
TOD	**Tromm**	**5.03**	**251**	P	**Pn**	**01 37 58.9**	**-0.7**
TOD				S	**Sn**	**01 39 01.1**	**+3.1**
BEHE	**Becsehely**	**5.06**	**175**	⇓*e*P	**Pn**	**01 38 02.2**	**+2.2**
BEHE	**Becsehely**	**5.06**	**175**	⇓*e*pPn	**Pn**	**01 38 02.2**	**+2.2**
KOGS	**Kog**	**5.07**	**179**	*e*Pn	**Pn**	**01 38 00.3**	**+0.3**
KOGS	**Kog**	**5.07**	**179**	*e*Pn	**Pn**	**01 38 00.3**	**+0.3**
OBKA	**Obir**	**5.11**	**192**	⇑*i*Pn	**Pn**	**01 38 00.0**	**-0.7**
	SNR=15						
OBKA				⇓*i*Sg	**Sg**	**01 39 27.2**	**+0.4**
	comp=E,520nm,1.0s						
OBKA	**Obir**	**5.11**	**192**	Pn	**Pn**	**01 38 00.0**	**-0.7**
	SNR=15						
OBKA				Sg	**Sg**	**01 39 27.2**	**+0.4**
	comp=E,520nm,1.0s						
WATA	**Walderalm**	**5.12**	**217**	⇑*i*Pn	**Pn**	**01 38 00.6**	**-0.3**
	SNR=41						
WATA	**Walderalm**	**5.12**	**217**	Pn	**Pn**	**01 38 00.6**	**-0.3**
	SNR=41						
MYKA	**Terra Mystica**	**5.14**	**199**	⇑*i*Sg	**Sg**	**01 39 27.9**	**-0.1**
	comp=E,600nm,1.2s						
MYKA	**Terra Mystica**	**5.14**	**199**	Sg	**Sg**	**01 39 27.9**	**-0.1**
	comp=E,600nm,1.2s						
DEL	**Delary**	**5.14**	**346**	P	**Pn**	**01 37 59.3**	**-1.8**
DEL				S	**Sn**	**01 38 56.1**	**-5.0**
DEL	**Delary**	**5.14**	**346**	P	**Pn**	**01 37 59.3**	**-1.8**
DEL				S	**Sn**	**01 38 56.1**	**-5.0**
WTTA	**Wattenberg**	**5.15**	**216**	⇑*i*Pn	**Pn**	**01 38 01.9**	**+0.5**
	SNR=27						
WTTA				⇑*i*Sg	**Sg**	**01 39 29.2**	**+0.8**
	comp=E,405nm,1.0s						
WTTA	**Wattenberg**	**5.15**	**216**	Pn	**Pn**	**01 38 01.9**	**+0.5**
	SNR=27						
WTTA				Sg	**Sg**	**01 39 29.2**	**+0.8**
	comp=E,405nm,1.0s						
STU	**Stuttgart**	**5.22**	**241**	*e*P	**Pn**	**01 38 01.2**	**-1.0**
STU				*e*		01 39 02.2	
STU	**Stuttgart**	**5.22**	**241**	*e*Pn	**Pn**	**01 38 01.2**	**-1.0**
STU	**Stuttgart**	**5.22**	**241**	*e*Pg	**Pg**	**01 38 22.7**	**-0.2**
STU				*e*S	**Sn**	**01 39 02.2**	**-0.8**
STU	**Stuttgart**	**5.22**	**241**	*e*Pn	**Pn**	**01 38 01.2**	**-1.0**
STU				*e*Pg	**Pg**	**01 38 22.7**	**-0.2**
STU				*e*Sn	**Sn**	**01 39 02.2**	**-0.8**
STU				*e*Sg	**Sg**	**01 39 30.7**	**+0.2**
PKSN	**Nyarlorinc**	**5.23**	**150**	⇑*e*P	**Pn**	**01 38 03.3**	**+1.0**
PKSN	**Nyarlorinc**	**5.23**	**150**	⇑*e*Pn	**Pn**	**01 38 03.3**	**+1.0**
MOTA	**Moosalm**	**5.29**	**220**	⇑*i*Pn	**Pn**	**01 38 03.4**	**+0.1**
	SNR=51						
MOTA	**Moosalm**	**5.29**	**220**	Pn	**Pn**	**01 38 03.4**	**+0.1**
	SNR=51						
LVV	**L'vov**	**5.32**	**105**	*e*P	**Pn**	**01 38 03.0**	**-0.5**
LVV				*e*S	**Sn**	**01 39 04.0**	**-1.3**
LVV				MLR	MLR		
	comp=Z,1µm,1.8s						
LVV	**L'vov**	**5.32**	**105**	*e*P	**Pn**	**01 38 03.0**	**-0.5**
	comp=Z,1µm,1.8s						
LVV				*e*S	**Sn**	**01 39 04.0**	**-1.3**
RETA	**Reutte**	**5.32**	**223**	⇑*i*Pn	**Pn**	**01 38 03.6**	**0.0**
	SNR=17						
RETA				⇑*i*Sg	**Sg**	**01 39 34.4**	**+0.7**
	comp=Z,346nm,1.1s						
RETA	**Reutte**	**5.32**	**223**	Pn	**Pn**	**01 38 03.6**	**0.0**
	SNR=17						
RETA				Sg	**Sg**	**01 39 34.4**	**+0.7**
	comp=Z,346nm,1.1s						
TRPA	**Tarpa**	**5.36**	**127**	⇓*i*P	**Pn**	**01 38 04.1**	**0.0**
TRPA	**Tarpa**	**5.36**	**127**	S	**Sn**	**01 39 02.7**	**-3.8**
TRPA	**Tarpa**	**5.36**	**127**	⇑*e*P	**Pn**	**01 38 04.2**	**+0.1**
TRPA	**Tarpa**	**5.36**	**127**	⇑*e*Pn	**Pn**	**01 38 04.2**	**+0.1**
KOE	**Koeppel**	**5.40**	**262**	*e*Pn	**Pn**	**01 38 04.7**	**0.0**
KOE	**Koeppel**	**5.40**	**262**	Pn	**Pn**	**01 38 04.7**	**0.0**
PKS6	**Bocsa**	**5.41**	**154**	*e*P	**Pn**	**01 38 05.4**	**+0.6**
PKS6	**Bocsa**	**5.41**	**154**	*e*Pn	**Pn**	**01 38 05.4**	**+0.6**
PKS2	**Kecel**	**5.42**	**157**	*e*P	**Pn**	**01 38 06.1**	**+1.2**
PKS2	**Kecel**	**5.42**	**157**	*e*Pn	**Pn**	**01 38 06.1**	**+1.2**
VXJU	**Vaexsjoe**	**5.47**	**353**	P	**Pn**	**01 38 04.4**	**-1.1**
VXJU	**Vaexsjoe**	**5.47**	**353**	P	**Pn**	**01 38 04.5**	**-1.1**
	baz=177						
PKSM	**Moragy**	**5.56**	**162**	⇓P	**Pn**	**01 38 07.2**	**+0.4**
PKSM	**Moragy**	**5.56**	**162**	⇓*i*P	**Pn**	**01 38 07.2**	**+0.4**
PKSM	**Moragy**	**5.56**	**162**	P	**Pn**	**01 38 07.2**	**+0.4**
PKSM	**Moragy**	**5.56**	**162**	⇑*e*Pn	**Pn**	**01 38 07.4**	**+0.6**
LJU	**Ljubljana**	**5.57**	**191**	*e*Pn	**Pn**	**01 38 06.6**	**-0.3**
KTD	**Kalmit**	**5.58**	**250**	P	**Pn**	**01 38 07.4**	**+0.3**
BNS	**Bensberg**	**5.64**	**268**	*e*Pn	**Pn**	**01 38 07.9**	**0.0**
BNS	**Bensberg**	**5.64**	**268**	Pn	**Pn**	**01 38 07.9**	**0.0**
ABH	**Alteburg**	**5.68**	**257**	P	**Pn**	**01 38 09.0**	**+0.5**
OSKU	**Oskarshamn**	**5.70**	**360**	P	**Pn**	**01 38 07.8**	**-0.9**
OSKU	**Oskarshamn**	**5.70**	**360**	P	**Pn**	**01 38 07.8**	**-0.9**
FETA	**Feichten**	**5.71**	**220**	⇓*i*Pn	**Pn**	**01 38 09.2**	**+0.2**
	SNR=12						
FETA				⇑*i*Sg	**Sg**	**01 39 47.8**	**+1.7**
	comp=Z,98nm,0.6s						
FETA	**Feichten**	**5.71**	**220**	Pn	**Pn**	**01 38 09.2**	**+0.2**
	SNR=12						
FETA				Sg	**Sg**	**01 39 47.8**	**+1.7**
	comp=Z,98nm,0.6s						
BGG	**Burgeitz**	**5.71**	**260**	*e*Pn	**Pn**	**01 38 08.7**	**-0.1**
BGG				*e*Sn	**Sn**	**01 39 16.4**	**+1.5**
	comp=Z,62nm,0.4s						
BGG	**Burgeitz**	**5.71**	**260**	Pn	**Pn**	**01 38 08.7**	**-0.1**
BGG				Sn	**Sn**	**01 39 16.4**	**+1.5**
	comp=Z,62nm,0.4s						
WTSB	**Winterswijk**	**5.80**	**278**	*e*P	**Pn**	**01 38 10.5**	**+0.4**
	comp=Z,63nm,0.8s						
WTSB				*e*S	**Sg**	**01 39 45.9**	**-3.3**
BYXU	**Byxelkrok**	**5.82**	**5**	P	**Pn**	**01 38 09.3**	**-1.0**
BYXU	**Byxelkrok**	**5.82**	**5**	P	**Pn**	**01 38 09.3**	**-1.0**
BYXU				S	**Sn**	**01 39 12.8**	**-4.9**
SPAK	**Spaichingen-Ko**	**5.84**	**237**	P	**Pn**	**01 38 11.2**	**+0.5**
FABU	**Falkenberg**	**5.85**	**341**	P	**Pn**	**01 38 08.8**	**-2.0**
FABU	**Falkenberg**	**5.85**	**341**	P	**Pn**	**01 38 08.8**	**-2.0**
DAVA	**Damuels**	**5.86**	**226**	⇓*i*Pn	**Pn**	**01 38 10.7**	**-0.4**
DAVA				⇑*i*Sg	**Sg**	**01 39 54.7**	**+3.6**
	comp=Z,556nm,1.2s						
DAVA	**Damuels**	**5.86**	**226**	Pn	**Pn**	**01 38 10.7**	**-0.4**
LANF	**Langenberg**	**5.90**	**248**	P	**Pn**	**01 38 11.2**	**-0.3**
LANF	**Langenberg**	**5.90**	**248**	P	**Pn**	**01 38 11.2**	**-0.3**
STB	**Steinbach**	**5.92**	**265**	*e*Pn	**Pn**	**01 38 12.2**	**+0.5**
STB	**Steinbach**	**5.92**	**265**	Pn	**Pn**	**01 38 12.2**	**+0.5**
ASPU	**Aespoe**	**5.93**	**3**	P	**Pn**	**01 38 11.1**	**-0.7**
ASPU	**Aespoe**	**5.93**	**3**	P	**Pn**	**01 38 11.1**	**-0.7**
BFO	**Black Forest**	**5.95**	**241**	*i* P	**Pn**	**01 38 11.6**	**-0.5**
BFO	**Black Forest**	**5.95**	**241**	*e*Pn	**Pn**	**01 38 10.8**	**-1.3**
BFO	**Black Forest**	**5.95**	**241**	*i* P	**Pn**	**01 38 11.6**	**-0.5**
BFO	**Black Forest**	**5.95**	**241**	*e*Pg	**Pg**	**01 38 37.3**	**+0.6**
BFO	**Black Forest**	**5.95**	**241**	*e*Pn	**Pn**	**01 38 10.8**	**-1.3**
BFO				*e*Pg	**Pg**	**01 38 37.3**	**+0.6**
BFO				*e*Sn	**Sn**	**01 39 19.0**	**-1.9**
BFO				*e*Sg	**Sg**	**01 39 52.2**	**-1.5**
GNOU	**Gnosjoe**	**5.96**	**348**	P	**Pn**	**01 38 10.8**	**-1.4**
GNOU	**Gnosjoe**	**5.96**	**348**	P	**Pn**	**01 38 10.8**	**-1.4**
TRI	**Trieste**	**6.01**	**196**	*e*P	**Pn**	**01 38 12.7**	**-0.3**
TRI				*e*		01 39 20.1	
TRI	**Trieste**	**6.01**	**196**	*e*P	**Pn**	**01 38 12.7**	**-0.3**
TRI	**Trieste**	**6.01**	**196**	*e*Pg	**Pg**	**01 38 37.2**	**-0.7**
TRI	**Trieste**	**6.01**	**196**	*e*Pn	**Pn**	**01 38 12.7**	**-0.3**
TRI				*e*Pg	**Pg**	**01 38 37.2**	**-0.7**
TRI				*e*Sn	**Sn**	**01 39 20.1**	**-2.3**
TRI				*e*Sg	**Sg**	**01 39 55.0**	**-0.7**
BOJS	**Bojanci**	**6.04**	**186**	*e*Pn	**Pn**	**01 38 14.4**	**+1.0**
RUP	**Ruppelstein**	**6.04**	**256**	P	**Pn**	**01 38 13.4**	**0.0**
HILG	**Hillesheim**	**6.09**	**262**	*e*Pn	**Pn**	**01 38 15.3**	**+1.2**
HILG	**Hillesheim**	**6.09**	**262**	Pn	**Pn**	**01 38 15.3**	**+1.2**
EKSU	**Eksjoe**	**6.10**	**356**	P	**Pn**	**01 38 13.1**	**-1.1**
EKSU	**Eksjoe**	**6.10**	**356**	P	**Pn**	**01 38 13.1**	**-1.1**
BMR	**Baia Mare**	**6.15**	**126**	⇓P	**Pn**	**01 38 15.6**	**+0.7**
BMR	**Baia Mare**	**6.15**	**126**	⇓*i*P	**Pn**	**01 38 15.6**	**+0.7**
BMR	**Baia Mare**	**6.15**	**

NYNU Nynaeshamn 7.59 7 P Pn 01 38 33.4 -1.2
NASU Vaermlandsnaes 7.62 349 P Pn 01 38 33.7 -1.4
NASU Vaermlandsnaes 7.62 349 P Pn 01 38 33.7 -1.4
BAIF Baives 7.68 264 *e*Pn **Pn 01 38 35.7 -0.2**
BAIF *e*Sg **Sg 01 40 45.3 -4.2**
comp=Z,581nm,1.2s
BAIF Baives 7.68 264 *e*P **Pn 01 38 35.7 -0.2**
BAIF Baives 7.68 264 *e*Pn **Pn 01 38 35.7 -0.2**
BAIF Baives 7.68 264 *e*Pn **Pn 01 38 35.7 -0.2**
BAIF *e*Sg **Sg 01 40 45.3 -4.2**
MICGM Minsk 7.71 63⇑ *e*P Pg 01 39 05.0 -5.5
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 01 38 35.1 -1.5**
MEZF *e*Sg **Sg 01 40 46.2 -4.8**
comp=Z,532nm,1.3s
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 01 38 35.1 -1.5**
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn 01 38 35.1 -1.5**
MEZF *e*Sg **Sg 01 40 46.2 -4.8**
ESKU Eskilstuna 7.74 1 P **Pn 01 38 35.5 -1.2**
ESKU Eskilstuna 7.74 1 P **Pn 01 38 35.5 -1.2**
SFTF Sexfontaines 7.88 250 *e*Pn **Pn 01 38 37.2 -1.5**
SFTF *e*Sg **Sg 01 40 50.8 -5.0**
comp=Z,1μm,1.4s
SFTF Sexfontaines 7.88 250 *e*Pn **Pn 01 38 37.2 -1.5**
SFTF Sexfontaines 7.88 250 *e*Pn **Pn 01 38 37.2 -1.5**
SFTF *e*Sg **Sg 01 40 50.8 -5.0**
STRU Stroemstad 8.05 342 P **Pn 01 38 38.0 -2.9**
STRU Stroemstad 8.05 342 P **Pn 01 38 38.0 -2.9**
NRAU Nora 8.11 356 P **Pn 01 38 40.8 -0.9**
NRAU Nora 8.11 356 P **Pn 01 38 40.8 -0.9**
FINU Finntorp 8.18 347 P **Pn 01 38 41.1 -1.6**
FINU Finntorp 8.18 347 P **Pn 01 38 41.1 -1.6**
CABF La Chapelle 8.20 237 *e*Pn **Pn 01 38 42.1 -1.1**
CABF *e*Sg **Sg 01 41 01.8 -4.3**
comp=Z,786nm,1.2s
CABF La Chapelle 8.20 237 *e*P **Pn 01 38 42.1 -1.1**
CABF La Chapelle 8.20 237 *e*Pn **Pn 01 38 42.1 -1.1**
CABF La Chapelle 8.20 237 *e*Pn **Pn 01 38 42.1 -1.1**
CABF *e*Sg **Sg 01 41 01.8 -4.3**
KIEV Kiev 8.29 91⇑ *i*P **Pn 01 38 44.4 +0.2**
KIEV Kiev 8.29 91 *e*Pn **Pn 01 38 42.2 -2.0**
KIEV Kiev 8.29 91 *i*P **Pn 01 38 44.4 +0.2**
KIEV Kiev 8.29 91 *e*Pn **Pn 01 38 42.1 -2.0**
KIEV *e*Pg **Pg 01 39 18.8 -2.7**
KIEV *e*Sg **Sg 01 41 07.0 -1.8**
AKASG Malin Array Be 8.30 90 P **Pn 01 38 42.4 -2.0**
AKASG 01 40 12.3
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG smax smax
comp=N,7.0nm,0.3s
AKASG Malin Array Be 8.30 90 Pn **Pn 01 38 42.4 -2.0**
comp=N,1.5nm,0.3s,baz=280,slow=12,SNR=24
AKASG Sn Sn 01 40 12.3 -6.4
comp=N,6.5nm,0.3s,baz=283,slow=17,SNR=7.8
AKASG Lg Lg 01 41 09.0
baz=275,slow=28,SNR=5.8
NRTU Norrtaelje 8.31 9 P **Pn 01 38 42.5 -2.0**
NRTU Norrtaelje 8.31 9 P **Pn 01 38 42.5 -2.0**
ARR Arges 8.36 134⇑ *i*P **Pn 01 38 46.2 +1.0**
BACU Backbrunna 8.39 3 P **Pn 01 38 44.4 -1.1**
BACU Backbrunna 8.39 3 P **Pn 01 38 44.4 -1.1**
VOIR 8.49 132⇑ P **Pn 01 38 48.4 +1.3**
VOIR 8.49 132⇑ *i*P **Pn 01 38 48.4 +1.3**
VOIR 8.49 132 P **Pn 01 38 48.4 +1.3**
TESR Tescani 8.54 122⇓ *i*P **Pn 01 38 50.1 +2.4**
TESR Tescani 8.54 122⇓ *i*P **Pn 01 38 50.1 +2.4**
LPL La Plagne 8.64 230 *e*Pn **Pn 01 38 49.1 -0.2**
LPL *e*Sg **Sg 01 41 15.6 -4.5**
comp=N,335nm,1.3s
LPL La Plagne 8.64 230 *e*P **Pn 01 38 49.1 -0.2**
LPL La Plagne 8.64 230 *e*Pn **Pn 01 38 49.1 -0.2**
LPL La Plagne 8.64 230 *e*Pn **Pn 01 38 49.1 -0.2**
LPL *e*Sg **Sg 01 41 15.6 -4.5**
LPG La Plagne 8.64 230 *e*Pn **Pn 01 38 49.1 -0.3**
LPG *e*Sg **Sg 01 41 14.6 -5.6**
comp=N,560nm,1.2s
LPG La Plagne 8.64 230 *e*P **Pn 01 38 49.1 -0.3**
LPG La Plagne 8.64 230 *e*Pn **Pn 01 38 49.1 -0.3**
LPG La Plagne 8.64 230 *e*Pn **Pn 01 38 49.1 -0.3**
LPG *e*Sg **Sg 01 41 14.6 -5.6**
FLYU Flymyra 8.70 6 P **Pn 01 38 49.2 -0.6**
FLYU Flymyra 8.70 6 P **Pn 01 38 49.2 -0.6**
HFS Hagfors 8.75 352 Pn **Pn 01 38 48.5 -2.1**
comp=N,0.7nm,0.3s,baz=174,slow=15,SNR=24
HFS Sn Sn 01 40 22.4 -7.4
comp=N,0.4nm,0.3s,baz=168,slow=23,SNR=2.8
HFS Lg Lg 01 41 22.0
comp=N,0.7nm,0.3s,baz=179,slow=30,SNR=2.2
MLR Muntele Rosu 8.88 129⇓ P **Pn 01 38 52.3 -0.2**
MLR Muntele Rosu 8.88 129⇓ *i*P **Pn 01 38 52.3 -0.2**
MLR Muntele Rosu 8.88 129 Pn **Pn 01 38 52.2 -0.3**
baz=304,slow=15
MLR Muntele Rosu 8.88 129 P **Pn 01 38 52.3 -0.2**
VRI Vrincioaia 9.01 125⇓ P **Pn 01 38 55.7 +1.6**
VRI Vrincioaia 9.01 125⇓ *i*P **Pn 01 38 55.7 +1.6**
VRI Vrincioaia 9.01 125 P **Pn 01 38 55.7 +1.6**
BNI Bardonecchia 9.01 228 *e*P **Pn 01 38 54.0 -0.3**
BNI Bardonecchia 9.01 228 *e*P **Pn 01 38 54.0 -0.3**
BNI Bardonecchia 9.01 228 *e*Pn **Pn 01 38 54.0 -0.3**
BNI *e*Lg Lg 01 41 25.0
LOR Lormes 9.04 247 *e*Pn **Pn 01 38 53.0 -1.6**
LOR *e*Sg Sn 01 41 26.8 +50
comp=N,174nm,1.1s
LOR Lormes 9.04 247 *e*P **Pn 01 38 53.0 -1.6**
LOR Lormes 9.04 247 *e*Pn **Pn 01 38 53.0 -1.6**
LOR Lormes 9.04 247 *e*Pn **Pn 01 38 53.0 -1.6**
LOR *e*Sg Sn 01 41 26.8 +50
MBDF Montbardon 9.21 226 *e*Pn **Pn 01 38 57.0 -0.1**
MBDF *e*Sg Sn 01 41 34.8 +53
comp=N,417nm,1.7s
MBDF Montbardon 9.21 226 *e*P **Pn 01 38 57.0 -0.1**
MBDF Montbardon 9.21 226 *e*Pn **Pn 01 38 57.0 -0.1**
MBDF Montbardon 9.21 226 *e*Pn **Pn 01 38 57.0 -0.1**
MBDF *e*Sg Sn 01 41 34.8 +53
AQU L'Aquila 9.34 192 *e*P **Pn 01 38 58.2 -0.6**
AQU L'Aquila 9.34 192 *e*P **Pn 01 38 58.2 -0.6**
AQU L'Aquila 9.34 192 *e*Pn **Pn 01 38 58.1 -0.6**
SSF Saint Saulge 9.36 247 *e*Pn **Pn 01 38 57.4 -1.5**
SSF *e*Sg Sn 01 41 37.2 +52
comp=N,322nm,1.5s
SSF Saint Saulge 9.36 247 *e*P **Pn 01 38 57.4 -1.5**
SSF Saint Saulge 9.36 247 *e*Pn **Pn 01 38 57.4 -1.5**
SSF Saint Saulge 9.36 247 *e*Pn **Pn 01 38 57.4 -1.5**
SSF *e*Sg Sn 01 41 37.2 +52
SMF Signal de Mont 9.40 244 *e*Pn **Pn 01 38 58.3 -1.2**
SMF *e*Sg Sn 01 41 39.7 +54
comp=N,418nm,1.3s
SMF Signal de Mont 9.40 244 *e*P **Pn 01 38 58.3 -1.2**
SMF Signal de Mont 9.40 244 *e*Pn **Pn 01 38 58.3 -1.2**
SMF Signal de Mont 9.40 244 *e*Pn **Pn 01 38 58.3 -1.2**
SMF *e*Sg Sn 01 41 39.7 +54
KIS Kishinev 9.45 114 *e*P **Pn 01 39 02.0 +1.8**
KIS *e* 01 40 51.0
KIS Kishinev 9.45 114 *e*P **Pn 01 39 02.0 +1.8**
KIS Kishinev 9.45 114 *e*P **Pn 01 39 02.0 +1.8**
SAOF Saorge 9.47 221 P **Pn 01 39 00.8 +0.3**
SAOF Saorge 9.47 221 P **Pn 01 39 00.8 +0.3**
ORIF Oris-en-Rattie 9.48 230 *e*Pn **Pn 01 38 59.6 -1.2**
ORIF *e*Sg Sn 01 41 42.3 +54
comp=N,375nm,1.4s
ORIF Oris-en-Rattie 9.48 230 *e*P **Pn 01 38 59.6 -1.2**
ORIF Oris-en-Rattie 9.48 230 *e*Pn **Pn 01 38 59.6 -1.2**
ORIF Oris-en-Rattie 9.48 230 *e*Pn **Pn 01 38 59.6 -1.2**
ORIF *e*Sg Sn 01 41 42.3 +54
AUTN L'Aution 9.52 221 P **Pn 01 39 01.3 0.0**
AUTN L'Aution 9.52 221 P **Pn 01 39 01.3 0.0**
TOUF Mont Tournerai 9.57 222 P **Pn 01 39 02.9 +0.8**
TOUF Mont Tournerai 9.57 222 P **Pn 01 39 02.9 +0.8**
AVF Avril sur Loir 9.60 246 *e*Pn **Pn 01 39 00.3 -1.9**
AVF *e*Sg Sn 01 41 45.2 +55
comp=N,422nm,1.4s
AVF Avril sur Loir 9.60 246 *e*P **Pn 01 39 00.3 -1.9**
AVF Avril sur Loir 9.60 246 *e*Pn **Pn 01 39 00.3 -1.9**
AVF Avril sur Loir 9.60 246 *e*Pn **Pn 01 39 00.3 -1.9**
AVF *e*Sg Sn 01 41 45.2 +55
SBF Sospel 9.62 221 *e*Pn **Pn 01 39 02.7 +0.1**
SBF Sospel 9.62 221 *e*P **Pn 01 39 02.7 +0.1**
SBF Sospel 9.62 221 *e*Pn **Pn 01 39 02.7 +0.1**
SBF Sospel 9.62 221 *e*Pn **Pn 01 39 02.7 +0.1**
MVIF Mont Vial 9.71 222 P **Pn 01 39 04.7 +0.8**
MVIF Mont Vial 9.71 222 P **Pn 01 39 04.7 +0.8**

HYF Humbligny 9.75 249 *e*Pn **Pn 01 39 03.9 -0.4**
HYF *e*Sg Sn 01 41 50.4 +56
HYF Humbligny 9.75 249 *e*Pn **Pn 01 39 03.9 -0.4**
HYF Humbligny 9.75 249 *e*Pn **Pn 01 39 03.9 -0.4**
HYF *e*Sg Sn 01 41 50.4 +56
REVF Revere 9.75 221 P **Pn 01 39 05.5 +1.1**
REVF Revere 9.75 221 P **Pn 01 39 05.5 +1.1**
NOA NORSAR Array B 9.93 346 P Pn 01 39 03.4 -3.4
NOA 01 40 51.9
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA smax smax
comp=N,1.0nm,0.3s
NOA NORSAR Array B 9.93 346 Pn Pn 01 39 03.4 -3.4
comp=N,0.5nm,0.3s,baz=164,slow=12,SNR=15
NOA Sn Sn 01 40 51.9 -6.9
comp=N,0.5nm,0.3s,baz=158,slow=21,SNR=3.4
NOA Lg Lg 01 41 57.1
comp=N,0.9nm,0.3s,baz=208,slow=21,SNR=5.7
CALN Calern 9.94 222 P **Pn 01 39 07.7 +0.7**
CALN Calern 9.94 222 P **Pn 01 39 07.7 +0.7**
BGF Bois d'Agland 10.02 246 *e*Pn **Pn 01 39 06.4 -1.5**
BGF *e*Sg Sn 01 41 58.6 +58
comp=N,309nm,1.2s
BGF Bois d'Agland 10.02 246 *e*P **Pn 01 39 06.4 -1.5**
BGF Bois d'Agland 10.02 246 *e*Pn **Pn 01 39 06.4 -1.5**
BGF Bois d'Agland 10.02 246 *e*Pn **Pn 01 39 06.4 -1.5**
BGF *e*Sg Sn 01 41 58.6 +58
VIVF Saint-Julien-l 10.12 233 *e*Pn **Pn 01 39 09.6 +0.2**
VIVF *e*Sg Sn 01 42 03.3 +60
comp=N,214nm,1.3s
VIVF Saint-Julien-l 10.12 233 *e*P **Pn 01 39 09.6 +0.2**
VIVF Saint-Julien-l 10.12 233 *e*Pn **Pn 01 39 09.6 +0.2**
VIVF Saint-Julien-l 10.12 233 *e*Pn **Pn 01 39 09.6 +0.2**
VIVF *e*Sg Sn 01 42 03.3 +60
PGF Pioggiola 10.19 211 *e*Pn **Pn 01 39 09.5 -0.9**
PGF Pioggiola 10.19 211 *e*P **Pn 01 39 09.5 -0.9**
PGF Pioggiola 10.19 211 *e*Pn **Pn 01 39 09.5 -0.9**
PGF Pioggiola 10.19 211 *e*Pn **Pn 01 39 09.5 -0.9**
FRF La Foret Royal 10.20 222 *e*Pn **Pn 01 39 09.9 -0.5**
FRF *e*Sg Sn 01 42 04.6 +59
comp=N,275nm,1.9s
FRF La Foret Royal 10.20 222 *e*P **Pn 01 39 09.9 -0.5**
FRF La Foret Royal 10.20 222 *e*Pn **Pn 01 39 09.9 -0.5**
FRF La Foret Royal 10.20 222 *e*Pn **Pn 01 39 09.9 -0.5**
FRF *e*Sg Sn 01 42 04.6 +59
CFR Carcaliu 10.20 124⇓ *i*P **Pn 01 39 11.6 +1.2**
CFR Carcaliu 10.20 124⇓ *i*P **Pn 01 39 11.6 +1.2**
CFR Carcaliu 10.20 124 P **Pn 01 39 11.6 +1.2**
SMRF Simiane la Rot 10.34 227 *e*Pn **Pn 01 39 11.8 -0.6**
SMRF *e*Sg 01 42 09.3
comp=N,186nm,1.6s
SMRF Simiane la Rot 10.34 227 *e*Pn **Pn 01 39 11.8 -0.6**
SMRF Simiane la Rot 10.34 227 *e*Pn **Pn 01 39 11.8 -0.6**
SMRF *e*Sg 01 42 09.3
LMR La Mourre 10.44 222 *e*Pn **Pn 01 39 12.8 -0.9**
LMR *e*Sg Sn 01 42 10.9 +60
comp=N,329nm,2.2s
LMR La Mourre 10.44 222 *e*P **Pn 01 39 12.8 -0.9**
LMR La Mourre 10.44 222 *e*Pn **Pn 01 39 12.8 -0.9**
LMR La Mourre 10.44 222 *e*Pn **Pn 01 39 12.8 -0.9**
LMR *e*Sg Sn 01 42 10.9 +60
TCF Toulx Ste Croi 10.53 246 *e*Pn **Pn 01 39 13.9 -1.1**
TCF *e*Sg 01 42 14.3
comp=N,330nm,1.4s
TCF Toulx Ste Croi 10.53 246 *e*P **Pn 01 39 13.9 -1.1**
TCF Toulx Ste Croi 10.53 246 *e*Pn **Pn 01 39 13.9 -1.1**
TCF Toulx Ste Croi 10.53 246 *e*Pn **Pn 01 39 13.9 -1.1**
TCF *e*Sg 01 42 14.3
LDF La Druitiere 10.84 261 *e*Pn **Pn 01 39 17.9 -1.2**
LDF *e*Sg 01 42 23.2
comp=N,271nm,1.5s
LDF La Druitiere 10.84 261 *e*P **Pn 01 39 17.9 -1.2**
LDF La Druitiere 10.84 261 *e*Pn **Pn 01 39 17.9 -1.2**
LDF La Druitiere 10.84 261 *e*Pn **Pn 01 39 17.9 -1.2**
LDF *e*Sg 01 42 23.2
FLN La Foliniere 11.00 262 *e*Sg 01 42 28.1
comp=N,420nm,1.5s
LASF Ste Croix 11.09 233 *e*Pn **Pn 01 39 22.3 -0.3**
LASF *e*Sg 01 42 32.2
comp=N,310nm,1.5s
LASF Ste Croix 11.09 233 *e*Pn **Pn 01 39 22.3 -0.3**
LASF Ste Croix 11.09 233 *e*Pn **Pn 01 39 22.3 -0.3**
LASF *e*Sg 01 42 32.2
FINES FINESS Array B 11.37 25 Pn Pn 01 39 22.8 -3.5
comp=N,0.8nm,0.3s,baz=198,slow=12,SNR=32
FINES Sn Sn 01 41 23.9 -10
comp=N,1.2nm,0.3s,baz=220,slow=22,SNR=4.8
FINES Lg Lg 01 42 42.3
comp=N,0.2nm,0.3s,baz=210,slow=27,SNR=2.4
GRR Gorron 11.37 261 *e*Pn **Pn 01 39 25.3 -1.1**
GRR *e*Sg 01 42 40.1
comp=N,121nm,1.2s
GRR Gorron 11.37 261 *e*P **Pn 01 39 25.3 -1.1**
GRR Gorron 11.37 261 *e*Pn **Pn 01 39 25.3 -1.1**
GRR Gorron 11.37 261 *e*Pn **Pn 01 39 25.3 -1.1**
GRR *e*Sg 01 42 40.1
CAF Calviac 11.44 240 *e*Sg 01 42 43.0
comp=N,128nm,1.3s
RJF Les Rejaudoux 11.50 243 *e*Pn **Pn 01 39 26.6 -1.7**
RJF *e*Sg 01 42 46.9
comp=N,259nm,1.4s
RJF Les Rejaudoux 11.50 243 *e*P **Pn 01 39 26.6 -1.7**
RJF Les Rejaudoux 11.50 243 *e*Pn **Pn 01 39 26.6 -1.7**
RJF Les Rejaudoux 11.50 243 *e*Pn **Pn 01 39 26.6 -1.7**
RJF *e*Sg 01 42 46.9
MFF Saint Martin d 11.73 252 *e*Pn **Pn 01 39 30.6 -0.8**
MFF *e*Sg 01 42 52.1
comp=N,466nm,2.0s
MFF Saint Martin d 11.73 252 *e*P **Pn 01 39 30.6 -0.8**
MFF Saint Martin d 11.73 252 *e*Pn **Pn 01 39 30.6 -0.8**
MFF Saint Martin d 11.73 252 *e*Pn **Pn 01 39 30.6 -0.8**
MFF *e*Sg 01 42 52.1
KAF Kangasniemi 11.99 24 *e*P Pn 01 39 31.3 -3.5
KAF pmax pmax
comp=Z,6.0nm,0.7s
KAF Kangasniemi 11.99 24 *e*p Pn 01 39 31.3 -3.5
comp=Z,5.6nm,0.7s
EKA Eskdalemuir Ar 12.11 296 Pn Pn 01 39 32.0 -4.4
baz=102,slow=13,SNR=18
EKA Sn Sn 01 41 45.0 -7.1
baz=103,slow=26,SNR=3.6
ESK Eskdalemuir 12.13 296 *e*P **Pn 01 39 34.8 -2.0**
ESK Eskdalemuir 12.13 296 *e*P **Pn 01 39 34.8 -2.0**
ESK Eskdalemuir 12.13 296 *e*Pn **Pn 01 39 34.8 -2.0**
LFF La Frestale 12.16 243 *e*Sg 01 43 05.2
comp=Z,244nm,1.4s
MTLF Montolieu 12.44 234 *e*Pn **Pn 01 39 40.1 -1.0**
MTLF *e*Sg 01 43 13.7
comp=Z,132nm,1.4s
MTLF Montolieu 12.44 234 *e*P **Pn 01 39 40.1 -1.0**
MTLF Montolieu 12.44 234 *e*Pn **Pn 01 39 40.1 -1.0**
MTLF Montolieu 12.44 234 *e*Pn **Pn 01 39 40.1 -1.0**
MTLF *e*Sg 01 43 13.7
SGMF Saint Gilles 12.47 262 *e*Pn **Pn 01 39 40.4 -1.0**
SGMF Saint Gilles 12.47 262 *e*Pn **Pn 01 39 40.4 -1.0**
SGMF Saint Gilles 12.47 262 *e*Pn **Pn 01 39 40.4 -1.0**
OBN Obninsk 12.74 66⇑ *i*P Pn 01 39 41.1 -4.1
OBN *i* S **Sn 01 42 02.4 -5.2**
OBN pmax pmax
comp=Z,39nm,1.3s
ROSF Rostrenen 12.88 263 *e*Pn **Pn 01 39 45.6 -1.5**
ROSF Rostrenen 12.88 263 *e*P **Pn 01 39 45.6 -1.5**
ROSF Rostrenen 12.88 263 *e*Pn **Pn 01 39 45.6 -1.5**
ROSF Rostrenen 12.88 263 *e*Pn **Pn 01 39 45.6 -1.5**
MOS Moscow 13.44 63 *e*P Pn 01 39 48.1 -6.5
MOS *e*SS **Sn 01 42 24.9 +0.4**
MOS pmax pmax
comp=Z,41nm,0.9s
MOS pmax pmax
comp=Z,50nm,1.0s
MOS Moscow 13.44 63 *e*S **Sn 01 42 24.9 +0.4**
EPF Esparros 13.63 238 *e*Pn **Pn 01 39 56.6 -0.8**
EPF *e*Sg S 01 43 51.6 +58
comp=Z,93nm,1.2s
EPF Esparros 13.63 238 *e*P **Pn 01 39 56.6 -0.8**
EPF Esparros 13.63 238 *e*Pn **Pn 01 39 56.6 -0.8**
EPF Esparros 13.63 238 *e*Pn **Pn 01 39 56.6 -0.8**
EPF *e*Sg S 01 43 51.6 +58
SIM Simferopol' 13.66 112 *e*P **Pn 01 39 55.0 -2.7**
SIM pmax pmax
comp=Z,11nm,1.3s
JOF Joensuu 14.04 30 *e*P Pn 01 39 58.9 -3.9

JOF pmax pmax
comp=Z,3.0nm,0.4s
JOF Joensuu 14.04 30 *e*p Pn 01 39 58.9 -3.9
comp=Z,2.7nm,0.4s
CLTB Caltabellotta 14.08 189 *e*P **P 01 40 13.2 +1.7**
ETSF Etsaut 14.20 239 *e*Pn **Pn 01 40 03.8 -1.5**
ETSF *e*Sg 01 44 10.7
comp=N,100nm,1.3s
ETSF Etsaut 14.20 239 *e*P **Pn 01 40 03.8 -1.5**
ETSF Etsaut 14.20 239 *e*Pn **Pn 01 40 03.8 -1.5**
ETSF Etsaut 14.20 239 *e*Pn **Pn 01 40 03.8 -1.5**
ETSF *e*Sg 01 44 10.7
VOR Voronezh 14.34 80 P **Pn 01 40 07.0 +0.1**
VOR pmax pmax
comp=Z,250nm,1.2s
SJPF Ste Jean 14.42 241 *e*Pn **Pn 01 40 06.4 -1.8**
SJPF *e*Sg 01 44 15.8
comp=Z,123nm,1.5s
SJPF Ste Jean 14.42 241 *e*P **Pn 01 40 06.4 -1.8**
SJPF Ste Jean 14.42 241 *e*Pn **Pn 01 40 06.4 -1.8**
SJPF Ste Jean 14.42 241 *e*Pn **Pn 01 40 06.4 -1.8**
SJPF *e*Sg 01 44 15.8
ANN Anapa 15.70 107 *e*P Pn 01 40 15.2 -10
ANN pmax pmax
comp=Z,32nm,1.4s
KEST Kesra 16.50 200 *e*Pn **Pn 01 40 34.5 -1.2**
KEST Kesra 16.50 200 *e*Pn **Pn 01 40 34.5 -1.2**
BRTR Keskin Array B 16.95 127 *ce*P **P 01 40 44.7 +1.2**
BRTR pmax pmax
comp=Z,2.0nm,1.1s
BRTR Keskin Array B 16.95 127 P **Pn 01 40 41.7 +0.2**
comp=Z,0.1nm,0.3s,baz=328,slow=9.8,SNR=9.4
BRTR PcP **PcP 01 45 28.0 0.0**
comp=Z,0.0nm,0.3s,baz=322,slow=1.4,SNR=4.0
BRTR Keskin Array B 16.95 127 *e*P **P 01 40 44.7 +1.2**
comp=Z,2.0nm,1.1s
BRTR Keskin Array B 16.95 127 PcP **PcP 01 45 28.0 0.0**
TMCR Tamitsa 17.11 34 *e*P Pn 01 40 36.4 -6.7
TMCR *e* 01 43 47.8
TMCR pmax pmax
comp=Z,33nm,1.1s
APA Apatity 18.22 21 *i* P **P 01 40 57.2 +0.1**
APA MLR MLR
comp=Z,400nm,15.0s
APA Apatity 18.22 21 *i* P **P 01 40 57.2 +0.1**
comp=Z,400nm,15.0s
ESDC Sonseca Array 18.30 238 P **Pn 01 40 57.9 -0.2**
comp=Z,0.1nm,0.3s,baz=42,slow=11,SNR=8.6
ARCES ARCESS Array B 18.63 10 P **P 01 40 57.4 -4.2**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 18.63 10 P **P 01 40 57.4 -4.2**
comp=Z,0.7nm,0.3s,baz=194,slow=12,SNR=31
PRGR Permogore 18.99 46 *e*P P 01 40 58.9 -6.7
PRGR *e*S Sn 01 44 28.8 -10
PRGR pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 19.01 12 *e*P **P 01 41 03.3 -2.5**
KEV pmax pmax
comp=Z,86nm,1.4s
KEV Kevo 19.01 12 *e*p **P 01 41 01.9 -3.9**
comp=Z,10.0nm,0.7s
KEV Kevo 19.01 12 *e*P **P 01 41 03.3 -2.5**
comp=Z,86nm,1.4s
KEV Kevo 19.01 12 *e*P **P 01 41 03.3 -2.5**
comp=Z,86nm,1.4s
KIV Kislovodsk 19.33 103⇓ *i*P **P 01 41 10.1 +0.4**
KIV *e*S **S 01 44 50.3 +1.1**
KIV pmax pmax
comp=Z,9.0nm,1.2s
KIV Kislovodsk 19.33 103 *i* P **P 01 41 10.1 +0.4**
comp=Z,9.0nm,1.2s
KIV *e*S **S 01 44 50.3 +1.1**
KBZ Khabaz 19.58 103 P **Pn 01 41 13.5 0.0**
comp=Z,0.0nm,0.3s,baz=302,slow=9.5,SNR=4.2
NCK Nalchik 20.14 103⇓ *i*P Pn 01 41 20.4 +0.3
NCK Nalchik 20.14 103 *i* P Pn 01 41 20.4 +0.3
ONI Oni 20.55 105 P **Pn 01 41 24.7 -0.4**
CSS Prodhromos 20.67 136 *e*P **P 01 41 23.7 -0.5**
comp=Z,6.5nm,1.3s
CSS Prodhromos 20.67 136 *e*P **P 01 41 23.7 -0.5**
comp=Z,6.5nm,1.3s
ZEI Tsey 20.71 104 *e*P Pn 01 41 26.7 -0.5
ZEI pmax pmax
comp=Z,19nm,1.7s
ZEI Tsey 20.71 104 *e*P Pn 01 41 26.7 -0.5
comp=Z,19nm,1.7s
GUDG Gudauri 21.25 104 P **P 01 41 33.9 +3.3**
TBLG Delisi 21.83 105 P **P 01 41 38.6 +1.9**
DGRG David-gareji 22.38 105 P **P 01 41 44.9 +2.3**
GNI Garni 22.80 109 *e*P **P 01 41 47.2 -0.1**
GNI pmax pmax
comp=Z,45nm,1.5s
GNI Garni 22.80 109 P **P 01 41 48.6 +1.3**
comp=Z,1.9nm,0.5s,baz=230,slow=4.0,SNR=13
GNI Garni 22.80 109 *e*P **P 01 41 47.2 -0.1**
comp=Z,45nm,1.5s
GNI Garni 22.80 109 *e*P **P 01 41 47.2 -0.1**
comp=Z,45nm,1.5s
MMAI Mount Meron Ar 23.23 135 P **P 01 41 52.1 +0.6**
comp=Z,3.4nm,0.9s,baz=327,slow=8.4,SNR=12
MDT Midelt 24.04 227 P **P 01 41 59.6 0.0**
comp=Z,2.8nm,0.9s,baz=29,slow=11,SNR=3.7
ARU Arti 25.14 62 *d i*P **P 01 42 08.2 -1.1**
ARU PPP PPP 01 42 52.3
ARU S **S 01 46 35.2 +0.3**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 25.14 62 *i* P **P 01 42 08.2 -1.1**
comp=Z,13nm,1.0s
ARU S **S 01 46 35.2 +0.3**
ARU Arti 25.14 62 *e*P **P 01 42 08.1 -1.1**
comp=Z,19nm,1.1s
AKTK Aktyubinsk 26.16 76 P **P 01 42 18.4 -0.2**
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 26.16 76 P **P 01 42 18.4 -0.2**
AKTO pmax pmax
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 26.16 76 P **P 01 42 18.4 -0.2**
comp=Z,5.5nm,0.7s,baz=287,slow=9.1,SNR=23
SVE Sverdlovsk 26.23 61 *e*P **P 01 42 19.1 -0.1**
SVE pmax pmax
comp=Z,38nm,1.7s
SVE Sverdlovsk 26.23 61 *e*P **P 01 42 19.1 -0.1**
comp=Z,38nm,1.7s
SPITS Spitsbergen Ar 26.78 0 P **P 01 42 23.7 -0.3**
SPITS pmax pmax
comp=Z,6.0nm,0.9s
SPITS Spitsbergen Ar 26.78 0 P **P 01 42 23.7 -0.3**
comp=Z,5.8nm,0.9s,baz=159,slow=12,SNR=4.4
ABKAR Akbulak array 27.73 77 *e*P **P 01 42 32.0 -0.8**
ABKAR Akbulak array 27.73 77 *e*P **P 01 42 32.0 -0.8**
TAM Tamanrasset 29.82 200 *e*P **P 01 42 52.8 +1.1**
TAM pmax pmax
comp=Z,9.0nm,1.4s
TAM Tamanrasset 29.82 200 *e*P **P 01 42 52.8 +1.1**
comp=Z,8.8nm,1.4s
TAM Tamanrasset 29.82 200 *e*P **P 01 42 52.8 +1.1**
comp=Z,8.8nm,1.4s
GEYT Ailbeck 32.32 98 P **P 01 43 14.4 +0.8**
comp=Z,1.9nm,0.9s,baz=311,slow=9.7,SNR=9.1
KKAR Karatay Array 37.06 81 *e*P **P 01 43 55.7 +1.2**
KKAR pmax pmax
comp=Z,21nm,1.4s
KKAR Karatay Array 37.06 81 *e*P **P 01 43 55.7 +1.2**
comp=Z,21nm,1.4s
KKAR Karatay Array 37.06 81 *e*P **P 01 43 55.7 +1.2**
comp=Z,21nm,1.4s
KURK Kurchatov 38.19 66 *e*P **P 01 44 03.8 0.0**
KURK pmax pmax
comp=Z,10.0nm,1.1s
KURK Kurchatov 38.19 66 *e*P **P 01 44 03.8 0.0**
comp=Z,10.0nm,1.1s
KURK Kurchatov 38.19 66 *e*P **P 01 44 03.8 0.0**
comp=Z,10.0nm,1.1s
NVS Novosibirsk 38.98 58 *e*P **P 01 44 09.7 -0.8**
NVS *e* 01 45 37.5
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,22nm,1.4s
NVS pmax pmax
comp=N,3.0nm,1.3s
NVS Novosibirsk 38.98 58 *e*P **P 01 44 09.7 -0.8**
comp=N,3.0nm,1.3s
EKS2 Erkin-Say 39.32 80 *e*P **P 01 44 15.3 +1.7**

EKS2 pmax pmax
comp=Z,11nm,1.1s
EKS2 Erkin-Say 39.32 80 *eP* **P 01 44 15.3 +1.7**
comp=Z,11nm,1.1s
EKS2 Erkin-Say 39.32 80 *eP* **P 01 44 15.3 +1.7**
comp=Z,11nm,1.1s
AAK Ala-Archa 39.77 79 *eP* **P 01 44 18.7 +1.3**
AAK pmax pmax
comp=Z,14nm,1.2s
AAK Ala-Archa 39.77 79 *eP* **P 01 44 18.7 +1.3**
comp=Z,14nm,1.2s
AAK Ala-Archa 39.77 79 *eP* **P 01 44 18.7 +1.3**
comp=Z,14nm,1.2s
TORD Torodi Ar. Bea 40.00 202 P **P 01 44 19.4 +0.1**
comp=Z,4.3nm,1.0s,baz=8.6,slow=7.4,SNR=21
TORD PcP **PcP 01 46 24.5 0.0**
comp=Z,0.5nm,0.8s,baz=13,slow=3.1,SNR=4.4
ZALV Zalesovo Beam 40.20 59 *iP* **P 01 44 21.7 +1.1**
ZALV pmax pmax
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 40.20 59 P **P 01 44 20.9 +0.3**
comp=Z,3.9nm,1.0s,baz=302,slow=8.5,SNR=15
TKM2 Tokmak 2 40.29 78 *eP* **P 01 44 21.3 -0.5**
TKM2 pmax pmax
comp=Z,4.0nm,1.3s
TKM2 Tokmak 2 40.29 78 *eP* **P 01 44 21.3 -0.5**
comp=Z,4.3nm,1.3s
TKM2 Tokmak 2 40.29 78 *eP* **P 01 44 21.3 -0.5**
comp=Z,4.3nm,1.3s
MKAR Makanchi Array 42.22 69*ceP* **P 01 44 37.9 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 42.22 69 P **P 01 44 37.6 +0.3**
comp=Z,1.3nm,0.7s,baz=304,slow=7.4,SNR=16
MKAR PP **PP 01 46 13.6 -1.1**
comp=Z,1.0nm,1.0s,baz=318,slow=8.4,SNR=5.1
KSH Kashi 42.49 82 P **P 01 44 41.0 +1.3**
KSH PP PP 01 46 24.0 +6.2
KSH PcS **PcS 01 50 26.2 +1.6**
KSH S **S 01 51 05.7 +3.0**
KSH SS **SS 01 54 09.0 -2.4**
KSH PMZ
comp=Z,17nm,1.2s
KSH PMZ
comp=Z,140nm,5.6s
KSH LN
comp=Z,91nm,4.5s
KSH LE
comp=Z,130nm,4.6s
KSH LZ
comp=Z,220nm,6.0s
RES Resolute Bay 46.13 340 *eP* **P 01 45 09.3 +1.0**
RES pmax pmax
comp=Z,15nm,1.8s
RES Resolute Bay 46.13 340 *eP* **P 01 45 09.3 +1.0**
comp=Z,15nm,1.8s
RES Resolute Bay 46.13 340 *eP* **P 01 45 09.3 +1.0**
comp=Z,15nm,1.8s
WMQ Urumqi 47.04 70 *eP* **P 01 45 18.0 +2.1**
WMQ pP 01 45 22.0
WMQ sP 01 45 25.0
WMQ PcP **PcP 01 46 50.0 +2.0**
WMQ PP **PP 01 47 11.0 +4.9**
WMQ *eS* **S 01 52 10.0 +1.5**
WMQ ScS **ScS 01 55 10.0 -1.4**
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,78nm,5.6s
WMQ LN
comp=Z,170nm,20.0s
WMQ LE
comp=Z,320nm,26.0s
WMQ LZ
comp=Z,210nm,26.0s
SCHQ Schefferville 47.07 308 P **P 01 45 15.2 -0.7**
comp=Z,3.0nm,0.8s,baz=58,slow=9.2,SNR=6.4
TIXI Tiksi 48.40 23*ceP* **P 01 45 27.2 +1.2**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 48.40 23 *eP* **P 01 45 27.2 +1.2**
comp=Z,9.0nm,1.7s
TLY Talaya 51.13 53 *eP* **P 01 45 48.8 +1.7**
TLY pmax pmax
comp=Z,14nm,1.5s
TLY Talaya 51.13 53 *eP* **P 01 45 48.1 +1.0**
comp=Z,22nm,1.5s
TLY Talaya 51.13 53 *eP* **P 01 45 48.1 +1.0**
comp=Z,22nm,1.5s
ZAK Zakamensk 51.73 55 *eP* **P 01 45 52.9 +1.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK Zakamensk 51.73 55 *eP* **P 01 45 52.9 +1.2**
comp=Z,4.0nm,1.4s
BOD Bodaibo 52.16 42 *eP* **P 01 45 52.7 -1.9**
BOD pmax pmax
comp=Z,6.0nm,1.6s
BOD Bodaibo 52.16 42 *eP* **P 01 45 52.7 -1.9**
comp=Z,6.0nm,1.6s
SONM Songino Array 54.92 55 P **P 01 46 15.7 +0.5**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 54.92 55 P **P 01 46 15.7 +0.5**
comp=Z,3.4nm,1.0s,baz=294,slow=7.7,SNR=14
ULN Ulaanbaatar 55.23 55 *eP* **P 01 46 18.4 +0.8**
ULN pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 55.23 55 *eP* **P 01 46 18.4 +0.8**
comp=Z,3.4nm,1.1s
ULN Ulaanbaatar 55.23 55 *eP* **P 01 46 18.4 +0.8**
comp=Z,3.4nm,1.1s
FCC Fort Churchill 56.37 324 *eP* **P 01 46 24.6 -0.7**
FCC Fort Churchill 56.37 324 *eP* **P 01 46 24.6 -0.7**
FCC Fort Churchill 56.37 324 *eP* **P 01 46 24.6 -0.7**
GTA Gaotai 56.86 67 *eP* **P 01 46 30.1 +0.8**
GTA pP pP 01 46 34.6
GTA sP 01 46 37.1
GTA PMZ
comp=Z,3.0nm,1.3s
INK Inuvik 58.38 347 P **P 01 46 38.8 -0.6**
INK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 58.38 347 P **P 01 46 38.8 -0.6**
comp=Z,1.0nm,0.9s,baz=356,slow=6.6,SNR=3.0
BILL Bilibino 58.71 13 *eP* **P 01 46 40.7 -1.0**
BILL Bilibino 58.71 13 *eP* **P 01 46 40.7 -1.0**
BILL Bilibino 58.71 13 *eP* **P 01 46 40.7 -1.0**
YKA Yellowknife Ar 59.86 336 P **P 01 46 49.7 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 59.86 336 P **P 01 46 49.7 0.0**
comp=Z,2.8nm,0.7s,baz=28,slow=6.7,SNR=64
LZH Lanzhou 61.46 67 *eP* **P 01 47 01.0 -0.2**
LZH pP pP 01 47 05.7
LZH sP 01 47 08.6
LZH PMZ
comp=Z,11nm,1.0s
FFC Flin Flon 62.28 325 *eP* **P 01 47 06.4 +0.2**
FFC pmax pmax
comp=Z,17nm,1.6s
FFC Flin Flon 62.28 325 *eP* **P 01 47 06.4 +0.2**
comp=Z,17nm,1.6s
FFC Flin Flon 62.28 325 *eP* **P 01 47 06.4 +0.2**
comp=Z,17nm,1.6s
HHC Hu-ho-hao-te 62.38 58 *eP* **P 01 47 08.0 +0.7**
HHC PcP **PcP 01 47 48.2 +1.3**
HHC PP **PP 01 49 23.9 -0.1**
HHC S **S 01 55 33.3 -1.6**
HHC SKS **SKKSac 01 56 57.8 -2.9**
HHC SS **SS 01 59 38.3 +0.7**
HHC PMZ
comp=Z,39nm,2.4s
HHC PMZ
comp=Z,200nm,5.0s
HHC LN
comp=Z,380nm,21.1s
HHC LE
comp=Z,490nm,19.9s
HHC LZ
comp=Z,510nm,24.9s
ILAR Eielson Array 63.31 352 P **P 01 47 13.1 +0.1**
comp=Z,0.4nm,0.6s,baz=350,slow=5.8,SNR=7.0
ULM Lac du Bonnet 63.36 318 P **P 01 47 13.2 -0.3**
ULM pmax pmax
comp=Z,2.0nm,0.6s
ULM Lac du Bonnet 63.36 318 P **P 01 47 13.2 -0.3**
comp=Z,1.6nm,0.6s,baz=33,slow=6.1,SNR=3.5
MCK McKinley 64.50 353 *eP* **P 01 47 21.1 +0.2**
MCK McKinley 64.50 353 *eP* **P 01 47 21.1 +0.2**
MCK McKinley 64.50 353 *eP* **P 01 47 21.1 +0.2**
CD2 Chengdu 65.10 71 *eP* **P 01 47 25.8 +0.5**
CD2 pP pP 01 47 30.5
CD2 sP 01 47 32.8
CD2 PP **PP 01 49 50.6 +2.6**
CD2 PcS 01 52 01.5
CD2 S **S 01 56 06.4 -2.4**
CD2 sS 01 56 13.1
CD2 SKS **SKSac 01 57 17.9 -3.6**
CD2 SS **SS 02 00 19.7 -0.6**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
LSZ Lusaka 67.33 167 *eP* **P 01 47 38.6 -1.0**
LSZ pmax pmax
comp=Z,6.0nm,1.2s
LSZ Lusaka 67.33 167 *eP* **P 01 47 38.6 -1.0**
comp=Z,6.2nm,1.2s
LSZ Lusaka 67.33 167 *eP* **P 01 47 38.6 -1.0**
comp=Z,6.2nm,1.2s
EDM Edmonton 67.36 330 *eP* **P 01 47 39.8 +0.4**
EDM Edmonton 67.36 330 *eP* **P 01 47 39.8 +0.4**
EDM Edmonton 67.36 330 *eP* **P 01 47 39.8 +0.4**
PALK Pallekele 68.64 106 *eP* **P 01 47 48.1 +0.1**
PALK Pallekele 68.64 106 *eP* **P 01 47 48.1 +0.1**
PALK Pallekele 68.64 106 *eP* **P 01 47 48.1 +0.1**
KMI Kunming 68.72 76 P **P 01 47 47.6 -1.0**
KMI PMZ
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 69.75 44 P **P 01 47 54.9 +0.5**
comp=Z,1.9nm,0.8s,baz=334,slow=7.0,SNR=6.2
CHTO Chiang Mai 71.09 83 *eP* **P 01 48 03.4 +0.4**
CHTO pmax pmax
comp=Z,2.0nm,0.4s
CHTO Chiang Mai 71.09 83 *eP* **P 01 48 03.4 +0.4**
comp=Z,1.7nm,0.4s
CHTO Chiang Mai 71.09 83 *eP* **P 01 48 03.4 +0.4**
comp=Z,1.7nm,0.4s
CMAR Chiang Mai Arr 71.36 84 P **P 01 48 05.3 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 71.36 84 P **P 01 48 05.3 +0.7**
comp=Z,1.9nm,0.4s,baz=307,slow=6.7,SNR=12
RCBR Riachuelo 72.30 235 *eP* **P 01 48 09.2 -1.1**
RCBR Riachuelo 72.30 235 *eP* **P 01 48 09.2 -1.1**
GCMT Greyclif 72.42 323 *eP* **P 01 48 11.8 +1.0**
comp=Z,7.1nm,1.1s
GCMT Greyclif 72.42 323 *eP* **P 01 48 11.8 +1.0**
comp=Z,7.1nm,1.1s
PDAR Pinedale Array 74.94 322 P **P 01 48 25.7 -0.1**
comp=Z,1.5nm,0.8s,baz=57,slow=5.5,SNR=11
LBTB Lobatse 76.64 171 *eP* **P 01 48 36.5 +1.2**
LBTB pmax pmax
comp=Z,13nm,1.4s
LBTB Lobatse 76.64 171 *eP* **P 01 48 36.5 +1.2**
comp=Z,13nm,1.4s
LBTB Lobatse 76.64 171 *eP* **P 01 48 36.5 +1.2**
comp=Z,13nm,1.4s
PV01 Paradox Valley 78.48 319 *eP* **P 01 48 46.7 +0.8**
PV01 Paradox Valley 78.48 319 *eP* **P 01 48 46.7 +0.8**
BOSA Boshof 80.18 172 *eP* **P 01 48 56.0 +1.2**
BOSA pmax pmax
comp=Z,16nm,1.4s
BOSA Boshof 80.18 172 P **P 01 48 55.2 +0.4**
comp=Z,4.1nm,1.0s,baz=333,slow=7.3,SNR=3.8
BOSA Boshof 80.18 172 *eP* **P 01 48 56.0 +1.2**
comp=Z,16nm,1.4s
BOSA Boshof 80.18 172 *eP* **P 01 48 56.0 +1.2**
comp=Z,16nm,1.4s
JCJ Chichijima 88.53 46 LR LR 02 31 28.4
comp=Z,283nm,18.0s,baz=129,slow=37
SAML Samuel 90.34 256 *eP* **P 01 49 45.3 -0.6**
comp=Z,6.0nm,1.5s
SAML Samuel 90.34 256 *eP* **P 01 49 45.3 -0.6**
comp=Z,6.0nm,1.5s
ASAR Alice Springs 125.37 84 PKIKP **PKPdf 01 55 44.9 -0.7**
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 125.37 84 PKP **PKPdf 01 55 44.9 -0.7**
comp=Z,0.9nm,1.0s,baz=359,slow=1.3,SNR=4.9

*ISCJB **03** 01:36:59.4±1.5, 33.°84S±0.°05×72.°6W±0.°1, h17km±12km, mb3.4/2, Error ellipse: s-maj=15.6km s-min=7.4km az=21.0*
*GUC **03** 01:37:00.9±0.7, 33.°86S×72.°45W, h33km±6km, ML3.7*
*IDC **03** 01:37:09.6±3.4, 34.°29S×71.°62W, h59km±33km, mb3.2/2, mb1 3.4/4, mb1mx3.4/23, mbtmp3.4/4, ML3.4/2, MS1.7/1, Ms1 1.7/1, ms1mx1.7/9, Error ellipse: s-maj=42.3km s-min=20.7km az=118.0*
ISC 03 01:37:00.4±2.2, 33.°87S±0.°04×72.°43W±0.°09, h8km±11km, n15, σ0°76/24, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.85**	**96**	↓*iP*		**Pb**	**01 37 17.7**	**+0.4**
LNV				*i*S		**Sn**	**01 37 30.0**	**-1.2**
IHA	**Instituto Hidr**	**1.07**	**38**	↑*iP*		**Pg**	**01 37 20.9**	**0.0**
IHA				*i*S		**Sb**	**01 37 35.8**	**+0.6**
CHCH	**Chadas Angostu**	**1.48**	**93**	↓*iP*		**Pn**	**01 37 27.5**	**+0.2**
CHCH				*i*S		**Sg**	**01 37 47.6**	**-0.3**
ROCH	**El Roble**	**1.48**	**53**	*eP*		**Pn**	**01 37 27.4**	**-0.1**
ROCH				*i*S		**Sn**	**01 37 47.8**	**+0.5**
NICH	**Los Niches**	**1.50**	**139**	*eP*		**Pn**	**01 37 27.4**	**-0.2**
NICH				*i*S		**Sg**	**01 37 48.7**	**0.0**
CACH	**El Canelo**	**1.54**	**100**	↑*iP*		**Pb**	**01 37 28.9**	**-0.3**
CACH				*e*S		**Sg**	**01 37 50.9**	**+1.0**
PEL	**Peldehue**	**1.62**	**64**	↓*iP*		**Pn**	**01 37 30.0**	**+0.6**
PEL				*i*S		**Sg**	**01 37 52.0**	**-0.6**
CLCH	**Cerro Calan**	**1.65**	**74**	↑*iP*		**Pn**	**01 37 30.0**	**+0.4**
CLCH				*i*S		**Sg**	**01 37 52.3**	**-1.1**
CLCH				AML	AML	01 38 07.5		
	comp=E,1μm,0.5s							
CLCH				AML	AML	01 38 08.1		
	comp=E,1μm,0.6s							
TALC	**Talca**	**1.66**	**157**	↓*iP*		**Pn**	**01 37 30.4**	**+0.7**
TALC				*i*S		**Sb**	**01 37 52.6**	**+0.4**
YECH	**El Yeso**	**1.96**	**85**	*eP*		**Pn**	**01 37 33.8**	**-0.4**
YECH				*e*S		**Sn**	**01 38 00.1**	**+1.0**
CFAA	**Coronel Fontan**	**4.19**	**59**	P		**Pn**	**01 38 06.2**	**+1.6**
	comp=E,0.1nm,0.3s,baz=228,slow=15,SNR=6.6							
CFAA				S		**Sn**	**01 38 52.7**	**-1.1**
	comp=E,0.4nm,0.3s,baz=250,slow=7.9,SNR=6.6							
CFAA				LR		LR	01 39 36.1	
	comp=E,12nm,21.2s,baz=336,slow=38							
PLCA	**Paso Flores**	**7.01**	**168**	P		**Pn**	**01 38 42.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=344,slow=19,SNR=4.8							
LPAZ	**La Paz**	**17.93**	**14**	P		P	01 41 18.2	+6.8
	comp=E,0.1nm,0.3s,baz=188,slow=11,SNR=3.6							
TXAR	**Lajitas Array**	**69.47**	**331**	P		P	01 48 16.2	+6.9
	comp=E,0.3nm,0.9s,baz=143,slow=9.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**84.47**	**70**	P		**P**	**01 49 33.7**	**-0.3**
	comp=E,0.4nm,0.8s,baz=232,slow=4.1,SNR=5.7							

*CSEM **03** 01:39:36.2, 38.°69N×22.°85E, h5km, MD2.4*
ATH 03 01:39:36.2, 38.°69N×22.°85E, h5km, MD2.4/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LKR	**Lokris**	**0.12**	**109**	*e*PG		Pg	01 39 38.8	+0.1
LKR	**Lokris**	**0.12**	**109**	*e*Pg		Pg	01 39 38.8	+0.1
AXAR	**Agios Charalam**	**0.17**	**297**	*e*PG		Pg	01 39 39.4	-0.2
AXAR				*e*SG		Sg	01 39 42.3	+0.4
AXAR	**Agios Charalam**	**0.17**	**297**	*e*Pg		Pg	01 39 39.4	-0.2
AXAR				*e*Sg		Sg	01 39 42.3	+0.4
SMIA	**Simia**	**0.34**	**56**	*e*PB		Pg	01 39 43.4	+0.6
SMIA				*e*SB		Sg	01 39 48.3	+1.0
SMIA	**Simia**	**0.34**	**56**	*e*Pb		Pg	01 39 43.4	+0.6
SMIA				*e*Sb		Sg	01 39 48.3	+1.0
AGG	**Agios Georgios**	**0.52**	**309**	*e*PB		Pg	01 39 46.0	-0.4
AGG	**Agios Georgios**	**0.52**	**309**	*e*Pb		Pg	01 39 46.0	-0.4
MAKR	**Makrakomi, Fth**	**0.65**	**300**	*e*PB		Pb	01 39 49.6	-0.5
MAKR	**Makrakomi, Fth**	**0.65**	**300**	*e*Pb		Pb	01 39 49.6	-0.5

*GUC **03** 01:50:52.5±0.6, 36.°98S×72.°19W, h5km±13km, ML4.4*
*IDC **03** 01:50:52.6±0.6, 36.°29S×72.°92W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/32, mbtmp4.2/13, ML3.4/2, Error ellipse: s-maj=25.0km s-min=15.6km az=87.0*
*ISCJB **03** 01:50:54.9±0.4, 36.°28S±0.°04×73.°12W±0.°06, h25km, mb4.3/21, Error ellipse: s-maj=7.6km s-min=5.0km az=18.1*
*NEIC **03** 01:50:57.4±0.3, 36.°29S×73.°08W, h35km, mb4.5/16, ML4.4(GUC), Error ellipse: s-maj=9.2km s-min=6.1km az=102.0*
ISC 03 01:50:56.1±0.4, 36.°27S±0.°05×73.°07W±0.°07, h25km, n65, σ1°29/74, mb4.4/21, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.58**	**184**	↑*iP*		**Pb**	**01 51 07.2**	**-0.4**
CCSP				AML		AML	01 51 18.7	
	comp=N,36μm,0.5s							
CCSP	**San Pedro de C**	**0.58**	**184**	↑*iP*		**Pb**	**01 51 07.2**	**-0.4**
LNCH	**Linares**	**1.26**	**71**	↓*iP*		**Pb**	**01 51 18.3**	**-0.8**
LNCH				*i*S		**Sb**	**01 51 35.1**	**+0.2**
LNCH	**Linares**	**1.26**	**71**	↓*iP*		**Pb**	**01 51 18.3**	**-0.8**
LNCH				*i*S		**Sb**	**01 51 35.1**	**+0.2**
TALC	**Talca**	**1.45**	**54**	↓*iP*		**Pb**	**01 51 21.1**	**-1.3**
TALC				*e*S		**Sb**	**01 51 43.3**	**+2.8**
TALC	**Talca**	**1.45**	**54**	↓*iP*		**Pb**	**01 51 21.1**	**-1.3**
TALC				*e*S		**Sb**	**01 51 43.3**	**+2.8**
NICH	**Los Niches**	**1.96**	**50**	↑*iP*		**Pb**	**01 51 29.1**	**-2.0**
NICH				*e*S		**Sb**	**01 51 57.0**	**+2.0**
NICH	**Los Niches**	**1.96**	**50**	↑*iP*		**Pb**	**01 51 29.1**	**-2.0**
NICH				*e*S		**Sb**	**01 51 57.0**	**+2.0**
CACH	**El Canelo**	**2.95**	**44**	*eP*		**Pn**	**01 51 44.1**	**+2.7**
CACH	**El Canelo**	**2.95**	**44**	*eP*		**Pn**	**01 51 44.1**	**+2.7**
CHCH	**Chadas Angostu**	**3.06**	**41**	*eP*		**Pn**	**01 51 45.2**	**+2.4**
CHCH	**Chadas Angostu**	**3.06**	**41**	*eP*		**Pn**	**01 51 45.2**	**+2.4**
VLCH	**Valdivia**	**3.54**	**182**	*eP*		**Pn**	**01 51 50.2**	**+0.8**
VLCH				*e*S		**Sn**	**01 52 29.8**	**-0.6**
VLCH	**Valdivia**	**3.54**	**182**	P		**Pn**	**01 51 50.2**	**+0.8**
VLCH				S		**Sn**	**01 52 29.8**	**-0.6**
PLCA	**Paso Flores**	**4.88**	**157**	Pn		**Pn**	**01 52 09.6**	**+1.7**
	comp=N,3.7nm,0.3s,baz=332,slow=11,SNR=108							
PLCA				Lg		Lg	01 53 23.9	
	comp=N,8.3nm,0.3s,baz=216,slow=11,SNR=3.1							
CFAA	**Coronel Fontan**	**6.14**	**42**	Pn		**Pn**	**01 52 25.1**	**-0.2**
	comp=N,0.3nm,0.3s,baz=211,slow=14,SNR=41							
CFAA				Sn		**Sn**	**01 53 35.1**	**+0.4**
	comp=N,0.3nm,0.3s,baz=308,slow=19,SNR=2.5							
LCO	**Las Campanas**	**7.50**	**16**	*e*Pn		**Pn**	**01 52 43.0**	**-1.2**
	comp=N,21nm,0.7s							
LCO				*e*Sn		Sn	01 54 21.2	+13
TRQA	**Tornquist**	**9.03**	**105**	*e*Pn		Pn	01 53 06.9	+2.1
USHA	**Ushuaia**	**18.84**	**172**	P		**Pn**	**01 55 15.1**	**+0.5**
	comp=N,0.4nm,0.3s,baz=360,slow=13,SNR=5.0							
LPAZ	**La Paz**	**20.38**	**14**	P		**P**	**01 55 32.4**	**+0.7**
	comp=N,4.0nm,0.7s,baz=195,slow=6.5,SNR=11							
LPAZ	**La Paz**	**20.38**	**14**	*e*P		Pn	01 55 33.7	-0.3
	comp=N,5.7nm,0.8s							
SIV	**San Ignacio**	**22.84**	**31**	P		**P**	**01 55 57.4**	**-0.1**
	comp=N,3.8nm,0.8s,baz=221,slow=11,SNR=13							
SAML	**Samuel**	**28.64**	**21**	*e*P		**P**	**01 56 50.3**	**-0.4**
	comp=N,3.9nm,1.2s							
OTAV	**Otavalo**	**36.66**	**351**	*e*P		**P**	**01 58 04.1**	**+2.8**
	comp=N,10nm,1.5s							
SNAA	**Sanae**	**49.82**	**157**	P		**P**	**01 59 46.4**	**-0.1**
	comp=N,1.3nm,0.6s,baz=280,slow=7.3,SNR=15							
SNAA	**Sanae**	**49.82**	**157**	*e*P		**P**	**01 59 46.0**	**-0.6**
	comp=N,7.1nm,0.9s							
QSPA	**South Pole Qui**	**53.97**	**180**	P		**P**	**02 00 18.3**	**+0.6**
	comp=N,5.4nm,0.9s,baz=143,slow=1.8,SNR=14							
QSPA	**South Pole Qui**	**53.97**	**180**	*e*P		**P**	**02 00 18.4**	**+0.8**
	comp=N,7.2nm,0.9s							
CBYP	**Canovanas**	**54.67**	**8**	*e*P		**P**	**02 00 21.6**	**-1.4**
GOGA	**Godfrey**	**70.00**	**351**	*e*P		**P**	**02 02 05.0**	**-0.3**
	comp=N,2.6nm,0.6s							
TXAR	**Lajitas Array**	**71.32**	**332**	P		**P**	**02 02 14.9**	**+1.3**
	comp=N,1.9nm,0.7s,baz=152,slow=8.7,SNR=26							
KMSC	**Kings Mountain**	**71.46**	**353**	*e*P		**P**	**02 02 13.6**	**-0.6**
ABTX	**Abilene, Hawle**	**72.91**	**337**	*e*P		**P**	**02 02 23.4**	**+0.4**
	comp=N,5.3nm,0.7s							
WVT	**Waverly**	**73.33**	**348**	*e*P		**P**	**02 02 25.4**	**+0.1**
	comp=N,7.0nm,0.9s							
MNTX	**Cornudas Mount**	**74.09**	**332**	*e*P		**P**	**02 02 29.8**	**-0.1**
	comp=N,2.1nm,1.0s							
DBIC	**Dimbokro**	**76.70**	**71**	P		**P**	**02 02 45.0**	**-0.4**
	comp=N,1.5nm,0.5s,baz=188,slow=3.8,SNR=4.9							
DBIC	**Dimbokro**	**76.70**	**71**	*e*P		**P**	**02 02 45.1**	**-0.3**
	comp=N,13nm,1.1s							
ANMO	**Albuquerque**	**77.38**	**332**	*e*P		**P**	**02 02 50.6**	**+1.7**
	comp=N,2.7nm,1.1s							
BOSA	**Boshof**	**79.76**	**118**	P		**P**	**02 03 02.4**	**+0.1**
	comp=N,3.6nm,0.7s,baz=218,slow=5.1,SNR=7.5							
BOSA	**Boshof**	**79.76**	**118**	*e*P		**P**	**02 03 02.1**	**-0.3**
	comp=N,5.9nm,0.9s							
LBTB	**Lobatse**	**82.11**	**115**	P		**P**	**02 03 15.0**	**+0.1**
	comp=N,3.7nm,0.5s,baz=251,slow=5.9,SNR=15							
LBTB	**Lobatse**	**82.11**	**115**	*e*P		**P**	**02 03 14.8**	**-0.2**
	comp=N,4.9nm,0.6s							
DUG	**Dugway, Tooele**	**84.42**	**331**	*e*P		**P**	**02 03 27.6**	**+1.3**
	comp=N,3.9nm,1.2s							
HWUT	**Hardware Ranch**	**85.14**	**332**	*e*P		**P**	**02 03 31.4**	**+1.5**
	comp=N,3.2nm,0.9s							
NVAR	**Mina Array Bea**	**85.28**	**326**	P		**P**	**02 03 32.0**	**+1.3**
	comp=N,1.1nm,0.5s,baz=135,slow=9.0,SNR=2.5							
PDAR	**Pinedale Array**	**85.41**	**334**	P		**P**	**02 03 32.9**	**+1.5**
	comp=N,0.3nm,0.8s,baz=160,slow=8.9,SNR=2.8							
TOA0	**Torodi Ar. Sit**	**85.77**	**70**	*e*P		**P**	**02 03 32.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**85.77**	**70**	P		**P**	**02 03 33.2**	**-0.3**
	comp=N,1.2nm,0.9s,baz=271,slow=5.9,SNR=6.4							
ULM	**Lac du Bonnet**	**88.47**	**346**	P		**P**	**02 03 45.7**	**0.0**
	comp=N,1.1nm,0.7s,baz=163,slow=7.9,SNR=3.5							
TAM	**Tamanrasset**	**94.55**	**65**	*e*P		**P**	**02 04 14.8**	**0.0**
	comp=N,1.4nm,0.9s							
WRA	**Warrumunga Arr**	**118.38**	**209**	PKP		**PKPdf**	**02 09 40.9**	**-0.9**
	comp=N,0.3nm,0.3s,baz=169,slow=1.2,SNR=4.3							
WRAB	**Tennant Creek**	**118.38**	**209**	*e*PKPdf		**PKPdf**	**02 09 40.9**	**-1.0**
MMAI	**Mount Meron Ar**	**122.31**	**71**	PKP		**PKPdf**	**02 09 48.1**	**-0.9**
	comp=N,0.5nm,0.5s,baz=248,slow=1.6,SNR=3.6							
BR131	**Keskin Array S**	**123.65**	**63**	*e*PKPdf		**PKPdf**	**02 09 50.8**	**-0.7**
BRTR	**Keskin Array B**	**123.65**	**63**	PKP		**PKPdf**	**02 09 50.4**	**-1.0**
	comp=N,0.4nm,0.7s,baz=208,slow=2.9,SNR=3.8							
PALK	**Pallekele**	**142.49**	**134**	*e*PKPdf		**PKPdf**	**02 10 24.8**	**-2.6**
TIXI	**Tiksi**	**142.76**	**349**	*e*PKPdf		**PKPdf**	**02 10 26.4**	**+0.4**
ABKAR	**Akbulak array**	**143.72**	**54**	*e*PKPdf		PKPbc	02 10 26.0	0.0
KKAR	**Karatay Array**	**151.32**	**65**	*e*PKPbc		**PKPbc**	**02 10 46.0**	**-1.2**
KKAR				*e*PKPab		**PKPab**	**02 10 53.5**	**-2.0**
AAK	**Ala-Archa**	**154.26**	**66**	*e*PKPdf		**PKPdf**	**02 10 44.9**	**-0.8**
AAK				*e*PKPbc		**PKPbc**	**02 10 52.9**	**-1.1**
AAK				*e*PKPab		**PKPab**	**02 11 06.5**	**-1.5**
TKM2	**Tokmak 2**	**155.05**	**65**	*e*PKPbc			02 10 54.7	
TKM2				*e*PKPab		**PKPab**	**02 11 10.1**	**-1.3**
KURK	**Kurchatov**	**155.08**	**46**	*e*PKPbc		PKPdf	02 10 54.5	+8.1
ZAA0	**Zalesovo Array**	**156.58**	**34**	*e*PKPdf		**PKPdf**	**02 10 47.8**	**-0.4**
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKP		**PKPdf**	**02 10 48.1**	**-0.1**
	comp=N,0.4nm,0.3s,baz=318,slow=2.0,SNR=6.2							
MKAR	**Makanchi Array**	**158.85**	**53**	PKP		**PKPdf**	**02 10 51.4**	**+0.1**
	comp=N,0.9nm,0.9s,baz=307,slow=0.8,SNR=8.5							
MKAR				PKPab		**PKPab**	**02 11 27.4**	**0.0**
	comp=N,0.4nm,0.7s,baz=290,slow=4.5,SNR=5.0							

*IDC **03** 02:12:36.5±0.6, 36.°28S×72.°83W, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.2/31, mbtmp4.1/18, ML3.9/3, MS3.8/2, Ms1 3.8/2, ms1mx3.2/27, Error ellipse: s-maj=21.9km s-min=11.8km az=88.0*
*ISCJB **03** 02:12:38.6±0.2, 36.°26S±0.°03×73.°00W±0.°05, h25km, mb4.3/30, MS3.8/2, Error ellipse: s-maj=5.6km s-min=4.3km az=11.6*
*NEIC **03** 02:12:39.5, 36.°28S×73.°18W, h26km, mb4.5/22, ML5.1(GUC), After GUC.*
*GUC **03** 02:12:39.5±0.8, 36.°28S×73.°18W, h26km±9km, ML5.1*
ISC 03 02:12:39.7±0.4, 36.°28S±0.°04×73.°03W±0.°06, h25km, n135, σ0°95/145, mb4.4/30, 8C-1D, Near coast of central Chile

| Code | Station Name | Δ° |

TALC *i* S **Sb** **02 13 24.3 +0.7**
TALC Talca 1.43 53 ⇑*i* P **Pn** **02 13 04.5 +0.3**
TALC *i* S **Sb** **02 13 24.3 +0.7**
NICH Los Niches 1.94 50 ⇑*i* P **Pb** **02 13 13.6 -0.8**
NICH *i* S **Sb** **02 13 39.4 +1.2**
NICH Los Niches 1.94 50 ⇑*i* P **Pb** **02 13 13.6 -0.8**
NICH *i* S **Sb** **02 13 39.4 +1.2**
VLCH Valdivia 3.53 183 *e*P **Pn** **02 13 33.5 +0.6**
VLCH Valdivia 3.53 183 *e*P **Pn** **02 13 33.5 +0.6**
CLCH Cerro Calan 3.53 36 ⇓*i* P **Pn** **02 13 34.8 +1.7**
CLCH AML AML 02 14 35.5
comp=E,4μm,0.5s
CLCH AML AML 02 14 35.6
comp=E,3μm,0.4s
PLCA Paso Flores 4.86 157 Pn **Pn** **02 13 51.1 -0.1**
comp=E,3.3nm,0.3s,baz=329,slow=14,SNR=66
PLCA Lg Lg 02 15 07.3
comp=E,5.1nm,0.3s,baz=288,slow=20,SNR=4.1
PLCA Paso Flores 4.86 157 *e*Pn **Pn** **02 13 52.5 +1.2**
PLCA Lg Lg 02 15 07.3
CFAA Coronel Fontan 6.13 42 Pn **Pn** **02 14 08.1 -0.7**
comp=E,0.5nm,0.3s,baz=222,slow=12,SNR=40
CFAA Sn **Sn** **02 15 18.6 +0.4**
comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=3.3
LCO Las Campanas 7.51 16 *e*Pn **Pn** **02 14 26.6 -1.3**
comp=E,18nm,0.6s
LCO *e*Sn **Sn** **02 15 50.3 -2.0**
LCO *e*Lg Lg 02 16 26.0
TRQA Tornquist 9.00 105 *e*Pn **Pn** **02 14 49.6 +1.5**
comp=E,18nm,0.9s
LVC Limon Verde 14.08 16 *e*Pn **Pn** **02 15 58.0 +0.1**
USHA Ushuaia 18.83 172 P **P** **02 16 57.4 0.0**
comp=E,0.4nm,0.3s,baz=355,slow=13,SNR=4.3
LPAZ La Paz 20.38 14 P **P** **02 17 15.6 +0.3**
comp=E,3.7nm,0.7s,baz=191,slow=6.8,SNR=12
LPAZ La Paz 20.38 14 *e*P Pn 02 17 17.2 -0.4
comp=E,6.4nm,0.7s
SIV San Ignacio 22.84 31 P **P** **02 17 40.8 -0.3**
comp=E,2.7nm,0.8s,baz=220,slow=9.6,SNR=10.0
SIV LR LR 02 28 19.3
comp=E,184nm,19.6s,baz=247,slow=41
NNA Nana 24.43 351 P **P** **02 17 57.7 +1.2**
comp=E,2.8nm,0.5s,baz=163,slow=11,SNR=2.5
SAML Samuel 28.64 21 *e*P **P** **02 18 34.2 -0.2**
comp=E,5.1nm,1.1s
BDFB Brasilia 30.31 54 P **P** **02 18 49.8 +0.4**
comp=E,0.7nm,0.3s,baz=225,slow=10.0,SNR=2.7
OTAV Otavalo 36.68 351 *e*P **P** **02 19 43.4 -1.7**
comp=E,8.3nm,1.5s
PTGA Pitinga 37.39 22 P **P** **02 19 50.5 -0.2**
comp=E,2.6nm,0.6s,baz=209,slow=9.4,SNR=6.9
PTGA Pitinga 37.39 22 *e*P **P** **02 19 50.2 -0.5**
comp=E,8.0nm,0.7s
SNAA Sanae 49.80 157 P **P** **02 21 30.4 +0.4**
comp=E,2.3nm,0.9s,baz=274,slow=7.0,SNR=14
SNAA Sanae 49.80 157 *e*P **P** **02 21 29.9 -0.1**
comp=E,9.1nm,1.0s
QSPA South Pole Qui 53.96 180 P **P** **02 22 02.1 +0.9**
comp=E,7.1nm,0.8s,baz=146,slow=3.5,SNR=21
QSPA South Pole Qui 53.96 180 *e*P **P** **02 22 01.9 +0.6**
comp=E,11nm,1.1s
OBIP Obispado Ponce 54.36 8 *e*P **P** **02 22 03.7 -0.7**
VNDA Vanda 61.71 192 P **P** **02 22 57.1 +1.9**
comp=E,0.8nm,0.9s,baz=134,slow=4.3,SNR=3.0
833A Chaparral WMA, 68.88 335 P **P** **02 23 43.8 +1.6**
baz=69
636A Smothers Creek 69.20 338 P **P** **02 23 45.8 +1.6**
baz=70
732A Laxson Ranch, 69.45 335 P **P** **02 23 47.2 +1.4**
baz=70
GOGA Godfrey 70.01 351 *e*P **P** **02 23 48.0 -1.1**
comp=E,2.3nm,0.7s
632A Uvalde 70.11 335 P **P** **02 23 51.2 +1.5**
baz=70
340A Bronson 70.12 341 P **P** **02 23 51.0 +1.2**
baz=70
LRAL Lakeview Retre 70.18 348 *e*P **P** **02 23 48.4 -1.7**
comp=E,1.6nm,0.4s
339A Huntington 70.22 341 P **P** **02 23 52.0 +1.6**
baz=70
533A Kerrville 70.38 336 P **P** **02 23 53.0 +1.6**
baz=71
532A Rocksprings 70.72 335 P **P** **02 23 55.0 +1.5**
baz=71
434A Burnet 70.82 337 P **P** **02 23 55.2 +1.1**
baz=71
531A Rocksprings 70.97 335 P **P** **02 23 56.6 +1.5**
baz=71
JCT Junction City 71.00 336 P **P** **02 23 56.5 +1.2**
baz=71
JCT Junction City 71.00 336 *e*P **P** **02 23 55.1 -0.2**
comp=E,7.1nm,0.9s
433A Art 71.02 336 P **P** **02 23 56.5 +1.1**
baz=71
530A J-C Ranch, Com 71.23 334 P **P** **02 23 58.1 +1.5**
baz=72
334A Lometa 71.29 337 P **P** **02 23 58.1 +1.1**
baz=72
TXAR Lajitas Array 71.34 332 P **P** **02 23 58.8 +1.4**
comp=E,1.9nm,0.7s,baz=151,slow=8.9,SNR=25
432A Menard 71.37 336 P **P** **02 23 58.2 +0.7**
baz=72
431A Sonora 71.46 335 P **P** **02 23 58.9 +0.9**
baz=72
333A Richland Sprin 71.52 337 P **P** **02 23 59.0 +0.6**
baz=72
529A Stev Forest Ra 71.52 334 P **P** **02 23 59.3 +0.9**
baz=72
WHTX Lake Whitney, 71.66 338 P **P** **02 24 00.1 +1.0**
baz=72
430A Baggett Ranch, 71.77 335 P **P** **02 24 01.1 +1.2**
baz=72
332A Millersview 71.82 336 P **P** **02 24 01.1 +0.9**
baz=72
234A Clairette 71.88 338 P **P** **02 24 01.4 +0.9**
baz=72
331A San Angelo 71.97 336 P **P** **02 24 02.0 +0.8**
baz=72
233A Rising Star 72.13 337 P **P** **02 24 02.7 +0.6**
baz=72
232A Coleman 72.25 336 P **P** **02 24 03.5 +0.8**
baz=72
330A Mertzon 72.32 335 P **P** **02 24 03.8 +0.6**
baz=73
231A Bronte 72.51 336 P **P** **02 24 05.0 +0.7**
baz=73
329A Wagon Wheel Ra 72.67 334 P **P** **02 24 06.3 +1.0**
baz=73
133A Hamilton Ranch 72.68 337 P **P** **02 24 06.3 +1.0**
baz=73
ABTX Abilene, Hawle 72.93 337 P **P** **02 24 07.7 +1.0**
baz=73
ABTX Abilene, Hawle 72.93 337 *e*P **P** **02 24 06.5 -0.3**
comp=E,6.4nm,0.6s
229A Bryant Ranch, 73.05 335 P **P** **02 24 08.6 +1.1**
baz=73
131A Roby 73.22 336 P **P** **02 24 09.4 +0.9**
baz=74
Z33A Whitaker Ranch 73.27 338 P **P** **02 24 09.6 +0.9**
baz=74
WVT Waverly 73.34 348 *e*P **P** **02 24 09.1 +0.1**
comp=E,3.6nm,0.7s
228A UT Block 9, Go 73.46 334 P **P** **02 24 10.6 +0.6**
baz=74
Z32A Haskell 73.51 337 P **P** **02 24 11.0 +0.9**
baz=74
129A Stewart Farms, 73.67 335 P **P** **02 24 11.8 +0.6**
baz=74
Z31A Sharp Cattle R 73.73 337 P **P** **02 24 12.3 +0.9**
baz=74
128A Castleberry Fa 73.88 334 P **P** **02 24 13.1 +0.7**
baz=74
Y33A Hilltop Ranch, 73.89 338 P **P** **02 24 13.0 +0.7**
baz=74
MNTX Cornudas Mount 74.11 332 P **P** **02 24 13.9 +0.2**
baz=74
MNTX Cornudas Mount 74.11 332 *e*P **P** **02 24 13.0 -0.7**
comp=E,2.9nm,0.8s
Y32A R-V Farms, Ver 74.14 337 P **P** **02 24 14.2 +0.4**
baz=74
Z29A Hungry Hill Ra 74.19 335 P **P** **02 24 14.8 +0.6**
baz=74
SUR Sutherland 74.45 119 *e*P **P** **02 24 16.2 0.0**
comp=E,2.2nm,1.0s
WMOK Wichita Mounta 74.62 338 *e*P **P** **02 24 16.4 -0.2**
comp=E,1.2nm,0.5s
TUL1 Leonard 74.88 341 *e*P **P** **02 24 17.2 -0.8**

X31A McDonald Ranch 74.89 337 P **P** **02 24 19.1 +0.9**
baz=75
W33A Caddo, Fort Co 74.91 339 P **P** **02 24 19.8 +1.5**
baz=75
W32A Sentinel 75.12 338 P **P** **02 24 20.5 +1.0**
baz=75
V33A Lossen Ranch, 75.48 339 P **P** **02 24 22.6 +1.1**
baz=76
AMTX Amarillo 75.67 336 P **P** **02 24 23.6 +0.8**
baz=76
S36A Lake Cedric, C 76.54 342 P **P** **02 24 28.6 +1.1**
baz=77
DBIC Dimbokro 76.68 71 P **P** **02 24 28.6 -0.2**
comp=E,3.0nm,0.6s,baz=180,slow=6.3,SNR=5.7
DBIC LR LR 02 54 31.2
comp=E,89nm,19.9s,baz=182,slow=33
DBIC Dimbokro 76.68 71 *e*P **P** **02 24 28.7 -0.2**
comp=E,5.6nm,0.8s
W25A X Bar L Ranch, 76.92 334 P **P** **02 24 30.8 +0.9**
baz=77
ANMO Albuquerque 77.40 332 *e*P **P** **02 24 33.6 +0.9**
comp=E,4.4nm,1.5s
V25A Rancho No Teng 77.53 334 P **P** **02 24 34.1 +0.7**
baz=78
T28A Walsh 77.85 337 P **P** **02 24 36.2 +1.1**
baz=78
T27A Campo 77.99 336 P **P** **02 24 37.3 +1.4**
baz=78
S28A Manter 78.21 337 P **P** **02 24 38.3 +1.3**
baz=78
S26A Kim 78.75 336 P **P** **02 24 41.0 +1.0**
baz=79
R27A Eads 79.13 337 P **P** **02 24 42.8 +0.7**
baz=79
BOSA Boshof 79.73 118 P **P** **02 24 45.4 -0.5**
comp=E,5.9nm,0.8s,baz=254,slow=4.1,SNR=9.6
BOSA Boshof 79.73 118 *e*P **P** **02 24 45.5 -0.4**
comp=E,5.9nm,0.9s
MVCO Mesa Verde 80.17 332 *e*P **P** **02 24 47.9 -0.1**
comp=E,2.8nm,0.8s
LBTB Lobatse 82.08 115 *e*P **P** **02 24 58.4 -0.1**
comp=E,6.5nm,0.7s
ECSD EROS Data Cent 82.47 343 P **P** **02 25 00.3 +0.6**
baz=83
DUG Dugway, Tooele 84.44 330 *e*P **P** **02 25 11.8 +1.8**
comp=E,39nm,2.2s
HWUT Hardware Ranch 85.16 332 *e*P **P** **02 25 14.6 +0.9**
comp=E,2.2nm,0.8s
NVAR Mina Array Bea 85.30 326 P **P** **02 25 16.5 +2.0**
comp=E,1.3nm,0.3s,baz=167,slow=5.5,SNR=2.6
I22A 9 Mile Ranch, 85.39 336 P **P** **02 25 15.9 +1.2**
baz=86
PDAR Pinedale Array 85.43 334 P **P** **02 25 15.7 +0.6**
comp=E,0.5nm,0.8s,baz=149,slow=7.2,SNR=3.4
J20A Shoshoni 85.44 335 P **P** **02 25 16.4 +1.4**
baz=86
G25A Newell 85.62 339 P **P** **02 25 16.4 +0.6**
baz=86
TOA0 Torodi Ar. Sit 85.74 70 *e*P **P** **02 25 16.9 -0.1**
TORD Torodi Ar. Bea 85.74 70 P **P** **02 25 16.0 -1.0**
comp=E,1.6nm,0.9s,baz=243,slow=3.3,SNR=7.9
F27A Lemmon 85.85 340 P **P** **02 25 17.6 +0.8**
baz=86
I20A Worland 85.98 335 P **P** **02 25 18.6 +0.9**
baz=86
D26A Manning 87.03 340 P **P** **02 25 23.4 +0.7**
baz=87
ULM Lac du Bonnet 88.49 346 P **P** **02 25 29.7 +0.3**
comp=E,2.1nm,0.9s,baz=176,slow=6.1,SNR=3.5
LSZ Lusaka 89.86 109 *e*P **P** **02 25 37.9 +0.8**
comp=E,4.3nm,1.2s
WRA Warramunga Arr 118.38 209 PKP **PKPdf** **02 31 24.9 -0.6**
comp=E,0.4nm,0.3s,baz=147,slow=1.7,SNR=2.4
MBWA Marble Bar 121.61 194 *e*PKPdf **PKPdf** **02 31 30.8 -0.9**
BRTR Keskin Array B 123.63 63 PKP **PKPdf** **02 31 35.3 +0.2**
comp=E,0.5nm,0.7s,baz=200,slow=4.5,SNR=4.9
PALK Pallekele 142.46 134 *e*PKPdf **PKPdf** **02 32 09.3 -1.7**
ABKAR **Akbulak array 143.70 54** *e*PKPdf PKPbc 02 32 09.7 +0.1
KULM Kulim 148.62 168 *e*PKPbc **PKPbc** **02 32 24.1 -1.1**
BVAR Borovoye Array 149.48 45 PKPbc **PKPbc** **02 32 26.4 +0.2**
comp=E,1.5nm,0.5s,baz=321,slow=2.9,SNR=5.0
KKAR Karatay Array 151.29 65 *e*PKPbc **PKPbc** **02 32 30.3 -0.6**
KKAR *e*PKPab **PKPab** **02 32 38.7 -0.2**
AAK Ala-Archa 154.24 66 PKPab **PKPab** **02 32 51.6 0.0**
comp=E,2.9nm,0.8s,baz=268,slow=4.8,SNR=4.2
TKM2 Tokmak 2 155.03 65 *e*PKPdf **PKPdf** **02 32 29.2 -1.3**
TKM2 *e*PKPbc PKPbc 02 32 38.9
TKM2 *e*PKPab **PKPab** **02 32 54.3 -0.7**
KURBB **Kurchatov Arra 155.06 46** PKPbc PKPdf 02 32 38.6 +8.7
comp=E,0.6nm,0.7s,baz=296,slow=2.5,SNR=4.8
KURK Kurchatov 155.07 46 *e*PKPdf **PKPdf** **02 32 29.6 -0.4**
KURK *e*PKPbc PKPbc 02 32 37.4
KURK PKPbc PKPbc 02 32 38.6
ZAA0 Zalesovo Array 156.57 34 *e*PKPdf **PKPdf** **02 32 31.2 -0.6**
ZALV Zalesovo Beam 156.57 34 PKP **PKPdf** **02 32 31.5 -0.4**
comp=E,2.4nm,1.0s,baz=286,slow=2.7,SNR=4.6
ZALV PKPbc PKPbc 02 32 41.7
comp=E,0.6nm,0.5s,baz=339,slow=3.7,SNR=3.0
MKAR Makanchi Array 158.83 53 PKP **PKPdf** **02 32 34.4 -0.5**
comp=E,0.7nm,0.8s,baz=180,slow=1.0,SNR=3.5
MKAR PKPab **PKPab** **02 33 11.0 0.0**
comp=E,1.0nm,0.9s,baz=277,slow=4.0,SNR=4.2

NIED ***03*** *02:19:00,25.90N×128.60E,h5km,Mw4.6 Best double couple: M0 8.86000×10^15 NP1:φs 69.00000°,δ 53.00000°, λ -45.00000°. NP2:φs 190.00000°,δ 55.00000°, λ -133.00000°.*
BJI ***03*** *02:19:50.3,25.73N×128.68E,h6km,mB4.9/44,mb4.9/65, Ms4.5/60,Ms7 4.3/57*
ISCJB ***03*** *02:19:51.8±0.8,25.84N±0.02×128.58E±0.02,h6km±5km, mb4.9/144,MS4.2/16,Error ellipse: s-maj=3.6km s-min=3.0km az=139.3*
IDC ***03*** *02:19:52.4±0.4,25.91N×128.54E,h0km,mb4.7/34, mb1 4.8/38,mb1mx4.7/47,mbtmp4.7/38,ML4.0/3,MS3.8/6, Ms1 3.8/6,ms1mx3.4/36,Error ellipse: s-maj=13.5km s-min=9.7km az=75.0*
NEIC ***03*** *02:19:55.0±1.6,25.86N×128.53E,h17km±9km,mb5.1/64, MW4.6(NIED),Error ellipse: s-maj=4.3km s-min=3.4km az=119.0*
NEIC Recorded [1 JMA] on Okinawa.
SZGRF ***03*** *02:19:54.7,26.22N×130.07E,h21km,mb4.8,Southeast of Ryukyu Islands, Japan*
JMA ***03*** *02:19:55.9±0.3,25.93N×128.61E,h51km,M4.5*
JMA Felt I J1.
MOS ***03*** *02:19:55.9±1.0,25.93N×128.59E,h33km,mb5.2/82, MS4.1/7,Error ellipse: s-maj=8.2km s-min=4.3km az=114.4*
ISC 03 02:19:55.3±0.3,25.85N±0.03×128.61E±0.03,h21km±2km, h21km:pP-P,n526,σ1§44/596,mb4.9/146,MS4.2/16, 33C-18D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.83**	**291**	P	**Pn**	**02 20 11.4**	**-0.3**
JJT2				S	**Sn**	**02 20 22.7**	**-0.7**
JNTH	**Nagotoyohara**	**0.85**	**322**	P	**Pb**	**02 20 10.7**	**-0.7**
JNTH				*e*S	**Sb**	**02 20 21.9**	**-0.5**
JOW	**Kunigami**	**1.03**	**343**	P	**Pb**	**02 20 13.4**	**-1.0**
JOW				*e*S	**Sb**	**02 20 26.0**	**-1.4**
JOW	**Kunigami**	**1.03**	**343**	Pn	**Pb**	**02 20 13.2**	**-1.1**
	86nm,0.3s,baz=163,slow=12,SNR=842						
JOW				Sn	**Sb**	**02 20 27.0**	**-0.4**
	146nm,0.3s,baz=180,slow=20,SNR=29						
JOW				LR	LR	02 20 41.0	
	comp=Z,473nm,18.9s,baz=125,slow=51						
JIH	**Iheya**	**1.32**	**334**	P	**Pn**	**02 20 17.9**	**-0.5**
JAGN	**Aguni-jima**	**1.44**	**301**	P	**Pn**	**02 20 19.8**	**-0.3**
JAGN				*e*S	**Sn**	**02 20 37.3**	**-1.0**
JOKE	**Okinoerabujima**	**1.51**	**359**	P	**Pn**	**02 20 20.2**	**-0.9**
JOKE				S	**Sn**	**02 20 37.9**	**-2.3**
JKE	**Kume jima 2**	**1.71**	**287**	P	**Pn**	**02 20 23.1**	**-0.8**
JKE				S	**Sn**	**02 20 43.1**	**-2.0**
JTK	**Tokunoshima**	**1.96**	**9**	P	**Pn**	**02 20 26.3**	**-0.9**
JMZ	**Minamidaito 2**	**2.35**	**90**	P	**Pn**	**02 20 30.1**	**-2.5**
JMZ				S	**Sn**	**02 20 56.2**	**-4.6**
JAMN	**Amaminishikomi**	**2.44**	**12**	P	**Pn**	**02 20 33.1**	**-0.8**
JAM	**Amami Oshima**	**2.70**	**19**	P	**Pn**	**02 20 36.2**	**-1.3**
JAM				*e*S	**Sn**	**02 21 06.5**	**-3.1**
JOGS	**Gusukube**	**3.10**	**250**	P	**Pn**	**02 20 42.7**	**-0.2**
JOGS				*e*S	**Sn**	**02 21 18.0**	**-1.3**
JMJ	**Miyako jima 2**	**3.17**	**252**	P	**Pn**	**02 20 43.6**	**-0.4**
JMJ				S	**Sn**	**02 21 20.8**	**-0.4**
JIKM	**Ikemajima**	**3.18**	**254**	P	**Pn**	**02 20 43.6**	**-0.4**
JIRB	**Irabujima**	**3.27**	**253**	P	**Pn**	**02 20 44.4**	**-0.9**
JIRB				*e*S	**Sn**	**02 21 21.4**	**-2.3**
JTAJ	**Takarajima**	**3.34**	**9**	P	**Pn**	**02 20 45.5**	**-0.7**
JTJ	**Tarama**	**3.74**	**252**	P	**Pn**	**02 20 50.6**	**-1.1**
JTJ				*e*S	**Sn**	**02 21 31.3**	**-3.9**
JISG	**Ishigakijimahi**	**4.09**	**253**	P	**Pn**	**02 20 54.8**	**-1.8**
JIJ	**Ishigaki jima**	**4.31**	**251**	P	**Pn**	**02 20 57.8**	**-1.8**
JIJ				*e*S	**Sn**	**02 21 43.9**	**-5.4**
JKRS	**Kuro-shima**	**4.47**	**250**	P	**Pn**	**02 21 00.3**	**-1.5**
IRIF	**Iriomote-Funau**	**4.68**	**252**	P	**Pn**	**02 21 02.8**	**-1.8**
YOJ	**Yonaguni jima**	**5.26**	**256**	*e*P	**Pn**	**02 21 10.7**	**-2.0**
YOJ	**Yonaguni jima**	**5.26**	**256**	P	**Pn**	**02 21 10.7**	**-2.0**
YOJ	**Yonaguni jima**	**5.26**	**256**	*e*Pn	**Pn**	**02 21 10.7**	**-2.0**
JYNG	**Yonagunijimaku**	**5.32**	**256**	P	**Pn**	**02 21 11.8**	**-1.7**
TATO	**Taipei**	**6.50**	**264**	*e*Pn	**Pn**	**02 21 30.4**	**+0.7**
NACB	**Ninganchiao**	**6.58**	**257**	*e*Pn	**Pn**	**02 21 28.2**	**-2.7**
	232nm,0.4s						
YHNB	**Yeheng**	**6.66**	**261**	*e*Pn	**Pn**	**02 21 31.8**	**-0.1**
	160nm,0.6s						
YULB	**Yu-li**	**7.09**	**251**	*e*Pn	Pn	02 21 33.4	-4.5
	64nm,0.3s						
SSLB	**Suanglung**	**7.25**	**255**	*e*Pn	**Pn**	**02 21 37.4**	**-2.8**
SSLB				*e*Sn	Sn	02 22 52.8	-9.1
TWG	**Pinlang**	**7.51**	**248**	*e*Pn	Pn	02 21 39.1	-4.5
	341nm,0.5s						
JNU	**Nakatsue**	**7.51**	**15**	Pn	**Pn**	**02 21 43.5**	**-0.1**
	6.5nm,0.3s,baz=196,slow=19,SNR=34						
JNU				Sn	**Sn**	**02 23 05.8**	**-2.5**
	0.5nm,0.3s,baz=240,slow=20,SNR=1.6						
JNU	**Nakatsue**	**7.51**	**15**	*e*Pn	**Pn**	**02 21 44.2**	**+0.6**
JNU				Sn	**Sn**	**02 23 05.8**	**-2.5**
TPUB	**Ta-pu**	**7.70**	**252**	*e*Pn	**Pn**	**02 21 44.1**	**-2.0**
	132nm,0.4s						
SSE	**Sheshan**	**8.37**	**310**	P	**Pn**	**02 21 55.0**	**-0.3**
SSE				PMZ			
	30nm,0.8s						
SSE				PMZ			
	140nm,8.3s						
SSE				LN			
	2μm,11.8s						
SSE				LE			
	810nm,11.8s						
SSE				LZ			
	2μm,11.5s						
NJ2	**Nanjing**	**10.55**	**308**	*e*P	**Pn**	**02 22 25.1**	**-0.1**
NJ2				S	**Sn**	**02 24 26.0**	**+3.3**
NJ2				PMZ			
	40nm,0.8s						
NJ2				PMZ			
	250nm,3.6s						
NJ2				LN			
	3μm,10.2s						
NJ2				LE			
	4μm,11.7s						
NJ2				LZ			
	4μm,11.3s						
KSAR	**Wonju Array Be**	**11.58**	**357**	P	**Pn**	**02 22 39.8**	**+0.5**
KSAR	**Wonju Array Be**	**11.58**	**357**	Pn	**Pn**	**02 22 39.8**	**+0.5**
KSRS	**Korea Array**	**11.59**	**357**	P	**Pn**	**02 22 39.8**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**11.59**	**357**	Pn	**Pn**	**02 22 39.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=177,slow=14,SNR=14						
WHN	**Wuhan**	**13.42**	**294**	P	**P**	**02 23 14.5**	**+0.8**
WHN				S	S	02 25 45.4	-11
WHN				LR	LR		
	comp=N,2μm,13.0s						
WHN				LR	LR		
	comp=E,2μm,7.0s						
WHN				LR	LR		
	comp=Z,3μm,13.6s						
MAT	**Matsushiro**	**13.45**	**35**	P	P	02 23 10.7	-3.4
MAT				*e*S	S	02 25 48.6	-8.6
MJAR	**Matsushiro Arr**	**13.45**	**35**	Pn	**Pn**	**02 23 05.9**	**+1.0**
	baz=218,slow=14,SNR=1.4						
TIA	**Tai'an**	**14.26**	**319**	⇓P	**P**	**02 23 24.1**	**+1.0**
TIA				S	S	02 26 30.1	+16
TIA				pmax	pmax		
	comp=Z,20nm,0.7s						
TIA				pmax	pmax		
	comp=Z,280nm,3.8s						
TIA				LR	LR		
	comp=N,1μm,13.1s						
TIA				LR	LR		
	comp=E,1μm,12.7s						
TIA				LR	LR		
	comp=Z,2μm,13.9s						
DL2	**Dalian**	**14.29**	**337**	P	**P**	**02 23 23.7**	**+0.3**
DL2				S	S	02 26 06.0	-8.3
DL2				LR	LR		
	comp=N,650nm,14.4s						
DL2				LR	LR		
	comp=E,480nm,14.1s						
DL2				LR	LR		
	comp=Z,590nm,14.5s						
SNY	**Shenyang**	**16.48**	**347**	⇑P	**Pn**	**02 23 45.9**	**+0.8**
SNY				S	**Sn**	**02 26 46.1**	**-1.2**
SNY				PMZ			
	comp=Z,14nm,0.5s						
SNY				PMZ			
	comp=Z,240nm,12.0s						
SNY				LE			
	comp=Z,930nm,17.2s						
SNY				LZ			
	comp=Z,910nm,14.1s						
BJT	**Baijiatuan**	**17.55**	**327**	*e*P	**P**	**02 23 59.5**	**0.0**
BJT				pmax	pmax		
	comp=Z,51nm,0.6s						
BJT	**Baijiatuan**	**17.55**	**327**	*e*P	**P**	**02 23 59.5**	**0.0**
	comp=Z,51nm,0.6s						
BJI	**Beijing**	**17.56**	**327**	P	**P**	**02 23 59.6**	**-0.1**
BJI				S	**Sn**	**02 27 16.2**	**+2.6**
BJI				PMZ			
	comp=Z,70nm,0.6s						
BJI				PMZ			
	comp=Z,220nm,3.6s						
BJI				LN			
	comp=Z,2μm,13.7s						
BJI				LE			
	comp=Z,780nm,14.7s						
BJI				LZ			
	comp=Z,460nm,14.7s						
CN2	**Changchun**	**18.10**	**353**	*e*P	**P**	**02 24 06.1**	**+0.5**
CN2				*e*S	**S**	**02 27 29.8**	**-2.2**
CN2				PMZ			
	comp=Z,20nm,0.7s						
CN2				LN			
	comp=Z,1μm,14.0s						
CN2				LE			
	comp=Z,500nm,14.0s						
CN2				LZ			
	comp=Z,400nm,14.0s						
TIY	**Taiyuan**	**18.11**	**315**	*e*P	**P**	**02 24 06.9**	**+1.0**
TIY				S	**S**	**02 27 35.6**	**+3.0**
TIY				PMZ			
	comp=Z,230nm,3.5s						
TIY				LN			
	comp=Z,910nm,10.8s						
TIY				LE			
	comp=Z,330nm,9.3s						
TIY				LZ			
	comp=Z,850nm,12.3s						
USRK	**Ussuriysk Ar.**	**18.52**	**8**	P	**P**	**02 24 09.3**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=184,slow=8.9,SNR=24						
QIZ	**Qiongzhong**	**18.62**	**252**	P	**P**	**02 24 10.9**	**-0.6**
QIZ				pP	**pP**	**02 24 18.6**	**+1.2**
QIZ				sP	**sP**	**02 24 23.1**	**+3.0**
QIZ				S	**Sn**	**02 27 38.6**	**-1.0**
QIZ				PMZ			
	comp=Z,24nm,1.7s						
QIZ				PMZ			
	comp=Z,190nm,4.2s						
QIZ				LN			
	comp=Z,620nm,21.3s						
QIZ				LZ			
	comp=Z,530nm,18.0s						
XAN	**Xi'an**	**18.90**	**300**	P	**P**	**02 24 14.3**	**-0.2**
XAN				PMZ			
	comp=Z,13nm,0.8s						
XAN				PMZ			
	comp=Z,34nm,5.9s						
XAN				LN			
	comp=Z,430nm,11.4s						
XAN				LE			

comp=Z,250nm,13.2s
XAN LZ
comp=Z,200nm,13.5s
GYA Guiyang 19.71 277⇑ *i*P **P 02 24 24.2 +0.6**
GYA PP **PnPn 02 24 41.8 +2.9**
GYA S **S 02 28 00.4 -4.7**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,860nm,13.8s
GYA LE
comp=Z,780nm,14.0s
GYA LZ
comp=Z,920nm,12.6s
HHC Hu-ho-hao-te 20.60 321 *e*P **P 02 24 33.4 +0.3**
HHC sP **sP 02 24 46.0 +4.2**
HHC PP **PnPn 02 24 56.0 +5.0**
HHC S **S 02 28 18.7 -3.9**
HHC sS **sS 02 28 32.3 +0.3**
HHC SS **SnSn 02 28 49.8 +7.7**
HHC PMZ
comp=Z,71nm,1.1s
HHC PMZ
comp=Z,410nm,6.2s
HHC LN
comp=Z,1μm,12.4s
HHC LE
comp=Z,2μm,12.4s
HHC LZ
comp=Z,2μm,13.7s
BTO Baotou 21.35 318 *e*P **P 02 24 38.8 -2.4**
ASAJ Asahikawa 21.48 28 P **P 02 24 42.3 -0.1**
ASAJ pmax pmax
comp=Z,24nm,0.7s
ASAJ Asahikawa 21.48 28 P **P 02 24 42.2 -0.1**
comp=Z,24nm,0.7s,baz=201,slow=9.0,SNR=8.4
ASAJ Asahikawa 21.48 28 P **P 02 24 42.2 -0.1**
ASAJ *e*Pn **pP 02 24 44.8 -3.5**
CD2 Chengdu 22.43 289⇑⇑P **P 02 24 51.0 -1.8**
CD2 pP **pP 02 24 55.2 -3.5**
CD2 sP **sP 02 24 58.0 -3.4**
CD2 PP **PnPn 02 25 17.9 +2.0**
CD2 PcP **PcP 02 28 47.6 +0.5**
CD2 S **S 02 28 51.8 -6.3**
CD2 PMZ
comp=Z,50nm,0.6s
CD2 PMZ
comp=Z,150nm,6.8s
CD2 LN
comp=Z,970nm,18.6s
CD2 LE
comp=Z,1μm,12.7s
CD2 LZ
comp=Z,1μm,12.2s
SLVN Son La 23.07 264 *e*P **P 02 25 01.4 +1.7**
comp=Z,28nm,1.0s
HABR Khabarovsk 23.14 11 *e*P **P 02 24 58.5 -1.5**
HABR *e**SP **sP 02 25 11.9 +3.2**
HABR *e*PPP PPP 02 25 33.0
HABR *e* 02 28 46.6
HABR *e*S **S 02 29 08.0 -2.3**
HABR *e**SS **sS 02 29 24.2 +3.5**
HABR *e*SSS SSS 02 29 57.9
HABR *e* 02 36 07.7
HABR pmax pmax
comp=Z,27nm,1.7s
KMI Kunming 23.36 274 P **P 02 25 02.9 +0.2**
KMI pP **pP 02 25 09.0 +0.2**
KMI sP **sP 02 25 12.6 +1.1**
KMI PP **PnPn 02 25 34.8 +5.9**
KMI S **S 02 29 10.4 -4.4**
KMI sS **sS 02 29 22.2 -3.0**
KMI PMZ
comp=Z,63nm,1.3s
KMI LN
comp=Z,630nm,13.6s
KMI LE
comp=Z,490nm,16.4s
KMI LZ
comp=Z,610nm,13.1s
KLR Kul'dur 23.47 5 *e*P **P 02 24 59.0 -4.3**
KLR MLR MLR
comp=N,700nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s
LZH Lanzhou 23.51 302 P **P 02 25 02.8 -1.2**
LZH pP **pP 02 25 06.3 -3.8**
LZH sP **sP 02 25 09.3 -3.5**
LZH PP **PnPn 02 25 34.5 +3.7**
LZH PMZ
comp=Z,59nm,1.2s
LZH PMZ
comp=Z,260nm,4.0s
LZH LN
comp=Z,850nm,11.2s
LZH LE
comp=Z,1μm,12.4s
LZH LZ
comp=Z,2μm,13.9s
YSS Yuzh-Sakhalins 23.87 24⇑⇑ *e*P **P 02 25 08.0 +0.9**
YSS *e* 02 25 21.0
YSS pmax pmax
comp=Z,90nm,0.9s
YSS Yuzh-Sakhalins 23.87 24 *e*P **P 02 25 08.1 +0.9**
comp=Z,107nm,0.8s
UBPT Khong Chiam 24.05 249 P **P 02 25 11.3 +2.2**
comp=Z,32nm,1.8s
TNTI Ternate 24.96 183 P **P 02 25 18.4 +1.0**
comp=Z,106nm,1.3s,comp=Z,4μm
TNTI Ternate 24.96 183 *e*P **P 02 25 18.0 +0.7**
comp=Z,147nm,1.2s
UGL Uglegorsk 25.45 21 *e*P **P 02 25 20.8 -0.8**
UGL *e**PP **pP 02 25 30.1 +2.2**
UGL *e**SP **sP 02 25 34.5 +4.0**
UGL *e* 02 25 56.6
UGL *e* 02 28 52.3
UGL S **S 02 29 46.2 -1.2**
UGL *e**SS **sS 02 30 02.1 +4.3**
UGL *e*SS **SnSn 02 30 41.0 +0.4**
UGL *e*SSS SSS 02 30 55.6
GTOI Gorontalo 25.64 193 P **P 02 25 23.6 +0.1**
comp=Z,23nm,0.7s
CRAI Chiangrai 26.55 264 P **P 02 25 30.4 -1.5**
comp=Z,18nm,1.2s
MPSI Mapaga 26.72 200 P **P 02 25 34.1 +0.8**
comp=Z,12nm,0.9s
UTTA Uttaradit 27.23 258 P **P 02 25 39.7 +1.7**
comp=Z,3.9nm,1.1s
PBKT Sadao Pong 27.33 256 P **P 02 25 40.9 +2.1**
comp=Z,16nm,1.1s
GTA Gaotai 27.64 306 ⇓P **P 02 25 40.5 -1.1**
GTA pP **pP 02 25 44.6 -3.3**
GTA sP **sP 02 25 47.3 -3.3**
GTA S **S 02 30 21.1 -1.3**
GTA SS **SnSn 02 31 41.2 +7.0**
GTA PMZ
comp=Z,72nm,1.0s
GTA PMZ
comp=Z,99nm,3.8s
GTA LN
comp=Z,390nm,12.8s
GTA LE
comp=Z,400nm,16.1s
GTA LZ
comp=Z,500nm,12.4s
ULN Ulaanbaatar 27.77 328 *e*P **P 02 25 42.0 -0.7**
ULN pmax pmax
comp=Z,25nm,0.6s
ULN Ulaanbaatar 27.77 328 P **P 02 25 44.6 +1.9**
SNR=12
ULN Ulaanbaatar 27.77 328 *e*P **P 02 25 42.0 -0.7**
comp=Z,25nm,0.6s
ULN LR LR
comp=Z,302nm,22.0s
LAMP Lampang 27.77 261 P **P 02 25 44.2 +1.4**
comp=Z,14nm,0.8s,comp=Z,112nm
CMAI Chiengmai2 27.83 264 P **P 02 25 44.9 +1.3**
comp=Z,22nm,0.6s,comp=Z,2μm
SANI Sanana 27.85 186 P **P 02 25 43.7 +0.3**
comp=Z,27nm,1.0s
CHBT CHBT 27.95 247 P **P 02 25 46.1 +1.7**
comp=Z,19nm,0.9s,comp=Z,3μm
SONM Songino Array 28.06 327 P **P 02 25 43.7 -1.6**
SONM pmax pmax
comp=Z,21nm,0.4s
SONM Songino Array 28.06 327 P **P 02 25 43.7 -1.6**
comp=Z,21nm,0.4s,baz=141,slow=9.2,SNR=144
CMMT Chiang Mai 28.28 262 P **P 02 25 48.3 +0.9**
comp=Z,33nm,0.9s
CHTO Chiang Mai 28.28 262 *e*P **P 02 25 48.0 +0.6**
CHTO pmax pmax
comp=Z,16nm,0.7s
CHTO Chiang Mai 28.28 262 P **P 02 25 48.8 +1.4**
SNR=7.5
CHTO Chiang Mai 28.28 262 *e*P **P 02 25 48.0 +0.6**
comp=Z,16nm,0.7s
CHTO LR LR
comp=Z,261nm,19.0s
CHTO Chiang Mai 28.28 262 P **P 02 25 48.3 +0.9**
comp=Z,114nm,0.9s
CMAR Chiang Mai Arr 28.40 261 *ce*P **P 02 25 49.7 +1.2**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 28.40 261 P **P 02 25 48.8 +0.3**
comp=Z,6.2nm,0.7s,baz=61,slow=8.0,SNR=23
CMAR PcP **PcP 02 29 01.9 +1.2**
comp=Z,1.8nm,0.6s,baz=56,slow=0.6,SNR=5.7
MHMT Maesarieng 29.40 261 P **P 02 25 59.6 +2.3**
comp=Z,12nm,0.9s
KSM Kuching 29.97 219 *e*P **P 02 26 03.4 +1.0**
comp=Z,33nm,1.1s
JAY Jayapura 30.53 156 LR LR 02 35 42.5
comp=Z,151nm,20.6s,baz=330,slow=31
ZAK Zakamensk 31.30 328 *e*P **P 02 26 11.6 -2.3**
ZAK pmax pmax
comp=Z,2.0nm,1.8s
SURT Suratani 32.92 245 P **P 02 26 30.4 +2.1**
comp=Z,15nm,1.0s
SHL Shillong 33.03 278 *e*P **P 02 26 27.0 -2.5**
LSA Lhasa 33.28 285 *e*P **P 02 26 32.4 +0.5**
LSA pmax pmax
comp=Z,9.0nm,0.5s
LSA Lhasa 33.28 285 *e*P **P 02 26 32.4 +0.5**
comp=Z,8.8nm,0.5s
KULM Kulim 33.67 237 *e*P **P 02 26 34.1 -0.8**
comp=Z,18nm,1.1s
IPM Ipoh 33.91 236 *e*P **P 02 26 36.9 -0.2**
comp=Z,15nm,0.8s
PETK Petropavlovsk- 34.85 31 P **P 02 26 45.0 +0.3**
comp=Z,6.0nm,0.8s,baz=201,slow=6.2,SNR=3.8
PETK LR LR 02 42 20.6
comp=Z,97nm,18.6s,baz=219,slow=39
PET Petropavlovsk 35.24 32 *e*P **P 02 26 48.6 +0.5**
PET pmax pmax
comp=Z,17nm,0.6s
PET Petropavlovsk 35.24 32 *e*P **P 02 26 48.6 +0.5**
comp=Z,17nm,0.6s
BATI Baumata 36.16 188 P **P 02 26 54.9 -1.4**
YAK Yakutsk 36.18 1 *e*P **P 02 26 55.6 -0.5**
YAK pmax pmax
comp=Z,154nm,0.8s
YAK Yakutsk 36.18 1 P **P 02 26 55.8 -0.2**
comp=Z,136nm,0.7s,baz=193,slow=1.2,SNR=33
YAK Yakutsk 36.18 1 *e*P **P 02 26 55.6 -0.5**
comp=Z,154nm,0.8s
TAPN Taplejung 36.49 282 *e*P **P 02 27 00.1 +0.6**
comp=Z,31nm,0.6s
ODAN Odare 36.84 281 *e*P **P 02 27 03.0 +0.6**
comp=Z,147nm,0.6s
RAMN Ramite 37.53 281 *e*P **P 02 27 08.6 +0.3**
comp=Z,63nm,0.6s
WMQ Urumqi 37.62 309⇑ *i*P **P 02 27 09.1 +0.4**
WMQ pP **pP 02 27 13.5 -1.6**
WMQ sP **sP 02 27 16.0 -1.7**
WMQ PP **PnPn 02 28 38.0 +2.4**
WMQ PcP **PcP 02 29 28.0 +1.9**
WMQ S **S 02 33 00.0 +2.7**
WMQ SS **SnSn 02 35 32.0 -4.6**
WMQ PMZ
comp=Z,25nm,0.8s
WMQ PMZ
comp=Z,130nm,4.4s
WMQ LN
comp=Z,950nm,13.7s
WMQ LE
comp=Z,730nm,10.3s
WMQ LZ
comp=Z,1μm,20.0s
JIRN Jiri 37.79 282 *e*P **P 02 27 11.1 +0.4**
comp=Z,26nm,0.6s
GUN Gumba 38.03 283 *e*P **P 02 27 13.3 +0.6**
comp=Z,63nm,0.7s
PKI Pulchoki 38.49 282 *e*P **P 02 27 16.6 +0.1**
comp=Z,78nm,0.6s
PKIN Phulchoki 38.50 282 *e*P **P 02 27 16.6 +0.1**
comp=Z,62nm,0.6s
KKN Kakani 38.58 283 *e*P **P 02 27 17.5 +0.4**
comp=Z,76nm,0.6s
DMN Daman 38.75 283 *e*P **P 02 27 18.9 +0.3**
comp=Z,57nm,0.7s
GKN Gorkha 39.11 283 *e*P **P 02 27 21.8 +0.3**
comp=Z,85nm,0.6s
PMG Port Moresby 39.41 150 *e*P **P 02 27 23.7 -0.2**
PMG pmax pmax
comp=Z,8.0nm,1.2s
PMG Port Moresby 39.41 150 P **P 02 27 24.6 +0.8**
comp=Z,6.7nm,0.7s,baz=59,slow=5.9,SNR=3.2
PMG Port Moresby 39.41 150 *e*P **P 02 27 23.6 -0.2**
comp=Z,7.5nm,1.2s
DANN Dangsing 39.84 284 *e*P **P 02 27 28.4 +0.7**
comp=Z,246nm,0.6s
KOLN Koldanda 40.05 283 *e*P **P 02 27 30.0 +0.6**
comp=Z,105nm,0.7s
SEY Seymchan 40.29 17 P **P 02 27 30.8 +0.2**
SEY pmax pmax
comp=Z,7.0nm,0.7s
SEY Seymchan 40.29 17 P **P 02 27 30.8 +0.2**
comp=Z,6.9nm,0.7s,baz=204,slow=6.9,SNR=17
PYUN Piuthan 40.54 284 *e*P **P 02 27 34.2 +0.7**
comp=Z,274nm,0.5s
CHLP Challavanipeta 41.75 269 *e*P **P 02 27 44.4 +1.2**
COEN Coen 42.03 159 *e*P **P 02 27 46.1 +0.7**
comp=Z,23nm,1.0s
MK31 Makanchi Array 42.05 312 *i*P **P 02 27 44.3 -1.1**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 42.05 312 P **P 02 27 44.8 -0.6**
MKAR 02 29 40.4
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 42.05 312 P **P 02 27 44.8 -0.6**
comp=Z,7.2nm,0.5s,baz=101,slow=10,SNR=108
MKAR PcP **PcP 02 29 40.4 +0.4**
comp=Z,2.3nm,0.6s,baz=98,slow=4.0,SNR=4.8
ZALV Zalesovo Beam 42.76 323 P **P 02 27 49.7 -1.3**
ZALV 02 29 42.0
ZALV pmax pmax
comp=Z,6.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 42.76 323 P **P 02 27 49.6 -1.3**
comp=Z,6.1nm,0.5s,baz=106,slow=8.5,SNR=28
ZALV PcP **PcP 02 29 42.0 -0.2**
comp=Z,1.4nm,0.7s,baz=90,slow=2.9,SNR=3.1
PDGK Podgornoye 43.39 307 P **P 02 27 55.3 -0.9**
PDGK pmax pmax
comp=Z,33nm,0.7s
NVS Novosibirsk 43.96 324 *e*P **P 02 27 59.3 -1.4**
NVS pmax pmax
comp=N,7.0nm,2.2s
NVS pmax pmax
comp=E,17nm,2.2s
NVS pmax pmax
comp=Z,22nm,2.2s
KURK Kurchatov 45.34 317 P **P 02 28 10.8 -0.9**
comp=Z,61nm,0.7s,SNR=10
KURK Kurchatov 45.34 317 P **P 02 28 11.2 -0.5**
KURK 02 29 51.2
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 45.34 317 P **P 02 28 12.9 +1.2**
SNR=7.8
KURK Kurchatov 45.34 317 *e*P **P 02 28 10.6 -1.1**
comp=Z,27nm,1.0s
KURK PcP **PcP 02 29 51.2 +0.2**
KURK LR LR
comp=Z,305nm,19.0s
KURBB Kurchatov Arra 45.37 317 P **P 02 28 11.2 -0.8**
comp=Z,8.7nm,0.7s,baz=103,slow=8.5,SNR=62
KURBB PcP **PcP 02 29 51.2 +0.1**
comp=Z,2.8nm,0.9s,baz=103,slow=3.7,SNR=4.0
ULHL Ulahol 45.66 305 P **P 02 28 14.6 -0.1**
SNR=25
ULHL Ulahol 45.66 305 *i*P **P 02 28 14.6 -0.1**
KSH Kashi 45.75 301 P **P 02 28 18.3 +2.9**
KSH PcS **PcS 02 33 49.2 +2.0**
KSH S **S 02 35 02.7 +4.8**
KSH SS **SS 02 38 19.0 -3.2**
KSH PMZ
comp=Z,6.0nm,0.8s
KSH PMZ
comp=Z,170nm,4.6s
KSH LN
comp=Z,130nm,5.7s
KSH LE
comp=Z,120nm,5.6s
KSH LZ
comp=Z,280nm,15.6s
TIXI Tiksi 45.84 0⇓ *i*P **P 02 28 14.8 -0.6**
TIXI pmax pmax
comp=Z,35nm,2.5s
TIXI Tiksi 45.84 0 *e*P **P 02 28 14.6 -0.7**
comp=Z,28nm,1.5s
WRAB Tennant Creek 45.84 172 P **P 02 28 16.0 0.0**
comp=Z,114nm,0.7s,SNR=12
WRAB Tennant Creek 45.84 172 *ce*P **P 02 28 16.5 +0.5**
WRAB pmax pmax
comp=Z,42nm,0.8s
WRAB Tennant Creek 45.84 172 *e*P **P 02 28 16.4 +0.4**
comp=Z,18nm,0.8s
WRA Warramunga Arr 45.85 172 P **P 02 28 16.5 +0.4**
comp=Z,15nm,0.8s,baz=352,slow=8.3,SNR=39
WRA LR LR 02 49 24.8
comp=Z,56nm,18.6s,baz=315,slow=39
WB2 Warramunga Arr 45.85 172 *e*P **P 02 28 16.3 +0.2**
RPR Rampur 45.93 272 *e*P **P 02 28 17.3 +0.5**
TKM2 Tokmak 2 46.18 306 P **P 02 28 19.2 +0.4**
SNR=31
TKM2 Tokmak 2 46.18 306 *e*P **P 02 28 19.1 +0.3**
TKM2 *e* 02 29 54.6
TKM2 pmax pmax
comp=Z,15nm,0.6s
TKM2 Tokmak 2 46.18 306 *e*P **P 02 28 19.1 +0.3**
comp=Z,16nm,0.6s
TKM2 *e*PcP **PcP 02 29 54.5 +0.1**
ADKI Addanki 46.31 268 *e*P **P 02 28 20.7 +0.8**
KZA Kyzart 46.39 304 P **P 02 28 21.6 +0.9**
SNR=16
KZA Kyzart 46.39 304 *i*P **P 02 28 21.5 +0.9**
KBK Karagaybulak 46.64 305 P **P 02 28 23.1 +0.8**
SNR=9.9
KBK Karagaybulak 46.64 305 *i*P **P 02 28 23.2 +0.8**
NJS Nagarjunasagar 46.67 269 *e*P **P 02 28 22.9 +0.2**
CHMS Chumysh 46.80 306 P **P 02 28 23.9 +0.4**
SNR=9.7
CHMS Chumysh 46.80 306 *i*P **P 02 28 23.9 +0.4**
UCH Uchtor 46.94 305 P **P 02 28 26.0 +0.9**
SNR=51
UCH Uchtor 46.94 305 *i*P **P 02 28 26.0 +0.9**
AAK Ala-Archa 46.97 305 P **P 02 28 25.0 0.0**
comp=Z,46nm,0.6s,SNR=5.0
AAK Ala-Archa 46.97 305 P **P 02 28 25.4 +0.3**
SNR=6.5
AAK Ala-Archa 46.97 305 P **P 02 28 24.9 0.0**
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 46.97 305 P **P 02 28 24.6 -0.4**
comp=Z,4.1nm,0.6s,baz=83,slow=5.1,SNR=20
AAK Ala-Archa 46.97 305 *e*P **P 02 28 25.2 +0.3**
comp=Z,5.8nm,0.7s
HYB Hyderabad 47.06 270 *i*P **P 02 28 25.0 -0.8**
HYB *e* 02 28 35.0
HYBB Hyderabad (bro 47.06 270 *e*P **P 02 28 26.1 +0.4**
SKHT Srikalahasti 47.32 265 *e*P **P 02 28 29.0 +1.2**
SKHT *e* 02 28 38.2
EKS2 Erkin-Say 47.50 305 *e*P **P 02 28 27.8 -1.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 47.50 305 *e*P **P 02 28 27.8 -1.2**
comp=Z,4.2nm,0.8s
AML Almayashu 47.55 304 P **P 02 28 30.7 +1.0**
SNR=12
AML Almayashu 47.55 304 *i*P **P 02 28 30.7 +1.0**
SFK Sufi-Kurgan 47.66 302 P **P 02 28 29.8 -0.6**
SFK pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 47.93 18⇓ *i*P **P 02 28 32.2 +0.4**
BILL pmax pmax
comp=Z,15nm,1.0s
BILL Bilibino 47.93 18 *e*P **P 02 28 32.6 +0.8**
comp=Z,10nm,0.8s
CTA Charters Tower 48.77 158 P **P 02 28 39.9 +1.1**
CTA pmax pmax
comp=Z,9.0nm,0.7s
CTA Charters Tower 48.77 158 P **P 02 28 39.9 +1.1**
comp=Z,9.0nm,0.7s,baz=336,slow=11,SNR=15
CTAO Charters Tower 48.77 158 *e*P **P 02 28 39.6 +0.8**
CTAO pmax pmax
comp=Z,26nm,1.1s
CTAO Charters Tower 48.77 158 *e*P **P 02 28 39.6 +0.8**
comp=Z,26nm,1.1s
URV Uravakonda 49.07 268 *e*P **P 02 28 41.7 +0.3**
PALK Pallekele 49.18 257 P **P 02 28 42.4 +0.2**
PALK pmax pmax
comp=Z,7.0nm,0.6s
PALK Pallekele 49.18 257 P **P 02 28 42.4 +0.2**
comp=Z,7.4nm,0.6s,baz=51,slow=8.0,SNR=3.7
PALK Pallekele 49.18 257 *e*P **P 02 28 43.0 +0.8**
AS31 Alice Springs 49.48 174 *e*P **P 02 28 45.0 +0.7**
ASAR Alice Springs 49.49 174 P **P 02 28 45.1 +0.9**
comp=Z,7.8nm,0.8s,baz=3.0,slow=9.8,SNR=79
ASAR LR LR 02 51 05.1
comp=Z,29nm,18.5s,baz=346,slow=38
KK31 Karatay Array 49.91 306 P **P 02 28 47.0 -0.4**
KK31 pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 49.91 306 *e*P **P 02 28 48.5 +1.1**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 49.91 306 *e*P **P 02 28 48.5 +1.1**
comp=Z,11nm,0.8s
BVA0 Borovoye Array 50.79 318 *i*P **P 02 28 53.6 -0.3**
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 50.79 318 P **P 02 28 53.9 0.0**
BVAR 02 30 10.8
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 50.79 318 P **P 02 28 53.9 0.0**
comp=Z,7.5nm,0.5s,baz=76,slow=7.7,SNR=46
BVAR PcP **PcP 02 30 10.8 +0.2**
comp=Z,3.4nm,0.7s,baz=116,slow=3.4,SNR=3.6
BRVK Borovoye 50.86 319 P **P 02 28 54.1 -0.3**
comp=Z,163nm,0.5s,SNR=16
KBL Kabul 51.58 295 *e*P **P 02 29 00.8 +0.4**
KBL pmax pmax
comp=Z,32nm,0.7s
KBL Kabul 51.58 295 *e*P **P 02 29 00.8 +0.4**
comp=Z,32nm,0.7s
TNA Tin City 55.82 27 *e*P **P 02 29 32.4 +1.8**
comp=Z,14nm,0.9s
FORT Forrest 56.31 181 *e*P **P 02 29 36.0 +1.5**
comp=Z,26nm,0.8s
SVE Sverdlovsk 56.77 322 *e*P **P 02 29 34.5 -3.1**
SVE pmax pmax
comp=Z,19nm,1.4s
AB31 Akbulak array 57.16 313 P **P 02 29 40.1 -0.4**
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 57.16 313 *e*P **P 02 29 40.0 -0.4**
ABKAR *e*PcP **PcP 02 30 34.4 -0.6**
ARU Arti 57.91 322 *e*P **P 02 29 45.3 -0.3**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 57.91 322 *e*P **P 02 29 45.3 -0.3**
comp=Z,4.5nm,0.6s
AKTO Aktyubinsk 58.35 315 P **P 02 29 48.3 -0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 58.35 315 P **P 02 29 48.6 -0.2**

comp=Z,4.8nm,0.7s,baz=72,slow=6.9,SNR=16
GEYT Alibeck 59.78 300 P **P 02 29 59.9 +0.9**
comp=Z,11nm,0.6s,baz=64,slow=3.4,SNR=30
DZM Mont Dzumac 60.12 139 P **P 02 30 02.5 +1.1**
comp=Z,5.2nm,0.6s,baz=337,slow=7.7,SNR=8.7
RSO Redoubt South 62.31 33 *eP* **P 02 30 16.5 +0.5**
comp=Z,27nm,0.8s
RC01 Rabbit Creek A 63.73 32 *eP* **P 02 30 26.2 +1.0**
comp=Z,16nm,1.1s
SEW Seward 63.99 33 *eP* **P 02 30 27.2 +0.4**
comp=Z,91nm,1.5s
COLA College 64.19 28 *eP* **P 02 30 29.6 +1.5**
COLA pmax pmax
comp=Z,102nm,0.7s
COLA College 64.19 28 *eP* **P 02 30 29.6 +1.5**
comp=Z,102nm,0.7s
PRGR Permogore 64.31 328 *eP* **P 02 30 27.5 -1.4**
PRGR pmax pmax
comp=Z,16nm,0.9s
ILAR Eielson Array 64.61 28 P **P 02 30 30.9 0.0**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 64.61 28 P **P 02 30 30.9 0.0**
comp=Z,1.4nm,0.7s,baz=266,slow=6.8,SNR=18
PAX Paxson 65.48 30 *eP* **P 02 30 36.8 +0.1**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 65.48 30 *eP* **P 02 30 36.8 +0.1**
comp=Z,6.8nm,0.9s
DIV Divide 65.64 32 *eP* **P 02 30 37.8 +0.2**
comp=Z,10nm,0.6s
DOT Dot Lake 66.00 29 *eP* **P 02 30 40.0 +0.1**
comp=Z,32nm,0.6s
EGAK Eagle 67.03 28 *eP* **P 02 30 47.3 +0.9**
comp=Z,6.7nm,1.0s
TMCR Tamitsa 67.31 332 *eP* **P 02 30 48.2 0.0**
TMCR *e* 02 33 17.6
TMCR pmax pmax
comp=Z,48nm,0.8s
APA Apatity 68.35 336⇓*iP* **P 02 30 55.0 +0.3**
APA pmax pmax
comp=Z,83nm,1.0s
APA MLR MLR
comp=Z,400nm,11.0s
VRHR Novokhopersk 68.51 317 *eP* **P 02 30 54.3 -1.7**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,1.0s
DGRG David-gareji 68.55 307 P **P 02 30 58.5 +2.0**
GUDG Gudauri 68.91 308 P **P 02 30 59.4 +0.4**
TBLG Delisi 68.93 307 P **P 02 30 59.8 +0.9**
INK Inuvik 69.11 23 P **P 02 30 59.9 +0.5**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 69.11 23 P **P 02 30 59.9 +0.5**
comp=Z,4.0nm,0.6s,baz=295,slow=6.5,SNR=48
ZEI Tsey 69.23 308 *eP* **P 02 30 59.3 -1.6**
ZEI pmax pmax
comp=Z,39nm,1.0s
KZR Kazreti 69.26 307 P **P 02 31 02.0 +1.0**
GNI Garni 69.38 305 *eP* **P 02 31 03.2 +1.3**
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 69.38 305 P **P 02 31 03.8 +1.9**
SNR=9.0
GNI Garni 69.38 305 *eP* **P 02 31 03.2 +1.3**
comp=Z,35nm,1.3s
MOS Moscow 69.59 323 *eP* **P 02 31 01.1 -1.5**
MOS pmax pmax
comp=Z,71nm,0.8s
ONI Oni 69.61 308 P **P 02 31 04.8 +1.7**
KBZ Khabaz 69.67 310 P **P 02 31 04.3 +1.0**
KBZ pmax pmax
comp=Z,40nm,0.8s
KBZ Khabaz 69.67 310 P **P 02 31 04.2 +1.0**
comp=Z,40nm,0.8s,baz=90,slow=6.0,SNR=137
KIV Kislovodsk 69.75 310 P **P 02 31 05.5 +1.5**
comp=Z,370nm,0.8s,SNR=13
KIV Kislovodsk 69.75 310*d iP* **P 02 31 05.1 +1.1**
KIV pmax pmax
comp=Z,111nm,1.6s
KIV MLR MLR
comp=Z,162nm,22.0s
KIV Kislovodsk 69.75 310 P **P 02 31 05.5 +1.5**
SNR=24
KIV Kislovodsk 69.75 310 *eP* **P 02 31 05.3 +1.3**
comp=Z,85nm,1.0s
AKH Akhalkalaki 69.92 307 P **P 02 31 07.0 +1.8**
KEV Kevo 69.92 339 *eP* **P 02 31 03.9 -0.5**
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 69.92 339 *ep* **P 02 31 03.9 -0.5**
comp=Z,12nm,0.7s
NEY Neytrino 69.93 309 *i* P **P 02 31 06.5 +1.3**
VORD Divnogorie 69.96 318 *eP* **P 02 31 03.2 -1.8**
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.8s
VSR Storozhevoye 69.97 318⇓*iP* **P 02 31 04.9 -0.1**
VSR pmax pmax
comp=Z,35nm,0.7s
CLDR Caldiran 70.28 305 *eP* **P 02 31 05.9 -1.6**
OBN Obninsk 70.34 322⇓*iP* **P 02 31 07.1 -0.1**
OBN *e* 02 33 45.2
OBN pmax pmax
comp=Z,64nm,1.6s
OBN MLR MLR
comp=Z,151nm,15.0s
OBN Obninsk 70.34 322 P **P 02 31 07.2 -0.1**
comp=Z,23nm,0.5s,baz=32,slow=4.9,SNR=12
OBN Obninsk 70.34 322 *eP* **P 02 31 07.2 0.0**
comp=Z,30nm,0.7s
ARCES ARCESS Array B 70.49 339 P **P 02 31 08.0 +0.1**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 70.49 339 P **P 02 31 08.0 +0.1**
comp=Z,6.4nm,0.8s,baz=82,slow=7.6,SNR=20
CHVG Ch'k'valeri 70.53 309 P P 02 31 05.0 -3.7
JOF Joensuu 70.54 331 *eP* **P 02 31 07.2 -1.1**
JOF pmax pmax
comp=Z,9.0nm,0.6s
JOF Joensuu 70.54 331 *ep* **P 02 31 07.2 -1.1**
comp=Z,9.2nm,0.6s
AGRB Hanur-Agry 70.83 305 *eP* **P 02 31 10.4 -0.5**
HKR Hakkari 70.90 303 *eP* **P 02 31 11.1 -0.1**
CUKT Cukurca 71.10 303 *eP* P 02 31 09.2 -3.2
BCA Borcka 71.25 308 *eP* **P 02 31 12.6 -0.5**
SOC Sochi 71.91 310 *eP* **P 02 31 16.2 -0.8**
SOC *e*'SP **sP 02 31 28.2 +1.9**
SOC *e* 02 33 54.2
SOC *eS* **S 02 40 34.2 -2.8**
SOC pmax pmax
comp=Z,45nm,0.5s
SOC MLR MLR
comp=Z,186nm,17.0s
SVAN Silvan-Diyarba 72.62 304 *eP* **P 02 31 20.1 -1.3**
BAYT Ayd¨–ntepe-Bay 72.65 307 *eP* **P 02 31 19.8 -2.0**
KAF Kangasniemi 73.00 331 *eP* **P 02 31 21.8 -1.3**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 73.00 331 *ep* **P 02 31 21.8 -1.3**
comp=Z,8.8nm,0.6s
GUMT Gumushane 73.10 307 *eP* **P 02 31 24.6 +0.3**
ERZN Erzincan 73.22 306 *eP* **P 02 31 23.0 -2.1**
FINES FINESS Array B 73.37 331 P **P 02 31 25.6 +0.3**
FINES pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 73.37 331 P **P 02 31 25.6 +0.3**
comp=Z,9.8nm,0.5s,baz=80,slow=5.5,SNR=188
DLBC Dease Lake 74.01 32 P **P 02 31 30.8 +1.5**
comp=Z,1.9nm,0.9s,baz=248,slow=5.4,SNR=3.3
RAYN Ar Rayn 74.26 289 P **P 02 31 32.6 +1.3**
comp=Z,87nm,0.9s,SNR=12
RAYN Ar Rayn 74.26 289 *eP* **P 02 31 32.0 +0.7**
comp=Z,20nm,1.1s
MALT Malatya 74.61 305 *eP* **P 02 31 33.5 +0.3**
MALT Malatya 74.61 305⇑*iP* **P 02 31 34.9 +1.7**
DARE Darende-Malaty 75.21 306 *eP* **P 02 31 35.4 -1.2**
SIM Simferopol' 75.22 313*deP* **P 02 31 37.1 +0.7**
SIM pmax pmax
comp=Z,38nm,0.9s
MICGM Minsk 75.27 324 *e* **P 02 31 37.0 +0.5**
MNK Minsk 75.29 324 *eP* **P 02 31 37.0 +0.3**
IDID Didziasalis 75.54 325 *eP* **P 02 31 38.8 +0.8**
IDID AMB AMB 02 31 40.0
comp=Z,9.7nm,1.0s
DAG Danmarks Havn 75.68 353 *i* P **P 02 31 37.9 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 75.68 353 *i* P **P 02 31 37.9 -0.6**
comp=Z,5.8nm,0.8s
NACGM Naroch 75.69 324 *e* **P 02 31 37.0 -1.9**
ISAL Salakas 75.75 325 *eP* **P 02 31 39.9 +0.6**
ISAL AMB AMB 02 31 41.2
comp=Z,8.9nm,1.1s
IIGN Ignalina 75.79 325 *eP* **P 02 31 40.1 +0.7**
IIGN AMB AMB 02 31 41.5
comp=Z,8.3nm,1.2s
RES Resolute Bay 75.86 11 P **P 02 31 40.0 +0.5**
RES pmax pmax
comp=Z,6.0nm,0.6s
RES Resolute Bay 75.86 11 P **P 02 31 40.0 +0.5**
comp=Z,6.0nm,0.6s,baz=307,slow=5.9,SNR=38
RES Resolute Bay 75.86 11 *eP* **P 02 31 39.8 +0.3**
comp=Z,10nm,0.6s
AKASG Malin Array Be 76.05 320 P **P 02 31 41.1 +0.1**
AKASG pmax pmax
comp=Z,19nm,0.6s
AKASG MLR MLR
comp=Z,267nm,19.1s
AKASG Malin Array Be 76.05 320 P **P 02 31 41.1 +0.1**
comp=Z,19nm,0.6s,baz=55,slow=6.0,SNR=8.8
AKASG LR LR 03 07 23.7
comp=Z,267nm,19.1s,baz=40,slow=38
AKBB Malin Array Si 76.05 320 *eP* **P 02 31 40.9 -0.2**
AKBB Malin Array Si 76.05 320 *eP* **P 02 31 40.9 -0.2**
AK01 Malin Array Si 76.06 320 *eP* **P 02 31 41.0 -0.1**
KIEV Kiev 76.06 320 *eP* **P 02 31 40.8 -0.3**
KIEV pmax pmax
comp=Z,20nm,0.6s
KIEV Kiev 76.06 320 *eP* **P 02 31 40.8 -0.3**
comp=Z,20nm,0.6s
AK02 Malin Array Si 76.08 320 *eP* **P 02 31 41.3 +0.1**
KOZT Kozan 76.83 305 *eP* **P 02 31 45.5 -0.3**
BR131 Keskin Array S 77.54 308 *eP* **P 02 31 50.2 +0.3**
comp=Z,15nm,0.9s
BRTR Keskin Array B 77.54 308 P **P 02 31 50.5 +0.6**
BRTR pmax pmax
comp=Z,14nm,0.8s
BRTR Keskin Array B 77.54 308 P **P 02 31 50.5 +0.6**
comp=Z,14nm,0.8s,baz=94,slow=5.5,SNR=94
SUW Suwalki 77.97 324 *eP* **P 02 31 51.7 0.0**
SUW pmax pmax
comp=Z,40nm,0.9s
SUW Suwalki 77.97 324 *eP* **P 02 31 51.8 0.0**
SUW Suwalki 77.97 324 *eP* **P 02 31 51.7 0.0**
comp=Z,40nm,0.9s
AFSR Af'ar-Bala (A 78.06 308 *eP* **P 02 31 50.5 -2.2**
ANTO Ankara 78.08 309 *eP* **P 02 31 51.6 -1.2**
ANTO Ankara 78.08 309 *eP* **P 02 31 53.2 +0.4**
ANTO pmax pmax
comp=Z,7.0nm,0.8s
ANTO Ankara 78.08 309⇓*iP* **P 02 31 53.6 +0.8**
ANTO Ankara 78.08 309 P **P 02 31 54.1 +1.3**
SNR=7.2
ANTO Ankara 78.08 309 *eP* **P 02 31 53.2 +0.4**
comp=Z,6.7nm,0.8s
SULT Sultanhani-AKS 78.23 307 *eP* **P 02 31 52.7 -1.0**
LEOM Leova 78.39 316⇑*iP* **P 02 31 55.0 +0.8**
YKA Yellowknife Ar 78.73 25 P **P 02 31 56.4 +0.6**
comp=Z,3.3nm,0.7s,baz=301,slow=5.6,SNR=62
CFR Carcaliu 79.01 315⇑*iP* **P 02 31 58.4 +0.7**
TIRR Tirgusor 79.14 314 *eP* **P 02 31 58.5 0.0**
TIRR pmax pmax
comp=Z,12nm,1.2s
TIRR Tirgusor 79.14 314⇑*iP* **P 02 31 59.5 +1.1**
TIRR Tirgusor 79.14 314 *eP* **P 02 31 58.5 0.0**
comp=Z,12nm,1.2s
SVRH Sivrihisar-ESK 79.15 309 *eP* **P 02 31 57.3 -1.5**
KONT Konya--Tatoy 79.17 307 *eP* **P 02 31 56.2 -2.6**
HFS Hagfors 79.32 332 P **P 02 31 59.1 0.0**
HFS pmax pmax
comp=Z,8.0nm,0.8s
HFS Hagfors 79.32 332 P **P 02 31 59.1 0.0**
comp=Z,8.0nm,0.8s,baz=46,slow=6.2,SNR=15
TLB Topalu 79.33 314⇑*iP* **P 02 32 00.6 +1.2**
PETR Petresti 79.35 316⇑*iP* **P 02 32 01.3 +1.8**
TESR Tescani 79.36 317⇑*iP* **P 02 32 00.6 +0.9**
GULT Gulveren 79.44 310 *eP* **P 02 31 58.6 -1.7**
VRI Vrincioaia 79.60 316⇓*iP* **P 02 32 02.3 +1.3**
PSN Preselentsi 79.63 314⇓*iP* **P 02 32 02.3 +1.2**
PSN Preselentsi 79.63 314 *eP* **P 02 32 03.0 +1.9**
PLOR Plostina 79.66 316⇑*iP* **P 02 32 02.7 +1.4**
CSS Prodhromos 79.68 304 *eP* P 02 31 56.0 -5.6
CSS Prodhromos 79.68 304 *eP* **P 02 32 01.8 +0.2**
comp=Z,6.2nm,0.7s
MSAB Monastry St. A 79.68 314⇑*iP* **P 02 32 02.9 +1.5**
BUR08 Bucovina Ar. S 79.74 318 *eP* **P 02 32 01.7 -0.2**
BURAR Bucovina Array 79.75 318⇓*iP* **P 02 32 02.6 +0.8**
NB2 NORSAR Subarra 79.81 334 P **P 02 32 01.5 -0.3**
comp=Z,12nm,0.8s,baz=50,slow=5.6
NB2 NORSAR Subarra 79.81 334 P **P 02 32 01.5 -0.3**
baz=50,slow=5.6
NOA NORSAR Array B 79.81 334 P **P 02 32 01.5 -0.3**
NOA pmax pmax
comp=Z,11nm,0.8s
NOA NORSAR Array B 79.81 334 P **P 02 32 01.5 -0.3**
comp=Z,10nm,0.8s,baz=52,slow=5.6,SNR=35
ISR Istrita 80.05 315⇑*iP* **P 02 32 04.1 +0.6**
SHUT Suhut-Afyon 80.21 308 *eP* **P 02 32 03.2 -1.4**
MLR Muntele Rosu 80.26 316⇓*iP* **P 02 32 05.7 +1.0**
KWP Kalwaria Pacla 80.28 321 *eP* **P 02 32 04.8 +0.2**
KWP pmax pmax
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 80.28 321 *eP* **P 02 32 05.3 +0.7**
KWP Kalwaria Pacla 80.28 321⇑*iP* **P 02 32 05.8 +1.2**
KWP Kalwaria Pacla 80.28 321 *eP* **P 02 32 04.8 +0.2**
comp=Z,17nm,0.9s
ALT Altintas 80.31 309 *eP* **P 02 32 04.7 -0.3**
DOPR Dopca 80.39 316⇑*iP* **P 02 32 06.8 +1.5**
ARMT Armutlu 80.53 310 *eP* P 02 31 58.6 -7.5
TVSB Tavsanli 80.59 309 *eP* **P 02 32 05.8 -0.7**
VOIR 80.85 316⇑*iP* **P 02 32 09.3 +1.5**
KOLS Kolonicke sedl 80.86 320 *eP* **P 02 32 08.4 +0.7**
KOLS Kolonicke sedl 80.86 320 *eP* **P 02 32 08.4 +0.7**
TRPA Tarpa 81.10 319⇑*iP* **P 02 32 09.4 +0.5**
ARR Arges 81.14 316⇑*iP* **P 02 32 10.4 +1.1**
JMB Yambol 81.22 313⇑*iP* **P 02 32 11.4 +1.7**
CRVS Cervenica-Dubn 81.35 320 *eP* **P 02 32 11.6 +1.3**
CRVS pmax pmax
comp=Z,17nm,1.8s
CRVS Cervenica-Dubn 81.35 320 *eP* **P 02 32 11.6 +1.3**
SUMG Summit 81.44 356 *eP* **P 02 32 11.2 +0.4**
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 81.44 356 *eP* **P 02 32 11.2 +0.4**
comp=Z,21nm,0.8s
SUMG Summit 81.44 356 *i* P **P 02 32 11.9 +1.1**
comp=Z,18nm,0.8s
ELL Elmali 81.45 307 *eP* **P 02 32 09.1 -2.1**
BSD Bornholm Skovb 81.56 328 *i* P **P 02 32 11.4 +0.2**
BSD pmax pmax
comp=Z,12nm,0.9s
BSD Bornholm Skovb 81.56 328 *i* P **P 02 32 11.4 +0.2**
comp=Z,12nm,0.9s
RKY Sarkoy-Tekirda 81.62 311 *eP* P 02 32 08.3 -3.7
OJC Ojcow 81.63 322 *eP* **P 02 32 12.7 +1.0**
DRGR 81.64 318⇓*iP* **P 02 32 12.9 +0.9**
KRBG Karabiga-Canak 81.67 311 *eP* **P 02 32 11.7 -0.4**
NIE Niedzica 81.75 321 *eP* **P 02 32 13.7 +1.3**
ERIK Erikli-Kesan 82.08 311 *eP* **P 02 32 11.5 -2.7**
KECS Kecovo 82.12 320 *eP* **P 02 32 15.2 +0.9**
KECS pmax pmax
comp=Z,1.0nm,0.7s
KECS Kecovo 82.12 320 *eP* **P 02 32 15.2 +0.9**
GELI Tayfur-Gelibol 82.23 311 *eP* **P 02 32 15.6 +0.5**
GZR Gura Zlata 82.28 317⇑*iP* **P 02 32 16.2 +0.9**
ALN Alexandroupoli 82.29 312 *eP* **P 02 32 16.1 +0.7**
ALN Alexandroupoli 82.29 312 *eP* **P 02 32 15.9 +0.5**
PSZ Piszkesteto 82.75 320 *eP* **P 02 32 17.9 +0.1**
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 82.75 320 *eP* **P 02 32 17.9 +0.1**
comp=Z,2.7nm,0.7s
SMTH Samothraki Isl 82.84 312 *eP* **P 02 32 17.9 -0.4**
BZS Buzias 82.88 317⇑*iP* **P 02 32 19.6 +1.2**
VYHS Vyhne 83.06 321 *eP* **P 02 32 20.7 +1.4**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 83.06 321 *eP* **P 02 32 20.7 +1.4**
MORC Moravsky Berou 83.10 322 *eP* **P 02 32 20.0 +0.5**
MORC pmax pmax
comp=Z,8.0nm,1.2s
MORC Moravsky Berou 83.10 322⇑*iP* **P 02 32 20.2 +0.7**
MORC Moravsky Berou 83.10 322 *eP* **P 02 32 20.0 +0.5**
comp=Z,8.4nm,1.2s
KSP Ksiaz 83.20 324 *eP* **P 02 32 21.0 +1.0**
LIA Limnos Island 83.34 311 *eP* P 02 32 24.7 +3.9
KRLC Kraliky 83.36 323 *eP* **P 02 32 22.9 +2.1**
KRLC Kraliky 83.36 323 *eP* **P 02 32 22.9 +2.1**
VTS Vitosha 83.36 314⇑*iP* **P 02 32 22.1 +1.0**
VTS Vitosha 83.36 314 *i* P **P 02 32 21.5 +0.4**
MUD Monsted U'grnd 83.41 331 *i* P **P 02 32 20.6 -0.2**
MUD pmax pmax
comp=Z,12nm,1.0s
MUD Monsted U'grnd 83.41 331 *i* P **P 02 32 20.6 -0.2**
comp=Z,12nm,0.9s
DPC Dobruska-Polom 83.46 323 *eP* **P 02 32 23.3 +2.0**
DPC *e* 02 32 33.4
DPC Dobruska-Polom 83.46 323 *eP* **P 02 32 23.3 +2.0**
DPC *ex* x 02 32 33.4
DPC AMS AMS 03 13 00.0
MMB Musomiste 83.51 313⇑*iP* **P 02 32 22.3 +0.5**
MMB Musomiste 83.51 313 *i* P **P 02 32 19.0 -2.8**
UPC Upice 83.54 324 *eP* **P 02 32 23.5 +1.8**
UPC Upice 83.54 324 *eP* **P 02 32 23.5 +1.8**
KKB Krupnik 83.80 314 *eP* **P 02 32 24.0 +0.8**
VRAC Vranov 83.88 322⇑*iP* **P 02 32 23.8 +0.3**
KNT Kendrikon 84.26 313 *eP* **P 02 32 25.6 0.0**
PVCC Panska Ves 84.29 324 *eP* **P 02 32 26.9 +1.4**
PVCC MLR MLR
comp=Z,400nm,15.1s
PVCC Panska Ves 84.29 324 *eP* **P 02 32 26.9 +1.4**
PVCC AMS AMS 03 14 10.0
comp=Z,400nm,15.1s
PKSM Moragy 84.36 319⇑*iP* **P 02 32 26.0 +0.1**
VAY Valandovo 84.40 313 *i* P **P 02 32 26.3 +0.1**
HORT Hortiatis 84.40 313 *eP* **P 02 32 26.1 -0.3**
BRG Berggiesshubel 84.43 325 *eP* **P 02 32 26.8 +0.6**
comp=Z,10nm,1.2s
BRG Berggiesshubel 84.43 325 *eP* **P 02 32 26.8 +0.6**
BRG pmax pmax
comp=Z,9.0nm,1.2s
TREC Trest 84.49 323 *eP* **P 02 32 27.5 +0.9**
TREC MLR MLR
comp=Z,400nm,19.7s
TREC Trest 84.49 323 *eP* **P 02 32 27.5 +0.9**
TREC AMS AMS 03 13 10.0
comp=Z,400nm,19.7s
PRU Pruhonice 84.61 324 *eP* **P 02 32 28.2 +1.1**
PRU Pruhonice 84.61 324 *eP* **P 02 32 28.2 +1.1**
PRA Prague 84.62 324 *eP* **P 02 32 28.5 +1.3**
PRA Prague 84.62 324 *eP* **P 02 32 28.5 +1.3**
CLL Collm 84.66 325⇓*iP* **P 02 32 27.8 +0.4**
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 84.66 325⇓*iP* **P 02 32 27.8 +0.4**
comp=Z,10.0nm,0.8s
CLL *ep*P **PcP 02 32 32.0 +1.2**
CLL LmH 03 07 00.0
comp=N,400nm,19.9s
CLL LmH 03 07 00.0
comp=E,300nm,20.7s
SKO Skopje 84.81 314 *i* P **P 02 32 28.5 +0.1**
CONA Conrad Observa 85.04 321⇓*iPcP* **P 02 32 30.8 +1.4**
comp=E,12nm,1.0s
LIT Litokhoron 85.05 312 *eP* **P 02 32 29.3 -0.3**
ILULI Ilulissat 85.22 360 *i* P **P 02 32 29.6 -0.2**
ILULI pmax pmax
comp=Z,16nm,0.9s
ILULI Ilulissat 85.22 360 *i* P **P 02 32 29.6 -0.2**
comp=Z,16nm,0.8s
NPS Neapolis 85.22 307 *eP* **P 02 32 30.6 +0.1**
NKC Novy Kostel 85.57 325 *eP* **P 02 32 33.7 +1.7**
NKC Novy Kostel 85.57 325 *eP* **P 02 32 33.7 +1.7**
ARSA Arzberg 85.60 321⇑*iPcP* **P 02 32 33.3 +1.1**
comp=Z,9.2nm,1.6s
KHC Kasperske Hory 85.61 323 *eP* **P 02 32 32.6 +0.3**
KHC *e* 02 32 42.4
KHC Kasperske Hory 85.61 323 *eP* **P 02 32 32.6 +0.3**
KHC *ex* x 02 32 42.4
KHC Kasperske Hory 85.61 323 *eP* **P 02 32 33.0 +0.7**
comp=Z,2.0nm,0.8s
OHR Ohrid 85.66 314 *eP* **P 02 32 32.8 +0.1**
NEW Newport 85.69 38 P **P 02 32 33.4 +0.7**
baz=86
AGG Agios Georgios 85.69 311 *eP* **P 02 32 31.2 -1.7**
GERES GERESS Array B 85.71 323 P **P 02 32 33.1 +0.3**
comp=Z,1.6nm,0.7s,baz=51,slow=4.6,SNR=19
MAKR Makrakomi, Fth 85.83 311 *eP* **P 02 32 33.1 -0.4**
J05D Fort Rock, OR 86.01 43 P **P 02 32 35.7 +1.2**
baz=86
VAM Vamos 86.17 308 *eP* **P 02 32 33.5 -1.7**
PERS Pernice 86.18 321 *eP* **P 02 32 35.5 +0.4**
M04C Macdoel 86.43 45 P **P 02 32 36.8 +0.2**
baz=86
GRF Grafenberg Arr 86.53 325 *eP* **P 02 32 37.6 +0.8**
comp=Z,7.0nm,0.9s
IGT Igoumenitsa 86.77 313 *eP* **P 02 32 37.7 -0.4**
KBA Koelnbreinsper 86.93 322⇑*ipP* pP 02 32 42.5 -3.4
comp=Z,4.6nm,0.6s
CEY Cerknica 87.08 320 *eP* **P 02 32 39.8 +0.3**
SFJD Kangerlussuaq 87.45 360 *i* P **P 02 32 40.9 +0.1**
SFJD pmax pmax
comp=Z,10.0nm,0.9s
SFJD Kangerlussuaq 87.45 360 *i* P **P 02 32 40.9 +0.1**
comp=Z,10nm,0.8s
WVOR Wild Horse Val 88.08 43 *eP* **P 02 32 44.4 -0.1**
WVOR pmax pmax
comp=Z,26nm,1.1s
WVOR Wild Horse Val 88.08 43 *eP* **P 02 32 44.4 -0.1**
comp=Z,26nm,1.1s
SLMT Seeley Lake 88.27 37 *eP* **P 02 32 46.0 +0.6**
comp=Z,4.8nm,0.9s
FCC Fort Churchill 88.57 21 *eP* **P 02 32 46.4 +0.1**
FCC Fort Churchill 88.57 21 *eP* **P 02 32 46.4 +0.1**
FFC Flin Flon 88.78 27 *eP* **P 02 32 47.8 +0.4**
FFC pmax pmax
comp=Z,11nm,1.2s
FFC Flin Flon 88.78 27 *eP* **P 02 32 47.8 +0.4**
comp=Z,11nm,1.2s
BFO Black Forest 88.87 325 *iP* **P 02 32 48.9 +0.9**
DAVOX Davos/Dischmat 89.01 323 P **P 02 32 49.0 +0.1**
DAVOX pmax pmax
comp=Z,4.0nm,0.9s
DAVOX Davos/Dischmat 89.01 323 P **P 02 32 49.0 +0.1**
comp=Z,4.3nm,0.9s,baz=79,slow=5.2
WLF Walferdange 89.12 327 *eP* **P 02 32 49.0 -0.1**
WLF pmax pmax
comp=Z,22nm,1.3s
WLF Walferdange 89.12 327 *eP* **P 02 32 49.0 -0.1**
comp=Z,22nm,1.3s
EKA Eskdalemuir Ar 89.27 335 P **P 02 32 49.3 -0.4**
EKA pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 89.27 335 P **P 02 32 49.3 -0.4**
comp=Z,1.6nm,0.6s,baz=37,slow=4.9,SNR=11
ESK Eskdalemuir 89.30 335 *eP* **P 02 32 49.4 -0.4**
ESK pmax pmax
comp=Z,26nm,1.4s
ESK Eskdalemuir 89.30 335 *eP* **P 02 32 49.4 -0.4**
comp=Z,26nm,1.4s
TIP Timpagrande 89.31 314 *eP* **P 02 32 49.9 -0.4**
comp=Z,8.0nm,1.4s
CDF Champ du Feu 89.36 325 *eP* **P 02 32 50.3 -0.1**
comp=Z,20nm,1.1s
CDF Champ du Feu 89.36 325 *eP* **P 02 32 50.3 -0.1**
CDF pmax pmax
comp=Z,20nm,1.1s
CDF Champ du Feu 89.36 325 *eP* **P 02 32 50.3 -0.1**
comp=Z,20nm,1.1s
TUE Stuetta 89.49 323 *eP* **P 02 32 50.9 -0.3**
comp=Z,6.4nm,0.8s
AQU L'Aquila 89.63 318 *eP* **P 02 32 50.9 -0.8**
AQU pmax pmax
comp=Z,18nm,1.0s
AQU L'Aquila 89.63 318 *eP* **P 02 32 50.9 -0.8**
comp=Z,18nm,1.0s

EGMT	**Eagleton**	**89.76**	**35**	P		**P**	**02 32 53.0**	**+0.8**
	baz=90							
HLID	**Hailey**	**89.96**	**40**	P		**P**	**02 32 54.4**	**+1.0**
	baz=90							
A20A	**Cobblestone Ra**	**90.13**	**33**	P		**P**	**02 32 54.9**	**+1.0**
	baz=90							
C19A	**Slack Wire Ran**	**90.31**	**35**	P		**P**	**02 32 56.2**	**+1.3**
	baz=90							
B20A	**Solberg Farm,**	**90.38**	**34**	P		**P**	**02 32 55.6**	**+0.5**
	baz=90							
PPT	**Papeete**	**90.44**	**109**	LR		LR	03 06 24.1	
	comp=Z,64nm,21.2s,baz=281,slow=31							
A21A	**Bergtoll Ranch**	**90.55**	**33**	P		**P**	**02 32 56.6**	**+0.7**
	baz=90							
D19A	**Cripps Ranch,**	**90.77**	**35**	P		**P**	**02 32 58.2**	**+1.2**
	baz=91							
C20A	**Veseth Ranch,**	**90.86**	**34**	P		**P**	**02 32 57.6**	**+0.3**
	baz=91							
A22A	**Carney Farms,**	**91.04**	**32**	P		**P**	**02 32 58.3**	**+0.2**
	baz=91							
E19A	**Rath Farm, Rou**	**91.28**	**36**	P		**P**	**02 33 00.0**	**+0.6**
	baz=91							
LPL	**La Plagne**	**91.51**	**323**	*e*P		**P**	**02 33 00.6**	**0.0**
LPL	**La Plagne**	**91.51**	**323**	*e*P		**P**	**02 33 00.6**	**0.0**
LPL	**La Plagne**	**91.51**	**323**	*e*P		**P**	**02 33 00.6**	**0.0**
LPG	**La Plagne**	**91.51**	**323**	*e*P		**P**	**02 33 00.8**	**+0.1**
	comp=Z,14nm,1.0s							
LPG	**La Plagne**	**91.51**	**323**	*e*P		**P**	**02 33 00.8**	**+0.1**
LPG				pmax		pmax		
	comp=Z,14nm,1.0s							
LPG	**La Plagne**	**91.51**	**323**	*e*P		**P**	**02 33 00.8**	**+0.1**
	comp=Z,14nm,1.0s							
F19A	**Roth Farm, Mol**	**91.59**	**36**	P		**P**	**02 33 01.0**	**+0.2**
	baz=91							
KMBO	**Kilima Mbogo**	**91.71**	**270**	*ce*P		**P**	**02 33 02.7**	**+0.6**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KMBO	**Kilima Mbogo**	**91.71**	**270**	*e*P		**P**	**02 33 01.4**	**-0.7**
	comp=Z,1.2nm,1.1s							
BNI	**Bardonecchia**	**91.84**	**323**	*e*P		**P**	**02 33 02.3**	**+0.3**
BNI				pmax		pmax		
	comp=Z,13nm,1.2s							
BNI	**Bardonecchia**	**91.84**	**323**	*e*P		**P**	**02 33 02.3**	**+0.3**
	comp=Z,13nm,1.2s							
D22A	**Cohagen**	**92.16**	**34**	P		**P**	**02 33 03.8**	**+0.4**
	baz=92							
R11A	**Troy Canyon, C**	**92.32**	**45**	P		**P**	**02 33 04.3**	**-0.2**
	baz=92							
H19A	**Powell**	**92.33**	**37**	P		**P**	**02 33 04.5**	**+0.1**
	baz=92							
MPMC	**Manual Prospec**	**92.39**	**48**	P		**P**	**02 33 04.9**	**0.0**
	baz=92							
TPNV	**Topopah Spring**	**92.70**	**47**	P		**P**	**02 33 06.6**	**+0.4**
	baz=92							
FRF	**La Foret Royal**	**92.81**	**322**	*e*P		**P**	**02 33 06.2**	**-0.2**
	comp=Z,8.6nm,0.7s							
FRF	**La Foret Royal**	**92.81**	**322**	*e*P		**P**	**02 33 06.2**	**-0.2**
FRF				pmax		pmax		
	comp=Z,9.0nm,0.7s							
FRF	**La Foret Royal**	**92.81**	**322**	*e*P		**P**	**02 33 06.2**	**-0.2**
	comp=Z,8.6nm,0.7s							
DUG	**Dugway, Tooele**	**92.95**	**42**	P		**P**	**02 33 07.2**	**0.0**
	baz=93							
LMR	**La Mourre**	**93.04**	**322**	*e*P		**P**	**02 33 07.3**	**-0.1**
LMR	**La Mourre**	**93.04**	**322**	*e*P		**P**	**02 33 07.3**	**-0.1**
LMR	**La Mourre**	**93.04**	**322**	*e*P		**P**	**02 33 07.3**	**-0.1**
PDAR	**Pinedale Array**	**93.25**	**39**	P		**P**	**02 33 09.3**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=294,slow=2.5,SNR=6.2							
GSC	**Goldstone, Bar**	**93.28**	**48**	P		**P**	**02 33 08.5**	**-0.4**
	baz=93							
F23A	**Volborg**	**93.53**	**35**	P		**P**	**02 33 09.9**	**+0.2**
	baz=93							
SHPR	**Sheep Range**	**93.67**	**46**	*e*P		**P**	**02 33 12.2**	**+1.5**
	comp=Z,5.4nm,1.0s							
KEST	**Kesra**	**96.11**	**314**	*e*P		**P**	**02 33 21.0**	**-0.8**
ESDC	**Sonseca Array**	**101.23**	**325**	P		**Pdif**	**02 33 44.7**	**0.0**
	comp=Z,0.9nm,0.8s,baz=46,slow=4.3,SNR=4.4							
HKT	**Hockley**	**110.06**	**40**	*e*PKP		**PKiKP**	**02 38 26.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**115.42**	**300**	PKP		**PKPdf**	**02 38 35.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=25,slow=2.2,SNR=7.6							
TORD				PP		**PP**	**02 39 37.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=43,slow=7.5,SNR=6.1							
TSUM	**Tsumeb**	**116.57**	**261**	*e*PKPdf		**PKPdf**	**02 38 37.9**	**-0.7**
DBIC	**Dimbokro**	**124.46**	**299**	*e*PKIKP		**PKPdf**	**02 38 52.8**	**-0.9**
DBIC	**Dimbokro**	**124.46**	**299**	PKP		**PKPdf**	**02 38 53.7**	**0.0**
	comp=Z,2.5nm,0.6s,baz=90,slow=3.0,SNR=4.7							
DBIC	**Dimbokro**	**124.46**	**299**	*e*PKPdf		**PKPdf**	**02 38 52.8**	**-0.9**
DBIC				PKP		**PKPdf**	**02 38 53.7**	**0.0**
ASCN	**Ascension**	**140.54**	**290**	*e*PKPdf		**PKPdf**	**02 39 24.3**	**+0.4**
OTAV	**Otavalo**	**143.19**	**49**	*e*PKPdf		**PKPdf**	**02 39 29.5**	**+0.2**
NNA	**Nana**	**152.32**	**65**	*e*PKIKP		**PKPdf**	**02 39 42.9**	**-0.8**
NNA				*e*			02 39 50.7	
NNA	**Nana**	**152.32**	**65**	*e*PKPdf		**PKPdf**	**02 39 42.9**	**-0.8**
NNA				*e*PKPbc		**PKiKP**	**02 39 50.6**	**-0.1**
RCBR	**Riachuelo**	**155.19**	**321**	*e*PKPab		**PKPab**	**02 40 10.1**	**-2.4**
SAML	**Samuel**	**159.80**	**36**	*e*PKPdf		**PKPdf**	**02 39 54.2**	**+0.7**
SAML				*e*PKPab		**PKPab**	**02 40 31.5**	**-0.7**
LPAZ	**La Paz**	**161.72**	**62**	*e*PKIKP		**PKPdf**	**02 39 57.7**	**+1.4**
LPAZ				*e*			02 40 41.7	
LPAZ	**La Paz**	**161.72**	**62**	*e*PKPdf		**PKPdf**	**02 39 57.7**	**+1.4**
LPAZ				*e*PKPab		**PKPab**	**02 40 41.6**	**+0.1**
LCO	**Las Campanas**	**162.57**	**105**	*e*PKPab		**PKPab**	**02 40 44.1**	**-0.5**

NIED ***03*** *02:20:00,* $38^{\circ}.00N_{K}$ $142^{\circ}.60E$*, h32km, Mw3.8 Best double couple: M*$_0$*6.51000×10*^{14} *NP1:*ϕ_s*157.00000°,* δ*30.00000°,* λ*71.00000°. NP2:*ϕ_s*358.00000°,* δ*61.00000°,* λ*101.00000°.*

JMA 03 02:20:18.3±0.1, 38°.01N×142°.63E, h33km±2km, M4.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.10**	**294**	P	Pn	02 20 37.9	+0.5
JIO				*e*S	Sn	02 20 52.1	+0.6
OFUJ	**Ofunato**	**1.31**	**325**	P	Pn	02 20 41.0	+0.7
OFUJ				*e*S	Sb	02 20 58.0	-0.8
JMK	**Ichinoseki**	**1.45**	**311**	P	Pn	02 20 43.3	+1.1
JMM	**Marumori**	**1.46**	**265**	P	Pn	02 20 43.0	+0.7
JMM				*e*S	Sn	02 21 00.8	+0.5
JFK	**Kawauchi**	**1.53**	**246**	P	Pn	02 20 43.8	+0.4
JFK				*e*S	Sn	02 21 02.4	+0.1
JOU	**Okura**	**1.59**	**284**	P	Pb	02 20 45.7	-1.4
JOU				*e*S	Sn	02 21 05.0	+1.4
JOM	**Ohasama**	**1.80**	**325**	P	Pn	02 20 48.4	+1.4
JOM				*e*S	Sn	02 21 10.5	+1.8
JFT	**Otama**	**1.88**	**256**	P	Pn	02 20 50.0	+1.8
JFT				*e*S	Sn	02 21 12.9	+2.1
JYK	**Kaneyama**	**2.00**	**298**	P	Pn	02 20 51.7	+1.9
JYS	**Shirataka**	**2.03**	**277**	P	Pn	02 20 52.4	+2.1
JYS				*e*S	Sn	02 21 17.0	+2.5
JRG	**Rokugo**	**2.09**	**312**	P	Pn	02 20 52.9	+1.9
JRG				*e*S	Sn	02 21 18.0	+2.2
MAT	**Matsushiro**	**3.82**	**249**	P	Pn	02 21 18.3	+3.5
MAT				*e*S	Sb	02 22 06.8	-4.1

NIED ***03*** *02:22:00,* $25^{\circ}.90N_{K}$ $128^{\circ}.60E$*, h8km, Mw4.1 Best double couple: M*$_0$*1.40000×10*^{15} *NP1:*ϕ_s*60.00000°,* δ*41.00000°,* λ*-66.00000°. NP2:*ϕ_s*209.00000°,* δ*54.00000°,* λ*-109.00000°.*

IDC ***03*** *02:22:01.8±0.8, 25°.97N×128°.95E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/28, mbtmp4.2/18, Error ellipse: s-maj=33.2km s-min=17.2km az=67.0*

NEIC ***03*** *02:22:03.5±0.4, 25°.86N×128°.76E, h10km, mb4.5/11, MW4.0(NIED), Error ellipse: s-maj=12.5km s-min=8.2km az=83.0*

ISCJB ***03*** *02:22:04.0±0.9, 25°.85N±0°.03×128°.67E±0°.04, h26km±6km, mb4.2/29, Error ellipse: s-maj=6.3km s-min=4.7km az=43.0*

JMA ***03*** *02:22:06.4±0.2, 25°.93N×128°.60E, h46km±5km, M3.8*

ISC 03 02:22:03.5±2.1, 25°.85N±0°.05×128°.67E±0°.04, h11km±12km, n53, σ1§31/70, mb4.3/29, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.87**	**289**	P	Pn	**02 22 21.5**	**-0.3**
JJT2				*e*S	Sb	**02 22 32.5**	**+0.1**
JNTH	**Nagotoyohara**	**0.88**	**319**	P	Pb	**02 22 21.0**	**+0.2**
JNTH				*e*S	Sg	**02 22 31.4**	**-0.6**
JOW	**Kunigami**	**1.04**	**340**	P	Pb	**02 22 23.6**	**+0.1**
JOW				*e*S	Sg	**02 22 36.2**	**-0.8**
JOW	**Kunigami**	**1.04**	**340**	Pn	Pb	**02 22 23.8**	**+0.3**
JOW				Sn	Sg	**02 22 36.0**	**-1.1**
	46nm,0.3s,baz=154,slow=17,SNR=5.7						
JIH	**Iheya**	**1.33**	**332**	P	Pn	02 22 28.1	0.0
JIH				*e*S	Sb	02 22 44.0	-1.6
JAGN	**Aguni-jima**	**1.47**	**300**	P	Pn	02 22 30.2	+0.2
JOKE	**Okinoerabujima**	**1.50**	**357**	P	Pn	02 22 30.5	0.0
JOKE				*e*S	Sn	02 22 47.9	-2.2
JKE	**Kume jima 2**	**1.75**	**286**	P	Pn	02 22 33.5	-0.4
JKE				S	Sn	02 22 54.1	-2.2
JTK	**Tokunoshima**	**1.94**	**7**	P	Pn	02 22 36.5	0.0
JMZ	**Minamidaito 2**	**2.30**	**90**	P	Pn	02 22 40.5	-0.9
JMZ				*e*S	Sn	02 23 06.4	-3.3
JAMN	**Amaminishikomi**	**2.42**	**11**	P	Pn	02 22 43.3	+0.2
JAM	**Amami Oshima**	**2.68**	**18**	P	Pn	02 22 46.4	-0.2
JAM				*e*S	Sn	02 23 16.8	-2.3
JZK	**Kikaishima**	**2.71**	**25**	P	Pn	02 22 47.5	+0.4
JZK				*e*S	Sn	02 23 19.6	-0.3
JOGS	**Gusukube**	**3.15**	**250**	P	Pn	02 22 53.2	+0.2
JIKM	**Ikemajima**	**3.23**	**254**	P	Pn	02 22 53.9	-0.3
JIRB	**Irabujima**	**3.32**	**253**	P	Pn	02 22 54.8	-0.7
JIRB				S	Sn	02 23 32.6	-2.3
JTJ	**Tarama**	**3.79**	**252**	P	Pn	02 23 01.0	-0.9
JTJ				*e*S	Sn	02 23 42.7	-3.7
JISG	**Ishigakijimahi**	**4.14**	**253**	P	Pn	02 23 05.4	-1.3
JNU	**Nakatsue**	**7.49**	**14**	Pn	Pn	02 23 54.3	+1.5
	2.7nm,0.3s,baz=206,slow=5.9,SNR=8.5						
JNU				Sn	Sn	02 25 12.8	-5.0
	1.1nm,0.3s,baz=214,slow=18,SNR=5.1						
ULN	**Ulaanbaatar**	**27.78**	**328**	*e*P	P	02 27 54.6	+2.0
	4.6nm,0.7s						
SONM	**Songino Array**	**28.08**	**327**	P	P	02 27 57.4	+2.2
	3.8nm,0.4s,baz=140,slow=9.2,SNR=11						
CMAR	**Chiang Mai Arr**	**28.45**	**261**	P	P	02 28 00.8	+2.1
	0.6nm,0.3s,baz=64,slow=8.1,SNR=3.0						
YAK	**Yakutsk**	**36.17**	**1**	*e*P	P	02 29 05.7	-0.1
	28nm,0.6s						
MKAR	**Makanchi Array**	**42.08**	**312**	P	P	02 29 55.7	+0.3
	1.0nm,0.5s,baz=98,slow=9.9,SNR=5.7						
MKAR				PcP	**PcP**	02 31 51.1	+1.0
	0.6nm,0.8s,baz=98,slow=2.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.78**	**323**	P	P	02 30 00.4	-0.6
	2.0nm,0.7s,baz=102,slow=7.5,SNR=3.5						
KURK	**Kurchatov**	**45.36**	**317**	P	**P**	02 30 22.3	+0.6
KURK				PcP	**PcP**	02 32 01.3	+0.2
KURBB	**Kurchatov Arra**	**45.40**	**317**	P	**P**	02 30 22.3	+0.3
	0.9nm,0.5s,baz=106,slow=8.5,SNR=5.4						
KURBB				PcP	**PcP**	02 32 01.3	+0.1
	0.3nm,0.6s,baz=102,slow=3.9,SNR=2.5						
WRAB	**Tennant Creek**	**45.85**	**173**	*e*P	P	02 30 26.3	+0.5
	6.5nm,0.9s						
WRA	**Warramunga Arr**	**45.85**	**173**	P	P	02 30 26.4	+0.4
	4.3nm,0.9s,baz=352,slow=8.4,SNR=5.7						
TKM2	**Tokmak 2**	**46.21**	**306**	*e*P	P	02 30 29.1	+0.2
	2.8nm,0.6s						
PALK	**Pallekele**	**49.23**	**257**	*e*P	P	02 30 52.1	-0.3
ASAR	**Alice Springs**	**49.49**	**174**	P	P	02 30 54.7	+0.6
	2.5nm,0.8s,baz=1.8,slow=8.4,SNR=5.3						
BVAR	**Borovoye Array**	**50.81**	**318**	P	P	02 31 03.8	-0.2
	1.3nm,0.5s,baz=76,slow=7.6,SNR=3.6						
BVAR				PcP	**PcP**	02 32 20.6	0.0
	1.1nm,0.7s,baz=110,slow=3.4,SNR=2.5						
KBL	**Kabul**	**51.62**	**295**	*e*P	P	02 31 11.2	+0.7
	7.8nm,0.8s						
ABKAR	**Akbulak array**	**57.19**	**313**	*e*P	P	02 31 50.2	-0.3
GEYT	**Alibeck**	**59.82**	**300**	P	P	02 32 10.7	+1.6
	1.9nm,0.6s,baz=71,slow=6.2,SNR=3.1						
KBZ	**Khabaz**	**69.70**	**310**	P	P	02 33 14.9	+1.6
	5.8nm,0.8s,baz=79,slow=3.9,SNR=4.4						
KIV	**Kislovodsk**	**69.78**	**310**	*e*P	P	02 33 14.7	+0.7
	19nm,1.1s						
JOF	**Joensuu**	**70.56**	**331**	*ep*	P	02 33 16.6	-1.7
	2.1nm,0.7s						
KAF	**Kangasniemi**	**73.02**	**331**	*ep*	P	02 33 32.2	-0.9
	1.9nm,0.7s						
FINES	**FINESS Array B**	**73.38**	**331**	P	P	02 33 35.1	-0.2
	2.3nm,0.6s,baz=75,slow=5.7,SNR=7.4						
RES	**Resolute Bay**	**75.84**	**11**	P	P	02 33 48.6	-0.7
	1.6nm,0.7s,baz=289,slow=6.9,SNR=3.5						
RES	**Resolute Bay**	**75.84**	**11**	*e*P	P	02 33 49.1	-0.2
	1.9nm,0.6s						
AKASG	**Malin Array Be**	**76.07**	**320**	P	P	02 33 51.4	+0.3
	2.2nm,0.5s,baz=58,slow=6.8,SNR=5.0						
KIEV	**Kiev**	**76.08**	**320**	*e*P	P	02 33 51.3	+0.1
	4.0nm,0.7s						
BR131	**Keskin Array S**	**77.57**	**308**	*e*P	P	02 34 00.7	+0.7
	2.0nm,0.8s						
BRTR	**Keskin Array B**	**77.57**	**308**	P	P	02 34 01.0	+1.0
	2.5nm,0.9s,baz=89,slow=4.0,SNR=6.6						
YKA	**Yellowknife Ar**	**78.70**	**25**	P	P	02 34 04.5	-1.1
	0.3nm,0.5s,baz=299,slow=5.8,SNR=3.7						
HFS	**Hagfors**	**79.33**	**333**	P	P	02 34 09.1	0.0
	1.1nm,0.8s,baz=45,slow=8.4,SNR=3.3						
CSS	**Prodhromos**	**79.71**	**304**	*e*P	P	02 34 11.4	-0.3
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**79.82**	**334**	P	P	02 34 11.8	0.0
	1.4nm,0.6s,baz=51,slow=5.7,SNR=5.1						
GERES	**GERESS Array B**	**85.73**	**323**	P	P	02 34 43.6	+0.8
	0.3nm,0.7s,baz=58,slow=6.3,SNR=2.7						
ELK	**Elko**	**91.10**	**43**	*e*P	P	02 35 07.4	-1.4
	1.0nm,0.6s						

ISCJB ***03*** *02:44:07.7±1.0, 60°.20N±0°.10×42°.8W±0°.2, h10km, mb3.3/4, Error ellipse: s-maj=14.6km s-min=13.2km az=33.3*

IDC ***03*** *02:44:08.8±1.4, 60°.14N×42°.61W, h0km, mb3.3/4, mb1 3.7/7, mb1mx3.3/48, mbtmp3.6/7, ML3.2/3, Error ellipse: s-maj=31.3km s-min=22.4km az=14.0*

ISC 03 02:44:09.9±1.1, 60°.2N±0°.1×42°.86W±0°.10, h10km, n9, σ1§47/11, mb3.3/4, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**7.65**	**336**	Pn	**Pn**	**02 46 02.4**	**+1.2**
	1.2nm,0.3s,baz=146,slow=14,SNR=10						
SFJD				Sn	**Sn**	**02 47 25.1**	**-2.6**
	1.1nm,0.3s,baz=148,slow=15,SNR=2.7						
SFJD				Lg	Lg	02 48 03.8	
	1.3nm,0.3s,baz=233,slow=20,SNR=5.7						
SFJD	**Kangerlussuaq**	**7.65**	**336**	*i* P	**Pn**	**02 45 59.2**	**-2.0**
SFJD				*e*S	**Sn**	**02 47 28.3**	**+0.5**
BORG	**Borgarnes**	**10.93**	**56**	Pn	**Pn**	**02 46 45.4**	**-0.6**
	0.4nm,0.3s,baz=253,slow=17,SNR=3.6						
SUMG	**Summit**	**12.55**	**6**	*i* P	**Pn**	**02 47 09.5**	**+0.8**
SCHQ	**Schefferville**	**13.91**	**258**	Pn	**Pn**	**02 47 26.7**	**-0.3**
	0.6nm,0.3s,baz=64,slow=13,SNR=13						
SCHQ				Sn	Sn	02 49 55.2	-6.1
	0.4nm,0.3s,baz=41,slow=16,SNR=5.5						
RES	**Resolute Bay**	**23.54**	**328**	P	**P**	**02 49 20.9**	**+1.1**
	0.8nm,0.8s,baz=105,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**43.05**	**322**	P	**P**	**02 52 10.5**	**+1.3**
	0.5nm,0.7s,baz=43,slow=7.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**57.14**	**126**	P	**P**	**02 53 55.9**	**-0.7**
	0.2nm,0.5s,baz=332,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**64.42**	**39**	P	**P**	**02 54 46.1**	**+0.3**
	0.1nm,0.4s,baz=335,slow=5.4,SNR=2.5						

NIED ***03*** *02:48:00,* $25^{\circ}.90N_{K}$ $128^{\circ}.70E$*, h8km, Mw3.9 Best double couple: M*$_0$*9.38000×10*^{14} *NP1:*ϕ_s*218.00000°,* δ*37.00000°,* λ*-92.00000°. NP2:*ϕ_s*40.00000°,* δ*53.00000°,* λ*-89.00000°.*

IDC ***03*** *02:48:48.5±0.7, 25°.87N×128°.55E, h0km, mb4.0/20, mb1 4.1/22, mb1mx4.0/46, mbtmp4.0/22, ML3.6/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/34, Error ellipse: s-maj=22.8km s-min=15.8km az=79.0*

NEIC ***03*** *02:48:49.9±0.3, 25°.85N×128°.47E, h10km, mb4.4/12, Error ellipse: s-maj=7.3km s-min=4.9km az=117.0*

JMA ***03*** *02:48:51.4±0.2, 25°.87N×128°.67E, h44km, M3.7*

ISC 03 02:48:48.1±2.3, 25°.83N±0°.05×128°.65E±0°.04, h2km±13km, n63, σ1§11/76, mb4.2/32, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.87**	**291**	P	**Pn**	**02 49 07.5**	**+0.2**
JJT2				*e*S	**Sb**	**02 49 19.3**	**+1.4**
JNTH	**Nagotoyohara**	**0.89**	**321**	P	**Pn**	**02 49 07.0**	**-0.6**
JNTH				*e*S	**Sb**	**02 49 18.9**	**+0.4**
JOW	**Kunigami**	**1.05**	**341**	P	**Pn**	**02 49 09.8**	**-0.1**
JOW				*e*S	**Sg**	**02 49 21.9**	**-0.1**
JOW	**Kunigami**	**1.05**	**341**	Pn	**Pn**	**02 49 09.8**	**-0.1**
	15nm,0.3s,baz=162,slow=10,SNR=230						
JOW				Sn	**Sg**	**02 49 21.8**	**-0.2**
	27nm,0.3s,baz=128,slow=19,SNR=26						
JIH	**Iheya**	**1.35**	**333**	P	**Pb**	**02 49 14.3**	**+0.2**
JIH				*e*S	**Sg**	**02 49 30.4**	**-1.0**
JAGN	**Aguni-jima**	**1.47**	**301**	P	**Pb**	**02 49 16.2**	**0.0**
JAGN				*e*S	**Sb**	**02 49 34.8**	**-0.6**
JOKE	**Okinoerabujima**	**1.53**	**357**	P	**Pn**	**02 49 16.7**	**+0.3**
JOKE				*e*S	**Sn**	**02 49 34.2**	**-2.7**
JKE	**Kume jima 2**	**1.75**	**287**	P	**Pn**	**02 49 19.4**	**0.0**
JKE				*e*S	**Sn**	**02 49 40.1**	**-2.2**
JTK	**Tokunoshima**	**1.97**	**8**	P	**Pn**	**02 49 22.7**	**+0.2**
JTK				*e*S	**Sn**	**02 49 45.4**	**-2.3**
JMZ	**Minamidaito 2**	**2.32**	**90**	P	**Pn**	**02 49 26.7**	**-0.6**
JMZ				*e*S	**Sn**	**02 49 51.9**	**-4.5**
JAMN	**Amaminishikomi**	**2.45**	**11**	P	**Pn**	**02 49 29.4**	**+0.3**
JAM	**Amami Oshima**	**2.71**	**18**	P	**Pn**	**02 49 32.7**	**0.0**
JAM				S	**Sn**	**02 50 02.9**	**-3.1**
JZK	**Kikaishima**	**2.74**	**25**	P	**Pn**	**02 49 34.1**	**+1.0**
JOGS	**Gusukube**	**3.12**	**251**	P	**Pn**	**02 49 39.1**	**+0.7**
JIRB	**Irabujima**	**3.30**	**253**	P	**Pn**	**02 49 40.7**	**-0.1**
JTJ	**Tarama**	**3.77**	**253**	P	**Pn**	**02 49 46.8**	**-0.4**
JISG	**Ishigakijimahi**	**4.12**	**253**	P	**Pn**	**02 49 51.1**	**-1.0**
JIJ	**Ishigaki jima**	**4.34**	**251**	P	**Pn**	**02 49 54.0**	**-1.1**
NACB	**Ninganchiao**	**6.61**	**257**	*e*Pn	**Pn**	**02 50 24.4**	**-2.0**
	29nm,0.4s						
YHNB	**Yeheng**	**6.69**	**262**	*e*Pn	**Pn**	**02 50 25.7**	**-1.7**
SSLB	**Suanglung**	**7.28**	**255**	*e*Pn	**Pn**	**02 50 33.6**	**-1.9**
	18nm,0.4s						
JNU	**Nakatsue**	**7.52**	**14**	Pn	**Pn**	**02 50 39.3**	**+0.4**
	1.3nm,0.3s,baz=201,slow=10,SNR=11						
KSAR	**Wonju Array Be**	**11.60**	**357**	Pn	**Pn**	**02 51 35.4**	**+0.7**
KSRS	**Korea Array**	**11.61**	**357**	Pn	**Pn**	**02 51 35.4**	**+0.6**
	0.2nm,0.3s,baz=172,slow=13,SNR=3.5						
KKM	**Kota Kinabalu**	**22.99**	**213**	*e*P	**P**	**02 53 53.5**	**-0.9**
	37nm,1.3s						
ULN	**Ulaanbaatar**	**27.80**	**328**	*e*P	**P**	**02 54 37.7**	**-1.0**
	2.4nm,0.6s						
SONM	**Songino Array**	**28.09**	**327**	P	**P**	**02 54 41.4**	**+0.1**
	2.5nm,0.4s,baz=139,slow=10,SNR=9.0						
KULM	**Kulim**	**33.69**	**237**	*e*P	**P**	**02 55 31.1**	**+0.3**
	7.4nm,0.8s						
YAK	**Yakutsk**	**36.20**	**1**	*e*P	**P**	**02 55 51.8**	**-0.1**
	26nm,0.5s						
SEY	**Seymchan**	**40.29**	**17**	P	**P**	**02 56 27.1**	**+0.6**
	0.7nm,0.4s,baz=197,slow=19,SNR=3.1						
MK31	**Makanchi Array**	**42.08**	**312**	*e*P	**P**	**02 56 41.1**	**-0.3**
MKAR	**Makanchi Array**	**42.08**	**312**	P	**P**	**02 56 40.9**	**-0.5**
	1.0nm,0.6s,baz=93,slow=8.5,SNR=14						
MKAR				PcP	**PcP**	**02 58 36.9**	**+0.7**
	0.3nm,0.7s,baz=101,slow=2.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**42.79**	**323**	P	**P**	**02 56 46.4**	**-0.6**
	0.7nm,0.4s,baz=115,slow=8.8,SNR=4.8						
KURK	**Kurchatov**	**45.37**	**317**	*e*P	**P**	**02 57 06.4**	**-1.4**
	0.9nm,0.5s						
KURK				PcP	**PcP**	**02 58 47.3**	**+0.1**
KURBB	**Kurchatov Arra**	**45.40**	**317**	P	**P**	**02 57 07.7**	**-0.3**
	1.0nm,0.7s,baz=104,slow=8.6,SNR=8.7						
KURBB				PcP	**PcP**	**02 58 47.3**	**0.0**
	0.5nm,0.9s,baz=85,slow=3.6,SNR=2.9						
WRAB	**Tennant Creek**	**45.83**	**173**	*e*P	**P**	**02 57 12.3**	**+0.7**
	4.0nm,0.8s						
WRA	**Warramunga Arr**	**45.83**	**173**	P	**P**	**02 57 12.2**	**+0.5**
	0.8nm,0.3s,baz=352,slow=8.1,SNR=4.8						
EKS2	**Erkin-Say**	**47.54**	**305**	*e*P	**P**	**02 57 23.3**	**-1.9**
	1.1nm,0.6s						
PALK	**Pallekele**	**49.20**	**257**	*e*P	**P**	**02 57 38.7**	**+0.5**
ASAR	**Alice Springs**	**49.47**	**174**	P	**P**	**02 57 41.3**

IDC 03 03:14:39.5±1.8, 37°68S×73°95W, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/30, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=53.1km s-min=21.0km az=55.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.03**	**140**	Pn	Pn	03 15 42.2	-0.3
	1.0nm,0.3s,baz=312,slow=11,SNR=18						
PLCA				Lg	Lg	03 16 48.4	
	0.7nm,0.3s,baz=243,slow=18,SNR=2.0						
CFAA	**Coronel Fontan**	**7.67**	**39**	Pn	Pn	03 16 32.8	+0.2
	0.2nm,0.3s,baz=215,slow=12,SNR=21						
TXAR	**Lajitas Array**	**72.25**	**333**	P	P	03 26 06.9	+0.3
	0.2nm,0.7s,baz=165,slow=7.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**86.90**	**71**	P	P	03 27 26.1	-0.4
	0.2nm,0.6s,baz=227,slow=5.3,SNR=7.4						

*GUC **03** 03:38:19.9±0.6, 35°.32S×70°.34W, h6km±7km, ML4.8*
*IDC **03** 03:38:19.7±0.7, 35°.24S×70°.24W, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.0/27, mbtmp4.1/12, ML3.8/3, MS3.3/6, Ms1 3.3/6, ms1mx3.2/24, Error ellipse: s-maj=29.0km s-min=13.6km az=94.0*
*NEIC **03** 03:38:19.9, 35°.32S×70°.34W, h6km, mb4.4/15, ML4.8(GUC), After GUC.*
NEIC Felt [III] at Malargue and San Rafael. Also felt at Mendoza.
*SJA **03** 03:38:22.7±0.9, 35°.64S×69°.62W, h6km, ML4.1*

ISC 03 03:38:19.6±1.1, 35°.35S±0°.02×70°.31W±0°.03, h4km±7km, n70, σ1°25/95, mb4.4/18, 9C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.83**	**294**	⇑*i* P	**Pg**	**03 38 34.8**	**-0.7**
NICH				*i* S	**Sg**	**03 38 46.0**	**-0.2**
NICH	**Los Niches**	**0.83**	**294**	⇑*i* P	**Pg**	**03 38 34.8**	**-0.7**
NICH				*i* S	**Sg**	**03 38 46.0**	**-0.2**
TALC	**Talca**	**1.08**	**267**	⇑*i* P	**Pg**	**03 38 39.5**	**-0.9**
TALC				*i* S	**Sg**	**03 38 53.7**	**-0.7**
TALC	**Talca**	**1.08**	**267**	⇑*i* P	**Pg**	**03 38 39.5**	**-0.9**
TALC				*i* S	**Sg**	**03 38 53.7**	**-0.7**
LNCH	**Linares**	**1.16**	**244**	⇓*i* P	**Pg**	**03 38 41.2**	**-0.7**
LNCH				*e*S	**Sg**	**03 38 57.2**	**+0.2**
LNCH	**Linares**	**1.16**	**244**	⇓*i* P	**Pg**	**03 38 41.2**	**-0.7**
LNCH				*e*S	**Sg**	**03 38 57.2**	**+0.2**
YECH	**El Yeso**	**1.69**	**6**	⇑*i* P	**Pn**	**03 38 50.9**	**+0.7**
YECH				*i* S	**Sg**	**03 39 14.3**	**+0.4**
YECH				AML	AML	03 39 15.7	
	comp=N,3μm,0.4s						
YECH	**El Yeso**	**1.69**	**6**	⇑*i* P	**Pn**	**03 38 50.9**	**+0.7**
YECH				*i* S	**Sg**	**03 38 14.3**	**+0.4**
LACH	**Col Las Americ**	**1.90**	**354**	⇓*i* P	**Pb**	**03 38 54.0**	**-0.9**
LACH				*e*S	**Sb**	**03 39 19.7**	**+0.7**
LACH	**Col Las Americ**	**1.90**	**354**	⇓*i* P	**Pb**	**03 38 54.0**	**-0.9**
LACH				*e*S	**Sb**	**03 39 19.7**	**+0.7**
CLCH	**Cerro Calan**	**1.96**	**354**	⇑*i* P	**Pb**	**03 38 55.0**	**-0.8**
CLCH				*e*S	**Sg**	**03 39 21.8**	**-0.7**
CLCH				AML	AML	03 39 26.8	
	comp=E,16μm,0.7s						
CLCH				AML	AML	03 39 27.4	
	comp=E,20μm,0.7s						
PEL	**Peldehue**	**2.22**	**352**	⇓*i* P	**Pb**	**03 38 59.0**	**-1.3**
PEL				*i* S	**Sb**	**03 39 29.3**	**+1.1**
PEL				AML	AML	03 39 33.5	
	comp=E,18μm,0.7s						
PEL	**Peldehue**	**2.22**	**352**	⇓*i* P	**Pb**	**03 38 59.0**	**-1.3**
PEL				*i* S	**Sb**	**03 39 29.3**	**+1.1**
AVIZ	**Vizcacheras**	**2.39**	**39**	*e*P	**Pg**	**03 39 04.6**	**-0.8**
AVIZ				*e*S	**Sg**	**03 39 35.8**	**-0.5**
ROCH	**El Roble**	**2.44**	**346**	⇑*i* P	**Pn**	**03 39 02.0**	**+1.6**
ROCH				*e*S	**Sb**	**03 39 35.0**	**+0.2**
ROCH				AML	AML	03 39 38.0	
	comp=E,16μm,0.6s						
ROCH	**El Roble**	**2.44**	**346**	⇑*i* P	**Pn**	**03 39 02.0**	**+1.6**
ROCH				*e*S	**Sb**	**03 39 35.0**	**+0.2**
AAGR	**Agrelo**	**2.57**	**29**	*i* P4		03 39 06.6	
AAGR				*e*P	**Pg**	**03 39 08.2**	**-0.6**
AAGR				*e*S	**Sg**	**03 39 42.8**	**+0.6**
CANA	**Caviahue**	**2.60**	**193**	*i* P	**Pb**	**03 39 06.9**	**-0.1**
CANA				*e*S	**Sb**	**03 39 40.3**	**+0.9**
CANA				AML	AML	03 39 54.4	
	comp=Z,425nm,0.7s						
ARCO	**CERRO ARCO**	**2.75**	**25**	*i* P	**Pb**	**03 39 10.9**	**+1.4**
ARCO				*e*P	**Pg**	**03 39 11.6**	**-0.7**
ARCO				*e*S	**Sg**	**03 39 48.4**	**+0.4**
ARCO				AML	AML	03 39 58.3	
	comp=Z,799nm,0.3s						
ASAL	**Salagasta**	**3.01**	**24**	*e*P	**Pb**	**03 39 14.7**	**+0.9**
ASAL				*e*P	**Pb**	**03 39 14.7**	**+0.9**
AUSP	**Uspallata**	**3.21**	**14**	*e*P	**Pg**	**03 39 19.8**	**-1.4**
AUSP				*e*S	**Sg**	**03 40 03.0**	**+0.2**
RTLS	**Leoncito**	**3.64**	**14**	*e*S	**Sg**	**03 40 13.6**	**-2.9**
CFAA	**Coronel Fontan**	**4.12**	**25**	Pn	**Pn**	**03 39 25.4**	**+2.1**
	comp=Z,1.7nm,0.3s,baz=198,slow=14,SNR=104						
CFAA				Pg	**Pg**	**03 39 39.0**	**+0.5**
	comp=Z,5.6nm,0.3s,baz=203,slow=17,SNR=68						
CFAA				Lg	Lg	03 40 29.9	
	comp=Z,6.8nm,0.3s,baz=160,slow=5.2,SNR=5.8						
CFAA				LR	LR	03 41 17.8	
	comp=Z,91nm,21.2s,baz=205,slow=45						
AVFE	**Valle Fertil**	**5.25**	**28**	AML	AML	03 41 27.6	
	comp=Z,255nm,0.6s						
PLCA	**Paso Flores**	**5.38**	**182**	Pn	**Pn**	**03 39 42.8**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=2.6,slow=13,SNR=13						
PLCA				Pg	**Pg**	**03 39 59.6**	**-3.0**
	comp=Z,3.4nm,0.3s,baz=6.3,slow=16,SNR=15						
PLCA				Lg	Lg	03 41 12.7	
	comp=Z,5.6nm,0.3s,baz=98,slow=23,SNR=2.8						
PLCA				LR	LR	03 41 14.0	
	comp=Z,149nm,19.0s,baz=22,slow=32						
PLCA	**Paso Flores**	**5.38**	**182**	*e*Pn	Pn	03 39 44.5	+3.8
	comp=Z,131nm,0.7s						
PLCA				*e*Pg	**Pg**	**03 40 04.6**	**+2.0**
PLCA				*e*Sg	**Sg**	**03 41 11.9**	**-0.4**
PLCA				Lg	Lg	03 41 12.7	
PLCA	**Paso Flores**	**5.38**	**182**	*e*P	Pn	03 39 44.4	+3.7
PLCA				AML	AML	03 41 22.7	
	comp=Z,68nm,0.6s						
LCO	**Las Campanas**	**6.33**	**357**	*e*Pn	**Pn**	**03 39 55.0**	**+1.1**
	comp=Z,36nm,0.5s						
LCO				*e*Sg	**Sb**	**03 41 30.6**	**+4.0**
TRQA	**Tornquist**	**7.22**	**114**	*e*Pn	**Pn**	**03 40 06.8**	**+0.8**
	comp=Z,57nm,0.6s						
TRQA				*e*Pg	Pg	03 40 33.9	-4.0
TRQA				*e*Sn	**Sn**	**03 41 23.1**	**-5.2**
TRQA				*e*Sg	Sg	03 42 03.7	-7.6
LVC	**Limon Verde**	**12.75**	**6**	*e*Pn	**Pn**	**03 41 21.2**	**-0.7**
LPAZ	**La Paz**	**19.08**	**6**	P	**P**	**03 42 43.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=178,slow=8.1,SNR=19						
LPAZ				LR	LR	03 51 15.1	
	comp=Z,159nm,20.7s,baz=158,slow=41						
LPAZ	**La Paz**	**19.08**	**6**	*e*P	**Pn**	**03 42 45.4**	**+0.8**
	comp=Z,8.0nm,1.0s						
USHA	**Ushuaia**	**19.53**	**177**	P	**Pn**	**03 42 51.0**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=10,SNR=5.7						
USHA				LR	LR	03 51 11.3	
	comp=Z,257nm,19.2s,baz=205,slow=39						
SIV	**San Ignacio**	**20.98**	**26**	P	**P**	**03 43 04.0**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=208,slow=12,SNR=10						
SIV				LR	LR	03 52 27.4	
	comp=Z,261nm,18.7s,baz=227,slow=41						
NNA	**Nana**	**24.00**	**344**	LR	LR	03 51 13.7	
	comp=Z,50nm,21.1s,baz=180,slow=32						
SAML	**Samuel**	**27.07**	**16**	*e*P	**P**	**03 44 02.3**	**-1.0**
	comp=Z,3.1nm,1.1s						
BDFB	**Brasilia**	**27.99**	**51**	P	**P**	**03 44 11.0**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=213,slow=10,SNR=5.2						
VNA3	**Neumayer Olymp**	**47.57**	**158**	P	**P**	**03 46 57.6**	**+1.7**
VNA2	**Neumayer--Watz**	**48.22**	**157**	P	**P**	**03 47 02.1**	**+1.1**
	baz=294,slow=11						
SNAA	**Sanae**	**49.80**	**158**	P	**P**	**03 47 14.3**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=285,slow=9.9,SNR=12						
SNAA	**Sanae**	**49.80**	**158**	*e*P	P	03 47 16.4	+3.2
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**54.89**	**180**	P	**P**	**03 47 52.7**	**+1.6**
	comp=Z,3.5nm,0.9s,baz=134,slow=6.7,SNR=8.4						
QSPA	**South Pole Qui**	**54.89**	**180**	*e*P	**P**	**03 47 52.9**	**+1.7**
	comp=Z,6.3nm,1.0s						
VNDA	**Vanda**	**63.06**	**191**	*e*P	**P**	**03 48 47.9**	**+0.5**
	comp=Z,2.9nm,1.1s						
GOGA	**Godfrey**	**69.50**	**348**	*e*P	**P**	**03 49 27.3**	**-1.8**
	comp=Z,3.7nm,1.0s						
TXAR	**Lajitas Array**	**71.61**	**330**	P	**P**	**03 49 42.7**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=156,slow=9.2,SNR=12						
WVT	**Waverly**	**72.96**	**345**	*e*P	**P**	**03 49 49.7**	**-0.4**
	comp=Z,4.4nm,0.7s						
DBIC	**Dimbokro**	**74.28**	**70**	P	**P**	**03 49 58.9**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=204,slow=6.5,SNR=1.8						
DBIC	**Dimbokro**	**74.28**	**70**	*e*P	**P**	**03 49 57.7**	**-0.6**
	comp=Z,3.0nm,0.6s						
MNTX	**Cornudas Mount**	**74.39**	**329**	*e*P	**P**	**03 49 57.5**	**-1.0**
	comp=Z,2.3nm,1.0s						
WMOK	**Wichita Mounta**	**74.63**	**336**	*e*P	**P**	**03 49 57.6**	**-2.3**
	comp=Z,1.1nm,0.8s						
ANMO	**Albuquerque**	**77.65**	**330**	*e*P	**P**	**03 50 17.1**	**-0.2**
	comp=Z,1.7nm,0.9s						
BOSA	**Boshof**	**78.19**	**117**	P	**P**	**03 50 21.7**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=215,slow=5.8,SNR=7.5						
BOSA	**Boshof**	**78.19**	**117**	*e*P	**P**	**03 50 20.4**	**-0.3**
	comp=Z,4.7nm,0.8s						
LBTB	**Lobatse**	**80.45**	**114**	*e*P	**P**	**03 50 32.7**	**-0.3**
	comp=Z,5.0nm,0.9s						
TOA0	**Torodi Ar. Sit**	**83.35**	**69**	*e*P	**P**	**03 50 48.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.35**	**69**	P	**P**	**03 50 48.1**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=270,slow=5.8,SNR=6.8						
DUG	**Dugway, Tooele**	**84.76**	**329**	*e*P	**P**	**03 50 53.7**	**-1.2**
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**85.61**	**332**	P	**P**	**03 50 59.5**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=144,slow=6.7,SNR=5.6						
LSZ	**Lusaka**	**88.04**	**107**	*e*P	**P**	**03 51 10.2**	**-1.6**
	comp=Z,2.5nm,0.8s						
WRA	**Warramunga Arr**	**120.24**	**207**	PKP	**PKPdf**	**03 57 13.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=174,slow=1.6,SNR=3.1						
COEN	**Coen**	**121.59**	**219**	*e*PKPdf	**PKPdf**	**03 57 15.4**	**+0.2**
ABKAR	**Akbulak array**	**141.37**	**53**	*e*PKPdf	**PKPdf**	**03 57 50.7**	**-0.6**
BVAR	**Borovoye Array**	**147.26**	**45**	PKPbc	**PKPbc**	**03 58 03.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=303,slow=3.2,SNR=4.5						
AAK	**Ala-Archa**	**151.84**	**64**	PKPbc	**PKPbc**	**03 58 15.9**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=243,slow=2.8,SNR=11						
KURBB	**Kurtov Arra**	**152.82**	**46**	PKPbc	**PKPbc**	**03 58 17.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=310,slow=2.6,SNR=4.4						
KURK	**Kurchatov**	**152.84**	**46**	*e*PKPdf	**PKPdf**	**03 58 09.2**	**-1.0**
KURK				*e*PKPbc	**PKPbc**	**03 58 17.1**	**-0.3**
KURK				PKPbc	**PKiKP**	**03 58 17.5**	**-0.1**
ZAA0	**Zalesovo Array**	**154.55**	**35**	*e*PKPbc	**PKPbc**	**03 58 20.6**	**-0.4**
ZALV	**Zalesovo Beam**	**154.55**	**35**	PKPbc	**PKPbc**	**03 58 20.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=304,slow=2.8,SNR=3.5						
MKAR	**Makanchi Array**	**156.51**	**52**	PKPbc	PKPbc	03 58 25.7	
	comp=Z,0.2nm,0.5s,baz=262,slow=2.9,SNR=2.6						
MKAR				PKPab	**PKPab**	**03 58 44.6**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=251,slow=4.6,SNR=5.8						

*BJI **03** 03:40:41.0, 2°.38S×128°.68E, h64km, mB5.1/37, mb5.2/58, Ms4.8/25, Ms7 4.3/20*
*MOS **03** 03:40:44.2±1.1, 1°.61S×128°.14E, h33km, mb5.2/33, Error ellipse: s-maj=12.5km s-min=5.7km az=115.0*
*ISCJB **03** 03:40:48.1±0.4, 1°.62S±0°.02×128°.24E±0°.02, h68km±3km, mb4.8/80, Error ellipse: s-maj=4.1km s-min=3.3km az=40.0*
*NEIC **03** 03:40:49.9±0.6, 1°.65S×128°.22E, h70km±5km, mb4.8/36, Error ellipse: s-maj=6.0km s-min=4.2km az=48.0*
*IDC **03** 03:40:49.0±0.6, 1°.68S×128°.16E, h66km±4km, mb4.4/26, mb1 4.5/28, mb1mx4.3/41, mbtmp4.7/28, MS3.6/19, Ms1 3.6/19, ms1mx3.5/30, Error ellipse: s-maj=18.1km s-min=11.0km az=57.0*
*DJA **03** 03:40:49.0±0.5, 2°S±2°×12°8E±°, h20km±5km, M5.3/68, mb5.2/68, mB5.7/44, MLv5.6/17, Mw(mB)5.2/44*
*KLM **03** 03:40:50.0, 1°.45S×128°.13E, h41km, mb4.9, ML5.2, MS5.6*
*GCMT **03** 03:40:49.9±0.3, 1°.59S×128°.13E, h61km±3km, MW5.0/69, Moment Tensor Solution. s28,c30; s69,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.98±.17; $M_{\theta\theta}$2.82±.15; $M_{\phi\phi}$-3.80±.14; $M_{r\theta}$1.26±.10; $M_{\theta\phi}$-1.23±.13; $M_{\phi r}$-0.38±.12; Best double couple: M_o3.85100×10^{16} NP1:ϕs148.00000°, δ73.00000°, λ-20.00000°. NP2: ϕs52.00000°, δ71.00000°, λ162.00000°. Principal axes: T 3.6770, Plg26.0000°, Azm11.0000°; N 0.3530, Plg64.0000°, Azm186.0000°; P -4.0260, Plg2.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 03:40:49.2±0.3, 1°.67S±0°.03×128°.21E±0°.04, h65km±2km, h65km:pP-P, n291, σ1°40/359, mb5.0/79, 27C-4D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.25**	**326**	P	**Pn**	**03 41 10.8**	**+0.1**
LBMI				S	**Sn**	**03 41 26.5**	**-0.3**
MSAI	**Masohi**	**1.81**	**157**	P	**Pn**	**03 41 20.9**	**+2.6**
MSAI				S	**Sn**	**03 41 43.9**	**+3.7**
NLAI	**Namlea**	**1.91**	**215**	P	**Pn**	**03 41 20.3**	**+0.7**
NLAI				S	**Sn**	**03 41 42.9**	**+0.3**
SANI	**Sanana**	**2.25**	**260**	P	**Pn**	**03 41 22.7**	**-1.5**
SANI				S	Sn	03 41 44.3	-6.6
TNTI	**Ternate**	**2.57**	**341**	P	**Pn**	**03 41 29.2**	**+0.6**
TNTI				S	**Sn**	**03 41 59.1**	**+0.4**
TNTI	**Ternate**	**2.57**	**341**	*e*Pn	**Pn**	**03 41 28.6**	**+0.1**
TNTI				*e*Sn	**Sn**	**03 41 55.7**	**-3.0**
BNDI	**Bandanaira**	**3.30**	**149**	P	**Pn**	**03 41 40.2**	**+1.7**
BNDI				S	**Sn**	**03 42 19.7**	**+3.2**
FAKI	**Fak Fak**	**4.22**	**107**	P	**Pn**	**03 41 51.7**	**+0.6**
FAKI				S	**Sn**	**03 42 38.5**	**-0.7**
FAKI	**Fak Fak**	**4.22**	**107**	P	**Pn**	**03 41 51.5**	**+0.3**
	baz=3.9,SNR=1000						
FAKI				S	**Sn**	**03 42 38.9**	**-0.3**
	baz=3.9,SNR=4.4						
FAKI	**Fak Fak**	**4.22**	**107**	*e*Pn	**Pn**	**03 41 51.4**	**+0.3**
FAKI				*e*Sn	**Sn**	**03 42 37.3**	**-2.0**
KMSI	**Cibinong**	**4.78**	**298**	P	**Pn**	**03 41 57.1**	**-1.7**
LUWI	**Luwuk**	**5.47**	**277**	P	**Pn**	**03 42 07.3**	**-0.9**
	1μm,1.2s,23μm7.2nm						
LUWI	**Luwuk**	**5.47**	**277**	P	**Pn**	**03 42 07.3**	**-0.9**
	baz=5.8,SNR=32						
LUWI	**Luwuk**	**5.47**	**277**	*e*Pn	**Pn**	**03 42 07.2**	**-0.9**
LUWI				*e*Sn	**Sn**	**03 43 04.7**	**-5.1**
GTOI	**Gorontalo**	**5.68**	**294**	P	**Pn**	**03 42 13.0**	**+1.9**
	1μm,0.4s,15μm6.6nm						
RKPI	**Ransiki, Papua**	**5.97**	**89**	P	**Pn**	**03 42 15.4**	**+0.3**
	60nm,1.3s,9μm2.9nm						
APSI	**Ampana**	**6.60**	**277**	P	**Pn**	**03 42 23.5**	**-0.2**
	9μm,0.4s,126μm36nm						
MRSI	**Marisa**	**6.62**	**289**	P	**Pn**	**03 42 22.1**	**-1.9**
	1μm,0.6s,18μm5.1nm						
TOLI	**Toli-Toli**	**7.92**	**290**	*e*Pn	**Pn**	**03 42 41.2**	**-0.5**
	353nm,0.3s						
TOLI				*e*Sn	**Sn**	**03 44 10.7**	**+0.9**
PCI	**Palu**	**8.40**	**275**	P	**Pn**	**03 42 48.0**	**-0.4**
	774nm,1.0s,9μm						
TTSI	**Tana Toraja**	**8.49**	**261**	P	**Pn**	**03 42 49.8**	**+0.2**
	370nm,0.9s,4μm						
BNSI	**Bone**	**8.53**	**251**	P	**Pn**	**03 42 52.2**	**+2.1**
	286nm,1.1s,3μm						
MPSI	**Mapaga**	**8.54**	**283**	P	**Pn**	**03 42 49.8**	**-0.5**
	225nm,0.8s,3μm						
SPSI	**Sidrap Palu**	**8.73**	**255**	P	**Pn**	**03 42 55.1**	**+2.3**
	1μm,0.8s,12μm						
BKSI	**Bukukumba**	**8.85**	**246**	P	Pn	03 42 57.7	+3.3
	877nm,0.8s,6μm						
BSSI	**Bau Bau, Buton**	**8.89**	**240**	P	Pn	03 42 58.3	+3.3
	396nm,0.9s,5μm						
SOEI	**Soe**	**8.93**	**206**	P	**Pn**	**03 42 58.6**	**+2.9**
	188nm,0.9s,2μm						
SOEI	**Soe**	**8.93**	**206**	*e*Pn	Pn	03 43 00.1	+4.4
KAPI	**Kappang**	**9.07**	**248**	*e*Pn	**Pn**	**03 43 00.2**	**+2.7**
KAPI				*e*Sn	**Sn**	**03 44 39.4**	**+1.3**
EDFI	**Ende, Flores**	**9.56**	**222**	P	**Pn**	**03 43 05.9**	**+1.5**
	44nm,1.0s,944nm						
BATI	**Baumata**	**9.61**	**208**	P	Pn	03 43 08.6	+3.8
	40nm,0.8s						
BATI	**Baumata**	**9.61**	**208**	P	Pn	03 43 08.4	+3.6
	3.1nm,0.3s,baz=66,slow=7.2,SNR=5.6						
BATI				LR	LR	03 46 27.5	
	comp=Z,748nm,21.2s,baz=30,slow=35						
SMPI	**Sarmi**	**10.50**	**92**	P	**Pn**	**03 43 18.7**	**+1.6**
	62nm,0.9s						
PALU	**Palau**	**10.92**	**35**	P	**Pn**	**03 43 24.9**	**+2.1**
	baz=11,SNR=8.4						
BKB	**Balikpapan**	**11.31**	**272**	P	**Pn**	**03 43 29.8**	**+1.6**
	604nm,0.9s,8μm						
MTN	**Manton Dam**	**11.47**	**166**	P	**Pn**	**03 43 30.4**	**+0.2**
	baz=11,SNR=17						
MTN				S	**Sn**	**03 45 31.3**	**-5.6**
	baz=11,SNR=5.4						
KDU	**Kakadu**	**11.73**	**159**	P	**Pn**	**03 43 31.6**	**-2.2**
	baz=11,SNR=184						
KDU				S	Sn	03 45 33.9	-9.3
	baz=11,SNR=7.9						
TSM	**Tawau**	**11.91**	**300**	⇓P	**Pn**	**03 43 34.3**	**-2.0**
GENI	**Genyem**	**11.99**	**95**	P	**Pn**	**03 43 38.9**	**+1.5**
	289nm,1.0s,3μm						
KBKI	**Kotabaru**	**12.14**	**262**	P	**Pn**	**03 43 38.9**	**-0.5**
	13nm,1.0s,2μm						
JAY	**Jayapura**	**12.52**	**94**	P	**Pn**	**03 43 46.5**	**+1.8**
	136nm,0.6s,15μm						
JAY	**Jayapura**	**12.52**	**94**	P	**Pn**	**03 43 45.3**	**+0.6**
	4.8nm,0.3s,baz=293,slow=13,SNR=10						
JAY	**Jayapura**	**12.52**	**94**	P	**Pn**	**03 43 45.6**	**+0.9**
	baz=12,SNR=5.3						
SDKM	**Sandakan**	**13.18**	**304**	⇑P	**Pn**	**03 43 53.2**	**-0.5**
MTKI	**Muara Teweh, K**	**13.33**	**273**	P	**Pn**	**03 43 57.5**	**+1.9**
	232nm,0.9s,8μm						
KNRA	**Kununurra**	**13.93**	**178**	P	**Pn**	**03 44 02.2**	**-1.4**
	baz=14,SNR=38						
KNRA				S	**Sn**	**03 46 32.4**	**-4.3**
	baz=14,SNR=9.0						
KDM	**Kudat**	**14.20**	**307**	⇑P	**Pn**	**03 44 07.0**	**-0.2**
KKM	**Kota Kinabalu**	**14.22**	**303**	⇑P	**Pn**	**03 44 07.4**	**-0.1**
KKM	**Kota Kinabalu**	**14.22**	**303**	*e*Pn	**Pn**	**03 44 07.2**	**-0.3**
ABJI	**Asem Bagus**	**15.19**	**246**	P	**P**	**03 44 23.1**	**-0.6**
	74nm,1.1s,2μm						
JAGI	**Jajag, Banyuwa**	**15.54**	**244**	*e*Pn	**Pn**	**03 44 25.2**	**+0.7**
	82nm,0.9s						
BLJI	**Banyuglugur**	**15.76**	**247**	P	**P**	**03 44 30.6**	**+0.6**
	59nm,1.4s						
BTM	**Bintulu**	**15.88**	**288**	⇑P	**Pn**	**03 44 28.8**	**-0.1**
GMJI	**Gumukmas**	**16.10**	**245**	P	**P**	**03 44 34.6**	**+0.8**
	92nm,1.2s,2μm						
SBUM	**Sibu**	**16.50**	**284**	⇑P	**Pn**	**03 44 36.8**	**+0.1**
SBUM	**Sibu**	**16.50**	**284**	*e*Pn	**P**	**03 44 37.9**	**-0.4**
	24nm,0.9s						
STKI	**Sintang**	**16.82**	**276**	P	**P**	**03 44 41.5**	**-0.3**
	56nm,1.2s						
TBJI	**Tambak Boyo**	**17.09**	**252**	P	**P**	**03 44 47.4**	**+2.6**
	217nm,1.2s						
PWJI	**Pagerwojo**	**17.51**	**248**	P	**P**	**03 44 52.1**	**+2.6**
	90nm,1.2s,2μm						
PCJI	**Pacitan**	**18.15**	**249**	P	**Pn**	**03 44 58.1**	**+1.1**
	105nm,1.6s						
KSM	**Kuching**	**18.17**	**280**	P	**Pn**	**03 44 58.8**	**+1.6**
	baz=18,SNR=7.9						
KSM	**Kuching**	**18.17**	**280**	⇑P	**Pn**	**03 44 57.1**	**-0.1**
KSM	**Kuching**	**18.17**	**280**	*e*P	**Pn**	**03 44 57.5**	**+0.3**
	31nm,0.6s						
WOJI	**Wonogiri, Jawa**	**18.27**	**250**	P	Pn	03 45 07.5	+9.1
WRAB	**Tennant Creek**	**19.12**	**162**	*e*P	**P**	**03 45 06.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,95nm,1.2s						
WRAB	**Tennant Creek**	**19.12**	**162**	*e*P	**P**	**03 45 06.4**	**-0.7**
WRA	**Warramunga Arr**	**19.12**	**162**	P	**P**	**03 45 06.2**	**-1.0**
	comp=Z,3.2nm,0.3s,baz=343,slow=12,SNR=55						
WRA				S	S	03 48 28.3	-12
	comp=Z,1.3nm,0.3s,baz=348,slow=22,SNR=7.3						
WRA				LR	LR	03 53 05.8	
	comp=Z,251nm,18.5s,baz=335,slow=38						
WB2	**Warramunga Arr**	**19.12**	**162**	*e*P	**P**	**03 45 06.3**	**-0.9**
WB2				*e*S	S	03 48 29.2	-12
COEN	**Coen**	**19.18**	**130**	P	**P**	**03 45 08.5**	**+0.7**
	baz=19,SNR=26						
COEN				S	S	03 48 28.6	-13
	baz=19,SNR=5.6						
COEN	**Coen**	**19.18**	**130**	*e*P	**P**	**03 45 08.2**	**+0.4**
	comp=Z,15nm,1.0s						
COEN				*e*S	S	03 48 29.4	-13
KPJI	**Karang Pucung**	**20.02**	**253**	P	Pn	03 45 21.1	+1.9
	comp=Z,102nm,1.3s						
PMG	**Port Moresby**	**20.35**	**113**	*e*P	Pn	03 45 25.1	+1.9
PMG				pmax	pmax		
	comp=Z,30nm,1.2s						
PMG	**Port Moresby**	**20.35**	**113**	*e*P	Pn	03 45 24.5	+1.3
	comp=Z,9.3nm,0.9s						
TPI	**Tanjungpandan**	**20.57**	**267**	P	Pn	03 45 24.7	-1.0
	comp=Z,67nm,1.1s,com

CMAR Chiang Mai Arr 35.06 306 P **P** **03 47 36.8 +0.6**
comp=Z,1.8nm,0.7s,baz=133,slow=7.9,SNR=9.7
CMAR pP **pP** **03 47 51.9 -0.3**
comp=Z,1.6nm,0.3s,baz=137,slow=7.9,SNR=2.6
CMAR PcP **PcP** **03 50 06.2 -0.9**
comp=Z,1.0nm,0.4s,baz=151,slow=2.6,SNR=5.3
CMAR LR LR 04 04 20.3
comp=Z,35nm,19.3s,baz=134,slow=40
CMMT Chiang Mai 35.24 307 P **P** **03 47 39.4 +1.6**
comp=Z,17nm,0.8s
CHTO Chiang Mai 35.24 307 *e*P **P** **03 47 39.5 +1.6**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 35.24 307 *e*P **P** **03 47 39.5 +1.6**
comp=Z,8.2nm,0.8s
CHTO Chiang Mai 35.24 307 P **P** **03 47 39.5 +1.6**
comp=Z,51nm,1.0s
ARMA Armidale 36.20 144 P **P** **03 47 48.7 +2.7**
baz=36,SNR=4.9
ARMA Armidale 36.20 144 *e*P **P** **03 47 48.8 +2.7**
KMI Kunming 36.31 319 P **P** **03 47 49.0 +1.8**
KMI sP **sP** **03 48 12.4 +1.7**
KMI PMZ
comp=Z,28nm,1.2s
KSAR Wonju Array Be 38.92 360 P **P** **03 48 08.2 -0.5**
KSAR 03 50 18.2
KSAR Wonju Array Be 38.92 360 P **P** **03 48 08.2 -0.5**
KSAR PcP **PcP** **03 50 18.2 -0.1**
KSRS Korea Array 38.93 360 P **P** **03 48 08.2 -0.6**
comp=Z,3.2nm,0.8s,baz=186,slow=10.0,SNR=9.9
KSRS PcP **PcP** **03 50 18.2 -0.2**
comp=Z,2.7nm,0.8s,baz=194,slow=3.4,SNR=5.4
KSRS LR LR 04 02 50.6
TIA Tai'an 39.08 346 ⇓P **P** **03 48 09.9 -0.2**
TIA PMZ
comp=Z,10.0nm,0.9s
TIA PMZ
comp=Z,70nm,4.5s
MJAR Matsushiro Arr 39.14 13 P **P** **03 48 09.8 -0.8**
comp=Z,32nm,0.9s,baz=192,slow=8.4,SNR=59
MJAR LR LR 04 02 45.6
comp=Z,87nm,21.4s,baz=180,slow=34
MAJO Matsushiro 39.15 13 *e*P **P** **03 48 09.8 -0.8**
MAJO pmax pmax
comp=Z,51nm,0.9s
MAJO Matsushiro 39.15 13 *e*P **P** **03 48 09.8 -0.8**
comp=Z,50nm,0.9s
MAT Matsushiro 39.15 13 P **P** **03 48 09.8 -0.9**
MAT *e*S S 03 54 21.4 +15
XAN Xi'an 39.89 335 P **P** **03 48 16.3 -0.6**
XAN PMZ
comp=Z,11nm,0.9s
CD2 Chengdu 39.89 326 P **P** **03 48 19.5 +2.5**
CD2 pP **pP** **03 48 34.6 +1.4**
CD2 sP **sP** **03 48 41.7 +1.0**
CD2 PP **PnPn** **03 49 56.5 +2.8**
CD2 S **S** **03 54 20.6 +3.2**
CD2 sS **sS** **03 54 46.4 +1.5**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
DZM Mont Dzumac 42.34 122 P **P** **03 48 37.4 0.0**
comp=Z,6.5nm,0.9s,baz=279,slow=18,SNR=3.1
BJT Baijiatuan 42.93 346 *e*P **P** **03 48 41.5 -0.2**
BJT pmax pmax
comp=Z,43nm,0.8s
BJT Baijiatuan 42.93 346 *e*P **P** **03 48 41.5 -0.2**
comp=Z,43nm,0.8s
BJI Beijing 42.95 346 P **P** **03 48 41.4 -0.4**
BJI pP **pP** **03 48 56.7 -1.5**
BJI sP **sP** **03 49 03.0 -2.6**
BJI PP **PP** **03 50 24.9 +2.2**
BJI PcP **PcP** **03 50 32.5 +1.1**
BJI S **S** **03 55 02.7 +0.4**
BJI PMZ
comp=Z,44nm,0.8s
BJI PMZ
comp=Z,150nm,4.2s
BJI LN
comp=Z,210nm,5.0s
BJI LE
comp=Z,63nm,4.0s
SNY Shenyang 43.50 355 ⇑P **P** **03 48 46.2 0.0**
SNY PMZ
comp=Z,33nm,0.9s
LZH Lanzhou 43.90 331 ⇑P **P** **03 48 51.0 +1.2**
LZH pP **pP** **03 49 06.5 +0.3**
LZH sP **sP** **03 49 13.2 -0.4**
LZH PP **PcP** **03 50 34.4 -0.6**
LZH *e*S **S** **03 55 19.0 +2.3**
LZH PMZ
comp=Z,64nm,1.0s
LZH PMZ
comp=Z,170nm,4.2s
LZH LN
comp=Z,290nm,12.5s
LZH LE
comp=Z,430nm,14.0s
LZH LZ
comp=Z,510nm,15.6s
VLA Vladivostok 44.71 4⇑ *i*P **P** **03 48 54.4 -1.5**
VLA S **S** **03 55 29.1 +1.2**
VLA pmax pmax
comp=Z,11nm,0.7s
HHC Hu-ho-hao-te 44.96 342 *e*P **P** **03 48 58.6 +0.5**
HHC PcS **PcS** **03 54 30.2 -2.0**
HHC S **S** **03 55 33.6 +1.8**
HHC PMZ
comp=Z,50nm,1.0s
HHC PMZ
comp=Z,270nm,6.2s
HHC LN
comp=Z,250nm,16.2s
HHC LE
comp=Z,270nm,16.2s
HHC LZ
comp=Z,220nm,19.9s
CN2 Changchun 45.34 357 *e*P **P** **03 49 00.2 -0.7**
CN2 PMZ
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 45.80 4 P **P** **03 49 04.7 +0.3**
comp=Z,19nm,1.0s,baz=192,slow=7.0,SNR=20
USRK pP **pP** **03 49 22.3 +1.4**
comp=Z,9.8nm,1.0s,baz=187,slow=6.7,SNR=4.5
USRK LR LR 04 07 21.6
comp=Z,85nm,20.0s,baz=164,slow=35
MDJ Mudanjiang 46.10 1 P **P** **03 49 06.8 -0.1**
MDJ PMZ
comp=Z,29nm,1.2s
MDJ PMZ
comp=Z,92nm,5.0s
MDJ Mudanjiang 46.10 1 *e*P **P** **03 49 07.6 +0.7**
comp=Z,34nm,1.1s
LSA Lhasa 47.18 314 *e*P **P** **03 49 17.4 +1.2**
LSA pmax pmax
comp=Z,9.0nm,0.4s
LSA Lhasa 47.18 314 *e*P **P** **03 49 17.4 +1.2**
comp=Z,8.9nm,0.4s
ASAJ Asahikawa 47.37 14 *e*P **P** **03 49 17.9 +1.0**
comp=Z,29nm,1.4s
CHLP Challavanipeta 47.82 297 *e*P **P** **03 49 20.1 -0.7**
CHLP *e*pP **pP** **03 49 36.6 -0.7**
YUK Yuzh-Kuril'sk 48.17 17 *e*P P 03 49 30.3 +7.3
YUK *e* 03 50 46.2
YUK *i*S S 03 56 29.6 +12
PALK Pallekele 48.22 281 *i*P P 03 49 30.4 +6.4
PALK Pallekele 48.22 281 P **P** **03 49 24.0 0.0**
comp=Z,5.3nm,0.5s,baz=114,slow=12,SNR=2.2
PALK Pallekele 48.22 281 *e*P **P** **03 49 24.1 0.0**
comp=Z,18nm,1.2s
GTA Gaotai 48.48 331 *e*P **P** **03 49 26.2 +0.5**
GTA pP **pP** **03 49 42.3 0.0**
GTA sP **sP** **03 49 49.3 -0.4**
GTA PcP **PcP** **03 50 50.9 0.0**
GTA S **S** **03 56 22.2 0.0**
GTA sS **sS** **03 56 50.7 +0.4**
GTA SS **SS** **03 59 49.0 -4.0**
GTA PMZ
comp=Z,37nm,0.9s
GTA PMZ
comp=Z,160nm,4.1s
GTA LN
comp=Z,300nm,15.7s
GTA LE
comp=Z,370nm,20.2s
GTA LZ
comp=Z,160nm,15.0s
TAPN Taplejung 48.48 310 *e*P **P** **03 49 26.8 +0.7**
comp=Z,24nm,0.4s
ODAN Odare 48.49 309 *e*P **P** **03 49 26.8 +0.7**
RAMN Ramite 49.15 308 *e*P **P** **03 49 32.1 +0.9**
JIRN Jiri 49.81 309 *e*P **P** **03 49 37.0 +0.7**
comp=Z,18nm,0.3s
YSS Yuzh-Sakhalins 50.09 13⇑ *i*P **P** **03 49 38.2 +0.6**
YSS *e* 03 49 57.0
YSS Yuzh-Sakhalins 50.09 13 *e*P **P** **03 49 38.1 +0.6**
comp=Z,26nm,0.3s
GUN Gumba 50.17 309 *e*P **P** **03 49 39.6 +0.6**
comp=Z,28nm,0.4s
HABR Khabarovsk 50.30 6 *e*P **P** **03 49 37.8 -1.3**
HABR *e*PP pP 03 49 47.5 -8.3
HABR *e*SP sP 03 49 51.6 -12
HABR *e* 03 50 55.6
HABR *e* 03 51 33.3
HABR PPP PPP 03 52 30.5
HABR *e*S **S** **03 56 49.0 +2.0**
HABR *e*SS sS 03 57 05.6 -10
HABR *e* 03 59 25.7
HABR SS **SS** **04 00 24.2 +2.7**
HABR pmax pmax
comp=N,58nm,2.3s
HABR pmax pmax
comp=Z,70nm,1.1s
HABR pmax pmax
comp=E,65nm,2.3s
PKI Pulchoki 50.38 308 *e*P **P** **03 49 40.7 +0.1**
comp=E,9.9nm,0.3s
PKIN Phulchoki 50.39 308 *e*P **P** **03 49 40.7 +0.1**
comp=E,11nm,0.4s
SKHT Srikalahasti 50.45 289 *e*P **P** **03 49 40.9 +0.1**
KKN Kakani 50.58 309 *e*P **P** **03 49 42.2 +0.2**
DMN Daman 50.63 308 *e*P **P** **03 49 42.9 +0.5**
ADKI Addanki 50.74 292 *e*P **P** **03 49 43.4 +0.4**
ADKI *e*sP **sP** **03 50 10.2 +3.0**
KLR Kul'dur 50.80 3 *e*P P 03 49 39.7 -3.2
KLR pmax pmax
comp=Z,43nm,1.4s
GKN Gorkha 51.18 309 *e*P **P** **03 49 46.7 +0.3**
comp=Z,17nm,0.4s
HIA Hailar 51.27 353 *e*P **P** **03 49 46.9 +0.4**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 51.27 353 *e*P **P** **03 49 46.9 +0.4**
comp=Z,6.7nm,0.6s
NJS Nagarjunasagar 51.54 293 *e*P **P** **03 49 49.1 +0.1**
KOLN Koidanda 51.89 308 *e*P **P** **03 49 52.5 +0.7**
comp=Z,74nm,0.7s
DANN Dangsing 52.03 308 *e*P **P** **03 49 53.3 +0.4**
comp=Z,58nm,0.7s
HYB Hyderabad 52.47 293 *i*P **P** **03 49 54.5 -1.5**
HYB *e*pP **pP** **03 50 14.0 +1.2**
HYBB Hyderabad (bro 52.47 293 *e*P **P** **03 49 56.0 0.0**
HYBB *e*pP **pP** **03 50 13.9 +1.1**
PYUN Piuthan 52.52 308 *e*P **P** **03 49 57.2 +0.7**
comp=Z,84nm,0.5s
ULN Ulaanbaatar 52.68 342 *e*P **P** **03 49 57.1 -0.1**
ULN *e* 03 51 07.1
ULN pmax pmax
comp=Z,30nm,1.0s
ULN Ulaanbaatar 52.68 342 *e*P **P** **03 49 57.1 -0.1**
comp=Z,30nm,1.0s
ULN *e*PcP **PcP** **03 51 07.1 +0.8**
SONM Songino Array 52.86 342 P **P** **03 49 58.3 -0.2**
comp=Z,14nm,0.9s,baz=157,slow=8.7,SNR=37
SONM pP **pP** **03 50 15.1 -0.2**
comp=Z,5.3nm,0.9s,baz=151,slow=8.1,SNR=4.3
SONM PcP **PcP** **03 51 06.3 -0.6**
comp=Z,4.9nm,0.8s,baz=160,slow=4.4,SNR=6.2
ZAK Zakamensk 56.08 341⇑ *i*P **P** **03 50 21.5 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 57.09 342 *e*P **P** **03 50 29.6 +0.8**
TLY pmax pmax
comp=Z,11nm,1.0s
TLY Talaya 57.09 342 LR LR 04 15 48.8
comp=Z,37nm,19.2s,baz=162,slow=37
MOY Mondy 57.93 340 *e*P **P** **03 50 35.6 +0.7**
WMQ Urumqi 57.99 326⇓ *i*P **P** **03 50 36.2 +0.8**
WMQ pP **pP** **03 50 52.5 +0.1**
WMQ sP **sP** **03 50 58.5 -1.2**
WMQ PcP **PcP** **03 51 26.2 -0.6**
WMQ PP **PP** **03 52 47.0 +2.5**
WMQ *e*S **S** **03 58 31.0 -0.1**
WMQ ScS **ScS** **04 00 16.9 -2.4**
WMQ PMZ
comp=Z,50nm,1.0s
WMQ PMZ
comp=Z,150nm,5.3s
WMQ LN
comp=Z,440nm,17.0s
WMQ LE
comp=Z,450nm,26.0s
WMQ LZ
comp=Z,680nm,27.4s
PETK Petropavlovsk- 59.91 20 P **P** **03 50 48.7 +0.3**
comp=Z,22nm,1.0s,baz=205,slow=6.6,SNR=9.6
PETK LR LR 04 15 05.4
comp=Z,14nm,21.8s,baz=234,slow=34
PET Petropavlovsk 60.17 21 *i*P **P** **03 50 50.5 +0.4**
PET pmax pmax
comp=Z,16nm,0.2s
HVS Khovu-Aksy 60.23 336*c i*P **P** **03 50 51.1 +0.3**
HVS pmax pmax
comp=Z,213nm,1.4s
BOD Bodaibo 60.39 351⇓ *i*P **P** **03 50 51.8 +0.2**
BOD pmax pmax
comp=Z,22nm,1.3s
PDGK Podgornoye 62.52 322 P **P** **03 51 06.0 -0.2**
PDGK pmax pmax
comp=Z,19nm,0.9s
MK31 Makanchi Array 62.83 326 P **P** **03 51 08.0 -0.2**
MK31 pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 62.83 326 P **P** **03 51 08.2 0.0**
comp=Z,12nm,0.6s,baz=125,slow=8.0,SNR=168
MKAR pP **pP** **03 51 24.7 -0.8**
comp=Z,4.1nm,0.6s,baz=139,slow=7.6,SNR=5.8
MKAR LR LR 04 18 29.9
comp=Z,42nm,21.9s,baz=114,slow=36
KSH Kashi 62.93 317 P **P** **03 51 10.0 +0.8**
KSH sP **sP** **03 51 31.8 -1.9**
KSH PP **PP** **03 53 30.3 +2.0**
KSH ScP **ScP** **03 55 42.8 -0.8**
KSH S **S** **03 59 31.0 -3.5**
KSH PMZ
comp=Z,11nm,0.8s
KSH PMZ
comp=Z,120nm,5.5s
KSH LN
comp=Z,95nm,5.0s
KSH LE
comp=Z,67nm,5.0s
KSH LZ
comp=Z,150nm,4.9s
YAK Yakutsk 63.54 1*c i*P **P** **03 51 13.3 +0.7**
YAK *e* 03 51 48.3
YAK *e* 03 53 33.9
YAK *e*S **S** **03 59 39.7 -1.3**
YAK *e* 04 00 58.2
YAK *e*SS SS 04 03 58.4 +9.0
YAK pmax pmax
comp=Z,126nm,0.8s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,35nm,1.1s
YAK pmax pmax
comp=Z,83nm,2.8s
YAK pmax pmax
comp=N,44nm,3.5s
YAK smax smax
comp=N,74nm,2.5s
YAK smax smax
comp=E,38nm,2.4s
YAK Yakutsk 63.54 1 *e*P **P** **03 51 13.0 +0.4**
ULHL Ulahol 64.03 319 P **P** **03 51 16.8 +0.3**
SNR=5.8
ULHL Ulahol 64.03 319 *i*P **P** **03 51 16.8 +0.3**
KZA Kyzart 64.60 319 P **P** **03 51 21.4 +0.9**
SNR=17
KZA Kyzart 64.60 319 *i*P **P** **03 51 21.4 +0.9**
TKM2 Tokmak 2 64.78 320 P **P** **03 51 21.7 +0.3**
SNR=14
TKM2 Tokmak 2 64.78 320 P **P** **03 51 21.1 -0.3**
TKM2 pmax pmax
comp=Z,12nm,0.9s
TKM2 Tokmak 2 64.78 320 *e*P **P** **03 51 21.0 -0.3**
comp=Z,7.0nm,0.7s
UCH Uchtor 65.16 319 P **P** **03 51 24.8 +0.6**
SNR=18
UCH Uchtor 65.16 319 *i*P **P** **03 51 24.7 +0.6**
AAK Ala-Archa 65.36 319 P **P** **03 51 25.6 +0.5**
SNR=7.4
AAK Ala-Archa 65.36 319⇑ *i*P **P** **03 51 25.6 +0.5**
AAK pmax pmax
comp=Z,47nm,1.8s
AAK Ala-Archa 65.36 319 P **P** **03 51 25.3 +0.2**
comp=Z,5.4nm,0.7s,baz=128,slow=5.6,SNR=6.9
AAK Ala-Archa 65.36 319 *e*P **P** **03 51 25.2 +0.2**
comp=Z,9.7nm,1.0s
USP Ospenovka 65.65 320 P **P** **03 51 27.0 +0.2**
SNR=16
USP Ospenovka 65.65 320 *i*P **P** **03 51 27.0 +0.2**
AML Almayashu 65.66 318 P **P** **03 51 28.0 +0.7**
SNR=21
AML Almayashu 65.66 318 *i*P **P** **03 51 28.0 +0.7**
EKS2 Erkin-Say 65.84 319 P **P** **03 51 28.9 +0.7**
SNR=14
EKS2 Erkin-Say 65.84 319 *e*P **P** **03 51 28.6 +0.4**
EKS2 pmax pmax
comp=Z,32nm,1.3s
EKS2 Erkin-Say 65.84 319 *e*P **P** **03 51 28.6 +0.4**
comp=Z,32nm,1.3s
KBL Kabul 66.01 309 *e*P **P** **03 51 29.4 -0.1**
KBL pmax pmax
comp=Z,4.0nm,0.5s
KBL Kabul 66.01 309 *e*P **P** **03 51 29.4 -0.1**
comp=Z,3.6nm,0.5s
ZALV Zalesovo Beam 66.05 334 P **P** **03 51 28.0 -1.0**
comp=Z,3.4nm,0.5s,baz=122,slow=6.5,SNR=30
ZALV LR LR 04 23 46.0
comp=Z,35nm,18.1s,baz=68,slow=39
KURBB Kurchatov Arra 67.07 328 P **P** **03 51 35.3 -0.4**
comp=Z,18nm,0.8s,baz=127,slow=5.9,SNR=6.7
KURBB PP **PP** **03 54 02.9 -1.3**
comp=Z,4.1nm,1.1s,baz=132,slow=8.8,SNR=4.9
KURK Kurchatov 67.07 328 *e*P **P** **03 51 35.1 -0.6**
KURK 03 54 02.9
KURK pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 67.07 328 *e*P **P** **03 51 35.1 -0.6**
comp=Z,35nm,0.8s
KURK PP **PP** **03 54 02.9 -1.4**
NVS Novosibirsk 67.33 334 *e*P **P** **03 51 35.1 -2.1**
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,20nm,1.4s
KK31 Karatay Array 68.19 318 *i*P **P** **03 51 42.8 -0.2**
KK31 pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 68.19 318 *e*P **P** **03 51 42.3 -0.7**
KKAR *e*PP **pP** **03 52 00.1 -0.3**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 68.19 318 *e*P **P** **03 51 42.3 -0.7**
comp=Z,10nm,0.9s
KKAR *e*pP **pP** **03 52 00.1 -0.3**
BVAR Borovoye Array 72.64 328 P **P** **03 52 09.4 -0.4**
comp=Z,3.1nm,0.4s,baz=134,slow=6.4,SNR=46
BVAR pP **PcP** **03 52 26.4 -0.6**
comp=Z,2.7nm,0.8s,baz=129,slow=4.7,SNR=3.6
BVAR PP **PP** **03 54 51.8 -0.4**
comp=Z,0.8nm,0.8s,baz=97,slow=9.2,SNR=2.5
BVAR LR LR 04 26 26.5
comp=Z,29nm,20.2s,baz=108,slow=38
TIXI Tiksi 73.20 0*ce*P **P** **03 52 12.5 -0.2**
TIXI pmax pmax
comp=Z,49nm,1.2s
TIXI Tiksi 73.20 0 *e*P **P** **03 52 12.0 -0.7**
comp=Z,26nm,0.6s
BILL Bilibino 74.39 14 *e*P **P** **03 52 20.3 +0.5**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 74.39 14 *e*P **P** **03 52 20.3 +0.5**
comp=Z,8.0nm,1.2s
GEYT Alibeck 75.44 310 P **P** **03 52 25.6 -0.9**
comp=Z,7.1nm,0.8s,baz=291,slow=1.3,SNR=12
GEYT LR LR 04 29 49.4
comp=Z,35nm,19.7s,baz=275,slow=39
AB31 Akbulak array 77.25 321 P **P** **03 52 35.8 -0.7**
AB31 pmax pmax
comp=Z,17nm,0.8s
ABKAR Akbulak array 77.25 321 *e*P **P** **03 52 35.8 -0.7**
comp=Z,12nm,0.8s
ABKAR *e*pP **pP** **03 52 53.1 -1.2**
VNDA Vanda 77.92 173 *e*P **P** **03 52 41.1 +1.4**
VNDA pmax pmax
comp=Z,8.0nm,1.3s
VNDA Vanda 77.92 173 P **P** **03 52 40.2 +0.5**
comp=Z,0.7nm,0.8s,baz=304,slow=7.1,SNR=3.7
VNDA LR LR 04 25 55.8
comp=Z,56nm,19.4s,baz=309,slow=35
VNDA Vanda 77.92 173 *e*P **P** **03 52 41.1 +1.4**
comp=Z,8.1nm,1.3s
AKTO Aktyubinsk 78.80 322 P **P** **03 52 44.6 -0.4**
comp=Z,18nm,0.8s,baz=116,slow=6.4,SNR=70
AKTO pP **pP** **03 53 02.5 -0.4**
comp=Z,6.7nm,0.8s,baz=124,slow=7.3,SNR=3.4
SVE Sverdlovsk 79.31 329 *e*P **P** **03 52 47.8 +0.1**
ARU Arti 80.27 328*c i*P **P** **03 52 52.0 -0.9**
ARU 03 55 52.0
ARU S **S** **04 02 54.9 +1.8**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU Arti 80.27 328 *e*P **P** **03 52 52.1 -0.9**
comp=Z,16nm,1.0s
ARU *e*pP **pP** **03 53 09.3 -1.5**
SOKR Solikamsk 82.12 331 *e*P **P** **03 53 00.5 -2.1**
SOKR pmax pmax
comp=Z,20nm,1.1s
RAYN Ar Rayn 83.97 294 *e*P **P** **03 53 12.8 -0.3**
comp=Z,3.5nm,0.9s
ZEI Tsey 86.94 313 *e*P **P** **03 53 25.5 -2.2**
ZEI pmax pmax
comp=Z,19nm,1.3s
KBZ Khabaz 87.75 314 P **P** **03 53 30.7 -0.5**
comp=Z,3.6nm,1.1s,baz=90,slow=4.0,SNR=6.0
KBZ LR LR 04 36 41.1
comp=Z,23nm,20.8s,baz=68,slow=38
PRGR Permogore 87.93 332 *e*P **P** **03 53 29.5 -2.2**
PRGR pmax pmax
comp=Z,7.0nm,0.5s
MCK McKinley 88.32 26 *e*P **P** **03 53 33.5 -0.1**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 88.32 26 *e*P **P** **03 53 33.5 -0.1**
comp=Z,6.8nm,1.0s
COLA College 88.92 25 *e*P **P** **03 53 35.7 -0.6**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 88.92 25 *e*P **P** **03 53 35.7 -0.6**
comp=Z,3.1nm,0.8s
ILAR Eielson Array 89.32 25 P **P** **03 53 37.3 -0.9**
comp=Z,1.5nm,0.9s,baz=274,slow=4.1,SNR=16
ILAR pP **pP** **03 53 55.9 -0.5**
comp=Z,1.0nm,1.0s,baz=270,slow=5.1,SNR=2.8
ILAR PP **PP** **03 57 06.7 -3.0**
comp=Z,0.9nm,1.1s,baz=259,slow=7.5,SNR=4.3
ILAR LR LR 04 38 40.1
comp=Z,32nm,18.8s,baz=169,slow=39
ANN Anapa 91.72 315 *e*P P 03 53 40.4 -9.4
ANN *e*PP **PcP** **03 53 50.1 -0.5**
ANN *e*SSS SSS 04 14 33.7
ANN pmax pmax
comp=Z,24nm,1.2s
OBN Obninsk 92.30 325⇑ *e*P **P** **03 53 50.8 -1.4**
OBN pmax pmax
comp=Z,14nm,0.8s
BRTR Keskin Array B 94.58 310*ce*P **P** **03 54 02.2 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

BRTR	**Keskin Array B**	**94.58**	**310**	P		**P**	**03 54 01.3**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=133,slow=5.2,SNR=5.6							
BRTR				LR		LR	04 42 47.6	
	comp=Z,11nm,21.9s,baz=70,slow=39							
ARCES	**ARCESS Array B**	**96.00**	**340**	P		**P**	**03 54 07.8**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=81,slow=4.4,SNR=13							
ARCES				LR		LR	04 41 57.7	
	comp=Z,42nm,19.8s,baz=104,slow=38							
SPITS	**Spitsbergen Ar**	**96.03**	**349**	P		**P**	**03 54 08.1**	**-0.9**
	comp=Z,12nm,1.1s,baz=106,slow=5.1,SNR=6.5							
AKASG	**Malin Array Be**	**96.99**	**321**	P		**P**	**03 54 12.4**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=76,slow=4.1,SNR=3.5							
FINES	**FINESS Array B**	**97.26**	**332**	P		**P**	**03 54 12.6**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=70,slow=4.6,SNR=6.1							
FINES				pP		**pP**	**03 54 32.8**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=60,slow=4.3,SNR=1.7							
TIRR	**Tirgusor**	**98.17**	**315**	⇑P		**P**	**03 54 18.8**	**-0.5**
CFR	**Carcaliu**	**98.29**	**315**	⇑P		**P**	**03 54 19.3**	**-0.5**
TESR	**Tescani**	**99.17**	**317**	⇑P		**Pdif**	**03 54 23.7**	**0.0**
VRI	**Vrincioaia**	**99.19**	**316**	⇑P		**Pdif**	**03 54 24.1**	**+0.2**
MLR	**Muntele Rosu**	**99.79**	**316**	⇑P		**Pdif**	**03 54 26.6**	**-0.1**
MLR	**Muntele Rosu**	**99.79**	**316**	P		**Pdif**	**03 54 25.8**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=63,slow=2.5,SNR=15							
BURAR	**Bucovina Array**	**99.98**	**318**	⇑P		**Pdif**	**03 54 27.3**	**-0.2**
LBTB	**Lobatse**	**100.71**	**244**	*e*P		**Pdif**	**03 54 30.6**	**-0.6**
LBTB				pmax		pmax		
	comp=Z,3.0nm,1.0s							
LBTB	**Lobatse**	**100.71**	**244**	*e*P		**Pdif**	**03 54 30.6**	**-0.6**
	comp=Z,3.2nm,1.0s							
KOLS	**Kolonicke sedl**	**101.70**	**320**	*e*P		**Pdif**	**03 54 35.6**	**+0.6**
KOLS	**Kolonicke sedl**	**101.70**	**320**	PDIF		**Pdif**	**03 54 35.6**	**+0.6**
CRVS	**Cervenica-Dubn**	**102.23**	**320**	*e*P		**Pdif**	**03 54 36.8**	**-0.5**
CRVS	**Cervenica-Dubn**	**102.23**	**320**	PDIF		**Pdif**	**03 54 36.8**	**-0.5**
YKA	**Yellowknife Ar**	**103.75**	**25**	Pdiff		**Pdif**	**03 54 41.6**	**-2.2**
	comp=Z,0.2nm,0.8s,baz=303,slow=4.2,SNR=4.3							
YKA				PP		**PP**	**03 58 58.8**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=289,slow=6.5,SNR=4.1							
VYHS	**Vyhne**	**104.02**	**320**	*e*P		**Pdif**	**03 54 47.0**	**+1.7**
VYHS	**Vyhne**	**104.02**	**320**	PDIF		**Pdif**	**03 54 47.0**	**+1.7**
NOA	**NORSAR Array B**	**104.25**	**333**	Pdiff		**Pdif**	**03 54 43.8**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=70,slow=4.4,SNR=3.2							
KEST	**Kesra**	**114.17**	**309**	*e*PKP		PKPdf	03 59 20.9	-1.0
RSSD	**Black Hills**	**117.45**	**40**	*e*PKIKP		**PKPdf**	**03 59 28.6**	**+0.4**
RSSD	**Black Hills**	**117.45**	**40**	*e*PKPdf		**PKPdf**	**03 59 28.6**	**+0.4**
ANMO	**Albuquerque**	**119.44**	**50**	*e*PKIKP		**PKPdf**	**03 59 32.6**	**+0.4**
ANMO	**Albuquerque**	**119.44**	**50**	*e*PKPdf		**PKPdf**	**03 59 32.6**	**+0.4**
TAM	**Tamanrasset**	**120.62**	**296**	*e*PKIKP		**PKPdf**	**03 59 35.9**	**+1.1**
TAM	**Tamanrasset**	**120.62**	**296**	*e*PKPdf		**PKPdf**	**03 59 35.9**	**+1.1**
TXAR	**Lajitas Array**	**123.57**	**56**	PKP		**PKPdf**	**03 59 40.7**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=242,slow=2.2,SNR=7.6							
WMOK	**Wichita Mounta**	**125.31**	**48**	*e*PKIKP		**PKPdf**	**03 59 43.6**	**+0.3**
WMOK	**Wichita Mounta**	**125.31**	**48**	*e*PKPdf		**PKPdf**	**03 59 43.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**125.87**	**285**	PKP		**PKPdf**	**03 59 44.4**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=83,slow=2.0,SNR=11							
NATX	**Nacogdoches**	**129.74**	**49**	*e*PKPdf		**PKPdf**	**03 59 52.2**	**+0.4**
ASCN	**Ascension**	**141.47**	**255**	*e*PKPdf		**PKPdf**	**04 00 14.1**	**+0.1**
JTS	**JuntasAbangare**	**145.96**	**74**	*e*PKP2		**PKPab**	**04 00 24.0**	**+0.6**
JTS	**JuntasAbangare**	**145.96**	**74**	*e*PKPbc		**PKPab**	**04 00 23.9**	**+0.6**
LVC	**Limon Verde**	**150.65**	**146**	*e*PKPbc		**PKPbc**	**04 00 35.8**	**+0.6**
NNA	**Nana**	**151.65**	**119**	*e*PKIKP		**PKPbc**	**04 00 37.0**	**-0.5**
NNA	**Nana**	**151.65**	**119**	*e*PKPbc		**PKPbc**	**04 00 37.0**	**-0.5**
LPAZ	**La Paz**	**155.94**	**138**	*e*PKIKP		**PKPdf**	**04 00 38.2**	**+0.3**
LPAZ				*e*			04 01 05.3	
LPAZ	**La Paz**	**155.94**	**138**	*e*PKPdf		**PKPdf**	**04 00 38.2**	**+0.3**
LPAZ				*e*PKPab		**PKPab**	**04 01 05.3**	**+0.4**
SAML	**Samuel**	**164.50**	**133**	*e*PKPdf		**PKPdf**	**04 00 47.4**	**+0.7**
SAML				*e*PKPab		**PKPab**	**04 01 41.8**	**+0.2**

IDC 03 03:51:05.2±2.8, 0°94S×99°88E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.3/45, mbtmp3.6/6, Error ellipse: s-maj=125.3km s-min=20.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.63**	**122**	P		P	P	03 58 30.3	-0.4
	0.3nm,0.4s,baz=304,slow=8.8,SNR=7.1								
ASAR	**Alice Springs**	**39.97**	**127**	P		P	P	03 58 41.9	0.0
	0.3nm,0.5s,baz=300,slow=7.9,SNR=4.9								
SONM	**Songino Array**	**48.91**	**6**	P		P	P	03 59 54.2	+1.1
	0.5nm,0.4s,baz=324,slow=7.1,SNR=3.9								
MKAR	**Makanchi Array**	**49.99**	**344**	P		P	P	04 00 01.0	-0.2
	0.3nm,0.3s,baz=154,slow=8.3,SNR=11								
ZALV	**Zalesovo Beam**	**56.12**	**349**	P		P	P	04 00 44.5	-1.7
	0.6nm,0.5s,baz=151,slow=3.4,SNR=3.6								
BVAR	**Borovoye Array**	**59.16**	**340**	P		P	P	04 01 07.9	+0.2
	0.3nm,0.4s,baz=136,slow=7.2,SNR=3.1								

GUC 03 03:51:07.6±0.6, 36°24S×73°01W, h26km±2km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.21**	**58**	⇑*i*P			Pb	03 51 13.7	+0.1
COCH				*i* S			Sb	03 51 17.6	0.0
CCSP	**San Pedro de C**	**0.60**	**187**	*e*P			Pb	03 51 19.4	-0.3
CCSP				*i* S			Sb	03 51 27.6	-0.2
CCSP				AML		AML	AML	03 51 29.0	
	comp=E,8μm,0.5s								
LNCH	**Linares**	**1.21**	**71**	⇑*i*P			Pn	03 51 28.5	-0.3
LNCH				*i* S			Sb	03 51 45.0	-0.1
TALC	**Talca**	**1.40**	**53**	⇑*i*P			Pn	03 51 31.9	+0.5
TALC				*i* S			Sb	03 51 50.0	-0.6
NICH	**Los Niches**	**1.91**	**50**	*i* S			Sb	03 52 03.9	-1.2

IDC 03 03:57:29.4±1.5, 34°28N×25°18E, h0km, mb3.3/3, mb1 3.2/5, mb1mx3.1/39, mbtmp3.2/5, ML3.6/2, Error ellipse: s-maj=26.0km s-min=21.4km az=80.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**1.03**	**347**	Pn			Pb	03 57 50.7	+0.4
	2.7nm,0.3s,baz=172,slow=10,SNR=34								
IDI				Sn			Sn	03 58 07.4	+0.8
	30nm,0.3s,baz=269,slow=18,SNR=31								
MMAI	**Mount Meron Ar**	**8.62**	**96**	Pn			Pn	03 59 34.0	-1.5
	0.6nm,0.3s,baz=279,slow=12,SNR=5.5								
AKASG	**Malin Array Be**	**16.68**	**9**	Pn			Pn	04 01 24.8	+0.5
	0.2nm,0.3s,baz=193,slow=12,SNR=4.4								
TORD	**Torodi Ar. Bea**	**29.95**	**231**	P		P	P	04 03 39.5	+0.1
	0.2nm,0.4s,baz=36,slow=8.3,SNR=4.9								
KURBB	**Kurchatov Arra**	**41.66**	**50**	P		P	P	04 05 19.9	+0.5
	0.1nm,0.3s,baz=285,slow=7.8,SNR=5.2								
MKAR	**Makanchi Array**	**44.25**	**56**	P		P	P	04 05 40.3	-0.2
	0.6nm,0.7s,baz=277,slow=6.7,SNR=8.5								

GUC 03 03:58:56.3±0.5, 29°61S×71°17W, h68km±5km, ML4.1, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.30**	**192**	⇑*i*P			Pn	03 59 07.5	+0.2
LSCH				*i* S			Sn	03 59 15.6	+0.2
VACH	**Vallenar**	**1.09**	**19**	⇓*i*P			Pn	03 59 16.4	+0.5
VACH				*i* S			Sn	03 59 31.5	+0.9
VACH				AML		AML	AML	03 59 32.9	
	comp=N,8μm,0.1s								
CMCH	**Combarbala**	**1.56**	**175**	⇑*i*P			Pn	03 59 22.7	+0.5
CMCH				*i* S			Sn	03 59 42.5	+0.8
CMCH				AML		AML	AML	03 59 47.6	
	comp=E,2μm,0.6s								
CPCH	**Copiapo**	**2.36**	**18**	⇑*i*P			Pn	03 59 33.0	+0.2
CPCH				*i* S			Sn	04 00 01.1	+0.4
CPCH				AML		AML	AML	04 00 06.3	
	comp=N,3μm,0.1s								

BUC 03 04:13:19.0±1.0, 45°24N×23°23E, h5km, MD2.4/2, 4C-10D, Error ellipse: s-maj=11.8km s-min=4.9km az=10.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.36**	**296**	⇑*i*P			Pg	04 13 26.1	0.0
GZR				*i* S			Sg	04 13 31.8	+0.9
GZR	**Gura Zlata**	**0.36**	**296**	⇑*i*P			Pg	04 13 26.1	0.0
GZR	**Gura Zlata**	**0.36**	**296**	S			Sg	04 13 31.8	+0.9
LOT	**Lotru**	**0.43**	**61**	⇓*i*P			Pg	04 13 27.3	-0.3
LOT				*i* S			Sg	04 13 34.2	+0.8
LOT	**Lotru**	**0.43**	**61**	⇓*i*P			Pg	04 13 27.3	-0.3
LOT	**Lotru**	**0.43**	**61**	S			Sg	04 13 34.2	+0.8
DEV	**Deva**	**0.69**	**340**	⇑*i*P			Pb	04 13 33.0	-0.5
DEV				*i* S			Sb	04 13 43.5	+0.2
DEV	**Deva**	**0.69**	**340**	⇑*i*P			Pb	04 13 33.0	-0.5
ARR	**Arges**	**1.00**	**82**	⇓*i*P			Pg	04 13 38.4	+0.1
ARR				*i* S			Sb	04 13 53.1	+0.7
ARR	**Arges**	**1.00**	**82**	⇓*i*P			Pg	04 13 38.4	+0.1
VOIR		**1.30**	**80**	⇓*i*P			Pg	04 13 44.9	+0.9
VOIR				*i* S			Sn	04 14 01.4	-0.3
BANR	**Banloc**	**1.49**	**276**	⇓*i*P			Pn	04 13 46.6	+0.2
BANR				*i* S			Sn	04 14 05.9	-0.3
BANR	**Banloc**	**1.49**	**276**	⇓*i*P			Pn	04 13 46.6	+0.2
DRGR		**1.60**	**347**	⇓*i*P			Pg	04 13 49.6	-0.2
DRGR				*i* S			Sn	04 14 09.2	+0.1
DRGR		**1.60**	**347**	⇓*i*P			Pg	04 13 49.6	-0.2
MLR	**Muntele Rosu**	**1.93**	**81**	⇓*i*P			Pb	04 13 54.6	-0.2
MLR	**Muntele Rosu**	**1.93**	**81**	S			Sb	04 14 19.8	+0.5

*ISCJB **03** 04:20:00.7±1.4, 33°.99S±0°.03×72°.51W±0°.04, h9km±9km, mb4.5/48, MS4.0/10, Error ellipse: s-maj=5.4km s-min=4.4km az=155.3*
*NEIC **03** 04:20:02.9, 34°.00S×72°.46W, h24km, mb4.7/33, ML4.6(GUC), After GUC.*
NEIC Felt [IV] at Navidad, [III] at Santa Cruz and [II] at Paredones, San Antonio, Santiago and Valparaiso.
*GUC **03** 04:20:02.9±0.7, 34°.00S×72°.46W, h24km±4km, ML4.6*
*MOS **03** 04:20:05.1±1.1, 33°.98S×72°.36W, h33km, mb5.0/18, Error ellipse: s-maj=14.5km s-min=8.9km az=88.7*
*IDC **03** 04:20:05.4±4.6, 33°.97S×72°.18W, h27km±30km, mb4.3/18, mb1 4.4/21, mb1mx4.3/36, mbtmp4.4/21, ML4.4/2, MS3.9/11, Ms1 3.9/11, ms1mx3.7/25, Error ellipse: s-maj=21.6km s-min=11.4km az=89.0*
*BJI **03** 04:20:08.4, 34°.00S×72°.30W, h27km, mB5.2/4, Ms5.3/4, Ms7 5.1/4*

ISC 03 04:20:05.4±0.8, 33°.99S±0°.03×72°.31W±0°.05, h28km±5km, n178, ₙ0.95/218, mb4.6/48, MS4.1/10, 18C-15D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.74**	**88**	⇑*i*P			Pb	**04 20 18.2**	**-1.6**
LNV	**Longovilo**	**0.74**	**88**	⇑*i*P			Pb	04 20 18.2	-1.6
IHA	**Instituto Hidr**	**1.11**	**30**	⇑*i*P			Pn	04 20 24.5	-0.5
IHA	**Instituto Hidr**	**1.11**	**30**	P			Pn	04 20 24.5	-0.5
NICH	**Los Niches**	**1.35**	**139**	⇓*i*P			Pn	04 20 27.4	-0.9
NICH				*i* S			Sn	04 20 45.7	+0.5
NICH	**Los Niches**	**1.35**	**139**	⇓*i*P			Pn	04 20 27.4	-0.9
NICH				*i* S			Sn	04 20 45.7	+0.5
CHCH	**Chadas Angostu**	**1.38**	**88**	⇑*i*P			Pn	04 20 28.4	-0.3
CHCH	**Chadas Angostu**	**1.38**	**88**	⇑*i*P			Pn	04 20 28.4	-0.3
CACH	**El Canelo**	**1.42**	**96**	⇓*i*P			Pn	04 20 29.6	+0.2
CACH	**El Canelo**	**1.42**	**96**	⇓*i*P			Pn	04 20 29.6	+0.2
SAN	**Santiago**	**1.47**	**69**	⇓*i*P			Pn	04 20 30.1	+0.1
SAN				*i* S			Sb	04 20 50.8	+0.5
SAN	**Santiago**	**1.47**	**69**	⇓*i*P			Pn	04 20 30.1	+0.1
SAN				*i* S			Sb	04 20 50.8	+0.5
SAN	**Santiago**	**1.47**	**69**	⇓*i*P			Pn	04 20 30.1	+0.1
SAN				*i* S			Sb	04 20 50.8	+0.5
ROCH	**El Roble**	**1.48**	**47**	⇑*i*P			Pn	04 20 30.3	-0.1
ROCH				*i* S			Sb	04 20 51.5	+0.6
ROCH				AML		AML	AML	04 20 59.8	
	comp=E,11μm,0.6s								
ROCH	**El Roble**	**1.48**	**47**	⇑*i*P			Pn	04 20 30.3	-0.1
ROCH				*i* S			Sb	04 20 51.5	+0.6
TALC	**Talca**	**1.51**	**159**	⇑*i*P			Pn	04 20 29.5	-1.1
TALC				*i* S			Sn	04 20 50.0	+0.7
TALC	**Talca**	**1.51**	**159**	⇑*i*P			Pn	04 20 29.5	-1.1
TALC				*i* S			Sn	04 20 50.0	+0.7
PCH	**Pirque**	**1.54**	**77**	⇓*i*P			Pn	04 20 31.4	+0.4
PCH	**Pirque**	**1.54**	**77**	⇓*i*P			Pn	04 20 31.4	+0.4
LACH	**Col Las Americ**	**1.57**	**71**	⇓*i*P			Pn	04 20 31.6	+0.1
LACH	**Col Las Americ**	**1.57**	**71**	⇓*i*P			Pn	04 20 31.6	+0.1
CLCH	**Cerro Calan**	**1.59**	**69**	⇑*i*P			Pn	04 20 32.0	+0.3
CLCH				AML		AML	AML	04 21 06.0	
	comp=N,9μm,0.4s								
CLCH				AML		AML	AML	04 21 12.7	
	comp=N,8μm,0.4s								
PEL	**Peldehue**	**1.59**	**59**	⇓*i*P			Pn	04 20 32.3	+0.6
PEL				*i* S			Sb	04 20 54.4	+0.5
PEL	**Peldehue**	**1.59**	**59**	⇓*i*P			Pn	04 20 32.3	+0.6
PEL				*i* S			Sb	04 20 54.4	+0.5
PEL				AML		AML	AML	04 21 03.2	
	comp=E,25μm,1.6s								
PEL	**Peldehue**	**1.59**	**59**	⇓*i*P			Pn	04 20 32.3	+0.6
PEL				*i* S			Sb	04 20 54.4	+0.5
YECH	**El Yeso**	**1.88**	**81**	⇑*i*P			Pn	04 20 37.0	+1.2
YECH				*i* S			Sb	04 21 03.2	+0.9
YECH				AML		AML	AML	04 21 09.1	
	comp=N,6μm,0.5s								
YECH	**El Yeso**	**1.88**	**81**	⇑*i*P			Pn	04 20 37.0	+1.2
YECH				*i* S			Sb	04 21 03.2	+0.9
LNCH	**Linares**	**1.94**	**163**	⇑*i*P			Pn	04 20 36.1	-0.4
LNCH				*i* S			Sn	04 21 01.7	+1.7
LNCH	**Linares**	**1.94**	**163**	⇑*i*P			Pn	04 20 36.1	-0.4
LNCH				*i* S			Sn	04 21 01.7	+1.7
CFAA	**Coronel Fontan**	**4.17**	**56**	Pn			Pn	**04 21 07.5**	**+0.3**
	comp=N,1.1nm,0.3s,baz=98,slow=1.0,SNR=108								
CFAA				Lg			Lg	04 22 09.8	
	comp=N,7.9nm,0.3s,baz=60,slow=14,SNR=6.3								
LCO	**Las Campanas**	**5.15**	**16**	*e*Pn			Pn	**04 21 19.7**	**-1.1**
LCO				*e*Sn			Sn	**04 22 17.9**	**-1.6**
PLCA	**Paso Flores**	**6.88**	**169**	*e*P			Pn	**04 21 44.2**	**-0.1**
PLCA	**Paso Flores**	**6.88**	**169**	Pn			Pn	**04 21 44.0**	**-0.4**
	comp=N,1.4nm,0.3s,baz=341,slow=11,SNR=42								
PLCA				Lg			Lg	04 23 41.2	
	comp=N,1.4nm,0.3s,baz=94,slow=22,SNR=3.3								
PLCA				LR			LR	04 23 46.6	
	comp=N,163nm,20.9s,baz=333,slow=32								
TRQA	**Tornquist**	**9.29**	**119**	*e*Pn			Pn	**04 22 17.6**	**+0.1**
LVC	**Limon Verde**	**11.72**	**16**	*e*Pn			Pn	**04 22 51.2**	**+0.2**
LPAZ	**La Paz**	**18.02**	**13**	*e*P			P	**04 24 15.2**	**+0.5**
LPAZ	**La Paz**	**18.02**	**13**	P			P	**04 24 14.7**	**-0.1**
	comp=N,0.7nm,0.3s,baz=192,slow=7.2,SNR=50								
LPAZ	**La Paz**	**18.02**	**13**	*e*P			P	**04 24 15.3**	**+0.5**
	comp=N,26nm,0.9s								
SIV	**San Ignacio**	**20.58**	**32**	P			P	**04 24 40.7**	**-1.4**
	comp=N,15nm,0.7s,baz=222,slow=10,SNR=56								
SIV				LR			LR	04 34 03.5	
	comp=N,683nm,19.3s,baz=232,slow=41								
NNA	**Nana**	**22.29**	**348**	P			P	**04 25 01.1**	**+0.6**
	comp=N,16nm,0.9s,baz=191,slow=8.2,SNR=5.7								
NNA				LR			LR	04 31 57.7	
	comp=N,127nm,19.0s,baz=175,slow=32								
SAML	**Samuel**	**26.30**	**21**	*e*P			P	**04 25 38.1**	**-0.5**
	comp=N,7.5nm,0.8s								
SAML				*e*PcP			**PcP**	**04 29 03.0**	**-1.6**
BDFB	**Brasilia**	**28.51**	**56**	P			P	**04 25 57.4**	**-1.3**
	comp=N,10nm,0.8s,baz=226,slow=9.1,SNR=19								
BDFB				LR			LR	04 38 41.2	
	comp=N,542nm,18.6s,baz=228,slow=39								
OTAV	**Otavalo**	**34.53**	**349**	*e*P			P	**04 26 52.4**	**+0.5**
	comp=N,1.6nm,0.7s								
PTGA	**Pitinga**	**35.05**	**22**	P			P	**04 26 56.0**	**+0.1**
	comp=N,10nm,0.9s,baz=198,slow=8.5,SNR=13								
PTGA	**Pitinga**	**35.05**	**22**	*e*P			P	**04 26 55.5**	**-0.4**
	comp=N,16nm,1.1s								
ROSC	**El Rosal**	**38.68**	**357**	P			P	**04 27 29.5**	**+2.3**
	comp=N,3.7nm,0.6s,baz=118,slow=6.6,SNR=6.9								
ROSC				LR			LR	04 43 09.2	
	comp=N,97nm,18.5s,baz=203,slow=36								
SDV	**Santo Domingo**	**42.67**	**2**	*e*P			P	**04 28 00.2**	**+0.3**
	comp=N,13nm,1.3s								
VNA3	**Neumayer Olymp**	**49.45**	**158**	P			P	**04 28 51.2**	**-1.3**
VNA2	**Neumayer--Watz**	**50.11**	**157**	P			P	**04 28 58.2**	**+0.7**
SNAA	**Sanae**	**51.68**	**158**	P			P	**04 29 09.9**	**+0.5**
	comp=N,6.3nm,1.1s,baz=306,slow=7.7,SNR=12								
APG	**El Apazote**	**51.70**	**337**	P			P	04 29 06.4	-3.9
	comp=N,3.9nm,0.7s,baz=113,slow=4.8,SNR=8.1								
OBIP	**Obispado Ponce**	**52.02**	**7**	*e*P			P	**04 29 12.4**	**0.0**
CBYP	**Canovanas**	**52.33**	**8**	*e*P			P	**04 29 15.2**	**+0.4**
GTBY	**Guantanamo Bay**	**53.68**	**357**	*e*P			P	**04 29 23.5**	**-1.1**
QSPA	**South Pole Qui**	**56.25**	**180**	P			P	**04 29 43.5**	**+0.6**
	comp=N,7.8nm,0.9s,baz=126,slow=4.4,SNR=16								
ASCN	**Ascension**	**59.13**	**78**	*e*P			P	**04 30 04.1**	**+0.4**
VNDA	**Vanda**	**64.07**	**191**	*e*P			P	**04 30 37.1**	**+1.0**
VNDA	**Vanda**	**64.07**	**191**	P			P	**04 30 36.9**	**+0.8**
	comp=N,1.1nm,0.8s,baz=107,slow=3.3,SNR=5.2								
VNDA	**Vanda**	**64.07**	**191**	*e*P			P	**04 30 37.1**	**+1.0**
TBI	**Tubuai**	**67.11**	**257**	*e*LR			LR	04 51 27.6	
	comp=N,172nm,27.8s								
HKT	**Hockley**	**67.37**	**338**	*e*P			P	**04 30 57.3**	**-0.5**
HKT				pmax			pmax		
	comp=Z,8.0nm,1.3s								
HKT	**Hockley**	**67.37**	**338**	*e*P			P	**04 30 57.3**	**-0.5**
	comp=Z,8.4nm,1.3s								
GOGA	**Godfrey**	**67.86**	**350**	*e*P			P	**04 31 00.2**	**-0.7**
GOGA				pmax			pmax		
	comp=Z,4.0nm,0.8s								
GOGA	**Godfrey**	**67.86**	**350**	*e*P			P	**04 31 00.2**	**-0.7**
	comp=Z,3.7nm,0.8s								
LRAL	**Lakeview Retre**	**68.09**	**347**	*e*P			P	**04 31 02.7**	**+0.3**
	comp=Z,2.7nm,0.6s								
JCT	**Junction City**	**69.18**	**335**	*e*P			P	**04 31 10.1**	**+0.8**
JCT				pmax			pmax		
	comp=Z,9.0nm,0.8s								
JCT	**Junction City**	**69.18**	**335**	*e*P			P	**04 31 10.1**	**+0.8**
	comp=Z,9.5nm,0.8s								
KMSC	**Kings Mountain**	**69.29**	**352**	*e*P			P	**04 31 09.5**	**-0.3**
	comp=Z,5.7nm,0.9s								
TXAR	**Lajitas Array**	**69.62**	**331**	P			P	**04 31 13.1**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=154,slow=8.2,SNR=17								
TXAR				LR			LR	04 57 28.7	
	comp=Z,109nm,18.2s,baz=0.0,slow=32								
WHTX	**Lake Whitney,**	**69.78**	**337**	*e*P			P	**04 31 13.2**	**+0.3**
	comp=Z,8.9nm,0.7s								
PPT2	**Papeete2**	**70.02**	**262**	*e*S			S	**04 40 27.7**	**+3.7**
	comp=Z,92nm,25.5s								
PPT2	**Papeete2**	**70.02**	**262**	*e*LR			LR	04 52 55.6	
	comp=Z,112nm,25.8s								
SWET	**Sewanee**	**70.02**	**348**	*e*P			P	**04 31 14.2**	**-0.2**
	comp=Z,16nm,0.9s								
TKL	**Tuckaleechee C**	**70.11**	**350**	P			P	**04 31 14.3**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=164,slow=9.6,SNR=5.1								
MIAR	**Mount Ida**	**71.03**	**342**	*e*P			P	**04 31 21.6**	**+1.1**
MIAR				pmax			pmax		
	comp=Z,12nm,1.3s								
MIAR	**Mount Ida**	**71.03**	**342**	*e*P			P	**04 31 21.6**	**+1.1**
	comp=Z,12nm,1.3s								
ABTX	**Abilene, Hawle**	**71.08**	**336**	*e*P			P	**04 31 21.8**	**+1.0**
	comp=Z,9.8nm,0.8s								
WVT	**Waverly**	**71.25**	**347**	*e*P			P	**04 31 21.8**	**0.0**
WVT				pmax			pmax		
	comp=Z,21nm,0.9s								
WVT	**Waverly**	**71.25**	**347**	*e*P			P	**04 31 21.8**	**0.0**
	comp=Z,21nm,0.9s								
JSRW	**J. Sargeant Re**	**71.51**	**355**	*e*P			P	**04 31 24.1**	**+0.8**
MNTX	**Cornudas Mount**	**72.39**	**331**	*e*P			P	04 31 23.9	-4.9
	comp=Z,3.9nm,0.8s								
MNTX				*e*pP			pP	04 31 35.7	-2.0
WMOK	**Wichita Mounta**	**72.73**	**337**	*e*P			P	**04 31 30.1**	**-0.6**
WMOK				pmax			pmax		
	comp=Z,7.0nm,1.5s								
WMOK	**Wichita Mounta**	**72.73**	**337**	*e*P			P	**04 31 30.1**	**-0.6**
	comp=

	comp=Z,1.5nm,0.9s,baz=196,slow=3.4,SNR=4.3								
ARCES	**ARCESS Array B**	**124.10**		**25**	PKP	**PKPdf**	**04 38 59.6**	**-0.5**
	comp=Z,5.2nm,1.1s,baz=243,slow=4.0,SNR=4.2								
OBN	**Obninsk**	**127.58**		**43**	⇑*i*PKIKP	**PKPdf**	**04 39 07.3**	**+0.2**
OBN					pmax	pmax			
	comp=Z,8.0nm,0.6s								
KIV	**Kislovodsk**	**129.67**		**58**	*c i*PKIKP	**PKPdf**	**04 39 12.5**	**+0.9**
KIV					pmax	pmax			
	comp=Z,7.0nm,1.1s								
KBZ	**Khabaz**	**129.78**		**59**	PKP	**PKPdf**	**04 39 11.8**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=273,slow=5.7,SNR=3.6								
PRGR	**Permogore**	**132.44**		**35**	PKIKP	**PKPdf**	**04 39 15.2**	**-0.9**
PRGR					pmax	pmax			
	comp=Z,9.0nm,1.0s								
BILL	**Bilibino**	**132.73**	**334**	⇓	*e*PKIKP	**PKPdf**	**04 39 14.7**	**-1.9**
BILL					pmax	pmax			
	comp=Z,15nm,1.3s								
ARU	**Arti**	**139.88**		**41**	*e*PKIKP	**PKPdf**	**04 39 30.9**	**+0.8**
ARU	**Arti**	**139.88**		**41**	*e*PKPdf	**PKPdf**	**04 39 30.9**	**+0.8**
TIXI	**Tiksi**	**140.64**	**350**	*c i*	PKIKP	**PKPdf**	**04 39 33.5**	**+2.4**
TIXI					pmax	pmax			
	comp=Z,5.0nm,1.2s								
TIXI	**Tiksi**	**140.64**	**350**		*e*PKPdf	**PKPdf**	**04 39 31.6**	**+0.5**
ABKAR	**Akbulak array**	**141.85**		**52**	*e*PKPpre	PKPpre	04 39 29.0		
BVAR	**Borovoye Array**	**147.42**		**43**	PKPbc	**PKPdf**	**04 39 44.6**	**+1.1**
	comp=Z,7.2nm,0.7s,baz=286,slow=3.9,SNR=40								
YAK	**Yakutsk**	**148.65**	**340**		*e*PKP2	**PKPbc**	**04 39 47.6**	**-1.3**
YAK					pmax	pmax			
	comp=Z,12nm,1.0s								
YAK					pmax	pmax			
	comp=N,3.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,2.0nm,1.1s								
HYB	**Hyderabad**	**149.14**	**115**		*i* PKP	**PKPbc**	**04 39 50.5**	**-1.1**
KKAR	**Karatay Array**	**149.73**		**61**	*e*PKP2	**PKPbc**	**04 39 52.0**	**-0.3**
KKAR	**Karatay Array**	**149.73**		**61**	*e*PKPbc	**PKPbc**	**04 39 52.0**	**-0.3**
IPM	**Ipoh**	**149.99**	**167**		*e*PKPbc	**PKPbc**	**04 39 53.0**	**-0.8**
KULM	**Kulim**	**150.70**	**166**		*e*PKPbc	**PKPbc**	**04 39 54.7**	**-0.8**
KULM					*e*PKPab	**PKPab**	**04 40 02.7**	**+0.4**
EKS2	**Erkin-Say**	**152.17**		**62**	*e*PKIKP	**PKPdf**	**04 39 51.8**	**+0.3**
EKS2					*e*		04 39 58.8		
EKS2	**Erkin-Say**	**152.17**		**62**	*e*PKPdf	**PKPdf**	**04 39 51.8**	**+0.3**
EKS2					*e*PKPbc	**PKiKP**	**04 39 58.8**	**+0.3**
AAK	**Ala-Archa**	**152.70**		**62**	*c i*PKIKP	**PKPbc**	**04 40 00.4**	**+1.0**
AAK					pmax	pmax			
	comp=Z,32nm,1.2s								
AAK	**Ala-Archa**	**152.70**		**62**	*e*PKPdf	**PKPdf**	**04 39 52.5**	**+0.1**
AAK					*e*PKPbc	**PKiKP**	**04 40 00.2**	**+0.5**
AAK					*e*PKPab	**PKPab**	**04 40 10.6**	**+0.3**
KURBB	**Kurchatov Arra**	**153.01**		**43**	PKP	**PKPdf**	**04 39 51.8**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=305,slow=2.0,SNR=7.8								
KURBB					PKPbc	**PKiKP**	**04 39 59.9**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=299,slow=3.0,SNR=34								
KURBB					PKPab	**PKPab**	**04 40 10.3**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=295,slow=4.1,SNR=7.2								
KURK	**Kurchatov**	**153.02**		**43**	*e*PKIKP	**PKPdf**	**04 39 52.6**	**+0.3**
KURK					*e*		04 39 59.8		
KURK					*e*		04 40 10.7		
KURK	**Kurchatov**	**153.02**		**43**	*e*PKPdf	**PKPdf**	**04 39 52.6**	**+0.3**
KURK					*e*PKPbc	**PKiKP**	**04 39 59.8**	**0.0**
KURK					*e*PKPab	**PKPab**	**04 40 10.7**	**-0.4**
NVS	**Novosibirsk**	**153.05**		**32**	*e*PKIKP	**PKPdf**	**04 39 50.6**	**-1.6**
NVS					pmax	pmax			
	comp=N,3.0nm,1.1s								
NVS					pmax	pmax			
	comp=E,6.0nm,1.1s								
NVS					pmax	pmax			
	comp=Z,17nm,1.1s								
TKM2	**Tokmak 2**	**153.46**		**61**	*e*PKIKP	**PKPdf**	**04 39 53.3**	**-0.2**
TKM2					*e*		04 40 01.3		
TKM2					*e*		04 40 12.5		
TKM2	**Tokmak 2**	**153.46**		**61**	*e*PKPdf	**PKPdf**	**04 39 53.3**	**-0.2**
TKM2					*e*PKPbc	**PKiKP**	**04 40 01.3**	**0.0**
TKM2					*e*PKPab	**PKPab**	**04 40 12.5**	**-1.0**
KSH	**Kashi**	**154.07**		**68**	*e*PKPbc	**PKPbc**	**04 40 02.0**	**-0.5**
KSH					SKS	**SKSdf**	**04 47 00.3**	**+1.0**
KSH					PPMZ				
	comp=Z,160nm,4.3s								
KSH					LN				
	comp=Z,150nm,8.9s								
KSH					LE				
	comp=Z,140nm,6.5s								
KSH					LZ				
	comp=Z,120nm,5.5s								
ZALV	**Zalesovo Beam**	**154.33**		**32**	PKP	**PKPdf**	**04 39 54.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=267,slow=2.7,SNR=10								
ZALV					PKPbc	**PKiKP**	**04 40 02.6**	**+0.2**
	comp=Z,10.0nm,0.7s,baz=296,slow=3.1,SNR=38								
ZALV					PKPab	**PKPab**	**04 40 13.8**	**-2.8**
	comp=Z,6.2nm,0.7s,baz=313,slow=3.3,SNR=7.4								
BOD	**Bodaibo**	**155.79**	**352**		*e*PKIKP	PKPdf	04 40 07.0	+11	
BOD					*e*		04 40 22.2		
BOD					pmax	pmax			
	comp=Z,7.0nm,1.0s								
MKAR	**Makanchi Array**	**156.92**		**49**	PKP	**PKPdf**	**04 39 57.9**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=11,slow=1.2,SNR=8.9								
MKAR					PKPab	**PKPab**	**04 40 28.0**	**0.0**
	comp=Z,2.8nm,0.7s,baz=298,slow=4.2,SNR=18								
WMQ	**Urumqi**	**161.64**		**52**	*e*PKP	**PKPdf**	**04 40 03.0**	**-0.5**
WMQ					pPKP	**pPKPdf**	**04 40 13.0**	**+0.2**
WMQ					sPKP		04 40 17.0		
WMQ					PKPab	**PKPab**	**04 40 49.0**	**+0.4**
WMQ					PKS	**PKSdf**	**04 43 34.0**	**-2.6**
WMQ					PP	**PP**	**04 44 35.0**	**+2.6**
WMQ					SKS	**SKSdf**	**04 47 03.0**	**-3.4**
WMQ					SKKS	**SKKSac**	**04 51 18.0**	**-0.6**
WMQ					PPMZ				
	comp=Z,100nm,5.2s								
WMQ					LN				
	comp=Z,170nm,29.0s								
WMQ					LE				
	comp=Z,98nm,21.6s								
WMQ					LZ				
	comp=Z,150nm,23.6s								
CMAR	**Chiang Mai Arr**	**162.67**		**151**	PKP	**PKPdf**	**04 40 05.7**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=235,slow=2.9,SNR=5.8								
CMAR					PKPab	**PKPab**	**04 40 53.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=212,slow=3.1,SNR=2.6								
ULN	**Ulaanbaatar**	**166.13**		**2**	*e*PKP2	**PKPab**	**04 41 09.3**	**+1.1**
ULN	**Ulaanbaatar**	**166.13**		**2**	*e*PKPab	**PKPab**	**04 41 09.3**	**+1.1**
SONM	**Songino Array**	**166.13**		**4**	PKPab	**PKPab**	**04 41 08.2**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=339,slow=3.8,SNR=4.2								
GTA	**Gaotai**	**171.68**		**47**	*e*PKP	**PKPdf**	**04 40 10.2**	**-1.1**
GTA					pPKP	**pPKPdf**	**04 40 21.0**	**+0.3**
GTA					sPKP		04 40 24.6		
GTA					PKPab	**PKPab**	**04 41 34.0**	**+0.9**
HHC	**Hu-ho-hao-te**	**172.49**	**337**		*e*PKP	**PKPdf**	**04 40 11.8**	**+0.2**
HHC					pPKP	**pPKPdf**	**04 40 21.5**	**+0.5**
HHC					PP	**PP**	**04 45 30.8**	**+3.4**
HHC					SKKS		04 52 13.7		
HHC					SS	**SS**	**05 06 36.5**	**0.0**
HHC					PPMZ				
	comp=Z,95nm,10.0s								
HHC					LN				
	comp=Z,340nm,16.2s								
HHC					LE				
	comp=Z,300nm,16.2s								
HHC					LZ				
	comp=Z,190nm,16.2s								
CD2	**Chengdu**	**175.47**	**132**		PKP	**PKPdf**	**04 40 12.0**	**-0.9**
LZH	**Lanzhou**	**176.21**		**55**	*e*PKP	**PKPdf**	**04 40 12.4**	**-0.7**
LZH					pPKP	**pPKPdf**	**04 40 23.2**	**+0.7**
LZH					sPKP		04 40 26.5		

*IDC **03** 04:44:56.2±3.0, 33.99S×73.10W, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.3/32, mbtmp3.3/4, ML3.7/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/15, Error ellipse: s-maj=58.6km s-min=23.9km az=94.0*

*ISCJB **03** 04:45:00.2±1.6, 34.01S±0.04×72.43W±0.08, h16km±11km, mb3.4/1, Error ellipse: s-maj=11.7km s-min=6.0km az=17.8*

*GUC **03** 04:45:02.0±0.6, 34.02S×72.31W, h28km±2km, ML3.5*

ISC 03 04:45:01.3±2.3, 34.02S±0.05×72.32W±0.09, h15km±13km, n15, σ0.957/24, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.76**	**86**	⇓	*i*P	**Pg**	**04 45 16.1**		**+0.1**
LNV					*i* S	**Sb**	**04 45 26.3**		**0.0**
NICH	**Los Niches**	**1.33**	**138**	⇑	*i*P	**Pn**	**04 45 25.1**		**-0.3**
NICH					*i* S	**Sb**	**04 45 42.5**		**-0.5**
CHCH	**Chadas Angostu**	**1.39**	**87**	⇑	*i*P	**Pn**	**04 45 25.9**		**-0.3**
CACH	**El Canelo**	**1.43**	**95**	⇓	*i*P	**Pn**	**04 45 27.0**		**+0.1**
TALC	**Talca**	**1.49**	**158**	⇑	*i*P	**Pn**	**04 45 27.5**		**-0.1**
TALC					*i* S	**Sn**	**04 45 46.5**		**-0.3**
ROCH	**El Roble**	**1.51**	**47**		*e*P	**Pn**	**04 45 28.1**		**+0.1**
ROCH					*e*S	**Sb**	**04 45 48.5**		**+0.3**
ROCH					AML	AML	04 46 04.5		
	comp=N,1μm,0.6s								
CLCH	**Cerro Calan**	**1.61**	**68**	⇑	*i*P	**Pn**	**04 45 29.5**		**+0.2**
CLCH					*i* S	**Sn**	**04 45 50.3**		**+0.5**
CLCH					AML	AML	04 45 56.7		
	comp=E,779nm,0.5s								
PEL	**Peldehue**	**1.62**	**58**	⇓	*i*P	**Pn**	**04 45 29.9**		**+0.5**
PEL					*i* S	**Sn**	**04 45 50.5**		**+0.5**
PEL					AML	AML	04 45 59.0		
	comp=E,2μm,0.5s								
SJCH	**San Jose de Ma**	**1.68**	**78**		*e*P	**Pn**	**04 45 29.5**		**-0.7**
SJCH					*i* S	**Sn**	**04 45 51.7**		**+0.2**
YECH	**El Yeso**	**1.89**	**80**		*e*P	**Pn**	**04 45 34.4**		**+1.0**
YECH					*i* S	**Sb**	**04 45 58.8**		**-0.5**
LNCH	**Linares**	**1.92**	**162**	⇑	*i*P	**Pn**	**04 45 34.1**		**+0.6**
LNCH					*i* S	**Sn**	**04 45 58.5**		**+1.2**
CFAA	**Coronel Fontan**	**4.19**	**56**		Pn	Pn	04 46 09.5		+4.7
	baz=241,slow=12								
CFAA					Sn	**Sb**	**04 47 05.6**		**+0.3**
	comp=E,0.3nm,0.3s,baz=9.3,slow=13,SNR=6.5								
CFAA					LR	LR	04 47 44.6		
	comp=E,12nm,19.5s,baz=284,slow=36								
PLCA	**Paso Flores**	**6.85**	**169**		Pn	**Pn**	**04 46 41.8**		**+0.4**
	comp=E,0.5nm,0.3s,baz=346,slow=14,SNR=16								
PLCA					Lg	Lg	04 48 38.7		
	comp=E,0.1nm,0.3s,baz=280,slow=18,SNR=2.9								
LPAZ	**La Paz**	**18.05**	**13**		P	**Pn**	**04 49 11.2**		**-1.1**
	comp=E,0.0nm,0.3s,baz=198,slow=13,SNR=2.6								
TORD	**Torodi Ar. Bea**	**84.43**	**70**		P	**P**	**04 57 33.5**		**-0.2**
	comp=E,0.3nm,0.9s,baz=235,slow=5.1,SNR=4.5								

*ISCJB **03** 04:45:07.9±1.4, 28.20S±0.1×177.3W±0.2, h49km, mb3.9/6, MS3.3/4, Error ellipse: s-maj=31.0km s-min=15.0km az=174.9*

*IDC **03** 04:45:07.6±7.5, 27.95S×177.15W, h34km±55km, mb3.7/6, mb1 3.9/7, mb1mx3.7/29, mbtmp3.9/7, ML3.5/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/26, Error ellipse: s-maj=40.0km s-min=23.8km az=62.0*

ISC 03 04:45:08.9±1.0, 28.0S±0.1×177.2W±0.2, h49km, n19, σ1.926/15, mb3.9/6, MS3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.42**	**207**		Pn	**Pn**	**04 45 32.1**		**-0.1**
	639nm,0.3s,baz=113,slow=7.6,SNR=50								
RAO					Sn	**Sn**	**04 45 50.9**		**+1.2**
	3μm,0.3s,baz=84,slow=22,SNR=32								
URZ	**Urewera**	**11.30**	**204**		Pn	**Pn**	**04 47 46.0**		**-1.7**
	0.3nm,0.3s,baz=268,slow=7.2,SNR=5.0								
URZ					Sn	Sn	04 49 43.8		-8.7
	2.0nm,0.3s,baz=325,slow=22,SNR=11								
DZM	**Mont Dzumac**	**15.97**	**288**		*e*LR	LR	04 52 27.3		
	322nm,25.1s								
DZM	**Mont Dzumac**	**15.97**	**288**		LR	LR	04 53 38.7		
	comp=Z,206nm,21.9s,baz=213,slow=32								
TBI	**Tubuai**	**25.37**	**86**		*e*LR	LR	04 56 44.9		
	153nm,26.2s								
PPT2	**Papeete2**	**27.41**	**74**		*e*LR	LR	04 57 36.5		
	130nm,25.2s								
PPT	**Papeete**	**27.42**	**74**		LR	LR	05 00 22.1		
	comp=Z,44nm,18.9s,baz=184,slow=33								
HNR	**Honiara**	**28.37**	**306**		LR	LR	05 01 49.0		
	comp=Z,67nm,18.2s,baz=122,slow=35								
CTA	**Charters Tower**	**34.22**	**275**		P	**P**	**04 51 49.5**		**-0.5**
	3.1nm,0.4s,baz=30,slow=20,SNR=6.5								
ASAR	**Alice Springs**	**44.02**	**264**		P	**P**	**04 53 12.2**		**+0.3**
	0.8nm,0.9s,baz=93,slow=6.8,SNR=5.6								
ASAR					LR	LR	05 09 59.8		
	comp=Z,60nm,20.5s,baz=118,slow=34								
WRA	**Warramunga Arr**	**44.79**	**269**		P	**P**	**04 53 17.8**		**-0.3**
	0.3nm,0.2s,baz=106,slow=8.0,SNR=4.5								
VNDA	**Vanda**	**50.55**	**186**		P	**P**	**04 54 03.8**		**+1.8**
	0.4nm,0.9s,baz=20,slow=5.7,SNR=2.8								
QSPA	**South Pole Qui**	**62.11**	**180**		P	**P**	**04 55 24.4**		**-0.2**
	1.5nm,0.9s,baz=70,slow=1.5,SNR=7.0								
MJAR	**Matsushiro Arr**	**76.70**	**324**		P	**P**	**04 56 56.6**		**+1.8**
	1.1nm,0.4s,baz=151,slow=6.0,SNR=3.2								
MJAR					LR	LR	05 24 45.9		
	comp=Z,25nm,21.9s,baz=205,slow=31								
FINES	**FINESS Array B**	**143.12**	**342**		PKhKP	PKPpre	05 04 30.1		
	0.6nm,0.6s,baz=64,slow=4.4,SNR=4.3								
FINES					PKP	**PKPdf**	**05 04 35.6**		**-1.1**
	0.5nm,0.5s,baz=98,slow=2.7,SNR=3.6								
NB2	**NORSAR Subarra**	**146.48**	**353**		PKP	**PKPbc**	**05 04 42.8**		**-1.3**
	comp=Z,5.3nm,1.2s,baz=7.1,slow=3.8								
NOA	**NORSAR Array B**	**146.48**	**353**		PKPbc	**PKPbc**	**05 04 42.8**		**-1.3**
	comp=Z,1.1nm,0.9s,baz=35,slow=1.5,SNR=4.1								
HFS	**Hagfors**	**147.02**	**350**		PKPbc	**PKPbc**	**05 04 44.1**		**-1.5**
	comp=Z,1.5nm,0.7s,baz=42,slow=3.0,SNR=7.8								
AKASG	**Malin Array Be**	**149.77**	**326**		PKPbc	**PKPbc**	**05 04 52.6**		**-0.4**
	comp=Z,1.5nm,0.7s,baz=42,slow=3.0,SNR=7.8								
AKASG					PKPab	**PKPab**	**05 04 59.5**		**+1.0**
	comp=Z,0.7nm,0.5s,baz=43,slow=3.3,SNR=7.4								

*KRNET **03** 04:53:46.4±0.1, 39.73N×76.07E, h2km, mb3.7*

ISC 03 04:53:48.9±3.8, 39.8N±0.1×75.96E±0.09, h1km±23km, n13, σ1.925/21, 10C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.60**	**1**		*i* P	**Pn**	**04 54 17.9**		**-0.8**
	baz=358								
NRN					*e*S	**Sn**	**04 54 39.3**		**-0.9**
	baz=358								
SALK	**Salom-Alik**	**1.94**	**303**		*e*P	**Pb**	**04 54 24.2**		**-1.0**
	baz=304								
SALK					*e*S	**Sg**	**04 54 52.0**		**+0.7**
	baz=304								
KZA	**Kyzart**	**2.31**	**347**		P	**Pn**	**04 54 29.3**		**+0.8**
	SNR=16								
KZA	**Kyzart**	**2.31**	**347**	⇑	*i*P	**Pn**	**04 54 29.2**		**+0.7**
	baz=345								
KZA				⇑	*i*S	**Sb**	**04 55 02.5**		**+1.7**
	baz=345								
ARLS	**Aral**	**2.38**	**329**	⇓	*i*P	**Pb**	**04 54 31.5**		**-1.2**
	baz=329								
ARLS				⇓	*e*S	**Sb**	**04 55 02.4**		**-0.2**
	baz=329								
ULHL	**Ulahol**	**2.42**	**5**		P	**Pb**	**04 54 32.8**		**-0.7**
	SNR=7.8								
ULHL	**Ulahol**	**2.42**	**5**	⇑	*i*P	**Pb**	**04 54 31.9**		**-1.5**
	baz=3.0								
ULHL				⇑	*i*S	**Sb**	**04 55 05.3**		**+1.4**
	baz=3.0								
UCH	**Uchtor**	**2.63**	**336**		P	**Pn**	**04 54 34.3**		**+1.3**
	SNR=8.7								
UCH	**Uchtor**	**2.63**	**336**	⇑	*i*P	**Pn**	**04 54 34.1**		**+1.1**
	baz=335								
UCH				⇑	*i*S	**Sb**	**04 55 09.7**		**-0.5**
	baz=335								
AML	**Almayashu**	**2.87**	**324**		P	**Pn**	**04 54 37.3**		**+1.1**
	SNR=8.5								
AML	**Almayashu**	**2.87**	**324**	⇑	*i*P	**Pn**	**04 54 36.9**		**+0.7**
	baz=324								
AML				⇑	*i*S	**Sb**	**04 55 16.5**		**-0.4**
	baz=324								
AAK	**Ala-Archa**	**3.01**	**339**	⇑	*i*P	**Pn**	**04 54 39.5**		**+1.6**
	baz=338								
AAK				⇑	*i*S	**Sb**	**04 55 19.6**		**-1.1**
	baz=338								
TKM2	**Tokmak 2**	**3.10**	**355**		P	**Pn**	**04 54 41.3**		**+2.1**
	SNR=9.8								

GUC 03 04:57:52.5±0.6, 36.30S×73.06W, h31km±2km, ML3.6, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.28**	**52**	⇑	*i*P	Pb	04 57 60.0		+0.2
COCH					*i* S	Sb	04 58 04.6		-0.1
COCH					AML	AML	04 58 05.5		
	comp=E,11μm,0.5s								
CCSP	**San Pedro de C**	**0.54**	**184**	⇑	*i*P	Pb	04 58 03.3		-0.3
CCSP					*i* S	Sb	04 58 11.1		-0.1
CCSP					AML	AML	04 58 12.0		
	comp=E,7μm,0.6s								
LNCH	**Linares**	**1.27**	**69**	⇑	*i*P	Pn	04 58 14.7		+0.6
LNCH					*e*S	Sb	04 58 31.5		-0.3
TALC	**Talca**	**1.47**	**52**	⇓	*i*P	Pn	04 58 17.4		+0.5
TALC					*i* S	Sb	04 58 36.9		-0.6
NICH	**Los Niches**	**1.98**	**50**		*e*P	Pn	04 58 25.2		+1.4
NICH					*e*S	Sb	04 58 50.0		-2.1
CLCH	**Cerro Calan**	**3.57**	**36**		*e*P	Pn	04 58 47.4		+1.6

*ISCJB **03** 05:02:18.8±0.9, 15.44S±0.06×167.7E±0.1, h100km, mb4.3/11, Error ellipse: s-maj=16.5km s-min=8.1km az=173.8*

*IDC **03** 05:02:22.0±6.4, 15.55S×167.79E, h120km±63km, mb3.9/7, mb1 4.2/8, mb1mx3.7/34, mbtmp4.4/8, Error ellipse: s-maj=52.2km s-min=27.7km az=169.0*

*NEIC **03** 05:02:22.3±2.4, 15.43S×167.75E, h120km±21km, mb4.6/8, Error ellipse: s-maj=18.8km s-min=13.8km az=186.0*

ISC 03 05:02:20.4±1.1, 15.44S±0.08×167.8E±0.2, h100km, n31, σ1.941/33, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.72**	**191**		P	**Pn**	**05 03 58.5**		**+1.9**
	18nm,0.3s,baz=42,slow=8.7,SNR=345								
DZM					S	**Sn**	**05 05 10.1**		**-1.6**
	6.8nm,0.3s,baz=146,slow=22,SNR=6.6								
DZM	**Mont Dzumac**	**6.72**	**191**		*e*Pn	**Pn**	**05 03 58.5**		**+1.9**
	40nm,0.3s								
DZM					*e*Sn	**Sn**	**05 05 11.8**		**+0.1**
BAYA	**Yate Dam**	**6.74**	**187**		*e*P	**Pn**	**05 03 59.0**		**+2.3**
BAYA					*e*S	**Sn**	**05 05 09.2**		**-2.7**
NOUC	**Port Laguerre**	**6.78**	**192**		*e*P	**Pn**	**05 04 00.3**		**+3.1**
NOUC					*e*S	**Sn**	**05 05 09.4**		**-3.5**
EIDS	**Eidsvold**	**18.50**	**235**		P	**Pn**	**05 06 30.9**		**+0.8**
	baz=17,SNR=6.4								
EIDS	**Eidsvold**	**18.50**	**235**		*e*P	**P**	**05 06 30.6**		**+1.8**
	16nm,0.6s								
RMQ	**Roma**	**20.86**	**235**		P	**P**	**05 06 56.2**		**+1.7**
	baz=20,SNR=5.3								
CTA	**Charters Tower**	**21.02**	**254**		P	**P**	**05 06 56.5**		**+0.4**
	3.8nm,0.5s,baz=80,slow=15,SNR=3.9								
ARMA	**Armidale**	**21.03**	**222**		*e*P	**P**	**05 06 57.0**		**+0.8**
	42nm,1.5s								
QLP	**Quilpie**	**24.58**	**239**		P	**P**	**05 07 31.6**		**+0.4**
	baz=23,SNR=25								
KHZ	**Kahutara**	**27.34**	**171**		*e*P	**P**	**05 07 55.5**		**-0.4**
	28nm,1.1s								
WB2	**Warramunga Arr**	**32.13**	**257**		*e*P	**P**	**05 08 37.5**		**-1.2**
WRAB	**Tennant Creek**	**32.13**	**257**		*e*P	P	05 08 37.2		-1.5
	4.5nm,0.8s								
WRA	**Warramunga Arr**	**32.15**	**257**		P	**P**	**05 08 37.7**		**-1.1**
	3.2nm,0.6s,baz=86,slow=8.9,SNR=36								
AS31	**Alice Springs**	**32.90**	**250**		*e*P	**P**	**05 08 44.2**		**-1.1**
ASAR	**Alice Springs**	**32.90**	**250**		P	**P**	**05 08 44.4**		**-0.9**
	6.6nm,0.4s,baz=80,slow=8.7,SNR=123								
BBOO	**Buckleboo**	**33.55**	**233**		P	**P**	**05 08 51.0**		**+0.2**
	baz=32,SNR=11								
KDU	**Kakadu**	**34.34**	**270**		P	**P**	**05 08 57.3**		**-0.5**
	baz=34,SNR=3.7								
KNRA	**Kununurra**	**37.56**	**264**		P	**P**	**05 09 24.6**		**-0.7**
	baz=37,SNR=11								
WRKA	**Warakurna**	**38.15**	**249**		P	**P**	**05 09 29.6**		**-0.7**
	baz=37,SNR=11								
FORT	**Forrest**	**39.37**	**240**		*e*P	**P**	**05 09 40.0**		**-0.3**
	40nm,0.8s								
MBWA	**Marble Bar**	**45.84**	**255**		*e*P	**P**	**05 10 32.5**		**-0.4**
	7.3nm,0.8s								
MEEK	**Meekatharra**	**46.98**	**248**		P	**P**	**05 10 41.3**		**-0.4**
	baz=46,SNR=4.3								
MORW	**Morawa**	**49.42**	**245**		P	**P**	**05 11 00.0**		**-0.3**
	baz=48,SNR=3.7								
QSPA	**South Pole Qui**	**74.59**	**180**		*e*P	**P**	**05 13 48.2**		**-0.2**
	3.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**75.69**	**294**		P	**P**	**05 13 55.9**		**+0.5**
	1.4nm,0.3s,baz=116,slow=4.1,SNR=2.6								
SONM	**Songino Array**	**83.36**	**323**		P	**P**	**05 14 35.7**		**-0.8**
	0.5nm,0.4s,baz=177,slow=5.5,SNR=3.0								
ILAR	**Eielson Array**	**87.04**	**18**		P	P	05 14 53.0		-1.3
	1.1nm,1.1s,baz=237,slow=5.2,SNR=9.1								
MKAR	**Makanchi Array**	**98.06**	**316**		P	**P**	**05 15 45.8**		**+0.1**
	0.7nm,1.1s,baz=90,slow=2.9,SNR=3.5								
ARCES	**ARCESS Array B**	**121.06**	**345**		PKP	**PKPdf**	**05 21 00.1**		**-0.6**
	3.1nm,0.9s,baz=57,slow=1.9,SNR=13								
FINES	**FINESS Array B**	**126.56**	**338**		PKP	**PKPdf**	**05 21 11.7**		**+0.2**
	1.2nm,1.0s,baz=345,slow=1.6,SNR=3.9								

*BKK **03** 05:04:22.4±1.1, 27.N±7×10.0E±1

UTHA				S	Sn	05 09 41.5	+50	
TAPN	**Taplejung**	**9.81**	**287**	*e*P	**Pn**	**05 07 16.4**	**+1.2**	
	27nm,0.7s							
ODAN	**Odare**	**9.99**	**284**	*e*P	**Pn**	**05 07 18.9**	**+1.2**	
	32nm,0.7s							
RAMN	**Ramite**	**10.71**	**284**	*e*P	**Pn**	**05 07 28.1**	**+0.7**	
	25nm,0.6s							
JIRN	**Jiri**	**11.19**	**287**	*e*P	**Pn**	**05 07 34.7**	**+0.5**	
	12nm,0.4s							
GUN	**Gumba**	**11.51**	**288**	*e*P	**Pn**	**05 07 38.2**	**-0.4**	
	18nm,0.6s							
PKI	**Pulchoki**	**11.86**	**286**	*e*P	**Pn**	**05 07 42.6**	**-0.6**	
	9.6nm,0.5s							
PKIN	**Pulchoki**	**11.87**	**286**	*e*P	**Pn**	**05 07 42.5**	**-0.8**	
	7.2nm,0.4s							
DMN	**Daman**	**12.13**	**286**	*e*P	**Pn**	**05 07 45.8**	**-1.1**	
GKN	**Gorkha**	**12.61**	**288**	*e*P	**Pn**	**05 07 52.6**	**-0.8**	
	15nm,0.5s							
DANN	**Dangsing**	**13.44**	**288**	*e*P	**Pn**	**05 08 02.4**	**-2.4**	
KOLN	**Koldanda**	**13.47**	**286**	*e*P	**Pn**	**05 08 03.3**	**-1.9**	
PYUN	**Piuthan**	**14.06**	**287**	*e*P	**Pn**	**05 08 10.3**	**-2.9**	
	19nm,0.6s							
WMQ	**Urumqi**	**20.84**	**338**	*e*P	**P**	**05 09 34.0**	**-1.6**	
WMQ				PP	**PnPn**	**05 09 56.0**	**+2.0**	
WMQ				*e*S	**S**	**05 13 21.0**	**-6.6**	
WMQ				PMZ				
	11nm,0.4s							
WMQ				LN				
	370nm,7.4s							
WMQ				LE				
	260nm,9.2s							
WMQ				LZ				
	280nm,5.5s							
SONM	**Songino Array**	**23.87**	**14**	P	**P**	**05 10 07.0**	**-0.3**	
	0.5nm,0.5s,baz=188,slow=7.5,SNR=3.6							
MKAR	**Makanchi Array**	**25.38**	**334**	P	**P**	**05 10 22.2**	**+1.3**	
	1.0nm,0.8s,baz=140,slow=10,SNR=10.0							
AAK	**Ala-Archa**	**26.44**	**318**	LR	LR	05 22 52.4		
	comp=Z,50nm,18.6s,baz=278,slow=41							
KSRS	**Korea Array**	**28.23**	**56**	LR	LR	05 23 08.7		
	comp=Z,25nm,18.9s,baz=70,slow=39							
ASAJ	**Asahikawa**	**40.75**	**50**	P	**P**	**05 12 34.0**	**-0.8**	
	6.8nm,0.6s,baz=265,slow=11,SNR=8.7							
JAY	**Jayapura**	**49.33**	**117**	LR	LR	05 35 03.3		
	comp=Z,35nm,19.3s,baz=170,slow=37							
WRA	**Warramunga Arr**	**56.67**	**138**	P	**P**	**05 14 38.4**	**+1.1**	
	1.0nm,0.8s,baz=327,slow=7.5,SNR=3.8							
ASAR	**Alice Springs**	**59.30**	**142**	P	P	05 14 59.4	+3.6	
	0.5nm,0.9s,baz=321,slow=7.2,SNR=3.3							
ASAR				LR	LR	05 43 23.7		
	comp=Z,52nm,18.9s,baz=114,slow=39							
YKA	**Yellowknife Ar**	**89.14**	**15**	P	**P**	**05 17 48.1**	**-0.9**	
	0.1nm,0.5s,baz=311,slow=4.7,SNR=3.4							

WEL 03 05:14:21.4±0.1, 39°04'S×177°52'E, h30km±1km, ML3.5/23, 9C-5D, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNZ	**Kokohu**	**0.12**	**81**	⇑P*	Pb	05 14 26.6	-0.4
KNZ				S*	Sb	05 14 30.7	0.0
WHHZ	**Waihua**	**0.23**	**260**	⇑P*	Pb	05 14 27.2	-0.8
WHHZ				S*	Sb	05 14 32.7	+0.2
SNGZ	**Shannon Statio**	**0.29**	**331**	⇑P*	Pb	05 14 28.1	-0.8
SNGZ				S*	Sb	05 14 33.8	-0.2
PRGZ	**Paritu Road**	**0.30**	**68**	⇑P*	Pb	05 14 29.3	+0.2
PRGZ				S*	Sb	05 14 36.8	+1.4
MHXZ	**Mahia Peninsul**	**0.32**	**111**	⇑P*	Pn	05 14 29.7	-0.3
RAHZ	**Arahi**	**0.36**	**290**	⇑P*	Pb	05 14 29.0	-0.8
RAHZ				S*	Sb	05 14 35.5	0.0
RIGZ	**Rimuhau**	**0.38**	**30**	⇓P*	Pb	05 14 30.1	-0.1
ARHZ	**Aropaoanui**	**0.47**	**241**	⇑P*	Pb	05 14 31.0	-0.4
TKGZ	**Te Karaka**	**0.65**	**23**	PN	Pb	05 14 34.0	-0.4
MWZ	**Matawai**	**0.70**	**0**	⇓PN	Pb	05 14 34.4	-0.9
MWZ					AML	05 14 45.7	
MWZ					AML	05 14 45.8	
MWZ					AML	05 14 46.4	
MWZ					AML	05 14 46.4	
CKHZ	**Cape Kidnapper**	**0.71**	**209**	⇑PN	Pb	05 14 34.8	-0.5
MCHZ	**McNeill Hill**	**0.76**	**237**	⇓PN	Pn	05 14 35.6	-0.5
CNGZ	**Carnagh Statio**	**0.77**	**44**	PN	Pn	05 14 35.6	-0.6
BKZ	**Black Stump Fm**	**0.81**	**261**	PN	Pn	05 14 35.9	-0.9
BKZ					AML	05 14 48.4	
BKZ					AML	05 14 48.9	
URZ	**Urewera**	**0.84**	**337**	PN	Pn	05 14 36.3	-0.9
URZ					AML	05 14 49.3	
URZ					AML	05 14 49.6	
KAHZ	**Kahuranaki**	**0.91**	**213**	PN	Pn	05 14 37.4	-0.8
TWGZ	**Tauwhareparae**	**0.93**	**23**	⇓PN	Pn	05 14 38.0	-0.5
PRRZ	**Plateau Road**	**1.03**	**301**	PN	Pn	05 14 40.0	+0.1
ALRZ	**Allen Road**	**1.03**	**297**	PN	Pn	05 14 39.5	-0.5
RRRZ	**Republican Roa**	**1.05**	**311**	PN	Pn	05 14 39.4	-0.8
KRHZ	**Kereru**	**1.08**	**236**	PN	Pn	05 14 39.4	-1.2
EDRZ	**Edgecumbe**	**1.11**	**326**	PN	Pn	05 14 40.8	-0.3
EDRZ					AML	05 15 00.0	
EDRZ					AML	05 15 03.8	
PXZ	**Pawanui**	**1.11**	**207**	PN	Pn	05 14 39.2	-1.8
PXZ					AML	05 15 06.0	
PXZ					AML	05 15 06.0	
PXZ					AML	05 15 12.3	
PXZ					AML	05 15 12.3	
PUZ	**Puketiti**	**1.12**	**31**	PN	Pn	05 14 40.0	-1.2
PUZ					AML	05 14 57.7	
PUZ					AML	05 15 14.8	
TARZ	**Mount Tarawera**	**1.13**	**315**	PN	Pn	05 14 40.8	-0.5
HRRZ	**Handcock Road**	**1.16**	**303**	PN	Pn	05 14 41.1	-0.6
WPRZ	**Whakapapaterin**	**1.18**	**296**	PN	Pn	05 14 41.5	-0.4
BHHZ	**Black Hill Sta**	**1.22**	**248**	⇓PN	Pn	05 14 41.6	-0.9
MKRZ	**Makatiti**	**1.22**	**317**	PN	Pn	05 14 42.9	+0.5
MKRZ					AML	05 14 50.2	
MKRZ					AML	05 14 52.6	
OMRZ	**Omania**	**1.29**	**316**	PN	Pn	05 14 42.7	-0.8
RITZ	**Rihia Road**	**1.30**	**272**	PN	Pn	05 14 43.9	+0.4
RITZ					AML	05 15 03.7	
RITZ					AML	05 15 12.6	
HAZ	**Te Kaha**	**1.30**	**9**	PN	Pn	05 14 42.9	-0.6
WPHZ	**Waipukurau**	**1.32**	**219**	PN	Pn	05 14 42.4	-1.4
PNHZ	**Pukenui**	**1.34**	**229**	PN	Pn	05 14 42.7	-1.5
RATZ	**Rangitukua**	**1.37**	**277**	PN	Pn	05 14 44.6	0.0
RATZ					AML	05 15 10.2	
RATZ					AML	05 15 12.1	
PRHZ	**Porangahau**	**1.40**	**209**	⇑PN	Pn	05 14 43.1	-1.9
WMGZ	**Waiomatatini S**	**1.41**	**30**	PN	Pn	05 14 44.0	-1.0
OPRZ	**Ohinepanea**	**1.41**	**327**	PN	Pn	05 14 43.9	-1.1
MOVZ	**Moawhango**	**1.42**	**254**	PN	Pn	05 14 45.1	-0.2
MOVZ					AML	05 15 05.7	
MOVZ					AML	05 15 06.6	
KATZ	**Kakaramea**	**1.42**	**272**	PN	Pn	05 14 44.8	-0.6
KATZ					AML	05 15 09.5	
KATZ					AML	05 15 10.1	
OTVZ	**Oturere**	**1.45**	**264**	PN	Pn	05 14 46.1	+0.3
OTVZ					AML	05 15 13.0	
OTVZ					AML	05 15 18.7	
KRVZ	**Karewarewa**	**1.46**	**267**	PN	Pn	05 14 45.2	-0.8
KRVZ					AML	05 15 10.0	
KRVZ					AML	05 15 10.1	
TUVZ	**Tukino**	**1.47**	**260**	PN	Pn	05 14 46.8	+0.8
TUVZ					AML	05 15 10.1	
NGZ	**Ngauruhoe**	**1.50**	**264**	PN	Pn	05 14 46.7	+0.3
NGZ					AML	05 15 15.2	
NGZ					AML	05 15 17.3	
WTVZ	**West Tongariro**	**1.50**	**266**	PN	Pn	05 14 46.8	+0.3
WTVZ					AML	05 15 15.5	
WTVZ					AML	05 15 20.7	
WHVZ	**Whangaehu Hut**	**1.52**	**260**	PN	Pn	05 14 47.4	+0.5
WNVZ	**Wahianoa**	**1.52**	**258**	PN	Pn	05 14 47.0	+0.2
WNVZ					AML	05 15 13.0	
WNVZ					AML	05 15 24.5	
WPVZ	**Whakapapa**	**1.54**	**263**	PN	Pn	05 14 47.6	+0.5
WPVZ					AML	05 15 12.4	
WPVZ					AML	05 15 13.7	
FWVZ	**Far West T-bar**	**1.55**	**261**	PN	Pn	05 14 47.3	+0.1
FWVZ					AML	05 15 11.5	
FWVZ					AML	05 15 12.9	
TRVZ	**Turoa**	**1.56**	**260**	PN	Pn	05 14 47.8	+0.5
TRVZ					AML	05 15 17.7	
TRVZ					AML	05 15 18.0	
TSZ	**Takapari Road**	**1.58**	**229**	PN	Pn	05 14 45.5	-1.9
TSZ					AML	05 15 06.2	
MXZ	**Matakaoa Point**	**1.60**	**23**	PN	Pn	05 14 47.0	-0.6
TWVZ	**Taurewa**	**1.62**	**268**	PN	Pn	05 14 47.8	-0.3
MTVZ	**Mangateitei**	**1.63**	**257**	AML	AML	05 15 17.6	
MTVZ					AML	05 15 20.5	
DVHZ	**Dannevirke**	**1.64**	**219**	PN	Pn	05 14 46.4	-1.8
BFZ	**Birch Farm**	**1.91**	**210**	PN	Pn	05 14 49.3	-2.7
PRWZ	**Pori Road**	**1.93**	**218**	PN	Pn	05 14 50.5	-1.7
WAZ	**Wanganui**	**2.09**	**249**	PN	Pn	05 14 55.4	+1.0
MRZ	**Mangatainoka R**	**2.20**	**222**	PN	Pn	05 14 53.9	-2.1
MRZ					AML	05 15 21.6	
MRZ					AML	05 15 22.0	
KIW	**Kapiti Island**	**2.71**	**227**	PN	Pn	05 15 00.2	-2.7
CAW	**Cannon Point**	**2.79**	**222**	PN	Pn	05 15 01.3	-2.8
DUWZ	**D'Urville Isla**	**3.28**	**236**	PN	Pn	05 15 08.2	-2.6
NNZ	**Nelson**	**3.85**	**234**	PN	Pn	05 15 15.9	-2.6
THZ	**Tophouse**	**4.45**	**231**	PN	Pn	05 15 23.6	-3.4

IDC 03 05:16:01.9±10.0, 26°92'S×174°97'W, h359km±103km, mb3.3/6, mb1 3.7/6, mb1mx3.4/23, mbtmp3.9/6, Error ellipse: s-maj=128.8km s-min=30.2km az=163.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.09**	**262**	P	P	05 23 53.1	+1.5
	0.4nm,0.6s,baz=96,slow=6.6,SNR=7.1						
WRA	**Warramunga Arr**	**46.77**	**267**	P	P	05 23 55.3	-1.7
	1.7nm,0.7s,baz=102,slow=8.1,SNR=12						
NVAR	**Mina Array Bea**	**83.89**	**41**	P	P	05 27 53.9	+1.5
	0.6nm,0.7s,baz=224,slow=10,SNR=4.3						
TXAR	**Lajitas Array**	**88.26**	**56**	P	P	05 28 12.6	-1.0
	0.3nm,0.9s,baz=221,slow=6.7,SNR=2.9						
ILAR	**Eielson Array**	**93.97**	**12**	P	P	05 28 39.2	+0.1
	1.1nm,1.1s,baz=224,slow=5.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**94.81**	**288**	P	P	05 28 44.6	+0.6
	0.9nm,0.4s,baz=121,slow=2.9,SNR=8.5						
AKASG	**Malin Array Be**	**149.94**	**329**	PKPbc	PKPbc	05 35 07.6	-2.3
	1.1nm,0.7s,baz=39,slow=4.2,SNR=6.6						
BRTR	**Keskin Array B**	**153.02**	**305**	PKPbc	PKPbc	05 35 18.7	+1.2
	0.6nm,0.7s,baz=45,slow=4.3,SNR=3.3						
BRTR				PKPab	PKPab	05 35 30.6	+0.1
	0.3nm,0.4s,baz=90,slow=2.5,SNR=3.7						

NIED ***03*** *05:19:00, 40°.30N×144°.00E, h8km, Mw3.7 Best double couple: M₀3.54000×10¹⁴ NP1:φ₀133.00000°, δ65.00000°, λ15.00000°. NP2:φ₀36.00000°, δ77.00000°, λ154.00000°.*
ISCJB ***03*** *05:19:22.5±0.5, 40°.31N±0°.03×144°.06E±0°.05, h16km, mb3.6/11, MS3.1/1, Error ellipse: s-maj=6.5km s-min=3.3km az=36.3*
JMA ***03*** *05:19:23.8±0.2, 40°.30N×144°.01E, h30km, M3.5*
IDC ***03*** *05:19:27.1±5.5, 40°.35N×144°.05E, h33km±41km, mb3.4/11, mb1 3.5/14, mb1mx3.4/36, mbtmp3.6/14, ML2.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=24.9km s-min=18.6km az=119.0*

ISC 03 05:19:23.9±0.8, 40°29'N±0°05'×144°10'E±0°07', h16km, n41, σ1§31/48, mb3.6/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.75**	**259**	P	**Pn**	**05 19 52.0**	**-1.6**
JTH				S	**Sn**	**05 20 12.6**	**-3.0**
JEM	**Erimo**	**1.87**	**338**	P	**Pn**	**05 19 54.3**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.89**	**249**	P	**Pn**	**05 19 54.5**	**-1.1**
JANG	**Nango**	**1.98**	**273**	P	**Pn**	**05 19 55.4**	**-1.4**
JANG				S	**Sn**	**05 20 18.8**	**-2.4**
JNBK	**Urakawa-nobuka**	**2.23**	**333**	P	**Pn**	**05 20 00.1**	**-0.2**
JOM	**Ohasama**	**2.31**	**250**	P	**Pn**	**05 20 00.7**	**-0.6**
JOM				S	**Sn**	**05 20 27.9**	**-1.4**
JTM	**Tenmabayashi**	**2.36**	**283**	P	**Pn**	**05 20 01.6**	**-0.4**
JTM				S	**Sn**	**05 20 29.0**	**-1.7**
JCH	**Churui**	**2.39**	**347**	P	**Pn**	**05 20 01.5**	**-0.9**
JCH				*e*S	**Sn**	**05 20 30.1**	**-1.3**
JOT	**Ohata**	**2.56**	**296**	P	**Pn**	**05 20 04.4**	**-0.4**
JOT				*e*S	**Sn**	**05 20 33.6**	**-2.0**
JMK	**Ichinoseki**	**2.59**	**240**	P	**Pn**	**05 20 04.3**	**-0.9**
JMK				*e*S	**Sn**	**05 20 34.4**	**-1.9**
JAH	**Hinai**	**2.65**	**269**	P	**Pn**	**05 20 05.8**	**-0.2**
JAK	**Akkeshi**	**2.74**	**9**	P	**Pn**	**05 20 06.4**	**-0.9**
JRG	**Rokugo**	**2.81**	**253**	P	**Pn**	**05 20 08.6**	**+0.4**
JRG				S	**Sn**	**05 20 41.5**	**-0.3**
JKB	**Kayabe**	**2.82**	**306**	P	**Pn**	**05 20 08.0**	**-0.3**
JAR	**Ashorobuto**	**3.02**	**355**	P	**Pn**	**05 20 09.5**	**-1.6**
JAR				*e*S	**Sn**	**05 20 44.6**	**-2.3**
JFR	**Furan**	**3.09**	**339**	P	**Pn**	**05 20 12.9**	**+0.9**
JFR				*e*S	**Sn**	**05 20 48.1**	**-0.5**
JYK	**Kaneyama**	**3.20**	**246**	P	**Pn**	**05 20 13.2**	**-0.3**
JOU	**Okura**	**3.28**	**235**	P	**Pn**	**05 20 14.0**	**-0.7**
JOU				*e*S	**Sn**	**05 20 51.5**	**-1.9**
NEM2	**Nemuro 2**	**3.31**	**21**	P	**Pn**	**05 20 13.5**	**-1.6**
NEM2				*e*S	**Sn**	**05 20 51.1**	**-3.0**
JTKR	**Abashiri--Toko**	**3.68**	**358**	P	**Pn**	**05 20 19.4**	**-0.8**
JTKR				*e*S	**Sn**	**05 21 01.2**	**-2.1**
ASAJ	**Asahikawa**	**3.99**	**344**	Pn	**Pn**	**05 20 24.4**	**0.0**
	0.8nm,0.3s,baz=192,slow=14,SNR=4.5						
ASAJ				Sn	**Sn**	**05 21 12.1**	**+1.3**
	1.1nm,0.3s,baz=31,slow=19,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.95**	**233**	Pn	**Pn**	**05 20 51.5**	**+0.1**
	0.9nm,0.3s,baz=43,slow=11,SNR=6.4						
USRK	**Ussuriysk Ar.**	**9.79**	**297**	Pn	**Pn**	**05 21 45.7**	**+1.7**
	0.2nm,0.3s,baz=102,slow=13,SNR=3.1						
SEY	**Seymchan**	**23.22**	**10**	P	**P**	**05 24 30.7**	**+0.8**
	0.8nm,0.2s,baz=182,slow=21,SNR=3.8						
YAK	**Yakutsk**	**23.47**	**343**	LR	LR	05 35 21.4	
	comp=Z,65nm,20.6s,baz=76,slow=41						
SONM	**Songino Array**	**27.91**	**298**	P	**P**	**05 25 13.9**	**+0.6**
	1.1nm,0.9s,baz=72,slow=14,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.30**	**130**	T	T	05 54 52.0	
	baz=322,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.31**	**130**	T	T	05 54 54.8	
	baz=322,slow=76,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**28.32**	**130**	T	T	05 54 53.2	
	baz=322,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**29.15**	**132**	T	T	05 55 55.0	
	baz=323,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**29.15**	**132**	T	T	05 55 55.4	
	baz=323,slow=76,SNR=7.7						
H11S2	**WAKE ISLAND Hy**	**29.17**	**132**	T	T	05 55 57.0	
	baz=323,slow=76,SNR=9.4						
ZALV	**Zalesovo Beam**	**41.37**	**310**	P	**P**	**05 27 09.2**	**+0.3**
	0.3nm,0.4s,baz=100,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**44.25**	**300**	P	**P**	**05 27 32.3**	**-0.2**
	0.9nm,0.9s,baz=83,slow=8.9,SNR=7.2						
ILAR	**Eielson Array**	**45.63**	**34**	P	**P**	**05 27 43.3**	**+0.2**
	0.3nm,0.8s,baz=256,slow=6.4,SNR=3.8						
INK	**Inuvik**	**50.53**	**29**	P	**P**	**05 28 21.9**	**+0.9**
	2.8nm,1.3s,baz=220,slow=5.8,SNR=4.3						
YKA	**Yellowknife Ar**	**59.94**	**32**	P	**P**	**05 29 29.0**	**+0.1**
	0.1nm,0.5s,baz=299,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**60.60**	**191**	P	**P**	**05 29 35.2**	**+1.4**
	0.4nm,0.9s,baz=8.7,slow=6.9,SNR=5.1						
FINES	**FINESS Array B**	**66.91**	**333**	P	**P**	**05 30 15.3**	**+0.3**
	1.0nm,0.7s,baz=44,slow=10,SNR=2.9						
NOA	**NORSAR Array B**	**71.98**	**338**	P	**P**	**05 30 45.6**	**-0.8**
	0.5nm,0.8s,baz=21,slow=5.5,SNR=2.9						
AKASG	**Malin Array Be**	**72.99**	**323**	P	**P**	**05 30 53.1**	**+0.5**
	0.7nm,0.6s,baz=41,slow=7.4,SNR=4.8						

GUC 03 05:41:16.3±0.6, 34°01'S×72°41'W, h6km±8km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.17**	**33**	*e*P	Pg	05 41 36.8	-1.9
NICH	**Los Niches**	**1.39**	**136**	*e*P	Pn	05 41 40.3	-2.1
NICH				*e*S	Sb	05 41 58.6	-2.2
TALC	**Talca**	**1.53**	**156**	*e*P	Pn	05 41 42.7	-1.5
TALC				*e*S	Sn	05 42 02.4	-2.1
ROCH	**El Roble**	**1.56**	**49**	*e*P	Pn	05 41 43.1	-1.8
ROCH				*e*S	Sn	05 42 03.6	-2.0
ROCH				AML	AML	05 42 13.3	
	comp=N,2μm,0.3s						
CLCH	**Cerro Calan**	**1.67**	**69**	*e*P	Pn	05 41 45.2	-1.1
CLCH				*e*S	Sn	05 42 07.0	-1.2
CLCH				AML	AML	05 42 23.7	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.67**	**60**	*e*P	Pn	05 41 45.0	-1.2
PEL				*e*S	Sn	05 42 06.8	-1.4
PEL				AML	AML	05 42 21.4	
	comp=N,2μm,0.9s						
LNCH	**Linares**	**1.95**	**160**	*e*P	Pn	05 41 49.2	-0.9
LNCH				*e*S	Sn	05 42 14.3	-0.7
YECH	**El Yeso**	**1.96**	**81**	*e*P	Pn	05 41 49.9	-0.7
YECH				*e*S	Sn	05 42 15.2	-0.6

ISCJB ***03*** *05:46:50.7±1.0, 34°.05S±0°.04×72°.24W±0°.09, h17km, mb3.8/1, MS3.1/1, Error ellipse: s-maj=10.8km s-min=6.0km az=14.5*
IDC ***03*** *05:46:50.0±3.1, 34°.07S×72°.54W, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/25, mbtmp3.5/3, ML3.6/2, MS2.6/2, Ms1 2.6/2, ms1mx2.5/22, Error ellipse: s-maj=62.9km s-min=23.1km az=97.0*
GUC ***03*** *05:46:50.1±0.6, 34°.01S×72°.28W, h32km±3km, ML3.6*
ISC 03 05:46:51.8±1.6, 34°02S±0°05×72°18W±0°10, h17km, n14, σ1§42/18, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.09**	**25**	*e*P	**Pn**	**05 47 09.6**	**-2.7**
NICH	**Los Niches**	**1.26**	**141**	*i*P	**Pn**	**05 47 12.8**	**-1.8**
NICH				*e*S	**Sn**	**05 47 30.3**	**-0.8**
ROCH	**El Roble**	**1.43**	**43**	*e*P	**Pn**	**05 47 15.9**	**-1.4**
ROCH				AML	AML	05 47 51.1	
	comp=E,1μm,0.5s						
TALC	**Talca**	**1.45**	**162**	⇑*i*P	**Pn**	**05 47 15.3**	**-1.9**
TALC				*i* S	**Sb**	**05 47 36.3**	**-0.1**
LACH	**Col Las Americ**	**1.49**	**68**	⇓*i*P	**Pn**	**05 47 16.9**	**-1.0**
CLCH	**Cerro Calan**	**1.51**	**66**	*e*P	**Pn**	**05 47 17.6**	**-0.5**
CLCH				*i* S	**Sn**	**05 47 37.4**	**0.0**
CLCH				AML	AML	05 47 54.2	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**1.53**	**55**	⇓*i*P	**Pn**	**05 47 17.6**	**-0.7**
PEL				*i* S	**Sn**	**05 47 37.8**	**0.0**
PEL				AML	AML	05 47 58.4	
	comp=N,2μm,0.6s						
YECH	**El Yeso**	**1.78**	**79**	⇓*i*P	**Pn**	**05 47 22.0**	**-0.1**
YECH				*i* S	**Sb**	**05 47 45.9**	**-0.5**
LNCH	**Linares**	**1.88**	**165**	*e*P	**Pn**	**05 47 21.5**	**-1.7**
LNCH				*e*S	**Sb**	**05 47 49.0**	**0.0**
CFAA	**Coronel Fontan**	**4.10**	**55**	Pn	Pn	05 47 56.6	+2.8
	comp=N,0.1nm,0.3s,baz=237,slow=11,SNR=18						
CFAA				Sn	**Sb**	**05 48 53.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=302,slow=15,SNR=3.6						
CFAA				LR	LR	05 49 38.4	
	comp=N,16nm,20.1s,baz=248,slow=38						
PLCA	**Paso Flores**	**6.82**	**170**	Pn	**Pn**	**05 48 32.6**	**+1.4**
	comp=N,0.3nm,0.3s,baz=343,slow=12,SNR=6.9						
PLCA				Lg	Lg	05 50 27.3	
	comp=N,0.1nm,0.3s,baz=18,slow=20,SNR=2.8						
LPAZ	**La Paz**	**18.03**	**13**	P	**P**	**05 51 05.2**	**+2.6**
	comp=N,0.1nm,0.3s,baz=178,slow=14,SNR=4.1						
SIV	**San Ignacio**	**20.55**	**32**	LR	LR	06 00 53.3	
	comp=N,72nm,18.6s,baz=239,slow=41						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	P	05 59 25.2	+2.0
	comp=N,0.8nm,1.0s,baz=227,slow=4.0,SNR=3.7						

ISCJB ***03*** *06:06:11.3±0.8, 56°.2S±0°.1×27°.4W±0°.2, h112km, mb4.1/7, Error ellipse: s-maj=19.2km s-min=7.8km az=37.2*
AWI ***03*** *06:06:13.7, 57°.33S×29°.80W*
NEIC ***03*** *06:06:14.3±1.7, 56°.22S×27°.38W, h130km±15km, mb4.2/6, Error ellipse: s-maj=17.9km s-min=9.1km az=59.0*
IDC ***03*** *06:06:15.7±7.0, 56°.21S×27°.19W, h137km±62km, mb3.8/6, mb1 3.9/7, mb1mx3.6/19, mbtmp4.2/7, Error ellipse: s-maj=29.3km s-min=19.4km az=58.0*
ISC 03 06:06:12.6±0.7, 56°2S±0°1×27°3W±0°1, h112km, n22, σ0§79/23, mb4.1/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.59**	**286**	*e*Pn	**Pn**	**06 07 34.7**	**+1.5**
HOPE				*e*Sn	**Sn**	**06 08 34.7**	**-1.4**
VNA1	**Neumayer--Stat**	**16.70**	**158**	P	P	06 10 05.2	+5.4
VNA3	**Neumayer Olymp**	**16.89**	**160**	P	**Pn**	**06 10 02.0**	**+0.3**
VNA2	**Neumayer--Watz**	**17.09**	**158**	P	**Pn**	**06 10 04.7**	**+0.4**
	baz=316,slow=13						
SNAA	**Sanae**	**18.65**	**156**	P	**P**	**06 10 21.6**	**+0.3**
	1.9nm,0.3s,baz=312,slow=10,SNR=209						
SNAA	**Sanae**	**18.65**	**156**	*e*P	**P**	**06 10 21.3**	**0.0**
	17nm,0.5s						
PMSA	**Palmer Station**	**19.76**	**229**	*e*P	**P**	**06 10 32.6**	**-0.8**
	13nm,0.7s						
H09W1	**TRISTAN DA CUN**	**21.59**	**34**	T	T	06 32 10.5	
	SNR=56						
TRQA	**Tornquist**

n35,σ0^{s}88/43, mb3.5/10, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.26**	**93**	P	**Pn**	**06 19 18.3**	**+0.4**
JAK				*e*S	**Sn**	**06 19 28.6**	**+0.2**
JOB	**Onbets**	**0.39**	**254**	P	**Pn**	**06 19 19.2**	**+0.6**
JOB				*e*S	**Sn**	**06 19 30.4**	**+0.9**
JAR	**Ashorobuto**	**0.51**	**304**	P	**Pn**	**06 19 19.5**	**+0.1**
JAR				*e*S	**Sn**	**06 19 30.6**	**-0.4**
JNK	**Nakash**	**0.64**	**26**	P	**Pn**	**06 19 20.4**	**-0.1**
JNK				*e*S	**Sn**	**06 19 32.5**	**-0.3**
JCH	**Churui**	**0.82**	**241**	P	**Pn**	**06 19 22.5**	**+0.3**
JCH				*e*S	**Sn**	**06 19 35.6**	**-0.3**
JTKR	**Abashiri--Toko**	**1.01**	**342**	P	**Pn**	**06 19 24.4**	**+0.2**
JTKR				*e*S	**Sn**	**06 19 39.0**	**-0.4**
NEM2	**Nemuro 2**	**1.08**	**71**	P	**Pn**	**06 19 24.8**	**-0.2**
NEM2				*e*S	**Sn**	**06 19 39.8**	**-1.1**
JRA	**Rausu**	**1.08**	**31**	P	**Pn**	**06 19 25.3**	**+0.3**
JMP	**Maruseppu**	**1.22**	**325**	P	**Pn**	**06 19 26.7**	**0.0**
JMP				*e*S	**Sn**	**06 19 42.8**	**-1.1**
JFR	**Furan**	**1.29**	**277**	P	**Pn**	**06 19 28.0**	**+0.6**
JFR				*e*S	**Sn**	**06 19 44.8**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.38**	**239**	P	**Pn**	**06 19 28.4**	**-0.1**
JNBK				*e*S	**Sn**	**06 19 45.6**	**-1.5**
JKK2	**Kamakawa 2**	**1.45**	**307**	P	**Pn**	**06 19 29.7**	**+0.4**
JKK2				*e*S	**Sn**	**06 19 48.0**	**-0.6**
JBT2	**Biratori 2**	**1.47**	**262**	P	**Pn**	**06 19 29.6**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.50**	**47**	*c i*PN	**Pn**	**06 19 30.6**	**+0.6**
YUK				*i* S	**Sn**	**06 19 50.5**	**+0.7**
YUK	comp=N,94nm,0.3s			pmax	pmax		
YUK	comp=Z,740nm,0.3s			pmax	pmax		
YUK	comp=E,154nm,0.1s			pmax	pmax		
YUK	comp=N,1μm,0.3s			smax	smax		
YUK	comp=E,1μm,0.3s			smax	smax		
ASAJ	**Asahikawa**	**1.68**	**312**	PN	**Pn**	**06 19 33.4**	**+1.1**
ASAJ				S	**Sn**	**06 19 54.7**	**+0.9**
ASAJ	comp=Z,12nm,0.3s			pmax	pmax		
ASAJ	comp=N,7.0nm,0.3s			smax	smax		
ASAJ	**Asahikawa**	**1.68**	**312**	P	**Pn**	**06 19 33.4**	**+1.1**
ASAJ	comp=N,12nm,0.3s,baz=150,slow=9.4,SNR=45			S	**Sn**	**06 19 54.7**	**+0.9**
H11N2	comp=N,6.5nm,0.3s,baz=255,slow=30,SNR=12 **WAKE ISLAND Hy**	**29.98**	**134**	T	T	06 56 22.1	
	baz=327,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**29.99**	**134**	T	T	06 56 25.8	
	baz=327,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**30.00**	**134**	T	T	06 56 31.5	
	baz=327,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hy**	**30.89**	**135**	T	T	06 57 36.7	
	baz=328,slow=76,SNR=104						
H11S3	**WAKE ISLAND Hy**	**30.89**	**135**	T	T	06 57 36.6	
	baz=328,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**30.91**	**135**	T	T	06 57 38.1	
	baz=328,slow=76,SNR=55						
MKAR	**Makanchi Array**	**43.11**	**297**	P	**P**	**06 26 53.4**	**-1.0**
	comp=N,0.3nm,0.6s,baz=82,slow=10.0,SNR=5.2						
ILAR	**Eielson Array**	**43.29**	**36**	P	**P**	**06 26 55.6**	**+0.1**
	comp=N,0.5nm,0.5s,baz=260,slow=5.7,SNR=16						
INK	**Inuvik**	**48.06**	**30**	P	**P**	**06 27 32.8**	**-0.2**
	comp=N,0.4nm,0.3s,baz=292,slow=7.9,SNR=5.4						
RES	**Resolute Bay**	**56.25**	**16**	P	**P**	**06 28 32.2**	**-1.3**
RES	comp=Z,2.0nm,0.5s			pmax	pmax		
RES	**Resolute Bay**	**56.25**	**16**	P	**P**	**06 28 32.2**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=303,slow=8.5,SNR=7.9						
YKA	**Yellowknife Ar**	**57.54**	**33**	P	**P**	**06 28 43.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=304,slow=7.1,SNR=6.2						
WRA	**Warramunga Arr**	**63.31**	**191**	P	**P**	**06 29 25.1**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=5.8,slow=6.9,SNR=2.6						
FINES	**FINESS Array B**	**64.58**	**332**	P	**P**	**06 29 29.1**	**-1.3**
FINES	comp=Z,2.0nm,0.7s			pmax	pmax		
FINES	**FINESS Array B**	**64.58**	**332**	P	**P**	**06 29 29.1**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=45,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**67.04**	**190**	P	**P**	**06 29 47.6**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=7.0,slow=7.1,SNR=4.8						
NB2	**NORSAR Subarra**	**69.53**	**338**	P	**P**	**06 30 02.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**69.53**	**338**	P	**P**	**06 30 01.0**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=28,slow=5.2,SNR=5.0						
PDAR	**Pinedale Array**	**71.94**	**48**	P	**P**	**06 30 17.3**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=352,slow=1.3,SNR=2.8						

MEX 03 06:28:32.9±0.4, 16°.98N×99°.47W, h12km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.77**	**275**	*e*P	Pg	06 28 45.4	-2.4
CAIG				*i* S	Sg	06 28 55.6	-2.4
TLIG	**Tlapa**	**1.04**	**56**	*e*P	Pb	06 28 49.5	-3.4
TLIG				*i* S	Sb	06 29 02.1	-4.6
PLIG	**Platanillo**	**1.41**	**359**	*e*P	Pn	06 28 55.1	-3.3
PLIG				*e*S	Sn	06 29 11.9	-5.1
PNIG	**Pinotepa**	**1.41**	**114**	*i* P	Pn	06 28 55.8	-2.6
PNIG				*i* S	Sn	06 29 12.2	-4.8
ARIG	**Puente Sto Nin**	**1.54**	**327**	*e*P	Pn	06 28 57.1	-3.2
ARIG				*e*S	Sn	06 29 15.6	-4.6

WEL 03 06:37:30.1±0.9, 35°.24S×177°.66E, h33km, ML4.3/7, 1D, Error ellipse: s-maj=11.8km s-min=7.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.38**	**167**	PN	Pn	06 38 06.8	0.0
HAZ	**Te Kaha**	**2.52**	**178**	PN	Pn	06 38 09.9	+1.2
HAZ				SN	Sn	06 38 39.9	+1.7
WMGZ	**Waiomatatini S**	**2.65**	**167**	PN	Pn	06 38 10.3	-0.2
PUZ	**Puketiti**	**2.87**	**171**	PN	Pn	06 38 12.4	-1.2
PUZ				SN	Sn	06 38 44.2	-2.9
TWGZ	**Tauwhareparae**	**2.95**	**175**	PN	Pn	06 38 14.8	+0.1
TWGZ				SN	Sn	06 38 48.5	-0.5
URZ	**Urewera**	**3.05**	**188**	PN	Pn	06 38 17.0	+1.0
TKGZ	**Te Karaka**	**3.20**	**177**	↓↓P	Pn	06 38 17.3	-0.8
TKGZ				SN	Sn	06 38 53.0	-2.1
RRRZ	**Republican Roa**	**3.23**	**196**	PN	Pn	06 38 17.3	-1.3
CNGZ	**Carnagh Statio**	**3.27**	**172**	PN	Pn	06 38 17.3	-1.8
RIGZ	**Rimuhau**	**3.46**	**179**	PN	Pn	06 38 20.5	-1.3
SNGZ	**Shannon Statio**	**3.55**	**184**	PN	Pn	06 38 22.4	-0.5
SNGZ				SN	Sn	06 39 03.6	-0.1
KNZ	**Kokohu**	**3.78**	**180**	PN	Pn	06 38 23.5	-2.5
WHHZ	**Waihua**	**3.85**	**185**	PN	Pn	06 38 25.9	-1.2
MHGZ	**Mahia Peninsul**	**3.92**	**177**	PN	Pn	06 38 25.2	-2.8
ARHZ	**Aropaoanui**	**4.05**	**187**	PN	Pn	06 38 28.4	-1.4
BHHZ	**Black Hill Sta**	**4.43**	**196**	PN	Pn	06 38 34.4	-0.7
KAHZ	**Kahuranaki**	**4.59**	**188**	PN	Pn	06 38 34.6	-2.7
PRHZ	**Porangahau**	**5.09**	**189**	PN	Pn	06 38 40.4	-3.7
BFZ	**Birch Farm**	**5.55**	**191**	PN	Pn	06 38 46.8	-3.6
BFZ				SN	Sn	06 39 44.3	-8.7
MRZ	**Mangatainoka R**	**5.66**	**196**	PN	Pn	06 38 48.7	-3.2
MRZ				SN	Sn	06 39 47.9	-7.8
HOWZ	**Holdsworth Sta**	**5.90**	**196**	PN	Pn	06 38 51.1	-4.1
KIW	**Kapiti Island**	**6.02**	**200**	PN	Pn	06 38 53.7	-3.1
TCW	**Tory Channel**	**6.53**	**203**	PN	Pn	06 39 00.1	-3.7
QRZ	**Quartz Range**	**6.89**	**214**	PN	Pn	06 39 06.9	-1.9
THZ	**Tophouse**	**7.51**	**208**	PN	Pn	06 39 14.3	-3.1
LTZ	**Lake Taylor**	**8.62**	**207**	PN	Pn	06 39 27.4	-5.2

IDC 03 06:42:59.1±2.8, 55°.66S×28°.60W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.8/15, mbtmp4.2/2, MS3.5/8, Ms1 3.5/8, ms1mx3.4/15, Error ellipse: s-maj=104.1km s-min=45.2km az=173.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.63**	**160**	P	Pn	06 47 06.1	+0.3
VNA2	**Neumayer--Watz**	**17.86**	**157**	P	Pn	06 47 08.7	+0.1
	baz=314,slow=14						
PLCA	**Paso Flores**	**31.15**	**281**	LR	LR	07 01 10.4	
	comp=Z,78nm,20.8s,baz=110,slow=35						
BDFB	**Brasilia**	**42.64**	**332**	LR	LR	07 07 37.3	
	comp=Z,56nm,18.3s,baz=32,slow=35						
BOSA	**Boshof**	**46.66**	**78**	LR	LR	07 06 46.7	
	comp=Z,67nm,18.8s,baz=179,slow=31						
H10S2	**ASCENSION HYDR**	**47.87**	**19**	T	T	07 42 49.2	
	baz=191,slow=75,SNR=16						
H10S3	**ASCENSION HYDR**	**47.88**	**19**	T	T	07 42 49.6	
	baz=191,slow=75,SNR=15						
H10S1	**ASCENSION HYDR**	**47.89**	**19**	T	T	07 42 50.7	
	baz=191,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**48.99**	**19**	T	T	07 44 15.7	
	baz=191,slow=75,SNR=5.0						
H10N3	**ASCENSION HYDR**	**48.99**	**19**	T	T	07 44 22.6	
	baz=191,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**49.01**	**19**	T	T	07 44 22.9	
	baz=191,slow=75,SNR=12						
LPAZ	**La Paz**	**49.50**	**307**	P	P	06 51 50.2	-1.9
	2.7nm,0.6s,baz=141,slow=6.5,SNR=23						
LPAZ				LR	LR	07 12 32.0	
	comp=Z,19nm,21.7s,baz=197,slow=36						
DBIC	**Dimbokro**	**65.16**	**26**	LR	LR	07 16 19.7	
	comp=Z,41nm,19.3s,baz=156,slow=31						
ROSC	**El Rosal**	**71.04**	**311**	LR	LR	07 28 39.5	
	comp=Z,45nm,18.1s,baz=3.5,slow=39						
TORD	**Torodi Ar. Bea**	**73.12**	**31**	P	P	06 54 31.7	+0.6
	1.1nm,0.6s,baz=200,slow=6.5,SNR=9.4						
TORD				LR	LR	07 21 13.2	
	comp=Z,52nm,19.1s,baz=340,slow=31						
ASAR	**Alice Springs**	**99.59**	**164**	LR	LR	07 37 58.6	
	comp=Z,28nm,21.4s,baz=153,slow=33						
YKA	**Yellowknife Ar**	**135.35**	**319**	PKP	PKPdf	07 02 19.1	-0.2
	0.3nm,0.8s,baz=124,slow=2.6,SNR=7.6						
INK	**Inuvik**	**145.00**	**321**	PKPbc	PKPbc	07 02 35.4	-0.5
	2.3nm,0.9s,baz=91,slow=2.8,SNR=9.7						
ILAR	**Eielson Array**	**149.26**	**312**	PKPbc	PKPbc	07 02 48.5	+0.4
	2.4nm,0.7s,baz=122,slow=1.6,SNR=36						

*IDC **03** 06:50:53.1±0.8, 10°.72S×164°.97E, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.1/30, mbtmp4.1/11, ML4.7/1, MS3.4/6, Ms1 3.4/6, ms1mx3.1/22, Error ellipse: s-maj=24.8km s-min=21.2km az=100.0*

*ISCJB **03** 06:50:58.4±0.6, 10°.86S±0°.08×164°.9E±0°.1, h46km, mb4.1/14, MS3.4/4, Error ellipse: s-maj=15.6km s-min=11.8km az=10.4*

*NEIC **03** 06:50:58.5±0.5, 10°.76S×165°.02E, h35km, mb4.5/9, Error ellipse: s-maj=14.2km s-min=10.5km az=109.0*

ISC 03 06:50:59.8±0.7, 10°.81S±0°.09×165°.0E±0°.1, h46km, n36, σ1^{s}01/25, mb4.3/14, MS3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.17**	**285**	LR	LR	06 54 06.2	
	comp=Z,425nm,21.5s,baz=127,slow=38						
DZM	**Mont Dzumac**	**11.28**	**173**	*e*Pn	**Pn**	**06 53 37.8**	**-0.7**
	20nm,0.3s						
DZM				*e*LR	LR	06 56 20.7	
	215nm,23.2s						
DZM	**Mont Dzumac**	**11.28**	**173**	Pn	**Pn**	**06 53 37.7**	**-0.9**
	5.2nm,0.3s,baz=324,slow=11,SNR=61						
DZM				LR	LR	06 57 01.3	
	comp=Z,232nm,18.2s,baz=18,slow=32						
DZM	**Mont Dzumac**	**11.28**	**173**	*e*Pn	**Pn**	**06 53 37.4**	**-1.1**
	16nm,0.6s						
EIDS	**Eidsvold**	**19.59**	**220**	*e*P	**Pn**	**06 55 25.9**	**+0.1**
	21nm,1.2s						
CTA	**Charters Tower**	**20.27**	**241**	P	**P**	**06 55 31.9**	**+0.1**
	8.4nm,0.9s,baz=63,slow=11,SNR=4.4						
CTAO	**Charters Tower**	**20.27**	**241**	*e*P	**P**	**06 55 32.1**	**+0.4**
	49nm,1.4s						
ARMA	**Armidale**	**23.14**	**211**	*e*P	**P**	**06 56 02.4**	**+0.1**
	17nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**29.16**	**3**	T	T	07 27 29.5	
	baz=184,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.17**	**3**	T	T	07 27 29.5	
	baz=184,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**29.18**	**3**	T	T	07 27 15.9	
	baz=184,slow=76,SNR=23						
URZ	**Urewera**	**29.41**	**160**	P	**P**	**06 57 00.1**	**+1.2**
	2.4nm,0.4s,baz=301,slow=12,SNR=3.6						
URZ	**Urewera**	**29.41**	**160**	*e*P	**P**	**06 57 00.1**	**+1.2**
	24nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**30.39**	**4**	T	T	07 29 01.7	
	baz=182,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.39**	**4**	T	T	07 28 46.5	
	baz=182,slow=76,SNR=25						
H11N2	**WAKE ISLAND Hy**	**30.41**	**4**	T	T	07 28 47.4	
	baz=182,slow=76,SNR=18						
WRAB	**Tennant Creek**	**30.87**	**249**	*e*P	**P**	**06 57 12.1**	**0.0**
	2.4nm,0.7s						
WB2	**Warramunga Arr**	**30.87**	**249**	*e*P	**P**	**06 57 12.6**	**+0.4**
WRA	**Warramunga Arr**	**30.88**	**249**	P	**P**	**06 57 10.2**	**-2.0**
	0.7nm,0.7s,baz=81,slow=8.7,SNR=7.0						
WRA				LR	LR	07 08 50.9	
	comp=Z,36nm,20.5s,baz=95,slow=35						
ASAR	**Alice Springs**	**32.25**	**243**	P	**P**	**06 57 22.7**	**-1.6**
	0.7nm,0.5s,baz=65,slow=10,SNR=25						
ASAR				LR	LR	07 09 22.3	
	comp=Z,55nm,18.6s,baz=82,slow=34						
PPT	**Papeete**	**44.46**	**104**	LR	LR	07 14 19.4	
	comp=Z,82nm,21.4s,baz=95,slow=32						
PPT2	**Papeete2**	**44.46**	**104**	*e*LR	LR	07 12 10.2	
	61nm,22.0s						
TBI	**Tubuai**	**45.09**	**112**	*e*LR	LR	07 12 33.0	
	141nm,29.0s						
VNDA	**Vanda**	**66.71**	**181**	P	**P**	**07 01 46.2**	**+0.5**
	1.3nm,0.8s,baz=286,slow=3.8,SNR=4.8						
VNDA	**Vanda**	**66.71**	**181**	*e*P	**P**	**07 01 45.8**	**+0.2**
	5.7nm,1.3s						
CMAR	**Chiang Mai Arr**	**71.36**	**294**	P	**P**	**07 02 16.1**	**+0.6**
	1.4nm,0.3s,baz=116,slow=4.1,SNR=5.0						
ULN	**Ulaanbaatar**	**77.69**	**324**	*e*P	**P**	**07 02 52.5**	**+0.6**
	4.5nm,1.1s						
SONM	**Songino Array**	**78.05**	**324**	P	**P**	**07 02 54.9**	**+1.1**
	1.9nm,1.0s,baz=148,slow=8.5,SNR=4.9						
BILL	**Bilibino**	**78.65**	**0**	*e*P	**P**	**07 02 56.8**	**+0.3**
	3.2nm,0.7s						
QSPA	**South Pole Qui**	**79.19**	**180**	*e*P	**P**	**07 03 00.6**	**+0.8**
	6.8nm,1.1s						
NVAR	**Mina Array Bea**	**86.43**	**50**	P	**P**	**07 03 38.3**	**+0.3**
	0.7nm,0.8s,baz=230,slow=8.1,SNR=4.6						
MKAR	**Makanchi Array**	**92.86**	**317**	P	**P**	**07 04 08.0**	**+0.2**
	0.7nm,0.6s,baz=94,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**95.10**	**27**	P	**P**	**07 04 15.8**	**-1.8**
	0.2nm,0.9s,baz=257,slow=4.2,SNR=3.3						
TXAR	**Lajitas Array**	**96.36**	**61**	LR	LR	07 39 18.2	
	comp=Z,27nm,21.5s,baz=0.0,slow=30						
ARCES	**ARCESS Array B**	**115.93**	**345**	PKP	**PKPdf**	**07 09 36.1**	**-1.0**
	5.9nm,1.0s,baz=93,slow=1.8,SNR=5.3						
FINES	**FINESS Array B**	**121.29**	**338**	PKP	**PKPdf**	**07 09 46.0**	**-1.6**
	0.7nm,0.7s,baz=1.1,slow=9.5,SNR=3.6						

*NEIC **03** 07:06:11.4, 14°.90N×94°.00W, h18km, MD4.0(MEX), After MEX.*

MEX 03 07:06:11.4±0.5, 14°.90N×94°.00W, h18km±843km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.09**	**43**	*e*P	Pb	07 06 28.5	-3.3
PCIG				*e*S	Sb	07 06 41.0	-4.8
PCIG		**1.09**	**43**	*e*P	Pb	07 06 28.5	-3.3
PCIG				*e*S	Sb	07 06 41.0	-4.8
HUIG	**Huatulco**	**2.21**	**293**	*e*P	Pn	07 06 44.2	-3.1
HUIG				*i* S	Sn	07 07 10.4	-3.9
HUIG	**Huatulco**	**2.21**	**293**	*e*P	Pn	07 06 44.2	-3.1
HUIG				*i* S	Sn	07 07 10.4	-3.9
CCIG	**Comitan**	**2.25**	**52**	*e*P	Pn	07 06 45.8	-2.3
CCIG				*i* S	Sn	07 07 11.8	-3.9
CCIG	**Comitan**	**2.25**	**52**	*e*P	Pn	07 06 45.8	-2.3
CCIG				*i* S	Sn	07 07 11.8	-3.9
CMIG	**Matias Romero**	**2.34**	**339**	*e*P	Pn	07 06 46.8	-2.3
CMIG				*i* S	Sn	07 07 13.8	-3.5
CMIG	**Matias Romero**	**2.34**	**339**	*e*P	Pn	07 06 46.8	-2.3
CMIG				*i* S	Sn	07 07 13.8	-3.5

*IDC **03** 07:29:12.3±7.0, 16°.59N×99°.59W, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.6/29, mbtmp3.3/5, ML3.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/14, Error ellipse: s-maj=126.2km s-min=118.7km az=71.0*

*ISCJB **03** 07:29:25.4±0.6, 17°.33N±0°.04×100°.93W±0°.03, h39km±9km, mb3.2/4, MS3.5/1, Error ellipse: s-maj=7.7km s-min=4.3km az=17.0*

*NEIC **03** 07:29:27.2, 17°.34N×100°.92W, h12km, MD4.1(MEX), After MEX.*

MEX 03 07:29:27.2±0.7, 17°.34N×100°.92W, h12km±7km, MD4.1

ISC 03 07:29:25.5±1.1, 17°.38N±0°.04×100°.91W±0°.03, h24km±10km, n28, σ0^{s}86/50, mb3.2/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.57**	**293**	*i* P	**Pb**	**07 29 37.0**	**+0.1**
ZIIG				*i* S	**Sb**	**07 29 45.4**	**+0.6**
ZIIG	**Zihuatanejo**	**0.57**	**293**	*i* P	**Pb**	**07 29 37.0**	**+0.1**
ZIIG				*i* S	**Sb**	**07 29 45.4**	**+0.6**
CAIG	**El Cayaco**	**0.70**	**118**	*e*P	**Pb**	**07 29 38.9**	**-0.1**
CAIG				*e*S	**Sb**	**07 29 47.3**	**-1.0**
CAIG	**El Cayaco**	**0.70**	**118**	*e*P	**Pb**	**07 29 38.9**	**-0.1**
CAIG				*e*S	**Sb**	**07 29 47.3**	**-1.0**
ARIG	**Puente Sto Nin**	**1.04**	**31**	*i* P	**Pb**	**07 29 44.0**	**-0.9**
ARIG				*i* S	**Sb**	**07 29 58.0**	**-0.2**
MEIG	**Mezcala**	**1.34**	**66**	*e*P	**Pn**	**07 29 49.2**	**+0.4**
MEIG				*i* S	**Sn**	**07 30 06.1**	**+0.1**
MEIG	**Mezcala**	**1.34**	**66**	*e*P	**Pn**	**07 29 49.2**	**+0.4**
MEIG				*i* S	**Sn**	**07 30 06.1**	**+0.1**
PLIG	**Platanillo**	**1.68**	**53**	*e*P	**Pn**	**07 29 53.5**	**+0.1**
PLIG				*e*S	**Sn**	**07 30 14.0**	**-0.2**
PLIG	**Platanillo**	**1.68**	**53**	*e*P	**Pn**	**07 29 53.5**	**+0.1**
PLIG				*e*S	**Sn**	**07 30 14.0**	**-0.2**
TLIG	**Tlapa**	**2.24**	**85**	*e*P	**Pn**	**07 30 02.0**	**+0.7**
TLIG				*e*S	**Sn**	**07 30 28.1**	**-0.2**
YAIG	**Yautepec**	**2.29**	**50**	*e*P	**Pn**	**07 30 01.4**	**-0.5**
YAIG				*i* S	**Sn**	**07 30 30.1**	**+0.7**
YAIG	**Yautepec**	**2.29**	**50**	*e*P	**Pn**	**07 30 01.4**	**-0.5**
YAIG				*i* S	**Sn**	**07 30 30.1**	**+0.7**
MOIG	**Morelia**	**2.30**	**353**	*e*P	**Pn**	**07 30 03.4**	**+1.3**
MOIG				*i* S	**Sn**	**07 30 30.1**	**+0.3**
MOIG	**Morelia**	**2.30**	**353**	*e*P	**Pn**	**07 30 03.4**	**+1.3**
MOIG				*i* S	**Sn**	**07 30 30.1**	**+0.3**
MMIG	**Aquila**	**2.49**	**292**	*e*P	**Pn**	**07 30 04.5**	**0.0**
MMIG				*i* S	**Sn**	**07 30 33.4**	**-0.7**
MMIG	**Aquila**	**2.49**	**292**	*e*P	**Pn**	**07 30 04.5**	**0.0**
MMIG				*i* S	**Sn**	**07 30 33.4**	**-0.7**
PNIG	**Pinotepa**	**2.84**	**110**	*e*P	**Pn**	**07 30 10.4**	**+1.0**
PNIG				*i* S	**Sn**	**07 30 42.5**	**-0.4**
PNIG	**Pinotepa**	**2.84**	**110**	*e*P	**Pn**	**07 30 10.4**	**+1.0**
PNIG				*i* S	**Sn**	**07 30 42.5**	**-0.4**
VTVM	**Tizayuca**	**3.12**	**40**	*e*P	**Pn**	**07 30 14.4**	**+0.9**
VTVM				*i* S	**Sn**	**07 30 51.1**	**+0.9**
VHO	**Vista Hermosa**	**4.00**	**94**	*e*P	**Pn**	**07 30 26.4**	**+0.8**
VHO				*i* S	**Sn**	**07 31 12.2**	**+0.3**
VHO	**Vista Hermosa**	**4.00**	**94**	*e*P	**Pn**	**07 30 26.4**	**+0.8**
VHO				*i* S	**Sn**	**07 31 12.2**	**+0.3**
CMIG	**Matias Romero**	**5.77**	**92**	*e*P	**Pn**	**07 30 51.1**	**+1.5**
CMIG				*i* S	**Sn**	**07 31 56.4**	**+1.3**
CMIG	**Matias Romero**	**5.77**	**92**	*e*P	**Pn**	**07 30 51.1**	**+1.5**
CMIG				*i* S	**Sn**	**07 31 56.4**	**+1.3**
TXAR	**Lajitas Array**	**12.16**	**348**	Pn	P	07 32 24.8	-5.0
	0.0nm,0.3s,baz=165,slow=14,SNR=3.9						
NVAR	**Mina Array Bea**	**25.91**	**327**	P	**P**	**07 34 57.8**	**+1.8**
	1.2nm,0.8s,baz=146,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**26.35**	**346**	P	**P**	**07 35 00.2**	**+0.2**
	0.3nm,0.6s,baz=156,slow=10,SNR=3.3						
PDAR				LR	LR	07 45 52.2	
	comp=Z,142nm,21.0s,baz=301,slow=36						
YKA	**Yellowknife Ar**	**46.07**	**351**	P	**P**	**07 37 44.7**	**-2.5**
	0.2nm,0.8s,baz=160,slow=7.7,SNR=4.4						
ILAR	**Eielson Array**	**56.45**	**338**	P	**P**	**07 39 05.2**	**+0.3**
	0.2nm,0.7s,baz=113,slow=5.5,SNR=4.2						

*DJA **03** 07:37:46.0±0.9, 0°.S±8°×12°.4E±°, h259km±10km, M4.0/9, mb4.1/1, mB4.9/1, MLv4.0/9, Mw(mB)4.2/1*

*IDC **03** 07:38:05.3±5.7, 0°.36N×125°.60E, h97km±57km, mb3.3/3, mb1 3.6/4, mb1mx3.3/33, mbtmp3.9/4, ML5.2/2, Error ellipse: s-maj=72.4km s-min=19.2km az=65.0*

ISC 03 07:38:03.5±1.1, 0°.3N±0°.1×125°.3E±0°.2, h73km, n8, σ1^{s}69/8, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.33**	**281**	P	Pn	07 38 21.9	-4.4
LBMI	**Labuha**	**2.41**	**113**	P	**Pn**	**07 38 42.1**	**+1.3**
SANI	**Sanana**	**2.46**	**163**	P	Pn	07 38 33.8	-7.6
SANI				S	**Sn**	**07 39 11.9**	**+1.5**
TGY	**Tagaytay City**	**14.36**	**343**	P	**Pn**	**07 41 24.0**	**+0.7**
	36nm,0.3s,baz=112,slow=19,SNR=2.5						
JAY	**Jayapura**	**15.67**	**100**	P	**Pn**	**07 41 38.5**	**-1.7**
	2.5nm,0.3s,baz=321,slow=13,SNR=7.0						
**

TRQA	**Tornquist**	**8.79**	**107**	*e*Pn	Pn	08 32 11.7	+2.9	

IDC 03 08:35:52.4±4.6, 53°28N×89°25E, h0km, mb1 2.8/3, mb1mx2.7/31, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=50.7km s-min=22.7km az=87.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.72**	**286**	*i*		08 54 10.0	
	baz=99,slow=307,SNR=2.4						
ZALV	**Zalesovo Beam**	**2.72**	**286**	Pn	Pn	08 36 38.9	+1.5
	1.0nm,0.3s,baz=106,slow=16,SNR=17						
ZALV				Sn	Sn	08 37 12.7	+1.7
	2.1nm,0.3s,baz=106,slow=25,SNR=28						
KURBB	**Kurchatov Arra**	**7.14**	**252**	Pn	Pn	08 37 37.2	-0.9
	0.1nm,0.3s,baz=65,slow=15,SNR=4.5						
MKAR	**Makanchi Array**	**7.89**	**217**	Pn	Pn	08 37 49.8	+1.4
	0.1nm,0.3s,baz=34,slow=13,SNR=5.5						
MKAR				Sn	Sn	08 39 18.1	-0.2
	0.1nm,0.3s,baz=36,slow=25,SNR=5.1						

*ISCJB **03** 08:41:20.5±2.0,36°.73S±0°.05×73°.22W±0°.08,h15km±15km, mb4.4/21,MS3.5/10,Error ellipse: s-maj=12.2km s-min=6.1km az=28.6*

*IDC **03** 08:41:20.1±0.8,36°.74S×72°.99W,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.1/20,mbtmp4.0/12,ML3.9/3,MS3.5/12, Ms1 3.5/12,ms1mx3.4/21,Error ellipse: s-maj=25.6km s-min=14.8km az=87.0*

*GUC **03** 08:41:21.1±0.6,36°.71S×73°.30W,h23km±4km,ML4.7*

*NEIC **03** 08:41:21.1,36°.71S×73°.30W,h23km,mb4.6/13, ML4.7(GUC),After GUC.*

ISC 03 08:41:23.6±0.8, 36°.65S±0°.05×73°.20W±0°.08, h25km±5km, n58,σ1§17/59, mb4.5/21, MS3.6/10, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.21**	**159**	*e*P	**Pb**	**08 41 29.2**	**-0.2**
CCSP				*i* S	**Sb**	**08 41 33.4**	**0.0**
CCSP				AML	AML	08 41 34.5	
	comp=E,184μm,0.5s						
CCSP	**San Pedro de C**	**0.21**	**159**	*e*P	**Pb**	**08 41 29.2**	**-0.2**
CCSP				*i* S	**Sb**	**08 41 33.4**	**0.0**
LNCH	**Linares**	**1.52**	**59**	⇑*i*P	**Pn**	**08 41 48.6**	**-0.6**
LNCH				*e*S	**Sb**	**08 42 09.4**	**-0.6**
LNCH	**Linares**	**1.52**	**59**	⇑*i*P	**Pn**	**08 41 48.6**	**-0.6**
LNCH				*e*S	**Sb**	**08 42 09.4**	**-0.6**
TALC	**Talca**	**1.78**	**46**	⇑*i*P	**Pn**	**08 41 52.3**	**-0.5**
TALC				*i* S	**Sb**	**08 42 16.6**	**-0.9**
TALC	**Talca**	**1.78**	**46**	⇑*i*P	**Pn**	**08 41 52.3**	**-0.5**
TALC				*i* S	**Sb**	**08 42 16.6**	**-0.9**
NICH	**Los Niches**	**2.30**	**45**	*e*P	**Pn**	**08 41 59.9**	**0.0**
NICH				*i* S	**Sn**	**08 42 29.5**	**+2.2**
NICH	**Los Niches**	**2.30**	**45**	*e*P	**Pn**	**08 41 59.9**	**0.0**
NICH				*i* S	**Sn**	**08 42 29.5**	**+2.2**
VLCH	**Valdivia**	**3.15**	**181**	⇑*i*P	**Pn**	**08 42 09.3**	**-2.3**
VLCH	**Valdivia**	**3.15**	**181**	⇑*i*P	**Pn**	**08 42 09.3**	**-2.3**
CLCH	**Cerro Calan**	**3.92**	**35**	*e*P	**Pn**	**08 42 22.3**	**0.0**
OSCH	**Osorno**	**3.92**	**179**	*e*P	**Pn**	**08 42 20.8**	**-1.4**
OSCH	**Osorno**	**3.92**	**179**	*e*P	**Pn**	**08 42 20.8**	**-1.4**
PEL	**Peldehue**	**4.07**	**31**	*e*P	**Pn**	**08 42 24.7**	**+0.4**
PEL	**Peldehue**	**4.07**	**31**	*e*P	**Pn**	**08 42 24.7**	**+0.4**
PLCA	**Paso Flores**	**4.57**	**154**	Pn	**Pn**	**08 42 30.2**	**-1.1**
	comp=E,5.7nm,0.3s,baz=331,slow=12,SNR=44						
PLCA				Lg	Lg	08 43 38.6	
	comp=E,7.4nm,0.3s,baz=281,slow=19,SNR=6.6						
PLCA				LR	LR	08 44 32.2	
	comp=E,521nm,19.4s,baz=282,slow=44						
PLCA	**Paso Flores**	**4.57**	**154**	*e*Pn	**Pn**	**08 42 32.0**	**+0.7**
PLCA				Lg	Lg	08 43 38.6	
CFAA	**Coronel Fontan**	**6.50**	**41**	Pn	**Pn**	**08 42 57.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=214,slow=9.9,SNR=21						
CFAA				Sn	**Sn**	**08 44 11.0**	**-0.1**
	comp=E,0.2nm,0.3s,baz=112,slow=18,SNR=4.2						
CFAA				LR	LR	08 45 34.0	
	comp=E,40nm,19.4s,baz=230,slow=39						
LCO	**Las Campanas**	**7.90**	**16**	*e*Pn	**Pn**	**08 43 16.4**	**-0.9**
	comp=E,30nm,0.7s						
TRQA	**Tornquist**	**9.05**	**102**	*e*Pn	**Pn**	**08 43 32.4**	**-0.3**
	comp=E,62nm,1.4s						
LVC	**Limon Verde**	**14.48**	**16**	*e*Pn	**P**	**08 44 51.2**	**-2.5**
USHA	**Ushuaia**	**18.48**	**171**	P	**P**	**08 45 36.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=336,slow=10.0,SNR=2.2						
LPAZ	**La Paz**	**20.78**	**14**	P	Pn	08 46 05.1	-1.1
	comp=E,4.4nm,0.8s,baz=150,slow=2.1,SNR=15						
LPAZ	**La Paz**	**20.78**	**14**	*e*P	**Pn**	08 46 05.6	-0.6
	comp=E,6.9nm,0.8s						
SIV	**San Ignacio**	**23.23**	**31**	P	**P**	**08 46 27.4**	**-1.6**
	comp=E,8.6nm,0.9s,baz=213,slow=9.3,SNR=23						
SIV				LR	LR	08 55 46.8	
	comp=E,65nm,18.2s,baz=266,slow=37						
NNA	**Nana**	**24.78**	**351**	LR	LR	08 54 30.5	
	comp=E,56nm,18.4s,baz=182,slow=32						
PMSA	**Palmer Station**	**28.69**	**172**	LR	LR	08 58 19.6	
	comp=E,150nm,19.9s,baz=314,slow=36						
ATAH	**Atahualpa**	**29.76**	**350**	LR	LR	08 57 12.2	
	comp=E,59nm,18.1s,baz=207,slow=32						
BDFB	**Brasilia**	**30.64**	**54**	P	**P**	**08 47 36.7**	**+0.5**
	comp=E,0.6nm,0.4s,baz=249,slow=8.6,SNR=2.2						
BDFB				LR	LR	09 01 04.4	
	comp=E,146nm,22.0s,baz=240,slow=39						
OTAV	**Otavalo**	**37.02**	**351**	*e*P	**P**	**08 48 33.2**	**+1.2**
	comp=E,6.7nm,1.3s						
ROSC	**El Rosal**	**41.30**	**358**	LR	LR	09 05 41.3	
	comp=E,57nm,18.4s,baz=334,slow=35						
JTS	**JuntasAbangare**	**47.98**	**344**	*e*P	**P**	**08 50 00.1**	**-0.4**
	comp=E,7.2nm,0.4s						
SNAA	**Sanae**	**49.51**	**157**	*e*P	**P**	**08 50 14.1**	**+2.5**
	comp=E,6.9nm,1.1s						
QSPA	**South Pole Qui**	**53.59**	**180**	P	**P**	**08 50 42.1**	**-0.3**
	comp=E,1.1nm,0.6s,baz=323,slow=1.6,SNR=14						
QSPA	**South Pole Qui**	**53.59**	**180**	*e*P	**P**	**08 50 41.4**	**-1.0**
	comp=E,8.5nm,1.1s						
RKT	**Rikitea**	**54.39**	**266**	*e*T	T	09 49 04.3	
	comp=E,1.8nm,0.3s						
TBI	**Tubuai**	**65.81**	**258**	*e*LR	LR	09 12 13.4	
	comp=E,100nm,24.2s						
MEH	**Mehetia**	**67.59**	**264**	*e*T	T	10 05 35.6	
	comp=E,22nm,0.2s						
PPT2	**Papeete2**	**68.95**	**263**	*e*LR	LR	09 13 33.1	
	comp=E,127nm,24.2s						
JCT	**Junction City**	**71.29**	**336**	*e*P	**P**	**08 52 40.7**	**-0.2**
	comp=E,1.4nm,0.6s						
TXAR	**Lajitas Array**	**71.61**	**332**	P	**P**	**08 52 44.4**	**+1.5**
	comp=E,1.5nm,0.8s,baz=155,slow=8.9,SNR=13						
TXAR				LR	LR	09 18 10.3	
	comp=E,48nm,20.4s,baz=0.0,slow=31						
WVT	**Waverly**	**73.68**	**348**	*e*P	**P**	**08 52 54.6**	**-0.3**
	comp=E,9.7nm,1.1s						
LIC	**Lamto**	**76.51**	**72**	*e*P	P	08 53 16.6	+4.8
	comp=E,44nm,1.2s						
TIC	**Toumodi**	**76.79**	**71**	*e*P	**P**	**08 53 13.6**	**+0.2**
	comp=E,6.2nm,0.2s						
KIC	**Kosan Boka**	**76.82**	**72**	*e*P	**P**	**08 53 12.6**	**-1.0**
	comp=E,35nm,1.1s						
DBIC	**Dimbokro**	**76.93**	**71**	P	**P**	**08 53 13.4**	**-0.7**
	comp=E,2.1nm,0.7s,baz=148,slow=8.0,SNR=3.8						
DBIC				LR	LR	09 24 52.1	
	comp=E,38nm,18.2s,baz=168,slow=34						
DBIC	**Dimbokro**	**76.93**	**71**	*e*P	**P**	**08 53 12.1**	**-2.0**
	comp=E,14nm,1.3s						
ANMO	**Albuquerque**	**77.67**	**333**	*e*P	**P**	**08 53 19.3**	**+1.2**
	comp=E,8.0nm,1.6s						
BOSA	**Boshof**	**79.68**	**118**	LR	LR	09 27 59.9	
	comp=E,39nm,18.1s,baz=168,slow=35						
SHPR	**Sheep Range**	**82.54**	**327**	*e*P	**P**	**08 53 46.2**	**+1.9**
	comp=E,2.6nm,1.1s						
ECSD	**EROS Data Cent**	**82.79**	**343**	*e*P	**P**	**08 53 45.0**	**-0.2**
	comp=E,11nm,1.5s						
TPH	**Tonopah**	**84.76**	**327**	*e*P	**P**	**08 53 57.5**	**+1.8**
	comp=E,3.6nm,1.0s						
HWUT	**Hardware Ranch**	**85.43**	**332**	*e*P	**P**	**08 53 59.0**	**+0.1**
	comp=E,3.9nm,0.9s						
NVAR	**Mina Array Bea**	**85.53**	**326**	P	**P**	**08 54 01.5**	**+1.9**
	comp=E,0.7nm,0.7s,baz=157,slow=4.9,SNR=6.0						
PDAR	**Pinedale Array**	**85.71**	**334**	P	**P**	**08 54 01.3**	**+0.9**
	comp=E,0.7nm,0.8s,baz=160,slow=5.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.00**	**71**	P	**P**	**08 54 02.9**	**+0.8**
	comp=E,0.5nm,0.8s,baz=224,slow=4.0,SNR=2.8						
TORD				LR	LR	09 31 00.7	
	comp=E,48nm,18.1s,baz=320,slow=35						
ZALV	**Zalesovo Beam**	**156.96**	**34**	PKP	**PKPdf**	**09 01 15.1**	**-1.1**
	comp=E,0.7nm,0.6s,baz=326,slow=2.1,SNR=5.7						
ZALV				pPKP	**pPKPdf**	**09 01 24.7**	**0.0**
	comp=E,1.3nm,0.8s,baz=0.0,slow=1.5,SNR=4.2						
ZALV				PKPab	**PKPab**	**09 01 46.1**	**-0.3**
	comp=E,0.8nm,0.5s,baz=318,slow=5.8,SNR=3.1						
ZALV				pPKPab	**pPKPab**	**09 01 55.9**	**+1.2**
	comp=E,1.0nm,0.6s,baz=328,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**159.17**	**53**	PKP	**PKPdf**	**09 01 17.7**	**-1.6**
	comp=E,0.4nm,0.8s,baz=270,slow=2.9,SNR=4.6						
MKAR				pPKP	**pPKPdf**	**09 01 27.9**	**+0.2**
	comp=E,1.2nm,1.0s,baz=307,slow=2.4,SNR=7.7						

IDC 03 08:54:40.4±11.0, 9°20S×157°.62E, h266km±109km, mb3.2/5, mb1 3.6/6, mb1mx3.2/27, mbtmp3.9/6, MS2.4/1, Ms1 2.4/1, ms1mx2.2/15, Error ellipse: s-maj=61.8km s-min=29.9km az=110.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.32**	**268**	LR	LR	08 59 55.0	
	comp=Z,21nm,21.1s,baz=106,slow=30						
JAY	**Jayapura**	**18.08**	**291**	P	P	08 58 33.2	+0.1
	1.2nm,0.3s,baz=121,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**24.90**	**242**	P	P	08 59 39.8	+0.2
	2.5nm,0.6s,baz=68,slow=10,SNR=24						
ASAR	**Alice Springs**	**26.85**	**235**	P	P	08 59 56.8	-0.3
	0.8nm,0.8s,baz=71,slow=8.8,SNR=7.0						
ILAR	**Eielson Array**	**84.48**	**21**	P	P	09 06 41.8	-1.3
	0.3nm,0.6s,baz=248,slow=5.2,SNR=7.1						
MKAR	**Makanchi Array**	**86.76**	**318**	P	P	09 06 54.8	+0.1
	0.1nm,0.4s,baz=106,slow=5.1,SNR=3.2						
NVAR	**Mina Array Bea**	**91.05**	**51**	P	P	09 07 16.8	+1.5
	1.0nm,0.9s,baz=226,slow=3.9,SNR=5.1						

*IDC **03** 08:56:05.7±1.0, 12°.95N×141°.65E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.5/35,mbtmp3.6/6,Error ellipse: s-maj=55.9km s-min=22.6km az=100.0*

*ISCJB **03** 08:56:09.0±0.9, 12°.9N±0°.1×141°.6E±0°.4,h33km,mb3.6/6, Error ellipse: s-maj=51.4km s-min=20.3km az=7.0*

ISC 03 08:56:10.9±1.1, 12°.9N±0°.2×141°.6E±0°.4, h35km, n6, σ1§17/6, mb3.5/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.43**	**193**	P	**P**	**09 02 46.2**	**-0.4**
	0.8nm,1.0s,baz=13,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**37.13**	**192**	P	**P**	**09 03 19.0**	**+0.5**
	0.2nm,0.6s,baz=17,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**59.80**	**317**	P	**P**	**09 06 13.6**	**+0.8**
	0.4nm,0.7s,baz=103,slow=6.5,SNR=3.6						
ILAR	**Eielson Array**	**70.53**	**26**	P	**P**	**09 07 21.7**	**-0.4**
	0.4nm,0.9s,baz=241,slow=5.8,SNR=2.8						
YKA	**Yellowknife Ar**	**84.90**	**27**	P	**P**	**09 08 42.9**	**+0.9**
	0.2nm,0.6s,baz=287,slow=4.9,SNR=7.3						
FINES	**FINESS Array B**	**90.42**	**334**	P	**P**	**09 09 07.2**	**-1.4**
	1.2nm,0.7s,baz=79,slow=6.0,SNR=5.2						

*ISCJB **03** 09:06:58.7±0.9, 13°.70N±0°.08×91°.39W±0°.04, h10km, Error ellipse: s-maj=11.2km s-min=5.8km az=5.0*

*CASC **03** 09:07:03.3±1.3, 13°.77N×91°.18W, h17km±6km, MD3.8, ML3.1*

*MEX **03** 09:07:05.5±0.3, 13°.91N×91°.46W, h15km, MD4.0*

ISC 03 09:06:59.7±1.7, 13°.77N±0°.10×91°.36W±0°.05, h10km, n14, σ1§45/19, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.61**	**333**	*e*P	**Pn**	**09 07 16.3**	**+1.9**
PCG	**Pacaya**	**0.95**	**49**	*e*P	**Pg**	**09 07 19.4**	**+1.3**
PCG				*e*S	**Sg**	**09 07 30.9**	**+0.4**
NBG	**Las Nubes**	**1.27**	**50**	*e*P	**Pb**	**09 07 24.0**	**+0.1**
NBG				*e*S	**Sb**	**09 07 41.1**	**+0.7**
RBDL	**Robledal**	**1.66**	**78**	*e*P	**Pn**	**09 07 28.5**	**-0.4**
RBDL				*e*S	**Sn**	**09 07 48.9**	**-1.4**
RTR	**El Retiro**	**1.67**	**85**	*e*P	**Pn**	**09 07 29.1**	**0.0**
SBLS	**San Blas**	**1.68**	**87**	*e*P	**Pn**	**09 07 29.6**	**+0.1**
SBLS				*e*S	**Sn**	**09 07 50.5**	**-0.7**
SNJE	**San Jose**	**1.70**	**86**	*e*P	**Pn**	**09 07 29.5**	**-0.1**
BOQS	**Boqueron**	**2.02**	**91**	*e*P	**Pn**	**09 07 34.4**	**+0.4**
SNET	**Serv Nac Est T**	**2.06**	**92**	AML	AML	09 08 08.5	
	comp=Z,208nm,0.3s						
LBRS	**Las Brisas**	**2.25**	**91**	*e*P	**Pn**	**09 07 36.4**	**-0.6**
CCIG	**Comitan**	**2.61**	**343**	⇑*e*P	**Pn**	**09 07 42.2**	**+0.1**
CCIG				*e*S	**Sn**	**09 08 10.6**	**-3.4**
PCIG		**2.64**	**317**	*e*P	**Pn**	**09 07 42.2**	**-0.1**
PCIG				*e*S	**Sn**	**09 08 11.0**	**-3.4**
CMIG	**Matias Romero**	**4.74**	**315**	*e*P	**Pn**	**09 08 12.0**	**+0.8**
HUIG	**Huatulco**	**5.01**	**294**	*i* P	**Pn**	**09 08 16.0**	**+1.1**

*IDC **03** 09:08:36.1±1.7, 6°.83S×154°.93E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, ML2.9/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/22, Error ellipse: s-maj=66.1km s-min=24.9km az=135.0*

*ISCJB **03** 09:08:40.6±1.3, 7°.05S±0°.3×155°.0E±0°.2, h41km, mb3.6/4, Error ellipse: s-maj=45.7km s-min=13.5km az=153.0*

ISC 03 09:08:41.6±1.6, 7°.1S±0°.4×155°.1E±0°.2, h41km, n7, σ0§73/7, mb3.7/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.39**	**116**	LR	LR	09 11 26.8	
	comp=Z,43nm,20.8s,baz=262,slow=30						
PMG	**Port Moresby**	**8.16**	**253**	Pn	**Pn**	**09 10 36.9**	**-0.7**
	0.8nm,0.3s,baz=61,slow=11,SNR=2.8						
PMG				Sn	**Sn**	**09 12 09.5**	**+1.0**
	0.5nm,0.3s,baz=38,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**23.83**	**235**	P	**P**	**09 13 50.7**	**-0.5**
	2.4nm,0.7s,baz=59,slow=9.1,SNR=29						
ASAR	**Alice Springs**	**26.18**	**229**	P	**P**	**09 14 12.8**	**+0.3**
	1.3nm,0.7s,baz=58,slow=8.7,SNR=15						
MKAR	**Makanchi Array**	**83.49**	**319**	P	**P**	**09 21 04.8**	**-0.4**
	0.3nm,0.8s,baz=123,slow=5.8,SNR=3.8						
YKA	**Yellowknife Ar**	**96.36**	**28**	P	**P**	**09 22 06.4**	**+0.5**
	0.4nm,0.9s,baz=261,slow=4.5,SNR=6.9						
TORD	**Torodi Ar. Bea**	**153.10**	**285**	PKPbc	**PKPbc**	**09 28 36.1**	**+0.2**
	0.6nm,0.8s,baz=70,slow=3.5,SNR=4.3						

IDC 03 09:12:14.8±2.9, 4°.13S×138°.09E, h144km±31km, mb3.2/2, mb1 3.8/7, mb1mx3.4/27, mbtmp4.1/7, MS2.6/1, Ms1 2.6/1, ms1mx2.2/11, Error ellipse: s-maj=39.7km s-min=16.5km az=102.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.06**	**58**	P	Pn	09 13 03.8	+0.9
	3.7nm,0.3s,baz=228,slow=13,SNR=8.9						
JAY				S	Sn	09 13 39.8	-0.2
	8.0nm,0.3s,baz=127,slow=20,SNR=6.9						
JAY				LR	LR	09 14 00.1	
	comp=Z,91nm,19.2s,baz=349,slow=34						
MMPI	**Merauke**	**4.87**	**152**	S	Sn	09 14 18.9	-3.4
	baz=4.7,SNR=9.6						
FAKI	**Fak Fak**	**5.96**	**281**	P	Pn	09 13 41.1	+0.2
	baz=6.0,SNR=17						
PMG	**Port Moresby**	**10.42**	**121**	P	Pn	09 14 42.3	+1.7
	0.9nm,0.3s,baz=308,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**16.14**	**193**	P	Pn	09 15 51.8	-1.9
	1.3nm,0.3s,baz=17,slow=12,SNR=66						
CTA	**Charters Tower**	**17.74**	**154**	P	Pn	09 16 13.6	+0.4
	0.6nm,0.3s,baz=324,slow=13,SNR=6.5						
ASAR	**Alice Springs**	**19.84**	**191**	P	P	09 16 33.8	-0.9
	3.9nm,0.3s,baz=17,slow=10,SNR=369						
MKAR	**Makanchi Array**	**70.54**	**323**	P	P	09 23 14.8	+0.5
	0.2nm,0.6s,baz=107,slow=7.4,SNR=3.4						
ILAR	**Eielson Array**	**87.37**	**24**	P	P	09 24 44.9	-0.6
	0.4nm,0.5s,baz=256,slow=4.5,SNR=8.7						

*NNC **03** 09:55:43.1±3.2, 40°.21N×77°.62E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=25.8km s-min=13.9km az=143.0*

*KRNET **03** 09:55:43.5±0.1, 40°.47N×77°.27E, h2km, mb3.8*

ISC 03 09:55:42.8±1.7, 40°.40N±0°.07×77°.32E±0°.06, h10km, n24, σ1§62/32, 10C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.43**	**316**	⇓*i*P	**Pb**	**09 56 09.7**	**-0.1**
	baz=315						
KDJ	**Kajisay**	**1.73**	**357**	*e*P	**Pb**	**09 56 13.7**	**-1.0**
	baz=358						
KDJ				*e*S	**Sg**	**09 56 37.0**	**-1.4**
	baz=358						
ULHL	**Ulahol**	**2.01**	**337**	P	**Pb**	**09 56 19.9**	**+0.3**
	SNR=44						
ULHL	**Ulahol**	**2.01**	**337**	⇑*i*P	**Pb**	**09 56 19.6**	**0.0**
	baz=337						
ULHL				⇑*i*S	**Sg**	**09 56 46.3**	**-1.1**
	baz=337						
KZA	**Kyzart**	**2.29**	**318**	P	**Pg**	**09 56 25.5**	**-1.1**
	SNR=54						
ARLS	**Aral**	**2.69**	**304**	⇓*i*P	**Pb**	**09 56 31.5**	**+0.4**
	baz=303						
ARLS				⇓*i*S	**Sg**	**09 57 07.5**	**-1.7**
	baz=303						
SALK	**Salom-Alik**	**2.70**	**281**	*e*P	**Pg**	**09 56 33.0**	**-1.6**
	baz=280						
SALK				*e*S	**Sg**	**09 57 09.0**	**-0.6**
	baz=280						
UCH	**Uchtor**	**2.79**	**312**	P	**Pb**	**09 56 32.5**	**-0.5**
	SNR=14						
KNDC	**Almaty**	**2.82**	**355**	⇑Sn	**Sg**	**09 57 12.4**	**-1.1**
	126nm,0.6s						
TKM2	**Tokmak 2**	**2.83**	**333**	⇓Pn	**Pb**	**09 56 33.3**	**-0.2**
	11nm,0.5s						
TKM2				⇑Sn	**Sb**	**09 57 09.0**	**+0.8**
	29nm,0.7s						
TKM2	**Tokmak 2**	**2.83**	**333**	P	**Pb**	**09 56 33.3**	**-0.2**
	SNR=8.1						
KBK	**Karagaybulak**	**2.87**	**322**	P	**Pg**	**09 56 39.9**	**+2.1**
	SNR=10						
KBK	**Karagaybulak**	**2.87**	**322**	*e*P	Pn	09 56 24.0	-4.7
	baz=23						
KBK				*e*S	Sn	09 56 55.0	-8.4
	baz=23						
SFK	**Sufi-Kurgan**	**2.95**	**264**	⇑Pn	**Pb**	**09 56 34.5**	**-1.1**
	20nm,0.7s						
SFK				⇑Sn	**Sb**	**09 57 13.5**	**+1.8**
	88nm,0.4s						
AAK	**Ala-Archa**	**3.07**	**317**	⇑Pn	**Pb**	**09 56 36.2**	**-1.5**
	24nm,0.6s						
AAK				⇑Sn	**Sg**	**09 57 20.8**	**-0.8**
	51nm,0.6s						
AAK	**Ala-Archa**	**3.07**	**317**	P	**Pb**	**09 56 36.6**	**-1.1**
	SNR=18						
CHMS	**Chumysh**	**3.23**	**324**	P	**Pg**	**09 56 44.7**	**+0.1**
	SNR=5.6						
AML	**Almayashu**	**3.23**	**303**	P	**Pb**	**09 56 38.8**	**-1.6**
	SNR=37						
PDGK	**Podgornoye**	**3.34**	**28**	⇓Pn	**Pn**	**09 56 37.6**	**+2.6**
	39nm,0.4s						
PDGK				⇓Sn	**Sb**	**09 57 20.4**	**-2.3**
	103nm,0.7s						
EKS2	**Erkin-Say**	**3.48**	**311**	P	**Pb**	**09 56 42.4**	**-2.3**
	SNR=8.4						
USP	**Ospenovka**	**3.55**	**325**	P	**Pg**	**09 56 48.2**	**-2.6**
	SNR=30						
MNAS	**Manas**	**4.17**	**301**	⇑Pn	Pb	09 56 52.8	-3.5
	5.7nm,0.7s						
MNAS				⇓Sn	**Sb**	**09 57 50.3**	**+3.4**
	22nm,0.9s						
KK31	**Karatay Array**	**5.76**	**300**	Pg	**Pg**	**09 57 30.5**	**-2.6**
	1.0nm,0.5s,baz=121,slow=16,SNR=9.6						
KK31				⇓Lg	Lg	09 58 49.0	
	3.0nm,0.6s,baz=115,slow=27,SNR=4.2						
MK31	**Makanchi Array**	**7.33**	**28**	⇓Pn	**Pn**	**09 57 32.1**	**+2.2**
	0.5nm,0.6s,baz=201,slow=13,SNR=4.7						
MK31				⇑Lg	Lg	09 59 35.2	
	0.7nm,0.5s,baz=216,slow=25						

*IDC **03** 10:24:48.3±1.4, 34°.51S×72°.67W, h42km±5km, mb3.9/4, mb1 3.9/6, mb1mx3.6/28, mbtmp4.0/6, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/23, Error ellipse: s-maj=45.0km s-min=13.4km az=126.0*

*ISCJB **03** 10:24:50.5±0.8, 34°.80S±0°.04×71°.9W±0°.1, h57km±7km, mb4.1/6, Error ellipse: s-maj=19.2km s-min=5.8km az=8.6*

*GUC **03** 10:24:50.7±0.7, 34°.78S×71°.84W, h38km±4km, ML4.3*

*NEIC **03** 10:24:50.7, 34°.78S×71°.84W, h38km, mb4.1/2, After GUC.*

NEIC Felt [III] at Curico and Talca and [II] at Linares, Parral, San Fernando, San Javier and Santa Cruz.

ISC 03 10:24:50.8±0.7, 34°.81S±0°.03×71°.83W±0°.08, h45km±5km, n32, σ1§34/46, mb4.1/6, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.53**	**111**	⇓*i*P	**Pn**	**10 25 02.1**	**-0.1**
NICH				*i* S	**Sn**	**10 25 10.4**	**+0.2**
NICH	**Los Niches**	**0.53**	**111**	⇓*i*P	**Pn**	**10 25 02.1**	**-0.1**
NICH				*i* S	**Sn**	**10 25 10.4**	**+0.2**
TALC	**Talca**	**0.61**	**165**	⇑*i*P	**Pn**	**10 25 03.6**	**+0.4**
TALC				*i* S	**Sn**	**10 25 13.0**	**+1.0**
TALC	**Talca**	**0.61**	**165**	⇑*i*P	**Pn**	**10 25 03.6**	**+0.4**
TALC				*i* S	**Sn**	**10 25 13.0**	**+1.0**
LNV	**Longovilo**	**0.92**	**22**	⇓*i*P	**Pn**	**10 25 07.3**	**-0.1**
LNV	**Longovilo**	**0.92**

comp=N,0.7nm,1.2s,baz=149,slow=1.5,SNR=2.8
EKS2 Erkin-Say 152.20 63 *e*PKPdf **PKPdf 10 44 34.1 -0.6**

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*NNC **03** 10:36:45.2±1.9, 54°.28N×87°.35E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.3km s-min=12.9km az=169.0*
*IDC **03** 10:36:49.6±3.0, 54°.31N×86°.53E, h0km, mb1 3.2/3, mb1mx3.0/31, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=28.8km s-min=12.7km az=63.0*
ISC 03 10:36:44.1±4.1, 54°.7N±0°.2×87°.3E±0°.2, h35km, n8, σ2$58/14, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**242**	*i*		10 45 00.0	
	baz=72,slow=331,SNR=15						
ZALV	**Zalesovo Beam**	**1.64**	**242**	Pn	**Pn**	**10 37 10.2**	**-0.3**
	1.0nm,0.3s,baz=70,slow=16,SNR=9.0						
ZALV				Sn	**Sn**	**10 37 27.1**	**-3.2**
	1.1nm,0.3s,baz=69,slow=20,SNR=6.7						
KURK	**Kurchatov**	**6.62**	**236**	⇑Pn	**Pn**	**10 38 20.6**	**+1.8**
	5.8nm,1.1s						
KURK				⇓Sn	**Sn**	**10 39 36.4**	**+3.5**
	3.1nm,0.8s						
KURK				⇑Lg	Lg	10 40 07.8	
	20nm,1.1s						
KURBB	**Kurchatov Arra**	**6.72**	**236**	⇑Pn	**Pn**	**10 38 22.0**	**+1.7**
	7.2nm,0.9s						
KURBB				⇑Sn	**Sn**	**10 39 38.2**	**+2.7**
	14nm,0.8s						
KURBB				⇓Lg	Lg	10 40 10.8	
	43nm,0.9s						
KURBB	**Kurchatov Arra**	**6.72**	**236**	Pn	**Pn**	**10 38 22.6**	**+2.4**
	0.1nm,0.3s,baz=54,slow=14,SNR=22						
KURBB				Sn	**Sn**	**10 39 36.2**	**+0.7**
	0.0nm,0.3s,baz=53,slow=23,SNR=3.4						
KURBB				Lg	Lg	10 40 04.1	
	0.0nm,0.3s,baz=55,slow=27,SNR=4.3						
MK31	**Makanchi Array**	**8.55**	**204**	⇓Pn	**Pn**	**10 38 45.4**	**0.0**
	1.9nm,0.8s,baz=24,slow=12,SNR=4.4						
MK31				⇑Sn	**Sn**	**10 40 18.6**	**-2.0**
	5.8nm,0.9s,baz=28,slow=28,SNR=6.7						
MK31				⇑Lg	Lg	10 41 05.1	
	20nm,1.0s,baz=27,slow=29,SNR=10.0						
MKAR	**Makanchi Array**	**8.55**	**204**	Pn	**Pn**	**10 38 47.6**	**+2.2**
	0.1nm,0.3s,baz=21,slow=10,SNR=9.4						
MKAR				Sn	**Sn**	**10 40 18.3**	**-2.3**
	0.1nm,0.3s,baz=14,slow=23,SNR=3.4						
MKAR				Lg	Lg	10 41 04.5	
	0.1nm,0.3s,baz=18,slow=28,SNR=7.9						
BVAR	**Borovoye Array**	**10.12**	**267**	Pn	**Pn**	**10 39 08.5**	**+1.7**
	0.2nm,0.3s,baz=75,slow=11,SNR=2.7						
BVAR				Sn	**Sn**	**10 40 55.1**	**-3.8**
	0.1nm,0.3s,baz=77,slow=25,SNR=3.7						

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*IDC **03** 10:59:48.4±8.9, 7°.28S×129°.47E, h169km±94km, mb3.0/1, mb1 3.2/4, mb1mx2.8/43, mbtmp3.6/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/8, Error ellipse: s-maj=87.3km s-min=26.9km az=37.0*
*ISCJB **03** 10:59:49.7±1.5, 7°.45S±0°.10×129°.46E±0°.07, h150km, mb3.2/1, Error ellipse: s-maj=14.4km s-min=8.4km az=17.9*
ISC 03 10:59:48.0±1.4, 7°.3S±0°.1×129°.54E±0°.08, h150km, n9, σ1$93/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.70**	**164**	P	**Pn**	**11 01 12.7**	**+1.9**
	baz=3.5,SNR=46						
MTN				S	**Sn**	**11 02 16.2**	**+0.8**
	baz=3.5,SNR=10						
KDU	**Kakadu**	**6.06**	**152**	P	**Pn**	**11 01 17.2**	**+1.7**
	baz=3.8,SNR=21						
KDU				S	**Sn**	**11 02 24.4**	**+0.4**
	baz=3.8,SNR=6.7						
BATI	**Baumata**	**6.47**	**243**	P	**Pn**	**11 01 22.1**	**+1.1**
	3.2nm,0.3s,baz=110,slow=0.6,SNR=6.3						
BATI				S	**Sn**	**11 02 33.8**	**-0.1**
	6.3nm,0.3s,baz=44,slow=22,SNR=5.8						
BATI				LR	LR	11 03 46.8	
	comp=Z,38nm,19.6s,baz=100,slow=37						
KNRA	**Kununurra**	**8.33**	**185**	P	**Pn**	**11 01 47.1**	**+1.3**
	baz=6.6,SNR=12						
KNRA				S	**Sn**	**11 03 17.0**	**-1.6**
	baz=6.6,SNR=3.8						
WRA	**Warramunga Arr**	**13.38**	**160**	P	**Pn**	**11 02 50.9**	**-1.2**
	0.3nm,0.3s,baz=341,slow=12,SNR=20						
WRA				S	Sn	11 05 13.3	-7.0
	0.6nm,0.3s,baz=340,slow=22,SNR=8.9						
COEN	**Coen**	**14.93**	**117**	P	**P**	**11 03 14.9**	**+1.3**
	baz=13,SNR=4.9						
ASAR	**Alice Springs**	**16.78**	**166**	P	**Pn**	**11 03 35.3**	**+1.0**
	0.4nm,0.3s,baz=342,slow=9.2,SNR=46						
ASAR				S	**S**	**11 06 36.9**	**-4.0**
	0.1nm,0.3s,baz=354,slow=27,SNR=4.6						
WRKA	**Warakurna**	**17.65**	**184**	P	**Pn**	**11 03 46.4**	**+1.6**
	baz=16,SNR=5.9						
MKAR	**Makanchi Array**	**68.25**	**327**	P	**P**	**11 10 30.3**	**-2.2**
	0.2nm,0.4s,baz=122,slow=7.8,SNR=4.3						

KRSC 03 11:01:44.9±0.9, 50°.99N×157°.90E, h41km±16km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.83**	**305**	*e*P	Pn	11 02 01.9	+1.7
PAU				S	Sn	11 02 12.8	+1.5
SKR	**Severo-Kuril's**	**1.17**	**256**	*e*P	Pn	11 02 06.0	+1.2
SKR				*e*S	Sn	11 02 20.2	+0.7
RUS	**Russkaya**	**1.50**	**15**	*e*P	Pn	11 02 10.6	+1.3
RUS				S	Sn	11 02 28.3	+0.8
MTVR	**Mutnovka**	**1.51**	**7**	*e*P	Pn	11 02 11.4	+1.8
MTVR				*e*S	Sn	11 02 29.4	+1.2
APC	**Apacha**	**1.99**	**347**	*e*P	Pn	11 02 18.2	+2.1
UGLR	**Uglovaya**	**2.30**	**14**	*e*P	Pn	11 02 23.1	+2.7
AVH	**Avacha**	**2.34**	**12**	*e*P	Pn	11 02 23.8	+2.9
AVH				S	Sn	11 02 51.5	+3.0
SMAR	**Somma**	**2.35**	**13**	*e*P	Pn	11 02 23.9	+2.7
KOK	**Koryaka**	**2.35**	**11**	*e*P	Pn	11 02 24.4	+3.2
SDLR	**Sedlovina**	**2.37**	**14**	*e*P	Pn	11 02 23.4	+1.9
SDLR				*e*S	Sn	11 02 52.3	+2.9
KRER	**Koryakskii**	**2.38**	**12**	*e*P	Pn	11 02 24.5	+2.9
KRER				S	Sn	11 02 53.2	+3.5
KRX	**Arik**	**2.42**	**11**	*e*P	Pn	11 02 24.9	+2.8
KRX				*e*S	Sn	11 02 54.3	+3.7
GNL	**Ganaly**	**2.71**	**1**	*e*P	Pn	11 02 28.7	+2.6

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*IDC **03** 11:01:47.7±6.1, 17°.30S×178°.92W, h510km±74km, mb3.0/8, mb1 3.4/9, mb1mx3.1/44, mbtmp3.9/9, Error ellipse: s-maj=77.2km s-min=25.9km az=157.0*
*ISCJB **03** 11:01:49.2±1.3, 17°.3S±0°.5×179°.0W±0°.3, h539km, mb3.3/8, Error ellipse: s-maj=70.2km s-min=15.4km az=150.2*
ISC 03 11:01:49.7±1.6, 17°.4S±0°.5×179°.0W±0°.3, h539km, n10, σ0$46/10, mb3.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.49**	**249**	P	**P**	**11 04 53.9**	**-0.4**
	0.2nm,0.3s,baz=279,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**44.20**	**259**	P	**P**	**11 09 11.5**	**+0.2**
	0.6nm,0.6s,baz=94,slow=7.1,SNR=8.6						
ASAR	**Alice Springs**	**44.42**	**254**	P	**P**	**11 09 13.3**	**+0.4**
	7.0nm,0.6s,baz=89,slow=8.1,SNR=78						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**11 13 00.9**	**+0.3**
	0.3nm,0.5s,baz=235,slow=7.6,SNR=2.9						
SEY	**Seymchan**	**83.18**	**347**	P	**P**	**11 13 19.4**	**+0.5**
	0.7nm,0.4s,baz=169,slow=6.9,SNR=7.4						
ILAR	**Eielson Array**	**85.53**	**13**	P	**P**	**11 13 29.9**	**-0.5**
	0.2nm,0.4s,baz=224,slow=5.2,SNR=9.0						
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**11 13 34.7**	**+0.3**
	0.3nm,0.7s,baz=220,slow=6.2,SNR=4.6						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	**11 13 39.7**	**-0.2**
	0.3nm,0.6s,baz=231,slow=5.7,SNR=2.8						
YKA	**Yellowknife Ar**	**94.11**	**25**	P	**P**	**11 14 09.6**	**-0.6**
	0.2nm,0.8s,baz=246,slow=3.8,SNR=3.3						
GERES	**GERESS Array B**	**147.00**	**345**	PKPbc	**PKPbc**	**11 20 32.5**	**+0.4**
	0.9nm,0.6s,baz=18,slow=3.4,SNR=6.2						

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*ISCJB **03** 11:04:33.8±1.8, 33°.87S±0°.03×72°.68W±0°.06, h12km±12km, mb4.0/8, MS3.3/4, Error ellipse: s-maj=8.9km s-min=5.6km az=6.3*
*IDC **03** 11:04:33.8±0.8, 33°.94S×72°.50W, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/19, mbtmp3.9/9, ML4.1/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=25.5km s-min=16.7km az=120.0*
*GUC **03** 11:04:35.5±0.7, 33°.84S×72°.67W, h40km±8km, ML4.6*
*NEIC **03** 11:04:39.1±0.5, 33°.95S×72°.30W, h35km, mb4.0/3, Error ellipse: s-maj=15.1km s-min=8.9km az=91.0*
ISC 03 11:04:33.4±2.2, 33°.89S±0°.04×72°.65W±0°.07, h0km±13km, n35, σ1$06/39, mb4.1/8, MS3.3/4, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.20**	**45**	*e*P	**Pg**	**11 04 56.3**	**-0.1**
NICH	**Los Niches**	**1.61**	**134**	*e*P	**Pn**	**11 05 03.2**	**+0.1**
NICH				*i* S	**Sb**	**11 05 24.3**	**-0.7**
ROCH	**El Roble**	**1.64**	**57**	*e*P	**Pn**	**11 05 03.3**	**-0.4**
ROCH				*e*S	**Sn**	**11 05 24.4**	**-1.2**
TALC	**Talca**	**1.72**	**151**	⇓*i*P	**Pn**	**11 05 04.2**	**-0.4**
TALC				*i* S	**Sn**	**11 05 26.9**	**-0.4**
PEL	**Peldehue**	**1.80**	**66**	⇓*i*P	**Pn**	**11 05 05.7**	**0.0**
PEL				AML	AML	11 05 39.9	
	comp=N,13μm,0.5s						
CLCH	**Cerro Calan**	**1.82**	**75**	⇑*i*P	**Pn**	**11 05 05.7**	**-0.4**
CLCH				AML	AML	11 05 36.8	
	comp=N,7μm,0.7s						
LNCH	**Linares**	**2.14**	**157**	⇑*i*P	**Pn**	**11 05 10.9**	**+0.6**
LNCH				*i* S	**Sn**	**11 05 36.8**	**-0.7**
LNCH				AML	AML	11 05 56.8	
	comp=N,4μm,0.6s						
YECH	**El Yeso**	**2.15**	**85**	⇓*i*P	**Pn**	**11 05 10.4**	**-0.3**
YECH				*e*S	**Sn**	**11 05 37.7**	**-0.4**
COCH	**Cobquecura**	**2.24**	**183**	⇓*i*P	**Pn**	**11 05 11.6**	**-0.2**
COCH				*e*S	**Sn**	**11 05 36.8**	**-3.3**
CFAA	**Coronel Fontan**	**4.36**	**60**	Pn	**Pn**	**11 05 42.2**	**+1.4**
	comp=N,0.2nm,0.3s,baz=235,slow=14,SNR=24						
CFAA				Sn	**Sn**	**11 06 33.1**	**+0.8**
	comp=N,0.9nm,0.3s,baz=270,slow=20,SNR=3.9						
CFAA				Lg	Lg	11 06 49.9	
	comp=N,1.8nm,0.3s,baz=343,slow=20,SNR=5.4						
LCO	**Las Campanas**	**5.14**	**19**	*e*Pn	**Pn**	**11 05 51.1**	**-0.7**
	comp=N,47nm,0.6s						
LCO				*e*Sn	**Sn**	**11 06 48.7**	**-3.2**
PLCA	**Paso Flores**	**7.04**	**167**	Pn	**Pn**	**11 06 18.1**	**+0.5**
	comp=N,0.9nm,0.3s,baz=299,slow=6.3,SNR=5.5						
PLCA	**Paso Flores**	**7.04**	**167**	Pn	**Pn**	**11 06 18.1**	**+0.5**
	comp=N,9.8nm,1.0s						
TRQA	**Tornquist**	**9.59**	**119**	*e*Pn	Pn	11 06 48.6	-4.1
	comp=N,16nm,0.9s						
LPAZ	**La Paz**	**17.99**	**14**	P	**P**	**11 08 47.0**	**+0.9**
	comp=N,0.2nm,0.3s,baz=195,slow=9.6,SNR=12						
LPAZ	**La Paz**	**17.99**	**14**	P	**P**	**11 08 47.0**	**+0.9**
	comp=N,3.1nm,0.8s						
SIV	**San Ignacio**	**20.65**	**33**	P	**P**	**11 09 14.1**	**-0.6**
	comp=N,6.6nm,0.8s,baz=219,slow=11,SNR=16						
SIV				LR	LR	11 18 44.7	
	comp=N,155nm,18.9s,baz=255,slow=41						
SAML	**Samuel**	**26.30**	**22**	*e*P	**P**	**11 10 11.3**	**+0.6**
	comp=N,3.2nm,0.9s						
ATAH	**Atahualpa**	**27.15**	**347**	LR	LR	11 19 58.6	
	comp=N,60nm,18.3s,baz=251,slow=34						
BDFB	**Brasilia**	**28.69**	**57**	P	**P**	**11 10 31.0**	**-1.3**
	comp=N,2.4nm,0.9s,baz=225,slow=10.0,SNR=3.3						
PMSA	**Palmer Station**	**31.36**	**173**	LR	LR	11 22 10.7	
	comp=N,149nm,18.2s,baz=286,slow=34						
RPN	**Rapa Nui**	**32.20**	**272**	LR	LR	11 19 15.6	
	comp=N,38nm,20.4s,baz=30,slow=27						
SNAA	**Sanae**	**51.88**	**158**	P	**P**	**11 13 43.2**	**0.0**
	comp=N,1.9nm,0.8s,baz=298,slow=7.9,SNR=7.9						
QSPA	**South Pole Qui**	**56.35**	**180**	P	**P**	**11 14 15.8**	**-0.1**
	comp=N,1.8nm,0.9s,baz=109,slow=6.6,SNR=4.0						
TXAR	**Lajitas Array**	**69.39**	**331**	P	**P**	**11 15 44.9**	**+1.7**
	comp=N,0.3nm,0.8s,baz=154,slow=9.3,SNR=3.9						
WVT	**Waverly**	**71.08**	**347**	*e*P	**P**	**11 15 53.9**	**+0.7**
	comp=N,8.0nm,0.8s						
NVAR	**Mina Array Bea**	**83.50**	**326**	P	**P**	**11 17 04.4**	**+1.3**
	comp=N,0.2nm,0.5s,baz=150,slow=5.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**84.65**	**70**	P	**P**	**11 17 08.8**	**-0.4**
	comp=N,2.1nm,0.8s,baz=225,slow=3.3,SNR=11						
WRA	**Warramunga Arr**	**120.61**	**210**	PKP	**PKPdf**	**11 23 26.9**	**-0.8**
	comp=N,0.2nm,0.8s,baz=156,slow=1.7,SNR=4.1						
BVAR	**Borovoye Array**	**147.54**	**43**	PKPbc	**PKPbc**	**11 24 19.2**	**+0.2**
	comp=N,1.2nm,0.6s,baz=298,slow=3.1,SNR=5.4						
AAK	**Ala-Archa**	**152.90**	**62**	PKPbc	**PKPbc**	**11 24 33.0**	**+0.5**
	comp=N,1.7nm,0.7s,baz=270,slow=1.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**153.13**	**43**	PKPbc	**PKPbc**	**11 24 32.6**	**+0.1**
	comp=N,0.7nm,0.7s,baz=298,slow=2.9,SNR=8.7						
KURK	**Kurchatov**	**153.14**	**43**	PKPbc	**PKPbc**	**11 24 32.6**	**+0.1**
ZALV	**Zalesovo Beam**	**154.40**	**32**	PKPbc	**PKPbc**	**11 24 35.4**	**+0.3**
	comp=N,1.0nm,0.6s,baz=318,slow=1.9,SNR=6.1						
MKAR	**Makanchi Array**	**157.07**	**48**	PKPab	**PKPab**	**11 25 01.0**	**-0.1**
	comp=N,1.0nm,0.7s,baz=294,slow=3.7,SNR=9.9						

WEL 03 11:10:05.3±0.4, 35°.33S×178°.30E, h196km±8km, ML4.0/12, 2C, Error ellipse: s-maj=7.6km s-min=6.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.23**	**180**	PN	Pn	11 10 46.1	+0.1
MXZ				SN	Sn	11 11 17.1	-0.7
HAZ	**Te Kaha**	**2.46**	**190**	⇑PN	Pn	11 10 48.9	+0.4
HAZ				SN	Sn	11 11 21.1	-1.2
WMGZ	**Waiomatatini S**	**2.49**	**178**	PN	Pn	11 10 49.3	+0.5
WMGZ				SN	Sn	11 11 23.0	+0.1
PUZ	**Puketiti**	**2.74**	**181**	PN	Pn	11 10 51.4	-0.3
PUZ				SN	Sn	11 11 26.6	-1.6
PUZ				AML	AML	11 11 28.0	
TWGZ	**Tauwhareparae**	**2.86**	**185**	PN	Pn	11 10 53.8	+0.7
TWGZ				SN	Sn	11 11 30.5	-0.2
MWZ	**Matawai**	**3.07**	**191**	PN	Pn	11 10 56.1	+0.5
MWZ				SN	Sn	11 11 34.6	-0.4
MWZ				AML	AML	11 11 39.0	
URZ	**Urewera**	**3.08**	**198**	PN	Pn	11 10 56.1	+0.5
URZ				SN	Sn	11 11 35.1	-0.1
TKGZ	**Te Karaka**	**3.13**	**187**	PN	Pn	11 10 56.2	0.0
TKGZ				SN	Sn	11 11 35.4	-0.8
CNGZ	**Carnagh Statio**	**3.16**	**181**	PN	Pn	11 10 56.5	0.0
RIGZ	**Rimuhau**	**3.40**	**187**	PN	Pn	11 10 59.4	-0.2
SNGZ	**Shannon Statio**	**3.54**	**192**	PN	Pn	11 11 01.4	+0.3
RAHZ	**Arahi**	**3.72**	**195**	PN	Pn	11 11 03.6	+0.2
KNZ	**Kokohu**	**3.72**	**188**	PN	Pn	11 11 02.3	-1.1
MHGZ	**Mahia Peninsul**	**3.84**	**185**	PN	Pn	11 11 04.0	-0.8
ARHZ	**Aropaoanui**	**4.07**	**194**	PN	Pn	11 11 07.5	-0.3
BKZ	**Black Stump Fm**	**4.10**	**200**	PN	Pn	11 11 08.9	+0.7
MCHZ	**McNeill Hill**	**4.31**	**197**	PN	Pn	11 11 10.4	-0.3
FWVZ	**Far West T-bar**	**4.50**	**208**	⇑PN	Pn	11 11 13.8	+0.4
BHHZ	**Black Hill Sta**	**4.52**	**203**	PN	Pn	11 11 12.8	-0.7
WNVZ	**Wahianoa**	**4.54**	**208**	PN	Pn	11 11 14.1	+0.2
KRHZ	**Kereru**	**4.58**	**199**	PN	Pn	11 11 13.3	-0.9
KAHZ	**Kahuranaki**	**4.61**	**194**	PN	Pn	11 11 13.7	-0.8
PXZ	**Pawanui**	**4.84**	**193**	PN	Pn	11 11 15.8	-1.6
PNHZ	**Pukenui**	**4.88**	**199**	PN	Pn	11 11 16.8	-1.2
TSZ	**Takapari Road**	**5.08**	**201**	PN	Pn	11 11 19.3	-1.3
PRHZ	**Porangahau**	**5.11**	**194**	PN	Pn	11 11 19.6	-1.4
WAZ	**Wanganui**	**5.15**	**210**	PN	Pn	11 11 21.7	+0.2
ANWZ	**Angora Road**	**5.33**	**195**	PN	Pn	11 11 22.4	-1.3
MRZ	**Mangatainoka R**	**5.75**	**201**	PN	Pn	11 11 26.7	-2.4
HOWZ	**Holdsworth Sta**	**5.98**	**201**	PN	Pn	11 11 29.7	-2.6
KIW	**Kapiti Island**	**6.14**	**205**	PN	Pn	11 11 31.9	-2.4
MTW	**Mount Morrison**	**6.23**	**200**	PN	Pn	11 11 32.5	-2.9
CAW	**Cannon Point**	**6.31**	**203**	PN	Pn	11 11 33.6	-2.9
MSWZ	**Moikau Station**	**6.54**	**201**	PN	Pn	11 11 36.5	-2.9
TCW	**Tory Channel**	**6.68**	**207**	PN	Pn	11 11 38.3	-2.8
TUWZ	**Tuamarina**	**6.99**	**208**	PN	Pn	11 11 42.2	-3.0
NNZ	**Nelson**	**7.04**	**212**	PN	Pn	11 11 43.1	-2.8
QRZ	**Quartz Range**	**7.13**	**218**	PN	Pn	11 11 44.6	-2.5
THZ	**Tophouse**	**7.69**	**212**	PN	Pn	11 11 51.5	-3.0
KHZ	**Kahutara**	**8.00**	**206**	PN	Pn	11 11 54.9	-3.5
DSZ	**Denniston Nort**	**8.19**	**216**	PN	Pn	11 11 58.5	-2.4
LTZ	**Lake Taylor**	**8.80**	**210**	PN	Pn	11 12 05.3	-3.6
OXZ	**Oxford**	**9.35**	**209**	PN	Pn	11 12 11.5	-4.4
MQZ	**McQueen's Vall**	**9.44**	**206**	PN	Pn	11 12 12.2	-4.9

GUC 03 11:16:13.0±0.7, 34°.75S×72°.05W, h14km±4km, ML3.5, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.72**	**110**	⇑*i*P	Pg	11 16 26.4	-0.6
NICH				*i* S	Sg	11 16 36.6	+0.1
TALC	**Talca**	**0.73**	**152**	⇑*i*P	Pg	11 16 26.5	-0.7
TALC				*i* S	Sg	11 16 36.7	-0.1
LNCH	**Linares**	**1.15**	**162**	⇓*i*P	Pb	11 16 34.0	-0.7
LNCH				*i* S	Sg	11 16 50.0	-0.3
COCH	**Cobquecura**	**1.50**	**203**	*e*P	Pn	11 16 38.4	-1.2
COCH				*i* S	Sn	11 16 58.5	-0.4
PEL	**Peldehue**	**1.97**	**36**	⇑*i*P	Pn	11 16 46.7	+0.6
PEL				*i* S	Sn	11 17 11.9	+1.3
PEL				AML	AML	11 17 14.8	
	comp=N,805nm,0.5s						
ROCH	**El Roble**	**1.98**	**26**	*e*P	Pn	11 16 47.0	+0.6
ROCH				*e*S	Sn	11 17 12.2	+1.0
ROCH				AML	AML	11 17 17.0	
	comp=E,428nm,0.7s						

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*ISCJB **03** 11:28:15.4±0.4, 12°.08N±0°.09×86°.92W±0°.09, h87km±11km, mb3.5/2, Error ellipse: s-maj=20.9km s-min=3.3km az=42.0*
*IDC **03** 11:28:15.2±2.1, 12°.33N×86°.57W, h97km±36km, mb3.3/2, mb1 3.8/4, mb1mx3.2/42, mbtmp3.8/4, MS2.3/1, Ms1 2.3/1, ms1mx2.2/18, Error ellipse: s-maj=86.4km s-min=20.1km az=43.0*
*CASC **03** 11:28:16.1±1.5, 11°.98N×86°.99W, h65km±23km, MD4.0, ML3.4*
ISC 03 11:28:15.3±0.9, 12°.14N±0°.09×86°.89W±0°.09, h92km±9km, n29, σ1$15/42, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.30**	**83**	⇓*i*P	**Pn**	**11 28 28.3**	**-0.6**
CNGN	**Cerro Negro**	**0.40**	**28**	*e*P	**Pn**	**11 28 29.0**	**-0.6**
CNGN				*e*S	**Sn**	**11 28 39.8**	**-0.4**
CNGN				*e*S	**Sn**	**11 28 39.9**	**-0.4**
HUEN		**0.73**	**74**	*e*P	**Pn**	**11 28 33.1**	**+0.9**
HUEN				*e*S	**Sn**	**11 28 45.8**	**+0.9**
CNCH	**Conchagua**	**1.46**	**321**	*e*P	**Pn**	**11 28 40.9**	**+0.2**
CNCH				*e*S	**Sn**	**11 29 02.5**	**+2.6**
BLLM	**Bellamira**	**1.84**	**315**	*e*P	**Pn**	**11 28 46.2**	**+0.6**
VSM	**San Miguel**	**1.86**	**314**	*e*P	**Pn**	**11 28 46.8**	**+0.9**
GBS2	**Las Lilas**	**1.92**	**132**	*i* P	**Pn**	**11 28 46.4**	**-0.2**
GB1A	**Borinquen Arri**	**1.97**	**132**	*i* P	**Pn**	**11 28 47.1**	**-0.1**
GB1A				*i* S	**Sn**	**11 29 09.9**	**-1.7**
CAHU	**Cacacuatique**	**2.07**	**322**	*e*P	**Pn**	**11 28 49.5**	**+0.9**
LIM1	**Limonal**	**2.15**	**132**	*i* P	**Pn**	**11 28 50.1**	**+0.4**
LIM1				*i* S	**Sn**	**11 29 16.1**	**+0.2**
CUI	**Cuipilapa**	**2.25**	**131**	*i* P	**Pn**	**11 28 51.5**	**+0.7**
CUI				*i* S	**Sn**	**11 29 18.4**	**+0.3**
SNVI	**San Vicente**	**2.40**	**308**	*e*P	**Pn**	**11 28 53.9**	**+0.9**
LFRS	**El Faro**	**2.58**	**305**	*e*P	**Pn**	**11 28 56.1**	**+0.8**
LFRS				*e*S	**Sn**	**11 29 27.2**	**+1.2**
LBRS	**Las Brisas**	**2.63**	**307**	*e*P	**Pn**	**11 28 57.3**	**+1.3**
JTS	**JuntasAbangare**	**2.65**	**134**	P	**Pn**	**11 28 56.8**	**+0.6**
	25nm,0.3s,baz=318,slow=10,SNR=71						
JTS				S	**Sn**	**11 29 26.1**	**-1.4**
	31nm,0.3s,baz=280,slow=20,SNR=11						
JTS				LR	LR	11 30 08.9	
	comp=Z,63nm,21.9s,baz=262,slow=44						
LFU	**La Fuente**	**2.69**	**307**	*e*P	**Pn**	**11 28 58.3**	**+1.5**
SNET	**Serv Nac Est T**	**2.75**	**304**	*e*P	**Pn**	**11 28 57.5**	**-0.1**
SNET				AML	AML	11 29 33.6	
	comp=Z,228nm,0.3s						
BOQS	**Boqueron**	**2.82**	**304**	*e*P	**Pn**	**11 29 00.3**	**+1.7**
JCR	**Jicaral**	**2.87**	**142**	*e*P	**Pn**	**11 29 00.1**	**+0.9**
JCR				*e*S	**Sn**	**11 29 32.3**	**-0.7**
SBLS	**San Blas**	**3.15**	**303**	*e*P	**Pn**	**11 29 04.6**	**+1.5**
SNJE	**San Jose**	**3.15**	**303**	*e*P	**Pn**	**11 29 04.5**	**+1.4**
CGA2	**Cerro Gallo 2**	**3.18**	**131**	*e*P	**Pn**	**11 29 05.0**	**+1.5**
CGA2				*e*S	**Sn**	**11 29 41.3**	**+0.7**
RBDL	**Robledal**	**3.35**	**306**	*e*P	**Pn**	**11 29 07.2**	**+1.4**
BUS	**Buena Vista**	**4.01**	**130**	*e*P	**Pn**	**11 29 16.1**	**+1.1**
BUS				*e*S	**Sn**	**11 30 01.3**	**+0.2**
CMIG	**Matias Romero**	**9.17**	**303**	P	**Pn**	**11 30 26.2**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=126,slow=11,SNR=17						
CMIG				S	**Sn**	**11 32 03.6**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=326,slow=18,SNR=2.3						
TXAR	**Lajitas Array**	**23.

λ121.00000°. NP2:ϕ₀28.00000°, δ66.00000°, λ75.00000°.
*ISCJB **03** 11:34:41.9±0.6, 29.00N±0.05×130.1E±0.1, h58km±6km, mb3.3/6, MS2.9/2, Error ellipse: s-maj=16.6km s-min=4.6km az=24.3*
*JMA **03** 11:34:42.3±0.1, 29.01N×130.05E, h44km, M3.7*
*IDC **03** 11:34:44.0±2.2, 29.00N×129.95E, h58km±20km, mb3.1/6, mb1 3.3/9, mb1mx3.2/28, mbtmp3.4/9, ML2.9/3, MS2.9/3, Ms1 3.0/3, ms1mx2.6/14, Error ellipse: s-maj=29.8km s-min=12.3km az=100.0*

ISC 03 11:34:42.8±1.1, 28.99N±0.06×130.05E±0.09, h47km±11km, n26, σ0°91/31, mb3.4/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.68**	**186**	P	**Pn**	**11 34 56.1**	**-0.1**
JAM	**Amami Oshima**	**0.70**	**214**	P	**Pn**	**11 34 55.4**	**-1.1**
JAM				*e*S	**Sn**	**11 35 05.6**	**-0.7**
JTAJ	**Takarajima**	**0.76**	**282**	P	**Pn**	**11 34 56.6**	**-0.7**
JNN	**Nakanoshima**	**0.86**	**350**	P	**Pn**	**11 34 57.5**	**-1.1**
JAMN	**Amaminishikomi**	**1.07**	**226**	P	**Pn**	**11 35 01.3**	**-0.2**
JAMN				*e*S	**Sn**	**11 35 16.8**	**+1.5**
JYAK	**Yakushimahirau**	**1.30**	**18**	P	**Pn**	**11 35 04.1**	**-0.5**
JYAK				*e*S	**Sn**	**11 35 22.0**	**+1.1**
JKC	**Kuchinoerabu**	**1.47**	**5**	P	**Pn**	**11 35 06.2**	**-0.7**
JTK	**Tokunoshima**	**1.55**	**219**	P	**Pn**	**11 35 08.4**	**+0.5**
JTK				*e*S	**Sn**	**11 35 29.5**	**+2.7**
JTN	**Tanegashima 3**	**1.84**	**26**	P	**Pn**	**11 35 11.8**	**-0.2**
JOKE	**Okinoerabujima**	**2.09**	**219**	P	**Pn**	**11 35 15.9**	**+0.5**
JOW	**Kunigami**	**2.67**	**217**	P	**Pn**	**11 35 23.4**	**+0.1**
JOW	**Kunigami**	**2.67**	**217**	P	**Pn**	**11 35 23.3**	**0.0**
	1.8nm,0.3s,baz=88,slow=19,SNR=10						
JOW				S	**Sn**	**11 35 55.4**	**+1.0**
	baz=90,slow=20						
JIH	**Iheya**	**2.69**	**224**	P	**Pn**	**11 35 23.6**	**+0.1**
JNTH	**Nagotoyohara**	**3.05**	**217**	P	**Pn**	**11 35 28.5**	**-0.1**
JNTH				*e*S	**Sn**	**11 36 03.7**	**-0.2**
JAGN	**Aguni-jima**	**3.46**	**227**	P	**Pn**	**11 35 34.9**	**+0.8**
JKE	**Kume jima 2**	**3.93**	**228**	P	**Pn**	**11 35 40.9**	**+0.2**
JNU	**Nakatsue**	**4.18**	**10**	P	**Pn**	**11 35 45.3**	**+1.2**
	2.6nm,0.3s,baz=216,slow=9.4,SNR=18						
JNU				S	Sn	11 36 40.8	+9.2
	1.0nm,0.3s,baz=22,slow=19,SNR=2.7						
KSRS	**Korea Array**	**8.62**	**349**	P	**Pn**	**11 36 46.1**	**+1.1**
	0.1nm,0.3s,baz=164,slow=13,SNR=2.6						
KSRS				LR	LR	11 40 26.7	
	comp=Z,54nm,18.8s,baz=145,slow=40						
SONM	**Songino Array**	**26.24**	**322**	P	**P**	**11 40 12.8**	**-0.8**
	0.6nm,0.8s,baz=140,slow=9.2,SNR=5.2						
TLY	**Talaya**	**30.02**	**326**	LR	LR	11 52 32.2	
	comp=Z,29nm,18.5s,baz=153,slow=36						
CMAR	**Chiang Mai Arr**	**30.27**	**257**	LR	LR	11 55 43.2	
	comp=Z,23nm,18.4s,baz=159,slow=42						
MKAR	**Makanchi Array**	**40.98**	**309**	P	**P**	**11 42 20.8**	**-0.3**
	0.1nm,0.5s,baz=109,slow=8.0,SNR=2.4						
MKAR				PcP	**PcP**	**11 44 20.6**	**+0.1**
	0.3nm,0.7s,baz=59,slow=5.6,SNR=4.6						
WRA	**Warramunga Arr**	**48.83**	**175**	P	**P**	**11 43 23.1**	**-0.5**
	0.5nm,0.7s,baz=354,slow=8.2,SNR=8.2						
ASAR	**Alice Springs**	**52.49**	**176**	P	**P**	**11 43 51.2**	**+0.1**
	0.3nm,0.7s,baz=8.6,slow=13,SNR=8.6						
FINES	**FINESS Array B**	**71.26**	**331**	P	**P**	**11 45 55.8**	**-1.1**
	0.3nm,0.4s,baz=74,slow=6.8,SNR=5.8						
YKA	**Yellowknife Ar**	**75.34**	**26**	P	**P**	**11 46 21.6**	**+0.6**
	0.3nm,0.7s,baz=300,slow=5.4,SNR=7.4						

*NIED **03** 11:39:00, 35.00N×133.10E, h8km, Mw3.4 Best double couple: M₀1.22000×10¹⁴ NP1:ϕ₀244.00000°, δ59.00000°, λ-177.00000°. NP2:ϕ₀153.00000°, δ87.00000°, λ-31.00000°.*
*ISCJB **03** 11:39:49.7±0.5, 35.03N±0.03×133.06E±0.04, h11km±3km, mb3.5/2, Error ellipse: s-maj=5.9km s-min=5.0km az=39.7*
*IDC **03** 11:39:49.9±1.6, 34.92N×133.10E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.1/37, mbtmp3.2/5, ML2.9/3, Error ellipse: s-maj=35.4km s-min=15.1km az=147.0*
*JMA **03** 11:39:49.9, 35.05N×133.08E, h7km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕ₀237.00000°, δ65.00000°, λ121.00000°. NP2:ϕ₀2.00000°, δ39.00000°, λ42.00000°. Principal axes: T Plg58.0000°, Azm190.0000°; N Plg28.0000°, Azm43.0000°; P Plg15.0000°, Azm305.0000°;*
JMA Felt II J1.

ISC 03 11:39:50.0±0.9, 35.01N±0.04×133.09E±0.03, h8km±5km, n13, σ0°96/20, 1C-6D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHS	**Saijyo**	**0.03**	**121**	⇓P	**Pg**	**11 39 51.5**	**0.0**
JHS				S	**Sg**	**11 39 52.5**	**-0.2**
JJG	**Jouge**	**0.37**	**172**	⇓P	**Pb**	**11 39 58.1**	**-0.8**
JJG				S	**Sb**	**11 40 03.7**	**-1.1**
JNM	**Ikuma**	**0.48**	**354**	⇓P	**Pg**	**11 39 59.1**	**-0.3**
JNM				S	**Sg**	**11 40 05.7**	**-0.1**
JGT	**Gotsu**	**0.62**	**272**	⇓P	**Pg**	**11 40 01.7**	**-0.2**
JGT				S	**Sg**	**11 40 09.9**	**-0.1**
JHT	**Toyohira**	**0.65**	**238**	⇑P	**Pg**	**11 40 02.6**	**+0.1**
JHT				S	**Sg**	**11 40 11.5**	**+0.5**
JAD	**Aida**	**0.89**	**94**	⇓P	**Pg**	**11 40 06.5**	**-0.6**
JJS	**Sakaide**	**0.94**	**132**	⇓P	**Pg**	**11 40 07.8**	**-0.3**
JJS				S	**Sb**	**11 40 20.7**	**-0.5**
JNU	**Nakatsue**	**2.63**	**225**	Pn	**Pn**	**11 40 34.2**	**+1.5**
	3.6nm,0.3s,baz=29,slow=5.9,SNR=32						
JNU				Lg	Lg	11 41 10.8	
	23nm,0.3s,baz=180,slow=17,SNR=17						
MAT	**Matsushiro**	**4.43**	**68**	P	**Pn**	**11 40 59.5**	**+2.0**
MAT				*e*S	**Sb**	**11 42 01.3**	**-0.4**
MJAR	**Matsushiro Arr**	**4.43**	**68**	Pn	Pn	11 41 01.0	+3.5
	0.6nm,0.3s,baz=249,slow=13,SNR=12						
MJAR				Lg	Lg	11 42 10.1	
	1.1nm,0.3s,baz=231,slow=33,SNR=8.2						
KSRS	**Korea Array**	**4.83**	**302**	Pn	**Pn**	**11 41 04.0**	**+1.1**
	0.3nm,0.3s,baz=124,slow=15,SNR=3.5						
KSRS				Sn	**Sn**	**11 41 57.2**	**-1.9**
	1.0nm,0.3s,baz=116,slow=23,SNR=6.4						
WRA	**Warramunga Arr**	**54.66**	**179**	P	**P**	**11 49 19.4**	**0.0**
	0.4nm,0.6s,baz=355,slow=7.9,SNR=4.6						
ASAR	**Alice Springs**	**58.36**	**179**	P	**P**	**11 49 46.5**	**+0.7**
	0.3nm,0.6s,baz=12,slow=12,SNR=5.0						

IDC 03 11:43:56.9±2.5, 46.65S×34.06E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.8/4, ML3.8/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/34, Error ellipse: s-maj=151.0km s-min=27.5km az=50.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.50**	**320**	LR	LR	11 54 09.3	
	comp=Z,41nm,19.4s,baz=82,slow=35						
BOSA	**Boshof**	**19.28**	**336**	P	Pn	11 48 23.8	-0.4
	0.2nm,0.3s,baz=151,slow=12,SNR=6.2						
LBTB	**Lobatse**	**22.62**	**340**	P	P	11 48 59.2	-0.2
	5.8nm,1.0s,baz=182,slow=9.2,SNR=6.1						
LBTB				LR	LR	11 56 19.0	
	comp=Z,80nm,18.0s,baz=166,slow=33						
SNAA	**Sanae**	**30.47**	**202**	LR	LR	12 01 51.3	
	comp=Z,20nm,18.0s,baz=264,slow=35						
TSUM	**Tsumeb**	**30.54**	**328**	LR	LR	12 00 31.3	
	comp=Z,62nm,18.9s,baz=146,slow=33						
VNDA	**Vanda**	**52.00**	**167**	LR	LR	12 13 18.5	
	comp=Z,62nm,19.4s,baz=281,slow=34						
TORD	**Torodi Ar. Bea**	**66.23**	**325**	P	P	11 54 46.5	-0.1
	0.5nm,0.8s,baz=149,slow=7.0,SNR=2.8						
ASAR	**Alice Springs**	**79.55**	**113**	P	P	11 56 05.9	+0.1
	0.3nm,0.6s,baz=225,slow=5.6,SNR=8.3						
DZM	**Mont Dzumac**	**99.20**	**136**	LR	LR	12 33 10.2	
	comp=Z,254nm,18.3s,baz=284,slow=30						
JAY	**Jayapura**	**99.53**	**104**	LR	LR	12 43 42.5	
	comp=Z,22nm,18.1s,baz=182,slow=36						

GUC 03 12:02:46.7±0.6, 36.00S×72.80W, h25km±5km, ML3.5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.14**	**177**	⇑*i*P	Pb	12 02 51.5	-0.2
COCH				*i* S	Sb	12 02 55.3	+0.3
TALC	**Talca**	**1.12**	**58**	⇑*i*P	Pn	12 03 06.2	-0.5
TALC				*i* S	Sn	12 03 21.1	-0.2
TALC				AML	AML	12 03 23.4	
	comp=E,3μm,0.4s						

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NICH	**Los Niches**	**1.62**	**53**	*e*P	Pn	12 03 14.0	+0.3
NICH				*e*S	Sb	12 03 35.4	-0.5
NICH				AML	AML	12 03 41.3	
	comp=E,799nm,0.4s						

IDC 03 12:08:33.5±4.6, 6.46S×127.74E, h365km±53km, mb2.7/1, mb1 3.0/3, mb1mx2.7/23, mbtmp3.7/3, Error ellipse: s-maj=101.5km s-min=15.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.70**	**52**	P	Pn	12 09 51.2	-10
	baz=12,SNR=21						
MTN	**Manton Dam**	**7.17**	**152**	P	Pn	12 10 15.9	-2.4
	baz=14,SNR=8.6						
KDU	**Kakadu**	**7.75**	**143**	P	Pn	12 10 21.8	-3.2
	baz=15,SNR=3.4						
WRA	**Warramunga Arr**	**14.86**	**155**	P	P	12 11 45.3	-0.7
	0.4nm,0.3s,baz=336,slow=12,SNR=33						
WRA				S	S	12 14 22.4	-3.0
	0.1nm,0.3s,baz=327,slow=24,SNR=7.4						
ASAR	**Alice Springs**	**18.11**	**162**	P	P	12 12 21.2	+0.2
	0.2nm,0.3s,baz=342,slow=12,SNR=26						
ASAR				S	S	12 15 30.4	+1.0
	0.1nm,0.3s,baz=337,slow=14,SNR=12						
MKAR	**Makanchi Array**	**66.56**	**328**	P	P	12 18 45.4	0.0
	0.3nm,0.6s,baz=127,slow=7.7,SNR=4.0						

*IDC **03** 12:09:37.9±4.3, 8.22S×107.61E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/34, mbtmp3.5/3, Error ellipse: s-maj=185.6km s-min=29.4km az=49.0*
*ISCJB **03** 12:09:43.1±0.6, 8.35S±0.05×107.83E±0.03, h60km±9km, mb3.6/3, Error ellipse: s-maj=9.3km s-min=5.3km az=12.6*
*DJA **03** 12:09:43.3±0.5, 8°S±4°×10°E±°, h42km±9km, M3.9/12, MLv3.9/12*

ISC 03 12:09:44.2±1.3, 8.34S±0.06×107.82E±0.04, h45km±14km, n19, σ0°97/26, mb3.8/3, Java

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.78**	**359**	P	**Pn**	**12 09 58.5**	**-0.4**
CISI				S	**Sn**	**12 10 10.3**	**+0.7**
CISI	**Cisompet, Garu**	**0.78**	**359**	P	**Pn**	**12 09 58.6**	**-0.3**
	baz=13,SNR=119						
CMJI	**Cimerak**	**0.83**	**48**	P	**Pn**	**12 09 58.9**	**-0.6**
CMJI				S	**Sn**	**12 10 10.1**	**-0.6**
CNJI	**Cibinong**	**1.24**	**326**	P	**Pn**	**12 10 04.6**	**-0.4**
CNJI				S	**Sn**	**12 10 19.3**	**-1.3**
KPJI	**Karang Pucung**	**1.49**	**48**	P	**Pn**	**12 10 09.6**	**+1.1**
KPJI				S	**Sn**	**12 10 27.4**	**+0.7**
LEM	**Lembang**	**1.52**	**352**	P	**Pn**	**12 10 10.3**	**+1.2**
LEM				S	**Sn**	**12 10 28.9**	**+1.1**
LEM	**Lembang**	**1.52**	**352**	P	**Pn**	**12 10 11.3**	**+2.2**
	baz=13,SNR=25						
SKJI	**Sukabumi**	**1.83**	**317**	P	**Pn**	**12 10 13.1**	**-0.1**
SKJI				S	**Sn**	**12 10 35.4**	**+0.3**
UGM	**Wanagama**	**2.71**	**81**	P	**Pn**	**12 10 24.6**	**-0.6**
UGM				S	**Sn**	**12 10 56.5**	**-0.3**
CGJI	**Cibinong**	**2.72**	**309**	P	**Pn**	**12 10 24.7**	**-0.7**
CGJI				S	**Sn**	**12 10 57.1**	**-0.1**
XMI	**Christmas Isla**	**2.97**	**225**	P	**Pn**	**12 10 29.5**	**+0.7**
	baz=16,SNR=20						
XMIS	**Christmas Isla**	**3.02**	**225**	P	**Pn**	**12 10 29.8**	**+0.3**
	baz=16,SNR=46						
PCJI	**Pacitan**	**3.32**	**88**	P	**Pn**	**12 10 33.0**	**-0.7**
PCJI				S	**Sn**	**12 11 12.0**	**+0.1**
WRA	**Warramunga Arr**	**28.13**	**117**	P	**P**	**12 15 34.0**	**+1.8**
	0.5nm,0.9s,baz=289,slow=12,SNR=3.6						
H08S2	**Diego Garcia H**	**34.99**	**269**	T	T	12 53 47.3	
	baz=92,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**35.00**	**269**	T	T	12 53 46.3	
	baz=92,slow=76,SNR=11						
H08S1	**Diego Garcia H**	**35.01**	**269**	T	T	12 53 48.4	
	baz=92,slow=76,SNR=14						
SONM	**Songino Array**	**55.95**	**359**	P	**P**	**12 19 17.0**	**-0.8**
	0.5nm,0.5s,baz=176,slow=8.8,SNR=6.3						
SONM				PcP	**PcP**	**12 20 16.3**	**+0.3**
	0.2nm,0.3s,baz=176,slow=3.7,SNR=5.0						
MKAR	**Makanchi Array**	**59.42**	**340**	P	**P**	**12 19 40.8**	**-1.4**
	0.4nm,0.4s,baz=156,slow=8.3,SNR=9.8						

IDC 03 12:11:01.8±6.2, 16.68S×70.69W, h157km±34km, mb3.3/3, mb1 3.4/4, mb1mx3.1/25, mbtmp3.7/4, Error ellipse: s-maj=106.9km s-min=38.8km az=22.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.48**	**81**	P	Pn	12 11 43.5	-0.4
	3.1nm,0.3s,baz=262,slow=9.8,SNR=88						
LPAZ				S	Sn	12 12 16.5	+0.3
	1.3nm,0.3s,baz=177,slow=24,SNR=7.4						
ULM	**Lac du Bonnet**	**70.24**	**343**	P	P	12 21 57.5	0.0
	0.9nm,0.4s,baz=148,slow=6.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**77.40**	**72**	P	P	12 22 40.0	0.0
	0.8nm,0.7s,baz=253,slow=4.8,SNR=8.7						
YKA	**Yellowknife Ar**	**86.11**	**341**	P	P	12 23 24.7	+0.2
	0.2nm,0.8s,baz=134,slow=5.2,SNR=2.7						

*IDC **03** 12:25:08.4±2.3, 13.79N×89.51W, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.4/40, mbtmp3.3/6, ML2.8/2, Error ellipse: s-maj=63.4km s-min=21.8km az=36.0*
*ISCJB **03** 12:25:09.8±1.2, 12.95N±0.09×90.12W±0.07, h56km±14km, mb3.6/3, Error ellipse: s-maj=16.9km s-min=7.1km az=32.2*
*CASC **03** 12:25:09.1±1.2, 12.99N×90.13W, h19km±4km, MD3.6, ML3.4*

ISC 03 12:25:10.8±1.9, 13.01N±0.1×90.07W±0.08, h57km±18km, n21, σ1°57/26, mb3.5/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.96**	**27**	*i* P	**Pn**	**12 25 27.0**	**-1.5**
SBLS				*e*S	**Sn**	**12 25 40.8**	**-0.8**
SNJE	**San Jose**	**1.00**	**27**	*e*P	**Pn**	**12 25 27.6**	**-1.3**
RTR	**El Retiro**	**1.01**	**24**	*e*P	**Pn**	**12 25 27.8**	**-1.2**
BOQS	**Boqueron**	**1.08**	**45**	*i* P	**Pn**	**12 25 29.5**	**-0.5**
BOQS				*e*S	**Sn**	**12 25 45.0**	**+0.9**
SNET	**Serv Nac Est T**	**1.08**	**49**	AML	AML	12 25 31.6	
	comp=Z,844nm,0.1s						
LFRS	**El Faro**	**1.18**	**56**	*e*P	**Pn**	**12 25 30.2**	**-0.9**
RBDL	**Robledal**	**1.19**	**18**	*e*P	**Pn**	**12 25 30.2**	**-1.2**
RBDL				*e*S	**Sn**	**12 25 47.6**	**+0.8**
LBRS	**Las Brisas**	**1.25**	**53**	*e*P	**Pn**	**12 25 31.8**	**-0.4**
SNVI	**San Vicente**	**1.36**	**62**	*e*P	**Pn**	**12 25 33.1**	**-0.5**
SNVI				*e*S	**Sn**	**12 25 52.3**	**+1.6**
NBG	**Las Nubes**	**1.63**	**350**	*e*P	**Pn**	**12 25 37.3**	**-0.1**
NBG				*e*S	**Sn**	**12 25 58.9**	**+1.5**
VSM	**San Miguel**	**1.81**	**75**	*e*P	**Pn**	**12 25 40.2**	**+0.4**
CAHU	**Cacaquatique**	**1.98**	**66**	*e*P	**Pn**	**12 25 42.4**	**+0.4**
APG	**El Apazote**	**2.06**	**349**	Pn	Pn	12 25 36.8	-6.4
	comp=Z,18nm,0.3s,baz=276,slow=24,SNR=141						
APG				Sn	**Sn**	12 26 00.7	-7.2
	comp=Z,13nm,0.3s,baz=175,slow=12,SNR=13						
APG				LR	LR	12 26 26.5	
	comp=Z,67nm,19.2s,baz=129,slow=51						
MRL	**Marmol**	**2.11**	**10**	*e*P	**Pn**	**12 25 44.6**	**+0.7**
CNCH	**Conchagua**	**2.20**	**82**	*e*P	**Pn**	**12 25 45.9**	**+0.8**
CNCH				*e*S	**Sn**	**12 26 14.2**	**+3.0**
JTS	**JuntasAbangare**	**5.68**	**117**	Pn	**Pn**	**12 26 34.7**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=282,slow=22,SNR=7.8						
JTS				Sn	**Sn**	**12 27 33.7**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=267,slow=23,SNR=1.3						
CMIG	**Matias Romero**	**6.20**	**312**	Pn	**Pn**	**12 26 41.2**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=153,slow=16,SNR=1.6						
CMIG				Sn	**Sn**	**12 27 51.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=243,slow=22,SNR=1.5						
TXAR	**Lajitas Array**	**20.60**	**324**	P	Pn	12 29 47.6	-0.6
	comp=Z,0.3nm,0.6s,baz=142,slow=11,SNR=4.3						
NVAR	**Mina Array Bea**	**35.65**	**320**	P	**P**	**12 32 06.0**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=138,slow=8.5,SNR=2.1						
SCHQ	**Schefferville**	**45.56**	**19**	P	**P**	**12 33 22.9**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=227,slow=9.4,SNR=4.0						
YKA	**Yellowknife Ar**	**52.46**	**346**	P	**P**	**12 34 16.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=150,slow=7.7,SNR=5.1						

NEIC 03 12:35:01.2±0.7, 13.46N×144.66E, h10km, mb4.4/4, Error ellipse: s-maj=16.1km s-min=9.1km az=131.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.23**	**58**	*e*Pg	Pg	12 35 06.1	0.0
GUMO				*e*Sg	Sg	12 35 09.7	+0.3
CBIJ	**Chichi jima**	**13.76**	**351**	*e*Pn	Pn	12 38 16.2	-0.3
FAKI	**Fak Fak**	**20.41**	**218**	*e*P	P	12 39 38.4	-0.3
	7.9nm,0.9s						
TNTI	**Ternate**	**21.27**	**235**	*e*P	P	12 39 47.9	-0.1
	8.1nm,0.3s						
YULB	**Yu-li**	**24.23**	**297**	P	P	12 40 18.8	+0.3
	7.4nm,1.0s						
WRAB	**Tennant Creek**	**34.70**	**197**	*e*P	P	12 41 51.7	+0.2
	9.5nm,1.4s						

*ISCJB **03** 12:42:09.4±0.6, 8.54S±0.07×123.22E±0.04, h100km, mb3.7/3, Error ellipse: s-maj=10.0km s-min=5.8km az=13.7*
*DJA **03** 12:42:11.5±0.7, 8°S±5°×12°3E±°, h108km±10km, M4.1/9, MLv4.1/9*
*IDC **03** 12:42:13.8±1.7, 8.85S×122.82E, h121km±17km, mb3.5/3, mb1 3.7/4, mb1mx3.3/30, mbtmp4.0/4, Error ellipse: s-maj=63.6km s-min=20.8km az=69.0*

ISC 03 12:42:10.4±0.8, 8.48S±0.07×123.14E±0.06, h100km, n25, σ1°83/26, mb3.8/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.46**	**259**	P	**Pn**	**12 42 37.0**	**+0.7**
EDFI				S	**Sn**	**12 42 58.2**	**+2.4**
SOEI	**Soe**	**1.69**	**139**	P	Pn	12 42 42.7	+3.5
BATI	**Baumata**	**1.79**	**163**	P	**Pn**	**12 42 41.0**	**+0.6**
BATI				S	**Sn**	**12 43 05.6**	**+2.4**
BATI	**Baumata**	**1.79**	**163**	P	**Pn**	**12 42 42.6**	**+2.2**
	50nm,0.3s,baz=295,slow=4.7,SNR=39						
BATI				S	**Sn**	**12 43 04.0**	**+0.7**
	166nm,0.3s,baz=21,slow=22,SNR=16						
WSI	**Waingapu**	**3.04**	**247**	P	**Pn**	**12 42 57.2**	**+0.4**
WSI	**Waingapu**	**3.04**	**247**	P	**Pn**	**12 42 54.8**	**-2.0**
	baz=2.7,SNR=7.1						
BASI	**Baing, Sumba**	**3.06**	**235**	P	**Pn**	**12 42 57.4**	**+0.4**
BASI				S	**Sn**	**12 43 35.0**	**+2.1**
BSSI	**Bau Bau, Buton**	**3.50**	**311**	P	**Pn**	**12 43 03.2**	**+0.2**
WBSI	**Waikabubak, Su**	**3.88**	**252**	P	**Pn**	**12 43 09.3**	**+1.3**
WBSI				S	**Sn**	**12 43 50.2**	**-2.4**
BKSI	**Bulukumba**	**4.33**	**316**	P	**Pn**	**12 43 14.3**	**+0.1**
LUWI	**Luwuk**	**7.40**	**357**	P	Pn	12 44 06.3	+10
	baz=8.0,SNR=5.4						
JAGI	**Jajag, Banyuwa**	**8.89**	**269**	S	Sn	12 45 47.6	-7.0
	baz=8.8,SNR=5.2						
MTN	**Manton Dam**	**8.97**	**120**	P	**Pn**	**12 44 17.3**	**+0.1**
	baz=8.9,SNR=42						
MTN				S	Sn	12 45 49.7	-6.9
	baz=8.9,SNR=7.8						
KNRA	**Kununurra**	**9.02**	**143**	P	Pn	12 44 15.5	-2.4
	baz=8.7,SNR=192						
KNRA				S	Sn	12 45 48.8	-8.9
	baz=8.7,SNR=17						
KDU	**Kakadu**	**10.08**	**115**	P	**Pn**	**12 44 32.2**	**-0.1**
	baz=10.0,SNR=7.7						
FAKI	**Fak Fak**	**10.61**	**59**	P	Pn	12 44 45.4	+5.8
	baz=11,SNR=8.3						
WRA	**Warramunga Arr**	**15.73**	**138**	P	**Pn**	**12 45 43.1**	**-3.3**
	0.8nm,0.3s,baz=311,slow=14,SNR=40						
WRA				S	Sn	12 48 27.6	-13
	1.2nm,0.3s,baz=311,slow=24,SNR=9.0						
WRA				ScP	**ScP**	**12 54 02.7**	**-3.4**
	0.0nm,0.3s,baz=330,slow=1.8,SNR=1.9						
ASAR	**Alice Springs**	**18.29**	**147**	P	**P**	**12 46 16.9**	**+0.3**
	0.7nm,0.3s,baz=327,slow=13,SNR=100						
ASAR				S	S	12 49 28.8	-12
	0.4nm,0.3s,baz=316,slow=22,SNR=8.2						
ASAR				ScP	**ScP**	**12 54 09.1**	**-2.1**
	0.1nm,0.3s,baz=334,slow=1.8,SNR=9.6						
PMBI	**Palembang**	**19.08**	**286**	S	**Sn**	**12 50 03.7**	**+2.4**
	baz=19,SNR=3.7						
QIS	**Mount Isa**	**19.93**	**129**	P	**P**	**12 46 35.4**	**+0.9**
	baz=20,SNR=17						
COEN	**Coen**	**20.39**	**107**	P	**P**	**12 46 41.3**	**+1.8**
	baz=20,SNR=7.3						
NWAO	**Narrogin (SRO)**	**24.94**	**192**	P	**P**	**12 47 22.3**	**-2.1**
	4.1nm,0.7s,baz=1.2,slow=8.1,SNR=1.0						
BBOO	**Buckleboo**	**27.01**	**156**	P	**P**	**12 47 42.3**	**-0.8**
	baz=27,SNR=7.5						
SONM	**Songino Array**	**57.99**	**347**	P	P	12 51 57.1	+4.3
	0.3nm,0.6s,baz=154,slow=7.0,SNR=2.5						
MKAR	**Makanchi Array**	**65.94**	**331**	P	**P**	**12 52 47.3**	**+1.4**
	0.9nm,0.7s,baz=136,slow=7.2,SNR=9.9						

*IDC **03** 12:42:43.3±2.8, 54.09N×87.58E, h0km, mb1 3.0/2, mb1mx2.6/45, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.3km s-min=15.3km az=53.0*
*NNC **03** 12:42:47.3±2.9, 53.99N×87.22E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=24.5km s-min=18.7km az=176.0*

ISC 03 12:42:45.8±4.3, 54.13N±0.2×87.6E±0.2, h35km, n7, σ1°03/11, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFR

AAK	**Ala-Archa**	**6.60**	**26**	⇓P		**Pn**	**12 50 32.7**	**0.0**
	0.7nm,0.2s								
AAK				⇓S		**Sn**	**12 51 47.0**	**0.0**
	2.4nm,0.5s								
AAK	**Ala-Archa**	**6.60**	**26**	P		**Pn**	**12 50 32.5**	**-0.2**
	0.7nm,0.3s,baz=178,slow=8.6,SNR=8.9								
AAK				S		**Sn**	**12 51 46.6**	**-0.3**
	0.6nm,0.3s,baz=310,slow=22,SNR=11								
MKAR	**Makanchi Array**	**13.29**	**38**	P		**Pn**	**12 52 02.5**	**+1.6**
	0.1nm,0.3s,baz=215,slow=8.8,SNR=8.3								
AB31	**Akbulak array**	**14.65**	**332**	⇑P		**Pn**	**12 52 17.2**	**-0.6**
	0.2nm,0.3s,baz=158,slow=12,SNR=13								
AKTO	**Aktyubinsk**	**16.34**	**331**	P		Pn	12 52 24.6	-14	
	0.1nm,0.3s,baz=158,slow=5.4,SNR=2.0								
ZALV	**Zalesovo Beam**	**19.82**	**26**	P		**P**	**12 53 15.1**	**-1.7**	
	0.7nm,0.3s,baz=218,slow=12,SNR=28								
TORD	**Torodi Ar. Bea**	**65.34**	**268**	P		P	12 59 19.1	-5.3	
	0.3nm,0.9s,baz=39,slow=6.2,SNR=1.8								

*ROM **03** 13:10:27.9±0.2,46°.82N×11°.16E,h11km±1km,Md2.8/23, Ml2.7/21,Error ellipse: s-maj=2.1km s-min=1.5km az=175.0*
*CSEM **03** 13:10:27.3±0.1,46°.83N×11°.15E,h10km,ML3.0/23,Error ellipse: s-maj=1.8km s-min=1.5km az=20.0*
*LDG **03** 13:10:27.4±0.1,46°.80N×11°.26E,h10km,Ml2.5/20,Error ellipse: s-maj=3.1km s-min=2.4km az=33.0*
*VIE **03** 13:10:27.3±0.1,46°.82N×11°.18E,h13km±1km,mb2.3/8, ML3.1/12,Error ellipse: s-maj=0.7km s-min=0.6km az=4.0 5 km NW of St.Martin im Passeiertal felt 3-4 ems98 at St. Jodok am Brenner/Tyrol*
*ZUR **03** 13:10:27.7,46°.83N×11°.15E,h14km±2km,ML2.7/4*
*BGR **03** 13:10:29.3±0.4,46°.83N×11°.23E,h10km,ML2.8/12,Error ellipse: s-maj=5.6km s-min=3.3km az=13.0*
BGR Felt in St. Jodok am Brenner, Tirol.
*SZGRF **03** 13:10:31.9,46°.93N×11°.26E,h10km,mb2.8,Northern Italy*
*PRU **03** 13:10:31.7,47°.02N×11°.31E,h0km*

ISC 03 13:10:28.0±0.8,46°.80N±0°.01×11°.12E±0°.01,h15km±5km, n186,σ1°.19/321,24C-29D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABSI	**Aberstueckl**	**0.15**	**118**	Pg		**Pg**	**13 10 31.5**	**-0.7**
ABSI				Sg		**Sg**	**13 10 33.9**	**-1.0**
	2μm,0.3s							
ABSI	**Aberstueckl**	**0.15**	**118**	Pg		**Pg**	**13 10 31.5**	**-0.7**
ABSI				*i* Sg		**Sg**	**13 10 33.7**	**-1.2**
APPI	**Appiano**	**0.33**	**167**	Pg		**Pg**	**13 10 35.2**	**+0.3**
APPI				Sg		**Sg**	**13 10 40.0**	**+0.4**
	655nm,0.2s							
APPI	**Appiano**	**0.33**	**167**	Pg		**Pg**	**13 10 35.2**	**+0.3**
APPI				Sg		**Sg**	**13 10 40.0**	**+0.4**
	655nm,0.2s							
BOSI	**Bolzano**	**0.34**	**156**	Pg		**Pg**	**13 10 35.1**	**+0.2**
BOSI				Sg		**Sg**	**13 10 40.3**	**+0.7**
	1μm,0.3s							
BOSI	**Bolzano**	**0.34**	**156**	Pg		**Pg**	**13 10 35.1**	**+0.2**
BOSI				*i* Sg		**Sg**	**13 10 40.1**	**+0.5**
FETA	**Feichten**	**0.35**	**309**	*e*Pg		**Pg**	**13 10 35.5**	**+0.3**
	SNR=429							
FETA				⇓*i*Sg		**Sg**	**13 10 40.2**	**0.0**
	172nm,0.1s							
FETA	**Feichten**	**0.35**	**309**	Pg		**Pg**	**13 10 35.5**	**+0.3**
	SNR=429							
FETA				Sg		**Sg**	**13 10 40.2**	**0.0**
	172nm,0.1s							
KOSI	**Kohlern**	**0.38**	**152**	Pg		**Pg**	**13 10 35.9**	**+0.1**
KOSI				Sg		**Sg**	**13 10 41.3**	**+0.1**
	334nm,0.8s							
KOSI	**Kohlern**	**0.38**	**152**	Pg		**Pg**	**13 10 35.9**	**+0.1**
KOSI				Sg		**Sg**	**13 10 41.3**	**+0.1**
	334nm,0.8s							
MOSI	**Grossmontoni**	**0.44**	**245**	Pg		**Pg**	**13 10 37.3**	**+0.5**
MOSI				Sg		**Sb**	**13 10 44.6**	**+0.7**
	544nm,0.5s							
MOSI	**Grossmontoni**	**0.44**	**245**	⇑*e*Pg		**Pg**	**13 10 37.3**	**+0.5**
MOSI				Sg		**Sb**	**13 10 44.6**	**+0.7**
	544nm,0.5s							
MOTA	**Moosalm**	**0.54**	**359**	*e*Pg		**Pg**	**13 10 38.4**	**-0.4**
	SNR=265							
MOTA				⇑*i*Sg		**Sg**	**13 10 45.1**	**-1.0**
	115nm,0.2s							
MOTA	**Moosalm**	**0.54**	**359**	Pg		**Pg**	**13 10 38.4**	**-0.4**
	SNR=265							
MOTA				Sg		**Sg**	**13 10 45.1**	**-1.0**
	115nm,0.2s							
WTTA	**Wattenberg**	**0.58**	**37**	*e*Pg		**Pg**	**13 10 38.3**	**-1.2**
WTTA				*e*Sg		**Sg**	**13 10 45.7**	**-1.6**
WTTA	**Wattenberg**	**0.58**	**37**	*e*Pg		**Pg**	**13 10 38.3**	**-1.2**
WTTA				*e*Sg		**Sg**	**13 10 46.2**	**-1.1**
WTTA	**Wattenberg**	**0.58**	**37**	⇑*e*Pg		**Pg**	**13 10 38.3**	**-1.2**
	SNR=36							
WTTA				⇑*i*Sg		**Sg**	**13 10 45.7**	**-1.6**
	110nm,0.2s							
WTTA	**Wattenberg**	**0.58**	**37**	Pg		**Pg**	**13 10 38.4**	**-1.2**
WTTA				Sg		**Sg**	**13 10 46.0**	**-1.3**
	225nm,0.3s							
WTTA	**Wattenberg**	**0.58**	**37**	Pg		**Pg**	**13 10 38.3**	**-1.2**
WTTA				Sg		**Sg**	**13 10 45.7**	**-1.6**
BRMO	**Bormio**	**0.61**	**238**	Pg		**Pg**	**13 10 40.3**	**+0.3**
BRMO				Sg		**Sg**	**13 10 48.6**	**+0.4**
	139nm,0.2s							
BRMO	**Bormio**	**0.61**	**238**	Pg		**Pg**	**13 10 40.3**	**+0.3**
BRMO				Sg		**Sg**	**13 10 48.6**	**+0.4**
	139nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**0.62**	**253**	⇑*i*Pg		**Pg**	**13 10 40.3**	**+0.1**
	339nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**0.62**	**253**	Pg		**Pg**	**13 10 40.3**	**+0.1**
FUORN				Sg		**Sg**	**13 10 49.3**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**0.62**	**253**	⇑*i*Pg		**Pg**	**13 10 40.3**	**+0.1**
	339nm,0.5s							
FUORN				Sg		**Sg**	**13 10 49.3**	**+0.8**
WATA	**Walderalm**	**0.62**	**30**	⇓*e*Pg		**Pg**	**13 10 39.3**	**-0.9**
	SNR=43							
WATA				⇑*i*Sg		**Sg**	**13 10 47.3**	**-1.1**
	76nm,0.1s							
WATA	**Walderalm**	**0.62**	**30**	Pg		**Pg**	**13 10 39.3**	**-0.9**
	SNR=43							
WATA				Sg		**Sg**	**13 10 47.3**	**-1.1**
	76nm,0.1s							
RISI	**Rein**	**0.67**	**77**	Pg		**Pg**	**13 10 39.7**	**-1.5**
RISI				Sg		**Sg**	**13 10 48.7**	**-1.4**
	350nm,0.2s							
RISI	**Rein**	**0.67**	**77**	⇑*i*Pg		**Pg**	**13 10 39.7**	**-1.5**
RISI				*i* Sg		**Sg**	**13 10 48.5**	**-1.6**
RETA	**Reutte**	**0.73**	**340**	⇓*e*Pg		**Pg**	**13 10 41.5**	**-0.7**
	SNR=14							
RETA				⇑*i*Sg		**Sg**	**13 10 51.7**	**-0.2**
	46nm,0.3s							
RETA	**Reutte**	**0.73**	**340**	Pg		**Pg**	**13 10 41.5**	**-0.7**
	SNR=14							
RETA				Sg		**Sg**	**13 10 51.7**	**-0.2**
	46nm,0.3s							
PANI	**Panarotta**	**0.76**	**170**	⇓*e*Pg		**Pg**	**13 10 43.1**	**+0.2**
PANI				*e*Sg		**Sg**	**13 10 53.4**	**+0.4**
PANI	**Panarotta**	**0.76**	**170**	⇓*e*Pg		**Pg**	**13 10 43.1**	**+0.2**
PANI				*e*Sg		**Sg**	**13 10 53.4**	**+0.4**
AFL	**Alpe Faloria**	**0.78**	**110**	*e*Pg		**Pg**	**13 10 42.7**	**-0.5**
AFL	**Alpe Faloria**	**0.78**	**110**	*e*Pg		**Pg**	**13 10 42.7**	**-0.5**
AGOR	**Agordo**	**0.82**	**129**	⇓*e*Pg		**Pg**	**13 10 43.5**	**-0.5**
AGOR				*e*Sg		**Sg**	**13 10 54.3**	**-0.5**
AGOR	**Agordo**	**0.82**	**129**	Pg		**Pg**	**13 10 43.4**	**-0.6**
AGOR				Sg		**Sg**	**13 10 53.8**	**-1.0**
	349nm,0.2s							
BERNI	**Berninapass**	**0.85**	**243**	⇑*i*Pg		**Pb**	**13 10 44.5**	**-0.2**
	192nm,0.3s							
BERNI	**Berninapass**	**0.85**	**243**	Pg		**Pb**	**13 10 44.4**	**-0.2**
BERNI	**Berninapass**	**0.85**	**243**	⇑*i*Pg		**Pb**	**13 10 44.5**	**-0.2**
	192nm,0.3s							
DAVOX	**Davos/Dischmat**	**0.85**	**269**	⇑*i*Pg		**Pb**	**13 10 44.3**	**-0.3**
	261nm,0.3s							
DAVOX	**Davos/Dischmat**	**0.85**	**269**	Pg		**Pb**	**13 10 44.4**	**-0.2**
DAVOX	**Davos/Dischmat**	**0.85**	**269**	Pg		**Pb**	**13 10 44.4**	**-0.2**
MABI	**Malga Bissina**	**0.86**	**210**	Pg		**Pb**	**13 10 44.6**	**-0.1**
MABI				Sg		**Sb**	**13 10 56.0**	**-0.1**
	94nm,0.3s							
MABI	**Malga Bissina**	**0.86**	**210**	Pg		**Pb**	**13 10 44.6**	**-0.1**
MABI				Sg		**Sb**	**13 10 56.0**	**-0.1**
	94nm,0.3s							
RNI	**Roncone**	**0.89**	**202**	⇓*e*Pg		**Pb**	**13 10 45.2**	**+0.1**
RNI				*e*Sg		**Sb**	**13 10 57.9**	**+1.1**
RNI	**Roncone**	**0.89**	**202**	⇓*e*Pg		**Pb**	**13 10 45.2**	**+0.1**
RNI				*e*Sg		**Sb**	**13 10 57.9**	**+1.1**
DDS	**Dosso del Somm**	**0.92**	**177**	⇑*e*Pg		**Pb**	**13 10 46.0**	**+0.2**
DDS				*e*Sg		**Sb**	**13 10 58.3**	**+0.4**
DDS	**Dosso del Somm**	**0.92**	**177**	⇓*e*Pg		**Pb**	**13 10 46.0**	**+0.2**
DDS				*e*Sg		**Sb**	**13 10 58.3**	**+0.4**
ABTA	**Abfaltersbach**	**0.96**	**93**	*e*Pg		**Pb**	**13 10 45.2**	**-1.1**
	SNR=146							
ABTA				⇓*i*Sg		**Sb**	**13 10 57.9**	**-0.9**
	74nm,0.1s							
ABTA	**Abfaltersbach**	**0.96**	**93**	Pg		**Pb**	**13 10 45.2**	**-1.1**
	SNR=146							
ABTA				Sg		**Sb**	**13 10 57.9**	**-0.9**
	74nm,0.1s							
DAVA	**Damuels**	**0.98**	**300**	*e*Pg		**Pg**	**13 10 48.0**	**+1.1**
DAVA				*e*Sg		**Sg**	**13 11 01.5**	**+1.7**
DAVA	**Damuels**	**0.98**	**300**	⇑*e*Pg		**Pb**	**13 10 47.1**	**+0.4**
	SNR=8.2							
DAVA				⇓*i*Sg		**Sg**	**13 11 01.1**	**+1.3**
	84nm,0.5s							
DAVA	**Damuels**	**0.98**	**300**	Pg		**Pb**	**13 10 47.1**	**+0.4**
	SNR=8.2							
DAVA				Sg		**Sg**	**13 11 01.1**	**+1.3**
	84nm,0.5s							
CSO	**Casso**	**0.98**	**122**	⇑*e*Pg		**Pb**	**13 10 46.1**	**-0.7**
CSO				*e*Sg		**Sb**	**13 10 55.2**	**-4.4**
CSO	**Casso**	**0.98**	**122**	⇑*e*Pg		**Pb**	**13 10 46.1**	**-0.7**
CSO				*e*Sg		**Sb**	**13 10 55.2**	**-4.4**
CIMO	**Cimolais**	**1.03**	**118**	*e*Pg		**Pb**	**13 10 47.0**	**-0.6**
CIMO				*e*Sg		**Sb**	**13 11 00.7**	**-0.3**
CIMO	**Cimolais**	**1.03**	**118**	*e*Pg		**Pb**	**13 10 47.0**	**-0.6**
CIMO				*e*Sg		**Sb**	**13 11 00.7**	**-0.3**
CGRP	**Cima Grappa**	**1.03**	**153**	⇓*e*Pg		**Pb**	**13 10 47.4**	**-0.3**
CGRP				*e*Sg		**Sb**	**13 11 01.7**	**+0.6**
CGRP	**Cima Grappa**	**1.03**	**153**	Pg		**Pb**	**13 10 47.4**	**-0.3**
	79nm,0.3s							
CGRP	**Cima Grappa**	**1.03**	**153**	Pg		**Pb**	**13 10 47.4**	**-0.3**
	79nm,0.3s							
CGRP				*e*Sg		**Sb**	**13 11 01.7**	**+0.6**
VARN	**Col Varnada, M**	**1.06**	**140**	⇓*e*Pg		**Pb**	**13 10 47.2**	**-0.8**
VARN				*e*Sg		**Sb**	**13 11 00.6**	**-1.0**
VARN	**Col Varnada, M**	**1.06**	**140**	⇓*e*Pg		**Pb**	**13 10 47.2**	**-0.8**
VARN				*e*Sg		**Sb**	**13 11 00.6**	**-1.0**
MAGA	**Magasa**	**1.08**	**199**	Pg		**Pb**	**13 10 48.7**	**+0.2**
	311nm,0.5s							
MAGA	**Magasa**	**1.08**	**199**	Pg		**Pb**	**13 10 48.7**	**+0.2**
	311nm,0.5s							
CSMI	**Casera Mimoias**	**1.09**	**105**	⇑*e*Pg		**Pb**	**13 10 48.4**	**-0.3**
CSMI				*e*Sg		**Sb**	**13 11 02.3**	**-0.5**
CSMI	**Casera Mimoias**	**1.09**	**105**	⇑*e*Pg		**Pb**	**13 10 48.4**	**-0.3**
CSMI				*e*Sg		**Sb**	**13 11 02.3**	**-0.5**
BALD	**Monte Baldo**	**1.14**	**191**	⇑*e*Pg		**Pb**	**13 10 50.3**	**+0.8**
BALD				*e*Sg		**Sn**	**13 11 05.8**	**+0.8**
BALD	**Monte Baldo**	**1.14**	**191**	⇑*e*Pg		**Pb**	**13 10 50.3**	**+0.8**
BALD				*e*Sg		**Sn**	**13 11 05.8**	**+0.8**
ROVR	**Roverˇ¤ Verone**	**1.16**	**182**	Pg		**Pn**	**13 10 50.2**	**+0.5**
	199nm,0.2s							
ROVR	**Roverˇ¤ Verone**	**1.16**	**182**	Pg		**Pn**	**13 10 50.2**	**+0.5**
	199nm,0.2s							
FVI	**Forni Avoltri**	**1.16**	**100**	Pg		**Pn**	**13 10 49.1**	**-0.6**
FVI				Sg		**Sb**	**13 11 03.7**	**-0.9**
	200nm,0.2s							
FVI	**Forni Avoltri**	**1.16**	**100**	Pg		**Pn**	**13 10 49.1**	**-0.6**
FVI				Sg		**Sb**	**13 11 03.7**	**-0.9**
	200nm,0.2s							
MARN	**Marana (Italy)**	**1.17**	**177**	⇓*i*Pg		**Pn**	**13 10 50.3**	**+0.5**
MARN				*i* Sg		**Sb**	**13 11 05.3**	**+0.6**
MARN	**Marana (Italy)**	**1.17**	**177**	⇓*i*Pg		**Pn**	**13 10 50.3**	**+0.5**
MARN				*i* Sg		**Sb**	**13 11 05.3**	**+0.6**
VDL	**Val di Lei**	**1.20**	**255**	⇓*i*P		**Pn**	**13 10 50.2**	**-0.2**
	94nm,0.6s							
CAE	**Caneva**	**1.21**	**131**	⇓*e*Pg		**Pn**	**13 10 50.6**	**+0.2**
CAE				*e*Sg		**Sn**	**13 11 07.5**	**+1.0**
CAE	**Caneva**	**1.21**	**131**	⇓*e*Pg		**Pn**	**13 10 50.6**	**+0.2**
CAE				*e*Sg		**Sn**	**13 11 07.5**	**+1.0**
MLNI	**Malnisio**	**1.22**	**122**	⇓*e*Pg		**Pn**	**13 10 50.7**	**+0.2**
MLNI				*e*Sg		**Sb**	**13 11 07.5**	**+1.2**
MLNI	**Malnisio**	**1.22**	**122**	⇓*e*Pg		**Pn**	**13 10 50.7**	**+0.2**
MLNI				*e*Sg		**Sb**	**13 11 07.5**	**+1.2**
POLC	**Polcenigo**	**1.23**	**129**	Pg		**Pn**	**13 10 51.6**	**+1.0**
	329nm,0.4s							
POLC	**Polcenigo**	**1.23**	**129**	Pg		**Pn**	**13 10 51.6**	**+1.0**
	329nm,0.4s							
POLC				*e*Sg		**Sg**	**13 11 08.8**	**+1.1**
FUSE	**Fusea**	**1.35**	**106**	⇓*i*Pg		**Pn**	**13 10 52.9**	**+0.6**
FUSE				*i* Sg		**Sn**	**13 11 10.6**	**+0.6**
FUSE	**Fusea**	**1.35**	**106**	⇓*i*Pg		**Pn**	**13 10 52.9**	**+0.6**
FUSE				*i* Sg		**Sn**	**13 11 10.6**	**+0.6**
FUR	**Furstenfeldbru**	**1.37**	**4**	*e*Pg		**Pb**	**13 10 54.3**	**+1.0**
FUR				*e*Sg		**Sb**	**13 11 11.6**	**+1.0**
FUR	**Furstenfeldbru**	**1.37**	**4**	*e*Pg		**Pg**	**13 10 55.0**	**+0.7**
FUR				*e*Sg		**Sg**	**13 11 13.3**	**+1.1**
FUR	**Furstenfeldbru**	**1.37**	**4**	Pg		**Pb**	**13 10 54.3**	**+1.0**
FUR				Sg		**Sb**	**13 11 11.6**	**+1.0**
MDI	**Monti di Nese**	**1.42**	**224**	Pg		**Pb**	**13 10 54.9**	**+0.7**
	49nm,0.4s							
MDI	**Monti di Nese**	**1.42**	**224**	Pg		**Pb**	**13 10 54.9**	**+0.7**
	49nm,0.4s							
RJOB	**Jochberg**	**1.47**	**50**	*e*Pn		**Pn**	**13 10 54.4**	**+0.3**
RJOB				*e*Pg		**Pb**	**13 10 56.3**	**+1.1**
RJOB				*e*Sg		**Sg**	**13 11 15.8**	**+0.2**
RJOB	**Jochberg**	**1.47**	**50**	*e*Pn		**Pn**	**13 10 54.4**	**+0.3**
RJOB	**Jochberg**	**1.47**	**50**	Pn		**Pn**	**13 10 54.4**	**+0.3**
GEPF	**Gemona**	**1.49**	**110**	Pg		**Pb**	**13 10 55.9**	**+0.6**
	77nm,0.4s							
GEPF	**Gemona**	**1.49**	**110**	Pg		**Pb**	**13 10 55.9**	**+0.6**
	77nm,0.4s							
TEOL	**Teolo**	**1.49**	**165**	⇑*e*Pg		**Pb**	**13 10 55.9**	**+0.5**
TEOL				*e*Sg		**Sg**	**13 11 16.9**	**+0.8**
TEOL	**Teolo**	**1.49**	**165**	⇑*e*Pg		**Pb**	**13 10 55.9**	**+0.5**
TEOL				*e*Sg		**Sg**	**13 11 16.9**	**+0.8**
KBA	**Koelnbreinsper**	**1.55**	**79**	*e*Pg		**Pn**	**13 10 55.7**	**+0.5**
KBA				*e*Sg		**Sn**	**13 11 14.4**	**-0.7**
KBA	**Koelnbreinsper**	**1.55**	**79**	*e*Pg		**Pn**	**13 10 55.7**	**+0.5**
	SNR=51							
KBA				⇓*i*Sg		**Sb**	**13 11 17.1**	**+1.2**
	18nm,0.1s							
KBA	**Koelnbreinsper**	**1.55**	**79**	Pg		**Pn**	**13 10 55.7**	**+0.5**
KBA				Sg		**Sn**	**13 11 14.4**	**-0.7**
BAD	**Bernadia**	**1.57**	**110**	⇓*e*Pg		**Pb**	**13 10 57.3**	**+0.6**
BAD				*e*Sg		**Sg**	**13 11 18.8**	**+0.2**
BAD	**Bernadia**	**1.57**	**110**	⇓*e*Pg		**Pb**	**13 10 57.3**	**+0.6**
BAD				*e*Sg		**Sg**	**13 11 18.8**	**+0.2**
VINO	**Villanova**	**1.59**	**109**	*e*Pg		**Pn**	**13 10 57.1**	**+1.6**
VINO				*e*Sg		**Sb**	**13 11 18.9**	**+2.0**
VINO	**Villanova**	**1.59**	**109**	Pg		**Pn**	**13 10 57.3**	**+1.7**
	69nm,0.7s							
VINO	**Villanova**	**1.59**	**109**	Pg		**Pn**	**13 10 57.3**	**+1.7**
	69nm,0.7s							
VINO				*e*Sg		**Sb**	**13 11 18.9**	**+2.0**
PTCC	**Patocco-Chiusa**	**1.59**	**104**	Pg		**Pn**	**13 10 56.8**	**+1.2**
	72nm,0.5s							
PTCC	**Patocco-Chiusa**	**1.59**	**104**	Pg		**Pn**	**13 10 56.8**	**+1.2**
	72nm,0.5s							
ACOM	**Acomizza, Ital**	**1.67**	**98**	*e*Pg		**Pn**	**13 10 57.9**	**+1.1**
ACOM				*e*Sg		**Sb**	**13 11 20.7**	**+1.4**
ACOM	**Acomizza, Ital**	**1.67**	**98**	Pg		**Pn**	**13 10 57.8**	**+1.0**
	110nm,0.3s							
ACOM	**Acomizza, Ital**	**1.67**	**98**	*e*Pg		**Pn**	**13 10 57.9**	**+1.1**
ACOM				*e*Sg		**Sb**	**13 11 20.7**	**+1.4**
LSR	**Lussari**	**1.69**	**100**	⇓*e*Pg		**Pn**	**13 10 58.4**	**+1.3**
LSR				*e*Sg		**Sb**	**13 11 21.0**	**+1.0**
LSR	**Lussari**	**1.69**	**100**	⇓*e*Pg		**Pn**	**13 10 58.4**	**+1.3**
LSR				*e*Sg		**Sb**	**13 11 21.0**	**+1.0**
COLI	**Coloredo**	**1.70**	**112**	⇑*e*Pg		**Pb**	**13 10 59.6**	**+0.7**
COLI				*e*Sg		**Sg**	**13 11 22.9**	**+0.3**
COLI	**Coloredo**	**1.70**	**112**	⇑*e*Pg		**Pb**	**13 10 59.6**	**+0.7**
COLI				*e*Sg		**Sg**	**13 11 22.9**	**+0.3**
MYKA	**Terra Mystica**	**1.74**	**95**	⇑*e*Pg		**Pn**	**13 10 59.6**	**+1.9**
	SNR=9.2							
MYKA	**Terra Mystica**	**1.74**	**95**	Pg		**Pn**	**13 10 59.6**	**+1.9**
	SNR=9.2							
DRE	**Drenchia**	**1.85**	**109**	*e*Pn		**Pb**	**13 11 01.5**	**-0.1**
DRE				*e*Sn		**Sg**	**13 11 27.7**	**+0.2**
DRE	**Drenchia**	**1.85**	**109**	*e*Pn		**Pb**	**13 11 01.5**	**-0.1**
STU	**Stuttgart**	**2.36**	**327**	*e*Sg		**Sg**	**13 11 44.0**	**+0.1**
STU	**Stuttgart**	**2.36**	**327**	Sg		**Sg**	**13 11 44.0**	**+0.1**
SKDS	**Skadanscina**	**2.37**	**121**	*i* Pn		**Pn**	**13 11 07.8**	**+1.5**
SKDS				*i* Sn		**Sn**	**13 11 37.1**	**+2.0**
	comp=Z,11nm,0.1s							
SKDS	**Skadanscina**	**2.37**	**121**	*i* Pn		**Pn**	**13 11 07.8**	**+1.5**
SKDS				*i* Sn		**Sn**	**13 11 37.1**	**+2.0**
	comp=Z,11nm,0.1s							
OBKA	**Obir**	**2.38**	**96**	*e*Pg		**Pb**	**13 11 10.6**	**+0.1**
OBKA				*e*Sg		**Sg**	**13 11 43.3**	**-1.1**
OBKA	**Obir**	**2.38**	**96**	*e*Pn		**Pb**	**13 11 10.2**	**-0.3**
OBKA	**Obir**	**2.38**	**96**	Pg		**Pb**	**13 11 10.6**	**+0.1**
OBKA				Sg		**Sg**	**13 11 43.3**	**-1.1**
MOA	**Molln**	**2.38**	**63**	*e*Pg		**Pb**	**13 11 11.4**	**+0.8**
MOA				*e*Sg		**Sb**	**13 11 43.1**	**+3.4**
MOA	**Molln**	**2.38**	**63**	*e*Pn		**Pn**	**13 11 09.2**	**+2.7**
MOA				*e*Sg		**Sb**	**13 11 42.6**	**+2.9**
MOA	**Molln**	**2.38**	**63**	Pg		**Pb**	**13 11 11.4**	**+0.8**
MOA				Sg		**Sb**	**13 11 43.1**	**+3.4**
BFO	**Black Forest**	**2.43**	**310**	*e*Pn		**Pn**	**13 11 10.1**	**+2.9**
BFO				*e*Sg		**Sg**	**13 11 45.8**	**-0.3**
BFO	**Black Forest**	**2.43**	**310**	*e*Pn		**Pn**	**13 11 10.1**	**+2.9**
BFO	**Black Forest**	**2.43**	**310**	Pn		**Pn**	**13 11 10.1**	**+2.9**
BFO				Sg		**Sg**	**13 11 45.8**	**-0.3**
WET	**Wettzell**	**2.62**	**26**	*e*Pn		**Pn**	**13 11 10.6**	**+0.8**
WET				*e*Sg		**Sb**	**13 11 50.2**	**+3.5**
WET	**Wettzell**	**2.62**	**26**	*e*Pn		**Pn**	**13 11 10.6**	**+0.8**
WET	**Wettzell**	**2.62**	**26**	Pn		**Pn**	**13 11 10.6**	**+0.8**
WET				Sg		**Sb**	**13 11 50.2**	**+3.5**
GEC2	**GERESS Array S**	**2.68**	**39**	*e*Pn		**Pn**	**13 11 11.5**	**+0.8**
GEC2				*e*Sg		**Sb**	**13 11 51.3**	**+2.8**
GEC2	**GERESS Array S**	**2.68**	**39**	*e*Pn		**Pn**	**13 11 11.9**	**+1.2**
GEC2	**GERESS Array S**	**2.68**	**39**	Pn		**Pn**	**13 11 11.5**	**+0.8**
GEC2				Sg		**Sb**	**13 11 51.3**	**+2.8**
KHC	**Kasperske Hory**	**2.85**	**34**	*e*PN		**Pn**	**13 11 14.0**	**+1.0**
KHC				*e*PG		**Pb**	**13 11 19.6**	**+0.9**
KHC				*e*SN		**Sn**	**13 11 46.5**	**-0.6**
KHC				*e*SG		**Sn**	**13 11 55.6**	**+2.2**
	comp=Z,27nm,0.3s							
GRA1	**Grafenberg Arr**	**2.89**	**1**	Sg		**Sg**	**13 11 59.7**	**-1.2**
GRF	**Grafenberg Arr**	**2.89**	**1**	*e*Sg		**Sg**	**13 11 59.7**	**-1.2**
GRF	**Grafenberg Arr**	**2.89**	**1**	*e*Sg		**Sg**	**13 11 59.3**	**-1.6**
CDF	**Champ du Feu**	**3.06**	**303**	*e*Pn		**Pn**	**13 11 15.9**	**0.0**
CDF				*e*Sg		**Sg**	**13 12 06.1**	**-0.2**
	comp=Z,6.8nm,0.4s							
CDF	**Champ du Feu**	**3.06**	**303**	*e*Pn		**Pn**	**13 11 15.9**	**0.0**
CDF				*e*Sg		**Sg**	**13 12 06.1**	**-0.2**
	comp=Z,3.4nm,0.4s							
HINF	**Hinteralfeld**	**3.08**	**291**	*e*Pn		**Pn**	**13 11 15.9**	**-0.2**
HINF				*e*Sg		**Sg**	**13 12 06.5**	**-0.3**
	comp=Z,4.6nm,0.3s							
HINF	**Hinteralfeld**	**3.08**	**291**	*e*Pn		**Pn**	**13 11 15.9**	**-0.2**
HINF				*e*Sg		**Sg**	**13 12 06.5**	**-0.3**
	comp=Z,2.3nm,0.3s							
LPG	**La Plagne**	**3.31**	**248**	*e*Pn		**Pn**	**13 11 19.2**	**-0.2**
LPG				*e*Sn		**Sn**	**13 11 57.2**	**-1.4**
	comp=Z,1.4nm,0.2s							
LPG	**La Plagne**	**3.31**

URZ	**Urewera**	**18.43**	**193**	P	P	13 15 15.1	-0.7
	2.1nm,0.3s,baz=305,slow=3.3,SNR=18						
URZ				S	S	13 18 22.9	+0.4
	0.2nm,0.3s,baz=167,slow=23,SNR=1.0						
ASAR	**Alice Springs**	**44.94**	**257**	P	P	13 19 03.8	+0.6
	4.1nm,0.7s,baz=84,slow=8.4,SNR=19						
ASAR				PcP	PcP	13 20 35.6	-0.2
	0.6nm,0.5s,baz=106,slow=4.2,SNR=6.1						
WRA	**Warramunga Arr**	**45.01**	**262**	P	P	13 19 03.3	-0.5
	1.0nm,0.3s,baz=97,slow=8.1,SNR=32						
NVAR	**Mina Array Bea**	**80.64**	**43**	P	P	13 22 55.5	+0.4
	1.2nm,0.9s,baz=201,slow=4.8,SNR=4.9						
SEY	**Seymchan**	**86.32**	**347**	P	P	13 23 21.9	-0.7
	0.4nm,0.5s,baz=135,slow=5.9,SNR=8.1						
TXAR	**Lajitas Array**	**86.64**	**57**	P	P	13 23 26.3	+1.2
	0.5nm,0.7s,baz=219,slow=7.0,SNR=5.6						
ILAR	**Eielson Array**	**88.08**	**13**	P	P	13 23 29.6	-1.2
	0.5nm,0.6s,baz=223,slow=5.8,SNR=13						
PDAR	**Pinedale Array**	**88.58**	**43**	P	P	13 23 34.3	+0.3
	0.5nm,0.4s,baz=159,slow=3.9,SNR=2.9						
INK	**Inuvik**	**94.03**	**15**	P	P	13 23 57.2	-1.0
	0.5nm,0.6s,baz=252,slow=3.9,SNR=4.6						
ARCES	**ARCESS Array B**	**128.84**	**350**	PKP	PKPdf	13 29 44.4	-0.4
	1.2nm,0.7s,baz=90,slow=1.4,SNR=3.1						
FINES	**FINESS Array B**	**135.74**	**344**	PKP	PKPdf	13 29 59.0	+1.1
	0.3nm,0.3s,baz=134,slow=4.7,SNR=4.2						
AKASG	**Malin Array Be**	**143.07**	**331**	PKhKP	PKPpre	13 30 07.6	
	0.9nm,0.3s,baz=42,slow=5.0,SNR=6.8						
BRTR	**Keskin Array B**	**147.03**	**313**	PKPbc	PKPbc	13 30 20.6	-1.1
	0.7nm,0.5s,baz=112,slow=3.3,SNR=3.9						
MLR	**Muntele Rosu**	**148.31**	**328**	PKPbc	PKPbc	13 30 25.1	+0.3
	0.3nm,0.6s,baz=194,slow=11,SNR=3.3						
GERES	**GERESS Array B**	**150.16**	**345**	PKPbc	PKPbc	13 30 28.6	-0.6
	1.1nm,0.8s,baz=4.4,slow=1.7,SNR=8.8						

*IDC **03** 13:15:02.6±1.1, 12°25N×86°87W, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.8/44, mbtmp3.9/12, ML3.1/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/36, Error ellipse: s-maj=43.9km s-min=15.9km az=47.0*
*CASC **03** 13:15:04.8±2.3, 11°57N×87°57W, h35km±999km, MD4.1*
*NEIC **03** 13:15:07.2±1.0, 11°92N×87°16W, h48km±10km, mb4.3/10, Error ellipse: s-maj=16.4km s-min=7.8km az=50.0*

ISC 03 13:15:06.4±0.7, 11°68N±0°07×87°46W±0°06, h35km, n149, σ1§08/137, mb4.3/21, 57C-52D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.98**	**59**	**ǁiP**		**Pn**	**13 15 24.1**	**+0.3**
HUEN		**1.42**	**62**	***e*P**		**Pn**	**13 15 31.0**	**+1.3**
HUEN				***e*S**		**Sn**	**13 15 49.9**	**+2.7**
CNCH	**Conchagua**	**1.63**	**347**	***e*P**		**Pn**	**13 15 31.9**	**-0.8**
VSM	**San Miguel**	**1.91**	**335**	***e*P**		**Pn**	**13 15 35.7**	**-1.1**
LFRS	**El Faro**	**2.49**	**321**	***e*P**		Pn	13 15 43.2	-1.3
LFRS				***e*S**		**Sn**	**13 16 13.8**	**+0.1**
JTS	**JuntasAbangare**	**2.82**	**119**	Pn		**Pn**	**13 15 48.5**	**-0.6**
	1.1nm,0.3s,baz=112,slow=22,SNR=8.1							
JTS				Sn		**Sn**	**13 16 21.6**	**-0.3**
	9.8nm,0.3s,baz=24,slow=12,SNR=6.7							
JTS				LR		LR	13 16 31.3	
	comp=Z,63nm,20.0s,baz=296,slow=33							
JTS	**JuntasAbangare**	**2.82**	**119**	***e*Pn**		**Pn**	**13 15 48.7**	**-0.4**
JTS				Sn		**Sn**	**13 16 21.6**	**-0.3**
JTS				***e*Sn**		Sn	13 16 21.7	-0.2
JCR	**Jicaral**	**2.94**	**128**	***e*P**		Pn	13 15 48.1	-2.6
RTR	**El Retiro**	**3.07**	**316**	***e*P**		**Pn**	**13 15 51.9**	**-0.7**
RBDL	**Robledal**	**3.25**	**318**	***e*P**		**Pn**	**13 15 55.1**	**0.0**
CGA2	**Cerro Gallo 2**	**3.37**	**119**	***e*P**		**Pn**	**13 15 57.8**	**+1.1**
CGA2				***e*S**		**Sn**	**13 16 37.1**	**+1.4**
BUS	**Buena Vista**	**4.21**	**120**	***e*P**		**Pn**	**13 16 09.4**	**+0.9**
BUS				***e*S**		**Sn**	**13 16 55.6**	**-1.1**
APG	**El Apazote**	**4.41**	**319**	Pn		**Pn**	**13 16 13.2**	**+2.0**
	1.1nm,0.3s,baz=194,slow=1.3,SNR=4.7							
APG				Sn		**Sn**	**13 17 01.0**	**-0.5**
	0.6nm,0.3s,baz=106,slow=16,SNR=2.6							
CMIG	**Matias Romero**	**8.98**	**308**	Pn		**Pn**	**13 17 14.4**	**+0.7**
	0.6nm,0.3s,baz=94,slow=11,SNR=5.0							
035Z	**Hargill**	**17.78**	**327**	⇓P		**Pn**	**13 19 12.9**	**+1.6**
	baz=18							
035A	**Encino**	**18.18**	**328**	⇓P		**Pn**	**13 19 16.8**	**+0.6**
	baz=18							
034A	**Hebbronville**	**18.59**	**327**	⇓P		**P**	**13 19 22.0**	**+1.3**
	baz=19,SNR=5.6							
738A	**Farr-Stevens R**	**18.71**	**337**	⇑P		**P**	**13 19 20.5**	**-1.4**
	baz=19							
934A	**Benavides**	**18.94**	**328**	⇓P		**P**	**13 19 25.3**	**+0.8**
	baz=19							
933A	**Laredo**	**19.34**	**327**	⇑P		**P**	**13 19 30.0**	**+1.1**
	baz=19							
834A	**Tilden**	**19.38**	**329**	⇑P		**P**	**13 19 29.9**	**+0.6**
	baz=19							
636A	**Smothers Creek**	**19.84**	**335**	⇓P		**P**	**13 19 33.6**	**-0.8**
	baz=20							
538A	**Harpers Horsep**	**19.90**	**339**	⇑P		**P**	**13 19 33.2**	**-1.8**
	baz=20							
833A	**Chaparral WMA,**	**19.97**	**328**	⇓P		**P**	**13 19 36.4**	**+0.6**
	baz=20,SNR=6.3							
733A	**Divot King Ran**	**20.24**	**329**	⇓P		**P**	**13 19 38.9**	**+0.2**
	baz=20,SNR=6.3							
832A	**Faith Ranch, C**	**20.25**	**326**	⇑P		**P**	**13 19 38.7**	**-0.1**
	baz=20,SNR=13							
732A	**Laxson Ranch,**	**20.60**	**327**	⇑P		**P**	**13 19 43.0**	**+0.4**
	baz=21							
ATAH	**Atahualpa**	**20.75**	**154**	LR		LR	13 26 43.3	
	comp=Z,67nm,19.6s,baz=359,slow=33							
633A	**Saathoff Ranch**	**20.79**	**330**	⇑P		**P**	**13 19 43.7**	**-1.0**
	baz=21,SNR=5.3							
534A	**Blanco**	**20.93**	**332**	⇑P		**P**	**13 19 45.7**	**-0.6**
	baz=21							
632A	**Uvalde**	**21.13**	**329**	⇓P		**P**	**13 19 48.4**	**+0.1**
	baz=21,SNR=6.3							
533A	**Kerrville**	**21.23**	**331**	⇑P		**P**	**13 19 48.9**	**-0.5**
	baz=21							
239A	**Gary**	**21.25**	**343**	⇓P		**P**	**13 19 46.9**	**-2.7**
	baz=21							
LRAL	**Lakeview Retre**	**21.26**	**1**	P		P	13 19 46.0	-3.7
	12nm,0.8s							
631A	**Perdido Creek**	**21.46**	**327**	⇓P		**P**	**13 19 52.4**	**+0.4**
	baz=22							
434A	**Burnet**	**21.52**	**334**	⇑P		**P**	**13 19 51.9**	**-0.6**
	baz=22							
532A	**Rocksprings**	**21.70**	**330**	⇑P		**P**	**13 19 54.5**	**+0.1**
	baz=22,SNR=5.2							
433A	**Art**	**21.83**	**332**	⇓P		**P**	**13 19 55.4**	**-0.4**
	baz=22							
JCT	**Junction City**	**21.93**	**330**	⇓P		**P**	**13 19 57.3**	**+0.3**
	baz=22							
GOGA	**Godfrey**	**21.94**	**9**	P		**P**	**13 19 54.3**	**-2.7**
	11nm,0.8s							
334A	**Lometa**	**21.95**	**335**	⇓P		**P**	**13 19 56.2**	**-1.0**
	baz=22							
138A	**Matatall Enter**	**22.03**	**343**	⇑P		**P**	**13 19 55.3**	**-2.6**
	baz=22							
531A	**Rocksprings**	**22.05**	**329**	⇑P		**P**	**13 19 58.9**	**+0.6**
	baz=22							
432A	**Menard**	**22.26**	**331**	⇑P		**P**	**13 19 59.7**	**-0.8**
	baz=22							
333A	**Richland Sprin**	**22.27**	**333**	⇓P		**P**	**13 19 59.9**	**-0.6**
	baz=22							
530A	**J-C Ranch, Com**	**22.45**	**327**	⇑P		**P**	**13 20 03.3**	**+0.7**
	baz=22							
431A	**Sonora**	**22.50**	**329**	⇓P		**P**	**13 20 03.5**	**+0.4**
	baz=22,SNR=6.0							
332A	**Millersview**	**22.66**	**332**	⇓P		**P**	**13 20 04.7**	**0.0**
	baz=23							
135A	**Vickery Place,**	**22.71**	**338**	⇓P		**P**	**13 20 03.7**	**-1.5**
	baz=23							
OXF	**Oxford**	**22.80**	**356**	***e*P**		P	13 20 02.7	-3.4
	23nm,0.9s							
233A	**Rising Star**	**22.82**	**334**	⇓P		**P**	**13 20 05.7**	**-0.8**
	baz=23							
430A	**Baggett Ranch,**	**22.90**	**328**	⇓P		**P**	**13 20 08.2**	**+0.8**
	baz=23							
529A	**Stev Forest Ra**	**22.91**	**325**	⇑P		**P**	**13 20 08.9**	**+1.5**
	baz=23							
331A	**San Angelo**	**22.92**	**330**	⇓P		**P**	**13 20 07.5**	**0.0**
	baz=23							
232A	**Coleman**	**23.04**	**333**	⇑P		**P**	**13 20 08.6**	**-0.2**
	baz=23							
429A	**Davenport Ranc**	**23.12**	**327**	⇑P		**P**	**13 20 10.5**	**+0.9**
	baz=23							
TXAR	**Lajitas Array**	**23.17**	**322**	P		**P**	**13 20 10.5**	**+0.4**
	2.3nm,0.7s,baz=138,slow=9.9,SNR=31							
TXAR				PcP		**PcP**	**13 24 00.4**	**+2.5**
	0.5nm,0.9s,baz=166,slow=2.6,SNR=3.6							
133A	**Hamilton Ranch**	**23.34**	**335**	⇑P		**P**	**13 20 11.2**	**-0.5**
	baz=23							
Z35A	**Perchaven, San**	**23.35**	**339**	⇑P		**P**	**13 20 10.2**	**-1.5**
	baz=23							
330A	**Mertzon**	**23.37**	**329**	⇑P		**P**	**13 20 12.3**	**+0.3**
	baz=23							
231A	**Bronte**	**23.39**	**332**	⇓P		**P**	**13 20 11.7**	**-0.4**
	baz=23							
MIAR	**Mount Ida**	**23.44**	**347**	***e*P**		**P**	**13 20 10.8**	**-1.7**
	8.9nm,0.9s							
ABTX	**Abilene, Hawle**	**23.66**	**334**	⇑P		**P**	**13 20 13.8**	**-1.0**
	baz=24							
329A	**Wagon Wheel Ra**	**23.84**	**328**	⇑P		**P**	**13 20 16.7**	**+0.1**
	baz=24							
Z33A	**Whitaker Ranch**	**23.87**	**336**	⇓P		**P**	**13 20 15.5**	**-1.3**
	baz=24							
131A	**Roby**	**24.04**	**332**	⇑P		**P**	**13 20 18.4**	**+0.1**
	baz=24							
Y34A	**Reagan Ranch,**	**24.09**	**339**	⇑P		**P**	**13 20 17.2**	**-1.6**
	baz=24							
TKL	**Tuckaleechee C**	**24.11**	**7**	P		**P**	**13 20 18.1**	**-0.8**
	7.5nm,0.8s,baz=182,slow=11,SNR=14							
TKL	**Tuckaleechee C**	**24.11**	**7**	P		**P**	**13 20 16.0**	**-2.9**
229A	**Bryant Ranch,**	**24.14**	**329**	⇑P		**P**	**13 20 20.2**	**+0.8**
	baz=24							
Z32A	**Haskell**	**24.18**	**335**	⇓P		**P**	**13 20 19.3**	**-0.3**
	baz=24							
WVT	**Waverly**	**24.35**	**359**	P		**P**	**13 20 19.0**	**-2.0**
	1.5nm,0.7s							
Y33A	**Hilltop Ranch,**	**24.46**	**337**	⇓P		**P**	**13 20 21.3**	**-0.9**
	baz=24							
Z31A	**Sharp Cattle R**	**24.48**	**334**	⇑P		**P**	**13 20 21.7**	**-0.6**
	baz=24							
228A	**UT Block 9, Go**	**24.66**	**328**	⇑P		**P**	**13 20 23.4**	**-0.7**
	baz=25							
X34A	**Smith Ranch, M**	**24.70**	**339**	⇓P		**P**	**13 20 22.9**	**-1.4**
	baz=25							
129A	**Stewart Farms,**	**24.70**	**330**	⇑P		**P**	**13 20 24.4**	**-0.1**
	baz=25							
X33A	**Lawton**	**24.88**	**338**	⇑P		**P**	**13 20 25.6**	**-0.4**
	baz=25,SNR=6.5							
Z30A	**Sanderson Ranc**	**24.89**	**332**	⇑P		**P**	**13 20 25.9**	**-0.2**
	baz=25							
128A	**Castleberry Fa**	**25.00**	**329**	⇑P		**P**	**13 20 27.2**	**+0.1**
	baz=25							
X32A	**Elmer**	**25.07**	**336**	⇓P		**P**	**13 20 26.6**	**-1.2**
	baz=25							
Z29A	**Hungry Hill Ra**	**25.14**	**331**	⇓P		**P**	**13 20 28.4**	**+0.1**
	baz=25							
W34A	**Bridge Creek,**	**25.25**	**340**	⇓P		**P**	**13 20 28.4**	**-0.9**
	baz=25							
TUL1	**Leonard**	**25.28**	**344**	⇓P		**P**	**13 20 29.2**	**-0.3**
	baz=25,SNR=9.9							
TUL1	**Leonard**	**25.28**	**344**	***e*P**		**P**	**13 20 28.1**	**-1.4**
	30nm,0.9s							
Y30A	**Stafford Cattl**	**25.28**	**333**	⇓P		**P**	**13 20 29.8**	**+0.1**
	baz=25							
V35A	**Meyer Ranch, C**	**25.44**	**342**	⇑P		**P**	**13 20 29.5**	**-1.4**
	baz=25							
Z28A	**Tucker Farm, M**	**25.49**	**330**	⇓P		**P**	**13 20 31.9**	**+0.3**
	baz=26							
X31A	**McDonald Ranch**	**25.54**	**335**	⇓P		**P**	**13 20 31.6**	**-0.3**
	baz=26							
Y29A	**Porterfield Fa**	**25.62**	**332**	⇓P		**P**	**13 20 32.4**	**-0.3**
	baz=26							
W32A	**Sentinel**	**25.68**	**337**	⇑P		**P**	**13 20 32.0**	**-1.2**
	baz=26							
V34A	**Guthrie**	**25.72**	**341**	⇓P		**P**	**13 20 32.6**	**-0.9**
	baz=26							
V34A	**Guthrie**	**25.72**	**341**	***e*P**		**P**	**13 20 31.0**	**-2.5**
	13nm,1.0s							
X30A	**Coker Ranch, T**	**25.75**	**334**	⇑P		**P**	**13 20 33.8**	**-0.1**
	baz=26							
MNTX	**Corrudas Mount**	**25.89**	**323**	⇑P		**P**	**13 20 37.1**	**+2.0**
	baz=26							
V33A	**Lossen Ranch,**	**25.96**	**340**	⇓P		**P**	**13 20 33.9**	**-1.8**
	baz=26							
X29A	**Tulia**	**26.12**	**332**	⇑P		**P**	**13 20 37.7**	**+0.5**
	baz=26							
V32A	**Arapaho**	**26.14**	**338**	⇑P		**P**	**13 20 37.5**	**+0.2**
	baz=26							
MSTX	**Muleshoe**	**26.23**	**330**	⇓P		**P**	**13 20 38.3**	**0.0**
	baz=26							
MSTX	**Muleshoe**	**26.23**	**330**	***e*P**		**P**	**13 20 37.3**	**-1.0**
	12nm,0.9s							
U34A	**Anderson Ranch**	**26.27**	**341**	⇑P		**P**	**13 20 37.3**	**-1.2**
	baz=26							
X28A	**Dimmitt**	**26.41**	**332**	⇑P		**P**	**13 20 41.2**	**+1.3**
	baz=26							
AMTX	**Amarillo**	**26.48**	**333**	⇓P		**P**	**13 20 42.1**	**+1.6**
	baz=26							
V31A	**Spring Creek L**	**26.48**	**337**	⇑P		**P**	**13 20 41.7**	**+1.2**
	baz=26							
W29A	**Amarillo**	**26.66**	**333**	⇓P		**P**	**13 20 43.0**	**+0.8**
	baz=27							
U32A	**Winter Ranch,**	**26.71**	**339**	⇓P		**P**	**13 20 42.6**	**+0.1**
	baz=27							
V30A	**Spur Ranch, Mi**	**26.80**	**336**	⇑P		**P**	**13 20 43.7**	**+0.3**
	baz=27							
S36A	**Lake Cedric, C**	**26.94**	**346**	⇓P		**P**	**13 20 43.2**	**-1.4**
	baz=27							
V26A	**Tequesquite Ra**	**28.20**	**331**	⇓P		**P**	**13 20 57.5**	**+1.5**
	baz=28							
V25A	**Rancho No Teng**	**28.63**	**330**	⇓P		**P**	**13 21 01.8**	**+1.9**
	baz=29							
ACSO	**Alum Creek Sta**	**28.71**	**7**	***e*P**		P	13 20 58.6	-1.7
	5.5nm,0.8s							
T25A	**Trinidad**	**29.58**	**332**	⇑P		**P**	**13 21 09.3**	**+1.0**
	baz=30							
U23A	**El Rito**	**29.80**	**329**	⇓P		**P**	**13 21 12.3**	**+1.9**
	baz=30							
PTGA	**Pitinga**	**29.96**	**112**	LR		LR	13 35 25.5	
	comp=Z,45nm,20.1s,baz=107,slow=41							
O30A	**MW Ranch, Wils**	**30.49**	**341**	⇓P		**P**	**13 21 15.9**	**-0.3**
	baz=30							
N32A	**Stulken Farm,**	**30.50**	**344**	⇑P		**P**	**13 21 15.5**	**-0.8**
	baz=30							
SAML	**Samuel**	**31.66**	**129**	***e*P**		P	13 21 24.2	-2.5
	7.1nm,1.5s							
ECSD	**EROS Data Cent**	**32.91**	**348**	⇑P		P	13 21 35.4	-1.9
	baz=33,SNR=7.1							
SPMN	**Marine on St.**	**33.74**	**353**	⇑P		P	13 21 41.8	-2.8
	baz=34							
G30A	**Faulkton**	**34.80**	**345**	⇓P		P	13 21 52.2	-1.6
	baz=35							
H27A	**Howes**	**35.16**	**342**	⇑P		**P**	**13 21 56.4**	**-0.5**
	baz=35							
PDAR	**Pinedale Array**	**36.45**	**332**	P		**P**	**13 22 07.5**	**-0.7**
	0.7nm,0.4s,baz=125,slow=9.3,SNR=3.6							
D30A	**Buchanan**	**36.58**	**347**	⇑P		P	13 22 07.4	-1.6
	baz=36							
H21A	**Big Horn, Sher**	**36.89**	**337**	⇓P		**P**	**13 22 11.9**	**+0.1**
	baz=37							
C30A	**Mose, Pekin**	**37.08**	**348**	⇓P		**P**	**13 22 12.3**	**-1.0**
	baz=37							
D28A	**Regan**	**37.09**	**345**	⇓P		**P**	**13 22 12.6**	**-0.7**
	baz=37							
AGMN	**Passiz Nation**	**37.18**	**351**	⇑P		P	13 22 12.2	-1.9
	baz=37							
B30A	**Myrvik Farm, E**	**37.77**	**348**	⇑P		**P**	**13 22 18.6**	**-0.5**
	baz=38							
C27A	**Sayler Ranch,**	**37.81**	**344**	⇑P		**P**	**13 22 18.5**	**-1.0**
	baz=38							
I17A	**Pilgrim Ck.**	**37.81**	**332**	⇑P		**P**	**13 22 21.5**	**+1.7**
	baz=38							
H18A	**Shoshone NF, C**	**38.01**	**334**	⇓P		**P**	**13 22 20.9**	**-0.5**
	baz=38							
B28A	**Dugan Ranch, T**	**38.21**	**346**	⇑P		**P**	**13 22 22.1**	**-0.7**
	baz=38							
NVAR	**Mina Array Bea**	**38.28**	**319**	P		**P**	**13 22 24.4**	**+0.6**
	0.3nm,0.6s,baz=139,slow=7.2,SNR=1.4							
A29A	**Manning Farm,**	**38.40**	**347**	⇓P		**P**	**13 22 23.4**	**-1.0**
	baz=38							
E20A	**Meyer Farm, Mu**	**38.88**	**337**	⇓P		**P**	**13 22 28.6**	**+0.1**
	baz=39							
C23A	**Lambert**	**38.96**	**341**	⇑P		**P**	**13 22 29.0**	**-0.1**
	baz=39							
ULM	**Lac du Bonnet**	**39.08**	**351**	P		P	13 22 26.8	-3.2
	5.8nm,0.9s,baz=170,slow=8.6,SNR=9.8							
B23A	**Brockton**	**39.48**	**342**	⇑P		**P**	**13 22 33.8**	**+0.3**
	baz=40							
C19A	**Slack Wire Ran**	**40.25**	**337**	⇑P		**P**	**13 22 40.2**	**+0.2**
	baz=40							
B19A	**Brinkman Farms**	**40.81**	**338**	⇑P		**P**	**13 22 44.8**	**+0.2**
	baz=41							
NEW	**Newport**	**44.08**	**332**	P		**P**	**13 23 11.8**	**+0.7**
	0.9nm,0.7s,baz=112,slow=15,SNR=3.6							
SCHQ	**Schefferville**	**46.02**	**16**	P		P	13 23 23.3	-3.1
	4.5nm,0.7s,baz=211,slow=6.5,SNR=11							
BDFB	**Brasilia**	**47.55**	**124**	P		**P**	**13 23 38.5**	**-0.5**
	3.7nm,0.7s,baz=276,slow=10,SNR=6.0							
YKA	**Yellowknife Ar**	**54.35**	**345**	P		P	13 24 27.1	-2.2
	0.6nm,0.8s,baz=139,slow=7.4,SNR=13							
RES	**Resolute Bay**	**63.13**	**358**	P		P	13 25 27.3	-2.9
	0.8nm,0.8s,baz=190,slow=5.8,SNR=5.7							
ILAR	**Eielson Array**	**66.72**	**336**	P		P	13 25 52.5	-1.3
	0.7nm,1.0s,baz=166,slow=3.9,SNR=3.1							
ASAR	**Alice Springs**	**138.97**	**247**	PKhKP	PKPpre	13 34 27.9		
	0.3nm,0.8s,baz=97,slow=2.1,SNR=2.8							
WRA	**Warramunga Arr**	**139.04**	**253**	PKhKP	PKPpre	13 34 31.2		
	0.5nm,1.1s,baz=99,slow=2.0,SNR=3.1							
CMAR	**Chiang Mai Arr**	**149.40**	**348**	PKPbc	**PKPbc**	**13 34 52.7**	**0.0**
	3.0nm,0.8s,baz=345,slow=3.7,SNR=17							

*ISK **03** 13:19:05.9, 38°72N×40°00E, h5km, ML3.7*
*CSEM **03** 13:19:06.6±0.2, 38°70N×39°99E, h2km, ML3.7, Error ellipse: s-maj=4.6km s-min=4.2km az=11.0*
*DDA **03** 13:19:06.3, 38°70N×39°97E, h16km, MD3.6, ML3.7*
*ISN **03** 13:19:26.3±2.1, 38°24N×43°58E, h0km±8km, ML3.7*

ISC 03 13:19:06.5±1.1, 38°71N±0°02×39°98E±0°02, h4km±10km, n75, σ0§95/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.49**	**291**	***e*PG**		**Pg**	**13 19 15.6**	**-0.3**
PTK				***e*SG**		**Sg**	**13 19 23.0**	**+0.6**
PTK	**Pertek**	**0.49**	**291**	***e*Pg**		**Pg**	**13 19 15.6**	**-0.3**
PTK				***e*Sg**		**Sg**	**13 19 23.0**	**+0.6**
BNGB	**Bingˆ¶ǁ**	**0.61**	**63**	***e*PG**		**Pg**	**13 19 18.1**	**-0.1**
BNGB				***e*SG**		**Sg**	**13 19 26.2**	**0.0**
DYBB	**Diyarbakir**	**0.77**	**171**	***e*PG**		**Pg**	**13 19 21.3**	**+0.1**
DIYA	**Diyarbakir**	**0.80**	**172**	***i*P**		**Pb**	**13 19 23.0**	**0.0**
DIYA	**Diyarbakir**	**0.80**	**172**	***i*P**		**Pb**	**13 19 23.0**	**0.0**
ELZG	**Elazig**	**0.81**	**255**	***i*P**		**Pg**	**13 19 20.8**	**-1.2**
ELZG	**Elazig**	**0.81**	**255**	***i*P**		**Pg**	**13 19 20.8**	**-1.2**
ELZG				***i*S**		Sg	13 19 23.2	-9.3
DIY	**Diyarbakir**	**0.84**	**167**	***e*Pg**		**Pg**	**13 19 21.3**	**-1.2**
ERZN	**Erzincan**	**0.90**	**347**	***e*PG**		**Pg**	**13 19 23.0**	**-0.7**
BNGL	**BINGOL**	**0.94**	**75**	***i*P**		**Pg**	**13 19 24.0**	**-0.6**
BNGL				***i*S**		**Sb**	**13 19 39.4**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.11**	**120**	***e*PN**		**Pg**	**13 19 27.6**	**-0.1**
SVAN				***e*SN**		**Sb**	**13 19 42.5**	**-0.6**
VRTB	**Varto-Mus**	**1.23**	**68**	***e*PN**		**Pb**	**13 19 30.2**	**-0.2**
VRTB	**Varto-Mus**	**1.23**	**68**	***e*Pn**		**Pb**	**13 19 30.3**	**-0.2**
MALT	**Malatya**	**1.28**	**252**	***e*PN**		**Pn**	**13 19 31.8**	**+0.5**
MALT	**Malatya**	**1.28**	**252**	***e*Pn**		**Pn**	**13 19 31.8**	**+0.5**
KEMA	**Kemaliye**	**1.28**	**296**	***i*P**		**Pg**	**13 19 29.2**	**-1.9**
KEMA				***i*S**		**Sb**	**13 19 48.7**	**+0.5**
KEMA	**Kemaliye**	**1.28**	**296**	***i*P**		**Pg**	**13 19 29.2**	**-1.9**
KEMA				***i*S**		**Sb**	**13 19 48.7**	**+0.5**
BTMT	**Batman**	**1.29**	**113**	***e*PN**		**Pg**	**13 19 30.6**	**-0.7**
BTMT	**Batman**	**1.29**	**113**	***e*Pn**		**Pg**	**13 19 30.6**	**-0.7**
MAZI	**Mazidag**	**1.30**	**163**	***e*PN**		**Pg**	**13 19 31.1**	**-0.4**
MAZI	**Mazidag**	**1.30**	**163**	***e*Pn**		**Pg**	**13 19 31.1**	**-0.4**
ILIC	**ilic-Erzincan**	**1.32**	**304**	***e*PN**		**Pb**	**13 19 32.7**	**+0.7**
ILIC	**ilic-Erzincan**	**1.32**	**304**	***e*Pn**		**Pb**	**13 19 32.7**	**+0.7**
KOPT	**Kop Dagi**	**1.36**	**17**	***i*P**		**Pn**	**13 19 32.5**	**-0.1**
KOPT				***i*S**		**Sn**	**13 19 52.3**	**+1.0**
KOPT	**Kop Dagi**	**1.36**	**17**	***i*P**		**Pn**	**13 19 32.5**	**-0.1**
KOPT				***i*S**		**Sn**	**13 19 52.3**	**+1.0**
MARD	**Mardin**	**1.53**	**155**	***i*P**		**Pn**	**13 19 34.4**	**-0.4**
MARD				***i*S**		**Sb**	**13 19 55.3**	**0.0**
KELT	**Kelkit**	**1.54**	**339**	***i*P**		**Pb**	**13 19 35.4**	**-0.3**
KEL

OUZ	Omahuta	6.67	255	PN	Pn	13 35 38.9	+1.7
BKZ	Black Stump Fm	6.73	215	PN	Pn	13 35 39.1	+0.9
MCHZ	McNeill Hill	6.86	213	PN	Pn	13 35 41.1	+1.2
KAHZ	Kahuranaki	7.07	210	PN	Pn	13 35 42.8	0.0
KRHZ	Kereru	7.17	213	PN	Pn	13 35 44.8	+0.7
BHHZ	Black Hill Sta	7.19	216	PN	Pn	13 35 45.4	+0.9
WPVZ	Whakapapa	7.24	220	PN	Pn	13 35 47.1	+1.9
FWVZ	Far West T-bar	7.27	219	PN	Pn	13 35 46.6	+0.9
PXZ	Pawanui	7.27	209	PN	Pn	13 35 44.9	-0.7
WNVZ	Wahianoa	7.30	219	PN	Pn	13 35 46.8	+0.7
PNHZ	Pukenui	7.46	213	PN	Pn	13 35 48.3	+0.1
PRWZ	Pori Road	8.09	211	PN	Pn	13 35 57.3	+0.6
MRZ	Mangatainoka R	8.35	213	PN	Pn	13 35 58.4	-1.9
MRZ				eSN	Sn	13 37 25.7	-7.6
HOWZ	Holdsworth Sta	8.56	212	PN	Pn	13 36 01.5	-1.8
KIW	Kapiti Island	8.81	214	PN	Pn	13 36 04.7	-2.0
CAW	Cannon Point	8.93	213	PN	Pn	13 36 06.4	-1.9
TCW	Tory Channel	9.39	215	PN	Pn	13 36 11.5	-3.0
TUWZ	Tuamarina	9.71	216	PN	Pn	13 36 15.9	-3.1
NNZ	Nelson	9.84	218	PN	Pn	13 36 17.7	-3.0
QRZ	Quartz Range	10.03	223	PN	Pn	13 36 19.7	-3.7
THZ	Tophouse	10.48	218	PN	Pn	13 36 25.5	-4.1
OXZ	Oxford	12.07	215	PN	Pn	13 36 45.7	-5.6
MQZ	McQueen's Vall	12.08	212	ePN	Pn	13 36 45.6	-5.9
MQZ				eSN	Sn	13 38 49.5	-15
ASAR	Alice Springs	42.59	271	P	P	13 41 53.1	-1.7
	0.2nm,0.5s,baz=112,slow=8.1,SNR=5.5						
WRA	Warramunga Arr	43.88	276	P	P	13 42 03.7	-1.5
	0.1nm,0.3s,baz=118,slow=7.6,SNR=12						
FINES	FINESS Array B	148.10	338	PKPbc	PKPbc	13 53 44.2	+1.3
	0.3nm,0.3s,baz=67,slow=1.8,SNR=1.4						

DDA ***03*** *14:02:56.5,39.20N×28.42E,h7km,MD2.6*
CSEM ***03*** *14:02:57.7±0.3,39.18N×28.46E,h2km,MD2.6, Error ellipse: s-maj=8.8km s-min=5.3km az=48.0*

ISK 03 14:02:57.4,39.17N×28.54E,h5km,MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	Dursunbey	0.43	353	*i* P	Pg	14 03 04.0	-1.9
KULA	Kula-Manisa	0.66	172	*e*PG	Pg	14 03 10.9	+0.6
KULA				eSG	Sb	14 03 20.1	-1.1
KULA	Kula-Manisa	0.66	172	*e*Pg	Pg	14 03 10.9	+0.6
KULA				eSg	Sg	14 03 20.1	+1.1
MANT	Manisa	0.68	179	*i* P	Pg	14 03 10.5	-0.3
MANT	Manisa	0.68	179	*i* P	Pg	14 03 10.5	-0.3
BALB	Balikesir	0.69	312	*e*PG	Pg	14 03 10.6	-0.2
BALB	Balikesir	0.69	312	*e*Pg	Pg	14 03 10.6	-0.1
GDZ	Gediz	0.73	96	*i* P	Pn	14 03 13.8	-0.9
GDZ				*i* S	Sb	14 03 24.4	+1.0
GDZ	Gediz	0.73	96	*i* P	Pb	14 03 13.8	+0.9
GDZ				*i* S	Sb	14 03 24.4	+1.0
TVSB	Tavsanli	0.77	69	*e*PG	Pg	14 03 12.6	+0.3
TVSB	Tavsanli	0.77	69	*e*Pg	Pg	14 03 12.6	+0.3
BALY	Balya	0.91	309	*i* P	Pg	14 03 12.6	-2.4
BALY				*i* S	Sg	14 03 24.5	-2.4
BALY	Balya	0.91	309	*i* P	Pg	14 03 12.6	-2.4
BALY				*i* S	Sg	14 03 24.5	-2.4
EDC	Edincik	1.28	336	*e*PN	Pb	14 03 22.3	+0.2
EDC	Edincik	1.28	336	*e*Pn	Pb	14 03 22.3	+0.2
ARMT	Armutlu	1.41	10	*e*PN	Pn	14 03 23.8	-0.1
ARMT	Armutlu	1.41	10	*e*Pn	Pn	14 03 23.8	0.0
KRBG	Karabiga-Canak	1.55	322	*e*PN	Pb	14 03 26.5	-0.1
KRBG	Karabiga-Canak	1.55	322	*e*Pn	Pb	14 03 26.5	-0.1
MRMT	Marmara Adasi	1.60	333	*e*PN	Pb	14 03 27.6	0.0
MRMT	Marmara Adasi	1.60	333	*e*Pn	Pb	14 03 27.7	+0.1
GELI	Tayfur-Gelibol	2.01	308	*e*PN	Pn	14 03 33.1	+1.1
GELI	Tayfur-Gelibol	2.01	308	*e*Pn	Pn	14 03 33.1	+1.1

SJA ***03*** *14:03:20.0±0.3,23.93S×66.96W,h197km±29km,ML2.6*
GUC ***03*** *14:03:22.4±0.7,24.11S×67.63W,h270km±20km,ML4.1*

ISC 03 14:03:22.3±1.4, 24.19S±0.10×67.00W±0.06, h178km, n11, σ1§81/19, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.46	112	*i* P	Pn	14 03 54.6	+0.7
SLA				*i* S	Sn	14 04 20.3	+1.9
SLA				AML	AML	14 04 22.1	
	comp=Z,36nm,0.7s						
AZAP	Zapla	1.77	92	*i* P	Pn	14 03 56.9	-0.1
ASTB	Santa Barbara	2.31	85	*i* P	Pn	14 04 02.3	-0.6
PB06	IPOC Station P	2.78	301	*e*P	Pn	14 04 10.7	+2.3
PB06				eS	Sn	14 04 46.5	+2.3
PB06				AML	AML	14 04 50.1	
	comp=E,233nm,0.4s						
ALOL	LOMAS DE OLMED	2.79	83	*i* P	Pn	14 04 06.9	-1.5
PB09	IPOC Station P	3.15	319	*e*P	Pn	14 04 15.2	+2.2
PB09				eS	Sn	14 04 55.3	+3.0
PB09				AML	AML	14 04 58.0	
	comp=N,230nm,0.5s						
ANCH	Antofagasta	3.16	278	*e*P	Pn	14 04 10.9	-1.9
ANCH				eS	Sn	14 04 49.5	-2.6
PB07	IPOC Station P	3.62	312	*e*P	Pn	14 04 19.8	+1.1
PB07				eS	Sn	14 05 02.7	0.0
PB07				AML	AML	14 05 03.7	
	comp=E,132nm,0.2s						
PB01	IPOC Station P	3.88	323	*e*P	Pn	14 04 22.5	+0.5
PB01				eS	Sn	14 05 08.7	+0.1
PB01				AML	AML	14 05 12.3	
	comp=E,86nm,0.2s						
HMBC	Humberstone	4.72	325	*e*P	Pn	14 04 31.7	-1.1
HMBC				eS	Sn	14 05 26.1	-1.9
PB11	IPOC Station P	5.05	330	*e*P	Pn	14 04 36.1	-1.0
PB11				eS	Sn	14 05 33.8	-1.9

CSEM ***03*** *14:03:49.7±0.2,39.80N×30.00E,h15km,MD2.9, Error ellipse: s-maj=4.8km s-min=3.7km az=134.0*

ISK 03 14:03:49.7,39.83N×29.94E,h14km,MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	Eskisehir	0.40	83	*i* P	Pg	14 03 56.2	-1.7
BORA				*i* S	Sg	14 04 02.6	-0.8
BORA	Eskisehir	0.40	83	*i* P	Pg	14 03 56.2	-1.7
BORA				*i* S	Sg	14 04 02.6	-0.8
TVSB	Tavsanli	0.53	224	*e*PG	Pg	14 04 00.2	-0.1
TVSB				eSG	Sb	14 04 09.0	+0.5
TVSB	Tavsanli	0.53	224	*e*Pg	Pg	14 04 00.2	-0.1
TVSB				eSg	Sg	14 04 09.0	+0.5
GULT	Gulveren	0.75	36	*e*PG	Pg	14 04 04.2	-0.2
GULT				eSG	Sn	14 04 16.1	-1.1
GULT	Gulveren	0.75	36	*e*Pg	Pg	14 04 04.2	-0.2
GULT				eSg	Sn	14 04 16.1	-1.1
ALT	Altintas	0.79	170	*e*PG	Pb	14 04 05.3	0.0
ALT	Altintas	0.79	170	*e*Pg	Pb	14 04 05.3	0.0
DST	Dursunbey	1.04	258	*e*PG	Pn	14 04 10.2	+0.2
DST	Dursunbey	1.04	258	*e*Pg	Pn	14 04 10.2	+0.2
ARMT	Armutlu	1.10	312	*e*PN	Pg	14 04 11.2	+0.1
ARMT				eSN	Sn	14 04 27.1	+1.2
ARMT	Armutlu	1.10	312	*e*Pn	Pg	14 04 11.2	+0.1
ARMT				eSn	Sn	14 04 27.1	+1.2
KCTX	Karacabey (Bur	1.29	290	*e*PN	Pb	14 04 14.1	+0.3
KCTX	Karacabey (Bur	1.29	290	*e*Pn	Pb	14 04 14.1	+0.3
SILT	Sile	1.34	350	*e*PN	Pn	14 04 14.2	+0.2
SILT				eSN	Sg	14 04 32.9	-0.1
SILT	Sile	1.34	350	*e*Pn	Pn	14 04 14.2	+0.2
SILT				eSn	Sg	14 04 32.9	-0.1
KLYT	Kilyos	1.58	335	*e*PN	Pn	14 04 17.6	+0.3
KLYT				eSN	Sb	14 04 39.0	+0.5
KLYT	Kilyos	1.58	335	*e*Pn	Pn	14 04 17.6	+0.4
KLYT				eSn	Sb	14 04 39.0	+0.6
EDC	Edincik	1.67	289	*e*PN	Pb	14 04 19.5	-0.8
EDC	Edincik	1.67	289	*e*Pn	Pb	14 04 19.5	-0.8

MAN ***03*** *14:30:48, 9.87N×122.40E,h2km,mb4.4,ML3.3,MS3.1*
IDC ***03*** *14:31:17.9±1.6,9.31N×126.21E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/32,mbtmp3.7/5, Error ellipse: s-maj=174.5km s-min=22.6km az=69.0*
ISCJB ***03*** *14:31:23.6±1.0,9.24N±0.05×126.40E±0.07,h54km±10km, mb3.7/5,Error ellipse: s-maj=13.1km s-min=6.9km az=155.7*

ISC 03 14:31:23.6±2.0, 9.25N±0.06×126.5E±0.1, h42km±20km, n23, σ1§39/23, mb3.5/5, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.87	252	*e*P	Pn	14 31 38.4	-1.0
BUTP				eS	Sn	14 31 43.6	-7.2
BIPH	Bislig	1.06	185	*e*P	Pn	14 31 41.6	-0.4
BIPH				eS	Sn	14 31 54.9	-0.7
SCPH	Surigao	1.09	299	*e*P	Pn	14 31 42.1	-0.3
SCPH				eS	Sn	14 31 55.4	-1.0
MSLP	Maasin	1.80	299	*e*P	Pn	14 31 53.8	+1.6
MSLP				eS	Sn	14 32 13.0	-0.9
CGP	Cagayan de Oro	1.91	246	*e*P	Pn	14 31 54.1	+0.4
CGP				eS	Sn	14 32 14.9	-1.6
BUKP	Musuan	1.93	226	*e*P	Pn	14 31 55.0	+0.9
BUKP				eS	Sn	14 32 18.6	+1.4
TBP	Tagbilaran	2.59	280	*e*P	Pn	14 32 04.8	+1.7
CTBH	Cotabato--PC H	2.97	228	*i*P	Pn	14 32 10.0	+1.7
DCPH	Dipolog City	3.13	258	*e*P	Pn	14 32 10.6	+0.1
DCPH				eS	Sn	14 32 45.6	-1.1
PAGZ	Pagadian	3.34	246	*e*P	Pn	14 32 15.2	+1.8
GUIM	Jordan	4.05	290	*e*P	Pn	14 32 23.8	+0.7
RCP	Roxas	4.31	303	*e*P	Pn	14 32 29.3	+2.5
WRA	Warramunga Arr	30.02	165	P	P	14 37 29.6	+0.8
	0.2nm,0.6s,baz=344,slow=8.3,SNR=5.8						
ASAR	Alice Springs	33.51	168	P	P	14 38 00.3	+0.9
	0.2nm,0.3s,baz=347,slow=7.3,SNR=13						
H11S3	WAKE ISLAND Hy	40.05	72	T	T	15 21 55.0	
	baz=262,slow=75,SNR=68						
H11S1	WAKE ISLAND Hy	40.06	72	T	T	15 21 55.2	
	baz=262,slow=75,SNR=54						
H11S2	WAKE ISLAND Hy	40.06	72	T	T	15 21 55.5	
	baz=262,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy	40.41	70	T	T	15 22 33.6	
	baz=266,slow=75,SNR=15						
H11N2	WAKE ISLAND Hy	40.42	70	T	T	15 22 31.8	
	baz=266,slow=75,SNR=9.3						
H11N3	WAKE ISLAND Hy	40.43	70	T	T	15 22 31.8	
	baz=266,slow=75,SNR=16						
MKAR	Mankchi Array	52.95	323	P	P	14 40 34.3	-1.6
	0.2nm,0.5s,baz=134,slow=8.7,SNR=4.7						
ARCES	ARCESS Array B	85.21	340	P	P	14 43 53.8	-1.6
	3.2nm,1.0s,baz=79,slow=6.5,SNR=2.2						
FINES	FINESS Array B	86.87	332	P	P	14 44 05.1	+1.3
	1.4nm,1.1s,baz=93,slow=5.3,SNR=4.9						

BJI ***03*** *14:49:56.3, 1.27N×99.03E,h132km, mB5.1/20,mb4.8/38*
NEIC ***03*** *14:50:01.2±0.2, 1.77N×99.01E, mb4.8/20, Error ellipse: s-maj=6.1km s-min=3.9km az=223.0*
ISCJB ***03*** *14:50:01.2±0.2, 1.84N±0.02×98.96E±0.02,h132km±2km, mb4.8/81, Error ellipse: s-maj=4.8km s-min=2.4km az=137.4*
KLM ***03*** *14:50:02.7, 1.86N×98.95E,h144km, mb4.7, ML4.4, MS6.0*
DJA ***03*** *14:50:02.8±0.1,2.N±2.×9.9E±., h116km±2km,M4.8/57, mb5.1/57,mB5.3/34,MLv5.0/18,Mw(mB)4.8/34*
MOS ***03*** *14:50:02.1±1.1, 1.92N×99.18E,h139km,mb4.8/22, Error ellipse: s-maj=11.6km s-min=5.4km az=110.9*
IDC ***03*** *14:50:02.0±0.6, 1.88N×99.04E,h124km±4km, mb4.2/25, mb1 4.3/27,mb1mx4.1/48,mbtmp4.6/27,MS3.2/4, Ms1 3.3/4,ms1mx2.8/32, Error ellipse: s-maj=13.8km s-min=9.0km az=54.0*

ISC 03 14:50:02.6±0.3, 1.82N±0.03×98.93E±0.03, h135km±2km, h135km:pP-P, n274, σ1§57/344, mb4.8/82, 7C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.97	360	P	Pn	14 50 24.0	-1.9
	baz=1.1,SNR=674						
PSI				S	Sn	14 50 39.8	-3.8
	baz=1.1,SNR=13						
MNSI	Mandailing Nat	1.21	147	P	Pn	14 50 26.9	-1.1
MNSI				S	Sn	14 50 46.3	-1.0
TSI	Tuntungan	1.71	348	P	Pn	14 50 32.6	-0.8
TSI				S	Sn	14 50 55.6	-1.3
KCSI	Kotacane, Aceh	2.04	326	P	Pn	14 50 36.9	-0.5
KCSI				S	Sn	14 51 02.5	-1.6
TPTI		2.25	309	P	Pn	14 50 40.2	+0.3
TPTI				S	Sn	14 51 07.1	-1.5
BKNI	Bangkinang	2.58	125	P	Pn	14 50 44.6	+0.5
BKNI	Bangkinang	2.58	125	P	Pn	14 50 44.4	+0.3
	baz=2.5,SNR=58						
BKNI	Bangkinang	2.58	125	*e*Pn	Pn	14 50 44.2	+0.2
BKNI				eSn	Sn	14 51 12.4	-3.6
SNSI	Sinabang, Aceh	2.66	283	P	Pn	14 50 45.4	+0.4
SNSI				S	Sn	14 51 16.6	-1.1
FRIM	Kepong	3.04	62	⇓P	Pn	14 50 50.2	+0.3
PDSI	Padang	3.12	150	P	Pn	14 50 51.0	0.0
PDSI				S	Sn	14 51 28.5	+0.1
IPM	Ipoh	3.37	38	⇑P	Pn	14 50 54.6	+0.4
IPM	Ipoh	3.37	38	*e*Pn	Pn	14 50 54.4	+0.1
IPM				eSn	Sn	14 51 32.3	-1.9
SDSI	Sungai Dareh	3.71	138	P	Pn	14 50 58.7	+0.1
KULM	Kulim	3.85	27	⇓P	Pn	14 50 59.8	-0.7
KULM	Kulim	3.85	27	*e*Pn	Pn	14 50 59.5	-1.0
KULM				eSn	Sn	14 51 42.6	-2.8
LHMI	Lhok Sumawe	3.92	330	P	Pn	14 51 01.1	-0.3
LHMI				S	Sn	14 51 46.9	-0.1
LHMI	Lhok Sumawe	3.92	330	P	Pn	14 51 01.2	-0.3
	baz=4.1,SNR=81						
LHMI				S	Sn	14 51 46.2	-0.9
	baz=4.1,SNR=5.0						
LHMI	Lhok Sumawe	3.92	330	*e*Pn	Pn	14 51 01.1	-0.3
LHMI				eSn	Sn	14 51 44.4	-2.6
KGM	Kluang	4.39	87	⇓P	Pn	14 51 07.3	-0.5
BTDF	Bukit Timah Da	4.87	95	P	Pn	14 51 14.7	+0.7
	baz=4.9,SNR=3.9						
BTDF				S	Sn	14 52 07.9	-1.7
	baz=4.9,SNR=6.5						
MYKOM	Kota Tinggi	4.92	90	⇓P	Pn	14 51 13.7	-1.1
MYKOM	Kota Tinggi	4.92	90	*e*Pn	Pn	14 51 13.4	-1.4
BSI	Banda Aceh	5.14	315	P	Pn	14 51 17.4	-0.3
	1.4nm,0.7s,54nm0.0nm						
KTGM	Kuala Trenggan	5.46	50	⇑P	Pn	14 51 21.8	-0.1
TPRI	Tanjung Pinang	5.67	99	P	Pn	14 51 25.4	+0.6
	50nm,0.7s,4μm0.9nm						
JMBI	JAMBI	5.83	126	P	Pn	14 51 27.9	+1.0
	360nm,1.0s,4μm1.1nm						
PKDT	Phuket	6.06	354	P	Pn	14 51 28.1	-1.9
	162nm,0.8s,2μm0.6nm						
DSRI	Dabo	6.10	112	P	Pn	14 51 27.0	-3.5
	145nm,0.9s,4μm0.6nm						
SURT	Suratani	7.09	359	P	Pn	14 51 42.0	-1.8
	55nm,1.0s,450nm0.2nm						
CMBY	CAMPBELL BAY	7.17	316	*e*P	Pn	14 51 43.4	-1.5
CMBY				AMB	AMB	14 51 44.1	
	comp=Z,162nm,1.2s						
LHSI	Lahat	7.25	141	P	Pn	14 51 47.2	+1.2
	comp=Z,437nm,0.8s,comp=Z,3μmcomp=Z,1.5nm						
MNAI	Manna	7.34	147	P	Pn	14 51 46.7	-0.6
	comp=Z,271nm,0.9s,comp=Z,1.7nm						
MNAI				S	Sn	14 53 07.0	-2.3
	comp=Z,271nm,0.9s,comp=Z,1.7nm						
MNAI	Manna	7.34	147	P	Pn	14 51 46.6	-0.7
	baz=7.2,SNR=8.7						
MNAI				S	Sn	14 53 06.3	-3.0
	baz=7.2,SNR=7.8						
PMBI	Palembang	7.51	129	P	Pn	14 51 53.3	+3.8
MDSI	Maura Dua	8.17	140	P	Pn	14 51 57.5	-0.9
	comp=Z,127nm,0.9s,comp=Z,833nm						
LWLI	Liwa	8.51	143	P	Pn	14 52 01.7	-1.4
	comp=Z,147nm,0.7s						
KLI	Kotabumi	8.90	138	P	Pn	14 52 08.8	+0.6
	comp=Z,104nm,0.7s						
KASI	Kota Agung	9.18	143	P	Pn	14 52 09.9	-2.0
	comp=Z,60nm,0.6s						
BLSI	Bandar Lampung	9.53	139	P	Pn	14 52 18.4	+1.7
	comp=Z,95nm,0.4s						
KSM	Kuching	11.38	92	P	Pn	14 52 43.5	+2.2
	baz=12,SNR=9.9						
KSM	Kuching	11.38	92	Pn	Pn	14 52 37.0	-4.4
PBA	Port Blair	11.54	328	*e*P	Pn	14 52 38.6	-4.7
LEM	Lembang	12.21	135	P	Pn	14 52 49.9	-2.4
	comp=Z,3.9nm,0.3s,baz=108,slow=20,SNR=2.2						
LEM				S	Sn	14 55 02.8	-4.3
	comp=Z,1.3nm,0.3s,baz=331,slow=23,SNR=1.4						
SRDT	SRDT	12.45	1	P	P	14 53 02.6	+1.0
STKI	Sintang	12.67	98	P	Pn	14 52 59.5	+1.3
	comp=Z,54nm,1.0s,comp=Z,11μm						
DGPR	DIGLIPUR	12.75	333	*e*P	Pn	14 52 56.2	-3.0
DGPR				AMB	AMB	14 52 57.5	
	comp=Z,15nm,0.6s						
DGPR				eS	Sn	14 55 14.7	-5.2
CISI	Cisompet, Garu	12.86	137	P	Pn	14 52 56.8	-3.9
	comp=Z,30nm,1.2s,comp=Z,2μm						
CISI	Cisompet, Garu	12.86	137	P	Pn	14 52 56.8	-3.9
	baz=13,SNR=6.2						
SBUM	Sibu	13.30	87	*e*Pn	Pn	14 53 04.6	-1.7
KPJI	Karang Pucung	13.51	132	P	Pn	14 53 06.7	-2.2
	comp=Z,23nm,0.5s						
DLV	T Lat	13.82	43	Pn	Pn	14 53 11.8	-1.3
XMIS	Christmas Isla	13.94	151	P	Pn	14 53 09.9	-4.5
	baz=14,SNR=3.4						
PBKT	Sadao Pong	14.79	8	P	Pn	14 53 25.3	+0.1
	comp=Z,206nm,0.7s,comp=Z,1μm						
UBPT	Khong Chiam	14.85	25	P	P	14 53 29.0	+0.7
	comp=Z,38nm,1.1s						
KHON	Khomkaen	14.93	15	P	Pn	14 53 27.8	+0.9
	comp=Z,18nm,0.8s						
UGM	Wanagama	15.08	130	P	Pn	14 53 26.2	-2.7
	baz=15,SNR=4.5						
UTTA	Uttaradit	15.90	6	P	P	14 53 39.7	-0.2
	comp=Z,37nm,0.8s,comp=Z,295nm						
GRJI	Gresik	16.07	123	P	P	14 53 43.3	+1.5
	comp=Z,100nm,0.9s,comp=Z,734nm						
MTKI	Muara Teweh, K	16.20	100	P	P	14 53 44.3	+1.0
MHMT	Maesarieng	16.28	357	P	P	14 53 44.3	+0.2
	comp=Z,26nm,1.0s,comp=Z,826nm						
CMAR	Chiang Mai Arr	16.53	0	P	P	14 53 47.5	+0.6
	comp=Z,9.4nm,0.3s,baz=191,slow=11,SNR=432						
CMAR				LR	LR	15 00 38.4	
	comp=Z,47nm,20.3s,baz=190,slow=39						
CMAR				ScP	ScP	15 01 53.9	+1.8
	comp=Z,0.2nm,0.3s,baz=215,slow=3.3,SNR=15						
LAMP	Lampang	16.61	2	P	P	14 53 48.2	+0.4
	comp=Z,32nm,0.8s,comp=Z,279nm						
CHTO	Chiang Mai	16.89	0	*e*P	P	14 53 49.8	-1.0
CHTO				pmax	pmax		
	comp=Z,28nm,0.8s						
CHTO	Chiang Mai	16.89	0	*e*Pn	P	14 53 49.8	-1.0
	comp=Z,28nm,0.8s						
BLJI	Banyuglugur	17.45	123	P	Pn	14 53 59.8	+2.0
	comp=Z,78nm,0.8s,comp=Z,2μm						
KKM	Kota Kinabalu	17.75	76	P	Pn	14 54 02.1	+0.6
	baz=18,SNR=4.8						
KKM	Kota Kinabalu	17.75	76	*e*P	Pn	14 54 01.9	+0.3
	comp=Z,41nm,0.7s						
KBKI	Kotabaru	17.97	106	P	Pn	14 54 05.5	+1.4
	comp=Z,29nm,1.3s,comp=Z,1μm						
PALK	Pallekele	18.95	287	P	Pn	14 54 17.6	+1.9
PALK				S	S	14 57 36.2	-5.7
PALK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PALK	Pallekele	18.95	287	P	Pn	14 54 17.6	+1.9
	comp=Z,2.6nm,0.3s,baz=108,slow=9.2,SNR=18						
PALK				S	S	14 57 36.2	-5.7
	comp=Z,3.2nm,0.3s,baz=164,slow=11,SNR=7.4						
PALK	Pallekele	18.95	287	P	Pn	14 54 17.6	+1.9
	comp=Z,1.5nm,0.7s						
PALK				S	S	14 57 36.2	-5.7
SLVN	Son La	19.99	14	*e*P	P	14 54 24.0	-0.7
	comp=Z,25nm,0.7s						
QIZ	Qiongzhong	20.17	31	P	P	14 54 25.6	-1.0
QIZ				S	S	14 58 05.6	-0.2
QIZ				PMZ			
	comp=Z,28nm,2.0s						
MPSI	Mapaga	21.02	94	P	P	14 54 36.7	+0.9
	comp=Z,44nm,0.8s,comp=Z,406nm						
PCI	Palu	21.08	97	P	P	14 54 37.3	+0.8
	comp=Z,196nm,1.0s,comp=Z,1μm						
TTSI	Tana Toraja	21.44	103	P	P	14 54 43.0	+2.7
	comp=Z,53nm,1.5s						
SPSI	Sidrap Palu	21.61	105	P	P	14 54 43.5	+1.4
	comp=Z,33nm,1.2s,comp=Z,510nm						
KAPI	Kappang	21.89	108	*e*P	P	14 54 43.4	-1.6
	comp=Z,9.1nm,1.0s						
VIS	Vishakhapatnam	22.01	317	*e*P	P	14 54 46.6	+0.4
VIS				AMB	AMB	14 54 49.7	
	comp=Z,25nm,0.7s						
BNSI	Bone	22.05	106	P	P	14 54 48.3	+1.6
	comp=Z,98nm,0.8s,comp=Z,1μm						
BKSI	Bulukumba	22.33	109	P	P	14 54 50.0	+0.5
	comp=Z,71nm,0.7s,comp=Z,743nm						
APSI	Ampana	22.88	97	P	P	14 54 55.8	+1.0
	comp=Z,388nm,1.3s,comp=Z,4μm						
BSSI	Bau Bau, Buton	22.94	110	P	P	14 54 54.6	-0.8
	comp=Z,110nm,1.0s,comp=Z,2μm						
MRSI	Marisa	23.05	93	P	P	14 54 56.0	-0.4
	comp=Z,129nm,0.9s,comp=Z,1μm						
ADKI	Addanki	23.31	308	*e*P	P	14 54 58.9	+0.2
ADKI				*i*		14 55 01.1	
ADKI				*e*		14 55 20.9	
ADKI				*e*sP	sP	14 55 37.5	-4.2
ADKI				*e*		14 58 52.2	
ADKI				eS	S	14 59 00.1	-1.0
IMP	Imphal	23.33	348	*ex*	P	14 54 59.0	+0.1
WBSI	Waikabubak, Su	23.35	120	P	P	14 54 55.7	-3.5
KMI	Kunming	23.46	9	P	P	14 55 02.7	+2.5
KMI				sP	sP	14 55 45.6	+2.1
KMI				PMZ			
	comp=Z,25nm,1.1s						
KMI				LN			
	comp=Z,140nm,15.0s						
KMI				LE			
	comp=Z,99nm,15.0s						
KMI				LZ		

CD2	**Chengdu**	**29.29**	**9**	*eP*	**P**	**14 55 54.0 +1.6**
CD2				pP	**pP**	**14 56 22.7 +1.4**
CD2				sP	**sP**	**14 56 38.6 +1.7**
CD2				PP	**PnPn**	**14 56 54.9 +2.2**
CD2				S	**S**	**15 00 36.7 +1.0**
CD2				sS	**sS**	**15 01 27.3 +0.9**
CD2				SS	**SnSn**	**15 02 20.1 +1.9**
CD2				PMZ		
	comp=Z,10.0nm,0.5s					
CD2				PMZ		
	comp=Z,120nm,5.4s					
GKN	**Gorkha**	**29.40**	**334**	*eP*	**P**	**14 55 54.2 +0.7**
KOLN	**Koldanda**	**29.68**	**332**	*eP*	**P**	**14 55 57.0 +1.0**
	comp=Z,58nm,0.7s					
BHPL	**Bhopal**	**29.80**	**317**	*eP*	**P**	**14 55 59.0 +2.0**
BHPL				AMB	AMB	14 55 59.8
	comp=Z,12nm,0.5s					
DANN	**Dangsing**	**30.09**	**333**	*eP*	**P**	**14 56 00.4 +0.6**
	comp=Z,42nm,0.5s					
PYUN	**Piuthan**	**30.25**	**331**	*eP*	**P**	**14 56 01.9 +0.9**
	comp=Z,51nm,0.4s					
XAN	**Xi'an**	**33.39**	**15**	P	**P**	**14 56 26.6 -1.7**
XAN				PMZ		
	comp=Z,3.0nm,0.7s					
FAKI	**Fak Fak**	**33.64**	**98**	P	**P**	**14 56 30.3 -0.4**
	baz=34,SNR=6.2					
KNRA	**Kununurra**	**34.24**	**122**	P	**P**	**14 56 34.2 -1.6**
	baz=34,SNR=17					
LZH	**Lanzhou**	**34.40**	**7**	*eP*	**P**	**14 56 38.8 +1.7**
LZH				pP	**pP**	**14 57 07.0 +0.5**
LZH				sP	**sP**	**14 57 21.2 -0.8**
LZH				PMZ		
	comp=Z,17nm,1.0s					
MTN	**Manton Dam**	**35.13**	**115**	P	**P**	**14 56 42.8 -0.7**
	baz=35,SNR=5.4					
NJ2	**Nanjing**	**35.45**	**30**	*eP*	**P**	**14 56 45.1 -0.9**
NJ2				PMZ		
	comp=Z,20nm,0.5s					
SMLA	**Simla**	**35.68**	**327**	*eP*	**P**	**14 56 48.3 +0.3**
SMLA				AMB	AMB	14 56 50.6
	comp=Z,12nm,0.8s					
SMLA				*eS*	**S**	**15 02 17.3 +2.7**
KDU	**Kakadu**	**36.29**	**114**	P	**P**	**14 56 52.6 -0.8**
	baz=36,SNR=4.4					
BLDU	**Ballidu**	**36.44**	**154**	P	P	14 57 01.2 +6.7
	baz=36,SNR=6.1					
DHRM	**DHARAMSHALA**	**37.01**	**327**	*eP*	**P**	**14 56 59.7 +0.2**
DHRM				AMB	AMB	14 57 01.4
	comp=Z,45nm,0.6s					
DHRM				*ex*	x	15 02 35.8
GTA	**Gaotai**	**37.42**	**1**	*eP*	**P**	**14 57 04.3 +1.5**
GTA				pP	**pP**	**14 57 35.4 +2.9**
GTA				sP	**sP**	**14 57 52.0 +4.1**
GTA				PcP	**PcP**	**14 59 20.4 +1.6**
GTA				ScP	**ScP**	**15 02 55.0 +1.4**
GTA				PMZ		
	comp=Z,9.0nm,0.7s					
WRKA	**Warakurna**	**39.03**	**135**	P	**P**	**14 57 15.4 -1.0**
	baz=39,SNR=11					
WRA	**Warramunga Arr**	**40.92**	**124**	P	**P**	**14 57 31.1 -0.9**
	comp=Z,60nm,0.5s,baz=302,slow=9.1,SNR=204					
WRA				PcP	**PcP**	**14 59 30.7 +0.6**
	comp=Z,3.3nm,0.6s,baz=316,slow=2.5,SNR=6.9					
WRA				ScP	**ScP**	**15 03 06.4 -1.1**
	comp=Z,1.6nm,0.9s,baz=307,slow=4.2,SNR=6.1					
WRAB	**Tennant Creek**	**40.92**	**124**	*d iP*	**P**	**14 57 31.6 -0.5**
WRAB				pmax	pmax	
	comp=Z,158nm,1.0s					
WRAB	**Tennant Creek**	**40.92**	**124**	*eP*	**P**	**14 57 31.2 -0.9**
	comp=Z,76nm,0.6s					
WB2	**Warramunga Arr**	**40.93**	**124**	*eP*	**P**	**14 57 31.4 -0.7**
GENI	**Genyem**	**41.46**	**96**	P	**P**	**14 57 35.6 -1.0**
	comp=Z,88nm,0.7s					
AS31	**Alice Springs**	**42.41**	**129**	*eP*	**P**	**14 57 43.0 -1.2**
ASAR	**Alice Springs**	**42.41**	**129**	P	**P**	**14 57 43.2 -1.0**
	comp=Z,11nm,0.6s,baz=297,slow=8.0,SNR=103					
ASAR				PcP	**PcP**	**14 59 35.9 +0.8**
	comp=Z,4.6nm,0.8s,baz=302,slow=3.2,SNR=11					
ASAR				ScP	**ScP**	**15 03 13.5 +0.1**
	comp=Z,0.4nm,0.5s,baz=305,slow=4.3,SNR=4.9					
ASAR				S	S	15 03 49.0 -6.9
	comp=Z,0.9nm,1.0s,baz=294,slow=14,SNR=5.0					
ASAR				LR	LR	15 15 47.3
	comp=Z,37nm,19.9s,baz=24,slow=36					
KBL	**Kabul**	**42.84**	**323**	*eP*	**P**	**14 57 47.6 -0.1**
KBL				pmax	pmax	
	comp=Z,12nm,0.6s					
KBL	**Kabul**	**42.84**	**323**	P	P	14 57 51.8 +4.1
	baz=43,SNR=3.6					
KBL	**Kabul**	**42.84**	**323**	*eP*	**P**	**14 57 47.6 -0.1**
	comp=Z,12nm,0.6s					
KSH	**Kashi**	**42.95**	**334**	P	**P**	**14 57 47.7 -0.7**
KSH				sP	**sP**	**14 58 35.3 +1.4**
KSH				PP	**PP**	**14 59 31.2 +0.3**
KSH				PcS	**PcS**	**15 03 27.1 -2.1**
KSH				S	**S**	**15 04 01.0 -2.5**
KSH				PMZ		
	comp=Z,19nm,0.6s					
KSH				PMZ		
	comp=Z,79nm,4.1s					
KSH				LN		
	comp=Z,100nm,5.6s					
KSH				LE		
	comp=Z,95nm,8.0s					
KSH				LZ		
	comp=Z,140nm,6.1s					
WMQ	**Urumqi**	**43.00**	**348**	P	**P**	**14 57 49.9 +1.3**
WMQ				pP	**pP**	**14 58 22.7 +3.8**
WMQ				sP	**sP**	**14 58 37.7 +3.5**
WMQ				PP	**PcP**	**14 59 34.0 -2.6**
WMQ				PcS	**PcS**	**15 03 29.0 0.0**
WMQ				*eS*	**S**	**15 04 04.0 +0.1**
WMQ				sS	**sS**	**15 04 56.0 -0.6**
WMQ				ScS	**ScS**	**15 07 32.5 -2.7**
WMQ				PMZ		
	comp=Z,34nm,0.8s					
WMQ				PMZ		
	comp=Z,200nm,5.0s					
WMQ				LN		
	comp=Z,83nm,13.8s					
WMQ				LE		
	comp=Z,110nm,20.9s					
WMQ				LZ		
	comp=Z,78nm,18.5s					
JNU	**Nakatsue**	**43.21**	**40**	P	**P**	**14 57 50.4 0.0**
	comp=Z,4.0nm,0.8s,baz=255,slow=8.2,SNR=6.1					
KSAR	**Wonju Array Be**	**44.34**	**33**	P	**P**	**14 57 59.2 -0.2**
KSAR	**Wonju Array Be**	**44.34**	**33**	P	**P**	**14 57 59.2 -0.2**
KSRS	**Korea Array**	**44.37**	**33**	P	**P**	**14 57 59.2 -0.4**
	comp=Z,5.0nm,0.6s,baz=220,slow=8.8,SNR=25					
SFK	**Sufi-Kurgan**	**44.48**	**332**	P	**P**	**14 58 02.1 +1.4**
SFK				pmax	pmax	
	comp=Z,27nm,0.8s					
PDGK	**Podgornoye**	**44.81**	**340**	P	**P**	**14 58 04.3 +1.3**
PDGK				pmax	pmax	
	comp=Z,30nm,1.0s					
ULHL	**Ulahol**	**45.10**	**336**	P	**P**	**14 58 07.5 +1.9**
	SNR=5.2					
KZA	**Kyzart**	**45.37**	**335**	P	**P**	**14 58 09.8 +1.9**
	SNR=14					
KZA	**Kyzart**	**45.37**	**335**	*i* P	**P**	**14 58 09.8 +1.9**
QIS	**Mount Isa**	**45.63**	**121**	P	**P**	**14 58 09.8 -0.1**
	baz=46,SNR=8.7					
UCH	**Uchtor**	**45.80**	**335**	P	**P**	**14 58 13.0 +1.5**
	SNR=44					
UCH	**Uchtor**	**45.80**	**335**	*i* P	**P**	**14 58 12.9 +1.5**
TKM2	**Tokmak 2**	**45.92**	**336**	P	**P**	**14 58 13.5 +1.4**
	SNR=26					
TKM2	**Tokmak 2**	**45.92**	**336**	P	**P**	**14 58 13.4 +1.4**
TKM2				pmax	pmax	
	comp=Z,28nm,1.2s					
TKM2	**Tokmak 2**	**45.92**	**336**	P	**P**	**14 58 12.3 +0.2**
	comp=Z,24nm,1.1s					
KBK	**Karagaybulak**	**45.97**	**335**	P	**P**	**14 58 14.9 +2.5**
	SNR=44					
KBK	**Karagaybulak**	**45.97**	**335**	*i* P	**P**	**14 58 14.9 +2.5**
AML	**Almayashu**	**46.08**	**334**	P	**P**	**14 58 15.2 +1.7**
	SNR=25					
AML	**Almayashu**	**46.08**	**334**	*i* P	**P**	**14 58 15.2 +1.7**
AAK	**Ala-Archa**	**46.14**	**335**	P	**P**	**14 58 16.7 +3.0**
	SNR=16					
AAK	**Ala-Archa**	**46.14**	**335**	*d iP*	**P**	**14 58 16.3 +2.6**
AAK				pmax	pmax	
	comp=Z,29nm,0.9s					
AAK	**Ala-Archa**	**46.14**	**335**	P	**P**	**14 58 15.5 +1.8**
	comp=Z,13nm,0.8s,baz=134,slow=6.4,SNR=29					
AAK	**Ala-Archa**	**46.14**	**335**	P	P	**14 58 14.6 +0.9**
	comp=Z,16nm,1.0s					
SONM	**Songino Array**	**46.29**	**7**	P	**P**	**14 58 15.5 +0.8**
	comp=Z,11nm,0.7s,baz=188,slow=9.5,SNR=40					
SONM				PcP	**PcP**	**14 59 48.7 +0.8**
	comp=Z,2.0nm,0.7s,baz=185,slow=4.6,SNR=4.1					
SONM				ScP	**ScP**	**15 03 29.9 +1.1**
	comp=Z,5.3nm,0.9s,baz=193,slow=3.6,SNR=26					
CHMS	**Chumysh**	**46.34**	**335**	P	**P**	**14 58 16.4 +1.3**
	SNR=12					
CHMS	**Chumysh**	**46.34**	**335**	*i* P	**P**	**14 58 16.3 +1.3**
ULN	**Ulaanbaatar**	**46.40**	**8**	*eP*	**P**	**14 58 15.5 -0.1**
ULN	**Ulaanbaatar**	**46.40**	**8**	*eP*	**P**	**14 58 15.5 -0.1**
EKS2	**Erkin-Say**	**46.47**	**334**	P	**P**	**14 58 18.2 +2.0**
	SNR=32					
EKS2	**Erkin-Say**	**46.47**	**334**	*i* P	**P**	**14 58 18.2 +2.0**
EKS2	**Erkin-Say**	**46.47**	**334**	P	**P**	**14 58 16.9 +0.6**
	comp=Z,20nm,0.8s					
USP	**Ospenovka**	**46.66**	**335**	P	**P**	**14 58 18.9 +1.3**
	SNR=46					
USP	**Ospenovka**	**46.66**	**335**	*i* P	**P**	**14 58 18.9 +1.3**
MNAS	**Manas**	**46.89**	**333**	P	**P**	**14 58 20.4 +0.8**
MNAS				pmax	pmax	
	comp=Z,25nm,1.1s					
MK31	**Makanchi Array**	**47.08**	**344**	*i* P	**P**	**14 58 21.4 +0.6**
MK31				pmax	pmax	
	comp=Z,35nm,0.7s					
MKAR	**Makanchi Array**	**47.08**	**344**	P	**P**	**14 58 21.5 +0.7**
	comp=Z,32nm,0.8s,baz=155,slow=7.6,SNR=76					
MKAR				ScP	**ScP**	**15 03 33.5 +1.5**
	comp=Z,1.0nm,0.7s,baz=153,slow=6.1,SNR=5.4					
CN2	**Changchun**	**47.98**	**26**	*eP*	**P**	**14 58 27.8 0.0**
KK31	**Karatay Array**	**48.29**	**332**	P	**P**	**14 58 31.3 +1.1**
KK31				pmax	pmax	
	comp=Z,2.0nm,0.3s					
KKAR	**Karatay Array**	**48.29**	**332**	*eP*	**P**	**14 58 30.6 +0.4**
KKAR	**Karatay Array**	**48.29**	**332**	*eP*	**P**	**14 58 30.6 +0.4**
BBOO	**Buckleboo**	**49.16**	**138**	P	**P**	**14 58 36.4 -0.5**
	baz=49,SNR=5.2					
PMG	**Port Moresby**	**49.32**	**104**	*i* P	**P**	**14 58 38.3 -0.2**
PMG				pmax	pmax	
	comp=Z,10.0nm,0.8s					
PMG	**Port Moresby**	**49.32**	**104**	*eP*	**P**	**14 58 37.4 -1.1**
	comp=Z,3.0nm,0.7s					
HVS	**Khovu-Aksy**	**49.34**	**356**	*eP*	**P**	**14 58 39.0 +0.9**
HVS				pmax	pmax	
	comp=Z,22nm,1.3s					
TLY	**Talaya**	**49.84**	**4**	P	**P**	**14 58 42.6 +0.7**
	comp=Z,1.7nm,0.5s,baz=278,slow=3.1,SNR=3.7					
MJAR	**Matsushiro Arr**	**50.08**	**42**	P	**P**	**14 58 43.5 -0.4**
	comp=Z,2.6nm,0.6s,baz=226,slow=7.1,SNR=15					
USRK	**Ussuriysk Ar.**	**51.36**	**30**	P	**P**	**14 58 54.4 +1.1**
	comp=Z,4.5nm,0.6s,baz=239,slow=5.0,SNR=9.2					
KURBB	**Kurchatov Arra**	**51.60**	**344**	P	**P**	**14 58 55.8 +0.8**
	comp=Z,8.3nm,0.5s,baz=161,slow=6.9,SNR=102					
KURBB				PcP	**PcP**	**15 00 08.0 +1.1**
	comp=Z,1.7nm,0.7s,baz=143,slow=3.1,SNR=4.9					
KURBB				PP	**PP**	**15 00 55.5 +1.6**
	comp=Z,1.4nm,1.0s,baz=160,slow=8.6,SNR=4.3					
KURBB				ScP	**ScP**	**15 03 52.7 +1.5**
	comp=Z,1.8nm,0.7s,baz=158,slow=3.4,SNR=13					
KURBB				S	S	15 05 59.5 -6.0
	comp=Z,0.7nm,0.9s,baz=151,slow=14,SNR=4.9					
KURK	**Kurchatov**	**51.66**	**344**	P	**P**	**14 58 55.8 +0.4**
KURK						15 00 08.0
KURK						15 00 55.5
KURK				S	S	15 05 59.5 -6.8
KURK	**Kurchatov**	**51.66**	**344**	P	**P**	**14 58 55.8 +0.4**
KURK				PcP	**PcP**	**15 00 08.0 +0.9**
KURK				PP	**PP**	**15 00 55.5 +1.1**
KURK				ScP	**ScP**	**15 03 52.7 +1.2**
KURK				S	S	15 05 59.5 -6.8
GEYT	**Alibeck**	**51.86**	**319**	P	**P**	**14 58 58.7 +1.4**
	comp=Z,14nm,0.7s,baz=142,slow=7.5,SNR=17					
GEYT				pP	**pP**	**14 59 27.6 -1.0**
	comp=Z,6.1nm,1.0s,baz=126,slow=7.5,SNR=2.4					
QLP	**Quilpie**	**52.02**	**126**	P	**P**	**14 58 59.1 +0.5**
	baz=52,SNR=78					
ZALV	**Zalesovo Beam**	**53.24**	**350**	P	**P**	**14 59 07.7 +0.6**
	comp=Z,28nm,0.5s,baz=178,slow=6.8,SNR=87					
ZALV				ScP	**ScP**	**15 03 58.3 +0.1**
	comp=Z,0.3nm,0.5s,baz=180,slow=1.2,SNR=3.6					
ZALV				S	**S**	**15 06 26.2 -1.4**
	comp=Z,1.4nm,0.7s,baz=162,slow=15,SNR=7.0					
NVS	**Novosibirsk**	**54.38**	**349**	*eP*	**P**	**14 59 14.1 -1.2**
NVS				*e*		15 00 06.8
NVS				*eS*	**S**	**15 06 40.9 -2.1**
NVS				pmax	pmax	
	comp=N,6.0nm,0.6s					
NVS				pmax	pmax	
	comp=Z,8.0nm,0.6s					
NVS				pmax	pmax	
	comp=E,5.0nm,0.4s					
NVS				smax	smax	
	comp=E,8.0nm,1.0s					
KLR	**Kul'dur**	**54.94**	**26**	*eP*	**P**	**14 59 16.8 -2.6**
CMSA	**Cobar Meteorol**	**55.38**	**131**	P	**P**	**14 59 23.4 +0.5**
	baz=55,SNR=20					
RMQ	**Roma**	**55.68**	**124**	P	P	14 59 29.2 +4.0
	baz=56,SNR=7.8					
HABR	**Khabarovsk**	**55.89**	**28**	*eP*	**P**	**14 59 24.4 -1.8**
HABR				*e**PP	**pP**	**14 59 55.7 -2.3**
HABR				*e*		15 00 21.5
HABR				*e*		15 01 30.3
HABR				PPP	PPP	15 02 46.0
HABR				*eS*	**S**	**15 07 01.8 -1.5**
HABR				*e*		15 08 59.9
HABR				*eSS*	**SS**	**15 10 51.1 -0.1**
HABR				pmax	pmax	
	comp=Z,15nm,1.9s					
HABR				MLR	MLR	
	comp=Z,76nm,16.0s					
RAYN	**Ar Rayn**	**56.00**	**297**	*eP*	**P**	**14 59 28.3 +0.7**
	comp=Z,2.7nm,0.9s					
BVAR	**Borovoye Array**	**56.25**	**340**	P	**P**	**14 59 29.0 +0.2**
	comp=Z,8.8nm,0.6s,baz=141,slow=9.5,SNR=37					
BVAR				S	**S**	**15 07 06.4 -1.6**
	comp=Z,1.2nm,0.7s,baz=137,slow=18,SNR=8.7					
BOD	**Bodaibo**	**57.10**	**10**	*eP*	**P**	**14 59 35.6 +1.0**
BOD				pmax	pmax	
	comp=Z,8.0nm,0.9s					
ASAJ	**Asahikawa**	**57.14**	**36**	P	**P**	**14 59 34.9 -0.2**
	comp=Z,6.5nm,0.4s,baz=245,slow=8.4,SNR=22					
EIDS	**Eidsvold**	**57.23**	**122**	P	**P**	**14 59 36.7 +0.6**
	baz=57,SNR=9.5					
AB31	**Akbulak array**	**57.80**	**331**	*i* P	**P**	**14 59 39.9 +0.2**
AB31				pmax	pmax	
	comp=Z,12nm,0.5s					
ABKAR	**Akbulak array**	**57.80**	**331**	*eP*	**P**	**14 59 40.1 +0.4**
YSS	**Yuzh-Sakhalins**	**58.87**	**34**	*eP*	**P**	**14 59 48.0 +0.8**
YSS				pmax	pmax	
	comp=Z,60nm,1.0s					
YSS	**Yuzh-Sakhalins**	**58.87**	**34**	*eP*	**P**	**14 59 47.4 +0.2**
	comp=Z,61nm,1.0s					
AKTO	**Aktyubinsk**	**59.51**	**331**	P	**P**	**14 59 51.5 -0.1**
AKTO				pmax	pmax	
	comp=Z,10.0nm,1.2s					
HNR	**Honiara**	**61.80**	**102**	LR	LR	15 29 00.3
	comp=Z,29nm,19.2s,baz=234,slow=38					
SVE	**Sverdlovsk**	**62.76**	**337**	*i iP*	**P**	**15 00 14.3 +1.0**
SVE				pmax	pmax	
	comp=Z,17nm,0.8s					
ARU	**Arti**	**63.30**	**336**	*eP*	**P**	**15 00 16.7 -0.2**
ARU				pmax	pmax	
	comp=Z,9.0nm,0.9s					
ARU	**Arti**	**63.30**	**336**	*eP*	**P**	**15 00 16.7 -0.2**
	comp=Z,9.1nm,0.9s					
YAK	**Yakutsk**	**64.36**	**16**	*eP*	**P**	**15 00 22.7 -1.0**
YAK				*e*		15 00 57.4
YAK				*e*PPP	PPP	15 04 15.2
YAK				*eS*	**S**	**15 08 48.6 -2.4**
YAK				*e**SS	sS	15 09 33.5 -14
YAK				pmax	pmax	
	comp=Z,19nm,1.0s					
YAK				pmax	pmax	
	comp=E,6.0nm,1.5s					
YAK				pmax	pmax	
	comp=N,6.0nm,1.2s					
YAK				pmax	pmax	
	comp=Z,49nm,3.3s					
YAK				pmax	pmax	
	comp=N,38nm,3.3s					
YAK				pmax	pmax	
	comp=E,42nm,3.7s					
YAK				smax	smax	
	comp=E,71nm,2.5s					
YAK				smax	smax	
	comp=N,40nm,2.7s					
KBZ	**Khabaz**	**64.75**	**318**	P	**P**	**15 00 27.7 +1.1**
	comp=N,5.2nm,0.8s,baz=116,slow=5.8,SNR=11					
KBZ				pP	**PcP**	**15 00 57.1 -1.9**
	comp=N,6.4nm,0.8s,baz=144,slow=5.9,SNR=5.7					
KIV	**Kislovodsk**	**64.98**	**318**	*i* P	**P**	**15 00 29.5 +1.3**
KIV				pmax	pmax	
	comp=Z,12nm,1.1s					
VRHR	**Novokhopersk**	**68.59**	**325**	*eP*	**P**	**15 00 49.9 -0.9**
VRHR				pmax	pmax	
	comp=E,10.0nm,0.6s					
VRHR				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VRHR				pmax	pmax	
	comp=N,10.0nm,0.7s					
BRTR	**Keskin Array B**	**69.98**	**312**	P	**P**	**15 01 00.1 +0.3**
	comp=N,0.9nm,0.5s,baz=129,slow=7.2,SNR=7.9					
VSR	**Storozhevoye**	**70.05**	**325**	*eP*	**P**	**15 00 59.1 -0.7**
PETK	**Petropavlovsk-**	**70.27**	**33**	P	**P**	**15 01 01.5 +0.3**
	comp=N,6.6nm,0.7s,baz=172,slow=3.9,SNR=21					
PET	**Petropavlovsk**	**70.76**	**34**	*eP*	**P**	**15 01 04.3 +0.2**
PET				pmax	pmax	
	comp=Z,65nm,0.4s					
PET	**Petropavlovsk**	**70.76**	**34**	*eP*	**P**	**15 01 04.5 +0.4**
	comp=Z,46nm,0.5s					
PRGR	**Permogore**	**71.76**	**336**	*eP*	**P**	**15 01 11.6 +1.7**
PRGR				pmax	pmax	
	comp=Z,9.0nm,0.8s					
SEY	**Seymchan**	**72.52**	**23**	P	**P**	**15 01 15.0 +0.6**
	comp=Z,2.9nm,0.6s,baz=241,slow=5.4,SNR=22					
OBN	**Obninsk**	**73.00**	**328**	*i iP*	**P**	**15 01 18.9 +1.5**
OBN				*e*		15 04 00.5
OBN				pmax	pmax	
	comp=Z,9.0nm,1.2s					
AKASG	**Malin Array Be**	**75.83**	**322**	P	**P**	**15 01 33.7 -0.2**
	comp=Z,0.3nm,0.3s,baz=89,slow=4.4,SNR=11					
AKASG				pP	**pP**	**15 02 04.2 -3.2**
	comp=Z,2.2nm,0.7s,baz=88,slow=4.9,SNR=4.2					
VRI	**Vrincioaia**	**76.34**	**317**	*i iP*	**P**	**15 01 38.7 +1.7**
TESR	**Tescani**	**76.53**	**317**	*i iP*	**P**	**15 01 39.3 +1.3**
BOSA	**Boshof**	**76.58**	**240**	P	**P**	**15 01 41.3 +2.5**
	comp=Z,2.0nm,0.8s,baz=45,slow=2.9,SNR=3.4					
DOPR	**Dopca**	**77.28**	**317**	*i iP*	**P**	**15 01 41.5 -0.7**
BURAR	**Bucovina Array**	**77.70**	**318**	*i iP*	**P**	**15 01 46.7 +2.1**
JOF	**Joensuu**	**78.33**	**334**	*eP*	**P**	**15 01 47.6 0.0**
JOF				pmax	pmax	
	comp=Z,2.0nm,0.6s					
JOF	**Joensuu**	**78.33**	**334**	*ep*	**P**	**15 01 47.6 0.0**
	comp=Z,1.6nm,0.6s					
KOLS	**Kolonicke sedl**	**79.87**	**319**	*eP*	P	15 01 59.7 +3.4
KOLS	**Kolonicke sedl**	**79.87**	**319**	*eP*	P	15 01 59.7 +3.4
KOLS				*ep*	pP	15 02 28.9 -1.3
FINES	**FINESS Array B**	**80.25**	**332**	P	**P**	**15 01 58.9 +0.8**
	comp=Z,3.5nm,0.5s,baz=115,slow=6.0,SNR=33					
FINES				pP	**pP**	**15 02 29.6 -2.3**
	comp=Z,3.9nm,0.9s,baz=111,slow=10,SNR=3.3					
KAF	**Kangasniemi**	**80.31**	**333**	*eP*	**P**	**15 01 58.2 -0.2**
KAF				pmax	pmax	
	comp=Z,6.0nm,0.6s					
KAF	**Kangasniemi**	**80.31**	**333**	*ep*	**P**	**15 01 58.2 -0.2**
	comp=Z,5.5nm,0.6s					
BKZ	**Black Stump Fm**	**81.52**	**130**	*eP*	**P**	**15 02 05.1 -0.3**
	comp=Z,19nm,0.6s					
URZ	**Urewera**	**81.86**	**129**	P	**P**	**15 02 06.5 -0.6**
VYHS	**Vyhne**	**82.07**	**319**	*eP*	**P**	**15 02 10.3 +2.3**
VYHS	**Vyhne**	**82.07**	**319**	*eP*	**P**	**15 02 10.3 +2.3**
ARCES	**ARCESS Array B**	**82.54**	**340**	P	**P**	**15 02 10.3 +0.4**
	comp=Z,2.5nm,0.6s,baz=106,slow=4.0,SNR=40					
ARCES				LR	LR	15 44 52.9
	comp=Z,18nm,19.1s,baz=268,slow=40					
GERES	**GERESS Array B**	**85.49**	**319**	P	**P**	**15 02 26.5 +1.0**
	comp=Z,0.5nm,0.7s,baz=79,slow=5.1,SNR=4.6					
GERES				pP	**pP**	**15 02 57.6 -2.1**
	comp=Z,0.9nm,0.9s,baz=0.0,slow=2.7,SNR=3.4					
NB2	**NORSAR Subarra**	**87.31**	**331**	P	**P**	**15 02 34.5 +0.5**
	comp=Z,3.3nm,1.0s,baz=93,slow=5.6					
NOA	**NORSAR Array B**	**87.31**	**331**	P	**P**	**15 02 33.5 -0.5**
	comp=Z,1.2nm,0.8s,baz=94,slow=5.0,SNR=4.9					
NOA				pP	**pP**	**15 03 06.1 -2.3**
	comp=Z,3.0nm,0.8s,baz=94,slow=4.9,SNR=7.2					
LPG	**La Plagne**	**90.24**	**315**	*eP*	**P**	**15 02 50.0 +1.5**
LPG	**La Plagne**	**90.24**	**315**	*eP*	**P**	**15 02 50.0 +1.5**
LPG	**La Plagne**	**90.24**	**315**	*eP*	**P**	**15 02 50.0 +1.5**
LPL	**La Plagne**	**90.25**	**315**	*eP*	**P**	**15 02 50.0 +1.5**
	comp=Z,4.6nm,0.6s					
LPL	**La Plagne**	**90.25**	**315**	*eP*	**P**	**15 02 50.0 +1.5**
LPL				pmax	pmax	
	comp=Z,5.0nm,0.6s					
LPL	**La Plagne**	**90.25**	**315**	*eP*	**P**	**15 02 50.0 +1.5**
	comp=Z,4.6nm,0.6s					
CABF	**La Chapelle**	**90.64**	**316**	*eP*	**P**	**15 02 51.7 +1.6**
CABF	**La Chapelle**	**90.64**	**316**	*eP*	**P**	**15 02 51.7 +1.6**
CABF	**La Chapelle**	**90.64**	**316**	*eP*	**P**	**15 02 51.7 +1.6**
ILAR	**Eielson Array**	**98.45**	**23**	PKKPbc	PKKPbc	15 19 56.1 -1.7
	comp=Z,0.4nm,0.8s,baz=115,slow=1.9,SNR=5.5					
INK	**Inuvik**	**101.37**	**17**	P	**Pdif**	**15 03 39.1 +1.0**
	comp=Z,1.6nm,0.7s,baz=347,slow=5.6,SNR=6.1					
INK				PKiKP	**PKiKP**	**15 08 01.6 -0.1**
	comp=Z,0.4nm,0.6s,baz=328,slow=3.3,SNR=3.6					
YKA	**Yellowknife Ar**	**111.03**	**16**	PKiKP	**PKiKP**	**15 08 19.8 +0.1**
	comp=Z,0.1nm,0.4s,baz=353,slow=0.6,SNR=6.6					
YKA				PP	**PP**	**15 08 57.8 -1.8**
	comp=Z,0.3nm,0.8s,baz=332,slow=7.8,SNR=5.0					
SCHQ	**Schefferville**	**122.33**	**350**	PKP	**PKPdf**	**15 08 42.2 +0.6**
	comp=Z,1.5nm,0.5s,baz=22,slow=3.8,SNR=5.2					
ULM	**Lac du Bonnet**	**126.59**	**12**	PKP	**PKPdf**	**15 08 50.4 +0.4**
	comp=Z,3.8nm,0.5s,baz=326,slow=3.3,SNR=9.0					
NVAR	**Mina Array Bea**	**127.26**	**37**	PKP	**PKPdf**	**15 08 53.5 +1.6**
	comp=Z,2.7nm,0.8s,baz=271,slow=2.1,SNR=11					
PDAR	**Pinedale Array**	**128.72**	**27**	PKP	**PKPdf**	**15 08 55.4 +0.7**
	comp=Z,1.2nm,0.7s,baz=175,slow=0.9,SNR=8.0					
PDAR				SKPbc	SKiKP	15 12 02.7 -16
	comp=Z,0.9nm,0.8s,baz=42,slow=2.4,SNR=

KMI SMN
110nm,1.1s
KMI SME
68nm,1.3s
KMI LN
480nm,9.9s
KMI LE
370nm,9.0s
KMI LZ
420nm,8.7s
CD2 Chengdu 4.54 44 ⇓P **Pg** **Pg** **14 53 15.0 -0.8**
CD2 Sg **Sg** **14 54 14.2 -0.4**
CD2 SMN
60nm,0.7s
CD2 SME
60nm,1.0s
CRAI Chiangrai 7.44 178 P Pg 14 54 05.0 -6.5
68nm,0.9s,552nm
CMAI Chiengmai2 7.79 187 P Pb 14 53 57.8 -6.4
46nm,0.6s,614nm
CHTO Chiang Mai 8.90 187 P Pn 14 53 50.5 -7.2
187nm,0.9s,1μm
TAPN Taplejung 10.98 271 *eP* **Pn** **14 54 26.6 +0.1**
17nm,0.3s
RAMN Ramite 12.01 270 *eP* **Pn** **14 54 40.9 +0.5**
25nm,0.5s
JIRN Jiri 12.31 273 *eP* **Pn** **14 54 43.4 -1.3**
19nm,0.4s
GUN Gumba 12.57 274 *eP* **Pn** **14 54 47.2 -1.0**
24nm,0.4s
PKI Pulchoki 13.01 273 *eP* **Pn** **14 54 52.3 -1.9**
19nm,0.5s
PKIN Phulchoki 13.02 273 *eP* **Pn** **14 54 52.7 -1.5**
20nm,0.5s
KKN Kakani 13.11 274 *eP* **Pn** **14 54 54.5 -0.9**
19nm,0.4s
DMN Daman 13.27 273 *eP* **Pn** **14 54 56.3 -1.4**
GKN Gorkha 13.66 275 *eP* **Pn** **14 55 00.7 -2.3**
11nm,0.3s
DANN Dangsing 14.43 276 *eP* Pn 14 55 09.5 -4.1
KOLN Koldanda 14.59 274 *eP* **Pn** **14 55 12.9 -2.9**
7.8nm,0.4s
PYUN Piuthan 15.12 276 *eP* **Pn** **14 55 19.4 -3.4**
49nm,0.5s
SONM Songino Array 20.70 12 P Pn 14 56 30.1 -1.6
0.9nm,0.6s,baz=193,slow=12,SNR=9.4
MKAR Makanchi Array 23.64 328 P **P** **14 56 59.9 -0.5**
0.4nm,0.5s,baz=130,slow=9.4,SNR=14
KSRS Korea Array 25.32 60 P **P** **14 57 17.3 +1.4**
1.6nm,0.7s,baz=259,slow=10.0,SNR=5.9
AAK Ala-Archa 25.55 312 P **P** **14 57 19.1 +1.1**
1.7nm,0.6s,baz=150,slow=5.4,SNR=9.1
KURBB Kurchatov Arra 28.14 330 P **P** **14 57 41.1 -0.1**
0.2nm,0.5s,baz=135,slow=11,SNR=3.8
ZALV Zalesovo Beam 28.53 341 P **P** **14 57 45.5 +1.0**
0.6nm,0.6s,baz=156,slow=11,SNR=3.7
USRK Ussurisyk Ar. 30.39 49 P **P** **14 58 01.6 +0.4**
2.0nm,0.7s,baz=234,slow=9.8,SNR=4.4
WRA Warramunga Arr 57.82 141 P **P** **15 01 41.3 +0.5**
1.4nm,0.6s,baz=329,slow=7.7,SNR=7.4
ASAR Alice Springs 60.61 144 P **P** **15 02 00.8 +0.7**
0.6nm,0.7s,baz=335,slow=6.3,SNR=4.8
SYO Syowa Base 105.90 199 ⇓*eP* **Pdif** **15 06 07.2 +7.4**

VIE 03 15:00:38.1±0.2, 46°.83N×11°.16E, h6km, ML1.2/4, 3C-2D, Error ellipse: s-maj=2.4km s-min=1.1km az=50.0 7 km NW of St.Martin im Passeiertal, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETA	**Feichten**	**0.36**	**304**	⇓*i*Pg	Pg	15 00 45.3	0.0
FETA				⇑*i*Sg	Sg	15 00 50.2	0.0
	2.0nm,0.1s						
SQTA	**Sankt Quirin**	**0.40**	**5**	⇓*i*Pg	Pg	15 00 46.1	+0.1
MOTA	**Moosalm**	**0.52**	**356**	⇑*i*Pg	Pg	15 00 48.3	-0.1
MOTA				⇑*i*Sg	Sg	15 00 55.6	+0.2
	0.4nm,0.1s						

*CSEM **03** 15:02:48.1, 37°.55N×25°.22W, h0km, ML1.6*
PDA 03 15:02:48.1±1.1, 37°.55N×25°.22W, h0km±8km, MD3.5, ML1.6, Error ellipse: s-maj=4.6km s-min=1.9km az=77.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BART	**Pico Bartolome**	**0.23**	**10**	*eP*	Pg	15 02 52.5	-0.2
BART				*eS*	Sg	15 02 56.3	+0.5
BART				A	A	15 02 58.6	
	150nm,0.2s						
BART	**Pico Bartolome**	**0.23**	**10**	*eP*	Pg	15 02 52.5	-0.2
BART				*eS*	Sg	15 02 56.3	+0.5
GRON	**Grota Negra**	**0.33**	**311**	*eP*	Pg	15 02 52.7	-1.8
GRON				*eS*	Sg	15 02 56.7	-2.2
GRON				A	A	15 03 00.0	
	20nm,0.1s						
PDA	**Ponta Delgada**	**0.40**	**299**	*eP*	Pg	15 02 55.4	-0.4
PDA				*eS*	Sg	15 03 01.3	+0.2
PDA				A	A	15 03 02.8	
	28nm,0.1s						
PDA	**Ponta Delgada**	**0.40**	**299**	*eP*	Pg	15 02 55.4	-0.4
PDA				*eS*	Sg	15 03 01.3	+0.2
PSET	**Sete Cidades**	**0.48**	**304**	*eP*	Pg	15 02 57.0	-0.4
PSET				*eS*	Sg	15 03 04.0	+0.3
PSET				A	A	15 03 09.4	
	62nm,0.5s						
PSET	**Sete Cidades**	**0.48**	**304**	*eP*	Pg	15 02 57.0	-0.4
PSET				*eS*	Sg	15 03 04.0	+0.3
PSMA	**Santa Maria**	**0.56**	**173**	*eS*	Sg	15 03 06.0	-0.1
PSMA				A	A	15 03 07.5	
	11nm,0.2s						
PSMN	**Pico do Norte,**	**0.56**	**167**	*eS*	Sg	15 03 05.6	-0.6
PSMN				A	A	15 03 12.1	
	15nm,0.6s						
PSMN	**Pico do Norte,**	**0.56**	**167**	*eS*	Sg	15 03 05.6	-0.6

IDC 03 15:10:08.3±2.8, 18°.93S×175°.32W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/29, mbtmp4.0/4, Error ellipse: s-maj=60.7km s-min=46.6km az=94.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.36**	**197**	P	P	15 14 46.3	-0.1
	3.9nm,0.6s,baz=0.0,slow=6.1,SNR=8.4						
CTA	**Charters Tower**	**36.19**	**262**	P	P	15 17 14.2	+1.2
	1.1nm,0.3s,baz=82,slow=9.7,SNR=5.9						
WRA	**Warramunga Arr**	**47.34**	**260**	P	P	15 18 43.8	-0.6
	0.5nm,0.5s,baz=95,slow=7.3,SNR=35						
ASAR	**Alice Springs**	**47.35**	**255**	P	P	15 18 43.8	-0.7
	1.4nm,0.6s,baz=91,slow=8.4,SNR=28						
BRTR	**Keskin Array B**	**147.57**	**316**	PKPbc	PKPbc	15 29 54.4	-0.6
	0.4nm,0.6s,baz=44,slow=6.4,SNR=2.9						

*IDC **03** 15:23:45.5±1.7, 35°.08S×73°.02W, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.6/22, mbtmp3.5/6, ML3.4/3, MS2.7/3, Ms1 2.7/3, ms1mx2.5/23, Error ellipse: s-maj=40.5km s-min=30.0km az=87.0*
*ISCJB **03** 15:23:48.8±1.2, 35°.1S±0°.1×72°.8W±0°.3, h33km, mb3.6/3, MS3.0/2, Error ellipse: s-maj=29.9km s-min=14.4km az=3.4*
ISC 03 15:23:50.7±1.4, 35°.1S±0°.1×72°.9W±0°.2, h35km, n7, σ0§60/6, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.19**	**49**	Pn	**Pn**	**15 25 05.6**	**-0.3**
	0.2nm,0.3s,baz=214,slow=5.9,SNR=15						
CFAA				Lg	Lg	15 26 26.5	
	0.3nm,0.3s,baz=306,slow=15,SNR=5.6						
CFAA				LR	LR	15 27 25.8	
	comp=Z,11nm,22.0s,baz=235,slow=42						
PLCA	**Paso Flores**	**5.94**	**163**	Pn	**Pn**	**15 25 16.2**	**0.0**
	0.2nm,0.3s,baz=336,slow=12,SNR=6.4						
PLCA				Lg	Lg	15 26 51.3	
	0.7nm,0.3s,baz=60,slow=23,SNR=5.2						
LPAZ	**La Paz**	**19.18**	**14**	P	**Pn**	**15 28 13.8**	**+0.7**
	0.2nm,0.3s,baz=208,slow=8.0,SNR=8.1						
SIV	**San Ignacio**	**21.74**	**32**	P	**P**	**15 28 38.8**	**-0.4**
	2.1nm,0.6s,baz=225,slow=9.7,SNR=5.8						
SIV				LR	LR	15 37 08.9	
	comp=Z,40nm,18.5s,baz=242,slow=37						
BDFB	**Brasilia**	**29.50**	**55**	LR	LR	15 44 22.5	
	comp=Z,57nm,19.1s,baz=33,slow=42						

TXAR Lajitas Array 70.34 332 P **P** **15 35 00.6 -0.4**
0.3nm,0.7s,baz=138,slow=9.6,SNR=3.1
TORD Torodi Ar. Bea 85.21 70 P **P** **15 36 24.3 +0.4**
0.4nm,0.8s,baz=224,slow=3.2,SNR=2.7

GUC 03 15:39:36.5±0.6, 36°.45S×73°.59W, h8km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.56**	**136**	*eP*	Pb	15 39 48.0	-0.4
CCSP				*eS*	Sb	15 39 56.2	-0.3
CCSP				AML	AML	15 39 57.0	
	comp=N,4μm,0.8s						
COCH	**Cobquecura**	**0.72**	**64**	*eP*	Pg	15 39 50.6	+0.2
COCH				*eS*	Sb	15 40 00.7	-0.6
FCH	**Farellones**	**4.13**	**42**	*eP*	Pn	15 40 41.5	+1.2
FCH				*eS*	Sn	15 41 31.1	+2.0
FCH				AML	AML	15 41 58.4	
	comp=N,71nm,1.0s						

IDC 03 15:41:45.8±7.5, 3°.18N×96°.68E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/25, mbtmp3.2/3, Error ellipse: s-maj=387.5km s-min=28.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.42**	**246**	T	T	16 13 23.8	
	baz=67,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**26.42**	**246**	T	T	16 13 20.8	
	baz=67,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**26.43**	**246**	T	T	16 13 24.9	
	baz=67,slow=76,SNR=17						
WRA	**Warramunga Arr**	**43.54**	**123**	P	P	15 49 51.8	+0.1
	0.1nm,0.4s,baz=300,slow=9.4,SNR=1.6						
ASAR	**Alice Springs**	**45.01**	**128**	P	P	15 50 03.2	-0.3
	0.2nm,0.9s,baz=304,slow=8.0,SNR=1.6						
MKAR	**Makanchi Array**	**45.20**	**346**	P	P	15 50 04.5	-0.2
	0.2nm,0.4s,baz=157,slow=8.9,SNR=9.8						

*ISCJB **03** 15:43:14.8±0.8, 36°.75N±0°.05×7°.65W±0°.03, h10km, Error ellipse: s-maj=6.9km s-min=3.7km az=9.7*
*MDD **03** 15:43:16.4±1.0, 36°.59N×7°.76W, h42km±22km, mb4.1/4, Error ellipse: s-maj=9.6km s-min=6.4km az=8.0, PRXIMO*
*INMG **03** 15:43:16.8±1.0, 36°.58N×7°.77W, h31km, ML2.0, Error ellipse: s-maj=3.7km s-min=2.4km az=25.0*
*CSEM **03** 15:43:16.6±0.3, 36°.66N×7°.74W, h45km±5km, ML3.0/8, Error ellipse: s-maj=5.4km s-min=3.5km az=17.0*
*IGIL **03** 15:43:17.2, 36°.59N×7°.78W, h30km, ML1.8*
ISC 03 15:43:13.0±1.3, 36°.58N±0°.06×7°.77W±0°.03, h10km, n67, σ1§65/113, 3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.68**	**349**	*eP*	**Pb**	**15 43 29.0**	**+2.0**
PBDV				*eS*	**Sb**	**15 43 38.1**	**+1.6**
PBDV				A	A	15 43 38.6	
	18nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.68**	**349**	P	**Pb**	**15 43 29.0**	**+2.0**
PBDV				S	**Sb**	**15 43 38.1**	**+1.6**
	18nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.68**	**349**	*eP*	**Pb**	**15 43 29.0**	**+2.0**
PBDV				*eS*	**Sb**	**15 43 38.1**	**+1.6**
	18nm,0.3s						
PVAQ	**Vaqueiros**	**0.83**	**3**	*eP*	**Pb**	**15 43 31.0**	**+1.5**
PVAQ				*eS*	**Sg**	**15 43 41.7**	**+1.9**
PVAQ				A	A	15 43 42.6	
	17nm,0.1s						
PVAQ	**Vaqueiros**	**0.83**	**3**	⇓P	**Pb**	**15 43 31.0**	**+1.5**
PVAQ				S	**Sg**	**15 43 41.7**	**+1.9**
	17nm,0.1s						
EGRO	**El Granado**	**0.98**	**13**	⇓P	**Pg**	**15 43 33.3**	**+1.3**
	2.8nm,0.1s,SNR=18						
EGRO				S	**Sg**	**15 43 45.5**	**+0.8**
	11nm,0.1s,SNR=12						
EGRO	**El Granado**	**0.98**	**13**	P	**Pg**	**15 43 33.3**	**+1.3**
	2.8nm,0.1s,SNR=18						
EGRO				S	**Sg**	**15 43 45.5**	**+0.8**
	11nm,0.1s,SNR=12						
PFVI	**Vila Bisbo**	**1.01**	**303**	*eP*	**Pg**	**15 43 33.3**	**+0.7**
PFVI				*eS*	**Sg**	**15 43 45.8**	**0.0**
PFVI				A	A	15 43 52.1	
	10nm,0.1s						
PFVI	**Vila Bisbo**	**1.01**	**303**	P	**Pg**	**15 43 33.4**	**+0.9**
	2.2nm,0.1s,SNR=6.4						
PFVI				S	**Sg**	**15 43 45.7**	**-0.1**
	17nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.01**	**303**	P	**Pg**	**15 43 33.4**	**+0.9**
	2.2nm,0.1s,SNR=6.4						
PFVI				*eS*	**Sg**	**15 43 45.8**	**0.0**
	10nm,0.1s						
MORF	**Marmelete**	**1.02**	**316**	*eP*	**Pg**	**15 43 33.8**	**+1.2**
MORF				*eS*	**Sg**	**15 43 45.5**	**-0.3**
MORF				AML	AML	15 43 46.9	
	comp=N,24nm,0.1s						
MORF	**Marmelete**	**1.02**	**316**	*eS*	**Sg**	**15 43 46.1**	**+0.3**
MORF				A	A	15 43 47.0	
	comp=N,25nm,0.1s						
MORF	**Marmelete**	**1.02**	**316**	P	**Pg**	**15 43 33.8**	**+1.2**
MORF				S	**Sg**	**15 43 45.5**	**-0.3**
	comp=N,24nm,0.1s						
MORF	**Marmelete**	**1.02**	**316**	*eS*	**Sg**	**15 43 46.1**	**+0.3**
	comp=N,25nm,0.1s						
PCVE	**Castro Verde**	**1.08**	**348**	*eP*	**Pb**	**15 43 34.7**	**+1.0**
PCVE				*eS*	**Sg**	**15 43 47.4**	**-0.3**
PCVE	**Castro Verde**	**1.08**	**348**	P	**Pb**	**15 43 34.7**	**+1.0**
PCVE				S	**Sg**	**15 43 47.4**	**-0.3**
PCVE	**Castro Verde**	**1.08**	**348**	*eP*	**Pb**	**15 43 34.7**	**+1.0**
PCVE				*eS*	**Sg**	**15 43 47.4**	**-0.3**
PTEO	**Sao Teotonio**	**1.23**	**322**	*eP*	**Pn**	**15 43 36.6**	**+0.3**
PTEO				*eS*	**Sb**	**15 43 51.5**	**-0.9**
PTEO				A	A	15 43 56.1	
	comp=N,10nm,0.9s						
PTEO	**Sao Teotonio**	**1.23**	**322**	P	**Pn**	**15 43 36.6**	**+0.3**
PTEO				S	**Sb**	**15 43 51.5**	**-0.9**
	comp=N,5.2nm,0.9s						
PTEO	**Sao Teotonio**	**1.23**	**322**	*eP*	**Pn**	**15 43 36.6**	**+0.3**
PTEO				*eS*	**Sb**	**15 43 51.5**	**-0.9**
	comp=N,10nm,0.9s						
MESJ	**Messejana**	**1.31**	**344**	*eP*	**Pn**	**15 43 37.8**	**+0.4**
MESJ				*eS*	**Sb**	**15 43 53.5**	**-1.2**
MESJ				AML	AML	15 43 54.2	
	comp=N,9.7nm,0.1s						
MESJ	**Messejana**	**1.31**	**344**	*eP*	**Pn**	**15 43 37.8**	**+0.4**
MESJ				*eS*	**Sb**	**15 43 53.4**	**-1.2**
MESJ				A	A	15 43 54.5	
	comp=N,13nm,0.2s						
MESJ	**Messejana**	**1.31**	**344**	P	**Pn**	**15 43 37.8**	**+0.4**
MESJ				S	**Sb**	**15 43 53.5**	**-1.2**
	comp=N,9.7nm,0.1s						
MESJ	**Messejana**	**1.31**	**344**	*eS*	**Sb**	**15 43 53.4**	**-1.2**
	comp=N,13nm,0.2s						
EMIN	**Mina Concepcio**	**1.48**	**36**	⇓P	**Pn**	**15 43 39.6**	**-0.1**
	comp=N,0.7nm,0.1s,SNR=18						
EMIN				S	**Sn**	**15 43 56.2**	**-2.8**
	comp=N,2.5nm,0.1s,SNR=10						
EMIN	**Mina Concepcio**	**1.48**	**36**	P	**Pn**	**15 43 39.6**	**-0.1**
	comp=N,0.7nm,0.1s,SNR=18						
EMIN				S	**Sn**	**15 43 56.2**	**-2.8**
	comp=N,2.5nm,0.1s,SNR=10						
ESPR	**Espera**	**1.56**	**79**	P	**Pn**	**15 43 41.1**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**15 43 59.5**	**-1.6**
	comp=N,44nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.56**	**79**	P	**Pn**	**15 43 41.1**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**15 43 59.5**	**-1.6**
	comp=N,44nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**1.65**	**339**	*eP*	**Pn**	**15 43 42.3**	**+0.3**
PNCL				*eS*	**Sn**	**15 44 01.4**	**-1.9**
PNCL				A	A	15 44 02.4	
	comp=N,5.6nm,0.2s						
PNCL	**Nicolau / Gran**	**1.65**	**339**	*eP*	**Pn**	**15 43 42.3**	**+0.3**
PNCL				*eS*	**Sn**	**15 44 01.4**	**-1.9**
	comp=N,5.6nm,0.2s						
PBAR	**Barrancos**	**1.70**	**20**	*eP*	**Pn**	**15 43 42.9**	**+0.2**
PBAR				*eSn*	**Sn**	**15 44 02.7**	**-1.8**
PBAR				A	A	15 44 15.3	
	comp=N,6.7nm,0.2s						
PBAR	**Barrancos**	**1.70**	**20**	Pn	**Pn**	**15 43 42.9**	**+0.2**
PBAR				Sn	**Sn**	**15 44 02.7**	**-1.8**
	comp=N,6.7nm,0.2s						
PBAR	**Barrancos**	**1.70**	**20**	*eP*	**Pn**	**15 43 42.9**	**+0.2**
PBAR				*eSn*	**Sn**	**15 44 02.7**	**-1.8**
	comp=N,6.7nm,0.2s						
EVO	**Evora**	**1.96**	**354**	*eP*	**Pn**	**15 43 46.8**	**+0.4**
EVO				*eSn*	**Sn**	**15 44 08.6**	**-2.4**
EVO				A	A	15 44 10.0	
	comp=N,8.1nm,0.1s						
EVO	**Evora**	**1.96**	**354**	Pn	**Pn**	**15 43 46.8**	**+0.4**
EVO				Sn	**Sn**	**15 44 08.6**	**-2.4**
	comp=N,8.1nm,0.1s						
EVO	**Evora**	**1.96**	**354**	*eP*	**Pn**	**15 43 46.8**	**+0.4**
EVO				*eSn*	**Sn**	**15 44 08.6**	**-2.4**
	comp=N,8.1nm,0.1s						
EBAD	**Badajoz**	**2.26**	**15**	P	**Pn**	**15 43 50.2**	**-0.2**
	comp=N,0.0nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**15 44 15.9**	**-2.4**
	comp=N,0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.26**	**15**	P	**Pn**	**15 43 50.2**	**-0.2**
	SNR=7.9						
EBAD				S	**Sn**	**15 44 15.9**	**-2.4**
	comp=N,0.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.29**	**3**	*eP*	**Pn**	**15 43 51.1**	**+0.2**
PESTR				*eSn*	**Sn**	**15 44 16.4**	**-2.8**
PESTR				A	A	15 44 28.1	
	comp=N,2.9nm,0.5s						
PESTR	**Estremoz**	**2.29**	**3**	*eP*	**Pn**	**15 43 51.1**	**+0.2**
PESTR				*eSn*	**Sn**	**15 44 16.4**	**-2.8**
	comp=N,2.9nm,0.5s						
PACT	**Alcochete**	**2.35**	**339**	*eSn*	**Sn**	**15 44 19.9**	**-0.6**
PACT				A	A	15 44 32.7	
	comp=N,24nm,0.5s						
PACT	**Alcochete**	**2.35**	**339**	*eSn*	**Sn**	**15 44 19.9**	**-0.6**
	comp=N,24nm,0.5s						
ECAB	**El Cabril**	**2.40**	**51**	P	**Pn**	**15 43 52.3**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**15 44 17.6**	**-4.2**
	comp=N,1.5nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.40**	**51**	P	**Pn**	**15 43 52.3**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**15 44 17.6**	**-4.2**
	comp=N,1.5nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.66**	**334**	*eSn*	**Sn**	**15 44 25.1**	**-3.2**
PMAFR				A	A	15 44 28.1	
	comp=N,23nm,0.2s						
PMAFR	**Mafra**	**2.66**	**334**	*eSn*	**Sn**	**15 44 25.1**	**-3.2**
	comp=N,23nm,0.2s						
PMAFR				S	**Sn**	**15 44 27.5**	**-0.8**
	comp=N,23nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**2.86**	**6**	*ePn*	**Pn**	**15 43 59.0**	**+0.2**
PMRV				A	A	15 44 30.1	
	comp=N,4.9nm,0.7s						
PMRV	**Marv??o**	**2.86**	**6**	Pn	**Pn**	**15 43 59.0**	**+0.2**
PMRV	**Marv??o**	**2.86**	**6**	*eP*	**Pn**	**15 43 59.0**	**+0.2**
	comp=N,4.9nm,0.7s						
PTOM	**Tomar**	**3.08**	**351**	*eP*	**Pn**	**15 44 02.3**	**+0.6**
PTOM				*eSn*	**Sn**	**15 44 35.3**	**-3.3**
PTOM	**Tomar**	**3.08**	**351**	Pn	**Pn**	**15 44 02.3**	**+0.6**
PTOM				Sn	**Sn**	**15 44 35.3**	**-3.3**
PTOM	**Tomar**	**3.08**	**351**	*eP*	**Pn**	**15 44 02.3**	**+0.6**
PTOM				*eSn*	**Sn**	**15 44 35.3**	**-3.3**
PCBR	**Castelo Branco**	**3.27**	**4**	*eP*	**Pn**	**15 44 04.6**	**+0.3**
PCBR				*eSn*	**Sn**	**15 44 40.4**	**-2.8**
PCBR				A	A	15 44 42.3	
	comp=N,3.8nm,0.5s						
PCBR	**Castelo Branco**	**3.27**	**4**	Pn	**Pn**	**15 44 04.6**	**+0.3**
PCBR				Sn	**Sn**	**15 44 40.4**	**-2.8**
	comp=N,1.9nm,0.5s						
PCBR	**Castelo Branco**	**3.27**	**4**	*eP*	**Pn**	**15 44 04.6**	**+0.3**
PCBR				*eSn*	**Sn**	**15 44 40.4**	**-2.8**
	comp=N,3.8nm,0.5s						
PCAS	**Casmilo, Conde**	**3.52**	**351**	*eSn*	**Sn**	**15 44 45.5**	**-3.9**
PCAS				A	A	15 44 46.4	
	comp=N,6.3nm,0.6s						
PCAS	**Casmilo, Conde**	**3.52**	**351**	*eSn*	**Sn**	**15 44 45.5**	**-3.9**
	comp=N,6.3nm,0.6s						
EPLA	**Plasencia**	**3.73**	**20**	P	**Pn**	**15 44 10.6**	**-0.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**15 44 52.0**	**-2.6**
	comp=N,1.3nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.73**	**20**	P	**Pn**	**15 44 10.6**	**-0.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**15 44 52.0**	**-2.6**
	comp=N,1.3nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**4.01**	**41**	P	**Pn**	**15 44 14.5**	**-0.1**
	comp=N,3.5nm,0.1s,SNR=7.9						
PAB				S	Sn	15 44 55.9	-5.7
	comp=N,11nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.01**	**41**	P	**Pn**	**15 44 14.5**	**-0.1**
	comp=N,3.5nm,0.1s,SNR=7.9						
PAB				S	Sn	15 44 55.9	-5.7
	comp=N,11nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.31**	**43**	P	**Pn**	**15 44 18.9**	**+0.2**
	comp=N,1.2nm,0.1s,baz=226,slow=14,SNR=7.9						
ESDC	**Sonseca Array**	**4.31**	**43**	P	**Pn**	**15 44 18.9**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.62**	**7**	P	**Pn**	**15 44 22.3**	**-0.6**
	comp=N,0.6nm,0.1s,SNR=7.9						
MVO				S	Sn	15 45 11.6	-5.0
	comp=N,0.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**4.62**	**7**	P	**Pn**	**15 44 22.3**	**-0.6**
	comp=N,0.6nm,0.1s,SNR=7.9						
MVO				S	Sn	15 45 11.6	-5.0
	comp=N,0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.35**	**65**	S	Sn	15 45 29.6	-5.1
	comp=N,0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.35**	**65**	S	Sn	15 45 29.6	-5.1
	comp=N,0.4nm,0.1s,SNR=7.9						

*ISCJB **03** 15:56:26.7±0.5, 36°.04N±0°.03×70°.17E±0°.06, h124km, mb3.0/2, Error ellipse: s-maj=7.0km s-min=3.8km az=149.7*
*IDC **03** 15:56:28.4±5.8, 36°.19N×70°.09E, h94km±45km, mb3.6/2, mb1 3.4/8, mb1mx3.1/41, mbtmp3.8/8, Error ellipse: s-maj=65.1km s-min=18.1km az=153.0*
*NNC **03** 15:56:33.4±2.7, 36°.51N×70°.08E, h142km±24km, mb3.1, mpv3.9, Error ellipse: s-maj=25.9km s-min=13.6km az=174.0*
ISC 03 15:56:28.3±0.7, 36°.14N±0°.06×70°.18E±0°.06, h124km, n45, σ1§59/46, 5C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.87**	**338**	⇓P	**Pn**	**15 57 13.8**	**+0.6**
	7.8nm,0.3s						
DZET				⇓S	**Sn**	**15 57 46.4**	**-1.2**
	94nm,0.4s						
SFK	**Sufi-Kurgan**	**4.67**	**33**	⇓P	**Pn**	**15 57 38.7**	**+1.7**
	12nm,0.3s						
SFK				⇑S	**Sn**	**15 58 31.4**	**+0.9**
	18nm,0.2s						
DHRM	**DHARAMSHALA**	**6.38**	**126**	*eP*	**Pn**	**15 58 02.0**	**+1.9**
DHRM				*eS*	**Sn**	**15 59 09.2**	**-2.6**
DHRM				AML	AML	15 59 13.1	
	comp=E,186nm,0.3s						
DHRM				AML	AML	15 59 13.3	
	comp=N,91nm,1.0s						
AML	**Almayashu**	**6.58**	**23**	P	**Pn**	**15 58 03.3**	**+0.5**
	SNR=73

SMLA					AML	AML	15 59 47.7	
	comp=E,43nm,0.6s							
ULHL	**Ulahol**	**7.70**	**36**	P	**Pn**		**15 58 19.5**	**+1.7**
	SNR=9.7							
CHMS	**Chumysh**	**7.70**	**26**	P	**Pn**		**15 58 18.5**	**+0.8**
	SNR=9.2							
USP	**Ospenovka**	**7.86**	**24**	P	**Pn**		**15 58 20.4**	**+0.6**
	SNR=18							
TKM2	**Tokmak 2**	**7.96**	**30**	⇓P	**Pn**		**15 58 21.5**	**+0.2**
	comp=E,6.1nm,0.5s							
TKM2	**Tokmak 2**	**7.96**	**30**	P	**Pn**		**15 58 21.8**	**+0.5**
	SNR=5.9							
GEYT	**Alibeck**	**9.81**	**284**	P	**Pn**		**15 58 46.2**	**+0.1**
	comp=E,1.7nm,0.3s,baz=110,slow=8.0,SNR=10							
GEYT				S	**Sn**		**16 00 32.0**	**-2.5**
	comp=E,2.4nm,0.3s,baz=270,slow=18,SNR=5.8							
PYUN	**Piuthan**	**13.48**	**123**	*eP*	Pn		15 59 32.3	-2.6
	comp=E,49nm,0.4s							
DANN	**Dangsing**	**13.86**	**120**	*eP*	Pn		15 59 37.6	-2.2
	comp=E,7.9nm,0.3s							
MK31	**Makanchi Array**	**13.97**	**37**	⇑P	**Pn**		**15 59 42.6**	**+1.8**
	comp=E,2.9nm,0.7s							
MKAR	**Makanchi Array**	**13.97**	**37**	P	**Pn**		**15 59 40.8**	**0.0**
	comp=E,0.1nm,0.3s,baz=224,slow=15,SNR=9.1							
KOLN	**Koldanda**	**14.11**	**122**	*eP*	Pn		15 59 40.6	-2.3
	comp=E,12nm,0.4s							
BHPL	**Bhopal**	**14.30**	**152**	*eP*	**Pn**		**15 59 43.5**	**-1.8**
GKN	**Gorkha**	**14.69**	**119**	*eP*	Pn		15 59 47.9	-2.2
	comp=E,11nm,0.3s							
AB31	**Akbulak array**	**15.10**	**333**	P	**P**		**15 59 56.0**	**-1.2**
	comp=E,2.8nm,0.4s,baz=162,slow=12,SNR=138							
AB31				⇑S	Sn		16 02 32.7	-9.2
	comp=E,1.0nm,0.4s,baz=155,slow=24,SNR=8.4							
DMN	**Daman**	**15.25**	**120**	*eP*	**Pn**		**15 59 55.6**	**-1.7**
	comp=E,9.5nm,0.4s							
KKN	**Kakani**	**15.27**	**119**	*eP*	**Pn**		**15 59 55.7**	**-1.8**
	comp=E,25nm,0.6s							
PKIN	**Phulchoki**	**15.48**	**119**	*eP*	**Pn**		**15 59 58.4**	**-1.8**
	comp=E,9.9nm,0.4s							
PKI	**Pulchoki**	**15.49**	**119**	*eP*	**Pn**		**15 59 58.7**	**-1.7**
	comp=E,8.3nm,0.3s							
GUN	**Gumba**	**15.62**	**117**	*eP*	**Pn**		**16 00 00.7**	**-1.4**
	comp=E,14nm,0.4s							
KURBB	**Kurchatov Arra**	**15.68**	**20**	P	**Pn**		**16 00 01.6**	**-0.6**
	comp=E,0.0nm,0.3s,baz=212,slow=12,SNR=4.7							
JIRN	**Jiri**	**15.99**	**117**	*eP*	**Pn**		**16 00 06.1**	**-0.5**
	comp=E,19nm,0.4s							
RAMN	**Ramite**	**16.71**	**119**	*eP*	**Pn**		**16 00 14.8**	**-0.5**
	comp=E,13nm,0.5s							
AKTO	**Aktyubinsk**	**16.78**	**332**	P	P		16 00 20.3	+4.5
	comp=E,0.9nm,0.4s							
AKTO	**Aktyubinsk**	**16.78**	**332**	P	**P**		**16 00 17.4**	**+1.6**
AKTO				S	Sn		16 03 10.6	-12
	comp=E,0.1nm,0.3s,baz=356,slow=14,SNR=2.9							
BVA0	**Borovoye Array**	**16.88**	**0**	P	**P**		**16 00 16.9**	**-0.1**
	comp=E,0.3nm,0.5s,baz=0.0,slow=0.1,SNR=4.9							
BVAR	**Borovoye Array**	**16.88**	**0**	P	**P**		**16 00 19.1**	**+2.1**
	comp=E,0.1nm,0.3s,baz=170,slow=10,SNR=1.3							
TAPN	**Taplejung**	**17.27**	**116**	*eP*	**P**		**16 00 22.4**	**+0.6**
	comp=E,17nm,0.5s							
ODAN	**Odare**	**17.33**	**117**	*eP*	**P**		**16 00 23.0**	**+0.7**
	comp=E,12nm,0.5s							
BOK	**Bokaro**	**18.31**	**128**	*eP*	**Pn**		**16 00 37.5**	**+3.2**
ZALV	**Zalesovo Beam**	**20.52**	**25**	P	Pn		16 00 59.9	0.0
	comp=E,12nm,0.5s,baz=217,slow=11,SNR=64							
SONM	**Songino Array**	**29.08**	**55**	P	P		16 02 23.8	+6.7
	comp=E,0.2nm,0.6s,baz=269,slow=12,SNR=2.7							
TORD	**Torodi Ar. Bea**	**65.05**	**268**	P	**P**		**16 06 57.9**	**+2.3**
	comp=E,0.1nm,0.4s,baz=51,slow=5.1,SNR=1.9							

*IDC **03** 16:00:25.7±1.0,33˚66S×71˚95W,h0km,mb3.9/5, mb1 3.9/8,mb1mx3.8/29,mbtmp3.8/8,ML3.2/3,MS1.7/1, Ms1 1.7/1,ms1mx1.7/30,Error ellipse: s-maj=37.3km s-min=20.9km az=94.0*

*ISCJB **03** 16:00:27.7±1.7,33˚57S±0˚06×72˚11W±0˚06,h22km±12km, mb3.8/5,Error ellipse: s-maj=10.3km s-min=7.7km az=165.4*

*GUC **03** 16:00:28.2±0.8,33˚58S×72˚03W,h11km±25km,ML3.8*

ISC 03 16:00:27.8±1.8,33˚66S±0˚06×72˚00W±0˚07,h15km±10km, n22,σ0˚77/27,mb3.8/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
RCDM	**Rinconada Maip**	**1.01**	**80**	*eP*	**Pb**		**16 00 46.5**	**-0.6**
RCDM				*eS*	**Sb**		**16 01 00.6**	**+0.3**
RCDM				AML	AML		16 01 02.1	
	comp=E,3µm,0.6s							
PEL	**Peldehue**	**1.22**	**65**	*eP*	**Pg**		**16 00 50.8**	**-0.6**
PEL				*eS*	**Sg**		**16 01 07.1**	**-0.1**
PEL				AML	AML		16 01 10.1	
	comp=E,7µm,0.8s							
FSR	**Penalolen**	**1.25**	**82**	*eP*	**Pb**		**16 00 51.3**	**+0.2**
FSR				*eS*	**Sg**		**16 01 09.0**	**+0.9**
LACH	**Col Las Americ**	**1.25**	**81**	*eP*	**Pn**		**16 00 50.7**	**-0.1**
LACH				*eS*	**Sg**		**16 01 08.1**	**0.0**
CLCH	**Cerro Calan**	**1.25**	**78**	*eP*	**Pn**		**16 00 51.0**	**+0.1**
CLCH				*eS*	**Sg**		**16 01 08.9**	**+0.6**
CLCH				AML	AML		16 01 16.4	
	comp=E,3µm,0.5s							
SJCH	**San Jose de Ma**	**1.38**	**89**	*eP*	**Pn**		**16 00 51.7**	**-0.9**
SJCH				*eS*	**Sn**		**16 01 10.7**	**+0.1**
SJCH				AML	AML		16 01 12.7	
	comp=E,2µm,0.6s							
FCH	**Farellones**	**1.47**	**77**	*eP*	**Pb**		**16 00 55.2**	**+0.2**
FCH				*eS*	**Sg**		**16 01 15.7**	**+0.3**
FCH				AML	AML		16 01 21.3	
	comp=E,2µm,0.5s							
NICH	**Los Niches**	**1.48**	**155**	*eP*	**Pg**		**16 00 56.1**	**-0.2**
NICH				*eS*	**Sg**		**16 01 17.0**	**+1.4**
YECH	**El Yeso**	**1.60**	**91**	*eP*	Pn		16 00 52.6	-3.2
YECH				*eS*	**Sn**		**16 01 15.8**	**-0.7**
YECH				AML	AML		16 01 24.2	
	comp=N,3µm,0.4s							
CFAA	**Coronel Fontan**	**3.78**	**58**	Pn	**Pn**		**16 01 26.7**	**+1.1**
	comp=N,2.5nm,0.3s,baz=229,slow=12,SNR=57							
CFAA				Lg	Lg		16 02 22.2	
	comp=N,2.0nm,0.3s,baz=283,slow=14,SNR=8.8							
CFAA				LR	LR		16 03 13.5	
	comp=N,11nm,19.5s,slow=45							
PLCA	**Paso Flores**	**7.15**	**171**	Pn	**Pn**		**16 02 09.8**	**-2.1**
	comp=N,0.0nm,0.3s,baz=6.3,slow=18,SNR=1.9							
LPAZ	**La Paz**	**17.65**	**12**	P	**Pn**		**16 04 33.8**	**0.0**
	comp=N,0.1nm,0.3s,baz=213,slow=9.8,SNR=4.4							
SNAA	**Sanae**	**51.88**	**158**	P	**P**		**16 09 35.4**	**+0.1**
	comp=N,1.3nm,1.0s,baz=276,slow=10,SNR=3.9							
QSPA	**South Pole Qui**	**56.57**	**180**	P	**P**		**16 10 10.8**	**+1.2**
	comp=N,0.7nm,0.8s,baz=72,slow=20,SNR=2.7							
TXAR	**Lajitas Array**	**69.46**	**331**	P	**P**		**16 11 36.2**	**+0.7**
	comp=N,3.0nm,0.5s,baz=153,slow=9.0,SNR=5.9							
DBIC	**Dimbokro**	**75.04**	**71**	P	**P**		**16 12 09.2**	**-0.1**
	comp=N,6.2nm,1.0s,baz=291,slow=7.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**84.07**	**70**	P	**P**		**16 12 58.0**	**-0.3**
	comp=N,0.4nm,0.7s,baz=273,slow=4.4,SNR=4.8							
H11S2	**WAKE ISLAND Hyl**	**25.81**	**269**	T	T		18 38 20.0	
	baz=118							
H11S1	**WAKE ISLAND Hyl**	**25.82**	**269**	T	T		18 38 22.0	
	baz=118							
H11S3	**WAKE ISLAND Hyl**	**25.82**	**269**	T	T		18 38 22.3	
	baz=118							
ZALV	**Zalesovo Beam**	**153.93**	**32**	PKPbc	**PKPbc**		**16 20 26.0**	**-0.1**
	comp=N,0.5nm,0.6s,baz=325,slow=1.8,SNR=3.3							
MKAR	**Makanchi Array**	**156.52**	**48**	PKPab	**PKPab**		**16 20 49.8**	**-0.9**
	comp=N,0.2nm,0.5s,baz=271,slow=4.3,SNR=3.7							

*IDC **03** 16:05:19.1±0.9,34˚77N×72˚78E,h0km,mb3.5/10, mb1 3.7/14,mb1mx3.6/43,mbtmp3.6/14,ML3.3/5,Error ellipse: s-maj=22.1km s-min=18.1km az=82.0*

*ISCJB **03** 16:05:20.6±0.4,34˚77N±0˚03×72˚99E±0˚07,h24km, mb3.4/9,Error ellipse: s-maj=8.3km s-min=3.3km az=158.0*

*NDI **03** 16:05:23.6±2.1,34˚64N×72˚40E,h10km,ML3.9*

*NNC **03** 16:05:29.3±6.3,34˚87N×72˚74E,h109km±74km,mb3.0, mpv3.6,Error ellipse: s-maj=50.2km s-min=34.6km az=158.0*

ISC 03 16:05:22.9±0.7,34˚76N±0˚05×72˚85E±0˚07,h24km,n41, σ1s74/48,mb3.3/9,6C-9D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DLH	**Dalhousie**	**3.41**	**129**	*eP*	Pb		16 06 21.0	-1.7
DLH				*eS*	**Sb**		**16 07 02.0**	**-1.8**
SDNR	**Sundarnagar**	**4.74**	**132**	*ex*	**Pn**		**16 06 32.0**	**-0.9**
SDNR				*eS*	**Sn**		**16 07 31.0**	**+3.9**
SMLA	**Simla**	**5.12**	**134**	⇓*i*P	Pn		16 06 42.0	+4.0
SMLA				*i* S	**Sn**		**16 07 41.5**	**+5.1**
SMLA				*i* S	**Sn**		**16 07 42.1**	**+5.7**
SMLA				AML	AML		16 07 43.5	
	comp=E,403nm,0.3s							
SMLA				AML	AML		16 07 43.9	
	comp=N,515nm,0.3s							
DZET	**Dzherino**	**5.17**	**323**	⇓P	Pn		16 06 43.5	+4.5
	comp=N,4.4nm,0.4s							
DZET				⇓S	**Sn**		**16 07 40.5**	**+2.6**
	comp=N,20nm,0.5s							
SFK	**Sufi-Kurgan**	**5.27**	**5**	⇑P	Pn		16 06 46.0	+5.5
	comp=N,3.2nm,0.4s							
SFK				⇑S	Sn		16 07 47.4	+6.9
	comp=N,5.6nm,0.5s							
KHET	**Khetri**	**7.12**	**158**	*eP*	**Pn**		**16 07 06.8**	**+1.2**
KHET				*eS*	**Sn**		**16 08 24.8**	**-1.0**
KHET				AML	AML		16 09 17.6	
	comp=E,107nm,0.1s							
KHET				AML	AML		16 09 17.7	
	comp=N,83nm,0.1s							
KALG	**Kalgarh**	**7.24**	**135**	*eP*	**Pb**		**16 07 26.7**	**-1.1**
KALG				*eS*	Sb		16 08 44.6	-9.2
KUDL	**Kundal**	**7.29**	**154**	*eP*	**Pn**		**16 07 09.9**	**+2.1**
KUDL				*eS*	**Sn**		**16 08 29.3**	**-0.5**
KUDL				*eS*	**Sn**		**16 08 29.3**	**-0.5**
MNAS	**Manas**	**7.72**	**358**	⇓P	**Pn**		**16 07 16.4**	**+2.4**
	comp=N,1.6nm,0.4s							
MNAS				⇓S	**Sn**		**16 08 42.0**	**+1.3**
	comp=N,3.5nm,0.9s							
AAK	**Ala-Archa**	**7.97**	**9**	⇓P	**Pn**		**16 07 15.6**	**-1.7**
	comp=N,0.9nm,0.5s							
AAK				⇓S	**Sn**		**16 08 47.3**	**+0.5**
	comp=N,3.1nm,0.9s							
AAK	**Ala-Archa**	**7.97**	**9**	Pn	**Pn**		**16 07 19.0**	**+1.6**
	comp=N,0.3nm,0.3s,baz=193,slow=6.9,SNR=7.2							
AAK				Sn	**Sn**		**16 08 47.5**	**+0.7**
	comp=N,0.2nm,0.3s,baz=132,slow=16,SNR=3.9							
TKM2	**Tokmak 2**	**8.43**	**14**	⇑P	Pn		16 07 28.0	+4.3
	comp=N,1.0nm,0.5s							
TKM2				⇑S	**Sn**		**16 08 57.6**	**-0.6**
	comp=N,2.5nm,0.8s							
KK31	**Karatay Array**	**8.53**	**348**	⇓P	**Pn**		**16 07 26.6**	**+1.7**
	comp=N,1.6nm,0.4s,baz=173,slow=12,SNR=62							
KK31				⇑S	**Sn**		**16 08 59.3**	**-1.1**
	comp=N,1.7nm,0.5s,baz=174,slow=23,SNR=7.8							
PYUN	**Piuthan**	**10.90**	**125**	*eP*	**Pn**		**16 07 57.8**	**+0.2**
	comp=N,39nm,0.4s							
DANN	**Dangsing**	**11.28**	**121**	*eP*	**Pn**		**16 08 02.9**	**0.0**
	comp=N,16nm,0.7s							
KOLN	**Koldanda**	**11.53**	**124**	*eP*	**Pn**		**16 08 06.3**	**+0.1**
	comp=N,6.6nm,0.4s							
GKN	**Gorkha**	**12.11**	**121**	*eP*	**Pn**		**16 08 13.0**	**-1.1**
	comp=N,10.0nm,0.4s							
DMN	**Daman**	**12.67**	**121**	*eP*	**Pn**		**16 08 21.1**	**-0.8**
	comp=N,7.1nm,0.4s							
KKN	**Kakani**	**12.69**	**120**	*eP*	**Pn**		**16 08 20.8**	**-1.3**
	comp=N,7.0nm,0.5s							
PKIN	**Phulchoki**	**12.90**	**120**	*eP*	**Pn**		**16 08 24.1**	**-0.9**
	comp=N,7.7nm,0.4s							
PKI	**Pulchoki**	**12.91**	**120**	*eP*	**Pn**		**16 08 24.2**	**-1.0**
	comp=N,11nm,0.5s							
GUN	**Gumba**	**13.05**	**118**	*eP*	**Pn**		**16 08 25.7**	**-1.5**
JIRN	**Jiri**	**13.42**	**118**	*eP*	Pn		16 08 30.1	-2.1
	comp=N,19nm,0.4s							
MKAR	**Makanchi Array**	**13.98**	**28**	Pn	**Pn**		**16 08 39.0**	**-0.4**
	comp=N,0.0nm,0.3s,baz=210,slow=13,SNR=2.9							
MKAR				Sn	**Sn**		**16 11 13.3**	**-0.4**
	comp=N,0.0nm,0.3s,baz=210,slow=20,SNR=2.4							
RAMN	**Ramite**	**14.13**	**120**	*eP*	**Pn**		**16 08 40.3**	**-1.5**
	comp=N,8.2nm,0.5s							
TAPN	**Taplejung**	**14.71**	**116**	*eP*	Pn		16 08 46.5	-3.2
	comp=N,7.0nm,0.5s							
KURBB	**Kurchatov Arra**	**16.39**	**13**	Pn	**Pn**		**16 09 08.5**	**-2.7**
	comp=N,0.0nm,0.3s,baz=204,slow=11,SNR=2.9							
AB31	**Akbulak array**	**17.34**	**331**	⇑P	**Pn**		**16 09 22.0**	**-1.2**
	comp=N,3nm,0.4s,baz=141,slow=11,SNR=4.9							
BVAR	**Borovoye Array**	**18.35**	**355**	P	**P**		**16 09 34.7**	**-0.8**
	comp=N,0.4nm,0.3s,baz=153,slow=9.4,SNR=8.0							
AKTO	**Aktyubinsk**	**19.04**	**330**	⇓P	**P**		**16 09 43.6**	**+0.4**
	comp=N,3.0nm,0.5s							
AKTO	**Aktyubinsk**	**19.04**	**330**	P	**P**		**16 09 42.2**	**-1.0**
	comp=N,0.7nm,0.3s,baz=136,slow=11,SNR=17							
ZALV	**Zalesovo Beam**	**20.95**	**20**	P	**P**		**16 10 03.5**	**-0.5**
	comp=N,3.2nm,0.6s,baz=232,slow=11,SNR=16							
SONM	**Songino Array**	**28.15**	**52**	P	**P**		**16 11 13.7**	**+0.4**
	comp=N,1.1nm,0.4s,baz=243,slow=9.1,SNR=2.7							
FINES	**FINESS Array B**	**39.77**	**327**	P	**P**		**16 12 52.2**	**-1.3**
	comp=N,0.5nm,0.7s,baz=120,slow=11,SNR=4.0							
ARCES	**ARCESS Array B**	**43.33**	**338**	P	**P**		**16 13 23.0**	**+0.4**
	comp=N,2.4nm,0.7s,baz=113,slow=8.4,SNR=17							
NOA	**NORSAR Array B**	**46.68**	**324**	P	**P**		**16 13 48.1**	**-1.2**
	comp=N,0.5nm,0.9s,baz=100,slow=7.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**67.21**	**270**	P	**P**		**16 16 15.3**	**-0.2**
	comp=N,0.5nm,0.6s,baz=38,slow=5.7,SNR=6.1							
ILAR	**Eielson Array**	**76.03**	**16**	P	**P**		**16 17 07.5**	**-0.3**
	comp=N,0.2nm,0.6s,baz=302,slow=5.2,SNR=3.6							
WRA	**Warramunga Arr**	**79.78**	**123**	P	**P**		**16 17 30.2**	**+0.9**
	comp=N,0.1nm,0.5s,baz=324,slow=5.0,SNR=5.1							
ASAR	**Alice Springs**	**82.02**	**126**	P	**P**		**16 17 41.0**	**-0.2**
	comp=N,0.3nm,0.9s,baz=311,slow=4.5,SNR=3.7							
YKA	**Yellowknife Ar**	**82.90**	**3**	P	**P**		**16 17 45.1**	**-0.1**
	comp=N,0.3nm,0.5s,baz=348,slow=5.4,SNR=11							

IDC 03 16:16:25.9±4.5,33˚33S×56˚97E,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.3/28,mbtmp3.7/2,MS3.5/14, Ms1 3.5/14,ms1mx3.4/33,Error ellipse: s-maj=275.6km s-min=41.8km az=33.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
OPO	**Ambohidratompo**	**17.11**	**327**	LR	LR		16 25 42.2	
	comp=Z,240nm,18.8s,baz=172,slow=32							
BOSA	**Boshof**	**27.53**	**271**	LR	LR		16 30 16.6	
	comp=Z,69nm,20.0s,baz=141,slow=30							
LBTB	**Lobatse**	**28.53**	**279**	LR	LR		16 31 12.6	
	comp=Z,61nm,18.6s,baz=122,slow=31							
H08S1	**Diego Garcia H**	**29.32**	**33**	T	T		16 53 43.2	
	baz=214							
H08S2	**Diego Garcia H**	**29.33**	**33**	T	T		16 53 43.8	
	baz=214							
H08S3	**Diego Garcia H**	**29.34**	**33**	T	T		16 53 42.1	
	baz=214							
H08N3	**Diego Garcia H**	**29.85**	**29**	T	T		16 54 15.5	
	baz=204,slow=76,SNR=5.0							
H08N1	**Diego Garcia H**	**29.86**	**29**	T	T		16 54 17.2	
	baz=204,slow=76,SNR=5.0							
H08N2	**Diego Garcia H**	**29.87**	**29**	T	T		16 54 16.1	
	baz=204,slow=76,SNR=4.8							
MAW	**Mawson**	**34.48**	**176**	LR	LR		16 34 01.4	
	comp=Z,121nm,19.6s,baz=54,slow=31							
KMBO	**Kilima Mbogo**	**37.00**	**326**	LR	LR		16 36 57.8	
	comp=Z,80nm,18.8s,baz=94,slow=33							
QSPA	**South Pole Qui**	**56.84**	**180**	LR	LR		16 49 07.5	
	comp=Z,106nm,20.3s,baz=284,slow=34							
VNDA	**Vanda**	**60.85**	**166**	LR	LR		16 51 01.2	
	comp=Z,122nm,18.1s,baz=278,slow=34							
CMAR	**Chiang Mai Arr**	**65.25**	**44**	LR	LR		16 50 16.0	
	comp=Z,31nm,21.6s,baz=148,slow=31							
ASAR	**Alice Springs**	**66.94**	**104**	P	P		16 27 20.4	-0.1
	0.7nm,1.0s,baz=236,slow=5.4,SNR=6.3							
WRA	**Warramunga Arr**	**69.05**	**101**	P	P		16 27 34.0	+0.1
	1.0nm,0.9s,baz=239,slow=5.6,SNR=9.5							
TORD	**Torodi Ar. Bea**	**70.06**	**302**	LR	LR		16 58 52.3	
	comp=Z,32nm,18.2s,baz=135,slow=36							
DBIC	**Dimbokro**	**70.76**	**292**	LR	LR		16 56 12.9	
	comp=Z,31nm,20.5s,baz=94,slow=34							
GEYT	**Alibeck**	**70.91**	**1**	LR	LR		16 57 00.6	
	comp=Z,17nm,18.7s,baz=25,slow=34							
BRTR	**Keskin Array B**	**75.83**	**342**	LR	LR		16 58 05.2	
	comp=Z,16nm,21.7s,baz=130,slow=33							
KBZ	**Khabaz**	**77.76**	**350**	LR	LR		17 01 57.4	
	comp=Z,26nm,18.5s,baz=357,slow=35							
JAY	**Jayapura**	**83.39**	**89**	LR	LR		17 02 41.5	
	comp=Z,25nm,18.1s,baz=158,slow=33							
INK	**Inuvik**	**144.47**	**7**	PKP	PKPbc		16 36 01.7	0.0
	1.3nm,0.8s,baz=341,slow=3.2,SNR=4.9							
ILAR	**Eielson Array**	**145.32**	**18**	PKPbc	PKPbc		16 36 04.2	-0.4
	0.4nm,0.6s,baz=316,slow=3.8,SNR=1.8							
YKA	**Yellowknife Ar**	**150.33**	**352**	PKPbc	PKPbc		16 36 17.8	-0.4
	0.7nm,0.7s,baz=6.9,slow=2.3,SNR=13							

GUC 03 16:20:29.6±0.8,33˚95S×72˚72W,h54km±67km,ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
IHA	**Instituto Hidr**	**1.29**	**45**	*eP*	Pn		16 20 51.7	+0.4
NICH	**Los Niches**	**1.62**	**131**	*eP*	Pn		16 20 56.5	+0.7
NICH				*eS*	Sn		16 21 16.9	+1.4
RCDM	**Rinconada Maip**	**1.66**	**74**	*eP*	Pn		16 20 56.8	+0.4
RCDM				*eS*	Sn		16 21 17.8	+1.1
RCDM				AML	AML		16 21 20.8	
	comp=N,797nm,0.4s							
ROCH	**El Roble**	**1.73**	**56**	*eP*	Pn		16 20 58.0	+0.4
ROCH				*eS*	Sn		16 21 19.9	+1.1
ROCH				AML	AML		16 21 29.7	
	comp=E,869nm,0.9s							
PEL	**Peldehue**	**1.88**	**65**	*eP*	Pn		16 21 00.6	+1.2
PEL				*eS*	Sn		16 21 23.7	+1.6
PEL				AML	AML		16 21 35.9	
	comp=N,2µm,0.4s							
CLCH	**Cerro Calan**	**1.90**	**74**	*eP*	Pn		16 21 00.9	+1.1
CLCH				*eS*	Sn		16 21 24.4	+1.7
CLCH				AML	AML		16 21 31.8	
	comp=E,1µm,4.9s							
FCH	**Farellones**	**2.12**	**74**	*eP*	Pn		16 21 03.9	+0.8
FCH				*eS*	Sn		16 21 29.4	+0.9
FCH				AML	AML		16 21 36.1	
	comp=N,697nm,0.2s							

*NEIC **03** 16:43:54.8,35˚30S×72˚05W,h41km,MG4.1(GUC),After GUC.*

NEIC Felt [II] at Curico, Pencahue, San Javier and Talca.

GUC 03 16:43:54.8±0.5,35˚30S×72˚05W,h41km±4km,ML4.1, 4C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TALC	**Talca**	**0.36**	**107**	⇓*i*P	Pn		16 44 04.0	+0.2
TALC				*i* S	Sn		16 44 10.4	+0.4
TALC				AML	AML		16 44 11.1	
	comp=N,86µm,0.1s							
TALC	**Talca**	**0.36**	**107**	⇓*i*P	Pn		16 44 04.0	+0.2
TALC				*i* S	Sn		16 44 10.4	+0.4
LNCH	**Linares**	**0.66**	**146**	⇓*i*P	Pn		16 44 08.1	+0.3
LNCH				*i* S	Sn		16 44 17.7	+0.6
LNCH	**Linares**	**0.66**	**146**	⇓*i*P	Pn		16 44 08.1	+0.3
LNCH				*i* S	Sn		16 44 17.7	+0.6
NICH	**Los Niches**	**0.73**	**67**	⇓*i*P	Pn		16 44 09.2	+0.5
NICH				*i* S	Sn		16 44 19.8	+1.0
NICH	**Los Niches**	**0.73**	**67**	⇓*i*P	Pn		16 44 09.2	+0.5
NICH				*i* S	Sn		16 44 19.8	+1.0
LNV	**Longovilo**	**1.44**	**22**	*eP*	Pn		16 44 19.3	+0.9
LNV	**Longovilo**	**1.44**	**22**	*eP*	Pn		16 44 19.3	+0.9
PEL	**Peldehue**	**2.43**	**28**	⇑*i*P	Pn		16 44 33.2	+1.2
PEL				AML	AML		16 45 14.1	
	comp=N,960nm,0.4s							
PEL	**Peldehue**	**2.43**	**28**	⇑*i*P	Pn		16 44 33.2	+1.2
FCH	**Farellones**	**2.44**	**37**	*eP*	Pn		16 44 30.9	-1.8
FCH				*eS*	Sn		16 45 00.8	-0.8
FCH				AML	AML		16 45 09.1	
	comp=N,637nm,0.3s							
FCH	**Farellones**	**2.44**	**37**	*eP*	Pn		16 44 30.9	-1.8
FCH				*eS*	Sn		16 45 00.8	-0.8
ROCH	**El Roble**	**2.47**	**21**	⇑*i*P	Pn		16 44 34.0	+1.0
ROCH				AML	AML		16 45 10.4	
	comp=N,776nm,0.5s							
ROCH	**El Roble**	**2.47**	**21**	⇑*i*P	Pn		16 44 34.0	+1.0

*IDC **03** 16:44:21.7±0.9,2˚31N×121˚04E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.7/34,mbtmp3.8/7,MS3.4/10, Ms1 3.4/10,ms1mx3.1/36,Error ellipse: s-maj=51.2km s-min=17.6km az=68.0*

*ISCJB **03** 16:44:25.2±0.5,2˚24N±0˚03×120˚69E±0˚04,h33km, mb3.9/9,MS3.4/8,Error ellipse: s-maj=6.3km s-min=4.8km az=164.5*

*NEIC **03** 16:44:26.2±0.6,2˚15N×120˚90E,h35km,mb4.6/2,Error ellipse: s-maj=27.6km s-min=9.4km az=76.0*

*DJA **03** 16:44:28.3±0.5,2˚N±4˚×12˚1E±˚,h55km±10km,M4.

PISA	**Pisayambo**	**0.13**	**338**	⇓P	Pg	16 46 20.1	-0.2
RUN5	**Runtun**	**0.25**	**200**	⇑P	Pg	16 46 23.6	+1.2
BRUN	**Tungurahua Vol**	**0.25**	**197**	⇑P	Pb	16 46 23.5	-1.0
BULB	**Ulba Tungurahu**	**0.27**	**196**	⇑P	Pb	16 46 23.8	-1.1
JUI6	**Juive**	**0.28**	**208**	⇑P	Pg	16 46 23.7	+0.9
JUI6	**Juive**	**0.28**	**208**	⇑S	Sg	16 46 27.6	+0.9
ULBA	**Ulba**	**0.28**	**195**	⇑P	Pg	16 46 23.8	+0.9
RETU	**Refugio**	**0.29**	**202**	⇑P	Pg	16 46 23.3	0.0
BBIL	**Ulba Tungurahu**	**0.31**	**209**	⇑P	Pg	16 46 23.3	-0.2
BPAT	**Tungurahua Vol**	**0.34**	**197**	⇑P	Pg	16 46 24.2	0.0
BPAT	**Tungurahua Vol**	**0.34**	**197**	⇑S	Sg	16 46 29.3	+0.3
PAT1	**Patacocha**	**0.34**	**197**	⇑P	Pg	16 46 24.2	0.0
BMAS	**Trigal station**	**0.35**	**204**	⇑P	Pg	16 46 24.0	-0.3
BMAS	**Trigal station**	**0.35**	**204**	⇑S	Sg	16 46 29.2	-0.1
IGUA	**Igualata**	**0.43**	**224**	P	Pg	16 46 26.0	-0.1
MOV1	**Cotopaxi Vol s**	**0.47**	**347**	P	Pg	16 46 27.1	+0.1
MOV1	**Cotopaxi Vol s**	**0.47**	**347**	S	Sb	16 46 35.2	-1.4
TAMB	**Tambo**	**0.48**	**356**	P	Pg	16 46 27.8	+0.8
BTAM	**Cotopaxi Volca**	**0.50**	**353**	⇑P	Pg	16 46 27.1	-0.3
COV1	**Cotopaxi Volc**	**0.51**	**359**	P	Pg	16 46 28.1	+0.3
BREF	**Cotopaxi Volca**	**0.52**	**348**	P	Pg	16 46 28.1	+0.3
BVC2	**Cotopaxi Volca**	**0.52**	**352**	P	Pg	16 46 27.5	-0.4
CAMI	**Rancho Maria**	**0.53**	**341**	⇑P	Pg	16 46 28.5	+0.7
VC1	**Cotopaxi 1**	**0.54**	**353**	P	Pb	16 46 28.9	-0.8
NAS2	**Nasa**	**0.55**	**346**	S	Sb	16 46 38.3	-0.2
NAS2	**Nasa**	**0.55**	**346**	P	Pb	16 46 29.8	0.0
PAST	**Pastocalle**	**0.57**	**328**	P	Pg	16 46 29.3	+0.7
RIOE	**Riobamba**	**0.64**	**207**	P	Pg	16 46 29.0	-0.8
ANTI	**Antisana**	**0.75**	**14**	P	Pg	16 46 31.0	-1.1
JUA2	**San Juan 2**	**1.00**	**344**	P	Pb	16 46 37.3	-0.1
GGP	**Refugio Guagua**	**1.03**	**346**	P	Pg	16 46 37.2	-0.4
TERV	**Terraza Guagua**	**1.03**	**345**	P	Pb	16 46 38.1	-0.1
PINO	**Pino**	**1.05**	**345**	P	Pb	16 46 38.5	0.0
MACE	**Macas**	**1.08**	**173**	S	Sn	16 46 55.0	+0.3
MACE	**Macas**	**1.08**	**173**	P	Pg	16 46 38.1	+0.1
CAYR	**Refugio Cayamb**	**1.23**	**16**	P	Pb	16 46 41.7	+0.1
CHAR	**Charly**	**1.27**	**32**	P	Pb	16 46 42.9	+0.8
CAYA	**Cayambe**	**1.29**	**16**	P	Pn	16 46 42.2	-0.2
LAV4	**Lava4-Reventad**	**1.29**	**33**	P	Pn	16 46 41.5	-0.7
CONE	**Cono NE Rev Vo**	**1.30**	**32**	P	Pn	16 46 42.2	-0.2
OTAV	**Otavalo**	**1.41**	**355**	P	Pn	16 46 44.2	+0.1

*ISCJB **03** 17:13:00.6±1.3,20.0S±0.1×176.7W±0.2, h263km, mb3.6/5, Error ellipse: s-maj=26.8km s-min=16.4km az=2.2*
*IDC **03** 17:13:02.5±6.2,20.7S×176.66W, h269km±61km, mb3.5/5, mb1 3.6/6, mb1mx3.1/37, mbtmp4.1/6, Error ellipse: s-maj=29.1km s-min=16.6km az=90.0*

ISC 03 17:13:01.9±1.4, 20.1S±0.1×176.7W±0.2, h263km, n6, σ0.8s 42/7, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.84**	**195**	P		**P**	**P**	**17 17 02.6**	**-0.1**
	0.3nm,0.3s,baz=48,slow=12,SNR=6.5								
URZ				S			**S**	**17 20 22.8**	**+0.2**
	0.3nm,0.3s,baz=76,slow=19,SNR=4.3								
CTA	**Charters Tower**	**34.78**	**264**	P			**P**	**17 19 28.3**	**+0.2**
	6.0nm,1.0s,baz=85,slow=11,SNR=7.8								
JAY	**Jayapura**	**45.14**	**287**	P			**P**	**17 20 53.2**	**+0.3**
	10.0nm,0.5s,baz=98,slow=10,SNR=4.1								
ASAR	**Alice Springs**	**45.83**	**256**	P			**P**	**17 20 58.2**	**-0.1**
	1.0nm,0.5s,baz=94,slow=8.6,SNR=30								
WRA	**Warramunga Arr**	**45.90**	**261**	P			**P**	**17 20 58.1**	**-0.7**
	0.3nm,0.4s,baz=96,slow=7.4,SNR=8.1								
TXAR	**Lajitas Array**	**85.80**	**57**	P			**P**	**17 25 12.2**	**0.0**
	0.2nm,0.7s,baz=224,slow=6.3,SNR=3.9								

MAN 03 17:13:34, 9.61N×122.26E, h28km, mb4.8, ML3.7, MS3.8, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.07**	**18**	*eP*			Pn	17 13 52.7	-0.4
GUIM				*eS*			Sn	17 14 07.0	0.0
DCPH	**Dipolog City**	**1.49**	**133**	⇑*eP*			Pn	17 13 57.4	-1.5
DCPH				*eS*			Sn	17 14 14.6	-2.7
CUYO	**Cuyo Island**	**1.73**	**316**	*eP*			Pn	17 14 03.3	+0.9
CUYO				*eS*			Sn	17 14 23.3	-0.2
IPIL	**Ipil**	**1.83**	**170**	*eP*			Pn	17 14 03.1	-0.6
RCP	**Roxas**	**2.00**	**14**	⇓*eP*			Pn	17 14 07.8	+1.8
RCP				*i* S			Sb	17 14 33.2	-1.1
PAGZ	**Pagadian**	**2.07**	**147**	*eP*			Pn	17 14 08.3	+1.4
PAGZ				*eS*			Sn	17 14 32.8	+0.9
MSLP	**Maasin**	**2.62**	**78**	*eP*			Pn	17 14 15.1	+0.7
CGP	**Cagayan de Oro**	**2.67**	**115**	⇑*eP*			Pn	17 14 14.1	-1.0
CGP				*eS*			Sn	17 14 45.1	-1.5
OCLP	**Ormoc**	**2.73**	**58**	*eP*			Pn	17 14 15.9	0.0
CTBH	**Cotabato--PC H**	**3.08**	**140**	⇑*iP*			Pb	17 14 25.0	-3.1
BUSP	**Coron**	**3.12**	**320**	*eP*			Pn	17 14 22.3	+0.9
ENPP	**El Nido**	**3.21**	**300**	*eP*			Pn	17 14 23.7	+1.2
BUKP	**Musuan**	**3.26**	**122**	*eP*			Pn	17 14 25.6	+2.2
BUTP	**Butuan**	**3.38**	**101**	*eP*			Pn	17 14 25.8	+0.8

IDC 03 17:51:43.8±2.1, 5.97S×129.71E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=138.7km s-min=29.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.98**	**169**	P			Pn	17 53 34.7	+7.3
	baz=10.0,SNR=31								
KDU	**Kakadu**	**7.21**	**158**	P			Pn	17 53 35.9	+5.3
	baz=10,SNR=66								
KNRA	**Kununurra**	**9.70**	**185**	P			Pn	17 54 12.4	+7.7
	baz=12,SNR=9.2								
WRA	**Warramunga Arr**	**14.60**	**162**	Pn			Pn	17 55 11.4	-0.4
	0.2nm,0.3s,baz=345,slow=13,SNR=20								
WRA				Sn			Sn	17 57 39.5	-15
	0.3nm,0.3s,baz=334,slow=24,SNR=7.7								
COEN	**Coen**	**15.45**	**122**	P			Pn	17 55 24.5	+1.3
	baz=18,SNR=4.0								
ASAR	**Alice Springs**	**18.06**	**168**	P			Pn	17 55 56.4	0.0
	0.2nm,0.3s,baz=349,slow=11,SNR=27								
ASAR				S			Sn	17 59 05.7	-13
	0.1nm,0.3s,baz=348,slow=25,SNR=5.9								
MKAR	**Makanchi Array**	**67.21**	**327**	P			P	18 02 39.9	0.0
	0.4nm,0.4s,baz=123,slow=6.7,SNR=16								

GUC 03 18:20:22.0±1.1, 35.60S×73.02W, h52km±41km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.15**	**81**	*eP*			Pn	18 20 42.2	+0.4
TALC				*eS*			Sn	18 20 57.7	+1.2
LNCH	**Linares**	**1.18**	**103**	*eP*			Pn	18 20 49.0	+6.8
LNCH				*eS*			Sn	18 21 05.4	+8.2
NICH	**Los Niches**	**1.58**	**69**	*eP*			Pn	18 20 47.5	-0.2
NICH				*eS*			Sn	18 21 06.6	-0.3
RCDM	**Rinconada Maip**	**2.78**	**42**	*eP*			Pn	18 21 03.1	-1.1
RCDM					AML		AML	18 21 52.4	
	comp=E,165nm,0.5s								
CLCH	**Cerro Calan**	**3.00**	**44**	*eP*			Pn	18 21 08.5	+1.3
CLCH				*eS*			Sn	18 21 43.1	+1.0
CLCH					AML		AML	18 21 57.5	
	comp=N,415nm,0.6s								
ROCH	**El Roble**	**3.10**	**33**	*eP*			Pn	18 21 05.7	-3.0
ROCH				*eS*			Sn	18 21 42.5	-2.3
ROCH					AML		AML	18 21 55.9	
	comp=N,1μm,0.8s								
PEL	**Peldehue**	**3.12**	**39**	*eP*			Pn	18 21 09.4	+0.6
PEL				*eS*			Sn	18 21 46.0	+1.2
PEL					AML		AML	18 21 57.4	
	comp=N,401nm,0.5s								
FCH	**Farellones**	**3.19**	**46**	*eS*			Sn	18 21 49.0	+1.7
FCH					AML		AML	18 21 57.8	
	comp=N,223nm,0.4s								

GUC 03 18:36:03.3±0.5, 35.24S×72.51W, h16km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.73**	**103**	*eP*			Pg	18 36 17.2	-0.4
TALC				*eS*			Sb	18 36 27.7	+0.3
COCH	**Cobquecura**	**0.92**	**194**	*eP*			Pb	18 36 20.0	-0.9
COCH				*eS*			Sg	18 36 33.2	-0.1
LNCH	**Linares**	**0.96**	**130**	*eP*			Pb	18 36 21.1	-0.5
LNCH				*eS*			Sb	18 36 34.1	+0.1
NICH	**Los Niches**	**1.07**	**78**	*eP*			Pb	18 36 22.7	-0.8
NICH				*eS*			Sg	18 36 37.8	-0.4
CLCH	**Cerro Calan**	**2.46**	**42**	*eP*			Pn	18 36 45.0	+2.1
CLCH				*eS*			Sb	18 37 16.1	-1.2
CLCH					AML		AML	18 37 26.8	
	comp=N,275nm,0.7s								
PEL	**Peldehue**	**2.58**	**36**	*eP*			Pn	18 36 46.4	+2.0
PEL				*eS*			Sb	18 37 18.8	-2.0
PEL					AML		AML	18 37 32.3	
	comp=E,221nm,0.6s								
ROCH	**El Roble**	**2.58**	**29**		AML		AML	18 37 26.1	
	comp=N,839nm,0.6s								
FCH	**Farellones**	**2.65**	**45**	*eP*			Pn	18 36 43.3	-2.5
FCH				*eS*			Sn	18 37 17.5	-0.4
FCH					AML		AML	18 37 27.5	
	comp=N,120nm,1.9s								

*SKHL **03** 18:38:25.8±0.4, 44.07N×147.85E, h80km, mb4.3/2*
*JMA **03** 18:38:25.7±0.3, 43.92N×147.75E, h77km, M2.6*

ISC 03 18:38:24.2±3.0, 44.1N±0.1×147.8E±0.2, h92km±18km, n9, σ0.8s 86/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.73**	**254**	*eP*			**Pn**	**18 38 41.8**	**+0.7**
SHO				*eS*			**Sn**	**18 38 53.8**	**0.0**
KUR	**Kuril'sk**	**1.16**	**2**	*eP*			**Pn**	**18 38 46.0**	**+0.2**
KUR					AMB		AMB	18 38 46.4	
	63nm,0.1s								
KUR				*eS*			**Sn**	**18 39 01.5**	**-0.6**
KUR				A			A	18 39 04.1	
	73nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.40**	**269**	*eP*			**Pn**	**18 38 49.1**	**+0.4**
YUK					AMB		AMB	18 38 49.9	
	42nm,0.3s								
YUK				*eS*			**Sn**	**18 39 06.3**	**-0.9**
YUK				A			A	18 39 11.4	
	60nm,0.3s								
YUK				A			A	18 39 11.4	
	104nm,0.3s								
NEM2	**Nemuro 2**	**1.65**	**245**	P			**Pn**	**18 38 52.1**	**+0.2**
NEM2				*eS*			**Sn**	**18 39 12.1**	**-0.9**
JRA	**Rausu**	**1.94**	**267**	P			**Pn**	**18 38 56.4**	**+0.8**
JRA				*eS*			**Sn**	**18 39 19.7**	**+0.2**
JNK	**Nakash**	**2.28**	**259**	P			**Pn**	**18 39 00.8**	**+0.7**
JNK				*eS*			**Sn**	**18 39 27.2**	**-0.5**
JAK	**Akkeshi**	**2.50**	**245**	*eS*			**Sn**	**18 39 31.6**	**-1.2**
JAR	**Ashorobuto**	**3.02**	**256**	*eS*			**Sn**	**18 39 45.4**	**0.0**
JCH	**Churui**	**3.55**	**247**	P			**Pn**	**18 39 18.0**	**+0.9**
JCH				*eS*			**Sn**	**18 39 56.5**	**-1.6**

*ISCJB **03** 18:41:58.2±1.4, 20.4S±0.2×175.3W±0.2, h200km, mb3.7/4, Error ellipse: s-maj=30.3km s-min=22.7km az=30.9*
*IDC **03** 18:42:00.4±4.2, 20.3S×175.25W, h214km±35km, mb3.6/4, mb1 3.9/6, mb1mx3.5/28, mbtmp4.3/6, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=30.1km s-min=14.5km az=98.0*

ISC 03 18:41:59.4±1.0, 20.4S±0.1×175.2W±0.2, h200km, n23, σ1.8s 14/16, mb3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.18**	**261**	*eP*			**P**	**18 45 47.4**	**+0.9**
	29nm,1.1s								
DZM				*eLR*			LR	18 50 12.4	
	123nm,24.1s								
DZM	**Mont Dzumac**	**17.18**	**261**	P			**P**	**18 45 48.0**	**+1.5**
	0.8nm,0.3s,baz=76,slow=20,SNR=12								
DZM					LR		LR	18 50 21.4	
	comp=Z,67nm,19.9s,baz=115,slow=29								
URZ	**Urewera**	**19.04**	**199**	P			**P**	**18 46 06.1**	**-0.3**
	3.7nm,0.3s,baz=287,slow=3.1,SNR=32								
URZ				S			**S**	**18 49 32.9**	**+1.2**
	0.3nm,0.3s,baz=119,slow=4.0,SNR=2.3								
URZ					LR		LR	18 53 06.0	
	comp=Z,61nm,18.3s,baz=286,slow=35								
TBI	**Tubuai**	**24.08**	**102**	*eLR*			LR	18 52 00.7	
	92nm,27.2s								
TBI	**Tubuai**	**24.08**	**102**	*eT*			T	19 10 33.5	
	17nm,0.3s								
PAE	**Paea**	**24.38**	**88**	*eT*			T	19 10 41.4	
	5.5nm,0.2s								
PPT2	**Papeete2**	**24.40**	**88**	*eLR*			LR	18 52 12.1	
	158nm,24.2s								
PPT2	**Papeete2**	**24.40**	**88**	*eT*			T	19 10 43.4	
	4.8nm,0.3s								
TVO	**Taravao**	**24.67**	**88**	*eT*			T	19 11 03.2	
	5.4nm,0.2s								
MEH	**Mehetia**	**25.77**	**89**	*eT*			T	19 12 26.3	
	36nm,0.2s								
CMSA	**Cobar Meteorol**	**36.70**	**244**	P			**P**	**18 48 47.4**	**+0.1**
	baz=38,SNR=6.2								
RKT	**Rikitea**	**37.41**	**102**	*eT*			T	19 27 11.0	
	2.4nm,0.3s								
QLP	**Quilpie**	**37.59**	**253**	P			**P**	**18 48 54.7**	**-0.2**
	baz=39,SNR=3.6								
QLP				S			S	18 55 03.6	+34
	baz=39,SNR=3.4								
ASAR	**Alice Springs**	**47.09**	**256**	P			**P**	**18 50 11.2**	**-0.3**
	2.9nm,0.5s,baz=97,slow=8.4,SNR=162								
ASAR					PcP		**PcP**	**18 51 39.5**	**-0.7**
	0.5nm,0.6s,baz=106,slow=3.5,SNR=3.3								
WRA	**Warramunga Arr**	**47.20**	**261**	P			**P**	**18 50 10.9**	**-1.5**
	1.3nm,0.3s,baz=97,slow=7.4,SNR=117								
KDU	**Kakadu**	**50.55**	**270**	P			**P**	**18 50 36.4**	**-1.6**
	baz=52,SNR=3.8								
WRKA	**Warakurna**	**52.01**	**254**	P			**P**	**18 50 47.9**	**-0.8**
	baz=54,SNR=13								
KNRA	**Kununurra**	**53.27**	**265**	P			**P**	**18 50 57.1**	**-0.9**
	baz=55,SNR=3.9								
SOEI	**Soe**	**59.10**	**271**	P			P	18 51 43.0	+3.6
	baz=61,SNR=3.1								
ILAR	**Eielson Array**	**87.62**	**12**	P			**P**	**18 54 25.6**	**+1.1**
	0.6nm,0.5s,baz=232,slow=6.4,SNR=9.0								
CMAR	**Chiang Mai Arr**	**92.53**	**289**	P			**P**	**18 54 47.6**	**-0.9**
	0.4nm,0.8s,baz=126,slow=2.3,SNR=4.2								
BRTR	**Keskin Array B**	**148.64**	**314**	PKPbc			**PKPdf**	**19 01 20.6**	**+1.4**
	1.2nm,0.8s,baz=115,slow=3.5,SNR=6.7								
GERES	**GERESS Array B**	**150.68**	**348**	PKPab			**PKPab**	**19 01 34.2**	**-1.2**
	0.3nm,0.6s,baz=27,slow=2.4,SNR=3.7								

GUC 03 18:57:06.6±0.5, 30.41S×71.29W, h98km±5km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.80**	**162**	*eP*			Pn	18 57 24.9	0.0
CMCH				*eS*			Sn	18 57 39.5	+0.8
ROCH	**El Roble**	**2.57**	**175**	AML			AML	18 58 20.8	
	comp=N,2μm,0.6s								
PEL	**Peldehue**	**2.78**	**170**	*eP*			Pn	18 57 50.1	+0.7
PEL				*eS*			Sn	18 58 22.7	+0.4
PEL					AML		AML	18 58 27.0	
	comp=N,431nm,2.0s								
FCH	**Farellones**	**3.03**	**164**	*eP*			Pn	18 57 54.2	+1.0
FCH				*eS*			Sn	18 58 30.0	+0.9
FCH					AML		AML	18 58 38.7	
	comp=N,81nm,3.4s								
CLCH	**Cerro Calan**	**3.05**	**168**	*eP*			Pn	18 57 53.6	+0.5
CLCH				*eS*			Sn	18 58 29.4	+0.6
CLCH					AML		AML	18 58 38.0	
	comp=E,231nm,0.6s								

*IDC **03** 18:57:31.3±1.1, 32.84S×178.97W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/32, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=36.0km s-min=29.9km az=68.0*

ISC 03 18:57:37.1±1.4, 33.2S±0.1×178.9W±0.3, h45km, n18, σ1.9s 31/22, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.91**	**207**	PN			**Pn**	**18 58 50.0**	**+1.6**
MXZ				SN			**Sn**	**18 59 43.0**	**-0.9**
HAZ	**Te Kaha**	**5.29**	**210**	PN			**Pn**	**18 58 55.2**	**+1.7**
PUZ	**Puketiti**	**5.38**	**204**	PN			**Pn**	**18 58 55.0**	**+0.1**
PUZ				SN			**Sn**	**18 59 52.9**	**-2.7**
CNGZ	**Carnagh Statio**	**5.77**	**203**	PN			**Pn**	**18 59 01.0**	**+0.8**
MWZ	**Matawai**	**5.89**	**208**	PN			**Pn**	**18 59 02.2**	**+0.4**
URZ	**Urewera**	**6.00**	**211**	Pn			**Pn**	**18 59 04.7**	**+1.3**
	1.5nm,0.3s,baz=69,slow=13,SNR=13								
URZ					Sn		**Sn**	**19 00 11.2**	**+0.6**
	1.9nm,0.3s,baz=62,slow=21,SNR=7.4								
URZ	**Urewera**	**6.00**	**211**	PN			**Pn**	**18 59 04.6**	**+1.3**
URZ				SN			**Sn**	**19 00 10.3**	**-0.3**
RIGZ	**Rimuhau**	**6.12**	**205**	PN			**Pn**	**18 59 05.1**	**0.0**
SNGZ	**Shannon Statio**	**6.34**	**207**	PN			**Pn**	**18 59 09.6**	**+1.5**
KNZ	**Kokohu**	**6.43**	**204**	PN			**Pn**	**18 59 10.2**	**+0.9**
BKZ	**Black Stump Fm**	**7.02**	**211**	SN			**Sn**	**19 00 34.3**	**-1.6**
ASAR	**Alice Springs**	**42.26**	**270**	P			**P**	**19 05 26.6**	**+0.3**
	1.1nm,0.6s,baz=109,slow=7.4,SNR=34								
ASAR					PcP		**PcP**	**19 07 19.2**	**-0.4**
	0.4nm,1.1s,baz=115,slow=4.2,SNR=2.7								
WRA	**Warramunga Arr**	**43.50**	**276**	P			**P**	**19 05 36.1**	**-0.2**
	0.9nm,0.4s,baz=116,slow=8.0,SNR=42								
QSPA	**South Pole Qui**	**56.92**	**180**	P			P	19 07 20.9	+3.4
	1.0nm,0.7s,baz=52,slow=19,SNR=4.8								
FINES	**FINESS Array B**	**147.46**	**338**	PKPbc			**PKPab**	**19 17 15.3**	**-2.1**
	1.6nm,0.6s,baz=63,slow=2.7,SNR=19								
NOA	**NORSAR Array B**	**151.37**	**350**	PKPbc			**PKPbc**	**19 17 25.5**	**+0.3**
	0.6nm,0.6s,baz=14,slow=4.1,SNR=4.3								
BRTR	**Keskin Array B**	**153.11**	**293**	PKPbc			**PKPbc**	**19 17 29.4**	**-0.5**
	0.2nm,0.5s,baz=122,slow=4.7,SNR=2.5								
TORD	**Torodi Ar. Bea**	**160.04**	**182**	PKPab			**PKPab**	**19 18 13.6**	**+2.0**
	0.3nm,0.7s,baz=187,slow=3.1,SNR=4.8								

*NEIC **03** 19:10:20.1, 43.25S×172.76E, h33km, ML3.8(WEL), After WEL.*
NEIC Felt in the Christchurch area.

WEL 03 19:10:20.0±0.2, 43.24S×172.75E, h33km, ML3.8/32, 6C-4D, Error ellipse: s-maj=2.5km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.35**	**195**	P*			Pb	19 10 28.2	-0.2
CRLZ					AML		AML	19 10 34.2	
CRLZ					AML		AML	19 10 34.9	
CRLZ	**Canterbury Las**	**0.35**	**195**	P*			Pb	19 10 28.2	-0.2
MQZ	**McQueen's Vall**	**0.47**	**188**	⇑PN			Pb	19 10 29.5	-0.7
MQZ					SN		Sb	19 10 36.1	-1.0
MQZ	**McQueen's Vall**	**0.47**	**188**	Pn			Pb	19 10 29.5	-0.7
OXZ	**Oxford**	**0.52**	**260**	PN			Pb	19 10 30.7	-0.3
OXZ				SN			Sb	19 10 38.1	-0.5
LTZ	**Lake Taylor**	**0.58**	**322**	PN			Pb	19 10 31.3	-0.5
LTZ				SN			Sb	19 10 39.3	-0.7
LTZ					AML		AML	19 10 39.7	
LTZ	**Lake Taylor**	**0.58**	**322**	Pn			Pb	19 10 31.3	-0.5
KHZ	**Kahutara**	**1.01**	**36**	⇑PN			Pn	19 10 37.5	-0.2
KHZ					AML		AML	19 10 50.4	
KHZ					AML		AML	19 10 50.5	
KHZ	**Kahutara**	**1.01**	**36**	Pn			Pn	19 10 37.5	-0.2
RPZ	**Rata Peaks**	**1.32**	**248**	⇑PN			Pn	19 10 42.0	-0.2
RPZ					AML		AML	19 10 58.6	
RPZ					AML		AML	19 10 58.7	
RPZ	**Rata Peaks**	**1.32**	**248**	Pn			Pn	19 10 42.0	-0.2
THZ	**Tophouse**	**1.48**	**5**	⇓PN			Pn	19 10 44.1	-0.3
THZ					AML		AML	19 11 04.2	
THZ					AML		AML	19 11 05.6	
THZ	**Tophouse**	**1.48**	**5**	Pn			Pn	19 10 44.1	-0.3
WVZ	**Waitaha Valley**	**1.48**	**276**	PN			Pn	19 10 44.8	+0.5
WVZ					AML		AML	19 11 05.9	
WVZ	**Waitaha Valley**	**1.48**	**276**	Pn			Pn	19 10 44.8	+0.5
DSZ	**Denniston Nort**	**1.65**	**335**	⇑PN			Pn	19 10 46.8	+0.1
DSZ	**Denniston Nort**	**1.65**	**335**	Pn			Pn	19 10 46.8	+0.1
BSWZ	**Blackbirch Sta**	**1.74**	**29**	⇑PN			Pn	19 10 47.7	-0.1
BSWZ					SN		Sn	19 11 09.1	+0.2
BSWZ					AML		AML	19 11 11.2	
BSWZ	**Blackbirch Sta**	**1.74**	**29**	Pn			Pn	19 10 47.8	-0.1
CMWZ	**Cape Campbell**	**1.84**	**37**	PN			Pn	19 10 49.2	-0.1
CMWZ					AML		AML	19 11 15.5	
CMWZ					AML		AML	19 11 34.8	
CMWZ	**Cape Campbell**	**1.84**	**37**	Pn			Pn	19 10 49.2	-0.1
TUWZ	**Tuamarina**	**2.01**	**27**	PN			Pn	19 10 51.1	-0.5
TUWZ					AML		AML	19 11 18.3	
TUWZ					AML		AML	19 11 18.3	
TUWZ	**Tuamarina**	**2.01**	**27**	Pn			Pn	19 10 51.1	-0.5
NNZ	**Nelson**	**2.07**	**13**	⇓PN			Pn	19 10 52.6	+0.2
NNZ					AML		AML	19 11 17.8	
NNZ					AML		AML	19 11 21.9	
NNZ	**Nelson**	**2.07**	**13**	Pn			Pn	19 10 52.6	+0.2
LBZ	**Lake Benmore**	**2.18**	**237**	PN			Pn	19 10 54.1	+

PRWZ	**Pori Road**	**3.60**	**43**	PN	Pn	19 11 12.1	-1.4
POWZ	**Post Office Ro**	**3.63**	**39**	PN	Pn	19 11 12.6	-1.3
POWZ	**Post Office Ro**	**3.63**	**39**	Pn	Pn	19 11 12.6	-1.3
BFZ	**Birch Farm**	**3.65**	**47**	PN	Pn	19 11 12.6	-1.6
BFZ	**Birch Farm**	**3.65**	**47**	Pn	Pn	19 11 12.6	-1.6
MSZ	**Milford Sound**	**3.76**	**246**	AML	AML	19 12 04.2	
MSZ				AML	AML	19 12 32.2	
WAZ	**Wanganui**	**3.87**	**27**	PN	Pn	19 11 17.7	+0.6
WAZ	**Wanganui**	**3.87**	**27**	Pn	Pn	19 11 17.7	+0.6
DVHZ	**Dannevirke**	**3.90**	**42**	PN	Pn	19 11 15.2	-2.4
DVHZ	**Dannevirke**	**3.90**	**42**	Pn	Pn	19 11 15.2	-2.4
MLZ	**Mavora Lakes**	**3.90**	**236**	PN	Pn	19 11 17.5	-0.1
MLZ	**Mavora Lakes**	**3.90**	**236**	Pn	Pn	19 11 17.5	-0.1
NMEZ	**Namu Road**	**3.92**	**13**	PN	Pn	19 11 19.1	+1.4
TSZ	**Takapari Road**	**3.99**	**38**	PN	Pn	19 11 17.0	-1.8
TSZ	**Takapari Road**	**3.99**	**38**	Pn	Pn	19 11 17.0	-1.8
PREZ	**Palmer Road**	**4.04**	**16**	PN	Pn	19 11 20.8	+1.3
NWEZ	**Newall Road**	**4.05**	**12**	PN	Pn	19 11 20.9	+1.2
NWEZ	**Newall Road**	**4.05**	**12**	Pn	Pn	19 11 20.9	+1.2
KHEZ	**Kahui Hut**	**4.06**	**14**	PN	Pn	19 11 21.0	+1.2
NEZ	**North Egmont**	**4.09**	**15**	PN	Pn	19 11 21.4	+1.1
NEZ	**North Egmont**	**4.09**	**15**	Pn	Pn	19 11 21.8	+1.5
PKE	**Pukeiti**	**4.15**	**13**	PN	Pn	19 11 22.0	+1.0
PKE				AML	AML	19 12 11.1	
PKE	**Pukeiti**	**4.15**	**13**	Pn	Pn	19 11 22.0	+1.0
PRHZ	**Porangahau**	**4.16**	**46**	PN	Pn	19 11 19.1	-2.0
PRHZ	**Porangahau**	**4.16**	**46**	Pn	Pn	19 11 19.1	-2.0
SYZ	**Scrubby Hill**	**4.18**	**217**	PN	Pn	19 11 21.5	+0.2
SYZ	**Scrubby Hill**	**4.18**	**217**	Pn	Pn	19 11 21.5	+0.2
DREZ	**Durham Road**	**4.19**	**16**	PN	Pn	19 11 22.9	+1.3
DREZ	**Durham Road**	**4.19**	**16**	Pn	Pn	19 11 22.9	+1.3
PNHZ	**Pukenui**	**4.21**	**36**	PN	Pn	19 11 19.8	-2.1
PNHZ	**Pukenui**	**4.21**	**39**	Pn	Pn	19 11 19.8	-2.1
MHEZ	**Mangahewa**	**4.33**	**16**	⇑PN	Pn	19 11 24.8	+1.4
MHEZ	**Mangahewa**	**4.33**	**16**	Pn	Pn	19 11 24.8	+1.4
WHZ	**Wether Hill Ro**	**4.34**	**231**	PN	Pn	19 11 22.1	-1.5
WHZ	**Wether Hill Ro**	**4.34**	**231**	Pn	Pn	19 11 22.1	-1.5
MTVZ	**Mangateitei**	**4.36**	**29**	PN	Pn	19 11 24.3	+0.3
MTVZ				AML	AML	19 12 18.4	
MTVZ				AML	AML	19 12 27.7	
MTVZ	**Mangateitei**	**4.36**	**29**	Pn	Pn	19 11 24.3	+0.3
VRZ	**Vera Road**	**4.38**	**21**	PN	Pn	19 11 25.1	+0.9
VRZ				AML	AML	19 12 19.5	
VRZ				AML	AML	19 12 21.1	
VRZ	**Vera Road**	**4.38**	**21**	Pn	Pn	19 11 25.1	+0.9
MOVZ	**Moawhango**	**4.45**	**32**	PN	Pn	19 11 23.9	-1.3
MOVZ	**Moawhango**	**4.45**	**32**	Pn	Pn	19 11 23.9	-1.3
PXZ	**Pawanui**	**4.45**	**45**	PN	Pn	19 11 22.1	-3.0
PXZ	**Pawanui**	**4.45**	**45**	Pn	Pn	19 11 22.1	-3.0
WNVZ	**Wahianoa**	**4.46**	**30**	PN	Pn	19 11 25.0	-0.5
WNVZ				AML	AML	19 12 18.8	
WNVZ				AML	AML	19 12 25.0	
WNVZ	**Wahianoa**	**4.46**	**30**	Pn	Pn	19 11 25.0	-0.5
WHVZ	**Whangaehu Hut**	**4.50**	**29**	PN	Pn	19 11 25.8	-0.3
BHHZ	**Black Hill Sta**	**4.50**	**35**	PN	Pn	19 11 24.1	-1.8
BHHZ	**Black Hill Sta**	**4.50**	**35**	Pn	Pn	19 11 24.1	-1.8
FWVZ	**Far West T-bar**	**4.51**	**29**	PN	Pn	19 11 25.5	-0.7
FWVZ				AML	AML	19 12 18.0	
FWVZ				AML	AML	19 12 18.8	
FWVZ	**Far West T-bar**	**4.51**	**29**	Pn	Pn	19 11 25.5	-0.7
KRHZ	**Kereru**	**4.51**	**38**	PN	Pn	19 11 23.6	-2.4
WPVZ	**Whakapapa**	**4.55**	**29**	PN	Pn	19 11 26.5	-0.1
WPVZ				AML	AML	19 12 19.7	
WPVZ	**Whakapapa**	**4.55**	**29**	Pn	Pn	19 11 26.5	-0.1
DCZ	**Deep Cove**	**4.59**	**239**	PN	Pn	19 11 26.7	-0.3
NGZ	**Ngauruhoe**	**4.59**	**29**	PN	Pn	19 11 27.2	-0.1
NGZ	**Ngauruhoe**	**4.59**	**29**	Pn	Pn	19 11 27.3	0.0
OTVZ	**Oturere**	**4.63**	**29**	PN	Pn	19 11 27.4	-0.4
OTVZ				AML	AML	19 12 21.0	
OTVZ	**Oturere**	**4.63**	**29**	Pn	Pn	19 11 27.4	-0.4
KAHZ	**Kahuranaki**	**4.63**	**43**	PN	Pn	19 11 25.6	-2.1
KAHZ	**Kahuranaki**	**4.63**	**43**	Pn	Pn	19 11 25.6	-2.1
TWVZ	**Taurewa**	**4.63**	**27**	PN	Pn	19 11 27.4	-0.4
TWVZ	**Taurewa**	**4.63**	**27**	Pn	Pn	19 11 27.5	-0.3
WTVZ	**West Tongariro**	**4.64**	**28**	PN	Pn	19 11 27.9	0.0
WTVZ				AML	AML	19 12 23.6	
WTVZ	**West Tongariro**	**4.64**	**28**	Pn	Pn	19 11 28.0	+0.1
KRVZ	**Karewarewa**	**4.68**	**29**	PN	Pn	19 11 27.7	-0.8
KATZ	**Kakaramea**	**4.81**	**29**	PN	Pn	19 11 30.8	+0.6
KATZ	**Kakaramea**	**4.81**	**29**	Pn	Pn	19 11 30.8	+0.6
MCHZ	**McNeill Hill**	**4.82**	**39**	PN	Pn	19 11 27.7	-2.6
MCHZ	**McNeill Hill**	**4.82**	**39**	Pn	Pn	19 11 28.1	-2.2
APZ	**The Paps**	**4.93**	**222**	PN	Pn	19 11 31.4	-0.3
APZ	**The Paps**	**4.93**	**222**	Pn	Pn	19 11 31.4	-0.3
BKZ	**Black Stump Fm**	**4.95**	**36**	PN	Pn	19 11 29.7	-2.4
BKZ	**Black Stump Fm**	**4.95**	**36**	Pn	Pn	19 11 29.7	-2.4
HIZ	**Hauiti**	**4.98**	**19**	PN	Pn	19 11 32.3	-0.2
HIZ	**Hauiti**	**4.98**	**19**	Pn	Pn	19 11 32.4	-0.1
TLZ	**Tolley Road**	**5.34**	**24**	PN	Pn	19 11 37.2	-0.3
WHHZ	**Waihua**	**5.36**	**41**	PN	Pn	19 11 36.1	-1.6
KNZ	**Kokohu**	**5.62**	**43**	PN	Pn	19 11 39.2	-2.0
TOZ	**Tahuroa Road**	**5.89**	**22**	PN	Pn	19 11 44.5	-0.4
TOZ	**Tahuroa Road**	**5.89**	**22**	Pn	Pn	19 11 44.5	-0.4
RIGZ	**Rimuhau**	**5.91**	**42**	PN	Pn	19 11 40.8	-4.4
URZ	**Urewera**	**5.98**	**35**	PN	Pn	19 11 42.2	-3.9
URZ	**Urewera**	**5.98**	**35**	Pn	Pn	19 11 42.2	-3.9
MWZ	**Matawai**	**6.10**	**38**	PN	Pn	19 11 43.4	-4.4
MWZ	**Matawai**	**6.10**	**38**	Pn	Pn	19 11 43.9	-3.9
MKAZ	**Moumakai**	**6.40**	**18**	PN	Pn	19 11 51.5	-0.4
MKAZ	**Moumakai**	**6.40**	**18**	Pn	Pn	19 11 51.5	-0.4
HAZ	**Te Kaha**	**6.69**	**37**	PN	Pn	19 11 53.3	-2.5
KUZ	**Kuaotunu**	**6.88**	**20**	PN	Pn	19 11 56.8	-1.6
KUZ	**Kuaotunu**	**6.88**	**20**	Pn	Pn	19 11 56.8	-1.6

PGC 03 19:21:42.2±2.7, 50°45N×130°27W, h10km, MLSn2.9/6, Mw3.6/6, 203km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.38**	**81**	Pn	Pn	19 22 05.0	-2.5
HOLB				Sn	Sb	19 22 21.8	-4.3
PHC	**Port Hardy**	**1.82**	**81**	Pn	Pn	19 22 11.7	-1.9
PHC				Sn	Sn	19 22 32.1	-4.6
MAYB	**Maynard**	**1.98**	**90**	Pn	Pn	19 22 13.8	-2.2
MAYB				Sn	Sn	19 22 37.5	-3.4
TLCB	**Telegraph Cove**	**2.19**	**86**	Pn	Pn	19 22 17.1	-1.5
TLCB				Sn	Sn	19 22 42.7	-3.2
BBB	**Bella Bella**	**2.20**	**37**	Sn	Sn	19 22 42.4	-3.6
WOSB	**Woss**	**2.39**	**96**	Pn	Pn	19 22 20.0	-1.5
NCRB	**Newcastle Ridg**	**2.69**	**89**	Pn	Pn	19 22 24.0	-1.7

*ISCJB **03** 19:24:56.6±0.9, 20.5°S±0.2°×177.9°W±0.2, h534km, mb3.4/5, Error ellipse: s-maj=29.5km s-min=17.0km az=146.4*
*IDC **03** 19:24:56.4±4.7, 20.48°S×177.77°W, h523km±53km, mb3.0/5, mb1 3.4/5, mb1mx3.0/18, mbtmp3.8/5, Error ellipse: s-maj=40.4km s-min=24.1km az=167.0*

ISC 03 19:24:57.3±0.9, 20°5S±0.2°×177.9°W±0.2, h534km, n10, σ0°89/10, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.71**	**261**	P	**P**	**19 28 03.9**	**-0.3**
	0.2nm,0.3s,baz=94,slow=18,SNR=4.0						
URZ	**Urewera**	**18.25**	**193**	P	**P**	**19 28 37.2**	**-0.8**
	0.5nm,0.8s,baz=18,slow=20,SNR=3.9						
ASAR	**Alice Springs**	**44.65**	**257**	P	**P**	**19 32 23.5**	**+0.8**
	2.4nm,0.8s,baz=95,slow=7.7,SNR=34						
ASAR				PcP	**PcP**	**19 33 54.8**	**+0.8**
	0.4nm,0.9s,baz=89,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**44.73**	**262**	P	**P**	**19 32 23.6**	**+0.3**
	0.8nm,0.6s,baz=97,slow=8.5,SNR=21						
NVAR	**Mina Array Bea**	**80.92**	**43**	P	**P**	**19 36 16.8**	**+0.5**
	0.8nm,0.9s,baz=237,slow=8.1,SNR=4.3						
TXAR	**Lajitas Array**	**86.94**	**57**	P	**P**	**19 36 46.8**	**+0.8**
	0.6nm,0.8s,baz=212,slow=8.3,SNR=5.7						
ILAR	**Eielson Array**	**88.27**	**13**	P	**P**	**19 36 49.7**	**-1.6**
	0.3nm,0.7s,baz=229,slow=5.2,SNR=4.5						
AKASG	**Malin Array Be**	**143.06**	**331**	PKP	PKPab	19 43 27.8	0.0
	0.9nm,0.5s,baz=39,slow=4.1,SNR=8.0						
BRTR	**Keskin Array B**	**146.92**	**312**	PKPbc	**PKPbc**	**19 43 40.3**	**0.0**
	0.4nm,0.4s,baz=104,slow=4.2,SNR=4.6						
GERES	**GERESS Array B**	**150.22**	**345**	PKPbc	**PKPbc**	**19 43 47.9**	**-0.2**
	0.1nm,0.5s,baz=18,slow=3.4,SNR=4.7						

*CSEM **03** 19:54:49.3, 34.05°N×25.27°E, h15km, MD3.5*
*ATH **03** 19:54:49.3, 34.05°N×25.27°E, h15km±4km, MD3.5/6*

*ISCJB **03** 19:54:50.5±0.9, 34.13°N±0.06°×25.34°E±0.07, h10km, mb3.5/4, MS3.0/1, Error ellipse: s-maj=10.2km s-min=6.9km az=34.3*
*IDC **03** 19:54:51.4±1.3, 34.27°N×25.31°E, h0km, mb3.6/4, mb1 3.4/8, mb1mx3.3/48, mbtmp3.3/8, ML3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.1/37, Error ellipse: s-maj=22.7km s-min=20.2km az=53.0*

ISC 03 19:54:53.0±1.1, 34.25N±0.08×25.28E±0.05, h10km, n22, σ0°90/27, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.86**	**333**	*e*Pn	**Pg**	**19 55 09.4**	**-0.1**
SIVA				*e*Sn	**Sn**	**19 55 23.3**	**-0.4**
SIVA	**Sivas**	**0.86**	**333**	*e*Pn	**Pg**	**19 55 09.4**	**-0.1**
SIVA				*e*Sn	**Sn**	**19 55 23.3**	**-0.4**
LAST	**Lasithi**	**0.92**	**10**	*e*PN	**Pg**	**19 55 10.0**	**-0.8**
LAST	**Lasithi**	**0.92**	**10**	*e*Pn	**Pg**	**19 55 10.0**	**-0.8**
NPS	**Neapolis**	**1.05**	**15**	*e*PN	**Pg**	**19 55 12.0**	**-1.1**
NPS	**Neapolis**	**1.05**	**15**	*e*Pn	**Pg**	**19 55 12.0**	**-1.1**
IDI	**Anoyia**	**1.08**	**343**	Pn	**Pg**	**19 55 13.1**	**-0.7**
	4.2nm,0.3s,baz=168,slow=19,SNR=42						
IDI				Sn	**Sn**	**19 55 29.5**	**+0.1**
	38nm,0.3s,baz=248,slow=18,SNR=31						
ZKR	**Zakros**	**1.16**	**41**	*e*PN	**Pb**	**19 55 14.5**	**-0.5**
ZKR				*e*SN	**Sn**	**19 55 32.4**	**+1.3**
ZKR	**Zakros**	**1.16**	**41**	*e*Pn	**Pb**	**19 55 14.5**	**-0.5**
ZKR				*e*Sn	**Sn**	**19 55 32.4**	**+1.3**
VAM	**Vamos**	**1.46**	**323**	*e*PB	**Pn**	**19 55 18.0**	**-1.4**
VAM				*e*SN	**Sg**	**19 55 41.6**	**+1.7**
VAM	**Vamos**	**1.46**	**323**	*e*Pb	**Pn**	**19 55 18.0**	**-1.4**
VAM				*e*Sn	**Sg**	**19 55 41.6**	**+1.7**
KARN	**Karanos**	**1.61**	**316**	*e*PN	**Pn**	**19 55 22.0**	**+0.6**
KARN	**Karanos**	**1.61**	**316**	*e*Pn	**Pn**	**19 55 22.0**	**+0.6**
MMAI	**Mount Meron Ar**	**8.53**	**95**	Pn	Pn	19 56 54.1	-2.4
	0.8nm,0.3s,baz=277,slow=10.0,SNR=6.7						
BRTR	**Keskin Array B**	**8.63**	**48**	Pn	**Pn**	**19 56 58.9**	**+0.8**
	0.1nm,0.3s,baz=221,slow=15,SNR=3.1						
AKASG	**Malin Array Be**	**16.69**	**9**	Pn	**Pn**	**19 58 46.7**	**-0.1**
	0.4nm,0.3s,baz=201,slow=10,SNR=9.2						
GERES	**GERESS Array B**	**16.93**	**333**	Pn	**P**	**19 58 52.1**	**+0.2**
	0.1nm,0.3s,baz=152,slow=12,SNR=4.4						
TORD	**Torodi Ar. Bea**	**29.99**	**231**	P	**P**	**20 01 02.0**	**+0.2**
	0.3nm,0.6s,baz=36,slow=7.8,SNR=6.3						
BVAR	**Borovoye Array**	**36.91**	**45**	LR	LR	20 20 53.9	
	comp=Z,22nm,18.8s,baz=343,slow=42						
MKAR	**Makanchi Array**	**44.20**	**56**	P	**P**	**20 03 02.4**	**+0.3**
	1.1nm,0.7s,baz=278,slow=6.0,SNR=16						
ZALV	**Zalesovo Beam**	**45.56**	**46**	P	**P**	**20 03 12.6**	**-0.2**
	0.5nm,0.6s,baz=286,slow=7.3,SNR=2.9						
SONM	**Songino Array**	**59.99**	**50**	P	**P**	**20 04 59.4**	**-0.4**
	0.3nm,0.6s,baz=280,slow=7.9,SNR=4.6						

IDC 03 19:59:12.4±2.0, 6.76S×130.53E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.3/28, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=53.9km s-min=30.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.61**	**243**	Pn	Pn	20 01 05.9	+1.2
	1.2nm,0.3s,baz=63,slow=2.3,SNR=4.5						
BATI				Sn	Sn	20 02 29.0	-2.8
	1.1nm,0.3s,baz=120,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**13.62**	**165**	Pn	Pn	20 02 26.6	-0.4
	0.1nm,0.3s,baz=345,slow=13,SNR=13						
WRA				Sn	Sn	20 04 46.2	-13
	0.2nm,0.3s,baz=348,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**17.12**	**169**	P	Pn	20 03 13.0	-0.3
	0.1nm,0.3s,baz=344,slow=8.4,SNR=7.8						
ASAR				S	Sn	20 06 09.8	-15
	0.0nm,0.3s,baz=347,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**68.32**	**327**	P	P	20 10 15.4	-0.1
	0.2nm,0.4s,baz=121,slow=7.3,SNR=8.9						

*ISCJB **03** 19:59:29.9±0.7, 39.29N±0.02×24.75E±0.02, h11km±5km, Error ellipse: s-maj=3.6km s-min=2.5km az=167.9*
*CSEM **03** 19:59:29.6±0.2, 39.28N×24.73E, h2km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.2km az=164.0*
*ATH **03** 19:59:29.3, 39.30N×24.76E, h25km±1km, MD3.1/11*
*ISK **03** 19:59:29.7, 39.29N×24.70E, h7km, MD3.5*
*THE **03** 19:59:29.7, 39.29N×24.77E, h14km±2km, ML2.4/13, Error ellipse: s-maj=2.1km s-min=0.9km az=332.0*

ISC 03 19:59:29.7±1.0, 39.30N±0.02×24.76E±0.01, h11km±9km, n88, σ0°99/125, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.69**	**29**	P	**Pg**	**19 59 43.0**	**0.0**
LIA				S	**Sg**	**19 59 51.7**	**-0.3**
LIA	**Limnos Island**	**0.69**	**29**	*e*PN	**Pg**	**19 59 43.0**	**0.0**
LIA				*e*SN	**Sg**	**19 59 52.2**	**+0.2**
LIA	**Limnos Island**	**0.69**	**29**	P	**Pg**	**19 59 43.0**	**0.0**
LIA				S	**Sg**	**19 59 51.7**	**-0.3**
LIA				*e*Sn	**Sg**	**19 59 52.2**	**+0.2**
AOS	**Alonnisos**	**0.69**	**260**	P	**Pg**	**19 59 43.3**	**+0.2**
AOS				S	**Sb**	**19 59 53.3**	**0.0**
AOS	**Alonnisos**	**0.69**	**260**	*e*PG	**Pg**	**19 59 43.0**	**-0.1**
AOS				*e*SG	**Sg**	**19 59 52.7**	**+0.5**
AOS	**Alonnisos**	**0.69**	**260**	*e*PN	**Pg**	**19 59 43.3**	**+0.2**
AOS	**Alonnisos**	**0.69**	**260**	*e*Pg	**Pg**	**19 59 43.0**	**-0.1**
AOS	**Alonnisos**	**0.69**	**260**	P	**Pg**	**19 59 43.3**	**+0.2**
AOS				*e*Sg	**Sg**	**19 59 52.7**	**+0.5**
AOS				S	**Sb**	**19 59 53.3**	**0.0**
SIGR	**SIGRI**	**0.86**	**95**	P	**Pg**	**19 59 45.8**	**-0.4**
SIGR				S	**Sg**	**19 59 56.7**	**-0.7**
SIGR	**SIGRI**	**0.86**	**95**	*e*PG	**Pn**	**19 59 47.0**	**-0.6**
SIGR	**SIGRI**	**0.86**	**95**	*e*PN	**Pg**	**19 59 45.9**	**-0.3**
SIGR				*e*SN	**Sb**	**19 59 58.4**	**+0.4**
SIGR	**SIGRI**	**0.86**	**95**	*e*Pn	**Pg**	**19 59 45.9**	**-0.3**
SIGR	**SIGRI**	**0.86**	**95**	*e*Pg	**Pn**	**19 59 47.0**	**-0.6**
SIGR				S	**Sg**	**19 59 56.7**	**-0.7**
SIGR				*e*Sn	**Sb**	**19 59 58.4**	**+0.4**
SKIA	**Skiathos**	**1.01**	**263**	P	**Pb**	**19 59 49.0**	**-0.2**
SKIA				S	**Sg**	**20 00 01.9**	**-0.4**
SKIA	**Skiathos**	**1.01**	**263**	*e*PN	**Pb**	**19 59 49.0**	**-0.2**
SKIA	**Skiathos**	**1.01**	**263**	P	**Pb**	**19 59 49.0**	**-0.2**
SKIA				S	**Sg**	**20 00 01.9**	**-0.4**
PAIG	**Paliouri**	**1.04**	**307**	P	**Pb**	**19 59 49.8**	**+0.1**
PAIG				S	**Sn**	**20 00 04.5**	**-0.3**
PAIG	**Paliouri**	**1.04**	**307**	*e*PN	**Pb**	**19 59 49.4**	**-0.3**
PAIG				*e*SN	**Sn**	**20 00 04.5**	**-0.3**
PAIG	**Paliouri**	**1.04**	**307**	*e*Pn	**Pb**	**19 59 49.4**	**-0.3**
PAIG	**Paliouri**	**1.04**	**307**	P	**Pb**	**19 59 49.8**	**+0.1**
PAIG				S	**Sn**	**20 00 04.5**	**-0.3**
MRKA	**Markates**	**1.08**	**238**	P	**Pn**	**19 59 50.8**	**0.0**
MRKA				S	**Sg**	**20 00 04.7**	**0.0**
MRKA	**Markates**	**1.08**	**238**	*e*PN	**Pb**	**19 59 50.0**	**-0.4**
MRKA				*e*SN	**Sn**	**20 00 05.3**	**-0.5**
MRKA	**Markates**	**1.08**	**238**	*e*Pn	**Pb**	**19 59 50.0**	**-0.4**
MRKA	**Markates**	**1.08**	**238**	P	**Pn**	**19 59 50.8**	**0.0**
MRKA				S	**Sg**	**20 00 04.7**	**0.0**
BOZC	**Bozcaada**	**1.14**	**61**	*i* P	**Pb**	**19 59 51.0**	**-0.3**
PRK	**Paraskevi**	**1.18**	**92**	P	**Pb**	**19 59 51.5**	**-0.4**
PRK				S	**Sb**	**20 00 06.2**	**-1.0**
PRK	**Paraskevi**	**1.18**	**92**	*e*PN	**Pb**	**19 59 51.6**	**-0.4**
PRK				*e*SN	**Sn**	**20 00 08.2**	**+0.2**
PRK	**Paraskevi**	**1.18**	**92**	P	**Pb**	**19 59 51.5**	**-0.4**
PRK				S	**Sb**	**20 00 06.2**	**-1.0**
OUR	**Ouranopolis**	**1.20**	**330**	P	**Pn**	**19 59 51.7**	**-0.6**
OUR				S	**Sb**	**20 00 07.3**	**-0.5**
OUR	**Ouranopolis**	**1.20**	**330**	*e*PN	**Pb**	**19 59 52.5**	**+0.2**
OUR	**Ouranopolis**	**1.20**	**330**	*e*Pn	**Pn**	**19 59 51.8**	**-0.6**
OUR	**Ouranopolis**	**1.20**	**330**	P	**Pn**	**19 59 51.7**	**-0.6**
OUR	**Ouranopolis**	**1.20**	**330**	*e*Pn	**Pb**	**19 59 52.6**	**+0.2**
OUR				S	**Sb**	**20 00 07.3**	**-0.5**
XOR	**Xorichti**	**1.22**	**274**	P	**Pb**	**19 59 52.8**	**+0.1**
XOR				S	**Sb**	**20 00 08.6**	**+0.2**
XOR	**Xorichti**	**1.22**	**274**	*e*PN	**Pb**	**19 59 52.7**	**+0.1**
XOR	**Xorichti**	**1.22**	**274**	P	**Pb**	**19 59 52.8**	**+0.1**
XOR				S	**Sb**	**20 00 08.6**	**+0.2**
MRMA	**Marmari**	**1.27**	**194**	P	**Pn**	**19 59 52.5**	**-0.8**
MRMA				S	**Sb**	**20 00 08.9**	**-1.0**
MRMA	**Marmari**	**1.27**	**194**	P	**Pn**	**19 59 52.5**	**-0.8**
MRMA				S	**Sb**	**20 00 08.9**	**-1.0**
SMIA	**Simia**	**1.27**	**251**	*e*PN	**Pg**	**19 59 53.9**	**-0.3**
SMIA				*e*SN	**Sg**	**20 00 11.5**	**+0.8**
SMIA	**Simia**	**1.27**	**251**	*e*Pn	**Pg**	**19 59 53.9**	**-0.3**
SMTH	**Samothraki Isl**	**1.32**	**27**	P	**Pn**	**19 59 52.5**	**-1.5**
SMTH				S	**Sn**	**20 00 11.6**	**+0.1**
SMTH	**Samothraki Isl**	**1.32**	**27**	*e*PB	**Pn**	**19 59 52.7**	**-1.3**
SMTH				*e*SN	**Sg**	**20 00 12.0**	**-0.1**
SMTH	**Samothraki Isl**	**1.32**	**27**	P	**Pn**	**19 59 52.5**	**-1.5**
SMTH				S	**Sn**	**20 00 11.6**	**+0.1**
CHOS	**Chios island**	**1.36**	**131**	P	**Pn**	**19 59 54.1**	**-0.5**
CHOS				S	**Sb**	**20 00 11.4**	**-1.2**
CHOS	**Chios island**	**1.36**	**131**	*e*PN	**Pg**	**19 59 56.8**	**+1.0**
CHOS				*e*SN	**Sg**	**20 00 15.0**	**+1.5**
CHOS	**Chios island**	**1.36**	**131**	*e*PN	**Pn**	**19 59 54.3**	**-0.3**
CHOS	**Chios island**	**1.36**	**131**	P	**Pn**	**19 59 54.1**	**-0.5**
CHOS	**Chios island**	**1.36**	**131**	*e*Pn	**Pg**	**19 59 56.8**	**+1.0**
CHOS				S	**Sb**	**20 00 11.4**	**-1.2**
CHOS				*e*Sn	**Sg**	**20 00 15.0**	**+1.5**
PTL	**Penteli**	**1.43**	**210**	*e*PB	Pn	19 59 54.6	-0.9
PTL	**Penteli**	**1.43**	**210**	*e*Pb	Pn	19 59 54.6	-0.9
GELI	**Tayfur-Gelibol**	**1.72**	**50**	*e*PN	**Pb**	**20 00 01.1**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.72**	**50**	*e*Pn	**Pb**	**20 00 01.1**	**-0.2**
ENEZ	**Enez**	**1.79**	**36**	*e*PN	**Pb**	**20 00 02.8**	**+0.3**
ENEZ	**Enez**	**1.79**	**36**	*e*Pn	**Pb**	**20 00 02.8**	**+0.3**
HORT	**Hortiatis**	**1.82**	**316**	*e*PN	**Pb**	**20 00 02.1**	**-0.9**
HORT	**Hortiatis**	**1.82**	**316**	*e*Pn	**Pb**	**20 00 02.2**	**-0.9**
ALN	**Alexandroupoli**	**1.88**	**31**	P	**Pn**	**20 00 00.8**	**-0.9**
ALN				S	**Sn**	**20 00 25.2**	**-0.2**
ALN	**Alexandroupoli**	**1.88**	**31**	*e*PN	**Pb**	**20 00 03.7**	**-0.3**
ALN	**Alexandroupoli**	**1.88**	**31**	P	**Pn**	**20 00 00.8**	**-0.9**
ALN	**Alexandroupoli**	**1.88**	**31**	*e*Pn	**Pb**	**20 00 03.7**	**-0.3**
ALN				S	**Sn**	**20 00 25.2**	**-0.2**
LPK	**Lapseki**	**1.88**	**54**	*e*PN	**Pb**	**20 00 03.5**	**-0.4**
LPK	**Lapseki**	**1.88**	**54**	*e*Pn	**Pb**	**20 00 03.6**	**-0.4**
ERIK	**Erikli-Kesan**	**1.93**	**44**	*e*PN	**Pb**	**20 00 04.2**	**-0.5**
ERIK	**Erikli-Kesan**	**1.93**	**44**	*e*Pn	**Pb**	**20 00 04.3**	**-0.5**
KRBG	**Karabiga-Canak**	**2.24**	**60**	*e*PN	**Pb**	**20 00 09.2**	**-0.9**
KRBG	**Karabiga-Canak**	**2.24**	**60**	*e*Pn	**Pb**	**20 00 09.2**	**-0.9**
APE	**Apeiranthos**	**2.31**	**164**	*e*PN	**Pn**	**20 00 09.2**	**+1.6**
APE	**Apeiranthos**	**2.31**	**164**	*e*Pn	**Pn**	**20 00 09.2**	**+1.6**
RKY	**Sarkoy-Tekirda**	**2.32**	**52**	*e*PN	**Pb**	**20 00 10.4**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.32**	**52**	*e*Pn	**Pb**	**20 00 10.4**	**-1.2**
KNT	**Kendrikon**	**2.35**	**323**	*e*PN	**Pn**	**20 00 09.0**	**+0.9**
KNT	**Kendrikon**	**2.35**	**323**	*e*Pn

JOW	**Kunigami**	**1.20**	**173**		Pn		**Pn**	**20 41 47.8**	**-1.1**
	baz=346,slow=16								
JAM	**Amami Oshima**	**1.37**	**73**	P		Pn	**20 41 50.1**	**-1.2**
JAM				*e*S		**Sn**	**20 42 08.8**	**-0.9**
JTAJ	**Takarajima**	**1.47**	**40**	P		Pn	**20 41 50.6**	**-2.2**
JNTH	**Nagotoyohara**	**1.50**	**183**	P		Pn	**20 41 52.9**	**-0.3**
JNU	**Nakatsue**	**5.61**	**24**	Pn		Pn	20 42 54.3	+4.6
	0.3nm,0.3s,baz=148,slow=4.6,SNR=7.9								
KSRS	**Korea Array**	**9.41**	**359**	LR		LR	20 47 10.1		
	comp=Z,25nm,22.0s,baz=88,slow=36								
SONM	**Songino Array**	**26.01**	**325**	P		**P**	**20 47 02.9**	**+3.3**
	0.5nm,0.8s,baz=136,slow=9.4,SNR=4.1								
MKAR	**Makanchi Array**	**40.29**	**310**	P		**P**	**20 49 02.5**	**-1.1**
	0.3nm,0.8s,baz=116,slow=6.6,SNR=2.9								
WRA	**Warramunga Arr**	**48.06**	**172**	P		**P**	**20 50 07.7**	**+1.6**
	0.4nm,0.8s,baz=354,slow=8.3,SNR=6.4								
GEYT	**Alibeck**	**58.32**	**299**	LR		LR	21 21 38.6		
	comp=Z,17nm,18.3s,baz=350,slow=42								

*MEX **03** 20:49:02.6±0.6, 32°.62N×115°.41W, h10km, MD4.0*
*ISCJB **03** 20:49:04.1±0.4, 32°.30N±0°.03×115°.24W±0°.03, h20km±5km, Error ellipse: s-maj=4.7km s-min=4.1km az=147.1*
*ECX **03** 20:49:05.2±0.7, 32°.28N×115°.30W, h6km, MD3.3, ML3.5*

ISC 03 20:49:02.9±0.9, 32°.27N±0°.03×115°.35W±0°.03, h14km±7km, n23, σ1§91/33, 11C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**15**	⇓*e*P	**Pg**	**20 49 07.5**	**+0.7**
MBIG	**Mexicali**	**0.19**	**43**	*i* P	**Pg**	**20 49 08.0**	**+0.8**
MBIG				*e*S	**Sg**	**20 49 11.6**	**+1.4**
EMX	**El Mayor**	**0.29**	**162**	⇓*e*P	**Pb**	**20 49 10.2**	**+0.2**
EMX				*i* S	**Sb**	**20 49 14.9**	**+0.2**
SGL	**Mount Signal**	**0.49**	**320**	⇓*i* P	**Pb**	**20 49 14.5**	**+1.2**
RDX	**Rancho Dawling**	**0.60**	**236**	⇑*e*P	Pg	20 49 09.8	-5.0
RDX				*e*S	**Sg**	**20 49 19.0**	**-3.9**
RDX				⇑*e*		20 49 20.9	
	comp=N,2μm,0.4s						
YUH	**Yuha Desert**	**0.61**	**308**	⇓*i* P	**Pn**	**20 49 16.7**	**-0.6**
COA	**Coachella**	**0.62**	**18**	⇓*i* P	**Pb**	**20 49 16.0**	**+0.4**
RMX	**La Rumorosa**	**0.70**	**299**	*e*P	Pg	20 49 10.6	-6.0
RMX				*e*S	**Sg**	**20 49 20.6**	**-5.3**
YMD	**Yuma Desert**	**0.74**	**67**	⇑*i* P	**Pg**	**20 49 17.4**	**+0.1**
SWSC	**Sam W. Stewart**	**0.77**	**331**	⇑P	**Pb**	**20 49 18.4**	**+0.4**
	baz=0.8						
ECBX	**El Chinero**	**0.83**	**162**	*e*P	**Pn**	**20 49 19.4**	**-0.8**
ECBX				*e*S	**Sb**	**20 49 31.0**	**+0.7**
GLA	**Glamis**	**0.90**	**29**	⇑P	**Pg**	**20 49 19.7**	**-0.6**
	baz=0.8						
GLA				⇓S	**Sg**	**20 49 30.6**	**-1.4**
	baz=0.8						
MONP	**Monument Peak,**	**1.09**	**305**	⇓P	**Pn**	**20 49 24.5**	**+0.4**
	baz=1.1						
MONP				⇑S	**Sn**	**20 49 39.7**	**+0.6**
	baz=1.1						
CBX	**Cerro Bola**	**1.11**	**273**	*e*P	**Pn**	**20 49 26.0**	**+1.8**
CBX				*e*S	**Sn**	**20 49 41.9**	**+2.5**
ECNX	**Esteban Cantu**	**1.22**	**240**	⇑*e*P	Pg	20 49 20.3	-6.1
ECNX				*e*S	**Sg**	**20 49 37.8**	**-4.6**
SPIG	**San Pedro Mart**	**1.22**	**185**	*e*P	**Pn**	**20 49 27.1**	**+1.1**
SPIG				*i* S	**Sn**	**20 49 45.8**	**+3.3**
SPX	**San Pedro Mart**	**1.22**	**185**	*e*P	**Pn**	**20 49 27.4**	**+1.4**
BC3	**Big Chuckawall**	**1.39**	**356**	⇓P	**Pn**	**20 49 27.4**	**-0.6**
	baz=1.3						
113A	**Mohawk Valley,**	**1.43**	**69**	⇓P	**Pn**	**20 49 27.6**	**-0.8**
	baz=1.3						
113A				⇑S	**Sn**	**20 49 44.7**	**-2.3**
	baz=1.3						
109C	**Camp Elliot, M**	**1.60**	**293**	⇑Pb	**Pg**	**20 49 33.1**	**-0.6**
	baz=1.7						
109C				⇑Sb	**Sg**	**20 49 55.1**	**+0.6**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.63**	**326**	⇓P	**Pn**	**20 49 31.4**	**+0.1**
	baz=1.6						
PFO				⇑S	**Sg**	**20 49 54.4**	**-0.9**
	baz=1.6						
MURC	**Murrieta**	**2.04**	**311**	Sb	**Sg**	**20 50 08.6**	**0.0**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.18**	**98**	⇓P	**Pn**	**20 49 38.1**	**-0.7**
	baz=2.1						

*BJI **03** 21:15:59.8, 20°.27N×143°.14E, h35km, mB5.0/13, mb4.5/15, Ms4.6/10, Ms7 4.2/9*
*MOS **03** 21:16:22.2±0.9, 23°.84N×142°.11E, h46km, mb4.7/22, Error ellipse: s-maj=15.0km s-min=7.5km az=94.5*
*IDC **03** 21:16:28.1±1.8, 23°.88N×142°.16E, h84km±14km, mb3.9/18, mb1 4.2/21, mb1mx4.0/36, mbtmp4.3/21, MS3.1/7, Ms1 3.1/7, ms1mx2.8/48, Error ellipse: s-maj=18.2km s-min=12.2km az=82.0*
*NEIC **03** 21:16:29.0±1.7, 23°.83N×142°.12E, h94km±7km, mb4.8/35, Error ellipse: s-maj=21.9km s-min=13.3km az=83.0*
*ISCJB **03** 21:16:30.0±0.2, 24°.09N±0°.03×142°.09E±0°.04, h100km, mb4.5/55, Error ellipse: s-maj=6.0km s-min=4.2km az=152.3*

ISC 03 21:16:28.2±1.1, 23°.87N±0°.07×142°.35E±0°.08, h84km±8km, n240, σ1§41/246, mb4.6/54, 33C-43D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.75**	**357**	P	**Pn**	**21 17 11.3**	**+1.1**
JHHJ				S	**Sn**	**21 17 43.7**	**+1.2**
CBI	**Chichi jima**	**3.21**	**357**	*e*Pn	**Pn**	**21 17 18.2**	**+1.8**
CBI				*e*Sn	**Sn**	**21 17 53.1**	**-0.5**
CBIJ	**Chichi jima**	**3.21**	**357**	⇓P	**Pn**	**21 17 18.1**	**+1.6**
CBIJ				S	**Sn**	**21 17 54.4**	**+0.7**
CBIJ	**Chichi jima**	**3.21**	**357**	*e*Pn	**Pn**	**21 17 18.0**	**+1.6**
CBIJ				*e*Sn	**Sn**	**21 17 54.1**	**+0.4**
JCJ	**Chichijima**	**3.21**	**357**	P	**Pn**	**21 17 18.2**	**+1.7**
	341nm,0.3s,baz=102,slow=23,SNR=187						
JCJ				S	**Sn**	**21 17 53.1**	**-0.7**
	314nm,0.3s,baz=263,slow=24,SNR=11						
JHJ2	**Mitsune**	**9.47**	**347**	P	**Pn**	**21 18 42.3**	**+0.6**
JHJ2				S	**Sn**	**21 20 26.4**	**0.0**
JHJ2	**Mitsune**	**9.47**	**347**	*e*Pn	**Pn**	**21 18 40.7**	**-1.0**
JHJ2				*e*Sn	**Sn**	**21 20 25.7**	**-0.7**
BSO1	**Boso 1**	**10.81**	**354**	P	**Pn**	**21 18 58.4**	**-1.0**
BSO1				*e*S	**Sn**	**21 20 53.7**	**-4.6**
BSO3	**Boso 3**	**11.01**	**352**	P	**Pn**	**21 19 00.2**	**-2.2**
BSO4	**Boso 4**	**11.22**	**351**	P	**Pn**	**21 19 04.4**	**-1.0**
BSO4				S	Sn	21 21 02.1	-6.7
JHMK	**Hamakita**	**11.62**	**341**	P	**Pn**	**21 19 10.4**	**-0.4**
HMMJ	**Hamamatsu 2**	**11.66**	**341**	P	**Pn**	**21 19 11.3**	**-0.2**
JOD2	**Odawara 2**	**11.70**	**347**	P	**Pn**	**21 19 10.7**	**-1.4**
JNY	**Yasuok**	**12.09**	**342**	P	**Pn**	**21 19 17.0**	**-0.4**
JAO	**Obara**	**12.19**	**340**	P	**Pn**	**21 19 15.0**	**+0.3**
JHU	**Hanno**	**12.23**	**348**	P	**Pn**	**21 19 16.1**	**-3.1**
JHU				S	Sn	21 21 23.6	-10
JYT	**Yasato**	**12.45**	**352**	P	**Pn**	**21 19 19.6**	**-2.6**
JYT				S	Sn	21 21 26.1	-13
JRY	**Ryogami san**	**12.46**	**347**	P	**Pn**	**21 19 19.8**	**-2.6**
JRY				S	Sn	21 21 32.0	-7.4
JAG	**Ashikaga**	**12.76**	**349**	P	Pn	21 19 22.2	-4.1
JAG				S	Sn	21 21 35.5	-11
JHO	**Hitachi**	**12.79**	**354**	P	**Pn**	**21 19 23.8**	**-2.9**
JHO				S	Sn	21 21 35.2	-12
MJA0	**Matsu Arr-Jizo**	**13.11**	**345**	*e*P	**Pn**	**21 19 28.7**	**-2.4**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**13.12**	**345**	P	**Pn**	**21 19 28.2**	**-2.9**
	comp=Z,3.3nm,0.3s,baz=164,slow=11,SNR=35						
MJAR				S	Sn	21 21 47.0	-8.3
	comp=Z,0.5nm,0.3s,baz=118,slow=13,SNR=4.8						
MJAR				LR	LR	21 24 49.7	
	comp=Z,26nm,19.8s,baz=195,slow=38						
MAJO	**Matsushiro**	**13.12**	**345**	*e*P	**Pn**	**21 19 28.2**	**-3.0**
MAJO				*e*		21 21 47.0	
MAJO	**Matsushiro**	**13.12**	**345**	*e*Pn	**Pn**	**21 19 28.2**	**-3.0**
MAJO				*e*Sn	Sn	21 21 47.0	-8.3
MAJO				*e*PcP	PcP	21 24 49.7	-6.7
MAT	**Matsushiro**	**13.12**	**345**	P	**Pn**	**21 19 28.8**	**-2.4**
MAT				S	Sn	21 21 45.0	-10
JMK	**Ichinoseki**	**15.06**	**357**	P	**Pn**	**21 19 54.5**	**-1.8**
JMK				S	Sn	21 22 31.5	-11
KSRS	**Korea Array**	**18.33**	**321**	P	**P**	**21 20 35.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=137,slow=12,SNR=12						
KS15	**Wonju Array Si**	**18.35**	**321**	*e*P	**P**	**21 20 35.9**	**-0.1**
ASAJ	**Asahikawa**	**20.20**	**1**	P	**P**	**21 20 57.1**	**+1.0**
	comp=Z,12nm,0.7s,baz=244,slow=8.9,SNR=14						
ASAJ	**Asahikawa**	**20.20**	**1**	*e*P	**P**	**21 20 56.7**	**+0.7**
	comp=Z,167nm,2.0s						
USRK	**Ussuriysk Ar.**	**21.98**	**340**	P	**P**	**21 21 14.7**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=170,slow=10,SNR=7.0						
NJ2	**Nanjing**	**22.26**	**297**	*e*P	**P**	**21 21 19.1**	**+0.8**
NJ2				PMZ			
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**23.03**	**1**	*e*P	**P**	**21 21 24.8**	**-1.3**
YSS				pmax	pmax		
	comp=Z,27nm,0.9s						
YSS	**Yuzh-Sakhalins**	**23.03**	**1**	*e*P	**P**	**21 21 24.8**	**-1.3**
	comp=Z,27nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**23.15**	**96**	T	T	21 45 55.4	
	baz=283,slow=74,SNR=23						
H11N2	**WAKE ISLAND Hy**	**23.15**	**95**	T	T	21 45 56.1	
	baz=283,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hy**	**23.17**	**96**	T	T	21 46 16.2	
	baz=283,slow=74,SNR=35						
H11S3	**WAKE ISLAND Hy**	**23.30**	**99**	T	T	21 45 14.3	
	baz=284,slow=75,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**23.31**	**99**	T	T	21 45 32.4	
	baz=284,slow=75,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**23.32**	**99**	T	T	21 45 35.2	
	baz=284,slow=75,SNR=4.0						
HABR	**Khabarovsk**	**25.22**	**349**	*e*P	**P**	**21 21 43.5**	**-2.5**
HABR				*e*		21 22 21.2	
HABR				*e*		21 25 15.6	
HABR				*e*SS	SS	21 27 02.4	
HABR				*e*		21 32 37.1	
HABR				pmax	pmax		
	comp=Z,27nm,2.3s						
HHC	**Hu-ho-hao-te**	**30.82**	**311**	*e*P	P	21 22 42.1	+5.9
HHC				sP	sP	21 22 57.0	-8.5
HHC				PP	**PP**	**21 23 53.0**	**+5.9**
HHC				S	S	21 27 57.4	+24
HHC				PMZ			
	comp=Z,27nm,1.2s						
HHC				PMZ			
	comp=Z,250nm,7.5s						
HHC				LN			
	comp=Z,200nm,14.9s						
HHC				LE			
	comp=Z,260nm,18.7s						
HHC				LZ			
	comp=Z,170nm,17.4s						
PETK	**Petropavlovsk-**	**31.43**	**18**	LR	LR	21 38 29.4	
	comp=Z,6.1nm,19.2s,baz=199,slow=42						
GYA	**Guiyang**	**32.34**	**282**	*e*P	P	21 22 42.8	-6.9
GYA				pP	pP	21 22 52.5	-17
GYA				sP	sP	21 22 59.0	-20
GYA				PP	**PnPn**	**21 23 54.8**	**-4.5**
GYA				S	**S**	**21 28 00.2**	**+2.4**
GYA				PMZ			
	comp=Z,30nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,4.8s						
GYA				LN			
	comp=Z,540nm,17.6s						
GYA				LE			
	comp=Z,460nm,18.0s						
GYA				LZ			
	comp=Z,510nm,17.8s						
CD2	**Chengdu**	**34.85**	**290**	*e*P	P	21 23 07.4	-4.0
CD2				pP	pP	21 23 17.5	-14
CD2				sP	sP	21 23 21.7	-19
CD2				PP	**PnPn**	**21 24 30.1**	**-0.4**
CD2				S	S	21 28 43.7	+7.4
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.4s						
KMI	**Kunming**	**35.98**	**280**	P	P	21 23 12.4	-8.9
KMI				sP	sP	21 23 26.7	-24
KMI				PMZ			
	comp=Z,8.0nm,0.9s						
SONA0	**Songino Array**	**37.19**	**319**	*e*P	**P**	**21 23 29.9**	**-1.3**
SONA0				*e*PcP	**PcP**	**21 25 49.7**	**+0.1**
SONM	**Songino Array**	**37.19**	**319**	*e*P	**P**	**21 23 31.9**	**+0.7**
SONM	**Songino Array**	**37.19**	**319**	P	**P**	**21 23 29.9**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=124,slow=6.5,SNR=6.7						
SONM				PcP	**PcP**	**21 25 49.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=106,slow=1.8,SNR=6.5						
YAK	**Yakutsk**	**39.10**	**351**	*i* P	**P**	**21 23 47.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**40.72**	**271**	LR	LR	21 39 21.2	
	comp=Z,11nm,20.2s,baz=90,slow=34						
WRAB	**Tennant Creek**	**44.23**	**191**	⇓*i* P	**P**	**21 24 28.6**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,33nm,1.6s						
WRAB	**Tennant Creek**	**44.23**	**191**	*e*P	**P**	**21 24 28.5**	**-0.8**
	comp=Z,50nm,1.9s						
WRA	**Warramunga Arr**	**44.24**	**191**	P	**P**	**21 24 28.9**	**-0.4**
	comp=Z,3.8nm,0.4s,baz=7.8,slow=7.9,SNR=112						
WRA				ScP	**ScP**	**21 29 55.5**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=356,slow=3.6,SNR=4.4						
LSA	**Lhasa**	**45.77**	**289**	*e*P	**P**	**21 24 40.1**	**-2.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**45.77**	**289**	*e*P	**P**	**21 24 40.1**	**-2.0**
	comp=Z,2.9nm,0.8s						
BILL	**Bilibino**	**46.56**	**12**	⇓*i* P	**P**	**21 24 47.7**	**+0.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AS12	**Alice Springs**	**47.96**	**190**	*e*P	**P**	**21 24 57.8**	**-0.8**
AS12				*e*ScP	**ScP**	**21 30 11.1**	**-1.4**
ASAR	**Alice Springs**	**47.96**	**190**	P	**P**	**21 24 57.8**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=11,slow=6.9,SNR=35						
ASAR				ScP	**ScP**	**21 30 11.1**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=360,slow=4.4,SNR=2.6						
ASAR				LR	LR	21 43 45.9	
	comp=Z,18nm,19.1s,baz=76,slow=34						
TIXI	**Tiksi**	**48.42**	**354**	⇑*e*P	**P**	**21 25 01.8**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
TIXI	**Tiksi**	**48.42**	**354**	*e*P	**P**	**21 25 00.9**	**-0.5**
	comp=Z,58nm,3.0s						
WMQ	**Urumqi**	**48.62**	**308**	*e*P	**P**	**21 25 04.6**	**+1.1**
WMQ				pP	pP	21 25 14.5	-10
WMQ				sP	sP	21 25 18.5	-15
WMQ				PP	**PP**	**21 27 01.5**	**+4.4**
WMQ				*e*S	S	21 32 15.5	+16
WMQ				ScS	**ScS**	**21 34 50.0**	**+2.0**
WMQ				PMZ			
	comp=Z,6.0nm,0.5s						
WMQ				PMZ			
	comp=Z,68nm,7.8s						
WMQ				LN			
	comp=Z,130nm,16.0s						
WMQ				LE			
	comp=Z,110nm,19.0s						
WMQ				LZ			
	comp=Z,96nm,19.2s						
TAPN	**Taplejung**	**49.07**	**286**	*e*P	**P**	**21 25 08.4**	**+0.9**
	comp=Z,11nm,0.8s						
JIRN	**Jiri**	**50.35**	**287**	*e*P	**P**	**21 25 18.4**	**+1.1**
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**50.59**	**287**	*e*P	**P**	**21 25 19.8**	**+0.8**
KKN	**Kakani**	**51.13**	**287**	*e*P	**P**	**21 25 23.5**	**+0.5**
DZM	**Mont Dzumac**	**51.33**	**151**	P	**P**	**21 25 24.3**	**+0.1**
	comp=Z,7.6nm,0.9s,baz=309,slow=13,SNR=6.6						
GKN	**Gorkha**	**51.66**	**288**	*e*P	**P**	**21 25 27.5**	**+0.7**
ZALV	**Zalesovo Beam**	**52.04**	**321**	*e*P	**P**	**21 25 27.5**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**52.04**	**321**	P	**P**	**21 25 27.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=112,slow=8.9,SNR=3.9						
ZALV				PcP	**PcP**	**21 26 39.4**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=108,slow=4.8,SNR=7.7						
ZAA1	**Zalesovo Array**	**52.04**	**321**	*e*P	**P**	**21 25 27.5**	**-1.6**
ZAA1				*e*PcP	**PcP**	**21 26 39.4**	**-0.8**
DANN	**Dangsing**	**52.37**	**288**	*e*P	**P**	**21 25 33.3**	**+1.1**
	comp=Z,36nm,0.7s						
KOLN	**Koldanda**	**52.60**	**288**	*e*P	**P**	**21 25 34.6**	**+0.7**
MK32	**Makanchi Array**	**52.67**	**312**	*e*P	**P**	**21 25 33.2**	**-0.8**
MK32				*e*PcP	**PcP**	**21 26 42.6**	**-0.1**
MKAR	**Makanchi Array**	**52.67**	**312**	P	**P**	**21 25 33.2**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=87,slow=9.1,SNR=31						
MKAR				PcP	**PcP**	**21 26 42.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=106,slow=5.2,SNR=2.8						
MKAR	**Makanchi Array**	**52.67**	**312**	*e*P	**P**	**21 25 32.8**	**-1.1**
PYUN	**Piuthan**	**53.08**	**288**	*e*P	**P**	**21 25 38.1**	**+0.7**
KDAK	**Kodiak Island**	**56.87**	**35**	*i* P	**P**	**21 26 05.6**	**+1.7**
KSH	**Kashi**	**57.40**	**303**	*e*P	**P**	**21 26 10.0**	**+1.8**
KSH				sP	sP	21 26 25.4	-13
KSH				S	S	21 34 17.2	+18
KSH				SS	SS	21 38 14.3	+25
KSH				PMZ			
	comp=Z,120nm,4.8s						
KSH				LN			
	comp=Z,340nm,10.6s						
KSH				LE			
	comp=Z,250nm,15.1s						
KSH				LZ			
	comp=Z,140nm,6.5s						
PPLA	**Purkeypile**	**57.87**	**29**	*e*P	**P**	**21 26 12.5**	**+1.4**
	comp=Z,46nm,1.8s						
KTH	**Kantishna Hill**	**58.55**	**29**	*e*P	**P**	**21 26 17.2**	**+1.5**
	comp=Z,71nm,2.4s						
TRF	**Thorofare Moun**	**58.81**	**29**	*e*P	**P**	**21 26 18.8**	**+1.1**
	comp=Z,143nm,2.6s						
PMR	**Palmer**	**59.09**	**31**	*e*P	**P**	**21 26 19.9**	**+0.5**
PMR	**Palmer**	**59.09**	**31**	*e*P	**P**	**21 26 19.9**	**+0.5**
MCK	**McKinley**	**59.45**	**29**	*e*P	**P**	**21 26 22.8**	**+0.8**
MCK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MCK	**McKinley**	**59.45**	**29**	*e*P	**P**	**21 26 22.8**	**+0.8**
	comp=Z,8.8nm,0.8s						
COLD	**Coldfoot**	**59.51**	**25**	*e*P	**P**	**21 26 24.3**	**+2.1**
	comp=Z,6.0nm,0.8s						
COLA	**College**	**60.07**	**28**	⇓*i* P	**P**	**21 26 26.8**	**+0.7**
COLA				pmax	pmax		
	comp=Z,14nm,0.8s						
ILAR	**Eielson Array**	**60.47**	**28**	*e*P	**P**	**21 26 28.8**	**0.0**
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ILAR	**Eielson Array**	**60.47**	**28**	P	**P**	**21 26 28.9**	**0.0**
	comp=Z,7.5nm,0.8s,baz=258,slow=5.6,SNR=70						
ILB	**Eielson Array**	**60.47**	**28**	*e*P	**P**	**21 26 28.9**	**0.0**
PAX	**Paxson**	**60.92**	**30**	*e*P	**P**	**21 26 32.7**	**+0.6**
PAX				pmax	pmax		
	comp=Z,85nm,2.5s						
PAX	**Paxson**	**60.92**	**30**	*e*P	**P**	**21 26 32.7**	**+0.6**
	comp=Z,85nm,2.5s						
KKAR	**Karatay Array**	**61.12**	**307**	*e*P	**P**	**21 26 33.7**	**0.0**
KKAR	**Karatay Array**	**61.12**	**307**	*e*P	**P**	**21 26 33.7**	**0.0**
BMRM	**Bremner River**	**61.22**	**32**	*e*P	**P**	**21 26 35.1**	**+1.1**
	comp=Z,8.2nm,0.6s						
DOT	**Dot Lake**	**61.60**	**29**	*e*P	**P**	**21 26 37.1**	**+0.5**
	comp=Z,6.2nm,0.8s						
EGAK	**Eagle**	**62.92**	**28**	*e*P	**P**	**21 26 46.2**	**+0.9**
	comp=Z,21nm,1.8s						
DAWY	**Dawson**	**63.68**	**29**	*e*P	**P**	**21 26 51.9**	**+1.5**
HYT	**Haines Junctio**	**64.69**	**32**	*e*P	**P**	**21 26 58.8**	**+1.6**
ARU	**Arti**	**67.07**	**323**	*c i*P	**P**	**21 27 12.3**	**0.0**
ARU				*PP	**pP**	**21 27 34.0**	**0.0**
ARU						21 29 39.1	
ARU				S	**S**	**21 36 00.6**	**+1.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ABKAR	**Akbulak array**	**67.46**	**315**	*e*P	**P**	**21 27 13.9**	**-1.0**
DLBC	**Dease Lake**	**68.76**	**34**	LR	LR	21 56 36.3	
	comp=Z,84nm,20.6s,baz=308,slow=35						
YKA	**Yellowknife Ar**	**74.90**	**28**	P	**P**	**21 28 00.1**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=293,slow=5.9,SNR=79						
YKB5	**Yellowknife Ar**	**74.90**	**28**	*e*P	**P**	**21 28 00.1**	**+0.6**
RES	**Resolute Bay**	**75.15**	**13**	*e*P	**P**	**21 28 01.1**	**+0.3**
RES	**Resolute Bay**	**75.15**	**13**	*e*P	**P**	**21 28 01.1**	**+0.3**
KEV	**Kevo**	**76.06**	**341**	*e*P	**P**	**21 28 03.6**	**-2.5**
KEV	**Kevo**	**76.06**	**341**	ep	**P**	**21 28 03.6**	**-2.5**
	comp=Z,0.3nm,0.4s						
ARA0	**ARCESS Array S**	**76.62**	**341**	*e*P	**P**	**21 28 09.2**	**-0.2**
ARCES	**ARCESS Array B**	**76.62**	**341**	*e*P	**P**	**21 28 08.4**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**76.62**	**341**	P	**P**	**21 28 09.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=73,slow=8.2,SNR=17						
B08A	**Colville Reser**	**77.79**	**42**	*e*P	**P**	**21 28 17.2**	**+1.0**
JOF	**Joensuu**	**78.03**	**334**	*e*P	**P**	**21 28 16.2**	**-1.0**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	**Joensuu**	**78.03**	**334**	ep	**P**	**21 28 16.2**	**-1.0**
	comp=Z,3.3nm,0.5s						
NEW	**Newport**	**79.19**	**42**	*e*P	**P**	**21 28 25.0**	**+1.0**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NEW	**Newport**	**79.19**	**42**	*e*P	**P**	**21 28 25.0**	**+1.0**
	comp=Z,5.7nm,0.6s						
KBZ	**Khabaz**	**80.32**	**313**	P	**P**	**21 28 29.7**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=122,slow=3.4,SNR=11						
BMO	**Blue Mountains**	**80.45**	**45**	*e*P	**P**	**21 28 32.2**	**+1.3**
BMO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BMO	**Blue Mountains**	**80.45**	**45**	*e*P	**P**	**21 28 32.2**	**+1.3**
	comp=Z,5.5nm,0.7s						
WALA	**Waterton Lakes**	**80.79**	**40**	*e*P	**P**	**21 28 34.4**	**+1.7**
	comp=Z,12nm,0.6s						
FIA0	**FINESS Array S**	**80.90**	**334**	*e*P	**P**	**21 28 31.9**	**-0.9**
FIA0	**FINESS Array S**	**80.90**	**334**	*e*P	**P**	**21 28 31.9**	**-0.9**
FINES	**FINESS Array B**	**80.90**	**334**	*e*P	**P**	**21 28 31.9**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**80.90**	**

baz=86
D22A **Cohagen** 86.25 40 ⇓P P 21 29 02.1 +1.5
baz=86
CCUT **Cedar City** 86.29 51 *e*P P 21 29 00.8 -0.5
comp=Z,10nm,1.3s
PD31 **Pinedale Array** 86.39 45 *e*P P 21 29 01.8 +0.1
PDAR **Pinedale Array** 86.39 45 P P 21 29 01.8 +0.1
comp=Z,1.1nm,0.8s,baz=298,slow=3.2,SNR=8.3
HFS **Hagfors** 86.43 337 LR LR 22 11 09.9
comp=Z,27nm,18.5s,slow=38
J19A **Crowheart** 86.47 44 ⇓P P 21 29 02.4 +0.4
baz=86
C23A **Lambert** 86.48 39 ⇑P P 21 29 00.2 -1.5
baz=86
H20A **Greybull** 86.52 42 ⇑P P 21 28 57.6 -4.5
baz=86,SNR=7.5
IRM **Iron Mountain** 86.53 54 ⇑P P 21 29 03.2 +1.0
baz=87
A24A **Westby** 86.54 37 ⇑P P 21 29 02.8 +0.8
baz=86
SWSC **Sam W. Stewart** 86.58 56 ⇓P P 21 29 03.4 +1.0
baz=87
G21A **Lodge Grass** 86.63 42 ⇓P P 21 29 03.1 +0.5
baz=87
NB2 **NORSAR Subarra** 86.65 338 P P 21 29 01.1 -1.2
comp=Z,0.8nm,0.7s,baz=44,slow=5.1
NB200 **NORSAR Array S** 86.65 338 *e*P P 21 29 00.7 -1.5
NOA **NORSAR Array B** 86.65 338 *e*P P 21 29 01.3 -1.0
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA **NORSAR Array B** 86.65 338 P P 21 29 00.7 -1.5
comp=Z,1.1nm,0.7s,baz=44,slow=4.5,SNR=6.0
NOA LR LR 22 09 45.1
comp=Z,9.5nm,18.1s,baz=350,slow=37
I20A **Worland** 86.71 43 ⇑P P 21 29 03.9 +0.9
baz=87
E22A **Miles City** 86.76 40 ⇑P P 21 29 04.5 +1.4
baz=87
F22A **Rosebud** 86.92 41 ⇑P P 21 29 05.0 +1.1
baz=87
KNB **Kanab** 86.92 51 *e*P P 21 29 05.3 +1.0
KNB pmax pmax
comp=Z,16nm,0.9s
KNB **Kanab** 86.92 51 *e*P P 21 29 05.3 +1.0
comp=Z,16nm,0.9s
H21A **Big Horn, Sher** 87.04 42 ⇑P P 21 29 06.7 +2.1
baz=87
I21A **Big Trails, Te** 87.30 43 ⇓P P 21 29 06.7 +0.8
baz=87
F23A **Volborg** 87.46 40 ⇓P P 21 29 07.7 +1.2
baz=87
SRU **San Rafael Swe** 87.53 48 *e*P P 21 29 06.6 -0.6
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU **San Rafael Swe** 87.53 48 *e*P P 21 29 06.6 -0.6
comp=Z,5.7nm,0.7s
U15A **North Rim** 87.57 51 ⇓P P 21 29 08.5 +1.0
baz=88
A26A **Wade Farm, Ken** 87.64 37 ⇓P P 21 29 09.0 +1.7
baz=88
G23A **Biddle** 87.74 41 ⇑P P 21 29 09.4 +1.4
baz=88
I22A **9 Mile Ranch,** 87.76 42 ⇑P P 21 29 08.9 +0.8
baz=88
K21A **Alcova** 87.93 44 ⇓P P 21 29 10.1 +1.1
baz=88
J22A **Midwest** 88.01 43 ⇓P P 21 29 10.9 +1.6
baz=88
113A **Mohawk Valley,** 88.18 55 ⇑P P 21 29 11.7 +1.6
baz=88
N20A **Spence Gulch,** 88.19 46 ⇓P P 21 29 08.5 -1.8
baz=88
C26A **Wahner Farm, P** 88.21 37 ⇓P P 21 29 12.1 +2.0
baz=88
BR101 **Keskin Array S** 88.30 313 *e*P P 21 29 09.7 -1.0
BRTR **Keskin Array B** 88.30 313 *e*P P 21 29 09.7 -1.0
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR **Keskin Array B** 88.30 313 P P 21 29 09.7 -1.0
comp=Z,0.9nm,0.7s,baz=85,slow=3.2,SNR=9.7
K22A **Casper** 88.38 44 ⇓P P 21 29 12.9 +1.8
baz=88
H24A **Dirks Ranch, A** 88.49 41 ⇑P P 21 29 12.7 +1.3
baz=88
F25A **Bowman** 88.49 40 ⇓P P 21 29 13.3 +1.8
baz=88
WUAZ **Wupatki** 88.66 52 ⇑P P 21 29 13.9 +1.3
baz=89
E26A **Carlson Angus** 88.76 39 ⇓P P 21 29 14.1 +1.4
baz=89
A29A **Manning Farm,** 89.13 35 ⇓P P 21 29 15.7 +1.4
baz=89
214A **Organ Pipe Nat** 89.27 55 ⇓P P 21 29 16.5 +1.2
baz=89
E27A **Carson** 89.30 38 ⇓P P 21 29 16.6 +1.4
baz=89
F27A **Lemmon** 89.36 39 ⇓P P 21 29 17.0 +1.6
baz=89
I25A **Rochford** 89.37 41 ⇓P P 21 29 15.9 +0.2
baz=89
D28A **Regan** 89.42 37 ⇓P P 21 29 17.9 +2.1
baz=89
A30A **Hoffart Farm,** 89.61 35 ⇑P P 21 29 18.0 +1.5
baz=90
O22A **Kremmling** 89.66 46 ⇓P P 21 29 18.6 +1.2
baz=90
N23A **Red Feather La** 89.67 45 ⇑P P 21 29 19.0 +1.7
baz=90
G27A **Dupree** 89.69 39 ⇓P P 21 29 18.0 +1.0
baz=90
B30A **Myrvik Farm, E** 89.90 35 ⇑P P 21 29 19.3 +1.4
baz=90
H27A **Howes** 90.02 40 ⇓P P 21 29 19.7 +1.1
baz=90
ISCO **Idaho Springs** 90.46 46 *e*P P 21 29 20.0 -1.1
ISCO pmax pmax
comp=Z,29nm,2.5s
ISCO **Idaho Springs** 90.46 46 *e*P P 21 29 20.0 -1.1
comp=Z,29nm,2.5s
AGMN **Agassiz Nation** 91.29 35 ⇓P P 21 29 24.9 +0.6
baz=91
R24A **Sanders Place,** 91.63 47 ⇓P P 21 29 28.6 +2.2
baz=92
Q25A **Bedland, Calha** 91.83 46 ⇑P P 21 29 28.7 +1.4
baz=92
S24A **Houchin Ranch,** 91.87 47 ⇓P P 21 29 29.2 +1.6
baz=92
U23A **El Rito** 91.89 49 ⇓P P 21 29 28.9 +1.2
baz=92
R25A **Fountain Ranch** 92.22 46 ⇓P P 21 29 30.8 +1.7
baz=92
Q26A **Hugo** 92.30 45 ⇑P P 21 29 30.0 +0.5
baz=92
ANMO **Albuquerque** 92.43 50 *ce*P P 21 29 32.0 +1.8
ANMO pmax pmax
comp=Z,19nm,1.2s
ANMO **Albuquerque** 92.43 50 *e*P P 21 29 30.8 +0.7
comp=Z,3.4nm,0.8s
T25A **Trinidad** 92.68 47 ⇓P P 21 29 32.2 +0.9
baz=93
R26A **Arlington** 92.69 46 ⇓P P 21 29 28.9 -2.3
baz=93
CLL **Collm** 92.93 331 *e*P P 21 29 31.0 -0.8
W24A **Lazy 6 Ranch,** 93.03 49 ⇑P P 21 29 34.6 +1.7
baz=93
U25A **Circle Dot Ran** 93.08 48 ⇓P P 21 29 34.5 +1.4
baz=93
T26A **Comanche Natio** 93.21 47 ⇓P P 21 29 34.7 +1.0
baz=93
V25A **Rancho No Teng** 93.24 48 ⇑P P 21 29 35.0 +1.1
baz=93
LTX **Lajitas** 97.40 54 *e*P Pdif 21 29 53.6 +0.7
LTX **Lajitas** 97.40 54 *e*P Pdif 21 29 53.5 +0.6
TXAR **Lajitas Array** 97.40 54 P Pdif 21 29 53.5 +0.6
comp=Z,0.6nm,0.7s,baz=312,slow=4.2,SNR=6.9
TORD **Torodi Ar. Bea** 126.78 310 PKP PKPdf 21 35 22.9 0.0
comp=Z,0.9nm,1.0s,baz=96,slow=1.0,SNR=4.8
PLCA **Paso Flores** 147.75 129 PKPbc PKPbc 21 36 03.2 -0.3
comp=Z,1.6nm,0.9s,baz=175,slow=1.8,SNR=3.1
PTGA **Pitinga** 148.42 46 PKPbc PKPbc 21 36 05.5 -0.4
comp=Z,2.6nm,0.7s,baz=313,slow=19,SNR=4.5
LPAZ **La Paz** 150.44 81 PKPbc PKPbc 21 36 12.0 +0.5
comp=Z,2.4nm,0.6s,baz=12,slow=4.6,SNR=8.0

*IDC **03** 21:23:20.8±1.7,35°.34S×72°.86W,h0km,mb3.7/2, mb1 4.1/4,mb1mx3.8/29,mbtmp3.8/4,ML3.8/2,MS3.4/3,*

Ms1 3.3/3,ms1mx3.0/24,Error ellipse: s-maj=40.3km s-min=28.3km az=104.0
*ISCJB **03** 21:23:21.8±1.5,35°.37S±0°.05×72°.89W±0°.09,h22km±12km, mb3.9/3,MS3.4/2,Error ellipse: s-maj=13.4km s-min=5.6km az=28.8*
*GUC **03** 21:23:23.7±0.7,35°.45S×72°.80W,h32km±10km,ML4.4*
*NEIC **03** 21:23:25.1±0.8,35°.35S×72°.81W,h35km,mb4.0/2,Error ellipse: s-maj=18.8km s-min=9.6km az=89.0*
ISC 03 21:23:21.7±2.3,35°.40S±0°.05×72°.85W±0°.07,h9km±15km, n20,σ0°81/24,mb3.8/3,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.73**	**176**	⇓*i*P	**Pb**	**21 23 36.6**	**+0.1**
COCH				*i* S	**Sg**	**21 23 46.0**	**+0.7**
TALC	**Talca**	**0.99**	**90**	⇑*i*P	**Pb**	**21 23 40.4**	**-0.5**
TALC				*i* S	**Sg**	**21 23 53.7**	**+0.2**
LNCH	**Linares**	**1.11**	**114**	⇑*i*P	**Pb**	**21 23 42.6**	**-0.3**
LNCH				*i* S	**Sb**	**21 23 56.7**	**-0.7**
NICH	**Los Niches**	**1.38**	**74**	⇓*i*P	**Pb**	**21 23 47.3**	**-0.3**
NICH				*i* S	**Sg**	**21 24 05.5**	**-0.6**
CCSP	**San Pedro de C**	**1.46**	**188**	*e*P	**Pn**	**21 23 48.1**	**0.0**
CCSP				*e*S	**Sn**	**21 24 06.9**	**-0.4**
CCSP				AML	AML	21 24 10.4	
	comp=E,7μm,0.4s						
CLCH	**Cerro Calan**	**2.77**	**44**	*e*P	**Pn**	**21 24 07.1**	**+0.9**
CLCH				AML	AML	21 24 54.3	
	comp=N,2μm,0.5s						
ROCH	**El Roble**	**2.86**	**33**	AML	AML	21 25 13.2	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**2.88**	**39**	⇓*i*P	**Pn**	**21 24 09.0**	**+1.3**
PEL				AML	AML	21 24 56.2	
	comp=N,1μm,0.7s						
CFAA	**Coronel Fontan**	**5.40**	**47**	Pn	**Pn**	**21 24 43.1**	**+0.7**
	comp=N,0.1nm,0.3s,baz=227,slow=9.7,SNR=8.8						
CFAA				Sn	**Sn**	**21 25 45.7**	**+1.1**
	comp=N,0.2nm,0.3s,baz=242,slow=6.6,SNR=5.1						
PLCA	**Paso Flores**	**5.62**	**162**	Pn	**Pn**	**21 24 46.6**	**+1.2**
	comp=N,0.6nm,0.3s,baz=335,slow=11,SNR=20						
PLCA				Lg	Lg	21 26 09.7	
	comp=N,0.9nm,0.3s,baz=201,slow=8.6,SNR=1.9						
PLCA				LR	LR	21 27 06.7	
	comp=N,203nm,18.3s,baz=288,slow=40						
PLCA	**Paso Flores**	**5.62**	**162**	*e*Pn	**Pn**	**21 24 46.3**	**+0.8**
PLCA				Lg	Lg	21 26 09.7	
LCO	**Las Campanas**	**6.63**	**17**	*e*Pn	**Pn**	**21 24 58.0**	**-1.4**
TRQA	**Tornquist**	**9.12**	**110**	*e*Pn	**Pn**	**21 25 34.4**	**+1.0**
LPAZ	**La Paz**	**19.50**	**14**	P	**P**	**21 27 49.9**	**+0.2**
	comp=N,0.1nm,0.3s,baz=200,slow=3.7,SNR=9.6						
LPAZ	**La Paz**	**19.50**	**14**	*e*Pn	**Pn**	**21 27 50.2**	**-0.7**
	comp=N,2.8nm,0.7s						
SIV	**San Ignacio**	**22.01**	**32**	P	**P**	**21 28 15.5**	**-0.9**
	comp=N,2.2nm,0.6s,baz=228,slow=9.3,SNR=6.9						
SIV				LR	LR	21 37 57.0	
	comp=N,38nm,21.8s,baz=274,slow=40						
QSPA	**South Pole Qui**	**54.84**	**180**	*e*P	**P**	**21 32 51.6**	**-0.3**
	comp=N,1.7nm,0.5s						
TXAR	**Lajitas Array**	**70.64**	**332**	P	**P**	**21 34 38.1**	**+0.5**
	comp=N,0.5nm,0.6s,baz=152,slow=9.4,SNR=5.2						
MAW	**Mawson**	**72.03**	**164**	LR	LR	22 05 39.8	
	comp=N,78nm,18.4s,baz=236,slow=35						
MKAR	**Makanchi Array**	**158.17**	**51**	PKPab	**PKPab**	**21 43 52.6**	**0.0**
	comp=N,0.1nm,0.7s,baz=321,slow=2.0,SNR=2.3						

IDC 03 21:28:22.5±4.6,4°.69S×147°.31E,h0km,mb3.0/1, mb1 3.4/2,mb1mx3.1/21,mbtmp3.1/2,ML3.3/1,Error ellipse: s-maj=168.8km s-min=48.2km az=107.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.74**	**219**	P	Pn	21 32 55.2	-0.2
	0.1nm,0.3s,baz=42,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**22.88**	**213**	P	P	21 33 26.8	-1.2
	0.5nm,0.9s,baz=46,slow=8.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.04**	**286**	PKPbc	PKPbc	21 48 01.7	-0.7
	0.4nm,0.8s,baz=70,slow=4.7,SNR=3.1						

IDC 03 21:31:00.1±2.2,6°.28S×128°.64E,h0km,mb3.0/1, mb1 3.2/3,mb1mx3.1/25,mbtmp3.0/3,ML2.7/1,Error ellipse: s-maj=174.7km s-min=31.2km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.67**	**158**	Pn	Pn	21 34 31.0	+1.9
	0.0nm,0.3s,baz=337,slow=13,SNR=3.2						
WRA				Sn	Sn	21 37 04.2	-8.3
	0.0nm,0.3s,baz=79,slow=17,SNR=4.2						
ASAR	**Alice Springs**	**18.02**	**164**	P	Pn	21 35 10.6	-1.5
	baz=346,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**66.89**	**327**	P	P	21 41 54.2	+0.1
	0.1nm,0.7s,baz=129,slow=5.7,SNR=2.6						

*IDC **03** 21:52:54.2±1.0,5°.00S×153°.36E,h0km,mb3.6/7, mb1 3.7/8,mb1mx3.5/32,mbtmp3.6/8,ML2.6/1,Error ellipse: s-maj=28.8km s-min=22.6km az=105.0*
*ISCJB **03** 21:53:00.6±0.8,5°.1S±0°.1×153°.3E±0°.1,h56km,mb3.4/7, Error ellipse: s-maj=21.5km s-min=11.5km az=143.6*
ISC 03 21:53:01.5±1.1,5°.1S±0°.1×153°.4E±0°.1,h56km,n9,σ1s06/9, mb3.4/6,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.51**	**235**	Pn	**Pn**	**21 54 46.9**	**-1.6**
	0.5nm,0.3s,baz=104,slow=4.2,SNR=2.0						
PMG				Sn	**Sn**	**21 56 13.7**	**+1.4**
	1.2nm,0.3s,baz=229,slow=20,SNR=4.9						
DZM	**Mont Dzumac**	**21.11**	**144**	P	**P**	**21 57 41.8**	**+0.1**
	2.0nm,0.4s,baz=201,slow=14,SNR=11						
WRA	**Warramunga Arr**	**23.69**	**230**	P	**P**	**21 58 08.0**	**-0.3**
	0.2nm,0.4s,baz=52,slow=9.8,SNR=4.9						
ASAR	**Alice Springs**	**26.33**	**224**	P	**P**	**21 58 33.5**	**+1.1**
	0.3nm,0.9s,baz=54,slow=9.8,SNR=2.9						
SONM	**Songino Array**	**66.86**	**328**	P	**P**	**22 03 48.1**	**+0.4**
	0.2nm,0.5s,baz=130,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**22 05 10.1**	**+0.3**
	0.2nm,0.5s,baz=100,slow=7.4,SNR=5.7						
QSPA	**South Pole Qui**	**84.89**	**180**	P	**P**	**22 05 30.5**	**+0.3**
	1.7nm,1.0s,baz=282,slow=0.6,SNR=6.7						
PDAR	**Pinedale Array**	**98.62**	**48**	P	Pdif	22 06 36.9	+2.0
	0.2nm,0.7s,baz=270,slow=7.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.93**	**288**	PKPbc	**PKPbc**	**22 12 48.1**	**-0.9**
	1.1nm,0.7s,baz=63,slow=1.6,SNR=8.6						

WEL 03 21:57:20.6±0.1,38°.81S×176°.01E,h105km±1km,ML4.3/21, 31C-22D,Error ellipse: s-maj=1.0km s-min=0.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATZ	**Hinemaiaia**	**0.10**	**143**	⇑PN	Pn	21 57 34.9	-0.3
HATZ				SN	Sn	21 57 45.4	-0.8
RATZ	**Rangitukua**	**0.20**	**252**	PN	Pn	21 57 35.2	-0.2
RITZ	**Rihia Road**	**0.21**	**215**	⇑PN	Pn	21 57 35.5	+0.1
WATZ	**Wairara**	**0.24**	**294**	⇑PN	Pn	21 57 35.5	-0.1
WATZ				SN	Sn	21 57 47.0	+0.2
KATZ	**Kakaramea**	**0.30**	**236**	⇑PN	Pn	21 57 35.8	-0.1
WPRZ	**Whakapapatarin**	**0.31**	**22**	⇓PN	Pn	21 57 35.7	-0.2
ALRZ	**Allen Road**	**0.36**	**47**	⇓PN	Pn	21 57 35.7	-0.4
ALRZ				SN	Sn	21 57 47.1	-0.6
KRVZ	**Karewarewa**	**0.41**	**225**	⇑PN	Pn	21 57 36.3	-0.2
PRRZ	**Plateau Road**	**0.43**	**44**	⇓PN	Pn	21 57 36.0	-0.5
PRRZ				SN	Sn	21 57 49.0	+0.6
OTVZ	**Oturere**	**0.45**	**217**	PN	Pn	21 57 36.7	-0.1
WTVZ	**West Tongariro**	**0.45**	**227**	⇑PN	Pn	21 57 36.5	-0.2
HRRZ	**Handcock Road**	**0.47**	**27**	⇓PN	Pn	21 57 36.7	0.0
NGZ	**Ngauruhoe**	**0.49**	**221**	PN	Pn	21 57 36.8	-0.3
BKZ	**Black Stump Fm**	**0.52**	**134**	PN	Pn	21 57 36.9	-0.2
BKZ				SN	Sn	21 57 48.6	-0.9
BKZ				AML	AML	21 57 49.3	
TWVZ	**Taurewa**	**0.52**	**239**	⇑PN	Pn	21 57 37.0	-0.1
COVZ	**Chateau Observ**	**0.54**	**223**	PN	Pn	21 57 37.0	-0.3
TUVZ	**Tukino**	**0.54**	**211**	⇑PN	Pn	21 57 37.5	+0.1
WPVZ	**Whakapapa**	**0.54**	**222**	PN	Pn	21 57 37.0	-0.3
FWVZ	**Far West T-bar**	**0.57**	**219**	⇑PN	Pn	21 57 37.4	-0.3
WHVZ	**Whangaehu Hut**	**0.58**	**215**	⇑PN	Pn	21 57 37.6	-0.2
DRZ	**Dome Shelter**	**0.58**	**217**	PN	Pn	21 57 37.6	-0.3
TLZ	**Tolley Road**	**0.61**	**322**	PN	Pn	21 57 37.8	0.0
TLZ				SN	Sn	21 57 50.4	-0.2
TRVZ	**Turoa**	**0.61**	**216**	PN	Pn	21 57 37.7	-0.3
WNVZ	**Wahianoa**	**0.61**	**212**	⇑PN	Pn	21 57 37.9	0.0
RRRZ	**Republican Roa**	**0.61**	**40**	⇓PN	Pn	21 57 37.5	-0.3
HLRZ	**Highlands Stat**	**0.62**	**26**	⇓PN	Pn	21 57 38.3	+0.5
MOVZ	**Moawhango**	**0.63**	**199**	⇑PN	Pn	21 57 37.6	-0.4
UTU	**Utuhina**	**0.65**	**13**	⇓PN	Pn	21 57 38.3	+0.2
BHHZ	**Black Hill Sta**	**0.68**	**177**	⇑PN	Pn	21 57 38.2	-0.2
BHHZ				SN	Sn	21 57 51.3	-0.6
TARZ	**Mount Tarawera**	**0.69**	**34**	⇓PN	Pn	21 57 38.4	-0.2
PKVZ	**Pokaka**	**0.71**	**227**	⇑PN	Pn	21 57 38.7	+0.1
MTVZ	**Mangateitei**	**0.71**	**216**	PN	Pn	21 57 38.8	+0.1
OMRZ	**Omania**	**0.76**	**22**	⇓PN	Pn	21 57 38.9	-0.1
MKRZ	**Makatiti**	**0.76**	**28**	⇓PN	Pn	21 57 39.4	+0.4
KARZ	**Kaharoa**	**0.81**	**13**	⇓PN	Pn	21 57 39.5	0.0
MCHZ	**McNeill Hill**	**0.83**	**140**	⇑PN	Pn	21 57 40.4	+0.7
RAHZ	**Arahi**	**0.84**	**98**	⇓PN	Pn	21 57 40.2	+0.4
RAHZ				SN	Sn	21 57 54.6	+0.2
KRHZ	**Kereru**	**0.88**	**162**	⇑PN	Pn	21 57 40.2	0.0
ARHZ	**Aropaoanui**	**0.89**	**121**	PN	Pn	21 57 40.7	+0.4
EDRZ	**Edgecumbe**	**0.90**	**39**	⇓PN	Pn	21 57 40.0	-0.5
HIZ	**Hauiti**	**0.95**	**288**	PN	Pn	21 57 40.7	-0.2
MARZ	**Manawahe**	**0.97**	**33**	⇓PN	Pn	21 57 40.8	-0.3
WHHZ	**Waihua**	**0.99**	**106**	PN	Pn	21 57 41.5	+0.3
URZ	**Urewera**	**1.02**	**58**	PN	Pn	21 57 40.9	-0.7
URZ				AML	AML	21 57 56.6	
URZ				AML	AML	21 57 57.2	
VRZ	**Vera Road**	**1.03**	**252**	PN	Pn	21 57 41.8	+0.2
SNGZ	**Shannon Statio**	**1.04**	**89**	PN	Pn	21 57 41.9	+0.1
OPRZ	**Ohinepanea**	**1.05**	**24**	PN	Pn	21 57 41.7	-0.2
TGRZ	**Tauranga**	**1.09**	**10**	⇓PN	Pn	21 57 42.5	+0.1
PNHZ	**Pukenui**	**1.11**	**173**	⇑PN	Pn	21 57 42.3	-0.4
TOZ	**Tahuroa Road**	**1.15**	**339**	PN	Pn	21 57 43.2	+0.2
CKHZ	**Cape Kidnapper**	**1.19**	**136**	PN	Pn	21 57 43.7	+0.3
KAHZ	**Kahuranaki**	**1.19**	**146**	PN	Pn	21 57 43.8	+0.3
WAZ	**Wanganui**	**1.24**	**220**	PN	Pn	21 57 44.2	+0.2
TSZ	**Takapari Road**	**1.25**	**182**	PN	Pn	21 57 43.7	-0.5
TSZ				AML	AML	21 58 03.1	
TSZ				AML	AML	21 58 06.8	
MWZ	**Matawai**	**1.28**	**69**	⇓PN	Pn	21 57 44.1	-0.5
MWZ				AML	AML	21 58 06.9	
MWZ				AML	AML	21 58 06.9	
MWZ				AML	AML	21 58 07.4	
MWZ				AML	AML	21 58 07.5	
WPHZ	**Waipukurau**	**1.30**	**165**	⇑PN	Pn	21 57 44.4	-0.3
KNZ	**Kokohu**	**1.31**	**100**	⇓PN	Pn	21 57 44.7	-0.2
MHEZ	**Mangahewa**	**1.34**	**258**	PN	Pn	21 57 46.0	+0.8
RIGZ	**Rimuhau**	**1.37**	**86**	PN	Pn	21 57 45.6	0.0
PXZ	**Pawanui**	**1.39**	**152**	⇑PN	Pn	21 57 45.5	-0.2
PXZ				AML	AML	21 58 04.7	
PXZ				AML	AML	21 58 05.3	
PXZ				AML	AML	21 58 05.4	
PXZ				AML	AML	21 58 08.5	
LREZ	**Lake Rotokare**	**1.41**	**242**	⇑PN	Pn	21 57 46.5	+0.5
PRGZ	**Paritu Road**	**1.47**	**95**	PN	Pn	21 57 46.5	-0.2
TKGZ	**Te Karaka**	**1.48**	**76**	⇓PN	Pn	21 57 47.1	+0.2
DVHZ	**Dannevirke**	**1.49**	**175**	⇑PN	Pn	21 57 46.2	-0.8
MHGZ	**Mahia Peninsul**	**1.52**	**104**	⇓PN	Pn	21 57 47.2	-0.1
PRHZ	**Porangahau**	**1.54**	**162**	⇑PN	Pn	21 57 47.1	-0.4
MYRZ	**Mayor Island**	**1.54**	**7**	PN	Pn	21 57 47.6	+0.1
PREZ	**Palmer Road**	**1.54**	**249**	PN	Pn	21 57 48.4	+0.8
POWZ	**Post Office Ro**	**1.59**	**187**	PN	Pn	21 57 47.3	-0.9
PKE	**Pukeiti**	**1.62**	**256**	PN	Pn	21 57 49.0	+0.3
KHEZ	**Kahui Hut**	**1.63**	**252**	PN	Pn	21 57 49.3	+0.6
TWGZ	**Tauwhareparae**	**1.67**	**68**	⇓PN	Pn	21 57 49.2	-0.1
ANWZ	**Angora Road**	**1.69**	**168**	⇑PN	Pn	21 57 48.9	-0.5
NWEZ	**Newall Road**	**1.73**	**254**	PN	Pn	21 57 50.4	+0.4
PRWZ	**Pori Road**	**1.75**	**181**	PN	Pn	21 57 49.4	-0.8
HAZ	**Te Kaha**	**1.75**	**54**	PN	Pn	21 57 48.8	-1.3
CNGZ	**Carnagh Statio**	**1.75**	**80**	⇓PN	Pn	21 57 50.1	0.0
NMEZ	**Namu Road**	**1.77**	**249**	PN	Pn	21 57 50.8	+0.4
BFZ	**Birch Farm**	**1.88**	**175**	PN	Pn	21 57 50.7	-1.1
MRZ	**Mangatainoka R**	**1.88**	**190**	PN	Pn	21 57 50.4	-1.4
MRZ				AML	AML	21 58 15.0	
MRZ				AML	AML	21 58 15.3	
PUZ	**Puketiti**	**1.91**	**68**	PN	Pn	21 57 51.2	-1.0
PUZ				AML	AML	21 58 16.1	
PUZ				AML	AML	21 58 17.3	
TIWZ	**Tintock**	**1.97**	**183**	⇑PN	Pn	21 57 51.8	-1.2
TIWZ				AML	AML	21 58 16.8	
TIWZ				AML	AML	21 58 18.0	
CPWZ	**Castlepoint**	**2.10**	**176**	⇑PN	Pn	21 57 53.9	-0.7
HOWZ	**Holdsworth Sta**	**2.12**	**190**	PN	Pn	21 57 53.2	-1.7
WMGZ	**Waiomatatini S**	**2.13**	**63**	PN	Pn	21 57 54.3	-0.7
MXZ	**Matakaoa Point**	**2.19**	**56**	⇑PN	Pn	21 57 55.7	-0.1
MXZ				AML	AML	21 58 24.6	
MXZ				AML	AML	21 58 25.0	
KIW	**Kapiti Island**	**2.22**	**202**	PN	Pn	21 57 54.4	-1.7
KIW				AML	AML	21 58 21.2	
KIW				AML	AML	21 58 21.3	
TMWZ	**Te Maipa**	**2.30**	**182**	⇑PN	Pn	21 57 55.5	-1.8
MTW	**Mount Morrison**	**2.38**	**189**	⇑PN	Pn	21 57 56.2	-2.0
MTW				AML	AML	21 58 25.3	
MTW				AML	AML	21 58 25.6	
CAW	**Cannon Point**	**2.41**	**197**	⇑PN	Pn	21 57 56.6	-2.0
CAW				AML	AML	21 58 26.1	
CAW				AML	AML	21 58 26.7	
DUWZ	**D'Urville Isla**	**2.56**	**218**	PN	Pn	21 57 58.8	-1.8
TRWZ	**Traveller**	**2.60**	**185**	PN	Pn	21 57 59.0	-2.1
TRWZ				AML	AML	21 58 30.7	
TRWZ				AML	AML	21 58 30.7	
PAWZ	**Paruwai Farm**	**2.61**	**190**	⇑PN	Pn	21 57 58.9	-2.3
PAWZ				AML	AML	21 58 30.1	
PAWZ				AML	AML	21 58 30.4	
WEL	**Wellington**	**2.65**	**201**	PN	Pn	21 57 59.4	-2.4
WEL				AML	AML	21 58 31.9	
WEL				AML	AML	21 58 32.5	
MSWZ	**Moikau Station**	**2.67**	**192**	⇑PN	Pn	21 57 59.6	-2.5
MSWZ				AML	AML	21 58 31.0	
MSWZ				AML	AML	21 58 31.3	
BHW	**Baring Head**	**2.74**	**198**	PN	Pn	21 58 00.3	-2.6
BHW				AML	AML	21 58 33.3	
BHW				AML	AML	21 58 33.3	
TCW	**Tory Channel**	**2.75**	**208**	PN	Pn	21 58 00.7	-2.3
TCW				AML	AML	21 58 34.6	
TCW				AML	AML	21 58 35.4	
PLWZ	**Palliser**	**2.82**	**192**	PN	Pn	21 58 01.4	-2.7
TUWZ	**Tuamarina**	**3.06**	**211**	PN	Pn	21 58 04.6	-2.6
TUWZ				AML	AML	21 58 40.7	
TUWZ				AML	AML	21 58 42.0	
NNZ	**Nelson**	**3.14**	**219**	PN	Pn	21 58 05.7	-2.5
BSWZ	**Blackbirch Sta**	**3.33**	**209**	PN	Pn	21 58 08.0	-2.8
BSWZ				AML	AML	21 58 48.0	
BSWZ				AML	AML	21 58 49.1	
QRZ	**Quartz Range**	**3.35**	**232**	PN	Pn	21 58 08.8	-2.4
THZ	**Toph

*BJI **03** 22:33:42.3,2˚.15S×100˚.13E,h54km,mB4.9/43,mb5.0/57, Ms4.7/51,Ms7 4.5/46*

*GCMT **03** 22:33:43.8±0.4,2˚.28S×99˚.85E,h40km±1km,MW4.9/47, Moment Tensor Solution. s33,c40; s47,c63; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.33±.18; $M_{\theta\theta}$-1.33±.11; $M_{\phi\phi}$-1.00±.15; $M_{r\theta}$1.61±.10; $M_{r\phi}$1.20±.08; $M_{\theta\phi}$-0.75±.12; Best double couple: M_o2.94800×10^{16} NP1:ϕ_s121.00000°,δ28.00000°,λ107.00000°. NP2: ϕ_s321.00000°,δ28.00000°,λ107.00000°. Principal axes: T 2.9590, Plg70.0000°, Azm13.0000°; N -0.0220, Plg8.0000°, Azm125.0000°; P -2.9370, Plg18.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 22:33:43.8±1.5,2˚.15S×100˚.14E,h48km±4km,mb5.1/52 Error ellipse: s-maj=12.7km s-min=5.8km az=78.0*

*IDC **03** 22:33:43.8±0.5,2˚.10S×100˚.18E,h42km±4km,mb4.5/26, mb1 4.6/27,mb1mx4.5/30,mbtmp4.7/27,ML4.3/1,MS4.1/20, Ms1 4.1/20,ms1mx3.9/33,Error ellipse: s-maj=16.0km s-min=10.1km az=49.0*

*ISCJB **03** 22:33:43.7±0.4,2˚.10S±0˚.02×100˚.13E±0˚.02,h58km±3km, mb5.0/109,MS4.2/25,Error ellipse: s-maj=5.0km s-min=2.5km az=137.4*

*DJA **03** 22:33:46.1±0.3,2˚.S±2˚×10˚.0E±˚,h49km±3km,M4.9/53, mb5.0/53,mB5.4/33,MLv5.1/17,Mw(mB)4.8/33,Mwp6.0/1*

ISC 03 22:33:43.9±0.3,**2.13S**±0.03×**100.10E**±0.04,**h47**km±2km, **h46**km:**pP-P,n561**,σt²**39**/658,**mb5.1**/111,**MS4.2**/25, **45C-20D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDSI	**Sungai Dareh**	**1.79**	**48**	P	**Pn**	**22 34 12.9**	**+0.6**
BKNI	**Bangkinang**	**2.62**	**21**	P	**Pn**	**22 34 25.3**	**+1.5**
BKNI				S	**Sn**	**22 34 56.5**	**+2.2**
BKNI	**Bangkinang** baz=2.9,SNR=32	**2.62**	**21**	P	**Pn**	**22 34 25.0**	**+1.2**
BKNI	**Bangkinang**	**2.62**	**21**	*e*Pn	**Pn**	**22 34 24.8**	**+1.0**
BKNI				*e*Sn	**Sn**	**22 34 53.1**	**-1.3**
MNSI	**Mandailing Nat**	**2.96**	**350**	P	**Pn**	**22 34 28.2**	**-0.2**
MNSI				S	**Sn**	**22 35 05.6**	**+3.0**
JMBI	**JAMBI**	**3.58**	**82**	P	**Pn**	**22 34 38.4**	**+1.5**
JMBI				S	**Sn**	**22 35 20.3**	**+2.3**
MNAI	**Manna**	**3.61**	**128**	P	**Pn**	**22 34 40.2**	**+2.8**
MNAI				S	**Sn**	**22 35 20.6**	**+1.8**
MNAI	**Manna** baz=3.6,SNR=51	**3.61**	**128**	P	**Pn**	**22 34 37.7**	**+0.3**
MNAI				S	Sn	22 35 12.1	-6.7
	baz=3.6,SNR=4.5						
MNAI	**Manna**	**3.61**	**128**	*e*Pn	**Pn**	**22 34 37.1**	**-0.3**
MNAI				*e*Sn	**Sn**	**22 35 18.5**	**-0.3**
LHSI	**Lahat**	**3.81**	**116**	P	**Pn**	**22 34 42.6**	**+2.4**
MDSI	**Maura Dua**	**4.70**	**120**	P	**Pn**	**22 34 53.7**	**+1.4**
MDSI				S	**Sn**	**22 35 47.8**	**+2.3**
PMBI	**Palembang**	**4.74**	**100**	P	**Pn**	**22 34 53.7**	**+0.9**
PMBI				S	**Sn**	**22 35 47.3**	**+0.8**
PMBI	**Palembang**	**4.74**	**100**	*e*Pn	**Pn**	**22 34 52.0**	**-0.9**
LWLI	**Liwa**	**4.88**	**126**	P	**Pn**	**22 34 56.0**	**+1.0**
LWLI				S	**Sn**	**22 35 53.1**	**+2.8**
PSI	**Prapat** baz=5.2,SNR=14	**5.04**	**347**	P	**Pn**	**22 34 55.8**	**-1.4**
BTDF	**Bukit Timah Da** baz=5.3,SNR=34	**5.05**	**47**	P	**Pn**	**22 34 57.6**	**+0.4**
KGM	**Kluang**	**5.23**	**38**	⇓P	**Pn**	**22 35 00.8**	**+1.2**
TPRI	**Tanjung Pinang** 289nm,0.7s,30µm1.8nm	**5.37**	**56**	P	**Pn**	**22 35 02.1**	**+0.6**
MYKOM	**Kota Tinggi**	**5.41**	**44**	⇓P	**Pn**	**22 35 03.4**	**+1.3**
MYKOM	**Kota Tinggi**	**5.41**	**44**	*e*Pn	**Pn**	**22 35 02.5**	**+0.4**
KLI	**Kotabumi** 171nm,0.8s,4µm2.4nm	**5.47**	**120**	P	**Pn**	**22 35 05.4**	**+2.5**
KASI	**Kota Agung** 267nm,0.8s,4µm2.0nm	**5.53**	**128**	P	**Pn**	**22 35 05.2**	**+1.4**
KASI				S	**Sn**	**22 36 08.9**	**+2.8**
	267nm,0.8s,4µm2.0nm						
FRIM	**Kepong**	**5.55**	**16**	⇑P	**Pn**	**22 35 05.9**	**+1.9**
TSI	**Tuntungan** 378nm,0.9s,4µm1.9nm	**5.80**	**345**	P	**Pn**	**22 35 09.7**	**+2.2**
SNSI	**Sinabang, Aceh** 277nm,1.0s,5µm1.2nm	**5.88**	**320**	P	**Pn**	**22 35 10.6**	**+2.0**
BLSI	**Bandar Lampung** 149nm,0.6s,2µm0.7nm	**6.06**	**122**	P	**Pn**	**22 35 13.1**	**+2.1**
KCSI	**Kotacane, Aceh** 185nm,1.2s,2µm1.8nm	**6.08**	**338**	P	**Pn**	**22 35 12.7**	**+1.4**
KCSI				S	**Sn**	**22 36 22.4**	**+2.7**
	185nm,1.2s,2µm1.8nm						
TPTI	113nm,0.6s,0.4nm	**6.10**	**331**	P	**Pn**	**22 35 14.5**	**+2.9**
TPTI				S	**Sn**	**22 36 22.4**	**+2.3**
	113nm,0.6s,0.4nm						
IPM	**Ipoh**	**6.63**	**8**	⇑P	**Pn**	**22 35 21.2**	**+2.3**
IPM	**Ipoh**	**6.63**	**8**	*e*Pn	**Pn**	**22 35 20.1**	**+1.2**
CGJI	**Cibinong** 115nm,0.6s,2µm0.5nm	**7.13**	**129**	P	**Pn**	**22 35 27.3**	**+1.5**
CGJI				S	**Sn**	**22 36 49.0**	**+3.4**
	115nm,0.6s,2µm0.5nm						
KULM	**Kulim**	**7.39**	**4**	⇑P	**Pn**	**22 35 29.8**	**+0.4**
KULM	**Kulim**	**7.39**	**4**	*e*Pn	**Pn**	**22 35 29.4**	**0.0**
LHMI	**Lhok Sumawe**	**7.96**	**337**	*e*Pn	**Pn**	**22 35 36.7**	**-0.5**
KTGM	**Kuala Trenggan**	**8.01**	**22**	⇑P	**Pn**	**22 35 40.5**	**+2.8**
SKJI	**Sukabumi**	**8.05**	**127**	P	Pn	22 35 48.0	+10
SKJI				S	**Sn**	**22 37 11.2**	**+3.0**
CNJI	**Cibinong** 127nm,0.9s,1µm	**8.69**	**127**	P	**Pn**	**22 35 47.9**	**+0.8**
LEM	**Lembang** 116nm,0.9s	**8.83**	**122**	P	**Pn**	**22 35 51.6**	**+2.4**
LEM				S	**Sn**	**22 37 30.0**	**+2.6**
	116nm,0.9s						
LEM	**Lembang** 3.4nm,0.3s,baz=123,slow=23,SNR=3.6	**8.83**	**122**	P	**Pn**	**22 35 48.8**	**-0.4**
LEM				LR	LR	22 39 53.9	
	comp=Z,1µm,19.8s,baz=288,slow=42						
CISI	**Cisompet, Garu** 150nm,0.6s,2µm	**9.39**	**125**	P	**Pn**	**22 35 57.8**	**+1.1**
CISI	**Cisompet, Garu** baz=9.4,SNR=10	**9.39**	**125**	P	**Pn**	**22 35 54.3**	**-2.5**
CISI	**Cisompet, Garu**	**9.39**	**125**	*e*Pn	**Pn**	**22 35 54.1**	**-2.6**
CISI				*e*Sn	Sn	22 37 32.1	-8.9
XMI	**Christmas Isla** baz=9.9,SNR=5.0	**9.96**	**146**	S	Sn	22 37 42.2	-13
XMIS	**Christmas Isla** baz=9.9,SNR=5.0	**9.96**	**147**	P	Pn	22 35 57.2	-7.4
XMIS				S	Sn	22 37 39.3	-16
	baz=9.9,SNR=7.7						
XMIS	**Christmas Isla**	**9.96**	**147**	*e*Pn	Pn	22 35 59.8	-4.7
XMIS				*e*Sn	Sn	22 37 38.1	-17
KPJI	**Karang Pucung** 62nm,0.7s	**10.20**	**121**	P	**Pn**	**22 36 10.6**	**+2.7**
KPJI				S	**Sn**	**22 38 03.1**	**+2.1**
	62nm,0.7s						
COCO	**West Island**	**10.50**	**198**	*e*P	**Pn**	**22 36 09.4**	**-2.5**
COCO	**West Island**	**10.50**	**198**	*e*Pn	**Pn**	**22 36 09.4**	**-2.5**
KSM	**Kuching** baz=11,SNR=4.8	**10.82**	**71**	P	**Pn**	**22 36 18.6**	**+2.3**
KSM	**Kuching**	**10.82**	**71**	⇑P	**Pn**	**22 36 16.9**	**+0.6**
KSM	**Kuching**	**10.82**	**71**	*e*Pn	**Pn**	**22 36 15.9**	**-0.4**
SURT	**Suratani**	**11.09**	**353**	P	Pn	22 36 26.5	+6.4
STKI	**Sintang** 20nm,0.8s,9µm	**11.58**	**79**	P	**Pn**	**22 36 28.5**	**+1.7**
STKI				S	**Sn**	**22 38 38.0**	**+3.2**
	20nm,0.8s,9µm						
UWJI	**Ujung Watu** 112nm,1.0s,1µm	**11.62**	**112**	P	**Pn**	**22 36 30.0**	**+2.7**
UGM	**Wanagama** baz=12,SNR=12	**11.86**	**119**	P	**Pn**	**22 36 28.8**	**-1.8**
SBUM	**Sibu**	**12.95**	**69**	⇑P	**Pn**	**22 36 46.4**	**+1.0**
SBUM	**Sibu**	**12.95**	**69**	*e*Pn	**Pn**	**22 36 44.5**	**-0.8**
BTM	**Bintulu**	**14.02**	**68**	⇑P	**P**	**22 37 05.4**	**-1.4**
BBKI	**Banjar Baru** 57nm,0.9s	**14.78**	**95**	P	**Pn**	**22 37 12.6**	**+2.4**
CHBT	**CHBT**	**14.95**	**8**	P	**P**	**22 37 19.4**	**+2.3**
ABJI	**Asem Bagus** 50nm,1.1s	**15.16**	**112**	P	**Pn**	**22 37 15.8**	**+0.7**
DLV	**T Lat** 33nm,1.0s	**16.28**	**31**	*e*Pn	**Pn**	**22 37 28.0**	**-1.7**
UTHA	**Uthaitani** 7.0nm,0.9s,61nm	**17.59**	**358**	P	**Pn**	**22 37 45.9**	**+0.1**
KKM	**Kota Kinabalu** baz=18,SNR=4.6	**18.03**	**63**	P	**P**	**22 37 52.8**	**+1.4**
KKM	**Kota Kinabalu**	**18.03**	**63**	⇑P	**P**	**22 37 53.3**	**+2.0**
UBPT	**Khong Chiam** 70nm,0.8s	**18.10**	**17**	P	**P**	**22 37 50.9**	**-1.1**
KHON	**Khomkaen**	**18.55**	**8**	P	Pn	22 38 03.3	+5.8
PBKT	**Sadao Pong** 16nm,1.2s,626nm	**18.60**	**3**	P	**P**	**22 37 56.1**	**-1.4**
SDKM	**Sandakan**	**18.74**	**66**	⇓P	**Pn**	**22 38 00.5**	**+0.5**
TSM	**Tawau**	**18.88**	**70**	⇑P	**Pn**	**22 38 02.4**	**+0.9**
KDM	**Kudat**	**18.97**	**62**	⇑P	**Pn**	**22 38 03.7**	**+1.1**
TTSI	**Tana Toraja** 98nm,1.0s,979nm	**19.72**	**93**	P	**Pn**	**22 38 11.3**	**-0.3**
SPSI	**Sidrap Palu**	**19.73**	**96**	P	**Pn**	**22 38 14.6**	**+2.9**
UTTA	**Uttaradit** 6.0nm,0.9s,51nm	**19.76**	**1**	P	**P**	**22 38 09.3**	**-0.8**
PCI	**Palu** 118nm,1.9s,1µm	**19.77**	**87**	P	**Pn**	**22 38 12.7**	**+0.5**
KAPI	**Kappang** 362nm,1.4s,SNR=6.9	**19.82**	**99**	Pn	**P**	**22 38 11.0**	**+0.1**
KAPI	**Kappang** SNR=9.5	**19.82**	**99**	P	**Pn**	**22 38 11.9**	**-0.9**
KAPI	**Kappang** 32nm,1.4s	**19.82**	**99**	*e*P	**P**	**22 38 10.4**	**-0.5**
MPSI	**Mapaga** 110nm,1.1s,939nm	**19.95**	**83**	P	**Pn**	**22 38 13.6**	**-0.7**
BNSI	**Bone** 122nm,1.1s	**20.10**	**97**	P	Pn	22 38 15.6	-0.5
BKSI	**Bulukumba** 118nm,0.9s,1µm	**20.23**	**100**	P	**P**	**22 38 16.0**	**+0.6**
MHMT	**Maesarieng** 30nm,0.8s,266nm	**20.29**	**354**	P	**P**	**22 38 15.9**	**-0.1**
CM31	**Chiang Mai Arr**	**20.49**	**357**	*e*P	**P**	**22 38 17.1**	**-1.0**
CM31				*e*PcP	**PcP**	**22 42 30.6**	**+1.8**
CMAR	**Chiang Mai Arr** 19nm,0.5s,baz=186,slow=9.9,SNR=96	**20.49**	**357**	P	**P**	**22 38 17.1**	**-1.0**
CMAR				PcP	**PcP**	**22 42 30.6**	**+1.8**
	0.5nm,0.4s,baz=217,slow=2.7,SNR=4.3						
CMAR				pPcP		22 42 42.9	
	1.0nm,0.3s,baz=219,slow=3.3,SNR=6.7						
CMAR				LR	LR	22 47 04.5	
	comp=Z,724nm,18.4s,baz=188,slow=39						
LAMP	**Lampang** 7.9nm,0.9s,76nm	**20.53**	**359**	P	**P**	**22 38 18.0**	**-0.6**
WBSI	**Waikabubak, Su** 68nm,0.8s,4µm	**20.58**	**112**	P	**P**	**22 38 17.3**	**-1.9**
CHTO	**Chiang Mai**	**20.85**	**357**	*e*P	**P**	**22 38 19.1**	**-2.9**
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai** SNR=6.0	**20.85**	**357**	P	**P**	**22 38 20.6**	**-1.4**
CHTO	**Chiang Mai** comp=Z,14nm,0.9s	**20.85**	**357**	*e*P	**P**	**22 38 19.1**	**-2.9**
CHTO	**Chiang Mai** comp=Z,83nm,1.0s	**20.85**	**357**	P	**P**	**22 38 20.5**	**-1.4**
PALK	**Pallekele**	**21.49**	**296**	*e*P	**P**	**22 38 28.8**	**-0.2**
PALK				pmax	pmax		
	comp=Z,17nm,1.3s						
PALK	**Pallekele**	**21.49**	**296**	P	**P**	**22 38 29.7**	**+0.7**
	comp=Z,9.5nm,0.9s,baz=135,slow=5.7,SNR=3.7						
PALK				LR	LR	22 46 08.6	
	comp=Z,1µm,19.3s,baz=112,slow=35						
PALK	**Pallekele** comp=Z,17nm,1.3s	**21.49**	**296**	*e*P	**P**	**22 38 28.8**	**-0.2**
APSI	**Ampana** comp=Z,127nm,1.2s,comp=Z,1µm	**21.58**	**87**	P	**P**	**22 38 31.7**	**+1.8**
CMAI	**Chiengmai2** comp=Z,120nm,0.8s	**21.95**	**357**	P	**P**	**22 38 32.9**	**-1.1**
MRSI	**Marisa** comp=Z,83nm,1.2s,comp=Z,722nm	**21.99**	**83**	P	**P**	**22 38 34.0**	**-0.3**
CRAI	**Chiangrai** comp=Z,67nm,0.7s	**22.23**	**1**	P	**P**	**22 38 32.3**	**-4.5**
LUWI	**Luwuk** comp=Z,99nm,1.0s,comp=Z,4µm	**22.69**	**88**	P	**P**	**22 38 42.4**	**+0.6**
LUWI	**Luwuk** comp=Z,66nm,0.8s	**22.69**	**88**	*e*P	**P**	**22 38 40.8**	**-1.0**
GTOI	**Gorontalo** comp=Z,90nm,1.1s,comp=Z,1µm	**23.07**	**83**	P	**P**	**22 38 45.3**	**-0.5**
QIZ	**Qiongzhong**	**23.11**	**24**	P	**P**	**22 38 46.0**	**-0.1**
QIZ				pP	**pP**	**22 38 58.0**	**+0.6**
QIZ				ScP	**ScP**	**22 46 08.9**	**+0.7**
QIZ				PMZ			
	comp=Z,28nm,0.9s						
QIZ				LN			
	comp=Z,620nm,15.4s						
QIZ				LE			
	comp=Z,140nm,11.9s						
QIZ				LZ			
	comp=Z,670nm,18.0s						
QIZ	**Qiongzhong** comp=Z,32nm,0.9s	**23.11**	**24**	*e*P	**P**	**22 38 44.6**	**-1.4**
SLVN	**Son La** comp=Z,28nm,1.1s	**23.62**	**9**	*e*P	**P**	**22 38 50.4**	**-0.6**
KMSI	**Cibinong** comp=Z,226nm,1.0s,comp=Z,3µm	**24.03**	**84**	P	**P**	**22 38 57.0**	**+2.2**
BATI	**Bamata** comp=Z,21nm,0.9s	**24.75**	**110**	P	**P**	**22 39 04.6**	**+3.2**
BATI	**Baumata** comp=Z,12nm,0.5s,baz=318,slow=13,SNR=5.4	**24.75**	**110**	P	**P**	**22 38 59.0**	**-2.4**
SOEI	**Soe** comp=Z,18nm,0.7s	**25.19**	**108**	*e*P	**P**	**22 39 06.0**	**+0.5**
SANI	**Sanana** comp=Z,23nm,1.4s	**25.87**	**90**	P	**P**	**22 39 09.7**	**-1.9**
KMI	**Kunming**	**27.22**	**5**	P	**P**	**22 39 23.9**	**+0.1**
KMI				pP	**pP**	**22 39 36.7**	**+0.7**
KMI				S	**S**	**22 44 03.7**	**+3.8**
KMI				PMZ			
	comp=Z,20nm,1.0s						
KMI				PMZ			
	comp=Z,79nm,6.0s						
KMI				LN			
	comp=Z,450nm,21.6s						
KMI				LE			
	comp=Z,680nm,14.2s						
KMI				LZ			
	comp=Z,690nm,18.6s						
IMP	**Imphal**	**27.42**	**348**	*e*P	**P**	**22 39 26.0**	**+0.5**
LBMI	**Labuha** comp=Z,70nm,1.2s,comp=Z,2µm	**27.43**	**87**	P	**P**	**22 39 27.5**	**+1.8**
H08S2	**Diego Garcia H** baz=80,slow=75,SNR=2357	**28.03**	**258**	T	T	23 08 17.6	
H08S3	**Diego Garcia H** baz=80,slow=75,SNR=2966	**28.04**	**258**	T	T	23 08 27.5	
H08S1	**Diego Garcia H** baz=80,slow=75,SNR=2032	**28.05**	**258**	T	T	23 08 38.1	
SHL	**Shillong**	**28.66**	**344**	*e*P	**P**	**22 39 35.5**	**-1.2**
SHL				AMB	AMB	22 39 43.5	
	comp=Z,21nm,0.8s						
GYA	**Guiyang**	**29.12**	**12**	⇑*i*P	**P**	**22 39 39.2**	**-1.5**
GYA				pP	**pP**	**22 39 55.4**	**+2.4**
GYA				PP	**PnPn**	**22 40 39.6**	**+4.6**
GYA				S	**S**	**22 44 33.2**	**+3.5**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,130nm,4.8s						
GYA				LN			
	comp=Z,590nm,16.3s						
GYA				LE			
	comp=Z,540nm,17.0s						
GYA				LZ			
	comp=Z,580nm,16.4s						
BOK	**Bokaro**	**29.25**	**333**	*e*P	**P**	**22 39 43.3**	**+1.6**
BOK				AMB	AMB	22 39 43.8	
	comp=Z,22nm,0.7s						
KNRA	**Kununurra** baz=31,SNR=5.3	**31.29**	**117**	P	**P**	**22 39 58.0**	**-1.9**
ODAN	**Odare** comp=Z,48nm,0.7s	**31.32**	**338**	*e*P	**P**	**22 40 01.5**	**+1.2**
TAPN	**Taplejung** comp=Z,156nm,0.9s	**31.65**	**339**	*e*P	**P**	**22 40 04.6**	**+1.4**
RAMN	**Ramite** comp=Z,52nm,0.8s	**31.71**	**337**	*e*P	**P**	**22 40 04.9**	**+1.2**
FAKI	**Fak Fak**	**32.13**	**92**	P	pP	22 40 21.7	+2.1
FAKI	**Fak Fak** baz=32,SNR=4.8	**32.13**	**92**	P	**P**	**22 40 05.8**	**-1.5**
FAKI	**Fak Fak** comp=Z,24nm,1.0s	**32.13**	**92**	*e*P	**P**	**22 40 05.5**	**-1.8**
TPUB	**Ta-pu** comp=Z,60nm,1.0s	**32.23**	**37**	*e*P	**P**	**22 40 08.3**	**+0.2**
JIRN	**Jiri** comp=Z,103nm,0.8s	**32.51**	**337**	*e*P	**P**	**22 40 12.1**	**+1.3**
PKI	**Pulchoki**	**32.74**	**335**	*e*P	**P**	**22 40 13.4**	**+0.5**
PKIN	**Phulchoki** comp=Z,11nm,0.6s	**32.76**	**335**	*e*P	**P**	**22 40 13.2**	**+0.3**
LSA	**Lhasa**	**32.79**	**346**	*e*P	**P**	**22 40 14.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,33nm,0.8s						
LSA	**Lhasa** comp=Z,32nm,0.8s	**32.79**	**346**	*e*P	**P**	**22 40 14.0**	**+0.6**
GUN	**Gumba** comp=Z,102nm,0.5s	**32.85**	**336**	*e*P	**P**	**22 40 14.6**	**+0.7**
DMN	**Daman**	**32.91**	**335**	*e*P	**P**	**22 40 14.9**	**+0.7**
KKN	**Kakani** comp=Z,45nm,0.8s	**32.99**	**335**	*e*P	**P**	**22 40 15.3**	**+0.4**
POO	**Poona**	**33.00**	**310**	*e*P	**P**	**22 40 14.8**	**-0.1**
POO				AMB	AMB	22 40 29.0	
	comp=Z,14nm,0.4s						
CD2	**Chengdu**	**33.04**	**6**	*e*P	**P**	**22 40 16.6**	**+1.5**
CD2				pP	**pP**	**22 40 28.4**	**+0.9**
CD2				sP	**sP**	**22 40 33.7**	**+0.7**
CD2				PP	**PP**	**22 41 29.0**	**-1.6**
CD2				S	**S**	**22 45 33.0**	**+2.2**
CD2				sS	**sS**	**22 45 52.9**	**+1.4**
CD2				PcS	**PcS**	**22 46 42.6**	**-1.0**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.4s						
CD2				LN			
	comp=Z,860nm,16.6s						
CD2				LE			
	comp=Z,1µm,18.1s						
CD2				LZ			
	comp=Z,890nm,17.1s						
GKN	**Gorkha** comp=Z,24nm,0.5s	**33.45**	**335**	*e*P	**P**	**22 40 19.4**	**+0.6**
BHPL	**Bhopal**	**33.53**	**320**	*e*P	**P**	**22 40 18.3**	**-1.1**
KOLN	**Koldanda** comp=Z,30nm,0.6s	**33.70**	**333**	*e*P	**P**	**22 40 21.7**	**+0.6**
DANN	**Dangsing** comp=Z,43nm,0.8s	**34.13**	**334**	*e*P	**P**	**22 40 25.3**	**+0.4**
PYUN	**Piuthan** comp=Z,66nm,0.5s	**34.27**	**333**	*e*P	**P**	**22 40 26.7**	**+0.7**
NWAO	**Narrogin (SRO)** comp=Z,12nm,0.8s,baz=323,slow=10,SNR=3.3	**34.60**	**154**	P	**P**	**22 40 28.5**	**-0.1**
WHN	**Wuhan**	**35.22**	**22**	P	**P**	**22 40 36.0**	**+2.1**
WHN				S	**S**	**22 46 09.0**	**+4.7**
WHN				LN			
	comp=Z,3µm,15.1s						
WHN				LE			
	comp=Z,2µm,19.0s						
WHN				LZ			
	comp=Z,3µm,17.1s						
WRKA	**Warakurna** baz=36,SNR=5.9	**35.46**	**132**	P	**P**	**22 40 39.3**	**+3.1**
LGTI	**Lohaghat**	**36.71**	**330**	*e*P	**P**	**22 40 46.1**	**-0.5**
XAN	**Xi'an**	**36.93**	**12**	P	**P**	**22 40 47.1**	**-1.4**
XAN				pP	**pP**	**22 40 59.2**	**-1.8**
XAN				sP	**sP**	**22 41 04.6**	**-1.9**
XAN				S	**S**	**22 46 25.4**	**-5.1**
XAN				PMZ			
	comp=Z,7.0nm,0.6s						
XAN				LN			
	comp=Z,470nm,16.4s						
XAN				LE			
	comp=Z,210nm,15.8s						
XAN				LZ			
	comp=Z,300nm,17.1s						
WRA	**Warramunga Arr** comp=Z,22nm,0.9s,baz=309,slow=8.9,SNR=111	**37.84**	**120**	P	**P**	**22 40 55.6**	**-0.9**
WRA				pP	**pP**	**22 41 08.0**	**-0.9**
	comp=Z,26nm,0.9s,baz=297,slow=9.4,SNR=15						
WRA				PcP	**PcP**	**22 43 13.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=315,slow=2.2,SNR=3.5						
WRA				pPcP		22 43 25.6	
	comp=Z,3.5nm,0.8s,baz=297,slow=2.5,SNR=6.6						
WRA				S	**S**	**22 46 39.9**	**-4.9**
	comp=Z,4.0nm,1.0s,baz=295,slow=16,SNR=7.0						
WRAB	**Tennant Creek** comp=Z,218nm,0.9s,SNR=15	**37.85**	**120**	P	**P**	**22 40 55.1**	**-1.4**
WRAB	**Tennant Creek**	**37.85**	**120**	*d*i*P*	**P**	**22 40 55.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,72nm,0.8s						
WRAB	**Tennant Creek** comp=Z,29nm,0.9s	**37.85**	**120**	*e*P	**P**	**22 40 55.1**	**-1.4**
LZH	**Lanzhou**	**38.18**	**5**	*e*P	**P**	**22 40 59.7**	**+0.4**
LZH				pP	**pP**	**22 41 10.8**	**-1.0**
LZH				sP	**sP**	**22 41 15.6**	**-1.7**
LZH				PP	**PnPn**	**22 42 32.0**	**+2.8**
LZH				*e*S	**S**	**22 46 49.0**	**-0.7**
LZH				sS	**sS**	**22 47 10.2**	**-0.4**
LZH				SS	**SnSn**	**22 49 30.8**	**-6.2**
LZH				PMZ			
	comp=Z,23nm,1.0s						
LZH				PMZ			
	comp=Z,78nm,4.3s						
LZH				LN			
	comp=Z,370nm,13.9s						
LZH				LE			
	comp=Z,510nm,14.4s						
LZH				LZ			
	comp=Z,630nm,15.9s						
NJ2	**Nanjing**	**38.37**	**26**	*e*P	**P**	**22 41 01.3**	**+0.6**
NJ2				pP	**pP**	**22 41 13.1**	**-0.1**
NJ2				sP	**sP**	**22 41 18.0**	**-0.7**
NJ2				S	**ScP**	**22 46 56.0**	**-2.0**
NJ2				sS	**sS**	**22 47 10.0**	**-3.2**
NJ2				PMZ			
	comp=Z,30nm,0.6s						
NJ2				PMZ			
	comp=Z,460nm,4.0s						
NJ2				LN			
	comp=Z,620nm,18.6s						
NJ2				LE			
	comp=Z,1µm,25.7s						
NJ2				LZ			
	comp=Z,1µm,26.2s						
SSE	**Sheshan**	**38.66**	**30**	P	**P**	**22 41 05.0**	**+1.8**
SSE				sP	**sP**	**22 41 21.2**	**0.0**
SSE				S	**ScP**	**22 47 00.5**	**+1.4**
SSE				sS	**sS**	**22 47 19.7**	**+2.0**
SSE				PMZ			
	comp=Z,38nm,0.7s						
SSE				PMZ			
	comp=Z,110nm,4.6s						
SSE				LN			
	comp=Z,420nm,17.2s						
SSE				LE			
	comp=Z,320nm,17.2s						
SSE				LZ			
	comp=Z,620nm,17.0s						
AS12	**Alice Springs**	**39.09**	**126**	*e*P	**P**	**22 41 06.2**	**-0.9**
AS12				*e*PcP	**PcP**	**22 43 17.2**	**+0.9**
AS12				*e*S	**S**	**22 46 59.2**	**-4.4**
ASAR	**Alice Springs** comp=Z,6.0nm,0.5s,baz=306,slow=7.7,SNR=84	**39.09**	**126**	P	**P**	**22 41 06.2**	**-0.9**
ASAR				PcP	**PcP**	**22 43 17.2**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=298,slow=2.7,SNR=4.1						
ASAR				pPcP		22 43 30.1	
	comp=Z,4.2nm,0.7s,baz=307,slow=2.3,SNR=7.8						
ASAR				S	**S**	**22 46 59.2**	**-4.4**
	comp=Z,6.0nm,1.1s,baz=296,slow=16,SNR=18						
ASAR				LR	LR	22 59 33.8	
	comp=Z,322nm,20.0s,baz=296,slow=40						
SMLA	**Simla**	**39.63**	**328**	*e*P	**P**	**22 41 11.4**	**+0.2**
DHRM	**DHARAMSHALA**	**40.96**	**329**	*e*P	**P**	**22 41 22.4**	**-0.1**
DHRM				AMB	AMB	22 41 34.8	
	comp=Z,24nm,0.5s						
TIA	**Tai'an**	**41.32**	**21**	⇑P	**P**	**22 41 24.5**	**-0.7**
TIA				LN			
	comp=Z,620nm,20.8s						
TIA				LE			
	comp=Z,710nm,20.5s						
TIA				LZ	

comp=Z,110nm,6.2s
HHC LN
comp=Z,950nm,16.2s
HHC LE
comp=Z,610nm,14.9s
HHC LZ
comp=Z,880nm,17.4s
BJT Baijiatuau 44.46 18 *e*P **P** **22 41 50.4 -0.1**
BJT pmax pmax
comp=Z,19nm,0.7s
BJT Baijiatuau 44.46 18 *e*P **P** **22 41 50.4 -0.1**
comp=Z,19nm,0.7s
BJI Beijing 44.48 18 P **P** **22 41 50.4 -0.3**
BJI pP **pP** **22 42 03.0 -0.4**
BJI sP **sP** **22 42 08.5 -0.3**
BJI PcP **PcP** **22 43 33.8 +0.3**
BJI PP **PP** **22 43 35.5 +0.3**
BJI S **S** **22 48 19.5 -3.1**
BJI PMZ
comp=Z,26nm,0.8s
BJI LN
comp=Z,800nm,17.2s
BJI LE
comp=Z,220nm,13.6s
BJI LZ
comp=Z,400nm,16.9s
JNU Nakatsue 45.54 37 *e*P **P** **22 41 58.9 -0.4**
comp=Z,60nm,1.0s
KBL Kabul 46.70 324 *e*P **P** **22 42 07.9 -0.7**
KBL pmax pmax
comp=Z,8.0nm,0.5s
KBL Kabul 46.70 324 P P 22 42 16.8 +8.2
baz=47,SNR=8.0
KBL Kabul 46.70 324 *e*P **P** **22 42 07.9 -0.7**
comp=Z,8.2nm,0.5s
KSH Kashi 47.00 334 P **P** **22 42 10.1 -0.6**
KSH sP **sP** **22 42 28.6 -0.3**
KSH PcP **PcP** **22 43 44.3 +1.8**
KSH PcS **PcS** **22 47 37.2 -0.5**
KSH S **S** **22 48 57.5 -1.7**
KSH SS SS 22 52 16.1 -11
KSH PMZ
comp=Z,11nm,0.7s
KSH PMZ
comp=Z,100nm,6.4s
KSH LN
comp=Z,110nm,5.6s
KSH LE
comp=Z,120nm,5.0s
KSH LZ
comp=Z,190nm,6.2s
KS15 Wonju Array Si 47.06 30 *e*P **P** **22 42 11.2 +0.1**
WMQ Urumqi 47.08 348⇑*i*P **P** **22 42 12.3 +1.0**
WMQ pP **pP** **22 42 24.5 +0.5**
WMQ sP **sP** **22 42 30.0 +0.5**
WMQ PcP **PcP** **22 43 43.5 +0.8**
WMQ ScP **ScP** **22 47 33.0 +0.1**
WMQ S **S** **22 49 01.0 +0.8**
WMQ ScS **ScS** **22 51 59.5 -2.2**
WMQ SS **SS** **22 52 21.0 -6.9**
WMQ PMZ
comp=Z,130nm,1.0s
WMQ PMZ
comp=Z,200nm,5.0s
WMQ LN
comp=Z,450nm,29.8s
WMQ LE
comp=Z,470nm,25.7s
WMQ LZ
comp=Z,440nm,28.0s
KSRS Korea Array 47.08 30 P **P** **22 42 11.2 -0.1**
comp=Z,17nm,0.9s,baz=224,slow=8.5,SNR=50
KSRS LR LR 23 01 27.7
comp=Z,191nm,22.0s,baz=236,slow=35
CTAO Charters Tower 48.45 115 *e*P **P** **22 42 22.0 -0.2**
CTAO pmax pmax
comp=Z,33nm,1.0s
CTAO Charters Tower 48.45 115 *e*P **P** **22 42 22.0 -0.2**
comp=Z,33nm,1.0s
QLP Quilpie 48.80 124 P **P** **22 42 25.2 +0.4**
baz=49,SNR=6.0
KZA Kyzart 49.43 336 P **P** **22 42 31.1 +1.2**
SNR=12
KZA Kyzart 49.43 336 *i*P **P** **22 42 31.0 +1.2**
UCH Uchtor 49.86 335 P **P** **22 42 34.3 +1.2**
SNR=21
UCH Uchtor 49.86 335 *i*P **P** **22 42 34.3 +1.2**
TKM2 Tokmak 2 49.99 337 P **P** **22 42 35.5 +1.7**
SNR=15
TKM2 Tokmak 2 49.99 337 *i*P **P** **22 42 35.5 +1.7**
TKM2 Tokmak 2 49.99 337 *e*P **P** **22 42 34.4 +0.5**
comp=Z,39nm,0.6s
KBK Karagaybulak 50.03 336 P **P** **22 42 35.4 +1.3**
SNR=24
KBK Karagaybulak 50.03 336 *i*P **P** **22 42 35.4 +1.3**
SONA0 Songino Array 50.07 6 *e*P **P** **22 42 34.2 0.0**
SONA0 *e*pP **pP** **22 42 46.5 -0.6**
SONA0 *e*PcP **PcP** **22 43 54.1 +0.7**
SONM Songino Array 50.07 6 P **P** **22 42 34.2 0.0**
comp=Z,9.9nm,0.5s,baz=188,slow=9.9,SNR=148
SONM pP **pP** **22 42 46.5 -0.6**
comp=Z,12nm,0.8s,baz=184,slow=8.7,SNR=8.6
SONM PcP **PcP** **22 43 54.1 +0.7**
comp=Z,2.0nm,0.6s,baz=186,slow=5.6,SNR=4.3
SONM pPcP 22 44 07.3
comp=Z,4.3nm,0.7s,baz=178,slow=3.1,SNR=3.6
SONM LR LR 23 06 52.4
comp=Z,536nm,18.1s,baz=186,slow=40
AML Almayashu 50.13 334 P **P** **22 42 35.7 +0.6**
SNR=28
AML Almayashu 50.13 334 *i*P **P** **22 42 35.7 +0.6**
ULN Ulaanbaatar 50.16 6 *e*P **P** **22 42 35.3 +0.3**
ULN pmax pmax
comp=Z,45nm,1.6s
ULN Ulaanbaatar 50.16 6 P **P** **22 42 35.9 +0.9**
SNR=9.9
ULN Ulaanbaatar 50.16 6 *e*P **P** **22 42 35.3 +0.3**
comp=Z,45nm,1.6s
AAK Ala-Archa 50.20 335 P **P** **22 42 36.0 +0.6**
comp=Z,66nm,0.6s,SNR=11
AAK Ala-Archa 50.20 335 P **P** **22 42 37.0 +1.7**
SNR=14
AAK Ala-Archa 50.20 335*c i*P **P** **22 42 36.5 +1.1**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 50.20 335 P **P** **22 42 37.3 +1.9**
SNR=8.1
AAK Ala-Archa 50.20 335 *e*P **P** **22 42 36.1 +0.7**
comp=Z,31nm,1.5s
AAK *e*P **P** **22 42 36.3 +0.9**
FRU Bishkek 50.32 336 *e*P **P** **22 42 36.0 -0.1**
FRU *e* 22 42 49.0
FRU pmax pmax
comp=Z,60nm,2.0s
CHMS Chumysh 50.40 336 P **P** **22 42 37.9 +1.1**
SNR=11
CHMS Chumysh 50.40 336 *i*P **P** **22 42 37.8 +1.1**
EKS2 Erkin-Say 50.52 335 P **P** **22 42 38.8 +1.0**
SNR=54
EKS2 Erkin-Say 50.52 335 *e*P **P** **22 42 38.9 +1.1**
EKS2 pmax pmax
comp=Z,31nm,0.8s
EKS2 Erkin-Say 50.52 335 *e*P **P** **22 42 38.9 +1.1**
comp=Z,31nm,0.8s
USP Ospenovka 50.72 336 P **P** **22 42 40.2 +1.0**
SNR=50
USP Ospenovka 50.72 336 *i*P **P** **22 42 40.1 +1.0**
CN2 Changchun 51.07 23 *e*P **P** **22 42 41.2 -0.5**
CN2 *e*S **S** **22 49 55.3 -0.7**
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,90nm,4.0s
MK32 Makanchi Array 51.18 344 *e*P **P** **22 42 42.7 +0.2**
MKAR Makanchi Array 51.18 344 P **P** **22 42 42.7 +0.2**
comp=Z,22nm,0.5s,baz=155,slow=8.6,SNR=441
MKAR LR LR 23 07 58.9
comp=Z,99nm,19.6s,baz=150,slow=40
MKAR Makanchi Array 51.18 344 *e*P **P** **22 42 42.6 0.0**
CMSA Cobar Meteorol 51.95 129 P **P** **22 42 49.1 +0.6**
baz=52,SNR=10
MAJO Matsushiro 52.32 39 *e*P **P** **22 42 50.2 -1.0**
MAJO pmax pmax
comp=Z,131nm,2.3s
MAJO Matsushiro 52.32 39 *e*P **P** **22 42 50.2 -1.0**
comp=Z,131nm,2.3s
MAT Matsushiro 52.32 39 P **P** **22 42 49.4 -1.8**
MAT *e*S **S** **22 50 18.6 +5.2**
KKAR Karatay Array 52.32 333 *e*P **P** **22 42 50.8 -0.3**
KKAR Karatay Array 52.32 333 *e*P **P** **22 42 50.8 -0.3**
MJAR Matsushiro Arr 52.32 39 P **P** **22 42 50.2 -1.0**
comp=Z,6.4nm,0.9s,baz=215,slow=8.5,SNR=19
MJAR LR LR 23 06 55.4
comp=Z,148nm,18.5s,baz=235,slow=38
ZAK Zakamensk 52.38 3 *e*P **P** **22 42 51.2 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
RMQ Roma 52.56 122 P **P** **22 42 54.2 +1.1**
baz=53,SNR=4.2
HVS Khovu-Aksy 53.35 355*d i*P **P** **22 42 58.4 -0.2**
HVS pmax pmax
comp=Z,59nm,1.1s
MDJ Mudanjiang 53.47 26 P **P** **22 42 59.2 -0.2**
MDJ PMZ
comp=Z,9.0nm,0.9s
MDJ PMZ
comp=Z,56nm,4.4s
MDJ LN
comp=Z,240nm,11.0s
MDJ LE
comp=Z,320nm,15.3s
MDJ LZ
comp=Z,500nm,14.7s
MOY Mondy 53.60 1 *e*P **P** **22 43 01.1 +0.6**
TLY Talaya 53.70 3 P **P** **22 43 02.1 +1.0**
comp=Z,125nm,1.1s,SNR=10
TLY Talaya 53.70 3 *e*P **P** **22 43 01.5 +0.4**
TLY *e*S S 22 50 52.3 +21
TLY pmax pmax
comp=Z,19nm,0.9s
TLY MLR MLR
comp=Z,516nm,17.0s
TLY Talaya 53.70 3 P **P** **22 43 02.1 +1.0**
SNR=13
TLY Talaya 53.70 3 *e*P **P** **22 43 01.5 +0.4**
comp=Z,24nm,1.0s
EIDS Eidsvold 54.20 120 *e*P **P** **22 43 06.2 +0.9**
comp=Z,27nm,1.0s
USRK Ussuriysk Ar. 54.23 28 P **P** **22 43 04.4 -0.6**
comp=Z,46nm,0.7s,baz=225,slow=6.0,SNR=75
USRK LR LR 23 08 41.1
comp=Z,311nm,19.4s,baz=214,slow=39
IRK Irkutsk 54.29 3 *e*P **P** **22 43 05.3 -0.1**
IRK pmax pmax
comp=Z,42nm,2.0s
GEYT Alibeck 55.61 320 P **P** **22 43 14.7 -0.5**
comp=Z,4.2nm,0.8s,baz=150,slow=6.8,SNR=14
GEYT LR LR 23 09 54.2
comp=Z,119nm,20.3s,baz=145,slow=39
OTUK Ortayu 55.70 338 *i*P **P** **22 43 15.7 +0.1**
KURK Kurchatov 55.76 344 P **P** **22 43 16.1 +0.1**
comp=Z,113nm,0.8s,SNR=35
KURK Kurchatov 55.76 344 *e*P **P** **22 43 15.7 -0.3**
KURK pmax pmax
comp=Z,38nm,0.9s
KURK Kurchatov 55.76 344 P **P** **22 43 16.4 +0.5**
SNR=19
KURK Kurchatov 55.76 344 *e*P **P** **22 43 15.7 -0.3**
comp=Z,38nm,0.9s
ZALV Zalesovo Beam 57.32 349 P **P** **22 43 27.0 +0.1**
comp=Z,33nm,0.8s,baz=176,slow=5.8,SNR=103
ZALV pP **pP** **22 43 39.5 -0.6**
comp=Z,34nm,0.9s,baz=160,slow=4.7,SNR=11
ZALV LR LR 23 11 47.6
comp=Z,120nm,18.4s,baz=72,slow=40
ZAA1 Zalesovo Array 57.32 349 *e*P **P** **22 43 27.0 0.0**
ZAA1 *e*pP **pP** **22 43 39.5 -0.6**
KLR Kul'dur 58.01 24 *e*P P 22 43 27.9 -4.1
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s
NVS Novosibirsk 58.47 349⇑*i*P **P** **22 43 33.1 -1.9**
NVS *e* 22 43 43.9
NVS *e*S **S** **22 51 33.6 -1.2**
NVS pmax pmax
comp=Z,24nm,1.3s
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS smax smax
comp=E,6.0nm,1.5s
HABR Khabarovsk 58.84 26 *e*P **P** **22 43 35.5 -2.2**
HABR *e**PP **pP** **22 43 47.2 -3.6**
HABR *e* 22 45 45.5
HABR *e*S **S** **22 51 37.8 -2.1**
HABR *e* 22 51 52.1
HABR *e* 22 53 19.7
HABR *e*SS **SS** **22 55 32.6 -1.5**
HABR pmax pmax
comp=Z,6.0nm,1.2s
HABR MLR MLR
comp=Z,325nm,16.0s
RAYN Ar Rayn 58.89 299 *e*P **P** **22 43 39.1 +0.5**
comp=Z,5.8nm,1.4s
BVAR Borovoye Array 60.34 340 P **P** **22 43 47.5 -0.5**
comp=Z,9.5nm,0.7s,baz=144,slow=9.1,SNR=45
BOD Bodaibo 60.80 8⇑*i*P **P** **22 43 51.0 0.0**
BOD pmax pmax
comp=Z,38nm,0.9s
YSS Yuzh-Sakhalins 61.54 32⇓*i*P **P** **22 43 56.5 +0.2**
YSS *e* 22 44 08.4
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 61.54 32 *e*P **P** **22 43 55.9 -0.3**
comp=Z,53nm,0.8s
ABKAR Akbulak array 61.80 331 *e*P **P** **22 43 57.6 -0.3**
CLNS Chul'man 62.12 15 *e*P **P** **22 43 59.4 -0.6**
CLNS pmax pmax
comp=Z,30nm,0.9s
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
KMBO Kilima Mbogo 62.83 270 *e*P **P** **22 44 06.1 +0.3**
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 62.83 270 P **P** **22 44 06.1 +0.3**
comp=Z,0.6nm,0.4s,baz=57,slow=4.1,SNR=4.6
KMBO Kilima Mbogo 62.83 270 *e*P **P** **22 44 06.1 +0.3**
comp=Z,2.6nm,1.1s
GNI Garni 65.69 316 *e*P **P** **22 44 24.3 +0.3**
GNI pmax pmax
comp=Z,14nm,1.0s
GNI Garni 65.69 316 *e*P **P** **22 44 24.3 +0.3**
comp=Z,14nm,1.0s
DGRG David-gareji 65.83 318 P **P** **22 44 25.8 +1.1**
TBLG Delisi 66.38 318 P **P** **22 44 28.8 +0.6**
SVE Sverdlovsk 66.84 338*d e*P **P** **22 44 31.0 +0.2**
SVE pmax pmax
comp=Z,31nm,1.0s
SVE MLR MLR
comp=Z,214nm,20.0s
GUDG Gudauri 66.88 318 P **P** **22 44 32.3 +0.7**
AKH Akhalkalaki 67.08 317 P **P** **22 44 34.0 +1.0**
ARU Arti 67.37 336 P **P** **22 44 33.6 -0.6**
comp=Z,90nm,1.1s,SNR=6.1
ARU Arti 67.37 336*c i*P **P** **22 44 33.7 -0.5**
ARU *e**PP pP 22 44 39.0 -8.5
ARU 22 47 00.1
ARU PPP PPP 22 48 37.8
ARU S **S** **22 53 27.9 +1.6**
ARU SS **SS** **22 57 43.8 -3.2**
ARU pmax pmax
comp=Z,22nm,1.7s
ARU Arti 67.37 336 *e*P **P** **22 44 33.2 -1.0**
comp=Z,19nm,1.1s
ONI Oni 67.62 318 P **P** **22 44 36.8 +0.6**
YAK Yakutsk 67.85 15 *e*P **P** **22 44 35.7 -1.3**
YAK *e* 22 44 47.4
YAK *e**PP **PcP** **22 44 59.6 -3.7**
YAK *e* 22 47 01.5
YAK *e*PPP PPP 22 48 47.4
YAK *e*S **S** **22 53 29.4 -2.3**
YAK *e**SS x 22 54 15.4
YAK *e* 22 54 26.3
YAK *e*SS **SS** **22 57 59.1 +4.9**
YAK pmax pmax
comp=Z,106nm,1.1s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=N,33nm,1.2s
YAK pmax pmax
comp=Z,297nm,5.7s
YAK pmax pmax
comp=N,89nm,6.1s
YAK pmax pmax
comp=E,199nm,5.2s
YAK smax smax
comp=E,99nm,5.3s
YAK smax smax
comp=N,146nm,5.0s
YAK MLR MLR
comp=Z,319nm,19.0s
YAK MLR MLR
comp=N,213nm,20.0s
YAK MLR MLR
comp=E,170nm,15.0s
YAK Yakutsk 67.85 15 *e*P **P** **22 44 36.2 -0.9**
comp=E,90nm,0.9s
KBZ Khabaz 68.47 319 P **P** **22 44 42.1 +0.8**
comp=E,15nm,0.8s,baz=117,slow=8.3,SNR=40
KIV Kislovodsk 68.71 319⇓*i*P **P** **22 44 43.7 +0.7**
KIV *i* 22 44 56.8
KIV pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 68.71 319 *e*P **P** **22 44 43.1 +0.1**
comp=Z,49nm,1.2s
MALT Malatya 69.50 312⇑*i*P **P** **22 44 48.9 +0.9**
MAW Mawson 70.18 194 LR LR 23 08 30.7
comp=Z,291nm,21.1s,baz=58,slow=30
SOKR Solikamsk 70.24 338*c i*P **P** **22 44 52.1 +0.2**
SOKR pmax pmax
comp=Z,20nm,0.9s
LSZ Lusaka 71.99 255 *e*P **P** **22 45 03.7 +0.1**
LSZ pmax pmax
comp=Z,7.0nm,0.9s
LSZ Lusaka 71.99 255 *e*P **P** **22 45 03.7 +0.1**
comp=Z,6.9nm,0.9s
VRHR Novokhopersk 72.49 326 *e*P **P** **22 45 04.8 -0.9**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.0s
PETK Petropavlovsk- 72.94 32 P **P** **22 45 08.5 +0.1**
comp=E,12nm,0.9s,baz=203,slow=5.3,SNR=7.3
PETK LR LR 23 17 57.4
comp=E,57nm,19.8s,baz=243,slow=36
PEA2 Petropavlovsk- 72.95 32 *e*P **P** **22 45 08.5 +0.1**
BR101 Keskin Array S 73.48 312 *e*P **P** **22 45 11.7 -0.4**
BRTR Keskin Array B 73.48 312 P **P** **22 45 11.7 -0.4**
comp=E,5.1nm,0.7s,baz=132,slow=7.2,SNR=48
BRTR LR LR 23 20 22.3
comp=E,49nm,18.7s,baz=100,slow=38
VORD Divnogorie 73.77 325 *e*P **P** **22 45 11.3 -1.9**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,1.1s
VSR Storozhevoye 73.94 325 *e*P **P** **22 45 13.1 -1.2**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.9s
ANTO Ankara 74.15 312 *e*P **P** **22 45 15.4 -0.5**
ANTO pmax pmax
comp=Z,11nm,1.0s
ANTO Ankara 74.15 312⇑*i*P **P** **22 45 15.7 -0.2**
ANTO Ankara 74.15 312 *e*P **P** **22 45 15.4 -0.5**
comp=Z,11nm,1.0s
BOSA Boshof 75.68 241 P **P** **22 45 25.6 +0.6**
comp=Z,2.5nm,0.7s,baz=106,slow=7.2,SNR=6.2
BOSA LR LR 23 14 01.8
comp=Z,242nm,18.3s,baz=96,slow=32
PRGR Permogore 75.83 336⇑*i*P **P** **22 45 24.6 -0.3**
PRGR pmax pmax
comp=Z,38nm,0.9s
TIXI Tiksi 75.97 9 *e*P **P** **22 45 24.6 -1.0**
TIXI pmax pmax
comp=Z,40nm,1.3s
TIXI Tiksi 75.97 9 *e*P **P** **22 45 24.6 -1.0**
comp=Z,40nm,1.3s
MOS Moscow 76.66 329 *e*P **PcP** **22 45 40.9 -0.2**
MOS pmax pmax
comp=Z,78nm,1.3s
OBN Obninsk 76.96 328*d i*P **P** **22 45 32.0 +0.5**
OBN *i* 22 45 45.1
OBN pmax pmax
comp=Z,14nm,0.9s
OBN MLR MLR
comp=Z,71nm,16.0s
OBN Obninsk 76.96 328 *e*P **P** **22 45 31.1 -0.4**
comp=Z,55nm,1.2s
KARP Karpathos 77.42 307 *e*P **P** **22 45 34.8 +0.2**
BKZ Black Stump Fm 78.11 129 *e*P **P** **22 45 38.2 -0.2**
comp=Z,37nm,0.8s
BFZ Birch Farm 78.11 131 *e*P **P** **22 45 37.2 -1.1**
comp=Z,172nm,1.8s
PSN Preselentsi 78.48 315⇑*i*P **P** **22 45 40.5 +0.2**
URZ Urewera 78.49 128 pP pP 22 45 53.7 -0.3
comp=Z,7.6nm,0.7s,baz=236,slow=3.2,SNR=4.0
TIRR Tirgusor 78.52 316 *e*P **P** **22 45 40.2 -0.2**
TIRR pmax pmax
comp=Z,11nm,0.9s
TIRR Tirgusor 78.52 316⇑*i*P **P** **22 45 40.7 +0.3**
TIRR Tirgusor 78.52 316⇑*i*P **P** **22 45 40.7 +0.3**
TIRR Tirgusor 78.52 316 *e*P **P** **22 45 40.2 -0.2**
comp=Z,11nm,0.9s
NPS Neapolis 78.61 306 *e*P **P** **22 45 42.5 +1.3**
LAST Lasithi 78.70 306 *e*P **P** **22 45 41.4 -0.4**
TLB Topalu 78.81 316⇓*i*P **P** **22 45 42.5 +0.5**
TLB Topalu 78.81 316⇓*i*P **P** **22 45 42.5 +0.5**
CHOS Chios Island 78.87 310 *e*P **P** **22 45 43.3 +0.7**
CFR Carcaliu 78.89 317⇑*i*P **P** **22 45 42.7 +0.3**
HARR Harsova 78.91 316⇑*i*P **P** **22 45 43.4 +0.8**
HARR Harsova 78.91 316⇑*i*P **P** **22 45 43.4 +0.8**
SIGR SIGRI 79.19 310 *e*P pP 22 45 56.4 -1.5
SIVA Sivas 79.21 306 *e*P **P** **22 45 45.5 +1.1**
JMB Yambol 79.34 314⇑*i*P **P** **22 45 45.9 +0.9**
ALN Alexandroupoli 79.40 312 *e*P **P** **22 45 45.1 -0.2**
AKASG Malin Array Be 79.65 322 P **P** **22 45 46.1 -0.4**
comp=Z,0.6nm,0.4s,baz=89,slow=4.6,SNR=15
AKASG pP **pP** **22 45 58.6 -1.5**
comp=Z,1.7nm,0.6s,baz=87,slow=4.5,SNR=7.1
AKBB Malin Array Si 79.65 322 *e*P **P** **22 45 46.1 -0.4**
AKBB *e**PP **pP** **22 45 58.6 -1.5**
AKBB Malin Array Si 79.65 322 *e*P **P** **22 45 46.1 -0.4**
AKBB epP **pP** **22 45 58.6 -1.5**
KIEV Kiev 79.66 322⇓*e*P **P** **22 45 46.3 -0.2**
KIEV Kiev 79.66 322 *e*P **P** **22 45 45.7 -0.8**
comp=Z,6.1nm,0.9s
SMTH Samothraki Isl 79.69 312 *e*P **P** **22 45 46.8 -0.2**
VAM Vamos 79.77 306 *e*P **P** **22 45 47.0 -0.5**
RDO Rodhopi 79.82 312 *e*P pP 22 46 00.8 -0.5
LIA Limnos Island 79.84 311 *e*P **P** **22 45 47.4 -0.3**
VRI Vrincioaia 80.02 317⇑*i*P **P** **22 45 49.7 +1.1**
VRI Vrincioaia 80.02 317⇑*i*P **P** **22 45 49.7 +1.1**
PLOR Plostina 80.06 317⇑*i*P **P** **22 45 48.9 0.0**
PLOR Plostina 80.06 317⇑*i*P **P** **22 45 48.9 0.0**
TMCR Tamitsa 80.10 337 *e*P **P** **22 45 48.9 +0.3**
TMCR *e* 22 45 55.5
TMCR *e* 22 48 51.9
TMCR pmax pmax
comp=Z,24nm,0.7s
TESR Tescani 80.22 318⇓*i*P **P** **22 45 50.8 +1.1**
MLR Muntele Rosu 80.46 317⇑*i*P **P** **22 45 52.1 +0.9**
PTL Penteli 80.50 309 *e*P **P** **22 45 51.3 -0.1**
KAVA Kavala 80.55 312 *e*P **P** **22 45 51.9 +0.3**
ANKY Antikythira Is 80.57 307 *e*P **P** **22 45 53.4 +1.6**
AOS Alonnisos 80.69 310 *e*P P 22 45 44.5 -7.9
OUR Ouranopolis 80.82 311 *e*P **P** **22 45 52.8 -0.2**
PAIG Paliouri 80.98 311 *e*P **P** **22 45 53.8 -0.1**
VLI Veliai 81.00 308 *e*P **P** **22 45 52.8 -1.3**
VOIR 81.07 316⇑*i*P **P** **22 45 54.3 -0.1**
NVR Nevrokopi 81.10 312 *e*P **P** **22 45 54.4 -0.2**
LTK Loutraki 81.19 309 *e*P **P** **22 45 53.4 -1.7**
MMB Musomiste 81.25 312⇑*i*P **P** **22 45 55.5 +0.2**
SRS Serrai 81.26 312 *e*P **P** **22 45 54.4 -1.0**

ARR	**Arges**	**81.34**	**316**	⇑*i*P		**P**	**22 45 56.3**	**+0.5**
BURAR	**Bucovina Array**	**81.42**	**319**	⇑*i*P		**P**	**22 45 57.8**	**+1.6**
VLX	**Vlachokerasia**	**81.55**	**308**	*e*P		**P**	**22 45 56.8**	**-0.3**
DESF	**Desfina**	**81.60**	**309**	*e*P		P	22 45 49.3	-8.0
GUR	**Goura**	**81.67**	**309**	*e*P		**P**	**22 45 56.2**	**-1.5**
KNT	**Kendrikon**	**81.78**	**312**	*e*P		**P**	**22 45 57.5**	**-0.7**
VTS	**Vitosha**	**81.81**	**313**	⇑*i*P		**P**	**22 45 59.1**	**+0.7**
KLV	**Kalavryta, Ach**	**81.83**	**309**	*e*P		**P**	**22 45 58.7**	**+0.1**
AGG	**Agios Georgios**	**81.85**	**310**	*e*P		P	22 45 55.4	-3.2
KALE	**Kalithea**	**81.90**	**309**	*e*P		**P**	**22 45 57.5**	**-1.4**
LIT	**Litokhoron**	**81.91**	**311**	*e*P		**P**	**22 45 57.9**	**-0.9**
VNDA	**Vanda**	**82.01**	**169**	*e*P		**P**	**22 45 59.5**	**+0.9**
VNDA				pmax	pmax			
	comp=Z,10.0nm,1.4s							
VNDA	**Vanda**	**82.01**	**169**	P		**P**	**22 45 59.5**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=356,slow=1.3,SNR=2.3							
VNDA				LR	LR		23 14 18.5	
	comp=Z,121nm,21.4s,baz=306,slow=30							
VNDA	**Vanda**	**82.01**	**169**	*e*P		**P**	**22 45 59.5**	**+0.9**
	comp=Z,9.5nm,1.4s							
VAY	**Valandovo**	**82.05**	**312**	*i* P		**P**	**22 45 59.0**	**-0.5**
GRG	**Griva**	**82.12**	**312**	*e*P		**P**	**22 45 58.1**	**-1.8**
NACGM	**Naroch**	**82.21**	**326**	*e*		**P**	**22 45 57.0**	**-3.0**
EVR	**Evrytania**	**82.24**	**310**	*e*P		**P**	**22 45 58.9**	**-1.8**
RLS	**Riolos of Patr**	**82.37**	**309**	*e*P		**P**	**22 46 02.2**	**+1.0**
JOF	**Joensuu**	**82.38**	**335**	*e*P		**P**	**22 46 00.7**	**0.0**
JOF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
JOF	**Joensuu**	**82.38**	**335**	*ep*		**P**	**22 46 00.7**	**0.0**
	comp=Z,4.7nm,0.6s							
BMR	**Baia Mare**	**82.58**	**318**	⇓*i*P		**P**	**22 46 03.8**	**+1.7**
BMR	**Baia Mare**	**82.58**	**318**	⇓*i*P		**P**	**22 46 03.8**	**+1.7**
PDO	**Prodromos**	**82.67**	**309**	*e*P		**P**	**22 46 03.4**	**+0.6**
DSL	**Palaion Diasel**	**82.82**	**310**	*e*P		**P**	**22 46 03.8**	**+0.2**
DRGR		**82.93**	**317**	⇑*i*P		**P**	**22 46 05.2**	**+1.1**
SKO	**Skopje**	**83.00**	**313**	*i* P		**P**	**22 46 03.5**	**-1.0**
NEST	**Nestorio**	**83.05**	**311**	*e*P		**P**	**22 46 03.5**	**-1.4**
LKD2	**Lefkada island**	**83.11**	**309**	*e*P		**P**	**22 46 05.9**	**+0.8**
SBA	**Scott Base**	**83.11**	**169**	*e*P		**P**	**22 46 04.3**	**0.0**
SBA				pmax	pmax			
	comp=Z,154nm,2.7s							
SBA	**Scott Base**	**83.11**	**169**	*e*P		**P**	**22 46 04.2**	**0.0**
	comp=Z,154nm,2.7s							
APA	**Apatity**	**83.25**	**339**	⇓*i*P		**P**	**22 46 06.0**	**+0.8**
APA				MLR	MLR			
	comp=Z,400nm,12.0s							
BILL	**Bilibino**	**83.25**	**20**	*e*P		**P**	**22 46 07.0**	**+1.8**
BILL				pmax	pmax			
	comp=Z,22nm,2.3s							
TRPA	**Tarpa**	**83.29**	**319**	⇑*i*P		**P**	**22 46 06.8**	**+1.0**
OHR	**Ohrid**	**83.34**	**312**	*i* P		**P**	**22 46 04.5**	**-1.8**
IGT	**Igoumenitsa**	**83.46**	**310**	*e*P		**P**	**22 46 07.2**	**+0.3**
KWP	**Kalwaria Pacla**	**83.47**	**320**	*e*P		**P**	**22 46 07.7**	**+1.0**
KWP				*e*			22 46 21.1	
KWP	**Kalwaria Pacla**	**83.47**	**320**	*e*P		**P**	**22 46 07.7**	**+1.0**
KWP				*e*			22 46 21.0	
KWP	**Kalwaria Pacla**	**83.47**	**320**	⇓*i*P		**P**	**22 46 07.6**	**+0.9**
BZS	**Buzias**	**83.47**	**316**	⇑*i*P		**P**	**22 46 07.5**	**+0.7**
KOLS	**Kolonicke sedl**	**83.62**	**320**	*e*P		**P**	**22 46 08.8**	**+1.3**
KOLS				pmax	pmax			
	comp=Z,12nm,0.9s							
KOLS	**Kolonicke sedl**	**83.62**	**320**	*e*P		**P**	**22 46 08.8**	**+1.3**
KOLS				epP		**pP**	**22 46 20.8**	**-0.4**
SUW	**Suwalki**	**84.05**	**325**	*e*P		**P**	**22 46 10.0**	**+0.4**
SUW				*e*			22 46 23.4	
SUW	**Suwalki**	**84.05**	**325**	*e*P		**P**	**22 46 10.0**	**+0.4**
SUW				*e*			22 46 23.4	
SUW	**Suwalki**	**84.05**	**325**	*e*P		**P**	**22 46 09.6**	**0.0**
	comp=Z,54nm,0.9s							
CRVS	**Cervenica-Dubn**	**84.14**	**319**	*e*P		**P**	**22 46 11.1**	**+0.9**
CRVS	**Cervenica-Dubn**	**84.14**	**319**	*e*P		**P**	**22 46 11.1**	**+0.9**
FIA0	**FINESS Array S**	**84.28**	**332**	*e*P		**P**	**22 46 11.2**	**+0.6**
FIA0	**FINESS Array S**	**84.28**	**332**	*e*P		**P**	**22 46 11.2**	**+0.6**
FINES	**FINESS Array B**	**84.28**	**332**	*ce*P		**P**	**22 46 11.1**	**+0.6**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.5s							
FINES	**FINESS Array B**	**84.28**	**332**	P		**P**	**22 46 11.2**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=117,slow=6.0,SNR=52							
KAF	**Kangasniemi**	**84.35**	**333**	*e*P		**P**	**22 46 10.4**	**-0.5**
KAF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KAF	**Kangasniemi**	**84.35**	**333**	*ep*		**P**	**22 46 10.4**	**-0.5**
	comp=Z,5.9nm,0.6s							
STHS	**Stebnicka Huta**	**84.37**	**320**	*e*P		**P**	**22 46 13.0**	**+1.7**
STHS				pmax	pmax			
	comp=Z,5.0nm,0.9s							
STHS	**Stebnicka Huta**	**84.37**	**320**	*e*P		**P**	**22 46 13.0**	**+1.7**
KECS	**Kecovo**	**84.70**	**319**	*e*P		**P**	**22 46 14.1**	**+1.1**
KECS				*e*			22 46 27.6	
KECS	**Kecovo**	**84.70**	**319**	*e*P		**P**	**22 46 14.1**	**+1.1**
KECS				epP		**pP**	**22 46 27.6**	**+0.8**
NIE	**Niedzica**	**84.97**	**320**	*e*P		**P**	**22 46 15.8**	**+1.4**
NIE				*e*			22 46 29.0	
PSZ	**Piszkesteto**	**85.01**	**318**	*e*P		**P**	**22 46 14.6**	**-0.1**
PSZ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PSZ	**Piszkesteto**	**85.01**	**318**	⇑*i*P		**P**	**22 46 14.7**	**0.0**
PSZ	**Piszkesteto**	**85.01**	**318**	*e*P		**P**	**22 46 14.6**	**-0.1**
	comp=Z,8.2nm,0.9s							
OJC	**Ojcow**	**85.42**	**321**	*e*P		**P**	**22 46 16.3**	**-0.3**
OJC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
OJC	**Ojcow**	**85.42**	**321**	*e*P		**P**	**22 46 17.6**	**+1.0**
OJC				*e*			22 46 30.9	
OJC	**Ojcow**	**85.42**	**321**	*e*P		**P**	**22 46 16.3**	**-0.3**
	comp=Z,10nm,1.2s							
PKSM	**Moragy**	**85.61**	**316**	⇑*i*P		**P**	**22 46 18.2**	**+0.6**
VYHS	**Vyhne**	**85.79**	**319**	*e*P		**P**	**22 46 19.6**	**+1.1**
VYHS				*e*			22 46 31.1	
VYHS	**Vyhne**	**85.79**	**319**	*e*P		**P**	**22 46 19.6**	**+1.1**
VYHS				epP		**pP**	**22 46 31.1**	**-1.2**
KEV	**Kevo**	**86.19**	**341**	*e*P		**P**	**22 46 19.5**	**-0.4**
KEV				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KEV	**Kevo**	**86.19**	**341**	*ep*		**P**	**22 46 19.5**	**-0.4**
	comp=Z,8.1nm,0.7s							
OKC	**Ostrava-Krasne**	**86.42**	**320**	*e*P		**P**	**22 46 22.5**	**+1.0**
OKC				*e*			22 46 35.6	
OKC	**Ostrava-Krasne**	**86.42**	**320**	*e*P		**P**	**22 46 22.5**	**+1.0**
OKC				epP		**pP**	**22 46 35.6**	**+0.3**
ARA0	**ARCESS Array S**	**86.63**	**340**	*e*P		**P**	**22 46 22.7**	**+0.5**
ARCES	**ARCESS Array B**	**86.63**	**340**	P		**P**	**22 46 22.7**	**+0.5**
	comp=Z,11nm,0.6s,baz=101,slow=5.7,SNR=82							
ARCES				LR	LR		23 28 40.1	
	comp=Z,95nm,21.8s,baz=106,slow=38							
CEL	**Celeste**	**86.75**	**308**	*e*P		**P**	**22 46 23.4**	**-0.1**
	comp=Z,14nm,0.9s							
MORC	**Moravsky Berou**	**86.80**	**320**	*e*P		**P**	**22 46 23.8**	**+0.3**
MORC				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MORC	**Moravsky Berou**	**86.80**	**320**	⇓*i*P		**P**	**22 46 24.7**	**+1.2**
MORC	**Moravsky Berou**	**86.80**	**320**	*e*P		**P**	**22 46 23.8**	**+0.3**
	comp=Z,8.2nm,1.1s							
CUC	**Castrocucco**	**86.97**	**310**	*e*P		**P**	**22 46 24.2**	**-0.3**
	comp=Z,4.4nm,0.9s							
KRLC	**Kraliky**	**87.33**	**320**	*e*P		**P**	**22 46 27.3**	**+1.3**
KRLC				*e*			22 46 39.8	
KRLC	**Kraliky**	**87.33**	**320**	*e*P		**P**	**22 46 27.3**	**+1.3**
KRLC				epP		**pP**	**22 46 39.8**	**0.0**
DPC	**Dobruska-Polom**	**87.65**	**320**	*e*P		**P**	**22 46 28.5**	**+0.9**
DPC				*e*			22 46 40.3	
DPC	**Dobruska-Polom**	**87.65**	**320**	*e*P		**P**	**22 46 28.5**	**+0.9**
DPC				epP		**pP**	**22 46 40.3**	**-1.1**
DPC	**Dobruska-Polom**	**87.65**	**320**	*e*P		**P**	**22 46 27.0**	**-0.5**
	comp=Z,120nm,1.6s							
KSP	**Ksiaz**	**87.72**	**321**	*e*P		**P**	**22 46 28.8**	**+1.0**
KSP				*e**PP		**pP**	**22 46 42.1**	**+0.5**
KSP	**Ksiaz**	**87.72**	**321**	*e*P		**P**	**22 46 29.3**	**+1.5**
KSP				*e*			22 46 42.2	
BOJS	**Bojanci**	**87.89**	**316**	*i* P		**P**	**22 46 29.7**	**+0.9**
BOJS				*i*			22 46 42.3	
SOKA	**Soboth**	**88.14**	**317**	⇑*i*PcP		**PcP**	**22 46 31.6**	**-0.1**
	comp=Z,4.7nm,0.9s							
LJU	**Ljubljana**	**88.44**	**316**	*e*P		**P**	**22 46 32.2**	**+0.9**
LJU				*e*			22 46 45.6	
PRU	**Pruhonice**	**88.75**	**320**	*e*P		**P**	**22 46 33.7**	**+1.0**
PRU				*e*			22 46 46.2	
PRU	**Pruhonice**	**88.75**	**320**	*e*P		**P**	**22 46 33.7**	**+1.0**
PRU				epP		**pP**	**22 46 46.2**	**-0.4**
AQU	**L'Aquila**	**88.98**	**312**	*e*P		**P**	**22 46 34.6**	**+0.6**
AQU				pmax	pmax			
	comp=Z,18nm,1.0s							
AQU	**L'Aquila**	**88.98**	**312**	*e*P		**P**	**22 46 34.6**	**+0.6**
	comp=Z,18nm,1.0s							
BRG	**Berggiesshubel**	**89.21**	**321**	*e*P		**P**	**22 46 36.0**	**+1.2**
	comp=Z,5.0nm,1.1s							
BRG				*e*			22 46 49.6	
	comp=Z,22nm,1.3s							
BRG	**Berggiesshubel**	**89.21**	**321**	*e*P		**P**	**22 46 36.0**	**+1.2**
BRG				*e*			22 46 49.6	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GEC2	**GERESS Array S**	**89.21**	**319**	*e*P		**P**	**22 46 36.1**	**+1.1**
GEC2				*e**PP		**pP**	**22 46 48.6**	**-0.3**
GEC2	**GERESS Array S**	**89.21**	**319**	*e*P		**P**	**22 46 36.1**	**+1.1**
GEC2				*ep*P		**pP**	**22 46 48.6**	**-0.3**
GERES	**GERESS Array B**	**89.21**	**319**	P		**P**	**22 46 36.1**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=102,slow=5.6,SNR=9.6							
GERES				pP		**pP**	**22 46 48.6**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=35,slow=3.3,SNR=7.3							
KHC	**Kasperske Hory**	**89.31**	**319**	*e*P		**P**	**22 46 35.1**	**-0.3**
KHC	**Kasperske Hory**	**89.31**	**319**	*e*P		**P**	**22 46 35.1**	**-0.3**
CLL	**Collm**	**89.83**	**321**	*e*P		**P**	**22 46 39.0**	**+1.3**
CLL				*i* *PP		**pP**	**22 46 51.5**	**-0.1**
CLL				*e*S		**ScS**	**22 57 29.0**	**-1.5**
CLL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**89.83**	**321**	*e*P		**P**	**22 46 39.0**	**+1.3**
	comp=Z,3.0nm,1.0s							
CLL				*i* pP		**pP**	**22 46 51.5**	**-0.1**
CLL				*e*sP		**sP**	**22 46 59.0**	**+2.3**
CLL				*e*PP		**PP**	**22 50 10.0**	**-0.6**
CLL				*e*S		**ScS**	**22 57 29.0**	**-1.5**
CLL				*e*SSS		SSS	23 07 12.0	
WTTA	**Wattenberg**	**90.50**	**317**	⇓*i*PcP		**P**	**22 46 41.7**	**+0.5**
	comp=Z,4.4nm,0.7s							
SPITS	**Spitsbergen Ar**	**90.78**	**348**	LR	LR		23 34 13.0	
	comp=Z,116nm,20.0s,baz=350,slow=40							
GRF	**Grafenberg Arr**	**90.88**	**320**	*e*P		**P**	**22 46 44.1**	**+1.4**
	comp=Z,4.0nm,1.2s							
GAMB	**Gambell**	**91.10**	**26**	*e*P		**P**	**22 46 42.1**	**-1.2**
	comp=Z,98nm,2.7s							
FETA	**Feichten**	**91.11**	**317**	⇓*i*PcP		**P**	**22 46 44.1**	**+0.1**
	comp=Z,4.5nm,1.0s							
NB2	**NORSAR Subarra**	**91.31**	**331**	P		**P**	**22 46 44.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=91,slow=4.6							
NB200	**NORSAR Array S**	**91.31**	**331**	*e*P		**P**	**22 46 45.0**	**+0.6**
NB200				*ep*P		**pP**	**22 46 57.7**	**-0.6**
NOA	**NORSAR Array B**	**91.31**	**331**	P		**P**	**22 46 45.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=95,slow=4.6,SNR=4.9							
NOA				pP		**pP**	**22 46 57.7**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=93,slow=4.7,SNR=6.8							
NOA				LR	LR		23 32 07.9	
	comp=Z,28nm,19.5s,baz=100,slow=38							
FUORN	**Ofenpass-Fuorn**	**91.42**	**316**	*e*P		**P**	**22 46 43.8**	**-1.8**
	comp=Z,18nm,1.2s							
KEST	**Kesra**	**91.84**	**306**	P		**P**	**22 46 49.8**	**+2.2**
	comp=Z,2.3nm,0.9s,baz=292,slow=4.5,SNR=6.1							
KEST	**Kesra**	**91.84**	**306**	*e*P		**P**	**22 46 48.4**	**+0.8**
LPG	**La Plagne**	**93.86**	**315**	*e*P		**P**	**22 46 57.5**	**+0.6**
	comp=Z,3.8nm,0.8s							
LPG	**La Plagne**	**93.86**	**315**	*e*P		**P**	**22 46 57.5**	**+0.6**
LPG	**La Plagne**	**93.86**	**315**	*e*P		**P**	**22 46 57.5**	**+0.6**
LPL	**La Plagne**	**93.87**	**315**	*e*P		**P**	**22 46 56.7**	**-0.2**
LPL	**La Plagne**	**93.87**	**315**	*e*P		**P**	**22 46 56.7**	**-0.2**
LPL	**La Plagne**	**93.87**	**315**	*e*P		**P**	**22 46 56.7**	**-0.2**
TOA0	**Torodi Ar. Sit**	**98.66**	**283**	*e*pP		pP	22 47 33.4	+0.5
TORD	**Torodi Ar. Bea**	**98.66**	**283**	pP		**pP**	**22 47 33.4**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=120,slow=3.7,SNR=4.2							
TORD				LR	LR		23 30 43.7	
	comp=Z,69nm,19.6s,baz=95,slow=35							
ILAR	**Eielson Array**	**101.59**	**24**	PKKP		**PKKPdf**	**23 03 50.8**	**+4.0**
	comp=Z,0.3nm,0.6s,baz=155,slow=1.6,SNR=5.2							
YKA	**Yellowknife Ar**	**114.47**	**17**	PKP	PKPdf		22 52 17.4	-1.1
	comp=Z,0.6nm,0.8s,baz=323,slow=1.8,SNR=7.8							
YKA				pPKP	pPKiKP		22 52 31.4	-1.4
	comp=Z,0.8nm,0.9s,baz=318,slow=2.5,SNR=5.1							
YKB5	**Yellowknife Ar**	**114.47**	**17**	*e*PKiKP		**PKiKP**	**22 52 17.4**	**-1.1**
YKB5				*e*			22 52 31.4	
FFC	**Flin Flon**	**124.56**	**15**	*e*PKIKP		**PKPdf**	**22 52 37.5**	**-0.7**
FFC	**Flin Flon**	**124.56**	**15**	*e*PKPdf		**PKPdf**	**22 52 37.5**	**-0.7**
SCHQ	**Schefferville**	**126.39**	**351**	PKP		**PKPdf**	**22 52 42.4**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=59,slow=5.9,SNR=7.1							
SCHQ	**Schefferville**	**126.39**	**351**	*e*PKPdf		**PKPdf**	**22 52 42.1**	**+0.4**
MSO	**Missoula**	**126.55**	**29**	P		**PKPdf**	**22 52 42.5**	**+0.1**
	baz=126							
A19A	**Klindworth Far**	**127.24**	**24**	P		**PKPdf**	**22 52 43.7**	**+0.1**
	baz=127							
A21A	**Bergtoll Ranch**	**127.89**	**22**	P		**PKPdf**	**22 52 45.1**	**+0.3**
	baz=128							
B20A	**Solberg Farm,**	**127.92**	**23**	P		**PKPdf**	**22 52 45.5**	**+0.6**
	baz=128							
MFID	**Camas Ranch**	**127.95**	**33**	*e*PKPdf		**PKPdf**	**22 52 44.1**	**-1.1**
C20A	**Veseth Ranch,**	**128.50**	**24**	P		**PKPdf**	**22 52 45.8**	**-0.3**
	baz=128							
NV01	**Mina Array Sit**	**129.64**	**39**	*e*PKPdf		**PKPdf**	**22 52 49.5**	**+0.9**
NVAR	**Mina Array Bea**	**129.64**	**39**	PKP		**PKPdf**	**22 52 49.5**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=240,slow=3.0,SNR=4.4							
ULM	**Lac du Bonnet**	**130.18**	**13**	PKP		**PKPdf**	**22 52 49.2**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=350,slow=5.4,SNR=5.6							
ULM				pPKP		**pPKPdf**	**22 53 02.6**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=114,slow=0.8,SNR=5.3							
C25A	**Freed Ranch, W**	**130.30**	**21**	P		**PKPdf**	**22 52 48.7**	**-0.7**
	baz=130							
R11A	**Troy Canyon, C**	**131.38**	**38**	P		**PKPdf**	**22 52 53.0**	**+1.0**
	baz=131							
R11A	**Troy Canyon, C**	**131.38**	**38**	*e*PKPdf		**PKPdf**	**22 52 53.6**	**+1.6**
I20A	**Worland**	**131.42**	**27**	P		**PKPdf**	**22 52 51.9**	**+0.2**
	baz=131							
F24A	**Ekalaka**	**131.44**	**23**	P		**PKPdf**	**22 52 51.8**	**+0.1**
	baz=131							
PD31	**Pinedale Array**	**131.65**	**29**	*e*PKPdf		**PKPdf**	**22 52 53.1**	**+0.7**
PD31				*ep*PKPdf		**pPKPdf**	**22 53 06.6**	**-0.1**
PDAR	**Pinedale Array**	**131.65**	**29**	PKP		**PKPdf**	**22 52 53.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=232,slow=0.9,SNR=4.8							
PDAR				pPKP		**pPKPdf**	**22 53 06.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=48,slow=2.2,SNR=4.6							
D28A	**Regan**	**131.66**	**19**	P		**PKPdf**	**22 52 51.6**	**-0.4**
	baz=132							
C30A	**Mose, Pekin**	**131.84**	**17**	P		**PKPdf**	**22 52 52.7**	**+0.4**
	baz=132							
J20A	**Shoshoni**	**131.90**	**28**	P		**PKPdf**	**22 52 52.8**	**+0.1**
	baz=132							
H24A	**Dirks Ranch, A**	**132.31**	**24**	P		**PKPdf**	**22 52 52.5**	**-0.9**
	baz=132							
BFSC	**Mount Baldy Ra**	**132.47**	**43**	P		**PKPdf**	**22 52 52.2**	**-1.8**
	baz=132							
J22A	**Midwest**	**132.58**	**26**	P		**PKPdf**	**22 52 52.0**	**-2.0**
	baz=132							
Z31A	**Sharp Cattle R**	**143.64**	**29**	P		PKPbc	22 53 11.6	-0.3
	baz=144							
BDFB	**Brasilia**	**143.86**	**240**	pPKP		pPKPdf	22 53 28.9	-0.7
	comp=Z,3.2nm,0.8s,baz=113,slow=3.2,SNR=4.2							
329A	**Wagon Wheel Ra**	**144.13**	**33**	P		PKPbc	22 53 13.6	+0.1
	baz=144							
230A	**Sterling City**	**144.29**	**32**	P		PKPbc	22 53 13.8	-0.1
	baz=144							
Z33A	**Whitaker Ranch**	**144.32**	**28**	P		PKPbc	22 53 13.9	0.0
	baz=144							
ABTX	**Abilene, Hawle**	**144.45**	**29**	P		**PKPab**	**22 53 14.2**	**+0.1**
	baz=144							
330A	**Mertzon**	**144.63**	**32**	P		**PKPab**	**22 53 14.9**	**0.0**
	baz=144							
Z34A	**Collier Ranch,**	**144.64**	**27**	P		**PKPab**	**22 53 14.4**	**-0.3**
	baz=144							
URVA	**University of**	**144.67**	**357**	*e*PKPdf		**PKPab**	**22 53 14.0**	**-0.7**
LTX	**Lajitas**	**144.75**	**38**	*e*PKIKP		**PKPdf**	**22 53 16.5**	**-0.1**
LTX				*e*			22 53 29.9	
LTX	**Lajitas**	**144.75**	**38**	*e*PKPdf		**PKPdf**	**22 53 16.5**	**-0.1**
LTX				*ep*PKPdf		**pPKPdf**	**22 53 29.9**	**-1.0**
TXAR	**Lajitas Array**	**144.75**	**38**	PKP		**PKPdf**	**22 53 16.5**	**-0.1**
	comp=Z,6.3nm,0.5s,baz=254,slow=1.0,SNR=124							
TXAR				pPKP		**pPKPdf**	**22 53 29.9**	**-1.0**
	comp=Z,9.5nm,0.6s,baz=256,slow=1.0,SNR=17							
133A	**Hamilton Ranch**	**144.81**	**28**	P		**PKPab**	**22 53 15.2**	**-0.3**
	baz=145							
429A	**Davenport Ranc**	**144.83**	**34**	P		**PKPab**	**22 53 15.4**	**-0.2**
	baz=145							
Z35A	**Perclaven, San**	**144.96**	**26**	P		**PKPab**	**22 53 15.5**	**-0.5**
	baz=145							
529A	**Stev Forest Ra**	**145.03**	**35**	P		**PKPab**	**22 53 16.4**	**+0.1**
	baz=145							
232A	**Coleman**	**145.04**	**30**	P		**PKPbc**	**22 53 16.1**	**-0.2**
	baz=145							
430A	**Baggett Ranch,**	**145.07**	**33**	P		**PKPbc**	**22 53 16.3**	**-0.2**
	baz=145							
BLA	**Blacksburg**	**145.09**	**1**	*e*PKIKP		**PKPbc**	**22 53 14.4**	**-1.9**
BLA	**Blacksburg**	**145.09**	**1**	*e*PKPbc		**PKPbc**	**22 53 14.4**	**-1.9**
331A	**San Angelo**	**145.10**	**32**	P		**PKPbc**	**22 53 16.1**	**-0.4**
	baz=145							
134A	**White-Moore Ra**	**145.23**	**28**	P		**PKPbc**	**22 53 16.5**	**-0.3**
	baz=145							
233A	**Rising Star**	**145.30**	**29**	P		**PKPbc**	**22 53 17.0**	**-0.2**
	baz=145							
MIAR	**Mount Ida**	**145.32**	**20**	*e*PKIKP		**PKPbc**	**22 53 16.6**	**-0.5**
MIAR	**Mount Ida**	**145.32**	**20**	*e*PKPbc		**PKPbc**	**22 53 16.6**	**-0.5**
WVT	**Waverly**	**145.38**	**11**	*e*PKIKP		**PKPbc**	**22 53 16.2**	**-1.0**
WVT	**Waverly**	**145.38**	**11**	*e*PKPbc		**PKPbc**	**22 53 16.2**	**-1.0**
332A	**Millersview**	**145.40**	**31**	P		**PKPbc**	**22 53 17.3**	**-0.1**
	baz=145							
431A	**Sonora**	**145.50**	**33**	P		**PKPbc**	**22 53 17.9**	**0.0**
	baz=145							
530A	**J-C Ranch, Com**	**145.51**	**34**	P		**PKPab**	**22 53 18.4**	**+0.3**
	baz=145							
UALR	**University of**	**145.52**	**18**	*e*PKPdf		**PKPdf**	**22 53 16.3**	**-1.3**
234A	**Clairette**	**145.68**	**28**	P		**PKPdf**	**22 53 18.0**	**0.0**
	baz=146							
432A	**Menard**	**145.77**	**31**	P		**PKPdf**	**22 53 18.4**	**+0.2**
	baz=146							
333A	**Richland Sprin**	**145.82**	**30**	P		**PKPdf**	**22 53 18.5**	**+0.2**
	baz=146							
531A	**Rocksprings**	**145.93**	**33**	P		**PKPbc**	**22 53 19.2**	**0.0**
	baz=146							
JCT	**Junction City**	**146.08**	**32**	*e*PKP2		**PKPbc**	**22 53 19.4**	**-0.2**
JCT	**Junction City**	**146.08**	**32**	P		**PKPbc**	**22 53 19.8**	**+0.1**
	baz=146							
JCT	**Junction City**	**146.08**	**32**	*e*PKPdf		**PKPbc**	**22 53 19.4**	**-0.2**
334A	**Lometa**	**146.19**	**29**	P		**PKPbc**	**22 53 19.6**	**-0.3**
	baz=146							
433A	**Art**	**146.23**	**31**	P		**PKPbc**	**22 53 19.6**	**-0.5**
	baz=146							
532A	**Rocksprings**	**146.31**	**32**	P		**PKPbc**	**22 53 20.0**	**-0.3**
	baz=146							
138A	**Matatall Enter**	**146.45**	**24**	P		**PKPbc**	**22 53 20.9**	**+0.3**
	baz=146							
TKL	**Tuckaleechee C**	**146.45**	**6**	*e*PKP2		**PKPdf**	**22 53 19.7**	**+0.5**
TKL	**Tuckaleechee C**	**146.45**	**6**	*e*PKPdf		**PKPdf**	**22 53 19.7**	**+0.5**
631A	**Perdido Creek**	**146.50**	**34**	P		**PKPbc**	**22 53 20.6**	**-0.3**
	baz=146							
OXF	**Oxford**	**146.59**	**14**	*e*PKIKP		**PKPdf**	**22 53 16.7**	**-2.7**
OXF	**Oxford**	**146.59**	**14**	*e*PKPdf		**PKPdf**	**22 53 16.7**	**-2.7**
434A	**Burnet**	**146.59**	**29**	P		**PKPbc**	**22 53 20.4**	**-0.7**
	baz=146							
SWET	**Sewanee**	**146.61**	**9**	*e*PKPdf		**

PVO				S	Sg	22 44 03.6	+1.5		
GUR	**Goura**	**0.54**	**122**	P	Pg	22 43 57.8	-0.8		
GUR				S	Sg	22 44 06.4	+0.7		
GUR	**Goura**	**0.54**	**122**	*e*PG	Pg	22 43 58.0	-0.6		
GUR				*e*SB	Sg	22 44 06.3	+0.6		
GUR	**Goura**	**0.54**	**122**	*e*Pg	Pg	22 43 58.0	-0.6		
GUR				S	Sg	22 44 06.4	+0.7		
PDO	**Prodromos**	**0.59**	**309**	P	Pg	22 43 59.2	-0.2		
PDO				S	Sg	22 44 08.4	+1.3		
PDO	**Prodromos**	**0.59**	**309**	*e*PB	Pg	22 43 59.2	-0.2		
PDO				*e*SB	Sg	22 44 08.2	+1.1		
PDO	**Prodromos**	**0.59**	**309**	P	Pg	22 43 59.2	-0.2		
PDO				*e*Sb	Sg	22 44 08.2	+1.1		
EVR	**Evrytania**	**0.69**	**3**	*e*PB	Pg	22 44 02.0	+0.5		
EVR				*e*SB	Sb	22 44 12.3	-1.1		
EVR	**Evrytania**	**0.69**	**3**	*e*Pb	Pg	22 44 02.0	+0.5		
AMT	**Artemida-Makis**	**0.69**	**184**	P	Pb	22 44 02.5	-0.6		
AMT				S	Sb	22 44 12.4	-0.9		
AMT	**Artemida-Makis**	**0.69**	**184**	*e*PB	Pg	22 44 01.2	-0.3		
AMT				*e*SB	Sg	22 44 09.9	-0.6		
AMT	**Artemida-Makis**	**0.69**	**184**	*e*Pb	Pg	22 44 01.2	-0.3		
AMT	**Artemida-Makis**	**0.69**	**184**	P	Pb	22 44 02.5	-0.6		
AMT				*e*Sb	Sg	22 44 09.9	-0.6		
AMT				S	Sb	22 44 12.4	-0.9		
MAKR	**Makrakomi, Fth**	**0.84**	**20**	*e*PB	Pg	22 44 04.5	+0.3		
MAKR	**Makrakomi, Fth**	**0.84**	**20**	*e*Pb	Pg	22 44 04.5	+0.3		
LTK	**Loutraki**	**0.97**	**102**	*e*PB	Pg	22 44 06.5	-0.2		
LTK	**Loutraki**	**0.97**	**102**	*e*Pb	Pg	22 44 06.5	-0.2		
VLX	**Vlachokerasia**	**0.98**	**150**	*e*PN	Pg	22 44 07.2	+0.1		
VLX				*e*SB	Sg	22 44 20.4	+0.4		
VLX	**Vlachokerasia**	**0.98**	**150**	*e*Pn	Pg	22 44 07.2	+0.1		
VLX				*e*Sn	Sg	22 44 20.4	+0.4		
DSL	**Palaion Diasel**	**1.05**	**330**	*e*PB	Pg	22 44 08.2	-0.1		
DSL	**Palaion Diasel**	**1.05**	**330**	*e*Pb	Pg	22 44 08.2	-0.1		
ITM	**Ithomi**	**1.05**	**173**	*e*PN	Pg	22 44 08.2	-0.1		
ITM				*e*SB	Sg	22 44 22.8	+0.8		
ITM	**Ithomi**	**1.05**	**173**	*e*Pn	Pg	22 44 08.2	-0.1		
ITM				*e*Sb	Sg	22 44 22.8	+0.8		

ISCJB ***03*** *22:47:44.7±0.9,30°.78S±0°.05×179°.0W±0°.2, h200km, mb3.6/3, Error ellipse: s-maj=20.9km s-min=6.4km az=5.8*
IDC ***03*** *22:47:46.1±3.2,30°.69S×178°.91W, h200km±26km, mb3.5/3, mb1 3.6/5, mb1mx3.4/25, mbtmp4.0/5, Error ellipse: s-maj=31.0km s-min=26.8km az=32.0*

ISC 03 22:47:45.0±0.8, 30°.81S±0°.08×178°.9W±0°.2, h200km, n41, σ1§84/45, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77**	**29**	S	**Sn**	**22 48 46.7**	**-2.6**
	499nm,0.3s,baz=86,slow=19,SNR=4.4						
MXZ	**Matakaoa Point**	**7.13**	**198**	PN	**Pn**	**22 49 28.9**	**+2.1**
WMGZ	**Waiomatatini S**	**7.34**	**197**	*e*PN	**Pn**	**22 49 32.0**	**+2.4**
PUZ	**Puketiti**	**7.62**	**197**	*e*PN	**Pn**	**22 49 34.3**	**+1.0**
PUZ				SN	**Sn**	**22 50 59.8**	**+0.3**
TWGZ	**Tauwhareparae**	**7.79**	**198**	SN	**Sn**	**22 51 03.8**	**+0.3**
CNGZ	**Carnagh Statio**	**8.02**	**197**	PN	**Pn**	**22 49 40.3**	**+1.8**
MWZ	**Matawai**	**8.07**	**200**	PN	**Pn**	**22 49 40.5**	**+1.3**
URZ	**Urewera**	**8.13**	**203**	P	**Pn**	**22 49 41.1**	**+1.2**
	0.9nm,0.3s,baz=338,slow=5.4,SNR=4.2						
URZ				S	**Sn**	**22 51 10.6**	**-0.9**
	9.8nm,0.3s,baz=91,slow=21,SNR=11						
URZ	**Urewera**	**8.13**	**203**	*e*PN	Pn	22 49 43.2	+3.3
URZ				SN	**Sn**	**22 51 10.1**	**-1.4**
SNGZ	**Shannon Statio**	**8.54**	**200**	PN	**Pn**	**22 49 46.9**	**+1.6**
SNGZ				SN	**Sn**	**22 51 19.3**	**-1.8**
MCHZ	**McNeill Hill**	**9.34**	**202**	PN	**Pn**	**22 49 58.7**	**+3.0**
MCHZ				SN	**Sn**	**22 51 42.0**	**+1.8**
BHHZ	**Black Hill Sta**	**9.60**	**204**	PN	**Pn**	**22 49 59.6**	**+0.6**
KAHZ	**Kahuranaki**	**9.61**	**200**	PN	**Pn**	**22 49 58.4**	**-0.7**
WNVZ	**Wahianoa**	**9.62**	**206**	PN	**Pn**	**22 50 02.0**	**+2.5**
KRHZ	**Kereru**	**9.63**	**202**	PN	Pn	22 50 02.8	+3.4
PXZ	**Pawanui**	**9.83**	**199**	SN	**Sn**	**22 51 47.4**	**-4.5**
MRZ	**Mangatainoka R**	**10.81**	**203**	PN	**Pn**	**22 50 12.3**	**-2.3**
HOWZ	**Holdsworth Sta**	**11.04**	**203**	*e*PN	**Pn**	**22 50 16.3**	**-1.4**
KIW	**Kapiti Island**	**11.22**	**205**	PN	**Pn**	**22 50 21.6**	**+1.7**
MTW	**Mount Morrison**	**11.28**	**202**	SN	**Sn**	**22 52 22.2**	**-4.2**
NNZ	**Nelson**	**12.12**	**209**	*e*PN	**Pn**	**22 50 31.8**	**+0.5**
THZ	**Tophouse**	**12.77**	**209**	*e*PN	**Pn**	**22 50 37.6**	**-2.0**
KHZ	**Kahutara**	**13.08**	**206**	*e*PN	**Pn**	**22 50 41.7**	**-1.6**
LTZ	**Lake Taylor**	**13.88**	**208**	PN	**Pn**	**22 50 51.1**	**-2.3**
OXZ	**Oxford**	**14.43**	**207**	*e*PN	**Pn**	**22 50 58.9**	**-1.2**
OXZ				*e*SN	S	22 53 27.2	-13
DZM	**Mont Dzumac**	**15.74**	**300**	P	**P**	**22 51 15.8**	**-0.4**
	0.2nm,0.3s,baz=86,slow=19,SNR=3.8						
ASAR	**Alice Springs**	**42.32**	**268**	P	**P**	**22 55 20.9**	**+1.4**
	0.8nm,0.4s,baz=105,slow=7.5,SNR=19						
ASAR				ScP	**ScP**	**23 00 40.1**	**-0.7**
	0.9nm,0.9s,baz=130,slow=4.8,SNR=5.3						
WRA	**Warramunga Arr**	**43.34**	**273**	P	**P**	**22 55 28.7**	**+1.0**
	1.1nm,0.4s,baz=110,slow=8.0,SNR=14						
KSRS	**Korea Array**	**84.16**	**320**	P	**P**	**22 59 54.5**	**+0.9**
	0.8nm,0.4s,baz=144,slow=5.3,SNR=4.6						
MKAR	**Makanchi Array**	**117.44**	**310**	PKP	**PKPdf**	**23 06 05.7**	**-0.9**
	0.1nm,0.3s,baz=98,slow=2.9,SNR=4.8						
GEYT	**Alibeck**	**133.03**	**295**	PKP	**PKPdf**	**23 06 38.0**	**+1.3**
	0.9nm,0.5s,baz=180,slow=1.4,SNR=3.7						
ARCES	**ARCESS Array B**	**138.82**	**347**	PKhKP	PKPpre	23 06 39.2	
	1.7nm,0.8s,baz=30,slow=1.5,SNR=8.4						
ARCES				PKP	**PKiKP**	**23 06 48.2**	**-0.4**
	2.4nm,1.0s,baz=28,slow=2.1,SNR=6.3						
JOF	**Joensuu**	**142.50**	**338**	*ep*	**PKPdf**	**23 06 50.0**	**-3.2**
KAF	**Kangasniemi**	**144.67**	**340**	*ep*	**PKPab**	**23 06 55.6**	**-0.7**
KBZ	**Khabaz**	**144.69**	**303**	PKP	**PKPdf**	**23 06 58.6**	**+1.0**
	3.1nm,1.0s,baz=188,slow=5.5,SNR=5.6						
FINES	**FINESS Array B**	**145.25**	**339**	PKPbc	**PKPab**	**23 06 58.8**	**+0.2**
	8.1nm,0.6s,baz=78,slow=3.1,SNR=70						
NB2	**NORSAR Subarra**	**149.03**	**350**	PKP	**PKPbc**	**23 07 09.5**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=16,slow=2.7						
NOA	**NORSAR Array B**	**149.03**	**350**	PKPbc	**PKPbc**	**23 07 09.8**	**+1.0**
	comp=Z,2.7nm,0.6s,baz=16,slow=4.2,SNR=12						
AKASG	**Malin Array Be**	**151.15**	**322**	PKPbc	**PKPbc**	**23 07 13.1**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=50,slow=2.3,SNR=15						
BRTR	**Keskin Array B**	**152.11**	**298**	PKPbc	**PKPbc**	**23 07 18.1**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=139,slow=4.3,SNR=20						
TORD	**Torodi Ar. Bea**	**162.42**	**182**	PKPab	**PKPab**	**23 08 14.3**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=155,slow=4.4,SNR=7.0						

ISCJB ***03*** *23:02:59.0±0.2,24°.96N±0°.03×122°.64E±0°.02, h137km±2km, mb3.8/18, Error ellipse: s-maj=4.6km s-min=2.1km az=162.9*
IDC ***03*** *23:02:59.2±2.6,25°.06N×122°.66E, h126km±24km, mb3.6/15, mb1 3.8/16, mb1mx3.6/34, mbtmp4.0/16, MS2.5/1, Ms1 2.5/1, ms1mx2.3/30, Error ellipse: s-maj=18.9km s-min=12.6km az=60.0*
TAP ***03*** *23:03:00.8,24°.93N×122°.63E, h125km, ML4.8, C*
JMA ***03*** *23:03:00.3±0.1,24°.85N×122°.59E, h132km±2km, M3.8*
NIED ***03*** *23:03:00,24°.80N×122°.60E, h110km, Mw4.0 Best double couple: M0 1.19000×10^15 NP1:φs139.00000°, δ47.00000°, λ-111.00000°. NP2:φs348.00000°, δ47.00000°, λ-69.00000°.*

ISC 03 23:02:59.9±0.6, 24°.94N±0°.04×122°.63E±0°.02, h136km±4km, n111, σ0§97/181, mb3.9/18, 7C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.56**	**149**	P	**Pn**	**23 03 19.9**	**-0.1**
JYNG				*e*S	**Sn**	**23 03 34.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.58**	**144**	P	**Pn**	**23 03 20.1**	**0.0**
YOJ				*e*S	**Sn**	**23 03 34.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.58**	**144**	⇓*i*P	**Pn**	**23 03 20.1**	**0.0**
	baz=151						
YOJ				S	**Sn**	**23 03 35.5**	**+0.1**
	baz=151						
TWB1	**Santiao Chiao**	**0.59**	**277**	⇑*i*P	**Pn**	**23 03 20.6**	**+0.4**
	baz=278						
TWB1				*i* S	**Sn**	**23 03 34.8**	**-0.7**
	baz=278						
TWC	**Suao**	**0.78**	**246**	⇑*i*P	**Pn**	**23 03 21.4**	**-0.1**
	baz=239						
TWC				S	**Sn**	**23 03 35.8**	**-2.0**
	baz=239						
NWF	**Wu-fen Shan**	**0.79**	**280**	*e*P	**Pn**	**23 03 21.9**	**+0.3**
	baz=281						
NWF				S	**Sn**	**23 03 37.6**	**-0.4**
	baz=281						
ILA	**Ilan**	**0.82**	**258**	*e*P	**Pn**	**23 03 22.0**	**+0.2**
	baz=256						
ILA				*e*S	**Sn**	**23 03 38.1**	**-0.2**
	baz=256						
TWA	**Mucha**	**0.95**	**273**	P	**Pn**	**23 03 23.3**	**+0.3**
	baz=264						
TWA				S	**Sn**	**23 03 39.8**	**-0.6**
	baz=264						
ENA	**Nanau**	**0.95**	**238**	⇑*i*P	**Pn**	**23 03 23.4**	**+0.4**
	baz=234						
ENA				*e*S	**Sn**	**23 03 40.0**	**-0.4**
	baz=234						
TWY	**Chenhua**	**1.00**	**290**	⇓*i*P	**Pn**	**23 03 23.9**	**+0.7**
	baz=290						
TWY				S	**Sn**	**23 03 40.3**	**-0.7**
	baz=290						
ENTT	**Nioudou**	**1.01**	**253**	*e*P	**Pn**	**23 03 24.0**	**+0.5**
	baz=253						
ENTT				*e*S	**Sn**	**23 03 41.8**	**+0.5**
	baz=253						
TAP1	**Taipei**	**1.01**	**276**	P	**Pn**	**23 03 23.8**	**+0.4**
	baz=268						
TAP1				S	**Sn**	**23 03 40.2**	**-1.1**
	baz=268						
EHP	**Heping Village**	**1.02**	**233**	*e*P	**Pn**	**23 03 24.0**	**+0.5**
	baz=226						
TAP	**Taipei**	**1.03**	**276**	*e*P	**Pn**	**23 03 23.9**	**+0.3**
	baz=268						
TAP				*e*S	**Sn**	**23 03 40.7**	**-0.9**
	baz=268						
TWS1	**Kuangyinshan**	**1.11**	**279**	⇓*i*P	**Pn**	**23 03 25.1**	**+0.7**
	baz=279						
TWS1				S	**Sn**	**23 03 43.2**	**+0.2**
	baz=279						
IRIF	**Iriomote-Funau**	**1.16**	**121**	P	**Pn**	**23 03 24.9**	**0.0**
IRIF				*e*S	**Sn**	**23 03 43.6**	**-0.2**
NSK	**Sanguang**	**1.19**	**258**	*i* P	**Pn**	**23 03 25.6**	**+0.4**
	baz=263						
NSK				S	**Sn**	**23 03 43.7**	**-0.7**
	baz=263						
NNS	**Nan Shan**	**1.25**	**247**	⇑*i*P	**Pn**	**23 03 26.5**	**+0.6**
	baz=240						
NNS				*e*S	**Sn**	**23 03 44.9**	**-0.7**
	baz=240						
TWD	**Chiawan**	**1.27**	**228**	P	**Pn**	**23 03 25.8**	**-0.1**
	baz=224						
TWD				*e*S	**Sn**	**23 03 44.8**	**-1.0**
	baz=224						
NCU	**National Centr**	**1.31**	**272**	P	**Pn**	**23 03 27.0**	**+0.6**
	baz=272						
NCU				S	**Sn**	**23 03 46.9**	**+0.3**
	baz=272						
HWA	**Hwalien**	**1.34**	**225**	P	**Pn**	**23 03 26.5**	**-0.2**
	baz=219						
HWA				*e*S	**Sn**	**23 03 46.4**	**-0.6**
	baz=219						
HATJ	**Hateruma jima**	**1.38**	**129**	P	**Pn**	**23 03 27.7**	**+0.6**
HATJ				*e*S	**Sn**	**23 03 47.4**	**-0.4**
JKRS	**Kuro-shima**	**1.43**	**119**	P	**Pn**	**23 03 28.3**	**+0.6**
JKRS				*e*S	**Sn**	**23 03 48.3**	**-0.5**
WHF	**Hehuan Shan**	**1.47**	**238**	⇑P	**Pn**	**23 03 28.9**	**+0.4**
	baz=232						
WHF				*e*S	**Sn**	**23 03 49.4**	**-1.0**
	baz=232						
JIJ	**Ishigaki jima**	**1.49**	**112**	P	**Pn**	**23 03 28.6**	**+0.3**
JIJ				*e*S	**Sn**	**23 03 48.5**	**-1.4**
TWT	**Tachien**	**1.49**	**243**	*e*P	**Pn**	**23 03 29.6**	**+1.1**
	baz=237						
TWT				S	**Sn**	**23 03 50.0**	**-0.3**
	baz=237						
NSTT	**Nanjuang**	**1.51**	**259**	⇓*i*P	**Pn**	**23 03 29.1**	**+0.5**
	baz=259						
NSTT				S	**Sn**	**23 03 49.7**	**-0.7**
	baz=259						
HSN	**Hsinchu**	**1.52**	**265**	P	**Pn**	**23 03 28.9**	**+0.3**
	baz=257						
HSN				*i* S	**Sn**	**23 03 49.7**	**-0.7**
	baz=257						
ESL	**Shilin**	**1.56**	**225**	*e*P	**Pn**	**23 03 28.6**	**-0.6**
	baz=224						
JISG	**Ishigakijimahi**	**1.56**	**102**	P	**Pn**	**23 03 29.5**	**+0.4**
JISG				*e*S	**Sn**	**23 03 50.6**	**-0.8**
TEGC	**Jichi Village**	**1.58**	**219**	*e*P	**Pn**	**23 03 29.7**	**+0.4**
	baz=219						
NSY	**Sanyi**	**1.78**	**254**	⇓*i*P	**Pn**	**23 03 32.5**	**+0.9**
	baz=253						
NSY				S	**Sn**	**23 03 55.8**	**-0.1**
	baz=253						
TWQ1	**Liyutan**	**1.79**	**251**	*i* P	**Pn**	**23 03 32.4**	**+0.7**
	baz=251						
TWQ1				S	**Sn**	**23 03 55.4**	**-0.7**
	baz=251						
WDT	**Danda**	**1.80**	**230**	⇑*i*P	**Pn**	**23 03 32.6**	**+0.4**
	baz=224						
WDT				*e*S	**Sn**	**23 03 55.2**	**-1.6**
	baz=224						
EHY	**Hungye**	**1.86**	**220**	*e*P	**Pn**	**23 03 31.7**	**-0.8**
	baz=227						
SMLT	**Sun Moon Lake**	**1.90**	**237**	P	**Pn**	**23 03 34.2**	**+1.1**
	baz=232						
SMLT				*e*S	**Sn**	**23 03 59.2**	**+0.8**
	baz=232						
JTJ	**Tarama**	**1.90**	**98**	P	**Pn**	**23 03 33.9**	**+0.9**
JTJ				*e*S	**Sn**	**23 03 58.0**	**-0.4**
TYC	**Yuchr**	**1.92**	**238**	*e*P	**Pn**	**23 03 34.2**	**+1.0**
	baz=234						
TYC				*e*S	**Sn**	**23 03 59.2**	**+0.5**
	baz=234						
TCU	**Taichung**	**1.95**	**247**	*e*P	**Pn**	**23 03 33.8**	**+0.2**
	baz=253						
TCU				*e*S	**Sn**	**23 03 58.6**	**-0.7**
	baz=253						
TWF1	**Yuli**	**1.99**	**218**	*e*P	**Pn**	**23 03 33.8**	**-0.3**
	baz=225						
WNT	**Mingjian**	**2.06**	**240**	*e*P	**Pn**	**23 03 35.9**	**+0.9**
	baz=239						
WNT				S	**Sn**	**23 04 02.3**	**+0.4**
	baz=239						
YUS	**Yu-Shan**	**2.10**	**227**	*e*P	**Pn**	**23 03 36.8**	**+0.8**
	baz=220						
YUS				*e*S	**Sn**	**23 04 03.0**	**-0.5**
	baz=220						
CHKT	**Chengkung**	**2.16**	**213**	⇑*i*P	**Pn**	**23 03 35.9**	**-0.3**
	baz=207						
CHKT				S	**Sn**	**23 04 01.7**	**-2.4**
	baz=207						
ALS	**Alishan**	**2.19**	**230**	⇓*i*P	**Pn**	**23 03 38.3**	**+1.5**
	baz=224						
ALS				*e*S	**Sn**	**23 04 05.7**	**+0.6**
	baz=224						
CHN5	**Tsauling**	**2.23**	**234**	⇓*i*P	**Pn**	**23 03 38.1**	**+1.1**
	baz=242						
CHN5				S	**Sn**	**23 04 06.2**	**+0.6**
	baz=242						
WGK	**Gukeng**	**2.26**	**237**	*e*P	**Pn**	**23 03 37.7**	**+0.3**
	baz=237						
ELDTW	**Lidau**	**2.28**	**221**	*e*P	**Pn**	**23 03 37.6**	**-0.2**
	baz=218						
JIRB	**Irabujima**	**2.31**	**92**	P	**Pn**	**23 03 38.8**	**+0.8**
JIRB				*e*S	**Sn**	**23 04 06.8**	**-0.4**
JIKM	**Ikemajima**	**2.37**	**90**	P	**Pn**	**23 03 40.2**	**+1.4**
JIKM				*e*S	**Sn**	**23 04 09.4**	**+0.8**
WTCT	**Ta-ch'eng**	**2.39**	**244**	*e*P	**Pn**	**23 03 39.6**	**+0.6**
	baz=243						
WTCT				*e*S	**Sn**	**23 04 08.3**	**-0.8**
	baz=243						
CHN2	**Minshiung**	**2.42**	**235**	*e*P	**Pn**	**23 03 40.0**	**+0.7**
	baz=243						
CHN2				*e*S	**Sn**	**23 04 10.2**	**+0.6**
	baz=243						
JMJ	**Miyako jima 2**	**2.42**	**92**	P	**Pn**	**23 03 41.0**	**+1.7**
JMJ				*e*S	**Sn**	**23 04 09.7**	**+0.1**
JMJ	**Miyako jima 2**	**2.42**	**92**	*e*P	**Pn**	**23 03 40.9**	**+1.5**
	baz=93						
JMJ				*e*S	**Sn**	**23 04 10.2**	**+0.6**
	baz=93						
CHN4	**Tsaushan**	**2.44**	**230**	⇓*i*P	**Pn**	**23 03 40.8**	**+1.1**
	baz=239						
CHN4				*e*S	**Sn**	**23 04 11.0**	**+0.8**
	baz=239						
STYT	**Tauyuan**	**2.46**	**225**	P	**Pn**	**23 03 41.2**	**+1.3**
	baz=224						
STYT				*e*S	**Sn**	**23 04 11.6**	**+0.9**
	baz=224						
CHY	**Chiayi**	**2.47**	**235**	*e*P	**Pn**	**23 03 40.5**	**+0.4**
	baz=243						
CHY				*e*S	**Sn**	**23 04 10.7**	**-0.1**
	baz=243						
WTP	**Ta-pu**	**2.50**	**228**	⇓*i*P	**Pn**	**23 03 41.1**	**+0.7**
	baz=227						
WTP				*e*S	**Sn**	**23 04 11.6**	**+0.1**
	baz=227						
JOGS	**Gusukube**	**2.53**	**93**	P	**Pn**	**23 03 42.2**	**+1.5**
JOGS				*e*S	**Sn**	**23 04 12.5**	**+0.5**
TWG	**Pinlang**	**2.54**	**214**	*e*P	**Pn**	**23 03 40.3**	**-0.6**
	baz=218						
TWG				*e*S	**Sn**	**23 04 10.4**	**-2.1**
	baz=218						
WSF	**Szhu**	**2.55**	**240**	*e*P	**Pn**	**23 03 41.3**	**+0.3**
	baz=239						
WSF				*e*S	**Sn**	**23 04 12.1**	**-0.5**
	baz=239						
TTN	**Taitung**	**2.56**	**212**	*e*P	**Pn**	**23 03 38.9**	**-2.3**
	baz=218						
TWK	**Hsinying**	**2.57**	**230**	⇓*i*P	**Pn**	**23 03 42.1**	**+0.8**
	baz=238						
TWK				*e*S	**Sn**	**23 04 13.2**	**+0.1**
	baz=238						
CHN1	**Nanshi**	**2.59**	**228**	⇓P	**Pn**	**23 03 42.4**	**+0.8**
	baz=227						
CHN1				*e*S	**Sn**	**23 04 13.9**	**+0.2**
	baz=227						
SGST	**Jiashian**	**2.63**	**226**	*i* P	**Pn**	**23 03 43.4**	**+1.3**
	baz=225						
SGST				*e*S	**Sn**	**23 04 14.8**	**+0.3**
	baz=225						
SCLT	**Jiali**	**2.83**	**232**	*e*P	**Pn**	**23 03 44.7**	**+0.1**
	baz=239						
SCLT				*e*S	**Sn**	**23 04 19.2**	**+0.1**
	baz=239						
SSD	**Sandimen**	**2.85**	**220**	*e*P	**Pn**	**23 03 45.8**	**+1.0**
	baz=219						
SSD				*e*S	**Sn**	**23 04 20.5**	**+1.1**
	baz=219						
TAI1	**Yung-k'ang**	**2.90**	**230**	*e*P	**Pn**	**23 03 45.7**	**+0.3**
	baz=238						
TWM1	**Shoushan**	**2.92**	**224**	*e*P	**Pn**	**23 03 47.3**	**+1.5**
	baz=224						
EAST	**Anshuo**	**3.02**	**213**	*e*P	**Pn**	**23 03 46.0**	**-1.0**
	baz=210						
LAY	**Lan-yu**	**3.05**	**199**	P	**Pn**	**23 03 46.9**	**-0.6**
	baz=192						
LAY				*e*S	**Sn**	**23 04 21.7**	**-2.4**
	baz=192						
PNG	**Penghu**	**3.12**	**245**	*e*P	**Pn**	**23 03 47.2**	**-1.1**
	baz=244						
PNG				*e*S	**Sn**	**23 04 22.9**	**-2.7**
	baz=244						
SCZT	**Fangliau**	**3.15**	**216**	*e*P	**Pn**	**23 03 49.6**	**+0.9**
	baz=224						
SCZT				*e*S	**Sn**	**23 04 27.6**	**+1.2**
	baz=224						
WDGT	**Dungji**	**3.19**	**239**	*e*P	**Pn**	**23 03 48.9**	**-0.3**
	baz=230						
WDGT				*e*S	**Sn**	**23 04 24.8**	**-2.4**
	baz=230						
TWK1	**Hengchun**	**3.42**	**210**	*e*P	**Pn**	**23 03 52.2**	**0.0**
	baz=203						
TWK1				*e*S	**Sn**	**23 04 33.2**	**+0.6**
	baz=203						
KNM	**Kinmen**	**3.85**	**263**	⇓*i*P	**Pn**	**23 03 59.5**	**+1.6**
	baz=263						
JKE	**Kume jima 2**	**4.00**	**69**	P	**Pn**	**23 04 00.4**	**+0.6**
JAGN	**Aguni-jima**	**4.47**	**67**	P	**Pn**	**23 04 06.4**	**+0.4**
JAGN				*e*S	**Sn**	**23 04 58.8**	**+1.4**
JJT2	**Tamagusuku 2**	**4.77**	**74**	P	**Pn**	**23 04 10.8**	**+0.7**
JNTH	**Nagotoyohara**	**5.11**	**71**	P	**Pn**	**23 04 14.2**	**-0.4**
JNTH				*e*S	**Sn**	**23 05 11.3**	**-1.4**
JIH	**Iheya**	**5.24**	**65**	P	**Pn**	**23 04 15.8**	**-0.4**
JOW	**Kunigami**	**5.42**	**68**	P	**Pn**	**23 04 17.8**	**-0.9**
JOW				*e*S	**Sn**	**23 05 17.8**	**-2.4**
JOW	**Kunigami**	**5.42**	**68**	P	**Pn**	**23 04 17.9**	**-0.9**
	3.3nm,0.3s,baz=130,slow=18,SNR=84						
JOW				S	**Sn**	**23 05 17.5**	**-2.7**
	0.3nm,0.3s,baz=114,slow=20,SNR=2.0						
JOW	**Kunigami**	**5.42**	**68**	*e*P	**Pn**	**23 04 17.9**	**-0.9**
	baz=69						
JOKE	**Okinoerabujima**	**5.86**	**64**	P	**Pn**	**23 04 23.3**	**-1.3**
JTK	**Tokunoshima**	**6.34**	**62**	P	**Pn**	**23 04 29.6**	**-1.4**
JAMN	**Amaminishikomi**	**6.72**	**59**	P	**Pn**	**23 04 34.4**	**-1.7**
JAM	**Amami Oshima**	**7.13**	**59**	P	**Pn**	**23 04 39.7**	**-2.0**
JZK	**Kikaishima**	**7.38**	**61**	P	**Pn**	**23 04 43.7**	**-1.3**
JMZ	**Minamidaito 2**	**7.82**	**82**	P	Pn	23 04 47.9	-3.0
TGY	**Tagaytay City**	**10.89**	**189**	LR	LR	23 09 44.4	
	comp=Z,28nm,21.4s,baz=128,slow=37						
KSRS	**Korea Array**	**13.27**	**19**	P	**Pn**	**23 06 05.2**	**+2.2**
	0.1nm,0.3s,baz=200,slow=13,SNR=14						
CMAR	**Chiang Mai Arr**	**22.92**	**258**	P	**P**	**23 07 51.2**	**-1.2**
	2.0nm,0.3s,baz=62,slow=8.4,SNR=4.8						
CMAR				PcP	**PcP**	**23 11 39.6**	**+1.2**
	0.5nm,0.3s,baz=30,slow=1.1,SNR=5.0						
SONM	**Songino Array**	**26.22**	**335**	P	**P**	**23 08 22.4**	**+0.2**
	3.7nm,0.7s,baz=147,slow=10,SNR=31						
MKAR	**Makanchi Array**	**38.73**	**315**	P	**P**	**23 10 10.5**	**-0.3**
	0.7nm,0.5s,baz=100,slow=8.0,SNR=19						
MKAR				PcP	**PcP**	**23 12 19.1**	**-0.7**
	0.9nm,0.9s,baz=90,slow=6.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.35**	**326**	P	**P**	**23 10 23.2**	**-0.9**
	3.7nm,0.5s,baz=117,slow=8.9,SNR=28						
ZALV

RDX	**Rancho Dawling**	**0.64**	**236**	⇑	*e*P		Pg	23 03 51.8	-8.7
RDX					*i*S		Sg	23 04 01.5	-7.3
COK	**Cook Ranch**	**0.65**	**328**		*e*P		**Pg**	**23 04 00.4**	**-0.3**
YMD	**Yuma Desert**	**0.71**	**68**	⇑	*i*P		**Pg**	**23 04 00.5**	**-1.2**
RMX	**La Rumorosa**	**0.71**	**296**		*e*P		Pg	23 03 52.8	-9.1
RMX					*e*S		Sg	23 04 03.1	-8.0
RMX	comp=N,8μm,0.7s			⇑	*e*			23 04 04.9	
RMX	comp=E,7μm,0.6s			⇑	*e*			23 04 06.4	
SWSC	**Sam W. Stewart**	**0.76**	**328**	⇓	P		**Pg**	**23 04 01.8**	**-1.0**
SWSC	baz=0.9			⇑	S		**Sg**	**23 04 12.1**	**-0.5**
ECBX	**El Chinero**	**0.85**	**164**	⇓	*e*P		**Pg**	**23 04 03.0**	**-1.5**
GLA	**Glamis**	**0.86**	**29**	⇓	P		**Pg**	**23 04 03.0**	**-1.8**
GLA	baz=1.0			⇑	S		**Sg**	**23 04 15.2**	**-0.8**
MONP	**Monument Peak,**	**1.10**	**303**	⇓	P		**Pg**	**23 04 07.9**	**-1.5**
MONP	baz=1.2			⇓	S		**Sg**	**23 04 23.4**	**-0.2**
ZAX	**El Zacaton**	**1.12**	**226**	⇑	*e*P		Pg	23 04 00.1	-10
ZAX					*e*S		Sg	23 04 16.1	-8.1
CBX	**Cerro Bola**	**1.14**	**271**		*e*P		**Pg**	**23 04 09.2**	**-0.8**
BAR	**Barrett**	**1.21**	**289**		*e*P		**Pg**	**23 04 10.0**	**-1.3**
BAR					*e*Sn		**Sg**	**23 04 26.2**	**-0.7**
SPIG	**San Pedro Mart**	**1.25**	**186**		*e*P		**Pg**	**23 04 10.5**	**-1.6**
SPIG					*e*S		**Sg**	**23 04 27.2**	**-1.2**
SPIG	**San Pedro Mart**	**1.25**	**186**		*e*P		**Pg**	**23 04 10.5**	**-1.6**
SPIG					*e*S		**Sg**	**23 04 27.2**	**-1.2**
SPX	**San Pedro Mart**	**1.25**	**186**	⇑	*e*		**Sn**	**23 04 32.4**	**+1.9**
BC3	comp=N,3μm,0.6s **Big Chuckawall**	**1.36**	**355**	⇓	P		Pn	23 04 10.6	-3.7
BC3	baz=1.5			⇓	S		**Sb**	**23 04 31.1**	**-1.3**
113A	**Mohawk Valley,**	**1.40**	**70**	⇓	P		Pn	23 04 11.1	-3.6
113A	baz=1.4			⇑	S		**Sb**	**23 04 30.3**	**-3.0**
Y12C	**Blythe**	**1.60**	**25**	⇓	P		Pn	23 04 14.4	-3.1
Y12C	baz=1.7			⇑	S		**Sn**	**23 04 37.9**	**-0.9**
109C	**Camp Elliot, M**	**1.62**	**292**	⇓	P		**Pn**	**23 04 15.9**	**-1.8**
109C	baz=1.7			⇓	S		**Sn**	**23 04 37.5**	**-1.7**
PFO	**Pinyon Flats O**	**1.62**	**324**		Pn		Pn	23 04 14.7	-3.3
PFO	comp=N,23nm,0.3s,baz=142,slow=12,SNR=221				LR		LR	23 04 32.0	
PFO	comp=N,386nm,19.2s,baz=150,slow=26				Lg		Lg	23 04 39.6	
PFO	comp=N,90nm,0.3s,baz=169,slow=8.4,SNR=9.1 **Pinyon Flats O**	**1.62**	**324**	⇓	P		Pn	23 04 15.0	-3.0
PFO	baz=1.7			⇑	S		**Sn**	**23 04 38.4**	**-1.0**
BELC	**Belle Mtn. Jos**	**1.79**	**342**	⇑	P		**Pn**	**23 04 18.3**	**-2.0**
BELC	baz=1.9			⇓	S		**Sn**	**23 04 42.8**	**-0.9**
IRM	**Iron Mountain**	**1.87**	**4**	⇑	P		Pn	23 04 18.3	-2.9
IRM	baz=2.0			⇑	S		**Sn**	**23 04 44.1**	**-1.3**
MURC	**Murrieta**	**2.05**	**310**	⇓	P		**Pn**	**23 04 21.0**	**-2.6**
214A	baz=2.1 **Organ Pipe Nat**	**2.16**	**98**	⇑	P		Pn	23 04 21.6	-3.5
214A	baz=2.1			⇑	Sb		**Sb**	**23 04 54.5**	**-0.6**
214A	**Organ Pipe Nat**	**2.16**	**98**		*e*Pn		Pn	23 04 21.4	-3.8
214A					*e*Sg		**Sg**	**23 04 58.1**	**+0.6**
PDMCI	**Parker Dam,Lak**	**2.23**	**26**	⇓	P		**Pn**	**23 04 23.5**	**-2.7**
PDMCI	baz=2.3			⇓	Sb		**Sb**	**23 04 58.4**	**+1.1**
Z14A	**Wintersburg**	**2.27**	**61**	⇑	P		**Pn**	**23 04 23.7**	**-3.0**
Z14A	baz=2.3			⇓	S		**Sn**	**23 04 54.3**	**-0.9**
BBRC	**Big Bear Solar**	**2.38**	**326**	⇓	S		**Sn**	**23 04 56.8**	**-1.4**
GMRC	baz=2.5 **Granite Mounta**	**2.50**	**354**	⇓	P		**Pn**	**23 04 27.8**	**-2.2**
GMRC	baz=2.6			⇑	S		**Sn**	**23 04 59.8**	**-1.3**
NEE2	baz=2.6 **Needles Airpor**	**2.54**	**13**	⇓	P		**Pn**	**23 04 28.7**	**-1.7**
Y14A	baz=2.7 **Wickenburg**	**2.54**	**49**	⇑	P		**Pn**	**23 04 28.2**	**-2.3**
BFSC	baz=2.6 **Mount Baldy Ra**	**2.76**	**315**	⇓	P		**Pn**	**23 04 31.7**	**-1.9**
BFSC	baz=2.9			⇑	Sb		**Sb**	**23 05 13.7**	**+1.1**
LDFC	baz=2.9 **Landfair**	**2.78**	**4**	*e*	Pn		**Pn**	**23 04 32.1**	**-1.8**
CIS	**Catalina Islan**	**2.82**	**294**	⇓	P		**Pn**	**23 04 32.6**	**-1.8**
FMP	baz=2.9 **Fort Macarthur**	**2.87**	**300**	⇑	P		**Pn**	**23 04 33.0**	**-1.9**
MWC	baz=3.0 **Mount Wilson**	**2.99**	**311**	*e*	Pn		**Pn**	**23 04 36.2**	**-0.7**
PASC	**Pasadena Art C**	**3.04**	**309**	*e*	Pn		**Pn**	**23 04 36.9**	**-0.5**
GSC	**Goldstone, Bar**	**3.25**	**338**	*e*	Pn		**Pn**	**23 04 38.4**	**-1.8**
OSI	**Osito Audit: C**	**3.67**	**310**	*e*	Pn		**Pn**	**23 04 45.7**	**-0.3**
TUC	**Tucson**	**3.84**	**89**	*e*	Pn		Pn	23 04 44.6	-3.8
X16A	**Lo Mia Camp, P**	**3.88**	**56**	⇑	P		**Pn**	**23 04 47.1**	**-1.9**
MPMC	baz=3.9 **Manual Prospec**	**4.17**	**335**	⇓	P		**Pn**	**23 04 50.9**	**-2.1**
SHPR	baz=4.3 **Sheep Range**	**4.21**	**2**	*e*	Pn		**Pn**	**23 04 52.0**	**-1.4**
DAC	**Darwin (Calif)**	**4.40**	**335**	*e*	Pn		Pn	23 04 58.9	+2.8
WUAZ	**Wupatki**	**4.59**	**45**	⇓	P		**Pn**	**23 04 56.9**	**-1.9**
WUAZ	baz=4.7 **Wupatki**	**4.59**	**45**	*e*	Pn		**Pn**	**23 04 57.8**	**-1.1**
U15A	**North Rim**	**4.83**	**30**	⇓	P		**Pn**	**23 05 00.3**	**-1.9**
X18A	baz=4.9 **Snowflake**	**5.01**	**62**	⇓	P		**Pn**	**23 05 02.8**	**-1.8**
W18A	baz=5.1 **Petrified Fore**	**5.44**	**57**	*e*	Pn		**Pn**	**23 05 09.6**	**-0.9**
CCUT	**Cedar City**	**5.49**	**17**	*e*	Pn		**Pn**	**23 05 09.9**	**-1.3**
ARUT	**Antelope Range**	**5.70**	**15**	*e*	Pn		**Pn**	**23 05 12.3**	**-1.7**
TPH	**Tonopah**	**5.97**	**345**	*e*	Pn		**Pn**	**23 05 16.5**	**-1.3**
R11A	**Troy Canyon, C**	**6.05**	**358**	*e*	Pn		**Pn**	**23 05 17.4**	**-1.4**
121A	**Cookes Peak, D**	**6.38**	**86**	*e*	Pn		**Pn**	**23 05 21.2**	**-2.1**
NVAR	**Mina Array Bea**	**6.59**	**339**		Pn		**Pn**	**23 05 26.8**	**+0.5**
MVU	comp=N,0.1nm,0.3s,baz=169,slow=16,SNR=2.5 **Marysvale**	**6.70**	**21**	*e*	Pn		**Pn**	**23 05 30.3**	**+2.5**
WAKR	**Walker**	**7.05**	**333**	*e*	Pn		Pn	23 05 36.5	+4.0
CMB	**Columbia Colle**	**7.07**	**326**	*e*	Pn		**Pn**	**23 05 34.9**	**+2.2**
LAZ	**Ladron**	**7.16**	**71**	*e*	Pn		**Pn**	**23 05 32.4**	**-1.7**
MVCO	**Mesa Verde**	**7.46**	**47**	*e*	Pn		**Pn**	**23 05 39.0**	**+0.8**
LPM	**Los Pinos Moun**	**7.55**	**72**	*e*	Pn		Pn	23 05 29.7	-10
TMUT	**Trail Mountain**	**7.75**	**24**	*e*	Pn		Pn	23 05 38.7	-3.6
SRU	**San Rafael Swe**	**7.84**	**28**	*e*	Pn		**Pn**	**23 05 44.1**	**+0.6**
ANMO	**Albuquerque**	**7.85**	**68**		Pn		**Pn**	**23 05 43.6**	**0.0**
ANMO	comp=N,0.4nm,0.3s,baz=262,slow=12,SNR=9.9				Lg		Lg	23 07 57.7	
ANMO	comp=N,0.3nm,0.3s,baz=143,slow=20,SNR=2.5				LR		LR	23 08 39.8	
PV01	comp=N,439nm,20.9s,baz=262,slow=38 **Paradox Valley**	**8.03**	**42**	*e*	Pn		**Pn**	**23 05 46.4**	**+0.3**
NLU	**North Lily Min**	**8.08**	**18**	*e*	Pn		Pn	23 05 50.2	+3.5
DUG	**Dugway, Tooele**	**8.14**	**14**	*e*	Pn		Pn	23 05 52.6	+5.1
MPU	**Maple Canyon**	**8.26**	**20**	*e*	Pn		**Pn**	**23 05 50.4**	**+1.2**
ELK	**Elko**	**8.44**	**0**		Pn		**Pn**	**23 05 53.1**	**+1.5**
ELK	comp=N,0.2nm,0.3s,baz=186,slow=15,SNR=3.3				Lg		Lg	23 08 16.4	
DAU	comp=N,0.1nm,0.3s,baz=181,slow=7.6,SNR=2.8 **Daniels Canyon**	**8.74**	**21**	*e*	Pn		**Pn**	**23 05 58.1**	**+2.2**
BGU	**Big Grassy Mou**	**8.81**	**11**	*e*	Pn		Pn	23 06 01.8	+5.1
LPIG	**La Paz**	**9.28**	**150**		LR		LR	23 09 16.1	
HVU	comp=N,394nm,18.9s,baz=334,slow=35 **Hansel Valley**	**9.69**	**11**	*e*	Pn		Pn	23 06 11.7	+3.0
O20A	**White River Ci**	**9.69**	**34**	*e*	Pn		Pn	23 06 12.1	+3.3
HWUT	**Hardware Ranch**	**9.77**	**17**	*e*	Pn		Pn	23 06 14.1	+4.2
TXAR	**Lajitas Array**	**10.45**	**103**		Pn		**Pn**	**23 06 20.2**	**+1.1**
TXAR	comp=N,1.0nm,0.3s,baz=281,slow=13,SNR=95				Lg		Lg	23 09 18.9	
TXAR	comp=N,0.3nm,0.3s,baz=284,slow=27,SNR=7.2				LR		LR	23 10 42.6	
ISCO	comp=N,194nm,21.4s,baz=0.0,slow=40 **Idaho Springs**	**10.85**	**44**	*e*	Pn		**Pn**	**23 06 26.5**	**+1.7**
	comp=N,13nm,1.1s								
AHID	**Auburn Hatcher**	**10.98**	**17**	*e*	Pn		Pn	23 06 30.0	+3.6
YBH	**Yreka Blue Hor**	**11.11**	**330**		LR		LR	23 10 44.5	
PDAR	comp=N,250nm,19.9s,baz=168,slow=37 **Pinedale Array**	**11.41**	**22**		Pn		Pn	23 06 35.3	+2.9
PDAR	comp=N,0.0nm,0.3s,baz=207,slow=9.5,SNR=8.6				Lg		Lg	23 09 57.5	
PDAR	comp=N,0.1nm,0.3s,baz=221,slow=42,SNR=2.8				LR		LR	23 12 01.2	
MCMT	comp=N,105nm,19.2s,baz=215,slow=44 **McKenzie Canyo**	**12.66**	**8**	*e*	Pn		Pn	23 06 52.6	+3.1
JCT	**Junction City**	**13.38**	**94**	*e*	Pn		**Pn**	**23 07 01.2**	**+2.0**
LRM	comp=N,13nm,0.9s **Limekiln Ridge**	**13.69**	**9**	*e*	Pn		**P**	**23 07 09.9**	**-2.7**
RSSD	**Black Hills**	**14.75**	**34**	*e*	Pn		**P**	**23 07 21.3**	**-3.0**
WHTX	comp=N,11nm,1.0s **Lake Whitney,**	**15.14**	**86**	*e*	Pn		**P**	**23 07 24.9**	**-3.5**
V34A	comp=N,23nm,0.8s **Guthrie**	**15.17**	**72**	*e*	Pn		**Pn**	**23 07 24.1**	**+0.6**
SWMT	**Swartz Lake**	**15.23**	**3**	*e*	Pn		**P**	**23 07 28.3**	**-1.2**
JTMT	comp=N,6.9nm,1.0s **Jette**	**15.46**	**3**	*e*	Pn		**P**	**23 07 32.5**	**+0.4**
BSMT	comp=N,8.3nm,0.9s **Bassoo Peak**	**15.55**	**1**	*e*	Pn		**P**	**23 07 33.5**	**+0.4**
NEW	comp=N,6.0nm,1.1s **Newport**	**16.01**	**356**		Pn		**P**	**23 07 37.0**	**-1.0**
NEW	comp=N,0.3nm,0.3s,baz=177,slow=13,SNR=27				LR		LR	23 13 30.4	
NEW	comp=N,152nm,21.6s,baz=182,slow=36 **Newport**	**16.01**	**356**	*e*	Pn		**P**	**23 07 38.7**	**+0.6**
HKT	comp=N,21nm,0.9s **Hockley**	**16.85**	**93**	*e*	Pn		**Pn**	**23 07 44.8**	**-0.4**
DGMT	comp=N,33nm,1.8s **Dagmar**	**18.21**	**24**	*e*	P		**P**	**23 08 05.3**	**+2.9**
MIAR	comp=N,16nm,0.9s **Mount Ida**	**18.29**	**77**	*e*	P		Pn	23 07 57.6	-5.5
MIAR	comp=N,4.8nm,0.8s			*e*				23 08 04.0	
EDM	**Edmonton**	**20.97**	**3**	*e*	P		Pn	23 08 33.6	-1.4
AGMN	**Agassiz Nation**	**21.72**	**37**	*e*	P		**P**	**23 08 40.5**	**0.0**
ULM	comp=N,28nm,1.1s **Lac du Bonnet**	**23.02**	**33**		P		**P**	**23 08 56.3**	**+1.9**
ULM	comp=N,6.4nm,0.9s,baz=218,slow=9.5,SNR=8.1				LR		LR	23 18 01.0	
WVT	comp=N,177nm,21.1s,baz=249,slow=37 **Waverly**	**23.02**	**73**	*e*	P		**P**	**23 08 55.5**	**+1.0**
DLBC	comp=N,3.2nm,0.8s **Dease Lake**	**27.98**	**343**		P		**P**	**23 09 42.1**	**+1.9**
YKA	comp=N,7.7nm,0.9s,baz=102,slow=8.5,SNR=3.5 **Yellowknife Ar**	**30.22**	**1**		P		**P**	**23 10 01.7**	**+1.9**
SADO	comp=N,0.6nm,0.9s,baz=177,slow=8.9,SNR=7.3 **Sadowa**	**30.67**	**56**		LR		LR	23 23 40.3	
INK	comp=N,88nm,20.6s,baz=293,slow=39 **Inuvik**	**37.56**	**349**		P		**P**	**23 11 05.5**	**+2.0**
ILAR	comp=N,3,1nm,1.0s,baz=151,slow=11,SNR=7.5 **Eielson Array**	**37.85**	**339**		P		**P**	**23 11 08.1**	**+2.1**
SCHQ	comp=N,2.0nm,0.8s,baz=151,slow=7.6,SNR=21 **Schefferville**	**40.67**	**42**		LR		LR	23 29 02.1	
FRB	comp=N,109nm,21.9s,baz=55,slow=37 **Frobisher Bay**	**42.76**	**29**		LR		LR	23 29 19.0	
SUMG	comp=N,107nm,21.4s,baz=246,slow=36 **Summit**	**55.60**	**21**	*i*	P		P	23 13 27.7	+2.4
DAG	comp=N,6.3nm,1.0s **Danmarks Havn**	**60.35**	**15**	*i*	P		**P**	**23 13 59.5**	**+1.4**
SEY	comp=N,2.1nm,0.8s **Seymchan**	**62.79**	**329**		P		**P**	**23 14 16.6**	**+1.8**
PETK	comp=N,0.4nm,0.3s,baz=39,slow=8.9,SNR=3.7 **Petropavlovsk-**	**63.19**	**318**		P		**P**	**23 14 19.4**	**+1.8**
NOA	comp=N,4.7nm,0.9s,baz=94,slow=12,SNR=4.2 **NORSAR Array B**	**77.35**	**24**		P		**P**	**23 15 44.9**	**+0.7**
NOA	comp=N,1.5nm,0.9s,baz=318,slow=5.4,SNR=3.9				LR		LR	23 49 37.5	
FINES	comp=N,42nm,20.0s,baz=325,slow=36 **FINESS Array B**	**81.47**	**18**		P		**P**	**23 16 08.4**	**+1.8**
GERES	comp=N,2.3nm,1.0s,baz=96,slow=1.9,SNR=5.5 **GERESS Array B**	**87.31**	**31**		LR		LR	23 55 41.1	
AKASG	comp=N,64nm,18.9s,baz=303,slow=36 **Malin Array Be**	**91.63**	**22**		LR		LR	23 58 54.0	
SONM	comp=N,58nm,18.9s,baz=300,slow=36 **Songino Array**	**91.89**	**333**		LR		LR	23 59 08.9	
ASAR	comp=N,46nm,19.0s,baz=9.0,slow=36 **Alice Springs**	**119.19**	**259**		PKP		**PKPdf**	**23 22 40.4**	**+1.1**
	comp=N,0.4nm,0.8s,baz=81,slow=2.4,SNR=3.2								

*IDC **03** 23:10:49.4±1.3, 17°.86N×81°.60W, h0km, mb3.9/8, mb1 4.2/10, mb1mx3.8/35, mbtmp3.9/10, ML3.7/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/41, Error ellipse: s-maj=31.3km s-min=26.5km az=165.0*

*ISCJB **03** 23:10:50.6±0.9, 18°.0N±0°.1×81°.51W±0°.04, h18km, mb4.2/14, MS3.4/3, Error ellipse: s-maj=15.8km s-min=5.7km az=8.9*

*NEIC **03** 23:10:51.4±0.8, 17°.94N×81°.56W, h10km, mb4.4/13, Error ellipse: s-maj=14.7km s-min=7.5km az=14.0*

NEIC Felt at George Town.

*BJI **03** 23:10:52.8, 18°.40N×81°.40W, h10km, mB5.4/1, Ms7.5.1/1*

ISC 03 23:10:52.5±0.9, 18°.0N±0°.1×81°.55W±0°.07, h18km, n42, σ0.95/41, mb4.3/14, MS3.3/3, North of Honduras

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**3.83**	**85**		*e*Pn	**Pn**	**23 11 50.5**	**-0.2**
MTDJ					*e*Sn	**Sn**	**23 12 33.5**	**-1.7**
GTBY	**Guantanamo Bay**	**6.40**	**71**		*e*Pn	**Pn**	**23 12 24.9**	**-1.0**
GTBY					*e*Sn	**Sn**	**23 13 38.2**	**-0.3**
JTS	**JuntasAbangare**	**8.30**	**204**		LR	LR	23 16 01.9	
APG	comp=Z,214nm,21.4s,baz=60,slow=38 **El Apazote**	**9.04**	**252**		LR	LR	23 16 22.9	
SDDR	comp=Z,24nm,21.5s,baz=80,slow=37 **Presa de Saban**	**9.79**	**82**	*e*	Pn	**Pn**	**23 13 13.9**	**+1.4**
CMIG	**Matias Romero**	**12.75**	**268**		Pn	**Pn**	**23 13 52.6**	**-0.4**
GOGA	0.2nm,0.3s,baz=52,slow=12,SNR=3.3 **Godfrey**	**15.49**	**354**	*e*	Pn	**Pn**	**23 14 30.7**	**+0.5**
GOGA	13nm,0.9s			*e*			23 14 36.4	
LRAL	**Lakeview Retre**	**15.80**	**343**	*e*	Pn	**Pn**	**23 14 35.0**	**+0.8**
SWET	7.0nm,1.2s **Sewanee**	**17.63**	**348**	*e*	Pn	**Pn**	**23 14 57.3**	**0.0**
TKL	**Tuckaleechee C**	**17.75**	**354**		P	**P**	**23 14 59.6**	**+0.2**
TKL	0.4nm,0.3s,baz=172,slow=12,SNR=10 **Tuckaleechee C**	**17.75**	**354**	*e*	Pn	**P**	**23 15 00.4**	**+0.9**
OXF	**Oxford**	**17.93**	**338**	*e*	Pn	**Pn**	**23 14 58.8**	**-2.0**
WVT	17nm,1.0s **Waverly**	**18.94**	**344**	*e*	P	**Pn**	**23 15 13.3**	**0.0**
JCT	8.9nm,1.2s **Junction City**	**20.77**	**310**	*e*	P	Pn	23 15 34.3	-0.7
SIUC	32nm,1.8s **Southern Illin**	**20.81**	**343**	*e*	P	**P**	**23 15 32.8**	**-0.2**
OLIL	31nm,1.4s **Olney**	**21.48**	**346**	*e*	P	**P**	**23 15 40.4**	**+0.3**
SLM	24nm,1.1s **Saint Louis**	**21.96**	**342**	*e*	P	**P**	**23 15 44.6**	**-0.7**
SFIN	22nm,0.4s **Lafayette**	**22.86**	**349**	*e*	P	**P**	**23 15 55.3**	**+0.4**
LTX	8.8nm,1.0s **Lajitas**	**23.17**	**303**	*e*	P	**P**	**23 15 59.4**	**+1.1**
TXAR	**Lajitas Array**	**23.17**	**303**		P	**P**	**23 15 59.4**	**+1.1**
TXAR	2.5nm,0.9s,baz=124,slow=8.3,SNR=14				LR	LR	23 26 01.6	
LPIG	comp=Z,40nm,18.1s,baz=0.0,slow=39 **La Paz**	**27.50**	**288**		LR	LR	23 27 27.4	
AGMN	comp=Z,90nm,20.0s,baz=38,slow=36 **Agassiz Station**	**32.44**	**342**	*e*	P	**P**	**23 17 21.5**	**0.0**
ULM	16nm,1.4s **Lac du Bonnet**	**34.21**	**344**		P	**P**	**23 17 36.3**	**-0.7**
PD31	5.6nm,0.9s,baz=143,slow=5.4,SNR=9.3 **Pinedale Array**	**34.30**	**322**	*e*	P	**P**	**23 17 37.5**	**-0.6**
PDAR	**Pinedale Array**	**34.30**	**322**		P	**P**	**23 17 37.5**	**-0.6**
SCHQ	1.5nm,0.9s,baz=124,slow=13,SNR=8.9 **Schefferville**	**38.51**	**14**		P	**P**	**23 18 14.4**	**+0.8**
SCHQ	3.4nm,1.1s,baz=246,slow=10.0,SNR=3.8 **Schefferville**	**38.51**	**14**	*e*	P	**P**	**23 18 13.5**	**-0.1**
FCC	22nm,1.8s **Fort Churchill**	**41.78**	**350**	*e*	P	**P**	**23 18 40.2**	**-0.4**
YKA	12nm,1.3s **Yellowknife Ar**	**50.08**	**341**		P	**P**	**23 19 46.0**	**-0.1**
YKA	0.7nm,0.9s,baz=136,slow=8.5,SNR=11				PcP	**PcP**	**23 21 05.0**	**-0.5**
YKB5	0.2nm,0.8s,baz=128,slow=4.0,SNR=4.4 **Yellowknife Ar**	**50.08**	**341**		eP	**P**	**23 19 46.0**	**-0.1**
YKB5					ePcP	**PcP**	**23 21 05.0**	**-0.5**
RES	**Resolute Bay**	**57.22**	**356**	*e*	P	**P**	**23 20 37.5**	**-0.7**
PLCA	44nm,2.6s **Paso Flores**	**59.27**	**170**		LR	LR	23 47 26.5	
ILAR	comp=Z,93nm,18.5s,baz=127,slow=37 **Eielson Array**	**63.45**	**334**		P	**P**	**23 21 20.9**	**-0.1**
	0.3nm,0.9s,baz=91,slow=3.4,SNR=4.8							
ILB	**Eielson Array**	**63.45**	**334**	*e*	P	**P**	**23 21 20.2**	**-0.8**
ESDC	**Sonseca Array**	**69.34**	**54**		P	**P**	**23 22 00.7**	**+1.4**
FINES	1.5nm,1.0s,baz=267,slow=7.2,SNR=4.3 **FINESS Array B**	**82.52**	**28**		P	**P**	**23 23 14.4**	**+0.5**
WMQ	0.8nm,0.8s,baz=236,slow=2.1,SNR=9.2 **Urumqi**	**117.75**	**9**	*e*	PKP	**PKPdf**	**23 29 36.5**	**-1.6**
HHC	**Hu-ho-hao-te**	**120.25**	**349**	*e*	PKP	**PKPdf**	**23 29 46.0**	**+3.0**
HHC					PP	PP	23 31 13.0	+5.8
LZH	**Lanzhou**	**126.02**	**355**	*e*	PKP	**PKPdf**	**23 29 54.2**	**-0.1**
CD2	**Chengdu**	**131.15**	**354**		PKP	**PKPdf**	**23 30 05.3**	**+1.2**
WRA	**Warramunga Arr**	**146.04**	**261**		PKPbc	**PKPdf**	**23 30 31.1**	**-0.2**
ASAR	1.6nm,0.7s,baz=86,slow=3.4,SNR=18 **Alice Springs**	**146.44**	**254**		PKPbc	**PKPdf**	**23 30 31.6**	**-0.4**
	3.9nm,1.0s,baz=106,slow=3.0,SNR=15							

*IGIL **03** 23:27:32.2, 43°.46N×13°.86W, h30km, ML2.7*

*MDD **03** 23:27:32.3±1.7, 43°.32N×13°.41W, h0km, mb4.6/10, Error ellipse: s-maj=15.2km s-min=11.0km az=102.0, PRXIMO*

*INMG **03** 23:27:33.3±1.0, 43°.53N×13°.88W, h10km, ML2.9, Error ellipse: s-maj=6.0km s-min=4.3km az=92.0*

*CSEM **03** 23:27:36.1±0.4, 43°.13N×13°.09W, h10km, ML3.7/25, Error ellipse: s-maj=7.2km s-min=5.1km az=99.0*

ISC 03 23:27:29.6±3.0, 43°.29N±0°.08×13°.5W±0°.1, h10km, n113, σ2.20/192, 2C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.34**	**94**	⇑	P	**Pn**	**23 28 23.3**	**+1.4**
EMAZ	7.8nm,0.1s,SNR=18				S	**Sn**	**23 29 00.1**	**-1.5**
EMAZ	5.8nm,0.3s,SNR=5.5 **Mazaricos**	**3.34**	**94**		P	**Pn**	**23 28 23.3**	**+1.4**
EMAZ	7.8nm,0.1s,SNR=18				S	**Sn**	**23 29 00.1**	**-1.5**
STS	5.8nm,0.3s,SNR=5.5 **Santiago**	**3.66**	**95**	⇑	P	**Pn**	**23 28 27.9**	**+1.6**
STS	38nm,0.1s,SNR=18				S	**Sn**	**23 29 08.9**	**-0.5**
STS	60nm,0.4s **Santiago**	**3.66**	**95**		P	**Pn**	**23 28 27.9**	**+1.6**
STS	38nm,0.1s,SNR=18				S	**Sn**	**23 29 08.9**	**-0.5**
EAGO	60nm,0.4s **Agolada(Pontev**	**4.00**	**95**		P	**Pn**	**23 28 32.4**	**+1.3**
EAGO	8.0nm,0.1s,SNR=7.9				S	**Sn**	**23 29 16.5**	**-1.5**
EAGO	3.5nm,0.1s,SNR=7.9 **Agolada(Pontev**	**4.00**	**95**		P	**Pn**	**23 28 32.4**	**+1.3**
EAGO	8.0nm,0.1s,SNR=7.9				S	**Sn**	**23 29 16.5**	**-1.5**
PTO	3.5nm,0.1s,SNR=7.9 **Porto**	**4.23**	**119**	*e*	Pn	**Pn**	**23 28 36.8**	**+2.7**
PTO				*e*	Sn	**Sn**	**23 29 24.0**	**+0.4**
PTO					A	A	23 29 26.0	
PTO	32nm,0.2s **Porto**	**4.23**	**119**		Pn	**Pn**	**23 28 36.8**	**+2.7**
PTO					Sn	**Sn**	**23 29 24.0**	**+0.4**
PTO	16nm,0.2s **Porto**	**4.23**	**119**	*e*	Pn	**Pn**	**23 28 36.8**	**+2.7**
PTO				*e*	Sn	**Sn**	**23 29 24.0**	**+0.4**
ELOB	32nm,0.2s **Lobios**	**4.27**	**108**		P	**Pn**	**23 28 36.8**	**+2.1**
ELOB	4.9nm,0.1s,SNR=23				S	**Sn**	**23 29 24.6**	**0.0**
ELOB	8.5nm,0.4s,SNR=7.9 **Lobios**	**4.27**	**108**		P	**Pn**	**23 28 36.8**	**+2.1**
ELOB	4.9nm,0.1s,SNR=23				S	**Sn**	**23 29 24.6**	**0.0**
PCAB	8.5nm,0.4s,SNR=7.9 **Cabril**	**4.35**	**109**	*e*	Pn	**Pn**	**23 28 38.2**	**+2.4**
PCAB				*e*	Sn	**Sn**	**23 29 26.7**	**+0.1**
PCAB					A	A	23 29 31.1	
PCAB	14nm,0.1s **Cabril**	**4.35**	**109**		Pn	**Pn**	**23 28 38.2**	**+2.4**
PCAB					Sn	**Sn**	**23 29 26.7**	**+0.1**
PCAB	6.9nm,0.1s **Cabril**	**4.35**	**109**	*e*	Pn	**Pn**	**23 28 38.2**	**+2.4**
PCAB				*e*	Sn	**Sn**	**23 29 26.7**	**+0.1**
EPON	14nm,0.1s **Pontenova**	**4.64**	**87**		P	**Pn**	**23 28 41.0**	**+1.2**
EPON	5.9nm,0.2s,SNR=10.0				S	**Sn**	**23 29 30.5**	**-3.3**
EPON	34nm,0.9s **Pontenova**	**4.64**	**87**		P	**Pn**	**23 28 41.0**	**+1.2**
EPON	5.9nm,0.2s,SNR=10.0				S	**Sn**	**23 29 30.5**	**-3.3**
POLO	34nm,0.9s **Lamas de Olo**	**4.65**	**112**	*e*	Pn	**Pn**	**23 28 42.3**	**+2.3**
POLO				*e*	Sn	**Sn**	**

PMAFR					A	A	23 29 53.6			
	24nm,0.5s									
PMAFR	**Mafra**		5.38	142	P	Pn	23 28 52.1	+2.2		
	1.2nm,0.1s,SNR=7.9									
PMAFR					S	Sn	23 29 49.2	-2.7		
	15nm,0.1s,SNR=7.9									
PMAFR	**Mafra**		5.38	142	P	Pn	23 28 52.1	+2.2		
	1.2nm,0.1s,SNR=7.9									
PMAFR					S	Sn	23 29 49.2	-2.7		
	15nm,0.1s,SNR=7.9									
PMAFR					eSn	Sn	23 29 50.4	-1.5		
	24nm,0.5s									
PMST	**Lisbon--Monsan**		5.60	143	eSn	Sn	23 29 55.6	-1.8		
PMST					A	A	23 30 00.2			
	27nm,0.6s									
PMST	**Lisbon--Monsan**		5.60	143	eSn	Sn	23 29 55.6	-1.8		
	27nm,0.6s									
PCBR	**Castelo Branco**		5.69	125	eSn	Sn	23 29 58.2	-1.3		
PCBR					A	A	23 30 02.6			
	5.3nm,0.4s									
PCBR	**Castelo Branco**		5.69	125	Sn	Sn	23 29 58.2	-1.3		
	2.7nm,0.4s									
PCBR	**Castelo Branco**		5.69	125	eSn	Sn	23 29 58.2	-1.3		
	5.3nm,0.4s									
PACT	**Alcochete**		5.74	140	ePn	Pn	23 28 57.4	+2.6		
PACT					eSn	Sn	23 30 00.8	+0.1		
PACT					A	A	23 30 03.5			
	8.3nm,0.1s									
PACT	**Alcochete**		5.74	140	ePn	Pn	23 28 57.4	+2.6		
PACT					eSn	Sn	23 30 00.8	+0.1		
	8.3nm,0.1s									
PMRV	**Marv??o**		6.01	128	ePn	Pn	23 29 00.7	+2.2		
PMRV					eSn	Sn	23 30 05.5	-1.9		
PMRV					A	A	23 30 07.9			
	5.4nm,0.3s									
PMRV	**Marv??o**		6.01	128	Pn	Pn	23 29 00.7	+2.2		
PMRV					Sn	Sn	23 30 05.5	-1.9		
	5.4nm,0.3s									
PMRV	**Marv??o**		6.01	128	ePn	Pn	23 29 00.7	+2.2		
PMRV					eSn	Sn	23 30 05.5	-1.9		
	5.4nm,0.3s									
EARI	**Arriondas**		6.06	87	P	Pn	23 29 00.3	+1.0		
	3.9nm,0.1s,SNR=33									
EARI					S	Sn	23 30 05.3	-3.4		
	72nm,1.2s									
EARI	**Arriondas**		6.06	87	P	Pn	23 29 00.3	+1.0		
	3.9nm,0.1s,SNR=33									
EARI					S	Sn	23 30 05.3	-3.4		
	72nm,1.2s									
PESTR	**Estremoz**		6.29	133	ePn	Pn	23 29 04.3	+1.9		
PESTR					eSn	Sn	23 30 11.6	-2.7		
PESTR					A	A	23 30 17.1			
	3.9nm,0.3s									
PESTR	**Estremoz**		6.29	133	ePn	Pn	23 29 04.3	+1.9		
PESTR					eSn	Sn	23 30 11.6	-2.7		
	3.9nm,0.3s									
EVO	**Evora**		6.32	137	eSn	Sn	23 30 12.1	-2.9		
EVO					A	A	23 30 17.9			
	9.8nm,0.1s									
EVO	**Evora**		6.32	137	Sn	Sn	23 30 12.1	-2.9		
	9.8nm,0.1s									
EVO	**Evora**		6.32	137	eSn	Sn	23 30 12.1	-2.9		
	9.8nm,0.1s									
PNCL	**Nicolau / Gran**		6.41	142	ePn	Pn	23 29 06.3	+2.3		
PNCL					eSn	Sn	23 30 14.7	-2.5		
PNCL					A	A	23 30 19.1			
	3.6nm,0.2s									
PNCL	**Nicolau / Gran**		6.41	142	ePn	Pn	23 29 06.3	+2.3		
PNCL					eSn	Sn	23 30 14.7	-2.5		
	3.6nm,0.2s									
EPLA	**Plasencia**		6.43	118	P	Pn	23 29 06.0	+1.6		
	0.4nm,0.1s,SNR=7.9									
EPLA					S	Sn	23 30 14.2	-3.6		
	2.7nm,0.3s,SNR=6.7									
EPLA	**Plasencia**		6.43	118	P	Pn	23 29 06.0	+1.6		
	0.4nm,0.1s,SNR=7.9									
EPLA					S	Sn	23 30 14.2	-3.6		
	2.7nm,0.3s,SNR=6.7									
EBAD	**Badajoz**		6.68	130	P	Pn	23 29 10.0	+2.2		
	0.0nm,0.0s,SNR=7.9									
EBAD					S	Sn	23 30 21.3	-2.6		
	1.4nm,0.3s,SNR=14									
EBAD	**Badajoz**		6.68	130	P	Pn	23 29 10.0	+2.2		
	SNR=7.9									
EBAD					S	Sn	23 30 21.3	-2.6		
	1.4nm,0.3s,SNR=14									
MESJ	**Messejana**		6.77	142	eP	Pn	23 29 11.0	+2.1		
MESJ					eS	Sn	23 30 23.0	-3.2		
MESJ					AML	AML	23 30 25.4			
	comp=E,6.0nm,0.4s									
MESJ	**Messejana**		6.77	142	ePn	Pn	23 29 11.1	+2.1		
MESJ					eSn	Sn	23 30 23.3	-2.8		
MESJ					A	A	23 30 27.7			
	comp=E,5.1nm,0.8s									
MESJ	**Messejana**		6.77	142	Pn	Pn	23 29 11.1	+2.1		
MESJ					Sn	Sn	23 30 23.3	-2.8		
	comp=E,5.1nm,0.8s									
MESJ	**Messejana**		6.77	142	ePn	Pn	23 29 11.1	+2.1		
MESJ					eSn	Sn	23 30 23.3	-2.8		
	comp=E,5.1nm,0.8s									
PTEO	**Sao Teotonio**		6.80	146	eSn	Sn	23 30 24.6	-2.3		
PTEO					A	A	23 30 26.2			
	comp=E,8.9nm,0.8s									
PTEO	**Sao Teotonio**		6.80	146	Sn	Sn	23 30 24.6	-2.3		
	comp=E,4.4nm,0.8s									
PTEO	**Sao Teotonio**		6.80	146	eSn	Sn	23 30 24.6	-2.3		
	comp=E,8.9nm,0.8s									
PCVE	**Castro Verde**		7.02	142	ePn	Pn	23 29 14.6	+2.1		
PCVE					eSn	Sn	23 30 28.6	-3.8		
PCVE					A	A	23 30 34.7			
	comp=E,0.3nm,0.6s									
PCVE	**Castro Verde**		7.02	142	Pn	Pn	23 29 14.6	+2.1		
PCVE					Sn	Sn	23 30 28.6	-3.8		
	comp=E,0.3nm,0.6s									
PCVE	**Castro Verde**		7.02	142	ePn	Pn	23 29 14.6	+2.1		
PCVE					eSn	Sn	23 30 28.6	-3.8		
	comp=E,0.3nm,0.6s									
MORF	**Marmelete**		7.04	147	eSn	Sn	23 30 31.4	-1.4		
MORF					A	A	23 30 35.5			
	comp=E,9.2nm,0.2s									
MORF	**Marmelete**		7.04	147	Sn	Sn	23 30 31.4	-1.4		
	comp=E,9.2nm,0.2s									
MORF	**Marmelete**		7.04	147	eSn	Sn	23 30 31.4	-1.4		
	comp=E,9.2nm,0.2s									
PBAR	**Barrancos**		7.09	134	ePn	Pn	23 29 15.5	+2.1		
PBAR					eSn	Sn	23 30 32.6	-1.4		
PBAR					A	A	23 30 39.6			
	comp=E,4.0nm,0.3s									
PBAR	**Barrancos**		7.09	134	Pn	Pn	23 29 15.5	+2.1		
PBAR					Sn	Sn	23 30 32.6	-1.4		
	comp=E,4.0nm,0.3s									
PBAR	**Barrancos**		7.09	134	ePn	Pn	23 29 15.5	+2.1		
PBAR					eSn	Sn	23 30 32.6	-1.4		
	comp=E,4.0nm,0.3s									
PFVI	**Vila Bisbo**		7.12	148	eSn	Sn	23 30 33.9	-0.8		
PFVI					A	A	23 30 37.9			
	comp=E,12nm,1.0s									
PFVI	**Vila Bisbo**		7.12	148	P	Pn	23 29 13.5	-0.3		
	comp=E,0.1nm,0.1s,SNR=7.9									
PFVI					S	Sn	23 30 30.6	-4.1		
	comp=E,0.8nm,0.1s,SNR=7.9									
PFVI	**Vila Bisbo**		7.12	148	S	Sn	23 30 30.6	-4.1		
	comp=E,0.8nm,0.1s,SNR=7.9									
PFVI					eSn	Sn	23 30 33.9	-0.8		
	comp=E,12nm,1.0s									
PVAQ	**Vaqueiros**		7.36	141	ePn	Pn	23 29 19.2	+2.1		
PVAQ					eSn	Sn	23 30 36.3	-4.3		
PVAQ					A	A	23 30 41.3			
	comp=E,4.3nm,0.3s									
PVAQ	**Vaqueiros**		7.36	141	Pn	Pn	23 29 19.2	+2.1		
PVAQ					Sn	Sn	23 30 36.3	-4.3		
	comp=E,4.3nm,0.3s									
PVAQ	**Vaqueiros**		7.36	141	ePn	Pn	23 29 19.2	+2.1		
PVAQ					eSn	Sn	23 30 36.3	-4.3		
	comp=E,4.3nm,0.3s									
ELAN	**Lanestosa**		7.36	87	P	Pn	23 29 18.5	+1.5		
	comp=E,1.9nm,0.2s,SNR=106									
ELAN					S	Sn	23 30 38.2	-2.4		
	comp=E,0.9nm,0.2s,SNR=7.9									
ELAN	**Lanestosa**		7.36	87	P	Pn	23 29 18.5	+1.5		
	comp=E,1.9nm,0.2s,SNR=106									
ELAN					S	Sn	23 30 38.2	-2.4		
	comp=E,0.9nm,0.2s,SNR=7.9									
EGRO	**El Granado**		7.36	139	S	Sn	23 30 37.0	-3.7		
	comp=E,0.1nm,0.1s,SNR=7.9									
EGRO	**El Granado**		7.36	139	S	Sn	23 30 37.0	-3.7		
	comp=E,0.1nm,0.1s,SNR=7.9									
PBDV	**Barranco-do-Ve**		7.39	143	ePn	Pn	23 29 20.2	+2.6		
PBDV					eSn	Sn	23 30 39.2	-2.3		
PBDV					A	A	23 30 42.3			
	comp=E,4.8nm,0.9s									
PBDV	**Barranco-do-Ve**		7.39	143	Pn	Pn	23 29 20.2	+2.6		
PBDV					Sn	Sn	23 30 39.2	-2.3		
	comp=E,4.8nm,0.9s									
PBDV	**Barranco-do-Ve**		7.39	143	ePn	Pn	23 29 20.2	+2.6		
PBDV					eSn	Sn	23 30 39.2	-2.3		
	comp=E,4.8nm,0.9s									
GUD	**Guadarrama**		7.46	108	P	Pn	23 29 21.8	+3.2		
	comp=E,0.9nm,0.1s,SNR=5.5									
GUD					S	Sn	23 30 42.9	-0.4		
	comp=E,18nm,1.2s									
GUD	**Guadarrama**		7.46	108	P	Pn	23 29 21.8	+3.2		
	comp=E,0.9nm,0.1s,SNR=5.5									
GUD					S	Sn	23 30 42.9	-0.4		
	comp=E,18nm,1.2s									
EMIN	**Mina Concepcio**		7.58	134	P	Pn	23 29 21.5	+1.3		
	comp=E,0.1nm,0.1s,SNR=7.9									
EMIN					S	Sn	23 30 42.1	-4.1		
	comp=E,1.5nm,0.3s,SNR=7.6									
EMIN	**Mina Concepcio**		7.58	134	P	Pn	23 29 21.5	+1.3		
	comp=E,0.1nm,0.1s,SNR=7.9									
EMIN					S	Sn	23 30 42.1	-4.1		
	comp=E,1.5nm,0.3s,SNR=7.6									
PAB	**San Pablo**		7.84	115	P	Pn	23 29 26.4	+2.7		
	comp=E,0.1nm,0.1s,SNR=7.9									
PAB					S	Sn	23 30 49.5	-3.0		
	comp=E,3.6nm,0.1s,SNR=7.9									
PAB	**San Pablo**		7.84	115	P	Pn	23 29 26.4	+2.7		
	comp=E,0.1nm,0.1s,SNR=7.9									
PAB					S	Sn	23 30 49.5	-3.0		
	comp=E,3.6nm,0.1s,SNR=7.9									
ESDC	**Sonseca Array**		8.03	113	P	Pn	23 29 28.1	+1.8		
	comp=E,0.6nm,0.2s,baz=301,slow=13,SNR=26									
ESDC					S	Sn	23 30 54.2	-3.0		
	comp=E,0.8nm,0.2s,baz=293,slow=23,SNR=16									
ESDC	**Sonseca Array**		8.03	113	P	Pn	23 29 28.1	+1.8		
	comp=E,0.6nm,0.2s,SNR=26									
ESDC					S	Sn	23 30 54.2	-3.0		
	comp=E,0.8nm,0.2s,SNR=16									
ECAB	**El Cabril**		8.06	128	S	Sn	23 30 55.4	-2.5		
	comp=E,1.9nm,0.4s,SNR=6.7									
ECAB	**El Cabril**		8.06	128	S	Sn	23 30 55.4	-2.5		
	comp=E,1.9nm,0.4s,SNR=6.7									
IELO	**Elcoad**		9.00	89	P	Pn	23 29 41.4	+1.8		
	comp=E,0.6nm,0.2s,SNR=7.9									
IELO	**Elcoad**		9.00	89	P	Pn	23 29 41.4	+1.8		
	comp=E,0.6nm,0.2s,SNR=7.9									
ATE	**Arette**		9.37	87	P	Pn	23 29 47.1	+2.5		
	SNR=7.9									
ATE					S	Sn	23 31 28.1	-1.8		
	comp=E,0.2nm,0.2s,SNR=7.9									
ATE	**Arette**		9.37	87	P	Pn	23 29 47.1	+2.5		
	SNR=7.9									
ATE					S	Sn	23 31 28.1	-1.8		
	comp=E,0.2nm,0.2s,SNR=7.9									
EMOS	**Mosqueruela**		10.16	102	P	Pn	23 29 58.5	+2.8		
	comp=E,0.0nm,0.0s,SNR=7.9									
EMOS					S	Sn	23 31 46.5	-3.3		
	comp=E,0.2nm,0.1s,SNR=4.0									
EMOS	**Mosqueruela**		10.16	102	P	Pn	23 29 58.5	+2.8		
	SNR=7.9									
EMOS					S	Sn	23 31 46.5	-3.3		
	comp=E,0.2nm,0.1s,SNR=4.0									
CFON	**Fontmartina**		11.87	92	P	Pn	23 30 20.6	+1.6		
	comp=E,7.5nm,1.0s,SNR=5.9									
CFON	**Fontmartina**		11.87	92	P	Pn	23 30 20.6	+1.6		
	comp=E,7.5nm,1.0s,SNR=5.9									

IDC 03 23:42:60.0±2.0, 1°59N×126°19E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/31, mbtmpb3.8/3, Error ellipse: s-maj=172.0km s-min=24.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**160**	P	P	23 48 03.5	-1.5
	2.3nm,0.5s,baz=338,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.21**	**164**	P	P	23 48 37.9	+1.2
	1.4nm,0.6s,baz=349,slow=13,SNR=17						
MKAR	**Makanchi Array**	**59.01**	**326**	P	P	23 53 01.5	-0.2
	0.2nm,0.4s,baz=126,slow=7.6,SNR=7.5						

*ISCJB **03** 23:45:47.9±0.3, 41°.78N±0°.01×22°.15E±0°.02, h1km±3km, Error ellipse: s-maj=2.5km s-min=2.4km az=178.5*
*SKO **03** 23:45:48.2, 41°.78N×22°.14E, h2km, M2.4, ML2.8*
*SOF **03** 23:45:48.6, 41°.80N×22°.22E, h2km, MD3.0*
*CSEM **03** 23:45:48.7±0.1, 41°.78N×22°.16E, h2km, ML2.6, Error ellipse: s-maj=2.4km s-min=2.2km az=73.0*
*BEO **03** 23:45:48.8±0.3, 41°.74N×22°.13E, h7km±3km, ML2.5/1*
*TIR **03** 23:45:49.0±4.4, 41°.63N×21°.74E, h0km±16km, ML3.0*
*THE **03** 23:45:49.6, 41°.77N×22°.25E, h1km±3km, ML2.6/5, Error ellipse: s-maj=3.4km s-min=1.2km az=14.0*
*ATH **03** 23:45:49.1, 41°.75N×22°.21E, h18km±1km, MD3.6/32*
ISC 03 23:45:48.8±1.0, 41°.78N±0°.01×22°.17E±0°.01, h6km±9km, n210, n0§96/245, 32C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.55**	**147**	P	Pg	23 45 58.8	-0.5
VAY				S	Sg	23 46 06.5	+0.1
VAY	**Valandovo**	**0.55**	**147**	*i* Pg	Pg	23 45 59.2	-0.1
VAY	**Valandovo**	**0.55**	**147**	*i* Pg	Pg	23 45 59.5	+0.2
VAY				*i* Sg	Sg	23 46 07.5	+1.1
VAY				*i* Lg	Lg	23 46 07.8	
	comp=N,2μm,0.4s						
VAY				*i* Lg	Lg	23 46 08.1	
	comp=E,903nm,0.4s						
VAY	**Valandovo**	**0.55**	**147**	P	Pg	23 45 58.8	-0.5
VAY	**Valandovo**	**0.55**	**147**	*i* Pg	Pg	23 45 59.2	-0.1
VAY				S	Sg	23 46 06.5	+0.1
VAY				*i* Sg	Sg	23 46 07.5	+1.1
VAY				*i* Lg	Lg	23 46 08.0	
	comp=E,903nm,0.4s						
SKO	**Skopje**	**0.58**	**290**	P	Pg	23 46 00.3	+0.4
SKO				S	Sg	23 46 08.2	+0.7
SKO	**Skopje**	**0.58**	**290**	*i* Pg	Pg	23 45 59.3	-0.6
SKO				eSg	Sg	23 46 07.7	+0.2
SKO	**Skopje**	**0.58**	**290**	*i* Pg	Pb	23 46 00.6	-0.7
SKO				*i* Sg	Sg	23 46 08.1	+0.6
SKO				*i* Lg	Lg	23 46 09.0	
	comp=E,173nm,0.7s						
SKO				*i* Lg	Lg	23 46 10.5	
	comp=N,186nm,0.2s						
SKO	**Skopje**	**0.58**	**290**	P	Pg	23 46 00.3	+0.4
SKO				*i* Sg	Sg	23 46 08.1	+0.6
SKO				*i* Lg	Lg	23 46 10.4	
	comp=N,186nm,0.2s						
KKB	**Krupnik**	**0.69**	**82**	P	Pb	23 46 02.8	-0.4
KKB				Pg	Pg	23 46 03.1	+1.1
KKB	**Krupnik**	**0.69**	**82**	P	Pb	23 46 02.8	-0.4
KNT	**Kendrikon**	**0.82**	**138**	P	Pg	23 46 04.4	-0.2
KNT				S	Sg	23 46 15.4	+0.1
KNT	**Kendrikon**	**0.82**	**138**	ePN	Pg	23 46 04.6	0.0
KNT				eSN	Sg	23 46 15.4	+0.1
KNT	**Kendrikon**	**0.82**	**138**	P	Pg	23 46 04.4	-0.2
KNT				S	Sg	23 46 15.4	+0.1
GRG	**Griva**	**0.84**	**168**	P	Pg	23 46 04.8	-0.1
GRG				S	Sb	23 46 17.6	+0.3
GRG	**Griva**	**0.84**	**168**	ePN	Pg	23 46 04.9	0.0
GRG	**Griva**	**0.84**	**168**	P	Pg	23 46 04.8	-0.1
GRG				S	Sb	23 46 17.6	+0.3
BARS	**Barje**	**1.07**	**346**	*i* Pg	Pg	23 46 07.8	-1.5
BARS				eSg	Sb	23 46 24.0	0.0
BARS	**Barje**	**1.07**	**346**	*i* Pg	Pg	23 46 07.8	-1.5
BARS				eSg	Sb	23 46 24.0	0.0
VTS	**Vitosha**	**1.12**	**43**	P	Pg	23 46 09.5	-0.8
VTS				S	Sg	23 46 24.8	0.0
VTS	**Vitosha**	**1.12**	**43**	⇑*i* Pg	Pg	23 46 10.1	-0.2
VTS				eSg	Sb	23 46 26.7	+1.2
VTS	**Vitosha**	**1.12**	**43**	⇑*i* P	Pb	23 46 10.5	-0.2
VTS	**Vitosha**	**1.12**	**43**	S	Sn	23 46 27.4	+0.4
VTS	**Vitosha**	**1.12**	**43**	Pg	Pg	23 46 10.1	-0.2
VTS	**Vitosha**	**1.12**	**43**	P	Pg	23 46 09.5	-0.8
VTS	**Vitosha**	**1.12**	**43**	⇑*i* Pg	Pg	23 46 10.1	-0.2
VTS				S	Sg	23 46 24.8	0.0
VTS				eSg	Sb	23 46 26.7	+1.2

FNA	**Florina**		1.16	211	*i* PG	Pg	23 46 10.6	-0.4		
FNA					*i* SG	Sb	23 46 27.2	+0.6		
FNA	**Florina**		1.16	211	P	Pg	23 46 10.8	-0.2		
FNA					S	Sb	23 46 27.2	+0.6		
FNA	**Florina**		1.16	211	ePN	Pb	23 46 11.2	-0.1		
FNA	**Florina**		1.16	211	ePN	Pg	23 46 10.7	-0.4		
FNA					eSN	Sb	23 46 27.0	+0.4		
FNA	**Florina**		1.16	211	P	Pg	23 46 10.8	-0.2		
FNA					S	Sb	23 46 27.2	+0.6		
MMB	**Musomiste**		1.18	99	⇑*i* P	Pg	23 46 11.4	-0.1		
MMB	**Musomiste**		1.18	99	S	Sb	23 46 28.3	+1.1		
MMB	**Musomiste**		1.18	99	*i* Pg	Pg	23 46 11.4	-0.1		
MMB	**Musomiste**		1.18	99	⇑*i* P	Pg	23 46 11.4	-0.1		
OHR	**Ohrid**		1.23	238	*i* Pg	Pg	23 46 10.8	-1.5		
OHR					*i* Sg	Sg	23 46 27.8	-0.4		
OHR					*i* Lg	Lg	23 46 28.4			
	comp=E,112nm,0.4s									
OHR					*i* Lg	Lg	23 46 29.1			
	comp=N,135nm,1.0s									
OHR	**Ohrid**		1.23	238	*i* Pg	Pg	23 46 10.8	-1.5		
OHR					*i* Sg	Sg	23 46 27.8	-0.4		
OHR					*i* Lg	Lg	23 46 29.1			
	comp=N,135nm,1.0s									
SRS	**Serrai**		1.26	121	P	Pg	23 46 11.8	-1.1		
SRS	**Serrai**		1.26	121	ePN	Pg	23 46 12.0	-0.9		
SRS	**Serrai**		1.26	121	P	Pg	23 46 11.8	-1.1		
THE	**Thessaloniki**		1.29	152	ePN	Pg	23 46 12.9	-0.7		
THE					eSN	Sb	23 46 30.4	+0.1		
THE	**Thessaloniki**		1.29	152	ePn	Pg	23 46 12.9	-0.7		
THE					eSn	Sb	23 46 30.4	+0.1		
PHP	**Peshkopia**		1.30	266	*i* PG	Pg	23 46 12.3	-1.4		
PHP					*i* SG	Sg	23 46 30.4	-0.1		
PHP	**Peshkopia**		1.30	266	*i* Pg	Pg	23 46 12.3	-1.4		
	SNR=90									
PHP					*i* Sg	Sg	23 46 30.4	-0.1		
	SNR=90									
SOH	**Sokhos**		1.31	137	P	Pg	23 46 12.8	-1.1		
SOH					S	Sg	23 46 30.6	-0.2		
SOH	**Sokhos**		1.31	137	ePN	Pg	23 46 13.1	-0.8		
SOH					eSN	Sg	23 46 30.3	-0.5		
SOH	**Sokhos**		1.31	137	P	Pg	23 46 12.8	-1.1		
SOH	**Sokhos**		1.31	137	ePn	Pg	23 46 13.1	-0.8		
SOH					eSn	Sg	23 46 30.3	-0.5		
SOH					S	Sg	23 46 30.6	-0.2		
NVR	**Nevrokopi**		1.34	108	P	Pg	23 46 13.7	-0.8		
NVR	**Nevrokopi**		1.34	108	ePN	Pg	23 46 13.9	-0.6		
NVR					eSN	Sb	23 46 32.1	+0.4		
NVR	**Nevrokopi**		1.34	108	P	Pg	23 46 13.7	-0.8		
NVR					eSn	Sb	23 46 32.1	+0.4		
HORT	**Hortiatis**		1.37	149	P	Pb	23 46 15.0	+0.1		
HORT	**Hortiatis**		1.37	149	ePN	Pg	23 46 14.6	-0.5		
HORT	**Hortiatis**		1.37	149	ePn	Pg	23 46 14.6	-0.5		
HORT	**Hortiatis**		1.37	149	P	Pb	23 46 15.0	+0.1		
KZN	**Kozani**		1.50	192	P	Pn	23 46 16.5	+0.2		
KZN	**Kozani**		1.50	192	ePN	Pn	23 46 16.6	+0.2		
KZN	**Kozani**		1.50	192	ePn	Pn	23 46 16.6	+0.2		
ZAPS	**Zavoj**		1.53	13	*i* Pg	Pb	23 46 17.7	+0.1		
KBN	**Korca**		1.56	223	*i* PG	Pb	23 46 17.9	-0.1		
KBN	**Korca**		1.56	223	*i* Pg	Pb	23 46 17.9	-0.1		
	SNR=90									
NEST	**Nestorio**		1.60	212	P	Pb	23 46 18.9	0.0		
NEST					S	Sg	23 46 42.5	+2.1		
NEST	**Nestorio**		1.60	212	ePN	Pb	23 46 18.6	-0.3		
NEST					eSN	Sg	23 46 40.1	-0.3		
NEST	**Nestorio**		1.60	212	ePn	Pb	23 46 18.6	-0.3		
NEST	**Nestorio**		1.60	212	P	Pb	23 46 18.9	0.0		
NEST					eSn	Sg	23 46 40.1	-0.3		
NEST					S	Sg	23 46 42.5	+2.1		
SELS	**Selova**		1.64	332	*i* Pg	Pn	23 46 18.1	0.0		
BCI	**Bajram Curri**		1.67	291	*i* PN	Pg	23 46 21.2	+0.4		
BCI	**Bajram Curri**		1.67	291	*i* Pn	Pg	23 46 21.2	+0.4		
	SNR=90									
PGB	**Panagyurishte**		1.67	62	P	Pb	23 46 20.3	+0.3		
PGB					Pg	Pg	23 46 21.5	+0.7		
PGB	**Panagyurishte**		1.67	62	P	Pb	23 46 20.3	+0.3		
LIT	**Litokhoron**		1.69	172	ePN	Pn	23 46 19.4	+0.5		
LIT	**Litokhoron**		1.69	172	ePn	Pn	23 46 19.4	+0.5		
PLG	**Polygyros**		1.70	145	P	Pb	23 46 20.1	-0.4		
PLG	**Polygyros**		1.70	145	ePN	Pn	23 46 19.9	+0.8		
PLG					eSN	Sn	23 46 41.4	+0.2		
PLG	**Polygyros**		1.70	145	ePn	Pn	23 46 19.9	+0.8		
PLG					eSn	Sn	23 46 41.4	+0.2		
PUK	**Puka**		1.72	280	*i* PN	Pg

ALN	Alexandroupoli	3.05	106	P	Pn	23 46 38.3	+0.8	
SZH	Strazhica	3.15	61	P	Pn	23 46 41.8	+2.8	
SZH	Strazhica	3.15	61	P	Pn	23 46 41.8	+2.8	
ENEZ	Enez	3.18	108	*e*PN	Pb	23 46 43.2	-2.4	
ENEZ	Enez	3.18	108	*e*Pn	Pb	23 46 43.2	-2.4	
LKD2	Lefkada island	3.20	202	*e*PN	Pn	23 46 41.7	+2.0	
LKD2	Lefkada island	3.20	202	*e*Pn	Pn	23 46 41.7	+2.0	
MRKA	Markates	3.26	160	*e*PN	Pn	23 46 41.4	+1.0	
MRKA	Markates	3.26	160	*e*Pn	Pn	23 46 41.4	+1.0	
JMB	Yambol	3.35	77	⇑*i*P	Pn	23 46 40.0	-1.7	
JMB	Yambol	3.35	77	*i* S	Sn	23 47 18.4	-3.4	
JMB	Yambol	3.35	77	⇑*i*P	Pn	23 46 40.0	-1.7	
KALE	Kalithea	3.38	180	*e*PN	Pn	23 46 43.2	+1.0	
KALE	Kalithea	3.38	180	*e*Pn	Pn	23 46 43.2	+1.0	
EDRB	Edirne	3.42	87	*e*PN	Pb	23 46 49.5	-0.3	
ERIK	Erikli-Kesan	3.46	107	*e*PN	Pb	23 46 47.3	-3.1	
ERIK	Erikli-Kesan	3.46	107	*e*Pn	Pb	23 46 47.3	-3.1	
STON	Ston	3.49	290	*e*PN	Pn	23 46 44.2	+0.6	
STON	Ston	3.49	290	*e*Pn	Pn	23 46 44.2	+0.6	
GELI	Tayfur-Gelibol	3.53	112	*e*PN	Pn	23 46 47.7	+3.5	
GELI	Tayfur-Gelibol	3.53	112	*e*Pn	Pn	23 46 47.7	+3.5	
GZR	Gura Zlata	3.64	7	⇑*i*P	Pn	23 46 46.0	+0.3	
GZR	Gura Zlata	3.64	7	⇑*i*P	Pn	23 46 46.0	+0.3	
KLV	Kalavryta, Ach	3.73	180	*e*PN	Pn	23 46 47.3	+0.3	
KLV	Kalavryta, Ach	3.73	180	*e*Pn	Pn	23 46 47.3	+0.3	
LPK	Lapseki	3.74	111	*e*PN	Pn	23 46 50.8	+3.7	
LPK	Lapseki	3.74	111	*e*Pn	Pn	23 46 50.8	+3.7	
FGSL	Fruska Gora	3.79	334	*e*PN	Pn	23 46 47.2	-0.5	
FRGS	Fruska Gora	3.79	334	*e*Pn	Pn	23 46 47.2	-0.5	
BZS	Buzias	3.86	354	*e*Pn	Pn	23 46 48.7	+0.1	
BZS	Buzias	3.86	354	⇑*i*P	Pn	23 46 49.7	+1.1	
BZS	Buzias	3.86	354	*e*Pn	Pn	23 46 48.7	+0.1	
BZS	Buzias	3.86	354	⇑*i*P	Pn	23 46 49.7	+1.1	
RKY	Sarkoy-Tekirda	3.93	104	*e*PN	Pn	23 46 54.3	+4.6	
RKY	Sarkoy-Tekirda	3.93	104	*e*Pn	Pn	23 46 54.3	+4.6	
KRBG	Karabiga-Canak	4.12	108	*e*PN	Pn	23 46 56.5	+4.3	
KRBG	Karabiga-Canak	4.12	108	*e*Pn	Pn	23 46 56.5	+4.3	
VOIR		4.21	29	⇓*i*P	Pn	23 46 53.9	+0.3	
VOIR		4.21	29	⇓*i*P	Pn	23 46 53.9	+0.3	
CRLT	Corlu	4.23	97	*e*PN	Pb	23 46 59.5	-4.1	
SLVT	Silivri	4.57	95	*e*PN	Pb	23 47 04.8	-4.5	
CTYL	Yal??k??y-??at	4.60	92	*e*PN	Pb	23 47 06.1	-3.7	
ISR	Istrita	4.61	42	⇑*i*P	Pn	23 46 59.9	+0.8	
ISR	Istrita	4.61	42	⇑*i*P	Pn	23 46 59.9	+0.8	
MLR	Muntele Rosu	4.61	35	⇓*i*P	Pn	23 47 00.1	+1.0	
MLR	Muntele Rosu	4.61	35	⇓*i*P	Pn	23 47 00.1	+1.0	
CTKS	Kestanelik-??a	4.79	94	*e*PN	Pb	23 47 08.3	-4.8	
PSN	Preselentsi	4.82	65	⇑*i*P	Pn	23 47 01.9	+0.1	
PSN	Preselentsi	4.82	65	⇑*i*P	Pn	23 47 01.9	+0.1	
DRGR		5.03	4	⇑*i*P	Pn	23 47 07.1	+2.3	
DRGR		5.03	4	⇑*i*P	Pn	23 47 07.1	+2.3	
PKSM	Moragy	5.11	331	*e*Pn	Pn	23 47 05.8	0.0	
PKSM	Moragy	5.11	331	⇑*i*P	Pn	23 47 06.1	+0.3	
PKSM	Moragy	5.11	331	*e*Pn	Pn	23 47 05.8	0.0	
PKSM	Moragy	5.11	331	⇑*i*P	Pn	23 47 06.1	+0.3	
TLB	Topalu	5.13	55	⇑*i*P	Pn	23 47 06.2	+0.1	
TLB	Topalu	5.13	55	⇑*i*P	Pn	23 47 06.2	+0.1	
VRI	Vrincioaia	5.25	37	⇑*i*P	Pn	23 47 09.0	+1.2	
VRI	Vrincioaia	5.25	37	⇑*i*P	Pn	23 47 09.0	+1.2	
TIRR	Tirgusor	5.29	58	⇑*i*P	Pn	23 47 09.5	+1.1	
TIRR	Tirgusor	5.29	58	⇑*i*P	Pn	23 47 09.5	+1.1	
CFR	Carcaliu	5.51	50	⇓*i*P	Pn	23 47 12.4	+1.1	
CFR	Carcaliu	5.51	50	⇓*i*P	Pn	23 47 12.4	+1.1	
SILT	Sile	5.65	94	*e*PN	Pn	23 47 20.1	+6.9	
KULA	Kula-Manisa	5.95	121	*e*PN	Pn	23 47 21.0	+3.6	
SHUT	Suhut-Afyon	7.18	114	*e*PN	Pn	23 47 38.5	+4.1	
KONT	Konya--Tatoy	8.72	113	*e*PN	Pn	23 47 60.0	+4.5	

SKO ***03*** *23:50:02.2, 41.79N×22.17E, h21km, M2.2, ML2.6*
CSEM ***03*** *23:50:02.7±0.1, 41.79N×22.18E, h2km, ML2.8, Error ellipse: s-maj=2.5km s-min=2.1km az=64.0*
BEO ***03*** *23:50:03.2±0.3, 41.78N×22.24E, h16km±3km, ML2.5/8*
SOF ***03*** *23:50:03.9, 41.88N×22.29E, h2km, MD3.0*
ATH ***03*** *23:50:03.4, 41.74N×22.25E, h19km±1km, MD3.4/32*
THE ***03*** *23:50:03.6, 41.78N×22.27E, h1km±4km, ML2.8/4, Error ellipse: s-maj=4.4km s-min=1.4km az=260.0*
TIR ***03*** *23:50:05.5±4.1, 41.58N×21.70E, h0km±17km, ML2.7*

ISC 03 23:50:03.2±1.0, 41°75N±0.01×22°22E±0.01, h15km±8km, n202, σ1s31/248, 26C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.51**	**148**	P	**Pg**	**23 50 12.4**	**-0.8**
VAY				S	**Sb**	**23 50 20.4**	**-0.5**
VAY	**Valandovo**	**0.51**	**148**	*e*Pg	**Pg**	**23 50 12.9**	**-0.3**
VAY				*e*Sg	**Sb**	**23 50 20.8**	**-0.1**
VAY	**Valandovo**	**0.51**	**148**	*i* Pg	**Pb**	**23 50 13.5**	**-0.3**
VAY				*i* Sg	**Sb**	**23 50 21.4**	**+0.5**
VAY				*i* Lg	Lg	23 50 21.6	
	comp=E,1μm,0.6s						
VAY				*i* Lg	Lg	23 50 21.6	
	comp=N,952nm,0.5s						
VAY	**Valandovo**	**0.51**	**148**	P	**Pg**	**23 50 12.4**	**-0.8**
VAY	**Valandovo**	**0.51**	**148**	*i* Pg	**Pb**	**23 50 13.4**	**-0.3**
VAY				S	**Sb**	**23 50 20.4**	**-0.5**
VAY				*e*Sg	**Sb**	**23 50 20.8**	**-0.1**
VAY				*i* Lg	Lg	23 50 21.6	
	comp=N,952nm,0.5s						
SKO	**Skopje**	**0.62**	**291**	P	**Pb**	**23 50 14.1**	**-1.7**
SKO				S	**Sb**	**23 50 21.9**	**-2.4**
SKO	**Skopje**	**0.62**	**291**	*e*Pg	**Pb**	**23 50 14.8**	**-1.0**
SKO				*e*Sg	**Sg**	**23 50 25.8**	**+2.1**
SKO	**Skopje**	**0.62**	**291**	*i* Pg	**Pb**	**23 50 14.8**	**-1.0**
SKO				*i* Sg	**Sb**	**23 50 22.6**	**-1.7**
SKO				*i* Lg	Lg	23 50 25.8	
	comp=E,81nm,0.3s						
SKO				*i* Lg	Lg	23 50 26.2	
	comp=N,80nm,0.3s						
SKO	**Skopje**	**0.62**	**291**	P	**Pb**	**23 50 14.1**	**-1.7**
SKO	**Skopje**	**0.62**	**291**	*i* Pg	**Pb**	**23 50 14.7**	**-1.0**
SKO				S	**Sb**	**23 50 21.9**	**-2.4**
SKO				*i* Sg	**Sb**	**23 50 22.6**	**-1.7**
SKO				*i* Lg	Lg	23 50 26.1	
	comp=N,80nm,0.3s						
KKB	**Krupnik**	**0.66**	**80**	Pg	**Pg**	**23 50 16.6**	**+0.5**
KKB	**Krupnik**	**0.66**	**80**	Pg	**Pg**	**23 50 16.6**	**+0.5**
KNT	**Kendrikon**	**0.78**	**139**	P	**Pg**	**23 50 18.3**	**-0.1**
KNT				S	**Sn**	**23 50 29.3**	**-1.8**
KNT	**Kendrikon**	**0.78**	**139**	*e*PN	**Pg**	**23 50 18.6**	**+0.2**
KNT				*e*SN	**Sn**	**23 50 29.3**	**-1.8**
KNT	**Kendrikon**	**0.78**	**139**	P	**Pg**	**23 50 18.3**	**-0.1**
KNT	**Kendrikon**	**0.78**	**139**	*e*Pn	**Pg**	**23 50 18.6**	**+0.2**
KNT				S	**Sn**	**23 50 29.3**	**-1.8**
GRG	**Griva**	**0.81**	**170**	P	**Pb**	**23 50 18.3**	**-0.6**
GRG				S	**Sn**	**23 50 31.5**	**-0.3**
GRG	**Griva**	**0.81**	**170**	*e*PN	**Pb**	**23 50 18.5**	**-0.4**
GRG	**Griva**	**0.81**	**170**	P	**Pb**	**23 50 18.3**	**-0.6**
GRG				S	**Sn**	**23 50 31.5**	**-0.3**
BARS	**Barje**	**1.11**	**344**	*e*Pg	**Pn**	**23 50 22.0**	**-2.2**
BARS	**Barje**	**1.11**	**344**	*e*Pg	**Pn**	**23 50 22.0**	**-2.2**
VTS	**Vitosha**	**1.12**	**41**	P	**Pn**	**23 50 23.6**	**-0.9**
VTS				S	**Sb**	**23 50 38.5**	**-0.2**
VTS	**Vitosha**	**1.12**	**41**	⇑*i*Pg	**Pn**	**23 50 23.7**	**-0.8**
VTS				*e*Sg	**Sb**	**23 50 38.1**	**-0.6**
VTS	**Vitosha**	**1.12**	**41**	⇑P	**Pb**	**23 50 24.3**	**0.0**
VTS	**Vitosha**	**1.12**	**41**	Pg	**Pn**	**23 50 23.7**	**-0.8**
VTS	**Vitosha**	**1.12**	**41**	Pg	**Pn**	**23 50 23.7**	**-0.8**
VTS				*e*Sg	**Sb**	**23 50 38.1**	**-0.6**
VTS				S	**Sb**	**23 50 38.5**	**-0.2**
MMB	**Musomiste**	**1.14**	**98**	⇓*i*P	**Pg**	**23 50 25.8**	**+0.5**
MMB	**Musomiste**	**1.14**	**98**	S	**Sg**	**23 50 41.5**	**+1.3**
MMB	**Musomiste**	**1.14**	**98**	P	**Pg**	**23 50 25.5**	**+0.2**
MMB				Pg	**Pb**	**23 50 26.6**	**+1.9**
MMB	**Musomiste**	**1.14**	**98**	P	**Pg**	**23 50 25.5**	**+0.2**
FNA	**Florina**	**1.16**	**214**	*i* PG	**Pn**	**23 50 24.8**	**-0.1**
FNA				*i* SG	**Sg**	**23 50 41.9**	**+1.2**
FNA	**Florina**	**1.16**	**214**	P	**Pn**	**23 50 24.6**	**-0.3**
FNA	**Florina**	**1.16**	**214**	*e*PB	**Pn**	**23 50 24.6**	**-0.3**
FNA				*e*SN	**Sg**	**23 50 41.5**	**+0.9**
FNA	**Florina**	**1.16**	**214**	*i* Pg	**Pn**	**23 50 24.8**	**-0.1**
	SNR=90						
FNA				*e*Sn	**Sg**	**23 50 41.5**	**+0.9**
FNA				*i* Sg	**Sg**	**23 50 41.8**	**+1.2**
	SNR=90						
SRS	**Serrai**	**1.21**	**121**	P	**Pg**	**23 50 26.7**	**+0.1**
SRS				S	**Sg**	**23 50 42.7**	**+0.3**
SRS	**Serrai**	**1.21**	**121**	*e*PN	**Pg**	**23 50 26.3**	**-0.3**
SRS				*e*SN	**Sg**	**23 50 42.0**	**-0.4**
SRS	**Serrai**	**1.21**	**121**	*e*Pn	**Pg**	**23 50 26.3**	**-0.3**
SRS	**Serrai**	**1.21**	**121**	P	**Pg**	**23 50 26.7**	**+0.1**
SRS				*e*Sn	**Sg**	**23 50 42.0**	**-0.4**
SRS				S	**Sg**	**23 50 42.7**	**+0.3**
OHR	**Ohrid**	**1.24**	**240**	*i* Pg	**Pn**	**23 50 24.8**	**-1.3**
OHR				*i* Sg	**Sb**	**23 50 42.3**	**0.0**
OHR				*i* Lg	Lg	23 50 42.7	
	comp=E,64nm,0.4s						
OHR				*i* Lg	Lg	23 50 44.8	
	comp=N,70nm,0.5s						
OHR	**Ohrid**	**1.24**	**240**	*i* Pg	**Pn**	**23 50 24.8**	**-1.3**
OHR				*i* Sg	**Sb**	**23 50 42.3**	**0.0**
OHR				*i* Lg	Lg	23 50 44.8	
	comp=N,70nm,0.5s						
THE	**Thessaloniki**	**1.25**	**153**	*e*PN	**Pb**	**23 50 26.4**	**-0.1**
THE	**Thessaloniki**	**1.25**	**153**	*e*Pn	**Pb**	**23 50 26.4**	**-0.1**
SOH	**Sokhos**	**1.26**	**137**	P	**Pg**	**23 50 27.3**	**-0.2**
SOH				S	**Sg**	**23 50 43.7**	**-0.3**
SOH	**Sokhos**	**1.26**	**137**	*e*PN	**Pg**	**23 50 27.4**	**-0.1**
SOH				*e*SN	**Sg**	**23 50 43.7**	**-0.3**
SOH	**Sokhos**	**1.26**	**137**	P	**Pg**	**23 50 27.3**	**-0.2**
SOH				S	**Sg**	**23 50 43.7**	**-0.3**
NVR	**Nevrokopi**	**1.30**	**107**	P	**Pg**	**23 50 27.8**	**-0.4**
NVR	**Nevrokopi**	**1.30**	**107**	*e*PN	**Pg**	**23 50 27.9**	**-0.3**
NVR				*e*SN	**Sg**	**23 50 45.3**	**+0.2**
NVR	**Nevrokopi**	**1.30**	**107**	P	**Pg**	**23 50 27.8**	**-0.4**
NVR				*e*Sn	**Sg**	**23 50 45.3**	**+0.2**
HORT	**Hortiatis**	**1.33**	**150**	*e*PB	**Pb**	**23 50 27.2**	**-0.7**
HORT	**Hortiatis**	**1.33**	**150**	*e*Pb	**Pb**	**23 50 27.2**	**-0.7**
PHP	**Peshkopia**	**1.33**	**268**	*i* PG	**Pn**	**23 50 27.2**	**-0.1**
PHP				*i* SG	**Sn**	**23 50 44.5**	**-0.3**
PHP	**Peshkopia**	**1.33**	**268**	*i* Pg	**Pn**	**23 50 27.2**	**-0.1**
	SNR=90						
PHP				*i* Sg	**Sn**	**23 50 44.5**	**-0.3**
	SNR=90						
KZN	**Kozani**	**1.48**	**193**	P	**Pg**	**23 50 31.9**	**+0.2**
KZN	**Kozani**	**1.48**	**193**	P	**Pg**	**23 50 31.9**	**+0.2**
ZAPS	**Zavoj**	**1.55**	**11**	*e*Pg	**Pb**	**23 50 31.0**	**-0.7**
ZAPS				*e*Sg	**Sb**	**23 50 45.1**	**+0.8**
NEST	**Nestorio**	**1.60**	**214**	P	**Pb**	**23 50 33.3**	**+0.8**
NEST	**Nestorio**	**1.60**	**214**	*e*PN	**Pb**	**23 50 32.9**	**+0.4**
NEST				*e*SN	**Sg**	**23 50 54.3**	**-0.5**
NEST	**Nestorio**	**1.60**	**214**	*e*Pn	**Pb**	**23 50 32.9**	**+0.4**
NEST	**Nestorio**	**1.60**	**214**	P	**Pb**	**23 50 33.3**	**+0.8**
NEST				*e*Sn	**Sg**	**23 50 54.3**	**-0.5**
PGB	**Panagyurishte**	**1.65**	**61**	P	**Pb**	**23 50 33.4**	**0.0**
PGB	**Panagyurishte**	**1.65**	**61**	P	**Pb**	**23 50 33.4**	**0.0**
PLG	**Polygyros**	**1.66**	**146**	P	**Pg**	**23 50 34.5**	**-0.6**
PLG	**Polygyros**	**1.66**	**146**	*e*PN	**Pb**	**23 50 33.3**	**-0.2**
PLG				*e*SN	**Sb**	**23 50 54.5**	**+0.3**
PLG	**Polygyros**	**1.66**	**146**	*e*Pn	**Pb**	**23 50 33.3**	**-0.2**
PLG	**Polygyros**	**1.66**	**146**	P	**Pg**	**23 50 34.5**	**-0.6**
PLG				*e*Sn	**Sb**	**23 50 54.5**	**+0.3**
LIT	**Litokhoron**	**1.66**	**173**	*e*PN	**Pb**	**23 50 33.6**	**+0.1**
LIT	**Litokhoron**	**1.66**	**173**	*e*Pn	**Pb**	**23 50 33.6**	**+0.1**
SELS	**Selova**	**1.68**	**331**	*e*Pg	**Pb**	**23 50 33.1**	**-0.7**
SELS				*e*Sg	**Sb**	**23 50 56.4**	**+1.7**
BCI	**Bajram Curri**	**1.71**	**292**	*i* PN	**Pn**	**23 50 33.6**	**+1.1**
BCI				*i* SN	**Sg**	**23 50 59.9**	**+1.5**
BCI	**Bajram Curri**	**1.71**	**292**	*i* Pn	**Pn**	**23 50 33.6**	**+1.1**
	SNR=40						
BCI				*i* Sn	**Sg**	**23 50 59.9**	**+1.5**
	SNR=40						
PUK	**Puka**	**1.76**	**280**	*i* PN	**Pb**	**23 50 35.3**	**+0.1**
PUK				*i* SN	**Sg**	**23 50 59.6**	**-0.3**
PUK	**Puka**	**1.76**	**280**	*i* Pn	**Pb**	**23 50 35.3**	**+0.1**
	SNR=40						
PUK				*i* Sn	**Sg**	**23 50 59.6**	**-0.3**
	SNR=40						
RZN	**Rozhen**	**1.87**	**91**	P	**Pb**	**23 50 36.9**	**-0.3**
RZN	**Rozhen**	**1.87**	**91**	P	**Pb**	**23 50 36.9**	**-0.3**
KAVA	**Kavala**	**1.89**	**113**	P	**Pb**	**23 50 36.9**	**-0.4**
KAVA	**Kavala**	**1.89**	**113**	*e*PN	**Pb**	**23 50 36.5**	**-0.8**
KAVA	**Kavala**	**1.89**	**113**	*e*Pn	**Pb**	**23 50 36.5**	**-0.8**
KAVA	**Kavala**	**1.89**	**113**	P	**Pb**	**23 50 36.9**	**-0.4**
PLD	**Plovdiv**	**1.89**	**78**	P	**Pb**	**23 50 36.7**	**-0.6**
PLD				S	**Sb**	**23 50 59.2**	**-1.5**
PLD	**Plovdiv**	**1.89**	**78**	*e*Pg	**Pb**	**23 50 37.0**	**-0.3**
PLD				*e*Sg	**Sg**	**23 51 03.0**	**-0.9**
PLD	**Plovdiv**	**1.89**	**78**	P	**Pb**	**23 50 37.0**	**-0.3**
PLD	**Plovdiv**	**1.89**	**78**	P	**Pb**	**23 50 36.7**	**-0.6**
PLD	**Plovdiv**	**1.89**	**78**	*e*Pg	**Pb**	**23 50 37.0**	**-0.3**
PLD				S	**Sb**	**23 50 59.2**	**-1.5**
PLD				*e*Sg	**Sg**	**23 51 03.0**	**-0.9**
OUR	**Ouranopolis**	**1.94**	**136**	*e*PN	**Pg**	**23 50 37.2**	**+0.8**
OUR	**Ouranopolis**	**1.94**	**136**	*e*PN	**Pb**	**23 50 37.2**	**-1.1**
OUR				*e*SN	**Sb**	**23 51 02.2**	**-0.2**
OUR	**Ouranopolis**	**1.94**	**136**	*e*Pn	**Pb**	**23 50 37.2**	**-1.1**
OUR				*e*Sn	**Sb**	**23 51 02.2**	**-0.2**
MPEP	**Malo Peshtene**	**1.96**	**35**	P	**Pb**	**23 50 39.2**	**+0.6**
MPEP				Pg	**Pg**	**23 50 40.5**	**-0.3**
BOLS	**Boljevac**	**2.09**	**355**	⇑*i*Pn	**Pn**	**23 50 36.8**	**-0.8**
BOLS				*e*Sg	**Sb**	**23 51 07.7**	**+1.2**
BOLS	**Boljevac**	**2.09**	**355**	⇑*i*Pn	**Pn**	**23 50 36.8**	**-0.8**
BOLS				*e*Sg	**Sb**	**23 51 07.7**	**+1.2**
PAIG	**Paliouri**	**2.13**	**148**	*e*PN	**Pb**	**23 50 40.4**	**-1.1**
PAIG	**Paliouri**	**2.13**	**148**	*e*Pn	**Pb**	**23 50 40.4**	**-1.1**
THL	**Klokotos Trika**	**2.19**	**184**	*e*PN	**Pb**	**23 50 42.2**	**-0.3**
THL	**Klokotos Trika**	**2.19**	**184**	*e*Pn	**Pb**	**23 50 42.2**	**-0.3**
PDG	**Podgorica**	**2.31**	**288**	*e*Pn	**Pn**	**23 50 39.9**	**-0.7**
PDG	**Podgorica**	**2.31**	**288**	*e*Pn	**Pn**	**23 50 39.9**	**-0.7**
IVAS	**Ivanjica**	**2.38**	**321**	*e*Pn	**Pn**	**23 50 41.6**	**-0.1**
IVAS				*e*Sg	**Sg**	**23 51 19.6**	**-0.4**
IVAS	**Ivanjica**	**2.38**	**321**	*e*Pn	**Pn**	**23 50 41.6**	**-0.1**
IVAS				*e*Sg	**Sg**	**23 51 19.2**	**-0.4**
KDZ	**Kurdzhali**	**2.40**	**91**	⇑*i*P	**Pn**	**23 50 43.1**	**+1.2**
KDZ	**Kurdzhali**	**2.40**	**91**	S	**Sb**	**23 51 14.7**	**-0.7**
KDZ	**Kurdzhali**	**2.40**	**91**	P	**Pg**	**23 50 47.5**	**-1.7**
KDZ	**Kurdzhali**	**2.40**	**91**	⇑*i*P	**Pn**	**23 50 43.1**	**+1.2**
GRUS	**Gruza**	**2.41**	**333**	⇑*i*Pn	**Pn**	**23 50 41.7**	**-0.3**
GRUS				*e*Sg	**Sb**	**23 51 18.7**	**+3.1**
GRUS	**Gruza**	**2.41**	**333**	⇑*i*Pn	**Pn**	**23 50 41.7**	**-0.3**
GRUS				*e*Sg	**Sb**	**23 51 18.7**	**+3.1**
XOR	**Xorichti**	**2.50**	**162**	*e*PN	**Pn**	**23 50 44.4**	**+1.1**
XOR	**Xorichti**	**2.50**	**162**	*e*Pn	**Pn**	**23 50 44.4**	**+1.1**
NEO	**Neokhori**	**2.56**	**162**	*e*PN	**Pn**	**23 50 45.3**	**+1.1**
NEO	**Neokhori**	**2.56**	**162**	*e*Pn	**Pn**	**23 50 45.3**	**+1.1**
RDO	**Rodhopi**	**2.57**	**103**	P	**Pn**	**23 50 45.3**	**+1.1**
RDO	**Rodhopi**	**2.57**	**103**	*e*PN	**Pb**	**23 50 46.0**	**-2.9**
RDO	**Rodhopi**	**2.57**	**103**	P	**Pb**	**23 50 46.0**	**+1.1**
RDO	**Rodhopi**	**2.57**	**103**	*e*Pn	**Pb**	**23 50 46.0**	**-2.9**
IGT	**Igoumenitsa**	**2.64**	**214**	*e*PB	**Pb**	**23 50 48.7**	**-1.5**
IGT	**Igoumenitsa**	**2.64**	**214**	*e*Pb	**Pb**	**23 50 48.7**	**-1.5**
AGG	**Agios Georgios**	**2.73**	**178**	*e*PN	**Pn**	**23 50 46.8**	**+0.3**
AGG	**Agios Georgios**	**2.73**	**178**	*e*PN	**Pn**	**23 50 48.3**	**+1.8**
AGG	**Agios Georgios**	**2.73**	**178**	*e*Pn	**Pn**	**23 50 48.3**	**+1.8**
DSL	**Palaion Diasel**	**2.75**	**198**	*e*PN	**Pn**	**23 50 48.3**	**+1.5**
DSL	**Palaion Diasel**	**2.75**	**198**	*e*Pn	**Pn**	**23 50 48.3**	**+1.5**
SKIA	**Skiathos**	**2.75**	**159**	*e*PB	**Pb**	**23 50 49.0**	**-3.1**
SKIA	**Skiathos**	**2.75**	**159**	*e*Pb	**Pb**	**23 50 49.0**	**-3.1**
SMTH	**Samothraki Isl**	**2.81**	**116**	*e*PN	**Pn**	**23 50 48.8**	**+1.2**
SMTH	**Samothraki Isl**	**2.81**	**116**	*e*Pn	**Pn**	**23 50 48.8**	**+1.2**
EVR	**Evrytania**	**2.85**	**186**	*e*PN	**Pn**	**23 50 50.3**	**+2.1**
EVR	**Evrytania**	**2.85**	**186**	*e*Pn	**Pn**	**23 50 50.3**	**+2.1**
DIVS	**Divíbare**	**2.86**	**326**	*e*Pn	**Pn**	**23 50 47.8**	**-0.5**
DIVS	**Divíbare**	**2.86**	**326**	*e*Pn	**Pn**	**23 50 47.8**	**-0.5**
AOS	**Alonnisos**	**2.87**	**153**	*e*PN	**Pn**	**23 50 50.2**	**+1.8**
AOS	**Alonnisos**	**2.87**	**153**	*e*PN	**Pn**	**23 50 49.9**	**+1.5**
AOS	**Alonnisos**	**2.87**	**153**	*e*Pn	**Pn**	**23 50 49.9**	**+1.5**
SRE	**Strehaia**	**3.00**	**14**	⇑*i*P	**Pn**	**23 50 51.8**	**+1.6**
SRE	**Strehaia**	**3.00**	**14**	⇑*i*P	**Pn**	**23 50 51.8**	**+1.6**
AXAR	**Agios Charalam**	**3.00**	**173**	*e*PB	**Pb**	**23 50 53.3**	**-3.0**
AXAR	**Agios Charalam**	**3.00**	**173**	*e*Pb	**Pb**	**23 50 53.3**	**-3.0**
ALN	**Alexandroupoli**	**3.01**	**105**	*e*PN	**Pn**	**23 50 52.1**	**+1.8**
ALN	**Alexandroupoli**	**3.01**	**105**	*e*PN	**Pn**	**23 50 51.8**	**+1.5**
ALN	**Alexandroupoli**	**3.01**	**105**	*e*Pn	**Pn**	**23 50 51.8**	**+1.5**
ENEZ	**Enez**	**3.14**	**108**	*e*P	**Pb**	**23 50 57.9**	**-0.7**
ENEZ	**Enez**	**3.14**	**108**	*e*P	**Pb**	**23 50 57.9**	**-0.7**
LKD2	**Lefkada island**	**3.19**	**202**	*e*PN	**Pn**	**23 50 55.3**	**+2.5**
LKD2	**Lefkada island**	**3.19**	**202**	*e*Pn	**Pn**	**23 50 55.3**	**+2.5**
PDO	**Prodromos**	**3.25**	**194**	*e*PN	**Pn**	**23 50 56.2**	**+2.6**
PDO	**Prodromos**	**3.25**	**194**	*e*Pn	**Pn**	**23 50 56.2**	**+2.6**
JMB	**Yambol**	**3.33**	**76**	⇑*i*P	Pn	**23 50 57.3**	**+2.6**
JMB	**Yambol**	**3.33**	**76**	S	**Sb**	**23 51 39.1**	**-3.0**
JMB	**Yambol**	**3.33**	**76**	⇑*i*P	Pn	**23 50 57.3**	**+2.6**
KALE	**Kalithea**	**3.36**	**181**	*e*PN	**Pn**	**23 50 57.2**	**+2.0**
KALE	**Kalithea**	**3.36**	**181**	*e*Pn	**Pn**	**23 50 57.2**	**+2.0**
EDRB	**Edirne**	**3.38**	**87**	*e*PN	**Pn**	**23 50 57.4**	**+1.9**
EDRB	**Edirne**	**3.38**	**87**	*e*Pn	**Pn**	**23 50 57.4**	**+1.9**
ERIK	**Erikli-Kesan**	**3.42**	**107**	*e*P	**Pb**	**23 51 01.8**	**-1.6**
ERIK	**Erikli-Kesan**	**3.42**	**107**	*e*P	**Pb**	**23 51 01.8**	**-1.6**
GELI	**Tayfur-Gelibol**	**3.49**	**111**	*e*P	**Pb**	**23 51 03.1**	**-1.6**
GELI	**Tayfur-Gelibol**	**3.49**	**111**	*e*P	**Pb**	**23 51 03.1**	**-1.6**
GZR	**Gura Zlata**	**3.66**	**6**	⇑*i*P	**Pn**	**23 51 00.9**	**+1.5**
GZR	**Gura Zlata**	**3.66**	**6**	⇑*i*P	**Pn**	**23 51 00.9**	**+1.5**
LPK	**Lapseki**	**3.70**	**110**	*e*P	**Pb**	**23 51 06.6**	**-1.7**
KLV	**Kalavryta, Ach**	**3.70**	**181**	*e*PN	**Pn**	**23 51 02.4**	**+2.5**
KLV	**Kalavryta, Ach**	**3.70**	**181**	*e*Pn	**Pn**	**23 51 02.4**	**+2.5**
LTK	**Loutraki**	**3.77**	**171**	*e*PN	**Pn**	**23 51 03.0**	**+2.2**
LTK	**Loutraki**	**3.77**	**171**	*e*Pn	**Pn**	**23 51 03.0**	**+2.2**
FGSL	**Fruska Gora**	**3.83**	**334**	*e*Pn	**Pn**	**23 51 02.2**	**+0.6**
FRGS	**Fruska Gora**	**3.83**	**334**	*e*Pn	**Pn**	**23 51 02.2**	**+0.6**
LOT	**Lotru**	**3.86**	**16**	⇓*i*P	**Pn**	**23 51 04.4**	**+2.2**
LOT	**Lotru**	**3.86**	**16**	⇓*i*P	**Pn**	**23 51 04.4**	**+2.2**
**BZS

SONM	**Songino Array**	**58.59**	**342**	P		**P**	**00 05 27.2**	**-0.2**
	0.4nm,0.7s,baz=157,slow=6.5,SNR=4.0							
MKAR	**Makanchi Array**	**68.10**	**327**	P		**P**	**00 06 29.9**	**-0.1**
	2.0nm,0.5s,baz=116,slow=8.5,SNR=59							
ZALV	**Zalesovo Beam**	**71.59**	**334**	P		**P**	**00 06 50.1**	**-1.0**
	0.6nm,0.4s,baz=114,slow=3.6,SNR=4.0							
ABKAR	**Akbulak array**	**82.29**	**322**	*e*P		**P**	**00 07 50.5**	**-0.7**
	0.4nm,0.3s							
QSPA	**South Pole Qui**	**82.50**	**180**	P		**P**	**00 07 54.2**	**+2.0**
	0.9nm,0.5s,baz=289,slow=0.6,SNR=6.4							
TORD	**Torodi Ar. Bea**	**127.97**	**281**	PKP		**PKPdf**	**00 14 35.6**	**-0.1**
	0.5nm,0.8s,baz=104,slow=2.2,SNR=5.3							

GUC 04 00:05:02.8±0.4, 34.11S×72.41W, h20km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNV	**Longovilo**	**0.85**	**80**	⇓	*i*P	Pb	00 05 18.6	-0.2
LNV					*e*S	Sb	00 05 29.9	+0.1
CHCH	**Chadas Angostu**	**1.47**	**84**	⇓	*i*P	Pn	00 05 28.4	+0.1
CLCH	**Cerro Calan**	**1.72**	**66**	⇑	*i*P	Pn	00 05 32.2	+0.5
CLCH					*e*S	Sb	00 05 55.0	-0.1
CLCH					*e*S	Sn	00 05 55.1	+1.9
CLCH					AML	AML	00 06 01.1	
	comp=E,690nm,0.5s							
CLCH					AML	AML	00 06 01.8	
	comp=E,798nm,0.5s							
FCH	**Farellones**	**1.94**	**67**	⇑	*i*P	Pn	00 05 35.6	+0.6
FCH					*i*S	Sb	00 06 01.0	-0.9
FCH					AML	AML	00 06 08.2	
	comp=N,376nm,0.6s							
YECH	**El Yeso**	**1.99**	**78**	⇑	*i*P	Pn	00 05 37.1	+1.4
YECH					*i*S	Sb	00 06 03.3	-0.1
YECH					AML	AML	00 06 13.2	
	comp=N,348nm,0.3s							
CCSP	**San Pedro de C**	**2.79**	**192**	⇑	*i*P	Pb	00 06 10.0	+18
CCSP					*e*S	Sb	00 06 22.4	-3.1
CCSP					AML	AML	00 06 25.8	
	comp=E,1μm,0.5s							

IDC 04 00:15:17.9±8.9, 14.34S×174.02W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/38, mbtmp3.7/3, Error ellipse: s-maj=398.5km s-min=33.6km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**49.52**	**256**	P		P	00 24 11.2	+0.4
	0.4nm,0.6s,baz=91,slow=6.9,SNR=8.6							
ASAR	**Alice Springs**	**49.88**	**251**	P		P	00 24 13.0	-0.6
	0.8nm,0.5s,baz=84,slow=8.3,SNR=20							
ILAR	**Eielson Array**	**81.52**	**11**	P		P	00 27 37.0	0.0
	0.2nm,0.5s,baz=217,slow=6.7,SNR=9.3							

GUC 04 00:15:25.1±0.8, 35.95S×73.44W, h46km±7km, ML3.7, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
COCH	**Cobquecura**	**0.56**	**109**	⇓	*i*P	Pn	00 15 36.4	-0.4
COCH					*i*S	Sn	00 15 45.4	+0.2
CCSP	**San Pedro de C**	**0.94**	**163**	*e*P		Pn	00 15 41.9	0.0
CCSP					*e*S	Sn	00 15 55.3	+1.2
CCSP					AML	AML	00 15 57.4	
	comp=E,4μm,0.5s							
NICH	**Los Niches**	**2.04**	**63**	⇑	*i*P	Pn	00 15 58.7	+1.7

NEIC ***04*** *00:19:37.2±0.5, 17.67S×178.51W, h557km±7km, mb4.9/16, Error ellipse: s-maj=15.3km s-min=10.8km az=155.0*
IDC ***04*** *00:19:37.1±2.0, 17.62S×178.93W, h516km±21km, mb3.5/13, mb1 3.7/14, mb1mx3.5/40, mbtmp4.3/14, Error ellipse: s-maj=17.6km s-min=14.6km az=132.0*
ISCJB ***04*** *00:19:38.7±0.5, 17.61S±0.10×178.98W±0.08, h547km, mb4.3/28, Error ellipse: s-maj=14.0km s-min=8.3km az=153.3*

ISC 04 00:19:39.5±0.5, 17.7S±0.1×178.93W±0.08, h547km, n83, σ0.99/84, mb4.4/28, 16C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**2.88**	**268**	*e*P		**P**	**00 20 54.8**	**+1.0**
AFI	**Afiamalu**	**7.83**	**63**	*e*P		P	00 21 30.3	-5.4
NIUE	**Niue**	**8.67**	**101**	P		**P**	**00 21 43.2**	**-0.7**
	baz=8.4,SNR=4.5							
DZM	**Mont Dzumac**	**14.44**	**250**	P		**P**	**00 22 42.5**	**-1.0**
	1.3nm,0.3s,baz=75,slow=18,SNR=20							
URZ	**Urewera**	**20.82**	**189**	P		**P**	**00 23 41.1**	**-1.9**
	9.7nm,0.3s,baz=272,slow=2.4,SNR=51							
URZ	**Urewera**	**20.82**	**189**	*e*P		**P**	**00 23 40.5**	**-2.5**
	315nm,2.8s							
EIDS	**Eidsvold**	**28.89**	**249**	P		**P**	**00 24 54.6**	**-0.1**
	baz=29,SNR=12							
EIDS	**Eidsvold**	**28.89**	**249**	*e*P		**P**	**00 24 54.6**	**-0.1**
	21nm,0.6s							
ARMA	**Armidale**	**29.64**	**239**	P		**P**	**00 25 02.5**	**+1.3**
	baz=30,SNR=33							
ARMA	**Armidale**	**29.64**	**239**	*e*P		**P**	**00 25 02.0**	**+0.8**
	22nm,0.6s							
MGCD	**Mangrove Creek**	**31.03**	**234**	P		**P**	**00 25 14.5**	**+1.5**
	baz=31,SNR=19							
RMQ	**Roma**	**31.14**	**248**	P		**P**	**00 25 15.0**	**+1.0**
	baz=31,SNR=37							
CTAO	**Charters Tower**	**33.00**	**260**	*e*P		**P**	**00 25 29.9**	**0.0**
	19nm,0.8s							
CNB	**Canberra Magne**	**33.19**	**232**	P		**P**	**00 25 32.7**	**+1.3**
	baz=33,SNR=17							
PMG	**Port Moresby**	**33.93**	**279**	*e*P		**P**	**00 25 38.3**	**+0.5**
	6.0nm,1.0s							
CMSA	**Cobar Meteorol**	**34.84**	**240**	P		**P**	**00 25 45.9**	**+0.7**
	baz=35,SNR=31							
QLP	**Quilpie**	**35.16**	**249**	P		**P**	**00 25 48.2**	**+0.2**
	baz=35,SNR=38							
COEN	**Coen**	**36.60**	**270**	P		**P**	**00 26 00.3**	**+0.2**
	baz=37,SNR=14							
COEN	**Coen**	**36.60**	**270**	*e*P		**P**	**00 26 00.2**	**+0.1**
	3.4nm,0.9s							
TOO	**Toolangi**	**36.94**	**230**	P		**P**	**00 26 03.9**	**+1.3**
	baz=37,SNR=10							
JAY	**Jayapura**	**42.36**	**286**	P		**P**	**00 26 46.6**	**+0.2**
	15nm,0.5s,baz=155,slow=3.1,SNR=6.5							
JAY	**Jayapura**	**42.36**	**286**	P		**P**	**00 26 47.3**	**+0.9**
	baz=43,SNR=3.1							
BBOO	**Buckleboo**	**43.09**	**241**	P		**P**	**00 26 52.4**	**+0.5**
	baz=43,SNR=50							
BBOO	**Buckleboo**	**43.09**	**241**	*e*P		**P**	**00 26 52.1**	**+0.3**
	18nm,1.0s							
WRAB	**Tennant Creek**	**44.18**	**259**	*e*P		**P**	**00 26 59.6**	**-0.9**
	17nm,1.1s							
WRA	**Warramunga Arr**	**44.19**	**259**	P		**P**	**00 26 59.6**	**-0.9**
	7.0nm,0.5s,baz=93,slow=7.0,SNR=110							
WRA					ScP	**ScP**	**00 31 35.7**	**+2.3**
	1.3nm,0.8s,baz=85,slow=4.0,SNR=6.3							
ASAR	**Alice Springs**	**44.38**	**254**	P		**P**	**00 27 02.0**	**0.0**
	69nm,0.6s,baz=88,slow=8.1,SNR=1146							
ASAR					PcP	**PcP**	**00 28 34.5**	**+0.5**
	1.9nm,0.4s,baz=101,slow=4.0,SNR=4.7							
ASAR					ScP	**ScP**	**00 31 37.3**	**+3.1**
	1.4nm,0.7s,baz=96,slow=4.5,SNR=8.8							
ASAR					S	**S**	**00 32 55.0**	**-2.1**
	0.9nm,0.9s,baz=93,slow=15,SNR=4.9							
KDU	**Kakadu**	**47.06**	**269**	P		**P**	**00 27 22.4**	**0.0**
	baz=47,SNR=32							
KDU					S	S	00 33 15.3	-19
	baz=47,SNR=3.8							
MTN	**Manton Dam**	**48.31**	**268**	P		**P**	**00 27 31.5**	**-0.3**
	baz=48,SNR=7.9							
WRKA	**Warakurna**	**49.45**	**252**	P		**P**	**00 27 40.4**	**+0.2**
	baz=50,SNR=32							
FORT	**Forrest**	**49.66**	**244**	P		**P**	**00 27 41.5**	**-0.1**
	baz=50,SNR=22							
FORT	**Forrest**	**49.66**	**244**	*e*P		**P**	**00 27 41.3**	**-0.3**
	61nm,0.7s							
KNRA	**Kununurra**	**50.02**	**264**	P		**P**	**00 27 44.2**	**-0.1**
	baz=50,SNR=15							
FAKI	**Fak Fak**	**50.04**	**281**	P		**P**	**00 27 44.4**	**-0.2**
	baz=50,SNR=4.2							
FAKI	**Fak Fak**	**50.04**	**281**	*e*P		**P**	**00 27 44.5**	**-0.1**
	10nm,1.0s							
SOEI	**Soe**	**55.57**	**270**	P		**P**	**00 28 25.8**	**+1.6**
	baz=56,SNR=15							
SOEI	**Soe**	**55.57**	**270**	*e*P		**P**	**00 28 24.4**	**+0.2**
	56nm,0.7s							
MBWA	**Marble Bar**	**57.65**	**256**	*e*P		**P**	**00 28 37.6**	**-0.6**
	230nm,2.7s							
MEEK	**Meekatharra**	**58.05**	**249**	P		**P**	**00 28 40.6**	**-0.3**
	baz=58,SNR=5.4							
BLDU	**Ballidu**	**59.44**	**245**	P		**P**	**00 28 50.0**	**-0.1**
	baz=60,SNR=9.5							
MORW	**Morawa**	**60.12**	**246**	P		**P**	**00 28 54.7**	**0.0**
	baz=60,SNR=4.4							
VNDA	**Vanda**	**60.65**	**185**	P		**P**	**00 28 59.1**	**+1.8**
	1.9nm,1.1s,baz=299,slow=5.5,SNR=4.0							
KAPI	**Kappang**	**61.18**	**274**	*e*P		**P**	**00 29 01.0**	**-0.9**
	17nm,1.1s							
GIRL	**Giralia**	**62.49**	**253**	P		**P**	**00 29 11.6**	**+1.4**
	baz=63,SNR=3.4							
MJAR	**Matsushiro Arr**	**67.41**	**324**	P		**P**	**00 29 40.7**	**-0.2**
	3.5nm,0.7s,baz=157,slow=6.1,SNR=12							
KKM	**Kota Kinabalu**	**68.20**	**284**	*e*P		**P**	**00 29 46.0**	**-0.3**
	51nm,1.4s							
UGM	**Wanagama**	**69.16**	**268**	P		**P**	**00 29 52.3**	**+0.3**
	baz=69,SNR=7.4							
UGM	**Wanagama**	**69.16**	**268**	*e*P		**P**	**00 29 51.5**	**-0.6**
	227nm,1.5s							
KSM	**Kuching**	**72.16**	**277**	P		**P**	**00 30 10.9**	**+1.2**
	baz=72,SNR=5.9							
KSM	**Kuching**	**72.16**	**277**	*e*P		**P**	**00 30 09.0**	**-0.7**
	22nm,1.0s							
NVAR	**Mina Array Bea**	**79.59**	**44**	P		**P**	**00 30 51.0**	**+0.5**
	0.6nm,0.5s,baz=226,slow=7.4,SNR=6.4							
SEY	**Seymchan**	**83.42**	**347**	P		**P**	**00 31 08.8**	**-0.3**
	2.2nm,0.4s,baz=131,slow=8.2,SNR=11							
ILAR	**Eielson Array**	**85.76**	**13**	P		**P**	**00 31 19.8**	**-0.8**
	0.3nm,0.4s,baz=224,slow=5.2,SNR=9.6							
TXAR	**Lajitas Array**	**86.28**	**58**	P		**P**	**00 31 25.7**	**+1.6**
	1.1nm,0.8s,baz=218,slow=5.7,SNR=15							
PDAR	**Pinedale Array**	**87.51**	**44**	P		**P**	**00 31 30.1**	**+0.4**
	0.8nm,0.6s,baz=223,slow=3.7,SNR=4.9							
CMAR	**Chiang Mai Arr**	**88.33**	**290**	P		**P**	**00 31 34.2**	**+0.5**
	1.1nm,0.4s,baz=111,slow=2.9,SNR=9.8							
SONM	**Songino Array**	**93.04**	**319**	P		**P**	**00 31 54.7**	**-0.3**
	0.2nm,0.4s,baz=100,slow=4.7,SNR=3.4							
YKA	**Yellowknife Ar**	**94.31**	**25**	P		**P**	**00 31 59.6**	**-0.7**
	0.2nm,0.6s,baz=244,slow=4.9,SNR=3.7							
MKAR	**Makanchi Array**	**108.60**	**314**	PKiKP		**PKiKP**	**00 37 05.6**	**-0.8**
	0.3nm,0.5s,baz=155,slow=0.7,SNR=7.3							
ARCES	**ARCESS Array B**	**125.98**	**350**	PKP		**PKPdf**	**00 37 38.7**	**-0.3**
	2.9nm,1.1s,baz=27,slow=2.2,SNR=4.9							
GEYT	**Alibeck**	**126.49**	**304**	PKP		**PKPdf**	**00 37 41.3**	**+0.4**
	1.0nm,0.6s,baz=224,slow=6.0,SNR=4.7							
FINES	**FINESS Array B**	**132.81**	**344**	PKhKP		PKPpre	00 37 46.9	
	2.0nm,1.0s,baz=356,slow=5.9,SNR=3.2							
FINES						SKPbc	**SKPab**	**00 40 30.2**	**-0.8**
	0.7nm,0.8s,baz=7.1,slow=4.5,SNR=4.0							
KWP	**Kalwaria Pacla**	**143.64**	**336**	⇑	*i*P	PKPbc	00 38 11.2	0.0
BURAR	**Bucovina Array**	**144.16**	**332**	⇑	*i*P	**PKPdf**	**00 38 14.0**	**+0.6**
BRTR	**Keskin Array B**	**144.25**	**315**	PKP		PKPbc	00 38 13.3	-0.2
	1.7nm,0.5s,baz=107,slow=2.7,SNR=25							
TESR	**Tescani**	**144.29**	**329**	⇑	*i*P	**PKPab**	**00 38 14.0**	**+0.3**
CFR	**Carcaliu**	**144.45**	**326**	⇑	*i*P	**PKPab**	**00 38 13.8**	**-0.5**
ANTO	**Ankara**	**144.75**	**315**	⇑	*i*P	**PKPab**	**00 38 15.9**	**+0.1**
ANTO	**Ankara**	**144.75**	**315**	*e*	PKPdf	**PKPdf**	**00 38 11.6**	**-3.1**
PLOR	**Plostina**	**144.75**	**328**	⇑	*i*P	**PKPab**	**00 38 15.5**	**0.0**
TIRR	**Tirgusor**	**144.78**	**325**	⇑	*i*P	**PKPab**	**00 38 15.1**	**-0.5**
TLB	**Topalu**	**144.89**	**326**	⇑	*i*P	**PKPab**	**00 38 15.7**	**-0.3**
DOPR	**Dopca**	**145.29**	**330**	⇑	*i*P	**PKPab**	**00 38 17.8**	**+0.2**
MSAB	**Monastry St. A**	**145.34**	**325**	⇓	*i*P	**PKPab**	**00 38 19.2**	**+1.5**
MLR	**Muntele Rosu**	**145.36**	**329**	⇑	*i*P	**PKPab**	**00 38 18.4**	**+0.4**
CJR	**Cluj-Napoca**	**145.56**	**332**	⇓	*i*P	**PKPab**	**00 38 17.9**	**-0.7**
VOIR		**145.84**	**329**	⇑	*i*P	**PKPbc**	**00 38 18.5**	**+0.5**
DRGR		**145.89**	**333**	⇑	*i*P	**PKPbc**	**00 38 18.6**	**+0.5**
GZR	**Gura Zlata**	**146.94**	**331**	⇑	*i*P	**PKPbc**	**00 38 21.3**	**+0.2**
GERES	**GERESS Array B**	**147.24**	**345**	PKPbc		**PKPbc**	**00 38 21.6**	**-0.2**
	1.2nm,0.6s,baz=20,slow=3.1,SNR=14							
PKSM	**Moragy**	**148.01**	**337**	⇑	*i*P	**PKPbc**	**00 38 24.0**	**+0.3**
KDZ	**Kurdzhali**	**148.28**	**324**	⇑	*i*P	**PKPbc**	**00 38 23.0**	**-1.5**
VTS	**Vitosha**	**148.81**	**327**	⇑	*i*P	**PKPbc**	**00 38 26.7**	**+0.7**

ISCJB ***04*** *00:27:42.9±0.4, 21.14S±0.03×68.42W±0.07, h119km±5km, mb4.3/14, Error ellipse: s-maj=10.9km s-min=5.5km az=175.7*
NEIC ***04*** *00:27:43.1±0.9, 21.19S×68.36W, h106km±8km, mb4.6/10, Error ellipse: s-maj=16.3km s-min=9.2km az=104.0*
IDC ***04*** *00:27:44.8±2.6, 21.10S×68.36W, h117km±22km, mb4.1/10, mb1 4.2/13, mb1mx3.9/31, mbtmp4.6/13, Error ellipse: s-maj=18.9km s-min=16.1km az=56.0*
GUC ***04*** *00:27:46.0, 21.17S×68.58W, h81km*

ISC 04 00:27:44.3±0.6, 21.15S±0.04×68.48W±0.07, h117km±6km, n61, σ1.27/70, mb4.5/14, 6C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.95**	**276**	*e*P		**Pn**	**00 28 04.7**	**-0.9**
PB01	**IPOC Station P**	**0.95**	**276**	⇓	*i*P	**Pn**	**00 28 05.3**	**-0.4**
PB01				⇓	*i*P	**Sn**	**00 28 20.7**	**-1.1**
PB01					AML	AML	00 28 23.2	
	comp=N,12μm,0.3s							
PB09	**IPOC Station P**	**0.96**	**228**	*e*P		**Pn**	**00 28 05.6**	**-0.2**
PB09	**IPOC Station P**	**0.96**	**228**	⇑	*i*P	**Pn**	**00 28 06.0**	**+0.1**
PB09					*i*S	**Sn**	**00 28 22.2**	**+0.1**
PB09					AML	AML	00 28 24.7	
	comp=E,39μm,0.7s							
PB07	**IPOC Station P**	**1.43**	**246**	*e*P		**Pn**	**00 28 09.8**	**-1.1**
PB07	**IPOC Station P**	**1.43**	**246**	⇑	*i*P	**Pn**	**00 28 10.3**	**-0.6**
PB07					*e*S	**Sn**	**00 28 30.7**	**-0.4**
PB07					AML	AML	00 28 31.5	
	comp=E,13μm,0.5s							
PB04	**IPOC Station P**	**1.46**	**220**	*e*P		Pn	00 28 16.0	+5.1
PB04	**IPOC Station P**	**1.46**	**220**	⇑	*i*P	Pn	00 28 16.1	+5.1
PB04				⇓	*e*S	Sn	00 28 41.3	+10
PB04					AML	AML	00 28 46.4	
	comp=E,3μm,0.3s							
LVC	**Limon Verde**	**1.51**	**195**	*i*	Pn	**Pn**	**00 28 12.3**	**+0.3**
LVC				*e*	Sn	**Sn**	**00 28 33.0**	**+0.1**
HMBC	**Humberstone**	**1.58**	**303**	*e*P		**Pn**	**00 28 11.7**	**-0.9**
HMBC	**Humberstone**	**1.58**	**303**	⇓	*i*P	**Pn**	**00 28 12.2**	**-0.4**
HMBC					*i*S	**Sn**	**00 28 33.8**	**-0.3**
HMBC					AML	AML	00 28 35.3	
	comp=E,11μm,0.6s							
PATCX	**Punta Patache**	**1.60**	**281**	*e*P		**Pn**	**00 28 12.2**	**-0.6**
PATCX	**Punta Patache**	**1.60**	**281**	⇑	*i*P	**Pn**	**00 28 12.7**	**-0.1**
PATCX					*i*S	**Sn**	**00 28 33.9**	**-0.6**
PATCX					AML	AML	00 28 35.5	
	comp=N,20μm,0.3s							
PB06	**IPOC Station P**	**1.85**	**213**	*e*P		**Pn**	**00 28 15.0**	**-0.9**
PB06	**IPOC Station P**	**1.85**	**213**	⇑	*i*P	**Pn**	**00 28 15.6**	**-0.3**
PB06				⇓	*i*S	**Sn**	**00 28 39.6**	**-0.5**
PB06					AML	AML	00 28 41.0	
	comp=N,3μm,0.5s							
PSGC	**Pisagua**	**2.18**	**315**	*e*P		**Pn**	**00 28 19.4**	**-0.6**
PSGC	**Pisagua**	**2.18**	**315**	⇑	*i*P	**Pn**	**00 28 19.3**	**-0.8**
PSGC					*e*S	**Sn**	**00 28 46.8**	**-0.6**
PSGC					AML	AML	00 28 47.7	
	comp=E,5μm,0.4s							
MNMC	**Minimini**	**2.27**	**332**	*e*P		**Pn**	**00 28 21.6**	**+0.3**
MNMC	**Minimini**	**2.27**	**332**	⇓	*i*P	**Pn**	**00 28 21.9**	**+0.6**
MNMC					*e*S	**Sn**	**00 28 50.8**	**+1.2**
MNMC					AML	AML	00 28 51.6	
	comp=E,5μm,0.5s							
PB10	**IPOC Station P**	**3.04**	**219**	*e*P		**Pn**	**00 28 31.1**	**+0.1**
LPAZ	**La Paz**	**4.85**	**4**	P		**Pn**	**00 28 57.5**	**+1.8**
	comp=E,20nm,0.3s,baz=188,slow=6.4,SNR=396							
LPAZ					S	**Sn**	**00 29 53.6**	**+2.4**
	comp=E,4.3nm,0.3s,baz=79,slow=16,SNR=2.3							
LPAZ	**La Paz**	**4.85**	**4**	*e*P		**Pn**	**00 28 57.6**	**+1.8**
LCO	**Las Campanas**	**8.08**	**194**	*e*Pn		Pn	00 29 33.3	-5.8
LCO				*e*Sn		**Sn**	**00 31 03.7**	**-5.3**
SIV	**San Ignacio**	**8.70**	**55**	P		**Pn**	**00 29 45.0**	**-2.3**
	comp=E,51nm,0.3s,baz=267,slow=11,SNR=345							
CFAA	**Coronel Fontan**	**10.42**	**179**	P		Pn	00 30 06.3	-4.2
	comp=E,0.2nm,0.3s,baz=360,slow=14,SNR=10							
CFAA					S	Sn	00 31 54.9	-10
	comp=E,0.1nm,0.3s,baz=228,slow=16,SNR=3.1							
SAML	**Samuel**	**13.16**	**24**	*e*Pn		**Pn**	**00 30 43.8**	**-3.0**
TRQA	**Tornquist**	**17.76**	**163**	*e*P		**Pn**	**00 31 45.9**	**+1.7**
TRQA	**Tornquist**	**17.76**	**163**	*e*P		**P**	**00 31 42.0**	**-1.3**
	comp=E,12nm,0.6s							
PLCA	**Paso Flores**	**19.60**	**185**	P		**P**	**00 32 03.6**	**+0.2**
	comp=E,0.3nm,0.3s,baz=4.2,slow=12,SNR=7.2							
PLCA	**Paso Flores**	**19.60**	**185**	*e*P		**Pn**	**00 32 08.3**	**+2.4**
PLCA	**Paso Flores**	**19.60**	**185**	*e*P		**P**	**00 32 03.8**	**+0.3**
	comp=E,19nm,1.1s							
BDFB	**Brasilia**	**20.17**	**78**	P		**P**	**00 32 08.8**	**-1.0**
	comp=E,5.9nm,0.4s,baz=250,slow=10.0,SNR=17							
PTGA	**Pitinga**	**21.93**	**23**	P		**P**	**00 32 25.7**	**-2.8**
	comp=E,28nm,0.3s,baz=219,slow=16,SNR=78							
PTGA	**Pitinga**	**21.93**	**23**	*e*P		**P**	**00 32 25.8**	**-2.8**
	comp=E,22nm,0.4s							
RCBR	**Riachuelo**	**35.04**	**69**	P		**P**	**00 34 25.4**	**-0.8**
	comp=E,4.0nm,0.6s,baz=277,slow=17,SNR=6.4							
RCBR	**Riachuelo**	**35.04**	**69**	*e*P		**P**	**00 34 24.7**	**-1.4**
	comp=E,12nm,1.0s							
VNA3	**Neumayer Olymp**	**60.28**	**161**	P		P	00 37 45.5	+5.4
MIAR	**Mount Ida**	**60.31**	**336**	*e*P		**P**	**00 37 40.5**	**-0.3**
	comp=E,2.6nm,0.5s							
TXAR	**Lajitas Array**	**60.58**	**325**	P		**P**	**00 37 42.9**	**+0.1**
	comp=E,0.2nm,0.6s,baz=146,slow=9.8,SNR=3.3							
TXAR					pP	**pP**	**00 38 12.0**	**+0.9**
	comp=E,0.5nm,0.8s,baz=153,slow=6.4,SNR=4.9							
VNA2	**Neumayer--Watz**	**60.85**	**161**	P		**P**	**00 37 44.6**	**+0.6**
	baz=318,slow=8.6							
SNAA	**Sanae**	**62.48**	**161**	P		**P**	**00 37 55.0**	**0.0**
SNAA	**Sanae**	**62.48**	**161**	*e*P		**P**	**00 37 54.6**	**-0.4**
	comp=E,3.9nm,0.6s							
DBIC	**Dimbokro**	**68.25**	**73**	P		**P**	**00 38 32.9**	**-0.1**
	comp=E,5.9nm,0.8s,baz=230,slow=7.9,SNR=8.1							
DBIC	**Dimbokro**	**68.25**	**73**	*e*P		**P**	**00 38 32.3**	**-0.7**
	comp=E,4.2nm,0.6s							
QSPA	**South Pole Qui**	**69.04**	**180**	*e*P		**P**	**00 38 38.3**	**+1.1**
	comp=E,8.8nm,0.5s							
PDAR	**Pinedale Array**	**74.01**	**330**	P		**P**	**00 39 07.8**	**+0.3**
	comp=E,0.4nm,0.4s,baz=141,slow=5.8,SNR=4.0							
ULM	**Lac du Bonnet**	**75.11**	**342**	P		**P**	**00 39 12.8**	**-0.4**
	comp=E,2.4nm,0.5s,baz=150,slow=4.9,SNR=7.3							
ULM	**Lac du Bonnet**	**75.11**	**342**	*e*P		**P**	**00 39 12.7**	**-0.5**
	comp=E,2.1nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P		**P**	**00 39 23.5**	**-0.5**
	comp=E,4.4nm,0.5s,baz=254,slow=5.3,SNR=94							
VNDA	**Vanda**	**77.26**	**190**	P		**P**	**00 39 26.8**	**+1.6**
	comp=E,1.7nm,0.8s,baz=96,slow=5.8,SNR=6.8							
BOSA	**Boshof**	**83.25**	**118**	P		**P**	**00 39 58.2**	**-0.3**
	comp=E,6.1nm,0.9s,baz=269,slow=4.9,SNR=6.2							
MAW	**Mawson**	**84.55**	**163**	P		**P**	**00 40 04.6**	**+0.6**
	comp=E,2.1nm,0.5s,baz=190,slow=6.1,SNR=4.5							
YKA	**Yellowknife Ar**	**90.99**	**340**	P		**P**	**00 40 35.0**	**+0.2**
	comp=E,1.3nm,0.4s,baz=134,slow=4.5,SNR=40							
YKA					pP	**pP**	**00 41 06.7**	**+1.7**
	comp=E,1.1nm,0.8s,baz=134,slow=4.5,SNR=4.5							
ASAR	**Alice Springs**	**130.41**	**207**	PKP		**PKPdf**	**00 46 41.9**	**0.0**
	comp=E,1.2nm,0.4s,baz=126,slow=1.8,SNR=26							
WRA	**Warramunga Arr**	**133.46**	**210**	PKP		**PKPdf**	**00 46 48.0**	**+0.3**
	comp=E,2.1nm,0.6s,baz=157,slow=1.7,SNR=42							
ZALV	**Zalesovo Beam**	**141.47**	**25**	PKhKP		PKPpre	00 46 58.8	
	comp=E,2.0nm,0.5s,baz=293,slow=3.1,SNR=10							
ZALV					PKP	**PKPdf**	**00 47 01.8**	**+0.5**
	comp=E,2.0nm,0.5s,baz=312,slow=2.8,SNR=10							
MK31	**Makanchi Array**	**145.11**	**36**	*e*PKPdf		**PKPdf**	**00 47 08.0**	**0.0**
MKAR	**Makanchi Array**	**145.11**	**36**	PKPbc		**PKPdf**	**00 47 08.3**	**+0.3**
	comp=E,3.5nm,0.4s,baz=356,slow=2.7,SNR=91							
USRK	**Ussuriysk Ar.**	**151.43**	**328**	PKPbc		**PKPbc**	**00 47 24.5**	**0.0**
	comp=E,2.3nm,0.7s,baz=65,slow=7.3,SNR=4.4							
MJAR	**Matsushiro Arr**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.35**	**347**	*e*P	Pn	00 53 10.0	+1.0
BESP				*e*S	Sn	00 53 17.1	+2.3
PLP	**Palo**	**0.53**	**260**	⇓*e*P	Pn	00 53 11.6	+0.1
PLP				*i* S	Sn	00 53 20.5	+1.0
OCLP	**Ormoc**	**0.91**	**257**	*e*P	Pb	00 53 18.7	+1.3
OCLP				*e*S	Sb	00 53 29.9	+0.7
MSLP	**Maasin**	**1.29**	**210**	*e*P	Pb	00 53 23.7	-0.1
MSLP				*e*S	Sn	00 53 36.7	-1.5
SCPH	**Surigao**	**1.47**	**181**	*e*P	Pn	00 53 24.8	+0.4
SCPH				*e*S	Sn	00 53 43.0	+0.5
PVCP	**Virac**	**2.67**	**330**	*e*P	Pb	00 53 46.0	-1.2
RCP	**Roxas**	**2.73**	**277**	⇓*e*P	Pn	00 53 44.7	+3.0

IDC 04 01:12:48.7±2.4,4.58S×150.71E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/20,mbtmp3.6/3,Error ellipse: s-maj=51.5km s-min=36.5km az=10.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.95**	**216**		Sn	01 15 32.9	+5.8
	0.7nm,0.3s,baz=139,slow=20,SNR=2.8						
KDU	**Kakadu**	**19.74**	**245**	P	Pn	01 17 24.4	+2.8
	baz=9.9,SNR=8.6						
MTN	**Manton Dam**	**21.01**	**246**	P	P	01 17 39.8	+5.8
	baz=11,SNR=5.2						
WRA	**Warramunga Arr**	**22.08**	**225**	P	P	01 17 46.2	+0.7
	0.7nm,0.6s,baz=50,slow=9.8,SNR=11						
DZM	**Mont Dzumac**	**23.12**	**140**	P	P	01 17 56.7	0.0
	2.5nm,0.6s,baz=310,slow=7.9,SNR=8.3						
KNRA	**Kununurra**	**24.23**	**241**	P	P	01 18 11.6	+4.1
	baz=14,SNR=4.8						
ASAR	**Alice Springs**	**24.96**	**219**	P	P	01 18 13.4	-0.7
	0.3nm,0.3s,baz=49,slow=8.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**148.26**	**288**	PKPbc	PKPbc	01 32 37.4	-0.5
	0.3nm,0.6s,baz=67,slow=2.2,SNR=4.8						

GUC 04 01:26:34.6±0.5,34.08S×72.08W,h100km,ML3.8,4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.16**	**143**	⇑*i*P	Pn	01 26 54.5	-2.4
NICH				*e*S	Sn	01 27 13.2	-0.4
NICH				AML	AML	01 27 35.8	
	comp=E,6μm,0.4s						
TALC	**Talca**	**1.37**	**165**	*i* P	Pn	01 27 14.5	+15
TALC				*e*S	Sn	01 27 32.9	+15
ROCH	**El Roble**	**1.42**	**39**	⇑*i*P	Pn	01 26 58.8	-1.4
ROCH				*e*S	Sn	01 27 19.5	0.0
ROCH				AML	AML	01 27 48.5	
	comp=E,1μm,0.7s						
CLCH	**Cerro Calan**	**1.45**	**63**	⇑*i*P	Pn	01 27 00.5	+0.1
CLCH				*e*S	Sn	01 27 19.9	-0.1
CLCH				AML	AML	01 27 51.8	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.49**	**52**	⇑*i*P	Pn	01 27 00.8	0.0
PEL				*e*S	Sn	01 27 20.9	+0.1
PEL				AML	AML	01 27 50.4	
	comp=E,1μm,0.5s						

*SKO **04** 02:00:41.5,41.51N×20.25E,h15km,M1.4,ML1.7*
*TIR **04** 02:00:46.7±13.0,41.80N×20.20E,h0km±999km,ML2.6*
CSEM 04 02:00:41.7±0.4,41.49N×20.25E,h15km,ML2.6,Error ellipse: s-maj=9.1km s-min=4.2km az=50.0,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.24**	**37**	*i* PG	Pg	02 00 47.0	-0.2
PHP				*i* SG	Sb	02 00 51.5	-0.6
PHP	**Peshkopia**	**0.24**	**37**	*i* Pg	Pg	02 00 47.0	-0.2
	SNR=92						
PHP				*i* Sg	Sb	02 00 51.5	-0.6
	SNR=92						
OHR	**Ohrid**	**0.56**	**132**	*i* Pg	Pb	02 00 53.5	+0.1
OHR				*i* Lg	Lg	02 01 01.4	
	comp=E,25nm,0.5s						
OHR				*i* Sg	Sb	02 01 01.4	+0.1
OHR				*i* Lg	Lg	02 01 04.3	
	comp=N,30nm,0.7s						
OHR	**Ohrid**	**0.56**	**132**	*i* Pg	Pb	02 00 53.5	+0.1
OHR				*i* Lg	Lg	02 01 01.3	
	comp=N,25nm,0.5s						
OHR				*i* Sg	Sb	02 01 01.4	+0.1
PUK	**Puka**	**0.61**	**335**	*i* PG	Pg	02 00 53.0	-0.8
PUK	**Puka**	**0.61**	**335**	*i* Pg	Pg	02 00 53.0	-0.9
	SNR=91						
BCI	**Bajram Curri**	**0.89**	**351**	*i* PG	Pn	02 00 59.6	-0.1
BCI				*i* SG	Sn	02 01 12.1	-0.2
BCI	**Bajram Curri**	**0.89**	**351**	*i* Pg	Pn	02 00 59.6	-0.1
	SNR=90						
BCI				*i* Sg	Sn	02 01 12.1	-0.2
	SNR=90						
SKO	**Skopje**	**1.01**	**61**	*i* Pg	Pb	02 01 00.9	-0.1
SKO				*i* Sg	Sg	02 01 14.8	+0.1
SKO				*i* Lg	Lg	02 01 15.3	
	comp=E,15nm,0.3s						
SKO				*i* Lg	Lg	02 01 17.1	
	comp=N,23nm,0.3s						
VAY	**Valandovo**	**1.76**	**95**	*i* Pg	Pg	02 01 14.7	-0.8
VAY				*i* Sg	Sg	02 01 38.2	-0.1
VAY				*i* Lg	Lg	02 01 39.3	
	comp=E,4.7nm,0.5s						
VAY				*i* Lg	Lg	02 01 42.3	
	comp=N,7.5nm,0.6s						
VAY	**Valandovo**	**1.76**	**95**	*i* Pg	Pg	02 01 14.6	-0.9
VAY				*i* Sg	Sg	02 01 38.2	-0.1
VAY				*i* Lg	Lg	02 01 39.2	
	comp=N,4.7nm,0.5s						

IDC 04 02:07:34.7±7.1,6.29S×149.56E,h72km±54km,mb3.1/2, mb1 3.5/3,mb1mx3.1/20,mbtmp3.6/3,ML2.7/1,Error ellipse: s-maj=123.3km s-min=55.0km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.91**	**217**	P	Pn	02 08 33.4	+1.1
	4.2nm,0.3s,baz=357,slow=8.7,SNR=14						
PMG				S	Sn	02 09 14.6	-2.4
	6.2nm,0.3s,baz=317,slow=18,SNR=11						
WRA	**Warramunga Arr**	**20.07**	**226**	P	P	02 12 01.0	-1.5
	1.0nm,0.3s,baz=51,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.92**	**219**	P	P	02 12 32.4	-0.6
	0.4nm,0.6s,baz=53,slow=8.4,SNR=10						
TORD	**Torodi Ar. Bea**	**147.62**	**285**	PKPbc	PKPbc	02 27 12.3	+0.2
	0.2nm,0.8s,baz=77,slow=2.8,SNR=2.5						

GUC 04 02:07:59.1±0.3,32.65S×71.76W,h52km±4km,ML3.6, 2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.71**	**117**	⇓*i*P	Pn	02 08 12.6	-0.7
ROCH				*e*S	Sn	02 08 22.5	-1.1
ROCH				AML	AML	02 08 23.0	
	comp=N,1μm,0.1s						
PEL	**Peldehue**	**1.03**	**119**	⇑*i*P	Pn	02 08 17.8	+0.5
PEL				*e*S	Sn	02 08 32.1	+1.3
PEL				AML	AML	02 08 34.0	
	comp=N,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.16**	**137**	⇑*i*P	Pn	02 08 19.6	+0.5
RCDM				*e*S	Sn	02 08 35.2	+1.3
RCDM				AML	AML	02 08 38.0	
	comp=E,588nm,0.1s						
CLCH	**Cerro Calan**	**1.27**	**126**	⇓*i*P	Pn	02 08 21.4	+0.8
CLCH				*e*S	Sn	02 08 38.2	+1.6
CLCH				AML	AML	02 08 40.2	
	comp=E,286nm,0.3s						

IDC 04 02:26:36.0±1.4,3.48S×139.78E,h0km,mb3.1/2, mb1 3.3/3,mb1mx3.2/23,mbtmp3.1/3,ML3.1/1,Error ellipse: s-maj=42.1km s-min=15.0km az=131.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.33**	**44**	Pg	Pg	02 27 01.2	-0.4
	2.8nm,0.3s,baz=237,slow=12,SNR=10						
JAY				Lg	Lg	02 27 18.7	
	4.7nm,0.3s,baz=98,slow=19,SNR=7.2						
WRA	**Warramunga Arr**	**17.20**	**198**	P	Pn	02 30 38.5	+0.5
	0.1nm,0.3s,baz=18,slow=13,SNR=8.7						
ASAR	**Alice Springs**	**20.86**	**195**	P	P	02 31 19.4	-0.4
	0.5nm,0.7s,baz=26,slow=9.4,SNR=6.1						
MKAR	**Makanchi Array**	**71.05**	**322**	P	P	02 37 56.1	+0.1
	0.1nm,0.5s,baz=100,slow=7.5,SNR=3.2						

GUC 04 02:40:21.5±0.5,34.96S×71.78W,h50km±6km,ML3.5, 2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.45**	**95**	⇓*i*P	Pn	02 40 32.5	+0.3
NICH				*e*S	Sn	02 40 40.6	+0.8
NICH				AML	AML	02 40 44.0	
	comp=E,2μm,0.5s						
TALC	**Talca**	**0.45**	**165**	⇑*i*P	Pn	02 40 32.5	+0.3
TALC				*e*S	Sn	02 40 40.6	+0.9
TALC				AML	AML	02 40 41.6	
	comp=N,13μm,0.1s						
LNCH	**Linares**	**0.90**	**171**	⇑*i*P	Pn	02 40 37.9	0.0
LNCH				*e*S	Sn	02 40 51.1	+1.3

*ISCJB **04** 02:40:55.5±0.4,10.87N±0.06×92.12E±0.05,h27km, mb4.0/21,MS3.3/7,Error ellipse: s-maj=9.2km s-min=6.1km az=41.5*
*IDC **04** 02:40:58.4±1.1,10.90N×92.14E,h33km±6km,mb3.7/12, mb1 3.8/14,mb1mx3.6/40,mbtmp3.9/14,ML4.0/2,MS3.3/7, Ms1 3.3/7,ms1mx2.9/43,Error ellipse: s-maj=24.7km s-min=16.2km az=48.0*
*NEIC **04** 02:40:58.6±2.3,10.86N×92.13E,h35km±17km,mb4.0/9, Error ellipse: s-maj=9.2km s-min=5.9km az=49.0*
ISC 04 02:40:57.7±0.6,10.93N±0.08×92.20E±0.07,h27km,n55, σ1°01/54,mb4.0/21,MS3.3/7,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.93**	**40**	Pn	Pn	02 43 19.9	+1.2
	0.4nm,0.3s,baz=237,slow=15,SNR=8.6						
CMAR				Sn	Sn	02 45 06.1	-3.3
	0.3nm,0.3s,baz=234,slow=27,SNR=3.7						
IPM	**Ipoh**	**10.84**	**126**	*e*Pn	Pn	02 43 29.8	-1.4
	8.9nm,0.9s						
CHLP	**Challavanipeta**	**10.89**	**315**	*e*P	Pn	02 43 30.4	-1.5
CHLP				*e*S	Sn	02 45 19.7	-13
PALK	**Pallekele**	**11.91**	**253**	Pn	Pn	02 43 45.2	-0.8
	1.0nm,0.3s,baz=86,slow=15,SNR=2.7						
PALK				Sn	Sn	02 45 44.1	-14
	4.5nm,0.3s,baz=346,slow=19,SNR=5.8						
PALK	**Pallekele**	**11.91**	**253**	*e*Pn	Pn	02 43 45.1	-0.9
	11nm,0.9s						
PALK				Sn	Sn	02 45 44.1	-14
SKHT	**Srikalahasti**	**12.52**	**284**	*e*P	Pn	02 43 53.9	-0.2
SKHT				*e*S	Sn	02 45 59.1	-14
ADKI	**Addanki**	**12.86**	**294**	*e*P	Pn	02 43 57.8	-1.0
ADKI				*e*S	Sn	02 46 05.5	-16
NJS	**Nagarjunasagar**	**13.71**	**295**	*e*P	Pn	02 44 11.3	+0.9
NJS				*e*S	Sn	02 46 27.8	-14
HYB	**Hyderabad**	**14.71**	**298**	*i* P	Pn	02 44 23.0	-1.2
HYB				*e*S	Sn	02 46 53.0	-14
HYBB	**Hyderabad (bro**	**14.71**	**298**	*e*Pn	Pn	02 44 23.2	-1.0
HYBB				*e*S	Sn	02 46 52.6	-14
RPR	**Rampur**	**14.75**	**304**	*e*P	Pn	02 44 24.4	-0.2
RPR				*e*S	Sn	02 46 52.8	-14
RAMN	**Ramite**	**16.79**	**342**	*e*P	Pn	02 44 50.4	-0.8
	16nm,0.5s						
TAPN	**Taplejung**	**16.88**	**346**	*e*P	Pn	02 44 52.3	-0.1
	23nm,0.8s						
JIRN	**Jiri**	**17.58**	**342**	*e*P	Pn	02 45 00.3	-0.9
	20nm,0.7s						
PKI	**Pulchoki**	**17.75**	**340**	*e*P	Pn	02 45 02.6	-0.6
PKIN	**Phulchoki**	**17.75**	**340**	*e*P	Pn	02 45 02.7	-0.6
	13nm,0.5s						
DMN	**Daman**	**17.88**	**339**	*e*P	Pn	02 45 03.1	-1.8
	24nm,0.7s						
GUN	**Gumba**	**17.91**	**342**	*e*P	Pn	02 45 05.4	+0.1
GKN	**Gorkha**	**18.41**	**338**	*e*P	P	02 45 11.1	0.0
	7.9nm,0.3s						
KOLN	**Koldanda**	**18.60**	**335**	*e*P	P	02 45 12.9	-0.3
	19nm,0.6s						
LSA	**Lhasa**	**18.70**	**357**	*e*P	Pn	02 45 16.6	+1.5
	18nm,0.7s						
DANN	**Dangsing**	**19.05**	**337**	*e*P	P	02 45 18.7	+0.4
	18nm,0.7s						
PYUN	**Piuthan**	**19.14**	**334**	*e*P	P	02 45 18.8	-0.4
	45nm,0.4s						
H08S3	**Diego Garcia H**	**26.92**	**228**	T	T	03 14 35.1	
	baz=46,slow=75,SNR=359						
H08S2	**Diego Garcia H**	**26.92**	**228**	T	T	03 14 35.5	
	baz=46,slow=75,SNR=406						
H08S1	**Diego Carcia H**	**26.94**	**228**	T	T	03 14 36.5	
	baz=46,slow=75,SNR=422						
KAPI	**Kappang**	**31.67**	**119**	*e*P	P	02 47 20.8	+1.7
	17nm,1.2s						
TKM2	**Tokmak 2**	**35.00**	**339**	*e*P	P	02 47 48.4	+0.2
	1.4nm,0.7s						
AAK	**Ala-Archa**	**35.16**	**337**	*e*P	P	02 47 50.6	+1.2
	2.2nm,0.8s						
EKS2	**Erkin-Say**	**35.46**	**336**	*e*P	P	02 47 53.5	+1.5
	2.5nm,0.8s						
MK31	**Makanchi Array**	**36.72**	**349**	*e*P	P	02 48 02.7	+0.1
MKAR	**Makanchi Array**	**36.72**	**349**	P	P	02 48 02.6	+0.1
	2.9nm,0.8s,baz=166,slow=8.3,SNR=32						
MKAR				pP	pP	02 48 12.2	+1.6
	1.5nm,0.6s,baz=169,slow=7.2,SNR=9.9						
MKAR				PcP	PcP	02 50 25.0	+0.2
	0.1nm,0.5s,baz=194,slow=3.6,SNR=4.0						
MKAR				LR	LR	03 07 15.4	
	comp=Z,28nm,18.3s,baz=157,slow=43						
KKAR	**Karatay Array**	**37.19**	**333**	*e*P	P	02 48 07.4	+0.7
	0.6nm,0.4s						
SONM	**Songino Array**	**38.68**	**15**	P	P	02 48 19.6	+0.3
	0.8nm,0.6s,baz=207,slow=7.8,SNR=8.7						
ULN	**Ulaanbaatar**	**38.88**	**16**	*e*P	P	02 48 20.9	-0.1
	1.1nm,0.5s						
GEYT	**Alibeck**	**40.67**	**317**	P	P	02 48 36.9	+1.1
	1.8nm,0.6s,baz=116,slow=10,SNR=6.2						
GEYT				LR	LR	03 06 49.8	
	comp=Z,36nm,19.1s,baz=205,slow=38						
KURK	**Kurchatov**	**41.21**	**347**	*e*P	P	02 48 40.3	+0.3
	5.2nm,1.3s						
KSRS	**Korea Array**	**41.54**	**44**	LR	LR	03 09 16.9	
	comp=Z,18nm,18.3s,baz=259,slow=41						
ZALV	**Zalesovo Beam**	**43.31**	**358**	P	P	02 48 57.2	+0.1
	3.2nm,0.7s,baz=170,slow=9.0,SNR=19						
ZALV				pP	pP	02 49 06.6	+1.4
	1.6nm,0.8s,baz=170,slow=9.0,SNR=4.9						
ZALV				LR	LR	03 10 31.6	
	comp=Z,32nm,18.1s,baz=56,slow=41						
ABKAR	**Akbulak array**	**46.65**	**331**	*e*P	P	02 49 24.4	+0.6
WRA	**Warramunga Arr**	**51.59**	**126**	P	P	02 50 01.9	-0.1
	7.0nm,0.5s,baz=307,slow=8.2,SNR=218						
WRAB	**Tennant Creek**	**51.60**	**126**	*e*P	P	02 50 01.8	-0.3
	8.0nm,0.6s						
WB2	**Warramunga Arr**	**51.60**	**126**	*e*P	P	02 50 02.0	-0.1
AS31	**Alice Springs**	**53.34**	**130**	*e*P	P	02 50 15.2	+0.2
ASAR	**Alice Springs**	**53.34**	**130**	P	P	02 50 15.2	+0.2
	3.6nm,0.5s,baz=306,slow=6.9,SNR=117						
BR131	**Keskin Array S**	**59.00**	**310**	*e*P	P	02 50 54.6	-0.8
	0.7nm,0.8s						
BRTR	**Keskin Array B**	**59.00**	**310**	P	P	02 50 54.2	-1.2
	0.4nm,0.7s,baz=107,slow=8.3,SNR=5.4						
AKASG	**Malin Array Be**	**64.59**	**321**	P	P	02 51 31.0	-1.6
	0.1nm,0.4s,baz=89,slow=5.3,SNR=6.1						
FINES	**FINESS Array B**	**69.13**	**332**	P	P	02 52 01.2	-0.1
	1.0nm,0.8s,baz=74,slow=6.8,SNR=4.9						
FINES				pP	pP	02 52 11.7	+1.8
	1.1nm,0.7s,baz=108,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**71.76**	**340**	P	P	02 52 17.5	+0.2
	0.8nm,0.8s,baz=78,slow=5.8,SNR=2.8						
ARCES				LR	LR	03 26 14.8	
	comp=Z,61nm,19.2s,baz=142,slow=38						
VRAC	**Vranov**	**72.41**	**318**	LR	LR	03 28 47.9	
	comp=Z,23nm,18.3s,baz=74,slow=40						
GERES	**GERESS Array B**	**74.29**	**318**	P	P	02 52 32.7	-0.1
	0.3nm,0.6s,baz=70,slow=1.1,SNR=4.7						
JMIC	**Jan Mayen**	**83.21**	**341**	LR	LR	03 31 34.3	
	comp=Z,17nm,19.2s,baz=302,slow=36						
TORD	**Torodi Ar. Bea**	**88.04**	**283**	P	P	02 53 46.4	+0.1
	0.3nm,0.8s,baz=85,slow=4.0,SNR=2.8						
ILAR	**Eielson Array**	**92.64**	**22**	P	P	02 54 06.0	-0.9
	0.2nm,0.7s,baz=300,slow=4.3,SNR=5.0						

IDC 04 02:48:28.8±6.3,19.68S×176.08W,h0km,mb4.0/2, mb1 4.2/2,mb1mx3.6/30,mbtmp4.0/2,Error ellipse: s-maj=297.5km s-min=98.1km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.47**	**256**	P	P	02 56 58.0	-0.1
	1.9nm,0.8s,baz=94,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**46.51**	**261**	P	P	02 56 58.2	-0.1
	0.5nm,0.3s,baz=98,slow=7.8,SNR=15						
AKASG	**Malin Array Be**	**143.14**	**333**	PKP	PKPdf	03 08 03.8	-0.9
	0.5nm,0.5s,baz=40,slow=3.5,SNR=11						

*ISCJB **04** 02:51:01.9±1.7,4.95S±0.3×152.0E±0.4,h70km,mb3.3/4, Error ellipse: s-maj=67.1km s-min=12.7km az=37.8*
*IDC **04** 02:51:09.2±5.1,5.14S×151.96E,h124km±42km,mb3.1/4, mb1 3.3/5,mb1mx3.1/30,mbtmp3.5/5,Error ellipse: s-maj=62.6km s-min=26.4km az=115.0*
ISC 04 02:51:04.3±1.8,4.38S±0.3×151.9E±0.4,h70km,n6,σ2s27/7, mb3.4/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.55**	**225**	P	Pn	02 52 42.6	+4.5
	1.0nm,0.3s,baz=43,slow=18,SNR=3.1						
PMG				S	Sn	02 53 51.4	+0.1
	0.8nm,0.3s,baz=12,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**22.76**	**227**	P	P	02 55 58.8	-2.4
	0.8nm,0.7s,baz=56,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**25.54**	**221**	P	P	02 56 25.4	-1.3
	1.1nm,0.5s,baz=58,slow=8.9,SNR=15						
ASAR				pP	pP	02 56 46.6	+3.4
	0.6nm,0.7s,baz=52,slow=9.2,SNR=3.5						
SONM	**Songino Array**	**65.84**	**328**	P	P	03 01 43.1	+0.6
	0.2nm,0.7s,baz=117,slow=6.6,SNR=2.5						
ILAR	**Eielson Array**	**82.51**	**22**	P	P	03 03 18.9	-0.1
	0.5nm,0.8s,baz=249,slow=5.2,SNR=8.3						
TORD	**Torodi Ar. Bea**	**149.44**	**288**	PKPbc	PKPbc	03 10 45.4	-1.2
	0.4nm,0.7s,baz=93,slow=3.8,SNR=4.1						

KRSC 04 02:54:06.9±0.5,55.09N×160.27E,h4km±3km,ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.03**	**40**	*e*P	Pg	02 54 08.9	+0.9
TUMR	**Tumrok**	**0.20**	**340**	P	Pg	02 54 11.7	+0.6
TUMR				*e*S	Sg	02 54 15.4	+1.5
KMNR	**Kamenistaya**	**0.67**	**359**	P	Pg	02 54 20.5	+0.6
KMNR				S	Sb	02 54 31.5	+0.5
KPT	**Kopyto**	**0.88**	**358**	P	Pg	02 54 24.0	+0.1
KOZ	**Kozyrevsk**	**0.99**	**347**	*e*P	Pg	02 54 26.1	+0.1
KOZ				*e*S	Sb	02 54 41.0	+0.8
MKZ	**Mys Kozlova**	**1.00**	**122**	*e*P	Pg	02 54 26.2	+0.1
MKZ				*e*S	Sb	02 54 40.5	+0.1
ESO	**Esso**	**1.22**	**314**	*e*P	Pg	02 54 29.1	-1.3
ESO				*e*S	Sg	02 54 46.3	+0.1
KLY	**Klyuchi**	**1.24**	**10**	*e*P	Pn	02 54 31.1	+0.1
SRDR	**Sredinnyy**	**1.27**	**346**	P	Pg	02 54 30.1	-1.2
SRDR				*e*S	Sg	02 54 47.5	-0.3
BDR	**Baidarnaya**	**1.57**	**19**	*e*P	Pb	02 54 36.8	+0.1
SMKR	**Semkarok**	**1.64**	**24**	P	Pb	02 54 37.5	-0.3
SRKR	**Sorokina**	**1.65**	**18**	*e*P	Pb	02 54 37.5	-0.4
SRKR				*e*S	Sg	02 55 00.5	+0.5
KBTR	**Krutoberegovo**	**1.83**	**51**	*e*P	Pn	02 54 38.9	-0.2
KBTR				*e*S	Sb	02 55 04.2	0.0
GNL	**Ganaly**	**1.95**	**225**	*e*P	Pn	02 54 41.6	+0.6
GNL				*e*S	Sb	02 55 07.3	-0.6
KRX	**Arik**	**1.98**	**209**	*e*P	Pb	02 54 43.0	-0.7
KRX				*e*S	Sb	02 55 09.8	+1.0
SDLR	**Sedlovina**	**1.99**	**205**	*e*P	Pn	02 54 42.3	+0.8
SDLR				*e*S	Sb	02 55 08.8	-0.3
NLC	**Nalytchevo**	**2.00**	**196**	*e*S	Sb	02 55 08.5	-0.5
KRER	**Koryakskii**	**2.00**	**207**	*e*P	Pb	02 54 43.2	-0.9
SPN	**Mys Shipunski**	**2.00**	**184**	*e*P	Pn	02 54 41.2	-0.3
SPN				*e*S	Sn	02 55 07.2	+0.2
SMAR	**Somma**	**2.02**	**206**	P	Pn	02 54 43.1	+1.0
SMAR				S	Sb	02 55 10.5	+0.2
AVH	**Avacha**	**2.04**	**207**	P	Pb	02 54 43.5	-1.1
AVH				S	Sb	02 55 10.8	+0.4
KOK	**Koryaka**	**2.04**	**209**	*e*P	Pb	02 54 43.7	-1.0
APC	**Apacha**	**2.84**	**221**	P	Pn	02 54 53.5	+0.5

*IDC **04** 03:15:49.7±1.5,44.88N×110.27W,h0km,mb1 3.3/5, mb1mx3.2/50,mbtmp3.0/5,ML3.1/5,Error ellipse: s-maj=21.7km s-min=8.5km az=63.0*
*NEIC **04** 03:15:52.0,44.60N×110.99W,h5km,ML3.3(SLC),After SLC.*
NEIC Felt in Yellowstone National Park.
ISC 04 03:15:52.4±0.7,44.62N±0.01×110.92W±0.02,h10km±4km, n79,σ1s86/130,7C-13D,Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YMR	**Madison River**	**0.06**	**329**	*e*Pg	**Pg**	**03 15 54.1**	**-0.6**
YMR				*e*Sg	**Sg**	**03 15 55.7**	**-0.7**
YFT	**Old Faithful**	**0.18**	**159**	*e*Pg	**Pg**	**03 15 55.9**	**-0.4**
YFT				*e*Sg	**Sg**	**03 15 58.9**	**-0.2**
YNR	**Norris Junctio**	**0.20**	**61**	*e*Pg	**Pg**	**03 15 57.5**	**+0.8**
YNR				*e*Sg	**Sg**	**03 16 02.3**	**+2.6**
H17A	**Grant Village**	**0.34**	**132**	P	**Pg**	**03 15 59.7**	**+0.6**
	baz=0.4,SNR=132						
H17A	**Grant Village**	**0.34**	**132**	*e*Pg	**Pg**	**03 15 59.3**	**+0.2**
H17A				*e*Sg	**Sb**	**03 16 05.7**	**-0.4**
QLMT	**Earthquake Lak**	**0.42**	**300**	*e*Pg	**Pg**	**03 15 59.8**	**-0.8**
QLMT				*e*Sg	**Sg**	**03 16 04.6**	**-1.6**
FLWY	**Flagg Ranch**	**0.56**	**163**	*e*Pg	**Pg**	**03 16 03.4**	**+0.1**
IMW	**Indian Meadow**	**0.72**	**181**	*e*Pg	**Pg**	**03 16 05.6**	**-0.8**
I17A	**Pilgrim Ck.**	**0.74**	**160**	⇓P	**Pg**	**03 16 06.9**	**+0.2**
	baz=0.8						
H18A	**Shoshone NF, C**	**0.90**	**86**	P	**Pb**	**03 16 09.6**	**-

HRY					*e*Pg	**Pg**	03 16 35.0	+0.8	
HRY					*e*Sg	**Sg**	03 17 01.0	-1.6	
F20A	**Billings**	**2.29**	**58**	⇓Pb	**Pg**	03 16 35.3	-0.9		
	baz=2.3								
E19A	**Rath Farm, Rou**	**2.38**	**38**	⇓P	**Pn**	03 16 33.4	+1.9		
	baz=2.4,SNR=25								
E19A				Sb	**Sg**	03 17 07.5	-1.2		
	baz=2.4								
J20A	**Shoshoni**	**2.41**	**121**	⇓P	**Pb**	03 16 35.4	-0.5		
	baz=2.4								
G21A	**Lodge Grass**	**2.71**	**76**	⇓Pb	**Pb**	03 16 40.5	-0.5		
	baz=2.8								
E20A	**Meyer Farm, Mu**	**2.72**	**45**	⇑P	**Pn**	03 16 38.4	+2.2		
	baz=2.8								
E20A				Sb	**Sg**	03 17 16.9	-2.8		
	baz=2.8								
HLID	**Hailey**	**2.73**	**248**	⇑P	**Pn**	03 16 38.6	+2.2		
	baz=2.7								
HLID	**Hailey**	**2.73**	**248**	*e*Pn	**Pn**	03 16 36.6	+0.2		
HLID				*e*Sg	**Sn**	03 17 14.4	+4.9		
I21A	**Big Trails, Te**	**2.73**	**106**	⇑P	**Pb**	03 16 39.5	-1.9		
	baz=2.8								
H21A	**Big Horn, Sher**	**2.77**	**88**	⇓P	**Pn**	03 16 39.4	+2.4		
	baz=2.8								
CHMT	**Chamberlain Mo**	**2.81**	**325**	*e*Pn	**Pn**	03 16 38.3	+0.7		
CHMT				*e*Pg	**Pb**	03 16 44.5	+1.7		
CHMT				*e*Sn	**Sn**	03 17 11.5	-0.2		
CHMT				*e*Sg	**Sg**	03 17 20.8	-1.9		
J21A	**Lysite**	**2.81**	**116**	⇓P	**Pb**	03 16 40.9	-1.9		
	baz=2.9								
D19A	**Cripps Ranch,**	**2.92**	**29**	⇓Pb	**Pb**	03 16 44.5	-0.1		
	baz=3.0								
D19A				Sb	**Sg**	03 17 22.3	-3.7		
	baz=3.0								
HWUT	**Hardware Ranch**	**3.05**	**189**	*e*Pn	**Pn**	03 16 40.2	-0.6		
HWUT				*e*Pg	**Pb**	03 16 48.6	+1.8		
HWUT				*e*Sn	**Sn**	03 17 14.9	-2.5		
HWUT				*e*Sg	**Sb**	03 17 28.4	+4.3		
MSO	**Missoula**	**3.06**	**317**	*e*Pn	**Pn**	03 16 41.5	+0.7		
HVU	**Hansel Valley**	**3.15**	**206**	*e*Pn	**Pn**	03 16 40.9	-1.2		
HVU				*e*Pg	**Pb**	03 16 48.9	+0.5		
HVU				*e*Sg	**Sb**	03 17 29.7	+2.8		
SLMT	**Seeley Lake**	**3.18**	**327**	*e*Pn	**Pn**	03 16 42.3	-0.2		
SLMT				*e*Pg	**Pb**	03 16 51.0	+2.1		
SLMT				*e*Sn	**Sn**	03 17 20.8	+0.2		
SLMT				*e*Sg	**Sg**	03 17 33.4	-0.9		
EGMT	**Eagleton**	**3.50**	**13**	*e*Pn	**Pn**	03 16 48.6	+1.7		
EGMT				*e*Pg	**Pg**	03 16 57.2	-2.2		
EGMT				*e*Sg	**Sg**	03 17 40.8	-4.0		
TCUT	**Toone Canyon**	**3.52**	**186**	*e*Pg	**Pb**	03 16 56.7	+1.8		
TCUT				*e*Sg	**Sb**	03 17 39.1	+1.4		
SWMT	**Swartz Lake**	**3.60**	**325**	*e*Pn	**Pn**	03 16 48.6	+0.3		
SWMT				*e*Pg	**Pb**	03 16 58.3	+2.2		
SWMT				*e*Sg	**Sb**	03 17 43.9	+4.1		
MFID	**Camas Ranch**	**3.74**	**253**	*e*Pn	**Pn**	03 16 51.6	+1.4		
MFID				*e*Sn	**Sn**	03 17 31.1	-3.2		
MFID				*e*Sg	**Sb**	03 17 44.2	+0.3		
K22A	**Casper**	**3.75**	**120**	*e*Pn	**Pn**	03 16 52.8	+2.4		
YBMT	**Yellow Bay**	**3.89**	**328**	*e*Pn	**Pn**	03 16 53.2	+0.9		
YBMT				*e*Pg	**Pb**	03 17 03.1	+2.1		
YBMT				*e*Sn	**Sn**	03 17 38.3	+0.3		
YBMT				*e*Sg	**Sb**	03 17 50.5	+2.3		
JTMT	**Jette**	**3.90**	**324**	*e*Pn	**Pn**	03 16 52.9	+0.5		
JTMT				*e*Pg	**Pb**	03 17 03.5	+2.2		
JTMT				*e*Sg	**Sg**	03 17 54.1	-3.5		
CTU	**Camp Tracy**	**3.97**	**189**	*e*Pn	**Pn**	03 16 52.2	-1.3		
CTU				*e*Pg	**Pg**	03 17 06.7	-1.7		
CTU				*e*Sn	**Sn**	03 17 38.8	-1.4		
BGU	**Big Grassy Mou**	**4.00**	**203**	*e*Pn	Pn	03 16 51.9	-2.0		
BLMT	**Blacktail Moun**	**4.14**	**326**	*e*Pg	**Pg**	03 17 10.6	-1.2		
BSMT	**Bassoo Peak**	**4.20**	**322**	*e*Pn	**Pn**	03 16 57.6	+1.0		
BSMT				*e*Pg	**Pg**	03 17 10.2	-2.5		
BSMT				*e*Sg	**Sb**	03 18 02.7	+5.5		
DAU	**Daniels Canyon**	**4.21**	**183**	*e*Pg	**Pb**	03 17 06.8	+0.1		
DAU				*e*Sg	**Sg**	03 18 06.0	-1.6		
BMO	**Blue Mountains**	**4.55**	**275**	*e*Pn	**Pn**	03 17 01.3	-0.1		
BMO				*e*Pg	Pg	03 17 16.9	-2.6		
BMO				*e*Sg	**Sb**	03 18 09.4	+2.1		
DUG	**Dugway, Tooele**	**4.64**	**198**	*e*Pn	**Pn**	03 17 05.0	+2.4		
F10A	**Beach Ranch, E**	**4.65**	**289**	*e*Pn	**Pn**	03 17 05.3	+2.6		
NLU	**North Lily Min**	**4.74**	**191**	*e*Pn	**Pn**	03 17 03.1	-0.9		
NLU				*e*Pg	Pb	03 17 19.3	+3.6		
WALA	**Waterton Lakes**	**4.89**	**336**	*e*Pn	**Pn**	03 17 05.9	-0.1		
WALA				*e*Pg	**Pg**	03 17 23.0	-3.0		
WALA				*e*Sg	**Sg**	03 18 25.5	-3.8		
O20A	**White River Ci**	**4.90**	**155**	*e*Pg	**Pg**	03 17 25.1	-1.2		
RSSD	**Black Hills**	**4.96**	**93**	*e*Pn	**Pn**	03 17 08.5	+1.3		
RSSD				*e*Pg	**Pg**	03 17 24.9	-2.6		
RSSD				*e*Sg	**Sg**	03 18 28.8	-2.9		
ELK	**Elko**	**5.01**	**221**	Pn	Pn	03 17 14.7	+6.9		
	0.5nm,0.3s,baz=350,slow=13,SNR=11								
ELK				Sn	**Sb**	03 18 20.6	0.0		
	0.2nm,0.3s,baz=180,slow=19,SNR=1.7								
N23A	**Red Feather La**	**5.22**	**134**	*e*Pg	Pg	03 17 37.5	+5.0		
TMUT	**Trail Mountain**	**5.32**	**182**	*e*Pg	**Pg**	03 17 34.9	+0.6		
E09A	**Wood Farm, Sta**	**5.41**	**293**	*e*Pg	**Pg**	03 17 37.4	+1.4		
SRU	**San Rafael Swe**	**5.51**	**177**	*e*Pn	**Pn**	03 17 14.1	-0.5		
SRU				*e*Pg	**Pb**	03 17 31.3	+2.5		
SRU				*e*Sg	Sb	03 18 42.6	+7.5		
NEW	**Newport**	**5.62**	**313**	Pn	**Pn**	03 17 18.4	+2.4		
	0.7nm,0.3s,baz=128,slow=13,SNR=9.8								
NEW				Lg	Lg	03 18 46.4			
	2.1nm,0.3s,baz=37,slow=18,SNR=8.1								
NEW	**Newport**	**5.62**	**313**	*e*Pn	**Pn**	03 17 15.6	-0.4		
NEW				*e*Pg	Pb	03 17 35.4	+4.8		
NEW				*e*Sg	Sb	03 18 44.3	+6.3		
NEW				Lg	Lg	03 18 46.4			
G08A	**Pilot Rock**	**5.74**	**280**	*e*Pg	**Pg**	03 17 39.9	-2.4		
G08A				*e*Sg	Sg	03 18 50.9	-5.8		
C09A	**Chrisman Ranch**	**6.01**	**305**	*e*Pn	Pn	03 17 16.6	-4.7		
DGMT	**Dagmar**	**6.03**	**48**	*e*Pn	**Pn**	03 17 22.9	+1.3		
DGMT				*e*Pg	Pb	03 17 41.9	+4.4		
DGMT				*e*Sg	**Sg**	03 19 01.9	-4.0		
I07A	**Izee**	**6.18**	**268**	*e*Pn	Pn	03 17 28.0	+4.3		
SMCO	**Snowmass**	**6.18**	**150**	*e*Pg	**Pg**	03 17 49.0	-1.8		
NVAR	**Mina Array Bea**	**8.30**	**224**	Pn	Pn	03 18 01.6	+8.7		
	0.1nm,0.3s,baz=26,slow=15,SNR=2.0								
NVAR				Pg	Pb	03 18 22.4	+6.2		
	0.2nm,0.3s,baz=42,slow=17,SNR=5.3								
NVAR				Lg	Lg	03 20 16.6			
	0.0nm,0.3s,baz=32,slow=19,SNR=3.7								
YKA	**Yellowknife Ar**	**18.04**	**354**	P	**Pn**	03 20 00.6	-2.2		
	0.0nm,0.3s,baz=171,slow=12,SNR=3.2								

IDC 04 03:49:39.8±6.3, 33°74N×83°91E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.0/40, mbtmp3.2/4, ML2.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/30, Error ellipse: s-maj=306.4km s-min=68.6km az=75.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.10**	**355**	Pn	Pn	03 52 47.4	+0.3
	0.0nm,0.3s,baz=178,slow=11,SNR=2.5						
KURBB	**Kurchatov Arra**	**17.32**	**348**	P	Pn	03 53 43.0	+0.1
	0.0nm,0.3s,baz=171,slow=11,SNR=7.6						
ZALV	**Zalesovo Beam**	**20.21**	**2**	P	P	03 54 15.5	-0.5
	0.3nm,0.3s,baz=192,slow=11,SNR=3.0						
GEYT	**Alibeck**	**21.30**	**289**	LR	LR	04 04 05.6	
	comp=Z,24nm,20.1s,baz=230,slow=41						
YKA	**Yellowknife Ar**	**82.95**	**9**	P	P	04 02 06.4	+0.2
	0.2nm,0.7s,baz=338,slow=4.7,SNR=4.3						

*ISCJB **04** 03:51:40.8±0.8, 7°10S±0.10×106°13E±0.06, h78km±6km, mb3.6/6, Error ellipse: s-maj=18.2km s-min=7.1km az=27.5*
*DJA **04** 03:51:40.5±0.8, 7°S±5°×10°6E±°, h12km±5km, M4.0/14, MLv4.0/14*
*IDC **04** 03:51:41.2±5.9, 7°02S×106°07E, h71km±44km, mb3.3/6, mb1 3.5/6, mb1mx3.2/39, mbtmp3.6/6, Error ellipse: s-maj=81.0km s-min=20.8km az=52.0*

ISC 04 03:51:39.8±1.2, 7°18S±0.09×106°07E±0.07, h56km±9km, n25, σ2§12/26, mb3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.51**	**70**	P	**Pn**	03 51 50.9	-0.7
SKJI				S	**Sn**	03 51 58.1	-2.0
CGJI	**Cibinong**	**0.68**	**326**	P	**Pn**	03 51 54.4	+0.8
CGJI				S	**Sn**	03 52 06.0	+2.4
CNJI	**Cibinong**	**1.06**	**97**	P	**Pn**	03 51 59.8	+1.4
CNJI				S	**Sn**	03 52 10.2	-2.0
SBJI	**Serang**	**1.06**	**3**	P	**Pn**	03 52 00.2	+1.7
CBJI	**Citeko**	**1.08**	**46**	P	**Pn**	03 51 58.3	-0.5
CBJI				S	**Sn**	03 52 13.4	+0.6
TNG	**Tangerang**	**1.15**	**30**	P	**Pn**	03 52 01.8	+2.0
TNG				P	**Pn**	03 52 01.7	+2.0
LEM	**Lembang**	**1.57**	**77**	P	**Pn**	03 52 08.4	+2.9
LEM	**Lembang**	**1.57**	**77**	P	**Pn**	03 52 06.9	+1.4
	68nm,0.3s,baz=264,slow=4.3,SNR=39						
LEM				S	**Sn**	03 52 29.3	+4.3
	72nm,0.3s,baz=312,slow=22,SNR=6.7						
LEM				LR	LR	03 52 54.2	
	comp=Z,109nm,18.9s,baz=290,slow=47						
CISI	**Cisompet, Garu**	**1.77**	**102**	P	**Pn**	03 52 10.2	+2.1
KASI	**Kota Agung**	**2.27**	**316**	P	Pn	03 52 19.0	+4.1
CMJI	**Cimerak**	**2.43**	**104**	P	**Pn**	03 52 19.3	+2.2
KPJI	**Karang Pucung**	**2.84**	**93**	P	**Pn**	03 52 25.3	+2.6
LWLI	**Liwa**	**2.94**	**317**	P	Pn	03 52 28.0	+3.8
MDSI	**Maura Dua**	**3.27**	**325**	P	**Pn**	03 52 31.7	+3.0
UGM	**Wanagama**	**4.47**	**100**	P	**Pn**	03 52 47.7	+2.6
WRA	**Warramunga Arr**	**30.20**	**118**	P	**P**	03 57 45.1	-0.1
	0.4nm,0.4s,baz=304,slow=9.3,SNR=9.4						
ASAR	**Alice Springs**	**31.34**	**125**	P	**P**	03 57 56.4	+1.2
	0.2nm,0.6s,baz=302,slow=8.0,SNR=3.2						
H08S2	**Diego Garcia H**	**33.30**	**267**	T	T	04 33 41.8	
	baz=91,slow=75,SNR=38						
H08S3	**Diego Garcia H**	**33.31**	**267**	T	T	04 33 37.7	
	baz=91,slow=75,SNR=36						
H08S1	**Diego Garcia H**	**33.32**	**267**	T	T	04 33 41.8	
	baz=91,slow=75,SNR=23						
SONM	**Songino Array**	**54.78**	**0**	P	**P**	04 01 02.8	-1.1
	0.3nm,0.6s,baz=164,slow=7.5,SNR=2.7						
SONM				PcP	**PcP**	04 02 04.9	-0.8
	0.6nm,0.6s,baz=165,slow=1.6,SNR=6.7						
MKAR	**Makanchi Array**	**57.75**	**341**	P	**P**	04 01 22.7	-2.3
	0.4nm,0.5s,baz=154,slow=8.4,SNR=10						
BRTR	**Keskin Array B**	**81.26**	**312**	P	**P**	04 03 49.7	-0.6
	0.6nm,0.7s,baz=145,slow=6.8,SNR=6.5						
ARCES	**ARCESS Array B**	**93.39**	**340**	P	**P**	04 04 48.0	-0.5
	1.6nm,0.9s,baz=95,slow=7.4,SNR=4.4						
TXAR	**Lajitas Array**	**144.37**	**48**	PKP	PKPbc	04 11 09.4	+0.5
	0.2nm,0.5s,baz=324,slow=2.6,SNR=4.5						

*NNC **04** 04:05:56.8±3.5, 37°06N×71°29E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=29.2km s-min=11.8km az=168.0*
*IDC **04** 04:05:56.8±5.8, 36°61N×71°92E, h119km±35km, mb3.3/2, mb1 3.1/7, mb1mx2.7/50, mbtmp3.6/7, Error ellipse: s-maj=70.3km s-min=26.4km az=146.0*

ISC 04 04:05:58.7±2.0, 36°9N±0°1×71°27E±0°07, h106km, n23, σ1§58/30, 11C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.69**	**315**	⇑P	**Pn**	04 06 40.7	+0.2
	20nm,0.4s						
DZET				⇑S	**Sn**	04 07 14.3	+1.6
	43nm,0.2s						
SFK	**Sufi-Kurgan**	**3.53**	**29**	⇑P	**Pn**	04 06 52.3	+0.4
	3.7nm,0.3s						
SFK				⇑S	**Sn**	04 07 36.4	+3.4
	7.7nm,0.2s						
AML	**Almayashu**	**5.51**	**19**	P	**Pn**	04 07 19.0	+0.3
	SNR=126						
MNAS	**Manas**	**5.62**	**9**	⇑P	**Pn**	04 07 20.4	+0.4
	4.6nm,0.3s						
MNAS				⇓S	**Sn**	04 08 24.4	+1.1
	18nm,0.9s						
UCH	**Uchtor**	**5.84**	**24**	P	**Pn**	04 07 24.5	+1.2
	SNR=9.3						
DLH	**Dalhousie**	**5.85**	**137**	*e*P	Pn	04 07 13.0	-10
DLH				*e*S	Sn	04 08 12.0	-17
EKS2	**Erkin-Say**	**6.03**	**18**	P	**Pn**	04 07 26.7	+1.2
	SNR=23						
KK31	**Karatay Array**	**6.18**	**355**	⇑P	**Pn**	04 07 28.1	+0.6
	15nm,0.5s,baz=178,slow=12,SNR=245						
KK31				⇑S	**Sn**	04 08 39.6	+2.8
	5.5nm,0.5s,baz=174,slow=22,SNR=6.8						
AAK	**Ala-Archa**	**6.20**	**23**	⇑P	**Pn**	04 07 27.9	0.0
	3.5nm,0.6s						
AAK				⇑S	**Sn**	04 08 35.4	-2.0
	7.4nm,0.7s						
AAK	**Ala-Archa**	**6.20**	**23**	P	**Pn**	04 07 28.6	+0.6
	SNR=11						
AAK	**Ala-Archa**	**6.20**	**23**	P	**Pn**	04 07 28.1	+0.2
	2.4nm,0.3s,baz=192,slow=12,SNR=29						
AAK				S	**Sn**	04 08 39.2	+1.7
	0.7nm,0.3s,baz=291,slow=22,SNR=9.6						
USP	**Ospenovka**	**6.79**	**20**	P	**Pn**	04 07 36.6	+0.9
	SNR=5.8						
TKM2	**Tokmak 2**	**6.83**	**28**	⇓P	**Pn**	04 07 35.4	-1.1
	1.8nm,0.5s						
TKM2				⇑S	**Sn**	04 08 53.7	+0.8
	1.5nm,0.6s						
GEYT	**Alibeck**	**10.51**	**279**	P	Pn	04 08 32.4	+6.1
	1.5nm,0.3s,baz=104,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**12.81**	**36**	P	**Pn**	04 08 54.5	-2.3
	0.0nm,0.3s,baz=224,slow=12,SNR=3.0						
KURBB	**Kurchatov Arra**	**14.64**	**19**	P	**P**	04 09 22.7	-1.1
	0.1nm,0.3s,baz=202,slow=10,SNR=4.4						
AB31	**Akbulak array**	**14.81**	**330**	⇓P	**Pn**	04 09 21.1	-1.5
	0.7nm,0.3s,baz=0.0,slow=0.1,SNR=11						
AB31				⇑S	**Sn**	04 12 02.7	-3.2
	1.2nm,0.7s,baz=151,slow=23,SNR=5.1						
BVAR	**Borovoye Array**	**16.10**	**358**	P	**Pn**	04 09 38.5	-0.2
	0.2nm,0.3s,baz=172,slow=11,SNR=4.9						
AKTO	**Aktyubinsk**	**16.51**	**329**	⇓P	**P**	04 09 45.0	+0.3
	1.2nm,0.6s						
AKTO				⇓S	**Sn**	04 12 44.5	-2.4
	1.9nm,1.1s						
AKTO	**Aktyubinsk**	**16.51**	**329**	P	**P**	04 09 44.9	+0.3
	0.4nm,0.3s,baz=139,slow=13,SNR=8.0						
ZALV	**Zalesovo Beam**	**19.42**	**25**	P	**P**	04 10 15.2	-1.3
	0.2nm,0.3s,baz=222,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**37.24**	**326**	P	**P**	04 13 00.9	+1.2
	0.2nm,0.3s,baz=128,slow=9.0,SNR=6.6						
HFS	**Hagfors**	**42.86**	**322**	P	**P**	04 13 47.5	+1.4
	1.4nm,0.8s,baz=93,slow=8.7,SNR=4.0						

*ISCJB **04** 04:08:08.9±0.6, 73°01N±0°05×6°4E±0°2, h11km, mb3.3/8, MS2.9/6, Error ellipse: s-maj=9.6km s-min=6.8km az=172.0*
*IDC **04** 04:08:08.9±0.8, 72°95N×5°76E, h0km, mb3.4/8, mb1 3.6/13, mb1mx3.3/48, mbtmp3.5/13, ML3.2/5, MS2.9/12, Ms1 2.9/12, ms1mx2.7/37, Error ellipse: s-maj=21.6km s-min=12.8km az=60.0*
*BER **04** 04:08:14.2±1.2, 73°09N×6°68E, h5km±22km, ML2.5*

ISC 04 04:08:10.6±0.7, 73°04N±0°08×6°25E±0°09, h11km, n29, σ0§89/24, mb3.4/8, MS2.9/6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**3.92**	**62**	*e*P	**Pn**	04 09 10.8	+0.3
HSPB	**Hornsund (broa**	**4.65**	**27**	*e*P	**Pn**	04 09 20.7	+0.1
JMIC	**Jan Mayen**	**5.01**	**253**	LR	LR	04 10 54.7	
	comp=Z,82nm,19.6s,baz=264,slow=34						
TRO	**Tromso**	**5.31**	**124**	*e*P	**Pn**	04 09 30.2	+0.5
TRO				*e*S	Sn	04 10 17.3	-13
TRO				IAML		04 10 33.3	
	comp=Z,7.5nm,0.6s						
SPA0	**Spitsbergen Ar**	**5.74**	**21**	*e*P	**Pn**	04 09 36.7	+1.1
SPITS	**Spitsbergen Ar**	**5.74**	**21**	Pn	**Pn**	04 09 35.8	+0.2
	baz=184,slow=19,SNR=36						
SPITS				LR	LR	04 11 11.2	
	comp=Z,44nm,21.3s,baz=200,slow=31						
HOPEN	**Hopen**	**6.02**	**46**	*e*P	**Pn**	04 09 40.1	+0.7
ARCES	**ARCESS Array B**	**7.10**	**110**	Pn	**Pn**	04 09 55.2	+0.9
	comp=Z,0.4nm,0.3s,baz=319,slow=11,SNR=33						
ARCES				Sn	**Sn**	04 11 12.7	-2.1
	comp=Z,0.6nm,0.3s,baz=312,slow=21,SNR=5.9						
MOR8	**Moi Rana**	**7.46**	**154**	*e*P	**Pn**	04 09 59.7	+0.5
MOR8				*e*S	Sn	04 11 17.1	-6.6
MOR8				IAML		04 11 23.1	
	comp=Z,13nm,0.3s						
MOR8	**Moi Rana**	**7.46**	**154**	*e*P	**Pn**	04 09 59.7	+0.5
	SNR=47						
NOA	**NORSAR Array B**	**12.20**	**169**	Pn	**Pn**	04 11 02.9	-1.2
	comp=Z,0.2nm,0.3s,baz=339,slow=14,SNR=3.3						
NOA				Sn	Sn	04 13 08.6	-11
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=2.6						
NOA				LR	LR	04 15 28.9	
	comp=Z,27nm,20.4s,baz=340,slow=36						
KAF	**Kangasniemi**	**13.26**	**135**	*e*p	**Pn**	04 11 18.8	+0.3
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**13.28**	**164**	Pn	**Pn**	04 11 17.7	-1.1
	comp=Z,0.2nm,0.3s,baz=1.9,slow=13,SNR=8.7						
HFS				Sn	Sn	04 13 33.4	-13
	comp=Z,0.1nm,0.3s,baz=342,slow=23,SNR=2.7						
HFS				LR	LR	04 15 41.9	
	comp=Z,58nm,18.6s,baz=342,slow=34						
FINES	**FINESS Array B**	**13.82**	**137**	Pn	**Pn**	04 11 25.8	-0.3
	comp=Z,0.2nm,0.3s,baz=338,slow=11,SNR=18						
FINES				LR	LR	04 16 25.9	
	comp=Z,67nm,19.3s,baz=310,slow=36						
EKA	**Eskdalemuir Ar**	**18.20**	**197**	P	**P**	04 12 23.9	+0.9
	baz=8.0,slow=11,SNR=4.4						
SFJD	**Kangerlussuaq**	**19.60**	**281**	LR	LR	04 18 38.0	
	comp=Z,53nm,18.5s,baz=26,slow=32						
OBN	**Obninsk**	**21.87**	**129**	LR	LR	04 20 56.4	
	comp=Z,45nm,18.9s,baz=272,slow=35						
GERES	**GERESS Array B**	**24.50**	**168**	P	**P**	04 13 29.9	+0.2
	comp=Z,0.5nm,0.8s,baz=357,slow=7.9,SNR=4.2						
GERES				LR	LR	04 22 33.6	
	comp=Z,37nm,18.9s,baz=354,slow=35						
AKASG	**Malin Array Be**	**24.55**	**143**	P	**P**	04 13 29.9	0.0
	comp=Z,1.2nm,0.6s,baz=344,slow=9.2,SNR=8.2						
MLR	**Muntele Rosu**	**29.09**	**151**	LR	LR	04 25 52.8	
	comp=Z,13nm,19.6s,baz=359,slow=37						
KBZ	**Khabaz**	**33.98**	**129**	LR	LR	04 28 37.5	
	comp=Z,30nm,19.6s,baz=24,slow=36						
BRTR	**Keskin Array B**	**35.95**	**143**	P	**P**	04 15 12.6	+1.6
	comp=Z,1.0nm,0.9s,baz=346,slow=4.2,SNR=5.9						
BRTR				LR	LR	04 30 04.3	
	comp=Z,21nm,19.5s,baz=48,slow=37						
KURBB	**Kurchatov Arra**	**37.45**	**86**	P	**P**	04 15 23.7	+0.3
	comp=Z,0.1nm,0.4s,baz=336,slow=6.6,SNR=3.4						
YKA	**Yellowknife Ar**	**39.03**	**321**	P	**P**	04 15 35.9	-0.7
	comp=Z,0.3nm,1.0s,baz=25,slow=10,SNR=4.3						
ILAR	**Eielson Array**	**41.28**	**343**	P	**P**	04 15 56.1	+0.8
	comp=Z,0.4nm,0.7s,baz=6.2,slow=7.3,SNR=8.0						
GEYT	**Alibeck**	**43.24**	**115**	LR	LR	04 36 15.4	
	comp=Z,40nm,19.0s,baz=295,slow=39						
PDAR	**Pinedale Array**	**56.45**	**307**	P	**P**	04 17 51.6	-0.6
	comp=Z,1.0nm,1.0s,baz=28,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**59.93**	**185**	P	**P**	04 18 15.9	-0.5
	comp=Z,0.5nm,0.9s,baz=2.0,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**123.09**	**60**	PKP	**PKPdf**	04 27 05.8	-0.7
	comp=Z,0.2nm,0.5s,baz=7.8,slow=2.1,SNR=4.4						

*ISCJB **04** 04:09:15.9±0.6, 67°79N±0°03×20°29E±0°09, h0km, Error ellipse: s-maj=5.1km s-min=4.1km az=172.3*
*UPP **04** 04:09:16.9, 67°85N×20°18E, h0km, ML0.7, Suspected Mining explosion.*
*CSEM **04** 04:09:16.0±0.3, 67°80N×20°23E, h1km, ML1.5, Error ellipse: s-maj=8.0km s-min=6.4km az=177.0, Mining explosion.*
*HEL **04** 04:09:17.2±0.1, 67°86N×20°23E, h0km, ML1.4, ML0.7(UPP), Explosion*

ISC 04 04:09:16.6±0.9, 67°81N±0°03×20°22E±0°03, h0km, n25, σ1§13/40, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**16**	*i* P	**Pg**	04 09 19.5	-0.1
KUA				*i* S	**Sg**	04 09 21.4	-0.2
KUA	**Kurravaara**	**0.16**	**16**	P	**Pg**	04 09 19.5	-0.1
KUA				S	**Sg**	04 09 21.4	-0.2
NIKU	**Nikkaluokta**	**0.46**	**278**	*i* P	**Pg**	04 09 25.4	+0.1
NIKU	**Nikkaluokta**	**0.46**	**278**	P	**Pg**	04 09 25.4	+0.1
LANU	**Lannavaara**	**0.71**	**69**	*e*P	**Pg**	04 09 29.8	-0.4
LANU				*e*S	**Sg**	04 09 40.6	+1.2
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	04 09 29.8	-0.4
LANU				S	**Sg**	04 09 40.6	+1.2
**

*ISCJB **04** 05:05:09.0±0.5, 32°.28N±0°.03×115°.24W±0°.03, h14km±3km, Error ellipse: s-maj=4.8km s-min=4.0km az=41.4*
*MEX **04** 05:05:08.6±0.4, 32°.57N×115°.39W, h17km±53km, MD3.6*
*NEIC **04** 05:05:10.7, 32°.31N×115°.30W, h5km, MD3.3, MLM3.6*
*ECX **04** 05:05:10.8±0.6, 32°.31N×115°.30W, h5km, MD3.3, MLM3.6*
ISC 04 05:05:09.1±0.9, 32°.27N±0°.03×115°.29W±0°.03, h13km±6km, n31, σ1§35/37, 14C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**357**	*eP*	**Pg**	**05 05 12.5**	**-0.3**
CPBX				*eS*	**Sg**	**05 05 14.9**	**-0.4**
MBIG	**Mexicali**	**0.16**	**30**	*i* P	**Pg**	**05 05 13.1**	**+0.2**
MBIG				*eS*	**Sg**	**05 05 16.8**	**+1.3**
EMX	**El Mayor**	**0.28**	**171**	*eP*	**Pg**	**05 05 14.4**	**-0.5**
EMX				*eS*	**Sb**	**05 05 19.4**	**-1.3**
EMX				⇑*e*		05 05 22.3	
	comp=E,5μm,0.7s						
EMX	**El Mayor**	**0.28**	**171**	*eP*	**Pg**	**05 05 14.4**	**-0.5**
SGL	**Mount Signal**	**0.53**	**316**	⇓*iP*	**Pb**	**05 05 19.5**	**-0.7**
COA	**Coachella**	**0.61**	**14**	⇑*iP*	**Pg**	**05 05 21.0**	**-0.1**
RDX	**Rancho Dawling**	**0.65**	**239**	⇑*eP*	Pg	05 05 13.6	-8.1
RDX				*eS*	Sg	05 05 22.7	-7.6
RDX				⇑*e*		05 05 24.7	
	comp=E,2μm,0.4s						
RDX	**Rancho Dawling**	**0.65**	**239**	*eP*	Pg	05 05 13.6	-8.1
YUH	**Yuha Desert**	**0.65**	**306**	⇓*iP*	**Pg**	**05 05 21.6**	**-0.2**
COK	**Cook Ranch**	**0.69**	**328**	⇑*iP*	**Pg**	**05 05 22.2**	**-0.2**
YMD	**Yuma Desert**	**0.69**	**66**	⇑*iP*	**Pg**	**05 05 22.3**	**-0.3**
RMX	**La Rumorosa**	**0.74**	**297**	*eP*	Pg	05 05 14.6	-8.9
RMX				*eS*	Sg	05 05 24.5	-8.8
RMX	**La Rumorosa**	**0.74**	**297**	*eP*	Pg	05 05 14.6	-8.9
SWSC	**Sam W. Stewart**	**0.79**	**328**	⇑P	**Pg**	**05 05 23.5**	**-1.0**
	baz=0.8						
GLA	**Glamis**	**0.88**	**27**	⇑P	**Pg**	**05 05 24.8**	**-1.2**
	baz=0.8						
GLA				⇑*S*	**Sg**	**05 05 36.3**	**-1.2**
	baz=0.8						
MONP	**Monument Peak,**	**1.14**	**303**	⇓P	**Pg**	**05 05 29.9**	**-1.1**
	baz=1.1						
MONP				⇓*S*	**Sg**	**05 05 45.0**	**-0.8**
	baz=1.1						
SPIG	**San Pedro Mart**	**1.23**	**187**	*eP*	**Pn**	**05 05 32.2**	**-0.1**
SPIG				*i* S	**Sn**	**05 05 49.6**	**+0.7**
SPIG	**San Pedro Mart**	**1.23**	**187**	*eP*	**Pn**	**05 05 32.2**	**-0.1**
SPIG				*i* S	**Sn**	**05 05 49.2**	**+0.3**
113A	**Mohawk Valley,**	**1.38**	**68**	⇑P	**Pn**	**05 05 32.8**	**-1.3**
	baz=1.4						
113A				⇑*S*	**Sb**	**05 05 49.8**	**-2.5**
	baz=1.4						
BC3	**Big Chuckawall**	**1.39**	**354**	⇑P	**Pn**	**05 05 32.4**	**-2.0**
	baz=1.4						
109C	**Camp Elliot, M**	**1.65**	**293**	⇑*S*	**Sb**	**05 06 00.1**	**0.0**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.66**	**324**	⇓P	**Pn**	**05 05 36.4**	**-1.7**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.66**	**324**	*ePn*	**Pn**	**05 05 36.1**	**-1.9**
MURC	**Murrieta**	**2.08**	**310**	Sb	**Sb**	**05 06 13.9**	**+1.3**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.13**	**98**	⇑P	**Pn**	**05 05 42.9**	**-1.5**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.13**	**98**	*ePn*	**Pn**	**05 05 43.5**	**-0.9**
BFSC	**Mount Baldy Ra**	**2.79**	**315**	Sb	**Sb**	**05 06 35.2**	**+2.2**
	baz=2.8						
LDFC	**Landfair**	**2.81**	**3**	*ePn*	**Pb**	**05 06 00.3**	**+1.1**
MWC	**Mount Wilson**	**3.03**	**311**	*ePn*	**Pb**	**05 06 03.1**	**+0.2**
MWC				*eSg*	**Sb**	**05 06 42.5**	**+2.5**
GSC	**Goldstone, Bar**	**3.28**	**338**	*ePg*	**Pg**	**05 06 14.0**	**+2.1**
TUC	**Tucson**	**3.82**	**88**	*i* P	**Pn**	**05 06 08.8**	**+1.1**
TUC				*eSg*	**Sg**	**05 07 14.6**	**+2.9**

*IDC **04** 05:09:23.1±1.6, 41°.34N×71°.54E, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.3/42, mbtmpg3.5/6, ML3.3/4, Error ellipse: s-maj=23.2km s-min=12.1km az=174.0*
*NNC **04** 05:09:24.7±1.3, 41°.63N×71°.36E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=9.5km s-min=6.8km az=42.0*
*KRNET **04** 05:09:26.2±0.1, 41°.45N×71°.57E, h1km, mb3.7*
ISC 04 05:09:24.9±1.3, 41°.52N±0°.04×71°.48E±0°.04, h5km±11km, n42, σ1§34/58, 28C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.46**	**53**	*eP*	**Pg**	**05 09 34.6**	**+0.9**
	baz=40						
ARK				*eS*	**Sb**	**05 09 42.9**	**+0.2**
	baz=40						
MNAS	**Manas**	**1.23**	**38**	⇑P	**Pn**	**05 09 47.0**	**-1.9**
	4.6nm,0.3s						
MNAS				⇑*S*	**Sb**	**05 10 03.5**	**-1.4**
	36nm,0.4s						
CHVK	**Chauvay**	**1.50**	**158**	*eP*	**Pb**	**05 09 53.0**	**-0.2**
	baz=159						
CHVK				*eS*	**Sg**	**05 10 13.0**	**+0.1**
	baz=159						
BTK	**Batken**	**1.54**	**199**	*eP*	**Pg**	**05 09 54.9**	**+0.4**
	baz=203						
BTK				*eS*	**Sg**	**05 10 17.0**	**+2.5**
	baz=203						
KK31	**Karatay Array**	**1.74**	**336**	P	**Pn**	**05 09 54.6**	**-1.0**
	18nm,0.5s,baz=158,slow=17,SNR=428						
KK31				⇓*S*	**Sn**	**05 10 15.9**	**-2.3**
	37nm,0.5s,baz=148,slow=28,SNR=16						
AML	**Almayashu**	**1.77**	**69**	P	**Pn**	**05 09 56.5**	**+0.1**
	SNR=118						
AML	**Almayashu**	**1.77**	**69**	⇑*iP*	**Pn**	**05 09 57.7**	**+1.3**
	baz=66						
AML				⇑*iS*	**Sg**	**05 10 22.2**	**+0.6**
	baz=66						
SALK	**Salom-Alik**	**1.88**	**109**	*eP*	**Pb**	**05 09 58.9**	**-0.9**
	baz=108						
SALK				*eS*	**Sg**	**05 10 24.9**	**-0.4**
	baz=108						
DRK	**Karamyk**	**2.05**	**173**	*eP*	**Pb**	**05 10 04.0**	**-0.2**
	baz=175						
DRK				*eS*	**Sg**	**05 10 31.0**	**+0.2**
	baz=175						
EKS2	**Erkin-Say**	**2.06**	**56**	P	**Pb**	**05 10 03.8**	**+1.1**
	baz=15						
EKS2	**Erkin-Say**	**2.06**	**56**	⇑*iP*	**Pb**	**05 10 03.3**	**+0.5**
	baz=53						
EKS2				⇑*iS*	**Sb**	**05 10 30.6**	**+1.9**
	baz=53						
SFK	**Sufi-Kurgan**	**2.15**	**134**	⇓P	**Pb**	**05 10 02.9**	**-1.5**
	8.5nm,0.4s						
SFK				⇑*S*	**Sg**	**05 10 33.2**	**-0.8**
	46nm,0.2s						
ARLS	**Aral**	**2.16**	**80**	⇓*iP*	**Pb**	**05 10 04.2**	**-0.3**
	baz=78						
ARLS				⇓*iS*	**Sg**	**05 10 34.3**	**+0.1**
	baz=78						
UCH	**Uchtor**	**2.38**	**72**	P	**Pb**	**05 10 08.6**	**+0.2**
	SNR=28						
UCH	**Uchtor**	**2.38**	**72**	⇑*iP*	**Pb**	**05 10 08.0**	**-0.4**
	baz=70						
UCH				⇑*iS*	**Sb**	**05 10 39.9**	**+1.7**
	baz=70						
AAK	**Ala-Archa**	**2.51**	**63**	⇑Pn	**Pb**	**05 10 10.2**	**-0.2**
	10.0nm,0.3s						
AAK				⇑Sn	**Sb**	**05 10 43.8**	**+2.1**
	59nm,0.8s						
AAK	**Ala-Archa**	**2.51**	**63**	P	**Pb**	**05 10 10.3**	**-0.1**
	SNR=33						
AAK	**Ala-Archa**	**2.51**	**63**	Pn	**Pb**	**05 10 09.1**	**-1.3**
	4.4nm,0.3s,baz=211,slow=2.5,SNR=41						
AAK				Pg	**Pg**	**05 10 11.4**	**-1.5**
	9.9nm,0.3s,baz=220,slow=7.9,SNR=44						
AAK				Sn	**Sb**	**05 10 43.8**	**+2.1**
	8.0nm,0.3s,baz=82,slow=13,SNR=12						
AAK	**Ala-Archa**	**2.51**	**63**	⇑*iP*	**Pb**	**05 10 09.9**	**-0.5**
	baz=60						
AAK				⇑*iS*	**Sb**	**05 10 43.4**	**+1.7**
	baz=60						
FRU	**Bishkek**	**2.68**	**60**	*i* P	**Pb**	**05 10 15.5**	**+2.2**
	baz=58						
KBK	**Karagaybulak**	**2.82**	**65**	P	**Pb**	**05 10 14.1**	**-1.7**
	SNR=12						
KBK	**Karagaybulak**	**2.82**	**65**	⇑*iP*	**Pb**	**05 10 15.3**	**-0.5**
	baz=63						
KBK				⇑*iS*	**Sb**	**05 10 50.6**	**-0.1**
	baz=63						
USP	**Ospenovka**	**2.84**	**51**	P	**Pb**	**05 10 16.6**	**+0.6**
	SNR=9.0						
USP	**Ospenovka**	**2.84**	**51**	⇑*iP*	**Pb**	**05 10 16.3**	**+0.3**
	baz=49						
USP				⇑*iS*	**Sb**	**05 10 52.7**	**+1.6**
	baz=49						
CHMS	**Chumysh**	**2.84**	**58**	P	**Pb**	**05 10 16.8**	**+0.7**
	SNR=7.5						
CHMS	**Chumysh**	**2.84**	**58**	⇑*iP*	**Pb**	**05 10 16.3**	**+0.2**
	baz=56						
CHMS				⇑*iS*	**Sb**	**05 10 51.7**	**+0.5**
	baz=56						
KZA	**Kyzart**	**2.88**	**78**	P	**Pb**	**05 10 17.6**	**+0.7**
	SNR=24						
TKM2	**Tokmak 2**	**3.37**	**64**	⇓Pn	**Pn**	**05 10 19.4**	**+1.1**
	1.5nm,0.8s						
TKM2				⇑Pg	**Pb**	**05 10 25.5**	**+0.4**
	6.2nm,0.5s						
TKM2				⇑Lg	Lg	05 11 09.4	
	17nm,0.4s						
TKM2	**Tokmak 2**	**3.37**	**64**	P	**Pb**	**05 10 25.9**	**+0.8**
	SNR=8.5						
PDGK	**Pegornoye**	**6.20**	**70**	⇑Pg	**Pg**	**05 11 21.3**	**-2.2**
	2.4nm,0.5s						
PDGK				⇑Lg	Lg	05 12 38.7	
	13nm,1.0s						
MK31	**Makanchi Array**	**9.39**	**52**	⇓Pn	**Pn**	**05 11 39.9**	**-0.8**
	0.2nm,0.5s,baz=235,slow=13,SNR=5.8						
MK31				⇑Lg	Lg	05 14 23.5	
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**9.39**	**52**	Pn	Pn	05 11 45.4	+4.6
	0.1nm,0.3s,baz=237,slow=14,SNR=6.1						
MKAR				Sn	**Sn**	**05 13 31.1**	**+4.5**
	baz=248,slow=19,SNR=3.3						
MKAR				Lg	Lg	05 14 22.4	
	0.1nm,0.3s,baz=232,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**10.33**	**26**	⇑Lg	Lg	05 14 51.9	
	7.9nm,0.7s						
KURBB	**Kurchatov Arra**	**10.33**	**26**	Pn	**Pn**	**05 11 55.4**	**+1.8**
	0.0nm,0.3s,baz=216,slow=12,SNR=2.9						
KURBB				Lg	Lg	05 14 54.0	
	0.1nm,0.3s,baz=211,slow=30,SNR=7.0						
KURK	**Kurchatov**	**10.44**	**26**	⇑Lg	Lg	05 14 50.3	
	2.3nm,0.8s						
GEYT	**Alibeck**	**10.90**	**255**	Pn	**Pn**	**05 12 01.8**	**+0.4**
	0.6nm,0.3s,baz=76,slow=6.1,SNR=2.7						
AB31	**Akbulak array**	**11.20**	**318**	⇑Pn	Pn	05 12 03.5	-1.9
	0.2nm,0.4s						
AB31				⇓Sn	Sn	05 14 06.0	-4.9
	0.7nm,0.6s						
BVA0	**Borovoye Array**	**11.53**	**357**	⇑Pn	Pn	05 12 07.3	-2.8
	0.9nm,0.8s,baz=163,slow=13,SNR=4.9						
BVA0				Sn	Sn	05 14 14.2	-5.0
	1.3nm,0.6s,baz=169,slow=26,SNR=5.9						
BVAR	**Borovoye Array**	**11.53**	**357**	Pn	**Pn**	**05 12 09.0**	**-1.1**
	0.2nm,0.3s,baz=161,slow=13,SNR=5.0						
BVAR				Sn	Sn	05 14 13.7	-5.5
	0.3nm,0.3s,baz=169,slow=23,SNR=8.2						
AKTO	**Aktyubinsk**	**12.91**	**318**	Pn	**Pn**	**05 12 29.1**	**+0.2**
	0.1nm,0.3s,baz=104,slow=15,SNR=3.1						
AKTO				Sn	Sn	05 14 45.6	-7.2
	0.1nm,0.3s,baz=29,slow=18,SNR=3.8						
ARCES	**ARCESS Array B**	**36.70**	**335**	P	**P**	**05 16 31.6**	**-0.7**
	0.9nm,0.8s,baz=97,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**84.36**	**123**	P	**P**	**05 21 57.0**	**-1.2**
	0.3nm,0.9s,baz=330,slow=4.6,SNR=4.6						

MEX 04 05:17:18.6±0.4, 15°.99N×98°.27W, h9km±4km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.42**	**19**	*i* P	Pg	05 17 26.3	-0.6
PNIG				*eS*	Sg	05 17 32.6	+0.1
TLIG	**Tlapa**	**1.59**	**350**	*eP*	Pn	05 17 43.5	-3.7
CAIG	**El Cayaco**	**2.19**	**299**	*eP*	Pn	05 17 51.4	-3.8
CAIG				*i* S	Sn	05 18 17.8	-4.7
ARIG	**Puente Sto Nin**	**3.02**	**319**	*i* P	Pn	05 18 04.3	-2.5

*IDC **04** 05:17:33.3±4.3, 16°.35N×97°.05W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/24, mbtmpg3.5/7, ML2.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/29, Error ellipse: s-maj=89.3km s-min=31.1km az=15.0*
*ISCJB **04** 05:17:34.8±0.7, 15°.92N±0°.06×98°.19W±0°.06, h16km, mb4.0/13, MS3.2/2, Error ellipse: s-maj=9.6km s-min=7.1km az=31.3*
*MEX **04** 05:17:37.1±0.5, 15°.98N×98°.11W, h5km, MD3.6*
*NEIC **04** 05:17:37.1, 15°.98N×98°.11W, h5km, mb4.0/10, MD3.6(MEX), After MEX.*
ISC 04 05:17:33.3±0.9, 15°.83N±0°.08×98°.06W±0°.09, h16km, n37, σ2§02/38, mb4.1/13, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.57**	**353**	*eP*	**Pb**	**05 17 44.3**	**-0.5**
PNIG				*i* S	**Sb**	**05 17 50.8**	**-1.9**
PNIG	**Pinotepa**	**0.57**	**353**	*eP*	**Pb**	**05 17 44.3**	**-0.5**
PNIG				*i* S	**Sb**	**05 17 50.8**	**-1.9**
TLIG	**Tlapa**	**1.79**	**344**	*eP*	**Pn**	**05 18 03.5**	**-0.4**
TLIG				*i* S	**Sn**	**05 18 22.9**	**-3.3**
CAIG	**El Cayaco**	**2.44**	**300**	*eP*	**Pn**	**05 18 12.3**	**-0.2**
CAIG				*i* S	**Sn**	**05 18 40.9**	**-1.2**
CAIG	**El Cayaco**	**2.44**	**300**	*eP*	**Pn**	**05 18 12.3**	**-0.2**
CAIG				*i* S	**Sn**	**05 18 40.9**	**-1.2**
ARIG	**Puente Sto Nin**	**3.28**	**318**	*i* P	**Pn**	**05 18 24.2**	**+0.2**
ARIG				*i* S	**Sn**	**05 19 02.2**	**-0.5**
CMIG	**Matias Romero**	**3.30**	**67**	Pn	Pn	05 18 10.6	-14
	0.6nm,0.3s,baz=253,slow=13,SNR=18						
H06E1	**SOCORRO T-PHASE**	**3.63**	**285**	T	T	05 32 45.6	
	SNR=15						
JTS	**JuntasAbangare**	**13.90**	**112**	*ePn*	**P**	**05 20 56.0**	**-1.9**
TXAR	**Lajitas Array**	**14.40**	**340**	Pn	Pn	05 20 58.9	+2.2
	0.0nm,0.3s,baz=141,slow=12,SNR=2.8						
TXAR				Lg	Lg	05 25 11.3	
	0.0nm,0.3s,baz=157,slow=31,SNR=4.5						
TXAR				LR	LR	05 27 01.5	
	comp=Z,147nm,19.1s,baz=0.0,slow=40						
JCT	**Junction City**	**14.67**	**354**	*ePn*	**P**	**05 21 03.5**	**-2.9**
	2.4nm,0.7s						
WHTX	**Lake Whitney,**	**16.10**	**2**	*ePn*	**P**	**05 21 23.5**	**+1.2**
ABTX	**Abilene, Hawle**	**16.79**	**355**	*ePn*	**P**	**05 21 30.9**	**+1.0**
	6.0nm,0.5s						
WMOK	**Wichita Mounta**	**18.84**	**358**	P	**Pn**	**05 21 55.3**	**+2.1**
	3.4nm,0.8s						
TUL1	**Leonard**	**20.11**	**5**	*ePn*	Pn	05 22 13.1	+4.8
ANMO	**Albuquerque**	**20.48**	**340**	P	Pn	05 22 12.0	-0.8
	2.3nm,0.7s,baz=147,slow=12,SNR=11						
ANMO				LR	LR	05 30 30.6	
	comp=Z,198nm,19.8s,baz=150,slow=38						
ANMO	**Albuquerque**	**20.48**	**340**	*eP*	Pn	05 22 11.8	-1.1
	3.7nm,1.0s						
ANMO				*ep*	pP	05 22 17.2	+2.0
GOGA	**Godfrey**	**21.92**	**34**	*eP*	**P**	**05 22 28.0**	**+2.1**
	7.5nm,0.9s						
T25A	**Trinidad**	**21.96**	**346**	*eP*	**P**	**05 22 28.8**	**+2.2**
WVT	**Waverly**	**22.18**	**22**	*eP*	**P**	**05 22 31.7**	**+2.9**
	6.3nm,0.9s						
SDCO	**Great Sand Dun**	**22.80**	**345**	*eP*	**P**	**05 22 36.8**	**+1.1**
	2.7nm,1.0s						
MVCO	**Mesa Verde**	**23.22**	**338**	*eP*	**P**	**05 22 41.6**	**+1.6**
	6.7nm,1.1s						
USIN	**University of**	**23.89**	**21**	*eP*	**P**	**05 22 48.1**	**+1.9**
	13nm,1.0s						
PV01	**Paradox Valley**	**24.08**	**339**	*eP*	**P**	**05 22 50.0**	**+1.7**
	367nm,1.1s						
PV01				*epP*	**pP**	**05 22 55.4**	**+2.2**
KMSC	**Kings Mountain**	**24.38**	**35**	*eP*	**P**	**05 22 53.7**	**+2.8**
SMCO	**Snowmass**	**24.54**	**343**	*eP*	**P**	**05 22 55.6**	**+2.9**
WCI	**Wyandotte Cave**	**24.61**	**23**	*eP*	**P**	**05 22 54.8**	**+1.9**
	8.5nm,0.9s						
WCI				*epP*	pP	05 23 02.7	+4.9
ISCO	**Idaho Springs**	**24.78**	**346**	*eP*	**P**	**05 22 56.5**	**+1.7**
	4.0nm,0.8s						
ISCO				*epP*	**pP**	**05 23 01.0**	**+1.3**
PDAR	**Pinedale Array**	**28.60**	**342**	P	**P**	**05 23 29.6**	**+0.5**
	0.4nm,0.6s,baz=149,slow=11,SNR=3.9						
NVAR	**Mina Array Bea**	**28.71**	**326**	P	P	05 23 32.6	+2.5
	0.6nm,0.8s,baz=150,slow=12,SNR=4.7						
ULM	**Lac du Bonnet**	**34.38**	**2**	LR	LR	05 38 40.9	
	comp=Z,25nm,21.9s,baz=46,slow=38						
YKA	**Yellowknife Ar**	**48.05**	**350**	P	**P**	**05 26 12.1**	**+0.5**
	0.3nm,0.7s,baz=158,slow=7.3,SNR=7.3						
INK	**Inuvik**	**57.11**	**345**	P	**P**	**05 27 19.4**	**+0.9**
	1.1nm,0.7s,baz=142,slow=6.7,SNR=6.0						
ILAR	**Eielson Array**	**58.91**	**338**	P	**P**	**05 27 33.2**	**+2.0**
	0.5nm,0.8s,baz=145,slow=5.7,SNR=6.9						
HHC	**Hu-ho-hao-te**	**117.27**	**335**	*ePKP*	**PKPdf**	**05 36 14.1**	**-4.3**
HHC				PP	**PP**	**05 37 30.1**	**+2.1**
HHC				SKS	SKSdf	05 43 21.3	-8.9
HHC				SKKS	SKKSac	05 44 18.8	-11
HHC				LZ			
	76nm,19.2s						
WMQ	**Urumqi**	**120.41**	**355**	*ePKP*	**PKPdf**	**05 36 21.0**	**-3.3**
WMQ				sPKP		05 36 35.0	
CD2	**Chengdu**	**129.01**	**336**	PKP	**PKPdf**	**05 36 38.9**	**-2.2**

MEX 04 05:27:33.3±0.4, 15°.96N×98°.11W, h4km±4km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**358**	*i* P	Pg	05 27 41.2	-0.4
PNIG				*eS*	Sg	05 27 47.5	+0.3
TLIG	**Tlapa**	**1.65**	**345**	*eP*	Pn	05 27 59.2	-4.0
TLIG				*i* S	Sn	05 28 20.1	-5.0
CAIG	**El Cayaco**	**2.33**	**298**	*eP*	Pn	05 28 09.4	-3.1
CAIG				*i* S	Sn	05 28 38.2	-3.4
ARIG	**Puente Sto Nin**	**3.15**	**317**	*eP*	Pn	05 28 21.1	-2.7
ARIG				*i* S	Sn	05 28 58.1	-3.7

GUC 04 05:27:54.0±0.3, 38°.24S×73°.20W, h61km±25km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.58**	**195**	*eP*	Pn	05 28 06.7	-0.2
PSCH				*eS*	Sn	05 28 16.6	+0.2
PSCH				AML	AML	05 28 18.2	
	comp=N,12μm,0.4s						
CCSP	**San Pedro de C**	**1.39**	**3**	*eP*	Pn	05 28 17.8	+0.5
CCSP				*eS*	Sn	05 28 35.5	+0.9

CCSP				AML	AML	05 28 43.5
	comp=N,959nm,0.5s					
VLCH	**Valdivia**	**1.57**	**181**	*eP*	Pn	05 28 22.5 +2.9
VLCH				*eS*	Sn	05 28 42.3 +3.4
OSCH	**Osorno**	**2.34**	**179**	*eS*	Sn	05 28 58.4 +0.8
OSCH				AML	AML	05 29 17.6
	comp=N,466nm,0.9s					

IDC 04 05:28:27.4±10.0, 56°07'S×27°04'W, h155km±92km, mb3.5/4, mb1 3.6/4, mb1mx3.3/22, mbtmp3.9/4, Error ellipse: s-maj=36.4km s-min=23.1km az=79.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**17.15**	**158**	P	Pn	05 32 17.2	-0.1
	baz=318,slow=13						
SNAA	**Sanae**	**18.69**	**156**	P	Pn	05 32 37.4	+1.7
BDFB	**Brasilia**	**43.42**	**330**	P	P	05 36 14.8	-0.1
	0.9nm,0.5s,baz=125,slow=12,SNR=3.2						
VNDA	**Vanda**	**46.56**	**183**	P	P	05 36 38.7	-0.1
	0.5nm,0.6s,baz=194,slow=5.2,SNR=6.7						
LPAZ	**La Paz**	**50.45**	**305**	P	P	05 37 09.7	-0.3
	0.6nm,0.3s,baz=127,slow=3.5,SNR=7.5						
TORD	**Torodi Ar. Bea**	**73.03**	**29**	P	P	05 39 40.2	+0.1
	1.0nm,0.5s,baz=200,slow=6.5,SNR=17						
TORD				pP	PcP	05 40 06.6	+11
	0.6nm,0.5s,baz=203,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**136.24**	**318**	PKP	PKPdf	05 47 28.4	-0.4
	0.2nm,0.6s,baz=131,slow=2.2,SNR=5.3						
ILAR	**Eielson Array**	**150.19**	**312**	PKPbc	PKPbc	05 47 58.1	-0.2
	1.0nm,0.8s,baz=139,slow=3.3,SNR=12						
SONM	**Songino Array**	**150.64**	**86**	PKPbc	PKPbc	05 47 59.6	-0.6
	0.6nm,0.5s,baz=217,slow=3.8,SNR=5.9						

IDC 04 05:29:15.1±1.2, 24°92S×70°46E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/34, mbtmp3.5/5, MS3.3/3, Ms1 3.3/3, ms1mx2.8/28, Error ellipse: s-maj=43.3km s-min=27.9km az=15.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.29**	**7**	T	T	05 50 13.3	
	baz=190,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**17.29**	**7**	T	T	05 50 13.4	
	baz=190,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**17.30**	**7**	T	T	05 50 14.7	
	baz=190,slow=76,SNR=16						
BOSA	**Boshof**	**40.35**	**255**	LR	LR	05 50 41.1	
	comp=Z,80nm,18.8s,baz=146,slow=32						
LBTB	**Lobatse**	**40.53**	**260**	P	P	05 36 56.2	-0.1
	3.3nm,0.8s,baz=90,slow=7.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**51.27**	**35**	LR	LR	05 57 59.1	
	comp=Z,17nm,18.0s,baz=165,slow=34						
ASAR	**Alice Springs**	**57.35**	**103**	P	P	05 39 05.2	-0.3
	0.2nm,0.6s,baz=239,slow=5.3,SNR=3.2						
WRA	**Warramunga Arr**	**58.79**	**99**	P	P	05 39 15.7	+0.2
	0.3nm,0.9s,baz=255,slow=6.9,SNR=2.6						
MKAR	**Makanchi Array**	**72.17**	**9**	P	P	05 40 41.5	0.0
	0.5nm,0.8s,baz=195,slow=6.8,SNR=5.9						
BRTR	**Keskin Array B**	**72.91**	**331**	LR	LR	06 12 11.8	
	comp=Z,10nm,18.1s,baz=120,slow=35						
KURBB	**Kurchatov Arra**	**75.55**	**5**	P	P	05 41 01.2	0.0
	0.4nm,0.7s,baz=202,slow=6.4,SNR=4.0						

*IDC **04** 05:47:31.7±2.8, 16°75N×60°65W, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/27, mbtmp3.4/5, Error ellipse: s-maj=91.2km s-min=29.8km az=11.0*
*ISCJB **04** 05:47:34.7±0.7, 16°85N±0°04×60°52W±0°05, h26km, mb3.4/5, Error ellipse: s-maj=7.6km s-min=5.0km az=165.8*
*TRN **04** 05:47:35.3, 16°80N×60°65W, h27km, MD3.6, M3.5(FDF)*
ISC 04 05:47:35.1±0.8, 16°71N±0°04×60°53W±0°06, h26km, n38, σ1s05/42, mb3.4/5, 3C-16D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**0.64**	**232**	Pn	**Pn**	**05 47 48.2**	**-0.3**
H05N1				Sn	**Sn**	**05 47 58.4**	**+0.4**
DEG	**La Desirade**	**0.65**	**232**	*eP*	**Pn**	**05 47 48.9**	**+0.3**
SEG	**Port Louis**	**0.99**	**252**	*eP*	**Pb**	**05 47 54.0**	**+0.4**
MGG	**Marie-Galante**	**1.09**	**224**	*eP*	**Pb**	**05 47 55.8**	**+0.4**
DOG	**Dongo Capester**	**1.25**	**237**	*eP*	**Pb**	**05 47 58.1**	**+0.1**
SSG	**Sans Toucher**	**1.27**	**241**	*eP*	**Pb**	**05 47 58.0**	**-0.4**
CRG	**Carmichael**	**1.27**	**239**	*eP*	**Pb**	**05 47 58.3**	**-0.1**
ECG	**Echelle**	**1.27**	**239**	*eP*	**Pb**	**05 47 58.4**	**-0.1**
LKG	**Breislack**	**1.27**	**239**	*eP*	**Pb**	**05 47 58.4**	**-0.1**
PHG	**Guadaloupe-2**	**1.28**	**237**	*eP*	**Pb**	**05 47 58.5**	**-0.1**
TAG	**Tarade**	**1.28**	**239**	*eP*	**Pb**	**05 47 58.6**	**0.0**
FNG	**Fond-Bernard**	**1.29**	**240**	*eP*	**Pb**	**05 47 58.4**	**-0.3**
SCG	**Saint Claude**	**1.30**	**239**	*eP*	**Pb**	**05 47 58.7**	**-0.3**
MLG	**Mont-d'or**	**1.31**	**240**	*eP*	**Pb**	**05 47 58.7**	**-0.4**
BPA	**Boggy Peak**	**1.32**	**285**	*eP*	**Pb**	**05 47 58.3**	**-0.9**
BPA	**Boggy Peak**	**1.32**	**285**	*e*	**Pb**	**05 48 00.1**	**+0.9**
BPA				*eS*	**Sb**	**05 48 15.1**	**-0.5**
LZG	**Guadaloupe-1**	**1.33**	**245**	*eP*	**Pb**	**05 47 59.1**	**-0.2**
HMG	**Houelmont**	**1.34**	**237**	*eP*	**Pb**	**05 47 59.5**	**-0.1**
TBG	**Guadaloupe-3**	**1.37**	**232**	*eP*	**Pb**	**05 47 59.9**	**-0.2**
BBL	**Barber's Block**	**1.49**	**218**	*eP*	**Pb**	**05 48 01.6**	**-0.5**
ANWB	**Willy Bob**	**1.53**	**308**	*eP*	**Pn**	**05 48 00.1**	**-0.7**
FDF	**Fort de France**	**2.06**	**197**	*eP*	**Pb**	**05 48 10.1**	**-1.8**
FDF	**Fort de France**	**2.06**	**197**	*eP*	**Pb**	**05 48 10.4**	**-1.5**
FDF				*eS*	**Sb**	**05 48 35.4**	**-1.6**
FDF				*eS*	**Sn**	**05 48 35.5**	**+2.5**
LPMF	**Morne Lapointe**	**2.17**	**191**	*eP*	**Pb**	**05 48 12.3**	**-1.4**
MVM	**Montagne Vaucl**	**2.17**	**189**	*eP*	**Pb**	**05 48 12.9**	**-1.0**
ZAM	**Aeronautique**	**2.18**	**193**	*eP*	**Pb**	**05 48 12.4**	**-1.5**
TRMF	**Trois Ilets**	**2.22**	**193**	*eP*	**Pb**	**05 48 13.1**	**-1.5**
BIM	**Bigot**	**2.25**	**194**	*eP*	**Pb**	**05 48 14.1**	**-0.9**
BIM				*eS*	**Sb**	**05 48 41.7**	**-0.7**
H05S1	**Guadeloupe/Mar**	**2.29**	**188**	Pn	**Pb**	**05 48 14.4**	**-1.4**
H05S1				Sn	**Sn**	**05 48 40.4**	**+1.8**
	SNR=304						
SMRT	**St. Maarten**	**2.77**	**299**	*eP*	**Pn**	**05 48 17.4**	**-0.5**
SMRT				*eS*	**Sn**	**05 48 48.0**	**-2.5**
TXAR	**Lajitas Array**	**41.42**	**296**	P	**P**	**05 55 19.8**	**0.0**
	0.1nm,0.5s,baz=101,slow=7.4,SNR=2.0						
H10S3	**ASCENSION HYDR**	**52.04**	**116**	T	T	06 53 03.7	
	baz=300						
H10S1	**ASCENSION HYDR**	**52.05**	**116**	T	T	06 53 04.1	
	baz=300						
H10S2	**ASCENSION HYDR**	**52.06**	**116**	T	T	06 53 05.0	
	baz=300						
YKA	**Yellowknife Ar**	**59.06**	**334**	P	**P**	**05 57 32.7**	**0.0**
	0.1nm,0.4s,baz=110,slow=7.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**60.02**	**84**	P	**P**	**05 57 41.4**	**+1.2**
	1.4nm,1.1s,baz=283,slow=5.1,SNR=3.8						
ILAR	**Eielson Array**	**73.48**	**334**	P	**P**	**05 59 04.4**	**-0.7**
	0.2nm,0.5s,baz=81,slow=5.9,SNR=4.8						
FINES	**FINESS Array B**	**73.86**	**30**	P	**P**	**05 59 08.8**	**+1.4**
	0.4nm,0.5s,baz=264,slow=4.2,SNR=8.5						

IDC 04 05:50:12.6±4.0, 6°64S×75°78W, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.4/27, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=90.4km s-min=21.7km az=155.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.64**	**259**	Pn	Pn	05 50 56.8	-0.3
	7.3nm,0.3s,baz=74,slow=2.1,SNR=26						
ATAH				Lg	Lg	05 51 36.9	
	12nm,0.3s,baz=27,slow=20,SNR=6.9						
TXAR	**Lajitas Array**	**44.71**	**325**	P	P	05 58 27.7	-0.2
	0.2nm,0.6s,baz=135,slow=9.0,SNR=2.3						
YKA	**Yellowknife Ar**	**75.08**	**342**	P	P	06 01 56.2	+0.2
	0.1nm,0.6s,baz=135,slow=6.4,SNR=6.0						
WRA	**Warramunga Arr**	**140.30**	**228**	PKP	PKPdf	06 09 43.5	-1.1
	0.5nm,1.0s,baz=112,slow=1.8,SNR=3.3						

IDC 04 05:54:15.8±1.7, 17°70N×146°48E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.3/40, mbtmp3.4/4, Error ellipse: s-maj=159.5km s-min=29.4km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.22**	**85**	T	T	06 19 39.3	
	baz=269						
H11S1	**WAKE ISLAND Hy**	**19.24**	**84**	T	T	06 19 39.4	
	baz=269						
H11S2	**WAKE ISLAND Hy**	**19.24**	**85**	T	T	06 19 40.5	
	baz=269						
H11N1	**WAKE ISLAND Hy**	**19.44**	**81**	T	T	06 19 47.7	
	baz=267,slow=74,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**19.44**	**81**	T	T	06 19 46.9	
	baz=267,slow=74,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**19.45**	**81**	T	T	06 19 46.9	
	baz=267,slow=74,SNR=3.4						
WRA	**Warramunga Arr**	**39.26**	**198**	P	P	06 01 45.9	-0.4
	0.4nm,0.8s,baz=27,slow=9.6,SNR=5.0						
ILAR	**Eielson Array**	**64.21**	**26**	P	P	06 04 50.3	-2.0
	0.2nm,0.7s,baz=264,slow=6.4,SNR=4.0						
YKA	**Yellowknife Ar**	**78.52**	**28**	P	P	06 06 19.3	+0.6
	0.1nm,0.5s,baz=286,slow=5.5,SNR=4.6						
NVAR	**Mina Array Bea**	**83.17**	**52**	P	P	06 06 45.8	+1.4
	0.2nm,0.5s,baz=276,slow=4.4,SNR=3.0						

*ISCJB **04** 06:07:16.4±0.4, 28°66N±0°06×127°68E±0°09, h238km±6km, mb3.2/10, Error ellipse: s-maj=14.8km s-min=6.8km az=29.7*
*IDC **04** 06:07:18.0±1.3, 28°76N×127°62E, h240km±13km, mb2.9/9, mb1 3.1/12, mb1mx3.0/28, mbtmp3.5/12, Error ellipse: s-maj=22.6km s-min=12.7km az=78.0*
*JMA **04** 06:07:19.5±0.2, 28°72N×127°61E, h207km±5km, M4.2*
ISC 04 06:07:17.1±0.7, 28°69N±0°08×127°66E±0°10, h232km±8km, n26, σ1s20/40, mb3.2/10, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**1.41**	**108**	P	**Pn**	**06 07 53.4**	**+0.5**
JAMN				*eS*	**S**	**06 08 19.6**	**-1.3**
JTAJ	**Takarajima**	**1.43**	**71**	P	**Pn**	**06 07 53.9**	**+0.8**
JTAJ				*eS*	**S**	**06 08 20.8**	**-0.5**
JTK	**Tokunoshima**	**1.45**	**128**	P	**Pn**	**06 07 54.1**	**+0.8**
JTK				*eS*	**S**	**06 08 21.0**	**-0.6**
JOKE	**Okinoerabujima**	**1.55**	**148**	P	**Pn**	**06 07 55.0**	**+0.9**
JOKE				*eS*	**S**	**06 08 22.0**	**-1.0**
JIH	**Iheya**	**1.67**	**170**	P	**Pn**	**06 07 56.2**	**+1.1**
JIH				*eS*	**S**	**06 08 24.6**	**-0.2**
JAM	**Amami Oshima**	**1.73**	**99**	P	**Pn**	**06 07 56.1**	**+0.5**
JAM				*eS*	**S**	**06 08 24.0**	**-1.7**
JOW	**Kunigami**	**1.93**	**163**	P	**Pn**	**06 07 58.6**	**+1.2**
JOW				*eS*	**S**	**06 08 27.7**	**-1.3**
JOW	**Kunigami**	**1.93**	**163**	P	**Pn**	**06 07 58.7**	**+1.2**
	26nm,0.3s,baz=350,slow=6.1,SNR=634						
JOW				S	**S**	**06 08 28.3**	**-0.7**
	8.4nm,0.3s,baz=111,slow=28,SNR=19						
JZK	**Kikaishima**	**2.07**	**100**	P	**Pn**	**06 08 00.8**	**+2.1**
JZK				*eS*	**S**	**06 08 31.7**	**+0.4**
JAGN	**Aguni-jima**	**2.12**	**190**	P	**Pn**	**06 08 00.1**	**+0.8**
JAGN				*eS*	**S**	**06 08 31.4**	**-0.9**
JNTH	**Nagotoyohara**	**2.18**	**171**	P	**Pn**	**06 08 01.2**	**+1.3**
JNTH				*eS*	**S**	**06 08 32.3**	**-1.1**
JKE	**Kume jima 2**	**2.47**	**198**	P	**Pn**	**06 08 03.7**	**+0.9**
JKE				*eS*	**S**	**06 08 38.1**	**-0.6**
JJT2	**Tamagusuku 2**	**2.54**	**178**	P	**Pn**	**06 08 05.2**	**+1.7**
JJT2				*eS*	**S**	**06 08 39.6**	**-0.3**
JTN	**Tanegashima 3**	**3.49**	**55**	P	**Pn**	**06 08 15.0**	**+0.9**
JNU	**Nakatsue**	**5.22**	**31**	P	**Pn**	**06 08 36.7**	**+1.7**
	0.4nm,0.3s,baz=210,slow=16,SNR=4.1						
KSRS	**Korea Array**	**8.75**	**1**	P	**Pn**	**06 09 20.9**	**+1.1**
	0.3nm,0.3s,baz=181,slow=13,SNR=7.6						
SONM	**Songino Array**	**25.24**	**325**	P	**P**	**06 12 25.1**	**+3.1**
	1.9nm,0.5s,baz=138,slow=11,SNR=21						
MKAR	**Makanchi Array**	**39.55**	**310**	P	**P**	**06 14 25.3**	**-0.4**
	0.2nm,0.4s,baz=89,slow=10.0,SNR=4.9						
MKAR				PcP	**PcP**	**06 16 28.6**	**+0.4**
	0.3nm,0.7s,baz=131,slow=4.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.01**	**321**	P	**P**	**06 14 28.6**	**-0.7**
	0.7nm,0.5s,baz=108,slow=9.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**42.75**	**315**	P	**P**	**06 14 51.1**	**-0.4**
	0.6nm,0.3s,baz=101,slow=8.9,SNR=11						
WRA	**Warramunga Arr**	**48.77**	**172**	P	**P**	**06 15 39.3**	**+0.5**
	0.2nm,0.3s,baz=351,slow=8.1,SNR=7.6						
ASAR	**Alice Springs**	**52.40**	**173**	P	**P**	**06 16 07.1**	**+1.2**
	0.2nm,0.6s,baz=0.2,slow=15,SNR=7.4						
ILAR	**Eielson Array**	**62.53**	**29**	P	**P**	**06 17 14.3**	**-1.6**
	0.2nm,0.7s,baz=270,slow=4.0,SNR=6.3						
FINES	**FINESS Array B**	**70.49**	**330**	P	**P**	**06 18 04.8**	**-1.4**
	0.3nm,0.5s,baz=72,slow=6.2,SNR=6.3						
AKASG	**Malin Array Be**	**73.35**	**319**	P	**P**	**06 18 21.9**	**-1.5**
	0.2nm,0.4s,baz=60,slow=6.6,SNR=3.1						
YKA	**Yellowknife Ar**	**76.52**	**25**	P	**P**	**06 18 41.5**	**+0.3**
	0.7nm,0.6s,baz=302,slow=5.5,SNR=20						

*IDC **04** 06:22:24.8±2.0, 12°99S×66°82E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/39, mbtmp3.6/4, MS3.2/2, Ms1 3.3/2, ms1mx2.6/31, Error ellipse: s-maj=80.0km s-min=29.4km az=54.0*
ISC 04 06:22:25.6±2.1, 13°1S±0°4×66°7E±0°5, h10km, n14, σ0s47/7, mb3.9/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.86**	**47**	T	T	06 32 37.5	
	baz=225,slow=76,SNR=98						
H08S2	**Diego Garcia H**	**7.87**	**47**	T	T	06 32 39.7	
	baz=225,slow=76,SNR=117						
H08S3	**Diego Garcia H**	**7.88**	**47**	T	T	06 32 40.3	
	baz=225,slow=76,SNR=119						
H08N3	**Diego Garcia H**	**7.93**	**33**	T	T	06 32 44.3	
	baz=211,slow=75,SNR=145						
H08N1	**Diego Garcia H**	**7.94**	**33**	T	T	06 32 44.9	
	baz=211,slow=75,SNR=212						
H08N2	**Diego Garcia H**	**7.95**	**33**	T	T	06 32 44.3	
	baz=211,slow=75,SNR=192						
PALK	**Pallekele**	**24.55**	**35**	LR	LR	06 34 40.7	
	comp=Z,94nm,21.9s,baz=192,slow=30						
CMAR	**Chiang Mai Arr**	**44.66**	**46**	LR	LR	06 48 45.0	
	comp=Z,14nm,18.2s,baz=215,slow=36						
MKAR	**Makanchi Array**	**61.22**	**12**	P	**P**	**06 32 40.1**	**-0.5**
	0.2nm,0.6s,baz=209,slow=9.6,SNR=2.7						
ASAR	**Alice Springs**	**64.19**	**110**	P	**P**	**06 33 00.9**	**-0.2**
	0.5nm,0.6s,baz=270,slow=6.3,SNR=7.3						
WRA	**Warramunga Arr**	**64.89**	**106**	P	**P**	**06 33 05.9**	**+0.2**
	0.8nm,0.7s,baz=271,slow=5.9,SNR=9.9						
ZALV	**Zalesovo Beam**	**68.53**	**11**	P	**P**	**06 33 28.7**	**+0.7**
	0.3nm,0.3s,baz=211,slow=7.6,SNR=2.7						
YKA	**Yellowknife Ar**	**130.64**	**1**	PKP	**PKPdf**	**06 41 36.5**	**+0.1**
	0.1nm,0.7s,baz=345,slow=2.3,SNR=5.8						
PDAR	**Pinedale Array**	**150.22**	**354**	PKP	**PKPdf**	**06 42 12.3**	**-0.1**
	0.4nm,0.9s,baz=48,slow=1.3,SNR=3.2						
PDAR				PKPbc	**PKiKP**	**06 42 18.1**	**-0.2**
	1.3nm,1.0s,baz=48,slow=1.3,SNR=5.9						

GUC 04 06:25:48.3±0.5, 37°57S×73°56W, h30km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.81**	**27**	*i*P	Pn	06 26 02.6	-1.0
CCSP				*i*S	Sb	06 26 13.8	-0.5
CCSP				AML	AML	06 26 16.9	
	comp=E,6μm,0.4s						
COCH	**Cobquecura**	**1.56**	**24**	*i*P	Pn	06 26 15.1	+1.1
COCH				*e*S	Sb	06 26 35.4	-0.4
LNCH	**Linares**	**2.33**	**43**	*i*P	Pn	06 26 26.6	+2.0
LNCH				*e*S	Sb	06 26 57.8	-0.1

*ISCJB **04** 06:28:49.2±1.0, 7°24S±0°07×105°89E±0°05, h101km±14km, Error ellipse: s-maj=12.9km s-min=6.4km az=28.1*
*DJA **04** 06:28:49.2±0.6, 7°S±5°×10°6E±°, h74km±10km, M3.6/10, MLv3.6/10*
ISC 04 06:28:50.5±1.6, 7°23S±0°07×105°90E±0°05, h91km±17km, n13, σ0s67/21, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.65**	**341**	P	**Pn**	**06 29 05.8**	**-0.8**
CGJI				S	**Sn**	**06 29 19.0**	**+0.4**
SKJI	**Sukabumi**	**0.69**	**71**	P	**Pn**	**06 29 06.6**	**-0.4**
SKJI				S	Sn	06 29 28.4	+9.1
SBJI	**Serang**	**1.12**	**12**	P	**Pn**	**06 29 12.3**	**+0.5**
SBJI				S	**Sn**	**06 29 28.9**	**+1.2**
CNJI	**Cibinong**	**1.22**	**94**	P	**Pn**	**06 29 12.6**	**-0.3**
CNJI				S	**Sn**	**06 29 29.9**	**+0.2**
CBJI	**Citeko**	**1.24**	**50**	P	**Pn**	**06 29 12.3**	**-0.8**
CBJI				S	**Sn**	**06 29 30.0**	**-0.1**
LEM	**Lembang**	**1.75**	**77**	P	**Pn**	**06 29 19.7**	**0.0**
LEM				S	**Sn**	**06 29 43.3**	**+1.5**
CISI	**Cisompet, Garu**	**1.93**	**100**	P	**Pn**	**06 29 21.2**	**-0.7**
CISI				S	**Sn**	**06 29 45.7**	**0.0**
CISI	**Cisompet, Garu**	**1.93**	**100**	P	**Sn**	**06 29 46.4**	**+0.6**
	baz=9.2,SNR=6.1						
KASI	**Kota Agung**	**2.19**	**320**	P	**Pn**	**06 29 24.9**	**-0.5**
KASI				S	**Sn**	**06 29 51.8**	**-0.2**
CMJI	**Cimerak**	**2.58**	**103**	P	**Pn**	**06 29 29.8**	**-0.7**
CMJI				S	**Sn**	**06 30 00.8**	**-0.4**
KPJI	**Karang Pucung**	**3.01**	**92**	P	**Pn**	**06 29 35.9**	**-0.3**
XMI	**Christmas Isla**	**3.21**	**184**	P	**Pn**	**06 29 39.3**	**+0.3**
	baz=8.7,SNR=7.0						
XMIS	**Christmas Isla**	**3.24**	**184**	P	**Pn**	**06 29 39.4**	**0.0**
	baz=8.7,SNR=30						

GUC 04 06:36:40.6±0.5, 35°59S×73°38W, h66km±12km, ML3.8, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.72**	**139**	*i*P	Pn	06 36 55.4	-0.1
CCSP	**San Pedro de C**	**1.27**	**170**	*i*P	Pn	06 37 03.9	+1.5
CCSP				*e*S	Sn	06 37 19.4	+0.6
CCSP				AML	AML	06 37 30.4	
	comp=E,2μm,0.5s						
TALC	**Talca**	**1.44**	**83**	*i*P	Pn	06 37 04.4	-0.1
TALC				*i*S	Sn	06 37 22.4	-0.1
TALC				AML	AML	06 37 27.6	
	comp=E,4μm,0.3s						
LNCH	**Linares**	**1.47**	**101**	*i*P	Pn	06 37 06.1	+1.1
LNCH				*i*S	Sn	06 37 24.3	+0.9
NICH	**Los Niches**	**1.85**	**72**	*i*P	Pn	06 37 10.8	+0.6
NICH				AML	AML	06 37 50.9	
	comp=E,1μm,0.6s						

*IDC **04** 06:57:56.9±1.9, 0°08N×98°68E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/25, mbtmp3.7/8, ML4.6/1, MS2.8/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=66.5km s-min=21.0km az=57.0*
*ISCJB **04** 06:58:02.0±1.5, 0°2N±0°2×98°8E±0°3, h48km, mb3.6/7, Error ellipse: s-maj=48.0km s-min=15.9km az=151.0*
ISC 04 06:58:03.7±1.8, 0°1N±0°2×98°8E±0°3, h48km, n11, σ0s61/8, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.21**	**1**	P	**Pn**	**07 02 13.2**	**0.0**
	0.8nm,0.3s,baz=189,slow=11,SNR=3.7						
CMAR				LR	LR	07 09 36.6	
	comp=Z,26nm,18.1s,baz=195,slow=38						
H08S2	**Diego Garcia H**	**27.32**	**253**	T	T	07 31 34.7	
	baz=75,slow=76,SNR=94						
H08S3	**Diego Garcia H**	**27.32**	**253**	T	T	07 31 36.0	
	baz=75,slow=76,SNR=81						
H08S1	**Diego Carcia H**	**27.34**	**253**	T	T	07 31 36.1	
	baz=75,slow=76,SNR=85						
WRA	**Warramunga Arr**	**40.14**	**122**	P	**P**	**07 05 35.8**	**+0.4**
	0.5nm,0.8s,baz=312,slow=9.4,SNR=6.1						
ASAR	**Alice Springs**	**41.50**	**127**	P	**P**	**07 05 46.5**	**-0.1**
	0.2nm,0.6s,baz=302,slow=7.4,SNR=5.5						
SONM	**Songino Array**	**47.97**	**7**	P	**P**	**07 06 38.8**	**+1.0**
	1.2nm,0.7s,baz=185,slow=10,SNR=7.8						
MKAR	**Makanchi Array**	**48.66**	**345**	P	**P**	**07 06 43.2**	**+0.1**
	0.5nm,0.5s,baz=155,slow=8.0,SNR=9.4						
MJAR	**Matsuhiro Arr**	**51.44**	**41**	P	**P**	**07 07 03.5**	**-0.7**
	0.6nm,0.5s,baz=230,slow=7.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**54.87**	**350**	P	**P**	**07 07 28.9**	**-0.2**
	0.6nm,0.4s,baz=161,slow=9.4,SNR=3.7						
FINES	**FINESS Array B**	**81.67**	**332**	P	**P**	**07 10 16.3**	**-0.4**
	0.2nm,0.4s,baz=123,slow=7.0,SNR=4.1						

*IDC **04** 06:58:11.6±0.9, 34°11S×72°38W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.9/19, mbtmp3.7/10, ML4.0/2, MS3.2/6, Ms1 3.2/6, ms1mx3.0/20, Error ellipse: s-maj=30.2km s-min=21.6km az=101.0*
*ISCJB **04** 06:58:14.5±2.1, 34°06S±0°03×72°09W±0°06, h26km±16km, mb3.8/6, MS3.3/4, Error ellipse: s-maj=8.3km s-min=5.1km az=24.1*
*GUC **04** 06:58:15.5±0.4, 34°07S×71°98W, h46km±2km, ML3.9*
ISC 04 06:58:13.6±2.6, 34°07S±0°04×72°03W±0°07, h13km±16km, n27, σ0s99/32, mb3.9/6, MS3.3/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.15**	**145**	*eP*	**Pn**	**06 58 35.4**	**0.0**
NICH				*eS*	**Sg**	**06 58 50.5**	**0.0**
RCDM	**Rinconada Maip**	**1.17**	**61**	*eP*	**Pb**	**06 58 35.4**	**-0.3**
RCDM				*eS*	**Sb**	**06 58 50.5**	**-0.3**
RCDM				AML	AML	06 58 56.9	
	comp=N,2μm,0.7s						
TALC	**Talca**	**1.37**	**166**	*eP*	**Pb**	**06 58 38.9**	**-0.1**
TALC				*eS*	**Sn**	**06 58 56.6**	**+0.2**
ROCH	**El Roble**	**1.39**	**38**	*eP*	**Pn**	**06 58 39.0**	**+0.2**
ROCH				*eS*	**Sn**	**06 58 57.4**	**+

baz=118,slow=74,SNR=4.6
H11S3 WAKE ISLAND Hyt 25.79 269 T T 09 35 45.9
baz=118,slow=74,SNR=4.5
ZALV Zalesovo Beam 154.28 32 PKPbc **PKPbc 07 18 12.3 -0.6**
comp=N,0.6nm,0.6s,baz=304,slow=3.3,SNR=3.4

CASC 04 07:01:51.7±3.9, 8°.36N×82°.83W, h1km±14km, MD3.5, 1C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.45**	**311** ⇑	*i* P	Pg	07 02 01.1	+0.7
ACR				*e*S	Sb	07 02 08.6	-1.2
BRU2	**Volcan**	**0.45**	**17** ⇓	*i* P	Pb	07 02 02.4	-0.3
BRU2				*e*S	Sb	07 02 09.3	-0.8
TBS2		**0.46**	**21** ⇓	*i* P	Pb	07 02 03.9	+1.0
TBS2				*e*S	Sb	07 02 15.0	+4.5
BRU	**Baru**	**0.52**	**30** ⇓	*i* P	Pb	07 02 03.6	-0.6
CNI	**Changuinola**	**1.09**	**16** ⇓	*i* P	Pg	07 02 12.7	-0.1
BUS	**Buena Vista**	**1.50**	**322**	*e*P	Pn	07 02 18.8	-1.7
BUS				*e*S	Sb	07 02 39.9	-1.2
CGA2	**Cerro Gallo 2**	**2.31**	**316**	*e*P	Pb	07 02 33.6	-0.7
CGA2				*e*S	Sb	07 03 03.7	+0.1
JTS	**JuntasAbangare**	**2.84**	**313**	*e*S	Sn	07 03 13.6	+0.3

*IDC **04** 07:02:35.4±4.4, 10°.20S×161°.62E, h64km±40km, mb4.3/16, mb1 4.4/17, mb1mx4.4/20, mbtmp4.5/17, ML3.9/1, MS3.6/16, Ms1 3.6/16, ms1mx3.5/24, Error ellipse: s-maj=19.5km s-min=18.2km az=80.0*
*ISCJB **04** 07:02:38.9±1.1, 10°.08S±0°.05×161°.40E±0°.05, h103km±9km, mb4.5/35, Error ellipse: s-maj=8.4km s-min=7.8km az=39.8*
*BJI **04** 07:02:38.1, 9°.95S×161°.86E, h106km, mB4.9/25, mb4.9/46*
*NEIC **04** 07:02:40.7±1.0, 10°.07S×161°.39E, h106km±9km, mb4.8/22, Error ellipse: s-maj=7.9km s-min=6.3km az=109.0*

ISC 04 07:02:39.9±0.4, 10°.26S±0°.05×161°.52E±0°.06, h106km±2km, n91, σ1°.93/114, mb4.7/34, 2C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**298**	LR	LR	07 03 59.8	
	comp=Z,1μm,20.9s,baz=167,slow=47						
HNR	**Honiara**	**1.76**	**298**	*i* P	Pn	07 03 06.5	-3.2
HNR				*i* S	**Sn**	**07 03 37.0**	**+4.6**
HNR	**Honiara**	**1.76**	**298**	*e*Pn	**Pn**	**07 03 07.1**	**-2.6**
DZM	**Mont Dzumac**	**12.65**	**159**	*e*Pn	**Pn**	**07 05 34.1**	**-2.1**
	8.1nm,0.3s						
DZM				*e*Sn	**Sn**	**07 07 50.2**	**-5.3**
	3.3nm,0.2s						
DZM				*e*LR	LR	07 08 32.2	
	720nm,24.9s						
DZM	**Mont Dzumac**	**12.65**	**159**	P	**Pn**	**07 05 33.2**	**-3.0**
	0.7nm,0.3s,baz=2.9,slow=8.5,SNR=15						
DZM				S	**Sn**	**07 07 51.1**	**-4.3**
	0.6nm,0.3s,baz=323,slow=20,SNR=4.2						
DZM				LR	LR	07 09 47.0	
	comp=Z,306nm,19.8s,baz=360,slow=34						
DZM	**Mont Dzumac**	**12.65**	**159**	*e*Pn	**Pn**	**07 05 34.1**	**-2.1**
	49nm,1.4s						
DZM				*e*Sn	**Sn**	**07 07 50.0**	**-5.5**
PMG	**Port Moresby**	**14.18**	**272**	P	**Pn**	**07 05 57.3**	**+1.2**
	0.3nm,0.3s,baz=96,slow=9.2,SNR=2.2						
PMG				LR	LR	07 11 13.2	
	comp=Z,543nm,21.6s,baz=50,slow=36						
PMG	**Port Moresby**	**14.18**	**272**	Pn	**Pn**	**07 05 54.2**	**-1.9**
PMG				*e*Sn	**Sn**	**07 08 27.1**	**-5.3**
MSVF	**Nonsavu**	**17.66**	**117**	P	**Pn**	**07 06 42.9**	**+3.5**
	8.4nm,1.0s						
CTA	**Charters Tower**	**17.66**	**235**	P	**Pn**	**07 06 43.0**	**+3.6**
	1.5nm,0.3s,baz=74,slow=12,SNR=14						
CTAO	**Charters Tower**	**17.66**	**235**	P	**Pn**	**07 06 39.7**	**+0.3**
	78nm,1.2s						
EIDS	**Eidsvold**	**18.00**	**212**	P	Pn	07 06 48.2	+4.9
	baz=13,SNR=4.9						
EIDS	**Eidsvold**	**18.00**	**212**	*e*P	**Pn**	**07 06 47.3**	**+4.0**
	38nm,1.0s						
COEN	**Coen**	**18.31**	**257**	P	Pn	07 06 54.6	+7.5
	baz=14,SNR=4.9						
COEN	**Coen**	**18.31**	**257**	P	**P**	**07 06 46.3**	**+0.4**
	11nm,1.6s						
RMQ	**Roma**	**20.15**	**215**	P	Pn	07 07 10.6	+1.9
	baz=15,SNR=13						
ARMA	**Armidale**	**22.07**	**203**	P	**P**	**07 07 29.1**	**+2.7**
	baz=17,SNR=4.3						
ARMA	**Armidale**	**22.07**	**203**	*e*P	**P**	**07 07 28.7**	**+2.3**
QLP	**Quilpie**	**23.03**	**223**	P	**P**	**07 07 39.0**	**+3.0**
	baz=17,SNR=4.8						
CAN	**Canberra**	**27.43**	**203**	P	**P**	**07 08 17.0**	**+1.2**
	8.6nm,1.0s						
WRAB	**Tennant Creek**	**27.90**	**247**	*e*P	**P**	**07 08 20.9**	**+0.7**
	14nm,1.1s						
WRAB				*e*pP	pP	07 08 34.9	-8.7
WB2	**Warramunga Arr**	**27.90**	**247**	*e*P	**P**	**07 08 20.8**	**+0.6**
WRA	**Warramunga Arr**	**27.91**	**247**	P	**P**	**07 08 21.0**	**+0.7**
	5.7nm,0.8s,baz=76,slow=9.2,SNR=41						
WRA				LR	LR	07 19 07.6	
	comp=Z,180nm,20.4s,baz=75,slow=35						
KDU	**Kakadu**	**28.56**	**262**	P	P	07 08 29.8	+3.7
	baz=24,SNR=4.6						
AS31	**Alice Springs**	**29.51**	**240**	*e*P	**P**	**07 08 35.0**	**+0.5**
ASAR	**Alice Springs**	**29.51**	**240**	P	**P**	**07 08 34.9**	**+0.3**
	3.1nm,0.7s,baz=62,slow=9.9,SNR=42						
ASAR				LR	LR	07 20 29.4	
	comp=Z,355nm,18.9s,baz=65,slow=36						
TOO	**Toolangi**	**30.79**	**205**	P	**P**	**07 08 47.8**	**+2.3**
	baz=26,SNR=8.9						
KNRA	**Kununurra**	**32.35**	**257**	P	**P**	**07 09 00.3**	**+0.8**
	baz=27,SNR=9.5						
BBOO	**Buckleboo**	**32.46**	**222**	P	**P**	**07 09 01.6**	**+1.4**
	baz=27,SNR=17						
BBOO	**Buckleboo**	**32.46**	**222**	*e*P	**P**	**07 09 01.3**	**+1.0**
	16nm,0.9s						
BBOO				*e*pP	pP	07 09 13.5	-10
WRKA	**Warakurna**	**34.78**	**241**	P	**P**	**07 09 20.9**	**+0.4**
	baz=29,SNR=22						
TAU	**Tasmania Unive**	**34.81**	**198**	P	**P**	**07 09 21.8**	**+1.4**
	24nm,1.1s						
BATI	**Baumata**	**37.24**	**267**	P	**P**	**07 09 41.2**	**-0.4**
	26nm,0.7s,baz=126,slow=7.1,SNR=4.4						
BATI				LR	LR	07 26 47.9	
	comp=Z,64nm,18.6s,baz=117,slow=39						
RAR	**Rarotonga**	**38.71**	**111**	*e*P	P	07 09 57.3	+3.5
	0.1nm,0.6s						
MEEK	**Meekatharra**	**43.60**	**242**	P	**P**	**07 10 35.3**	**+1.4**
	baz=38,SNR=11						
BLDU	**Ballidu**	**46.24**	**237**	P	**P**	**07 10 55.8**	**+1.1**
	baz=41,SNR=10.0						
JAGI	**Jajag, Banyuwa**	**46.74**	**268**	*e*P	**P**	**07 10 57.8**	**-1.1**
	33nm,0.8s						
PPT	**Papeete**	**47.91**	**104**	LR	LR	07 26 07.9	
	comp=Z,66nm,21.4s,baz=248,slow=30						
PPT2	**Papeete2**	**47.91**	**104**	*e*LR	LR	07 25 03.2	
	140nm,22.8s						
KKM	**Kota Kinabalu**	**47.94**	**288**	*e*P	P	07 11 04.3	-4.0
	46nm,1.3s						
MJAR	**Matsushiro Arr**	**51.47**	**336**	P	**P**	**07 11 33.3**	**-1.3**
	3.0nm,0.6s,baz=167,slow=8.7,SNR=16						
MJAR				LR	LR	07 31 49.4	
	comp=Z,25nm,21.6s,baz=90,slow=34						
MAJO	**Matsushiro**	**51.47**	**336**	*e*P	**P**	**07 11 33.3**	**-1.3**
	6.1nm,0.5s						
MAT	**Matsushiro**	**51.47**	**336**	P	**P**	**07 11 33.0**	**-1.6**
JNU	**Nakatsue**	**52.10**	**327**	*e*P	**P**	**07 11 39.3**	**0.0**
ASAJ	**Asahikawa**	**56.79**	**344**	*e*P	**P**	**07 12 12.2**	**-0.8**
	69nm,2.1s						
KSRS	**Korea Array**	**56.96**	**328**	P	**P**	**07 12 14.8**	**+0.5**
	7.8nm,1.0s,baz=140,slow=7.5,SNR=16						
KSRS				LR	LR	07 34 55.4	
	comp=Z,39nm,20.8s,baz=131,slow=34						
KSAR	**Wonju Array Be**	**56.98**	**328**	P	**P**	**07 12 14.8**	**+0.4**
NJ2	**Nanjing**	**58.60**	**318**	*e*P	**P**	**07 12 23.9**	**-2.0**
NJ2				PMZ			
	20nm,0.5s						
QIZ	**Qiongzhong**	**58.67**	**300**	P	**P**	**07 12 26.9**	**+0.2**
QIZ				pP	**pP**	**07 12 50.6**	**-1.9**
QIZ				sP	**sP**	**07 13 02.6**	**-1.6**
QIZ				PP	**PP**	**07 14 37.5**	**-0.2**
QIZ				S	**S**	**07 20 22.0**	**-1.4**
QIZ				sS	**sS**	**07 21 05.7**	**-2.1**
QIZ				PMZ			
	15nm,1.9s						
USRK	**Ussuriysk Ar.**	**60.47**	**336**	P	**P**	**07 12 38.9**	**+0.3**
	15nm,0.9s,baz=157,slow=6.7,SNR=16						
USRK				LR	LR	07 35 15.1	
	comp=Z,25nm,19.9s,baz=151,slow=32						
MDJ	**Mudanjiang**	**61.80**	**335**	P	**P**	**07 12 48.7**	**+1.2**
MDJ				PMZ			
	9.0nm,0.9s						
MDJ				PMZ			
	57nm,6.1s						
TIA	**Tai'an**	**62.32**	**320**	⇓P	**P**	**07 12 51.0**	**-0.2**
TIA				PMZ			
	20nm,0.8s						
PETK	**Petropavlovsk-**	**63.20**	**357**	P	**P**	**07 12 56.1**	**-0.5**
	6.2nm,0.8s,baz=145,slow=5.4,SNR=6.4						
PETK				LR	LR	07 38 25.6	
	comp=Z,15nm,19.4s,baz=141,slow=34						
ENH	**Enshi**	**64.22**	**311**	*e*P	**P**	**07 13 03.1**	**-0.8**
	3.3nm,0.3s						
GYA	**Guiyang**	**64.57**	**306**	*e*P	**P**	**07 13 08.0**	**+1.6**
GYA				pP	**pP**	**07 13 34.2**	**+1.5**
GYA				sP	**sP**	**07 13 45.6**	**+1.4**
GYA				PP	**PP**	**07 15 32.5**	**+2.7**
GYA				S	**S**	**07 21 36.0**	**-2.0**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	90nm,5.0s						
BJT	**Baijiatuan**	**65.31**	**323**	*e*P	**P**	**07 13 10.2**	**-0.5**
	14nm,0.8s						
BJI	**Beijing**	**65.32**	**323**	P	**P**	**07 13 11.1**	**+0.4**
BJI				pP	**pP**	**07 13 36.3**	**-0.8**
BJI				sP	**sP**	**07 13 47.8**	**-0.8**
BJI				PP	**PP**	**07 15 34.6**	**-1.3**
BJI				S	S	07 21 37.3	-9.0
BJI				PMZ			
	17nm,0.8s						
BJI				LN			
	140nm,5.1s						
BJI				LE			
	41nm,5.9s						
BJI				LZ			
	37nm,42.1s						
XAN	**Xi'an**	**66.56**	**314**	P	**P**	**07 13 19.2**	**+0.3**
XAN				PMZ			
	10.0nm,0.7s						
XAN				PMZ			
	98nm,4.6s						
KMI	**Kunming**	**67.19**	**303**	P	**P**	**07 13 25.0**	**+1.7**
KMI				PMZ			
	14nm,0.5s						
VNDA	**Vanda**	**67.24**	**180**	P	**P**	**07 13 23.3**	**+0.9**
	1.3nm,0.8s,baz=334,slow=5.7,SNR=8.2						
VNDA				LR	LR	07 36 34.3	
	comp=Z,69nm,21.0s,baz=144,slow=30						
CMAR	**Chiang Mai Arr**	**68.01**	**295**	P	**P**	**07 13 29.1**	**+0.8**
	2.1nm,0.6s,baz=118,slow=4.9,SNR=13						
CMAR				LR	LR	07 43 55.5	
	comp=Z,11nm,18.9s,baz=154,slow=36						
HHC	**Hu-ho-hao-te**	**68.59**	**321**	*e*P	**P**	**07 13 32.4**	**+0.7**
HHC				PP	**PP**	**07 16 07.2**	**+2.6**
HHC				S	**S**	**07 22 24.1**	**-1.9**
HHC				sS	**sS**	**07 23 12.0**	**+0.4**
HHC				ScS	**SKSac**	**07 23 18.0**	**-3.2**
HHC				SS	**SS**	**07 26 51.6**	**-1.0**
HHC				PMZ			
	27nm,1.2s						
HHC				PMZ			
	90nm,5.1s						
HHC				LN			
	91nm,17.1s						
HHC				LE			
	170nm,17.7s						
HHC				LZ			
	72nm,16.3s						
CD2	**Chengdu**	**68.86**	**309**	*e*P	**P**	**07 13 34.2**	**+0.8**
LZH	**Lanzhou**	**71.19**	**314**	*e*P	**P**	**07 13 49.6**	**+1.9**
LZH				pP	**pP**	**07 14 15.1**	**+0.6**
LZH				sP	**sP**	**07 14 26.4**	**+0.5**
LZH				PMZ			
	24nm,1.0s						
ULN	**Ulaanbaatar**	**75.27**	**325**	P	**P**	**07 14 11.2**	**-0.2**
GTA	**Gaotai**	**75.56**	**315**	⇑P	**P**	**07 14 14.5**	**+1.2**
GTA				PMZ			
	20nm,1.0s						
SONM	**Songino Array**	**75.62**	**325**	P	**P**	**07 14 14.3**	**+0.9**
	15nm,0.9s,baz=140,slow=6.2,SNR=74						
YAK	**Yakutsk**	**76.23**	**345**	*e*P	**P**	**07 14 16.5**	**+0.1**
	16nm,0.6s						
BILL	**Bilibino**	**78.18**	**2**	*e*P	**P**	**07 14 27.5**	**+0.3**
	14nm,1.0s						
SVW2	**Sparrevohn**	**78.72**	**20**	*e*P	**P**	**07 14 30.9**	**+0.5**
TNA	**Tin City**	**78.95**	**12**	*e*P	**P**	**07 14 31.7**	**+0.3**
	21nm,2.0s						
QSPA	**South Pole Qui**	**79.73**	**180**	*e*P	**P**	**07 14 36.0**	**0.0**
	9.3nm,1.1s						
KTH	**Kantishna Hill**	**82.00**	**19**	*e*P	**P**	**07 14 47.1**	**-0.8**
	12nm,1.3s						
MCK	**McKinley**	**82.78**	**20**	*e*P	**P**	**07 14 51.6**	**-0.3**
MAW	**Mawson**	**83.87**	**202**	LR	LR	07 48 20.8	
	comp=Z,60nm,20.3s,baz=52,slow=33						
COLA	**College**	**83.89**	**19**	*e*P	**P**	**07 14 56.7**	**-0.8**
	10nm,1.0s						
ILAR	**Eielson Array**	**84.14**	**20**	P	**P**	**07 14 57.9**	**-1.0**
	3.1nm,0.9s,baz=249,slow=5.0,SNR=37						
ILAR				LR	LR	07 46 42.9	
	comp=Z,61nm,21.5s,baz=264,slow=32						
WMQ	**Urumqi**	**85.63**	**316**	*e*P	**P**	**07 15 05.4**	**-1.4**
WMQ				pP	**pP**	**07 15 32.5**	**-1.9**
WMQ				sP	**sP**	**07 15 46.0**	**+0.3**
WMQ				PP	**PP**	**07 18 27.0**	**-0.3**
WMQ				SKS	**SKSac**	**07 25 17.0**	**-5.7**
WMQ				SS	**SS**	**07 31 06.0**	**-3.1**
WMQ				PMZ			
	7.0nm,1.0s						
WMQ				PMZ			
	120nm,4.2s						
WMQ				LN			
	140nm,16.0s						
WMQ				LE			
	110nm,27.0s						
WMQ				LZ			
	110nm,20.0s						
EGAK	**Eagle**	**86.11**	**21**	*e*P	**P**	**07 15 09.3**	**+0.6**
	11nm,1.1s						
NVAR	**Mina Array Bea**	**88.72**	**51**	P	**P**	**07 15 22.9**	**+0.8**
	3.4nm,0.8s,baz=236,slow=7.5,SNR=30						
MKAR	**Makanchi Array**	**90.13**	**318**	P	**P**	**07 15 28.1**	**-0.2**
	4.6nm,0.7s,baz=99,slow=6.0,SNR=65						
ZALV	**Zalesovo Beam**	**90.52**	**325**	P	**P**	**07 15 28.6**	**-1.2**
	0.7nm,0.6s,baz=123,slow=5.5,SNR=4.6						
ZALV				LR	LR	07 57 35.3	
	comp=Z,11nm,19.8s,baz=74,slow=36						
SHPR	**Sheep Range**	**90.72**	**53**	*e*P	**P**	**07 15 32.2**	**+0.8**
	7.5nm,1.0s						
SYO	**Syowa Base**	**91.28**	**198**	*e*P	**P**	**07 15 34.3**	**+1.2**
KSH	**Kashi**	**93.05**	**309**	*e*P	**P**	**07 15 43.3**	**+1.3**
KSH				pP	**pP**	**07 16 13.0**	**+3.2**
KSH				SKS	**SKSac**	**07 26 07.0**	**+0.4**
KSH				S	**S**	**07 26 38.7**	**-1.1**
KSH				SS	**SS**	**07 33 00.1**	**+3.1**
KSH				PMZ			
	100nm,4.1s						
KSH				LN			
	130nm,5.6s						
KSH				LE			
	100nm,4.9s						
KSH				LZ			
	160nm,5.9s						
YKA	**Yellowknife Ar**	**96.20**	**28**	P	**P**	**07 15 54.7**	**-1.0**
	0.6nm,0.7s,baz=257,slow=4.6,SNR=16						
YKA				PP	**PP**	**07 19 52.4**	**+2.2**
	0.3nm,1.0s,baz=239,slow=9.5,SNR=3.9						
TXAR	**Lajitas Array**	**99.11**	**62**	P	**Pdif**	**07 16 10.7**	**+0.9**
	0.3nm,0.8s,baz=231,slow=4.0,SNR=3.6						
TXAR				PP	**PP**	**07 20 12.7**	**-0.9**
	0.1nm,0.6s,baz=259,slow=2.6,SNR=3.4						
TXAR				LR	LR	07 53 54.4	
	comp=Z,33nm,19.6s,baz=0.0,slow=31						
ARCES	**ARCESS Array B**	**114.51**	**344**	PKP	PKPdf	07 21 06.8	-0.2
	1.5nm,1.0s,baz=67,slow=1.2,SNR=9.2						
AKASG	**Malin Array Be**	**123.91**	**325**	PKP	**PKPdf**	**07 21 25.2**	**-0.3**
	0.8nm,0.8s,baz=45,slow=2.0,SNR=4.0						
VYHS	**Vyhne**	**130.76**	**328**	PDIF	**Pdif**	**07 18 28.0**	**-2.0**
ESDC	**Sonseca Array**	**147.99**	**339**	PKPbc	**PKPbc**	**07 22 13.9**	**+0.5**
	0.6nm,0.7s,baz=354,slow=0.8,SNR=4.7						

IDC 04 07:41:25.9±3.1, 6°.08S×148°.34E, h104km±24km, mb3.2/3, mb1 3.6/5, mb1mx3.2/29, mbtmp3.8/5, Error ellipse: s-maj=38.4km s-min=15.9km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.51**	**199**	P	Pn	07 42 18.8	+0.3
	3.9nm,0.3s,baz=21,slow=12,SNR=12						
PMG				S	Sn	07 42 59.1	-0.1
	27nm,0.3s,baz=29,slow=19,SNR=8.7						
WRA	**Warramunga Arr**	**19.36**	**223**	P	P	07 45 44.4	+0.8
	0.9nm,0.3s,baz=49,slow=11,SNR=68						
WRA				S	S	07 49 17.2	0.0
	0.1nm,0.3s,baz=55,slow=24,SNR=3.8						
ASAR	**Alice Springs**	**22.33**	**217**	P	P	07 46 16.6	+1.4
	0.8nm,0.5s,baz=50,slow=9.0,SNR=26						
ASAR				S	S	07 50 08.5	-5.5
	0.2nm,0.3s,baz=275,slow=23,SNR=4.8						
DZM	**Mont Dzumac**	**23.64**	**134**	P	P	07 46 28.8	+0.8
	2.4nm,0.9s,baz=276,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	07 53 48.1	-1.4
	0.2nm,0.7s,baz=248,slow=4.8,SNR=4.3						

KRSC 04 07:49:49.1±0.8, 53°.60N×160°.83E, h52km±16km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.70**	**224**	*e*P	Pn	07 50 04.3	+1.4
SPN				*e*S	Sn	07 50 14.0	+1.2
KII	**Karymskiy**	**0.93**	**299**	*e*P	Pn	07 50 07.2	+1.2
KII				*e*S	Sn	07 50 18.4	0.0
NLC	**Nalytchevo**	**0.99**	**245**	*e*P	Pn	07 50 07.7	+1.1
NLC				*e*S	Sn	07 50 20.6	+1.1
MKZ	**Mys Kozlova**	**1.10**	**29**	*e*P	Pn	07 50 10.2	+2.1
MKZ				*e*S	Sn	07 50 23.8	+1.6
SDLR	**Sedlovina**	**1.21**	**255**	*e*P	Pn	07 50 11.6	+1.8
SDLR				*e*S	Sn	07 50 25.2	0.0
SMAR	**Somma**	**1.26**	**255**	*e*P	Pn	07 50 12.4	+1.8
SMAR				*e*S	Sn	07 50 27.2	+0.5
UGLR	**Uglovaya**	**1.26**	**253**	*e*P	Pn	07 50 12.6	+2.1
UGLR				*e*S	Sn	07 50 26.9	+0.4
KRER	**Koryakskii**	**1.28**	**257**	*e*P	Pn	07 50 13.0	+2.1
KRER				*e*S	Sn	07 50 28.3	+1.2
AVH	**Avacha**	**1.29**	**256**	*e*P	Pn	07 50 13.1	+2.2
AVH				*e*S	Sn	07 50 29.4	+2.2
KRX	**Arik**	**1.32**	**260**	*e*P	Pn	07 50 13.2	+1.8
KRX				*e*S	Sn	07 50 29.1	+1.0
KOK	**Koryaka**	**1.35**	**258**	*e*P	Pn	07 50 13.6	+1.9
PET	**Petropavlovsk**	**1.43**	**247**	*e*P	Pn	07 50 14.8	+2.2
PET				*e*S	Sn	07 50 32.1	+1.9
KZV	**Kizimen**	**1.55**	**349**	*e*P	Pn	07 50 16.9	+2.4
KZV				*e*S	Sn	07 50 35.1	+1.5
GNL	**Ganaly**	**1.72**	**274**	*e*P	Pn	07 50 19.0	+2.2
TUMR	**Tumrok**	**1.73**	**347**	*e*P	Pn	07 50 19.8	+2.8
TUMR				*e*S	Sn	07 50 40.6	+2.6
RUS	**Russkaya**	**1.82**	**231**	*e*P	Pn	07 50 20.3	+2.3
RUS				*e*S	Sn	07 50 42.4	+2.5
MTVR	**Mutnovka**	**1.95**	**236**	*e*P	Pn	07 50 22.3	+2.4
MTVR				*e*S	Sn	07 50 45.6	+2.3
KMNR	**Kamenistaya**	**2.19**	**351**	*e*P	Pn	07 50 26.6	+3.5
KMNR				*e*S	Sn	07 50 51.9	+2.8
APC	**Apacha**	**2.31**	**254**	*e*P	Pn	07 50 26.8	+2.2
ESO	**Esso**	**2.64**	**333**	*e*P	Pn	07 50 31.7	+2.5
MIPR	**Malaya Ipel'ka**	**2.80**	**243**	P	Pn	07 50 35.0	+3.7
SRDR	**Sredinnyy**	**2.80**	**347**	*e*P	Pn	07 50 34.1	+2.7
KBTR	**Krutoberegovo**	**2.86**	**23**	*e*P	Pn	07 50 36.0	+3.9
KBTR				*e*S	Sn	07 51 08.6	+3.4
BDR	**Baidarnaya**	**2.98**	**4**	*e*P	Pn	07 50 38.0	+4.0
SMKR	**Semkarok**	**3.01**	**7**	*e*P	Pn	07 50 38.0	+3.6
SRKR	**Sorokina**	**3.07**	**4**	*e*P	Pn	07 50 38.2	+3.1
SRKR				*e*S	Sn	07 51 12.9	+2.3
BKI	**Bering**	**3.41**	**60**	*e*P	Pn	07 50 43.1	+3.4
BKI				S	Sn	07 51 19.2	+0.4

*ISCJB **04** 07:51:37.1±0.5, 32°.30N±0°.03×115°.35W±0°.04, h12km±4km, Error ellipse: s-maj=6.9km s-min=4.5km az=149.3*
*MEX **04** 07:51:38.4±0.3, 32°.52N×115°.19W, h17km±6km, MD4.1*
*NEIC **04** 07:51:38.0, 32°.25N×115°.30W, h10km, ML3.1(PAS), After PAS.*
*ECX **04** 07:51:39.2±0.6, 32°.30N×115°.33W, h8km, MD3.1, ML3.2*

ISC 04 07:51:38.0±0.9, 32°.29N±0°.03×115°.29W±0°.04, h10km±8km, n23, σ0°.95/26, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**354**	*e*P	**Pg**	**07 51 40.9**	**-0.3**
CPBX				*e*S	**Sg**	**07 51 43.1**	**-0.3**
MBIG	**Mexicali**	**0.14**	**32**	*i* P	**Pg**	**07 51 41.5**	**+0.2**
MBIG				*e*S	**Sg**	**07 51 43.4**	**-0.2**
EMX	**El Mayor**	**0.30**	**172**	*e*P	**Pg**	**07 51 43.7**	**-0.4**
EMX				*e*S	**Sg**	**07 51 48.6**	**+0.6**
SGL	**Mount Signal**	**0.52**	**315**	⇓*i*P	**Pg**	**07 51 48.0**	**-0.2**
COA	**Coachella**	**0.59**	**14**	*e*P	**Pg**	**07 51 49.7**	**+0.1**
YUH	**Yuha Desert**	**0.65**	**304**	⇓*i*P	**Pg**	**07 51 50.1**	**-0.5**
RDX	**Rancho Dawling**	**0.66**	**238**	*e*P	Pg	07 51 42.2	-8.7
RDX				*e*S	Sg	07 51 51.3	-8.2
COK	**Cook Ranch**	**0.67**	**327**	⇓*i*P	**Pg**	**07 51 50.9**	**-0.2**
YMD	**Yuma Desert**	**0.68**	**67**	⇑*i*P	**Pg**	**07 51 50.9**	**-0.4**
RMX	**La Rumorosa**	**0.74**	**296**	⇓*e*P	Pg	07 51 43.0	-9.3
RMX				*e*S	Sg	07 51 52.8	-9.2
RMX				⇑*e*		07 51 55.6	
RMX				AML	AML	07 51 55.6	
	comp=N,882nm,0.2s						
ECBX	**El Chinero**	**0.83**	**166**	*e*P	**Pg**	**07 51 53.0**	**-1.1**
ECBX				*e*S	**Sg**	**07 52 05.1**	**+0.1**
GLA	**Glamis**	**0.86**	**27**	*e*Pg	**Pg**	**07 51 53.3**	**-1.3**
ZAX	**El Zacaton**	**1.14**	**228**	*e*P	Pg	07 51 50.5	-9.5
ZAX				*e*S	Sg	07 52 05.6	-9.3
ZAX				⇑*e*		07 52 14.0	
ZAX				AML	AML	07 52 14.0	
	comp=E,612nm,0.6s						
BAR	**Barrett**	**1.23**	**289**	*e*Pn	**Pb**	**07 52 00.8**	**-0.6**

ARLS				⇓*i*S		**Sg**	07 53 53.7	**-0.2**
	baz=127								
UCH	**Uchtor**	**0.61**	**86**	⇓P		**Pg**	07 53 47.3	**0.0**
	7.0nm,0.1s,SNR=54								
UCH				⇑S		**Sg**	07 53 55.9	**+0.7**
	33nm,0.2s								
UCH	**Uchtor**	**0.61**	**86**	⇓*i*P		**Pg**	07 53 47.3	**0.0**
	baz=86								
UCH				⇓*i*S		**Sg**	07 53 55.8	**+0.6**
	baz=86								
AAK	**Ala-Archa**	**0.74**	**53**	⇑P		**Pg**	07 53 49.9	**+0.1**
	3.6nm,0.6s								
AAK				⇑S		**Sg**	07 54 00.2	**+0.8**
	8.5nm,0.3s								
AAK	**Ala-Archa**	**0.74**	**53**	⇑P		**Pg**	07 53 50.1	**+0.3**
	3.5nm,0.2s,SNR=11								
AAK				⇓S		**Sg**	07 54 00.4	**+0.9**
	28nm,0.2s								
AAK	**Ala-Archa**	**0.74**	**53**	⇑*i*P		**Pg**	07 53 49.9	**+0.1**
	baz=52								
AAK				⇑*i*S		**Sg**	07 54 00.2	**+0.8**
	baz=52								
MNAS	**Manas**	**0.94**	**289**	⇓P		**Pg**	07 53 52.8	**-0.7**
	1.7nm,0.3s								
MNAS				⇓S		**Sg**	07 54 05.5	**-0.2**
KBK	**Karagaybulak**	**1.04**	**63**	⇑*i*P		**Pg**	07 53 55.4	**-0.1**
	baz=62								
KBK				⇑*i*S		**Sg**	07 54 09.5	**+0.6**
	baz=62								
CHMS	**Chumysh**	**1.12**	**43**	⇑P		**Pg**	07 53 57.1	**-0.1**
	3.2nm,0.1s,SNR=5.6								
CHMS				⇓S		**Sb**	07 54 12.4	**0.0**
	10nm,0.3s								
CHMS	**Chumysh**	**1.12**	**43**	⇑*i*P		**Pg**	07 53 56.1	**-1.0**
	baz=43								
CHMS				⇑*i*S		**Sb**	07 54 12.1	**-0.3**
	baz=43								
KZA	**Kyzart**	**1.16**	**95**	⇓P		**Pg**	07 53 57.3	**-0.5**
	5.8nm,0.1s,SNR=36								
KZA				⇓S		**Sg**	07 54 13.5	**+0.6**
	14nm,0.2s								
KZA	**Kyzart**	**1.16**	**95**	⇑*i*P		**Pg**	07 53 57.5	**-0.3**
	baz=95								
KZA				⇑*i*S		**Sg**	07 54 13.2	**+0.4**
	baz=95								
USP	**Ospenovka**	**1.23**	**28**	⇑P		**Pg**	07 53 59.0	**-0.2**
	6.0nm,0.1s,SNR=6.4								
USP				⇑S		**Sb**	07 54 15.5	**+0.1**
	10nm,0.1s								
USP	**Ospenovka**	**1.23**	**28**	⇑*i*P		**Pg**	07 53 58.9	**-0.2**
	baz=28								
USP				⇑*i*S		**Sg**	07 54 15.3	**+0.1**
	baz=28								
ARK	**Arkit**	**1.35**	**254**	*e*P		**Pg**	07 54 02.1	**+0.6**
	baz=254								
ARK				*e*S		**Sn**	07 54 20.0	**+0.5**
	baz=254								
TKM2	**Tokmak 2**	**1.58**	**62**	⇓P		**Pn**	07 54 03.6	**-0.9**
	3.4nm,0.9s								
TKM2				⇓S		**Sn**	07 54 25.5	**+0.2**
	4.1nm,0.4s								
TKM2	**Tokmak 2**	**1.58**	**62**	P		**Pn**	07 54 03.5	**-0.9**
	2.6nm,0.1s,SNR=14								
TKM2	**Tokmak 2**	**1.58**	**62**	⇑*i*P		**Pn**	07 54 03.5	**-0.9**
	baz=61								
TKM2				⇑*i*S		**Sn**	07 54 25.5	**+0.2**
	baz=61								
NRN	**Naryn**	**1.88**	**113**	*e*P		**Pg**	07 54 11.4	**-0.2**
	baz=114								
NRN				*e*S		**Sg**	07 54 38.4	**+2.5**
	baz=114								
ULHL	**Ulahol**	**1.89**	**87**	⇑*i*P		**Pb**	07 54 10.5	**-0.1**
	baz=87								
ULHL				⇑*i*S		**Sb**	07 54 35.4	**+0.8**
	baz=87								
SFK	**Sufi-Kurgan**	**2.18**	**184**	⇓Pn		**Pb**	07 54 15.0	**-0.5**
	0.8nm,0.2s								
SFK				⇓Sn		**Sb**	07 54 43.8	**+1.0**
	4.1nm,0.4s								
KK31	**Karatay Array**	**2.52**	**292**	⇑Pn		**Pb**	07 54 20.2	**-1.1**
	0.7nm,0.3s,baz=116,slow=15,SNR=13								
KK31				⇑Sn		**Sb**	07 54 54.8	**+2.1**
	1.7nm,0.3s,baz=114,slow=26,SNR=9.0								

WEL 04 07:57:02.6±0.4, 35°.39S×178°.66E, h209km±11km, ML3.4/4, Error ellipse: s-maj=9.3km s-min=7.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.19**	**187**	*e*PN	Pn	07 57 42.3	-1.3
WMGZ	**Waiomatatini S**	**2.43**	**185**	PN	Pn	07 57 46.5	+0.3
HAZ	**Te Kaha**	**2.46**	**196**	*e*PN	Pn	07 57 47.2	+0.7
HAZ				SN	S	07 58 21.0	+0.4
PUZ	**Puketiti**	**2.70**	**187**	PN	Pn	07 57 48.9	-0.3
PUZ				SN	S	07 58 24.6	-0.8
TWGZ	**Tauwhareparae**	**2.83**	**191**	*e*PN	Pn	07 57 51.0	+0.2
TWGZ				SN	S	07 58 29.6	+1.4
MWZ	**Matawai**	**3.08**	**197**	PN	Pn	07 57 53.9	+0.3
CNGZ	**Carnagh Statio**	**3.11**	**187**	PN	Pn	07 57 54.3	+0.4
TKGZ	**Te Karaka**	**3.11**	**192**	PN	Pn	07 57 54.0	+0.1
TKGZ				SN	S	07 58 34.3	+0.5
URZ	**Urewera**	**3.12**	**203**	PN	Pn	07 57 54.2	+0.2
URZ				SN	S	07 58 34.6	+0.5
RIGZ	**Rimuhau**	**3.38**	**192**	PN	Pn	07 57 57.1	-0.2
SNGZ	**Shannon Statio**	**3.54**	**197**	PN	Pn	07 57 59.6	+0.4
KNZ	**Kokohu**	**3.71**	**192**	PN	Pn	07 58 00.1	-0.9
ARHZ	**Aropaoanui**	**4.09**	**198**	*e*PN	Pn	07 58 06.5	+0.8
BKZ	**Black Stump Fm**	**4.15**	**204**	*e*PN	Pn	07 58 06.8	+0.2
MRZ	**Mangatainoka R**	**5.80**	**204**	PN	Pn	07 58 25.6	-1.7
CAW	**Cannon Point**	**6.37**	**205**	PN	Pn	07 58 32.6	-2.1

*IDC **04** 08:08:35.0±0.6, 4°.20N×126°.80E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.2/25, mbtmp4.1/18, MS3.7/12, Ms1 3.8/12, ms1mx3.5/36, Error ellipse: s-maj=27.5km s-min=15.0km az=69.0*

*ISCJB **04** 08:08:38.9±0.3, 4°.33N±0°.02×127°.14E±0°.04, h35km, mb4.3/31, MS3.7/11, Error ellipse: s-maj=5.7km s-min=3.4km az=6.7*

*DJA **04** 08:08:39.8±1.0, 4°N±3°×12°7E±°, h22km±11km, M4.9/23, mbB5.5/13, mb4.8/23, MLv4.8/12, Mw(mB)5.0/13*

*BJI **04** 08:08:40.6, 4°.52N×127°.14E, h35km, mB4.9/22, mb4.6/27, Ms4.6/18, Ms7 4.3/13*

*NEIC **04** 08:08:40.7±0.4, 4°.37N×127°.10E, h35km, mb4.7/9, Error ellipse: s-maj=12.7km s-min=7.3km az=79.0*

*MAN **04** 08:08:46, 4°.96N×126°.85E, h3km, mb5.4, ML4.4, MS4.7*

ISC 04 08:08:40.9±0.4, 4°.38N±0°.04×127°.15E±0°.06, h35km, n97, σ1§76/116, mb4.4/30, MS3.9/11, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.75**	**247**	P	Pn	08 09 05.4	-3.4
SGSI				S	Sn	08 09 37.6	+7.7
MATI	**Mati**	**2.70**	**341**	*e*P	**Pn**	**08 09 22.2**	**+0.3**
MATI				*e*S	**Sn**	**08 09 49.0**	**-4.4**
TNTI	**Ternate**	**3.59**	**176**	P	**Pn**	**08 09 34.7**	**+0.7**
TNTI				S	**Sn**	**08 10 16.8**	**+1.6**
TNTI	**Ternate**	**3.59**	**176**	*e*Pn	**Pn**	**08 09 34.1**	**+0.1**
TNTI				*e*Sn	**Sn**	**08 10 15.0**	**-0.2**
CTBH	**Cotabato--PC H**	**4.04**	**315**	⇓*e*P	**Pn**	**08 09 42.8**	**+2.6**
BUKP	**Musuan**	**4.05**	**329**	*e*P	**Pn**	**08 09 41.5**	**+1.1**
CGP	**Cagayan de Oro**	**4.73**	**329**	⇓*e*P	Pn	08 09 57.3	+7.6
KMSI	**Cibinong**	**4.92**	**220**	P	**Pn**	**08 09 53.4**	**+1.0**
KMSI				S	**Sn**	**08 10 50.8**	**+2.6**
LBMI	**Labuha**	**4.99**	**176**	P	**Pn**	**08 09 54.2**	**+0.8**
	121nm,1.2s,2μm0.9nm						
PAGZ	**Pagadian**	**5.09**	**313**	*e*P	**Pn**	**08 09 56.8**	**+2.1**
GTOI	**Gorontalo**	**5.56**	**228**	P	**Pn**	**08 09 59.3**	**-1.8**
	145nm,1.1s,1μm0.5nm						
MRSI	**Marisa**	**6.48**	**233**	P	**Pn**	**08 10 12.6**	**-1.3**
	126nm,0.7s,2μm0.5nm						
SANI	**Sanana**	**6.49**	**190**	P	**Pn**	**08 10 12.4**	**-1.5**
	29nm,0.9s,0.1nm						
LUWI	**Luwuk**	**6.93**	**219**	P	**Pn**	**08 10 21.1**	**+1.1**
	309nm,1.1s,4μm1.1nm						
LUWI	**Luwuk**	**6.93**	**219**	P	Pn	08 10 25.2	+5.1
	baz=6.6,SNR=3.8						
LUWI	**Luwuk**	**6.93**	**219**	*e*Pn	**Pn**	**08 10 21.7**	**+1.7**
	327nm,1.0s						
TOLI	**Toli-Toli**	**7.12**	**243**	*e*Pn	Pn	08 10 29.6	+6.9
TOLI				*e*Sn	**Sn**	**08 11 41.0**	**-1.4**
NLAI	**Namlea**	**7.56**	**180**	P	Pn	08 10 35.0	+6.3
APSI	**Ampana**	**7.60**	**226**	P	**Pn**	**08 10 30.2**	**+1.0**
	331nm,1.2s,3μm1.1nm						
APSI				S	**Sn**	**08 11 56.7**	**+2.5**
	331nm,1.2s,3μm1.1nm						
MPSI	**Mapaga**	**8.28**	**241**	P	**Pn**	**08 10 36.3**	**-2.2**
	24nm,0.9s						
RCP	**Roxas**	**8.36**	**329**	⇑*e*P	Pn	08 10 49.5	+10
FAKI	**Fak Fak**	**8.86**	**145**	P	**Pn**	**08 10 48.2**	**+1.6**
	baz=8.7,SNR=4.2						
FAKI	**Fak Fak**	**8.86**	**145**	*e*Pn	**Pn**	**08 10 47.2**	**+0.7**
TTSI	**Tana Toraja**	**10.39**	**225**	P	**Pn**	**08 11 08.0**	**+0.5**
	44nm,1.3s,1μm						
TTSI				S	**Sn**	**08 13 04.3**	**+1.5**
	44nm,1.3s,1μm						
SPSI	**Sidrap Palu**	**11.09**	**222**	P	**Pn**	**08 11 14.8**	**-2.3**
	15nm,1.1s						
BNSI	**Bone**	**11.20**	**219**	P	**Pn**	**08 11 19.6**	**+1.0**
	36nm,1.2s						
KAPI	**Kappang**	**11.90**	**218**	*e*Pn	**Pn**	**08 11 29.7**	**+1.5**
	29nm,1.1s						
SOEI	**Soe**	**14.33**	**192**	P	**Pn**	**08 12 02.1**	**+0.6**
	27nm,1.1s						
BBKI	**Banjar Baru**	**14.55**	**238**	P	**Pn**	**08 12 03.7**	**-0.7**
	56nm,1.1s,2μm						
JAY	**Jayapura**	**15.18**	**117**	LR	LR	08 17 52.7	
	comp=Z,389nm,19.4s,baz=352,slow=36						
JAY	**Jayapura**	**15.18**	**117**	S	S	08 15 09.0	-7.0
	baz=15,SNR=3.4						
WBSI	**Waikabubak, Su**	**15.93**	**209**	P	**Pn**	**08 12 22.4**	**-0.1**
	72nm,1.0s,11μm						
KSM	**Kuching**	**17.06**	**261**	P	**P**	**08 12 37.5**	**-0.9**
	baz=17,SNR=6.2						
KSM	**Kuching**	**17.06**	**261**	*e*Pn	**P**	**08 12 37.1**	**-1.3**
	35nm,1.3s						
MTN	**Manton Dam**	**17.56**	**167**	P	**Pn**	**08 12 39.2**	**-3.8**
	baz=17,SNR=6.6						
KNRA	**Kununurra**	**19.99**	**175**	P	**P**	**08 13 09.5**	**-1.0**
	baz=20,SNR=8.6						
KPJI	**Karang Pucung**	**21.58**	**237**	P	**P**	**08 13 25.2**	**-2.5**
	27nm,1.0s						
QIZ	**Qiongzhong**	**22.31**	**312**	P	**P**	**08 13 35.6**	**+0.1**
QIZ				sP	**sP**	**08 13 48.3**	**-0.9**
QIZ				S	**S**	**08 17 40.8**	**+1.9**
QIZ				PMZ			
	9.0nm,1.0s						
LEM	**Lembang**	**22.45**	**240**	LR	LR	08 22 50.0	
	comp=Z,256nm,20.5s,baz=39,slow=39						
PMBI	**Palembang**	**23.50**	**252**	P	P	08 13 41.6	-6.3
PMBI	**Palembang**	**23.50**	**252**	P	**P**	**08 13 44.6**	**-3.3**
	baz=23,SNR=4.1						
UBPT	**Khong Chiam**	**23.92**	**298**	P	**P**	**08 13 50.4**	**-1.4**
	24nm,1.1s,614nm						
MDSI	**Maura Dua**	**24.58**	**249**	P	**P**	**08 14 00.1**	**+2.2**
	15nm,1.3s						
WRAB	**Tennant Creek**	**25.17**	**164**	*e*P	**P**	**08 14 02.1**	**-1.1**
	36nm,1.0s						
WRA	**Warrumunga Arr**	**25.18**	**164**	P	**P**	**08 14 00.8**	**-2.5**
	12nm,0.8s,baz=344,slow=10,SNR=26						
WB2	**Warramunga Arr**	**25.18**	**164**	*e*P	**P**	**08 14 02.1**	**-1.2**
QIS	**Mount Isa**	**27.63**	**154**	P	**P**	**08 14 27.5**	**+2.1**
	baz=28,SNR=3.6						
PBKT	**Sadao Pong**	**28.40**	**297**	P	**P**	**08 14 34.8**	**+2.5**
	11nm,1.4s,4μm						
NJ2	**Nanjing**	**28.61**	**345**	*e*P	**P**	**08 14 33.2**	**-0.8**
NJ2				PMZ			
	40nm,0.9s						
AS31	**Alice Springs**	**28.64**	**167**	P	**P**	**08 14 34.1**	**-0.3**
ASAR	**Alice Springs**	**28.64**	**167**	P	**P**	**08 14 32.7**	**-1.7**
	1.3nm,0.7s,baz=347,slow=7.2,SNR=10						
ASAR				LR	LR	08 28 12.0	
	comp=Z,78nm,18.5s,baz=356,slow=41						
WRKA	**Warakurna**	**29.26**	**178**	P	**P**	**08 14 39.3**	**-0.6**
	baz=29,SNR=9.8						
GYA	**Guiyang**	**29.43**	**320**	*e*P	**P**	**08 14 42.0**	**+0.5**
GYA				PMZ			
	10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.91**	**299**	P	**P**	**08 14 53.0**	**-1.6**
	0.9nm,0.3s,baz=115,slow=7.9,SNR=18						
CMAR				LR	LR	08 27 14.3	
	comp=Z,120nm,21.0s,baz=134,slow=36						
CMMT	**Chiang Mai**	**31.05**	**300**	P	P	08 15 04.5	+8.7
KMI	**Kunming**	**31.23**	**314**	P	P	08 15 02.8	+5.2
KMI				pP	pP	08 15 09.4	+1.8
KMI				sP	sP	08 15 13.2	+1.3
KMI				PMZ			
	11nm,0.7s						
KMI				LN			
	170nm,18.9s						
KMI				LE			
	210nm,22.5s						
MHMT	**Maesarieng**	**31.69**	**298**	P	P	08 15 04.7	+3.3
	7.6nm,0.9s						
MEEK	**Meekatharra**	**31.92**	**195**	P	**P**	**08 15 01.2**	**-2.2**
	baz=32,SNR=4.8						
KSAR	**Wonju Array Be**	**32.92**	**1**	P	**P**	**08 15 13.0**	**+1.1**
KSRS	**Korea Array**	**32.93**	**1**	P	**P**	**08 15 13.0**	**+1.0**
	0.5nm,0.2s,baz=179,slow=9.2,SNR=3.0						
MJAR	**Matsushiro Arr**	**33.59**	**16**	P	**P**	**08 15 19.9**	**+2.0**
	0.5nm,0.4s,baz=176,slow=8.5,SNR=5.1						
XAN	**Xi'an**	**34.03**	**332**	P	**P**	**08 15 20.1**	**-1.7**
XAN				PMZ			
	2.0nm,0.9s						
XAN				PMZ			
	12nm,5.1s						
CD2	**Chengdu**	**34.38**	**323**	*e*P	**P**	**08 15 26.6**	**+1.8**
CD2				pP	**pP**	**08 15 36.7**	**+1.7**
CD2				sP	**sP**	**08 15 40.9**	**+1.7**
CD2				PP	**PP**	**08 16 43.1**	**0.0**
CD2				S	**S**	**08 20 51.7**	**+1.2**
CD2				sS	**sS**	**08 21 08.4**	**+1.2**
CD2				PcS	**PcS**	**08 21 46.8**	**+0.1**
CD2				SS	**SnSn**	**08 23 03.7**	**+1.4**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,4.6s						
CD2				LN			
	330nm,15.6s						
CD2				LE			
	210nm,18.1s						
CD2				LZ			
	360nm,19.1s						
BJT	**Baijiatuao**	**36.84**	**346**	*e*P	**P**	**08 15 47.2**	**+1.4**
	22nm,1.0s						
BJI	**Beijing**	**36.86**	**346**	P	**P**	**08 15 46.9**	**+1.0**
BJI				pP	**pP**	**08 15 55.0**	**-1.1**
BJI				sP	**sP**	**08 15 59.1**	**-1.2**
BJI				PP	**PnPn**	**08 17 10.7**	**+0.1**
BJI				S	**S**	**08 21 30.2**	**+2.0**
BJI				PMZ			
	22nm,1.0s						
BJI				PMZ			
	120nm,5.8s						
BJI				LN			
	190nm,4.6s						
BJI				LE			
	67nm,6.0s						
LZH	**Lanzhou**	**38.16**	**329**	*e*P	P	08 16 01.0	+3.7
LZH				pP	pP	08 16 09.5	+2.0
LZH				sP	sP	08 16 12.7	+1.0
LZH				PP	**PP**	**08 17 24.4**	**-0.5**
LZH				*e*S	**S**	**08 21 52.0**	**+3.5**
LZH				sS	sS	08 22 06.1	+0.8
LZH				SS	**SnSn**	**08 24 30.6**	**-3.4**
LZH				PMZ			
	21nm,1.0s						
LZH				PMZ			
	86nm,4.4s						
LZH				LN			
	270nm,11.2s						
LZH				LE			
	390nm,14.8s						
LZH				LZ			
	520nm,15.2s						
HHC	**Hu-ho-hao-te**	**38.92**	**341**	*e*P	**P**	**08 16 04.9**	**+1.4**
HHC				PP	**PnPn**	**08 17 39.0**	**+3.4**
HHC				S	**S**	**08 22 01.4**	**+1.7**
HHC				sS	**sS**	**08 22 17.6**	**+1.1**
HHC				SS	**SnSn**	**08 24 46.0**	**-6.1**
HHC				ScS	**ScS**	**08 26 09.7**	**-1.0**
HHC				PMZ			
	12nm,1.2s						
HHC				PMZ			
	53nm,5.4s						
HHC				LN			
	100nm,14.7s						
HHC				LE			
	150nm,14.7s						
CN2	**Changchun**	**39.29**	**358**	*e*P	**P**	**08 16 03.7**	**-2.7**
SHL	**Shillong**	**39.84**	**306**	*e*P	**P**	**08 16 09.0**	**-2.4**
GTA	**Gaotai**	**42.76**	**328**	*e*P	**P**	**08 16 35.1**	**-0.1**
GTA				pP	**pP**	**08 16 44.7**	**-0.8**
GTA				sP	**sP**	**08 16 48.9**	**-0.8**
GTA				PMZ			
	2.0nm,1.6s						
DZM	**Mont Dzumac**	**46.57**	**126**	P	**P**	**08 17 07.3**	**+1.5**
	1.4nm,0.7s,baz=262,slow=2.0,SNR=3.1						
ULN	**Ulaanbaatar**	**46.64**	**341**	*e*P	**P**	**08 17 05.6**	**-0.4**
	6.1nm,0.8s						
SONM	**Songino Array**	**46.83**	**341**	P	**P**	**08 17 07.9**	**+0.5**
	0.9nm,0.6s,baz=158,slow=8.6,SNR=7.8						
SONM				LR	LR	08 38 14.3	
	comp=Z,123nm,20.6s,baz=158,slow=38						
WMQ	**Urumqi**	**52.44**	**325**	*e*P	**P**	**08 17 51.5**	**+1.3**
WMQ				pP	**pP**	**08 18 01.5**	**+0.8**
WMQ				sP	**sP**	**08 18 05.5**	**+0.6**
WMQ				PcS	**PcS**	**08 22 59.0**	**0.0**
WMQ				*e*S	**S**	**08 25 14.0**	**-0.1**
WMQ				SKS	**ScS**	**08 27 35.0**	**-2.6**
WMQ				SS	**SS**	**08 28 49.0**	**-3.5**
WMQ				PMZ			
	8.0nm,0.8s						
WMQ				PMZ			
	130nm,4.7s						
WMQ				LN			
	580nm,22.7s						
WMQ				LE			
	480nm,17.5s						
WMQ				LZ			
	490nm,21.6s						
PETK	**Petropavlovsk-**	**54.68**	**22**	P	**P**	**08 18 08.3**	**+1.9**
	4.3nm,0.8s,baz=229,slow=13,SNR=5.4						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**08 18 23.8**	**-1.2**
	1.0nm,0.4s,baz=124,slow=8.1,SNR=18						
MKAR				LR	LR	08 44 20.2	
	comp=Z,168nm,19.7s,baz=106,slow=38						
YAK	**Yakutsk**	**57.56**	**1**	P	**P**	**08 18 26.2**	**-0.5**
	11nm,0.6s,baz=198,slow=1.9,SNR=4.3						
KSH	**Kashi**	**57.89**	**315**	*e*P	P	08 18 34.1	+4.4
KSH				sP	sP	08 18 48.1	+3.7
KSH				PP	PP	08 20 45.1	+6.9
KSH				PcS	**PcS**	**08 23 25.6**	**+2.3**
KSH				S	S	08 26 33.0	+5.7
KSH				PMZ			
	130nm,5.3s						
KSH				LN			
	72nm,5.2s						
KSH				LE			
	96nm,6.2s						
KSH				LZ			
	190nm,5.4s						
ZALV	**Zalesovo Beam**	**60.21**	**333**	P	**P**	**08 18 44.5**	**-0.8**
	0.8nm,0.3s,baz=116,slow=8.4,SNR=5.3						
ZALV				LR	LR	08 46 48.2	
	comp=Z,60nm,19.8s,baz=50,slow=38						
EKS2	**Erkin-Say**	**60.66**	**317**	*e*P	**P**	**08 18 48.0**	**-0.8**
	7.0nm,1.4s						
KURK	**Kurchatov**	**61.42**	**327**	*e*P	**P**	**08 18 52.3**	**-1.3**
	18nm,0.9s						
KKAR	**Karatay Array**	**63.05**	**317**	*e*P	**P**	**08 19 03.7**	**-1.0**
	4.8nm,0.9s						
GEYT	**Alibeck**	**70.82**	**309**	P	**P**	**08 19 53.3**	**-1.0**
	1.3nm,0.3s,baz=101,slow=7.5,SNR=4.5						
GEYT				LR	LR	08 56 30.5	
	comp=Z,56nm,18.1s,baz=235,slow=41						
ABKAR	**Akbulak array**	**71.92**	**321**	*e*P	**P**	**08 19 60.0**	**-0.7**
	2.0nm,0.7s						
ARU	**Arti**	**74.62**	**328**	*e*P	**P**	**08 20 15.0**	**-1.4**
	5.6nm,0.7s						
ILAR	**Eielson Array**	**84.35**	**25**	P	**P**	**08 21 10.2**	**+1.0**
	0.4nm,0.7s,baz=226,slow=4.4,SNR=8.5						
BRTR	**Keskin Array B**	**89.93**	**310**	P	**P**	**08 21 35.0**	**-2.0**
	0.2nm,0.4s,baz=126,slow=2.0,SNR=3.0						
BRTR				LR	LR	09 09 08.6	
	comp=Z,9.2nm,18.1s,baz=92,slow=40						
ARCES	**ARCESS Array B**	**89.99**	**340**	P	**P**	**08 21 35.8**	**-0.6**
	1.8nm,0.8s,baz=81,slow=8.7,SNR=5.8						
ARCES				LR	LR	09 07 24.3	
	comp=Z,50nm,18.3s,baz=82,slow=39						
FINES	**FINESS Array B**	**91.46**	**332**	P	**P**	**08 21 42.4**	**-1.0**
	1.2nm,0.9s,baz=75,slow=5.9,SNR=3.3						
FINES				LR	LR	09 08 18.5	
	comp=Z,42nm,18.4s,baz=46,slow=39						
AKASG	**Malin Array Be**	**91.66**	**321**	P	**P**	**08 21 42.4**	**-2.2**
	0.2nm,0.3s,baz=69,slow=3.8,SNR=4.5						
KOLS	**Kolonicke sedl**	**96.42**	**320**	*e*	**P**	**08 22 08.8**	**+2.3**
CRVS	**Cervenica-Dubn**	**96.95**	**320**	*e*	P	08 22 15.4	+6.5
NOA	**NORSAR Array B**	**98.40**	**334**	LR	LR	09 12 09.7	
	comp=Z,40nm,20.4s,baz=60,slow=39						
YKA	**Yellowknife Ar**	**98.74**	**24**	P	Pdif	08 22 16.8	+0.1
	0.1nm,0.8s,baz=304,slow=4.4,SNR=3.7						
GERES	**GERESS Array B**	**101.84**	**322**	P	**Pdif**	**08 22 33.0**	**+2.1**
	0.3nm,0.8s,baz=62,slow=6.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**123.11**	**289**	PKP	**PKPdf**	**08 27 34.7**	**-0.2**
	0.9nm,0.7s,baz=51,slow=2.0,SNR=6.5						
CFAA	**Conel Fontan**	**149.30**	**154**	PKPbc	**PKPbc**	**08 28 27.6**	**+0.9**
	0.5nm,0.8s,baz=226,slow=6.3,SNR=5.1						

IDC 04 08:35:17.9±2.3, 4°.24N×127°.00E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/23, mbtmp3.5/3, 1D, Error ellipse: s-maj=193.8km s-min=25.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.04**	**317**	⇓*i*P	Pb	08 36 27.6	-2.3
WRA	**Warramunga Arr**	**25.09**	**164**	P	P	08 40 42.7	-1.7
	1.1nm,0.6s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.54**	**167**	P	P	08 41 17.3	+1.8
	0.2nm,0.3s,baz=348,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	08 45 07.5	0.0
	0.4nm,0.4s,baz=131,slow=6.0,SNR=3.4						

MAN 04 08:35:21, 10°.74N×123°.20E, h77km, mb4.2, ML3.1, MS2.8, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.61**	**259**	*e*P	Pn	08 35 37.5	+1.9
GUIM				*e*S	Sn	08 35 49.0	+2.7
RCP

SHO Shikotan 0.70 37 *e*P **Pn 08 35 56.2 -0.9**
SHO AMB AMB 08 35 56.5
2µm,0.7s
SHO *e*S **Sn 08 36 07.8 -1.7**
SHO A A 08 36 09.1
13µm,0.5s
YUK Yuzh-Kuril'sk 0.77 339 *d i*PN **Pn 08 35 56.8 -1.1**
YUK *i* S **Sn 08 36 08.7 -2.1**
YUK pmax pmax
comp=N,857nm,0.1s
YUK pmax pmax
comp=E,2µm,0.1s
YUK pmax pmax
comp=Z,5µm,0.1s
YUK smax smax
comp=N,15µm,0.6s
YUK smax smax
comp=E,28µm,0.6s
YUK Yuzh-Kuril'sk 0.77 339 *e*P **Pn 08 35 56.8 -1.1**
YUK AMB AMB 08 35 57.4
comp=E,5µm,0.1s
YUK *e*S **Sn 08 36 08.7 -2.1**
YUK A A 08 36 10.0
comp=E,15µm,0.6s
YUK A A 08 36 10.0
comp=E,28µm,0.6s
JRA Rausu 1.03 308 P **Pn 08 36 00.2 -0.4**
JRA *e*S **Sn 08 36 15.0 -0.7**
JNK Nakash 1.15 284 P **Pn 08 36 01.0 -1.0**
JNK *e*S **Sn 08 36 16.2 -1.9**
JAK Akkeshi 1.18 255 P **Pn 08 36 01.3 -1.1**
JAK *e*S **Sn 08 36 17.2 -1.6**
JAR Ashorobuto 1.81 270 P **Pn 08 36 10.0 -0.3**
JAR *e*S **Sn 08 36 32.2 -0.7**
JOB Onbets 1.81 258 P **Pn 08 36 09.9 -0.5**
JOB *e*S **Sn 08 36 31.7 -1.3**
JTKR Abashiri--Toko 1.82 292 P **Pn 08 36 10.6 +0.1**
JTKR *e*S **Sn 08 36 32.7 -0.5**
JMP Maruseppu 2.21 289 P **Pn 08 36 15.8 +0.2**
JMP *e*S **Sn 08 36 41.0 -1.3**
JCH Churui 2.23 253 P **Pn 08 36 15.0 -0.9**
JCH *e*S **Sn 08 36 40.9 -1.9**
KUR Kuril'sk 2.24 31 ‖ *i*PN **Pn 08 36 15.8 -0.2**
KUR *i* S **Sn 08 36 42.3 -0.8**
KUR pmax pmax
comp=N,102nm,0.4s
KUR pmax pmax
comp=E,81nm,0.4s
KUR pmax pmax
comp=Z,527nm,0.4s
KUR smax smax
comp=N,2µm,0.3s
KUR smax smax
comp=E,1µm,0.3s
KUR Kuril'sk 2.24 31 *e*P **Pn 08 36 15.8 -0.2**
KUR AMB AMB 08 36 16.7
comp=E,527nm,0.4s
KUR *e*S **Sn 08 36 42.3 -0.8**
KUR A A 08 36 44.2
comp=E,1µm,0.3s
KUR A A 08 36 44.2
comp=E,2µm,0.3s
HRK Horoka 2.28 275 *e*P **Pn 08 36 16.8 +0.2**
HRK *e*S **Sn 08 36 43.9 -0.1**
ERM Erimo 2.62 241 *ce*PN **Pn 08 36 21.8 +0.7**
ERM pmax pmax
comp=Z,315nm,1.0s
ERM Erimo 2.62 241 *e*P **Pn 08 36 20.9 -0.2**
ERM Erimo 2.62 241 *e*Pn **Pn 08 36 20.9 -0.2**
ERM *e*Sn **Sn 08 36 48.0 -4.2**
ASAJ Asahikawa 2.77 288 PN **Pn 08 36 24.1 +1.1**
ASAJ S **Sn 08 36 56.3 +0.7**
ASAJ pmax pmax
comp=Z,32nm,0.3s
ASAJ smax smax
comp=N,21nm,0.3s
ASAJ Asahikawa 2.77 288 P **Pn 08 36 24.1 +1.1**
comp=N,32nm,0.3s,baz=110,slow=9.5,SNR=360
ASAJ S **Sn 08 36 56.2 +0.7**
comp=N,21nm,0.3s,baz=186,slow=5.3,SNR=5.2
ASAJ LR LR 08 37 37.1
comp=N,253nm,18.7s,baz=166,slow=42
ASAJ Asahikawa 2.77 288 *e*P **Pn 08 36 23.8 +0.8**
YSS Yuzh-Sakhalins 4.40 327 ‖ *i*PN **Pn 08 36 45.8 +0.8**
YSS *i* S **Sn 08 37 33.8 -1.2**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS smax smax
comp=N,310nm,1.0s
YSS smax smax
comp=E,220nm,1.1s
YSS Yuzh-Sakhalins 4.40 327 *e*P **Pn 08 36 45.8 +0.8**
YSS AMB AMB 08 36 46.8
comp=E,40nm,0.9s
YSS *e*S **Sn 08 37 33.8 -1.2**
YSS A A 08 37 36.5
comp=E,310nm,1.0s
YSS A A 08 37 36.5
comp=E,220nm,1.0s
YSS Yuzh-Sakhalins 4.40 327 *e*Pn **Pn 08 36 45.7 +0.8**
YSS *e*Sn **Sn 08 37 35.0 0.0**
UGL Uglegorsk 6.45 335 *ce*PN **Pn 08 37 12.5 -0.4**
UGL S **Sn 08 38 23.0 -2.0**
MAJO Matsushiro 9.15 225 *e*PN **Pn 08 37 48.9 -1.0**
MAJO Matsushiro 9.15 225 *e*P **Pn 08 37 48.9 -1.0**
MAJO Matsushiro 9.15 225 *e*Pn **Pn 08 37 48.9 -1.0**
MAT Matsushiro 9.15 225 P **Pn 08 37 47.9 -2.0**
MAT *e*S **Sn 08 39 33.0 +1.9**
MJAR Matsushiro Arr 9.15 225 P **Pn 08 37 48.1 -1.8**
comp=E,0.5nm,0.3s,baz=29,slow=13,SNR=12
MJAR LR LR 08 42 01.3
comp=E,63nm,18.2s,baz=240,slow=42
HABR Khabarovsk 9.35 307 *e*PN **Pn 08 37 49.5 -2.9**
HABR pmax pmax
comp=Z,10.0nm,1.8s
USRK Ussuriysk Ar. 10.36 280 P **Pn 08 38 05.9 -0.2**
comp=Z,0.4nm,0.3s,baz=82,slow=14,SNR=5.7
KLR Kul'dur 11.64 306 *e*PN **Pn 08 38 22.0 -1.5**
MDJ Mudanjiang 12.08 282 P **Pn 08 38 28.8 -0.6**
MDJ PMZ
comp=Z,5.0nm,0.8s
MDJ PMZ
comp=Z,110nm,6.7s
PETK Petropavlovsk- 12.41 34 P **Pn 08 38 31.3 -2.5**
comp=Z,0.3nm,0.3s,baz=182,slow=15,SNR=6.9
HIA Hailar 19.20 297 *e*P **P 08 39 55.2 -2.0**
HIA pmax pmax
comp=Z,5.0nm,1.2s
SEY Seymchan 19.98 8 P **P 08 40 02.5 -2.9**
comp=Z,0.3nm,0.3s,baz=178,slow=7.5,SNR=13
NJ2 Nanjing 24.31 252 *e*P **P 08 40 47.8 -1.8**
NJ2 PMZ
comp=Z,20nm,0.6s
HHC Hu-ho-hao-te 25.75 276 *e*P **P 08 41 02.8 0.0**
HHC PP **PnPn 08 41 46.7 +1.9**
HHC S **S 08 45 21.3 -3.9**
HHC sS **sS 08 45 58.7 -1.9**
HHC SS **SnSn 08 46 32.3 +2.4**
HHC PMZ
comp=Z,31nm,1.2s
HHC PMZ
comp=Z,85nm,5.6s
HHC LN
comp=Z,170nm,14.5s
HHC LE
comp=Z,150nm,13.7s
HHC LZ
comp=Z,75nm,14.1s
ULN Ulaanbaatar 27.59 293 *e*P **P 08 41 19.6 +0.3**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 27.59 293 *e*P **P 08 41 19.6 +0.3**
ULN Ulaanbaatar 27.59 293 *e*P **P 08 41 19.6 +0.3**
comp=Z,9.2nm,0.8s
SONM Songino Array 28.04 293 P **P 08 41 23.6 +0.4**
SONM pmax pmax
comp=Z,13nm,0.7s
SONM Songino Array 28.04 293 P **P 08 41 23.6 +0.4**
comp=Z,13nm,0.7s,baz=89,slow=8.5,SNR=92
H11N2 WAKE ISLAND Hy 29.21 137 T T 09 12 44.3
baz=328,slow=75,SNR=464
H11N1 WAKE ISLAND Hy 29.23 137 T T 09 12 34.4
baz=328,slow=75,SNR=446
H11N3 WAKE ISLAND Hy 29.23 137 T T 09 12 45.7
baz=328,slow=75,SNR=502

ZAK Zakamensk 29.88 299 *e*P **P 08 41 39.0 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
H11S1 WAKE ISLAND Hy 30.16 139 T T 09 13 57.3
baz=329,slow=76,SNR=716
H11S3 WAKE ISLAND Hy 30.16 139 T T 09 13 56.2
baz=329,slow=76,SNR=625
H11S2 WAKE ISLAND Hy 30.18 139 T T 09 13 52.5
baz=329,slow=76,SNR=492
GAMB Gambell 31.44 35 *e*P **P 08 41 53.5 +0.6**
comp=Z,0.5nm,0.6s
LZH Lanzhou 33.13 272 *e*P **P 08 42 09.5 +1.2**
LZH pP **pP 08 42 29.9 +0.9**
LZH sP **sP 08 42 41.5 +2.0**
LZH PMZ
comp=Z,16nm,1.0s
TNA Tin City 33.57 33 *e*P **P 08 42 12.3 +0.8**
TNA Tin City 33.57 33 *e*P **P 08 42 12.3 +0.8**
comp=Z,7.5nm,1.0s
CD2 Chengdu 35.71 264 *e*P **P 08 42 31.1 +0.7**
CD2 pP **pP 08 42 52.8 +1.5**
CD2 sP **sP 08 43 04.0 +2.2**
CD2 PP **PP 08 43 54.1 +1.0**
CD2 S **S 08 47 59.3 -1.3**
CD2 sS **sS 08 48 36.9 +0.2**
CD2 SS **SnSn 08 50 23.8 -7.6**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
HVS Khovu-Aksy 35.86 301 *e*P **P 08 42 32.2 +0.7**
HVS pmax pmax
comp=Z,36nm,1.7s
HVS Khovu-Aksy 35.86 301 *e*P **P 08 42 32.2 +0.7**
GYA Guiyang 36.18 255 pP **pP 08 42 55.7 +0.2**
GYA sP sP 08 43 07.0 +1.1
GYA PP **PnPn 08 44 00.2 +1.4**
GYA S **S 08 48 04.6 -3.4**
GYA ScP **ScP 08 48 36.5 +0.2**
GYA SS SnSn 08 50 32.4 -11
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,520nm,17.8s
GYA LR LR
comp=E,490nm,18.0s
GYA LR LR
comp=Z,510nm,17.5s
IM04 Indian Mountai 39.36 34 *e*P **P 08 43 01.5 +0.8**
KTH Kantishna Hill 40.50 38 *e*P **P 08 43 11.4 +1.1**
ZALV Zalesovo Beam 40.74 307 P **P 08 43 11.6 -0.7**
ZALV 08 45 11.9
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 40.74 307 P **P 08 43 11.6 -0.7**
comp=Z,2.1nm,0.4s,baz=83,slow=8.4,SNR=16
ZALV PcP **PcP 08 45 11.8 0.0**
comp=Z,0.9nm,0.5s,baz=79,slow=3.2,SNR=4.6
NVS Novosibirsk 41.48 309 *e*P P 08 43 15.0 -3.3
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 41.65 292 *e*P **P 08 43 21.0 +1.1**
WMQ pP **pP 08 43 44.0 +2.7**
WMQ sP **sP 08 43 56.0 +4.4**
WMQ *e*S **S 08 49 30.0 +0.3**
WMQ SS **SS 08 52 33.0 -4.9**
WMQ PMZ
comp=Z,13nm,0.6s
WMQ PMZ
comp=Z,210nm,7.2s
WMQ LN
comp=Z,150nm,15.6s
WMQ LE
comp=Z,110nm,18.4s
WMQ LZ
comp=Z,140nm,20.2s
COLA College 41.81 36 *e*P **P 08 43 22.3 +1.4**
COLA pmax pmax
comp=Z,29nm,1.6s
COLA College 41.81 36 *e*P **P 08 43 22.2 +1.4**
COLA College 41.81 36 *e*P **P 08 43 22.2 +1.4**
comp=Z,30nm,1.6s
ILAR Eielson Array 42.23 36 P **P 08 43 24.3 0.0**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 42.23 36 P **P 08 43 24.2 0.0**
comp=Z,2.3nm,0.8s,baz=260,slow=5.4,SNR=46
MKAR Makanchi Array 44.20 298 P **P 08 43 40.6 +0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 44.20 298 P **P 08 43 40.5 +0.1**
comp=Z,5.4nm,0.7s,baz=80,slow=9.0,SNR=68
MKAR Makanchi Array 44.20 298 *e*P **P 08 43 40.7 +0.2**
KURK Kurchatov 45.23 304 *e*P **P 08 43 48.3 -0.2**
KURK Kurchatov 45.23 304 *e*P **P 08 43 48.3 -0.2**
KURK Kurchatov 45.23 304 *e*P **P 08 43 48.3 -0.2**
BVAR Borovoye Array 49.27 309 P **P 08 44 19.7 -0.2**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 49.27 309 P **P 08 44 19.7 -0.2**
comp=Z,1.4nm,0.3s,baz=82,slow=9.2,SNR=18
AAK Ala-Archa 50.95 296 *e*P **P 08 44 33.3 +0.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 50.95 296 *e*P **P 08 44 33.3 +0.3**
KSH Kashi 51.41 291 *e*P P 08 44 40.9 +4.6
KSH sP sP 08 45 15.3 +6.8
KSH PP PP 08 46 41.3 +7.3
KSH PcS **PcS 08 49 50.2 +2.5**
KSH S **S 08 51 54.6 +5.4**
KSH SS **SS 08 55 28.7 +3.1**
KSH PMZ
comp=Z,120nm,4.6s
KSH LN
comp=Z,85nm,4.8s
KSH LE
comp=Z,66nm,4.9s
KSH LZ
comp=Z,170nm,5.0s
SVE Sverdlovsk 53.01 317 *e*P **P 08 44 48.0 +0.3**
SVE pmax pmax
comp=Z,21nm,0.9s
SOKR Solikamsk 53.70 321 *e*P **P 08 44 52.0 -0.7**
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU Arti 54.22 317 *c i*P **P 08 44 56.0 -0.6**
ARU 08 46 54.6
ARU S **S 08 52 26.2 -0.4**
ARU pmax pmax
comp=Z,23nm,1.2s
ARU Arti 54.22 317 *e*P **P 08 44 56.2 -0.3**
ARU Arti 54.22 317 *e*P **P 08 44 56.2 -0.3**
RES Resolute Bay 55.57 16 P **P 08 45 05.6 -0.5**
RES pmax pmax
comp=Z,9.0nm,0.5s
RES Resolute Bay 55.57 16 P **P 08 45 05.6 -0.5**
comp=Z,9.0nm,0.5s,baz=334,slow=6.6,SNR=78
RES Resolute Bay 55.57 16 P **P 08 45 05.6 -0.5**
comp=Z,5.5nm,0.8s
YKA Yellowknife Ar 56.53 33 P **P 08 45 13.6 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 56.53 33 P **P 08 45 13.6 +0.6**
comp=Z,0.7nm,0.5s,baz=303,slow=7.1,SNR=25
PRGR Permogore 57.56 326 *e*P **P 08 45 19.3 -1.0**
PRGR pmax pmax
comp=Z,19nm,0.8s
PRGR pmax pmax
comp=Z,13nm,1.0s
KEV Kevo 58.89 339 *e*P **P 08 45 28.0 -1.4**
KEV Kevo 58.89 339 *ep* P **08 45 28.0 -1.4**
TMCR Tamitsa 59.04 331 *e*P **P 08 45 30.3 -0.2**
TMCR *e* 08 47 41.6
TMCR pmax pmax
comp=Z,19nm,0.7s
ARCES ARCESS Array B 59.42 339 P **P 08 45 32.5 -0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 59.42 339 P **P 08 45 32.5 -0.7**
comp=Z,1.8nm,0.4s,baz=39,slow=7.5,SNR=28
DAG Danmarks Havn 59.81 356 *i* P **P 08 45 34.0 -1.7**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 59.81 356 *i* P **P 08 45 34.0 -1.7**
comp=Z,2.8nm,0.8s
KULLO Kullorsuaq 61.35 7 *i* P **P 08 45 45.3 -0.9**
KULLO pmax pmax
comp=Z,6.0nm,0.8s
KULLO Kullorsuaq 61.35 7 *i* P **P 08 45 45.3 -0.9**
comp=Z,5.6nm,0.8s
JOF Joensuu 62.16 332 *e*P **P 08 45 51.2 -0.6**
JOF Joensuu 62.16 332 *ep* **P 08 45 51.2 -0.6**
WRA Warramunga Arr 63.89 192 P **P 08 46 02.9 -0.8**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 63.89 192 P **P 08 46 02.9 -0.8**
comp=Z,2.2nm,1.0s,baz=13,slow=6.8,SNR=4.6
GEYT Alibeck 64.07 299 P **P 08 46 06.9 +2.0**
comp=Z,1.2nm,0.4s,baz=54,slow=9.7,SNR=3.3
SUMG Summit 64.36 2 *i* P **P 08 46 06.9 +0.2**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 64.36 2 *e*P **P 08 46 07.0 +0.2**
comp=Z,7.7nm,0.5s
SUMG Summit 64.36 2 *i* P **P 08 46 06.9 +0.2**
comp=Z,7.7nm,0.8s
KAF Kangasniemi 64.41 333 *e*P **P 08 46 05.1 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 64.41 333 *ep* **P 08 46 05.1 -1.5**
comp=Z,3.2nm,0.5s
FINES FINESS Array B 64.96 333 P **P 08 46 09.9 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 64.96 333 P **P 08 46 09.9 -0.3**
comp=Z,9.0nm,0.6s,baz=53,slow=7.1,SNR=60
OBN Obninsk 65.27 323 *e*P **P 08 46 13.4 +1.1**
OBN pmax pmax
comp=Z,33nm,2.5s
OBN Obninsk 65.27 323 *e*P **P 08 46 13.4 +1.1**
VRHR Novokhopersk 65.52 318 *e*P **P 08 46 12.6 -1.4**
VRHR pmax pmax
comp=Z,5.0nm,0.8s
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 66.63 319 *e*P **P 08 46 19.6 -1.6**
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,0.8s
ASAR Alice Springs 67.61 192 P **P 08 46 28.1 +0.5**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 67.61 192 P **P 08 46 28.1 +0.5**
comp=Z,1.6nm,0.6s,baz=12,slow=5.8,SNR=8.5
NVAR Mina Array Bea 68.36 57 P **P 08 46 33.4 +0.8**
comp=Z,0.5nm,0.6s,baz=290,slow=7.3,SNR=4.5
KIV Kislovodsk 69.56 311 *e*P **P 08 46 42.1 +2.4**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,18nm,17.0s
KIV Kislovodsk 69.56 311 *e*P **P 08 46 40.6 +0.9**
comp=Z,9.1nm,0.7s
KBZ Khabaz 69.59 311 P **P 08 46 40.5 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 69.59 311 P **P 08 46 40.5 +0.7**
comp=Z,4.9nm,0.9s,baz=30,slow=1.0,SNR=14
NB2 NORSAR Subarra 69.77 338 P **P 08 46 40.4 -0.3**
comp=Z,6.4nm,0.6s,baz=32,slow=6.9
NOA NORSAR Array B 69.77 338 P **P 08 46 40.3 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 69.77 338 P **P 08 46 40.3 -0.3**
comp=Z,4.3nm,0.6s,baz=32,slow=6.6,SNR=23
PDAR Pinedale Array 70.69 49 P **P 08 46 47.1 +0.3**
comp=Z,0.6nm,0.8s,baz=268,slow=1.9,SNR=3.8
AKASG Malin Array Be 71.54 323 P **P 08 46 51.5 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.54 323 P **P 08 46 51.5 0.0**
comp=Z,1.8nm,0.4s,baz=39,slow=6.0,SNR=26
BURAR Bucovina Array 75.59 323 *i* P **P 08 47 15.9 +0.4**
KOLS Kolonicke sedl 75.82 326 *e*P **P 08 47 17.9 +1.3**
KOLS Kolonicke sedl 75.82 326 *e*P **P 08 47 17.9 +1.3**
STHS Stebnicka Huta 75.86 327 *e*P **P 08 47 19.1 +2.2**
STHS Stebnicka Huta 75.86 327 *e*P **P 08 47 19.1 +2.2**
BRTR Keskin Array B 77.36 313 *i* P **P 08 47 28.2 +2.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 77.36 313 P **P 08 47 25.4 -0.2**
comp=Z,0.9nm,0.8s,baz=80,slow=2.7,SNR=5.6
CLL Collm 77.39 332 *e*P **P 08 47 26.0 +0.6**
CLL *e**PP **pP 08 47 47.0 -1.9**
CLL Collm 77.39 332 *e*P **P 08 47 26.0 +0.6**
CLL epP **pP 08 47 47.0 -1.9**
VYHS Vyhne 77.56 327 *e*P **P 08 47 26.2 -0.2**
VYHS Vyhne 77.56 327 *e*P **P 08 47 26.2 -0.2**
SCHQ Schefferville 78.25 19 P **P 08 47 29.7 -0.4**
comp=Z,2.1nm,0.7s,baz=0.0,slow=4.6,SNR=6.3
KHC Kasperske Hory 79.02 331 *e*P **P 08 47 36.5 +2.0**
GERES GERESS Array B 79.21 330 P **P 08 47 35.3 -0.4**
comp=Z,0.3nm,0.5s,baz=26,slow=6.2,SNR=6.2
TXAR Lajitas Array 83.44 56 P **P 08 47 58.6 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 83.44 56 P **P 08 47 58.6 +0.3**
comp=Z,1.1nm,0.8s,baz=291,slow=4.0,SNR=14
SNAA Sanae 147.84 198 P **PKPab 08 55 17.1 +0.4**
VNA2 Neumayer--Watz 149.38 197 P **PKPbc 08 55 18.6 +0.8**
baz=195,slow=3.3

ISCJB ***04*** *08:38:38.8±0.5, 6.°34S±0.°07×148.°80E±0.°09, h53km, mb4.0/9, MS3.1/1, Error ellipse: s-maj=14.5km s-min=7.1km az=29.6*
IDC ***04*** *08:38:42.0±1.8, 6.°42S×148.°78E, h69km±15km, mb3.7/9, mb1 4.0/12, mb1mx3.7/33, mbtmp4.1/12, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=21.7km s-min=9.6km az=123.0*

ISC 04 08:38:40.5±0.6, 6.°34S±0.°08×148.°8E±0.°1, h53km, n23, σ1s 04/25, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**208**	P	P	**Pn**	**08 39 32.4**	**+0.8**
	74nm,0.3s,baz=25,slow=9.1,SNR=171							
PMG				S		**Sn**	**08 40 11.6**	**+0.5**
	88nm,0.3s,baz=73,slow=19,SNR=13							
RABL	**Rabaul**	**4.00**	**58**	P	P	**Pn**	**08 39 38.9**	**-0.4**
	baz=4.0,SNR=28							
COEN	**Coen**	**9.36**	**216**	P	P	**Pn**	**08 40 51.8**	**-1.0**
	baz=9.4,SNR=8.3							
COEN				S		**Sn**	**08 42 33.6**	**-3.1**
	baz=9.4,SNR=5.0							
CTA	**Charters Tower**	**13.88**	**190**	P	P	**Pn**	**08 41 54.5**	**-0.2**
	0.2nm,0.3s,baz=13,slow=15,SNR=2.9							
QIS	**Mount Isa**	**16.70**	**211**	P	P	**P**	**08 42 34.1**	**+1.5**
	baz=17,SNR=3.5							
EIDS	**Eidsvold**	**19.05**	**174**	P	P	**P**	**08 42 58.7**	**+0.3**
	baz=19,SNR=3.2							
WRA	**Warramunga Arr**	**19.48**	**225**	P	P	**P**	**08 43 03.0**	**-0.1**
	1.3nm,0.3s,baz=50,slow=11,SNR=37							
WRA				S		**S**	**08 46 39.5**	**-1.1**
	0.1nm,0.3s,baz=46,slow=22,SNR=7.2							
RMQ	**Roma**	**20.04**	**180**	P	P	**P**	**08 43 09.9**	**+0.7**
	baz=20,SNR=6.3							
QLP	**Quilpie**	**20.59**	**192**	P	P	**P**	**08 43 15.7**	**+0.5**
	baz=21,SNR=9.1							
ASAR	**Alice Springs**	**22.39**	**218**	P	P	**P**	**08 43 34.2**	**-0.3**
	3.6nm,0.5s,baz=58,slow=9.7,SNR=31							
ASAR				S		**S**	**08 47 36.4**	**-0.9**
	4.1nm,0.9s,baz=32,slow=22,SNR=13							
DZM	**Mont Dzumac**	**23.15**	**134**	P	P	**P**	**08 43 42.4**	**-0.2**
	2.5nm,0.6s,baz=300,slow=14,SNR=5.8							
BATI	**Baumata**	**25.13**	**260**	P	P	**P**	**08 44 01.3**	**+0.4**
	13nm,0.4s,baz=90,slow=8.1,SNR=3.1							
MJAR	**Matsushiro Arr**	**43.79**	**348**	LR	LR		09 04 40.0	
	comp=Z,20nm,18.1s,baz=205,slow=36							
PETK	**Petropavlovsk-**	**59.70**	**6**	P	P	**P**	**08 48 38.9**	**-0.5**

	1.9nm,0.6s,baz=169,slow=7.4,SNR=4.9							
SONM	**Songino Array**	**65.56**	**330**	P	**P**	**08 49 19.4**	**+0.7**
	0.2nm,0.5s,baz=162,slow=6.1,SNR=2.7							
VNDA	**Vanda**	**71.48**	**177**	P	**P**	**08 49 55.0**	**0.0**
	0.8nm,0.6s,baz=334,slow=7.7,SNR=5.6							
ZALV	**Zalesovo Beam**	**80.24**	**327**	P	**P**	**08 50 46.6**	**+1.2**
	0.6nm,0.5s,baz=101,slow=6.0,SNR=3.2							
ILAR	**Eielson Array**	**85.10**	**23**	P	P	08 51 08.6	-1.9
	1.0nm,0.8s,baz=252,slow=5.1,SNR=17							
NVAR	**Mina Array Bea**	**96.19**	**52**	P	**P**	**08 52 04.6**	**+1.2**
	0.2nm,0.5s,baz=286,slow=6.5,SNR=2.6							
GERES	**GERESS Array B**	**123.17**	**326**	PKP	**PKPdf**	**08 57 30.3**	**-1.2**
	0.2nm,0.5s,baz=90,slow=1.3,SNR=4.4							
LPAZ	**La Paz**	**137.12**	**122**	PKP	**PKPdf**	**08 57 59.0**	**-0.5**
	0.9nm,0.6s,baz=290,slow=3.6,SNR=5.1							
TORD	**Torodi Ar. Bea**	**146.88**	**284**	PKPbc	**PKPdf**	**08 58 16.8**	**+0.7**
	1.4nm,0.3s,baz=66,slow=3.0,SNR=38							
BDFB	**Brasilia**	**152.55**	**143**	PKPbc	**PKPbc**	**08 58 31.3**	**-0.9**
	2.1nm,0.7s,baz=149,slow=4.3,SNR=5.1							

GUC 04 08:50:58.0±0.5, 34.79S×72.89W, h4km±2km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.19**	**121**	*eP*	Pg	08 51 20.8	-0.1
TALC				*eS*	Sn	08 51 37.9	-0.2
COCH	**Cobquecura**	**1.34**	**177**	*eP*	Pn	08 51 23.1	-0.4
COCH				*eS*	Sn	08 51 42.0	+0.2
NICH	**Los Niches**	**1.38**	**99**	*eP*	Pn	08 51 23.5	-0.6
NICH				*eS*	Sn	08 51 43.5	+0.7
LNV	**Longovilo**	**1.48**	**56**	*eP*	Pn	08 51 23.4	-2.0
LNV				*eS*	Sb	08 51 44.4	-0.8
LNCH	**Linares**	**1.49**	**135**	*eP*	Pn	08 51 25.6	0.0
LNCH				*eS*	Sg	08 51 46.5	+0.6
CHCH	**Chadas Angostu**	**2.04**	**66**	*eP*	Pn	08 51 31.9	-1.3
CHCH				*eS*	Sn	08 51 59.2	0.0
CLCH	**Cerro Calan**	**2.40**	**55**	*eP*	Pb	08 51 41.4	-0.5
CLCH				*eS*	Sg	08 52 13.6	-1.6
CLCH				AML	AML	08 52 24.2	
	comp=E,584nm,0.9s						
PEL	**Peldehue**	**2.46**	**49**	*eS*	Sb	08 52 13.9	+0.2
PEL				AML	AML	08 52 29.0	
	comp=E,499nm,0.4s						

*CASC **04** 08:58:36.4±3.0, 11.49N×86.61W, h0km±12km, MD4.0*
*ISCJB **04** 08:58:39.3±0.6, 11.53N±0.06×86.55W±0.08, h49km±7km, mb3.8/10, MS3.1/2, Error ellipse: s-maj=15.2km s-min=4.9km az=145.7*
*IDC **04** 08:58:40.6±2.1, 11.90N×85.97W, h45km±26km, mb3.6/9, mb1 3.8/11, mb1mx3.6/31, mbtmp3.8/11, ML2.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=38.4km s-min=17.6km az=55.0*

ISC 04 08:58:38.6±1.4, 11.49N±0.06×86.53W±0.09, h31km±11km, n32, σ1s57/34, mb3.9/10, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.69**	**355**	*iP*	**Pb**	**08 58 51.0**	**-1.2**
COPN				*eS*	**Sb**	**08 59 01.1**	**-0.4**
HUEN		**0.91**	**23**	*iP*	**Pb**	**08 58 56.3**	**+0.4**
HUEN				*eS*	**Sb**	**08 59 08.8**	**+1.0**
CNGN	**Cerro Negro**	**1.02**	**351**	*eP*	**Pn**	**08 58 56.3**	**-0.5**
CNGN				*eS*	**Sn**	**08 59 10.6**	**+0.5**
GBS2	**Las Lilas**	**1.24**	**121**	*i P*	**Pb**	**08 59 02.8**	**+1.3**
GB1A	**Borinquen Arri**	**1.30**	**121**	*i P*	**Pn**	**08 58 60.0**	**-0.7**
BUEV	**Buena Vista**	**1.30**	**122**	*i P*	**Pn**	**08 59 01.1**	**+0.4**
LIM1	**Limonal**	**1.48**	**122**	*i P*	**Pn**	**08 59 00.2**	**-2.9**
LIM1				*i S*	**Sb**	**08 59 28.0**	**+4.0**
MESS	**Mesas**	**1.51**	**119**	*i P*	**Pn**	**08 59 04.2**	**+0.7**
COLC	**Colonia**	**1.54**	**122**	*i P*	**Pn**	**08 59 03.4**	**-0.5**
JTS	**JuntasAbangare**	**1.96**	**127**	P	**Pn**	**08 59 10.2**	**+0.6**
	21nm,0.3s,baz=291,slow=20,SNR=86						
JTS				S	**Sb**	**08 59 37.2**	**-0.4**
	51nm,0.3s,baz=259,slow=21,SNR=8.3						
JTS				LR	LR	08 59 47.0	
	comp=Z,141nm,19.4s,baz=308,slow=35						
JCR	**Jicaral**	**2.15**	**139**	*eP*	**Pb**	**08 59 15.2**	**-1.7**
JCR				*eS*	Sb	08 59 49.4	+6.3
CNCH	**Conchagua**	**2.19**	**324**	*eP*	**Pn**	**08 59 13.3**	**+0.4**
CGA2	**Cerro Gallo 2**	**2.50**	**126**	*eP*	**Pb**	**08 59 20.6**	**-2.3**
CGA2				*eS*	**Sb**	**08 59 54.3**	**+0.8**
VSM	**San Miguel**	**2.57**	**319**	*eP*	**Pn**	**08 59 19.0**	**+0.6**
LFRS	**El Faro**	**3.26**	**311**	*eP*	**Pn**	**08 59 27.9**	**+0.3**
BUS	**Buena Vista**	**3.34**	**125**	*eP*	**Pn**	**08 59 29.6**	**+0.6**
CMIG	**Matias Romero**	**9.82**	**305**	P	Pn	09 01 01.8	+4.0
	0.3nm,0.3s,baz=132,slow=4.5						
ROSC	**El Rosal**	**13.75**	**118**	P	**Pn**	**09 01 49.9**	**-2.0**
	0.6nm,0.3s,baz=277,slow=15,SNR=2.7						
ATAH	**Atahualpa**	**20.20**	**156**	LR	LR	09 10 32.8	
	comp=Z,109nm,18.1s,baz=324,slow=35						
TXAR	**Lajitas Array**	**23.88**	**321**	P	**P**	**09 03 50.3**	**+0.6**
	5.9nm,0.6s,baz=137,slow=9.6,SNR=86						
TKL	**Tuckaleechee C**	**24.19**	**5**	P	**P**	**09 03 55.0**	**+2.6**
	3.5nm,0.9s,baz=169,slow=8.1,SNR=3.8						
PTGA	**Pitinga**	**29.05**	**113**	LR	LR	09 18 56.2	
	comp=Z,33nm,20.8s,baz=284,slow=42						
ANMO	**Albuquerque**	**29.55**	**325**	P	**P**	**09 04 42.3**	**+1.5**
	1.7nm,0.8s,baz=138,slow=7.0,SNR=12						
PDAR	**Pinedale Array**	**37.04**	**331**	P	**P**	**09 05 45.8**	**-0.2**
	0.3nm,0.5s,baz=125,slow=10,SNR=3.7						
NVAR	**Mina Array Bea**	**39.01**	**319**	P	**P**	**09 06 03.8**	**+1.1**
	0.5nm,0.6s,baz=143,slow=8.7,SNR=5.2						
ULM	**Lac du Bonnet**	**39.41**	**351**	P	**P**	**09 06 03.3**	**-2.1**
	2.2nm,0.8s,baz=168,slow=11,SNR=6.9						
SCHQ	**Schefferville**	**45.94**	**16**	P	P	09 06 54.7	-3.8
	1.9nm,0.8s,baz=202,slow=8.4,SNR=4.9						
PLCA	**Paso Flores**	**54.02**	**165**	P	**P**	**09 08 02.2**	**+2.2**
	4.1nm,1.1s,baz=319,slow=4.3,SNR=3.7						
YKA	**Yellowknife Ar**	**54.77**	**344**	P	**P**	**09 08 03.3**	**-1.8**
	0.4nm,0.7s,baz=141,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**67.26**	**336**	P	**P**	**09 09 28.5**	**-1.3**
	0.3nm,0.8s,baz=129,slow=3.4,SNR=5.5						
ASAR	**Alice Springs**	**139.74**	**247**	PKP	**PKPdf**	**09 18 05.3**	**+1.0**
	1.0nm,1.0s,baz=109,slow=2.4,SNR=8.5						
WRA	**Warramunga Arr**	**139.86**	**253**	PKP	**PKPdf**	**09 18 06.0**	**+1.5**
	0.8nm,0.7s,baz=90,slow=2.2,SNR=16						

*IDC **04** 09:15:56.3±8.5, 31.18S×179.67W, h386km±98km, mb2.8/2, mb1 3.3/3, mb1mx3.0/22, mbtmp4.0/3, Error ellipse: s-maj=101.9km s-min=40.1km az=4.0*

ISC 04 09:15:58.8±1.9, 31.3S±0.1×180.0W±0.2, h400km, n39, σ1s00/56, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.43**	**192**	PN	**Pn**	**09 17 36.3**	**+0.3**
MXZ				SN	**S**	**09 18 54.7**	**-0.6**
WMGZ	**Waiomatatini S**	**6.66**	**191**	PN	**P**	**09 17 39.6**	**+0.6**
WMGZ				SN	**S**	**09 18 59.8**	**-0.1**
HAZ	**Te Kaha**	**6.72**	**195**	PN	**Pn**	**09 17 38.9**	**-0.3**
HAZ				SN	**S**	**09 19 00.7**	**-0.4**
PUZ	**Puketiti**	**6.94**	**192**	PN	**P**	**09 17 42.0**	**-0.1**
PUZ				SN	**S**	**09 19 05.9**	**+0.3**
TWGZ	**Tauwhareparae**	**7.08**	**193**	*e*PN	**Pn**	**09 17 42.5**	**-0.8**
TWGZ				SN	**S**	**09 19 09.8**	**+1.0**
MWZ	**Matawai**	**7.33**	**195**	PN	**Pn**	**09 17 44.5**	**-1.6**
MWZ				SN	**S**	**09 19 14.1**	**+0.3**
CNGZ	**Carnagh Statio**	**7.34**	**191**	*e*PN	**P**	**09 17 46.7**	**0.0**
TKGZ	**Te Karaka**	**7.37**	**193**	PN	**Pn**	**09 17 44.6**	**-1.8**
TKGZ				SN	**S**	**09 19 15.4**	**+1.0**
URZ	**Urewera**	**7.37**	**198**	P	**Pn**	**09 17 46.1**	**-0.3**
	9.8nm,0.3s,baz=276,slow=3.2,SNR=103						
URZ				S	**S**	**09 19 14.7**	**+0.2**
	4.6nm,0.3s,baz=82,slow=24,SNR=19						
URZ	**Urewera**	**7.37**	**198**	*e*PN	**Pn**	**09 17 45.5**	**-0.9**
URZ				SN	**S**	**09 19 14.6**	**+0.2**
RIGZ	**Rimuhau**	**7.64**	**193**	*e*PN	**Pn**	**09 17 48.9**	**-0.7**
RIGZ				SN	**S**	**09 19 21.2**	**+1.0**
SNGZ	**Shannon Statio**	**7.80**	**196**	*e*PN	**Pn**	**09 17 51.2**	**-0.2**
KNZ	**Kokohu**	**7.96**	**193**	PN	**Pn**	**09 17 52.3**	**-0.8**
KNZ				SN	**S**	**09 19 27.3**	**+0.5**
RAHZ	**Arahi**	**7.99**	**197**	PN	**P**	**09 17 54.8**	**+0.9**
MHGZ	**Mahia Peninsul**	**8.05**	**192**	PN	**P**	**09 17 56.7**	**+2.2**
WHHZ	**Waihua**	**8.11**	**195**	*e*PN	**P**	**09 17 57.6**	**+2.4**
ARHZ	**Aropaoanui**	**8.34**	**196**	*e*PN	**P**	**09 17 58.9**	**+1.1**
ARHZ				SN	**S**	**09 19 35.5**	**+0.6**
BKZ	**Black Stump Fm**	**8.38**	**199**	PN	**Pn**	**09 17 57.1**	**-0.9**
BKZ				SN	**S**	**09 19 36.9**	**+1.0**
MCHZ	**McNeill Hill**	**8.59**	**197**	*e*PN	**P**	**09 18 00.5**	**0.0**
BHHZ	**Black Hill Sta**	**8.80**	**200**	PN	**Pn**	**09 18 00.8**	**-2.1**
PXZ	**Pawanui**	**9.11**	**195**	PN	**Pn**	**09 18 06.4**	**+0.1**
PXZ				*e*SN	**S**	**09 19 49.0**	**-2.0**
PXZ				SN		09 19 49.8	
PNHZ	**Pukenui**	**9.16**	**199**	PN	**P**	**09 18 05.4**	**-1.5**
TSZ	**Takapari Road**	**9.36**	**199**	PN	**P**	**09 18 08.3**	**-0.8**
ANWZ	**Angora Road**	**9.60**	**196**	*e*PN	**Pn**	**09 18 12.3**	**+0.3**
ANWZ				SN	**S**	**09 20 01.1**	**-0.3**
BFZ	**Birch Farm**	**9.87**	**197**	PN	**Pn**	**09 18 15.3**	**+0.2**
MRZ	**Mangatainoka R**	**10.03**	**200**	*e*PN	**P**	**09 18 13.9**	**-2.6**
MRZ				SN	**S**	**09 20 08.9**	**-1.1**
HOWZ	**Holdsworth Sta**	**10.27**	**199**	*e*PN	**P**	**09 18 18.3**	**-0.8**
KIW	**Kapiti Island**	**10.42**	**202**	PN	**P**	**09 18 20.7**	**-0.1**
MTW	**Mount Morrison**	**10.51**	**199**	PN	**P**	**09 18 21.7**	**-0.1**
CAW	**Cannon Point**	**10.59**	**201**	PN	**P**	**09 18 22.5**	**-0.3**
TUWZ	**Tuamarina**	**11.25**	**204**	PN	**P**	**09 18 29.6**	**-0.4**
NNZ	**Nelson**	**11.27**	**206**	*e*PN	**P**	**09 18 30.5**	**+0.3**
QRZ	**Quartz Range**	**11.29**	**210**	*e*PN	**Pn**	**09 18 31.4**	**-0.1**
KHZ	**Kahutara**	**12.26**	**203**	PN	**P**	**09 18 40.5**	**-0.6**
OXZ	**Oxford**	**13.59**	**205**	*e*PN	**P**	**09 18 56.2**	**+0.5**
MQZ	**McQueen's Vall**	**13.71**	**203**	*e*PN	**P**	**09 18 57.9**	**+1.0**
MQZ				SN	**S**	**09 21 25.1**	**+0.7**
ASAR	**Alice Springs**	**41.36**	**269**	P	**P**	**09 23 08.8**	**+0.9**
	0.2nm,0.4s,baz=109,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**42.43**	**274**	P	**P**	**09 23 17.1**	**+0.6**
	0.8nm,0.4s,baz=112,slow=7.7,SNR=44						
FINES	**FINESS Array B**	**145.35**	**338**	PKPbc	**PKPdf**	**09 34 47.9**	**-1.0**
	1.8nm,0.9s,baz=66,slow=3.5,SNR=10						

HEL 04 09:18:19.4±0.2, 67.86N×20.24E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.69**	**73**	PG	Pg	09 18 32.6	-0.1
	baz=255						
LANU				SG	Sg	09 18 40.5	-1.1
KIF	**Kilpisjarvi**	**1.17**	**10**	PN	Pn	09 18 43.3	+0.3
	baz=188						
KIF				SG	Sg	09 18 57.2	+0.2
ERTU	**Ertsjaerv**	**1.51**	**149**	PG	Pn	09 18 46.8	-0.9
ERTU				SN	Sg	09 19 07.7	-0.2
KALU	**Kalix**	**2.35**	**147**	PG	Pb	09 19 01.6	-0.9
KALU				SG	Sb	09 19 31.4	-0.7
SGF	**Sodankyl**	**2.44**	**97**	SG	Sb	09 19 36.0	+1.4
SGF				MSG		09 19 36.0	
	comp=Z,1.2nm,0.3s						
ARE0	**ARCESS Array S**	**2.56**	**46**	PB	Pn	09 19 03.9	+1.8
ARE0				SB	Sn	09 19 35.5	+1.6
ARE0				MSG		09 19 35.5	
	comp=Z,0.6nm,0.3s						
RNF	**Rovaniemi**	**2.57**	**116**	PG	Pb	09 19 04.8	-1.5
RNF				SB	Sb	09 19 36.8	-1.6
RNF				MSG		09 19 36.8	
	comp=Z,0.5nm,0.2s						
KEV	**Kevo**	**3.11**	**49**	SN	Sn	09 19 48.2	+0.7
KEV				MSG		09 19 48.2	
	comp=Z,0.2nm,0.2s						

*IDC **04** 09:29:22.2±2.5, 2.42N×94.03E, h26km±6km, mb3.2/5, mb1 3.5/6, mb1mx3.3/45, mbtmp3.5/6, ML4.7/1, Error ellipse: s-maj=101.0km s-min=17.3km az=60.0*

ISC 04 09:29:22.5±2.0, 2.5N±0.2×94.3E±0.4, h17km, n12, σ1s47/9, mb3.3/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.48**	**16**	Pn	**Pn**	**09 33 13.2**	**+0.2**
	1.0nm,0.3s,baz=213,slow=12,SNR=5.8						
H08S2	**Diego Garcia H**	**23.95**	**245**	T	T	09 59 44.5	
	baz=64,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**23.95**	**245**	T	T	09 59 40.0	
	baz=64,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**23.96**	**245**	T	T	09 59 45.8	
	baz=64,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**41.65**	**155**	T	T	10 21 48.8	
	baz=330						
H01W2	**Cape Leeuwin H**	**41.66**	**155**	T	T	10 21 59.9	
	baz=330						
H01W1	**Cape Leeuwin H**	**41.66**	**155**	T	T	10 21 52.7	
	baz=330						
WRA	**Warramunga Arr**	**45.25**	**121**	P	**P**	**09 37 38.4**	**-1.0**
	0.3nm,0.8s,baz=298,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**45.29**	**348**	P	**P**	**09 37 38.3**	**-1.0**
	0.3nm,0.5s,baz=162,slow=9.1,SNR=8.1						
MKAR				pP	**pP**	**09 37 46.4**	**+1.7**
	1.1nm,0.5s,baz=170,slow=8.4,SNR=11						
SONM	**Songino Array**	**46.33**	**11**	P	**P**	**09 37 47.6**	**0.0**
	0.1nm,0.4s,baz=197,slow=4.5,SNR=2.0						
ASAR	**Alice Springs**	**46.56**	**126**	P	**P**	**09 37 49.0**	**-0.7**
	0.2nm,0.7s,baz=292,slow=7.6,SNR=4.2						
ASAR				pP	**pP**	**09 37 57.0**	**+1.9**
	0.1nm,0.5s,baz=302,slow=7.6,SNR=1.6						
ZALV	**Zalesovo Beam**	**51.83**	**353**	P	**P**	**09 38 28.1**	**-1.4**
	0.4nm,0.3s,baz=178,slow=8.7,SNR=3.0						
ZALV				pP	**pP**	**09 38 36.3**	**+1.4**
	0.6nm,0.4s,baz=182,slow=7.0,SNR=3.6						

*ISCJB **04** 09:31:42.5±0.5, 23.83S±0.03×179.88W±0.03, h504km±6km, mb4.7/134, Error ellipse: s-maj=4.8km s-min=3.5km az=34.3*
*MOS **04** 09:31:43.9±0.9, 23.68S×179.90W, h518km, mb4.8/25, Error ellipse: s-maj=11.2km s-min=8.7km az=56.6*
*IDC **04** 09:31:44.0±0.9, 23.68S×179.80W, h511km±8km, mb4.1/27, mb1 4.2/29, mb1mx4.2/29, mbtmp5.0/29, Error ellipse: s-maj=10.2km s-min=9.1km az=1.0*
*NEIC **04** 09:31:45.5±0.5, 23.86S×179.88W, h532km±6km, mb4.8/98, Error ellipse: s-maj=5.9km s-min=4.1km az=152.0*
*BJI **04** 09:31:45.3, 23.80S×179.90W, h520km, mB5.0/13, mb4.6/20*

ISC 04 09:31:43.0±0.3, 23.86S±0.04×179.74W±0.05, h506km±3km, h507km:pP-P, n414, σ1s29/471, mb4.7/135, 17C-10D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.62**	**163**	*e*P	P	09 33 20.7	+4.9
RAO	**Raoul Island**	**5.62**	**163**	P	P	09 33 19.4	+3.6
	211nm,0.3s,baz=78,slow=20,SNR=3.2						
RAO				S	**S**	**09 34 32.2**	**+0.4**
	309nm,0.3s,baz=49,slow=19,SNR=4.1						
RAO	**Raoul Island**	**5.62**	**163**	*e*Pn	P	09 33 20.7	+4.9
MSVF	**Nonsavu**	**6.43**	**341**	*e*P	**P**	**09 33 25.5**	**+1.5**
MSVF	**Nonsavu**	**6.43**	**341**	*e*Pn	**P**	**09 33 25.5**	**+1.5**
NIUE	**Niue**	**10.30**	**64**	P	**P**	**09 34 04.9**	**+1.2**
	baz=10,SNR=33						
NIUE				S	**S**	**09 35 55.0**	**-4.4**
	baz=10,SNR=7.3						
AFI	**Afiamalu**	**12.44**	**39**	*e*P	**P**	**09 34 25.2**	**-1.2**
AFI				*e*S	**S**	**09 36 40.3**	**-0.6**
AFI	**Afiamalu**	**12.44**	**39**	*e*Pn	**P**	**09 34 25.2**	**-1.2**
AFI				*e*S	**S**	**09 36 40.3**	**-0.6**
OUZ	**Omahuta**	**12.72**	**206**	*e*Pn	P	09 34 32.7	+3.7
DZM	**Mont Dzumac**	**12.85**	**275**	*e*P	**P**	**09 34 33.1**	**+2.4**
	33nm,0.8s						
DZM	**Mont Dzumac**	**12.85**	**275**	P	**P**	**09 34 32.7**	**+2.0**
	1.3nm,0.3s,baz=134,slow=16,SNR=18						
DZM				ScP	**ScP**	**09 42 10.2**	**+2.1**
	0.8nm,0.3s,baz=77,slow=22,SNR=13						
KUZ	**Kuaotunu**	**13.43**	**196**	PN	**P**	**09 34 38.5**	**+2.1**
WMGZ	**Waiomatatini S**	**14.01**	**186**	PN	**P**	**09 34 44.2**	**+1.7**
HAZ	**Te Kaha**	**14.02**	**188**	PN	**P**	**09 34 42.3**	**-0.3**
HAZ				*e*SN	**S**	**09 37 10.1**	**-0.6**
PUZ	**Puketiti**	**14.27**	**186**	PN	**P**	**09 34 44.8**	**-0.6**
PUZ				SN	**S**	**09 37 10.8**	**-4.9**
TWGZ	**Tauwhareparae**	**14.41**	**187**	PN	**P**	**09 34 46.4**	**-0.4**
URZ	**Urewera**	**14.61**	**190**	P	**P**	**09 34 47.8**	**-1.0**
	3.0nm,0.3s,baz=292,slow=2.6,SNR=24						
URZ				S	**S**	**09 37 19.5**	**-2.5**
	7.2nm,0.3s,baz=84,slow=22,SNR=20						
URZ	**Urewera**	**14.61**	**190**	PN	**P**	**09 34 46.5**	**-2.3**
URZ				SN	**S**	**09 37 17.7**	**-4.3**
URZ	**Urewera**	**14.61**	**190**	*e*Pn	**P**	**09 34 47.0**	**-1.8**
URZ				*e*S	**S**	**09 37 21.1**	**-0.9**
MWZ	**Matawai**	**14.62**	**189**	PN	**P**	**09 34 47.3**	**-1.7**
MWZ				SN	**S**	**09 37 22.0**	**-0.4**
RIGZ	**Rimuhau**	**14.95**	**188**	PN	**P**	**09 34 52.8**	**+0.3**
SNGZ	**Shannon Statio**	**15.08**	**189**	PN	**P**	**09 34 54.5**	**+0.7**
KNZ	**Kokohu**	**15.28**	**188**	PN	**P**	**09 34 55.1**	**-0.6**
BKZ	**Black Stump Fm**	**15.59**	**191**	PN	**P**	**09 34 56.8**	**-2.4**
BKZ				SN	**S**	**09 37 37.3**	**-3.7**
BKZ	**Black Stump Fm**	**15.59**	**191**	*e*P	**P**	**09 34 59.2**	**0.0**
	50nm,0.4s						
TRVZ	**Turoa**	**15.90**	**193**	PN	**P**	**09 35 01.8**	**-0.8**
BHHZ	**Black Hill Sta**	**15.98**	**192**	*e*PN	**P**	**09 35 00.0**	**-3.2**
PXZ	**Pawanui**	**16.38**	**189**	*e*PN	**P**	**09 35 06.5**	**-0.8**
PXZ				SN	**S**	**09 37 51.9**	**-3.2**
WAZ	**Wanganui**	**16.47**	**194**	*e*PN	**P**	**09 35 08.2**	**0.0**
ANWZ	**Angora Road**	**16.86**	**190**	*e*PN	**P**	**09 35 11.2**	**-1.0**
ANWZ				SN	**S**	**09 38 01.3**	**-2.1**
BFZ	**Birch Farm**	**17.11**	**190**	PN	**P**	**09 35 13.6**	**-1.0**
BFZ	**Birch Farm**	**17.11**	**190**	*e*P	**P**	**09 35 14.0**	**-0.6**
	866nm,2.5s						
MRZ	**Mangatainoka R**	**17.21**	**192**	*e*PN	**P**	**09 35 12.7**	**-2.9**
MRZ				SN	**S**	**09 38 06.4**	**-3.0**
CAW	**Cannon Point**	**17.74**	**193**	PN	**P**	**09 35 18.3**	**-2.3**
SNZO	**South Karori**	**18.01**	**194**	*e*P	**P**	**09 35 22.9**	**0.0**
	121nm,0.8s						
SNZO				*e*S	**S**	**09 38 22.2**	**-0.2**
TCW	**Tory Channel**	**18.02**	**195**	PN	**P**	**09 35 21.7**	**-1.3**
QRZ	**Quartz Range**	**18.12**	**199**	PN	**P**	**09 35 24.9**	**+0.9**
NNZ	**Nelson**	**18.25**	**197**	PN	**P**	**09 35 24.5**	**-0.6**
NNZ				SN	**S**	**09 38 23.2**	**-3.0**
TUWZ	**Tuamarina**	**18.30**	**195**	PN	**P**	**09 35 24.9**	**-0.7**
THZ	**Tophouse**	**18.88**	**197**	PN	**P**	**09 35 30.8**	**-0.1**
DSZ	**Denniston Nort**	**19.18**	**200**	PN	**P**	**09 35 34.1**	**+0.4**
KHZ	**Kahutara**	**19.33**	**195**	PN	**P**	**09 35 34.4**	**-0.6**
KHZ	**Kahutara**	**19.33**	**195**	*e*P	**P**	**09 35 34.6**	**-0.4**
	136nm,1.2s						
KHZ				*e*S	**S**	**09 38 43.0**	**-0.8**
LTZ	**Lake Taylor**	**20.00**	**197**	PN	**P**	**09 35 40.2**	**-1.0**
LHI	**Lord Howe Isla**	**20.24**	**243**	P	**P**	**09 35 46.1**	**+2.7**
	baz=20,SNR=5.5						
OXZ	**Oxford**	**20.57**	**197**	PN	**P**	**09 35 45.3**	**-1.0**
WVZ	**Waitaha Valley**	**20.72**	**200**	PN	**P**	**09 35 46.9**	**-0.8**
MQZ	**McQueen's Vall**	**20.77**	**196**	PN	**P**	**09 35 47.1**	**-0.9**
RPZ	**Rata Peaks**	**21.21**	**199**	PN	**P**	**09 35 51.2**	**-0.8**
RPZ	**Rata Peaks**	**21.21**	**199**	*e*P	**P**	**09 35 51.6**	**-0.5**
	80nm,0.5s						
FOZ	**Fox Glacier**	**21.50**	**201**	*e*PN	**P**	**09 35 53.0**	**-1.6**
LBZ	**Lake Benmore**	**22.08**	**199**	*e*PN	**P**	**09 35 58.1**	**-1.8**
JCZ	**Jackson Bay**	**22.26**	**202**	*e*PN	**P**	**09 36 01.2**	**-0.5**
ODZ	**Otahua Downs**	**22.54**	**198**	*e*P	**P**	**09 36 03.5**	**-0.6**
	38nm,1.1s						
WKZ	**Wanaka**	**22.84**	**201**	PN	**P**	**09 36 05.5**	**-1.3**
DCZ	**Deep Cove**	**24.05**	**203**	*e*P	**P**	**09 36 18.3**	**+0.9**
	136nm,1.4s						
WHZ	**Wether Hill Ro**	**24.14**	**201**	PN	**P**	**09 36 18.0**	**-0.3**
WHZ	**Wether Hill Ro**	**24.14**	**201**	*e*P	**P**	**09 36 18.2**	**-0.1**
	117nm,0.6s						
ARMA	**Armidale**	**26.26**	**249**	P	**P**	**09 36 39.3**	**+1.9**
	baz=26,SNR=95						
ARMA	**Armidale**	**26.26**	**249**	*e*P	**P**	**09 36 39.2**	**+1.8**
	79nm,0.6s						
EIDS	**Eidsvold**	**26.55**	**261**	P	**P**	**09 36 40.7**	**+0.8**
	baz=27,SNR=102						
EIDS	**Eidsvold**	**26.55**	**261**	*e*P	**P**	**09 36 40.7**	**+0.8**
	87nm,0.6s						
MGCD	**Mangrove Creek**	**27.18**	**243**	P	**P**	**09 36 47.3**	**+2.0**
	baz=27,SNR=46						
RMQ	**Roma**	**28.59**	**258**	P	**P**	**09 36 59.5**	**+1.6**
	baz=29,SNR=62						
PAE	**Paea**	**28.83**	**83**	*e*P	**P**	**09 37 00.7**	**+0.7**
	9.8nm,0.9s						
PPT2	**Papeete2**	**28.86**	**83**	*e*P	**P**	**09 37 01.6**	**+1.3**
	80nm,1.3s						
PPT	**Papeete**	**28.86**	**83**	P	**P**	**09 36 59.8**	**-0.5**
	32nm,0.6s,baz=54,slow=5.0,

KMBL **Kambalda** 51.76 248 P P 09 40 02.6 -0.7
baz=52,SNR=10
MSAI **Masohi** 53.53 284 P P 09 40 15.2 -1.0
SBA **Scott Base** 54.43 183 eP P 09 40 25.2 +3.6
SBA pmax pmax
comp=Z,34nm,0.9s
SBA **Scott Base** 54.43 183 eP P 09 40 25.1 +3.6
comp=Z,34nm,0.9s
VNDA **Vanda** 54.44 185 eP P 09 40 24.1 +2.5
VNDA **Vanda** 54.44 185 P P 09 40 24.0 +2.3
comp=Z,8.0nm,0.7s,baz=6.3,slow=7.6,SNR=15
VNDA **Vanda** 54.44 185 eP P 09 40 24.1 +2.5
comp=Z,8.3nm,0.8s
SOEI **Soe** 55.08 275 P P 09 40 28.3 +1.0
baz=55,SNR=24
SOEI **Soe** 55.08 275 eP P 09 40 28.2 +1.0
comp=Z,112nm,0.8s
MEEK **Meekatharra** 55.35 253 P P 09 40 28.0 -1.0
baz=55,SNR=22
BATI **Baumata** 55.46 274 P P 09 40 30.9 +1.1
comp=Z,99nm,0.5s,baz=166,slow=2.3,SNR=21
MBWA **Marble Bar** 55.61 260 eP P 09 40 30.1 -0.7
comp=Z,99nm,1.1s
BLDU **Ballidu** 56.26 248 eP P 09 40 34.7 -0.4
baz=56,SNR=125
MORW **Morawa** 57.11 250 P P 09 40 40.8 -0.3
baz=57,SNR=29
LUWI **Luwuk** 60.05 283 P P 09 41 00.8 -0.2
baz=60,SNR=3.8
GIRL **Giralia** 60.15 257 P P 09 41 02.6 +0.9
baz=60,SNR=12
CASY **Casey** 60.25 206 eP P 09 41 01.6 +0.1
comp=Z,26nm,0.9s
KAPI **Kappang** 61.05 278 eP P 09 41 06.8 -1.0
comp=Z,2.5nm,0.7s
RPN **Rapa Nui** 62.87 109 P P 09 41 22.0 +2.6
RPN **Rapa Nui** 62.87 109 P P 09 41 22.0 +2.6
comp=Z,31nm,0.6s,baz=254,slow=1.6,SNR=3.6
JAGI **Jajag, Banyuwa** 64.80 272 P P 09 41 30.3 -1.6
baz=65,SNR=10
JAGI **Jajag, Banyuwa** 64.80 272 eP P 09 41 30.3 -1.6
comp=Z,34nm,0.3s
QSPA **South Pole Qui** 66.22 180 P P 09 41 41.6 +1.5
comp=Z,23nm,0.7s,baz=11,slow=0.8,SNR=141
QSPA **South Pole Qui** 66.22 180 eP P 09 41 41.1 +1.0
comp=Z,25nm,0.8s
TSM **Tawau** 66.84 286 ⇑P P 09 41 44.0 -0.6
UGM **Wanagama** 68.34 271 P P 09 41 53.3 -0.6
baz=68,SNR=6.7
UGM **Wanagama** 68.34 271 eP P 09 41 53.3 -0.6
KKM **Kota Kinabalu** 69.12 287 P P 09 41 58.5 -0.1
baz=69,SNR=5.3
KKM **Kota Kinabalu** 69.12 287 ⇑P P 09 41 57.6 -1.1
CISI **Cisompet, Garu** 70.95 270 P P 09 42 08.4 -1.2
baz=71,SNR=4.0
SBUM **Sibu** 71.03 282 ⇑P P 09 42 09.5 -0.5
SBUM **Sibu** 71.03 282 eP P 09 42 09.7 -0.3
comp=Z,9.6nm,0.8s
JOW **Kunigami** 71.14 312 eP P 09 42 10.5 +0.2
comp=Z,15nm,0.8s
LEM **Lembang** 71.41 271 P P 09 42 12.1 -0.3
comp=Z,86nm,0.6s,baz=190,slow=23,SNR=16
XMI **Christmas Isla** 71.81 266 P P 09 42 14.5 0.0
baz=72,SNR=4.3
MJAR **Matsushiro Arr** 72.00 325 P P 09 42 14.1 -1.0
comp=Z,1.9nm,0.7s,baz=147,slow=5.7,SNR=7.3
KSM **Kuching** 72.33 280 P P 09 42 17.3 -0.3
baz=72,SNR=32
KSM **Kuching** 72.33 280 ⇑P P 09 42 16.9 -0.7
KSM **Kuching** 72.33 280 eP P 09 42 17.2 -0.3
comp=Z,51nm,0.6s
JNU **Nakatsue** 73.65 318 P P 09 42 23.8 -1.0
comp=Z,2.4nm,0.5s,baz=123,slow=5.1,SNR=5.4
NACB **Ninganchiao** 74.27 306 eP P 09 42 27.1 -1.3
comp=Z,25nm,0.9s
ASAJ **Asahikawa** 75.94 333 P P 09 42 37.3 +0.1
comp=Z,6.7nm,0.8s,baz=220,slow=7.9,SNR=6.6
ASAJ **Asahikawa** 75.94 333 eP P 09 42 38.6 +1.4
comp=Z,7.2nm,1.2s
MNAI **Manna** 76.64 271 P P 09 42 41.7 -0.2
baz=77,SNR=3.2
MAW **Mawson** 77.87 200 P P 09 42 48.8 +1.2
comp=Z,20nm,0.6s,baz=137,slow=4.9,SNR=21
YSS **Yuzh-Sakhalins** 78.20 335 eP P 09 42 51.6 +2.1
YSS pmax pmax
comp=Z,8.0nm,0.5s
YSS **Yuzh-Sakhalins** 78.20 335 eP P 09 42 51.6 +2.1
comp=Z,8.4nm,0.5s
UNV **Unalaska Valle** 78.22 8 eP P 09 42 48.7 -0.7
comp=Z,45nm,1.0s
MYKOM **Kota Tinggi** 78.31 277 ⇓P P 09 42 50.2 -0.8
MYKOM **Kota Tinggi** 78.31 277 eP P 09 42 50.7 -0.2
KSRS **Korea Array** 78.37 320 P P 09 42 51.2 +0.6
comp=Z,2.9nm,0.7s,baz=131,slow=6.1,SNR=11
KSAR **Wonju Array Be** 78.38 320 P P 09 42 51.2 +0.5
KSAR **Wonju Array Be** 78.38 320 P P 09 42 51.2 +0.5
DLV **T Lat** 78.60 289 eP P 09 42 53.1 +0.4
comp=Z,9.4nm,0.5s
KGM **Kluang** 78.89 277 ⇓P P 09 42 53.9 -0.1
PETK **Petropavlovsk-** 79.11 346 P P 09 42 54.3 0.0
comp=Z,7.2nm,0.6s,baz=133,slow=7.4,SNR=13
KTGM **Kuala Trenggan** 80.44 280 ⇑P P 09 43 00.1 -2.1
NJ2 **Nanjing** 80.81 311 eP P 09 43 01.9 -1.8
NJ2 PMZ
comp=Z,20nm,0.6s
USRK **Ussuriysk Ar.** 80.86 327 P P 09 43 04.0 +0.4
comp=Z,2.5nm,0.5s,baz=151,slow=2.8,SNR=9.6
FRIM **Kepong** 80.93 278 ⇓P P 09 43 04.0 -0.8
SAO **San Andreas Ge** 81.56 44 eP P 09 43 09.2 +1.7
SAO pmax pmax
comp=Z,3.0nm,0.7s
SAO **San Andreas Ge** 81.56 44 eP P 09 43 09.2 +1.7
comp=Z,2.9nm,0.7s
IPM **Ipoh** 81.99 278 ⇓P P 09 43 09.6 -0.6
IPM **Ipoh** 81.99 278 eP P 09 43 09.9 -0.4
comp=Z,28nm,0.6s
HABR **Khabarovsk** 82.59 332 eP P 09 43 12.4 +0.1
HABR e*PP pP 09 45 01.7 -1.1
HABR e*SP sP 09 45 53.4 -1.3
HABR ePPP PPP 09 48 25.7
HABR eS SKSac 09 52 44.3 -0.4
HABR eSS SS 09 58 23.4 -0.6
HABR eSSS SSS 10 01 57.7
HABR pmax pmax
comp=Z,23nm,1.5s
HABR MLR MLR
comp=Z,117nm,18.0s
KULM **Kulim** 82.67 279 ⇓P P 09 43 13.2 -0.4
KULM **Kulim** 82.67 279 eP P 09 43 13.4 -0.2
comp=Z,17nm,0.6s
ISA **Isabella, Lake** 82.82 46 eP P 09 43 15.1 +1.1
ISA pmax pmax
comp=Z,18nm,0.8s
ISA **Isabella, Lake** 82.82 46 eP P 09 43 15.1 +1.1
comp=Z,18nm,0.8s
CMB **Columbia Colle** 83.01 43 eP P 09 43 15.2 +0.4
CMB pmax pmax
comp=Z,37nm,1.3s
CMB **Columbia Colle** 83.01 43 eP P 09 43 15.2 +0.4
comp=Z,37nm,1.3s
SYO **Syowa Base** 83.11 193⇑eP P 09 43 13.4 -1.4
SYO **Syowa Base** 83.11 193⇓ePcP P 09 43 16.4 +1.6
OHCM **Honcut** 83.13 42 eP P 09 43 16.4 +1.1
WHN **Wuhan** 83.16 308 P P 09 43 12.8 -2.9
PSI **Prapat** 83.21 276 P P 09 43 15.3 -1.3
baz=83,SNR=8.8
WDC **Whiskeytown Da** 83.28 40 eP P 09 43 16.8 +0.8
WDC pmax pmax
comp=Z,23nm,1.1s
WDC **Whiskeytown Da** 83.28 40 eP P 09 43 16.8 +0.8
comp=Z,23nm,1.1s
GSC **Goldstone, Bar** 83.72 47 eP P 09 43 19.1 +0.6
GSC pmax pmax
comp=Z,13nm,1.0s
GSC **Goldstone, Bar** 83.72 47 eP P 09 43 19.1 +0.6
comp=Z,13nm,1.0s
MTUM **Tungsten Hills** 83.76 45 eP P 09 43 20.1 +1.2
DAC **Darwin (Calif)** 83.76 46 eP P 09 43 19.8 +0.9
DAC pmax pmax
comp=Z,4.0nm,0.8s
DAC **Darwin (Calif)** 83.76 46 eP P 09 43 19.8 +0.9
comp=Z,3.6nm,0.8s
GLA **Glamis** 83.82 50 eP P 09 43 20.6 +1.6
GLA pmax pmax
comp=Z,59nm,1.4s
GLA **Glamis** 83.82 50 eP P 09 43 20.6 +1.6
comp=Z,59nm,1.4s
WAKR **Walker** 83.89 43 eP P 09 43 20.0 +0.6
YBH **Yreka Blue Hor** 83.91 39 eP P 09 43 20.3 +1.0
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH **Yreka Blue Hor** 83.91 39 P P 09 43 20.6 +1.3
comp=Z,8.4nm,0.8s,baz=117,slow=2.3,SNR=18
YBH **Yreka Blue Hor** 83.91 39 eP P 09 43 20.3 +1.0
comp=Z,9.0nm,0.9s
CN2 **Changchun** 84.00 323 eP P 09 43 20.0 +0.5
KDAK **Kodiak Island** 84.45 14ceP P 09 43 22.7 +1.3
NVAR **Mina Array Bea** 84.56 44 P P 09 43 23.4 +0.7
comp=Z,4.4nm,0.7s,baz=225,slow=7.6,SNR=36
214A **Organ Pipe Nat** 84.66 52 eP P 09 43 24.2 +1.0
SNAA **Sanae** 84.70 179 P P 09 43 22.5 -0.3
LDFC **Landfair** 84.74 48 eP P 09 43 25.3 +1.7
comp=Z,47nm,0.6s
VNA3 **Neumayer Olymp** 84.90 177 P P 09 43 23.0 -0.7
TPNV **Topopah Spring** 85.03 46 eP P 09 43 26.0 +0.9
TPNV pmax pmax
comp=Z,34nm,1.6s
TPNV **Topopah Spring** 85.03 46 eP P 09 43 25.9 +0.9
comp=Z,34nm,1.6s
TPH **Tonopah** 85.04 45 eP P 09 43 25.5 +0.4
TPH pmax pmax
comp=Z,17nm,1.2s
TPH **Tonopah** 85.04 45 eP P 09 43 25.5 +0.4
comp=Z,18nm,1.2s
VNA2 **Neumayer--Watz** 85.32 177 P P 09 43 26.4 +0.7
MOD **Modoc Plateau** 85.42 40 eP P 09 43 27.1 +0.3
comp=Z,9.4nm,0.8s
SHPR **Sheep Range** 85.50 47 eP P 09 43 28.1 +0.7
R11A **Troy Canyon, C** 86.26 45 eP P 09 43 30.9 0.0
comp=Z,2.5nm,1.0s
TUC **Tucson** 86.31 52 eP P 09 43 32.6 +1.4
TUC pmax pmax
comp=Z,24nm,0.9s
TUC **Tucson** 86.31 52 eP P 09 43 32.6 +1.4
comp=Z,24nm,0.9s
WVOR **Wild Horse Val** 86.73 40 eP P 09 43 33.8 +0.8
WVOR pmax pmax
comp=Z,17nm,1.1s
WVOR **Wild Horse Val** 86.73 40 eP P 09 43 33.8 +0.8
comp=Z,17nm,1.1s
GYA **Guiyang** 86.93 301 P P 09 43 35.0 +0.7
GYA pP pP 09 45 27.4 +1.2
GYA sP sP 09 46 17.8 +0.1
GYA PP PP 09 47 08.2 +1.4
GYA SKS SKSac 09 53 11.0 -2.2
GYA S S 09 53 30.6 +0.2
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.5s
BJI **Beijing** 87.16 316 P P 09 43 35.6 +0.7
BJI pP pP 09 45 26.8 -0.1
BJI sP sP 09 46 18.0 -0.3
BJI PP PP 09 47 08.3 +0.1
BJI S S 09 53 32.2 +0.5
BJI PMZ
comp=Z,12nm,0.6s
I07A **Izee** 87.21 39 eP P 09 43 36.4 +1.2
comp=Z,30nm,1.0s
G06A **Carlson Farm,** 87.28 37 eP P 09 43 36.5 +1.1
comp=Z,507nm,3.0s
CCUT **Cedar City** 87.28 47 eP P 09 43 36.8 +1.0
comp=Z,8.0nm,0.9s
GAMB **Gambell** 87.57 4 eP P 09 43 36.6 +0.4
comp=Z,4.1nm,0.7s
SPU **Mount Spurr** 87.65 13 eP P 09 43 35.7 -1.0
RCM **Mount Rainier-** 87.68 36 P P 09 43 38.6 +1.0
D05A **Enumclaw** 87.76 35 eP P 09 43 39.2 +1.7
comp=Z,38nm,1.0s
ELK **Elko** 87.83 43 eP P 09 43 38.9 +0.6
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK **Elko** 87.83 43 P P 09 43 38.7 +0.4
comp=Z,3.8nm,0.7s,baz=182,slow=2.3,SNR=14
ELK **Elko** 87.83 43 eP P 09 43 38.9 +0.6
comp=Z,4.6nm,0.8s
SRDT **SRDT** 87.84 287 P P 09 43 40.4 +1.8
comp=Z,50nm,0.8s
RC01 **Rabbit Creek A** 88.07 14 eP P 09 43 38.4 -0.2
comp=Z,29nm,1.1s
UTHA **Uthitani** 88.07 288 P P 09 43 40.9 +1.2
comp=Z,4.9nm,0.8s,comp=Z,61nm
PLCA **Paso Flores** 88.12 134 P P 09 43 41.4 +1.7
comp=Z,2.0nm,1.0s,baz=196,slow=15,SNR=3.4
G08A **Pilot Rock** 88.25 38 eP P 09 43 40.9 +0.9
comp=Z,16nm,0.8s
HTW **Haystack Looko** 88.27 35 P P 09 43 40.6 +0.7
TWW **Teanaway** 88.33 36 P P 09 43 41.8 +1.5
CMW **Cultus Mountai** 88.48 34 P P 09 43 42.3 +1.3
LTY **Liberty** 88.51 36 eP P 09 43 41.6 +0.4
comp=Z,17nm,1.1s
MVU **Marysvale** 88.56 46 eP P 09 43 43.1 +1.3
comp=Z,7.9nm,1.1s
HAWA **Hanford** 88.59 37 eP P 09 43 42.0 +0.6
comp=Z,32nm,1.1s
PMR **Palmer** 88.65 14 eP P 09 43 41.1 -0.2
PMR pmax pmax
comp=Z,13nm,0.8s
PMR **Palmer** 88.65 14 eP P 09 43 41.1 -0.2
comp=Z,13nm,0.8s
H2OW **Water** 88.66 37 P P 09 43 42.9 +1.2
XAN **Xi'an** 88.90 308 P P 09 43 43.9 +0.7
XAN PMZ
comp=Z,4.0nm,0.7s
XAN PMZ
comp=Z,12nm,3.3s
ETW **Entiat** 88.90 36 P P 09 43 43.7 +0.6
MFID **Camas Ranch** 88.97 41 eP P 09 43 44.3 +0.9
comp=Z,19nm,0.9s
DUG **Dugway, Tooele** 89.07 45 eP P 09 43 44.8 +0.8
DUG pmax pmax
comp=Z,4.0nm,1.1s
DUG **Dugway, Tooele** 89.07 45 eP P 09 43 44.8 +0.8
comp=Z,4.4nm,1.1s
EFI **East Falkland** 89.12 148 eP P 09 43 45.9 +2.0
EFI pmax pmax
comp=Z,135nm,1.2s
WTV **Waterville** 89.16 36 P P 09 43 44.5 +0.3
LAMP **Lampang** 89.17 291 P P 09 43 46.9 +2.1
comp=Z,7.2nm,1.0s,comp=Z,56nm
BMRM **Bremner River** 89.19 16 eP P 09 43 44.0 +0.1
comp=Z,15nm,0.9s
CRAI **Chiangrai** 89.27 292 P P 09 43 43.4 -1.8
comp=Z,15nm,0.8s
SEY **Seymchan** 89.28 348 P P 09 43 44.0 -0.2
comp=Z,5.0nm,0.7s,baz=150,slow=5.0,SNR=31
BGU **Big Grassy Mou** 89.32 44 eP P 09 43 46.0 +0.8
comp=Z,6.6nm,1.2s
D08A **Wollman Farm,** 89.33 37 eP P 09 43 46.0 +1.2
comp=Z,11nm,0.8s
E09A **Wollaston Farm, Sta** 89.43 37 eP P 09 43 46.2 +0.8
TNA **Tin City** 89.59 5 eP P 09 43 45.8 +0.2
comp=Z,8.9nm,1.0s
F10A **Beach Ranch, E** 89.63 38 eP P 09 43 46.5 +0.1
comp=Z,9.6nm,0.8s
TMUT **Trail Mountain** 89.64 46 eP P 09 43 48.1 +1.2
comp=Z,40nm,1.0s
OD2 **Odessa Site #2** 89.65 36 P P 09 43 46.9 +0.6
CMAR **Chiang Mai Arr** 89.73 290ceP P 09 43 49.0 +1.6
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR **Chiang Mai Arr** 89.73 290 P P 09 43 48.6 +1.2
comp=Z,7.3nm,0.9s,baz=137,slow=3.3,SNR=40
MPU **Maple Canyon** 89.74 45 eP P 09 43 48.6 +1.4
comp=Z,13nm,0.9s
CMMT **Chiang Mai** 89.88 291 P P 09 43 49.2 +1.1
comp=Z,22nm,1.0s
CHTO **Chiang Mai** 89.88 291 eP P 09 43 49.5 +1.4
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO **Chiang Mai** 89.88 291 eP P 09 43 49.5 +1.4
comp=Z,14nm,1.0s
CHTO **Chiang Mai** 89.88 291 P P 09 43 49.3 +1.2
comp=Z,78nm,1.0s
B08A **Colville Reser** 89.89 35 eP P 09 43 47.5 0.0
HLID **Hailey** 89.91 41 eP P 09 43 48.7 +0.8
comp=Z,9.9nm,1.0s
HVU **Hansel Valley** 89.95 43 eP P 09 43 48.9 +0.9
HVU pmax pmax
comp=Z,12nm,0.6s
HVU **Hansel Valley** 89.95 43 eP P 09 43 48.9 +0.9
comp=Z,12nm,0.6s
MNTX **Cornudas Mount** 90.00 55 eP P 09 43 49.6 +1.2
comp=Z,9.0nm,0.9s
LENM **Lemitar** 90.00 52 eP P 09 43 49.5 +1.0
comp=Z,9.7nm,1.0s
SRU **San Rafael Swe** 90.00 47 eP P 09 43 49.3 +0.9
SRU pmax pmax
comp=Z,21nm,0.8s
SRU **San Rafael Swe** 90.00 47 eP P 09 43 49.2 +0.9
comp=Z,21nm,0.8s
CTU **Camp Tracy** 90.02 45 eP P 09 43 49.1 +0.7
comp=Z,14nm,0.9s
KTH **Kantishna Hill** 90.03 12 eP P 09 43 45.6 -2.1
comp=Z,7.0nm,0.8s
TRF **Thorofare Moun** 90.06 13 eP P 09 43 47.2 -0.8
comp=Z,13nm,0.9s
DAU **Daniels Canyon** 90.19 45 eP P 09 43 50.8 +1.4
DAU **Daniels Canyon** 90.19 45 eP P 09 43 50.8 +1.4
comp=Z,0.8nm,1.1s
TXAR **Lajitas Array** 90.21 58 P P 09 43 50.8 +1.3
comp=Z,8.6nm,0.7s,baz=214,slow=6.4,SNR=125
TXAR PKKPbc PKKPbc 10 01 16.5 0.0
comp=Z,0.3nm,0.6s,baz=73,slow=3.1,SNR=5.5
CMAI **Chiengmai2** 90.27 292 P P 09 43 51.2 +1.1
comp=Z,25nm,0.9s,comp=Z,778nm
LPM **Los Pinos Moun** 90.32 52 eP P 09 43 50.9 +0.9
comp=Z,9.3nm,1.1s
TCUT **Toone Canyon** 90.46 45 eP P 09 43 51.9 +1.3
comp=Z,14nm,0.6s
HHC **Hu-ho-hao-te** 90.56 315 eP P 09 43 51.9 +1.1
HHC PP PP 09 47 38.6 +3.6
HHC SKS SKSac 09 53 34.3 +0.7
HHC S S 09 54 02.7 -0.3
HHC sS sS 09 57 24.3 -0.2
HHC SS SS 10 00 23.8 +3.9
HHC PMZ
comp=Z,22nm,1.4s
HHC PMZ
comp=Z,90nm,5.3s
MCK **McKinley** 90.59 13 eP P 09 43 49.7 -0.6
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK **McKinley** 90.59 13 eP P 09 43 49.7 -0.6
comp=Z,6.9nm,1.0s
HWUT **Hardware Ranch** 90.62 44 eP P 09 43 51.3 +0.1
comp=Z,9.3nm,0.6s
PV10 **Paradox Valley** 90.62 48 eP P 09 43 51.7 +0.3
ANMO **Albuquerque** 90.75 52ceP P 09 43 52.7 +0.7
ANMO pmax pmax
comp=Z,35nm,1.1s
ANMO **Albuquerque** 90.75 52 P P 09 43 52.5 +0.5
comp=Z,2.9nm,0.5s,baz=225,slow=4.8,SNR=16
ANMO **Albuquerque** 90.75 52 eP P 09 43 52.5 +0.5
comp=Z,10nm,1.3s
NEW **Newport** 91.03 36 eP P 09 43 53.0 +0.3
NEW pmax pmax
comp=Z,7.0nm,1.4s
NEW **Newport** 91.03 36 eP P 09 43 53.0 +0.3
comp=Z,7.4nm,1.4s
CD2 **Chengdu** 91.25 303 P P 09 43 55.4 +1.2
CD2 pP pP 09 45 47.9 +0.9
CD2 sP sP 09 46 37.6 -0.6
CD2 PP PP 09 47 43.9 +3.3
CD2 SKS SKSac 09 53 39.1 +1.2
CD2 S S 09 54 09.2 -0.3
CD2 sS sS 09 57 28.5 -2.8
CD2 SS SS 10 00 33.0 +2.9
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
AHID **Auburn Hatcher** 91.52 43 eP P 09 43 56.5 +1.1
comp=Z,9.9nm,0.9s
MCMT **McKenzie Canyo** 91.54 41 eP P 09 43 56.3 +0.8
comp=Z,3.0nm,1.2s
DLBC **Dease Lake** 91.76 24 P P 09 43 56.3 +0.4
comp=Z,2.0nm,0.9s,baz=221,slow=8.1,SNR=3.9
COLA **College** 91.82 13 eP P 09 43 54.7 -1.2
COLA pmax pmax
comp=Z,11nm,1.4s
COLA **College** 91.82 13 eP P 09 43 54.7 -1.2
comp=Z,11nm,1.4s
S22A **4UR Ranch, Cre** 91.83 49 eP P 09 43 58.0 +0.9
comp=Z,8.9nm,0.9s
ILAR **Eielson Array** 91.94 13 P P 09 43 55.2 -1.3
comp=Z,1.4nm,0.6s,baz=225,slow=5.7,SNR=30
REDW **Red Top Meadow** 91.99 43 eP P 09 43 58.2 +0.7
comp=Z,18nm,1.4s
TPAW **Teton Pass** 91.99 43 eP P 09 43 58.5 +0.9
comp=Z,15nm,1.4s
O20A **White River Ci** 92.04 47 eP P 09 43 58.0 +0.2
comp=Z,9.2nm,1.3s
BSMT **Bassoo Peak** 92.08 38 eP P 09 43 57.5 -0.3
BILL **Bilibino** 92.21 355⇓iP P 09 43 57.2 -0.4
BILL pmax pmax
comp=Z,4.0nm,0.8s
IMW **Indian Meadow** 92.21 42 eP P 09 43 59.3 +0.7
comp=Z,13nm,1.6s
CMIG **Matias Romero** 92.24 72 P P 09 43 56.4 -2.5
comp=Z,2.2nm,0.5s,baz=242,slow=3.1,SNR=4.5
LOHW **Long Hollow** 92.27 43 eP P 09 43 59.6 +0.8
QLMT **Earthquake Lak** 92.40 41 eP P 09 44 00.3 +0.9
comp=Z,0.9nm,1.0s
SMCO **Snowmass** 92.42 48 eP P 09 44 00.7 +0.8
comp=Z,5.8nm,0.9s
PDAR **Pinedale Array** 92.50 44 P P 09 44 00.1 +0.2
comp=Z,4.5nm,0.8s,baz=216,slow=3.5,SNR=34
HRY **Holter Researc** 93.15 40 eP P 09 44 03.2 +0.6
EGAK **Eagle** 93.25 16 eP P 09 44 02.2 -0.3
comp=Z,6.8nm,0.8s
LZH **Lanzhou** 93.53 308 eP P 09 44 05.9 +1.2
LZH pP pP 09 45 57.0 -0.7
LZH PMZ
comp=Z,17nm,1.0s
ISCO **Idaho Springs** 93.64 48 eP P 09 44 05.4 +0.1
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO **Idaho Springs** 93.64 48 eP P 09 44 05.4 +0.1
comp=Z,2.1nm,0.8s
JCT **Junction City** 93.72 58 eP P 09 44 05.7 +0.1
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT **Junction City** 93.72 58 eP P 09 44 05.7 +0.1
comp=Z,5.9nm,0.8s
SONM **Songino Array** 97.22 319 P P 09 44 19.5 -1.6
comp=Z,0.2nm,0.4s,baz=112,slow=3.3,SNR=3.7
INK **Inuvik** 97.92 16 P Pdif 09 44 22.7 -0.7
baz=227,slow=5.0
YKA **Yellowknife Ar** 100.22 25 P Pdif 09 44 33.4 -0.5
comp=Z,0.2nm,0.5s,baz=238,slow=4.6,SNR=11
YKA PP PP 09 48 44.5 -3.7
comp=Z,0.6nm,0.9s,baz=244,slow=7.4,SNR=7.1
YKA PKiKP PKiKP 09 48 56.8 -1.1
comp=Z,0.1nm,0.4s,baz=248,slow=1.4,SNR=5.8
YKA PKKPbc PKKPbc 10 00 47.6 -3.3
comp=Z,0.1nm,0.5s,baz=30,slow=2.6,SNR=5.3
RES **Resolute Bay** 111.46 17 PKiKP PKiKP 09 49 16.7 -1.7
comp=Z,0.4nm,0.5s,baz=58,slow=9.5,SNR=3.2
MKAR **Makanchi Array** 112.30 313 Pdiff Pdif 09 45 28.6 +0.6
comp=Z,0.2nm,0.4s,baz=80,slow=6.6,SNR=5.9
MKAR PKiKP PKiKP 09 49 19.7 -1.2
comp=Z,0.3nm,0.4s,baz=223,slow=1.5,SNR=10
MKAR SKP 09 52 06.7
comp=Z,0.8nm,0.6s,baz=114,slow=2.2,SNR=6.2
MKAR PKKPab PKKPab 10 00 23.3 +1.5
comp=Z,0.6nm,0.6s,baz=277,slow=4.5,SNR=5.4
KURK **Kurchatov** 115.33 316 PKiKP PKPdf 09 49 25.3 -1.2
KURK **Kurchatov** 115.33 316 PKP PKPdf 09 49 25.3 -1.2
KURBB **Kurchatov Arra** 115.38 316 PKP PKPdf 09 49 25.3 -1.3
comp=Z,0.4nm,0.4s,baz=117,slow=1.9,SNR=5.1
KSH **Kashi** 115.44 304 ePKP PKPdf 09 49 32.0 +4.7
KSH PPMZ
comp=Z,70nm,4.7s
AAK **Ala-Archa** 117.06 307 *i* PKiKP PKPdf 09 49 32.1 +1.8
AAK pmax pmax
comp=Z,5.0nm,1.7s
KKAR **Karatay Array** 120.03 307 ePKiKP PKPdf 09 49 34.5 -1.3
KKAR **Karatay Array** 120.03 307 ePKPdf PKPdf 09 49 34.5 -1.3
FRB **Frobisher Bay** 120.50 29 PKKPbc PKKPbc 09 59 43.2 -2.2
comp=Z,1.7nm,0.5s,baz=89,slow=3.6,SNR=7.4
BVAR **Borovoye Array** 120.56 319 PKP PKPdf 09 49 35.7 -0.8
comp=Z,0.9nm,0.3s,baz=97,slow=1.4,SNR=13
SCHQ **Schefferville** 122.29 39 PKP PKPdf 09 49 38.5 -1.3
comp=Z,0.5nm,0.3s,baz=338,slow=1.8,SNR=9.1
SCHQ PKKPbc PKKPab 09 59 37.1 -0.6
comp=Z,2.3nm,0.9s,baz=130,slow=2.9,SNR=5.4

BOSA	**Boshof**	**122.54**	**206**	PKP	**PKPdf**	**09 49 41.3**	**0.0**
	comp=Z,1.6nm,0.6s,baz=76,slow=19,SNR=3.1						
BOSA				PKKPbc	**PKKPbc**	**09 59 34.9**	**-3.2**
	comp=Z,5.5nm,1.0s,baz=45,slow=7.1,SNR=2.8						
SPITS	**Spitsbergen Ar**	**125.09**	**356**	PKP	**PKPdf**	**09 49 42.5**	**-2.1**
	comp=Z,4.5nm,0.8s,baz=123,slow=12,SNR=5.6						
SFJD	**Kangerlussuaq**	**126.65**	**22**	PKP	**PKPdf**	**09 49 46.7**	**-1.0**
	comp=Z,4.5nm,0.9s,baz=153,slow=4.5,SNR=3.9						
ARU	**Arti**	**126.99**	**324**	*i* PKIKP	**PKPdf**	**09 49 48.3**	**-0.4**
ARU						09 51 50.5	
ARU						09 56 05.0	
ARU	**Arti**	**126.99**	**324**	*e*PKPdf	**PKPdf**	**09 49 48.5**	**-0.2**
ABKAR	**Akbulak array**	**127.35**	**315**	*e*PKPdf	**PKPdf**	**09 49 48.7**	**-0.9**
GEYT	**Alibeck**	**129.15**	**300**	PKP	**PKPdf**	**09 49 53.3**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=202,slow=6.2,SNR=4.1						
GEYT				SKPbc	SKPab	09 52 26.3	-0.7
	comp=Z,5.9nm,0.9s,baz=40,slow=4.7,SNR=9.2						
ARCES	**ARCESS Array B**	**131.89**	**348**	PKP	**PKPdf**	**09 49 56.8**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=66,slow=2.3,SNR=12						
ARCES				SKPbc	**SKPbc**	**09 52 35.2**	**-1.0**
	comp=Z,7.3nm,0.8s,baz=57,slow=3.3,SNR=17						
TSUM	**Tsumeb**	**133.99**	**203**	PKP	**PKPdf**	**09 50 03.5**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=126,slow=8.7,SNR=3.8						
KMBO	**Kilima Mbogo**	**136.32**	**241**	PKP	**PKPdf**	**09 50 08.0**	**0.0**
	comp=Z,0.7nm,0.4s,baz=45,slow=7.1,SNR=2.8						
KMBO				SKPbc	**SKPbc**	**09 52 52.9**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=51,slow=18,SNR=4.3						
KAF	**Kangasniemi**	**137.88**	**342**	*e*PKIKP	**PKPdf**	**09 50 10.0**	**+1.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KAF	**Kangasniemi**	**137.88**	**342**	*ep*	**PKPdf**	**09 50 10.0**	**+1.0**
	comp=Z,0.8nm,0.3s						
FINES	**FINESS Array B**	**138.48**	**342**	*c i*PKIKP	PKPdf	09 50 16.3	+6.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**138.48**	**342**	PKhKP	PKPpre	09 50 00.7	
	comp=Z,0.7nm,0.4s,baz=54,slow=3.9,SNR=11						
FINES				PKP	**PKPdf**	**09 50 10.2**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=98,slow=3.3,SNR=15						
FINES				SKPbc	**SKPbc**	**09 52 55.5**	**-1.3**
	comp=Z,13nm,0.6s,baz=90,slow=3.8,SNR=39						
NB2	**NORSAR Subarra**	**142.08**	**351**	PKP	PKPpre	09 50 11.5	
	comp=Z,1.1nm,0.7s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**142.08**	**351**	PKhKP	PKPpre	09 50 11.9	
	comp=Z,0.4nm,0.4s,baz=12,slow=1.6,SNR=11						
NOA				PKP	**PKPdf**	**09 50 16.7**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=26,slow=2.9,SNR=3.4						
NOA				SKPbc	**SKPbc**	**09 53 05.2**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=14,slow=4.1,SNR=9.8						
ANN	**Anapa**	**143.30**	**314**	*i* PKIKP	PKPab	09 50 16.8	-0.4
ANN				*e*		09 53 35.9	
ANN				pmax	pmax		
	comp=Z,20nm,0.6s						
KONO	**Kongsberg**	**143.63**	**352**	*e*PKIKP	PKPab	09 50 17.4	-0.6
KONO	**Kongsberg**	**143.63**	**352**	*e*PKPdf	PKPab	09 50 17.4	-0.6
AKASG	**Malin Array Be**	**145.06**	**327**	PKP	**PKPdf**	**09 50 21.8**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=47,slow=4.3,SNR=49						
AKASG				SKPbc	**SKPbc**	**09 53 12.4**	**-1.2**
	comp=Z,7.4nm,0.6s,baz=43,slow=2.8,SNR=8.4						
KIEV	**Kiev**	**145.07**	**327**	*e*PKIKP	**PKPdf**	**09 50 21.5**	**-0.6**
KIEV	**Kiev**	**145.07**	**327**	*e*PKPdf	**PKPdf**	**09 50 21.5**	**-0.6**
KAC	**Achnashellach**	**146.15**	**5**	*e*P	**PKPbc**	**09 50 25.3**	**-0.5**
MCD	**Coleburn Disti**	**146.21**	**3**	*e*P	**PKPbc**	**09 50 24.9**	**-1.0**
KPL	**Plockton**	**146.28**	**6**	*e*P	**PKPbc**	**09 50 25.8**	**-0.3**
DRUM	**Mains of Drumt**	**146.92**	**3**	*e*P	**PKPdf**	**09 50 25.7**	**+0.7**
EDU	**Dundee**	**147.26**	**3**	*e*P	**PKPbc**	**09 50 28.1**	**-0.7**
EAB	**Aberfoyle**	**147.53**	**5**	*e*P	**PKPbc**	**09 50 28.8**	**-0.7**
BRTR	**Keskin Array B**	**147.74**	**307**	PKPbc	**PKPbc**	**09 50 30.1**	**-0.7**
	comp=Z,3.3nm,0.5s,baz=141,slow=4.7,SNR=16						
PGBU	**Glenifferbraes**	**147.89**	**5**	*e*P	**PKPbc**	**09 50 29.7**	**-0.8**
ESY	**Stoneypath**	**147.91**	**3**	*e*P	**PKPbc**	**09 50 29.7**	**-0.8**
BEL	**Belsk**	**147.93**	**336**	*e*PKP2	**PKPbc**	**09 50 30.7**	**0.0**
BEL	**Belsk**	**147.93**	**336**	*e*PKP	**PKPbc**	**09 50 30.6**	**-0.1**
EBL	**Broad Law**	**148.03**	**4**	*e*P	**PKPbc**	**09 50 30.2**	**-0.6**
ANTO	**Ankara**	**148.30**	**308**	*e*PKP2	**PKPbc**	**09 50 31.9**	**-0.2**
ANTO	**Ankara**	**148.30**	**308**	*e*PKPbc	**PKPbc**	**09 50 31.9**	**-0.2**
ESK	**Eskdalemuir**	**148.47**	**4**	*e*P	**PKPbc**	**09 50 30.9**	**-1.0**
EIL	**Elat**	**148.56**	**288**	PKPbc	**PKPbc**	**09 50 33.6**	**+0.6**
	baz=100,slow=6.1						
ECK	**Cauldkaine Hil**	**148.62**	**4**	*e*P	**PKPbc**	**09 50 31.2**	**-1.1**
TIRR	**Tirgusor**	**149.18**	**319**	*e*PKPbc	**PKPbc**	**09 50 34.0**	**0.0**
CSS	**Prodhromos**	**149.27**	**299**	*e*PKPbc	**PKPbc**	**09 50 34.1**	**-0.4**
KOLS	**Kolonicke sedl**	**149.55**	**331**	*e*PKP2	**PKPbc**	**09 50 35.5**	**+0.7**
KOLS	**Kolonicke sedl**	**149.55**	**331**	*e*PKP	**PKPbc**	**09 50 35.5**	**+0.7**
OJC	**Ojcow**	**149.60**	**335**	*e*PKP	**PKPbc**	**09 50 34.6**	**-0.3**
STHS	**Stebnicka Huta**	**149.64**	**332**	*e*PKP2	**PKPbc**	**09 50 35.7**	**+0.7**
STHS	**Stebnicka Huta**	**149.64**	**332**	*e*PKP	**PKPbc**	**09 50 35.7**	**+0.7**
CRVS	**Cervenica-Dubn**	**149.93**	**332**	*e*PKP	**PKPbc**	**09 50 36.1**	**+0.4**
NIE	**Niedzica**	**150.02**	**333**	*e*PKP	**PKPbc**	**09 50 36.4**	**+0.5**
LHO	**Holmfirth**	**150.31**	**3**	*e*P	**PKPbc**	**09 50 36.6**	**-0.9**
KSP	**Ksiaz**	**150.33**	**339**	*e*PKIKP	**PKPbc**	**09 50 36.8**	**+0.2**
KSP	**Ksiaz**	**150.33**	**339**	*e*PKP	**PKPbc**	**09 50 36.8**	**+0.2**
UPC	**Upice**	**150.71**	**339**	*e*PKIKP	**PKPbc**	**09 50 37.2**	**-0.3**
UPC	**Upice**	**150.71**	**339**⇑	*e*PKP	**PKPbc**	**09 50 37.2**	**-0.3**
DPC	**Dobruska-Polom**	**150.75**	**339**	*e*PKIKP	**PKPbc**	**09 50 37.7**	**+0.1**
DPC	**Dobruska-Polom**	**150.75**	**339**⇑	*e*PKP	**PKPbc**	**09 50 37.7**	**+0.1**
MORC	**Moravsky Berou**	**150.81**	**337**	*e*PKIKP	**PKPbc**	**09 50 37.4**	**-0.4**
MORC	**Moravsky Berou**	**150.81**	**337**	*e*PKPbc	**PKPbc**	**09 50 37.4**	**-0.4**
CLL	**Collm**	**150.88**	**343**	⇑ *i*PKIKP	**PKPbc**	**09 50 37.7**	**-0.1**
CLL				*i*		09 50 47.0	
CLL				pmax	pmax		
	comp=Z,11nm,0.8s						
CLL	**Collm**	**150.88**	**343**⇑	*i*PKPbc	**PKPbc**	**09 50 37.7**	**-0.1**
	comp=Z,11nm,0.8s						
CLL				*i* (PKiKP)		09 50 41.5	
CLL				⇓ *i*PKPab	**PKPab**	**09 50 47.0**	**-0.3**
	comp=Z,5.0nm,0.8s						
CLL				*ep*PKPbc	**pPKPbc**	**09 52 40.0**	**+3.1**
CLL				*ep*PKPab	**pPKPab**	**09 52 44.0**	**+2.1**
FOEL	**Foel Wylfa**	**150.89**	**4**	*e*P	**PKPbc**	**09 50 37.1**	**-0.6**
BRG	**Berggiesshubel**	**151.02**	**342**	*i* PKP	**PKPbc**	**09 50 38.1**	**0.0**
	comp=Z,5.5nm,0.4s						
BRG	**Berggiesshubel**	**151.02**	**342**	*i* PKIKP	**PKPbc**	**09 50 38.1**	**0.0**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
PVCC	**Panska Ves**	**151.14**	**341**	*e*PKIKP	**PKPbc**	**09 50 38.8**	**+0.4**
PVCC	**Panska Ves**	**151.14**	**341**⇑	*e*PKP	**PKPbc**	**09 50 38.8**	**+0.4**
VYHS	**Vyhne**	**151.35**	**334**	*e*PKIKP	**PKPbc**	**09 50 39.1**	**+0.1**
VYHS	**Vyhne**	**151.35**	**334**	*e*PKP	**PKPbc**	**09 50 39.1**	**+0.1**
PSZ	**Piszkesteto**	**151.36**	**332**	*e*PKIKP	**PKPdf**	**09 50 32.5**	**0.0**
PSZ	**Piszkesteto**	**151.36**	**332**	*e*PKPdf	**PKPdf**	**09 50 32.5**	**0.0**
PRU	**Pruhonice**	**151.63**	**340**	*e*PKIKP	**PKPbc**	**09 50 39.9**	**+0.4**
PRU	**Pruhonice**	**151.63**	**340**⇑	*e*PKP	**PKPbc**	**09 50 39.9**	**+0.4**
KHC	**Kasperske Hory**	**152.68**	**341**	*e*PKIKP	**PKPbc**	**09 50 40.9**	**-1.1**
KHC				*e*		09 50 55.0	
KHC	**Kasperske Hory**	**152.68**	**341**⇑	*e*PKP	**PKPbc**	**09 50 41.1**	**-0.8**
KHC				*e*PKPAB	**PKPab**	**09 50 55.1**	**0.0**
KHC	**Kasperske Hory**	**152.68**	**341**	*e*PKPbc	**PKPbc**	**09 50 40.9**	**-1.1**
KHC				*e*PKPab	**PKPab**	**09 50 55.0**	**0.0**
GRF	**Grafenberg Arr**	**152.82**	**344**	*e*PKP	**PKPab**	**09 50 55.8**	**+0.2**
GERES	**GERESS Array B**	**152.90**	**340**	PKPbc	**PKPbc**	**09 50 41.5**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=70,slow=1.1,SNR=5.4						
GERES				PKPab	**PKPab**	**09 50 54.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=45,slow=2.1,SNR=4.0						
ESDC	**Sonseca Array**	**163.83**	**12**	PKPab	**PKPab**	**09 51 42.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=346,slow=3.7,SNR=9.1						
TORD	**Torodi Ar. Bea**	**169.26**	**188**	PKP	**PKPdf**	**09 50 51.3**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=52,slow=0.3,SNR=2.7						
TORD				PKPab	**PKPab**	**09 52 08.4**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=163,slow=3.9,SNR=25						
TORD				PP	**PP**	**09 55 57.8**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=162,slow=4.2,SNR=5.4						

*CSEM **04** 09:32:25.0±0.3, 38.15N×38.05E, h14km±3km, MD2.8, Error ellipse: s-maj=8.1km s-min=7.9km az=18.0*
*DDA **04** 09:32:26.8, 38.33N×38.11E, h1km, MD2.8*
ISK 04 09:32:25.9, 38.24N×38.11E, h8km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.16**	**291**	*i* P	Pg	09 32 29.2	-0.2
AKCD				*i* S	Sg	09 32 32.0	+0.1
AKCD	**Akcadag**	**0.16**	**291**	*i* P	Pg	09 32 29.2	-0.2
AKCD				*i* S	Sg	09 32 32.0	+0.2
MALT	**Malatya**	**0.26**	**73**	*e*PG	Pg	09 32 32.1	+0.8
MALT	**Malatya**	**0.26**	**73**	*e*Pg	Pg	09 32 32.1	+0.8
DARE	**Darende-Malaty**	**0.59**	**304**	*e*PG	Pb	09 32 38.2	-0.6
DARE				*e*SG	Sg	09 32 46.2	+0.8
DARE	**Darende-Malaty**	**0.59**	**304**	*e*Pg	Pb	09 32 38.2	-0.5
DARE				*e*Sg	Sg	09 32 46.2	+0.8
SVRC	**Sivrice-ELAZID**	**0.95**	**81**	*e*PG	Pg	09 32 44.4	-0.1
SVRC	**Sivrice-ELAZID**	**0.95**	**81**	*e*Pg	Pg	09 32 44.4	-0.1
URFA	**Urfa**	**0.97**	**144**	*e*PG	Pg	09 32 44.6	-0.1
URFA	**Urfa**	**0.97**	**144**	*e*Pg	Pg	09 32 44.6	-0.2
GZT	**Gaziantep**	**0.98**	**206**	*i* P	Pn	09 32 47.5	+1.3
GZT				*i* S	Sn	09 33 03.7	+3.2
KEMA	**Kemaliye**	**1.07**	**16**	*i* P	Pg	09 32 46.1	-0.6
KEMA				*i* S	Sb	09 33 01.6	+0.4
KEMA	**Kemaliye**	**1.07**	**16**	*i* P	Pg	09 32 46.1	-0.6
KEMA				*i* S	Sb	09 33 01.6	+0.5
PTK	**Pertek**	**1.20**	**57**	*e*PN	Pb	09 32 48.3	-0.9
PTK	**Pertek**	**1.20**	**57**	*e*Pn	Pb	09 32 48.3	-0.9
ILIC	**ilic-Erzincan**	**1.26**	**16**	*e*PN	Pg	09 32 51.0	+0.6
ILIC	**ilic-Erzincan**	**1.26**	**16**	*e*Pn	Pg	09 32 51.0	+0.6

*ISCJB **04** 09:36:24.7±0.5, 32.27N±0.02×115.26W±0.03, h7km±3km, Error ellipse: s-maj=3.9km s-min=3.4km az=143.9*
*NEIC **04** 09:36:25.6, 32.23N×115.30W, h10km, ML3.4(PAS), After PAS.*
*MEX **04** 09:36:26.3±0.9, 32.42N×115.41W, h14km±14km, MD3.7*
*ECX **04** 09:36:27.4±0.4, 32.32N×115.31W, h6km, MD3.3, ML3.5*
ISC 04 09:36:24.2±0.9, 32.24N±0.02×115.37W±0.02, h18km±4km, n38, σ1§60/61, 10C-18D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**18**	*e*P	**Pg**	**09 36 28.9**	**0.0**
CPBX				*e*S	**Sb**	**09 36 30.6**	**-1.5**
CPBX				AML	AML	09 36 34.0	
	comp=E,61μm,0.5s						
CPBX				*e*		09 36 34.0	
MBIG	**Mexicali**	**0.22**	**42**	*i* P	**Pg**	**09 36 29.5**	**+0.1**
MBIG				*i* S	**Sg**	**09 36 33.3**	**+0.3**
EMX	**El Mayor**	**0.28**	**156**⇓	*e*P	**Pb**	**09 36 31.7**	**+1.1**
EMX				*e*S	**Sb**	**09 36 36.4**	**+1.5**
SGL	**Mount Signal**	**0.50**	**324**	⇓ *i*P	**Pn**	**09 36 35.9**	**-0.6**
RDX	**Rancho Dawling**	**0.58**	**237**⇑	*e*P	Pg	09 36 30.0	-5.8
RDX				*e*S	**Sg**	**09 36 39.2**	**-4.3**
YUH	**Yuha Desert**	**0.62**	**311**	⇓ *i*P	**Pn**	**09 36 38.0**	**-0.1**
COA	**Coachella**	**0.66**	**19**	⇓ *i*P	**Pg**	**09 36 37.5**	**+0.4**
RMX	**La Rumorosa**	**0.70**	**301**	*e*P	Pb	09 36 31.0	-6.9
RMX				*e*S	Sb	09 36 40.7	-6.6
YMD	**Yuma Desert**	**0.77**	**66**	*e*P	**Pb**	**09 36 38.8**	**-0.3**
SWSC	**Sam W. Stewart**	**0.78**	**333**	⇑P	**Pg**	**09 36 40.1**	**+0.6**
	baz=0.8						
SWSC				⇑S	**Sn**	**09 36 51.5**	**-0.2**
	baz=0.8						
ECBX	**El Chinero**	**0.81**	**160**	*e*P	**Pn**	**09 36 41.5**	**+0.6**
ECBX				*e*S	**Sn**	**09 36 53.1**	**+0.7**
GLA	**Glamis**	**0.93**	**29**	⇓P	**Pb**	**09 36 41.3**	**-0.5**
	baz=0.9						
GLA				⇓S	**Sb**	**09 36 52.9**	**-1.0**
	baz=0.9						
GLA	**Glamis**	**0.93**	**29**	*e*Pg	**Pb**	**09 36 41.4**	**-0.5**
GLA				*e*Sg	**Sb**	**09 36 53.2**	**-0.7**
ZAX	**El Zacaton**	**1.05**	**227**	*e*P	Pb	09 36 38.2	-5.8
ZAX				*e*S	**Sb**	**09 36 53.8**	**-3.8**
MONP	**Monument Peak,**	**1.10**	**306**	⇓P	**Pg**	**09 36 46.5**	**+0.9**
	baz=1.2						
MONP				⇓S	**Sg**	**09 37 01.7**	**+1.7**
	baz=1.2						
BAR	**Barrett**	**1.18**	**292**	*e*Pn	**Pg**	**09 36 48.4**	**+1.3**
BAR				*e*Sg	**Sg**	**09 37 04.6**	**+2.0**
ECNX	**Esteban Cantu**	**1.19**	**241**⇑	*e*P	Pn	09 36 40.5	-5.6
ECNX				*e*S	**Sb**	**09 36 57.9**	**-3.7**
SPIG	**San Pedro Mart**	**1.19**	**184**	*e*P	**Pg**	**09 36 48.6**	**+1.2**
SPIG				*e*S	**Sg**	**09 37 04.1**	**+1.1**
SPIG	**San Pedro Mart**	**1.19**	**184**	P	**Pg**	**09 36 48.6**	**+1.2**
SPIG				S	**Sg**	**09 37 04.1**	**+1.1**
PBX	**Punta Banda**	**1.25**	**247**	*e*P	Pn	09 36 41.3	-5.6
PBX				*e*S	**Sb**	**09 36 59.6**	**-3.6**
BC3	**Big Chuckawall**	**1.41**	**357**	⇑P	**Pn**	**09 36 48.9**	**-0.3**
	baz=1.4						
BC3				⇓S	**Sg**	**09 37 11.8**	**+1.9**
	baz=1.4						
113A	**Mohawk Valley,**	**1.46**	**68**	⇓P	**Pn**	**09 36 49.3**	**-0.3**
	baz=1.4						
113A				⇓S	**Sn**	**09 37 06.3**	**-1.9**
	baz=1.4						
109C	**Camp Elliot, M**	**1.60**	**294**	⇑P	**Pg**	**09 36 54.9**	**-0.1**
	baz=1.7						
109C				⇓S	**Sg**	**09 37 16.8**	**+0.9**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.64**	**327**	⇓P	**Pn**	**09 36 52.9**	**+0.5**
	baz=1.7						
PFO				⇑S	**Sg**	**09 37 17.6**	**+0.4**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.64**	**327**	*e*Pn	**Pn**	**09 36 52.5**	**+0.2**
Y12C	**Blythe**	**1.67**	**25**	⇑P	**Pb**	**09 36 54.9**	**+0.5**
	baz=1.7						
Y12C				⇑S	**Sb**	**09 37 16.1**	**+1.0**
	baz=1.7						
IRM	**Iron Mountain**	**1.92**	**6**	⇓Pb	**Pg**	**09 37 00.8**	**-0.4**
	baz=1.9						
IRM				⇓S	**Sb**	**09 37 24.1**	**+1.6**
	baz=1.9						
MURC	**Murrieta**	**2.05**	**312**	⇓P	**Pb**	**09 37 00.4**	**-0.6**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.19**	**97**	⇓P	**Pn**	**09 36 59.5**	**-0.3**
	baz=2.1						
214A				⇓S	**Sn**	**09 37 26.8**	**+0.2**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.19**	**97**	*e*Pn	**Pn**	**09 36 59.4**	**-0.5**
214A				*e*Pg	**Pg**	**09 37 06.0**	**-0.3**
Z14A	**Wintersburg**	**2.33**	**61**	⇑P	**Pn**	**09 37 02.0**	**+0.3**
	baz=2.3						
MWC	**Mount Wilson**	**3.00**	**312**	*e*Pg	**Pb**	**09 37 19.6**	**+2.4**
MWC				*e*Sg	**Sg**	**09 37 58.6**	**-2.0**
GSC	**Goldstone, Bar**	**3.28**	**339**	*e*Pg	**Pg**	**09 37 29.6**	**+2.6**
TUC	**Tucson**	**3.89**	**88**	*e*Pg	**Pg**	**09 37 39.2**	**+0.5**
TUC				*e*Sg	**Sg**	**09 38 25.9**	**-3.1**
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	**Pn**	**09 37 29.9**	**+1.6**
SHPR				*e*Pg	**Pg**	**09 37 46.5**	**+0.7**
SHPR				*e*Sg	**Sg**	**09 38 37.3**	**-3.7**
ARUT	**Antelope Range**	**5.76**	**15**	*e*Pg	**Pg**	**09 38 14.5**	**+0.1**
	comp=E,0.8nm,0.6s						
R11A	**Troy Canyon, C**	**6.10**	**358**	*e*Pg	**Pg**	**09 38 22.1**	**+1.1**
	comp=E,1.5nm,0.5s						
121A	**Cookes Peak, D**	**6.42**	**85**	*e*Pn	**Pn**	**09 37 59.8**	**+1.6**
	comp=E,2.7nm,0.5s						
121A				*e*Sg	**Sg**	**09 39 51.5**	**+1.1**

*SZGRF **04** 09:39:59.5, 23.64S×178.84W, h33km, South of Fiji Islands*
*BJI **04** 09:40:50.9, 22.82S×178.23W, h455km, mB5.0/15, mb4.7/20*
*MOS **04** 09:40:55.1±1.1, 22.30S×179.23W, h450km, mb4.8/25, Error ellipse: s-maj=11.4km s-min=8.6km az=54.4*
*IDC **04** 09:40:57.0±0.9, 22.35S×179.15W, h466km±9km, mb4.1/30, mb1 4.2/31, mb1mx4.2/32, mbtmp4.9/31, Error ellipse: s-maj=10.3km s-min=9.5km az=120.0*
*ISCJB **04** 09:40:58.3±0.5, 22.45S±0.03×179.31W±0.03, h485km±6km, mb4.7/112, Error ellipse: s-maj=5.0km s-min=3.6km az=44.8*
*GCMT **04** 09:40:59.4±0.5, 22.59S×179.00W, h481km±4km, MW5.3/45, Moment Tensor Solution. s45,c50; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mr0.37±.05; Mθθ0.69±.10; Mφφ-1.05±.08; Mrθ0.68±.08; Mrφ0.17±.07; Mθφ-0.06±.09; Best double couple: Mo1.15400×10^17 NP1:ϕs136.00000°, δ69.00000°, λ33.00000°. NP2: ϕs32.00000°, δ59.00000°, λ155.00000°. Principal axes: T 1.2280, Plg38.0000°, Azm357.0000°; N -0.1450, Plg51.0000°, Azm165.0000°; P -1.0800, Plg6.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **04** 09:40:59.4±0.6, 22.42S×179.28W, h490km±7km, mb4.9/89 Error ellipse: s-maj=6.5km s-min=4.4km az=128.0*
ISC 04 09:40:56.2±0.3, 22.36S±0.04×179.15W±0.05, h457km±3km, h457km§pP-P, n731, σ1§31/792, mb4.7/111, 174C-171D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.30**	**330**	*e*P	P	09 42 28.9	+4.8
MSVF	**Nonsavu**	**5.30**	**330**	*e*Pn	P	09 42 28.9	+4.8
RAO	**Raoul Island**	**6.95**	**171**	*e*P	**P**	**09 42 40.1**	**-0.3**
RAO				*e*S	**S**	**09 44 08.5**	**+2.6**
RAO	**Raoul Island**	**6.95**	**171**	P	**P**	**09 42 40.9**	**+0.4**
	215nm,0.3s,baz=179,slow=16,SNR=6.2						
RAO				S	**S**	**09 44 07.2**	**+1.3**
	392nm,0.3s,baz=73,slow=19,SNR=6.2						
RAO	**Raoul Island**	**6.95**	**171**	*e*Pn	**P**	**09 42 40.1**	**-0.3**
RAO				*e*S	**S**	**09 44 08.5**	**+2.6**
NIUE	**Niue**	**9.23**	**71**	P	**P**	**09 43 06.0**	**+1.0**
	baz=8.9,SNR=12						
NIUE				S	**S**	**09 44 56.7**	**+5.9**
	baz=8.9,SNR=9.5						
AFI	**Afiamalu**	**10.94**	**41**	*e*P	**P**	**09 43 22.5**	**-1.2**
AFI				*e*S	**S**	**09 45 20.9**	**-4.3**
AFI	**Afiamalu**	**10.94**	**41**	*e*Pn	**P**	**09 43 22.5**	**-1.2**
AFI				*e*S	**S**	**09 45 20.9**	**-4.3**
DZM	**Mont Dzumac**	**13.35**	**269**	P	**P**	**09 43 52.1**	**+2.4**
	8.3nm,0.3s,baz=69,slow=22,SNR=44						
DZM				S	S	09 46 20.4	+7.5
	baz=297,slow=11,SNR=5.0						
DZM				ScP	**ScP**	**09 51 32.1**	**+0.7**
	0.2nm,0.3s,baz=29,slow=18,SNR=8.1						
NOUC	**Port Laguerre**	**13.48**	**268**	*e*P	**P**	**09 43 53.2**	**+2.3**
OUZ	**Omahuta**	**14.30**	**205**	*e*Pn	P	09 44 02.9	+3.4
MXZ	**Matakaoa Point**	**15.31**	**188**	PN	**P**	**09 44 10.4**	**+0.1**
MXZ				*e*SN	**S**	**09 46 51.0**	**+0.3**
WMGZ	**Waiomatatini S**	**15.55**	**187**	PN	**P**	**09 44 15.1**	**+2.3**
HAZ	**Te Kaha**	**15.57**	**189**	PN	**P**	**09 44 12.8**	**-0.2**
HAZ				SN	**S**	**09 46 56.1**	**+0.4**
PUZ	**Puketiti**	**15.82**	**188**	PN	**P**	**09 44 14.9**	**-0.8**
TWGZ	**Tauwhareparae**	**15.96**	**188**	PN	**P**	**09 44 16.9**	**-0.3**
URZ	**Urewera**	**16.17**	**191**	P	**P**	**09 44 17.7**	**-1.6**
	6.2nm,0.3s,baz=247,slow=3.5,SNR=41						
URZ				S	**S**	**09 47 01.2**	**-6.1**
	3.7nm,0.3s,baz=24,slow=7.6,SNR=5.8						
URZ	**Urewera**	**16.17**	**191**	PN	**P**	**09 44 17.9**	**-1.4**
URZ				SN	**S**	**09 47 02.8**	**-4.4**
URZ	**Urewera**	**16.17**	**191**	*e*P	**P**	**09 44 18.4**	**-0.9**
	34nm,0.9s						
URZ				*e*S	**S**	**09 47 02.8**	**-4.4**
MWZ	**Matawai**	**16.18**	**189**	PN	**P**	**09 44 19.6**	**+0.1**
MWZ				SN	**S**	**09 47 05.4**	**-2.1**
CNGZ	**Carnagh Statio**	**16.23**	**187**	PN	**P**	**09 44 20.6**	**+0.6**
TKGZ	**Te Karaka**	**16.23**	**188**	PN	**P**	**09 44 22.1**	**+2.1**
RIGZ	**Rimuhau**	**16.50**	**189**	PN	**P**	**09 44 23.6**	**+0.6**
SNGZ	**Shannon Statio**	**16.64**	**190**	PN	**P**	**09 44 24.8**	**+0.4**
PRGZ	**Paritu Road**	**16.70**	**188**	PN	**P**	**09 44 29.6**	**+4.6**
KNZ	**Kokohu**	**16.83**	**189**	PN	**P**	**09 44 25.8**	**-0.5**
MHGZ	**Mahia Peninsul**	**16.93**	**188**	PN	**P**	**09 44 29.3**	**+1.9**
BKZ	**Black Stump Fm**	**17.16**	**192**	*e*PN	**P**	**09 44 27.7**	**-2.2**
BKZ				SN	**S**	**09 47 21.1**	**-5.0**
BKZ	**Black Stump Fm**	**17.16**	**192**	*e*P	**P**	**09 44 28.5**	**-1.4**
	166nm,1.8s						
ARHZ	**Aropaoanui**	**17.17**	**190**	*e*PN	**P**	**09 44 31.

comp=Z,3.6nm,1.2s,baz=98,slow=14,SNR=6.4
WRA PKiKP **PKiKP** 09 56 54.3 -2.7
comp=Z,0.7nm,1.1s,baz=70,slow=0.4,SNR=6.7
JAY Jayapura 43.66 291 P **P** 09 48 19.0 -0.4
comp=Z,4.4nm,0.3s,baz=164,slow=6.2,SNR=4.2
KDU Kakadu 46.95 273 P **P** 09 48 44.1 -0.6
baz=47,SNR=39
FORT Forrest 47.59 248 P **P** 09 48 48.8 -0.6
baz=48,SNR=26
FORT Forrest 47.59 248 *e*P **P** 09 48 48.9 -0.6
comp=Z,138nm,0.8s
POHA Pohakuloa 47.80 31 *e*P **P** 09 48 52.1 +0.8
comp=Z,97nm,1.0s
WRKA Warakurna 47.95 256 P **P** 09 48 51.8 -0.4
baz=48,SNR=32
WRKA S **S** 09 55 14.7 -0.8
baz=48,SNR=3.9
MTN Manton Dam 48.14 273 P **P** 09 48 53.2 -0.6
baz=48,SNR=7.0
KNRA Kununurra 49.50 268 P **P** 09 49 03.6 -0.3
baz=50,SNR=21
SOEI Soe 55.52 273 P **P** 09 49 47.2 -0.2
comp=Z,36nm,1.2s
SOEI Soe 55.52 273 P **P** 09 49 49.5 +2.1
baz=56,SNR=3.5
SOEI Soe 55.52 273 *e*P **P** 09 49 48.5 +1.2
comp=Z,76nm,1.4s
BATI Baumata 55.92 273 P **P** 09 49 50.6 +0.5
comp=Z,23nm,0.7s,baz=6.4,slow=1.6,SNR=4.0
SBA Scott Base 55.95 184 *e*P **P** 09 49 51.6 +2.4
SBA pmax pmax
comp=Z,15nm,0.9s
SBA Scott Base 55.95 184 *e*P **P** 09 49 51.6 +2.4
comp=Z,15nm,0.9s
VNDA Vanda 55.97 185 *e*P **P** 09 49 51.2 +1.8
VNDA pmax pmax
comp=Z,9.0nm,0.7s
VNDA Vanda 55.97 185 P **P** 09 49 51.1 +1.8
comp=Z,8.6nm,0.7s,baz=3.4,slow=7.4,SNR=50
VNDA Vanda 55.97 185 *e*P **P** 09 49 51.2 +1.8
comp=Z,9.1nm,0.7s
MEEK Meekatharra 56.31 252 P **P** 09 49 51.6 -1.1
baz=57,SNR=21
MBWA Marble Bar 56.42 259 *e*P **P** 09 49 53.1 -0.4
comp=Z,30nm,0.9s
NWAO Narrogin (SRO) 56.59 244 P **P** 09 49 54.1 -0.4
comp=Z,31nm,0.9s,baz=106,slow=7.4,SNR=20
BLDU Ballidu 57.33 247 P **P** 09 49 58.9 -0.7
baz=58,SNR=36
MORW Morawa 58.15 249 P **P** 09 50 04.7 -0.5
baz=58,SNR=12
GIRL Giralia 61.04 256 P **P** 09 50 25.6 +0.9
baz=61,SNR=3.3
CASY Casey 61.83 206 *e*P **P** 09 50 29.0 -0.1
comp=Z,65nm,1.0s
QSPA South Pole Qui 67.71 180 P **P** 09 51 06.9 +0.2
comp=Z,9.1nm,0.8s,baz=310,slow=0.6,SNR=46
QSPA South Pole Qui 67.71 180 *e*P **P** 09 51 07.5 +0.8
comp=Z,9.3nm,0.8s
MJAR Matsushiro Arr 71.09 325 P **P** 09 51 27.1 -0.2
comp=Z,3.1nm,0.5s,baz=152,slow=5.6,SNR=22
MAT Matsushiro 71.09 325 P **P** 09 51 26.7 -0.6
LEM Lembang 71.95 270 P **P** 09 51 32.8 -0.2
comp=Z,42nm,0.9s
LEM Lembang 71.95 270 P **P** 09 51 33.2 +0.2
comp=Z,31nm,0.7s,baz=195,slow=1.4,SNR=6.5
ASAJ Asahikawa 74.86 332 P **P** 09 51 50.1 +1.3
comp=Z,4.6nm,0.5s,baz=224,slow=5.4,SNR=14
LWLI Liwa 75.90 270 P P 09 51 59.8 +4.3
MDSI Maura Dua 75.99 271 P **P** 09 51 56.2 +0.4
comp=Z,7.0nm,0.9s,comp=Z,912nm
UNV Unalaska Valle 76.67 8 *e*P **P** 09 51 58.1 -0.5
comp=Z,36nm,0.9s
KSRS Korea Array 77.58 319 P **P** 09 52 04.9 +0.9
comp=Z,0.8nm,0.4s,baz=130,slow=5.9,SNR=5.3
KSAR Wonju Array Be 77.60 319 P **P** 09 52 04.9 +0.8
KSAR Wonju Array Be 77.60 319 P **P** 09 52 04.9 +0.8
PETK Petropavlovsk- 77.80 346 P **P** 09 52 04.9 +0.1
comp=Z,13nm,0.9s,baz=112,slow=6.6,SNR=12
MAW Mawson 79.46 200 P **P** 09 52 14.2 +0.5
comp=Z,12nm,0.7s,baz=143,slow=5.8,SNR=8.1
SCI San Clemente I 79.81 48 ⇑P **P** 09 52 17.1 +1.0
baz=80
SBC Santa Barbara 79.86 46 ⇑P **P** 09 52 17.7 +1.4
baz=80
USRK Ussuriysk Ar. 79.91 327 P **P** 09 52 15.7 -0.6
comp=Z,4.3nm,0.8s,baz=134,slow=5.5,SNR=6.3
NJ2 Nanjing 80.25 310 *e*P **P** 09 52 17.8 -0.6
NJ2 PMZ
comp=Z,20nm,0.7s
FMP Fort Macarthur 80.40 48 ⇑P **P** 09 52 20.6 +1.4
baz=81
OSI Osito Audit: C 80.62 47 ⇑P **P** 09 52 21.5 +1.1
baz=81
DECC Green Verdugo 80.68 47 ⇓P **P** 09 52 21.8 +1.1
baz=81
109C Camp Elliot, M 80.75 49 ⇓P **P** 09 52 22.1 +1.1
baz=81
KMRM Mail Ridge 80.86 40 *e*P **P** 09 52 24.4 +2.8
comp=Z,54nm,1.0s
MURC Murrieta 81.08 48 ⇓P **P** 09 52 24.1 +1.3
baz=81
VES Vestal, Richgr 81.09 45 ⇓P **P** 09 52 24.4 +1.7
baz=81
BFSC Mount Baldy Ra 81.13 47 ⇓P **P** 09 52 24.1 +0.9
baz=82
MONP Monument Peak, 81.23 49 ⇓P **P** 09 52 24.8 +1.0
baz=82
EDW2 Edwards Air Fo 81.27 47 ⇓P **P** 09 52 25.1 +1.3
baz=82,SNR=5.6
ISA Isabella, Lake 81.39 46 *e*P **P** 09 52 25.6 +1.2
ISA pmax pmax
comp=Z,46nm,1.8s
ISA Isabella, Lake 81.39 46 ⇑P **P** 09 52 25.7 +1.3
baz=82,SNR=6.5
ISA Isabella, Lake 81.39 46 *e*P **P** 09 52 25.6 +1.2
comp=Z,46nm,1.8s
HABR Khabarovsk 81.54 331 *ce*P **P** 09 52 24.2 -0.5
HABR *e**PP **pP** 09 54 03.7 -2.2
HABR *e**SP **sP** 09 54 50.9 -2.3
HABR *e* 09 55 37.3
HABR *e*PPP PPP 09 57 31.0
HABR *e*S **S** **10 01 57.1 -0.8**
HABR *e*SS **SS** **10 07 26.1 -1.9**
HABR *e*SSS SSS 10 10 57.5
HABR pmax pmax
comp=N,16nm,1.1s
HABR pmax pmax
comp=Z,8.0nm,1.1s
HABR pmax pmax
comp=E,7.0nm,0.7s
HABR MLR MLR
comp=Z,98nm,18.0s
CMB Columbia Colle 81.55 43 *e*P **P** 09 52 25.5 +0.4
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 81.55 43 *e*P **P** 09 52 25.5 +0.4
comp=Z,13nm,1.0s
OHCM Honcut 81.65 41 *e*P **P** 09 52 27.8 +2.2
SWSC Sam W. Stewart 81.70 49 ⇓P **P** 09 52 27.4 +1.5
baz=82
WDC Whiskeytown Da 81.78 40 *e*P **P** 09 52 28.0 +1.8
WDC pmax pmax
comp=Z,43nm,1.5s
WDC Whiskeytown Da 81.78 40 *e*P **P** 09 52 28.0 +1.8
comp=Z,43nm,1.5s
LRMC Laurel Mtn Rad 81.81 46 ⇓P **P** 09 52 27.7 +1.1
baz=82
N02D Trinity Center 81.93 40 ⇓P **P** 09 52 29.6 +2.6
baz=82,SNR=5.7
M02C Callahan 82.11 39 ⇓P **P** 09 52 29.8 +1.8
baz=82,SNR=6.8
BELC Belle Mtn. Jos 82.14 48 ⇓P **P** 09 52 29.5 +1.1
baz=82
L02D Cave Junction, 82.16 38 ⇑P **P** 09 52 30.0 +1.9
baz=82
MPMC Manual Prospec 82.28 46 ⇓P **P** 09 52 29.9 +0.8
baz=83,SNR=8.2
MLAC Mammoth, Mammo 82.30 44 ⇑P **P** 09 52 30.5 +1.3
baz=83
GSC Goldstone, Bar 82.31 47 *e*P **P** 09 52 30.1 +0.9
GSC pmax pmax
comp=Z,8.0nm,1.0s
GSC Goldstone, Bar 82.31 47 ⇓P **P** 09 52 30.0 +0.9
baz=83,SNR=5.2
GSC Goldstone, Bar 82.31 47 *e*P **P** 09 52 30.1 +0.9
comp=Z,8.2nm,1.0s

MTUM Tungsten Hills 82.31 44 *e*P **P** 09 52 30.4 +1.2
BC3 Big Chuckawall 82.33 49 ⇓P **P** 09 52 30.4 +1.1
baz=83,SNR=5.2
TIN Tinemaha, Big 82.36 45 ⇑P **P** 09 52 30.9 +1.5
baz=83
HEC Hector,Ludlow 82.37 48 ⇑P **P** 09 52 30.4 +0.9
baz=83
YBH Yreka Blue Hor 82.40 39 *e*P **P** 09 52 31.1 +1.6
YBH pmax pmax
comp=Z,56nm,1.5s
YBH Yreka Blue Hor 82.40 39 P **P** 09 52 29.7 +0.2
comp=Z,8.6nm,0.8s,baz=226,slow=1.6,SNR=12
YBH Yreka Blue Hor 82.40 39 *e*P **P** 09 52 31.1 +1.6
comp=Z,56nm,1.5s
WAKR Walker 82.43 43 *e*P **P** 09 52 30.7 +0.9
GLA Glamis 82.44 50 *e*P **P** 09 52 31.7 +1.9
GLA pmax pmax
comp=Z,12nm,0.9s
GLA Glamis 82.44 50 ⇓P **P** 09 52 30.5 +0.7
baz=83
GLA Glamis 82.44 50 *e*P **P** 09 52 31.7 +1.9
comp=Z,12nm,0.9s
GMRC Granite Mounta 82.80 48 ⇓P **P** 09 52 32.4 +0.7
baz=83,SNR=5.1
HUMO Hull Mountain 82.81 38 *e*P **P** 09 52 33.9 +2.5
comp=Z,126nm,2.0s
IRM Iron Mountain 82.81 49 ⇓P **P** 09 52 32.5 +0.9
baz=83,SNR=7.0
KDAK Kodiak Island 82.87 14 *i*P **P** 09 52 31.5 +0.2
GRAC Grapevine Rang 82.89 45 ⇑P **P** 09 52 33.4 +1.4
baz=83
FURC Furnace Creek, 82.93 46 ⇑P **P** 09 52 32.8 +0.7
baz=83
M04C Macdoel 82.94 39 ⇑P **P** 09 52 33.3 +1.1
baz=83
TUQ Turquoise Moun 82.98 47 ⇑P **P** 09 52 33.6 +1.0
baz=83
SHOC Shoshone, Teco 83.00 47 ⇓P **P** 09 52 33.9 +1.4
baz=83
Y12C Blythe 83.03 49 ⇓P **P** 09 52 34.3 +1.6
baz=83
113A Mohawk Valley, 83.04 50 ⇑P **P** 09 52 34.3 +1.5
baz=83,SNR=9.1
NVAR Mina Array Bea 83.11 44 P **P** 09 52 33.8 +0.6
comp=Z,7.3nm,1.0s,baz=223,slow=7.7,SNR=30
CN2 Changchun 83.13 323 *e*P **P** 09 52 34.0 +1.1
I03D Drain, OR 83.28 37 ⇑P **P** 09 52 35.9 +2.2
baz=84
214A Organ Pipe Nat 83.31 52 ⇓P **P** 09 52 35.9 +1.7
baz=84,SNR=5.5
NEE2 Needles Airpor 83.51 48 ⇓P **P** 09 52 37.1 +2.0
baz=84
K04D Chiloquin, OR 83.52 39 ⇑P **P** 09 52 37.2 +2.1
baz=84
PDMCI Parker Dam,Lak 83.59 49 ⇑P **P** 09 52 36.7 +1.2
baz=84,SNR=5.3
TPH Tonopah 83.60 44 *e*P **P** 09 52 36.1 +0.4
TPH pmax pmax
comp=Z,24nm,1.3s
TPH Tonopah 83.60 44 *e*P **P** 09 52 36.1 +0.4
comp=Z,24nm,1.3s
TPNV Topopah Spring 83.60 46 *e*P **P** 09 52 36.7 +1.0
TPNV pmax pmax
comp=Z,20nm,1.3s
TPNV Topopah Spring 83.60 46 ⇓P **P** 09 52 37.1 +1.4
baz=84,SNR=9.0
TPNV Topopah Spring 83.60 46 *e*P **P** 09 52 36.7 +1.0
comp=Z,20nm,1.3s
J04D Umpqua Nationa 83.69 38 ⇑P **P** 09 52 37.8 +1.8
baz=84
TIA Tai'an 83.75 313 ⇓P **P** 09 52 37.4 +1.1
TIA PMZ
comp=Z,10.0nm,1.1s
I04A Tendick Farm, 83.87 38 ⇑P **P** 09 52 39.1 +2.3
baz=84
MOD Modoc Plateau 83.93 40 *e*P **P** 09 52 37.9 +0.7
comp=Z,16nm,1.3s
Z14A Wintersburg 83.94 50 ⇑P **P** 09 52 39.2 +1.9
baz=84
K05A Summer Lake 84.08 39 *e*P **P** 09 52 39.2 +1.2
comp=Z,53nm,1.3s
SHPR Sheep Range 84.09 47 *e*P **P** 09 52 39.9 +1.7
W13A Hualapai Mount 84.20 48 ⇓P **P** 09 52 40.3 +1.5
baz=84
Y14A Wickenburg 84.20 50 ⇑P **P** 09 52 39.6 +1.0
baz=84,SNR=6.1
J05D Fort Rock, OR 84.22 38 ⇑P **P** 09 52 40.3 +1.7
baz=85,SNR=9.6
G03D McMinnville, O 84.29 36 ⇓P **P** 09 52 40.7 +2.0
baz=85
H04A Detroit Lake 84.55 37 *e*P **P** 09 52 40.9 +0.8
comp=Z,59nm,1.4s
SYO Syowa Base 84.68 193 ⇑*e*X 09 52 34.4
I05D Terrebonne, OR 84.81 38 ⇑P **P** 09 52 43.3 +1.9
baz=85
R11A Troy Canyon, C 84.82 45 ⇓P **P** 09 52 43.0 +1.2
baz=85
R11A Troy Canyon, C 84.82 45 *e*P **P** 09 52 41.9 +0.1
comp=Z,3.9nm,1.3s
TUC Tucson 84.96 52 *e*P **P** 09 52 43.6 +1.1
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC Tucson 84.96 52 *e*P **P** 09 52 43.6 +1.1
comp=Z,7.7nm,0.8s
F04D Rainier, OR 84.99 35 ⇑P **P** 09 52 44.2 +2.1
baz=85
WVOR Wild Horse Val 85.24 40 *e*P **P** 09 52 45.1 +1.5
WVOR pmax pmax
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 85.24 40 *e*P **P** 09 52 45.1 +1.5
comp=Z,8.4nm,1.1s
RSO Redoubt South 85.28 13 *e*P **P** 09 52 43.4 -0.1
SVW2 Sparrevohn 85.32 11 *e*P **P** 09 52 42.9 -0.5
G05D Wamic, OR 85.38 37 ⇓P **P** 09 52 45.3 +1.2
baz=86
X16A Lo Mia Camp, P 85.56 50 ⇑P **P** 09 52 46.6 +1.1
baz=86
319A Douglas 85.61 54 ⇓P **P** 09 52 46.7 +1.0
baz=86
SEW Seward 85.67 14 *e*P **P** 09 52 45.7 +0.6
comp=Z,23nm,0.9s
I07A Izee 85.70 39 *e*P **P** 09 52 47.0 +1.2
comp=Z,31nm,1.4s
G06A Carlson Farm, 85.76 37 *e*P **P** 09 52 48.0 +2.0
comp=Z,115nm,1.8s
CCUT Cedar City 85.86 47 *e*P **P** 09 52 48.0 +1.1
comp=Z,4.8nm,1.0s
U15A North Rim 86.00 48 ⇑P **P** 09 52 49.3 +1.6
baz=86
GAMB Gambell 86.05 3 *e*P **P** 09 52 47.7 +0.9
comp=Z,14nm,1.1s
SPU Mount Spurr 86.08 13 *e*P **P** 09 52 46.4 -0.8
WUAZ Wupatki 86.17 49 ⇑P **P** 09 52 49.7 +1.3
baz=86
D05A Enumclaw 86.23 35 *e*P **P** 09 52 50.8 +2.7
comp=Z,245nm,1.8s
ELK Elko 86.37 43 *e*P **P** 09 52 50.9 +1.7
ELK pmax pmax
comp=Z,66nm,3.0s
ELK Elko 86.37 43 P **P** 09 52 49.6 +0.4
comp=Z,2.8nm,1.0s,baz=202,slow=5.1,SNR=5.6
ELK Elko 86.37 43 *e*P **P** 09 52 50.9 +1.7
comp=Z,66nm,3.0s
TRW Toppenish Ridg 86.46 36 P **P** 09 52 51.5 +2.2
BJI Beijing 86.47 316 P **P** 09 52 51.6 +2.2
BJI pP **pP** 09 54 32.7 +0.7
BJI sP **sP** 09 55 19.3 +0.3
BJI PP **PP** 09 56 21.1 +1.8
BJI S **ScS** 10 02 50.7 -1.9
BJI PMZ
comp=Z,5.0nm,0.6s
RC01 Rabbit Creek A 86.49 14 *e*P **P** 09 52 49.1 +0.1
comp=Z,69nm,1.2s
BBB Bella Bella 86.54 29 P **P** 09 52 50.2 +0.8
comp=Z,19nm,0.8s,baz=0.3,slow=4.5,SNR=4.9
GYA Guiyang 86.65 300 P **P** 09 52 52.0 +1.3
GYA pP **pP** 09 54 35.4 +2.0
GYA sP **sP** 09 55 21.2 +0.8
GYA PP **PP** 09 56 24.8 +3.7
GYA SKS **SKSac** 10 02 33.0 -0.6
GYA S **S** 10 02 49.5 +0.3
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.2s
X18A Snowflake 86.68 51 ⇑P **P** 09 52 51.9 +1.1
baz=87

G08A Pilot Rock 86.74 38 *e*P **P** 09 52 51.8 +1.1
comp=Z,34nm,1.3s
NVL N'lazarevskaya 86.80 184 *e*P **P** 09 52 49.5 -1.0
NVL pmax pmax
comp=Z,8.0nm,0.7s
LTY Liberty 86.98 36 *e*P **P** 09 52 52.5 +0.8
comp=Z,27nm,1.2s
PMR Palmer 87.07 14 *e*P **P** 09 52 51.5 -0.2
PMR Palmer 87.07 14 *e*P **P** 09 52 51.5 -0.2
HAWA Hanford 87.07 37 *e*P **P** 09 52 53.8 +1.6
comp=Z,32nm,1.1s
RAGM Ragged Mountai 87.09 16 *e*P **P** 09 52 52.9 +1.0
W18A Petrified Fore 87.12 50 ⇓P **P** 09 52 54.1 +1.2
baz=87
121A Cookes Peak, D 87.28 53 ⇓P **P** 09 52 54.9 +1.3
baz=88
ETW Entiat 87.37 35 P **P** 09 52 54.3 +0.6
DIV Divide 87.45 16 *e*P **P** 09 52 53.8 +0.2
comp=Z,45nm,0.9s
MFID Camas Ranch 87.49 41 *e*P **P** 09 52 55.6 +1.3
comp=Z,19nm,1.3s
BMRM Bremner River 87.61 16 *e*P **P** 09 52 54.8 +0.4
comp=Z,46nm,0.8s
PPLA Purkeypile 87.61 12 *e*P **P** 09 52 53.7 -0.7
comp=Z,5.6nm,0.4s
DUG Dugway, Tooele 87.63 45 ⇓P **P** 09 52 56.6 +1.5
baz=88
WTV Waterville 87.63 35 P **P** 09 52 55.4 +0.6
NLW Nelson Butte 87.66 35 P **P** 09 52 55.9 +0.8
D08A Wollman Farm, 87.81 36 *e*P **P** 09 52 56.7 +1.2
comp=Z,39nm,1.1s
WRAK Wrangell Islan 87.84 24 *e*P **P** 09 52 57.0 +1.6
comp=Z,47nm,1.2s
E09A Wood Farm, Sta 87.92 37 *e*P **P** 09 52 57.9 +1.8
comp=Z,27nm,1.1s
SAW Saint Andrews 87.93 36 P **P** 09 52 57.0 +0.8
SEY Seymchan 87.94 347 P **P** 09 52 56.1 +0.3
comp=Z,3.7nm,0.5s,baz=149,slow=4.8,SNR=28
TNA Tin City 88.06 5 *e*P **P** 09 52 56.7 +0.4
comp=Z,34nm,1.4s
F10A Beach Ranch, E 88.12 38 *e*P **P** 09 52 57.7 +0.5
comp=Z,54nm,1.4s
TMUT Trail Mountain 88.21 46 *e*P **P** 09 52 59.5 +1.4
comp=Z,4.8nm,0.8s
B08A Colville Reser 88.36 35 *e*P **P** 09 52 58.4 +0.2
comp=Z,21nm,0.9s
HLID Hailey 88.43 41 ⇓P **P** 09 53 00.1 +1.3
baz=89,SNR=14
HLID Hailey 88.43 41 *e*P **P** 09 52 59.6 +0.8
comp=Z,13nm,1.2s
KTH Kantishna Hill 88.45 12 *e*P **P** 09 52 57.0 -1.3
comp=Z,34nm,0.8s
HVU Hansel Valley 88.49 43 *e*P **P** 09 53 00.4 +1.3
HVU pmax pmax
comp=Z,38nm,1.6s
HVU Hansel Valley 88.49 43 *e*P **P** 09 53 00.4 +1.3
comp=Z,38nm,1.6s
TRF Thorofare Moun 88.49 13 *e*P **P** 09 52 57.6 -1.0
comp=Z,55nm,0.8s
SRU San Rafael Swe 88.58 46 *e*P **P** 09 52 59.6 0.0
SRU pmax pmax
comp=Z,27nm,1.4s
SRU San Rafael Swe 88.58 46 *e*P **P** 09 52 59.5 0.0
comp=Z,27nm,1.4s
C09A Chrisman Ranch 88.60 36 *e*P **P** 09 53 00.1 +0.8
Y22D IRIS PASSCAL I 88.65 52 ⇓P **P** 09 53 01.3 +1.3
baz=89
MNTX Cornudas Mount 88.69 55 ⇓P **P** 09 53 01.1 +1.0
baz=89
MNTX Cornudas Mount 88.69 55 *e*P **P** 09 53 01.0 +0.9
comp=Z,16nm,1.4s
PLCA Paso Flores 88.77 134 P **P** 09 53 00.2 -0.2
comp=Z,1.9nm,0.8s,baz=134,slow=2.1,SNR=4.2
TXAR Lajitas Array 88.95 58 P **P** 09 53 02.4 +0.9
comp=Z,5.5nm,0.8s,baz=215,slow=6.1,SNR=40
MCK McKinley 89.02 13 *e*P **P** 09 53 00.1 -0.7
MCK McKinley 89.02 13 *e*P **P** 09 53 00.1 -0.7
TCUT Toone Canyon 89.02 44 *e*P **P** 09 53 03.2 +1.5
comp=Z,82nm,1.6s
MVCO Mesa Verde 89.02 49 ⇑P **P** 09 53 03.1 +1.3
baz=89
SKAG Skagway 89.09 21 *e*P **P** 09 53 03.6 +2.4
comp=Z,95nm,1.9s
PAX Paxson 89.11 15 *e*P **P** 09 53 01.1 -0.3
PAX pmax pmax
comp=Z,20nm,1.2s
PAX Paxson 89.11 15 *e*P **P** 09 53 01.1 -0.3
comp=Z,20nm,1.2s
ANMO Albuquerque 89.39 52 *e*P **P** 09 53 04.4 +0.9
ANMO pmax pmax
comp=Z,32nm,1.2s
ANMO Albuquerque 89.39 52 *e*P **P** 09 53 04.2 +0.7
comp=Z,10nm,1.3s
NEW Newport 89.50 36 P **P** 09 53 03.5 +0.1
comp=Z,2.0nm,0.8s,baz=246,slow=5.7,SNR=4.7
NEW Newport 89.50 36 ⇑P **P** 09 53 04.9 +1.4
baz=90
V22A San Miguel Ran 89.52 51 ⇑P **P** 09 53 05.4 +1.3
baz=90
CMAR Chiang Mai Arr 89.73 290 *i*P **P** 09 53 07.3 +2.1
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 89.73 290 P **P** 09 53 05.6 +0.4
comp=Z,2.4nm,0.8s,baz=134,slow=3.3,SNR=13
HHC Hu-ho-hao-te 89.89 315 *e*P **P** 09 53 07.7 +2.1
HHC PP **PP** 09 56 50.5 +4.0
HHC SKS **SKSac** 10 02 54.8 +2.7
HHC S **ScS** 10 03 20.4 -0.9
HHC sS **sS** 10 06 20.1 -3.0
HHC SS **SS** 10 09 35.5 +5.5
HHC PMZ
comp=Z,18nm,1.2s
HHC PMZ
comp=Z,72nm,5.4s
V23A Ortiz Mt. (NFS 89.97 51 ⇓P **P** 09 53 07.0 +0.8
baz=90
DOT Dot Lake 90.03 15 *e*P **P** 09 53 05.8 +0.3
comp=Z,23nm,1.0s
MCMT McKenzie Canyo 90.06 41 *e*P **P** 09 53 07.4 +1.0
comp=Z,5.9nm,1.0s
EFI East Falkland 90.09 148 *e*P P 09 52 56.6 -10
EFI pmax pmax
comp=Z,54nm,0.8s
IM04 Indian Mountai 90.15 10 *e*P **P** 09 53 05.8 -0.2
DLBC Dease Lake 90.17 23 P **P** 09 53 06.7 +0.3
comp=Z,7.8nm,0.8s,baz=205,slow=4.9,SNR=12
U23A El Rito 90.23 51 ⇑P **P** 09 53 08.5 +1.1
baz=90
COLA College 90.25 13 *e*P **P** 09 53 05.6 -0.9
COLA pmax pmax
comp=Z,32nm,0.9s
COLA College 90.25 13 *e*P **P** 09 53 05.5 -0.9
comp=Z,32nm,0.9s
W24A Lazy 6 Ranch, 90.28 52 ⇑P **P** 09 53 07.6 -0.1
baz=91
ILAR Eielson Array 90.36 13 P **P** 09 53 06.0 -1.0
comp=Z,6.1nm,0.8s,baz=217,slow=5.0,SNR=85
ILAR PP **PP** 09 56 49.3 -0.2
comp=Z,2.7nm,1.2s,baz=215,slow=8.1,SNR=5.2
529A Stev Forest Ra 90.43 58 ⇓P **P** 09 53 09.0 +0.8
baz=91
S22A 4UR Ranch, Cre 90.44 49 ⇑P **P** 09 53 09.2 +0.8
baz=91
S22A 4UR Ranch, Cre 90.44 49 *e*P **P** 09 53 10.1 +1.7
comp=Z,11nm,1.4s
MSO Missoula 90.49 39 ⇑P **P** 09 53 09.3 +1.1
baz=91
REDW Red Top Meadow 90.52 43 *e*P **P** 09 53 09.3 +0.7
TPAW Teton Pass 90.53 43 *e*P **P** 09 53 09.1 +0.4
O20A White River Ci 90.61 46 ⇑P **P** 09 53 09.5 +0.4
baz=91,SNR=5.7
O20A White River Ci 90.61 46 *e*P **P** 09 53 09.4 +0.4
comp=Z,12nm,1.2s
T23A Casias Ranch, 90.67 50 ⇑P **P** 09 53 10.5 +1.0
baz=91
IMW Indian Meadow 90.74 42 *e*P **P** 09 53 10.0 +0.3
comp=Z,12nm,1.0s
BILL Bilibino 90.78 355 *i*P **P** 09 53 06.8 -2.0
BILL pmax pmax
comp=Z,13nm,1.2s
BILL Bilibino 90.78 355 *e*P **P** 09 53 08.8 -0.1
comp=Z,35nm,1.4s
LOHW Long Hollow 90.81 43 *e*P **P** 09 53 10.2 +0.4
CD2 Chengdu 90.90 303 P **P** 09 53 11.1 +0.7
CD2 pP **pP** 09 54 55.1 +1.2
CD2 sP **sP** 09 55 40.9 +0.3
CD2 PP **PP** 09 56 57.4 +2.9

CD2 SKS **SKSac** **10 02 58.3 +0.2**
CD2 S **S** **10 03 27.0 -0.9**
CD2 sS **sS** **10 06 31.1 -1.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s

429A **Davenport Ranc** **90.90** **57** ⇑P **P** **09 53 10.7 +0.3**
baz=91,SNR=16
QLMT **Earthquake Lak** **90.92** **41** *e*P **P** **09 53 11.3 +0.9**
CHMT **Chamberlain Mo** **90.93** **39** *e*P **P** **09 53 10.6 +0.2**
N20A **Spence Gulch,** **90.94** **46** ⇓P **P** **09 53 11.0 +0.5**
baz=91,SNR=7.3
W25A **X Bar L Ranch,** **90.97** **52** ⇑P **P** **09 53 10.9 +0.2**
baz=91
I17A **Pilgrim Ck.** **90.98** **42** ⇓P **P** **09 53 11.9 +1.2**
baz=91,SNR=8.6
FLWY **Flagg Ranch** **90.98** **42** *e*P **P** **09 53 12.2 +1.5**
comp=Z,12nm,1.1s
228A **UT Block 9, Go** **91.00** **56** ⇑P **P** **09 53 11.9 +1.0**
baz=91
SMCO **Snowmass** **91.02** **48** *e*P **P** **09 53 12.3 +1.1**
PDAR **Pinedale Array** **91.04** **44** P **P** **09 53 11.1 0.0**
comp=Z,5.1nm,1.0s,baz=197,slow=2.7,SNR=26
YMR **Madison River** **91.12** **41** *e*P **P** **09 53 12.5 +1.1**
comp=Z,23nm,1.5s
530A **J-C Ranch, Com** **91.13** **58** ⇓P **P** **09 53 12.3 +0.9**
baz=91
V25A **Rancho No Teng** **91.14** **52** ⇓P **P** **09 53 12.7 +1.1**
baz=91
T24B **San Luis** **91.15** **50** ⇑P **P** **09 53 12.6 +0.9**
baz=91
329A **Wagon Wheel Ra** **91.20** **56** ⇑P **P** **09 53 12.4 +0.6**
baz=92
H17A **Grant Village** **91.22** **42** ⇓P **P** **09 53 13.4 +1.6**
baz=92
H17A **Grant Village** **91.22** **42** *e*P **P** **09 53 13.7 +1.8**
comp=Z,4.1nm,0.9s
128A **Castleberry Fa** **91.30** **55** ⇓P **P** **09 53 12.9 +0.6**
baz=92
R23A **Moffat** **91.35** **49** ⇑P **P** **09 53 13.6 +0.9**
baz=92
P22A **Eagle** **91.36** **47** ⇑P **P** **09 53 13.7 +1.2**
baz=92
SDCO **Great Sand Dun** **91.37** **50** ⇑P **P** **09 53 13.5 +0.7**
baz=92
631A **Perdido Creek** **91.42** **59** ⇓P **P** **09 53 13.6 +0.8**
baz=92
W26A **Owens Ranch, T** **91.43** **53** ⇑P **P** **09 53 13.6 +0.7**
baz=92
832A **Faith Ranch, C** **91.43** **60** ⇑P **P** **09 53 13.2 +0.4**
baz=92
430A **Baggett Ranch,** **91.48** **57** ⇑P **P** **09 53 13.7 +0.6**
baz=92
S24A **Houchin Ranch,** **91.53** **50** ⇓P **P** **09 53 14.3 +0.8**
baz=92
229A **Bryant Ranch,** **91.54** **56** ⇓P **P** **09 53 14.0 +0.7**
baz=92
U25A **Circle Dot Ran** **91.54** **51** ⇓P **P** **09 53 14.1 +0.7**
baz=92
J19A **Crowheart** **91.61** **43** ⇓P **P** **09 53 14.5 +1.0**
baz=92,SNR=9.2
732A **Laxson Ranch,** **91.62** **60** ⇓P **P** **09 53 14.2 +0.5**
baz=92
MSTX **Muleshoe** **91.67** **54** ⇑P **P** **09 53 14.9 +0.9**
baz=92
EGAK **Eagle** **91.67** **15** *e*P **P** **09 53 12.9 -0.2**
comp=Z,11nm,0.8s
Q23A **Hartsel** **91.67** **48** ⇑P **P** **09 53 14.9 +0.7**
baz=92
933A **Laredo** **91.72** **61** ⇑P **P** **09 53 14.8 +0.6**
baz=92
V26A **Tequesquite Ra** **91.72** **52** ⇑P **P** **09 53 15.4 +1.2**
baz=92
531A **Rocksprings** **91.76** **58** ⇓P **P** **09 53 15.3 +0.9**
baz=92,SNR=6.2
O22A **Kremmling** **91.77** **47** ⇑P **P** **09 53 15.1 +0.6**
baz=92
129A **Stewart Farms,** **91.78** **55** ⇑P **P** **09 53 15.4 +1.0**
baz=92
330A **Mertzon** **91.79** **57** ⇑P **P** **09 53 15.0 +0.5**
baz=92
R24A **Sanders Place,** **91.87** **49** ⇓P **P** **09 53 15.8 +0.9**
baz=92
T25A **Trinidad** **91.87** **50** ⇑P **P** **09 53 15.4 +0.4**
baz=92
P23A **Jefferson** **91.89** **48** ⇑P **P** **09 53 15.7 +0.6**
baz=92
COLD **Coldfoot** **91.90** **11** *e*P **P** **09 53 14.8 +0.8**
comp=Z,11nm,1.0s
833A **Chaparral WMA,** **91.91** **60** ⇓P **P** **09 53 15.8 +0.7**
baz=92
H18A **Shoshone NF, C** **91.93** **42** ⇓P **P** **09 53 16.0 +0.9**
baz=92
431A **Sonora** **91.93** **58** ⇓P **P** **09 53 16.2 +1.0**
baz=92
034A **Hebbronville** **91.97** **62** ⇓P **P** **09 53 16.8 +1.4**
baz=92
U26A **Atchley Ranch,** **92.02** **51** ⇑P **P** **09 53 16.0 +0.4**
baz=92
I19A **Meeteetse** **92.03** **43** ⇑P **P** **09 53 16.0 +0.5**
baz=92
Y28A **McKinney Farm,** **92.04** **54** ⇑P **P** **09 53 16.3 +0.6**
baz=92
632A **Uvalde** **92.09** **59** ⇑P **P** **09 53 16.9 +1.0**
baz=92,SNR=5.7
S25A **Robets Cordova** **92.09** **50** ⇓P **P** **09 53 16.6 +0.7**
baz=92,SNR=5.4
N22A **Wattenberg Ran** **92.13** **46** ⇑P **P** **09 53 16.9 +0.7**
baz=92
Q24A **Divide** **92.18** **49** ⇓P **P** **09 53 17.2 +0.8**
baz=92
O23A **Lake Granby, G** **92.22** **47** ⇓P **P** **09 53 17.4 +0.8**
baz=92
035Z **Hargill** **92.23** **62** ⇑P **P** **09 53 17.6 +1.1**
baz=92
ISCO **Idaho Springs** **92.24** **48** ⇓P **P** **09 53 17.3 +0.6**
baz=92
532A **Rocksprings** **92.25** **58** ⇑P **P** **09 53 17.4 +0.7**
baz=92,SNR=8.5
J20A **Shoshoni** **92.27** **44** ⇓P **P** **09 53 17.5 +1.0**
baz=93,SNR=5.9
M22A **Cedar Creek Ra** **92.32** **46** ⇓P **P** **09 53 17.6 +0.7**
baz=93
934A **Benavides** **92.33** **61** ⇑P **P** **09 53 17.8 +0.8**
baz=93
331A **San Angelo** **92.33** **57** ⇓P **P** **09 53 17.5 +0.5**
baz=93
X28A **Dimmitt** **92.34** **54** ⇓P **P** **09 53 17.5 +0.5**
baz=93
H19A **Powell** **92.34** **42** ⇑P **P** **09 53 17.8 +1.0**
baz=93
035A **Encino** **92.40** **62** ⇑P **P** **09 53 18.9 +1.6**
baz=93
V27A **Dan Oppiter Fa** **92.40** **52** ⇓P **P** **09 53 19.2 +1.9**
baz=93
R25A **Fountain Ranch** **92.41** **50** ⇓P **P** **09 53 18.0 +0.7**
baz=93
Y29A **Porterfield Fa** **92.45** **54** ⇑P **P** **09 53 18.3 +0.8**
baz=93
130A **Snyder** **92.45** **56** ⇑P **P** **09 53 18.6 +1.1**
baz=93
K21A **Alcova** **92.47** **45** ⇑P **P** **09 53 18.2 +0.7**
baz=93
T26A **Comanche Natio** **92.47** **51** ⇑P **P** **09 53 18.7 +1.0**
baz=93
JCT **Junction City** **92.47** **58** *e*P **P** **09 53 17.6 -0.1**
JCT pmax pmax
comp=Z,5.0nm,0.8s
JCT **Junction City** **92.47** **58** ⇓P **P** **09 53 18.4 +0.7**
baz=93,SNR=5.4
JCT **Junction City** **92.47** **58** *e*P **P** **09 53 17.6 -0.1**
comp=Z,5.3nm,0.8s
834A **Tilden** **92.51** **61** ⇓P **P** **09 53 19.4 +1.6**
baz=93
N23A **Red Feather La** **92.52** **47** ⇑P **P** **09 53 19.2 +1.3**
baz=93
I20A **Worland** **92.53** **43** ⇓P **P** **09 53 19.0 +1.3**
baz=93
633A **Saathoff Ranch** **92.55** **59** ⇓P **P** **09 53 18.8 +0.8**
baz=93,SNR=6.8
P24A **Kohler Place,** **92.59** **48** ⇑P **P** **09 53 18.9 +0.7**
baz=93
Z30A **Sanderson Ranc** **92.62** **55** ⇓P **P** **09 53 18.8 +0.5**
baz=93
432A **Menard** **92.64** **58** ⇑P **P** **09 53 18.7 +0.3**
baz=93,SNR=6.0
W28A **Vega** **92.65** **53** ⇓P **P** **09 53 19.2 +0.7**
baz=93
231A **Bronte** **92.68** **57** ⇑P **P** **09 53 19.1 +0.6**
baz=93,SNR=5.2
J21A **Lysite** **92.68** **44** ⇑P **P** **09 53 19.9 +1.4**
baz=93,SNR=5.9
X29A **Tulia** **92.68** **54** ⇑P **P** **09 53 19.1 +0.5**
baz=93
U27A **Thompson Grove** **92.70** **52** ⇑P **P** **09 53 19.4 +0.7**
baz=93
L22A **Ellis Ranch, M** **92.72** **45** ⇓P **P** **09 53 19.7 +0.9**
baz=93
O24A **Longmont** **92.75** **48** ⇑P **P** **09 53 19.7 +0.8**
baz=93
S26A **Kim** **92.76** **50** ⇓P **P** **09 53 20.1 +1.1**
baz=93,SNR=6.5
Q25A **Bedland, Calha** **92.78** **49** ⇓P **P** **09 53 19.6 +0.5**
baz=93
734A **La Parita Cree** **92.80** **60** ⇑P **P** **09 53 19.7 +0.6**
baz=93
V28A **Channing** **92.85** **52** ⇓P **P** **09 53 19.9 +0.5**
baz=93
H20A **Greybull** **92.87** **43** ⇓P **P** **09 53 19.8 +0.6**
baz=93
AMTX **Amarillo** **92.88** **53** ⇓P **P** **09 53 20.3 +0.8**
baz=93
332A **Millersview** **92.89** **57** ⇑P **P** **09 53 19.9 +0.4**
baz=93,SNR=6.5
533A **Kerrville** **92.91** **59** ⇑P **P** **09 53 19.9 +0.2**
baz=93,SNR=14
131A **Roby** **92.93** **56** ⇑P **P** **09 53 20.3 +0.6**
baz=93
M23A **Laramie** **92.93** **46** ⇓P **P** **09 53 20.6 +0.9**
baz=93
K22A **Casper** **92.95** **45** ⇓P **P** **09 53 20.5 +0.8**
baz=93
F19A **Roth Farm, Mol** **92.95** **41** ⇓P **P** **09 53 20.4 +0.8**
baz=93
I21A **Big Trails, Te** **93.00** **44** ⇓P **P** **09 53 20.9 +1.0**
baz=93
W29A **Amarillo** **93.00** **53** ⇓P **P** **09 53 20.9 +0.8**
baz=93
T27A **Campo** **93.05** **51** ⇑P **P** **09 53 21.3 +1.0**
baz=93
LZH **Lanzhou** **93.05** **308** *e*P **P** **09 53 22.2 +1.9**
LZH pP **pP** **09 55 05.1 +1.1**
LZH sP **sP** **09 55 48.8 -1.8**
LZH PMZ
comp=Z,16nm,1.0s
R26A **Arlington** **93.07** **50** ⇓P **P** **09 53 21.4 +1.1**
baz=93,SNR=8.7
G20A **Bridger** **93.09** **42** ⇓P **P** **09 53 21.5 +1.2**
baz=93
P25A **Willow Gulch B** **93.10** **48** ⇓P **P** **09 53 21.6 +1.0**
baz=93
U28A **Mallet** **93.12** **52** ⇓P **P** **09 53 21.1 +0.6**
baz=93
433A **Art** **93.15** **58** ⇑P **P** **09 53 21.1 +0.4**
baz=93,SNR=7.5
835A **Beeville** **93.16** **61** ⇓P **P** **09 53 21.7 +0.9**
baz=93
232A **Coleman** **93.17** **57** ⇓P **P** **09 53 22.1 +1.2**
baz=94
634A **China Grove, S** **93.18** **60** ⇓P **P** **09 53 21.9 +1.1**
baz=93
N24A **Carr** **93.20** **47** ⇑P **P** **09 53 21.7 +0.8**
baz=94
936A **North Padre Is** **93.24** **62** ⇓P **P** **09 53 21.8 +0.7**
baz=94
L23A **Garrett** **93.24** **46** ⇑P **P** **09 53 21.8 +0.7**
baz=94
Q26A **Hugo** **93.30** **49** ⇓P **P** **09 53 22.4 +1.1**
baz=94
X30A **Coker Ranch, T** **93.30** **54** ⇓P **P** **09 53 22.2 +0.8**
baz=94
J22A **Midwest** **93.33** **44** ⇑P **P** **09 53 22.9 +1.5**
baz=94
534A **Blanco** **93.34** **59** ⇓P **P** **09 53 22.5 +0.9**
baz=94,SNR=13
E19A **Rath Farm, Rou** **93.34** **41** ⇓P **P** **09 53 22.4 +1.1**
baz=94
Z31A **Sharp Cattle R** **93.38** **55** ⇑P **P** **09 53 22.2 +0.4**
baz=94
735A **Kenedy** **93.40** **60** ⇑P **P** **09 53 22.9 +1.0**
baz=94
O25A **Wiggins** **93.40** **48** ⇑P **P** **09 53 22.7 +0.9**
baz=94
F20A **Billings** **93.41** **42** ⇑P **P** **09 53 22.6 +1.0**
baz=94
V29A **Stinnett** **93.42** **53** ⇓P **P** **09 53 22.8 +0.8**
baz=94
YAK **Yakutsk** **93.44** **338** *e*P **P** **09 53 21.3 +0.1**
333A **Richland Sprin** **93.46** **58** ⇓P **P** **09 53 22.3 +0.2**
baz=94
ABTX **Abilene, Hawle** **93.48** **56** ⇓P **P** **09 53 22.6 +0.4**
baz=94
T28A **Walsh** **93.51** **51** ⇑P **P** **09 53 23.0 +0.7**
baz=94
R27A **Eads** **93.53** **50** ⇑P **P** **09 53 22.8 +0.4**
baz=94
M24A **Cheyenne** **93.53** **46** ⇓P **P** **09 53 23.1 +0.7**
baz=94
EGMT **Eagleton** **93.53** **39** ⇑P **P** **09 53 23.4 +1.3**
baz=94
H21A **Big Horn, Sher** **93.54** **43** ⇓P **P** **09 53 23.2 +0.9**
baz=94
I22A **9 Mile Ranch,** **93.55** **44** ⇓P **P** **09 53 23.3 +0.9**
baz=94
Y31A **Rekieta Farm,** **93.56** **55** ⇑P **P** **09 53 23.3 +0.7**
baz=94
K23A **Bowen Ranch, D** **93.58** **45** ⇓P **P** **09 53 23.8 +1.2**
baz=94
D19A **Cripps Ranch,** **93.63** **40** ⇑P **P** **09 53 24.3 +1.7**
baz=94
635A **Leesville** **93.64** **60** ⇓P **P** **09 53 24.1 +1.1**
baz=94
P26A **Davis Ranch, A** **93.69** **49** ⇓P **P** **09 53 23.9 +0.7**
baz=94
E20A **Meyer Farm, Mu** **93.76** **41** ⇑P **P** **09 53 24.5 +1.3**
baz=94
C19A **Slick Wire Ran** **93.81** **40** ⇑P **P** **09 53 25.0 +1.6**
baz=94
233A **Rising Star** **93.81** **57** ⇓P **P** **09 53 24.8 +1.1**
baz=94
434A **Burnet** **93.82** **58** ⇑P **P** **09 53 24.5 +0.7**
baz=94,SNR=5.8
Z32A **Haskell** **93.88** **56** ⇑P **P** **09 53 24.9 +0.9**
baz=94
KSCO **Kaye Shedlock'** **93.96** **49** ⇑P **P** **09 53 25.3 +1.0**
baz=94
H22A **Clearmont** **93.96** **43** ⇓P **P** **09 53 25.7 +1.5**
baz=94
133A **Hamilton Ranch** **94.03** **56** ⇑P **P** **09 53 26.0 +1.2**
baz=94
D20A **Manuel Ranch,** **94.04** **40** ⇑P **P** **09 53 25.9 +1.4**
baz=94
334A **Lometa** **94.05** **58** ⇑P **P** **09 53 25.5 +0.7**
baz=94
F21A **Alaloka Mine,** **94.05** **42** ⇓P **P** **09 53 26.4 +1.8**
baz=94
Y32A **R-V Farms, Ver** **94.19** **55** ⇓P **P** **09 53 26.5 +1.1**
baz=94
R28A **Tribune** **94.25** **50** ⇑P **P** **09 53 27.0 +1.3**
baz=94
G22A **Birney** **94.29** **43** ⇑P **P** **09 53 26.9 +1.2**
baz=95
C20A **Veseth Ranch,** **94.41** **40** ⇓P **P** **09 53 27.1 +1.0**
baz=95
Z33A **Whitaker Ranch** **94.42** **56** ⇑P **P** **09 53 27.1 +0.6**
baz=95
J24A **Dixon Ranch, L** **94.47** **45** ⇓P **P** **09 53 28.3 +1.7**
baz=95
Q28A **Sharon Springs** **94.54** **50** ⇓P **P** **09 53 27.9 +0.9**
baz=95
A19A **Klindworth Far** **94.57** **39** ⇓P **P** **09 53 27.5 +0.7**
baz=95
F22A **Rosebud** **94.57** **42** ⇓P **P** **09 53 29.3 +2.4**
baz=95
O27A **Beecher Island** **94.57** **48** ⇓P **P** **09 53 28.2 +1.1**
baz=95
134A **White-Moore Ra** **94.67** **57** ⇑P **P** **09 53 28.5 +0.9**
baz=95
335A **Moody** **94.67** **58** ⇑P **P** **09 53 28.7 +1.1**
baz=95
K25A **Mack Ranch, Ha** **94.67** **46** ⇓P **P** **09 53 29.1 +1.5**
baz=95
D21A **La Casta Ranch** **94.71** **41** ⇓P **P** **09 53 28.5 +1.0**
baz=95
I24A **Kuemmerle Ranc** **94.73** **44** ⇓P **P** **09 53 28.4 +0.6**
baz=95
B20A **Solberg Farm,** **94.75** **39** ⇑P **P** **09 53 28.6 +1.0**
baz=95
N27A **Anderson Farm,** **94.79** **48** ⇑P **P** **09 53 30.0 +1.9**
baz=95
C21A **Desert Coulee** **95.01** **40** ⇓P **P** **09 53 30.5 +1.7**
baz=95
A20A **Cobblestone Ra** **95.02** **39** ⇓P **P** **09 53 29.9 +1.1**
baz=95
537A **Green Hill Far** **95.08** **60** ⇑P **P** **09 53 30.8 +1.3**
baz=95
H24A **Dirks Ranch, A** **95.17** **44** ⇑P **P** **09 53 30.9 +1.1**
baz=96
K26A **Motz Farm, Whi** **95.17** **46** ⇑P **P** **09 53 30.6 +0.8**
baz=96
135A **Vickery Place,** **95.18** **57** ⇓P **P** **09 53 31.1 +1.2**
baz=96
V32A **Arapaho** **95.19** **54** ⇓P **P** **09 53 31.0 +1.1**
baz=96
OGNE **Ogallala** **95.20** **48** ⇑P **P** **09 53 30.4 +0.5**
baz=96
M27A **Reverse DX Ran** **95.20** **47** ⇑P **P** **09 53 30.9 +1.0**
baz=96
D22A **Cohagen** **95.24** **41** ⇑P **P** **09 53 31.5 +1.6**
baz=96
R30A **Dighton** **95.32** **51** ⇓P **P** **09 53 31.7 +1.2**
baz=96
B21A **Ellsworth Farm** **95.33** **40** ⇓P **P** **09 53 31.5 +1.2**
baz=96
I25A **Rochford** **95.38** **45** ⇑P **P** **09 53 31.3 +0.5**
baz=96
P29A **Atwood** **95.40** **49** ⇑P **P** **09 53 31.9 +1.1**
baz=96
N28A **Pribbeno Ranch** **95.43** **48** ⇓P **P** **09 53 32.0 +1.1**
baz=96
Y34A **Reagan Ranch,** **95.46** **56** ⇓P **P** **09 53 31.4 +0.3**
baz=96
E23A **Ismay** **95.48** **42** ⇓P **P** **09 53 32.0 +1.0**
baz=96
J26A **Sides Ranch, S** **95.50** **45** ⇓P **P** **09 53 32.1 +0.9**
baz=96
437A **Phantom Ranch,** **95.51** **59** ⇑P **P** **09 53 32.0 +0.6**
baz=96
G24A **Alzada** **95.52** **43** ⇓P **P** **09 53 32.4 +1.1**
baz=96
Z35A **Perchaven, San** **95.60** **56** ⇓P **P** **09 53 32.4 +0.6**
baz=96
Q30A **Quinter** **95.65** **50** ⇓P **P** **09 53 32.7 +0.8**
baz=96
A21A **Bergtoll Ranch** **95.65** **39** ⇓P **P** **09 53 32.8 +1.1**
baz=96
X34A **Smith Ranch, M** **95.66** **55** ⇓P **P** **09 53 32.8 +0.8**
baz=96
C22A **Vida** **95.69** **41** ⇓P **P** **09 53 32.8 +0.9**
baz=96
O29A **4D Ranch, Culb** **95.71** **49** ⇓P **P** **09 53 33.3 +1.1**
baz=96
F24A **Ekalaka** **95.73** **43** ⇑P **P** **09 53 33.6 +1.4**
baz=96
H25A **Fruitdale** **95.73** **44** ⇑P **P** **09 53 33.2 +1.0**
baz=96
V33A **Lossen Ranch,** **95.79** **54** ⇓P **P** **09 53 33.4 +0.8**
baz=96
538A **Harpers Horsep** **95.79** **60** ⇓P **P** **09 53 33.3 +0.6**
baz=96
K27A **Flueckinger Fa** **95.80** **46** ⇓P **P** **09 53 33.6 +1.0**
baz=96
M28A **Bar X Bar Ranc** **95.84** **48** ⇓P **P** **09 53 33.8 +1.0**
baz=96
D23A **Lindsay** **95.85** **41** ⇑P **P** **09 53 34.2 +1.6**
baz=96
P30A **Selden** **95.86** **50** ⇑P **P** **09 53 33.9 +1.0**
baz=96
R31A **Burdett** **95.86** **51** ⇓P **P** **09 53 34.0 +1.0**
baz=96
C23A **Lambert** **96.14** **41** ⇓P **P** **09 53 35.7 +1.7**
baz=96
Q31A **Ellis** **96.25** **50** ⇓P **P** **09 53 36.3 +1.7**
baz=96
INK **Inuvik** **96.34** **16** P **P** **09 53 33.6 -0.7**
baz=0.0,slow=20
D24A **Glendive** **96.36** **42** ⇑P **P** **09 53 35.8 +0.8**
baz=97
338A **Crockett** **96.36** **59** ⇑P **P** **09 53 36.0 +0.7**
baz=97
V34A **Guthrie** **96.37** **54** ⇑P **P** **09 53 36.3 +1.1**
baz=97
SONM **Songino Array** **96.45** **319** P **P** **09 53 35.5 0.0**
comp=Z,0.2nm,0.4s,baz=108,slow=3.6,SNR=2.5
SONM PKKPbc **PKKPbc** **10 10 17.1 -2.4**
comp=Z,0.3nm,0.4s,baz=5.2,slow=1.7,SNR=3.5
P31A **Stockton** **96.47** **50** ⇓P **P** **09 53 36.7 +1.1**
baz=97
B23A **Brockton** **96.55** **40** ⇓P **P** **09 53 37.3 +1.5**
baz=97
U34A **Anderson Ranch** **96.59** **53** ⇑P **P** **09 53 37.4 +1.2**
baz=97
E25A **Miller Ranch,** **96.67** **42** ⇓P **P** **09 53 37.4 +1.0**
baz=97
E26A **Carlson Angus** **97.24** **43** ⇑P Pdif 09 53 40.1 +1.2
baz=98
F27A **Lemmon** **97.27** **43** ⇓P Pdif 09 53 40.5 +1.4
baz=98
YKA **Yellowknife Ar** **98.64** **25** P Pdif 09 53 44.6 -0.1
comp=Z,1.1nm,0.7s,baz=242,slow=4.5,SNR=20
YKA PP **PP** **09 57 49.8 -3.3**
comp=Z,1.7nm,1.1s,baz=239,slow=7.6,SNR=12
YKA PKKP **PKiKP** **09 58 12.6 -0.6**
comp=Z,0.1nm,0.5s,baz=256,slow=1.7,SNR=5.7
YKA PKKPbc **PKKPbc** **10 10 09.9 -3.9**
comp=Z,0.1nm,0.4s,baz=34,slow=2.5,SNR=6.7
RES **Resolute Bay** **109.88** **16** PKiKP **PKiKP** **09 58 32.1 -1.6**
comp=Z,1.2nm,0.6s,baz=183,slow=1.8,SNR=7.1
ZALV **Zalesovo Beam** **111.26** **321** PKiKP **PKiKP** **09 58 34.9 -1.9**
comp=Z,1.0nm,0.6s,baz=180,slow=0.7,SNR=5.3
MKAR **Makanchi Array** **111.69** **313** PKiKP **PKiKP** **09 58 36.6 -1.3**
comp=Z,0.5nm,0.4s,baz=181,slow=1.2,SNR=17
MKAR SKP 10 01 26.6
comp=Z,0.8nm,0.8s,baz=169,slow=0.6,SNR=6.2
MKAR PKKPbc **PKKPbc** **10 09 32.2 -1.6**
comp=Z,0.3nm,0.8s,baz=319,slow=2.8,SNR=4.4
MKAR PKKPab **PKKPab** **10 09 41.4 -1.1**
comp=Z,0.3nm,0.6s,baz=272,slow=3.0,SNR=4.5
KURK **Kurchatov** **114.62** **317** *e*PKiKP PKPdf 09 58 42.9 -0.5
KURK **Kurchatov** **114.62** **317** *e*PKPdf PKPdf 09 58 42.9 -0.5
KURBB **Kurchatov Arra** **114.67** **317** PKP PKPdf 09 58 41.7 -1.7
comp=Z,0.9nm,0.5s,baz=104,slow=1.9,SNR=9.6
KSH **Kashi** **115.06** **304** *e*PKP **PKPdf** **09 58 43.0 -1.8**
KSH PP **PP** **09 59 56.8 +4.0**
KSH PKS **PKSdf** **10 02 18.5 -3.0**
KSH PPMZ
comp=Z,110nm,5.8s
AAK **Ala-Archa** **116.59** **308** *e*PKiKP **PKPdf** **09 58 47.5 -0.2**
FRB **Frobisher Bay** **118.92** **28** PKP **PKPdf** **09 58 49.9 -1.3**
comp=Z,2.4nm,0.6s,baz=325,slow=2.6,SNR=13
KKAR **Karatay Array** **119.55** **308** *e*PKiKP **PKPdf** **09 58 51.9 -1.3**
KKAR **Karatay Array** **119.55** **308** *e*PKPdf **PKPdf** **09 58 51.9 -1.3**
BVAR **Borovoye Array** **119.80** **319** PKP **PKPdf** **09 58 52.3 -1.0**
comp=Z,3.0nm,0.4s,baz=126,slow=1.5,SNR=39
SCHQ **Schefferville** **120.79** **39** PKP **PKPdf** **09 58 53.4 -1.7**
comp=Z,2.1nm,0.6s,baz=264,slow=3.3,SNR=6.8
SUR **Sutherland** **122.32** **200** PKP **PKPdf** **09 58 58.3 -0.9**
comp=Z,16nm,1.0s,baz=125,slow=3.9,SNR=4.2
SPITS **Spitsbergen Ar** **123.65** **356** PKP **PKPdf** **09 58 59.3 -0.8**
comp=Z,6.3nm,0.5s,baz=105,slow=11,SNR=32
BOSA **Boshof** **124.12** **206** PKP **PKPdf** **09 59 02.6 0.0**
comp=Z,2.8nm,0.8s,baz=19,slow=7.3,SNR=4.2
DAG **Danmarks Havn** **124.68** **5** *i* PKiKP **PKPdf** **09 59 00.6 -1.4**
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG **Danmarks Havn** **124.68** **5** *i* P **PKPdf** **09 59 00.6 -1.4**
comp=Z,5.4nm,1.0s
SFJD **Kangerlussuaq** **125.06** **22** PKP **PKPdf** **09 59 02.2 -0.8**
comp=Z,3.8nm,0.7s,baz=334,slow=2.8,SNR=4.4
SUMG **Summit** **125.20** **14** *e*PKiKP **PKPdf** **09 59 03.3 -0.3**
SUMG **Summit** **125.20** **14** *e*PKPdf **PKPdf** **09 59 03.3 -0.3**
SUMG **Summit** **125.20** **14** *i* P **PKPdf** **09 59 03.3 -0.3**
comp=Z,8.2nm,1.0s
ARU **Arti** **126.10** **324** *i* PKiKP **PKPdf** **09 59 05.0 -0.2**
ARU 10 05 24.9
ARU SP SP 10 10 26.3 +3.7
ARU **Arti** **126.10** **324** *e*PKPdf **PKPdf** **09 59 04.8 -0.4**
SOKR **Solikamsk** **126.11** **329** *e*PKiKP **PKPdf** **09 59 06.0 +0.9**
SOKR pmax pmax
comp=Z,10.0nm,0.7s
ABKAR **Akbulak array** **126.68** **315** *e*PKPdf **PKPdf** **09 59 06.4 -0.1**
AKTO **Aktyubinsk** **127.72** **317** PKP **PKPdf** **09 59 07.3 -1.2**
comp=Z,3.1nm,0.9s,baz=311,slow=1.9,SNR=8.8

GEYT	**Alibeck**	**128.86**	**301**	PKP	**PKPdf**	**09 59 11.2**	**0.0**
	comp=Z,2.4nm,0.7s,baz=52,slow=2.4,SNR=5.7						
GEYT				SKPbc	SKiKP	10 01 48.0	-16
	comp=Z,1.1nm,0.4s,baz=142,slow=7.3,SNR=7.2						
KEV	**Kevo**	**130.08**	**348**	*e*PKIKP	**PKPdf**	**09 59 11.3**	**-1.1**
KEV	**Kevo**	**130.08**	**348**	*ep*	**PKPdf**	**09 59 11.3**	**-1.1**
PRGR	**Permogore**	**130.25**	**334**	PKIKP	**PKPdf**	**09 59 12.2**	**-0.8**
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ARCES	**ARCESS Array B**	**130.54**	**349**	PKhKP	PKPpre	09 59 01.4	
	comp=Z,0.9nm,0.7s,baz=346,slow=0.5,SNR=9.7						
ARCES				PKP	**PKPdf**	**09 59 12.4**	**-0.9**
	comp=Z,4.3nm,0.4s,baz=15,slow=1.4,SNR=53						
ARCES				SKPbc	**SKPbc**	**10 01 52.6**	**-1.2**
	comp=Z,11nm,0.9s,baz=35,slow=4.4,SNR=18						
KAF	**Kangasniemi**	**136.62**	**343**	*e*PKIKP	**PKPdf**	**09 59 23.5**	**-1.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KAF	**Kangasniemi**	**136.62**	**343**	*ep*	**PKPdf**	**09 59 23.5**	**-1.4**
	comp=Z,3.1nm,0.5s						
FINES	**FINESS Array B**	**137.23**	**342**	PKhKP	PKPpre	09 59 13.9	
	comp=Z,0.9nm,0.4s,baz=43,slow=3.9,SNR=13						
FINES				PKP	**PKPdf**	**09 59 25.8**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=108,slow=3.0,SNR=14						
FINES				SKPbc	**SKPbc**	**10 02 14.8**	**-1.0**
	comp=Z,8.8nm,0.8s,baz=82,slow=4.0,SNR=18						
KMBO	**Kilima Mbogo**	**137.52**	**241**	PKP	**PKPdf**	**09 59 28.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=30,slow=20,SNR=2.8						
KMBO				SKPbc	**SKPbc**	**10 02 19.0**	**+0.5**
	comp=Z,7.5nm,0.9s,baz=80,slow=1.6,SNR=16						
OBN	**Obninsk**	**137.85**	**330**	*e*PKIKP	**PKPdf**	**09 59 27.0**	**-0.4**
OBN				*i*		10 02 24.1	
OBN				*i*		10 05 35.4	
OBN				*i* SS	SS	10 20 02.3	+8.9
OBN				pmax	pmax		
	comp=Z,13nm,1.3s						
KIV	**Kislovodsk**	**139.44**	**312**	*i* PKIKP	**PKPdf**	**09 59 31.6**	**+0.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,70nm,21.0s						
NB2	**NORSAR Subarra**	**140.68**	**352**	PKP	PKPpre	09 59 25.7	
	comp=Z,1.7nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**140.68**	**352**	PKhKP	PKPpre	09 59 25.3	
	comp=Z,0.6nm,0.4s,baz=50,slow=1.7,SNR=19						
NOA				PKP	**PKPdf**	**09 59 30.9**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=13,slow=3.8,SNR=6.6						
NOA				SKPbc	**SKPbc**	**10 02 21.8**	**-3.5**
	comp=Z,5.9nm,1.1s,baz=13,slow=4.2,SNR=4.0						
HFS	**Hagfors**	**141.19**	**350**	PKhKP	PKPpre	09 59 27.3	
	comp=Z,6.0nm,0.4s,baz=41,slow=4.6,SNR=56						
HFS				PKP	**PKPdf**	**09 59 32.0**	**-1.3**
	comp=Z,3.2nm,0.6s,baz=40,slow=2.5,SNR=6.6						
ANN	**Anapa**	**142.64**	**316**	*i* PKHKP	PKPpre	09 59 33.1	
ANN				pmax	pmax		
	comp=Z,25nm,1.5s						
AKASG	**Malin Array Be**	**144.09**	**329**	PKP	PKPbc	09 59 36.6	-1.3
	comp=Z,3.2nm,0.4s,baz=37,slow=3.7,SNR=58						
AKASG				SKPbc	**SKPbc**	**10 02 32.4**	**-1.5**
	comp=Z,9.5nm,1.1s,baz=42,slow=2.7,SNR=16						
KIEV	**Kiev**	**144.10**	**329**	*e*PKIKP	PKPbc	09 59 36.5	-1.4
KIEV	**Kiev**	**144.10**	**329**	*e*PKPdf	PKPbc	09 59 36.5	-1.5
SUW	**Suwalki**	**144.17**	**337**	*e*PKIKP	PKPbc	09 59 38.0	0.0
SUW	**Suwalki**	**144.17**	**337**	*e*PKP	PKPbc	09 59 37.9	-0.1
BSD	**Bornholm Skovb**	**145.64**	**346**	*i* PKIKP	**PKPbc**	**09 59 42.1**	**-0.4**
BSD				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BSD	**Bornholm Skovb**	**145.64**	**346**	*i* P	**PKPbc**	**09 59 42.1**	**-0.4**
	comp=Z,6.1nm,0.4s						
KIS	**Kishinev**	**146.66**	**324**	*e*PKP2	**PKPbc**	**09 59 46.0**	**+0.3**
KIS				pmax	pmax		
	comp=Z,200nm,1.2s						
KIS	**Kishinev**	**146.66**	**324**	*e*P	**PKPbc**	**09 59 46.0**	**+0.3**
	comp=Z,200nm,1.2s						
BEL	**Belsk**	**146.78**	**337**	*e*PKP2	**PKPbc**	**09 59 46.5**	**+0.6**
BEL	**Belsk**	**146.78**	**337**	*e*PKP	**PKPbc**	**09 59 46.4**	**+0.6**
EKA	**Eskdalemuir Ar**	**146.94**	**4**	PKPbc	**PKPbc**	**09 59 45.5**	**-0.7**
	comp=Z,8.4nm,0.5s,baz=11,slow=4.3,SNR=55						
ESK	**Eskdalemuir**	**146.95**	**4**	*i* PKP2	**PKPbc**	**09 59 46.6**	**+0.4**
ESK	**Eskdalemuir**	**146.95**	**4**	*e*PKPdf	**PKPbc**	**09 59 45.2**	**-1.0**
LVV	**L'vov**	**147.08**	**332**	*e*PKIKP	**PKPbc**	**09 59 45.7**	**-1.0**
BRTR	**Keskin Array B**	**147.24**	**309**	PKPbc	**PKPbc**	**09 59 46.9**	**-0.8**
	comp=Z,4.9nm,0.8s,baz=136,slow=3.8,SNR=26						
BSEG	**Bad Segeberg**	**147.67**	**350**	*e*PKPbc	**PKPbc**	**09 59 48.8**	**+0.7**
KWP	**Kalwaria Pacla**	**147.78**	**333**	*e*PKP2	**PKPbc**	**09 59 49.8**	**+1.2**
KWP	**Kalwaria Pacla**	**147.78**	**333**	*e*PKP	**PKPbc**	**09 59 49.8**	**+1.2**
KWP	**Kalwaria Pacla**	**147.78**	**333**	*e*PKPbc	**PKPbc**	**09 59 49.3**	**+0.7**
ANTO	**Ankara**	**147.79**	**310**	*e*PKP2	**PKPbc**	**09 59 49.2**	**+0.2**
ANTO	**Ankara**	**147.79**	**310**	⇓*i*P	**PKPbc**	**09 59 49.2**	**+0.2**
ANTO	**Ankara**	**147.79**	**310**	*e*PKPbc	**PKPbc**	**09 59 49.2**	**+0.2**
BURAR	**Bucovina Array**	**148.11**	**328**	⇑*i*P	**PKPdf**	**09 59 46.0**	**+0.3**
TESR	**Tescani**	**148.12**	**325**	⇓*i*P	**PKPbc**	**09 59 47.9**	**-1.6**
CFR	**Carcaliu**	**148.14**	**322**	⇑PKP2	**PKPbc**	**09 59 49.1**	**-0.5**
CFR	**Carcaliu**	**148.14**	**322**	⇑*i*P	**PKPbc**	**09 59 49.1**	**-0.5**
RUE	**Ruedersdorf**	**148.33**	**345**	*e*PKPbc	**PKPbc**	**09 59 49.8**	**-0.1**
TIRR	**Tirgusor**	**148.40**	**321**	⇓*i*P	**PKPbc**	**09 59 49.8**	**-0.5**
TIRR	**Tirgusor**	**148.40**	**321**	⇓*i*P	**PKPbc**	**09 59 49.8**	**-0.5**
TIRR	**Tirgusor**	**148.40**	**321**	*e*PKPdf	**PKPdf**	**09 59 46.0**	**-0.2**
TIRR				*e*PKPbc	**PKPbc**	**09 59 50.3**	**0.0**
OJC	**Ojcow**	**148.47**	**336**	*e*PKP2	**PKPbc**	**09 59 50.1**	**-0.2**
OJC	**Ojcow**	**148.47**	**336**	*e*PKP	**PKPbc**	**09 59 50.1**	**-0.2**
VRI	**Vrincioaia**	**148.49**	**324**	⇓PKP2	**PKPbc**	**09 59 51.3**	**+0.8**
VRI	**Vrincioaia**	**148.49**	**324**	⇓*i*P	**PKPbc**	**09 59 51.3**	**+0.8**
KOLS	**Kolonicke sedl**	**148.50**	**333**	*e*PKP2	**PKPbc**	**09 59 51.8**	**+1.4**
KOLS	**Kolonicke sedl**	**148.50**	**333**	*e*PKP	**PKPbc**	**09 59 51.8**	**+1.4**
TLB	**Topalu**	**148.54**	**321**	⇓*i*P	**PKPbc**	**09 59 50.2**	**-0.4**
HARR	**Harsova**	**148.54**	**322**	⇓PKP2	**PKPbc**	**09 59 51.0**	**+0.4**
HARR	**Harsova**	**148.54**	**322**	⇓*i*P	**PKPbc**	**09 59 51.0**	**+0.4**
PLOR	**Plostina**	**148.54**	**324**	⇑PKP2	**PKPbc**	**09 59 51.3**	**+0.6**
STHS	**Stebnicka Huta**	**148.55**	**334**	*e*PKP2	**PKPbc**	**09 59 51.2**	**+0.6**
STHS	**Stebnicka Huta**	**148.55**	**334**	*e*PKP	**PKPbc**	**09 59 51.1**	**+0.5**
MANR	**Mangalia**	**148.66**	**320**	⇑*i*P	**PKPbc**	**09 59 51.1**	**+0.2**
UZH	**Uzhgorod**	**148.72**	**332**	⇓*i*PKHKP	**PKPbc**	**09 59 50.5**	**-0.4**
UZH				*i*		09 59 54.5	
CRVS	**Cervenica-Dubn**	**148.87**	**333**	*e*PKP2	**PKPbc**	**09 59 51.8**	**+0.5**
CRVS	**Cervenica-Dubn**	**148.87**	**333**	*e*PKP	**PKPbc**	**09 59 51.8**	**+0.5**
NIE	**Niedzica**	**148.92**	**335**	*e*PKP2	**PKPbc**	**09 59 51.9**	**+0.4**
NIE	**Niedzica**	**148.92**	**335**	*e*PKP	**PKPbc**	**09 59 51.8**	**+0.3**
PSN	**Preselentsi**	**148.98**	**320**	⇓*i*P	**PKPbc**	**09 59 51.5**	**-0.2**
TRPA	**Tarpa**	**148.99**	**331**	⇑*i*P	**PKPbc**	**09 59 50.3**	**-1.3**
TRPA	**Tarpa**	**148.99**	**331**	⇓*e*SKSac	**PKPbc**	**09 59 52.3**	**+0.7**
CSS	**Prodhromos**	**149.00**	**301**	*e*PKPbc	**PKPbc**	**09 59 51.8**	**-0.3**
NRDL	**Niedersach Rie**	**149.09**	**349**	*e*PKPbc	**PKPbc**	**09 59 52.0**	**+0.4**
KSP	**Ksiaz**	**149.12**	**341**	*e*PKP	**PKPbc**	**09 59 52.0**	**+0.1**
DOPR	**Dopca**	**149.14**	**326**	⇓*i*P	**PKPbc**	**09 59 52.8**	**+0.7**
MLR	**Muntele Rosu**	**149.16**	**324**	⇓PKP2	**PKPbc**	**09 59 52.8**	**+0.5**
MLR	**Muntele Rosu**	**149.16**	**324**	⇓*i*P	**PKPbc**	**09 59 52.8**	**+0.5**
VAL	**Valentia**	**149.25**	**13**	⇓*i*P	**PKPbc**	**09 59 52.0**	**-0.1**
OKC	**Ostrava-Krasne**	**149.38**	**338**	⇑*e*PKP	**PKPbc**	**09 59 52.7**	**+0.2**
UPC	**Upice**	**149.50**	**341**	⇑*e*PKP	**PKPbc**	**09 59 53.1**	**+0.3**
DPC	**Dobruska-Polom**	**149.54**	**340**	⇑*e*PKP	**PKPbc**	**09 59 53.3**	**+0.3**
KECS	**Kecovo**	**149.60**	**334**	*e*PKP2	**PKPbc**	**09 59 53.9**	**+0.8**
KECS	**Kecovo**	**149.60**	**334**	*e*PKP	**PKPbc**	**09 59 53.9**	**+0.8**
CLL	**Collm**	**149.60**	**345**	*e*PKPbc	**PKPbc**	**09 59 53.8**	**+0.8**
CLL	**Collm**	**149.60**	**345**	*e*PKPdf	**PKPdf**	**09 59 49.0**	**+1.2**
CLL				⇑*i*PKPbc	**PKPbc**	**09 59 52.8**	**-0.2**
	comp=Z,59nm,0.7s						
CLL				⇑*i*PKPab	**PKPab**	**10 00 00.8**	**+0.9**
CLL				Lm	MLR	13 07 00.0	
	comp=Z,100nm,19.6s						
IBBN	**Ibbenburen**	**149.64**	**352**	*e*PKPbc	**PKPbc**	**09 59 53.6**	**+0.6**
MORC	**Moravsky Berou**	**149.64**	**338**	⇑*i*P	**PKPbc**	**09 59 52.6**	**-0.6**
MORC	**Moravsky Berou**	**149.64**	**338**	*e*PKPdf	**PKPdf**	**09 59 48.5**	**+0.4**
MORC				*e*PKPbc	**PKPbc**	**09 59 53.5**	**+0.3**
CLZ	**Clausthal**	**149.66**	**348**	*e*PKPbc	**PKPbc**	**09 59 54.2**	**+1.0**
VOIR		**149.67**	**325**	⇑*i*P	**PKPbc**	**09 59 53.0**	**-0.5**
BRG	**Berggiesshubel**	**149.76**	**343**	*e*PKP	**PKPdf**	**09 59 49.1**	**+1.0**
	comp=Z,9.9nm,1.4s						
BRG				*i*		09 59 53.4	
	comp=Z,51nm,0.7s						
BRG				*i*		10 00 00.6	
	comp=Z,17nm,1.1s						
BRG				*ep*PKP	pPKPdf	10 01 24.2	-14
	comp=Z,3.8nm,1.3s						
BRG	**Berggiesshubel**	**149.76**	**343**	*e*PKPbc	**PKPbc**	**09 59 54.4**	**+1.0**
DRGR		**149.90**	**329**	⇓*i*P	**PKPbc**	**09 59 53.1**	**-0.9**
PVCC	**Panska Ves**	**149.90**	**342**	⇑*e*PKP	**PKPbc**	**09 59 54.1**	**+0.4**
ARR	**Arges**	**149.93**	**325**	⇑*i*P	**PKPbc**	**09 59 54.5**	**+0.4**
WTSB	**Winterswijk**	**150.09**	**353**	*e*PKP	**PKPbc**	**09 59 53.6**	**-0.5**
	comp=Z,93nm,0.7s						
VYHS	**Vyhne**	**150.24**	**336**	*e*PKIKP	**PKPbc**	**09 59 54.6**	**0.0**
VYHS	**Vyhne**	**150.24**	**336**	*e*PKP	**PKPbc**	**09 59 54.6**	**0.0**
PSZ	**Piszkesteto**	**150.29**	**334**	⇓PKIKP	**PKPdf**	**09 59 49.7**	**+0.6**
PSZ	**Piszkesteto**	**150.29**	**334**	*i*PKPbc	**PKPbc**	**09 59 49.7**	**+0.6**
PSZ	**Piszkesteto**	**150.29**	**334**	*e*PKPbc	**PKPbc**	**09 59 55.3**	**+0.4**
PSZ	**Piszkesteto**	**150.29**	**334**	⇓*e*SKSac	**PKPbc**	**09 59 55.4**	**+0.6**
PRA	**Prague**	**150.35**	**342**	*e*PKIKP	**PKPbc**	**09 59 54.8**	**0.0**
PRA	**Prague**	**150.35**	**342**	⇑*e*PKP	**PKPbc**	**09 59 54.8**	**0.0**
VRAC	**Vranov**	**150.36**	**339**	⇑PKIKP	**PKPbc**	**09 59 54.4**	**-0.5**
VRAC	**Vranov**	**150.36**	**339**	⇑*i*P	**PKPbc**	**09 59 54.4**	**-0.5**
PRU	**Pruhonice**	**150.40**	**342**	*e*PKIKP	**PKPbc**	**09 59 54.7**	**-0.2**
PRU	**Pruhonice**	**150.40**	**342**	⇑*e*PKP	**PKPbc**	**09 59 54.7**	**-0.2**
MOX	**Moxa**	**150.54**	**346**	*e*PKPbc	**PKPbc**	**09 59 56.0**	**+0.7**
TANN	**Tannenbergstha**	**150.56**	**345**	*e*PKPbc	**PKPbc**	**09 59 56.2**	**+0.8**
JMB	**Yambol**	**150.63**	**319**	⇑PKIKP	**PKPbc**	**09 59 59.2**	**+3.5**
JMB	**Yambol**	**150.63**	**319**	⇑*i*P	**PKPbc**	**09 59 59.2**	**+3.5**
TREC	**Trest**	**150.73**	**340**	*e*PKIKP	**PKPbc**	**09 59 55.7**	**-0.1**
TREC	**Trest**	**150.73**	**340**	⇑*e*PKP	**PKPbc**	**09 59 55.7**	**-0.1**
GZR	**Gura Zlata**	**150.87**	**327**	⇑PKIKP	**PKPbc**	**09 59 55.0**	**-1.3**
GZR	**Gura Zlata**	**150.87**	**327**	⇑*i*P	**PKPbc**	**09 59 55.0**	**-1.3**
PKSN	**Nyarlorinc**	**151.10**	**332**	⇓*e*SKSac	**PKPbc**	**09 59 57.4**	**+0.8**
ROTZ	**Rotzenmuhle**	**151.22**	**345**	*e*PKPbc	**PKPbc**	**09 59 57.3**	**+0.5**
BZS	**Buzias**	**151.28**	**329**	⇑PKIKP	**PKPdf**	**09 59 49.6**	**-1.0**
BZS	**Buzias**	**151.28**	**329**	⇑*i*P	**PKPdf**	**09 59 49.6**	**-1.0**
PKS7	**Kunszentmiklos**	**151.28**	**333**	⇓*e*SKSac	**PKPbc**	**09 59 57.3**	**+0.3**
BEBN	**Eben Emael**	**151.37**	**354**	PKPbc	**PKPbc**	**09 59 57.5**	**+0.4**
HGN	**Heimansgroeve**	**151.37**	**353**	*e*PKP	**PKPbc**	**09 59 57.5**	**+0.4**
	comp=Z,22nm,0.9s						
CSKK	**Cs˙ˇtkako**	**151.39**	**335**	*e*SKSac	**PKPbc**	**09 59 57.9**	**+0.6**
RMGR	**Halanga-Turnu**	**151.42**	**326**	⇓*i*P	**PKPdf**	**09 59 49.7**	**-1.1**
KHC	**Kasperske Hory**	**151.44**	**342**	*e*PKIKP	**PKPdf**	**09 59 50.5**	**-0.3**
KHC	**Kasperske Hory**	**151.44**	**342**	⇑*e*PKP	**PKPbc**	**09 59 56.8**	**-0.6**
KHC				*e*PKPAB	**PKPab**	**10 00 06.8**	**-0.9**
KHC	**Kasperske Hory**	**151.44**	**342**	*e*PKPdf	**PKPdf**	**09 59 50.5**	**-0.3**
KHC				*e*PKPbc	**PKPbc**	**09 59 56.5**	**-0.9**
KHC				*e*PKPab	**PKPab**	**10 00 08.2**	**+0.4**
PKS6	**Bocsa**	**151.46**	**332**	⇑*e*SKSac	**PKPbc**	**09 59 58.6**	**+1.2**
MEM	**Membach**	**151.52**	**353**	PKPbc	**PKPbc**	**09 59 57.2**	**-0.3**
GRF	**Grafenberg Arr**	**151.52**	**346**	*e*PKPab	**PKPab**	**10 00 07.2**	**-0.8**
PKST	**T˜˜s**	**151.56**	**335**	⇑*e*SKSac	**PKPbc**	**09 59 58.2**	**+0.5**
WET	**Wettzell**	**151.62**	**343**	*e*PKPbc	**PKPbc**	**09 59 58.4**	**+0.6**
WET				*e*PKPab	**PKPab**	**10 00 09.2**	**+0.7**
GERES	**GERESS Array B**	**151.66**	**342**	PKP	**PKPdf**	**09 59 50.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=16,slow=1.4,SNR=9.7						
GERES				PKPbc	**PKPbc**	**09 59 57.6**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=13,slow=2.0,SNR=66						
PKS2	**Kecel**	**151.70**	**339**	⇑*e*SKSac	**PKPbc**	**09 59 59.2**	**+1.2**
SOP	**Sopron**	**151.76**	**337**	⇓*e*SKSac	**PKPbc**	**09 59 58.9**	**+0.8**
BCLA	**Clavier**	**151.78**	**354**	PKPbc	**PKPbc**	**09 59 58.8**	**+0.8**
BCLA				PKPab	**PKPab**	**10 00 09.9**	**+0.9**
SNF	**Seneffe**	**151.78**	**355**	PKPbc	**PKPbc**	**09 59 58.9**	**+0.9**
CONA	**Conrad Observa**	**151.80**	**338**	⇑*i*PKiKP	**PKPbc**	**09 59 58.1**	**-0.2**
	comp=Z,31nm,1.5s,SNR=11						
PKSM	**Moragy**	**152.16**	**333**	⇑PKIKP	**PKPdf**	**09 59 54.4**	**+2.5**
PKSM	**Moragy**	**152.16**	**333**	⇑*i*P	**PKPdf**	**09 59 54.4**	**+2.5**
PKSM	**Moragy**	**152.16**	**333**	*e*SKSac	**PKPbc**	**09 59 58.0**	**-1.0**
DOU	**Dourbes**	**152.16**	**355**	PKPbc	**PKPbc**	**09 59 58.6**	**-0.3**
MOA	**Molln**	**152.39**	**340**	⇑*i*PKPbc	**PKPbc**	**09 59 58.8**	**-0.7**
	comp=Z,5.2nm,1.0s						
WLF	**Walferdange**	**152.43**	**353**	PKPbc	**PKPbc**	**10 00 00.5**	**+1.0**
WLF	**Walferdange**	**152.43**	**353**	*e*PKPbc	**PKPbc**	**10 00 00.5**	**+1.0**
VTS	**Vitosha**	**152.53**	**322**	⇑PKIKP	**PKPdf**	**09 59 53.8**	**+1.0**
VTS	**Vitosha**	**152.53**	**322**	⇑*i*P	**PKPdf**	**09 59 53.8**	**+1.0**
MMB	**Musomiste**	**152.86**	**320**	⇑PKIKP	**PKPbc**	**09 59 59.1**	**-1.7**
MMB	**Musomiste**	**152.86**	**320**	⇑*i*P	**PKPbc**	**09 59 59.1**	**-1.7**
RJOB	**Jochberg**	**152.93**	**342**	*e*PKPab	**PKPab**	**10 00 14.9**	**+0.8**
FUR	**Furstenfeldbru**	**152.94**	**345**	*e*PKPbc	**PKPbc**	**10 00 01.0**	**+0.3**
FUR				*e*PKPab	**PKPab**	**10 00 14.4**	**+0.3**
SOKA	**Soboth**	**153.16**	**338**	⇓*i*PKiKP	**PKPbc**	**10 00 01.4**	**0.0**
	comp=Z,11nm,1.2s,SNR=5.0						
BFO	**Black Forest**	**153.41**	**349**	*e*PKPbc	**PKPbc**	**10 00 02.0**	**+0.3**
MOTA	**Moosalm**	**153.74**	**344**	⇓*i*PKPdf	**PKPdf**	**09 59 53.8**	**-0.6**
	comp=Z,6.1nm,0.9s						
ABTA	**Abfaltersbach**	**153.91**	**342**	⇑*i*PKPdf	**PKPdf**	**09 59 54.0**	**-0.5**
	comp=Z,9.2nm,1.0s						
ABTA				⇑*i*PKPbc	**PKPbc**	**10 00 01.7**	**-1.2**
	comp=Z,20nm,1.4s						
FETA	**Feichten**	**154.14**	**344**	⇑*i*PKPdf	**PKPdf**	**09 59 52.5**	**-2.4**
	comp=Z,10.0nm,0.9s						
PBRG	**Braganca**	**159.59**	**16**	*e*PKPab	**PKPab**	**10 00 43.2**	**+0.2**
MVO	**Moncorvo**	**160.11**	**18**	*e*PKPab	**PKPab**	**10 00 46.2**	**+0.9**
PCAS	**Casmilo, Conde**	**160.66**	**22**	*e*PKPab	**PKPab**	**10 00 48.0**	**+0.3**
PTOM	**Tomar**	**161.07**	**23**	*e*PKPab	**PKPab**	**10 00 49.3**	**-0.2**
PMST	**Lisbon--Monsan**	**161.55**	**26**	*e*PKPab	**PKPab**	**10 00 52.3**	**+0.7**
PESTR	**Estremoz**	**162.03**	**22**	*e*PKPab	**PKPab**	**10 00 54.2**	**+0.5**
ESDC	**Sonseca Array**	**162.26**	**12**	PKPab	**PKPab**	**10 00 54.4**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=340,slow=4.9,SNR=15						
PNCL	**Nicolau / Gran**	**162.35**	**25**	*e*PKPab	**PKPab**	**10 00 55.5**	**+0.4**
PBAR	**Barrancos**	**162.84**	**22**	*e*PKPdf	**PKPdf**	**10 00 05.9**	**+0.6**
PBAR	**Barrancos**	**162.84**	**22**	*e*PKPab	**PKPab**	**10 00 57.8**	**+0.5**
PCVE	**Castro Verde**	**162.96**	**25**	*e*PKPab	**PKPab**	**10 00 53.7**	**-4.1**
PVAQ	**Vaqueiros**	**163.28**	**24**	*e*PKPab	**PKPab**	**10 00 59.9**	**+0.7**
KEST	**Kesra**	**164.76**	**333**	PKPab	**PKPab**	**10 01 06.2**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=312,slow=12,SNR=3.8						
MDT	**Midelt**	**168.52**	**24**	PKP	**PKPdf**	**10 00 10.2**	**0.0**
	comp=Z,3.9nm,1.0s,baz=17,slow=11,SNR=3.6						
MDT				PKPab	**PKPab**	**10 01 22.9**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=294,slow=4.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**170.80**	**185**	PKP	**PKPdf**	**10 00 10.4**	**-1.4**
	comp=Z,4.0nm,0.8s,baz=315,slow=0.8,SNR=22						
TORD				PKPab	**PKPab**	**10 01 32.7**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=168,slow=4.3,SNR=16						
TORD				PP	**PP**	**10 05 23.3**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=128,slow=4.0,SNR=2.7						

*IDC **04** 09:49:15.3±1.4,26.00N×128.34E,h0km,mb3.3/5, mb1 3.5/6,mb1mx3.4/25,mbtmp3.4/6,ML3.7/1,MS3.3/1, Ms1 3.3/1,ms1mx2.4/22,Error ellipse: s-maj=59.5km s-min=21.7km az=73.0*

*ISCJB **04** 09:49:17.1±1.1,26.03N±0.04×128.57E±0.05,h31km±7km, mb3.2/5,MS3.2/1,Error ellipse: s-maj=7.8km s-min=6.4km az=141.6*

*JMA **04** 09:49:18.3±0.3,26.05N×128.49E,h42km±4km,M3.3*

ISC 04 09:49:18.5±1.9,26.09N±0.07×128.49E±0.06,h25km±13km, n19,σ0.82/26,mb3.3/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.60**	**316**	P	**Pb**	**09 49 30.5**	**+0.1**
JNTH				*e*S	**Sn**	**09 49 39.7**	**-0.7**
JJT2	**Tamagusuku 2**	**0.67**	**275**	P	**Pb**	**09 49 31.5**	**+0.1**
JOW	**Kunigami**	**0.77**	**346**	P	**Pn**	**09 49 33.4**	**-0.4**
JOW				*e*S	**Sn**	**09 49 44.4**	**-0.2**
JIH	**Iheya**	**1.05**	**334**	P	**Pb**	**09 49 38.0**	**0.0**
JIH				*e*S	**Sn**	**09 49 51.6**	**0.0**
JAGN	**Aguni-jima**	**1.22**	**294**	P	**Pn**	**09 49 40.0**	**0.0**
JAGN				*e*S	**Sb**	**09 49 56.3**	**0.0**
JOKE	**Okinoerabujima**	**1.27**	**3**	P	**Pn**	**09 49 40.5**	**-0.2**
JOKE				*e*S	**Sn**	**09 49 56.7**	**-0.3**
JKE	**Kume jima 2**	**1.55**	**279**	P	**Pn**	**09 49 43.5**	**-0.9**
JKE				*e*S	**Sn**	**09 50 03.1**	**-0.6**
JTK	**Tokunoshima**	**1.74**	**14**	P	**Pn**	**09 49 46.8**	**-0.4**
JTK				*e*S	**Sn**	**09 50 07.8**	**-0.8**
JAMN	**Amaminishikomi**	**2.23**	**16**	P	**Pn**	**09 49 53.4**	**-0.5**
JAMN				*e*S	**Sn**	**09 50 20.9**	**+0.2**
JMZ	**Minamidaito 2**	**2.48**	**96**	P	Pn	09 49 53.2	-4.0
JMZ				*e*S	Sn	09 50 17.6	-9.1
JAM	**Amami Oshima**	**2.52**	**23**	P	**Pn**	**09 49 56.8**	**-1.1**
JAM				*e*S	**Sn**	**09 50 25.7**	**-2.1**
JZK	**Kikaishima**	**2.58**	**30**	P	**Pn**	**09 49 58.9**	**+0.2**
JNU	**Nakatsue**	**7.32**	**16**	Pn	**Pn**	**09 51 04.5**	**+0.8**
	1.1nm,0.3s,baz=192,slow=5.5,SNR=21						
SONM	**Songino Array**	**27.80**	**327**	P	**P**	**09 55 07.8**	**+2.2**
	0.2nm,0.4s,baz=133,slow=10,SNR=4.6						
LEM	**Lembang**	**38.48**	**215**	LR	LR	10 12 19.3	
	comp=Z,42nm,21.2s,slow=36						
MKAR	**Makanchi Array**	**41.80**	**312**	P	**P**	**09 57 05.3**	**-0.7**
	0.3nm,0.5s,baz=103,slow=9.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.50**	**323**	P	**P**	**09 57 11.6**	**0.0**
	0.3nm,0.5s,baz=127,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**46.10**	**172**	P	**P**	**09 57 40.6**	**-0.1**
	0.3nm,0.8s,baz=353,slow=8.1,SNR=3.9						
ASAR	**Alice Springs**	**49.74**	**173**	P	**P**	**09 58 09.1**	**+0.3**
	0.1nm,0.7s,baz=358,slow=7.8,SNR=2.9						

*ISCJB **04** 10:08:59.3±0.3,5.57N±0.05×127.59E±0.07,h150km, mb4.0/22,Error ellipse: s-maj=11.2km s-min=4.8km az=147.2*

*IDC **04** 10:09:03.6±2.3,5.50N×127.51E,h179km±21km,mb3.6/16, mb1 3.7/16,mb1mx3.6/26,mbtmp4.1/16,Error ellipse: s-maj=23.0km s-min=10.2km az=65.0*

*MAN **04** 10:09:04.5˚62N×127˚41E,h137km,mb4.9,ML3.8,MS3.9*

ISC 04 10:09:00.7±0.5,5˚56N±0˚07×127˚61E±0˚09,h150km,n46, σ1.39/50,mb4.0/22,1C-2D,Philippine Islands region

*IDC **04** 10:37:51.8±1.1,38°.37N×73°.87E,h137km±6km,mb3.3/9, mb1 3.5/14,mb1mx3.2/41,mbtmp3.8/14,Error ellipse: s-maj=17.1km s-min=15.1km az=125.0*
*NNC **04** 10:37:53.5±2.0,38°.60N×73°.51E,h142km±12km,mb3.3, mpv3.9,Error ellipse: s-maj=20.0km s-min=10.7km az=144.0*

ISC 04 10:37:49.7±0.5,38°.25N±0°.05×74°.06E±0°.07,h150km,n61, σ1§92/66,mb3.4/9,10C-14D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.81**	**346**	⇑P	**Pn**	**10 38 21.7**	**-1.2**
	280nm,0.3s						
SFK				⇓S	**Sn**	**10 38 43.5**	**-4.9**
	416nm,0.2s						
KSH	**Kashi**	**1.96**	**49**	Pg	Pn	10 38 21.0	-3.4
KSH				Sg	Sn	10 38 42.2	-9.1
KSH	comp=N,11μm,0.3s			smax	smax		
KSH	comp=E,7μm,0.3s			smax	smax		
AML	**Almayashu**	**3.89**	**356**	P	**Pn**	**10 38 48.1**	**-0.7**
	SNR=148						
KZA	**Kyzart**	**3.93**	**13**	P	**Pn**	**10 38 49.6**	**+0.2**
	SNR=33						
UCH	**Uchtor**	**3.99**	**5**	P	**Pn**	**10 38 50.0**	**-0.1**
	SNR=56						
DZET	**Dzherino**	**4.14**	**279**	⇓P	**Pn**	**10 38 48.6**	**-3.2**
	comp=E,8.4nm,0.3s						
DZET				⇑S	Sn	10 39 32.5	-7.5
	comp=E,142nm,0.6s						
ULHL	**Ulahol**	**4.33**	**22**	P	**Pn**	**10 38 55.6**	**+1.3**
	SNR=13						
AAK	**Ala-Archa**	**4.39**	**4**	⇓P	**Pn**	**10 38 55.4**	**+0.2**
	comp=E,9.3nm,0.8s						
AAK				⇓S	**Sn**	**10 39 44.0**	**-2.1**
	comp=E,194nm,1.1s						
AAK	**Ala-Archa**	**4.39**	**4**	P	**Pn**	**10 38 58.0**	**+2.8**
	SNR=13						
AAK	**Ala-Archa**	**4.39**	**4**	P	**Pn**	**10 38 55.3**	**+0.1**
	comp=E,2.2nm,0.3s,baz=156,slow=8.6,SNR=23						
AAK				S	**Sn**	**10 39 45.4**	**-0.8**
	comp=E,12nm,0.3s,baz=344,slow=16,SNR=23						
MNAS	**Manas**	**4.40**	**345**	⇑P	**Pn**	**10 38 54.3**	**-0.9**
	comp=E,16nm,0.4s						
MNAS				⇓S	Sn	10 39 39.8	-6.4
	comp=E,252nm,0.6s						
EKS2	**Erkin-Say**	**4.41**	**357**	P	**Pn**	**10 38 55.5**	**+0.1**
	SNR=21						
KBK	**Karagaybulak**	**4.46**	**9**	P	**Pn**	**10 38 56.7**	**+0.7**
	SNR=12						
CHCP	**Chirah Chowk**	**4.63**	**188**	P	Pn	10 39 02.3	+4.1
CEP	**Cherat**	**4.75**	**202**	P	Pn	10 39 02.3	+2.4
CEP				S	**Sn**	**10 39 57.0**	**+2.4**
CHMS	**Chumysh**	**4.77**	**6**	P	**Pn**	**10 39 00.4**	**+0.4**
	SNR=7.4						
TKM2	**Tokmak 2**	**4.81**	**14**	⇑P	**Pn**	**10 39 00.9**	**+0.1**
	comp=E,7.8nm,0.6s						
TKM2				⇑S	**Sn**	**10 39 54.3**	**-1.9**
	comp=E,36nm,0.7s						
TKM2	**Tokmak 2**	**4.81**	**14**	P	**Pn**	**10 39 01.6**	**+0.8**
	SNR=12						
KK31	**Karatay Array**	**5.55**	**332**	⇓P	**Pn**	**10 39 08.6**	**-1.7**
	comp=E,3.1nm,0.2s,baz=136,slow=11,SNR=150						
KK31				⇓S	Sn	10 40 05.2	-8.1
	comp=E,75nm,0.6s,baz=150,slow=23,SNR=26						
DLH	**Dalhousie**	**5.91**	**164**	*e*P	Pn	10 39 19.0	+3.7
DLH				*e*S	**Sn**	**10 40 22.0**	**-0.3**
SARP	**Sargodha**	**6.41**	**191**	P	**Pn**	**10 39 23.4**	**+1.5**
PDGK	**Podgornoye**	**6.53**	**37**	⇑P	**Pn**	**10 39 24.0**	**+0.7**
	comp=E,9.1nm,1.1s						
SDNR	**Sundarnagar**	**7.15**	**160**	*e*P	**Pn**	**10 39 34.0**	**+2.3**
SDNR				*e*S	**Sn**	**10 40 48.0**	**-3.8**
SMLA	**Simla**	**7.55**	**159**	⇓*i*P	**Pn**	**10 39 39.4**	**+2.3**
SMLA				*i* S	**Sn**	**10 40 57.9**	**-3.5**
SMLA				*i* S	**Sn**	**10 40 57.9**	**-3.5**
SMLA				AML	AML	10 41 04.0	
	comp=E,286nm,0.8s						
SMLA				AML	AML	10 41 04.2	
	comp=N,157nm,0.6s						
NDI	**New Delhi**	**9.90**	**164**	*e*S	**Sn**	**10 41 53.0**	**-5.0**
MK31	**Makanchi Array**	**10.47**	**33**	⇓P	**Pn**	**10 40 16.8**	**+0.9**
	comp=N,16nm,0.6s,baz=234,slow=6.1,SNR=22						
MKAR	**Makanchi Array**	**10.47**	**33**	P	**Pn**	**10 40 17.2**	**+1.4**
	comp=N,0.3nm,0.3s,baz=203,slow=12,SNR=34						
WMQ	**Urumqi**	**11.70**	**57**	*e*P	**P**	**10 40 37.8**	**-1.4**
WMQ				pP	pP	10 41 00.0	
WMQ				sP		10 41 11.0	
WMQ	comp=Z,9.0nm,0.5s			pmax	pmax		
WMQ	comp=Z,150nm,3.6s			pmax	pmax		
AJM	**Ajmer**	**11.75**	**177**	*ex*	Sn	10 42 33.0	-10
GEYT	**Alibeck**	**12.56**	**273**	P	**Pn**	**10 40 40.1**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=97,slow=12,SNR=3.3						
GEYT				S	Sn	10 42 51.5	-11
	comp=Z,0.8nm,0.3s,baz=86,slow=22,SNR=4.6						
PYUN	**Piuthan**	**12.58**	**141**	*e*P	**Pn**	**10 40 43.9**	**+0.2**
	comp=Z,94nm,0.4s						
DANN	**Dangsing**	**12.77**	**138**	*e*P	**Pn**	**10 40 46.3**	**+0.1**
	comp=Z,13nm,0.2s						
KURBB	**Kurchatov Arra**	**12.77**	**13**	⇑P	**P**	**10 40 51.7**	**+0.8**
	comp=Z,9.9nm,0.7s						
KURBB	**Kurchatov Arra**	**12.77**	**13**	P	**Pn**	**10 40 43.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=203,slow=12,SNR=6.1						
KURK	**Kurchatov**	**12.88**	**13**	⇓P	**P**	**10 40 52.8**	**+0.7**
	comp=Z,4.5nm,0.6s						
KOLN	**Koldanda**	**13.16**	**140**	*e*P	**Pn**	**10 40 52.1**	**+1.0**
	comp=Z,14nm,0.4s						
GKN	**Gorkha**	**13.52**	**136**	*e*P	**Pn**	**10 40 56.2**	**+0.6**
	comp=Z,23nm,0.4s						
KKN	**Kakani**	**14.04**	**135**	*e*P	**Pn**	**10 41 02.8**	**+0.5**
PKIN	**Phulchoki**	**14.27**	**135**	*e*P	**P**	**10 41 06.9**	**-1.2**
	comp=Z,5.5nm,0.2s						
PKI	**Pulchoki**	**14.28**	**135**	*e*P	**Pn**	**10 41 07.0**	**+1.6**
	comp=Z,9.0nm,0.3s						
GUN	**Gumba**	**14.29**	**133**	*e*P	**Pn**	**10 41 06.9**	**+1.4**
	comp=Z,6.6nm,0.3s						
JIRN	**Jiri**	**14.66**	**133**	*e*P	**P**	**10 41 11.6**	**-0.9**
	comp=Z,12nm,0.3s						
AB31	**Akbulak array**	**14.97**	**322**	⇑P	**Pn**	**10 41 10.5**	**-3.1**
	comp=Z,1.9nm,0.6s						
AB31				⇑S	Sn	10 43 47.2	-13
	comp=Z,6.4nm,0.6s						
BVA0	**Borovoye Array**	**14.99**	**351**	⇓P	**P**	**10 41 16.9**	**+1.3**
	comp=Z,12nm,0.9s,baz=160,slow=12,SNR=70						
BVA0				⇓S	Sn	10 43 50.4	-10
	comp=Z,4.8nm,1.4s,baz=168,slow=22,SNR=4.7						
BVAR	**Borovoye Array**	**14.99**	**351**	P	**Pn**	**10 41 12.9**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=154,slow=10,SNR=36						
BVAR				S	Sn	10 43 50.7	-10
	comp=Z,0.1nm,0.3s,baz=163,slow=26,SNR=6.3						
RAMN	**Ramite**	**15.43**	**133**	*e*P	**P**	**10 41 21.5**	**+0.6**
	comp=Z,13nm,0.2s						
TAPN	**Taplejung**	**15.79**	**129**	*e*P	**P**	**10 41 26.3**	**+1.4**
	comp=Z,5.1nm,0.3s						
AKTO	**Aktyubinsk**	**16.69**	**322**	⇑P	**P**	**10 41 32.1**	**-2.3**
	comp=Z,6.3nm,0.8s						
AKTO				⇓S	S	10 44 27.6	-12
	comp=Z,3.2nm,0.8s						
AKTO	**Aktyubinsk**	**16.69**	**322**	P	**P**	**10 41 33.4**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=125,slow=8.5,SNR=18						
AKTO				S	S	10 44 28.9	-11
	comp=Z,0.2nm,0.3s,baz=300,slow=20,SNR=5.2						
ZALV	**Zalesovo Beam**	**17.35**	**22**	P	**Pn**	**10 41 43.5**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=222,slow=10,SNR=29						
SHL	**Shillong**	**19.68**	**125**	*ex*	**P**	**10 42 07.0**	**-0.4**
SHL				⇓*i*P	**Pn**	**10 42 12.5**	**+2.2**
KBZ	**Khabaz**	**24.06**	**293**	P	**P**	**10 42 53.3**	**+2.4**
	comp=Z,1.1nm,0.8s,baz=93,slow=2.9,SNR=3.5						
SONM	**Songino Array**	**25.34**	**57**	P	P	10 43 07.9	+5.3
	comp=Z,1.0nm,0.9s,baz=264,slow=7.7,SNR=9.9						
FINES	**FINESS Array B**	**37.45**	**324**	P	**P**	**10 44 50.2**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=122,slow=9.9,SNR=20						
FINES				pP	**pP**	**10 45 20.4**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=106,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**40.50**	**336**	P	**P**	**10 45 15.9**	**+2.6**
	comp=Z,1.3nm,0.4s,baz=109,slow=8.5,SNR=25						
NB2	**NORSAR Subarra**	**44.48**	**322**	P	**P**	**10 45 47.3**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.48**	**322**	P	**P**	**10 45 47.6**	**+2.0**
	comp=Z,0.6nm,0.5s,baz=101,slow=7.3,SNR=5.0						
NOA				pP	**pP**	**10 46 19.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=91,slow=8.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**68.18**	**270**	P	**P**	**10 48 35.9**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=48,slow=5.5,SNR=12						
ILAR	**Eielson Array**	**72.41**	**17**	P	**P**	**10 49 01.6**	**+2.6**
	comp=Z,0.4nm,1.1s,baz=338,slow=6.8,SNR=5.1						
ILAR				sP	**sP**	**10 49 50.6**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=318,slow=5.5,SNR=3.4						
YKA	**Yellowknife Ar**	**79.36**	**4**	P	P	10 49 41.6	+3.3
	comp=Z,0.3nm,0.4s,baz=346,slow=5.6,SNR=10						
YKA				pP	pP	10 50 15.3	-0.1
	comp=Z,0.3nm,0.6s,baz=350,slow=5.2,SNR=4.4						
WRA	**Warramunga Arr**	**80.90**	**124**	P	P	10 49 51.2	+4.0
	comp=Z,0.5nm,0.8s,baz=325,slow=5.4,SNR=5.4						

*CSEM **04** 10:50:05.9±0.4,40°.70N×62°.00E,h12km,ML3.7/4,Error ellipse: s-maj=11.6km s-min=7.1km az=18.0*
*IDC **04** 10:50:06.4±3.2,40°.51N×61°.91E,h18km±22km,mb3.7/12, mb1 3.8/18,mb1mx3.7/33,mbtmp3.8/18,ML3.6/6,MS2.9/6, Ms1 2.9/6,ms1mx2.6/43,Error ellipse: s-maj=13.8km s-min=9.7km az=165.0*
*ISCJB **04** 10:50:07.4±0.5,40°.82N±0°.04×62°.09E±0°.04,h33km, mb3.7/13,MS2.8/3,Error ellipse: s-maj=6.4km s-min=4.0km az=22.0*
*NNC **04** 10:50:07.2±2.5,40°.93N×62°.30E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=24.7km s-min=10.8km az=40.0*
*MOS **04** 10:50:08.1±1.2,40°.84N×62°.10E,h33km,mb4.0/5,Error ellipse: s-maj=12.4km s-min=10.8km az=101.3*

ISC 04 10:50:08.7±0.6,40°.65N±0°.06×62°.04E±0°.05,h35km,n56, σ1§58/70,mb3.6/13,MS2.8/3,18C-6D,Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**4.08**	**229**	Pn	**Pn**	**10 51 06.2**	**-2.3**
	16nm,0.3s,baz=39,slow=7.8,SNR=142						
GEYT				Sn	**Sn**	**10 51 51.1**	**-3.9**
	63nm,0.3s,baz=329,slow=35,SNR=9.9						
GEYT				Lg	Lg	10 52 10.0	
	66nm,0.3s,baz=29,slow=16,SNR=4.8						
DZET	**Dzherino**	**5.55**	**107**	⇓Pn	**Pn**	**10 51 28.9**	**0.0**
	14nm,0.3s						
DZET				⇑Sn	**Sn**	**10 52 33.1**	**+1.6**
	125nm,0.8s						
KK31	**Karatay Array**	**6.79**	**66**	⇓Pn	**Pn**	**10 51 45.6**	**-0.1**
	0.7nm,0.2s,baz=254,slow=16,SNR=20						
KK31				⇑Sn	**Sn**	**10 52 57.2**	**-4.5**
	3.9nm,0.3s,baz=169,slow=38,SNR=2.8						
KK31	**Karatay Array**	**6.79**	**66**	Pn	**Pn**	**10 51 45.6**	**-0.1**
	0.7nm,0.2s,SNR=20						
MNAS	**Manas**	**8.06**	**73**	⇓Pn	**Pn**	**10 52 02.9**	**-0.4**
	1.0nm,0.7s						
MNAS				⇓Sn	**Sn**	**10 53 33.7**	**+0.4**
	9.9nm,0.7s						
AB31	**Akbulak array**	**8.73**	**351**	⇑Pn	**Pn**	**10 52 11.5**	**-0.9**
	1.0nm,0.6s,baz=182,slow=15,SNR=16						
AB31				⇑Sn	**Sn**	**10 53 48.6**	**-0.9**
	0.5nm,0.2s,baz=156,slow=27,SNR=5.5						
AB31	**Akbulak array**	**8.73**	**351**	Pn	**Pn**	**10 52 11.5**	**-0.9**
	1.0nm,0.6s,SNR=16						
AB31				Sn	**Sn**	**10 53 48.6**	**-0.9**
	0.5nm,0.2s,SNR=5.5						
SFK	**Sufi-Kurgan**	**8.78**	**90**	⇓Pn	**Pn**	**10 52 13.8**	**+0.5**
	1.3nm,0.2s						
SFK				⇑Sn	**Sn**	**10 53 49.2**	**-2.0**
	12nm,0.7s						
SFK	**Sufi-Kurgan**	**8.78**	**90**	Pn	**Pn**	**10 52 13.8**	**+0.5**
	1.3nm,0.2s						
AAK	**Ala-Archa**	**9.54**	**74**	⇑Pn	**Pn**	**10 52 24.0**	**+0.4**
	3.5nm,0.7s						
AAK				⇑Sn	**Sn**	**10 54 12.3**	**+2.7**
	11nm,1.0s						
AAK	**Ala-Archa**	**9.54**	**74**	*ce*P	**Pn**	**10 52 24.0**	**+0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	**Ala-Archa**	**9.54**	**74**	Pn	**Pn**	**10 52 23.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=247,slow=3.2,SNR=6.9						
AAK				Sn	**Sn**	**10 54 11.3**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=6.3,slow=9.2,SNR=3.6						
AAK				Lg	Lg	10 55 21.8	
	comp=Z,0.1nm,0.3s,baz=162,slow=20,SNR=3.1						
AAK	**Ala-Archa**	**9.54**	**74**	Pn	**Pn**	**10 52 24.0**	**+0.4**
	comp=Z,3.5nm,0.7s						
AAK				Sn	**Sn**	**10 54 12.3**	**+2.7**
	comp=Z,11nm,1.0s						
AKTK	**Aktyubinsk**	**10.18**	**345**	P	**Pn**	**10 52 32.0**	**-0.2**
AKTK				S	**Sn**	**10 54 24.5**	**-0.6**
AKTO	**Aktyubinsk**	**10.18**	**345**	⇑Pn	**Pn**	**10 52 32.2**	**0.0**
	comp=Z,1.7nm,0.7s						
AKTO				⇑Sn	**Sn**	**10 54 23.4**	**-1.7**
	comp=Z,3.1nm,0.6s						
AKTO	**Aktyubinsk**	**10.18**	**345**	Pn	**Pn**	**10 52 32.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=130,slow=8.6,SNR=8.1						
AKTO				Sn	**Sn**	**10 54 24.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=4.1						
AKTO				LR	LR	10 56 59.1	
	comp=Z,53nm,18.2s,baz=151,slow=40						
AKTO	**Aktyubinsk**	**10.18**	**345**	Pn	**Pn**	**10 52 32.2**	**0.0**
	comp=Z,1.7nm,0.7s						
AKTO				Sn	**Sn**	**10 54 23.4**	**-1.7**
	comp=Z,3.1nm,0.6s						
TKM2	**Tokmak 2**	**10.38**	**73**	⇓Pn	**Pn**	**10 52 33.9**	**-1.3**
	comp=Z,3.7nm,1.1s						
TKM2				⇑Sn	**Sn**	**10 54 32.6**	**+2.3**
	comp=Z,5.7nm,0.7s						
TKM2	**Tokmak 2**	**10.38**	**73**	Pn	**Pn**	**10 52 33.9**	**-1.3**
	comp=Z,3.7nm,1.1s						
TKM2				Sn	**Sn**	**10 54 32.6**	**+2.3**
	comp=Z,5.7nm,0.7s						
GNI	**Garni**	**13.20**	**273**	LR	LR	10 58 49.9	
	comp=Z,16nm,18.5s,baz=81,slow=40						
BVA0	**Borovoye Array**	**13.62**	**22**	⇑Pn	**Pn**	**10 53 17.8**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=202,slow=11,SNR=17						
BVA0				⇑Sn	Sn	10 55 42.9	-6.3
	comp=Z,3.8nm,0.7s,baz=203,slow=23,SNR=7.1						
BVA0	**Borovoye Array**	**13.62**	**22**	Pn	**Pn**	**10 53 17.8**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=202,SNR=17						
BVAR	**Borovoye Array**	**13.62**	**22**	Pn	**Pn**	**10 53 16.6**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=203,slow=11,SNR=14						
BVAR				Sn	**Sn**	**10 55 45.6**	**-3.6**
	comp=Z,0.5nm,0.3s,baz=212,slow=20,SNR=8.0						
BVAR				LR	LR	10 59 11.0	
	comp=Z,89nm,20.2s,baz=220,slow=40						
NCK	**Nalchik**	**13.99**	**288**	*e*P	**Pn**	**10 53 25.0**	**+0.7**
NCK	**Nalchik**	**13.99**	**288**	*e*P	**Pn**	**10 53 25.0**	**+0.7**
KBZ	**Khabaz**	**14.52**	**289**	Pn	Pn	10 53 27.1	-4.3
	comp=Z,0.3nm,0.3s,baz=123,slow=9.8,SNR=7.1						
KBZ				Sn	Sn	10 56 01.5	-9.5
	comp=Z,0.1nm,0.3s,baz=330,slow=20,SNR=3.0						
KIV	**Kislovodsk**	**14.69**	**289**	*e*P	**Pn**	**10 53 36.4**	**+2.5**
KURBB	**Kurchatov Arra**	**15.22**	**44**	Pn	**Pn**	**10 53 41.7**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=240,slow=11,SNR=2.6						
KURBB				Lg	Lg	10 58 15.8	
	baz=236,slow=31,SNR=4.6						
KURK	**Kurchatov**	**15.32**	**43**	P	**Pn**	**10 53 41.7**	**-0.3**
MKAR	**Makanchi Array**	**15.86**	**60**	Pn	**Pn**	**10 53 47.3**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=247,slow=13,SNR=4.1						
MKAR				Lg	Lg	10 58 38.5	
	comp=Z,0.1nm,0.3s,baz=256,slow=34,SNR=2.5						
ARU	**Arti**	**15.96**	**353**	*c i*P	**P**	**10 53 54.1**	**+0.6**
ARU				S	**Sn**	**10 56 42.2**	**-3.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARU	**Arti**	**15.96**	**353**	*i* P	**P**	**10 53 54.1**	**+0.6**
	comp=Z,7.0nm,1.1s						
ZALV	**Zalesovo Beam**	**20.27**	**41**	P	Pn	10 54 42.8	-0.3
	comp=Z,1.7nm,0.5s,baz=238,slow=10,SNR=11						
ZALV				LR	LR	11 03 31.1	
	comp=Z,32nm,18.2s,baz=72,slow=39						
BRTR	**Keskin Array B**	**21.68**	**277**	*ce*P	**P**	**10 54 57.0**	**+0.6**
BRTR	**Keskin Array B**	**21.68**	**277**	P	**P**	**10 54 55.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=92,slow=8.8,SNR=8.7						
BRTR	**Keskin Array B**	**21.68**	**277**	*e*P	**P**	**10 54 57.0**	**+0.6**
OBN	**Obninsk**	**22.21**	**319**	*e*P	**P**	**10 55 00.4**	**-1.4**
OBN				*i*		10 55 07.3	
OBN				*i*		10 55 33.8	
OBN	**Obninsk**	**22.21**	**319**	P	**P**	**10 55 02.2**	**+0.4**
	comp=Z,12nm,0.5s,baz=158,slow=22,SNR=3.4						
OBN				LR	LR	11 05 43.8	
	comp=Z,34nm,20.1s,baz=94,slow=42						
OBN	**Obninsk**	**22.21**	**319**	*e*P	**P**	**10 55 00.4**	**-1.4**
MMAI	**Mount Meron Ar**	**22.58**	**259**	LR	LR	11 06 00.5	
	comp=Z,38nm,18.8s,baz=0.0,slow=42						
AKASG	**Malin Array Be**	**24.84**	**305**	*ce*P	**P**	**10 55 29.3**	**+1.8**
AKASG	**Malin Array Be**	**24.84**	**305**	P	**P**	**10 55 27.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=95,slow=8.0,SNR=9.1						
MLR	**Muntele Rosu**	**26.66**	**293**	P	**P**	**10 55 46.8**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=124,slow=7.7,SNR=6.6						
FINES	**FINESS Array B**	**30.12**	**326**	*ce*P	**P**	**10 56 15.6**	**+1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**30.12**	**326**	P	**P**	**10 56 14.5**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=127,slow=11,SNR=12						
GERES	**GERESS Array B**	**34.78**	**300**	P	**P**	**10 56 57.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=81,slow=8.2,SNR=8.0						
NOA	**NORSAR Array B**	**36.79**	**321**	P	**P**	**10 57 13.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**36.79**	**321**	P	**P**	**10 57 13.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=100,slow=8.5,SNR=3.3						
USRK	**Ussuriysk Ar.**	**50.33**	**61**	P	**P**	**10 59 04.0**	**+2.2**
	comp=Z,1.2nm,0.5s,baz=283,slow=5.6,SNR=4.9						
BILL	**Bilibino**	**57.94**	**25**	*e*P	**P**	**10 59 56.5**	**-0.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL	**Bilibino**	**57.94**	**25**	*e*P	**P**	**10 59 56.5**	**-0.4**
	comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**59.11**	**261**	P	**P**	**11 00 04.6**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=48,slow=7.5,SNR=6.6						
ILAR	**Eielson Array**	**72.49**	**13**	P	**P**	**11 01 32.1**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=321,slow=4.7,SNR=5.6						
YKA	**Yellowknife Ar**	**77.17**	**358**	P	**P**	**11 01 59.4**	**+1.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**77.17**	**358**	P	**P**	**11 01 59.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=358,slow=6.3,SNR=17						
WRA	**Warramunga Arr**	**90.14**	**116**	P	**P**	**11 03 05.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=322,slow=4.4,SNR=11						

*IDC **04** 11:06:54.7±1.6,5°.38S×147°.18E,h178km±15km,mb3.4/10, mb1 3.6/13,mb1mx3.5/27,mbtmp3.9/13,Error ellipse: s-maj=21.4km s-min=10.9km az=105.0*
*ISCJB **04** 11:06:55.0±0.5,5°.32S±0°.06×147°.17E±0°.09,h195km, mb3.6/10,Error ellipse: s-maj=13.9km s-min=7.4km az=21.0*

ISC 04 11:06:56.4±0.6,5°.44S±0°.07×147°.3E±0°.1,h195km,n23, σ1§28/27,mb3.7/10,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.95**	**181**	P	**Pn**	**11 07 56.7**	**-0.6**
	12nm,0.3s,baz=4.7,slow=8.0,SNR=58						
PMG				S	**Sn**	**11 08 42.6**	**-2.6**
	22nm,0.3s,baz=198,slow=20,SNR=10						
COEN	**Coen**	**9.37**	**205**	P	**Pn**	**11 09 09.0**	**+1.4**
	baz=10,SNR=8.4						
COEN				S	**Sn**	**11 10 54.2**	**+1.7**
	baz=10,SNR=4.3						
CTA	**Charters Tower**	**14.60**	**184**	P	**P**	**11 10 15.3**	**+0.1**
	0.2nm,0.3s,baz=20,slow=16,SNR=3.5						
KDU	**Kakadu**	**16.27**	**243**	P	**P**	**11 10 33.2**	**-0.5**
	baz=17,SNR=7.7						
QIS	**Mount Isa**	**16.77**	**206**	P	**Pn**	**11 10 40.5**	**+0.2**
	baz=18,SNR=5.0						
MTN	**Manton Dam**	**17.52**	**244**	P	**P**	**11 10 47.6**	**+0.1**
	baz=18,SNR=3.7						
WRA	**Warramunga Arr**	**19.12**	**220**	P	**P**	**11 11 04.9**	**0.0**
	1.6nm,0.3s,baz=46,slow=12,SNR=107						
WRA				S	**S**	**11 14 27.6**	**-3.8**
	0.1nm,0.3s,baz=37,slow=19,SNR=4.7						
KNRA	**Kununurra**	**20.81**	**239**	P	**P**	**11 11 23.8**	**+0.9**
	baz=21,SNR=6.1						
QLP	**Quilpie**	**21.23**	**187**	P	**P**	**11 11 27.9**	**+0.7**
	baz=22,SNR=4.1						
ASAR	**Alice Springs**	**22.22**	**214**	P	**P**	**11 11 37.6**	**+0.4**
	6.6nm,0.8s,baz=50,slow=8.3,SNR=30						
ASAR				S	**S**	**11 15 29.5**	**+2.0**
	1.7nm,0.7s,baz=32,slow=24,SNR=12						
DZM	**Mont Dzumac**	**24.87**	**134**	P	**P**	**11 12 02.3**	**+0.9**
	1.9nm,0.8s,baz=294,slow=20,SNR=2.6						
WRKA	**Warakurna**	**26.65**	**221**	P	**P**	**11 12 17.2**	**-0.1**
	baz=27,SNR=5.9						
MEEK	**Meekatharra**	**34.51**	**229**	P	**P**	**11 13 26.0**	**-0.2**
	baz=35,SNR=4.7						
PETK	**Petropavlovsk-**	**58.99**	**7**	P	**P**	**11 16 35.0**	**-0.3**
	2.3nm,1.0s,baz=180,slow=6.6,SNR=4.1						
SONM	**Songino Array**	**64.04**	**331**	P	**P**	**11 17

IDC 04 11:40:03.1±2.3, 20°91N×144°35E, h230km±21km, mb3.2/13, mb1 3.3/15, mb1mx3.2/31, mbtmp3.8/15, Error ellipse: s-maj=23.7km s-min=10.8km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.47**	**343**	P	Pn	11 41 37.4	+0.7
	baz=323,slow=17						
JCJ				S	S	11 42 49.4	-2.0
	1.6nm,0.3s,baz=135,slow=20,SNR=2.7						
MJAR	**Matsushiro Arr**	**16.47**	**342**	P	P	11 43 40.8	+0.6
	0.5nm,0.3s,baz=165,slow=10,SNR=5.6						
KSRS	**Korea Array**	**21.79**	**323**	P	P	11 44 37.9	+1.1
	4.6nm,0.7s,baz=149,slow=8.8,SNR=17						
JAY	**Jayapura**	**23.56**	**189**	P	P	11 44 53.5	+0.4
	9.2nm,0.7s,baz=198,slow=20,SNR=3.2						
SONM	**Songino Array**	**40.63**	**320**	P	P	11 47 19.1	-1.8
	0.3nm,0.4s,baz=147,slow=7.5,SNR=3.3						
WRA	**Warramunga Arr**	**41.77**	**194**	P	P	11 47 30.5	+0.3
	1.0nm,0.5s,baz=14,slow=8.9,SNR=26						
SEY	**Seymchan**	**42.35**	**5**	P	P	11 47 34.7	+0.4
	0.2nm,0.3s,baz=37,slow=20,SNR=3.4						
ASAR	**Alice Springs**	**45.46**	**193**	P	P	11 47 58.6	-1.0
	0.2nm,0.3s,baz=12,slow=6.6,SNR=12						
ZALV	**Zalesovo Beam**	**55.50**	**322**	P	P	11 49 13.4	-0.8
	0.6nm,0.5s,baz=120,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**56.03**	**313**	P	P	11 49 18.8	+0.7
	0.5nm,0.4s,baz=88,slow=8.9,SNR=19						
KURBB	**Kurchatov Arra**	**58.84**	**317**	P	P	11 49 37.6	+0.1
	0.9nm,0.4s,baz=91,slow=7.5,SNR=13						
ILAR	**Eielson Array**	**62.24**	**27**	P	P	11 50 01.2	+1.0
	0.3nm,0.9s,baz=268,slow=7.0,SNR=4.0						
YKA	**Yellowknife Ar**	**76.64**	**28**	P	P	11 51 28.0	-0.2
	0.3nm,0.4s,baz=291,slow=5.7,SNR=16						
ARCES	**ARCESS Array B**	**80.01**	**342**	P	P	11 51 46.0	-0.5
	0.7nm,0.9s,baz=64,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**84.35**	**335**	P	P	11 52 07.6	-1.5
	0.8nm,0.4s,baz=90,slow=5.2,SNR=14						

*IDC **04** 11:50:25.9±1.6, 8.73S×127.04E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=160.3km s-min=30.3km az=61.0*

*ISCJB **04** 11:50:28.9±1.0, 8.45S±0.07×127.6E±0.2, h33km, mb3.1/2, Error ellipse: s-maj=21.9km s-min=9.1km az=171.8*

ISC 04 11:50:31.1±1.3, 8.50S±0.08×127.6E±0.2, h35km, n8, σ2§60/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**5.54**	**141**	P	**Pn**	**11 51 53.5**	**+2.4**
	baz=5.3,SNR=15						
KDU	**Kakadu**	**6.34**	**131**	P	**Pn**	**11 52 02.9**	**+0.7**
	baz=6.1,SNR=13						
KNRA	**Kununurra**	**7.22**	**171**	P	Pn	11 52 18.0	+3.8
	baz=7.2,SNR=25						
KNRA				S	**Sn**	**11 53 37.2**	**+2.2**
	baz=7.2,SNR=7.4						
FAKI	**Fak Fak**	**7.22**	**40**	P	**Pn**	**11 52 13.8**	**-0.5**
	baz=7.0,SNR=5.0						
WRA	**Warramunga Arr**	**13.11**	**151**	Pn	**Pn**	**11 53 33.8**	**-1.2**
	0.7nm,0.3s,baz=324,slow=13,SNR=33						
WRA				Sn	Sn	11 55 52.6	-7.1
	1.0nm,0.3s,baz=329,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.24**	**159**	Pn	**Pn**	**11 54 16.6**	**-0.1**
	0.3nm,0.3s,baz=331,slow=10.0,SNR=29						
ASAR				Sn	**Sn**	**11 57 10.7**	**-5.2**
	0.4nm,0.3s,baz=326,slow=18,SNR=6.4						
MKAR	**Makanchi Array**	**68.21**	**328**	P	**P**	**12 01 27.6**	**-0.5**
	0.1nm,0.4s,baz=115,slow=6.8,SNR=2.0						
KURBB	**Kurchatov Arra**	**72.57**	**330**	P	**P**	**12 01 54.8**	**+0.2**
	0.1nm,0.4s,baz=125,slow=6.0,SNR=2.8						

GUC 04 12:00:26.2±0.4, 36.77S×73.32W, h27km±2km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.19**	**112**	*e*P	Pb	12 00 31.9	-0.1
CCSP				*e*S	Sb	12 00 36.2	+0.3
CCSP				AML	AML	12 00 37.2	
	comp=E,16μm,0.3s						
COCH	**Cobquecura**	**0.77**	**34**	*e*P	Pb	12 00 40.5	-0.6
COCH				*e*S	Sb	12 00 51.2	+0.1
LNCH	**Linares**	**1.67**	**57**	*e*P	Pn	12 00 54.5	+0.9
LNCH				*e*S	Sb	12 01 16.2	-0.7
LNCH				AML	AML	12 01 19.6	
	comp=N,1μm,0.8s						
TALC	**Talca**	**1.94**	**45**	*e*P	Pn	12 00 58.6	+1.3
TALC				*e*S	Sb	12 01 23.2	-1.4

IDC 04 12:00:29.5±1.9, 16.03S×174.04W, h0km, mb3.3/3, Error ellipse: s-maj=124.6km s-min=24.8km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.11**	**257**	P	P	12 09 17.8	-1.5
	0.2nm,0.8s,baz=95,slow=6.8,SNR=5.3						
ASAR	**Alice Springs**	**49.34**	**252**	P	P	12 09 21.9	+0.8
	0.5nm,0.5s,baz=90,slow=7.5,SNR=22						
TXAR	**Lajitas Array**	**81.47**	**56**	P	P	12 12 49.5	+0.4
	baz=223,slow=6.2						
PDAR	**Pinedale Array**	**83.14**	**42**	P	P	12 12 57.3	-0.5
	baz=225,slow=4.5						
ILAR	**Eielson Array**	**83.18**	**11**	P	P	12 12 57.4	+0.3
	0.1nm,0.5s,baz=219,slow=7.0,SNR=4.3						

IDC 04 12:06:16.9±3.6, 6.93S×155.20E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/9, Error ellipse: s-maj=129.7km s-min=40.0km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**15.09**	**286**	LR	LR	12 16 28.1	
	comp=Z,49nm,18.5s,baz=160,slow=40						
WRA	**Warramunga Arr**	**24.02**	**235**	P	P	12 11 33.4	-0.3
	0.6nm,0.9s,baz=62,slow=9.9,SNR=3.9						
ASAR	**Alice Springs**	**26.37**	**229**	P	P	12 11 56.1	+1.0
	0.3nm,0.8s,baz=65,slow=9.2,SNR=2.2						
TGY	**Tagaytay City**	**39.91**	**302**	LR	LR	12 26 46.4	
	comp=Z,8.5nm,21.6s,baz=297,slow=31						
MKAR	**Makanchi Array**	**83.49**	**319**	P	P	12 18 46.9	+0.2
	0.1nm,0.7s,baz=102,slow=6.1,SNR=1.7						
TORD	**Torodi Ar. Bea**	**153.20**	**285**	PKPbc	PKPbc	12 26 17.2	-0.6
	0.6nm,1.0s,baz=87,slow=1.4,SNR=4.1						
TORD				PKPab	PKPab	12 26 28.9	-0.7
	0.4nm,0.8s,baz=82,slow=2.8,SNR=2.6						

*NIED **04** 12:07:00, 41.80N×144.50E, h8km, Mw3.8 Best double couple: M0 6.39000×10^14 NP1:φs217.00000°, δ76.00000°, λ-173.00000°. NP2:φs125.00000°, δ83.00000°, λ-14.00000°.*

*IDC **04** 12:07:44.6±0.8, 41.68N×144.64E, h0km, mb3.8/22, mb1 3.9/24, mb1mx3.8/34, mbtmp3.8/24, ML3.2/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/47, Error ellipse: s-maj=18.4km s-min=18.0km az=45.0*

*ISCJB **04** 12:07:47.9±0.5, 41.71N±0.05×144.69E±0.07, h34km, mb3.8/28, Error ellipse: s-maj=7.5km s-min=6.6km az=9.9*

*NEIC **04** 12:07:49.0±2.3, 41.78N×144.66E, h25km±16km, mb4.1/5, Error ellipse: s-maj=10.6km s-min=7.4km az=130.0*

*JMA **04** 12:07:48.9±0.1, 41.78N×144.52E, h27km±2km, M4.0*

ISC 04 12:07:50.6±0.7, 41.87N±0.06×144.62E±0.06, h34km, n48, σ1§07/44, mb4.0/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**1.10**	**278**	*e*Pn	**Pn**	**12 08 08.6**	**-0.9**
ERM				*e*Sn	**Sb**	**12 08 27.7**	**+2.6**
JEM	**Erimo**	**1.10**	**278**	P	**Pn**	**12 08 08.5**	**-1.0**
JAK	**Akkeshi**	**1.13**	**3**	P	**Pn**	**12 08 09.8**	**-0.1**
JAK				*e*S	**Sb**	**12 08 25.8**	**-0.1**
JOB	**Onbets**	**1.18**	**331**	P	**Pn**	**12 08 10.7**	**0.0**
JCH	**Churui**	**1.19**	**309**	P	**Pn**	**12 08 10.2**	**-0.6**
JCH				*e*S	**Sn**	**12 08 26.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.45**	**287**	P	**Pn**	**12 08 13.9**	**-0.4**
ASAJ	**Asahikawa**	**2.69**	**327**	Pn	**Pn**	**12 08 31.6**	**+0.2**
	5.7nm,0.3s,baz=195,slow=15,SNR=42						
ASAJ				Sn	**Sb**	**12 09 08.4**	**-2.1**
	14nm,0.3s,baz=296,slow=11,SNR=5.0						
ASAJ	**Asahikawa**	**2.69**	**327**	*e*Pn	**Pn**	**12 08 32.1**	**+0.7**
ASAJ				Sn	**Sb**	**12 09 08.4**	**-2.1**
MJAR	**Matsushiro Arr**	**7.28**	**225**	Pn	**Pn**	**12 09 33.2**	**-1.4**
	0.3nm,0.3s,baz=33,slow=13,SNR=6.3						
MJAR				LR	LR	12 12 51.7	
	comp=Z,70nm,18.8s,baz=50,slow=43						
MAJO	**Matsushiro**	**7.28**	**225**	*e*Pn	**Pn**	**12 09 34.7**	**+0.1**
	3.8nm,0.4s						
KSRS	**Korea Array**	**13.59**	**257**	LR	LR	12 15 43.6	
	comp=Z,29nm,19.3s,baz=35,slow=35						
PETK	**Petropavlovsk-**	**14.28**	**34**	Pn	**Pn**	**12 11 09.0**	**-1.1**
	0.1nm,0.3s,baz=205,slow=6.4,SNR=3.7						
SEY	**Seymchan**	**21.59**	**10**	P	**P**	**12 12 36.0**	**-1.0**
	0.8nm,0.4s,baz=204,slow=20,SNR=4.3						
YAK	**Yakutsk**	**22.08**	**341**	P	**P**	**12 12 42.8**	**+0.4**
	4.4nm,0.3s,baz=120,slow=3.5,SNR=4.8						
SONM	**Songino Array**	**27.54**	**296**	P	**P**	**12 13 35.3**	**+1.2**
	0.8nm,0.5s,baz=86,slow=8.4,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**29.05**	**133**	T	T	12 44 15.5	
	baz=325,slow=75						
H11N1	**WAKE ISLAND Hy**	**29.06**	**133**	T	T	12 44 16.6	
	baz=325,slow=75						
H11N3	**WAKE ISLAND Hy**	**29.07**	**133**	T	T	12 44 15.4	
	baz=325,slow=75						
TLY	**Talaya**	**29.37**	**304**	P	**P**	**12 13 51.4**	**+1.1**
	2.8nm,0.5s,baz=48,slow=15,SNR=2.3						
H11S1	**WAKE ISLAND Hy**	**29.94**	**134**	T	T	12 45 23.6	
	baz=326,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.95**	**134**	T	T	12 45 32.9	
	baz=326,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.96**	**134**	T	T	12 45 25.8	
	baz=326,slow=76						
ZALV	**Zalesovo Beam**	**40.67**	**308**	P	**P**	**12 15 26.6**	**-0.7**
	1.1nm,0.4s,baz=93,slow=8.9,SNR=7.1						
MCK	**McKay**	**43.26**	**37**	*e*P	**P**	**12 15 49.1**	**+0.7**
	4.4nm,1.2s						
MKAR	**Makanchi Array**	**43.82**	**299**	P	**P**	**12 15 53.4**	**+0.3**
	1.0nm,0.7s,baz=83,slow=10,SNR=14						
ILAR	**Eielson Array**	**44.10**	**35**	P	**P**	**12 15 56.9**	**+1.9**
	0.9nm,0.8s,baz=262,slow=6.1,SNR=19						
KURK	**Kurchatov**	**45.05**	**305**	*e*P	**P**	**12 16 02.8**	**0.0**
	2.6nm,0.8s						
KURBB	**Kurchatov Arra**	**45.13**	**305**	P	**P**	**12 16 03.5**	**0.0**
	1.5nm,0.5s,baz=73,slow=9.0,SNR=18						
BVAR	**Borovoye Array**	**49.26**	**310**	P	**P**	**12 16 35.8**	**+0.2**
	0.6nm,0.3s,baz=76,slow=9.2,SNR=8.9						
ARU	**Arti**	**54.45**	**317**	*e*P	**P**	**12 17 14.1**	**-0.1**
	1.8nm,0.5s						
ABKAR	**Akbulak array**	**56.78**	**309**	*e*P	**P**	**12 17 31.0**	**-0.1**
	0.8nm,0.4s						
RES	**Resolute Bay**	**57.29**	**16**	*e*P	**P**	**12 17 35.8**	**+1.5**
	1.3nm,0.6s						
AKTO	**Aktyubinsk**	**57.35**	**311**	P	**P**	**12 17 35.5**	**+0.4**
	0.4nm,0.4s,baz=53,slow=10,SNR=2.8						
YKA	**Yellowknife Ar**	**58.39**	**32**	P	**P**	**12 17 42.1**	**0.0**
	0.1nm,0.7s,baz=305,slow=6.7,SNR=2.8						
KEV	**Kevo**	**59.81**	**339**	*e*p	**P**	**12 17 48.7**	**-3.1**
ARCES	**ARCESS Array B**	**60.35**	**339**	P	**P**	**12 17 55.0**	**-0.6**
	1.2nm,0.9s,baz=46,slow=7.5,SNR=9.4						
WRA	**Warramunga Arr**	**62.23**	**191**	P	**P**	**12 18 07.4**	**-1.5**
	0.4nm,0.7s,baz=8.0,slow=6.8,SNR=6.0						
JOF	**Joensuu**	**62.87**	**332**	*e*p	**P**	**12 18 11.8**	**-0.9**
	0.9nm,0.4s						
FINES	**FINESS Array B**	**65.69**	**332**	P	**P**	**12 18 31.2**	**+0.1**
	1.2nm,0.5s,baz=58,slow=6.5,SNR=18						
ASAR	**Alice Springs**	**65.96**	**191**	P	P	12 18 30.1	-3.1
	0.3nm,0.6s,baz=351,slow=4.3,SNR=4.7						
NVAR	**Mina Array Bea**	**70.17**	**56**	P	**P**	**12 19 00.3**	**+0.3**
	0.4nm,0.6s,baz=304,slow=4.9,SNR=3.9						
NB2	**NORSAR Subarra**	**70.66**	**338**	P	P	12 19 06.7	+4.3
	comp=Z,0.6nm,0.5s,baz=44,slow=6.2						
NOA	**NORAR Array B**	**70.66**	**338**	P	**P**	**12 19 02.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=24,slow=3.4,SNR=3.2						
HFS	**Hagfors**	**70.68**	**336**	P	**P**	**12 19 02.9**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=25,slow=7.9,SNR=7.8						
AKASG	**Malin Array Be**	**71.97**	**323**	P	**P**	**12 19 10.5**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=42,slow=5.9,SNR=8.0						
PDAR	**Pinedale Array**	**72.55**	**48**	P	**P**	**12 19 14.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=298,slow=5.7,SNR=2.0						
MLR	**Muntele Rosu**	**77.26**	**321**	P	**P**	**12 19 41.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=120,slow=17,SNR=2.3						
GERES	**GERESS Array B**	**79.86**	**330**	P	**P**	**12 19 56.2**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=46,slow=5.8,SNR=4.5						

*IDC **04** 12:14:53.2±0.7, 14.79N×94.08W, h0km, mb4.1/22, mb1 4.3/26, mb1mx4.3/31, mbtmp4.1/26, ML3.7/3, MS3.9/29, Ms1 3.9/29, ms1mx3.8/51, Error ellipse: s-maj=26.1km s-min=11.0km az=58.0*

*MEX **04** 12:14:56.3±0.4, 14.66N×94.45W, h16km±18km, MD4.7*

*NEIC **04** 12:14:56.3, 14.66N×94.45W, h16km±18km, mb4.8/88, MD4.7(MEX), After MEX.*

*ISCJB **04** 12:14:58.7±0.9, 14.90N±0.05×94.06W±0.04, h37km±6km, mb4.7/106, MS4.0/27, Error ellipse: s-maj=8.9km s-min=4.8km az=32.5*

*SZGRF **04** 12:15:17.4, 15.82N×93.43W, h33km, mb5.3, Near coast of Chiapas, Mexico*

ISC 04 12:14:59.4±0.5, 14.82N±0.07×94.30W±0.06, h38km±2km, n593, σ1§38/576, mb4.7/108, MS4.0/27, 189C-192D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.36**	**50**	*i* P	**Pn**	**12 15 19.8**	**-2.0**
PCIG				*e*S	**Sn**	**12 15 38.4**	**-0.2**
PCIG		**1.36**	**50**	*i* P	**Pn**	**12 15 19.8**	**-2.0**
PCIG				*e*S	**Sn**	**12 15 38.4**	**-0.2**
HUIG	**Huatulco**	**1.98**	**298**	*i* P	Pn	12 15 25.3	-5.2
HUIG				⇑*e*S	Sn	12 15 47.3	-6.7
HUIG	**Huatulco**	**1.98**	**298**	*i* P	Pn	12 15 25.3	-5.2
HUIG				*e*S	Sn	12 15 47.3	-6.7
CMIG	**Matias Romero**	**2.32**	**346**	*i* P	**Pn**	**12 15 33.2**	**-1.9**
CMIG				*e*S	**Sn**	**12 16 00.9**	**-1.5**
CMIG	**Matias Romero**	**2.32**	**346**	Pn	**Pn**	**12 15 33.3**	**-1.8**
	47nm,0.3s,baz=158,slow=11,SNR=440						
CMIG				Sn	**Sn**	**12 16 02.3**	**-0.2**
	91nm,0.3s,baz=55,slow=21,SNR=12						
CMIG				LR	LR	12 16 05.6	
	comp=Z,2μm,19.7s,baz=268,slow=30						
CMIG	**Matias Romero**	**2.32**	**346**	*i* P	**Pn**	**12 15 33.2**	**-1.9**
CMIG				*e*S	**Sn**	**12 16 00.9**	**-1.5**
CCIG	**Comitan**	**2.54**	**55**	*i* P	**Pn**	**12 15 37.5**	**-0.6**
CCIG				*e*S	**Sn**	**12 16 09.4**	**+1.5**
CCIG	**Comitan**	**2.54**	**55**	*i* P	**Pn**	**12 15 37.5**	**-0.6**
CCIG				*e*S	**Sn**	**12 16 09.4**	**+1.5**
VHO	**Vista Hermosa**	**3.24**	**314**	*i* P	Pn	12 15 44.7	-3.2
VHO				*e*S	Sn	12 16 22.3	-3.0
VHO	**Vista Hermosa**	**3.24**	**314**	*i* P	Pn	12 15 44.7	-3.2
VHO				*e*S	Sn	12 16 22.3	-3.0
APG	**El Apazote**	**3.71**	**87**	Pn	Pn	12 15 48.5	-5.8
	9.0nm,0.3s,baz=309,slow=17,SNR=14						
APG				Sn	**Sn**	**12 16 37.0**	**0.0**
	15nm,0.3s,baz=227,slow=18,SNR=4.0						
PNIG	**Pinotepa**	**4.01**	**293**	*i* P	Pn	12 15 54.0	-4.2
PNIG	**Pinotepa**	**4.01**	**293**	*i* P	Pn	12 15 54.0	-4.2
JTS	**JuntasAbangare**	**10.17**	**115**	Pn	Pn	12 17 18.7	-4.2
	0.2nm,0.3s,baz=300,slow=20,SNR=2.4						
JTS	**JuntasAbangare**	**10.17**	**115**	*e*Pn	**Pn**	**12 17 24.4**	**+1.5**
035Z	**Hargill**	**12.11**	**344**	⇓P	**Pn**	**12 17 50.2**	**+0.9**
	baz=12						
035A	**Encino**	**12.57**	**344**	⇑P	**Pn**	**12 17 56.6**	**+1.0**
	baz=13						
034A	**Hebbronville**	**12.85**	**342**	⇑P	**Pn**	**12 18 00.5**	**+1.0**
	baz=13,SNR=5.3						
934A	**Benavides**	**13.31**	**344**	⇑P	**Pn**	**12 18 07.0**	**+1.3**
	baz=14						
933A	**Laredo**	**13.54**	**341**	⇑P	**Pn**	**12 18 10.5**	**+1.6**
	baz=14,SNR=6.5						
835A	**Beeville**	**13.79**	**347**	⇓P	**Pn**	**12 18 14.3**	**+2.0**
	baz=14						
834A	**Tilden**	**13.81**	**344**	⇓P	**Pn**	**12 18 14.5**	**+1.9**
	baz=14						
833A	**Chaparral WMA,**	**14.24**	**341**	⇓P	**Pn**	**12 18 20.6**	**+2.1**
	baz=14,SNR=7.7						
832A	**Faith Ranch, C**	**14.39**	**339**	⇑P	**Pn**	**12 18 21.4**	**+0.8**
	baz=15						
734A	**La Parita Cree**	**14.50**	**345**	⇓P	**Pn**	**12 18 22.2**	**+0.2**
	baz=15						
733A	**Divot King Ran**	**14.58**	**342**	⇑P	**Pn**	**12 18 24.4**	**+1.3**
	baz=15						
732A	**Laxson Ranch,**	**14.80**	**340**	⇑P	**Pn**	**12 18 26.7**	**+0.6**
	baz=15						
636A	**Smothers Creek**	**14.81**	**351**	⇓P	**Pn**	**12 18 27.6**	**+1.5**
	baz=15						
634A	**China Grove, S**	**14.96**	**346**	⇓P	**Pn**	**12 18 29.0**	**+0.8**
	baz=15						
HKT	**Hockley**	**15.12**	**355**	*e*Pn	**Pn**	**12 18 30.1**	**-0.1**
633A	**Saathoff Ranch**	**15.25**	**344**	⇑P	**Pn**	**12 18 32.7**	**+0.8**
	baz=15						
537A	**Green Hill Far**	**15.30**	**353**	⇑P	**Pn**	**12 18 33.5**	**+0.9**
	baz=16						
536A	**Bastrop**	**15.39**	**351**	⇓P	**Pn**	**12 18 35.3**	**+1.5**
	baz=16						
535A	**Dale**	**15.43**	**349**	⇓P	**Pn**	**12 18 35.5**	**+1.1**
	baz=16						
632A	**Uvalde**	**15.47**	**342**	⇑P	**Pn**	**12 18 35.6**	**+0.8**
	baz=16						
534A	**Blanco**	**15.62**	**346**	⇓P	**Pn**	**12 18 38.1**	**+1.4**
	baz=16,SNR=19						
631A	**Perdido Creek**	**15.63**	**339**	⇑P	**Pn**	**12 18 37.8**	**+0.8**
	baz=16						
533A	**Kerrville**	**15.79**	**345**	⇑P	**Pn**	**12 18 39.6**	**+0.6**
	baz=16						
438A	**Sam Houston St**	**15.89**	**356**	⇑P	**Pn**	**12 18 41.6**	**+1.4**
	baz=16						
436A	**Wall Ranch, Ga**	**16.04**	**352**	⇑P	**Pn**	**12 18 42.4**	**+0.3**
	baz=16						
532A	**Rocksprings**	**16.08**	**342**	⇑P	**Pn**	**12 18 43.9**	**+1.1**
	baz=16,SNR=7.7						
435B	**Jarrell**	**16.17**	**350**	⇑P	**P**	**12 18 45.8**	**-0.8**
	baz=16						
531A	**Rocksprings**	**16.32**	**340**	⇑P	**Pn**	**12 18 46.5**	**+0.8**
	baz=16,SNR=9.5						
434A	**Burnet**	**16.33**	**348**	⇑P	**Pn**	**12 18 46.6**	**+0.8**
	baz=16,SNR=18						
JCT	**Junction City**	**16.38**	**343**	⇓P	**Pn**	**12 18 47.2**	**+0.7**
	baz=17,SNR=10						
JCT	**Junction City**	**16.38**	**343**	*e*P	**Pn**	**12 18 46.4**	**-0.2**
	57nm,1.3s						
339A	**Huntington**	**16.44**	**359**	⇓P	**P**	**12 18 48.2**	**-1.3**
	baz=17						
433A	**Art**	**16.46**	**345**	⇓P	**Pn**	**12 18 48.6**	**+1.1**
	baz=17,SNR=13						
338A	**Crockett**	**16.48**	**357**	⇑P	**Pn**	**12 18 48.6**	**+0.8**
	baz=17						
530A	**J-C Ranch, Com**	**16.57**	**338**	⇓P	**P**	**12 18 50.8**	**-0.3**
	baz=17						
335A	**Moody**	**16.63**	**351**	⇑P	**P**	**12 18 51.4**	**-0.3**
	baz=17,SNR=7.3						
336A	**Riesel**	**16.65**	**352**	⇑P	**P**	**12 18 52.1**	**+0.2**
	baz=17						
432A	**Menard**	**16.75**	**343**	⇓P	**P**	**12 18 53.0**	**-0.2**
	baz=17,SNR=15						
431A	**Sonora**	**16.82**	**341**	⇓P	**Pn**	**12 18 53.0**	**+1.0**
	baz=17,SNR=11						
334A	**Lometa**	**16.82**	**348**	⇓P	**Pn**	**12 18 52.8**	**+0.7**
	baz=17,SNR=13						
TXAR	**Lajitas Array**	**16.84**	**331**	Pn	**Pn**	**12 18 53.3**	**+1.0**
	baz=156,slow=12,SNR=11						
529A	**Stev Forest Ra**	**16.89**	**336**	⇑P	**P**	**12 18 55.3**	**+0.7**
	baz=17						
333A	**Richland Sprin**	**16.98**	**346**	⇑P	**P**	**12 18 55.8**	**+0.3**
	baz=17,SNR=7.2						
239A	**Gary**	**17.12**	**359**	⇑P	**P**	**12 18 56.8**	**-0.2**
	baz=17						
238A	**Jacksonville**	**17.12**	**358**	⇑P	**P**	**12 18 56.9**	**-0.1**
	baz=17						
430A	**Baggett Ranch,**	**17.12**	**339**	⇓P	**P**	**12 18 58.8**	**+1.6**
	baz=17,SNR=7.4						
237A	**Washetta, Mont**	**17.16**	**356**	⇓P	**P**	**12 18 58.4**	**+1.0**
	baz=17						
429A	**Davenport Ranc**	**17.21**	**337**	⇓P	**P**	**12 18 58.3**	**+0.2**
	baz=17,SNR=19						
332A	**Millersview**	**17.22**	**344**	⇑P	**P**	**12 18 57.9**	**-0.3**
	baz=17,SNR=14						
WHTX	**Lake Whitney,**	**17.33**	**351**	⇓P	**P**	**12 18 59.5**	**0.0**
	baz=18,SNR=7.8						
WHTX	**Lake Whitney,**	**17.33**	**351**	*e*P	**P**	**12 18 59.2**	**-0.2**
	52nm,1.1s						
331A	**San Angelo**	**17.34**	**342**	⇓P	**P**	**12 18 59.7**	**+0.1**
	baz=18,SNR=11						
233A	**Rising Star**	**17.62**	**347**	⇑P	**P**	**12 19 03.6**	**+0.9**
	baz=18,SNR=11						
330A	**Mertzon**	**17.67**	**340**	⇑P	**P**	**12 19 03.9**	**+0.7**
	baz=18,SNR=12						
232A	**Coleman**	**17.68**	**345**	⇑P	**P**	**12 19 04.0**	**+0.7**
	baz=18,SNR=6.3						
LPIG	**La Paz**	**17.68**	**304**	LR	LR	12 25 30.4	
	comp=Z,165nm,19.3s,baz=119,slow=36						
135A	**Vickery Place,**	**17.88**	**351**	⇑P	**P**	**12 19 05.4**	**-0.1**
	baz=18						
231A	**Bronte**	**17.90**	**343**	⇑P	**P**	**12 19 06.3**	**+0.5**
	baz=18						
134A	**White-Moore Ra**	**18.00**	**350**	⇑P	**P**	**12 19 07.1**	**+0.3**
	baz=18						
329A	**Wagon Wheel Ra**	**18.02**	**338**	⇓P	**P**	**12 19 08.0**	**+0.9**
	baz=18						
230A	**

baz=21,SNR=22
X30A Coker Ranch, T 20.42 344 ⇑P Pn 12 19 34.7 -1.0
baz=21,SNR=20
MSTX Muleshoe 20.55 340 ⇑P P 12 19 36.1 +1.3
baz=21
MSTX Muleshoe 20.55 340 *eP* P 12 19 35.6 +0.8
669nm,2.8s
W34A Bridge Creek, 20.56 352 ⇑P P 12 19 35.8 +0.9
baz=21,SNR=6.6
W34A Bridge Creek, 20.56 352 *eP* P 12 19 35.8 +0.9
91nm,1.5s
W33A Caddo, Fort Co 20.59 350 ⇓P P 12 19 36.2 +1.1
baz=21
X29A Tulia 20.65 342 ⇓P P 12 19 36.9 +1.0
baz=21,SNR=16
W32A Sentinel 20.70 348 ⇑P P 12 19 36.9 +0.6
baz=21,SNR=13
X28A Dimmitt 20.87 341 ⇑P P 12 19 39.0 +0.8
baz=21
W31A Holland Ranch, 20.90 347 ⇓P P 12 19 39.3 +0.8
baz=21,SNR=12
GOGA Godfrey 20.95 26 *eP* P 12 19 39.4 +0.4
181nm,2.7s
V35A Meyer Ranch, C 20.98 354 ⇑P P 12 19 38.9 -0.4
baz=21,SNR=7.2
TUL1 Leonard 21.04 357 ⇓P P 12 19 40.1 +0.1
baz=21
TUL1 Leonard 21.04 357 *eP* P 12 19 42.2 +2.2
48nm,1.5s
AMTX Amarillo 21.05 343 ⇑P P 12 19 40.9 +0.7
baz=21
AMTX Amarillo 21.05 343 *eP* P 12 19 40.8 +0.5
77nm,1.1s
V34A Guthrie 21.12 353 ⇑P P 12 19 41.3 +0.5
baz=21
V34A Guthrie 21.12 353 *eP* P 12 19 40.9 +0.1
190nm,1.8s
V33A Lossen Ranch, 21.21 351 ⇑P P 12 19 41.9 +0.1
baz=21,SNR=18
V32A Arapaho 21.24 349 ⇓P P 12 19 42.9 +0.7
baz=22
W29A Amarillo 21.27 343 ⇓P P 12 19 43.2 +0.7
baz=22
OTAV Otavalo 21.34 131 *eP* P 12 19 43.5 -0.4
40nm,1.3s
319A Douglas 21.44 323 ⇑P P 12 19 46.3 +1.9
baz=22,SNR=8.1
V31A Spring Creek L 21.45 348 ⇑P P 12 19 45.8 +1.4
baz=22
121A Cookes Peak, D 21.49 327 ⇓P P 12 19 47.0 +1.9
baz=22,SNR=29
121A Cookes Peak, D 21.49 327 *eP* P 12 19 46.9 +1.9
60nm,1.4s
W28A Vega 21.55 342 ⇓P P 12 19 46.1 +0.5
baz=22
V30A Spur Ranch, Mi 21.62 346 ⇓P P 12 19 46.8 +0.5
baz=22,SNR=7.9
U34A Anderson Ranch 21.72 353 ⇓P P 12 19 48.3 +1.1
baz=22,SNR=6.0
U34A Anderson Ranch 21.72 353 *eP* P 12 19 46.5 -0.7
31nm,0.9s
U33A Lingo Farm, Me 21.79 352 ⇓P P 12 19 49.0 +1.0
baz=22,SNR=6.1
U32A Winter Ranch, 21.88 350 ⇑P P 12 19 49.8 +0.8
baz=22
W26A Owens Ranch, T 21.90 339 ⇓P P 12 19 50.7 +1.3
baz=22
V29A Stinnett 21.94 344 ⇑P P 12 19 50.4 +0.7
baz=22,SNR=5.4
WVT Waverly 21.99 14 *eP* P 12 19 49.0 -1.1
41nm,1.6s
ROSC El Rosal 22.00 115 P P 12 19 52.2 +1.3
33nm,1.1s,baz=80,slow=3.5,SNR=15
ROSC El Rosal 22.00 115 *eP* P 12 19 53.8 +2.9
V28A Channing 22.02 343 ⇑P P 12 19 51.3 +0.7
baz=22,SNR=9.3
U31A Nine Bar Ranch 22.02 348 ⇑P P 12 19 51.2 +0.6
baz=22
V27A Dan Oppiter Fa 22.21 341 ⇓P P 12 19 53.7 +1.0
baz=22,SNR=5.7
W25A X Bar L Ranch, 22.27 338 ⇑P P 12 19 54.7 +1.4
baz=22,SNR=61
Y22D IRIS PASSCAL I 22.31 331 ⇓P P 12 19 55.1 +1.4
baz=22
U30A WK&E Inc. Balk 22.35 346 ⇑P P 12 19 54.9 +0.8
baz=23
LPM Los Pinos Moun 22.37 332 *eP* P 12 19 56.6 +2.1
LENM Lemitar 22.41 331 *eP* P 12 19 56.6 +1.7
22nm,1.3s
U29A Oasis Ranch, S 22.42 345 ⇓P P 12 19 55.7 +0.8
baz=23
T33A Patterson Ranc 22.45 352 ⇓P P 12 19 55.7 +0.6
baz=23
V26A Tequesquite Ra 22.55 340 ⇑P P 12 19 57.6 +1.3
baz=23,SNR=11
U28A Mallet 22.61 343 ⇓P P 12 19 57.5 +0.6
baz=23
W24A Lazy 6 Ranch, 22.63 336 ⇓P P 12 19 58.6 +1.4
baz=23,SNR=8.3
T32A Huddler Ranch, 22.64 350 ⇑P P 12 19 58.2 +1.0
baz=23
T31A Randall Ranch, 22.70 349 ⇑P P 12 19 58.9 +1.2
baz=23
TKL Tuckaleechee C 22.79 23 P P 12 19 57.0 -1.7
16nm,1.2s,baz=204,slow=13,SNR=12
TKL LR LR 12 31 05.7
comp=Z,186nm,18.3s,baz=180,slow=43
TKL Tuckaleechee C 22.79 23 *eP* P 12 19 57.7 -1.0
U27A Thompson Grove 22.82 342 ⇑P P 12 20 00.4 +1.2
baz=23,SNR=12
T30A Plains 22.82 347 ⇑P P 12 20 00.1 +1.0
baz=23
ANMO Albuquerque 22.83 334 P P 12 20 00.4 +1.0
3.7nm,0.9s,baz=141,slow=8.6,SNR=9.5
ANMO LR LR 12 30 32.8
comp=Z,355nm,18.9s,baz=158,slow=41
ANMO Albuquerque 22.83 334 *eP* P 12 20 00.3 +0.9
3.0nm,0.6s
S36A Lake Cedric, C 22.84 357 ⇑P P 12 19 59.6 +0.4
baz=23,SNR=15
V25A Rancho No Teng 22.88 338 ⇓P P 12 20 00.6 +0.7
baz=23,SNR=54
S33A Kaszmaul Farm, 22.92 352 ⇓P P 12 20 00.9 +0.9
baz=23
S34A Willow Spring 22.92 354 ⇓P P 12 20 00.5 +0.5
baz=23
TUC Tucson 23.00 322 *eP* P 12 20 02.7 +1.7
40nm,1.4s
U26A Atchley Ranch, 23.08 340 ⇑P P 12 20 02.9 +1.0
baz=23,SNR=14
T29A Hugoton 23.10 346 ⇓P P 12 20 02.5 +0.6
baz=23
S32A Newby Ranch, P 23.16 351 ⇓P P 12 20 03.2 +0.8
baz=23,SNR=12
S31A Mullinville 23.17 349 ⇑P P 12 20 03.2 +0.6
baz=23
SIUC Southern Illin 23.24 10 *eP* P 12 20 04.0 +0.7
36nm,1.2s
T28A Walsh 23.27 344 ⇓P P 12 20 04.6 +0.9
baz=24
U25A Circle Dot Ran 23.31 339 ⇑P P 12 20 05.6 +1.4
baz=24,SNR=19
KMSC Kings Mountain 23.35 28 ⇓P P 12 20 03.8 -0.6
baz=24
KMSC Kings Mountain 23.35 28 *eP* P 12 20 04.1 -0.2
6.8nm,0.1s
S30A Montezuma 23.38 348 ⇓P P 12 20 05.6 +0.9
baz=24
T27A Campo 23.38 343 ⇓P P 12 20 05.7 +0.9
baz=24
V23A Ortiz Mt. (NFS 23.40 335 ⇓P P 12 20 07.5 +2.4
baz=24,SNR=27
S29A Ulysses 23.50 346 ⇑P P 12 20 06.5 +0.6
baz=24
R33A Olander Ranch, 23.62 353 ⇑P P 12 20 07.8 +0.9
baz=24,SNR=6.5
U24A Moreno Valley 23.63 337 ⇓P P 12 20 09.5 +2.1
baz=24
S28A Manter 23.66 345 ⇓P P 12 20 08.9 +1.5
baz=24
T26A Comanche Natio 23.75 341 ⇑P P 12 20 09.9 +1.5
baz=24
R31A Burdett 23.83 350 ⇓P P 12 20 09.8 +0.9
baz=24,SNR=21
R32A Long Quarter, 23.83 351 ⇑P P 12 20 09.4 +0.5
baz=24,SNR=13
V22A San Miguel Ran 23.85 334 ⇑P P 12 20 11.4 +2.0
baz=24,SNR=8.6

SDV Santo Domingo 23.89 102 *eP* P 12 20 10.7 +0.8
8.2nm,0.8s
U23A El Rito 23.91 336 ⇑P P 12 20 11.9 +1.9
baz=24,SNR=21
R30A Dighton 23.96 348 ⇑P P 12 20 11.5 +1.3
baz=24,SNR=14
T25A Trinidad 23.98 340 ⇓P P 12 20 12.3 +1.7
baz=24,SNR=21
T25A Trinidad 23.98 340 *eP* P 12 20 12.7 +2.1
74nm,1.4s
214A Organ Pipe Nat 24.01 318 ⇓P P 12 20 12.8 +2.1
baz=24
S27A Las Animas 24.02 343 ⇓P P 12 20 12.1 +1.3
baz=24
S26A Kim 24.12 342 ⇓P P 12 20 13.3 +1.5
baz=24,SNR=13
X18A Snowflake 24.17 327 ⇑P P 12 20 14.8 +2.5
baz=24,SNR=9.9
T24B San Luis 24.25 338 ⇓P P 12 20 13.9 +0.7
baz=24
KSU1 Kansas State U 24.27 356 *eP* P 12 20 12.4 -0.5
28nm,0.6s
R29A Marienthal 24.27 347 ⇓P P 12 20 14.1 +1.0
baz=24
Q33A Connelly Farm, 24.28 353 ⇓P P 12 20 13.6 +0.6
baz=24
R28A Tribune 24.35 346 ⇑P P 12 20 15.0 +1.2
baz=25
Q32A Meitler Ranch, 24.36 352 ⇓P P 12 20 14.5 +0.6
baz=25,SNR=19
WCI Wyandotte Cave 24.36 15 *eP* P 12 20 12.5 -1.3
22nm,1.2s
OLIL Olney 24.44 12 *eP* P 12 20 13.0 -1.5
32nm,1.2s
S25A Robets Cordova 24.46 340 ⇓P P 12 20 16.9 +1.9
baz=25,SNR=7.7
T23A Casias Ranch, 24.47 337 ⇑P P 12 20 16.5 +1.4
baz=25
Q31A Ellis 24.50 350 ⇑P P 12 20 16.6 +1.4
baz=25
W18A Petrified Fore 24.52 328 ⇓P P 12 20 16.7 +1.2
baz=25
R27A Eads 24.55 344 ⇓P P 12 20 16.5 +0.9
baz=25,SNR=16
Q30A Quinter 24.62 349 ⇑P P 12 20 17.7 +1.5
baz=25,SNR=15
Q29A Oakley 24.69 347 ⇓P P 12 20 18.1 +1.3
baz=25,SNR=14
S24A Houchin Ranch, 24.70 339 ⇑P P 12 20 19.1 +1.7
baz=25
R26A Arlington 24.75 343 ⇑P P 12 20 19.2 +1.7
baz=25,SNR=16
R25A Fountain Ranch 24.86 341 ⇑P P 12 20 20.7 +2.2
baz=25
X16A Lo Mia Camp, P 24.90 325 ⇓P P 12 20 21.5 +2.5
baz=25,SNR=12
SDCO Great Sand Dun 24.90 339 ⇑P P 12 20 21.2 +2.1
baz=25,SNR=5.8
SDCO Great Sand Dun 24.90 339 *eP* P 12 20 20.9 +1.8
202nm,3.0s
P32A Huiting Farm, 24.99 352 ⇓P P 12 20 20.5 +1.0
baz=25,SNR=7.2
P31A Stockton 25.00 351 ⇓P P 12 20 20.9 +1.2
baz=25,SNR=13
Z14A Wintersburg 25.03 321 ⇓P P 12 20 22.8 +2.9
baz=25
Q28A Sharon Springs 25.04 346 ⇓P P 12 20 22.3 +2.3
baz=25
113A Mohawk Valley, 25.15 319 ⇓P P 12 20 23.6 +2.6
baz=25
P30A Selden 25.18 349 ⇑P P 12 20 23.1 +1.9
baz=25,SNR=13
KSCO Kay Shedlock' 25.19 345 ⇑P P 12 20 23.2 +1.7
baz=25
KSCO Kaye Shedlock' 25.19 345 *eP* P 12 20 21.8 +0.3
7.1nm,0.5s
BLO Bloomington 25.20 14 *eP* P 12 20 20.5 -0.9
15nm,1.0s
R24A Sanders Place, 25.20 340 ⇓P P 12 20 23.5 +1.9
baz=25,SNR=6.3
Q26A Hugo 25.34 343 ⇓P P 12 20 25.0 +2.1
baz=26,SNR=12
P29A Atwood 25.36 348 ⇓P P 12 20 25.2 +2.2
baz=26,SNR=11
S22A 4UR Ranch, Cre 25.39 336 ⇓P P 12 20 25.3 +1.7
baz=26
S22A 4UR Ranch, Cre 25.39 336 *eP* P 12 20 25.5 +2.0
23nm,1.6s
R23A Moffat 25.41 338 ⇑P P 12 20 25.6 +1.9
baz=26
Y14A Wittenburg 25.46 322 ⇓P P 12 20 26.5 +2.5
baz=26
P28A Saint Francis 25.51 347 ⇑P P 12 20 25.8 +1.4
baz=26
Q25A Bedland, Calha 25.55 342 ⇓P P 12 20 26.6 +1.8
baz=26
O32A Brockman Farm, 25.58 353 ⇑P P 12 20 26.2 +1.3
baz=26,SNR=5.1
O31A Woolen Ranch, 25.61 351 ⇑P P 12 20 26.8 +1.6
baz=26,SNR=19
MVCO Mesa Verde 25.63 333 ⇑P P 12 20 27.7 +2.1
baz=26,SNR=6.2
MVCO Mesa Verde 25.63 333 *eP* P 12 20 27.5 +1.9
21nm,1.2s
WUAZ Wupatki 25.68 326 ⇑P P 12 20 27.9 +1.9
baz=26
WUAZ Wupatki 25.68 326 *eP* P 12 20 27.1 +1.1
18nm,1.0s
P27A Ficken Ranch, 25.69 345 ⇓P P 12 20 27.9 +1.9
baz=26
O30A MW Ranch, Wils 25.76 350 ⇑P P 12 20 28.6 +2.1
baz=26,SNR=15
O29A 4D Ranch, Culb 25.84 349 ⇑P P 12 20 29.4 +2.1
baz=26,SNR=5.3
Q24A Divide 25.88 340 ⇓P P 12 20 29.7 +1.7
baz=26
P26A Davis Ranch, A 25.89 344 ⇓P P 12 20 29.8 +1.9
baz=26
GLA Glamis 26.02 318 ⇓P P 12 20 31.0 +2.1
baz=26
O28A Krutsinger Ran 26.04 347 ⇑P P 12 20 30.4 +1.3
baz=26,SNR=11
Q23A Hartsel 26.05 339 ⇓P P 12 20 29.9 +0.4
baz=26
P25A Willow Gulch B 26.08 342 ⇓P P 12 20 31.5 +1.9
baz=26
N32A Stulken Farm, 26.08 353 ⇓P P 12 20 31.3 +1.9
baz=26
N31A Bailey Ranch, 26.22 352 ⇑P P 12 20 32.3 +1.6
baz=26
SFIN Lafayette 26.23 13 ⇑P P 12 20 30.9 +0.2
baz=26
O27A Beecher Island 26.27 346 ⇓P P 12 20 33.0 +1.8
baz=26
Y12C Blythe 26.27 319 ⇓P P 12 20 33.6 +2.4
baz=26
P24A Ilder Place, 26.30 341 ⇓P P 12 20 33.1 +1.5
baz=26
N30A Hueftle Ranch, 26.37 350 ⇓P P 12 20 33.9 +1.8
baz=27
PDMCI Parker Dam,Lak 26.40 321 ⇓P P 12 20 34.4 +2.1
baz=26
P23A Jefferson 26.48 340 ⇑P P 12 20 35.3 +1.9
baz=27
N29A Votaw Ranch, W 26.48 349 ⇑P P 12 20 34.9 +1.9
baz=27
O26A Horse Wrangler 26.52 344 ⇓P P 12 20 35.5 +1.9
baz=27
N28A Pribbeno Ranch 26.53 348 ⇑P P 12 20 34.9 +1.3
baz=27
SWSC Sam W. Stewart 26.59 316 ⇓P P 12 20 36.5 +2.5
baz=27
O25A Wiggins 26.62 343 ⇓P P 12 20 35.7 +1.3
baz=27
BGNE Belgrade 26.70 354 ⇓P P 12 20 36.4 +1.4
baz=27
M31A Lambtecht Ranc 26.74 352 ⇑P P 12 20 36.6 +1.2
baz=27
ISCO Idaho Springs 26.79 340 ⇓P P 12 20 37.6 +1.5
baz=27,SNR=11
ISCO Idaho Springs 26.79 340 *eP* P 12 20 37.7 +1.5
7.7nm,1.0s
W13A Hualapai Mount 26.79 322 ⇓P P 12 20 38.6 +2.4
baz=27
BC3 Big Chuckawall 26.80 318 ⇑P P 12 20 38.0 +1.9
baz=27,SNR=5.6
PV10 Paradox Valley 26.84 334 *eP* P 12 20 38.2 +1.7
128nm,0.9s

U15A North Rim 26.85 327 ⇓P P 12 20 38.8 +2.0
baz=27
N27A Anderson Farm, 26.86 346 ⇓P P 12 20 37.8 +1.2
baz=27
OGNE Ogallala 26.88 347 ⇑P P 12 20 38.6 +1.9
baz=27
OGNE Ogallala 26.88 347 *eP* P 12 20 38.4 +1.7
56nm,1.3s
O24A Longmont 26.91 342 ⇑P P 12 20 38.6 +1.5
baz=27
ATAH Atahualpa 26.92 143 P P 12 20 37.5 -0.2
8.0nm,0.9s,baz=286,slow=7.8,SNR=4.6
IRM Iron Mountain 26.93 319 ⇓P P 12 20 39.2 +2.0
baz=27
MONP Monument Peak, 26.97 316 ⇓P P 12 20 39.6 +1.8
baz=27
P22A Eagle 26.99 338 ⇓P P 12 20 39.4 +1.5
baz=27
SCIA State Center 27.00 2 *eP* P 12 20 37.0 -0.6
41nm,0.6s
N26A Koester Ranch, 27.05 345 ⇑P P 12 20 40.0 +1.7
baz=27
M30A Dale-Ortello V 27.05 351 ⇑P P 12 20 39.0 +0.8
baz=27
M29A Burnside Ranch 27.10 349 ⇑P P 12 20 39.8 +1.2
baz=27
ACSO Alum Creek Sta 27.18 19 *eP* P 12 20 37.9 -1.4
12nm,1.0s
M28A Bar X Bar Ranc 27.18 348 ⇓P P 12 20 40.9 +1.5
baz=27
O23A Lake Granby, G 27.26 340 ⇑P P 12 20 42.2 +1.9
baz=27
N25A Grover 27.26 344 ⇑P P 12 20 42.2 +1.9
baz=28
BELC Belle Mtn. Jos 27.37 318 ⇑P P 12 20 43.9 +2.6
baz=27
O22A Kremmling 27.42 339 ⇓P P 12 20 43.4 +1.5
baz=28
PFO Pinyon Flats O 27.43 317 ⇑P P 12 20 44.3 +2.5
baz=28
L30A Spencer Herefo 27.43 351 ⇑P P 12 20 43.3 +1.7
baz=28
109C Camp Elliot, M 27.44 315 ⇓P P 12 20 44.9 +3.2
baz=28
N24A Carr 27.50 342 ⇓P P 12 20 44.7 +2.3
baz=28
M27A Reverse DX Ran 27.52 347 ⇓P P 12 20 44.2 +1.8
baz=28
L31A Butterfield Fa 27.54 353 ⇑P P 12 20 43.7 +1.2
baz=28
M26A McRoberts Ranc 27.63 346 ⇑P P 12 20 45.6 +2.0
baz=28
GMRC Granite Mounta 27.66 320 ⇑P P 12 20 46.4 +2.6
baz=28
L29A Maesberg Ranch 27.66 350 ⇓P P 12 20 45.6 +1.9
baz=28
L28A Connealy Angus 27.80 348 ⇓P P 12 20 46.3 +1.4
baz=28
M25A Palm-Egli Farm 27.84 344 ⇑P P 12 20 47.2 +1.8
baz=28
N23A Red Feather La 27.89 341 ⇑P P 12 20 47.7 +1.8
baz=28
N23A Red Feather La 27.89 341 *eP* P 12 20 47.3 +1.4
20nm,1.4s
MURC Murrieta 27.92 316 ⇑P P 12 20 48.5 +2.4
baz=28
N22A Wattenberg Ran 27.97 340 ⇑P P 12 20 48.8 +2.2
baz=28,SNR=7.2
O20A White River Ci 28.01 337 ⇓P P 12 20 49.4 +2.4
baz=28
M24A Cheyenne 28.08 343 ⇑P P 12 20 49.3 +1.8
baz=28
HEC Hector,Ludlow 28.11 319 ⇓P P 12 20 50.7 +2.9
baz=28
K30A Basset 28.13 352 ⇓P P 12 20 49.4 +1.6
baz=28
BBRC Big Bear Solar 28.13 317 ⇑P P 12 20 50.5 +2.3
baz=28
L26A Underwood Farm 28.16 346 ⇑P P 12 20 49.9 +1.7
baz=28
JFWS Jewell Farm 28.21 6 *eP* P 12 20 47.4 -1.1
20nm,1.1s
CCUT Cedar City 28.26 327 *eP* P 12 20 51.8 +2.6
13nm,1.6s
K29A Lazy Trails An 28.32 351 ⇓P P 12 20 50.9 +1.4
baz=28
M23A Laramie 28.34 342 ⇑P P 12 20 52.1 +2.2
baz=28
K28A Ten Mile Ranch 28.45 349 ⇓P P 12 20 52.6 +1.9
baz=29
ARUT Antelope Range 28.48 327 *eP* P 12 20 52.7 +1.6
5.4nm,1.8s
SHPR Sheep Range 28.51 323 *eP* P 12 20 52.8 +1.4
11nm,1.4s
M22A Cedar Creek Ra 28.55 340 ⇑P P 12 20 53.8 +1.9
baz=29
RRX Edison Barstow 28.57 318 ⇑P P 12 20 53.4 +1.6
baz=29,SNR=5.5
K27A Flueckinger Fa 28.61 348 ⇑P P 12 20 53.6 +1.4
baz=29
N20A Spence Gulch, 28.63 338 ⇑P P 12 20 54.3 +1.8
baz=29
L24A Wheatland 28.64 343 ⇓P P 12 20 54.8 +2.3
baz=29
FMP Fort Macarthur 28.73 315 ⇓P P 12 20 55.0 +1.8
baz=29
J30A Dallas 28.75 352 ⇑P P 12 20 55.3 +2.0
baz=29
SHOC Shoshone, Teco 28.77 321 ⇓P P 12 20 55.2 +1.6
baz=29
K26A Motz Farm, Whi 28.81 346 ⇑P P 12 20 55.2 +1.3
baz=29
ECSD EROS Data Cent 28.88 357 ⇑P P 12 20 54.6 +0.1
baz=29,SNR=8.8
ECSD EROS Data Cent 28.88 357 *eP* P 12 20 53.8 -0.7
17nm,1.3s
K25A Mack Ranch, Ha 28.89 345 ⇑P P 12 20 55.4 +0.7
baz=29
L23A Garrett 28.93 342 ⇓P P 12 20 56.5 +1.3
baz=29,SNR=7.0
J29A Okreek 28.95 351 ⇑P P 12 20 56.2 +1.1
baz=29
DECC Green Verdugo 29.06 316 ⇑P P 12 20 59.1 +2.9
baz=29
L22A Ellis Ranch, M 29.07 341 ⇑P P 12 20 57.3 +0.9
baz=29
J27A Elkhorn Farm, 29.09 348 ⇓P P 12 20 58.3 +1.9
baz=29
J28A Allard Ranch, 29.12 350 ⇑P P 12 20 58.2 +1.6
baz=29
J26A Sides Ranch, S 29.37 347 ⇓P P 12 21 01.0 +2.1
baz=30
TPNV Topopah Spring 29.45 322 ⇑P P 12 21 02.3 +2.5
baz=30
NLU North Lily Min 29.48 332 *eP* P 12 21 02.3 +2.3
6.8nm,1.3s
DAU Daniels Canyon 29.48 333 *eP* P 12 21 02.3 +2.1
FURC Furnace Creek, 29.50 321 ⇓P P 12 21 02.2 +2.3
baz=30
MPMC Manual Prospec 29.62 320 ⇑P P 12 21 03.5 +2.2
baz=30
K22A Casper 29.66 342 ⇑P P 12 21 03.8 +2.3
baz=30
K22A Casper 29.66 342 *eP* P 12 21 02.3 +0.7
8.1nm,1.1s
CTU Camp Tracy 29.93 333 *eP* P 12 21 04.8 +0.8
8.2nm,1.1s
ISA Isabella, Lake 30.00 318 ⇓P P 12 21 06.1 +1.5
baz=30
DUG Dugway, Tooele 30.01 331 ⇑P P 12 21 06.7 +2.0
baz=30
DUG Dugway, Tooele 30.01 331 *eP* P 12 21 05.6 +0.9
24nm,1.8s
R11A Troy Canyon, C 30.05 325 ⇓P P 12 21 07.0 +1.9
baz=30
R11A Troy Canyon, C 30.05 325 *eP* P 12 21 07.2 +2.1
6.5nm,1.4s
TCUT Toone Canyon 30.13 334 *eP* P 12 21 08.0 +2.2
49nm,1.3s
H29A Onida 30.13 352 ⇓P P 12 21 06.3 +0.8
baz=30
I25A Rochford 30.19 346 ⇓P P 12 21 07.0 +0.7
baz=30
SPMN Marine on St. 30.33 2 ⇓P P 12 21 07.0 -0.2
baz=31,SNR=13
SPMN Marine on St. 30.33 2 *eP* P 12 21 06.0 -1.2
43nm,1.3s
J22A Midwest 30.34 342 ⇑P P 12 21 09.7 +2.1

	baz=30					
H27A	**Howes** baz=31	30.44 349	⇓P	P	12 21 10.1	+1.8
G30A	**Faulkton** baz=31	30.49 353	⇑P	P	12 21 09.7	+1.0
VES	**Vestal, Richgr** baz=31	30.50 318	⇑P	P	12 21 11.0	+2.1
J21A	**Lysite** baz=31	30.58 341	⇓P	P	12 21 11.8	+2.1
H25A	**Fruitdale** baz=31	30.73 347	⇓P	P	12 21 12.8	+1.9
TPH	**Tonopah** 14nm,1.4s	30.78 323	*eP*	P	12 21 13.6	+2.0
I22A	**9 Mile Ranch,** baz=31	30.78 343	⇓P	P	12 21 13.6	+2.1
PDAR	**Pinedale Array** 1.4nm,0.9s,baz=150,slow=6.8,SNR=6.7	30.79 338	P	P	12 21 12.0	+0.4
PDAR	comp=Z,239nm,18.9s,baz=168,slow=39		LR	LR	12 34 59.8	
J20A	**Shoshoni** baz=31	30.79 340	⇑P	P	12 21 13.1	+1.6
RCTC	**Rector, Farmer** baz=31	30.88 318	⇑P	P	12 21 15.1	+2.8
I21A	**Big Trails, Te** baz=31	30.95 342	⇓P	P	12 21 14.5	+1.6
H24A	**Dirks Ranch, A** baz=31	31.07 346	⇓P	P	12 21 15.6	+1.6
F30A	**Leola** baz=31	31.17 354	⇓P	P	12 21 16.8	+2.1
G26A	**Maurine** baz=31	31.17 349	⇓P	P	12 21 16.6	+1.8
G25A	**Newell** baz=32	31.24 348	⇓P	P	12 21 17.2	+1.8
HVU	**Hansel Valley** 12nm,1.0s	31.26 333	*eP*	P	12 21 17.8	+2.1
F29A	**Eureka** baz=32	31.26 353	⇑P	P	12 21 17.6	+2.1
I20A	**Worland** baz=32,SNR=5.7	31.34 341	⇓P	P	12 21 18.5	+2.2
F28A	**McLaughlin** baz=32	31.41 351	⇓P	P	12 21 18.6	+1.8
MLAC	**Mammoth, Mammo** baz=32	31.45 321	⇑P	P	12 21 19.9	+2.3
G24A	**Alzada** baz=32	31.59 346	⇓P	P	12 21 20.3	+1.8
ELK	**Elko** 37nm,2.3s	31.62 329	*eP*	P	12 21 21.2	+2.3
H21A	**Big Horn, Sher** baz=32	31.62 343	⇑P	P	12 21 20.5	+1.7
F27A	**Lemmon** baz=32	31.63 350	⇓P	P	12 21 19.6	+0.9
NVAR	**Mina Array Bea** 2.5nm,0.7s,baz=140,slow=8.2,SNR=29	31.65 322	P	P	12 21 21.1	+1.8
I19A	**Meeteetse** baz=32	31.70 340	⇑P	P	12 21 21.5	+1.9
G23A	**Biddle** baz=32	31.70 345	⇓P	P	12 21 21.1	+1.7
F26A	**Lodgepole** baz=32	31.72 349	⇑P	P	12 21 20.8	+1.2
H20A	**Greybull** baz=32,SNR=8.5	31.78 341	⇑P	P	12 21 21.7	+1.5
REDW	**Red Top Meadow** 43nm,1.5s	31.78 337	*eP*	P	12 21 21.6	+1.2
LOHW	**Long Hollow** 9.1nm,0.9s	31.90 337	*eP*	P	12 21 22.6	+1.2
TPAW	**Teton Pass** 70nm,1.9s	31.93 337	*eP*	P	12 21 23.4	+1.7
F25A	**Bowman** baz=32	31.95 348	⇓P	P	12 21 23.1	+1.5
G22A	**Birney** baz=32	31.95 344	⇑P	P	12 21 23.1	+1.4
E29A	**Napoleon** baz=32	31.96 353	⇓P	P	12 21 23.0	+1.4
F24A	**Ekalaka** baz=32	32.08 347	⇓P	P	12 21 24.1	+1.3
E27A	**Carson** baz=32	32.09 351	⇓P	P	12 21 23.7	+0.8
E28A	**Huff** baz=32	32.10 352	⇓P	P	12 21 23.8	+0.9
I17A	**Pilgrim Ck.** baz=32,SNR=6.8	32.16 338	⇓P	P	12 21 25.0	+1.3
F23A	**Volborg** baz=32	32.19 345	⇑P	P	12 21 24.6	+0.8
G21A	**Lodge Grass** baz=32	32.21 343	⇑P	P	12 21 25.2	+1.2
H19A	**Powell** baz=32,SNR=14	32.26 340	⇓P	P	12 21 26.3	+1.8
IMW	**Indian Meadow** 36nm,2.1s	32.27 337	*eP*	P	12 21 26.1	+1.4
E26A	**Carlson Angus** baz=32,SNR=5.4	32.28 349	⇓P	P	12 21 25.6	+1.1
FLWY	**Flagg Ranch** 43nm,2.2s	32.34 338	*eP*	P	12 21 26.9	+1.7
D30A	**Buchanan** baz=33	32.40 354	⇑P	P	12 21 26.4	+0.9
D29A	**Pettibone, Tap** baz=33	32.44 353	⇓P	P	12 21 26.8	+0.9
E25A	**Miller Ranch,** baz=33	32.49 348	⇓P	P	12 21 27.9	+1.6
H18A	**Shoshone NF, C** baz=33,SNR=12	32.49 339	⇑P	P	12 21 28.2	+1.6
G20A	**Bridger** baz=33,SNR=6.8	32.51 342	⇑P	P	12 21 27.4	+0.9
H17A	**Grant Village** 32nm,2.0s	32.56 338	*eP*	P	12 21 29.0	+1.8
D28A	**Regan** baz=33	32.69 352	⇓P	P	12 21 29.1	+1.0
E24A	**Baker** baz=33	32.73 347	⇑P	P	12 21 29.8	+1.4
D27A	**Center** baz=33	32.75 351	⇑P	P	12 21 29.0	+0.5
D26A	**Manning** baz=33	32.82 350	⇓P	P	12 21 30.2	+1.0
E23A	**Ismay** baz=33	32.90 346	⇑P	P	12 21 30.8	+1.0
C30A	**Mose, Pekin** baz=33	32.97 355	⇑P	P	12 21 30.8	+0.4
E22A	**Miles City** baz=33	33.00 345	⇓P	P	12 21 31.7	+1.0
F20A	**Billings** baz=33	33.01 342	⇑P	P	12 21 32.1	+1.1
D25A	**Fairfield** baz=33	33.10 349	⇓P	P	12 21 33.0	+1.3
MDND	**Maddock** baz=34	33.22 353	⇑P	P	12 21 33.2	+0.5
MDND	**Maddock** 61nm,1.4s	33.22 353	*eP*	P	12 21 32.9	+0.3
QLMT	**Earthquake Lak** 0.3nm,0.7s	33.25 338	*eP*	P	12 21 35.6	+2.4
D24A	**Glendive** baz=34	33.27 347	⇓P	P	12 21 34.2	+1.1
F19A	**Roth Farm, Mol** baz=34,SNR=5.9	33.30 341	⇑P	P	12 21 34.4	+0.9
C27A	**Sayler Ranch,** baz=34	33.34 351	⇓P	P	12 21 34.5	+0.8
AGMN	**Agassiz Nation** baz=34,SNR=7.6	33.40 358	⇓P	P	12 21 34.3	+0.1
AGMN	**Agassiz Nation** 8.5nm,0.8s	33.40 358	*eP*	P	12 21 33.3	-0.9
HLID	**Hailey** baz=34,SNR=7.2	33.41 333	⇓P	P	12 21 36.2	+1.6
HLID	**Hailey** 94nm,2.3s	33.41 333	*eP*	P	12 21 36.0	+1.4
D23A	**Lindsay** baz=34	33.51 346	⇑P	P	12 21 36.5	+1.3
C26A	**Wahner Farm, P** baz=34	33.54 350	⇓P	P	12 21 36.7	+1.3
C25A	**Freed Ranch, W** baz=34	33.63 349	⇓P	P	12 21 38.0	+1.8
E20A	**Meyer Farm, Mu** baz=34,SNR=5.8	33.64 343	⇓P	P	12 21 37.7	+1.2
C24A	**Savage** baz=34	33.68 348	⇑P	P	12 21 38.1	+1.4
B30A	**Myrvik Farm, E** baz=34	33.70 355	⇓P	P	12 21 37.6	+0.8
D22A	**Cohagen** baz=34,SNR=13	33.72 345	⇑P	P	12 21 38.6	+1.6
MCMT	**McKenzie Canyo** 12nm,1.3s	33.79 336	*eP*	P	12 21 40.0	+2.1
E19A	**Rath Farm, Rou** baz=34,SNR=8.4	33.80 342	⇓P	P	12 21 39.3	+1.5
B29A	**Wagenman Farm,** baz=34	33.80 354	⇓P	P	12 21 38.7	+1.0
D21A	**La Casta Ranch** baz=34	33.85 344	⇓P	P	12 21 39.7	+1.6
B28A	**Dugan Ranch, T** baz=34	33.90 353	⇓P	P	12 21 39.3	+0.8
MFID	**Camas Ranch** 7.5nm,1.2s	33.93 331	*eP*	P	12 21 40.5	+1.4
BOZ	**Bozeman (W)** 17nm,1.7s	34.02 338	*eP*	P	12 21 40.6	+0.7
B26A	**Jensen Ranch,** baz=34	34.09 351	⇑P	P	12 21 41.0	+0.7
C23A	**Lambert** baz=34	34.10 347	⇑P	P	12 21 41.5	+1.2
DLMT	**Dillon** 33nm,1.4s	34.14 337	*eP*	P	12 21 43.1	+2.2
B25A	**Knox Farm, Ray** baz=34	34.15 349	⇑P	P	12 21 42.3	+1.6
D20A	**Manuel Ranch,** baz=34	34.18 343	⇑P	P	12 21 42.5	+1.5
A30A	**Hoffart Farm,** baz=34	34.18 355	⇑P	P	12 21 42.0	+1.1
C22A	**Vida** baz=34,SNR=9.6	34.21 346	⇑P	P	12 21 42.5	+1.3
A29A	**Manning Farm,** baz=34,SNR=9.6	34.24 354	⇓P	P	12 21 42.0	+0.5
A28A	**Rude Farm, Bot** baz=35	34.34 353	⇓P	P	12 21 42.7	+0.3
D19A	**Cripps Ranch,** baz=35,SNR=5.7	34.46 342	⇑P	P	12 21 45.0	+1.5
LRM	**Limekiln Ridge**	34.47 337	*eP*	P	12 21 45.5	+1.7
A27A	**Ledoux Ranch,** baz=35	34.51 352	⇑P	P	12 21 44.5	+0.7
DGMT	**Dagmar** baz=35	34.53 348	⇓P	P	12 21 44.9	+0.9
A26A	**Wade Farm, Ken** baz=35	34.57 351	⇓P	P	12 21 44.9	+0.6
C21A	**Desert Coulee** baz=35	34.58 345	⇓P	P	12 21 45.8	+1.3
WVOR	**Wild Horse Val** 33nm,1.4s	34.59 327	*eP*	P	12 21 45.0	+0.3
B23A	**Brockton** baz=35	34.69 347	⇓P	P	12 21 46.9	+1.5
C20A	**Veseth Ranch,** baz=35	34.71 344	⇓P	P	12 21 46.9	+1.2
B22A	**Reddig Ranch S** baz=35	34.75 346	⇓P	P	12 21 47.0	+1.0
A25A	**Svangstu Ranch** baz=35	34.78 350	⇓P	P	12 21 47.1	+0.9
A24A	**Westby** baz=35	34.93 349	⇑P	P	12 21 48.6	+1.1
C19A	**Slack Wire Ran** baz=35	35.02 343	⇓P	P	12 21 49.6	+1.2
MOD	**Modoc Plateau** 13nm,1.2s	35.11 325	*eP*	P	12 21 50.4	+1.1
A23A	**Redstone** baz=35	35.13 348	⇓P	P	12 21 50.6	+1.4
ULM	**Lac du Bonnet** 3.3nm,0.6s,baz=173,slow=11,SNR=8.9	35.35 358	P	P	12 21 49.0	-2.0
ULM	comp=Z,162nm,19.0s,baz=160,slow=40		LR	LR	12 38 22.8	
B20A	**Solberg Farm,** baz=36	35.38 344	⇓P	P	12 21 52.7	+1.3
A22A	**Carney Farms,** baz=36	35.39 347	⇑P	P	12 21 52.6	+1.1
EGMT	**Eagleton** baz=36,SNR=6.1	35.49 342	⇑P	P	12 21 54.0	+1.6
EGMT	**Eagleton** 102nm,2.2s	35.49 342	*eP*	P	12 21 53.7	+1.3
A21A	**Bergtoll Ranch** baz=36	35.62 346	⇓P	P	12 21 54.8	+1.4
B19A	**Brinnan Farms** baz=36	35.65 343	⇓P	P	12 21 54.7	+1.0
CHMT	**Chamberlain Mo**	35.69 338	*eP*	P	12 21 56.0	+1.7
A20A	**Cobblestone Ra** baz=36	35.76 345	⇑P	P	12 21 55.9	+1.2
MSO	**Missoula** baz=36	35.88 337	⇑P	P	12 21 57.1	+1.3
MSO	**Missoula** 22nm,1.6s	35.88 337	*eP*	P	12 21 57.0	+1.3
A19A	**Klindworth Far** baz=36	36.02 344	⇑P	P	12 21 57.9	+1.0
YBH	**Yreka Blue Hor** comp=Z,408nm,21.5s,baz=146,slow=38	36.36 323	LR	LR	12 38 11.1	
SWMT	**Swartz Lake**	36.47 337	*eP*	P	12 22 01.6	+0.8
F10A	**Beach Ranch, E** 21nm,1.2s	36.55 333	*eP*	P	12 22 02.5	+1.0
JTMT	**Jette**	36.77 337	*eP*	P	12 22 05.2	+1.8
PTGA	**Pitinga** 3.1nm,0.6s,baz=295,slow=12,SNR=4.0	37.31 112	P	P	12 22 07.0	-1.2
PTGA	**Pitinga** 14nm,1.3s	37.31 112	*eP*	P	12 22 08.9	+0.6
NEW	**Newport** 1.9nm,0.7s,baz=157,slow=8.3,SNR=4.7	38.30 335	P	P	12 22 16.3	+0.1
NEW	**Newport** baz=38	38.30 335	⇑P	P	12 22 17.2	+1.0
NEW	**Newport** 2.6nm,0.7s	38.30 335	*eP*	P	12 22 17.0	+0.8
C09A	**Chrisman Ranch** 10nm,1.0s	38.41 334	*eP*	P	12 22 18.3	+1.1
SAML	**Samuel** 8.9nm,1.2s	38.85 126	*eP*	P	12 22 22.6	+1.5
FFC	**Flin Flon** 3.8nm,0.7s	40.26 353	*eP*	P	12 22 32.8	+0.3
LPAZ	**La Paz** 1.8nm,1.1s,baz=312,slow=11,SNR=2.7	40.29 139	P	P	12 22 32.6	-1.3
LPAZ	comp=Z,145nm,21.1s,baz=326,slow=34		LR	LR	12 37 36.4	
SIV	**San Ignacio** 0.8nm,0.5s,baz=315,slow=8.6,SNR=2.7	44.88 132	P	P	12 23 07.9	-2.6
SIV	comp=Z,100nm,18.9s,baz=284,slow=34		LR	LR	12 39 54.4	
SCHQ	**Schefferville** 3.4nm,1.0s,baz=227,slow=8.2,SNR=5.4	45.26 22	P	P	12 23 10.9	-2.1
SCHQ	comp=Z,301nm,20.0s,baz=210,slow=38		LR	LR	12 43 36.3	
YKA	**Yellowknife Ar** 2.4nm,0.5s,baz=155,slow=7.3,SNR=92	49.74 348	P	P	12 23 47.1	-0.4
CFAA	**Coronel Fontan** 0.4nm,0.8s,baz=277,slow=6.4,SNR=5.1	52.50 152	P	P	12 24 06.3	-2.5
RKT	**Rikitea** 259nm,30.8s	54.83 227	*e*LR	LR	12 40 16.9	
BDFB	**Brasilia** 3.9nm,0.8s,baz=289,slow=7.7,SNR=6.1	54.84 122	P	P	12 24 22.9	-3.5
SFJD	**Kangerlussuaq** comp=Z,183nm,18.1s,baz=224,slow=40	59.42 18	LR	LR	12 54 26.1	
PLCA	**Paso Flores** 5.5nm,1.1s,baz=336,slow=12,SNR=2.4	59.50 159	P	P	12 24 56.5	-2.3
RES	**Resolute Bay** comp=Z,74nm,18.9s,baz=69,slow=38	59.86 360	LR	LR	12 52 54.3	
ILAR	**Eielson Array** 9.0nm,1.2s,baz=131,slow=4.2,SNR=26	61.22 337	P	P	12 25 10.2	+0.1
ILAR	comp=Z,155nm,19.6s,baz=150,slow=39		LR	LR	12 54 27.8	
MCK	**McKinley** 16nm,1.5s	61.53 336	*eP*	P	12 25 11.7	-0.6
COLA	**College** 7.4nm,1.0s	61.63 337	*eP*	P	12 25 12.9	0.0
RSO	**Redoubt South** 19nm,0.8s	61.87 331	*eP*	P	12 25 15.8	+0.9
TRF	**Thorofare Moun** 30nm,1.5s	61.95 335	*eP*	P	12 25 15.6	+0.3
PPT	**Papeete** comp=Z,116nm,19.3s,baz=74,slow=28	63.31 241	LR	LR	12 44 12.3	
PPT2	**Papeete2** 78nm,20.5s	63.32 241	*e*LR	LR	12 44 13.4	
TBI	**Tubuai** 150nm,25.1s	65.95 236	*e*LR	LR	12 45 22.7	
SUMG	**Summit** 27nm,1.4s	66.05 16	*eP*	P	12 25 42.7	+0.4
BORG	**Borgarnes** comp=Z,50nm,18.1s,baz=233,slow=36	69.44 26	LR	LR	12 56 59.1	
JMIC	**Jan Mayen** comp=Z,143nm,20.7s,baz=256,slow=36	74.72 20	LR	LR	13 00 04.2	
BBTS	**Babate** comp=Z,82nm,18.1s,baz=344,slow=36	74.79 79	LR	LR	12 59 18.8	
EVOP	**Sao Brissos** 6.9nm,0.7s	77.97 53	*eP*	P	12 26 54.8	+0.9
EVO	**Evora** 6.9nm,0.7s	78.06 53	*eP*	P	12 26 54.8	+0.4
EVO	150nm,17.5s		*eR*			
SPITS	**Spitsbergen Ar** comp=Z,129nm,18.0s,baz=350,slow=39	79.72 11	LR	LR	13 06 44.1	
BILL	**Bilibino** 6.0nm,1.0s	79.87 338	*eP*	P	12 27 04.2	+0.5
QUIF	**Quistinic** 176nm,1.5s	79.91 43	*eP*	P	12 27 03.5	-0.8
QUIF	**Quistinic** 176nm,1.5s	79.91 43	*eP*	P	12 27 03.5	-0.8
SGMF	**Saint Gilles**	80.24 43	*eP*	P	12 27 06.0	-0.1
SGMF	**Saint Gilles**	80.24 43	*eP*	P	12 27 06.0	-0.1
ESDC	**Sonseca Array** 3.6nm,1.0s,baz=287,slow=5.5,SNR=8.5	80.95 51	P	P	12 27 09.8	-0.4
GRR	**Gorron** 80nm,1.4s	81.32 42	*eP*	P	12 27 11.5	-0.4
GRR	**Gorron** 80nm,1.4s	81.32 42	*eP*	P	12 27 11.5	-0.4
LDF	**La Druitiere**	81.76 42	*eP*	P	12 27 13.8	-0.4
LDF	**La Druitiere**	81.76 42	*eP*	P	12 27 13.8	-0.4
MDT	**Midelt** comp=Z,54nm,21.1s,baz=328,slow=30	81.86 58	LR	LR	12 56 08.9	
MFF	**Saint Martin d**	82.19 44	*eP*	P	12 27 15.9	-0.6
MFF	**Saint Martin d**	82.19 44	*eP*	P	12 27 15.9	-0.6
TCF	**Toulx Ste Croi**	83.85 44	*eP*	P	12 27 24.4	-0.8
TCF	**Toulx Ste Croi**	83.85 44	*eP*	P	12 27 24.4	-0.8
BAIF	**Baives**	84.13 40	*eP*	P	12 27 26.1	-0.4
BAIF	**Baives**	84.13 40	*eP*	P	12 27 26.1	-0.4
AVF	**Avril sur Loir**	84.48 43	*eP*	P	12 27 27.2	-1.1
AVF	**Avril sur Loir**	84.48 43	*eP*	P	12 27 27.2	-1.1
NB2	**NORSAR Subarra** comp=Z,24nm,1.4s,baz=291,slow=5.1	84.48 28	P	P	12 27 29.3	+1.2
NB2	**NORSAR Subarra** baz=291,slow=5.1	84.48 28	P	P	12 27 29.3	+1.2
NOA	**NORSAR Array B** comp=Z,0.6nm,0.5s,baz=292,slow=5.0,SNR=3.8	84.48 28	P	P	12 27 28.1	0.0
NOA	comp=Z,61nm,21.8s,baz=280,slow=34		LR	LR	13 02 30.7	
SSF	**Saint Saulge**	84.50 43	*eP*	P	12 27 27.7	-0.7
SSF	**Saint Saulge**	84.50 43	*eP*	P	12 27 27.7	-0.7
LOR	**Lormes** comp=Z,56nm,1.5s	84.68 43	*eP*	P	12 27 28.7	-0.6
LOR	comp=Z,141nm,22.8s		*eR*			
LOR	**Lormes** comp=Z,56nm,1.5s	84.68 43	*eP*	P	12 27 28.7	-0.6
MEM	**Membach** comp=Z,14nm,2.1s	85.08 39	P	P	12 27 31.5	+0.2
MEZF	**Maizieres J'vi**	85.10 41	*eP*	P	12 27 31.1	-0.3
MEZF	**Maizieres J'vi**	85.10 41	*eP*	P	12 27 31.1	-0.3
SFTF	**Sexfontaines** comp=Z,39nm,1.2s	85.18 41	*eP*	P	12 27 31.3	-0.5
SFTF	**Sexfontaines** comp=Z,39nm,1.2s	85.18 41	*eP*	P	12 27 31.3	-0.5
WLF	**Walferdange** comp=Z,35nm,2.0s	85.45 40	AP	pP	12 27 44.1	-0.9
WLF	**Walferdange** comp=Z,58nm,1.5s	85.45 40	*eP*	P	12 27 32.9	-0.2
PAGF	**Fort de Pagny** comp=Z,47nm,1.6s	85.52 41	*eP*	P	12 27 33.2	-0.3
PAGF	**Fort de Pagny** comp=Z,47nm,1.5s	85.52 41	*eP*	P	12 27 33.2	-0.3
LASF	**Ste Croix**	85.56 46	*eP*	P	12 27 33.7	-0.1
LASF	**Ste Croix**	85.56 46	*eP*	P	12 27 33.7	-0.1
VIVF	**Saint-Julien-l**	85.90 45	*eP*	P	12 27 35.6	+0.1
VIVF	**Saint-Julien-l**	85.90 45	*eP*	P	12 27 35.6	+0.1
HFS	**Hagfors** comp=Z,88nm,20.2s,baz=280,slow=35	85.95 29	LR	LR	13 04 49.6	
ARCES	**ARCESS Array B** comp=Z,2.6nm,1.0s,baz=297,slow=4.0,SNR=8.1	86.05 18	P	P	12 27 36.3	+0.6
ARCES	comp=Z,82nm,19.9s,baz=252,slow=36		LR	LR	13 06 57.1	
HAU	**Haudompre** comp=Z,53nm,1.2s	86.08 41	*eP*	P	12 27 35.9	-0.4
HAU	comp=Z,98nm,20.5s		*eR*			
HAU	**Haudompre** comp=Z,53nm,1.2s	86.08 41	*eP*	P	12 27 35.9	-0.4
CABF	**La Chapelle**	86.33 43	*eP*	P	12 27 37.3	-0.4
CABF	**La Chapelle**	86.33 43	*eP*	P	12 27 37.3	-0.4
HINF	**Hinteralfeld**	86.46 41	*eP*	P	12 27 37.4	-0.8
HINF	**Hinteralfeld**	86.46 41	*eP*	P	12 27 37.4	-0.8
CDF	**Champ du Feu** comp=Z,25nm,1.1s	86.54 41	*eP*	P	12 27 38.3	-0.4
CDF	**Champ du Feu** comp=Z,25nm,1.1s	86.54 41	*eP*	P	12 27 38.3	-0.4
MBDF	**Montbardon** comp=Z,105nm,1.6s	87.37 44	*eP*	P	12 27 42.7	-0.1
MBDF	**Montbardon** comp=Z,105nm,1.6s	87.37 44	*eP*	P	12 27 42.7	-0.1
LIC	**Lamto** comp=Z,37nm,1.3s	87.73 84	*eP*	P	12 27 45.5	+0.6
LIC	**Lamto** comp=Z,37nm,1.3s	87.73 84	*eP*	P	12 27 45.5	+0.6
DBIC	**Dimbokro** comp=Z,27nm,19.1s,baz=222,slow=34	87.78 84	LR	LR	13 03 58.3	
GRF	**Grafenberg Arr** comp=Z,75nm,2.7s	88.55 39	*eP*	P	12 27 47.4	-0.8
PETK	**Petropavlovsk-** comp=Z,32nm,22.0s,baz=66,slow=34	88.70 325	LR	LR	13 04 32.5	
GERES	**GERESS Array B** comp=Z,0.4nm,0.8s,baz=337,slow=4.3,SNR=3.7	90.38 39	P	P	12 27 56.5	-0.4
GERES	comp=Z,92nm,21.1s,baz=280,slow=34		LR	LR	13 05 18.4	
FINES	**FINESS Array B** comp=Z,1.7nm,1.0s,baz=270,slow=5.6,SNR=5.0	90.69 24	P	P	12 27 58.9	+1.0
FINES	comp=Z,69nm,21.8s,baz=346,slow=35		LR	LR	13 08 11.5	
VRAC	**Vranov** comp=Z,64nm,18.1s,baz=292,slow=37	91.92 38	LR	LR	13 11 26.2	
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=311,slow=3.6,SNR=4.5	92.34 76	P	P	12 28 04.4	-2.1
TORD	comp=Z,46nm,19.2s,baz=205,slow=36		LR	LR	13 10 02.5	
VYHS	**Vyhne**	93.61 38	*eP*	P	12 28 11.7	0.0
AKASG	**Malin Array Be** comp=Z,61nm,18.1s,baz=320,slow=37	98.25 32	LR	LR	13 15 03.8	
HHC	**Hu-ho-hao-te**	119.64 338	*e*PKP	PKPdf	12 33 47.0	+1.3
HHC			PP	PP	12 35 12.8	+5.5
HHC			SKS	SKSdf	12 40 54.2	-0.9
HHC			SKKS	SKKSac	12 42 02.1	-3.6
HHC			SS	SS	12 51 28.1	0.0
HHC	comp=Z,27nm,5.3s		PPMZ			
HHC	comp=Z,140nm,19.4s		LN			
HHC	comp=Z,100nm,19.2s		LE			
HHC	comp=Z,100nm,19.0s		LZ			
WMQ	**Urumqi**	121.61 358	*e*PKP	PKPdf	12 33 51.4	+2.1
WMQ			sPKP		12 34 06.0	
WMQ			*e*PP	PP	12 35 27.0	+6.5
WMQ			SKKS		12 42 16.0	
WMQ	comp=Z,140nm,24.6s		LN			
WMQ	comp=Z,110nm,25.7s		LE			
WMQ	comp=Z,99nm,21.0s		LZ			
KSH	**Kashi**	125.19 9	*e*PKP	PKPdf	12 33 59.5	+3.1
KSH			sPKP		12 34 13.7	
KSH			PP	PP	12 35 56.7	+12
KSH			PKS	PKSdf	12 37 34.4	+1.2
KSH			SKS	SKSdf	12 41 06.2	+0.5
KSH			SKKS	SKKSac	12 42 44.1	+2.5
KSH	comp=Z,96nm,6.8s		PPMZ			
KSH	comp=Z,60nm,5.0s		LN			
KSH	comp=Z,67nm,6.0s		LE			
KSH	comp=Z,150nm,5.3s		LZ			
LZH	**Lanzhou**	126.54 342	*e*PKP	PKPdf	12 34 00.6	+1.5
LZH			sPKP		12 34 15.1	
CD2	**Chengdu**	131.33 339	PKP	PKPdf	12 34 09.0	+0.8
WRA	**Warramunga Arr** comp=Z,0.6nm,0.7s,baz=87,slow=2.3,SNR=8.6	133.43 256	PKP	PKPdf	12 34 11.5	-0.9
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=109,slow=2.0,SNR=4.6	133.83 251	PKP	PKPdf	12 34 13.5	+0.4
CMAR	**Chiang Mai Arr** comp=Z,3.4nm,1.1s,baz=346,slow=3.7,SNR=8.1	144.45 338	PKP	PKPab	12 34 30.4	-0.3

WEL 04 12:15:21.9±0.4, 37°.85S×176°.08E, h178km±4km, ML3.6/6, 4C-4D, Error ellipse: s-maj=3.8km s-min=3.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.91**	**117**	⇓PN	Pn	12 15 48.8	+0.1
URZ				SN	Sn	12 16 09.1	-0.3
URZ				AML	AML	12 16 10.1	
MWZ	**Matawai**	**1.24**	**113**	PN	Pn	12 15 51.3	0.0
MWZ				AML	AML	12 16 14.2	
MWZ				AML	AML	12 16 15.8	
RAHZ	**Arahi**	**1.33**	**144**	PN	Pn	12 15 52.6	+0.5
RAHZ				SN	Sn	12 16 15.1	-0.4
BKZ	**Black Stump Fm**	**1.35**	**166**	⇑PN	Pn	12 15 52.1	-0.3
BKZ				SN	Sn	12 16 14.4	-1.7

BKZ					AML	AML	12 16 17.0		
HAZ	**Te Kaha**	**1.35**	**86**	⇓PN	Pn		12 15 51.8	-0.4	
SNGZ	**Shannon Statio**	**1.36**	**133**	PN	Pn		12 15 52.7	+0.3	
TUVZ	**Tukino**	**1.45**	**193**	⇑PN	Pn		12 15 53.6	+0.2	
FWVZ	**Far West T-bar**	**1.46**	**196**	PN	Pn		12 15 53.5	-0.1	
TRVZ	**Turoa**	**1.50**	**196**	PN	Pn		12 15 54.1	+0.1	
WNVZ	**Wahianoa**	**1.52**	**194**	PN	Pn		12 15 54.1	0.0	
TWGZ	**Tauwhareparae**	**1.54**	**103**	⇑*e*PN	Pn		12 15 54.4	+0.3	
PKVZ	**Pokaka**	**1.55**	**202**	PN	Pn		12 15 54.3	+0.2	
MOVZ	**Moawhango**	**1.57**	**189**	PN	Pn		12 15 53.9	-0.5	
RIGZ	**Rimuhau**	**1.58**	**123**	PN	Pn		12 15 54.5	+0.1	
ARHZ	**Aropaoanui**	**1.58**	**153**	PN	Pn		12 15 54.5	+0.1	
MTVZ	**Mangateitei**	**1.60**	**197**	PN	Pn		12 15 54.8	+0.1	
BHHZ	**Black Hill Sta**	**1.63**	**180**	PN	Pn		12 15 54.4	-0.6	
MCHZ	**McNeil Hill**	**1.66**	**163**	PN	Pn		12 15 55.5	+0.3	
KNZ	**Kokohu**	**1.71**	**133**	PN	Pn		12 15 55.4	-0.3	
PUZ	**Puketiti**	**1.74**	**98**	PN	Pn		12 15 55.7	-0.3	
CNGZ	**Carnagh Statio**	**1.79**	**111**	PN	Pn		12 15 55.8	-0.8	
KRHZ	**Kereru**	**1.80**	**173**	⇓PN	Pn		12 15 56.2	-0.5	
MHGZ	**Mahia Peninsul**	**1.94**	**133**	*e*PN	Pn		12 15 57.9	-0.2	
KAHZ	**Kahuranaki**	**2.04**	**162**	PN	Pn		12 15 58.7	-0.6	
KAHZ				SN	Sn		12 16 25.7	-2.7	
PNHZ	**Pukenui**	**2.06**	**177**	PN	Pn		12 15 58.3	-1.2	
WAZ	**Wanganui**	**2.08**	**204**	*e*PN	Pn		12 15 58.8	-0.8	
TSZ	**Takapari Road**	**2.21**	**182**	PN	Pn		12 15 59.6	-1.5	
TSZ				AML	AML		12 16 31.4		
TSZ				AML	AML		12 16 32.8		
WPHZ	**Waipukurau**	**2.23**	**173**	PN	Pn		12 16 00.1	-1.2	
PXZ	**Pawanui**	**2.26**	**165**	PN	Pn		12 16 00.3	-1.4	
PXZ				AML	AML		12 16 32.1		
PXZ				AML	AML		12 16 32.1		
PXZ				AML	AML		12 16 34.2		
PXZ				AML	AML		12 16 34.2		
DVHZ	**Dannevirke**	**2.44**	**178**	PN	Pn		12 16 01.9	-1.9	
POWZ	**Post Office Ro**	**2.55**	**185**	PN	Pn		12 16 03.0	-2.0	
ANWZ	**Angora Road**	**2.62**	**173**	PN	Pn		12 16 04.2	-1.6	
PRWZ	**Pori Road**	**2.70**	**182**	PN	Pn		12 16 04.9	-1.9	
MRZ	**Mangatainoka R**	**2.83**	**188**	⇑PN	Pn		12 16 05.9	-2.5	
MRZ				AML	AML		12 16 49.1		
HOWZ	**Holdsworth Sta**	**3.07**	**188**	⇓PN	Pn		12 16 08.4	-2.9	
KIW	**Kapiti Island**	**3.14**	**196**	PN	Pn		12 16 09.2	-2.9	
MTW	**Mount Morrison**	**3.33**	**187**	PN	Pn		12 16 11.1	-3.4	
CAW	**Cannon Point**	**3.34**	**193**	PN	Pn		12 16 11.6	-3.1	
MSWZ	**Moikau Station**	**3.62**	**190**	PN	Pn		12 16 14.4	-3.7	
TCW	**Tory Channel**	**3.63**	**202**	PN	Pn		12 16 15.1	-3.1	
TCW				SN	Sn		12 16 57.3	-5.0	
PLWZ	**Palliser**	**3.77**	**189**	PN	Pn		12 16 16.0	-3.9	
TUWZ	**Tuamarina**	**3.94**	**204**	PN	Pn		12 16 18.5	-3.5	
NNZ	**Nelson**	**3.96**	**211**	PN	Pn		12 16 18.7	-3.6	
QRZ	**Quartz Range**	**4.05**	**222**	PN	Pn		12 16 20.3	-3.1	
BSWZ	**Blackbirch Sta**	**4.21**	**203**	PN	Pn		12 16 22.2	-3.4	
THZ	**Tophouse**	**4.61**	**211**	PN	Pn		12 16 26.7	-4.0	
KHZ	**Kahutara**	**4.96**	**202**	PN	Pn		12 16 31.2	-3.9	
LTZ	**Lake Taylor**	**5.72**	**209**	PN	Pn		12 16 40.2	-4.9	
OXZ	**Oxford**	**6.27**	**208**	PN	Pn		12 16 46.7	-5.7	
MQZ	**McQueen's Vall**	**6.40**	**203**	PN	Pn		12 16 47.6	-6.4	
ODZ	**Otahua Downs**	**8.26**	**208**	*e*PN	Pn		12 17 13.3	-5.2	

*IDC **04** 12:29:16.9±0.9,36°.49S×79°.00E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.8/23,mbtmp3.8/8, Error ellipse: s-maj=30.7km s-min=26.4km az=8.0*
*ISCJB **04** 12:29:17.4±0.8,36°.5S±0°.2×79°.1E±0°.2, h12km,mb3.8/8, Error ellipse: s-maj=24.2km s-min=20.7km az=176.4*
*NEIC **04** 12:29:18.9±0.6,36°.40S×79°.05E,h10km,mb4.5/2, Error ellipse: s-maj=19.0km s-min=16.5km az=176.0*

IDC 04 12:29:19.0±0.8,36°.4S±0°.2×79°.0E±0°.2,h12km,n17, σ0s65/12,mb3.8/8,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.46**	**97**	T	T	13 04 39.1	
	baz=257,slow=74,SNR=60						
H01W3	**Cape Leeuwin H**	**28.47**	**97**	T	T	13 04 43.3	
	baz=257,slow=74,SNR=55						
H01W1	**Cape Leeuwin H**	**28.48**	**97**	T	T	13 04 41.8	
	baz=257,slow=74,SNR=51						
H08S2	**Diego Garcia H**	**29.28**	**347**	T	T	13 05 51.3	
	baz=169,slow=76,SNR=128						
H08S1	**Diego Garcia H**	**29.28**	**347**	T	T	13 05 51.0	
	baz=169,slow=76,SNR=148						
H08S3	**Diego Garcia H**	**29.30**	**347**	T	T	13 05 51.2	
	baz=169,slow=76,SNR=7.0						
LBTB	**Lobatse**	**46.80**	**268**	P	**P**	**12 37 48.6**	**-0.2**
	3.5nm,0.9s,baz=139,slow=11,SNR=2.8						
LBTB	**Lobatse**	**46.80**	**268**	*e*P	**P**	**12 37 49.0**	**+0.2**
	4.6nm,1.3s						
ASAR	**Alice Springs**	**48.58**	**91**	P	**P**	**12 38 02.5**	**-0.1**
	1.1nm,0.9s,baz=243,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**50.78**	**87**	P	**P**	**12 38 19.2**	**0.0**
	2.0nm,0.8s,baz=238,slow=7.6,SNR=11						
QSPA	**South Pole Qui**	**53.71**	**180**	P	**P**	**12 38 39.9**	**-0.7**
	1.4nm,0.9s,baz=240,slow=2.6,SNR=3.9						
QSPA	**South Pole Qui**	**53.71**	**180**	*e*P	**P**	**12 38 41.6**	**+1.0**
	9.4nm,1.7s						
CMAR	**Chiang Mai Arr**	**57.76**	**22**	P	**P**	**12 39 11.0**	**+1.1**
	0.2nm,0.3s,baz=198,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**82.91**	**2**	P	**P**	**12 41 42.5**	**-0.8**
	0.4nm,0.7s,baz=176,slow=5.5,SNR=5.4						
BRTR	**Keskin Array B**	**86.55**	**327**	P	**P**	**12 42 02.3**	**+0.4**
	0.4nm,0.7s,baz=170,slow=2.5,SNR=2.6						
SONM	**Songino Array**	**87.40**	**18**	P	**P**	**12 42 05.5**	**-0.3**
	0.1nm,0.3s,baz=158,slow=4.2,SNR=2.7						
YKA	**Yellowknife Ar**	**152.58**	**14**	PKPbc	**PKPbc**	**12 49 14.2**	**-0.2**
	0.2nm,0.9s,baz=318,slow=3.6,SNR=4.2						
YKA				PKPab	**PKPab**	**12 49 24.3**	**-0.6**
	0.2nm,0.9s,baz=335,slow=3.1,SNR=3.7						

*ISCJB **04** 12:31:56.1±0.4,57°.17N±0°.04×156°.22W±0°.07,h99km±3km, mb3.5/12, Error ellipse: s-maj=8.1km s-min=4.9km az=149.8*
*NEIC **04** 12:31:59.1,57°.18N×156°.23W,h71km,MG3.1(AEIC), After AEIC.*
*IDC **04** 12:31:59.9±5.1,57°.67N×156°.40W,h92km±41km,mb3.3/12, mb1 3.4/14,mb1mx3.2/59,mbtmp3.6/14, Error ellipse: s-maj=35.6km s-min=21.3km az=37.0*

ISC 04 12:31:57.1±0.9,57°.18N±0°.07×156°.29W±0°.06,h88km±7km, n74,σ0s99/79,mb3.7/12,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK4	**Peulik 4**	**0.46**	**356**	P	**Pn**	**12 32 11.3**	**0.0**
PLK3	**Peulik 3**	**0.51**	**2**	P	**Pn**	**12 32 11.8**	**0.0**
PLK3				S	**Sn**	**12 32 22.0**	**-0.7**
PLK1	**Peulik 1**	**0.65**	**345**	P	**Pn**	**12 32 12.7**	**-0.2**
PLWL	**Peulik Whale M**	**0.87**	**358**	P	**Pn**	**12 32 14.8**	**-0.3**
KABR	**Katmai Barrier**	**1.19**	**36**	P	**Pn**	**12 32 18.6**	**-0.3**
KABU	**Katmai Buttres**	**1.22**	**26**	P	**Pn**	**12 32 19.5**	**+0.2**
KABU				S	**Sn**	**12 32 35.9**	**-0.2**
KCE	**Katmai Mt Cerb**	**1.22**	**29**	P	**Pn**	**12 32 19.8**	**+0.5**
KELA	**Mount Kelaz**	**1.30**	**13**	P	**Pn**	**12 32 19.9**	**-0.4**
KAKN	**Katmai Knife C**	**1.30**	**30**	P	**Pn**	**12 32 20.3**	**0.0**
SII	**Sitkinak Islan**	**1.31**	**117**	P	**Pn**	**12 32 20.6**	**+0.2**
KVTA	**Katmai Vly 10**	**1.32**	**23**	P	**Pn**	**12 32 20.4**	**0.0**
OHAK	**Old Harbor**	**1.64**	**87**	P	**Pn**	**12 32 24.5**	**+0.1**
OHAK				S	**Sn**	**12 32 44.0**	**-1.1**
KDAK	**Kodiak Island**	**2.09**	**72**	P	**Pn**	**12 32 30.6**	**+0.3**
KDAK				S	**Sn**	**12 32 55.1**	**-0.7**
MCNL	**McNeil River**	**2.27**	**26**	P	**Pn**	**12 32 32.9**	**+0.3**
AUI	**Augustine Isla**	**2.64**	**34**	P	**Pn**	**12 32 38.6**	**+1.0**
AUI				S	**Sn**	**12 33 09.5**	**+0.7**
AUH	**Augustine H**	**2.66**	**33**	P	**Pn**	**12 32 39.4**	**+1.4**
AUP	**Augustine Pinn**	**2.67**	**34**	P	**Pn**	**12 32 39.5**	**+1.5**
OPT	**Oil Point**	**2.96**	**32**	P	**Pn**	**12 32 43.1**	**+1.2**
SDPT	**Sand Point**	**2.97**	**234**	P	**Pn**	**12 32 43.4**	**+1.4**
ILW	**Iliamna West**	**3.33**	**28**	P	**Pn**	**12 32 48.2**	**+1.1**
HOM	**Homer**	**3.49**	**43**	P	**Pn**	**12 32 50.1**	**+1.1**
CNPM	**China Poot**	**3.56**	**46**	P	**Pn**	**12 32 50.5**	**+0.6**
RSO	**Redoubt South**	**3.77**	**28**	*e*Pn	**Pn**	**12 32 54.5**	**+1.4**
RSO				*e*Sn	**Sn**	**12 33 38.7**	**+2.2**
RDWB	**Redoubt West**	**3.77**	**27**	P	**Pn**	**12 32 54.4**	**+1.3**
NCT	**North Crescent**	**3.82**	**26**	P	**Pn**	**12 32 55.1**	**+1.5**
BRLK	**Bradley Lake**	**3.85**	**45**	P	**Pn**	**12 32 53.8**	**-0.1**
DTNA	**Dutton South F**	**3.90**	**241**	P	**Pn**	**12 32 56.5**	**+1.8**
DT1	**Dutton Round H**	**3.94**	**241**	P	**Pn**	**12 32 57.0**	**+1.8**
SVW2	**Sparrevohn**	**3.95**	**5**	P	**Pn**	**12 32 55.8**	**+0.5**
SLKM	**Skilak Lake**	**4.59**	**41**	P	**Pn**	**12 33 04.5**	**+0.4**
SEW	**Seward**	**4.62**	**48**	P	**Pn**	**12 33 05.0**	**+0.6**
STLK	**Strandline Lak**	**4.90**	**26**	P	**Pn**	**12 33 09.3**	**+1.1**
SUA	**Susitna One**	**5.15**	**31**	P	**Pn**	**12 33 12.5**	**+0.7**
RC01	**Rabbit Creek A**	**5.17**	**38**	P	**Pn**	**12 33 12.1**	**+0.2**
SKT	**Skwentna**	**5.39**	**25**	P	**Pn**	**12 33 16.0**	**+1.1**
TT01	**Tatalina**	**5.75**	**1**	P	**Pn**	**12 33 20.4**	**+0.7**
HIN	**Hinchinbrook I**	**6.03**	**54**	P	**Pn**	**12 33 23.3**	**-0.2**
PPLA	**Purkeypile**	**6.09**	**18**	P	**Pn**	**12 33 27.3**	**+2.8**
EYAK	**Cordova Ski Ar**	**6.43**	**54**	P	**Pn**	**12 33 28.7**	**-0.3**
SCM	**Sheep Creek Mo**	**6.53**	**41**	P	**Pn**	**12 33 30.1**	**-0.3**
UNV	**Unalaska Valle**	**6.69**	**244**	P	**Pn**	**12 33 33.6**	**+1.1**
DIV	**Divide**	**6.70**	**49**	P	**Pn**	**12 33 32.4**	**-0.4**
MREP	**Makushin Rep't**	**6.83**	**245**	P	**Pn**	**12 33 35.6**	**+1.1**
RAGM	**Ragged Mountai**	**6.84**	**57**	P	**Pn**	**12 33 34.5**	**-0.2**
KLU	**Klutina**	**6.84**	**46**	P	**Pn**	**12 33 34.6**	**-0.1**
GOAT	**Goat Mountain**	**6.90**	**56**	P	**Pn**	**12 33 35.4**	**0.0**
TRF	**Thorofare Moun**	**6.96**	**23**	P	**Pn**	**12 33 36.5**	**+0.1**
BMRM	**Bremner River**	**7.12**	**53**	P	**Pn**	**12 33 37.8**	**-0.7**
RND	**Reindeer**	**7.26**	**27**	P	**Pn**	**12 33 39.7**	**-0.6**
KHIT	**Khitrov Hills**	**7.52**	**59**	P	**Pn**	**12 33 43.4**	**-0.5**
GLB	**Gilahina Butte**	**7.68**	**51**	P	**Pn**	**12 33 45.8**	**-0.3**
VRDI	**Verde Repeater**	**7.74**	**53**	P	**Pn**	**12 33 47.1**	**+0.2**
BARK	**Barkley Ridge**	**7.86**	**60**	P	**Pn**	**12 33 48.5**	**-0.1**
MCARA	**McCarthy VSAT**	**7.99**	**53**	P	**Pn**	**12 33 50.4**	**+0.1**
PTPK	**Patty Peak**	**8.15**	**55**	P	**Pn**	**12 33 52.3**	**-0.4**
WRH	**Wood River Hil**	**8.34**	**25**	P	**Pn**	**12 33 53.2**	**-1.7**
RKAV	**Rock Avalanche**	**8.38**	**62**	P	**Pn**	**12 33 55.8**	**+0.2**
BARN	**Barnard Glacie**	**8.47**	**57**	P	**Pn**	**12 33 56.5**	**-0.4**
ILAR	**Eielson Array**	**8.87**	**27**	P	**Pn**	**12 34 00.3**	**-1.9**
	0.3nm,0.3s,baz=217,slow=13,SNR=23						
ILAR				S	Sn	12 35 31.7	-8.6
	0.2nm,0.3s,baz=215,slow=25,SNR=6.1						
ILB	**Eielson Array**	**8.87**	**27**	P	**Pn**	**12 34 00.6**	**-1.6**
BCA3	**Beaver Creek A**	**9.33**	**45**	P	**Pn**	**12 34 08.7**	**+0.2**
DLBC	**Dease Lake**	**14.03**	**74**	P	**Pn**	**12 35 13.3**	**+1.7**
	0.2nm,0.3s,baz=303,slow=7.1,SNR=8.4						
YKA	**Yellowknife Ar**	**21.31**	**58**	P	**P**	**12 36 37.5**	**+1.3**
	0.4nm,0.6s,baz=275,slow=9.9,SNR=13						
NVAR	**Mina Array Bea**	**31.10**	**111**	P	P	12 38 11.3	+4.2
	0.3nm,0.6s,baz=321,slow=9.8,SNR=3.4						
ARCES	**ARCESS Array B**	**53.58**	**359**	P	**P**	**12 41 08.4**	**+0.2**
	1.7nm,0.9s,baz=359,slow=8.1,SNR=3.2						
SONM	**Songino Array**	**55.03**	**305**	P	**P**	**12 41 20.2**	**+0.9**
	0.4nm,0.6s,baz=60,slow=8.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**58.60**	**323**	P	**P**	**12 41 44.1**	**-0.1**
	0.3nm,0.4s,baz=42,slow=4.7,SNR=2.4						
FINES	**FINESS Array B**	**61.70**	**359**	P	**P**	**12 42 05.0**	**-0.2**
	0.2nm,0.3s,baz=34,slow=8.4,SNR=5.0						
HFS	**Hagfors**	**62.76**	**6**	P	**P**	**12 42 12.5**	**+0.1**
	0.6nm,0.6s,baz=328,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**65.52**	**320**	P	**P**	**12 42 29.7**	**-0.9**
	0.1nm,0.6s,baz=48,slow=8.8,SNR=6						
AKTO	**Aktyubinsk**	**69.08**	**337**	P	**P**	**12 42 51.1**	**-1.8**
	0.5nm,0.4s,baz=196,slow=7.4,SNR=2.5						
AKASG	**Malin Array Be**	**72.39**	**356**	P	**P**	**12 43 11.8**	**-1.2**
	0.5nm,0.3s,baz=5.5,slow=5.6,SNR=7.3						
VRAC	**Vranov**	**73.72**	**5**	P	**P**	**12 43 19.1**	**-1.8**
	1.2nm,0.4s,baz=346,slow=4.2,SNR=3.4						
BRTR	**Keskin Array B**	**83.10**	**352**	P	**P**	**12 44 14.1**	**+1.2**
	0.6nm,0.9s,baz=0.0,slow=4.3,SNR=3.6						

IDC 04 12:38:31.6±5.5,7°.78S×124°.23E,h124km±65km,mb3.0/2, mb1 3.1/5,mb1mx3.0/21,mbtmp3.4/5,Error ellipse: s-maj=78.7km s-min=32.2km az=48.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.47**	**193**	P	Pn	12 39 12.6	+1.2
	21nm,0.3s,baz=5.4,slow=4.4,SNR=15						
BATI				S	Sn	12 39 41.9	+0.1
	8.6nm,0.3s,baz=234,slow=19,SNR=5.6						
WRA	**Warramunga Arr**	**15.56**	**142**	P	Pn	12 42 04.7	+0.3
	0.2nm,0.3s,baz=320,slow=12,SNR=15						
WRA				S	Sn	12 44 44.1	-13
	0.1nm,0.3s,baz=320,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**18.32**	**151**	P	P	12 42 36.5	0.0
	0.2nm,0.3s,baz=330,slow=12,SNR=5.5						
SONM	**Songino Array**	**57.58**	**346**	P	P	12 48 07.9	-0.7
	0.2nm,0.4s,baz=167,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**65.88**	**330**	P	P	12 49 04.5	+0.3
	0.2nm,0.5s,baz=122,slow=8.2,SNR=4.6						

*IDC **04** 12:40:10.3±0.7,36°.26S×72°.91W,h0km,mb4.1/9, mb1 4.2/10,mb1mx4.1/18,mbtmp4.1/10,ML4.0/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/21,Error ellipse: s-maj=28.5km s-min=17.5km az=91.0*
*ISCJB **04** 12:40:13.2±0.8,36°.27S±0°.04×73°.13W±0°.07,h28km±5km, mb4.2/15,MS3.7/2,Error ellipse: s-maj=9.8km s-min=5.3km az=27.1*
*GUC **04** 12:40:14.3±0.7,36°.31S×73°.03W,h26km±3km,ML4.7*
*NEIC **04** 12:40:15.6±0.5,36°.24S×72°.96W,h35km,mb4.2/7,Error ellipse: s-maj=15.4km s-min=10.3km az=73.0*

ISC 04 12:40:14.2±1.2,36°.28S±0°.05×73°.06W±0°.09,h26km±7km, n36,σ0s98/43,mb4.2/15,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.26**	**56**	⇓*i*P	**Pb**	**12 40 20.9**	**+0.1**
COCH				*i* S	**Sb**	**12 40 25.5**	**+0.3**
CCSP	**San Pedro de C**	**0.57**	**184**	⇓*i*P	**Pb**	**12 40 24.8**	**-0.8**
CCSP				*i* S	**Sb**	**12 40 32.3**	**-1.0**
CCSP				AML	AML	12 40 33.5	
	comp=E,32μm,0.4s						
LNCH	**Linares**	**1.25**	**70**	⇑*i*P	**Pn**	**12 40 36.4**	**+0.3**
LNCH				*i* S	**Sb**	**12 40 52.7**	**-0.2**
TALC	**Talca**	**1.45**	**53**	⇓*i*P	**Pn**	**12 40 38.7**	**-0.1**
TALC				*i* S	**Sb**	**12 40 58.1**	**-0.5**
AGCH	**Angol**	**1.56**	**169**	*e*P	**Pn**	**12 40 40.7**	**+0.4**
AGCH				*i* S	**Sn**	**12 41 00.0**	**+0.4**
NICH	**Los Niches**	**1.96**	**50**	*e*P	**Pn**	**12 40 47.3**	**+1.5**
NICH				*e*S	**Sb**	**12 41 12.2**	**-0.9**
CLCH	**Cerro Calan**	**3.54**	**37**	*e*P	**Pn**	**12 41 08.6**	**+1.0**
CLCH				AML	AML	12 42 09.3	
	comp=E,1μm,0.5s						
CLCH				AML	AML	12 42 09.9	
	comp=E,2μm,0.6s						
PLCA	**Paso Flores**	**4.86**	**157**	Pn	**Pn**	**12 41 26.6**	**+0.8**
	comp=E,1.4nm,0.3s,baz=331,slow=11,SNR=9.5						
PLCA				Lg	Lg	12 42 39.8	
	comp=E,3.9nm,0.3s,baz=58,slow=23,SNR=3.4						
PLCA				LR	LR	12 43 28.1	
	comp=E,331nm,19.6s,baz=296,slow=41						
PLCA	**Paso Flores**	**4.86**	**157**	*e*Pn	**Pn**	**12 41 27.0**	**+1.2**
PLCA				Lg	Lg	12 42 39.8	
CFAA	**Coronel Fontan**	**6.14**	**42**	Pn	**Pn**	**12 41 42.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=209,slow=13,SNR=7.8						
CFAA				Sn	**Sn**	**12 42 52.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=169,slow=19,SNR=2.6						
CFAA				Lg	Lg	12 43 28.1	
	comp=E,0.1nm,0.3s,baz=120,slow=23,SNR=5.9						
CFAA				LR	LR	12 44 05.1	
	comp=E,24nm,18.0s,baz=258,slow=39						
TRQA	**Tornquist**	**9.02**	**105**	*e*Pn	**Pn**	**12 42 24.6**	**+1.8**
TRQA				*e*Sg	Sn	12 44 58.3	+55
LPAZ	**La Paz**	**20.39**	**14**	P	**P**	**12 44 48.7**	**-1.1**
	comp=E,0.6nm,0.8s,baz=217,slow=10,SNR=2.4						
LPAZ	**La Paz**	**20.39**	**14**	*e*P	**P**	**12 44 48.9**	**-0.9**
	comp=E,2.9nm,0.8s						
SIV	**San Ignacio**	**22.85**	**31**	P	**P**	**12 45 15.5**	**-0.1**
	comp=E,1.0nm,0.5s,baz=210,slow=8.1,SNR=4.7						
SIV				LR	LR	12 55 27.1	
	comp=E,101nm,18.8s,baz=60,slow=40						
SNAA	**Sanae**	**49.81**	**157**	P	**P**	**12 49 04.4**	**-0.1**
	comp=E,1.4nm,0.9s,baz=270,slow=6.1,SNR=3.1						
QSPA	**South Pole Qui**	**53.96**	**180**	P	**P**	**12 49 36.4**	**+0.8**
	comp=E,4.3nm,0.9s,baz=126,slow=2.1,SNR=9.5						
QSPA	**South Pole Qui**	**53.96**	**180**	*e*P	**P**	**12 49 36.4**	**+0.8**
	comp=E,6.9nm,1.1s						
TIGA	**Tifton**	**68.08**	**350**	*e*P	**P**	**12 51 11.6**	**+0.1**
	comp=E,23nm,0.3s						
MAW	**Mawson**	**71.23**	**164**	LR	LR	13 25 41.6	
	comp=E,94nm,18.6s,baz=96,slow=38						
TXAR	**Lajitas Array**	**71.33**	**332**	P	**P**	**12 51 32.8**	**+1.0**
	comp=E,1.3nm,0.8s,baz=148,slow=8.8,SNR=17						
WVT	**Waverly**	**73.34**	**348**	*e*P	**P**	**12 51 43.4**	**-0.1**
	comp=E,2.0nm,0.8s						
DBIC	**Dimbokro**	**76.70**	**71**	P	**P**	**12 52 02.8**	**-0.6**
	comp=E,7.5nm,1.2s,baz=225,slow=4.3,SNR=2.4						
ANMO	**Albuquerque**	**77.39**	**332**	*e*P	**P**	**12 52 08.5**	**+1.4**
	comp=E,3.1nm,1.5s						
BOSA	**Boshof**	**79.75**	**118**	P	**P**	**12 52 19.9**	**-0.4**
	comp=E,3.1nm,0.9s,baz=262,slow=7.1,SNR=3.5						
CCUT	**Cedar City**	**82.40**	**329**	*e*P	**P**	**12 52 36.0**	**+1.8**
	comp=E,2.1nm,1.0s						
ECSD	**EROS Data Cent**	**82.47**	**343**	*e*P	**P**	**12 52 33.8**	**-0.2**
	comp=E,1.6nm,0.8s						
TPH	**Tonopah**	**84.51**	**326**	*e*P	**P**	**12 52 45.8**	**+0.8**
	comp=E,6.8nm,1.5s						
NVAR	**Mina Array Bea**	**85.29**	**326**	P	**P**	**12 52 50.5**	**+1.7**
	comp=E,0.7nm,0.7s,baz=174,slow=5.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**85.76**	**70**	P	**P**	**12 52 50.1**	**-1.4**
	comp=E,0.8nm,0.9s,baz=224,slow=5.6,SNR=3.0						
ULM	**Lac du Bonnet**	**88.48**	**346**	P	**P**	**12 53 02.5**	**-1.2**
	comp=E,0.7nm,0.8s,baz=180,slow=3.0,SNR=3.0						
WRA	**Warramunga Arr**	**118.37**	**209**	PKP	**PKPdf**	**12 58 58.7**	**-1.2**
	comp=E,0.3nm,0.7s,baz=154,slow=1.6,SNR=6.6						
BRTR	**Keskin Array B**	**123.64**	**63**	PKP	**PKPdf**	**12 59 09.1**	**-0.3**
	comp=E,0.3nm,0.4s,baz=176,slow=2.9,SNR=2.6						
ABKAR	**Akbulak array**	**143.72**	**54**	*e*PKPdf	PKPbc	12 59 43.7	-0.3
BVAR	**Borovoye Array**	**149.49**	**45**	PKPbc	**PKPdf**	**12 59 58.2**	**+2.2**
	comp=E,0.8nm,0.7s,baz=318,slow=1.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKP	**PKPdf**	**13 00 05.7**	**-0.6**
	comp=E,0.7nm,0.6s,baz=313,slow=3.3,SNR=3.6						
ZALV				PKPab	**PKPab**	**13 00 35.0**	**-0.4**
	comp=E,0.2nm,0.3s,baz=299,slow=6.5,SNR=2.6						
MKAR	**Makanchi Array**	**158.85**	**53**	PKP	**PKPdf**	**13 00 09.1**	**-0.2**
	comp=E,0.8nm,0.9s,baz=318,slow=1.6,SNR=7.9						
MKAR				PKPab	**PKPab**	**13 00 45.3**	**-0.2**
	comp=E,0.4nm,0.8s,baz=306,slow=2.9,SNR=4.2						

*ISCJB **04** 12:43:12.1±0.3,2°.42N±0°.03×95°.75E±0°.03,h25km, mb4.5/56,MS3.9/6,Error ellipse: s-maj=5.2km s-min=3.2km az=32.6*
*BJI **04** 12:43:13.1,2°.47N×95°.91E,h35km,mB4.8/31,mb4.8/43, Ms4.4/24,Ms7 4.0/24*
*MOS **04** 12:43:14.0±0.8,2°.62N×95°.93E,h33km,mb4.9/24,Error ellipse: s-maj=11.7km s-min=6.0km az=108.5*
*NEIC **04** 12:43:15.6±0.3,2°.54N×95°.87E,h35km,mb4.6/18,Error ellipse: s-maj=7.8km s-min=4.7km az=214.0*
*DJA **04** 12:43:16.2±0.7,2°.N±3°×9°.6E±°,h27km±4km,M4.8/12, mb5.0/12,mB5.4/7,MLv4.7/12,Mw(mB)4.8/7*
*IDC **04** 12:43:17.1±4.3,2°.60N×95°.89E,h45km±39km,mb4.1/28, mb1 4.2/30,mb1mx4.1/38,mbtmp4.3/30,ML4.3/2,MS3.7/8, Ms1 3.7/8,ms1mx3.3/34,Error ellipse: s-maj=24.4km s-min=11.7km az=39.0*
*KLM **04** 12:43:36.1,2°.90N×97°.25E,h85km,mb4.6,ML4.1,MS5.0*

ISC 04 12:43:14.4±0.4,2°.56N±0°.05×95°.83E±0°.05,h25km,n178, σ1s56/201,mb4.5/56,MS3.7/6,7C-9D,Off west coast of northern Sumatera

| Code | Station Name | Δ° | AZ° | Phase ID

comp=Z,8.4nm,1.0s
H08S2 Diego Garcia H 25.39 246 T T 13 14 51.4
baz=67,slow=76,SNR=4914
H08S3 Diego Garcia H 25.39 246 T T 13 14 51.5
baz=67,slow=76,SNR=4099
H08S1 Diego Garcia H 25.41 246 T T 13 14 52.7
baz=67,slow=76,SNR=2231
ODAN Odare 25.48 342 *e*P **P 12 48 41.7 +0.7**
comp=Z,78nm,0.9s
RAMN Ramite 25.82 341 *e*P **P 12 48 45.4 +1.3**
comp=Z,114nm,0.8s
TAPN Taplejung 25.85 343 *e*P **P 12 48 45.6 +1.2**
comp=Z,86nm,0.9s
GYA Guiyang 25.94 23⇑*i*P **P 12 48 44.8 -0.3**
GYA S **S 12 53 18.0 +3.8**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,4.6s
GYA LN
comp=Z,770nm,11.8s
GYA LE
comp=Z,500nm,7.4s
GYA LZ
comp=Z,500nm,11.2s
JIRN Jiri 26.61 341 *e*P **P 12 48 52.5 +1.1**
comp=Z,118nm,0.8s
PKI Pulchoki 26.80 339 *e*P **P 12 48 53.6 +0.6**
comp=Z,66nm,1.1s
PKIN Phulchoki 26.80 339 *e*P **P 12 48 53.6 +0.5**
GUN Gumba 26.94 340 *e*P **P 12 48 55.3 +0.9**
comp=Z,79nm,0.8s
KKN Kakani 27.04 339 *e*P **P 12 48 55.9 +0.8**
comp=Z,66nm,1.0s
LSA Lhasa 27.36 351 *e*P **P 12 48 59.0 +0.8**
LSA pmax pmax
comp=Z,32nm,0.9s
LSA Lhasa 27.36 351 *e*P **P 12 48 59.0 +0.8**
comp=Z,32nm,0.9s
GKN Gorkha 27.47 338 *e*P **P 12 48 59.6 +0.7**
comp=Z,52nm,0.8s
KOLN Koldanda 27.66 336 *e*P **P 12 49 01.6 +0.9**
comp=Z,42nm,0.7s
DANN Dangsing 28.11 337 *e*P **P 12 49 05.4 +0.6**
comp=Z,35nm,0.6s
PYUN Piuthan 28.20 335 *e*P **P 12 49 06.1 +0.6**
CD2 Chengdu 29.18 14 *e*P **P 12 49 16.8 +2.8**
BATI Baumata 30.48 115 P **P 12 49 23.0 -2.6**
comp=Z,5.7nm,0.5s,baz=265,slow=12,SNR=2.8
WHN Wuhan 32.90 30 P **P 12 49 47.4 +0.7**
WHN S **S 12 54 57.6 -5.5**
WHN LZ
comp=Z,460nm,15.1s
XAN Xi'an 33.62 20 P **P 12 49 51.9 -1.1**
XAN PMZ
comp=Z,6.0nm,1.0s
XAN PMZ
comp=Z,12nm,3.9s
LZH Lanzhou 34.18 12 *e*P **P 12 49 57.5 -0.5**
LZH pP **pP 12 50 07.2 +1.7**
LZH sP **sP 12 50 12.5 +4.0**
LZH PP **PnPn 12 51 13.0 +0.7**
LZH *e*S S 12 55 17.0 -6.2
LZH SS **SnSn 12 57 26.2 -6.2**
LZH PMZ
comp=Z,44nm,1.2s
LZH PMZ
comp=Z,160nm,5.1s
LZH LN
comp=Z,320nm,11.6s
LZH LE
comp=Z,400nm,14.2s
LZH LZ
comp=Z,530nm,15.7s
GTA Gaotai 36.86 5⇑P **P 12 50 20.5 -0.5**
GTA pP **pP 12 50 27.2 -1.3**
GTA sP **sP 12 50 31.4 -0.2**
GTA S **S 12 56 02.6 -1.6**
GTA SS **SnSn 12 58 31.3 -6.0**
GTA PMZ
comp=Z,23nm,1.0s
GTA PMZ
comp=Z,77nm,5.7s
GTA LN
comp=Z,76nm,16.2s
GTA LE
comp=Z,83nm,15.0s
GTA LZ
comp=Z,110nm,15.0s
HHC Hu-ho-hao-te 40.68 18 *e*P **P 12 50 55.7 +2.7**
HHC PP **PnPn 12 52 33.9 +2.8**
HHC S **S 12 57 04.9 +3.1**
HHC sS sS 12 57 21.1 +6.8
HHC SS **SS 13 00 02.5 -0.3**
HHC ScS **ScS 13 00 55.9 -1.3**
HHC PMZ
comp=Z,13nm,1.3s
HHC PMZ
comp=Z,64nm,5.4s
HHC LN
comp=Z,120nm,14.3s
HHC LE
comp=Z,170nm,14.5s
HHC LZ
comp=Z,75nm,14.3s
KSH Kashi 40.98 336 *e*P **P 12 50 53.0 -2.5**
KSH sP **sP 12 51 08.2 +2.1**
KSH PP **PP 12 52 31.8 +1.5**
KSH PcS **PcS 12 56 46.3 -0.2**
KSH S **S 12 57 01.1 -5.2**
KSH SS SS 12 59 56.7 -12
KSH PMZ
comp=Z,140nm,4.1s
KSH LN
comp=Z,63nm,5.1s
KSH LE
comp=Z,75nm,4.6s
KSH LZ
comp=Z,130nm,5.2s
H01W3 Cape Leeuwin H 41.02 157 T T 13 34 23.1
baz=332,slow=76,SNR=710
H01W2 Cape Leeuwin H 41.03 157 T T 13 34 22.2
baz=332,slow=76,SNR=546
H01W1 Cape Leeuwin H 41.03 157 T T 13 34 24.2
baz=332,slow=76,SNR=877
BJI Beijing 41.62 24 P **P 12 51 01.5 +0.9**
BJI pP **pP 12 51 11.3 +3.1**
BJI sP **sP 12 51 15.1 +3.9**
BJI S **S 12 57 14.7 -0.8**
BJI ScS **ScS 13 00 59.0 -3.6**
BJI PMZ
comp=Z,68nm,0.7s
BJI LN
comp=Z,130nm,12.2s
BJI LE
comp=Z,170nm,14.8s
BJI LZ
comp=Z,37nm,28.2s
WMQ Urumqi 41.72 351⇓*i*P **P 12 51 02.5 +1.1**
WMQ pP **pP 12 51 12.0 +3.0**
WMQ sP **sP 12 51 16.0 +4.0**
WMQ PP **PnPn 12 52 41.0 -2.1**
WMQ *e*S **S 12 57 17.0 0.0**
WMQ SS **SS 13 00 17.0 -6.2**
WMQ PMZ
comp=Z,11nm,1.2s
WMQ PMZ
comp=Z,110nm,4.5s
WMQ LN
comp=Z,150nm,19.8s
WMQ LE
comp=Z,200nm,22.0s
WMQ LZ
comp=Z,110nm,22.0s
SFK Sufi-Kurgan 42.43 334 P **P 12 51 08.1 +0.6**
PDGK Podgornoye 43.12 343 P **P 12 51 13.2 +0.5**
PDGK pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 43.91 122 P **P 12 51 19.2 -0.3**
comp=Z,4.0nm,0.6s,baz=300,slow=9.3,SNR=70
WRAB Tennant Creek 43.92 122 *e*P **P 12 51 19.2 -0.3**
WRAB pmax pmax
comp=Z,4.0nm,0.7s
WRAB Tennant Creek 43.92 122 *e*P **P 12 51 19.2 -0.3**
comp=Z,3.7nm,0.7s
WB2 Warramunga Arr 43.92 122 *e*P **P 12 51 19.1 -0.5**
TKM2 Tokmak 2 44.06 339 *e*P **P 12 51 20.9 +0.4**
TKM2 pmax pmax
comp=Z,15nm,1.5s
TKM2 Tokmak 2 44.06 339 *e*P **P 12 51 20.9 +0.4**
comp=Z,15nm,1.5s
AAK Ala-Archa 44.22 337 *e*P **P 12 51 22.7 +0.8**
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 44.22 337 *e*P **P 12 51 22.7 +0.8**
comp=Z,7.9nm,1.2s
EKS2 Erkin-Say 44.53 337 *e*P **P 12 51 25.5 +1.3**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 44.53 337 *e*P **P 12 51 25.5 +1.3**
comp=Z,5.0nm,0.8s
JNU Nakatsue 44.73 43 LR LR 13 11 57.8
comp=Z,2µm,19.8s,baz=120,slow=38
JAY Jayapura 45.14 96 P **P 12 51 29.0 -0.5**
JAY Jayapura 45.14 96 P **P 12 51 29.0 -0.5**
comp=Z,14nm,0.8s,baz=193,slow=17,SNR=5.5
ASAR Alice Springs 45.30 127 P **P 12 51 30.7 +0.1**
comp=Z,2.0nm,0.5s,baz=300,slow=8.0,SNR=57
KSAR Wonju Array Be 45.51 36 P **P 12 51 31.5 -0.5**
KSAR Wonju Array Be 45.51 36 P **P 12 51 31.5 -0.5**
KSRS Korea Array 45.54 36 P **P 12 51 31.5 -0.7**
comp=Z,3.9nm,0.7s,baz=227,slow=9.6,SNR=15
KSRS LR LR 13 13 13.1
comp=Z,120nm,18.2s,baz=220,slow=40
MK31 Makanchi Array 45.61 347 *i* P **P 12 51 32.5 -0.2**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 45.61 347 P **P 12 51 32.9 +0.2**
comp=Z,9.6nm,0.7s,baz=164,slow=7.8,SNR=133
SONM Songino Array 46.02 10 P **P 12 51 35.8 -0.2**
comp=Z,7.7nm,0.7s,baz=188,slow=9.2,SNR=76
SONM PcP **PcP 12 53 13.0 +0.7**
comp=Z,2.3nm,0.8s,baz=185,slow=3.3,SNR=6.6
ULN Ulaanbaatar 46.16 10 *e*P **P 12 51 36.5 -0.7**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 46.16 10 *e*P **P 12 51 36.5 -0.7**
comp=Z,4.1nm,0.8s
KK31 Karatay Array 46.24 334 *i* P **P 12 51 37.9 +0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 46.24 334 *e*P **P 12 51 37.9 +0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 46.24 334 *e*P **P 12 51 37.9 +0.2**
comp=Z,4.8nm,0.7s
ZAK Zakamensk 48.07 6⇓*i*P **P 12 51 51.0 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
HVS Khovu-Aksy 48.44 358 *e*P **P 12 51 55.5 +0.8**
GEYT Alibeck 49.30 320 P **P 12 52 02.0 +0.4**
comp=Z,3.7nm,0.6s,baz=165,slow=6.0,SNR=9.5
TLY Talaya 49.39 6 *e*P **P 12 52 02.9 +1.0**
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 49.39 6 LR LR 13 15 25.3
comp=Z,72nm,18.6s,baz=164,slow=39
COEN Coen 49.72 111 *e*P **P 12 52 04.1 -0.9**
comp=Z,4.5nm,0.9s
KURK Kurchatov 50.14 346 *e*P **P 12 52 07.8 +0.2**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 50.14 346 *e*P **P 12 52 07.8 +0.2**
comp=Z,8.5nm,0.9s
HIA Hailar 50.82 20 *e*P **P 12 52 14.1 +1.2**
HIA pmax pmax
comp=Z,10.0nm,1.2s
MJAR Matsushiro Arr 51.64 44 P **P 12 52 19.4 +0.2**
comp=Z,0.8nm,0.7s,baz=261,slow=8.8,SNR=4.0
MJAR PcP **PcP 12 53 33.0 +0.2**
comp=Z,2.4nm,0.9s,baz=240,slow=3.7,SNR=7.1
MJAR LR LR 13 16 42.9
comp=Z,38nm,18.4s,baz=285,slow=39
ZALV Zalesovo Beam 52.02 352 P **P 12 52 21.8 +0.1**
comp=Z,7.4nm,0.5s,baz=180,slow=6.3,SNR=54
PMG Port Moresby 52.50 104 *e*P **P 12 52 25.4 -0.6**
PMG pmax pmax
comp=Z,2.0nm,0.8s
PMG Port Moresby 52.50 104 P **P 12 52 25.6 -0.3**
comp=Z,5.6nm,0.7s,baz=333,slow=4.5,SNR=6.0
PMG Port Moresby 52.50 104 P **P 12 52 25.4 -0.6**
comp=Z,1.7nm,0.8s
NVS Novosibirsk 53.12 351 *e*P **P 12 52 27.6 -2.2**
NVS *e* 12 53 36.4
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS pmax pmax
comp=Z,7.0nm,0.9s
CTA Charters Tower 54.33 117 P **P 12 52 39.5 +0.1**
comp=Z,7.0nm,1.0s,baz=266,slow=14,SNR=3.4
BVA0 Borovoye Array 54.53 341 *i* P **P 12 52 39.5 -0.7**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 54.53 341 P **P 12 52 40.0 -0.2**
comp=Z,9.6nm,0.8s,baz=147,slow=8.5,SNR=40
QLP Quilpie 54.96 125 P **P 12 52 45.0 +1.2**
baz=55,SNR=6.2
KLR Kul'dur 55.68 28 *e*P P 12 52 45.0 -3.6
BOD Bodaibo 56.95 11 *e*P **P 12 52 56.8 -0.6**
BOD pmax pmax
comp=Z,5.0nm,0.9s
AKTO Aktyubinsk 57.40 332 P **P 12 53 00.6 -0.2**
comp=Z,1.7nm,0.5s,baz=138,slow=7.3,SNR=6.3
CMSA Cobar Meteorol 58.21 130 P **P 12 53 08.0 +1.2**
baz=58,SNR=11
SVE Sverdlovsk 60.93 339⇑*i*P **P 12 53 25.6 +0.5**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 61.41 337 *d i*P **P 12 53 28.3 -0.1**
ARU 12 54 07.5
ARU S **S 13 01 49.4 +1.7**
ARU SS **SS 13 05 49.3 +0.5**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 61.41 337 *e*P **P 12 53 27.9 -0.4**
comp=Z,12nm,1.1s
KBZ Khabaz 62.16 319 P **P 12 53 33.3 -0.3**
comp=Z,1.7nm,0.8s,baz=134,slow=5.2,SNR=4.8
SOKR Solikamsk 64.35 339 *d i*P **P 12 53 48.3 +0.5**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 64.52 17 *e*P **P 12 53 46.4 -2.5**
YAK *e* 12 53 54.5
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK Yakutsk 64.52 17 *e*P **P 12 53 48.0 -0.8**
comp=E,20nm,0.7s
BRTR Keskin Array B 67.19 312 *ce*P **P 12 54 07.1 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 67.19 312 P **P 12 54 06.7 -0.1**
comp=Z,0.7nm,0.7s,baz=129,slow=7.0,SNR=5.8
PRGR Permogore 69.86 337 *e*P **P 12 54 21.4 -1.4**
PRGR pmax pmax
comp=Z,16nm,0.8s
OBN Obninsk 70.75 328 *e*P **P 12 54 27.8 -0.6**
OBN *i* 12 54 42.8
OBN *i* 12 54 53.9
OBN *i* 12 57 12.2
OBN pmax pmax
comp=Z,7.0nm,1.2s
SEY Seymchan 73.06 24 P **P 12 54 41.6 -0.6**
comp=Z,1.7nm,0.4s,baz=270,slow=7.1,SNR=12
AKASG Malin Array Be 73.35 322 P **P 12 54 43.2 -0.9**
comp=Z,2.1nm,0.8s,baz=90,slow=4.6,SNR=7.1
MLR Muntele Rosu 74.15 317 P **P 12 54 50.0 +0.9**
MLR Muntele Rosu 74.15 317 P **P 12 54 50.0 +0.9**
comp=Z,0.2nm,0.4s,baz=236,slow=3.6,SNR=3.6
TMCR Tamitsa 74.15 337 *e*P **P 12 54 48.7 +0.2**
TMCR *e* 12 55 03.7
TMCR *e* 12 57 32.8
TMCR pmax pmax
comp=Z,13nm,1.0s
KOLS Kolonicke sedl 77.30 320 *e*P **P 12 55 08.5 +1.6**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 77.30 320 *e*P **P 12 55 08.5 +1.6**
CRVS Cervenica-Dubn 77.82 319 *e*P **P 12 55 10.0 +0.2**
CRVS Cervenica-Dubn 77.82 319 *e*P **P 12 55 10.0 +0.2**
FINES FINESS Array B 78.17 333 P **P 12 55 11.6 +0.1**
comp=Z,3.2nm,0.8s,baz=103,slow=8.6,SNR=17
VYHS Vyhne 79.47 319 *e*P **P 12 55 18.3 -0.7**
VYHS Vyhne 79.47 319 *e*P **P 12 55 18.2 -0.7**
ARCES ARCESS Array B 80.80 340 P **P 12 55 25.9 +0.2**
comp=Z,3.5nm,0.8s,baz=93,slow=4.8,SNR=23
ARCES LR LR 13 35 58.7
comp=Z,30nm,19.4s,baz=54,slow=39
GERES GERESS Array B 82.90 319 P **P 12 55 38.0 +0.8**
comp=Z,1.7nm,0.9s,baz=98,slow=5.5,SNR=14
HFS Hagfors 83.87 330 P **P 12 55 41.3 -0.5**
comp=Z,2.9nm,0.9s,baz=134,slow=6.2,SNR=5.0
NOA NORSAR Array B 85.16 331 P **P 12 55 47.7 -0.7**
comp=Z,1.4nm,1.0s,baz=89,slow=6.7,SNR=3.0
NOA LR LR 13 37 02.8
comp=Z,24nm,20.7s,baz=95,slow=38
SPITS Spitsbergen Ar 85.35 348 P **P 12 55 48.9 -0.1**
comp=Z,7.8nm,0.9s,baz=116,slow=9.9,SNR=6.1
DAVOX Davos/Dischmat 85.37 317 P **P 12 55 50.1 +0.2**
comp=Z,2.2nm,0.6s,baz=124,slow=5.9,SNR=5.8
BFO Black Forest 86.44 318 *ce*P **P 12 55 57.5 +2.5**
EKA Eskdalemuir Ar 93.03 326 P **P 12 56 25.2 -0.6**
comp=Z,1.1nm,0.8s,baz=108,slow=4.6,SNR=2.6
TORD Torodi Ar. Bea 93.45 283 P **P 12 56 28.4 -0.3**
comp=Z,0.3nm,0.7s,baz=72,slow=4.7,SNR=2.3
MCK McKinley 98.62 24 *e*P Pdif 12 56 51.9 +0.8
MCK pmax pmax
comp=Z,3.0nm,0.8s
MCK McKinley 98.62 24 *e*P Pdif 12 56 51.9 +0.7
comp=Z,2.7nm,0.8s
ILAR Eielson Array 98.99 23 P **P 12 56 51.2 -1.5**
comp=Z,0.2nm,0.6s,baz=294,slow=4.8,SNR=4.3
YKA Yellowknife Ar 111.14 15 PP PP 13 02 22.3 -1.8
comp=Z,0.2nm,0.8s,baz=328,slow=5.8,SNR=3.8
ULM Lac du Bonnet 126.44 9 PKP **PKPdf 13 02 14.6 -0.8**
comp=Z,1.4nm,0.7s,baz=287,slow=6.6,SNR=4.7
NVAR Mina Array Bea 128.46 34 PKP **PKPdf 13 02 19.2 -0.7**
comp=Z,0.5nm,0.7s,baz=242,slow=1.9,SNR=5.4
PDAR Pinedale Array 129.39 24 PKP **PKPdf 13 02 20.8 -0.8**
comp=Z,0.3nm,0.4s,baz=297,slow=0.2,SNR=3.1
ANMO Albuquerque 137.23 27 *e*PKIKP **PKPdf 13 02 36.6 +0.1**
ANMO Albuquerque 137.23 27 *e*PKPdf **PKPdf 13 02 36.6 +0.1**
TXAR Lajitas Array 143.20 29 PKP PKPbc 13 02 44.2 0.0
comp=Z,0.6nm,0.6s,baz=212,slow=1.3,SNR=9.4
JCT Junction City 143.92 23 *e*PKIKP PKPbc 13 02 46.6 +0.4
JCT Junction City 143.92 23 *e*PKPdf PKPbc 13 02 46.6 +0.4

*IDC **04** 12:58:29.8±1.6,28°.54S×176°.63W,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.8/26,mbtmp3.8/5,MS3.4/1,Ms1 3.4/1, ms1mx2.7/26,Error ellipse: s-maj=59.3km s-min=19.7km az=147.0*
*NEIC **04** 12:58:31.4±3.3,28°.51S×176°.68W,h9km±18km,mb4.6/4, Error ellipse: s-maj=21.2km s-min=17.0km az=81.0*
*ISCJB **04** 12:58:32.2±0.9,28°.5S±0°.1×176°.5W±0°.1,h29km,mb4.4/8, Error ellipse: s-maj=20.0km s-min=12.3km az=41.0*
ISC 04 12:58:33.8±1.0,28°.7S±0°.2×176°.5W±0°.1,h29km,n18, σ0s94/18,mb4.0/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.36**	**244**	Pn	**Pn**	**12 58 56.0**	**-0.8**
	303nm,0.3s,baz=73,slow=21,SNR=7.0						
RAO				Sn	**Sb**	**12 59 15.9**	**+0.3**
	610nm,0.3s,baz=97,slow=24,SNR=10						
RAO	**Raoul Island**	**1.36**	**244**	*e*Pg	**Pn**	**12 58 56.6**	**-0.2**
RAO				*e*Sg	**Sb**	**12 59 16.7**	**+1.2**
KHZ	**Kahutara**	**15.92**	**208**	*e*P	**Pn**	**13 02 16.2**	**+0.6**
	62nm,1.3s						
DZM	**Mont Dzumac**	**16.72**	**289**	LR	LR	13 07 38.5	
	comp=Z,127nm,19.4s,baz=177,slow=33						
ODZ	**Otahua Downs**	**19.28**	**208**	*e*P	**Pn**	**13 02 56.4**	**-0.8**
	52nm,1.3s						
CTA	**Charters Tower**	**34.85**	**276**	P	**P**	**13 05 23.7**	**+1.1**
	3.0nm,0.8s,baz=107,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**44.52**	**265**	P	**P**	**13 06 42.0**	**-1.1**
	0.8nm,0.6s,baz=97,slow=7.0,SNR=15						
WB2	**Warramunga Arr**	**45.34**	**270**	*e*P	**P**	**13 06 49.6**	**-0.1**
WRAB	**Tennant Creek**	**45.35**	**270**	*e*P	**P**	**13 06 49.2**	**-0.5**
	8.9nm,1.4s						
WRA	**Warramunga Arr**	**45.35**	**270**	P	**P**	**13 06 48.7**	**-1.1**
	1.2nm,0.9s,baz=109,slow=7.8,SNR=7.1						
QSPA	**South Pole Qui**	**61.45**	**180**	*e*P	P	13 08 50.5	+3.1
	54nm,2.1s						
TGY	**Tagaytay City**	**73.87**	**296**	P	**P**	**13 10 05.8**	**-0.6**
	202nm,0.5s,baz=159,slow=4.5,SNR=4.8						
MJAR	**Matsushiro Arr**	**77.56**	**324**	P	**P**	**13 10 26.6**	**-0.4**
	0.3nm,0.3s,baz=155,slow=15,SNR=5.3						
NVAR	**Mina Array Bea**	**86.09**	**42**	P	**P**	**13 11 13.3**	**+1.2**
	0.3nm,0.6s,baz=190,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**117.63**	**310**	PKP	**PKPdf**	**13 17 17.4**	**+0.5**
	0.3nm,0.8s,baz=100,slow=1.6,SNR=3.3						
FINES	**FINESS Array B**	**143.92**	**342**	PKP	**PKPdf**	**13 18 04.7**	**-0.9**
	0.5nm,0.7s,baz=64,slow=4.4,SNR=6.1						
AKASG	**Malin Array Be**	**150.64**	**326**	PKPbc	**PKPbc**	**13 18 24.0**	**+1.4**
	0.9nm,0.5s,baz=44,slow=3.0,SNR=3.7						
BRTR	**Keskin Array B**	**152.83**	**302**	PKPbc	**PKPbc**	**13 18 27.1**	**-1.1**
	0.5nm,0.7s,baz=181,slow=7.2,SNR=3.3						

GUC 04 13:03:06.9±0.8,34°.11S×72°.35W,h30km,ML3.6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.29**	**134**	*e*P	Pb	13 03 30.4	-0.1
NICH				*e*S	Sb	13 03 48.2	+1.5
TALC	**Talca**	**1.42**	**156**	*e*P	Pb	13 03 32.5	-0.3
TALC				*e*S	Sb	13 03 51.4	+0.9
ROCH	**El Roble**	**1.59**	**45**	*e*P	Pn	13 03 34.5	+1.2
ROCH				*e*S	Sb	13 03 57.1	+1.2
ROCH				AML	AML	13 04 06.2	
	comp=E,3µm,1.2s						
CLCH	**Cerro Calan**	**1.67**	**65**	*e*P	Pb	13 03 36.1	-1.0
CLCH				*e*S	Sb	13 03 58.7	+0.9
CLCH				AML	AML	13 04 03.8	
	comp=E,683nm,0.4s						
PEL	**Peldehue**	**1.69**	**56**	*e*P	Pb	13 03 36.5	-0.9
PEL				*e*S	Sb	13 03 59.5	+1.2
PEL				AML	AML	13 04 07.9	
	comp=E,988nm,0.4s						
FCH	**Farellones**	**1.88**	**66**	*e*P	Pn	13 03 36.4	-1.1
FCH				*e*S	Sn	13 04 01.2	+0.7
FCH				AML	AML	13 04 06.2	
	comp=N,553nm,0.3s						
YECH	**El Yeso**	**1.94**	**78**	*e*P	Pb	13 03 40.9	-1.0
YECH				*e*S	Sb	13 04 06.7	+0.7

*IDC **04** 13:09:23.0±1.4,1°.71S×101°.33E,h0km,mb3.6/9, mb1 3.7/9,mb1mx3.6/24,mbtmp3.6/9,Error ellipse: s-maj=68.8km s-min=19.4km az=53.0*
*ISCJB **04** 13:09:25.9±0.7,2°.10S±0°.05×100°.62E±0°.08,h62km, mb3.7/8,Error ellipse: s-maj=11.9km s-min=5.6km az=151.6*
*DJA **04** 13:09:25.3±0.4,2°S±2°×10°1E±°,h10km,M4.2/14,mb4.0/3, MLv4.3/14*
ISC 04 13:09:29.4±0.9,2°.00S±0°.07×100°.8E±0°.1,h62km,n28, σ1s95/22,mb3.7/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.69**	**98**	P	Pn	13 09 53.3	+10
KRJI				S	**Sn**	**13 09 53.7**	**-0.6**
PDSI	**Padang**	**1.12**	**344**	P	Pn	13 09 45.3	-3.9
PDSI				S	**Sn**	**13 10 02.0**	**-1.9**
SDSI	**Sungai Dareh**	**1.24**	**32**	P	**Pn**	**13 09 49.5**	**-1.2**
SDSI				S	**Sn**	**13 10 08.3**	**+1.7**
MASI	**Maura Aman, Be**	**1.85**	**128**	P	**Pn**	**13 09 57.3**	**-1.6**
MASI				S	**Sn**	**13 10 24.1**	**+2.8**
BKNI	**Bangkinang**	**2.32**	**6**	P	Pn	13 10 08.2	+2.9
BKNI				S	Sn	13 10 40.2	+7.4
JMBI	**JAMBI**	**2.88**	**83**	P	Pn	13 10 27.7	+15
MNSI	**Mandailing Nat**	**3.02**	**337**	P	**Pn**	**13 10 14.2**	**-0.7**
MNAI	**Manna**	**3.20**	**137**	P	**Pn**	**13 10 15.4**	**-1.9**
LHSI	**Lahat**	**3.29**	**124**	P	**Pn**	**13 10 18.9**	**+0.4**
MDSI	**Maura Dua**	**4.20**	**126**	P	**Pn**	**13 10 28.7**	**-2.3**
LWLI	**Liwa**	**4.44**	**133**	P	**Pn**	**13 10 33.6**	**-0.8**
KASI	**Kota Agung**	**5.10**	**133**	P	**Pn**	**13 10 41.6**	**-1.7**
	37nm,1.2s,0.2nm						
CMAR	**Chiang Mai Arr**	**20.41**	**355**	P	**P**	**13 14 00.1**	**-1.5**

0.4nm,0.6s,baz=188,slow=10,SNR=4.8
H08S2 Diego Garcia H 28.73 258 T T 13 44 18.5
baz=80,slow=75,SNR=7.1
H08S3 Diego Garcia H 28.73 258 T T 13 44 20.7
baz=80,slow=75,SNR=4.1
H08S1 Diego Garcia H 28.74 258 T T 13 44 18.0
baz=80,slow=75,SNR=3.2
H01W3 Cape Leeuwin H 35.00 161 T T 13 52 59.3
baz=337,slow=76,SNR=9.4
H01W2 Cape Leeuwin H 35.02 161 T T 13 53 00.3
baz=337,slow=76,SNR=10
H01W1 Cape Leeuwin H 35.02 161 T T 13 53 00.5
baz=337,slow=76,SNR=8.1
WRA Warramunga Arr 37.32 121 P **P 13 16 34.4 -1.7**
0.2nm,0.3s,baz=301,slow=8.1,SNR=5.2
ASAR Alice Springs 38.63 127 P **P 13 16 45.8 -1.2**
1.2nm,0.5s,baz=300,slow=7.4,SNR=12
SONM Songino Array 49.87 5 P **P 13 18 16.1 -0.5**
0.2nm,0.6s,baz=169,slow=1.5,SNR=3.5
SONM PcP **PcP 13 19 40.6 +4.3**
0.3nm,0.4s,baz=183,slow=4.0,SNR=4.1
MKAR Makanchi Array 51.24 344 P **P 13 18 26.2 -0.6**
0.4nm,0.6s,baz=160,slow=8.3,SNR=6.7
ZALV Zalesovo Beam 57.31 349 P **P 13 19 10.4 -0.4**
0.6nm,0.5s,baz=150,slow=3.2,SNR=3.6
BRTR Keskin Array B 73.90 312 P P 13 21 01.5 +3.3
0.5nm,0.7s,baz=131,slow=7.9,SNR=3.1
FINES FINESS Array B 84.47 332 P **P 13 21 57.8 +2.6**
0.6nm,0.8s,baz=101,slow=7.2,SNR=2.9
ARCES ARCESS Array B 86.74 340 P **P 13 22 09.0 +2.7**
1.1nm,0.9s,baz=96,slow=5.5,SNR=8.1
TXAR Lajitas Array 144.22 38 PKhKP PKPpre 13 28 57.6
0.2nm,0.4s,baz=285,slow=3.5,SNR=3.6
TXAR PKP **PKiKP 13 29 01.9 -1.0**
0.2nm,0.4s,baz=318,slow=1.2,SNR=8.5

IDC 04 13:24:55.3±2.3, 5.58S×130.46E, h0km, mb4.0/1, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, ML3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/19, Error ellipse: s-maj=142.6km s-min=29.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**7.24**	**175**	P	Pn	13 26 49.6	+7.1
	baz=6.9,SNR=9.0						
MTN				S	Sn	13 28 01.5	-4.1
	baz=6.9,SNR=7.6						
KDU	**Kakadu**	**7.33**	**164**	P	Pn	13 26 50.2	+6.5
	baz=7.1,SNR=48						
KDU				S	Sn	13 28 02.8	-4.9
	baz=7.1,SNR=9.6						
WRA	**Warramunga Arr**	**14.76**	**166**	Pn	Pn	13 28 26.4	+0.9
	0.2nm,0.3s,baz=349,slow=13,SNR=14						
WRA				Sn	Sn	13 30 55.5	-15
	0.6nm,0.3s,baz=332,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**18.28**	**170**	P	Pn	13 29 09.9	-0.7
	0.7nm,0.3s,baz=351,slow=11,SNR=90						
ASAR				S	Sn	13 32 23.4	-12
	0.2nm,0.3s,baz=2.3,slow=28,SNR=5.9						
PALK	**Pallekele**	**51.27**	**284**	LR	LR	13 55 32.1	
	comp=Z,88nm,21.0s,baz=296,slow=36						
MKAR	**Makanchi Array**	**67.30**	**326**	P	P	13 35 52.1	+0.1
	0.7nm,0.4s,baz=113,slow=8.3,SNR=17						

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*ISCJB **04** 13:34:23.9±0.7, 19.62S±0.02×69.54W±0.04, h15km±4km, mb4.6/33, MS3.1/1, Error ellipse: s-maj=6.5km s-min=3.3km az=0.4*
*NEIC **04** 13:34:24.5±1.1, 19.60S×69.57W, h9km±7km, mb4.9/22, ML4.8(GUC), Error ellipse: s-maj=10.1km s-min=5.3km az=82.0*
NEIC Felt [III] at Huara, Iquique, Pozo Almonte and Tarapaca; [II] at Alto Hospicio and Arica.
*GUC **04** 13:34:25.0, 19.67S×69.73W, h10km*
*BJI **04** 13:34:33.5, 19.70S×69.30W, h79km, mB5.3/2, Ms5.5/2, Ms7 5.3/2*
*IDC **04** 13:34:34.0±3.2, 19.48S×69.32W, h87km±26km, mb3.9/15, mb1 4.1/17, mb1mx4.1/21, mbtmp4.3/17, MS3.2/3, Ms1 3.2/3, ms1mx2.8/27, Error ellipse: s-maj=23.7km s-min=15.7km az=50.0*

ISC 04 13:34:24.3±0.9, 19.65S±0.02×69.62W±0.04, h10km±6km, n310, σ1s24/319, mb4.8/35, 109C-113D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.11**	**196**	*e*P	**Pg**	**13 34 27.3**	**+0.1**
PSGC	**Pisagua**	**0.47**	**276**	*e*P	**Pg**	**13 34 33.0**	**-0.6**
PSGC	**Pisagua**	**0.47**	**276**	⇑*i*P	**Pg**	**13 34 33.6**	**0.0**
PSGC				*i* S	**Sg**	**13 34 39.9**	**0.0**
PSGC				AML	AML	13 34 40.4	
	comp=N,29μm,0.4s						
PSGC	**Pisagua**	**0.47**	**276**	⇑*i*P	**Pg**	**13 34 33.6**	**0.0**
PSGC				*i* S	**Sg**	**13 34 39.9**	**0.0**
MNMC	**Minimi**	**0.52**	**3**	*e*P	**Pg**	**13 34 34.2**	**-0.2**
MNMC	**Minimi**	**0.52**	**3**	⇓*e*P	**Pg**	**13 34 34.6**	**+0.2**
MNMC				*e*S	**Sg**	**13 34 42.0**	**+0.7**
MNMC				AML	AML	13 34 45.5	
	comp=N,36μm,0.6s						
MNMC	**Minimi**	**0.52**	**3**	⇑*e*P	**Pg**	**13 34 34.6**	**+0.2**
MNMC				*e*S	**Sg**	**13 34 42.0**	**+0.7**
HMBC	**Humberstone**	**0.67**	**202**	*e*P	**Pg**	**13 34 36.4**	**-0.9**
HMBC	**Humberstone**	**0.67**	**202**	⇓*e*P	**Pg**	**13 34 37.1**	**-0.3**
HMBC				*e*S	**Sg**	**13 34 46.3**	**+0.2**
HMBC				AML	AML	13 34 49.4	
	comp=N,34μm,0.5s						
HMBC	**Humberstone**	**0.67**	**202**	⇓*e*P	**Pg**	**13 34 37.1**	**-0.3**
HMBC				*e*S	**Sg**	**13 34 46.3**	**+0.2**
PATCX	**Punta Patache**	**1.27**	**203**	*e*P	**Pn**	**13 34 46.6**	**-1.5**
PATCX	**Punta Patache**	**1.27**	**203**	⇓*e*P	**Pn**	**13 34 47.1**	**-1.0**
PATCX				*e*S	**Sb**	**13 35 04.1**	**-0.5**
PATCX				AML	AML	13 35 05.1	
	comp=N,50μm,0.4s						
PB01	**IPOC Station P**	**1.39**	**175**	*e*P	**Pn**	**13 34 48.7**	**-1.1**
PB01	**IPOC Station P**	**1.39**	**175**	⇓*e*P	**Pn**	**13 34 49.3**	**-0.6**
PB01				*e*S	**Sn**	**13 35 07.8**	**-0.5**
PB01				AML	AML	13 35 17.8	
	comp=E,12μm,0.6s						
PB01	**IPOC Station P**	**1.39**	**175**	⇓*e*P	**Pn**	**13 34 49.3**	**-0.6**
PB01				*e*S	**Sn**	**13 35 07.8**	**-0.5**
PB07	**IPOC Station P**	**2.08**	**187**	*e*P	**Pn**	**13 35 00.0**	**+0.6**
PB07	**IPOC Station P**	**2.08**	**187**	⇓*e*P	**Pn**	**13 35 00.3**	**+0.9**
PB07				*e*S	**Sn**	**13 35 27.4**	**+1.9**
PB07				AML	AML	13 35 35.0	
	comp=E,15μm,0.5s						
PB07	**IPOC Station P**	**2.08**	**187**	⇓*e*P	**Pn**	**13 35 00.3**	**+0.9**
PB07				*e*S	**Sn**	**13 35 27.4**	**+1.9**
PB09	**IPOC Station P**	**2.16**	**171**	*e*P	**Pn**	**13 35 02.4**	**+1.8**
PB09	**IPOC Station P**	**2.16**	**171**	⇓*e*P	**Pn**	**13 35 02.1**	**+1.6**
PB09				*e*S	**Sb**	**13 35 31.6**	**+1.0**
PB09				AML	AML	13 35 34.4	
	comp=N,70μm,0.4s						
PB09	**IPOC Station P**	**2.16**	**171**	⇓*e*P	**Pn**	**13 35 02.1**	**+1.6**
PB09				S	**Sb**	**13 35 31.6**	**+1.0**
PB04	**IPOC Station P**	**2.60**	**177**	*e*P	**Pb**	**13 35 09.8**	**-1.2**
PB04	**IPOC Station P**	**2.60**	**177**	⇓*e*P	**Pb**	**13 35 09.3**	**-1.7**
PB04				*e*S	**Sb**	**13 35 44.4**	**+1.3**
PB04				AML	AML	13 35 52.1	
	comp=E,11μm,0.6s						
PB04	**IPOC Station P**	**2.60**	**177**	P	**Pb**	**13 35 09.3**	**-1.7**
PB04				*e*S	**Sb**	**13 35 44.4**	**+1.3**
LVC	**Limon Verde**	**3.02**	**167**	*e*Pn	**Pb**	**13 35 15.8**	**-2.5**
PB06	**IPOC Station P**	**3.04**	**179**	*e*P	**Pn**	**13 35 14.3**	**+1.7**
PB06	**IPOC Station P**	**3.04**	**179**	*e*P	**Pn**	**13 35 14.3**	**+1.7**
PB06	**IPOC Station P**	**3.04**	**179**	P	**Pn**	**13 35 14.3**	**+1.7**
LPAZ	**La Paz**	**3.63**	**23**	P	**Pb**	**13 35 26.9**	**-2.1**
	comp=E,.5.5nm,0.3s,baz=185,slow=3.4,SNR=136						
LPAZ				LR	LR	13 37 26.9	
	comp=E,271nm,21.8s,baz=221,slow=51						
LPAZ	**La Paz**	**3.63**	**23**	*e*P	**Pb**	**13 35 27.7**	**-1.3**
LPAZ	**La Paz**	**3.63**	**23**	*e*Pn	**Pb**	**13 35 27.1**	**-1.9**
ARE	**Arequipa**	**3.64**	**330**	⇑*i*P	**Pn**	**13 35 22.8**	**+1.9**
ARE				*i*		13 35 28.8	
ARE				*e*S	**Sn**	**13 36 07.0**	**+2.9**
PB10	**IPOC Station P**	**3.94**	**193**	*e*P	Pb	13 35 30.2	-3.6
PB10	**IPOC Station P**	**3.94**	**193**	⇓*e*P	**Pn**	**13 35 25.4**	**+0.6**
SIV	**San Ignacio**	**8.92**	**67**	P	**Pn**	**13 36 34.7**	**+1.4**
	comp=E,3.4nm,0.3s,baz=274,slow=10,SNR=53						
SIV				LR	LR	13 40 25.3	
	comp=E,153nm,18.4s,baz=268,slow=41						
LCO	**Las Campanas**	**9.37**	**186**	*e*Pn	Pn	13 36 43.6	+4.0
NNA	**Nana**	**10.31**	**317**	P	**Pn**	**13 36 50.3**	**-2.1**
	comp=E,1.4nm,0.3s,baz=156,slow=10.0,SNR=3.1						
NNA				S	**Sn**	**13 38 47.3**	**-0.8**
	comp=E,2.1nm,0.3s,baz=212,slow=19,SNR=3.0						
CFAA	**Coronel Fontan**	**11.97**	**174**	P	**Pn**	**13 37 14.2**	**-0.9**
	comp=E,0.1nm,0.3s,baz=342,slow=13,SNR=8.6						
CFAA				S	Sn	13 39 22.0	-6.7
	comp=E,0.1nm,0.3s,baz=218,slow=18,SNR=2.9						
SAML	**Samuel**	**12.33**	**31**	*e*Pn	**Pn**	**13 37 19.9**	**-0.1**
TRQA	**Tornquist**	**19.51**	**162**	*e*P	**Pn**	**13 38 56.4**	**+3.5**
TRQA	**Tornquist**	**19.51**	**162**	*e*P	P	**13 38 52.2**	**+0.5**
	comp=E,11nm,0.7s						
BDFB	**Brasilia**	**20.97**	**82**	P	**P**	**13 39 07.6**	**-0.3**
	comp=E,5.7nm,0.8s,baz=260,slow=13,SNR=6.3						
BDFB				LR	LR	13 47 18.8	
	comp=E,78nm,18.3s,baz=224,slow=37						
BDFB	**Brasilia**	**20.97**	**82**	*e*P	**P**	**13 39 07.7**	**-0.1**
PLCA	**Paso Flores**	**21.03**	**182**	P	**P**	**13 39 08.7**	**+0.4**
	comp=E,11nm,0.8s,baz=7.6,slow=11,SNR=14						
PLCA	**Paso Flores**	**21.03**	**182**	*e*P	**P**	**13 39 09.5**	**+1.2**
PLCA	**Paso Flores**	**21.03**	**182**	*e*P	**P**	**13 39 08.8**	**+0.6**
	comp=E,16nm,0.8s						
PTGA	**Pitinga**	**21.05**	**28**	P	**P**	**13 39 07.1**	**-1.5**
	comp=E,3.8nm,0.3s,baz=210,slow=17,SNR=7.2						
PTGA	**Pitinga**	**21.05**	**28**	*e*P	**P**	**13 39 06.9**	**-1.7**
	comp=E,13nm,1.1s						
OTAV	**Otavalo**	**21.58**	**335**	P	**P**	**13 39 15.2**	**+0.5**
	comp=E,5.9nm,0.7s						
SDV	**Santo Domingo**	**28.38**	**358**	*e*P	**P**	**13 40 21.0**	**+2.0**
	comp=E,40nm,2.3s						
636A	**Smothers Creek**	**55.55**	**331**	⇓P	**P**	**13 44 01.5**	**+1.6**
	baz=56						
340A	**Bronson**	**55.86**	**335**	⇑P	**P**	**13 44 03.7**	**+1.6**
	baz=56						
832A	**Faith Ranch, C**	**55.97**	**327**	⇑P	**P**	**13 44 03.8**	**+0.8**
	baz=56						
733A	**Divot King Ran**	**55.98**	**328**	⇑P	**P**	**13 44 03.5**	**+0.5**
	baz=56						
633A	**Saathoff Ranch**	**56.53**	**329**	⇓P	**P**	**13 44 07.8**	**+0.8**
	baz=57						
632A	**Uvalde**	**56.87**	**328**	⇓P	**P**	**13 44 10.2**	**+0.8**
	baz=57						
533A	**Kerrville**	**56.98**	**329**	⇓P	**P**	**13 44 10.8**	**+0.7**
	baz=57						
336A	**Riesel**	**57.08**	**332**	⇓P	**P**	**13 44 11.7**	**+0.9**
	baz=57						
237A	**Washetta, Mont**	**57.16**	**333**	⇓P	**P**	**13 44 13.1**	**+1.7**
	baz=57,SNR=5.1						
631A	**Perdido Creek**	**57.19**	**328**	⇓P	**P**	**13 44 12.3**	**+0.7**
	baz=58						
532A	**Rocksprings**	**57.44**	**329**	⇑P	**P**	**13 44 15.0**	**+1.6**
	baz=58						
433A	**Art**	**57.57**	**330**	⇑P	**P**	**13 44 14.4**	**+0.1**
	baz=58,SNR=8.2						
334A	**Lometa**	**57.66**	**331**	⇑P	**P**	**13 44 15.5**	**+0.6**
	baz=58						
JCT	**Junction City**	**57.68**	**329**	⇑P	**P**	**13 44 16.3**	**+1.2**
	baz=58						
531A	**Rocksprings**	**57.79**	**328**	⇑P	**P**	**13 44 16.4**	**+0.5**
	baz=58						
WHTX	**Lake Whitney,**	**57.86**	**332**	⇑P	**P**	**13 44 17.1**	**+0.8**
	baz=58						
333A	**Richland Sprin**	**57.99**	**330**	⇑P	**P**	**13 44 18.0**	**+0.7**
	baz=58						
432A	**Menard**	**58.01**	**329**	⇑P	**P**	**13 44 17.6**	**+0.2**
	baz=58,SNR=5.9						
WVT	**Waverly**	**58.09**	**343**	*e*P	**P**	**13 44 16.5**	**-1.3**
	comp=E,3.7nm,0.6s						
530A	**J-C Ranch, Com**	**58.17**	**328**	⇑P	**P**	**13 44 19.6**	**+1.0**
	baz=58						
431A	**Sonora**	**58.24**	**329**	⇑P	**P**	**13 44 19.6**	**+0.5**
	baz=58						
332A	**Millersview**	**58.40**	**330**	⇑P	**P**	**13 44 20.8**	**+0.6**
	baz=59,SNR=7.4						
MIAR	**Mount Ida**	**58.52**	**337**	*e*P	**P**	**13 44 20.7**	**-0.1**
	comp=E,5.8nm,1.0s						
233A	**Rising Star**	**58.54**	**331**	⇑P	**P**	**13 44 21.8**	**+0.7**
	baz=59						
529A	**Stev Forest Ra**	**58.60**	**327**	⇑P	**P**	**13 44 22.4**	**+0.8**
	baz=59,SNR=6.9						
134A	**White-Moore Ra**	**58.63**	**332**	⇑P	**P**	**13 44 23.0**	**+1.3**
	baz=59						
430A	**Baggett Ranch,**	**58.64**	**328**	⇓P	**P**	**13 44 22.5**	**+0.7**
	baz=59						
331A	**San Angelo**	**58.67**	**329**	⇓P	**P**	**13 44 22.4**	**+0.4**
	baz=59						
TXAR	**Lajitas Array**	**58.74**	**325**	P	**P**	**13 44 22.2**	**-0.4**
	comp=E,1.1nm,0.8s,baz=153,slow=9.8,SNR=12						
232A	**Coleman**	**58.77**	**330**	⇑P	**P**	**13 44 24.9**	**+2.1**
	baz=59,SNR=6.7						
429A	**Davenport Ranc**	**58.84**	**327**	⇑P	**P**	**13 44 23.9**	**+0.7**
	baz=59,SNR=6.5						
WADM	**Wardell**	**58.89**	**341**	*e*P	**P**	**13 44 24.9**	**+1.5**
Z35A	**Perchaven, San**	**58.92**	**333**	⇑P	**P**	**13 44 24.9**	**+1.2**
	baz=59						
133A	**Hamilton Ranch**	**59.04**	**331**	⇑P	**P**	**13 44 25.4**	**+0.8**
	baz=59						
330A	**Mertzon**	**59.11**	**329**	⇑P	**P**	**13 44 25.8**	**+0.7**
	baz=59						
231A	**Bronte**	**59.13**	**330**	⇓P	**P**	**13 44 26.9**	**+1.7**
	baz=59						
Z34A	**Collier Ranch,**	**59.24**	**333**	⇓P	**P**	**13 44 27.5**	**+1.6**
	baz=60						
ABTX	**Abilene, Hawle**	**59.39**	**331**	⇑P	**P**	**13 44 29.1**	**+2.1**
	baz=60						
230A	**Sterling City**	**59.48**	**329**	⇓P	**P**	**13 44 29.4**	**+1.7**
	baz=60						
Z33A	**Whitaker Ranch**	**59.54**	**332**	⇑P	**P**	**13 44 28.6**	**+0.5**
	baz=60						
329A	**Wagon Wheel Ra**	**59.58**	**328**	⇓P	**P**	**13 44 29.1**	**+0.8**
	baz=60						
Y34A	**Reagan Ranch,**	**59.67**	**333**	⇑P	**P**	**13 44 29.5**	**+0.7**
	baz=60						
131A	**Roby**	**59.77**	**330**	⇓P	**P**	**13 44 30.7**	**+1.0**
	baz=60						
229A	**Bryant Ranch,**	**59.88**	**328**	⇓P	**P**	**13 44 31.1**	**+0.6**
	baz=60						
Z32A	**Haskell**	**59.88**	**331**	⇑P	**P**	**13 44 31.5**	**+1.1**
	baz=60						
130A	**Snyder**	**59.98**	**330**	⇑P	**P**	**13 44 31.8**	**+0.7**
	baz=60						
Y33A	**Hilltop Ranch,**	**60.09**	**332**	⇑P	**P**	**13 44 32.4**	**+0.6**
	baz=60						
Z31A	**Sharp Cattle R**	**60.20**	**331**	⇓P	**P**	**13 44 32.8**	**+0.3**
	baz=60						
X34A	**Smith Ranch, M**	**60.26**	**333**	⇓P	**P**	**13 44 33.8**	**+0.9**
	baz=60						
228A	**UT Block 9, Go**	**60.39**	**328**	⇑P	**P**	**13 44 34.6**	**+0.6**
	baz=61						
129A	**Stewart Farms,**	**60.45**	**329**	⇑P	**P**	**13 44 36.1**	**+1.8**
	baz=61						
Y32A	**R-V Farms, Ver**	**60.45**	**332**	⇓P	**P**	**13 44 35.6**	**+1.4**
	baz=61						
TUL1	**Leonard**	**60.56**	**336**	⇓P	**P**	**13 44 36.0**	**+1.1**
	baz=61						
Z30A	**Sanderson Ranc**	**60.63**	**330**	⇑P	**P**	**13 44 36.1**	**+0.5**
	baz=61						
X32A	**Elmer**	**60.73**	**332**	⇓P	**P**	**13 44 37.5**	**+1.4**
	baz=61						
W34A	**Bridge Creek,**	**60.77**	**334**	⇓P	**P**	**13 44 37.7**	**+1.2**
	baz=61						
Y31A	**Rekieta Farm,**	**60.79**	**331**	⇑P	**P**	**13 44 37.4**	**+0.8**
	baz=61						
Z29A	**Hungry Hill Ra**	**60.88**	**329**	⇓P	**P**	**13 44 38.1**	**+0.8**
	baz=61						
W33A	**Caddo, Fort Co**	**61.00**	**333**	⇓P	**P**	**13 44 38.8**	**+0.8**
	baz=61						
V34A	**Guthrie**	**61.19**	**334**	⇓P	**P**	**13 44 40.2**	**+1.0**
	baz=61						
X31A	**McDonald Ranch**	**61.22**	**332**	⇓P	**P**	**13 44 40.1**	**+0.6**
	baz=61						
Z28A	**Tucker Farm, M**	**61.24**	**329**	⇓P	**P**	**13 44 39.9**	**+0.2**
	baz=62						
W32A	**Sentinel**	**61.31**	**332**	⇑P	**P**	**13 44 40.8**	**+0.7**
	baz=62						
Y29A	**Porterfield Fa**	**61.36**	**330**	⇓P	**P**	**13 44 41.1**	**+0.6**
	baz=62						
X30A	**Coker Ranch, T**	**61.47**	**331**	⇓P	**P**	**13 44 41.8**	**+0.5**
	baz=62						
V33A	**Lossen Ranch,**	**61.49**	**334**	⇑P	**P**	**13 44 41.8**	**+0.5**
	baz=62						
MNTX	**Cornudas Mount**	**61.50**	**325**	⇓P	**P**	**13 44 41.3**	**-0.2**
	baz=62,SNR=7.7						
Y28A	**McKinney Farm,**	**61.67**	**329**	⇓P	**P**	**13 44 42.9**	**+0.3**
	baz=62						
U34A	**Anderson Ranch**	**61.71**	**335**	⇓P	**P**	**13 44 43.4**	**+0.6**
	baz=62						
SFIN	**Lafayette**	**61.90**	**345**	*e*P	**P**	**13 44 41.7**	**-2.2**
	comp=E,6.3nm,0.6s						
U33A	**Lingo Farm, Me**	**61.94**	**334**	⇑P	**P**	**13 44 44.4**	**+0.1**
	baz=62						
MSTX	**Muleshoe**	**61.98**	**329**	⇑P	**P**	**13 44 45.4**	**+0.7**
	baz=62						
MSTX	**Muleshoe**	**61.98**	**329**	*e*P	**P**	**13 44 44.3**	**-0.5**
	comp=E,9.1nm,0.9s						
S36A	**Lake Cedric, C**	**62.08**	**337**	⇓P	**P**	**13 44 45.4**	**+0.2**
	baz=62,SNR=5.5						
V31A	**Spring Creek L**	**62.12**	**332**	⇓P	**P**	**13 44 46.1**	**+0.5**
	baz=62						
ERPA	**Erie**	**62.20**	**351**	*e*P	**P**	**13 44 46.1**	**+0.2**
T33A	**Patterson Ranc**	**62.55**	**334**	⇓P	**P**	**13 44 49.1**	**+0.7**
	baz=63						
V28A	**Channing**	**63.17**	**331**	⇑P	**P**	**13 44 53.4**	**+0.7**
	baz=63						
W26A	**Owens Ranch, T**	**63.36**	**329**	⇓P	**P**	**13 44 55.5**	**+1.6**
	baz=64						
319A	**Douglas**	**63.42**	**322**	⇑P	**P**	**13 44 56.1**	**+1.6**
	baz=64,SNR=5.8						
121A	**Cookes Peak, D**	**63.45**	**324**	⇓P	**P**	**13 44 56.3**	**+1.7**
	baz=64						
W25A	**X Bar L Ranch,**	**63.80**	**329**	⇑P	**P**	**13 44 57.4**	**+0.5**
	baz=64						
R32A	**Long Quarter,**	**63.90**	**335**	⇑P	**P**	**13 44 58.3**	**+1.0**
	baz=64						
V26A	**Tequesquite Ra**	**63.94**	**329**	⇑P	**P**	**13 44 58.9**	**+1.1**
	baz=64						
S30A	**Montezuma**	**63.95**	**333**	⇓P	**P**	**13 44 58.9**	**+1.1**
	baz=64						
U27A	**Thompson Grove**	**63.99**	**331**	⇓P	**P**	**13 45 00.1**	**+2.0**
	baz=64						
R31A	**Burdett**	**64.11**	**334**	⇓P	**P**	**13 44 60.0**	**+1.2**
	baz=64						
Y22D	**IRIS PASSCAL I**	**64.16**	**326**	⇓P	**P**	**13 45 00.5**	**+1.2**
	baz=64						
S29A	**Ulysses**	**64.22**	**333**	⇓P	**P**	**13 45 01.5**	**+1.9**
	baz=64						
SNAA	**Sanae**	**64.24**	**161**	P	**P**	**13 44 58.9**	**-0.3**
	comp=E,1.7nm,0.9s,baz=282,slow=3.9,SNR=5.7						
T28A	**Walsh**	**64.25**	**332**	⇑P	**P**	**13 45 01.4**	**+1.7**
	baz=64						
W24A	**Lazy 6 Ranch,**	**64.27**	**328**	⇓P	**P**	**13 45 00.5**	**+0.5**
	baz=64						
Q32A	**Meitler Ranch,**	**64.32**	**335**	⇑P	**P**	**13 45 00.3**	**+0.2**
	baz=65						
P33A	**Williams Farm,**	**64.37**	**336**	⇑P	**P**	**13 45 01.0**	**+0.6**
	baz=65						
V25A	**Rancho No Teng**	**64.38**	**329**	⇑P	**P**	**13 45 01.6**	**+0.9**
	baz=65						
U26A	**Atchley Ranch,**	**64.40**	**330**	⇑P	**P**	**13 45 01.4**	**+0.5**
	baz=65,SNR=6.2						
R30A	**Dighton**	**64.42**	**334**	⇓P	**P**	**13 45 01.0**	**+0.3**
	baz=65						
T27A	**Campo**	**64.47**	**331**	⇓P	**P**	**13 45 01.9**	**+0.7**
	baz=65						
S28A	**Manter**	**64.54**	**332**	⇓P	**P**	**13 45 02.1**	**+0.5**
	baz=65						
Q31A	**Ellis**	**64.67**	**335**	⇓P	**P**	**13 45 03.4**	**+1.0**
	baz=65						
U25A	**Circle Dot Ran**	**64.72**	**329**	⇑P	**P**	**13 45 03.4**	**+0.4**
	baz=65,SNR=5.4						
T26A	**Comanche Natio**	**64.97**	**330**	⇑P	**P**	**13 45 05.2**	**+0.7**
	baz=65						
Q30A	**Quinter**	**64.98**	**334**	⇓P	**P**	**13 45 05.4**	**+1.0**
	baz=65						
V23A	**Ortiz Mt. (NFS**	**65.08**	**328**	⇑P	**P**	**13 45 06.0**	**+0.6**
	baz=65						
P31A	**Stockton**	**65.10**	**335**	⇑P	**P**	**13 45 05.8**	**+0.6**
	baz=65						
R28A	**Tribune**	**65.12**	**333**	⇑P	**P**	**13 45 06.2**	**+0.8**
	baz=65						
U24A	**Moreno Valley**	**65.15**	**329**	⇑P	**P**	**13 45 07.0**	**+1.1**
	baz=65						
Q29A	**Oakley**	**65.22**	**333**	⇑P	**P**	**13 45 06.8**	**+0.7**
	baz=66						
S26A	**Kim**	**65.27**	**331**	⇑P	**P**	**13 45 07.3**	**+0.9**
	baz=66,SNR=5.8						
O32A	**Brockman Farm,**	**65.31**	**336**	⇑P	**P**	**13 45 07.8**	**+1.3**
	baz=66						
T25A	**Trinidad**	**65.32**	**330**	⇓P	**P**	**13 45 08.1**	**+1.2**
	baz=66						
P30A	**Selden**	**65.47**	**334**	⇑P	**P**	**13 45 08.7**	**+1.1**
	baz=66						
R27A	**Eads**	**65.51**	**332**	⇓P	**P**	**13 45 09.2**	**+1.2**
	baz=66						
U23A	**El Rito**	**65.54**	**328**	⇑P	**P**	**13 45 09.4**	**+1.0**
	baz=66						
V22A	**San Miguel Ran**	**65.58**	**327**	⇓P	**P**	**13 45 10.1**	**+1.5**
	baz=66,SNR=5.7						
O31A	**Woolen Ranch,**	**65.62**	**335**	⇑P	**P**	**13 45 10.0**	**+1.4**
	baz=66						
Q28A	**Sharon Springs**	**65.73**	**333**	⇓P	**P**	**13 45 11.0**	**+1.6**
	baz=66						
S25A	**Robets Cordova**	**65.75**	**330**	⇓P	**P**	**13 45 10.2**	**+0.6**
	baz=66						
N32A	**Stulken Farm,**	**65.75**	**336**	⇓P	**P**	**13 45 10.4**	**+1.0**
	baz=66						
R26A	**Arlington**	**65.82**	**331**	⇓P	**P**	**13 45 10.5**	**+0.5**
	baz=66						
214A	**Organ Pipe Nat**	**65.92**	**320**	⇑P	**P**	**13 45 12.1**	**+1.5**
	baz=66						
O30A	**MW Ranch, Wils**	**65.94**	**335**	⇓P	**P**	**13 45 11.7**	**+1.1**
	baz=66						
T23A	**Casias Ranch,**	**66.02**	**329**	⇓P	**P**	**13 45 13.0**	**+1.5**
	baz=66						

O22A	**Kremmling**	**68.74**	**330**	⇑P		**P**	**13 45 29.1**	**+0.4**
	baz=69							
W13A	**Hualapai Mount**	**68.77**	**322**	⇓P		**P**	**13 45 30.5**	**+1.6**
	baz=69							
U15A	**North Rim**	**68.82**	**324**	⇑P		**P**	**13 45 31.0**	**+1.7**
	baz=69,SNR=5.2							
KIC	**Kosan Boka**	**68.85**	**75**	*e*P		**P**	**13 45 28.1**	**-1.5**
	comp=E,26nm,0.7s							
IRM	**Iron Mountain**	**68.86**	**321**	⇓P		**P**	**13 45 30.9**	**+1.7**
	baz=69,SNR=5.2							
DBIC	**Dimbokro**	**68.87**	**74**	P		**P**	**13 45 28.1**	**-1.6**
	comp=E,12nm,0.7s,baz=224,slow=6.3,SNR=19							
DBIC	**Dimbokro**	**68.87**	**74**	*e*P		**P**	**13 45 28.2**	**-1.5**
	comp=E,16nm,0.8s							
M24A	**Cheyenne**	**69.01**	**332**	⇓P		**P**	**13 45 31.5**	**+1.3**
	baz=69							
N23A	**Red Feather La**	**69.05**	**331**	⇓P		**P**	**13 45 32.9**	**+2.4**
	baz=69							
J28A	**Allard Ranch,**	**69.16**	**336**	⇑P		**P**	**13 45 33.3**	**+2.3**
	baz=69							
L25A	**Engebretsen Ra**	**69.20**	**333**	⇑P		**P**	**13 45 33.4**	**+2.1**
	baz=69							
BELC	**Belle Mtn. Jos**	**69.26**	**320**	⇓P		**P**	**13 45 33.8**	**+1.9**
	baz=70							
PFO	**Pinyon Flats O**	**69.27**	**319**	⇓P		**P**	**13 45 33.5**	**+1.6**
	baz=70							
J27A	**Elkhorn Farm,**	**69.31**	**335**	⇑P		**P**	**13 45 33.8**	**+1.9**
	baz=70							
K25A	**Mack Ranch, Ha**	**69.54**	**334**	⇓P		**P**	**13 45 35.1**	**+1.7**
	baz=70							
KNB	**Kanab**	**69.54**	**324**	*e*P		**P**	**13 45 35.3**	**+1.7**
	comp=E,9.7nm,1.0s							
GMRC	**Granite Mounta**	**69.59**	**321**	⇓P		**P**	**13 45 36.1**	**+2.2**
	baz=70							
H29A	**Onida**	**69.80**	**337**	⇑P		**P**	**13 45 36.5**	**+1.7**
	baz=70							
G30A	**Faulkton**	**69.85**	**338**	⇑P		**P**	**13 45 37.2**	**+2.1**
	baz=70							
SRU	**San Rafael Swe**	**69.87**	**327**	*e*P		**P**	**13 45 36.4**	**+0.8**
	comp=E,3.4nm,0.8s							
I27A	**Quinn**	**70.02**	**336**	⇑P		**P**	**13 45 37.1**	**+0.9**
	baz=70							
EYMN	**Ely**	**70.09**	**345**	*e*P		**P**	**13 45 35.8**	**-0.7**
CCUT	**Cedar City**	**70.23**	**324**	*e*P		**P**	**13 45 39.4**	**+1.6**
	comp=E,49nm,2.5s							
ARUT	**Antelope Range**	**70.44**	**324**	*e*P		**P**	**13 45 41.2**	**+2.2**
QSPA	**South Pole Qui**	**70.53**	**180**	*e*P		**P**	**13 45 40.1**	**+0.8**
	comp=E,94nm,2.6s							
GSC	**Goldstone, Bar**	**70.63**	**321**	⇓P		**P**	**13 45 41.7**	**+1.5**
	baz=71							
I25A	**Rochford**	**70.64**	**335**	⇓P		**P**	**13 45 41.5**	**+1.3**
	baz=71,SNR=5.7							
K22A	**Casper**	**70.71**	**332**	⇑P		**P**	**13 45 41.8**	**+1.2**
	baz=71							
DECC	**Green Verdugo**	**70.86**	**319**	⇓P		**P**	**13 45 43.1**	**+1.6**
	baz=71							
K21A	**Alcova**	**71.02**	**332**	⇑P		**P**	**13 45 43.5**	**+0.9**
	baz=71							
J22A	**Midwest**	**71.30**	**333**	⇑P		**P**	**13 45 45.0**	**+0.9**
	baz=72							
TPNV	**Topopah Spring**	**71.43**	**322**	⇓P		**P**	**13 45 47.4**	**+2.2**
	baz=72							
TPNV	**Topopah Spring**	**71.43**	**322**	*e*P		**P**	**13 45 46.6**	**+1.5**
	comp=E,100nm,2.7s							
MPMC	**Manual Prospec**	**71.56**	**321**	⇑P		**P**	**13 45 47.1**	**+1.2**
	baz=72							
I22A	**9 Mile Ranch,**	**71.69**	**333**	⇑P		**P**	**13 45 47.6**	**+1.1**
	baz=72							
F26A	**Lodgepole**	**71.76**	**336**	⇑P		**P**	**13 45 47.9**	**+1.2**
	baz=72							
DAC	**Darwin (Calif)**	**71.76**	**321**	*e*P		**P**	**13 45 48.4**	**+1.3**
	comp=E,25nm,2.0s							
DUG	**Dugway, Tooele**	**71.86**	**327**	⇑P		**P**	**13 45 49.1**	**+1.5**
	baz=72							
DUG	**Dugway, Tooele**	**71.86**	**327**	*e*P		**P**	**13 45 49.1**	**+1.5**
	comp=E,41nm,2.6s							
ISA	**Isabella, Lake**	**71.88**	**320**	⇓P		**P**	**13 45 49.4**	**+1.7**
	baz=72							
I21A	**Big Trails, Te**	**71.97**	**332**	⇑P		**P**	**13 45 49.1**	**+0.8**
	baz=72							
R11A	**Troy Canyon, C**	**72.03**	**324**	⇑P		**P**	**13 45 50.2**	**+1.5**
	baz=72							
R11A	**Troy Canyon, C**	**72.03**	**324**	*e*P		**P**	**13 45 50.6**	**+1.9**
	comp=E,51nm,2.8s							
PDAR	**Pinedale Array**	**72.18**	**330**	P		**P**	**13 45 48.7**	**-0.8**
	comp=E,0.3nm,0.5s,baz=146,slow=5.0,SNR=3.0							
E26A	**Carlson Angus**	**72.20**	**337**	⇓P		**P**	**13 45 50.6**	**+1.2**
	baz=72							
G23A	**Biddle**	**72.29**	**334**	⇓P		**P**	**13 45 51.2**	**+1.2**
	baz=72							
J19A	**Crowheart**	**72.33**	**331**	⇓P		**P**	**13 45 51.0**	**+0.6**
	baz=73							
VES	**Vestal, Richgr**	**72.37**	**320**	⇓P		**P**	**13 45 51.3**	**+0.7**
	baz=73							
MDND	**Maddock**	**72.38**	**339**	⇑P		**P**	**13 45 51.8**	**+1.4**
	baz=73							
D27A	**Center**	**72.40**	**338**	⇓P		**P**	**13 45 51.6**	**+1.1**
	baz=73							
F24A	**Ekalaka**	**72.44**	**335**	⇑P		**P**	**13 45 52.1**	**+1.2**
	baz=73							
I20A	**Worland**	**72.45**	**332**	⇑P		**P**	**13 45 51.9**	**+0.9**
	baz=73							
B30A	**Myrvik Farm, E**	**72.49**	**340**	⇓P		**P**	**13 45 51.4**	**+0.4**
	baz=73							
E25A	**Miller Ranch,**	**72.58**	**336**	⇓P		**P**	**13 45 52.9**	**+1.3**
	baz=73							
TPH	**Tonopah**	**72.77**	**322**	*e*P		**P**	**13 45 53.8**	**+0.7**
	comp=E,76nm,3.0s							
RCTC	**Rector, Farmer**	**72.78**	**320**	⇑P		**P**	**13 45 54.3**	**+1.3**
	baz=73							
E24A	**Baker**	**72.97**	**336**	⇑P		**P**	**13 45 55.4**	**+1.4**
	baz=73							
D25A	**Fairfield**	**73.09**	**337**	⇑P		**P**	**13 45 56.2**	**+1.6**
	baz=73							
A29A	**Manning Farm,**	**73.19**	**340**	⇓P		**P**	**13 45 55.5**	**+0.3**
	baz=73							
ULM	**Lac du Bonnet**	**73.36**	**343**	P		**P**	**13 45 55.0**	**-1.1**
	comp=E,2.4nm,0.5s,baz=146,slow=6.4,SNR=8.3							
ULM	**Lac du Bonnet**	**73.36**	**343**	*e*P		**P**	**13 45 55.0**	**-1.1**
	comp=E,65nm,2.9s							
MLAC	**Mammoth, Mammo**	**73.41**	**321**	⇓P		**P**	**13 45 58.1**	**+1.1**
	baz=74							
D24A	**Glendive**	**73.44**	**336**	⇓P		**P**	**13 45 58.0**	**+1.3**
	baz=74							
C25A	**Freed Ranch, W**	**73.54**	**337**	⇓P		**P**	**13 45 58.4**	**+1.2**
	baz=74							
I17A	**Pilgrim Ck.**	**73.54**	**330**	⇑P		**P**	**13 45 59.4**	**+1.8**
	baz=74							
NVAR	**Mina Array Bea**	**73.63**	**322**	P		**P**	**13 45 59.6**	**+1.4**
	comp=E,1.3nm,0.7s,baz=157,slow=5.4,SNR=11							
H18A	**Shoshone NF, C**	**73.71**	**331**	⇓P		**P**	**13 45 59.2**	**+0.6**
	baz=74,SNR=6.6							
FLWY	**Flagg Ranch**	**73.72**	**330**	*e*P		**P**	**13 46 00.1**	**+1.4**
	comp=E,51nm,2.4s							
B26A	**Jensen Ranch,**	**73.73**	**338**	⇑P		**P**	**13 45 59.3**	**+0.9**
	baz=74							
C24A	**Savage**	**73.82**	**336**	⇓P		**P**	**13 45 60.0**	**+1.0**
	baz=74							
D23A	**Lindsay**	**73.83**	**336**	⇓P		**P**	**13 46 00.9**	**+1.9**
	baz=74							
B25A	**Knox Farm, Ray**	**73.97**	**337**	⇓P		**P**	**13 46 00.8**	**+1.0**
	baz=74							
D22A	**Cohagen**	**74.19**	**335**	⇑P		**P**	**13 46 02.7**	**+1.5**
	baz=74							
SCHQ	**Schefferville**	**74.22**	**2**	P		**P**	**13 45 59.9**	**-1.1**
	comp=E,3.3nm,0.9s,baz=179,slow=4.8,SNR=4.4							
F19A	**Roth Farm, Mol**	**74.31**	**333**	⇑P		**P**	**13 46 02.3**	**+0.4**
	baz=74							
D21A	**La Casta Ranch**	**74.45**	**334**	⇑P		**P**	**13 46 04.9**	**+2.3**
	baz=75							
E19A	**Rath Farm, Rou**	**74.72**	**333**	⇓P		**P**	**13 46 04.9**	**+0.6**
	baz=75							
HLID	**Hailey**	**75.13**	**328**	⇓P		**P**	**13 46 08.7**	**+1.8**
	baz=75							
HLID	**Hailey**	**75.13**	**328**	*e*P		**P**	**13 46 08.4**	**+1.5**
	comp=E,2.5nm,0.8s							
D19A	**Cripps Ranch,**	**75.31**	**333**	⇓P		**P**	**13 46 08.8**	**+1.1**
	baz=76							
C19A	**Slack Wire Ran**	**75.83**	**334**	⇓P		**P**	**13 46 11.6**	**+1.0**
	baz=76							
B20A	**Solberg Farm,**	**75.97**	**335**	⇓P		**P**	**13 46 12.6**	**+1.3**
	baz=76							
TORD	**Torodi Ar. Bea**	**77.38**	**71**	P		**P**	**13 46 18.2**	**-1.7**
	comp=E,3.4nm,0.5s,baz=252,slow=5.2,SNR=57							
VNDA	**Vanda**	**78.55**	**190**	P		**P**	**13 46 27.4**	**+1.9**
	comp=E,1.0nm,0.8s,baz=23,slow=1.5,SNR=4.0							
BOSA	**Boshof**	**84.91**	**118**	P		**P**	**13 46 59.2**	**-0.9**
	comp=E,7.2nm,1.2s,baz=266,slow=15,SNR=3.0							

ESDC	**Sonseca Array**	**85.00**	**45**	P		**P**	**13 46 59.1**	**-1.0**
	comp=E,0.4nm,0.5s,baz=267,slow=5.5,SNR=3.6							
MAW	**Mawson**	**86.28**	**164**	P		**P**	**13 47 06.1**	**+0.2**
	comp=E,4.1nm,0.8s,baz=277,slow=8.1,SNR=3.1							
YKA	**Yellowknife Ar**	**89.23**	**341**	P		**P**	**13 47 19.7**	**-0.3**
	comp=E,3.9nm,0.7s,baz=134,slow=4.8,SNR=109							
VYHS	**Vyhne**	**103.46**	**43**	*e*PP		PP	13 52 40.8	-0.4
KBZ	**Khabaz**	**119.47**	**50**	PKP		**PKPdf**	**13 53 13.0**	**-1.1**
	comp=E,1.5nm,0.9s,baz=180,slow=3.0,SNR=3.3							
H11S2	**WAKE ISLAND Hyl**	**26.96**	**279**	T		T	16 12 44.6	
	baz=101,slow=75,SNR=772							
H11S1	**WAKE ISLAND Hyl**	**26.97**	**279**	T		T	16 12 46.5	
	baz=101,slow=75,SNR=526							
H11S3	**WAKE ISLAND Hyl**	**26.98**	**279**	T		T	16 12 46.0	
	baz=101,slow=75,SNR=650							
H11N3	**WAKE ISLAND Hyl**	**27.00**	**280**	T		T	16 12 40.7	
	baz=100,slow=75,SNR=287							
H11N2	**WAKE ISLAND Hyl**	**27.01**	**280**	T		T	16 12 42.7	
	baz=100,slow=75,SNR=201							
H11N1	**WAKE ISLAND Hyl**	**27.01**	**280**	T		T	16 12 41.2	
	baz=100,slow=75,SNR=103							
ASAR	**Alice Springs**	**131.21**	**209**	PKhKP		PKPpre	13 53 25.8	
	comp=E,0.4nm,1.1s,baz=127,slow=1.9,SNR=4.2							
ASAR				PKP		**PKPdf**	**13 53 36.9**	**-0.6**
	comp=E,0.6nm,0.5s,baz=129,slow=1.6,SNR=20							
WRA	**Warramunga Arr**	**134.18**	**212**	PKhKP		PKPpre	13 53 30.9	
	comp=E,0.4nm,0.8s,baz=170,slow=1.1,SNR=6.0							
WRA				PKP		**PKPdf**	**13 53 42.6**	**-0.5**
	comp=E,1.0nm,0.5s,baz=142,slow=1.6,SNR=40							
ZALV	**Zalesovo Beam**	**140.55**	**24**	PKhKP		PKPpre	13 53 47.8	
	comp=E,1.7nm,0.6s,baz=270,slow=2.9,SNR=2.4							
ZALV				PKP		**PKPdf**	**13 53 52.9**	**-0.9**
	comp=E,3.9nm,0.7s,baz=280,slow=2.8,SNR=6.4							
KSH	**Kashi**	**144.43**	**49**	*e*PKP		**PKPab**	**13 53 57.4**	**-2.0**
KSH				pPKP		pPKP	13 54 23.4	
KSH				PP		**PP**	**13 57 19.1**	**+2.2**
KSH				PKS		PKSdf	13 57 31.2	-5.7
KSH				SKS		SKSdf	14 00 55.6	-15
KSH				PPMZ				
	comp=E,180nm,5.2s							
KSH				LN				
	comp=E,100nm,6.9s							
KSH				LE				
	comp=E,100nm,5.2s							
KSH				LZ				
	comp=E,140nm,5.7s							
MKAR	**Makanchi Array**	**144.51**	**34**	PKP		**PKPab**	**13 53 58.7**	**-0.6**
	comp=E,1.2nm,0.7s,baz=357,slow=2.1,SNR=8.2							
MJAR	**Matsushiro Arr**	**150.39**	**310**	PKPbc		**PKPbc**	**13 54 16.8**	**+0.4**
	comp=E,5.6nm,0.6s,baz=102,slow=1.5,SNR=22							
MAT	**Matsushiro**	**150.39**	**310**	PKP		**PKPbc**	**13 54 16.4**	**+0.1**
LZH	**Lanzhou**	**162.65**	**18**	*e*PKP		**PKPdf**	**13 54 25.2**	**-1.9**
LZH				pPKP		pPKP	13 54 51.3	
LZH				sPKP		sPKP	13 54 59.8	
CD2	**Chengdu**	**167.30**	**27**	PKP		**PKPdf**	**13 54 28.4**	**-2.7**

*MOS **04** 13:46:43.8±1.1, 40.07N×113.97E, h10km, mb4.6/33, Error ellipse: s-maj=7.3km s-min=5.4km az=111.4*
*IDC **04** 13:46:43.7±0.4, 40.00N×114.00E, h0km, mb4.4/31, mb1 4.5/35, mb1mx4.4/37, mbtmp4.3/35, ML3.7/3, MS3.7/19, Ms1 3.8/19, ms1mx3.6/34, Error ellipse: s-maj=11.8km s-min=10.9km az=34.0*
*ISCJB **04** 13:46:44.2±0.2, 40.06N±0.02×113.95E±0.02, h12km, mb4.5/84, MS3.9/21, Error ellipse: s-maj=3.1km s-min=2.6km az=178.5*
*BJI **04** 13:46:44.7, 39.90N×113.83E, h9km, mB4.7/26, mb4.6/32, ML4.9/23, Ms4.6/48, Ms7 4.3/45*
*NEIC **04** 13:46:45.7±0.2, 40.02N×113.93E, mb4.9/36, Error ellipse: s-maj=5.1km s-min=4.4km az=16.0*
NEIC Felt [II] at Beijing. Also felt at Changping, Datong and Zhangjiakou.

ISC 04 13:46:45.9±0.5, 40.04N±0.03×113.97E±0.02, h11km±3km, h11km:pP-P,n202,σ1s72/257, mb4.6/84, MS3.8/21, 9C-2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BJT	**Baijiatuau**	**1.69**	**90**	*e*P		**Pn**	**13 47 15.7**	**+0.3**
BJT	**Baijiatuau**	**1.69**	**90**	*e*Pn		**Pn**	**13 47 15.7**	**+0.3**
BJI	**Beijing**	**1.69**	**89**	Pg		**Pn**	**13 47 15.8**	**+0.4**
BJI				Sg		**Sg**	**13 47 39.7**	**-0.7**
BJI				SMN				
	23μm,0.6s							
BJI				SME				
	11μm,0.6s							
BJI	**Beijing**	**1.69**	**89**	P		**Pn**	**13 47 15.8**	**+0.4**
BJI							13 47 39.7	
BJI	**Beijing**	**1.69**	**89**	Pg		**Pn**	**13 47 15.8**	**+0.4**
BJI				Sg		**Sg**	**13 47 39.7**	**-0.7**
HHC	**Hu-ho-hao-te**	**2.01**	**295**	*e*Pn		**Pn**	**13 47 19.4**	**-0.4**
HHC				Pg		**Pb**	**13 47 20.9**	**-1.6**
HHC				Sg		**Sb**	**13 47 48.7**	**+1.2**
HHC				SMN				
	10μm,0.6s							
HHC				SME				
	15μm,0.6s							
HHC	**Hu-ho-hao-te**	**2.01**	**295**	*e*Pn		**Pn**	**13 47 19.4**	**-0.4**
HHC				Pg		**Pb**	**13 47 20.9**	**-1.6**
HHC				Sg		**Sb**	**13 47 48.7**	**+1.2**
TIY	**Taiyuan**	**2.61**	**208**	*e*Pn		**Pn**	**13 47 27.3**	**-0.8**
TIY				Pg		**Pb**	**13 47 29.9**	**-2.8**
TIY				Sn		**Sn**	**13 47 55.0**	**-4.8**
TIY				Sg		**Sb**	**13 48 03.2**	**-1.6**
TIY				SMN				
	3μm,0.5s							
TIY				SME				
	3μm,0.5s							
TIY	**Taiyuan**	**2.61**	**208**	*e*Pn		**Pn**	**13 47 27.3**	**-0.8**
TIY				Pg		**Pb**	**13 47 29.9**	**-2.8**
TIY				Sn		**Sn**	**13 47 55.0**	**-4.8**
TIY				Sg		**Sb**	**13 48 03.2**	**-1.6**
BTO	**Baotou**	**3.07**	**282**	*e*Pg		**Pb**	**13 47 38.4**	**-2.2**
BTO				Sg		**Sb**	**13 48 17.6**	**-0.6**
BTO				SMN				
	890nm,0.4s							
BTO				SME				
	700nm,0.6s							
BTO	**Baotou**	**3.07**	**282**	Pg		**Pb**	**13 47 38.4**	**-2.2**
BTO				Sg		**Sb**	**13 48 17.6**	**-0.6**
TIA	**Tai'an**	**4.56**	**146**	Pn		**Pn**	**13 47 53.6**	**-1.2**
TIA				Pg		**Pb**	**13 48 04.1**	**-1.8**
TIA				Sg		**Sb**	**13 49 04.7**	**+3.9**
TIA				SMN				
	760nm,0.9s							
TIA				SME				
	1μm,0.9s							
TIA	**Tai'an**	**4.56**	**146**	Pn		**Pn**	**13 47 53.6**	**-1.2**
TIA				Pg		**Pb**	**13 48 04.1**	**-1.8**
TIA				Sg		**Sb**	**13 49 04.7**	**+3.9**
DL2	**Dalian**	**6.03**	**98**	Pn		**Pn**	**13 48 16.1**	**+1.1**
DL2				Sn		**Sn**	**13 49 22.7**	**-1.4**
DL2				SMN				
	660nm,0.9s							
DL2				SME				
	400nm,0.7s							
DL2	**Dalian**	**6.03**	**98**	Pn		**Pn**	**13 48 16.1**	**+1.1**
DL2				Sn		**Sn**	**13 49 22.7**	**-1.4**
XAN	**Xi'an**	**7.22**	**216**	Pn		**Pn**	**13 48 29.8**	**-1.6**
XAN				LN				
	610nm,3.5s							
XAN				LE				
	410nm,5.5s							
XAN				LZ				
	270nm,5.0s							
SNY	**Shenyang**	**7.49**	**73**	Pn		**Pn**	**13 48 35.9**	**+0.8**
SNY				Sg		**Sg**	**13 50 40.7**	**-5.6**
SNY				LN				
	1μm,5.6s							
SNY				LE				
	2μm,7.4s							
SNY				LZ				
	2μm,8.2s							
NJ2	**Nanjing**	**8.89**	**152**	*e*P		**Pn**	**13 48 54.7**	**+0.4**
NJ2				PMZ				
	50nm,0.5s							
NJ2				LN				
	2μm,11.7s							
NJ2				LE				
	2μm,13.5s							
NJ2				LZ				
	3μm,14.1s							
LZH	**Lanzhou**	**8.90**	**247**	*e*P		**Pn**	**13 48 53.0**	**-1.6**

LZH				pP		pP	13 48 57.1			
LZH				sP		sP	13 48 59.7			
LZH				*e*S		**Sn**	**13 50 38.2**	**+3.2**		
LZH				sS		sS	13 50 44.0			
LZH				PMZ						
	28nm,1.0s									
LZH				PMZ						
	140nm,4.2s									
LZH				LN						
	3μm,6.0s									
LZH				LE						
	2μm,6.3s									
LZH				LZ						
	3μm,7.1s									
ULN	**Ulaanbaatar**	**9.28**	**330**	*e*P		**Pn**	**13 48 58.3**	**-1.4**		
ULN				pmax		pmax				
	comp=Z,25nm,0.6s									
ULN	**Ulaanbaatar**	**9.28**	**330**	*e*Pn		**Pn**	**13 48 58.3**	**-1.4**		
	comp=Z,25nm,0.6s									
WHN	**Wuhan**	**9.48**	**178**	⇓P		Pn	13 49 06.4	+4.1		
WHN				S		**Sn**	**13 50 47.1**	**-1.7**		
WHN				LE						
	comp=Z,3μm,10.2s									
WHN				LZ						
	comp=Z,2μm,13.5s									
SONM	**Songino Array**	**9.52**	**328**	P		**Pn**	**13 49 01.4**	**-1.5**		
SONM							13 50 49.7			
SONM				pmax		pmax				
	comp=Z,2.0nm,0.3s									
SONM				smax		smax				
	comp=N,4.0nm,0.3s									
SONM				MLR		MLR				
	comp=Z,1μm,20.1s									
SONM	**Songino Array**	**9.52**	**328**	Pn		**Pn**	**13 49 01.4**	**-1.5**		
	comp=Z,1.9nm,0.3s,baz=146,slow=13,SNR=94									
SONM				Sn		**Sn**	**13 50 49.7**	**-0.2**		
	comp=Z,4.2nm,0.3s,baz=152,slow=16,SNR=3.6									
SONM				Lg		Lg	13 51 47.6			
	comp=Z,19nm,0.3s,baz=134,slow=26,SNR=6.6									
SONM				LR		LR	13 53 12.6			
	comp=Z,1μm,20.1s,baz=142,slow=41									
HIA	**Hailar**	**10.10**	**22**	*e*P		**Pn**	**13 49 09.9**	**-0.9**		
HIA	**Hailar**	**10.10**	**22**	*e*P		**Pn**	**13 49 10.3**	**-0.5**		
	comp=Z,23nm,0.6s									
GTA	**Gaotai**	**10.92**	**271**	⇑P		**Pn**	**13 49 21.1**	**-1.1**		
GTA				pP			13 49 24.4			
GTA				sP			13 49 27.1			
GTA				S		**Sn**	**13 51 25.5**	**+1.0**		
GTA				sS			13 51 30.5			
GTA				SS		**SnSn**	**13 51 38.6**	**+2.5**		
GTA				PMZ						
	comp=Z,7.0nm,1.0s									
GTA				PMZ						
	comp=Z,66nm,4.5s									
GTA				LN						
	comp=Z,1μm,11.2s									
GTA				LE						
	comp=Z,2μm,10.4s									
GTA				LZ						
	comp=Z,2μm,11.9s									
KSAR	**Wonju Array Be**	**11.17**	**99**	P		**Pn**	**13 49 26.8**	**+1.3**		
KSAR							13 51 26.9			
KSAR	**Wonju Array Be**	**11.17**	**99**	Pn		**Pn**	**13 49 26.8**	**+1.3**		
KSAR				Sn		**Sn**	**13 51 26.9**	**-3.5**		
KSAR				Lg		Lg	13 52 38.9			
KSRS	**Korea Array**	**11.20**	**99**	Pn		**Pn**	**13 49 26.8**	**+0.9**		
	comp=Z,1.2nm,0.3s,baz=289,slow=14,SNR=41									
KSRS				Sn		**Sn**	**13 51 26.9**	**-4.1**		
	comp=Z,0.7nm,0.3s,baz=280,slow=24,SNR=8.1									
KSRS				Lg		Lg	13 52 38.9			
	comp=Z,0.5nm,0.3s,baz=296,slow=29,SNR=4.8									
KSRS				LR		LR	13 54 04.0			
	comp=Z,249nm,18.9s,baz=287,slow=40									
CD2	**Chengdu**	**12.33**	**226**	P		**Pn**	**13 49 40.8**	**-0.6**		
CD2				pP		pP	13 49 44.1			
CD2				sP		sP	13 49 47.2			
CD2				PP		**PnPn**	**13 49 50.7**	**+1.6**		
CD2				S		**Sn**	**13 51 59.0**	**+0.2**		
CD2				sS			13 52 03.6			
CD2				SS		**SnSn**	**13 52 13.2**	**+2.4**		
CD2				PMZ						
	comp=Z,10.0nm,0.4s									
CD2				PMZ						
	comp=Z,200nm,4.3s									
CD2				LN						
	comp=Z,1μm,6.9s									
CD2				LE						
	comp=Z,2μm,5.5s									
CD2				LZ						
	comp=Z,730nm,5.7s									
ZAK	**Zakamensk**	**12.78**	**328**	*e*P		**Pn**	**13 49 46.0**	**-1.6**		
ZAK				pmax		pmax				
	comp=Z,5.0nm,1.0s									
TLY	**Talaya**	**13.67**	**332**	Pn		**Pn**	**13 49 58.1**	**-1.5**		
	comp=Z,0.0nm,0.3s,baz=169,slow=5.2,SNR=7.0									
TLY				Sn		**Sn**	**13 52 31.1**	**-0.3**		
	comp=Z,0.0nm,0.3s,baz=106,slow=16,SNR=3.8									
TLY				Lg		Lg	13 53 55.4			
	comp=Z,0.0nm,0.3s,baz=60,slow=21,SNR=6.1									
TLY				LR		LR	13 55 48.2			
	comp=Z,691nm,19.9s,baz=141,slow=40									
IRK	**Irkutsk**	**13.92**	**334**	*e*P		**Pn**	**13 50 00.6**	**-2.4**		
IRK				*e*S		**Sn**	**13 52 33.2**	**-4.3**		
IRK				pmax		pmax				
	comp=Z,44nm,0.8s									
USRK	**Ussuriysk Ar.**	**14.00**	**67**	Pn		**Pn**	**13 50 05.1**	**+0.9**		
	comp=Z,0.2nm,0.3s,baz=244,slow=13,SNR=3.4									
USRK				Lg		Lg	13 54 05.9			
	comp=Z,0.5nm,0.3s,baz=261,slow=24,SNR=7.8									
MOY	**Mondy**	**14.70**	**327**	*e*P		**Pn**	**13 50 16.4**	**+2.6**		
MOY				*e*			13 53 04.1			
GYA	**Guiy

MAT S **S** **13 54 55.4 +5.7**
MJAR Matsushiro Arr 19.33 93 P **Pn** **13 51 12.7 +0.4**
comp=Z,0.4nm,0.3s,baz=288,slow=12,SNR=24
MJAR LR LR 13 58 30.7
comp=Z,67nm,18.2s,baz=265,slow=37
WMQ Urumqi 19.88 290 *e*P **Pn** **13 51 18.4 -0.4**
WMQ pP **pP** **13 51 22.2 +1.9**
WMQ sP **sP** **13 51 24.7 +2.9**
WMQ PP **PnPn** **13 51 35.0 +2.3**
WMQ S **S** **13 54 55.0 -5.8**
WMQ SS **SnSn** **13 55 23.0 +6.7**
WMQ PMZ
comp=Z,65nm,1.3s
WMQ PMZ
comp=Z,170nm,3.8s
WMQ LN
comp=Z,2μm,6.6s
WMQ LE
comp=Z,1μm,6.2s
WMQ LZ
comp=Z,950nm,10.7s
SLVN Son La 20.52 208 *e*P **P** **13 51 24.4 +0.1**
comp=Z,21nm,0.9s
KRAR Krasnoyarsk 21.18 326 *e*P **P** **13 51 30.6 -0.5**
KRAR pmax pmax
comp=Z,8.0nm,0.9s
QIZ Qiongzhong 21.23 191 P **P** **13 51 32.7 +0.8**
QIZ S **S** **13 55 30.1 +2.2**
QIZ PMZ
comp=Z,17nm,2.1s
QIZ LE
comp=Z,540nm,14.8s
QIZ LZ
comp=Z,590nm,12.1s
LSA Lhasa 21.32 248 P **P** **13 51 33.6 +0.3**
LSA PMZ
comp=Z,40nm,1.0s
LSA LN
comp=Z,140nm,7.0s
LSA LE
comp=Z,280nm,7.0s
LSA LZ
comp=Z,400nm,7.0s
LSA Lhasa 21.32 248 *e*P **P** **13 51 33.7 +0.4**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 21.32 248 *e*P **P** **13 51 33.7 +0.4**
comp=Z,21nm,0.8s
ASAJ Asahikawa 21.59 70 P **P** **13 51 36.5 +1.0**
comp=Z,15nm,1.2s,baz=331,slow=10,SNR=2.4
ASAJ LR LR 13 59 59.5
comp=Z,113nm,18.3s,baz=344,slow=37
YSS Yuzh-Sakhalins 21.92 62 *e*P **P** **13 51 42.5 +3.5**
YSS MLR MLR
comp=Z,500nm,11.0s
CRAI Chiangrai 22.92 215 P **P** **13 51 46.4 -3.6**
comp=Z,10nm,0.9s,comp=Z,258nm
CMAI Chiengmai2 23.78 217 P **P** **13 51 58.9 +0.2**
comp=Z,21nm,0.7s,comp=Z,2μm
MKAR Makanchi Array 23.87 297 P **P** **13 52 00.3 +1.1**
comp=Z,1.5nm,0.8s,baz=96,slow=12,SNR=8.2
MKAR PcP **PcP** **13 55 41.4 -0.5**
comp=Z,0.9nm,0.7s,baz=109,slow=0.4,SNR=3.5
MKAR Lg Lg 13 59 20.5
comp=Z,1.5nm,1.1s,baz=109,slow=26,SNR=3.6
YUK Yuzh-Kuril'sk 23.94 70*c i*P **P** **13 51 56.9 -3.0**
YUK *e*S **S** **13 56 21.7 +5.5**
YUK MLR MLR
comp=Z,266nm,22.0s
YAK Yakutsk 24.01 18 *e*P **P** **13 51 59.3 -1.0**
YAK *e* 13 52 03.3
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,11nm,1.1s
YAK MLR MLR
comp=Z,324nm,8.1s
YAK MLR MLR
comp=E,152nm,7.9s
YAK MLR MLR
comp=N,395nm,9.4s
YAK Yakutsk 24.01 18 P **P** **13 52 00.2 -0.2**
comp=N,17nm,0.3s,baz=199,slow=1.3,SNR=12
YAK Lg Lg 13 59 18.7
comp=N,2.1nm,0.3s,baz=288,slow=19,SNR=5.9
YAK LR LR 14 02 11.3
comp=N,214nm,18.9s,baz=228,slow=39
YAK Yakutsk 24.01 18 *e*P **P** **13 51 58.5 -1.8**
comp=N,48nm,0.8s
YAK Lg Lg 13 59 18.7
ZALV Zalesovo Beam 24.05 315 P **P** **13 52 01.3 +0.4**
comp=N,4.3nm,0.9s,baz=111,slow=8.1,SNR=18
ZALV PcP **PcP** **13 55 40.8 -1.4**
comp=N,0.4nm,0.5s,baz=134,slow=4.2,SNR=2.2
ZALV Lg Lg 13 59 28.0
comp=N,0.4nm,0.3s,baz=100,slow=25,SNR=4.1
ZALV LR LR 14 01 55.1
comp=N,260nm,19.5s,baz=62,slow=38
LAMP Lampang 24.75 214 P **P** **13 52 08.6 +1.0**
comp=N,4.2nm,0.7s
CMMT Chiang Mai 24.80 216 P **P** **13 52 07.8 -0.2**
comp=N,8.4nm,1.1s
CHTO Chiang Mai 24.80 216 *e*P **P** **13 52 06.3 -1.7**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 24.80 216 *e*P **P** **13 52 06.3 -1.7**
comp=Z,3.3nm,0.7s
CHTO Chiang Mai 24.80 216 P **P** **13 52 07.8 -0.2**
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 25.11 215 P **P** **13 52 10.0 -0.8**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CMAR MLR MLR
comp=Z,223nm,18.2s
CMAR Chiang Mai Arr 25.11 215 P **P** **13 52 09.9 -0.8**
comp=Z,7.0nm,0.9s,baz=20,slow=8.8,SNR=26
CMAR LR LR 14 02 55.6
comp=Z,223nm,18.2s,baz=34,slow=39
TAPN Taplejung 25.14 248 *e*P **P** **13 52 11.1 -0.3**
NVS Novosibirsk 25.26 316 *e*P **P** **13 52 12.1 +0.3**
NVS *e* 13 52 58.4
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,15nm,1.4s
JIRN Jiri 26.05 250 *e*P **P** **13 52 19.1 -0.6**
comp=Z,19nm,0.7s
GUN Gumba 26.13 251 *e*P **P** **13 52 19.6 -0.8**
TGY Tagaytay City 26.55 165 P **P** **13 52 23.8 -0.1**
TGY pmax pmax
comp=Z,190nm,0.4s
TGY Tagaytay City 26.55 165 P **P** **13 52 23.8 -0.1**
comp=Z,190nm,0.4s,baz=212,slow=9.5,SNR=3.1
PKI Pulchoki 26.67 251 *e*P **P** **13 52 25.5 +0.2**
PKIN Phulchoki 26.67 251 *e*P **P** **13 52 25.3 +0.1**
KURK Kurchatov 26.79 305 *e*P **P** **13 52 25.8 +0.1**
KURK 13 55 47.8
KURK pmax pmax
comp=Z,29nm,0.9s
KURK Kurchatov 26.79 305 *e*P **P** **13 52 25.8 +0.1**
comp=Z,29nm,0.9s
KURK PcP **PcP** **13 55 47.8 -0.6**
KURK Lg Lg 14 00 52.5
KURBB Kurchatov Arra 26.83 305 P **P** **13 52 26.5 +0.4**
comp=Z,20nm,0.8s,baz=99,slow=9.3,SNR=40
KURBB PcP **PcP** **13 55 47.8 -0.7**
comp=Z,1.5nm,0.7s,baz=103,slow=2.5,SNR=4.6
KURBB Lg Lg 14 00 52.5
comp=Z,0.4nm,0.7s,baz=104,slow=34,SNR=5.2
GKN Gorkha 26.99 253 *e*P **P** **13 52 27.4 -0.5**
DANN Dangsing 27.44 254 *e*P **P** **13 52 31.1 -1.1**
comp=Z,30nm,0.8s
UTHA Uthaitani 27.48 212 P **P** **13 52 32.4 +0.2**
comp=Z,4.9nm,0.8s
KOLN Koldanda 27.88 253 *e*P **P** **13 52 35.3 -0.7**
KSH Kashi 29.06 281 *e*P P 13 52 52.4 +6.1
KSH sP sP 13 52 57.3 +6.2
KSH PcP **PcP** **13 55 57.1 +2.8**
KSH S **S** **13 57 42.7 +4.9**
KSH SS SnSn 13 59 14.8 +13
KSH PMZ
comp=Z,100nm,4.1s
KSH LN
comp=Z,98nm,4.6s
KSH LE
comp=Z,170nm,5.8s
KSH LZ
comp=Z,260nm,8.4s
AAK Ala-Archa 29.57 288 P **P** **13 52 51.0 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s
AAK MLR MLR
comp=Z,175nm,21.0s
AAK Ala-Archa 29.57 288 P **P** **13 52 51.0 +0.1**
comp=Z,2.4nm,0.8s,baz=174,slow=5.7,SNR=7.5
AAK LR LR 14 05 55.7
comp=Z,175nm,21.0s,baz=70,slow=39
BVAR Borovoye Array 32.16 309 P **P** **13 53 13.6 +0.2**
BVAR 13 56 02.1
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 32.16 309 P **P** **13 53 13.6 +0.2**
comp=Z,6.6nm,0.8s,baz=105,slow=9.3,SNR=27
BVAR PcP **PcP** **13 56 02.1 +0.1**
comp=Z,1.7nm,0.6s,baz=105,slow=3.1,SNR=5.9
PETK Petropavlovsk- 32.26 51 P **P** **13 53 14.4 +0.1**
PETK pmax pmax
comp=Z,7.0nm,0.8s
PETK Petropavlovsk- 32.26 51 P **P** **13 53 14.3 +0.1**
comp=Z,5.7nm,0.8s,baz=226,slow=4.6,SNR=12
SEY Seymchan 32.33 32 P **P** **13 53 15.1 +0.3**
SEY 13 56 02.1
SEY pmax pmax
comp=Z,3.0nm,0.9s
SEY pmax pmax
comp=Z,3.0nm,0.6s
SEY Seymchan 32.33 32 P **P** **13 53 15.1 +0.3**
comp=Z,2.9nm,0.9s,baz=261,slow=8.8,SNR=17
SEY PcP **PcP** **13 56 02.0 -0.2**
comp=Z,2.8nm,0.6s,baz=222,slow=4.8,SNR=14
KKAR Karatay Array 32.39 290 *e*P **P** **13 53 15.6 +0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 32.39 290 *e*P **P** **13 53 15.6 +0.1**
comp=Z,4.2nm,0.7s
SVE Sverdlovsk 38.07 314 *e*P P 13 54 07.7 +3.5
SVE pmax pmax
comp=Z,13nm,1.1s
ARU Arti 39.20 314*c i*P **P** **13 54 14.1 +0.4**
ARU 13 55 42.2
ARU S **S** **14 00 16.7 +3.1**
ARU SS **SS** **14 03 03.1 -3.2**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU MLR MLR
comp=Z,431nm,15.0s
ARU Arti 39.20 314 *e*P **P** **13 54 14.2 +0.4**
comp=Z,11nm,0.8s
BILL Bilibino 39.62 28*i i*P **P** **13 54 17.2 +0.1**
BILL *i* 13 55 45.1
BILL *i* 13 56 23.5
BILL pmax pmax
comp=Z,3.0nm,1.1s
AKTO Aktyubinsk 39.87 304 P **P** **13 54 20.4 +1.0**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 39.87 304 P **P** **13 54 20.4 +1.0**
comp=Z,3.5nm,1.1s,baz=69,slow=7.5,SNR=5.1
GEYT Alibeck 42.86 286 P **P** **13 54 45.4 +1.3**
comp=Z,1.3nm,0.4s,baz=46,slow=4.3,SNR=7.2
PALK Pallekele 44.16 231 P **P** **13 54 54.2 -0.6**
PALK pmax pmax
comp=Z,13nm,0.9s
PALK Pallekele 44.16 231 P **P** **13 54 54.2 -0.6**
comp=Z,13nm,0.9s,baz=74,slow=7.4,SNR=3.1
PRGR Permogore 45.71 322 *e*P **P** **13 55 09.7 +3.1**
PRGR pmax pmax
comp=Z,22nm,1.0s
TNA Tin City 49.57 32 *e*P **P** **13 55 36.9 +0.5**
comp=Z,8.5nm,0.9s
VRHR Novokhopersk 49.90 308 *e*P **P** **13 55 40.1 +0.9**
VRHR pmax pmax
comp=Z,10.0nm,1.1s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.8s
VSR Storozhevoye 51.34 309 *e*P **P** **13 55 52.4 +2.3**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 51.34 309 *e*P **P** **13 55 52.2 +2.1**
VORD pmax pmax
comp=E,8.0nm,0.8s
VORD pmax pmax
comp=Z,3.0nm,0.8s
VORD pmax pmax
comp=N,6.0nm,0.7s
KIV Kislovodsk 51.60 299 *e*P **P** **13 55 53.3 +1.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,112nm,16.0s
OBN Obninsk 51.64 314 *e*P **P** **13 55 53.8 +1.6**
OBN *i* S S 14 03 06.2 -6.7
OBN pmax pmax
comp=Z,5.0nm,1.2s
OBN MLR MLR
comp=Z,172nm,16.0s
ARCES ARCESS Array B 52.62 334 P **P** **13 55 59.6 +0.2**
ARCES 13 57 09.0
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 52.62 334 P **P** **13 55 59.5 +0.2**
comp=Z,1.5nm,0.9s,baz=73,slow=9.1,SNR=6.3
ARCES PcP **PcP** **13 57 09.0 -0.3**
comp=Z,3.1nm,0.8s,baz=74,slow=4.1,SNR=7.2
ARCES LR LR 14 20 45.8
comp=Z,78nm,20.4s,baz=86,slow=39
FINES FINESS Array B 54.87 324 P **P** **13 56 15.5 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,105nm,18.4s
FINES FINESS Array B 54.87 324 P **P** **13 56 15.5 -0.4**
comp=Z,1.7nm,0.7s,baz=70,slow=6.5,SNR=6.8
FINES LR LR 14 21 07.7
comp=Z,105nm,18.4s,baz=46,slow=38
COLD Coldfoot 55.96 28 *e*P **P** **13 56 23.8 +0.1**
comp=Z,19nm,0.9s
PPLA Purkeypile 56.91 33 *e*P **P** **13 56 31.2 +0.5**
comp=Z,37nm,1.4s
KTH Kantishna Hill 57.16 32 *e*P **P** **13 56 33.2 +0.8**
comp=Z,78nm,1.3s
AKASG Malin Array Be 57.37 311*ce*P **P** **13 56 33.7 -0.3**
AKASG Malin Array Be 57.37 311 P **P** **13 56 33.1 -0.9**
comp=Z,0.2nm,0.4s,baz=56,slow=6.4,SNR=4.2
AKASG LR LR 14 22 42.2
comp=Z,322nm,19.1s,baz=70,slow=38
TRF Thorofare Moun 57.46 32 *e*P **P** **13 56 34.7 +0.1**
comp=Z,2.7nm,0.6s
RSO Redoubt South 57.67 36 *e*P **P** **13 56 36.9 +0.7**
comp=Z,31nm,0.9s
COLA College 57.81 30 *e*P **P** **13 56 37.2 +0.4**
COLA pmax pmax
comp=Z,49nm,0.8s
COLA College 57.81 30 *e*P **P** **13 56 37.2 +0.4**
comp=Z,49nm,0.8s
MCK McKinley 57.89 31 *e*P **P** **13 56 37.5 0.0**
MCK pmax pmax
comp=Z,15nm,0.8s
MCK McKinley 57.89 31 *e*P **P** **13 56 37.5 0.0**
comp=Z,15nm,0.8s
ILAR Eielson Array 58.22 30 P **P** **13 56 39.3 -0.5**
comp=Z,9.2nm,0.5s,baz=284,slow=5.1,SNR=265
ILAR LR LR 14 21 27.8
comp=Z,73nm,21.7s,baz=212,slow=36
RC01 Rabbit Creek A 58.73 34 *e*P **P** **13 56 42.3 -1.0**
comp=Z,22nm,1.2s
KDAK Kodiak Island 58.91 39*ce*P **P** **13 56 44.5 -0.1**
BRTR Keskin Array B 59.51 298 P **P** **13 56 48.7 -0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 59.51 298 P **P** **13 56 48.7 -0.6**
comp=Z,0.6nm,0.5s,baz=90,slow=5.1,SNR=4.7
PAX Paxson 59.62 31 *e*P **P** **13 56 49.4 -0.3**
PAX pmax pmax
comp=Z,14nm,0.7s
PAX Paxson 59.62 31 *e*P **P** **13 56 49.4 -0.3**
comp=Z,14nm,0.7s
DOT Dot Lake 59.85 30 *e*P **P** **13 56 49.9 -1.2**
comp=Z,21nm,0.6s
EGAK Eagle 60.36 28 *e*P **P** **13 56 54.1 -0.4**
comp=Z,11nm,1.1s
DIV Divide 60.41 33 P **P** **13 56 55.4 +0.4**
comp=Z,18nm,1.1s
INK Inuvik 60.95 23 P **P** **13 56 58.2 -0.3**
INK pmax pmax
comp=Z,14nm,0.7s
INK Inuvik 60.95 23 P **P** **13 56 58.2 -0.3**
comp=Z,14nm,0.7s,baz=323,slow=8.1,SNR=72
BMRM Bremner River 60.98 33 *e*P **P** **13 56 59.5 +0.6**
comp=Z,28nm,1.0s
DAWY Dawson 61.39 29 *e*P **P** **13 57 00.9 -0.8**
comp=Z,3.4nm,0.6s
NB2 NORSAR Subarra 61.49 327 P **P** **13 57 01.4 -1.0**
comp=Z,2.5nm,0.8s,baz=56,slow=6.9
NOA NORSAR Array B 61.49 327 P **P** **13 57 00.8 -1.5**
comp=Z,1.1nm,0.9s,baz=52,slow=8.1,SNR=4.3
NOA LR LR 14 23 48.0
comp=Z,26nm,19.4s,baz=60,slow=36
KOLS Kolonicke sedl 62.18 312 *e*P **P** **13 57 08.0 +0.9**
KOLS Kolonicke sedl 62.18 312 *e*P **P** **13 57 08.0 +0.9**
STHS Stebnicka Huta 62.52 313 *e*P **P** **13 57 08.2 -1.2**
STHS Stebnicka Huta 62.52 313 *e*P **P** **13 57 08.2 -1.2**
WRAB Tennant Creek 62.62 158*ce*P **P** **13 57 09.8 -0.4**
WRAB pmax pmax
comp=Z,22nm,0.8s
WRAB Tennant Creek 62.62 158 *e*P **P** **13 57 08.7 -1.5**
comp=Z,12nm,0.9s
WRAB *e* 13 57 11.9
WRA Warramunga Arr 62.62 158 P **P** **13 57 09.1 -1.2**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 62.62 158 P **P** **13 57 09.1 -1.2**
comp=Z,6.9nm,0.8s,baz=349,slow=7.4,SNR=51
WB2 Warramunga Arr 62.62 158 *e*P **P** **13 57 07.8 -2.5**
WB2 *e*pP **pP** **13 57 11.8 -2.1**
HYT Haines Junctio 63.96 31 *e*P **P** **13 57 19.3 +0.4**
comp=Z,12nm,0.8s
RES Resolute Bay 63.96 8 *e*P **P** **13 57 18.8 +0.3**
RES pmax pmax
comp=Z,7.0nm,1.0s
RES Resolute Bay 63.96 8 *e*P **P** **13 57 18.8 +0.3**
comp=Z,6.6nm,1.0s
VYHS Vyhne 64.36 313 *e*P **P** **13 57 22.1 +0.5**
VYHS Vyhne 64.36 313 *e*P **P** **13 57 22.1 +0.5**
DPC Dobruska-Polom 64.75 315 *e*P **P** **13 57 24.0 -0.2**
DPC Dobruska-Polom 64.75 315 *e*P **P** **13 57 24.0 -0.2**
BRG Berggiesshubel 65.73 317 *e*P P 13 57 34.8 +4.4
comp=Z,6.1nm,1.1s
BRG Berggiesshubel 65.73 317 *e*P P 13 57 34.8 +4.4
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG MLR MLR
comp=N,191nm,14.4s
BRG MLR MLR
comp=E,187nm,14.2s
BRG MLR MLR
comp=Z,339nm,16.1s
CLL Collm 65.98 318 *e*P **P** **13 57 32.0 0.0**
CLL *e* 13 57 36.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL MLR MLR
comp=Z,200nm,18.6s
CLL Collm 65.98 318 *e*P **P** **13 57 32.0 0.0**
comp=Z,3.0nm,0.7s
CLL *e*pP **pP** **13 57 36.0 +0.4**
CLL LmV 14 28 00.0
comp=Z,200nm,18.6s
AS31 Alice Springs 66.04 160 *e*P **P** **13 57 31.8 -0.9**
ASAR Alice Springs 66.05 160 P **P** **13 57 31.9 -0.8**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASAR Alice Springs 66.05 160 P **P** **13 57 31.9 -0.8**
comp=Z,3.5nm,0.8s,baz=341,slow=6.0,SNR=37
KHC Kasperske Hory 66.91 315 *e*P **P** **13 57 37.9 -0.2**
KHC Kasperske Hory 66.91 315 *e*P **P** **13 57 37.9 -0.2**
GERES GERESS Array B 67.01 315 P **P** **13 57 38.5 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 67.01 315 P **P** **13 57 38.5 -0.3**
comp=Z,0.7nm,0.9s,baz=46,slow=9.5,SNR=5.7
GRF Grafenberg Arr 67.84 317 *e*P **P** **13 57 44.7 +0.8**
comp=Z,2.0nm,0.9s
DLBC Dease Lake 68.42 31 P **P** **13 57 48.0 +0.6**
comp=Z,5.0nm,0.8s,baz=307,slow=5.5,SNR=9.7
YKA Yellowknife Ar 70.63 22 P **P** **13 57 59.8 -1.2**
YKA pmax pmax
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 70.63 22 P **P** **13 57 59.8 -1.2**
comp=Z,7.0nm,0.6s,baz=324,slow=5.8,SNR=273
KEST Kesra 77.59 306 LR LR 14 36 03.3
comp=Z,18nm,19.3s,baz=336,slow=38
KMBO Kilima Mbogo 80.57 261*ce*P **P** **13 59 00.0 +1.0**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 80.57 261 P **P** **13 58 59.6 +0.6**
comp=Z,3.8nm,0.8s,baz=20,slow=6.6,SNR=9.5
KMBO Kilima Mbogo 80.57 261 *e*P **P** **13 58 59.9 +0.9**
FFC Flin Flon 80.71 20 *e*P **P** **13 58 57.1 -1.7**
FFC *e* 13 59 01.4
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 80.71 20 *e*P **P** **13 58 57.1 -1.7**
comp=Z,3.4nm,0.8s
FFC *e* 13 59 01.4
BSMT Bassoo Peak 82.38 31 *e*P **P** **13 59 08.1 +0.1**
comp=Z,6.8nm,1.3s
ESDC Sonseca Array 82.54 317 P **P** **13 59 08.7 -0.1**
comp=Z,1.6nm,0.9s,baz=30,slow=5.3,SNR=4.9
ESDC LR LR 14 38 12.5
comp=Z,56nm,20.0s,baz=250,slow=37
JTMT Jette 82.66 31 *e*P **P** **13 59 09.3 -0.2**
comp=Z,3.0nm,0.8s
SLMT Seeley Lake 83.38 30 *e*P **P** **13 59 12.5 -0.7**
comp=Z,12nm,0.7s
CHMT Chamberlain Mo 83.74 30 *e*P **P** **13 59 14.1 -1.1**
comp=Z,4.2nm,1.0s
HRY Holter Researc 84.46 30 *e*P **P** **13 59 17.8 -0.9**
comp=Z,5.5nm,0.9s
SCHQ Schefferville 85.50 0 P **P** **13 59 23.1 -0.5**
comp=Z,5.8nm,0.8s,baz=24,slow=4.9,SNR=9.7
DGMT Dagmar 85.61 24 *e*P **P** **13 59 23.4 -1.0**
comp=Z,8.5nm,0.7s
MCMT McKenzie Canyo 85.62 31 *e*P **P** **13 59 24.4 -0.4**
comp=Z,2.8nm,0.7s
ULM Lac du Bonnet 86.35 19 P **P** **13 59 25.8 -2.1**
comp=Z,3.8nm,0.8s,baz=326,slow=4.0,SNR=11
ULM LR LR 14 40 24.6
comp=Z,42nm,21.2s,baz=288,slow=37
H17A Grant Village 86.88 30 *e*P **P** **13 59 31.9 +1.0**
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 88.42 38 P **P** **13 59 39.4 +1.1**
comp=Z,1.3nm,0.8s,baz=301,slow=3.8,SNR=9.2
PDAR Pinedale Array 88.65 30 P **P** **13 59 38.0 -1.4**
comp=Z,0.5nm,0.7s,baz=24,slow=3.1,SNR=4.8
ECSD EROS Data Cent 92.16 22 *e*P **P** **13 59 54.1 -1.4**
comp=Z,8.0nm,1.1s
TORD Torodi Ar. Bea 97.97 294 P **P** **14 00 20.9 -1.5**
comp=Z,0.3nm,0.9s,baz=25,slow=8.1,SNR=2.6
TORD LR LR 14 52 53.2
comp=Z,33nm,19.1s,baz=165,slow=40
TXAR Lajitas Array 102.63 33 P **Pdif** **14 00 40.9 -2.2**
comp=Z,0.1nm,0.3s,baz=268,slow=2.7,SNR=2.5
VNDA Vanda 120.89 169 PKIKP **PKPdf** **14 05 35.2 -1.7**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 120.89 169 PKP **PKPdf** **14 05 35.2 -1.7**
comp=Z,0.7nm,0.7s,baz=339,slow=6.0,SNR=3.7
BDFB Brasilia 151.06 322 PKIKP **PKPbc** **14 06 37.1 -2.4**
BDFB pmax pmax
comp=Z,1.0nm,0.7s
BDFB Brasilia 151.06 322 PKPbc **PKPbc** **14 06 37.1 -2.4**
comp=Z,1.3nm,0.7s,baz=54,slow=8.1,SNR=4.4

GUC 04 13:48:21.4±0.9, 36°22'S×73°58'W, h32km±8km, ML3.7, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.73**	**149**	*e*P	Pn	13 48 35.2	-0.3
CCSP				*e*S	Sb	13 48 45.1	-0.4
CCSP				AML	AML	13 48 49.1	
	comp=N,6μm,0.8s						
LNCH	**Linares**	**1.65**	**78**	*e*P	Pb	13 48 50.0	-1.1
LNCH				*e*S	Sb	13 49 10.7	-0.8
TALC	**Talca**	**1.78**	**63**	*e*P	Pn	13 48 51.4	+1.5
TALC				*e*S	Sb	13 49 14.1	-1.2
FCH	**Farellones**	**3.95**	**44**	*e*P	Pn	13 49 21.7	+1.5
FCH				*e*S	Sn	13 50 07.4	+1.6
FCH				AML	AML	13 50 32.1	
	comp=E,54nm,0.7s						

BJI 04 13:53:07.1, 39.98N×113.85E, h4km, ML3.5/11, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJI	**Beijing**	**1.79**	**87**	*e*Pg	Pn	13 53 37.0	-1.7
BJI				Sg	Sn	13 54 00.5	-1.3
BJI				SMN			
	860nm,0.5s						
BJI				SME			
	430nm,0.5s						
HHC	**Hu-ho-hao-te**	**1.95**	**297**	*e*Pg	Pn	13 53 41.6	+0.5
HHC				Sg	Sg	13 54 09.6	-0.5
HHC				SMN			
	230nm,0.4s						
HHC				SME			
	500nm,0.4s						
TIY	**Taiyuan**	**2.52**	**206**	*e*Pg	Pb	13 53 51.3	-1.7
TIY				Sg	Sb	13 54 24.3	-0.1
TIY				SMN			
	140nm,0.5s						
TIY				SME			
	190nm,0.5s						
BTO	**Baotou**	**3.00**	**283**	*e*Pg	Pn	13 53 58.3	+2.8
BTO				Sg	Sb	13 54 37.4	-0.8
BTO				SMN			
	39nm,0.3s						
BTO				SME			
	31nm,0.3s						

DJA 04 13:57:28.7±0.6, 0°S±4°×122°4E±°, h56km±9km, M3.8/10, mb4.0/2, MLv3.7/10, Southern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.65**	**335**	P	Pn	13 57 43.4	+1.2
KMSI				S	Sn	13 57 55.1	+3.2
LUWI	**Luwuk**	**1.80**	**236**	P	Pn	13 57 57.9	+0.5
LUWI				S	Sn	13 58 20.4	+1.2
MRSI	**Marisa**	**2.37**	**282**	P	Pn	13 58 03.1	-2.1
MRSI				S	Sn	13 58 26.9	-6.2
SANI	**Sanana**	**2.66**	**139**	P	Pn	13 58 09.3	+0.2
SANI				S	Sn	13 58 39.8	-0.3
APSI	**Ampana**	**2.76**	**251**	P	Pn	13 58 10.7	+0.2
LBMI	**Labuha**	**3.30**	**101**	P	Pn	13 58 19.1	+1.2
MPSI	**Mapaga**	**4.38**	**275**	P	Pn	13 58 32.9	+0.2
TTSI	**Tana Toraja**	**5.36**	**236**	P	Pn	13 58 46.4	+0.2
	15nm,1.1s,0.1nm						
SPSI	**Sidrap Palu**	**5.96**	**229**	P	Pn	13 58 54.9	+0.5

*ISCJB **04** 13:57:38.9±0.5, 5°.80S±0°.06×75°.05W±0°.06, h27km, mb3.7/10, Error ellipse: s-maj=9.0km s-min=7.2km az=39.6*
*IDC **04** 13:57:40.3±0.7, 5°.80S×74°.98W, h24km±3km, mb3.6/10, mb1 3.8/14, mb1mx3.7/25, mbtmp3.8/14, ML3.8/4, Error ellipse: s-maj=22.8km s-min=17.3km az=34.0*
ISC 04 13:57:40.6±0.5, 5°.76S±0°.07×75°.04W±0°.08, h27km, n20, σ1°02/28, mb3.8/10, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.61**	**248**	Pn	**Pn**	**13 58 34.9**	**-0.2**
	8.0nm,0.3s,baz=80,slow=5.9,SNR=31						
ATAH				Sn	**Sn**	**13 59 16.1**	**-1.1**
	32nm,0.3s,baz=20,slow=8.2,SNR=4.8						
ATAH				Lg	Lg	13 59 26.2	
	24nm,0.3s,baz=245,slow=19,SNR=5.7						
NNA	**Nana**	**6.44**	**196**	Pn	**Pn**	**13 59 13.6**	**-0.3**
	2.3nm,0.3s,baz=115,slow=5.5,SNR=6.4						
NNA				Sn	**Sn**	**14 00 25.6**	**-1.0**
	6.4nm,0.3s,baz=299,slow=19,SNR=3.7						
ROSC	**El Rosal**	**10.56**	**4**	Lg	Lg	14 03 15.9	
	2.8nm,0.3s,baz=94,slow=19,SNR=3.0						
LPAZ	**La Paz**	**12.46**	**148**	Pn	**Pn**	**14 00 39.0**	**+2.1**
	0.2nm,0.3s,baz=323,slow=17,SNR=6.0						
LPAZ				Lg	Lg	14 04 16.1	
	0.5nm,0.3s,baz=211,slow=16,SNR=4.3						
PTGA	**Pitinga**	**15.85**	**72**	Pn	**Pn**	**14 01 20.7**	**-1.3**
	0.6nm,0.3s,baz=254,slow=15,SNR=4.8						
PTGA				Lg	Lg	14 06 05.2	
	baz=323,slow=20,SNR=2.7						
SIV	**San Ignacio**	**17.06**	**128**	Pn	**Pn**	**14 01 38.0**	**+0.6**
	0.3nm,0.3s,baz=202,slow=6.0,SNR=3.3						
SIV				Lg	Lg	14 06 37.3	
	baz=246,slow=19						
TXAR	**Lajitas Array**	**44.44**	**323**	P	**P**	**14 05 51.3**	**+1.7**
	0.1nm,0.5s,baz=134,slow=11,SNR=4.8						
TXAR				pP	**pP**	**14 05 58.7**	**+1.0**
	0.2nm,0.6s,baz=133,slow=8.7,SNR=2.2						
PDAR	**Pinedale Array**	**57.57**	**330**	P	**P**	**14 07 26.7**	**-1.5**
	0.6nm,1.0s,baz=157,slow=9.8,SNR=3.5						
ULM	**Lac du Bonnet**	**58.63**	**344**	P	**P**	**14 07 34.4**	**-0.8**
	1.2nm,0.8s,baz=182,slow=6.1,SNR=3.7						
NVAR	**Mina Array Bea**	**59.51**	**321**	P	**P**	**14 07 41.8**	**-0.1**
	0.4nm,0.7s,baz=137,slow=6.8,SNR=3.0						
NVAR				PcP	**PcP**	**14 08 28.2**	**-1.1**
	0.4nm,0.6s,baz=141,slow=3.3,SNR=2.9						
DBIC	**Dimbokro**	**71.12**	**81**	P	**P**	**14 08 57.5**	**+0.2**
	1.7nm,0.7s,baz=225,slow=2.9,SNR=2.9						
DBIC				pP	**pP**	**14 09 04.5**	**-1.3**
	1.3nm,0.4s,baz=237,slow=4.1,SNR=2.1						
YKA	**Yellowknife Ar**	**74.46**	**342**	P	**P**	**14 09 16.7**	**+0.6**
	0.5nm,0.4s,baz=140,slow=6.3,SNR=27						
YKA				pP	**pP**	**14 09 24.2**	**-0.5**
	0.4nm,0.6s,baz=142,slow=6.1,SNR=7.8						
DLBC	**Dease Lake**	**77.55**	**334**	P	**P**	**14 09 35.6**	**+1.6**
	1.7nm,0.9s,baz=97,slow=8.1,SNR=2.6						
DLBC				pP	**pP**	**14 09 42.8**	**+0.2**
	1.0nm,0.8s,baz=104,slow=4.2,SNR=1.5						
TORD	**Torodi Ar. Bea**	**78.46**	**75**	P	**P**	**14 09 39.9**	**0.0**
	0.2nm,0.3s,baz=274,slow=5.4,SNR=7.0						
TORD				pP	**pP**	**14 09 47.0**	**-1.5**
	1.0nm,0.6s,baz=272,slow=4.5,SNR=7.0						
INK	**Inuvik**	**84.21**	**341**	P	**P**	**14 10 10.4**	**+1.2**
	0.4nm,0.3s,baz=75,slow=6.3,SNR=3.8						
INK				pP	**pP**	**14 10 18.0**	**+0.1**
	0.9nm,0.8s,baz=94,slow=4.7,SNR=3.7						
ILAR	**Eielson Array**	**87.55**	**336**	P	**P**	**14 10 25.7**	**-0.1**
	0.3nm,0.8s,baz=96,slow=2.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**129.24**	**15**	PKP	**PKPdf**	**14 16 46.2**	**-0.2**
	0.8nm,0.7s,baz=270,slow=0.6,SNR=5.2						
MKAR	**Makanchi Array**	**134.68**	**22**	PKP	**PKPdf**	**14 16 57.4**	**+0.4**
	0.4nm,0.7s,baz=291,slow=3.6,SNR=4.8						
ASAR	**Alice Springs**	**139.34**	**223**	PKhKP	PKPpre	14 16 59.4	
	0.4nm,0.7s,baz=137,slow=1.9,SNR=6.0						
ASAR				PKP	**PKPdf**	**14 17 06.0**	**-0.4**
	0.3nm,0.7s,baz=119,slow=2.1,SNR=5.3						
WRA	**Warramunga Arr**	**141.44**	**228**	PKhKP	PKPpre	14 17 04.0	
	0.4nm,0.9s,baz=122,slow=2.5,SNR=7.3						
WRA				PKP	**PKPdf**	**14 17 10.2**	**0.0**
	0.5nm,0.6s,baz=122,slow=2.1,SNR=10						
WRA				pPKP	pPKPdf	14 17 17.6	-1.6
	0.3nm,0.6s,baz=126,slow=2.1,SNR=2.7						

*JMA **04** 14:02:49.2±0.2, 28°.12N×127°.99E, h14km±3km, M3.2*
*IDC **04** 14:02:50.7±1.2, 27°.83N×127°.90E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/30, mbtmp3.5/5, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/25, Error ellipse: s-maj=50.7km s-min=15.0km az=69.0*
ISC 04 14:02:50.1±1.6, 28°.02N±0°.05×128°.10E±0°.05, h6km±11km, n18, σ0°95/24, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.78**	**148**	P	**Pb**	**14 03 06.2**	**+0.1**
JOKE				*e*S	**Sn**	**14 03 19.1**	**-0.6**
JTK	**Tokunoshima**	**0.78**	**107**	P	**Pb**	**14 03 06.1**	**-0.1**
JTK				*e*S	**Sb**	**14 03 17.8**	**+0.7**
JAMN	**Amaminishikomi**	**0.97**	**77**	P	**Pg**	**14 03 09.0**	**+0.2**
JAMN				*e*S	**Sb**	**14 03 22.7**	**+0.2**
JIH	**Iheya**	**0.99**	**187**	P	**Pg**	**14 03 09.1**	**0.0**
JIH				*e*S	**Sn**	**14 03 23.4**	**-1.5**
JOW	**Kunigami**	**1.19**	**173**	P	**Pn**	**14 03 12.6**	**-0.8**
JOW				*e*S	**Sn**	**14 03 29.5**	**-0.5**
JOW	**Kunigami**	**1.19**	**173**	Pn	**Pn**	**14 03 12.8**	**-0.7**
	6.5nm,0.3s,baz=88,slow=20,SNR=164						
JOW				Sn	**Sn**	**14 03 29.5**	**-0.5**
	10nm,0.3s,baz=173,slow=18,SNR=19						
JAM	**Amami Oshima**	**1.38**	**73**	P	**Pn**	**14 03 15.4**	**-0.6**
JAM				*e*S	**Sn**	**14 03 33.4**	**-1.2**
JTAJ	**Takarajima**	**1.49**	**40**	P	**Pn**	**14 03 15.3**	**-2.1**
JNTH	**Nagotoyohara**	**1.50**	**183**	P	**Pn**	**14 03 17.2**	**-0.4**
JNTH				*e*S	**Sg**	**14 03 38.6**	**+0.3**
JAGN	**Aguni-jima**	**1.62**	**208**	P	**Pn**	**14 03 18.4**	**-0.9**
JJT2	**Tamagusuku 2**	**1.90**	**190**	P	**Pb**	**14 03 24.6**	**-0.6**
JKE	**Kume jima 2**	**2.06**	**215**	P	**Pb**	**14 03 27.1**	**-0.8**
JNU	**Nakatsue**	**5.62**	**25**	Pn	Pn	14 04 19.3	+5.0
	0.6nm,0.3s,baz=192,slow=20,SNR=9.0						
JNU				LR	LR	14 06 30.7	
	comp=Z,106nm,19.5s,baz=322,slow=38						
KSRS	**Korea Array**	**9.41**	**359**	LR	LR	14 08 46.9	
	comp=Z,60nm,22.0s,baz=182,slow=37						
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**14 08 25.4**	**+1.3**
	0.3nm,0.6s,baz=120,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**40.28**	**310**	P	**P**	**14 10 29.8**	**+1.7**
	0.7nm,0.7s,baz=100,slow=10.0,SNR=9.2						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**14 11 30.4**	**-0.2**
	0.6nm,0.8s,baz=354,slow=8.5,SNR=5.4						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**14 11 58.1**	**-0.1**
	0.2nm,0.5s,baz=355,slow=8.8,SNR=5.4						

*BJI **04** 14:19:39.7, 1°.38N×126°.84E, h53km, mB5.0/30, mb4.7/42, Ms4.5/18, Ms7 4.3/13*
*MOS **04** 14:19:39.1±1.2, 1°.63N×126°.88E, h33km, mb5.0/22, Error ellipse: s-maj=15.5km s-min=6.7km az=115.1*
*ISCJB **04** 14:19:41.3±0.5, 1°.63N±0°.02×126°.79E±0°.03, h51km±4km, mb4.7/66, MS3.6/12, Error ellipse: s-maj=5.4km s-min=3.3km az=150.0*
*IDC **04** 14:19:42.6±2.8, 1°.56N×126°.75E, h48km±26km, mb4.3/27, mb1 4.3/27, mb1mx4.3/29, mbtmp4.5/27, MS3.6/12, Ms1 3.6/12, ms1mx3.3/29, Error ellipse: s-maj=18.6km s-min=8.6km az=76.0*
*DJA **04** 14:19:43.1±0.6, 2°N±2°×127°7E±°, h39km±6km, M4.7/47, mB5.3/18, mb4.9/47, MLv4.8/19, Mw(mB)4.7/18, Mwp7.3/1*
*NEIC **04** 14:19:43.4±0.8, 1°.61N×126°.79E, h57km±7km, mb4.8/29, Error ellipse: s-maj=8.0km s-min=5.1km az=64.0*
*KLM **04** 14:19:43.0, 1°.62N×126°.85E, h76km, mb4.8, ML4.4, MS5.6*
ISC 04 14:19:43.5±0.3, 1°.61N±0°.03×126°.79E±0°.05, h56km±2km, n214, σ1°40/264, mb4.7/66, MS3.6/12, 10C-5D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.01**	**145**	P	**Pn**	**14 20 00.2**	**-1.4**
TNTI	**Ternate**	**1.01**	**145**	*e*P	**Pn**	**14 19 60.0**	**-1.6**
LBMI	**Labuha**	**2.34**	**162**	P	**Pn**	**14 20 19.4**	**-0.2**
LBMI				S	**Sn**	**14 20 48.0**	**+0.7**
SGSI	**Sangihe**	**2.42**	**329**	P	**Pn**	**14 20 18.1**	**-2.6**
SGSI				S	**Sn**	**14 20 47.8**	**-1.3**
KMSI	**Cibinong**	**3.00**	**250**	P	**Pn**	**14 20 27.5**	**-1.1**
KMSI				S	**Sn**	**14 21 04.6**	**+1.3**
SANI	**Sanana**	**3.72**	**193**	P	**Pn**	**14 20 36.7**	**-1.9**
GTOI	**Gorontalo**	**3.91**	**256**	P	**Pn**	**14 20 40.4**	**-0.6**
LUWI	**Luwuk**	**4.81**	**237**	P	**Pn**	**14 20 54.4**	**+1.0**
LUWI	**Luwuk**	**4.81**	**237**	P	**Pn**	**14 20 56.3**	**+2.9**
	baz=4.9,SNR=34						
LUWI	**Luwuk**	**4.81**	**237**	*e*P	**Pn**	**14 20 52.4**	**-1.0**
NLAI	**Namlea**	**4.83**	**176**	P	**Pn**	**14 20 53.4**	**-0.3**
NLAI				S	**Sn**	**14 21 46.1**	**-2.2**
MRSI	**Marisa**	**4.98**	**257**	P	**Pn**	**14 20 56.1**	**+0.3**
	130nm,0.7s,2μm0.5nm						
MSAI	**Masohi**	**5.37**	**157**	P	**Pn**	**14 21 02.1**	**+1.0**
	29nm,0.7s,393nm0.1nm						
MSAI				S	**Sn**	**14 22 03.9**	**+2.3**
	29nm,0.7s,393nm0.1nm						
APSI	**Ampana**	**5.72**	**244**	P	**Pn**	**14 21 06.6**	**+0.6**
	286nm,1.1s,3μm1.3nm						
CTBH	**Cotabato--PC H**	**6.12**	**336**	P	**Pn**	**14 21 10.6**	**-0.9**
MPSI	**Mapaga**	**7.01**	**260**	P	Pn	14 21 19.1	-4.5
FAKI	**Fak Fak**	**7.07**	**130**	P	**Pn**	**14 21 24.8**	**+0.3**
	54nm,1.1s,575nm0.2nm						
FAKI	**Fak Fak**	**7.07**	**130**	P	**Pn**	**14 21 27.0**	**+2.6**
	baz=7.0,SNR=13						
FAKI	**Fak Fak**	**7.07**	**130**	*e*P	**Pn**	**14 21 25.1**	**+0.6**
	50nm,1.0s						
PCI	**Palu**	**7.39**	**250**	P	**Pn**	**14 21 28.4**	**-0.5**
	58nm,1.0s,0.2nm						
TTSI	**Tana Toraja**	**8.37**	**236**	P	**Pn**	**14 21 41.4**	**-0.8**
	70nm,0.6s						
SPSI	**Sidrap Palu**	**8.94**	**232**	P	**Pn**	**14 21 50.6**	**+0.5**
	51nm,0.8s,1μm						
BNSI	**Bone**	**8.96**	**228**	P	**Pn**	**14 21 49.9**	**-0.5**
	96nm,0.7s,869nm						
TSM	**Tawau**	**9.30**	**287**	P	**Pn**	**14 21 53.4**	**-1.6**
BKSI	**Bulukumba**	**9.58**	**224**	P	**Pn**	**14 21 58.6**	**-0.3**
	40nm,0.7s,557nm						
KAPI	**Kappang**	**9.63**	**227**	*e*P	**Pn**	**14 21 59.2**	**-0.3**
	29nm,0.6s						
SDKM	**Sandakan**	**10.38**	**293**	P	**Pn**	**14 22 08.4**	**-1.5**
KDM	**Kudat**	**11.24**	**298**	P	**Pn**	**14 22 20.9**	**-0.7**
KKM	**Kota Kinabalu**	**11.44**	**293**	P	**Pn**	**14 22 25.2**	**+0.9**
	baz=12,SNR=3.1						
KKM	**Kota Kinabalu**	**11.44**	**293**	P	**Pn**	**14 22 25.2**	**+0.9**
KKM	**Kota Kinabalu**	**11.44**	**293**	*e*P	**Pn**	**14 22 24.8**	**+0.5**
	71nm,1.1s						
EDFI	**Ende, Flores**	**11.48**	**206**	P	**Pn**	**14 22 23.8**	**-1.1**
	33nm,1.2s,799nm						
SOEI	**Soe**	**11.57**	**193**	P	**Pn**	**14 22 27.1**	**+1.0**
	110nm,1.1s,1μm						
SOEI	**Soe**	**11.57**	**193**	P	Pn	14 22 30.1	+4.0
	baz=12,SNR=11						
SOEI	**Soe**	**11.57**	**193**	*e*P	**Pn**	**14 22 26.5**	**+0.4**
	70nm,0.8s						
BATI	**Baumata**	**12.15**	**195**	P	**Pn**	**14 22 35.8**	**+1.9**
	30nm,1.0s						
BATI	**Baumata**	**12.15**	**195**	P	**Pn**	**14 22 35.6**	**+1.7**
	2.5nm,0.3s,baz=73,slow=6.2,SNR=7.5						
SMPI	**Sarmi**	**12.44**	**107**	P	**Pn**	**14 22 38.3**	**+0.4**
	49nm,1.2s						
BBKI	**Banjar Baru**	**12.97**	**247**	P	Pn	14 22 35.9	-9.2
WBSI	**Waikabubak, Su**	**13.39**	**213**	P	**Pn**	**14 22 51.5**	**+0.5**
	50nm,0.9s,3μm						
JAY	**Jayapura**	**14.50**	**106**	LR	LR	14 28 34.6	
	comp=Z,204nm,21.4s,baz=322,slow=37						
SBUM	**Sibu**	**14.59**	**274**	P	**Pn**	**14 23 08.6**	**+1.6**
MTN	**Manton Dam**	**14.99**	**163**	P	**Pn**	**14 23 11.2**	**-1.0**
	baz=15,SNR=12						
KDU	**Kakadu**	**15.28**	**159**	P	**Pn**	**14 23 16.9**	**+1.1**
	baz=15,SNR=20						
STKI	**Sintang**	**15.39**	**264**	P	**P**	**14 23 22.7**	**+1.8**
IGBI	**Denpasar**	**15.56**	**228**	P	**Pn**	**14 23 20.8**	**+1.3**
	197nm,1.2s						
ABJI	**Asem Bagus**	**15.63**	**233**	P	P	14 23 34.0	+10
JAGI	**Jajag, Banyuwa**	**16.10**	**231**	P	**P**	**14 23 30.7**	**+1.9**
	85nm,0.8s,2μm						
JAGI	**Jajag, Banyuwa**	**16.10**	**231**	P	**P**	**14 23 31.3**	**+2.5**
	16nm,0.9s,baz=12,SNR=12						
JAGI	**Jajag, Banyuwa**	**16.10**	**231**	*e*P	**P**	**14 23 28.4**	**-0.4**
	64nm,0.8s						
BLJI	**Banyuglugur**	**16.11**	**235**	P	**P**	**14 23 28.5**	**-0.5**
	47nm,0.9s						
KSM	**Kuching**	**16.48**	**270**	P	**P**	**14 23 34.9**	**+1.9**
	baz=17,SNR=14						
KSM	**Kuching**	**16.48**	**270**	*e*P	**Pn**	**14 23 31.6**	**+0.5**
	43nm,1.0s						
GMJI	**Gumukmas**	**16.54**	**233**	P	**P**	**14 23 33.5**	**-0.2**
	42nm,1.0s						
KNRA	**Kununurra**	**17.29**	**174**	P	**Pn**	**14 23 40.1**	**-1.0**
	baz=17,SNR=24						
PWJI	**Pagerwojo**	**17.75**	**237**	P	**P**	**14 23 48.0**	**+1.0**
	38nm,1.2s						
PCJI	**Pacitan**	**18.37**	**238**	P	**Pn**	**14 23 54.8**	**+0.4**
	63nm,0.8s						
UGM	**Wanagama**	**18.78**	**240**	P	**Pn**	**14 24 00.8**	**+1.3**
	baz=19,SNR=3.0						
KPJI	**Karang Pucung**	**19.91**	**243**	P	**P**	**14 24 09.6**	**-1.2**
	38nm,0.8s,27μm						
TPUB	**Ta-pu**	**22.38**	**345**	*e*P	**P**	**14 24 34.3**	**-2.9**
	53nm,1.2s						
COEN	**Coen**	**22.42**	**134**	P	**P**	**14 24 38.4**	**+0.6**
	baz=22,SNR=8.8						
COEN	**Coen**	**22.42**	**134**	*e*P	**P**	**14 24 38.1**	**+0.3**
	5.8nm,0.7s						
WRAB	**Tennant Creek**	**22.66**	**161**	*c i*P	**P**	**14 24 38.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,200nm,1.0s						
WRAB	**Tennant Creek**	**22.66**	**161**	*e*P	**P**	**14 24 38.6**	**-1.6**
	comp=Z,65nm,0.8s						
WRA	**Warramunga Arr**	**22.66**	**161**	P	**P**	**14 24 38.8**	**-1.6**
	comp=Z,52nm,0.6s,baz=337,slow=11,SNR=330						
WRA				S	**S**	**14 28 44.7**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=349,slow=16,SNR=8.1						
WB2	**Warramunga Arr**	**22.67**	**161**	*e*P	**P**	**14 24 38.7**	**-1.6**
SSLB	**Suanglung**	**22.76**	**346**	*e*P	**P**	**14 24 38.7**	**-2.6**
	comp=Z,16nm,0.9s						
PMG	**Port Moresby**	**23.05**	**119**	*e*P	P	14 24 39.3	-5.1
PMG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PMG	**Port Moresby**	**23.05**	**119**	LR	LR	14 35 07.8	
	comp=Z,218nm,20.3s,baz=336,slow=40						
KASI	**Kota Agung**	**23.37**	**252**	P	**P**	**14 24 45.5**	**-2.0**
	comp=Z,34nm,0.7s						
MDSI	**Maura Dua**	**23.40**	**255**	P	**P**	**14 24 49.5**	**+1.8**
	comp=Z,11nm,0.9s						
KGM	**Kluang**	**23.47**	**271**	P	**P**	**14 24 47.6**	**-0.8**
MBWA	**Marble Bar**	**23.66**	**197**	*e*P	**P**	**14 24 48.8**	**-1.3**
	comp=Z,31nm,1.1s						
KTGM	**Kuala Trenggan**	**23.90**	**279**	P	**P**	**14 24 51.3**	**-1.1**
QIZ	**Qiongzhong**	**23.99**	**317**	P	**P**	**14 24 53.3**	**+0.2**
QIZ				pP	**pP**	**14 25 06.8**	**-0.2**
QIZ				S	**S**	**14 29 08.7**	**+2.4**
QIZ				sS	**sS**	**14 29 30.0**	**+0.1**
QIZ				PMZ			
	comp=Z,16nm,0.9s						
QIZ				PMZ			
	comp=Z,56nm,3.8s						
QIS	**Mount Isa**	**25.36**	**151**	P	**P**	**14 25 05.6**	**+0.1**
	baz=25,SNR=26						
IPM	**Ipoh**	**25.89**	**277**	P	**P**	**14 25 09.8**	**-0.7**
AS31	**Alice Springs**	**26.06**	**165**	*e*P	**P**	**14 25 10.9**	**-1.0**
ASAR	**Alice Springs**	**26.06**	**165**	P	**P**	**14 25 11.2**	**-0.8**
	comp=Z,20nm,0.6s,baz=341,slow=7.4,SNR=244						
ASAR				PcP	**PcP**	**14 28 39.5**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=353,slow=2.9,SNR=5.5						
ASAR				S	**S**	**14 29 40.1**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=350,slow=20,SNR=5.1						
WRKA	**Warakurna**	**26.53**	**177**	P	**P**	**14 25 16.1**	**-0.1**
	baz=27,SNR=43						
WRKA				S	S	14 29 19.6	-27
	baz=27,SNR=3.7						
PSI	**Prapat**	**27.87**	**273**	P	**P**	**14 25 28.2**	**-0.3**
	baz=28,SNR=4.1						
CTA	**Charters Tower**	**28.80**	**139**	P	**P**	**14 25 36.0**	**-0.5**
	comp=Z,8.3nm,1.0s,baz=288,slow=6.4,SNR=3.4						
MEEK	**Meekatharra**	**29.17**	**195**	P	**P**	**14 25 39.0**	**-0.7**
	baz=29,SNR=12						
NJ2	**Nanjing**	**31.19**	**347**	*e*P	**P**	**14 25 56.1**	**-1.4**
NJ2				PMZ			
	comp=Z,20nm,0.8s						
GYA	**Guiyang**	**31.38**	**324**	P	**P**	**14 26 01.0**	**+1.6**
GYA				pP	**pP**	**14 26 14.8**	**+1.3**
GYA				sP	**sP**	**14 26 21.0**	**+0.9**
GYA				PP	**PnPn**	**14 27 06.4**	**+2.5**
GYA				S	**S**	**14 31 03.5**	**+0.4**
GYA				sS	**sS**	**14 31 28.7**	**+1.6**
GYA				SS	**SnSn**	**14 32 55.0**	**+3.4**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,4.8s						
GYA				LN			
	comp=Z,570nm,17.8s						
GYA				LE			
	comp=Z,490nm,18.0s						
GYA				LZ			
	comp=Z,550nm,17.6s						
JNU	**Nakatsue**	**31.58**	**7**	P	**P**	**14 26 00.8**	**-0.1**
	comp=Z,12nm,0.9s,baz=152,slow=4.9,SNR=7.3						
JNU	**Nakatsue**	**31.58**	**7**	*e*P	**P**	**14 26 00.6**	**-0.4**
	comp=Z,4.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.04**	**303**	*ce*P	**P**	**14 26 07.8**	**+2.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.04**	**303**	P	**P**	**14 26 03.9**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=120,slow=7.3,SNR=8.3						
CMAR				PcP	**PcP**	**14 28 54.9**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=191,slow=0.9,SNR=4.6						
CMAR				LR	LR	14 40 46.8	
	comp=Z,69nm,18.5s,baz=137,slow=40						
MORW	**Morawa**	**32.20**	**198**	P	**P**	**14 26 05.9**	**-0.4**
	baz=32,SNR=5.1						
CHTO	**Chiang Mai**	**32.21**	**304**	*e*P	**P**	**14 26 05.2**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHTO	**Chiang Mai**	**32.21**	**304**	*e*P	**P**	**14 26 05.2**	**-1.4**
	comp=Z,1.9nm,0.6s						
CHTO	**Chiang Mai**	**32.21**	**304**

	comp=Z,120nm,5.5s							
BJI				LE				
	comp=Z,92nm,4.4s							
ARMA	**Armidale**	**39.68**	**145**	P		**P**	**14 27 11.7**	**+1.2**
	baz=40,SNR=18							
LZH	**Lanzhou**	**40.36**	**331**	*eP*		**P**	**14 27 16.8**	**+0.6**
LZH				pP		**pP**	**14 27 27.5**	**-3.1**
LZH				sP		**sP**	**14 27 35.3**	**-1.9**
LZH				PP		**PnPn**	**14 28 56.0**	**+1.9**
LZH				*eS*		**S**	**14 33 22.5**	**+2.1**
LZH				sS		**sS**	**14 33 43.0**	**-1.8**
LZH				SS		SS	14 36 13.3	-7.9
LZH				PMZ				
	comp=Z,21nm,1.1s							
LZH				PMZ				
	comp=Z,96nm,4.6s							
LZH				LN				
	comp=Z,310nm,13.6s							
LZH				LE				
	comp=Z,410nm,15.1s							
LZH				LZ				
	comp=Z,420nm,15.4s							
YNG	**Young**	**41.08**	**152**	P		**P**	**14 27 23.1**	**+1.2**
	baz=41,SNR=6.1							
HHC	**Hu-ho-hao-te**	**41.42**	**342**	*eP*		**P**	**14 27 25.6**	**+0.9**
HHC				PP		**PnPn**	**14 29 05.9**	**-0.5**
HHC				S		**S**	**14 33 37.2**	**+1.3**
HHC				sS		**sS**	**14 34 03.4**	**+3.0**
HHC				SS		**SS**	**14 36 38.8**	**-3.2**
HHC				ScS		**ScS**	**14 37 21.0**	**-2.6**
HHC				PMZ				
	comp=Z,15nm,1.2s							
HHC				PMZ				
	comp=Z,140nm,5.0s							
HHC				LN				
	comp=Z,140nm,13.9s							
HHC				LE				
	comp=Z,140nm,13.5s							
HHC				LZ				
	comp=Z,87nm,14.1s							
CN2	**Changchun**	**42.03**	**359**	*eP*		**P**	**14 27 31.0**	**+1.5**
CAN	**Canberra**	**42.20**	**153**	*eP*		**P**	**14 27 31.7**	**+0.5**
CAN				pmax		pmax		
	comp=Z,28nm,1.0s							
CAN	**Canberra**	**42.20**	**153**	*eP*		**P**	**14 27 31.6**	**+0.5**
	comp=Z,28nm,1.0s							
CNB	**Canberra Magne**	**42.37**	**152**	P		**P**	**14 27 33.7**	**+1.2**
	baz=42,SNR=7.6							
USRK	**Ussuriysk Ar.**	**42.66**	**6**	P		**P**	**14 27 35.1**	**+0.5**
	comp=Z,12nm,0.8s,baz=192,slow=8.4,SNR=11							
LSA	**Lhasa**	**43.90**	**313**	*eP*		**P**	**14 27 45.1**	**-0.4**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**43.90**	**313**	*eP*		**P**	**14 27 45.1**	**-0.4**
	comp=Z,4.9nm,0.6s							
ASAJ	**Asahikawa**	**44.59**	**16**	P		**P**	**14 27 52.0**	**+1.8**
	comp=Z,9.6nm,0.8s,baz=334,slow=4.8,SNR=5.1							
GTA	**Gaotai**	**44.95**	**330**	*eP*		**P**	**14 27 53.6**	**+0.3**
GTA				pP		**pP**	**14 28 07.4**	**-0.5**
GTA				sP		**sP**	**14 28 14.1**	**-0.3**
GTA				PcP		**PcP**	**14 29 35.8**	**+2.0**
GTA				S		**S**	**14 34 27.7**	**+0.1**
GTA				sS		**sS**	**14 34 51.0**	**-1.3**
GTA				SS		**ScS**	**14 37 41.3**	**-4.4**
GTA				PMZ				
	comp=Z,4.0nm,1.2s							
GTA				PMZ				
	comp=Z,88nm,4.0s							
GTA				LN				
	comp=Z,99nm,16.2s							
GTA				LE				
	comp=Z,63nm,15.4s							
GTA				LZ				
	comp=Z,93nm,16.6s							
DZM	**Mont Dzumac**	**45.29**	**124**	P		**P**	**14 27 56.4**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=0.0,slow=8.1,SNR=3.1							
TAPN	**Taplejung**	**45.34**	**308**	*eP*		**P**	**14 27 55.6**	**-1.2**
RAMN	**Ramite**	**46.04**	**307**	*eP*		**P**	**14 28 01.5**	**-0.7**
PALK	**Pallekele**	**46.27**	**278**	P		**P**	**14 28 04.3**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=88,slow=12,SNR=4.0							
JIRN	**Jiri**	**46.68**	**307**	*eP*		**P**	**14 28 06.5**	**-0.9**
	comp=Z,22nm,0.6s							
GUN	**Gumba**	**47.04**	**308**	*eP*		**P**	**14 28 09.1**	**-1.1**
	comp=Z,24nm,0.7s							
KLR	**Kul'dur**	**47.63**	**4**	*eP*		P	14 28 10.2	-3.8
HIA	**Hailar**	**47.86**	**354**	*eP*		**P**	**14 28 18.2**	**+2.4**
HIA				pmax		pmax		
	comp=Z,14nm,1.1s							
HIA	**Hailar**	**47.86**	**354**	*eP*		**P**	**14 28 18.2**	**+2.4**
	comp=Z,14nm,1.1s							
GKN	**Gorkha**	**48.07**	**307**	*eP*		**P**	**14 28 16.5**	**-1.4**
KOLN	**Koldanda**	**48.80**	**306**	*eP*		**P**	**14 28 22.6**	**-1.0**
	comp=Z,16nm,0.5s							
DANN	**Dangsing**	**48.91**	**307**	*eP*		**P**	**14 28 23.2**	**-1.4**
	comp=Z,22nm,0.7s							
ULN	**Ulaanbaatar**	**49.14**	**342**	*eP*		**P**	**14 28 25.3**	**-0.5**
ULN				pmax		pmax		
	comp=Z,15nm,1.3s							
ULN	**Ulaanbaatar**	**49.14**	**342**	*eP*		**P**	**14 28 25.3**	**-0.5**
	comp=Z,15nm,1.3s							
SONM	**Songino Array**	**49.32**	**342**	P		**P**	**14 28 27.7**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=152,slow=8.4,SNR=24							
SONM				PcP		**PcP**	**14 29 48.9**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=162,slow=5.3,SNR=4.0							
SONM				LR		LR	14 52 07.0	
	comp=Z,51nm,21.0s,baz=147,slow=39							
PYUN	**Piuthan**	**49.43**	**306**	*eP*		**P**	**14 28 26.5**	**-1.9**
	comp=Z,51nm,0.5s							
ZAK	**Zakamensk**	**52.54**	**341**	*eP*		**P**	**14 28 51.3**	**0.0**
ZAK				*e*			14 30 00.4	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.6s							
TLY	**Talaya**	**53.55**	**342**	*eP*		**P**	**14 28 59.6**	**+1.0**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.3s							
TLY	**Talaya**	**53.55**	**342**	P		**P**	**14 29 00.2**	**+1.6**
	comp=Z,2.2nm,0.6s,baz=180,slow=4.1,SNR=7.0							
MOY	**Mondy**	**54.39**	**341**	*eP*		**P**	**14 29 06.2**	**+1.4**
WMQ	**Urumqi**	**54.50**	**326**	*eP*		**P**	**14 29 07.6**	**+1.9**
WMQ				pP		**pP**	**14 29 20.4**	**-0.3**
WMQ				sP		**sP**	**14 29 26.2**	**-0.9**
WMQ				PcP		**PcP**	**14 30 11.0**	**+2.4**
WMQ				PP		**PP**	**14 31 11.8**	**+3.3**
WMQ				PcS		**PcS**	**14 34 08.0**	**-0.2**
WMQ				S		**S**	**14 36 42.0**	**+1.3**
WMQ				PMZ				
	comp=Z,8.0nm,1.0s							
WMQ				PMZ				
	comp=Z,130nm,4.4s							
WMQ				LN				
	comp=Z,190nm,27.4s							
WMQ				LE				
	comp=Z,140nm,23.0s							
WMQ				LZ				
	comp=Z,180nm,23.9s							
HVS	**Khovu-Aksy**	**56.68**	**336**	*iP*		**P**	**14 29 21.9**	**+0.6**
BOD	**Bodaibo**	**56.96**	**352**	*eP*		**P**	**14 29 23.3**	**+0.3**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.5s							
PETK	**Petropavlovsk-**	**57.36**	**22**	P		**P**	**14 29 26.2**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=180,slow=4.6,SNR=19							
MKAR	**Makanchi Array**	**59.33**	**326**	P		**P**	**14 29 39.5**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=121,slow=7.7,SNR=64							
MKAR				PcP		**PcP**	**14 30 27.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=153,slow=5.0,SNR=1.5							
MKAR				LR		LR	14 57 10.0	
	comp=Z,50nm,19.7s,baz=124,slow=38							
KSH	**Kashi**	**59.59**	**316**	P		**P**	**14 29 40.9**	**-1.0**
KSH				pP		**pP**	**14 29 56.2**	**-0.9**
KSH				PP		**PP**	**14 31 53.5**	**-0.5**
KSH				PcS		**PcS**	**14 34 28.9**	**-2.1**
KSH				S		S	14 37 41.2	-6.9
KSH				PMZ				
	comp=Z,3.0nm,0.4s							
KSH				PMZ				
	comp=Z,120nm,6.6s							
KSH				LN				
	comp=Z,130nm,6.9s							
KSH				LE				
	comp=Z,94nm,4.5s							
KSH				LZ				
	comp=Z,130nm,5.5s							
YAK	**Yakutsk**	**60.31**	**2**	*eP*		**P**	**14 29 46.2**	**0.0**
YAK				*e*			14 30 03.3	
YAK				pmax		pmax		
	comp=Z,35nm,0.8s							
YAK				pmax		pmax		
	comp=N,11nm,1.0s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.3s							
YAK	**Yakutsk**	**60.31**	**2**	P		**P**	**14 29 46.9**	**+0.7**
	comp=E,42nm,0.8s,baz=352,slow=0.7,SNR=28							
YAK	**Yakutsk**	**60.31**	**2**	*eP*		**P**	**14 29 46.8**	**+0.6**
	comp=E,46nm,0.8s							
TKM2	**Tokmak 2**	**61.38**	**319**	*eP*		**P**	**14 29 53.8**	**-0.3**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.7s							
TKM2	**Tokmak 2**	**61.38**	**319**	*eP*		**P**	**14 29 53.8**	**-0.3**
	comp=Z,3.2nm,0.7s							
AAK	**Ala-Archa**	**61.97**	**319**	*eP*		**P**	**14 29 58.4**	**+0.3**
AAK				pmax		pmax		
	comp=Z,11nm,1.7s							
AAK	**Ala-Archa**	**61.97**	**319**	*eP*		**P**	**14 29 58.0**	**-0.1**
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**62.50**	**334**	*i* P		**P**	**14 30 01.6**	**+0.5**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**62.50**	**334**	P		**P**	**14 30 00.9**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=122,slow=7.0,SNR=17							
ZALV				LR		LR	14 58 18.1	
	comp=Z,23nm,18.7s,baz=66,slow=37							
KURK	**Kurchatov**	**63.56**	**328**	*eP*		**P**	**14 30 07.3**	**-0.9**
KURK				pmax		pmax		
	comp=Z,14nm,0.7s							
KURK	**Kurchatov**	**63.56**	**328**	*eP*		**P**	**14 30 07.2**	**-0.9**
	comp=Z,14nm,0.7s							
KKAR	**Karatay Array**	**64.82**	**318**	*eP*		**P**	**14 30 14.4**	**-2.3**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KKAR	**Karatay Array**	**64.82**	**318**	*eP*		**P**	**14 30 14.4**	**-2.3**
	comp=Z,1.9nm,0.7s							
CASY	**Casey**	**68.73**	**187**	*eP*		**P**	**14 30 41.6**	**+0.5**
	comp=Z,15nm,0.8s							
BILL	**Bilibino**	**71.57**	**15**	*eP*		**P**	**14 30 56.7**	**-1.8**
BILL				pmax		pmax		
	comp=Z,4.0nm,1.6s							
BILL	**Bilibino**	**71.57**	**15**	*eP*		**P**	**14 30 59.1**	**+0.6**
	comp=Z,2.0nm,0.8s							
GEYT	**Alibeck**	**72.27**	**309**	P		**P**	**14 31 02.8**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=130,slow=4.6,SNR=7.6							
SVE	**Sverdlovsk**	**75.79**	**329**	*eP*		**P**	**14 31 23.4**	**0.0**
SVE				pmax		pmax		
	comp=Z,20nm,0.9s							
GAMB	**Gambell**	**76.30**	**24**	*eP*		**P**	**14 31 27.2**	**+1.1**
	comp=Z,8.2nm,1.0s							
ARU	**Arti**	**76.75**	**328**	*d iP*		**P**	**14 31 28.6**	**-0.3**
ARU							14 34 17.2	
ARU				S		**S**	**14 41 15.6**	**+4.0**
ARU				SS		**SS**	**14 46 12.3**	**+3.8**
ARU				pmax		pmax		
	comp=Z,15nm,1.2s							
ARU	**Arti**	**76.75**	**328**	*eP*		**P**	**14 31 28.0**	**-0.9**
	comp=Z,12nm,0.9s							
VNDA	**Vanda**	**81.33**	**173**	*eP*		**P**	**14 31 53.6**	**+0.1**
VNDA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
VNDA	**Vanda**	**81.33**	**173**	P		**P**	**14 31 53.8**	**+0.3**
	comp=Z,5.3nm,0.6s,baz=314,slow=6.8,SNR=36							
VNDA				LR		LR	15 07 29.5	
	comp=Z,92nm,19.2s,baz=320,slow=35							
VNDA	**Vanda**	**81.33**	**173**	*eP*		**P**	**14 31 53.6**	**+0.1**
	comp=Z,5.2nm,0.7s							
RAYN	**Ar Rayn**	**81.37**	**293**	*eP*		**P**	**14 31 54.4**	**-0.5**
	comp=Z,10.0nm,0.9s							
MAW	**Mawson**	**81.80**	**200**	P		**P**	**14 31 56.3**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=76,slow=9.7,SNR=6.3							
ZEI	**Tsey**	**83.69**	**313**	*eP*		**P**	**14 32 06.2**	**-0.6**
ZEI				pmax		pmax		
	comp=Z,12nm,1.0s							
PRGR	**Permogore**	**84.39**	**332**	*eP*		**P**	**14 32 08.0**	**-1.6**
PRGR				pmax		pmax		
	comp=Z,15nm,0.9s							
KBZ	**Khabaz**	**84.48**	**314**	P		**P**	**14 32 10.0**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=153,slow=1.5,SNR=8.3							
NEY	**Neytrino**	**84.58**	**313**	*eP*		**P**	**14 32 13.6**	**+2.3**
KIV	**Kislovodsk**	**84.64**	**314**	*eP*		**P**	**14 32 11.5**	**+0.1**
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
RC01	**Rabbit Creek A**	**85.43**	**29**	P		**P**	**14 32 14.7**	**-0.2**
	comp=Z,14nm,0.9s							
VRHR	**Novokhopersk**	**85.71**	**321**	*eP*		**P**	**14 32 15.0**	**-1.5**
VRHR				pmax		pmax		
	comp=Z,20nm,0.9s							
VRHR				pmax		pmax		
	comp=N,10.0nm,0.6s							
VRHR				pmax		pmax		
	comp=E,20nm,1.0s							
COLD	**Coldfoot**	**85.81**	**23**	*eP*		**P**	**14 32 17.8**	**+1.2**
	comp=E,5.2nm,0.9s							
ILAR	**Eielson Array**	**86.98**	**25**	P		**P**	**14 32 21.5**	**-1.0**
	comp=E,1.3nm,1.0s,baz=251,slow=3.9,SNR=7.6							
VORD	**Divnogorie**	**87.18**	**321**	*eP*		**P**	**14 32 24.1**	**+0.4**
VORD				pmax		pmax		
	comp=N,10.0nm,0.7s							
VORD				pmax		pmax		
	comp=Z,8.0nm,0.7s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.8s							
VSR	**Storozhevoye**	**87.27**	**321**	*eP*		**P**	**14 32 25.3**	**+1.2**
VSR				pmax		pmax		
	comp=Z,7.0nm,0.8s							
VSR				pmax		pmax		
	comp=N,4.0nm,1.3s							
VSR				pmax		pmax		
	comp=E,7.0nm,1.0s							
ANN	**Anapa**	**88.42**	**315**	*eP*		**P**	**14 32 30.2**	**+0.5**
ANN				pmax		pmax		
	comp=Z,11nm,0.8s							
OBN	**Obninsk**	**88.82**	**325**	*eP*		**P**	**14 32 29.6**	**-1.8**
OBN				pmax		pmax		
	comp=Z,19nm,1.7s							
OBN				MLR		MLR		
	comp=Z,67nm,23.0s							
KMBO	**Kilima Mbogo**	**89.57**	**269**	LR		LR	15 10 39.2	
	comp=Z,4.5nm,19.7s,baz=95,slow=34							
SYO	**Syowa Base**	**90.48**	**201**	*eP*		**P**	**14 32 38.3**	**-0.5**
BRTR	**Keskin Array B**	**91.41**	**310**	*i* P		**P**	**14 32 43.7**	**-0.4**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**91.41**	**310**	P		**P**	**14 32 41.5**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=126,slow=6.3,SNR=6.5							
BRTR				LR		LR	15 20 31.5	
	comp=Z,10nm,18.8s,baz=82,slow=40							
QSPA	**South Pole Qui**	**91.53**	**180**	P		**P**	**14 32 43.5**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=356,slow=0.8,SNR=13							
QSPA	**South Pole Qui**	**91.53**	**180**	*eP*		**P**	**14 32 44.3**	**+0.3**
	comp=Z,4.6nm,0.9s							
INK	**Inuvik**	**92.10**	**22**	P		**P**	**14 32 45.2**	**-1.1**
	comp=Z,2.7nm,1.1s,baz=265,slow=8.4,SNR=6.5							
ARCES	**ARCESS Array B**	**92.45**	**340**	P		**P**	**14 32 46.4**	**-1.6**
	comp=Z,3.9nm,1.0s,baz=69,slow=6.9,SNR=7.4							
AKASG	**Malin Array Be**	**93.57**	**321**	P		**P**	**14 32 52.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=66,slow=3.9,SNR=3.8							
AKASG				LR		LR	15 19 21.8	
	comp=Z,25nm,20.4s,baz=55,slow=38							
FINES	**FINESS Array B**	**93.72**	**332**	P		**P**	**14 32 53.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=77,slow=6.1,SNR=4.8							
FINES				LR		LR	15 17 46.4	
	comp=Z,46nm,19.9s,baz=22,slow=37							
KOLS	**Kolonicke sedl**	**98.30**	**320**	*i* P		**P**	**14 33 13.5**	**-1.6**
KOLS	**Kolonicke sedl**	**98.30**	**320**	PDIF		**P**	**14 33 13.5**	**-1.6**
KECS	**Kecovo**	**99.55**	**320**	*i* P		**Pdif**	**14 33 21.1**	**+0.4**
KECS	**Kecovo**	**99.55**	**320**	PDIF		**Pdif**	**14 33 21.1**	**+0.4**
YKA	**Yellowknife Ar**	**101.39**	**25**	P		**Pdif**	**14 33 28.6**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=295,slow=4.6,SNR=7.4							
PDAR	**Pinedale Array**	**112.89**	**42**	PKKPbc	PKKPbc		14 49 02.3	-1.3
	comp=Z,0.4nm,0.8s,baz=148,slow=8.6,SNR=2.9							
PDAR				PKKPab		**PKKPab**	**14 49 09.4**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=111,slow=8.8,SNR=4.9							
ULM	**Lac du Bonnet**	**116.77**	**29**	PKP		**PKPdf**	**14 38 21.8**	**0.0**
	comp=Z,0.5nm,0.4s,baz=307,slow=5.1,SNR=2.3							
SCHQ	**Schefferville**	**122.64**	**9**	PKP		**PKPdf**	**14 38 32.3**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=0.0,slow=3.0,SNR=2.8							
TXAR	**Lajitas Array**	**122.82**	**53**	PKP		**PKPdf**	**14 38 34.9**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=199,slow=2.3,SNR=7.5							
TXAR				PKKPbc	PKKPbc		14 48 20.6	-6.8
	comp=Z,0.3nm,1.0s,baz=76,slow=3.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**123.61**	**287**	PKP		**PKPdf**	**14 38 35.6**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=53,slow=2.0,SNR=18							
DBIC	**Dimbokro**	**131.05**	**280**	PKP		**PKPdf**	**14 38 51.1**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=168,slow=9.3,SNR=3.0							
BDFB	**Brasilia**	**165.15**	**200**	PKPab		**PKPab**	**14 40 40.5**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=132,slow=14,SNR=3.5							

IDC 04 14:31:27.1±11.0, 49.46S×108.67E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/15, mbtmp3.5/2, Error ellipse: s-maj=604.1km s-min=56.9km az=117.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.10**	**17**	T	T	14 50 24.3	
	baz=199,slow=74,SNR=7.1						
H01W1	**Cape Leeuwin H**	**15.11**	**18**	T	T	14 50 25.3	
	baz=199,slow=74,SNR=7.8						
H01W3	**Cape Leeuwin H**	**15.11**	**17**	T	T	14 50 24.7	
	baz=199,slow=74,SNR=8.2						
ASAR	**Alice Springs**	**32.47**	**47**	P	P	14 37 59.8	+0.5
	0.5nm,0.9s,baz=208,slow=8.0,SNR=4.3						
WRA	**Warramunga Arr**	**35.89**	**44**	P	P	14 38 28.2	-0.6
	0.8nm,0.8s,baz=213,slow=8.3,SNR=4.8						
TXAR	**Lajitas Array**	**148.29**	**117**	PKPbc	PKPbc	14 51 14.5	-0.6
	0.4nm,0.8s,baz=181,slow=4.5,SNR=3.9						

MEX 04 14:37:18.0±0.5, 15.98N×97.49W, h4km±8km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**304**	*i* P	Pg	14 37 31.2	-1.0
PNIG				*i* S	Sg	14 37 41.0	-0.7
VHO	**Vista Hermosa**	**1.30**	**34**	*eP*	Pn	14 37 39.0	-4.2
VHO				*i* S	Sg	14 37 56.6	-3.9
HUIG	**Huatulco**	**1.35**	**99**	*eP*	Pn	14 37 40.0	-3.6
HUIG				*i* S	Sg	14 37 56.5	-5.0
TLIG	**Tlapa**	**1.88**	**327**	*eP*	Pn	14 37 47.3	-3.7
TLIG				*i* S	Sn	14 38 10.7	-4.6

IDC 04 14:58:42.4±1.1, 16.99S×173.67W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.6/6, ML6.7/1, Error ellipse: s-maj=60.1km s-min=22.2km az=146.0
ISCJB 04 14:58:47.3±0.8, 17.4S±0.2×173.6W±0.2, h52km, mb3.6/6, Error ellipse: s-maj=35.0km s-min=16.3km az=37.7

ISC 04 14:58:48.7±0.9, 17.3S±0.2×173.7W±0.2, h52km, n9, σ1§40/9, mb3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.57**	**197**	Pn	**Pn**	**15 01 44.2**	**-0.6**
	414nm,0.3s,baz=15,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**49.21**	**258**	P	**P**	**15 07 32.9**	**+0.7**
	0.2nm,0.8s,baz=94,slow=7.0,SNR=4.9						
ASAR	**Alice Springs**	**49.33**	**253**	P	**P**	**15 07 34.8**	**+1.6**
	0.8nm,0.6s,baz=89,slow=8.5,SNR=25						
NVAR	**Mina Array Bea**	**75.86**	**42**	P	**P**	**15 10 31.0**	**+1.1**
	0.4nm,0.7s,baz=231,slow=9.2,SNR=3.7						
TXAR	**Lajitas Array**	**81.84**	**56**	P	**P**	**15 11 04.1**	**+1.3**
	0.2nm,0.7s,baz=209,slow=7.2,SNR=3.2						
PDAR	**Pinedale Array**	**83.80**	**42**	P	**P**	**15 11 12.2**	**-0.6**
	1.1nm,0.8s,baz=224,slow=3.8,SNR=9.1						
ILAR	**Eielson Array**	**84.30**	**11**	P	**P**	**15 11 12.9**	**-1.6**
	0.3nm,0.7s,baz=226,slow=6.2,SNR=4.6						
BRTR	**Keskin Array B**	**147.41**	**319**	PKPbc	**PKPab**	**15 18 27.7**	**-1.5**
	0.5nm,0.7s,baz=51,slow=0.9,SNR=3.3						
GERES	**GERESS Array B**	**147.92**	**351**	PKPbc	**PKPbc**	**15 18 28.3**	**0.0**
	0.4nm,0.6s,baz=343,slow=3.1,SNR=6.5						

GUC 04 15:13:44.7±0.4, 36.30S×72.93W, h26km±1km, ML4.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.20**	**35**	*eP*	Pb	15 13 50.0	-0.5
COCH				*eS*	Sb	15 13 53.9	-0.5
CCSP	**San Pedro de C**	**0.57**	**195**	*eP*	Pb	15 13 55.1	-0.9
CCSP				*eS*	Sb	15 14 02.9	-0.9
LNCH	**Linares**	**1.17**	**68**	*eP*	Pn	15 14 04.8	-0.6
LNCH				*eS*	Sn	15 14 19.6	-0.8
TALC	**Talca**	**1.38**	**50**	*eS*	Sn	15 14 25.3	-0.4
NICH	**Los Niches**	**1.89**	**48**	*eP*	Pn	15 14 16.0	+0.7
NICH				*eS*	Sn	15 14 39.7	+1.4
CLCH	**Cerro Calan**	**3.50**	**35**	*eP*	Pn	15 14 38.3	+0.8
CLCH				*eS*	Sn	15 15 18.9	+0.7
CLCH				AML	AML	15 15 41.8	
	comp=E,495nm,0.7s						
PEL	**Peldehue**	**3.65**	**31**	*eP*	Pn	15 14 40.3	+0.8
PEL				*eS*	Sn	15 15 22.4	+0.6
PEL				AML	AML	15 15 45.1	
	comp=N,301nm,0.3s						
ROCH	**El Roble**	**3.67**	**26**	AML	AML	15 15 42.0	
	comp=N,240nm,0.5s						

ISCJB 04 15:26:59.6±0.7, 11.7N±0.1×85.7W±0.1, h139km, mb3.6/8, Error ellipse: s-maj=19.1km s-min=7.7km az=136.1
IDC 04 15:27:01.4±0.7, 11.49N×85.69W, h155km±22km, mb3.4/9, mb1 3.7/10, mb1mx3.3/39, mbtmp3.9/10, Error ellipse: s-maj=43.3km s-min=18.9km az=23.0

ISC 04 15:27:00.6±0.8, 11.6N±0.1×85.8W±0.1, h139km, n13, σ1§52/14, mb3.7/8, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.58**	**146**	P	**Pn**	**15 27 31.1**	**+0.8**
	32nm,0.3s,baz=301,slow=18,SNR=197						
JTS				S	**Sn**	**15 27 52.3**	**-0.7**
	156nm,0.3s,baz=312,slow=21,SNR=17						
CMIG	**Matias Romero**	**10.31**	**303**	P	Pn	15 29 27.8	+2.7
	1.6nm,0.3s,baz=122,slow=9.4,SNR=13						
CMIG				S	**Sn**	**15 31 18.0**	**-1.1**
	0.3nm,0.3s,baz=302,slow=10,SNR=2.2						
PCRV

JHJ2	**Mitsune**	**2.56**	**323**	*e*Pn	**Pn**	**15 28 39.3**	**-0.3**
BSO1	**Boso 1**	**3.62**	**351**	P	**Pn**	**15 28 52.0**	**-1.7**
CBIJ	**Chichi jima**	**3.99**	**173**	P	**Pn**	**15 29 00.2**	**+0.9**
CBIJ	**Chichi jima**	**3.99**	**173**	*e*Pn	**Pn**	**15 29 00.3**	**+0.9**
CBIJ				Sn	**Sn**	**15 29 43.0**	**-1.8**
JCJ	**Chichijima**	**3.99**	**173**	Pn	**Pn**	**15 28 59.6**	**+0.2**
	21nm,0.3s,baz=6.3,slow=19,SNR=20						
JCJ				Sn	**Sn**	**15 29 43.0**	**-1.8**
	19nm,0.3s,baz=291,slow=23,SNR=2.2						
BSO4	**Boso 4**	**4.06**	**345**	P	**Pn**	**15 28 59.1**	**-1.1**
JHHJ	**Haha-jima-NKT**	**4.45**	**174**	P	**Pn**	**15 29 06.7**	**+1.0**
JOD2	**Odawara 2**	**4.70**	**334**	P	**Pn**	**15 29 08.3**	**-0.8**
JYN	**Shimob**	**5.12**	**330**	P	**Pn**	**15 29 16.4**	**+1.5**
JHU	**Hanno**	**5.16**	**338**	P	**Pn**	**15 29 14.3**	**-1.1**
JYT	**Yasato**	**5.28**	**347**	P	**Pn**	**15 29 17.3**	**+0.2**
JYT				*e*S	**Sn**	**15 30 14.5**	**-2.2**
JRY	**Ryogami san**	**5.44**	**336**	P	**Pn**	**15 29 19.1**	**-0.2**
JRY				*e*S	**Sn**	**15 30 20.0**	**-0.6**
JHO	**Hitachi**	**5.60**	**351**	P	**Pn**	**15 29 18.7**	**-2.7**
JHO				*e*S	Sn	15 30 18.2	-6.3
MJAR	**Matsushiro Arr**	**6.16**	**333**	P	**Pn**	**15 29 29.3**	**+0.1**
MJAR						15 30 40.7	
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.16**	**333**	Pn	**Pn**	**15 29 29.3**	**+0.1**
	comp=Z,3.5nm,0.3s,baz=70,slow=25,SNR=35						
MJAR				Sn	**Sn**	**15 30 40.7**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=163,slow=19,SNR=2.7						
MAJO	**Matsushiro**	**6.16**	**333**	P	**Pn**	**15 29 28.6**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,21nm,0.8s						
MAJO	**Matsushiro**	**6.16**	**333**	P	**Pn**	**15 29 28.6**	**-0.6**
	comp=Z,21nm,0.8s						
MAT	**Matsushiro**	**6.16**	**333**	P	**Pn**	**15 29 29.7**	**+0.5**
MAT				S	**Sn**	**15 30 39.0**	**+0.6**
JFK	**Kawauchi**	**6.31**	**354**	P	Pn	15 29 27.8	-3.5
JFK				S	Sn	15 30 34.3	-7.8
JNU	**Nakatsue**	**9.36**	**285**	LR	LR	15 33 49.8	
	comp=Z,178nm,18.5s,baz=124,slow=38						
ERM	**Erimo**	**10.99**	**6**	*e*P	**Pn**	**15 30 33.9**	**-1.4**
ERM	**Erimo**	**10.99**	**6**	*e*P	**Pn**	**15 30 33.4**	**-1.9**
KSRS	**Korea Array**	**13.01**	**303**	Pn	Pn	15 31 06.2	+3.3
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=5.9						
KSRS				LR	LR	15 35 56.0	
	comp=Z,54nm,18.8s,baz=102,slow=37						
KSAR	**Wonju Array Be**	**13.03**	**303**	P	**Pn**	**15 31 06.2**	**+3.0**
KSAR	**Wonju Array Be**	**13.03**	**303**	Pn	**Pn**	**15 31 06.2**	**+3.0**
ASAJ	**Asahikawa**	**13.05**	**3**	P	Pn	15 30 58.9	-4.5
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**13.05**	**3**	Pn	Pn	15 30 58.9	-4.5
	comp=Z,0.6nm,0.3s,baz=230,slow=13,SNR=9.9						
YUK	**Yuzh-Kuril'sk**	**13.36**	**13***d*	*i*P	Pn	15 31 11.0	+3.3
YUK				*i* S	**Sn**	**15 33 35.9**	**+1.0**
YUK				pmax	pmax		
	comp=Z,69nm,1.2s						
YUK				pmax	pmax		
	comp=N,25nm,0.4s						
YUK				pmax	pmax		
	comp=E,44nm,0.6s						
YUK				pmax	pmax		
	comp=Z,603nm,2.0s						
YUK				smax	smax		
	comp=N,847nm,2.7s						
YUK				smax	smax		
	comp=E,491nm,2.7s						
YUK				MLR	MLR		
	comp=Z,178nm,12.0s						
USRK	**Ussuriysk Ar.**	**15.16**	**333**	LR	LR	15 37 24.4	
	comp=Z,74nm,18.6s,baz=161,slow=38						
YSS	**Yuzh-Sakhalins**	**15.88**	**3**	*e*P	**Pn**	**15 31 40.6**	**-0.8**
SSLB	**Suanglung**	**19.73**	**253**	*e*P	**Pn**	**15 32 28.8**	**-0.2**
	comp=Z,8.8nm,0.6s						
HIA	**Hailar**	**24.56**	**324**	*e*P	**P**	**15 33 15.2**	**-1.8**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**25.39**	**110**	T	T	15 59 51.7	
	baz=305,slow=74,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**25.40**	**110**	T	T	15 59 55.8	
	baz=305,slow=74,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**25.41**	**110**	T	T	15 59 51.2	
	baz=305,slow=74,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**25.89**	**113**	T	T	16 00 33.2	
	baz=304,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**25.89**	**113**	T	T	16 00 30.1	
	baz=304,slow=75,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**25.90**	**113**	T	T	16 00 34.3	
	baz=304,slow=75,SNR=9.9						
ULN	**Ulaanbaatar**	**31.20**	**312**	*e*P	**P**	**15 34 16.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**31.20**	**312**	*e*P	**P**	**15 34 16.8**	**+0.2**
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**31.61**	**312**	P	**P**	**15 34 20.4**	**+0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**31.61**	**312**	P	**P**	**15 34 20.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=119,slow=8.2,SNR=13						
SEY	**Seymchan**	**32.61**	**9**	P	**P**	**15 34 28.4**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=152,slow=18,SNR=4.3						
TLY	**Talaya**	**34.63**	**318**	*e*P	**P**	**15 34 47.0**	**+0.7**
BILL	**Bilibino**	**39.72**	**14**	*e*P	**P**	**15 35 30.4**	**+1.2**
BILL				*i*		15 35 42.6	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
HVS	**Khovu-Aksy**	**40.45**	**314**	*e*P	**P**	**15 35 35.6**	**0.0**
CMAR	**Chiang Mai Arr**	**40.52**	**262**	P	**P**	**15 35 35.1**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=55,slow=6.7,SNR=8.5						
CMAR				LR	LR	15 53 42.4	
	comp=Z,30nm,18.1s,baz=48,slow=38						
ZALV	**Zalesovo Beam**	**46.23**	**317**	*i* P	**P**	**15 36 22.1**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**46.23**	**317**	P	**P**	**15 36 20.1**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=95,slow=7.4,SNR=7.2						
ZALV				PcP	**PcP**	**15 37 57.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=75,slow=4.1,SNR=4.7						
NVS	**Novosibirsk**	**47.24**	**318**	*e*P	**P**	**15 36 27.5**	**-2.4**
NVS				pmax	pmax		
	comp=N,1.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**47.65**	**307**	P	**P**	**15 36 32.7**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=88,slow=9.1,SNR=23						
MKAR				LR	LR	15 55 46.8	
	comp=Z,26nm,19.7s,baz=54,slow=35						
LEM	**Lembang**	**49.79**	**227**	P	**P**	**15 36 49.3**	**-0.9**
LEM				pmax	pmax		
	comp=Z,11nm,0.6s						
LEM	**Lembang**	**49.79**	**227**	P	**P**	**15 36 49.3**	**-0.9**
	comp=Z,11nm,0.6s,baz=340,slow=10,SNR=4.7						
KURK	**Kurchatov**	**49.92**	**312**	*e*P	**P**	**15 36 49.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**49.92**	**312**	*e*P	**P**	**15 36 49.6**	**-0.9**
	comp=Z,3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**49.98**	**312**	P	**P**	**15 36 50.2**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=88,slow=7.0,SNR=7.0						
WRAB	**Tennant Creek**	**51.19**	**189**	*e*P	**P**	**15 37 00.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,50nm,2.5s						
WRAB	**Tennant Creek**	**51.19**	**189**	*e*P	**P**	**15 37 00.5**	**0.0**
	comp=Z,3.9nm,0.4s						
WB2	**Warramunga Arr**	**51.20**	**189**	*e*P	**P**	**15 37 00.3**	**-0.2**
WRA	**Warramunga Arr**	**51.20**	**189**	P	**P**	**15 37 00.3**	**-0.2**
WRA						15 38 17.9	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**51.20**	**189**	P	**P**	**15 37 00.3**	**-0.2**
	comp=Z,4.4nm,0.3s,baz=6.5,slow=7.7,SNR=149						
WRA				PcP	**PcP**	**15 38 17.9**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=358,slow=3.8,SNR=4.6						
AAK	**Ala-Archa**	**53.67**	**302**	P	**P**	**15 37 17.3**	**-1.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**53.67**	**302**	P	**P**	**15 37 17.3**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=168,slow=9.3,SNR=3.5						
ILAR	**Eielson Array**	**54.49**	**30**	P	**P**	**15 37 22.7**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=268,slow=6.7,SNR=5.0						
BVAR	**Borovoye Array**	**54.84**	**316**	P	**P**	**15 37 26.7**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**54.84**	**316**	P	**P**	**15 37 26.7**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=95,slow=10,SNR=5.8						
AS31	**Alice Springs**	**54.93**	**189**	*e*P	**P**	**15 37 27.7**	**-0.3**
ASAR	**Alice Springs**	**54.93**	**189**	P	**P**	**15 37 27.8**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**54.93**	**189**	P	**P**	**15 37 27.8**	**-0.2**
	comp=Z,3.0nm,0.4s,baz=1.4,slow=5.1,SNR=192						
KKAR	**Karatay Array**	**56.43**	**304**	*e*P	**P**	**15 37 38.4**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**56.43**	**304**	*e*P	**P**	**15 37 38.4**	**-0.3**
	comp=Z,2.0nm,0.6s						
SVE	**Sverdlovsk**	**59.82**	**321**↑	*e*P	**P**	**15 38 02.6**	**+0.5**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**61.02**	**321**	*c i*P	**P**	**15 38 10.0**	**-0.3**
ARU						15 38 50.9	
ARU				S	**S**	**15 46 28.5**	**+2.3**
ARU				SS	**SS**	**15 50 22.6**	**-3.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	**Arti**	**61.02**	**321**	*e*P	**P**	**15 38 09.8**	**-0.5**
	comp=Z,7.2nm,0.7s						
ABKAR	**Akbulak array**	**62.02**	**313**	*e*P	**P**	**15 38 16.7**	**-0.5**
	comp=Z,5.3nm,0.6s						
AKTO	**Aktyubinsk**	**62.89**	**314**	P	**P**	**15 38 22.6**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	**Aktyubinsk**	**62.89**	**314**	P	**P**	**15 38 22.6**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=96,slow=5.0,SNR=8.7						
GEYT	**Alibeck**	**66.99**	**301**	P	**P**	**15 38 50.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=40,slow=11,SNR=2.8						
RES	**Resolute Bay**	**68.32**	**14**	P	**P**	**15 38 57.8**	**+0.2**
RES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**68.32**	**14**	P	**P**	**15 38 57.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=239,slow=5.9,SNR=5.7						
YKA	**Yellowknife Ar**	**68.89**	**29**	P	**P**	**15 39 01.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=298,slow=6.4,SNR=6.3						
ARCES	**ARCESS Array B**	**69.65**	**340**	P	**P**	**15 39 05.8**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**69.65**	**340**	P	**P**	**15 39 05.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=56,slow=6.9,SNR=3.6						
OBN	**Obninsk**	**73.02**	**325**	*e*P	**P**	**15 39 25.3**	**-1.2**
OBN				*i*		15 39 44.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.4s						
OBN				MLR	MLR		
	comp=Z,43nm,19.0s						
YBH	**Yreka Blue Hor**	**73.90**	**51**	LR	LR	16 07 05.4	
	comp=Z,57nm,21.8s,baz=247,slow=32						
FINES	**FINESS Array B**	**74.19**	**333**	*ce*P	**P**	**15 39 33.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**74.19**	**333**	P	**P**	**15 39 33.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=80,slow=4.6,SNR=14						
KBZ	**Khabaz**	**74.98**	**312**	P	**P**	**15 39 38.6**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**74.98**	**312**	P	**P**	**15 39 38.6**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=70,slow=2.4,SNR=13						
KIV	**Kislovodsk**	**75.00**	**312**	*e*P	**P**	**15 39 40.2**	**+1.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**78.45**	**52**	P	**P**	**15 39 58.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=298,slow=6.1,SNR=3.0						
AKASG	**Malin Array Be**	**79.15**	**323**	*ce*P	**P**	**15 40 01.7**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**79.15**	**323**	P	**P**	**15 40 01.1**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=47,slow=6.2,SNR=8.6						
HFS	**Hagfors**	**79.60**	**336**	P	**P**	**15 40 04.0**	**+0.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**79.60**	**336**	P	**P**	**15 40 04.0**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=54,slow=7.3,SNR=3.9						
NOA	**NORSAR Array B**	**79.76**	**338**	P	**P**	**15 40 04.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=17,slow=5.0,SNR=3.5						
NOA				LR	LR	16 19 22.5	
	comp=Z,7.3nm,20.9s,baz=340,slow=39						
PDAR	**Pinedale Array**	**81.73**	**45**	P	**P**	**15 40 16.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=347,slow=3.2,SNR=2.6						
BRTR	**Keskin Array B**	**82.97**	**312**	*ce*P	**P**	**15 40 22.7**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**82.97**	**312**	P	**P**	**15 40 23.0**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=101,slow=4.0,SNR=9.0						
RAYN	**Ar Rayn**	**83.13**	**293**	*e*P	**P**	**15 40 23.7**	**+0.5**
	comp=Z,5.6nm,0.8s						
MMAI	**Mount Meron Ar**	**85.59**	**306**	P	**P**	**15 40 36.8**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=29,slow=3.3,SNR=3.2						
TXAR	**Lajitas Array**	**93.59**	**53**	P	**P**	**15 41 14.6**	**+1.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**93.59**	**53**	P	**P**	**15 41 14.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=307,slow=2.9,SNR=7.3						
TORD	**Torodi Ar. Bea**	**121.58**	**313**	PKP	**PKPdf**	**15 46 50.8**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=66,slow=1.7,SNR=2.8						
LPAZ	**La Paz**	**149.14**	**68**	PKP2	**PKPbc**	**15 47 47.1**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**149.14**	**68**	PKPbc	**PKPbc**	**15 47 47.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=29,slow=5.2,SNR=5.7						

*IDC **04** 15:38:34.8±3.6,36°.77N×71°.31E,h62km±32km,mb3.2/6, mb1 3.3/10,mb1mx3.1/30,mbtmp3.4/10,ML3.0/4, Error ellipse: s-maj=26.9km s-min=18.4km az=174.0*
*ISCJB **04** 15:38:37.3±0.8,37°.00N±0°.07×71°.35E±0°.08,h100km, mb3.4/6,Error ellipse: s-maj=9.7km s-min=9.4km az=35.8*
*NNC **04** 15:38:40.0±3.5,37°.40N×71°.34E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=29.8km s-min=13.0km az=167.0*

ISC 04 15:38:38.3±1.1,36°.98N±0°.10×71°.23E±0°.08,h100km,n14, σ1s56/18,mb3.4/6,6C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.63**	**315**	⇑Pn		**Pn**	**15 39 20.8**	**+1.5**
	28nm,0.4s							
DZET				⇓Sn		**Sn**	**15 39 52.8**	**+2.0**
	62nm,0.3s							
KK31	**Karatay Array**	**6.14**	**355**	⇑Pn		**Pn**	**15 40 07.3**	**+0.8**
	0.9nm,0.4s,baz=180,slow=13,SNR=5.5							
KK31				⇑Sn		**Sn**	**15 41 13.9**	**-1.4**
	2.1nm,0.4s							
AAK	**Ala-Archa**	**6.18**	**23**	⇑Pn		**Pn**	**15 40 08.1**	**+1.0**
	1.0nm,0.3s							
AAK				⇑Sn		**Sn**	**15 41 14.6**	**-1.9**
	3.3nm,0.8s							
AAK	**Ala-Archa**	**6.18**	**23**	P		**Pn**	**15 40 08.1**	**+1.0**
	0.6nm,0.3s,baz=156,slow=10.0,SNR=2.2							
AAK				S		**Sn**	**15 41 16.3**	**-0.1**
	0.4nm,0.3s,baz=133,slow=21,SNR=2.1							
GEYT	**Alibeck**	**10.47**	**279**	P		**Pn**	**15 41 04.2**	**-1.2**
	0.5nm,0.3s,baz=104,slow=18,SNR=3.9							
GEYT				S		**Sn**	**15 42 57.5**	**-3.2**
	0.7nm,0.3s,baz=119,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**12.79**	**37**	P		**Pn**	**15 41 35.8**	**-0.6**
	0.0nm,0.3s,baz=221,slow=15,SNR=2.7							
AB31	**Akbulak array**	**14.76**	**330**	⇑Pn		**Pn**	**15 42 01.7**	**-0.1**
	0.2nm,0.3s,baz=142,slow=14,SNR=12							
ZALV	**Zalesovo Beam**	**19.40**	**25**	P		**P**	**15 42 57.2**	**+0.9**
	0.1nm,0.3s,baz=206,slow=9.7,SNR=3.2							
FINES	**FINESS Array B**	**37.19**	**326**	P		**P**	**15 45 39.6**	**+0.2**
	1.0nm,0.9s,baz=154,slow=7.7,SNR=5.9							
HFS	**Hagfors**	**42.80**	**322**	P		P	15 46 29.2	+3.4
	1.8nm,0.8s,baz=127,slow=11,SNR=2.4							
NOA	**NORSAR Array B**	**44.11**	**323**	P		**P**	**15 46 39.3**	**+2.9**
	0.5nm,0.8s,baz=100,slow=7.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P		**P**	**15 49 14.8**	**+0.9**
	0.2nm,0.4s,baz=44,slow=5.4,SNR=4.8							
WRA	**Warramunga Arr**	**82.09**	**122**	P		**P**	**15 50 47.6**	**-0.3**
	0.3nm,0.7s,baz=328,slow=5.3,SNR=5.7							
ASAR	**Alice Springs**	**84.38**	**125**	P		**P**	**15 50 59.4**	**-0.2**
	0.2nm,0.7s,baz=323,slow=4.7,SNR=4.3							

*ISCJB **04** 15:40:27.8±0.3,39°.35N±0°.02×16°.86E±0°.02,h29km±3km, mb3.3/2,Error ellipse: s-maj=3.7km s-min=2.8km az=35.1*
*ROM **04** 15:40:27.8±0.1,39°.35N×16°.82E,h28km±1km,Ml3.4/32, Error ellipse: s-maj=3.4km s-min=1.7km az=103.0*
*IDC **04** 15:40:27.7±1.7,39°.67N×17°.06E,h0km,mb3.3/3, mb1 3.4/7,mb1mx3.2/49,mbtmp3.3/7,ML3.6/4,MS2.5/1, Ms1 2.5/1,ms1mx1.8/31,Error ellipse: s-maj=28.8km s-min=18.6km az=68.0*
*CSEM **04** 15:40:28.2±0.2,39°.35N×16°.80E,h24km±1km,ML3.4, Error ellipse: s-maj=3.2km s-min=3.0km az=76.0*
*THE **04** 15:40:30.2,39°.17N×17°.08E,h10km±22km,MLJ. 1/3,Error ellipse: s-maj=29.2km s-min=1.8km az=273.0*

ISC 04 15:40:28.7±0.8,39°.35N±0°.02×16°.79E±0°.03,h25km±5km, n167,σ1s21/188,5C,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PIPA	**Pietrapaola**	**0.14**	**7**↑	*i*Pg		**Pb**	**15 40 33.2**	**-0.5**
PIPA				Sg		**Sb**	**15 40 37.7**	**+0.5**
PIPA	**Pietrapaola**	**0.14**	**7**↑	*i*Pg		**Pb**	**15 40 33.2**	**-0.5**
PIPA				Sg		**Sb**	**15 40 37.7**	**+0.5**
LADO	**San Nicola del**	**0.16**	**113**	Pg		**Pb**	**15 40 33.5**	**-0.4**
LADO				Sg		**Sb**	**15 40 38.1**	**+0.7**
	6μm,0.5s							
LADO	**San Nicola del**	**0.16**	**113**	Pg		**Pb**	**15 40 33.5**	**-0.4**
LADO				Sg		**Sb**	**15 40 38.1**	**+0.7**
	6μm,0.5s							
SERS	**Sersale**	**0.32**	**195**	Pg		**Pb**	**15 40 35.4**	**-0.7**
SERS				Sg		**Sb**	**15 40 41.1**	**0.0**
	3μm,0.4s							
SERS	**Sersale**	**0.32**	**195**	Pg		**Pb**	**15 40 35.4**	**-0.7**
SERS				Sg		**Sb**	**15 40 41.1**	**0.0**
	3μm,0.4s							
GRI	**Girifalco**	**0.60**	**209**	Pg		**Pb**	**15 40 40.1**	**-0.4**
	2μm,0.5s							
GRI	**Girifalco**	**0.60**	**209**	Pg		**Pb**	**15 40 40.1**	**-0.4**
	2μm,0.5s							
SALB	**San Lorenzo Be**	**0.63**	**327**	Pg		**Pb**	**15 40 39.3**	**-1.9**
	927nm,0.3s							
SALB	**San Lorenzo Be**	**0.63**	**327**	Pg		**Pb**	**15 40 39.3**	**-1.9**
	927nm,0.3s							
ORI	**Oriolo Calabro**	**0.77**	**340**	Pg		**Pb**	**15 40 42.6**	**-0.8**
	3μm,0.4s							
ORI	**Oriolo Calabro**	**0.77**	**340**	Pg		**Pb**	**15 40 42.6**	**-0.8**
	3μm,0.4s							
MMN	**Mormanno**	**0.82**	**312**	Pg		**Pb**	**15 40 43.3**	**-1.0**
	467nm,0.4s							
MMN	**Mormanno**	**0.82**	**312**	Pg		**Pb**	**15 40 43.3**	**-1.0**
	467nm,0.4s							
PLAC	**Placanica**	**0.94**	**197**	Pg		**Pn**	**15 40 45.7**	**-0.6**
	1μm,0.9s							
PLAC	**Placanica**	**0.94**	**197**	Pg		**Pn**	**15 40 45.7**	**-0.6**
	1μm,0.9s							
CUC	**Castrocucco**	**0.99**	**311**	Pg		**Pn**	**15 40 46.7**	**-0.4**
	1μm,0.7s							
CUC	**Castrocucco**	**0.99**	**311**	Pg		**Pn**	**15 40 46.7**	**-0.4**
	1μm,0.7s							
SCHR	**S. Chirico Rap**	**1.02**	**327**	Pg		**Pn**	**15 40 46.6**	**-0.8**
	569nm,0.9s							
CRAC	**Craco**	**1.05**	**345**	Pg		**Pn**	**15 40 48.2**	**+0.3**
	3μm,0.9s							
CRAC	**Craco**	**1.05**	**345**	Pg		**Pn**	**15 40 48.2**	**+0.3**
	3μm,0.9s							
SIRI	**Monte Sirino -**	**1.10**	**320**	Pg		**Pn**	**15 40 48.8**	**+0.2**
SIRI	**Monte Sirino -**	**1.10**	**320**	Pg		**Pn**	**15 40 48.8**	**+0.2**
MTSN	**Montesano sull**	**1.22**	**319**	Pg		**Pn**	**15 40 50.9**	**+0.7**
	308nm,0.9s							
MTSN	**Montesano sull**	**1.22**	**319**	Pg		**Pn**	**15 40 50.9**	**+0.7**
	308nm,0.9s							
TAR1	**Taranto**	**1.24**	**18**	*e*Pn		**Pn**	**15 40 49.4**	**-1.0**
TAR1				Sn		**Sb**	**15 41 10.3**	**+3.4**
MGR	**Morigerati**	**1.24**	**310**	Pg		**Pn**	**15 40 50.5**	**+0.1**
	694nm,0.9s							
MGR	**Morigerati**	**1.24**	**310**	Pg		**Pn**	**15 40 50.5**	**+0.1**
	694nm,0.9s							
LTRZ	**Laterza**	**1.26**	**1**	Pg		**Pn**	**15 40 50.0**	**-0.7**
	2μm,2.0s							
LTRZ	**Laterza**	**1.26**	**1**	Pg		**Pn**	**15 40 50.0**	**-0.7**
	2μm,2.0s							
MIGL	**Miglionico**	**1.29**	**348**	Pg		**Pn**	**15 40 50.9**	**-0.2**
	2μm,0.8s							
MIGL	**Miglionico**	**1.29**	**348**	Pg		**Pn**	**15 40 50.9**	**-0.2**
	2μm,0.8s							
CEL	**Celeste**	**1.29**	**213**	Pg		**Pn**	**15 40 51.4**	**+0.2**
	512nm,0.7s							
CEL	**Celeste**	**1.29**	**213**	Pg		**Pn**	**15 40 51.4**	**+0.2**
	512nm,0.7s							
PTRP	**Pietrapertosa

IGT					S		Sn	15 41 43.5	0.0
IGT	**Igoumenitsa**	**2.75**	**85**	*e*	P		**Pn**	**15 41 10.7**	**-0.4**
IGT	**Igoumenitsa**	**2.75**	**85**		P		**Pn**	**15 41 10.7**	**-0.4**
IGT					S		**Sn**	**15 41 43.5**	**0.0**
LKD2	**Lefkada island**	**3.06**	**99**		P		**Pn**	**15 41 15.0**	**-0.4**
LKD2					S		**Sn**	**15 41 49.8**	**-1.4**
LKD2	**Lefkada island**	**3.06**	**99**	*e*	P		**Pn**	**15 41 15.2**	**-0.2**
LKD2	**Lefkada island**	**3.06**	**99**		P		**Pn**	**15 41 15.0**	**-0.4**
LKD2					S		**Sn**	**15 41 49.8**	**-1.4**
JAN	**Janina**	**3.15**	**83**	*e*	P		**Pn**	**15 41 16.1**	**-0.7**
VLS	**Valsamata**	**3.19**	**110**		P		**Pn**	**15 41 16.2**	**-1.0**
VLS					S		**Sn**	**15 41 52.0**	**-2.4**
VLS	**Valsamata**	**3.19**	**110**	*e*	P		**Pn**	**15 41 16.3**	**-1.0**
VLS	**Valsamata**	**3.19**	**110**		P		**Pn**	**15 41 16.2**	**-1.0**
VLS					S		**Sn**	**15 41 52.0**	**-2.4**
DSL	**Palaion Diasel**	**3.35**	**92**		P		**Pn**	**15 41 19.5**	**+0.1**
DSL					S		**Sn**	**15 41 57.1**	**-1.3**
DSL	**Palaion Diasel**	**3.35**	**92**	*e*	P		**Pn**	**15 41 19.0**	**-0.4**
DSL	**Palaion Diasel**	**3.35**	**92**		P		**Pn**	**15 41 19.5**	**+0.1**
DSL					S		**Sn**	**15 41 57.1**	**-1.3**
KFL	**Anninata**	**3.36**	**110**		P		**Pn**	**15 41 18.7**	**-0.8**
KFL					S		**Sn**	**15 41 56.6**	**-2.0**
KFL	**Anninata**	**3.36**	**110**		P		**Pn**	**15 41 18.7**	**-0.8**
KFL					S		**Sn**	**15 41 56.6**	**-2.0**
NEST	**Nestorio**	**3.44**	**71**	*e*	P		**Pn**	**15 41 22.1**	**+1.3**
PDO	**Prodromos**	**3.50**	**101**		P		**Pn**	**15 41 21.8**	**+0.3**
PDO					S		**Sn**	**15 42 01.3**	**-0.8**
PDO	**Prodromos**	**3.50**	**101**	*e*	P		**Pn**	**15 41 21.9**	**+0.4**
PDO	**Prodromos**	**3.50**	**101**		P		**Pn**	**15 41 21.8**	**+0.3**
PDO					S		**Sn**	**15 42 01.3**	**-0.8**
STON	**Ston**	**3.59**	**11**	*i*	Pn		**Pn**	**15 41 20.8**	**-1.8**
STON					Sn		**Sn**	**15 42 01.1**	**-3.1**
STON	**Ston**	**3.59**	**11**	*i*	Pn		**Pn**	**15 41 20.8**	**-1.8**
STON					Sn		**Sn**	**15 42 01.1**	**-3.1**
PDG	**Podgorica**	**3.60**	**30**	*e*	Pn		**Pn**	**15 41 21.6**	**-1.3**
FNA	**Florina**	**3.80**	**66**	*e*	P		Pb	15 41 39.4	+4.4
RLS	**Riolos of Patr**	**3.88**	**108**	*e*	P		**Pn**	**15 41 26.0**	**-0.6**
EVR	**Evrytania**	**3.92**	**95**	*e*	P		**Pn**	**15 41 29.2**	**+1.8**
THL	**Klokotos Trika**	**4.05**	**85**	*e*	P		**Pn**	**15 41 32.1**	**+3.1**
EFP	**Efpalio**	**4.09**	**101**	*e*	P		**Pn**	**15 41 30.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**4.16**	**93**	*e*	P		**Pn**	**15 41 33.1**	**+2.5**
AMT	**Artemida-Makis**	**4.26**	**114**	*e*	P		**Pn**	**15 41 32.1**	**+0.1**
KALE	**Kalithea**	**4.28**	**101**	*e*	P		**Pn**	**15 41 33.5**	**+1.2**
AGG	**Agios Georgios**	**4.32**	**93**	*e*	P		**Pn**	**15 41 34.3**	**+1.6**
KLV	**Kalavryta, Ach**	**4.39**	**106**		P		**Pn**	**15 41 34.5**	**+0.8**
KLV	**Kalavryta, Ach**	**4.39**	**106**	*e*	P		**Pn**	**15 41 34.9**	**+1.2**
KLV	**Kalavryta, Ach**	**4.39**	**106**		P		**Pn**	**15 41 34.5**	**+0.8**
LIT	**Litokhoron**	**4.46**	**78**		P		**Pn**	**15 41 35.5**	**+0.9**
LIT	**Litokhoron**	**4.46**	**78**	*e*	P		**Pn**	**15 41 35.6**	**+0.9**
LIT	**Litokhoron**	**4.46**	**78**		P		**Pn**	**15 41 35.5**	**+0.9**
GUR	**Goura**	**4.57**	**106**	*e*	P		**Pn**	**15 41 36.6**	**+0.4**
ITM	**Ithomi**	**4.58**	**117**	*e*	P		**Pn**	**15 41 35.4**	**-1.0**
GRG	**Griva**	**4.59**	**68**	*e*	P		**Pn**	**15 41 37.3**	**+0.8**
PYL	**PYLOS**	**4.61**	**121**		P		**Pn**	**15 41 35.8**	**-0.9**
PYL	**PYLOS**	**4.61**	**121**	*e*	P		**Pn**	**15 41 35.9**	**-0.8**
PYL	**PYLOS**	**4.61**	**121**		P		**Pn**	**15 41 35.8**	**-0.9**
VLX	**Vlachokerasia**	**4.81**	**112**	*e*	P		**Pn**	**15 41 40.2**	**+0.6**
LKR	**Lokris**	**4.88**	**96**	*e*	P		**Pn**	**15 41 40.5**	**0.0**
BBLS	**Lazići**	**4.92**	**23**	*e*	Pn		**Pn**	**15 41 40.4**	**-0.7**
IVAS	**Ivanjica**	**4.92**	**30**	*e*	Pn		**Pn**	**15 41 41.1**	**0.0**
XOR	**Xorichti**	**4.96**	**88**		P		**Pn**	**15 41 42.2**	**+0.6**
XOR	**Xorichti**	**4.96**	**88**	*e*	P		**Pn**	**15 41 42.1**	**+0.5**
XOR	**Xorichti**	**4.96**	**88**		P		**Pn**	**15 41 42.2**	**+0.6**
LTK	**Loutraki**	**5.01**	**103**	*e*	P		**Pn**	**15 41 42.9**	**+0.7**
SMIA	**Simia**	**5.01**	**93**	*e*	P		Pn	15 41 39.2	-3.1
SELS	**Selova**	**5.06**	**39**	*e*	Pn		**Pn**	**15 41 42.9**	**0.0**
SKA	**Skiathos**	**5.18**	**90**	*e*	P		**Pn**	**15 41 43.7**	**-0.9**
PLG	**Polygyros**	**5.22**	**77**	*e*	P		**Pn**	**15 41 45.2**	**0.0**
UDBI	**Udbina**	**5.24**	**352**		ePn		**Pn**	**15 41 45.5**	**+0.1**
UDBI					Sn		**Sn**	**15 42 40.1**	**-4.8**
UDBI	**Udbina**	**5.24**	**352**		ePn		**Pn**	**15 41 45.5**	**+0.1**
UDBI					Sn		**Sn**	**15 42 40.1**	**-4.8**
DIVS	**Divibare**	**5.32**	**26**	*e*	Pn		**Pn**	**15 41 46.3**	**-0.2**
MRKA	**Markates**	**5.33**	**95**	*e*	P		**Pn**	**15 41 46.5**	**-0.1**
PAIG	**Paliouri**	**5.35**	**82**	*e*	P		**Pn**	**15 41 46.1**	**-0.8**
GRUS	**Gruza**	**5.41**	**32**	*e*	Pn		**Pn**	**15 41 49.4**	**+1.7**
BLY	**Banja Luka**	**5.41**	**3**	*e*	Pn		**Pn**	**15 41 49.3**	**+1.6**
NVLJ	**Novalja**	**5.41**	**345**	*e*	Pn		Pn	15 41 44.7	-2.9
NVLJ					Sn		**Sn**	**15 42 44.6**	**-4.4**
NVLJ	**Novalja**	**5.41**	**345**	*e*	Pn		Pn	15 41 44.7	-2.9
AOS	**Alonnisos**	**5.50**	**90**	*e*	P		**Pn**	**15 41 49.1**	**+0.1**
VLI	**Veliai**	**5.51**	**116**	*e*	P		**Pn**	**15 41 50.1**	**+1.0**
PTL	**Penteli**	**5.68**	**101**	*e*	P		**Pn**	**15 41 51.8**	**+0.3**
ANKY	**Antikythira Is**	**6.22**	**122**	*e*	P		**Pn**	**15 41 57.8**	**-1.1**
KARN	**Karanos**	**6.90**	**123**	*e*	P		**Pn**	**15 42 07.6**	**-0.7**
KEST	**Kesra**	**6.93**	**241**		Pn		Pn	15 42 13.6	+5.0
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=3.8								
APE	**Apeiranthos**	**7.25**	**106**	*e*	P		**Pn**	**15 42 11.6**	**-1.4**
OBKA	**Obir**	**7.35**	**348**	⇑	*i* Pn		**Pn**	**15 42 13.8**	**-0.6**
OBKA	**Obir**	**7.35**	**348**		Pn		**Pn**	**15 42 13.8**	**-0.6**
SOKA	**Soboth**	**7.44**	**351**	⇑	*i* Pn		**Pn**	**15 42 14.7**	**-1.0**
SOKA	**Soboth**	**7.44**	**351**		Pn		**Pn**	**15 42 14.7**	**-1.0**
IDI	**Anoyia**	**7.62**	**120**		Pn		**Pn**	**15 42 17.8**	**-0.3**
	0.6nm,0.3s,baz=308,slow=18,SNR=6.7								
IDI					Sn		**Sn**	**15 43 39.6**	**-4.0**
	1.7nm,0.3s,baz=330,slow=22,SNR=8.9								
LAST	**Lasithi**	**8.09**	**118**	*e*	P		**Pn**	**15 42 23.7**	**-0.8**
ZKR	**Zakros**	**8.62**	**116**	*e*	P		**Pn**	**15 42 31.4**	**-0.4**
MOA	**Molln**	**8.70**	**349**	⇑	*i* Pn		**Pn**	**15 42 32.2**	**-0.6**
MOA	**Molln**	**8.70**	**349**		Pn		**Pn**	**15 42 32.2**	**-0.6**
DAVOX	**Davos/Dischmat**	**8.99**	**328**		Pn		Pn	15 42 43.6	+6.6
	0.2nm,0.3s,baz=140,slow=21,SNR=6.7								
DAVOX					LR		LR	15 47 34.2	
	comp=Z,28nm,18.1s,baz=80,slow=48								
GERES	**GERESS Array B**	**9.75**	**348**		Pn		**Pn**	**15 42 46.7**	**-0.7**
	0.2nm,0.3s,baz=159,slow=12,SNR=7.6								
GERES					Sn		Sn	15 44 30.1	-5.9
	0.2nm,0.3s,baz=165,slow=23,SNR=4.2								
ESDC	**Sonseca Array**	**16.02**	**278**		Pn		**P**	**15 44 18.7**	**+3.1**
	0.3nm,0.3s,baz=82,slow=12,SNR=3.4								
HFS	**Hagfors**	**20.90**	**356**		P		**P**	**15 45 09.5**	**+0.6**
	2.1nm,0.8s,baz=154,slow=14,SNR=3.4								
NOA	**NORSAR Array B**	**22.00**	**353**		P		**P**	**15 45 21.7**	**+1.0**
	0.8nm,0.7s,baz=174,slow=14,SNR=3.2								
MKAR	**Makanchi Array**	**47.17**	**58**		P		**P**	**15 48 59.3**	**+0.3**
	0.3nm,0.7s,baz=288,slow=6.7,SNR=3.7								

*IGIL **04** 15:40:42.6,37.°02N×14.°64W,h30km,ML2.4*
*MDD **04** 15:40:44.7±2.0,37.°20N×14.°16W,h0km,mb4.5/3,Error ellipse: s-maj=18.4km s-min=16.5km az=21.0,PRXIMO*
*INMG **04** 15:40:45.3±1.1,37.°02N×14.°65W,h10km,ML2.5,Error ellipse: s-maj=7.3km s-min=6.5km az=121.0*
*LDG **04** 15:40:47.7±0.5,37.°43N×13.°96W,h30km,ML3.2/4,Error ellipse: s-maj=10.4km s-min=9.4km az=26.0*
*CSEM **04** 15:40:48.5±0.4,37.°36N×13.°85W,h10km,ML3.2/20,Error ellipse: s-maj=7.4km s-min=6.8km az=45.0*

ISC 04 15:40:45.5±3.5,37°29N±0°09×14°0W±0°2,h10km,n90,
σ1s35/151,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMAFR	**Mafra**	**4.10**	**65**	*e*Pn		**Pn**	**15 41 49.6**	**+1.4**
PMAFR				*e*Sn		**Sn**	**15 42 38.3**	**+2.1**
PMAFR				A		A	15 42 39.3	
	18nm,0.6s							
PMAFR	**Mafra**	**4.10**	**65**	P		**Pn**	**15 41 49.4**	**+1.2**
	3.4nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**15 42 37.5**	**+1.3**
	5.4nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**4.10**	**65**	P		**Pn**	**15 41 49.4**	**+1.2**
	3.4nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**15 42 37.5**	**+1.3**
	5.4nm,0.1s,SNR=7.9							
PMAFR				*e*Sn		**Sn**	**15 42 38.3**	**+2.1**
	18nm,0.6s							
PFVI	**Vila Bisbo**	**4.16**	**91**	*e*Pn		**Pn**	**15 41 49.7**	**+0.7**
PFVI				*e*Sn		**Sn**	**15 42 37.7**	**0.0**
PFVI				A		A	15 42 41.1	
	6.3nm,0.3s							
PFVI	**Vila Bisbo**	**4.16**	**91**	P		**Pn**	**15 41 49.7**	**+0.7**
	0.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**15 42 36.4**	**-1.3**
	4.7nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.16**	**91**	P		**Pn**	**15 41 49.7**	**+0.7**
	0.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**15 42 36.4**	**-1.3**
	4.7nm,0.2s,SNR=7.9							
PFVI				*e*Sn		**Sn**	**15 42 37.7**	**0.0**
	6.3nm,0.3s							
PTEO	**Sao Teotonio**	**4.23**	**85**	*e*Pn		**Pn**	**15 41 51.0**	**+1.0**
PTEO				*e*Sn		**Sn**	**15 42 38.4**	**-1.1**
PTEO				A		A	15 42 43.1	
	3.3nm,0.2s							
PTEO	**Sao Teotonio**	**4.23**	**85**	Pn		**Pn**	**15 41 51.0**	**+1.0**
PTEO				Sn		**Sn**	**15 42 38.4**	**-1.1**
	1.7nm,0.2s							
PTEO	**Sao Teotonio**	**4.23**	**85**	*e*Pn		**Pn**	**15 41 51.0**	**+1.0**
PTEO				*e*Sn		**Sn**	**15 42 38.4**	**-1.1**
	3.3nm,0.2s							
MORF	**Marmelete**	**4.29**	**88**	*e*P		**Pn**	**15 41 51.5**	**+0.7**
MORF				AML		AML	15 42 42.5	
	comp=E,6.7nm,0.4s							
MORF	**Marmelete**	**4.29**	**88**	*e*Pn		**Pn**	**15 41 51.6**	**+0.7**
MORF				*e*Sn		**Sn**	**15 42 41.9**	**+0.9**
MORF				A		A	15 42 46.5	
	comp=E,4.3nm,0.3s							
MORF	**Marmelete**	**4.29**	**88**	Pn		**Pn**	**15 41 51.6**	**+0.7**
MORF				Sn		**Sn**	**15 42 41.9**	**+0.9**
	comp=E,4.3nm,0.3s							
MORF	**Marmelete**	**4.29**	**88**	*e*Pn		**Pn**	**15 41 51.6**	**+0.7**
MORF				*e*Sn		**Sn**	**15 42 41.9**	**+0.9**
	comp=E,4.3nm,0.3s							
PACT	**Alcochete**	**4.36**	**69**	*e*Pn		**Pn**	**15 41 54.5**	**+2.7**
PACT				*e*Sn		**Sn**	**15 42 44.4**	**+1.7**
PACT				A		A	15 43 00.1	
	comp=E,14nm,0.6s							
PACT	**Alcochete**	**4.36**	**69**	*e*Pn		**Pn**	**15 41 54.5**	**+2.7**
PACT				*e*Sn		**Sn**	**15 42 44.4**	**+1.7**
	comp=E,14nm,0.6s							
PNCL	**Nicolau / Gran**	**4.44**	**78**	*e*Pn		**Pn**	**15 41 53.6**	**+0.7**
PNCL				*e*Sn		**Sn**	**15 42 45.3**	**+0.7**
PNCL				A		A	15 42 47.0	
	comp=E,2.8nm,0.3s							
PNCL	**Nicolau / Gran**	**4.44**	**78**	*e*Pn		**Pn**	**15 41 53.6**	**+0.7**
PNCL				*e*Sn		**Sn**	**15 42 45.3**	**+0.7**
	comp=E,2.8nm,0.3s							
MESJ	**Messejana**	**4.65**	**81**	*e*P		**Pn**	**15 41 56.1**	**+0.3**
MESJ				*e*S		**Sn**	**15 42 49.9**	**+0.1**
MESJ	**Messejana**	**4.65**	**81**	*e*Pn		**Pn**	**15 41 56.3**	**+0.5**
MESJ				*e*Sn		**Sn**	**15 42 50.4**	**+0.6**
MESJ				A		A	15 42 51.3	
	comp=E,4.0nm,0.5s							
MESJ	**Messejana**	**4.65**	**81**	Pn		**Pn**	**15 41 56.3**	**+0.5**
MESJ				Sn		**Sn**	**15 42 50.4**	**+0.6**
	comp=E,4.0nm,0.5s							
MESJ	**Messejana**	**4.65**	**81**	*e*Pn		**Pn**	**15 41 56.3**	**+0.5**
MESJ				*e*Sn		**Sn**	**15 42 50.4**	**+0.6**
	comp=E,4.0nm,0.5s							
PCVE	**Castro Verde**	**4.78**	**84**	*e*Pn		**Pn**	**15 41 58.0**	**+0.4**
PCVE				*e*Sn		**Sn**	**15 42 53.0**	**0.0**
PCVE	**Castro Verde**	**4.78**	**84**	Pn		**Pn**	**15 41 58.0**	**+0.4**
PCVE				Sn		**Sn**	**15 42 53.0**	**0.0**
PCVE	**Castro Verde**	**4.78**	**84**	*e*Pn		**Pn**	**15 41 58.0**	**+0.4**
PCVE				*e*Sn		**Sn**	**15 42 53.0**	**0.0**
EVOP	**Sao Brissos**	**4.83**	**73**	*e*P		**Pn**	**15 41 58.6**	**+0.3**
PBDV	**Barranco-do-Ve**	**4.87**	**89**	*e*Pn		**Pn**	**15 41 59.5**	**+0.7**
PBDV				*e*Sn		**Sn**	**15 42 54.6**	**-0.6**
PBDV				A		A	15 42 59.0	
	comp=E,3.6nm,1.0s							
PBDV	**Barranco-do-Ve**	**4.87**	**89**	Pn		**Pn**	**15 41 59.5**	**+0.7**
PBDV				Sn		**Sn**	**15 42 54.6**	**-0.6**
	comp=E,3.6nm,1.0s							
PBDV	**Barranco-do-Ve**	**4.87**	**89**	*e*Pn		**Pn**	**15 41 59.5**	**+0.7**
PBDV				*e*Sn		**Sn**	**15 42 54.6**	**-0.6**
	comp=E,3.6nm,1.0s							
EVO	**Evora**	**4.92**	**74**	*e*P		**Pn**	**15 41 58.6**	**-0.9**
EVO				*e*Sn		Sn	15 42 48.2	-8.2
	comp=E,4.6nm,0.3s							
EVO	**Evora**	**4.92**	**74**	*e*Pn		**Pn**	**15 42 00.4**	**+0.9**
EVO				*e*Sn		**Sn**	**15 42 57.2**	**+0.8**
EVO				A		A	15 43 00.3	
	comp=E,3.9nm,0.1s							
EVO	**Evora**	**4.92**	**74**	Pn		**Pn**	**15 42 00.4**	**+0.9**
EVO				Sn		**Sn**	**15 42 57.2**	**+0.8**
	comp=E,3.9nm,0.1s							
EVO	**Evora**	**4.92**	**74**	*e*Pn		**Pn**	**15 42 00.4**	**+0.9**
EVO				*e*Sn		**Sn**	**15 42 57.2**	**+0.8**
	comp=E,3.9nm,0.1s							
PTOM	**Tomar**	**4.99**	**60**	*e*Pn		**Pn**	**15 42 01.6**	**+1.2**
PTOM				*e*Sn		**Sn**	**15 42 59.3**	**+1.2**
PTOM				A		A	15 43 02.0	
	comp=E,6.0nm,0.2s							
PTOM	**Tomar**	**4.99**	**60**	Pn		**Pn**	**15 42 01.6**	**+1.2**
PTOM				Sn		**Sn**	**15 42 59.3**	**+1.2**
	comp=E,3.0nm,0.2s							
PTOM	**Tomar**	**4.99**	**60**	*e*Pn		**Pn**	**15 42 01.6**	**+1.2**
PTOM				*e*Sn		**Sn**	**15 42 59.3**	**+1.2**
	comp=E,6.0nm,0.2s							
PVAQ	**Vaqueiros**	**5.03**	**87**	*e*Pn		**Pn**	**15 42 01.8**	**+0.8**
PVAQ				*e*Sn		**Sn**	**15 42 57.3**	**-1.9**
PVAQ				A		A	15 43 03.3	
	comp=E,2.9nm,0.4s							
PVAQ	**Vaqueiros**	**5.03**	**87**	Pn		**Pn**	**15 42 01.8**	**+0.8**
PVAQ				Sn		**Sn**	**15 42 57.3**	**-1.9**
	comp=E,2.9nm,0.4s							
PVAQ	**Vaqueiros**	**5.03**	**87**	*e*Pn		**Pn**	**15 42 01.8**	**+0.8**
PVAQ				*e*Sn		**Sn**	**15 42 57.3**	**-1.9**
	comp=E,2.9nm,0.4s							
PCAS	**Casmilo, Conde**	**5.14**	**56**	*e*Pn		**Pn**	**15 42 04.3**	**+1.8**
PCAS				*e*Sn		**Sn**	**15 43 02.6**	**+0.8**
PCAS				A		A	15 43 07.0	
	comp=E,1.7nm,0.1s							
PCAS	**Casmilo, Conde**	**5.14**	**56**	*e*Pn		**Pn**	**15 42 04.3**	**+1.8**
PCAS				*e*Sn		**Sn**	**15 43 02.6**	**+0.8**
	comp=E,1.7nm,0.1s							
EGRO	**El Granado**	**5.22**	**85**	P		**Pn**	**15 42 04.0**	**+0.4**
	comp=E,0.9nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**15 43 01.8**	**-2.0**
	comp=E,1.4nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**5.22**	**85**	P		**Pn**	**15 42 04.0**	**+0.4**
	comp=E,0.9nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**15 43 01.8**	**-2.0**
	comp=E,1.4nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**5.32**	**71**	*e*Pn		**Pn**	**15 42 06.6**	**+1.6**
PESTR				*e*Sn		**Sn**	**15 43 06.4**	**0.0**
PESTR				A		A	15 43 09.9	
	comp=E,2.5nm,0.6s							
PESTR	**Estremoz**	**5.32**	**71**	*e*Pn		**Pn**	**15 42 06.6**	**+1.6**
PESTR				*e*Sn		**Sn**	**15 43 06.4**	**0.0**
	comp=E,2.5nm,0.6s							
PBAR	**Barrancos**	**5.61**	**79**	*e*Pn		**Pn**	**15 42 10.4**	**+1.4**
PBAR				*e*Sn		**Sn**	**15 43 13.4**	**-0.1**
PBAR				A		A	15 43 22.8	
	comp=E,3.4nm,0.7s							
PBAR	**Barrancos**	**5.61**	**79**	Pn		**Pn**	**15 42 10.4**	**+1.4**
PBAR				Sn		**Sn**	**15 43 13.4**	**-0.1**
	comp=E,3.4nm,0.7s							
PBAR	**Barrancos**	**5.61**	**79**	*e*Pn		**Pn**	**15 42 10.4**	**+1.4**
PBAR				*e*Sn		**Sn**	**15 43 13.4**	**-0.1**
	comp=E,3.4nm,0.7s							
PMRV	**Marv??o**	**5.64**	**66**	*e*Pn		**Pn**	**15 42 10.7**	**+1.3**
PMRV				*e*Sn		**Sn**	**15 43 13.3**	**-0.9**
PMRV				A		A	15 43 14.8	
	comp=E,2.9nm,0.4s							
PMRV	**Marv??o**	**5.64**	**66**	Pn		**Pn**	**15 42 10.7**	**+1.3**
PMRV				Sn		**Sn**	**15 43 13.3**	**-0.9**
	comp=E,2.9nm,0.4s							
PMRV	**Marv??o**	**5.64**	**66**	*e*Pn		**Pn**	**15 42 10.7**	**+1.3**
PMRV				*e*Sn		**Sn**	**15 43 13.3**	**-0.9**
	comp=E,2.9nm,0.4s							
EBAD	**Badajoz**	**5.73**	**73**	P		**Pn**	**15 42 11.1**	**+0.4**
	comp=E,1.6nm,0.1s,SNR=12							
EBAD				S		**Sn**	**15 43 14.7**	**-1.8**
	comp=E,0.4nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**5.73**	**73**	P		**Pn**	**15 42 11.1**	**+0.4**
	comp=E,1.6nm,0.1s,SNR=12							
EBAD				S		**Sn**	**15 43 14.7**	**-1.8**
	comp=E,0.4nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**5.73**	**62**	*e*Pn		**Pn**	**15 42 12.7**	**+2.0**
PCBR				*e*Sn		**Sn**	**15 43 15.2**	**-1.3**
PCBR				A		A	15 43 18.4	
	comp=E,2.6nm,0.3s							
PCBR	**Castelo Branco**	**5.73**	**62**	Pn		**Pn**	**15 42 12.7**	**+2.0**
PCBR				Sn		**Sn**	**15 43 15.2**	**-1.3**
	comp=E,1.3nm,0.3s							
PCBR	**Castelo Branco**	**5.73**	**62**	*e*Pn		**Pn**	**15 42 12.7**	**+2.0**
PCBR				*e*Sn		**Sn**	**15 43 15.2**	**-1.3**
	comp=E,2.6nm,0.3s							
EMIN	**Mina Concepcio**	**5.87**	**83**	P		**Pn**	**15 42 13.2**	**+0.7**
	comp=E,0.3nm,0.1s,SNR=8.3							
EMIN				S		**Sn**	**15 43 16.8**	**-3.1**
	comp=E,0.4nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.87**	**83**	P		**Pn**	**15 42 13.2**	**+0.7**
	comp=E,0.3nm,0.1s,SNR=8.3							
EMIN				S		**Sn**	**15 43 16.8**	**-3.1**
	comp=E,0.4nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**5.88**	**52**	*e*Sn		**Sn**	**15 43 19.0**	**-1.2**
PVIS				A		A	15 43 20.6	
	comp=E,2.5nm,0.1s							
PVIS	**Viseu**	**5.88**	**52**	Sn		**Sn**	**15 43 19.0**	**-1.2**
	comp=E,1.2nm,0.1s							
PVIS	**Viseu**	**5.88**	**52**	*e*Sn		**Sn**	**15 43 19.0**	**-1.2**
	comp=E,2.5nm,0.1s							
POLO	**Lamas de Olo**	**6.33**	**48**	*e*Sn		**Sn**	**15 43 29.9**	**-1.4**
POLO				A		A	15 43 36.6	
	comp=E,1.0nm,0.7s							
POLO	**Lamas de Olo**	**6.33**	**48**	*e*Sn		**Sn**	**15 43 29.9**	**-1.4**
	comp=E,1.0nm,0.7s							
PCAB	**Cabril**	**6.41**	**45**	*e*Sn		**Sn**	**15 43 32.1**	**-1.1**
PCAB				A		A	15 43 36.1	
	comp=E,4.1nm,0.2s							
PCAB	**Cabril**	**6.41**	**45**	Sn		**Sn**	**15 43 32.1**	**-1.1**
	comp=E,2.0nm,0.2s							
PCAB	**Cabril**	**6.41**	**45**	*e*Sn		**Sn**	**15 43 32.1**	**-1.1**
	comp=E,4.1nm,0.2s							
PGAV	**Gavieira, Arco**	**6.45**	**42**	*e*Pn		**Pn**	**15 42 21.8**	**+1.2**
PGAV				*e*Sn		**Sn**	**15 43 33.0**	**-1.3**
PGAV				A		A	15 43 36.2	
	comp=E,3.8nm,0.9s							
PGAV	**Gavieira, Arco**	**6.45**	**42**	*e*Pn		**Pn**	**15 42 21.8**	**+1.2**
PGAV				*e*Sn		**Sn**	**15 43 33.0**	**-1.3**
	comp=E,3.8nm,0.9s							
ELOB	**Lobios**	**6.50**	**43**	P		**Pn**	**15 42 21.5**	**+0.3**
	comp=E,0.3nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**15 43 32.8**	**-2.6**
	comp=E,0.5nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**6.50**	**43**	P		**Pn**	**15 42 21.5**	**+0.3**
	comp=E,0.3nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**15 43 32.8**	**-2.6**
	comp=E,0.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.67**	**52**	*e*Sn		**Sn**	**15 43 37.9**	**-1.9**
MVO				A		A	15 43 38.6	
	comp=E,1.6nm,0.1s							
MVO	**Moncorvo**	**6.67**	**52**	S		**Sn**	**15 43 36.9**	**-2.9**
	comp=E,1.1nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.67**	**52**	S		**Sn**	**15 43 36.9**	**-2.9**
	comp=E,1.1nm,0.1s,SNR=7.9							
MVO				*e*Sn		**Sn**	**15 43 37.9**	**-1.9**
	comp=E,1.6nm,0.1s							
EPLA	**Plasencia**	**6.81**	**64**	P		**Pn**	**15 42 26.5**	**+1.0**
	comp=E,0.4nm

MAT				S	**Sn**	**16 05 39.9**	**-0.1**
JCJ	**Chichijima**	**7.74**	**179**	Pn	**Pn**	**16 05 55.8**	**+0.7**
	1.0nm,0.3s,baz=345,slow=18,SNR=4.6						
ZALV	**Zalesovo Beam**	**43.78**	**314**	LR	LR	16 29 16.4	
	comp=Z,53nm,20.0s,baz=288,slow=35						
MKAR	**Makanchi Array**	**45.74**	**304**	P	**P**	**16 12 23.7**	**-0.2**
	0.3nm,0.7s,baz=77,slow=6.5,SNR=2.8						
WRA	**Warramunga Arr**	**54.99**	**189**	P	**P**	**16 13 34.9**	**+0.8**
	0.5nm,0.7s,baz=5.5,slow=7.7,SNR=4.7						
ASAR	**Alice Springs**	**58.72**	**189**	P	P	16 14 03.5	+3.0
	0.3nm,1.0s,baz=18,slow=8.4,SNR=3.5						

MEX 04 16:04:09.9±0.2, 17°11N×94°64W, h150km±3km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**0.24**	**267**	*i* P		Pn	16 04 28.9	-1.4
CMIG				*i* S		Sn	16 04 43.6	-2.1
HUIG	**Huatulco**	**1.94**	**227**	*i* P		Pn	16 04 43.0	-1.4
HUIG				*e*S		Sn	16 05 09.1	-1.8
VHO	**Vista Hermosa**	**2.01**	**269**	*e*P		Pn	16 04 44.0	-1.3
VHO				*i* S		Sn	16 05 10.5	-2.1
TLIG	**Tlapa**	**3.78**	**277**	*e*P		Pn	16 05 05.9	-1.6
TLIG				*i* S		Sn	16 05 50.3	-1.9

IDC 04 16:13:54.3±1.9, 10°39S×123°77E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/19, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=39.8km s-min=21.4km az=54.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATI	**Baumata**	**0.21**	**331**	Pn		Pg	16 14 04.5	+6.0
	415nm,0.3s,baz=149,slow=10,SNR=727							
WRA	**Warramunga Arr**	**13.93**	**134**	Pn		Pn	16 17 12.8	-0.4
	0.0nm,0.3s,baz=305,slow=13,SNR=4.3							
WRA				Sn		Sn	16 19 40.4	-8.4
	0.1nm,0.3s,baz=329,slow=34,SNR=6.2							
ASAR	**Alice Springs**	**16.36**	**145**	Pn		Pn	16 17 43.7	-1.9
	0.1nm,0.3s,baz=323,slow=14,SNR=5.1							
ASAR				Sn		Sn	16 20 42.5	-5.5
	0.0nm,0.3s,baz=306,slow=21,SNR=4.5							
MKAR	**Makanchi Array**	**67.90**	**331**	P		P	16 24 56.5	+1.7
	0.6nm,1.0s,baz=118,slow=4.7,SNR=3.5							

GUC 04 16:19:37.5±0.6, 21°49S×68°48W, h144km±5km, ML3.5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.77**	**247**	*e*P		Pn	16 20 00.8	+0.8
PB09				*e*S		Sn	16 20 17.9	+0.7
PB09				AML		AML	16 20 20.9	
	comp=E,2μm,0.7s							
PB01	**IPOC Station P**	**1.04**	**295**	*e*P		Pn	16 20 02.9	+0.7
PB01				*e*S		Sn	16 20 22.0	+1.1
PB01				AML		AML	16 20 24.1	
	comp=E,486nm,0.3s							
PB07	**IPOC Station P**	**1.33**	**260**	*e*P		Pn	16 20 05.9	+0.9
PB07				*e*S		Sn	16 20 27.1	+1.1
PB07				AML		AML	16 20 28.2	
	comp=N,1μm,0.4s							
MACH	**Maria Elena**	**1.38**	**239**	*e*S		Sn	16 20 28.1	+1.1
PB06	**IPOC Station P**	**1.57**	**220**	*e*P		Pn	16 20 08.1	+0.5
PB06				*e*S		Sn	16 20 31.7	+0.9
PB06				AML		AML	16 20 33.8	
	comp=E,510nm,0.2s							
PATCX	**Punta Patache**	**1.70**	**293**	*e*P		Pn	16 20 09.9	+1.0
PATCX				*e*S		Sn	16 20 34.2	+1.3
HMBC	**Humberstone**	**1.79**	**312**	*e*P		Pn	16 20 10.7	+0.7
HMBC				*e*S		Sn	16 20 35.8	+1.0
PB11	**IPOC Station P**	**2.04**	**327**	*e*P		Pn	16 20 13.6	+0.6
PB11				*e*S		Sn	16 20 41.3	+1.1
MNMC	**Minimini**	**2.57**	**336**	*e*P		Pn	16 20 20.6	+1.0
MNMC				*e*S		Sn	16 20 53.3	+1.3

*CSEM **04** 16:22:15.5±0.5, 35°00N×34°02E, h40km, MD2.9, Error ellipse: s-maj=15.0km s-min=5.7km az=161.0*
*DDA **04** 16:22:23.6, 35°45N×33°53E, h21km, MD2.7*
ISK 04 16:22:13.4, 34°92N×34°09E, h46km, MD2.9, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LFK	**Lefkose**	**0.58**	**308**	*e*PG		Pn	16 22 26.0	+0.4
LFK				*e*SG		Sn	16 22 34.9	+0.6
LFK	**Lefkose**	**0.58**	**308**	*e*Pg		Pn	16 22 26.0	+0.4
LFK				*e*Sg		Sn	16 22 34.9	+0.6
EREN	**Erenkoy**	**0.61**	**6**	*e*PG		Pn	16 22 26.4	+0.6
EREN	**Erenkoy**	**0.61**	**6**	*e*Pg		Pn	16 22 26.5	+0.6
CSS	**Prodhromos**	**0.63**	**274**	*e*PG		Pn	16 22 26.3	+0.2
CSS				*e*SG		Sn	16 22 36.3	+1.1
CSS	**Prodhromos**	**0.63**	**274**	*e*Pg		Pn	16 22 26.3	+0.2
CSS				*e*Sg		Sn	16 22 36.3	+1.1
AKDN	**Akdeniz- K¯br**	**1.00**	**293**	*e*PG		Pn	16 22 31.8	+0.8
AKDN	**Akdeniz- K¯br**	**1.00**	**293**	*e*Pg		Pn	16 22 31.8	+0.8
LEF	**Lefka**	**1.01**	**282**	*e*PG		Pn	16 22 32.2	+1.1
LEF	**Lefka**	**1.01**	**282**	*e*Pg		Pn	16 22 32.2	+1.1
KIZK	**Mersin**	**1.56**	**2**	*i* P		Pn	16 22 41.6	+2.9
KIZK				*i* S		Sn	16 22 55.3	-2.4
KIZK	**Mersin**	**1.56**	**2**	*i* P		Pn	16 22 41.6	+2.9
KIZK				*i* S		Sn	16 22 55.3	-2.4
GAZI	**Gazipasa**	**1.96**	**313**	*i* P		Pn	16 22 45.2	+1.1
GAZI				*i* S		Sn	16 23 05.2	-2.3
GAZI	**Gazipasa**	**1.96**	**313**	*i* P		Pn	16 22 45.2	+1.1
GAZI				*i* S		Sn	16 23 05.2	-2.3
MERS	**Mersin**	**1.98**	**10**	*e*PN		Pn	16 22 45.5	+1.0
MERS	**Mersin**	**1.98**	**10**	*e*Pn		Pn	16 22 45.5	+1.0
YAYL	**Yayladag**	**1.99**	**55**	*i* P		Pn	16 22 47.1	+2.4
YAYL				*i* S		Sn	16 23 10.7	+2.2
YAYL	**Yayladag**	**1.99**	**55**	*i* P		Pn	16 22 47.1	+2.4
YAYL				*i* S		Sn	16 23 10.7	+2.2
KARA	**Karaisali**	**2.46**	**18**	*e*PN		Pn	16 22 52.6	+1.5
KARA	**Karaisali**	**2.46**	**18**	*e*Pn		Pn	16 22 52.6	+1.5
KUZU	**Kuzuini**	**3.05**	**52**	*i* S		Sn	16 23 35.7	+1.2
KMRS	**Kahramanmaras**	**3.44**	**41**	*e*PN		Pn	16 23 06.0	+1.4
KMRS	**Kahramanmaras**	**3.44**	**41**	*e*Pn		Pn	16 23 06.0	+1.5

*CSEM **04** 16:23:06.9, 45°75N×26°62E, h153km, MD3.5/2*
BUC 04 16:23:06.9±0.9, 45°75N×26°62E, h153km±8km, MD3.5/2, 33C-15D, Error ellipse: s-maj=6.9km s-min=5.0km az=24.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLOR	**Plostina**	**0.10**	**12**	*i*P		Pn	16 23 28.0	+0.6
PLOR	**Plostina**	**0.10**	**12**	*i*P		Pn	16 23 28.0	+0.6
PLOR	**Plostina**	**0.10**	**12**	*i*P		Pn	16 23 28.0	+0.6
VRI	**Vrincioaia**	**0.14**	**33**	*i*P		Pn	16 23 27.2	-0.2
VRI				*i* S		Sn	16 23 41.7	-1.4
VRI	**Vrincioaia**	**0.14**	**33**	*i*P		Pn	16 23 27.2	-0.2
VRI	**Vrincioaia**	**0.14**	**33**	*i*P		Pn	16 23 27.2	-0.2
VRI				*i* S		Sn	16 23 41.7	-1.4
ODBI	**Odobesti**	**0.31**	**87**	*i* S		Sn	16 23 43.3	-0.3
ODBI	**Odobesti**	**0.31**	**87**	S		Sn	16 23 43.3	-0.3
ODBI	**Odobesti**	**0.31**	**87**	*i* S		Sn	16 23 43.3	-0.3
PETR	**Petresti**	**0.43**	**93**	*i*P		Pn	16 23 28.4	+0.2
PETR				*i* S		Sn	16 23 44.0	-0.4
PETR	**Petresti**	**0.43**	**93**	*i*P		Pn	16 23 28.4	+0.2
PETR	**Petresti**	**0.43**	**93**	*i*P		Pn	16 23 28.4	+0.2
PETR				*i* S		Sn	16 23 44.0	-0.4
MLR	**Muntele Rosu**	**0.54**	**242**	*i*P		Pn	16 23 28.7	-0.2
MLR				*i* S		Sn	16 23 44.3	-1.4
MLR	**Muntele Rosu**	**0.54**	**242**	*i*P		Pn	16 23 28.7	-0.2
MLR	**Muntele Rosu**	**0.54**	**242**	*i*P		Pn	16 23 28.7	-0.2
MLR				*i* S		Sn	16 23 44.3	-1.4
ISR	**Istrita**	**0.63**	**185**	*i*P		Pn	16 23 29.0	-0.4
ISR	**Istrita**	**0.63**	**185**	*i*P		Pn	16 23 29.0	-0.4
ISR	**Istrita**	**0.63**	**185**	*i*P		Pn	16 23 29.0	-0.4
TESR	**Tescani**	**0.76**	**2**	*i*P		Pn	16 23 29.9	-0.2
TESR				*i* S		Sn	16 23 46.2	-1.7
TESR	**Tescani**	**0.76**	**2**	*i*P		Pn	16 23 29.9	-0.2
TESR	**Tescani**	**0.76**	**2**	*i*P		Pn	16 23 29.9	-0.2
TESR				*i* S		Sn	16 23 46.2	-1.7
SECR		**0.81**	**209**	*i*P		Pn	16 23 30.6	+0.1
SECR				*i* S		Sn	16 23 48.0	-0.5
SECR		**0.81**	**209**	*i*P		Pn	16 23 30.6	+0.1
DOPR	**Dopca**	**0.89**	**285**	*i*P		Pn	16 23 31.0	0.0
DOPR				*i* S		Sn	16 23 48.3	-1.2
DOPR	**Dopca**	**0.89**	**285**	*i*P		Pn	16 23 31.0	0.0
DOPR	**Dopca**	**0.89**	**285**	*i*P		Pn	16 23 31.0	0.0
DOPR				*i* S		Sn	16 23 48.3	-1.2
SULR		**1.10**	**194**	*i*P		Pn	16 23 32.8	0.0
SULR				*i* S		Sn	16 23 51.8	-0.7
SULR		**1.10**	**194**	*i*P		Pn	16 23 32.8	0.0
SULR		**1.10**	**194**	*i*P		Pn	16 23 32.8	0.0
SULR				*i* S		Sn	16 23 51.8	-0.7
VOIR		**1.15**	**255**	*i*P		Pn	16 23 32.9	-0.4
VOIR				*i* S		Sn	16 23 52.3	-1.2
VOIR		**1.15**	**255**	*i*P		Pn	16 23 32.9	-0.4
VOIR		**1.15**	**255**	*i*P		Pn	16 23 32.9	-0.4
VOIR				*i* S		Sn	16 23 52.3	-1.2
GIUM	**Giurgiulesti**	**1.15**	**103**	*i* S		Sn	16 23 52.5	-0.7
GIUM	**Giurgiulesti**	**1.15**	**103**	S		Sn	16 23 52.5	-0.7
GIUM	**Giurgiulesti**	**1.15**	**103**	*i* S		Sn	16 23 52.5	-0.7
CFR	**Carcaliu**	**1.21**	**118**	*i*P		Pn	16 23 33.8	0.0
CFR				*i* S		Sn	16 23 52.8	-1.5
CFR	**Carcaliu**	**1.21**	**118**	*i*P		Pn	16 23 33.8	0.0
CFR	**Carcaliu**	**1.21**	**118**	*i*P		Pn	16 23 33.8	0.0
CFR				*i* S		Sn	16 23 52.8	-1.5
HARR	**Harsova**	**1.41**	**138**	*i*P		Pn	16 23 35.6	-0.1
HARR	**Harsova**	**1.41**	**138**	*i*P		Pn	16 23 35.6	-0.1
HARR	**Harsova**	**1.41**	**138**	*i*P		Pn	16 23 35.6	-0.1
ARR	**Arges**	**1.45**	**255**	*i*P		Pn	16 23 36.8	+0.6
ARR				*i* S		Sn	16 23 58.8	+0.2
ARR	**Arges**	**1.45**	**255**	*i*P		Pn	16 23 36.8	+0.6
ARR	**Arges**	**1.45**	**255**	*i*P		Pn	16 23 36.8	+0.6
ARR				*i* S		Sn	16 23 58.8	+0.2
TLB	**Topalu**	**1.54**	**139**	*i*P		Pn	16 23 36.9	-0.1
TLB				*i* S		Sn	16 23 57.7	-2.4
TLB	**Topalu**	**1.54**	**139**	*i*P		Pn	16 23 36.9	-0.1
TLB	**Topalu**	**1.54**	**139**	*i*P		Pn	16 23 36.9	-0.1
TLB				*i* S		Sn	16 23 57.7	-2.4
TLCR		**1.65**	**109**	*i*P		Pn	16 23 37.7	-0.5
TLCR				*i* S		Sn	16 24 01.0	-1.1
TLCR		**1.65**	**109**	*i*P		Pn	16 23 37.7	-0.5
TLCR		**1.65**	**109**	*i*P		Pn	16 23 37.7	-0.5
TLCR				*i* S		Sn	16 24 01.0	-1.1
HUMR	**Humele**	**1.69**	**224**	*i* S		Sn	16 24 00.8	-2.1
HUMR	**Humele**	**1.69**	**224**	S		Sn	16 24 00.8	-2.1
HUMR	**Humele**	**1.69**	**224**	*i* S		Sn	16 24 00.8	-2.1
CVD	**Cernavoda**	**1.75**	**145**	*i* S		Sn	16 24 01.7	-2.5
CVD	**Cernavoda**	**1.75**	**145**	S		Sn	16 24 01.7	-2.5
CVD	**Cernavoda**	**1.75**	**145**	*i* S		Sn	16 24 01.7	-2.5
TIRR	**Tirgusor**	**1.81**	**135**	*i*P		Pn	16 23 39.9	-0.1
TIRR				*i* S		Sn	16 24 02.8	-2.6
TIRR	**Tirgusor**	**1.81**	**135**	*i*P		Pn	16 23 39.9	-0.1
TIRR	**Tirgusor**	**1.81**	**135**	*i*P		Pn	16 23 39.9	-0.1
TIRR				*i* S		Sn	16 24 02.8	-2.6
PSN	**Preselentsi**	**2.35**	**151**	*i* S		Sn	16 24 15.8	-0.8
PSN	**Preselentsi**	**2.35**	**151**	S		Sn	16 24 15.8	-0.8
PSN	**Preselentsi**	**2.35**	**151**	*i* S		Sn	16 24 15.8	-0.8

*IDC **04** 16:26:03.6±1.0, 11°02N×91°66E, h0km, mb3.6/9, mb1 3.6/10, mb1mx3.3/45, mbtmp3.5/10, ML3.4/1, Error ellipse: s-maj=37.1km s-min=17.7km az=51.0*
*ISCJB **04** 16:26:04.2±0.8, 10°9N±0°1×91°50E±0°08, h20km, mb3.5/9, Error ellipse: s-maj=16.9km s-min=11.2km az=161.2*
ISC 04 16:26:06.4±1.1, 10°9N±0°2×91°6E±0°1, h20km, n14, σ08s8/10, mb3.7/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**10.34**	**43**	Pn		Pn	16 28 30.1	-3.6
	0.1nm,0.3s,baz=231,slow=16,SNR=5.1							
PALK	**Pallekele**	**11.32**	**252**	Pn		Pn	16 28 56.1	+8.9
	1.1nm,0.3s,baz=74,slow=12,SNR=5.1							
PALK				Sn		**Sn**	**16 30 53.0**	**-0.3**
	1.6nm,0.3s,baz=330,slow=24,SNR=3.6							
H08S3	**Diego Garcia H**	**26.47**	**227**	T		T	16 59 54.1	
	baz=46,slow=76,SNR=79							
H08S2	**Diego Garcia H**	**26.47**	**227**	T		T	16 59 54.1	
	baz=46,slow=76,SNR=72							
H08S1	**Diego Carcia H**	**26.49**	**227**	T		T	16 59 52.5	
	baz=46,slow=76,SNR=49							
MKAR	**Makanchi Array**	**36.60**	**349**	P		**P**	**16 33 11.4**	**+0.2**
	0.2nm,0.6s,baz=171,slow=8.2,SNR=4.4							
SONM	**Songino Array**	**38.84**	**16**	P		**P**	**16 33 29.4**	**-0.9**
	0.4nm,0.9s,baz=225,slow=7.5,SNR=3.0							
GEYT	**Alibeck**	**40.24**	**318**	P		**P**	**16 33 43.7**	**+1.7**
	0.6nm,0.5s,baz=114,slow=3.5,SNR=2.3							
KURBB	**Kurchatov Arra**	**41.00**	**347**	P		**P**	**16 33 48.3**	**+0.3**
	0.1nm,0.5s,baz=160,slow=11,SNR=3.0							
WRA	**Warramunga Arr**	**52.10**	**126**	P		**P**	**16 35 15.7**	**+0.1**
	0.8nm,0.5s,baz=308,slow=8.2,SNR=14							
ASAR	**Alice Springs**	**53.82**	**130**	P		**P**	**16 35 28.6**	**+0.4**
	0.4nm,0.5s,baz=305,slow=6.7,SNR=15							
BRTR	**Keskin Array B**	**58.52**	**310**	P		**P**	**16 36 00.7**	**-1.1**
	0.4nm,0.6s,baz=107,slow=7.7,SNR=3.4							
FINES	**FINESS Array B**	**68.83**	**332**	P		**P**	**16 37 08.9**	**-0.4**
	1.1nm,0.9s,baz=113,slow=14,SNR=3.3							
ARCES	**ARCESS Array B**	**71.55**	**340**	P		**P**	**16 37 26.0**	**+0.2**
	0.6nm,0.6s,baz=76,slow=10,SNR=4.4							

IDC 04 16:26:09.6±13.0, 19°23S×178°42W, h467km±105km, mb2.5/2, mb1 2.9/3, mb1mx2.7/19, mbtmp3.6/3, Error ellipse: s-maj=204.6km s-min=71.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**14.45**	**256**	P		P	16 29 14.4	-0.3
	0.3nm,0.3s,baz=77,slow=19,SNR=9.2							
WRA	**Warramunga Arr**	**44.40**	**261**	P		P	16 33 38.1	+0.3
	0.2nm,0.3s,baz=95,slow=7.7,SNR=9.7							
ASAR	**Alice Springs**	**44.44**	**256**	P		P	16 33 37.7	-0.4
	0.2nm,0.4s,baz=87,slow=8.8,SNR=7.5							
ASAR				PcP		PcP	16 35 11.1	-1.0
	0.1nm,0.6s,baz=111,slow=5.1,SNR=2.9							
GERES	**GERESS Array B**	**148.88**	**344**	PKPbc		PKPbc	16 45 03.7	-0.3
	0.4nm,0.6s,baz=2.9,slow=2.0,SNR=3.7							

*ISCJB **04** 16:26:55.4±0.5, 33°98S±0°04×71°45W±0°08, h60km±5km, mb3.9/5, Error ellipse: s-maj=10.9km s-min=4.9km az=19.3*
*NEIC **04** 16:26:55.7, 33°96S×71°42W, h46km, mb3.7/2, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Pichilemu, Rancagua and San Fernando; [II] at San Antonio and Santiago.
*IDC **04** 16:26:55.2±0.9, 34°08S×71°44W, h46km±5km, mb3.7/5, mb1 3.8/7, mb1mx3.6/18, mbtmp3.9/7, ML3.5/2, MS2.5/2, Ms1 2.6/2, ms1mx2.4/27, Error ellipse: s-maj=27.7km s-min=22.8km az=87.0*
*GUC **04** 16:26:55.7±0.6, 33°96S×71°42W, h46km±1km, ML4.0*
ISC 04 16:26:55.6±0.6, 33°98S±0°03×71°40W±0°05, h47km±4km, n42, σ1s38/65, mb4.1/5, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNV	**Longovilo**	**0.03**	**334**	*i*P		**Pn**	**16 27 02.8**	**-0.1**
LNV	**Longovilo**	**0.03**	**334**	*i*P		**Pn**	**16 27 02.8**	**-0.1**
TACH	**Talagante**	**0.50**	**49**	*i*P		**Pn**	**16 27 07.2**	**+0.4**
TACH	**Talagante**	**0.50**	**49**	*i*P		**Pn**	**16 27 07.2**	**+0.4**
CHCH	**Chadas Angostu**	**0.62**	**86**	*i*P		**Pn**	**16 27 08.9**	**+0.6**
CHCH	**Chadas Angostu**	**0.62**	**86**	*i*P		**Pn**	**16 27 08.9**	**+0.6**
PCH	**Pirque**	**0.82**	**64**	*e*P		**Pn**	**16 27 11.6**	**+0.7**
PCH				*e*S		**Sn**	**16 27 23.6**	**+1.5**
PCH	**Pirque**	**0.82**	**64**	*e*P		**Pn**	**16 27 11.6**	**+0.7**
PCH				*e*S		**Sn**	**16 27 23.6**	**+1.5**
CLCH	**Cerro Calan**	**0.92**	**51**	*e*P		**Pn**	**16 27 13.0**	**+0.7**
CLCH				*e*S		**Sn**	**16 27 26.6**	**+2.1**
CLCH				AML		AML	16 27 30.4	
	comp=E,6μm,0.5s							
CLCH				AML		AML	16 27 36.8	
	comp=N,5μm,0.7s							
IHA	**Instituto Hidr**	**0.98**	**348**	*e*P		**Pn**	**16 27 12.8**	**-0.1**
IHA	**Instituto Hidr**	**0.98**	**348**	*e*P		**Pn**	**16 27 12.8**	**-0.1**
NICH	**Los Niches**	**1.03**	**172**	*e*P		**Pn**	**16 27 14.5**	**+0.8**
NICH				*e*S		**Sn**	**16 27 28.4**	**+1.5**
NICH	**Los Niches**	**1.03**	**172**	*e*P		**Pn**	**16 27 14.5**	**+0.8**
NICH				*e*S		**Sn**	**16 27 28.4**	**+1.5**
PEL	**Peldehue**	**1.03**	**35**	*e*P		**Pn**	**16 27 14.4**	**+0.7**
PEL				*e*S		**Sn**	**16 27 28.7**	**+1.7**
PEL				AML		AML	16 27 36.8	
	comp=N,8μm,0.4s							
PEL	**Peldehue**	**1.03**	**35**	*e*P		**Pn**	**16 27 14.4**	**+0.7**
PEL				*e*S		**Sn**	**16 27 28.7**	**+1.7**
ROCH	**El Roble**	**1.06**	**18**	*e*P		**Pn**	**16 27 14.9**	**+0.6**
ROCH				*e*S		**Sn**	**16 27 29.8**	**+1.7**
ROCH				AML		AML	16 27 30.8	
	comp=N,9μm,0.4s							
ROCH	**El Roble**	**1.06**	**18**	*e*P		**Pn**	**16 27 14.9**	**+0.6**
ROCH				*e*S		**Sn**	**16 27 29.8**	**+1.7**
FCH	**Farellones**	**1.13**	**55**	*e*P		**Pn**	**16 27 18.1**	**+2.7**
FCH				*e*S		**Sn**	**16 27 31.8**	**+1.9**
FCH	**Farellones**	**1.13**	**55**	P		**Pn**	**16 27 18.1**	**+2.7**
FCH				S		**Sn**	**16 27 31.8**	**+1.9**
YECH	**El Yeso**	**1.14**	**74**	*e*P		**Pn**	**16 27 13.2**	**-2.3**
YECH				*e*S		**Sn**	**16 27 28.8**	**-1.3**
YECH				AML		AML	16 27 33.6	
	comp=N,8μm,0.5s							
YECH	**El Yeso**	**1.14**	**74**	*e*P		**Pn**	**16 27 13.2**	**-2.3**
YECH				*e*S		**Sn**	**16 27 28.8**	**-1.3**
TALC	**Talca**	**1.43**	**188**	*e*P		**Pn**	**16 27 20.1**	**+1.1**
TALC				*e*S		**Sn**	**16 27 38.7**	**+2.0**
TALC	**Talca**	**1.43**	**188**	*e*P		**Pn**	**16 27 20.1**	**+1.1**
TALC				*e*S		**Sn**	**16 27 38.7**	**+2.0**
CFAA	**Coronel Fontan**	**3.56**	**49**	P		**Pn**	**16 27 51.1**	**+2.7**
	comp=N,1.3nm,0.3s,baz=216,slow=14,SNR=104							
CFAA				S		**Sn**	**16 28 33.6**	**+4.3**
	comp=N,2.6nm,0.3s,baz=84,slow=19,SNR=3.1							
CFAA				LR		LR	16 29 42.6	
	comp=N,22nm,21.8s,baz=232,slow=46							
LCO	**Las Campanas**	**4.99**	**7**	*e*Pn		**Pn**	**16 28 08.6**	**+0.3**
PLCA	**Paso Flores**	**6.77**	**175**	P		**Pn**	**16 28 34.3**	**+1.8**
	comp=N,0.7nm,0.3s,baz=337,slow=11,SNR=27							
PLCA				LR		LR	16 31 23.7	
	comp=N,172nm,21.8s,baz=286,slow=40							
LPAZ	**La Paz**	**17.86**	**10**	P		**P**	**16 31 02.7**	**+1.1**
	comp=N,0.2nm,0.3s,baz=190,slow=7.5,SNR=5.3							
LPAZ				sP		**sP**	**16 31 18.0**	**-0.5**
	comp=N,0.1nm,0.3s,baz=189,slow=8.9,SNR=6.4							
LPAZ	**La Paz**	**17.86**	**10**	*e*Pn		**P**	**16 31 02.3**	**+0.7**
	comp=N,6.5nm,1.1s							
SIV	**San Ignacio**	**20.19**	**30**	P		**P**	**16 31 25.9**	**-0.5**
	comp=N,2.9nm,0.7s,baz=236,slow=12,SNR=7.9							
SIV				sP		**sP**	**16 31 42.6**	**-0.8**
	comp=N,4.2nm,0.6s,baz=225,slow=12,SNR=6.5							
SAML	**Samuel**	**26.04**	**19**	*e*P		**P**	**16 32 24.6**	**+0.1**
	comp=N,2.5nm,0.8s							
SNAA	**Sanae**	**51.40**	**158**	P		**P**	**16 35 54.7**	**-0.7**
	comp=N,1.8nm,0.9s,baz=309,slow=13,SNR=3.6							
TXAR	**Lajitas Array**	**69.98**	**330**	P		**P**	**16 38 03.1**	**+0.8**
	comp=N,0.2nm,0.5s,baz=164,slow=9.2,SNR=4.3							
TXAR				pP		**pP**	**16 38 15.8**	**0.0**
	comp=N,0.3nm,0.6s,baz=147,slow=8.2,SNR=3.6							
TXAR				sP		**sP**	**16 38 21.0**	**-0.1**
	comp=N,0.2nm,0.5s,baz=151,slow=8.0,SNR=2.5							
BOSA	**Boshof**	**79.60**	**117**	P		**P**	**16 38 58.0**	**-0.3**
	comp=N,1.8nm,0.6s,baz=268,slow=5.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P		**P**	**16 39 19.5**	**-0.3**
	comp=N,1.8nm,0.8s,baz=257,slow=4.6,SNR=9.6							
TORD				pP		**pP**	**16 39 33.2**	**-0.4**
	comp=N,0.8nm,0.9s,baz=262,slow=4.2,SNR=2.7							
WRA	**Warramunga Arr**	**121.03**	**208**	PKP		**PKPdf**	**16 45 41.6**	**-2.0**
	comp=N,0.4nm,1.0s,baz=163,slow=1.7,SNR=3.8							
BVAR	**Borovoye Array**	**146.90**	**43**	PKPbc		**PKPbc**	**16 46 32.8**	**+0.4**
	comp=N,0.7nm,0.4s,baz=276,slow=2.8,SNR=6.9							
BVAR				pPKPbc		pPKPbc	16 46 46.1	-0.6
	comp=N,0.6nm,0.7s,baz=234,slow=5.0,SNR=3.8							
YAK	**Yakutsk**	**148.89**	**341**	PKPbc		**PKPbc**	**16 46 36.3**	**-1.0**
	comp=N,2.9nm,0.6s,baz=100,slow=0.7,SNR=4.1							
AAK	**Ala-Archa**	**152.03**	**62**	PKPbc

FINES	**FINESS Array B**	**90.51**	**25**	LR	LR	17 21 57.1		
	comp=Z,14nm,18.3s,baz=255,slow=36							
CMAR	**Chiang Mai Arr**	**145.70**	**341**	PKPbc	**PKPab**	**16 47 34.6**	**-0.8**	
	1.2nm,0.7s,baz=341,slow=2.9,SNR=7.6							

IDC 04 16:32:30.8±2.0, 14°08N×92°43W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/44, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=33.6km s-min=15.5km az=3.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.11**	**64**	Pn	Pn	16 33 07.5	-0.2
	12nm,0.3s,baz=249,slow=9.3,SNR=26						
APG				Lg	Lg	16 33 38.3	
	15nm,0.3s,baz=93,slow=23,SNR=6.1						
CMIG	**Matias Romero**	**3.82**	**322**	Pn	Pn	16 33 30.2	-0.7
	1.1nm,0.3s,baz=141,slow=12,SNR=3.9						
CMIG				Pg	Pb	16 33 40.3	+1.2
	6.0nm,0.3s,baz=137,slow=12,SNR=8.8						
CMIG				Sn	Sn	16 34 15.0	-1.5
	7.5nm,0.3s,baz=340,slow=8.3,SNR=3.7						
CMIG				Lg	Lg	16 34 30.4	
	11nm,0.3s,baz=242,slow=9.7,SNR=5.3						
TXAR	**Lajitas Array**	**18.41**	**327**	P	P	16 36 48.9	+1.1
	0.0nm,0.3s,baz=153,slow=10.0,SNR=7.6						
NVAR	**Mina Array Bea**	**33.35**	**321**	P	P	16 39 12.9	+1.9
	0.2nm,0.3s,baz=146,slow=8.3,SNR=3.3						
YKA	**Yellowknife Ar**	**50.85**	**347**	P	P	16 41 32.9	-0.2
	1.2nm,0.7s,baz=150,slow=7.3,SNR=28						
ILAR	**Eielson Array**	**62.60**	**337**	P	P	16 42 55.8	-0.9
	0.6nm,1.1s,baz=125,slow=5.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**145.78**	**341**	PKPbc	PKPdf	16 52 10.9	-1.5
	0.5nm,0.7s,baz=348,slow=4.0,SNR=3.3						

*CSEM **04** 16:35:15.1, 38°.62N×29°.26W, h1km, ML3.5*

PDA 04 16:35:15.1±1.2, 38°.62N×29°.26W, h1km±9km, MD3.4, ML3.5, Error ellipse: s-maj=11.3km s-min=7.6km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.44**	**89**	*e*P	Pg	16 35 23.1	-0.5
PCED				*e*S	Sg	16 35 29.3	0.0
PCED				A	A	16 35 29.8	
	1µm,0.5s						
PCED	**Cedros**	**0.44**	**89**	*e*P	Pg	16 35 23.1	-0.5
PCED				*e*S	Sg	16 35 29.3	0.0
CALA	**Caldeira**	**0.44**	**95**	*e*S	Sg	16 35 29.3	-0.2
CALA	**Caldeira**	**0.44**	**95**	*e*S	Sg	16 35 29.3	-0.2
HOR	**Horta**	**0.51**	**101**	*e*P	Pg	16 35 24.2	-0.6
HOR				*e*S	Sg	16 35 30.9	-0.4
HOR	**Horta**	**0.51**	**101**	*e*P	Pg	16 35 24.2	-0.6
HOR				*e*S	Sg	16 35 30.9	-0.4
PCAN	**Candelaria**	**0.63**	**104**	*e*P	Pg	16 35 25.6	-1.6
PCAN				*e*S	Sg	16 35 34.4	-1.1
PCAN				A	A	16 35 42.9	
	1µm,0.3s						
PCAN	**Candelaria**	**0.63**	**104**	*e*P	Pg	16 35 25.6	-1.6
PCAN				*e*S	Sg	16 35 34.4	-1.1
PICO	**Pico**	**0.67**	**100**	*e*P	Pg	16 35 26.6	-1.4
PICO				*e*S	Sg	16 35 33.3	-1.5
PICO	**Pico**	**0.67**	**100**	*e*P	Pg	16 35 26.6	-1.4
PICO				*e*S	Sg	16 35 35.3	-1.5
ROSA	**Rosais**	**0.81**	**83**	*e*P	Pg	16 35 28.5	-2.1
ROSA				*e*S	Sg	16 35 38.9	-2.2
ROSA				A	A	16 35 39.5	
	1µm,0.3s						
ROSA	**Rosais**	**0.81**	**83**	*e*P	Pg	16 35 28.5	-2.1
ROSA				*e*S	Sg	16 35 38.9	-2.2
PID	**Ribeirinha**	**0.92**	**101**	*e*P	Pg	16 35 30.5	-2.2
PID	**Ribeirinha**	**0.92**	**101**	*e*P	Pg	16 35 30.5	-2.2
PMAN	**Manadas**	**0.92**	**89**	*e*P	Pg	16 35 30.1	-2.7
PMAN				*e*S	Sg	16 35 41.4	-3.3
PMAN				A	A	16 35 46.9	
	418nm,0.4s						
PMAN	**Manadas**	**0.92**	**89**	*e*P	Pg	16 35 30.1	-2.7
PMAN				*e*S	Sg	16 35 41.4	-3.3
TOPO	**Topo**	**1.05**	**91**	*e*P	Pg	16 35 33.0	-2.4
TOPO	**Topo**	**1.05**	**91**	*e*P	Pg	16 35 33.0	-2.4
PGRA	**Graciosa**	**1.08**	**68**	*e*P	Pg	16 35 32.1	-3.7
PGRA				*e*S	Sg	16 35 45.3	-4.6
PGRA				A	A	16 35 48.6	
	185nm,0.4s						
PGRA	**Graciosa**	**1.08**	**68**	*e*P	Pg	16 35 32.1	-3.7
PGRA				*e*S	Sg	16 35 45.3	-4.6
ADH	**Angra Heroismo**	**1.59**	**88**	*e*P	Pn	16 35 39.4	-5.0
ADH				*e*S	Sn	16 35 58.1	-7.5
ADH				A	A	16 35 59.5	
	142nm,0.3s						
ADH	**Angra Heroismo**	**1.59**	**88**	*e*P	Pn	16 35 39.4	-5.0
ADH				*e*S	Sn	16 35 58.1	-7.5

MAN 04 16:38:09, 8°.70N×126°.33E, h92km, mb4.3, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.51**	**176**	⇑*i*P	Pn	16 38 27.5	+3.4
BIPH				*i* S	Sn	16 38 39.0	+3.7
BUTP	**Butuan**	**0.75**	**291**	*e*P	Pn	16 38 28.1	+1.9
BUTP				*e*S	Sn	16 38 41.8	+2.8
BUKP	**Musuan**	**1.49**	**237**	*e*P	Pn	16 38 36.4	+1.6
BUKP				*e*S	Sn	16 38 55.4	+1.0
CGP	**Cagayan de Oro**	**1.63**	**262**	⇑*i*P	Pn	16 38 39.0	+2.5
CGP				*i* S	Sn	16 38 59.8	+2.4
MATI	**Mati**	**1.74**	**182**	*e*P	Pn	16 38 37.5	-0.5

*CSEM **04** 16:41:15.0±1.1, 79°.65N×3°.66E, h20km, ML3.2, Error ellipse: s-maj=40.9km s-min=12.3km az=2.0*
*ISCJB **04** 16:41:16.3±0.6, 79°.28N±0°.09×4°.5E±0°.3, h10km, mb3.5/9, MS3.0/4, Error ellipse: s-maj=14.2km s-min=6.9km az=30.9*
*IDC **04** 16:41:17.0±0.7, 79°.25N×3°.25E, h0km, mb3.4/8, mb1 3.6/13, mb1mx3.5/32, mbtmp3.5/13, ML3.3/4, MS2.9/10, Ms1 2.9/10, ms1mx2.6/50, Error ellipse: s-maj=28.1km s-min=12.6km az=40.0*
*BER **04** 16:41:21.6±2.9, 79°.24N×5°.53E, h0km±16km, MD2.5, ML2.5, ML3.2(NAO)*
*NAO **04** 16:41:22.2±2.9, 79°.17N×5°.88E, ML3.2*

ISC 04 16:41:17.9±0.7, 79°.4N±0°.1×4°.77E±0°.09, h10km, n40, σ0§89/40, mb3.3/9, MS3.0/4, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.43**	**105**	Pg	**Pn**	**16 41 43.7**	**-0.2**
KBS				Lg	Lg	16 42 01.5	
KBS	**Kingsbay**	**1.43**	**105**	⇑*i*P	**Pn**	**16 41 43.7**	**-0.2**
KBS				Lg	Lg	16 42 01.5	
KBS	**Kingsbay**	**1.43**	**105**	⇑*i*P	**Pn**	**16 41 43.7**	**-0.2**
	SNR=70						
KBS				Lg	Lg	16 42 01.5	
SPA0	**Spitsbergen Ar**	**2.57**	**112**	Pn	**Pn**	**16 42 00.3**	**+0.8**
SPA0				Sn	**Sn**	**16 42 29.9**	**-0.9**
SPA0				Lg	Lg	16 42 33.6	
SPA0	**Spitsbergen Ar**	**2.57**	**112**	Pn	**Pn**	**16 42 00.3**	**+0.8**
SPA0				Sn	**Sn**	**16 42 29.9**	**-0.9**
SPA0				Lg	Lg	16 42 33.6	
SPA0				IAML		16 42 38.4	
	comp=Z,48nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.57**	**112**	Pn	**Pn**	**16 42 00.3**	**+0.8**
SPA0				Sn	**Sn**	**16 42 29.9**	**-0.9**
	SNR=50						
SPA0				Lg	Lg	16 42 33.6	
SPITS	**Spitsbergen Ar**	**2.57**	**112**	Pn	**Pn**	**16 42 00.3**	**+0.8**
	baz=202,slow=0.4,SNR=193						
SPITS				Sn	**Sn**	**16 42 30.2**	**-0.5**
	baz=112,slow=0.9,SNR=3.4						
SPITS				LR	LR	16 43 23.1	
	comp=Z,152nm,20.4s,baz=275,slow=45						
HSPB	**Hornsund (broa**	**3.26**	**132**	*e*P	**Pn**	**16 42 08.5**	**-0.4**
HSPB				*e*S	**Sn**	**16 42 45.3**	**-2.3**
HSPB				IAML		16 42 47.7	
	comp=Z,49nm,0.3s						
HSPB	**Hornsund (broa**	**3.26**	**132**	*e*P	**Pn**	**16 42 08.5**	**-0.4**
	SNR=50						
HSPB				*e*S	**Sn**	**16 42 45.3**	**-2.3**
	SNR=50						
HOPEN	**Hopen**	**5.10**	**114**	*e*P	**Pn**	**16 42 34.0**	**-0.2**
HOPEN				*e*S	Sn	16 43 27.4	-5.6
HOPEN	**Hopen**	**5.10**	**114**	*e*P	**Pn**	**16 42 34.0**	**-0.2**
	SNR=49						
HOPEN				*e*S	Sn	16 43 27.4	-5.6
	SNR=49						
DAG	**Danmarks Havn**	**5.48**	**253**	*i* S	Sn	16 43 28.4	-14
	comp=Z,18nm,0.4s,SNR=71						
DAG	**Danmarks Havn**	**5.48**	**253**	*i* P	Pn	16 42 33.8	-5.6
DAG				*i* S	Sn	16 43 28.3	-14
BJO	**Bjornoya**	**5.87**	**139**	*e*P	**Pn**	**16 42 45.3**	**+0.6**
BJO	**Bjornoya**	**5.87**	**139**	*e*P	**Pn**	**16 42 45.3**	**+0.6**
	SNR=49						
ARA0	**ARCESS Array S**	**11.23**	**140**	Pn	**Pn**	**16 43 57.8**	**-0.3**
	baz=348,slow=11						
ARA0				Sn	Sn	16 45 54.7	-8.7
	baz=353,slow=22						
ARA0	**ARCESS Array S**	**11.23**	**140**	Pn	**Pn**	**16 43 57.8**	**-0.3**
	baz=348,slow=11						
ARA0				Sn	Sn	16 45 54.7	-8.7
	baz=353,slow=22						
ARA0	**ARCESS Array S**	**11.23**	**140**	Pn	**Pn**	**16 43 57.8**	**-0.3**
	SNR=5.8						
ARCES	**ARCESS Array B**	**11.23**	**140**	Pn	**Pn**	**16 43 58.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=353,slow=13,SNR=34						
ARCES				Sn	Sn	16 45 55.2	-8.3
	comp=Z,0.1nm,0.3s,baz=342,slow=15,SNR=1.6						
ARCES				LR	LR	16 47 50.5	
	comp=Z,42nm,21.8s,baz=348,slow=35						
NOA	**NORSAR Array B**	**18.54**	**170**	LR	LR	16 51 02.0	
	comp=Z,19nm,18.2s,baz=265,slow=32						
SFJD	**Kangerlussuaq**	**19.09**	**261**	LR	LR	16 53 19.4	
	comp=Z,56nm,19.3s,baz=354,slow=38						
FIA0	**FINESS Array S**	**19.13**	**148**	P	**Pn**	**16 45 41.9**	**+0.4**
	baz=356,slow=10						
FIA0	**FINESS Array S**	**19.13**	**148**	P	**Pn**	**16 45 41.9**	**+0.4**
	baz=356,slow=10						
FIA0	**FINESS Array S**	**19.13**	**148**	P	**Pn**	**16 45 41.8**	**+0.4**
	SNR=7.6						
FINES	**FINESS Array B**	**19.13**	**148**	P	**Pn**	**16 45 42.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=12,slow=9.8,SNR=7.2						
FINES				LR	LR	16 53 45.9	
	comp=Z,17nm,21.7s,baz=14,slow=39						
HFS	**Hagfors**	**19.54**	**167**	P	**P**	**16 45 45.5**	**+0.4**
	baz=335,slow=10						
HFS	**Hagfors**	**19.54**	**167**	P	**P**	**16 45 45.5**	**+0.4**
	baz=335,slow=10						
HFS	**Hagfors**	**19.54**	**167**	P	**P**	**16 45 45.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=8.9,slow=10,SNR=9.2						
HFS				LR	LR	16 53 12.6	
	comp=Z,34nm,18.2s,baz=308,slow=37						
HFS	**Hagfors**	**19.54**	**167**	P	**P**	**16 45 45.5**	**+0.4**
	SNR=8.6						
RES	**Resolute Bay**	**20.11**	**310**	P	**P**	**16 45 48.8**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=19,slow=12,SNR=22						
AKASG	**Malin Array Be**	**30.04**	**148**	P	**P**	**16 47 27.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=347,slow=9.2,SNR=3.6						
DAVOX	**Davos/Dischmat**	**32.78**	**174**	LR	LR	17 00 09.9	
	comp=Z,24nm,19.6s,baz=272,slow=35						
YKA	**Yellowknife Ar**	**34.10**	**314**	P	**P**	**16 48 01.7**	**-0.2**
	comp=Z,0.1nm,0.8s,baz=9.3,slow=8.6,SNR=4.0						
YKA				PcP	**PcP**	**16 50 39.6**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=9.7,slow=2.6,SNR=4.0						
ILAR	**Eielson Array**	**35.12**	**339**	P	**P**	**16 48 11.6**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=356,slow=7.4,SNR=5.9						
KURBB	**Kurchatov Arra**	**37.76**	**93**	P	P	16 48 37.2	+3.7
	comp=Z,3.2nm,0.2s,baz=343,slow=7.2,SNR=4.2						
BRTR	**Keskin Array B**	**41.35**	**146**	P	**P**	**16 49 02.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=347,slow=5.9,SNR=2.6						
BRTR				LR	LR	17 08 04.4	
	comp=Z,8.4nm,19.5s,baz=14,slow=39						
MKAR	**Makanchi Array**	**42.14**	**91**	P	P	16 49 13.2	+3.3
	comp=Z,0.6nm,0.9s,baz=351,slow=8.0,SNR=4.0						
MKAR				LR	LR	17 10 58.8	
	comp=Z,21nm,19.1s,baz=346,slow=42						
GEYT	**Alibeck**	**46.45**	**119**	P	**P**	**16 49 46.0**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=342,slow=9.1,SNR=2.6						
TXAR	**Lajitas Array**	**64.67**	**294**	P	**P**	**16 51 55.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=34,slow=4.7,SNR=7.5						
TORD	**Torodi Ar. Bea**	**66.27**	**183**	P	**P**	**16 52 05.9**	**0.0**
	comp=Z,1.0nm,1.0s,baz=357,slow=7.2,SNR=2.8						
TORD				LR	LR	17 20 01.9	
	comp=Z,18nm,19.3s,baz=230,slow=35						

*NIED **04** 16:43:00, 39°.00N×141°.60E, h80km, Mw3.8 Best double couple: M0=4.74000×10^14 NP1:φs=3.00000°, δ=24.00000°, λ=86.00000°. NP2:φs=187.00000°, δ=66.00000°, λ=92.00000°.*
*ISCJB **04** 16:43:20.9±0.5, 38°.96N±0°.04×141°.71E±0°.07, h76km±3km, mb3.5/14, Error ellipse: s-maj=9.2km s-min=5.3km az=19.1*
*IDC **04** 16:43:21.4±0.7, 38°.89N×141°.56E, h67km±4km, mb3.3/14, mb1 3.5/16, mb1mx3.3/30, mbtmp3.6/16, MS2.4/2, Ms1 2.4/2, ms1mx2.2/20, Error ellipse: s-maj=17.6km s-min=13.9km az=98.0*
*JMA **04** 16:43:22.0, 38°.98N×141°.64E, h72km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs=166.00000°, δ=72.00000°, λ=70.00000°. NP2:φs=36.00000°, δ=26.00000°, λ=137.00000°. Principal axes: T Plg58.0000°, Azm49.0000°; N Plg19.0000°, Azm172.0000°; P Plg25.0000°, Azm271.0000°;*
JMA Felt I J1.

ISC 04 16:43:21.9±0.6, 38°.98N±0°.04×141°.70E±0°.06, h69km±4km, n40, σ1§03/53, mb3.7/14, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.10**	**346**	⇑P	**Pn**	**16 43 32.6**	**+0.6**
OFUJ				*e*S	**Sn**	**16 43 40.2**	**+0.8**
JMK	**Ichinoseki**	**0.38**	**265**	⇑P	**Pn**	**16 43 33.4**	**-0.1**
JMK				S	**Sn**	**16 43 42.0**	**0.0**
JOM	**Ohasama**	**0.58**	**327**	⇑P	**Pn**	**16 43 35.7**	**+0.3**
JOM				*e*S	**Sn**	**16 43 45.9**	**+0.5**
JIO	**Ouri**	**0.59**	**208**	⇑P	**Pn**	**16 43 35.5**	**0.0**
JIO				*e*S	**Sn**	**16 43 45.3**	**-0.3**
JRG	**Rokugo**	**0.93**	**297**	⇑P	**Pn**	**16 43 39.3**	**-0.1**
JRG				*e*S	**Sn**	**16 43 52.0**	**-0.4**
JOU	**Okura**	**1.02**	**233**	P	**Pn**	**16 43 40.5**	**-0.1**
JOU				*e*S	**Sn**	**16 43 54.3**	**-0.2**
JYK	**Kaneyama**	**1.05**	**267**	⇑P	**Pn**	**16 43 40.9**	**0.0**
JYK				*e*S	**Sn**	**16 43 55.2**	**+0.1**
JMM	**Marumori**	**1.32**	**213**	⇑P	**Pn**	**16 43 43.9**	**-0.6**
JMM				*e*S	**Sn**	**16 44 00.4**	**-1.0**
JANG	**Nango**	**1.40**	**354**	P	**Pn**	**16 43 45.4**	**0.0**
JANG				*e*S	**Sn**	**16 44 03.8**	**+0.6**
JAH	**Hinai**	**1.46**	**326**	⇓P	**Pn**	**16 43 46.8**	**+0.6**
JAH				*e*S	**Sn**	**16 44 05.4**	**+0.8**
JYS	**Shirataka**	**1.49**	**240**	P	**Pn**	**16 43 47.0**	**+0.3**
JYS				*e*S	**Sn**	**16 44 05.6**	**+0.3**
JYA	**Atsumi**	**1.60**	**257**	P	**Pn**	**16 43 48.2**	**+0.1**
JYA				*e*S	**Sn**	**16 44 07.9**	**-0.1**
MAT	**Matsushiro**	**3.69**	**230**	P	**Pn**	**16 44 18.0**	**+1.5**
MAT				*e*S	**Sn**	**16 45 03.2**	**+4.5**
MJAR	**Matsushiro Arr**	**3.69**	**230**	P	**Pn**	**16 44 18.2**	**+1.8**
	2.1nm,0.3s,baz=40,slow=12,SNR=49						
MJAR				LR	LR	16 46 00.9	
	comp=Z,32nm,19.1s,baz=245,slow=45						
ASAJ	**Asahikawa**	**5.17**	**7**	P	**Pn**	**16 44 36.5**	**-0.2**
	0.6nm,0.3s,baz=235,slow=7.5,SNR=7.4						
USRK	**Ussuriysk Ar.**	**8.95**	**309**	P	**Pn**	**16 45 25.7**	**-2.5**
	0.2nm,0.3s,baz=121,slow=14,SNR=2.5						
KSRS	**Korea Array**	**10.95**	**266**	P	Pn	16 45 59.6	+4.1
	0.2nm,0.3s,baz=76,slow=13,SNR=5.0						
YAK	**Yakutsk**	**24.23**	**346**	LR	LR	16 59 36.0	
	comp=Z,13nm,19.2s,baz=197,slow=40						
SEY	**Seymchan**	**24.84**	**12**	P	**P**	**16 48 38.0**	**+0.6**
	0.7nm,0.6s,baz=188,slow=6.1,SNR=4.5						
SEY				pP	**pP**	**16 48 55.1**	**+1.4**
	0.5nm,0.7s,baz=168,slow=14,SNR=1.5						
SEY				sP	**sP**	**16 49 02.2**	**+0.4**
	2.8nm,1.0s,baz=197,slow=7.3,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**29.00**	**124**	T	T	17 19 49.9	
	baz=317,slow=75,SNR=398						
H11N1	**WAKE ISLAND Hy**	**29.01**	**124**	T	T	17 19 50.3	
	baz=317,slow=75,SNR=448						
H11N3	**WAKE ISLAND Hy**	**29.02**	**124**	T	T	17 19 51.0	
	baz=317,slow=75,SNR=211						
H11S1	**WAKE ISLAND Hy**	**29.78**	**126**	T	T	17 20 48.4	
	baz=318,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**29.78**	**126**	T	T	17 20 47.6	
	baz=318,slow=76,SNR=122						
H11S2	**WAKE ISLAND Hy**	**29.79**	**126**	T	T	17 20 49.1	
	baz=318,slow=76,SNR=73						
ZALV	**Zalesovo Beam**	**40.79**	**311**	P	**P**	**16 50 55.5**	**-0.7**
	1.2nm,0.5s,baz=83,slow=7.3,SNR=6.8						
MKAR	**Makanchi Array**	**43.30**	**300**	P	**P**	**16 51 16.0**	**-0.8**
	1.5nm,0.6s,baz=85,slow=9.8,SNR=20						
KURBB	**Kurchatov Arra**	**45.00**	**307**	P	**P**	**16 51 29.3**	**-0.9**
	1.6nm,0.6s,baz=82,slow=8.4,SNR=12						
KURBB				pP	**pP**	**16 51 46.5**	**-1.0**
	0.4nm,0.4s,baz=83,slow=8.5,SNR=1.5						
ILAR	**Eielson Array**	**47.74**	**33**	P	**P**	**16 51 51.7**	**+0.2**
	0.8nm,0.8s,baz=267,slow=5.8,SNR=9.5						
ILAR				pP	**pP**	**16 52 09.0**	**+0.2**
	0.2nm,0.7s,baz=256,slow=5.7,SNR=1.3						
ILAR				sP	**sP**	**16 52 17.5**	**+0.8**
	0.2nm,0.6s,baz=263,slow=5.1,SNR=2.2						
INK	**Inuvik**	**52.56**	**28**	P	**P**	**16 52 28.6**	**+0.8**
	0.4nm,0.5s,baz=291,slow=8.4,SNR=5.1						
WRA	**Warramunga Arr**	**59.02**	**188**	P	**P**	**16 53 13.3**	**-1.2**
	0.5nm,0.5s,baz=6.2,slow=7.2,SNR=24						
WRA				pP	**pP**	**16 53 31.2**	**-1.3**
	0.3nm,0.5s,baz=5.7,slow=7.1,SNR=2.3						
RES	**Resolute Bay**	**60.66**	**15**	P	**P**	**16 53 24.5**	**-0.6**
	0.5nm,0.9s,baz=334,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	**62.75**	**188**	P	**P**	**16 53 38.6**	**-1.3**
	0.3nm,0.9s,baz=3.2,slow=6.9,SNR=8.2						
FINES	**FINESS Array B**	**67.20**	**332**	P	**P**	**16 54 09.4**	**+1.1**
	1.1nm,1.0s,baz=32,slow=8.2,SNR=2.7						
FINES				pP	**pP**	**16 54 26.2**	**-0.3**
	0.6nm,0.6s,baz=27,slow=9.8,SNR=2.2						
HFS	**Hagfors**	**72.41**	**336**	P	**P**	**16 54 41.2**	**+0.9**
	0.4nm,0.5s,baz=32,slow=8.5,SNR=2.8						
HFS				pP	**pP**	**16 54 58.3**	**-0.5**
	0.9nm,0.4s,baz=34,slow=5.8,SNR=3.1						
NOA	**NORSAR Array B**	**72.48**	**337**	pP	pP	16 54 58.1	-1.1
	0.6nm,0.8s,baz=31,slow=4.4,SNR=2.4						
AKASG	**Malin Array Be**	**72.90**	**322**	P	**P**	**16 54 42.7**	**-0.7**
	0.1nm,0.4s,baz=43,slow=5.8,SNR=2.9						
AKASG				pP	**PcP**	**16 55 00.4**	**+0.3**
	0.2nm,0.3s,baz=48,slow=5.9,SNR=2.8						
PDAR	**Pinedale Array**	**76.14**	**46**	P	**P**	**16 55 02.8**	**+0.2**
	0.4nm,0.6s,baz=27,slow=0.3,SNR=4.1						
TXAR	**Lajitas Array**	**88.76**	**53**	P	**P**	**16 56 08.6**	**+0.3**
	0.1nm,0.6s,baz=282,slow=1.7,SNR=2.6						
LPAZ	**La Paz**	**145.48**	**57**	PKPbc	**PKPab**	**17 02 53.6**	**0.0**
	0.6nm,0.5s,baz=14,slow=4.8,SNR=3.3						

GUC 04 16:58:17.1±0.3, 36°.63S×72°.58W, h30km±2km, ML3.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.48**	**243**	AML	AML	16 58 41.8	
	comp=E,5µm,0.3s						
LNCH	**Linares**	**1.11**	**46**	⇑*i*P	Pb	16 58 41.4	+3.7
LNCH				*i* S	Sb	16 58 58.2	+6.5
LNCH				AML	AML	16 59 02.0	
	comp=N,7µm,0.3s						
TALC	**Talca**	**1.44**	**32**	⇓*i*P	Pn	16 58 41.9	+0.8
TALC				*i* S	Sb	16 59 00.8	-0.5
TALC				AML	AML	16 59 07.0	
	comp=E,3µm,0.4s						
NICH	**Los Niches**	**1.95**	**34**	⇑*i*P	Pb	16 58 51.0	-1.0
NICH				⇓*i*S	Sb	16 59 15.2	-0.8

*IDC **04** 16:59:03.2±1.9, 38°.86N×70°.77E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.2/28, mbtmp3.4/5, ML2.6/2, Error ellipse: s-maj=37.3km s-min=25.0km az=173.0*
*ISCJB **04** 16:59:05.0±0.9, 38°.79N±0°.07×70°.36E±0°.07, h17km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=6.7km az=151.5*
*NNC **04** 16:59:07.0±1.0, 38°.99N×70°.30E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=15.0km s-min=4.0km az=155.0*

ISC 04 16:59:05.8±1.2, 38°.79N±0°.09×70°.34E±0°.05, h17km, n21, σ1§49/27, mb3.5/3, 7C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.18**	**271**	⇑P	**Pn**	**16 59 28.1**	**+0.4**
	45nm,0.5s						
DZET				⇓S	**Sg**	**16 59 45.8**	**+1.7**
	63nm,0.4s						
SFK	**Sufi-Kurgan**	**2.74**	**62**	⇓Pn	**Pn**	**16 59 50.6**	**+1.3**
	12nm,0.5s						
SFK				⇓Sn	**Sb**	**17 00 28.0**	**+0.1**
	42nm,0.4s						
MNAS	**Manas**	**4.05**	**23**	⇑Pn	**Pn**	**17 00 06.9**	**-0.2**
	1.9nm,0.3s						
MNAS				⇓Sn	**Sn**	**17 00 56.2**	**+2.0**
	12nm,0.6s						
AML	**Almayashu**	**4.21**	**36**	P	**Pn**	**17 00 09.8**	**+0.2**
	SNR=14						
KK31	**Karatay Array**	**4.32**	**2**	⇓Pn	**Pn**	**17 00 11.7**	**+1.0**
	1.3nm,0.3s,baz=180,slow=13,SNR=9.8						
KK31				⇑Sn	**Sn**	**17 01 02.1**	**+1.4**
	7.7nm,0.8s,baz=180,slow=25,SNR=3.6						
KK31				⇑Lg	Lg	17 01 15.2	
	5.5nm,0.4s,baz=183,slow=28,SNR=6.5						
UCH	**Uchtor**	**4.68**	**41**	P	**Pn**	**17 00 16

*ISCJB **04** 18:07:23.2±0.4,24˚.60N±0˚.03×121˚.81E±0˚.02,h72km±4km, Error ellipse: s-maj=4.8km s-min=2.6km az=158.4*
*JMA **04** 18:07:23.4±0.1,24˚.55N×121˚.80E,h63km±2km,M3.0*
*TAP **04** 18:07:23.2,24˚.55N×121˚.79E,h69km,ML3.6,B*
ISC 04 18:07:23.8±1.3,**24˚.59N**±0˚.03×**121˚.81E**±0˚.02,**h68**km±6km, **n61**,σ0**s76**/103,**6C-7D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=50	**0.04**	**60**	⇓*i*P	**Pn**	**18 07 33.9**	**+0.1**
TWC	baz=50			S	**Sn**	**18 07 41.6**	**+0.6**
ENA	**Nanau** baz=203	**0.17**	**201**	⇓*i*P	**Pn**	**18 07 33.9**	**-0.2**
ENA	baz=203			*i* S	**Sn**	**18 07 42.0**	**+0.4**
ILA	**Ilan** baz=343	**0.19**	**343**	⇓*i*P	**Pn**	**18 07 34.7**	**+0.5**
ILA	baz=343			*i* S	**Sn**	**18 07 43.3**	**+1.6**
ENTT	**Nioudou** baz=294	**0.23**	**283**	⇓*i*P	**Pn**	**18 07 34.4**	**0.0**
ENTT	baz=294			S	**Sn**	**18 07 41.9**	**-0.2**
EHP	**Heping Village** baz=193	**0.28**	**192**	*e*P	**Pn**	**18 07 35.1**	**+0.3**
NSK	**Sanguang** baz=298	**0.42**	**282**	⇑*i*P	**Pn**	**18 07 35.4**	**-0.4**
NSK	baz=298			S	**Sn**	**18 07 43.4**	**-1.2**
NNS	**Nan Shan** baz=253	**0.42**	**250**	⇓*i*P	**Pn**	**18 07 35.9**	**-0.1**
NNS	baz=253			S	**Sn**	**18 07 44.1**	**-0.6**
TWA	**Mucha** baz=328	**0.44**	**332**	⇓*i*P	**Pn**	**18 07 36.1**	**+0.1**
TWA	baz=328			S	**Sn**	**18 07 44.7**	**-0.2**
TWB1	**Santiao Chiao** baz=32	**0.45**	**21**	⇓*i*P	**Pn**	**18 07 36.2**	**+0.2**
TWB1	baz=32			*e*S	**Sn**	**18 07 45.5**	**+0.6**
NWF	**Wu-fen Shan** baz=352	**0.48**	**357**	*i* P	**Pn**	**18 07 36.6**	**+0.2**
NWF	baz=352			*i* S	**Sn**	**18 07 46.1**	**+0.5**
TAP1	**Taipei** baz=326	**0.52**	**330**	*e*P	**Pn**	**18 07 36.5**	**-0.2**
TAP1	baz=326			*e*S	**Sn**	**18 07 45.7**	**-0.4**
TAP	**Taipei** baz=326	**0.53**	**329**	*e*P	**Pn**	**18 07 36.5**	**-0.2**
TAP	baz=326			*e*S	**Sn**	**18 07 45.9**	**-0.4**
TWD	**Chiawan** baz=209	**0.54**	**201**	P	**Pn**	**18 07 35.9**	**-1.0**
TWD	baz=209			S	**Sn**	**18 07 45.0**	**-1.4**
TWS1	**Kuangyinshan** baz=321	**0.62**	**325**	P	**Pn**	**18 07 37.8**	**0.0**
TWS1	baz=321			*e*S	**Sn**	**18 07 48.1**	**+0.1**
HWA	**Hwalien** baz=206	**0.64**	**197**	*e*P	**Pn**	**18 07 37.3**	**-0.6**
WHF	**Hehuan Shan** baz=227	**0.66**	**228**	*e*P	**Pn**	**18 07 38.3**	**-0.3**
WHF	baz=227			*e*S	**Sn**	**18 07 48.5**	**-1.0**
TWT	**Tachien** baz=238	**0.67**	**240**	*e*P	**Pn**	**18 07 38.8**	**+0.4**
TWT	baz=238			S	**Sn**	**18 07 49.1**	**0.0**
NCU	**National Centr** baz=299	**0.68**	**304**	⇑*i*P	**Pn**	**18 07 38.2**	**-0.2**
NCU	baz=299			*i* S	**Sn**	**18 07 49.1**	**0.0**
TWY	**Chenhua** baz=339	**0.71**	**345**	*e*P	**Pn**	**18 07 38.9**	**+0.1**
TWY	baz=339			S	**Sn**	**18 07 50.7**	**+1.0**
NSTT	**Nanjuang** baz=286	**0.74**	**274**	⇑*i*P	**Pn**	**18 07 38.7**	**-0.3**
NSTT	baz=286			S	**Sn**	**18 07 49.5**	**-0.7**
HSN	**Hsinchu** baz=291	**0.79**	**286**	⇑*i*P	**Pn**	**18 07 39.2**	**-0.5**
HSN	baz=291			*i* S	**Sn**	**18 07 50.3**	**-1.0**
ESL	**Shilin** baz=203	**0.84**	**204**	*e*P	**Pn**	**18 07 38.8**	**-1.5**
NSY	**Sanyi** baz=262	**0.97**	**260**	⇑*i*P	**Pn**	**18 07 41.9**	**+0.1**
NSY	baz=262			S	**Sn**	**18 07 55.3**	**+0.1**
TWQ1	**Liyutan** baz=258	**0.97**	**256**	⇑*i*P	**Pn**	**18 07 41.8**	**-0.1**
TWQ1	baz=258			S	**Sn**	**18 07 54.6**	**-0.7**
WDT	**Danda** baz=210	**1.03**	**217**	*e*P	**Pn**	**18 07 42.7**	**-0.2**
WDT	baz=210			*e*S	**Sn**	**18 07 56.8**	**-0.4**
JYNG	**Yonagunijimaku**	**1.04**	**97**	P	**Pn**	**18 07 42.5**	**-0.3**
JYNG				*e*S	**Sn**	**18 07 56.4**	**-0.5**
SMLT	**Sun Moon Lake** baz=227	**1.09**	**230**	*e*P	**Pn**	**18 07 43.7**	**+0.2**
SMLT	baz=227			*e*S	**Sn**	**18 08 00.5**	**+2.5**
TYC	**Yuchr** baz=233	**1.10**	**232**	*e*P	**Pn**	**18 07 43.7**	**+0.2**
TYC	baz=233			*e*S	**Sn**	**18 07 58.9**	**+0.7**
YOJ	**Yonaguni jima**	**1.10**	**96**	P	**Pn**	**18 07 43.1**	**-0.4**
YOJ				*e*S	**Sn**	**18 07 57.8**	**-0.4**
YOJ	**Yonaguni jima** baz=87	**1.10**	**96**	*i* P	**Pn**	**18 07 43.2**	**-0.4**
TCU	**Taichung** baz=248	**1.12**	**247**	*e*P	**Pn**	**18 07 43.7**	**-0.1**
EHY	**Hungye** baz=201	**1.17**	**203**	*e*P	**Pn**	**18 07 43.7**	**-0.7**
WNT	**Mingjian** baz=248	**1.25**	**236**	*e*P	**Pn**	**18 07 45.5**	**+0.1**
WNT	baz=248			S	**Sn**	**18 08 02.3**	**+0.8**
TWF1	**Yuli** baz=203	**1.32**	**201**	*e*P	**Pn**	**18 07 45.6**	**-0.7**
YUS	**Yu-Shan** baz=208	**1.34**	**216**	*e*P	**Pn**	**18 07 47.4**	**+0.3**
YUS	baz=208			*e*S	**Sn**	**18 08 05.1**	**+0.6**
ALS	**Alishan** baz=232	**1.41**	**221**	*e*P	**Pn**	**18 07 48.5**	**+0.6**
ALS	baz=232			*e*S	**Sn**	**18 08 07.9**	**+2.0**
CHN5	**Tsauling** baz=237	**1.43**	**227**	*e*P	**Pn**	**18 07 48.3**	**+0.5**
CHN5	baz=237			*e*S	**Sn**	**18 08 06.5**	**+0.6**
WGK	**Gukeng** baz=245	**1.45**	**232**	*e*P	**Pn**	**18 07 48.4**	**+0.4**
WGK	baz=245			*e*S	**Sn**	**18 08 06.9**	**+0.6**
CHKT	**Chengkung** baz=185	**1.54**	**195**	*e*P	**Pn**	**18 07 49.1**	**-0.1**
ELDTW	**Lidau** baz=200	**1.57**	**208**	*e*P	**Pn**	**18 07 49.7**	**-0.1**
WTCT	**Ta-ch'eng** baz=252	**1.57**	**243**	*e*P	**Pn**	**18 07 49.4**	**-0.2**
WTCT	baz=252			*e*S	**Sn**	**18 08 08.7**	**-0.4**
CHN4	**Tsaushan** baz=224	**1.66**	**222**	*e*P	**Pn**	**18 07 51.1**	**+0.2**
CHN4	baz=224			*e*S	**Sn**	**18 08 14.2**	**+2.9**
CHY	**Chiayi** baz=240	**1.67**	**230**	*e*P	**Pn**	**18 07 50.4**	**-0.5**
STYT	**Tauyuan** baz=206	**1.71**	**214**	*e*P	**Pn**	**18 07 51.9**	**+0.3**
STYT	baz=206			*e*S	**Sn**	**18 08 14.2**	**+1.5**
WTP	**Ta-pu** baz=231	**1.73**	**220**	*e*P	**Pn**	**18 07 51.9**	**+0.1**
WSF	**Szhu** baz=238	**1.73**	**237**	P	**Pn**	**18 07 51.7**	**-0.1**
WSF	baz=238			S	**Sn**	**18 08 12.6**	**-0.3**
IRIF	**Iriomote-Funau**	**1.77**	**98**	P	**Pn**	**18 07 51.8**	**-0.5**
IRIF				*e*S	**Sn**	**18 08 13.0**	**-0.9**
TWK	**Hsinying** baz=223	**1.79**	**223**	*e*P	**Pn**	**18 07 52.2**	**-0.3**
CHN1	**Nanshi** baz=232	**1.82**	**220**	*e*P	**Pn**	**18 07 53.5**	**+0.4**
SGST	**Jiashian** baz=228	**1.87**	**217**	*e*P	**Pn**	**18 07 53.5**	**-0.3**
TWG	**Pinlang** baz=193	**1.88**	**201**	*e*P	**Pn**	**18 07 53.4**	**-0.5**
HATJ	**Hateruma jima**	**1.90**	**106**	P	**Pn**	**18 07 54.3**	**+0.3**
HATJ				*e*S	**Sn**	**18 08 17.4**	**+0.4**
JKRS	**Kuro-shima**	**2.04**	**99**	P	**Pn**	**18 07 55.9**	**0.0**
JKRS				*e*S	**Sn**	**18 08 20.3**	**-0.1**
SSD	**Sandimen** baz=210	**2.13**	**211**	*e*P	**Pn**	**18 07 58.6**	**+1.4**
ECL	**Taimali** baz=194	**2.13**	**202**	*e*P	**Pn**	**18 07 56.7**	**-0.5**
JIJ	**Ishigaki jima**	**2.14**	**96**	P	**Pn**	**18 07 57.0**	**-0.3**
JIJ				*e*S	**Sn**	**18 08 21.7**	**-1.1**
JISG	**Ishigakijimahi**	**2.28**	**89**	P	**Pn**	**18 07 58.9**	**-0.3**
JISG				*e*S	**Sn**	**18 08 25.6**	**-0.6**
PNG	**Penghu** baz=245	**2.30**	**244**	P	**Pn**	**18 07 58.0**	**-1.4**
PNG	baz=245			*e*S	**Sn**	**18 08 24.5**	**-2.1**
EAST	**Anshuo** baz=194	**2.37**	**202**	*e*P	**Pn**	**18 08 00.8**	**+0.4**
JTJ	**Tarama**	**2.63**	**88**	P	**Pn**	**18 08 04.4**	**+0.4**
JTJ				*e*S	**Sn**	**18 08 35.5**	**+0.6**
JIRB	**Irabujima**	**3.07**	**85**	P	**Pn**	**18 08 10.7**	**+0.8**

*IDC **04** 18:14:50.1±1.9,43˚.75N×105˚.47W,h0km,mb3.6/1, mb1 3.4/5,mb1mx3.2/35,mbtmp3.2/5,ML2.4/3,MS3.0/1, Ms1 3.0/1,ms1mx2.3/43,Error ellipse: s-maj=54.4km s-min=9.7km az=149.0*
*ISCJB **04** 18:14:51.6±0.2,43˚.73N±0˚.01×105˚.33W±0˚.02,h0km, mb3.6/1,Error ellipse: s-maj=2.2km s-min=1.9km az=30.3*
*NEIC **04** 18:14:51.8±0.6,43˚.73N×105˚.24W,h0km,ML3.4,Error ellipse: s-maj=9.0km s-min=8.1km az=137.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 04 18:14:51.7±0.7,**43˚.70N**±0˚.02×**105˚.30W**±0˚.02,**h0**km,**n97**, σ1**s30**/132,**30C-34D,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.3,SNR=292	**0.29**	**336**	P	**Pg**	**18 14 57.7**	**+0.4**
J23A	**Dilts Ranch, B** baz=0.4,SNR=114	**0.35**	**212**	P	**Pb**	**18 15 00.4**	**-0.5**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=162	**0.51**	**71**	P	**Pg**	**18 15 01.5**	**-0.1**
J24A	**Dixon Ranch, L** baz=0.6,SNR=83	**0.59**	**128**	P	**Pg**	**18 15 04.0**	**+1.0**
H23A	**Clabaugh Cattl** baz=0.8,SNR=24	**0.87**	**355**	P	**Pg**	**18 15 07.5**	**-0.8**
I22A	**9 Mile Ranch,** baz=0.9,SNR=944	**0.88**	**283**	P	**Pg**	**18 15 09.1**	**+0.5**
J22A	**Midwest** baz=1.0,SNR=127	**0.90**	**252**	⇑P	**Pb**	**18 15 09.6**	**-0.7**
K23A	**Bowen Ranch, D** baz=1.0,SNR=7.9	**0.97**	**194**	⇑P	**Pb**	**18 15 11.6**	**+0.1**
K24A	**Anderson Ranch** baz=1.1,SNR=210	**1.04**	**160**	⇓P	**Pg**	**18 15 12.3**	**+0.7**
J25A	**Sunshine Ranch** baz=1.1,SNR=133	**1.13**	**105**	P	**Pg**	**18 15 13.1**	**-0.3**
J25A	baz=1.1			⇓S	**Sg**	**18 15 29.6**	**+1.6**
H22A	**Clearmont** baz=1.2,SNR=154	**1.17**	**320**	P	**Pg**	**18 15 13.7**	**-0.5**
I25A	**Rochford** baz=1.1,SNR=153	**1.18**	**74**	⇑P	**Pg**	**18 15 13.4**	**-0.9**
I25A	baz=1.1			⇓S	**Sg**	**18 15 30.0**	**+0.4**
H24A	**Dirks Ranch, A** baz=1.1	**1.18**	**27**	⇑P	**Pg**	**18 15 12.8**	**-1.6**
K22A	**Casper** baz=1.4,SNR=190	**1.38**	**221**	P	**Pb**	**18 15 18.5**	**+0.1**
K22A	**Casper**	**1.38**	**221**	*e*Pg	**Pn**	**18 15 18.3**	**-0.1**
K22A				*e*Sg	Sg	18 15 27.5	-8.4
I21A	**Big Trails, Te** baz=1.5,SNR=227	**1.45**	**275**	⇓P	**Pn**	**18 15 18.6**	**-0.7**
G23A	**Biddle** baz=1.5,SNR=210	**1.50**	**358**	P	**Pn**	**18 15 18.7**	**-1.4**
K25A	**Mack Ranch, Ha** baz=1.5,SNR=57	**1.51**	**136**	⇑P	**Pn**	**18 15 20.7**	**+0.6**
K25A	baz=1.5			⇑S	**Sn**	**18 15 42.6**	**+2.1**
H25A	**Fruitdale** baz=1.5,SNR=54	**1.54**	**52**	⇓P	**Pn**	**18 15 19.4**	**-1.0**
H25A	baz=1.5			⇑S	**Sn**	**18 15 41.0**	**-0.2**
H21A	**Big Horn, Sher** baz=1.6,SNR=59	**1.56**	**307**	⇑P	**Pn**	**18 15 20.6**	**-0.2**
H21A	baz=1.6			⇓S	**Sg**	**18 15 43.4**	**+1.5**
J21A	**Lysite** baz=1.6,SNR=158	**1.60**	**258**	P	**Pn**	**18 15 21.5**	**+0.1**
L23A	**Garrett** baz=1.6,SNR=220	**1.61**	**191**	⇓P	**Pb**	**18 15 22.5**	**+0.1**
J26A	**Sides Ranch, S** baz=1.6,SNR=21	**1.66**	**103**	⇑P	**Pn**	**18 15 22.3**	**+0.1**
J26A	baz=1.6			⇓S	**Sn**	**18 15 45.2**	**+0.9**
L24A	**Wheatland** baz=1.7,SNR=24	**1.68**	**171**	P	**Pb**	**18 15 23.6**	**+0.1**
G22A	**Birney** baz=1.7,SNR=61	**1.68**	**335**	⇑P	**Pn**	**18 15 22.4**	**-0.1**
G24A	**Alzada** baz=1.7,SNR=113	**1.75**	**21**	P	**Pn**	**18 15 23.0**	**-0.4**
G24A	baz=1.7			⇓S	**Sn**	**18 15 47.1**	**+0.7**
K21A	**Alcova** baz=1.8,SNR=110	**1.78**	**234**	⇓P	**Pb**	**18 15 25.2**	**-0.2**
I26A	**New Underwood** baz=1.7,SNR=28	**1.80**	**78**	⇑P	**Pn**	**18 15 24.2**	**+0.2**
I26A	baz=1.7			⇑S	**Sn**	**18 15 49.1**	**+1.5**
L25A	**Engebretsen Ra** baz=1.8,SNR=52	**1.83**	**147**	⇓P	**Pb**	**18 15 26.4**	**+0.3**
L25A	baz=1.8			⇓S	**Sg**	**18 15 51.0**	**+0.7**
K26A	**Motz Farm, Whi** baz=1.8,SNR=15	**1.84**	**122**	⇓P	**Pn**	**18 15 26.1**	**+1.4**
L22A	**Ellis Ranch, M** baz=1.9,SNR=9.9	**1.86**	**207**	⇓P	**Pg**	**18 15 27.4**	**0.0**
G25A	**Newell** baz=2.0,SNR=15	**2.01**	**41**	⇓P	**Pn**	**18 15 27.5**	**+0.4**
F23A	**Volborg** baz=2.0,SNR=91	**2.02**	**358**	P	**Pn**	**18 15 26.8**	**-0.4**
H26A	**Fairpoint** baz=2.0,SNR=21	**2.04**	**62**	⇓Pb	**Pn**	**18 15 29.1**	**+1.8**
G21A	**Lodge Grass** baz=2.1,SNR=42	**2.05**	**319**	⇑P	**Pn**	**18 15 27.6**	**0.0**
J20A	**Shoshoni** baz=2.1,SNR=86	**2.05**	**261**	⇓P	**Pg**	**18 15 30.5**	**-0.6**
I20A	**Worland** baz=2.1,SNR=259	**2.06**	**278**	P	**Pn**	**18 15 28.8**	**+1.0**
H20A	**Greybull** baz=2.1,SNR=38	**2.10**	**293**	⇓P	**Pn**	**18 15 28.6**	**+0.4**
F22A	**Rosebud** baz=2.2,SNR=40	**2.19**	**342**	⇑P	**Pn**	**18 15 29.1**	**-0.4**
M23A	**Laramie** baz=2.3,SNR=29	**2.25**	**188**	⇑P	**Pb**	**18 15 33.1**	**-0.2**
M24A	**Cheyenne** baz=2.3,SNR=39	**2.26**	**171**	⇑P	**Pb**	**18 15 32.7**	**-0.8**
I27A	**Quinn** baz=2.3,SNR=38	**2.38**	**80**	⇓P	**Pn**	**18 15 33.2**	**+1.2**
J27A	**Elkhorn Farm,** baz=2.4,SNR=24	**2.44**	**99**	P	**Pn**	**18 15 34.7**	**+1.8**
K27A	**Flueckinger Fa** baz=2.4,SNR=18	**2.45**	**113**	P	**Pn**	**18 15 34.9**	**+1.9**
M22A	**Cedar Creek Ra** baz=2.5,SNR=96	**2.48**	**203**	⇓P	**Pb**	**18 15 36.4**	**-1.0**
F21A	**Absaloka Mine,** baz=2.5,SNR=17	**2.49**	**329**	P	**Pn**	**18 15 33.5**	**-0.1**
H27A	**Howes** baz=2.4,SNR=8.9	**2.50**	**67**	⇑P	**Pn**	**18 15 34.5**	**+0.8**
G26A	**Maurine** baz=2.4,SNR=60	**2.51**	**50**	⇑P	**Pn**	**18 15 34.3**	**+0.5**
G20A	**Bridger** baz=2.6,SNR=204	**2.58**	**307**	⇓P	**Pn**	**18 15 34.8**	**-0.1**
F25A	**Bowman** baz=2.5,SNR=9.6	**2.59**	**30**	⇓P	**Pn**	**18 15 35.7**	**+0.8**
I19A	**Meeteetse** baz=2.7,SNR=18	**2.69**	**279**	⇑P	**Pn**	**18 15 37.9**	**+1.4**
J19A	**Crowheart** baz=2.8,SNR=16	**2.77**	**262**	⇑P	**Pn**	**18 15 38.7**	**+1.3**
E22A	**Miles City** baz=2.8	**2.78**	**351**	⇓P	**Pn**	**18 15 37.0**	**-0.6**
E23A	**Ismay** baz=2.8,SNR=6.2	**2.80**	**360**	⇑P	**Pn**	**18 15 37.4**	**-0.4**
H19A	**Powell** baz=2.8,SNR=42	**2.82**	**291**	⇓P	**Pn**	**18 15 39.2**	**+1.0**
N23A	**Red Feather La** baz=2.9,SNR=16	**2.84**	**190**	⇓P	**Pn**	**18 15 40.7**	**+2.1**
F20A	**Billings** baz=2.9,SNR=13	**2.92**	**317**	⇓P	**Pn**	**18 15 39.1**	**-0.4**
E24A	**Baker** baz=2.9,SNR=9.5	**2.95**	**13**	⇓P	**Pn**	**18 15 40.4**	**+0.5**
LAO	**LASA Array**	**3.06**	**348**	*e*Pn	**Pn**	**18 15 42.7**	**+1.3**
LAO				*e*Pg	Pg	18 15 53.9	+3.5
LAO				*e*Sn	**Sb**	**18 16 23.2**	**-1.8**
LAO				*e*Sg	**Sg**	**18 16 33.6**	**+3.5**
RLMT	**Red Lodge**	**3.18**	**298**	*e*Pn	**Pn**	**18 15 43.9**	**+0.7**
RLMT				*e*Pg	**Pg**	**18 15 55.3**	**+2.7**
RLMT				*e*Sn	**Sn**	**18 16 23.0**	**+1.1**
PDAR	**Pinedale Array** 1.7nm,0.3s,baz=76,slow=20,SNR=50	**3.25**	**255**	Pn	**Pn**	**18 15 46.0**	**+1.9**
PDAR	5.4nm,0.3s,baz=83,slow=27,SNR=4.7			Lg	Lg	18 16 27.8	
BW06	**Boulder Array**	**3.25**	**255**	*e*Pn	**Pn**	**18 15 46.5**	**+2.4**
BW06				*e*Pg	**Pg**	**18 15 54.9**	**+0.9**
BW06				*e*Sn	**Sn**	**18 16 23.6**	**0.0**
BW06				*e*Sg	**Sg**	**18 16 35.9**	**-0.1**
H18A	**Shoshone NF, C** baz=3.3,SNR=13	**3.29**	**289**	⇑P	**Pn**	**18 15 45.3**	**+0.6**
F19A	**Roth Farm, Mol** baz=3.4,SNR=8.1	**3.37**	**311**	⇓P	**Pn**	**18 15 46.2**	**+0.5**
D23A	**Lindsay** baz=3.4,SNR=18	**3.48**	**1**	⇑P	**Pn**	**18 15 47.5**	**+0.3**
N20A	**Spence Gulch,** baz=3.7,SNR=9.9	**3.61**	**219**	⇑P	**Pn**	**18 15 51.3**	**+2.2**
OGNE	**Ogallala** baz=3.7,SNR=6.4	**3.67**	**138**	⇓P	**Pn**	**18 15 50.5**	**+0.8**
OGNE	**Ogallala**	**3.67**	**138**	*e*Pn	**Pn**	**18 15 51.0**	**+1.3**
OGNE				*e*Pg	**Pg**	**18 16 02.9**	**+1.0**
OGNE				*e*Sg	**Sg**	**18 16 50.1**	**+0.6**
H17A	**Grant Village**	**3.87**	**282**	*e*Pn	**Pn**	**18 15 53.6**	**+1.0**
C24A	**Savage** baz=3.8,SNR=9.0	**3.88**	**9**	⇓P	**Pn**	**18 15 53.0**	**+0.3**
ISCO	**Idaho Springs** baz=3.9,SNR=11	**3.90**	**184**	⇑P	**Pn**	**18 15 55.3**	**+2.1**
ISCO	**Idaho Springs**	**3.90**	**184**	*e*Pn	**Pn**	**18 15 54.2**	**+1.0**
ISCO				*e*Pg	**Pg**	**18 16 04.4**	**-2.1**
ISCO				*e*Sg	**Sg**	**18 16 56.2**	**-0.9**
D20A	**Manuel Ranch,** baz=3.9,SNR=12	**3.94**	**331**	⇓P	**Pn**	**18 15 53.9**	**+0.4**
C22A	**Vida** baz=4.0,SNR=7.0	**4.07**	**354**	⇑P	**Pn**	**18 15 55.9**	**+0.7**
C23A	**Lambert** baz=4.1,SNR=10	**4.11**	**1**	⇓P	**Pn**	**18 15 56.2**	**+0.5**
O20A	**White River Ci** baz=4.2,SNR=8.6	**4.18**	**213**	⇑P	**Pn**	**18 15 59.9**	**+3.0**
O20A	**White River Ci**	**4.18**	**213**	*e*Pn	**Pn**	**18 15 59.3**	**+2.3**
O20A				*e*Pg	**Pg**	**18 16 11.1**	**-0.7**
O20A				*e*Sn	**Sn**	**18 16 46.0**	**-0.6**
D19A	**Cripps Ranch,** baz=4.3,SNR=8.1	**4.29**	**325**	⇓P	**Pn**	**18 15 58.5**	**+0.2**
AHID	**Auburn Hatcher**	**4.34**	**260**	*e*Pn	**Pn**	**18 16 01.3**	**+2.1**
AHID				*e*Sn	**Sn**	**18 16 50.0**	**-0.4**
P26A	**Davis Ranch, A** baz=4.4,SNR=15	**4.38**	**160**	⇓P	**Pn**	**18 16 01.0**	**+1.3**
P27A	**Ficken Ranch,** baz=4.6,SNR=8.9	**4.61**	**153**	P	**Pn**	**18 16 04.2**	**+1.4**
C19A	**Slack Wire Ran** baz=4.8,SNR=6.3	**4.82**	**328**	⇑P	**Pn**	**18 16 06.2**	**+0.6**
DGMT	**Dagmar**	**4.84**	**9**	*e*Pn	**Pn**	**18 16 06.6**	**+0.8**
DGMT				*e*Pg	Pg	18 16 28.6	+4.2
DGMT				*e*Sg	**Sg**	**18 17 32.2**	**+5.2**
BOZ	**Bozeman (W)**	**4.92**	**296**	*e*Pn	**Pn**	**18 16 07.0**	**0.0**
BOZ				*e*Pg	**Pg**	**18 16 28.1**	**+2.1**
BOZ				*e*Sn	**Sn**	**18 17 06.2**	**+1.5**
BOZ				*e*Sg	**Sg**	**18 17 32.6**	**+3.0**
KSCO	**Kaye Shedlock'** 27nm,0.3s	**5.09**	**156**	*e*Pn	**Pn**	**18 16 07.4**	**-2.0**
KSCO				*e*Pg	**Pg**	**18 16 29.8**	**+0.4**
KSCO				*e*Sn	**Sn**	**18 17 10.2**	**+1.1**
R27A	**Eads** baz=5.7,SNR=6.5	**5.73**	**160**	⇑P	**Pn**	**18 16 19.2**	**+1.1**
R28A	**Tribune** baz=6.0,SNR=11	**5.96**	**153**	P	**Pn**	**18 16 22.0**	**+0.6**
SRU	**San Rafael Swe** 12nm,0.3s	**6.03**	**222**	*e*Pn	**Pn**	**18 16 23.4**	**+1.0**
SRU				*e*Pg	**Pg**	**18 16 47.3**	**0.0**
SRU				*e*Sn	**Sn**	**18 17 32.2**	**0.0**
SRU				*e*Sg	**Sg**	**18 18 04.8**	**-0.7**
TMUT	**Trail Mountain** 7.9nm,0.4s	**6.24**	**227**	*e*Pn	**Pn**	**18 16 26.2**	**+0.8**
TMUT				*e*Sn	**Sn**	**18 17 36.4**	**-1.2**
TMUT				*e*Sg	**Sg**	**18 18 11.6**	**-0.7**
ECSD	**EROS Data Cent** baz=6.2,SNR=5.4	**6.29**	**87**	⇑P	**Pn**	**18 16 25.7**	**-0.1**
ECSD	**EROS Data Cent** 5.9nm,0.5s	**6.29**	**87**	*e*Pn	**Pn**	**18 16 26.2**	**+0.4**
CHMT	**Chamberlain Mo** 2.3nm,0.4s	**6.46**	**303**	*e*Pn	**Pn**	**18 16 29.3**	**+1.0**
CHMT				*e*Sg	**Sg**	**18 18 21.8**	**+2.5**
YBMT	**Yellow Bay** 5.1nm,0.3s	**7.38**	**307**	*e*Pn	**Pn**	**18 16 41.7**	**+1.0**
YBMT				*e*Sn	**Sn**	**18 18 07.2**	**+2.0**
ELK	**Elko** 0.1nm,0.3s,baz=90,slow=20,SNR=2.1	**7.94**	**252**	Pn	**Pn**	**18 16 46.2**	**-2.5**
ELK	comp=Z,103nm,20.0s,baz=178,slow=38			LR	LR	18 19 50.8	
ULM	**Lac du Bonnet** 0.5nm,0.3s,baz=229,slow=10.0,SNR=6.7	**9.19**	**41**	Pn	Pn	18 17 02.1	-3.3
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=166,slow=10,SNR=3.1	**19.60**	**347**	P	**P**	**18 19 18.3**	**-2.9**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=7.1,slow=4.9,SNR=4.5	**89.64**	**355**	P	**P**	**18 27 49.5**	**-1.7**

GUC 04 18:27:53.4±0.5,**37˚.10S**×**73˚.28W,h20**km±2km,**ML3.8, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.29**	**28**	*e*P	Pb	18 28 00.1	+0.3
CCSP				*e*S	Sg	18 28 04.7	+0.4
CCSP	comp=E,18μm,0.1s			AML	AML	18 28 05.7	
AGCH	**Angol**	**0.84**	**147**	*e*P	Pb	18 28 08.6	-0.8
AGCH				*e*S	Sb	18 28 19.9	-0.4
COCH	**Cobquecura**	**1.04**	**22**	*e*P	Pb	18 28 11.3	-1.5
COCH				*e*S	Sb	18 28 25.4	-0.6
LNCH	**Linares**	**1.84**	**48**	*e*P	Pb	18 28 25.6	-0.7
LNCH				*e*S	Sb	18 28 49.1	+0.2
LNCH	comp=N,2μm,0.5s			AML	AML	18 28 53.3	
TALC	**Talca**	**2.16**	**38**	*e*P	Pn	18 28 29.1	+0.8
TALC				*e*S	Sb	18 28 56.7	-1.4

IDC 04 18:43:37.2±1.2,**0˚.11N**×**121˚.48E,h0**km,**mb3.3**/4, **mb1 3.5**/4,**mb1mx3.3**/34,**mbtmp3.3**/4,**Error ellipse: s-maj=257.9km s-min=21.8km az=62.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=323,slow=11,SNR=8.9	**23.58**	**148**	P	P	18 48 49.5	-0.3
ASAR	**Alice Springs** 0.3nm,1.1s,baz=343,slow=14,SNR=4.1	**26.54**	**154**	P	P	18 49 17.2	+0.4
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=123,slow=5.3,SNR=5.6	**57.73**	**329**	P	P	18 53 29.6	-0.4
ZALV	**Zalesovo Beam** 0.6nm,0.8s,baz=143,slow=8.4,SNR=2.8	**61.59**	**336**	P	P	18 53 56.5	+0.1

*NIED **04** 18:45:00,45˚.60N×151˚.70E,h35km,Mw4.4 Best double couple: M0 5.01000×10^15 NP1:φ8 156.00000°,δ22.00000°, λ5.00000°. NP2:φ8 61.00000°,δ88.00000°,λ112.00000°.*
*JMA **04** 18:45:23.8±0.6,45˚.61N×151˚.67E,h30km,M4.7*
*ISCJB **04** 18:45:24.2±0.4,45˚.21N±0˚.05×151˚.62E±0˚.05,h32km, mb4.0/29,MS3.8/16,Error ellipse: s-maj=8.4km s-min=3.4km az=150.0*

*SKHL **04** 18:45:24.1±1.4, 45˚.34N×151˚.87E, h45km±4km, mb5.0/4*
*BJI **04** 18:45:24.2, 45˚.70N×152˚.12E, h41km, mB4.6/5, mb4.3/16, Ms4.0/5, Ms7 3.9/5*
*MOS **04** 18:45:25.7±1.7, 45˚.36N×151˚.63E, h46km, mb4.3/16, Error ellipse: s-maj=8.6km s-min=6.7km az=105.0*
*IDC **04** 18:45:27.2±2.2, 45˚.34N×151˚.59E, h46km±20km, mb3.6/22, mb1 3.8/28, mb1mx3.8/33, mbtmp3.9/28, ML3.4/6, MS3.6/19, Ms1 3.6/19, ms1mx3.4/36, Error ellipse: s-maj=18.0km s-min=12.5km az=142.0*

ISC 04 18:45:25.7±0.5, 45˚.27N±0˚.07×151˚.62E±0˚.06, h32km, n142, σ1§56/147, mb4.0/29, MS3.8/16, 11C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.65**	**271**	*e*	P	**Pn**		**18 46 06.5**	**+0.3**
KUR				*i*	S	**Sn**		**18 46 38.4**	**+1.1**
KUR					pmax	pmax			
	comp=Z,300nm,0.5s								
KUR					pmax	pmax			
	comp=N,96nm,0.3s								
KUR					pmax	pmax			
	comp=E,125nm,0.3s								
KUR					smax	smax			
	comp=N,1μm,0.5s								
KUR					smax	smax			
	comp=E,285nm,0.3s								
KUR	**Kuril'sk**	**2.65**	**271**	*e*	P	**Pn**		**18 46 06.5**	**+0.3**
KUR					AMB	AMB		18 46 11.8	
	comp=E,300nm,0.5s								
KUR				*e*	S	**Sn**		**18 46 38.4**	**+1.1**
KUR					A	A		18 46 43.8	
	comp=E,1μm,0.5s								
KUR					A	A		18 46 43.8	
	comp=E,285nm,0.5s								
SHO	**Shikotan**	**3.70**	**250**	*e*	P	**Pn**		**18 46 21.4**	**+0.8**
SHO				*e*	S	**Sn**		**18 47 05.1**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**4.29**	**255**	*d*	PN	**Pn**		**18 46 30.3**	**+1.5**
YUK				*i*	S	**Sn**		**18 47 20.5**	**+2.8**
YUK					pmax	pmax			
	comp=N,124nm,0.4s								
YUK					pmax	pmax			
	comp=E,136nm,0.4s								
YUK					pmax	pmax			
	comp=Z,220nm,0.4s								
YUK					smax	smax			
	comp=N,334nm,0.8s								
YUK					smax	smax			
	comp=E,683nm,0.8s								
YUK					MLR	MLR			
	comp=Z,737nm,4.0s								
YUK	**Yuzh-Kuril'sk**	**4.29**	**255**	*e*	P	**Pn**		**18 46 30.3**	**+1.5**
YUK					AMB	AMB		18 46 39.1	
	comp=Z,220nm,0.4s								
YUK				*e*	S	**Sn**		**18 47 20.5**	**+2.8**
YUK					A	A		18 47 28.5	
	comp=Z,334nm,0.8s								
YUK					A	A		18 47 28.5	
	comp=Z,680nm,0.8s								
YUK					AMS	AMS		18 49 40.8	
	comp=Z,740nm,4.0s								
NEM2	**Nemuro 2**	**4.63**	**248**		P	**Pn**		**18 46 33.4**	**0.0**
NEM2				*e*	S	**Sn**		**18 47 24.5**	**-1.5**
JRA	**Rausu**	**4.83**	**256**		P	**Pn**		**18 46 38.2**	**+2.1**
JNK	**Nakash**	**5.22**	**254**		P	**Pn**		**18 46 42.6**	**+1.0**
JNK				*e*	S	**Sn**		**18 47 40.3**	**-0.4**
JAK	**Akkeshi**	**5.48**	**248**		P	**Pn**		**18 46 44.8**	**-0.3**
JAK				*e*	S	**Sn**		**18 47 44.5**	**-2.4**
JTKR	**Abashiri--Toko**	**5.66**	**259**		P	**Pn**		**18 46 49.5**	**+2.0**
JAR	**Ashorobuto**	**5.97**	**254**		P	**Pn**		**18 46 53.5**	**+1.6**
JAR				*e*	S	**Sn**		**18 47 58.6**	**-0.5**
JMP	**Maruseppu**	**6.03**	**261**		P	**Pn**		**18 46 55.0**	**+2.3**
JOB	**Onbets**	**6.09**	**250**		P	**Pn**		**18 46 54.1**	**+0.7**
JOB				*e*	S	**Sn**		**18 48 00.7**	**-1.2**
SKR	**Severo-Kuril's**	**6.20**	**27**	*e*	PN	Pn		18 46 51.0	-4.0
SKR					pmax	pmax			
	comp=E,70nm,0.8s								
SKR					pmax	pmax			
	comp=Z,120nm,0.8s								
SKR	**Severo-Kuril's**	**6.20**	**27**	*e*	P	Pn		18 46 51.7	-3.3
SKR					AMB	AMB		18 46 55.9	
	comp=Z,141nm,1.4s								
SKR				*e*	S	Sn		18 47 57.9	-6.8
SKR					A	A		18 48 18.4	
	comp=Z,160nm,1.2s								
YSS	**Yuzh-Sakhalins**	**6.39**	**288⇑**	*e*	PN	Pn		18 47 03.0	+5.4
YSS					pmax	pmax			
	comp=Z,30nm,0.8s								
YSS					MLR	MLR			
	comp=E,600nm,15.0s								
YSS					MLR	MLR			
	comp=Z,1μm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.39**	**288**	*e*	P	**Pn**		**18 47 00.0**	**+2.4**
YSS					AMB	AMB		18 47 13.6	
	comp=Z,70nm,0.8s								
YSS				*e*	S	**Sn**		**18 48 10.1**	**+0.7**
YSS					A	A		18 48 24.4	
	comp=Z,381nm,1.0s								
JKK2	**Kamakawa 2**	**6.49**	**261**		P	**Pn**		**18 47 01.5**	**+2.5**
JCH	**Churui**	**6.53**	**249**		eS	**Sn**		**18 48 10.9**	**-1.9**
ASAJ	**Asahikawa**	**6.54**	**263**		P	**Pn**		**18 47 01.5**	**+1.9**
	comp=Z,1.7nm,0.3s,baz=91,slow=6.2,SNR=22								
ASAJ					LR	LR		18 49 47.9	
	comp=Z,565nm,18.6s,baz=315,slow=40								
ERM	**Erimo**	**6.95**	**245**	*e*	PN	**Pn**		**18 47 07.6**	**+2.4**
ERM					pmax	pmax			
	comp=Z,230nm,1.7s								
ERM	**Erimo**	**6.95**	**245**	*e*	P	**Pn**		**18 47 07.7**	**+2.5**
JNBK	**Urakawa-nobuka**	**7.08**	**248**		P	**Pn**		**18 47 07.0**	**-0.1**
JNBK				*e*	S	**Sn**		**18 48 23.1**	**-3.3**
JBT2	**Biratori 2**	**7.12**	**253**		P	**Pn**		**18 47 08.3**	**+0.6**
UGL	**Uglegorsk**	**7.55**	**304**		PN	**Pn**		**18 47 13.0**	**-0.4**
JNB	**Noboribetsu**	**8.14**	**254**		P	**Pn**		**18 47 23.5**	**+1.9**
JNB				*e*	S	**Sn**		**18 48 50.3**	**-2.2**
JKB	**Kayabe**	**8.40**	**250**		P	**Pn**		**18 47 24.9**	**-0.2**
JKB				*e*	S	**Sn**		**18 48 53.4**	**-5.3**
JYM2	**Yakumo 2**	**8.74**	**253**		P	**Pn**		**18 47 31.0**	**+1.2**
PETK	**Petropavlovsk-**	**8.80**	**25**		P	**Pn**		**18 47 29.0**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=182,slow=14,SNR=13								
PETK					LR	LR		18 50 43.4	
	comp=Z,200nm,20.4s,baz=215,slow=36								
JANG	**Nango**	**8.89**	**240**		P	**Pn**		**18 47 30.0**	**-1.9**
JTM	**Tenmabayashi**	**8.93**	**244**		eS	Sn		18 49 05.9	-6.0
OFUJ	**Ofunato**	**9.63**	**234**		P	**Pn**		**18 47 40.4**	**-1.6**
JIO	**Ouri**	**10.24**	**232**		P	**Pn**		**18 47 48.8**	**-1.6**
JIO				*e*	S	Sn		18 49 36.2	-7.9
HABR	**Khabarovsk**	**11.79**	**292**		PN	**Pn**		**18 48 11.0**	**-0.5**
HABR					pmax	pmax			
	comp=Z,54nm,2.3s								
HABR					MLR	MLR			
	comp=Z,378nm,19.0s								
MJAR	**Matsushiro Arr**	**13.36**	**234**		P	**Pn**		**18 48 34.9**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=6.1								
MJAR					LR	LR		18 54 07.8	
	comp=Z,46nm,21.9s,baz=80,slow=39								
USRK	**Ussuriysk Ar.**	**14.00**	**273**		P	**Pn**		**18 48 43.0**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=86,slow=13,SNR=9.6								
USRK					LR	LR		18 54 08.6	
	comp=Z,255nm,19.4s,baz=49,slow=37								
KLR	**Kul'dur**	**14.06**	**293**	*e*	P	**Pn**		**18 48 44.2**	**+1.6**
SEY	**Seymchan**	**17.71**	**1**		P	**P**		**18 49 30.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=161,slow=8.4,SNR=4.6								
KSRS	**Korea Array**	**19.38**	**255**	*e*	P	**Pn**		**18 49 51.4**	**+1.4**
KSRS	**Korea Array**	**19.38**	**255**		P	**Pn**		**18 49 50.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=63,slow=10.0,SNR=8.4								
KSRS					LR	LR		18 57 39.0	
	comp=Z,59nm,18.0s,baz=61,slow=38								
KSRS	**Korea Array**	**19.38**	**255**	*e*	P	**Pn**		**18 49 51.4**	**+1.4**
YAK	**Yakutsk**	**21.06**	**331**	*e*	P	**P**		**18 50 06.1**	**-0.7**
YAK				*e*				18 50 24.3	
YAK				*e*	S	**S**		**18 53 56.7**	**-2.5**
YAK				*e*	SS	**SnSn**		**18 54 16.3**	**-5.0**
YAK					pmax	pmax			
	comp=Z,29nm,1.0s								
YAK					pmax	pmax			
	comp=N,9.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,7.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,11nm,1.1s								
YAK					pmax	pmax			
	comp=N,8.0nm,1.0s								
YAK					pmax	pmax			
	comp=E,13nm,1.3s								
YAK					smax	smax			
	comp=E,43nm,2.0s								
YAK					smax	smax			
	comp=N,48nm,2.1s								
YAK					MLR	MLR			
	comp=Z,122nm,19.0s								
YAK					MLR	MLR			
	comp=N,154nm,17.0s								
YAK	**Yakutsk**	**21.06**	**331**		P	**P**		**18 50 05.4**	**-1.4**
	comp=N,3.0nm,0.4s,baz=282,slow=1.4,SNR=6.2								
YAK	**Yakutsk**	**21.06**	**331**	*e*	P	**P**		**18 50 06.7**	**-0.1**
BILL	**Bilibino**	**24.07**	**13**	*e*	P	**P**		**18 50 38.5**	**+0.7**
BILL					pmax	pmax			
	comp=Z,1.0nm,0.4s								
BILL	**Bilibino**	**24.07**	**13**	*e*	P	**P**		**18 50 38.5**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**28.43**	**149**		T	T		19 21 50.2	
	baz=337,slow=76,SNR=3.7								
H11N1	**WAKE ISLAND Hy**	**28.45**	**149**		T	T		19 21 50.2	
	baz=337,slow=76,SNR=93								
H11N3	**WAKE ISLAND Hy**	**28.45**	**149**		T	T		19 21 50.2	
	baz=337,slow=76,SNR=104								
H11S1	**WAKE ISLAND Hy**	**29.49**	**150**		T	T		19 23 12.9	
	baz=338,slow=76,SNR=136								
H11S3	**WAKE ISLAND Hy**	**29.50**	**150**		T	T		19 23 12.9	
	baz=338,slow=76,SNR=97								
H11S2	**WAKE ISLAND Hy**	**29.51**	**150**		T	T		19 23 12.9	
	baz=338,slow=76,SNR=96								
SONM	**Songino Array**	**30.88**	**291**		P	**P**		**18 51 37.2**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=76,slow=8.4,SNR=6.4								
SONM					LR	LR		19 04 58.7	
	comp=Z,139nm,19.1s,baz=78,slow=38								
WHN	**Wuhan**	**32.56**	**256**		P	P		18 51 59.7	+5.8
KDAK	**Kodiak Island**	**35.85**	**49**	*ce*	P	**P**		**18 52 22.6**	**+0.5**
KDAK	**Kodiak Island**	**35.85**	**49**	*e*	P	**P**		**18 52 22.6**	**+0.5**
GTA	**Gaotai**	**38.19**	**280**	*e*	P	**P**		**18 52 43.7**	**+1.3**
GTA					PMZ				
	comp=Z,4.0nm,1.3s								
ILAR	**Eielson Array**	**38.36**	**37**		P	**P**		**18 52 42.6**	**-0.7**
ILAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
ILAR	**Eielson Array**	**38.36**	**37**		P	**P**		**18 52 42.6**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=275,slow=7.0,SNR=5.8								
ILAR	**Eielson Array**	**38.36**	**37**	*e*	P	**P**		**18 52 45.5**	**+2.2**
ZALV	**Zalesovo Beam**	**42.65**	**307**		P	**P**		**18 53 18.7**	**-0.2**
ZALV								18 55 11.7	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ZALV					MLR	MLR			
	comp=Z,139nm,20.0s								
ZALV	**Zalesovo Beam**	**42.65**	**307**		P	**P**		**18 53 18.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=64,slow=6.6,SNR=2.6								
ZALV					PcP	**PcP**		**18 55 11.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=81,slow=4.8,SNR=2.9								
ZALV					LR	LR		19 12 02.5	
	comp=Z,139nm,20.0s,baz=70,slow=38								
INK	**Inuvik**	**43.46**	**31**		P	**P**		**18 53 25.0**	**-0.2**
INK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**43.46**	**31**		P	**P**		**18 53 25.0**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=278,slow=7.7,SNR=4.8								
MKAR	**Makanchi Array**	**46.71**	**298**		P	**P**		**18 53 50.5**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=72,slow=7.7,SNR=19								
MKAR					PcP	**PcP**		**18 55 24.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=82,slow=2.3,SNR=2.1								
MKAR					LR	LR		19 14 29.8	
	comp=Z,175nm,18.8s,baz=72,slow=37								
MKAR	**Makanchi Array**	**46.71**	**298**	*e*	P	**P**		**18 53 51.3**	**-0.1**
KURK	**Kurchatov**	**47.33**	**304**	*e*	P	**P**		**18 53 59.2**	**+3.1**
KURK					pmax	pmax			
	comp=Z,2.0nm,1.3s								
KURK	**Kurchatov**	**47.33**	**304**	*e*	P	**P**		**18 53 59.2**	**+3.1**
BVAR	**Borovoye Array**	**51.01**	**310**		LR	LR		19 17 41.1	
	comp=Z,167nm,18.0s,baz=48,slow=38								
CMAR	**Chiang Mai Arr**	**51.01**	**256**		P	**P**		**18 54 25.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=39,slow=10,SNR=3.8								
CMAR					LR	LR		19 17 51.7	
	comp=Z,34nm,18.2s,baz=70,slow=38								
RES	**Resolute Bay**	**52.57**	**18**		P	**P**		**18 54 35.6**	**0.0**
RES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
RES	**Resolute Bay**	**52.57**	**18**		P	**P**		**18 54 35.6**	**0.0**
	comp=Z,1.6nm,0.8s,baz=0.0,slow=11,SNR=9.7								
YKA	**Yellowknife Ar**	**52.73**	**36**		P	**P**		**18 54 37.2**	**+0.3**
YKA					pmax	pmax			
	comp=Z,1.0nm,1.0s								
YKA	**Yellowknife Ar**	**52.73**	**36**		P	**P**		**18 54 37.2**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=298,slow=7.3,SNR=9.2								
AAK	**Ala-Archa**	**53.57**	**297**	*e*	P	**P**		**18 54 44.8**	**+1.2**
AAK					pmax	pmax			
	comp=Z,2.0nm,0.7s								
AAK	**Ala-Archa**	**53.57**	**297**	*e*	P	**P**		**18 54 44.8**	**+1.2**
ARU	**Arti**	**55.41**	**318**		P	**P**		**18 54 54.6**	**-1.9**
KEV	**Kevo**	**58.39**	**340**	*e*	P	**P**		**18 55 14.4**	**-3.1**
KEV	**Kevo**	**58.39**	**340**	*ep*	P	**P**		**18 55 14.4**	**-3.1**
	comp=Z,488nm,2.9s								
ARCES	**ARCESS Array B**	**58.91**	**341**	*e*	P	P		18 55 24.5	+3.4
ARCES					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.91**	**341**		P	**P**		**18 55 19.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=87,slow=5.0,SNR=6.5								
ARCES					LR	LR		19 24 11.4	
	comp=Z,28nm,18.2s,baz=50,slow=40								
JOF	**Joensuu**	**62.20**	**333**	*e*	P	**P**		**18 55 43.3**	**-0.3**
JOF	**Joensuu**	**62.20**	**333**	*ep*	P	**P**		**18 55 43.3**	**-0.3**
NVAR	**Mina Array Bea**	**64.05**	**61**		P	**P**		**18 55 57.0**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=299,slow=6.6,SNR=3.6								
FINES	**FINESS Array B**	**64.94**	**334**	*e*	P	**P**		**18 56 00.4**	**-1.3**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.4s								
FINES	**FINESS Array B**	**64.94**	**334**		P	**P**		**18 56 00.1**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=34,slow=7.2,SNR=41								
OBN	**Obninsk**	**65.94**	**325**	*e*	P	P		18 56 11.7	+3.5
OBN					pmax	pmax			
	comp=Z,3.0nm,0.9s								
OBN	**Obninsk**	**65.94**	**325**	*e*	P	P		18 56 11.8	+3.5
PDAR	**Pinedale Array**	**66.47**	**53**		P	**P**		**18 56 12.2**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=297,slow=6.5,SNR=3.8								
GEYT	**Alibeck**	**66.47**	**301**		P	**P**		**18 56 12.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=37,slow=3.7,SNR=6.9								
GEYT					LR	LR		19 28 22.0	
	comp=Z,52nm,19.2s,baz=110,slow=39								
WRA	**Warramunga Arr**	**66.78**	**198**		P	**P**		**18 56 12.3**	**-1.7**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**66.78**	**198**		P	**P**		**18 56 12.2**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=96,slow=6.3,SNR=6.7								
NB2	**NORSAR Subarra**	**69.29**	**341**		P	**P**		**18 56 28.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**69.29**	**341**	*e*	P	**P**		**18 56 28.4**	**-1.0**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**69.29**	**341**		P	**P**		**18 56 28.0**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=27,slow=6.3,SNR=12								
NOA					LR	LR		19 31 18.2	
	comp=Z,23nm,18.1s,baz=30,slow=40								
NOA	**NORSAR Array B**	**69.29**	**341**	*e*	P	**P**		**18 56 28.5**	**-0.8**
ASAR	**Alice Springs**	**70.48**	**197**		P	**P**		**18 56 37.5**	**+0.5**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
ASAR					MLR	MLR			
	comp=Z,20nm,20.9s								
ASAR	**Alice Springs**	**70.48**	**197**		P	**P**		**18 56 37.5**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=19,slow=4.5,SNR=6.8								
ASAR					LR	LR		19 26 59.7	
	comp=Z,20nm,20.9s,baz=68,slow=35								
ASAR	**Alice Springs**	**70.48**	**197**	*e*	P	**P**		**18 56 38.9**	**+1.9**
KIV	**Kislovodsk**	**71.08**	**314**	*e*	P	**P**		**18 56 42.0**	**+1.3**
KIV					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,109nm,18.0s								
KIV	**Kislovodsk**	**71.08**	**314**	*e*	P	**P**		**18 56 42.1**	**+1.3**
KBZ	**Khabaz**	**71.14**	**313**		P	**P**		**18 56 41.0**	**+0.1**
KBZ					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KBZ					MLR	MLR			
	comp=Z,158nm,19.1s								
KBZ	**Khabaz**	**71.14**	**313**		P	**P**		**18 56 41.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=47,slow=5.2,SNR=12								
KBZ					LR	LR		19 32 21.1	
	comp=Z,158nm,19.1s,baz=35,slow=40								
ZEI	**Tsey**	**71.28**	**312**	*e*	P	**P**		**18 56 41.2**	**-0.9**
ZEI					pmax	pmax			
	comp=Z,4.0nm,1.3s								
AKASG	**Malin Array Be**	**72.19**	**326**	*e*	P	**P**		**18 56 46.1**	**-1.0**
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**72.19**	**326**		P	**P**		**18 56 45.5**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=36,slow=5.8,SNR=4.3								
AKASG					LR	LR		19 31 07.3	
	comp=Z,87nm,18.3s,baz=40,slow=38								
SCHQ	**Schefferville**	**75.08**	**22**		LR	LR		19 33 04.4	
	comp=Z,34nm,20.2s,baz=88,slow=38								
BURAR	**Bucovina Array**	**76.24**	**326**		P	**P**		**18 57 10.5**	**-0.5**
BURAR	**Bucovina Array**	**76.24**	**326**		P	**P**		**18 57 10.5**	**-0.5**
TESR	**Tescani**	**76.56**	**324**		P	**P**		**18 57 12.5**	**-0.1**
TRPA	**Tarpa**	**76.86**	**328**		P	**P**		**18 57 15.3**	**+1.1**
CFR	**Carcaliu**	**77.00**	**323**		P	**P**		**18 57 15.5**	**+0.4**
CFR	**Carcaliu**	**77.00**	**323**		P	**P**		**18 57 15.5**	**+0.4**
VRI	**Vrincioaia**	**77.04**	**324**		P	**P**		**18 57 18.3**	**+2.9**
VRI	**Vrincioaia**	**77.04**	**324**		P	**P**		**18 57 18.3**	**+2.9**
UPC	**Upice**	**77.14**	**333**	*e*	P	**P**		**18 57 16.6**	**+0.8**
UPC	**Upice**	**77.14**	**333**	*e*	P	**P**		**18 57 16.6**	**+0.8**
DPC	**Dobruska-Polom**	**77.17**	**332**	*e*	P	P		18 57 19.7	+3.6
DPC				*e*				18 57 28.5	
DPC	**Dobruska-Polom**	**77.17**	**332**	*e*	P	P		18 57 19.7	+3.6
DPC				*ep*	P	**PcP**		**18 57 28.5**	**+1.8**
MORC	**Moravsky Berou**	**77.26**	**331**		P	**P**		**18 57 17.4**	**+0.8**
MORC	**Moravsky Berou**	**77.26**	**331**		P	**P**		**18 57 17.4**	**+0.8**
CLL	**Collm**	**77.38**	**335**	*e*	P	**P**		**18 57 17.0**	**-0.1**
CLL				*e*	PP	**PcP**		**18 57 29.0**	**+1.5**
CLL	**Collm**	**77.38**	**335**	*e*	P	**P**		**18 57 17.0**	**-0.1**
CLL				*ep*	P	**PcP**		**18 57 29.0**	**+1.5**
MLR	**Muntele Rosu**	**77.67**	**324**		P	**P**		**18 57 20.2**	**+1.2**
MLR	**Muntele Rosu**	**77.67**	**324**		P	**P**		**18 57 20.3**	**+1.2**
	baz=81,slow=8.3								
ISR	**Istrita**	**77.72**	**324**		P	**P**		**18 57 20.9**	**+1.6**
ISR	**Istrita**	**77.72**	**324**		P	**P**		**18 57 20.9**	**+1.6**
VOIR		**78.08**	**325**		P	**P**		**18 57 22.4**	**+1.1**
VOIR		**78.08**	**325**		P	**P**		**18 57 22.4**	**+1.1**
ARR	**Arges**	**78.31**	**325**		P	**P**		**18 57 24.3**	**+1.8**
BRTR	**Keskin Array B**	**78.75**	**316**		P	**P**		**18 57 25.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=4.0								
BRTR					LR	LR		19 37 16.4	
	comp=Z,53nm,18.8s,baz=76,slow=40								
KHC	**Kasperske Hory**	**79.11**	**333**	*e*	P	**P**		**18 57 26.5**	**-0.3**
KHC				*e*				18 57 33.2	
KHC				*e*				18 57 40.0	
KHC	**Kasperske Hory**	**79.11**	**333**	*e*	P	**P**		**18 57 26.5**	**-0.3**
KHC				*e*	PCP	**PcP**		**18 57 33.2**	**-2.0**
KHC				*ep*	P	**pP**		**18 57 40.0**	**+3.1**
KHC	**Kasperske Hory**	**79.11**	**333**	*e*	P	**P**		**18 57 28.8**	**+2.0**
TXAR	**Lajitas Array**	**79.13**	**59**		P	**P**		**18 57 26.5**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=300,slow=3.1,SNR=4.6								
TXAR	**Lajitas Array**	**79.13**	**59**	*e*	P	**P**		**18 57 28.9**	**+1.5**
GERES	**GERESS Array B**	**79.32**	**333**		P	**P**		**18 57 26.5**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=37,slow=6.5,SNR=11								
GERES					LR	LR		19 36 28.9	
	comp=Z,51nm,18.3s,baz=348,slow=39								
GERES	**GERESS Array B**	**79.32**	**333**	*e*	P	**P**		**18 57 27.9**	**-0.2**
VTS	**Vitosha**	**81.18**	**324**		P	**P**		**18 57 38.4**	**+0.2**
VTS	**Vitosha**	**81.18**	**324**		P	**P**		**18 57 38.4**	**+0.2**
MMB	**Musomiste**	**81.79**	**323**		P	**P**		**18 57 42.5**	**+1.2**
MMB	**Musomiste**	**81.79**	**323**		P	**P**		**18 57 42.5**	**+1.2**

*IDC **04** 18:47:23.8±2.8, 19˚.69S×176˚.02W, h266km±26km, mb3.7/15, mb1 3.9/16, mb1mx3.7/23, mbtmp4.3/16, Error ellipse: s-maj=19.2km s-min=12.5km az=146.0*

ISC 04 18:47:19.8±0.7, 19˚.9S±0˚.1×176˚.1W±0˚.1, h219km, n59, σ1§78/49, mb4.0/15, 12C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.85**	**83**		P	Pn		18 48 38.2	-7.2
	baz=4.9,SNR=19								
NIUE					S	S		18 49 37.5	-16
	baz=4.9,SNR=7.6								
DZM	**Mont Dzumac**	**16.48**	**259**		P	**Pn**		**18 51 01.7**	**+2.6**
	2.1nm,0.3s,baz=77,slow=18,SNR=65								
MXZ	**Matakaoa Point**	**18.31**	**194**		P*	**P**		**18 51 18.2**	**+0.6**
HAZ	**Te Kaha**	**18.62**	**195**		P*	**P**		**18 51 21.3**	**+0.4**
PUZ	**Puketiti**	**18.81**	**194**	*e*	PN	**Pn**		**18 51 25.4**	**-0.9**
TWGZ	**Tauwhareparae**	**18.97**	**195**	*e

WTTA	**Wattenberg** 3.9nm,0.5s	**151.95**	**349**	⇑*i*PKPbc	**PKPbc**	**19 06 47.8**	**-1.2**
DAVOX	**Davos/Dischmat** 1.5nm,0.3s,baz=302,slow=1.2,SNR=7.8	**152.71**	**351**	PKPbc	**PKPbc**	**19 06 49.0**	**-1.8**

*ISCJB **04** 18:49:13.8±1.0,27°.95S±0°.04×71°.3W±0°.1, h38km, mb4.1/3, MS2.7/1, Error ellipse: s-maj=14.2km s-min=5.6km az=10.4*
*IDC **04** 18:49:16.4±0.9,27°.93S×71°.18W, h43km±6km, mb3.9/3, mb1 3.7/6, mb1mx3.5/33, mbtmp3.9/6, ML3.4/3, MS2.5/3, Ms1 2.6/3, ms1mx2.5/23, Error ellipse: s-maj=33.5km s-min=14.0km az=69.0*
*GUC **04** 18:49:18.1±0.3,28°.18S×70°.54W, h45km±1km, ML3.2*
ISC 04 18:49:15.8±0.9,27°.98S±0°.05×71°.2W±0°.1, h38km, n15, σ1§32/22, mb4.1/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.70**	**148**	*e*P	**Pn**	**18 49 28.6**	**-0.7**
VACH				*e*S	**Sn**	**18 49 36.2**	**-2.7**
CPCH	**Copiapo**	**0.96**	**50**	*e*P	**Pn**	**18 49 33.9**	**+1.1**
CPCH				*e*S	**Sn**	**18 49 46.2**	**+0.8**
LSCH	**La Serena**	**1.92**	**182**	*e*P	**Pn**	**18 49 47.8**	**+1.8**
LSCH				*e*S	**Sn**	**18 50 10.1**	**+1.3**
LSCH				AML	AML	18 50 17.2	
	comp=E,360nm,0.4s						
CMCH	**Combarbala**	**3.18**	**177**	*e*P	**Pn**	**18 50 04.0**	**+0.6**
CMCH				*e*S	**Sn**	**18 50 39.2**	**-1.0**
CFAA	**Coronel Fontan**	**4.43**	**145**	P	**Pn**	**18 50 22.0**	**+1.5**
	comp=E,3.5nm,0.3s,baz=335,slow=8.1,SNR=118						
CFAA				S	**Sn**	**18 51 13.2**	**+2.4**
	comp=E,2.3nm,0.3s,baz=220,slow=22,SNR=13						
CFAA				LR	LR	18 52 04.6	
	comp=E,15nm,20.8s,baz=304,slow=38						
LPAZ	**La Paz**	**11.98**	**14**	P	**Pn**	**18 52 02.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=208,slow=8.4,SNR=2.5						
LPAZ				LR	LR	18 56 33.3	
	comp=E,49nm,21.7s,baz=199,slow=37						
SIV	**San Ignacio**	**15.17**	**40**	P	**Pn**	**18 52 47.2**	**-0.2**
	comp=E,0.2nm,0.3s,baz=250,slow=7.9,SNR=2.5						
ATAH	**Atahualpa**	**21.83**	**340**	LR	LR	19 00 52.2	
	comp=E,32nm,19.9s,baz=350,slow=32						
SNAA	**Sanae**	**56.91**	**159**	P	**P**	**18 58 55.8**	**-0.8**
	comp=E,1.5nm,1.1s,baz=208,slow=4.5,SNR=7.7						
DBIC	**Dimbokro**	**72.61**	**72**	P	**P**	**19 00 39.6**	**-0.2**
	comp=E,1.9nm,0.5s,baz=196,slow=6.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**81.48**	**70**	P	**P**	**19 01 29.8**	**+0.2**
	comp=E,1.4nm,0.6s,baz=271,slow=5.1,SNR=17						
TORD				pP	**pP**	**19 01 41.9**	**+0.6**
	comp=E,1.4nm,0.8s,baz=250,slow=4.7,SNR=6.5						
ASAR	**Alice Springs**	**123.23**	**208**	PKP	**PKPdf**	**19 08 08.8**	**-0.4**
	comp=E,0.8nm,1.3s,baz=118,slow=1.4,SNR=3.3						
WRA	**Warramunga Arr**	**126.34**	**210**	PKP	**PKPdf**	**19 08 15.2**	**0.0**
	comp=E,0.3nm,0.8s,baz=154,slow=1.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**148.66**	**28**	PKPbc	**PKPbc**	**19 08 59.5**	**+1.0**
	comp=E,0.9nm,0.6s,baz=298,slow=3.1,SNR=4.4						
ZALV				pPKPbc	**pPKPbc**	**19 09 12.0**	**+1.4**
	comp=E,2.7nm,0.7s,baz=306,slow=3.4,SNR=7.3						
MKAR	**Makanchi Array**	**151.98**	**41**	PKPbc	**PKPbc**	**19 09 05.7**	**-1.1**
	comp=E,0.3nm,0.4s,baz=270,slow=4.3,SNR=8.8						
MKAR				pPKPbc	**pPKPbc**	**19 09 19.5**	**+0.5**
	comp=E,1.2nm,0.7s,baz=342,slow=1.3,SNR=10						

WEL 04 18:50:58.1±0.3, 39°.23S×174°.72E, h213km±2km, ML4.3/20, 31C-11D, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.11**	**14**	PN	Pn	18 51 25.0	-0.8
LREZ	**Lake Rotokare**	**0.34**	**227**	PN	Pn	18 51 26.2	0.0
MHEZ	**Mangahewa**	**0.35**	**296**	⇑PN	Pn	18 51 26.1	-0.1
DREZ	**Durham Road**	**0.41**	**276**	PN	Pn	18 51 26.1	-0.3
DREZ				SN	S	18 51 49.1	+0.7
PREZ	**Palmer Road**	**0.45**	**256**	PN	Pn	18 51 26.4	-0.1
PKVZ	**Pokaka**	**0.49**	**97**	⇑PN	Pn	18 51 26.4	-0.2
PKVZ				SN	S	18 51 48.0	-1.0
PKVZ				SN		18 51 48.2	
NEZ	**North Egmont**	**0.49**	**265**	⇓PN	Pn	18 51 26.7	0.0
WAZ	**Wanganui**	**0.56**	**159**	⇑PN	Pn	18 51 27.3	+0.4
PKE	**Pukeiti**	**0.57**	**273**	PN	Pn	18 51 26.6	-0.4
TWVZ	**Taurewa**	**0.58**	**74**	⇑PN	Pn	18 51 26.5	-0.6
TWVZ				SN	S	18 51 48.2	-1.4
MTVZ	**Mangateitei**	**0.60**	**105**	PN	Pn	18 51 27.0	-0.1
MTVZ				SN	S	18 51 48.9	-0.8
COVZ	**Chateau Observ**	**0.64**	**87**	⇑PN	Pn	18 51 27.1	-0.3
COVZ				SN	S	18 51 48.5	-1.5
WPVZ	**Whakapapa**	**0.64**	**88**	PN	Pn	18 51 27.1	-0.3
FWVZ	**Far West T-bar**	**0.64**	**92**	⇑PN	Pn	18 51 27.2	-0.3
TRVZ	**Turoa**	**0.64**	**96**	⇑PN	Pn	18 51 27.3	-0.2
DRZ	**Dome Shelter**	**0.65**	**94**	⇓PN	Pn	18 51 27.4	-0.2
NWEZ	**Newall Road**	**0.67**	**266**	PN	Pn	18 51 27.2	-0.1
WHVZ	**Whangaehu Hut**	**0.67**	**95**	PN	Pn	18 51 27.4	-0.3
NMEZ	**Namu Road**	**0.68**	**254**	PN	Pn	18 51 27.3	0.0
WTVZ	**West Tongariro**	**0.68**	**81**	⇑PN	Pn	18 51 27.3	-0.3
NGZ	**Ngauruhoe**	**0.68**	**86**	⇑PN	Pn	18 51 27.4	-0.3
WNVZ	**Wahianoa**	**0.69**	**98**	PN	Pn	18 51 27.4	-0.2
TUVZ	**Tukino**	**0.72**	**93**	⇑PN	Pn	18 51 27.7	-0.1
HIZ	**Hauiti**	**0.72**	**8**	⇑PN	Pn	18 51 26.6	-1.1
KRVZ	**Karewarewa**	**0.73**	**80**	⇑PN	Pn	18 51 27.5	-0.3
KATZ	**Kakaramea**	**0.80**	**72**	PN	Pn	18 51 27.6	-0.6
MOVZ	**Moawhango**	**0.82**	**103**	⇑PN	Pn	18 51 27.7	-0.5
RITZ	**Rihia Road**	**0.92**	**74**	⇓PN	Pn	18 51 28.4	-0.3
BHHZ	**Black Hill Sta**	**1.07**	**104**	⇑PN	Pn	18 51 29.2	-0.5
TSZ	**Takapari Road**	**1.26**	**131**	PN	Pn	18 51 31.2	+0.1
TSZ				AML	AML	18 51 57.2	
TSZ				AML	AML	18 51 57.4	
PNHZ	**Pukenui**	**1.33**	**121**	⇑PN	Pn	18 51 31.6	0.0
KRHZ	**Kereru**	**1.34**	**108**	PN	Pn	18 51 31.5	-0.1
BKZ	**Black Stump Fm**	**1.38**	**88**	⇑PN	Pn	18 51 31.3	-0.7
BKZ				AML	AML	18 51 57.5	
BKZ				AML	AML	18 51 58.0	
POWZ	**Post Office Ro**	**1.41**	**146**	PN	Pn	18 51 32.0	-0.1
DVHZ	**Dannevirke**	**1.54**	**134**	⇑PN	Pn	18 51 33.2	-0.1
MCHZ	**McNeill Hill**	**1.54**	**98**	PN	Pn	18 51 33.7	+0.4
WPHZ	**Waipukurau**	**1.56**	**123**	PN	Pn	18 51 33.6	+0.2
MRZ	**Mangatainoka R**	**1.57**	**156**	⇑PN	Pn	18 51 33.2	-0.3
MRZ				AML	AML	18 52 01.6	
MRZ				AML	AML	18 52 01.7	
PRWZ	**Pori Road**	**1.63**	**144**	PN	Pn	18 51 34.0	0.0
KIW	**Kapiti Island**	**1.64**	**175**	⇑PN	Pn	18 51 33.8	-0.3
KIW				AML	AML	18 52 01.9	
KIW				AML	AML	18 52 02.0	
DUWZ	**D'Urville Isla**	**1.69**	**201**	⇑PN	Pn	18 51 34.2	-0.4
KAHZ	**Kahuranaki**	**1.76**	**109**	⇓PN	Pn	18 51 35.5	+0.2
ARHZ	**Aropaoanui**	**1.77**	**92**	PN	Pn	18 51 35.2	0.0
ARHZ				SN	S	18 52 03.0	-1.0
HOWZ	**Holdsworth Sta**	**1.77**	**160**	⇑PN	Pn	18 51 34.9	-0.5
TIWZ	**Tintock**	**1.78**	**150**	PN	Pn	18 51 35.2	-0.3
TIWZ				AML	AML	18 52 05.4	
TIWZ				AML	AML	18 52 05.6	
PRHZ	**Porangahau**	**1.80**	**126**	⇓PN	Pn	18 51 35.7	+0.1
ANWZ	**Angora Road**	**1.82**	**133**	⇓PN	Pn	18 51 35.9	+0.1
PXZ	**Pawanui**	**1.83**	**116**	⇓PN	Pn	18 51 35.8	0.0
PXZ				AML	AML	18 52 07.0	
PXZ				AML	AML	18 52 07.1	
PXZ				AML	AML	18 52 07.2	
PXZ				AML	AML	18 52 07.2	
BFZ	**Birch Farm**	**1.86**	**142**	PN	Pn	18 51 35.8	-0.4
RAHZ	**Arahi**	**1.86**	**81**	PN	Pn	18 51 35.3	-1.0
CKHZ	**Cape Kidnapper**	**1.87**	**104**	PN	Pn	18 51 36.5	+0.2
CAW	**Cannon Point**	**1.89**	**172**	⇑PN	Pn	18 51 36.1	-0.4
CAW				AML	AML	18 52 06.8	
CAW				AML	AML	18 52 06.9	
WHHZ	**Waihua**	**1.96**	**86**	PN	Pn	18 51 36.7	-0.4
TCW	**Tory Channel**	**2.01**	**190**	⇑*e*PN	Pn	18 51 37.3	-0.3
TCW				AML	AML	18 52 07.5	
TCW				AML	AML	18 52 10.4	
MTW	**Mount Morrison**	**2.02**	**163**	⇑PN	Pn	18 51 37.0	-0.6
MTW				AML	AML	18 52 08.6	
MTW				AML	AML	18 52 08.6	
CPWZ	**Castlepoint**	**2.02**	**146**	PN	Pn	18 51 37.8	+0.1
WEL	**Wellington**	**2.05**	**179**	PN	Pn	18 51 37.3	-0.7
WEL				AML	AML	18 52 09.7	
TMWZ	**Te Maipa**	**2.08**	**155**	⇑PN	Pn	18 51 37.8	-0.5
SNGZ	**Shannon Statio**	**2.09**	**78**	*e*PN	Pn	18 51 32.3	-6.2
URZ	**Urewera**	**2.10**	**63**	PN	Pn	18 51 36.6	-2.0
URZ				AML	AML	18 52 08.0	
URZ				AML	AML	18 52 08.9	
BHW	**Baring Head**	**2.18**	**177**	PN	Pn	18 51 38.5	-0.8
BHW				AML	AML	18 52 11.5	
BHW				AML	AML	18 52 11.8	
PAWZ	**Paruwai Farm**	**2.21**	**166**	⇑PN	Pn	18 51 39.0	-0.6
PAWZ				AML	AML	18 52 11.4	
PAWZ				AML	AML	18 52 12.2	
MSWZ	**Moikau Station**	**2.22**	**170**	⇑PN	Pn	18 51 39.0	-0.7
MSWZ				AML	AML	18 52 12.3	
MSWZ				AML	AML	18 52 12.7	
NNZ	**Nelson**	**2.23**	**207**	⇑PN	Pn	18 51 39.0	-0.9
TUWZ	**Tuamarina**	**2.28**	**195**	PN	Pn	18 51 39.7	-0.6
TUWZ				AML	AML	18 52 12.1	
TUWZ				AML	AML	18 52 12.5	
TRWZ	**Traveller**	**2.29**	**162**	PN	Pn	18 51 39.8	-0.6
TRWZ				AML	AML	18 52 13.6	
TRWZ				AML	AML	18 52 14.3	
KNZ	**Kokohu**	**2.30**	**86**	PN	Pn	18 51 39.5	-1.1
QRZ	**Quartz Range**	**2.32**	**226**	⇓PN	Pn	18 51 39.1	-1.7
MWZ	**Matawai**	**2.37**	**69**	⇓PN	Pn	18 51 39.7	-1.7
MWZ				AML	AML	18 52 13.3	
MWZ				AML	AML	18 52 13.4	
MWZ				AML	AML	18 52 14.2	
MWZ				AML	AML	18 52 14.7	
PLWZ	**Palliser**	**2.37**	**170**	⇑PN	Pn	18 51 40.4	-1.0
RIGZ	**Rimuhau**	**2.43**	**78**	⇓PN	Pn	18 51 41.0	-1.1
MHGZ	**Mahia Peninsul**	**2.48**	**89**	PN	Pn	18 51 41.9	-0.6
PRGZ	**Paritu Road**	**2.48**	**84**	PN	Pn	18 51 41.7	-0.8
BSWZ	**Blackbirch Sta**	**2.56**	**194**	PN	Pn	18 51 42.9	-0.5
BSWZ				AML	AML	18 52 19.1	
BSWZ				AML	AML	18 52 20.7	
TKGZ	**Te Karaka**	**2.57**	**73**	PN	Pn	18 51 42.3	-1.2
TWGZ	**Tauwhareparae**	**2.76**	**69**	PN	Pn	18 51 44.4	-1.3
HAZ	**Te Kaha**	**2.82**	**59**	PN	Pn	18 51 43.4	-2.8
CNGZ	**Carnagh Statio**	**2.82**	**76**	PN	Pn	18 51 45.3	-1.0
THZ	**Tophouse**	**2.88**	**208**	⇑PN	Pn	18 51 45.6	-1.4
THZ				SN	S	18 52 22.6	-2.6
PUZ	**Puketiti**	**3.00**	**68**	PN	Pn	18 51 46.5	-1.9
PUZ				AML	AML	18 52 23.8	
PUZ				AML	AML	18 52 24.3	
WMGZ	**Waiomatatini S**	**3.22**	**65**	PN	Pn	18 51 48.5	-2.5
MXZ	**Matakaoa Point**	**3.27**	**61**	PN	Pn	18 51 49.3	-2.3
KHZ	**Kahutara**	**3.31**	**195**	PN	Pn	18 51 50.6	-1.3
KHZ				AML	AML	18 52 31.2	
KHZ				AML	AML	18 52 32.9	
DSZ	**Denniston Nort**	**3.36**	**221**	⇑PN	Pn	18 51 50.4	-2.1
LTZ	**Lake Taylor**	**4.00**	**207**	PN	Pn	18 51 58.4	-2.0
OXZ	**Oxford**	**4.56**	**205**	PN	Pn	18 52 04.5	-2.7
CRLZ	**Canterbury Las**	**4.62**	**199**	PN	Pn	18 52 04.9	-3.0
MQZ	**McQueen's Vall**	**4.73**	**199**	⇓PN	Pn	18 52 06.3	-3.0
WVZ	**Waitaha Valley**	**4.88**	**217**	⇓PN	Pn	18 52 09.1	-2.1
ODZ	**Otahua Downs**	**6.55**	**206**	PN	Pn	18 52 30.2	-2.3

*IDC **04** 18:58:36.5±1.2, 1°.28N×97°.01E, h0km, mb3.7/12, mb1 3.7/13, mb1mx3.5/48, mbtmp3.6/13, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=36.2km s-min=19.6km az=49.0*
ISC 04 18:58:41.5±1.2, 1°.5N±0°.2×97°.3E±0°.1, h28km, n18, σ0§96/13, mb3.8/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.10**	**51**	P	**Pb**	**18 59 18.3**	**-0.8**
	baz=87,SNR=6.6						
CMAR	**Chiang Mai Arr**	**16.97**	**5**	P	**Pn**	**19 02 37.3**	**+0.2**
	0.1nm,0.3s,baz=194,slow=12,SNR=7.7						
H08S2	**Diego Garcia H**	**26.34**	**250**	T	T	19 31 16.2	
	baz=70,slow=75,SNR=965						
H08S3	**Diego Garcia H**	**26.34**	**250**	T	T	19 31 15.8	
	baz=70,slow=75,SNR=695						
H08S1	**Diego Garcia H**	**26.36**	**250**	T	T	19 31 17.6	
	baz=70,slow=75,SNR=729						
WRA	**Warramunga Arr**	**42.09**	**122**	P	**P**	**19 06 31.3**	**-0.2**
	0.3nm,0.7s,baz=302,slow=9.1,SNR=4.4						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**19 06 43.1**	**+0.4**
	0.2nm,0.8s,baz=306,slow=8.5,SNR=4.3						
KSRS	**Korea Array**	**45.58**	**35**	P	**P**	**19 06 58.9**	**-0.4**
	0.2nm,0.4s,baz=240,slow=9.7,SNR=4.1						
SONM	**Songino Array**	**46.86**	**8**	P	**P**	**19 07 09.9**	**+0.5**
	0.8nm,0.7s,baz=192,slow=9.6,SNR=7.6						
MKAR	**Makanchi Array**	**47.01**	**346**	P	**P**	**19 07 11.2**	**+0.8**
	0.4nm,0.5s,baz=154,slow=8.4,SNR=12						
MJAR	**Matsushiro Arr**	**51.44**	**42**	P	P	19 07 47.4	+3.0
	0.5nm,0.4s,baz=228,slow=6.9,SNR=4.8						
USRK	**Ussuriysk Ar.**	**52.50**	**31**	P	**P**	**19 07 54.4**	**+2.3**
	3.2nm,0.9s,baz=165,slow=7.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.32**	**351**	P	**P**	**19 07 58.3**	**+0.3**
	1.1nm,0.4s,baz=185,slow=7.7,SNR=9.9						
BVAR	**Borovoye Array**	**56.04**	**341**	P	**P**	**19 08 17.4**	**-0.4**
	0.5nm,0.5s,baz=159,slow=8.5,SNR=3.3						
KMBO	**Kilima Mbogo**	**60.09**	**268**	LR	LR	19 34 18.1	
	comp=Z,25nm,18.0s,baz=95,slow=36						
BRTR	**Keskin Array B**	**69.01**	**312**	P	**P**	**19 09 44.0**	**-1.0**
	0.1nm,0.3s,baz=132,slow=2.1,SNR=2.7						
FINES	**FINESS Array B**	**79.81**	**332**	P	**P**	**19 10 46.3**	**-0.8**
	0.2nm,0.4s,baz=46,slow=8.2,SNR=3.3						
ARCES	**ARCESS Array B**	**82.32**	**340**	P	**P**	**19 10 60.0**	**-0.4**
	1.7nm,0.9s,baz=85,slow=7.4,SNR=4.7						

*ISCJB **04** 19:15:11.9±1.0, 37°.07S±0°.06×74°.14W±0°.08, h10km, mb3.6/3, MS3.5/1, Error ellipse: s-maj=9.6km s-min=8.5km az=169.1*
*IDC **04** 19:15:12.3±2.0, 36°.90S×73°.88W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/16, mbtmp3.6/4, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/19, Error ellipse: s-maj=69.1km s-min=18.9km az=65.0*
*GUC **04** 19:15:14.5±0.3, 37°.06S×73°.90W, h6km±2km, ML4.2*
ISC 04 19:15:13.1±1.3, 37°.02S±0°.07×74°.01W±0°.09, h10km, n10, σ0§91/12, mb3.8/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.74**	**77**	*e*P	**Pb**	**19 15 28.1**	**0.0**
CCSP				*e*S	**Sb**	**19 15 38.4**	**+0.1**
CCSP				AML	AML	19 15 43.0	
	comp=E,54μm,0.5s						
AGCH	**Angol**	**1.31**	**128**	*e*P	**Pn**	**19 15 37.5**	**0.0**
AGCH				*e*S	**Sn**	**19 15 54.4**	**-0.6**
COCH	**Cobquecura**	**1.32**	**48**	*e*P	**Pn**	**19 15 38.3**	**+0.8**
COCH				*e*S	**Sg**	**19 15 56.7**	**+1.1**
COCH				AML	AML	19 16 03.3	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**2.27**	**60**	*e*P	**Pb**	**19 15 53.3**	**-0.8**
LNCH				AML	AML	19 16 32.1	
	comp=E,3μm,0.9s						
TALC	**Talca**	**2.51**	**51**	*e*P	**Pb**	**19 15 57.1**	**-1.2**
PLCA	**Paso Flores**	**4.59**	**145**	Pn	**Pn**	**19 16 23.9**	**+1.3**
	comp=E,0.3nm,0.3s,baz=327,slow=15,SNR=10						
PLCA				Pg	Pg	19 16 37.4	-3.5
	comp=E,5.4nm,0.3s,baz=319,slow=15,SNR=34						
PLCA				Lg	Lg	19 17 40.1	
	comp=E,2.4nm,0.3s,baz=76,slow=19,SNR=3.5						
LPAZ	**La Paz**	**21.30**	**16**	P	**P**	**19 20 00.7**	**+0.1**
	comp=E,4.0nm,0.9s,baz=168,slow=11,SNR=10.0						
SIV	**San Ignacio**	**23.88**	**32**	LR	LR	19 31 30.3	
	comp=E,145nm,19.1s,baz=238,slow=41						
TXAR	**Lajitas Array**	**71.63**	**333**	P	**P**	**19 26 35.4**	**+0.6**
	comp=E,0.2nm,0.5s,baz=145,slow=7.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.73**	**71**	P	**P**	**19 27 56.4**	**-1.2**
	comp=E,0.6nm,0.9s,baz=228,slow=4.6,SNR=2.5						

*IDC **04** 19:25:32.8±1.0, 31°.34S×178°.82W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=34.8km s-min=27.6km az=80.0*
ISC 04 19:25:34.2±1.0, 31°.4S±0°.1×178°.9W±0°.2, h10km, n25, σ1§45/26, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**6.88**	**203**	PN	**Pn**	**19 27 18.0**	**+2.8**
HAZ				SN	**Sn**	**19 28 31.1**	**-2.3**
PUZ	**Puketiti**	**7.03**	**199**	*e*PN	**Pn**	**19 27 18.3**	**+1.0**
PUZ				SN	Sn	19 28 28.5	-8.8
MWZ	**Matawai**	**7.49**	**202**	*e*PN	**Pn**	**19 27 24.7**	**+1.1**
URZ	**Urewera**	**7.56**	**205**	Pn	**Pn**	**19 27 26.2**	**+1.7**
	0.6nm,0.3s,baz=299,slow=13,SNR=7.0						
URZ				Sn	Sn	19 28 43.5	-6.8
	4.8nm,0.3s,baz=171,slow=22,SNR=8.6						
URZ	**Urewera**	**7.56**	**205**	*e*PN	**Pn**	**19 27 26.0**	**+1.5**
URZ				SN	Sn	19 28 43.8	-6.5
RIGZ	**Rimuhau**	**7.76**	**200**	*e*PN	Pn	19 27 32.4	+5.2
SNGZ	**Shannon Statio**	**7.96**	**202**	*e*PN	**Pn**	**19 27 31.8**	**+1.8**
KNZ	**Kokohu**	**8.08**	**199**	*e*PN	**Pn**	**19 27 32.5**	**+0.9**
FWVZ	**Far West T-bar**	**9.03**	**209**	PN	**Pn**	**19 27 47.4**	**+2.5**
BFZ	**Birch Farm**	**10.03**	**202**	*e*PN	**Pn**	**19 27 59.2**	**+0.8**
MRZ	**Mangatainoka R**	**10.24**	**204**	*e*PN	**Pn**	**19 27 59.3**	**-1.9**
MRZ				SN	Sn	19 29 44.1	-12
HOWZ	**Holdsworth Sta**	**10.47**	**204**	PN	**Pn**	**19 28 03.0**	**-1.5**
KHZ	**Kahutara**	**12.52**	**207**	*e*PN	Pn	19 28 28.9	-3.5
KHZ				SN	Sn	19 30 37.5	-14
ASAR	**Alice Springs**	**42.31**	**268**	P	**P**	**19 33 28.8**	**+0.3**
	2.1nm,0.7s,baz=109,slow=7.6,SNR=28						
WRA	**Warramunga Arr**	**43.40**	**274**	P	**P**	**19 33 37.8**	**+0.5**
	1.6nm,0.5s,baz=112,slow=7.9,SNR=32						
QSPA	**South Pole Qui**	**58.68**	**180**	P	**P**	**19 35 33.0**	**+1.3**
	0.9nm,0.6s,baz=299,slow=2.6,SNR=7.9						
MKAR	**Makanchi Array**	**117.86**	**310**	PKP	**PKPdf**	**19 44 20.9**	**+0.1**
	0.3nm,0.6s,baz=67,slow=5.2,SNR=3.9						
JOF	**Joensuu**	**143.09**	**337**	*e*p	**PKPdf**	**19 45 06.2**	**-1.4**
KAF	**Kangasniemi**	**145.26**	**339**	*e*p	**PKPdf**	**19 45 12.5**	**+1.1**
FINES	**FINESS Array B**	**145.84**	**339**	PKPbc	**PKPab**	**19 45 13.2**	**-0.3**
	3.0nm,0.5s,baz=69,slow=4.3,SNR=38						
NB2	**NORSAR Subarra**	**149.65**	**350**	PKP	**PKPbc**	**19 45 23.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=17,slow=2.7						
NOA	**NORSAR Array B**	**149.65**	**350**	PKPbc	**PKPbc**	**19 45 23.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=49,slow=1.8,SNR=5.1						
AKASG	**Malin Array Be**	**151.64**	**321**	PKPbc	**PKPbc**	**19 45 28.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=66,slow=2.3,SNR=11						
AKASG				PKPab	**PKPab**	**19 45 35.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=79,slow=4.7,SNR=3.2						
BRTR	**Keskin Array B**	**152.41**	**296**	PKPbc	**PKPbc**	**19 45 30.6**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=138,slow=3.1,SNR=10						
BRTR				PKPab	**PKPab**	**19 45 41.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=48,slow=2.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**161.79**	**182**	PKPab	**PKPab**	**19 46 20.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=164,slow=5.1,SNR=5.5						

*IDC **04** 19:27:41.0±1.3, 36°.84S×73°.60W, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.7/19, mbtmp3.6/7, ML3.4/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/34, Error ellipse: s-maj=35.2km s-min=18.0km az=84.0*
*ISCJB **04** 19:27:41.5±0.8, 36°.83S±0°.04×73°.74W±0°.07, h14km, mb3.6/5, MS3.8/5, Error ellipse: s-maj=8.3km s-min=6.1km az=10.0*
*GUC **04** 19:27:43.1±0.8, 36°.85S×73°.72W, h10km±4km, ML5.1*
ISC 04 19:27:42.9±1.0, 36°.84S±0°.05×73°.65W±0°.09, h14km, n19, σ0§97/17, mb3.6/5, MS3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.43**	**91**	*e*P	**Pb**	**19 27 52.3**	**0.0**
CCSP				*e*S	**Sb**	**19 27 58.8**	**+0.1**
COCH	**Cobquecura**	**0.99**	**45**	*e*P	**Pb**	**19 28 00.9**	**-0.9**
COCH				*e*S	**Sb**	**19 28 14.3**	**-0.4**
AGCH	**Angol**	**1.23**	**142**	*e*P	**Pn**	**19 28 04.7**	**-1.0**
AGCH				*e*S	**Sb**	**19 28 20.8**	**-0.8**
LNCH	**Linares**	**1.93**	**60**	*e*P	**Pn**	**19 28 15.4**	**+0.1**
LNCH				*e*S	**Sn**	**19 28 39.5**	**+0.3**
CLCH	**Cerro Calan**	**4.28**	**37**	AML	AML	19 30 09.0	
	comp=N,956nm,0.8s						
PEL	**Peldehue**	**4.42**	**34**	AML	AML	19 30 16.1	
	comp=E,726nm,0.5s						
**ROC

0.9nm,0.6s,baz=274,slow=14,SNR=8.6

IDC 04 19:35:26.8±13.0, 23°72'S×178°62'E, h649km±107km, mb3.1/2, mb1 3.2/3, mb1mx2.8/17, mbtmp4.1/3, Error ellipse: s-maj=227.1km s-min=70.7km az=141.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.34**	**276**	P	P	19 37 59.2	-0.4
	0.2nm,0.3s,baz=129,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**40.81**	**261**	P	P	19 42 14.8	-0.2
	0.7nm,0.3s,baz=94,slow=8.0,SNR=58						
WRA	**Warramunga Arr**	**41.15**	**266**	P	P	19 42 18.0	+0.3
	3.0nm,0.5s,baz=103,slow=8.2,SNR=85						
AKASG	**Malin Array Be**	**144.13**	**326**	PKP	PKPbc	19 53 49.9	-0.2
	0.2nm,0.5s,baz=44,slow=3.5,SNR=6.4						
BRTR	**Keskin Array B**	**146.46**	**307**	PKPbc	PKPbc	19 53 56.6	-0.8
	0.3nm,0.6s,baz=73,slow=5.0,SNR=3.5						

*ISCJB **04** 19:50:40.6±0.8, 24°.20S±0°.05×66°.6W±0°.2, h195km, mb3.9/2, Error ellipse: s-maj=19.5km s-min=7.6km az=4.1*
*IDC **04** 19:50:40.8±1.6, 24°.18S×66°.57W, h172km±18km, mb3.9/2, mb1 3.7/5, mb1mx3.4/18, mbtmp4.2/5, Error ellipse: s-maj=32.1km s-min=14.4km az=99.0*

ISC 04 19:50:42.5±1.0, 24°09S±0°09×66°.6W±0°.2, h195km, n8, σ1§07/9, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.63**	**191**	P	**Pn**	**19 52 29.9**	**-1.0**
	0.1nm,0.3s,baz=75,slow=17,SNR=27						
CFAA				S	Sn	19 53 50.9	-6.1
	0.9nm,0.3s,baz=250,slow=22,SNR=20						
LPAZ	**La Paz**	**7.89**	**349**	P	**Pn**	**19 52 35.6**	**+0.6**
	1.6nm,0.3s,baz=166,slow=6.9,SNR=37						
LPAZ				S	**Sn**	**19 54 03.1**	**-1.2**
	0.2nm,0.3s,baz=342,slow=22,SNR=3.5						
SIV	**San Ignacio**	**9.58**	**34**	P	**Pn**	**19 52 55.2**	**-1.3**
	0.4nm,0.3s,baz=240,slow=8.7,SNR=4.9						
BDFB	**Brasilia**	**19.38**	**68**	P	**P**	**19 54 55.0**	**+1.3**
	1.3nm,0.3s,baz=232,slow=12,SNR=16						
DBIC	**Dimbokro**	**67.48**	**71**	P	**P**	**20 01 17.9**	**+0.1**
	1.5nm,0.4s,baz=203,slow=4.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P	**P**	**20 02 10.7**	**+0.6**
	1.3nm,0.5s,baz=259,slow=5.7,SNR=43						
WRA	**Warramunga Arr**	**131.72**	**207**	PKP	**PKPdf**	**20 09 33.4**	**+0.4**
	0.3nm,0.8s,baz=169,slow=1.6,SNR=4.3						
MKAR	**Makanchi Array**	**146.36**	**40**	PKPbc	**PKPab**	**20 10 02.0**	**+0.5**
	0.4nm,0.6s,baz=301,slow=3.8,SNR=5.7						

*IDC **04** 19:59:37.1±0.9, 38°.43S×73°.82W, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, ML3.2/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=29.6km s-min=16.1km az=58.0*
*ISCJB **04** 19:59:38.9±0.7, 38°.24S±0°.07×73°.6W±0°.1, h18km, mb4.0/9, MS3.5/4, Error ellipse: s-maj=16.7km s-min=8.1km az=151.4*
*NEIC **04** 19:59:42.3±0.6, 38°.32S×73°.69W, h35km, mb4.0/1, Error ellipse: s-maj=15.7km s-min=11.4km az=75.0*

ISC 04 19:59:40.3±0.9, 38°.3S±0°.1×73°.8W±0°.1, h18km, n24, σ0§71/18, mb4.1/9, MS3.5/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.44**	**135**	Pn	**Pn**	**20 00 33.4**	**+0.3**
	0.9nm,0.3s,baz=313,slow=14,SNR=28						
PLCA				Lg	Lg	20 01 25.5	
	6.5nm,0.3s,baz=17,slow=12,SNR=3.6						
PLCA				LR	LR	20 02 02.3	
	comp=Z,667nm,18.2s,baz=296,slow=42						
PLCA	**Paso Flores**	**3.44**	**135**	Pn	**Pn**	**20 00 33.4**	**+0.3**
PLCA				*e*Sn	**Sn**	**20 01 14.2**	**+0.7**
PLCA				Lg	Lg	20 01 25.5	
CFAA	**Coronel Fontan**	**8.10**	**36**	Pn	**Pn**	**20 01 36.9**	**0.0**
	0.1nm,0.3s,baz=212,slow=12,SNR=7.5						
CFAA				LR	LR	20 05 18.5	
	comp=Z,15nm,21.5s,baz=224,slow=42						
TRQA	**Tornquist**	**9.27**	**92**	*e*Pn	**Pn**	**20 01 52.5**	**-0.6**
LCO	**Las Campanas**	**9.64**	**16**	*e*Pn	Pn	20 01 56.6	-1.8
	26nm,0.8s						
LPAZ	**La Paz**	**22.51**	**14**	P	**P**	**20 04 40.7**	**+1.0**
	2.4nm,0.9s,baz=169,slow=7.2,SNR=7.6						
LPAZ	**La Paz**	**22.51**	**14**	P	**P**	**20 04 39.4**	**-0.3**
	5.1nm,0.9s						
NNA	**Nana**	**26.39**	**353**	LR	LR	20 13 44.3	
	comp=Z,90nm,18.0s,baz=169,slow=32						
PMSA	**Palmer Station**	**27.09**	**171**	LR	LR	20 16 07.0	
	comp=Z,136nm,18.3s,baz=144,slow=37						
PTGA	**Pitinga**	**39.57**	**22**	LR	LR	20 24 36.7	
	comp=Z,50nm,18.6s,baz=202,slow=38						
RCBR	**Riachuelo**	**47.15**	**56**	LR	LR	20 27 55.4	
	comp=Z,57nm,20.1s,baz=211,slow=36						
QSPA	**South Pole Qui**	**51.91**	**180**	P	P	20 08 46.8	-0.8
	3.2nm,1.1s,baz=192,slow=2.3,SNR=4.3						
TXAR	**Lajitas Array**	**72.90**	**333**	P	**P**	**20 11 08.7**	**+0.4**
	1.0nm,0.8s,baz=155,slow=8.2,SNR=12						
TKL	**Tuckaleechee C**	**74.21**	**352**	P	**P**	**20 11 15.4**	**-0.3**
	1.4nm,0.7s,baz=190,slow=12,SNR=4.1						
DBIC	**Dimbokro**	**77.88**	**71**	P	**P**	**20 11 37.2**	**0.0**
	2.4nm,0.6s,baz=174,slow=4.2,SNR=6.0						
BOSA	**Boshof**	**79.28**	**118**	P	**P**	**20 11 44.2**	**-0.7**
	2.5nm,0.8s,baz=244,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.97**	**71**	P	**P**	**20 12 24.2**	**-0.4**
	0.8nm,0.8s,baz=221,slow=5.1,SNR=4.7						
PDAR	**Pinedale Array**	**87.03**	**334**	P	**P**	**20 12 24.7**	**+0.1**
	0.6nm,0.8s,baz=140,slow=4.8,SNR=5.0						
ELK	**Elko**	**87.37**	**330**	P	**P**	**20 12 26.9**	**+0.7**
	1.4nm,0.9s,baz=115,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**116.31**	**210**	PKP	**PKPdf**	**20 18 21.3**	**-1.9**
	0.2nm,0.7s,baz=122,slow=4.4,SNR=3.5						
SEY	**Seymchan**	**143.00**	**327**	PKhKP	PKPpre	20 19 08.3	
	0.5nm,0.5s,baz=128,slow=2.5,SNR=5.6						
ABKAR	**Akbulak array**	**145.34**	**56**	*e*PKPdf	**PKPbc**	**20 19 16.6**	**+0.3**
ZALV	**Zalesovo Beam**	**158.58**	**36**	PKPab	**PKPab**	**20 20 11.8**	**+0.6**
	0.8nm,0.6s,baz=344,slow=4.9,SNR=4.5						
MKAR	**Makanchi Array**	**160.49**	**57**	PKPbc	**PKPab**	**20 20 19.8**	**0.0**
	0.3nm,0.6s,baz=280,slow=4.5,SNR=5.8						

*IDC **04** 20:06:29.7±9.2, 32°.07S×179°.15W, h123km±80km, mb3.3/2, mb1 3.5/3, mb1mx3.2/34, mbtmp3.8/3, Error ellipse: s-maj=72.3km s-min=40.6km az=14.0*
*ISCJB **04** 20:06:34.6±1.3, 32°.19S±0°.06×179°.6E±0°.2, h100km, mb3.6/2, Error ellipse: s-maj=23.2km s-min=8.7km az=7.4*

ISC 04 20:06:33.6±1.5, 32°.05S±0°.09×179°.7E±0°.2, h100km, n25, σ2§32/27, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**5.91**	**195**	*e*PN	**Pn**	**20 07 59.1**	**+0.5**
PUZ	**Puketiti**	**6.13**	**191**	PN	**Pn**	**20 08 03.7**	**+2.1**
PUZ				SN	**Sn**	**20 09 09.4**	**-0.9**
URZ	**Urewera**	**6.55**	**198**	P	**Pn**	**20 08 08.4**	**+1.0**
	1.5nm,0.3s,baz=267,slow=4.6,SNR=6.6						
URZ				S	**Sn**	**20 09 25.4**	**+4.8**
	2.9nm,0.3s,baz=50,slow=21,SNR=8.4						
URZ	**Urewera**	**6.55**	**198**	*e*PN	**Pn**	**20 08 05.6**	**-1.8**
URZ				SN	**Sn**	**20 09 24.6**	**+4.0**
RIGZ	**Rimuhau**	**6.83**	**193**	*e*PN	**Pn**	**20 08 12.0**	**+0.8**
RIGZ				SN	**Sn**	**20 09 29.5**	**+2.1**
KNZ	**Kokohu**	**7.15**	**193**	*e*PN	**Pn**	**20 08 13.9**	**-1.6**
FWVZ	**Far West T-bar**	**7.95**	**204**	PN	**Pn**	**20 08 28.5**	**+1.9**
KRHZ	**Kereru**	**8.05**	**199**	PN	**Pn**	**20 08 28.0**	**+0.2**
KAHZ	**Kahuranaki**	**8.07**	**196**	PN	**Pn**	**20 08 27.7**	**-0.2**
BFZ	**Birch Farm**	**9.06**	**197**	SN	**Sn**	**20 10 18.3**	**-3.3**
MRZ	**Mangatainoka R**	**9.22**	**200**	PN	**Pn**	**20 08 40.9**	**-2.7**
MRZ				SN	**Sn**	**20 10 24.7**	**-0.8**
KIW	**Kapiti Island**	**9.61**	**202**	*e*PN	Pn	20 08 45.2	-3.7
KIW				SN	**Sn**	**20 10 34.8**	**-0.2**
TCW	**Tory Channel**	**10.14**	**204**	SN	**Sn**	**20 10 46.3**	**-1.4**
TUWZ	**Tuamarina**	**10.45**	**205**	SN	**Sn**	**20 10 54.3**	**-0.9**
NNZ	**Nelson**	**10.47**	**207**	SN	**Sn**	**20 10 56.8**	**+1.0**
KHZ	**Kahutara**	**11.46**	**204**	SN	**Sn**	**20 11 18.3**	**-1.5**
LTZ	**Lake Taylor**	**12.24**	**207**	SN	**Sn**	**20 11 34.7**	**-4.2**
OXZ	**Oxford**	**12.79**	**206**	SN	Sn	20 11 46.1	-6.0
MQZ	**McQueen's Vall**	**12.90**	**204**	SN	Sn	20 11 48.5	-6.3
ASAR	**Alice Springs**	**41.11**	**270**	P	**P**	**20 14 09.3**	**+1.4**
	0.5nm,0.5s,baz=108,slow=7.3,SNR=9.1						
WRA	**Warramunga Arr**	**42.26**	**275**	P	**P**	**20 14 18.8**	**+1.5**
	0.4nm,0.3s,baz=111,slow=8.1,SNR=23						
MKAR	**Makanchi Array**	**117.33**	**310**	PKP	**PKPdf**	**20 25 02.4**	**-4.6**
	0.1nm,0.4s,baz=148,slow=1.4,SNR=3.2						
FINES	**FINESS Array B**	**145.97**	**338**	PKPbc	PKPdf	20 25 53.9	-6.0
	1.5nm,0.5s,baz=54,slow=2.2,SNR=23						
AKASG	**Malin Array Be**	**151.35**	**319**	PKPbc	**PKPdf**	**20 26 10.2**	**+1.2**
	0.1nm,0.3s,baz=50,slow=2.0,SNR=4.2						
BRTR	**Keskin Array B**	**151.60**	**295**	PKPbc	**PKPdf**	**20 26 10.8**	**+0.8**
	0.4nm,0.5s,baz=168,slow=4.9,SNR=4.5						

GUC 04 20:09:39.5±0.7, 20°.62S×70°.53W, h41km±2km, ML3.6, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATCX	**Punta Patache**	**0.41**	**120**	*e*P	Pn	20 09 49.1	0.0
PATCX				*e*S	Sn	20 09 56.0	0.0
PATCX				AML	AML	20 09 56.5	
	comp=E,10μm,0.2s						
HMBC	**Humberstone**	**0.69**	**61**	*e*P	Pn	20 09 53.6	+0.6
HMBC				*e*S	Sn	20 10 03.5	+0.8
HMBC				AML	AML	20 10 05.3	
	comp=E,2μm,0.4s						
PB01	**IPOC Station P**	**1.06**	**114**	*e*P	Pn	20 09 58.6	+0.6
PB01				*e*S	Sn	20 10 13.1	+1.3
PB01				AML	AML	20 10 14.9	
	comp=E,3μm,0.2s						
PSGC	**Pisagua**	**1.08**	**21**	*e*P	Pn	20 09 58.9	+0.5
PSGC				*e*S	Sn	20 10 13.7	+1.3
PB09	**IPOC Station P**	**1.68**	**135**	*e*P	Pn	20 10 08.4	+1.8
PB09				*e*S	Sn	20 10 29.8	+2.7
PB09				AML	AML	20 10 34.0	
	comp=E,2μm,0.6s						
MNMC	**Minimini**	**1.72**	**31**	*e*P	Pn	20 10 08.6	+1.3
MNMC				*e*S	Sn	20 10 30.9	+2.5
PB04	**IPOC Station P**	**1.91**	**150**	*e*P	Pn	20 10 06.8	-2.6
PB04				*e*S	Sn	20 10 26.3	-6.0

*ISCJB **04** 20:18:39.7±0.6, 36°.45S±0°.05×72°.0W±0°.1, h76km±10km, mb3.4/3, Error ellipse: s-maj=16.8km s-min=5.3km az=23.7*
*GUC **04** 20:18:40.7±0.5, 36°.50S×71°.96W, h64km±5km, ML4.6*
*IDC **04** 20:18:40.5±1.2, 36°.65S×69°.14W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.7/17, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=51.7km s-min=18.3km az=103.0*

ISC 04 20:18:40.6±1.0, 36°.44S±0°.05×72°.08W±0°.09, h74km±11km, n15, σ0§64/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.65**	**298**	*e*P	**Pn**	**20 18 55.7**	**+0.5**
COCH				*e*S	**Sn**	**20 19 06.8**	**+0.8**
CCSP	**San Pedro de C**	**0.92**	**244**	*e*P	**Pn**	**20 18 58.2**	**0.0**
CCSP				*e*S	**Sn**	**20 19 11.7**	**+0.2**
TALC	**Talca**	**1.10**	**19**	*e*P	**Pn**	**20 19 00.3**	**-0.2**
TALC				*e*S	**Sn**	**20 19 14.9**	**-0.5**
AGCH	**Angol**	**1.45**	**200**	*e*P	**Pn**	**20 19 04.4**	**-0.6**
AGCH				*e*S	**Sn**	**20 19 22.3**	**-1.2**
NICH	**Los Niches**	**1.59**	**26**	*e*P	**Pn**	**20 19 06.9**	**0.0**
NICH				*e*S	**Sn**	**20 19 26.4**	**-0.4**
CLCH	**Cerro Calan**	**3.29**	**23**	*e*P	**Pn**	**20 19 30.3**	**+0.4**
CLCH				*e*S	**Sn**	**20 20 07.9**	**0.0**
CLCH				AML	AML	20 20 19.2	
	comp=E,755nm,0.7s						
PEL	**Peldehue**	**3.48**	**20**	*e*P	**Pn**	**20 19 33.1**	**+0.6**
PEL				*e*S	**Sn**	**20 20 12.7**	**+0.1**
PEL				AML	AML	20 20 26.1	
	comp=N,1μm,0.4s						
ROCH	**El Roble**	**3.57**	**15**	*e*P	**Pn**	**20 19 33.9**	**+0.1**
ROCH				*e*S	**Sn**	**20 20 15.0**	**+0.1**
ROCH				AML	AML	20 20 32.9	
	comp=E,671nm,0.6s						
PLCA	**Paso Flores**	**4.45**	**165**	Pn	**Pn**	**20 19 47.3**	**+1.6**
	comp=E,2.6nm,0.3s,baz=338,slow=13,SNR=62						
PLCA				Lg	Lg	20 20 53.8	
	comp=E,2.2nm,0.3s,baz=250,slow=18,SNR=3.6						
CFAA	**Coronel Fontan**	**5.78**	**35**	Pn	Pn	20 19 59.5	-4.4
	comp=E,0.0nm,0.3s,baz=198,slow=17,SNR=2.4						
CFAA				Lg	Lg	20 21 14.4	
	comp=E,0.3nm,0.3s,baz=125,slow=21,SNR=10						
LPAZ	**La Paz**	**20.38**	**11**	P	Pn	20 23 17.1	+2.3
	comp=E,1.0nm,0.5s,baz=155,slow=5.2,SNR=8.8						
SIV	**San Ignacio**	**22.60**	**29**	P	**P**	**20 23 34.8**	**-0.4**
	comp=E,1.9nm,0.5s,baz=208,slow=9.7,SNR=7.3						
TXAR	**Lajitas Array**	**71.85**	**331**	P	**PcP**	**20 30 13.8**	**-0.2**
	comp=E,0.1nm,0.5s,baz=144,slow=7.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**85.08**	**70**	P	**P**	**20 31 08.3**	**-0.2**
	comp=E,0.5nm,0.8s,baz=226,slow=4.7,SNR=4.2						
MKAR	**Makanchi Array**	**158.31**	**54**	PKPab	**PKPab**	**20 39 03.9**	**+0.4**
	comp=E,0.2nm,0.5s,baz=284,slow=5.8,SNR=3.7						

IDC 04 20:23:38.9±2.1, 17°.31S×177°.45W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=95.2km s-min=28.8km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.64**	**259**	P	P	20 32 01.7	+0.2
	0.5nm,1.2s,baz=96,slow=8.5,SNR=3.1						
ASAR	**Alice Springs**	**45.83**	**254**	P	P	20 32 02.5	-0.6
	1.1nm,0.7s,baz=88,slow=8.2,SNR=14						
SEY	**Seymchan**	**83.41**	**347**	P	P	20 36 07.7	0.0
	0.5nm,0.3s,baz=151,slow=7.1,SNR=6.6						
TXAR	**Lajitas Array**	**84.91**	**57**	P	P	20 36 17.9	+1.6
	0.4nm,0.9s,baz=232,slow=4.4,SNR=3.6						
ILAR	**Eielson Array**	**85.11**	**13**	P	P	20 36 14.6	-1.7
	1.1nm,1.0s,baz=224,slow=6.0,SNR=5.9						
BRTR	**Keskin Array B**	**145.00**	**316**	PKPbc	PKPab	20 43 16.5	-1.4
	1.5nm,1.0s,baz=72,slow=2.1,SNR=8.8						

*IDC **04** 20:25:15.6±0.9, 16°.85S×177°.14W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/35, mbtmp4.0/7, Error ellipse: s-maj=35.4km s-min=23.2km az=123.0*
*ISCJB **04** 20:25:18.6±0.9, 17°.0S±0°.2×177°.1W±0°.2, h33km, mb4.0/7, Error ellipse: s-maj=33.2km s-min=20.9km az=31.6*

ISC 04 20:25:20.7±0.9, 16°.9S±0°.2×177°.2W±0°.2, h35km, n9, σ1§46/9, mb4.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.89**	**192**	P	**P**	**20 30 08.6**	**-2.1**
	15nm,1.1s,baz=45,slow=4.3,SNR=3.2						
WRA	**Warramunga Arr**	**45.99**	**258**	P	**P**	**20 33 40.1**	**-0.9**
	1.0nm,1.1s,baz=69,slow=8.1,SNR=3.4						
ASAR	**Alice Springs**	**46.21**	**253**	P	**P**	**20 33 43.5**	**+0.8**
	2.9nm,0.7s,baz=87,slow=8.2,SNR=14						
QSPA	**South Pole Qui**	**73.18**	**180**	P	**P**	**20 36 49.9**	**+2.1**
	1.7nm,0.8s,baz=60,slow=5.1,SNR=4.6						
SEY	**Seymchan**	**83.04**	**346**	P	**P**	**20 37 43.1**	**+1.1**
	1.3nm,0.9s,baz=138,slow=8.4,SNR=5.0						
TXAR	**Lajitas Array**	**84.44**	**57**	P	**P**	**20 37 49.8**	**-0.4**
	0.5nm,1.0s,baz=232,slow=4.4,SNR=3.0						
ILAR	**Eielson Array**	**84.62**	**13**	P	**P**	**20 37 49.0**	**-1.1**
	2.3nm,1.0s,baz=224,slow=4.7,SNR=5.5						
BRTR	**Keskin Array B**	**144.86**	**317**	PKP	**PKPdf**	**20 44 54.7**	**+0.2**
	2.0nm,0.8s,baz=102,slow=2.3,SNR=11						
GERES	**GERESS Array B**	**146.90**	**347**	PKPbc	**PKPab**	**20 45 00.5**	**-0.4**
	0.4nm,0.8s,baz=295,slow=3.0,SNR=3.6						

*ISCJB **04** 20:27:60.0±2.2, 17°.23S±0°.06×176°.99W±0°.04, h5km±13km, mb4.8/58, MS5.0/29, Error ellipse: s-maj=11.0km s-min=5.5km az=157.4*
*IDC **04** 20:27:59.3±0.6, 17°.20S×176°.88W, h0km, mb4.3/16, mb1 4.5/17, mb1mx4.4/35, mbtmp4.3/17, ML3.4/1, MS5.0/20, Ms1 5.0/20, ms1mx4.9/26, Error ellipse: s-maj=21.4km s-min=16.0km az=121.0*
*BJI **04** 20:28:02.8, 17°.20S×176°.99W, h18km, mB5.3/25, mb4.9/32, Ms5.2/26, Ms7 4.8/26*
*NEIC **04** 20:28:04.9±3.1, 17°.19S×177°.06W, h30km±21km, mb5.1/43, Error ellipse: s-maj=11.8km s-min=6.9km az=148.0*
*GCMT **04** 20:28:04.9±0.1, 17°.13S×176°.77W, h16km, MW5.6/125, Moment Tensor Solution. s96,c163; s125,c251; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35±.03; $M_{\theta\theta}$-2.47±.03; $M_{\phi\phi}$2.82±.03; $M_{r\theta}$0.05±.08; $M_{\theta\phi}$1.20±.03; $M_{r\phi}$0.60±.09; Best double couple: M_o2.95600×10^{17} NP1:ϕ_s327.00000°, δ85.00000°, λ172.00000°. NP2:ϕ_s58.00000°, δ82.00000°, λ6.00000°. Principal axes: T 3.1800, Plg10.0000°, Azm282.0000°; N -0.4500, Plg80.0000°, Azm113.0000°; P -2.7320, Plg2.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **04** 20:28:05.3±1.9, 17°.08S×177°.09W, h33km, mb5.2/15, MS5.1/7 Error ellipse: s-maj=12.8km s-min=9.5km az=146.3*

ISC 04 20:28:04.4±0.4, 17°.27S±0°.07×176°.96W±0°.05, h24km±2km, h24km:pP-P, n288, σ1§42/303, mb5.0/59, MS5.2/30, 29C-26D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.79**	**264**	Pn	**Pn**	**20 29 14.0**	**-1.1**
	257nm,0.5s,SNR=6.8						
MSVF	**Nonsavu**	**4.79**	**264**	*e*P	**Pn**	**20 29 14.4**	**-0.8**
MSVF				*e*		20 30 10.4	
MSVF	**Nonsavu**	**4.79**	**264**	*e*Pn	**Pn**	**20 29 14.4**	**-0.8**
MSVF				*e*Sn	**Sn**	**20 30 10.3**	**+0.4**
AFI	**Afiamalu**	**6.01**	**57**	*e*P	**Pn**	**20 29 33.0**	**+1.1**
AFI	**Afiamalu**	**6.01**	**57**	*e*Pn	**Pn**	**20 29 33.0**	**+1.1**
RAO	**Raoul Island**	**11.96**	**184**	LR	LR	20 34 41.2	
	comp=Z,18μm,21.3s,baz=28,slow=33						
DZM	**Mont Dzumac**	**16.34**	**250**	*e*Pn	**P**	**20 31 56.3**	**+1.0**
	125nm,1.2s						
DZM				*e*LR	LR	20 35 43.5	
	12μm,25.1s						
DZM	**Mont Dzumac**	**16.34**	**250**	Pn	**Pn**	**20 31 52.5**	**0.0**
	0.1nm,0.3s,baz=82,slow=14,SNR=5.9						
DZM				LR	LR	20 37 04.7	
	comp=Z,10μm,20.7s,baz=78,slow=33						
DZM	**Mont Dzumac**	**16.34**	**250**	*e*P	**P**	**20 31 56.1**	**+0.8**
	245nm,1.8s						
OUZ	**Omahuta**	**19.77**	**203**	*e*Pn	**Pn**	**20 32 33.8**	**-0.6**
	500nm,2.3s						
URZ	**Urewera**	**21.55**	**193**	P	**P**	**20 32 49.8**	**-2.3**
	44nm,0.9s,baz=359,slow=5.2,SNR=11						
URZ				LR	LR	20 40 01.7	
	comp=Z,12μm,21.2s,baz=43,slow=33						
URZ	**Urewera**	**21.55**	**193**	*e*P	**P**	**20 32 50.6**	**-1.4**
HNR	**Honiara**	**23.76**	**286**	LR	LR	20 41 05.9	
	comp=Z,7μm,19.7s,baz=117,slow=33						
PAE	**Paea**	**26.11**	**95**	*e*T	T	21 00 19.1	
	3.5nm,0.3s						
PPT2	**Papeete2**	**26.12**	**95**	*e*S	**S**	**20 38 09.4**	**+2.1**
	1μm,25.8s						
PPT2				*e*LQ	LQ	20 39 02.4	
	3μm,25.2s						
PPT2				*e*LR	LR	20 40 02.2	
	15μm,26.8s,baz=258						
PPT2	**Papeete2**	**26.12**	**95**	*e*T	T	21 00 20.9	
	4.6nm,0.3s						
PPT	**Papeete**	**26.12**	**95**	LR	LR	20 41 06.3	
	comp=Z,3μm,19.8s,baz=256,slow=30						
TVO	**Taravao**	**26.42**	**95**	*e*T	T	21 00 41.7	
	2.1nm,0.3s						
TBI	**Tubuai**	**26.46**	**108**	*e*S	**S**	**20 38 11.6**	**-0.9**
	840nm,25.8s						
TBI				*e*LQ	LQ	20 39 02.5	
	2μm,31.8s						
TBI				*e*LR	LR	20 40 10.5	
	16μm,28.5s,baz=279						
RMQ	**Roma**	**33.02**	**248**	P	**P**	**20 34 40.0**	**+1.9**
	baz=35,SNR=5.4						
CTA	**Charters Tower**	**34.92**	**260**	P	**P**	**20 34 53.8**	**-0.8**
	4.3nm,0.7s,baz=94,slow=16,SNR=3.8						
CTA				LR	LR	20 47 51.3	
	comp=Z,5μm,18.2s,baz=92,slow=34						
PMG	**Port Moresby**	**35.73**	**278**	*e*P	**P**	**20 35 01.0**	**-0.6**
PMG				pmax	pmax		
	comp=Z,24nm,1.7s						
PMG	**Port Moresby**	**35.73**	**278**	LR	LR	20 48 46.0	
	comp=Z,3μm,18.2s,baz=91,slow=35						
PMG	**Port Moresby**	**35.73**	**278**	*e*P	**P**	**20 35 01.3**	**-0.3**
	comp=Z,8.6nm,1.6s						
CMSA	**Cobar Meteorol**	**36.67**	**240**	P	**P**	**20 35 11.9**	**+2.5**
	baz=39,SNR=5.8						
QLP	**Quilpie**	**37.05**	**249**	P	**P**	**20 35 13.5**	**+0.7**
	baz=39,SNR=11						
COEN	**Coen**	**38.49**	**269**	P	P	20 35 31.5	+6.5
	baz=41,SNR=3.9						
COEN	**Coen**	**38.49**	**269**	*e*P	**P**	**20 35 22.8**	**-2.3**
	comp=Z,3.6nm,1.3s						
TOO	**Toolangi**	**38.65**	**231**	P	**P**	**20 35 27.5**	**+1.4**
	baz=40,SNR=5.6						
RKT	**Rikitea**	**39.73**	**106**	*e*S	**S**	**20 41 39.7**	**+1.7**
	comp=Z,703nm,26.8s						
RKT				*e*LQ	LQ	20 44 41.9	
	comp=Z,823nm,32.2s						
RKT				*e*LR	LR	20 46 20.9	
	comp=Z,10μm,27.8s,baz=275						
JAY	**Jayapura**	**44.07**	**285**	LR	LR	20 53 30.9	
	comp=Z,2μm,21.9s,baz=102,slow=35						
WB2	**Warramunga Arr**	**46.10**	**259**	*e*P	**P**	**20 36 27.2**	**+0.2**
**WR

comp=Z,33nm,1.9s
DAC Darwin (Calif) 77.31 45 *e*P **P 20 39 58.1 +0.7**
comp=Z,33nm,1.9s
GSC Goldstone, Bar 77.33 47 *e*P **P 20 39 58.8 +1.3**
GSC pmax pmax
comp=Z,60nm,2.3s
GSC Goldstone, Bar 77.33 47 *e*P **P 20 39 58.8 +1.3**
comp=Z,60nm,2.3s
HEC Hector,Ludlow 77.42 47 P **P 20 39 57.9 0.0**
baz=78
IRM Iron Mountain 77.91 48 P **P 20 40 00.2 -0.4**
baz=78
NVAR Mina Array Bea 78.01 43 P **P 20 40 00.1 -1.2**
comp=Z,1.2nm,0.3s,baz=240,slow=12,SNR=6.3
Y12C Blythe 78.16 49 P **P 20 40 02.5 +0.6**
baz=78
MDJ Mudanjiang 78.47 324 P **P 20 40 05.3 +1.9**
MDJ pP **PcP 20 40 12.7 +0.2**
MDJ sP **sP 20 40 14.3 +0.3**
MDJ S S 20 50 06.2 +8.1
MDJ sS **SKKSac 20 50 17.4 -0.4**
MDJ PMZ
comp=Z,9.0nm,1.5s
MDJ PMZ
comp=Z,74nm,5.3s
MDJ LN
comp=Z,390nm,34.3s
MDJ LE
comp=Z,410nm,29.6s
MDJ LZ
comp=Z,370nm,24.8s
TPH Tonopah 78.53 44 *e*P **P 20 40 04.3 +0.1**
TPH pmax pmax
comp=Z,30nm,1.9s
TPH Tonopah 78.53 44 *e*P **P 20 40 04.3 +0.1**
comp=Z,30nm,1.9s
214A Organ Pipe Nat 78.53 51 P **P 20 40 03.8 -0.3**
baz=79
NJ2 Nanjing 78.61 309 *e*P **P 20 40 03.7 -0.7**
NJ2 PMZ
comp=Z,20nm,1.0s
PDMCI Parker Dam,Lak 78.70 49 P **P 20 40 04.8 -0.1**
baz=79
W13A Hualapai Mount 79.28 48 P **P 20 40 08.3 -0.1**
baz=80
Y14A Wickenburg 79.35 49 P **P 20 40 08.8 +0.2**
baz=80
R11A Troy Canyon, C 79.77 45 *e*P **P 20 40 11.2 +0.3**
comp=Z,29nm,2.1s
BMN Battle Mountai 79.81 42 *e*P **P 20 40 10.7 -0.4**
BMN pmax pmax
comp=Z,7.0nm,0.6s
BMN Battle Mountai 79.81 42 *e*P **P 20 40 10.7 -0.4**
comp=Z,6.5nm,0.6s
TUC Tucson 80.22 52 *e*P **P 20 40 12.5 -0.9**
TUC pmax pmax
comp=Z,31nm,1.8s
TUC Tucson 80.22 52 *e*P **P 20 40 12.5 -0.9**
comp=Z,31nm,1.8s
CN2 Changchun 80.37 322 *e*P **P 20 40 16.1 +2.3**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,260nm,6.0s
CN2 LN
comp=Z,310nm,16.0s
CN2 LE
comp=Z,300nm,16.0s
CN2 LZ
comp=Z,330nm,16.0s
QIZ Qiongzhong 80.46 293 P **P 20 40 15.6 +0.8**
QIZ pP **PcP 20 40 21.6 -0.2**
QIZ sP **sP 20 40 26.2 +0.7**
QIZ S **S 20 50 21.0 +0.7**
QIZ PMZ
comp=Z,10.0nm,2.6s
QIZ LZ
comp=Z,290nm,29.1s
GAMB Gambell 80.89 2 *e*P **P 20 40 14.1 -2.0**
comp=Z,8.8nm,1.2s
319A Douglas 80.94 53 P **P 20 40 17.8 +0.5**
baz=81
U15A North Rim 81.06 48 P **P 20 40 18.0 0.0**
baz=81
WHN Wuhan 81.35 306 P **P 20 40 19.0 -0.3**
WHN LN
comp=Z,540nm,10.4s
WHN LE
comp=Z,370nm,3.6s
WHN LZ
comp=Z,790nm,19.6s
RAGM Ragged Mountai 81.65 16 *e*P **P 20 40 19.9 -0.4**
comp=Z,120nm,0.5s
MFID Camas Ranch 82.29 40 *e*P **P 20 40 24.3 +0.1**
comp=Z,22nm,1.8s
DUG Dugway, Tooele 82.56 44 *e*P **P 20 40 25.6 -0.1**
DUG pmax pmax
comp=Z,12nm,1.5s
DUG Dugway, Tooele 82.56 44 P **P 20 40 25.4 -0.2**
baz=83
DUG Dugway, Tooele 82.56 44 *e*P **P 20 40 25.6 -0.1**
comp=Z,12nm,1.5s
TNA Tin City 82.86 4 *e*P **P 20 40 24.6 -1.7**
comp=Z,26nm,1.1s
KTH Kantishna Hill 83.07 11 *e*P **P 20 40 27.9 +0.2**
comp=Z,27nm,1.6s
TRF Thorofare Moun 83.10 12 P **P 20 40 26.4 -1.6**
comp=Z,15nm,0.9s
TMUT Trail Mountain 83.20 45 *e*P **P 20 40 29.2 0.0**
comp=Z,41nm,1.7s
HLID Hailey 83.24 41 P **P 20 40 29.1 -0.1**
baz=83
HLID Hailey 83.24 41 *e*P **P 20 40 29.3 +0.1**
comp=Z,109nm,3.0s
SEY Seymchan 83.47 346 P **P 20 40 27.4 -2.2**
comp=Z,17nm,1.0s,baz=155,slow=6.4,SNR=13
SRU San Rafael Swe 83.58 46 *e*P **P 20 40 30.3 -0.8**
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU San Rafael Swe 83.58 46 *e*P **P 20 40 30.3 -0.8**
comp=Z,9.6nm,1.1s
MCK McKinley 83.62 12 *e*P **P 20 40 30.3 -0.2**
MCK pmax pmax
comp=Z,12nm,1.0s
MCK McKinley 83.62 12 *e*P **P 20 40 30.3 -0.2**
comp=Z,12nm,1.0s
DAU Daniels Canyon 83.70 44 *e*P **P 20 40 29.9 -1.9**
DAU Daniels Canyon 83.70 44 *e*P **P 20 40 29.9 -1.9**
IPM Ipoh 83.72 277 *e*P **P 20 40 32.3 +0.2**
comp=Z,16nm,0.9s
MNTX Cornudas Mount 84.08 54 P **P 20 40 33.2 -0.3**
baz=84
MNTX Cornudas Mount 84.08 54 *e*P **P 20 40 32.5 -1.0**
BJI Beijing 84.31 315 P **P 20 40 36.4 +2.0**
BJI PP **PP 20 43 52.8 +3.2**
BJI S **S 20 51 02.5 +3.7**
BJI SS **SS 20 56 29.9 +0.6**
BJI PMZ
comp=Z,11nm,0.6s
BJI LN
comp=Z,500nm,21.7s
BJI LE
comp=Z,120nm,15.0s
BJI LZ
comp=Z,410nm,26.0s
TXAR Lajitas Array 84.49 57 P **P 20 40 33.6 -2.1**
comp=Z,3.9nm,1.2s,baz=241,slow=4.1,SNR=11
DOT Dot Lake 84.60 14 P P 20 40 31.7 -3.7
comp=Z,12nm,1.0s
ANMO Albuquerque 84.62 51 *ce*P **P 20 40 36.7 +0.3**
ANMO pmax pmax
comp=Z,41nm,1.6s
ANMO Albuquerque 84.62 51 *e*P **P 20 40 35.0 -1.4**
comp=Z,12nm,1.4s
IM04 Indian Mountai 84.81 9 *e*P **P 20 40 34.3 -2.2**
COLA College 84.86 12 *e*P P 20 40 33.1 -3.5
COLA pmax pmax
comp=Z,33nm,1.1s
COLA College 84.86 12 *e*P P 20 40 33.1 -3.5
comp=Z,33nm,1.1s
MAW Mawson 84.92 199 LR LR 21 15 53.5
comp=Z,2μm,19.8s,baz=96,slow=34
ILAR Eielson Array 84.96 12 P **P 20 40 34.7 -2.5**
comp=Z,10nm,1.2s,baz=229,slow=5.2,SNR=16
ILAR LR LR 21 11 01.9
comp=Z,1μm,21.9s,baz=222,slow=30
GDL2 Guadalupe Moun 85.07 54 *e*P **P 20 40 39.9 +1.2**

V23A Ortiz Mt. (NFS 85.16 50 P **P 20 40 37.6 -1.6**
baz=85
PSI Prapat 85.21 274 P P **20 40 40.2 +0.4**
baz=88,SNR=3.8
MSO Missoula 85.23 38 P **P 20 40 37.7 -1.4**
baz=85
BSMT Bassoo Peak 85.28 37 *e*P **P 20 40 38.9 -0.5**
DLMT Dillon 85.28 40 *e*P **P 20 40 39.8 +0.3**
comp=Z,12nm,1.2s
TPAW Teton Pass 85.39 42 *e*P **P 20 40 40.5 +0.3**
comp=Z,22nm,1.7s
REDW Red Top Meadow 85.39 42 *e*P **P 20 40 40.2 +0.1**
comp=Z,31nm,1.5s
U23A El Rito 85.40 50 P **P 20 40 39.8 -0.6**
baz=86
FXWY Fox Creek 85.41 42 *e*P **P 20 40 40.8 +0.6**
comp=Z,18nm,1.6s
W24A Lazy 6 Ranch, 85.51 51 P **P 20 40 40.6 -0.4**
baz=86
IMW Indian Meadow 85.59 41 *e*P **P 20 40 41.4 +0.2**
comp=Z,18nm,1.5s
O20A White River Ci 85.61 46 *e*P **P 20 40 44.1 +2.8**
comp=Z,44nm,2.0s
LOHW Long Hollow 85.67 42 *e*P **P 20 40 42.2 +0.6**
comp=Z,91nm,2.8s
FLWY Flagg Ranch 85.83 41 *e*P **P 20 40 42.2 -0.1**
comp=Z,22nm,1.5s
N20A Spence Gulch, 85.91 45 P **P 20 40 41.5 -1.4**
baz=86
GYA Guiyang 85.93 299 P **P 20 40 43.2 +0.1**
GYA PP **PP 20 44 05.8 +2.5**
GYA SKS **SKSac 20 51 06.0 -1.9**
GYA S **SKKSac 20 51 14.3 -0.9**
GYA SS **SS 20 56 55.7 +1.7**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,4.8s
GYA LN
comp=Z,540nm,20.8s
GYA LE
comp=Z,520nm,21.2s
GYA LZ
comp=Z,550nm,20.6s
PDAR Pinedale Array 85.94 43 P **P 20 40 39.8 -3.1**
comp=Z,1.1nm,1.0s,baz=251,slow=4.5,SNR=6.6
BILL Bilibino 85.94 354 *c i*P **P 20 40 41.2 -0.8**
BILL pmax pmax
comp=Z,20nm,0.9s
BILL MLR MLR
comp=Z,526nm,18.0s
BILL Bilibino 85.94 354 *e*P **P 20 40 40.7 -1.3**
comp=Z,20nm,0.9s
SLVN Son La 86.49 293 P **P 20 40 44.6 -1.3**
comp=Z,7.8nm,1.3s
J19A Crowheart 86.50 43 P **P 20 40 44.7 -0.9**
baz=87
COLD Coldfoot 86.54 10 *e*P **P 20 40 43.7 -1.2**
comp=Z,10nm,1.2s
HIA Hailar 86.66 324 *e*P **P 20 40 43.6 -2.4**
HIA pmax pmax
comp=Z,2.0nm,1.0s
XAN Xi'an 86.98 307 P **P 20 40 49.5 +1.5**
XAN PMZ
comp=Z,2.0nm,1.5s
XAN PMZ
comp=Z,23nm,8.7s
430A Baggett Ranch, 86.99 57 P **P 20 40 47.3 -0.8**
baz=87
631A Perdido Creek 87.01 58 P **P 20 40 47.6 -0.6**
baz=87
832A Faith Ranch, C 87.09 59 P **P 20 40 48.0 -0.6**
baz=87
H19A Powell 87.19 41 P **P 20 40 49.2 +0.3**
baz=87
S25A Robets Cordova 87.23 49 P **P 20 40 49.5 +0.1**
baz=87
531A Rocksprings 87.31 57 P **P 20 40 49.9 +0.2**
baz=88
933A Laredo 87.43 60 P **P 20 40 50.8 +0.5**
baz=88
632A Uvalde 87.69 58 P **P 20 40 50.8 -0.7**
baz=88
HHC Hu-ho-hao-te 87.82 314 *e*P **P 20 40 52.7 +0.8**
HHC PP **PP 20 44 21.4 +3.2**
HHC SKS **SKSac 20 51 17.0 -1.9**
HHC S **S 20 51 32.4 -1.0**
HHC sS **sS 20 51 45.6 -0.8**
HHC SS **SS 20 57 23.4 +2.3**
HHC PMZ
comp=Z,7.0nm,1.1s
HHC PMZ
comp=Z,86nm,5.1s
HHC LN
comp=Z,130nm,18.0s
HHC LE
comp=Z,240nm,17.7s
HHC LZ
comp=Z,210nm,17.3s
KMI Kunming 88.78 297 P **P 20 40 59.2 +2.2**
KMI pP **pP 20 41 05.9 +1.0**
KMI sP **sP 20 41 09.1 +1.4**
KMI PP **PP 20 44 27.8 +1.4**
KMI S **S 20 51 44.5 +1.1**
KMI PMZ
comp=Z,6.0nm,1.1s
KMI PMZ
comp=Z,49nm,3.5s
KMI LN
comp=Z,220nm,23.4s
KMI LE
comp=Z,430nm,21.2s
KMI LZ
comp=Z,770nm,22.3s
BTO Baotou 88.78 313 *e*P **P 20 40 55.9 -0.6**
EDM Edmonton 88.87 33 *e*P **P 20 40 57.4 +0.9**
EDM Edmonton 88.87 33 *e*P **P 20 40 57.4 +0.9**
CD2 Chengdu 89.89 302 *e*P **P 20 41 02.0 +0.1**
CD2 pP **pP 20 41 09.4 -0.3**
CD2 sP **sP 20 41 12.4 -0.1**
CD2 PP **PP 20 44 37.3 +2.3**
CD2 SKS **SKSac 20 51 29.4 -2.1**
CD2 S **S 20 51 51.1 -2.1**
CD2 sS **sS 20 52 03.4 -2.9**
CD2 SS **SS 20 57 52.9 +1.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s
CD2 LN
comp=Z,470nm,18.1s
CD2 LE
comp=Z,460nm,20.6s
CD2 LZ
comp=Z,390nm,25.5s
CMAR Chiang Mai Arr 89.97 289 *ce*P **P 20 41 05.1 +2.6**
CMAR pmax pmax
comp=Z,1.0nm,1.1s
CMAR Chiang Mai Arr 89.97 289 P **P 20 41 04.2 +1.7**
comp=Z,1.2nm,1.1s,baz=114,slow=3.4,SNR=7.0
PAF Port-aux-Franc 91.10 217 S S 20 51 57.0 -6.7
PAF SS SS 20 57 57.0 -10
PAF L L 21 05 00.0
PAF R 21 10 00.0
LZH Lanzhou 91.60 307 *e*P **P 20 41 10.1 +0.2**
LZH pP **pP 20 41 17.5 -0.2**
LZH sP **sP 20 41 22.1 +1.6**
LZH PMZ
comp=Z,14nm,1.0s
YKA Yellowknife Ar 93.18 24 P **P 20 41 15.5 -0.8**
comp=Z,0.5nm,0.9s,baz=242,slow=4.4,SNR=6.6
ULN Ulaanbaatar 93.57 319 *e*P **P 20 41 20.6 +1.9**
ULN pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 93.57 319 *e*P **P 20 41 20.6 +1.9**
comp=Z,3.1nm,1.1s
SONM Songino Array 93.97 319 P **P 20 41 18.9 -1.6**
comp=Z,0.6nm,0.9s,baz=147,slow=5.0,SNR=5.2
SONM LR LR 21 19 04.1
comp=Z,264nm,21.7s,baz=108,slow=33
ECSD EROS Data Cent 94.99 46 P **P 20 41 25.2 0.0**
comp=Z,21nm,1.8s
FFC Flin Flon 95.55 34 *e*P **P 20 41 29.5 +2.2**
FFC pmax pmax
comp=Z,34nm,2.2s
FFC Flin Flon 95.55 34 *e*P **P 20 41 29.5 +2.2**
comp=Z,34nm,2.2s
GTA Gaotai 95.69 309 *e*P **P 20 41 30.1 +1.5**
GTA pP **pP 20 41 37.5 +1.0**
GTA sP **sP 20 41 40.3 +1.0**
GTA SKS **SKSac 20 52 03.4 -0.1**
GTA S **S 20 52 43.3 -1.5**
GTA sS **sS 20 52 55.4 -2.5**
GTA SS **SS 20 59 17.6 +2.9**
GTA PMZ
comp=Z,2.0nm,1.6s
GTA PMZ
comp=Z,74nm,5.5s
GTA LN
comp=Z,170nm,19.0s
GTA LE
comp=Z,200nm,18.5s
GTA LZ
comp=Z,290nm,19.0s
ATAH Atahualpa 96.02 99 LR LR 21 14 14.3
comp=Z,1μm,20.9s,baz=311,slow=29
ULM Lac du Bonnet 97.53 40 LR LR 21 18 38.5
comp=Z,1μm,20.6s,baz=248,slow=31
MKAR Makanchi Array 109.68 314 PKiKP **PKiKP 20 46 31.6 -1.8**
comp=Z,0.2nm,0.7s,baz=90,slow=2.0,SNR=2.5
KSH Kashi 113.82 306 *e*PKP **PKiKP 20 46 42.5 +0.9**
KSH SKS **SKSdf 20 53 49.6 -2.9**
KSH SKKS **SKKSac 20 54 34.5 -1.0**
KSH PPMZ
comp=Z,75nm,5.3s
KSH LN
comp=Z,120nm,5.5s
KSH LE
comp=Z,91nm,5.2s
KSH LZ
comp=Z,260nm,7.8s
ARU Arti 123.08 327 *i* PKIKP **PKPdf 20 46 58.5 -0.2**
ARU 20 48 36.1
ARU 20 53 52.9
ARCES ARCESS Array B 125.92 350 PKP **PKPdf 20 47 00.4 -3.4**
comp=Z,1.1nm,0.7s,baz=112,slow=1.3,SNR=4.3
GEYT Alibeck 127.82 305 PKP **PKPdf 20 47 04.7 -3.7**
comp=Z,0.4nm,0.4s,baz=316,slow=4.0,SNR=2.5
FINES FINESS Array B 132.94 345 PKP **PKPdf 20 47 15.4 -1.8**
comp=Z,0.7nm,0.9s,baz=72,slow=4.5,SNR=2.7
MAK Makhachkala 134.50 314 *i* PKIKP PKPdf 20 47 30.8 +10
KIV Kislovodsk 137.34 317 *i* PKIKP **PKPdf 20 47 21.8 -4.4**
KIV *e* 20 54 25.0
KIV *e*SS SS 21 08 07.5 -10
KIV *e*SSS SSS 21 13 14.0
KIV pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 140.62 334 PKP **PKPdf 20 47 31.1 -0.7**
comp=Z,0.1nm,0.4s,baz=38,slow=2.8,SNR=4.4
SIM Simferopol' 142.08 323 *e*PKHKP PKPpre 20 47 29.3
SIM pmax pmax
comp=Z,5.0nm,0.8s
SIM MLR MLR
comp=Z,300nm,18.0s
KWP Kalwaria Pacla 144.01 338 *e*PKIKP PKPbc 20 47 36.3 +0.4
KWP Kalwaria Pacla 144.01 338 *e*PKP PKPbc 20 47 36.6 +0.7
KWP Kalwaria Pacla 144.01 338 ⇑*i*P PKPbc 20 47 36.6 +0.7
KWP Kalwaria Pacla 144.01 338 *e*PKPdf PKPbc 20 47 36.3 +0.5
BURAR Bucovina Array 144.67 334 ⇑*i*P **PKPab 20 47 35.0 -3.0**
STHS Stebnicka Huta 144.70 339 *e*PKIKP **PKPdf 20 47 39.9 +0.7**
STHS Stebnicka Huta 144.70 339 *e*PKP **PKPdf 20 47 39.9 +0.7**
KOLS Kolonicke sedl 144.75 338 *e*PKIKP **PKPdf 20 47 41.0 +1.7**
KOLS Kolonicke sedl 144.75 338 *e*PKP **PKPdf 20 47 41.0 +1.7**
KSP Ksiaz 144.86 345 *e*PKIKP **PKPdf 20 47 39.7 +0.3**
KSP MLR MLR
comp=Z,3μm,25.8s
KSP Ksiaz 144.86 345 *e*PKP **PKPdf 20 47 39.2 -0.2**
TESR Tescani 144.89 331 ⇑*i*P **PKPab 20 47 34.0 -4.7**
UZH Uzhgorod 145.00 338 *e*PKIKP PKPbc 20 47 37.5 -1.5
UZH *i* 20 47 45.1
NIE Niedzica 145.01 340 *e*PKP **PKPdf 20 47 40.6 +0.9**
CRVS Cervenica-Dubn 145.07 339 *e*PKIKP **PKPdf 20 47 40.2 +0.4**
CRVS Cervenica-Dubn 145.07 339 *e*PKP **PKPdf 20 47 40.2 +0.4**
CLL Collm 145.12 349 *e*PKHKP PKPpre 20 47 36.0
CLL *i* 20 47 40.2
CLL *e* 20 47 53.0
CLL MLR MLR
comp=Z,500nm,21.5s
CLL Collm 145.12 349 *e*PKPdf **PKPdf 20 47 40.2 +0.4**
comp=Z,21nm,2.0s
CLL *i*,*e*PKPdf **pPKPdf 20 47 46.5 -1.4**
CLL *ep*PKiKP **pPKiKP 20 47 53.0 +1.3**
CLL *e*(SS) 21 10 24.0
CLL *e*SSS SSS 21 15 12.0
CLL LmV 21 50 00.0
comp=Z,500nm,21.5s
CLL LmH 21 50 00.0
comp=N,400nm,21.8s
CLL LmH 21 50 00.0
comp=E,200nm,19.9s
CFR Carcaliu 145.14 328 ⇑PKIKP **PKPdf 20 47 40.1 +0.1**
CFR Carcaliu 145.14 328 ⇑*i*P **PKPdf 20 47 40.1 +0.1**
UPC Upice 145.24 345 *e*PKIKP **PKPdf 20 47 41.6 +1.5**
UPC *e* 20 47 47.6
UPC Upice 145.24 345 *e*PKP **PKPdf 20 47 41.6 +1.5**
UPC *ep*PKP **pPKPdf 20 47 47.6 -0.6**
BRTR Keskin Array B 145.29 316 *c i*PKIKP **PKPdf 20 47 44.0 +3.3**
BRTR pmax pmax
comp=Z,14nm,1.1s
BRTR Keskin Array B 145.29 316 PKPbc **PKPbc 20 47 40.1 -0.3**
comp=Z,14nm,1.1s,baz=98,slow=1.7,SNR=17
OKC Ostrava-Krasne 145.29 343 *e*PKIKP **PKPdf 20 47 40.9 +0.8**
OKC MLR MLR
comp=Z,500nm,18.2s
OKC Ostrava-Krasne 145.29 343 *e*PKP **PKPdf 20 47 40.9 +0.8**
OKC AMS AMS 21 49 30.0
comp=Z,500nm,18.2s
DPC Dobruska-Polom 145.31 345 *e*PKP2 **PKPbc 20 47 38.7 -1.3**
DPC Dobruska-Polom 145.31 345 *e*PKP **PKPbc 20 47 38.7 -1.3**
DPC AMS AMS 21 44 10.0
TRPA Tarpa 145.33 337 ⇑*i*P **PKPbc 20 47 38.3 -1.7**
VRI Vrincioaia 145.33 330 ⇑PKIKP **PKPdf 20 47 41.2 +0.8**
VRI Vrincioaia 145.33 330 ⇑*i*P **PKPdf 20 47 41.2 +0.8**
BRG Berggiesshubel 145.35 348 *e*PKP **PKPdf 20 47 42.1 +1.9**
comp=Z,33nm,2.1s
BRG Berggiesshubel 145.35 348 *e*PKIKP **PKPdf 20 47 42.1 +1.9**
BRG pmax pmax
comp=Z,33nm,2.1s
PLOR Plostina 145.38 330 ⇓PKIKP **PKPab 20 47 41.1 +0.6**
PLOR Plostina 145.38 330 ⇓*i*P **PKPab 20 47 41.1 +0.6**
TIRR Tirgusor 145.50 327 ⇓PKIKP **PKPab 20 47 41.5 +0.6**
TIRR Tirgusor 145.50 327 ⇓*i*P **PKPab 20 47 41.5 +0.6**
TIRR Tirgusor 145.50 327 *e*PKPdf **PKPbc 20 47 40.7 0.0**
MORC Moravsky Berou 145.52 343 ⇓PKIKP **PKPab 20 47 41.2 +0.3**
MORC Moravsky Berou 145.52 343 ⇓*i*P **PKPab 20 47 41.2 +0.3**
MORC Moravsky Berou 145.52 343 *e*PKPdf **PKPdf 20 47 40.2 -0.4**
PVCC Panska Ves 145.55 347 *e*PKIKP **PKPab 20 47 41.1 +0.2**
PVCC *e* 20 47 48.2
PVCC MLR MLR
comp=Z,500nm,20.0s
PVCC Panska Ves 145.55 347 *e*PKP **PKPab 20 47 41.1 +0.2**
PVCC *ep*PKP **pPKPdf 20 47 48.2 -0.5**
PVCC AMS AMS 21 44 50.0
comp=Z,500nm,20.0s
HARR Harsova 145.59 328 ⇓PKIKP **PKPab 20 47 44.9 +3.6**
HARR Harsova 145.59 328 ⇓*i*P **PKPab 20 47 44.9 +3.6**
TLB Topalu 145.60 328 ⇓PKIKP **PKPdf 20 47 40.0 -0.8**
TLB Topalu 145.60 328 ⇓*i*P **PKPdf 20 47 40.0 -0.8**
KECS Kecovo 145.76 339 *e*PKP2 **PKPab 20 47 42.3 +0.5**
KECS Kecovo 145.76 339 *e*PKP **PKPab 20 47 42.3 +0.5**
ANTO Ankara 145.77 317 ⇑PKP2 **PKPab 20 47 42.7 +0.5**
ANTO Ankara 145.77 317 ⇑*i*P **PKPab 20 47 42.7 +0.5**
ANTO Ankara 145.77 317 *e*PKPdf **PKPdf 20 47 41.1 -0.3**
DOPR Dopca 145.87 332 ⇓*i*P **PKPab 20 47 42.4 +0.1**
ISR Istrita 145.97 330 ⇑PKP2 **PKPab 20 47 43.9 +1.1**
ISR Istrita 145.97 330 ⇑*i*P **PKPab 20 47 43.9 +1.1**
MLR Muntele Rosu 145.97 331 ⇑PKP2 **PKPdf 20 47 41.1 -0.6**
MLR Muntele Rosu 145.97 331 ⇑*i*P **PKPdf 20 47 41.0 -0.6**
PRA Prague 146.01 347 *e*PKP2 **PKPdf 20 47 41.7 +0.3**
PRA Prague 146.01 347 *e*PKP **PKPdf 20 47 41.7 +0.3**
PRU Pruhonice 146.07 347 *e*PKP2 **PKPab 20 47 42.9 0.0**
PRU Pruhonice 146.07 347 *e*PKP **PKPab 20 47 42.9 0.0**
PRU *ep*PKP **pPKPdf 20 47 49.6 0.0**
PRU AMS AMS 21 42 50.0
comp=Z,800nm,29.1s
PSN Preselentsi 146.16 326 ⇓PKP2 **PKPab 20 47 46.0 +2.6**
PSN Preselentsi 146.16 326 ⇓*i*P **PKPab 20 47 46.0 +2.6**
VRAC Vranov 146.20 344 ⇓PKP2 **PKPbc 20 47 42.8 0.0**
VRAC Vranov 146.20 344 ⇓*i*P **PKPbc 20 47 42.8 0.0**

VYHS	**Vyhne**	**146.29 341**	*e*PKP2	**PKPab**	**20 47 44.2**	**+0.4**
VYHS	**Vyhne**	**146.29 341**	*e*PKP	**PKPab**	**20 47 44.2**	**+0.4**
DRGR		**146.36 335**	⇓PKP2	**PKPdf**	**20 47 42.5**	**+0.3**
DRGR		**146.36 335**	⇓*i*P	**PKPdf**	**20 47 42.5**	**+0.3**
VOIR		**146.43 332**	⇓PKP2	**PKPab**	**20 47 45.0**	**+0.5**
VOIR		**146.43 332**	⇓*i*P	**PKPab**	**20 47 45.0**	**+0.5**
PSZ	**Piszkesteto**	**146.45 339**	*e*PKIKP	**PKPdf**	**20 47 41.2**	**-1.1**
PSZ	**Piszkesteto**	**146.45 339**	*e*PKPdf	**PKPdf**	**20 47 41.2**	**-1.1**
TREC	**Trest**	**146.49 345**	AMS	AMS	21 44 00.0	
	comp=Z,800nm,21.4s					
ARR	**Arges**	**146.67 332**	⇑*i*P	**PKPbc**	**20 47 44.2**	**-0.2**
SNF	**Seneffe**	**146.82 359**	APKP	pPKPdf	20 47 49.1	-1.7
GRF	**Grafenberg Arr**	**146.99 350**	*e*PKP	**PKPbc**	**20 47 45.2**	**+0.2**
GRF			*e*L	L	21 50 03.3	
	comp=Z,390nm,21.9s					
KHC	**Kasperske Hory**	**147.08 347**	*e*PKP2	**PKPdf**	**20 47 44.3**	**+1.0**
KHC			MLR	MLR		
	comp=Z,500nm,24.3s					
KHC	**Kasperske Hory**	**147.08 347**	*e*PKP	**PKPdf**	**20 47 44.3**	**+1.0**
KHC			*ex*	x	20 47 49.5	
KHC			*ep*PKP	**pPKPdf**	**20 47 56.3**	**+4.9**
KHC			AMS	AMS	21 43 00.0	
	comp=Z,500nm,24.3s					
KHC	**Kasperske Hory**	**147.08 347**	*e*PKPab	**PKPab**	**20 47 47.2**	**+0.3**
DOU	**Daurbes**	**147.23 358**	E	**PKPab**	**20 47 49.8**	**+2.4**
GERES	**GERESS Array B**	**147.33 347**	PKPbc	**PKPbc**	**20 47 45.2**	**-0.9**
	comp=Z,3.1nm,1.1s,baz=117,slow=1.5,SNR=10					
GZR	**Gura Zlata**	**147.46 334**	⇑PKP2	**PKPab**	**20 47 47.6**	**-1.0**
GZR	**Gura Zlata**	**147.46 334**	⇑*i*P	**PKPab**	**20 47 47.6**	**-1.0**
WLF	**Walferdange**	**147.58 356**	PKP	**PKPbc**	**20 47 47.7**	**+1.0**
WLF	**Walferdange**	**147.58 356**	*e*PKP2	**PKPab**	**20 47 49.1**	**+0.3**
WLF	**Walferdange**	**147.58 356**	*e*PKPab	**PKPab**	**20 47 49.1**	**+0.3**
CONA	**Conrad Observa**	**147.66 344**	⇑*i*PKiKP	**PKiKP**	**20 47 48.4**	**-0.7**
	comp=Z,25nm,1.7s					
BZS	**Buzias**	**147.76 335**	⇓PKIKP	**PKPdf**	**20 47 45.4**	**+1.0**
BZS	**Buzias**	**147.76 335**	⇓*i*P	**PKPdf**	**20 47 45.4**	**+1.0**
CSS	**Prodhromos**	**147.77 309**	*e*PKPab	**PKPab**	**20 47 49.8**	**-0.3**
JMB	**Yambol**	**147.84 326**	⇓*i*P	**PKPdf**	**20 47 41.4**	**-3.3**
PKSM	**Moragy**	**148.36 339**	⇓PKIKP	**PKPdf**	**20 47 44.1**	**-1.3**
PKSM	**Moragy**	**148.36 339**	⇓*i*P	**PKPdf**	**20 47 44.1**	**-1.3**
BFO	**Black Forest**	**148.72 353**	*c i*PKP2	**PKPab**	**20 47 53.3**	**-0.1**
BFO	**Black Forest**	**148.72 353**	*e*PKPab	**PKPab**	**20 47 52.4**	**-1.0**
KDZ	**Kurdzhali**	**149.03 326**	⇑PKP2	**PKPbc**	**20 47 51.5**	**+0.7**
KDZ	**Kurdzhali**	**149.03 326**	⇑*i*P	**PKPbc**	**20 47 51.5**	**+0.7**
WTTA	**Wattenberg**	**149.26 349**	⇓*i*PKPbc	**PKPbc**	**20 47 49.7**	**-1.7**
	comp=Z,17nm,1.1s					
VTS	**Vitosha**	**149.46 330**	⇑PKP2	**PKPbc**	**20 47 50.8**	**-1.2**
VTS	**Vitosha**	**149.46 330**	⇑*i*P	**PKPbc**	**20 47 50.8**	**-1.2**
FETA	**Feichten**	**149.66 350**	⇓*i*PKiKP	**PKiKP**	**20 47 53.1**	**-0.3**
	comp=Z,19nm,1.1s					
CRES	**Cresnjev**	**149.70 343**	*i* PKPdf	**PKPab**	**20 47 56.3**	**-1.2**
VISS	**Visnje**	**149.89 343**	*i* PKPdf	**PKPab**	**20 47 55.7**	**-2.5**
JAVS	**Javornik**	**150.01 345**	*i* PKPdf	**PKPab**	**20 47 59.8**	**+1.0**
BOJS	**Bojanci**	**150.05 343**	*i* PKPdf	**PKPbc**	**20 47 55.1**	**+1.9**
TORD	**Torodi Ar. Bea**	**175.71 162**	PKPab	**PKPab**	**20 49 52.0**	**+0.8**
	comp=Z,1.8nm,1.1s,baz=174,slow=1.9,SNR=4.9					

IDC 04 20:28:50.7±2.4, 1.1°10N×66.1°18E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/37, mbtmp3.6/4, MS3.8/2, Ms1 3.8/2, ms1mx3.0/31, Error ellipse: s-maj=84.0km s-min=33.8km az=64.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.81**	**147**	T	T	20 40 08.9	
	baz=333,slow=76,SNR=236						
H08N3	**Diego Garcia H**	**8.82**	**147**	T	T	20 40 05.4	
	baz=333,slow=76,SNR=242						
H08N1	**Diego Garcia H**	**8.83**	**147**	T	T	20 40 04.0	
	baz=333,slow=76,SNR=280						
PALK	**Pallekele**	**15.72**	**67**	LR	LR	20 36 46.9	
	comp=Z,89nm,21.5s,baz=279,slow=30						
ZALV	**Zalesovo Beam**	**54.88**	**13**	P	P	20 38 22.8	0.0
	0.7nm,0.6s,baz=210,slow=8.6,SNR=4.3						
H01W3	**Cape Leeuwin H**	**57.34**	**134**	T	T	21 40 16.5	
	baz=300						
H01W2	**Cape Leeuwin H**	**57.35**	**134**	T	T	21 40 16.9	
	baz=300						
H01W1	**Cape Leeuwin H**	**57.36**	**134**	T	T	21 40 17.9	
	baz=300						
SONM	**Songino Array**	**58.10**	**31**	P	P	20 38 45.9	-0.2
	0.6nm,1.0s,baz=212,slow=5.1,SNR=4.4						
WRA	**Warramunga Arr**	**69.91**	**112**	P	P	20 40 04.7	+0.4
	0.4nm,0.8s,baz=290,slow=6.2,SNR=3.6						
ASAR	**Alice Springs**	**70.13**	**116**	P	P	20 40 05.2	-0.4
	0.2nm,0.3s,baz=274,slow=6.1,SNR=4.4						
YAK	**Yakutsk**	**76.87**	**26**	LR	LR	21 14 52.2	
	comp=Z,298nm,21.1s,baz=126,slow=36						
TXAR	**Lajitas Array**	**148.22**	**343**	PKPbc	PKPbc	20 48 38.9	-0.7
	0.1nm,0.5s,baz=109,slow=2.2,SNR=2.3						

*ISCJB **04** 20:31:50.6±0.8, 35°17N±0°06×71°0E±0°1, h90km, Error ellipse: s-maj=15.5km s-min=5.1km az=150.1*
*NNC **04** 20:31:57.7±5.0, 35°86N×70°93E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=38.4km s-min=24.1km az=176.0*

ISC 04 20:31:51.7±1.1, 35°23N±0°07×71°1E±0°1, h90km, n18, σ2°02/23, 7C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**4.00**	**334**	⇓P	**Pn**	**20 32 52.1**	**+1.3**
	5.6nm,0.4s						
DZET				⇓S	**Sn**	**20 33 34.8**	**-1.9**
	5.9nm,0.2s						
SFK	**Sufi-Kurgan**	**5.15**	**21**	⇑P	Pn	20 33 11.1	+4.5
	1.0nm,0.2s						
SFK				⇑S	**Sn**	**20 34 07.1**	**+2.3**
	1.4nm,0.3s						
MNAS	**Manas**	**7.33**	**8**	⇑P	**Pn**	**20 33 38.2**	**+2.0**
	2.3nm,1.0s						
MNAS				⇑S	**Sn**	**20 34 53.8**	**-4.1**
	2.3nm,0.5s						
AAK	**Ala-Archa**	**7.86**	**19**	⇓P	**Pn**	**20 33 44.2**	**+0.9**
	1.0nm,0.7s						
AAK				⇑S	**Sn**	**20 35 07.6**	**-3.1**
	0.6nm,0.5s						
KK31	**Karatay Array**	**7.88**	**357**	⇓P	**Pn**	**20 33 44.7**	**+1.2**
	0.8nm,0.3s,baz=173,slow=10,SNR=95						
KK31				⇑S	**Sn**	**20 35 06.9**	**-4.0**
	1.2nm,0.3s,baz=192,slow=25,SNR=8.1						
KHET	**Khetri**	**8.19**	**149**	*e*P	**Sn**	**20 35 16.4**	**-2.3**
KUDL	**Kundal**	**8.43**	**145**	*e*P	**Sn**	**20 35 22.1**	**-2.4**
KUDL				*e*S	**Sn**	**20 35 23.7**	**-0.8**
KUDL				*e*S	**Sn**	**20 35 24.3**	**-0.2**
PYUN	**Piuthan**	**12.38**	**122**	*e*P	**Pn**	**20 34 44.3**	**-0.6**
	18nm,0.4s						
DANN	**Dangsing**	**12.77**	**119**	*e*P	**Pn**	**20 34 51.6**	**+1.4**
	4.6nm,0.4s						
KOLN	**Koldanda**	**13.01**	**121**	*e*P	Pn	20 34 50.8	-2.4
	6.1nm,0.4s						
GKN	**Gorkha**	**13.61**	**118**	*e*P	**Pn**	**20 35 01.4**	**+0.4**
PKIN	**Phulchoki**	**14.40**	**118**	*e*P	**Pn**	**20 35 12.2**	**+0.8**
PKI	**Pulchoki**	**14.41**	**118**	*e*P	**Pn**	**20 35 12.3**	**+0.7**
JIRN	**Jiri**	**14.93**	**116**	*e*P	**Pn**	**20 35 20.1**	**+1.8**
	8.2nm,0.4s						
RAMN	**Ramite**	**15.63**	**118**	*e*P	**Pn**	**20 35 26.9**	**-0.2**
TAPN	**Taplejung**	**16.23**	**114**	*e*P	**Pn**	**20 35 36.1**	**+1.5**
AB31	**Akbulak array**	**16.24**	**333**	P	**Pn**	**20 35 35.0**	**+0.8**
	0.8nm,0.4s,baz=159,slow=12,SNR=35						
AKTO	**Aktyubinsk**	**17.92**	**332**	⇑P	**Pn**	**20 35 56.0**	**+1.2**
	2.0nm,0.9s						

MAN 04 20:37:01, 12°79N×121°14E, h20km, mb4.8, ML3.7, MS3.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.73**	**345**	*e*P	Pb	20 37 10.1	-5.0
PGP				*e*S	Sb	20 37 16.3	-8.4
BUSP	**Coron**	**1.21**	**230**	⇑*e*P	Pn	20 37 15.3	-7.5
BUSP				*i* S	Sb	20 37 25.3	-13
LUBP	**Lubang**	**1.28**	**317**	*e*P	Pb	20 37 24.9	+0.5
LUBP				*e*S	Sb	20 37 41.3	+0.9
CUYO	**Cuyo Island**	**1.94**	**184**	*e*P	Pn	20 37 34.0	+1.2

*IDC **04** 20:38:20.0±0.9, 17°74S×167°25E, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.4/22, mbtmp4.4/14, ML4.2/1, Error ellipse: s-maj=31.9km s-min=18.0km az=152.0*
*ISCJB **04** 20:38:21.5±0.5, 17°81S±0°04×167°25E±0°08, h23km, mb4.4/15, Error ellipse: s-maj=11.4km s-min=5.6km az=0.2*
*NEIC **04** 20:38:27.7±2.4, 17°97S×167°25E, h65km±22km, mb4.6/3, Error ellipse: s-maj=20.7km s-min=12.6km az=184.0*

ISC 04 20:38:23.1±0.7, 17°79S±0°07×167°3E±0°1, h23km, n39, σ1ᵍ25/40, mb4.5/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.33**	**191**	Pn	**Pn**	**20 39 28.6**	**+1.0**
	11nm,0.3s,baz=74,slow=2.7,SNR=424						
DZM				Sn	**Sn**	**20 40 17.7**	**+0.1**
	11nm,0.3s,baz=286,slow=22,SNR=3.6						
DZM	**Mont Dzumac**	**4.33**	**191**	*e*Pn	**Pn**	**20 39 28.9**	**+1.2**
DZM				*e*Sn	**Sn**	**20 40 15.5**	**-2.0**
BAYA	**Yate Dam**	**4.36**	**185**	*e*P	**Pn**	**20 39 29.4**	**+1.5**
BAYA				*e*S	**Sn**	**20 40 16.3**	**-1.7**
NOUC	**Port Laguerre**	**4.39**	**192**	*e*P	**Pn**	**20 39 29.5**	**+1.1**
NOUC				*e*S	**Sn**	**20 40 19.2**	**+0.4**
ARMA	**Armidale**	**19.02**	**226**	P	Pn	20 42 52.4	+8.1
	baz=22,SNR=4.8						
RMQ	**Roma**	**19.22**	**240**	P	**Pn**	**20 42 48.9**	**+2.2**
	baz=22,SNR=6.1						
CTA	**Charters Tower**	**20.05**	**260**	P	Pn	20 42 56.3	-0.3
	11nm,0.6s,baz=95,slow=12,SNR=8.6						
CTAO	**Charters Tower**	**20.05**	**260**	*e*P	**P**	**20 42 55.2**	**+0.4**
	2.7nm,0.6s						
RABL	**Rabaul**	**20.07**	**311**	P	Pn	20 42 56.9	+0.1
	baz=22,SNR=5.1						
PMG	**Port Moresby**	**21.27**	**290**	P	**P**	**20 43 08.0**	**0.0**
	10nm,0.6s,baz=100,slow=9.7,SNR=9.3						
QLP	**Quilpie**	**23.06**	**244**	P	**P**	**20 43 27.5**	**+0.5**
	baz=26,SNR=18						
COEN	**Coen**	**23.52**	**276**	P	**P**	**20 43 31.8**	**+0.2**
	baz=26,SNR=6.7						
CMSA	**Cobar Meteorol**	**23.88**	**231**	P	**P**	**20 43 36.4**	**+1.4**
	baz=26,SNR=7.5						
WRA	**Warramunga Arr**	**31.25**	**261**	P	**P**	**20 44 39.4**	**-1.9**
	4.2nm,0.8s,baz=91,slow=9.2,SNR=43						
AS31	**Alice Springs**	**31.73**	**254**	*e*P	**P**	**20 44 44.3**	**-1.3**
ASAR	**Alice Springs**	**31.73**	**254**	P	**P**	**20 44 44.5**	**-1.0**
	6.0nm,0.6s,baz=78,slow=8.9,SNR=134						
WRKA	**Warakurna**	**36.93**	**252**	P	**P**	**20 45 29.5**	**-1.0**
	baz=40,SNR=13						
KNRA	**Kununurra**	**36.93**	**267**	P	**P**	**20 45 29.3**	**-1.3**
	baz=40,SNR=8.4						
FAKI	**Fak Fak**	**37.41**	**289**	P	**P**	**20 45 33.5**	**-1.3**
	baz=40,SNR=6.3						
BATI	**Baumata**	**42.93**	**274**	P	**P**	**20 46 20.5**	**0.0**
	12nm,0.7s,baz=33,slow=2.3,SNR=5.5						
MEEK	**Meekatharra**	**45.71**	**250**	P	**P**	**20 46 42.5**	**-0.1**
	baz=48,SNR=9.8						
MORW	**Morawa**	**48.04**	**247**	P	**P**	**20 47 00.5**	**-0.3**
	baz=51,SNR=5.0						
LEM	**Lembang**	**59.12**	**273**	P	**P**	**20 48 21.8**	**-0.7**
	8.8nm,0.4s,baz=330,slow=20						
KSM	**Kuching**	**59.27**	**283**	*e*P	**P**	**20 48 21.4**	**-2.0**
	5.8nm,0.8s						
PETK	**Petropavlovsk-**	**71.09**	**354**	P	**P**	**20 49 40.5**	**+1.2**
	3.1nm,0.6s,baz=162,slow=8.4,SNR=11						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**20 49 44.3**	**-2.0**
	2.4nm,0.9s,baz=65,slow=1.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**76.24**	**295**	P	**P**	**20 50 11.5**	**+1.2**
	1.9nm,0.9s,baz=128,slow=4.4,SNR=13						
SONM	**Songino Array**	**84.97**	**324**	P	**P**	**20 50 56.2**	**-0.3**
	0.6nm,0.8s,baz=146,slow=6.0,SNR=5.7						
TNA	**Tin City**	**85.20**	**10**	*e*P	**P**	**20 50 57.9**	**+0.8**
	23nm,1.5s						
CMB	**Columbia Colle**	**87.57**	**49**	*e*P	**P**	**20 51 07.4**	**-2.1**
NVAR	**Mina Array Bea**	**89.23**	**49**	P	**P**	**20 51 18.6**	**+1.0**
	1.6nm,0.8s,baz=229,slow=8.9,SNR=9.4						
ILAR	**Eielson Array**	**89.41**	**18**	P	**P**	**20 51 16.8**	**-0.7**
	1.8nm,0.6s,baz=236,slow=4.9,SNR=29						
TXAR	**Lajitas Array**	**97.69**	**62**	P	Pdif	20 51 56.9	+0.2
	0.4nm,0.8s,baz=212,slow=4.4,SNR=3.9						
MKAR	**Makanchi Array**	**99.43**	**316**	P	**Pdif**	**20 52 04.2**	**+0.4**
	0.1nm,0.5s,baz=78,slow=5.8,SNR=2.8						
YKA	**Yellowknife Ar**	**100.23**	**27**	P	**Pdif**	**20 52 07.3**	**+0.4**
	0.6nm,0.7s,baz=255,slow=4.4,SNR=11						
GEYT	**Alibeck**	**115.69**	**304**	PKP	**PKPdf**	**20 57 05.7**	**+1.9**
	0.4nm,0.4s,baz=280,slow=8.6,SNR=2.2						
ARCES	**ARCESS Array B**	**123.21**	**345**	PKP	**PKPdf**	**20 57 17.0**	**-0.3**
	0.6nm,0.6s,baz=45,slow=2.4,SNR=5.2						
BFO	**Black Forest**	**145.05**	**335**	*e*PKPbc	**PKPdf**	**20 57 58.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**165.39**	**254**	PKP	**PKPdf**	**20 58 26.5**	**-0.1**
	0.8nm,1.1s,baz=194,slow=2.5,SNR=2.9						
TORD				PKPab	**PKPab**	**20 59 26.9**	**+2.3**
	0.3nm,0.8s,baz=133,slow=3.3,SNR=2.6						

GUC 04 20:40:04.0±0.5, 34°71S×71°85W, h21km±7km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.59**	**120**	*e*P	Pb	20 40 15.4	-0.3
NICH				*e*S	Sb	20 40 23.7	0.0
TALC	**Talca**	**0.71**	**165**	*e*P	Pb	20 40 17.2	-0.5
TALC				*e*S	Sb	20 40 27.4	+0.4
LNCH	**Linares**	**1.15**	**170**	*e*P	Pn	20 40 24.6	-0.3
COCH	**Cobquecura**	**1.61**	**208**	*e*P	Pn	20 40 31.8	+0.6
COCH				*e*S	Sb	20 40 52.4	-0.5
CLCH	**Cerro Calan**	**1.71**	**40**	*e*P	Pn	20 40 33.3	+0.7
CLCH				*e*S	Sb	20 40 56.0	+0.1
CLCH				AML	AML	20 41 02.1	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.84**	**32**	*e*P	Pn	20 40 35.2	+0.8
PEL				*e*S	Sb	20 40 59.5	-0.2
PEL				AML	AML	20 41 08.6	
	comp=E,1μm,0.6s						
ROCH	**El Roble**	**1.87**	**22**	*e*P	Pn	20 40 35.6	+0.5
ROCH				*e*S	Sb	20 41 00.3	-0.6
FCH	**Farellones**	**1.89**	**44**	*e*P	Pb	20 40 38.9	+0.6
FCH				*e*S	Sb	20 41 03.8	+2.0
FCH				AML	AML	20 41 09.7	
	comp=N,407nm,0.7s						

*ATH **04** 20:46:38.2, 36°98N×21°51E, h27km±1km, MD3.0/12*
*THE **04** 20:46:39.1, 37°04N×21°46E, h18km±1km, ML1.8/5, Error ellipse: s-maj=1.7km s-min=0.7km az=211.0*

CSEM 04 20:46:39.1±0.3, 37°01N×21°51E, h20km, MD3.0, Error ellipse: s-maj=6.9km s-min=5.0km az=40.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.22**	**122**	P	Pb	20 46 44.7	+0.1
PYL				S	Sb	20 46 50.0	+1.7
PYL	**PYLOS**	**0.22**	**122**	*e*PB	Pb	20 46 44.8	+0.2
PYL				*e*SB	Sb	20 46 49.0	+0.7
PYL	**PYLOS**	**0.22**	**122**	*e*Pb	Pb	20 46 44.8	+0.2
PYL				*e*Sb	Sb	20 46 49.0	+0.7
PYL				S	Sb	20 46 50.0	+1.7
ITM	**Ithomi**	**0.37**	**64**	P	Pb	20 46 46.6	-0.5
ITM				S	Sb	20 46 53.9	+1.4
ITM	**Ithomi**	**0.37**	**64**	*e*PB	Pb	20 46 46.7	-0.4
ITM				*e*SB	Sb	20 46 53.2	+0.7
ITM	**Ithomi**	**0.37**	**64**	*e*Pb	Pb	20 46 46.7	-0.4
ITM				*e*Sb	Sb	20 46 53.2	+0.7
ITM				S	Sn	20 46 53.9	-2.2
SFD	**Strofades**	**0.46**	**301**	P	Pb	20 46 47.9	-0.6
SFD	**Strofades**	**0.46**	**301**	*e*PB	Pb	20 46 47.7	-0.8
SFD				*e*SB	Sb	20 46 56.3	+1.4
SFD	**Strofades**	**0.46**	**301**	*e*Pb	Pb	20 46 47.7	-0.8
SFD				*e*Sb	Sb	20 46 56.3	+1.4
AMT	**Artemida-Makis**	**0.54**	**17**	P	Pb	20 46 49.1	-0.9
AMT				S	Sb	20 46 57.3	-0.1
AMT	**Artemida-Makis**	**0.54**	**17**	*e*PN	Pb	20 46 49.2	-0.8
AMT				*e*SN	Sn	20 46 58.9	-1.4
AMT	**Artemida-Makis**	**0.54**	**17**	P	Pb	20 46 49.1	-0.9
AMT				S	Sb	20 46 57.3	-0.1
AMT				*e*Sn	Sn	20 46 58.9	-1.4
VLX	**Vlachokerasia**	**0.78**	**63**	P	Pb	20 46 53.7	-0.5
VLX				S	Sn	20 47 05.7	-0.7
VLX	**Vlachokerasia**	**0.78**	**63**	*e*PN	Pb	20 46 53.4	-0.8
VLX				*e*SN	Sb	20 47 04.8	+0.4
VLX	**Vlachokerasia**	**0.78**	**63**	*e*Pn	Pb	20 46 53.4	-0.8
VLX	**Vlachokerasia**	**0.78**	**63**	P	Pb	20 46 53.7	-0.5
VLX				*e*Sn	Sb	20 47 04.8	+0.4
VLX				S	Sn	20 47 05.7	-0.7
DRO	**Drossia**	**0.95**	**10**	P	Pb	20 46 55.7	-1.2
DRO				S	Sb	20 47 09.4	+0.3
DRO	**Drossia**	**0.95**	**10**	P	Pb	20 46 55.7	-1.2
DRO				S	Sb	20 47 09.4	+0.3
RLS	**Riolos of Patr**	**1.04**	**358**	*e*PN	Pn	20 46 58.6	0.0
RLS				*e*SN	Sn	20 47 14.9	+2.3
RLS	**Riolos of Patr**	**1.04**	**358**	*e*Pn	Pn	20 46 58.6	0.0
RLS				*e*Sn	Sn	20 47 14.9	+2.3
GUR	**Goura**	**1.13**	**36**	P	Pn	20 46 59.7	-0.3
GUR				S	Sn	20 47 15.1	0.0
GUR	**Goura**	**1.13**	**36**	*e*PN	Pn	20 47 00.0	0.0
GUR				*e*SN	Sn	20 47 17.1	+2.0
GUR	**Goura**	**1.13**	**36**	P	Pn	20 46 59.7	-0.3
GUR	**Goura**	**1.13**	**36**	*e*Pn	Pn	20 47 00.0	0.0
GUR				S	Sn	20 47 15.1	0.0
GUR				*e*Sn	Sb	20 47 17.1	+2.5
KLV	**Kalavryta, Ach**	**1.15**	**26**	P	Pn	20 46 59.5	-0.6
KLV				S	Sn	20 47 15.6	+0.3
KLV	**Kalavryta, Ach**	**1.15**	**26**	*e*PB	Pn	20 46 59.7	-0.4
KLV				*e*SN	Sn	20 47 17.7	+2.4
KLV	**Kalavryta, Ach**	**1.15**	**26**	*e*Pb	Pn	20 46 59.7	-0.4
KLV				S	Sn	20 47 15.6	+0.3
KLV				*e*Sn	Sb	20 47 17.7	+2.8
VLI	**Veliai**	**1.18**	**104**	P	Pn	20 47 00.5	0.0
VLI				S	Sn	20 47 17.3	+1.3
VLI	**Veliai**	**1.18**	**104**	*e*PN	Pn	20 47 00.5	0.0
VLI	**Veliai**	**1.18**	**104**	P	Pn	20 47 00.5	0.0
VLI				S	Sn	20 47 17.3	+1.3
VLS	**Valsamata**	**1.37**	**328**	*e*PN	Pn	20 47 03.6	+0.5
VLS	**Valsamata**	**1.37**	**328**	*e*Pn	Pn	20 47 03.6	+0.5
KYTH	**Kithira**	**1.43**	**120**	*e*PN	Pb	20 47 05.0	-0.1
KYTH	**Kithira**	**1.43**	**120**	*e*Pn	Pb	20 47 05.0	-0.1
EFP	**Efpalio**	**1.45**	**12**	*e*PB	Pn	20 47 04.3	+0.2
EFP	**Efpalio**	**1.45**	**12**	*e*Pb	Pn	20 47 04.3	+0.2
KALE	**Kalithea**	**1.46**	**20**	*e*PN	Pb	20 47 05.8	+0.1
KALE	**Kalithea**	**1.46**	**20**	*e*Pn	Pb	20 47 05.8	+0.1
LTK	**Loutraki**	**1.54**	**49**	*e*PB	Pn	20 47 05.4	0.0
LTK	**Loutraki**	**1.54**	**49**	*e*Pb	Pn	20 47 05.4	0.0
PDO	**Prodromos**	**1.60**	**351**	*e*PN	Pb	20 47 07.7	-0.3
PDO	**Prodromos**	**1.60**	**351**	*e*Pn	Pb	20 47 07.7	-0.3

*ISCJB **04** 20:50:04.6±1.0, 22°83S±0°10×66°11W±0°07, h242km, mb3.6/2, Error ellipse: s-maj=13.6km s-min=9.0km az=179.4*
*GUC **04** 20:50:07.2±0.6, 22°67S×66°72W, h280km, ML4.5*
*IDC **04** 20:50:11.6±8.3, 22°25S×65°94W, h286km±57km, mb3.4/2, mb1 3.5/4, mb1mx3.1/21, mbtmp4.0/4, Error ellipse: s-maj=106.8km s-min=27.6km az=21.0*

ISC 04 20:50:05.6±1.2, 22°8S±0°1×66°16W±0°09, h242km, n10, σ1ᵍ07/13, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**3.01**	**288**	*e*P	**Pn**	**20 50 59.5**	**+1.7**
PB09				*e*S	**S**	**20 51 39.0**	**-0.1**
PB09				AML	AML	20 51 41.6	
	comp=N,712nm,0.6s						
PB04	**IPOC Station P**	**3.11**	**278**	*e*P	Pn	20 51 06.3	+7.5
PB04				*e*S	S	20 51 50.2	+9.4
PB06	**IPOC Station P**	**3.15**	**270**	*e*P	**Pn**	**20 51 00.3**	**+0.9**
PB06				*e*S	**S**	**20 51 40.9**	**-0.9**
PB06				AML	AML	20 51 42.5	
	comp=N,233nm,0.5s						
PB01	**IPOC Station P**	**3.53**	**298**	*e*P	**Pn**	**20 51 04.4**	**+0.8**
PB01				*e*S	**S**	**20 51 48.0**	**-1.5**
PB01				AML	AML	20 51 50.0	
	comp=N,410nm,1.5s						
PB07	**IPOC Station P**	**3.60**	**286**	*e*P	**Pn**	**20 51 05.2**	**+0.7**
PB07				AML	AML	20 51 49.8	
	comp=N,474nm,0.5s						
LPAZ	**La Paz**	**6.70**	**344**	P	**Pn**	**20 51 44.1**	**+1.1**
	comp=N,1.0nm,0.3s,baz=128,slow=6.2,SNR=21						
LPAZ				S	**S**	**20 53 00.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=341,slow=17,SNR=7.3						
BDFB	**Brasilia**	**18.53**	**71**	P	**P**	**20 54 05.4**	**+0.7**
	comp=N,0.5nm,0.3s,baz=239,slow=13,SNR=10						
TORD	**Torodi Ar. Bea**	**75.41**	**69**

0.4nm,0.7s,baz=92,slow=8.6,SNR=5.2
WRA Warramunga Arr 43.70 262 P P 21 20 03.5 +0.6
0.2nm,0.2s,baz=96,slow=8.3,SNR=15
BRTR Keskin Array B 145.63 312 PKPbc PKPdf 21 31 35.9 -0.6
0.3nm,0.8s,baz=50,slow=4.5,SNR=2.3

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*ISCJB **04** 21:16:27.8±0.2, 45°.884N±0°.009×7°.47E±0°.01, h2km±2km, mb3.3/2, Error ellipse: s-maj=1.7km s-min=1.5km az=35.5*
*IDC **04** 21:16:28.9±1.4, 45°.95N×7°.25E, h0km, mb3.5/2, mb1 3.7/6, mb1mx3.3/30, mbtmp3.4/6, ML3.8/4, Error ellipse: s-maj=32.3km s-min=12.5km az=144.0*
*CSEM **04** 21:16:28.8±0.1, 45°.86N×7°.49E, h2km, ML3.7/40, Ms3.3, Error ellipse: s-maj=1.9km s-min=1.6km az=124.0*
*GEN **04** 21:16:28.9, 45°.86N×7°.50E, h6km, ML3.1*
*NEIC **04** 21:16:29.2, 45°.86N×7°.51E, h7km, ML3.1(ROM), ML3.3(ZUR),ML3.6(LDG), After ZUR.*
NEIC Felt [IV] at Aosta and [III] at Chatillon and Nus. Felt at Bagnes and Zermatt, Switzerland.
*ROM **04** 21:16:29.0±0.3, 45°.81N×7°.50E, h10km±2km, Ml3.1/14, Error ellipse: s-maj=2.6km s-min=1.9km az=120.0*
*ZUR **04** 21:16:29.2, 45°.86N×7°.51E, h7km±2km, ML3.3/21*
*LDG **04** 21:16:29.4±0.1, 45°.85N×7°.49E, h5km, Md3.5/3, Ml3.5/45, Error ellipse: s-maj=1.4km s-min=1.1km az=121.0*
*STR **04** 21:16:31.4±0.1, 45°.91N×7°.39E, h10km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **04** 21:16:32.4, 46°.43N×7°.04E, h9km*
*SZGRF **04** 21:16:34.3, 46°.13N×7°.39E, h10km, mb3.5, Switzerland*
*VIE **04** 21:16:35.8±0.6, 46°.02N×7°.90E, h11km±2km, mb2.6/10, ML3.0/11, Ms3.3/1, Error ellipse: s-maj=5.5km s-min=3.0km az=146.0 28 km SSW of Monte-Rosa Gebirge*

ISC 04 21:16:29.3±0.5, 45°.87N±0°.01×7°.48E±0°.01, h12km±4km, n365,σ1S62/540,45C-19D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SATI	**Passo del Sais**	**0.27**	**88**	⇑*e*Pg		**Pg**	**21 16 34.4**	**-0.7**
SATI				Sg		**Sg**	**21 16 38.1**	**-0.9**
	2µm,0.2s							
SATI	**Passo del Sais**	**0.27**	**88**	P		**Pg**	**21 16 34.3**	**-0.8**
SATI				S		**Sg**	**21 16 38.0**	**-0.9**
CIRO	**Champorcher**	**0.27**	**167**	Pg		**Pg**	**21 16 34.3**	**-0.8**
CIRO				Sg		**Sg**	**21 16 37.9**	**-1.1**
	2µm,0.2s							
CIRO	**Champorcher**	**0.27**	**167**	P		**Pg**	**21 16 34.3**	**-0.8**
CIRO				Sg		**Sg**	**21 16 37.9**	**-1.1**
	2µm,0.2s							
MRGE	**Morge**	**0.31**	**252**	Pg		**Pg**	**21 16 35.2**	**-0.5**
MRGE				Sg		**Sg**	**21 16 39.4**	**-0.6**
	2µm,0.2s							
MRGE	**Morge**	**0.31**	**252**	Pg		**Pg**	**21 16 35.2**	**-0.5**
MRGE				Sg		**Sg**	**21 16 39.4**	**-0.6**
	2µm,0.2s							
MMK	**Mattmark**	**0.38**	**61**	⇓*i*Pg		**Pg**	**21 16 36.5**	**-0.5**
	5µm,0.2s							
MMK				*i* Sg		**Sg**	**21 16 41.3**	**-0.9**
	5µm,0.2s							
MMK	**Mattmark**	**0.38**	**61**	Pg		**Pg**	**21 16 36.5**	**-0.5**
MMK	**Mattmark**	**0.38**	**61**	⇓*i*Pg		**Pg**	**21 16 36.5**	**-0.5**
	5µm,0.2s							
MMK				*i* Sg		**Sg**	**21 16 41.3**	**-0.9**
	5µm,0.2s							
MMK	**Mattmark**	**0.38**	**61**	Pg		**Pg**	**21 16 36.5**	**-0.5**
TRAV	**Traversella**	**0.40**	**152**	Pg		**Pg**	**21 16 36.7**	**-0.6**
TRAV				Sg		**Sg**	**21 16 41.8**	**-0.9**
	2µm,0.2s							
TRAV	**Traversella**	**0.40**	**152**	P		**Pg**	**21 16 36.5**	**-0.8**
TRAV				S		**Sg**	**21 16 41.7**	**-0.9**
SALAN	**Lac Salanfe**	**0.45**	**308**	⇑*i*Pg		**Pg**	**21 16 38.2**	**0.0**
	397nm,0.2s							
SALAN				*i* Sg		**Sg**	**21 16 44.0**	**-0.3**
	397nm,0.2s							
SALAN	**Lac Salanfe**	**0.45**	**308**	⇑*i*Pg		**Pg**	**21 16 38.2**	**0.0**
	397nm,0.2s							
SALAN				*i* Sg		**Sg**	**21 16 44.0**	**-0.3**
	397nm,0.2s							
EMV	**Vieux Emosson**	**0.45**	**296**	⇓*i*Pg		**Pg**	**21 16 38.2**	**-0.1**
	2µm,0.1s							
EMV				*e*Sg		**Sg**	**21 16 44.0**	**-0.3**
	2µm,0.1s							
EMV	**Vieux Emosson**	**0.45**	**296**	⇓*i*Pg		**Pg**	**21 16 38.2**	**-0.1**
	2µm,0.1s							
EMV				*e*Sg		**Sg**	**21 16 44.0**	**-0.3**
	2µm,0.1s							
GRYON	**Gryon**	**0.46**	**326**	⇑*i*Pg		**Pg**	**21 16 38.3**	**-0.1**
	446nm,0.2s							
GRYON	**Gryon**	**0.46**	**326**	⇑*i*Pg		**Pg**	**21 16 38.3**	**-0.1**
	446nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.51**	**346**	⇑*i*Pg		**Pg**	**21 16 39.1**	**-0.3**
	1µm,0.3s							
SENIN	**Lac Senin/Sane**	**0.51**	**346**	⇑*i*Pg		**Pg**	**21 16 39.1**	**-0.3**
	1µm,0.3s							
SENIN				*e*Sg		**Sg**	**21 16 45.7**	**-0.6**
SENIN	**Lac Senin/Sane**	**0.51**	**346**	*e*Pg		**Pg**	**21 16 39.1**	**-0.3**
SENIN				*e*Sg		**Sg**	**21 16 45.6**	**-0.6**
LKBD2	**Leukerbad 2**	**0.52**	**12**	⇑*i*Pg		**Pg**	**21 16 39.2**	**-0.3**
LKBD2	**Leukerbad 2**	**0.52**	**12**	⇑*i*Pg		**Pg**	**21 16 39.2**	**-0.3**
LKBD	**Leukerbad**	**0.53**	**11**	⇑*i*Pg		**Pg**	**21 16 39.3**	**-0.4**
	495nm,0.5s							
LKBD	**Leukerbad**	**0.53**	**11**	⇑*i*Pg		**Pg**	**21 16 39.3**	**-0.4**
	495nm,0.5s							
AIGLE	**Aigle**	**0.60**	**322**	⇑*i*Pg		**Pg**	**21 16 40.8**	**-0.2**
	1µm,0.4s							
AIGLE	**Aigle**	**0.60**	**322**	⇑*i*Pg		**Pg**	**21 16 40.8**	**-0.2**
	1µm,0.4s							
RSL	**Roselend**	**0.63**	**254**	Pg		**Pg**	**21 16 42.1**	**+0.6**
RSL				Sg		**Sg**	**21 16 50.2**	**+0.4**
RSL	**Roselend**	**0.63**	**254**	Pg		**Pg**	**21 16 42.1**	**+0.6**
RSL				Sg		**Sg**	**21 16 50.2**	**+0.4**
LPG	**La Plagne**	**0.63**	**234**	*e*Pg		**Pg**	**21 16 41.0**	**-0.7**
LPG				*e*Sg		**Sg**	**21 16 49.1**	**-0.9**
	898nm,0.2s							
LPG	**La Plagne**	**0.63**	**234**	*e*Pg		**Pg**	**21 16 41.0**	**-0.7**
LPG				*e*Sg		**Sg**	**21 16 49.1**	**-0.9**
	449nm,0.2s							
LPL	**La Plagne**	**0.63**	**236**	*e*Pg		**Pg**	**21 16 40.0**	**-1.6**
LPL				*e*Sg		**Sg**	**21 16 49.8**	**-0.2**
	610nm,0.3s							
LPL	**La Plagne**	**0.63**	**236**	*e*Pg		**Pg**	**21 16 40.0**	**-1.6**
LPL				*e*Sg		**Sg**	**21 16 49.8**	**-0.2**
	305nm,0.3s							
OG01	**Vacheresse**	**0.72**	**310**	Pg		**Pg**	**21 16 43.2**	**-0.1**
OG01				Sg		**Sg**	**21 16 53.3**	**+0.4**
OG01	**Vacheresse**	**0.72**	**310**	Pg		**Pg**	**21 16 43.2**	**-0.1**
OG01				Sg		**Sg**	**21 16 53.3**	**+0.4**
RSP	**Reno Superiore**	**0.73**	**192**	Pg		**Pg**	**21 16 42.7**	**-0.8**
RSP				Sg		**Sg**	**21 16 52.0**	**-1.2**
	1µm,0.2s							
RSP	**Reno Superiore**	**0.73**	**192**	P		**Pg**	**21 16 42.8**	**-0.8**
RSP				S		**Sg**	**21 16 52.2**	**-1.0**
WIMIS	**Wimmis**	**0.80**	**7**	⇑*i*P		Pg	21 16 40.8	-4.1
	549nm,0.2s							
WIMIS	**Wimmis**	**0.80**	**7**	⇑*i*P		Pg	21 16 40.8	-4.1
	549nm,0.2s							
MONC	**Moncucco Torin**	**0.85**	**158**	Pg		**Pb**	**21 16 46.7**	**+0.7**
MONC	**Moncucco Torin**	**0.85**	**158**	Pg		**Pb**	**21 16 46.7**	**+0.7**
VARE	**Varese**	**0.90**	**90**	Pg		**Pg**	**21 16 45.9**	**-0.8**
VARE				Sg		**Sg**	**21 16 57.6**	**-0.9**
	310nm,0.2s							
VARE	**Varese**	**0.90**	**90**	Pg		**Pg**	**21 16 45.9**	**-0.8**
VARE				Sg		**Sg**	**21 16 57.6**	**-0.9**
	310nm,0.2s							
TORNY	**Torny/Romont**	**0.98**	**338**	⇑*i*P		Pg	21 16 44.4	-3.7
	2µm,0.3s							
TORNY	**Torny/Romont**	**0.98**	**338**	⇑*i*P		Pg	21 16 44.4	-3.7
	2µm,0.3s							
BNI	**Bardonecchia**	**0.99**	**215**	Pg		**Pg**	**21 16 47.5**	**-0.9**
BNI				Sg		**Sg**	**21 16 59.7**	**-1.7**
	318nm,0.8s							
BNI	**Bardonecchia**	**0.99**	**215**	Pg		**Pg**	**21 16 47.5**	**-0.9**
BNI				Sg		**Sg**	**21 16 59.7**	**-1.7**
	318nm,0.8s							
BNI	**Bardonecchia**	**0.99**	**215**	*e*Pg		**Pg**	**21 16 47.5**	**-0.9**
BNI				*e*Sg		**Sg**	**21 16 59.5**	**-1.9**
HASLI	**Hasliberg/Brie**	**1.00**	**27**	⇑*i*P		**Pg**	**21 16 47.9**	**-0.8**
	2µm,0.3s							
HASLI	**Hasliberg/Brie**	**1.00**	**27**	⇑*i*P		**Pg**	**21 16 47.9**	**-0.8**
	2µm,0.3s							
FUSIO	**Fusio**	**1.01**	**54**	⇓*i*P		**Pg**	**21 16 47.9**	**-0.9**
	1µm,0.2s							
FUSIO	**Fusio**	**1.01**	**54**	Pg		**Pg**	**21 16 48.1**	**-0.7**
FUSIO	**Fusio**	**1.01**	**54**	Pg		**Pg**	**21 16 48.1**	**-0.7**
BHB	**Bricherasio**	**1.04**	**189**	Pg		**Pg**	**21 16 47.8**	**-1.5**
BHB				Sg		**Sg**	**21 17 01.1**	**-1.7**
BHB	**Bricherasio**	**1.04**	**189**	P		**Pg**	**21 16 47.8**	**-1.5**
BHB				Sg		**Sg**	**21 17 01.1**	**-1.7**
RRL	**Rocca Remolon**	**1.06**	**207**	P		**Pg**	**21 16 48.8**	**-1.0**
GIMEL	**St. Georges /**	**1.08**	**309**	Pg		**Pb**	**21 16 50.6**	**+0.7**
GIMEL				Sg		**Sn**	**21 17 06.0**	**+0.8**
	436nm,0.7s							
GIMEL	**St. Georges /**	**1.08**	**309**	Pg		**Pb**	**21 16 50.6**	**+0.7**
GIMEL				Sg		**Sn**	**21 17 06.0**	**+0.8**
	436nm,0.7s							
MUGIO	**Muggio**	**1.09**	**87**	⇓*i*P		**Pg**	**21 16 48.3**	**-2.0**
	705nm,0.2s							
MUGIO	**Muggio**	**1.09**	**87**	Pg		**Pg**	**21 16 49.2**	**-1.1**
MUGIO				Sg		**Sg**	**21 17 04.2**	**-0.3**
MUGIO	**Muggio**	**1.09**	**87**	⇓*i*P		**Pg**	**21 16 48.3**	**-2.0**
	705nm,0.2s							
MUGIO	**Muggio**	**1.09**	**87**	Pg		**Pg**	**21 16 49.2**	**-1.1**
MUGIO				Sg		**Sg**	**21 17 04.2**	**-0.3**
ROTM	**Rocchetta Tana**	**1.19**	**149**	P		**Pb**	**21 16 51.9**	**+0.2**
BNALP	**Bannalp**	**1.20**	**33**	⇑*i*P		**Pg**	**21 16 49.2**	**-3.1**
	816nm,0.4s							
BNALP	**Bannalp**	**1.20**	**33**	Pg		**Pg**	**21 16 51.5**	**-0.8**
	275nm,0.4s							
BNALP	**Bannalp**	**1.20**	**33**	⇑*i*P		**Pg**	**21 16 49.2**	**-3.1**
	816nm,0.4s							
BNALP	**Bannalp**	**1.20**	**33**	Pg		**Pg**	**21 16 51.5**	**-0.8**
	275nm,0.4s							
CABF	**La Chapelle**	**1.22**	**308**	*e*Pg		**Pb**	**21 16 52.9**	**+0.5**
CABF				*e*Sg		**Sg**	**21 17 08.7**	**0.0**
	207nm,0.3s							
CABF	**La Chapelle**	**1.22**	**308**	*e*Pg		**Pb**	**21 16 52.9**	**+0.5**
CABF				*e*Sg		**Sg**	**21 17 08.7**	**0.0**
	104nm,0.3s							
MBDF	**Montbardon**	**1.25**	**204**	*e*Pn		**Pn**	**21 16 52.1**	**-0.5**
MBDF	**Montbardon**	**1.25**	**204**	*e*Pg		**Pn**	**21 16 52.7**	**+0.1**
MBDF				*e*Sg		**Sg**	**21 17 08.8**	**-0.7**
	545nm,0.4s							
MBDF	**Montbardon**	**1.25**	**204**	*e*Pn		**Pn**	**21 16 52.1**	**-0.5**
MBDF	**Montbardon**	**1.25**	**204**	*e*Pg		**Pn**	**21 16 52.7**	**+0.1**
MBDF				*e*Sg		**Sg**	**21 17 08.8**	**-0.7**
	273nm,0.4s							
BRANT	**Les Verrieres**	**1.28**	**327**	⇑*i*P		**Pn**	**21 16 51.5**	**-1.6**
	2µm,0.5s							
BRANT	**Les Verrieres**	**1.28**	**327**	⇑*i*P		**Pn**	**21 16 51.5**	**-1.6**
	2µm,0.5s							
GRN	**Grenoble**	**1.37**	**243**	Pn		**Pb**	**21 16 55.3**	**+0.4**
GRN	**Grenoble**	**1.37**	**243**	Pg		**Pg**	**21 16 56.5**	**+0.9**
GRN				Sg		**Sg**	**21 17 14.4**	**+1.0**
GRN	**Grenoble**	**1.37**	**243**	Pn		**Pb**	**21 16 55.3**	**+0.4**
GRN	**Grenoble**	**1.37**	**243**	Pg		**Pg**	**21 16 56.5**	**+0.9**
GRN				Sg		**Sg**	**21 17 14.4**	**+1.0**
DOI	**San Damiano**	**1.37**	**187**	Pg		**Pn**	**21 16 52.5**	**-1.8**
	244nm,0.3s							
PZZ	**Stroppo**	**1.39**	**191**	Pg		**Pn**	**21 16 53.2**	**-1.3**
	521nm,0.4s							
PZZ	**Stroppo**	**1.39**	**191**	P		**Pn**	**21 16 53.2**	**-1.3**
TUE	**Stuetta**	**1.43**	**64**	*e*Pn		**Pn**	**21 16 54.9**	**-0.3**
TUE	**Stuetta**	**1.43**	**64**	*e*Pn		**Pn**	**21 16 54.9**	**-0.3**
SURF	**Saint Ours**	**1.47**	**199**	Pg		**Pg**	**21 16 59.1**	**+1.7**
SURF				Sg		**Sg**	**21 17 20.0**	**+3.5**
SURF	**Saint Ours**	**1.47**	**199**	Pg		**Pg**	**21 16 59.1**	**+1.7**
SURF				Sg		**Sg**	**21 17 20.0**	**+3.5**
ORIF	**Oris-en-Rattie**	**1.48**	**231**	*e*Pg		**Pn**	**21 16 56.7**	**+1.0**
ORIF				*e*Sg		**Sb**	**21 17 16.1**	**+0.7**
	203nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.48**	**231**	*e*Pg		**Pn**	**21 16 56.7**	**+1.0**
ORIF				*e*Sg		**Sb**	**21 17 16.1**	**+0.7**
	102nm,0.4s							
BALST	**Balsthal**	**1.48**	**6**	⇑*i*P		**Pn**	**21 16 54.1**	**-1.6**
	915nm,0.9s							
BALST	**Balsthal**	**1.48**	**6**	⇑*i*P		**Pn**	**21 16 54.1**	**-1.6**
	915nm,0.9s							
PCP	**Piancastagn**	**1.52**	**150**	Pg		**Pn**	**21 16 56.8**	**+0.4**
	48nm,0.3s							
PCP	**Piancastagn**	**1.52**	**150**	Pg		**Pn**	**21 16 56.8**	**+0.4**
	48nm,0.3s							
BOURR	**Bourrignon**	**1.54**	**354**	⇑*i*P		**Pn**	**21 16 57.1**	**+0.5**
	745nm,0.9s							
BOURR	**Bourrignon**	**1.54**	**354**	⇑*i*P		**Pn**	**21 16 57.1**	**+0.5**
	745nm,0.9s							
LOMF	**Lomont**	**1.55**	**343**	Pn		**Pn**	**21 16 57.0**	**+0.2**
LOMF	**Lomont**	**1.55**	**343**	Pg		**Pg**	**21 17 00.0**	**+0.9**
LOMF	**Lomont**	**1.55**	**343**	Pn		**Pn**	**21 16 57.0**	**+0.2**
LOMF	**Lomont**	**1.55**	**343**	Pg		**Pg**	**21 17 00.0**	**+0.9**
MDI	**Monti di Nese**	**1.56**	**93**	Pg		**Pn**	**21 16 57.5**	**+0.6**
MDI	**Monti di Nese**	**1.56**	**93**	Pg		**Pn**	**21 16 57.5**	**+0.6**
BBS	**Basel-Blauen**	**1.60**	**1**	Pn		**Pn**	**21 16 58.4**	**+1.0**
BBS	**Basel-Blauen**	**1.60**	**1**	Pg		**Pg**	**21 17 00.5**	**+0.5**
BBS				Sg		**Sg**	**21 17 22.1**	**+1.4**
STV	**Sant Anna di V**	**1.63**	**184**	Pg		**Pn**	**21 16 56.4**	**-1.4**
STV	**Sant Anna di V**	**1.63**	**184**	P		**Pn**	**21 16 56.4**	**-1.4**
QLNO	**Quiliano**	**1.66**	**158**	Pg		**Pn**	**21 16 58.7**	**+0.5**
QLNO				Sg		**Sn**	**21 17 19.5**	**0.0**
QLNO	**Quiliano**	**1.66**	**158**	Pg		**Pn**	**21 16 58.7**	**+0.5**
QLNO				Sg		**Sn**	**21 17 19.5**	**0.0**
SULZ	**Cheisacher**	**1.72**	**14**	⇑*i*Pn		**Pn**	**21 16 57.8**	**-1.2**
	1µm,0.7s							
SULZ	**Cheisacher**	**1.72**	**14**	⇑*i*Pn		**Pn**	**21 16 57.8**	**-1.2**
	1µm,0.7s							
PLONS	**Plons/SG**	**1.77**	**47**	⇑*i*Pn		**Pn**	**21 17 00.2**	**+0.5**
	1µm,0.5s							
PLONS	**Plons/SG**	**1.77**	**47**	Pg		**Pb**	**21 17 02.3**	**+0.7**
	384nm,0.6s							
PLONS	**Plons/SG**	**1.77**	**47**	⇑*i*Pn		**Pn**	**21 17 00.2**	**+0.5**
	1µm,0.5s							
FINB	**Finale Ligure**	**1.79**	**160**	Pg		**Pn**	**21 17 00.7**	**+0.7**
FINB	**Finale Ligure**	**1.79**	**160**	Pg		**Pn**	**21 17 00.7**	**+0.7**
OG25	**Le Caire**	**1.80**	**214**	Pg		**Pg**	**21 17 05.2**	**+1.4**
OG25	**Le Caire**	**1.80**	**214**	Pg		**Pg**	**21 17 05.2**	**+1.4**
RORO	**Rocca Rossa**	**1.80**	**167**	Pg		**Pn**	**21 17 00.7**	**+0.5**
RORO	**Rocca Rossa**	**1.80**	**167**	Pg		**Pn**	**21 17 00.7**	**+0.5**
WILA	**Wila**	**1.83**	**32**	⇑*i*Pn		**Pn**	**21 17 02.2**	**+1.6**
	2µm,0.3s							
WILA	**Wila**	**1.83**	**32**	⇑*i*Pn		**Pn**	**21 17 02.2**	**+1.6**
	2µm,0.3s							
BERNI	**Berninapass**	**1.85**	**72**	Pg		**Pb**	**21 17 03.3**	**+0.2**
BERNI	**Berninapass**	**1.85**	**72**	Pg		**Pb**	**21 17 03.3**	**+0.2**
TOUF	**Mont Tournerai**	**1.86**	**185**	Pn		**Pb**	**21 17 03.2**	**-0.1**
TOUF	**Mont Tournerai**	**1.86**	**185**	Pg		**Pg**	**21 17 06.5**	**+1.5**
TOUF	**Mont Tournerai**	**1.86**	**185**	Pn		**Pb**	**21 17 03.2**	**-0.1**
TOUF	**Mont Tournerai**	**1.86**	**185**	Pg		**Pg**	**21 17 06.5**	**+1.5**
DAVOX	**Davos/Dischmat**	**1.90**	**60**	⇑*i*Pn		**Pn**	**21 17 02.6**	**+1.0**
	919nm,0.5s							
DAVOX	**Davos/Dischmat**	**1.90**	**60**	Pg		**Pb**	**21 17 04.0**	**+0.1**
DAVOX	**Davos/Dischmat**	**1.90**	**60**	Pn		**Pb**	**21 17 04.0**	**+0.1**
	6.8nm,0.3s,baz=248,slow=8.3,SNR=89							
DAVOX				Pg		**Pg**	**21 17 08.1**	**+2.4**
	29nm,0.3s,baz=249,slow=8.6,SNR=83							
DAVOX				Sn		**Sb**	**21 17 29.1**	**+1.5**
	18nm,0.3s,baz=21,slow=16,SNR=21							
DAVOX				Lg		Lg	21 17 34.4	
	89nm,0.3s,baz=8.6,slow=17,SNR=21							
DAVOX	**Davos/Dischmat**	**1.90**	**60**	⇑*i*Pn		**Pn**	**21 17 02.6**	**+1.0**
	919nm,0.5s							
IMI	**Imperia**	**1.98**	**171**	Pg		**Pn**	**21 17 02.9**	**+0.3**
HINF	**Hinteralfeld**	**2.00**	**348**	*e*P		**Pn**	**21 17 03.8**	**+0.9**
HINF	**Hinteralfeld**	**2.00**	**348**	*e*Pg		**Pg**	**21 17 07.0**	**-0.6**
HINF				*e*Sn		**Sn**	**21 17 26.1**	**-1.7**
HINF				*e*Sg		**Sg**	**21 17 32.7**	**-0.8**
	79nm,0.2s							
HINF	**Hinteralfeld**	**2.00**	**348**	*e*P		**Pn**	**21 17 03.8**	**+0.9**
HINF	**Hinteralfeld**	**2.00**	**348**	*e*Pg		**Pg**	**21 17 07.0**	**-0.6**
HINF				*e*Sn		**Sn**	**21 17 26.1**	**-1.7**
HINF				*e*Sg		**Sg**	**21 17 32.7**	**-0.8**
	40nm,0.2s							
MOF	**Molkenrain**	**2.00**	**353**	Pn		**Pn**	**21 17 03.8**	**+0.8**
MOF	**Molkenrain**	**2.00**	**353**	Pg		**Pg**	**21 17 07.4**	**-0.2**
MOF	**Molkenrain**	**2.00**	**353**	Pn		**Pn**	**21 17 03.8**	**+0.8**
MOF	**Molkenrain**	**2.00**	**353**	Pg		**Pg**	**21 17 07.4**	**-0.2**
SBF	**Sospel**	**2.00**	**181**	*e*Pn		**Pn**	**21 17 02.6**	**-0.4**
SBF	**Sospel**	**2.00**	**181**	*e*Pg		**Pb**	**21 17 06.1**	**+0.4**
SBF				*e*Sg		**Sb**	**21 17 31.9**	**+1.3**
	197nm,0.3s							
SBF	**Sospel**	**2.00**	**181**	*e*Pn		**Pn**	**21 17 02.6**	**-0.4**
SBF	**Sospel**	**2.00**	**181**	*e*Pg		**Pb**	**21 17 06.1**	**+0.4**
SBF				*e*Sg		**Sb**	**21 17 31.9**	**+1.3**
	98nm,0.3s							
SLE	**Schleitheim**	**2.02**	**20**	⇑*i*Pn		**Pn**	**21 17 04.0**	**+0.8**
	1µm,0.3s							
SLE	**Schleitheim**	**2.02**	**20**	⇑*i*Pn		**Pn**	**21 17 04.0**	**+0.8**
	1µm,0.3s							
FELD	**Feldberg im Sc**	**2.04**	**10**	Pn		**Pn**	**21 17 04.2**	**+0.6**
FELD	**Feldberg im Sc**	**2.04**	**10**	Pg		**Pg**	**21 17 09.2**	**+0.8**
MABI	**Malga Bissina**	**2.12**	**84**	Pg		**Pn**	**21 17 06.1**	**+1.4**
REVF	**Revere**	**2.13**	**182**	Pn		**Pn**	**21 17 05.7**	**+1.0**
REVF	**Revere**	**2.13**	**182**	Pn		**Pn**	**21 17 05.7**	**+1.0**
SSB	**Saint Sauveur**	**2.15**	**255**	Pn		**Pn**	**21 17 05.8**	**+0.9**
SSB	**Saint Sauveur**	**2.15**	**255**	Pg		**Pg**	**21 17 10.9**	**+0.4**
SSB	**Saint Sauveur**	**2.15**	**255**	Pn		**Pn**	**21 17 05.8**	**+0.9**
SSB	**Saint Sauveur**	**2.15**	**255**	*e*Pg		**Pg**	**21 17 09.9**	**-0.5**
SSB	**Saint Sauveur**	**2.15**	**255**	*e*Pn		**Pn**	**21 17 05.8**	**+0.9**
SSB				*e*Pg		**Pg**	**21 17 09.9**	**-0.5**
SSB				*e*Sg		**Sg**	**21 17 37.1**	**-1.2**
CALN	**Calern**	**2.16**	**191**	Pn		**Pb**	**21 17 07.3**	**-1.0**
CALN	**Calern**	**2.16**	**191**	Pn		**Pb**	**21 17 07.3**	**-1.0**
DAVA	**Damuels**	**2.18**	**49**	*e*Pn		**Pb**	**21 17 08.4**	**-0.3**
DAVA				*e*Sg		**Sg**	**21 17 40.6**	**+1.2**
DAVA	**Damuels**	**2.18**	**49**	*e*Pn		**Pb**	**21 17 08.5**	**-0.3**
	SNR=87							
DAVA				⇑*i*Pg		**Pg**	**21 17 11.4**	**+0.3**
DAVA				⇑*i*Sg		**Sb**	**21 17 37.4**	**+1.7**
	403nm,0.5s							
DAVA	**Damuels**	**2.18**	**49**	*e*Pn		**Pb**	**21 17 08.4**	**-0.3**
MAGA	**Magasa**	**2.20**	**91**	Pg		**Pn**	**21 17 06.3**	**+0.5**
	202nm,0.5s							
VIVF	**Saint-Julien-l**	**2.22**	**244**	*e*P		**Pn**	**21 17 07.6**	**+1.6**
VIVF	**Saint-Julien-l**	**2.22**	**244**	*e*Pg		**Pg**	**21 17 11.0**	**-0.9**
VIVF				*e*Sg		**Sg**	**21 17 39.6**	**-1.1**
	131nm,0.4s							
VIVF	**Saint-Julien-l**	**2.22**	**244**	*e*P		**Pn**	**21 17 07.6**	**+1.6**
VIVF	**Saint-Julien-l**	**2.22**	**244**	*e*Pg		**Pg**	**21 17 11.0**	**-0.9**
VIVF				*e*Sg		**Sg**	**21 17 39.6**	**-1.1**
	65nm,0.4s							
HAU	**Haudompre**	**2.28**	**340**	*e*P		**Pn**	**21 17 07.9**	**+1.2**
HAU	**Haudompre**	**2.28**	**340**	*e*Pg		**Pg**	**21 17 12.4**	**-0.5**
HAU				*e*Sn		**Sn**	**21 17 33.0**	**-1.7**
HAU				*e*Sg		**Sg**	**21 17 41.3**	**-1.1**
	115nm,0.3s							
HAU	**Haudompre**	**2.28**	**340**	*e*P		**Pn**	**21 17 07.9**	**+1.2**
HAU	**Haudompre**	**2.28**	**340**	*e*Pg		**Pg**	**21 17 12.4**	**-0.5**
HAU				*e*Sn		**Sn**	**21 17 33.0**	**-1.7**
HAU				*e*Sg		**Sg**	**21 17 41.3**	**-1.1**
	58nm,0.3s							
LIBD	**Limburg**	**2.29**	**2**	Pn		**Pn**	**21 17 03.3**	**+0.5**
LIBD	**Limburg**	**2.29**	**2**	Pg		**Pg**	**21 17 13.2**	**+0.1**
SMRF	**Simiane la Rot**	**2.33**	**216**	*e*P		**Pn**	**21 17 09.6**	**+2.2**
SMRF	**Simiane la Rot**	**2.33**	**216**	*e*Pg		**Pg**	**21 17 12.7**	**-1.2**
SMRF				*e*Sg		**Sg**	**21 17 42.8**	**-1.2**
	69nm,0.5s							
SMRF	**Simiane la Rot**	**2.33**	**216**	*e*P		**Pn**	**21 17 09.6**	**+2.2**
SMRF	**Simiane la Rot**	**2.33**	**216**

	4.0nm,0.3s							
SSF	**Saint Saulge**	**3.00**	**295**	*e*P	**Pn**	**21 17 18.1**	**+1.5**
SSF				*e*Sn	**Sn**	**21 17 50.3**	**-2.1**
SSF				*e*Sg	**Sg**	**21 18 03.8**	**-1.7**
	56nm,0.3s						
SSF	**Saint Saulge**	**3.00**	**295**	*e*P	**Pn**	**21 17 18.1**	**+1.5**
SSF				*e*Sn	**Sn**	**21 17 50.3**	**-2.1**
SSF				*e*Sg	**Sg**	**21 18 03.8**	**-1.7**
	28nm,0.3s						
AVF	**Avril sur Loir**	**3.01**	**289**	*e*P	**Pn**	**21 17 18.3**	**+1.6**
AVF				*e*Sg	**Sg**	**21 18 03.8**	**-2.0**
	27nm,0.2s						
AVF	**Avril sur Loir**	**3.01**	**289**	*e*P	**Pn**	**21 17 18.3**	**+1.6**
AVF				*e*Sg	**Sg**	**21 18 03.8**	**-2.0**
	14nm,0.2s						
AGO	**Saint Agoulin**	**3.04**	**275**	Pn	**Pn**	**21 17 17.3**	**+0.1**
AGO	**Saint Agoulin**	**3.04**	**275**	Pn	**Pn**	**21 17 17.3**	**+0.1**
LBL	**Lubilhac**	**3.04**	**259**	Pn	**Pn**	**21 17 18.2**	**+0.9**
LBL	**Lubilhac**	**3.04**	**259**	Pn	**Pn**	**21 17 18.2**	**+0.9**
MEZF	**Maizieres J'vi**	**3.11**	**329**	*e*P	**Pn**	**21 17 20.2**	**+2.0**
	baz=141						
MEZF	**Maizieres J'vi**	**3.11**	**329**	*e*Pg	**Pg**	**21 17 27.7**	**-1.2**
	baz=147						
MEZF				*e*Sg	**Sg**	**21 18 07.4**	**-1.8**
	62nm,0.3s						
MEZF	**Maizieres J'vi**	**3.11**	**329**	*e*P	**Pn**	**21 17 20.2**	**+2.0**
MEZF	**Maizieres J'vi**	**3.11**	**329**	*e*Pg	**Pg**	**21 17 27.7**	**-1.2**
MEZF				*e*Sg	**Sg**	**21 18 07.4**	**-1.8**
	31nm,0.3s						
LANF	**Langenberg**	**3.12**	**4**	Pn	**Pn**	**21 17 18.5**	**+0.2**
LANF	**Langenberg**	**3.12**	**4**	Pn	**Pn**	**21 17 18.5**	**+0.2**
PYM	**Petit Puy Mans**	**3.13**	**269**	Pn	**Pn**	**21 17 19.2**	**+0.7**
PYM	**Petit Puy Mans**	**3.13**	**269**	Pn	**Pn**	**21 17 19.2**	**+0.7**
STU	**Stuttgart**	**3.13**	**21**	*e*Pn	**Pn**	**21 17 18.4**	**0.0**
STU	**Stuttgart**	**3.13**	**21**	*e*Pn	**Pn**	**21 17 18.4**	**0.0**
STU	**Stuttgart**	**3.13**	**21**	*e*Pn	**Pn**	**21 17 18.1**	**-0.3**
LASF	**Ste Croix**	**3.13**	**236**	*e*P	**Pn**	**21 17 20.2**	**+1.7**
LASF	**Ste Croix**	**3.13**	**236**	*e*Pg	**Pb**	**21 17 27.1**	**+2.2**
LASF				*e*Sn	**Sn**	**21 17 53.3**	**-2.5**
LASF				*e*Sg	**Sg**	**21 18 07.9**	**-2.0**
	21nm,0.4s						
LASF	**Ste Croix**	**3.13**	**236**	*e*P	**Pn**	**21 17 20.2**	**+1.7**
LASF	**Ste Croix**	**3.13**	**236**	*e*Pg	**Pb**	**21 17 27.1**	**+2.2**
LASF				*e*Sn	**Sn**	**21 17 53.3**	**-2.5**
LASF				*e*Sg	**Sg**	**21 18 07.9**	**-2.0**
	10nm,0.4s						
WATA	**Walderalm**	**3.18**	**61⇑**	*e*Pn	**Pn**	**21 17 21.6**	**+2.3**
	SNR=7.7						
WATA	**Walderalm**	**3.18**	**61**	Pn	**Pn**	**21 17 21.6**	**+2.3**
	SNR=7.7						
WTTA	**Wattenberg**	**3.19**	**63**	*e*Pn	Pn	21 17 23.1	+3.7
WTTA	**Wattenberg**	**3.19**	**63⇑**	*e*Pn	**Pn**	**21 17 21.7**	**+2.4**
	SNR=16						
WTTA				⇓*i*Sn	**Sn**	**21 17 56.6**	**-0.8**
WTTA	**Wattenberg**	**3.19**	**63**	Pn	**Pn**	**21 17 21.7**	**+2.4**
	SNR=16						
WTTA				Sn	**Sn**	**21 17 56.6**	**-0.8**
BGF	**Bois d'Agland**	**3.29**	**284**	*e*P	**Pn**	**21 17 22.2**	**+1.6**
BGF	**Bois d'Agland**	**3.29**	**284**	*e*Pg	**Pg**	**21 17 31.5**	**-0.8**
BGF				*e*Sg	**Sg**	**21 18 12.9**	**-2.1**
	65nm,0.3s						
BGF	**Bois d'Agland**	**3.29**	**284**	*e*P	**Pn**	**21 17 22.2**	**+1.6**
BGF	**Bois d'Agland**	**3.29**	**284**	*e*Pg	**Pg**	**21 17 31.5**	**-0.8**
BGF				*e*Sg	**Sg**	**21 18 12.9**	**-2.1**
	32nm,0.3s						
FUR	**Furstenfeldbru**	**3.47**	**47**	*e*Pn	**Pn**	**21 17 24.7**	**+1.6**
FUR	**Furstenfeldbru**	**3.47**	**47**	*e*Pn	**Pn**	**21 17 24.7**	**+1.6**
KTD	**Kalmit**	**3.48**	**7**	Pn	**Pn**	**21 17 23.3**	**+0.1**
PGF	**Pioggiola**	**3.49**	**161**	*e*Pn	**Pn**	**21 17 23.0**	**-0.5**
PGF				*e*Sn	**Sn**	**21 18 01.7**	**-3.1**
	2.7nm,0.2s						
PGF	**Pioggiola**	**3.49**	**161**	*e*Pn	**Pn**	**21 17 23.0**	**-0.5**
PGF				*e*Sn	**Sn**	**21 18 01.7**	**-3.1**
	1.4nm,0.2s						
HYF	**Humbligny**	**3.62**	**294**	*e*P	**Pn**	**21 17 27.2**	**+2.0**
HYF				*e*Sn	**Sn**	**21 18 05.6**	**-2.2**
HYF				*e*Sg	**Sg**	**21 18 23.5**	**-2.1**
HYF	**Humbligny**	**3.62**	**294**	*e*P	**Pn**	**21 17 27.2**	**+2.0**
HYF				*e*Sn	**Sn**	**21 18 05.6**	**-2.2**
HYF				*e*Sg	**Sg**	**21 18 23.5**	**-2.1**
TCF	**Toulx Ste Croi**	**3.69**	**278**	*e*P	**Pn**	**21 17 27.6**	**+1.4**
TCF				*e*Sn	**Sn**	**21 18 07.0**	**-2.6**
TCF				*e*Sg	**Sg**	**21 18 25.3**	**-2.5**
	43nm,0.5s						
TCF	**Toulx Ste Croi**	**3.69**	**278**	*e*P	**Pn**	**21 17 27.6**	**+1.4**
TCF				*e*Sn	**Sn**	**21 18 07.0**	**-2.6**
TCF				*e*Sg	**Sg**	**21 18 25.3**	**-2.5**
	22nm,0.5s						
TOD	**Tromm**	**3.84**	**13**	Pn	**Pn**	**21 17 27.9**	**-0.4**
WLF	**Walferdange**	**3.90**	**347**	PN	**Pn**	**21 17 31.2**	**+2.2**
WLF				SN	**Sn**	**21 18 14.2**	**-0.6**
	comp=N,16nm,0.0s						
WLF	**Walferdange**	**3.90**	**347**	*e*Pn	**Pn**	**21 17 31.2**	**+2.2**
WLF	**Walferdange**	**3.90**	**347**	*e*Pn	**Pn**	**21 17 30.2**	**+1.2**
WLF				Sn	**Sn**	**21 18 14.1**	**-0.6**
WLF	**Walferdange**	**3.90**	**347**	*e*Pn	**Pn**	**21 17 30.2**	**+1.2**
CAF	**Calviac**	**3.93**	**258**	*e*P	**Pn**	**21 17 31.4**	**+2.0**
CAF				*e*Sg	**Sg**	**21 18 32.7**	**-2.8**
	comp=N,32nm,0.5s						
CAF	**Calviac**	**3.93**	**258**	*e*P	**Pn**	**21 17 31.4**	**+2.0**
CAF				*e*Sg	**Sg**	**21 18 32.7**	**-2.8**
	comp=N,16nm,0.5s						
RJOB	**Jochberg**	**4.10**	**61**	*e*Pn	Pn	21 17 36.0	+4.2
RJOB	**Jochberg**	**4.10**	**61**	*e*Pn	Pn	21 17 36.0	+4.2
RJF	**Les Rejaudoux**	**4.23**	**264**	*e*P	**Pn**	**21 17 35.3**	**+1.8**
RJF				*e*Sn	**Sn**	**21 18 19.4**	**-3.3**
RJF				*e*Sg	**Sg**	**21 18 42.0**	**-2.9**
	comp=N,25nm,0.4s						
RJF	**Les Rejaudoux**	**4.23**	**264**	*e*P	**Pn**	**21 17 35.3**	**+1.8**
RJF				*e*Sg	**Sg**	**21 18 42.0**	**-2.9**
	comp=N,12nm,0.4s						
KBA	**Koelnbreinsper**	**4.23**	**71**	*e*Pn	Pb	21 17 39.3	-4.3
KBA	**Koelnbreinsper**	**4.23**	**71**	⇓*i*Pn	**Pn**	**21 17 35.9**	**+2.3**
KBA	**Koelnbreinsper**	**4.23**	**71**	Pn	**Pn**	**21 17 35.9**	**+2.3**
MTLF	**Montolieu**	**4.53**	**238**	*e*P	**Pn**	**21 17 39.5**	**+1.9**
MTLF				*e*Sg	**Sg**	**21 18 51.5**	**-3.1**
	comp=N,14nm,0.5s						
MTLF	**Montolieu**	**4.53**	**238**	*e*P	**Pn**	**21 17 39.5**	**+1.9**
MTLF				*e*Sg	**Sg**	**21 18 51.5**	**-3.1**
	comp=N,7.1nm,0.5s						
GORS	**Gorjuse**	**4.55**	**82**	*i* Pn	**Pn**	**21 17 40.2**	**+2.2**
GORS				*i* Sn	**Sb**	**21 18 38.9**	**-5.1**
GORS	**Gorjuse**	**4.55**	**82**	*i* Pn	**Pn**	**21 17 40.2**	**+2.2**
GRFO	**Grafenberg**	**4.58**	**32**	*e*Pn	**Pn**	**21 17 38.0**	**-0.3**
GRFO	**Grafenberg**	**4.58**	**32**	*e*Pg	**Pg**	**21 17 56.3**	**-0.7**
GRFO	**Grafenberg**	**4.58**	**32**	*e*Pn	**Pn**	**21 17 38.0**	**-0.3**
GRFO				*e*Pg	**Pg**	**21 17 56.3**	**-0.7**
GRA1	**Grafenberg Arr**	**4.58**	**32**	*e*Pn	**Pn**	**21 17 37.8**	**-0.6**
GRF	**Grafenberg Arr**	**4.58**	**32**	*e*Pn	**Pn**	**21 17 37.8**	**-0.6**
JAVS	**Javornik**	**4.60**	**87**	*i* Pn	**Pn**	**21 17 40.3**	**+1.6**
JAVS				*e*Sn	Sn	21 18 38.5	+6.5
JAVS	**Javornik**	**4.60**	**87**	*i* Pn	**Pn**	**21 17 40.3**	**+1.6**
GIVF	**Givet**	**4.60**	**338**	*e*P	**Pn**	**21 17 40.7**	**+2.1**
GIVF				*e*Sn	**Sn**	**21 18 28.3**	**-3.5**
GIVF				*e*Sg	**Sg**	**21 18 54.1**	**-2.7**
	comp=N,34nm,0.6s						
GIVF	**Givet**	**4.60**	**338**	*e*P	**Pn**	**21 17 40.7**	**+2.1**
GIVF				*e*Sg	**Sg**	**21 18 54.1**	**-2.7**
	comp=N,17nm,0.6s						
DOU	**Dourbes**	**4.65**	**336**	PN	**Pn**	**21 17 41.5**	**+2.1**
DOU				SN	**Sn**	**21 18 31.9**	**-1.3**
	comp=N,11nm,0.0s						
DOU	**Dourbes**	**4.65**	**336**	Pn	**Pn**	**21 17 41.4**	**+2.1**
DOU				Sn	**Sn**	**21 18 31.9**	**-1.3**
BAIF	**Baives**	**4.74**	**334**	*e*P	**Pn**	**21 17 42.5**	**+2.1**
BAIF				*e*Sg	**Sg**	**21 18 58.6**	**-2.6**
	comp=N,31nm,0.8s						
BAIF	**Baives**	**4.74**	**334**	*e*P	**Pn**	**21 17 42.5**	**+2.1**
BAIF				*e*Sg	**Sg**	**21 18 58.6**	**-2.6**
	comp=N,16nm,0.8s						
BCLA	**Clavier**	**4.78**	**343**	PN	**Pn**	**21 17 43.1**	**+2.0**
BCLA				SN	**Sn**	**21 18 34.9**	**-1.5**
	comp=N,8.4nm,0.0s						
BCLA	**Clavier**	**4.78**	**343**	Pn	**Pn**	**21 17 43.1**	**+2.0**
BCLA				Sn	**Sn**	**21 18 34.9**	**-1.5**
LFF	**La Frestale**	**4.84**	**261**	*e*P	**Pn**	**21 17 44.1**	**+2.2**
LFF				*e*Sn	**Sn**	**21 18 34.8**	**-3.0**
LFF				*e*Sg	**Sg**	**21 19 01.2**	**-3.3**
	comp=N,41nm,0.6s						
LFF	**La Frestale**	**4.84**	**261**	*e*P	**Pn**	**21 17 44.1**	**+2.2**
LFF				*e*Sn	**Sn**	**21 18 34.8**	**-3.0**
LFF				*e*Sg	**Sg**	**21 19 01.2**	**-3.3**
	comp=N,20nm,0.6s						
MEM	**Membach**	**4.85**	**349**	PN	**Pn**	**21 17 43.9**	**+2.0**
MEM				SN	**Sn**	**21 18 37.3**	**-0.6**
	comp=E,24nm,0.4s						
MEM	**Membach**	**4.85**	**349**	Pn	**Pn**	**21 17 43.9**	**+2.0**
MEM				Sn	**Sn**	**21 18 37.3**	**-0.6**
	comp=E,24nm,0.4s						
WET	**Wettzell**	**4.91**	**46**	*e*Pn	**Pn**	**21 17 44.0**	**+1.1**
WET				*e*Sg	**Sg**	**21 19 03.6**	**-3.2**
WET	**Wettzell**	**4.91**	**46**	*e*Pn	**Pn**	**21 17 44.0**	**+1.1**
WET				*e*Sg	**Sg**	**21 19 03.6**	**-3.2**
OBKA	**Obir**	**4.95**	**80**	*e*Pn	Pn	21 17 47.0	+3.5
OBKA	**Obir**	**4.95**	**80**	*e*Pn	Pn	21 17 47.0	+3.5
HGN	**Heimansgroeve**	**5.01**	**349**	*e*P	**Pn**	**21 17 46.2**	**+2.1**
HGN				*e*S	**Sn**	**21 18 39.9**	**-2.0**
HGN	**Heimansgroeve**	**5.01**	**349**	*e*P	**Pn**	**21 17 46.2**	**+2.1**
HGN				*e*S	**Sn**	**21 18 39.9**	**-2.0**
MOA	**Molln**	**5.06**	**64**	*e*Pn	Pn	21 17 49.1	+4.2
MOA	**Molln**	**5.06**	**64**	⇓*i*Pn	**Pn**	**21 17 47.4**	**+2.5**
MOA				⇓*i*Sn	**Sn**	**21 18 42.8**	**-0.4**
MOA	**Molln**	**5.06**	**64**	Pn	**Pn**	**21 17 47.4**	**+2.5**
MOA				Sn	**Sn**	**21 18 42.8**	**-0.4**
SNF	**Seneffe**	**5.11**	**336**	PN	**Pn**	**21 17 48.0**	**+2.4**
SNF	**Seneffe**	**5.11**	**336**	Pn	**Pn**	**21 17 48.0**	**+2.4**
GEC2	**GERESS Array S**	**5.17**	**53**	*e*Pn	**Pn**	**21 17 48.7**	**+2.2**
GEC2	**GERESS Array S**	**5.17**	**53**	*e*Pn	**Pn**	**21 17 48.7**	**+2.2**
GERES	**GERESS Array B**	**5.17**	**53**	Pn	**Pn**	**21 17 48.4**	**+1.9**
	comp=E,1.3nm,0.3s,baz=240,slow=14,SNR=76						
GERES				Pg	**Pg**	**21 18 07.7**	**-0.6**
	comp=E,2.1nm,0.3s,baz=236,slow=15,SNR=12						
GERES				Sn	**Sn**	**21 18 45.8**	**-0.3**
	comp=E,2.2nm,0.3s,baz=242,slow=24,SNR=9.5						
GERES				Lg	Lg	21 19 16.2	
	comp=E,1.7nm,0.3s,baz=236,slow=26,SNR=2.8						
KHC	**Kasperske Hory**	**5.26**	**49**	*e*PN	**Pn**	**21 17 49.5**	**+1.7**
KHC				*e*PG	**Pb**	**21 18 04.0**	**+2.8**
KHC				*e*SN	**Sn**	**21 18 47.0**	**-1.3**
KHC				*e*SG	**Sg**	**21 19 16.4**	**-1.8**
	comp=E,15nm,0.7s						
KHC	**Kasperske Hory**	**5.26**	**49**	*e*Pn	**Pn**	**21 17 48.7**	**+0.9**
KHC				Sn	**Sn**	**21 18 47.0**	**-1.3**
KHC				Sg	**Sg**	**21 19 16.4**	**-1.8**
	comp=E,15nm,0.7s						
KHC	**Kasperske Hory**	**5.26**	**49**	*e*Pn	**Pn**	**21 17 48.7**	**+0.9**
KHC				*e*Sn	**Sn**	**21 18 47.0**	**-1.3**
MFF	**Saint Martin d**	**5.34**	**281**	*e*P	**Pn**	**21 17 50.4**	**+1.6**
MFF				*e*Sn	**Sn**	**21 18 46.8**	**-3.4**
MFF				*e*Sg	**Sg**	**21 19 17.2**	**-3.5**
	comp=E,9.4nm,0.4s						
MFF	**Saint Martin d**	**5.34**	**281**	*e*P	**Pn**	**21 17 50.4**	**+1.6**
MFF				*e*Sg	**Sg**	**21 19 17.2**	**-3.5**
	comp=E,4.7nm,0.4s						
NVLJ	**Novalja**	**5.38**	**101**	*e*Pn	**Pn**	**21 17 50.4**	**+1.0**
NVLJ				Sn	**Sn**	**21 18 48.8**	**-2.4**
NVLJ	**Novalja**	**5.38**	**101**	*e*Pn	**Pn**	**21 17 50.3**	**+1.0**
NVLJ				Sn	**Sn**	**21 18 48.7**	**-2.4**
BOJS	**Bojanci**	**5.46**	**91**	*i* Pn	**Pn**	**21 17 52.4**	**+2.0**
BOJS				*i* Sn	**Sn**	**21 18 56.0**	**+3.0**
BOJS	**Bojanci**	**5.46**	**91**	*i* Pn	**Pn**	**21 17 52.4**	**+2.0**
BOJS				*i* Sn	**Sn**	**21 18 56.0**	**+3.0**
TANN	**Tannenbergstha**	**5.64**	**34**	*e*Sg	**Sg**	**21 19 27.4**	**-2.8**
ARSA	**Arzberg**	**5.72**	**73**	*e*Pn	Pn	21 17 57.5	+3.6
ARSA	**Arzberg**	**5.72**	**73**	⇑*i*Pn	**Pn**	**21 17 56.3**	**+2.4**
	SNR=5.5						
ARSA				⇑*i*Sn	**Sn**	**21 18 59.5**	**+0.1**
ARSA	**Arzberg**	**5.72**	**73**	Pn	**Pn**	**21 17 56.3**	**+2.4**
	SNR=5.5						
ARSA				Sn	**Sn**	**21 18 59.5**	**+0.1**
EPF	**Esparros**	**5.85**	**244**	*e*P	**Pn**	**21 17 57.6**	**+1.8**
EPF				*e*Sg	**Sg**	**21 19 32.6**	**-4.3**
	comp=E,8.4nm,0.6s						
EPF	**Esparros**	**5.85**	**244**	*e*P	**Pn**	**21 17 57.6**	**+1.8**
LDF	**La Druitiere**	**5.85**	**301**	*e*Pn	**Pn**	**21 17 57.4**	**+1.6**
LDF				*e*Sn	**Sn**	**21 18 58.7**	**-4.0**
LDF				*e*Sg	**Sg**	**21 19 33.2**	**-3.8**
	comp=E,10nm,0.4s						
LDF	**La Druitiere**	**5.85**	**301**	*e*Pn	**Pn**	**21 17 57.4**	**+1.6**
CONA	**Conrad Observa**	**6.10**	**67**	⇓*i*Pn	**Pn**	**21 18 01.3**	**+2.0**
CONA				⇓*i*Sn	**Sn**	**21 19 08.5**	**-0.5**
CONA	**Conrad Observa**	**6.10**	**67**	Pn	**Pn**	**21 18 01.3**	**+2.0**
CONA				Sn	**Sn**	**21 19 08.5**	**-0.5**
FLN	**La Foliniere**	**6.14**	**301**	*e*Pn	**Pn**	**21 18 01.1**	**+1.4**
	baz=128						
FLN				*e*Sn	**Sn**	**21 19 05.3**	**-4.5**
FLN				*e*Sg	**Sg**	**21 19 41.9**	**-4.4**
	comp=E,8.9nm,0.3s						
FLN	**La Foliniere**	**6.14**	**301**	*e*Pn	**Pn**	**21 18 01.1**	**+1.4**
GRR	**Gorron**	**6.22**	**297**	*e*Pn	**Pn**	**21 18 01.7**	**+0.8**
GRR				*e*Sn	**Sn**	**21 19 07.4**	**-4.5**
	comp=E,15nm,0.3s						
GRR	**Gorron**	**6.22**	**297**	*e*Pn	**Pn**	**21 18 01.7**	**+0.8**
PRU	**Pruhonice**	**6.28**	**46**	*e*PN	**Pn**	**21 18 03.4**	**+1.7**
PRU				*e*SN	**Sn**	**21 19 10.8**	**-2.6**
PRU				*e*SG	**Sg**	**21 19 48.3**	**-2.5**
	comp=E,12nm,1.0s						
PRU	**Pruhonice**	**6.28**	**46**	Pn	**Pn**	**21 18 03.4**	**+1.7**
PRU				Sg	**Sg**	**21 19 48.3**	**-2.5**
	comp=E,12nm,1.0s						
ETSF	**Etsaut**	**6.48**	**246**	*e*P	**Pn**	**21 18 07.3**	**+2.8**
ETSF				*e*Sg	**Sg**	**21 19 52.5**	**-4.7**
	comp=E,1.2nm,0.3s						
ETSF	**Etsaut**	**6.48**	**246**	*e*P	**Pn**	**21 18 07.3**	**+2.8**
CLL	**Collm**	**6.56**	**32**	*e*Pn	Pn	21 17 58.0	-7.5
CLL				*e*Pg	Pg	21 18 30.0	-4.8
CLL				*e*Sg	**Sg**	**21 19 57.0**	**-2.7**
	comp=Z,8.0nm,0.7s						
BRG	**Berggiesshubel**	**6.60**	**38**	PG	**Pg**	**21 18 34.4**	**-1.2**
BRG				SN	**Sn**	**21 19 20.6**	**-0.6**
BRG				SG	**Sg**	**21 20 01.7**	**+0.7**
	comp=Z,6.9nm,0.7s						
SJPF	**Ste Jean**	**6.81**	**249**	*e*P	Pn	21 18 12.4	+3.5
SJPF	**Ste Jean**	**6.81**	**249**	*e*P	Pn	21 18 12.4	+3.5
VRAC	**Vranov**	**7.06**	**58**	Sn	**Sn**	**21 19 34.4**	**+2.0**
	baz=190,slow=15,SNR=4.0						
VRAC				Lg	Lg	21 20 15.2	
	comp=Z,1.0nm,0.3s,baz=130,slow=21,SNR=3.2						
SGMF	**Saint Gilles**	**7.26**	**293**	*e*Pn	**Pn**	**21 18 16.1**	**+1.0**
SGMF				*e*Sn	Sn	21 19 32.2	-5.2
	comp=Z,5.6nm,0.3s						
SGMF	**Saint Gilles**	**7.26**	**293**	*e*Pn	**Pn**	**21 18 16.1**	**+1.0**
DPC	**Dobruska-Polom**	**7.42**	**50**	*e*SN	**Sn**	**21 19 38.7**	**-2.8**
DPC				*ex*	x	21 20 22.7	
QUIF	**Quistinic**	**7.58**	**290**	*e*Pn	**Pn**	**21 18 20.3**	**+0.9**
QUIF				*e*Sn	Sn	21 19 39.9	-5.3
	comp=Z,4.7nm,0.3s						
QUIF	**Quistinic**	**7.58**	**290**	*e*Pn	**Pn**	**21 18 20.3**	**+0.9**
ROSF	**Rostrenen**	**7.74**	**292**	*e*Pn	**Pn**	**21 18 19.9**	**-1.8**
ROSF				*e*Sn	Sn	21 19 43.8	-5.5
	comp=Z,3.0nm,0.3s						
VYHS	**Vyhne**	**8.17**	**67**	*e*Pn	**Pn**	**21 18 30.6**	**+3.0**
VYHS	**Vyhne**	**8.17**	**67**	*e*PN	**Pn**	**21 18 30.6**	**+3.0**
ESDC	**Sonseca Array**	**10.44**	**238**	Pn	**Pn**	**21 19 00.2**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=48,slow=14,SNR=16						
EKA	**Eskdalemuir Ar**	**11.63**	**328**	Pn	**Pn**	**21 19 13.8**	**-1.1**
	baz=141,slow=14,SNR=5.8						
KBZ	**Khabaz**	**25.10**	**82**	P	**P**	**21 21 55.6**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=278,slow=9.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**32.98**	**190**	P	**P**	**21 23 05.3**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=0.9,slow=9.0,SNR=4.1						

IDC 04 21:18:37.9±1.8, 34°21N×25°29E, h0km, mb3.3/2, mb1 3.2/3, mb1mx3.0/25, mbtmp3.2/3, ML3.5/1, MS3.1/1, Ms1 3.2/1, ms1mx2.4/19, Error ellipse: s-maj=35.4km s-min=23.0km az=93.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDI	**Anoyia**	**1.12**	**343**	Pn	Pn	21 19 00.7	-0.3
	2.3nm,0.3s,baz=194,slow=8.6,SNR=33						
IDI				Sn	Sn	21 19 17.8	+0.5
	23nm,0.3s,baz=58,slow=15,SNR=27						
AKASG	**Malin Array Be**	**16.73**	**9**	Pn	P	21 22 34.9	-1.1
	0.2nm,0.3s,baz=196,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**28.34**	**346**	LR	LR	21 38 07.3	
	comp=Z,36nm,21.0s,baz=0.0,slow=41						
TORD	**Torodi Ar. Bea**	**29.97**	**231**	P	P	21 24 48.3	+0.1
	0.2nm,0.7s,baz=30,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**44.21**	**56**	P	P	21 26 48.2	-0.6
	0.3nm,0.6s,baz=283,slow=7.2,SNR=4.5						

WEL 04 21:21:12.9±0.2, 37°71S×176°61E, h138km±2km, ML3.5/11, 5C, Error ellipse: s-maj=2.4km s-min=2.2km az=90.0,

North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.67**	**144**	⇑Pn	Pn	21 21 34.1	+0.2
URZ				SN	Sn	21 21 49.8	0.0
HAZ	**Te Kaha**	**0.93**	**93**	⇑Pn	Pn	21 21 35.7	-0.1
HAZ				SN	Sn	21 21 52.8	-0.5
MWZ	**Matawai**	**0.95**	**131**	⇑Pn	Pn	21 21 35.9	-0.2
MWZ				AML	AML	21 21 55.0	
TWGZ	**Tauwhareparae**	**1.18**	**113**	PN	Pn	21 21 38.4	+0.1
TWGZ				SN	Sn	21 21 57.6	0.0
SNGZ	**Shannon Statio**	**1.21**	**152**	PN	Pn	21 21 38.6	+0.1
SNGZ				SN	Sn	21 21 57.6	-0.5
RAHZ	**Arahi**	**1.26**	**163**	PN	Pn	21 21 39.3	+0.3
RIGZ	**Rimuhau**	**1.34**	**138**	PN	Pn	21 21 39.9	0.0
RIGZ				SN	Sn	21 22 00.0	-0.5
PUZ	**Puketiti**	**1.35**	**106**	SN	Sn	21 21 59.0	-1.6
PUZ				AML	AML	21 22 00.4	
PUZ				AML	AML		
WHHZ	**Waihua**	**1.45**	**160**	PN	Pn	21 21 40.8	-0.2
BKZ	**Black Stump Fm**	**1.45**	**184**	PN	Pn	21 21 40.7	-0.4
BKZ				SN	Sn	21 22 01.5	-1.2
PRGZ	**Paritu Road**	**1.57**	**141**	PN	Pn	21 21 41.8	-0.5
ARHZ	**Aropaoanui**	**1.58**	**169**	PN	Pn	21 21 42.4	0.0
ARHZ				SN	Sn	21 22 05.2	+0.2
OTVZ	**Oturere**	**1.63**	**207**	PN	Pn	21 21 43.7	+0.6
TUVZ	**Tukino**	**1.72**	**205**	PN	Pn	21 21 44.5	+0.3
MCHZ	**McNeill Hill**	**1.73**	**178**	PN	Pn	21 21 44.0	-0.1
FWVZ	**Far West T-bar**	**1.75**	**208**	PN	Pn	21 21 44.8	+0.2
FWVZ				SN	Sn	21 22 09.0	+0.1
MHGZ	**Mahia Peninsul**	**1.76**	**145**	PN	Pn	21 21 44.1	-0.4
TRVZ	**Turoa**	**1.79**	**207**	PN	Pn	21 21 45.3	+0.3
WNVZ	**Wahianoa**	**1.80**	**206**	PN	Pn	21 21 45.2	+0.1
MOVZ	**Moawhango**	**1.82**	**201**	PN	Pn	21 21 44.7	-0.5
BHHZ	**Black Hill Sta**	**1.82**	**193**	⇑PN	Pn	21 21 44.7	-0.6
BHHZ				SN	Sn	21 22 08.9	-1.3
PKVZ	**Pokaka**	**1.86**	**212**	PN	Pn	21 21 46.0	+0.4
MTVZ	**Mangateitei**	**1.89**	**208**	PN	Pn	21 21 46.4	+0.3
KRHZ	**Kereru**	**1.94**	**185**	PN	Pn	21 21 45.6	-1.0
KAHZ	**Kahuranaki**	**2.09**	**174**	PN	Pn	21 21 47.7	-0.7
PNHZ	**Pukenui**	**2.22**	**188**	PN	Pn	21 21 48.8	-1.2
PXZ	**Pawanui**	**2.32**	**175**	PN	Pn	21 21 49.7	-1.5
PXZ				AML	AML	21 22 19.4	
WPHZ	**Waipukurau**	**2.35**	**183**	PN	Pn	21 21 50.0	-1.6
PRHZ	**Porangahau**	**2.55**	**180**	PN	Pn	21 21 52.4	-1.6
DVHZ	**Dannevirke**	**2.60**	**187**	PN	Pn	21 21 52.7	-2.0
BFZ	**Birch Farm**	**2.98**	**185**	PN	Pn	21 21 57.0	-2.4
MRZ	**Mangatainoka R**	**3.05**	**195**

UKT pmax pmax
comp=Z,164nm,0.2s
UKT smax smax
comp=E,2μm,0.3s
UKT Uakit 0.62 205 ⇓*i*Pg **Pn 21 50 02.2 +1.1**
comp=E,260nm,0.7s
UKT ⇓*i*Pg **Pn 21 50 02.2 +1.1**
comp=E,116nm,0.7s
UKT ⇑*i*Pg **Pn 21 50 02.2 +1.1**
comp=E,245nm,0.7s
UKT Pmax 21 50 08.6
comp=E,433nm,0.7s
UKT *e*Sg **Sn 21 50 12.4 +1.4**
UKT Smax 21 50 16.1
comp=E,2μm,0.6s
UKT *e*Sb Sb 21 50 18.0 +10
NLYR Nelyaty 1.01 63 *e*PG **Pg 21 50 05.4 -0.5**
NLYR *e* 21 50 18.6
NLYR pmax pmax
comp=Z,856nm,0.3s
NLYR smax smax
comp=E,4μm,0.4s
NLYR Nelyaty 1.01 63 ⇑*i*Pg **Pn 21 50 05.6 -0.8**
NLYR *i* Pb **Pg 21 50 07.2 +1.3**
NLYR max 21 50 07.4
comp=E,857nm,0.3s
NLYR *e*Sg **Sb 21 50 18.9 -0.2**
NLYR *e*Sb **Sn 21 50 21.7 +1.1**
NLYR max 21 50 22.1
comp=E,4μm,0.3s
YOA Uoyan 1.32 275 ⇑*i*PG **Pg 21 50 12.2 +0.4**
YOA *e* 21 50 30.7
YOA pmax pmax
comp=Z,426nm,0.2s
YOA smax smax
comp=E,7μm,0.4s
YOA Uoyan 1.32 275 *e*Pg **Pg 21 50 12.2 +0.4**
YOA Pmax 21 50 12.8
comp=E,389nm,0.3s
YOA *e*Sg **Sg 21 50 30.8 +1.8**
YOA Smax 21 50 36.6
comp=E,7μm,0.6s
KMO Kumora 1.63 265 *e*PN **Pg 21 50 17.3 -0.3**
KMO *e* 21 50 38.9
KMO pmax pmax
comp=Z,343nm,0.4s
KMO smax smax
comp=N,2μm,1.1s
KMO Kumora 1.63 265 ⇑*i*Pg **Pg 21 50 17.3 -0.3**
comp=N,10.0nm,0.8s
KMO ⇑*i*Pg **Pg 21 50 17.3 -0.3**
comp=N,15nm,0.8s
KMO ⇓*i*Pg **Pg 21 50 17.3 -0.3**
comp=N,682nm,0.8s
KMO Pmax 21 50 18.3
comp=N,342nm,0.4s
KMO *i* Sg **Sg 21 50 40.2 +1.5**
KMO Smax 21 50 42.3
comp=N,2μm,1.1s
KMO *e* 21 50 50.0
BOD Bodaibo 1.77 359 *e*PN **Pn 21 50 16.5 -0.4**
BOD *e* 21 50 37.9
BOD pmax pmax
comp=Z,396nm,0.2s
BOD smax smax
comp=E,3μm,0.4s
BOD Bodaibo 1.77 359 ⇑*i*Pg **Pn 21 50 16.8 -0.1**
BOD Pmax 21 50 21.7
comp=E,281nm,0.5s
BOD *i* Sg **Sn 21 50 38.5 -0.9**
BOD Smax 21 50 38.8
comp=E,3μm,0.5s
YLYR Ulyunkhan 2.04 236 *e*PN **Pb 21 50 24.0 +0.7**
YLYR *e* 21 50 25.7
YLYR *e*S **Sg 21 50 51.1 -0.7**
YLYR *e* 21 50 54.6
YLYR pmax pmax
comp=Z,152nm,0.5s
YLYR smax smax
comp=E,655nm,0.4s
YLYR Ulyunkhan 2.04 236 ⇑*i*Pn **Pb 21 50 24.0 +0.7**
comp=E,39nm,0.4s
YLYR ⇑*i*Pn **Pb 21 50 24.0 +0.7**
comp=E,47nm,0.4s
YLYR ⇓*i*Pn **Pb 21 50 24.0 +0.7**
comp=E,83nm,0.4s
YLYR ⇓*i*Pg **Pg 21 50 25.7 +0.3**
YLYR *e* 21 50 29.9
YLYR max 21 50 38.8
comp=E,127nm,0.7s
YLYR *e*Sn **Sg 21 50 51.9 +0.1**
YLYR *e*Sg Sb 21 50 54.9 +6.3
YLYR Smax 21 50 57.2
comp=E,644nm,0.6s
CRS Chara 2.48 68 *e*PN **Pn 21 50 27.8 +1.1**
CRS *e* 21 50 32.0
CRS *e* 21 51 03.4
CRS pmax pmax
comp=Z,231nm,0.5s
CRS smax smax
comp=E,536nm,0.6s
CRS Chara 2.48 68 ⇓*i*Pn **Pn 21 50 27.7 +1.1**
comp=E,6.0nm,0.5s
CRS ⇓*i*Pn **Pn 21 50 27.7 +1.1**
comp=E,11nm,0.5s
CRS ⇓*i*Pn **Pn 21 50 27.7 +1.1**
comp=E,32nm,0.5s
CRS ⇓*i*Pg **Pg 21 50 31.9 -2.0**
CRS *e* 21 50 37.7
CRS max 21 50 38.2
comp=E,231nm,0.7s
CRS *i* Sg **Sg 21 51 03.7 -2.2**
CRS Smax 21 51 04.7
comp=E,514nm,0.5s
NIZ Nizh Angarsk 2.57 266 *e*PN **Pb 21 50 30.5 -2.0**
NIZ *e* 21 50 34.0
NIZ *e*S **Sb 21 51 02.5 -1.4**
NIZ *e* 21 51 09.1
NIZ pmax pmax
comp=Z,66nm,0.4s
NIZ smax smax
comp=N,287nm,0.6s
NIZ Nizh Angarsk 2.57 266 ⇑*i*Pn **Pb 21 50 30.4 -2.0**
NIZ *e*Pg **Pg 21 50 34.2 -1.4**
NIZ *e*PgPg **PbPb 21 50 40.5 +5.0**
NIZ max 21 50 46.0
comp=N,69nm,0.4s
NIZ *e*Sn **Sb 21 51 02.7 -1.2**
NIZ *e*Sg **Sg 21 51 09.1 +0.2**
NIZ Smax 21 51 12.5
comp=N,329nm,0.6s
SYVR Suvo 3.36 226 ⇓*i*Pn Pn 21 50 41.9 +3.1
SYVR *e* 21 50 47.0
SYVR *e*Pg **Pg 21 50 50.2 -0.6**
SYVR *e* 21 50 57.6
SYVR max 21 51 00.7
comp=N,62nm,1.1s
SYVR *e* 21 51 17.0
SYVR *e*Sg **Sg 21 51 36.1 +1.8**
SYVR Smax 21 51 43.1
comp=N,289nm,1.3s
KHNR Khani 3.39 73 ⇓*i*Pn **Pn 21 50 40.6 +1.5**
KHNR *e*Pg **Pb 21 50 47.5 +1.1**
KHNR *e*PgPg **Pg 21 50 50.8 -0.5**
KHNR *e* 21 51 21.9
KHNR *e*Sg **Sg 21 51 32.0 -3.1**
TUP Tupik 3.74 113 *e*PN **Pn 21 50 45.9 +2.0**
TUP *e* 21 50 55.4
TUP *e*S **Sn 21 50 30.8 +3.0**
TUP *e* 21 51 45.0
TUP pmax pmax
comp=Z,72nm,0.7s
TUP smax smax
comp=E,682nm,0.9s
TUP Tupik 3.74 113 *e* **Pb 21 50 53.1 +0.8**
TUP ⇑*i*Pg **Pg 21 50 56.2 -1.8**
comp=E,13nm,0.7s
TUP ⇓*i*Pg **Pg 21 50 56.2 -1.8**
comp=E,22nm,0.7s
TUP ⇓*i*Pg **Pg 21 50 56.2 -1.8**
comp=E,35nm,0.7s
TUP Pmax 21 51 04.3
comp=E,77nm,0.8s
TUP *e*Sn **Sn 21 51 28.5 +0.7**
TUP *e*Sg **Sg 21 51 46.3 0.0**

TUP Smax 21 51 51.4
comp=E,678nm,0.7s
CIT Chita 4.05 185 *e*Pg **Pg 21 51 03.1 -0.8**
CIT *e* 21 51 32.6
CIT *e*Sg **Sg 21 51 58.2 +1.8**
CIT Smax 21 52 03.1
comp=E,690nm,0.6s
MXMB Maximikha 4.17 230 *e*Pn Pn 21 50 53.1 +3.3
MXMB *e* 21 50 56.3
MXMB *e*Pg **Pg 21 51 05.9 -0.3**
MXMB *e* 21 51 11.3
MXMB max 21 51 12.6
comp=E,55nm,0.6s
MXMB *e*Sg **Sg 21 52 02.1 +1.9**
MXMB Smax 21 52 07.0
comp=E,346nm,0.8s
YKLR Yuktali 4.25 80 ⇓*i*Pn **Pn 21 50 52.4 +1.4**
YKLR *e*Pg **Pg 21 51 05.0 -2.8**
YKLR *e* 21 51 08.1
YKLR *i* Sg **Sg 21 51 59.6 -3.3**
OGRR Ongureny 4.46 240 *e*PN **Pn 21 50 56.6 +2.8**
OGRR *e* 21 51 09.2
OGRR *e* 21 52 08.4
OGRR pmax pmax
comp=Z,31nm,1.0s
OGRR smax smax
comp=E,197nm,1.6s
OGRR Ongureny 4.46 240 ⇓*i*Pn **Pn 21 50 56.5 +2.8**
OGRR *e* 21 51 04.6
OGRR *e*Pg **Pg 21 51 08.7 -3.0**
OGRR *e* 21 51 20.8
OGRR max 21 51 26.4
comp=E,30nm,1.2s
OGRR *e*Sn **Sn 21 51 42.5 -3.0**
OGRR *e*Sg **Sg 21 52 08.3 -1.1**
OGRR Smax 21 52 17.9
comp=E,196nm,1.8s
ZRHB Zarechye 5.36 232 *e* Pb 21 51 15.1 -4.8
ZRHB *e*Pg Pg 21 51 24.8 -4.2
ZRHB *e* 21 51 28.6
ZRHB max 21 51 39.1
comp=E,36nm,0.9s
ZRHB *e*Sg **Sg 21 52 37.3 -1.0**
ZRHB Smax 21 53 03.8
comp=E,458nm,1.5s
TRG Tyrgan 5.59 237 *e*PN Pn 21 51 12.4 +3.0
TRG *e* 21 51 29.8
TRG *e*S **Sn 21 52 17.2 +3.7**
TRG *e* 21 52 43.8
TRG pmax pmax
comp=Z,11nm,0.6s
TRG smax smax
comp=E,65nm,0.4s
TRG Tyrgan 5.59 237 *e*Pn Pn 21 51 12.4 +3.0
TRG *e* 21 51 20.3
TRG *e*Pg Pg 21 51 29.8 -3.6
TRG Pmax 21 51 41.7
comp=E,7.0nm,0.7s
TRG *e*Sg **Sg 21 52 43.9 -1.8**
TRG *e* 21 52 46.5
TRG max 21 52 59.7
comp=E,78nm,1.1s
UUDB Ulan-Yde 5.65 225 ⇑*i*Pn **Pn 21 51 12.8 +2.7**
UUDB *e*Pg **Pg 21 51 32.2 -2.3**
UUDB *e* 21 51 40.1
UUDB max 21 51 40.6
comp=E,46nm,0.8s
UUDB *e*Sg **Sg 21 52 48.1 +0.5**
UUDB Smax 21 52 53.5
comp=E,299nm,1.6s
KAB Kabansk 5.93 231 *e* **Sn 21 52 17.5 -4.3**
KAB *e*Sg **Sg 21 52 56.6 0.0**
KAB *e* 21 53 09.6
KAB max 21 53 18.0
comp=E,325nm,1.1s
IENR Iengra 6.03 84 ⇓*i*Pn **Pn 21 51 16.3 +0.9**
IENR *e* 21 51 21.0
IENR *e*Pg Pg 21 51 36.3 -5.5
IENR *e* 21 52 34.5
IENR *e*Sg **Sg 21 52 54.1 -5.7**
CLNS Chul'man 6.05 78 *e*PG Pg 21 51 47.5 +5.3
CLNS *e* 21 52 56.3
CLNS pmax pmax
comp=Z,6.0nm,0.4s
CLNS pmax pmax
comp=E,2.0nm,0.3s
CLNS pmax pmax
comp=N,3.0nm,0.4s
CLNS smax smax
comp=E,16nm,0.5s
CLNS smax smax
comp=N,58nm,0.5s
CLNS smax smax
comp=E,23nm,0.4s
CLNS Chul'man 6.05 78 *e* **Sb 21 52 44.7 +0.6**
CLNS *e*Sg **Sg 21 52 55.3 -5.2**
HRMR Khuramsha 6.11 227 ⇑*i*Pn Pn 21 51 19.9 +3.3
HRMR *e* 21 51 27.3
HRMR ⇑*i*Pg **Pg 21 51 41.0 -2.4**
HRMR Pmax 21 51 47.8
comp=E,21nm,0.6s
HRMR *e* 21 52 45.7
HRMR *e*Sg **Sg 21 53 01.3 -1.2**
HRMR Smax 21 53 12.9
comp=E,394nm,1.0s
KPC Khapcheranga 6.44 190 *e*Pn **Pn 21 51 22.3 +1.2**
KPC *e* 21 51 28.8
KPC Pg Pg 21 51 46.0 -3.7
KPC Pmax 21 51 54.7
comp=E,10.0nm,1.0s
KPC *e* 21 52 46.9
KPC *e*Sg **Sg 21 53 12.7 -0.3**
KPC Smax 21 53 18.2
comp=E,165nm,1.1s
LSTR Listvyanka 6.88 236 *e* **Pb 21 51 45.0 -0.8**
LSTR *e* 21 52 06.4
LSTR *e*Sg **Sg 21 53 23.2 -3.7**
LSTR Smax 21 53 38.0
comp=E,104nm,1.5s
IRK Irkutsk 6.91 241 *e*Sg **Sg 21 53 24.9 -3.0**
IRK *e* 21 53 31.2
IRK max 21 53 37.2
comp=E,137nm,0.5s
TLY Talaya 7.56 239 Pn **Pn 21 51 37.7 +1.3**
comp=E,0.0nm,0.3s,baz=208,slow=17,SNR=2.2
TLY Lg Lg 21 53 47.0
comp=E,0.0nm,0.3s,baz=254,slow=7.0,SNR=8.7
HIA Hailar 7.62 151 Pg Pg 21 52 08.0 -4.1
HIA *e* 21 52 56.0
HIA *e* 21 53 44.6
HIA *e*Sg **Sg 21 53 48.2 -2.4**
ARS Arshan 8.02 244 *e* Pn 21 51 51.6 +8.9
ARS *e* 21 52 07.5
ARS Pg Pg 21 52 15.1 -4.7
ARS Pmax 21 52 18.2
comp=E,9.0nm,0.8s
ARS *e* 21 52 35.1
ARS *e*Sg **Sg 21 53 58.5 -4.9**
ARS *e* 21 54 04.1
ARS max 21 54 05.6
comp=E,141nm,1.2s
ZAK Zakamensk 8.61 233 *e*PN Pn 21 52 02.4 +11
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ZAK Zakamensk 8.61 233 *e* Pg 21 52 27.5 -3.6
ZAK *e* 21 52 41.0
ZAK max 21 52 58.4
comp=Z,1.0nm,0.6s
ZAK *e*Sg **Sg 21 54 17.7 -4.7**
ZAK *e* 21 54 26.6
ZAK max 21 55 00.0
comp=Z,22nm,1.1s
MOY Mondy 8.89 246 *e*PN **Pn 21 51 57.0 +2.3**
MOY *e* 21 52 27.0
MOY *e* 21 54 24.6
MOY pmax pmax
comp=Z,8.0nm,0.6s
MOY smax smax
comp=E,67nm,1.3s
MOY Mondy 8.89 246 *e*Pn **Pn 21 51 57.3 +2.6**
MOY *e* 21 52 05.7
MOY *e*Pg Pg 21 52 28.5 -7.9
MOY Pmax 21 52 35.5

MOY *e* 21 53 51.7
MOY *e*Sg Sg 21 54 25.0 -6.4
MOY Smax 21 54 41.1
comp=E,67nm,1.1s
ORL Orlik 9.05 253 *i* Pn **Pn 21 51 58.9 +2.0**
ORL *e* 21 52 06.3
ORL Pg 21 52 31.0
ORL Pmax 21 52 37.8
comp=E,4.0nm,0.8s
ORL *e*Sn **Sn 21 53 37.4 -1.3**
ORL *e*Sg 21 54 30.2
ORL Smax 21 54 43.9
comp=E,55nm,1.0s
SONM Songino Array 9.49 213 Pn **Pn 21 52 05.3 +2.4**
comp=E,0.8nm,0.3s,baz=26,slow=12,SNR=23
SONM Lg Lg 21 54 51.5
comp=E,1.9nm,0.3s,baz=22,slow=29,SNR=10.0
ZALV Zalesovo Beam 16.86 275 Pn **Pn 21 53 42.6 +0.5**
comp=E,0.1nm,0.3s,baz=64,slow=9.8,SNR=2.7
SEY Seymchan 20.36 55 P **P 21 54 22.1 -0.4**
SEY pmax pmax
comp=Z,1.0nm,0.2s
SEY Seymchan 20.36 55 P **P 21 54 22.1 -0.4**
comp=Z,1.1nm,0.2s,baz=231,slow=14,SNR=3.6
KURK Kurchatov 21.64 271 P **P 21 54 38.9 +2.6**
MKAR Makanchi Array 21.70 258 P **P 21 54 37.9 +0.9**
comp=Z,0.6nm,0.8s,baz=57,slow=9.4,SNR=4.2
KURBB Kurchatov Arra 21.74 271 P **P 21 54 38.9 +1.6**
comp=Z,1.6nm,0.7s,baz=67,slow=12,SNR=12
PETK Petropavlovsk- 25.14 78 P **P 21 55 11.2 +0.2**
PETK pmax pmax
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 25.14 78 P **P 21 55 11.2 +0.2**
comp=Z,2.3nm,0.8s,baz=260,slow=8.6,SNR=2.5
BVAR Borovoye Array 25.21 282 P **P 21 55 11.7 0.0**
comp=Z,0.3nm,0.7s,baz=69,slow=9.4,SNR=3.2
FINES FINESS Array B 42.66 315 P **P 21 57 41.7 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.9s
FINES FINESS Array B 42.66 315 P **P 21 57 41.7 -0.6**
comp=Z,1.1nm,0.9s,baz=103,slow=10,SNR=3.1
ILAR Eielson Array 44.75 37 P **P 21 57 58.9 -0.2**
comp=Z,0.2nm,0.4s,baz=307,slow=6.7,SNR=3.9
YKA Yellowknife Ar 55.86 25 P **P 21 59 21.9 -1.2**
comp=Z,0.2nm,0.7s,baz=332,slow=6.5,SNR=6.2
GERES GERESS Array B 56.31 309 P **P 21 59 27.1 +0.4**
comp=Z,0.3nm,0.7s,baz=37,slow=9.9,SNR=2.8
ESDC Sonseca Array 71.17 314 P **P 22 01 05.7 +0.9**
comp=Z,0.6nm,0.7s,baz=22,slow=8.3,SNR=4.6
WRA Warramunga Arr 77.61 161 P **P 22 01 43.2 +1.0**
comp=Z,0.4nm,0.7s,baz=351,slow=6.6,SNR=6.1
ASAR Alice Springs 81.17 162 P **P 22 02 02.3 +0.7**
comp=Z,0.2nm,0.5s,baz=353,slow=5.6,SNR=3.8

SKO 04 21:51:03.7, 41.39N×22.69E, h15km, M0.6, ML0.9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
VAY	**Valandovo**	**0.11**	**233**	*i* Pg	Pg	21 51 07.0	-0.1
VAY				*i* Sg	Sg	21 51 09.2	-0.2
VAY				*e*Lg	Lg	21 51 09.3	
	comp=E,33nm,0.2s						
VAY				*e*Lg	Lg	21 51 09.3	
	comp=N,82nm,0.3s						

IDC 04 22:04:32.7±2.6, 5.42S×147.06E, h140km±25km, mb3.4/2, mb1 3.8/4, mb1mx3.3/18, mbtmp4.1/4, Error ellipse: s-maj=65.1km s-min=15.8km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PMG	**Port Moresby**	**3.96**	**179**	P	Pn	22 05 32.6	+0.4
	11nm,0.3s,baz=0.0,slow=11,SNR=50						
PMG				S	Sn	22 06 15.2	-3.1
	12nm,0.3s,baz=15,slow=19,SNR=8.0						
WRA	**Warramunga Arr**	**19.01**	**219**	P	Pn	22 08 45.1	-1.0
	1.2nm,0.3s,baz=44,slow=11,SNR=105						
WRA				S	S	22 12 10.8	-1.6
	0.0nm,0.3s,baz=38,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**22.12**	**214**	P	P	22 09 18.0	+0.9
	5.6nm,0.8s,baz=42,slow=9.7,SNR=38						
ASAR				S	S	22 13 13.3	+1.9
	2.8nm,0.9s,baz=32,slow=21,SNR=14						
ILAR	**Eielson Array**	**84.93**	**23**	P	P	22 16 50.8	-1.0
	0.2nm,0.6s,baz=256,slow=4.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.00**	**285**	PKPbc	PKPbc	22 23 53.2	-0.9
	0.4nm,0.9s,baz=64,slow=3.5,SNR=4.0						

SZGRF ***04*** *22:05:52.4, 38.33N×23.44E, h10km, Greece*
TIR ***04*** *22:05:53.5±1.0, 39.23N×23.46E, h0km±671km*
IDC ***04*** *22:05:55.4±0.5, 38.43N×22.38E, h0km, mb4.1/26, mb1 4.2/36, mb1mx4.1/43, mbtmp4.1/36, ML3.3/9, MS3.3/2, Ms1 3.3/2, ms1mx2.9/54, Error ellipse: s-maj=11.2km s-min=10.1km az=108.0*
THE ***04*** *22:05:56.7, 38.40N×22.32E, h3km, ML4.1/24, Error ellipse: s-maj=0.8km s-min=0.3km az=196.0*
ISCJB ***04*** *22:05:56.3±0.3, 38.433N±0.010×22.33E±0.01, h11km±2km, mb4.2/38, Error ellipse: s-maj=1.7km s-min=1.5km az=18.8*
BJI ***04*** *22:05:56.2, 38.50N×22.30E, h28km, mB4.9/5, mb4.5/9*
PDG ***04*** *22:05:56.3±0.7, 38.43N×22.37E, h7km±1km, ML3.9/10, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
CSEM ***04*** *22:05:56.4±0.1, 38.41N×22.36E, h2km, mb4.2/28, Error ellipse: s-maj=2.0km s-min=1.8km az=27.0*
NEIC ***04*** *22:05:56.0, 38.42N×22.32E, h17km, mb4.4/19, ML4.1(ATH), ML4.1(THE), After ATH.*
ATH ***04*** *22:05:56.0, 38.42N×22.32E, h17km±1km, MD3.8/45, ML4.1*
MOS ***04*** *22:05:59.7±1.3, 38.49N×22.43E, h33km, mb4.4/30, Error ellipse: s-maj=5.5km s-min=3.6km az=101.9*

ISC 04 22:05:57.3±0.6, 38.41N±0.01×22.33E±0.01, h11km±3km, n686, σ1$23/814, mb4.2/38, 34C-33D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KALE	**Kalithea**	**0.15**	**263**	P	**Pg**	**22 05 59.4**	**-1.3**
KALE				S	**Sg**	**22 06 01.7**	**-1.4**
KALE	**Kalithea**	**0.15**	**263**	*e*PB	**Pg**	**22 05 59.5**	**-1.3**
KALE				*e*SB	**Sg**	**22 06 02.6**	**-0.6**
KALE	**Kalithea**	**0.15**	**263**	*e*Pb	**Pg**	**22 05 59.5**	**-1.3**
KALE				S	**Sg**	**22 06 01.8**	**-1.4**
KALE				*e*Sb	**Sg**	**22 06 02.6**	**-0.6**
KALE	**Kalithea**	**0.15**	**263**	P	**Pg**	**22 05 59.4**	**-1.3**
EFP	**Efpalio**	**0.33**	**273**	P	**Pg**	**22 06 02.6**	**-1.3**
EFP				S	**Sg**	**22 06 08.0**	**-0.4**
EFP	**Efpalio**	**0.33**	**273**	*e*PB	**Pg**	**22 06 02.7**	**-1.2**
EFP				*e*SB	**Sg**	**22 06 08.2**	**-0.2**
EFP	**Efpalio**	**0.33**	**273**	*e*Pb	**Pg**	**22 06 02.7**	**-1.2**
EFP				S	**Sg**	**22 06 08.0**	**-0.4**
KLV	**Kalavryta, Ach**	**0.39**	**201**	P	**Pg**	**22 06 04.1**	**-0.9**
KLV				S	**Sg**	**22 06 10.1**	**-0.1**
KLV	**Kalavryta, Ach**	**0.39**	**201**	*e*PB	**Pg**	**22 06 04.2**	**-0.8**
KLV				*e*SB	**Sg**	**22 06 10.4**	**+0.2**
KLV	**Kalavryta, Ach**	**0.39**	**201**	P	**Pg**	**22 06 04.1**	**-0.9**
KLV				S	**Sg**	**22 06 10.1**	**-0.1**
KLV				*e*Sb	**Sg**	**22 06 10.4**	**+0.2**
KLV	**Kalavryta, Ach**	**0.39**	**201**	P	**Pg**	**22 06 04.1**	**-0.9**
KLV				S	**Sg**	**22 06 10.1**	**-0.1**
AXAR	**Agios Charalam**	**0.44**	**36**	P	**Pg**	**22 06 05.4**	**-0.6**
AXAR				S	**Sb**	**22 06 12.4**	**-1.4**
AXAR	**Agios Charalam**	**0.44**	**36**	*e*PB	**Pg**	**22 06 05.6**	**-0.4**
AXAR	**Agios Charalam**	**0.44**	**36**	P	**Pg**	**22 06 05.4**	**-0.6**
AXAR				S	**Sb**	**22 06 12.4**	**-1.4**
AXAR	**Agios Charalam**	**0.44**	**36**	P	**Pg**	**22 06 05.4**	**-0.6**
AXAR				S	**Sb**	**22 06 12.4**	**-1.4**
UPR	**University Cam**	**0.44**	**254**	P	**Pg**	**22 06 05.0**	**-1.0**
UPR				S	**Sg**	**22 06 11.6**	**-0.2**
UPR	**University Cam**	**0.44**	**254**	P	**Pg**	**22 06 05.0**	**-1.0**
UPR				S	**Sg**	**22 06 11.6**	**-0.2**
GUR	**Goura**	**0.47**	**178**	P	**Pg**	**22 06 05.6**	**-1.0**
GUR				S	**Sg**	**22 06 12.6**	**-0.2**
GUR	**Goura**	**0.47**	**178**	*e*PB	**Pg**	**22 06 05.7**	**-0.9**
GUR				*e*SB	**Sg**	**22 06 13.0**	**+0.2**
GUR	**Goura**	**0.47**	**178**	P	**Pg**	**22 06 05.6**	**-1.0**
GUR				S	**Sg**	**22 06 12.6**	**-0.2**
GUR				*e*Sb	**Sg**	**22 06 13.0**	**+0.2**

| | | |

UPM	**Unac-Piva**	**5.45**	**333**	⇓*i*Pn	**Pn**	**22 07 19.6 +1.1**
UPM	**Unac-Piva**	**5.45**	**333**	⇓*i*Pn	**Pn**	**22 07 19.6 +1.1**
CTYL	**Yal??k??y-??at**	**5.51**	**54**	*e*PN	**Pn**	**22 07 18.3 -0.9**
FETY	**Fethiye**	**5.66**	**106**	*e*PN	**Pn**	**22 07 22.6 +1.4**
STON	**Ston**	**5.68**	**323**	*e*Pn	**Pn**	**22 07 22.1 +0.6**
STON					Sn	**Sn**	**22 08 23.8 -2.9**
STON	**Ston**	**5.68**	**323**	*e*Pn	**Pn**	**22 07 22.1 +0.6**
PRD	**Provadia**	**6.14**	**37**	*e*P	**Pn**	**22 07 27.6 -0.3**
ELL	**Elmali**	**6.25**	**103**	*e*P	**Pn**	**22 07 31.4 +1.9**
ISP	**Isparta**	**6.49**	**93**	*e*P	**Pn**	**22 07 34.6 +1.8**
ISP	**Isparta**	**6.49**	**93**	⇓*i*P	**Pn**	**22 07 34.9 +2.1**
ISP	**Isparta**	**6.49**	**93**	*e*P	**Pn**	**22 07 34.6 +1.8**
ISP	**Isparta**	**6.49**	**93**	*e*Pn	**Pn**	**22 07 34.6 +1.8**
GULT	**Gulveren**	**6.65**	**70**	*e*P	**Pn**	**22 07 34.8 -0.2**
PSN	**Preselentsi**	**6.88**	**38**	⇑*i*P	**Pn**	**22 07 37.4 -0.6**
GZR	**Gura Zlata**	**6.99**	**3**	⇑*i*P	**Pn**	**22 07 40.2 +0.6**
MSAB	**Monastry St. A**	**7.03**	**34**	⇑*i*P	**Pn**	**22 07 40.2 +0.2**
ARR	**Arges**	**7.16**	**13**	⇓*i*P	**Pn**	**22 07 42.6 +0.6**
MDUB	**Mudurnu**	**7.17**	**71**	*e*P	**Pn**	**22 07 41.8 -0.3**
BZS	**Buzias**	**7.22**	**356**	⇑*i*P	**Pn**	**22 07 44.4 +1.7**
BZS	**Buzias**	**7.22**	**356**	S	**Sn**	**22 09 00.8 -3.9**
VOIR		**7.31**	**15**	⇓*i*P	**Pn**	**22 07 45.2 +1.2**
ISR	**Istrita**	**7.41**	**24**	⇓*i*P	**Pn**	**22 07 47.7 +2.4**
TLB	**Topalu**	**7.51**	**33**	⇓*i*P	**Pn**	**22 07 47.2 +0.5**
HARR	**Harsova**	**7.55**	**32**	⇑*i*P	**Pn**	**22 07 47.3 +0.1**
MLR	**Muntele Rosu**	**7.57**	**20**	⇑*i*P	**Pn**	**22 07 49.3 +1.6**
MLR	**Muntele Rosu**	**7.57**	**20**	Pn	**Pn**	**22 07 48.7 +1.0**
	0.2nm,0.3s,baz=199,slow=9.8,SNR=31					
MLR				Sn	**Sn**	**22 09 12.9 -0.6**
	baz=238,slow=19,SNR=1.8					
MLR				Lg	Lg	22 09 57.9
	0.0nm,0.3s,baz=131,slow=19,SNR=2.6					
MLR				LR	LR	22 11 05.6
	comp=Z,109nm,20.8s,baz=194,slow=41					
TIRR	**Tirgusor**	**7.58**	**35**	*e*P	**Pn**	**22 07 47.4 -0.2**
TIRR				*e*		22 09 17.0
TIRR	**Tirgusor**	**7.58**	**35**	⇑*i*P	**Pn**	**22 07 47.3 -0.2**
TIRR	**Tirgusor**	**7.58**	**35**	*e*P	**Pn**	**22 07 47.4 -0.2**
TIRR	**Tirgusor**	**7.58**	**35**	*e*Pn	**Pn**	**22 07 47.4 -0.2**
TIRR				*e*Sn	**Sn**	**22 09 17.0 +3.6**
AQU	**L'Aquila**	**7.87**	**303**	*e*P	Pn	22 07 55.6 +4.0
AQU	**L'Aquila**	**7.87**	**303**	*e*Pn	Pn	22 07 55.6 +4.0
DOPR	**Dopca**	**7.89**	**16**	⇑*i*P	**Pn**	**22 07 53.5 +1.6**
CFR	**Carcaliu**	**8.03**	**31**	⇑*i*P	**Pn**	**22 07 55.5 +1.7**
PLOR	**Plostina**	**8.10**	**22**	⇓*i*P	**Pn**	**22 07 57.2 +2.4**
VRI	**Vrincioaia**	**8.14**	**22**	⇑*i*P	**Pn**	**22 07 57.8 +2.5**
PKSM	**Moragy**	**8.26**	**342**	⇑*i*P	**Pn**	**22 07 57.3 +0.3**
PKSM	**Moragy**	**8.26**	**342**	⇓*e*Pn	**Pn**	**22 07 57.5 +0.5**
PKSM	**Moragy**	**8.26**	**342**	⇓*e*Pn	**Pn**	**22 07 57.5 +0.5**
ANTO	**Ankara**	**8.27**	**77**	*e*P	**Pn**	**22 07 59.9 +2.8**
ANTO	**Ankara**	**8.27**	**77**	⇓*i*P	**Pn**	**22 08 00.0 +2.8**
ANTO	**Ankara**	**8.27**	**77**	*e*Pn	**Pn**	**22 07 59.9 +2.8**
DRGR		**8.38**	**2**	⇓*i*P	**Pn**	**22 08 00.2 +1.5**
PKS2	**Kecel**	**8.40**	**345**	*e*Pn	**Pn**	**22 07 58.8 0.0**
PKS2	**Kecel**	**8.40**	**345**	*e*Pn	**Pn**	**22 07 58.8 0.0**
PKS6	**Bocsa**	**8.44**	**347**	⇑*e*PN	**Pn**	**22 08 00.1 +0.7**
PKS6	**Bocsa**	**8.44**	**347**	⇑*e*Pn	**Pn**	**22 08 00.1 +0.7**
PKSN	**Nyarlorinc**	**8.67**	**349**	*e*Pn	**Pn**	**22 08 04.5 +1.9**
PKSN	**Nyarlorinc**	**8.67**	**349**	*e*Pn	**Pn**	**22 08 04.5 +1.9**
TESR	**Tescani**	**8.70**	**20**	⇓*i*Pn	Pn	22 08 08.1 +5.0
BOJS	**Bojanci**	**8.83**	**326**	*i*Pn	**Pn**	**22 08 06.9 +2.1**
BOJS				*e*Sn	**Sn**	**22 09 45.1 +0.8**
BRTR	**Keskin Array B**	**8.90**	**78**	*ce*P	**Pn**	**22 08 08.5 +2.6**
BRTR				pmax	pmax	
	comp=Z,5.0nm,0.6s					
BRTR	**Keskin Array B**	**8.90**	**78**	Pn	**Pn**	**22 08 08.3 +2.4**
	comp=Z,0.6nm,0.3s,baz=258,slow=13,SNR=58					
PKS7	**Kunszentmiklos**	**8.94**	**346**	*ep*Pn	Pn	22 08 10.2 +3.9
CRES	**Cresnjev**	**8.99**	**328**	*e*Pn	**Pn**	**22 08 06.0 -1.1**
CRES	**Cresnjev**	**8.99**	**328**	*e*Sn	**Sn**	**22 09 49.8 +1.5**
BEHE	**Becsehely**	**9.04**	**335**	*e*Pn	**Pn**	**22 08 04.5 -3.1**
CSKK	**Cs'‡kako**	**9.43**	**343**	⇓*e*Pn	**Pn**	**22 08 13.8 +0.8**
CSKK	**Cs'‡kako**	**9.43**	**343**	⇓*e*Pn	**Pn**	**22 08 13.8 +0.8**
BURAR	**Bucovina Array**	**9.44**	**12**	⇓*i*P	**Pn**	**22 08 14.5 +1.2**
CSS	**Prodhromos**	**9.48**	**108**	*e*Pn	**Pn**	**22 08 19.0 +5.2**
JAVS	**Javornik**	**9.67**	**323**	*i*Pn	**Pn**	**22 08 16.7 +0.4**
JAVS				*i*Sn	**Sn**	**22 10 03.6 -1.4**
PSZ	**Piszkesteto**	**9.67**	**350**	*e*P	**Pn**	**22 08 17.9 +1.6**
PSZ	**Piszkesteto**	**9.67**	**350**	⇓*i*P	**Pn**	**22 08 18.0 +1.6**
PSZ	**Piszkesteto**	**9.67**	**350**	S	**Sn**	**22 10 06.7 +1.8**
PSZ	**Piszkesteto**	**9.67**	**350**	*e*P	**Pn**	**22 08 17.9 +1.6**
PSZ	**Piszkesteto**	**9.67**	**350**	*e*Pn	**Pn**	**22 08 17.9 +1.6**
PSZ	**Piszkesteto**	**9.67**	**350**	⇑*e*Pn	**Pn**	**22 08 18.0 +1.6**
TRI	**Trieste**	**9.68**	**322**	*e*P	**Pn**	**22 08 17.6 +1.2**
TRI	**Trieste**	**9.68**	**322**	*e*P	**Pn**	**22 08 17.6 +1.2**
TRI	**Trieste**	**9.68**	**322**	*e*Pn	**Pn**	**22 08 17.6 +1.2**
PERS	**Pernice**	**9.79**	**329**	*e*Pn	**Pn**	**22 08 18.1 +0.1**
PERS				*i*Sn	**Sn**	**22 10 05.4 -2.5**
SOKA	**Soboth**	**9.86**	**329**	*i*Pn	**Pn**	**22 08 19.6 +0.7**
	SNR=8.1					
SOKA	**Soboth**	**9.86**	**329**	Pn	**Pn**	**22 08 19.6 +0.7**
	SNR=8.1					
VSL	**Villasalto**	**10.14**	**280**	*e*Pn	**Pn**	**22 08 24.9 +2.1**
VSL	**Villasalto**	**10.14**	**280**	*e*Pn	**Pn**	**22 08 24.9 +2.1**
ARSA	**Arzberg**	**10.15**	**333**	*e*Pn	**Pn**	**22 08 22.9 +0.1**
ARSA	**Arzberg**	**10.15**	**333**	*e*Pn	**Pn**	**22 08 22.9 +0.1**
KECS	**Kecovo**	**10.16**	**353**	*e*	Pn	22 08 32.5 +10
UZH	**Uzhgorod**	**10.22**	**360**	*e*P	Pn	22 08 17.3 -6.5
UZH				*e*S	**Sn**	**22 10 12.5 -5.8**
VYHS	**Vyhne**	**10.39**	**347**	*e*P	**Pn**	**22 08 28.2 +2.0**
VYHS				*e*		22 10 15.2
VYHS	**Vyhne**	**10.39**	**347**	*e*P	**Pn**	**22 08 28.2 +2.0**
VYHS	**Vyhne**	**10.39**	**347**	*e*PN	**Pn**	**22 08 28.2 +2.0**
VYHS				*e*SN	Sn	22 10 15.2 -7.4
KOLS	**Kolonicke sedl**	**10.52**	**360**	*e*P	Pn	22 08 31.4 +3.4
KOLS	**Kolonicke sedl**	**10.52**	**360**	*e*	Pn	22 08 31.4 +3.4
KEST	**Kesra**	**10.71**	**260**	Pn	**Pn**	**22 08 32.1 +1.4**
	comp=Z,0.1nm,0.3s,baz=62,slow=15,SNR=2.0					
KEST	**Kesra**	**10.71**	**260**	*e*Pn	Pn	22 08 34.1 +3.5
KBA	**Koelnbreinsper**	**10.89**	**326**	*e*Sn	**Sn**	**22 10 33.9 -1.1**
KBA	**Koelnbreinsper**	**10.89**	**326**	*e*Sn	**Sn**	**22 10 33.9 -1.1**
STHS	**Stebnicka Huta**	**11.03**	**356**	*e*	Pn	22 08 45.7 +11
MOA	**Molln**	**11.12**	**331**	*e*Pn	**Pn**	**22 08 37.0 +0.9**
MOA	**Molln**	**11.12**	**331**	⇑*i*Pn	**Pn**	**22 08 37.3 +1.2**
	SNR=5.1					
MOA	**Molln**	**11.12**	**331**	*e*Pn	Pn	**22 08 37.0 +0.9**
LVV	**L'vov**	**11.47**	**6**	*e*P	Pn	22 08 49.1 +8.1
VRAC	**Vranov**	**11.65**	**341**	Pn	**Pn**	**22 08 42.1 -1.3**
	comp=Z,0.1nm,0.3s,baz=329,slow=18,SNR=3.1					
WTTA	**Wattenberg**	**11.82**	**322**	*e*Pn	**Pn**	**22 08 47.2 +1.4**
WTTA				*e*Sn	**Sn**	**22 10 55.0 -2.7**
WTTA	**Wattenberg**	**11.82**	**322**	*e*Pn	**Pn**	**22 08 47.2 +1.4**
WATA	**Walderalm**	**11.90**	**322**	⇓*i*Pn	**Pn**	**22 08 47.5 +0.6**
	SNR=4.9					
WATA				⇓*i*Sn	**Sn**	**22 10 59.5 -0.1**
WATA	**Walderalm**	**11.90**	**322**	Pn	**Pn**	**22 08 47.5 +0.6**
	SNR=4.9					
WATA				Sn	**Sn**	**22 10 59.5 -0.1**
MMAI	**Mount Meron Ar**	**11.91**	**113**	Pn	**Pn**	**22 08 46.5 -0.6**
	comp=Z,0.4nm,0.3s,baz=317,slow=14,SNR=7.5					
FUORN	**Ofenpass-Fuorn**	**12.09**	**317**	*e*Pn	**Pn**	**22 08 49.9 +0.2**
FUORN				*e*Sn	**Sn**	**22 11 05.4 +0.7**
FUORN	**Ofenpass-Fuorn**	**12.09**	**317**	*e*Pn	**Pn**	**22 08 49.9 +0.2**
FUORN				*e*Sn	**Sn**	**22 11 05.4 +0.7**
MOTA	**Moosalm**	**12.13**	**321**	⇑*i*Pn	**Pn**	**22 08 51.4 +1.3**
	SNR=8.9					
MOTA	**Moosalm**	**12.13**	**321**	Pn	**Pn**	**22 08 51.4 +1.3**
	SNR=8.9					
GEC2	**GERESS Array S**	**12.15**	**332**	*e*P	**Pn**	**22 08 48.8 -1.5**
GEC2	**GERESS Array S**	**12.15**	**332**	*e*Pn	Pn	22 08 53.0 +2.7
GEC2	**GERESS Array S**	**12.15**	**332**	*e*P	**Pn**	**22 08 48.8 -1.5**
GEC2	**GERESS Array S**	**12.15**	**332**	*e*Pn	**Pn**	**22 08 48.8 -1.5**
GERES	**GERESS Array B**	**12.15**	**332**	Pn	**Pn**	**22 08 51.2 +0.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=14,SNR=12					
GERES				LR	LR	22 15 02.4
	comp=Z,306nm,18.4s,baz=163,slow=45					
DAVOX	**Davos/Dischmat**	**12.40**	**316**	Pn	**Pn**	**22 08 54.0 +0.2**
	baz=126,slow=19					
DAVOX				Sn	**Sn**	**22 11 10.8 -1.3**
	comp=Z,0.2nm,0.3s,baz=1.1,slow=18,SNR=3.3					
KHC	**Kasperske Hory**	**12.43**	**332**	*e*P	**Pn**	**22 08 55.3 +1.2**
KHC				MLR	MLR	
	comp=Z,500nm,12.4s					
KHC	**Kasperske Hory**	**12.43**	**332**	*e*P	**Pn**	**22 08 55.3 +1.2**
KHC				*ex*	x	22 09 01.5
KHC				*ex*	x	22 09 43.0
KHC				AMS	AMS	22 14 00.0
	comp=Z,500nm,12.4s					
KHC	**Kasperske Hory**	**12.43**	**332**	*e*P	**Pn**	**22 08 55.3 +1.2**
	comp=Z,500nm,12.4s					
KHC	**Kasperske Hory**	**12.43**	**332**	*e*Pn	**Pn**	**22 08 56.4 +2.3**
KHC	**Kasperske Hory**	**12.43**	**332**	*e*Pn	**Pn**	**22 08 56.4 +2.3**
MALT	**Malatya**	**12.64**	**85**	⇓*i*P	P	22 09 02.9 -5.7
DPC	**Dobruska-Polom**	**12.68**	**342**	*e*P	**P**	**22 09 08.4 -0.5**
DPC				AMS	AMS	22 14 30.0
DAVA	**Damuels**	**12.72**	**318**	*e*Sn	**Sn**	**22 11 20.8 +1.0**
DAVA	**Damuels**	**12.72**	**318**	*e*Sn	**Sn**	**22 11 20.8 +1.0**
AKASG	**Malin Array Be**	**13.23**	**19**	Pn	**Pn**	**22 09 03.5 -1.4**
	comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=8.3					
MBDF	**Montbardon**	**13.24**	**303**	*e*P	Pn	22 09 09.4 +4.1
	comp=Z,59nm,1.5s					
MBDF	**Montbardon**	**13.24**	**303**	*e*P	Pn	22 09 09.4 +4.1
MBDF				pmax	pmax	
	comp=Z,59nm,1.5s					
MBDF	**Montbardon**	**13.24**	**303**	*e*P	Pn	22 09 09.4 +4.1
	comp=Z,59nm,1.5s					
LPG	**La Plagne**	**13.57**	**306**	*e*P	**P**	**22 09 16.2 -2.9**
	comp=Z,30nm,1.2s					
LPG	**La Plagne**	**13.57**	**306**	*e*P	**P**	**22 09 16.2 -2.9**
LPG				pmax	pmax	
	comp=Z,30nm,1.2s					
LPG	**La Plagne**	**13.57**	**306**	*e*P	**P**	**22 09 16.2 -2.9**
	comp=Z,30nm,1.2s					
LPL	**La Plagne**	**13.59**	**306**	*e*P	**P**	**22 09 16.5 -2.7**
LPL	**La Plagne**	**13.59**	**306**	*e*P	**P**	**22 09 16.5 -2.7**
LPL	**La Plagne**	**13.59**	**306**	*e*P	**P**	**22 09 16.5 -2.7**
SENIN	**Lac Senin/Sane**	**13.64**	**310**	*e*Pn	**Pn**	**22 09 11.8 +1.0**
SENIN	**Lac Senin/Sane**	**13.64**	**310**	*e*Pn	**Pn**	**22 09 11.8 +1.0**
BFO	**Black Forest**	**14.19**	**319**	*e*P	**Pn**	**22 09 17.4 -0.7**
BFO	**Black Forest**	**14.19**	**319**	*e*Pn	**Pn**	**22 09 17.4 -0.7**
BFO	**Black Forest**	**14.19**	**319**	*e*Pn	**Pn**	**22 09 17.4 -0.7**
CLL	**Collm**	**14.47**	**336**	*e*PP	**P**	**22 09 29.0 +0.3**
CLL				*es*PP		22 09 33.0
CLL	**Collm**	**14.47**	**336**	*e*P	**P**	**22 09 30.1 +1.4**
CLL	**Collm**	**14.47**	**336**	*e*P	**P**	**22 09 30.1 +1.4**
CABF	**La Chapelle**	**14.49**	**310**	*e*P	Pn	22 09 25.7 +3.4
CABF	**La Chapelle**	**14.49**	**310**	*e*P	Pn	22 09 25.7 +3.4
CABF	**La Chapelle**	**14.49**	**310**	*e*P	Pn	22 09 25.7 +3.4
HINF	**Hinteralfeld**	**14.68**	**315**	*e*P	**P**	**22 09 28.6 -2.5**
HINF	**Hinteralfeld**	**14.68**	**315**	*e*P	**P**	**22 09 28.6 -2.5**
HINF	**Hinteralfeld**	**14.68**	**315**	*e*P	**P**	**22 09 28.6 -2.5**
CDF	**Champ du Feu**	**14.79**	**317**	*e*P	**P**	**22 09 30.6 -1.8**
CDF	**Champ du Feu**	**14.79**	**317**	*e*P	**P**	**22 09 30.6 -1.8**
CDF	**Champ du Feu**	**14.79**	**317**	*e*P	**P**	**22 09 30.6 -1.8**
CDF	**Champ du Feu**	**14.79**	**317**	*e*P	**P**	**22 09 30.6 -1.8**
SMF	**Signal de Mont**	**15.89**	**307**	*e*P	**P**	**22 09 44.5 0.0**
	comp=Z,8.7nm,0.7s					
SMF	**Signal de Mont**	**15.89**	**307**	*e*P	**P**	**22 09 44.5 0.0**
SMF				pmax	pmax	
	comp=Z,9.0nm,0.7s					
SMF	**Signal de Mont**	**15.89**	**307**	*e*P	**P**	**22 09 44.5 0.0**
	comp=Z,4.3nm,0.7s					
SMF	**Signal de Mont**	**15.89**	**307**	*e*P	**P**	**22 09 44.5 0.0**
	comp=Z,8.7nm,0.7s					
MTLF	**Montolieu**	**15.98**	**294**	*e*P	**P**	**22 09 46.5 +1.0**
	comp=Z,33nm,1.2s					
MTLF	**Montolieu**	**15.98**	**294**	*e*P	**P**	**22 09 46.5 +1.0**
MTLF				pmax	pmax	
	comp=Z,33nm,1.2s					
MTLF	**Montolieu**	**15.98**	**294**	*e*P	**P**	**22 09 46.5 +1.0**
	comp=Z,16nm,1.2s					
MTLF	**Montolieu**	**15.98**	**294**	*e*P	**P**	**22 09 46.5 +1.0**
	comp=Z,33nm,1.2s					
LOR	**Lormes**	**16.15**	**309**	*e*P	**P**	**22 09 45.9 -1.5**
LOR	**Lormes**	**16.15**	**309**	*e*P	**P**	**22 09 45.9 -1.5**
LOR	**Lormes**	**16.15**	**309**	*e*P	**P**	**22 09 45.9 -1.5**
LOR	**Lormes**	**16.15**	**309**	*e*P	**P**	**22 09 45.9 -1.5**
AVF	**Avril sur Loir**	**16.26**	**307**	*e*P	**P**	**22 09 49.1 +0.5**
	comp=Z,43nm,1.4s					
AVF	**Avril sur Loir**	**16.26**	**307**	*e*P	**P**	**22 09 49.1 +0.5**
AVF				pmax	pmax	
	comp=Z,43nm,1.4s					
AVF	**Avril sur Loir**	**16.26**	**307**	*e*P	**P**	**22 09 49.1 +0.5**
	comp=Z,21nm,1.4s					
AVF	**Avril sur Loir**	**16.26**	**307**	*e*P	**P**	**22 09 49.1 +0.5**
	comp=Z,43nm,1.4s					
SSF	**Saint Saulge**	**16.28**	**308**	*e*P	**P**	**22 09 49.6 +0.8**
	comp=Z,23nm,1.2s					
SSF	**Saint Saulge**	**16.28**	**308**	*e*P	**P**	**22 09 49.6 +0.8**
SSF				pmax	pmax	
	comp=Z,23nm,1.2s					
SSF	**Saint Saulge**	**16.28**	**308**	*e*P	**P**	**22 09 49.6 +0.8**
	comp=Z,11nm,1.2s					
SSF	**Saint Saulge**	**16.28**	**308**	*e*P	**P**	**22 09 49.6 +0.8**
	comp=Z,23nm,1.2s					
KIV	**Kislovodsk**	**16.29**	**64**	*e*P	**P**	**22 09 50.6 +1.6**
KIV				pmax	pmax	
	comp=Z,7.0nm,0.8s					
KIV	**Kislovodsk**	**16.29**	**64**	*e*P	**P**	**22 09 50.6 +1.6**
	comp=Z,7.0nm,0.8s					
KIV	**Kislovodsk**	**16.29**	**64**	*e*Pn	**P**	**22 09 50.6 +1.6**
	comp=Z,7.8nm,0.9s					
KBZ	**Khabaz**	**16.39**	**65**	Pn	**P**	**22 09 48.7 -1.2**
	comp=Z,0.1nm,0.3s,baz=253,slow=17,SNR=2.9					
BGF	**Bois d'Agland**	**16.49**	**306**	*e*P	**P**	**22 09 52.9 +1.8**
	comp=Z,31nm,1.2s					
BGF	**Bois d'Agland**	**16.49**	**306**	*e*P	**P**	**22 09 52.9 +1.8**
BGF				pmax	pmax	
	comp=Z,31nm,1.2s					
BGF	**Bois d'Agland**	**16.49**	**306**	*e*P	**P**	**22 09 52.9 +1.8**
	comp=Z,16nm,1.2s					
BGF	**Bois d'Agland**	**16.49**	**306**	*e*P	**P**	**22 09 52.9 +1.8**
	comp=Z,31nm,1.2s					
TCF	**Toulx Ste Croi**	**16.80**	**304**	*e*P	**P**	**22 09 55.7 +1.1**
	comp=Z,70nm,1.6s					
TCF	**Toulx Ste Croi**	**16.80**	**304**	*e*P	**P**	**22 09 55.7 +1.1**
TCF				pmax	pmax	
	comp=Z,70nm,1.6s					
TCF	**Toulx Ste Croi**	**16.80**	**304**	*e*P	**P**	**22 09 55.7 +1.1**
	comp=Z,35nm,1.6s					
TCF	**Toulx Ste Croi**	**16.80**	**304**	*e*P	**P**	**22 09 55.7 +1.1**
	comp=Z,70nm,1.6s					
NCK	**Nalchik**	**16.84**	**66**	*e*P	**P**	**22 09 57.5 +2.5**
NCK	**Nalchik**	**16.84**	**66**	*e*P	**P**	**22 09 57.5 +2.5**
ZEI	**Tsey**	**16.95**	**68**	*e*P	**P**	**22 09 56.4 -0.1**
ZEI				pmax	pmax	
	comp=Z,4.0nm,0.8s					
ZEI	**Tsey**	**16.95**	**68**	*e*P	**P**	**22 09 56.4 -0.1**
	comp=Z,4.0nm,0.8s					
MFF	**Saint Martin d**	**18.44**	**304**	*e*P	**Pn**	**22 10 14.7 +2.0**
MFF	**Saint Martin d**	**18.44**	**304**	*e*P	**Pn**	**22 10 14.7 +2.0**
MFF	**Saint Martin d**	**18.44**	**304**	*e*P	**Pn**	**22 10 14.7 +2.0**
MFF	**Saint Martin d**	**18.44**	**304**	*e*P	**Pn**	**22 10 14.7 +2.0**
LDF	**La Druitiere**	**19.14**	**309**	*e*P	**Pn**	**22 10 22.0 +0.8**
	comp=Z,75nm,1.6s					
LDF	**La Druitiere**	**19.14**	**309**	*e*P	**Pn**	**22 10 22.0 +0.8**
LDF				pmax	pmax	
	comp=Z,75nm,1.6s					
LDF	**La Druitiere**	**19.14**	**309**	*e*P	**Pn**	**22 10 22.0 +0.8**
	comp=Z,38nm,1.6s					
LDF	**La Druitiere**	**19.14**	**309**	*e*P	**Pn**	**22 10 22.0 +0.8**
	comp=Z,75nm,1.6s					
OBN	**Obninsk**	**19.28**	**25**	*e*P	**P**	**22 10 22.1 +0.3**
OBN				pmax	pmax	
	comp=Z,24nm,1.7s					
OBN	**Obninsk**	**19.28**	**25**	*e*P	**P**	**22 10 22.1 +0.3**
	comp=Z,24nm,1.7s					
FLN	**La Foliniere**	**19.42**	**310**	*e*P	**Pn**	**22 10 26.6 +2.0**
FLN	**La Foliniere**	**19.42**	**310**	*e*P	**Pn**	**22 10 26.6 +2.0**
FLN	**La Foliniere**	**19.42**	**310**	*e*P	**Pn**	**22 10 26.6 +2.0**
FLN	**La Foliniere**	**19.42**	**310**	*e*P	**Pn**	**22 10 26.6 +2.0**
GRR	**Gorron**	**19.51**	**308**	*e*P	**Pn**	**22 10 25.5 -0.1**
GRR	**Gorron**	**19.51**	**308**	*e*P	**Pn**	**22 10 25.5 -0.1**
GRR	**Gorron**	**19.51**	**308**	*e*P	**Pn**	**22 10 25.5 -0.1**
GRR	**Gorron**	**19.51**	**308**	*e*P	**Pn**	**22 10 25.5 -0.1**
MOS	**Moscow**	**20.14**	**26**	*e*P	**P**	**22 10 30.4 -0.8**
MOS				pmax	pmax	
	comp=Z,33nm,1.5s					
MOS	**Moscow**	**20.14**	**26**	*e*P	**P**	**22 10 30.4 -0.8**
	comp=Z,33nm,1.5s					
ESDC	**Sonseca Array**	**20.44**	**282**	P	**P**	**22 10 35.6 +0.9**
	comp=Z,3.8nm,0.7s,baz=76,slow=11,SNR=20					
PAB	**San Pablo**	**20.75**	**282**	*e*P	**P**	**22 10 38.9 +0.9**
PAB				pmax	pmax	
	comp=Z,127nm,2.8s					
PAB	**San Pablo**	**20.75**	**282**	*e*P	**P**	**22 10 38.9 +0.9**
	comp=Z,127nm,2.8s					
PAB	**San Pablo**	**20.75**	**282**	*e*P	**P**	**22 10 38.9 +0.9**
	comp=Z,127nm,2.8s					
QUIF	**Quistinic**	**20.80**	**305**	*e*P	Pn	22 10 40.4 -0.4
QUIF	**Quistinic**	**20.80**	**305**	*e*P	Pn	22 10 40.4 -0.4
QUIF	**Quistinic**	**20.80**	**305**	*e*P	Pn	22 10 40.4 -0.4
QUIF	**Quistinic**	**20.80**	**305**	*e*P	Pn	22 10 40.4 -0.4
ROSF	**Rostrenen**	**21.00**	**306**	*e*P	**P**	**22 10 42.0 +1.4**
	comp=Z,29nm,1.0s					
ROSF	**Rostrenen**	**21.00**	**306**	*e*P	**P**	**22 10 42.0 +1.4**
ROSF				pmax	pmax	
	comp=Z,29nm,1.0s					
ROSF	**Rostrenen**	**21.00**	**306**	*e*P	**P**	**22 10 42.0 +1.4**
	comp=Z,14nm,1.0s					
ROSF	**Rostrenen**	**21.00**	**306**	*e*P	**P**	**22 10 42.0 +1.4**
	comp=Z,29nm,1.0s					
TAM	**Tamanrasset**	**21.19**	**228**	*e*P	**P**	**22 10 40.8 -2.2**
TAM				pmax	pmax	
	comp=Z,6.0nm,1.0s					
TAM	**Tamanrasset**	**21.19**	**228**	*e*P	**P**	**22 10 40.8 -2.2**
	comp=Z,6.2nm,1.0s					
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**22 10 56.0 +0.2**
HFS				pmax	pmax	
	comp=Z,4.0nm,0.7s					
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**22 10 56.0 +0.2**
	comp=Z,3.6nm,0.7s,baz=155,slow=11,SNR=7.5					
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**22 10 56.0 +0.2**
	comp=Z,4.0nm,0.7s					
MDT	**Midelt**	**22.56**	**264**	P	**P**	**22 10 58.3 +0.7**
	comp=Z,3.0nm,1.0s,baz=63,slow=9.0,SNR=3.6					
KONO	**Kongsberg**	**22.76**	**343**	*e*P	**P**	**22 10 58.8 -0.5**
KONO				pmax	pmax	
	comp=Z,90nm,2.1s					
KONO	**Kongsberg**	**22.76**	**343**	*e*P	**P**	**22 10 58.8 -0.5**
	comp=Z,90nm,2.1s					
KONO	**Kongsberg**	**22.76**	**343**	*e*P	**P**	**22 10 58.8 -0.5**
	comp=Z,90nm,2.1s					
FINES	**FINESS Array B**	**23.18**	**5**	P	**P**	**22 11 01.7 -1.9**
FINES				pmax	pmax	
	comp=Z,5.0nm,0.9s					
FINES	**FINESS Array B**	**23.18**	**5**	P	**P**	**22 11 01.7 -1.9**
	comp=Z,4.8nm,0.9s,baz=168,slow=9.8,SNR=14					
NB2	**NORSAR Subarra**	**23.70**	**347**	P	**P**	**22 11 07.8 -1.1**
	comp=Z,4.4nm,0.9s,baz=150,slow=10					
NB2	**NORSAR Subarra**	**23.70**	**347**	P	**P**	**22 11 07.8 -1.1**
	comp=Z,4.4nm,0.9s,SNR=1.5					
NOA	**NORSAR Array B**	**23.70**	**347**	P	**P**	**22 11 08.4 -0.5**
NOA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
NOA	**NORSAR Array B**	**23.70**	**347**	P	**P**	**22 11 08.4 -0.5**
	comp=Z,2.4nm,0.8s,baz=154,slow=9.1,SNR=10					
EKA	**Eskdalemuir Ar**	**24.08**	**323**	P	**P**	**22 11 12.3 -0.2**
EKA				pmax	pmax	
	com

	comp=Z,4.5nm,0.7s									
ULN	**Ulaanbaatar**	**59.60**	**51**	*e*P		**P**		**22 16 01.1**	**-0.1**	
	comp=Z,4.5nm,0.7s									
BOSA	**Boshof**	**66.73**	**177**	P		**P**		**22 16 49.4**	**+0.9**	
BOSA				pmax		pmax				
	comp=Z,2.0nm,0.7s									
BOSA	**Boshof**	**66.73**	**177**	P		**P**		**22 16 49.4**	**+0.9**	
	comp=Z,1.9nm,0.7s,baz=2.0,slow=7.5,SNR=5.6									
CMAR	**Chiang Mai Arr**	**68.45**	**83**	*ce*P		**P**		**22 16 58.5**	**-1.1**	
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.7s									
CMAR	**Chiang Mai Arr**	**68.45**	**83**	P		**P**		**22 16 58.5**	**-1.1**	
	comp=Z,0.7nm,0.7s,baz=304,slow=7.1,SNR=7.9									
SEY	**Seymchan**	**71.40**	**22**	P		**P**		**22 17 16.9**	**-0.1**	
SEY				pmax		pmax				
	comp=Z,1.0nm,0.3s									
SEY	**Seymchan**	**71.40**	**22**	P		**P**		**22 17 16.9**	**-0.1**	
	comp=Z,1.1nm,0.3s,baz=325,slow=14,SNR=3.2									
INK	**Inuvik**	**72.07**	**351**	P		**P**		**22 17 19.8**	**-1.1**	
INK				pmax		pmax				
	comp=Z,1.0nm,1.0s									
INK	**Inuvik**	**72.07**	**351**	P		**P**		**22 17 19.8**	**-1.1**	
	comp=Z,1.4nm,1.0s,baz=53,slow=4.8,SNR=4.0									
YKA	**Yellowknife Ar**	**73.65**	**341**	P		**P**		**22 17 30.1**	**-0.3**	
YKA				pmax		pmax				
	comp=Z,1.0nm,0.6s									
YKA	**Yellowknife Ar**	**73.65**	**341**	P		**P**		**22 17 30.1**	**-0.3**	
	comp=Z,0.6nm,0.6s,baz=33,slow=5.2,SNR=18									
USRK	**Ussuriysk Ar.**	**76.13**	**44**	P		**P**		**22 17 44.2**	**-0.9**	
	comp=Z,5.6nm,0.7s,baz=287,slow=5.3,SNR=11									
ULM	**Lac du Bonnet**	**76.35**	**324**	P		**P**		**22 17 45.6**	**-0.6**	
ULM				pmax		pmax				
	comp=Z,1.0nm,0.7s									
ULM	**Lac du Bonnet**	**76.35**	**324**	P		**P**		**22 17 45.6**	**-0.6**	
	comp=Z,1.4nm,0.7s,baz=53,slow=5.1,SNR=3.1									
ILAR	**Eielson Array**	**76.81**	**355**	P		**P**		**22 17 47.9**	**-0.7**	
ILAR				pmax		pmax				
	comp=Z,1.0nm,0.7s									
ILAR	**Eielson Array**	**76.81**	**355**	P		**P**		**22 17 47.9**	**-0.7**	
	comp=Z,0.7nm,0.7s,baz=7.3,slow=3.9,SNR=9.2									
KSAR	**Wonju Array Be**	**78.06**	**52**	P		**P**		**22 17 55.6**	**-0.5**	
KSAR	**Wonju Array Be**	**78.06**	**52**	P		**P**		**22 17 55.6**	**-0.5**	
KSAR	**Wonju Array Be**	**78.06**	**52**	P		**P**		**22 17 55.6**	**-0.5**	
KSRS	**Korea Array**	**78.08**	**52**	P		**P**		**22 17 55.6**	**-0.5**	
KSRS				pmax		pmax				
	comp=Z,3.0nm,0.8s									
KSRS	**Korea Array**	**78.08**	**52**	P		**P**		**22 17 55.6**	**-0.5**	
	comp=Z,2.5nm,0.8s,baz=311,slow=5.1,SNR=9.7									
MJAR	**Matsushiro Arr**	**84.80**	**47**	P		**P**		**22 18 30.5**	**-1.4**	
MJAR				pmax		pmax				
	comp=Z,1.0nm,0.5s									
MJAR	**Matsushiro Arr**	**84.80**	**47**	P		**P**		**22 18 30.5**	**-1.4**	
	comp=Z,1.1nm,0.5s,baz=294,slow=5.9,SNR=5.5									
NEW	**Newport**	**86.48**	**334**	P		**P**		**22 18 40.2**	**+0.2**	
NEW				pmax		pmax				
	comp=Z,2.0nm,0.7s									
NEW	**Newport**	**86.48**	**334**	P		**P**		**22 18 40.2**	**+0.2**	
	comp=Z,1.5nm,0.7s,baz=51,slow=6.5,SNR=4.5									
TXAR	**Lajitas Array**	**95.83**	**315**	P		**P**		**22 19 25.1**	**+1.0**	
	comp=Z,0.4nm,0.7s,baz=52,slow=4.9,SNR=5.5									
WRA	**Warramunga Arr**	**119.13**	**93**	PKIKP		**PKPdf**		**22 24 44.8**	**-1.8**	
WRA				pmax		pmax				
	comp=Z,1.0nm,0.8s									
WRA	**Warramunga Arr**	**119.13**	**93**	PKP		**PKPdf**		**22 24 44.8**	**-1.8**	
	comp=Z,0.6nm,0.8s,baz=315,slow=3.0,SNR=5.8									
ASAR	**Alice Springs**	**120.79**	**97**	PKIKP		**PKPdf**		**22 24 49.0**	**-0.8**	
ASAR				pmax		pmax				
	comp=Z,1.0nm,0.8s									
ASAR	**Alice Springs**	**120.79**	**97**	PKP		**PKPdf**		**22 24 49.0**	**-0.8**	
	comp=Z,0.7nm,0.8s,baz=302,slow=1.7,SNR=6.9									

GUC 04 22:06:14.1±0.4,**35°.14S**×**72°.76W**,**h21**km±4km,**ML3.8,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.96**	**106**	*e*P	Pb	22 06 31.3	-0.7
TALC				*e*S	Sb	22 06 44.3	+0.1
COCH	**Cobquecura**	**0.99**	**181**	*e*P	Pb	22 06 32.0	-0.6
COCH				*e*S	Sb	22 06 45.1	-0.1
LNCH	**Linares**	**1.18**	**127**	*e*P	Pn	22 06 34.9	-0.4
LNCH				*e*S	Sn	22 06 50.8	0.0
NICH	**Los Niches**	**1.26**	**84**	*e*P	Pn	22 06 36.2	-0.3
NICH				*e*S	Sb	22 06 53.0	0.0
CLCH	**Cerro Calan**	**2.53**	**47**	*e*P	Pn	22 06 56.1	+2.1
CLCH				AML	AML	22 07 39.2	
	comp=E,332nm,0.8s						
PEL	**Peldehue**	**2.63**	**41**	*e*P	Pn	22 06 57.2	+1.8
PEL				*e*S	Sb	22 07 30.2	-2.3
PEL				AML	AML	22 07 42.1	
	comp=E,556nm,0.4s						

IDC 04 22:21:20.6±4.9,**19°.57S**×**174°.59W**,**h0**km,**mb4.0**/2,
mb1 4.3/3,**mb1mx3.7**/20,**mbtmp4.1**/3,**ML3.2**/1,**Error ellipse: s-maj=245.4km s-min=34.6km az=147.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.90**	**259**	*e*P	P	22 25 35.1	+3.1
DZM	31nm,1.2s			*e*LR	LR	22 29 26.8	
	335nm,25.4s						
DZM	**Mont Dzumac**	**17.90**	**259**	P	P	22 25 32.0	+0.1
	0.1nm,0.3s,baz=67,slow=15,SNR=5.6						
TBI	**Tubuai**	**23.68**	**104**	*e*LR	LR	22 33 31.6	
	250nm,28.8s						
PPT2	**Papeete2**	**23.79**	**89**	*e*LR	LR	22 33 32.7	
	245nm,27.0s						
ASAR	**Alice Springs**	**47.85**	**255**	P	P	22 29 59.8	-0.8
	1.6nm,0.9s,baz=89,slow=8.3,SNR=13						
ILAR	**Eielson Array**	**86.73**	**12**	P	P	22 34 06.2	+0.2
	1.2nm,1.0s,baz=218,slow=5.7,SNR=5.4						
BRTR	**Keskin Array B**	**148.50**	**316**	PKPbc	PKPbc	22 41 11.1	+1.3
	0.9nm,0.7s,baz=55,slow=2.5,SNR=9.9						
GERES	**GERESS Array B**	**150.04**	**349**	PKPbc	PKPbc	22 41 11.2	-2.1
	0.2nm,0.8s,baz=10,slow=2.2,SNR=2.8						

*ISCJB **04** 22:22:08.1±0.3,38°.42N±0°.01×22°.30E±0°.01,h1km±2km,*
Error ellipse: s-maj=2.0km s-min=1.8km az=140.2
*THE **04** 22:22:08.9,38°.41N×22°.29E,h4km,ML2.9/20,Error*
ellipse: s-maj=0.7km s-min=0.3km az=317.0
*ATH **04** 22:22:08.6,38°.40N×22°.29E,h13km,MD3.2/41,ML3.0*
*CSEM **04** 22:22:08.7±0.1,38°.41N×22°.29E,h2km,ML3.0,Error*
ellipse: s-maj=1.7km s-min=1.5km az=129.0

ISC 04 22:22:08.9±0.9,**38°.41N**±0°.01×**22°.29E**±0°.01,**h6**km±7km,
n162,s0°**72**/264,**8D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.12**	**263**	P	**Pg**	**22 22 11.1**	**-0.4**
KALE				S	**Sg**	**22 22 13.1**	**-0.2**
KALE	**Kalithea**	**0.12**	**263**	*e*PG	**Pg**	**22 22 11.2**	**-0.3**
KALE				*e*SG	**Sg**	**22 22 13.7**	**+0.5**
KALE	**Kalithea**	**0.12**	**263**	P	**Pg**	**22 22 11.2**	**-0.3**
KALE				S	**Sg**	**22 22 13.0**	**-0.2**
KALE				*e*Sg	Sg	22 22 13.7	+0.4
EFP	**Efpalio**	**0.31**	**274**	P	**Pg**	**22 22 14.5**	**-0.3**
EFP				S	**Sg**	**22 22 19.7**	**+0.8**
EFP	**Efpalio**	**0.31**	**274**	*e*PB	**Pg**	**22 22 14.6**	**-0.3**
EFP				*e*SB	**Sg**	**22 22 19.2**	**+0.3**
EFP	**Efpalio**	**0.31**	**274**	P	**Pg**	**22 22 14.5**	**-0.3**
EFP				S	**Sg**	**22 22 18.8**	**-0.1**
EFP				*e*Sb	**Sg**	**22 22 19.2**	**+0.3**
KLV	**Kalavryta, Ach**	**0.38**	**197**	P	**Pg**	**22 22 16.1**	**-0.1**
KLV				S	**Sg**	**22 22 22.2**	**+1.0**
KLV	**Kalavryta, Ach**	**0.38**	**197**	*e*PB	**Pg**	**22 22 16.2**	**0.0**
KLV				*e*SB	**Sg**	**22 22 21.8**	**+0.6**
KLV	**Kalavryta, Ach**	**0.38**	**197**	P	**Pg**	**22 22 16.2**	**0.0**
KLV				*e*Sb	**Sg**	**22 22 21.8**	**+0.6**
KLV				S	**Sg**	**22 22 22.2**	**+1.0**
UPR	**University Cam**	**0.42**	**253**	P	**Pg**	**22 22 17.0**	**+0.1**
UPR				S	**Sg**	**22 22 22.6**	**+0.1**
UPR	**University Cam**	**0.42**	**253**	P	**Pg**	**22 22 17.0**	**+0.1**
UPR				S	**Sg**	**22 22 22.5**	**+0.1**
AXAR	**Agios Charalam**	**0.46**	**38**	P	**Pg**	**22 22 17.8**	**+0.1**
AXAR				S	**Sg**	**22 22 24.2**	**+0.4**
AXAR	**Agios Charalam**	**0.46**	**38**	*e*PB	**Pg**	**22 22 17.9**	**+0.2**
AXAR				*e*SB	**Sg**	**22 22 24.9**	**+1.1**
AXAR	**Agios Charalam**	**0.46**	**38**	P	**Pg**	**22 22 17.8**	**+0.1**
AXAR				S	**Sg**	**22 22 24.2**	**+0.4**
AXAR				*e*Sb	**Sg**	**22 22 24.9**	**+1.1**
GUR	**Goura**	**0.47**	**175**	P	**Pg**	**22 22 17.8**	**-0.1**
GUR				S	**Sg**	**22 22 24.5**	**+0.4**
GUR	**Goura**	**0.47**	**175**	*e*PG	**Pg**	**22 22 17.5**	**-0.4**
GUR				*e*SB	**Sg**	**22 22 23.9**	**-0.2**
GUR	**Goura**	**0.47**	**175**	*e*Pg	**Pg**	**22 22 17.5**	**-0.4**
GUR	**Goura**	**0.47**	**175**	P	**Pg**	**22 22 17.8**	**-0.1**
GUR				*e*Sb	**Sg**	**22 22 23.9**	**-0.2**
GUR				S	**Sg**	**22 22 24.5**	**+0.4**
LKR	**Lokris**	**0.60**	**66**	P	**Pg**	**22 22 19.9**	**-0.5**
LKR				S	**Sb**	**22 22 29.8**	**-0.8**
LKR	**Lokris**	**0.60**	**66**	*e*PG	**Pg**	**22 22 20.0**	**-0.5**
LKR				*e*SB	**Sg**	**22 22 29.4**	**+1.0**
LKR	**Lokris**	**0.60**	**66**	*e*Pg	**Pg**	**22 22 20.0**	**-0.5**
LKR				*e*Sb	**Sg**	**22 22 29.4**	**+1.0**
LKR				S	**Sb**	**22 22 29.8**	**-0.8**
AGG	**Agios Georgios**	**0.62**	**3**	P	**Pg**	**22 22 20.1**	**-0.6**
AGG	**Agios Georgios**	**0.62**	**3**	*e*PG	**Pg**	**22 22 20.2**	**-0.5**
AGG				*e*SB	**Sb**	**22 22 30.0**	**-1.0**
AGG	**Agios Georgios**	**0.62**	**3**	*e*Pg	**Pg**	**22 22 20.2**	**-0.5**
AGG				*e*Sb	**Sb**	**22 22 30.0**	**-1.0**
MAKR	**Makrakomi, Fth**	**0.62**	**348**	*e*PB	**Pg**	**22 22 20.8**	**0.0**
MAKR				*e*SB	**Sb**	**22 22 30.0**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.62**	**348**	*e*Pb	**Pg**	**22 22 20.8**	**0.0**
MAKR				*e*Sb	**Sb**	**22 22 30.0**	**-1.1**
EVR	**Evrytania**	**0.64**	**323**	P	**Pg**	**22 22 20.5**	**-0.6**
EVR				S	**Sg**	**22 22 30.1**	**+0.7**
EVR	**Evrytania**	**0.64**	**323**	*e*PG	**Pg**	**22 22 20.7**	**-0.4**
EVR				*e*SB	**Sg**	**22 22 29.8**	**+0.4**
EVR	**Evrytania**	**0.64**	**323**	*e*Pg	**Pg**	**22 22 20.7**	**-0.4**
EVR				*e*Sb	**Sg**	**22 22 29.8**	**+0.4**
PVO	**Paravola**	**0.64**	**289**	P	**Pg**	**22 22 20.9**	**-0.1**
PVO				S	**Sg**	**22 22 30.4**	**-1.2**
PVO	**Paravola**	**0.64**	**289**	P	**Pg**	**22 22 21.0**	**-0.1**
PVO				S	**Sg**	**22 22 30.1**	**+0.7**
DRO	**Drossia**	**0.65**	**226**	P	**Pg**	**22 22 20.9**	**-0.4**
DRO				S	**Sg**	**22 22 30.1**	**+0.4**
DRO	**Drossia**	**0.65**	**226**	P	**Pg**	**22 22 20.9**	**-0.4**
DRO				S	**Sg**	**22 22 30.1**	**+0.4**
LTK	**Loutraki**	**0.65**	**126**	P	**Pg**	**22 22 21.5**	**+0.1**
LTK				S	**Sb**	**22 22 31.2**	**-0.8**
LTK	**Loutraki**	**0.65**	**126**	*e*PB	**Pg**	**22 22 21.6**	**+0.1**
LTK				*e*SB	**Sg**	**22 22 30.7**	**+0.8**
LTK	**Loutraki**	**0.65**	**126**	P	**Pg**	**22 22 21.5**	**+0.1**
LTK				*e*Sb	**Sg**	**22 22 30.7**	**+0.8**
LTK				S	**Sb**	**22 22 31.2**	**-0.8**
RLS	**Riolos of Patr**	**0.74**	**242**	P	**Pg**	**22 22 22.6**	**-0.4**
RLS				S	**Sb**	**22 22 33.7**	**-0.8**
RLS	**Riolos of Patr**	**0.74**	**242**	*e*PB	**Pg**	**22 22 22.6**	**-0.4**
RLS				*e*SB	**Sg**	**22 22 33.1**	**+0.5**
RLS	**Riolos of Patr**	**0.74**	**242**	P	**Pg**	**22 22 22.6**	**-0.4**
RLS				*e*Sb	**Sb**	**22 22 33.1**	**+0.5**
RLS				S	**Sb**	**22 22 33.7**	**-0.8**
SMIA	**Simia**	**0.86**	**56**	P	**Pg**	**22 22 24.6**	**-0.7**
SMIA				S	**Sb**	**22 22 37.6**	**-0.4**
SMIA	**Simia**	**0.86**	**56**	*e*PG	**Pg**	**22 22 24.6**	**-0.7**
SMIA				*e*SB	**Sb**	**22 22 37.6**	**-0.4**
SMIA	**Simia**	**0.86**	**56**	P	**Pg**	**22 22 24.6**	**-0.7**
SMIA				S	**Sb**	**22 22 37.6**	**-0.4**
PDO	**Prodromos**	**0.89**	**283**	P	**Pg**	**22 22 25.6**	**-0.4**
PDO				S	**Sb**	**22 22 38.5**	**-0.4**
PDO	**Prodromos**	**0.89**	**283**	*e*PB	**Pg**	**22 22 25.6**	**-0.4**
PDO				*e*SB	**Sb**	**22 22 38.3**	**-0.6**
PDO	**Prodromos**	**0.89**	**283**	P	**Pg**	**22 22 25.6**	**-0.4**
PDO				*e*Sb	**Sb**	**22 22 38.3**	**-0.6**
AMT	**Artemida-Makis**	**0.99**	**208**	P	**Pg**	**22 22 27.3**	**-0.5**
AMT				S	**Sb**	**22 22 42.4**	**+0.7**
AMT	**Artemida-Makis**	**0.99**	**208**	*e*PB	**Pg**	**22 22 27.4**	**-0.4**
AMT				*e*SB	**Sg**	**22 22 40.8**	**+0.2**
AMT	**Artemida-Makis**	**0.99**	**208**	P	**Pg**	**22 22 27.3**	**-0.5**
AMT				*e*Sb	**Sg**	**22 22 40.8**	**+0.2**
AMT				S	**Sb**	**22 22 42.4**	**+0.7**
VLX	**Vlachokerasia**	**1.04**	**176**	P	**Pg**	**22 22 28.4**	**-0.3**
VLX				S	**Sb**	**22 22 43.6**	**+0.5**
VLX	**Vlachokerasia**	**1.04**	**176**	*e*PG	**Pg**	**22 22 27.7**	**-1.0**
VLX				*e*SB	**Sg**	**22 22 42.0**	**-0.2**
VLX	**Vlachokerasia**	**1.04**	**176**	*e*Pg	**Pg**	**22 22 27.7**	**-1.0**
VLX	**Vlachokerasia**	**1.04**	**176**	P	**Pg**	**22 22 28.4**	**-0.3**
VLX				*e*Sb	**Sg**	**22 22 42.0**	**-0.2**
VLX				S	**Sb**	**22 22 43.6**	**+0.5**
MRKA	**Markates**	**1.06**	**73**	P	**Pg**	**22 22 27.6**	**-1.5**
MRKA				S	**Sb**	**22 22 44.2**	**+0.5**
MRKA	**Markates**	**1.06**	**73**	*e*PG	**Pg**	**22 22 28.2**	**-0.9**
MRKA				*e*SB	**Sb**	**22 22 43.5**	**-0.2**
MRKA	**Markates**	**1.06**	**73**	P	**Pg**	**22 22 28.2**	**-1.5**
MRKA	**Markates**	**1.06**	**73**	*e*Pg	**Pg**	**22 22 28.2**	**-0.9**
MRKA				*e*Sb	**Sb**	**22 22 43.5**	**-0.2**
MRKA				S	**Sb**	**22 22 44.2**	**+0.5**
NEO	**Neokhori**	**1.16**	**39**	P	**Pg**	**22 22 31.0**	**0.0**
NEO				S	**Sb**	**22 22 47.3**	**+0.8**
NEO	**Neokhori**	**1.16**	**39**	*e*PN	**Pg**	**22 22 30.3**	**-0.7**
NEO				*e*SB	**Sb**	**22 22 46.7**	**+0.2**
NEO	**Neokhori**	**1.16**	**39**	*e*Pn	**Pg**	**22 22 30.3**	**-0.7**
NEO	**Neokhori**	**1.16**	**39**	P	**Pg**	**22 22 31.0**	**0.0**
NEO				*e*Sb	**Sb**	**22 22 46.7**	**+0.2**
NEO				S	**Sb**	**22 22 47.3**	**+0.8**
THL	**Klokotos Trika**	**1.18**	**349**	*e*PB	**Pn**	**22 22 32.8**	**+0.9**
THL	**Klokotos Trika**	**1.18**	**349**	*e*Pb	**Pn**	**22 22 32.8**	**+0.9**
DSL	**Palaion Diasel**	**1.19**	**308**	P	**Pg**	**22 22 31.0**	**-0.6**
DSL				S	**Sb**	**22 22 47.7**	**+0.3**
DSL	**Palaion Diasel**	**1.19**	**308**	P	**Pg**	**22 22 31.0**	**-0.6**
DSL				S	**Sb**	**22 22 47.7**	**+0.3**
XOR	**Xorichti**	**1.19**	**36**	P	**Pg**	**22 22 30.7**	**-0.9**
XOR				S	**Sb**	**22 22 48.0**	**+0.6**
XOR	**Xorichti**	**1.19**	**36**	*e*PN	**Pg**	**22 22 30.7**	**-0.9**
XOR				*e*SB	**Sb**	**22 22 48.0**	**+0.6**
XOR	**Xorichti**	**1.19**	**36**	P	**Pg**	**22 22 30.7**	**-0.9**
XOR				S	**Sb**	**22 22 48.0**	**+0.6**
SKIA	**Skiathos**	**1.19**	**50**	P	**Pg**	**22 22 31.2**	**-0.5**
SKIA				S	**Sn**	**22 22 49.0**	**+0.4**
SKIA	**Skiathos**	**1.19**	**50**	*e*PN	**Pg**	**22 22 31.1**	**-0.6**
SKIA				*e*SB	**Sn**	**22 22 49.2**	**+0.6**
SKIA	**Skiathos**	**1.19**	**50**	P	**Pg**	**22 22 31.2**	**-0.5**
SKIA				*e*Sb	**Sn**	**22 22 49.2**	**+0.6**
ATH	**Athens Observa**	**1.20**	**111**	P	**Pb**	**22 22 32.0**	**-0.1**
ATH				S	**Sn**	**22 22 49.4**	**+0.6**
ATH	**Athens Observa**	**1.20**	**111**	*e*PB	**Pb**	**22 22 31.9**	**-0.1**
ATH				*e*SB	**Sg**	**22 22 47.5**	**0.0**
ATH	**Athens Observa**	**1.20**	**111**	*e*Pb	**Pb**	**22 22 31.9**	**-0.1**
ATH				*e*Sb	**Sg**	**22 22 47.5**	**0.0**
ATH				S	**Sn**	**22 22 49.4**	**+0.6**
KFL	**Anninata**	**1.22**	**256**	P	**Pg**	**22 22 31.3**	**-1.0**
KFL	**Anninata**	**1.22**	**256**	P	**Pg**	**22 22 31.3**	**-1.0**
ATHU	**Athens Univers**	**1.25**	**110**	P	**Pg**	**22 22 32.7**	**-0.2**
ATHU				S	**Sn**	**22 22 50.6**	**+0.5**
ATHU	**Athens Univers**	**1.25**	**110**	P	**Pg**	**22 22 32.7**	**-0.2**
ATHU				S	**Sn**	**22 22 50.6**	**+0.5**
ITM	**Ithomi**	**1.26**	**193**	P	**Pg**	**22 22 31.7**	**-1.2**
ITM				S	**Sn**	**22 22 50.3**	**0.0**
ITM	**Ithomi**	**1.26**	**193**	*e*PG	**Pg**	**22 22 31.8**	**-1.2**
ITM	**Ithomi**	**1.26**	**193**	P	**Pg**	**22 22 31.7**	**-1.2**
ITM				S	**Sn**	**22 22 50.3**	**0.0**
PTL	**Penteli**	**1.29**	**106**	P	**Pn**	**22 22 33.2**	**-0.2**
PTL				S	**Sn**	**22 22 51.3**	**+0.3**
PTL	**Penteli**	**1.29**	**106**	*e*PG	**Pn**	**22 22 33.4**	**0.0**
PTL				*e*SB	**Sg**	**22 22 49.7**	**-0.5**
PTL	**Penteli**	**1.29**	**106**	*e*Pg	**Pn**	**22 22 33.4**	**0.0**
PTL				*e*Sb	**Sg**	**22 22 49.7**	**-0.5**
PTL				S	**Sn**	**22 22 51.3**	**+0.3**
LKD2	**Lefkada island**	**1.34**	**287**	P	**Pn**	**22 22 33.7**	**-0.4**
LKD2				S	**Sn**	**22 22 52.1**	**-0.2**
LKD2	**Lefkada island**	**1.34**	**287**	*e*PB	**Pn**	**22 22 33.7**	**-0.4**
LKD2	**Lefkada island**	**1.34**	**287**	P	**Pn**	**22 22 33.7**	**-0.4**
LKD2				S	**Sn**	**22 22 52.1**	**-0.2**
VLS	**Valsamata**	**1.36**	**261**	P	**Pn**	**22 22 33.2**	**-1.2**
VLS	**Valsamata**	**1.36**	**261**	*e*PN	**Pn**	**22 22 33.4**	**-1.0**
VLS	**Valsamata**	**1.36**	**261**	P	**Pn**	**22 22 33.2**	**-1.2**
AOS	**Alonnisos**	**1.46**	**58**	P	**Pn**	**22 22 34.8**	**-0.9**
AOS				S	**Sb**	**22 22 54.5**	**-0.6**
AOS	**Alonnisos**	**1.46**	**58**	*e*PG	**Pn**	**22 22 35.6**	**-0.1**
AOS				*e*SB	**Sg**	**22 22 55.5**	**-0.1**
AOS	**Alonnisos**	**1.46**	**58**	P	**Pn**	**22 22 34.8**	**-0.9**
AOS	**Alonnisos**	**1.46**	**58**	*e*Pg	**Pn**	**22 22 35.6**	**-0.1**
AOS				S	**Sb**	**22 22 54.5**	**-0.6**
SFD	**Strofades**	**1.53**	**222**	*e*PB	**Pg**	**22 22 38.5**	**+0.2**
SFD	**Strofades**	**1.53**	**222**	*e*Pb	**Pg**	**22 22 38.5**	**+0.2**
PYL	**PYLOS**	**1.57**	**196**	P	**Pn**	**22 22 37.4**	**+0.1**
PYL				S	**Sb**	**22 22 58.8**	**+0.4**
PYL	**PYLOS**	**1.57**	**196**	*e*PG	**Pn**	**22 22 37.6**	**+0.3**
PYL				*e*SB	**Sg**	**22 22 59.5**	**+0.2**
PYL	**PYLOS**	**1.57**	**196**	P	**Pn**	**22 22 37.4**	**+0.1**
PYL				S	**Sb**	**22 22 58.8**	**+0.4**
PYL				*e*Sb	**Sg**	**22 22 59.5**	**+0.2**
MRMA	**Marmari**	**1.68**	**101**	P	**Pn**	**22 22 38.2**	**-0.6**
MRMA	**Marmari**	**1.68**	**101**	P	**Pn**	**22 22 38.2**	**-0.6**
JAN	**Janina**	**1.68**	**318**	*e*PG	**Pb**	**22 22 40.3**	**+0.1**
JAN				*e*SB	**Sg**	**22 23 02.3**	**-0.6**
JAN	**Janina**	**1.68**	**318**	*e*Pg	**Pb**	**22 22 40.3**	**+0.1**
JAN				*e*Sb	**Sg**	**22 23 02.3**	**-0.6**
LIT	**Litokhoron**	**1.70**	**5**	P	**Pn**	**22 22 39.1**	**0.0**
LIT	**Litokhoron**	**1.70**	**5**	*e*PN	**Pn**	**22 22 39.4**	**+0.3**
LIT	**Litokhoron**	**1.70**	**5**	P	**Pn**	**22 22 39.1**	**0.0**
LIT	**Litokhoron**	**1.70**	**5**	*e*Pn	**Pn**	**22 22 39.4**	**+0.3**
VLI	**Veliai**	**1.76**	**163**	P	**Pn**	**22 22 40.0**	**+0.1**
VLI				S	**Sb**	**22 23 04.0**	**+0.1**
VLI	**Veliai**	**1.76**	**163**	*e*PN	**Pn**	**22 22 40.3**	**+0.4**
VLI				*e*SN	**Sg**	**22 23 04.9**	**-0.5**
VLI	**Veliai**	**1.76**	**163**	P	**Pn**	**22 22 40.0**	**+0.1**
VLI	**Veliai**	**1.76**	**163**	*e*Pn	**Pn**	**22 22 40.3**	**+0.4**
VLI				S	**Sb**	**22 23 04.0**	**+0.1**
VLI				*e*Sn	**Sg**	**22 23 04.9**	**-0.5**
PAIG	**Paliouri**	**1.86**	**35**	P	**Pn**	**22 22 40.5**	**-0.8**
PAIG	**Paliouri**	**1.86**	**35**	*e*PB	**Pn**	**22 22 40.6**	**-0.8**
PAIG	**Paliouri**	**1.86**	**35**	P	**Pn**	**22 22 40.5**	**-0.8**
IGT	**Igoumenitsa**	**1.90**	**307**	*e*PG	**Pb**	**22 22 44.3**	**+0.4**
IGT	**Igoumenitsa**	**1.90**	**307**	*e*Pg	**Pb**	**22 22 44.3**	**+0.4**
KZN	**Kozani**	**1.94**	**348**	*e*PN	**Pn**	**22 22 43.4**	**+0.9**
KZN	**Kozani**	**1.94**	**348**	*e*Pn	**Pn**	**22 22 43.4**	**+0.9**
PLG	**Polygyros**	**2.16**	**24**	*e*PB	**Pn**	**22 22 45.2**	**-0.2**
PLG	**Polygyros**	**2.16**	**24**	*e*Pb	**Pn**	**22 22 45.2**	**-0.2**
KYTH	**Kithira**	**2.20**	**164**	*e*PN	**Pn**	**22 22 47.6**	**+1.6**
KYTH	**Kithira**	**2.20**	**164**	*e*Pn	**Pn**	**22 22 47.6**	**+1.6**
NEST	**Nestorio**	**2.23**	**335**	*e*PN	**Pb**	**22 22 48.1**	**-1.5**
NEST	**Nestorio**	**2.23**	**335**	*e*Pn	**Pb**	**22 22 48.1**	**-1.5**
HORT	**Hortiatis**	**2.28**	**16**	*e*PB	**Pn**	**22 22 47.0**	**-0.1**
HORT	**Hortiatis**	**2.28**	**16**	*e*Pb	**Pn**	**22 22 47.0**	**-0.1**
THE	**Thessaloniki**	**2.28**	**13**	*e*PN	**Pb**	**22 22 48.9**	**-1.5**
THE	**Thessaloniki**	**2.28**	**13**	*e*Pn	**Pb**	**22 22 48.9**	**-1.5**
OUR	**Ouranopolis**	**2.33**	**34**	*e*PB	**Pn**	**22 22 47.3**	**-0.4**
OUR	**Ouranopolis**	**2.33**	**34**	*e*Pb	**Pn**	**22 22 47.3**	**-0.4**
KEK	**Kerkira**	**2.34**	**305**	*e*PN	**Pn**	**22 22 49.5**	**+1.6**
KEK	**Kerkira**	**2.34**	**305**	*e*Pn	**Pn**	**22 22 49.5**	**+1.6**
FNA	**Florina**	**2.48**	**344**	*e*PB	**Pn**	**22 22 50.8**	**+1.0**
FNA	**Florina**	**2.48**	**344**	*e*Pb	**Pn**	**22 22 50.8**	**+1.

COK	**Cook Ranch**	**0.66**	**323**	*e*P		**Pb**	**22 35 03.1**	**-0.4**
SWSC	**Sam W. Stewart** baz=0.8	**0.76**	**324**	⇑P		**Pb**	**22 35 04.5**	**-0.7**
GLA	**Glamis** baz=0.8	**0.81**	**27**	⇓P		**Pb**	**22 35 05.5**	**-0.6**
GLA	baz=0.8			⇑S		**Sb**	**22 35 16.8**	**+0.1**
GLA	**Glamis**	**0.81**	**27**	*e*P		**Pb**	**22 35 06.0**	**-0.2**
GLA				*e*S		**Sn**	**22 35 17.6**	**-0.3**
CRR	**Carrizo Plain**	**0.82**	**313**	*e*P		**Pb**	**22 35 05.6**	**-0.7**
CRR	**Carrizo Plain**	**0.82**	**313**	*e*P		**Pb**	**22 35 05.6**	**-0.7**
MONP	**Monument Peak,** baz=1.1	**1.13**	**300**	⇓P		**Pn**	**22 35 11.4**	**+0.3**
MONP	baz=1.1			⇑S		**Sn**	**22 35 25.9**	**-0.1**
ZAX	**El Zacaton**	**1.18**	**227**	*e*P		Pn	22 35 01.8	-10
ZAX				*e*S		Sn	22 35 17.2	-10
CBX	**Cerro Bola**	**1.19**	**270**	*e*P		**Pn**	**22 35 12.0**	**+0.1**
CBX				*e*S		**Sb**	**22 35 27.9**	**+0.3**
CBX	**Cerro Bola**	**1.19**	**270**	*e*P		**Pn**	**22 35 12.0**	**+0.1**
CBX				*e*S		**Sb**	**22 35 27.9**	**+0.3**
BAR	**Barrett**	**1.25**	**287**	*e*P		**Pn**	**22 35 12.9**	**+0.3**
BAR				*e*S		**Sn**	**22 35 28.6**	**+0.1**
SPX	**San Pedro Mart**	**1.29**	**188**	*e*P		**Sb**	**22 35 13.2**	**-0.2**
SPX				*e*S		**Sb**	**22 35 31.0**	**+0.5**
SPX	comp=E,688nm,0.6s			⇓*e*			22 35 32.4	
SPX	**San Pedro Mart**	**1.29**	**188**	*e*P		**Pn**	**22 35 13.1**	**-0.2**
SPX				*e*S		**Sb**	**22 35 31.2**	**+0.7**
113A	**Mohawk Valley,** baz=1.4	**1.34**	**70**	⇑P		**Pn**	**22 35 13.7**	**-0.1**
113A	baz=1.4			⇓S		**Sn**	**22 35 30.2**	**-0.6**
BC3	**Big Chuckawall** baz=1.4	**1.34**	**353**	⇓P		**Pn**	**22 35 13.4**	**-0.5**
PFO	**Pinyon Flats O** baz=1.6	**1.63**	**322**	⇑P		**Pn**	**22 35 17.3**	**-0.6**
PFO	**Pinyon Flats O**	**1.63**	**322**	*e*Pn		**Pn**	**22 35 16.8**	**-1.1**
109C	**Camp Elliot, M** baz=1.6	**1.66**	**290**	⇓Pb		**Pb**	**22 35 19.7**	**-0.8**
109C	baz=1.6			⇑Sb		**Sb**	**22 35 41.0**	**+0.1**
MURC	**Murrieta** baz=2.1	**2.07**	**309**	Sb		**Sb**	**22 35 53.1**	**+0.3**
214A	**Organ Pipe Nat** baz=2.1	**2.11**	**99**	⇓P		**Pn**	**22 35 24.0**	**-0.5**
214A	**Organ Pipe Nat**	**2.11**	**99**	*e*Pn		**Pn**	**22 35 24.1**	**-0.3**
Z14A	**Wintersburg** baz=2.2	**2.21**	**61**	⇓P		**Pn**	**22 35 25.8**	**+0.1**
MWC	**Mount Wilson**	**3.01**	**310**	*e*Pn		**Pn**	**22 35 39.9**	**+2.9**
GSC	**Goldstone, Bar**	**3.24**	**337**	*e*Pn		Pb	22 35 44.0	-3.5
TUC	**Tucson**	**3.79**	**89**	*e*Pn		Pn	22 35 51.1	+3.5
121A	**Cookes Peak, D** comp=E,2.7nm,0.4s	**6.32**	**86**	*e*Pn		**Pn**	**22 36 23.6**	**+1.1**

*SKO **04** 22:35:21.4, 40°.51N×23°.00E, h3km, M1.5, ML1.8*
*ATH **04** 22:35:23.4, 40°.62N×23°.02E, h5km±1km, MD3.1/18*
*THE **04** 22:35:23.6, 40°.62N×23°.01E, h4km±1km, ML2.1/9, Error ellipse: s-maj=1.3km s-min=0.4km az=265.0*

CSEM 04 22:35:23.0±0.1, 40°.60N×23°.01E, h6km±1km, MD3.1, Error ellipse: s-maj=2.5km s-min=2.1km az=136.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.04**	**313**	P	Pg	22 35 24.7	+0.3
THE				S	Sg	22 35 25.4	0.0
THE	**Thessaloniki**	**0.04**	**313**	*e*PG	Pg	22 35 24.7	+0.3
THE				*e*SG	Sg	22 35 25.3	-0.1
THE	**Thessaloniki**	**0.04**	**313**	P	Pg	22 35 24.7	+0.3
THE				*e*Sg	Sg	22 35 25.3	-0.1
HORT	**Hortiatis**	**0.07**	**94**	P	Pg	22 35 25.5	+0.6
HORT				S	Sg	22 35 26.7	+0.5
HORT	**Hortiatis**	**0.07**	**94**	*e*PG	Pg	22 35 25.5	+0.6
HORT				*e*SG	Sg	22 35 26.8	+0.6
HORT	**Hortiatis**	**0.07**	**94**	P	Pg	22 35 25.5	+0.6
HORT				*e*Sg	Sg	22 35 26.8	+0.6
SOH	**Sokhos**	**0.34**	**50**	P	Pg	22 35 30.3	+0.5
SOH				S	Sg	22 35 34.6	+0.2
SOH	**Sokhos**	**0.34**	**50**	*e*PB	Pg	22 35 30.4	+0.6
SOH				*e*SB	Sg	22 35 34.8	+0.4
SOH	**Sokhos**	**0.34**	**50**	P	Pg	22 35 30.3	+0.5
SOH				S	Sg	22 35 34.6	+0.2
PLG	**Polygyros**	**0.41**	**124**	P	Pg	22 35 31.2	+0.2
PLG	**Polygyros**	**0.41**	**124**	*e*PB	Pg	22 35 31.3	+0.3
PLG				*e*SB	Sg	22 35 36.7	+0.4
PLG	**Polygyros**	**0.41**	**124**	*e*Pb	Pg	22 35 31.3	+0.3
PLG				*e*Sb	Sg	22 35 36.7	+0.4
KNT	**Kendrikon**	**0.56**	**352**	P	Pg	22 35 34.1	+0.2
KNT				S	Sg	22 35 41.7	+0.3
KNT	**Kendrikon**	**0.56**	**352**	*e*PB	Pg	22 35 34.2	+0.3
KNT				*e*SB	Sg	22 35 41.2	-0.2
KNT	**Kendrikon**	**0.56**	**352**	P	Pg	22 35 34.1	+0.2
KNT				*e*Sb	Sg	22 35 41.2	-0.2
KNT				S	Sb	22 35 41.7	-2.0
LIT	**Litokhoron**	**0.64**	**218**	P	Pb	22 35 36.1	-0.5
LIT				S	Sb	22 35 45.6	-0.2
LIT	**Litokhoron**	**0.64**	**218**	*e*PB	Pb	22 35 36.2	-0.4
LIT				*e*SB	Sb	22 35 45.4	-0.4
LIT	**Litokhoron**	**0.64**	**218**	P	Pb	22 35 36.1	-0.5
LIT				*e*Sb	Sb	22 35 45.4	-0.4
SRS	**Serrai**	**0.68**	**41**	P	Pg	22 35 36.0	-0.1
SRS				S	Sg	22 35 45.2	+0.2
SRS	**Serrai**	**0.68**	**41**	*e*PB	Pg	22 35 36.1	0.0
SRS				*e*SB	Sg	22 35 44.5	-0.5
SRS	**Serrai**	**0.68**	**41**	*e*Pb	Pg	22 35 36.1	0.0
SRS				*e*Sb	Sg	22 35 44.5	-0.5
SRS				S	Sb	22 35 45.2	-1.8
VAY	**Valandovo**	**0.79**	**335**	P	Pg	22 35 38.0	-0.2
VAY	**Valandovo**	**0.79**	**335**	*i* Pg	Pg	22 35 38.3	+0.1
VAY				*i* Sg	Sb	22 35 49.5	-0.6
VAY	comp=E,33nm,0.5s			*e*Lg	Lg	22 35 50.3	
VAY	comp=N,35nm,0.5s			*e*Lg	Lg	22 35 51.0	
VAY	**Valandovo**	**0.79**	**335**	*i* Pg	Pg	22 35 38.2	0.0
VAY				*i* Sg	Sb	22 35 49.4	-0.7
VAY	comp=N,35nm,0.5s			*e*Lg	Lg	22 35 51.0	
OUR	**Ouranopolis**	**0.79**	**109**	P	Pb	22 35 38.7	-0.4
OUR				S	Sb	22 35 49.9	-0.2
OUR	**Ouranopolis**	**0.79**	**109**	*e*PB	Pg	22 35 38.6	+0.4
OUR				*e*SB	Sg	22 35 49.0	+0.5
OUR	**Ouranopolis**	**0.79**	**109**	*e*Pb	Pg	22 35 38.6	+0.4
OUR				*e*Sb	Sg	22 35 49.0	+0.5
OUR				S	Sb	22 35 49.9	-0.2
PAIG	**Paliouri**	**0.85**	**142**	P	Pg	22 35 39.2	-0.1
PAIG				S	Sb	22 35 51.7	-0.1
PAIG	**Paliouri**	**0.85**	**142**	*e*PB	Pg	22 35 39.0	-0.3
PAIG				*e*SB	Sb	22 35 51.2	-0.6
PAIG	**Paliouri**	**0.85**	**142**	P	Pg	22 35 39.2	-0.1
PAIG				*e*Sb	Sb	22 35 51.2	-0.6
PAIG				S	Sg	22 35 51.7	+1.3
KZN	**Kozani**	**0.99**	**253**	P	Pb	22 35 42.5	-0.1
KZN	**Kozani**	**0.99**	**253**	*e*PB	Pb	22 35 42.7	+0.1
KZN				*e*SB	Sn	22 35 57.1	-0.8
KZN	**Kozani**	**0.99**	**253**	*e*Pb	Pb	22 35 42.7	+0.1
KZN				*e*Sb	Sn	22 35 57.1	-0.8
NVR	**Nevrokopi**	**0.99**	**41**	P	Pg	22 35 41.9	-0.2
NVR				S	Sb	22 35 56.2	+0.3
NVR	**Nevrokopi**	**0.99**	**41**	*e*PB	Pg	22 35 41.9	-0.2
NVR				*e*SB	Sg	22 35 54.5	-0.5
NVR	**Nevrokopi**	**0.99**	**41**	P	Pg	22 35 41.9	-0.2
NVR				*e*Sb	Sg	22 35 54.5	-0.5
NVR				S	Sb	22 35 56.2	+0.3
KAVA	**Kavala**	**1.21**	**71**	P	Pg	22 35 46.1	-0.1
KAVA				S	Sn	22 36 03.8	+0.7
KAVA	**Kavala**	**1.21**	**71**	*e*PB	Pg	22 35 46.2	0.0
KAVA				*e*SB	Sn	22 36 02.7	-0.5
KAVA	**Kavala**	**1.21**	**71**	*e*Pb	Pg	22 35 46.2	0.0
KAVA				*e*Sb	Sn	22 36 02.7	-0.5
KAVA				S	Sb	22 36 03.8	+1.6
XOR	**Xorichti**	**1.24**	**173**	*e*PN	Pb	22 35 46.6	-0.3
XOR				*e*SB	Sb	22 36 03.5	+0.3
XOR	**Xorichti**	**1.24**	**173**	*e*Pn	Pb	22 35 46.6	-0.3
XOR				*e*Sb	Sb	22 36 03.5	+0.3
FNA	**Florina**	**1.25**	**279**	*e*PB	Pn	22 35 47.0	-0.1
FNA				*e*SB	Sn	22 36 04.6	+0.3
FNA	**Florina**	**1.25**	**279**	*e*Pb	Pn	22 35 47.0	-0.1
FNA				*e*Sb	Sn	22 36 04.6	+0.3
THL	**Klokotos Trika**	**1.29**	**217**	*e*PB	Pg	22 35 48.1	+0.4
THL				*e*SB	Sn	22 36 05.6	+0.6
THL	**Klokotos Trika**	**1.29**	**217**	*e*Pb	Pg	22 35 48.1	+0.4
THL				*e*Sb	Sn	22 36 05.6	+0.6
NEO	**Neokhori**	**1.31**	**173**	*e*PN	Pn	22 35 47.3	-0.5
NEO	**Neokhori**	**1.31**	**173**	*e*Pn	Pn	22 35 47.3	-0.5
SKIA	**Skiathos**	**1.48**	**166**	*e*PN	Pn	22 35 49.7	-0.4
SKIA	**Skiathos**	**1.48**	**166**	*e*Pn	Pn	22 35 49.7	-0.4
NEST	**Nestorio**	**1.50**	**263**	*e*PG	Pb	22 35 51.7	+0.2
NEST	**Nestorio**	**1.50**	**263**	*e*Pg	Pb	22 35 51.7	+0.2
AOS	**Alonnisos**	**1.58**	**155**	*e*PN	Pn	22 35 51.3	-0.2
AOS	**Alonnisos**	**1.58**	**155**	*e*Pn	Pn	22 35 51.3	-0.2
AGG	**Agios Georgios**	**1.66**	**198**	*e*PG	Pg	22 35 54.6	-0.3
AGG	**Agios Georgios**	**1.66**	**198**	*e*Pg	Pg	22 35 54.6	-0.3
EVR	**Evrytania**	**1.92**	**209**	*e*PG	Pg	22 35 59.3	-0.7
EVR	**Evrytania**	**1.92**	**209**	*e*Pg	Pg	22 35 59.3	-0.7
ALN	**Alexandroupoli**	**2.33**	**82**	*e*PN	Pb	22 36 03.7	-1.6
ALN	**Alexandroupoli**	**2.33**	**82**	*e*Pn	Pb	22 36 03.7	-1.6

*ISCJB **04** 22:39:07.9±0.7, 32°.02S±0°.03×71°.5W±0°.1, h64km±12km, mb4.3/1, Error ellipse: s-maj=19.7km s-min=5.3km az=3.4*
*NEIC **04** 22:39:08.8, 32°.05S×71°.41W, h30km, mb3.6/2, ML3.8(GUC), After GUC.*
NEIC Felt [II] at Choapa and Illapel.
*GUC **04** 22:39:08.8±0.7, 32°.05S×71°.41W, h30km±6km, ML3.8*

ISC 04 22:39:08.7±1.1, 32°.02S±0°.05×71°.6W±0°.1, h50km±19km, n20, σ0°68/30, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.97**	**29**	⇑*i*P	**Pn**	**22 39 26.0**	**-0.1**
CMCH				*e*S	**Sn**	**22 39 39.1**	**+0.2**
CMCH	comp=N,12μm,0.6s			AML	AML	22 39 40.7	
CMCH	**Combarbala**	**0.97**	**29**	⇑*i*P	**Pn**	**22 39 26.0**	**-0.1**
CMCH				*e*S	**Sn**	**22 39 39.1**	**+0.2**
IHA	**Instituto Hidr**	**1.00**	**184**	*e*P	**Pn**	**22 39 26.1**	**-0.3**
IHA				*i* S	**Sn**	**22 39 40.4**	**+0.8**
IHA	**Instituto Hidr**	**1.00**	**184**	*e*P	**Pn**	**22 39 26.1**	**-0.3**
IHA				*i* S	**Sn**	**22 39 40.4**	**+0.8**
ROCH	**El Roble**	**1.05**	**154**	⇑*e*P	**Pn**	**22 39 26.7**	**-0.6**
ROCH				*e*S	**Sn**	**22 39 40.3**	**-0.8**
ROCH	comp=E,4μm,0.5s			AML	AML	22 39 42.5	
ROCH	**El Roble**	**1.05**	**154**	⇑*e*P	**Pn**	**22 39 26.7**	**-0.6**
ROCH				*e*S	**Sn**	**22 39 40.3**	**-0.8**
PEL	**Peldehue**	**1.33**	**147**	*e*P	**Pn**	**22 39 31.0**	**0.0**
PEL				*e*S	**Sn**	**22 39 47.5**	**-0.2**
PEL	comp=E,3μm,0.3s			AML	AML	22 39 49.6	
PEL	**Peldehue**	**1.33**	**147**	*e*P	**Pn**	**22 39 31.0**	**0.0**
PEL				*e*S	**Sn**	**22 39 47.5**	**-0.2**
CLCH	**Cerro Calan**	**1.61**	**148**	⇓*e*P	**Pn**	**22 39 35.4**	**+0.5**
CLCH				*e*S	**Sn**	**22 39 55.1**	**+0.6**
CLCH	comp=E,2μm,0.5s			AML	AML	22 39 57.2	
TACH	**Talagante**	**1.71**	**163**	⇓*e*P	**Pn**	**22 39 36.7**	**+0.7**
TACH	**Talagante**	**1.71**	**163**	⇓*e*P	**Pn**	**22 39 36.7**	**+0.7**
LNV	**Longovilo**	**1.93**	**177**	*e*P	**Pn**	**22 39 38.9**	**-0.2**
LNV	**Longovilo**	**1.93**	**177**	P	**Pn**	**22 39 38.9**	**-0.2**
CHCH	**Chadas Angostu**	**2.05**	**159**	*e*P	**Pn**	**22 39 41.7**	**+0.9**
CHCH	**Chadas Angostu**	**2.05**	**159**	*e*P	**Pn**	**22 39 41.7**	**+0.9**
LCO	**Las Campanas**	**3.09**	**14**	*e*Pn	**Pn**	**22 39 56.5**	**+1.2**
LCO				*e*Sn	**Sn**	**22 40 30.9**	**-0.2**
LVC	**Limon Verde**	**9.66**	**15**	*e*Pn	**Pn**	**22 41 24.4**	**-0.9**
LVC				Sn	**Sn**	**22 43 13.7**	**+1.1**
TRQA	**Tornquist**	**9.89**	**130**	*e*Pn	Pn	22 41 24.6	-3.5
LPAZ	**La Paz** comp=E,0.7nm,0.6s	**15.97**	**12**	*e*Pn	**Pn**	**22 42 51.5**	**+0.8**
OTAV	**Otavalo** comp=E,2.2nm,0.6s	**32.74**	**347**	*e*P	**P**	**22 45 36.4**	**-1.0**

*ECX **04** 22:40:40.1±0.4, 32°.28N×115°.34W, h4km, MW7.1*
*MEX **04** 22:40:42.5±0.7, 32°.47N×115°.37W, h10km±6km, MD7.2*
*BJI **04** 22:40:43.0, 32°.10N×115°.30W, h10km, mB6.7/38, mb5.8/31, Ms7.5/41, Ms7 7.3/52*
*GCMT **04** 22:40:43.0±0.1, 32°.31N×115°.39W, h13km, MW7.2/133, Moment Tensor Solution. s131,c323; s133,c608; Duration: 9≥6 Moment tensor: Scale 10^20 Nm; Mrr-0.23±.00; Mθθ-0.64±.00; Mϕϕ 0.87±.00; Mrθ 0.04±.02; Mθϕ-0.05±.00; Mϕr-0.06±.02; Best double couple: M0 0.76200×10^20 NP1:ϕs313.00000°, δ88.00000°, λ-174.00000°. NP2:ϕs223.00000°, δ84.00000°, λ-2.00000°. Principal axes: T 0.8760, Plg3.0000°, Azm88.0000°; N -0.2280, Plg84.0000°, Azm329.0000°; P -0.6480, Plg6.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **04** 22:40:43.1, 32°.30N×115°.28W, h4km, mb6.4/136, ME7.6, MS7.3/133, MW7.2, MW7.2, MW6.9(PAS) Broadband fault plane solution: P waves. NP1:ϕs315.00000°, δ85.00000°, λ175.00000°. NP2:ϕs45.00000°, δ85.00000°, λ5.00000°. Principal axes: T Plg7.0000°, Azm270.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm360.0000°; Energy computed from BB mechanism. After ECX.*
NEIC Two people killed, at least 233 injured and many buildings damaged [VII] in the Mexicali area. Felt [VII] at Guadalupe Victoria and [V] at El Sauzal, Ensenada, Maneadero, Primo Tapia, San Felipe, Tecate and Tijuana. Felt [VI] at San Luis Rio Colorado, Sonora. Felt in much of Baja California and northwestern Sonora and as far as Aguascalientes, Ciudad Juarez and La Paz. About 28 km of surface faulting observed on the Borrego Fault southwest of Mexicali. Many buildings damaged [VII] at Calexico and Imperial, California. Felt [VII] at El Centro and Heber; [VI] at Brawley, Calipatria, Holtville and Ocotillo; [V] at Borrego Springs, Boulevard, Campo, Chula Vista, Coachella, Coronado, Jacumba, Lemon Grove, Los Angeles, Niland, Pine Valley, San Diego, San Ysidro, Tecate, Thermal, Westmorland and Winterhaven. Felt [V] at Somerton, Wellton and Yuma, Arizona. Felt throughout southern California, in much of Arizona, in the Henderson-Las Vegas area, Nevada and in parts of New Mexico and Utah.
*IDC **04** 22:40:44.2±0.4, 32°.41N×115°.10W, h0km, mb5.3/37, mb1 5.3/45, mb1mx5.3/45, mbtmp5.2/45, ML4.4/7, MS7.2/49, Ms1 7.2/49, ms1mx7.1/57 Error ellipse: s-maj=11.6km s-min=7.4km az=58.0*
*SZGRF **04** 22:40:44.6, 32°.07N×115°.34W, h33km, mb6.4, MS7.6, California-Baja California border region*
*MOS **04** 22:40:44.5±1.6, 32°.48N×115°.18W, h10km, mb6.5/74, MS7.3/77, Error ellipse: s-maj=6.1km s-min=3.4km az=82.9*
*ISCJB **04** 22:40:45.4±0.1, 32°.40N±0°.01×115°.02W±0°.01, h12km, mb6.1/292, MS7.3/230, Error ellipse: s-maj=2.0km s-min=1.5km az=33.5*
*NEIC **04** 22:40:45.0±0.0, 32°.19N×115°.10W, h15km Best double couple: NP1:ϕs319.00000°, δ77.00000°, λ-147.00000°. NP2:ϕs222.00000°, δ59.00000°, λ-14.00000°. Principal axes: T 6.9600, Plg11.0000°, Azm87.0000°; N -0.2800, Plg55.0000°, Azm339.0000°; P -6.6900, Plg31.0000°, Azm185.0000°;*
*NEIC **04** 22:41:29.4±0.0, 33°.05N×114°.66W, h10km, Moment Tensor Solution. s159 Moment tensor: Scale 10^19 Nm; Mrr-2.46; Mθθ-5.39; Mϕϕ7.85; Mrθ 2.41; Mθϕ-0.94; Mϕr-4.98; Best double couple: M0 8.50000×10^19 NP1:ϕs319.00000°, δ82.00000°, λ-135.00000°. NP2:ϕs222.00000°, δ47.00000°, λ-10.00000°. Principal axes: T 10.1000, Plg22.0000°, Azm82.0000°; N -3.1000, Plg45.0000°, Azm327.0000°; P -7.0000, Plg35.0000°, Azm190.0000°;*

ISC 04 22:40:43.7±0.5, 32°.28N±0°.02×115°.26W±0°.02, h5km±2km, n1823, σ2s00/1515, mb6.2/304, MS7.3/239, 298C-324D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.14**	**23**	*e*P	**Pg**	**22 40 45.7**	**-0.8**
MBIG				*i* S	**Sg**	**22 40 47.8**	**-0.7**
CPBX	**Cerro Prieto**	**0.14**	**346**	⇓*i*P	**Pg**	**22 40 45.2**	**-1.5**
CPBX	**Cerro Prieto**	**0.14**	**346**	⇓*e*P	**Pg**	**22 40 45.2**	**-1.5**
CHIX	**Chihuahua**	**0.21**	**5**	⇑*e*P	**Pg**	**22 40 47.2**	**-0.6**
CHIX				*e*S	**Sg**	**22 40 52.2**	**+1.6**
CHIX	**Chihuahua**	**0.21**	**5**	*e*P	**Pg**	**22 40 47.3**	**-0.6**
RII	**Riito**	**0.28**	**113**	⇓*e*P	**Pg**	**22 40 49.5**	**+0.3**
RII	**Riito**	**0.28**	**113**	*e*P	**Pb**	**22 40 51.6**	**+0.4**
EMX	**El Mayor**	**0.29**	**176**	⇓*e*P	**Pg**	**22 40 47.3**	**-1.9**
EMX	**El Mayor**	**0.29**	**176**	⇓*e*P	**Pg**	**22 40 47.3**	**-1.9**
EMSC	**East Mesa**	**0.52**	**27**	⇑*i*P	**Pg**	**22 40 52.6**	**-1.0**
SGL	**Mount Signal**	**0.54**	**314**	⇓*i*P	**Pg**	**22 40 52.1**	**-1.9**
SGL	**Mount Signal**	**0.54**	**314**	⇓*i*P	**Pg**	**22 40 52.1**	**-1.9**
DREC	**Desert Rsrch C**	**0.55**	**344**	⇓*i*P	**Pg**	**22 40 53.2**	**-1.1**
ERPC	**Ernies Place**	**0.57**	**324**	⇓*i*P	**Pg**	**22 40 53.1**	**-1.6**
COA	**Coachella**	**0.60**	**11**	⇑*i*P	**Pg**	**22 40 53.6**	**-1.6**
COA	**Coachella**	**0.60**	**11**	⇑*i*P	**Pg**	**22 40 53.6**	**-1.6**
WESC	**Westside Schoo**	**0.62**	**321**	⇓*i*P	**Pg**	**22 40 53.9**	**-1.8**
WESC				*e*S	**Sg**	**22 41 04.0**	**+0.2**
YMD	**Yuma Desert**	**0.67**	**65**	⇑*i*P	**Pg**	**22 40 54.9**	**-1.6**
YMD	**Yuma Desert**	**0.67**	**65**	⇑*i*P	**Pg**	**22 40 54.9**	**-1.6**
YUH	**Yuha Desert**	**0.67**	**304**	⇓*i*P	**Pg**	**22 40 54.3**	**-2.3**
YUH	**Yuha Desert**	**0.67**	**304**	⇓*i*P	**Pg**	**22 40 54.3**	**-2.3**
COK	**Cook Ranch**	**0.69**	**326**	⇓*i*P	**Pg**	**22 40 55.0**	**-2.0**
SWSC	**Sam W. Stewart** baz=1.0	**0.80**	**326**	⇑P	**Pg**	**22 40 56.3**	**-2.7**
SWSC	baz=1.0			⇓S	**Sg**	**22 41 08.2**	**-1.3**
ECBX	**El Chinero**	**0.82**	**167**	⇓*e*P	**Pn**	**22 41 03.9**	**+2.1**
ECBX				*e*		22 41 43.8	
CRR	**Carrizo Plain**	**0.85**	**316**	⇓*i*P	**Pg**	**22 40 57.5**	**-2.5**
GLA	**Glamis**	**0.86**	**25**	*e*P	**Pg**	**22 40 57.9**	**-2.2**
GLA				*e*S	**Sg**	**22 41 11.1**	**-0.1**
GLA	**Glamis**	**0.86**	**25**	⇑*i*P	**Pg**	**22 40 57.3**	**-2.8**
GLA	**Glamis** baz=1.0	**0.86**	**25**	⇓P	**Pg**	**22 40 57.3**	**-2.8**
GLA	baz=1.0			⇑S	**Sg**	**22 41 09.3**	**-2.0**
GLA	**Glamis**	**0.86**	**25**	*e*P	**Pg**	**22 40 57.9**	**-2.2**
GLA				*e*S	**Sg**	**22 41 11.1**	**-0.1**
MONP	**Monument Peak,** baz=1.3	**1.15**	**302**	⇓P	Pg	22 41 02.4	-3.4
MONP	baz=1.3			⇑S	**Sg**	**22 41 17.7**	**-3.0**
CBX	**Cerro Bola**	**1.19**	**272**	*e*P	**Pg**	**22 41 04.2**	**-2.2**
SPIG	**San Pedro Mart**	**1.24**	**188**	*e*P	**Pg**	**22 41 04.9**	**-2.6**
SPIG				*i* S	**Sg**	**22 41 22.2**	**-1.4**
SPIG	**San Pedro Mart**	**1.24**	**188**	*e*P	**Pg**	**22 41 04.9**	**-2.6**
SPIG				*i* S	**Sg**	**22 41 22.2**	**-1.4**
SPX	**San Pedro Mart**	**1.24**	**188**	*e*P	**Pg**	**22 41 05.0**	**-2.4**
SPX	**San Pedro Mart**	**1.24**	**188**	⇓*e*P	**Pg**	**22 41 05.0**	**-2.4**
BAR	**Barrett**	**1.26**	**289**	*e*P	**Pg**	**22 41 05.1**	**-2.7**
BAR				S	Sg	22 41 18.0	-6.1
ECNX	**Esteban Cantu**	**1.29**	**242**	⇑*e*P	Pn	22 40 56.1	-12
ECNX				*e*P	**Pg**	**22 41 06.1**	**-2.3**
113A	**Mohawk Valley,** baz=1.4	**1.36**	**68**	⇓P	Pn	22 41 05.4	-3.9
113A	baz=1.4			⇓S	**Sg**	**22 41 23.4**	**-3.9**
BC3	**Big Chuckawall** baz=1.6	**1.38**	**353**	⇓P	Pn	22 41 05.3	-4.5
Y12C	**Blythe** baz=1.8	**1.60**	**23**	⇓P	Pn	22 41 08.4	-4.1
Y12C	baz=1.8			⇓S	**Sn**	**22 41 29.1**	**-4.4**
PFO	**Pinyon Flats O** 997nm,0.3s,baz=140,slow=12,SNR=184	**1.66**	**323**	Pn	Pn	22 41 09.0	-4.6
PFO	18μm,0.3s,baz=136,slow=14,SNR=21			Lg	Lg	22 41 31.2	
PFO	**Pinyon Flats O** baz=1.8	**1.66**	**323**	⇓P	Pn	22 41 09.0	-4.6
109C	**Camp Elliot, M** baz=1.8	**1.67**	**292**	⇑P	Pn	22 41 10.0	-3.5
109C	baz=1.8			⇑S	**Sn**	**22 41 31.1**	**-4.2**
BELC	**Belle Mtn. Jos** baz=2.0	**1.83**	**340**	⇑P	Pn	22 41 11.3	-4.6
IRM	**Iron Mountain** baz=2.1	**1.88**	**3**	⇓P	Pn	22 41 12.4	-4.1
MURC	**Murrieta** baz=2.2	**2.10**	**310**	⇑P	Pn	22 41 15.5	-4.0
MURC	baz=2.2			⇑S	**Sn**	**22 41 42.1**	**-3.9**
214A	**Organ Pipe Nat** baz=2.1	**2.10**	**98**	⇓P	Pn	22 41 15.7	-3.9
214A	**Organ Pipe Nat**	**2.10**	**98**	*e*Pn	Pn	22 41 16.1	-3.5
214A				*e*S	**Sn**	**22 41 43.5**	**-2.6**
PDMCI	**Parker Dam,Lak** baz=2.4	**2.23**	**25**	⇓P	Pn	22 41 17.4	-3.8
Z14A	**Wintersburg** baz=2.3	**2.23**	**60**	⇓P	Pn	22 41 17.7	-3.6
BBRC	**Big Bear Solar** baz=2.6	**2.42**	**325**	⇓P	Pn	22 41 19.9	-4.2
Y14A	**Wickenburg** baz=2.6	**2.52**	**48**	⇓P	Pn	22 41 21.4	-3.8
GMRC	**Granite Mounta** baz=2.7	**2.52**	**353**	⇑P	Pn	22 41 21.3	-4.1
NEE2	**Needles Airpor** baz=2.7	**2.54**	**12**	⇑P	Pn	22 41 22.1	-3.5
HEC	**Hector,Ludlow** baz=2.9	**2.70**	**341**	⇑P	Pn	22 41 23.6	-4.2
LDFC	**Landfair**	**2.80**	**3**	*e*Pn	**Pn**	**22 41 27.0**	**-2.2**
BFSC	**Mount Baldy Ra** baz=2.9	**2.80**	**315**	⇓P	Pn	22 41 25.7	-3.6
SCI	**San Clemente I** baz=2.9	**2.86**	**285**	⇑P	Pn	22 41 25.6	-4.3
CIS	**Catalina Islan** baz=3.0	**2.87**	**294**	⇓P	Pn	22 41 26.5	-3.6
FMP	**Fort Macarthur** baz=3.0	**2.92**	**300**	⇓P	Pn	22 41 26.9	-3.8
RRX	**

U15A **North Rim** 4.82 30 ⇓P Pn 22 41 54.5 -2.6
baz=5.0
HSIG 4.94 130 *e*P Pn 22 41 57.5 -0.9
HSIG *i*S Sn 22 42 55.8 -0.1
HSIG 4.94 130 *e*P Pn 22 41 57.5 -0.9
HSIG *i*S Sn 22 42 55.8 -0.1
SMMC **Simmler** 4.97 309 ⇓P Pn 22 41 56.4 -2.6
baz=5.1
X18A **Snowflake** 4.98 62 ⇓P Pn 22 41 56.4 -2.9
baz=5.1
GRAC **Grapevine Rang** 5.02 340 ⇑P Pn 22 41 58.0 -1.7
baz=5.2
319A **Douglas** 5.17 98 ⇓P Pn 22 41 59.1 -2.8
baz=5.1
RCTC **Rector, Farmer** 5.20 322 ⇓P Pn 22 41 59.8 -2.2
baz=5.4
TIN **Tinemaha, Big** 5.36 334 ⇓P Pn 22 42 02.2 -2.2
baz=5.5
W18A **Petrified Fore** 5.41 57 ⇑P Pn 22 42 03.6 -1.6
baz=5.5
W18A **Petrified Fore** 5.41 57 *e*Pn Pn 22 42 03.7 -1.4
CCUT **Cedar City** 5.49 16 *e*Pn Pn 22 42 05.2 -1.1
SRIG **Santa Rosalia** 5.59 151 *e*P Pn 22 42 06.9 -0.6
SRIG *i*S Sn 22 43 11.4 -0.8
SRIG **Santa Rosalia** 5.59 151 *e*P Pn 22 42 06.9 -0.6
SRIG *i*S Sn 22 43 11.4 -0.8
ARUT **Antelope Range** 5.70 15 *e*P Pn 22 42 07.9 -1.2
ARUT **Antelope Range** 5.70 15 *e*Pn Pn 22 42 07.9 -1.2
TPH **Tonopah** 6.00 345 *e*P Pn 22 42 12.9 -0.4
TPH **Tonopah** 6.00 345 *e*Pn Pn 22 42 12.9 -0.4
R11A **Troy Canyon, C** 6.07 358 ⇓P Pn 22 42 12.3 -1.9
baz=6.3
R11A **Troy Canyon, C** 6.07 358 *e*Pn Pn 22 42 12.2 -1.9
MLAC **Mammoth, Mammo** 6.09 332 ⇓P Pn 22 42 12.4 -2.2
baz=6.3
121A **Cookes Peak, D** 6.33 86 ⇓P Pn 22 42 15.5 -2.3
baz=6.3
121A **Cookes Peak, D** 6.33 86 *e*Pn Pn 22 42 15.6 -2.3
2µm,1.2s
121A *e*Sn Sn 22 43 29.2 -1.4
CGIG 6.52 105 *e*P Pn 22 42 19.6 -0.8
CGIG 6.52 105 *e*P Pn 22 42 19.6 -0.8
NV11 **Mina Array Sit** 6.58 340 *e*Pn Pn 22 42 18.8 -2.4
NV11 *e*Sn Sn 22 43 31.4 -5.3
NVAR **Mina Array Bea** 6.62 339 Pn Pn 22 42 22.9 +1.1
1.9nm,0.3s,baz=166,slow=15,SNR=17
SAO **San Andreas Ge** 6.79 313 *e*P Pn 22 42 24.1 +0.2
SAO **San Andreas Ge** 6.79 313 *e*Pn Pn 22 42 24.1 +0.2
CMB **Columbia Colle** 7.11 325 *e*P Pn 22 42 27.8 -0.6
CMB **Columbia Colle** 7.11 325 *e*Pn Pn 22 42 27.8 -0.6
LAZ **Ladron** 7.12 70 *e*Pn Pn 22 42 26.2 -2.5
920nm,1.9s
LENM **Lemitar** 7.20 73 *e*Pn Pn 22 42 28.3 -1.4
Y22D **IRIS PASSCAL I** 7.22 73 ⇓P Pn 22 42 28.3 -1.6
baz=7.3
MVCO **Mesa Verde** 7.43 47 ⇓P Pn 22 42 31.6 -1.3
baz=7.5
MVCO **Mesa Verde** 7.43 47 *e*Pn Pn 22 42 33.3 +0.3
LPM **Los Pinos Moun** 7.51 72 *e*Pn Pn 22 42 32.5 -1.5
TMUT **Trail Mountain** 7.74 24 *e*Pn Pn 22 42 38.9 +1.6
ANMO **Albuquerque** 7.81 68*c* *i*P Pn 22 42 38.7 +0.5
ANMO pmax pmax
comp=Z,2µm,1.0s
ANMO **Albuquerque** 7.81 68 Pn Pn 22 42 37.1 -1.1
comp=Z,1.9nm,0.3s,baz=247,slow=12,SNR=65
ANMO Lg Lg 22 44 53.2
comp=Z,9.5nm,0.3s,baz=343,slow=20,SNR=1.7
SRU **San Rafael Swe** 7.83 28 *e*P Pn 22 42 39.0 +0.6
SRU **San Rafael Swe** 7.83 28 *e*Pn Pn 22 42 39.0 +0.6
SAC **San Andreas** 7.91 314 *e*P Pn 22 42 38.8 -0.4
SAC 22 44 05.8
SAC pmax pmax
comp=Z,2µm,1.1s
SAC **San Andreas** 7.91 314 *e*Pn Pn 22 42 38.8 -0.4
comp=Z,2µm,1.1s
SAC Sn Sn 22 44 05.8 -3.2
PV01 **Paradox Valley** 8.01 41 *e*Pn Pn 22 42 39.4 -1.5
NLU **North Lily Min** 8.08 18 *e*Pn Pn 22 42 45.2 +3.4
DUG **Dugway, Tooele** 8.15 13 *e*P Pn 22 42 44.9 +2.2
DUG **Dugway, Tooele** 8.15 13 ⇑P Pn 22 42 42.9 +0.3
baz=8.3
DUG **Dugway, Tooele** 8.15 13 *e*Pn Pn 22 42 44.9 +2.2
MPU **Maple Canyon** 8.26 20 *e*Pn Pn 22 42 46.8 +2.5
BMN **Battle Mountai** 8.29 350 *e*P Pn 22 42 47.5 +2.8
BMN **Battle Mountai** 8.29 350 *e*Pn Pn 22 42 47.5 +2.8
V23A **Ortiz Mt. (NFS** 8.29 63 ⇓P Pn 22 42 44.2 -0.6
baz=8.4
MNTX **Cornudas Mount** 8.41 91 ⇑P Pn 22 42 44.2 -2.1
baz=8.4
MNTX **Cornudas Mount** 8.41 91 *e*Pn Pn 22 42 43.7 -2.5
ELK **Elko** 8.45 0 Pn Pn 22 42 46.1 -0.8
comp=Z,2.2nm,0.3s,baz=186,slow=10,SNR=24
ELK LR LR 22 46 31.1
comp=Z,1803µm,18.1s,baz=180,slow=42
U23A **El Rito** 8.52 59 ⇑P Pn 22 42 46.9 -1.0
baz=8.6
MCCM **Marconi Confer** 8.55 315 *e*Pn Pn 22 42 48.6 +0.6
comp=Z,1µm,1.0s
MCCM Sn Sn 22 44 10.1 -15
W24A **Lazy 6 Ranch,** 8.71 68 ⇑P Pn 22 42 49.4 -1.1
baz=8.8
DAU **Daniels Canyon** 8.74 21 *e*P Pn 22 42 53.5 +2.5
DAU **Daniels Canyon** 8.74 21 *e*Pn Pn 22 42 53.5 +2.5
S22A **4UR Ranch, Cre** 8.81 49 ⇑P Pn 22 42 51.4 -0.5
baz=8.9
S22A **4UR Ranch, Cre** 8.81 49 *e*Pn Pn 22 42 51.5 -0.4
BGU **Big Grassy Mou** 8.82 11 *e*Pn Pn 22 42 53.9 +2.0
CTU **Camp Tracy** 8.86 18 *e*Pn Pn 22 42 56.0 +3.4
T23A **Casias Ranch,** 8.96 55 ⇓P Pn 22 42 53.3 -0.7
baz=9.0
U24A **Moreno Valley** 9.23 61 ⇑P Pn 22 42 57.1 -0.5
baz=9.3
GDL2 **Guadalupe Moun** 9.23 88 *e*Pn Pn 22 42 57.2 -0.4
HOPS **Hopland Field** 9.23 319 *e*Pn Pn 22 42 54.2 -3.2
comp=Z,152nm,1.0s
LPIG **La Paz** 9.24 151 *e*P Pn 22 43 00.2 +2.6
LPIG **La Paz** 9.24 151 Pn Pn 22 42 60.0 +2.4
comp=Z,8.6nm,0.3s,baz=129,slow=4.6,SNR=20
LPIG LR LR 22 45 43.1
comp=Z,267µm,21.8s,baz=342,slow=32
LPIG Lg Lg 22 45 47.4
comp=Z,5.9nm,0.3s,baz=274,slow=18,SNR=1.9
S23A **Nye Farm, Mont** 9.33 52 ⇑P Pn 22 42 58.6 -0.4
baz=9.4
TCUT **Toone Canyon** 9.35 18 *e*P Pn 22 42 58.5 -0.8
comp=Z,118nm,1.9s
T24B **San Luis** 9.43 57 ⇑P Pn 22 42 58.9 -1.6
baz=9.5
W25A **X Bar L Ranch,** 9.46 69 ⇑P Pn 22 42 59.9 -0.8
baz=9.5
V25A **Rancho No Teng** 9.52 65 ⇓P Pn 22 43 00.1 -1.5
baz=9.6
SMCO **Snowmass** 9.63 42 *e*Pn Pn 22 43 04.4 +1.2
CLNB **Carlsbad** 9.64 87 *e*Pn Pn 22 43 00.1 -3.1
comp=Z,3µm,1.1s
O20A **White River Ci** 9.68 34 ⇓P Pn 22 43 04.0 +0.3
baz=9.8
O20A **White River Ci** 9.68 34 *e*Pn Pn 22 43 05.7 +2.0
SDCO **Great Sand Dun** 9.69 53 ⇓P Pn 22 43 02.8 -1.1
baz=9.8
HVU **Hansel Valley** 9.69 11 *e*P Pn 22 43 05.7 +1.8
HVU **Hansel Valley** 9.69 11 *e*Pn Pn 22 43 05.7 +1.8
R23A **Moffat** 9.71 50 ⇑P Pn 22 43 04.1 -0.2
baz=9.8
SLBS **Sierra La Lagu** 9.76 150 *e*P Pn 22 43 07.8 +2.9
HWUT **Hardware Ranch** 9.77 17 *e*Pn Pn 22 43 06.1 +1.1
comp=Z,6µm,2.1s
HWUT Sn Sn 22 44 58.9 +3.7
S24A **Houchin Ranch,** 9.83 54 ⇓P Pn 22 43 04.5 -1.4
baz=9.9
U25A **Circle Dot Ran** 9.87 62 ⇑P Pn 22 43 05.2 -1.2
baz=9.9
HPIG 9.90 120 *e*P Pn 22 43 06.5 -0.3
HPIG 9.90 120 *e*P Pn 22 43 06.5 -0.3
W26A **Owens Ranch, T** 9.98 71 ⇑P Pn 22 43 06.9 -1.0
baz=10.0
KCPM **Cahto Peak** 10.00 320 *e*Pn Pn 22 43 02.2 -5.9
comp=Z,618nm,1.0s
P22A **Eagle** 10.04 41 ⇑P Pn 22 43 08.9 +0.2
baz=10
Q23A **Hartsel** 10.13 47 ⇓P Pn 22 43 09.9 -0.2
baz=10
V26A **Tequesquite Ra** 10.15 67 ⇑P Pn 22 43 10.1 0.0
baz=10
T25A **Trinidad** 10.16 59 ⇓P Pn 22 43 10.5 +0.1
baz=10
R24A **Sanders Place,** 10.21 52 ⇑P Pn 22 43 12.3 +1.3
baz=10
U26A **Atchley Ranch,** 10.37 64 ⇓P Pn 22 43 14.4 +1.2
baz=10
S25A **Robets Cordova** 10.38 56 ⇑P Pn 22 43 14.0 +0.6
baz=10
TXAR **Lajitas Array** 10.39 103 Pn Pn 22 43 13.2 -0.3
comp=Z,11nm,0.3s,baz=283,slow=13,SNR=226
TXAR Lg Lg 22 46 15.9
comp=Z,12nm,0.3s,baz=296,slow=21,SNR=3.3
TXAR LR LR 22 47 36.9
comp=Z,3000µm,21.9s,baz=0.0,slow=40
P23A **Jefferson** 10.42 45 ⇑P Pn 22 43 15.0 +0.9
baz=10
N02D **Trinity Center** 10.54 328 ⇓P Pn 22 43 16.8 +1.4
baz=11
O22A **Kremmling** 10.55 39 ⇑P Pn 22 43 16.7 +0.9
baz=11
Q24A **Divide** 10.59 48 ⇑P Pn 22 43 16.5 +0.2
baz=11
MSTX **Muleshoe** 10.61 77 ⇓P Pn 22 43 16.5 0.0
baz=11
R25A **Fountain Ranch** 10.72 54 ⇑P Pn 22 43 19.3 +1.4
baz=11
228A **UT Block 9, Go** 10.74 87 ⇓P Pn 22 43 17.4 -0.7
baz=11
T26A **Comanche Natio** 10.77 60 ⇑P Pn 22 43 19.5 +0.7
baz=11
128A **Castleberry Fa** 10.80 85 ⇓P Pn 22 43 18.4 -0.6
baz=11
ISCO **Idaho Springs** 10.83 43 ⇑P Pn 22 43 20.5 +0.9
baz=11
M04C **Macdoel** 10.84 333 ⇓P Pn 22 43 20.6 +0.9
baz=11
V27A **Dan Oppiter Fa** 10.88 68 ⇑P Pn 22 43 20.2 0.0
baz=11
Z28A **Tucker Farm, M** 10.89 81 ⇑P Pn 22 43 20.4 +0.2
baz=11
O23A **Lake Granby, G** 10.93 41 ⇑P Pn 22 43 22.4 +1.4
baz=11
M02C **Callahan** 10.94 328 ⇑P Pn 22 43 23.3 +2.4
baz=11
AHID **Auburn Hatcher** 10.98 16 *e*Pn Pn 22 43 21.7 +0.2
comp=Z,461nm,1.5s
Y28A **McKinney Farm,** 11.04 78 ⇓P Pn 22 43 22.3 0.0
baz=11
S26A **Kim** 11.04 58 ⇑P Pn 22 43 24.0 +1.6
baz=11
N22A **Wattenberg Ran** 11.07 37 ⇓P Pn 22 43 24.6 +1.8
baz=11
P24A **Kohler Place,** 11.07 46 ⇓P Pn 22 43 23.8 +1.0
baz=11
U27A **Thompson Grove** 11.08 65 ⇑P Pn 22 43 23.9 +1.0
baz=11
Q25A **Bedland, Calha** 11.14 50 ⇑P Pn 22 43 24.9 +1.1
baz=11
X28A **Dimmitt** 11.15 75 ⇑P Pn 22 43 23.3 -0.5
baz=11
YBH **Yreka Blue Hor** 11.15 330 *e*P Pn 22 43 26.4 +2.6
YBH *e* 22 45 29.0
YBH **Yreka Blue Hor** 11.15 330 Pn Pn 22 43 27.6 +3.8
comp=Z,0.4nm,0.3s,baz=150,slow=13,SNR=31
YBH **Yreka Blue Hor** 11.15 330 *e*Pn Pn 22 43 26.4 +2.6
YBH *e*Sn Sn 22 45 29.0 +0.1
W28A **Vega** 11.27 71 ⇓P Pn 22 43 25.6 +0.2
baz=11
HLID **Hailey** 11.29 3 ⇓P Pn 22 43 28.6 +2.9
baz=12
329A **Wagon Wheel Ra** 11.32 90 ⇑P Pn 22 43 26.9 +0.7
baz=11
129A **Stewart Farms,** 11.32 85 ⇓P Pn 22 43 27.2 +1.0
baz=11
O24A **Longmont** 11.35 44 ⇓P Pn 22 43 28.9 +2.2
baz=12
V28A **Channing** 11.36 69 ⇓P Pn 22 43 28.7 +2.0
baz=11
R26A **Arlington** 11.37 55 ⇓P Pn 22 43 28.6 +1.7
baz=12
529A **Stev Forest Ra** 11.37 97 ⇑P Pn 22 43 27.0 +0.2
baz=11
T27A **Campo** 11.37 62 ⇓P Pn 22 43 28.5 +1.6
baz=11
N23A **Red Feather La** 11.40 38 ⇑P Pn 22 43 28.9 +1.6
baz=12
BW06 **Boulder Array** 11.40 22 *e*Pn Pn 22 43 29.5 +2.1
comp=Z,270nm,0.6s
PDAR **Pinedale Array** 11.40 22 Pn Pn 22 43 29.7 +2.3
comp=Z,0.5nm,0.3s,baz=185,slow=15,SNR=37
PDAR LR LR 22 48 28.0
comp=Z,1389µm,18.2s,baz=208,slow=41
229A **Bryant Ranch,** 11.41 88 ⇓P Pn 22 43 28.1 +0.7
baz=11
M22A **Cedar Creek Ra** 11.45 35 ⇑P Pn 22 43 29.2 +1.2
baz=12
Z29A **Hungry Hill Ra** 11.46 81 ⇓P Pn 22 43 28.2 +0.2
baz=12
S27A **Las Animas** 11.48 59 ⇑P Pn 22 43 29.9 +1.4
baz=12
Y29A **Porterfield Fa** 11.51 78 ⇓P Pn 22 43 29.6 +0.8
baz=12
U28A **Mallet** 11.53 66 ⇓P Pn 22 43 30.2 +1.2
baz=12
P25A **Willow Gulch B** 11.53 48 ⇓P Pn 22 43 29.4 +0.3
baz=12
429A **Davenport Ranc** 11.54 95 ⇑P Pn 22 43 28.6 -0.5
baz=12
K04D **Chiloquin, OR** 11.54 335 ⇑P Pn 22 43 30.6 +1.5
baz=12
X29A **Tulia** 11.55 76 ⇑P Pn 22 43 29.8 +0.6
baz=12
AMTX **Amarillo** 11.62 73 ⇑P Pn 22 43 29.6 -0.6
baz=12
Q26A **Hugo** 11.63 52 ⇑P Pn 22 43 31.1 +0.7
baz=12
W29A **Amarillo** 11.69 72 ⇑P Pn 22 43 31.0 -0.2
baz=12
R27A **Eads** 11.81 56 ⇑P Pn 22 43 34.0 +1.1
baz=12
T28A **Wash** 11.85 62 ⇓P Pn 22 43 34.0 +0.6
baz=12
L02D **Cave Junction,** 11.89 328 ⇓P Pn 22 43 36.2 +2.4
baz=12
O25A **Wiggins** 11.92 46 ⇓P Pn 22 43 35.4 +1.1
baz=12
N24A **Carr** 11.93 41 ⇓P Pn 22 43 37.3 +2.8
baz=12
M23A **Laramie** 11.93 37 ⇑P Pn 22 43 37.3 +2.7
baz=12
Z30A **Sanderson Ranc** 11.94 81 ⇓P Pn 22 43 34.8 +0.2
baz=12
V29A **Stinnett** 11.95 69 ⇓P Pn 22 43 35.7 +1.0
baz=12
J05D **Fort Rock, OR** 11.96 338 ⇓P Pn 22 43 37.6 +2.7
baz=12
MAIG **Mazatlaan** 11.96 137 *e*P Pn 22 43 40.1 +5.3
MAIG **Mazatlaan** 11.96 137 *e*P Pn 22 43 40.1 +5.3
L22A **Ellis Ranch, M** 12.01 33 ⇑P Pn 22 43 37.5 +1.8
baz=12
230A **Sterling City** 12.01 88 ⇑P Pn 22 43 35.5 -0.1
baz=12
330A **Mertzon** 12.01 90 ⇑P Pn 22 43 35.1 -0.5
baz=12
J19A **Crowheart** 12.01 22 ⇑P Pn 22 43 36.7 +1.0
baz=12
430A **Baggett Ranch,** 12.06 93 ⇑P Pn 22 43 36.9 +0.6
baz=12
P26A **Davis Ranch, A** 12.08 50 ⇓P Pn 22 43 38.1 +1.5
baz=12
130A **Snyder** 12.09 85 ⇓P Pn 22 43 37.5 +0.9
baz=12
BBOR **Butler Butte** 12.11 333 P Pn 22 43 40.6 +3.7
530A **J-C Ranch, Com** 12.11 96 ⇑P Pn 22 43 37.3 +0.4
baz=12
K21A **Alcova** 12.13 29 ⇓P Pn 22 43 39.1 +1.8
baz=12
Y30A **Stafford Cattl** 12.16 79 ⇓P Pn 22 43 38.9 +1.3
baz=12
S28A **Manter** 12.18 61 ⇓P Pn 22 43 39.4 +1.6
baz=12
I17A **Pilgrim Ck.** 12.19 16 ⇓P Pn 22 43 41.2 +3.1
baz=12
J04D **Umpqua Nationa** 12.21 336 ⇓P Pn 22 43 40.7 +2.4
baz=12
X30A **Coker Ranch, T** 12.22 76 ⇓P Pn 22 43 39.1 +0.7
baz=12
KSCO **Kaye Shedlock'** 12.27 53 ⇑P Pn 22 43 40.7 +1.5
baz=12
U29A **Oasis Ranch, S** 12.29 66 ⇑P Pn 22 43 40.2 +0.9
baz=12
N25A **Grover** 12.37 43 ⇓P Pn 22 43 42.8 +2.2
baz=12
M24A **Cheyenne** 12.40 39 ⇑P Pn 22 43 42.7 +1.7
baz=12
J20A **Shoshoni** 12.42 25 ⇑P Pn 22 43 43.1 +1.9
baz=13
L23A **Garrett** 12.42 35 ⇓P Pn 22 43 42.7 +1.4
baz=13
K22A **Casper** 12.46 31 ⇓P Pn 22 43 42.6 +0.9
baz=13
T29A **Hugoton** 12.48 63 ⇓P Pn 22 43 43.0 +1.1
baz=12
O26A **Horse Wrangler** 12.49 47 ⇑P Pn 22 43 42.8 +0.6
baz=13
R28A **Tribune** 12.54 57 ⇓P Pn 22 43 43.8 +1.0
baz=13
W30A **Crocket Farms** 12.56 73 ⇑P Pn 22 43 43.9 +0.8
baz=13
131A **Roby** 12.57 84 ⇓P Pn 22 43 43.7 +0.5
baz=13
P27A **Ficken Ranch,** 12.58 51 ⇑P Pn 22 43 44.1 +0.7
baz=13
V30A **Spur Ranch, Mi** 12.58 70 ⇑P Pn 22 43 43.8 +0.4
baz=13
431A **Sonora** 12.61 93 ⇓P Pn 22 43 44.2 +0.4
baz=13
H17A **Grant Village** 12.64 16 ⇓P Pn 22 43 45.9 +1.6
baz=13
H17A **Grant Village** 12.64 16 *e*Pn Pn 22 43 47.9 +3.5
H17A Sn Sn 22 46 26.1 +20
J21A **Lysite** 12.65 27 ⇑P Pn 22 43 45.8 +1.4
baz=13
BMO **Blue Mountains** 12.66 353 *e*Pn Pn 22 43 45.2 +0.8
comp=Z,6µm,2.1s
331A **San Angelo** 12.66 90 ⇓P Pn 22 43 44.9 +0.4
baz=13
MCMT **McKenzie Canyo** 12.67 8 *e*Pn Pn 22 43 47.1 +2.3
comp=Z,1µm,1.3s
231A **Bronte** 12.68 88 ⇑P Pn 22 43 45.2 +0.5
baz=13
Y31A **Rekieta Farm,** 12.69 78 ⇓P Pn 22 43 45.6 +0.8
baz=13
I19A **Meeteetse** 12.73 21 ⇑P Pn 22 43 46.9 +1.5
baz=13
L24A **Wheatland** 12.75 37 ⇓P Pn 22 43 47.6 +1.9
baz=13
S29A **Ulysses** 12.77 61 ⇑P Pn 22 43 46.7 +0.8
baz=13
Z31A **Sharp Cattle R** 12.77 81 ⇑P Pn 22 43 46.2 +0.3
baz=13
531A **Rocksprings** 12.77 96 ⇓P Pn 22 43 46.0 0.0
baz=13
U30A **WK&E Inc. Balk** 12.79 67 ⇑P Pn 22 43 47.3 +1.1
baz=13
I04A **Tendick Farm,** 12.80 336 ⇑P Pn 22 43 48.6 +2.4
baz=13
M25A **Palm-Egli Farm** 12.80 41 ⇓P Pn 22 43 47.7 +1.3
baz=13
HBO **Huckleberry Mo** 12.81 336 P Pn 22 43 50.8 +4.3
YMR **Madison River** 12.82 14 *e*Pn Pn 22 43 48.3 +1.6
comp=Z,26µm,1.2s
Q28A **Sharon Springs** 12.84 54 ⇑P Pn 22 43 47.4 +0.4
baz=13
N26A **Koester Ranch,** 12.89 45 ⇑P Pn 22 43 49.5 +1.8
baz=13
I20A **Worland** 12.93 24 ⇓P Pn 22 43 49.6 +1.5
baz=13
631A **Perdido Creek** 12.94 99 ⇓P Pn 22 43 47.9 -0.3
baz=13
I05D **Terrebonne, OR** 12.95 340 ⇑P Pn 22 43 50.9 +2.6
baz=13
K23A **Bowen Ranch, D** 12.95 33 ⇑P Pn 22 43 49.2 +0.8
baz=13
X31A **McDonald Ranch** 12.98 75 ⇑P Pn 22 43 49.3 +0.6
baz=13
O27A **Beecher Island** 12.98 49 ⇓P Pn 22 43 50.6 +1.7
baz=13
T30A **Plains** 13.03 65 ⇓P Pn 22 43 50.4 +0.9
baz=13
I03D **Drain, OR** 13.05 333 ⇓P Pn 22 43 52.5 +2.9
baz=13
R29A **Marienthal** 13.05 58 ⇓P Pn 22 43 50.4 +0.6
baz=13
W31A **Holland Ranch,** 13.08 73 ⇓P Pn 22 43 50.9 +0.8
baz=13
J22A **Midwest** 13.10 29 ⇓P Pn 22 43 51.4 +0.9
baz=13
I21A **Big Trails, Te** 13.11 26 ⇑P Pn 22 43 51.3 +0.7
baz=13
H18A **Shoshone NF, C** 13.13 18 ⇑P Pn 22 43 52.2 +1.2
baz=13
P28A **Saint Francis** 13.14 53 ⇑P Pn 22 43 51.7 +0.7
baz=13
ABTX **Abilene, Hawle** 13.20 84 ⇓P Pn 22 43 51.7 -0.1
baz=13
332A **Millersview** 13.23 90 ⇑P Pn 22 43 52.7 +0.4
baz=13
232A **Coleman** 13.25 88 ⇓P Pn 22 43 52.6 +0.1
baz=13
V31A **Spring Creek L** 13.26 71 ⇓P Pn 22 43 53.9 +1.3
baz=13
S30A **Montezuma** 13.26 62 ⇑P Pn 22 43 53.1 +0.5
baz=13
432A **Menard** 13.27 92 ⇓P Pn 22 43 52.8 +0.1
baz=13
N27A **Anderson Farm,** 13.30 47 ⇑P Pn 22 43 55.0 +1.8
baz=13
H19A **Powell** 13.31 20 ⇓P Pn 22 43 55.7 +2.3
baz=14
K24A **Anderson Ranch** 13.31 35 ⇑P Pn 22 43 55.9 +2.5
baz=14
532A **Rocksprings** 13.32 95 ⇑P Pn 22 43 54.9 +1.4
baz=13
Z32A **Haskell** 13.32 81 ⇑P Pn 22 43 54.5 +1.0
baz=13
JCT **Junction City** 13.33 94 ⇑P Pn 22 43 54.1 +0.5
baz=13
BPO **Bald Peter** 13.34 340 P P 22 43 58.8 -4.7
L25A **Engebretsen Ra** 13.34 39 ⇑P Pn 22 43 55.8 +2.1
baz=14
M26A **McRoberts Ranc** 13.34 43 ⇑P Pn 22 43 54.7 +0.9
baz=14
Q29A **Oakley** 13.36 56 ⇑P Pn 22 43 55.0 +1.1
baz=13
Y32A **R-V Farms, Ver** 13.37 78 ⇑P Pn 22 43 54.7 +0.6
baz=13
U31A **Nine Bar Ranch** 13.38 68 ⇑P Pn 22 43 54.7 +0.5
baz=13
O28A **Krutsinger Ran** 13.41 50 ⇓P Pn 22 43 55.6 +0.9
baz=14
CROR **Criterion Ridg** 13.45 342 P Pn 22 43 59.4 +4.2
H20A **Greybull** 13.45 23 ⇓P Pn 22 43 56.5 +1.3
baz=14
J23A **Dilts Ranch, B** 13.49 32 ⇓P Pn 22 43 57.0 +1.3
baz=14
I22A **9 Mile Ranch,** 13.49 28 ⇑P Pn 22 43 57.0 +1.2
baz=14
VTHM **Trough** 13.53 344 P Pn 22 44 00.4 +4.2
X32A **Elmer** 13.53 77 ⇓P Pn 22 43 56.0 -0.3
baz=14
632A **Uvalde** 13.57 98 ⇑P Pn 22 43 57.6 +0.6
baz=14
R30A **Dighton** 13.62 60 ⇑P Pn 22 43 58.7 +1.1
baz=14
W32A **Sentinel** 13.64 74 ⇓P Pn 22 43 57.9 +0.2
baz=14
BOZ **Bozeman (W)** 13.64 11 *e*P Pn 22 43 52.6 -5.3
BOZ pmax pmax
comp=Z,1µm,1.0s
BOZ **Bozeman (W)** 13.64 11 *e*Pn Pn 22 43 52.6 -5.3
comp=Z,1µm,1.0s
RLMT **Red Lodge** 13.65 18 *e*Pn Pn 22 43 57.9 -0.1
comp=Z,379nm,1.4s
732A **Laxson Ranch,** 13.65 101 ⇑P Pn 22 43 57.9 0.0
baz=14
OGNE **Ogallala** 13.69 47 ⇓P Pn 22 43 59.5 +1.0
baz=14
OGNE **Ogallala** 13.69 47 *e*Pn Pn 22 43 56.9 -1.6
comp=Z,238nm,0.6s
OGNE *e*Sn Sn 22 46 32.5 +1.5
T31A **Randall Ranch,** 13.69 65 ⇑P Pn 22 43 59.4 +0.9
baz=14
K25A **Mack Ranch, Ha** 13.71 38 ⇓P Pn 22 43 59.9 +1.1
baz=14
P29A **Atwood** 13.71 54 ⇓P Pn 22 43 59.4 +0.7
baz=14

L26A	Underwood Farm baz=14	13.74	41	⇓P	Pn	22 43 59.9	+0.6
G05D	Wamic, OR baz=14	13.77	342	⇑P	Pn	22 44 00.9	+1.4
832A	Faith Ranch, C baz=14	13.80	103	⇓P	Pn	22 44 00.2	+0.2
133A	Hamilton Ranch baz=14	13.81	84	⇓P	Pn	22 44 00.3	+0.1
M27A	Reverse DX Ran baz=14	13.82	44	⇑P	Pn	22 44 01.3	+1.0
J24A	Dixon Ranch, L baz=14	13.84	34	⇑P	Pn	22 44 02.3	+1.7
N28A	Pribbeno Ranch baz=14	13.86	49	⇓P	Pn	22 44 02.0	+1.3
233A	Rising Star baz=14	13.87	87	⇓P	Pn	22 44 01.2	+0.2
333A	Richland Sprin baz=14	13.88	90	⇓P	Pn	22 44 01.5	+0.4
433A	Art baz=14	13.88	92	⇓P	Pn	22 44 01.6	+0.5
V32A	Arapaho baz=14	13.89	71	⇓P	Pn	22 44 02.1	+0.9
H21A	Big Horn, Sher baz=14	13.90	25	⇓P	Pn	22 44 02.2	+0.8
Z33A	Whitaker Ranch baz=14	13.92	81	⇓P	Pn	22 44 01.9	+0.3
Q30A	Quinter baz=14	13.93	57	⇑P	Pn	22 44 01.8	0.0
TDH	Tom, Dick, Har	13.95	341	P	Pn	22 44 05.9	+3.9
I23A	Meade Ranch, G baz=14	13.97	31	⇑P	Pn	22 44 02.9	+0.5
S31A	Mullinville baz=14	13.99	63	⇑P	Pn	22 44 02.9	+0.3
G20A	Bridger baz=14	14.04	21	⇓P	Pn	22 44 04.1	+0.8
U32A	Winter Ranch, baz=14	14.05	69	⇓P	Pn	22 44 03.6	+0.3
Y33A	Hilltop Ranch, baz=14	14.05	78	⇓P	Pn	22 44 03.8	+0.4
O29A	4D Ranch, Culb baz=14	14.05	52	⇑P	Pn	22 44 03.8	+0.3
533A	Kerrville baz=14	14.07	95	⇑P	Pn	22 44 04.2	+0.5
633A	Saathoff Ranch baz=14	14.10	97	⇓P	Pn	22 44 04.7	+0.7
H22A	Clearmont baz=14	14.13	27	⇓P	Pn	22 44 05.9	+1.3
K26A	Motz Farm, Whi baz=14	14.14	39	⇑P	Pn	22 44 05.9	+1.3
P30A	Selden baz=14	14.16	55	⇓P	Pn	22 44 05.5	+0.6
GCMT	Greycliff comp=Z,8µm,2.6s	14.17	16	*e*Pn	Pn	22 44 02.8	-2.3
GCMT				*e*S	S	22 47 04.3	+0.3
R31A	Burdett baz=14	14.18	61	⇑P	Pn	22 44 05.6	+0.4
X33A	Lawton baz=14	14.19	76	⇑P	Pn	22 44 05.6	+0.4
L27A	T5 Ranch, Ells baz=14	14.21	43	⇓P	Pn	22 44 06.1	+0.5
733A	Divot King Ran baz=14	14.22	100	⇑P	Pn	22 44 05.2	-0.4
833A	Chaparral WMA, baz=14	14.26	102	⇑P	Pn	22 44 05.7	-0.7
I24A	Kuemmerle Ranc baz=14	14.26	33	⇑P	Pn	22 44 06.4	0.0
W33A	Caddo, Fort Co baz=14	14.27	74	⇑P	Pn	22 44 05.6	-0.8
T32A	Huddler Ranch, baz=14	14.30	65	⇓P	Pn	22 44 06.8	0.0
J25A	Sunshine Ranch baz=14	14.30	36	⇓P	Pn	22 44 07.9	+1.0
G03D	McMinnville, O baz=14	14.33	337	⇓P	Pn	22 44 08.3	+1.1
M28A	Bar X Bar Ranc baz=14	14.36	47	⇑P	Pn	22 44 07.9	+0.2
G21A	Lodge Grass baz=14	14.36	24	⇓P	Pn	22 44 08.6	+0.9
F19A	Roth Farm, Mol baz=15	14.41	18	⇓P	Pn	22 44 08.9	+0.6
S32A	Newby Ranch, P baz=14	14.43	63	⇓P	Pn	22 44 08.4	-0.2
H2OWA	Water	14.46	348	P	Pn	22 44 12.2	+3.3
H23A	Clabaugh Cattl baz=15	14.48	29	⇑P	Pn	22 44 10.1	+0.8
334A	Lometa baz=14	14.51	89	⇓P	Pn	22 44 09.7	0.0
V33A	Lossen Ranch, baz=14	14.51	71	⇓P	Pn	22 44 09.5	-0.2
N29A	Votaw Ranch, W baz=15	14.51	50	⇑P	Pn	22 44 10.1	+0.3
134A	White-Moore Ra baz=14	14.52	84	⇑P	Pn	22 44 09.3	-0.5
Q31A	Ellis baz=15	14.54	58	⇓P	Pn	22 44 10.1	+0.1
534A	Blanco baz=14	14.55	94	⇓P	Pn	22 44 10.2	0.0
434A	Burnet baz=14	14.57	91	⇓P	Pn	22 44 10.2	-0.3
MSO	Missoula baz=15	14.57	4	⇓P	Pn	22 44 11.3	+0.8
O30A	MW Ranch, Wils baz=15	14.57	53	⇑P	Pn	22 44 10.6	0.0
F20A	Billings baz=15	14.58	20	⇓P	Pn	22 44 11.2	+0.5
933A	Laredo baz=14	14.62	104	⇓P	Pn	22 44 10.5	-0.7
J26A	Sides Ranch, S baz=15	14.62	38	⇑P	Pn	22 44 11.0	-0.2
L28A	Connealy Angus baz=15	14.63	45	⇑P	Pn	22 44 11.1	-0.2
Z34A	Collier Ranch, baz=15	14.63	81	⇑P	Pn	22 44 10.5	-0.8
K27A	Flueckinger Fa baz=15	14.65	41	⇑P	Pn	22 44 11.6	-0.1
G22A	Birney baz=15	14.68	26	⇓P	Pn	22 44 12.3	+0.2
ZAIG	Zacatecas	14.70	127	*e*P	Pn	22 44 14.6	+2.0
ZAIG	Zacatecas	14.70	127	*e*P	Pn	22 44 14.6	+2.0
X34A	Smith Ranch, M baz=15	14.74	76	⇑P	Pn	22 44 13.1	+0.3
P31A	Stockton baz=15	14.75	56	⇓P	Pn	22 44 13.1	+0.1
U33A	Lingo Farm, Me baz=15	14.76	69	⇑P	Pn	22 44 13.1	0.0
Y34A	Reagan Ranch, baz=15	14.77	79	⇑P	Pn	22 44 12.8	-0.4
734A	La Parita Cree baz=15	14.79	99	⇑P	Pn	22 44 12.6	-0.9
T33A	Patterson Ranc baz=15	14.80	66	⇓P	Pn	22 44 12.6	-1.0
I25A	Rochford baz=15	14.80	34	⇓P	Pn	22 44 14.3	+0.5
M29A	Burnside Ranch baz=15	14.81	48	⇓P	Pn	22 44 12.8	-0.9
WRD	Warden	14.81	350	P	P	22 44 18.3	-1.4
634A	China Grove, S baz=15	14.81	97	⇓P	Pn	22 44 12.6	-1.2
R32A	Long Quarter, baz=15	14.83	61	⇑P	Pn	22 44 13.4	-0.6
N30A	Hueftle Ranch, baz=15	14.85	51	⇑P	Pn	22 44 14.2	-0.1
W34A	Bridge Creek, baz=15	14.85	74	⇓P	Pn	22 44 13.8	-0.4
F21A	Absaloka Mine, baz=15	14.92	23	⇓P	Pn	22 44 15.2	0.0
H24A	Dirks Ranch, A baz=15	14.99	31	⇓P	Pn	22 44 16.0	-0.2
G23A	Biddle baz=15	15.01	28	⇓P	Pn	22 44 15.9	-0.6
E19A	Rath Farm, Rou baz=15	15.02	18	⇑P	Pn	22 44 16.3	-0.3
834A	Tilden baz=15	15.03	102	⇓P	Pn	22 44 14.6	-2.2
O31A	Woolen Ranch, baz=15	15.06	54	⇓P	Pn	22 44 16.3	-0.8
135A	Vickery Place, baz=15	15.09	84	⇑P	Pn	22 44 16.6	-0.9
WHTX	Lake Whitney, baz=15	15.09	86	⇓P	Pn	22 44 16.4	-1.1
WHTX	Lake Whitney, comp=Z,7µm,2.3s	15.09	86	*e*Pn	Pn	22 44 15.9	-1.7
WHTX				*e*Sn	Sn	22 46 59.6	-5.5
S33A	Kaszmaul Farm, baz=15	15.11	65	⇑P	Pn	22 44 17.0	-0.8
V34A	Guthrie baz=15	15.13	72	⇑P	Pn	22 44 17.3	-0.8
Q32A	Meitler Ranch, baz=15	15.13	59	⇓P	Pn	22 44 17.1	-1.0
J27A	Elkhorn Farm, baz=15	15.14	40	⇓P	Pn	22 44 19.0	+0.8
435B	Jarrell baz=15	15.15	91	⇑P	Pn	22 44 18.1	-0.2
K28A	Ten Mile Ranch baz=15	15.15	43	⇓P	Pn	22 44 18.5	+0.1
F22A	Rosebud baz=15	15.18	25	⇓P	Pn	22 44 18.9	+0.2
Z35A	Perchaven, San baz=15	15.19	81	⇓P	Pn	22 44 17.9	-0.9
335A	Moody baz=15	15.21	89	⇓P	Pn	22 44 18.6	-0.5
U34A	Anderson Ranch baz=15	15.22	69	⇓P	Pn	22 44 18.7	-0.5
E20A	Meyer Farm, Mu baz=15	15.23	19	⇓P	Pn	22 44 18.7	-0.7
I26A	New Underwood baz=15	15.24	36	⇓P	Pn	22 44 19.4	-0.1
934A	Benavides baz=15	15.24	103	⇑P	Pn	22 44 19.1	-0.5
L29A	Maesberg Ranch baz=15	15.29	46	⇓P	Pn	22 44 20.1	-0.1
635A	Leesville baz=15	15.30	96	⇑P	Pn	22 44 20.0	-0.3
034A	Hebbronville baz=15	15.31	106	⇑P	Pn	22 44 19.9	-0.6
535A	Dale baz=15	15.31	94	⇓P	Pn	22 44 19.8	-0.7
H25A	Fruitdale baz=16	15.32	33	⇑P	Pn	22 44 20.0	-0.6
OD2	Odessa Site #2	15.32	351	P	Pn	22 44 22.5	+1.9
R33A	Olander Ranch, baz=15	15.33	62	⇑P	Pn	22 44 19.9	-0.8
P32A	Huiting Farm, baz=15	15.34	57	⇓P	Pn	22 44 19.7	-1.2
M30A	Dale-Ortello V baz=16	15.38	49	⇑P	Pn	22 44 20.9	-0.4
735A	Kenedy baz=15	15.42	98	⇑P	Pn	22 44 20.8	-1.1
F23A	Volborg baz=16	15.44	27	⇑P	Pn	22 44 21.7	-0.5
G24A	Alzada baz=16	15.51	30	⇓P	Pn	22 44 22.5	-0.6
E21A	Keefer Ranch, baz=16	15.57	21	⇑P	Pn	22 44 23.2	-0.6
835A	Beeville baz=16	15.58	100	⇑P	Pn	22 44 22.5	-1.4
N31A	Bailey Ranch, baz=16	15.62	52	⇓P	Pn	22 44 22.8	-1.7
D19A	Cripps Ranch, baz=16	15.65	16	⇑P	Pn	22 44 24.2	-0.7
Q33A	Connelly Farm, baz=16	15.67	60	⇓P	Pn	22 44 22.9	-2.2
V35A	Meyer Ranch, C baz=16	15.67	72	⇓P	Pn	22 44 23.7	-1.4
I27A	Quinn baz=16	15.68	38	⇑P	Pn	22 44 23.7	-1.5
J28A	Allard Ranch, baz=16	15.68	41	⇓P	Pn	22 44 24.1	-1.2
336A	Riesel baz=16	15.68	88	⇑P	Pn	22 44 23.6	-1.8
L30A	Spencer Herefo baz=16	15.69	48	⇓P	Pn	22 44 24.3	-1.2
LNIG	Linares	15.69	114	*e*P	Pn	22 44 26.5	+1.0
LNIG	Linares	15.69	114	*e*P	Pn	22 44 26.5	+1.0
H26A	Fairpoint baz=16	15.71	35	⇑P	Pn	22 44 24.6	-1.1
536A	Bastrop baz=16	15.73	93	⇑P	Pn	22 44 25.1	-0.9
D20A	Manuel Ranch, baz=16	15.77	18	⇑P	Pn	22 44 24.8	-1.7
K29A	Lazy Trails An baz=16	15.79	44	⇑P	Pn	22 44 25.2	-1.5
436A	Wall Ranch, Ga baz=16	15.82	91	⇓P	Pn	22 44 24.4	-2.8
S34A	Willow Spring baz=16	15.82	65	⇓P	Pn	22 44 24.0	-3.1
O32A	Brockman Farm, baz=16	15.83	55	⇓P	Pn	22 44 24.9	-2.4
035A	Encino baz=16	15.84	105	⇑P	Pn	22 44 25.5	-1.9
G25A	Newell baz=16	15.84	32	⇓P	Pn	22 44 25.6	-1.8
E22A	Miles City baz=16	15.85	24	⇑P	Pn	22 44 25.4	-2.1
M31A	Lambtecht Ranc baz=16	15.86	51	⇑P	Pn	22 44 25.2	-2.3
636A	Smothers Creek baz=16	15.88	95	⇑P	Pn	22 44 25.8	-2.1
F24A	Ekalaka baz=16	15.92	29	⇑P	Pn	22 44 26.6	-1.8
P33A	Williams Farm, baz=16	15.92	58	⇓P	Pn	22 44 26.2	-2.2
LAO	LASA Array	15.98	23	*e*Pn	Pn	22 44 27.8	-1.3
I56US	NEWPORT INFRAS baz=168,slow=326,SNR=0.7	16.03	355	*i*		00 17 40.0	
NEW	Newport comp=Z,0.8nm,0.3s,baz=177,slow=13,SNR=44	16.03	355	Pn	Pn	22 44 31.3	+1.5
NEW				LR	LR	22 51 12.6	
NEW	Newport comp=Z,1073µm,18.9s,baz=200,slow=40	16.03	355	⇑P	Pn	22 44 28.6	-1.2
N32A	Stulken Farm, baz=16	16.04	53	⇓P	Pn	22 44 27.8	-2.1
H27A	Howes baz=16	16.06	36	⇓P	Pn	22 44 28.8	-1.4
035Z	Hargill baz=16	16.06	107	⇓P	Pn	22 44 27.3	-3.0
D21A	La Casta Ranch baz=16	16.07	21	⇓P	Pn	22 44 28.1	-2.2
I28A	Midland baz=16	16.09	39	⇓P	Pn	22 44 30.4	-0.2
E23A	Ismay baz=16	16.13	25	⇑P	Pn	22 44 29.3	-1.8
C19A	Slack Wire Ran baz=16	16.15	15	⇑P	Pn	22 44 30.8	-0.5
K30A	Basset baz=16	16.16	46	⇑P	Pn	22 44 30.4	-1.2
J29A	Okeek baz=16	16.18	42	⇓P	Pn	22 44 31.2	-0.5
EGMT	Eagleton baz=16	16.27	13	⇑P	Pn	22 44 32.7	-0.3
G26A	Maurine baz=16	16.30	33	⇑P	Pn	22 44 32.5	-0.8
936A	North Padre Is baz=16	16.31	103	⇓P	Pn	22 44 33.1	-0.3
537A	Green Hill Far baz=16	16.36	93	⇑P	Pn	22 44 32.7	-1.4
L31A	Butterfield Fa baz=16	16.37	48	⇑P	Pn	22 44 33.2	-1.0
437A	Phantom Ranch, baz=16	16.37	90	⇑P	Pn	22 44 32.5	-1.7
C20A	Veseth Ranch, baz=17	16.38	18	⇑P	Pn	22 44 34.2	0.0
D22A	Cohagen baz=17	16.40	22	⇑P	Pn	22 44 33.8	-0.7
F25A	Bowman baz=17	16.40	30	⇑P	Pn	22 44 34.0	-0.5
BGNE	Belgrade baz=16	16.43	51	⇓P	Pn	22 44 33.3	-1.6
137A	Heron Place, G baz=16	16.48	84	⇓P	Pn	22 44 33.6	-1.9
237A	Washetta, Mont baz=16	16.48	86	⇓P	Pn	22 44 33.0	-2.7
TUL1	Leonard baz=16	16.53	72	⇑P	Pn	22 44 34.7	-1.5
E24A	Baker baz=17	16.56	27	⇑P	Pn	22 44 36.9	+0.3
I29A	Vivian Onida baz=17	16.58	41	⇓P	Pn	22 44 36.4	-0.4
KSU1	Kansas State U baz=17	16.60	61	⇓P	Pn	22 44 36.4	-0.7
J30A	Dallas baz=17	16.61	44	⇓P	Pn	22 44 36.5	-0.8
H28A	Mission Ridge baz=17	16.63	38	⇓P	Pn	22 44 36.7	-0.8
G27A	Dupree baz=17	16.68	35	⇑P	Pn	22 44 38.6	+0.6
F26A	Lodgepole baz=17	16.68	32	⇑P	Pn	22 44 38.3	+0.1
C21A	Desert Coulee baz=17	16.73	19	⇑P	Pn	22 44 38.5	-0.2
D23A	Lindsay baz=17	16.75	24	⇓P	Pn	22 44 38.3	-0.6
E25A	Miller Ranch, baz=17	16.88	29	⇑P	Pn	22 44 40.6	0.0
438A	Sam Houston St baz=17	16.95	90	⇑P	Pn	22 44 39.8	-1.7
G28A	Parade baz=17	16.96	37	⇑P	Pn	22 44 41.3	-0.3
338A	Crockett baz=17	16.99	88	⇓P	Pn	22 44 40.9	-1.1
F27A	Lemmon baz=17	17.00	33	⇓P	Pn	22 44 41.2	-0.9
S36A	Lake Cedric, C baz=17	17.00	66	⇑P	Pn	22 44 40.8	-1.3
I30A	Oacoma baz=17	17.01	42	⇑P	Pn	22 44 41.2	-1.0
D24A	Glendive baz=17	17.02	26	⇓P	Pn	22 44 43.1	+0.8
C22A	Vida baz=17	17.02	22	⇓P	Pn	22 44 42.5	+0.2
H29A	Onida baz=17	17.02	39	⇑P	Pn	22 44 41.8	-0.6
138A	Matatall Enter baz=17	17.03	83	⇓P	Pn	22 44 41.3	-1.3
538A	Harpers Horsep baz=17	17.03	92	⇑P	Pn	22 44 41.5	-1.1
B20A	Solberg Farm, baz=17	17.05	17	⇑P	Pn	22 44 43.5	+0.8
238A	Jacksonville baz=17	17.07	86	⇑P	Pn	22 44 41.5	-1.5
738A	Farr-Stevens R baz=17	17.24	96	⇑P	Pn	22 44 45.4	+0.2
E26A	Carlson Angus baz=17	17.25	31	⇓P	Pn	22 44 45.5	+0.1
B21A	Ellsworth Farm baz=18	17.30	19	⇓P	Pn	22 44 46.1	+0.2
C23A	Lambert baz=18	17.30	23	⇑P	Pn	22 44 45.7	-0.1
C24A	Savage baz=18	17.33	25	⇑P	Pn	22 44 46.8	+0.6
A19A	Klindworth Far baz=18	17.34	15	⇑P	P	22 44 47.5	-0.4
D25A	Fairfield baz=18	17.43	28	⇓P	Pn	22 44 47.6	0.0
B22A	Reddig Ranch S baz=18	17.48	21	⇑P	Pn	22 44 48.0	-0.1
A20A	Cobblestone Ra baz=18	17.48	16	⇓P	Pn	22 44 48.4	+0.3
NATX	Nacogdoches comp=Z,4µm,0.9s	17.48	86	*e*Pn	P	22 44 49.8	+0.3
NATX				*e*Sn	Sn	22 48 01.0	-2.2
PGC	Sidney comp=Z,11µm,1.9s	17.48	342	*e*Pn	Pn	22 44 47.1	-1.0
PGC				*e*Sn	Sn	22 48 01.2	-1.8
G29A	Hoven baz=18	17.55	38	⇑P	Pn	22 44 49.1	0.0
F28A	McLaughlin baz=18	17.56	35	⇓P	Pn	22 44 49.1	-0.1
MMIG	Aquila	17.59	140	*e*P	P	22 44 55.6	+5.0
MMIG	Aquila	17.59	140	*e*P	P	22 44 55.6	+5.0
BRSD	Miller baz=18	17.60	42	⇑P	Pn	22 44 49.3	-0.3
239A	Gary baz=18	17.61	85	⇓P	Pn	22 44 49.1	-0.8
E27A	Carson baz=18	17.62	33	⇓P	Pn	22 44 49.8	-0.2
339A	Huntington baz=18	17.63	88	⇓P	Pn	22 44 49.4	-0.6
D26A	Manning baz=18	17.70	30	⇓P	Pn	22 44 50.8	-0.1
MOIG	Morelia	17.80	131	*e*P	P	22 44 56.5	+3.3
MOIG	Morelia	17.80	131	*e*P	P	22 44 56.5	+3.3
A21A	Bergtoll Ranch baz=18	17.84	18	⇓P	Pn	22 44 52.4	-0.1
C25A	Freed Ranch, W baz=18	17.92	27	⇑P	Pn	22 44 53.5	-0.1
G30A	Faulkton baz=18	17.93	40	⇑P	Pn	22 44 53.5	-0.1
B23A	Brockton baz=18	17.94	23	⇓P	Pn	22 44 53.8	+0.1
F29A	Eureka baz=18	18.04	37	⇓P	P	22 44 55.9	+0.3
A22A	Carney Farms, baz=18	18.12	20	⇓P	P	22 44 57.0	+0.6
E28A	Huff baz=18	18.14	34	⇑P	P	22 44 57.1	+0.5
D27A	Center baz=18	18.16	31	⇑P	P	22 44 57.6	+0.8
340A	Bronson baz=18	18.18	87	⇑P	P	22 44 57.1	-0.1
DGMT	Dagmar baz=18	18.21	24	⇓P	P	22 44 57.4	+0.1
A23A	Redstone baz=19	18.41	22	⇑P	P	22 45 00.1	+0.6
B25A	Knox Farm, Ray baz=19	18.41	26	⇓P	P	22 45 00.1	+0.5
F30A	Leola baz=19	18.45	38	⇓P	Pn	22 45 00.9	+0.8
C26A	Wahner Farm, P baz=19	18.47	29	⇑P	Pn	22 45 00.9	+0.6
ECSD	EROS Data Cent baz=19	18.58	47	⇓P	P	22 45 01.0	-0.5
C27A	Sayler Ranch, baz=19	18.63	30	⇑P	Pn	22 45 02.4	+0.1
E29A	Napoleon baz=19	18.64	36	⇓P	P	22 45 01.8	-0.3
D28A	Regan baz=19	18.65	33	⇑P	Pn	22 45 02.8	+0.3
A24A	Westby baz=19	18.66	24	⇑P	Pn	22 45 03.4	+0.8
B26A	Jensen Ranch, baz=19	18.86	28	⇑P	Pn	22 45 04.9	-0.1
E30A	Jud baz=19	18.96	37	⇑P	Pn	22 45 06.0	-0.2
A25A	Svangstu Ranch baz=19	18.99	25	⇑P	Pn	22 45 06.4	-0.2
D29A	Pettibone, Tap baz=19	19.01	35	⇑P	Pn	22 45 06.7	-0.2
TOVM	TOLUCA	19.06	129	*e*P	Pn	22 45 13.8	+5.8
PTVM	Pico Tres Padr	19.22	127	*e*P	Pn	22 45 15.1	+5.3
PTVM	Pico Tres Padr	19.22	127	*e*P	Pn	22 45 15.1	+5.3
B27A	Peters Farms, baz=19	19.27	29	⇑P	Pn	22 45 09.7	-0.3
VTVM	Tizayuca	19.32	126	*e*P	Pn	22 45 25.4	+14
PBIG	Penon de los B	19.34	127	*e*P	Pn	22 45 15.3	+4.3
A26A	Wade Farm, Ken baz=20	19.36	27	⇓P	Pn	22 45 10.9	-0.1
ARIG	Puente Sto Nin	19.36	132	*e*P	Pn	22 45 13.8	+2.5
MAVM	Malinalco, Edo	19.41	129	*e*P	Pn	22 45 20.3	+8.2
MZVM		19.42	128	*e*P	Pn	22 45 15.2	+3.2
D30A	Buchanan baz=20	19.45	36	⇑P	P	22 45 10.4	-0.6
MDND	Maddock baz=20	19.58	33	⇑P	P	22 45 12.1	-0.2
B28A	Dugan Ranch, T baz=20	19.69	31	⇓P	P	22 45 12.9	-0.7
A27A	Ledoux Ranch, baz=20	19.71	28	⇑P	P	22 45 13.0	-0.8
AMVM	AMECAMECA	19.76	128	*e*P	P	22 45 15.5	+0.6
YAIG	Yautepec	19.76	129	*e*P	P	22 45 09.9	-4.8
YAIG	Yautepec	19.76	129	*e*P	P	22 45 09.9	-4.8
PLIG	Platanillo	19.82	130	*e*P	Pn	22 45 20.2	+3.4
PLIG	Platanillo	19.82	130	*e*P	Pn	22 45 20.2	+3.4
C30A	Mose, Pekin baz=20	20.00	35	⇑P	P	22 45 15.7	-1.3
A28A	Rude Farm, Bot baz=20	20.08	30	⇓P	P	22 45 17.7	-0.2
B29A	Wagenman Farm, baz=20	20.14	32	⇑P	P	22 45 17.7	-0.9
CAIG	El Cayaco	20.35	135	*e*P	P	22 45 21.5	+0.6
CAIG	El Cayaco	20.35	135	*e*P	P	22 45 21.5	+0.6
A29A	Manning Farm, baz=21	20.54	31	⇑P	P	22 45 22.0	-0.9
B30A	Myrvik Farm, E baz=21	20.60	33	⇑P	P	22 45 23.0	-0.6
A30A	Hoffart Farm, baz=21	20.97	33	⇑P	P	22 45 26.2	-1.3
LVIG	Laguna Verde	21.01	122	*e*P	P	22 45 32.9	+4.8
LVIG	Laguna Verde	21.01	122	*e*P	P	22 45 32.9	+4.8
TLIG	Tlapa	21.03	130	*e*P	P	22 45 31.4	+2.9
TPIG	Tehuac#an	21.22	126	*e*P	P	22 45 35.0	+4.4
TPIG	Tehuac#an	21.22	126	*e*P	P	22 45 35.0	+4.4
PVMO	Portageville comp=Z,2µm,1.0s	21.48	72	*e*P	P	22 45 30.8	-2.4
SPMN	Marine on St. baz=22	21.68	47	⇑P	P	22 45 34.4	-0.8
OXF	Oxford	21.68	77	*e*P	P	22 45 35.0	-0.3
OXF				pmax	pmax		
OXF	Oxford comp=Z,569nm,2.1s	21.68	77	*e*P	P	22 45 35.0	-0.3
AGMN	Agassiz Nation	21.70	37	⇓P	P	22 45 35.2	-0.2

baz=22
AGMN Agassiz Nation 21.70 37 PFAKE 22 45 50.0 +15
AGMN LR LR
comp=Z,481µm,21.0s
BBB Bella Bella 21.99 339 P **P** **22 45 38.4 +0.1**
comp=Z,58nm,1.1s,baz=127,slow=8.8,SNR=3.8
BBB LR LR 22 54 59.0
comp=Z,1833µm,18.7s,baz=163,slow=39
PNIG Pinotepa 22.17 131 *eP* **P** **22 45 43.5 +2.8**
PNIG Pinotepa 22.17 131 *eP* **P** **22 45 43.5 +2.8**
JFWS Jewell Farm 22.41 55 PFAKE 22 45 50.0 +7.0
JFWS LR LR
comp=Z,122µm,22.0s
VHO Vista Hermosa 22.59 128 *i* P P 22 45 51.8 +6.5
VHO Vista Hermosa 22.59 128 *i* P P 22 45 51.8 +6.5
I10CA LAC DU BONNET 22.91 33 *i* 00 53 05.0
baz=220,slow=324,SNR=8.2
ULM Lac du Bonnet 23.01 33 P **P** **22 45 48.9 -0.4**
comp=Z,67nm,1.0s,baz=228,slow=10,SNR=32
ULM LR LR 22 54 53.1
comp=Z,450µm,19.4s,baz=228,slow=37
TUIG Tuzandepetl 23.54 122 *eP* **P** **22 45 57.7 +2.9**
TUIG Tuzandepetl 23.54 122 *eP* **P** **22 45 57.7 +2.9**
LRAL Lakeview Retre 23.79 81 *eP* **P** **22 45 56.3 -0.9**
comp=Z,29µm,1.1s
CMIG Matias Romero 23.84 125 *eP* P 22 46 03.5 +5.6
CMIG Matias Romero 23.84 125 P **P** **22 45 59.3 +1.4**
comp=Z,52nm,1.0s,baz=311,slow=8.9,SNR=28
CMIG LR LR 22 55 31.3
comp=Z,1672µm,18.1s,baz=267,slow=37
CMIG Matias Romero 23.84 125 *eP* P 22 46 03.5 +5.6
EYMN Ely 23.85 42 PFAKE 22 46 10.0 +12
EYMN LR LR
comp=Z,951µm,21.0s
SFIN Lafayette 24.02 62 ⇓P **P** **22 45 58.8 -0.6**
baz=24
BRAL Brewton 24.02 85 PFAKE 22 46 10.0 +11
BRAL LR LR
comp=Z,581µm,21.0s
FFC Flin Flon 24.34 19 PFAKE 22 46 10.0 +7.8
FFC LR LR
comp=Z,207µm,20.0s
COWI Conover 24.37 48 *eP* **P** **22 46 01.7 -0.9**
comp=Z,7µm,0.9s
COWI LR LR
comp=Z,701µm,22.0s
SWET Sewanee 24.53 75 *eP* **P** **22 46 02.1 -2.0**
comp=Z,78nm,1.3s
SWET *eS* **S** **22 50 22.1 -3.2**
SCIG Sabancuy 25.36 116 *eP* **P** **22 46 15.2 +3.5**
SCIG Sabancuy 25.36 116 *eP* **P** **22 46 15.2 +3.5**
TKL Tuckaleechee C 26.27 74 P **P** **22 46 20.3 +0.4**
comp=Z,45nm,1.1s,baz=274,slow=8.2,SNR=17
TKL LR LR 22 57 36.7
comp=Z,1030µm,18.0s,baz=266,slow=39
CCIG Comitan 26.33 122 *eP* P 22 46 26.7 +6.0
CCIG Comitan 26.33 122 *eP* P 22 46 26.7 +6.0
GOGA Godfrey 26.69 79 PFAKE 22 46 40.0 +16
GOGA LR LR
comp=Z,1463µm,19.0s
TIGA Tifton 26.87 83 ⇓P **P** **22 46 24.7 -0.6**
baz=27
WRAK Wrangell Islan 26.90 339 PFAKE 22 46 30.0 +4.7
WRAK LR LR
comp=Z,330µm,19.0s
AAM Ann Arbor 26.93 59 PFAKE 22 46 40.0 +14
AAM LR LR
comp=Z,75µm,19.0s
ACSO Alum Creek Sta 27.10 64 PFAKE 22 46 40.0 +13
ACSO LR LR
comp=Z,744µm,21.0s
DLBC Dease Lake 28.01 343 P **P** **22 46 36.6 +1.1**
comp=Z,49nm,0.9s,baz=161,slow=8.3,SNR=21
DLBC LR LR 22 57 55.6
comp=Z,966µm,19.9s,baz=165,slow=37
DLBC Dease Lake 28.01 343 *eP* **P** **22 46 34.8 -0.6**
KMSC Kings Mountain 28.29 75 ⇓P **P** **22 46 37.2 -0.9**
baz=28
APG El Apazote 28.38 121 P **P** **22 46 40.8 +1.6**
comp=Z,101nm,1.0s,baz=302,slow=9.4,SNR=9.5
APG LR LR 22 57 44.0
comp=Z,2452µm,19.6s,baz=303,slow=36
BLA Blacksburg 28.95 70 *eP* **P** **22 46 42.3 -1.7**
BLA *eS* **S** **22 51 36.7 +1.5**
BLA pmax pmax
comp=Z,2µm,1.0s
BLA MLR MLR
comp=Z,908µm,19.0s
BLA Blacksburg 28.95 70 *eP* **P** **22 46 42.3 -1.7**
comp=Z,2µm,1.0s
BLA *eS* **S** **22 51 36.7 +1.5**
BLA LR LR
comp=Z,908µm,19.0s
ALLY Alegheny Colle 29.41 61 *eP* **P** **22 46 45.3 -2.7**
comp=Z,17nm,0.6s
ALLY *eS* **S** **22 51 39.4 -2.9**
NHSC New Hope 29.46 79 *eP* **P** **22 46 47.5 -0.9**
comp=Z,1µm,1.1s
NHSC *eS* S 22 51 36.3 -6.9
NHSC LR LR
comp=Z,1586µm,20.0s
ERPA Erie 29.59 60 PFAKE 22 47 00.0 +10
ERPA LR LR
comp=Z,576µm,20.0s
SOR Soroa 30.03 100 *eP* P 22 46 57.7 +4.1
SOR *eS* S 22 52 14.9 +23
YKA Yellowknife Ar 30.23 1 P **P** **22 46 55.6 +0.6**
comp=Z,4.3nm,0.7s,baz=179,slow=8.8,SNR=55
YKA P3KPbc 23 18 51.0
comp=Z,1.6nm,0.9s,baz=354,slow=4.6,SNR=10
SADO Sadowa 30.64 55 P **P** **22 46 57.3 -1.5**
comp=Z,11nm,0.9s,baz=269,slow=8.4,SNR=5.5
CNNC Cliffs of the 31.09 74 PFAKE 22 47 10.0 +7.1
CNNC LR LR
comp=Z,965µm,19.0s
CBN Corbin Frederi 31.35 68 PFAKE 22 47 20.0 +15
CBN LR LR
comp=Z,689µm,19.0s
SDMD Soldier's Deli 31.77 66 *eP* **P** **22 47 07.5 -1.3**
comp=Z,8µm,1.9s
SDMD *eS* **S** **22 52 15.7 -3.6**
BINY Binghamton 32.55 61 *eP* **P** **22 47 14.1 -1.5**
comp=Z,14µm,2.4s
BINY *eS* S 22 52 23.4 -8.1
BINY LR LR
comp=Z,461µm,20.0s
MGV Manicaragua 32.85 99 *eP* P 22 47 25.2 +6.8
MGV *eS* S 22 52 58.3 +22
LONY Lake Ozonia 33.82 57 PFAKE 22 47 40.0 +13
LONY LR LR
comp=Z,689µm,22.0s
NCB Newcomb 34.00 58 *eP* **P** **22 47 25.4 -3.0**
NCB *eS* **S** **22 52 50.1 -3.9**
CCCC Cccc 35.09 99 *eP* P 22 47 42.4 +4.4
JTS JuntasAbangare 35.51 121 *c iP* **P** **22 47 41.1 -0.5**
JTS pmax pmax
comp=Z,221nm,1.8s
JTS JuntasAbangare 35.51 121 LR LR 23 02 21.5
comp=Z,1261µm,21.7s,baz=312,slow=37
JTS JuntasAbangare 35.51 121 *eP* P 22 47 37.7 -3.9
JTS *eS* **S** **22 53 18.7 +1.0**
LBNH Lisbon 35.68 58 *eP* **P** **22 47 40.5 -2.3**
LBNH *eS* **S** **22 53 15.0 -4.7**
LBNH pmax pmax
comp=Z,88nm,0.9s
LBNH MLR MLR
comp=Z,321µm,19.0s
LBNH Lisbon 35.68 58 *eP* **P** **22 47 40.5 -2.3**
comp=Z,88nm,0.9s
LBNH *eS* **S** **22 53 15.0 -4.7**
LBNH LR LR
comp=Z,321µm,19.0s
HRV Adam Dziewonsk 35.85 61 *eP* **P** **22 47 46.8 +2.6**
HRV S **S** **22 53 21.8 -0.5**
HRV pmax pmax
comp=Z,783nm,1.3s
HRV Adam Dziewonsk 35.85 61 *eP* **P** **22 47 46.8 +2.6**
comp=Z,783nm,1.3s
HRV S **S** **22 53 21.8 -0.5**
KDAK Kodiak Island 35.94 326 *iP* **P** **22 47 47.6 +2.8**
KDAK Kodiak Island 35.94 326 PFAKE 22 48 00.0 +15
KDAK LR LR
comp=Z,523µm,20.0s
EGAK Eagle 36.23 342 PFAKE 22 48 00.0 +13
EGAK LR LR
comp=Z,766µm,20.0s
LMGC Las Mercedes 36.24 100 *eP* **P** **22 47 50.5 +2.7**
LMGC *e* 22 47 51.5
baz=297,slow=11
LMGC *eS* S 22 53 55.7 +27
LMGC AMS AMS 23 04 43.9
comp=E,525µm,18.9s
LMGC AMS AMS 23 05 27.9
comp=N,692µm,17.3s
HLGC Holguin 36.66 98 *eP* **P** **22 47 51.3 -0.2**
CVJ Coleyville 36.68 103 *i* P P 22 47 56.4 +4.7
MTDJ Mount Denham 36.68 103 PFAKE 22 48 00.0 +8.3
MTDJ LR LR
comp=Z,275µm,20.0s
MCJ Malvern 36.70 104 *i* P **P** **22 47 52.3 +0.4**
BBJ Bamboo Saint A 36.82 103 *i* P P 22 47 57.8 +5.0
PCJ Portland Cotta 37.23 104 *i* P P 22 47 59.7 +3.5
RCC Rio Carpintero 37.37 99 *eP* P 22 48 03.1 +5.7
RCC *e* 22 48 03.5
baz=298,slow=7.9
RCC *eS* S 22 53 55.5 +10
RCC AMS AMS 23 05 37.6
comp=E,600µm,20.6s
RCC AMS AMS 23 05 38.5
comp=N,519µm,17.2s
GWJ Greenwich 37.42 103 *i* P P 22 48 04.1 +6.1
HOJ Hope 37.44 103 *i* P **P** **22 48 00.0 +2.0**
INK Inuvik 37.59 349 P **P** **22 47 59.5 +0.8**
comp=N,56nm,0.9s,baz=152,slow=9.4,SNR=43
INK LR LR 23 05 31.2
comp=N,1072µm,18.8s,baz=163,slow=40
PKME Peaks-Kenny Pk 37.62 56 PFAKE 22 48 10.0 +11
PKME LR LR
comp=Z,268µm,21.0s
MOAC Moa 37.69 98 *eP* **P** **22 48 02.9 +2.8**
MOAC *eS* S 22 54 07.2 +16
comp=N,49µm,24.0s
comp=E,68µm,22.1s
ILAR Eielson Array 37.88 339 P **P** **22 48 01.9 +0.6**
comp=E,41nm,0.9s,baz=150,slow=7.0,SNR=142
ILAR LR LR 23 04 05.4
comp=E,568µm,18.1s,baz=155,slow=37
GTBY Guantanamo Bay 37.89 99 PFAKE 22 48 10.0 +8.2
GTBY LR LR
comp=Z,420µm,20.0s
POHA Pohakuloa 38.06 261 *eP* P 22 47 59.6 -4.0
comp=Z,776nm,1.2s
POHA LR LR
comp=Z,606µm,22.0s
COLA College 38.25 338 PFAKE 22 48 20.0 +16
COLA LR LR
comp=Z,456µm,21.0s
MASC Masc 38.51 98 *eP* P 22 48 13.2 +6.1
MASC *eS* x 22 49 54.5
KIP Kipapa 39.42 265 *eP* P 22 48 10.3 -4.3
KIP pmax pmax
comp=Z,930nm,1.3s
KIP MLR MLR
comp=Z,486µm,22.0s
KIP Kipapa 39.42 265 *eP* P 22 48 10.3 -4.3
comp=Z,930nm,1.3s
KIP LR LR
comp=Z,486µm,22.0s
HON Honolulu 39.45 265 *eP* P 22 48 11.2 -3.7
HON Honolulu 39.45 265 *eP* P 22 48 11.2 -3.7
BCIP Isla Barro Col 40.03 117 *eP* P 22 48 16.2 -3.6
comp=Z,952nm,1.4s
BCIP LR LR
comp=Z,357µm,21.0s
PAYG Puerto Ayora 40.39 139 *eP* **P** **22 48 24.3 +1.5**
comp=Z,100nm,1.3s
PAYG LR LR
comp=Z,230µm,20.0s
FALS False Pass 40.50 318 *eP* **P** **22 48 20.6 -2.6**
comp=Z,160nm,1.1s
GRTK Grand Turk 40.54 94 PFAKE 22 48 40.0 +16
GRTK LR LR
comp=Z,434µm,20.0s
COLD Coldfoot 40.55 340 *eP* **P** **22 48 21.9 -1.7**
comp=Z,162nm,0.2s
SCHQ Schefferville 40.65 42 P **P** **22 48 24.6 0.0**
comp=Z,62nm,1.1s,baz=271,slow=8.5,SNR=15
SCHQ LR LR 23 05 10.5
comp=Z,294µm,21.2s,baz=262,slow=36
SDDR Presa de Saban 41.52 98 *eP* **P** **22 48 29.9 -2.3**
SDDR LR LR
comp=Z,326µm,21.0s
UNV Unalaska Valle 42.07 316 *eP* **P** **22 48 34.1 -2.0**
comp=Z,2µm,1.7s
UNV *eS* S 22 54 48.0 -7.7
BBSR BB Station 42.40 76 PFAKE 22 48 50.0 +11
BBSR LR LR
comp=Z,157µm,21.0s
FRB Frobisher Bay 42.75 28 P **P** **22 48 41.4 -0.2**
comp=Z,51nm,1.0s,baz=249,slow=8.3,SNR=17
SMN1 Samana, DR 43.12 96 *eP* P 22 48 41.4 -3.9
RES Resolute Bay 43.67 8 *eP* **P** **22 48 46.6 -2.2**
RES *eS* **S** **22 55 15.3 -3.4**
RES pmax pmax
comp=Z,87nm,0.6s
RES Resolute Bay 43.67 8 P **P** **22 48 49.1 +0.2**
comp=Z,33nm,0.8s,baz=189,slow=11,SNR=40
RES Resolute Bay 43.67 8 *eP* **P** **22 48 46.6 -2.2**
comp=Z,87nm,0.6s
RES *eS* **S** **22 55 15.3 -3.4**
PCDR Punta Cana, DR 44.18 96 *eP* **P** **22 48 50.7 -3.0**
AGPR Aguadilla, PR 45.27 96 *eP* P 22 48 58.2 -4.2
comp=Z,916nm,1.5s
LSP Las Mesas 45.43 96 *eP* **P** **22 49 01.3 -2.4**
CRPR Cabo Rojo, PR 45.49 96 *eP* **P** **22 49 01.6 -2.4**
comp=Z,541nm,1.4s
LRS Lares 45.58 96 *eP* P 22 49 01.3 -3.6
TNA Tin City 45.81 333 ⇓*eP* **P** **22 49 03.8 -2.2**
comp=Z,329nm,1.2s
TNA *eS* **S** **22 55 46.2 -3.8**
OBIP Obispado Ponce 45.89 96 *eP* **P** **22 49 04.7 -2.6**
comp=Z,790nm,1.4s
CELP Cerrillos 45.90 96 *eP* **P** **22 49 04.9 -2.5**
ICMP Isla Caja de M 46.03 96 *eP* **P** **22 49 05.5 -2.9**
CBYP Canovanas 46.42 95 *eP* P 22 49 03.0 -8.5
comp=Z,2µm,2.1s
MTP Monte Pirata 46.76 95 *eP* P 22 49 10.5 -3.6
comp=Z,1µm,1.2s
MTP *ePcP* PcP 22 50 40.9 -6.7
MTP *eS* **S** **22 55 59.9 -4.9**
GAMB Gambell 46.83 329 *eP* **P** **22 49 12.7 -1.4**
comp=Z,246nm,1.2s
GAMB *ePP* **PP** **22 51 02.8 -1.1**
ROSC El Rosal 46.97 117 P **P** **22 49 18.2 +2.0**
comp=Z,38nm,1.1s,baz=310,slow=5.4,SNR=20
ROSC LR LR 23 11 16.3
comp=Z,373µm,18.6s,baz=346,slow=39
OTAV Otavalo 47.13 125 *eP* P 22 49 14.0 -3.5
comp=Z,1µm,1.5s
OTAV *eS* **S** **22 56 11.2 +0.2**
OTAV LR LR
comp=Z,240µm,19.0s
STVI Saint Thomas 47.15 94 *eP* P 22 49 13.7 -3.4
comp=Z,1µm,1.8s
STVI *eS* **S** **22 56 11.7 +1.4**
TAOE Nuku Hiva Isla 47.30 214 *eP* P 22 49 25.0 +6.6
comp=Z,818nm,1.2s
TAOE *eS* **S** **22 56 15.1 +2.5**
comp=Z,88µm,30.0s
TAOE *eLQ* LQ 23 00 38.1
comp=Z,501µm,27.9s
TAOE *eLR* LR 23 02 37.0
comp=Z,358µm,26.4s
SDV Santo Domingo 47.37 109 *eP* **P** **22 49 16.7 -2.4**
comp=Z,1µm,1.3s
SDV PcP **PcP** **22 50 47.4 -2.6**
SDV *eS* **S** **22 56 08.4 -5.6**
SDV LR LR
comp=Z,509µm,19.0s
CDVI St. Croix 47.58 95 *eP* **P** **22 49 17.7 -2.8**
comp=Z,811nm,1.0s
ADK Adak 48.07 313 *eP* P 22 49 19.9 -4.0
ADK pmax pmax
comp=Z,344nm,1.0s
ADK MLR MLR
comp=Z,207µm,20.0s
ADK Adak 48.07 313 *eP* P 22 49 19.9 -4.0
comp=Z,344nm,1.0s
ADK LR LR
comp=Z,207µm,20.0s
XMAS Kiritimati 49.75 242 *eP* P 22 49 33.2 -4.1
comp=Z,621nm,1.2s
XMAS LR LR
comp=Z,320µm,21.0s
ANWB Willy Bob 50.14 93 *eP* P 22 49 35.3 -4.9
comp=Z,635nm,1.8s
ANWB *eS* S 22 56 46.3 -6.2
ANWB LR LR
comp=Z,187µm,21.0s
KULLO Kullorsuaq 50.80 17 *i* P **P** **22 49 45.4 +1.0**
KULLO *eS* S 22 57 19.5 +19
KULLO pmax pmax
comp=Z,220nm,1.0s
KULLO MLR MLR
comp=Z,330µm,15.0s
KULLO Kullorsuaq 50.80 17 *i* P **P** **22 49 45.4 +1.0**
comp=Z,219nm,0.9s
KULLO *eS* S 22 57 19.5 +19
comp=Z,327µm,15.0s
SFJD Kangerlussuaq 50.86 27 *eP* P 22 49 41.7 -3.2
SFJD pmax pmax
comp=Z,349nm,1.1s
SFJD Kangerlussuaq 50.86 27 P **P** **22 49 45.6 +0.6**
comp=Z,78nm,0.9s,baz=255,slow=6.2,SNR=15
SFJD LR LR 23 11 32.9
comp=Z,305µm,18.8s,baz=256,slow=36
SFJD Kangerlussuaq 50.86 27 *eP* P 22 49 41.7 -3.2
comp=Z,349nm,1.1s
SFJD *eS* S 22 56 42.9 -18
SFJD Kangerlussuaq 50.86 27 *i* P **P** **22 49 47.0 +2.1**
comp=Z,66nm,1.0s
comp=Z,223µm,21.0s
ILULI Ilulissat 51.08 24 *i* P P 22 49 50.2 +3.6
ILULI *eS* S 22 57 20.2 +16
ILULI MLR MLR
comp=Z,320µm,12.0s
ILULI Ilulissat 51.08 24 *i* P P 22 49 50.2 +3.6
comp=Z,28nm,1.0s
ILULI *eS* S 22 57 20.2 +16
comp=Z,325µm,12.0s
FDF Fort de France 52.07 96 *eP* P 22 49 51.4 -3.4
FDF *eS* S 22 57 10.6 -8.8
FDF pmax pmax
comp=Z,313nm,0.9s
FDF MLR MLR
comp=Z,216µm,19.0s
FDF Fort de France 52.07 96 *eP* P 22 49 51.4 -3.4
comp=Z,313nm,0.9s
FDF *eS* S 22 57 10.6 -8.8
FDF LR LR
comp=Z,216µm,19.0s
ATAH Atahualpa 52.63 131 LR LR 23 09 11.4
comp=Z,209µm,21.1s,baz=324,slow=32
GRGR Grenville 52.95 99 *eP* **P** **22 49 58.9 -2.4**
comp=Z,1µm,1.1s
GRGR *eS* **S** **22 57 28.3 -3.2**
GRGR LR LR
comp=Z,313µm,21.0s
ALE Alert 53.56 7 P **P** **22 50 05.0 +0.1**
comp=Z,592nm,1.4s,SNR=17
BBGH Gun Hill 54.19 97 *eP* P 22 50 06.9 -3.5
comp=Z,1µm,2.2s
BBGH LR LR
comp=Z,456µm,22.0s
SUMG Summit 55.60 21 *i* P **P** **22 50 21.4 +1.1**
SUMG *eS* S 22 58 23.3 +17
SUMG pmax pmax
comp=Z,200nm,1.1s
SUMG MLR MLR
comp=Z,430µm,15.0s
SUMG Summit 55.60 21 *eP* **P** **22 50 19.1 -1.2**
comp=Z,568nm,1.2s
SUMG Summit 55.60 21 *i* P **P** **22 50 21.4 +1.1**
comp=Z,201nm,1.1s
SUMG *eS* S 22 58 23.3 +17
comp=Z,431µm,14.0s
BILL Bilibino 56.21 334 *d iP* **P** **22 50 24.9 +0.6**
BILL *i* 22 51 24.2
BILL *i* S S 22 58 29.4 +15
BILL pmax pmax
comp=Z,2µm,6.9s
BILL MLR MLR
comp=Z,300µm,17.0s
NNA Nana 57.34 134 *eP* **P** **22 50 30.2 -2.8**
NNA pmax pmax
comp=Z,435nm,1.3s
NNA MLR MLR
comp=Z,316µm,20.0s
NNA Nana 57.34 134 *eP* **P** **22 50 30.2 -2.8**
comp=Z,435nm,1.3s
NNA LR LR
comp=Z,316µm,20.0s
RKT Rikitea 58.22 201 *eP* P 22 50 46.4 +7.5
comp=Z,607nm,1.5s
RKT *eS* **S** **22 58 44.3 +3.1**
comp=Z,121µm,30.5s
RKT *eLQ* LQ 23 05 13.0
comp=Z,265µm,36.5s
RKT *eLR* LR 23 07 39.5
comp=Z,316µm,26.8s
PTCN Pitcairn Islan 58.76 196 PFAKE 22 50 50.0 +7.3
PTCN LR LR
comp=Z,127µm,20.0s
MEH Mehetia 58.94 217 *eP* P 22 50 51.8 +7.7
comp=Z,219nm,1.4s
TIAR Tiarei 59.34 218 *eP* P 22 50 54.4 +7.6
comp=Z,163nm,1.2s
RPN Rapa Nui 59.34 174 LR LR 23 10 55.0
comp=Z,145µm,19.6s,baz=356,slow=30
PPT Papeete 59.47 219 P P 22 50 51.3 +3.5
comp=Z,50nm,1.1s,baz=29,slow=7.3,SNR=2.8
PPT LR LR 23 10 07.4
comp=Z,109µm,20.5s,baz=32,slow=30
TVO Taravao 59.48 218 *eP* P 22 50 55.4 +7.6
comp=Z,162nm,1.4s
PPT2 Papeete2 59.49 219 *eP* P 22 50 55.7 +7.8
comp=Z,347nm,1.4s
PPT2 *eS* **S** **22 59 01.1 +3.0**
comp=Z,191µm,28.5s
PPT2 *eLQ* LQ 23 05 46.5
comp=Z,315µm,28.2s
PPT2 *eLR* LR 23 08 15.9
comp=Z,439µm,29.0s
PAE Paea 59.55 219 *eP* P 22 50 55.8 +7.6
comp=Z,94nm,1.3s
DAG Danmarks Havn 60.35 15 *i* P **P** **22 50 52.5 -0.6**
DAG *eS* S 22 59 23.4 +16
DAG pmax pmax
comp=Z,48nm,0.8s
DAG MLR MLR
comp=Z,470µm,18.0s
DAG Danmarks Havn 60.35 15 *i* P **P** **22 50 52.5 -0.6**
comp=Z,64nm,0.8s
DAG *eS* S 22 59 23.4 +16
comp=Z,457µm,17.0s
PTGA Pitinga 61.61 111 *eP* **P** **22 51 03.2 +0.7**
comp=Z,346nm,1.2s
PTGA LR LR
comp=Z,297µm,20.0s
PET Petropavlovsk 62.71 317 *α iP* P 22 51 13.8 +4.5
PET *e* 22 51 46.5
PET *e* 22 53 35.9
PET *i* S S 22 59 54.4 +16
PET pmax pmax
comp=Z,111nm,1.4s
PET pmax pmax
comp=Z,2µm,4.0s
PET pmax pmax
comp=Z,2µm,10.0s
PET MLR MLR
comp=Z,85µm,17.0s
PET MLR MLR
comp=Z,70µm,17.0s
PET Petropavlovsk 62.71 317 *eP* P 22 51 06.1 -3.2
comp=Z,175nm,0.9s
PET LR LR
comp=Z,97µm,22.0s
SEY Seymchan 62.83 329 P **P** **22 51 10.6 +0.6**
comp=Z,14nm,0.6s,baz=100,slow=6.6,SNR=28
SEY LR LR 23 18 42.6
comp=Z,112µm,18.5s,baz=73,slow=36
BORG Borgarnes 62.93 29 *eP* **P** **22 51 08.2 -2.4**
BORG pmax pmax
comp=Z,592nm,1.9s
BORG Borgarnes 62.93 29 P **P** **22 51 10.2 -0.4**
comp=Z,17nm,1.1s,baz=293,slow=7.7,SNR=2.2
BORG LR LR 23 17 59.5
comp=Z,143µm,19.9s,baz=295,slow=36

BORG Borgarnes 62.93 29 *e*P **P** **22 51 08.2 -2.4**
comp=Z,592nm,1.9s
PETK Petropavlovsk- 63.23 318 P **P** **22 51 13.7 +0.9**
comp=Z,420nm,0.8s,baz=92,slow=9.2,SNR=19
PETK LR LR 23 15 49.6
comp=Z,39µm,22.0s,baz=70,slow=33
TBI Tubuai 64.25 215 *e*P P 22 51 27.4 +7.6
comp=Z,522nm,1.3s
TBI *e*S **S** **23 00 00.9 +2.9**
comp=Z,95µm,28.8s
TBI *e*LQ LQ 23 07 48.1
comp=Z,344µm,36.5s
TBI *e*LR LR 23 10 29.3
comp=Z,227µm,29.0s
SAML Samuel 64.39 120 *e*P **P** **22 51 18.5 -2.5**
comp=Z,1.5nm,0.2s
SAML LR LR
comp=Z,170µm,19.0s
SKR Severo-Kuril's 64.97 315 *e*P **P** **22 51 25.0 +0.7**
SKR *e* 22 53 44.0
SKR *e*S **S** **23 00 09.0 +2.5**
SKR *e*PS PnS 23 00 38.0 +14
SKR *e*SSS SSS 23 07 18.0
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=Z,5µm,10.0s
SKR pmax pmax
comp=N,2µm,6.0s
SKR pmax pmax
comp=E,3µm,6.0s
SKR pmax pmax
comp=N,3µm,12.0s
SKR pmax pmax
comp=E,3µm,12.0s
SKR pmax pmax
comp=Z,7µm,12.0s
SKR MLR MLR
comp=N,52µm,16.0s
SKR MLR MLR
comp=E,48µm,16.0s
SKR MLR MLR
comp=Z,65µm,16.0s
KBS Kingsbay 65.01 10 *e*P **P** **22 51 22.2 -2.0**
KBS pmax pmax
comp=Z,64nm,1.0s
KBS MLR MLR
comp=Z,348µm,19.0s
KBS Kingsbay 65.01 10 *e*P **P** **22 51 22.0 -2.2**
KBS IVMs_BB IVMs_BB 23 23 08.1
comp=Z,178µm,14.6s
KBS IAMs_20 IAMs_20 23 23 11.0
comp=Z,448µm,18.5s
KBS Kingsbay 65.01 10 *e*P **P** **22 51 22.2 -2.0**
comp=Z,64nm,1.0s
KBS *e*S S 22 59 44.6 -22
KBS LR LR
comp=Z,348µm,19.0s
JMIC Jan Mayen 65.04 20 *e*P P 22 51 29.1 +4.7
JMIC IVMs_BB IVMs_BB 23 22 13.9
comp=Z,102µm,13.4s
LPAZ La Paz 66.09 130 *e*P **P** **22 51 30.8 -1.8**
LPAZ pmax pmax
comp=Z,59nm,0.9s
LPAZ La Paz 66.09 130 P **P** **22 51 34.1 +1.4**
comp=Z,11nm,0.8s,baz=328,slow=6.3,SNR=33
LPAZ LR LR 23 18 04.4
comp=Z,296µm,20.2s,baz=328,slow=34
LPAZ La Paz 66.09 130 *e*P **P** **22 51 30.8 -1.8**
comp=Z,59nm,0.9s
SPA0 Spitsbergen Ar 66.17 10 *e*P **P** **22 51 33.8 +2.1**
SPITS Spitsbergen Ar 66.17 10 LR LR 23 20 11.7
comp=Z,360µm,19.9s,baz=300,slow=36
H07S1 FLORES T-PHASE 66.19 57 *e*LR LR 23 11 55.5
HSP Hornsund 66.90 11 *e*P **P** **22 51 37.9 +1.6**
HSPB Hornsund (broa 66.90 11 *e*P **P** **22 51 39.1 +2.8**
HSPB IAMs_20 IAMs_20 23 24 42.5
comp=Z,330µm,18.7s
HSPB IVMs_BB IVMs_BB 23 24 55.9
comp=Z,125µm,14.7s
PCED Cedros 68.27 57 *e*P P 22 51 49.5 +3.9
comp=Z,271nm,1.4s
PCAN Candelaria 68.50 57 *e*P **P** **22 51 49.5 +2.4**
comp=Z,202nm,0.9s
PICO Pico 68.52 57 *e*P P 22 52 00.5 +13
ROSA Rosais 68.56 57 *e*P **P** **22 51 50.1 +2.6**
comp=Z,548nm,1.7s
ROSA *e*S **S** **23 00 52.7 +2.3**
ROSA Rosais 68.56 57 *e*LR LR 23 12 58.0
comp=Z,34µm,23.6s
PGRA Graciosa 68.62 57 *e*P P 22 51 51.2 +3.4
comp=Z,486nm,1.4s
PGRA Graciosa 68.62 57 *e*LR LR 23 12 52.9
comp=Z,45µm,22.2s
HOPEN Hopen 68.68 9 *e*P **P** **22 51 48.8 +1.3**
HOPEN IVMs_BB IVMs_BB 23 23 55.8
comp=Z,135µm,15.5s
PMAN Manadas 68.71 57 *e*P **P** **22 51 50.7 +2.4**
comp=Z,230nm,1.4s
ADH Angra Heroismo 69.30 57 *e*P P 22 52 07.8 +16
BJO Bjornoya 69.36 12 *e*P P 22 51 56.2 +4.5
BJO IVMs_BB IVMs_BB 23 27 01.9
comp=Z,104µm,16.7s
WAKE Wake Island 70.14 281 PFAKE 22 52 10.0 +13
WAKE LR LR
comp=Z,162µm,21.0s
LVC Limon Verde 70.30 135 *e*P P 22 51 54.2 -4.4
comp=Z,996nm,1.8s
LVC *e*S **S** **23 01 07.3 -4.2**
LVC LR LR
comp=Z,108µm,22.0s
SIV San Ignacio 70.66 124 LR LR 23 21 28.1
comp=Z,248µm,20.4s,baz=330,slow=35
PSET Sete Cidades 70.74 57 *e*P P 22 52 04.3 +3.4
comp=Z,365nm,1.4s
PSET *e*S **S** **23 01 11.8 -4.3**
PSET Sete Cidades 70.74 57 *e*LR LR 23 14 20.0
comp=Z,38µm,24.2s
PDA Ponta Delgada 70.81 57 *e*P P 22 52 06.5 +5.2
AFI Afiamalu 70.92 239 P P 22 51 56.8 -5.5
AFI pmax pmax
comp=Z,296nm,1.6s
AFI MLR MLR
comp=Z,71µm,21.0s
AFI Afiamalu 70.92 239 P P 22 51 56.8 -5.5
comp=Z,296nm,1.6s
AFI LR LR
comp=Z,71µm,21.0s
BART Pico Bartolome 71.15 57 *e*P P 22 52 07.2 +3.7
comp=Z,306nm,1.4s
PSMA Santa Maria 71.53 58 *e*P **P** **22 52 06.0 +0.3**
comp=Z,425nm,1.6s
PSMN Pico do Norte, 71.57 58 *e*P **P** **22 52 08.1 +2.1**
comp=Z,462nm,1.4s
PSMN *e*S **S** **23 01 22.4 -3.3**
PSMN Pico do Norte, 71.57 58 *e*LR LR 23 14 12.8
comp=Z,15µm,19.0s
KUR Kuril'sk 72.28 313 *e*P P 22 52 02.1 -7.9
KUR *i* S **S** **23 01 31.5 -2.0**
KUR pmax pmax
comp=Z,689nm,1.9s
KUR pmax pmax
comp=E,246nm,1.9s
KUR pmax pmax
comp=N,144nm,1.9s
KUR pmax pmax
comp=Z,5µm,4.3s
KUR MLR MLR
comp=N,7µm,9.0s
KUR MLR MLR
comp=E,61µm,19.0s
KUR MLR MLR
comp=Z,31µm,19.0s
YAK Yakutsk 72.57 333 *d i*P P 22 52 15.4 +4.0
YAK *e**PP pP 22 52 18.1 +5.0
YAK *e* 22 52 34.2
YAK *e* 22 54 51.3
YAK *e*PPP PPP 22 56 38.9
YAK *e*S **S** **23 01 41.4 +5.1**
YAK *e* 23 02 25.4
YAK *e*SS **SS** **23 06 21.1 +6.9**
YAK pmax pmax
comp=Z,65nm,1.2s
YAK pmax pmax
comp=E,60nm,1.5s
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,1µm,6.9s
YAK pmax pmax
comp=Z,2µm,7.2s
YAK pmax pmax
comp=N,1µm,5.1s
YAK smax smax
comp=N,9µm,7.7s
YAK smax smax
comp=E,14µm,10.2s
YAK MLR MLR
comp=N,180µm,22.0s
YAK MLR MLR
comp=Z,242µm,19.0s
YAK MLR MLR
comp=E,124µm,17.0s
YAK Yakutsk 72.57 333 P P 22 52 08.1 -3.3
comp=E,7.5nm,0.3s,baz=68,slow=2.9,SNR=1.3
YAK Yakutsk 72.57 333 *e*P **P** **22 52 10.8 -0.7**
YAK *e*S **S** **23 01 33.5 -2.8**
YAK LR LR
comp=Z,204µm,19.0s
LOF Lofoten 72.91 18 *e*P **P** **22 52 14.3 +0.9**
KPL Plockton 73.00 32 *e*P **P** **22 52 16.9 +2.8**
KPL AMB AMB 22 52 20.5
comp=Z,293nm,1.8s
KPL AMS AMS 23 22 18.4
comp=Z,126µm,16.7s
KAC Achnashellach 73.07 32 *e*P P 22 52 19.2 +4.7
TRO Tromso 73.08 15 *e*P P 22 52 19.3 +5.0
TRO IAMs_20 IAMs_20 23 25 10.8
comp=Z,259µm,20.2s
TRO IVMs_BB IVMs_BB 23 25 24.3
comp=Z,85µm,16.8s
BIGH Upper Bighouse 73.12 31 AMS AMS 23 29 52.1
comp=Z,294µm,16.6s
STEI Steigen 73.50 17 *e*P P 22 52 21.2 +4.4
MDO Dochfour 73.52 32 *e*P **P** **22 52 20.0 +2.8**
VAL Valentia 73.65 39 *e*P **P** **22 52 19.8 +1.8**
VAL *e*S S 23 02 04.0 +15
TARA Tarawa 73.93 261 PFAKE 22 52 30.0 +10
TARA LR LR
comp=Z,269µm,22.0s
MCD Coleburn Disti 73.93 31 *e*P **P** **22 52 21.1 +1.5**
KONS Konsvik 73.98 19 *e*P **P** **22 52 21.9 +2.2**
STOK Stokkvaagen 74.08 19 *e*P P 22 52 25.1 +4.9
STOK IVMs_BB IVMs_BB 23 26 34.1
comp=N,36µm,16.8s
YUK Yuzh-Kuril'sk 74.11 312 *d i*P P 22 52 14.6 -6.2
YUK *i* 22 52 38.5
YUK *i* 22 52 06.9
YUK *i* S S 23 02 01.3 +7.0
YUK *i* SS SS 23 06 45.6 +7.1
YUK pmax pmax
comp=Z,2µm,2.3s
YUK pmax pmax
comp=Z,636nm,1.3s
YUK pmax pmax
comp=N,422nm,1.4s
YUK pmax pmax
comp=E,375nm,1.4s
LCO Las Campanas 74.20 140 *e*P P 22 52 18.1 -3.7
comp=E,1µm,1.8s
LCO LR LR
comp=Z,123µm,21.0s
MME1 Meikle Cairn 74.22 31 *e*P P 22 52 25.2 +3.9
EAB Aberfoyle 74.25 33 *e*P **P** **22 52 24.1 +2.6**
PGBU Glenifferbraes 74.39 33 *e*P **P** **22 52 23.7 +1.4**
PGBU AMB AMB 22 52 28.4
comp=Z,372nm,1.8s
KTK1 Kautokeino 74.50 14 *e*P **P** **22 52 24.2 +1.4**
ARCES ARCESS Array B 74.53 13 P **P** **22 52 23.5 +0.6**
comp=Z,53nm,0.8s,baz=335,slow=5.4,SNR=46
ARCES LR LR 23 28 18.4
comp=Z,155µm,18.6s,baz=326,slow=38
ARE0 ARCESS Array S 74.53 13 *e*P **P** **22 52 25.8 +2.9**
YSS Yuzh-Sakhalins 74.53 316 *αe*P **P** **22 52 23.5 +0.2**
YSS *e**SP **sP** **22 52 27.5 +1.9**
YSS *e* 22 52 40.0
YSS *e*S **S** **23 02 04.0 +5.0**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS Yuzh-Sakhalins 74.53 316 *e*P P 22 52 19.7 -3.6
comp=Z,458nm,1.2s
YSS LR LR
comp=Z,38µm,21.0s
GMM Mts of Mourne 74.58 35 *e*P **P** **22 52 25.6 +2.1**
MOR8 Moi Rana 74.59 19 *e*P **P** **22 52 24.2 +1.0**
KEV Kevo 74.63 13 *e*P **P** **22 52 23.4 0.0**
KEV pmax pmax
comp=Z,99nm,1.1s
KEV Kevo 74.63 13 *e*p **P** **22 52 23.4 0.0**
comp=Z,99nm,1.1s
KEV Kevo 74.63 13 *e*P **P** **22 52 21.6 -1.8**
comp=Z,163nm,1.0s
KEV LR LR
comp=Z,243µm,19.0s
DRUM Mains of Drumt 74.66 32 *e*P **P** **22 52 27.0 +3.1**
DRUM AMB AMB 22 52 30.0
comp=Z,300nm,1.8s
DRUM AMS AMS 23 33 05.8
comp=Z,206µm,15.0s
FOO Floro 74.79 25 *e*P **P** **22 52 27.4 +2.9**
GAL1 Galloway 74.83 34 AMS AMS 23 25 29.4
comp=Z,136µm,16.3s
DSB Dublin 74.93 36 *e*P P 22 52 22.0 -3.4
comp=Z,288nm,1.6s
MOL Molde 75.02 24 *e*P **P** **22 52 27.0 +1.2**
SUE Sulen 75.04 26 *e*P **P** **22 52 28.3 +2.4**
NSS Namsos 75.07 21 *e*P P 22 52 29.8 +3.7
NSS IVMs_BB IVMs_BB 23 29 56.1
comp=Z,74µm,14.6s
EBL Broad Law 75.08 33 *e*P **P** **22 52 28.8 +2.5**
AKN Aaknes 75.10 24 *e*P **P** **22 52 27.2 +0.9**
ESY Stoneypath 75.19 33 *e*P P 22 52 31.9 +4.9
GCD Castle Douglas 75.19 34 *e*P **P** **22 52 27.8 +0.8**
ESK Eskdalemuir 75.27 33 *e*P **P** **22 52 25.5 -1.9**
ESK pmax pmax
comp=Z,544nm,1.7s
ESK MLR MLR
comp=Z,142µm,19.0s
ESK Eskdalemuir 75.27 33 *e*P **P** **22 52 30.5 +3.0**
ESK AMB AMB 22 52 32.5
comp=Z,228nm,1.9s
ESK AMS AMS 23 29 26.2
comp=Z,158µm,14.5s
ESK Eskdalemuir 75.27 33 *e*P **P** **22 52 25.5 -1.9**
comp=Z,544nm,1.7s
ESK LR LR
comp=Z,142µm,19.0s
EKA Eskdalemuir Ar 75.28 33 LR LR 23 23 52.3
comp=Z,89µm,19.1s,baz=320,slow=34
ECK Cauldkaine Hil 75.39 33 *e*P **P** **22 52 31.2 +3.1**
TBLU Trondheim 75.45 22 *e*P **P** **22 52 31.1 +2.8**
TBLU IAMs_20 IAMs_20 23 27 25.4
comp=Z,222µm,20.6s
TBLU IVMs_BB IVMs_BB 23 27 40.2
comp=Z,74µm,16.9s
HYA Hoyanger 75.49 25 *e*P **P** **22 52 29.9 +1.3**
ASK Askoy 75.58 26 *e*P P 22 52 32.4 +3.3
BER Bergen 75.69 26 *e*P **P** **22 52 32.0 +2.3**
KESW Keswick, Cumbr 75.75 34 AMS AMS 23 20 34.2
comp=Z,129µm,26.5s
YRC Rhoscolyn 75.82 35 *e*P P 22 52 34.3 +3.7
WME Myndd Eilian 75.87 35 *e*P P 22 52 34.6 +3.8
WLF1 Llynfaes 75.89 35 *e*P **P** **22 52 32.3 +1.4**
WLF1 AMB AMB 22 52 36.1
comp=Z,183nm,1.7s
XAL Allendale 76.00 33 *e*P P 22 52 36.7 +5.0
YRE Yr Eifi 76.05 36 *e*P **P** **22 52 32.7 +0.8**
ASAJ Asahikawa 76.09 313 *e*P **P** **22 52 29.4 -3.0**
comp=Z,72nm,1.0s
ASAJ *e*PP PP 22 55 17.2 -5.4
ASAJ *e*S SKiKP 23 02 01.7 +9.1
WPM1 Penmaenmawr 76.14 35 *e*P **P** **22 52 35.1 +2.7**
KMY Karmoy 76.44 27 *e*P P 22 52 38.6 +4.6
ODD1 Odda 76.49 26 *e*P **P** **22 52 37.2 +2.8**
ODD1 IVMs_BB IVMs_BB 23 29 42.9
comp=Z,114µm,13.8s
FOEL Foel Wylfa 76.70 35 *e*P **P** **22 52 38.5 +2.8**
FOEL AMB AMB 22 52 40.9
comp=Z,212nm,1.5s
FOEL AMS AMS 23 30 45.2
comp=Z,141µm,15.6s
LPW Lampeter 76.73 36 *e*P **P** **22 52 37.8 +2.0**
LPW AMB AMB 22 52 40.6
comp=Z,217nm,2.6s
BLS5 Blasjo 76.76 27 *e*P P 22 52 41.7 +5.8
HPK Haverah Park 76.82 34 *e*P **P** **22 52 39.2 +2.9**
HPK AMB AMB 22 52 42.8
comp=Z,288nm,2.1s
HPK AMS AMS 23 32 30.8
comp=Z,150µm,16.7s
ERM Erimo 76.84 311 *c i*P P 22 52 40.4 +3.8
ERM pmax pmax
comp=Z,90nm,1.7s
ERM Erimo 76.84 311 *e*P **P** **22 52 34.9 -1.7**
comp=Z,399nm,1.4s
ERM LR LR
comp=Z,96µm,21.0s
LHO Holmfirth 76.96 34 *e*P **P** **22 52 40.2 +3.1**
STNC Stoke 77.07 35 *e*P P 22 52 41.2 +3.5
STNC AMB AMB 22 52 43.4
comp=Z,369nm,1.9s
HLM1 Long Mynd 77.08 35 AMS AMS 23 33 39.9
comp=Z,128µm,15.3s
HTL Hartland 77.17 37 AMS AMS 23 22 03.7
comp=Z,179µm,22.5s
CCA1 Carnmenellis 77.26 38 *e*P **P** **22 52 40.6 +1.8**
CCA1 AMB AMB 22 52 43.9
comp=Z,248nm,1.9s
CCA1 AMS AMS 23 34 42.6
comp=Z,153µm,15.7s
KBI1 Birley Grange 77.29 34 *e*P **P** **22 52 41.6 +2.7**
MCH1 Michaelchurch 77.33 36 *e*P **P** **22 52 41.5 +2.4**
MCH1 AMB AMB 22 52 44.3
comp=Z,227nm,2.2s
NB2 NORSAR Subarra 77.34 24 P **P** **22 52 40.7 +1.6**
comp=Z,737nm,1.7s,baz=319,slow=5.9
NB2 NORSAR Subarra 77.34 24 P **P** **22 52 40.7 +1.6**
baz=319,slow=5.9
NOA NORSAR Array B 77.34 24 P **P** **22 52 40.6 +1.6**
comp=Z,5.1nm,0.7s,baz=317,slow=5.7,SNR=31
NOA LR LR 23 28 02.7
comp=Z,78µm,18.1s,baz=320,slow=37
HEX Exmoor 77.48 37 *e*P **P** **22 52 41.0 +1.0**
MONM Monmouth 77.53 36 *e*P **P** **22 52 42.5 +2.3**
MONM AMB AMB 22 52 45.5
comp=Z,195nm,1.8s
CFAA Coronel Fontan 77.55 140 LR LR 23 22 00.7
comp=Z,14µm,19.5s,baz=16,slow=32
LVZ Lovozero 77.61 11 *ǁ i*P **P** **22 52 42.0 +1.5**
LVZ pmax pmax
comp=Z,565nm,1.7s
LVZ MLR MLR
comp=Z,260µm,21.0s
LVZ Lovozero 77.61 11 *e*P **P** **22 52 40.9 +0.4**
comp=Z,584nm,1.2s
LVZ LR LR
comp=Z,232µm,21.0s
NC602 NORSAR Array S 77.67 24 *e*P **P** **22 52 41.7 +0.8**
APA Apatity 77.70 12 *ǁ i*P **P** **22 52 43.0 +2.1**
APA *i* S S 23 02 40.0 +6.8
APA *i* PS **PnS** **23 03 08.0 -3.8**
APA pmax pmax
comp=Z,208nm,1.2s
APA MLR MLR
comp=Z,203µm,20.0s
LMK Market Rasen 77.74 34 *e*P **P** **22 52 44.4 +3.0**
LMK AMB AMB 22 52 48.1
comp=Z,580nm,1.7s
CLNS Chul'man 77.74 331 *e*P **P** **22 52 41.7 +0.3**
CLNS *e* 22 52 50.5
CLNS *e**PP **PcP** **22 52 55.6 +4.1**
CLNS *e* 22 55 32.9
CLNS *e*S **S** **23 02 35.8 +1.7**
CLNS *e* 23 03 36.3
CLNS *e*SS **SS** **23 07 38.1 +5.1**
CLNS pmax pmax
comp=E,23nm,1.5s
CLNS pmax pmax
comp=Z,47nm,1.6s
CLNS pmax pmax
comp=Z,22nm,1.1s
CLNS pmax pmax
comp=N,23nm,1.2s
CLNS pmax pmax
comp=E,39nm,1.1s
CLNS smax smax
comp=E,5µm,10.4s
CLNS smax smax
comp=N,6µm,10.4s
CLNS MLR MLR
comp=E,97µm,16.0s
KONO Kongsberg 77.77 25 *e*P **P** **22 52 38.6 -2.8**
KONO pmax pmax
comp=Z,945nm,1.7s
KONO MLR MLR
comp=Z,190µm,22.0s
KONO Kongsberg 77.77 25 *e*P P 22 52 45.5 +4.1
KONO IVMs_BB IVMs_BB 23 22 50.9
comp=Z,57µm,22.5s
KONO Kongsberg 77.77 25 *e*P **P** **22 52 38.6 -2.8**
comp=Z,945nm,1.7s
KONO LR LR
comp=Z,190µm,22.0s
SNART Snartemo 77.78 27 *e*P P 22 52 44.8 +3.3
DYA Yadsworthy 77.79 38 *e*P **P** **22 52 44.4 +2.7**
DYA AMB AMB 22 52 46.9
comp=Z,242nm,1.5s
DYA AMS AMS 23 24 58.9
comp=Z,199µm,16.2s
STRD Stroud 77.88 36 *e*P **P** **22 52 44.9 +2.6**
STRD AMB AMB 22 52 48.5
comp=Z,495nm,1.9s
OSL Oslo 77.96 25 *e*P P 22 52 46.0 +3.5
BATH Bath 78.00 36 *e*P **P** **22 52 45.4 +2.5**
BATH AMB AMB 22 52 48.4
comp=Z,316nm,1.5s
HABR Khabarovsk 78.07 320 *ce*P **P** **22 52 44.3 +1.0**
HABR *e**PP **pP** **22 52 47.8 +2.8**
HABR *e**SP **sP** **22 52 49.2 +3.5**
HABR *e* 22 52 53.8
HABR 22 55 40.6
HABR *e*PPP PPP 22 57 28.5
HABR *e*S **S** **23 02 39.5 +1.7**
HABR *e* 23 03 04.3
HABR *e*SS **SS** **23 07 42.0 +3.9**
HABR pmax pmax
comp=Z,2µm,3.6s
HABR MLR MLR
comp=E,75µm,19.0s
HABR MLR MLR
comp=Z,53µm,19.0s
HABR MLR MLR
comp=N,42µm,20.0s
HOMB Homborsund 78.33 27 *e*P **P** **22 52 46.7 +2.2**
HOMB IVMs_BB IVMs_BB 23 26 29.6
comp=Z,81µm,16.0s
WOL Wolverton 78.63 36 *e*P **P** **22 52 48.7 +2.3**
WOL AMB AMB 22 52 52.6
comp=Z,386nm,1.9s
HFS Hagfors 78.84 23 LR LR 23 29 32.8
comp=Z,130µm,20.7s,baz=320,slow=37
KLR Kul'dur 79.37 322 *e*P **P** **22 52 47.4 -3.1**
KLR *e*S S 23 03 04.8 +13
KLR pmax pmax
comp=E,160nm,2.4s
KLR pmax pmax
comp=Z,450nm,2.4s
ROSF Rostrenen 79.39 39 *e*P **P** **22 52 49.9 -0.7**
comp=Z,702nm,1.7s
ROSF Rostrenen 79.39 39 *e*P **P** **22 52 49.9 -0.7**
ROSF pmax pmax
comp=Z,702nm,1.7s
ROSF Rostrenen 79.39 39 *e*P **P** **22 52 49.9 -0.7**
comp=Z,702nm,1.7s
JSA Saint Aubin 79.45 38 AMS AMS 23 25 34.2
comp=Z,152µm,16.4s
PMAR Madeira 79.50 58 *e*P P 22 52 58.3 +6.5
comp=Z,1µm,1.3s
FUL Funchal 79.56 58 *e*P P 22 52 58.2 +6.4
comp=Z,768nm,1.5s
HMNX Herstmonceux 79.68 36 *e*P P 22 52 57.1 +5.0
HMNX AMS AMS 23 35 30.5
comp=Z,201µm,17.7s
QUIF Quistinic 79.70 39 *e*P **P** **22 52 51.7 -0.6**
comp=Z,806nm,1.4s
QUIF Quistinic 79.70 39 *e*P **P** **22 52 51.7 -0.6**
QUIF pmax pmax

comp=Z,806nm,1.4s
QUIF Quistinic 79.70 39 *e*P **P 22 52 51.7 -0.6**
comp=Z,806nm,1.4s
SGMF Saint Gilles 79.82 39 *e*P **P 22 52 52.2 -0.8**
comp=Z,467nm,1.5s
SGMF Saint Gilles 79.82 39 *e*P **P 22 52 52.2 -0.8**
SGMF pmax pmax
comp=Z,467nm,1.5s
SGMF Saint Gilles 79.82 39 *e*P **P 22 52 52.2 -0.8**
comp=Z,467nm,1.5s
MUD Monsted U'grnd 79.86 28 *i* P P 22 52 57.6 +4.6
MUD pmax pmax
comp=Z,98nm,0.9s
MUD MLR MLR
comp=Z,140µm,23.0s
MUD Monsted U'grnd 79.86 28 *i* P P 22 52 57.6 +4.6
comp=Z,98nm,0.8s
comp=Z,139µm,23.0s
ELSH Elham, Standar 79.89 35 *e*P P 22 52 56.5 +3.2
ELSH AMB AMB 22 52 59.8
comp=Z,386nm,2.1s
ELSH AMS AMS 23 32 51.9
comp=Z,106µm,14.8s
BDFB Brasilia 80.03 116 P **P 22 52 55.8 +1.1**
comp=Z,53nm,1.2s,baz=302,slow=8.2,SNR=27
BDFB LR LR 23 34 19.3
comp=Z,101µm,19.1s,baz=303,slow=40
PGAV Gavieira, Arco 80.25 46 *e*P P 22 52 59.3 +3.8
comp=Z,347nm,1.9s
PGAV Gavieira, Arco 80.25 46 *e*S S 23 03 34.0 +32
PGAV Gavieira, Arco 80.25 46 *e*LQ LQ 23 13 54.2
PGAV *e*LR LR 23 20 40.9
comp=Z,119µm,20.0s
PTO Porto 80.51 47 *e*P P 22 53 00.2 +3.4
comp=Z,693nm,1.8s
PCAB Cabril 80.54 46 *e*P **P 22 52 59.9 +2.8**
comp=Z,763nm,1.9s
FLN La Foliniere 80.59 38 *e*P **P 22 52 56.8 -0.3**
FLN *e*R
comp=Z,235µm,21.0s
FLN La Foliniere 80.59 38 *e*P **P 22 52 56.8 -0.3**
FLN La Foliniere 80.59 38 *e*P **P 22 52 56.8 -0.3**
GRR Gorron 80.63 38 *e*P **P 22 52 57.1 -0.2**
comp=Z,661nm,1.5s
GRR Gorron 80.63 38 *e*P **P 22 52 57.1 -0.2**
GRR pmax pmax
comp=Z,661nm,1.5s
GRR Gorron 80.63 38 *e*P **P 22 52 57.1 -0.2**
comp=Z,661nm,1.5s
MSVF Nonsavu 80.87 242 *e*P P 22 52 55.1 -4.0
MSVF pmax pmax
comp=Z,289nm,1.5s
MSVF MLR MLR
comp=Z,63µm,20.0s
MSVF Nonsavu 80.87 242 *e*P P 22 52 55.1 -4.0
comp=Z,290nm,1.5s
MSVF LR LR
comp=Z,63µm,20.0s
POLO Lamas de Olo 80.88 47 *e*P **P 22 53 02.0 +3.1**
comp=Z,424nm,1.9s
LDF La Druitiere 80.88 37 *e*P **P 22 52 58.3 -0.4**
LDF La Druitiere 80.88 37 *e*P **P 22 52 58.3 -0.4**
LDF La Druitiere 80.88 37 *e*P **P 22 52 58.3 -0.4**
KAF Kangasniemi 80.97 17 *e*P **P 22 53 00.1 +1.2**
KAF pmax pmax
comp=Z,187nm,0.9s
KAF Kangasniemi 80.97 17 *e*p **P 22 53 00.1 +1.2**
comp=Z,187nm,0.9s,baz=325,slow=5.3
PVRL Vila Real 80.98 47 *e*P **P 22 53 00.2 +0.8**
comp=Z,586nm,1.7s
BOD Bodaibo 81.19 336 *e*P **P 22 52 59.4 -0.7**
BOD pmax pmax
comp=Z,181nm,1.9s
PVIS Viseu 81.19 47 *e*P **P 22 53 01.3 +0.7**
comp=Z,792nm,1.6s
PCAS Casmilo, Conde 81.19 48 *e*P **P 22 53 03.0 +2.5**
comp=Z,506nm,1.7s
PBRG Braganca 81.27 46 *e*P **P 22 53 03.9 +2.9**
comp=Z,406nm,1.8s
PMAFR Mafra 81.32 49 *e*P P 22 53 05.0 +3.8
comp=Z,735nm,1.5s
JOF Joensuu 81.44 15 *e*P **P 22 53 03.1 +1.8**
JOF pmax pmax
comp=Z,151nm,1.1s
JOF Joensuu 81.44 15 *e*p **P 22 53 03.1 +1.8**
comp=Z,150nm,1.1s
MVO Moncorvo 81.47 46 *e*P P 22 53 06.0 +3.9
comp=Z,597nm,1.7s
MVO Moncorvo 81.47 46 *e*S S 23 03 42.5 +28
MVO Moncorvo 81.47 46 *e*LQ LQ 23 14 30.5
MVO *e*LR LR 23 20 20.2
comp=Z,114µm,20.0s
FINES FINESS Array B 81.48 18 P **P 22 53 02.8 +1.2**
comp=Z,60nm,0.7s,baz=347,slow=3.0,SNR=92
FINES LR LR 23 31 54.3
comp=Z,158µm,18.4s,baz=330,slow=38
PTOM Tomar 81.50 48 *e*P **P 22 53 03.7 +1.6**
comp=Z,743nm,1.5s
PMST Lisbon--Monsan 81.51 49 *e*P **P 22 53 04.2 +2.0**
comp=Z,986nm,1.6s
LIS Lisbon 81.54 49 *e*P **P 22 53 04.3 +1.9**
LIS *e*S **S 23 03 15.8 +0.9**
LIS AMS AMS 23 23 20.9
comp=N,262µm,18.8s
LIS Lisbon 81.54 49 *e*P P 22 53 06.8 +4.4
comp=N,952nm,1.7s
LIS Lisbon 81.54 49 *e*P **P 22 53 04.2 +1.9**
LIS *e*S **S 23 03 15.7 +0.9**
MTE Manteigas 81.59 47 *e*P P 22 53 06.1 +3.4
comp=N,565nm,1.6s
MTE Manteigas 81.59 47 *e*S S 23 03 42.6 +27
MTE Manteigas 81.59 47 *e*LQ LQ 23 14 17.0
MTE *e*LR LR 23 20 13.7
comp=N,76µm,22.0s
MTE Manteigas 81.59 47 *e*P P 22 52 58.9 -3.8
comp=N,648nm,1.6s
MTE LR LR
comp=Z,110µm,19.0s
TMCR Tamitsa 81.60 11 *e*P **P 22 53 03.6 +1.5**
TMCR *e* 22 56 12.5
TMCR *e*S **S 23 03 19.8 +5.3**
TMCR pmax pmax
comp=Z,33nm,0.8s
UCC Uccle 81.66 34 P P 22 53 07.9 +5.2
COP Copenhagen 81.68 27 *i* P P 22 53 07.8 +5.1
COP pmax pmax
comp=Z,33nm,1.0s
COP MLR MLR
comp=Z,82µm,19.0s
COP Copenhagen 81.68 27 *i* P P 22 53 07.8 +5.1
comp=Z,33nm,1.0s
comp=Z,82µm,19.0s
PACT Alcochete 81.71 49 *e*P **P 22 53 04.8 +1.5**
comp=Z,766nm,1.6s
SNF Seneffe 81.82 34 P **P 22 53 04.0 +0.4**
LLD Lille Linde 81.86 27 *e*P **P 22 53 06.4 +2.7**
LLD Lille Linde 81.86 27 *i* P **P 22 53 06.4 +2.7**
PCBR Castelo Branco 81.96 48 *e*P P 22 53 08.0 +3.4
comp=Z,277nm,1.8s
WTSB Winterswijk 81.99 32 *e*P **P 22 53 06.4 +1.9**
comp=Z,875nm,1.7s
WTSB Winterswijk 81.99 32 *e*S S 23 03 42.0 +23
BAIF Baives 82.08 35 *e*P **P 22 53 04.9 -0.1**
comp=Z,513nm,1.6s
BAIF Baives 82.08 35 *e*P **P 22 53 04.9 -0.1**
BAIF pmax pmax
comp=Z,513nm,1.6s
BAIF Baives 82.08 35 *e*P **P 22 53 04.9 -0.1**
comp=Z,513nm,1.6s
BSEG Bad Segeberg 82.12 29 *e*P **P 22 53 07.0 +1.9**
comp=Z,1µm,2.0s
MFF Saint Martin d 82.13 39 *e*P **P 22 53 04.9 -0.4**
comp=Z,430nm,1.2s
MFF Saint Martin d 82.13 39 *e*P **P 22 53 04.9 -0.4**
MFF pmax pmax
comp=Z,430nm,1.2s
MFF Saint Martin d 82.13 39 *e*P **P 22 53 04.9 -0.4**
comp=Z,430nm,1.2s
IBBN Ibbenburen 82.18 31 *e*P **P 22 53 07.1 +1.6**
comp=Z,1µm,1.7s
DOU Dourbes 82.25 34 P **P 22 53 07.3 +1.4**
comp=Z,153nm,2.5s
PMRV Marv??o 82.25 48 *e*P **P 22 53 09.3 +3.2**
comp=Z,389nm,2.1s
PMRV Marv??o 82.25 48 *e*S S 23 03 40.4 +18
PMRV Marv??o 82.25 48 *e*LQ LQ 23 14 40.0
PMRV *e*LR LR 23 20 15.6
comp=Z,140µm,22.0s
BEBN Eben Emael 82.28 33 P **P 22 53 07.9 +1.9**
comp=Z,101nm,2.3s
PNCL Nicolau / Gran 82.28 50 *e*P P 22 53 09.9 +3.6
comp=Z,597nm,1.9s
EVOP Sao Brissos 82.31 49 *e*P **P 22 53 06.7 +0.3**
comp=Z,517nm,1.2s
USRK Ussuriysk Ar. 82.32 318 P **P 22 53 06.5 +0.2**
comp=Z,14nm,0.8s,baz=40,slow=6.2,SNR=22
GIVF Givet 82.35 34 *e*P **P 22 53 06.3 -0.1**
GIVF Givet 82.35 34 *e*P **P 22 53 06.3 -0.1**
GIVF Givet 82.35 34 *e*P **P 22 53 06.3 -0.1**
BCLA Clavier 82.36 34 P **P 22 53 07.9 +1.4**
comp=Z,175nm,2.0s
EVO Evora 82.38 49 *e*P **P 22 53 06.7 -0.1**
comp=Z,517nm,1.2s
EVO *e*R
comp=Z,180µm,19.8s
EVO Evora 82.38 49 *e*P P 22 53 10.6 +3.8
comp=Z,477nm,1.9s
HGN Heimansgroeve 82.42 33 *e*P **P 22 53 08.9 +2.2**
comp=Z,1µm,2.0s
HGN Heimansgroeve 82.42 33 *e*S S 23 03 42.9 +19
HGN *e*SS **SS 23 08 37.9 -5.1**
PESTR Estremoz 82.45 49 *e*P **P 22 53 10.3 +3.1**
comp=Z,393nm,2.0s
PTEO Sao Teotonio 82.48 50 *e*P **P 22 53 08.9 +1.6**
comp=Z,779nm,1.9s
MEM Mebach 82.56 33 P **P 22 53 08.2 +0.7**
comp=Z,208nm,2.0s
BUG Bochum--Univer 82.57 32 *e*P **P 22 53 08.7 +1.2**
BUG *e*S S 23 03 32.8 +7.9
MESJ Messejana 82.64 50 *e*P **P 22 53 09.9 +1.7**
MESJ *e*S **S 23 03 27.3 +1.1**
MESJ AMS AMS 23 23 01.6
comp=N,245µm,25.4s
MESJ Messejana 82.64 50 *e*P P 22 53 12.1 +3.9
comp=N,466nm,1.9s
MESJ Messejana 82.64 50 *e*P **P 22 53 09.9 +1.7**
MESJ *e*S **S 23 03 27.3 +1.1**
PFVI Vila Bisbo 82.65 51 *e*P P 22 53 12.1 +3.9
comp=N,976nm,1.8s
MORF Marmelete 82.67 50 *e*P **P 22 53 09.9 +1.4**
MORF *e*S **S 23 03 28.3 +1.7**
MORF AMS AMS 23 23 09.7
comp=N,260µm,20.6s
MORF Marmelete 82.67 50 *e*P P 22 53 11.7 +3.3
comp=N,686nm,1.9s
MORF Marmelete 82.67 50 *e*P **P 22 53 09.8 +1.4**
MORF *e*S **S 23 03 28.3 +1.7**
PCVE Castro Verde 82.88 50 *e*P **P 22 53 11.4 +2.0**
comp=N,272nm,1.9s
VLA Vladivostok 83.05 317⇑ *i*P **P 22 53 12.3 +2.2**
VLA *i* 22 53 14.9
VLA *i* S **S 23 03 34.8 +4.7**
VLA pmax pmax
comp=Z,55nm,0.9s
BSD Bornholm Skovb 83.05 26⇑ *i*P **P 22 53 12.2 +2.3**
BSD pmax pmax
comp=Z,39nm,1.3s
BSD MLR MLR
comp=Z,130µm,20.0s
BSD Bornholm Skovb 83.05 26⇑ *i*P **P 22 53 12.2 +2.3**
comp=Z,39nm,1.3s
comp=Z,126µm,19.0s
MJAR Matsushiro Arr 83.05 309 P **P 22 53 10.5 +0.2**
comp=Z,10nm,0.8s,baz=49,slow=3.9,SNR=17
MJAR LR LR 23 23 29.7
comp=Z,103µm,21.7s,baz=70,slow=31
MAJO Matsushiro 83.05 309 *e*P P 22 53 07.2 -3.2
MAJO pmax pmax
comp=Z,1µm,1.9s
MAJO MLR MLR
comp=Z,117µm,21.0s
MAJO Matsushiro 83.05 309 *e*P P 22 53 07.2 -3.2
comp=Z,1µm,1.9s
MAJO LR LR
comp=Z,117µm,21.0s
MAT Matsushiro 83.05 309 P **P 22 53 10.0 -0.4**
NRDL Niedersach Rie 83.07 30 *e*P **P 22 53 11.7 +1.7**
comp=Z,885nm,1.4s
HYF Humbligny 83.16 37 *e*P **P 22 53 10.5 -0.2**
HYF Humbligny 83.16 37 *e*P **P 22 53 10.5 -0.2**
PBDV Barranco-do-Ve 83.17 50 *e*P P 22 53 15.3 +4.3
comp=Z,892nm,2.0s
PBAR Barrancos 83.20 49 *e*P **P 22 53 13.3 +2.2**
comp=Z,1µm,1.8s
PVAQ Vaqueiros 83.22 50 *e*P P 22 53 14.7 +3.5
comp=Z,656nm,2.0s
PVAQ Vaqueiros 83.22 50 *e*S S 23 03 50.5 +18
PVAQ Vaqueiros 83.22 50 *e*LQ LQ 23 15 06.0
PVAQ *e*LR LR 23 21 01.0
comp=Z,137µm,22.0s
WLF Walferdange 83.28 34 P **P 22 53 12.9 +1.6**
comp=Z,416nm,1.8s
WLF Walferdange 83.28 34 *e*P **P 22 53 08.5 -2.8**
WLF pmax pmax
comp=Z,817nm,1.5s
WLF MLR MLR
comp=Z,191µm,19.0s
WLF Walferdange 83.28 34 *e*P **P 22 53 12.8 +1.6**
comp=Z,822nm,1.5s
WLF Walferdange 83.28 34 *e*P **P 22 53 08.5 -2.8**
comp=Z,817nm,1.5s
WLF LR LR
comp=Z,191µm,19.0s
MDJ Mudanjiang 83.40 319 P **P 22 53 12.5 +0.5**
MDJ pP **PcP 22 53 15.3 -1.1**
MDJ PMZ
comp=Z,28nm,1.3s
MDJ PMZ
comp=Z,2µm,7.3s
MDJ LN
comp=Z,28µm,29.6s
MDJ LE
comp=Z,61µm,29.6s
MDJ LZ
comp=Z,75µm,23.5s
MDJ Mudanjiang 83.40 319 *e*P **P 22 53 09.5 -2.5**
comp=Z,263nm,1.6s
MDJ *e*S **S 23 03 36.6 +2.9**
MDJ LR LR
comp=Z,79µm,22.0s
SACV Santiago Islan 83.52 76 PFAKE 22 53 20.0 +6.9
SACV LR LR
comp=Z,100µm,21.0s
MEZF Maizieres J'vi 83.54 35 *e*P **P 22 53 12.4 -0.2**
comp=Z,2µm,1.8s
MEZF Maizieres J'vi 83.54 35 *e*P **P 22 53 12.4 -0.2**
comp=Z,2µm,1.8s
PLCA Paso Flores 83.57 147 *e*P P 22 53 09.0 -3.7
PLCA pmax pmax
comp=Z,307nm,2.5s
PLCA Paso Flores 83.57 147 P **P 22 53 13.9 +1.2**
comp=Z,53nm,1.1s,baz=327,slow=6.1,SNR=31
PLCA LR LR 23 23 50.7
comp=Z,143µm,19.2s,baz=335,slow=31
PLCA Paso Flores 83.57 147 *e*P P 22 53 09.0 -3.7
comp=Z,307nm,2.5s
TCF Toulx Ste Croi 83.58 38 *e*P **P 22 53 12.4 -0.5**
comp=Z,1µm,1.6s
TCF Toulx Ste Croi 83.58 38 *e*P **P 22 53 12.4 -0.5**
TCF pmax pmax
comp=Z,1µm,1.6s
TCF Toulx Ste Croi 83.58 38 *e*P **P 22 53 12.4 -0.5**
comp=Z,1µm,1.6s
CLZ Clausthal 83.65 30 *e*P **P 22 53 14.9 +1.7**
comp=Z,2µm,1.9s
LFF La Frestale 83.66 40 *e*P **P 22 53 13.2 -0.1**
comp=Z,2µm,1.8s
LFF La Frestale 83.66 40 *e*P **P 22 53 13.2 -0.1**
LFF pmax pmax
comp=Z,2µm,1.8s
LFF La Frestale 83.66 40 *e*P **P 22 53 13.2 -0.1**
comp=Z,2µm,1.8s
SJPF Ste Jean 83.73 42 *e*P **P 22 53 13.6 -0.1**
comp=Z,954nm,1.9s
SJPF Ste Jean 83.73 42 *e*P **P 22 53 13.6 -0.1**
SJPF pmax pmax
comp=Z,954nm,1.9s
SJPF Ste Jean 83.73 42 *e*P **P 22 53 13.6 -0.1**
comp=Z,954nm,1.9s
BGF Bois d'Agland 83.73 38 *e*P **P 22 53 13.2 -0.5**
comp=Z,474nm,1.0s
BGF Bois d'Agland 83.73 38 *e*P **P 22 53 13.2 -0.5**
BGF pmax pmax
comp=Z,474nm,1.0s
BGF Bois d'Agland 83.73 38 *e*P **P 22 53 13.2 -0.5**
comp=Z,474nm,1.0s
SSF Saint Saulge 83.73 37 *e*P **P 22 53 13.4 -0.3**
comp=Z,2µm,1.7s
SSF Saint Saulge 83.73 37 *e*P **P 22 53 13.4 -0.3**
SSF pmax pmax
comp=Z,2µm,1.7s
SSF Saint Saulge 83.73 37 *e*P **P 22 53 13.4 -0.3**
comp=Z,2µm,1.7s
SFTF Sexfontaines 83.74 36 *e*P **P 22 53 13.3 -0.4**
comp=Z,2µm,1.7s
SFTF Sexfontaines 83.74 36 *e*P **P 22 53 13.3 -0.4**
comp=Z,2µm,1.7s
LOR Lormes 83.78 37 *e*P **P 22 53 13.7 -0.2**
comp=Z,2µm,1.6s
LOR *e*R
comp=Z,250µm,19.0s
LOR Lormes 83.78 37 *e*P **P 22 53 13.7 -0.2**
LOR pmax pmax
comp=Z,2µm,1.6s
LOR Lormes 83.78 37 *e*P **P 22 53 13.7 -0.2**
comp=Z,2µm,1.6s
PAGF Fort de Pagny 83.83 35 *e*P **P 22 53 14.2 +0.1**
comp=Z,683nm,1.7s
PAGF Fort de Pagny 83.83 35 *e*P **P 22 53 14.2 +0.1**
comp=Z,683nm,1.7s
AVF Avril sur Loir 83.84 37 *e*P **P 22 53 13.5 -0.7**
comp=Z,2µm,1.7s
AVF Avril sur Loir 83.84 37 *e*P **P 22 53 13.5 -0.7**
AVF pmax pmax
comp=Z,2µm,1.7s
AVF Avril sur Loir 83.84 37 *e*P **P 22 53 13.5 -0.7**
comp=Z,2µm,1.7s
RJF Les Rejaudoux 83.85 39 *e*P **P 22 53 13.9 -0.4**
comp=Z,2µm,1.7s
RJF *e*R
comp=Z,194µm,20.2s
RJF Les Rejaudoux 83.85 39 *e*P **P 22 53 13.9 -0.4**
RJF pmax pmax
comp=Z,2µm,1.7s
RJF Les Rejaudoux 83.85 39 *e*P **P 22 53 13.9 -0.4**
comp=Z,2µm,1.7s
PUL Pulkovo 83.99 17 *e*P **P 22 53 16.1 +1.5**
PUL pmax pmax
comp=Z,780nm,1.8s
PAB San Pablo 84.08 47 *e*P **P 22 53 13.2 -2.5**
PAB *e*S S 23 03 27.7 -13
PAB pmax pmax
comp=Z,595nm,1.6s
PAB MLR MLR
comp=Z,148µm,19.0s
PAB San Pablo 84.08 47 *e*P **P 22 53 13.2 -2.5**
comp=Z,595nm,1.6s
PAB *e*S S 23 03 27.7 -13
PAB LR LR
comp=Z,148µm,19.0s
RCBR Riachuelo 84.15 101 *e*P P 22 53 12.5 -3.8
comp=Z,847nm,2.0s
RCBR LR LR
comp=Z,168µm,21.0s
SMF Signal de Mont 84.18 37 *e*P **P 22 53 15.3 -0.7**
comp=Z,1µm,1.6s
SMF Signal de Mont 84.18 37 *e*P **P 22 53 15.3 -0.7**
SMF pmax pmax
comp=Z,1µm,1.6s
SMF Signal de Mont 84.18 37 *e*P **P 22 53 15.3 -0.7**
comp=Z,1µm,1.6s
SMF *i* 00 17 40.0
UBBA Unterbreizbach 84.23 31 *e*P **P 22 53 17.4 +1.5**
comp=Z,914nm,1.8s
ESDC Sonseca Array 84.23 46 P **P 22 53 17.1 +0.6**
comp=Z,32nm,0.9s,baz=306,slow=5.0,SNR=34
ESDC LR LR 23 26 21.9
comp=Z,86µm,22.0s,baz=330,slow=33
ETSF Etsaut 84.24 42 *e*P **P 22 53 16.6 +0.2**
comp=Z,687nm,1.5s
ETSF Etsaut 84.24 42 *e*P **P 22 53 16.6 +0.2**
ETSF pmax pmax
comp=Z,687nm,1.5s
ETSF Etsaut 84.24 42 *e*P **P 22 53 16.6 +0.2**
comp=Z,687nm,1.5s
CAF Calviac 84.39 39 *e*P **P 22 53 16.5 -0.6**
comp=Z,952nm,1.5s
CAF Calviac 84.39 39 *e*P **P 22 53 16.5 -0.6**
CAF pmax pmax
comp=Z,952nm,1.5s
CAF Calviac 84.39 39 *e*P **P 22 53 16.5 -0.6**
comp=Z,952nm,1.5s
HAU Haudompre 84.51 35 *e*P **P 22 53 17.3 -0.3**
comp=Z,2µm,1.6s
HAU *e*R
comp=Z,268µm,18.8s
HAU Haudompre 84.51 35 *e*P **P 22 53 17.3 -0.3**
HAU pmax pmax
comp=Z,2µm,1.6s
HAU Haudompre 84.51 35 *e*P **P 22 53 17.3 -0.3**
comp=Z,2µm,1.6s
RUE Ruedersdorf 84.60 28 *e*P **P 22 53 15.2 -2.7**
comp=Z,401nm,1.4s
EPF Esparros 84.67 42 *e*P **P 22 53 18.2 -0.4**
comp=Z,1µm,1.8s
EPF Esparros 84.67 42 *e*P **P 22 53 18.2 -0.4**
EPF pmax pmax
comp=Z,1µm,1.8s
EPF Esparros 84.67 42 *e*P **P 22 53 18.2 -0.4**
comp=Z,1µm,1.8s
CDF Champ du Feu 84.68 34 *e*P **P 22 53 18.1 -0.5**
comp=Z,1µm,1.6s
CDF Champ du Feu 84.68 34 *e*P **P 22 53 18.1 -0.5**
CDF pmax pmax
comp=Z,1µm,1.6s
CDF Champ du Feu 84.68 34 *e*P **P 22 53 18.1 -0.5**
comp=Z,1µm,1.6s
ECH Echery 84.76 35 *e*P **P 22 53 16.5 -2.4**
ECH pmax pmax
comp=Z,263nm,1.5s
ECH MLR MLR
comp=Z,205µm,20.0s
ECH Echery 84.76 35 *e*P **P 22 53 16.5 -2.4**
comp=Z,263nm,1.5s
ECH LR LR
comp=Z,205µm,20.0s
HINF Hinteralfeld 84.89 35 *e*P **P 22 53 19.0 -0.6**
comp=Z,1µm,1.7s
HINF Hinteralfeld 84.89 35 *e*P **P 22 53 19.0 -0.6**
HINF pmax pmax
comp=Z,1µm,1.7s
HINF Hinteralfeld 84.89 35 *e*P **P 22 53 19.0 -0.6**
comp=Z,1µm,1.7s
MOX Moxa 85.06 31 *e*P **P 22 53 21.6 +1.3**
comp=Z,577nm,2.0s
MOX *e*S S 23 03 57.9 +7.8
PRGR Permogore 85.14 9⇓ *i*P **P 22 53 21.9 +1.4**
PRGR *e*PP **PcP 22 53 25.2 +1.5**
PRGR *e*S **S 23 03 53.4 +3.0**
PRGR pmax pmax
comp=Z,909nm,2.0s
CLL Collm 85.16 30 *e*P **P 22 53 22.0 +1.2**
CLL pmax pmax
comp=Z,296nm,1.6s
CLL MLR MLR
comp=Z,124µm,19.5s
CLL Collm 85.16 30 *e*P **P 22 53 21.7 +0.9**
comp=Z,309nm,1.6s
CLL Collm 85.16 30 *e*P **P 22 53 22.0 +1.2**
CLL *i* Pmax 22 53 25.0
comp=Z,296nm,1.6s
CLL *e*Pmax 22 53 26.0
CLL *i* 22 53 43.2
CLL *e*S S 23 04 10.0 +19
comp=N,48µm,28.2s
CLL *e*S S 23 04 10.0 +19
comp=E,55µm,26.4s
CLL *e*PPS PPS 23 05 14.0
CLL *e*SS SS 23 09 42.0 +19
CLL *e*SSS SSS 23 12 54.0
CLL LV 23 37 00.0
comp=Z,124µm,19.5s
CLL Lmax 23 38 00.0
HIA Hailar 85.22 327 *d i*P **P 22 53 23.6 +2.4**
HIA pmax pmax
comp=Z,205nm,2.5s
HIA Hailar 85.22 327 *e*P **P 22 53 18.6 -2.6**
comp=Z,761nm,2.0s
HIA LR LR

comp=Z,165µm,19.0s
BFO Black Forest 85.24 34 *e*P **P 22 53 19.1 -2.2**
BFO pmax pmax
comp=Z,571nm,1.8s
BFO MLR MLR
comp=Z,127µm,19.0s
BFO Black Forest 85.24 34 *e*P **P 22 53 22.1 +0.8**
comp=Z,401nm,1.6s
BFO Black Forest 85.24 34 *e*P **P 22 53 19.1 -2.2**
comp=Z,571nm,1.8s
BFO LR LR
comp=Z,127µm,19.0s
RAO Raoul Island 85.31 231 PFAKE 22 53 30.0 +8.3
RAO LR LR
comp=Z,50µm,20.0s
STU Stuttgart 85.33 33 *e*P **P 22 53 19.3 -2.4**
STU *e*S S 23 03 40.5 -12
STU pmax pmax
comp=Z,469nm,1.6s
STU Stuttgart 85.33 33 *e*P **P 22 53 22.9 +1.2**
comp=Z,361nm,1.5s
STU Stuttgart 85.33 33 *e*P **P 22 53 19.3 -2.4**
comp=Z,469nm,1.6s
STU *e*S S 23 03 40.5 -12
GKP Gorka Klasztor 85.34 26 *e*P **P 22 53 23.5 +1.9**
GKP MLR MLR
comp=Z,230µm,24.6s
GKP Gorka Klasztor 85.34 26 *e*P **P 22 53 23.5 +1.9**
GKP *e*SKSac S 23 04 06.6 +14
GKP *e*S ScS 23 04 14.9 +12
GKP LMZ LR 23 27 16.1
CABF La Chapelle 85.34 36 *e*P **P 22 53 21.7 -0.2**
comp=Z,1µm,1.8s
CABF La Chapelle 85.34 36 *e*P **P 22 53 21.7 -0.2**
CABF pmax pmax
comp=Z,1µm,1.8s
CABF La Chapelle 85.34 36 *e*P **P 22 53 21.7 -0.2**
comp=Z,1µm,1.8s
SSB Saint Sauveur 85.46 38 *e*P **P 22 53 19.8 -2.7**
SSB pmax pmax
comp=Z,533nm,1.9s
SSB MLR MLR
comp=Z,165µm,20.0s
SSB Saint Sauveur 85.46 38 *e*P **P 22 53 19.8 -2.7**
comp=Z,533nm,1.9s
SSB LR LR
comp=Z,165µm,20.0s
MTLF Montolieu 85.51 40 *e*P **P 22 53 22.4 -0.3**
comp=Z,993nm,1.8s
MTLF Montolieu 85.51 40 *e*P **P 22 53 22.4 -0.3**
MTLF pmax pmax
comp=Z,993nm,1.8s
MTLF Montolieu 85.51 40 *e*P **P 22 53 22.4 -0.3**
comp=Z,993nm,1.8s
GRF Grafenberg Arr 85.58 32 *e*P **P 22 53 24.6 +1.6**
comp=Z,564nm,1.7s
GRF *e*S S 23 04 04.8 +9.4
GRF *e*L L 23 31 24.6
comp=Z,228µm,19.3s
GRFO Grafenberg 85.58 32 *e*P **P 22 53 21.5 -1.4**
GRFO *e*S **S 23 03 53.5 -1.8**
GRFO pmax pmax
comp=Z,348nm,1.5s
GRFO Grafenberg 85.58 32 *e*P **P 22 53 21.5 -1.4**
comp=Z,348nm,1.5s
GRFO *e*S **S 23 03 53.5 -1.8**
TANN Tannenbergstha 85.59 30 *e*P **P 22 53 24.2 +1.1**
comp=Z,297nm,1.7s
TRQA Tornquist 85.78 141 *e*P P 22 53 19.9 -4.0
comp=Z,510nm,1.8s
TRQA LR LR
comp=Z,195µm,20.0s
RTC Rabat Centre 85.79 52 PFAKE 22 53 40.0 +16
RTC LR LR
comp=Z,256µm,22.0s
CIT Chita 85.81 332 *e*P P 22 53 28.4 +4.3
CIT *e* 22 53 36.7
CIT *e* 22 56 47.0
VIVF Saint-Julien-l 85.82 38 *e*P **P 22 53 23.8 -0.5**
comp=Z,636nm,1.8s
VIVF Saint-Julien-l 85.82 38 *e*P **P 22 53 23.8 -0.5**
VIVF pmax pmax
comp=Z,636nm,1.8s
VIVF Saint-Julien-l 85.82 38 *e*P **P 22 53 23.8 -0.5**
comp=Z,636nm,1.8s
BRG Berggiesshubel 85.88 29 *i* P **P 22 53 25.3 +0.9**
comp=Z,7.7nm,0.9s
BRG *i* 22 53 29.2
comp=Z,194nm,1.5s
BRG *i* 22 53 56.7
comp=Z,98nm,1.1s
BRG SKS **S 23 03 56.0 -2.2**
BRG S **ScS 23 04 14.0 +6.5**
BRG SS SS 23 09 44.0 +10
BRG *e*PKPPKP **P'P'df 23 19 33.2 -4.6**
comp=Z,13nm,1.7s
comp=N,165µm,28.8s
comp=E,283µm,22.6s
comp=Z,192µm,23.4s
BRG Berggiesshubel 85.88 29 *i* P **P 22 53 25.3 +0.9**
BRG *i* 22 53 29.2
BRG 23 03 56.0
BRG MLR MLR
comp=E,283µm,22.6s
BRG MLR MLR
comp=Z,192µm,23.4s
BRG Berggiesshubel 85.88 29 *e*P **P 22 53 25.5 +1.1**
comp=Z,290nm,1.8s
LASF Ste Croix 85.91 39 *e*P **P 22 53 24.6 -0.1**
comp=Z,681nm,1.7s
LASF Ste Croix 85.91 39 *e*P **P 22 53 24.6 -0.1**
comp=Z,681nm,1.7s
ROTZ Rotzenmuhle 85.96 31 *e*P **P 22 53 26.3 +1.5**
comp=Z,229nm,1.8s
CN2 Changchun 86.19 321 P **P 22 53 28.9 +2.9**
CN2 *e*S **S 23 03 56.8 -4.6**
CN2 SS SS 23 09 47.9 +9.0
CN2 PMZ
comp=Z,60nm,1.3s
CN2 PMZ
comp=Z,1µm,5.0s
CN2 LN
comp=Z,50µm,19.0s
CN2 LE
comp=Z,55µm,19.0s
CN2 LZ
comp=Z,51µm,20.0s
PVCC Panska Ves 86.40 29 *e*P **P 22 53 27.4 +0.4**
PVCC *e* 22 53 31.0
PVCC MLR MLR
comp=Z,124µm,19.0s
PVCC Panska Ves 86.40 29 *e*P **P 22 53 27.4 +0.4**
PVCC *e*pP **PcP 22 53 31.0 +1.5**
PVCC *e*x x 23 04 13.6
PVCC *e*x x 23 10 03.9
PVCC AMS AMS 23 30 50.0
comp=Z,124µm,19.0s
ORIF Oris-en-Rattie 86.40 38 *e*P **P 22 53 26.4 -0.8**
comp=Z,449nm,1.7s
ORIF *e*R
comp=Z,208µm,21.2s
ORIF Oris-en-Rattie 86.40 38 *e*P **P 22 53 26.4 -0.8**
ORIF pmax pmax
comp=Z,449nm,1.7s
ORIF Oris-en-Rattie 86.40 38 *e*P **P 22 53 26.4 -0.8**
comp=Z,449nm,1.7s
LPL La Plagne 86.43 37 *e*P **P 22 53 27.2 -0.3**
comp=Z,152nm,1.0s
LPL La Plagne 86.43 37 *e*P **P 22 53 27.2 -0.3**
LPL pmax pmax
comp=Z,152nm,1.0s
LPL La Plagne 86.43 37 *e*P **P 22 53 27.2 -0.3**
comp=Z,152nm,1.0s
LPG La Plagne 86.45 37 *e*P **P 22 53 27.7 0.0**
LPG La Plagne 86.45 37 *e*P **P 22 53 27.7 0.0**
LPG La Plagne 86.45 37 *e*P **P 22 53 27.7 0.0**
ISAL Salakas 86.48 21 *e*P **P 22 53 28.7 +1.5**
ISAL AMB AMB 22 54 02.6
comp=Z,122nm,1.3s
ISAL Salakas 86.48 21 *e*P **P 22 53 28.4 +1.2**
ISAL AMB AMB 22 54 02.6
comp=Z,121nm,1.4s
PRA Prague 86.69 30 *e*P **P 22 53 29.4 +1.0**
PRA *e* 22 53 33.3
PRA Prague 86.69 30 *e*P **P 22 53 29.4 +1.0**
PRA *ex* x 22 53 33.3

IIGN Ignalina 86.69 21 *e*P **P 22 53 29.5 +1.2**
IIGN AMB AMB 22 54 03.6
comp=Z,124nm,1.1s
IIGN Ignalina 86.69 21 *e*P **P 22 53 29.5 +1.2**
IIGN AMB AMB 22 54 03.7
comp=Z,127nm,1.5s
DAVA Damuels 86.71 34⇑*i*PcP **P 22 53 29.8 +1.1**
comp=Z,44nm,1.1s,SNR=10.0
WET Wettzell 86.72 31 *e*P **P 22 53 29.9 +1.3**
comp=Z,116nm,1.6s
WET *e*S **S 23 04 10.0 +3.5**
BNI Bardonecchia 86.72 37 *e*P **P 22 53 26.7 -2.1**
BNI pmax pmax
comp=Z,130nm,1.2s
BNI MLR MLR
comp=Z,282µm,19.0s
BNI Bardonecchia 86.72 37 *e*P **P 22 53 26.7 -2.1**
comp=Z,130nm,1.2s
BNI LR LR
comp=Z,282µm,19.0s
FUR Furstenfeldbru 86.72 33 *e*P **P 22 53 30.3 +1.7**
comp=Z,597nm,2.5s
PRU Pruhonice 86.80 30 *e*P **P 22 53 29.3 +0.4**
PRU *e* 22 53 33.2
PRU MLR MLR
comp=Z,135µm,16.5s
PRU Pruhonice 86.80 30 *e*P **P 22 53 29.3 +0.4**
PRU *e*pP **PcP 22 53 33.2 +2.0**
PRU *ex* x 22 56 09.4
PRU *e*S S 23 04 14.5 +7.3
PRU *ex* x 23 04 31.3
PRU *ex* x 23 10 10.1
PRU AMS AMS 23 39 40.0
comp=Z,135µm,16.5s
SUW Suwalki 86.85 23 *e*P **P 22 53 30.5 +1.4**
SUW *e* 23 04 11.1
SUW MLR MLR
comp=Z,162µm,23.3s
SUW Suwalki 86.85 23 *e*P **P 22 53 30.4 +1.4**
SUW *e*SKSac **S 23 04 11.1 +3.6**
SUW *e*S ScS 23 04 33.6 +18
SUW LMZ LR 23 32 09.9
SUW Suwalki 86.85 23 *e*P **P 22 53 26.4 -2.7**
comp=Z,352nm,1.3s
KSP Ksiaz 86.86 28 *e*P **P 22 53 29.6 +0.4**
KSP *e**PP **PcP 22 53 33.0 +1.5**
KSP *e*S **S 23 04 03.0 -4.8**
KSP *e*SS **SS 23 09 47.0 -1.4**
KSP Ksiaz 86.86 28 *e*P **P 22 53 29.8 +0.6**
KSP *e*SKSac S 23 04 22.6 +15
KSP *e*S ScS 23 04 41.8 +26
KSP LMZ LR 23 28 06.4
IDID Didziasalis 86.88 21 *e*P **P 22 53 30.0 +0.8**
IDID Didziasalis 86.88 21 *e*P **P 22 53 30.3 +1.1**
IDID AMB AMB 22 53 35.8
comp=Z,58nm,1.2s
SMRF Simiane la Rot 86.89 38 *e*P **P 22 53 29.2 -0.4**
comp=Z,183nm,1.5s
SMRF Simiane la Rot 86.89 38 *e*P **P 22 53 29.2 -0.4**
comp=Z,183nm,1.5s
RETA Reutte 86.98 33⇓*i*PcP **P 22 53 30.9 +1.0**
comp=Z,67nm,1.1s,SNR=15
MBDF Montbardon 87.00 37 *e*P **P 22 53 29.5 -0.7**
comp=Z,125nm,1.1s
MBDF Montbardon 87.00 37 *e*P **P 22 53 29.5 -0.7**
MBDF pmax pmax
comp=Z,125nm,1.1s
MBDF Montbardon 87.00 37 *e*P **P 22 53 29.5 -0.7**
comp=Z,125nm,1.1s
UPC Upice 87.01 29 *e*P **P 22 53 30.5 +0.5**
UPC *e* 22 53 34.8
UPC Upice 87.01 29 *e*P **P 22 53 30.5 +0.5**
UPC *e*pP **PcP 22 53 34.8 +2.6**
KHC Kasperske Hory 87.03 31 *e*P **P 22 53 30.2 0.0**
KHC *e* 22 53 34.5
KHC MLR MLR
comp=Z,190µm,16.8s
KHC Kasperske Hory 87.03 31 *e*P **P 22 53 30.2 0.0**
KHC *e*pP **PcP 22 53 34.5 +2.1**
KHC *ex* x 22 53 56.5
KHC *ex* x 22 56 10.2
KHC *e*S S 23 04 18.0 +8.4
KHC *e*SS SS 23 10 02.7 +12
KHC AMS AMS 23 37 20.0
comp=Z,190µm,16.8s
KHC Kasperske Hory 87.03 31 *e*P **P 22 53 27.1 -3.0**
comp=Z,66nm,1.3s
TUE Stuetta 87.05 35 *e*P **P 22 53 29.4 -1.1**
comp=Z,395nm,0.4s
TUE LR LR
comp=Z,197µm,19.0s
DAVOX Davos/Dischmat 87.08 34 LR LR 23 29 46.0
comp=Z,107µm,21.8s,baz=315,slow=34
NACGM Naroch 87.24 21 *e*P **P 22 53 28.0 -3.0**
MOTA Moosalm 87.25 33⇑*i*PcP **P 22 53 32.2 +0.8**
comp=Z,83nm,1.2s,SNR=24
DPC Dobruska-Polom 87.26 29 *e*P **P 22 53 31.9 +0.7**
DPC *e* 22 53 36.2
DPC *e* 23 04 18.6
DPC Dobruska-Polom 87.26 29 *e*P **P 22 53 31.9 +0.7**
DPC *ex* x 22 53 36.2
DPC *e*S S 23 04 18.6 +6.9
DPC *ex* x 23 04 35.2
DPC *ex* x 23 10 12.9
DPC AMS AMS 23 38 50.0
GEC2 GERESS Array S 87.30 31 *e*P **P 22 53 32.9 +1.4**
comp=Z,54nm,1.4s
GERES GERESS Array B 87.30 31 P **P 22 53 31.7 +0.2**
comp=Z,9.2nm,0.8s,baz=337,slow=3.0,SNR=40
GERES PKKPbc **PKKPbc 23 11 26.9 +5.0**
comp=Z,0.3nm,0.7s,baz=70,slow=1.6,SNR=3.6
GERES PKPPKP **P'P'df 23 19 31.6 -3.7**
comp=Z,0.4nm,0.8s,baz=144,slow=2.6,SNR=4.7
GERES LR LR 23 33 13.9
comp=Z,108µm,18.7s,baz=324,slow=36
FETA Feichten 87.31 34⇑*i*PcP **P 22 53 32.2 +0.6**
comp=Z,125nm,1.3s,SNR=42
WATA Walderalm 87.47 33⇓*i*PcP **P 22 53 32.4 -0.1**
comp=Z,77nm,1.2s,SNR=26
WTTA Wattenberg 87.55 33⇑*i*PcP **PcP 22 53 34.0 -0.9**
comp=Z,116nm,1.5s,SNR=31
TREC Trest 87.72 30 *e*P P 22 53 37.7 +4.2
TREC MLR MLR
comp=Z,122µm,16.7s
TREC Trest 87.72 30 *e*P P 22 53 37.7 +4.2
TREC *ex* x 23 04 39.1
TREC AMS AMS 23 33 10.0
comp=Z,122µm,16.7s
RJOB Jochberg 87.73 32 *e*P **P 22 53 35.5 +1.9**
comp=Z,58nm,1.6s
FRF La Foret Royal 87.74 38 *e*P **P 22 53 32.4 -1.2**
comp=Z,379nm,1.3s
FRF La Foret Royal 87.74 38 *e*P **P 22 53 32.4 -1.2**
FRF pmax pmax
comp=Z,379nm,1.3s
FRF La Foret Royal 87.74 38 *e*P **P 22 53 32.4 -1.2**
comp=Z,379nm,1.3s
BEL Belsk 87.80 26 *e*P P 22 53 37.6 +3.9
BEL *e* 23 04 16.3
BEL MLR MLR
comp=Z,178µm,24.0s
BEL Belsk 87.80 26 *e*P P 22 53 37.6 +3.9
BEL *e*SKSac **S 23 04 16.2 -0.5**
BEL *e*S ScS 23 04 42.4 +19
BEL LMZ LR 23 28 45.4
LMR La Mourre 87.83 38 *e*P **P 22 53 32.9 -1.1**
comp=Z,327nm,1.4s
LMR La Mourre 87.83 38 *e*P **P 22 53 32.9 -1.1**
LMR pmax pmax
comp=Z,327nm,1.4s
LMR La Mourre 87.83 38 *e*P **P 22 53 32.9 -1.1**
comp=Z,327nm,1.4s
MNK Minsk 87.91 21⇑*e*P **P 22 53 34.0 -0.2**
MNK *e*PPP PPP 22 59 01.0
MNK *e*S **S 23 04 15.0 -2.6**
MNK pmax pmax
comp=Z,350nm,1.2s
MNK pmax pmax
comp=Z,4µm,5.0s
MNK MLR MLR
comp=E,201µm,17.0s
MNK MLR MLR
comp=N,126µm,24.0s
MICGM Minsk 87.92 20⇑*e*P **P 22 53 34.0 -0.2**
SBF Sospel 87.94 38 *e*P **P 22 53 34.5 -0.2**

comp=N,242nm,1.3s
SBF Sospel 87.94 38 *e*P **P 22 53 34.5 -0.2**
SBF pmax pmax
comp=Z,243nm,1.3s
SBF Sospel 87.94 38 *e*P **P 22 53 34.5 -0.2**
comp=Z,242nm,1.3s
VRAC Vranov 88.17 29⇑P **P 22 53 36.5 +0.9**
VRAC Vranov 88.17 29⇑*i*P **P 22 53 36.5 +0.9**
VRAC Vranov 88.17 29 LR LR 23 33 14.9
comp=Z,129µm,19.9s,baz=321,slow=36
MORC Moravsky Berou 88.20 28⇓P **P 22 53 36.2 +0.5**
MORC Moravsky Berou 88.20 28⇓*i*P **P 22 53 36.2 +0.5**
MORC Moravsky Berou 88.20 28 *e*P **P 22 53 33.4 -2.4**
comp=Z,113nm,1.4s
RAC Raciborz 88.22 28 *e*P **P 22 53 35.7 0.0**
RAC *e*S **S 23 04 23.0 +2.2**
RAC MLR MLR
comp=Z,160µm,21.5s
SOKR Solikamsk 88.23 4*d**i*P P 22 53 39.8 +4.2
SOKR S **S 23 04 19.8 -0.7**
SOKR pmax pmax
comp=Z,170nm,1.6s
SEHB SEOHWA 88.26 315 P P 22 53 41.7 +5.5
SNR=8.2
SEHB SEOHWA 88.26 315 P P 22 53 41.7 +5.5
SNR=8.2
MOA Molln 88.30 31⇑*i*sP **P 22 53 36.8 +0.6**
comp=Z,106nm,1.7s,SNR=22
ABTA Abfaltersbach 88.34 33 *i* sP **P 22 53 37.2 +0.7**
comp=Z,110nm,1.7s,SNR=21
KSDGY Daegwallycong 88.38 315 P P 22 53 42.0 +5.1
SNR=7.9
KSDGY Daegwallycong 88.38 315 P P 22 53 42.0 +5.1
SNR=7.9
OKC Ostrava-Krasne 88.39 28 *e*P **P 22 53 36.9 +0.3**
OKC *e* 22 53 41.0
OKC *e* 23 04 24.2
OKC MLR MLR
comp=Z,108µm,16.9s
OKC Ostrava-Krasne 88.39 28 *e*P **P 22 53 36.9 +0.3**
OKC *e*pP **PcP 22 53 41.0 +2.7**
OKC *e*S **S 23 04 24.2 +1.8**
OKC *ex* x 23 10 35.6
OKC AMS AMS 23 37 20.0
comp=Z,108µm,16.9s
KBA Koelnbreinsper 88.47 32⇑*i*sP **P 22 53 37.6 +0.4**
comp=Z,51nm,1.0s,SNR=18
KSIJA INJE 88.52 315 P P 22 53 42.5 +5.1
SNR=8.1
KSIJA INJE 88.52 315 P P 22 53 42.5 +5.1
SNR=8.1
SNY Shenyang 88.54 320⇓P P 22 53 42.1 +4.7
SNY SKS **SKSac 23 04 06.9 -0.4**
SNY SS **SS 23 10 15.7 +2.4**
SNY PMZ
comp=Z,4µm,6.5s
SNY LN
comp=Z,55µm,17.1s
SNY LE
comp=Z,97µm,15.1s
SNY LZ
comp=Z,74µm,25.1s
OJC Ojcow 88.73 27 *e*P **P 22 53 38.8 +0.6**
OJC *e* 22 53 41.9
OJC *e*S **S 23 04 22.2 -3.5**
OJC MLR MLR
comp=Z,190µm,18.6s
OJC Ojcow 88.73 27 *e*P P 22 53 41.9 +3.7
OJC *e*SKSac S 23 04 46.3 +21
OJC LMZ LR 23 30 10.8
KSCWO Cheorwon 88.81 315 P P 22 53 44.0 +5.2
SNR=7.0
KSCHC Chuncheon 88.84 315 P P 22 53 43.4 +4.5
SNR=9.0
KSCHC Chuncheon 88.84 315 P P 22 53 43.4 +4.5
SNR=9.0
KRAR Krasnoyarsk 88.84 345 *e*P **P 22 53 40.3 +1.8**
KRAR pmax pmax
comp=Z,42nm,0.4s
KRAR MLR MLR
comp=Z,92µm,21.0s
CONA Conrad Observa 88.93 30⇑*i*sP **P 22 53 40.4 +1.1**
comp=Z,80nm,1.7s,SNR=22
MYKA Terra Mystica 88.93 32⇑*i*sP **P 22 53 41.4 +2.0**
comp=Z,68nm,2.0s,SNR=8.9
KSRS Korea Array 88.98 315 P **P 22 53 40.9 +1.3**
comp=Z,5.9nm,0.8s,baz=54,slow=5.9,SNR=7.6
KSRS LR LR 23 28 09.8
comp=Z,45µm,21.9s,baz=40,slow=32
IRK Irkutsk 89.00 337⇓*i*P **P 22 53 39.8 +0.4**
IRK *e* 22 57 15.3
IRK pmax pmax
comp=Z,477nm,2.2s
KSAR Wonju Array Be 89.02 315 P **P 22 53 40.9 +1.1**
KSAR Wonju Array Be 89.02 315 P **P 22 53 40.9 +1.1**
YNCB YEONCHEON 89.19 316 P P 22 53 46.0 +5.4
SNR=8.0
VLC Villacollemand 89.22 36 *e*P **P 22 53 37.8 -2.8**
comp=Z,154nm,1.4s
VLC LR LR
comp=Z,141µm,22.0s
ARSA Arzberg 89.31 31⇑*i*sP **P 22 53 41.4 +0.4**
comp=Z,56nm,1.6s,SNR=13
MOS Moscow 89.32 15 *e*P **P 22 53 43.2 +2.4**
MOS *e* 22 57 20.0
MOS *i* 23 04 25.2
MOS *e*PS PS 23 06 04.3 +29
MOS pmax pmax
comp=Z,203nm,1.6s
MOS pmax pmax
comp=Z,2µm,4.5s
MOS pmax pmax
comp=N,800nm,4.0s
MOS pmax pmax
comp=E,800nm,4.4s
MOS MLR MLR
comp=Z,171µm,20.0s
MOS MLR MLR
comp=N,165µm,19.0s
KSMUS Musan 89.39 316 P P 22 53 46.5 +5.0
SNR=6.5
KSICN Icheon 89.40 315 P P 22 53 46.9 +5.3
SNR=5.8
SOP Sopron 89.42 30⇓*e*P P 22 53 45.5 +4.0
OBKA Obir 89.44 32 *i* sP **P 22 53 41.9 +0.2**
comp=N,68nm,0.8s,SNR=12
BBTS Babate 89.47 73 LR LR 23 32 19.1
comp=N,54µm,18.7s,slow=35
SOKA Soboth 89.53 32⇑*i*pP **P 22 53 41.5 -0.6**
comp=N,117nm,1.5s,SNR=22
KSSEO Seoul 89.56 315 P P 22 53 47.6 +5.3
SNR=9.8
KSSEO Seoul 89.56 315 P P 22 53 47.6 +5.3
SNR=9.8
NIE Niedzica 89.58 27 *e*P **P 22 53 43.6 +1.4**
NIE *e* 22 53 46.2
NIE *e*S S 23 04 26.9 -6.8
NIE MLR MLR
comp=Z,117µm,17.4s
NIE Niedzica 89.58 27 *e*P P 22 53 45.9 +3.7
NIE *e*SKSac S 23 04 27.7 -6.0
NIE *e*S ScS 23 05 01.7 +23
NIE LMZ LR 23 30 46.5
PERS Pernice 89.60 32 *i* P **P 22 53 42.3 -0.1**
PERS *i* 22 53 46.8
OBN Obninsk 89.66 16*c**i*P **P 22 53 43.2 +0.8**
OBN *i* 22 53 48.0
OBN pmax pmax
comp=Z,356nm,2.3s
OBN Obninsk 89.66 16 LR LR 23 33 09.1
comp=Z,187µm,21.9s,baz=342,slow=35
OBN Obninsk 89.66 16 *e*P **P 22 53 39.5 -2.9**
comp=Z,529nm,1.5s
PGF Pioggiola 89.68 38 *e*P **P 22 53 41.3 -1.6**
comp=Z,329nm,1.6s
PGF Pioggiola 89.68 38 *e*P **P 22 53 41.3 -1.6**
PGF pmax pmax
comp=Z,329nm,1.6s
PGF Pioggiola 89.68 38 *e*P **P 22 53 41.3 -1.6**
comp=Z,329nm,1.6s
KSSWO Suwon 89.68 315 P P 22 53 47.9 +5.1
SNR=6.0
KSBUS Busan 89.69 312 P P 22 53 48.0 +5.1
SNR=6.2
TLY Talaya 89.69 337 *i* P **P 22 53 44.7 +2.0**
TLY *e*S **SKSac 23 04 12.7 -1.1**

TLY pmax pmax
comp=Z,421nm,1.6s
TLY MLR MLR
comp=Z,117µm,18.0s
TLY Talaya 89.69 337 P **P** **22 53 45.0 +2.3**
SNR=68
TLY Talaya 89.69 337 *e*P **P** **22 53 39.9 -2.8**
comp=Z,941nm,1.9s
TLY LR LR
comp=Z,97µm,19.0s
EANR 'Ain N'Sour 89.69 47 P P 22 53 47.5 +4.4
JAVS Javornik 89.69 33 *e*P **P** **22 53 43.1 +0.2**
JAVS *i* 22 53 47.2
TRI Trieste 89.69 33 *e*P **P** **22 53 40.1 -2.6**
TRI *e* 22 57 10.9
TRI pmax pmax
comp=Z,37nm,1.2s
TRI Trieste 89.69 33 *e*P **P** **22 53 40.1 -2.6**
comp=Z,37nm,1.2s
TRI *e*PP **PP** **22 57 10.9 -3.0**
KSGAH Ganghwa 89.70 316 P P 22 53 47.8 +4.9
SNR=7.5
ECHA Ech Chlef 89.72 46 P P 22 53 48.0 +4.9
EBNR Beni Rached 89.73 46 P **P** **22 53 45.7 +2.5**
VYHS Vyhne 89.73 29 *e*P **P** **22 53 42.9 0.0**
VYHS pmax pmax
comp=Z,69nm,1.6s
VYHS Vyhne 89.73 29 *e*P **P** **22 53 42.9 0.0**
VYHS *e* 22 53 47.2
VYHS Vyhne 89.73 29 *e*S S 23 04 28.0 -7.1
VYHS *e*SS **SS** **23 10 31.2 +1.0**
INCN Inchon 89.74 315 PFAKE 22 53 50.0 +6.8
INCN LR LR
comp=Z,73µm,19.0s
LJU Ljubljana 89.79 32 *i* P **P** **22 53 43.5 +0.3**
LJU *i* 22 53 47.7
LJU *e*SKSac **S** **23 04 32.7 -3.1**
LJU *e*S ScS 23 04 59.3 +19
LJU *e*SS SS 23 10 44.5 +13
STHS Stebnicka Huta 89.94 27 *e*P **P** **22 53 45.2 +1.3**
STHS pmax pmax
comp=Z,47nm,1.2s
STHS Stebnicka Huta 89.94 27 *e*P **P** **22 53 45.2 +1.3**
STHS *e* 22 53 49.3
ETRT Tiaret 90.18 47 P **P** **22 53 47.0 +1.6**
KSSES Seosan 90.31 315 P P 22 53 51.0 +5.2
SNR=9.5
KWP Kalwaria Pacla 90.31 26 ⇓*i*P **P** **22 53 46.2 +0.6**
KWP Kalwaria Pacla 90.31 26 *e*P **P** **22 53 46.3 +0.6**
KWP *e*SKSac S 23 04 32.8 -7.6
KWP *e*S ScS 23 04 59.2 +15
KWP LMZ LR 23 30 16.9
KWP Kalwaria Pacla 90.31 26 ⇓*i*P **P** **22 53 46.2 +0.6**
KWP Kalwaria Pacla 90.31 26 *e*P **P** **22 53 43.3 -2.3**
comp=Z,139nm,1.1s
KWP LR LR
comp=Z,152µm,21.0s
KSJEO Jeonju 90.36 314 P P 22 53 51.2 +5.1
SNR=7.8
PKST T‾'s 90.38 30⇑*e*P **P** **22 53 46.8 +0.8**
CSKK Cs˙‡kako 90.39 30⇑*e*P **P** **22 53 46.1 +0.1**
KECS Kecovo 90.40 28 *e*P **P** **22 53 46.8 +0.8**
KECS pmax pmax
comp=Z,27nm,1.3s
KECS Kecovo 90.40 28 *e*P **P** **22 53 46.8 +0.8**
KECS *e* 22 53 51.3
CRVS Cervenica-Dubn 90.44 27 *e*P **P** **22 53 47.4 +1.2**
CRVS pmax pmax
comp=Z,123nm,1.7s
CRVS Cervenica-Dubn 90.44 27 *e*P **P** **22 53 47.4 +1.2**
CRVS *e* 22 53 51.0
CRVS Cervenica-Dubn 90.44 27 *e*S S 23 04 59.9 +18
CRVS *e*SS SS 23 10 49.8 +9.4
BEHE Becsehely 90.46 31⇑*e*Pdiff P 22 53 50.3 +4.0
BOJS Bojanci 90.53 32 *i* P **P** **22 53 47.1 +0.5**
BOJS *e* 22 53 51.8
BOJS *e*S S 23 05 02.3 +20
MOY Mondy 90.55 338 *e*P **P** **22 53 49.0 +2.2**
MOY pmax pmax
comp=Z,457nm,2.1s
BUD Budapest 90.61 29⇓*e*P P 22 53 51.3 +4.3
PSZ Piszkesteto 90.62 28 ⇓P **P** **22 53 48.4 +1.2**
PSZ Piszkesteto 90.62 28 ⇓*i*P **P** **22 53 48.4 +1.2**
PSZ Piszkesteto 90.62 28 *e*P **P** **22 53 44.8 -2.4**
comp=Z,250nm,1.5s
PSZ *e*PP **PP** **22 57 18.7 -2.6**
PSZ LR LR
comp=Z,187µm,19.0s
PSZ Piszkesteto 90.62 28⇓*e*P P 22 53 51.9 +4.7
LVV L'vov 90.63 25*c i*P P 22 53 51.3 +4.2
LVV *e* 23 04 14.5
LVV *e*S **S** **23 04 43.9 +0.5**
LVV MLR MLR
comp=Z,102µm,20.0s
EMHD Djebel Mahouad 90.66 45 P **P** **22 53 50.7 +3.1**
KOLS Kolonicke sedl 90.72 26 *e*P **P** **22 53 48.8 +1.3**
KOLS pmax pmax
comp=Z,73nm,1.6s
KOLS Kolonicke sedl 90.72 26 *e*P **P** **22 53 48.8 +1.3**
KOLS *e* 22 53 52.5
KOLS Kolonicke sedl 90.72 26 *e*S S 23 04 51.4 +7.1
KOLS *e*SS SS 23 11 05.4 +21
KSJEU Jeongeup 90.88 314 P P 22 53 53.3 +4.8
SNR=5.7
ZAK Zakamensk 90.91 336 *e*P **P** **22 53 49.7 +1.2**
ZAK pmax pmax
comp=Z,60nm,1.9s
UZH Uzhgorod 90.98 27*c i*P **P** **22 53 50.8 +2.1**
UZH *i* 22 57 28.0
UZH *i*S **S** **23 04 43.0 -3.5**
UZH *e*PS PnS 23 06 26.0 +32
UZH *e*SS SS 23 10 57.0 +8.9
UZH MLR MLR
comp=Z,115µm,18.0s
GUMO Guam 90.98 287 PFAKE 22 54 00.0 +11
GUMO LR LR
comp=Z,17µm,22.0s
PKS7 Kunszentmiklos 91.02 29⇑*e*P P 22 53 54.0 +5.1
SVE Sverdlovsk 91.18 2 ⇓*i*P **P** **22 53 50.6 +1.1**
SVE *e*S **SKSac** **23 04 18.3 -3.9**
SVE *e*SS SS 23 11 03.3 +13
SVE pmax pmax
comp=Z,260nm,2.0s
SVE pmax pmax
comp=Z,4µm,20.2s
SVE MLR MLR
comp=Z,148µm,20.0s
SVE MLR MLR
comp=N,80µm,19.0s
SVE MLR MLR
comp=E,92µm,20.0s
PKSN Nyarlorinc 91.43 29⇑*e*P P 22 53 56.3 +5.5
PKSM Moragy 91.46 30 ⇓P **P** **22 53 51.0 0.0**
PKSM Moragy 91.46 30 ⇓*i*P **P** **22 53 51.0 0.0**
PKSM Moragy 91.46 30 ⇓*e*Pdiff P 22 53 54.3 +3.3
PKS2 Kecel 91.48 30⇑*e*P P 22 53 55.8 +4.7
TRPA Tarpa 91.48 27⇑*i*P **P** **22 53 53.1 +2.1**
TRPA Tarpa 91.48 27⇓*e*P P 22 53 55.5 +4.5
ARU Arti 91.49 3*d i*P **P** **22 53 51.3 +0.4**
ARU S **SKSac** **23 04 23.4 -0.5**
ARU SP SPn 23 06 25.3 +26
ARU PS PnS 23 06 35.9 +36
ARU SS **SS** **23 10 50.1 -4.8**
ARU pmax pmax
comp=Z,64nm,2.5s
ARU pmax pmax
comp=Z,830nm,7.1s
ARU MLR MLR
comp=Z,150µm,21.0s
ARU Arti 91.49 3 *e*P P 22 53 47.7 -3.2
comp=Z,510nm,1.8s
ARU *e*PP PP 22 57 18.1 -10
ARU LR LR
comp=Z,161µm,21.0s
PKS6 Bocsa 91.54 29⇑*e*P P 22 53 56.2 +4.9
AKASG Malin Array Be 91.62 22 *i* P **P** **22 53 51.5 -0.1**
AKASG pmax pmax
comp=Z,50nm,1.1s
AKASG Malin Array Be 91.62 22 P **P** **22 53 51.6 -0.1**
comp=Z,52nm,1.1s,baz=321,slow=3.5,SNR=38
AKASG PKKPbc **PKKPbc** **23 11 14.1 +2.8**
comp=Z,0.1nm,0.3s,baz=152,slow=1.3,SNR=4.7
AKASG LR LR 23 35 02.3
comp=Z,81µm,19.3s,baz=330,slow=36

KIEV Kiev 91.62 22 *e*P **P** **22 53 49.1 -2.5**
KIEV *e*S **S** **23 04 49.6 -2.7**
KIEV pmax pmax
comp=Z,382nm,1.5s
KIEV MLR MLR
comp=Z,113µm,19.0s
KIEV Kiev 91.62 22 *e*P **P** **22 53 49.1 -2.5**
comp=Z,382nm,1.5s
KIEV *e*PP PP 22 57 21.8 -7.1
KIEV *e*S **S** **23 04 49.6 -2.7**
KIEV LR LR
comp=Z,113µm,19.0s
ULN Ulaanbaatar 91.65 333 *e*P **P** **22 53 50.5 -1.6**
ULN *e*S **S** **23 04 48.0 -5.1**
ULN pmax pmax
comp=Z,454nm,1.9s
ULN MLR MLR
comp=Z,131µm,20.0s
ULN Ulaanbaatar 91.65 333 P **P** **22 53 52.9 +0.9**
SNR=54
ULN Ulaanbaatar 91.65 333 *e*P **P** **22 53 50.5 -1.6**
comp=Z,454nm,1.9s
ULN *e*PP PP 22 57 22.6 -6.9
ULN *e*S **S** **23 04 48.0 -5.1**
ULN LR LR
comp=Z,131µm,20.0s
NVS Novosibirsk 91.79 349 *e*P **P** **22 53 51.6 -0.7**
NVS *e*S **SKSac** **23 04 28.7 +3.1**
NVS pmax pmax
comp=N,129nm,2.6s
NVS pmax pmax
comp=E,238nm,2.6s
NVS pmax pmax
comp=Z,628nm,2.6s
NVS smax smax
comp=N,71nm,2.5s
SONM Songino Array 91.93 333 P **P** **22 53 55.2 +1.9**
comp=N,6.4nm,1.0s,baz=35,slow=1.8,SNR=39
SONM PKKPbc **PKKPbc** **23 11 09.8 -0.8**
comp=N,1.6nm,1.1s,baz=248,slow=0.8,SNR=3.3
SONM PKPPKP **P'P'df** **23 19 22.1 -4.5**
comp=N,0.4nm,0.9s,baz=259,slow=1.5,SNR=4.5
SONM LR LR 23 36 41.2
comp=N,94µm,19.8s,baz=28,slow=36
AQU L'Aquila 92.04 35 *e*P **P** **22 53 51.4 -2.4**
AQU pmax pmax
comp=Z,105nm,1.0s
AQU MLR MLR
comp=Z,126µm,20.0s
AQU L'Aquila 92.04 35 *e*P **P** **22 53 51.4 -2.4**
comp=Z,105nm,1.0s
AQU LR LR
comp=Z,126µm,20.0s
VSL Villasalto 92.06 40 *e*P **P** **22 53 50.9 -3.1**
comp=Z,129nm,1.5s
VSL LR LR
comp=Z,68µm,20.0s
SET Setif 92.12 44 P P 22 54 00.0 +5.6
DFRA Djebel Bou Aff 92.16 44 P P 22 53 59.6 +5.0
BMR Baia Mare 92.22 26 ⇑P **P** **22 53 56.0 +1.5**
BMR Baia Mare 92.22 26⇑*i*P **P** **22 53 56.0 +1.5**
DZM Mont Dzumac 92.24 245 *e*P P 22 53 58.4 +3.4
comp=Z,152nm,1.5s
DZM Mont Dzumac 92.24 245 *e*PS PS 23 06 16.3 +6.5
comp=Z,38µm,32.5s
DZM *e*SS SS 23 11 13.4 +4.0
comp=Z,37µm,27.5s
DZM Mont Dzumac 92.24 245 *e*LR LR 23 23 29.7
comp=Z,187µm,33.0s
DZM Mont Dzumac 92.24 245 P **P** **22 53 57.7 +2.7**
comp=Z,266nm,1.1s,baz=98,slow=8.2,SNR=2.8
DZM Mont Dzumac 92.24 245 *e*P P 22 53 51.5 -3.5
comp=Z,238nm,1.4s
CKHR Kef el Ahmar 92.31 44 P P 22 54 00.4 +5.1
ZALV Zalesovo Beam 92.39 348 *i* P **P** **22 53 58.0 +2.9**
ZALV pmax pmax
comp=Z,16nm,1.0s
ZALV Zalesovo Beam 92.39 348 P **P** **22 53 56.0 +0.8**
comp=Z,16nm,1.0s,baz=27,slow=3.6,SNR=30
ZALV LR LR 23 39 41.8
comp=Z,85µm,20.4s,baz=14,slow=38
CAEH 'Ain El Ouahch 92.56 43 P P 22 54 00.0 +3.7
DRGR 92.65 27 ⇓P **P** **22 53 56.9 +0.3**
DRGR 92.65 27 ⇓*i*P **P** **22 53 56.9 +0.3**
CASM Ain Smara 92.71 43 P P 22 54 01.6 +4.5
CKFL Kef-Lekhel 92.75 43 P P 22 54 02.0 +4.7
CTEI Djebel Teioual 92.80 44 P P 22 54 01.8 +4.2
BURAR Bucovina Array 92.91 26 ⇓P **P** **22 53 59.0 +1.2**
BURAR Bucovina Array 92.91 26 ⇓*i*P **P** **22 53 59.0 +1.2**
CMAH Djebel Manchou 93.00 43 P P 22 54 02.2 +3.8
CJR Cluj-Napoca 93.06 27 ⇓P **P** **22 53 59.0 +0.5**
CJR Cluj-Napoca 93.06 27 ⇓*i*P **P** **22 53 59.0 +0.5**
HVS Khovu-Aksy 93.11 342*c i*P **P** **22 53 59.7 +1.1**
HVS pmax pmax
comp=Z,154nm,1.2s
BZS Buzias 93.18 29 ⇓P **P** **22 53 59.2 +0.3**
BZS Buzias 93.18 29 ⇓*i*P **P** **22 53 59.2 +0.3**
ABSA Djebel Ababsia 93.28 43 P P 22 54 04.2 +4.5
VOR Voronezh 93.39 16⇑*i*P **P** **22 54 01.0 +1.2**
VOR pmax pmax
comp=Z,450nm,2.0s
DEV Deva 93.47 28⇑P P 22 54 05.7 +5.4
DEV Deva 93.47 28⇑*i*P P 22 54 05.7 +5.4
PRAR RASCA 93.49 25⇑*i*P **P** **22 54 01.1 +0.7**
BJI Beijing 93.72 323 P P 22 53 56.8 -4.7
BJI PP PP 22 57 36.5 -9.3
BJI Beijing 93.72 323 S **SKKSac** **23 04 55.2 -1.6**
BJI Beijing 93.72 323 SS SS 23 11 15.1 -13
BJI pmax pmax
comp=Z,8.0nm,0.6s
BJI AMB AMB
comp=Z,2µm,9.8s
BJI LR LR
comp=N,70µm,19.4s
BJI LR LR
comp=E,101µm,16.6s
BJI LR LR
comp=Z,90µm,21.6s
DIVS Divbare 93.72 31 P **P** **22 54 02.3 +0.7**
BJT Baijiatuau 93.74 323 *e*P **P** **22 53 58.7 -2.9**
BJT MLR MLR
comp=Z,123µm,20.0s
BJT Baijiatuau 93.74 323 *e*P **P** **22 53 58.7 -2.9**
BJT *e*PP PP 22 57 33.0 -13
BJT LR LR
comp=Z,123µm,20.0s
GZR Gura Zlata 93.83 28 ⇓P **P** **22 54 02.3 +0.3**
GZR Gura Zlata 93.83 28 ⇓*i*P **P** **22 54 02.3 +0.3**
VSR Storozhevoye 93.87 16 *e*P **P** **22 54 04.7 +2.7**
VSR *e* 22 54 09.4
VSR *e* 22 57 46.2
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR pmax pmax
comp=Z,60nm,1.2s
VSR pmax pmax
comp=Z,2µm,5.5s
VSR pmax pmax
comp=N,920nm,5.1s
VSR pmax pmax
comp=E,500nm,6.1s
VSR MLR MLR
comp=Z,150µm,18.0s
VSR MLR MLR
comp=N,88µm,16.0s
VSR MLR MLR
comp=E,71µm,20.0s
UPM Unac-Piva 93.96 32 ⇓*i*P **P** **22 54 05.7 +2.8**
PLE Pljevlja 94.07 31 *e*P P 22 54 06.6 +3.3
IAS Iasi 94.11 24 ⇑P P 22 54 07.1 +3.9
IAS Iasi 94.11 24⇑*i*P P 22 54 07.1 +3.9
VORD Divnogorie 94.13 16 *e*P **P** **22 54 04.8 +1.6**
VORD *e* 22 54 10.1
VORD *e* 22 57 46.2
VORD pmax pmax
comp=Z,30nm,1.5s
VORD pmax pmax
comp=N,10.0nm,1.2s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,1µm,4.9s
VORD pmax pmax
comp=N,310nm,2.6s
VORD pmax pmax
comp=E,500nm,4.6s
VORD MLR MLR
comp=Z,129µm,18.0s
VORD MLR MLR
comp=N,105µm,16.0s
VORD MLR MLR
comp=E,63µm,17.0s
URZ Urewera 94.24 227 P **P** **22 54 06.0 +2.3**
comp=E,27nm,1.1s,baz=59,slow=10,SNR=2.1
URZ Urewera 94.24 227 P **P** **22 54 06.0 +2.3**
NKY Niksic 94.31 32 ⇓*i*P P 22 54 07.7 +3.3
NKME Niksic 94.33 32 ⇓*i*P P 22 54 08.6 +4.2
DOPR Dopca 94.36 26 ⇓*i*P **P** **22 54 05.2 +0.8**
TESR Tescani 94.37 25 ⇓*i*P P 22 54 07.7 +3.3
HCY Herceg Novi 94.37 32 ⇓*i*P P 22 54 08.5 +4.0
VRHR Novokhopersk 94.52 14 *e*P **P** **22 54 07.3 +2.3**
VRHR *e* 22 54 12.1
VRHR *e* 22 57 48.2
VRHR pmax pmax
comp=Z,40nm,1.1s
VRHR pmax pmax
comp=N,70nm,1.6s
VRHR pmax pmax
comp=E,6.0nm,0.7s
VRHR pmax pmax
comp=Z,2µm,7.6s
VRHR pmax pmax
comp=N,470nm,4.3s
VRHR pmax pmax
comp=E,350nm,3.8s
VRHR MLR MLR
comp=Z,123µm,17.0s
VRHR MLR MLR
comp=N,58µm,16.0s
VRHR MLR MLR
comp=E,29µm,14.0s
ARR Arges 94.58 27⇑*i*P **P** **22 54 06.6 +1.1**
IVA Berane 94.66 31 ⇓*i*P **P** **22 54 08.5 +2.5**
BUM Brajici-Budva 94.67 32 *e*P **P** **22 54 09.1 +3.1**
VOIR 94.68 27 ⇑P P 22 54 09.3 +3.3
VOIR 94.68 27⇑*i*P P 22 54 09.3 +3.3
KIS Kishinev 94.71 24κ *i*P **P** **22 54 09.0 +3.1**
KIS *e* 22 57 54.0
KIS *i* PPP PPP 22 59 56.0
KIS *i* S **ScS** **23 05 22.0 +1.1**
KIS *i* PPS PPS 23 07 15.0
KIS pmax pmax
comp=Z,500nm,2.0s
KIS pmax pmax
comp=Z,1µm,5.0s
KIS Kishinev 94.71 24 ⇓*i*P **P** **22 54 09.0 +3.1**
comp=Z,500nm,2.0s
KIS Kishinev 94.71 24 *e*PP PP 22 57 54.0 +0.8
KIS Kishinev 94.71 24 *i* PsP 22 58 25.0
KIS Kishinev 94.71 24 *i* PPP PPP 22 59 56.0
KIS *i* SKS SKSac 23 04 58.0 +16
KIS *i* S **ScS** **23 05 22.0 +1.1**
KIS Kishinev 94.71 24 *i* PS PS 23 05 52.0 -43
KIS Kishinev 94.71 24 *i* PPS PPS 23 07 15.0
KIS *i* SS SS 23 12 13.0 +31
KIS LRM MLR 23 42 06.0
comp=Z,115µm,18.0s
KEST Kesra 94.73 42 P **P** **22 54 07.5 +1.1**
comp=Z,12nm,1.1s,baz=102,slow=3.1,SNR=9.5
KEST Kesra 94.73 42 *e*P **P** **22 54 03.4 -3.0**
PDG Podgorica 94.73 32 P **P** **22 54 07.8 +1.7**
TTG Podgorica 94.73 32 ⇓*i*P **P** **22 54 09.2 +3.1**
TTG Podgorica 94.73 32 P P **22 54 07.8 +1.7**
TTG Podgorica 94.73 32 P **P** **22 54 07.8 +1.7**
DRME Dracevica, Mon 94.89 32 ⇓*i*P P 22 54 10.1 +3.2
PVY Plav 94.91 31 ⇓*i*P **P** **22 54 10.3 +3.1**
BVAR Borovoye Array 94.91 357 PKPPKP **P'P'df** **23 19 17.9 -3.0**
comp=Z,0.2nm,0.3s,baz=220,slow=3.9,SNR=8.1
BVAR LR LR 23 43 34.6
comp=Z,155µm,18.0s,baz=10,slow=40
PLOR Plostina 94.93 26 ⇓P **P** **22 54 07.7 +0.7**
PLOR Plostina 94.93 26 ⇓*i*P **P** **22 54 07.7 +0.7**
VRI Vrincioaia 94.94 26 ⇑P **P** **22 54 07.5 +0.4**
VRI Vrincioaia 94.94 26⇑*i*P **P** **22 54 07.5 +0.4**
MLR Muntele Rosu 94.97 26 ⇑P **P** **22 54 08.3 +0.9**
MLR Muntele Rosu 94.97 26⇑*i*P **P** **22 54 08.3 +0.9**
MLR Muntele Rosu 94.97 26 LR LR 23 41 00.2
comp=Z,38µm,18.6s,baz=324,slow=38
CUC Castrocucco 95.02 36 PFAKE 22 54 20.0 +12
CUC LR LR
comp=Z,90µm,19.0s
ULC Ulcinj 95.10 32 ⇓*i*P **P** **22 54 11.0 +3.1**
HHC Hu-ho-hao-te 95.36 326 *e*P P 22 54 13.9 +4.7
HHC PP PP 22 58 06.1 +7.4
HHC SKS **SKSac** **23 04 47.8 +1.7**
HHC S **S** **23 05 25.7 -0.3**
HHC SS **SS** **23 11 56.0 +4.5**
HHC PMZ
comp=Z,42nm,1.4s
HHC PMZ
comp=Z,1µm,5.5s
HHC LN
comp=Z,65µm,19.8s
HHC LE
comp=Z,66µm,18.4s
HHC LZ
comp=Z,36µm,19.8s
HUMR Humele 95.42 27⇑*i*P **P** **22 54 09.4 +0.2**
ISR Istrita 95.51 26 ⇓P **P** **22 54 12.7 +3.0**
ISR Istrita 95.51 26 ⇓*i*P **P** **22 54 12.7 +3.0**
JOW Kunigami 95.66 306 *e*P P 22 54 07.3 -3.4
comp=Z,237nm,1.8s
SULR 95.78 26⇑*i*P **P** **22 54 13.0 +2.1**
GIUM Giurgiulesti 95.81 25 ⇓*i*P **P** **22 54 11.6 +0.6**
PHP Peshkopia 95.86 32 P P 22 54 14.7 +3.3
PHP Peshkopia 95.86 32 P P 22 54 14.7 +3.3
PHP Peshkopia 95.86 32 P P 22 54 14.7 +3.3
MPEP Malo Peshtene 95.90 29 *i* P **P** **22 54 11.0 -0.5**
CFR Carcaliu 96.05 25 ⇓P **P** **22 54 12.2 +0.1**
CFR Carcaliu 96.05 25 ⇓*i*P **P** **22 54 12.2 +0.1**
TIA Tai'an 96.06 320 ⇓P P 22 54 16.1 +3.8
TIA PP **PP** **22 58 02.6 -1.5**
TIA S S 23 05 21.5 -10
TIA PMZ
comp=Z,1µm,6.5s
TIA LN
comp=Z,61µm,15.7s
TIA LE
comp=Z,88µm,17.8s
TIA LZ
comp=Z,130µm,16.9s
SKO Skopje 96.06 31 *e*P P 22 54 16.7 +4.4
TIP Timpagrande 96.11 36 P **P** **22 54 14.2 +1.6**
TIP Timpagrande 96.11 36 *e*P **P** **22 54 09.9 -2.7**
comp=Z,41nm,1.4s
TIP LR LR
comp=Z,126µm,21.0s
AMRR Amara 96.24 26 ⇑P **P** **22 54 13.7 +0.7**
AMRR Amara 96.24 26⇑*i*P **P** **22 54 13.7 +0.7**
BTO Baotou 96.27 327 *e*P P 22 54 16.9 +3.5
VTS Vitosha 96.31 30 P **P** **22 54 11.9 -1.7**
VTS Vitosha 96.31 30 ⇓P **P** **22 54 16.5 +2.9**
VTS Vitosha 96.31 30 ⇓*i*P **P** **22 54 16.5 +2.9**
VTS Vitosha 96.31 30 *i* P **P** **22 54 13.0 -0.6**
VTS Vitosha 96.31 30 P **P** **22 54 11.9 -1.7**
CEL Celeste 96.38 37 PFAKE 22 54 20.0 +6.2
CEL LR LR
comp=Z,87µm,19.0s
VLO Vlora 96.40 33 P P 22 54 17.7 +3.9
VLO Vlora 96.40 33 P P 22 54 17.7 +3.9
VLO Vlora 96.40 33 P P 22 54 17.7 +3.9
KURK Kurchatov 96.46 351 *e*P **P** **22 54 11.0 -2.9**
KURK *e* 22 58 03.2
KURK pmax pmax
comp=Z,215nm,1.6s
KURK MLR MLR
comp=Z,97µm,20.0s
KURK Kurchatov 96.46 351 P P 22 54 18.8 +4.9
SNR=31
KURK Kurchatov 96.46 351 *e*P **P** **22 54 11.0 -2.9**
comp=Z,215nm,1.6s
KURK *e*PP **PP** **22 58 03.1 -3.4**
KURK PKKPbc **PKKPbc** **23 11 00.9 +2.2**
KURK P'P' 23 19 15.2
KURK LR LR
comp=Z,97µm,20.0s
OHR Ohrid 96.48 32 *e*P P 22 54 17.9 +3.7

TLB	**Topalu**	**96.52**	**25**	⇑P		**P**	**22 54 14.3**	**+0.1**
TLB	**Topalu**	**96.52**	**25**	⇑*i*P		**P**	**22 54 14.3**	**+0.1**
KURBB	**Kurchatov Arra**	**96.56**	**351**	PKKPbc	PKKPbc	23 11 00.9	+2.5	
	comp=Z,0.8nm,0.9s,baz=200,slow=2.6,SNR=5.1							
KURBB				PKPPKP	**P'P'df**	**23 19 15.2**	**-2.5**	
	comp=Z,0.9nm,1.0s,baz=214,slow=2.1,SNR=5.9							
PVL	**Pavlikeni**	**96.66**	**28**	*i* P	**P**	**22 54 14.0**	**-0.9**	
TIRR	**Tirgusor**	**96.77**	**25**	⇓P	**P**	**22 54 16.0**	**+0.6**	
TIRR	**Tirgusor**	**96.77**	**25**	⇓*i*P	**P**	**22 54 15.9**	**+0.6**	
TIRR	**Tirgusor**	**96.77**	**25**	*e*P	**P**	**22 54 13.0**	**-2.4**	
	comp=Z,219nm,1.4s							
SZH	**Strazhica**	**96.85**	**27**	*i* P	**P**	**22 54 15.0**	**-0.8**	
KKB	**Krupnik**	**96.86**	**30**	*i* P	**P**	**22 54 16.0**	**+0.1**	
KBN	**Korca**	**96.86**	**32**	P	P	22 54 19.8	+3.8	
KBN	**Korca**	**96.86**	**32**	P	P	22 54 19.8	+3.8	
KBN	**Korca**	**96.86**	**32**	P	P	22 54 19.8	+3.8	
MSAB	**Monastry St. A**	**96.87**	**26**	⇓*i*P	**P**	**22 54 16.8**	**+1.0**	
FNA	**Florina**	**97.00**	**32**	P	**P**	**22 54 16.7**	**+0.1**	
FNA	**Florina**	**97.00**	**32**	P	**P**	**22 54 16.7**	**+0.1**	
FNA	**Florina**	**97.00**	**32**	P	**P**	**22 54 16.7**	**+0.1**	
VAY	**Valandovo**	**97.08**	**31**	*e*P	Pdif	22 54 21.4	+4.4	
SRN	**Sarande**	**97.10**	**33**	P	Pdif	22 54 19.4	+2.3	
SRN	**Sarande**	**97.10**	**33**	P	Pdif	22 54 19.4	+2.3	
KEK	**Kerkira**	**97.14**	**33**	P	Pdif	22 54 17.7	+0.4	
KEK	**Kerkira**	**97.14**	**33**	P	Pdif	22 54 17.7	+0.4	
NEST	**Nestorio**	**97.15**	**32**	P	**P**	**22 54 17.3**	**0.0**	
PLD	**Plovdiv**	**97.33**	**29**	P	Pdif	22 54 19.7	+1.6	
PLD	**Plovdiv**	**97.33**	**29**	P	Pdif	22 54 19.7	+1.6	
PLD	**Plovdiv**	**97.33**	**29**	P	Pdif	22 54 19.7	+1.6	
PSN	**Preselentsi**	**97.35**	**26**	⇑P	Pdif	22 54 20.0	+1.9	
PSN	**Preselentsi**	**97.35**	**26**	⇑*i*P	Pdif	22 54 20.0	+1.9	
PSN	**Preselentsi**	**97.35**	**26**	*i* P	**P**	**22 54 18.0**	**0.0**	
KNT	**Kendrikon**	**97.36**	**31**	P	Pdif	22 54 18.8	+0.6	
KNT	**Kendrikon**	**97.36**	**31**	P	Pdif	22 54 18.8	+0.6	
KNT	**Kendrikon**	**97.36**	**31**	P	Pdif	22 54 18.8	+0.6	
MMB	**Musomiste**	**97.36**	**30**	⇓P	Pdif	22 54 21.3	+3.0	
MMB	**Musomiste**	**97.36**	**30**	⇓*i*P	Pdif	22 54 21.3	+3.0	
MMB	**Musomiste**	**97.36**	**30**	*i* P	**P**	**22 54 18.0**	**-0.2**	
SSE	**Sheshan**	**97.38**	**314**	⇑P	Pdif	22 54 22.2	+3.7	
SSE				PP	PP	22 58 22.4	+7.9	
SSE				SKS	**SKSac**	**23 04 54.5**	**-2.2**	
SSE				S	**S**	**23 05 38.1**	**-5.4**	
SSE				PMZ				
	comp=Z,15nm,0.6s							
SSE				PMZ				
	comp=Z,610nm,5.7s							
SSE				LN				
	comp=Z,19μm,23.7s							
SSE				LE				
	comp=Z,52μm,23.8s							
SSE				LZ				
	comp=Z,60μm,17.2s							
AKTO	**Aktyubinsk**	**97.44**	**4**	LR	LR	23 43 59.7		
	comp=Z,87μm,19.1s,slow=39							
PRD	**Provadia**	**97.47**	**27**	*i* P	Pdif	22 54 19.0	+0.4	
EFI	**East Falkland**	**97.48**	**148**	PFAKE		22 54 30.0	+12	
EFI				LR	LR			
	comp=Z,130μm,19.0s							
WDD	**Wield Dalam**	**97.49**	**39**	PFAKE		22 54 30.0	+11	
WDD				LR	LR			
	comp=Z,103μm,20.0s							
IGT	**Igoumenitsa**	**97.53**	**33**	P	**P**	**22 54 17.0**	**-2.0**	
IGT	**Igoumenitsa**	**97.53**	**33**	P	**P**	**22 54 17.0**	**-2.0**	
IGT	**Igoumenitsa**	**97.53**	**33**	P	**P**	**22 54 17.0**	**-2.0**	
SNZO	**South Karori**	**97.56**	**226**	PFAKE		22 54 30.0	+11	
SNZO				LR	LR			
	comp=Z,57μm,22.0s							
KZN	**Kozani**	**97.56**	**32**	P	Pdif	22 54 20.4	+1.2	
KZN	**Kozani**	**97.56**	**32**	P	Pdif	22 54 20.4	+1.2	
KZN	**Kozani**	**97.56**	**32**	P	Pdif	22 54 20.4	+1.2	
NVR	**Nevrokopi**	**97.61**	**30**	P	Pdif	22 54 21.4	+2.0	
NVR	**Nevrokopi**	**97.61**	**30**	P	Pdif	22 54 21.4	+2.0	
JAN	**Janina**	**97.67**	**33**	P	Pdif	22 54 21.7	+2.0	
JAN	**Janina**	**97.67**	**33**	P	Pdif	22 54 21.7	+2.0	
JAN	**Janina**	**97.67**	**33**	P	Pdif	22 54 21.7	+2.0	
SRS	**Serrai**	**97.69**	**30**	P	Pdif	22 54 21.2	+1.5	
SRS	**Serrai**	**97.69**	**30**	P	Pdif	22 54 21.2	+1.5	
SRS	**Serrai**	**97.69**	**30**	P	Pdif	22 54 21.2	+1.5	
JMB	**Yambol**	**97.78**	**27**	P	Pdif	22 54 25.9	+5.9	
JMB	**Yambol**	**97.78**	**27**	⇓P	Pdif	22 54 25.1	+5.1	
JMB	**Yambol**	**97.78**	**27**	⇓*i*P	Pdif	22 54 25.1	+5.1	
JMB	**Yambol**	**97.78**	**27**	*i* P	Pdif	22 54 26.0	+6.0	
JMB	**Yambol**	**97.78**	**27**	P	Pdif	22 54 25.9	+5.9	
THE	**Thessaloniki**	**97.82**	**31**	P	Pdif	22 54 22.9	+2.7	
THE	**Thessaloniki**	**97.82**	**31**	P	Pdif	22 54 22.9	+2.7	
THE	**Thessaloniki**	**97.82**	**31**	P	Pdif	22 54 22.9	+2.7	
SOH	**Sokhos**	**97.83**	**30**	P	Pdif	22 54 23.4	+3.0	
SOH	**Sokhos**	**97.83**	**30**	P	Pdif	22 54 23.4	+3.0	
SOH	**Sokhos**	**97.83**	**30**	P	Pdif	22 54 23.4	+3.0	
HORT	**Hortiatis**	**97.91**	**31**	P	**P**	**22 54 19.9**	**-0.8**	
HORT	**Hortiatis**	**97.91**	**31**	P	**P**	**22 54 19.9**	**-0.8**	
KDZ	**Kurdzhali**	**98.00**	**29**	*i* P	**P**	**22 54 21.0**	**-0.1**	
LIT	**Litokhoron**	**98.05**	**31**	P	Pdif	22 54 24.4	+3.1	
LIT	**Litokhoron**	**98.05**	**31**	P	Pdif	22 54 24.4	+3.1	
LIT	**Litokhoron**	**98.05**	**31**	P	Pdif	22 54 24.4	+3.1	
NJ2	**Nanjing**	**98.10**	**316**	*e*P	P	22 54 17.9	-3.7	
NJ2				PMZ				
	comp=Z,30nm,1.0s							
NJ2				LN				
	comp=Z,118μm,29.9s							
NJ2				LE				
	comp=Z,117μm,24.5s							
NJ2				LZ				
	comp=Z,117μm,24.6s							
KAVA	**Kavala**	**98.18**	**30**	P	Pdif	22 54 23.4	+1.6	
KAVA	**Kavala**	**98.18**	**30**	P	Pdif	22 54 23.4	+1.6	
DSL	**Palaion Diasel**	**98.21**	**33**	P	Pdif	22 54 24.7	+2.6	
DSL	**Palaion Diasel**	**98.21**	**33**	P	Pdif	22 54 24.7	+2.6	
PLG	**Polygyros**	**98.24**	**31**	P	Pdif	22 54 26.9	+4.7	
PLG	**Polygyros**	**98.24**	**31**	P	Pdif	22 54 26.9	+4.7	
PLG	**Polygyros**	**98.24**	**31**	P	Pdif	22 54 26.9	+4.7	
SIM	**Simferopol'**	**98.25**	**21**	*d*/*i*P	Pdif	22 54 26.9	+4.8	
SIM				*e*PPP	PPP	23 00 37.0		
SIM				*e*SS	SS	23 12 38.0	+6.5	
THL	**Klokotos Trika**	**98.27**	**32**	P	Pdif	22 54 26.4	+4.1	
LKD2	**Lefkada island**	**98.28**	**33**	P	Pdif	22 54 24.2	+1.8	
LKD2	**Lefkada island**	**98.28**	**33**	P	Pdif	22 54 24.2	+1.8	
EDRB	**Edirne**	**98.37**	**28**	P	Pdif	22 54 24.8	+2.1	
EDRB	**Edirne**	**98.37**	**28**	P	Pdif	22 54 24.8	+2.1	
RDO	**Rodhopi**	**98.48**	**29**	P	Pdif	22 54 26.4	+3.2	
RDO	**Rodhopi**	**98.48**	**29**	P	Pdif	22 54 26.4	+3.2	
OUR	**Ouranopolis**	**98.50**	**30**	P	Pdif	22 54 23.7	+0.4	
OUR	**Ouranopolis**	**98.50**	**30**	P	Pdif	22 54 23.7	+0.4	
OUR	**Ouranopolis**	**98.50**	**30**	P	Pdif	22 54 23.7	+0.4	
PDO	**Prodromos**	**98.68**	**33**	P	Pdif	22 54 24.8	+0.7	
EVR	**Evrytania**	**98.71**	**33**	P	Pdif	22 54 25.1	+0.7	
EVR	**Evrytania**	**98.71**	**33**	P	Pdif	22 54 25.1	+0.7	
PAIG	**Paliouri**	**98.71**	**31**	P	Pdif	22 54 26.8	+2.6	
PAIG	**Paliouri**	**98.71**	**31**	P	Pdif	22 54 26.8	+2.6	
PAIG	**Paliouri**	**98.71**	**31**	P	Pdif	22 54 26.8	+2.6	
ABKAR	**Akbulak array**	**98.72**	**3**	*e*P	P	22 54 20.7	-3.4	
	comp=Z,25nm,1.1s							
VLS	**Valsamata**	**98.74**	**34**	P	Pdif	22 54 24.7	+0.3	
VLS	**Valsamata**	**98.74**	**34**	P	Pdif	22 54 24.7	+0.3	
VLS	**Valsamata**	**98.74**	**34**	P	Pdif	22 54 24.7	+0.3	
AGG	**Agios Georgios**	**98.86**	**32**	P	Pdif	22 54 25.0	0.0	
AGG	**Agios Georgios**	**98.86**	**32**	P	Pdif	22 54 25.0	0.0	
AGG	**Agios Georgios**	**98.86**	**32**	P	Pdif	22 54 25.0	0.0	
ALN	**Alexandroupoli**	**98.89**	**29**	P	Pdif	22 54 29.8	+4.8	
ALN	**Alexandroupoli**	**98.89**	**29**	P	Pdif	22 54 29.8	+4.8	
ALN	**Alexandroupoli**	**98.89**	**29**	P	Pdif	22 54 29.8	+4.8	
XOR	**Xorichti**	**98.96**	**31**	P	Pdif	22 54 27.5	+2.1	
XOR	**Xorichti**	**98.96**	**31**	P	Pdif	22 54 27.5	+2.1	
NEO	**Neokhori**	**99.02**	**31**	P	**Pdif**	**22 54 29.4**	**+3.7**	
NEO	**Neokhori**	**99.02**	**31**	P	**Pdif**	**22 54 29.4**	**+3.7**	
SMTH	**Samothraki Isl**	**99.04**	**29**	P	**Pdif**	**22 54 27.1**	**+1.4**	
SMTH	**Samothraki Isl**	**99.04**	**29**	P	**Pdif**	**22 54 27.1**	**+1.4**	
EFP	**Efpalio**	**99.15**	**33**	P	**Pdif**	**22 54 27.5**	**+1.3**	
RLS	**Riolos of Patr**	**99.25**	**33**	P	**Pdif**	**22 54 30.9**	**+4.3**	
RLS	**Riolos of Patr**	**99.25**	**33**	P	**Pdif**	**22 54 30.9**	**+4.3**	
SKIA	**Skiathos**	**99.25**	**31**	P	**Pdif**	**22 54 30.6**	**+4.0**	
KALE	**Kalithea**	**99.28**	**33**	P	**Pdif**	**22 54 31.3**	**+4.4**	
KALE	**Kalithea**	**99.28**	**33**	P	**Pdif**	**22 54 31.3**	**+4.4**	
ANN	**Anapa**	**99.36**	**19**	*i* P	**Pdif**	**22 54 30.2**	**+3.2**	
ANN				*e*		22 58 29.2		
ANN				*e*		23 05 08.8		
ANN				*e*SS	SS	23 12 44.8	-2.2	
ANN				*i* SSS	SSS	23 16 30.7		
ANN				pmax	pmax			
	comp=E,8.0nm,1.0s							
ANN				pmax	pmax			
	comp=Z,104nm,2.0s							
ANN				pmax	pmax			
	comp=N,17nm,2.0s							
ANN				pmax	pmax			
	comp=N,340nm,6.7s							
ANN				pmax	pmax			
	comp=Z,1μm,6.7s							
LIA	**Limnos Island**	**99.38**	**30**	P	**Pdif**	**22 54 29.8**	**+2.6**	
LIA	**Limnos Island**	**99.38**	**30**	P	**Pdif**	**22 54 29.8**	**+2.6**	
AOS	**Alonnisos**	**99.42**	**31**	P	**Pdif**	**22 54 28.5**	**+1.1**	
AOS	**Alonnisos**	**99.42**	**31**	P	**Pdif**	**22 54 28.5**	**+1.1**	
LKR	**Lokris**	**99.46**	**32**	P	**Pdif**	**22 54 29.6**	**+2.0**	
LKR	**Lokris**	**99.46**	**32**	P	**Pdif**	**22 54 29.6**	**+2.0**	
KLV	**Kalavryta, Ach**	**99.57**	**33**	P	**Pdif**	**22 54 31.7**	**+3.5**	
KLV	**Kalavryta, Ach**	**99.57**	**33**	P	**Pdif**	**22 54 31.7**	**+3.5**	
MKAR	**Makanchi Array**	**99.72**	**348**	P	**Pdif**	**22 54 28.8**	**+0.2**	
	comp=Z,10nm,1.3s,baz=30,slow=3.5,SNR=16							
MKAR				PKKP	**PKKPdf**	**23 10 52.8**	**+0.3**	
	comp=Z,2.1nm,1.1s,baz=158,slow=1.3,SNR=6.0							
MKAR				PKPPKP	**P'P'df**	**23 19 09.4**	**-2.3**	
	comp=Z,0.4nm,1.0s,baz=197,slow=3.8,SNR=3.6							
MKAR				LR	LR	23 46 57.2		
	comp=Z,72μm,18.4s,baz=7.0,slow=40							
GUR	**Goura**	**99.75**	**33**	P	**Pdif**	**22 54 29.4**	**+0.4**	
GUR	**Goura**	**99.75**	**33**	P	**Pdif**	**22 54 29.4**	**+0.4**	
ISK	**Istanbul-Kandi**	**99.93**	**27**	P	**Pdif**	**22 54 32.6**	**+3.0**	
ISK	**Istanbul-Kandi**	**99.93**	**27**	P	**Pdif**	**22 54 32.6**	**+3.0**	
ISK	**Istanbul-Kandi**	**99.93**	**27**	P	**Pdif**	**22 54 32.6**	**+3.0**	
LTK	**Loutraki**	**99.96**	**32**	P	**Pdif**	**22 54 32.1**	**+2.2**	
LTK	**Loutraki**	**99.96**	**32**	P	**Pdif**	**22 54 32.1**	**+2.2**	
ITM	**Ithomi**	**100.17**	**33**	P	**Pdif**	**22 54 31.1**	**+0.3**	
ITM	**Ithomi**	**100.17**	**33**	P	**Pdif**	**22 54 31.1**	**+0.3**	
VLX	**Vlachokerasia**	**100.22**	**33**	P	**Pdif**	**22 54 31.8**	**+0.6**	
VLX	**Vlachokerasia**	**100.22**	**33**	P	**Pdif**	**22 54 31.8**	**+0.6**	
SIGR	**SIGRI**	**100.23**	**30**	P	**Pdif**	**22 54 31.3**	**+0.3**	
SIGR	**SIGRI**	**100.23**	**30**	P	**Pdif**	**22 54 31.3**	**+0.3**	
PYL	**PYLOS**	**100.31**	**34**	P	**Pdif**	**22 54 34.1**	**+2.7**	
PYL	**PYLOS**	**100.31**	**34**	P	**Pdif**	**22 54 34.1**	**+2.7**	
PTL	**Penteli**	**100.34**	**32**	P	**Pdif**	**22 54 34.8**	**+3.2**	
PTL	**Penteli**	**100.34**	**32**	P	**Pdif**	**22 54 34.8**	**+3.2**	
PRK	**Paraskevi**	**100.38**	**29**	P	**Pdif**	**22 54 32.1**	**+0.4**	
PRK	**Paraskevi**	**100.38**	**29**	P	**Pdif**	**22 54 32.1**	**+0.4**	
PRK	**Paraskevi**	**100.38**	**29**	P	**Pdif**	**22 54 32.1**	**+0.4**	
GOF	**Gofitskoye**	**100.54**	**15**	*e*P	**Pdif**	**22 54 30.4**	**-1.9**	
VLI	**Veliai**	**101.01**	**33**	P	**Pdif**	**22 54 36.9**	**+2.3**	
VLI	**Veliai**	**101.01**	**33**	P	**Pdif**	**22 54 36.9**	**+2.3**	
SOC	**Sochi**	**101.11**	**18**	*d*/*i*P	**Pdif**	**22 54 38.0**	**+3.2**	
SOC				*e*		22 58 46.7		
SOC				pmax	pmax			
	comp=Z,104nm,1.5s							
TAM	**Tamanrasset**	**101.27**	**54**	*e*P	**Pdif**	**22 54 33.5**	**-2.7**	
TAM				pmax	pmax			
	comp=Z,86nm,2.1s							
TAM				MLR	MLR			
	comp=Z,204μm,22.0s							
TAM	**Tamanrasset**	**101.27**	**54**	*e*Pdif	**Pdif**	**22 54 33.5**	**-2.7**	
	comp=Z,86nm,2.1s							
TAM				LR	LR			
	comp=Z,204μm,22.0s							
PMG	**Port Moresby**	**101.33**	**266**	*e*P	**Pdif**	**22 54 26.6**	**-10**	
PMG				pmax	pmax			
	comp=Z,5.0nm,1.4s							
PMG				MLR	MLR			
	comp=Z,170μm,20.0s							
PMG	**Port Moresby**	**101.33**	**266**	*e*Pdif	**Pdif**	**22 54 26.6**	**-10**	
	comp=Z,5.4nm,1.4s							
PMG				LR	LR			
	comp=Z,170μm,20.0s							
WMQ	**Urumqi**	**101.41**	**343**	P	**Pdif**	**22 54 40.5**	**+4.2**	
WMQ				pP	pP	22 54 46.7	+8.5	
WMQ				PP	PP	22 58 50.0	+5.4	
WMQ				SKS	**SKSac**	**23 05 20.0**	**+3.5**	
WMQ				S	**Sdif**	**23 06 17.0**	**-0.1**	
WMQ				SS	**SS**	**23 13 19.0**	**+3.2**	
WMQ				PMZ				
	comp=Z,91nm,2.0s							
WMQ				LN				
	comp=Z,96μm,21.4s							
WMQ				LE				
	comp=Z,64μm,21.5s							
WMQ				LZ				
	comp=Z,108μm,25.4s							
TATO	**Taipei**	**101.44**	**309**	PFAKE		22 54 50.0	+13	
TATO				LR	LR			
	comp=Z,54μm,22.0s							
KIV	**Kislovodsk**	**101.50**	**16**	*e*P	**Pdif**	**22 54 39.3**	**+2.6**	
KIV				*e*		22 58 50.0		
KIV				*e*		23 05 20.6		
KIV				*e*SS	SS	23 13 23.3	+6.2	
KIV				pmax	pmax			
	comp=Z,13nm,1.1s							
KIV	**Kislovodsk** SNR=10	**101.50**	**16**	Pdiff	**Pdif**	**22 54 42.7**	**+5.9**	
KIV	**Kislovodsk**	**101.50**	**16**	*e*Pdif	**Pdif**	**22 54 34.0**	**-2.7**	
	comp=Z,69nm,1.4s							
KIV				LR	LR			
	comp=Z,150μm,21.0s							
GTA	**Gaotai**	**101.60**	**333**	⇓P	**Pdif**	**22 54 40.8**	**+3.5**	
GTA				PP	PKiKP	22 58 53.8	-7.2	
GTA				SKS	**SKSac**	**23 05 16.3**	**-1.4**	
GTA				S	**Sdif**	**23 06 15.2**	**-3.8**	
GTA				sS	sS	23 06 33.2	+11	
GTA				SS	**SS**	**23 13 22.0**	**+3.2**	
GTA				PMZ				
	comp=Z,6.0nm,1.9s							
GTA				PMZ				
	comp=Z,780nm,6.7s							
GTA				LN				
	comp=Z,76μm,18.5s							
GTA				LE				
	comp=Z,75μm,21.8s							
GTA				LZ				
	comp=Z,128μm,20.9s							
YHNB	**Yeheng**	**101.72**	**309**	PFAKE		22 54 50.0	+12	
YHNB				LR	LR			
	comp=Z,50μm,19.0s							
KBZ	**Khabaz**	**101.77**	**16**	P	**Pdif**	**22 54 39.2**	**+1.5**	
	comp=Z,4.4nm,0.9s,baz=351,slow=2.9,SNR=19							
WHN	**Wuhan**	**101.82**	**318**	⇓P	**Pdif**	**22 54 36.6**	**-1.6**	
WHN				PP	**PP**	**22 58 51.5**	**+3.3**	
WHN				LZ				
	comp=Z,160μm,18.2s							
ANKY	**Antikythira Is**	**101.88**	**33**	P	**Pdif**	**22 54 37.5**	**-0.9**	
ANKY	**Antikythira Is**	**101.88**	**33**	P	**Pdif**	**22 54 37.5**	**-0.9**	
XAN	**Xi'an**	**102.02**	**324**	P	**Pdif**	**22 54 42.5**	**+3.3**	
XAN				SKS		23 05 18.5		
XAN				LN				
	comp=Z,59μm,21.2s							
XAN				LE				
	comp=Z,33μm,17.1s							
XAN				LZ				
	comp=Z,28μm,20.4s							
NCK	**Nalchik**	**102.15**	**16**	*e*P	**Pdif**	**22 54 41.5**	**+2.0**	
NEY	**Neytrino**	**102.18**	**16**	*e*P	**Pdif**	**22 54 43.2**	**+3.3**	
NEY				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ANTO	**Ankara**	**102.35**	**25**	*e*P	**Pdif**	**22 54 37.9**	**-2.7**	
ANTO				pmax	pmax			
	comp=Z,53nm,1.4s							
ANTO				MLR	MLR			
	comp=Z,110μm,22.0s							
ANTO	**Ankara**	**102.35**	**25**	Pdiff	**Pdif**	**22 54 46.1**	**+5.5**	
SNR=13								
ANTO	**Ankara**	**102.35**	**25**	*e*Pdif	**Pdif**	**22 54 37.9**	**-2.7**	
	comp=Z,53nm,1.4s							
ANTO				LR	LR			
	comp=Z,110μm,22.0s							
SANT	**Santorini**	**102.44**	**32**	PFAKE		22 54 50.0	+9.0	
SANT				LR	LR			
	comp=Z,72μm,20.0s							
CHVG	**Ch'k'valeri**	**102.53**	**17**	P	**Pdif**	**22 54 46.9**	**+5.8**	
KARN	**Karanos**	**102.55**	**33**	P	**Pdif**	**22 54 45.0**	**+3.6**	
KARN	**Karanos**	**102.55**	**33**	P	**Pdif**	**22 54 45.0**	**+3.6**	
LZH	**Lanzhou**	**102.75**	**328**	*e*P	**Pdif**	**22 54 47.2**	**+4.7**	
LZH				pP		22 54 52.0		
LZH				PP	**PKiKP**	**22 59 03.2**	**0.0**	
LZH				S	**Sdif**	**23 06 28.1**	**-0.7**	
LZH				sS	sS	23 06 37.2	+5.0	
LZH				SS	**SS**	**23 13 36.8**	**+1.7**	
LZH				PMZ				
	comp=Z,83nm,1.1s							
LZH				PMZ				
	comp=Z,470nm,6.5s							
LZH				LN				
	comp=Z,35μm,18.4s							
LZH				LE				
	comp=Z,32μm,17.6s							
LZH				LZ				
	comp=Z,42μm,19.4s							
BRTR	**Keskin Array B**	**102.78**	**24**	P	**Pdif**	**22 54 43.0**	**+0.5**	
BRTR	**Keskin Array B**	**102.78**	**24**	P	**Pdif**	**22 54 43.0**	**+0.5**	
	comp=Z,3.7nm,1.2s,baz=341,slow=2.6,SNR=14							
BRTR				PKKP	**PKKPdf**	**23 10 47.7**	**+0.6**	
	comp=Z,0.9nm,0.9s,baz=110,slow=2.2,SNR=3.6							
BRTR				PKPPKP	**P'P'df**	**23 19 01.4**	**-4.4**	
	comp=Z,0.7nm,0.9s,baz=209,slow=2.3,SNR=3.9							
ZEI	**Tsey**	**102.89**	**16**	*e*P	**Pdif**	**22 54 47.1**	**+4.0**	
ZEI				pmax	pmax			
	comp=Z,17nm,1.9s							
ONI	**Oni**	**102.98**	**16**	P	**Pdif**	**22 54 46.6**	**+3.4**	
SIVA	**Sivas**	**103.27**	**33**	P	**Pdif**	**22 54 46.4**	**+1.8**	
SIVA	**Sivas**	**103.27**	**33**	P	**Pdif**	**22 54 46.4**	**+1.8**	
ISP	**Isparta**	**103.31**	**27**	P	**Pdif**	**22 54 43.2**	**-1.7**	
ISP	**Isparta**	**103.31**	**27**	P	**Pdif**	**22 54 43.2**	**-1.7**	
ISP				MLR	MLR			
	comp=Z,108μm,21.0s							
ISP	**Isparta**	**103.31**	**27**	P	**Pdif**	**22 54 43.2**	**-1.7**	
ISP				LR	LR			
	comp=Z,108μm,21.0s							
ASCN	**Ascension**	**103.39**	**91**	PFAKE		22 55 00.0	+15	
ASCN				LR	LR			
	comp=Z,55μm,20.0s							
DBIC	**Dimbokro**	**103.42**	**73**	Pdiff	**Pdif**	**22 54 45.6**	**0.0**	
	comp=Z,2.2nm,0.7s,baz=248,slow=1.1,SNR=2.7							
MAK	**Makhachkala**	**103.48**	**13**	*e*P	**Pdif**	**22 54 47.5**	**+2.2**	
MAK				*i*		22 59 10.9		
MAK				*e*PPP	PPP	23 01 19.1		
MAK				*e*		23 05 26.4		
MAK				*e*		23 06 06.2		
MAK				*e*PS	**PS**	**23 08 18.1**	**+8.4**	
MAK				*e*SS	SS	23 13 57.0	+13	
MAK				pmax	pmax			
	comp=Z,183nm,1.8s							
KARP	**Karpathos**	**103.88**	**31**	P	**Pdif**	**22 54 49.1**	**+1.7**	
KARP	**Karpathos**	**103.88**	**31**	P	**Pdif**	**22 54 49.1**	**+1.7**	
TBLG	**Delisi**	**104.09**	**15**	P	**Pdif**	**22 54 51.1**	**+3.0**	
AKH	**Akhalkalaki**	**104.11**	**16**	P	**Pdif**	**22 54 51.7**	**+3.3**	
DGRG	**David-gareji**	**104.50**	**15**	P	**Pdif**	**22 54 54.8**	**+4.8**	
TKM2	**Tokmak 2**	**104.51**	**352**	*e*P	**Pdif**	**22 54 46.9**	**-3.4**	
TKM2				pmax	pmax			
	comp=Z,31nm,1.4s							
TKM2				MLR	MLR			
	comp=Z,127μm,20.0s							
TKM2	**Tokmak 2**	**104.51**	**352**	*e*Pdif	**Pdif**	**22 54 46.9**	**-3.4**	
	comp=Z,31nm,1.4s							
TKM2				LR	LR			
	comp=Z,127μm,20.0s							
PMSA	**Palmer Station**	**104.64**	**160**	PFAKE		22 55 00.0	+10	
PMSA				LR	LR			
	comp=Z,44μm,22.0s							
ENH	**Enshi**	**104.71**	**321**	PFAKE		22 55 00.0	+8.8	
ENH				LR	LR			
	comp=Z,44μm,20.0s							
FRU	**Bishkek**	**104.71**	**353**	*e*P	**Pdif**	**22 54 56.0**	**+5.1**	
FRU				*i*		22 59 18.0		
FRU				*e*		23 05 28.0		
FRU				*e*SS	SS	23 14 15.0	+14	
FRU				pmax	pmax			
	comp=Z,130nm,2.4s							
TORD	**Torodi Ar. Bea**	**104.71**	**64**	Pdiff	**Pdif**	**22 54 52.7**	**+1.3**	
	comp=Z,7.4nm,1.2s,baz=304,slow=3.7,SNR=16							
TORD				PKKPbc	**PKKPbc**	**23 10 36.4**	**+2.0**	
	comp=Z,0.8nm,0.7s,baz=114,slow=2.9,SNR=6.3							
KKAR	**Karatay Array**	**104.80**	**356**	*e*P	**Pdif**	**22 54 48.3**	**-3.0**	
KKAR				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KKAR	**Karatay Array**	**104.80**	**356**	*e*Pdif	**Pdif**	**22 54 48.3**	**-3.0**	
	comp=Z,7.7nm,1.1s							
AAK	**Ala

KKN Kakani 117.15 340 eP PKPdf 22 59 34.0 +3.4
WRAB Tennant Creek 117.24 263 ePKIKP PKPdf 22 59 26.3 -4.2
WRAB MLR MLR
comp=Z,181µm,20.0s
WRAB Tennant Creek 117.24 263 ePKPdf PKPdf 22 59 26.3 -4.2
WRAB LR LR
comp=Z,181µm,20.0s
WB2 Warramunga Arr 117.24 263 ePKPdf PKPdf 22 59 26.8 -3.8
WRA Warramunga Arr 117.25 263 PKP PKPdf 22 59 30.9 +0.4
comp=Z,3.7nm,0.8s,baz=62,slow=2.1,SNR=17
WRA PKKPab PKKPab 23 10 00.1 +2.7
comp=Z,6.3nm,1.2s,baz=257,slow=3.1,SNR=8.0
PKIN Phulchoki 117.31 339 ePn PKPdf 22 59 34.0 +3.0
PKI Pulchoki 117.31 339 ePn PKPdf 22 59 34.0 +2.9
ODAN Odare 117.36 337 eP PKPdf 22 59 34.3 +3.3
PYUN Piuthan 117.50 342 eP PKPdf 22 59 34.1 +2.9
RAMN Ramite 117.53 338 eP PKPdf 22 59 34.7 +3.3
KOLN Koldanda 117.64 341 eP PKPdf 22 59 34.6 +3.1
KKM Kota Kinabalu 117.98 298 PFAKE 22 59 40.0 +7.7
KKM LR LR
comp=Z,51µm,22.0s
NDI New Delhi 118.23 348 eP PKPdf 22 59 31.0 -1.3
NDI ex x 23 11 00.0
AYAN Aya Nagar 118.44 348 eP PKPdf 22 59 31.0 -1.7
SBA Scott Base 118.82 194 PFAKE 22 59 40.0 +8.1
SBA LR LR
comp=Z,23µm,22.0s
KUDL Kundal 118.88 348 eP PKPdf 22 59 32.4 -1.2
KHET Khetri 119.07 349 eP PKPdf 22 59 32.6 -1.4
AS31 Alice Springs 119.23 259 ePKPdf PKPdf 22 59 30.8 -3.5
ASAR Alice Springs 119.23 259 PKP PKPdf 22 59 34.0 -0.3
comp=Z,3.3nm,0.8s,baz=73,slow=1.9,SNR=9.2
ASAR PKKPab PKKPab 23 09 52.1 +3.5
comp=Z,2.6nm,0.8s,baz=236,slow=3.7,SNR=10
ASAR PKKP PKKPdf 23 10 20.2 +2.6
comp=Z,4.0nm,0.9s,baz=229,slow=3.6,SNR=7.0
ASAR SKKP 23 13 53.1
comp=Z,3.5nm,1.0s,baz=253,slow=2.5,SNR=4.5
AGRA Agra 119.50 346 eP PKPdf 22 59 33.9 -0.9
CHTO Chiang Mai 119.55 322 ePKIKP PKPdf 22 59 31.0 -4.1
CHTO MLR MLR
comp=Z,53µm,19.0s
CHTO Chiang Mai 119.55 322 PKPdf PKPdf 22 59 39.8 +4.7
SNR=7.0
CHTO Chiang Mai 119.55 322 ePKPdf PKPdf 22 59 31.0 -4.1
CHTO LR LR
comp=Z,53µm,19.0s
VNDA Vanda 119.73 194 PKP PKPdf 22 59 36.3 +2.7
comp=Z,6.7nm,1.3s,baz=267,slow=3.2,SNR=9.4
CMAR Chiang Mai Arr 119.85 322 PKP PKPdf 22 59 37.8 +2.1
comp=Z,1.3nm,0.3s,baz=333,slow=1.3,SNR=6.2
CMAR PKKP PKKPdf 23 10 13.5 -1.8
comp=Z,1.0nm,0.3s,baz=237,slow=3.5,SNR=5.1
BOK Bokaro 120.69 337 eP PKPdf 22 59 35.9 -1.4
SOEI Soe 120.86 278 ePKPdf PKPdf 22 59 34.3 -3.5
RAYN Ar Rayn 121.55 21 ePKPdf PKPdf 22 59 35.4 -3.6
KAPI Kappang 122.00 286 PFAKE 22 59 50.0 +10
KAPI LR LR
comp=Z,61µm,22.0s
QSPA South Pole Qui 122.11 180 PKP PKPdf 22 59 40.0 +1.4
comp=Z,14nm,1.0s,baz=71,slow=2.2,SNR=12
NAZ Nazwa, Dubai 122.40 10⇑*i* PKiKP PKiKP 22 59 43.1 +2.5
SNR=5.1
NAZ Nazwa, Dubai 122.40 10 PKPdf PKPdf 22 59 45.2 +4.7
SNR=6.0
HATD Hatta, Dubai 122.63 9⇓*i* PKPdf PKPdf 22 59 37.2 -3.7
SNR=7.5
HATD Hatta, Dubai 122.63 9 PKPdf PKPdf 22 59 44.6 +3.7
SNR=9.6
BHPL Bhopal 123.48 346 eP PKPdf 22 59 41.6 -1.0
BHJ Bhuj 124.58 355 eP PKPdf 22 59 40.9 -3.8
BHJ AMS AMS 00 11 09.1
comp=Z,17µm,21.2s
BSY Bisya 124.82 8 PKPdf PKPdf 22 59 50.0 +4.9
SNR=5.4
DRV Dumont d'Urvil 124.98 208 PP PP 23 01 45.0 +12
DRV SS SS 23 18 47.0 +18
DRV L L 23 31 00.0
DRV R 23 37 00.0
NGP Nagpur 125.14 344 ex PP 23 01 39.1 +5.7
NGP ex x 23 13 43.5
NGP ex x 00 00 55.8
comp=Z,6µm,22.9s
VNA3 Neumayer Olymp 125.21 158 P PKPdf 22 59 46.5 +2.2
KSM Kuching 125.39 299 ePKPdf PKPdf 22 59 45.0 -1.5
KSM LR LR
comp=Z,43µm,22.0s
VNA1 Neumayer--Stat 125.70 157 P PKPdf 22 59 49.2 +3.9
VNA2 Neumayer--Watz 125.97 157 P PKPdf 22 59 51.0 +5.3
baz=309,slow=3.2
CHLP Challavanipeta 126.22 337 ePKPdf PKPdf 22 59 50.7 +2.8
CHLP ePP PP 23 01 44.0 +3.3
CHLP *e* 23 13 36.3
CHLP eSS SS 23 18 49.9 +6.3
CHLP IVMs_BB IVMs_BB 00 03 00.7
comp=Z,17µm,17.4s
FORT Forrest 126.72 254 ePKPdf PKPdf 22 59 44.0 -4.4
VIS Vishakhapatnam 127.19 338 eP PKPdf 22 59 47.9 -1.9
RPR Rampur 127.28 343 ePKPdf PKPdf 22 59 48.9 -1.0
RPR ePP PP 23 01 48.8 +1.1
RPR *e* 23 13 51.5
RPR eSS SS 23 18 60.0 +3.3
RPR IVMs_BB IVMs_BB 00 02 24.2
comp=Z,20µm,18.9s
SNAA Sanae 127.33 158 P PKPdf 22 59 56.0 +7.6
SNAA Sanae 127.33 158 PKIKP PKPdf 22 59 51.4 +3.0
SNAA Sanae 127.33 158 P PKPdf 22 59 51.4 +3.0
DGPR DIGLIPUR 127.36 325 eP PKPdf 22 59 49.2 -0.9
DGPR AMB AMB 00 04 12.1
comp=Z,165nm,23.8s
POO Poona 128.73 349 eP PKPdf 22 59 51.0 -1.8
PBA Port Blair 128.75 324 eP PKPdf 22 59 49.9 -2.9
HYBB Hyderabad (bro 128.84 343 ePKPdf PKPdf 22 59 52.1 -0.9
HYBB ePP PP 23 01 58.7 +0.6
HYBB *e* 23 14 06.7
HYBB eSS SS 23 19 27.5 +11
HYBB IVMs_BB IVMs_BB 00 04 53.4
comp=Z,23µm,17.1s
HYB Hyderabad 128.85 343 *i* Pdiff Pdif 22 57 00.0 +21
HYB ePKP PKiKP 22 59 56.0 +2.3
HYB *e* 23 02 00.0
HYB eSKP 23 03 32.0
HYB *e* 23 07 20.0
HYB *e* 23 09 30.0
HYB LR LR 00 05 00.0
comp=Z,59nm,16.0s
HYB Hyderabad 128.85 343 eP PKPdf 22 59 51.5 -1.5
GMJI Gumukmas 128.99 287 P PKPdf 23 00 02.6 +9.4
comp=Z,87nm,1.3s
KULM Kulim 129.38 311 ePKPdf PKPdf 22 59 49.4 -4.7
KULM LR LR
comp=Z,47µm,20.0s
ABTO Aybut 129.45 14 PKPdf PKPdf 22 59 58.6 +4.5
SNR=24
NJS Nagarjunasagar 129.48 342 ePKPdf PKPdf 22 59 53.2 -1.0
NJS ePP PP 23 02 02.5 +0.4
NJS *e* 23 13 56.2
NJS eSS SS 23 19 29.2 +5.1
NJS IVMs_BB IVMs_BB 23 57 53.6
comp=Z,23µm,23.8s
RBK Rabkut 129.49 13 PKPdf PKPdf 22 59 59.2 +5.0
SNR=14
IPM Ipoh 129.75 310 ePKPdf PKPdf 22 59 51.1 -3.7
KAD Karad 129.87 348 *i* x PKPdf 22 59 49.2 -5.8
ADKI Addanki 129.98 341 *es*PKiKP sPKiKP 22 59 57.3 -1.0
ADKI ePP PP 23 02 02.5 -2.9
ADKI eSS SS 23 19 38.4 +8.3
ADKI IVMs_BB IVMs_BB 00 02 34.6
comp=Z,23µm,20.1s
MBWA Marble Bar 130.11 269 ePKPdf PKPdf 22 59 51.7 -3.4
MBWA LR LR
comp=Z,77µm,20.0s
PWJI Pagerwojo 130.17 288 P PKPdf 22 59 55.8 +0.3
PCJI Pacitan 130.78 289 P PKPdf 23 00 04.3 +7.7
comp=Z,146nm,1.4s,comp=Z,2µm
URV Uravakonda 131.54 344 ePKPdf PKPdf 22 59 56.9 -1.3
URV ePP PP 23 02 15.7 +0.2
URV *e* 23 12 27.4
URV eSS SS 23 19 43.3 -6.0
URV IVMs_BB IVMs_BB 00 02 52.5
comp=Z,22µm,19.5s
GOA Goa 131.71 348 eP PKPdf 22 59 56.6 -1.7
GOA AMS AMS 00 16 47.0
comp=Z,23µm,23.6s

CMBY CAMPBELL BAY 132.04 319 eP PKPdf 22 59 55.0 -4.1
SKHT Srikalahasti 132.05 340 ePKPdf PKPdf 22 59 57.8 -1.2
SKHT ePP PP 23 02 16.6 -2.3
SKHT *e* 23 14 29.4
SKHT eSS SS 23 19 56.8 +1.2
SKHT IVMs_BB IVMs_BB 00 00 16.2
comp=Z,21µm,21.2s
FURI Furi 132.09 36 P PKPdf 23 00 01.6 +2.0
FURI S PP 23 02 31.6 +12
NVL N'lazarevskaya 132.12 159 ePKIKP PKPdf 23 00 00.6 +3.2
NVL MLR MLR
comp=Z,49µm,18.0s
LEM Lembang 132.78 293 PKIKP PKPdf 23 00 02.0 +1.4
LEM Lembang 132.78 293 PKP PKPdf 23 00 02.0 +1.4
comp=Z,8.3nm,0.4s,baz=107,slow=6.6,SNR=3.5
LEM Lembang 132.78 293 PKP PKPdf 23 00 02.0 +1.4
CISI Cisompet, Garu 133.07 292 ePKPdf PKPdf 22 59 58.0 -3.0
TSUM Tsumeb 135.90 85 P PKPdf 23 00 08.9 +2.6
TSUM LR LR
comp=Z,106µm,22.0s
NWAO Narrogin (SRO) 136.16 254 PKP PKPdf 23 00 05.9 -0.3
comp=Z,5.7nm,0.9s,baz=53,slow=5.1,SNR=2.5
CASY Casey 136.46 205 PFAKE 23 00 20.0 +14
CASY LR LR
comp=Z,57µm,21.0s
RUDU RUNDU 137.10 82 P PKPdf 23 00 07.1 -1.4
TRD Trivandrum 137.80 342 eP PKPdf 23 00 08.0 -1.9
PALK Pallekele 137.83 336 ePKIKP PKPdf 23 00 06.2 -3.8
PALK Pallekele 137.83 336⇓*i* PKiKP PKiKP 23 00 11.3 -0.6
SNR=7.1
PALK Pallekele 137.83 336 ePKPdf PKPdf 23 00 06.2 -3.8
KMBO Kilima Mbogo 139.62 45 ePKIKP PKPdf 23 00 10.0 -3.5
KMBO 23 00 12.9
KMBO MLR MLR
comp=Z,122µm,21.0s
KMBO Kilima Mbogo 139.62 45 PKP PKPdf 23 00 12.9 -0.6
comp=Z,1.0nm,0.4s,baz=310,slow=6.8,SNR=7.7
KMBO Kilima Mbogo 139.62 45 PKPdf PKPdf 23 00 12.7 -0.8
SNR=14
KMBO Kilima Mbogo 139.62 45 ePKPdf PKPdf 23 00 10.0 -3.5
KMBO PKP PKPdf 23 00 12.9 -0.6
KMBO LR LR
comp=Z,122µm,21.0s
KOMG Komaggas 139.69 99 P PKPdf 23 00 15.0 +2.1
SYO Syowa Base 140.54 166⇑*eP* PKPdf 23 00 08.6 -4.5
SYO Syowa Base 140.54 166⇓*eP* PKPdf 23 00 14.1 +1.0
LSZ Lusaka 142.74 72 PKIKP PKPdf 23 00 15.9 -2.9
LSZ MLR MLR
comp=Z,101µm,22.0s
LSZ Lusaka 142.74 72 PKPdf PKPdf 23 00 19.6 +0.7
SNR=18
LSZ Lusaka 142.74 72 P PKPdf 23 00 15.9 -2.9
LSZ LR LR
comp=Z,101µm,22.0s
SUR Sutherland 143.08 102 ePKPdf PKPab 23 00 14.1 -0.4
SUR LR LR
comp=Z,60µm,21.0s
COCO West Island 144.40 297 PFAKE 23 00 30.0 +8.4
COCO LR LR
comp=Z,29µm,21.0s
MAW Mawson 144.62 179 PKP PKPdf 23 00 20.6 +0.2
comp=Z,59nm,0.9s,baz=171,slow=5.0,SNR=27
LBTB Lobatse 145.04 88 PKIKP PKPdf 23 00 24.0 +1.4
LBTB Lobatse 145.04 88 P PKPdf 23 00 24.0 +1.4
BOSA Boshof 145.90 94 PKP2 PKPab 23 00 25.0 -0.1
BOSA Boshof 145.90 94 PKPbc PKPab 23 00 25.0 -0.1
comp=Z,110nm,1.1s,baz=292,slow=2.5,SNR=23
KSR Koster 146.44 89 P PKPab 23 00 27.2 0.0
HVD Gariep Dam 146.60 98 PKP2 PKPab 23 00 29.7 +1.9
HVD Gariep Dam 146.60 98 P PKPab 23 00 29.7 +1.9
PRYS Parys 147.18 90 P PKPab 23 00 30.3 +0.2
KLOF Kloof 147.21 89 P PKPbc 23 00 29.0 +0.4
SLR Silverton 147.57 88 PKP2 PKPbc 23 00 30.4 +0.8
SLR Silverton 147.57 88 P PKPbc 23 00 30.4 +0.8
MSNA Messina 147.73 81 P PKPab 23 00 31.9 -0.3
ERPM east rand prop 147.74 89 P PKPab 23 00 31.5 -0.9
SEK Senekal 147.82 93 P PKPbc 23 00 30.1 -0.1
GRM Grahamstown 147.97 102 PKP2 PKPab 23 00 33.8 +0.9
GRM Grahamstown 147.97 102 P PKPab 23 00 33.8 +0.9
KSD Kokstad 149.88 96 P PKPdf 23 00 32.7 +2.2
MSEY Mahe Island 151.20 19 ePKIKP PKPdf 23 00 29.7 -3.2
MSEY MLR MLR
comp=Z,66µm,19.0s
MSEY Mahe Island 151.20 19⇑*i* PKPbc PKPbc 23 00 37.1 -1.7
SNR=30
MSEY Mahe Island 151.20 19 PKPdf PKPbc 23 00 39.2 +0.4
SNR=20
MSEY Mahe Island 151.20 19 ePKPdf PKPdf 23 00 29.7 -3.2
MSEY LR LR
comp=Z,66µm,19.0s
DGAR Diego Garcia 154.24 342 PFAKE 23 00 50.0 +4.5
DGAR LR LR
comp=Z,68µm,20.0s
ABPO Ambohimpanom 159.46 54 PFAKE 23 00 50.0 +5.9
ABPO LR LR
comp=Z,83µm,20.0s
PAF Port-aux-Franc 162.46 192 PP PP 23 05 03.0 -15
PAF SS SS 23 25 37.0 -2.1
PAF Port-aux-Franc 162.46 192 PFAKE 23 01 00.0 +14
PAF LR LR
comp=Z,81µm,19.0s
CRZF Crozet Islands 162.75 149 PKP PKPdf 23 00 48.0 +1.5
CRZF PP PP 23 04 10.0 -70
RER Riviere de l'E 166.33 38 PFAKE 23 01 00.0 +9.4
RER LR LR
comp=Z,71µm,19.0s
AIS Amsterdam Isla 168.13 239 Pdif PKPdf 23 00 39.0 -12
AIS PP PP 23 06 05.0 +17
AIS SKKS 23 12 43.0
AIS SS SS 23 26 52.0 +13

ISCJB ***04*** *22:50:17.6±0.3,32.˚16N×0.˚03×115.˚09W×0.˚02,h10km, mb4.9/47,Error ellipse: s-maj=4.1km s-min=2.8km az=11.4*
IDC ***04*** *22:50:17.6±0.6,32.˚21N×115.˚16W,h0km,mb4.5/21, mb1 4.6/26,mb1mx4.5/36,mbtmp4.5/26,ML4.2/5,Error ellipse: s-maj=15.4km s-min=10.1km az=50.0*
NEIC ***04*** *22:50:17.1,32.˚10N×115.˚05W,h10km,mb5.4/21, ML5.5(PAS),After PAS.*
MOS ***04*** *22:50:18.1±0.8,32.˚30N×115.˚16W,h10km,mb5.6/13, Error ellipse: s-maj=11.4km s-min=7.1km az=89.8*
ECX ***04*** *22:50:20.0±0.6,32.˚16N×115.˚26W,h10km,ML5.5*
ISC 04 22:50:17.9±0.5,32.08N±0.˚04×115.13W±0.˚03,h10km, n165,σ1§23/176,mb5.1/47,16C-18D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DREC	Desert Rsrch C	0.78	340	⇓*iP*		Pg		22 50 31.9	-0.9
WESC	Westside Schoo	0.85	323	⇑*iP*		Pg		22 50 32.9	-1.4
WESC				*iS*		Sg		22 50 44.8	-0.6
YUH	Yuha Desert	0.88	311	*eP*		Pg		22 50 33.2	-1.7
YUH	Yuha Desert	0.88	311	*eP*		Pg		22 50 33.2	-1.7
GLA	Glamis	1.01	15	⇓S		Sg		22 50 48.0	-2.3
	baz=1.0								
SWSC	Sam W. Stewart	1.03	327	⇑P		Pn		22 50 38.6	+0.1
	baz=1.1								
SWSC				⇑S		Sg		22 50 50.9	-0.3
	baz=1.1								
SPX	San Pedro Mart	1.07	196	*eP*		Pn		22 50 39.7	+0.5
CBX	Cerro Bola	1.32	281	*eP*		Pn		22 50 40.8	-1.7
CBX				*eS*		Sb		22 50 57.3	-2.7
CBX				AML	AML			22 50 58.7	
	comp=N,165µm,0.3s								
CBX				⇑*e*				22 50 58.7	
CBX				AML	AML			22 50 59.6	
	comp=E,107µm,0.2s								
CBX				*e*				22 50 59.6	
113A	Mohawk Valley,	1.34	59	⇑P		Pn		22 50 41.6	-1.1
	baz=1.3								
113A				⇑S		Sb		22 50 58.4	-2.0
	baz=1.3								
BAR	Barrett	1.44	295	*eS*		Sn		22 51 00.5	-2.5
Y12C	Blythe	1.75	17	⇓P		Pn		22 50 48.7	+0.4
	baz=1.7								
109C	Camp Elliot, M	1.86	296	⇓P		Pb		22 50 50.9	-1.0
	baz=1.9								
PFO	Pinyon Flats O	1.90	324	Pn		Pn		22 50 45.6	-4.9
	comp=E,485nm,0.3s,baz=153,slow=7.4,SNR=12								
PFO				Lg		Lg		22 51 13.6	
	comp=E,1µm,0.3s,baz=222,slow=18,SNR=10								

214A Organ Pipe Nat 1.97 93 ⇑P Pn 22 50 50.2 -1.1
baz=1.9
214A Organ Pipe Nat 1.97 93 *ePn* Pn 22 50 48.3 -3.1
BELC Belle Mtn. Jos 2.06 339 ⇑P Pb 22 50 54.1 -1.3
baz=2.1
IRM Iron Mountain 2.08 359 ⇑P Pn 22 50 53.0 +0.1
baz=2.1
Z14A Wintersburg 2.24 54 ⇓P Pn 22 50 54.6 -0.5
baz=2.2
MURC Murrieta 2.31 312 ⇓P Pb 22 50 58.8 -1.0
baz=2.3
MURC ⇓S Sb 22 51 27.5 -0.9
baz=2.3
PDMCI Parker Dam,Lak 2.37 20 ⇑P Pn 22 50 57.4 +0.6
baz=2.3
BBRC Big Bear Solar 2.65 326 ⇓P Pn 22 51 00.3 -0.5
baz=2.7
NEE2 Needles Airpor 2.72 9 ⇑P Pn 22 51 01.3 -0.3
baz=2.7
LDFC Landfair 3.00 0 *ePn* Pn 22 51 03.5 -2.0
LDFC *ePg* Pg 22 51 14.8 -0.5
LDFC *eSg* Sg 22 51 54.5 +0.3
SCI San Clemente I 3.03 288 ⇓S Sb 22 51 47.4 -1.4
baz=3.1
BFSC Mount Baldy Ra 3.03 316 ⇓S Sb 22 51 47.8 -1.3
baz=3.1
CIS Catalina Islan 3.06 297 ⇓P Pn 22 51 08.3 +1.9
baz=3.1
CIS ⇓S Sb 22 51 48.0 -1.9
baz=3.1
FMP Fort Macarthur 3.12 302 ⇓P Pn 22 51 09.6 +2.4
baz=3.2
FMP ⇓S Sb 22 51 49.5 -2.1
baz=3.2
MWC Mount Wilson 3.26 312 *eP* Pn 22 51 08.6 -0.7
MWC *eS* Sb 22 51 55.7 -0.1
MWC Mount Wilson 3.26 312 *ePn* Pn 22 51 08.6 -0.7
MWC *eS* Sb 22 51 55.7 -0.1
PASC Pasadena Art C 3.31 310 *ePn* Pn 22 51 09.2 -0.6
PASC *ePg* Pg 22 51 21.0 -0.3
PASC S Sb 22 51 55.8 -1.2
DECC Green Verdugo 3.45 310 ⇓P Pn 22 51 15.1 +3.4
baz=3.5
GSC Goldstone, Bar 3.51 337 *eP* Pn 22 51 11.4 -1.2
GSC Goldstone, Bar 3.51 337 *ePn* Pn 22 51 11.4 -1.2
X16A Lo Mia Camp, P 3.87 52 ⇑P Pn 22 51 17.5 -0.2
baz=3.8
X16A ⇓S Sn 22 52 03.8 +0.5
baz=3.8
OSI Osito Audit: C 3.93 311 *ePn* Pn 22 51 17.6 -0.8
OSI *eSn* Sn 22 52 03.8 -0.8
SBC Santa Barbara 4.51 303 ⇓S Sn 22 52 24.2 +5.5
baz=4.6
WUAZ Wupatki 4.64 41 *ePn* Pn 22 51 26.4 -1.8
DAC Darwin (Calif) 4.66 335 *eP* Pn 22 51 23.5 -5.0
DAC Darwin (Calif) 4.66 335 *ePn* Pn 22 51 23.5 -5.0
U15A North Rim 4.94 28 ⇑P Pn 22 51 33.2 +0.8
baz=4.9
X18A Snowflake 4.98 59 ⇑P Pn 22 51 32.7 -0.2
baz=4.9
X18A ⇓S Sn 22 52 29.9 -0.7
baz=4.9
W18A Petrified Fore 5.43 55 ⇑P Pn 22 51 39.3 +0.2
baz=5.4
W18A Petrified Fore 5.43 55 *ePn* Pn 22 51 37.7 -1.3
comp=E,957nm,0.6s
W18A *eSn* Sn 22 52 39.6 -2.0
121A Cookes Peak, D 6.23 84 ⇑P Pn 22 51 50.3 +0.2
baz=6.2
121A Cookes Peak, D 6.23 84 *ePn* Pn 22 51 49.2 -0.9
comp=E,992nm,0.6s
121A *eSn* Sn 22 52 58.6 -2.9
R11A Troy Canyon, C 6.27 357 *ePn* Pn 22 51 48.5 -2.1
comp=E,202nm,0.5s
R11A *eSg* Sg 22 53 38.4 -0.8
NVAR Mina Array Bea 6.85 339 Pn Pn 22 51 57.0 -1.6
comp=E,0.5nm,0.3s,baz=152,slow=17,SNR=2.1
NVAR Lg Lg 22 53 54.8
baz=143,slow=21,SNR=1.6
ANMO Albuquerque 7.79 66 Pn Pn 22 52 11.4 0.0
comp=E,4.8nm,0.3s,baz=256,slow=10.0,SNR=13
ANMO Lg 22 54 23.6
comp=E,2.7nm,0.3s,baz=12,slow=18,SNR=2.2
ELK Elko 8.65 359 Pn Pn 22 52 23.3 -0.1
comp=E,2.1nm,0.3s,baz=182,slow=14,SNR=9.1
LPIG La Paz 9.01 151 Pn Pn 22 52 32.9 +4.9
comp=E,1.9nm,0.3s,baz=354,slow=4.7,SNR=3.9
TXAR Lajitas Array 10.24 103 Pn Pn 22 52 47.8 +2.9
comp=E,14nm,0.3s,baz=283,slow=13,SNR=30
PDAR Pinedale Array 11.55 21 Pn Pn 22 53 05.6 +2.6
comp=E,0.6nm,0.3s,baz=179,slow=8.5,SNR=5.3
BBB La Bella 22.22 339 P P 22 55 15.2 +0.8
comp=E,12nm,0.7s,baz=77,slow=4.5,SNR=4.1
ULM Lac du Bonnet 23.11 33 P P 22 55 24.9 +1.0
comp=E,27nm,1.1s,baz=128,slow=18,SNR=2.2
DLBC Dease Lake 28.24 343 P P 22 56 12.3 +1.4
comp=E,30nm,0.8s,baz=162,slow=7.8,SNR=18
BLA Blacksburg 28.91 70 *eP* P 22 56 14.0 -3.1
BLA Blacksburg 28.91 70 *eP* P 22 56 13.9 -3.1
comp=E,14µm,2.9s
ALLY Alegheny Colle 29.41 61 *eP* P 22 56 15.7 -5.7
comp=E,769nm,1.8s
FCC Fort Churchill 30.24 22 *eP* P 22 56 29.9 +1.4
FCC Fort Churchill 30.24 22 *eP* P 22 56 29.9 +1.4
YKA Yellowknife Ar 30.43 0 P P 22 56 30.5 +0.3
comp=E,1.6nm,0.8s,baz=182,slow=9.1,SNR=5.4
EGAK Eagle 36.45 342 *eP* P 22 57 22.3 -0.3
comp=E,27nm,1.0s
RSO Redoubt South 37.61 330 *eP* P 22 57 32.1 -0.7
comp=E,62nm,0.8s
INK Inuvik 37.81 349 P P 22 57 35.3 +1.3
comp=E,22nm,0.9s,baz=148,slow=8.1,SNR=13
ILAR Eielson Array 38.11 339 P P 22 57 38.0 +1.4
comp=E,15nm,0.8s,baz=149,slow=7.6,SNR=38
TRF Thorofare Moun 38.37 335 *eP* P 22 57 38.8 -0.3
comp=E,132nm,2.0s
COLA College 38.48 338 *eP* P 22 57 40.7 +1.0
COLA College 38.48 338 *eP* P 22 57 40.7 +1.0
PPLA Purkeypile 38.73 334 *eP* P 22 57 43.2 +1.1
comp=E,63nm,1.2s
FRB Frobisher Bay 42.88 28 P P 22 58 17.0 +1.0
FRB Frobisher Bay 42.88 28 P P 22 58 16.9 +1.0
comp=E,11nm,1.0s,baz=209,slow=18,SNR=2.3
RES Resolute Bay 43.85 8 P P 22 58 24.4 +0.7
comp=E,7.4nm,1.0s,baz=100,slow=18,SNR=3.3
MTP Monte Pirata 46.62 95 *eP* P 22 58 44.8 -1.8
comp=E,33nm,1.0s
ALE Alert 53.75 7 P P 22 59 31.9 -7.8
comp=E,144nm,0.7s,SNR=5.5
SUMG Summit 55.75 21 *eP* P 22 59 53.9 -0.9
SUMG Summit 55.75 21 *eP* P 22 59 53.9 -0.9
BILL Bilibino 56.44 334 *eP* P 23 00 00.3 +0.9
BILL pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 63.06 329 P P 23 00 45.8 +0.8
comp=Z,3.6nm,0.6s,baz=80,slow=5.0,SNR=5.9
PETK Petropavlovsk- 63.46 318 P P 23 00 47.6 -0.2
comp=Z,9.9nm,0.8s,baz=83,slow=12,SNR=7.9
SIV San Ignacio 70.45 124 P P 23 01 34.0 +1.2
comp=Z,3.9nm,0.8s,baz=319,slow=7.7,SNR=3.5
ARCES ARCESS Array B 74.70 13 P P 23 01 58.1 +0.8
comp=Z,8.0nm,0.8s,baz=324,slow=6.0,SNR=14
CFAA Coronel Fontan 77.32 140 P P 23 02 16.5 +3.7
comp=Z,0.8nm,0.8s,baz=328,slow=4.8,SNR=5.9
NB2 NORSAR Subarra 77.48 24 P P 23 02 14.6 +1.3
comp=Z,1.6nm,0.8s,baz=316,slow=5.6
NOA NORSAR Array B 77.48 24 P P 23 02 14.6 +1.3
comp=Z,2.7nm,0.8s,baz=316,slow=5.9,SNR=8.2
LVZ Lovozero 77.79 11 *eP* P 23 02 13.7 -1.2
LVZ Lovozero 77.79 11 *eP* P 23 02 13.7 -1.2
QUIF Quistinic 79.78 39 *eP* P 23 02 26.9 +0.7
comp=Z,34nm,1.1s
QUIF Quistinic 79.78 39 *eP* P 23 02 26.9 +0.7
QUIF pmax pmax
comp=Z,34nm,1.1s
QUIF Quistinic 79.78 39 *eP* P 23 02 26.9 +0.7
comp=Z,34nm,1.1s
GRR Gorron 80.72 38 *eP* P 23 02 32.2 +1.0
GRR Gorron 80.72 38 *eP* P 23 02 32.2 +1.0
GRR Gorron 80.72 38 *eP* P 23 02 32.2 +1.0
LDF La Druitiere 80.97 38 *eP* P 23 02 33.4 +0.8
comp=Z,36nm,1.1s
LDF La Druitiere 80.97 38 *eP* P 23 02 33.4 +0.8
LDF pmax pmax
comp=Z,36nm,1.1s
LDF La Druitiere 80.97 38 *eP* P 23 02 33.4 +0.8

	comp=Z,36nm,1.1s							
FINES	**FINESS Array B**	**81.63**	**18**	P		**P**	**23 02 37.1**	**+1.3**
	comp=Z,5.3nm,0.8s,baz=336,slow=3.0,SNR=9.8							
BAIF	**Baives**	**82.18**	**35**	*e*P		**P**	**23 02 40.0**	**+1.0**
	comp=Z,41nm,1.5s							
BAIF	**Baives**	**82.18**	**35**	*e*P		**P**	**23 02 40.0**	**+1.0**
BAIF				pmax	pmax			
	comp=Z,41nm,1.5s							
BAIF	**Baives**	**82.18**	**35**	*e*P		**P**	**23 02 40.0**	**+1.0**
	comp=Z,41nm,1.5s							
MFF	**Saint Martin d**	**82.21**	**39**	*e*P		**P**	**23 02 40.0**	**+0.8**
MFF	**Saint Martin d**	**82.21**	**39**	*e*P		**P**	**23 02 40.0**	**+0.8**
MFF	**Saint Martin d**	**82.21**	**39**	*e*P		**P**	**23 02 40.0**	**+0.8**
EVOP	**Sao Brissos**	**82.35**	**49**	*e*P		**P**	**23 02 40.9**	**+0.8**
EVOP				pmax	pmax			
	comp=Z,81nm,1.5s							
EVOP	**Sao Brissos**	**82.35**	**49**	*e*P		**P**	**23 02 40.9**	**+0.8**
	comp=Z,81nm,1.5s							
EVO	**Evora**	**82.42**	**49**	*e*P		**P**	**23 02 40.9**	**+0.5**
	comp=Z,81nm,1.5s							
GIVF	**Givet**	**82.45**	**34**	*e*P		**P**	**23 02 41.4**	**+1.0**
GIVF	**Givet**	**82.45**	**34**	*e*P		**P**	**23 02 41.4**	**+1.0**
GIVF	**Givet**	**82.45**	**34**	*e*P		**P**	**23 02 41.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**82.55**	**318**	P		**P**	**23 02 41.2**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=69,slow=5.2,SNR=4.9							
MJAR	**Matsushiro Arr**	**83.27**	**309**	P		**P**	**23 02 45.0**	**+0.1**
MJAR	**Matsushiro Arr**	**83.27**	**309**	P		**P**	**23 02 45.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=62,slow=5.4,SNR=4.9							
MEZF	**Maizieres J'vi**	**83.64**	**35**	*e*P		**P**	**23 02 47.7**	**+1.2**
	comp=Z,119nm,1.9s							
MEZF	**Maizieres J'vi**	**83.64**	**35**	*e*P		**P**	**23 02 47.7**	**+1.2**
	comp=Z,119nm,1.9s							
TCF	**Toulx Ste Croi**	**83.66**	**38**	*e*P		**P**	**23 02 47.3**	**+0.5**
TCF	**Toulx Ste Croi**	**83.66**	**38**	*e*P		**P**	**23 02 47.3**	**+0.5**
TCF	**Toulx Ste Croi**	**83.66**	**38**	*e*P		**P**	**23 02 47.3**	**+0.5**
BGF	**Bois d'Agland**	**83.82**	**38**	*e*P		**P**	**23 02 48.1**	**+0.6**
	comp=Z,31nm,1.0s							
BGF	**Bois d'Agland**	**83.82**	**38**	*e*P		**P**	**23 02 48.1**	**+0.6**
BGF				pmax	pmax			
	comp=Z,31nm,1.0s							
BGF	**Bois d'Agland**	**83.82**	**38**	*e*P		**P**	**23 02 48.1**	**+0.6**
	comp=Z,31nm,1.0s							
SSF	**Saint Saulge**	**83.83**	**37**	*e*P		**P**	**23 02 48.4**	**+0.8**
SSF	**Saint Saulge**	**83.83**	**37**	*e*P		**P**	**23 02 48.4**	**+0.8**
SSF	**Saint Saulge**	**83.83**	**37**	*e*P		**P**	**23 02 48.4**	**+0.8**
SFTF	**Sexfontaines**	**83.83**	**36**	*e*P		**P**	**23 02 48.5**	**+0.9**
	comp=Z,46nm,1.3s							
SFTF	**Sexfontaines**	**83.83**	**36**	*e*P		**P**	**23 02 48.5**	**+0.9**
	comp=Z,46nm,1.3s							
LOR	**Lormes**	**83.87**	**37**	*e*P		**P**	**23 02 48.8**	**+1.0**
	comp=Z,28nm,1.1s							
LOR	**Lormes**	**83.87**	**37**	*e*P		**P**	**23 02 48.8**	**+1.0**
LOR				pmax	pmax			
	comp=Z,28nm,1.1s							
LOR	**Lormes**	**83.87**	**37**	*e*P		**P**	**23 02 48.8**	**+1.0**
	comp=Z,28nm,1.1s							
AVF	**Avril sur Loir**	**83.93**	**37**	*e*P		**P**	**23 02 48.7**	**+0.7**
	comp=Z,20nm,1.2s							
AVF	**Avril sur Loir**	**83.93**	**37**	*e*P		**P**	**23 02 48.7**	**+0.7**
AVF				pmax	pmax			
	comp=Z,20nm,1.2s							
AVF	**Avril sur Loir**	**83.93**	**37**	*e*P		**P**	**23 02 48.7**	**+0.7**
	comp=Z,20nm,1.2s							
RJF	**Les Rejaudoux**	**83.93**	**39**	*e*P		**P**	**23 02 49.0**	**+0.9**
RJF	**Les Rejaudoux**	**83.93**	**39**	*e*P		**P**	**23 02 49.0**	**+0.9**
RJF	**Les Rejaudoux**	**83.93**	**39**	*e*P		**P**	**23 02 49.0**	**+0.9**
PAGF	**Fort de Pagny**	**83.93**	**35**	*e*P		**P**	**23 02 49.2**	**+1.1**
	comp=Z,27nm,1.6s							
PAGF	**Fort de Pagny**	**83.93**	**35**	*e*P		**P**	**23 02 49.2**	**+1.1**
	comp=Z,27nm,1.6s							
SMF	**Signal de Mont**	**84.27**	**37**	*e*P		**P**	**23 02 50.4**	**+0.5**
	comp=Z,22nm,1.0s							
SMF	**Signal de Mont**	**84.27**	**37**	*e*P		**P**	**23 02 50.4**	**+0.5**
SMF				pmax	pmax			
	comp=Z,22nm,1.0s							
SMF	**Signal de Mont**	**84.27**	**37**	*e*P		**P**	**23 02 50.4**	**+0.5**
	comp=Z,22nm,1.0s							
ESDC	**Sonseca Array**	**84.29**	**46**	P		**P**	**23 02 50.8**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=310,slow=6.2,SNR=4.2							
CAF	**Calviac**	**84.47**	**39**	*e*P		**P**	**23 02 51.7**	**+0.8**
	comp=Z,59nm,1.5s							
CAF	**Calviac**	**84.47**	**39**	*e*P		**P**	**23 02 51.7**	**+0.8**
CAF				pmax	pmax			
	comp=Z,59nm,1.5s							
CAF	**Calviac**	**84.47**	**39**	*e*P		**P**	**23 02 51.7**	**+0.8**
	comp=Z,59nm,1.5s							
HAU	**Haudompre**	**84.61**	**35**	*e*P		**P**	**23 02 52.5**	**+0.9**
	comp=Z,38nm,1.2s							
HAU	**Haudompre**	**84.61**	**35**	*e*P		**P**	**23 02 52.5**	**+0.9**
HAU				pmax	pmax			
	comp=Z,38nm,1.2s							
HAU	**Haudompre**	**84.61**	**35**	*e*P		**P**	**23 02 52.5**	**+0.9**
	comp=Z,38nm,1.2s							
CDF	**Champ du Feu**	**84.78**	**34**	*e*P		**P**	**23 02 53.2**	**+0.7**
CDF	**Champ du Feu**	**84.78**	**34**	*e*P		**P**	**23 02 53.2**	**+0.7**
CDF	**Champ du Feu**	**84.78**	**34**	*e*P		**P**	**23 02 53.2**	**+0.7**
HINF	**Hinteralfeld**	**84.99**	**35**	*e*P		**P**	**23 02 54.2**	**+0.7**
	comp=Z,36nm,1.4s							
HINF	**Hinteralfeld**	**84.99**	**35**	*e*P		**P**	**23 02 54.2**	**+0.7**
HINF				pmax	pmax			
	comp=Z,36nm,1.4s							
HINF	**Hinteralfeld**	**84.99**	**35**	*e*P		**P**	**23 02 54.2**	**+0.7**
	comp=Z,36nm,1.4s							
PRGR	**Permogore**	**85.32**	**9**	P		**P**	**23 02 55.1**	**+0.3**
PRGR				pmax	pmax			
	comp=Z,16nm,0.7s							
CABF	**La Chapelle**	**85.44**	**36**	*e*P		**P**	**23 02 56.5**	**+0.7**
	comp=Z,64nm,1.6s							
CABF	**La Chapelle**	**85.44**	**36**	*e*P		**P**	**23 02 56.5**	**+0.7**
CABF				pmax	pmax			
	comp=Z,64nm,1.6s							
CABF	**La Chapelle**	**85.44**	**36**	*e*P		**P**	**23 02 56.5**	**+0.7**
	comp=Z,64nm,1.6s							
GERES	**GERESS Array B**	**87.42**	**31**	P		**P**	**23 03 05.6**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=2.6,slow=4.3,SNR=2.5							
KSRS	**Korea Array**	**89.21**	**315**	P		**P**	**23 03 15.2**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=65,slow=3.8,SNR=4.1							
KSAR	**Wonju Array Be**	**89.24**	**315**	P		**P**	**23 03 15.2**	**+1.0**
KSAR	**Wonju Array Be**	**89.24**	**315**	P		**P**	**23 03 15.2**	**+1.0**
AKASG	**Malin Array Be**	**91.77**	**22**	P		**P**	**23 03 25.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=317,slow=3.8,SNR=3.8							
WRA	**Warramunga Arr**	**117.34**	**263**	PKP		**PKPdf**	**23 09 04.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=62,slow=2.3,SNR=5.0							
ASAR	**Alice Springs**	**119.31**	**259**	PKP		**PKPdf**	**23 09 08.5**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=90,slow=1.9,SNR=3.6							
CMAR	**Chiang Mai Arr**	**120.08**	**322**	PKP		**PKPdf**	**23 09 10.5**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=349,slow=3.1,SNR=4.4							
MAW	**Mawson**	**144.41**	**179**	PKP		**PKPdf**	**23 09 53.3**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=180,slow=8.1,SNR=3.0							
BOSA	**Boshof**	**145.77**	**95**	PKPbc		**PKPab**	**23 09 58.6**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=39,slow=0.9,SNR=4.5							

ROM 04 22:51:21.0±0.2, 43°33.3N×12°31.8E, h8km, Md1.6/3, Ml1.2/3, Error ellipse: s-maj=2.2km s-min=0.9km az=174.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARVD	**Arcevia**	**0.19**	**30**	Pg	Pg	22 51 25.8	+0.8
ARVD				Sg	Sg	22 51 28.8	+1.1
	25nm,0.2s						
PIEI	**Pieia**	**0.29**	**315**	Pg	Pg	22 51 27.6	+0.8
PIEI				Sg	Sb	22 51 32.5	-1.0
	28nm,0.1s						
FSSB	**Fossombrone**	**0.36**	**356**	Pg	Pg	22 51 28.9	+0.8
FSSB				Sg	Sb	22 51 34.9	-0.6
	44nm,0.4s						

*CSEM **04** 22:51:59.1, 38°40N×22°29E, h5km, MD3.0*
ATH 04 22:51:59.1, 38°40N×22°29E, h5km±2km, MD3.0/22, ML2.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.12**	**266**	*e*PG	Pg	22 52 01.3	-0.4
KALE				*e*SG	Sg	22 52 03.6	+0.2
KALE	**Kalithea**	**0.12**	**266**	*e*Pg	Pg	22 52 01.3	-0.4
KALE				*e*Sg	Sg	22 52 03.6	+0.2
EFP	**Efpalio**	**0.30**	**275**	*e*PG	Pg	22 52 04.7	-0.3
EFP				*e*SB	Sg	22 52 10.0	+1.0
EFP	**Efpalio**	**0.30**	**275**	*e*Pg	Pg	22 52 04.7	-0.3
EFP				*e*Sb	Sg	22 52 10.0	+1.0
KLV	**Kalavryta, Ach**	**0.37**	**197**	*e*Pb	Pg	22 52 06.3	-0.1
KLV				*e*Sb	Sg	22 52 11.3	-0.1
GUR	**Goura**	**0.47**	**175**	*e*PB	Pg	22 52 08.4	+0.2
GUR				*e*SG	Sg	22 52 15.3	+0.9
GUR	**Goura**	**0.47**	**175**	*e*Pb	Pg	22 52 08.4	+0.2
GUR				*e*Sg	Sg	22 52 15.3	+0.9
AXAR	**Agios Charalam**	**0.47**	**38**	*e*PB	Pg	22 52 07.8	-0.4
AXAR				*e*SG	Sg	22 52 15.7	+1.4
AXAR	**Agios Charalam**	**0.47**	**38**	*e*Pb	Pg	22 52 07.8	-0.4
AXAR				*e*Sg	Sg	22 52 15.7	+1.4
LKR	**Lokris**	**0.61**	**66**	*e*PB	Pg	22 52 10.2	-0.7
LKR	**Lokris**	**0.61**	**66**	*e*Pb	Pg	22 52 10.2	-0.7
AGG	**Agios Georgios**	**0.62**	**3**	*e*PB	Pg	22 52 10.2	-1.0
AGG	**Agios Georgios**	**0.62**	**3**	*e*Pb	Pg	22 52 10.2	-1.0
MAKR	**Makrakomi, Fth**	**0.62**	**349**	*e*PB	Pg	22 52 11.1	-0.1
MAKR				*e*SG	Sg	22 52 20.5	+1.1
MAKR	**Makrakomi, Fth**	**0.62**	**349**	*e*Pb	Pg	22 52 11.1	-0.1
MAKR				*e*Sg	Sg	22 52 20.5	+1.1
EVR	**Evrytania**	**0.64**	**324**	*e*PG	Pg	22 52 10.9	-0.7
EVR				*e*SG	Sb	22 52 21.3	-1.0
EVR	**Evrytania**	**0.64**	**324**	*e*Pg	Pg	22 52 10.9	-0.7
EVR				*e*Sg	Sb	22 52 21.3	-1.0
LTK	**Loutraki**	**0.65**	**125**	*e*PB	Pb	22 52 12.6	-0.4
LTK				*e*SG	Sb	22 52 21.9	-0.6
LTK	**Loutraki**	**0.65**	**125**	*e*Pb	Pb	22 52 12.6	-0.4
LTK				*e*Sg	Sb	22 52 21.9	-0.6
RLS	**Riolos of Patr**	**0.73**	**242**	*e*PB	Pg	22 52 13.2	0.0
RLS	**Riolos of Patr**	**0.73**	**242**	*e*Pb	Pg	22 52 13.2	0.0
SMIA	**Simia**	**0.86**	**56**	*e*PG	Pg	22 52 15.4	-0.4
SMIA	**Simia**	**0.86**	**56**	*e*Pg	Pg	22 52 15.4	-0.4
PDO	**Prodromos**	**0.89**	**283**	*e*PB	Pg	22 52 16.6	+0.4
PDO				*e*SG	Sb	22 52 29.5	+0.2
PDO	**Prodromos**	**0.89**	**283**	*e*Pb	Pg	22 52 16.6	+0.4
PDO				*e*Sg	Sb	22 52 29.5	+0.2
AMT	**Artemida-Makis**	**0.98**	**208**	*e*PG	Pg	22 52 17.0	-1.0
AMT	**Artemida-Makis**	**0.98**	**208**	*e*Pg	Pg	22 52 17.0	-1.0
VLX	**Vlachokerasia**	**1.03**	**176**	*e*PN	Pb	22 52 19.5	-0.1
VLX				*e*SN	Sb	22 52 33.9	+0.4
VLX	**Vlachokerasia**	**1.03**	**176**	*e*Pn	Pb	22 52 19.5	-0.1
VLX				*e*Sn	Sb	22 52 33.9	+0.4
MRKA	**Markates**	**1.06**	**73**	*e*PN	Pg	22 52 19.4	-0.1
MRKA	**Markates**	**1.06**	**73**	*e*Pn	Pg	22 52 19.4	-0.1
NEO	**Neokhori**	**1.16**	**39**	*e*PB	Pg	22 52 21.2	-0.3
NEO	**Neokhori**	**1.16**	**39**	*e*Pb	Pg	22 52 21.2	-0.3
THL	**Klokotos Trika**	**1.18**	**350**	*e*PB	Pn	22 52 23.2	+0.9
THL				*e*SG	Sn	22 52 38.5	-0.3
THL	**Klokotos Trika**	**1.18**	**350**	*e*Pb	Pn	22 52 23.2	+0.9
THL				*e*Sg	Sn	22 52 38.5	-0.3
XOR	**Xorichti**	**1.19**	**36**	*e*PB	Pg	22 52 21.7	-0.4
XOR				*e*SG	Sb	22 52 38.6	+0.5
XOR	**Xorichti**	**1.19**	**36**	*e*Pb	Pg	22 52 21.7	-0.4
XOR				*e*Sg	Sb	22 52 38.6	+0.5
SKIA	**Skiathos**	**1.20**	**50**	*e*PB	Pn	22 52 22.5	0.0
SKIA	**Skiathos**	**1.20**	**50**	*e*Pb	Pn	22 52 22.5	0.0
ATH	**Athens Observa**	**1.20**	**110**	*e*PG	Pg	22 52 21.7	-0.5
ATH				*e*SG	Sn	22 52 39.5	+0.2
ATH	**Athens Observa**	**1.20**	**110**	*e*Pg	Pg	22 52 21.7	-0.5
ATH				*e*Sg	Sn	22 52 39.5	+0.2
ITM	**Ithomi**	**1.25**	**193**	*e*PB	Pg	22 52 22.8	-0.4
ITM	**Ithomi**	**1.25**	**193**	*e*Pb	Pg	22 52 22.8	-0.4
PTL	**Penteli**	**1.29**	**105**	*e*PB	Pn	22 52 23.3	-0.5
PTL				*e*SB	Sb	22 52 40.9	+0.1
PTL	**Penteli**	**1.29**	**105**	*e*Pb	Pn	22 52 23.3	-0.5
PTL				*e*Sb	Sb	22 52 40.9	+0.1
LKD2	**Lefkada island**	**1.34**	**287**	*e*PB	Pg	22 52 25.0	+0.2
LKD2	**Lefkada island**	**1.34**	**287**	*e*Pb	Pg	22 52 25.0	+0.2
VLS	**Valsamata**	**1.36**	**261**	*e*PB	Pg	22 52 25.4	+0.2
VLS	**Valsamata**	**1.36**	**261**	*e*Pb	Pg	22 52 25.4	+0.2
AOS	**Alonnisos**	**1.46**	**58**	*e*PG	Pn	22 52 26.2	0.0
AOS	**Alonnisos**	**1.46**	**58**	*e*Pg	Pn	22 52 26.2	0.0
PYL	**PYLOS**	**1.56**	**196**	*e*PB	Pg	22 52 29.2	+0.1
PYL	**PYLOS**	**1.56**	**196**	*e*Pb	Pg	22 52 29.2	+0.1
VLI	**Veliai**	**1.76**	**163**	*e*PG	Pb	22 52 31.7	-0.1
VLI	**Veliai**	**1.76**	**163**	*e*Pg	Pb	22 52 31.7	-0.1

NEIC 04 22:54:14.0, 32°44N×115°50W, h10km, ML4.0(PAS), 1C-1D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DREC	**Desert Rsrch C**	**0.37**	**7**	*e*P	Pg	22 54 21.7	+0.4
DREC				*e*S	Sg	22 54 26.6	+0.3
WESC	**Westside Schoo**	**0.38**	**328**	*i*P	Pg	22 54 21.5	+0.1
WESC				*e*S	Sg	22 54 26.0	-0.5
COK	**Cook Ranch**	**0.46**	**335**	*e*P	Pg	22 54 23.0	+0.1
EMSC	**East Mesa**	**0.53**	**55**	*e*P	Pg	22 54 23.6	-0.6
SWSC	**Sam W. Stewart**	**0.56**	**333**	*i*P	Pg	22 54 24.2	-0.8
CRR	**Carrizo Plain**	**0.60**	**319**	*e*P	Pg	22 54 25.0	-0.7
BAR	**Barrett**	**1.02**	**284**	*e*P	Pg	22 54 31.9	-1.9
BAR				*e*S	Sg	22 54 43.9	-3.2
PFO	**Pinyon Flats O**	**1.42**	**326**	*e*Pn	Pn	22 54 40.0	-0.1
PFO				*e*Sn	Sn	22 54 54.0	-4.9
GSC	**Goldstone, Bar**	**3.06**	**340**	Pn	Pn	22 55 02.0	-0.5

NEIC 04 22:56:40.4, 33°15N×116°48W, h12km, ML3.9(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flats O**	**0.46**	**3**	*e*P	Pg	22 56 49.0	-0.7
PFO				*e*S	Sg	22 56 56.3	-0.6
BAR	**Barrett**	**0.50**	**199**	*e*P	Pg	22 56 46.0	-4.2
BAR				*e*S	Sg	22 56 54.8	-2.1
MWC	**Mount Wilson**	**1.69**	**310**	*e*Pn	Pn	22 57 09.7	-0.5
MWC				*e*Sn	Sn	22 57 32.3	+0.3
PASC	**Pasadena Art C**	**1.75**	**306**	*e*Pn	Pn	22 57 10.5	-0.2
PASC				*e*Sn	Sn	22 57 33.5	+0.6
GSC	**Goldstone, Bar**	**2.16**	**353**	*e*Pn	Pn	22 57 16.2	-0.3
GSC				*e*Sn	Sn	22 57 41.4	-2.0
DAC	**Darwin (Calif)**	**3.25**	**344**	*e*Pn	Pn	22 57 30.1	-1.5
DAC				*e*Sn	Sn	22 58 11.3	+0.8

NEIC 04 22:58:27.1, 32°57N×115°77W, h6km, ML3.8(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.77**	**279**	*e*P	Pg	22 58 41.4	-0.6
BAR				*e*S	Sg	22 58 51.3	-0.8
PFO	**Pinyon Flats O**	**1.19**	**331**	*e*Pn	Pg	22 58 47.1	-3.0
PFO				*e*S	Sg	22 59 02.2	-3.6
GSC	**Goldstone, Bar**	**2.86**	**343**	*e*Pn	Pn	22 59 13.1	-0.3
TUC	**Tucson**	**4.22**	**92**	*e*Pn	Pn	22 59 32.0	-0.1

*ECX **04** 23:04:02.5±0.4, 32°17N×115°28W, h8km, MD1.9*
*ISCJB **04** 23:04:08.8±0.4, 31°95N±0°07×115°51W±0°04, h10km, mb4.3/10, Error ellipse: s-maj=11.0km s-min=3.7km az=163.5*
*IDC **04** 23:04:09.9±1.2, 32°10N×115°28W, h0km, mb4.2/5, mb1 4.4/8, mb1mx3.9/27, mbtmp4.2/8, ML4.0/3, Error ellipse: s-maj=34.0km s-min=18.1km az=35.0*
ISC 04 23:04:09.2±0.6, 32°07N±0°06×115°65W±0°03, h10km, n44, σ1°63/44, mb4.4/10, 1C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dawling**	**0.28**	**241**	*e*P	**Pg**	**23 04 13.2**	**-1.8**
RDX				*e*S	**Sb**	**23 04 21.8**	**+0.4**
EMX	**El Mayor**	**0.36**	**103**	*e*P	**Pg**	**23 04 14.4**	**-1.9**
EMX				*e*S	**Sg**	**23 04 17.1**	**-4.0**
RMX	**La Rumorosa**	**0.64**	**326**	*e*P	Pg	23 04 14.9	-6.8
RMX				*e*S	**Sg**	**23 04 25.8**	**-4.4**
ZAX	**El Zacaton**	**0.76**	**224**	*e*P	**Pg**	**23 04 21.5**	**-2.5**
ZAX				*e*S	**Sb**	**23 04 35.9**	**+0.7**
ECNX	**Esteban Cantu**	**0.90**	**243**	*e*P	**Pg**	**23 04 24.1**	**-2.5**
ECNX				*e*S	**Sn**	**23 04 40.9**	**-0.3**
PBX	**Punta Banda**	**0.97**	**251**	*e*P	**Pg**	**23 04 25.1**	**-2.7**
PBX				*e*S	**Sn**	**23 04 42.3**	**-0.4**
PFO	**Pinyon Flats O**	**1.68**	**337**	Pn	**Pn**	**23 04 38.6**	**-0.2**
	24nm,0.3s,baz=160,slow=12,SNR=1.4			Lg	Lg	23 05 15.3	
PFO							
	145nm,0.3s,baz=313,slow=2.9,SNR=6.1						
ANMO	**Albuquerque**	**8.20**	**67**	Pn	**Pn**	**23 06 05.9**	**-2.6**
	0.4nm,0.3s,baz=265,slow=17,SNR=2.5						
TXAR	**Lajitas Array**	**10.67**	**102**	Pn	**Pn**	**23 06 41.4**	**-0.9**
	1.3nm,0.3s,baz=289,slow=13,SNR=7.1						
TXAR				Lg	Lg	23 09 46.0	
	0.4nm,0.3s,baz=310,slow=28,SNR=3.9						
NEW	**Newport**	**16.22**	**356**	Pn	**P**	**23 08 00.2**	**-0.1**
	0.1nm,0.3s,baz=179,slow=13,SNR=2.4						
ILAR	**Eielson Array**	**37.95**	**339**	P	P	23 11 30.2	+3.5
	1.9nm,0.7s,baz=151,slow=7.5,SNR=13						
ARCES	**ARCESS Array B**	**74.81**	**13**	P	**P**	**23 15 50.7**	**+1.4**
	2.9nm,0.8s,baz=330,slow=7.0,SNR=6.8						
NB2	**NORSAR Subarra**	**77.67**	**23**	P	**P**	**23 16 07.2**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=318,slow=5.9						
NOA	**NORSAR Array B**	**77.67**	**23**	P	**P**	**23 16 06.9**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=317,slow=5.7,SNR=5.1						
HFS	**Hagfors**	**79.16**	**23**	P	**P**	**23 16 15.4**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=273,slow=2.7,SNR=8.8						
ROSF	**Rostrenen**	**79.76**	**39**	*e*P	P	23 16 21.0	+3.6
ROSF	**Rostrenen**	**79.76**	**39**	P	P	23 16 21.0	+3.6
QUIF	**Quistinic**	**80.07**	**39**	*e*P	P	23 16 15.1	-4.0
QUIF	**Quistinic**	**80.07**	**39**	*e*P	**P**	**23 16 19.6**	**+0.5**
QUIF	**Quistinic**	**80.07**	**39**	P	P	23 16 15.1	-4.0
SGMF	**Saint Gilles**	**80.19**	**39**	*e*P	**P**	**23 16 20.5**	**+0.7**
SGMF	**Saint Gilles**	**80.19**	**39**	*e*P	**P**	**23 16 20.0**	**+0.2**
SGMF	**Saint Gilles**	**80.19**	**39**	P	**P**	**23 16 20.5**	**+0.7**
FLN	**La Foliniere**	**80.95**	**37**	*e*Pn	**P**	**23 16 24.1**	**+0.2**
FLN	**La Foliniere**	**80.95**	**37**	*e*P	**P**	**23 16 24.5**	**+0.6**
	comp=Z,27nm,1.1s						
FLN	**La Foliniere**	**80.95**	**37**	Pn	**P**	**23 16 24.1**	**+0.2**
FLN	**La Foliniere**	**80.95**	**37**	*e*Pn	**P**	**23 16 24.1**	**+0.2**
GRR	**Gorron**	**81.00**	**38**	*e*P	**P**	**23 16 24.8**	**+0.7**
LDF	**La Druitiere**	**81.25**	**37**	*e*P	**P**	**23 16 26.7**	**+1.3**
FINES	**FINESS Array B**	**81.77**	**17**	P	**P**	**23 16 29.6**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=319,slow=2.4,SNR=9.8						
BAIF	**Baives**	**82.44**	**34**	*e*P	**P**	**23 16 32.6**	**+0.9**
	comp=Z,12nm,1.1s						
MFF	**Saint Martin d**	**82.50**	**39**	*e*P	**P**	**23 16 32.7**	**+0.6**
SFTF	**Sexfontaines**	**84.10**	**35**	*e*P	**P**	**23 16 41.1**	**+0.8**
SSF	**Saint Saulge**	**84.10**	**37**	*e*P	**P**	**23 16 41.3**	**+1.0**
LOR	**Lormes**	**84.14**	**37**	*e*P	**P**	**23 16 41.5**	**+0.9**
PAGF	**Fort de Pagny**	**84.19**	**35**	*e*P	**P**	**23 16 42.0**	**+1.2**
	comp=Z,37nm,1.1s						
RJF	**Les Rejaudoux**	**84.22**	**39**	*e*P	**P**	**23 16 41.6**	**+0.6**
HAU	**Haudompre**	**84.87**	**35**	*e*P	**P**	**23 16 45.2**	**+0.9**
	comp=Z,18nm,1.1s						
CDF	**Champ du Feu**	**85.04**	**34**	*e*P	**P**	**23 16 46.0**	**+0.8**
	comp=Z,12nm,1.1s						
CABF	**La Chapelle**	**85.71**	**36**	*e*P	**P**	**23 16 49.6**	**+1.1**
WRA	**Warramunga Arr**	**116.90**	**262**	PKP	**PKPdf**	**23 22 57.0**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=56,slow=2.3,SNR=4.6						
ASAR	**Alice Springs**	**118.87**	**259**	PKP	**PKPdf**	**23 23 01.0**	**+2.6**
	comp=Z,0.4nm,0.9s,baz=98,slow=1.9,SNR=3.6						
MAW	**Mawson**	**144.42**	**179**	PKP	**PKPdf**	**23 23 46.6**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=262,slow=13,SNR=3.5						
BOSA	**Boshof**	**146.21**	**95**	PKPbc	**PKPab**	**23 23 51.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=286,slow=3.2,SNR=3.5						

*ISCJB **04** 23:04:42.8±1.8, 32°18N±0°07×115°1W±0°1, h4km±15km, mb4.1/6, Error ellipse: s-maj=15.7km s-min=12.2km az=177.0*
*ECX **04** 23:04:42.7±0.5, 31°75N×115°20W, h8km, MD2.9*
*IDC **04** 23:04:43.

CRR	**Carrizo Plain**	**0.85**	**319**	⇓*i*P		**Pg**	**23 09 55.0**	**-0.9**
GLA	**Glamis**	**0.89**	**27**	⇓P		**Pg**	**23 09 55.3**	**-1.5**
	baz=0.9							
GLA				⇓S		**Sg**	**23 10 07.6**	**-0.8**
	baz=0.9							
GLA	**Glamis**	**0.89**	**27**	⇓*i*P		**Pg**	**23 09 56.0**	**-0.8**
CLIC	**Calipatria**	**0.91**	**348**	*e*P		**Pg**	**23 09 56.0**	**-1.0**
ERRC	**Elmore Ranch**	**0.97**	**333**	⇓*i*P		**Pg**	**23 09 57.0**	**-1.2**
ERRC				*e*S		**Sg**	**23 10 11.0**	**+0.2**
CBX	**Cerro Bola**	**1.16**	**273**	⇓*e*P		**Pb**	**23 10 01.3**	**-1.1**
CBX				*e*S		**Sb**	**23 10 16.8**	**-1.1**
CBX				⇑*e*			23 10 20.2	
	comp=E,23μm,0.5s							
CBX					AML	AML	23 10 20.3	
	comp=N,21μm,0.5s							
CBX				⇑*e*			23 10 20.3	
SPX	**San Pedro Mart**	**1.21**	**187**	*e*P		**Pg**	**23 10 03.2**	**+0.3**
BAR	**Barrett**	**1.23**	**291**	⇑*i*P		**Pn**	**23 10 01.0**	**-2.9**
BORC	**Borrego Spring**	**1.38**	**317**	*e*P		**Pn**	**23 10 04.0**	**-1.9**
BORC				*i* S		**Sn**	**23 10 22.0**	**-2.8**
113A	**Mohawk Valley,**	**1.40**	**68**	⇓P		**Pn**	**23 10 03.8**	**-2.3**
	baz=1.4							
113A				⇑S		**Sn**	**23 10 21.3**	**-3.7**
	baz=1.4							
BC3	**Big Chuckawall**	**1.41**	**355**	⇑P		**Pn**	**23 10 03.8**	**-2.6**
	baz=1.5							
Y12C	**Blythe**	**1.63**	**23**	⇓P		**Pn**	**23 10 07.2**	**-2.2**
	baz=1.7							
109C	**Camp Elliot, M**	**1.65**	**293**	⇓P		**Pn**	**23 10 08.6**	**-1.0**
	baz=1.6							
109C				⇓S		**Sn**	**23 10 30.5**	**-0.9**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.67**	**325**	Pn		**Pn**	**23 10 07.3**	**-2.6**
	comp=N,91nm,0.3s,baz=146,slow=14,SNR=7.3							
PFO				Lg		Lg	23 10 32.2	
	comp=N,406nm,0.3s,baz=43,slow=21,SNR=9.0							
IRM	**Iron Mountain**	**1.91**	**4**	⇑P		**Pn**	**23 10 11.7**	**-1.5**
	baz=2.0							
IRM				⇑S		**Sn**	**23 10 37.7**	**-0.1**
	baz=2.0							
MURC	**Murrieta**	**2.09**	**311**	⇓Pb		**Pb**	**23 10 17.5**	**-0.8**
	baz=2.1							
MURC				⇑S		**Sb**	**23 10 43.8**	**-0.8**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.13**	**97**	⇓P		**Pn**	**23 10 13.6**	**-2.7**
	baz=2.2							
214A				⇑S		**Sn**	**23 10 40.5**	**-2.9**
	baz=2.2							
PDMCI	**Parker Dam,Lak**	**2.26**	**25**	⇓Pg		**Pb**	**23 10 22.0**	**+0.8**
	baz=2.3							
Z14A	**Wintersburg**	**2.27**	**60**	⇓S		**Sn**	**23 10 44.9**	**-1.9**
	baz=2.3							
BBRC	**Big Bear Solar**	**2.42**	**326**	⇓Sb		**Sb**	**23 10 56.4**	**+2.0**
	baz=2.4							
Y14A	**Wickenburg**	**2.56**	**48**	⇓S		**Sn**	**23 10 52.1**	**-1.8**
	baz=2.6							
NEE2	**Needles Airpor**	**2.57**	**13**	⇑P		**Pn**	**23 10 21.1**	**-1.2**
	baz=2.6							
BFSC	**Mount Baldy Ra**	**2.80**	**316**	⇑Sb		**Sb**	**23 11 06.5**	**+1.4**
	baz=2.8							
SCI	**San Clemente I**	**2.83**	**286**	⇑Sb		**Sb**	**23 11 07.6**	**+1.6**
	baz=2.8							
CIS	**Catalina Islan**	**2.85**	**295**	⇓Sb		**Sb**	**23 11 07.8**	**+1.1**
	baz=2.9							
FMP	**Fort Macarthur**	**2.91**	**301**	⇑Sb		**Sb**	**23 11 08.7**	**+0.5**
	baz=2.9							
ANMO	**Albuquerque**	**7.85**	**68**	Pn		**Pn**	**23 11 36.0**	**+1.0**
	comp=N,0.4nm,0.3s,baz=262,slow=14,SNR=4.1							
ELK	**Elko**	**8.48**	**0**	Pn		**Pn**	**23 11 45.2**	**+1.6**
	comp=N,0.6nm,0.3s,baz=183,slow=8.3,SNR=5.3							
ELK				Lg		Lg	23 14 11.1	
	baz=90,slow=20,SNR=2.1							
TXAR	**Lajitas Array**	**10.42**	**103**	Pn		**Pn**	**23 12 11.5**	**+1.3**
	comp=N,2.4nm,0.3s,baz=284,slow=14,SNR=23							
TXAR				Lg		Lg	23 15 16.4	
	comp=N,0.2nm,0.3s,baz=269,slow=29,SNR=6.3							
PDAR	**Pinedale Array**	**11.44**	**22**	Pn		Pn	23 12 30.6	+6.4
	comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=4.1							
NEW	**Newport**	**16.05**	**356**	Pn		**P**	**23 13 28.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=169,slow=10,SNR=4.6							
ULM	**Lac du Bonnet**	**23.05**	**33**	P		**P**	**23 14 46.5**	**+0.5**
	comp=N,5.5nm,1.0s,baz=231,slow=14,SNR=4.1							
YKA	**Yellowknife Ar**	**30.26**	**1**	P		**P**	**23 15 52.0**	**+0.4**
	comp=N,0.8nm,1.0s,baz=180,slow=8.9,SNR=6.1							
ILAR	**Eielson Array**	**37.89**	**339**	P		**P**	**23 17 00.0**	**+2.2**
	comp=N,1.4nm,0.8s,baz=152,slow=7.7,SNR=13							
HFS	**Hagfors**	**78.88**	**23**	P		**P**	**23 21 45.3**	**+1.2**
	comp=N,1.1nm,0.6s,baz=218,slow=9.4,SNR=5.5							
FINES	**FINESS Array B**	**81.51**	**18**	P		**P**	**23 21 58.7**	**+0.5**
	comp=N,1.4nm,0.9s,baz=352,slow=7.7,SNR=5.5							
WRA	**Warramunga Arr**	**117.22**	**263**	PKP		**PKPdf**	**23 28 28.5**	**+1.5**
	comp=N,0.2nm,0.6s,baz=69,slow=2.1,SNR=3.3							
ASAR	**Alice Springs**	**119.19**	**259**	PKP		**PKPdf**	**23 28 30.7**	**-0.1**
	comp=N,0.3nm,0.8s,baz=96,slow=2.8,SNR=2.8							

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*CSEM **04** 23:13:50.6±0.1,38˚.25N×3˚.52W,h10km,ML3.9/34, Error ellipse: s-maj=1.9km s-min=1.4km az=170.0*
*LDG **04** 23:13:52.4±0.1,38˚.20N×3˚.47W,h10km,Md3.9/1,Ml3.7/4, Error ellipse: s-maj=1.3km s-min=1.2km az=138.0*
*IGIL **04** 23:13:52.2,38˚.24N×3˚.47W,h10km,ML2.8*
*INMG **04** 23:13:52.2±1.7,38˚.24N×3˚.48W,h16km±3km,ML3.3, Error ellipse: s-maj=1.5km s-min=1.5km az=57.0*
*MDD **04** 23:13:52.2±0.2,38˚.23N×3˚.48W,h11km,mbLg3.2/53, Error ellipse: s-maj=2.2km s-min=1.6km az=178.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*SFS **04** 23:13:52.0,38˚.20N×3˚.40W,h10km,ML3.3*
ISC 04 23:13:49.7±1.0,**38˚.23N**±0˚.02×**3˚.47W**±0˚.01,**h15**km±9km, **n206,**σ1**s43**/346,**7C-4D, Spain**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EBAN	**Banos Encina**	**0.26**	**256**	⇓Pg		**Pb**	**23 13 57.5**	**+1.4**
	114nm,0.1s,SNR=18							
EBAN				Lg		Lg	23 14 00.9	
	340nm,0.4s,SNR=7.9							
EBAN	**Banos Encina**	**0.26**	**256**	Pg		**Pb**	**23 13 57.5**	**+1.4**
	114nm,0.1s,SNR=18							
EBAN				Lg		Lg	23 14 00.9	
	340nm,0.4s,SNR=7.9							
EQES	**Quesada**	**0.53**	**143**	⇓Pg		**Pb**	**23 14 02.2**	**+1.4**
	149nm,0.1s,SNR=18							
EQES				Lg		Lg	23 14 09.3	
	286nm,0.2s,SNR=21							
EQES	**Quesada**	**0.53**	**143**	Pg		**Pb**	**23 14 02.2**	**+1.4**
	149nm,0.1s,SNR=18							
EQES				Lg		Lg	23 14 09.3	
	286nm,0.2s,SNR=21							
SESP	**Santiago Espad**	**0.74**	**98**	⇑Pg		**Pn**	**23 14 06.1**	**+0.3**
	195nm,0.2s,SNR=18							
SESP				Lg		Lg	23 14 15.8	
	2μm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**0.74**	**98**	Pg		**Pn**	**23 14 06.1**	**+0.3**
	195nm,0.2s,SNR=18							
SESP				Lg		Lg	23 14 15.8	
	2μm,0.3s,SNR=7.9							
EHUE	**Huescar**	**0.81**	**120**	⇓Pg		**Pn**	**23 14 07.3**	**+0.6**
	67nm,0.2s,SNR=18							
EHUE				Lg		Lg	23 14 18.2	
	384nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**0.81**	**120**	Pg		**Pn**	**23 14 07.3**	**+0.6**
	67nm,0.2s,SNR=18							
EHUE				Lg		Lg	23 14 18.2	
	384nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**0.82**	**155**	⇓Pg		**Pn**	**23 14 07.6**	**+0.7**
	266nm,0.1s,SNR=18							
GORA				Lg		Lg	23 14 19.1	
	990nm,0.3s,SNR=7.9							
GORA	**Gorafe**	**0.82**	**155**	Pg		**Pn**	**23 14 07.6**	**+0.7**
	266nm,0.1s,SNR=18							
GORA				Lg		Lg	23 14 19.1	
	990nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**0.86**	**61**	⇑Pg		**Pn**	**23 14 08.2**	**+0.7**
	190nm,0.1s,SNR=18							
EVIA				Lg		Lg	23 14 19.9	
	444nm,0.2s,SNR=13							
EVIA	**Vianos**	**0.86**	**61**	Pg		**Pn**	**23 14 08.2**	**+0.7**
	190nm,0.1s,SNR=18							
EVIA				Lg		Lg	23 14 19.9	
	444nm,0.2s,SNR=13							
ECOG	**Cogollos-Vega**	**0.95**	**185**	⇑Pg		**Pn**	**23 14 09.6**	**+0.9**
	46nm,0.1s,SNR=18							
ECOG				Lg		Lg	23 14 21.7	
	482nm,0.2s,SNR=34							
ECOG	**Cogollos-Vega**	**0.95**	**185**	Pg		**Pn**	**23 14 09.6**	**+0.9**
	46nm,0.1s,SNR=18							
ECOG				Lg		Lg	23 14 21.7	
	482nm,0.2s,SNR=34							
SELV	**Sierra Elvira**	**1.01**	**192**	Pg		**Pn**	**23 14 11.0**	**+1.6**
	9.2nm,0.1s,SNR=7.9							
SELV				Lg		Lg	23 14 24.5	
	469nm,0.4s,SNR=7.9							
SELV	**Sierra Elvira**	**1.01**	**192**	Pg		**Pn**	**23 14 11.0**	**+1.6**
	9.2nm,0.1s,SNR=7.9							
SELV				Lg		Lg	23 14 24.5	
	469nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**1.39**	**183**	⇑Pg		**Pg**	**23 14 17.2**	**+0.7**
	10nm,0.1s,SNR=18							
EGUA				Lg		Lg	23 14 35.3	
	144nm,0.3s,SNR=7.9							
EGUA	**Guajares**	**1.39**	**183**	Pg		**Pg**	**23 14 17.2**	**+0.7**
	10nm,0.1s,SNR=18							
EGUA				Lg		Lg	23 14 35.3	
	144nm,0.3s,SNR=7.9							
EBER	**Berja**	**1.40**	**161**	Pg		**Pg**	**23 14 17.5**	**+0.7**
	88nm,0.2s,SNR=18							
EBER				Lg		Lg	23 14 37.2	
	48nm,0.2s,SNR=11							
EBER	**Berja**	**1.40**	**161**	Pg		**Pg**	**23 14 17.5**	**+0.7**
	88nm,0.2s,SNR=18							
EBER				Lg		Lg	23 14 37.2	
	48nm,0.2s,SNR=11							
PAB	**San Pablo**	**1.48**	**333**	Pg		**Pg**	**23 14 19.6**	**+1.3**
	112nm,0.1s,SNR=7.9							
PAB				Lg		Lg	23 14 38.6	
	817nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**1.48**	**333**	Pg		**Pg**	**23 14 19.6**	**+1.3**
	112nm,0.1s,SNR=7.9							
PAB				Lg		Lg	23 14 38.6	
	817nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**1.50**	**345**	Pg		**Pb**	**23 14 17.2**	**-0.1**
	64nm,0.1s,SNR=7.9							
ESDC				Lg		Lg	23 14 38.8	
	164nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**1.50**	**345**	Pg		**Pb**	**23 14 17.2**	**-0.1**
	64nm,0.1s,SNR=7.9							
ESDC				Lg		Lg	23 14 38.8	
	164nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**1.54**	**265**	⇑Pn		**Pb**	**23 14 17.9**	**-0.2**
	24nm,0.2s,SNR=18							
ECAB				Pg		**Pg**	**23 14 20.0**	**+0.6**
	29nm,0.1s,SNR=7.9							
ECAB				Sn		**Sn**	**23 14 37.3**	**+0.7**
	4.0nm,0.2s,SNR=7.9							
ECAB				Lg		Lg	23 14 41.0	
	359nm,0.1s,SNR=14							
ECAB	**El Cabril**	**1.54**	**265**	Pn		**Pb**	**23 14 17.9**	**-0.2**
	24nm,0.2s,SNR=18							
ETOB	**Tobarra**	**1.56**	**74**	⇑Pn		**Pb**	**23 14 18.5**	**0.0**
	3.6nm,0.1s,SNR=18							
ETOB				Pg		**Pg**	**23 14 20.7**	**+0.9**
	26nm,0.2s,SNR=7.9							
ETOB				Sn		**Sn**	**23 14 38.1**	**+0.9**
	38nm,0.2s,SNR=7.9							
ETOB				Lg		Lg	23 14 40.7	
	156nm,0.3s,SNR=13							
ETOB	**Tobarra**	**1.56**	**74**	Pn		**Pb**	**23 14 18.5**	**0.0**
	3.6nm,0.1s,SNR=18							
ENIJ	**Nijar**	**1.60**	**141**	Pn		**Pb**	**23 14 19.7**	**+0.6**
	2.5nm,0.1s,SNR=7.9							
ENIJ				Pg		**Pg**	**23 14 21.6**	**+1.0**
	56nm,0.2s,SNR=7.9							
ENIJ				Lg		Lg	23 14 43.4	
	70nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**1.60**	**141**	Pn		**Pb**	**23 14 19.7**	**+0.6**
	2.5nm,0.1s,SNR=7.9							
ENIJ	**Nijar**	**1.60**	**141**	Pg		**Pg**	**23 14 21.6**	**+1.0**
	56nm,0.2s,SNR=7.9							
ENIJ				Lg		Lg	23 14 43.4	
	70nm,0.2s,SNR=7.9							
EMAL	**Malaga-Limoner**	**1.65**	**208**	*e*P		**Pb**	**23 14 20.0**	**+0.2**
EMAL				*e*S		**Sb**	**23 14 40.3**	**-0.1**
EMUR	**La Murta**	**1.80**	**102**	Pn		**Pb**	**23 14 22.2**	**-0.3**
	1.2nm,0.1s,SNR=35							
EMUR				Pg		**Pg**	**23 14 25.7**	**+1.4**
	6.3nm,0.1s,SNR=7.9							
EMUR				Lg		Lg	23 14 47.6	
	137nm,0.3s,SNR=516							
EMUR	**La Murta**	**1.80**	**102**	Pn		**Pb**	**23 14 22.2**	**-0.3**
	1.2nm,0.1s,SNR=35							
EMIJ	**Mijas**	**1.96**	**212**	Pn		**Pb**	**23 14 24.7**	**-0.4**
	0.6nm,0.1s,SNR=313							
EMIJ				Pg		**Pg**	**23 14 27.2**	**-0.1**
	3.7nm,0.1s,SNR=7.9							
EMIJ				Sn		**Sn**	**23 14 48.0**	**+1.2**
	16nm,0.2s,SNR=7.9							
EMIJ				Lg		Lg	23 14 53.0	
	57nm,0.2s,SNR=5.0							
EMIJ	**Mijas**	**1.96**	**212**	Pn		**Pb**	**23 14 24.7**	**-0.4**
	0.6nm,0.1s,SNR=313							
LIJA	**Lijar**	**2.02**	**230**	P		**Pn**	**23 14 25.0**	**+1.6**
LIJA				S		**Sg**	**23 14 54.0**	**-0.9**
LIJA	**Lijar**	**2.02**	**230**	*i* P		**Pn**	**23 14 25.0**	**+1.6**
LIJA				*i* S		**Sg**	**23 14 54.0**	**-0.9**
CART	**Cartagena**	**2.05**	**107**	P		**Pg**	**23 14 28.5**	**-0.6**
CART				S		**Sn**	**23 14 50.4**	**+1.3**
CART	**Cartagena**	**2.05**	**107**	*e*P		**Pg**	**23 14 28.5**	**-0.6**
CART				*e*S		**Sn**	**23 14 50.4**	**+1.3**
ESPR	**Espera**	**2.33**	**235**	Pn		**Pn**	**23 14 29.3**	**+1.8**
	1.1nm,0.1s,SNR=7.9							
ESPR				Pg		**Pg**	**23 14 33.8**	**-0.6**
	2.1nm,0.1s,SNR=7.9							
ESPR				Lg		Lg	23 15 07.2	
	26nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.33**	**235**	Pn		**Pn**	**23 14 29.3**	**+1.8**
	1.1nm,0.1s,SNR=7.9							
ESPR	**Espera**	**2.33**	**235**	Pg		**Pg**	**23 14 33.8**	**-0.6**
	2.1nm,0.1s,SNR=7.9							
ESPR				Lg		Lg	23 15 07.2	
	26nm,0.2s,SNR=7.9							
ECHE	**Chera**	**2.38**	**54**	Pg		**Pg**	**23 14 37.0**	**+1.6**
	3.4nm,0.1s,SNR=7.9							
ECHE				Lg		Lg	23 15 07.2	
	45nm,0.3s,SNR=4.0							
ECHE	**Chera**	**2.38**	**54**	Pg		**Pg**	**23 14 37.0**	**+1.6**
	3.4nm,0.1s,SNR=7.9							
ECHE				Lg		Lg	23 15 07.2	
	45nm,0.3s,SNR=4.0							
GUD	**Guadarrama**	**2.47**	**348**	Pn		**Pn**	**23 14 31.3**	**+1.7**
	0.3nm,0.1s,SNR=7.9							
GUD				Pg		**Pg**	**23 14 36.2**	**-0.9**
	7.7nm,0.2s,SNR=7.9							
GUD				Lg		Lg	23 15 09.4	
	221nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**2.47**	**348**	Pn		**Pn**	**23 14 31.3**	**+1.7**
	0.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.57**	**261**	Pn		**Pn**	**23 14 31.8**	**+0.9**
	3.3nm,0.1s,SNR=54							
EMIN				Pg		**Pg**	**23 14 38.7**	**-0.3**
	7.2nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**23 15 01.6**	**-0.3**
	11nm,0.1s,SNR=7.9							
EMIN				Lg		Lg	23 15 10.4	
	121nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.57**	**261**	Pn		**Pn**	**23 14 31.8**	**+0.9**
	3.3nm,0.1s,SNR=54							
EBEN	**Beniarda**	**2.59**	**78**	Pn		**Pn**	**23 14 32.5**	**+1.3**
	1.2nm,0.2s,SNR=22							
EBEN				Pg		**Pg**	**23 14 38.7**	**-0.7**
	0.6nm,0.1s,SNR=7.9							
EBEN				Sn		**Sn**	**23 15 04.5**	**+2.0**
	3.9nm,0.2s,SNR=7.9							
EBEN				Lg		Lg	23 15 14.0	
	8.5nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**2.59**	**78**	Pn		**Pn**	**23 14 32.5**	**+1.3**
	1.2nm,0.2s,SNR=22							
EBEN	**Beniarda**	**2.59**	**78**	Pg		**Pg**	**23 14 38.7**	**-0.7**
	0.6nm,0.1s,SNR=7.9							
EBEN				Sn		**Sn**	**23 15 04.5**	**+2.0**
	3.9nm,0.2s,SNR=7.9							
EBEN				Lg		Lg	23 15 14.0	
	8.5nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**2.74**	**313**	Pn		**Pn**	**23 14 34.7**	**+1.5**
	0.6nm,0.1s,SNR=17							
EPLA				Pg		**Pg**	**23 14 43.1**	**+0.9**
	8.8nm,0.2s,SNR=7.9							
EPLA				Sn		**Sn**	**23 15 06.5**	**+0.4**
	5.5nm,0.1s,SNR=7.9							
EPLA				Lg		Lg	23 15 18.6	
	58nm,0.2s,SNR=9.6							
ETOR	**Torete**	**2.81**	**22**	Pn		**Pn**	**23 14 35.8**	**+1.5**
	41nm,0.1s,SNR=88							
ETOR				Pg		**Pb**	**23 14 41.5**	**+1.8**
	42nm,0.2s,SNR=7.9							
ETOR				Lg		Lg	23 15 21.1	
	363nm,0.2s,SNR=7.9							
ETOR	**Torete**	**2.81**	**22**	Pn		**Pn**	**23 14 35.8**	**+1.5**
	41nm,0.1s,SNR=88							
ETOR				Lg		Lg	23 15 21.1	
	363nm,0.2s,SNR=7.9							
PBAR	**Barrancos**	**2.81**	**270**	*e*Pn		**Pn**	**23 14 35.2**	**+1.0**
PBAR				*e*Sn		**Sn**	**23 15 07.9**	**0.0**
PBAR				*e*Sg		**Sg**	**23 15 19.5**	**-0.6**
PBAR				A		A	23 15 24.3	
	335nm,0.4s							
PBAR	**Barrancos**	**2.81**	**270**	Pn		**Pn**	**23 14 35.2**	**+1.0**
PBAR				Sn		**Sn**	**23 15 07.9**	**0.0**
PBAR				Lg		Lg	23 15 19.5	
	335nm,0.4s							
PBAR	**Barrancos**	**2.81**	**270**	*e*Pn		**Pn**	**23 14 35.2**	**+1.0**
PBAR				*e*Sn		**Sn**	**23 15 07.9**	**0.0**
PBAR				*e*Sg		**Sg**	**23 15 19.5**	**-0.6**
	335nm,0.4s							
EBAD	**Badajoz**	**2.83**	**282**	⇑Pn		**Pn**	**23 14 35.4**	**+0.9**
	6.9nm,0.1s,SNR=18							
EBAD				Pg		**Pg**	**23 14 43.4**	**-0.6**
	12nm,0.1s,SNR=7.9							
EBAD				Sn		**Sn**	**23 15 08.8**	**+0.5**
	41nm,0.1s,SNR=7.9							
EBAD				Lg		Lg	23 15 20.9	
	215nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**2.83**	**282**	Pn		**Pn**	**23 14 35.4**	**+0.9**
	6.9nm,0.1s,SNR=18							
EMOS	**Mosqueruela**	**3.16**	**47**	Pn		**Pn**	**23 14 41.5**	**+2.4**
	0.9nm,0.2s,SNR=11							
EMOS				Pg		**Pg**	**23 14 49.9**	**-0.3**
	3.8nm,0.2s,SNR=7.9							
EMOS				Sn		**Sn**	**23 15 17.1**	**+0.5**
	2.7nm,0.1s,SNR=7.9							
EMOS				Lg		Lg	23 15 32.3	
	SNR=7.9							
EMOS	**Mosqueruela**	**3.16**	**47**	Pn		**Pn**	**23 14 41.5**	**+2.4**
	0.9nm,0.2s,SNR=11							
EGRO	**El Granado**	**3.25**	**259**	Pn		**Pn**	**23 14 40.9**	**+0.7**
	2.6nm,0.1s,SNR=20							
EGRO				Sn		**Sn**	**23 15 17.7**	**-0.9**
	9.2nm,0.2s,SNR=7.9							
EGRO				Lg		Lg	23 15 32.2	
	34nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.25**	**259**	Pn		**Pn**	**23 14 40.9**	**+0.7**
	2.6nm,0.1s,SNR=20							
EGRO				Sn		**Sn**	**23 15 17.7**	**-0.9**
	9.2nm,0.2s,SNR=7.9							
EGRO				Lg		Lg	23 15 32.2	
	34nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**3.29**	**293**	*e*Pn		**Pn**	**23 14 41.8**	**+1.0**
PMRV				*e*Sn		**Sn**	**23 15 19.9**	**+0.2**
PMRV				*e*Sg		**Sg**	**23 15 35.3**	**-0.1**
PMRV				A		A	23 15 39.4	
	111nm,0.4s							
PMRV	**Marv??o**	**3.29**	**293**	Pn		**Pn**	**23 14 41.8**	**+1.0**
PMRV				Sn		**Sn**	**23 15 19.9**	**+0.2**
PMRV				Lg		Lg	23 15 35.3	
	111nm,0.4s							
PMRV	**Marv??o**	**3.29**	**293**	*e*Pn		**Pn**	**23 14 41.8**	**+1.0**
PMRV				*e*Sn		**Sn**	**23 15 19.9**	**+0.2**
PMRV				*e*Sg		**Sg**	**23 15 35.3**	**-0.1**
	111nm,0.4s							
PESTR	**Estremoz**	**3.29**	**282**	*e*Pn		**Pn**	**23 14 41.6**	**+0.8**
PESTR				*e*Sn		**Sn**	**23 15 19.9**	**+0.1**
PESTR				*e*Sg		**Sg**	**23 15 35.3**	**-0.2**
PESTR				A		A	23 15 38.9	
	88nm,0.3s							
PESTR	**Estremoz**	**3.29**	**282**	*e*Pn		**Pn**	**23 14 41.6**	**+0.8**
PESTR				*e*Sn		**Sn**	**23 15 19.9**	**+0.1**
PESTR				*e*Sg		**Sg**	**23 15 35.3**	**-0.2**
	88nm,0.3s							
PVAQ	**Vaqueiros**	**3.46**	**258**	*e*Pn		**Pn**	**23 14 43.9**	**+0.8**
PVAQ				*e*Sn		**Sn**	**23 15 23.2**	**-0.7**
PVAQ				*e*Sg		**Sg**	**23 15 37.7**	**-3.2**
PVAQ				A		A	23 15 49.0	
	48nm,0.6s							
PVAQ	**Vaqueiros**	**3.46**	**258**	Pn		**Pn**	**23 14 43.9**	**+0.8**
PVAQ				Sn		**Sn**	**23 15 23.2**	**-0.7**
PVAQ				Lg		Lg	23 15 37.7	
	48nm,0.6s							
PVAQ	**Vaqueiros**	**3.46**	**258**	*e*Pn		**Pn**	**23 14 43.9**	**+0.8**
PVAQ				*e*Sn		**Sn**	**23 15 23.2**	**-0.7**
PVAQ				*e*Sg		**Sg**	**23 15 37.7**	**-3.2**
	48nm,0.6s							
PCBR	**Castelo Branco**	**3.51**	**299**	*e*Pn		**Pn**	**23 14 45.2**	**+1.4**
PCBR				*e*Sn		**Sn**	**23 15 25.8**	**+0.7**
PCBR				*e*Sg		**Sg**	**23 15 43.0**	**+0.5**
PCBR				A		A	23 15 45.9	
	55nm,0.4s				

MESJ				Lg	Lg	23 15 49.4		
	comp=N,52nm,0.3s							
MESJ	**Messejana**	**3.77**	**266**	*e*Pn	**Pn**	**23 14 48.6**	**+1.2**	
MESJ				*e*Sn	**Sn**	**23 15 30.4**	**-1.1**	
MESJ				*e*Sg	**Sg**	**23 15 49.4**	**-1.4**	
	comp=N,52nm,0.3s							
MTE	**Manteigas**	**3.83**	**306**	*e*Sg	**Sg**	**23 15 52.7**	**-0.1**	
MTE				A	A	23 16 00.2		
	comp=N,100nm,0.5s							
MTE	**Manteigas**	**3.83**	**306**	Lg	Lg	23 15 52.7		
	comp=N,50nm,0.5s							
MTE	**Manteigas**	**3.83**	**306**	*e*Sg	**Sg**	**23 15 52.7**	**-0.1**	
	comp=N,100nm,0.5s							
EIBI	**Ibiza**	**3.85**	**77**	Pn	**Pn**	**23 14 48.1**	**-0.4**	
	comp=N,0.9nm,0.1s,SNR=7.9							
EIBI				Sn	**Sn**	**23 15 32.2**	**-1.4**	
	comp=N,3.0nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.85**	**77**	Pn	**Pn**	**23 14 48.1**	**-0.4**	
	comp=N,0.9nm,0.1s,SNR=7.9							
PNCL	**Nicolau / Gran**	**3.99**	**270**	*e*Pn	**Pn**	**23 14 52.0**	**+1.6**	
PNCL				*e*Sn	**Sn**	**23 15 37.6**	**+0.7**	
PNCL				*e*Sg	**Sg**	**23 15 55.7**	**-2.1**	
PNCL				A	A	23 16 03.1		
	comp=N,54nm,0.5s							
PNCL	**Nicolau / Gran**	**3.99**	**270**	*e*Pn	**Pn**	**23 14 52.0**	**+1.6**	
PNCL				*e*Sn	**Sn**	**23 15 37.6**	**+0.7**	
PNCL				*e*Sg	**Sg**	**23 15 55.7**	**-2.1**	
	comp=N,54nm,0.5s							
ERTA	**Horta de San J**	**4.01**	**46**	Pn	**Pn**	**23 14 52.0**	**+1.4**	
	comp=N,0.4nm,0.1s,SNR=7.9							
ERTA				Pg	**Pg**	**23 15 05.2**	**-1.2**	
	comp=N,0.6nm,0.1s,SNR=7.9							
ERTA				Lg	Lg	23 15 58.2		
	comp=N,4.5nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.01**	**46**	Pn	**Pn**	**23 14 52.0**	**+1.4**	
	comp=N,0.4nm,0.1s,SNR=7.9							
ERTA				Lg	Lg	23 15 58.2		
	comp=N,4.5nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**4.02**	**318**	*e*Pn	**Pn**	**23 14 53.9**	**+3.1**	
MVO				*e*Sg	**Sg**	**23 15 59.4**	**+0.7**	
MVO				A	A	23 16 06.9		
	comp=N,48nm,0.5s							
MVO	**Moncorvo**	**4.02**	**318**	Pn	**Pn**	**23 14 52.9**	**+2.1**	
	comp=N,1.1nm,0.1s,SNR=7.9							
MVO				Lg	Lg	23 15 59.5		
	comp=N,22nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**4.02**	**318**	Pn	**Pn**	**23 14 52.9**	**+2.1**	
	comp=N,1.1nm,0.1s,SNR=7.9							
MVO				*e*Sg	**Sg**	**23 15 59.4**	**+0.7**	
	comp=N,48nm,0.5s							
MVO				Lg	Lg	23 15 59.5		
	comp=N,22nm,0.3s,SNR=7.9							
PTOM	**Tomar**	**4.10**	**291**	*e*Pn	**Pn**	**23 14 53.4**	**+1.6**	
PTOM				*e*Sn	**Sn**	**23 15 39.9**	**+0.4**	
PTOM				*e*Sg	**Sg**	**23 15 58.4**	**-2.9**	
PTOM				A	A	23 16 04.0		
	comp=N,79nm,0.3s							
PTOM	**Tomar**	**4.10**	**291**	Pn	**Pn**	**23 14 53.4**	**+1.6**	
PTOM				Sn	**Sn**	**23 15 39.9**	**+0.4**	
PTOM				Lg	Lg	23 15 58.4		
	comp=N,40nm,0.3s							
PTOM	**Tomar**	**4.10**	**291**	*e*Pn	**Pn**	**23 14 53.4**	**+1.6**	
PTOM				*e*Sn	**Sn**	**23 15 39.9**	**+0.4**	
PTOM				*e*Sg	**Sg**	**23 15 58.4**	**-2.9**	
	comp=N,79nm,0.3s							
MORF	**Marmelete**	**4.21**	**259**	*e*P	**Pn**	**23 14 54.5**	**+1.1**	
MORF				*e*S	**Sn**	**23 15 40.2**	**-2.1**	
MORF				AML	AML	23 15 42.7		
	comp=E,23nm,0.5s							
MORF	**Marmelete**	**4.21**	**259**	*e*Pn	**Pn**	**23 14 54.5**	**+1.1**	
MORF				*e*Sn	**Sn**	**23 15 41.4**	**-0.9**	
MORF				*e*Sg	**Sg**	**23 16 03.7**	**-1.1**	
MORF				A	A	23 16 10.8		
	comp=E,21nm,0.2s							
MORF	**Marmelete**	**4.21**	**259**	Pn	**Pn**	**23 14 54.5**	**+1.1**	
MORF				Sn	**Sn**	**23 15 41.4**	**-0.9**	
MORF				Lg	Lg	23 16 03.7		
	comp=E,21nm,0.2s							
MORF	**Marmelete**	**4.21**	**259**	*e*Pn	**Pn**	**23 14 54.5**	**+1.1**	
MORF				*e*Sn	**Sn**	**23 15 41.4**	**-0.9**	
MORF				*e*Sg	**Sg**	**23 16 03.7**	**-1.1**	
	comp=E,21nm,0.2s							
PTEO	**Sao Teotonio**	**4.21**	**262**	*e*Pn	**Pn**	**23 14 54.9**	**+1.5**	
PTEO				*e*Sn	**Sn**	**23 15 41.5**	**-0.9**	
PTEO				*e*Sg	**Sg**	**23 16 02.5**	**-2.5**	
PTEO				A	A	23 16 15.8		
	comp=E,40nm,0.3s							
PTEO	**Sao Teotonio**	**4.21**	**262**	Pn	**Pn**	**23 14 54.9**	**+1.5**	
PTEO				Sn	**Sn**	**23 15 41.5**	**-0.9**	
PTEO				Lg	Lg	23 16 02.5		
	comp=E,20nm,0.3s							
PTEO	**Sao Teotonio**	**4.21**	**262**	*e*Pn	**Pn**	**23 14 54.9**	**+1.5**	
PTEO				*e*Sn	**Sn**	**23 15 41.5**	**-0.9**	
PTEO				*e*Sg	**Sg**	**23 16 02.5**	**-2.5**	
	comp=E,40nm,0.3s							
PVIS	**Viseu**	**4.23**	**307**	*e*Pn	**Pn**	**23 14 56.5**	**+2.8**	
PVIS				*e*Sg	**Sg**	**23 16 04.4**	**-1.2**	
PVIS				A	A	23 16 14.3		
	comp=E,38nm,0.3s							
PVIS	**Viseu**	**4.23**	**307**	Pn	**Pn**	**23 14 56.5**	**+2.8**	
PVIS				Lg	Lg	23 16 04.4		
	comp=E,19nm,0.3s							
PVIS	**Viseu**	**4.23**	**307**	*e*Pn	**Pn**	**23 14 56.5**	**+2.8**	
PVIS				*e*Sg	**Sg**	**23 16 04.4**	**-1.2**	
	comp=E,38nm,0.3s							
PACT	**Alcochete**	**4.24**	**279**	*e*Pn	**Pn**	**23 14 55.8**	**+2.0**	
PACT				*e*Sn	**Sn**	**23 15 44.3**	**+1.2**	
PACT				A	A	23 16 19.4		
	comp=E,74nm,0.5s							
PACT	**Alcochete**	**4.24**	**279**	*e*Pn	**Pn**	**23 14 55.8**	**+2.0**	
PACT				*e*Sn	**Sn**	**23 15 44.3**	**+1.2**	
	comp=E,74nm,0.5s							
PCAS	**Casmilo, Conde**	**4.31**	**297**	*e*Pn	**Pn**	**23 14 56.7**	**+1.9**	
PCAS				*e*Sg	**Sg**	**23 16 07.5**	**-0.7**	
PCAS				A	A	23 16 12.1		
	comp=E,232nm,1.8s							
PCAS	**Casmilo, Conde**	**4.31**	**297**	*e*Pn	**Pn**	**23 14 56.7**	**+1.9**	
PCAS				*e*Sg	**Sg**	**23 16 07.5**	**-0.7**	
	comp=E,232nm,1.8s							
PBRG	**Braganca**	**4.37**	**326**	*e*Pn	**Pn**	**23 14 58.4**	**+2.8**	
PBRG				*e*Sg	**Sg**	**23 16 07.0**	**-3.0**	
PBRG				A	A	23 16 15.0		
	comp=E,29nm,0.7s							
PBRG	**Braganca**	**4.37**	**326**	Pn	**Pn**	**23 14 58.4**	**+2.8**	
PBRG				Lg	Lg	23 16 07.0		
	comp=E,15nm,0.7s							
PBRG	**Braganca**	**4.37**	**326**	*e*Pn	**Pn**	**23 14 58.4**	**+2.8**	
PBRG				*e*Sg	**Sg**	**23 16 07.0**	**-3.0**	
	comp=E,29nm,0.7s							
PFVI	**Vila Bisbo**	**4.39**	**257**	*e*Pn	**Pn**	**23 14 56.5**	**+0.6**	
PFVI				*e*Sn	**Sn**	**23 15 45.4**	**-1.3**	
PFVI				A	A	23 16 19.1		
	comp=E,25nm,0.6s							
PFVI	**Vila Bisbo**	**4.39**	**257**	Pn	**Pn**	**23 14 56.5**	**+0.6**	
	comp=E,2.0nm,0.1s,SNR=7.9							
PFVI				Sn	**Sn**	**23 15 44.6**	**-2.1**	
	comp=E,8.9nm,0.1s,SNR=7.9							
PFVI				Lg	Lg	23 16 11.7		
	comp=E,11nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.39**	**257**	Pn	**Pn**	**23 14 56.5**	**+0.6**	
	comp=E,2.0nm,0.1s,SNR=7.9							
PFVI				*e*Sn	**Sn**	**23 15 45.4**	**-1.3**	
	comp=E,25nm,0.6s							
PFVI				Lg	Lg	23 16 11.7		
	comp=E,11nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**4.48**	**327**	Pn	**Pn**	**23 14 59.1**	**+1.9**	
	comp=E,0.2nm,0.1s,SNR=7.9							
ECAL				Lg	Lg	23 16 12.4		
	comp=E,8.1nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**4.48**	**327**	Pn	**Pn**	**23 14 59.1**	**+1.9**	
	comp=E,0.2nm,0.1s,SNR=7.9							
ECAL				Lg	Lg	23 16 12.4		
	comp=E,8.1nm,0.2s,SNR=7.9							
PMST	**Lisbon--Monsan**	**4.51**	**278**	*e*Sn	**Sn**	**23 15 49.9**	**+0.1**	
PMST				*e*Sg	**Sg**	**23 16 13.8**	**-0.8**	
PMST				A	A	23 16 22.3		
	comp=E,80nm,0.6s							
PMST	**Lisbon--Monsan**	**4.51**	**278**	*e*Sn	**Sn**	**23 15 49.9**	**+0.1**	
PMST				*e*Sg	**Sg**	**23 16 13.8**	**-0.8**	
	comp=E,80nm,0.6s							
POLO	**Lamas de Olo**	**4.58**	**315**	*e*Pn	**Pn**	**23 15 01.4**	**+2.8**	
POLO				*e*Sg	**Sg**	**23 16 15.4**	**-1.3**	
POLO				A	A	23 16 28.5		
	comp=E,12nm,0.3s							
POLO	**Lamas de Olo**	**4.58**	**315**	*e*Pn	**Pn**	**23 15 01.4**	**+2.8**	
	comp=E,12nm,0.3s							
PMAFR	**Mafra**	**4.61**	**281**	*e*Pn	**Pn**	**23 15 00.8**	**+1.9**	
PMAFR				*e*Sn	**Sn**	**23 15 51.3**	**-1.0**	
PMAFR				*e*Sg	**Sg**	**23 16 16.2**	**-1.6**	
PMAFR				A	A	23 16 27.3		
	comp=E,67nm,0.8s							
PMAFR	**Mafra**	**4.61**	**281**	Pn	**Pn**	**23 15 00.1**	**+1.2**	
	comp=E,0.4nm,0.2s,SNR=7.9							
PMAFR				Sn	**Sn**	**23 15 51.2**	**-1.1**	
	comp=E,6.0nm,0.1s,SNR=7.9							
PMAFR				Lg	Lg	23 16 17.8		
	comp=E,25nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**4.61**	**281**	Pn	**Pn**	**23 15 00.1**	**+1.2**	
	comp=E,0.4nm,0.2s,SNR=7.9							
PMAFR				*e*Sn	**Sn**	**23 15 51.3**	**-1.0**	
PMAFR				*e*Sg	**Sg**	**23 16 16.2**	**-1.6**	
	comp=E,67nm,0.8s							
PMAFR				Lg	Lg	23 16 17.8		
	comp=E,25nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.69**	**47**	Pn	**Pn**	**23 15 01.5**	**+1.4**	
	comp=E,1.3nm,0.2s,SNR=7.9							
EPOB				Lg	Lg	23 16 19.2		
	comp=E,1.8nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**4.69**	**47**	Pn	**Pn**	**23 15 01.5**	**+1.4**	
	comp=E,1.3nm,0.2s,SNR=7.9							
EPOB				Lg	Lg	23 16 19.2		
	comp=E,1.8nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**4.76**	**17**	Lg	Lg	23 16 23.0		
	comp=E,6.8nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**4.76**	**17**	Lg	Lg	23 16 23.0		
	comp=E,6.8nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**4.77**	**18**	Pn	**Pn**	**23 15 02.5**	**+1.4**	
	comp=E,1.0nm,0.2s,SNR=7.9							
IUNC				Lg	Lg	23 16 23.5		
	comp=E,9.8nm,0.2s,SNR=7.9							
IUNC	**Unciti**	**4.77**	**18**	Pn	**Pn**	**23 15 02.5**	**+1.4**	
	comp=E,1.0nm,0.2s,SNR=7.9							
IUNC				Lg	Lg	23 16 23.5		
	comp=E,9.8nm,0.2s,SNR=7.9							
IEPA	**Eparoz**	**4.85**	**20**	Pn	**Pn**	**23 15 04.0**	**+1.8**	
	comp=E,0.4nm,0.1s,SNR=7.9							
IEPA				Lg	Lg	23 16 25.9		
	comp=E,24nm,0.3s,SNR=7.9							
IEPA	**Eparoz**	**4.85**	**20**	Pn	**Pn**	**23 15 04.0**	**+1.8**	
	comp=E,0.4nm,0.1s,SNR=7.9							
IEPA				Lg	Lg	23 16 25.9		
	comp=E,24nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**4.92**	**20**	Pn	**Pn**	**23 15 04.5**	**+1.3**	
	comp=E,0.3nm,0.1s,SNR=7.9							
IELO				Pg	Pg	23 15 20.6	-3.2	
	comp=E,0.7nm,0.1s,SNR=7.9							
IELO				Lg	Lg	23 16 27.8		
	comp=E,2.0nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**4.92**	**20**	Pn	**Pn**	**23 15 04.5**	**+1.3**	
	comp=E,0.3nm,0.1s,SNR=7.9							
IELO				Lg	Lg	23 16 27.8		
	comp=E,2.0nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**4.94**	**17**	Pn	**Pn**	**23 15 04.9**	**+1.4**	
	comp=E,0.2nm,0.1s,SNR=7.9							
IUSE				Lg	Lg	23 16 28.4		
	comp=E,4.8nm,0.2s,SNR=7.9							
IUSE	**Utxeti**	**4.94**	**17**	Pn	**Pn**	**23 15 04.9**	**+1.4**	
	comp=E,0.2nm,0.1s,SNR=7.9							
IUSE				Lg	Lg	23 16 28.4		
	comp=E,4.8nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**5.00**	**0**	Pn	**Pn**	**23 15 06.6**	**+2.4**	
	comp=E,0.1nm,0.1s,SNR=7.9							
ELAN				Sn	**Sn**	**23 16 00.3**	**-1.5**	
	comp=E,0.6nm,0.1s,SNR=7.9							
ELAN				Lg	Lg	23 16 29.1		
	comp=E,4.6nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**5.00**	**0**	Pn	**Pn**	**23 15 06.6**	**+2.4**	
	comp=E,0.1nm,0.1s,SNR=7.9							
ELAN				Lg	Lg	23 16 29.1		
	comp=E,4.6nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**5.06**	**317**	Pn	**Pn**	**23 15 07.1**	**+1.9**	
	comp=E,0.3nm,0.1s,SNR=7.9							
ELOB				Sn	**Sn**	**23 16 02.1**	**-1.4**	
	comp=E,2.0nm,0.1s,SNR=7.9							
ELOB				Lg	Lg	23 16 30.3		
	comp=E,9.7nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**5.06**	**317**	Pn	**Pn**	**23 15 07.1**	**+1.9**	
	comp=E,0.3nm,0.1s,SNR=7.9							
ELOB				Sn	**Sn**	**23 16 02.1**	**-1.4**	
	comp=E,2.0nm,0.1s,SNR=7.9							
ELOB				Lg	Lg	23 16 30.3		
	comp=E,9.7nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**5.13**	**71**	Pn	**Pn**	**23 15 07.0**	**+0.9**	
	comp=E,0.5nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**5.13**	**71**	Pn	**Pn**	**23 15 07.0**	**+0.9**	
	comp=E,0.5nm,0.1s,SNR=7.9							
ELIZ	**Elindo**	**5.15**	**16**	Pn	**Pn**	**23 15 08.9**	**+2.6**	
	comp=E,0.4nm,0.1s,SNR=7.9							
ELIZ				Sn	**Sn**	**23 16 04.3**	**-1.2**	
	comp=E,0.8nm,0.1s,SNR=7.9							
ELIZ				Lg	Lg	23 16 35.9		
	comp=E,2.1nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**5.15**	**16**	Pn	**Pn**	**23 15 08.9**	**+2.6**	
	comp=E,0.4nm,0.1s,SNR=7.9							
ELIZ				Lg	Lg	23 16 35.9		
	comp=E,2.1nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**5.17**	**24**	*e*Pn	**Pn**	**23 15 09.2**	**+2.6**	
ETSF				*e*Sn	**Sn**	**23 16 05.3**	**-0.7**	
ETSF				*e*Sg	**Sg**	**23 16 34.2**	**-1.3**	
	comp=E,12nm,0.4s							
ETSF	**Etsaut**	**5.17**	**24**	Pn	**Pn**	**23 15 09.2**	**+2.6**	
ETSF				Sn	**Sn**	**23 16 05.3**	**-0.7**	
ETSF				Lg	Lg	23 16 34.2		
	comp=E,6.1nm,0.4s							
ETSF	**Etsaut**	**5.17**	**24**	*e*Pn	**Pn**	**23 15 09.2**	**+2.6**	
ETSF				*e*Sn	**Sn**	**23 16 05.3**	**-0.7**	
ETSF				*e*Sg	**Sg**	**23 16 34.2**	**-1.3**	
	comp=E,6.1nm,0.4s							
SJPF	**Ste Jean**	**5.17**	**19**	*e*Pn	**Pn**	**23 15 08.4**	**+1.8**	
SJPF				*e*Sn	**Sn**	**23 16 05.6**	**-0.4**	
SJPF				*e*Sg	**Sg**	**23 16 34.3**	**-1.4**	
	comp=E,12nm,0.4s							
SJPF	**Ste Jean**	**5.17**	**19**	Pn	**Pn**	**23 15 08.4**	**+1.8**	
SJPF				Sn	**Sn**	**23 16 05.6**	**-0.4**	
SJPF				Lg	Lg	23 16 34.3		
	comp=E,6.2nm,0.4s							
SJPF	**Ste Jean**	**5.17**	**19**	*e*Pn	**Pn**	**23 15 08.4**	**+1.8**	
SJPF				*e*Sn	**Sn**	**23 16 05.6**	**-0.4**	
SJPF				*e*Sg	**Sg**	**23 16 34.3**	**-1.4**	
	comp=E,6.2nm,0.4s							
EALK	**Alkurruntz**	**5.21**	**16**	Pn	**Pn**	**23 15 08.4**	**+1.4**	
	comp=E,0.2nm,0.1s,SNR=7.9							
EALK				Sn	**Sn**	**23 16 04.0**	**-2.8**	
	comp=E,0.6nm,0.1s,SNR=7.9							
EALK				Lg	Lg	23 16 31.0		
	comp=E,2.8nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**5.21**	**16**	Pn	**Pn**	**23 15 08.4**	**+1.4**	
	comp=E,0.2nm,0.1s,SNR=7.9							
EALK				Lg	Lg	23 16 31.0		
	comp=E,2.8nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**5.24**	**346**	Pn	**Pn**	**23 15 09.6**	**+2.0**	
	comp=E,0.1nm,0.1s,SNR=7.9							
EARI				Sn	**Sn**	**23 16 04.8**	**-3.0**	
	comp=E,0.0nm,0.2s,SNR=7.9							
EARI				Lg	Lg	23 16 38.5		
	comp=E,2.0nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**5.24**	**346**	Pn	**Pn**	**23 15 09.6**	**+2.0**	
	comp=E,0.1nm,0.1s,SNR=7.9							
EARI				Lg	Lg	23 16 38.5		
	comp=E,2.0nm,0.2s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.24**	**317**	*e*Pn	**Pn**	**23 15 09.9**	**+2.2**	
PGAV				*e*Sg	**Sg**	**23 16 36.4**	**-1.6**	
PGAV				A	A	23 16 48.6		
	comp=E,22nm,0.7s							
PGAV	**Gavieira, Arco**	**5.24**	**317**	*e*Pn	**Pn**	**23 15 09.9**	**+2.2**	
PGAV				*e*Sg	**Sg**	**23 16 36.4**	**-1.6**	
	comp=E,22nm,0.7s							
ATE	**Arette**	**5.29**	**23**	Pn	**Pn**	**23 15 10.1**	**+1.9**	
	comp=E,0.8nm,0.2s,SNR=7.9							
ATE				Sn	**Sn**	**23 16 07.9**	**-1.1**	
	comp=E,0.6nm,0.1s,SNR=7.9							
ATE				Lg	Lg	23 16 39.6		
	comp=E,2.5nm,0.1s,SNR=7.9							
ATE	**Arette**	**5.29**	**23**	Pn	**Pn**	**23 15 10.1**	**+1.9**	
	comp=E,0.8nm,0.2s,SNR=7.9							
ATE				Lg	Lg	23 16 39.6		
	comp=E,2.5nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**5.31**	**45**	Pn	**Pn**	**23 15 10.2**	**+1.6**	
	comp=E,1.4nm,0.1s,SNR=10							
EMIR				Lg	Lg	23 16 38.0		
	comp=E,0.8nm,0.2s,SNR=7.9							
CSOR	**Sort**	**5.44**	**39**	Pn	**Pn**	**23 15 11.9**	**+1.6**	
	comp=E,0.4nm,0.1s,SNR=8.1							
CSOR				Sn	**Sn**	**23 16 11.5**	**-1.2**	
	comp=E,1.7nm,0.2s,SNR=7.9							
CSOR				Lg	Lg	23 16 43.1		
	comp=E,1.5nm,0.2s,SNR=7.9							
CSOR	**Sort**	**5.44**	**39**	Pn	**Pn**	**23 15 11.9**	**+1.6**	
	comp=E,0.4nm,0.1s,SNR=8.1							
CSOR				Lg	Lg	23 16 43.1		
	comp=E,1.5nm,0.2s,SNR=7.9							
EPF	**Esparros**	**5.61**	**30**	*e*Pn	**Pn**	**23 15 14.5**	**+1.9**	
EPF				*e*Sn	**Sn**	**23 16 15.4**	**-1.4**	
EPF				*e*Sg	**Sg**	**23 16 47.9**	**-1.7**	
	comp=E,18nm,0.6s							
EPF	**Esparros**	**5.61**	**30**	Pn	**Pn**	**23 15 14.5**	**+1.9**	
EPF				Sn	**Sn**	**23 16 15.4**	**-1.4**	
EPF				Lg	Lg	23 16 47.9		
	comp=E,9.1nm,0.6s							
EPF	**Esparros**	**5.61**	**30**	*e*Pn	**Pn**	**23 15 14.5**	**+1.9**	
CFON	**Fontmartina**	**5.75**	**50**	Pn	**Pn**	**23 15 16.0**	**+1.4**	
	comp=E,0.4nm,0.1s,SNR=7.9							
CFON	**Fontmartina**	**5.75**	**50**	Pn	**Pn**	**23 15 16.0**	**+1.4**	
	comp=E,0.4nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**5.77**	**324**	Pn	**Pn**	**23 15 16.4**	**+1.5**	
	comp=E,0.2nm,0.1s,SNR=7.9							
EAGO				Lg	Lg	23 16 52.3		
	comp=E,2.0nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**5.77**	**324**	Pn	**Pn**	**23 15 16.4**	**+1.5**	
	comp=E,0.2nm,0.1s,SNR=7.9							
EAGO				Lg	Lg	23 16 52.3		
	comp=E,2.0nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**5.81**	**332**	Lg	Lg	23 16 55.9		
	comp=E,3.1nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**5.81**	**332**	Lg	Lg	23 16 55.9		
	comp=E,3.1nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**5.94**	**43**	Pn	**Pn**	**23 15 18.9**	**+1.6**	
	comp=E,0.3nm,0.1s,SNR=7.9							
CLLI				Sn	**Sn**	**23 16 23.8**	**-1.5**	
	comp=E,0.5nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**5.94**	**43**	Pn	**Pn**	**23 15 18.9**	**+1.6**	
	comp=E,0.3nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.31**	**320**	Pn	**Pn**	**23 15 23.1**	**+0.9**	
	comp=E,0.1nm,0.1s,SNR=7.9							
EMAZ				Lg	Lg	23 17 10.4		
	comp=E,1.5nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.31**	**320**	Pn	**Pn**	**23 15 23.1**	**+0.9**	
	comp=E,0.1nm,0.1s,SNR=7.9							
EMAZ				Lg	Lg	23 17 10.4		
	comp=E,1.5nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**6.43**	**47**	Lg	Lg	23 17 15.0		
	comp=E,1.4nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**6.43**	**47**	Lg	Lg	23 17 15.0		
	comp=E,1.4nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**6.69**	**38**	*e*Pn	**Pn**	**23 15 28.9**	**+1.5**	
MTLF	**Montolieu**	**6.69**	**38**	Pn	**Pn**	**23 15 28.9**	**+1.5**	
MTLF	**Montolieu**	**6.69**	**38**	*e*Pn	**Pn**	**23 15 28.9**	**+1.5**	
LFF	**La Frestale**	**7.41**	**24**	*e*Pn	**Pn**	**23 15 38.8**	**+1.5**	
LFF	**La Frestale**	**7.41**	**24**	Pn	**Pn**	**23 15 38.8**	**+1.5**	
LFF	**La Frestale**	**7.41**	**24**	*e*Pn	**Pn**	**23 15 38.8**	**+1.5**	
CAF	**Calviac**	**7.87**	**30**	*e*Pn	**Pn**	**23 15 45.0**	**+1.3**	
CAF				*e*Sn	**Sn**	**23 17 09.3**	**-3.3**	
CAF	**Calviac**	**7.87**	**30**	Pn	**Pn**	**23 15 45.0**	**+1.3**	
CAF				Sn	**Sn**	**23 17 09.3**	**-3.3**	
CAF	**Calviac**	**7.87**	**30**	*e*Pn	**Pn**	**23 15 45.0**	**+1.3**	
RJF	**Les Rejaudoux**	**7.99**	**26**	*e*Pn	**Pn**	**23 15 46.7**	**+1.4**	
RJF	**Les Rejaudoux**	**7.99**	**26**	Pn	**Pn**	**23 15 46.7**	**+1.4**	
RJF	**Les Rejaudoux**	**7.99**	**26**	*e*Pn	**Pn**	**23 15 46.7**	**+1.4**	
BGF	**Bois d'Agland**	**9.54**	**27**	*e*Pn	**Pn**	**23 16 07.6**	**+1.0**	
BGF	**Bois d'Agland**	**9.54**	**27**	Pn	**Pn**	**23 16 07.6**	**+1.0**	
BGF	**Bois d'Agland**	**9.54**	**27**	*e*Pn	**Pn**	**23 16 07.6**	**+1.0**	

IDC 04 23:14:25.2±4.1,**32°09**N×**115°09W**,**h0**km,**mb4.1**/2,
mb1 4.4/4,**mb1mx3.7**/25,**mbtmp4.1**/4,**ML4.3**/2,**Error ellipse: s-maj

PFO e 23 16 05.7
PFO Pinyon Flats O 1.76 324 Pn Pn 23 15 37.8 -7.4
comp=N,460nm,0.3s,baz=134,slow=13,SNR=16
PFO Lg Lg 23 16 06.8
comp=N,947nm,0.3s,baz=244,slow=17,SNR=7.1
PFO Pinyon Flats O 1.76 324 ePn Pn 23 15 39.9 -5.3
PFO eSn **Sn** **23 16 05.7 -2.5**
BELC Belle Mtn. Jos 1.92 340 ⇓P **Pn** **23 15 45.5 -1.9**
baz=1.8
IRM Iron Mountain 1.96 1 ⇑S **Sb** **23 16 14.4 -0.5**
baz=1.9
214A Organ Pipe Nat 2.04 96 ⇓P Pn 23 15 45.2 -3.9
baz=2.1
MURC Murrieta 2.19 310 ⇑P Pn 23 15 47.8 -3.2
baz=2.1
MURC ⇓S **Sn** **23 16 17.5 -1.2**
baz=2.1
Z14A Wintersburg 2.23 58 ⇓P **Pn** **23 15 48.8 -2.7**
baz=2.3
Z14A ⇑S **Sn** **23 16 18.3 -1.4**
baz=2.3
PDMCI Parker Dam,Lak 2.28 23 ⇑Sb **Sg** **23 16 26.2 -0.5**
baz=2.3
BBRC Big Bear Solar 2.51 325 ⇑Sb **Sb** **23 16 32.6 +1.6**
baz=2.4
Y14A Wickenburg 2.53 46 ⇓Sb **Sg** **23 16 33.9 -1.1**
baz=2.6
GMRC Granite Mounta 2.60 352 ⇑P **Pn** **23 15 54.8 -2.0**
baz=2.6
LDFC Landfair 2.87 2 ePn Pn 23 15 59.2 -1.3
BFSC Mount Baldy Ra 2.89 315 ⇓P Pn 23 15 56.5 -4.3
baz=2.8
BFSC ⇓S **Sn** **23 16 35.9 -0.4**
baz=2.8
SCI San Clemente I 2.93 286 ⇓P Pn 23 15 57.0 -4.2
baz=2.8
SCI ⇓Sb **Sb** **23 16 41.0 -1.7**
baz=2.8
CIS Catalina Islan 2.95 295 ⇑P Pn 23 15 57.1 -4.4
baz=2.9
CIS ⇓Sb **Sb** **23 16 43.1 -0.4**
baz=2.9
FMP Fort Macarthur 3.00 301 ⇑Sb **Sb** **23 16 43.4 -1.6**
baz=2.9
W13A Hualapai Mount 3.09 20 ⇑P **Pn** **23 16 01.1 -2.5**
baz=3.1
W13A ⇑Sb **Sg** **23 16 51.0 -2.0**
baz=3.1
MWC Mount Wilson 3.13 311 ePn **Pn** **23 16 02.9 -1.3**
MWC e 23 16 46.2
MWC Mount Wilson 3.13 311 ePn **Pn** **23 16 02.9 -1.3**
MWC eSn **Sn** **23 16 46.2 +4.0**
PASC Pasadena Art C 3.18 309 ePn **Pn** **23 16 04.2 -0.5**
PASC eSn **Sb** **23 16 47.7 -2.4**
DECC Green Verdugo 3.32 309 ⇓Sb **Sb** **23 16 54.8 +0.5**
baz=3.2
GSC Goldstone, Bar 3.37 337 eP **Pn** **23 16 08.9 +1.6**
GSC Goldstone, Bar 3.37 337 ePn **Pn** **23 16 08.9 +1.6**
TUC Tucson 3.75 87 eP **Pn** **23 16 13.1 +0.6**
TUC Tucson 3.75 87 ePn **Pn** **23 16 13.1 +0.6**
OSI Osito Audit: C 3.80 310 ⇑Sb **Sb** **23 17 09.0 +1.0**
baz=3.7
OSI Osito Audit: C 3.80 310 ePn Pn 23 16 16.8 +3.5
OSI eSn **Sb** **23 17 04.3 -3.7**
X16A Lo Mia Camp, P 3.85 54 ⇓P **Pn** **23 16 11.1 -3.0**
baz=3.9
LRMC Laurel Mtn Rad 3.87 328 ⇓Sb **Sb** **23 17 13.5 +3.6**
baz=3.8
BSC Santa Cruz Isl 4.13 297 ⇑Sb **Sb** **23 17 17.5 +0.2**
baz=4.0
ARVC Arvin 4.20 315 ⇑Sb **Sb** **23 17 22.7 +3.2**
baz=4.1
SHPR Sheep Range 4.30 0 ePn **Pn** **23 16 18.3 -1.9**
ISA Isabella, Lake 4.40 323 eP **Pn** **23 16 21.8 +0.4**
ISA Isabella, Lake 4.40 323 ⇓P Pn 23 16 18.5 -2.9
baz=4.3
ISA ⇑Sb **Sb** **23 17 29.4 +4.3**
baz=4.3
ISA Isabella, Lake 4.40 323 ePn **Pn** **23 16 21.8 +0.4**
WASM Alta Sierra Ca 4.50 323 ePn **Pn** **23 16 22.4 -0.5**
DAC Darwin (Calif) 4.52 335 eP **Pn** **23 16 25.6 +2.3**
DAC Darwin (Calif) 4.52 335 ePn **Pn** **23 16 25.6 +2.3**
WUAZ Wupatki 4.59 43 ⇓P **Pn** **23 16 22.6 -1.6**
baz=4.6
WUAZ Wupatki 4.59 43 ePn **Pn** **23 16 23.1 -1.2**
TPNV Topopah Spring 4.82 350 eP **Pn** **23 16 29.2 +1.9**
TPNV Topopah Spring 4.82 350 ePn **Pn** **23 16 29.2 +1.9**
U15A North Rim 4.86 29 ⇑P **Pn** **23 16 25.6 -2.4**
baz=4.9
X18A Snowflake 4.97 61 ⇓P **Pn** **23 16 26.8 -2.7**
baz=5.0
KNB Kanab 5.19 22 eP **Pn** **23 16 31.0 -1.5**
KNB Kanab 5.19 22 ePn **Pn** **23 16 31.0 -1.5**
W18A Petrified Fore 5.41 56 ⇓P **Pn** **23 16 33.6 -1.9**
baz=5.4
W18A Petrified Fore 5.41 56 ePn **Pn** **23 16 34.3 -1.2**
CCUT Cedar City 5.55 15 ePn **Pn** **23 16 37.7 +0.3**
ARUT Antelope Range 5.76 14 eP **Pn** **23 16 43.2 +2.9**
ARUT Antelope Range 5.76 14 ePn **Pn** **23 16 43.2 +2.9**
TPH Tonopah 6.09 345 eP **Pn** **23 16 47.4 +2.5**
TPH Tonopah 6.09 345 ePn **Pn** **23 16 47.4 +2.5**
R11A Troy Canyon, C 6.14 357 ePn **Pn** **23 16 47.5 +1.9**
121A Cookes Peak, D 6.29 85 ⇓P Pn 23 16 44.0 -3.4
baz=6.4
SAO San Andreas Ge 6.88 313 eP **Pn** **23 16 58.4 +2.9**
SAO San Andreas Ge 6.88 313 ePn **Pn** **23 16 58.4 +2.9**
LAZ Ladron 7.10 70 ePn **Pn** **23 16 56.4 -2.3**
LENM Lemitar 7.17 72 ePn **Pn** **23 16 57.7 -2.0**
Y22D IRIS PASSCAL I 7.19 73 ⇓P **Pn** **23 16 57.4 -2.5**
baz=7.2
CMB Columbia Colle 7.21 325 eP **Pn** **23 17 00.1 +0.1**
CMB Columbia Colle 7.21 325 ePn **Pn** **23 17 00.1 +0.1**
MVCO Mesa Verde 7.45 46 ⇓P **Pn** **23 17 02.2 -1.3**
baz=7.5
MVCO Mesa Verde 7.45 46 ePn **Pn** **23 17 02.6 -0.9**
BNM Barren Site 7.45 73 ePn **Pn** **23 17 01.6 -1.9**
LPM Los Pinos Moun 7.48 71 ePn Pn 23 17 00.7 -3.2
PV05 Paradox Valley 7.71 39 ePn **Pn** **23 17 08.0 +1.0**
TMUT Trail Mountain 7.79 24 ePn **Pn** **23 17 06.5 -1.7**
ANMO Albuquerque 7.79 67 eP **Pn** **23 17 09.3 +1.1**
ANMO pmax pmax
comp=Z,330nm,1.0s
ANMO Albuquerque 7.79 67 Pn **Pn** **23 17 06.9 -1.4**
comp=Z,4.5nm,0.3s,baz=251,slow=12,SNR=22
ANMO Lg Lg 23 19 26.3
comp=Z,4.3nm,0.3s,baz=336,slow=20,SNR=3.8
ANMO Albuquerque 7.79 67 ePn **Pn** **23 17 05.7 -2.6**
SRU San Rafael Swe 7.88 28 eP **Pn** **23 17 08.6 -0.7**
SRU San Rafael Swe 7.88 28 ePn **Pn** **23 17 08.6 -0.7**
PV10 Paradox Valley 7.96 38 ePn **Pn** **23 17 10.4 -0.1**
PV09 Paradox Valley 8.00 37 ePn **Pn** **23 17 11.2 0.0**
PV01 Paradox Valley 8.03 41 ePn **Pn** **23 17 08.9 -2.6**
NLU North Lily Min 8.14 17 ePn **Pn** **23 17 14.8 +1.8**
DUG Dugway, Tooele 8.21 13 eP **Pn** **23 17 15.9 +2.1**
DUG Dugway, Tooele 8.21 13 ePn **Pn** **23 17 15.9 +2.1**
MPU Maple Canyon 8.32 19 ePn **Pn** **23 17 17.1 +1.7**
MNTX Cornudas Mount 8.36 91 ePn **Pn** **23 17 15.7 -0.1**
BMN Battle Mountai 8.38 349 eP **Pn** **23 17 16.1 0.0**
BMN Battle Mountai 8.38 349 ePn **Pn** **23 17 16.1 0.0**
ELK Elko 8.53 360 eP **Pn** **23 17 19.1 +0.8**
ELK Elko 8.53 360 ePn **Pn** **23 17 19.1 +0.8**
DAU Daniels Canyon 8.79 20 eP **Pn** **23 17 24.2 +2.2**
DAU Daniels Canyon 8.79 20 ePn **Pn** **23 17 24.2 +2.2**
S22A 4UR Ranch, Cre 8.82 49 ePn **Pn** **23 17 22.0 -0.4**
BGU Big Grassy Mou 8.88 11 ePn **Pn** **23 17 25.4 +2.3**
CTU Camp Tracy 8.92 17 ePn **Pn** **23 17 24.9 +1.3**
LPIG La Paz 9.15 151 Pn **Pn** **23 17 28.9 +2.3**
comp=Z,18nm,0.3s,baz=293,slow=17,SNR=7.3
LPIG Lg Lg 23 20 14.4
baz=288,slow=19,SNR=3.7
GDL2 Guadalupe Moun 9.19 87 ePn **Pn** **23 17 24.9 -2.3**
TCUT Toone Canyon 9.41 18 ePn **Pn** **23 17 30.7 +0.3**
CLNB Carlsbad 9.59 87 ePn **Pn** **23 17 32.6 -0.2**
CPRX Cap Rock 9.60 82 ePn **Pn** **23 17 31.4 -1.5**
SMCO Snowmass 9.65 42 ePn **Pn** **23 17 34.1 +0.2**
SLBS Sierra La Lagu 9.67 150 ePn **Pn** **23 17 36.4 +2.6**
SDCO Great Sand Dun 9.69 53 ePn **Pn** **23 17 35.5 +1.2**
O20A White River Ci 9.71 33 ePn **Pn** **23 17 35.6 +1.1**
HVU Hansel Valley 9.76 11 eP Pn 23 17 39.0 +3.9
HVU Hansel Valley 9.76 11 ePn Pn 23 17 39.0 +3.9
HWUT Hardware Ranch 9.83 16 ePn **Pn** **23 17 39.0 +2.8**
T25A Trinidad 10.16 58 ePn **Pn** **23 17 43.4 +2.7**
LTX Lajitas 10.33 103 eP **Pn** **23 17 42.9 0.0**
LTX Lajitas 10.33 103 ePn **Pn** **23 17 42.9 0.0**
TXAR Lajitas Array 10.33 103 Pn **Pn** **23 17 42.9 0.0**
comp=Z,20nm,0.3s,baz=285,slow=12,SNR=72
TXAR Lg Lg 23 20 43.1
comp=Z,2.3nm,0.3s,baz=280,slow=30,SNR=7.1
MOD Modoc Plateau 10.50 339 ePn **Pn** **23 17 48.0 +2.7**
WVOR Wild Horse Val 10.57 346 eP **Pn** **23 17 48.3 +2.0**
WVOR Wild Horse Val 10.57 346 ePn **Pn** **23 17 48.3 +2.0**
MSTX Muleshoe 10.58 77 ePn **Pn** **23 17 49.2 +2.9**
Q24A Divide 10.61 48 ePn **Pn** **23 17 46.4 -0.5**
ISCO Idaho Springs 10.85 43 eP **Pn** **23 17 51.1 +0.9**
ISCO Idaho Springs 10.85 43 ePn **Pn** **23 17 51.1 +0.9**
AHID Auburn Hatcher 11.04 16 ePn **Pn** **23 17 54.6 +2.0**
MFID Camas Ranch 11.21 358 ePn Pn 23 17 58.5 +3.6
YBH Yreka Blue Hor 11.24 330 eP **Pn** **23 17 56.7 +1.3**
YBH Yreka Blue Hor 11.24 330 ePn **Pn** **23 17 56.7 +1.3**
HLID Hailey 11.36 3 ePn Pn 23 18 01.5 +4.4
RWWY Rawlins 11.42 32 ePn **Pn** **23 17 58.2 +0.3**
N23A Red Feather La 11.43 38 ePn **Pn** **23 17 60.0 +1.9**
K05A Summer Lake 11.44 338 ePn **Pn** **23 18 01.1 +3.0**
PD31 Pinedale Array 11.46 21 ePn **Pn** **23 17 56.8 -1.6**
PDAR Pinedale Array 11.46 21 Pn **Pn** **23 17 58.2 -0.2**
comp=Z,0.2nm,0.3s,baz=196,slow=9.8,SNR=5.7
PDAR Lg Lg 23 21 16.7
comp=Z,0.2nm,0.3s,baz=194,slow=25,SNR=2.4
AMTX Amarillo 11.60 73 ePn **Pn** **23 18 00.8 +0.6**
REDW Red Top Meadow 11.66 16 ePn **Pn** **23 18 03.2 +2.0**
TPAW Teton Pass 11.76 15 ePn **Pn** **23 18 04.5 +2.0**
FXWY Fox Creek 11.88 15 ePn **Pn** **23 18 06.1 +1.9**
LOHW Long Hollow 11.96 16 ePn **Pn** **23 18 06.7 +1.5**
HUMO Hull Mountain 12.07 332 ePn **Pn** **23 18 08.5 +1.8**
IMW Indian Meadow 12.15 15 ePn **Pn** **23 18 09.9 +2.0**
KSCO Kaye Shedlock' 12.28 53 ePn **Pn** **23 18 11.2 +1.6**
I07A Izee 12.33 345 ePn **Pn** **23 18 12.1 +1.8**
FLWY Flagg Ranch 12.38 15 ePn Pn 23 18 14.6 +3.5
PINOR Pine Mountain 12.42 341 ePn **Pn** **23 18 14.5 +3.1**
YFT Old Faithful 12.70 14 ePn **Pn** **23 18 17.6 +2.1**
H17A Grant Village 12.70 15 ePn **Pn** **23 18 18.4 +3.0**
BMO Blue Mountains 12.74 353 ePn Pn 23 18 20.8 +4.9
MCMT McKenzie Canyo 12.74 8 ePn Pn 23 18 19.8 +3.8
QLMT Earthquake Lak 12.95 12 ePn Pn 23 18 14.9 -3.9
YNR Norris Junctio 12.99 14 ePn **Pn** **23 18 21.4 +2.0**
ABTX Abilene, Hawle 13.16 84 ePn **Pn** **23 18 23.3 +1.8**
JCT Junction City 13.28 93 eP **Pn** **23 18 24.6 +1.4**
JCT Junction City 13.28 93 ePn **Pn** **23 18 24.6 +1.4**
DLMT Dillon 13.30 8 ePn **Pn** **23 18 26.0 +2.5**
G08A Pilot Rock 13.39 348 ePn **Pn** **23 18 27.7 +2.9**
H04A Detroit Lake 13.61 338 ePn **Pn** **23 18 30.1 +2.5**
G06A Carlson Farm, 13.69 344 ePn **Pn** **23 18 29.2 +0.5**
RLMT Red Lodge 13.71 18 ePn **Pn** **23 18 31.0 +1.9**
BOZ Bozeman (W) 13.71 11 eP **Pn** **23 18 30.7 +1.5**
BOZ Bozeman (W) 13.71 11 ePn **Pn** **23 18 30.6 +1.5**
LRM Limekiln Ridge 13.77 8 ePn Pn 23 18 33.5 +3.5
F10A Beach Ranch, E 13.84 354 ePn Pn 23 18 34.7 +3.8
WMOK Wichita Mounta 13.94 75 eP **Pn** **23 18 31.8 -0.4**
WMOK Wichita Mounta 13.94 75 ePn **Pn** **23 18 31.8 -0.4**
NEWO Newport DOGAMI 14.20 333 eScP **ScP** **23 27 27.5 -1.6**
E09A Wood Farm, Sta 14.47 352 ePn **Pn** **23 18 41.0 +1.6**
HAWA Hanford 14.56 348 ePn **Pn** **23 18 42.7 +2.1**
MSO Missoula 14.64 3 ePn **Pn** **23 18 44.6 +2.8**
CHMT Chamberlain Mo 14.77 5 ePn **Pn** **23 18 45.7 +2.0**
RSSD Black Hills 14.77 33 eP **Pn** **23 18 44.5 +0.7**
RSSD Black Hills 14.77 33 ePn **Pn** **23 18 44.5 +0.7**
F04A Amboy 14.80 340 ePn **Pn** **23 18 45.7 +1.8**
W34A Bridge Creek, 14.82 73 ePn **Pn** **23 18 44.5 +0.3**
WHTX Lake Whitney, 15.05 86 ePn **P** **23 18 50.9 -1.9**
SLMT Seeley Lake 15.08 4 ePn **Pn** **23 18 50.4 +2.6**
V34A Guthrie 15.11 71 ePn **Pn** **23 18 46.8 -1.3**
comp=Z,254nm,1.2s
D08A Wollman Farm, 15.11 350 ePn **Pn** **23 18 48.7 +0.7**
U34A Anderson Ranch 15.20 69 ePn **Pn** **23 18 49.2 -0.1**
comp=Z,180nm,1.0s
SWMT Swartz Lake 15.32 3 ePn **Pn** **23 18 52.9 +2.0**
LON Longmire 15.39 343 eP **Pn** **23 18 54.0 +2.2**
LON pmax pmax
comp=Z,775nm,2.3s
LON Longmire 15.39 343 ePn **Pn** **23 18 54.0 +2.2**
comp=Z,775nm,2.3s
JTMT Jette 15.54 2 ePn **Pn** **23 18 56.2 +2.3**
LTY Liberty 15.61 346 ePn **Pn** **23 18 56.0 +1.3**
comp=Z,349nm,2.1s
BSMT Bassoo Peak 15.64 1 ePn **Pn** **23 18 57.0 +1.9**
YBMT Yellow Bay 15.67 3 ePn **P** **23 18 59.2 -0.6**
E03A Lebam 15.70 338 ePn **Pn** **23 18 57.9 +2.1**
comp=Z,386nm,1.5s
C09A Chrisman Ranch 15.76 352 ePn **Pn** **23 18 57.1 +0.6**
comp=Z,398nm,2.4s
BLMT Blacktail Moun 15.81 2 ePn **Pn** **23 18 59.3 +1.9**
D05A Enumclaw 15.84 343 ePn **P** **23 19 00.0 -1.5**
comp=Z,1μm,2.0s
LAO LASA Array 16.03 23 ePn **Pn** **23 18 59.0 -1.1**
comp=Z,129nm,1.1s
NEW Newport 16.11 355 eP **Pn** **23 19 02.1 +0.9**
NEW pmax pmax
comp=Z,1μm,2.3s
NEW Newport 16.11 355 Pn **Pn** **23 19 01.2 0.0**
comp=Z,0.4nm,0.3s,baz=179,slow=12,SNR=13
NEW Newport 16.11 355 ePn **Pn** **23 19 02.1 +0.9**
comp=Z,1μm,2.3s
PIER Pier 30 Seattl 16.30 343 eSn **Sn** **23 22 02.8 -1.9**
PIER eScP **ScP** **23 27 29.5 -3.3**
PIER eScS **ScS** **23 31 06.8 -4.8**
MARYW Marymoor Park 16.32 343 ePn **Pn** **23 19 03.1 -0.6**
MARYW eScP **ScP** **23 27 28.9 -3.9**
MARYW ePcS **PcS** **23 27 36.5 +3.7**
EGMT Eagleton 16.34 13 ePn **Pn** **23 19 05.3 +1.2**
comp=Z,137nm,1.3s
BGNE Belgrade 16.44 51 ePn **Pn** **23 19 05.0 -0.4**
comp=Z,175nm,1.3s
B08A Colville Reser 16.44 350 ePn **Pn** **23 19 06.6 +1.2**
comp=Z,180nm,1.7s
TUL1 Leonard 16.50 72 ePn **Pn** **23 19 04.8 -1.4**
comp=Z,248nm,1.1s
NLWA Neilton Lookou 16.55 339 ePn **P** **23 19 09.2 -0.3**
comp=Z,368nm,1.8s
HKT Hockley 16.75 93 eP **Pn** **23 19 08.9 -0.4**
HKT pmax pmax
comp=Z,627nm,2.3s
HKT Hockley 16.75 93 ePn **Pn** **23 19 08.8 -0.4**
comp=Z,627nm,2.3s
WALA Waterton Lakes 16.87 3 ePn **Pn** **23 19 12.1 +1.2**
B06A Marblemount 16.98 346 ePn **P** **23 19 14.4 +0.3**
comp=Z,440nm,2.0s
NATX Nacogdoches 17.44 86 ePn **Pn** **23 19 17.9 0.0**
comp=Z,190nm,1.1s
A05A Maple Falls 17.56 345 ePn **Pn** **23 19 19.9 +0.5**
comp=Z,461nm,2.4s
MIAR Mount Ida 18.22 77 eP **Pn** **23 19 26.4 -1.2**
MIAR pmax pmax
comp=Z,166nm,1.3s
MIAR Mount Ida 18.22 77 ePn **Pn** **23 19 26.4 -1.2**
comp=Z,166nm,1.3s
DGMT Dagmar 18.26 24 ePn **Pn** **23 19 27.8 -0.3**
comp=Z,801nm,2.6s
ECSD EROS Data Cent 18.59 46 eP **P** **23 19 31.7 -0.3**
comp=Z,56nm,1.2s
UALR University of 19.23 76 eP **P** **23 19 38.0 -1.1**
comp=Z,684nm,2.7s
SCIA State Center 20.00 55 eP **P** **23 19 47.0 -0.4**
comp=Z,989nm,2.7s
VBMS Vicksburg 20.88 83 eP **P** **23 19 57.3 +0.3**
comp=Z,385nm,1.1s
EDM Edmonton 21.05 3 eP **P** **23 19 58.5 -0.3**
EDM Edmonton 21.05 3 eP **P** **23 19 58.5 -0.3**
SLM Saint Louis 21.30 65 eP **P** **23 20 00.4 -1.1**
SLM pmax pmax
comp=Z,165nm,1.1s
SLM Saint Louis 21.30 65 eP **P** **23 20 00.4 -1.1**
comp=Z,165nm,1.1s
PARMO Parma 21.44 71 eP **P** **23 20 02.4 -0.6**
OXF Oxford 21.65 77 eP **P** **23 20 04.2 -1.1**
OXF pmax pmax
comp=Z,171nm,1.0s
OXF Oxford 21.65 77 eP **P** **23 20 04.2 -1.1**
comp=Z,171nm,1.0s
SPMN Marine on St. 21.70 47 eP **P** **23 20 04.9 -0.9**
comp=Z,145nm,1.4s
AGMN Agassiz Nation 21.73 37 eP **P** **23 20 05.2 -0.9**
comp=Z,162nm,1.4s
GLAT Glass 21.78 72 eP **P** **23 20 05.8 -1.0**
SIUC Southern Illin 21.96 68 eP **P** **23 20 08.0 -0.6**
comp=Z,94nm,0.9s
BBB Bella Bella 22.08 339 P **P** **23 20 11.2 +1.5**
comp=Z,18nm,0.9s,baz=116,slow=7.9,SNR=3.0
JFWS Jewell Farm 22.41 54 eP **P** **23 20 12.1 -1.3**
JFWS pmax pmax
comp=Z,61nm,1.0s
JFWS Jewell Farm 22.41 54 eP **P** **23 20 12.1 -1.3**
comp=Z,62nm,1.0s
WVT Waverly 22.95 73 eP **P** **23 20 18.6 -0.6**
WVT pmax pmax
comp=Z,45nm,0.9s
WVT Waverly 22.95 73 eP **P** **23 20 18.6 -0.6**
comp=Z,46nm,0.9s
OLIL Olney 22.97 66 eP **P** **23 20 18.2 -1.1**
comp=Z,86nm,1.0s
ULM Lac du Bonnet 23.05 33 eP **P** **23 20 18.6 -1.5**
ULM pmax pmax
comp=Z,30nm,1.1s
ULM Lac du Bonnet 23.05 33 P **P** **23 20 18.6 -1.5**
comp=Z,22nm,1.0s,baz=219,slow=10.0,SNR=12
ULM Lac du Bonnet 23.05 33 eP **P** **23 20 18.6 -1.5**
comp=Z,30nm,1.1s
USIN University of 23.21 68 eP **P** **23 20 20.5 -1.4**
comp=Z,90nm,1.1s
LRAL Lakeview Retre 23.75 80 eP **P** **23 20 26.5 -0.8**
comp=Z,85nm,1.3s
CMIG Matias Romero 23.75 124 P **P** **23 20 27.9 +0.5**
comp=Z,8.2nm,0.9s,baz=306,slow=8.4,SNR=7.2
EYMN Ely 23.87 42 eP **P** **23 20 27.8 -0.5**
comp=Z,190nm,2.3s
BRAL Brewton 23.98 85 eP **P** **23 20 29.8 +0.3**
comp=Z,344nm,1.4s
SFIN Lafayette 24.01 62 eP **P** **23 20 29.6 -0.1**
comp=Z,408nm,2.4s
BLO Bloomington 24.25 65 eP **P** **23 20 30.6 -1.4**
BLO pmax pmax
comp=Z,916nm,3.0s
BLO Bloomington 24.25 65 eP **P** **23 20 30.6 -1.4**
comp=Z,916nm,3.0s
WCI Wyandotte Cave 24.32 68 eP **P** **23 20 31.8 -0.8**
WCI pmax pmax
comp=Z,759nm,2.8s
WCI Wyandotte Cave 24.32 68 eP **P** **23 20 31.8 -0.8**
comp=Z,759nm,2.8s
FFC Flin Flon 24.39 19 eP **P** **23 20 32.1 -1.1**
FFC pmax pmax
comp=Z,471nm,2.5s
FFC Flin Flon 24.39 19 eP **P** **23 20 32.1 -1.1**
comp=Z,471nm,2.5s
SWET Sewanee 24.50 75 eP **P** **23 20 33.3 -1.0**
TKL Tuckaleechee C 26.25 74 eP **P** **23 20 49.6 -0.5**
TKL Tuckaleechee C 26.25 74 P **P** **23 20 50.9 +0.7**
comp=Z,7.3nm,0.9s,baz=241,slow=7.7,SNR=7.2
TKL Tuckaleechee C 26.25 74 eP **P** **23 20 49.6 -0.5**
GOGA Godfrey 26.65 79 eP **P** **23 20 53.4 -0.4**
GOGA pmax pmax
comp=Z,395nm,2.9s
GOGA Godfrey 26.65 79 eP **P** **23 20 53.4 -0.4**
comp=Z,395nm,2.9s
ACSO Alum Creek Sta 27.09 64 eP **P** **23 20 56.5 -1.2**
comp=Z,65nm,1.1s
DLBC Dease Lake 28.10 343 P **P** **23 21 07.2 +0.5**
comp=Z,29nm,0.8s,baz=168,slow=7.8,SNR=29
KMSC Kings Mountain 28.26 75 eP **P** **23 21 07.3 -0.9**
comp=Z,14nm,0.8s
ALLY Alegheny Colle 29.40 61 eP **P** **23 21 17.7 -0.6**
comp=Z,1μm,3.0s
NHSC New Hope 29.42 79 eP **P** **23 21 17.4 -1.1**
comp=Z,128nm,1.2s
YKA Yellowknife Ar 30.31 1 P **P** **23 21 25.3 -0.7**
comp=Z,1.8nm,0.9s,baz=180,slow=9.0,SNR=9.1
YKA PcP **PcP** **23 24 27.7 +1.5**
comp=Z,0.6nm,0.9s,baz=155,slow=2.6,SNR=3.7
YKB5 Yellowknife Ar 30.31 1 eP **P** **23 21 25.3 -0.7**
SADO Sadowa 30.64 55 P **P** **23 21 28.0 -1.2**
comp=Z,12nm,1.0s,baz=190,slow=2.4,SNR=3.3
BINY Binghamton 32.55 61 eP **P** **23 21 46.4 +0.3**
ODNJ Ogdensburg 33.51 63 eP **P** **23 21 53.1 -1.3**
comp=Z,219nm,2.7s
LONY Lake Ozonia 33.82 57 eP **P** **23 21 56.9 -0.2**
comp=Z,270nm,2.8s
ACCN Adirondack Com 34.35 59 eP **P** **23 22 00.7 -1.1**
comp=Z,26nm,1.3s
DIV Divide 35.12 335 eP **P** **23 22 09.9 +1.6**
comp=Z,20nm,0.9s
DAWY Dawson 35.28 342 eP **P** **23 22 11.4 +1.9**
JTS JuntasAbangare 35.43 121 eP **P** **23 22 14.2 +2.9**
JTS pmax pmax
comp=Z,16nm,1.2s
OHAK Old Harbor 36.10 325 eP **P** **23 22 19.6 +3.0**
comp=Z,56nm,1.1s
EGAK Eagle 36.31 342 eP **P** **23 22 18.6 +0.2**
comp=Z,646nm,2.8s
RSO Redoubt South 37.47 330 eP **P** **23 22 28.6 +0.1**
INK Inuvik 37.67 349 P **P** **23 22 29.8 -0.1**
comp=Z,30nm,0.9s,baz=148,slow=10,SNR=25
MCK McKinley 37.94 336 eP **P** **23 22 32.5 +0.3**
MCK pmax pmax
comp=Z,58nm,1.0s
MCK McKinley 37.94 336 eP **P** **23 22 32.5 +0.3**
comp=Z,58nm,1.0s
ILAR Eielson Array 37.97 339 P **P** **23 22 32.7 +0.2**
comp=Z,27nm,0.9s,baz=152,slow=7.3,SNR=42
ILB Eielson Array 37.97 339 eP **P** **23 22 32.3 -0.2**
TRF Thorofare Moun 38.23 335 eP **P** **23 22 34.8 -0.1**
comp=Z,96nm,1.3s
COLA College 38.34 338 eP **P** **23 22 36.4 +0.9**
COLA pmax pmax
comp=Z,71nm,1.0s
COLA College 38.34 338 eP **P** **23 22 36.4 +0.9**
comp=Z,71nm,1.0s
KTH Kantishna Hill 38.52 335 eP **P** **23 22 38.1 +1.0**
comp=Z,48nm,1.0s
PPLA Purkeypile 38.59 334 eP **P** **23 22 38.1 +0.2**
comp=Z,110nm,1.1s
CAST Castle Rocks 38.86 335 eP **P** **23 22 41.0 +1.0**
comp=Z,20nm,0.9s
SVW2 Sparrevohn 38.99 330 eP **P** **23 22 42.5 +1.4**
COLD Coldfoot 40.64 340 eP **P** **23 22 56.4 +1.7**
comp=Z,32nm,1.0s
SCHQ Schefferville 40.68 42 P **P** **23 22 53.9 -1.3**
comp=Z,42nm,1.0s,baz=269,slow=8.7,SNR=7.5
SCHQ Schefferville 40.68 42 eP **P** **23 22 54.1 -1.1**
comp=Z,5.5nm,0.8s
IM04 Indian Mountai 40.96 337 eP **P** **23 22 57.5 +0.2**
FRB Frobisher Bay 42.80 28 P **P** **23 23 11.8 -0.6**
comp=Z,5.9nm,0.9s,baz=243,slow=10,SNR=4.0
RES Resolute Bay 43.73 8 eP **P** **23 23 20.2 +0.4**
RES Resolute Bay 43.73 8 P **P** **23 23 20.0 +0.2**
comp=Z,7.3nm,1.0s,baz=202,slow=14,SNR=5.0
RES Resolute Bay 43.73 8 eP **P** **23 23 20.2 +0.4**
MTP Monte Pirata 46.70 95 eP **P** **23 23 42.7 -1.4**
comp=Z,49nm,1.1s
ROSC El Rosal 46.89 117 P **P** **23 23 46.6 +0.5**
comp=Z,1.2nm,0.3s,baz=313,slow=9.4,SNR=3.0
ROSC El Rosal 46.89 117 eP **P** **23 23 44.4 -1.7**
GAMB Gambell 46.92 330 eP **P** **23 23 46.4 +1.2**
comp=Z,14nm,1.0s
OTAV Otavalo 47.04 125 eP **P** **23 23 46.5 -0.8**
comp=Z,24nm,1.3s
SDV Santo Domingo 47.30 109 eP **P** **23 23 47.7 -1.4**
comp=Z,46nm,1.5s
SFJD Kangerlussuaq 50.90 27 eP **P** **23 24 15.5 -0.2**
SFJD pmax pmax
comp=Z,199nm,2.4s
SFJD Kangerlussuaq 50.90 27 eP **P** **23 24 15.5 -0.2**
comp=Z,199nm,2.4s
ATAH Atahualpa 52.54 131 P **P** **23 24 29.9 +0.8**
comp=Z,13nm,0.9s,baz=45,slow=4.3,SNR=4.5
ALE Alert 53.63 7 P **P** **23 24 33.5 -2.4**
comp=Z,101nm,1.1s,SNR=5.1
SUMG Summit 55.65 21 eP **P** **23 24 50.3 -0.8**
SUMG pmax pmax
comp=Z,49nm,1.0s
SUMG Summit 55.65 21 eP **P** **23 24 50.3 -0.8**
comp=Z,49nm,1.0s
SUMG Summit 55.65 21 *i* P **P** **23 24 50.2 -0.8**
BILL Bilibino 56.30 334 ⇑ *i* P **P** **23 24 58.1 +2.7**
BILL *i* 23 25 03.0
BILL *i* 23 26 01.5
BILL pmax pmax
comp=Z,52nm,1.7s
NNA Nana 57.25 134 LR LR 23 47 01.6
comp=Z,21μm,20.0s,baz=332,slow=33
DAG Danmarks Havn 60.41 15 eP **P** **23 25 21.8 -2.1**
DAG Danmarks Havn 60.41 15 *i* P **P** **23 25 21.8 -2.1**
PTGA Pitinga 61.53 111 P **P** **23 25 32.0 -0.4**
comp=Z,11nm,1.0s,baz=319,slow=8.8,SNR=9.1
PTGA Pitinga 61.53 111 eP **P** **23 25 32.0 -0.4**
comp=Z,448nm,2.5s
PET Petropavlovsk 62.80 317 eP **P** **23 25 43.4 +3.0**

SEY Seymchan 62.92 329 P **P** **23 25 41.1 +0.1**
comp=Z,1.8nm,0.4s,baz=78,slow=6.1,SNR=12

PEA2 Petropavlovsk- 63.32 318 *e*P **P** **23 25 44.4 +0.5**
PETK Petropavlovsk- 63.32 318 P **P** **23 25 44.4 +0.5**
comp=Z,20nm,0.9s,baz=80,slow=11,SNR=13

SAML Samuel 64.31 120 *e*P **P** **23 25 51.4 +0.5**
comp=Z,34nm,2.6s

KBS Kingsbay 65.08 10 *e*P **P** **23 25 55.5 +0.5**
KBS pmax pmax
comp=Z,36nm,1.0s

KBS Kingsbay 65.08 10 *e*P **P** **23 25 55.5 +0.5**
comp=Z,36nm,1.0s

LPAZ La Paz 66.00 130 P **P** **23 26 03.1 +0.6**
comp=Z,2.3nm,0.9s,baz=3.4,slow=4.6,SNR=4.2

SPA0 Spitsbergen Ar 66.24 10 *e*P **P** **23 26 01.3 -1.3**
SPITS Spitsbergen Ar 66.24 10 P **P** **23 26 01.3 -1.3**
comp=Z,14nm,1.0s,baz=282,slow=7.0,SNR=2.8

LVC Limon Verde 70.21 135 *e*P **P** **23 26 28.2 -0.2**
comp=Z,13nm,1.1s

SIV San Ignacio 70.57 124 P **P** **23 26 29.0 -1.5**
comp=Z,5.8nm,0.9s,baz=319,slow=8.3,SNR=5.4

YAK Yakutsk 72.66 333 *e*P **P** **23 26 43.2 +0.8**
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,21nm,1.0s

YUK Yuzh-Kuril'sk 74.20 312 *e*P P 23 26 56.9 +5.1
ARA0 ARCESS Array S 74.59 13 *e*P **P** **23 26 52.4 -1.3**
ARCES ARCESS Array B 74.59 13 P **P** **23 26 52.4 -1.3**
comp=Z,21nm,1.0s,baz=319,slow=5.3,SNR=28

YSS Yuzh-Sakhalins 74.62 316 *e*P **P** **23 26 56.4 +2.1**
EKA Eskdalemuir Ar 75.32 33 P **P** **23 26 58.4 +0.3**
comp=Z,2.0nm,0.8s,baz=316,slow=4.7,SNR=5.4

NB2 NORSAR Subarra 77.39 24 P **P** **23 27 09.2 -0.7**
comp=Z,32nm,1.4s,baz=314,slow=5.6

NB2 NORSAR Subarra 77.39 24 P **P** **23 27 09.2 -0.7**
baz=314,slow=5.6

NB200 NORSAR Array S 77.39 24 *e*P **P** **23 27 09.1 -0.8**
NOA NORSAR Array B 77.39 24 P **P** **23 27 09.1 -0.8**
comp=Z,7.3nm,0.9s,baz=317,slow=5.7,SNR=16

CFAA Coronel Fontan 77.46 140 P **P** **23 27 10.0 -0.6**
comp=Z,0.6nm,0.8s,baz=318,slow=4.4,SNR=8.3

LVZ Lovozero 77.68 11 *e*P P 23 27 14.7 +3.4
LVZ pmax pmax
comp=Z,68nm,1.0s

LVZ Lovozero 77.68 11 *e*P **P** **23 27 12.7 +1.3**
comp=Z,62nm,1.0s

HFS Hagfors 78.89 23 P **P** **23 27 17.8 -0.3**
comp=Z,12nm,0.8s,baz=302,slow=3.3,SNR=18

ROSF Rostrenen 79.41 39 *e*P **P** **23 27 21.0 -0.2**
ROSF Rostrenen 79.41 39 *e*P **P** **23 27 21.0 -0.2**
ROSF Rostrenen 79.41 39 *e*P **P** **23 27 21.0 -0.2**
QUIF Quistinic 79.72 39 *e*P **P** **23 27 22.7 -0.2**
comp=Z,98nm,1.3s

QUIF Quistinic 79.72 39 *e*P **P** **23 27 22.7 -0.2**
QUIF Quistinic 79.72 39 *e*P **P** **23 27 22.7 -0.2**
SGMF Saint Gilles 79.84 39 *e*P **P** **23 27 23.0 -0.6**
comp=Z,91nm,1.6s

SGMF Saint Gilles 79.84 39 *e*P **P** **23 27 23.0 -0.6**
SGMF Saint Gilles 79.84 39 *e*P **P** **23 27 23.0 -0.6**
BDFB Brasilia 79.95 116 *e*P **P** **23 27 22.9 -1.8**
BDFB Brasilia 79.95 116 P **P** **23 27 25.4 +0.7**
comp=Z,7.1nm,1.1s,baz=9,3,slow=7.6,SNR=6.5

BDFB Brasilia 79.95 116 *e*P **P** **23 27 22.9 -1.8**
FLN La Foliniere 80.62 38 *e*P **P** **23 27 27.7 0.0**
comp=Z,66nm,1.2s

FLN La Foliniere 80.62 38 *e*P **P** **23 27 27.7 0.0**
FLN La Foliniere 80.62 38 *e*P **P** **23 27 27.7 0.0**
GRR Gorron 80.66 38 *e*P **P** **23 27 28.2 +0.3**
comp=Z,50nm,1.2s

GRR Gorron 80.66 38 *e*P **P** **23 27 28.2 +0.3**
GRR Gorron 80.66 38 *e*P **P** **23 27 28.2 +0.3**
POLO Lamas de Olo 80.89 47 *e*P **P** **23 27 32.0 +2.5**
comp=Z,48nm,1.4s

LDF La Druitiere 80.91 38 *e*P **P** **23 27 29.4 +0.1**
comp=Z,46nm,1.2s

LDF La Druitiere 80.91 38 *e*P **P** **23 27 29.4 +0.1**
LDF La Druitiere 80.91 38 *e*P **P** **23 27 29.4 +0.1**
PCAS Casmilo, Conde 81.21 48 *e*P P 23 27 34.4 +3.3
comp=Z,919nm,1.4s

BOD Bodaibo 81.28 336 *e*P **P** **23 27 31.5 +0.4**
BOD pmax pmax
comp=Z,12nm,1.4s

JOF Joensuu 81.50 15 *e*P **P** **23 27 32.8 +0.7**
JOF pmax pmax
comp=Z,27nm,1.1s

JOF Joensuu 81.50 15 *e*p **P** **23 27 32.8 +0.7**
comp=Z,27nm,1.1s

FIA0 FINESS Array S 81.53 18 *e*P **P** **23 27 31.8 -0.6**
FIA0 FINESS Array S 81.53 18 *e*P **P** **23 27 31.8 -0.6**
FINES FINESS Array B 81.53 18 *ce*P **P** **23 27 35.0 +2.7**
FINES pmax pmax
comp=Z,16nm,1.0s

FINES FINESS Array B 81.53 18 P **P** **23 27 31.8 -0.6**
comp=Z,16nm,1.0s,baz=11,slow=3.9,SNR=27

MTE Manteigas 81.61 47 *e*P P 23 27 36.5 +3.2
comp=Z,279nm,1.7s

MTE Manteigas 81.61 47 *e*P **P** **23 27 33.6 +0.3**
comp=Z,277nm,2.8s

TMCR Tamitsa 81.66 12 *e*P **P** **23 27 35.5 +2.5**
TMCR *e* 23 30 41.7
TMCR pmax pmax
comp=Z,25nm,1.0s

BAIF Baives 82.12 35 *e*P **P** **23 27 36.6 +0.9**
comp=Z,38nm,1.1s

BAIF Baives 82.12 35 *e*P **P** **23 27 36.6 +0.9**
BAIF Baives 82.12 35 *e*P **P** **23 27 36.6 +0.9**
MFF Saint Martin d 82.15 39 *e*P **P** **23 27 36.1 +0.2**
comp=Z,53nm,1.1s

MFF Saint Martin d 82.15 39 *e*P **P** **23 27 36.1 +0.2**
MFF Saint Martin d 82.15 39 *e*P **P** **23 27 36.1 +0.2**
PMRV Marv??o 82.27 48 *e*P **P** **23 27 39.0 +2.3**
comp=Z,459nm,1.6s

PNCL Nicolau / Gran 82.30 50 *e*P **P** **23 27 39.8 +3.0**
comp=Z,1μm,1.6s

EVOP Sao Brissos 82.32 49 *e*P **P** **23 27 37.9 +1.0**
EVOP Sao Brissos 82.32 49 *e*P **P** **23 27 37.9 +1.0**
GIVF Givet 82.39 34 *e*P **P** **23 27 37.3 +0.2**
comp=Z,22nm,0.9s

GIVF Givet 82.39 34 *e*P **P** **23 27 37.3 +0.2**
GIVF Givet 82.39 34 *e*P **P** **23 27 37.3 +0.2**
EVO Evora 82.39 49 *e*P **P** **23 27 37.9 +0.6**
comp=Z,36nm,1.0s

EVO Evora 82.39 49 *e*P **P** **23 27 40.2 +2.9**
comp=Z,558nm,1.6s

USRK Ussuriysk Ar. 82.41 318 P **P** **23 27 37.6 +0.3**
comp=Z,8.8nm,1.0s,baz=82,slow=4.0,SNR=8.7

PCVE Castro Verde 82.89 50 *e*P **P** **23 27 42.8 +2.9**
comp=Z,138nm,1.8s

VLA Vladivostok 83.14 317 *i*P **P** **23 27 43.9 +2.8**
VLA pmax pmax
comp=Z,16nm,1.4s

MJAR Matsushiro Arr 83.14 309 P **P** **23 27 42.0 +0.7**
comp=Z,1.6nm,0.4s,baz=39,slow=3.9,SNR=12

MAJO Matsushiro 83.14 309 *e*P **P** **23 27 42.0 +0.7**
MAJO pmax pmax
comp=Z,51nm,1.4s

MAJO Matsushiro 83.14 309 *e*P **P** **23 27 42.0 +0.7**
comp=Z,51nm,1.4s

PLCA Paso Flores 83.48 147 *e*P **P** **23 27 42.0 -0.7**
PLCA pmax pmax
comp=Z,24nm,1.3s

PLCA Paso Flores 83.48 147 P **P** **23 27 43.0 +0.3**
comp=Z,9.1nm,1.1s,baz=344,slow=5.3,SNR=6.7

PLCA Paso Flores 83.48 147 *e*P **P** **23 27 42.0 -0.7**
comp=Z,24nm,1.3s

MDJ Mudanjiang 83.49 319 P P 23 27 37.2 -5.7
MDJ PMZ
comp=Z,7.0nm,0.7s

MEZF Maizieres J'vi 83.58 35 *e*P **P** **23 27 43.7 +0.4**
comp=Z,52nm,1.2s

MEZF Maizieres J'vi 83.58 35 *e*P **P** **23 27 43.7 +0.4**
TCF Toulx Ste Croi 83.60 38 *e*P **P** **23 27 43.6 +0.1**
comp=Z,40nm,1.2s

TCF Toulx Ste Croi 83.60 38 *e*P **P** **23 27 43.6 +0.1**
TCF Toulx Ste Croi 83.60 38 *e*P **P** **23 27 43.6 +0.1**
LFF La Frestale 83.69 40 *e*P **P** **23 27 44.4 +0.5**
comp=Z,68nm,1.3s

LFF La Frestale 83.69 40 *e*P **P** **23 27 44.4 +0.5**
LFF La Frestale 83.69 40 *e*P **P** **23 27 44.4 +0.5**
SJPF Ste Jean 83.75 42 *e*P **P** **23 27 44.4 +0.1**
SJPF Ste Jean 83.75 42 *e*P **P** **23 27 44.4 +0.1**
SJPF Ste Jean 83.75 42 *e*P **P** **23 27 44.4 +0.1**
BGF Bois d'Agland 83.76 38 *e*P **P** **23 27 44.4 +0.1**
comp=Z,44nm,1.1s

BGF Bois d'Agland 83.76 38 *e*P **P** **23 27 44.4 +0.1**
BGF Bois d'Agland 83.76 38 *e*P **P** **23 27 44.4 +0.3**
SSF Saint Saulge 83.77 37 *e*P **P**
comp=Z,154nm,1.8s

SSF Saint Saulge 83.77 37 *e*P **P** **23 27 44.6 +0.3**
SSF Saint Saulge 83.77 37 *e*P **P** **23 27 44.6 +0.3**
SFTF Sexfontaines 83.77 36 *e*P **P** **23 27 44.5 +0.2**
comp=Z,60nm,1.3s

SFTF Sexfontaines 83.77 36 *e*P **P** **23 27 44.5 +0.2**
LOR Lormes 83.81 37 *e*P **P** **23 27 44.9 +0.4**
comp=Z,85nm,1.3s

LOR Lormes 83.81 37 *e*P **P** **23 27 44.9 +0.4**
LOR Lormes 83.81 37 *e*P **P** **23 27 44.9 +0.4**
AVF Avril sur Loir 83.87 37 *e*P **P** **23 27 44.8 0.0**
comp=Z,83nm,1.4s

AVF Avril sur Loir 83.87 37 *e*P **P** **23 27 44.8 0.0**
AVF Avril sur Loir 83.87 37 *e*P **P** **23 27 44.8 0.0**
PAGF Fort de Pagny 83.87 35 *e*P **P** **23 27 45.4 +0.6**
comp=Z,39nm,1.4s

PAGF Fort de Pagny 83.87 35 *e*P **P** **23 27 45.4 +0.6**
RJF Les Rejaudoux 83.88 39 *e*P **P** **23 27 45.1 +0.2**
comp=Z,50nm,1.2s

RJF Les Rejaudoux 83.88 39 *e*P **P** **23 27 45.1 +0.2**
RJF Les Rejaudoux 83.88 39 *e*P **P** **23 27 45.1 +0.2**
PUL Pulkovo 84.05 17 *e*P P 23 27 49.2 +3.8
PUL pmax pmax
comp=Z,71nm,1.0s

SMF Signal de Mont 84.22 37 *e*P **P** **23 27 46.5 -0.1**
comp=Z,44nm,1.1s

SMF Signal de Mont 84.22 37 *e*P **P** **23 27 46.5 -0.1**
SMF Signal de Mont 84.22 37 *e*P **P** **23 27 46.5 -0.1**
ESDC Sonseca Array 84.25 46 P **P** **23 27 46.7 -0.3**
comp=Z,6.3nm,1.1s,baz=307,slow=4.9,SNR=13

ETSF Etsaut 84.27 42 *e*P **P** **23 27 48.4 +1.4**
comp=Z,38nm,1.0s

ETSF Etsaut 84.27 42 *e*P **P** **23 27 48.4 +1.4**
ETSF Etsaut 84.27 42 *e*P **P** **23 27 48.4 +1.4**
CAF Calviac 84.42 39 *e*P **P** **23 27 47.7 0.0**
comp=Z,38nm,1.1s

CAF Calviac 84.42 39 *e*P **P** **23 27 47.7 0.0**
CAF Calviac 84.42 39 *e*P **P** **23 27 47.7 0.0**
HAU Haudompre 84.55 35 *e*P **P** **23 27 48.4 +0.1**
comp=Z,65nm,1.1s

HAU Haudompre 84.55 35 *e*P **P** **23 27 48.4 +0.1**
HAU Haudompre 84.55 35 *e*P **P** **23 27 48.4 +0.1**
EPF Esparros 84.69 42 *e*P **P** **23 27 49.4 +0.3**
comp=Z,51nm,1.4s

EPF Esparros 84.69 42 *e*P **P** **23 27 49.4 +0.3**
EPF Esparros 84.69 42 *e*P **P** **23 27 49.4 +0.3**
CDF Champ du Feu 84.71 34 *e*P **P** **23 27 49.4 +0.2**
comp=Z,117nm,1.6s

CDF Champ du Feu 84.71 34 *e*P **P** **23 27 49.4 +0.2**
CDF Champ du Feu 84.71 34 *e*P **P** **23 27 49.4 +0.2**
HINF Hinteralfeld 84.92 35 *e*P **P** **23 27 50.2 0.0**
comp=Z,68nm,1.3s

HINF Hinteralfeld 84.92 35 *e*P **P** **23 27 50.2 0.0**
HINF Hinteralfeld 84.92 35 *e*P **P** **23 27 50.2 0.0**
CLL Collm 85.20 30 *e*P **P** **23 27 52.0 +0.6**
CLL Collm 85.20 30 *e*P **P** **23 27 52.0 +0.6**
PRGR Permogore 85.21 9 *e*P **P** **23 27 51.7 +0.4**
PRGR pmax pmax
comp=Z,71nm,1.4s

HIA Hailar 85.31 327 *e*P **P** **23 27 53.9 +1.8**
HIA pmax pmax
comp=Z,10.0nm,1.2s

CABF La Chapelle 85.38 36 *e*P **P** **23 27 52.8 +0.2**
comp=Z,33nm,1.3s

CABF La Chapelle 85.38 36 *e*P **P** **23 27 52.8 +0.2**
CABF La Chapelle 85.38 36 *e*P **P** **23 27 52.8 +0.2**
MTLF Montolieu 85.54 41 *e*P **P** **23 27 53.5 +0.2**
MTLF Montolieu 85.54 41 *e*P **P** **23 27 53.5 +0.2**
MTLF Montolieu 85.54 41 *e*P **P** **23 27 53.5 +0.2**
GRF Grafenberg Arr 85.62 32 *e*P **P** **23 27 56.4 +2.8**
comp=Z,9.0nm,1.1s

VIVF Saint-Julien-l 85.85 38 *e*P **P** **23 27 54.7 -0.2**
VIVF Saint-Julien-l 85.85 38 *e*P **P** **23 27 54.7 -0.2**
VIVF Saint-Julien-l 85.85 38 *e*P **P** **23 27 54.7 -0.2**
BRG Berggiesshubel 85.92 30 *e*P **P** **23 27 57.5 +2.5**
comp=Z,20nm,1.5s

BRG Berggiesshubel 85.92 30 *e*P **P** **23 27 57.5 +2.5**
BRG pmax pmax
comp=Z,20nm,1.5s

LASF Ste Croix 85.94 39 *e*P **P** **23 27 55.7 +0.4**
comp=Z,74nm,1.4s

LASF Ste Croix 85.94 39 *e*P **P** **23 27 55.7 +0.4**
PVCC Panska Ves 86.44 29 *e*P **P** **23 27 57.8 +0.2**
PVCC Panska Ves 86.44 29 *e*P **P** **23 27 57.8 +0.2**
LPL La Plagne 86.46 37 *e*P **P** **23 27 58.4 +0.3**
comp=Z,28nm,1.2s

LPL La Plagne 86.46 37 *e*P **P** **23 27 58.4 +0.3**
LPL La Plagne 86.46 37 *e*P **P** **23 27 58.4 +0.3**
LPG La Plagne 86.48 37 *e*P **P** **23 27 58.6 +0.3**
comp=Z,28nm,1.1s

LPG La Plagne 86.48 37 *e*P **P** **23 27 58.6 +0.3**
LPG La Plagne 86.48 37 *e*P **P** **23 27 58.6 +0.3**
PRU Pruhonice 86.84 30 *e*P **P** **23 27 59.6 0.0**
PRU Pruhonice 86.84 30 *e*P **P** **23 27 59.6 0.0**
SUW Suwalki 86.90 23 *e*P **P** **23 28 00.3 +0.5**
SUW pmax pmax
comp=Z,22nm,1.0s

SUW Suwalki 86.90 23 *e*P **P** **23 28 00.2 +0.5**
comp=Z,22nm,1.0s

SMRF Simiane la Rot 86.92 38 *e*P **P** **23 28 00.5 +0.3**
SMRF Simiane la Rot 86.92 38 *e*P **P** **23 28 00.5 +0.3**
UPC Upice 87.05 29 *e*P **P** **23 27 59.8 -0.8**
UPC Upice 87.05 29 *e*P **P** **23 27 59.8 -0.8**
KHC Kasperske Hory 87.07 31 *e*P **P** **23 28 01.2 +0.4**
KHC Kasperske Hory 87.07 31 *e*P **P** **23 28 01.2 +0.4**
DAVOX Davos/Dischmat 87.11 34 P **P** **23 28 01.2 -0.1**
comp=Z,2.3nm,0.9s,baz=328,slow=14,SNR=4.1

DPC Dobruska-Polom 87.30 29 *e*P **P** **23 28 01.5 -0.4**
DPC Dobruska-Polom 87.30 29 *e*P **P** **23 28 01.5 -0.4**
GEC2 GERESS Array S 87.34 31 *e*P **P** **23 28 01.3 -0.9**
GEC2 GERESS Array S 87.34 31 *e*P **P** **23 28 01.3 -0.9**
GERES GERESS Array B 87.34 31 P **P** **23 28 01.3 -0.9**
comp=Z,1.8nm,1.1s,baz=316,slow=3.7,SNR=9.5

FUORN Ofenpass-Fuorn 87.41 34 *e*P **P** **23 28 02.6 -0.2**
comp=Z,24nm,1.1s

FRF La Foret Royal 87.77 38 *e*P **P** **23 28 03.7 -0.5**
comp=Z,114nm,1.5s

FRF La Foret Royal 87.77 38 *e*P **P** **23 28 03.7 -0.5**
FRF La Foret Royal 87.77 38 *e*P **P** **23 28 03.7 -0.5**
VRAC Vranov 88.22 29 P **P** **23 28 06.6 +0.4**
comp=Z,2.8nm,0.9s,baz=325,slow=5.0,SNR=4.6

KSRS Korea Array 89.08 315 P **P** **23 28 11.6 +1.1**
comp=Z,0.6nm,0.3s,baz=48,slow=4.7,SNR=6.4

KS15 Wonju Array Si 89.11 315 *e*P **P** **23 28 09.8 -0.9**
KS15 *e*PcP **pP** **23 28 11.6 +0.3**
OBN Obninsk 89.72 16 *e*P **P** **23 28 15.8 +2.7**
OBN pmax pmax
comp=Z,9.0nm,1.0s

VYHS Vyhne 89.78 29 *e*P **P** **23 28 15.6 +2.0**
VYHS pmax pmax
comp=Z,3.0nm,1.2s

VYHS Vyhne 89.78 29 *e*P **P** **23 28 15.6 +2.0**
TLY Talaya 89.78 337 *e*P **P** **23 28 15.8 +2.2**
TLY pmax pmax
comp=Z,13nm,1.0s

STHS Stebnicka Huta 89.98 27 *e*P **P** **23 28 17.5 +2.9**
STHS pmax pmax
comp=Z,5.0nm,1.1s

STHS Stebnicka Huta 89.98 27 *e*P **P** **23 28 17.5 +2.9**
MOY Mondy 90.64 338 *e*P **P** **23 28 19.2 +1.5**
LVV L'vov 90.68 25 *e*P **P** **23 28 19.5 +1.7**
LVV MLR MLR
comp=E,8μm,20.0s
LVV MLR MLR
comp=Z,14μm,20.0s
LVV MLR MLR
comp=N,12μm,21.0s

ZAK Zakamensk 91.00 337 *e*P **P** **23 28 18.1 -1.3**
ZAK pmax pmax
comp=Z,6.0nm,1.6s

SVE Sverdlovsk 91.25 2 *e*P **P** **23 28 22.5 +2.2**
ARU Arti 91.56 3 P **P** **23 28 24.2 +2.5**
ARU 23 32 01.9
ARU S **SKSac** **23 38 56.3 +1.1**
ARU SS **SS** **23 45 21.7 -5.0**
AKASG Malin Array Be 91.68 22 *ce*P **P** **23 28 23.6 +1.3**
AKASG pmax pmax
comp=Z,4.0nm,0.9s

AKASG Malin Array Be 91.68 22 P **P** **23 28 22.6 +0.3**
comp=Z,4.5nm,0.9s,baz=318,slow=3.9,SNR=23

AKASG PP **PP** **23 31 59.1 -0.6**
comp=Z,0.2nm,0.3s,baz=352,slow=9.8,SNR=6.3

AKBB Malin Array Si 91.68 22 *e*P **P** **23 28 22.6 +0.3**
AKBB *e* 23 31 59.2
AKBB Malin Array Si 91.68 22 *e*P **P** **23 28 22.6 +0.3**
AKBB *e*PP **PP** **23 31 59.1 -0.6**
KIEV Kiev 91.68 22 *e*P **P** **23 28 22.0 -0.3**
KIEV pmax pmax
comp=Z,8.0nm,1.1s

KIEV Kiev 91.68 22 *e*P **P** **23 28 22.0 -0.3**
comp=Z,8.1nm,1.1s

NVS Novosibirsk 91.87 349 *e*P **P** **23 28 22.5 -0.7**
NVS pmax pmax
comp=N,4.0nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.6s
NVS pmax pmax
comp=Z,20nm,1.6s

SONA0 Songino Array 92.02 333 *e*P **P** **23 28 25.1 +0.9**
SONA0 *e*PP PP 23 32 08.2 +5.3
SONA0 *e* 23 36 41.2
SONM Songino Array 92.02 333 P **P** **23 28 25.1 +0.9**
comp=Z,1.5nm,1.0s,baz=30,slow=4.5,SNR=12

SONM PP PP 23 32 08.2 +5.3
comp=Z,0.9nm,1.1s,baz=61,slow=6.8,SNR=2.7

ZAA1 Zalesovo Array 92.47 348 *e*P **P** **23 28 26.6 +0.6**
ZAA1 *e*PP **PP** **23 32 08.5 +2.6**
ZALV Zalesovo Beam 92.47 348 *i*P **P** **23 28 27.8 +1.8**
ZALV pmax pmax
comp=Z,5.0nm,1.1s

ZALV Zalesovo Beam 92.47 348 P **P** **23 28 26.6 +0.6**
comp=Z,5.0nm,1.1s,baz=7.1,slow=4.8,SNR=14

ZALV PP **PP** **23 32 08.5 +2.6**
comp=Z,0.3nm,0.4s,baz=352,slow=8.9,SNR=3.6

HVS Khovu-Aksy 93.20 342 *e*P **P** **23 28 32.5 +3.0**
BJI Beijing 93.81 323 P **P** **23 28 32.2 -0.2**
BVAR Borovoye Array 94.99 357 P **P** **23 28 38.6 +1.0**
comp=Z,3.4nm,1.0s,baz=4.1,slow=2.0,SNR=18

MLR Muntele Rosu 95.02 26 P **P** **23 28 38.5 +0.4**
comp=Z,1.4nm,1.1s,baz=346,slow=4.1,SNR=5.6

MLR Muntele Rosu 95.02 26 *e*P **P** **23 28 38.5 +0.4**
KURK Kurchatov 96.55 351 *e*P **P** **23 28 46.2 +1.5**
KURK *e* 23 32 44.5
KURK Kurchatov 96.55 351 *e*P **P** **23 28 46.2 +1.5**
KURK *e*PP PP 23 32 44.5 +6.8
KURBB Kurchatov Arra 96.65 351 P **P** **23 28 46.2 +1.1**
comp=Z,2.1nm,0.2s,baz=5.6,slow=4.4,SNR=7.8

KURBB PP PP 23 32 44.5 +6.0
comp=Z,3.9nm,1.2s,baz=7.3,slow=7.6,SNR=11

AKTO Aktyubinsk 97.51 4 P **P** **23 28 49.1 0.0**
comp=Z,0.5nm,0.5s,baz=297,slow=7.2,SNR=2.8

NJ2 Nanjing 98.19 316 *e*P **P** **23 28 52.6 +0.1**
MK32 Makanchi Array 99.80 348 *e*Pdif **Pdif** **23 28 60.0 +0.5**
MK32 *e*PP **PP** **23 33 06.8 +4.0**
MKAR Makanchi Array 99.80 348 *ce*P **Pdif** **23 29 00.6 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.9s

MKAR Makanchi Array 99.80 348 P **Pdif** **23 28 60.0 +0.5**
comp=Z,0.8nm,0.9s,baz=18,slow=4.2,SNR=7.0

MKAR PP **PP** **23 33 06.8 +4.0**
comp=Z,0.7nm,1.0s,baz=328,slow=11,SNR=4.4

WMQ Urumqi 101.50 343 *e*P **Pdif** **23 29 07.5 +0.3**
WMQ pP pP 23 29 12.0 +4.0
WMQ PP PP 23 33 21.0 +5.3
WMQ SKS **SKSac** **23 39 47.0 -0.8**
WMQ *e*S **Sdif** **23 40 45.0 -3.7**
WMQ PMZ
comp=Z,8.0nm,1.5s

WMQ LZ
comp=Z,2μm,23.6s

CD2 Chengdu 107.19 326 Pdif **Pdif** **23 29 32.6 -0.1**
CD2 PP **PP** **23 34 02.7 +4.2**
CD2 S **Sdif** **23 41 31.5 -5.1**
CD2 SS **SS** **23 49 07.1 +0.5**
CD2 PPMZ
comp=Z,100nm,6.4s

GYA Guiyang 109.33 321 *e*Pdif **Pdif** **23 29 42.8 +0.4**
GYA PKP **PKiKP** **23 33 42.0 -4.0**
GYA PP **PP** **23 34 19.2 +4.9**
GYA PKS PKSdf 23 37 20.4 -2.5
GYA SS SS 23 49 37.7 +1.8
GYA PPMZ
comp=Z,140nm,7.6s

GYA LN
comp=Z,140nm,18.8s

GYA LE
comp=Z,120nm,18.4s

GYA LZ
comp=Z,150nm,19.0s

WRA Warramunga Arr 117.30 263 PKP **PKPdf** **23 34 01.1 -0.1**
comp=Z,1.6nm,0.7s,baz=62,slow=2.1,SNR=14

AS12 Alice Springs 119.27 259 *e*PKPdf **PKPdf** **23 34 04.7 -0.2**
ASAR Alice Springs 119.27 259 PKP **PKPdf** **23 34 04.7 -0.2**
comp=Z,2.0nm,0.8s,baz=77,slow=2.2,SNR=15

CM31 Chiang Mai Arr 119.94 322 *e*PKPdf **PKPdf** **23 34 06.7 +0.3**
CMAR Chiang Mai Arr 119.94 322 *c i*PKIKP **PKPdf** **23 34 10.3 +4.0**
CMAR pmax pmax
comp=Z,1.0nm,0.4s

CMAR Chiang Mai Arr 119.94 322 PKP **PKPdf** **23 34 06.7 +0.3**
comp=Z,0.5nm,0.4s,baz=340,slow=2.6,SNR=5.4

KMBO Kilima Mbogo 139.63 46 *c i*PKIKP **PKPdf** **23 34 49.2 +5.2**
KMBO pmax pmax
comp=Z,1.0nm,0.3s

KMBO Kilima Mbogo 139.63 46 PKP **PKPdf** **23 34 43.1 -0.9**
comp=Z,0.6nm,0.3s,baz=330,slow=2.2,SNR=2.6

LSZ Lusaka 142.72 72 *e*PKIKP **PKPdf** **23 34 47.3 -2.0**
LSZ Lusaka 142.72 72 *e*PKPdf **PKPdf** **23 34 47.3 -2.0**
MAW Mawson 144.54 179 PKP **PKPdf** **23 34 51.3 +0.6**
comp=Z,14nm,0.8s,baz=207,slow=2.2,SNR=13

LBTB Lobatse 144.99 88 *e*PKIKP **PKPab** **23 34 51.4 -0.9**
LBTB Lobatse 144.99 88 *e*PKPdf **PKPab** **23 34 51.4 -0.9**
BOSA Boshof 145.84 95 PKPbc **PKPab** **23 34 55.4 0.0**
comp=Z,14nm,1.0s,baz=329,slow=5.5,SNR=7.0

ECX 04 23:17:14.0±0.3, 32°24N×115°29W, h8km, ML4.3, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dawling**	**0.63**	**241**	*e*P		Pg 23 17 15.0	-11
RDX				*e*S		Sg 23 17 23.9	-11
COK	**Cook Ranch**	**0.71**	**329**	*e*P		Pg 23 17 26.5	-1.2
RMX	**La Rumorosa**	**0.76**	**299**	*e*P		Pg 23 17 16.9	-12
RMX				*e*S		Sg 23 17 27.4	-11
RMX				*e*		23 17 31.6	
RMX				AML	AML	23 17 31.6	
	comp=N,14μm,0.5s						
ZAX	**El Zacaton**	**1.10**	**229**	*e*P		Pg 23 17 23.4	-12
ZAX				*e*S		Sg 23 17 38.5	-11
ECNX	**Esteban Cantu**	**1.25**	**243**	*e*P		Pn 23 17 25.9	-12
ECNX				*e*S		Sb 23 17 42.7	-12

NEIC 04 23:19:31.9, 32.59N×115.75W, h10km, ML4.0(PAS), 2C, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.16**	**291**	*e*P		Pg 23 19 35.0	-0.4
ERPC	**Ernies Place**	**0.17**	**25**	*e*P		Pg 23 19 35.0	-0.6
WESC	**Westside Schoo**	**0.17**	**4**	*i*P		Pg 23 19 34.0	-1.6
COK	**Cook Ranch**	**0.26**	**4**	*e*P		Pg 23 19 36.0	-1.2
DREC	**Desert Rsrch C**	**0.33**	**50**	*e*P		Pg 23 19 38.0	-0.5
CRR	**Carrizo Plain**	**0.35**	**328**	*e*P		Pg 23 19 38.0	-0.9
SWSC	**Sam W. Stewart**	**0.35**	**353**	*e*P		Pg 23 19 38.0	-0.9
SWSC				*e*S		Sg 23 19 43.0	-0.6
ERRC	**Elmore Ranch**	**0.53**	**353**	*e*P		Pg 23 19 42.0	-0.2
COA	**Coachella**	**0.59**	**63**	*e*P		Pg 23 19 43.0	-0.4
BAR	**Barrett**	**0.79**	**277**	*e*P		Pg 23 19 46.0	-1.2
FRK	**Frink**	**0.81**	**6**	*i*P		Pg 23 19 46.0	-1.6
GLA	**Glamis**	**0.90**	**59**	*e*Pg		Pg 23 19 47.3	-2.1
GLA				*e*Sg		Sg 23 19 59.3	-1.9
YMD	**Yuma Desert**	**1.02**	**92**	*e*P		Pg 23 19 49.0	-2.5
PFO	**Pinyon Flats O**	**1.18**	**330**	*e*Pg		Pb 23 19 51.8	-2.8
PFO				*e*Sg		Sb 23 20 06.7	-3.3

NEIC 04 23:22:04.6, 33.15N×116.46W, h10km, ML3.5(PAS), 3D, After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORC	**Borrego Spring**	**0.12**	**16**	*i*P		Pg 23 22 07.0	-0.5
BORC				*i*S		Sg 23 22 09.0	-0.6
FRD	**Ford Ranch, An**	**0.36**	**340**	*i*P		Pg 23 22 11.0	-1.0

FRD				*e*S	Sg	23 22 16.0	-1.0
PLM	**Palomar**	**0.40**	**301**	⇓*i*P	Pg	23 22 12.0	-0.7
BAR	**Barrett**	**0.51**	**201**	*e*Pg	Pg	23 22 13.4	-1.1
BAR				*e*Sg	Sg	23 22 20.1	-1.1

NEIC 04 23:23:11.5,32.60N×115.75W,h10km,ML3.6(PAS)**,1D, After PAS.,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.16**	**25**	*e*P	Pg	23 23 14.0	-1.1
WESC	**Westside Schoo**	**0.16**	**4**	⇓*i*P	Pg	23 23 14.0	-1.1
BAR	**Barrett**	**0.79**	**276**	*e*P	Pg	23 23 26.0	-0.8
BAR				*e*S	Sg	23 23 35.0	-2.1
BORC	**Borrego Spring**	**0.88**	**320**	*e*P	Pg	23 23 27.0	-1.5
BORC				*i*S	Sg	23 23 38.0	-2.0

IDC ***04*** *23:25:06.0±0.6,32.21N×115.10W,h0km,mb4.6/35, mb1 4.7/41,mb1mx4.7/43,mbtmp4.5/41,ML4.2/6,Error ellipse: s-maj=14.5km s-min=8.3km az=52.0*

ISCJB ***04*** *23:25:06.6±0.2,32.23N±0.02×115.14W±0.02,h12km, mb5.2/150,Error ellipse: s-maj=2.6km s-min=1.8km az=29.4*

MOS ***04*** *23:25:06.8±1.0,32.26N×115.07W,h10km,mb5.4/40, Error ellipse: s-maj=5.6km s-min=3.6km az=84.8*

NEIC ***04*** *23:25:07.0,32.25N×115.30W,h6km,mb5.4/94, MD4.9(MEX),MD5.7(ECX),MW5.4(PAS),After ECX.*

NEIC Felt [V] at Tijuana, [IV] at Tecate and [III] at Ensenada. Also felt at Puerto Penasco, Sonora. Felt [V] at Yuma, Arizona. Also felt at Parker and Somerton. Felt [V] at Brawley, Coronado and San Diego; [IV] at Blythe, Chula Vista, Murrieta, Oceanside, Palm Desert, Palm Springs, Spring Valley and Temecula; [III] at Beaumont, Bonita, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, Julian, La Mesa, Poway, Ramona, San Marcos, Santee and Solana Beach, California. Felt in much of southern California and as far as Tucson, Arizona.

ECX ***04*** *23:25:07.1±0.5,32.24N×115.30W,h6km,ML5.7*

MEX ***04*** *23:25:08.1±0.3,32.30N×115.19W,h20km±39km,MD4.3*

ISC 04 23:25:07.0±0.6,32°22N±0.02×115°27W±0.02,h7km±3km, n624,σ1$37/596,mb5.3/150**,64C-48D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**19**	*e*P	**Pg**	**23 25 11.4**	**+0.4**
MBIG				*e*S	**Sg**	**23 25 13.5**	**-0.3**
SGL	**Mount Signal**	**0.57**	**318**	*e*P	**Pg**	**23 25 16.8**	**-1.3**
COA	**Coachella**	**0.66**	**11**	*e*P	**Pg**	**23 25 18.6**	**-1.0**
YUH	**Yuha Desert**	**0.70**	**308**	⇑*i*P	**Pg**	**23 25 19.1**	**-1.4**
COK	**Cook Ranch**	**0.74**	**329**	⇓*i*P	**Pg**	**23 25 19.8**	**-1.4**
SWSC	**Sam W. Stewart** baz=0.8	**0.84**	**329**	⇑P	**Pg**	**23 25 21.0**	**-2.3**
SWSC				⇓S	**Sg**	**23 25 31.2**	**-3.1**
GLA	**Glamis** baz=0.8	**0.91**	**24**	*e*P	**Pg**	**23 25 21.9**	**-2.6**
GLA				*e*		23 25 34.8	
GLA	**Glamis**	**0.91**	**24**	⇑*i*P	**Pg**	**23 25 22.2**	**-2.4**
GLA	**Glamis** baz=0.9	**0.91**	**24**	⇓P	**Pg**	**23 25 22.0**	**-2.6**
GLA				⇓S	**Sg**	**23 25 33.4**	**-3.0**
GLA	**Glamis** baz=0.9	**0.91**	**24**	*e*Pn	**Pg**	**23 25 21.9**	**-2.6**
GLA				*e*Sn	**Sg**	**23 25 34.8**	**-1.6**
CLIC	**Calipatria**	**0.94**	**347**	*e*Pn	**Pg**	**23 25 22.7**	**-2.5**
CBX	**Cerro Bola**	**1.18**	**275**	*e*P	**Pg**	**23 25 27.4**	**-2.3**
CBX				*e*S	**Sg**	**23 25 42.9**	**-2.2**
CBX	comp=N,294μm,0.7s			⇑*e*		23 25 50.5	
SPIG	**San Pedro Mart**	**1.18**	**188**	*e*P	**Pg**	**23 25 27.9**	**-1.8**
SPIG				*e*S	**Sg**	**23 25 43.2**	**-1.8**
SPIG	**San Pedro Mart**	**1.18**	**188**	*e*Pn	**Pg**	**23 25 27.9**	**-1.8**
SPIG				*e*Sn	**Sg**	**23 25 43.2**	**-1.8**
SPX	**San Pedro Mart**	**1.18**	**188**	⇑*e*P	**Pg**	**23 25 28.0**	**-1.7**
SPX	comp=Z,68μm,0.5s			⇓*e*		23 25 47.6	
SPX	comp=N,81μm,0.7s			⇑*e*		23 25 48.4	
FRK	**Frink**	**1.22**	**346**	*e*Pn	Pg	23 25 26.1	-4.3
ECNX	**Esteban Cantu**	**1.26**	**244**	⇑*e*P	Pb	23 25 19.1	-12
ECNX				*e*P	**Pn**	**23 25 28.5**	**-2.5**
ECNX				*e*S	Sg	23 25 35.2	-13
ECNX				*e*S	**Sb**	**23 25 44.8**	**-2.7**
BAR	**Barrett**	**1.27**	**292**	*e*Pn	Pg	23 25 28.4	-3.0
BAR				*e*Sn	**Sg**	**23 25 45.0**	**-2.8**
113A	**Mohawk Valley,** baz=1.4	**1.39**	**66**	⇓P	**Pn**	**23 25 29.8**	**-2.9**
113A				⇓S	**Sb**	**23 25 46.8**	**-4.3**
BORC	**Borrego Spring**	**1.42**	**318**	*e*Pn	Pn	23 25 29.7	-3.6
BC3	**Big Chuckawall** baz=1.4	**1.44**	**354**	⇑P	Pn	23 25 29.9	-3.7
HAY	**Hayfield**	**1.52**	**347**	*e*P	Pn	23 25 30.9	-3.8
HAY	**Hayfield**	**1.52**	**347**	*e*Pn	Pn	23 25 30.9	-3.8
Y12C	**Blythe** baz=1.6	**1.65**	**22**	⇑P	Pn	23 25 32.9	-3.6
109C	**Camp Elliot, M** baz=1.7	**1.69**	**294**	⇑P	**Pn**	**23 25 34.3**	**-2.5**
109C				⇑S	**Sn**	**23 25 56.9**	**-1.7**
PFO	**Pinyon Flats O** comp=N,44μm,0.7s,SNR=13	**1.71**	**325**	Pn	Pn	23 25 33.0	-4.3
PFO	**Pinyon Flats O**	**1.71**	**325**	*e*P	Pn	23 25 33.5	-3.7
PFO				*e*		23 26 00.2	
PFO	**Pinyon Flats O** comp=N,263nm,0.3s,baz=138,slow=12,SNR=16	**1.71**	**325**	Pn	Pn	23 25 33.8	-3.5
PFO	comp=N,2μm,0.3s,baz=233,slow=20,SNR=19			Lg	Lg	23 25 59.7	
PFO	**Pinyon Flats O**	**1.71**	**325**	*e*Pn	Pn	23 25 33.5	-3.7
PFO				*e*Sn	**Sb**	**23 26 00.2**	**-0.3**
BELC	**Belle Mtn. Jos** baz=1.9	**1.88**	**341**	⇑P	Pn	23 25 35.8	-3.9
IRM	**Iron Mountain** baz=1.9	**1.94**	**3**	⇓P	Pn	23 25 37.0	-3.4
HMTC	**Hemet**	**2.08**	**316**	*e*Pn	**Pn**	**23 25 39.8**	**-2.5**
214A	**Organ Pipe Nat** baz=2.1	**2.11**	**96**	⇓P	Pn	23 25 39.5	-3.1
MURC	**Murrieta** baz=2.1	**2.13**	**311**	⇑P	Pn	23 25 39.8	-3.1
MURC				⇑Sb	**Sb**	**23 26 10.8**	**-1.6**
Z14A	**Wintersburg** baz=2.3	**2.27**	**59**	⇑P	**Pn**	**23 25 42.3**	**-2.6**
PDMCI	**Parker Dam,Lak** baz=2.3	**2.28**	**24**	⇓P	**Pn**	**23 25 42.1**	**-2.9**
BBRC	**Big Bear Solar** baz=2.4	**2.46**	**326**	⇑Pb	**Pn**	**23 25 47.9**	**+0.2**
Y14A	**Wickenburg** baz=2.6	**2.56**	**47**	⇑P	**Pn**	**23 25 45.9**	**-3.1**
Y14A				⇓S	**Sn**	**23 26 17.4**	**-3.1**
GMRC	**Granite Mounta** baz=2.6	**2.58**	**353**	⇓P	**Pn**	**23 25 46.2**	**-3.0**
NEE2	**Needles Airpor** baz=2.6	**2.60**	**12**	⇑P	**Pn**	**23 25 46.4**	**-3.1**
NEE2				⇑S	**Sn**	**23 26 17.7**	**-3.6**
HEC	**Hector,Ludlow** baz=2.7	**2.75**	**342**	⇑P	Pn	23 25 48.3	-3.3
BFSC	**Mount Baldy Ra** baz=2.8	**2.84**	**316**	⇓P	Pn	23 25 49.8	-3.1
BFSC				⇑Sb	**Sb**	**23 26 31.9**	**-1.2**
BFSC	**Mount Baldy Ra**	**2.84**	**316**	*e*Pn	**Pb**	**23 25 57.6**	**-0.5**
LDFC	**Landfair**	**2.85**	**3**	*e*Pn	**Pn**	**23 25 51.4**	**-1.7**
SCI	**San Clemente I** baz=2.8	**2.87**	**286**	⇓P	Pn	23 25 50.1	-3.0
CIS	**Catalina Islan** baz=2.9	**2.89**	**295**	⇓P	**Pn**	**23 25 51.0**	**-2.4**
CIS				⇓Sb	**Sb**	**23 26 33.8**	**-0.6**
FMP	**Fort Macarthur** baz=2.9	**2.94**	**301**	⇓P	**Pn**	**23 25 53.4**	**-0.7**
FMP				⇓Sb	**Sb**	**23 26 35.1**	**-0.8**
RRX	**Edison Barstow** baz=3.0	**3.02**	**332**	⇓P	**Pn**	**23 25 53.2**	**-2.0**
MWC	**Mount Wilson**	**3.07**	**311**	*e*P	**Pb**	**23 26 00.4**	**-1.7**
MWC				*e*		23 26 41.6	
MWC	**Mount Wilson**	**3.07**	**311**	*e*Pn	**Pb**	**23 26 00.4**	**-1.7**
MWC				*e*Sn	**Sb**	**23 26 41.6**	**+1.8**
W13A	**Hualapai Mount** baz=3.1	**3.10**	**22**	⇑P	**Pn**	**23 25 54.0**	**-2.5**
HOLC	**Holcomb Ridge**	**3.10**	**317**	*e*Pn	**Pn**	**23 25 54.7**	**-1.7**
PASC	**Pasadena Art C**	**3.12**	**309**	*e*Pn	**Pb**	**23 26 01.3**	**-1.6**
PASC				*e*Sn	**Sb**	**23 26 41.1**	**0.0**
TUQ	**Turquoise Moun** baz=3.2	**3.25**	**351**	⇑P	**Pn**	**23 25 56.0**	**-2.5**
DECC	**Green Verdugo** baz=3.2	**3.27**	**309**	⇓Pb	**Pb**	**23 26 02.8**	**-2.5**
DECC				⇓Sb	**Sb**	**23 26 45.7**	**+0.4**
GSC	**Goldstone, Bar**	**3.33**	**338**	*e*P	**Pn**	**23 26 01.4**	**+1.8**
GSC	**Goldstone, Bar** baz=3.3	**3.33**	**338**	⇓Pb	**Pb**	**23 26 03.4**	**-3.0**
GSC	**Goldstone, Bar**	**3.33**	**338**	*e*Pn	**Pn**	**23 26 01.4**	**+1.8**
IR2C	**Iron Canyon**	**3.40**	**310**	*e*Pn	**Pb**	**23 26 06.3**	**-1.2**
EDW2	**Edwards Air Fo** baz=3.5	**3.49**	**320**	⇑P	**Pn**	**23 25 59.5**	**-2.2**
STTC	**Scott Ranch**	**3.70**	**315**	*e*Pn	**Pb**	**23 26 13.1**	**+0.4**
BALC	**Balcom Canyon**	**3.73**	**305**	*e*Pn	Pb	23 26 10.0	-3.2
OSI	**Osito Audit: C** baz=3.7	**3.75**	**311**	⇓P	**Pn**	**23 26 02.4**	**-2.9**
OSI				⇓Sb	**Sb**	**23 26 59.0**	**-0.1**
OSI	**Osito Audit: C** baz=3.7	**3.75**	**311**	*e*Pn	**Pn**	**23 26 06.8**	**+1.6**
OSI				*e*Sn	**Sn**	**23 26 52.5**	**+2.9**
TUC	**Tucson**	**3.80**	**87**	*e*P	**Pn**	**23 26 04.8**	**-1.3**
TUC				*e*		23 26 43.7	
TUC	**Tucson**	**3.80**	**87**	*e*Pn	**Pn**	**23 26 04.8**	**-1.3**
TUC				*e*Sn	Sn	23 26 43.7	-7.4
X16A	**Lo Mia Camp, P** baz=3.9	**3.89**	**55**	⇓P	**Pn**	**23 26 05.6**	**-1.8**
BSC	**Santa Cruz Isl** baz=4.0	**4.06**	**297**	⇓P	**Pn**	**23 26 07.9**	**-1.7**
ARVC	**Arvin** baz=4.1	**4.15**	**315**	⇓P	**Pn**	**23 26 09.0**	**-1.7**
SHPR	**Sheep Range**	**4.28**	**1**	*e*Pn	**Pn**	**23 26 11.2**	**-1.5**
ISA	**Isabella, Lake**	**4.34**	**323**	*e*P	**Pn**	**23 26 16.2**	**+2.7**
ISA	**Isabella, Lake** baz=4.3	**4.34**	**323**	⇓P	**Pn**	**23 26 11.5**	**-2.0**
ISA	**Isabella, Lake**	**4.34**	**323**	*e*Pn	**Pn**	**23 26 16.2**	**+2.7**
MARC	**Maricopa**	**4.38**	**310**	*e*Pn	**Pn**	**23 26 13.1**	**-0.9**
WUAZ	**Wupatki** baz=4.6	**4.62**	**44**	⇓P	**Pn**	**23 26 15.9**	**-1.5**
WUAZ	**Wupatki**	**4.62**	**44**	*e*Pn	**Pn**	**23 26 16.6**	**-0.7**
PKM	**Mcpherson Peak** baz=4.6	**4.64**	**306**	⇓P	**Pn**	**23 26 15.5**	**-2.2**
TPNV	**Topopah Spring**	**4.79**	**351**	*e*P	Pn	23 26 23.3	+3.6
TPNV	**Topopah Spring** baz=4.8	**4.79**	**351**	⇑P	**Pn**	**23 26 18.2**	**-1.4**
TPNV	**Topopah Spring**	**4.79**	**351**	*e*Pn	Pn	23 26 23.3	+3.6
VES	**Vestal, Richgr** baz=4.8	**4.80**	**320**	⇓P	**Pn**	**23 26 18.3**	**-1.4**
U15A	**North Rim** baz=4.9	**4.87**	**30**	⇓P	**Pn**	**23 26 20.1**	**-0.8**
SMMC	**Simmler** baz=5.0	**5.00**	**309**	⇑P	**Pn**	**23 26 21.7**	**-0.7**
X18A	**Snowflake** baz=5.0	**5.01**	**61**	⇓P	**Pn**	**23 26 21.4**	**-1.5**
ICU	**Indian Springs**	**5.04**	**12**	*e*Pn	**Pn**	**23 26 22.4**	**-0.8**
319A	**Douglas** baz=5.2	**5.17**	**98**	⇑P	**Pn**	**23 26 22.8**	**-2.1**
KNB	**Kanab**	**5.20**	**22**	*e*P	**Pn**	**23 26 24.7**	**-0.6**
KNB	**Kanab**	**5.20**	**22**	*e*Pn	**Pn**	**23 26 24.7**	**-0.6**
EKU	**East Kanab**	**5.36**	**25**	*e*Pn	**Pn**	**23 26 26.8**	**-0.7**
W18A	**Petrified Fore** baz=5.4	**5.45**	**56**	⇓P	**Pn**	**23 26 27.5**	**-1.3**
W18A	**Petrified Fore**	**5.45**	**56**	*e*Pn	**Pn**	**23 26 28.1**	**-0.7**
CCUT	**Cedar City**	**5.55**	**16**	*e*Pn	**Pn**	**23 26 29.5**	**-0.6**
ARUT	**Antelope Range**	**5.76**	**15**	*e*P	**Pn**	**23 26 32.6**	**-0.4**
ARUT	**Antelope Range**	**5.76**	**15**	*e*Pn	**Pn**	**23 26 32.6**	**-0.4**
TPH	**Tonopah**	**6.06**	**345**	*e*P	**Pn**	**23 26 38.9**	**+1.8**
TPH	**Tonopah**	**6.06**	**345**	*e*Pn	**Pn**	**23 26 38.9**	**+1.8**
R11A	**Troy Canyon, C** baz=6.1	**6.12**	**358**	⇓P	**Pn**	**23 26 36.4**	**-1.6**
R11A	**Troy Canyon, C**	**6.12**	**358**	*e*Pn	**Pn**	**23 26 37.5**	**-0.5**
121A	**Cookes Peak, D** baz=6.3	**6.34**	**85**	⇑P	**Pn**	**23 26 39.0**	**-2.1**
NV01	**Mina Array Sit**	**6.67**	**339**	*e*Pn	**Pn**	**23 26 48.3**	**+2.7**
NVAR	**Mina Array Bea** comp=N,1.0nm,0.3s,baz=164,slow=14,SNR=3.9	**6.67**	**339**	Pn	**Pn**	**23 26 48.3**	**+2.7**
NVAR	baz=156,slow=32,SNR=1.8			Lg	Lg	23 28 44.4	
MMU	**Miners Mountai**	**6.80**	**28**	*e*Pn	**Pn**	**23 26 47.7**	**+0.3**
SAO	**San Andreas Ge**	**6.82**	**313**	*e*P	Pn	23 26 50.5	+3.0
SAO	**San Andreas Ge**	**6.82**	**313**	*e*Pn	Pn	23 26 50.5	+3.0
LAZ	**Ladron**	**7.15**	**70**	*e*Pn	**Pn**	**23 26 50.6**	**-1.5**
CMB	**Columbia Colle**	**7.16**	**326**	*e*P	**Pn**	**23 26 54.0**	**+1.9**
CMB	**Columbia Colle**	**7.16**	**326**	*e*Pn	**Pn**	**23 26 54.0**	**+1.9**
LENM	**Lemitar**	**7.22**	**72**	*e*Pn	**Pn**	**23 26 51.9**	**-1.3**
Y22D	**IRIS PASSCAL I** baz=7.2	**7.25**	**73**	⇑P	**Pn**	**23 26 52.6**	**-0.8**
MVCO	**Mesa Verde** baz=7.5	**7.48**	**46**	⇑P	**Pn**	**23 26 57.1**	**+0.5**
MVCO	**Mesa Verde**	**7.48**	**46**	*e*Pn	**Pn**	**23 26 57.1**	**+0.5**
BNM	**Barren Site**	**7.50**	**73**	*e*Pn	**Pn**	**23 26 56.0**	**-1.0**
LPM	**Los Pinos Moun**	**7.53**	**72**	*e*Pn	**Pn**	**23 26 56.5**	**-0.9**
PV05	**Paradox Valley**	**7.73**	**39**	*e*Pn	**Pn**	**23 27 02.3**	**+2.2**
TMUT	**Trail Mountain**	**7.80**	**24**	*e*Pn	Pn	23 27 04.6	+3.5
ANMO	**Albuquerque** comp=Z,332nm,1.0s	**7.84**	**67**	⇑*i*P	**Pn**	**23 27 01.0**	**-0.7**
ANMO				pmax	pmax		
ANMO	**Albuquerque** comp=Z,4.4nm,0.3s,baz=257,slow=13,SNR=41	**7.84**	**67**	Pn	**Pn**	**23 27 00.9**	**-0.7**
ANMO	comp=Z,2.1nm,0.3s,baz=192,slow=24,SNR=3.4			Lg	Lg	23 29 16.4	
ANMO	**Albuquerque**	**7.84**	**67**	*e*Pn	**Pn**	**23 27 00.6**	**-1.1**
SRU	**San Rafael Swe**	**7.89**	**28**	*e*P	**Pn**	**23 27 02.4**	**+0.2**
SRU	**San Rafael Swe**	**7.89**	**28**	*e*Pn	**Pn**	**23 27 02.4**	**+0.2**
PV10	**Paradox Valley**	**7.98**	**38**	*e*Pn	**Pn**	**23 27 04.3**	**+0.7**
PV09	**Paradox Valley**	**8.02**	**37**	*e*Pn	**Pn**	**23 27 05.2**	**+0.9**
PV01	**Paradox Valley**	**8.06**	**41**	*e*Pn	**Pn**	**23 27 05.8**	**+1.2**
NLU	**North Lily Min**	**8.14**	**18**	*e*Pn	Pn	23 27 10.0	+4.2
DUG	**Dugway, Tooele**	**8.20**	**13**	*e*P	Pn	23 27 10.3	+3.7
DUG	**Dugway, Tooele**	**8.20**	**13**	*e*Pn	Pn	23 27 10.2	+3.7
MPU	**Maple Canyon**	**8.32**	**20**	*e*Pn	**Pn**	**23 27 10.1**	**+1.9**
V23A	**Ortiz Mt. (NFS** baz=8.3	**8.33**	**63**	⇓P	**Pn**	**23 27 07.6**	**-0.7**
BMN	**Battle Mountai**	**8.35**	**350**	*e*P	**Pn**	**23 27 10.9**	**+2.4**
BMN	**Battle Mountai**	**8.35**	**350**	*e*Pn	**Pn**	**23 27 10.9**	**+2.4**
MNTX	**Cornudas Mount** baz=8.4	**8.42**	**91**	⇑P	**Pn**	**23 27 07.6**	**-1.8**
MNTX	**Cornudas Mount**	**8.42**	**91**	*e*Pn	**Pn**	**23 27 07.6**	**-1.8**
ELK	**Elko**	**8.51**	**0**	*e*P	**Pn**	**23 27 12.1**	**+1.3**
ELK	**Elko** comp=Z,1.6nm,0.3s,baz=177,slow=9.3,SNR=16	**8.51**	**0**	Pn	**Pn**	**23 27 11.6**	**+0.8**
ELK	comp=Z,1.1nm,0.3s,baz=137,slow=27,SNR=2.6			Lg	Lg	23 29 38.0	
ELK	**Elko**	**8.51**	**0**	*e*Pn	**Pn**	**23 27 12.1**	**+1.3**
U23A	**El Rito** baz=8.6	**8.56**	**59**	⇓P	**Pn**	**23 27 10.8**	**-0.7**
W24A	**Lazy 6 Ranch,** baz=8.7	**8.74**	**67**	⇓P	**Pn**	**23 27 13.6**	**-0.4**
DAU	**Daniels Canyon**	**8.79**	**20**	*e*P	**Pn**	**23 27 15.9**	**+1.1**
DAU	**Daniels Canyon**	**8.79**	**20**	*e*Pn	**Pn**	**23 27 15.9**	**+1.1**
S22A	**4UR Ranch, Cre** baz=8.8	**8.85**	**49**	⇓P	**Pn**	**23 27 14.9**	**-0.7**
S22A	**4UR Ranch, Cre**	**8.85**	**49**	*e*Pn	**Pn**	**23 27 14.9**	**-0.7**
BGU	**Big Grassy Mou**	**8.87**	**11**	*e*Pn	**Pn**	**23 27 18.3**	**+2.5**
CTU	**Camp Tracy**	**8.92**	**18**	*e*Pn	**Pn**	**23 27 18.0**	**+1.6**
T23A	**Casias Ranch,** baz=9.0	**9.00**	**55**	⇑P	**Pn**	**23 27 17.4**	**-0.2**
LPIG	**La Paz** comp=Z,16nm,0.3s,baz=288,slow=4.9,SNR=44	**9.20**	**150**	Pn	**Pn**	**23 27 22.5**	**+2.5**
LPIG	comp=Z,9.0nm,0.3s,baz=198,slow=19,SNR=4.0			Lg	Lg	23 30 01.5	
GDL2	**Guadalupe Moun**	**9.24**	**87**	*e*Pn	**Pn**	**23 27 18.9**	**-1.9**
U24A	**Moreno Valley** baz=9.3	**9.26**	**60**	⇑P	**Pn**	**23 27 20.5**	**-0.7**
TCUT	**Toone Canyon**	**9.41**	**18**	*e*Pn	**Pn**	**23 27 24.7**	**+1.5**
W25A	**X Bar L Ranch,** baz=9.5	**9.49**	**69**	⇑P	**Pn**	**23 27 24.0**	**-0.2**
V25A	**Rancho No Teng** baz=9.5	**9.55**	**65**	⇓P	**Pn**	**23 27 25.0**	**-0.1**
CLNB	**Carlsbad**	**9.65**	**87**	*e*Pn	**Pn**	**23 27 26.9**	**+0.5**
CPRX	**Cap Rock**	**9.65**	**82**	*e*Pn	**Pn**	**23 27 26.7**	**+0.3**
SMCO	**Snowmass**	**9.68**	**42**	*e*Pn	**Pn**	**23 27 28.6**	**+1.6**
SLBS	**Sierra La Lagu**	**9.72**	**150**	*e*Pn	**Pn**	**23 27 30.0**	**+2.7**
SDCO	**Great Sand Dun**	**9.73**	**53**	*e*Pn	**Pn**	**23 27 27.8**	**+0.2**
O20A	**White River Ci**	**9.73**	**34**	*e*Pn	**Pn**	**23 27 28.7**	**+1.2**
HVU	**Hansel Valley**	**9.75**	**11**	*e*P	**Pn**	**23 27 29.5**	**+1.7**
HVU	**Hansel Valley**	**9.75**	**11**	*e*Pn	**Pn**	**23 27 29.5**	**+1.7**
R23A	**Moffat** baz=9.7	**9.76**	**50**	⇓P	**Pn**	**23 27 27.7**	**-0.3**
HWUT	**Hardware Ranch**	**9.83**	**17**	*e*Pn	**Pn**	**23 27 30.9**	**+2.0**
W26A	**Owens Ranch, T** baz=10.0	**10.01**	**70**	⇑P	**Pn**	**23 27 30.7**	**-0.6**
WDC	**Whiskeytown Da**	**10.19**	**327**	*e*P	Pn	23 27 38.3	+4.7
WDC	**Whiskeytown Da**	**10.19**	**327**	*e*Pn	Pn	23 27 38.3	+4.7
T25A	**Trinidad**	**10.20**	**58**	*e*Pn	**Pn**	**23 27 34.7**	**+0.7**
LTX	**Lajitas**	**10.39**	**103**	*e*P	**Pn**	**23 27 36.5**	**0.0**
LTX	**Lajitas**	**10.39**	**103**	*e*Pn	**Pn**	**23 27 36.5**	**0.0**
TXAR	**Lajitas Array** comp=Z,14nm,0.3s,baz=286,slow=12,SNR=134	**10.39**	**103**	Pn	**Pn**	**23 27 36.5**	**0.0**
TXAR	comp=Z,2.3nm,0.3s,baz=272,slow=29,SNR=3.9			Lg	Lg	23 30 33.5	
S25A	**Robets Cordova** baz=10	**10.42**	**56**	⇑P	**Pn**	**23 27 36.7**	**-0.3**
MOD	**Modoc Plateau**	**10.46**	**339**	*e*Pn	Pn	23 27 41.4	+3.8
WVOR	**Wild Horse Val**	**10.54**	**346**	*e*P	**Pn**	**23 27 40.8**	**+2.3**
WVOR	**Wild Horse Val**	**10.54**	**346**	*e*Pn	**Pn**	**23 27 40.8**	**+2.3**
MSTX	**Muleshoe** baz=11	**10.63**	**77**	⇑P	**Pn**	**23 27 39.8**	**0.0**
MSTX	**Muleshoe**	**10.63**	**77**	*e*Pn	**Pn**	**23 27 39.8**	**0.0**
Q24A	**Divide**	**10.64**	**48**	*e*Pn	**Pn**	**23 27 40.0**	**-0.1**
228A	**UT Block 9, Go** baz=11	**10.75**	**87**	⇓P	**Pn**	**23 27 39.3**	**-2.1**
128A	**Castleberry Fa** baz=11	**10.82**	**84**	⇑P	**Pn**	**23 27 42.0**	**-0.3**
ISCO	**Idaho Springs**	**10.88**	**43**	*e*P	**Pn**	**23 27 44.3**	**+0.9**
ISCO	**Idaho Springs**	**10.88**	**43**	*e*Pn	**Pn**	**23 27 44.3**	**+0.9**
AHID	**Auburn Hatcher**	**11.04**	**16**	*e*Pn	**Pn**	**23 27 48.4**	**+3.0**
X28A	**Dimmitt** baz=11	**11.17**	**75**	⇑P	**Pn**	**23 27 46.4**	**-0.8**
MFID	**Camas Ranch**	**11.19**	**358**	*e*Pn	Pn	23 27 51.5	+4.1
YBH	**Yreka Blue Hor**	**11.20**	**330**	*e*P	Pn	23 27 50.8	+3.2
YBH	**Yreka Blue Hor** comp=Z,0.3nm,0.3s,baz=119,slow=11,SNR=12	**11.20**	**330**	Pn	Pn	23 27 51.7	+4.2
YBH	**Yreka Blue Hor**	**11.20**	**330**	*e*Pn	Pn	23 27 50.8	+3.2
HLID	**Hailey**	**11.35**	**3**	*e*Pn	Pn	23 27 53.8	+4.2
K05A	**Summer Lake**	**11.39**	**339**	*e*Pn	Pn	23 27 54.0	+3.7
N23A	**Red Feather La**	**11.45**	**38**	*e*Pn	**Pn**	**23 27 51.6**	**+0.5**
BW06	**Boulder Array**	**11.46**	**22**	*e*Pn	**Pn**	**23 27 52.6**	**+1.3**
PD31	**Pinedale Array**	**11.46**	**22**	*e*Pn	**Pn**	**23 27 51.5**	**+0.2**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.3s,baz=178,slow=11,SNR=15	**11.46**	**22**	Pn	**Pn**	**23 27 52.5**	**+1.2**
PDAR	comp=Z,0.2nm,0.3s,baz=207,slow=33,SNR=2.5			Lg	Lg	23 31 07.9	
AMTX	**Amarillo**	**11.65**	**73**	*e*Pn	**Pn**	**23 27 53.2**	**-0.5**
REDW	**Red Top Meadow**	**11.66**	**16**	*e*Pn	**Pn**	**23 27 56.8**	**+2.8**
TPAW	**Teton Pass**	**11.76**	**16**	*e*Pn	**Pn**	**23 27 57.8**	**+2.4**
SNOW	**Snow King Moun**	**11.78**	**16**	*e*Pn	**Pn**	**23 27 57.7**	**+2.1**
LOHW	**Long Hollow**	**11.95**	**17**	*e*Pn	**Pn**	**23 28 00.6**	**+2.6**
PHWY	**Pilot Hill**	**12.00**	**38**	*e*Pn	**Pn**	**23 28 00.6**	**+1.9**
HUMO	**Hull Mountain**	**12.03**	**332**	*e*Pn	**Pn**	**23 28 01.6**	**+2.8**
IMW	**Indian Meadow**	**12.15**	**15**	*e*Pn	**Pn**	**23 28 01.9**	**+1.3**
I07A	**Izee**	**12.30**	**346**	*e*Pn	Pn	23 28 06.6	+4.0
KSCO	**Kaye Shedlock'**	**12.31**	**53**	*e*Pn	**Pn**	**23 28 03.7**	**+0.8**
FLWY	**Flagg Ranch**	**12.38**	**16**	*e*Pn	**Pn**	**23 28 06.2**	**+2.5**
PINOR	**Pine Mountain**	**12.38**	**341**	*e*Pn	Pn	23 28 07.2	+3.7
K22A	**Casper**	**12.51**	**31**	*e*Pn	**Pn**	**23 28 05.2**	**-0.4**
YFT	**Old Faithful**	**12.70**	**15**	*e*Pn	**Pn**	**23 28 09.9**	**+1.8**
H17A	**Grant Village**	**12.70**	**15**	*e*Pn	**Pn**	**23 28 10.6**	**+2.3**
BMO	**Blue Mountains**	**12.71**	**353**	*e*Pn	Pn	23 28 11.9	+3.6
MCMT	**McKenzie Canyo**	**12.73**	**8**	*e*Pn	Pn	23 28 12.9	+4.2
YNR	**Norris Junctio**	**12.98**	**15**	*e*Pn	Pn	23 28 15.5	+3.5
ABTX	**Abilene, Hawle**	**13.21**	**84**	*e*Pn	**Pn**	**23 28 15.7**	**+0.6**
DLMT	**Dillon**	**13.29**	**8**	*e*Pn	Pn	23 28 19.8	+3.7
JCT	**Junction City**	**13.34**	**93**	*e*P	**Pn**	**23 28 17.5**	**+0.7**
JCT	**Junction City**	**13.34**	**93**	*e*Pn	**Pn

VBMS Vicksburg 20.94 83 *e*P P 23 29 51.4 +1.1
comp=Z,838nm,1.1s
EDM Edmonton 21.04 3 *e*P P 23 29 50.8 -0.5
EDM Edmonton 21.04 3 *e*P P 23 29 50.8 -0.5
SLM Saint Louis 21.35 66 *e*P P 23 29 54.3 -0.4
SLM pmax pmax
comp=Z,297nm,1.2s
SLM Saint Louis 21.35 66 *e*P P 23 29 54.3 -0.4
comp=Z,297nm,1.2s
OXF Oxford 21.71 77 *e*P P 23 29 58.6 0.0
OXF pmax pmax
comp=Z,286nm,1.3s
OXF Oxford 21.71 77 *e*P P 23 29 58.6 0.0
comp=Z,286nm,1.3s
SPMN Marine on St. 21.73 47 *e*P P 23 29 58.9 +0.1
comp=Z,262nm,1.3s
AGMN Agassiz Nation 21.75 37 *e*P P 23 29 58.1 -0.8
comp=Z,234nm,1.1s
SIUC Southern Illin 22.01 68 *e*P P 23 30 01.5 -0.3
comp=Z,175nm,1.0s
BBB Bella Bella 22.04 339 P P 23 30 06.7 +4.7
comp=Z,29nm,0.8s,baz=177,slow=4.9,SNR=5.5
JFWS Jewell Farm 22.45 54 *e*P P 23 30 05.7 -0.8
JFWS pmax pmax
comp=Z,127nm,1.2s
JFWS Jewell Farm 22.45 54 *e*P P 23 30 05.7 -0.8
comp=Z,127nm,1.2s
WVT Waverly 23.01 73 *e*P P 23 30 11.5 -0.9
WVT pmax pmax
comp=Z,96nm,1.1s
WVT Waverly 23.01 73 *e*P P 23 30 11.5 -0.9
comp=Z,96nm,1.1s
OLIL Olney 23.02 66 *e*P P 23 30 12.0 -0.5
comp=Z,274nm,1.1s
ULM Lac du Bonnet 23.06 33 *e*P P 23 30 12.5 -0.4
ULM pmax pmax
comp=Z,44nm,1.0s
ULM Lac du Bonnet 23.06 33 P P 23 30 12.4 -0.4
comp=Z,21nm,0.9s,baz=226,slow=9.7,SNR=21
ULM Lac du Bonnet 23.06 33 *e*P P 23 30 12.4 -0.4
comp=Z,44nm,1.0s
USIN University of 23.26 68 *e*P P 23 30 13.5 -1.5
comp=Z,184nm,1.1s
LRAL Lakeview Retre 23.80 80 *e*P P 23 30 19.4 -1.0
comp=Z,285nm,1.5s
CMIG Matias Romero 23.82 124 P P 23 30 20.8 +0.2
comp=Z,34nm,1.0s,baz=314,slow=8.1,SNR=10
EYMN Ely 23.90 42 *e*P P 23 30 21.2 0.0
comp=Z,311nm,2.1s
BRAL Brewton 24.04 85 *e*P P 23 30 23.4 +0.8
comp=Z,931nm,1.3s
SFIN Lafayette 24.05 62 *e*P P 23 30 22.2 -0.5
comp=Z,325nm,1.6s
WCI Wyandotte Cave 24.36 68 *e*P P 23 30 24.9 -0.8
WCI pmax pmax
comp=Z,36nm,0.8s
WCI Wyandotte Cave 24.36 68 *e*P P 23 30 24.9 -0.8
comp=Z,36nm,0.8s
FFC Flin Flon 24.40 19 P P 23 30 26.0 +0.3
comp=Z,230nm,2.3s,SNR=6.8
FFC Flin Flon 24.40 19 *e*P P 23 30 25.4 -0.3
FFC pmax pmax
comp=Z,52nm,1.2s
FFC Flin Flon 24.40 19 *e*P P 23 30 25.4 -0.3
comp=Z,52nm,1.2s
COWI Conover 24.42 48 *e*P P 23 30 25.5 -0.5
comp=Z,57nm,0.8s
TKL Tuckaleechee C 26.30 74 *e*P P 23 30 42.6 -0.6
TKL Tuckaleechee C 26.30 74 P P 23 30 42.9 -0.3
comp=Z,14nm,1.0s,baz=228,slow=10.0,SNR=7.3
TKL P3KP 00 04 37.0
comp=Z,2.8nm,0.4s,baz=313,slow=1.3,SNR=10
TKL Tuckaleechee C 26.30 74 *e*P P 23 30 42.6 -0.6
GOGA Godfrey 26.71 79 *e*P P 23 30 46.3 -0.6
GOGA pmax pmax
comp=Z,154nm,1.7s
GOGA Godfrey 26.71 79 *e*P P 23 30 46.3 -0.6
comp=Z,154nm,1.7s
TIGA Tifton 26.88 83 *e*P P 23 30 48.0 -0.5
comp=Z,578nm,2.3s
WRAK Wrangell Islan 26.95 339 *e*P P 23 30 49.6 +0.8
comp=Z,93nm,1.5s
ACSO Alum Creek Sta 27.14 64 *e*P P 23 30 50.0 -0.7
comp=Z,78nm,1.1s
DLBC Dease Lake 28.07 343 P P 23 30 60.0 +1.0
comp=Z,8.2nm,0.9s,baz=170,slow=5.5,SNR=13
DLBC Dease Lake 28.07 343 *e*P P 23 31 00.3 +1.4
KMSC Kings Mountain 28.32 75 *e*P P 23 31 00.0 -1.3
comp=Z,77nm,1.1s
APG El Apazote 28.36 121 P P 23 31 00.3 -1.7
comp=Z,280nm,0.7s,baz=330,slow=16,SNR=5.2
BLA Blacksburg 28.97 70 *e*P P 23 31 06.6 -0.6
BLA pmax pmax
comp=Z,226nm,2.0s
BLA Blacksburg 28.97 70 *e*P P 23 31 06.6 -0.6
comp=Z,226nm,2.0s
VWCC Virginia Weste 29.33 70 *e*P P 23 31 09.2 -1.1
ALLY Alegheny Colle 29.45 61 *e*P P 23 31 10.4 -0.9
comp=Z,67nm,1.1s
NHSC New Hope 29.48 79 *e*P P 23 31 10.9 -0.7
comp=Z,380nm,1.4s
FCC Fort Churchill 30.15 22 *e*P P 23 31 16.6 -0.6
FCC Fort Churchill 30.15 22 *e*P P 23 31 16.6 -0.6
comp=Z,2µm,1.4s
YKA Yellowknife Ar 30.29 1 P P 23 31 18.8 +0.3
comp=Z,3.6nm,1.0s,baz=181,slow=7.8,SNR=18
YKB5 Yellowknife Ar 30.29 1 *e*P P 23 31 18.8 +0.3
SADO Sadowa 30.68 55 P P 23 31 21.2 -0.9
comp=Z,10nm,0.8s,baz=276,slow=9.9,SNR=7.8
JSRW J. Sargeant Re 30.99 69 *e*P P 23 31 23.8 -1.2
SSPA Standing Stone 31.05 64 *e*P P 23 31 24.8 -0.7
comp=Z,50nm,1.3s
MMNY Mt. Morris Dam 31.23 60 *e*P P 23 31 26.6 -0.4
comp=Z,388nm,2.0s
MVL Millersville 32.19 65 *e*P P 23 31 34.7 -0.8
comp=Z,574nm,2.8s
BINY Binghamton 32.59 61 *e*P P 23 31 38.3 -0.7
comp=Z,33nm,1.1s
ODNJ Ogdensburg 33.55 63 *e*P P 23 31 46.6 -0.8
comp=Z,338nm,2.5s
PTN Potsdam (NY) 33.57 57 *e*P P 23 31 47.0 -0.5
PTN pmax pmax
comp=Z,89nm,1.3s
PTN Potsdam (NY) 33.57 57 *e*P P 23 31 47.0 -0.5
comp=Z,89nm,1.3s
LONY Lake Ozonia 33.86 57 *e*P P 23 31 49.5 -0.6
comp=Z,366nm,1.4s
TRY Troy 34.34 60 *e*P P 23 31 54.0 -0.2
comp=Z,33nm,1.1s
ACCN Adirondack Com 34.39 59 *e*P P 23 31 54.1 -0.5
comp=Z,511nm,2.7s
BMRM Bremner River 34.55 335 *e*P P 23 31 56.9 +1.0
comp=Z,65nm,1.5s
DAWY Dawson 35.24 342 *e*P P 23 32 03.4 +1.6
QUA2 Belchetown 35.29 61 *e*P P 23 32 02.2 -0.2
comp=Z,31nm,1.2s
JTS JuntasAbangare 35.49 121 *e*P P 23 32 05.6 +1.2
JTS pmax pmax
comp=Z,18nm,1.2s
JTS JuntasAbangare 35.49 121 P P 23 32 07.0 +2.5
comp=Z,8.5nm,0.7s,baz=327,slow=4.3,SNR=8.0
JTS JuntasAbangare 35.49 121 *e*P P 23 32 07.0 +2.5
comp=Z,26nm,1.1s
LBNH Lisbon 35.71 58 *e*P P 23 32 06.3 +0.2
LBNH pmax pmax
comp=Z,254nm,2.6s
LBNH Lisbon 35.71 58 *e*P P 23 32 06.3 +0.2
comp=Z,254nm,2.6s
HRV Adam Dziewonsk 35.88 61 *e*P P 23 32 06.3 -1.3
HRV pmax pmax
comp=Z,72nm,1.4s
HRV Adam Dziewonsk 35.88 61 *e*P P 23 32 06.2 -1.3
comp=Z,72nm,1.4s
DOT Dot Lake 36.26 339 *e*P P 23 32 12.2 +1.6
comp=Z,253nm,2.7s
EGAK Eagle 36.28 342 *e*P P 23 32 11.8 +1.2
comp=Z,107nm,1.5s
RC01 Rabbit Creek A 36.55 333 *e*P P 23 32 13.8 +0.8
comp=Z,241nm,2.4s
PMR Palmer 36.62 333 *e*P P 23 32 14.4 +0.8
PMR pmax pmax
comp=Z,88nm,1.2s
PMR Palmer 36.62 333 *e*P P 23 32 14.4 +0.8
comp=Z,88nm,1.2s
MTDJ Mount Denham 36.67 103 *e*P P 23 32 13.2 -1.5
comp=Z,268nm,1.4s

WVL Waterville 37.36 57 *e*P P 23 32 20.6 +0.5
comp=Z,276nm,2.3s
RSO Redoubt South 37.42 330 *e*P P 23 32 21.4 +0.7
INK Inuvik 37.64 349 P P 23 32 23.1 +0.9
comp=Z,14nm,0.9s,baz=148,slow=10,SNR=16
MCK McKinley 37.90 336 *e*P P 23 32 25.2 +0.7
MCK pmax pmax
comp=Z,54nm,1.2s
MCK McKinley 37.90 336 *e*P P 23 32 25.2 +0.7
comp=Z,54nm,1.2s
ILAR Eielson Array 37.93 339 P P 23 32 25.7 +1.0
comp=Z,7.7nm,0.9s,baz=150,slow=7.4,SNR=52
ILB Eielson Array 37.93 339 *e*P P 23 32 25.3 +0.6
TRF Thorofare Moun 38.19 335 *e*P P 23 32 28.2 +1.1
comp=Z,123nm,1.3s
COLA College 38.30 338 *e*P P 23 32 28.8 +1.1
COLA pmax pmax
comp=Z,34nm,0.9s
COLA College 38.30 338 *e*P P 23 32 28.8 +1.1
comp=Z,34nm,0.9s
KTH Kantishna Hill 38.48 335 *e*P P 23 32 30.0 +0.6
comp=Z,49nm,1.2s
PPLA Purkeypile 38.55 334 *e*P P 23 32 31.1 +1.0
comp=Z,150nm,1.3s
CAST Castle Rocks 38.81 335 *e*P P 23 32 32.7 +0.5
comp=Z,60nm,1.5s
SVW2 Sparrevohn 38.94 330 *e*P P 23 32 35.0 +1.8
comp=Z,337nm,2.4s
COLD C Cotot 40.60 340 *e*P P 23 32 48.1 +1.2
comp=Z,145nm,2.2s
LGNH LØogne 40.64 99 *e*P P 23 32 47.1 -0.7
comp=Z,130nm,0.4s
SCHQ Schefferville 40.70 42 P P 23 32 47.3 -0.7
comp=Z,9.9nm,1.0s,baz=266,slow=8.3,SNR=8.9
SCHQ Schefferville 40.70 42 *e*P P 23 32 46.4 -1.6
comp=Z,360nm,2.8s
JAKH Jacmel 40.84 99 *e*P P 23 32 48.8 -0.7
comp=Z,110nm,0.8s
IM04 Indian Mountai 40.92 337 *e*P P 23 32 50.5 +0.8
FRB Frobisher Bay 42.81 28 P P 23 33 03.9 -1.2
comp=Z,4.4nm,0.9s,baz=236,slow=12,SNR=6.8
FRB PP PP 23 34 48.5 +4.4
comp=Z,7.4nm,1.0s,baz=239,slow=10,SNR=3.1
RES Resolute Bay 43.72 8 *e*P P 23 33 12.8 +0.5
RES pmax pmax
comp=Z,166nm,3.0s
RES Resolute Bay 43.72 8 P P 23 33 13.0 +0.7
comp=Z,2.0nm,0.7s,baz=229,slow=3.9,SNR=3.7
RES Resolute Bay 43.72 8 *e*P P 23 33 12.8 +0.5
comp=Z,166nm,3.0s
TNA Tin City 45.86 333 *e*P P 23 33 30.3 +0.9
comp=Z,179nm,2.4s
MTP Monte Pirata 46.76 95 *e*P P 23 33 37.5 +0.3
comp=Z,206nm,1.4s
ROSC El Rosal 46.95 117 P P 23 33 39.4 +0.2
comp=Z,3.7nm,0.8s,baz=283,slow=6.6,SNR=11
OTAV Otavo 47.10 125 *e*P P 23 33 38.7 -1.7
comp=Z,143nm,1.6s
KULLO Kullorsuaq 50.86 17 *i* P P 23 34 08.6 +0.7
KULLO pmax pmax
comp=Z,18nm,1.1s
KULLO Kullorsuaq 50.86 17 *i* P P 23 34 08.6 +0.7
comp=Z,18nm,1.0s
SFJD Kangerlussuaq 50.91 27 P P 23 34 08.7 +0.3
comp=Z,9.3nm,0.8s,baz=241,slow=3.4,SNR=6.3
SFJD Kangerlussuaq 50.91 27 *i* P P 23 34 08.5 +0.1
comp=Z,9.0nm,0.9s
SUMG Summit 55.66 21 *i* P P 23 34 43.2 -0.5
SUMG pmax pmax
comp=Z,23nm,1.0s
SUMG Summit 55.66 21 *i* P P 23 34 43.2 -0.5
comp=Z,23nm,1.0s
BILL Bilibino 56.26 334 ⇓*i* P P 23 34 50.7 +3.1
BILL pmax pmax
comp=Z,84nm,2.5s
BILL Bilibino 56.26 334 *e*P P 23 34 48.0 +0.4
comp=Z,238nm,2.3s
DAG Danmarks Havn 60.41 15 *i* P P 23 35 16.2 -0.2
DAG Danmarks Havn 60.41 15 *i* P P 23 35 16.2 -0.2
PET Petropavlovsk 62.75 317 *e*P P 23 35 36.4 +3.8
PEA2 Petropavlovsk- 63.26 318 *e*P P 23 35 37.6 +1.5
PETK Petropavlovsk- 63.27 318 P P 23 35 37.6 +1.5
comp=Z,12nm,0.9s,baz=79,slow=9.2,SNR=9.3
SAML Samuel 64.37 120 *e*P P 23 35 41.6 -2.2
comp=Z,156nm,2.3s
LPAZ La Paz 66.06 130 P P 23 35 54.2 -1.2
comp=Z,7.4nm,1.1s,baz=339,slow=7.6,SNR=7.3
LVC Limon Verde 70.27 135 *e*P P 23 36 21.8 +0.4
comp=Z,56nm,1.3s
YAK Yakutsk 72.62 333 *e*P P 23 36 37.8 +3.1
YAK pmax pmax
comp=Z,17nm,1.2s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.4s
YUK Yuzh-Kuril'sk 74.14 312 *e*P P 23 36 49.8 +5.8
YSS Yuzh-Sakhalins 74.57 316 *e*P P 23 36 50.1 +3.6
ARA0 ARCESS Array S 74.59 13 *e*P P 23 36 46.1 -0.1
ARCES ARCESS Array B 74.59 13 P P 23 36 46.1 -0.1
comp=N,14nm,0.8s,baz=324,slow=6.0,SNR=19
EKA Eskdalemuir Ar 75.34 33 P P 23 36 50.9 +0.1
comp=N,0.5nm,0.4s,baz=320,slow=3.2,SNR=2.5
NB2 NORSAR Subarra 77.40 24 P P 23 37 02.2 -0.2
comp=Z,2.2nm,0.7s,baz=315,slow=5.6
NB200 NORSAR Array S 77.40 24 *e*P P 23 37 02.8 +0.4
NOA NORSAR Array B 77.40 24 P P 23 37 02.8 +0.4
comp=Z,6.2nm,0.9s,baz=318,slow=5.7,SNR=11
LVZ Lovozero 77.67 11 P P 23 37 04.4 +0.6
comp=Z,258nm,0.9s,SNR=6.0
LVZ Lovozero 77.67 11 *e*P P 23 37 05.5 +1.7
LVZ pmax pmax
comp=Z,25nm,1.3s
HABR Khabarovsk 78.10 320 *e*P P 23 37 08.9 +2.4
HABR *e**PP pP 23 37 12.3 +3.3
HABR *e**SP sP 23 37 13.6 +3.8
HABR *e* 23 37 18.0
HABR *e* 23 47 29.6
HABR *e*SS SS 23 52 09.0 +7.5
HABR pmax pmax
comp=Z,97nm,1.8s
HABR pmax pmax
comp=E,31nm,1.7s
KLR Kul'dur 79.41 322 *e*P P 23 37 12.7 -1.0
QUIF Quistinic 79.75 39 *e*P P 23 37 15.6 0.0
comp=E,100nm,1.3s
QUIF Quistinic 79.75 39 *e*P P 23 37 15.6 0.0
QUIF Quistinic 79.75 39 *e*P P 23 37 15.6 0.0
BDFB Brasilia 80.01 116 *e*P P 23 37 15.5 -2.0
BDFB Brasilia 80.01 116 P P 23 37 18.0 +0.4
comp=E,15nm,1.1s,baz=324,slow=8.7,SNR=5.8
BDFB Brasilia 80.01 116 *e*P P 23 37 15.5 -2.0
FLN La Foliniere 80.64 38 *e*P P 23 37 20.7 +0.3
comp=E,40nm,0.9s
FLN La Foliniere 80.64 38 *e*P P 23 37 20.7 +0.3
FLN La Foliniere 80.64 38 *e*P P 23 37 20.7 +0.3
GRR Gorron 80.68 38 *e*P P 23 37 20.7 +0.1
comp=E,72nm,1.3s
GRR Gorron 80.68 38 *e*P P 23 37 20.7 +0.1
GRR Gorron 80.68 38 *e*P P 23 37 20.7 +0.1
POLO Lamas de Olo 80.92 47 *e*P P 23 37 26.0 +3.8
comp=E,294nm,1.6s
LDF La Druitiere 80.93 37 *e*P P 23 37 22.0 +0.1
comp=E,56nm,1.4s
LDF La Druitiere 80.93 37 *e*P P 23 37 22.0 +0.1
LDF La Druitiere 80.93 37 *e*P P 23 37 22.0 +0.1
BOD Bodaibo 81.24 336 *e*P P 23 37 24.7 +1.3
BOD pmax pmax
comp=Z,16nm,1.5s
JOF Joensuu 81.49 15 *e*P P 23 37 25.2 +0.6
JOF pmax pmax
comp=Z,17nm,0.9s
JOF Joensuu 81.49 15 *e*p P 23 37 25.2 +0.6
comp=Z,16nm,0.9s
MVO Moncorvo 81.52 46 *e*P P 23 37 26.4 +1.1
comp=Z,985nm,1.6s
FIA0 FINESS Array S 81.53 18 *e*P P 23 37 24.7 -0.2
FIA0 FINESS Array S 81.53 18 *e*P P 23 37 24.6 -0.2
FINES FINESS Array B 81.53 18 P P 23 37 24.6 -0.2
comp=Z,12nm,0.8s,baz=5.7,slow=3.8,SNR=19
TMCR Tamitsa 81.66 11 *e*P P 23 37 29.0 +3.6
TMCR *e* 23 37 33.0
TMCR pmax pmax
comp=Z,15nm,0.7s
BAIF Baives 82.14 34 *e*P P 23 37 28.7 +0.4
comp=Z,21nm,1.1s

BAIF Baives 82.14 34 *e*P P 23 37 28.7 +0.4
BAIF Baives 82.14 34 *e*P P 23 37 28.7 +0.4
MFF Saint Martin d 82.18 39 *e*P P 23 37 28.8 +0.2
comp=Z,25nm,1.0s
MFF Saint Martin d 82.18 39 *e*P P 23 37 28.8 +0.2
MFF Saint Martin d 82.18 39 *e*P P 23 37 28.8 +0.2
DOU Dourbes 82.30 34 P P 23 37 29.6 +0.5
PNCL Nicolau / Gran 82.33 50 *e*P P 23 37 30.6 +1.1
EVOP Sao Brissos 82.35 49 *e*P P 23 37 30.1 +0.5
EVOP Sao Brissos 82.35 49 *e*P P 23 37 30.1 +0.5
USRK Ussuriysk Ar. 82.36 318 P P 23 37 30.3 +0.8
comp=Z,12nm,1.2s,baz=94,slow=5.7,SNR=7.8
GIVF Givet 82.40 34 *e*P P 23 37 30.1 +0.4
comp=Z,28nm,0.9s
GIVF Givet 82.40 34 *e*P P 23 37 30.1 +0.4
GIVF Givet 82.40 34 *e*P P 23 37 30.1 +0.4
EVO Evora 82.42 49 *e*P P 23 37 30.1 +0.1
comp=Z,45nm,1.1s
EVO Evora 82.42 49 *e*P P 23 37 30.3 +0.3
comp=Z,128nm,1.7s
MJAR Matsushiro Arr 83.08 309 P P 23 37 34.3 +0.8
comp=Z,1.2nm,0.3s,baz=33,slow=3.1,SNR=12
MAJO Matsushiro 83.08 309 *e*P P 23 37 34.3 +0.8
MAJO pmax pmax
comp=Z,92nm,1.7s
MAJO Matsushiro 83.08 309 *e*P P 23 37 34.3 +0.8
comp=Z,92nm,1.7s
VLA Vladivostok 83.08 317 ⇑*i* P P 23 37 35.6 +2.3
VLA S S 23 47 56.5 +3.3
VLA pmax pmax
comp=Z,21nm,1.5s
WLF Walferdange 83.33 34 P P 23 37 36.1 +1.5
MDJ Mudanjiang 83.44 319 P P 23 37 32.7 -2.5
MDJ PMZ
comp=Z,6.0nm,0.9s
PLCA Paso Flores 83.53 147 *e*P P 23 37 35.0 -0.5
PLCA pmax pmax
comp=Z,38nm,1.2s
PLCA Paso Flores 83.53 147 P P 23 37 35.8 +0.3
comp=Z,8.3nm,1.0s,baz=311,slow=4.5,SNR=7.7
PLCA Paso Flores 83.53 147 *e*P P 23 37 35.0 -0.5
comp=Z,38nm,1.2s
MEZF Maizieres J'vi 83.59 35 *e*P P 23 37 36.4 +0.5
comp=Z,40nm,1.1s
MEZF Maizieres J'vi 83.59 35 *e*P P 23 37 36.4 +0.5
TCF Toulx Ste Croi 83.62 38 *e*P P 23 37 36.2 0.0
comp=Z,191nm,1.9s
TCF Toulx Ste Croi 83.62 38 *e*P P 23 37 36.2 0.0
TCF Toulx Ste Croi 83.62 38 *e*P P 23 37 36.2 0.0
LFF La Frestale 83.71 40 *e*P P 23 37 37.1 +0.5
LFF La Frestale 83.71 40 *e*P P 23 37 37.1 +0.5
LFF La Frestale 83.71 40 *e*P P 23 37 37.1 +0.5
BGF Bois d'Agland 83.78 38 *e*P P 23 37 36.9 0.0
comp=Z,35nm,0.9s
BGF Bois d'Agland 83.78 38 *e*P P 23 37 36.9 0.0
BGF Bois d'Agland 83.78 38 *e*P P 23 37 36.9 0.0
SSF Saint Saulge 83.79 37 *e*P P 23 37 37.3 +0.4
SSF Saint Saulge 83.79 37 *e*P P 23 37 37.3 +0.4
SSF Saint Saulge 83.79 37 *e*P P 23 37 37.3 +0.4
SFTF Sexfontaines 83.79 36 *e*P P 23 37 37.1 +0.2
comp=Z,82nm,1.6s
SFTF Sexfontaines 83.79 36 *e*P P 23 37 37.1 +0.2
LOR Lormes 83.83 37 *e*P P 23 37 37.5 +0.3
comp=Z,156nm,1.7s
LOR Lormes 83.83 37 *e*P P 23 37 37.5 +0.3
LOR Lormes 83.83 37 *e*P P 23 37 37.5 +0.3
PAGF Fort de Pagny 83.89 35 *e*P P 23 37 38.0 +0.6
comp=Z,70nm,1.9s
PAGF Fort de Pagny 83.89 35 *e*P P 23 37 38.0 +0.6
AVF Avril sur Loir 83.89 37 *e*P P 23 37 37.3 -0.1
AVF Avril sur Loir 83.89 37 *e*P P 23 37 37.3 -0.1
AVF Avril sur Loir 83.89 37 *e*P P 23 37 37.3 -0.1
RJF Les Rejaudoux 83.90 39 *e*P P 23 37 37.6 +0.1
comp=Z,99nm,1.5s
RJF Les Rejaudoux 83.90 39 *e*P P 23 37 37.6 +0.1
RJF Les Rejaudoux 83.90 39 *e*P P 23 37 37.6 +0.1
PUL Pulkovo 84.05 17 *e*P P 23 37 41.1 +3.2
PUL pmax pmax
comp=Z,39nm,1.0s
SMF Signal de Mont 84.23 37 *e*P P 23 37 39.1 -0.1
comp=Z,130nm,1.7s
SMF Signal de Mont 84.23 37 *e*P P 23 37 39.1 -0.1
SMF Signal de Mont 84.23 37 *e*P P 23 37 39.1 -0.1
ESDC Sonseca Array 84.28 46 P P 23 37 39.1 -0.5
comp=Z,2.1nm,0.9s,baz=306,slow=5.8,SNR=9.2
ETSF Etsaut 84.29 42 *e*P P 23 37 40.4 +0.7
comp=Z,42nm,1.2s
ETSF Etsaut 84.29 42 *e*P P 23 37 40.4 +0.7
ETSF Etsaut 84.29 42 *e*P P 23 37 40.4 +0.7
CAF Calviac 84.44 39 *e*P P 23 37 40.4 +0.1
comp=Z,108nm,1.6s
CAF Calviac 84.44 39 *e*P P 23 37 40.4 +0.1
CAF Calviac 84.44 39 *e*P P 23 37 40.4 +0.1
HAU Haudompre 84.56 35 *e*P P 23 37 41.1 +0.2
HAU Haudompre 84.56 35 *e*P P 23 37 41.1 +0.2
HAU Haudompre 84.56 35 *e*P P 23 37 41.1 +0.2
EPF Esparros 84.72 42 *e*P P 23 37 42.0 +0.2
EPF Esparros 84.72 42 *e*P P 23 37 42.0 +0.2
EPF Esparros 84.72 42 *e*P P 23 37 42.0 +0.2
CDF Champ du Feu 84.73 34 *e*P P 23 37 41.9 +0.1
comp=Z,70nm,1.4s
CDF Champ du Feu 84.73 34 *e*P P 23 37 41.9 +0.1
CDF Champ du Feu 84.73 34 *e*P P 23 37 41.9 +0.1
HINF Hinteralfeld 84.94 35 *e*P P 23 37 42.9 +0.1
comp=Z,86nm,1.4s
HINF Hinteralfeld 84.94 35 *e*P P 23 37 42.9 +0.1
HINF Hinteralfeld 84.94 35 *e*P P 23 37 42.9 +0.1
PRGR Permogore 85.20 9 *e*P P 23 37 42.8 -0.9
PRGR pmax pmax
comp=Z,39nm,0.8s
CLL Collm 85.21 30 *e*P P 23 37 44.0 0.0
CLL *e* 23 37 48.0
CLL Collm 85.21 30 *e*P P 23 37 44.0 0.0
CLL *e* 23 37 48.0
HIA Hailar 85.26 327 *e*P P 23 37 48.3 +3.9
HIA pmax pmax
comp=Z,9.0nm,1.2s
CABF La Chapelle 85.40 36 *e*P P 23 37 45.3 +0.1
comp=Z,122nm,1.6s
CABF La Chapelle 85.40 36 *e*P P 23 37 45.3 +0.1
CABF La Chapelle 85.40 36 *e*P P 23 37 45.3 +0.1
MTLF Montolieu 85.56 40 *e*P P 23 37 46.5 +0.5
MTLF Montolieu 85.56 40 *e*P P 23 37 46.5 +0.5
MTLF Montolieu 85.56 40 *e*P P 23 37 46.5 +0.5
GRF Grafenberg Arr 85.64 32 *e*P P 23 37 46.4 +0.2
comp=Z,3.0nm,0.8s
VIVF Saint-Julien-l 85.87 38 *e*P P 23 37 47.6 +0.1
VIVF Saint-Julien-l 85.87 38 *e*P P 23 37 47.6 +0.1
VIVF Saint-Julien-l 85.87 38 *e*P P 23 37 47.6 +0.1
BRG Berggiesshubel 85.93 29 *e*P P 23 37 48.8 +1.1
comp=Z,13nm,1.2s
comp=N,11µm,16.5s
comp=E,18µm,16.8s
comp=Z,36µm,15.5s
BRG Berggiesshubel 85.93 29 *e*P P 23 37 48.8 +1.1
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=N,11µm,16.5s
BRG MLR MLR
comp=E,18µm,16.8s
BRG MLR MLR
comp=Z,36µm,15.5s
LASF Ste Croix 85.96 39 *e*P P 23 37 48.5 +0.5
LASF Ste Croix 85.96 39 *e*P P 23 37 48.5 +0.5
ORIF Oris-en-Rattie 86.45 38 *e*P P 23 37 50.3 -0.2
comp=Z,11nm,0.8s
ORIF Oris-en-Rattie 86.45 38 *e*P P 23 37 50.3 -0.2
ORIF Oris-en-Rattie 86.45 38 *e*P P 23 37 50.3 -0.2
LPL La Plagne 86.48 37 *e*P P 23 37 51.1 +0.4
comp=Z,9.1nm,0.8s
LPL La Plagne 86.48 37 *e*P P 23 37 51.1 +0.4
LPL La Plagne 86.48 37 *e*P P 23 37 51.1 +0.4
LPG La Plagne 86.50 37 *e*P P 23 37 51.3 +0.4
comp=Z,18nm,1.0s
LPG La Plagne 86.50 37 *e*P P 23 37 51.3 +0.4
LPG La Plagne 86.50 37 *e*P P 23 37 51.3 +0.4
DAVOX Davos/Dischmat 87.13 34 P P 23 37 53.1 -0.8
comp=Z,3.8nm,0.8s,baz=302,slow=8.8,SNR=5.3
DPC Dobruska-Polom 87.31 29 *e*P P 23 37 50.3 -4.2
DPC pmax pmax
comp=Z,178nm,2.5s
DPC Dobruska-Polom 87.31 29 *e*P P 23 37 50.3 -4.2
comp=Z,178nm,2.5s

GEC2 GERESS Array S 87.36 31 *e*P **P** 23 37 53.6 -1.2
GEC2 GERESS Array S 87.36 31 *e*P **P** 23 37 53.6 -1.2
GERES GERESS Array B 87.36 31 P **P** 23 37 53.6 -1.2
comp=Z,1.1nm,0.8s,baz=337,slow=3.0,SNR=11
FETA Feichten 87.36 34⇑*i*PcP **P** 23 37 55.1 +0.1
comp=Z,7.9nm,0.8s
FUORN Ofenpass-Fuorn 87.43 34 *e*P **P** 23 37 54.6 -0.8
comp=Z,12nm,0.8s
WTTA Wattenberg 87.60 33⇑*i*sP sP 23 37 59.5 0.0
comp=Z,8.1nm,1.3s
VRAC Vranov 88.23 29 P **P** 23 37 57.3 -1.5
comp=Z,3.6nm,0.9s,baz=12,slow=6.2,SNR=7.8
KSRS Korea Array 89.02 315 P **P** 23 38 03.2 +0.5
comp=Z,0.8nm,0.4s,baz=52,slow=4.9,SNR=5.3
KS15 Wonju Array Si 89.05 315 *e*P **P** 23 38 03.2 +0.3
SOKA Soboth 89.58 32⇓*i*P **P** 23 38 04.1 -1.3
comp=Z,6.9nm,1.0s
PERS Pernice 89.65 32 *i*P **P** 23 38 04.5 -1.2
PERS *i* 23 38 08.2
OBN Obninsk 89.72 16 *e*P P 23 38 09.3 +3.7
OBN pmax pmax
comp=Z,19nm,1.7s
TLY Talaya 89.74 337 *e*P **P** 23 38 06.9 +1.0
TLY pmax pmax
comp=Z,73nm,1.9s
TLY Talaya 89.74 337 *e*P **P** 23 38 06.8 +1.0
comp=Z,73nm,1.9s
VYHS Vyhne 89.79 29 *e*P **P** 23 38 07.1 +0.9
VYHS Vyhne 89.79 29 *e*P **P** 23 38 07.1 +0.9
STHS Stebnicka Huta 89.99 27 *e*P **P** 23 38 06.7 -0.4
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 89.99 27 *e*P **P** 23 38 06.7 -0.4
VISS Visnje 90.16 32 *e*P **P** 23 38 05.9 -2.1
VISS *e* 23 38 10.2
KECS Kecovo 90.45 28 *e*P **P** 23 38 09.5 +0.2
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 90.45 28 *e*P **P** 23 38 09.5 +0.2
MOY Mondy 90.60 338 *e*P P 23 38 14.2 +4.1
MOY pmax pmax
comp=Z,70nm,2.3s
PSZ Piszkesteto 90.67 28⇑*i*P **P** 23 38 09.6 -0.8
PSZ Piszkesteto 90.67 28⇑*i*P **P** 23 38 09.6 -0.8
PSZ Piszkesteto 90.67 28 *e*P **P** 23 38 10.5 +0.1
comp=Z,96nm,2.4s
ZAK Zakamensk 90.96 336 *e*P **P** 23 38 14.8 +3.1
ZAK pmax pmax
comp=Z,9.0nm,1.8s
SVE Sverdlovsk 91.24 2 *e*P P 23 38 17.8 +5.1
PKSM Moragy 91.52 30⇑*i*P **P** 23 38 12.6 -1.6
PKSM Moragy 91.52 30⇑*i*P **P** 23 38 12.6 -1.6
ARU Arti 91.55 3*c i*P P 23 38 18.1 +3.9
ARU 23 41 56.2
ARU S **SKSac** 23 48 50.3 +3.3
ARU pmax pmax
comp=Z,19nm,1.7s
AKASG Malin Array Be 91.68 22*ce*P **P** 23 38 17.1 +2.2
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 91.68 22 P **P** 23 38 14.3 -0.6
comp=Z,3.0nm,0.8s,baz=320,slow=3.7,SNR=15
AKBB Malin Array Si 91.68 22 *e*P **P** 23 38 14.3 -0.6
AKBB Malin Array Si 91.68 22 *e*P **P** 23 38 14.3 -0.6
NVS Novosibirsk 91.84 349 *e*P **P** 23 38 15.8 +0.3
SONA0 Songino Array 91.98 333 *e*P **P** 23 38 17.5 +1.0
SONM Songino Array 91.98 333 P **P** 23 38 17.5 +1.0
comp=Z,3.6nm,1.2s,baz=65,slow=2.0,SNR=15
ZAA1 Zalesovo Array 92.44 348 *e*P **P** 23 38 19.1 +0.7
ZALV Zalesovo Beam 92.44 348 P **P** 23 38 19.1 +0.7
comp=Z,2.1nm,0.9s,baz=29,slow=3.4,SNR=12
DRGR 92.70 27⇑P **P** 23 38 19.5 -0.3
DRGR 92.70 27⇑*i*P **P** 23 38 19.5 -0.3
BURAR Bucovina Array 92.97 26⇓P **P** 23 38 20.7 -0.4
BURAR Bucovina Array 92.97 26⇓*i*P **P** 23 38 20.7 -0.4
HVS Khovu-Aksy 93.16 342 *e*P **P** 23 38 24.6 +2.7
HVS pmax pmax
comp=Z,14nm,1.0s
BZS Buzias 93.23 29⇓P **P** 23 38 21.1 -1.1
BZS Buzias 93.23 29⇓*i*P **P** 23 38 21.1 -1.1
DOPR Dopca 94.42 26⇑*i*P **P** 23 38 26.9 -0.8
TESR Tescani 94.42 25⇑*i*P **P** 23 38 27.4 -0.2
ARR Arges 94.63 27⇑*i*P **P** 23 38 31.3 +2.6
VOIR 94.73 27⇑P **P** 23 38 28.2 -1.0
VOIR 94.73 27⇑*i*P **P** 23 38 28.2 -1.0
BVAR Borovoye Array 94.97 357 P **P** 23 38 29.8 -0.2
comp=Z,1.8nm,0.9s,baz=334,slow=4.7,SNR=4.3
VRI Vrincioaia 95.00 26⇑P **P** 23 38 32.6 +2.3
VRI Vrincioaia 95.00 26⇑*i*P **P** 23 38 32.6 +2.3
MLR Muntele Rosu 95.03 26⇑P **P** 23 38 32.1 +1.5
MLR Muntele Rosu 95.03 26⇑*i*P **P** 23 38 32.1 +1.5
MLR Muntele Rosu 95.03 26 P **P** 23 38 29.1 -1.5
comp=Z,0.6nm,0.8s,baz=320,slow=4.8,SNR=6.5
HHC Hu-ho-hao-te 95.40 326 *e*P **P** 23 38 33.7 +1.3
HHC PP **PP** 23 42 26.0 +4.0
HHC SKS **SKSac** 23 49 07.6 -1.4
HHC S **S** 23 49 45.8 -3.3
HHC SS **SS** 23 56 16.7 +1.8
HHC PMZ
comp=Z,36nm,1.4s
CFR Carcaliu 96.10 25⇑P **P** 23 38 34.4 -0.9
CFR Carcaliu 96.10 25⇑*i*P **P** 23 38 34.4 -0.9
KURK Kurchatov 96.52 351 *e*P **P** 23 38 36.9 -0.2
KURK Kurchatov 96.52 351 *e*P **P** 23 38 36.9 -0.2
KURBB Kurchatov Arra 96.62 351 P **P** 23 38 36.9 -0.7
comp=Z,0.6nm,1.0s,baz=12,slow=4.7,SNR=3.5
TIRR Tirgusor 96.82 25⇑P **P** 23 38 37.0 -1.6
TIRR Tirgusor 96.82 25⇑*i*P **P** 23 38 37.0 -1.6
MK32 Makanchi Array 99.77 348 *e*Pdif **Pdif** 23 38 52.4 +0.6
MKAR Makanchi Array 99.77 348 P **Pdif** 23 38 52.4 +0.6
comp=Z,0.4nm,0.9s,baz=358,slow=3.6,SNR=3.2
WMQ Urumqi 101.47 343 *e*P **Pdif** 23 39 02.6 +3.1
WMQ pP pP 23 39 07.0 +4.8
WMQ PP PKiKP 23 43 16.0 -7.5
WMQ *e*SKS 23 49 40.0
WMQ PMZ
comp=Z,5.0nm,0.6s
WMQ LN
comp=Z,1μm,17.0s
WMQ LE
comp=Z,1μm,18.5s
WMQ LZ
comp=Z,1μm,18.5s
KIV Kislovodsk 101.56 16 *e*P **Pdif** 23 39 00.4 +0.4
KIV pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 102.80 328 *e*P **Pdif** 23 39 07.6 +1.9
LZH pP 23 39 12.4
LZH sP 23 39 14.7
LZH pmax pmax
comp=Z,16nm,1.0s
CD2 Chengdu 107.14 325 Pdif **Pdif** 23 39 27.0 +2.0
CD2 PP PP 23 43 56.8 +6.1
CD2 S **Sdif** 23 51 25.4 -2.7
CD2 SS **SS** 23 59 00.2 +2.3
CD2 PPMZ
comp=Z,120nm,6.4s
GYA Guiyang 109.28 321 *e*Pdif **Pdif** 23 39 36.0 +1.4
GYA PKP **PKiKP** 23 43 38.8 +0.4
GYA PP PP 23 44 12.4 +5.9
GYA PKS PKSdf 23 47 13.6 -1.7
GYA SS SS 23 59 29.2 +2.0
GYA PPMZ
comp=Z,140nm,7.8s
GYA LN
comp=Z,160nm,18.9s
GYA LE
comp=Z,140nm,18.7s
GYA LZ
comp=Z,180nm,19.2s
WRA Warramunga Arr 117.24 263 PKP **PKPdf** 23 43 52.1 -1.4
comp=Z,1.4nm,0.9s,baz=61,slow=2.1,SNR=5.1
AS12 Alice Springs 119.21 259 *e*PKPdf **PKPdf** 23 43 55.9 -1.4
ASAR Alice Springs 119.21 259 PKP **PKPdf** 23 43 55.9 -1.4
comp=Z,1.3nm,0.9s,baz=81,slow=2.3,SNR=6.8
KMBO Kilima Mbogo 139.66 45 PKP **PKPdf** 23 44 36.7 +0.2
comp=Z,0.6nm,0.3s,baz=312,slow=1.8,SNR=2.5
LSZ Lusaka 142.77 72 *e*PKIKP **PKPdf** 23 44 41.1 -0.8
LSZ Lusaka 142.77 72 *e*PKPdf **PKPdf** 23 44 41.1 -0.8
MAW Mawson 144.56 179 PKP **PKPab** 23 44 41.4 -0.3
comp=Z,12nm,0.7s,baz=156,slow=5.9,SNR=18
LBTB Lobatse 145.05 88 *e*PKIKP **PKPbc** 23 44 44.0 -1.0
LBTB Lobatse 145.05 88 *e*PKPdf **PKPbc** 23 44 44.0 -1.0
BOSA Boshof 145.90 94 *e*PKIKP **PKPdf** 23 44 46.0 -1.0
BOSA Boshof 145.90 94 PKPbc **PKPdf** 23 44 46.0 -1.0
comp=Z,18nm,0.9s,baz=276,slow=0.3,SNR=5.9

ECX 04 23:26:41.3±0.5, 32.50N×115.64W, h6km, ML4.5, 3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.17**	**334**	*e*P	Pg	23 26 43.9	-0.8
COK	**Cook Ranch**	**0.36**	**348**	*e*P	Pg	23 26 48.4	+0.1
RMX	**La Rumorosa**	**0.39**	**286**	*e*P	Pg	23 26 37.8	-11
RMX				*e*S	Sg	23 26 43.4	-11
CRR	**Carrizo Plain**	**0.48**	**324**	⇓*i*P	Pg	23 26 49.8	-0.7
RDX	**Rancho Dawling**	**0.62**	**204**	*e*P	Pg	23 26 41.8	-12
RDX				*e*S	Sg	23 26 50.2	-12
CBX	**Cerro Bola**	**0.89**	**258**	*e*P	Pg	23 26 56.9	-1.6
CBX				*e*S	Sg	23 27 09.0	-1.2
CBX				AML	AML	23 27 12.0	
	comp=E,22μm,0.3s						
CBX				*e*		23 27 12.0	
CBX				⇓*e*		23 27 12.3	
CBX				AML	AML	23 27 12.3	
	comp=N,33μm,0.4s						
ECNX	**Esteban Cantu**	**1.17**	**224**	*e*P	Pg	23 26 50.9	-13
ECNX				*e*S	Sg	23 27 06.6	-13
PBX	**Punta Banda**	**1.19**	**231**	*e*P	Pg	23 26 52.2	-12
PBX				*e*S	Sg	23 27 08.4	-11
SPX	**San Pedro Mart**	**1.46**	**174**	AML	AML	23 27 22.0	
	comp=N,3μm,0.2s						
SPX				⇓*e*		23 27 22.0	

*ISCJB **04** 23:33:11.2±0.4, 32.32N±0.02×115.38W±0.02, h7km±2km, mb4.4/35, Error ellipse: s-maj=3.4km s-min=3.0km az=36.6*
*IDC **04** 23:33:11.1±0.7, 32.08N×115.39W, h0km, mb4.1/17, mb1 4.2/22, mb1mx4.1/31, mbtmp4.0/22, ML3.7/5, MS5.4/1, Ms1 5.4/1, ms1mx4.3/51, Error ellipse: s-maj=19.9km s-min=10.4km az=50.0*
*MEX **04** 23:33:12.7±0.6, 32.37N×115.01W, h14km±152km, MD3.6*
*ECX **04** 23:33:12.9±0.5, 32.30N×115.39W, h6km, ML4.8*
*NEIC **04** 23:33:12.1, 32.28N×115.36W, h10km, mb4.4/3, MD4.3(MEX), ML4.4(PAS), After PAS.*
*SZGRF **04** 23:33:25.8, 31.13N×110.10W, h33km, mb4.7, Eastern Arizona-Sonora border region*

ISC 04 23:33:11.9±1.1, 32.33N±0.02×115.36W±0.02, h4km±7km, n139, σ1°47/148, mb4.5/35, 15C-14D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.16**	**60**	*e*P	**Pg**	**23 33 16.3**	**+1.2**
MBIG				*i* S	**Sg**	**23 33 18.2**	**+1.0**
EMX	**El Mayor**	**0.35**	**163**	*e*P	**Pg**	**23 33 17.6**	**-1.1**
EMX				*e*S	**Sg**	**23 33 22.8**	**-0.5**
DREC	**Desert Rsrch C**	**0.48**	**352**	*e*P	**Pg**	**23 33 22.2**	**+1.0**
ERPC	**Ernies Place**	**0.49**	**329**	⇑*i*P	**Pg**	**23 33 22.1**	**+0.7**
WESC	**Westside Schoo**	**0.53**	**324**	⇓*i*P	**Pg**	**23 33 22.8**	**+0.6**
YUH	**Yuha Desert**	**0.57**	**304**	*e*P	**Pg**	**23 33 23.5**	**+0.6**
YUH	**Yuha Desert**	**0.57**	**304**	*e*P	**Pg**	**23 33 23.5**	**+0.6**
COA	**Coachella**	**0.57**	**21**	⇑*i*P	**Pg**	**23 33 23.5**	**+0.6**
COA	**Coachella**	**0.57**	**21**	⇑*i*P	**Pg**	**23 33 23.5**	**+0.6**
COK	**Cook Ranch**	**0.61**	**330**	*e*P	**Pg**	**23 33 24.0**	**+0.4**
COK	**Cook Ranch**	**0.61**	**330**	*e*P	**Pg**	**23 33 24.0**	**+0.4**
BTCC	**Bruns Corner**	**0.69**	**10**	*e*P	**Pg**	**23 33 25.2**	**0.0**
SWSC	**Sam W. Stewart**	**0.71**	**329**	⇑P	**Pg**	**23 33 25.5**	**-0.1**
	baz=0.8						
SWSC				⇑S	**Sb**	**23 33 36.6**	**-0.5**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.71**	**329**	⇑*i*P	**Pg**	**23 33 25.5**	**-0.1**
SWSC				*e*S	**Sg**	**23 33 36.1**	**+1.2**
RUN	**Ruthven**	**0.72**	**27**	*e*P	**Pg**	**23 33 25.2**	**-0.6**
CRR	**Carrizo Plain**	**0.76**	**318**	⇑*i*P	**Pg**	**23 33 26.3**	**-0.2**
CLIC	**Calipatria**	**0.82**	**350**	*e*P	**Pg**	**23 33 27.3**	**-0.5**
GLA	**Glamis**	**0.85**	**32**	⇑P	**Pg**	**23 33 27.5**	**-0.8**
	baz=0.9						
GLA				⇓S	**Sg**	**23 33 39.8**	**+0.4**
	baz=0.9						
GLA	**Glamis**	**0.85**	**32**	*e*P	**Pg**	**23 33 27.6**	**-0.8**
GLA				*e*Sg	**Sg**	**23 33 39.6**	**+0.2**
CBKC	**Canebrake**	**0.94**	**308**	*e*P	**Pg**	**23 33 29.5**	**-0.5**
CBX	**Cerro Bola**	**1.10**	**270**	*e*P	**Pg**	**23 33 32.2**	**-0.9**
CBX				*e*S	**Sg**	**23 33 46.5**	**-0.8**
ZAX	**El Zacaton**	**1.12**	**224**	*e*P	Pn	23 33 41.3	+6.8
ZAX				*e*S	**Sn**	**23 33 56.0**	**+5.6**
ZAX				⇓*e*		23 33 60.0	
ZAX				AML	AML	23 33 60.0	
	comp=N,25μm,0.7s						
ZAX				AML	AML	23 34 03.0	
	comp=E,20μm,0.6s						
ZAX				⇑*e*		23 34 03.0	
BAR	**Barrett**	**1.16**	**288**	*e*P	**Pg**	**23 33 33.1**	**-1.0**
BAR				*e*S	**Sg**	**23 33 47.9**	**-1.3**
ECNX	**Esteban Cantu**	**1.24**	**238**	*e*P	Pg	23 33 44.1	+8.4
ECNX				*e*S	Sn	23 34 00.3	+6.8
SPIG	**San Pedro Mart**	**1.28**	**184**	*e*P	**Pn**	**23 33 34.5**	**-2.4**
SPIG				*e*S	**Sb**	**23 33 51.2**	**-2.5**
SPIG	**San Pedro Mart**	**1.28**	**184**	*e*P	**Pn**	**23 33 34.5**	**-2.4**
SPIG				*e*S	**Sb**	**23 33 51.2**	**-2.5**
SPX	**San Pedro Mart**	**1.28**	**184**	*e*P	**Pn**	**23 33 34.4**	**-2.5**
SPX				*e*S	**Sb**	**23 33 51.7**	**-2.0**
PBX	**Punta Banda**	**1.29**	**244**	*e*P	Pg	23 33 44.8	+8.1
PBX				*e*S	Sn	23 34 02.1	+7.5
BC3	**Big Chuckawall**	**1.33**	**357**	⇓P	**Pn**	**23 33 34.5**	**-3.0**
	baz=1.4						
BC3				⇓S	**Sb**	**23 33 51.5**	**-3.5**
	baz=1.4						
113A	**Mohawk Valley,**	**1.42**	**71**	⇓P	**Pn**	**23 33 35.7**	**-2.8**
	baz=1.4						
113A				⇓S	**Sb**	**23 33 53.4**	**-4.1**
	baz=1.4						
HWB	**Hans Werner Br**	**1.52**	**298**	⇓*i*P	**Pn**	**23 33 39.5**	**-0.5**
HWB				*i* S	**Sn**	**23 33 57.9**	**-2.3**
109C	**Camp Elliot, M**	**1.57**	**291**	⇓P	**Pn**	**23 33 38.0**	**-2.7**
	baz=1.6						
109C				⇑S	**Sn**	**23 33 59.5**	**-2.0**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.57**	**325**	Pn	**Pn**	**23 33 38.2**	**-2.6**
	comp=E,124nm,0.3s,baz=148,slow=12,SNR=18						
BELC	**Belle Mtn. Jos**	**1.75**	**343**	⇓S	**Sn**	**23 34 02.2**	**-4.0**
	baz=1.8						
MURC	**Murrieta**	**2.00**	**310**	⇓P	**Pn**	**23 33 44.1**	**-2.4**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.20**	**99**	*e*Pn	**Pn**	**23 33 47.3**	**-2.0**
BBRC	**Big Bear Solar**	**2.33**	**326**	⇓P	Pn	23 33 47.8	-3.5
	baz=2.4						
GMRC	**Granite Mounta**	**2.46**	**354**	⇑S	**Sn**	**23 34 19.7**	**-3.9**
	baz=2.5						
SCI	**San Clemente I**	**2.76**	**285**	⇓P	**Pn**	**23 33 54.7**	**-2.3**
	baz=2.8						
SCI				⇑S	**Sn**	**23 34 28.0**	**-2.9**
	baz=2.8						
CIS	**Catalina Islan**	**2.78**	**294**	⇓P	**Pn**	**23 33 55.5**	**-1.7**
	baz=2.8						
RRX	**Edison Barstow**	**2.89**	**332**	⇑S	**Sn**	**23 34 31.2**	**-2.9**
	baz=2.9						
W13A	**Hualapai Mount**	**3.03**	**24**	⇑S	**Sn**	**23 34 33.6**	**-4.2**
	baz=3.1						
OSI	**Osito Audit: C**	**3.62**	**310**	*e*Pn	**Pn**	**23 34 08.0**	**-0.9**
TUC	**Tucson**	**3.88**	**89**	*e*P	Pn	23 34 07.5	-4.9
X16A	**Lo Mia Camp, P**	**3.89**	**56**	⇑P	**Pn**	**23 34 11.5**	**-1.2**
	baz=3.9						
ISA	**Isabella, Lake**	**4.21**	**323**	*e*Pn	**Pn**	**23 34 15.6**	**-1.4**
WUAZ	**Wupatki**	**4.60**	**45**	*e*Pn	**Pn**	**23 34 22.7**	**+0.3**
TPNV	**Topopah Spring**	**4.67**	**351**	*e*Pg	**Pg**	**23 34 41.7**	**+0.2**
W18A	**Petrified Fore**	**5.45**	**58**	*e*Pn	**Pn**	**23 34 33.0**	**-1.2**
121A	**Cookes Peak, D**	**6.41**	**86**	*e*Pn	**Pn**	**23 34 45.9**	**-1.5**
NVAR	**Mina Array Bea**	**6.55**	**339**	Pn	Pn	23 34 54.2	+5.0
	comp=E,0.3nm,0.3s,baz=159,slow=14,SNR=2.5						
NVAR				Lg	Lg	23 36 45.7	
	comp=E,0.8nm,0.3s,baz=157,slow=30,SNR=2.6						
LENM	**Lemitar**	**7.26**	**73**	*e*Pn	**Pn**	**23 34 58.9**	**-0.1**
ANMO	**Albuquerque**	**7.87**	**68**	Pn	**Pn**	**23 35 08.7**	**+1.2**
	comp=E,0.4nm,0.3s,baz=269,slow=13,SNR=5.1						
ELK	**Elko**	**8.40**	**1**	Pn	Pn	23 35 19.1	+4.4
	comp=E,0.2nm,0.3s,baz=193,slow=14,SNR=3.3						
ELK				Lg	Lg	23 37 40.3	
	comp=E,0.3nm,0.3s,baz=141,slow=23,SNR=2.8						
ELK				LR	LR	23 38 52.0	
	comp=E,24μm,19.1s,baz=275,slow=39						
MNTX	**Cornudas Mount**	**8.50**	**92**	*e*Pn	**Pn**	**23 35 15.3**	**-0.6**
TXAR Lajitas Array 10.49 103 Pn **Pn** 23 35 45.2 +2.0
comp=E,1.2nm,0.3s,baz=287,slow=13,SNR=17
TXAR Lg Lg 23 38 40.1
comp=E,0.1nm,0.3s,baz=308,slow=31,SNR=3.1
NEW Newport 15.98 356 Pn **P** 23 37 02.7 +1.5
comp=E,0.2nm,0.3s,baz=182,slow=14,SNR=6.0
ULM Lac du Bonnet 23.01 33 P **P** 23 38 18.9 +1.2
comp=E,7.4nm,0.9s,baz=213,slow=9.8,SNR=4.8
DLBC Dease Lake 27.94 343 P **P** 23 39 05.4 +2.1
comp=E,3.0nm,0.8s,baz=143,slow=7.7,SNR=4.4
YKA Yellowknife Ar 30.19 1 P **P** 23 39 23.8 +0.8
comp=E,0.2nm,0.7s,baz=182,slow=9.5,SNR=4.6
MCK McKinley 37.77 336 *e*P **P** 23 40 30.4 +1.5
comp=E,18nm,1.4s
ILAR Eielson Array 37.80 339 P **P** 23 40 30.9 +1.8
comp=E,3.2nm,0.8s,baz=152,slow=7.4,SNR=26
COLD Coldfoot 40.47 340 *e*P **P** 23 40 52.1 +0.7
comp=E,5.6nm,1.0s
TNA Tin City 45.73 333 *e*P **P** 23 41 34.8 +0.9
comp=E,4.4nm,1.2s
ROSC El Rosal 47.07 117 P **P** 23 41 47.5 +2.0
comp=E,1.2nm,0.2s,baz=287,slow=6.0,SNR=4.7
OTAV Otavalo 47.23 125 *e*P **P** 23 41 47.9 +1.1
SDV Santo Domingo 47.47 109 *e*P **P** 23 41 48.4 0.0
ATAH Athaulapa 52.73 131 P **P** 23 42 26.1 -2.5
comp=E,8.1nm,0.8s,baz=31,slow=11,SNR=4.0
SUMG Summit 55.58 21 *i*P **P** 23 42 49.5 +0.8
comp=E,4.7nm,1.0s
SIV San Ignacio 70.76 124 P **P** 23 44 28.0 -1.7
comp=E,2.9nm,0.9s,baz=333,slow=8.2,SNR=5.8
ARCES ARCESS Array B 74.50 13 P **P** 23 44 51.6 +0.3
comp=E,2.0nm,0.8s,baz=35,slow=7.4,SNR=6.2
NB2 NORSAR Subarra 77.33 24 P **P** 23 45 08.1 +0.5
comp=Z,23nm,1.7s,baz=317,slow=5.6
NOA NORSAR Array B 77.33 24 P **P** 23 45 08.7 +1.1
comp=Z,1.2nm,0.7s,baz=317,slow=5.6,SNR=5.7
CFAA Coronel Fontan 77.64 140 P **P** 23 45 09.6 0.0
comp=Z,0.4nm,0.6s,baz=297,slow=4.2,SNR=8.8
SGMF Saint Gilles 79.83 39 *e*P **P** 23 45 21.8 +0.3
SGMF Saint Gilles 79.83 39 *e*P **P** 23 45 21.8 +0.3
FLN La Foliniere 80.60 37 *e*P **P** 23 45 26.3 +0.6
comp=Z,74nm,1.4s
FLN La Foliniere 80.60 37 *e*P **P** 23 45 26.3 +0.6
comp=Z,74nm,1.4s
LDF La Druitiere 80.89 37 *e*P **P** 23 45 27.8 +0.6
LDF La Druitiere 80.89 37 *e*P **P** 23 45 27.8 +0.6
FINES FINESS Array B 81.45 18 P **P** 23 45 30.9 +0.9
comp=Z,2.8nm,0.7s,baz=354,slow=3.8,SNR=12
MFF Saint Martin d 82.14 39 *e*P **P** 23 45 34.5 +0.6
MFF Saint Martin d 82.14 39 *e*P **P** 23 45 34.5 +0.6
USRK Ussuriysk Ar. 82.23 318 P **P** 23 45 34.5 +0.1
comp=Z,1.8nm,0.8s,baz=43,slow=4.7,SNR=3.3
EVOP Sao Brissos 82.34 49 *e*P **P** 23 45 35.7 +0.6
comp=Z,56nm,1.6s
GIVF Givet 82.36 34 *e*P **P** 23 45 35.9 +0.9
GIVF Givet 82.36 34 *e*P **P** 23 45 35.9 +0.9
EVO Evora 82.41 49 *e*P **P** 23 45 35.7 +0.2
comp=Z,56nm,1.6s
MJAR Matsushiro Arr 82.95 309 P **P** 23 45 40.5 +2.1
comp=Z,0.9nm,0.3s,baz=47,slow=4.4,SNR=3.1
MEZF Maizieres J'vi 83.55 35 *e*P **P** 23 45 42.0 +0.8
MEZF Maizieres J'vi 83.55 35 *e*P **P** 23 45 42.0 +0.8
TCF Toulx Ste Croi 83.59 38 *e*P **P** 23 45 41.8 +0.3
TCF Toulx Ste Croi 83.59 38 *e*P **P** 23 45 41.8 +0.3
BGF Bois d'Agland 83.74 38 *e*P **P** 23 45 42.6 +0.4
comp=Z,9.3nm,0.7s
BGF Bois d'Agland 83.74 38 *e*P **P** 23 45 42.6 +0.4
comp=Z,9.3nm,0.7s
SFTF Sexfontaines 83.75 35 *e*P **P** 23 45 42.8 +0.6
SFTF Sexfontaines 83.75 35 *e*P **P** 23 45 42.8 +0.6
SSF Saint Saulge 83.75 37 *e*P **P** 23 45 42.9 +0.7
comp=Z,72nm,1.7s
SSF Saint Saulge 83.75 37 *e*P **P** 23 45 42.9 +0.7
comp=Z,72nm,1.7s
SJPF Ste Jean 83.75 42 *e*P **P** 23 45 43.3 +1.0
SJPF Ste Jean 83.75 42 *e*P **P** 23 45 43.3 +1.0
LOR Lormes 83.79 37 *e*P **P** 23 45 43.2 +0.7
comp=Z,26nm,1.2s
LOR Lormes 83.79 37 *e*P **P** 23 45 43.2 +0.7
comp=Z,26nm,1.2s
PAGF Fort de Pagny 83.84 35 *e*P **P** 23 45 43.8 +1.1
PAGF Fort de Pagny 83.84 35 *e*P **P** 23 45 43.8 +1.1
AVF Avril sur Loir 83.85 37 *e*P **P** 23 45 43.0 +0.3
comp=Z,57nm,1.5s
AVF Avril sur Loir 83.85 37 *e*P **P** 23 45 43.0 +0.3
comp=Z,57nm,1.5s
RJF Les Rejaudoux 83.86 39 *e*P **P** 23 45 43.4 +0.5
comp=Z,42nm,1.3s
RJF Les Rejaudoux 83.86 39 *e*P **P** 23 45 43.4 +0.5
comp=Z,42nm,1.3s
SMF Signal de Mont 84.20 37 *e*P **P** 23 45 44.8 +0.2
comp=Z,16nm,1.1s
SMF Signal de Mont 84.20 37 *e*P **P** 23 45 44.8 +0.2
comp=Z,16nm,1.1s
ESDC Sonseca Array 84.26 46 P **P** 23 45 44.7 -0.3
comp=Z,0.2nm,0.4s,baz=306,slow=4.9,SNR=4.3
ETSF Etsaut 84.27 42 *e*P **P** 23 45 46.2 +1.2
comp=Z,8.5nm,0.8s
ETSF Etsaut 84.27 42 *e*P **P** 23 45 46.2 +1.2
comp=Z,8.5nm,0.8s
CAF Calviac 84.41 39 *e*P **P** 23 45 46.0 +0.3
CAF Calviac 84.41 39 *e*P **P** 23 45 46.0 +0.3
HAU Haudompre 84.52 35 *e*P **P** 23 45 46.8 +0.6
HAU Haudompre 84.52 35 *e*P **P** 23 45 46.8 +0.6
CDF Champ du Feu 84.69 34 *e*P **P** 23 45 47.7 +0.6
comp=Z,14nm,1.1s
CDF Champ du Feu 84.69 34 *e*P **P** 23 45 47.7 +0.6
comp=Z,14nm,1.1s
HINF Hinteralfeld 84.90 35 *e*P **P** 23 45 48.6 +0.5
comp=Z,7.1nm,0.7s
HINF Hinteralfeld 84.90 35 *e*P **P** 23 45 48.6 +0.5
comp=Z,7.1nm,0.7s
CABF La Chapelle 85.36 36 *e*P **P** 23 45 51.1 +0.6
CABF La Chapelle 85.36 36 *e*P **P** 23 45 51.1 +0.6
GRF Grafenberg Arr 85.59 32 *e*P **P** 23 45 52.7 +1.2
comp=Z,5.0nm,1.2s
ORIF Oris-en-Rattie 86.42 37 *e*P **P** 23 45 55.7 -0.1
ORIF Oris-en-Rattie 86.42 37 *e*P **P** 23 45 55.7 -0.1
LPL La Plagne 86.44 37 *e*P **P** 23 45 56.5 +0.4
LPL La Plagne 86.44 37 *e*P **P** 23 45 56.5 +0.4
LPG La Plagne 86.46 37 *e*P **P** 23 45 57.1 +0.9
LPG La Plagne 86.46 37 *e*P **P** 23 45 57.1 +0.9
GERES GERESS Array B 87.30 31 P **P** 23 45 59.1 -1.0
comp=Z,0.5nm,0.8s,baz=316,slow=3.7,SNR=4.8
AKASG Malin Array Be 91.61 22 P **P** 23 46 19.3 -0.8
comp=Z,0.8nm,0.8s,baz=326,slow=4.1,SNR=6.3
SONM Songino Array 91.85 333 P **P** 23 46 22.4 +0.9
comp=Z,0.4nm,0.7s,baz=42,slow=2.3,SNR=3.5
ZALV Zalesovo Beam 92.32 348 P **P** 23 46 23.4 +0.1
comp=Z,0.3nm,0.5s,baz=10,slow=8.8,SNR=3.0
WRA Warramunga Arr 117.18 263 PKP **PKPdf** 23 51 58.8 -0.2
comp=Z,0.5nm,0.7s,baz=60,slow=2.3,SNR=6.7
ASAR Alice Springs 119.16 259 PKP **PKPdf** 23 52 01.9 -0.7
comp=Z,0.3nm,0.6s,baz=113,slow=1.3,SNR=4.3
MAW Mawson 144.67 179 PKP PKPbc 23 52 48.0 +0.2
comp=Z,4.0nm,0.7s,baz=69,slow=3.1,SNR=5.0
BOSA Boshof 145.99 94 PKPbc **PKPdf** 23 52 52.6 -0.1
comp=Z,4.1nm,0.9s,baz=292,slow=4.9,SNR=3.8

NEIC 04 23:34:28.3, 32.60N×115.75W, h7km, ML4.1(PAS), 3C-2D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESC	**Westside Schoo**	**0.16**	**7**	⇓*i*P	Pg	23 34 31.0	-0.6
DREC	**Desert Rsrch C**	**0.33**	**51**

*NEIC **04** 23:37:33.5,32°.46N×115°.60W,h10km,mb4.5/7, ML4.7(PAS),After PAS.*
NEIC Felt in parts of California, Arizona and California.
*MEX **04** 23:37:38.2±0.3,32°.36N×115°.30W,h16km±7km,MD4.5*

ISC 04 23:37:32.7±1.1,32°.47N±0°.03×115°.55W±0°.02,h5km±7km, n154,σ1ᵍ11/168,mb4.5/38,36C-17D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGL	**Mount Signal**	**0.23**	**320**	⇑*i*	*P*	**Pg**	**23 37 37.6**	**+0.3**
MBIG	**Mexicali**	**0.30**	**102**	*i*	*P*	**Pg**	**23 37 40.9**	**+0.4**
MBIG					*eS*	**Sg**	**23 37 42.9**	**+0.5**
WESC	**Westside Schoo**	**0.33**	**331**	⇑	*i P*	**Pg**	**23 37 39.0**	**-0.1**
WESC					*i* S	**Sg**	**23 37 45.0**	**+1.6**
DREC	**Desert Rsrch C**	**0.34**	**14**	⇑	*i P*	**Pg**	**23 37 40.0**	**+0.6**
YUH	**Yuha Desert**	**0.36**	**299**		*eP*	**Pg**	**23 37 40.0**	**+0.3**
COK	**Cook Ranch**	**0.41**	**338**		*eP*	**Pg**	**23 37 41.5**	**+0.9**
RMX	**La Rumorosa**	**0.47**	**286**	⇑	*eP*	Pg	23 37 32.1	-10
RMX					*eS*	Sg	23 37 38.5	-9.5
SWSC	**Sam W. Stewart** baz=0.5	**0.52**	**336**	⇑	*P*	**Pg**	**23 37 42.8**	**+0.3**
SWSC	**Sam W. Stewart**	**0.52**	**336**		*eP*	**Pg**	**23 37 42.0**	**-0.6**
COA	**Coachella**	**0.53**	**42**	⇑	*i P*	**Pg**	**23 37 43.5**	**+0.6**
EMX	**El Mayor**	**0.55**	**152**		*eP*	**Pb**	**23 37 44.6**	**0.0**
EMX					*eS*	**Sb**	**23 37 52.2**	**-0.6**
CRR	**Carrizo Plain**	**0.55**	**319**	⇑	*i P*	**Pg**	**23 37 43.5**	**+0.2**
BTCC	**Brunts Corner**	**0.61**	**27**	⇑	*i P*	**Pg**	**23 37 44.0**	**-0.3**
BTCC					*eS*	**Sg**	**23 37 53.0**	**+0.8**
RDX	**Rancho Dawling**	**0.64**	**212**	⇑	*i P*	Pg	23 37 35.9	-9.1
RDX					*eS*	Sg	23 37 44.1	-9.2
CLIC	**Calipatria**	**0.67**	**1**	⇓	*i P*	**Pg**	**23 37 45.0**	**-0.5**
ERRC	**Elmore Ranch**	**0.69**	**340**		*eP*	**Pg**	**23 37 46.0**	**+0.1**
RUN	**Ruthven**	**0.69**	**44**		*eP*	**Pg**	**23 37 46.0**	**0.0**
GLA	**Glamis** baz=0.9	**0.84**	**46**	⇑	*P*	**Pg**	**23 37 48.5**	**-0.2**
GLA				⇑	*S*	**Sg**	**23 37 59.4**	**-0.2**
GLA	**Glamis** baz=0.9	**0.84**	**46**	⇑	*i P*	**Pg**	**23 37 48.0**	**-0.8**
GLA					*i* S	**Sg**	**23 37 59.0**	**-0.7**
CBX	**Cerro Bola**	**0.96**	**261**		*eP*	**Pb**	**23 37 51.0**	**-0.8**
CBX					*eS*	**Sb**	**23 38 03.7**	**-1.2**
CBX	comp=N,78μm,0.4s				AML	AML	23 38 06.1	
CBX				⇑	*e*		23 38 06.1	
CBX	comp=E,30μm,0.6s				AML	AML	23 38 06.2	
CBX				⇓	*e*		23 38 06.2	
BAR	**Barrett**	**0.97**	**283**		*eP*	**Pg**	**23 37 51.0**	**-0.3**
BAR					*eSg*	**Sg**	**23 38 03.3**	**-0.7**
ZAX	**El Zacaton**	**1.14**	**213**	⇑	*eP*	Pg	23 37 44.9	-10
ZAX					*eS*	Sg	23 37 59.9	-9.3
BC3	**Big Chuckawall** baz=1.2	**1.18**	**4**	⇑	*P*	**Pg**	**23 37 53.4**	**-2.0**
BC3				⇑	*S*	**Sg**	**23 38 07.4**	**-3.4**
ECNX	**Esteban Cantu** baz=1.2	**1.21**	**228**	⇑	*eP*	Pg	23 37 46.1	-10
ECNX					*eS*	Sg	23 38 02.0	-9.5
PBX	**Punta Banda**	**1.24**	**234**	⇑	*eP*	Pg	23 37 46.4	-10
PBX					*eS*	Sg	23 38 03.0	-9.5
PFO	**Pinyon Flats O** comp=E,208nm,0.3s,baz=140,slow=13,SNR=16	**1.37**	**326**	Pn		**Pn**	**23 37 56.5**	**-2.0**
PFO				Lg		Lg	23 38 15.2	
	comp=E,944nm,0.3s,baz=320,slow=25,SNR=22							
PFO	**Pinyon Flats O**	**1.37**	**326**	*e*Pn		**Pn**	**23 37 56.1**	**-2.4**
PFO				Lg		Lg	23 38 15.2	
109C	**Camp Elliot, M** baz=1.4	**1.38**	**288**	⇑	*P*	**Pn**	**23 37 57.1**	**-1.4**
109C				⇑	*S*	**Sb**	**23 38 15.2**	**-1.7**
SPIG	**San Pedro Mart** baz=1.4	**1.42**	**177**		*eP*	**Pn**	**23 37 58.7**	**-0.7**
SPIG					*eS*	**Sb**	**23 38 14.6**	**-3.8**
SPIG	**San Pedro Mart**	**1.42**	**177**		*eP*	**Pn**	**23 37 58.7**	**-0.7**
SPIG					*eS*	**Sb**	**23 38 14.6**	**-3.8**
SPX	**San Pedro Mart**	**1.42**	**177**		*eP*	**Pn**	**23 37 58.4**	**-1.0**
SPX					*eS*	**Sb**	**23 38 17.0**	**-1.4**
SPX	comp=E,6μm,0.6s				AML	AML	23 38 21.9	
SPX				⇑	*e*		23 38 21.9	
113A	**Mohawk Valley,** baz=1.5	**1.53**	**78**	⇑	*P*	**Pn**	**23 37 59.2**	**-1.4**
113A				⇑	*S*	**Sn**	**23 38 17.5**	**-3.3**
Y12C	**Blythe** baz=1.6	**1.54**	**34**	⇓	*P*	**Pn**	**23 37 58.8**	**-1.9**
BELC	**Belle Mtn. Jos** baz=1.6	**1.57**	**346**	⇑	*P*	**Pn**	**23 37 59.0**	**-2.4**
IRM	**Iron Mountain** baz=1.7	**1.72**	**11**	⇓	*P*	**Pn**	**23 38 01.4**	**-1.8**
MURC	**Murrieta** baz=1.8	**1.79**	**309**	⇑	*P*	**Pn**	**23 38 02.3**	**-1.9**
MURC				⇑	*Sb*	**Sn**	**23 38 28.0**	**+0.7**
PDMCI	**Parker Dam,Lak** baz=2.2	**2.17**	**32**	⇑	*P*	**Pn**	**23 38 07.7**	**-1.7**
Z14A	**Wintersburg** baz=2.4	**2.36**	**67**	⇓	*P*	**Pn**	**23 38 10.4**	**-1.7**
Z14A				⇓	*S*	**Sn**	**23 38 39.3**	**-2.1**
NEE2	**Needles Airpor** baz=2.4	**2.42**	**18**	⇓	*P*	**Pn**	**23 38 11.2**	**-1.6**
NEE2				⇓	*S*	**Sn**	**23 38 39.2**	**-3.6**
BFSC	**Mount Baldy Ra** baz=2.5	**2.50**	**315**	⇓	*Pb*	**Pb**	**23 38 17.0**	**-1.1**
BFSC				⇓	*Sb*	**Sb**	**23 38 48.4**	**-0.8**
CIS	**Catalina Islan** baz=2.6	**2.58**	**292**	⇑	*P*	**Pn**	**23 38 13.4**	**-1.6**
CIS				⇓	*Sb*	**Sb**	**23 38 52.0**	**+0.6**
SCI	**San Clemente I** baz=2.6	**2.58**	**282**	⇓	*P*	**Pn**	**23 38 13.4**	**-1.7**
FMP	**Fort Macarthur** baz=2.6	**2.62**	**299**	⇑	*Pb*	**Pb**	**23 38 19.0**	**-1.1**
FMP				⇑	*Sb*	**Sb**	**23 38 52.7**	**+0.2**
DECC	**Green Verdugo** baz=2.9	**2.93**	**308**	⇑	*Pb*	**Pb**	**23 38 24.6**	**-0.7**
DECC				⇓	*Sb*	**Sb**	**23 39 01.8**	**+0.3**
OSI	**Osito Audit: C** baz=3.4	**3.41**	**310**	⇑	*Pb*	**Pb**	**23 38 32.2**	**-1.3**
BSC	**Santa Cruz Isl** baz=3.7	**3.75**	**295**	⇑	*Pb*	**Pb**	**23 38 38.8**	**-0.5**
X16A	**Lo Mia Camp, P** baz=4.0	**3.94**	**59**	⇓	*P*	**Pn**	**23 38 33.9**	**-0.1**
TUC	**Tucson**	**4.03**	**91**		*eP*	**Pn**	**23 38 33.8**	**-1.3**
WUAZ	**Wupatki**	**4.61**	**48**		*ePn*	**Pn**	**23 38 43.6**	**+0.5**
U15A	**North Rim** baz=4.8	**4.78**	**33**	⇓	*P*	**Pn**	**23 38 45.1**	**-0.4**
X18A	**Snowflake** baz=5.1	**5.11**	**65**	⇓	*P*	**Pn**	**23 38 50.0**	**+0.1**
319A	**Douglas** baz=5.4	**5.44**	**100**	⇑	*P*	**Pn**	**23 38 53.8**	**-0.6**
W18A	**Petrified Fore** baz=5.5	**5.51**	**60**	⇑	*P*	**Pn**	**23 38 56.2**	**+0.6**
NVAR	**Mina Array Bea** comp=E,0.8nm,0.3s,baz=163,slow=16,SNR=3.3	**6.36**	**340**	Pn		Pn	23 39 12.5	+5.3
NVAR				Lg		Lg	23 41 06.4	
	comp=E,0.4nm,0.3s,baz=125,slow=41,SNR=3.1							
121A	**Cookes Peak, D** baz=6.6	**6.56**	**87**	⇑	*P*	**Pn**	**23 39 09.7**	**-0.2**
Y22D	**IRIS PASSCAL I** baz=7.4	**7.40**	**75**	⇓	*P*	**Pn**	**23 39 21.4**	**0.0**
ANMO	**Albuquerque** comp=E,1.0nm,0.3s,baz=278,slow=13,SNR=6.7	**7.96**	**69**	Pn		**Pn**	**23 39 31.0**	**+1.7**
ANMO				Lg		Lg	23 41 53.1	
	comp=E,0.8nm,0.3s,baz=348,slow=19,SNR=3.9							
ELK	**Elko** comp=E,0.2nm,0.3s,baz=185,slow=15,SNR=2.9	**8.26**	**2**	Pn		Pn	23 39 41.0	+7.6
ELK				Lg		Lg	23 41 57.6	
	comp=E,0.2nm,0.3s,baz=136,slow=26,SNR=3.1							
TXAR	**Lajitas Array** comp=E,0.8nm,0.3s,baz=285,slow=13,SNR=9.6	**10.67**	**104**	Pn		**Pn**	**23 40 06.2**	**0.0**
TXAR				Lg		Lg	23 43 07.6	
	comp=E,0.2nm,0.3s,baz=278,slow=34,SNR=3.1							
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=4.1	**11.32**	**23**	Pn		**Pn**	**23 40 18.3**	**+3.1**
PDAR				Lg		Lg	23 43 42.3	
	comp=E,0.1nm,0.3s,baz=219,slow=24,SNR=3.5							
NEW	**Newport** comp=E,0.3nm,0.3s,baz=189,slow=12,SNR=8.4	**15.82**	**356**	Pn		**P**	**23 41 19.9**	**0.0**
NEW	**Newport** comp=E,8.0nm,0.9s	**15.82**	**356**	*e*Pn		**Pn**	**23 41 17.4**	**+1.3**
EDM	**Edmonton**	**20.80**	**4**		*eP*	**P**	**23 42 15.2**	**+0.5**
AGMN	**Agassiz Nation** comp=E,15nm,1.1s	**21.69**	**37**		*eP*	**P**	**23 42 25.1**	**+0.9**
ULM	**Lac du Bonnet** comp=E,14nm,0.9s,baz=221,slow=10.0,SNR=15	**22.98**	**34**	P		**P**	**23 42 39.0**	**+1.1**
CMIG	**Matias Romero** comp=E,8.2nm,0.7s,baz=317,slow=9.4,SNR=12	**24.15**	**124**	P		**P**	**23 42 51.4**	**+1.7**
DLBC	**Dease Lake** comp=E,2.7nm,0.8s,baz=118,slow=2.1,SNR=5.2	**27.76**	**344**	P		**P**	**23 43 23.9**	**+1.7**
YKA	**Yellowknife Ar** comp=E,0.5nm,0.8s,baz=180,slow=9.2,SNR=6.2	**30.05**	**1**	P		**P**	**23 43 42.9**	**+0.7**
INK	**Inuvik** comp=E,14nm,1.5s,baz=156,slow=9.4,SNR=4.9	**37.35**	**349**	P		**P**	**23 44 47.4**	**+1.7**
ILAR	**Eielson Array** comp=E,1.7nm,0.9s,baz=150,slow=7.9,SNR=16	**37.61**	**339**	P		**P**	**23 44 49.9**	**+1.9**
KTH	**Kantishna Hill** comp=E,18nm,1.4s	**38.15**	**335**		*eP*	**P**	**23 44 51.5**	**-1.2**
TNA	**Tin City** comp=E,5.0nm,1.0s	**45.53**	**332**		*eP*	**P**	**23 45 53.5**	**+0.7**
ROSC	**El Rosal** comp=E,1.1nm,0.3s,baz=231,slow=1.2,SNR=14	**47.27**	**117**	P		**P**	**23 46 05.2**	**-2.4**
OTAV	**Otavalo** comp=E,2.8nm,0.7s	**47.43**	**125**		*eP*	**P**	**23 46 10.7**	**+1.8**
SUMG	**Summit** comp=E,18nm,1.7s	**55.50**	**21**		*eP*	**P**	**23 47 09.3**	**+0.7**
SUMG	**Summit** comp=E,4.3nm,0.6s	**55.50**	**21**		*i P*	**P**	**23 47 09.7**	**+1.1**
DAG	**Danmarks Havn**	**60.23**	**15**		*i P*	**P**	**23 47 41.2**	**0.0**
SEY	**Seymchan** comp=E,1.2nm,0.4s,baz=113,slow=3.8,SNR=4.4	**62.54**	**329**	P		**P**	**23 47 58.4**	**+1.3**
SIV	**San Ignacio** comp=E,3.6nm,0.9s,baz=314,slow=5.2,SNR=5.8	**70.97**	**124**	P		**P**	**23 48 49.8**	**-1.6**
ARCES	**ARCESS Array B** comp=E,1.8nm,0.8s,baz=331,slow=7.1,SNR=4.6	**74.40**	**13**	P		**P**	**23 49 11.9**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.8s,baz=317,slow=5.6	**77.26**	**24**	P		**P**	**23 49 28.5**	**+0.8**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.9s,baz=319,slow=5.7,SNR=5.3	**77.26**	**24**	P		**P**	**23 49 28.0**	**+0.3**
ROSF	**Rostrenen** comp=Z,51nm,1.3s	**79.39**	**39**		*eP*	**P**	**23 49 39.2**	**-0.4**
ROSF	**Rostrenen** comp=Z,51nm,1.3s	**79.39**	**39**		*eP*	**P**	**23 49 39.2**	**-0.4**
FLN	**La Foliniere**	**80.58**	**37**		*eP*	**P**	**23 49 46.3**	**+0.2**
FLN	**La Foliniere**	**80.58**	**37**		*eP*	**P**	**23 49 46.3**	**+0.2**
GRR	**Gorron**	**80.62**	**38**		*eP*	**P**	**23 49 46.5**	**+0.2**
GRR	**Gorron**	**80.62**	**38**		*eP*	**P**	**23 49 46.5**	**+0.2**
LDF	**La Druitiere**	**80.87**	**37**		*eP*	**P**	**23 49 47.8**	**+0.2**
LDF	**La Druitiere**	**80.87**	**37**		*eP*	**P**	**23 49 47.8**	**+0.2**
FINES	**FINESS Array B** comp=Z,2.7nm,0.7s,baz=349,slow=4.1,SNR=12	**81.36**	**18**	P		**P**	**23 49 50.7**	**+0.7**
BAIF	**Baives** comp=Z,10nm,1.0s	**82.06**	**34**		*eP*	**P**	**23 49 54.2**	**+0.3**
BAIF	**Baives** comp=Z,10nm,1.0s	**82.06**	**34**		*eP*	**P**	**23 49 54.2**	**+0.3**
MFF	**Saint Martin d**	**82.12**	**39**		*eP*	**P**	**23 49 54.6**	**+0.3**
MFF	**Saint Martin d**	**82.12**	**39**		*eP*	**P**	**23 49 54.6**	**+0.3**
GIVF	**Givet**	**82.32**	**34**		*eP*	**P**	**23 49 55.8**	**+0.5**
GIVF	**Givet**	**82.32**	**34**		*eP*	**P**	**23 49 55.8**	**+0.5**
EVOP	**Sao Brissos** comp=Z,25nm,1.0s	**82.36**	**49**		*eP*	**P**	**23 49 56.0**	**+0.3**
EVO	**Evora** comp=Z,25nm,1.0s	**82.43**	**49**		*eP*	**P**	**23 49 56.0**	**-0.1**
MEZF	**Maizieres J'vi**	**83.52**	**35**		*eP*	**P**	**23 50 02.0**	**+0.5**
MEZF	**Maizieres J'vi**	**83.52**	**35**		*eP*	**P**	**23 50 02.0**	**+0.5**
TCF	**Toulx Ste Croi** comp=Z,16nm,1.1s	**83.57**	**38**		*eP*	**P**	**23 50 01.9**	**0.0**
TCF	**Toulx Ste Croi** comp=Z,16nm,1.1s	**83.57**	**38**		*eP*	**P**	**23 50 01.9**	**0.0**
LFF	**La Frestale** comp=Z,63nm,1.4s	**83.67**	**40**		*eP*	**P**	**23 50 02.9**	**+0.6**
LFF	**La Frestale** comp=Z,63nm,1.4s	**83.67**	**40**		*eP*	**P**	**23 50 02.9**	**+0.6**
SFTF	**Sexfontaines** comp=Z,30nm,1.2s	**83.72**	**35**		*eP*	**P**	**23 50 02.8**	**+0.3**
SFTF	**Sexfontaines** comp=Z,30nm,1.2s	**83.72**	**35**		*eP*	**P**	**23 50 02.8**	**+0.3**
BGF	**Bois d'Agland**	**83.72**	**38**		*eP*	**P**	**23 50 02.6**	**0.0**
BGF	**Bois d'Agland**	**83.72**	**38**		*eP*	**P**	**23 50 02.6**	**0.0**
SSF	**Saint Saulge** comp=Z,51nm,1.6s	**83.72**	**37**		*eP*	**P**	**23 50 03.0**	**+0.4**
SSF	**Saint Saulge** comp=Z,51nm,1.6s	**83.72**	**37**		*eP*	**P**	**23 50 03.0**	**+0.4**
SJPF	**Ste Jean**	**83.75**	**42**		*eP*	**P**	**23 50 03.5**	**+0.7**
SJPF	**Ste Jean**	**83.75**	**42**		*eP*	**P**	**23 50 03.5**	**+0.7**
LOR	**Lormes** comp=Z,38nm,1.2s	**83.76**	**37**		*eP*	**P**	**23 50 03.3**	**+0.5**
LOR	**Lormes** comp=Z,38nm,1.2s	**83.76**	**37**		*eP*	**P**	**23 50 03.3**	**+0.5**
PAGF	**Fort de Pagny** comp=Z,14nm,1.4s	**83.81**	**35**		*eP*	**P**	**23 50 03.7**	**+0.7**
PAGF	**Fort de Pagny** comp=Z,14nm,1.4s	**83.81**	**35**		*eP*	**P**	**23 50 03.7**	**+0.7**
AVF	**Avril sur Loir**	**83.83**	**37**		*eP*	**P**	**23 50 03.0**	**-0.1**
AVF	**Avril sur Loir**	**83.83**	**37**		*eP*	**P**	**23 50 03.0**	**-0.1**
RJF	**Les Rejaudoux**	**83.85**	**39**		*eP*	**P**	**23 50 03.5**	**+0.2**
RJF	**Les Rejaudoux**	**83.85**	**39**		*eP*	**P**	**23 50 03.5**	**+0.2**
SMF	**Signal de Mont** comp=Z,31nm,1.1s	**84.17**	**37**		*eP*	**P**	**23 50 04.8**	**-0.1**
SMF	**Signal de Mont** comp=Z,31nm,1.1s	**84.17**	**37**		*eP*	**P**	**23 50 04.8**	**-0.1**
ETSF	**Etsaut**	**84.26**	**42**		*eP*	**P**	**23 50 06.4**	**+0.9**
ETSF	**Etsaut**	**84.26**	**42**		*eP*	**P**	**23 50 06.4**	**+0.9**
ESDC	**Sonseca Array** comp=Z,1.5nm,0.7s,baz=307,slow=5.0,SNR=10	**84.27**	**46**	P		**P**	**23 50 06.5**	**+0.8**
CAF	**Calviac** comp=Z,27nm,1.1s	**84.39**	**39**		*eP*	**P**	**23 50 06.1**	**0.0**
CAF	**Calviac** comp=Z,27nm,1.1s	**84.39**	**39**		*eP*	**P**	**23 50 06.1**	**0.0**
HAU	**Haudompre** comp=Z,26nm,1.0s	**84.49**	**35**		*eP*	**P**	**23 50 06.8**	**+0.3**
HAU	**Haudompre** comp=Z,26nm,1.0s	**84.49**	**35**		*eP*	**P**	**23 50 06.8**	**+0.3**
CDF	**Champ du Feu** comp=Z,16nm,1.1s	**84.65**	**34**		*eP*	**P**	**23 50 07.6**	**+0.2**
CDF	**Champ du Feu** comp=Z,16nm,1.1s	**84.65**	**34**		*eP*	**P**	**23 50 07.6**	**+0.2**
HINF	**Hinteralfeld**	**84.87**	**35**		*eP*	**P**	**23 50 08.6**	**+0.1**
HINF	**Hinteralfeld**	**84.87**	**35**		*eP*	**P**	**23 50 08.6**	**+0.1**
CABF	**La Chapelle**	**85.33**	**36**		*eP*	**P**	**23 50 11.1**	**+0.2**
CABF	**La Chapelle**	**85.33**	**36**		*eP*	**P**	**23 50 11.1**	**+0.2**
MTLF	**Montolieu**	**85.52**	**40**		*eP*	**P**	**23 50 12.0**	**+0.3**
MTLF	**Montolieu**	**85.52**	**40**		*eP*	**P**	**23 50 12.0**	**+0.3**
VIVF	**Saint-Julien-l**	**85.81**	**38**		*eP*	**P**	**23 50 13.3**	**+0.1**
VIVF	**Saint-Julien-l**	**85.81**	**38**		*eP*	**P**	**23 50 13.3**	**+0.1**
ORIF	**Oris-en-Rattie** comp=Z,10nm,0.9s	**86.39**	**37**		*eP*	**P**	**23 50 16.0**	**-0.2**
ORIF	**Oris-en-Rattie** comp=Z,10nm,0.9s	**86.39**	**37**		*eP*	**P**	**23 50 16.0**	**-0.2**
LPL	**La Plagne**	**86.41**	**37**		*eP*	**P**	**23 50 16.8**	**+0.4**
LPL	**La Plagne**	**86.41**	**37**		*eP*	**P**	**23 50 16.8**	**+0.4**
LPG	**La Plagne** comp=Z,17nm,1.1s	**86.44**	**37**		*eP*	**P**	**23 50 16.9**	**+0.3**
LPG	**La Plagne** comp=Z,17nm,1.1s	**86.44**	**37**		*eP*	**P**	**23 50 16.9**	**+0.3**
MBDF	**Montbardon** comp=Z,27nm,1.2s	**86.98**	**37**		*eP*	**P**	**23 50 19.1**	**0.0**
MBDF	**Montbardon** comp=Z,27nm,1.2s	**86.98**	**37**		*eP*	**P**	**23 50 19.1**	**0.0**
GERES	**GERESS Array B** comp=Z,0.6nm,0.9s,baz=319,slow=5.9,SNR=4.4	**87.26**	**31**	P		**P**	**23 50 20.9**	**+0.6**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.8s,baz=325,slow=3.9,SNR=6.1	**91.53**	**22**	P		**P**	**23 50 40.4**	**+0.1**
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=67,slow=3.3,SNR=4.9	**91.65**	**333**	P		**P**	**23 50 40.7**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.9s,baz=59,slow=2.0,SNR=3.1	**117.04**	**263**	PKP		**PKPdf**	**23 56 18.5**	**-0.6**
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=71,slow=2.5,SNR=4.5	**119.03**	**259**	PKP		**PKPdf**	**23 56 22.6**	**-0.4**
MAW	**Mawson** comp=Z,2.9nm,0.7s,baz=252,slow=6.4,SNR=4.3	**144.82**	**179**	PKP		**PKPdf**	**23 57 08.9**	**-0.7**

NEIC 04 23:39:44.7,32°.46N×115°.62W,h10km,ML3.5(PAS),4C, After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERPC	**Ernies Place**	**0.28**	**353**	⇑	*i P*	Pg	23 39 50.3	-0.1
WESC	**Westside Schoo**	**0.31**	**343**	⇑	*i P*	Pg	23 39 50.7	-0.2
YUH	**Yuha Desert**	**0.31**	**306**		*eP*	Pg	23 39 50.6	-0.4
COK	**Cook Ranch**	**0.40**	**347**		*eP*	Pg	23 39 52.3	-0.2
SWSC	**Sam W. Stewart**	**0.50**	**343**		*eP*	Pg	23 39 54.4	0.0
CRR	**Carrizo Plain**	**0.52**	**326**	⇑	*eP*	Pg	23 39 54.2	-0.5
CRR					*eS*	Sg	23 40 00.8	-0.7
COA	**Coachella**	**0.58**	**46**	⇑	*i P*	Pg	23 39 55.3	-0.7
EMSC	**East Mesa**	**0.61**	**63**	⇑	*i P*	Pg	23 39 56.0	-0.5
BAR	**Barrett**	**0.91**	**284**		*eP*	**Pg**	23 39 59.8	-2.5
BAR					*eSg*	**Sg**	23 40 13.2	-1.0

*DJA **04** 23:43:00.7±0.6,18°.N±3°.×9°.8E±°,h10km,M3.6/5,MLv3.6/5*

BKK 04 23:42:52.1±0.3,20°.N±5°.×10°.0E±°,h10km,M3.5/5, MLv3.5/5,Thailand

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRAI	**Chiangrai**	**0.49**	**54**		*eP*	**Pg**	**23 43 02.4**	**-0.5**
CRAI					*eP*	Pg	23 42 56.6	-5.2
CRAI					*eS*	Sb	23 43 10.8	+0.6
CMAI	**Chiengmai2**	**0.85**	**270**		*eP*	**Pg**	**23 43 07.8**	**-1.0**
LAMP	**Lampang**	**1.44**	**192**		*eP*	**Pb**	**23 43 18.1**	**-1.0**
LAMP					*eP*	Pn	23 43 13.1	-5.2
CMMT	**Chiang Mai**	**1.47**	**220**		*eP*	**Pn**	**23 43 12.5**	**-6.2**
CMMT					*eP*	Pn	23 43 12.5	-6.2
CMMT					*eP*	Pb	23 43 17.8	-1.8
CHTO	**Chiang Mai**	**1.47**	**220**		*eP*	**Pn**	**23 43 12.3**	**-6.4**
CHTO					*eP*	Pb	23 43 12.4	-7.2
CHTO					*eP*	Pg	23 43 17.8	-2.6
MHMT	**Maesarieng**	**2.59**	**228**		*eS*	**Sb**	**23 44 10.4**	**-0.3**

*IDC **04** 23:42:53.3±3.6,31°.37N×115°.22W,h0km,mb3.6/5, mb1 3.9/8,mb1mx3.7/26,mbtmp3.7/8,ML3.8/3,Error ellipse: s-maj=76.9km s-min=14.9km az=38.0*
*ISCJB **04** 23:42:55.4±0.6,32°.06N±0°.03×115°.01W±0°.06,h10km, mb3.5/5,Error ellipse: s-maj=7.7km s-min=4.7km az=168.5*
*MEX **04** 23:42:57.2±0.3,32°.06N×115°.00W,h3km±8km,MD4.4*
*NEIC **04** 23:42:57.7,32°.12N×115°.02W,h10km,ML4.1(PAS),After PAS.*

ISC 04 23:42:57.3±0.8,32°.04N±0°.03×115°.17W±0°.06,h10km,n23, σ1ᵍ73/24,mb3.8/5,4C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.37**	**356**		*eP*	**Pg**	**23 43 04.4**	**-0.2**
MBIG					*i* S	**Sg**	**23 43 09.9**	**+0.3**
DREC	**Desert Rsrch C**	**0.80**	**343**	⇑	*i P*	**Pg**	**23 43 12.0**	**-0.8**
DREC					*eS*	**Sg**	**23 43 21.0**	**-2.3**
ERPC	**Ernies Place**	**0.82**	**329**		*eP*	**Pg**	**23 43 12.0**	**-1.1**
COA	**Coachella**	**0.83**	**3**	⇑	*i P*	**Pg**	**23 43 11.0**	**-2.2**
WESC	**Westside Schoo**	**0.86**	**327**	⇑	*i P*	**Pg**	**23 43 13.0**	**-0.9**
YUH	**Yuha Desert**	**0.88**	**314**		*eP*	**Pg**	**23 43 13.0**	**-1.3**
COK	**Cook Ranch**	**0.94**	**330**		*eP*	**Pg**	**23 43 14.0**	**-1.4**
COK					*eS*	**Sg**	**23 43 26.0**	**-1.6**
RUN	**Ruthven**	**0.95**	**10**	⇓	*i P*	Pg	23 43 12.0	-3.5
SPIG	**San Pedro Mart**	**1.02**	**195**		*eP*	**Pg**	**23 43 15.5**	**-1.4**
SPIG					*eS*	**Sg**	**23 43 30.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.02**	**195**		*eP*	**Pg**	**23 43 15.5**	**-1.4**
SPIG					*eS*	**Sg**	**23 43 29.8**	**-0.3**
GLA	**Glamis**	**1.05**	**16**	⇓	*i P*	Pg	23 43 13.0	-4.6
CRR	**Carrizo Plain**	**1.09**	**322**	⇓	*i P*	**Pb**	**23 43 17.0**	**-1.2**
CBKC	**Canebrake**	**1.26**	**314**		*eP*	**Pn**	**23 43 20.0**	**-0.9**
BAR	**Barrett**	**1.43**	**297**	⇑	*i P*	**Pn**	**23 43 23.0**	**-0.3**
BAR					*i* S	**Sg**	**23 43 43.0**	**-0.2**
PFO	**Pinyon Flats O** 10nm,0.3s,baz=156,slow=13,SNR=2.7	**1.91**	**326**	Pn		**Pn**	**23 43 27.8**	**-2.2**
PFO				Lg		Lg	23 43 58.8	
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=158,slow=17,SNR=2.3	**6.88**	**339**	Pn		Pn	23 44 44.0	+5.6
TXAR	**Lajitas Array** 1.2nm,0.3s,baz=287,slow=13,SNR=14	**10.26**	**102**	Pn		**Pn**	**23 45 22.5**	**-2.2**
TXAR				Lg		Lg	23 48 17.6	
NEW	**Newport** 0.1nm,0.3s,baz=175,slow=12,SNR=3.9	**16.28**	**355**	Pn		**P**	**23 46 53.0**	**+4.0**
ULM	**Lac du Bonnet** 2.8nm,1.0s,baz=232,slow=7.2,SNR=4.9	**23.17**	**33**	P		P	23 48 07.8	+4.0
DLBC	**Dease Lake** 1.2nm,0.7s,baz=164,slow=11,SNR=3.5	**28.27**	**343**	P		P	23 48 55.5	+5.0
**YK

HARU	**Harads**	**1.69**	**170**	P	Pb	23 46 50.8	-0.6
KALU	**Kalix**	**2.33**	**147**	*e*P	Pn	23 47 00.3	+1.6
KALU				*e*SB	Sb	23 47 31.1	-0.1
KALU	**Kalix**	**2.33**	**147**	Sb	Sb	23 47 31.1	-0.1
KALU	**Kalix**	**2.33**	**147**	P	Pn	23 47 00.3	+1.5
SGF	**Sodankyl**	**2.43**	**96**	*e*PG	Pb	23 47 04.1	+0.1
SGF	**Sodankyl**	**2.43**	**96**	Pg	Pb	23 47 04.1	+0.1
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	Pb	23 47 04.7	-1.4
	baz=296						
RNF				MSG	Sb	23 47 38.2	+0.3
	comp=Z,2.8nm,0.2s						
RNF				*e*SB	Sb	23 47 38.2	+0.3
RNF	**Rovaniemi**	**2.56**	**116**	Pb	Pb	23 47 04.6	-1.5
RNF				Sb	Sb	23 47 38.2	+0.3
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	23 47 03.8	+1.5
	baz=228						
ARE0				*e*S	Sn	23 47 36.2	+2.0
ARE0				MSG		23 47 36.2	
	comp=Z,1.5nm,0.2s						
ARE0	**ARCESS Array S**	**2.58**	**46**	P	Pn	23 47 03.8	+1.5
ARE0				S	Sn	23 47 36.2	+2.0
	comp=Z,1.5nm,0.2s						

*UPP **04** 23:46:19.7, 67°.84N×20°.20E, h0km, ML1.0, Mining explosion.*

CSEM 04 23:46:23.7±0.7, 67°.67N×20°.69E, h2km, ML0.9, Error ellipse: s-maj=28.2km s-min=12.9km az=34.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.32**	**335**	P	Pg	23 46 30.5	+0.7
KUA				S	Sg	23 46 32.5	-1.5
NIKU	**Nikkaluokta**	**0.66**	**288**	P	Pg	23 46 36.3	-0.1
HEF	**Hetta**	**1.34**	**55**	Sn	Sn	23 47 09.0	+1.1
HEF	**Hetta**	**1.34**	**55**	*e*SN	Sn	23 47 09.1	+1.2

*ISCJB **04** 23:48:45.0±0.8, 32°.12N±0°.04×115°.45W±0°.09, h10km, Error ellipse: s-maj=10.9km s-min=5.5km az=5.8*
*MEX **04** 23:48:45.0±0.6, 32°.26N×115°.66W, h10km, MD3.3*
*NEIC **04** 23:48:47.6, 32°.23N×115°.01W, h10km, ML3.9(PAS), After PAS.*

ISC 04 23:48:43.1±1.0, 32°.14N±0°.04×115°.61W±0°.07, h10km, n10, σ1§23/12, 2C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.44**	**53**	*e*P	**Pg**	**23 48 52.3**	**+0.7**
MBIG				*i* S	**Sg**	**23 48 59.0**	**+1.6**
DREC	**Desert Rsrch C**	**0.68**	**12**	*e*P	**Pn**	**23 49 00.0**	**+1.3**
COA	**Coachella**	**0.83**	**30**	⇑*i*P	**Pg**	**23 48 59.0**	**0.0**
YMD	**Yuma Desert**	**0.99**	**65**	⇑*i*P	Pg	23 48 56.0	-6.1
SPIG	**San Pedro Mart**	**1.10**	**174**	*e*P	**Pn**	**23 49 05.1**	**+0.3**
SPIG				*e*S	**Sb**	**23 49 19.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.10**	**174**	*e*P	**Pn**	**23 49 05.1**	**+0.3**
SPIG				*e*S	**Sb**	**23 49 19.5**	**+0.6**
GLA	**Glamis**	**1.12**	**36**	*e*P	**Pb**	**23 49 02.0**	**-2.6**
PFO	**Pinyon Flats O**	**1.63**	**334**	*e*P	Pg	23 49 20.3	+6.0
PFO				*e*S	**Sg**	**23 49 35.7**	**+0.3**
GSC	**Goldstone, Bar**	**3.31**	**343**	Pn	**Pb**	**23 49 40.9**	**-1.0**
TUC	**Tucson**	**4.09**	**86**	*e*P	**Pn**	**23 49 45.8**	**0.0**

*IDC **04** 23:49:18.8±3.4, 8°.79N×125°.95E, h0km, mb3.5/1, Error ellipse: s-maj=323.9km s-min=21.8km az=66.0*
*ISCJB **04** 23:49:21.5±0.7, 8°.88N±0°.05×125°.80E±0°.05, h28km±5km, mb3.5/1, Error ellipse: s-maj=9.1km s-min=6.8km az=140.2*
*MAN **04** 23:49:21, 8°.92N×125°.71E, h20km, mb4.5, ML3.4, MS3.3*

ISC 04 23:49:20.8±1.2, 8°.82N±0°.04×125°.80E±0°.05, h15km±8km, n12, σ1§32/17, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.23**	**310**	*e*P	**Pg**	**23 49 25.7**	**-0.3**
BUTP				*e*S	**Sg**	**23 49 31.2**	**+1.8**
BIPH	**Bislig**	**0.84**	**139**	⇑*i*P	**Pn**	**23 49 38.0**	**-0.1**
BIPH				*i* S	**Sn**	**23 49 50.9**	**+0.7**
SCPH	**Surigao**	**1.00**	**342**	*e*P	**Pb**	**23 49 38.9**	**-1.0**
SCPH				*e*S	**Sn**	**23 49 53.5**	**-0.7**
CGP	**Cagayan de Oro**	**1.15**	**252**	⇑*e*P	**Pb**	**23 49 41.0**	**-1.4**
CGP				*i* S	**Sb**	**23 49 56.5**	**-0.7**
BUKP	**Musuan**	**1.19**	**218**	*e*P	**Pg**	**23 49 43.3**	**-0.5**
BUKP				*e*S	**Sn**	**23 50 01.3**	**+2.5**
CTBH	**Cotabato--PC H**	**2.21**	**224**	⇑*i*P	**Pb**	**23 49 59.0**	**-1.5**
DCPH	**Dipolog City**	**2.43**	**265**	*e*P	**Pn**	**23 49 59.7**	**-0.2**
DCPH				*e*S	**Sn**	**23 50 30.4**	**+0.9**
PAGZ	**Pagadian**	**2.58**	**248**	*e*P	Pn	23 49 57.4	-4.6
WRA	**Warramunga Arr**	**29.79**	**164**	P	**P**	**23 55 26.0**	**-1.2**
	baz=343,slow=9.4						
ASAR	**Alice Springs**	**33.24**	**166**	P	**P**	**23 55 58.2**	**+0.6**
	baz=354,slow=7.5						
MKAR	**Makanchi Array**	**52.90**	**324**	P	**P**	**23 58 36.6**	**+0.3**
	0.4nm,0.7s,baz=110,slow=8.7,SNR=5.8						
KURBB	**Kurchatov Area**	**57.00**	**326**	P	**P**	**23 59 07.6**	**+1.8**
	baz=123,slow=7.1						

NEIC 04 23:53:44.6, 32°.60N×115°.76W, h4km, ML3.6(PAS), 1C-2D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.06**	**30**	*e*P	Pg	23 53 45.8	-0.2
WESC	**Westside Schoo**	**0.17**	**9**	⇓*i*P	Pg	23 53 47.8	-0.1
ERPC	**Ernies Place**	**0.17**	**29**	*e*P	Pg	23 53 48.1	+0.2
COK	**Cook Ranch**	**0.26**	**7**	⇓*i*P	Pg	23 53 49.6	+0.1
CRR	**Carrizo Plain**	**0.34**	**329**	*e*P	Pg	23 53 51.0	-0.1
DREC	**Desert Rsrch C**	**0.34**	**52**	⇑*i*P	Pg	23 53 51.5	+0.4
CBKC	**Canebrake**	**0.51**	**306**	*e*P	Pg	23 53 54.6	+0.2
BAR	**Barrett**	**0.77**	**277**	Pg	Pg	23 53 58.9	-0.5
BAR				*e*Sg	Sg	23 54 08.8	-0.8
GLA	**Glamis**	**0.91**	**60**	*e*P	Pg	23 53 59.8	-2.3
GLA				*e*Sg	Sg	23 54 12.7	-1.4
PFO	**Pinyon Flats O**	**1.17**	**330**	*e*Pg	Pg	23 54 05.8	-1.3
PFO				*e*Sg	Sg	23 54 19.1	-3.4

NEIC 04 23:57:13.4, 32°.57N×115°.74W, h6km, ML3.8(PAS), 3C-2D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.18**	**21**	⇑*i*P	Pg	23 57 17.1	0.0
COK	**Cook Ranch**	**0.28**	**2**	⇓*i*P	Pg	23 57 18.8	0.0
DREC	**Desert Rsrch C**	**0.34**	**47**	⇑*i*P	Pg	23 57 20.3	+0.3
CRR	**Carrizo Plain**	**0.37**	**328**	*e*P	Pg	23 57 20.2	-0.4
ERRC	**Elmore Ranch**	**0.55**	**353**	⇓*i*P	Pg	23 57 24.0	0.0
COA	**Coachella**	**0.60**	**61**	⇑*i*P	Pg	23 57 24.5	-0.4
BAR	**Barrett**	**0.79**	**278**	*e*Pg	Pg	23 57 28.2	-0.5
BAR				*e*Sg	Sg	23 57 38.3	-0.8
GLA	**Glamis**	**0.91**	**58**	*e*Pg	Pg	23 57 28.9	-2.0
GLA				*e*Sg	Sg	23 57 40.9	-1.9
PFO	**Pinyon Flats O**	**1.20**	**330**	*e*Pg	Pg	23 57 33.7	-2.8
PFO				*e*Sg	Sg	23 57 49.0	-3.2

NEIC 05 00:06:01.4, 32°.53N×115°.69W, h3km, ML3.6(PAS), 3C-3D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.21**	**5**	⇓*i*P	Pg	00 06 05.8	+0.2
WESC	**Westside Schoo**	**0.23**	**351**	⇓*i*P	Pg	00 06 06.0	+0.1
WESC				*e*S	Sg	00 06 10.2	+1.3
YUH	**Yuha Desert**	**0.23**	**300**	*e*P	Pg	00 06 06.1	+0.1
COK	**Cook Ranch**	**0.32**	**354**	⇓*i*P	Pg	00 06 07.8	+0.2
SWSC	**Sam W. Stewart**	**0.42**	**347**	*e*P	Pg	00 06 09.2	-0.3
CRR	**Carrizo Plain**	**0.43**	**326**	⇑*i*P	Pg	00 06 09.5	-0.1
COA	**Coachella**	**0.58**	**55**	*e*P	Pg	00 06 12.3	-0.2
ERRC	**Elmore Ranch**	**0.59**	**349**	*e*P	Pg	00 06 13.0	+0.1
CBKC	**Canebrake**	**0.60**	**308**	*e*P	Pg	00 06 13.3	+0.3
CLIC	**Calipatria**	**0.62**	**12**	⇑*i*P	Pg	00 06 13.1	-0.2
EMSC	**East Mesa**	**0.63**	**71**	⇑*i*P	Pg	00 06 13.2	-0.2
RUN	**Ruthven**	**0.74**	**54**	*e*P	Pg	00 06 14.8	-0.9
BAR	**Barrett**	**0.84**	**280**	*e*P	Pg	00 06 17.0	-0.7
BAR				*e*S	Sg	00 06 28.1	-0.6
FRK	**Frink**	**0.87**	**3**	*e*P	Pg	00 06 16.5	-1.6
FRK				*e*S	Sg	00 06 28.7	-0.7
GLA	**Glamis**	**0.89**	**54**	*e*P	Pg	00 06 16.9	-1.8
GLA				*e*S	Sg	00 06 27.9	-2.3
BATC	**Bat Cave Butte**	**0.93**	**352**	*e*P	Pg	00 06 17.8	-1.5
YMD	**Yuma Desert**	**0.96**	**88**	*e*P	Pg	00 06 19.0	-1.0

NEIC 05 00:07:01.6, 32°.16N×115°.24W, h10km, ML3.6(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.62**	**20**	*e*P	Pg	00 07 12.7	-0.8
EMSC				*e*S	Sg	00 07 21.1	-0.6
SGL	**Mount Signal**	**0.64**	**320**	*e*P	Pg	00 07 14.2	+0.2
ERPC	**Ernies Place**	**0.68**	**329**	*e*P	Pg	00 07 13.4	-1.4
YMD	**Yuma Desert**	**0.71**	**56**	*e*P	Pg	00 07 14.9	-0.4
COA	**Coachella**	**0.71**	**8**	*e*P	Pg	00 07 14.2	-1.1
RUN	**Ruthven**	**0.84**	**15**	*e*P	Pg	00 07 16.0	-1.8

*MEX **05** 00:07:07.1±0.4, 32°.00N×114°.78W, h8km±10km, MD4.5*
*ISCJB **05** 00:07:07.8±0.2, 31°.93N±0°.02×114°.96W±0°.02, h10km, mb5.0/144, MS5.7/5, Error ellipse: s-maj=2.8km s-min=1.9km az=28.6*
*IDC **05** 00:07:08.7±0.6, 32°.09N×114°.84W, h0km, mb4.5/28, mb1 4.6/34, mb1mx4.4/58, mbtmp4.5/34, ML3.9/4, MS5.6/6, Ms1 5.6/6, ms1mx5.1/47, Error ellipse: s-maj=16.3km s-min=9.6km az=57.0*
*MOS **05** 00:07:08.3±1.1, 31°.96N×114°.83W, h10km, mb5.2/40, Error ellipse: s-maj=6.2km s-min=3.6km az=80.9*
*BJI **05** 00:07:08.4, 32°.00N×114°.80W, h14km, mB5.6/5, mb5.1/10, Ms5.6/5, Ms7 5.2/5*
*NEIC **05** 00:07:09.1, 32°.02N×115°.02W, h10km, mb5.1/90, MD5.4(MEX), MW5.3(PAS), After PAS.*
NEIC Felt at Rosarito and San Quintin. Also felt at Puerto Penasco, Sonora. Felt [V] at Yuma, Arizona. Also felt at Somerton. Felt [V] at Brawley, California. Also felt at Blythe, Holtville, Jamul, La Habra and Tustin.
*ECX **05** 00:07:09.3±0.5, 32°.00N×115°.04W, h8km, MD5.3, ML5.1*
*SZGRF **05** 00:07:23.4, 32°.55N×112°.98W, h33km, mb5.2, Western Arizona-Sonora border region*

ISC 05 00:07:09.0±0.6, 31°.99N±0°.02×115°.02W±0°.02, h8km±3km, n581, σ1§48/546, mb5.1/144, MS5.6/5, 22C-18D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.19**	**269**	*e*P	**Pg**	**00 07 10.4**	**-2.4**
EMX				*e*S	**Sg**	**00 07 13.4**	**-2.1**
MBIG	**Mexicali**	**0.44**	**340**	*e*P	**Pg**	**00 07 16.9**	**-0.7**
MBIG				*i* S	**Sb**	**00 07 24.7**	**-1.1**
EMSC	**East Mesa**	**0.74**	**2**	*e*P	**Pg**	**00 07 22.4**	**-1.0**
COA	**Coachella**	**0.87**	**354**	*e*P	**Pg**	**00 07 24.3**	**-1.5**
COA	**Coachella**	**0.87**	**354**	*e*P	**Pg**	**00 07 24.3**	**-1.5**
DREC	**Desert Rsrch C**	**0.89**	**336**	*e*P	**Pg**	**00 07 24.9**	**-1.1**
DREC				*e*S	**Sg**	**00 07 36.3**	**-1.4**
ERPC	**Ernies Place**	**0.93**	**324**	⇑*i*P	**Pg**	**00 07 25.5**	**-1.3**
WESC	**Westside Schoo**	**0.97**	**322**	*e*P	**Pg**	**00 07 25.5**	**-2.2**
YUH	**Yuha Desert**	**1.01**	**311**	*e*P	**Pg**	**00 07 25.9**	**-2.5**
YUH	**Yuha Desert**	**1.01**	**311**	*e*P	**Pg**	**00 07 25.9**	**-2.5**
SPIG	**San Pedro Mart**	**1.02**	**202**	*e*P	Pg	00 07 25.6	-3.0
SPIG				*i* S	**Sg**	**00 07 39.8**	**-2.1**
SPIG	**San Pedro Mart**	**1.02**	**202**	⇓*e*P	**Pg**	**00 07 26.9**	**-1.6**
SPIG	**San Pedro Mart**	**1.02**	**202**	*e*Pg	Pg	00 07 25.6	-3.0
SPIG				*e*S	**Sg**	**00 07 38.9**	**-2.9**
SPX	**San Pedro Mart**	**1.02**	**202**	⇓*e*P	**Pg**	**00 07 26.9**	**-1.7**
SPX				*e*		00 07 44.5	
SPX				AML	AML	00 07 44.5	
	comp=E,27μm,0.7s						
COK	**Cook Ranch**	**1.04**	**325**	*e*P	**Pg**	**00 07 26.4**	**-2.6**
COK	**Cook Ranch**	**1.04**	**325**	*e*P	**Pg**	**00 07 26.4**	**-2.6**
GLA	**Glamis**	**1.07**	**9**	*e*P	**Pg**	**00 07 27.9**	**-1.7**
GLA				*e*		00 07 40.9	
GLA	**Glamis**	**1.07**	**9**	⇑P	Pg	00 07 22.0	-7.6
	baz=1.0						
GLA				⇑S	Sg	00 07 34.7	-8.8
	baz=1.0						
GLA	**Glamis**	**1.07**	**9**	*e*Pn	**Pg**	**00 07 27.9**	**-1.7**
GLA				*e*Sn	**Sg**	**00 07 40.9**	**-2.6**
SWSC	**Sam W. Stewart**	**1.15**	**325**	⇓P	Pb	00 07 26.0	-5.2
	baz=1.1						
SWSC	**Sam W. Stewart**	**1.15**	**325**	⇑*i*P	Pb	00 07 27.9	-3.2
CRR	**Carrizo Plain**	**1.20**	**318**	*e*P	**Pb**	**00 07 29.3**	**-2.8**
113A	**Mohawk Valley,**	**1.31**	**54**	⇑P	Pn	00 07 27.8	-5.9
	baz=1.3						
113A				⇓S	Sb	00 07 43.3	-7.7
	baz=1.3						
CBKC	**Canebrake**	**1.38**	**311**	⇓*i*P	**Pn**	**00 07 32.7**	**-1.9**
CBX	**Cerro Bola**	**1.43**	**283**	*e*P	**Pn**	**00 07 32.5**	**-3.0**
CBX				*e*S	**Sn**	**00 07 51.6**	**-3.0**
CBX	**Cerro Bola**	**1.43**	**283**	⇑*e*P	**Pn**	**00 07 32.6**	**-2.8**
CBX				*e*S	**Sn**	**00 07 51.6**	**-3.0**
CBX				⇑*e*		00 07 57.1	
CBX				AML	AML	00 07 57.1	
	comp=E,45μm,0.5s						
MONP	**Monument Peak,**	**1.48**	**307**	⇑P	**Pn**	**00 07 33.2**	**-3.0**
	baz=1.5						
MONP				⇓S	**Sn**	**00 07 54.0**	**-2.0**
	baz=1.5						
BAR	**Barrett**	**1.56**	**297**	*e*Pn	**Pn**	**00 07 34.9**	**-2.2**
BAR				*e*Sn	**Sn**	**00 07 56.4**	**-1.1**
BC3	**Big Chuckawall**	**1.70**	**348**	⇑P	Pn	00 07 35.3	-3.8
	baz=1.7						
BC3				⇓S	**Sn**	**00 07 55.7**	**-5.5**
	baz=1.7						
Y12C	**Blythe**	**1.80**	**13**	⇓P	Pn	00 07 35.1	-5.3
	baz=1.8						
214A	**Organ Pipe Nat**	**1.88**	**91**	⇑P	**Pn**	**00 07 38.7**	**-2.8**
	baz=1.9						
214A				⇓Sg	**Sb**	**00 08 06.3**	**-0.9**
	baz=1.9						
HWB	**Hans Werner Br**	**1.94**	**303**	*e*Pn	**Pb**	**00 07 43.8**	**-0.8**
109C	**Camp Elliot, M**	**1.98**	**297**	⇑P	**Pn**	**00 07 40.2**	**-2.7**
	baz=2.0						
109C				⇑Sb	**Sb**	**00 08 09.3**	**-0.8**
	baz=2.0						
PFO	**Pinyon Flats O**	**2.02**	**324**	Pn	**Pn**	**00 07 40.6**	**-2.9**
	comp=E,12μm,0.6s,SNR=10						
PFO	**Pinyon Flats O**	**2.02**	**324**	Pn	Pn	00 07 40.1	-3.4
	comp=E,83nm,0.3s,baz=128,slow=7.6,SNR=5.9						
PFO	**Pinyon Flats O**	**2.02**	**324**	⇑P	Pn	00 07 39.9	-3.6
	baz=2.0						
IRM	**Iron Mountain**	**2.16**	**357**	⇑P	Pn	00 07 40.0	-5.4
	baz=2.1						
BELC	**Belle Mtn. Jos**	**2.17**	**338**	⇓P	Pn	00 07 42.1	-3.4
	baz=2.1						
BELC				⇓S	Sn	00 08 06.4	-6.3
	baz=2.1						
Z14A	**Wintersburg**	**2.22**	**51**	⇓P	Pn	00 07 42.2	-4.0
	baz=2.2						
Z14A				⇑S	**Sn**	**00 08 08.7**	**-5.2**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.42**	**18**	⇑P	Pn	00 07 44.5	-4.4
	baz=2.4						
MURC	**Murrieta**	**2.44**	**312**	⇑P	**Pn**	**00 07 46.9**	**-2.3**
	baz=2.4						
MURC				⇓S	**Sn**	**00 08 17.6**	**-1.7**
	baz=2.4						
BBSC	**Beaumont Base**	**2.53**	**320**	*e*Pn	**Pn**	**00 07 48.8**	**-1.8**
Y14A	**Wickenburg**	**2.58**	**41**	⇓P	Pn	00 07 47.2	-4.0
	baz=2.6						
BBRC	**Big Bear Solar**	**2.77**	**325**	⇓S	**Sn**	**00 08 24.5**	**-3.2**
	baz=2.8						
NEE2	**Needles Airpor**	**2.79**	**7**	⇑S	**Sn**	**00 08 23.5**	**-4.3**
	baz=2.8						
GMRC	**Granite Mounta**	**2.83**	**349**	⇓P	Pn	00 07 51.4	-3.3
	baz=2.8						
LDFC	**Landfair**	**3.08**	**359**	*e*Pn	**Pb**	**00 08 05.0**	**+0.9**
SCI	**San Clemente I**	**3.14**	**289**	⇑Sb	**Sb**	**00 08 44.3**	**+0.8**
	baz=3.1						
CIS	**Catalina Islan**	**3.18**	**297**	⇓P	**Pn**	**00 07 56.6**	**-2.9**
	baz=3.2						
CIS				⇑Sb	**Sb**	**00 08 45.6**	**+0.8**
	baz=3.2						
FMP	**Fort Macarthur**	**3.25**	**303**	⇑Sb	**Sb**	**00 08 47.3**	**+0.6**
	baz=3.2						
MWC	**Mount Wilson**	**3.38**	**312**	*e*P	**Pb**	**00 08 08.3**	**-1.1**
MWC	**Mount Wilson**	**3.38**	**312**	*e*Pn	**Pb**	**00 08 08.3**	**-1.1**
PASC	**Pasadena Art C**	**3.43**	**310**	*e*Pg	**Pg**	**00 08 12.6**	**-2.2**
PASC				*e*Sn	**Sb**	**00 08 55.1**	**+3.1**
TUC	**Tucson**	**3.60**	**84**	*e*P	Pn	00 07 57.2	-8.1
TUC	**Tucson**	**3.60**	**84**	*e*P	Pn	00 07 57.2	-8.1
TUC				*e*Pg	**Pb**	**00 08 13.8**	**+0.7**
GSC	**Goldstone, Bar**	**3.62**	**336**	*e*P	**Pb**	**00 08 13.8**	**+0.4**
GSC	**Goldstone, Bar**	**3.62**	**336**	*e*Pn	**Pb**	**00 08 13.8**	**+0.4**
OSI	**Osito Audit: C**	**4.06**	**311**	*e*Pn	Pb	00 08 16.6	-4.2
TJR	**Tejon Ranch**	**4.34**	**315**	*e*ScP	**ScP**	**00 19 14.7**	**+2.7**
SHPR	**Sheep Range**	**4.50**	**359**	*e*Pn	**Pn**	**00 08 16.7**	**-1.1**
WWPM	**Walker Pass**	**4.52**	**326**	*e*Sn	**Sb**	**00 09 18.9**	**-4.5**
WWPM				*e*Lg	Lg	00 09 35.0	
HSIG		**4.59**	**129**	*e*P	**Pn**	**00 08 17.6**	**-1.2**
HSIG		**4.59**	**129**	*e*Pn	**Pn**	**00 08 17.6**	**-1.2**
WUAZ	**Wupatki**	**4.64**	**40**	*e*Pn	**Pn**	**00 08 18.9**	**-0.8**
ISA	**Isabella, Lake**	**4.66**	**323**	*e*P	Pn	00 08 23.3	+3.6
ISA	**Isabella, Lake**	**4.66**	**323**	*e*Pn	Pn	00 08 23.3	+3.6
TPNV	**Topopah Spring**	**5.05**	**349**	*e*P	Pn	00 08 28.5	+3.3
TPNV	**Topopah Spring**	**5.05**	**349**	*e*Pn	Pn	00 08 28.5	+3.3
SRIG	**Santa Rosalia**	**5.25**	**152**	*e*P	**Pn**	**00 08 25.3**	**-2.5**
KNB	**Kanab**	**5.33**	**19**	*e*P	**Pn**	**00 08 28.3**	**-0.8**
KNB	**Kanab**	**5.33**	**19**	*e*Pn	**Pn**	**00 08 28.2**	**-0.8**
W18A	**Petrified Fore**	**5.40**	**53**	*e*Pn	**Pn**	**00 08 28.8**	**-1.3**
CCUT	**Cedar City**	**5.71**	**13**	*e*Pn	**Pn**	**00 08 33.4**	**-1.0**
ARUT	**Antelope Range**	**5.92**	**12**	*e*P	**Pn**	**00 08 36.9**	**-0.4**
ARUT	**Antelope Range**	**5.92**	**12**	*e*Pn	**Pn**	**00 08 36.9**	**-0.4**
CGIG		**6.25**	**103**	*e*P	**Pn**	**00 08 40.6**	**-1.1**
CGIG		**6.25**	**103**	*e*Pn	**Pn**	**00 08 40.6**	**-1.1**
TPH	**Tonopah**	**6.33**	**344**	*e*P	Pn	00 08 46.8	+3.9
TPH	**Tonopah**	**6.33**	**344**	*e*Pn	Pn	00 08 46.8	+3.9
R11A	**Troy Canyon, C**	**6.36**	**356**	*e*Pn	**Pn**	**00 08 44.5**	**+1.2**
NV01	**Mina Array Sit**	**6.96**	**338**	*e*Pn	Pn	00 08 55.9	+4.3
NV01				*e*Lg	Lg	00 10 54.6	
NVAR	**Mina Array Bea**	**6.96**	**338**	Pn	Pn	00 08 55.9	+4.3
	comp=E,0.6nm,0.3s,baz=160,slow=15,SNR=8.6						
NVAR				Lg	Lg	00 10 54.6	
	baz=115,slow=15,SNR=1.7						
LAZ	**Ladron**	**7.03**	**68**	*e*Pn	**Pn**	**00 08 51.4**	**-1.0**
LENM	**Lemitar**	**7.09**	**70**	*e*Pn	**Pn**	**00 08 52.2**	**-1.1**
SAO	**San Andreas Ge**	**7.13**	**314**	*e*P	Pn	00 08 58.6	+4.9
SAO	**San Andreas Ge**	**7.13**	**314**	*e*Pn	Pn	00 08 58.6	+4.9
BNM	**Barren Site**	**7.36**	**71**	*e*Pn	**Pn**	**00 08 56.4**	**-0.7**
LPM	**Los Pinos Moun**	**7.40**	**70**	*e*Pn	**Pn**	**00 08 56.6**	**-1.0**
WAKR	**Walker**	**7.43**	**332**	*e*Pn	Pn	00 09 01.1	+3.1
CMB	**Columbia Colle**	**7.46**	**325**	*e*P	Pn	00 09 01.6	+3.3
CMB	**Columbia Colle**	**7.46**	**325**	*e*Pn	Pn	00 09 01.6	+3.3
MVCO	**Mesa Verde**	**7.48**	**44**	*e*Pn	**Pn**	**00 08 59.4**	**+0.7**
ANMO	**Albuquerque**	**7.74**	**65**	*e*P	**Pn**	**00 09 02.9**	**+0.7**
ANMO	**Albuquerque**	**7.74**	**65**	Pn	**Pn**	**00 09 01.6**	**-0.5**
	comp=E,1.5nm,0.3s,baz=260,slow=7.8,SNR=18						
ANMO				Lg	Lg	00 11 15.9	
	comp=E,2.8nm,0.3s,baz=356,slow=18,SNR=2.8						
ANMO	**Albuquerque**	**7.74**	**65**	*e*Pn	**Pn**	**00 09 02.9**	**+0.7**
ANMO				*e*Lg	Lg	00 11 15.9	
PV05	**Paradox Valley**	**7.77**	**37**	*e*Pn	**Pn**	**00 09 05.1**	**+2.4**
TMUT	**Trail Mountain**	**7.92**	**22**	*e*Pn	**Pn**	**00 09 07.2**	**+2.4**
SRU	**San Rafael Swe**	**7.99**	**26**	*e*P	Pn	00 09 06.6	+0.9
SRU	**San Rafael Swe**	**7.99**	**26**	*e*Pn	**Pn**	**00 09 06.5**	**+0.9**
PV10	**Paradox Valley**	**8.03**	**36**	*e*Pn	**Pn**	**00 09 07.9**	**+1.6**
PV09	**Paradox Valley**	**8.08**	**35**	*e*Pn	**Pn**	**00 09 09.6**	**+2.6**
PV01	**Paradox Valley**	**8.09**	**39**	*e*Pn	**Pn**	**00 09 09.1**	**+2.0**
MNTX	**Cornudas Mount**	**8.20**	**90**	*e*Pn	**Pn**	**00 09 05.8**	**-2.7**
NLU	**North Lily Min**	**8.29**	**16**	*e*Pn	**Pn**	**00 09 11.8**	**+1.9**
DUG	**Dugway, Tooele**	**8.38**	**12**	*e*P	Pn	00 09 13.4	+2.5
DUG	**Dugway, Tooele**	**8.38**	**12**	*e*Pn	Pn	00 09 13.4	+2.5
MPU	**Maple Canyon**	**8.46**	**18**	*e*Pn	**Pn**	**00 09 14.5**	**+2.4**
BMN	**Battle Mountai**	**8.61**	**349**	*e*P	Pn	00 09 18.1	+4.0
BMN	**Battle Mountai**	**8.61**	**349**	*e*Pn	Pn	00 09 18.1	+4.0
ELK	**Elko**	**8.74**	**359**	*e*P	**Pn**	**00 09 16.5**	**+0.6**
ELK	**Elko**	**8.74**	**359**	Pn	**Pn**	**00 09 15.8**	**-0.1**
	comp=E,0.5nm,0.3s,baz=170,slow=9.1,SNR=8.2						
ELK	**Elko**	**8.74**	**359**	*e*Pn	**Pn**	**00 09 16.5**	**+0.6**
S22A	**4UR Ranch, Cre**	**8.84**	**47**	*e*Pn	**Pn**	**00 09 17.6**

CHMT Chamberlain Mo 14.96 5 *e*Pn Pn 00 10 43.4 +2.3
V34A Guthrie 15.03 70 *e*Pn Pn 00 10 42.2 +0.5
F04A Amboy 15.05 340 *e*Pn Pn 00 10 43.2 +1.2
comp=E,165nm,1.5s
U34A Anderson Ranch 15.13 68 *e*Pn Pn 00 10 43.4 +0.4
comp=E,75nm,1.1s
SLMT Seeley Lake 15.28 4 *e*Pn Pn 00 10 46.6 +1.5
D08A Wollman Farm, 15.34 350 *e*Pn P 00 10 48.6 -2.0
comp=E,387nm,2.5s
F03A Seaside 15.41 337 *e*Pn P 00 10 54.0 +2.7
comp=E,942nm,2.0s
SWMT Swartz Lake 15.52 3 *e*Pn Pn 00 10 49.8 +1.5
LON Longmire 15.63 342 *e*P P 00 10 52.2 -1.8
LON pmax pmax
comp=Z,99nm,1.3s
LON Longmire 15.63 342 *e*Pn P 00 10 52.2 -1.8
comp=Z,99nm,1.3s
JTMT Jette 15.74 2 *e*Pn P 00 10 53.8 -1.5
BSMT Bassoo Peak 15.84 1 *e*Pn P 00 10 54.5 -1.9
LTY Liberty 15.85 346 *e*Pn P 00 10 54.0 -2.3
comp=Z,97nm,1.3s
YBMT Yellow Bay 15.87 2 *e*Pn Pn 00 10 53.0 +0.2
E03A Lebam 15.95 338 *e*Pn P 00 10 59.0 +1.6
comp=Z,190nm,0.9s
C09A Chrisman Ranch 15.98 352 *e*Pn P 00 10 56.4 -1.4
comp=Z,164nm,1.8s
BLMT Blacktail Moun 16.01 2 *e*Pn Pn 00 10 53.2 -1.5
D05A Enumclaw 16.09 343 *e*Pn P 00 10 58.5 -0.4
comp=Z,252nm,1.3s
LAO LASA Array 16.16 22 *e*Pn P 00 10 57.7 -2.1
comp=Z,245nm,1.4s
NEW Newport 16.33 355 *e*P P 00 11 00.2 -1.5
NEW pmax pmax
comp=Z,116nm,1.4s
NEW Newport 16.33 355 Pn P 00 11 00.5 -1.2
comp=Z,0.2nm,0.3s,baz=174,slow=11,SNR=16
NEW Lg Lg 00 15 44.7
comp=Z,0.1nm,0.3s,baz=77,slow=19,SNR=1.9
NEW Newport 16.33 355 *e*Pn P 00 11 00.2 -1.5
comp=Z,116nm,1.4s
TUL1 Leonard 16.42 71 *e*Pn Pn 00 10 58.9 -1.0
comp=Z,80nm,1.3s
EGMT Eagleton 16.50 13 *e*Pn P 00 11 02.0 -1.7
comp=Z,265nm,1.7s
PIER Pier 30 Seattl 16.54 342 *e*Pn Pn 00 10 56.7 -4.6
PIER *ep*P pP 00 11 10.9 +4.9
PIER *e*Sn Sn 00 14 08.2 +3.1
PIER *e*S S 00 14 21.1 +4.2
HKT Hockley 16.58 92 *e*P Pn 00 11 00.8 -1.1
HKT pmax pmax
comp=Z,152nm,1.5s
HKT Hockley 16.58 92 *e*Pn Pn 00 11 00.8 -1.1
comp=Z,152nm,1.5s
B08A Colville Reser 16.67 350 *e*Pn P 00 11 05.7 +0.3
comp=Z,242nm,2.1s
NLWA Neilton Lookou 16.80 339 *e*Pn P 00 11 08.4 +1.6
comp=Z,609nm,2.0s
WALA Waterton Lakes 17.07 2 *e*Pn P 00 11 09.1 -0.8
comp=Z,166nm,1.5s
B06A Marblemount 17.22 345 *e*Pn P 00 11 12.7 +1.3
comp=Z,172nm,1.4s
BRSD Miller 17.68 41 *e*Pn P 00 11 17.1 +0.6
comp=Z,108nm,1.1s
A05A Maple Falls 17.80 345 *e*Pn P 00 11 18.8 +1.0
comp=Z,453nm,2.5s
MIAR Mount Ida 18.11 76 *e*P Pn 00 11 20.6 -0.4
MIAR pmax pmax
comp=Z,316nm,1.9s
MIAR Mount Ida 18.11 76 *e*Pn Pn 00 11 20.6 -0.4
comp=Z,316nm,1.9s
DGMT Dagmar 18.38 23 *e*P P 00 11 24.6 +0.2
comp=Z,346nm,1.8s
ECSD EROS Data Cent 18.62 46 *e*P P 00 11 26.3 -0.7
comp=Z,110nm,1.5s
UALR University of 19.13 76 *e*P P 00 11 32.1 -0.6
comp=Z,77nm,1.4s
MDND Maddock 19.70 32 *e*P Pn 00 11 40.2 0.0
comp=Z,117nm,1.0s
SCIA State Center 19.99 54 *e*P Pn 00 11 42.9 -0.8
comp=Z,709nm,2.7s
VBMS Vicksburg 20.75 83 *e*P Pn 00 11 51.5 -1.1
EDM Edmonton 21.25 3 *e*P P 00 11 54.9 -0.6
EDM pmax pmax
comp=Z,162nm,1.4s
EDM Edmonton 21.25 3 *e*P P 00 11 54.9 -0.6
comp=Z,162nm,1.4s
OXF Oxford 21.55 76 *e*P P 00 11 58.3 -0.6
OXF pmax pmax
comp=Z,68nm,1.0s
OXF Oxford 21.55 76 *e*P P 00 11 58.2 -0.6
comp=Z,68nm,1.0s
SPMN Marine on St. 21.73 46 *e*P P 00 12 00.6 -0.1
comp=Z,170nm,1.6s
AGMN Agassiz Nation 21.80 36 *e*P P 00 12 00.8 -0.7
comp=Z,84nm,1.3s
SIUC Southern Illin 21.90 68 *e*P P 00 12 02.4 -0.2
comp=Z,136nm,1.4s
JFWS Jewell Farm 22.41 54 *e*P P 00 12 08.9 +0.9
JFWS pmax pmax
comp=Z,125nm,1.5s
JFWS Jewell Farm 22.41 54 *e*P P 00 12 08.9 +0.9
comp=Z,125nm,1.5s
WVT Waverly 22.87 72 *e*P P 00 12 13.7 +0.7
WVT pmax pmax
comp=Z,45nm,1.0s
WVT Waverly 22.87 72 *e*P P 00 12 13.7 +0.7
comp=Z,45nm,1.0s
OLIL Olney 22.91 65 *e*P P 00 12 13.5 +0.1
comp=Z,133nm,1.3s
ULM Lac du Bonnet 23.14 32 *e*P P 00 12 16.0 +0.4
ULM pmax pmax
comp=Z,115nm,1.8s
ULM Lac du Bonnet 23.14 32 P P 00 12 16.0 +0.4
comp=Z,11nm,1.0s,baz=233,slow=9.1,SNR=16
ULM Lg Lg 00 19 20.4
comp=Z,20nm,1.4s,baz=332,slow=14,SNR=5.7
ULM LR LR 00 21 26.0
comp=Z,19µm,18.7s,baz=34,slow=37
ULM Lac du Bonnet 23.14 32 *e*P P 00 12 16.0 +0.4
comp=Z,114nm,1.8s
USIN University of 23.15 68 *e*P P 00 12 16.4 +0.6
comp=Z,60nm,1.1s
CMIG Matias Romero 23.51 124 P P 00 12 19.8 +0.2
comp=Z,18nm,1.0s,baz=312,slow=8.3,SNR=16
CMIG LR LR 00 22 18.0
comp=Z,14µm,18.6s,baz=236,slow=39
LRAL Lakeview Retre 23.63 80 *e*P P 00 12 20.9 +0.2
comp=Z,131nm,1.8s
BRAL Brewton 23.84 85 *e*P P 00 12 21.1 -1.6
comp=Z,397nm,1.8s
EYMN Ely 23.92 41 *e*P P 00 12 21.6 -1.8
comp=Z,56nm,1.3s
SFIN Lafayette 23.97 62 *e*P P 00 12 23.5 -0.4
comp=Z,554nm,2.5s
WCI Wyandotte Cave 24.25 67 *e*P P 00 12 26.3 -0.3
WCI pmax pmax
comp=Z,161nm,2.1s
WCI Wyandotte Cave 24.25 67 *e*P P 00 12 26.2 -0.3
comp=Z,161nm,2.1s
COWI Conover 24.41 47 *e*P P 00 12 27.2 -0.7
comp=Z,161nm,1.6s
FFC Flin Flon 24.54 18 P P 00 12 27.3 -1.7
comp=Z,86nm,1.5s,SNR=6.0
FFC Flin Flon 24.54 18 *e*P P 00 12 28.0 -1.0
FFC pmax pmax
comp=Z,70nm,1.5s
FFC Flin Flon 24.54 18 *e*P P 00 12 28.0 -1.0
comp=Z,70nm,1.5s
TKL Tuckaleechee C 26.16 73 *e*P P 00 12 43.0 -0.9
TKL Tuckaleechee C 26.16 73 P P 00 12 43.7 -0.2
comp=Z,3.9nm,0.9s,baz=303,slow=8.5,SNR=11
TKL Lg Lg 00 20 56.4
comp=Z,3.9nm,1.1s,baz=128,slow=8.1,SNR=5.6
TKL Tuckaleechee C 26.16 73 *e*P P 00 12 43.0 -0.9
ACSO Alum Creek Sta 27.05 63 *e*P P 00 12 51.4 -0.4
comp=Z,74nm,1.3s
WRAK Wrangell Islan 27.24 339 *e*P P 00 12 53.8 +0.4
comp=Z,212nm,2.3s
KMSC Kings Mountain 28.17 74 *e*P P 00 13 01.7 -0.2
comp=Z,26nm,1.3s
DLBC Dease Lake 28.34 343 P P 00 13 04.7 +1.3
comp=Z,24nm,1.0s,baz=162,slow=8.5,SNR=25
DLBC Dease Lake 28.34 343 *e*P P 00 13 04.9 +1.5
comp=Z,64nm,1.3s
BLA Blacksburg 28.85 70 *e*P P 00 13 07.9 -0.2
BLA pmax pmax
comp=Z,128nm,2.1s
BLA Blacksburg 28.85 70 *e*P P 00 13 07.9 -0.2
comp=Z,128nm,2.1s
ALLY Alegheny Colle 29.36 61 *e*P P 00 13 12.3 -0.2
comp=Z,116nm,1.6s
ERPA Erie 29.55 60 *e*P P 00 13 14.0 -0.1
comp=Z,111nm,1.8s
FCC Fort Churchill 30.28 22 *e*P P 00 13 20.3 -0.1
FCC pmax pmax
comp=Z,37nm,1.3s
FCC Fort Churchill 30.28 22 *e*P P 00 13 20.3 -0.1
comp=Z,37nm,1.3s
YKA Yellowknife Ar 30.52 0 P P 00 13 22.6 +0.2
comp=Z,2.3nm,0.9s,baz=179,slow=8.8,SNR=25
YKA PcP PcP 00 16 21.6 +0.4
comp=Z,1.7nm,0.9s,baz=172,slow=2.8,SNR=7.4
YKB5 Yellowknife Ar 30.52 0 *e*P P 00 13 22.6 +0.2
YKB5 *e*PcP PcP 00 16 21.6 +0.4
JSRW J. Sargeant Re 30.87 69 *e*P P 00 13 24.1 -1.7
SSPA Standing Stone 30.95 63 *e*P P 00 13 26.0 -0.6
comp=Z,37nm,1.4s
URVA University of 31.14 69 *e*P P 00 13 27.8 -0.5
MMNY Mt. Morris Dam 31.16 59 *e*P P 00 13 28.4 0.0
comp=Z,122nm,1.5s
MVL Millersville 32.09 65 *e*P P 00 13 36.1 -0.5
comp=Z,18nm,1.3s
HYT Haines Junctio 32.40 340 *e*P P 00 13 40.8 +1.6
BINY Binghamton 32.51 61 *e*P P 00 13 41.3 +1.0
comp=Z,55nm,1.4s
ODNJ Ogdensburg 33.47 63 *e*P P 00 13 47.7 -0.9
comp=Z,32nm,1.2s
PTN Potsdam (NY) 33.52 56 *e*P P 00 13 49.3 +0.3
PTN pmax pmax
comp=Z,63nm,1.4s
PTN Potsdam (NY) 33.52 56 *e*P P 00 13 49.3 +0.3
comp=Z,63nm,1.4s
LONY Lake Ozonia 33.80 56 *e*P P 00 13 52.7 +1.1
comp=Z,34nm,1.6s
PAL Palisades 33.99 63 *e*P P 00 13 53.7 +0.5
PAL pmax pmax
comp=Z,35nm,1.3s
PAL Palisades 33.99 63 *e*P P 00 13 53.7 +0.5
comp=Z,35nm,1.3s
ACCN Adirondack Com 34.32 59 *e*P P 00 13 56.6 +0.5
comp=Z,37nm,1.4s
MDV Middlebury 34.73 58 *e*P P 00 14 00.1 +0.5
DAWY Dawson 35.52 342 *e*P P 00 14 07.9 +1.7
comp=Z,55nm,1.4s
LBNH Lisbon 35.65 57 *e*P P 00 14 07.1 -0.4
LBNH pmax pmax
comp=Z,47nm,1.5s
LBNH Lisbon 35.65 57 *e*P P 00 14 07.1 -0.4
comp=Z,47nm,1.5s
HRV Adam Dziewonsk 35.80 60 *e*P P 00 14 09.5 +0.6
HRV pmax pmax
comp=Z,61nm,1.5s
HRV Adam Dziewonsk 35.80 60 *e*P P 00 14 09.4 +0.6
comp=Z,60nm,1.5s
KDAK Kodiak Island 36.29 327 *e*P P 00 14 14.7 +2.0
KDAK pmax pmax
comp=Z,163nm,1.8s
KDAK Kodiak Island 36.29 327 *e*P P 00 14 14.7 +2.0
comp=Z,163nm,1.8s
PAX Paxson 36.52 337 *e*P P 00 14 15.3 +0.5
PAX pmax pmax
comp=Z,148nm,2.6s
PAX Paxson 36.52 337 *e*P P 00 14 15.3 +0.5
comp=Z,148nm,2.6s
DOT Dot Lake 36.55 339 *e*P P 00 14 17.0 +2.0
comp=Z,25nm,1.2s
EGAK Eagle 36.56 342 *e*P P 00 14 16.0 +1.0
comp=Z,41nm,1.3s
PMR Palmer 36.92 333 *e*P P 00 14 19.6 +1.5
PMR Palmer 36.92 333 *e*P P 00 14 19.6 +1.5
INK Inuvik 37.90 349 P P 00 14 27.3 +1.0
comp=Z,15nm,1.1s,baz=146,slow=9.7,SNR=25
MCK McKinley 38.19 336 *e*P P 00 14 30.5 +1.6
MCK pmax pmax
comp=Z,59nm,1.2s
MCK McKinley 38.19 336 *e*P P 00 14 30.5 +1.6
comp=Z,59nm,1.2s
ILAR Eielson Array 38.22 339 P P 00 14 30.1 +1.0
comp=Z,21nm,1.1s,baz=152,slow=7.7,SNR=53
ILB Eielson Array 38.22 339 *e*P P 00 14 29.8 +0.7
TRF Thorofare Moun 38.48 335 *e*P P 00 14 32.5 +0.9
comp=Z,74nm,1.4s
COLA College 38.59 338 *e*P P 00 14 33.5 +1.3
COLA pmax pmax
comp=Z,39nm,1.1s
COLA College 38.59 338 *e*P P 00 14 33.5 +1.3
comp=Z,39nm,1.1s
KTH Kantishna Hill 38.77 335 *e*P P 00 14 34.9 +1.0
comp=Z,34nm,1.2s
PPLA Purkeypile 38.85 334 *e*P P 00 14 35.9 +1.4
comp=Z,116nm,1.3s
CAST Castle Rocks 39.11 335 *e*P P 00 14 38.4 +1.7
CAST *ep*P pP 00 14 38.6 -0.4
SCHQ Schefferville 40.73 41 P P 00 14 49.7 -0.5
comp=Z,9.7nm,1.2s,baz=249,slow=5.8,SNR=4.6
SCHQ Schefferville 40.73 41 *e*P P 00 14 49.1 -1.1
comp=Z,56nm,1.4s
COLD Coldfoot 40.89 340 *e*P P 00 14 52.2 +1.0
comp=Z,31nm,1.3s
IM04 Indian Mountai 41.21 337 *e*P P 00 14 54.8 +0.8
FRB Frobisher Bay 42.90 28 P P 00 15 06.1 -1.7
comp=Z,5.6nm,0.9s,baz=249,slow=9.0,SNR=6.1
RES Resolute Bay 43.92 8 *e*P P 00 15 15.9 +0.1
RES pmax pmax
comp=Z,24nm,1.4s
RES Resolute Bay 43.92 8 P P 00 15 16.0 +0.2
comp=Z,12nm,1.2s,baz=198,slow=10,SNR=13
RES Resolute Bay 43.92 8 *e*P P 00 15 15.9 +0.1
comp=Z,24nm,1.4s
TNA Tin City 46.16 333 *e*P P 00 15 34.8 +1.0
comp=Z,17nm,1.2s
ROSC El Rosal 46.66 117 P P 00 15 39.5 +0.7
comp=Z,1.5nm,0.4s,baz=78,slow=6.2,SNR=6.3
ROSC El Rosal 46.66 117 *e*P P 00 15 38.8 0.0
OTAV Otavalo 46.80 125 *e*P P 00 15 38.9 -1.0
comp=Z,130nm,2.5s
SDV Santo Domingo 47.08 109 *e*P P 00 15 40.7 -1.2
comp=Z,19nm,1.1s
GAMB Gambell 47.18 330 *e*P P 00 15 43.2 +1.4
comp=Z,21nm,1.4s
SFJD Kangerlussuaq 51.01 27 *i* P P 00 16 11.5 +0.4
SFJD pmax pmax
comp=Z,5.0nm,0.9s
SFJD Kangerlussuaq 51.01 27 *i* P P 00 16 11.5 +0.4
comp=Z,5.4nm,0.9s
ATAH Atahualpa 52.29 132 P P 00 16 23.1 +1.4
comp=Z,12nm,0.9s,baz=314,slow=3.4,SNR=5.2
ALE Alert 53.82 7 P P 00 16 31.6 -0.2
comp=Z,105nm,1.2s,SNR=14
SUMG Summit 55.79 21 *e*P P 00 16 46.8 +0.1
SUMG pmax pmax
comp=Z,325nm,2.9s
SUMG Summit 55.79 21 *e*P P 00 16 46.8 +0.1
comp=Z,325nm,2.9s
SUMG Summit 55.79 21 *i* P P 00 16 46.6 0.0
comp=Z,8.1nm,1.0s
BILL Bilibino 56.56 334 *e*P P 00 16 52.1 +0.4
BILL *i* 00 17 53.6
BILL pmax pmax
comp=Z,23nm,1.3s
BILL Bilibino 56.56 334 *e*P P 00 16 53.0 +1.3
comp=Z,32nm,1.3s
DAG Danmarks Havn 60.57 15 *i* P P 00 17 18.2 -1.3
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 60.57 15 *i* P P 00 17 18.2 -1.3
comp=Z,7.4nm,1.0s
SEY Seynchan 63.18 329 P P 00 17 37.6 +0.4
comp=Z,3.5nm,0.8s,baz=100,slow=7.1,SNR=8.2
SAML Samuel 64.07 120 *e*P P 00 17 42.1 -1.8
comp=Z,81nm,2.9s
KBS Kingsbay 65.26 10 *e*P P 00 17 52.6 +1.9
KBS pmax pmax
comp=Z,9.0nm,1.1s
KBS Kingsbay 65.26 10 *e*P P 00 17 52.6 +1.9
comp=Z,8.7nm,1.1s
SPA0 Spitsbergen Ar 66.42 10 *e*P P 00 17 57.8 -0.4
SPITS Spitsbergen Ar 66.42 10 P P 00 17 57.8 -0.4
comp=Z,8.1nm,0.9s,baz=266,slow=21,SNR=4.0
LVC Limon Verde 69.95 135 *e*P P 00 18 19.9 -1.5
comp=Z,20nm,1.3s
YAK Yakutsk 72.92 334 *e*P P 00 18 38.2 -0.3
YAK pmax pmax
comp=Z,12nm,1.2s
ARA0 ARCESS Array S 74.76 13 *e*P P 00 18 48.5 -0.7
ARCES ARCESS Array B 74.76 13 P P 00 18 48.5 -0.7
comp=Z,3.1nm,0.8s,baz=5.2,slow=4.0,SNR=7.6
KEV Kevo 74.86 13 *e*P P 00 18 48.8 -0.9
KEV pmax pmax
comp=Z,3.0nm,0.7s
KEV Kevo 74.86 13 *e*p P 00 18 48.8 -0.9
comp=Z,2.5nm,0.7s
YSS Yuzh-Sakhalins 74.88 316 *e*P P 00 18 50.7 +0.5
EKA Eskdalemuir Ar 75.41 33 P P 00 18 54.4 +1.3
comp=Z,3.6nm,0.9s,baz=332,slow=5.8,SNR=4.1
ERM Erimo 77.18 312 *e*P P 00 19 06.0 +2.5
ERM pmax pmax
comp=Z,29nm,1.2s
NB2 NORSAR Subarra 77.52 24 P P 00 19 05.4 +0.3
comp=Z,23nm,1.4s,baz=314,slow=5.6
NB2 NORSAR Subarra 77.52 24 P P 00 19 05.4 +0.3
baz=314,slow=5.6
NB200 NORSAR Array S 77.52 24 *e*P P 00 19 06.2 +1.1
NOA NORSAR Array B 77.52 24 P P 00 19 06.2 +1.1
comp=Z,3.9nm,1.1s,baz=316,slow=5.6,SNR=5.5
NOA LR LR 00 53 13.2
comp=Z,3µm,18.4s,baz=150,slow=36
LVZ Lovozero 77.85 11 *e*P P 00 19 09.4 +2.6
LVZ pmax pmax
comp=Z,30nm,1.2s
HFS Hagfors 79.02 23 P P 00 19 13.9 +0.5
comp=Z,5.3nm,0.7s,baz=270,slow=1.5,SNR=14
ROSF Rostrenen 79.47 39 *e*P P 00 19 14.9 -1.2
comp=Z,142nm,1.7s
ROSF Rostrenen 79.47 39 *e*P P 00 19 14.9 -1.2
ROSF Rostrenen 79.47 39 *e*P P 00 19 14.9 -1.2
BDFB Brasilia 79.72 116 *e*P P 00 19 15.7 -2.2
BDFB Brasilia 79.72 116 P P 00 19 17.7 -0.2
comp=Z,6.4nm,1.1s,baz=28,slow=2.9,SNR=4.9
BDFB Brasilia 79.72 116 *e*P P 00 19 15.7 -2.2
QUIF Quistinic 79.78 39 *e*P P 00 19 17.0 -0.7
comp=Z,83nm,1.4s
QUIF Quistinic 79.78 39 *e*P P 00 19 17.0 -0.7
QUIF Quistinic 79.78 39 *e*P P 00 19 17.0 -0.7
SGMF Saint Gilles 79.91 39 *e*P P 00 19 17.6 -0.8
comp=Z,140nm,1.8s
SGMF Saint Gilles 79.91 39 *e*P P 00 19 17.6 -0.8
SGMF Saint Gilles 79.91 39 *e*P P 00 19 17.6 -0.8
FLN La Foliniere 80.69 38 *e*P P 00 19 21.9 -0.7
comp=Z,139nm,1.7s
FLN La Foliniere 80.69 38 *e*P P 00 19 21.9 -0.7
FLN La Foliniere 80.69 38 *e*P P 00 19 21.9 -0.7
GRR Gorron 80.72 38 *e*P P 00 19 22.3 -0.5
comp=Z,45nm,1.2s
GRR Gorron 80.72 38 *e*P P 00 19 22.3 -0.5
GRR Gorron 80.72 38 *e*P P 00 19 22.3 -0.5
LDF La Druitiere 80.98 38 *e*P P 00 19 23.4 -0.8
comp=Z,146nm,1.7s
LDF La Druitiere 80.98 38 *e*P P 00 19 23.4 -0.8
LDF La Druitiere 80.98 38 *e*P P 00 19 23.4 -0.8
KAF Kangasniemi 81.17 17 *e*P P 00 19 22.9 -2.0
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 81.17 17 *e*p P 00 19 22.9 -2.0
comp=Z,3.6nm,0.8s
BOD Bodaibo 81.53 336 *e*P P 00 19 25.1 -1.8
BOD pmax pmax
comp=Z,7.0nm,1.3s
JOF Joensuu 81.66 15 *e*P P 00 19 25.9 -1.6
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 81.66 15 *e*p P 00 19 25.9 -1.6
comp=Z,2.6nm,0.7s
FIA0 FINESS Array S 81.68 18 *e*P P 00 19 28.3 +0.6
FIA0 FINESS Array S 81.68 18 *e*P P 00 19 28.2 +0.6
FINES FINESS Array B 81.68 18 P P 00 19 28.2 +0.6
comp=Z,5.8nm,1.0s,baz=332,slow=2.8,SNR=16
TMCR Tamitsa 81.83 12 *e*P P 00 19 27.1 -1.3
TMCR pmax pmax
comp=Z,18nm,1.5s
SNF Seneffe 81.94 34 P P 00 19 31.7 +2.5
BAIF Baives 82.20 35 *e*P P 00 19 30.2 -0.4
comp=Z,40nm,1.5s
BAIF Baives 82.20 35 *e*P P 00 19 30.2 -0.4
BAIF Baives 82.20 35 *e*P P 00 19 30.2 -0.4
MFF Saint Martin d 82.22 39 *e*P P 00 19 30.0 -0.7
comp=Z,94nm,1.7s
MFF Saint Martin d 82.22 39 *e*P P 00 19 30.0 -0.7
MFF Saint Martin d 82.22 39 *e*P P 00 19 30.0 -0.7
GIVF Givet 82.47 34 *e*P P 00 19 31.8 -0.2
GIVF Givet 82.47 34 *e*P P 00 19 31.8 -0.2
GIVF Givet 82.47 34 *e*P P 00 19 31.8 -0.2
BCLA Clavier 82.48 34 P P 00 19 34.1 +2.0
comp=Z,9.6nm,1.9s
MEM Membach 82.69 33 P P 00 19 35.1 +2.0
PLCA Paso Flores 83.22 148 *e*P P 00 19 35.3 -0.6
PLCA pmax pmax
comp=Z,129nm,2.5s
PLCA Paso Flores 83.22 148 P P 00 19 35.5 -0.4
comp=Z,4.5nm,1.1s,baz=279,slow=4.5,SNR=3.4
PLCA Paso Flores 83.22 148 *e*P P 00 19 35.3 -0.6
comp=Z,129nm,2.5s
MJAR Matsushiro Arr 83.39 309 P P 00 19 36.5 -0.5
comp=Z,0.7nm,0.3s,baz=7.9,slow=4.4,SNR=5.1
MAJO Matsushiro 83.39 309 *e*P P 00 19 36.5 -0.6
MAJO pmax pmax
comp=Z,85nm,2.0s
MAJO Matsushiro 83.39 309 *e*P P 00 19 36.5 -0.6
comp=Z,85nm,2.0s
WLF Walferdange 83.40 34 P P 00 19 39.1 +2.3
comp=Z,21nm,1.8s
MEZF Maizieres J'vi 83.65 35 *e*P P 00 19 37.8 -0.4
comp=Z,49nm,1.4s
MEZF Maizieres J'vi 83.65 35 *e*P P 00 19 37.8 -0.4
TCF Toulx Ste Croi 83.67 38 *e*P P 00 19 37.6 -0.7
comp=Z,138nm,1.9s
TCF Toulx Ste Croi 83.67 38 *e*P P 00 19 37.6 -0.7
TCF Toulx Ste Croi 83.67 38 *e*P P 00 19 37.6 -0.7
LFF La Frestale 83.75 40 *e*P P 00 19 38.5 -0.2
comp=Z,70nm,1.4s
LFF La Frestale 83.75 40 *e*P P 00 19 38.5 -0.2
LFF La Frestale 83.75 40 *e*P P 00 19 38.5 -0.2
MDJ Mudanjiang 83.75 320 P P 00 19 33.5 -5.2
MDJ pmax pmax
comp=Z,8.0nm,0.5s
MDJ pmax pmax
comp=Z,10µm,9.6s
SJPF Ste Jean 83.80 42 *e*P P 00 19 38.6 -0.5
comp=Z,58nm,1.4s
SJPF Ste Jean 83.80 42 *e*P P 00 19 38.6 -0.5
SJPF Ste Jean 83.80 42 *e*P P 00 19 38.6 -0.5
BGF Bois d'Agland 83.83 38 *e*P P 00 19 38.3 -0.8
comp=Z,112nm,1.6s
BGF Bois d'Agland 83.83 38 *e*P P 00 19 38.3 -0.8
BGF Bois d'Agland 83.83 38 *e*P P 00 19 38.3 -0.8
SSF Saint Saulge 83.84 37 *e*P P 00 19 38.6 -0.5
comp=Z,99nm,1.5s
SSF Saint Saulge 83.84 37 *e*P P 00 19 38.6 -0.5
SSF Saint Saulge 83.84 37 *e*P P 00 19 38.6 -0.5
SFTF Sexfontaines 83.84 36 *e*P P 00 19 38.6 -0.6
comp=Z,71nm,1.5s
SFTF Sexfontaines 83.84 36 *e*P P 00 19 38.6 -0.6
LOR Lormes 83.88 37 *e*P P 00 19 38.9 -0.5
comp=Z,106nm,1.6s
LOR Lormes 83.88 37 *e*P P 00 19 38.9 -0.5
LOR Lormes 83.88 37 *e*P P 00 19 38.9 -0.5
RJF Les Rejaudoux 83.94 39 *e*P P 00 19 39.1 -0.6
comp=Z,113nm,1.5s
RJF Les Rejaudoux 83.94 39 *e*P P 00 19 39.1 -0.6
RJF Les Rejaudoux 83.94 39 *e*P P 00 19 39.1 -0.6
AVF Avril sur Loir 83.94 37 *e*P P 00 19 38.7 -0.9
comp=Z,81nm,1.6s
AVF Avril sur Loir 83.94 37 *e*P P 00 19 38.7 -0.9
AVF Avril sur Loir 83.94 37 *e*P P 00 19 38.7 -0.9
PAGF Fort de Pagny 83.95 35 *e*P P 00 19 39.5 -0.2
comp=Z,36nm,1.7s
PAGF Fort de Pagny 83.95 35 *e*P P 00 19 39.5 -0.2
PUL Pulkovo 84.20 17 *e*P P 00 19 42.6 +1.9
PUL pmax pmax
comp=Z,61nm,0.7s
ESDC Sonseca Array 84.28 46 P P 00 19 41.4 -0.2
comp=Z,2.2nm,1.0s,baz=318,slow=4.9,SNR=9.5
SMF Signal de Mont 84.28 37 *e*P P 00 19 40.5 -1.0
comp=Z,122nm,1.6s
SMF Signal de Mont 84.28 37 *e*P P 00 19 40.5 -1.0
SMF Signal de Mont 84.28 37 *e*P P 00 19 40.5 -1.0
CAF Calviac 84.48 39 *e*P P 00 19 41.7 -0.8
comp=Z,54nm,1.4s
CAF Calviac 84.48 39 *e*P P 00 19 41.7 -0.8

CAF	Calviac	84.48	39	eP	P	00 19 41.7	-0.8
HAU	Haudompre	84.62	35	eP	P	00 19 42.6	-0.6
	comp=Z,73nm,1.4s						
HAU	Haudompre	84.62	35	eP	P	00 19 42.6	-0.6
HAU	Haudompre	84.62	35	eP	P	00 19 42.6	-0.6
EPF	Esparros	84.74	42	eP	P	00 19 43.5	-0.4
EPF	Esparros	84.74	42	eP	P	00 19 43.5	-0.4
EPF	Esparros	84.74	42	eP	P	00 19 43.5	-0.4
CDF	Champ du Feu	84.80	34	eP	P	00 19 43.4	-0.7
	comp=Z,34nm,1.3s						
CDF	Champ du Feu	84.80	34	eP	P	00 19 43.4	-0.7
CDF	Champ du Feu	84.80	34	eP	P	00 19 43.4	-0.7
HINF	Hinteralfeld	85.00	35	eP	P	00 19 44.3	-0.8
	comp=Z,87nm,1.6s						
HINF	Hinteralfeld	85.00	35	eP	P	00 19 44.3	-0.8
HINF	Hinteralfeld	85.00	35	eP	P	00 19 44.3	-0.8
CLL	Collm	85.30	30	eP	P	00 19 48.0	+1.6
CLL				pmax	pmax		
	comp=Z,84nm,2.5s						
CLL	Collm	85.30	30	eP	P	00 19 48.0	+1.6
	comp=Z,84nm,2.5s						
CLL				ePP	PP	00 23 02.0	-1.4
BFO	Black Forest	85.36	34	eP	P	00 19 45.4	-1.4
BFO				pmax	pmax		
	comp=Z,17nm,1.3s						
BFO	Black Forest	85.36	34	eP	P	00 19 45.4	-1.4
	comp=Z,17nm,1.3s						
PRGR	Permogore	85.39	9	eP	P	00 19 44.4	-2.2
PRGR				pmax	pmax		
	comp=Z,70nm,1.5s						
CABF	La Chapelle	85.45	36	eP	P	00 19 46.9	-0.5
	comp=Z,120nm,1.8s						
CABF	La Chapelle	85.45	36	eP	P	00 19 46.9	-0.5
CABF	La Chapelle	85.45	36	eP	P	00 19 46.9	-0.5
HIA	Hailar	85.57	328	eP	P	00 19 49.1	+1.2
HIA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MTLF	Montolieu	85.59	41	eP	P	00 19 47.3	-0.8
	comp=Z,40nm,1.4s						
MTLF	Montolieu	85.59	41	eP	P	00 19 47.3	-0.8
MTLF	Montolieu	85.59	41	eP	P	00 19 47.3	-0.8
GRF	Grafenberg Arr	85.72	32	eP	P	00 19 51.1	+2.5
	comp=Z,34nm,2.0s						
VIVF	Saint-Julien-l	85.91	38	eP	P	00 19 49.1	-0.6
VIVF	Saint-Julien-l	85.91	38	eP	P	00 19 49.1	-0.6
VIVF	Saint-Julien-l	85.91	38	eP	P	00 19 49.1	-0.6
LASF	Ste Croix	86.00	39	eP	P	00 19 49.5	-0.6
	comp=Z,64nm,1.4s						
LASF	Ste Croix	86.00	39	eP	P	00 19 49.5	-0.6
BRG	Berggiesshubel	86.02	30	eP	P	00 19 51.8	+1.7
	comp=Z,5.8nm,1.1s						
BRG	Berggiesshubel	86.02	30	eP	P	00 19 51.8	+1.7
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LPL	La Plagne	86.53	37	eP	P	00 19 52.5	-0.5
LPL	La Plagne	86.53	37	eP	P	00 19 52.5	-0.5
LPL	La Plagne	86.53	37	eP	P	00 19 52.5	-0.5
PVCC	Panska Ves	86.54	30	eP	P	00 19 53.9	+1.3
PVCC	Panska Ves	86.54	30	eP	P	00 19 53.9	+1.3
LPG	La Plagne	86.55	37	eP	P	00 19 53.0	-0.2
	comp=Z,35nm,1.3s						
LPG	La Plagne	86.55	37	eP	P	00 19 53.0	-0.2
LPG	La Plagne	86.55	37	eP	P	00 19 53.0	-0.2
PRA	Prague	86.83	30	eP	P	00 19 55.0	+1.0
PRA	Prague	86.83	30	eP	P	00 19 55.0	+1.0
PRU	Pruhonice	86.94	30	eP	P	00 19 53.9	-0.7
PRU	Pruhonice	86.94	30	eP	P	00 19 53.9	-0.7
SMRF	Simiane la Rot	86.98	38	eP	P	00 19 54.0	-1.0
	comp=Z,67nm,1.4s						
SMRF	Simiane la Rot	86.98	38	eP	P	00 19 54.0	-1.0
MBDF	Montbardon	87.09	37	eP	P	00 19 54.7	-0.9
MBDF	Montbardon	87.09	37	eP	P	00 19 54.7	-0.9
MBDF	Montbardon	87.09	37	eP	P	00 19 54.7	-0.9
UPC	Upice	87.16	29	eP	P	00 19 56.3	+0.7
UPC	Upice	87.16	29	eP	P	00 19 56.3	+0.7
KHC	Kasperske Hory	87.17	31	eP	P	00 19 55.4	-0.4
KHC	Kasperske Hory	87.17	31	eP	P	00 19 55.4	-0.4
DPC	Dobruska-Polom	87.41	29	eP	P	00 19 56.9	0.0
DPC				e		00 20 02.2	
DPC	Dobruska-Polom	87.41	29	eP	P	00 19 56.9	0.0
DPC				epP	pP	00 20 02.2	+2.8
GEC2	GERESS Array S	87.44	31	eP	P	00 19 57.5	+0.3
GEC2	GERESS Array S	87.44	31	eP	P	00 19 57.5	+0.3
GERES	GERESS Array B	87.44	31	P	P	00 19 57.5	+0.3
	comp=Z,0.9nm,0.9s,baz=330,slow=5.1,SNR=8.6						
FUORN	Ofenpass-Fuorn	87.50	34	eP	P	00 19 56.8	-0.8
	comp=Z,19nm,1.3s						
FRF	La Foret Royal	87.83	38	eP	P	00 19 57.7	-1.3
FRF	La Foret Royal	87.83	38	eP	P	00 19 57.7	-1.3
FRF	La Foret Royal	87.83	38	eP	P	00 19 57.7	-1.3
TREC	Trest	87.87	30	eP	P	00 19 57.7	-1.4
TREC	Trest	87.87	30	eP	P	00 19 57.7	-1.4
LMR	La Mourre	87.92	38	eP	P	00 19 58.1	-1.3
LMR	La Mourre	87.92	38	eP	P	00 19 58.1	-1.3
LMR	La Mourre	87.92	38	eP	P	00 19 58.1	-1.3
SBF	Sospel	88.04	38	eP	P	00 19 59.7	-0.4
SBF	Sospel	88.04	38	eP	P	00 19 59.7	-0.4
SBF	Sospel	88.04	38	eP	P	00 19 59.7	-0.4
OKC	Ostrava-Krasne	88.54	28	eP	P	00 20 02.0	-0.3
OKC	Ostrava-Krasne	88.54	28	eP	P	00 20 02.0	-0.3
OJC	Ojcow	88.89	27	eP	P	00 20 03.9	0.0
NIE	Niedzica	89.73	27	eP	P	00 20 07.7	-0.2
OBN	Obninsk	89.88	16	eP	P	00 20 09.0	+0.7
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
OBN	Obninsk	89.88	16	P	P	00 20 08.3	0.0
	comp=Z,3.8nm,0.4s,baz=318,slow=3.1,SNR=4.6						
VYHS	Vyhne	89.88	29	eP	P	00 20 09.5	+0.9
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.7s						
VYHS	Vyhne	89.88	29	eP	P	00 20 09.5	+0.9
TLY	Talaya	90.03	337	iP	P	00 20 10.9	+1.7
STHS	Stebnicka Huta	90.09	27	eP	P	00 20 10.1	+0.5
STHS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
STHS	Stebnicka Huta	90.09	27	eP	P	00 20 10.1	+0.5
KWP	Kalwaria Pacla	90.47	26	eP	P	00 20 12.2	+0.9
KWP	Kalwaria Pacla	90.47	26	eP	P	00 20 12.2	+0.9
KECS	Kecovo	90.55	28	eP	P	00 20 12.5	+0.8
KECS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KECS	Kecovo	90.55	28	eP	P	00 20 12.5	+0.8
CRVS	Cervenica-Dubn	90.60	27	eP	P	00 20 13.5	+1.6
CRVS	Cervenica-Dubn	90.60	27	eP	P	00 20 13.5	+1.6
PSZ	Piszkesteto	90.77	28	eP	P	00 20 12.0	-0.8
PSZ				pmax	pmax		
	comp=Z,35nm,1.9s						
PSZ	Piszkesteto	90.77	28	eP	P	00 20 12.0	-0.8
	comp=Z,36nm,1.9s						
KOLS	Kolonicke sedl	90.88	27	eP	P	00 20 13.5	+0.3
KOLS	Kolonicke sedl	90.88	27	eP	P	00 20 13.5	+0.3
MOY	Mondy	90.89	339	eP	P	00 20 15.9	+2.5
MOY				pmax	pmax		
	comp=Z,19nm,1.8s						
ZAK	Zakamensk	91.25	337	eP	P	00 20 16.4	+1.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
SVE	Sverdlovsk	91.45	2	eP	P	00 20 17.6	+1.9
ARU	Arti	91.76	4	dP	P	00 20 18.2	+1.1
ARU						00 23 57.1	
ARU				S	SKSac	00 30 50.7	+0.6
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
AKASG	Malin Array Be	91.81	22	iP	P	00 20 17.5	0.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	91.81	22	P	P	00 20 16.9	-0.6
	comp=Z,2.5nm,0.8s,baz=319,slow=4.1,SNR=24						
AKBB	Malin Array Si	91.81	22	eP	P	00 20 16.9	-0.6
AKBB	Malin Array Si	91.81	22	eP	P	00 20 16.9	-0.6
KIEV	Kiev	91.81	22	eP	P	00 20 16.5	-0.9
KIEV				pmax	pmax		
	comp=Z,15nm,1.3s						
KIEV	Kiev	91.81	22	eP	P	00 20 16.5	-0.9
	comp=Z,15nm,1.3s						
NVS	Novosibirsk	92.10	350	eP	P	00 20 17.5	-1.2
NVS				pmax	pmax		
	comp=E,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,13nm,1.7s						
SONA0	Songino Array	92.28	334	eP	P	00 20 21.2	+1.3
SONM	Songino Array	92.28	334	P	P	00 20 21.2	+1.3
	comp=Z,2.1nm,1.2s,baz=70,slow=2.2,SNR=8.2						
ZAA1	Zalesovo Array	92.70	348	eP	P	00 20 21.7	+0.2
ZALV	Zalesovo Beam	92.70	348	P	P	00 20 21.7	+0.1
	comp=Z,0.9nm,0.5s,baz=352,slow=3.3,SNR=11						
ZALV				LR	LR	01 07 44.2	
	comp=Z,3μm,19.1s,baz=206,slow=39						
BJI	Beijing	94.07	323	P	P	00 20 21.7	-6.4
BJI				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC	Hu-ho-hao-te	95.71	326	eP	P	00 20 40.5	+4.7
HHC				sP	sP	00 20 50.0	+11
HHC				SKS	SKSac	00 31 15.0	+2.4
HHC				S	S	00 31 53.3	-0.4
HHC				SS	SS	00 38 27.9	+6.7
HHC				PMZ			
	comp=Z,22nm,0.9s						
HHC				LN			
	comp=Z,1μm,16.0s						
HHC				LE			
	comp=Z,960nm,13.6s						
NJ2	Nanjing	98.45	316	eP	Pdif	00 20 52.6	+4.4
ANN	Anapa	99.56	20	eP	Pdif	00 20 51.5	-1.3
ANN				pmax	pmax		
	comp=Z,16nm,0.8s						
ANN				MLR	MLR		
	comp=N,5μm,18.0s						
ANN				MLR	MLR		
	comp=Z,7μm,18.0s						
ANN				MLR	MLR		
	comp=E,3μm,18.0s						
MKAR	Makanchi Array	100.04	348	cP	Pdif	00 20 56.7	+1.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KIV	Kislovodsk	101.72	16	eP	Pdif	00 21 03.3	+0.7
KIV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	Urumqi	101.74	343	eP	Pdif	00 21 06.3	+3.6
WMQ				pP	pP	00 21 11.0	+5.5
WMQ				PP	PKiKP	00 25 20.0	-6.0
WMQ				eSKS		00 31 44.0	
WMQ				PMZ			
	comp=Z,6.0nm,0.5s						
WMQ				LN			
	comp=Z,700nm,19.2s						
WMQ				LE			
	comp=Z,650nm,17.2s						
WMQ				LZ			
	comp=Z,580nm,18.0s						
GTA	Gaotai	101.94	333	eP	Pdif	00 21 00.8	-3.0
GTA				PMZ			
	comp=Z,5.0nm,1.2s						
CD2	Chengdu	107.45	326	Pdif	Pdif	00 21 30.5	+2.2
CD2				PP	PP	00 26 01.1	+6.2
CD2				S	Sdif	00 33 30.2	-2.4
CD2				SS	SS	00 41 06.8	+2.8
CD2				PPMZ			
	comp=Z,120nm,6.2s						
KSH	Kashi	108.12	351	ePdif	Pdif	00 21 40.2	+8.9
GYA	Guiyang	109.59	321	ePdif	Pdif	00 21 39.5	+1.5
GYA				PKP	PKiKP	00 25 41.0	0.0
GYA				PP	PP	00 26 15.8	+5.1
GYA				PKS	PKSdf	00 29 16.5	-1.4
GYA				SS	SS	00 41 36.4	+3.0
GYA				PPMZ			
	comp=Z,140nm,7.5s						
GYA				LN			
	comp=Z,130nm,18.8s						
GYA				LE			
	comp=Z,120nm,18.6s						
GYA				LZ			
	comp=Z,140nm,19.4s						
WRA	Warramunga Arr	117.42	263	PKP	PKPdf	00 25 58.4	+2.5
	comp=Z,0.5nm,0.9s,baz=62,slow=2.3,SNR=5.3						
AS12	Alice Springs	119.38	259	ePKPdf	PKPdf	00 26 01.7	+2.1
ASAR	Alice Springs	119.38	259	PKP	PKPdf	00 26 01.7	+2.1
	comp=Z,5.3nm,0.3s,baz=122,slow=1.2,SNR=4.5						
CM31	Chiang Mai Arr	120.20	322	ePKPdf	PKPdf	00 26 02.6	+1.3
CMAR	Chiang Mai Arr	120.20	322	PKP	PKPdf	00 26 02.6	+1.3
	comp=Z,0.8nm,0.3s,baz=296,slow=1.1,SNR=9.0						
MAW	Mawson	144.33	179	ePKIKP	PKPdf	00 26 43.8	-1.0
MAW	Mawson	144.33	179	PKP	PKPbc	00 26 43.3	+0.2
	comp=Z,6.8nm,1.1s,baz=139,slow=4.3,SNR=5.1						
MAW	Mawson	144.33	179	ePKPdf	PKPdf	00 26 43.8	-1.0
LBTB	Lobatse	144.84	89	ePKIKP	PKPab	00 26 45.6	-0.6
LBTB	Lobatse	144.84	89	PKP	PKPbc	00 26 46.0	-0.3
	comp=Z,8.9nm,0.9s,baz=259,slow=2.7,SNR=6.4						
LBTB	Lobatse	144.84	89	ePKPdf	PKPab	00 26 45.6	-0.6
BOSA	Boshof	145.67	95	ePKIKP	PKPdf	00 26 48.0	-0.6
BOSA	Boshof	145.67	95	PKPbc	PKPdf	00 26 48.0	-0.6
	comp=Z,14nm,1.1s,baz=283,slow=4.6,SNR=7.5						

DJA 05 00:09:13.6±0.5, 9°S±4°×110°7E±°, h10km, M3.8/11, MLv3.8/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	Cisompet, Garu	1.76	26	P	Pn	00 09 42.7	-1.5
CNJI	Cibinong	1.83	2	P	Pn	00 09 42.7	-2.4
CMJI	Cimerak	1.94	46	P	Pn	00 09 46.1	-0.5
CMJI				S	Sn	00 10 09.1	-1.9
SKJI	Sukabumi	2.19	347	P	Pg	00 10 02.5	+6.9
LEM	Lembang	2.38	14	P	Pn	00 09 54.1	+1.2
LEM				S	Sn	00 10 22.9	+0.7
KPJI	Karang Pucung	2.59	46	P	Pn	00 09 56.9	+1.3
CGJI	Cibinong	2.86	332	P	Pn	00 09 56.9	-2.4
TNG	Tangerang	2.99	352	P	Pb	00 10 04.2	-2.7
TNG				P	Pg	00 10 11.3	+0.4
UGM	Wanagama	3.65	71	P	Pn	00 10 09.9	-0.3

*IDC **05** 00:09:24.5±4.1, 36°.27N×70°.81E, h162km±35km, mb3.2/7, mb1 3.2/12, mb1mx2.9/52, mbtmp3.7/12, Error ellipse: s-maj=29.0km s-min=19.6km az=28.0*

*ISCJB **05** 00:09:28.6±0.5, 36°.63N±0°.04×70°.76E±0°.07, h204km, mb3.4/7, Error ellipse: s-maj=7.5km s-min=4.6km az=161.4*

*NNC **05** 00:09:32.5±1.0, 36°.90N×70°.64E, h190km±7km, mb3.0, mpv4.2, Error ellipse: s-maj=9.8km s-min=4.7km az=163.0*

ISC 05 00:09:29.3±0.7, 36°.63N±0°.07×70.70E±0°.07, h204km, n41, σ1§38/49, mb3.4/7, 5C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.63	326	⇓P	Pn	00 10 14.5	-0.4
	20nm,0.5s						
DZET				⇓S	S	00 10 47.7	-2.4
	156nm,0.4s						
SFK	Sufi-Kurgan	4.03	32	⇓P	Pn	00 10 32.0	+0.3
	30nm,0.4s						
SFK				⇓S	S	00 11 19.5	-0.9
	47nm,0.4s						
AML	Almayashu	5.96	22	P	Pn	00 10 56.4	0.0
	SNR=151						
MNAS	Manas	6.01	13	⇓P	Pn	00 10 57.0	+0.2
	11nm,0.4s						
MNAS				⇓S	S	00 12 03.7	-2.1
	42nm,0.6s						
UCH	Uchtor	6.32	27	P	Pn	00 11 01.1	+0.1
	SNR=35						
KK31	Karatay Array	6.46	359	P	Pn	00 11 02.9	+0.3
	7.9nm,0.5s,baz=172,slow=11,SNR=222						
KK31				S	S	00 12 13.6	-2.7
	6.8nm,0.4s,baz=183,slow=16,SNR=12						
EKS2	Erkin-Say	6.47	21	P	Pn	00 11 03.1	+0.4
	SNR=38						
KZA	Kyzart	6.48	32	P	Pn	00 11 02.4	-0.7
	SNR=16						
AAK	Ala-Archa	6.67	25	⇓P	Pn	00 11 05.7	+0.4
	6.3nm,0.3s						
AAK				⇑S	S	00 12 20.4	-1.0
	13nm,0.7s						
AAK	Ala-Archa	6.67	25	P	Pn	00 11 05.8	+0.4
	SNR=28						
AAK	Ala-Archa	6.67	25	P	Pn	00 11 05.7	+0.4
	7.2nm,0.3s,baz=174,slow=5.5,SNR=134						
AAK				S	S	00 12 20.7	-0.7
	1.3nm,0.3s,baz=358,slow=22,SNR=14						
KBK	Karagaybulak	6.85	27	P	Pn	00 11 08.2	+0.5
	SNR=16						
ULHL	Ulahol	7.06	36	P	Pn	00 11 11.8	+1.4
	SNR=5.5						
CHMS	Chumysh	7.08	25	P	Pn	00 11 10.4	-0.1
	SNR=7.9						
USP	Ospenovka	7.24	23	P	Pn	00 11 12.2	-0.4
	SNR=24						
TKM2	Tokmak 2	7.32	29	⇑P	Pn	00 11 13.8	0.0
	18nm,0.5s						
TKM2				⇑S	S	00 12 34.2	-2.6
	3.2nm,0.8s						
TKM2	Tokmak 2	7.32	29	P	Pn	00 11 14.0	+0.2
	SNR=44						
MK31	Makanchi Array	13.33	37	P	Pn	00 12 30.9	+0.3
	1.3nm,1.1s,baz=214,slow=12,SNR=8.0						
MKAR	Makanchi Array	13.33	37	P	Pn	00 12 30.3	-0.3
	0.2nm,0.3s,baz=235,slow=19,SNR=9.8						
PYUN	Piuthan	13.42	126	eP	Pn	00 12 29.5	-2.6
DANN	Dangsing	13.76	123	eP	Pn	00 12 36.2	-0.3
GKN	Gorkha	14.58	122	eP	P	00 12 47.3	-0.2
	13nm,0.4s						
AB31	Akbulak array	14.85	332	P	Pn	00 12 49.6	+0.3
	0.4nm,0.3s,baz=144,slow=12,SNR=20						
AB31				⇑S	S	00 15 30.4	-3.5
	0.8nm,0.6s,baz=155,slow=23,SNR=4.1						
KURBB	Kurchatov Arra	15.07	19	P	Pn	00 12 51.7	-0.3
	0.0nm,0.3s,baz=208,slow=11,SNR=3.8						
PKI	Pulchoki	15.38	122	eP	P	00 12 56.4	-0.1
	19nm,0.7s						
GUN	Gumba	15.49	120	eP	P	00 12 58.8	+1.0
	6.2nm,0.3s						
JIRN	Jiri	15.86	120	eP	P	00 13 01.7	-0.2
	8.6nm,0.4s						
BVAO	Borovoye Array	16.39	359	P	Pn	00 13 09.3	+1.4
	1.5nm,0.7s,baz=165,slow=12,SNR=18						
BVAR	Borovoye Array	16.39	359	P	Pn	00 13 09.2	+1.3
	0.5nm,0.3s,baz=162,slow=10,SNR=17						
AKTO	Aktyubinsk	16.54	330	⇑P	Pn	00 13 10.9	+1.2
	4.5nm,1.2s						
AKTO	Aktyubinsk	16.54	330	P	Pn	00 13 11.8	+2.0
	0.3nm,0.3s,baz=143,slow=11,SNR=6.8						
RAMN	Ramite	16.59	121	eP	P	00 13 08.2	-1.6
TAPN	Taplejung	17.12	118	eP	Pn	00 13 16.3	-0.8
ZALV	Zalesovo Beam	19.89	25	P	P	00 13 46.6	+1.7
	1.9nm,0.6s,baz=229,slow=11,SNR=8.1						
HFS	Hagfors	42.81	322	P	P	00 17 09.2	+2.5
	0.9nm,0.6s,baz=66,slow=11,SNR=3.3						
NOA	NORSAR Array B	44.13	323	P	P	00 17 19.1	+1.9
	0.5nm,0.7s,baz=97,slow=7.8,SNR=4.0						
TORD	Torodi Ar. Bea	65.48	268	P	P	00 19 50.2	-0.7
	0.4nm,0.6s,baz=50,slow=5.6,SNR=6.7						
INK	Inuvik	73.81	9	P	P	00 20 43.4	+2.6
	0.4nm,0.5s,baz=329,slow=3.2,SNR=6.0						
YKA	Yellowknife Ar	81.12	2	P	P	00 21 22.1	+0.7
	0.2nm,0.4s,baz=351,slow=5.5,SNR=7.4						
WRA	Warramunga Arr	82.27	122	P	P	00 21 26.6	-1.5
	0.4nm,0.7s,baz=324,slow=4.9,SNR=9.8						
ASAR	Alice Springs	84.53	125	P	P	00 21 38.1	-1.4
	5.6nm,0.3s,baz=311,slow=4.3,SNR=5.2						

NEIC 05 00:11:35.9, 32°.63N×115°.74W, h12km, ML3.9(PAS), 4C-7D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	Ernies Place	0.13	28	⇓iP	Pg	00 11 39.0	-0.2
WESC	Westside Schoo	0.13	1	⇓iP	Pg	00 11 38.8	-0.4
WESC				iS	Sg	00 11 41.6	+0.1
YUH	Yuha Desert	0.16	277	eP	Pg	00 11 39.6	0.0
COK	Cook Ranch	0.22	2	⇓iP	Pg	00 11 40.4	-0.2
DREC	Desert Rsrch C	0.30	54	⇑iP	Pg	00 11 42.1	+0.1
SWSC	Sam W. Stewart	0.32	351	⇓iP	Pg	00 11 41.8	-0.6
CRR	Carrizo Plain	0.33	323	⇓iP	Pg	00 11 42.1	-0.4
ERRC	Elmore Ranch	0.49	351	eP	Pg	00 11 45.5	0.0
COA	Coachella	0.57	65	⇑iP	Pg	00 11 46.5	-0.5
FRK	Frink	0.78	6	⇓iP	Pg	00 11 49.4	-1.5
BAR	Barrett	0.79	274	⇓iP	Pg	00 11 50.5	-0.8
BAR				eS	Sg	00 12 01.0	-0.8
BATC	Bat Cave Butte	0.83	354	⇑iP	Pg	00 11 45.6	-6.4
BORC	Borrego Spring	0.86	318	⇑iP	Pg	00 11 51.8	-0.8
GLA	Glamis	0.87	61	eP	Pg	00 11 51.0	-1.9

NEIC 05 00:12:23.9, 32°.61N×115°.71W, h16km, ML3.9(PAS), 4C-6D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	Ernies Place	0.14	16	⇓iP	Pg	00 12 27.3	-0.5
WESC	Westside Schoo	0.15	354	⇓iP	Pg	00 12 27.4	-0.6
COK	Cook Ranch	0.24	357	eP	Pg	00 12 29.1	-0.1
DREC	Desert Rsrch C	0.30	48	⇑iP	Pg	00 12 30.2	0.0
CRR	Carrizo Plain	0.35	322	eP	Pg	00 12 30.8	-0.4
CBKC	Canebrake	0.54	303	eP	Pg	00 12 34.4	-0.3
CLIC	Calipatria	0.56	16	⇓iP	Pg	00 12 34.6	-0.2
COA	Coachella	0.56	62	⇑iP	Pg	00 12 34.4	-0.5
EMSC	East Mesa	0.63	77	eP	Pg	00 12 35.8	-0.4
RUN	Ruthven	0.72	59	⇓iP	Pg	00 12 36.6	-1.4
FRK	Frink	0.80	4	⇓iP	Pb	00 12 38.0	-1.4
BAR	Barrett	0.81	276	⇑iP	Pb	00 12 38.5	-1.2
BAR				iS	Sb	00 12 49.1	-1.4
BATC	Bat Cave Butte	0.86	353	⇓iP	Pb	00 12 39.1	-1.3
BORC	Borrego Spring	0.89	318	eP	Pb	00 12 39.5	-1.4
EML	El Monte Cty P	1.00	287	⇑iP	Pb	00 12 41.7	-1.1
EML				eS	Sb	00 12 54.5	-1.3
DPP	Dos Picos Cty	1.11	291	eP	Pb	00 12 43.4	-1.4
DPP				eS	Sb	00 12 57.9	-1.1

*NEIC **05** 00:14:11.6, 34°.04S×71°.46W, h46km, MG3.5(GUC), After GUC.*

NEIC Felt [III] at Rancagua and San Fernando.

GUC 05 00:14:11.6±1.0, 34°.04S×71°.46W, h46km±3km, ML3.5, 10C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.10	27	⇑iP	Pn	00 14 19.4	+0.5
LNV	Longovilo	0.10	27	⇑iP	Pn	00 14 19.4	+0.5
CHCH	Chadas Angostu	0.68	81	⇑iP	Pn	00 14 25.4	+0.3
CHCH	Chadas Angostu	0.68	81	⇑iP	Pn	00 14 25.4	+0.3
LACH	Col Las Americ	0.97	53	⇓iP	Pn	00 14 29.0	+0.1
LACH				iS

LNCH				*e*S	Sn	00 15 03.3	+1.3
LNCH	**Linares**	**1.81**	**184**	*e*P	Pn	00 14 41.0	+0.7
LNCH				*e*S	Sn	00 15 03.3	+1.3

NEIC ***05*** *00:15:31.9, 32°.24N×115°.19W, h10km, ML4.1(PAS), After PAS.*
MEX ***05*** *00:15:31.7±1.0, 32°.20N×115°.48W, h5km±31km, MD3.6*

ISC 05 00:15:28.9±1.2, 32°.15N±0°.03×115°.23W±0°.03, h7km±11km, n29, σ1§41/35, 9C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.25**	**6**	*e*P	**Pb**	**00 15 37.0**	**+1.1**
MBIG				*i* S	**Sb**	**00 15 42.7**	**+2.2**
EMSC	**East Mesa**	**0.62**	**19**	*e*P	**Pg**	**00 15 42.5**	**+1.6**
DREC	**Desert Rsrch C**	**0.68**	**344**	*e*P	**Pb**	**00 15 43.9**	**+0.8**
COA	**Coachella**	**0.71**	**7**	*e*P	**Pg**	**00 15 43.9**	**+1.2**
BTCC	**Brunts Corner**	**0.86**	**0**	⇓*i*P	**Pg**	**00 15 45.8**	**+0.4**
SWSC	**Sam W. Stewart** baz=0.9	**0.92**	**329**	⇓S	**Sb**	**00 16 00.7**	**+1.0**
SWSC	**Sam W. Stewart**	**0.92**	**329**	*e*S	**Sb**	**00 15 59.3**	**-0.4**
GLA	**Glamis** baz=0.9	**0.96**	**21**	⇓P	**Pg**	**00 15 46.1**	**-1.3**
GLA				⇑S	**Sg**	**00 15 59.9**	**+0.2**
GLA	**Glamis** baz=0.9	**0.96**	**21**	*e*P	**Pg**	**00 15 46.7**	**-0.6**
GLA				*e*S	**Sg**	**00 15 59.3**	**-0.5**
SPIG	**San Pedro Mart**	**1.12**	**190**	*e*P	**Pn**	**00 15 51.4**	**0.0**
SPIG				*e*S	**Sg**	**00 16 05.1**	**0.0**
SPIG	**San Pedro Mart**	**1.12**	**190**	*e*P	**Pn**	**00 15 51.4**	**0.0**
SPIG				*e*S	**Sg**	**00 16 05.1**	**0.0**
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	Pg	00 15 48.6	-3.9
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	Pg	00 15 48.6	-3.9
MONP	**Monument Peak,** baz=1.2	**1.25**	**306**	⇑P	**Pb**	**00 15 52.7**	**-0.3**
MONP				⇑S	**Sn**	**00 16 10.8**	**+0.6**
BAR	**Barrett** baz=1.2	**1.33**	**294**	*e*P	**Pg**	**00 15 55.5**	**+1.0**
BAR				*i* S	**Sn**	**00 16 12.6**	**+0.6**
113A	**Mohawk Valley,** baz=1.3	**1.38**	**63**	⇓P	**Pn**	**00 15 53.2**	**-1.4**
113A				⇓S	**Sb**	**00 16 09.9**	**-3.0**
BORC	**Borrego Spring**	**1.50**	**318**	*e*S	**Sg**	**00 16 17.9**	**+0.8**
BC3	**Big Chuckawall** baz=1.4	**1.51**	**353**	⇑P	**Pn**	**00 15 55.4**	**-1.2**
Y12C	**Blythe** baz=1.6	**1.70**	**20**	⇓P	**Pn**	**00 15 58.6**	**-0.5**
Y12C				⇓Sb	**Sb**	**00 16 23.7**	**+1.5**
109C	**Camp Elliot, M** baz=1.7	**1.75**	**295**	⇓P	**Pn**	**00 15 58.7**	**-1.1**
IRM	**Iron Mountain** baz=1.9	**2.00**	**2**	⇑Pg	**Pg**	**00 16 07.7**	**+0.3**
MURC	**Murrieta** baz=2.2	**2.20**	**312**	⇑Sb	**Sg**	**00 16 39.9**	**+0.3**
Z14A	**Wintersburg** baz=2.2	**2.27**	**57**	⇓P	**Pn**	**00 16 05.6**	**-1.3**
PDMCI	**Parker Dam,Lak** baz=2.2	**2.33**	**23**	⇓Sb	**Sb**	**00 16 42.4**	**+2.2**
BFSC	**Mount Baldy Ra** baz=2.9	**2.91**	**316**	⇓Sb	**Sg**	**00 17 00.5**	**-2.0**
SCI	**San Clemente I** baz=2.9	**2.92**	**287**	⇑Sb	**Sg**	**00 16 59.9**	**-2.9**
CIS	**Catalina Islan** baz=3.0	**2.95**	**296**	⇑Sb	**Sg**	**00 17 01.3**	**-2.5**
FMP	**Fort Macarthur** baz=3.0	**3.01**	**302**	⇑Sb	**Sg**	**00 17 03.8**	**-1.9**
TUC	**Tucson**	**3.77**	**86**	*e*P	Pn	00 16 30.8	+3.2

NEIC 05 00:20:14.4, 32°.49N×115°.65W, h6km, ML3.6(PAS)**, 7D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	**Ernies Place**	**0.25**	**357**	⇓*i*P	Pg	00 20 19.3	+0.1
WESC	**Westside Schoo**	**0.28**	**345**	⇓*i*P	Pg	00 20 19.7	0.0
DREC	**Desert Rsrch C**	**0.35**	**28**	⇓*i*P	Pg	00 20 21.3	+0.1
COK	**Cook Ranch**	**0.36**	**349**	⇓*i*P	Pg	00 20 21.4	0.0
SWSC	**Sam W. Stewart**	**0.46**	**344**	⇓*i*P	Pg	00 20 22.9	-0.5
SWSC				*e*S	Sg	00 20 29.4	-0.1
COA	**Coachella**	**0.58**	**50**	*e*P	Pg	00 20 25.1	-0.4
EMSC	**East Mesa**	**0.61**	**66**	*e*P	Pg	00 20 25.9	-0.3
BTCC	**Brunts Corner**	**0.63**	**35**	*e*P	Pg	00 20 25.5	-1.0
ERRC	**Elmore Ranch**	**0.64**	**347**	⇓*i*P	Pg	00 20 26.5	-0.1
CLIC	**Calipatria**	**0.65**	**9**	*e*P	Pg	00 20 26.4	-0.5
BAR	**Barrett**	**0.89**	**282**	*e*P	Pg	00 20 29.9	-1.5
BAR				*e*S	Sg	00 20 42.5	-0.5
GLA	**Glamis**	**0.89**	**51**	*e*P	Pg	00 20 29.5	-2.0
GLA				*e*S	Sg	00 20 40.9	-2.2
FRK	**Frink**	**0.91**	**0**	⇓*i*P	Pg	00 20 29.7	-2.1
BATC	**Bat Cave Butte**	**0.98**	**350**	*e*P	Pg	00 20 25.8	-7.3
BORC	**Borrego Spring**	**1.01**	**320**	*e*P	Pg	00 20 31.9	-1.9

NEIC 05 00:21:28.4, 32°.62N×115°.76W, h3km, ML3.6(PAS)**, 5C-6D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.14**	**282**	⇑*i*P	Pg	00 21 31.4	+0.1
WESC	**Westside Schoo**	**0.14**	**10**	⇓*i*P	Pg	00 21 31.2	-0.1
WESC				*i* S	Sg	00 21 33.9	+0.8
ERPC	**Ernies Place**	**0.15**	**33**	⇑*i*P	Pg	00 21 31.4	0.0
COK	**Cook Ranch**	**0.23**	**7**	⇓*i*P	Pg	00 21 33.0	+0.1
CRR	**Carrizo Plain**	**0.32**	**327**	⇓*i*P	Pg	00 21 34.5	-0.2
SWSC	**Sam W. Stewart**	**0.32**	**355**	⇓*i*P	Pg	00 21 34.4	-0.4
SWSC				*e*S	Sg	00 21 38.9	-0.1
DREC	**Desert Rsrch C**	**0.32**	**55**	⇑*i*P	Pg	00 21 35.0	+0.3
CBKC	**Canebrake**	**0.50**	**304**	*e*P	Pg	00 21 38.6	+0.5
ERRC	**Elmore Ranch**	**0.50**	**354**	⇑*i*P	Pg	00 21 38.1	+0.1
CLIC	**Calipatria**	**0.56**	**21**	*e*P	Pg	00 21 39.0	-0.1
COA	**Coachella**	**0.59**	**65**	*e*P	Pg	00 21 39.6	-0.2
EMSC	**East Mesa**	**0.67**	**79**	*e*P	Pg	00 21 40.7	-0.5
BAR	**Barrett**	**0.77**	**275**	⇑*i*P	Pg	00 21 42.9	-0.4
BAR				*e*S	Sg	00 21 53.0	-0.3
FRK	**Frink**	**0.79**	**7**	⇓*i*P	Pg	00 21 42.1	-1.5
BATC	**Bat Cave Butte**	**0.84**	**355**	*e*P	Pg	00 21 43.2	-1.3
BORC	**Borrego Spring**	**0.85**	**320**	⇓*i*P	Pg	00 21 44.1	-0.7
BORC				*e*S	Sg	00 21 54.9	-1.0
GLA	**Glamis**	**0.90**	**61**	*e*P	Pg	00 21 44.0	-1.7
GLA				*e*S	Sg	00 21 55.4	-2.1

ISCJB ***05*** *00:22:12.7±1.2, 32°.49N±0°.08×115°.57W±0°.04, h21km±9km, Error ellipse: s-maj=13.8km s-min=4.8km az=173.1*
NEIC ***05*** *00:22:12.4, 32°.42N×115°.58W, h14km, ML3.9(PAS), After PAS.*

ISC 05 00:22:12.1±1.6, 32°.47N±0°.08×115°.56W±0°.03, h19km±3km, n24, σ0§57/30, 6C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	**Ernies Place**	**0.29**	**343**	*e*P	**Pb**	**00 22 18.9**	**+0.2**
WESC	**Westside Schoo**	**0.33**	**334**	⇓*i*P	**Pb**	**00 22 19.2**	**-0.2**
DREC	**Desert Rsrch C**	**0.35**	**16**	⇑*i*P	**Pb**	**00 22 20.5**	**+0.6**
COK	**Cook Ranch**	**0.41**	**340**	*e*P	**Pb**	**00 22 20.9**	**0.0**
SWSC	**Sam W. Stewart** baz=0.5	**0.51**	**338**	P	**Pg**	**00 22 22.3**	**-0.2**
SWSC	**Sam W. Stewart**	**0.51**	**338**	⇓*i*P	**Pg**	**00 22 22.3**	**-0.2**
BTCC	**Bruns Corner**	**0.62**	**28**	⇑*i*P	**Pb**	**00 22 24.5**	**+0.2**
BTCC				*e*S	**Sb**	**00 22 33.2**	**+0.6**
CLIC	**Calipatria**	**0.67**	**3**	⇓*i*P	**Pb**	**00 22 25.6**	**+0.3**
ERRC	**Elmore Ranch**	**0.68**	**342**	⇓*i*P	**Pb**	**00 22 26.0**	**+0.5**
MONP	**Monument Peak,** baz=0.9	**0.84**	**301**	P	**Pb**	**00 22 28.2**	**-0.1**
MONP				S	**Sb**	**00 22 38.6**	**-0.6**
GLA	**Glamis** baz=0.8	**0.85**	**47**	P	**Pb**	**00 22 28.2**	**-0.1**
GLA				S	**Sb**	**00 22 39.1**	**-0.4**
GLA	**Glamis**	**0.85**	**47**	⇑*i*P	**Pb**	**00 22 28.3**	**-0.1**
GLA				*i* S	**Sb**	**00 22 39.3**	**-0.2**
BAR	**Barrett**	**0.96**	**283**	⇑*i*P	**Pb**	**00 22 30.3**	**+0.1**
BATC	**Bat Cave Butte**	**1.02**	**347**	*e*P	Pb	00 22 25.1	-6.1
BATC				*e*S	Sb	00 22 34.9	-9.3
EML	**El Monte Cty P**	**1.16**	**292**	*e*P	**Pn**	**00 22 33.5**	**+0.1**
EML				*i* S	**Sb**	**00 22 47.8**	**-0.6**
BC3	**Big Chuckawall** baz=1.2	**1.19**	**4**	S	**Sb**	**00 22 47.3**	**-2.0**
DPP	**Dos Picos Cty**	**1.28**	**295**	⇑*i*P	**Pn**	**00 22 35.6**	**+0.5**
DPP				*e*S	**Sb**	**00 22 51.4**	**-0.3**
HWB	**Hans Werner Br**	**1.30**	**296**	*e*P	**Pn**	**00 22 36.0**	**+0.6**
HWB				*e*S	**Sb**	**00 22 51.9**	**-0.5**
PFO	**Pinyon Flats O** baz=1.4	**1.36**	**327**	P	**Pn**	**00 22 36.1**	**-0.2**
109C	**Camp Elliot, M** baz=1.4	**1.37**	**288**	P	**Pb**	**00 22 37.2**	**0.0**
CPE	**Camp Elliot**	**1.37**	**288**	⇑*i*P	**Pb**	**00 22 37.1**	**0.0**
113A	**Mohawk Valley,** baz=1.5	**1.55**	**78**	P	**Pn**	**00 22 38.9**	**+0.2**
MURC	**Murrieta** baz=1.8	**1.78**	**310**	Sb	**Sb**	**00 23 06.6**	**+0.4**
BFSC	**Mount Baldy Ra** baz=2.5	**2.49**	**316**	Sb	**Sb**	**00 23 27.6**	**+0.9**

NEIC 05 00:24:02.3, 32°.30N×115°.33W, h10km, ML3.8(PAS)**, 1C-3D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DREC	**Desert Rsrch C**	**0.51**	**349**	⇓*i*P	Pg	00 24 12.1	-0.2
ERPC	**Ernies Place**	**0.52**	**328**	*e*P	Pg	00 24 12.2	-0.2
EMSC	**East Mesa**	**0.53**	**34**	⇑*i*P	Pg	00 24 12.1	-0.4
WESC	**Westside Schoo**	**0.57**	**324**	⇓*i*P	Pg	00 24 12.9	-0.4
COA	**Coachella**	**0.59**	**17**	*e*P	Pg	00 24 13.1	-0.6
COK	**Cook Ranch**	**0.64**	**329**	⇓*i*P	Pg	00 24 13.8	-0.8
YMD	**Yuma Desert**	**0.71**	**69**	*e*P	Pg	00 24 15.4	-0.7
BTCC	**Brunts Corner**	**0.72**	**8**	*e*P	Pg	00 24 14.9	-1.2
BTCC				*e*S	Sg	00 24 25.2	-0.3
RUN	**Ruthven**	**0.73**	**24**	*e*P	Pg	00 24 15.2	-1.3
CRR	**Carrizo Plain**	**0.79**	**318**	*e*P	Pg	00 24 16.6	-1.1
GLA	**Glamis**	**0.86**	**30**	*e*P	Pg	00 24 17.2	-1.8
GLA				*e*S	Sg	00 24 27.8	-2.5
BAR	**Barrett**	**1.19**	**289**	*e*P	Pb	00 24 23.0	-2.1
BAR				*e*S	Sb	00 24 39.0	-1.6
EML	**El Monte Cty P**	**1.41**	**295**	*i* S	Sn	00 24 45.2	-1.4
DPP	**Dos Picos Cty**	**1.52**	**298**	*e*S	Sn	00 24 49.1	-0.5

NEIC 05 00:28:36.9, 32°.14N×114°.99W, h2km, ML4.0(PAS)**, 2C, After PAS., Western Arizona-Sonora border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.60**	**1**	*e*P	Pg	00 28 48.5	0.0
COA	**Coachella**	**0.73**	**351**	*e*P	Pg	00 28 50.2	-0.8
DREC	**Desert Rsrch C**	**0.77**	**330**	⇑*i*P	Pg	00 28 51.3	-0.4
ERPC	**Ernies Place**	**0.83**	**317**	*e*P	Pg	00 28 52.6	-0.2
WESC	**Westside Schoo**	**0.88**	**315**	*e*P	Pg	00 28 53.0	-0.8
GLA	**Glamis**	**0.92**	**9**	*e*P	Pg	00 28 54.1	-0.7
GLA				*e*S	Sg	00 29 06.8	0.0
CRR	**Carrizo Plain**	**1.11**	**312**	⇑*i*P	Pg	00 29 56.7	-1.6
EML	**El Monte Cty P**	**1.74**	**296**	*e*P	Pn	00 29 06.5	-1.6
EML				*e*S	Sn	00 29 28.5	-2.3

NEIC 05 00:30:01.5, 32°.57N×115°.76W, h1km, ML3.5(PAS)**, 6C-10D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESC	**Westside Schoo**	**0.19**	**7**	⇓*i*P	Pg	00 30 03.3	+0.4
ERPC	**Ernies Place**	**0.20**	**25**	⇓P	Pg	00 30 05.7	+0.4
COK	**Cook Ranch**	**0.28**	**6**	⇓P	Pg	00 30 07.2	+0.2
DREC	**Desert Rsrch C**	**0.36**	**48**	⇑P	Pg	00 30 08.9	+0.6
CRR	**Carrizo Plain**	**0.36**	**331**	⇓P	Pg	00 30 08.5	-0.1
SWSC	**Sam W. Stewart**	**0.38**	**355**	⇑P	Pg	00 30 08.5	-0.3
CBKC	**Canebrake**	**0.53**	**309**	P	Pg	00 30 12.1	+0.3
ERRC	**Elmore Ranch**	**0.55**	**355**	⇓*i*P	Pg	00 30 12.2	+0.1
ERRC				S	Sg	00 30 20.4	+1.1
CLIC	**Calipatria**	**0.61**	**19**	⇓P	Pg	00 30 13.1	0.0
COA	**Coachella**	**0.61**	**61**	⇑P	Pg	00 30 13.2	-0.1
BTCC	**Brunts Corner**	**0.64**	**45**	P	Pg	00 30 13.4	-0.3
BAR	**Barrett**	**0.78**	**279**	P	Pg	00 30 16.4	-0.2
BAR				⇓P	Pb	00 30 16.6	-1.4
BAR				S	Sg	00 30 26.6	-0.1
BORC	**Borrego Spring**	**0.89**	**322**	⇑P	Pg	00 30 18.2	-0.5
BORC				S	Sg	00 30 29.8	-0.5
GLA	**Glamis**	**0.92**	**58**	⇓P	Pg	00 30 17.8	-1.5
GLA				S	Sg	00 30 29.6	-1.8
EML	**El Monte Cty P**	**0.97**	**290**	P	Pg	00 30 19.6	-0.5
DPP	**Dos Picos Cty**	**1.08**	**294**	⇓P	Pg	00 30 21.5	-0.9
DPP				S	Sg	00 30 35.4	-1.1
HWB	**Hans Werner Br**	**1.11**	**295**	⇓P	Pg	00 30 22.0	-0.9
CPE	**Camp Elliot**	**1.18**	**286**	⇑P	Pg	00 30 23.1	-1.0
CPE				S	Sg	00 30 38.1	-1.3
PLM	**Palomar**	**1.21**	**311**	P	Pg	00 30 23.1	-2.0
DNR	**Dunn Ranch,Anz**	**1.24**	**324**	P	Pg	00 30 23.2	-2.3
CRY	**Cary Ranch**	**1.29**	**321**	⇑P	Pg	00 30 25.8	-0.6
CRY				S	Sg	00 30 42.4	-1.0

NEIC 05 00:32:10.5, 32°.57N×115°.73W, h6km, ML3.9(PAS)**, 8C-8D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	**Ernies Place**	**0.18**	**18**	*e*P	Pg	00 32 14.3	+0.2
WESC	**Westside Schoo**	**0.19**	**0**	⇓*i*P	Pg	00 32 14.1	-0.2
COK	**Cook Ranch**	**0.28**	**1**	⇓P	Pg	00 32 15.8	-0.2
DREC	**Desert Rsrch C**	**0.34**	**45**	⇑*i*P	Pg	00 32 17.3	+0.3
CRR	**Carrizo Plain**	**0.38**	**328**	⇓P	Pg	00 32 17.3	-0.5
SWSC	**Sam W. Stewart**	**0.38**	**352**	⇓*i*P	Pg	00 32 17.1	-0.7
ERRC	**Elmore Ranch**	**0.55**	**352**	⇓*i*P	Pg	00 32 20.9	-0.3
COA	**Coachella**	**0.59**	**60**	⇑P	Pg	00 32 21.5	-0.4
CLIC	**Calipatria**	**0.60**	**17**	⇑P	Pg	00 32 21.5	-0.4
BTCC	**Brunts Corner**	**0.62**	**44**	P	Pg	00 32 21.5	-0.9
EMSC	**East Mesa**	**0.65**	**75**	⇑P	Pg	00 32 22.7	-0.3
RUN	**Ruthven**	**0.75**	**57**	⇑P	Pg	00 32 23.5	-1.4
BAR	**Barrett**	**0.80**	**278**	⇓P	Pg	00 32 25.5	-0.5
FRK	**Frink**	**0.84**	**5**	⇓P	Pg	00 32 24.4	-2.1
BATC	**Bat Cave Butte**	**0.89**	**354**	⇑P	Pg	00 32 26.4	-1.2
GLA	**Glamis**	**0.90**	**57**	⇑*i*P	Pg	00 32 25.9	-2.0
GLA				*i* S	Sg	00 32 37.3	-2.4
EML	**El Monte Cty P**	**0.99**	**289**	⇑P	Pg	00 32 28.6	-1.0
DPP	**Dos Picos Cty**	**1.11**	**293**	⇓P	Pg	00 32 30.3	-1.4
DPP				*i* S	Sg	00 32 44.1	-2.1

ISCJB ***05*** *00:35:06.0±0.9, 31°.94N±0°.04×114°.90W±0°.09, h22km±10km, Error ellipse: s-maj=12.8km s-min=6.4km az=16.9*
NEIC ***05*** *00:35:06.2, 31°.93N×114°.92W, h10km, ML3.8(PAS), After PAS.*
MEX ***05*** *00:35:10.0±0.8, 31°.96N×115°.21W, h11km±14km, MD3.4*

ISC 05 00:35:05.7±1.2, 31°.93N±0°.04×114°.92W±0°.07, h13km±11km, n14, σ1§17/19, 1C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.53**	**334**	*e*P	**Pb**	**00 35 18.7**	**+1.9**
MBIG				*i* S	**Sg**	**00 35 24.3**	**+1.2**
YMD	**Yuma Desert**	**0.70**	**27**	⇓*i*P	**Pg**	**00 35 19.1**	**-0.1**
YMD				*e*S	**Sg**	**00 35 28.3**	**-0.2**
EMSC	**East Mesa**	**0.80**	**356**	⇓*i*P	**Pg**	**00 35 21.2**	**-0.1**
SPIG	**San Pedro Mart**	**1.00**	**208**	*e*P	**Pg**	**00 35 24.6**	**-0.4**
SPIG				*e*S	**Sg**	**00 35 38.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.00**	**208**	*e*P	**Pg**	**00 35 24.6**	**-0.4**
SPIG				*e*S	**Sg**	**00 35 38.0**	**-0.1**
ERPC	**Ernies Place**	**1.02**	**322**	*e*P	**Pg**	**00 35 24.8**	**-0.6**
RUN	**Ruthven**	**1.04**	**357**	*e*P	**Pg**	**00 35 23.6**	**-2.1**
WESC	**Westside Schoo**	**1.07**	**320**	⇓*i*P	**Pg**	**00 35 25.1**	**-1.2**
BTCC	**Brunts Corner**	**1.10**	**347**	*e*P	**Pb**	**00 35 25.8**	**-0.9**
CRR	**Carrizo Plain**	**1.30**	**317**	⇑*i*P	**Pn**	**00 35 29.3**	**-0.2**
CLIC	**Calipatria**	**1.31**	**337**	*e*P	**Pb**	**00 35 30.9**	**+0.8**
CBX	**Cerro Bola**	**1.52**	**285**	*e*P	Pn	00 35 30.3	-2.5
CBX				*i* S	Sn	00 35 45.7	-6.9
CBX	**Cerro Bola**	**1.52**	**285**	*e*P	Pn	00 35 30.3	-2.5
CBX				*e*S	**Sn**	**00 35 50.5**	**-2.0**
CBX				*i* S	**Sn**	**00 35 51.5**	**-1.0**
DPP	**Dos Picos Cty**	**2.01**	**302**	*e*P	**Pn**	**00 35 40.8**	**+1.4**
DPP				*e*S	**Sn**	**00 36 04.8**	**+0.5**

NEIC 05 00:38:08.9, 32°.42N×115°.64W, h15km, ML3.6(PAS)**, 6C-8D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	**Ernies Place**	**0.33**	**357**	⇑P	Pg	00 38 15.5	-0.2
WESC	**Westside Schoo**	**0.35**	**347**	⇓P	Pg	00 38 15.8	-0.4
DREC	**Desert Rsrch C**	**0.42**	**23**	P	Pg	00 38 17.1	-0.3
COK	**Cook Ranch**	**0.44**	**350**	⇓P	Pg	00 38 17.4	-0.3
SWSC	**Sam W. Stewart**	**0.54**	**346**	⇓P	Pg	00 38 18.9	-0.8
SWSC				*e*S	Sg	00 38 26.4	-0.5
CRR	**Carrizo Plain**	**0.55**	**330**	⇓*i*P	Pg	00 38 19.3	-0.4
COA	**Coachella**	**0.62**	**44**	⇓*i*P	Pg	00 38 20.5	-0.8
EMSC	**East Mesa**	**0.64**	**60**	⇑*i*P	Pg	00 38 21.0	-0.5
BTCC	**Brunts Corner**	**0.69**	**31**	⇓P	Pg	00 38 21.1	-1.4
ERRC	**Elmore Ranch**	**0.71**	**348**	⇓P	Pg	00 38 22.5	-0.4
CLIC	**Calipatria**	**0.73**	**8**	⇑P	Pg	00 38 22.2	-1.0
BAR	**Barrett**	**0.91**	**287**	⇓P	Pg	00 38 26.8	+0.1
BAR				S	Sb	00 38 38.5	+0.1
GLA	**Glamis**	**0.93**	**47**	⇑P	Pb	00 38 24.9	-2.0
GLA				S	Sb	00 38 36.0	-3.2
FRK	**Frink**	**0.98**	**0**	⇑P	Pb	00 38 25.5	-2.1
BATC	**Bat Cave Butte**	**1.05**	**351**	*e*P	Pb	00 38 21.5	-7.3
BATC				*i* S	Sb	00 38 31.2	-11
EML	**El Monte Cty P**	**1.12**	**295**	⇑P	Pg	00 38 30.4	-0.3
DPP	**Dos Picos Cty**	**1.24**	**298**	P	Pb	00 38 32.3	+0.2
DPP				S	Sb	00 38 47.8	-0.1

IDC ***05*** *00:39:08.8±11.0, 26°.09S×177°.98W, h295km±96km, mb3.9/6, mb1 4.0/7, mb1mx3.6/36, mbtmp4.5/7, Error ellipse: s-maj=60.7km s-min=19.2km az=60.0*

ISC 05 00:39:09.0±0.9, 26°.05S±0°.2×178°.0W±0°.2, h300km, n17, σ1§00/18, mb4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.77**	**282**	P	**Pn**	**00 42 24.3**	**-0.7**
	0.6nm,0.3s,baz=78,slow=16,SNR=15						
CTA	**Charters Tower**	**33.37**	**273**	P	**P**	**00 45 20.3**	**+0.3**
	14nm,0.7s,baz=102,slow=11,SNR=12						
ASAR	**Alice Springs**	**43.54**	**262**	P	**P**	**00 46 43.8**	**-0.4**
	4.7nm,0.8s,baz=104,slow=8.1,SNR=36						
WRA	**Warramunga Arr**	**44.13**	**268**	P	**P**	**00 46 48.0**	**-0.8**
	5.8nm,0.6s,baz=102,slow=6.3,SNR=91						
WRA				PcP	**PcP**	**00 48 28.4**	**+0.3**
	0.6nm,0.8s,baz=122,slow=3.6,SNR=4.6						
VNDA	**Vanda**	**52.42**	**185**	P	**P**	**00 47 51.4**	**+0.6**
	2.1nm,1.0s,baz=348,slow=6.4,SNR=7.6						
MAW	**Mawson**	**76.39**	**200**	P	**P**	**00 50 25.0**	**-0.2**
	3.6nm,0.6s,baz=132,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**91.98**	**289**	P	**P**	**00 51 46.5**	**+2.1**
	0.8nm,0.3s,baz=132,slow=3.0,SNR=6.7						
MKAR	**Makanchi Array**	**114.95**	**312**	PKP	PKPdf	00 57 13.1	-1.1
	0.5nm,0.8s,baz=96,slow=1.2,SNR=5.7						
KURBB	**Kurchatov Arra**	**118.06**	**315**	PKP	**PKPdf**	**00 57 18.2**	**-1.8**
	1.0nm,0.6s,baz=96,slow=2.1,SNR=4.6						
ARCES	**ARCESS Array B**	**134.34**	**349**	PKP	**PKPdf**	**00 57 50.9**	**+0.3**
	2.4nm,1.0s,baz=46,slow=2.6,SNR=4.6						
FINES	**FINESS Array B**	**141.04**	**342**	PKhKP	PKPpre	00 57 56.1	
	0.4nm,0.8s,baz=67,slow=4.7,SNR=5.4						
NB2	**NORSAR Subarra**	**144.45**	**352**	PKP	**PKPab**	**00 58 07.5**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=11,slow=3.5						
NOA	**NORSAR Array B**	**144.45**	**352**	PKP	**PKPab**	**00 58 07.8**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=17,slow=2.4,SNR=12						
AKASG	**Malin Array Be**	**147.76**	**327**	PKPbc	**PKPbc**	**00 58 17.6**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=42,slow=3.8,SNR=24						
MMAI	**Mount Meron Ar**	**150.23**	**291**	PKPbc	**PKPbc**	**00 58 26.0**	**+0.9**
	comp=Z,5.4nm,0.7s,baz=64,slow=6.6,SNR=12						
BRTR	**Keskin Array B**	**150.32**	**305**	PKPbc	**PKPbc**	**00 58 25.9**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=141,slow=4.3,SNR=13						
BRTR				PKPab	**PKPab**	**00 58 33.8**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=92,slow=4.0,SNR=11						
TORD	**Torodi Ar. Bea**	**167.17**	**179**	PKP	**PKPdf**	**00 58 39.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=218,slow=2.9,SNR=3.2						
TORD				PKPab	**PKPab**	**00 59 44.8**	**-1.0**
	comp=Z,1.0nm,1.1s,baz=186,slow=2.9,SNR=3.7					

X16A	**Lo Mia Camp, P**	**3.89**	**56**	⇓P		**Pn**	**00 43 40.0**	**+0.6**
	baz=3.9							
WUAZ	**Wupatki**	**4.60**	**45**	⇑P		**Pn**	**00 43 50.3**	**+1.2**
	baz=4.6							
U15A	**North Rim**	**4.82**	**31**	⇓P		**Pn**	**00 43 53.0**	**+0.7**
	baz=4.8							
X18A	**Snowflake**	**5.03**	**63**	⇓P		**Pn**	**00 43 55.4**	**+0.3**
	baz=5.0							
W18A	**Petrified Fore**	**5.45**	**58**	⇑P		**Pn**	**00 44 02.1**	**+1.3**
	baz=5.4							
121A	**Cookes Peak, D**	**6.41**	**86**	⇓P		**Pn**	**00 44 14.3**	**+0.3**
	baz=6.4							
MVCO	**Mesa Verde**	**7.46**	**47**	⇓P		**Pn**	**00 44 30.0**	**+1.5**
	baz=7.5							

*MEX **05** 00:44:13.9±0.8,31°.93N×115°.03W,h5km,MD3.2*
*NEIC **05** 00:44:21.7,32°.30N×115°.42W,h6km,ML4.0(PAS),After PAS.*

ISC 05 00:44:17.7±2.2,32°.16N±0°.10×115°.37W±0°.06,h7km±12km, n13,σ0s76/20,1C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.29**	**31**	*i* P		**Pg**	**00 44 23.4**	**0.0**
MBIG				*i* S		**Sb**	**00 44 30.9**	**+0.5**
DREC	**Desert Rsrch C**	**0.65**	**355**	*e*P		**Pb**	**00 44 31.7**	**+0.3**
WESC	**Westside Schoo**	**0.67**	**333**	⇓*i*P		**Pb**	**00 44 31.8**	**0.0**
WESC				*e*S		**Sg**	**00 44 40.0**	**+0.6**
COK	**Cook Ranch**	**0.75**	**337**	⇓*i*P		**Pb**	**00 44 33.4**	**+0.2**
SWSC	**Sam W. Stewart**	**0.86**	**336**	*e*P		**Pb**	**00 44 34.8**	**-0.2**
BTCC	**Brunts Corner**	**0.86**	**9**	*e*P		**Pb**	**00 44 35.2**	**+0.1**
BTCC				*e*S		**Sg**	**00 44 44.5**	**-0.9**
CLIC	**Calipatria**	**0.99**	**353**	*e*P		**Pg**	**00 44 36.7**	**0.0**
CBX	**Cerro Bola**	**1.10**	**278**	*i* P		**Pg**	**00 44 37.4**	**-1.6**
CBX				*i* S		**Sb**	**00 44 54.6**	**+0.7**
CBX	**Cerro Bola**	**1.10**	**278**	*e*P		**Pn**	**00 44 40.0**	**+0.2**
CBX				*e*S		**Sn**	**00 44 56.0**	**+0.6**
BAR	**Barrett**	**1.22**	**296**	*e*P		**Pg**	**00 44 42.1**	**+1.1**
BAR				*e*S		**Sb**	**00 44 56.5**	**-0.6**
BORC	**Borrego Spring**	**1.41**	**322**	⇑*i*P		**Pg**	**00 44 44.9**	**+0.1**
BORC				*e*S		**Sn**	**00 45 01.3**	**-1.6**
DPP	**Dos Picos Cty**	**1.57**	**303**	*e*P		**Pb**	**00 44 47.7**	**+0.6**
CPE	**Camp Elliot**	**1.63**	**297**	*e*P		**Pg**	**00 44 49.0**	**-0.1**

NEIC 05 00:45:11.7,32°.14N×115°.08W,h7km,ML3.5(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.61**	**8**	*e*P		Pg	00 45 23.0	-0.4
YMD	**Yuma Desert**	**0.62**	**47**	*e*P		Pg	00 45 23.0	-0.6
COA	**Coachella**	**0.73**	**357**	*e*P		Pg	00 45 25.1	-0.6
DREC	**Desert Rsrch C**	**0.74**	**335**	*e*P		Pg	00 45 25.1	-0.7
GLA	**Glamis**	**0.94**	**13**	*e*P		Pg	00 45 28.2	-1.7
GLA				*e*S		Sg	00 45 40.9	-1.2
BAR	**Barrett**	**1.45**	**292**	*e*P		Pn	00 45 37.2	-1.3
BAR				*e*S		Sn	00 45 56.0	-1.9

NEIC 05 00:46:52.6,32°.61N×115°.86W,h6km,ML3.6(PAS),1D, After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DREC	**Desert Rsrch C**	**0.40**	**61**	*i* S		Sg	00 47 06.4	+0.8
ERRC	**Elmore Ranch**	**0.51**	**4**	⇓*i*P		Pg	00 47 02.5	+0.1
CLIC	**Calipatria**	**0.60**	**28**	*e*P		Pg	00 47 03.7	-0.5
COA	**Coachella**	**0.67**	**68**	*e*P		Pg	00 47 05.0	-0.5
BORC	**Borrego Spring**	**0.81**	**325**	*e*P		Pg	00 47 08.5	+0.3
BORC				*e*S		Sg	00 47 18.2	-0.6
FRK	**Frink**	**0.81**	**13**	*e*P		Pg	00 47 06.9	-1.4
BATC	**Bat Cave Butte**	**0.85**	**1**	*e*P		Pg	00 47 08.4	-0.5

*ISCJB **05** 00:47:15.8±0.3,12°.29N±0°.07×86°.70W±0°.06,h161km±4km, mb4.2/24,Error ellipse: s-maj=13.9km s-min=3.5km az=41.0*
*IDC **05** 00:47:15.8±1.4,12°.44N×86°.50W,h140km±15km,mb3.6/11, mb1 3.9/12,mb1mx3.5/42,mbtmp4.0/12,Error ellipse: s-maj=31.2km s-min=13.7km az=63.0*
*NEIC **05** 00:47:16.3±1.7,12°.22N×86°.83W,h156km±28km,mb4.6/14, Error ellipse: s-maj=41.6km s-min=30.6km az=184.0*
*CASC **05** 00:47:18.6±2.7,11°.62N×87°.28W,h22km±13km,MD4.0, ML4.3*

ISC 05 00:47:16.2±0.7,12°.30N±0°.08×86°.68W±0°.07,h150km±6km, n57,σ1s32/69,mb4.3/24,3C-1D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.15**	**146**	⇓*i*P		**Pn**	**00 47 35.6**	**-0.8**
HUEN		**0.49**	**86**	⇑*i*P		**Pn**	**00 47 40.0**	**+2.6**
CNCH	**Conchagua**	**1.49**	**311**	⇑*i*P		**Pn**	**00 47 45.8**	**+0.1**
CNCH				*e*S		**Sn**	**00 48 19.4**	**+2.1**
BLLM	**Bellamira**	**1.90**	**307**	*i* P		**Pn**	**00 47 50.6**	**+0.4**
BLLM				*e*S		**Sn**	**00 48 18.2**	**+1.9**
VSM	**San Miguel**	**1.92**	**306**	*i* P		**Pn**	**00 47 51.1**	**+0.4**
VSM				*e*S		**Sn**	**00 48 19.5**	**+2.4**
BUEV	**Buena Vista**	**1.95**	**140**	*i* P		**Pn**	**00 47 53.0**	**+2.2**
LAPC	**Finca la Perla**	**1.95**	**141**	*i* P		**Pn**	**00 47 51.9**	**+1.1**
LAPC				*i* S		**Sn**	**00 48 15.8**	**-1.6**
GPS1	**Guardaparques**	**2.00**	**139**	*i* S		**Sn**	**00 48 18.8**	**+0.3**
GPS3	**Bodega del ICE**	**2.01**	**140**	*i* S		**Sn**	**00 48 18.6**	**+0.1**
LIM1	**Limonal**	**2.12**	**139**	*i* P		**Pn**	**00 47 54.0**	**+1.1**
GUAB	**Guayabo de Bag**	**2.13**	**138**	*i* P		**Pn**	**00 47 53.8**	**+0.8**
SNVI	**San Vicente**	**2.48**	**302**	*e*P		**Pn**	**00 47 57.8**	**+0.6**
SNVI				*e*S		**Sn**	**00 48 27.5**	**-1.3**
JTS	**JuntasAbangare**	**2.62**	**140**	P		**Pn**	**00 47 59.9**	**+1.1**
	12nm,0.3s,baz=110,slow=21,SNR=80							
JTS				S		**Sn**	**00 48 30.5**	**-1.3**
	38nm,0.3s,baz=249,slow=14,SNR=14							
JTS	**JuntasAbangare**	**2.62**	**140**	*e*Pn		**Pn**	**00 47 59.3**	**+0.4**
JTS				*e*Sn		**Sn**	**00 48 29.7**	**-2.1**
LFRS	**El Faro**	**2.67**	**300**	*i* P		**Pn**	**00 48 00.1**	**+0.5**
LFRS				*e*S		**Sn**	**00 48 32.7**	**-0.2**
SNET	**Serv Nac Est T**	**2.84**	**299**	*e*P		Pn	00 48 08.9	+7.2
SNET				*e*S		**Sn**	**00 48 35.4**	**-1.4**
SNET				AML		AML	00 48 38.0	
	comp=Z,2μm,0.3s							
JCR	**Jicaral**	**2.88**	**148**	*e*P		**Pn**	**00 48 03.6**	**+1.4**
JCR				*e*S		**Sn**	**00 48 35.3**	**-2.4**
BOQS	**Boqueron**	**2.91**	**300**	⇑*i*P		**Pn**	**00 48 03.8**	**+1.2**
BOQS				*e*S		**Sn**	**00 48 38.3**	**-0.2**
CGA2	**Cerro Gallo 2**	**3.14**	**136**	*e*P		**Pn**	**00 48 07.8**	**+2.3**
CGA2				*e*S		**Sn**	**00 48 44.4**	**+0.7**
SNJE	**San Jose**	**3.25**	**299**	*e*P		**Pn**	**00 48 08.8**	**+1.8**
SBLS	**San Blas**	**3.25**	**298**	*i* P		**Pn**	**00 48 08.0**	**+1.0**
SBLS				*e*S		**Sn**	**00 48 46.5**	**+0.2**
RBDL	**Robledal**	**3.44**	**302**	*e*P		**Pn**	**00 48 11.0**	**+1.7**
URSC	**Urasca**	**3.76**	**130**	*e*P		Pn	00 48 17.8	+4.3
BUS	**Buena Vista**	**3.96**	**133**	*e*P		**Pn**	**00 48 19.3**	**+2.9**
ACR	**Cerro Adams**	**5.01**	**136**	*e*P		**Pn**	**00 48 31.6**	**+1.7**
GTBY	**Guantanamo Bay**	**13.45**	**54**	*e*Pn		**Pn**	**00 50 20.1**	**-1.1**
SDV	**Santo Domingo**	**16.13**	**101**	*e*Pn		**Pn**	**00 50 55.0**	**+0.1**
	comp=Z,15nm,1.0s							
LRAL	**Lakeview Retre**	**20.64**	**359**	*e*P		**P**	**00 51 45.5**	**+1.5**
	comp=Z,22nm,1.0s							
GOGA	**Godfrey**	**21.21**	**7**	*e*P		**P**	**00 51 50.9**	**+0.7**
	comp=Z,23nm,0.7s							
MIAR	**Mount Ida**	**23.01**	**345**	*e*P		**P**	**00 52 08.1**	**0.0**
	comp=Z,13nm,1.2s							
TXAR	**Lajitas Array**	**23.17**	**320**	P		**P**	**00 52 10.8**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=141,slow=10.0,SNR=13							
TKL	**Tuckaleechee C**	**23.40**	**6**	P		**P**	**00 52 13.6**	**+2.0**
	comp=Z,13nm,0.9s,baz=178,slow=13,SNR=18							
TKL	**Tuckaleechee C**	**23.40**	**6**	*e*P		**P**	**00 52 12.3**	**+0.7**
WMOK	**Wichita Mounta**	**24.89**	**336**	*e*P		**P**	**00 52 25.4**	**+0.2**
	comp=Z,19nm,1.0s							
W34A	**Bridge Creek,**	**24.95**	**338**	*e*P		**P**	**00 52 26.0**	**+0.3**
	comp=Z,24nm,0.8s							
BLA	**Blacksburg**	**25.43**	**12**	*e*P		**P**	**00 52 31.6**	**+1.5**
	comp=Z,12nm,1.2s							
VWCC	**Virginia Weste**	**25.55**	**12**	*e*P		**P**	**00 52 32.4**	**+1.2**
WCI	**Wyandotte Cave**	**25.82**	**1**	*e*P		**P**	**00 52 33.7**	**+0.2**
	comp=Z,4.7nm,0.7s							
BINY	**Binghamton**	**31.21**	**15**	*e*P		**P**	**00 53 22.1**	**+0.7**
	comp=Z,11nm,0.8s							
ECSD	**EROS Data Cent**	**32.47**	**347**	*e*P		**P**	**00 53 31.2**	**-1.2**
	comp=Z,22nm,1.9s							
SADO	**Sadowa**	**32.99**	**10**	P		**P**	**00 53 37.1**	**+0.3**
	comp=Z,4.8nm,0.6s,baz=234,slow=7.1,SNR=5.5							
SPMN	**Marine on St.**	**33.22**	**352**	*e*P		**P**	**00 53 37.8**	**-1.0**
	comp=Z,12nm,1.0s							
PTN	**Potsdam (NY)**	**33.68**	**15**	*e*P		**P**	**00 53 43.7**	**+0.8**
	comp=Z,30nm,0.8s							
LONY	**Lake Ozonia**	**33.83**	**16**	*e*P		**P**	**00 53 44.4**	**+0.2**
	comp=Z,11nm,0.8s							
BAR	**Barrett**	**34.15**	**311**	*e*P		**P**	**00 53 44.8**	**-2.3**
PDAR	**Pinedale Array**	**36.26**	**331**	P		**P**	**00 54 05.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=132,slow=11,SNR=4.3							
AGMN	**Agassiz Nation**	**36.69**	**350**	*e*P		**P**	**00 54 07.7**	**-0.8**
	comp=Z,16nm,1.4s							
SIV	**San Ignacio**	**37.84**	**137**	P		**P**	**00 54 18.3**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=319,slow=9.0,SNR=4.8							
ULM	**Lac du Bonnet**	**38.58**	**351**	P		**P**	**00 54 22.6**	**-1.9**
	comp=Z,3.5nm,0.6s,baz=168,slow=9.1,SNR=11							
SCHQ	**Schefferville**	**45.21**	**16**	P		**P**	**00 55 17.4**	**-0.7**
	comp=Z,3.1nm,0.4s,baz=217,slow=6.1,SNR=29							
YKA	**Yellowknife Ar**	**53.95**	**344**	P		**P**	**00 56 23.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=136,slow=7.7,SNR=13							
YKA				pP		**pP**	**00 56 58.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=138,slow=7.9,SNR=5.2							
PLCA	**Paso Flores**	**54.84**	**165**	P		**P**	**00 56 32.8**	**+1.8**
	comp=Z,2.8nm,0.9s,baz=12,slow=7.0,SNR=4.7							
DLBC	**Dease Lake**	**56.37**	**334**	P		**P**	**00 56 42.7**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=125,slow=16,SNR=2.7							
ILAR	**Eielson Array**	**66.46**	**336**	P		**P**	**00 57 48.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=93,slow=3.3,SNR=4.3							
ESDC	**Sonseca Array**	**76.69**	**52**	P		**P**	**00 58 50.9**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=268,slow=5.7,SNR=6.6							
ASAR	**Alice Springs**	**139.91**	**248**	PKhKP		PKPpre	01 06 20.1	
	comp=Z,1.0nm,0.8s,baz=111,slow=3.3,SNR=9.6							
ASAR				PKP		**PKPdf**	**01 06 28.5**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=94,slow=1.8,SNR=18							
WRA	**Warramunga Arr**	**139.95**	**254**	PKhKP		PKPpre	01 06 21.2	
	comp=Z,0.6nm,0.7s,baz=91,slow=2.1,SNR=8.0							
WRA				PKP		**PKPdf**	**01 06 28.5**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=90,slow=2.0,SNR=35							

*MEX **05** 00:58:49.0±0.8,32°.70N×114°.92W,h15km,MD3.7*
*ISCJB **05** 00:58:50.8±0.6,32°.24N±0°.04×115°.32W±0°.02,h23km±4km, mb3.5/2,Error ellipse: s-maj=6.3km s-min=2.9km az=1.6*
*NEIC **05** 00:58:50.9,32°.24N×115°.33W,h10km,MD4.2(MEX), ML4.2(PAS),After PAS.*
*IDC **05** 00:58:52.5±2.7,32°.26N×115°.15W,h0km,mb3.5/2, mb1 3.9/6,mb1mx3.4/43,mbtmp3.6/6,ML4.0/3,Error ellipse: s-maj=42.2km s-min=14.9km az=44.0*

ISC 05 00:58:51.7±0.9,32°.29N±0°.03×115°.34W±0°.02,h17km±6km, n57,σ1s60/76,35C-21D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.17**	**47**	*e*P		**Pg**	**00 58 56.5**	**+0.5**
MBIG				*e*S		**Sg**	**00 59 00.9**	**+1.8**
DREC	**Desert Rsrch C**	**0.52**	**350**	*e*P		**Pg**	**00 59 02.0**	**-0.1**
DREC				*e*S		**Sb**	**00 59 10.1**	**+0.6**
ERPC	**Ernies Place**	**0.52**	**329**	⇑*i*P		**Pg**	**00 59 02.0**	**-0.2**
WESC	**Westside Schoo**	**0.57**	**325**	⇑*i*P		**Pg**	**00 59 02.5**	**-0.6**
WESC				*e*S		**Sg**	**00 59 10.5**	**-0.2**
COK	**Cook Ranch**	**0.64**	**330**	⇑*i*P		**Pg**	**00 59 03.6**	**-0.7**
BTCC	**Brunts Corner**	**0.72**	**8**	*e*P		**Pg**	**00 59 04.6**	**-1.3**
BTCC				*e*S		**Sg**	**00 59 15.1**	**-0.5**
SWSC	**Sam W. Stewart**	**0.75**	**329**	⇑P		**Pg**	**00 59 04.6**	**-1.8**
	baz=0.8							
SWSC	**Sam W. Stewart**	**0.75**	**329**	*e*P		**Pg**	**00 59 04.9**	**-1.5**
GLA	**Glamis**	**0.87**	**30**	⇑P		**Pg**	**00 59 06.8**	**-1.9**
	baz=0.9							
GLA				⇓S		**Sg**	**00 59 17.6**	**-2.6**
	baz=0.9							
ERRC	**Elmore Ranch**	**0.92**	**334**	*e*P		**Pg**	**00 59 07.9**	**-1.6**
ERRC				*e*S		**Sg**	**00 59 20.2**	**-1.3**
CBKC	**Canebrake**	**0.98**	**308**	⇑*i*P		**Pg**	**00 59 09.6**	**-1.1**
MONP	**Monument Peak,**	**1.09**	**303**	⇓P		**Pg**	**00 59 11.3**	**-1.5**
	baz=1.1							
MONP				⇑S		**Sg**	**00 59 25.3**	**-1.8**
	baz=1.1							
CBX	**Cerro Bola**	**1.12**	**271**	*e*P		**Pg**	**00 59 12.0**	**-1.4**
CBX	**Cerro Bola**	**1.12**	**271**	*e*P		**Pg**	**00 59 12.0**	**-1.4**
BAR	**Barrett**	**1.19**	**289**	⇑P		**Pg**	**00 59 13.0**	**-1.7**
BAR				*e*S		**Sg**	**00 59 28.0**	**-2.2**
SPIG	**San Pedro Mart**	**1.25**	**185**	*i* P		**Pb**	**00 59 14.8**	**-0.2**
SPIG				*i* S		**Sn**	**00 59 35.0**	**+3.8**
SPIG	**San Pedro Mart**	**1.25**	**185**	*i* P		**Pb**	**00 59 14.8**	**-0.2**
SPIG				*i* S		**Sn**	**00 59 34.0**	**+2.8**
BC3	**Big Chuckawall**	**1.36**	**356**	⇓P		Pn	00 59 14.0	-2.0
	baz=1.4							
113A	**Mohawk Valley,**	**1.41**	**70**	⇑P		**Pn**	**00 59 15.6**	**-1.0**
	baz=1.4							
113A				⇑S		**Sg**	**00 59 32.7**	**-4.7**
	baz=1.4							
109C	**Camp Elliot, M**	**1.60**	**292**	⇓Pb		**Pn**	**00 59 20.1**	**+0.9**
	baz=1.6							
109C				⇑S		**Sn**	**00 59 39.0**	**-0.4**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.61**	**325**	Pn		Pn	00 59 17.7	-1.8
	58nm,0.3s,baz=146,slow=14,SNR=23							
PFO				Lg		Lg	00 59 41.2	
	139nm,0.3s,baz=232,slow=19,SNR=20							
PFO	**Pinyon Flats O**	**1.61**	**325**	⇑P		Pn	00 59 17.6	-1.8
	baz=1.7							
MURC	**Murrieta**	**2.03**	**310**	⇑P		**Pn**	**00 59 23.9**	**-1.3**
	baz=2.1							
MURC				⇑Sb		**Sn**	**00 59 53.9**	**+3.7**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.17**	**98**	⇓P		**Pn**	**00 59 26.1**	**-1.0**
	baz=2.1							
PDMCI	**Parker Dam,Lak**	**2.24**	**26**	⇓Sb		**Sb**	**01 00 00.8**	**+1.7**
	baz=2.3							
Z14A	**Wintersburg**	**2.28**	**62**	⇓P		**Pn**	**00 59 27.7**	**-0.8**
	baz=2.3							
Z14A				⇑S		**Sn**	**00 59 56.0**	**-0.3**
	baz=2.3							
BBRC	**Big Bear Solar**	**2.37**	**326**	⇓Sb		**Sb**	**01 00 04.2**	**+1.2**
	baz=2.4							
Y14A	**Wickenburg**	**2.56**	**49**	⇓P		**Pn**	**00 59 32.1**	**-0.3**
	baz=2.6							
BFSC	**Mount Baldy Ra**	**2.74**	**316**	⇓Pb		**Pb**	**00 59 39.8**	**-0.6**
	baz=2.8							
BFSC				⇓Sb		**Sb**	**01 00 14.3**	**+0.5**
	baz=2.8							
SCI	**San Clemente I**	**2.79**	**285**	⇓P		**Pn**	**00 59 34.7**	**-0.8**
	baz=2.8							
SCI				⇑S		**Sn**	**01 00 09.0**	**+0.2**
	baz=2.8							
CIS	**Catalina Islan**	**2.81**	**294**	⇑Pb		**Pb**	**00 59 40.4**	**-0.9**
	baz=2.8							
CIS				⇑Sb		**Sb**	**01 00 15.7**	**+0.2**
	baz=2.8							
FMP	**Fort Macarthur**	**2.85**	**300**	⇓Pb		**Pb**	**00 59 41.2**	**-1.0**
	baz=2.9							
FMP				⇓Sb		**Sb**	**01 00 17.5**	**+0.7**
	baz=2.9							
DECC	**Green Verdugo**	**3.17**	**309**	⇑Pb		**Pb**	**00 59 47.0**	**-0.7**
	baz=3.2							
DECC				⇓Sb		**Sb**	**01 00 27.8**	**+1.8**
	baz=3.2							
EDW2	**Edwards Air Fo**	**3.40**	**320**	⇑Pb		**Pb**	**00 59 52.1**	**+0.6**
	baz=3.5							
EDW2				⇑Sb		**Sb**	**01 00 34.9**	**+2.5**
	baz=3.5							
OSI	**Osito Audit: C**	**3.65**	**310**	⇑Pb		**Pb**	**00 59 54.6**	**-1.3**
	baz=3.7							
OSI				⇑Sb		**Sb**	**01 00 41.2**	**+1.4**
	baz=3.7							
TUC	**Tucson**	**3.86**	**89**	*e*P		**Pn**	**00 59 48.8**	**-1.5**
X16A	**Lo Mia Camp, P**	**3.89**	**56**	⇑P		**Pn**	**00 59 51.2**	**+0.4**
	baz=3.9							
BSC	**Santa Cruz Isl**	**3.98**	**296**	⇑Pb		**Pb**	**01 00 00.2**	**-1.2**
	baz=4.0							
SBC	**Santa Barbara**	**4.24**	**302**	⇑Sb		**Sb**	**01 00 57.3**	**+0.7**
	baz=4.3							
ISA	**Isabella, Lake**	**4.25**	**323**	⇑Sb		**Sb**	**01 01 00.4**	**+3.3**
	baz=4.3							
WUAZ	**Wupatki**	**4.61**	**45**	⇑P		**Pn**	**01 00 02.2**	**+1.5**
	baz=4.6							
U15A	**North Rim**	**4.83**	**31**	⇓P		**Pn**	**01 00 04.9**	**+1.0**
	baz=4.9							
X18A	**Snowflake**	**5.03**	**62**	⇓P		**Pn**	**01 00 07.2**	**+0.6**
	baz=5.0							
X18A				⇓S		**Sn**	**01 01 05.1**	**+0.8**
	baz=5.0							
319A	**Douglas**	**5.24**	**98**	⇑P		**Pn**	**01 00 09.3**	**0.0**
	baz=5.2							
W18A	**Petrified Fore**	**5.46**	**57**	⇓P		**Pn**	**01 00 13.9**	**+1.5**
	baz=5.5							
W18A				⇑S		**Sn**	**01 01 15.3**	**+0.5**
	baz=5.5							
121A	**Cookes Peak, D**	**6.39**	**86**	⇓P		**Pn**	**01 00 25.4**	**+0.1**
	baz=6.4							
121A				⇑S		**Sn**	**01 01 35.3**	**-2.7**
	baz=6.4							
Y22D	**IRIS PASSCAL I**	**7.28**	**74**	⇓P		**Pn**	**01 00 39.2**	**+1.8**
	baz=7.3							
MVCO	**Mesa Verde**	**7.47**	**47**	⇑P		**Pn**	**01 00 42.2**	**+2.2**
	baz=7.5							
ANMO	**Albuquerque**	**7.87**	**68**	Pn		Pn	**01 00 47.7**	**+2.2**
	0.8nm,0.3s,baz=259,slow=11,SNR=18							
MNTX	**Cornudas Mount**	**8.48**	**91**	⇑P		**Pn**	**01 00 54.4**	**+0.6**
	baz=8.4							
W24A	**Lazy 6 Ranch,**	**8.77**	**68**	⇑P		**Pn**	**01 00 59.6**	**+1.7**
	baz=8.8							
W25A	**X Bar L Ranch,**	**9.52**	**69**	⇑P		**Pn**	**01 01 09.6**	**+1.6**
	baz=9.5							
TXAR	**Lajitas Array**	**10.46**	**103**	Pn		**Pn**	**01 01 22.8**	**+1.8**
	2.0nm,0.3s,baz=283,slow=13,SNR=74							
TXAR				Lg		Lg	01 04 16.1	
	0.1nm,0.3s,baz=278,slow=28,SNR=3.0							
PDAR	**Pinedale Array**	**11.41**	**22**	Pn		Pn	01 01 41.0	+6.9
	baz=191,slow=9.2,SNR=3.4							
NEW	**Newport**	**16.01**	**356**	Pn		**P**	**01 02 39.4**	**0.0**
	0.1nm,0.3s,baz=180,slow=10,SNR=2.0							
ULM	**Lac du Bonnet**	**23.03**	**33**	P		**P**	**01 03 57.3**	**+1.5**
	1.8nm,0.6s,baz=218,slow=8.6,SNR=5.7							
ILAR	**Eielson Array**	**37.84**	**339**	P		P	01 06 12.2	+5.1
	0.3nm,0.6s,baz=152,slow=8.2,SNR=6.5							

*ISK **05** 01:00:51.2,40°.54N×34°.99E,h5km,ML3.6*
*CSEM **05** 01:00:51.8±0.1,40°.55N×34°.98E,h2km,ML3.6,Error ellipse: s-maj=2.9km s-min=2.2km az=173.0*
*DDA **05** 01:00:51.2,40°.50N×35°.01E,h16km,ML3.6*

ISC 05 01:00:51.6±0.9,40°.50N±0°.02×35°.02E±0°.02,h16km±8km, n88,σ1s45/102,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.21**	**304**	*i* P		**Pg**	**01 00 56.7**	**0.0**
CTKT	**Corum**	**0.21**	**304**	*i* P		**Pg**	**01 00 56.7**	**0.0**
CORM	**Corum**	**0.44**	**223**	*e*PG		**Pb**	**01 01 00.7**	**-0.4**
CORM				*e*SG		**Sb**	**01 01 07.2**	**-0.3**
CORM	**Corum**	**0.44**	**223**	*e*Pg		**Pb**	**01 01 00.7**	**-0.4**
CORM				*e*Sg		**Sb**	**01 01 07.2**	**-0.3**
HAVZ	**Havza**	**0.78**	**43**	*i* P		**Pb**	**01 01 05.9**	**-0.8**
HAVZ				*i* S		**Sb**	**01 01 17.9**	**+0.8**
HAVZ	**Havza**	**0.78**	**43**	*i* P		**Pb**	**01 01 05.9**	**-0.8**
HAVZ				*i* S		**Sb**	**01 01 17.9**	**+0.8**
BOYT	**Boyabat**	**0.92**	**354**	*i* P		**Pb**	**01 01 08.9**	**-0.3**
BOYT				*i* S		**Sb**	**01 01 18.5**	**-2.7**
BOYT	**Boyabat**	**0.92**	**354**	*i* P		**Pb**	**01 01 08.9**	**-0.3**
BOYT				*i* S		**Sb**	**01 01 18.5**	**-2.7**
KVT	**Kavak**	**0.97**	**53**	*e*PG		**Pb**	**01 01 09.3**	**-0.7**
KVT	**Kavak**	**0.97**	**53**	*e*Pg		**Pb**	**01 01 09.3**	**-0.7**
BYBT	**Boyabat**	**0.98**	**349**	*e*PG		**Pb**	**01 01 09.1**	**-1.1**
BYBT	**Boyabat**	**0.98**	**349**	*e*Pg		**Pb**	**01 01 09.1**	**-1.1**
CDAG	**Cicekdag**	**1.01**	**210**	*i* P		**Pn**	**01 01 10.8**	**-0.4**
CDAG				*i* S		**Sn**	**01 01 24.6**	**-0.5**
CDAG	**Cicekdag**	**1.01**	**210**	*i* P		**Pn**	**01 01 10.8**	**-0.4**
CDAG				*i* S		**Sn**	**01 01 24.6**	**-0.5**
CANT	**Cankiri**	**1.07**	**276**	*e*PG		**Pn**	**01 01 11.5**	**-0.5**
TOKA	**Tokat**	**1.13**	**99**	*i* P		**Pb**	**01 01 12.6**	**-0.1**
TOKA				*i* S		**

SLA	**San Lorenzo**	**1.63**	**47**	*i* P		Pb	01 02 03.6	-0.3
SLA				*i* S		Sg	01 02 28.5	+2.6
SLA				AML		AML	01 02 32.8	
	comp=Z,630nm,0.6s							
AHML	**Horco Molle**	**1.63**	**125**	*i* P		Pg	01 02 04.5	0.0
AHML				*i* S		Sg	01 02 27.1	+1.4
AHML				AML		AML	01 02 31.3	
	comp=Z,253nm,0.6s							
AZAP	**Zapla**	**2.26**	**45**	*i* P		Pb	01 02 15.3	+0.5
AZAP				*i* S		Sb	01 02 44.3	+0.9
AZAP				AML		AML	01 02 49.7	
	comp=Z,391nm,0.6s							
CYA	**Choya**	**2.75**	**161**	*i* P		Pb	01 02 20.7	-2.0
CYA				*i* S		Sb	01 02 56.1	-0.8
CYA				AML		AML	01 03 05.2	
	comp=Z,289nm,0.8s							
ASTB	**Santa Barbara**	**2.84**	**49**	*i* P		Pb	01 02 22.6	-1.9
ASTB				*i* S		Sb	01 02 58.7	-1.0
ALOL	**LOMAS DE OLMED**	**3.28**	**53**	*i* P		Pn	01 02 28.3	+3.0
ALOL				*i* S		Sb	01 03 08.8	-3.4
AGUA	**GUANDACOL**	**3.92**	**202**	*i* P		Pn	01 02 37.2	+3.0
AGUA				*i* P		Pn	01 02 37.2	+3.0
CANA	**Caviahue**	**12.54**	**196**	AML		AML	01 03 25.0	
	comp=Z,41nm,0.5s							

CSEM ***05*** *01:06:22.4±0.1, 46°32N×13°60E, h10km, ML0.9, Error ellipse: s-maj=3.4km s-min=1.6km az=158.0*

LJU 05 01:06:22.6, 46°31N×13°61E, h9km, ML0.9, 2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.10**	**228**	*i* Pg	Pg	01 06 25.0	0.0
ROBS				*i* Sg	Sg	01 06 26.8	+0.1
	comp=Z,12nm,0.1s						
ROBS	**Robic**	**0.10**	**228**	Pg	Pg	01 06 25.0	0.0
ROBS				*i* Sg	Sg	01 06 26.8	+0.1
	comp=Z,12nm,0.1s						
CADS	**Cadrg**	**0.12**	**133**	*i* Pg	Pg	01 06 25.5	0.0
CADS				*i* Sg	Sg	01 06 27.6	+0.2
	comp=Z,27nm,0.1s						
CADS	**Cadrg**	**0.12**	**133**	*i* Pg	Pg	01 06 25.5	+0.1
CADS				*i* Sg	Sg	01 06 27.6	+0.2
	comp=Z,27nm,0.1s						
DRE	**Drenchia**	**0.14**	**171**	⇓*e*Pg	Pg	01 06 25.8	+0.1
DRE				*e*Sg	Sg	01 06 28.2	+0.3
DRE	**Drenchia**	**0.14**	**171**	⇓*e*Pg	Pg	01 06 25.8	0.0
DRE				*e*Sg	Sg	01 06 28.1	+0.2
GORS	**Gorjuse**	**0.27**	**88**	*i* Pg	Pg	01 06 28.0	-0.1
GORS				*i* Sg	Sg	01 06 32.5	+0.7
	comp=Z,4.0nm,0.1s						
GORS	**Gorjuse**	**0.27**	**88**	*i* Pg	Pg	01 06 28.0	-0.1
GORS				*i* Sg	Sg	01 06 32.5	+0.7
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.34**	**146**	*i* Pg	Pg	01 06 29.5	+0.1
VOJS	**Vojsko**	**0.34**	**146**	*i* Pg	Pg	01 06 29.5	+0.1

NEIC ***05*** *01:06:40.4, 32°25N×115°43W, h10km, MD4.3(MEX), ML4.2(PAS), After PAS.*
IDC ***05*** *01:06:41.1±2.0, 32°31N×115°38W, h0km, mb4.0/6, mb1 4.1/10, mb1mx3.7/47, mbtmp3.9/10, ML3.7/3, Error ellipse: s-maj=36.9km s-min=15.2km az=40.0*
MEX ***05*** *01:06:42.0±0.6, 32°46N×115°27W, h22km±8km, MD3.0*

ISC 05 01:06:40.9±1.1, 32°32N±0°03×115°43W±0°02, h5km±8km, n60, σ1§82/94, mb4.0/7, 17C-19D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.21**	**67**	*e*P	**Pg**	**01 06 45.4**	**+0.4**
MBIG				*e*S	**Sg**	**01 06 47.3**	**-0.6**
SWSC	**Sam W. Stewart** baz=0.8	**0.69**	**333**	⇑P	**Pg**	**01 06 53.9**	**-0.2**
SWSC				⇓S	**Sb**	**01 07 04.2**	**-1.0**
	baz=0.8						
GLA	**Glamis** baz=1.0	**0.89**	**35**	⇓P	**Pg**	**01 06 57.4**	**-0.5**
GLA				⇓S	**Sg**	**01 07 08.1**	**-1.3**
	baz=1.0						
GLA	**Glamis**	**0.89**	**35**	*e*Pg	**Pg**	**01 06 57.7**	**-0.2**
GLA				*e*S	**Sg**	**01 07 08.5**	**-0.9**
MONP	**Monument Peak,** baz=1.1	**1.01**	**304**	⇓P	**Pg**	**01 06 59.8**	**-0.5**
MONP				⇓S	**Sg**	**01 07 13.1**	**-0.4**
	baz=1.1						
CBX	**Cerro Bola**	**1.05**	**270**	*e*P	**Pg**	**01 07 00.4**	**-0.6**
CBX				*i* S	**Sg**	**01 07 14.6**	**0.0**
CBX	**Cerro Bola**	**1.05**	**270**	*e*P	**Pg**	**01 07 00.4**	**-0.6**
CBX				*e*S	**Sg**	**01 07 15.0**	**+0.4**
BAR	**Barrett**	**1.11**	**289**	*e*Pg	**Pg**	**01 07 01.3**	**-0.9**
BAR				*e*S	**Sg**	**01 07 15.7**	**-0.9**
SPIG	**San Pedro Mart**	**1.27**	**181**	*e*P	**Pn**	**01 07 03.6**	**-2.0**
SPIG				*e*S	**Sb**	**01 07 21.3**	**-1.0**
SPIG	**San Pedro Mart**	**1.27**	**181**	*e*P	**Pn**	**01 07 03.6**	**-2.0**
SPIG				*e*S	**Sb**	**01 07 21.3**	**-1.0**
BC3	**Big Chuckawall** baz=1.4	**1.33**	**359**	⇑P	**Pn**	**01 07 03.0**	**-3.1**
BC3				⇓S	**Sb**	**01 07 19.4**	**-4.3**
	baz=1.4						
113A	**Mohawk Valley,** baz=1.5	**1.47**	**72**	⇓P	**Pn**	**01 07 05.5**	**-2.5**
113A				⇑S	**Sn**	**01 07 23.6**	**-4.0**
	baz=1.5						
109C	**Camp Elliot, M** baz=1.6	**1.52**	**292**	⇓P	**Pn**	**01 07 07.6**	**-1.2**
109C				⇑S	**Sn**	**01 07 27.6**	**-1.4**
	baz=1.6						
PFO	**Pinyon Flats O** 37nm,0.3s,baz=145,slow=12,SNR=12	**1.55**	**326**	Pn	Pn	01 07 05.7	-3.5
PFO				Lg	Lg	01 07 26.2	
	153nm,0.3s,baz=18,slow=3.8,SNR=11						
PFO	**Pinyon Flats O** baz=1.6	**1.55**	**326**	⇓P	**Pn**	**01 07 06.4**	**-2.8**
PFO				⇑S	**Sn**	**01 07 25.5**	**-4.2**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.55**	**326**	*e*Pn	Pn	01 07 05.9	-3.3
PFO				*e*S	**Sn**	**01 07 25.3**	**-4.4**
PFO				Lg	Lg	01 07 26.2	
BELC	**Belle Mtn. Jos** baz=1.8	**1.74**	**344**	⇑P	**Pn**	**01 07 09.4**	**-2.4**
IRM	**Iron Mountain** baz=1.9	**1.85**	**7**	⇑P	**Pn**	**01 07 10.6**	**-2.6**
MURC	**Murrieta** baz=2.0	**1.96**	**311**	⇑Sb	**Sb**	**01 07 41.4**	**-0.4**
214A	**Organ Pipe Nat** baz=2.2	**2.25**	**99**	⇑Sb	**Sb**	**01 07 51.7**	**+1.6**
NEE2	**Needles Airpor** baz=2.6	**2.53**	**15**	⇓S	**Sn**	**01 07 49.2**	**-4.5**
BFSC	**Mount Baldy Ra** baz=2.7	**2.67**	**316**	⇓Pb	**Pb**	**01 07 28.7**	**-0.6**
BFSC				⇓Sb	**Sb**	**01 08 02.2**	**-0.2**
	baz=2.7						
SCI	**San Clemente I** baz=2.7	**2.71**	**285**	⇓P	**Pn**	**01 07 24.5**	**-0.6**
SCI				⇓Sb	**Sb**	**01 08 04.7**	**+1.3**
	baz=2.7						
CIS	**Catalina Islan** baz=2.8	**2.73**	**294**	⇑Pb	**Pb**	**01 07 29.3**	**-0.8**
CIS				⇑Sb	**Sb**	**01 08 04.8**	**+1.0**
	baz=2.8						
LDFC	**Landfair**	**2.76**	**5**	*e*Pn	**Pn**	**01 07 26.0**	**+0.1**
LDFC				*e*Pg	**Pg**	**01 07 33.5**	**-0.3**
FMP	**Fort Macarthur** baz=2.8	**2.78**	**301**	⇓Pb	**Pb**	**01 07 29.7**	**-1.3**
FMP				⇓Sb	**Sb**	**01 08 05.4**	**+0.1**
	baz=2.8						
MWC	**Mount Wilson**	**2.91**	**311**	*e*Pn	**Pn**	**01 07 27.3**	**-0.6**
MWC				*e*S	**Sb**	**01 08 10.9**	**+1.7**
PASC	**Pasadena Art C**	**2.96**	**309**	*e*Pn	**Pn**	**01 07 27.9**	**-0.5**
PASC				*e*Pg	**Pb**	**01 07 35.2**	**+1.2**
PASC				*e*S	**Sb**	**01 08 11.2**	**+0.8**
DECC	**Green Verdugo** baz=3.2	**3.10**	**309**	⇓Pb	**Pb**	**01 07 36.0**	**-0.4**
DECC				⇑Sb	**Sb**	**01 08 16.2**	**+1.6**
	baz=3.2						
GSC	**Goldstone, Bar**	**3.19**	**339**	*e*Pn	**Pn**	**01 07 31.7**	**0.0**
EDW2	**Edwards Air Fo** baz=3.4	**3.33**	**321**	⇓Pb	**Pb**	**01 07 39.3**	**-1.1**
OSI	**Osito Audit: C** baz=3.6	**3.58**	**311**	⇑Pb	**Pb**	**01 07 43.4**	**-1.3**
OSI				⇓Sb	**Sb**	**01 08 29.1**	**+0.7**
	baz=3.6						
OSI	**Osito Audit: C**	**3.58**	**311**	*e*Pn	**Pn**	**01 07 36.5**	**-0.6**
OSI				*e*Pg	**Pb**	**01 07 43.4**	**-1.3**
OSI				*e*S	**Sb**	**01 08 30.8**	**+2.3**
TUC	**Tucson**	**3.93**	**89**	*e*Pn	**Pn**	**01 07 40.5**	**-1.4**
TUC				S	**Sb**	**01 08 38.6**	**0.0**
X16A	**Lo Mia Camp, P** baz=4.0	**3.94**	**57**	⇑P	**Pn**	**01 07 40.7**	**-1.4**
ARVC	**Arvin** baz=4.0	**3.98**	**316**	⇑Pb	**Pb**	**01 07 50.9**	**-0.6**
SHPR	**Sheep Range**	**4.18**	**3**	*e*Pn	**Pn**	**01 07 45.7**	**+0.3**
SHPR				*e*Pg	**Pg**	**01 08 02.5**	**+1.6**
SHPR				*e*S	**Sg**	**01 08 51.1**	**-4.0**
ISA	**Isabella, Lake**	**4.18**	**324**	*e*Pn	**Pn**	**01 07 43.1**	**-2.3**
ISA				*e*Pg	**Pg**	**01 07 58.8**	**-2.2**
ISA				*e*S	**Sb**	**01 08 48.4**	**+2.5**
WUAZ	**Wupatki**	**4.64**	**46**	*e*Pn	**Pn**	**01 07 53.9**	**+2.2**
WUAZ				*e*S	**Sg**	**01 09 08.0**	**-1.8**
X18A	**Snowflake** baz=5.1	**5.08**	**63**	⇑P	**Pn**	**01 07 56.6**	**-1.2**
W18A	**Petrified Fore** 35nm,0.6s	**5.50**	**58**	*e*Pn	**Pn**	**01 08 03.0**	**-0.6**
ARUT	**Antelope Range** 3.1nm,0.6s	**5.69**	**16**	Pn	**Pn**	**01 08 04.6**	**-1.5**
ARUT				*e*Pg	**Pg**	**01 08 29.6**	**-0.3**
ARUT				*e*Sg	**Sg**	**01 09 47.1**	**+3.5**
TPH	**Tonopah** 25nm,0.9s	**5.92**	**346**	*e*Pn	Pn	01 08 02.1	-7.3
TPH				*e*Pg	**Pg**	**01 08 35.9**	**+1.6**
TPH				*e*S	**Sg**	**01 09 54.7**	**+3.6**
121A	**Cookes Peak, D** baz=6.5	**6.46**	**86**	⇑P	**Pn**	**01 08 15.4**	**-1.4**
121A	**Cookes Peak, D** 23nm,0.5s	**6.46**	**86**	*e*Pn	**Pn**	**01 08 14.7**	**-2.1**
121A				*e*S	**Sg**	**01 10 12.3**	**+3.8**
CMB	**Columbia Colle**	**7.00**	**326**	*e*Pn	**Pn**	**01 08 24.2**	**+0.2**
CMB				*e*S	**Sb**	**01 10 08.3**	**+1.6**
LAZ	**Ladron** 2.0nm,0.4s	**7.24**	**71**	*e*Pn	**Pn**	**01 08 27.4**	**0.0**
LENM	**Lemitar** 11nm,0.5s	**7.32**	**73**	Pn	**Pn**	**01 08 28.1**	**-0.4**
ANMO	**Albuquerque** 0.2nm,0.3s,baz=247,slow=11,SNR=7.0	**7.92**	**68**	Pn	**Pn**	**01 08 38.0**	**+1.1**
PV01	**Paradox Valley**	**8.07**	**42**	Pn	Pn	01 08 42.1	+3.3
TXAR	**Lajitas Array** 0.6nm,0.3s,baz=279,slow=13,SNR=13	**10.54**	**103**	Pn	**Pn**	**01 09 14.3**	**+1.6**
TXAR				Lg	Lg	01 12 18.7	
	0.1nm,0.3s,baz=276,slow=28,SNR=3.3						
PDAR	**Pinedale Array** baz=198,slow=5.7,SNR=3.4	**11.41**	**22**	Pn	Pn	01 09 29.4	+4.6
NEW	**Newport** 0.1nm,0.3s,baz=175,slow=14,SNR=7.2	**15.97**	**356**	Pn	**P**	**01 10 29.3**	**-0.6**
ULM	**Lac du Bonnet** 4.4nm,0.9s,baz=234,slow=12,SNR=6.7	**23.05**	**33**	P	**P**	**01 11 48.3**	**+1.5**
DLBC	**Dease Lake** 2.5nm,0.9s,baz=175,slow=12,SNR=4.9	**27.93**	**344**	P	**P**	**01 12 33.0**	**+1.2**
YKA	**Yellowknife Ar** 0.4nm,1.0s,baz=180,slow=8.0,SNR=4.5	**30.19**	**1**	P	**P**	**01 12 51.4**	**-0.4**
INK	**Inuvik** 3.2nm,1.1s,baz=136,slow=8.0,SNR=5.9	**37.52**	**349**	P	**P**	**01 13 56.9**	**+1.6**
ILAR	**Eielson Array** 2.1nm,0.9s,baz=152,slow=7.9,SNR=15	**37.79**	**339**	P	**P**	**01 13 59.5**	**+1.9**
SUMG	**Summit** 4.0nm,1.0s	**55.60**	**21**	*i* P	**P**	**01 16 19.0**	**+1.5**
FINES	**FINESS Array B** 2.0nm,0.9s,baz=336,slow=8.4,SNR=6.1	**81.47**	**18**	P	**P**	**01 18 59.8**	**+1.1**

NEIC 05 01:07:21.7, 32°17N×115°47W, h5km, ML3.9(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESC	**Westside Schoo**	**0.63**	**340**	*e*P	Pg	01 07 33.4	-0.5
WESC				*e*S	Sg	01 07 41.9	-0.2
DREC	**Desert Rsrch C**	**0.64**	**2**	*e*P	Pg	01 07 33.6	-0.4
COA	**Coachella**	**0.76**	**23**	*e*P	Pg	01 07 35.6	-0.7
BAR	**Barrett**	**1.14**	**297**	Pg	Pg	01 07 43.5	-0.1
BAR				Sg	Sg	01 07 57.5	-0.9

NEIC 05 01:08:08.2, 32°27N×115°32W, h7km, ML3.9(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.51**	**318**	*e*P	Pg	01 08 17.6	-0.5
DREC	**Desert Rsrch C**	**0.54**	**349**	*e*P	Pg	01 08 18.4	-0.3
EMSC	**East Mesa**	**0.55**	**31**	*e*P	Pg	01 08 18.6	-0.2
ERPC	**Ernies Place**	**0.55**	**329**	*e*P	Pg	01 08 18.7	-0.2
WESC	**Westside Schoo**	**0.60**	**325**	*e*P	Pg	01 08 19.2	-0.5
COA	**Coachella**	**0.61**	**16**	*e*P	Pg	01 08 19.6	-0.5
COK	**Cook Ranch**	**0.67**	**329**	*e*P	Pg	01 08 20.6	-0.6
GLA	**Glamis**	**0.88**	**28**	*e*Pg	Pg	01 08 23.9	-1.4
GLA				*e*Sg	Sg	01 08 35.2	-1.7
BAR	**Barrett**	**1.21**	**290**	*e*Pn	Pb	01 08 30.0	-1.6
BAR				*e*S	Sg	01 08 45.4	-2.0
MWC	**Mount Wilson**	**3.01**	**311**	Pn	Pn	01 08 55.8	-0.8

GUC 05 01:08:12.1±0.9, 35°55S×72°56W, h15km±4km, ML3.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.60**	**198**	*e*P	Pg	01 08 23.8	-0.3
COCH				*i* S	Sb	01 08 32.8	+0.1
TALC	**Talca**	**0.77**	**79**	⇑*i*P	Pg	01 08 25.4	-1.7
TALC				*i* S	Sg	01 08 36.0	-1.4
LNCH	**Linares**	**0.84**	**111**	⇑*i*P	Pg	01 08 28.4	0.0
LNCH				*i* S	Sb	01 08 40.0	+0.6
NICH	**Los Niches**	**1.22**	**64**	⇑*i*P	Pn	01 08 32.7	-1.9
NICH				*i* S	Sb	01 08 49.0	-1.5
CLCH	**Cerro Calan**	**2.73**	**38**	*e*P	Pn	01 08 57.0	+1.5
CLCH				*i* S	Sb	01 09 31.8	-2.2
CLCH				AML	AML	01 09 43.7	
	comp=E,166nm,0.7s						
PEL	**Peldehue**	**2.86**	**33**	*e*P	Pn	01 08 59.0	+1.7
PEL				*e*S	Sb	01 09 35.2	-2.6
PEL				AML	AML	01 09 49.9	
	comp=E,172nm,0.6s						

ISCJB ***05*** *01:10:30.6±0.5, 8°41S±0°05×119°83E±0°04, h172km, mb3.5/2, Error ellipse: s-maj=7.7km s-min=5.5km az=30.7*
DJA ***05*** *01:10:32.4±0.5, 8°5±3'×12'0E±', h150km±6km, M4.0/13, MLv4.0/13*
IDC ***05*** *01:10:35.6±2.5, 7°99S×120°44E, h198km±17km, mb3.0/3, mb1 3.1/5, mb1mx3.0/38, mbtmp3.6/5, Error ellipse: s-maj=71.5km s-min=9.9km az=53.0*

ISC 05 01:10:31.4±0.8, 8°41S±0°06×119°84E±0°05, h172km, n16, σ1§11/23, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.30**	**200**	P	**Pn**	**01 11 00.7**	**-0.2**
WBSI				S	**Sn**	**01 11 22.0**	**-1.8**
WSI	**Waingapu**	**1.33**	**160**	P	**Pn**	**01 11 01.1**	**0.0**
WSI				S	**Sn**	**01 11 23.1**	**-1.1**
EDFI	**Ende, Flores**	**1.86**	**101**	P	**Pn**	**01 11 06.1**	**-0.4**
BASI	**Baing, Sumba**	**1.94**	**158**	P	**Pn**	**01 11 07.6**	**+0.3**
BKSI	**Bulukumba**	**3.08**	**5**	P	**Pn**	**01 11 20.1**	**-0.6**
BNSI	**Bone**	**3.99**	**4**	P	**Pn**	**01 11 32.2**	**0.0**
BATI	**Baumata**	**4.17**	**116**	P	**Pn**	**01 11 35.4**	**+0.8**
BATI				S	**Sn**	**01 12 23.4**	**-0.6**
BATI	**Baumata** 9.7nm,0.3s,baz=61,slow=2.5,SNR=6.3	**4.17**	**116**	P	**Pn**	**01 11 35.5**	**+0.9**
BATI				S	**Sn**	**01 12 23.3**	**-0.6**
	21nm,0.3s,baz=200,slow=15,SNR=7.9						
SPSI	**Sidrap Palu**	**4.42**	**359**	P	**Pn**	**01 11 38.2**	**+0.5**
SOEI	**Soe**	**4.57**	**107**	P	**Pn**	**01 11 40.4**	**+0.6**
SOEI				S	**Sn**	**01 12 31.5**	**-1.8**
IGBI	**Denpasar**	**4.66**	**265**	P	**Pn**	**01 11 42.6**	**+1.8**
IGBI				S	**Sn**	**01 12 34.0**	**-1.1**
TTSI	**Tana Toraja**	**5.33**	**360**	P	Pn	01 11 44.4	-5.2
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=311,slow=12,SNR=28	**18.12**	**131**	P	**Pn**	**01 14 32.0**	**-0.6**
WRA				S	**S**	**01 17 47.4**	**-2.0**
	0.4nm,0.3s,baz=314,slow=23,SNR=7.1						
ASAR	**Alice Springs** 0.9nm,0.3s,baz=317,slow=8.9,SNR=21	**20.29**	**140**	P	**P**	**01 14 55.9**	**+1.8**
ASAR				S	**S**	**01 18 33.1**	**+0.8**
	1.0nm,0.8s,baz=329,slow=25,SNR=5.7						
SONM	**Songino Array** 0.2nm,0.4s,baz=167,slow=8.3,SNR=3.8	**57.25**	**349**	P	**P**	**01 20 01.7**	**+0.8**
MKAR	**Makanchi Array**	**64.32**	**332**	P	**P**	**01 20 48.5**	**-0.1**

0.6nm,0.5s,baz=154,slow=7.2,SNR=15

ISCJB ***05*** *01:17:30.6±1.0, 35°24S±0°06×72°46W±0°08, h20km, Error ellipse: s-maj=9.2km s-min=8.3km az=146.6*
GUC ***05*** *01:17:32.2±0.3, 35°26S×72°31W, h7km±1km, ML4.2*
NEIC ***05*** *01:17:32.2, 35°26S×72°31W, h7km, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Constitucion and Talca and [II] at Concepcion.

ISC 05 01:17:32.3±1.2, 35°22S±0°04×72°32W±0°09, h20km, n13, σ1§13/22, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.59**	**108**	⇓*i*P	**Pb**	**01 17 43.9**	**0.0**
TALC				*i* S	**Sn**	**01 17 52.8**	**-1.8**
TALC				AML	AML	01 17 53.2	
	comp=E,37μm,0.1s						
TALC	**Talca**	**0.59**	**108**	⇓*i*P	**Pb**	**01 17 43.9**	**0.0**
TALC				*i* S	**Sn**	**01 17 52.8**	**-1.8**
LNCH	**Linares**	**0.86**	**137**	⇓*i*P	**Pb**	**01 17 47.9**	**-0.7**
LNCH				*i* S	**Sn**	**01 17 59.9**	**-1.4**
LNCH				AML	AML	01 18 00.8	
	comp=N,17μm,0.3s						
LNCH	**Linares**	**0.86**	**137**	⇓*i*P	**Pb**	**01 17 47.9**	**-0.7**
LNCH				*i* S	**Sn**	**01 17 59.9**	**-1.4**
NICH	**Los Niches**	**0.92**	**77**	⇓*i*P	**Pb**	**01 17 49.6**	**+0.1**
NICH				*i* S	**Sn**	**01 18 02.6**	**-0.1**
NICH				AML	AML	01 18 03.0	
	comp=N,23μm,0.2s						
NICH	**Los Niches**	**0.92**	**77**	⇓*i*P	**Pb**	**01 17 49.6**	**+0.1**
NICH				*i* S	**Sn**	**01 18 02.6**	**-0.1**
YECH	**El Yeso**	**2.41**	**51**	*i* P	**Pb**	**01 18 13.9**	**-1.2**
YECH				*i* S	**Sb**	**01 18 45.9**	**+1.3**
YECH				AML	AML	01 18 49.6	
	comp=N,1μm,0.3s						
YECH	**El Yeso**	**2.41**	**51**	*i* P	**Pb**	**01 18 13.9**	**-1.2**
YECH				*i* S	**Sb**	**01 18 45.9**	**+1.3**
PLCA	**Paso Flores**	**5.68**	**166**	*e*Pn	**Pn**	**01 18 55.9**	**+0.3**
PLCA				*e*S	**Sb**	**01 20 19.9**	**+1.4**
LCO	**Las Campanas**	**6.34**	**13**	Pn	**Pn**	**01 19 03.5**	**-1.4**
TRQA	**Tornquist**	**8.78**	**112**	*e*Pn	**Pn**	**01 19 38.5**	**+0.4**
LPAZ	**La Paz** comp=N,0.7nm,0.6s	**19.22**	**12**	*e*P	**P**	**01 21 57.0**	**+1.2**
QSPA	**South Pole Qui**	**55.02**	**180**	P	**P**	**01 27 03.1**	**+0.9**

NEIC 05 01:21:30.3, 32°50N×115°68W, h12km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flats O**	**1.28**	**330**	*e*Pg	Pn	01 21 52.4	-1.9
PFO				*e*S	Sb	01 22 05.7	-5.5
LDFC	**Landfair**	**2.62**	**10**	*e*Pn	Pb	01 22 18.6	+1.3
MWC	**Mount Wilson**	**2.63**	**311**	*e*Pn	Pn	01 22 12.9	0.0
PASC	**Pasadena Art C**	**2.68**	**309**	*e*Pn	Pn	01 22 13.4	+0.1
GSC	**Goldstone, Bar**	**2.95**	**342**	*e*Pn	Pb	01 22 20.3	-2.6
OSI	**Osito Audit: C**	**3.30**	**311**	*e*Pn	Pn	01 22 22.5	+0.6
ISA	**Isabella, Lake**	**3.92**	**324**	Pn	Pn	01 22 33.4	+3.1
TUC	**Tucson**	**4.14**	**91**	Pn	Pg	01 22 48.5	-1.4

ISCJB ***05*** *01:22:44.5±0.7, 32°56N±0°04×115°61W±0°03, h29km±4km, Error ellipse: s-maj=7.4km s-min=3.9km az=4.7*
NEIC ***05*** *01:22:44.5, 32°50N×115°67W, h14km, ML3.9(PAS), After PAS.*

ISC 05 01:22:44.7±1.3, 32°57N±0°05×115°63W±0°02, h22km±12km, n23, σ1§26/37, 11C-16D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWSC	**Sam W. Stewart** baz=0.5	**0.39**	**339**	⇓P	**Pb**	**01 22 52.7**	**-0.4**
SWSC				⇑S	**Sb**	**01 22 59.0**	**+0.2**
	baz=0.5						
MONP	**Monument Peak,** baz=0.7	**0.74**	**296**	⇓P	**Pb**	**01 22 58.5**	**-0.6**
MONP				⇓S	**Sb**	**01 23 07.9**	**-1.0**
	baz=0.7						
GLA	**Glamis** baz=0.9	**0.82**	**54**	⇑P	**Pb**	**01 23 00.1**	**-0.4**
GLA				⇓S	**Sb**	**01 23 11.5**	**+0.4**
	baz=0.9						
GLA	**Glamis**	**0.82**	**54**	*e*Pg	**Pb**	**01 23 00.3**	**-0.1**
GLA				*e*S	**Sb**	**01 23 11.6**	**+0.4**
BAR	**Barrett**	**0.89**	**277**	*e*Pg	**Pb**	**01 23 00.7**	**-0.8**
BAR				*e*S	**Sb**	**01 23 11.8**	**-1.2**
BC3	**Big Chuckawall** baz=1.2	**1.09**	**8**	⇓P	**Pn**	**01 23 04.1**	**-0.7**
BC3				⇑S	**Sb**	**01 23 17.9**	**-1.0**
	baz=1.2						
PFO	**Pinyon Flats O** baz=1.3	**1.25**	**326**	⇓S	**Sn**	**01 23 21.8**	**-1.4**
PFO	**Pinyon Flats O**	**1.25**	**326**	*e*Pn	**Pn**	**01 23 06.0**	**-0.9**
PFO				*e*S	**Sn**	**01 23 21.7**	**-1.4**
109C	**Camp Elliot, M** baz=1.3	**1.29**	**285**	⇓P	**Pn**	**01 23 07.4**	**0.0**
109C				⇓S	**Sn**	**01 23 23.6**	**-0.3**
	baz=1.3						
BELC	**Belle Mtn. Jos** baz=1.5	**1.46**	**348**	⇑P	**Pn**	**01 23 09.6**	**-0.3**
BELC				⇑S	**Sn**	**01 23 27.3**	**-1.1**
	baz=1.5						
113A	**Mohawk Valley,** baz=1.6	**1.58**	**82**	⇓P	**Pn**	**01 23 11.2**	**-0.2**
113A				⇑S	**Sn**	**01 23 30.8**	**-0.4**
	baz=1.6						
IRM	**Iron Mountain** baz=1.7	**1.63**	**14**	⇓P	**Pn**	**01 23 12.2**	**+0.1**
MURC	**Murrieta** baz=1.7	**1.67**	**308**	⇓P	**Pn**	**01 23 12.3**	**-0.4**
MURC				⇓S	**Sn**	**01 23 33.3**	**-0.3**
	baz=1.7						
HEC	**Hector,Ludlow** baz=2.4	**2.33**	**346**	⇑S	**Sn**	**01 23 49.8**	**+0.1**
NEE2	**Needles Airpor** baz=2.4	**2.34**	**21**	⇓S	**Sn**	**01 23 50.5**	**+0.5**
BFSC	**Mount Baldy

EMX eS Sg 01 25 40.6 -0.2
MBIG Mexicali 0.24 5 eP Pb 01 25 41.2 +1.5
MBIG eS Sg 01 25 43.7 +0.7
COK Cook Ranch 0.81 328 eP Pg 01 25 50.3 -0.1
SWSC Sam W. Stewart 0.91 328 ⇓S Sg 01 26 02.8 -1.5
baz=0.9
GLA Glamis 0.95 21 eP Pg 01 25 51.3 -1.8
GLA e 01 26 02.8
GLA Glamis 0.95 21 ⇓P Pg 01 25 51.3 -1.8
baz=1.0
GLA ⇑S Sg 01 26 04.1 -1.3
baz=1.0
GLA Glamis 0.95 21 ePn Pg 01 25 51.3 -1.8
GLA eSn Sg 01 26 02.8 -2.7
SPIG San Pedro Mart 1.13 191 eP Pg 01 25 55.3 -1.4
SPIG eS Sg 01 26 11.2 -0.2
SPIG San Pedro Mart 1.13 191 ePn Sg 01 26 11.2 -0.2
SPX San Pedro Mart 1.13 191 eP Pg 01 25 55.4 -1.2
SPX AML AML 01 26 13.0
comp=E,19µm,0.4s
SPX ⇓e 01 26 13.0
CBX Cerro Bola 1.23 277 eP Pg 01 25 56.5 -2.0
CBX eS Sg 01 26 14.2 -0.3
CBX Cerro Bola 1.23 277 eP Pg 01 25 57.1 -1.4
CBX eS Sg 01 26 13.9 -0.5
CBX Cerro Bola 1.23 277 ePn Sg 01 26 14.2 -0.3
MONP Monument Peak, 1.24 306 ⇑P Pg 01 25 57.0 -1.7
baz=1.3
MONP ⇓S Sg 01 26 12.2 -2.8
baz=1.3
BAR Barrett 1.33 293 ePn Pn 01 26 00.0 +0.1
113A Mohawk Valley, 1.37 63 ⇓P Pn 01 25 58.1 -2.4
baz=1.4
113A ⇓S Sg 01 26 15.0 -3.9
baz=1.4
BC3 Big Chuckawall 1.50 353 ⇑P Pn 01 25 59.6 -2.8
baz=1.5
BC3 ⇓S Sn 01 26 18.0 -4.3
baz=1.5
Y12C Blythe 1.69 20 ⇓P Pn 01 26 02.5 -2.4
baz=1.7
Y12C ⇓Sb Sn 01 26 27.2 +0.5
baz=1.7
109C Camp Elliot, M 1.75 295 ⇑P Pn 01 26 03.9 -1.7
baz=1.8
109C ⇓S Sn 01 26 26.3 -1.9
baz=1.8
PFO Pinyon Flats O 1.78 325 eP Pn 01 26 02.3 -3.9
PFO e 01 26 30.8
PFO Pinyon Flats O 1.78 325 Pn Pn 01 26 02.3 -3.9
comp=E,105nm,0.3s,baz=135,slow=13,SNR=4.2
PFO Lg Lg 01 26 24.8
comp=E,431nm,0.3s,baz=166,slow=12,SNR=10.0
PFO Pinyon Flats O 1.78 325 ⇓S Sn 01 26 24.8 -4.3
baz=1.8
PFO Pinyon Flats O 1.78 325 ePn Pn 01 26 02.3 -3.9
PFO eSn Sb 01 26 30.8 +0.3
IRM Iron Mountain 1.99 2 ⇑P Pn 01 26 06.7 -2.3
baz=2.0
214A Organ Pipe Nat 2.06 95 ⇓P Pn 01 26 07.4 -2.6
baz=2.1
214A ⇑S Sn 01 26 31.3 -4.6
baz=2.1
DGR Domenigoni Val 2.11 315 ePn Pg 01 26 14.6 -0.8
HMTC Hemet 2.15 316 ePn Pn 01 26 09.0 -2.2
MURC Murrieta 2.20 311 ⇓P Pn 01 26 09.7 -2.2
baz=2.2
MURC ⇑Sb Sb 01 26 42.6 +0.2
baz=2.2
Z14A Wintersburg 2.26 57 ⇓P Pn 01 26 10.4 -2.3
baz=2.3
PDMCI Parker Dam,Lak 2.32 23 ⇓P Pn 01 26 11.2 -2.2
baz=2.3
PDMCI ⇓Sb Sb 01 26 46.7 +0.8
baz=2.3
Y14A Wickenburg 2.57 46 ⇓P Pn 01 26 14.0 -3.0
baz=2.6
GMRC Granite Mounta 2.64 352 ⇑P Pn 01 26 16.1 -1.9
baz=2.7
NEE2 Needles Airpor 2.65 11 ⇓P Pn 01 26 16.2 -1.8
baz=2.7
BFSC Mount Baldy Ra 2.91 316 ⇑P Pn 01 26 19.0 -2.7
baz=2.9
LDFC Landfair 2.91 2 ePn Pn 01 26 21.3 -0.4
SSK Sunset Peak 2.91 315 ePn Pb 01 26 28.1 +0.9
SCI San Clemente I 2.92 287 ⇓P Pn 01 26 19.7 -2.1
baz=2.9
CIS Catalina Islan 2.95 296 ⇑P Pn 01 26 20.6 -1.6
baz=3.0
CIS ⇓Sb Sb 01 27 04.4 +0.2
baz=3.0
FMP Fort Macarthur 3.01 302 ⇑Pb Pb 01 26 27.6 -1.2
baz=3.0
FMP ⇓Sb Sb 01 27 05.8 +0.1
baz=3.0
W13A Hualapai Mount 3.13 20 ⇑P Pn 01 26 23.4 -1.5
baz=3.1
MWC Mount Wilson 3.14 312 eP Pb 01 26 31.0 -0.2
MWC e 01 27 11.7
MWC Mount Wilson 3.14 312 ePn Pb 01 26 31.0 -0.2
MWC eSn Sb 01 27 11.7 +1.9
PASC Pasadena Art C 3.19 310 ePn Pb 01 26 31.9 0.0
PASC eSn Sb 01 27 11.7 +0.7
DECC Green Verdugo 3.33 309 ⇓Pb Pb 01 26 33.9 -0.4
baz=3.3
GSC Goldstone, Bar 3.40 338 eP Pb 01 26 33.6 -1.9
GSC Goldstone, Bar 3.40 338 ePn Pb 01 26 33.6 -1.9
TUC Tucson 3.76 87 eP Pn 01 26 32.3 -1.1
TUC e 01 27 13.7
TUC Tucson 3.76 87 ePn Pn 01 26 32.3 -1.1
TUC eSn Sn 01 27 13.7 -4.4
CCAC Calif City Air 3.78 323 ePn Pb 01 26 44.5 +2.5
OSI Osito Audit: C 3.81 311 ⇑Sb Sb 01 27 29.4 +0.4
baz=3.8
OSI Osito Audit: C 3.81 311 ePn Pb 01 26 41.1 -1.4
OSI eSn Sb 01 27 28.1 -0.9
X16A Lo Mia Camp, P 3.88 54 ⇓P Pn 01 26 34.1 -1.1
baz=3.9
BSC Santa Cruz Isl 4.13 297 ⇑P Pn 01 26 36.9 -1.5
baz=4.1
SHPR Sheep Range 4.33 1 ePn Pn 01 26 41.3 0.0
ISA Isabella, Lake 4.42 323 eP Pn 01 26 46.3 +3.9
ISA e 01 27 31.1
ISA Isabella, Lake 4.42 323 ePn Pn 01 26 46.3 +3.9
ISA eSn Sn 01 27 31.1 -3.1
WASM Alta Sierra Ca 4.52 323 eSn Sn 01 27 25.6 -11
WUAZ Wupatki 4.63 43 ⇓P Pn 01 26 45.4 0.0
baz=4.6
WUAZ Wupatki 4.63 43 ePn Pn 01 26 45.5 0.0
HSIG 4.84 129 eP Pn 01 26 46.4 -1.8
HSIG 4.84 129 ePn Pn 01 26 46.4 -1.8
TPNV Topopah Spring 4.85 350 eP Pn 01 26 51.9 +3.5
TPNV Topopah Spring 4.85 350 ePn Pn 01 26 51.9 +3.5
U15A North Rim 4.90 29 ⇓P Pn 01 26 49.2 0.0
baz=4.9
X18A Snowflake 5.00 60 ⇓P Pn 01 26 49.6 -1.0
baz=5.0
X18A ⇑S Sn 01 27 45.2 -3.6
baz=5.0
319A Douglas 5.12 97 ⇓P Pn 01 26 50.8 -1.3
baz=5.1
KNB Kanab 5.23 22 eP Pn 01 26 53.8 +0.1
KNB Kanab 5.23 22 ePn Pn 01 26 53.8 +0.1
EKU East Kanab 5.39 24 ePn Pn 01 26 56.3 +0.4
W18A Petrified Fore 5.44 56 ⇓P Pn 01 26 56.4 -0.3
baz=5.4
W18A Petrified Fore 5.44 56 ePn Pn 01 26 56.7 0.0
W18A eSn Sn 01 28 08.2 +8.6
SRIG Santa Rosalia 5.48 151 eP Pn 01 26 56.4 -0.5
SRIG Santa Rosalia 5.48 151 ePn Pn 01 26 56.4 -0.5
CCUT Cedar City 5.59 15 ePn Pn 01 26 59.1 +0.4
BHU Blowhard Mount 5.75 19 ePn Pn 01 27 01.8 +0.7
ARUT Antelope Range 5.80 14 eP Pn 01 27 02.0 +0.5
ARUT Antelope Range 5.80 14 ePn Pn 01 27 02.0 +0.5
TPH Tonopah 6.12 345 eP Pn 01 27 09.3 +3.3
TPH Tonopah 6.12 345 ePn Pn 01 27 09.3 +3.3
R11A Troy Canyon, C 6.18 357 ⇓P Pn 01 27 06.3 -0.4
baz=6.2
R11A Troy Canyon, C 6.18 357 ePn Pn 01 27 06.8 +0.1
BTU Barney Top 6.22 25 ePn Pn 01 27 08.8 +1.4
121A Cookes Peak, D 6.30 85 ⇓P Pn 01 27 06.6 -1.9
baz=6.3
NV01 Mina Array Sit 6.74 339 ePn Pn 01 27 14.3 -0.2
NVAR Mina Array Bea 6.74 339 Pn Pn 01 27 14.3 -0.2
comp=E,0.5nm,0.3s,baz=156,slow=16,SNR=3.4
MMU Miners Mountai 6.83 27 ePn Pn 01 27 16.3 +0.6
SAO San Andreas Ge 6.89 313 eP Pn 01 27 21.4 +5.1
SAO San Andreas Ge 6.89 313 ePn Pn 01 27 21.4 +5.1
SAO eSn Sn 01 28 29.4 -5.6
LAZ Ladron 7.13 70 ePn Pn 01 27 19.3 -0.5
LENM Lemitar 7.20 72 ePn Pn 01 27 20.0 -0.8
WAKR Walker 7.20 333 ePn Pn 01 27 25.2 +4.4
CMB Columbia Colle 7.22 326 eP Pn 01 27 28.3 +7.3
CMB Columbia Colle 7.22 326 ePn Pn 01 27 28.3 +7.3
BNM Barren Site 7.47 72 ePn Pn 01 27 23.9 -0.7
MVCO Mesa Verde 7.48 46 ⇓P Pn 01 27 25.3 +0.6
baz=7.5
MVCO Mesa Verde 7.48 46 ePn Pn 01 27 26.0 +1.3
LPM Los Pinos Moun 7.51 71 ePn Pn 01 27 24.4 -0.7
FSU Fish Springs 7.69 11 ePn Pn 01 27 27.5 +0.1
PV05 Paradox Valley 7.74 39 ePn Pn 01 27 32.5 +4.2
ANMO Albuquerque 7.83 67 Pn Pn 01 27 29.4 0.0
comp=E,1.9nm,0.3s,baz=248,slow=8.6,SNR=26
ANMO Lg Lg 01 29 42.2
comp=E,1.3nm,0.3s,baz=8.8,slow=19,SNR=3.3
TMUT Trail Mountain 7.83 24 ePn Pn 01 27 31.4 +1.9
SRU San Rafael Swe 7.92 28 eP Pn 01 27 32.1 +1.5
SRU San Rafael Swe 7.92 28 ePn Pn 01 27 32.0 +1.5
PV10 Paradox Valley 8.00 37 ePn Pn 01 27 32.5 +0.7
PV09 Paradox Valley 8.04 37 ePn Pn 01 27 34.2 +1.8
PV01 Paradox Valley 8.07 41 ePn Pn 01 27 34.1 +1.4
NLU North Lily Min 8.18 17 ePn Pn 01 27 37.0 +2.8
DUG Dugway, Tooele 8.25 13 eP Pn 01 27 40.2 +5.1
DUG Dugway, Tooele 8.25 13 ePn Pn 01 27 40.2 +5.1
MPU Maple Canyon 8.36 19 ePn Pn 01 27 38.2 +1.6
MNTX Cornudas Mount 8.38 91 ⇑P Pn 01 27 35.1 -1.7
baz=8.4
BMN Battle Mountai 8.41 350 eP Pn 01 27 42.2 +4.9
BMN Battle Mountai 8.41 350 ePn Pn 01 27 42.1 +4.9
U23A El Rito 8.55 58 ⇑P Pn 01 27 39.1 -0.2
baz=8.5
ELK Elko 8.56 360 eP Pn 01 27 29.8 -10
ELK Elko 8.56 360 Pn Pn 01 27 40.0 +0.5
comp=E,1.0nm,0.3s,baz=181,slow=8.2,SNR=11
ELK Lg Lg 01 30 05.1
comp=E,0.3nm,0.3s,baz=176,slow=15,SNR=2.6
ELK Elko 8.56 360 ePn Pn 01 27 29.8 -10
ELK eSn Sn 01 29 08.8 -7.7
W24A Lazy 6 Ranch, 8.72 67 ⇑P Pn 01 27 41.6 -0.1
baz=8.7
DAU Daniels Canyon 8.83 20 eP Pn 01 27 45.8 +2.5
DAU Daniels Canyon 8.83 20 ePn Pn 01 27 45.8 +2.5
S22A 4UR Ranch, Cre 8.86 49 ⇑P Pn 01 27 43.9 +0.3
baz=8.9
S22A 4UR Ranch, Cre 8.86 49 ePn Pn 01 27 42.9 -0.7
BGU Big Grassy Mou 8.92 11 ePn Pn 01 27 45.7 +1.4
CTU Camp Tracy 8.96 17 ePn Pn 01 27 47.8 +3.0
LPIG La Paz 9.13 150 Pn Pn 01 27 51.4 +4.3
baz=341,slow=6.2,SNR=2.6
GDL2 Guadalupe Moun 9.20 87 ePn Pn 01 27 48.1 -0.2
TCUT Toone Canyon 9.45 18 ePn Pn 01 27 53.9 +2.2
T24B San Luis 9.47 56 ⇑P Pn 01 27 50.1 -1.8
baz=9.5
W25A X Bar L Ranch, 9.47 68 ⇓P Pn 01 27 51.4 -0.4
baz=9.5
V25A Rancho No Teng 9.54 65 ⇓P Pn 01 27 52.8 -0.1
baz=9.5
CLNB Carlsbad 9.61 86 ePn Pn 01 27 55.6 +1.8
CPRX Cap Rock 9.62 82 ePn Pn 01 27 55.2 +1.2
SLBS Sierra La Lagu 9.65 150 ePn Pn 01 27 57.9 +3.6
SMCO Snowmass 9.69 41 ePn Pn 01 27 56.9 +1.8
O20A White River Ci 9.75 33 ePn Pn 01 27 55.8 0.0
HVU Hansel Valley 9.80 11 eP Pn 01 27 55.4 -0.9
HVU Hansel Valley 9.80 11 ePn Pn 01 27 55.4 -0.9
HWUT Hardware Ranch 9.87 16 ePn Pn 01 28 00.1 +2.7
T25A Trinidad 10.19 58 ePn Pn 01 28 02.6 +0.7
LTX Lajitas 10.33 103 eP Pn 01 28 04.7 +1.0
LTX Lajitas 10.33 103 ePn Pn 01 28 04.7 +1.0
TXAR Lajitas Array 10.34 103 Pn Pn 01 28 04.7 +1.0
comp=E,6.2nm,0.3s,baz=287,slow=13,SNR=124
TXAR Lg Lg 01 30 56.9
comp=E,0.6nm,0.3s,baz=278,slow=21,SNR=4.0
MOD Modoc Plateau 10.53 339 ePn Pn 01 28 10.9 +4.5
MSTX Muleshoe 10.60 77 ePn Pn 01 28 08.4 +1.1
Q24A Divide 10.64 48 ePn Pn 01 28 07.1 -1.0
ISCO Idaho Springs 10.89 43 eP Pn 01 28 13.4 +2.0
ISCO Idaho Springs 10.89 43 ePn Pn 01 28 13.4 +2.0
AHID Auburn Hatcher 11.08 16 ePn Pn 01 28 17.5 +3.6
MFID Camas Ranch 11.24 358 ePn Pn 01 28 19.3 +3.2
HLID Hailey 11.40 3 ePn Pn 01 28 21.2 +2.9
K05A Summer Lake 11.46 339 ePn Pn 01 28 25.3 +6.2
N23A Red Feather La 11.47 38 ePn Pn 01 28 20.8 +1.5
BW06 Boulder Array 11.50 21 ePn Pn 01 28 21.1 +1.4
PD31 Pinedale Array 11.50 21 ePn Pn 01 28 20.6 +0.9
PDAR Pinedale Array 11.50 21 Pn Pn 01 28 21.6 +1.9
comp=E,0.2nm,0.3s,baz=187,slow=10,SNR=15
AMTX Amarillo 11.62 73 ePn Pn 01 28 22.8 +1.5
REDW Red Top Meadow 11.70 16 ePn Pn 01 28 25.9 +3.4
TPAW Teton Pass 11.80 15 ePn Pn 01 28 26.9 +3.1
SNOW Snow King Moun 11.82 16 ePn Pn 01 28 27.5 +3.4
FXWY Fox Creek 11.92 15 ePn Pn 01 28 28.8 +3.3
LOHW Long Hollow 11.99 16 ePn Pn 01 28 28.3 +1.8
IMW Indian Meadow 12.19 15 ePn Pn 01 28 32.1 +2.9
KSCO Kaye Shedlock' 12.31 53 ePn Pn 01 28 32.9 +2.2
I07A Izee 12.37 345 ePn Pn 01 28 35.9 +4.5
FLWY Flagg Ranch 12.42 15 ePn Pn 01 28 36.1 +3.8
PINOR Pine Mountain 12.45 341 ePn Pn 01 28 37.8 +5.4
K22A Casper 12.54 31 ePn Pn 01 28 34.5 +0.6
YFT Old Faithful 12.74 14 ePn Pn 01 28 40.1 +3.4
H17A Grant Village 12.74 15 ePn Pn 01 28 40.2 +3.5
BMO Blue Mountains 12.77 353 ePn Pn 01 28 41.9 +4.9
MCMT McKenzie Canyo 12.78 8 ePn Pn 01 28 42.2 +5.0
QLMT Earthquake Lak 12.99 12 ePn Pn 01 28 43.5 +3.4
YNR Norris Junctio 13.03 15 ePn Pn 01 28 44.9 +4.3
ABTX Abilene, Hawle 13.18 84 ePn Pn 01 28 43.1 +0.7
JCT Junction City 13.29 93 eP Pn 01 28 45.9 +1.8
JCT Junction City 13.29 93 ePn Pn 01 28 45.9 +1.8
DLMT Dillon 13.34 8 ePn Pn 01 28 49.0 +4.3
G08A Pilot Rock 13.43 349 ePn Pn 01 28 49.6 +3.7
H04A Detroit Lake 13.63 338 ePn Pn 01 28 51.8 +3.2
G06A Carlson Farm, 13.71 344 ePn Pn 01 28 53.8 +4.0
RLMT Red Lodge 13.74 18 ePn Pn 01 28 53.2 +2.9
BOZ Bozeman (W) 13.75 11 eP P 01 28 57.4 -1.7
BOZ Bozeman (W) 13.75 11 ePn P 01 28 57.4 -1.7
LRM Limekiln Ridge 13.81 8 ePn Pn 01 28 55.3 +4.0
F10A Beach Ranch, E 13.88 354 ePn Pn 01 28 55.8 +3.8
WMOK Wichita Mounta 13.97 75 eP Pn 01 28 51.6 -1.7
WMOK Wichita Mounta 13.97 75 ePn Pn 01 28 51.6 -1.7
GCMT Greycliff 14.27 16 ePn P 01 29 02.0 -2.9
E09A Wood Farm, Sta 14.51 352 ePn P 01 29 04.5 -2.8
HAWA Hanford 14.59 348 ePn Pn 01 29 05.3 +3.5
MSO Missoula 14.68 3 ePn Pn 01 29 06.2 +3.1
HRY Holter Researc 14.76 9 ePn Pn 01 29 07.0 +2.9
CHMT Chamberlain Mo 14.81 5 ePn Pn 01 29 07.3 +2.4
RSSD Black Hills 14.81 33 eP Pn 01 29 03.8 -1.2
RSSD Black Hills 14.81 33 ePn Pn 01 29 03.8 -1.2
W34A Bridge Creek, 14.85 73 ePn Pn 01 29 05.8 +0.6
WHTX Lake Whitney, 15.07 86 ePn Pn 01 29 08.9 +0.7
SLMT Seeley Lake 15.12 5 ePn Pn 01 29 11.3 +2.3
V34A Guthrie 15.13 71 ePn Pn 01 29 09.2 +0.1
D08A Wollman Farm, 15.14 350 ePn Pn 01 29 10.8 +1.6
comp=E,32nn,1.4s
U34A Anderson Ranch 15.22 69 ePn Pn 01 29 10.0 -0.3
SWMT Swartz Lake 15.36 3 ePn Pn 01 29 14.6 +2.5
LON Longmire 15.42 343 eP P 01 29 16.1 -1.5
LON pmax pmax
comp=E,30nn,1.1s
LON Longmire 15.42 343 ePn P 01 29 16.1 -1.5
comp=E,30nn,1.1s
JTMT Jette 15.58 2 ePn Pn 01 29 17.5 +2.4
JTMT ePcP PcP 01 34 13.8 -3.2
BSMT Bassoo Peak 15.67 1 ePn Pn 01 29 18.4 +2.0
YBMT Yellow Bay 15.71 3 eP P 01 29 19.3 -1.6
E03A Lebam 15.73 338 ePn P 01 29 20.3 -0.6
comp=E,67nn,0.9s
C09A Chrisman Ranch 15.79 352 ePn Pn 01 29 19.3 +1.6
comp=E,40nn,1.4s
BLMT Blacktail Moun 15.84 2 ePn Pn 01 29 20.9 +2.3
D05A Enumclaw 15.87 343 ePn P 01 29 21.3 -1.2
LAO LASA Array 16.07 23 ePn Pn 01 29 21.1 -0.2
comp=E,130nn,1.1s
NEW Newport 16.15 355 eP Pn 01 29 24.2 +1.9
NEW pmax pmax
comp=E,69nn,1.3s
NEW Newport 16.15 355 Pn P 01 29 24.9 -0.7
comp=Z,0.2nn,0.3s,baz=174,slow=13,SNR=30
NEW Newport 16.15 355 ePn Pn 01 29 24.2 +1.9
comp=Z,69nn,1.3s
EGMT Eagleton 16.38 13 ePn Pn 01 29 26.9 +1.6
comp=Z,74nn,1.3s
B08A Colville Reser 16.47 350 ePn Pn 01 29 27.8 +1.3
comp=Z,35nn,1.3s
BGNE Belgrade 16.48 51 ePn Pn 01 29 26.1 -0.4
comp=Z,130nn,1.7s
TUL1 Leonard 16.53 72 ePn Pn 01 29 26.8 -0.4
comp=Z,48nn,1.0s
HKT Hockley 16.76 92 eP Pn 01 29 31.0 +0.9
HKT pmax pmax
comp=Z,43nn,1.3s
HKT Hockley 16.76 92 ePn Pn 01 29 31.0 +0.9
comp=Z,44nn,1.3s
WALA Waterton Lakes 16.91 3 ePn P 01 29 34.0 -0.1
comp=Z,55nn,1.3s
B06A Marblemount 17.01 346 ePn Pn 01 29 32.4 -0.8
comp=Z,18nn,0.8s
MIAR Mount Ida 18.24 77 eP Pn 01 29 48.0 -0.6
MIAR pmax pmax
comp=Z,31nn,1.3s
MIAR Mount Ida 18.24 77 ePn Pn 01 29 48.0 -0.6
comp=Z,31nn,1.3s
DGMT Dagmar 18.30 24 eP P 01 29 49.8 +0.5
comp=Z,70nn,1.0s
ECSD EROS Data Cent 18.63 46 eP P 01 29 51.8 -1.2
comp=Z,17nn,1.0s
MDND Maddock 19.65 33 eP P 01 30 04.6 +0.4
comp=Z,74nn,1.0s
SCIA State Center 20.03 55 eP P 01 30 06.9 -1.5
comp=Z,31nn,1.0s
VBMS Vicksburg 20.90 83 eP P 01 30 19.2 +1.3
comp=Z,61nn,1.1s
EDM Edmonton 21.09 3 eP P 01 30 20.1 +0.3
EDM Edmonton 21.09 3 ePn P 01 30 20.1 +0.3
SLM Saint Louis 21.33 65 eP P 01 30 22.8 +0.3
SLM pmax pmax
comp=Z,47nn,0.9s
SLM Saint Louis 21.33 65 ePn P 01 30 22.8 +0.3
comp=Z,47nn,0.9s
OXF Oxford 21.68 77 eP P 01 30 26.3 +0.1
OXF pmax pmax
comp=Z,50nn,1.1s
OXF Oxford 21.68 77 ePn P 01 30 26.3 +0.1
comp=Z,50nn,1.1s
SPMN Marine on St. 21.74 47 eP P 01 30 27.7 +1.0
comp=Z,47nn,1.0s
AGMN Agassiz Nation 21.77 37 eP P 01 30 27.6 +0.4
comp=Z,66nn,1.1s
SIUC Southern Illin 21.99 68 eP P 01 30 29.8 +0.2
comp=Z,32nn,0.9s
JFWS Jewell Farm 22.45 54 eP P 01 30 36.0 +1.6
JFWS pmax pmax
comp=Z,34nn,1.3s
JFWS Jewell Farm 22.45 54 eP P 01 30 36.0 +1.6
comp=Z,34nn,1.3s
WVT Waverly 22.98 73 eP P 01 30 40.7 +0.6
WVT pmax pmax
comp=Z,18nn,1.0s
WVT Waverly 22.98 73 eP P 01 30 40.7 +0.6
comp=Z,18nn,1.0s
OLIL Olney 23.00 66 eP P 01 30 40.5 +0.2
comp=Z,60nn,1.3s
ULM Lac du Bonnet 23.09 33 P P 01 30 41.2 +0.1
comp=Z,16nn,1.0s,baz=229,slow=9.6,SNR=24
ULM Lg Lg 01 37 41.5
comp=Z,0.7nn,0.5s,baz=324,slow=18,SNR=2.5
USIN University of 23.24 68 eP P 01 30 43.5 +0.7
comp=Z,18nn,1.0s
CMIG Matias Romero 23.75 124 P P 01 30 48.3 +0.4
comp=Z,3.6nn,0.9s,baz=315,slow=9.0,SNR=3.5
LRAL Lakeview Retre 23.77 80 eP P 01 30 48.6 +0.6
comp=Z,21nn,1.3s
EYMN Ely 23.91 42 eP P 01 30 48.9 -0.4
comp=Z,20nn,1.3s
BLO Bloomington 24.28 65 eP P 01 30 52.8 0.0
BLO pmax pmax
comp=Z,16nn,0.8s
BLO Bloomington 24.28 65 eP P 01 30 52.8 0.0
comp=Z,16nn,0.8s
WCI Wyandotte Cave 24.34 68 eP P 01 30 53.5 +0.1
WCI pmax pmax
comp=Z,14nn,1.2s
WCI Wyandotte Cave 24.34 68 eP P 01 30 53.5 +0.1
comp=Z,14nn,1.2s
COWI Conover 24.42 48 eP P 01 30 53.8 -0.3
comp=Z,21nn,1.0s
FFC Flin Flon 24.43 19 eP P 01 30 54.2 +0.1
FFC pmax pmax
comp=Z,69nn,1.9s
FFC Flin Flon 24.43 19 eP P 01 30 54.1 +0.1
comp=Z,69nn,1.9s
TKL Tuckaleechee C 26.27 74 eP P 01 31 10.3 -0.7
TKL Tuckaleechee C 26.27 74 P P 01 31 10.8 -0.2
comp=Z,8.8nn,1.1s,baz=188,slow=3.9,SNR=6.5
TKL Tuckaleechee C 26.27 74 eP P 01 31 10.3 -0.7
GOGA Godfrey 26.68 79 eP P 01 31 14.2 -0.3
GOGA pmax pmax
comp=Z,9.0nn,1.0s
GOGA Godfrey 26.68 79 eP P 01 31 14.2 -0.3
comp=Z,8.8nn,1.0s
ACSO Alum Creek Sta 27.12 64 eP P 01 31 19.0 +0.5
comp=Z,22nn,1.1s
DLBC Dease Lake 28.13 343 P P 01 31 29.3 +1.8
comp=Z,9.7nn,0.8s,baz=163,slow=7.4,SNR=20
DLBC Dease Lake 28.13 343 eP P 01 31 29.7 +2.2
comp=Z,13nn,0.9s
KMSC Kings Mountain 28.29 75 eP P 01 31 28.8 -0.2
comp=Z,12nn,1.0s
NHSC New Hope 29.45 79 eP P 01 31 40.0 +0.7
comp=Z,50nn,1.1s
FCC Fort Churchill 30.18 22 eP P 01 31 46.2 +0.7
FCC pmax pmax
comp=Z,11nn,1.0s
FCC Fort Churchill 30.18 22 eP P 01 31 46.2 +0.7
comp=Z,11nn,1.0s
YKA Yellowknife Ar 30.35 1 P P 01 31 47.5 +0.6
comp=Z,1.0nn,0.9s,baz=182,slow=8.0,SNR=12
YKA PcP PcP 01 34 44.7 -2.1
comp=Z,0.5nn,0.8s,baz=182,slow=2.8,SNR=4.9
YKB5 Yellowknife Ar 30.35 1 eP P 01 31 47.5 +0.6
YKB5 ePcP PcP 01 34 44.7 -2.1
JSRW J. Sargeant Re 30.97 69 eP P 01 31 52.5 -0.2
ODNJ Ogdensburg 33.54 63 eP P 01 32 15.4 +0.1
comp=Z,12nn,1.2s
PTN Potsdam (NY) 33.57 57 eP P 01 32 15.0 -0.4
PTN pmax pmax
comp=Z,162nn,2.6s
PTN Potsdam (NY) 33.57 57 eP P 01 32 15.0 -0.4
comp=Z,162nn,2.6s
ACCN Adirondack Com 34.38 59 eP P 01 32 22.8 +0.2
comp=Z,7.4nn,1.0s
DAWY Dawson 35.31 342 eP P 01 32 32.1 +1.8
comp=Z,9.5nn,1.2s
JTS JuntasAbangare 35.42 121 eP P 01 32 36.0 +4.2
JTS pmax pmax
comp=Z,12nn,1.2s
EGAK Eagle 36.34 342 eP P 01 32 41.3 +2.1
comp=Z,7.4nn,0.9s
RSO Redoubt South 37.49 330 eP P 01 32 52.1 +2.9
INK Inuvik 37.70 349 P P 01 32 52.2 +1.5
comp=Z,8.7nn,1.1s,baz=150,slow=7.9,SNR=8.5
ILAR Eielson Array 38.00 339 P P 01 32 55.0 +1.8
comp=Z,5.9nn,0.8s,baz=151,slow=7.4,SNR=56
ILB Eielson Array 38.00 339 eP P 01 32 54.7 +1.5
COLA College 38.37 338 eP P 01 32 59.2 +2.9
COLA College 38.37 338 eP P 01 32 57.8 +1.5
comp=Z,11nn,0.9s
PPLA Purkeypile 38.62 334 eP P 01 32 58.9 +0.2
comp=Z,22nn,1.2s
COLD Coldfoot 40.67 340 eP P 01 33 16.3 +0.9
comp=Z,5.3nn,0.8s
SCHQ Schefferville 40.72 42 P P 01 33 15.6 -0.5
comp=Z,5.9nn,1.0s,baz=267,slow=7.5,SNR=4.7
SCHQ Schefferville 40.72 42 eP P 01 33 15.0 -1.1
comp=Z,91nn,2.4s
IM04 Indian Mountai 40.99 337 eP P 01 33 19.5 +1.3
RES Resolute Bay 43.77 8 eP P 01 33 40.6 -0.1
RES pmax pmax
comp=Z,6.0nn,1.0s
RES Resolute Bay 43.77 8 eP P 01 33 40.6 -0.1
comp=Z,6.1nn,1.0s
OTAV Otavalo 47.03 125 eP P 01 34 07.3 -0.5
comp=Z,7.2nn,1.1s
SDV Santo Domingo 47.30 109 eP P 01 34 10.2 +0.6
comp=Z,11nn,1.1s

KULLO	**Kullorsuaq**	**50.90**	**17**	*i* P		**P**	**01 34 37.8**	**+1.7**
KULLO				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KULLO	**Kullorsuaq**	**50.90**	**17**	*i* P		**P**	**01 34 37.8**	**+1.7**
	comp=Z,10.0nm,0.9s								
SFJD	**Kangerlussuaq**	**50.94**	**27**	*e*P		**P**	**01 34 37.7**	**+1.1**
SFJD				pmax	pmax				
	comp=Z,33nm,1.4s								
SFJD	**Kangerlussuaq**	**50.94**	**27**	*e*P		**P**	**01 34 37.7**	**+1.1**
	comp=Z,33nm,1.4s								
SUMG	**Summit**	**55.69**	**21**	*e*P		**P**	**01 35 12.2**	**+0.3**
SUMG				pmax	pmax				
	comp=Z,15nm,1.0s								
SUMG	**Summit**	**55.69**	**21**	*e*P		**P**	**01 35 12.2**	**+0.3**
	comp=Z,15nm,1.0s								
SUMG	**Summit**	**55.69**	**21**	*i* P		**P**	**01 35 13.0**	**+1.1**
	comp=Z,8.0nm,0.9s								
BILL	**Bilibino**	**56.33**	**334**	*e*P		**P**	**01 35 16.7**	**+0.6**
BILL				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BILL	**Bilibino**	**56.33**	**334**	*e*P		**P**	**01 35 16.7**	**+0.6**
	comp=Z,9.2nm,1.2s								
DAG	**Danmarks Havn**	**60.45**	**15**	*i* P		**P**	**01 35 44.1**	**-0.6**
DAG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
DAG	**Danmarks Havn**	**60.45**	**15**	*i* P		**P**	**01 35 44.1**	**-0.6**
	comp=Z,6.6nm,0.8s								
SEY	**Seymchan**	**62.94**	**329**	P		**P**	**01 36 02.4**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=91,slow=5.6,SNR=7.1								
PEA2	**Petropavlovsk-**	**63.33**	**318**	*e*P		**P**	**01 36 03.7**	**-0.8**
PETK	**Petropavlovsk-**	**63.34**	**318**	P		**P**	**01 36 03.7**	**-0.8**
	comp=Z,4.7nm,1.0s,baz=76,slow=18,SNR=3.6								
YAK	**Yakutsk**	**72.69**	**333**	*e*P		**P**	**01 37 02.6**	**-0.5**
ARA0	**ARCESS Array S**	**74.63**	**13**	*e*P		**P**	**01 37 14.3**	**-0.2**
ARCES	**ARCESS Array B**	**74.63**	**13**	P		**P**	**01 37 14.3**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=337,slow=5.9,SNR=17								
KEV	**Kevo**	**74.74**	**13**	*e*P		**P**	**01 37 13.9**	**-1.1**
KEV				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KEV	**Kevo**	**74.74**	**13**	*e*p		**P**	**01 37 13.9**	**-1.1**
	comp=Z,3.8nm,0.7s								
NB2	**NORSAR Subarra**	**77.43**	**24**	P		**P**	**01 37 31.3**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=314,slow=5.6								
NB200	**NORSAR Array S**	**77.43**	**24**	*e*P		**P**	**01 37 31.6**	**+1.0**
NOA	**NORSAR Array B**	**77.43**	**24**	P		**P**	**01 37 31.6**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=317,slow=5.7,SNR=7.6								
LVZ	**Lovozero**	**77.72**	**11**	*e*P		**P**	**01 37 32.8**	**+0.8**
LVZ				pmax	pmax				
	comp=Z,18nm,1.0s								
LVZ	**Lovozero**	**77.72**	**11**	*e*P		**P**	**01 37 31.6**	**-0.5**
	comp=Z,22nm,0.9s								
QUIF	**Quistinic**	**79.76**	**39**	*e*P		**P**	**01 37 43.6**	**0.0**
QUIF	**Quistinic**	**79.76**	**39**	*e*P		**P**	**01 37 43.6**	**0.0**
QUIF	**Quistinic**	**79.76**	**39**	*e*P		**P**	**01 37 43.6**	**0.0**
SGMF	**Saint Gilles**	**79.88**	**39**	*e*P		**P**	**01 37 44.9**	**+0.6**
SGMF	**Saint Gilles**	**79.88**	**39**	*e*P		**P**	**01 37 44.9**	**+0.6**
SGMF	**Saint Gilles**	**79.88**	**39**	*e*P		**P**	**01 37 44.9**	**+0.6**
FLN	**La Foliniere**	**80.66**	**38**	*e*P		**P**	**01 37 48.7**	**+0.3**
	comp=Z,31nm,1.0s								
FLN	**La Foliniere**	**80.66**	**38**	*e*P		**P**	**01 37 48.7**	**+0.3**
FLN	**La Foliniere**	**80.66**	**38**	*e*P		**P**	**01 37 48.7**	**+0.3**
GRR	**Gorron**	**80.69**	**38**	*e*P		**P**	**01 37 48.9**	**+0.3**
GRR	**Gorron**	**80.69**	**38**	*e*P		**P**	**01 37 48.9**	**+0.3**
GRR	**Gorron**	**80.69**	**38**	*e*P		**P**	**01 37 48.9**	**+0.3**
LDF	**La Druitiere**	**80.95**	**38**	*e*P		**P**	**01 37 50.3**	**+0.3**
	comp=Z,35nm,1.1s								
LDF	**La Druitiere**	**80.95**	**38**	*e*P		**P**	**01 37 50.3**	**+0.3**
LDF	**La Druitiere**	**80.95**	**38**	*e*P		**P**	**01 37 50.3**	**+0.3**
KAF	**Kangasniemi**	**81.06**	**17**	*e*P		**P**	**01 37 48.5**	**-1.8**
KAF				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KAF	**Kangasniemi**	**81.06**	**17**	*e*p		**P**	**01 37 48.5**	**-1.8**
	comp=Z,5.3nm,0.9s								
BOD	**Bodaibo**	**81.31**	**336**	*e*P		**P**	**01 37 50.2**	**-1.5**
BOD				pmax	pmax				
	comp=Z,3.0nm,1.4s								
JOF	**Joensuu**	**81.54**	**15**	*e*P		**P**	**01 37 52.9**	**+0.1**
JOF				pmax	pmax				
	comp=Z,3.0nm,0.8s								
JOF	**Joensuu**	**81.54**	**15**	*e*p		**P**	**01 37 52.9**	**+0.1**
	comp=Z,3.4nm,0.8s								
FIA0	**FINESS Array S**	**81.57**	**18**	*e*P		**P**	**01 37 53.8**	**+0.7**
FIA0	**FINESS Array S**	**81.57**	**18**	*e*P		**P**	**01 37 53.8**	**+0.7**
FINES	**FINESS Array B**	**81.57**	**18**	P		**P**	**01 37 53.8**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=0.0,slow=4.2,SNR=19								
BAIF	**Baives**	**82.16**	**35**	*e*P		**P**	**01 37 57.6**	**+1.2**
	comp=Z,28nm,1.1s								
BAIF	**Baives**	**82.16**	**35**	*e*P		**P**	**01 37 57.6**	**+1.2**
BAIF	**Baives**	**82.16**	**35**	*e*P		**P**	**01 37 57.6**	**+1.2**
MFF	**Saint Martin d**	**82.19**	**39**	*e*P		**P**	**01 37 57.0**	**+0.4**
	comp=Z,20nm,1.0s								
MFF	**Saint Martin d**	**82.19**	**39**	*e*P		**P**	**01 37 57.0**	**+0.4**
MFF	**Saint Martin d**	**82.19**	**39**	*e*P		**P**	**01 37 57.0**	**+0.4**
EVOP	**Sao Brissos**	**82.36**	**49**	*e*P		**P**	**01 37 58.3**	**+0.7**
EVOP	**Sao Brissos**	**82.36**	**49**	*e*P		**P**	**01 37 58.3**	**+0.7**
EVO	**Evora**	**82.42**	**49**	⇑*i*P		**P**	**01 37 58.3**	**+0.3**
	comp=Z,34nm,1.0s								
GIVF	**Givet**	**82.42**	**34**	*e*P		**P**	**01 37 59.0**	**+1.2**
	comp=Z,25nm,1.0s								
GIVF	**Givet**	**82.42**	**34**	*e*P		**P**	**01 37 59.0**	**+1.2**
GIVF	**Givet**	**82.42**	**34**	*e*P		**P**	**01 37 59.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**82.43**	**318**	P		**P**	**01 37 57.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=74,slow=5.1,SNR=5.4								
MJAR	**Matsushiro Arr**	**83.15**	**309**	P		**P**	**01 38 01.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=40,slow=4.1,SNR=4.4								
MAJO	**Matsushiro**	**83.15**	**309**	*e*P		**P**	**01 38 01.4**	**-0.5**
MAJO				pmax	pmax				
	comp=Z,79nm,2.0s								
MAJO	**Matsushiro**	**83.15**	**309**	*e*P		**P**	**01 38 01.4**	**-0.5**
	comp=Z,79nm,2.0s								
MDJ	**Mudanjiang**	**83.51**	**319**	P		**P**	**01 38 03.8**	**+0.3**
MDJ				PMZ					
	comp=Z,6.0nm,1.4s								
MDJ				PMZ					
	comp=Z,820nm,14.4s								
MEZF	**Maizieres J'vi**	**83.61**	**35**	*e*P		**P**	**01 38 04.5**	**+0.6**
MEZF	**Maizieres J'vi**	**83.61**	**35**	*e*P		**P**	**01 38 04.5**	**+0.6**
TCF	**Toulx Ste Croi**	**83.64**	**38**	*e*P		**P**	**01 38 05.3**	**+1.1**
TCF	**Toulx Ste Croi**	**83.64**	**38**	*e*P		**P**	**01 38 05.3**	**+1.1**
TCF	**Toulx Ste Croi**	**83.64**	**38**	*e*P		**P**	**01 38 05.3**	**+1.1**
LFF	**La Frestale**	**83.73**	**40**	*e*P		**P**	**01 38 05.1**	**+0.5**
LFF	**La Frestale**	**83.73**	**40**	*e*P		**P**	**01 38 05.1**	**+0.5**
LFF	**La Frestale**	**83.73**	**40**	*e*P		**P**	**01 38 05.1**	**+0.5**
BGF	**Bois d'Agland**	**83.80**	**38**	*e*P		**P**	**01 38 05.5**	**+0.5**
BGF	**Bois d'Agland**	**83.80**	**38**	*e*P		**P**	**01 38 05.5**	**+0.5**
BGF	**Bois d'Agland**	**83.80**	**38**	*e*P		**P**	**01 38 05.5**	**+0.5**
SSF	**Saint Saulge**	**83.81**	**37**	*e*P		**P**	**01 38 05.6**	**+0.6**
	comp=Z,48nm,1.4s								
SSF	**Saint Saulge**	**83.81**	**37**	*e*P		**P**	**01 38 05.6**	**+0.6**
SSF	**Saint Saulge**	**83.81**	**37**	*e*P		**P**	**01 38 05.6**	**+0.6**
SFTF	**Sexfontaines**	**83.81**	**36**	*e*P		**P**	**01 38 05.3**	**+0.3**
	comp=Z,58nm,1.4s								
SFTF	**Sexfontaines**	**83.81**	**36**	*e*P		**P**	**01 38 05.3**	**+0.3**
LOR	**Lormes**	**83.85**	**37**	*e*P		**P**	**01 38 05.7**	**+0.5**
	comp=Z,69nm,1.5s								
LOR	**Lormes**	**83.85**	**37**	*e*P		**P**	**01 38 05.7**	**+0.5**
LOR	**Lormes**	**83.85**	**37**	*e*P		**P**	**01 38 05.7**	**+0.5**
AVF	**Avril sur Loir**	**83.91**	**37**	*e*P		**P**	**01 38 05.6**	**+0.1**
	comp=Z,28nm,1.2s								
AVF	**Avril sur Loir**	**83.91**	**37**	*e*P		**P**	**01 38 05.6**	**+0.1**
AVF	**Avril sur Loir**	**83.91**	**37**	*e*P		**P**	**01 38 05.6**	**+0.1**
PAGF	**Fort de Pagny**	**83.91**	**35**	*e*P		**P**	**01 38 06.2**	**+0.7**
	comp=Z,12nm,1.3s								
PAGF	**Fort de Pagny**	**83.91**	**35**	*e*P		**P**	**01 38 06.2**	**+0.7**
RJF	**Les Rejaudoux**	**83.91**	**39**	*e*P		**P**	**01 38 05.8**	**+0.2**
	comp=Z,30nm,1.1s								
RJF	**Les Rejaudoux**	**83.91**	**39**	*e*P		**P**	**01 38 05.8**	**+0.2**
RJF	**Les Rejaudoux**	**83.91**	**39**	*e*P		**P**	**01 38 05.8**	**+0.2**
SMF	**Signal de Mont**	**84.25**	**37**	*e*P		**P**	**01 38 07.2**	**-0.1**
	comp=Z,25nm,1.1s								
SMF	**Signal de Mont**	**84.25**	**37**	*e*P		**P**	**01 38 07.2**	**-0.1**
SMF	**Signal de Mont**	**84.25**	**37**	*e*P		**P**	**01 38 07.2**	**-0.1**
ESDC	**Sonseca Array**	**84.29**	**46**	P		**P**	**01 38 07.8**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=312,slow=5.8,SNR=7.2								
ETSF	**Etsaut**	**84.31**	**42**	*e*P		**P**	**01 38 08.5**	**+0.8**
	comp=Z,40nm,1.3s								
ETSF	**Etsaut**	**84.31**	**42**	*e*P		**P**	**01 38 08.5**	**+0.8**
ETSF	**Etsaut**	**84.31**	**42**	*e*P		**P**	**01 38 08.5**	**+0.8**
CAF	**Calviac**	**84.45**	**39**	*e*P		**P**	**01 38 08.5**	**+0.1**
	comp=Z,41nm,1.2s								
CAF	**Calviac**	**84.45**	**39**	*e*P		**P**	**01 38 08.5**	**+0.1**
CAF	**Calviac**	**84.45**	**39**	*e*P		**P**	**01 38 08.5**	**+0.1**
HAU	**Haudompre**	**84.59**	**35**	*e*P		**P**	**01 38 09.3**	**+0.3**
	comp=Z,37nm,1.1s								
HAU	**Haudompre**	**84.59**	**35**	*e*P		**P**	**01 38 09.3**	**+0.3**
HAU	**Haudompre**	**84.59**	**35**	*e*P		**P**	**01 38 09.3**	**+0.3**
CDF	**Champ du Feu**	**84.75**	**34**	*e*P		**P**	**01 38 10.1**	**+0.2**
	comp=Z,18nm,1.1s								
CDF	**Champ du Feu**	**84.75**	**34**	*e*P		**P**	**01 38 10.1**	**+0.2**
CDF	**Champ du Feu**	**84.75**	**34**	*e*P		**P**	**01 38 10.1**	**+0.2**
HINF	**Hinteralfeld**	**84.96**	**35**	*e*P		**P**	**01 38 11.1**	**+0.2**
	comp=Z,30nm,1.3s								
HINF	**Hinteralfeld**	**84.96**	**35**	*e*P		**P**	**01 38 11.1**	**+0.2**
HINF	**Hinteralfeld**	**84.96**	**35**	*e*P		**P**	**01 38 11.1**	**+0.2**
CLL	**Collm**	**85.24**	**30**	*e*P		**P**	**01 38 13.0**	**+0.9**
CLL				*e*			01 38 16.0		
CLL	**Collm**	**85.24**	**30**	*e*P		**P**	**01 38 13.0**	**+0.9**
CLL				*e*pP		**PcP**	**01 38 16.0**	**+0.7**
PRGR	**Permogore**	**85.25**	**9**	*e*P		**P**	**01 38 11.8**	**-0.1**
PRGR				pmax	pmax				
	comp=Z,32nm,1.1s								
CABF	**La Chapelle**	**85.42**	**36**	*e*P		**P**	**01 38 13.6**	**+0.4**
CABF	**La Chapelle**	**85.42**	**36**	*e*P		**P**	**01 38 13.6**	**+0.4**
CABF	**La Chapelle**	**85.42**	**36**	*e*P		**P**	**01 38 13.6**	**+0.4**
BRG	**Berggiesshubel**	**85.96**	**30**	*e*P		**P**	**01 38 17.1**	**+1.4**
	comp=Z,3.2nm,1.1s								
BRG	**Berggiesshubel**	**85.96**	**30**	*e*P		**P**	**01 38 17.1**	**+1.4**
BRG				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ORIF	**Oris-en-Rattie**	**86.47**	**38**	*e*P		**P**	**01 38 18.4**	**-0.1**
ORIF	**Oris-en-Rattie**	**86.47**	**38**	*e*P		**P**	**01 38 18.4**	**-0.1**
ORIF	**Oris-en-Rattie**	**86.47**	**38**	*e*P		**P**	**01 38 18.4**	**-0.1**
LPL	**La Plagne**	**86.50**	**37**	*e*P		**P**	**01 38 19.3**	**+0.5**
	comp=Z,15nm,1.2s								
LPL	**La Plagne**	**86.50**	**37**	*e*P		**P**	**01 38 19.3**	**+0.5**
LPL	**La Plagne**	**86.50**	**37**	*e*P		**P**	**01 38 19.3**	**+0.5**
LPG	**La Plagne**	**86.52**	**37**	*e*P		**P**	**01 38 19.5**	**+0.5**
	comp=Z,18nm,1.2s								
LPG	**La Plagne**	**86.52**	**37**	*e*P		**P**	**01 38 19.5**	**+0.5**
LPG	**La Plagne**	**86.52**	**37**	*e*P		**P**	**01 38 19.5**	**+0.5**
SMRF	**Simiane la Rot**	**86.96**	**38**	*e*P		**P**	**01 38 21.1**	**+0.2**
	comp=Z,44nm,1.3s								
SMRF	**Simiane la Rot**	**86.96**	**38**	*e*P		**P**	**01 38 21.1**	**+0.2**
MBDF	**Montbardon**	**87.06**	**37**	*e*P		**P**	**01 38 21.4**	**-0.1**
	comp=Z,20nm,1.1s								
MBDF	**Montbardon**	**87.06**	**37**	*e*P		**P**	**01 38 21.4**	**-0.1**
MBDF	**Montbardon**	**87.06**	**37**	*e*P		**P**	**01 38 21.4**	**-0.1**
KHC	**Kasperske Hory**	**87.11**	**31**	*e*P		P	01 38 25.0	+3.5
KHC	**Kasperske Hory**	**87.11**	**31**	*e*P		P	01 38 25.0	+3.5
DPC	**Dobruska-Polom**	**87.34**	**29**	*e*P		**P**	**01 38 23.3**	**+0.7**
DPC				*e*			01 38 27.8		
DPC	**Dobruska-Polom**	**87.34**	**29**	*e*P		**P**	**01 38 23.3**	**+0.7**
DPC				*e*pP		**PcP**	**01 38 27.8**	**+3.2**
GEC2	**GERESS Array S**	**87.38**	**31**	*e*P		**P**	**01 38 22.4**	**-0.5**
GEC2	**GERESS Array S**	**87.38**	**31**	*e*P		**P**	**01 38 22.4**	**-0.5**
GERES	**GERESS Array B**	**87.38**	**31**	P		**P**	**01 38 22.4**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=354,slow=4.9,SNR=5.7								
FUORN	**Ofenpass-Fuorn**	**87.45**	**34**	*e*P		**P**	**01 38 24.3**	**+0.8**
	comp=Z,14nm,1.0s								
FRF	**La Foret Royal**	**87.81**	**38**	*e*P		**P**	**01 38 24.8**	**-0.1**
	comp=Z,48nm,1.3s								
FRF	**La Foret Royal**	**87.81**	**38**	*e*P		**P**	**01 38 24.8**	**-0.1**
FRF	**La Foret Royal**	**87.81**	**38**	*e*P		**P**	**01 38 24.8**	**-0.1**
OBN	**Obninsk**	**89.76**	**16**	*e*P		**P**	**01 38 33.8**	**0.0**
OBN				*i*			01 38 36.9		
OBN				pmax	pmax				
	comp=Z,5.0nm,1.1s								
TLY	**Talaya**	**89.80**	**337**	*e*P		P	01 38 39.2	+5.0
STHS	**Stebnicka Huta**	**90.02**	**27**	*e*P		**P**	**01 38 35.5**	**+0.3**
STHS	**Stebnicka Huta**	**90.02**	**27**	*e*P		**P**	**01 38 35.5**	**+0.3**
KECS	**Kecovo**	**90.48**	**28**	*e*P		**P**	**01 38 38.0**	**+0.6**
KECS	**Kecovo**	**90.48**	**28**	*e*P		**P**	**01 38 38.0**	**+0.6**
ARU	**Arti**	**91.60**	**3**	*d* iP		P	01 38 46.8	+4.4
ARU							01 42 25.2		
ARU				S		**SKSac**	**01 49 19.0**	**+3.7**
ARU				SS		**SS**	**01 55 46.5**	**-0.8**
ARU				pmax	pmax				
	comp=Z,5.0nm,1.7s								
AKASG	**Malin Array Be**	**91.72**	**22**	P		**P**	**01 38 41.6**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=313,slow=3.9,SNR=6.8								
AKBB	**Malin Array Si**	**91.72**	**22**	*e*P		**P**	**01 38 41.7**	**-1.3**
AKBB	**Malin Array Si**	**91.72**	**22**	*e*P		**P**	**01 38 41.6**	**-1.3**
SONA0	**Songino Array**	**92.05**	**333**	*e*P		**P**	**01 38 45.3**	**+0.5**
SONM	**Songino Array**	**92.05**	**333**	P		**P**	**01 38 45.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=42,slow=4.5,SNR=2.7								
ZAA1	**Zalesovo Array**	**92.50**	**348**	*e*P		**P**	**01 38 45.6**	**-0.9**
ZALV	**Zalesovo Beam**	**92.50**	**348**	P		**P**	**01 38 45.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=62,slow=3.4,SNR=3.1								
BJI	**Beijing**	**93.83**	**323**	P		**P**	**01 38 53.0**	**0.0**
BJI				PMZ					
	comp=Z,10.0nm,0.3s								
HHC	**Hu-ho-hao-te**	**95.47**	**326**	*e*P		P	01 39 08.4	+7.7
HHC	**Hu-ho-hao-te**	**95.47**	**326**	S		**S**	**01 50 20.0**	**+2.3**
HHC	**Hu-ho-hao-te**	**95.47**	**326**	SS		SS	01 56 52.2	+8.3
HHC				LR		LR			
	comp=N,200nm,14.8s								
HHC				LR		LR			
	comp=E,220nm,13.6s								
HHC				LR		LR			
	comp=Z,230nm,14.8s								
NJ2	**Nanjing**	**98.21**	**316**	*e*P		Pdif	01 39 14.7	+1.6
WMQ	**Urumqi**	**101.53**	**343**	*e*P		**Pdif**	**01 39 32.4**	**+4.6**
WMQ				pP		pP	01 39 37.0	+6.8
WMQ				PMZ					
	comp=Z,5.0nm,0.5s								
CD2	**Chengdu**	**107.21**	**326**	Pdif		**Pdif**	**01 39 57.2**	**+3.9**
KSH	**Kashi**	**107.93**	**351**	*e*Pdif		**Pdif**	**01 40 02.4**	**+6.0**
GYA	**Guiyang**	**109.34**	**321**	*e*Pdif		**Pdif**	**01 40 01.4**	**-1.5**
GYA				PKP		**PKiKP**	**01 44 03.8**	**-2.7**
GYA				PP		**PP**	**01 44 38.0**	**+3.0**
GYA				PKS	PKSdf		01 47 40.6	-2.8
GYA				SS	SS		01 59 53.7	-2.5
GYA				PPMZ					
	comp=Z,120nm,7.6s								
GYA				LN					
	comp=Z,130nm,18.9s								
GYA				LE					
	comp=Z,120nm,18.8s								
GYA				LZ					
	comp=Z,140nm,19.8s								
WRA	**Warramunga Arr**	**117.27**	**263**	PKP		**PKPdf**	**01 44 20.3**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=46,slow=1.5,SNR=4.6								
ASAR	**Alice Springs**	**119.24**	**259**	PKP		**PKPdf**	**01 44 24.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=52,slow=2.9,SNR=4.3								
CM31	**Chiang Mai Arr**	**119.96**	**322**	*e*PKPdf		**PKPdf**	**01 44 27.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**119.96**	**322**	PKP		**PKPdf**	**01 44 27.2**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=5.8,slow=2.1,SNR=4.3								
MAW	**Mawson**	**144.50**	**179**	PKP		**PKPab**	**01 45 09.8**	**+0.3**
	comp=Z,7.8nm,0.9s,baz=192,slow=2.3,SNR=8.8								
BOSA	**Boshof**	**145.85**	**95**	PKPbc		**PKPdf**	**01 45 15.2**	**+0.4**
	comp=Z,4.9nm,0.9s,baz=296,slow=3.7,SNR=4.4								

NEIC 05 01:28:13.9,32.63N×115.70W,h10km,ML3.5(PAS),
3C-1D,After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.03**	**314**	*e*P	Pg	01 28 15.6	-0.1
ERPC	**Ernies Place**	**0.12**	**14**	⇑*i*P	Pg	01 28 16.7	0.0
WESC	**Westside Schoo**	**0.14**	**348**	⇓*i*P	Pg	01 28 16.8	-0.2
YUH	**Yuha Desert**	**0.19**	**277**	*e*P	Pg	01 28 17.6	-0.4
COK	**Cook Ranch**	**0.22**	**354**	*e*P	Pg	01 28 18.4	-0.1
DREC	**Desert Rsrch C**	**0.28**	**50**	⇑*i*P	Pg	01 28 19.7	+0.2
DREC				*e*S	Sg	01 28 23.7	+0.4
SWSC	**Sam W. Stewart**	**0.33**	**345**	*e*P	Pg	01 28 19.7	-0.7
SWSC				*i* S	Sg	01 28 24.1	-0.7
CRR	**Carrizo Plain**	**0.35**	**319**	*e*P	Pg	01 28 20.2	-0.6
ERRC	**Elmore Ranch**	**0.50**	**348**	*e*P	Pg	01 28 23.6	-0.1
ERRC				*e*S	Sg	01 28 31.1	+0.8
COA	**Coachella**	**0.54**	**64**	*e*P	Pg	01 28 23.9	-0.5
CBKC	**Canebrake**	**0.54**	**300**	⇑*i*P	Pg	01 28 24.3	-0.1
EMSC	**East Mesa**	**0.61**	**79**	*e*P	Pg	01 28 25.6	-0.1
BAR	**Barrett**	**0.82**	**274**	*e*Pg	Pg	01 28 29.5	-0.3
BAR				*e*S	Sg	01 28 38.9	-1.8
PFO	**Pinyon Flats O**	**1.17**	**327**	*e*P	Pb	01 28 33.4	-3.0
PFO				*e*S	Sb	01 28 48.0	-3.8
MWC	**Mount Wilson**	**2.54**	**310**	*e*Pg	Pb	01 28 59.2	-0.6
MWC				*e*Sg	Sb	01 29 32.2	+1.0

*NEIC **05** 01:29:35.0,32.01N×115.14W,h12km,ML3.2(PAS),*
ML3.6(ECX),After ECX.
ECX 05 01:29:34.7±0.4,32.03N×115.13W,h8km,ML3.6,3C-2D,
California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.10**	**248**	⇑*e*P	Pg	01 29 37.4	+0.3
EMX				*e*S	Sg	01 29 39.6	+0.8
RDX	**Rancho Dawling**	**0.70**	**262**	*e*P	Pg	01 29 39.3	-9.2
RDX				*e*S	Sg	01 29 48.8	-8.9
RDX				*e*		01 29 51.3	
	comp=N,2μm,0.4s						
ERPC	**Ernies Place**	**0.84**	**328**	*e*P	Pn	01 29 52.4	-0.5
WESC	**Westside Schoo**	**0.89**	**325**	⇓*i*P	Pb	01 29 52.2	-0.2
WESC				*e*S	Sg	01 29 55.7	-7.7
RMX	**La Rumorosa**	**0.99**	**306**	⇑*e*	Pg	01 29 49.9	-4.0
	comp=N,1μm,0.1s						
SPX	**San Pedro Mart**	**1.02**	**196**	*e*P	Pg	01 29 52.7	-2.0
SPX				*e*S	Sg	01 30 06.5	-1.8
SPX				⇓*e*		01 30 07.6	
	comp=N,1μm,0.3s						
GLA	**Glamis**	**1.05**	**14**	*e*Pg	Pg	01 29 50.9	-4.2
GLA				*e*S	Sg	01 30 06.5	-2.3
ECNX	**Esteban Cantu**	**1.30**	**254**	⇑*e*P	Pn	01 29 49.3	-10
ECNX				*e*S	Sb	01 30 06.7	-10
CBX	**Cerro Bola**	**1.33**	**283**	*e*P	Pn	01 29 57.9	-1.9
CBX				*e*S	Sb	01 30 15.6	-1.9
PBX	**Punta Banda**	**1.39**	**259**	*e*P	Pn	01 29 50.4	-10
PBX				*e*S	Sb	01 30 09.0	-10
BARR	**Barrett**	**1.46**	**297**	*e*Pn	Pn	01 30 01.4	0.0
PFO	**Pinyon Flats O**	**1.93**	**325**	*e*Pn	Pn	01 30 04.3	-3.7
PFO				*e*S	Sn	01 30 26.4	-6.3
TUC	**Tucson**	**3.70**	**84**	Pn	Pn	01 30 32.3	0.0
TUC				*e*S	Sb	01 31 23.1	-2.3

*ISCJB **05** 01:39:35.2±0.6,32.30N±0.03×115.31W±0.02,h14km±4km,*
Error ellipse: s-maj=5.1km s-min=3.3km az=11.3
*NEIC **05** 01:39:36.0,32.27N×115.37W,h11km,MD4.0(MEX),*
ML3.9(PAS),After PAS.
*MEX **05** 01:39:37.4±0.4,32.31N×115.34W,h4km±10km,MD4.0*
ISC 05 01:39:35.0±1.1,32.28N±0.03×115.39W±0.03,h13km±9km,
n41,σ1§73/63,8C-17D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.21**	**52**	*i* P	Pb	01 39 40.5	-0.2
MBIG				*e*S	Sg	01 39 42.4	-0.2
ERPC	**Ernies Place**	**0.52**	**334**	*e*P	Pb	01 39 46.2	+0.2
DREC	**Desert Rsrch C**	**0.53**	**355**	*e*P	Pb	01 39 46.4	+0.3
GLA	**Glamis**	**0.90**	**32**	⇓P	Pg	01 39 49.2	-3.3
	baz=0.9						
GLA	**Glamis**	**0.90**	**32**	*e*Pg	**Pg**	**01 39 51.4**	**-1.1**
GLA				*e*S	**Sg**	**01 40 03.3**	**-1.1**
MONP	**Monument Peak,**	**1.06**	**305**	⇓P	**Pb**	**01 39 55.1**	**-0.3**
	baz=1.1						
MONP				⇓S	**Sb**	**01 40 09.5**	**+0.3**
	baz=1.1						
CBX	**Cerro Bola**	**1.08**	**272**	*i* P	**Pb**	**01 39 55.8**	**+0.2**
CBX				*i* S	**Sb**	**01 40 10.5**	**+0.8**
CBX	**Cerro Bola**	**1.08**	**272**	*i* P	**Pb

SPIG				*i* S	**Sb**	**01 43 29.4**	**+0.6**
SPIG	**San Pedro Mart**	**1.15**	**191**	*i* P	**Pb**	**01 43 13.6**	**0.0**
SPIG				*i* S	**Sb**	**01 43 29.4**	**+0.6**
CBX	**Cerro Bola**	**1.23**	**276**	*e*P	**Pn**	**01 43 13.8**	**-0.9**
CBX				*e*S	**Sb**	**01 43 28.6**	**-2.2**
CBX	**Cerro Bola**	**1.23**	**276**	*e*P	**Pn**	**01 43 13.8**	**-0.9**
CBX				*e*S	**Sb**	**01 43 28.6**	**-2.2**
MONP	**Monument Peak,** baz=1.3	**1.23**	**305**	⇑P	**Pn**	**01 43 14.3**	**-0.6**
MONP				⇓S	**Sb**	**01 43 29.8**	**-1.2**
113A	**Mohawk Valley,** baz=1.4	**1.36**	**64**	⇑P	**Pn**	**01 43 15.0**	**-1.4**
113A				⇓S	**Sb**	**01 43 31.6**	**-2.7**
BC3	**Big Chuckawall** baz=1.6	**1.48**	**352**	⇑P	**Pn**	**01 43 16.2**	**-2.0**
109C	**Camp Elliot, M** baz=1.8	**1.74**	**294**	⇑P	**Pn**	**01 43 20.6**	**-1.1**
109C				⇓S	**Sn**	**01 43 43.2**	**-0.7**
PFO	**Pinyon Flats O** 18nm,0.3s,baz=138,slow=13,SNR=4.7	**1.76**	**324**	Pn	**Pn**	**01 43 20.2**	**-1.8**
PFO	**Pinyon Flats O** baz=1.8	**1.76**	**324**	⇑P	**Pn**	**01 43 19.9**	**-2.2**
PFO	**Pinyon Flats O**	**1.76**	**324**	*e*Pn	**Pn**	**01 43 20.1**	**-1.9**
PFO				*e*S	**Sb**	**01 43 44.8**	**-1.3**
214A	**Organ Pipe Nat** baz=2.0	**2.06**	**96**	⇑P	**Pn**	**01 43 24.1**	**-1.9**
214A	**Organ Pipe Nat**	**2.06**	**96**	*e*Pn	**Pn**	**01 43 24.3**	**-1.7**
214A				*e*S	**Sb**	**01 43 55.6**	**+1.2**
MURC	**Murrieta** baz=2.3	**2.19**	**311**	⇑Sb	**Sb**	**01 43 59.0**	**+0.9**
Z14A	**Wintersburg** baz=2.2	**2.25**	**58**	⇑P	**Pn**	**01 43 27.6**	**-1.0**
Z14A				⇑Sb	**Sb**	**01 44 00.9**	**+1.0**
PDMCI	**Parker Dam,Lak** baz=2.3	**2.30**	**23**	⇑Sb	**Sb**	**01 44 01.8**	**+0.4**
Y14A	**Wickenburg** baz=2.6	**2.55**	**46**	⇓Sb	**Sb**	**01 44 09.8**	**+1.0**
GMRC	**Granite Mounta** baz=2.7	**2.62**	**352**	⇓P	**Pn**	**01 43 32.4**	**-1.4**
LDFC	**Landfair**	**2.89**	**2**	Pn	**Pn**	**01 43 38.0**	**+0.4**
LDFC				*e*Pg	**Pg**	**01 43 47.4**	**+0.7**
LDFC				*e*S	**Sb**	**01 44 19.6**	**+1.1**
BFSC	**Mount Baldy Ra** baz=3.0	**2.90**	**316**	⇓Sb	**Sb**	**01 44 20.5**	**+1.8**
CIS	**Catalina Islan** baz=3.0	**2.95**	**295**	⇓Sb	**Sb**	**01 44 21.6**	**+1.5**
FMP	**Fort Macarthur** baz=3.1	**3.00**	**301**	⇑Sb	**Sb**	**01 44 22.6**	**+1.0**
MWC	**Mount Wilson**	**3.13**	**311**	*e*Pn	**Pn**	**01 43 40.4**	**-0.6**
MWC				*e*S	**Sb**	**01 44 27.6**	**+2.1**
PASC	**Pasadena Art C**	**3.18**	**309**	*e*Pn	**Pn**	**01 43 41.9**	**+0.5**
PASC				*e*Pg	**Pb**	**01 43 48.9**	**+0.9**
PASC				*e*S	**Sb**	**01 44 28.8**	**+2.0**
DECC	**Green Verdugo** baz=3.4	**3.32**	**309**	⇓Sb	**Sb**	**01 44 33.2**	**+2.2**
EDW2	**Edwards Air Fo** baz=3.6	**3.55**	**320**	⇑Sb	**Sb**	**01 44 40.4**	**+3.0**
TUC	**Tucson**	**3.76**	**87**	*e*Pn	**Pn**	**01 43 49.0**	**-0.5**
TUC				*e*Pg	**Pg**	**01 44 03.6**	**+0.3**
TUC				*e*S	**Sb**	**01 44 46.9**	**+3.4**
OSI	**Osito Audit: C**	**3.80**	**311**	*e*Pn	**Pn**	**01 43 50.2**	**+0.2**
OSI				*e*Pg	**Pb**	**01 44 00.6**	**+1.9**
OSI				*e*S	**Sg**	**01 44 51.5**	**-2.1**
X16A	**Lo Mia Camp, P** baz=3.9	**3.87**	**54**	⇓P	**Pn**	**01 43 51.2**	**+0.1**
WUAZ	**Wupatki** baz=4.6	**4.61**	**43**	⇓P	**Pn**	**01 44 01.9**	**+0.6**
WUAZ	**Wupatki**	**4.61**	**43**	*e*Pn	**Pn**	**01 44 01.8**	**+0.5**
WUAZ				*e*S	**Sg**	**01 45 17.2**	**-2.3**
TPNV	**Topopah Spring**	**4.83**	**350**	*e*Pn	Pn	01 44 07.2	+3.0
TPNV				*e*Pg	**Pg**	**01 44 25.1**	**+1.3**
TPNV				*e*S	Sg	01 45 32.5	+6.0
U15A	**North Rim** baz=4.9	**4.88**	**29**	⇓P	**Pn**	**01 44 05.8**	**+0.8**
X18A	**Snowflake** baz=5.0	**4.99**	**61**	⇑P	**Pn**	**01 44 06.2**	**-0.3**
CCUT	**Cedar City** 26nm,0.8s	**5.57**	**15**	*e*Pn	**Pn**	**01 44 13.8**	**-0.7**
CCUT				*e*Pg	**Pg**	**01 44 39.7**	**+1.7**
CCUT				*e*S	Sg	01 45 57.3	+7.2
ARUT	**Antelope Range** 4.8nm,0.6s	**5.78**	**14**	*e*Pn	Pn	01 44 21.2	+3.9
ARUT				*e*Pg	Pg	01 44 38.3	-3.8
ARUT				*e*S	**Sg**	**01 45 52.7**	**-4.2**
TPH	**Tonopah**	**6.10**	**345**	Pn	**Pn**	**01 44 21.3**	**-0.5**
TPH				*e*Pg	**Pg**	**01 44 49.7**	**+1.5**
TPH				*e*S	Sg	01 46 01.0	-6.2
R11A	**Troy Canyon, C** baz=6.2	**6.16**	**357**	⇓P	**Pn**	**01 44 23.1**	**+0.5**
R11A	**Troy Canyon, C** 23nm,0.6s	**6.16**	**357**	*e*Pn	**Pn**	**01 44 23.4**	**+0.8**
R11A				*e*Pg	**Pg**	**01 44 47.5**	**-1.8**
R11A				*e*S	**Sg**	**01 46 04.2**	**-4.9**
MVCO	**Mesa Verde**	**7.47**	**46**	*e*Pn	**Pn**	**01 44 43.1**	**+2.5**
MVCO				*e*S	**Sg**	**01 46 47.6**	**-3.4**
ANMO	**Albuquerque** 0.2nm,0.3s,baz=245,slow=15,SNR=4.4	**7.81**	**67**	Pn	**Pn**	**01 44 45.1**	**-0.2**
ANMO				Lg	Lg	01 46 52.3	
ELK	**Elko** 0.2nm,0.3s,baz=349,slow=19,SNR=1.8	**8.54**	**360**	Pn	**Pn**	**01 44 56.4**	**+1.1**
TXAR	**Lajitas Array** 0.6nm,0.3s,baz=287,slow=12,SNR=6.0	**10.34**	**103**	Pn	**Pn**	**01 45 21.8**	**+2.0**
TXAR				Lg	Lg	01 48 10.9	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=326,slow=19,SNR=3.7	**11.48**	**21**	Pn	Pn	01 45 41.5	+6.0
NEW	**Newport** 0.0nm,0.3s,baz=221,slow=11,SNR=2.9	**16.13**	**355**	Pn	**P**	**01 46 40.8**	**-0.6**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=181,slow=11,SNR=5.5	**30.33**	**1**	P	P	01 49 05.5	+2.8
ILAR	**Eielson Array** 0.2nm,0.9s,baz=180,slow=6.8,SNR=4.3	**37.98**	**339**	P	**P**	**01 50 11.2**	**+2.1**
	Eielson Array 0.4nm,0.6s,baz=151,slow=8.1,SNR=8.1			P			

*ISCJB **05** 01:52:24.2±0.3,32°.61N±0°.02×115°.71W±0°.02,h10km, mb3.2/3,Error ellipse: s-maj=2.9km s-min=2.3km az=21.8*
*IDC **05** 01:52:24.6±1.5,32°.54N×115°.62W,h0km,mb3.3/3, mb1 3.7/8,mb1mx3.4/38,mbtmp3.4/8,ML3.7/4,Error ellipse: s-maj=25.3km s-min=13.0km az=54.0*
*ECX **05** 01:52:26.1±0.6,32°.60N×115°.76W,h6km,ML4.5*
*NEIC **05** 01:52:26.1,32°.60N×115°.76W,h6km,MD4.2(MEX), ML4.4(PAS),ML4.5(ECX),After ECX.*
*MEX **05** 01:52:27.3±0.6,32°.66N×115°.79W,h15km,MD4.0*

ISC 05 01:52:25.5±0.6,32°.60N±0°.02×115°.75W±0°.02,h10km,n67, σ1$85/115,mb3.3/3,15C-13D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COK	**Cook Ranch**	**0.25**	**5**	*e*P	**Pg**	**01 52 30.5**	**-0.1**
SWSC	**Sam W. Stewart** baz=0.3	**0.34**	**354**	⇑P	**Pg**	**01 52 31.5**	**-0.7**
SWSC				⇑S	**Sg**	**01 52 36.6**	**-0.2**
MBIG	**Mexicali** baz=0.3	**0.51**	**112**	*e*P	**Pb**	**01 52 36.4**	**-0.1**
MBIG				*i* S	**Sb**	**01 52 44.5**	**+0.5**
MONP	**Monument Peak,** baz=0.6	**0.63**	**297**	⇓P	**Pg**	**01 52 37.1**	**-0.7**
MONP				⇑S	**Sg**	**01 52 45.3**	**-0.8**
EMX	**El Mayor** baz=0.6	**0.75**	**145**	*e*P	**Pg**	**01 52 37.5**	**-2.5**
EMX				*e*S	**Sg**	**01 52 47.8**	**-1.9**
BAR	**Barrett**	**0.78**	**276**	⇑*i*P	**Pg**	**01 52 39.7**	**-0.8**
BAR	**Barrett**	**0.78**	**276**	*e*Pg	**Pg**	**01 52 39.6**	**-0.8**
BAR				*e*S	**Sg**	**01 52 49.8**	**-0.9**
CBX	**Cerro Bola**	**0.82**	**250**	*i* P	**Pg**	**01 52 40.7**	**-0.6**
CBX				*e*S	**Sg**	**01 52 50.2**	**-1.9**
CBX	**Cerro Bola**	**0.82**	**250**	*e*P	**Pg**	**01 52 40.7**	**-0.6**
CBX				*e*S	**Sg**	**01 52 51.6**	**-0.4**
CBX	comp=N,37μm,0.5s			⇑*e*		01 52 56.5	
CBX	**Cerro Bola**	**0.82**	**250**	*i* P	**Pg**	**01 52 40.7**	**-0.6**
CBX				*e*S	**Sg**	**01 52 50.2**	**-1.9**
GLA	**Glamis** baz=0.9	**0.90**	**60**	⇑P	**Pg**	**01 52 41.2**	**-1.6**
GLA				⇓S	**Sg**	**01 52 52.9**	**-1.6**
BC3	**Big Chuckawall** baz=1.1	**1.08**	**13**	⇑P	**Pg**	**01 52 44.1**	**-2.2**
BC3				⇓S	**Sg**	**01 52 57.5**	**-2.9**
PFO	**Pinyon Flats O** comp=N,306nm,0.3s,baz=156,slow=15,SNR=55	**1.16**	**330**	Pn	**Pb**	**01 52 45.4**	**-2.4**
PFO				Lg	Pn	01 53 01.7	
PFO	**Pinyon Flats O** comp=N,2μm,0.3s,baz=246,slow=20,SNR=59 baz=1.2	**1.16**	**330**	⇑P	**Pb**	**01 52 45.4**	**-2.4**
PFO	**Pinyon Flats O**	**1.16**	**330**	*e*Pn	**Pb**	**01 52 46.9**	**-0.9**
PFO				*e*S	**Sb**	**01 53 00.2**	**-2.8**
PFO				Lg	Lg	01 53 01.7	
109C	**Camp Elliot, M** baz=1.2	**1.17**	**284**	⇓P	**Pb**	**01 52 46.4**	**-1.5**
109C				⇑S	**Sb**	**01 53 01.5**	**-1.6**
BELC	**Belle Mtn. Jos** baz=1.4	**1.41**	**352**	⇓P	**Pn**	**01 52 48.8**	**-2.6**
Y12C	**Blythe** baz=1.5	**1.54**	**42**	⇓P	**Pn**	**01 52 50.5**	**-2.5**
Y12C				⇓S	**Sn**	**01 53 10.6**	**-2.5**
MURC	**Murrieta** baz=1.6	**1.57**	**310**	⇓P	**Pn**	**01 52 51.5**	**-1.9**
MURC				⇑Sb	**Sb**	**01 53 13.9**	**-0.6**
SPIG	**San Pedro Mart**	**1.57**	**171**	*e*P	**Pn**	**01 52 52.3**	**-1.4**
SPIG				*i* S	**Sn**	**01 53 12.5**	**-1.8**
SPIG	**San Pedro Mart**	**1.57**	**171**	*e*P	**Pn**	**01 52 52.3**	**-1.4**
SPIG				*i* S	**Sb**	**01 53 15.4**	**+0.5**
SPX	**San Pedro Mart**	**1.57**	**171**	*e*P	**Pn**	**01 52 53.2**	**-0.5**
SPX				*e*S	**Sn**	**01 53 14.3**	**-0.1**
SPX				⇓*e*		01 53 21.8	
SPX	comp=E,2μm,0.6s			AML	AML	01 53 21.8	
IRM	**Iron Mountain** baz=1.6	**1.63**	**18**	⇑P	**Pn**	**01 52 52.1**	**-2.3**
IRM				⇓S	**Sn**	**01 53 12.9**	**-2.5**
113A	**Mohawk Valley,** baz=1.7	**1.68**	**84**	⇑P	**Pn**	**01 52 52.7**	**-2.3**
113A				⇑S	**Sn**	**01 53 13.4**	**-3.2**
PDMCI	**Parker Dam,Lak** baz=2.2	**2.17**	**38**	⇑P	**Pn**	**01 52 60.0**	**-1.6**
BFSC	**Mount Baldy Ra** baz=2.3	**2.28**	**316**	⇓Sb	**Sb**	**01 53 34.8**	**-0.3**
NEE2	**Needles Airpor** baz=2.4	**2.36**	**23**	⇓P	**Pn**	**01 53 02.7**	**-1.5**
CIS	**Catalina Islan** baz=2.4	**2.37**	**291**	⇓P	**Pn**	**01 53 03.0**	**-1.4**
Z14A	**Wintersburg** baz=2.5	**2.48**	**71**	⇑P	**Pn**	**01 53 03.8**	**-2.2**
MWC	**Mount Wilson**	**2.52**	**311**	*e*Pn	**Pb**	**01 53 09.0**	**-1.8**
MWC				*e*S	**Sb**	**01 53 40.9**	**-1.1**
LDFC	**Landfair**	**2.53**	**12**	*e*Pn	**Pn**	**01 53 07.8**	**+1.1**
LDFC				*e*Pg	**Pg**	**01 53 13.7**	**-0.2**
LDFC				*e*S	**Sg**	**01 53 44.7**	**-2.0**
PASC	**Pasadena Art C**	**2.57**	**308**	*e*Pn	**Pb**	**01 53 09.5**	**-2.1**
PASC				*e*S	**Sb**	**01 53 40.7**	**-2.5**
214A	**Organ Pipe Nat**	**2.57**	**104**	*e*Pn	**Pn**	**01 53 08.0**	**+0.7**
214A				*e*S	**Sb**	**01 53 44.1**	**+0.6**
GSC	**Goldstone, Bar**	**2.83**	**342**	*e*Pn	**Pn**	**01 53 11.0**	**+0.1**
GSC				*e*Pg	**Pb**	**01 53 16.8**	**+0.7**
GSC				*e*S	**Sg**	**01 53 56.0**	**-0.4**
OSI	**Osito Audit: C**	**3.19**	**310**	*e*Pn	**Pn**	**01 53 16.7**	**+1.0**
OSI				*e*S	**Sb**	**01 54 03.0**	**+1.8**
ISA	**Isabella, Lake**	**3.80**	**324**	*e*Pn	**Pn**	**01 53 23.9**	**-0.2**
ISA				*e*Pg	**Pb**	**01 53 34.0**	**+1.4**
ISA				*e*S	**Sb**	**01 54 22.0**	**+3.3**
SHPR	**Sheep Range**	**3.92**	**7**	*e*Pn	**Pn**	**01 53 26.3**	**+0.3**
SHPR				*e*Pg	**Pg**	**01 53 39.8**	**-0.9**
TUC	**Tucson**	**4.21**	**93**	*e*Pn	**Pn**	**01 53 27.7**	**-2.1**
TUC				*e*S	**Sn**	**01 54 23.2**	**+4.1**
TPNV	**Topopah Spring**	**4.36**	**355**	*e*Pn	**Pn**	**01 53 33.2**	**+1.4**
TPNV				*e*Pg	**Pg**	**01 53 48.4**	**-0.5**
TPNV				*e*S	**Sg**	**01 54 44.8**	**-0.6**
WUAZ	**Wupatki**	**4.66**	**50**	*e*Pn	**Pn**	**01 53 35.9**	**-0.1**
WUAZ				*e*Pg	Pg	01 53 59.0	+4.3
WUAZ				*e*S	**Sg**	**01 54 54.0**	**-0.9**
CCUT	**Cedar City** comp=E,57nm,0.8s	**5.31**	**21**	*e*Pn	**Pn**	**01 53 45.5**	**+0.4**
CCUT				*e*Pg	**Pg**	**01 54 07.8**	**+0.6**
CCUT				*e*S	**Sg**	**01 55 11.3**	**-4.8**
ARUT	**Antelope Range** comp=E,9.6nm,0.7s	**5.51**	**19**	*e*Pn	**Pn**	**01 53 48.1**	**+0.3**
ARUT				*e*Pg	**Pg**	**01 54 08.0**	**-3.0**
ARUT				*e*S	**Sg**	**01 55 19.7**	**-2.7**
TPH	**Tonopah** comp=E,3.9nm,0.6s	**5.59**	**348**	*e*Pn	**Pn**	**01 53 50.0**	**+1.1**
TPH				*e*Pg	**Pg**	**01 54 11.1**	**-1.5**
TPH				*e*S	**Sb**	**01 55 15.4**	**+4.9**
W18A	**Petrified Fore** comp=E,91nm,0.5s	**5.60**	**62**	*e*Pn	**Pn**	**01 53 48.5**	**-0.5**
W18A				*e*S	**Sg**	**01 55 26.6**	**+1.3**
R11A	**Troy Canyon, C** comp=E,26nm,0.8s	**5.74**	**1**	*e*Pn	**Pn**	**01 53 53.0**	**+2.2**
R11A				*e*Pg	**Pg**	**01 54 14.9**	**-0.4**
NVAR	**Mina Array Bea** comp=E,0.6nm,0.3s,baz=168,slow=14,SNR=4.5	**6.17**	**341**	Pn	**Pn**	**01 53 58.0**	**+1.0**
NVAR	comp=E,0.8nm,0.3s,baz=146,slow=29,SNR=3.0			Lg	Lg	01 55 42.0	
SAO	**San Andreas Ge**	**6.26**	**313**	*e*Pn	**Pn**	**01 53 58.9**	**+0.9**
WAKR	**Walker** comp=E,39nm,1.0s	**6.61**	**334**	*e*Pn	Pn	01 54 08.3	+5.5
WAKR				*e*Pg	Pg	01 54 27.3	-4.8
WAKR				*e*S	**Sg**	**01 55 54.7**	**-3.0**
CMB	**Columbia Colle**	**6.61**	**326**	*e*Pn	**Pn**	**01 54 04.5**	**+1.7**
CMB				*e*Pg	**Pg**	**01 54 29.8**	**-2.2**
CMB				*e*S	Sb	01 55 45.6	+6.0
121A	**Cookes Peak, D** comp=E,57nm,0.6s	**6.73**	**88**	*e*Pn	**Pn**	**01 54 03.6**	**-0.8**
121A				*e*S	Sg	01 56 07.3	+5.8
LENM	**Lemitar** comp=E,15nm,0.5s	**7.51**	**76**	*e*Pn	**Pn**	**01 54 14.9**	**-0.3**
MVCO	**Mesa Verde** comp=E,47nm,0.8s	**7.53**	**50**	*e*Pn	**Pn**	**01 54 17.7**	**+2.2**
MVCO				*e*Pg	**Pg**	**01 54 47.0**	**-2.6**
MVCO				*e*S	**Sg**	**01 56 22.7**	**-4.3**
TMUT	**Trail Mountain** comp=E,20nm,0.7s	**7.63**	**28**	*e*Pn	Pn	01 54 19.8	+2.8
TMUT				*e*S	**Sg**	**01 56 31.3**	**+1.0**
SRU	**San Rafael Swe** comp=E,51nm,0.7s	**7.76**	**32**	*e*Pn	**Pn**	**01 54 20.1**	**+1.5**
SRU				*e*S	**Sb**	**01 56 16.3**	**+3.6**
PV01	**Paradox Valley** comp=E,1μm,0.6s	**8.05**	**45**	*e*Pn	**Pn**	**01 54 24.8**	**+2.0**
PV01				*e*S	Sg	01 56 37.6	-6.3
ANMO	**Albuquerque** comp=E,0.8nm,0.3s,baz=264,slow=13,SNR=12	**8.09**	**71**	Pn	**Pn**	**01 54 23.6**	**+0.5**
ANMO	**Albuquerque**	**8.09**	**71**	*e*Pn	**Pn**	**01 54 23.5**	**+0.4**
ANMO				*e*Sg	**Sg**	**01 56 43.3**	**-1.7**
ELK	**Elko** comp=E,0.1nm,0.3s,baz=179,slow=18,SNR=4.5	**8.14**	**3**	Pn	Pn	01 54 27.4	+3.5
ELK	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=2.8			Lg	Lg	01 56 42.7	
ELK	**Elko**	**8.14**	**3**	*e*Pn	**Pn**	**01 54 25.1**	**+1.2**
ELK				*e*Pg	Pg	01 54 57.6	-3.6
ELK				*e*S	**Sg**	**01 56 42.4**	**-4.2**
ELK				Lg	Lg	01 56 42.7	
MNTX	**Cornudas Mount** comp=E,7.2nm,0.6s	**8.84**	**93**	*e*Pn	**Pn**	**01 54 32.5**	**-0.8**
MNTX				*e*S	**Sn**	**01 56 13.9**	**+0.9**
O20A	**White River Ci** comp=E,28nm,0.9s	**9.65**	**37**	*e*Pn	**Pn**	**01 54 45.9**	**+1.4**
TXAR	**Lajitas Array** comp=E,0.2nm,0.3s,baz=284,slow=14,SNR=7.5	**10.87**	**104**	Pn	**Pn**	**01 55 01.6**	**+0.3**
TXAR	comp=E,0.1nm,0.3s,baz=285,slow=24,SNR=3.3			Lg	Lg	01 58 07.8	
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=196,slow=10,SNR=7.6	**11.27**	**24**	Pn	**Pn**	**01 55 09.2**	**+2.5**
ULM	**Lac du Bonnet** comp=E,2.5nm,0.8s,baz=216,slow=8.7,SNR=5.8	**22.97**	**34**	P	**P**	**01 57 30.8**	**+0.8**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.7s,baz=186,slow=8.0,SNR=3.9	**29.92**	**1**	P	**P**	**01 58 35.4**	**+2.2**
ILAR	**Eielson Array** comp=E,0.4nm,0.8s,baz=152,slow=7.5,SNR=8.6	**37.43**	**339**	P	**P**	**01 59 40.6**	**+2.2**
WRA	**Warramunga Arr** comp=E,0.5nm,1.1s,baz=68,slow=2.3,SNR=4.0	**116.88**	**263**	PKP	**PKPdf**	**02 11 10.8**	**-0.1**

NEIC 05 01:57:12.2,32°.11N×115°.03W,h7km,ML3.7(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**0.95**	**10**	*e*Pg	Pg	01 57 29.6	-0.9
GLA				*e*S	Sg	01 57 42.4	-0.6
BAR	**Barrett**	**1.50**	**293**	*e*Pn	Pn	01 57 38.1	-1.6
BAR				*e*S	Sn	01 57 56.8	-2.7
214A	**Organ Pipe Nat**	**1.89**	**94**	Pn	Pn	01 57 33.6	-11
PFO	**Pinyon Flats O**	**1.92**	**322**	Pn	Pn	01 57 46.2	+0.8
MWC	**Mount Wilson**	**3.30**	**310**	*e*Pn	Pn	01 58 03.4	-1.2
MWC				*e*S	Sb	01 58 50.4	-1.5
PASC	**Pasadena Art C**	**3.35**	**309**	*e*Pn	Pn	01 58 02.3	-2.7
PASC				*e*S	Sb	01 58 52.1	-0.9
TUC	**Tucson**	**3.60**	**86**	*e*Pn	Pn	01 58 09.8	+1.2
TUC				*e*S	Sg	01 59 04.5	-3.6
OSI	**Osito Audit: C**	**3.97**	**310**	Pn	Pn	01 58 13.1	-0.5
OSI				*e*S	Sb	01 59 12.6	+1.6
ISA	**Isabella, Lake**	**4.55**	**322**	Pn	Pn	01 58 22.8	+1.1
ISA				*e*Pg	Pg	01 58 38.5	-1.1
ISA				*e*S	Sg	01 59 34.6	-4.1
ARUT	**Antelope Range**	**5.81**	**13**	Pn	Pn	01 58 39.6	+0.5
ARUT				*e*Pg	Pg	01 59 02.2	-1.5

NEIC 05 01:58:51.9,32°.11N×115°.30W,h10km,ML3.6(PAS), 1C-3D,After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.65**	**327**	⇑*i*P	Pg	01 59 03.7	-0.7
EMSC	**East Mesa**	**0.68**	**23**	*e*P	Pg	01 59 04.2	-1.0
ERPC	**Ernies Place**	**0.70**	**334**	⇓*i*P	Pg	01 59 05.1	-0.4
DREC	**Desert Rsrch C**	**0.70**	**350**	⇓*i*P	Pg	01 59 04.7	-0.8
WESC	**Westside Schoo**	**0.74**	**331**	⇓*i*P	Pg	01 59 05.6	-0.6
GLA	**Glamis**	**1.02**	**23**	*e*Pg	Pg	01 59 10.8	-0.8
GLA				*e*S	Sg	01 59 20.2	-4.8
BAR	**Barrett**	**1.29**	**297**	*e*Pn	Pn	01 59 15.8	-0.2
BAR				*e*S	Sb	01 59 31.7	-1.2
PFO	**Pinyon Flats O**	**1.78**	**327**	*e*Pn	Pn	01 59 22.6	-0.3
PFO				*e*S	Sn	01 59 45.2	-0.6
MWC	**Mount Wilson**	**3.13**	**313**	Pn	Pn	01 59 42.7	+1.2
MWC				*e*S	Sb	02 00 27.2	+1.0

NEIC 05 01:59:44.7,32°.32N×115°.54W,h10km,ML3.0(PAS),1D, After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.37**	**335**	*e*P	Pg	01 59 50.9	-1.0
ERPC	**Ernies Place**	**0.44**	**346**	*e*P	Pg	01 59 52.1	-1.1
YUH	**Yuha Desert**	**0.46**	**316**	*e*P	Pg	01 59 53.4	-0.3
COK	**Cook Ranch**	**0.55**	**343**	*e*P	Pg	01 59 55.7	+0.2
SWSC	**Sam W. Stewart**	**0.66**	**341**	⇓*i*P	Pg	01 59 57.0	-0.5
GLA	**Glamis**	**0.95**	**39**	Pg	Pg	02 00 02.3	-0.8
GLA				*e*S	Sb	02 00 16.8	+0.8

*CSEM **05** 02:04:08.6±0.1,38°.26N×3°.51W,h12km,ML3.2/41,Error ellipse: s-maj=2.2km s-min=1.8km az=171.0*
*MDD **05** 02:04:10.4±0.2,38°.24N×3°.48W,h11km,mbLg2.6/45, Error ellipse: s-maj=2.3km s-min=1.8km az=180.0, PRXIMO*
*LDG **05** 02:04:10.2±0.1,38°.22N×3°.49W,h16km,Ml3.1/4,Error ellipse: s-maj=2.2km s-min=2.0km az=131.0*
*INMG **05** 02:04:10.8±1.3,38°.21N×3°.48W,h20km±3km,ML2.7,Error ellipse: s-maj=2.1km s-min=1.4km az=35.0*
*IGIL **05** 02:04:10.0,38°.22N×3°.49W,h16km,ML2.0*
*SFS **05** 02:04:10.0,38°.22N×3°.48W,h16km,ML2.5*

ISC 05 02:04:08.9±1.0,38°.26N±0°.02×3°.48W±0°.01,h17km±8km, n177,σ1$34/260,5C-6D,Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBAN	**Banos Encina** 144nm,0.2s,SNR=18	**0.26**	**249**	⇓Pg	**Pb**	**02 04 15.7**	**+0.5**
EBAN	158nm,0.1s			Lg	Lg	02 04 19.0	
EBAN	**Banos Encina** 144nm,0.2s,SNR=18	**0.26**	**249**	Pg	**Pb**	**02 04 15.7**	**+0.5**
EBAN	158nm,0.1s			Lg	Lg	02 04 19.0	
EQES	**Quesada** 35nm,0.3s,SNR=18	**0.56**	**145**	⇓Pg	**Pg**	**02 04 20.4**	**+0.4**
EQES	25nm,0.1s,SNR=13			Lg	Lg	02 04 27.2	
EQES	**Quesada** 35nm,0.3s,SNR=18	**0.56**	**145**	Pg	**Pg**	**02 04 20.4**	**+0.4**
EQES	25nm,0.1s,SNR=13			Lg	Lg	02 04 27.2	
SESP	**Santiago Espad** 28nm,0.2s,SNR=18	**0.75**	**101**	⇑Pg	**Pg**	**02 04 24.3**	**+0.7**
SESP	384nm,0.1s,SNR=7.9			Lg	Lg	02 04 34.3	
SESP	**Santiago Espad** 28nm,0.2s,SNR=18	**0.75**	**101**	Pg	**Pg**	**02 04 24.3**	**+0.7**
SESP	384nm,0.1s,SNR=7.9			Lg	Lg	02 04 34.3	
EHUE	**Huescar** 24nm,0.1s,SNR=18	**0.83**	**122**	⇓Pg	**Pb**	**02 04 25.5**	**+0.6**
EHUE	97nm,0.2s,SNR=7.9			Lg	Lg	02 04 36.5	
EHUE	**Huescar** 24nm,0.1s,SNR=18	**0.83**	**122**	Pg	**Pb**	**02 04 25.5**	**+0.6**
EHUE	97nm,0.2s,SNR=7.9			Lg	Lg	02 04 36.5	
GORA	**Gorafe** 104nm,0.2s,SNR=18	**0.85**	**156**	⇓Pg	**Pb**	**02 04 25.6**	**+0.3**
GORA	148nm,0.1s,SNR=7.9			Lg	Lg	02 04 37.0	
GORA	**Gorafe** 104nm,0.2s,SNR=18	**0.85**	**156**	Pg	**Pb**	**02 04 25.6**	**+0.3**
GORA	148nm,0.1s,SNR=7.9			Lg	Lg	02 04 37.0	
EVIA	**Vianos** 179nm,0.4s,SNR=18	**0.85**	**63**	⇑Pg	**Pn**	**02 04 26.4**	**+0.2**
EVIA	91nm,0.1s,SNR=14			Lg	Lg	02 04 38.5

PAB **Pg Pg 02 04 37.9 +1.0**
5.1nm,0.1s,SNR=7.9

PAB **Sn Sb 02 04 53.6 -0.2**
31nm,0.3s,SNR=7.9

PAB **Lg Lg** 02 04 57.1
66nm,0.1s,SNR=7.9

PAB San Pablo 1.45 332 Pn **Pb 02 04 35.3 -0.3**
173nm,0.2s,SNR=7.9

ESDC Sonseca Array 1.46 345 Pn **Pb 02 04 35.4 -0.3**
5.1nm,0.1s,SNR=7.9

ESDC **Pg Pg 02 04 37.8 +0.7**
baz=164,slow=14,SNR=7.9

ESDC **Sn Sb 02 04 54.2 +0.1**
4.5nm,0.2s,baz=164,slow=18,SNR=56

ESDC **Lg Lg** 02 04 56.8
baz=165,slow=24,SNR=7.9

ESDC Sonseca Array 1.46 345 Pn **Pb 02 04 35.4 -0.3**
2.1nm,0.2s,baz=165,slow=31,SNR=8.2

ESDC Sonseca Array 1.46 345 Pg **Pg 02 04 37.8 +0.7**
SNR=7.9

ESDC **Sn Sb 02 04 54.2 +0.1**
4.5nm,0.2s,SNR=56

ESDC **Lg Lg** 02 04 56.8
SNR=7.9

ECAB El Cabril 1.54 264 Pn **Pn 02 04 36.1 +0.5**
2.1nm,0.2s,SNR=8.2

ECAB **Pg Pg 02 04 38.2 -0.4**
12nm,0.3s,SNR=56

ECAB **Sn Sn 02 04 55.3 0.0**
6.0nm,0.1s,SNR=7.9

ECAB **Lg Lg** 02 04 58.6
25nm,0.1s,SNR=10

ECAB El Cabril 1.54 264 Pn **Pn 02 04 36.1 +0.5**
36nm,0.3s,SNR=15

ETOB Tobarra 1.56 75 Pn **Pn 02 04 36.7 +0.7**
12nm,0.3s,SNR=56

ETOB **Pg Pg 02 04 38.9 -0.1**
6.6nm,0.2s,SNR=58

ETOB **Sn Sn 02 04 54.9 -1.0**
7.6nm,0.2s,SNR=7.9

ETOB **Lg Lg** 02 04 58.8
6.1nm,0.1s,SNR=7.9

ETOB Tobarra 1.56 75 Pn **Pn 02 04 36.7 +0.7**
16nm,0.1s,SNR=12

ENIJ Nijar 1.64 142 Pg **Pb 02 04 39.6 +1.0**
6.6nm,0.2s,SNR=58

ENIJ **Lg Lg** 02 05 00.1
16nm,0.3s,SNR=7.9

ENIJ Nijar 1.64 142 Pg **Pb 02 04 39.6 +1.0**
11nm,0.2s,SNR=7.9

ENIJ **Lg Lg** 02 05 00.1
16nm,0.3s,SNR=7.9

EMAL Malaga-Limoner 1.68 207 P **Pb 02 04 40.8 +1.5**
11nm,0.2s,SNR=7.9

EMAL S **Sn 02 04 59.7 +1.2**

EMAL Malaga-Limoner 1.68 207 *e*P **Pb 02 04 40.8 +1.5**

EMAL *e*S **Sn 02 04 59.7 +1.2**

EMUR La Murta 1.81 103 Pn **Pn 02 04 40.1 +0.7**
4.7nm,0.3s,SNR=10.0

EMUR **Pg Pb 02 04 42.7 +1.1**
0.7nm,0.2s,SNR=7.9

EMUR **Lg Lg** 02 05 05.9
2.0nm,0.2s,SNR=6.7

EMUR La Murta 1.81 103 Pn **Pn 02 04 40.1 +0.7**
4.7nm,0.3s,SNR=10.0

EMIJ Mijas 1.98 212 Pg **Pb 02 04 45.2 +0.6**
5.9nm,0.3s,SNR=15

EMIJ **Lg Lg** 02 05 10.2
4.2nm,0.1s,SNR=7.5

EMIJ Mijas 1.98 212 Pg **Pb 02 04 45.2 +0.6**
5.9nm,0.3s,SNR=15

EMIJ **Lg Lg** 02 05 10.2
4.2nm,0.1s,SNR=7.5

LIJA Lijar 2.04 229 P **Pg 02 04 48.0 -0.1**

LIJA S **Sg 02 05 14.5 -0.2**

CART Cartagena 2.07 108 P Pg 02 04 52.7 +4.1

CART S **Sb 02 05 11.8 +0.4**

ESPR Espera 2.35 234 Pg **Pb 02 04 51.2 +0.5**
5.7nm,0.4s,SNR=5.7

ESPR **Lg Lg** 02 05 21.5
3.7nm,0.3s,SNR=4.0

ESPR Espera 2.35 234 Pg **Pb 02 04 51.2 +0.5**
5.7nm,0.4s,SNR=5.7

ESPR **Lg Lg** 02 05 21.5
3.7nm,0.3s,SNR=4.0

GUD Guadarrama 2.44 348 Pn **Pn 02 04 48.8 +0.8**
SNR=7.9

GUD **Pg Pg 02 04 54.5 -1.2**
3.3nm,0.3s,SNR=23

GUD **Lg Lg** 02 05 26.4
9.2nm,0.3s,SNR=22

GUD Guadarrama 2.44 348 Pn **Pn 02 04 48.8 +0.8**
SNR=7.9

EMIN Mina Concepcio 2.57 260 Pn **Pn 02 04 50.1 +0.3**
1.9nm,0.6s,SNR=9.1

EMIN **Pg Pb 02 04 56.5 +1.9**
2.0nm,0.4s,SNR=14

EMIN **Sn Sn 02 05 19.4 -1.2**
2.8nm,0.3s,SNR=5.8

EMIN **Lg Lg** 02 05 28.3
4.7nm,0.1s

EMIN Mina Concepcio 2.57 260 Pn **Pn 02 04 50.1 +0.3**
1.9nm,0.6s,SNR=9.1

EBEN Beniarda 2.59 79 Pn **Pn 02 04 50.6 +0.5**
5.9nm,1.0s,SNR=9.0

EBEN **Pg Pg 02 04 59.4 +0.9**
2.4nm,0.6s,SNR=10

EBEN **Sn Sn 02 05 21.2 0.0**
6.6nm,0.5s,SNR=5.0

EBEN **Lg Lg** 02 05 31.8
1.9nm,0.2s

EBEN Beniarda 2.59 79 Pn **Pn 02 04 50.6 +0.5**
5.9nm,1.0s,SNR=9.0

EPLA Plasencia 2.71 312 Pn **Pn 02 04 52.6 +0.9**
0.1nm,0.2s,SNR=7.9

EPLA **Pg Pb 02 04 58.5 +1.5**
1.5nm,0.1s,SNR=7.9

EPLA **Lg Lg** 02 05 34.0
5.9nm,0.1s,SNR=7.9

EPLA Plasencia 2.71 312 Pn **Pn 02 04 52.6 +0.9**
0.1nm,0.2s,SNR=7.9

EPLA Plasencia 2.71 312 Pg **Pb 02 04 58.5 +1.5**
1.5nm,0.1s,SNR=7.9

EPLA **Lg Lg** 02 05 34.0
5.9nm,0.1s,SNR=7.9

ETOR Torete 2.78 23 ⇑Pn **Pn 02 04 53.9 +1.2**
11nm,0.2s,SNR=18

ETOR **Pg Pb 02 04 59.6 +1.4**
7.8nm,0.3s,SNR=6.0

ETOR **Lg Lg** 02 05 38.4
21nm,0.2s

ETOR Torete 2.78 23 Pn **Pn 02 04 53.9 +1.2**
11nm,0.2s,SNR=18

PBAR Barrancos 2.81 269 *e*Pn **Pn 02 04 53.5 +0.5**

PBAR *e*Sn **Sn 02 05 26.1 -0.4**

PBAR *e*Sg **Sg 02 05 37.2 -1.9**

PBAR A A 02 05 42.4
72nm,0.5s

PBAR Barrancos 2.81 269 Pn **Pn 02 04 53.5 +0.5**

PBAR Sn **Sn 02 05 26.1 -0.4**

PBAR **Lg Lg** 02 05 37.2
72nm,0.5s

PBAR Barrancos 2.81 269 *e*Pn **Pn 02 04 53.5 +0.5**

PBAR *e*Sn **Sn 02 05 26.1 -0.4**

PBAR *e*Sg **Sg 02 05 37.2 -1.9**
72nm,0.5s

EBAD Badajoz 2.82 281 Pn **Pn 02 04 53.7 +0.5**
2.6nm,0.8s,SNR=17

EBAD **Pg Pg 02 05 02.4 -0.5**
2.1nm,0.3s,SNR=12

EBAD **Sn Sn 02 05 27.0 +0.2**
4.8nm,0.3s,SNR=6.5

EBAD **Lg Lg** 02 05 38.1
14nm,0.2s,SNR=6.7

EBAD Badajoz 2.82 281 Pn **Pn 02 04 53.7 +0.5**
2.6nm,0.8s,SNR=17

EBAD Badajoz 2.82 281 Pg **Pg 02 05 02.4 -0.5**
2.1nm,0.3s,SNR=12

EBAD **Sn Sn 02 05 27.0 +0.2**
4.8nm,0.3s,SNR=6.5

EBAD **Lg Lg** 02 05 38.1
14nm,0.2s,SNR=6.7

EMOS Mosqueruela 3.14 47 Pn **Pn 02 04 59.6 +1.9**
7.3nm,0.5s,SNR=12

EMOS **Pg Pg 02 05 09.9 +0.9**
1.2nm,0.2s,SNR=7.9

EMOS **Sn Sn 02 05 35.0 +0.1**
1.0nm,0.2s,SNR=7.9

EMOS **Lg Lg** 02 05 49.5
1.9nm,0.2s,SNR=7.9

EMOS Mosqueruela 3.14 47 Pn **Pn 02 04 59.6 +1.9**
7.3nm,0.5s,SNR=12

EMOS Mosqueruela 3.14 47 Pg **Pg 02 05 09.9 +0.9**
1.2nm,0.2s,SNR=7.9

EMOS **Sn Sn 02 05 35.0 +0.1**
1.0nm,0.2s,SNR=7.9

EMOS **Lg Lg** 02 05 49.5
1.9nm,0.2s,SNR=7.9

EGRO El Granado 3.25 258 Pn **Pn 02 04 59.0 -0.1**
10nm,0.3s,SNR=8.3

EGRO **Sn Sn 02 05 35.1 -2.3**
6.8nm,0.3s,SNR=4.9

EGRO **Lg Lg** 02 05 48.7
4.1nm,0.2s,SNR=7.9

EGRO El Granado 3.25 258 Pn **Pn 02 04 59.0 -0.1**
10nm,0.3s,SNR=8.3

EGRO **Sn Sn 02 05 35.1 -2.3**
6.8nm,0.3s,SNR=4.9

EGRO **Lg Lg** 02 05 48.7
4.1nm,0.2s,SNR=7.9

PMRV Marv??o 3.27 292 *e*Sg **Sg 02 05 53.4 -0.6**

PMRV A A 02 05 59.1
21nm,0.3s

PMRV Marv??o 3.27 292 Lg Lg 02 05 53.4
21nm,0.3s

PMRV Marv??o 3.27 292 *e*Sg **Sg 02 05 53.4 -0.6**
21nm,0.3s

PESTR Estremoz 3.28 282 *e*Pn **Pn 02 05 00.3 +0.7**

PESTR *e*Sn **Sn 02 05 38.0 -0.2**

PESTR *e*Sg **Sg 02 05 53.4 -0.9**

PESTR A A 02 05 55.7
20nm,0.5s

PESTR Estremoz 3.28 282 *e*Pn **Pn 02 05 00.3 +0.7**

PESTR *e*Sn **Sn 02 05 38.0 -0.2**

PESTR *e*Sg **Sg 02 05 53.4 -0.9**
20nm,0.5s

PVAQ Vaqueiros 3.46 257 *e*Pn **Pn 02 05 02.0 -0.1**

PVAQ *e*Sn **Sn 02 05 41.6 -1.1**

PVAQ *e*Sg **Sb 02 05 55.8 +4.2**

PVAQ A A 02 06 05.1
9.5nm,0.4s

PVAQ Vaqueiros 3.46 257 Pn **Pn 02 05 02.0 -0.1**

PVAQ Sn **Sn 02 05 41.6 -1.1**

PVAQ **Lg Lg** 02 05 55.8
9.5nm,0.4s

PVAQ Vaqueiros 3.46 257 *e*Pn **Pn 02 05 02.0 -0.1**

PVAQ *e*Sn **Sn 02 05 41.6 -1.1**

PVAQ *e*Sg **Sb 02 05 55.8 +4.2**
9.5nm,0.4s

PCBR Castelo Branco 3.49 298 *e*Pn **Pn 02 05 03.4 +1.0**

PCBR *e*Sn **Sn 02 05 44.1 +0.8**

PCBR *e*Sg **Sg 02 06 01.0 0.0**

PCBR A A 02 06 10.0
11nm,0.3s

PCBR Castelo Branco 3.49 298 Pn **Pn 02 05 03.4 +1.0**

PCBR Sn **Sn 02 05 44.1 +0.8**

PCBR **Lg Lg** 02 06 01.0
5.6nm,0.3s

PCBR Castelo Branco 3.49 298 *e*Pn **Pn 02 05 03.4 +1.0**

PCBR *e*Sn **Sn 02 05 44.1 +0.8**

PCBR *e*Sg **Sg 02 06 01.0 0.0**
11nm,0.3s

EVO Evora 3.57 276 *e*Pn **Pn 02 05 05.1 +1.5**

EVO Evora 3.57 276 *e*Pg **Pg 02 05 16.7 -0.7**

EVO *e*Sn **Sn 02 05 46.0 +0.6**

EVO *e*Sg **Sg 02 06 05.0 +1.3**
41nm,0.4s

EVO Evora 3.57 276 *e*Pn **Pn 02 05 04.9 +1.3**

EVO *e*Sn **Sn 02 05 45.1 -0.3**

EVO *e*Sg **Sg 02 06 01.0 -2.7**

EVO A A 02 06 09.5
15nm,0.2s

EVO Evora 3.57 276 Pn **Pn 02 05 04.9 +1.3**

EVO Sn **Sn 02 05 45.1 -0.3**

EVO **Lg Lg** 02 06 01.0
15nm,0.2s

EVO Evora 3.57 276 *e*Pn **Pn 02 05 04.9 +1.3**

EVO *e*Sn **Sn 02 05 45.1 -0.3**

EVO *e*Sg **Sg 02 06 01.0 -2.7**
15nm,0.2s

EVOP Sao Brissos 3.66 276 *e*Pn **Pn 02 05 05.1 +0.4**

EVOP Sao Brissos 3.66 276 *e*Pg **Pg 02 05 16.7 -2.3**

EVOP *e*Sn **Sn 02 05 46.0 -1.5**

EVOP *e*Sg **Sg 02 06 05.0 -1.5**
20nm,0.4s

PCVE Castro Verde 3.66 262 *e*Pn **Pn 02 05 05.3 +0.5**

PCVE *e*Sn **Sn 02 05 46.6 -0.9**

PCVE *e*Sg **Sg 02 06 02.5 -4.0**

PCVE A A 02 06 10.2
0.9nm,0.9s

PCVE Castro Verde 3.66 262 Pn **Pn 02 05 05.3 +0.5**

PCVE Sn **Sn 02 05 46.6 -0.9**

PCVE **Lg Lg** 02 06 02.5
0.9nm,0.9s

PCVE Castro Verde 3.66 262 *e*Pn **Pn 02 05 05.3 +0.5**

PCVE *e*Sn **Sn 02 05 46.6 -0.9**

PCVE *e*Sg **Sg 02 06 02.5 -4.0**
0.9nm,0.9s

PBDV Barranco-do-Ve 3.67 255 *e*Pn **Pn 02 05 05.3 +0.3**

PBDV *e*Sn **Sn 02 05 46.4 -1.5**

PBDV A A 02 06 11.4
15nm,0.5s

PBDV Barranco-do-Ve 3.67 255 Pn **Pn 02 05 05.3 +0.3**

PBDV Sn **Sn 02 05 46.4 -1.5**
15nm,0.5s

PBDV Barranco-do-Ve 3.67 255 *e*Pn **Pn 02 05 05.3 +0.3**

PBDV *e*Sn **Sn 02 05 46.4 -1.5**
15nm,0.5s

MESJ Messejana 3.77 265 *e*P **Pn 02 05 05.6 -0.6**

MESJ *e*S **Sn 02 05 46.6 -3.6**

MESJ AML AML 02 05 48.5
comp=E,3.8nm,0.2s

MESJ Messejana 3.77 265 *e*Sn **Sn 02 05 48.5 -1.7**

MESJ A A 02 06 19.3
comp=E,10nm,0.6s

MESJ Messejana 3.77 265 P **Pn 02 05 05.6 -0.6**

MESJ S **Sn 02 05 46.6 -3.6**
comp=E,3.8nm,0.2s

MESJ Messejana 3.77 265 *e*Sn **Sn 02 05 48.5 -1.7**
comp=E,10nm,0.6s

MTE Manteigas 3.81 305 *e*Sg **Sg 02 06 10.8 -0.4**

MTE A A 02 06 18.3
comp=E,21nm,0.5s

MTE Manteigas 3.81 305 Lg Lg 02 06 10.8
comp=E,10nm,0.5s

MTE Manteigas 3.81 305 *e*Sg **Sg 02 06 10.8 -0.4**
comp=E,21nm,0.5s

EIBI Ibiza 3.85 77 Pn **Pn 02 05 07.1 -0.3**
comp=E,0.4nm,0.1s,SNR=7.9

EIBI Sn **Sn 02 05 47.8 -4.4**
comp=E,0.8nm,0.1s,SNR=7.9

EIBI Ibiza 3.85 77 Pn **Pn 02 05 07.1 -0.3**
comp=E,0.4nm,0.1s,SNR=7.9

PNCL Nicolau / Gran 3.98 269 *e*Pn **Pn 02 05 10.3 +1.1**

PNCL *e*Sg **Sg 02 06 14.0 -2.8**

PNCL A A 02 06 21.3
comp=E,11nm,0.5s

PNCL Nicolau / Gran 3.98 269 *e*Pn **Pn 02 05 10.3 +1.1**

PNCL *e*Sg **Sg 02 06 14.0 -2.8**
comp=E,11nm,0.5s

ERTA Horta de San J 3.99 46 Pn **Pn 02 05 09.9 +0.6**
comp=E,0.3nm,0.1s,SNR=7.9

ERTA Pg **Pg 02 05 25.1 -0.2**
comp=E,0.5nm,0.1s,SNR=7.9

ERTA **Lg Lg** 02 06 14.3
comp=E,0.8nm,0.1s,SNR=7.9

ERTA Horta de San J 3.99 46 Pn **Pn 02 05 09.9 +0.6**
comp=E,0.3nm,0.1s,SNR=7.9

MVO Moncorvo 3.99 318 *e*Sg **Sg 02 06 17.5 +0.5**

MVO A A 02 06 29.5
comp=E,12nm,0.5s

MVO Moncorvo 3.99 318 Pn **Pn 02 05 11.0 +1.7**
comp=E,0.6nm,0.1s,SNR=4.0

MVO Sn **Sn 02 05 53.4 -2.3**
comp=E,0.7nm,0.1s,SNR=7.9

MVO **Lg Lg** 02 06 14.3
comp=E,1.6nm,0.2s,SNR=7.9

MVO Moncorvo 3.99 318 Pn **Pn 02 05 11.0 +1.7**
comp=E,0.6nm,0.1s,SNR=4.0

MVO Sn **Sn 02 05 53.4 -2.3**
comp=E,0.7nm,0.1s,SNR=7.9

MVO **Lg Lg** 02 06 14.3
comp=E,1.6nm,0.2s,SNR=7.9

MVO *e*Sg **Sg 02 06 17.5 +0.5**
comp=E,12nm,0.5s

PTOM Tomar 4.08 291 *e*Sg **Sg 02 06 18.4 -1.5**

PTOM A A 02 06 28.2
comp=E,15nm,0.6s

PTOM Tomar 4.08 291 Lg Lg 02 06 18.4
comp=E,7.3nm,0.6s

PTOM Tomar 4.08 291 *e*Sg **Sg 02 06 18.4 -1.5**
comp=E,15nm,0.6s

PVIS Viseu 4.21 307 *e*Sg **Sg 02 06 22.3 -1.6**

PVIS A A 02 06 32.4
comp=E,8.8nm,0.3s

PVIS Viseu 4.21 307 Lg Lg 02 06 22.3
comp=E,4.4nm,0.3s

PVIS Viseu 4.21 307 *e*Sg **Sg 02 06 22.3 -1.6**
comp=E,8.8nm,0.3s

PTEO Sao Teotonio 4.21 262 *e*Sn **Sn 02 05 59.8 -1.3**

PTEO *e*Sg **Sg 02 06 21.4 -2.7**

PTEO A A 02 06 34.5
comp=E,11nm,0.6s

PTEO Sao Teotonio 4.21 262 Sn **Sn 02 05 59.8 -1.3**

PTEO **Lg Lg** 02 06 21.4
comp=E,5.6nm,0.6s

PTEO Sao Teotonio 4.21 262 *e*Sn **Sn 02 05 59.8 -1.3**

PTEO *e*Sg **Sg 02 06 21.4 -2.7**
comp=E,11nm,0.6s

PACT Alcochete 4.23 279 *e*Sn **Sn 02 06 02.5 +0.9**

PACT A A 02 06 34.1
comp=E,19nm,0.7s

PACT Alcochete 4.23 279 *e*Sn **Sn 02 06 02.5 +0.9**
comp=E,19nm,0.7s

PCAS Casmilo, Conde 4.29 296 *e*Sg **Sg 02 06 27.9 +1.1**

PCAS A A 02 06 30.0
comp=E,17nm,0.4s

PCAS Casmilo, Conde 4.29 296 *e*Sg **Sg 02 06 27.9 +1.1**
comp=E,17nm,0.4s

PBRG Braganca 4.34 326 *e*Sg **Sg 02 06 27.3 -0.8**

PBRG A A 02 06 33.7
comp=E,6.3nm,0.5s

PBRG Braganca 4.34 326 Lg Lg 02 06 27.3
comp=E,3.2nm,0.5s

PBRG Braganca 4.34 326 *e*Sg **Sg 02 06 27.3 -0.8**
comp=E,6.3nm,0.5s

PFVI Vila Bisbo 4.39 257 *e*Sn **Sn 02 06 03.7 -1.8**

PFVI A A 02 06 35.8
comp=E,12nm,0.5s

PFVI Vila Bisbo 4.39 257 Sn **Sn 02 06 04.0 -1.5**
comp=E,3.8nm,0.2s,SNR=7.9

PFVI Vila Bisbo 4.39 257 Sn **Sn 02 06 04.0 -1.5**
comp=E,3.8nm,0.2s,SNR=7.9

PVRL Vila Real 4.44 314 *e*Sg **Sg 02 06 31.3 -0.2**

PVRL A A 02 06 38.4
comp=E,4.4nm,0.1s

PVRL Vila Real 4.44 314 Lg Lg 02 06 31.3
comp=E,2.2nm,0.1s

PVRL Vila Real 4.44 314 *e*Sg **Sg 02 06 31.3 -0.2**
comp=E,4.4nm,0.1s

ECAL Calabor 4.45 327 Pg Pb 02 05 22.9 -3.7
comp=E,0.5nm,0.2s,SNR=7.9

ECAL **Lg Lg** 02 06 28.8
comp=E,1.3nm,0.2s,SNR=7.9

PMST Lisbon--Monsan 4.50 278 *e*Sg **Sg 02 06 30.8 -2.6**

PMST A A 02 06 40.5
comp=E,33nm,0.7s

PMST Lisbon--Monsan 4.50 278 *e*Sg **Sg 02 06 30.8 -2.6**
comp=E,33nm,0.7s

POLO Lamas de Olo 4.55 314 *e*Pn Pn 02 05 21.9 +4.8

POLO *e*Sg **Sg 02 06 33.0 -2.0**

POLO A A 02 06 47.8
comp=E,2.8nm,0.2s

POLO Lamas de Olo 4.55 314 *e*Pn Pn 02 05 21.9 +4.8

POLO *e*Sg **Sg 02 06 33.0 -2.0**
comp=E,2.8nm,0.2s

PMAFR Mafra 4.60 280 *e*Sn **Sn 02 06 09.2 -1.5**

PMAFR *e*Sg **Sg 02 06 36.0 -0.6**

PMAFR A A 02 06 44.8
comp=E,17nm,0.6s

PMAFR Mafra 4.60 280 Sn **Sn 02 06 07.6 -3.2**
comp=E,1.7nm,0.2s,SNR=7.9

PMAFR **Lg Lg** 02 06 31.7
comp=E,8.6nm,0.2s,SNR=7.9

PMAFR Mafra 4.60 280 *e*Sn **Sn 02 06 09.2 -1.5**

PMAFR **Lg Lg** 02 06 31.7
comp=E,8.6nm,0.2s,SNR=7.9

PMAFR *e*Sg **Sg 02 06 36.0 -0.6**
comp=E,17nm,0.6s

EPOB Poblet 4.67 47 Pn **Pn 02 05 19.3 +0.6**
comp=E,0.3nm,0.2s,SNR=7.9

EPOB **Lg Lg** 02 06 37.1
comp=E,0.8nm,0.3s,SNR=7.9

EPOB Poblet 4.67 47 Pn **Pn 02 05 19.3 +0.6**
comp=E,0.3nm,0.2s,SNR=7.9

EPOB **Lg Lg** 02 06 37.1
comp=E,0.8nm,0.3s,SNR=7.9

EARA Aranguren 4.73 17 Lg Lg 02 06 36.3
comp=E,0.7nm,0.1s,SNR=7.9

EARA Aranguren 4.73 17 Lg Lg 02 06 36.3
comp=E,0.7nm,0.1s,SNR=7.9

IUNC Unciti 4.74 18 Pn **Pn 02 05 20.7 +1.1**
comp=E,0.3nm,0.1s,SNR=7.9

IUNC Sn **Sn 02 06 12.5 -1.7**
comp=E,0.4nm,0.1s,SNR=7.9

IUNC **Lg Lg** 02 06 37.6
comp=E,0.7nm,0.1s,SNR=7.9

IUNC Unciti 4.74 18 Pn **Pn 02 05 20.7 +1.1**
comp=E,0.3nm,0.1s,SNR=7.9

IUNC Sn **Sn 02 06 12.5 -1.7**
comp=E,0.4nm,0.1s,SNR=7.9

IUNC **Lg Lg** 02 06 37.6
comp=E,0.7nm,0.1s,SNR=7.9

IEPA Eparoz 4.82 20 Pn **Pn 02 05 21.5 +0.8**
comp=E,0.1nm,0.1s,SNR=7.9

IEPA Sn **Sn 02 06 16.3 +0.1**
comp=E,0.4nm,0.1s,SNR=7.9

IEPA **Lg Lg** 02 06 40.2
comp=E,0.6nm,0.1s,SNR=7.9

IEPA Eparoz 4.82 20 Pn **Pn 02 05 21.5 +0.8**
comp=E,0.1nm,0.1s,SNR=7.9

IEPA Sn **Sn 02 06 16.3 +0.1**
comp=E,0.4nm,0.1s,SNR=7.9

IEPA **Lg Lg** 02 06 40.2
comp=E,0.6nm,0.1s,SNR=7.9

IELO Elcoad 4.88 20 Pn **Pn 02 05 23.6 +1.9**
comp=E,0.2nm,0.3s,SNR=7.9

IELO Sn **Sn 02 06 16.6 -1.2**
comp=E,0.3nm,0.2s,SNR=7.9

IELO **Lg Lg** 02 06 42.4
comp=E,1.5nm,0.3s,SNR=7.9

IELO Elcoad 4.88 20 Pn **Pn 02 05 23.6 +1.9**
comp=E,0.2nm,0.3s,SNR=7.9

IELO Sn **Sn 02 06 16.6 -1.2**
comp=E,0.3nm,0.2s,SNR=7.9

IELO **Lg Lg** 02 06 42.4
comp=E,1.5nm,0.3s,SNR=7.9

IUSE Utxeti 4.91 17 Lg Lg 02 06 42.3
comp=E,0.2nm,0.1s,SNR=7.9

IUSE Utxeti 4.91 17 Lg Lg 02 06 42.3
comp=E,0.2nm,0.1s,SNR=7.9

ELAN Lanestosa 4.97 0 Sn **Sn 02 06 18.8 -0.8**
comp=E,0.1nm,0.1s,SNR=4.0

ELAN **Lg Lg** 02 06 45.0
comp=E,2.5nm,0.3s,SNR=7.9

ELAN Lanestosa 4.97 0 Sn **Sn 02 06 18.8 -0.8**
comp=E,0.1nm,0.1s,SNR=4.0

ELAN **Lg Lg** 02 06 45.0
comp=E,2.5nm,0.3s,SNR=7.9

ETSF Etsaut 5.14 25 *e*Pn **Pn 02 05 24.9 -0.2**

ETSF *e*Sg **Sg 02 06 52.3 -1.5**
comp=E,6.0nm,0.3s

ETSF Etsaut 5.14 25 Pn **Pn 02 05 24.9 -0.2**

ETSF **Lg Lg** 02 06 52.3
comp=E,3.0nm,0.3s

ETSF Etsaut 5.14 25 *e*Pn **Pn 02 05 24.9 -0.2**

ETSF *e*Sg **Sg 02 06 52.3 -1.5**
comp=E,3.0nm,0.3s

SJPF Ste Jean 5.14 19 *e*Pn **Pn 02 05 24.8 -0.3**

SJPF *e*Sg **Sg 02 06 51.6 -2.3**
comp=E,0.6nm,0.1s

SJPF Ste Jean 5.14 19 Pn **Pn 02 05 24.8 -0.3**

SJPF **Lg Lg** 02 06 51.6
comp=E,0.3nm,0.1s

SJPF Ste Jean 5.14 19 *e*Pn **Pn 02 05 24.8 -0.3**

SJPF *e*Sg **Sg 02 06 51.6 -2.3**
comp=E,0.3nm,0.1s

EALK Alkurruntz 5.17 16 Lg Lg 02 06 49.0
comp=E,7.5nm,0.3s,SNR=7.9

EALK Alkurruntz 5.17 16 Lg Lg 02 06 49.0

comp=E,7.5nm,0.3s,SNR=7.9
EARI Arriondas 5.20 346 Pn **Pn** 02 05 28.5 +2.5
comp=E,8.4nm,0.9s,SNR=5.3
EARI Pg **Pg** 02 05 49.2 +0.6
comp=E,0.6nm,0.3s,SNR=7.9
EARI Sn **Sn** 02 06 22.8 -2.8
comp=E,0.1nm,0.2s,SNR=7.9
EARI Lg Lg 02 06 53.5
comp=E,0.3nm,0.2s,SNR=7.9
EARI Arriondas 5.20 346 Pn **Pn** 02 05 28.5 +2.5
comp=E,8.4nm,0.9s,SNR=5.3
PGAV Gavieira, Arco 5.21 317 *e*Sn **Sn** 02 06 25.7 -0.3
PGAV *e*Sg **Sg** 02 06 56.4 +0.2
PGAV A A 02 07 14.8
comp=E,6.5nm,0.7s
PGAV Gavieira, Arco 5.21 317 *e*Sn **Sn** 02 06 25.7 -0.3
PGAV *e*Sg **Sg** 02 06 56.4 +0.2
comp=E,6.5nm,0.7s
ATE Arette 5.26 23 Pn **Pn** 02 05 28.9 +2.1
comp=E,0.2nm,0.2s,SNR=7.9
ATE Sn **Sn** 02 06 26.2 -0.8
comp=E,0.1nm,0.1s,SNR=7.9
ATE Lg Lg 02 06 52.4
comp=E,0.6nm,0.2s,SNR=7.9
ATE Arette 5.26 23 Pn **Pn** 02 05 28.9 +2.1
comp=E,0.2nm,0.2s,SNR=7.9
ATE Sn **Sn** 02 06 26.2 -0.8
comp=E,0.1nm,0.1s,SNR=7.9
ATE Lg Lg 02 06 52.4
comp=E,0.6nm,0.2s,SNR=7.9
EMIR Miracle 5.29 45 Pn **Pn** 02 05 27.9 +0.6
comp=E,0.8nm,0.2s,SNR=7.9
EMIR Miracle 5.29 45 Pn **Pn** 02 05 27.9 +0.6
comp=E,0.8nm,0.2s,SNR=7.9
CSOR Sort 5.41 39 Pn **Pn** 02 05 30.5 +1.5
comp=E,0.1nm,0.3s,SNR=7.9
CSOR Sn **Sn** 02 06 28.6 -2.4
comp=E,0.1nm,0.1s,SNR=7.9
CSOR Lg Lg 02 06 57.6
comp=E,0.1nm,0.2s,SNR=7.9
CSOR Sort 5.41 39 Pn **Pn** 02 05 30.5 +1.5
comp=E,0.1nm,0.3s,SNR=7.9
CSOR Lg Lg 02 06 57.6
comp=E,0.1nm,0.2s,SNR=7.9
EPF Esparros 5.58 30 *e*Pn **Pn** 02 05 30.9 -0.3
EPF *e*Sg **Sg** 02 07 05.9 -2.0
comp=E,2.0nm,0.3s
EPF Esparros 5.58 30 Pn **Pn** 02 05 30.9 -0.3
EPF Lg Lg 02 07 05.9
comp=E,1.0nm,0.3s
EPF Esparros 5.58 30 *e*Pn **Pn** 02 05 30.9 -0.3
EPF *e*Sg **Sg** 02 07 05.9 -2.0
comp=E,1.0nm,0.3s
QUIF Quistinic 9.65 1 *e*Pn **Pn** 02 06 26.2 -0.8
QUIF Quistinic 9.65 1 *e*P Pn 02 06 32.3 +5.3
QUIF Quistinic 9.65 1 Pn **Pn** 02 06 26.2 -0.8
QUIF Quistinic 9.65 1 *e*Pn **Pn** 02 06 26.2 -0.8
ROSF Rostrenen 10.07 1 *e*P Pn 02 06 38.2 +5.5
BZS Buzias 20.01 60 ⇓*i*P **P** 02 08 40.8 +0.1
GZR Gura Zlata 20.76 62 ⇑*i*P **P** 02 08 47.7 -1.2

NEIC 05 02:07:16.1, 32°19N×115°28W, h10km, ML3.8(PAS), 2C, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.59**	**320**	*e*P	Pg	02 07 26.7	-0.9
EMSC	**East Mesa**	**0.60**	**24**	⇑*i*P	Pg	02 07 27.1	-0.5
DREC	**Desert Rsrch C**	**0.63**	**347**	*e*P	Pg	02 07 27.6	-0.6
ERPC	**Ernies Place**	**0.64**	**329**	*e*P	Pg	02 07 28.2	-0.3
WESC	**Westside Schoo**	**0.68**	**326**	*e*P	Pg	02 07 28.7	-0.6
WESC				*i* S	Sg	02 07 37.8	-0.4
YUH	**Yuha Desert**	**0.71**	**310**	⇑*i*P	Pg	02 07 29.1	-0.8
YMD	**Yuma Desert**	**0.72**	**60**	*e*P	Pg	02 07 29.3	-0.6
GLA	**Glamis**	**0.94**	**24**	*e*Pg	Pb	02 07 34.5	0.0
GLA				*e*S	Sg	02 07 43.1	-3.4
BAR	**Barrett**	**1.28**	**293**	*e*P	Pn	02 07 39.4	-0.6
BAR				*e*S	Sb	02 07 55.2	-1.6

*NEIC **05** 02:47:27.1, 32°.26N×115°.24W, h10km, MD4.1(MEX), ML4.5(PAS), After PAS.*
NEIC Felt [IV] at San Diego, California. Also felt at Brawley, Calexico, El Cajon, Poway and Westmorland.
*MEX **05** 02:47:28.5±0.7, 32°.35N×115°.28W, h10km, MD4.1*
*IDC **05** 02:47:28.9±1.4, 32°.49N×115°.01W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.5/40, mbtmp3.5/8, ML3.4/4, MS4.0/2, Ms1 4.0/2, ms1mx3.5/44, Error ellipse: s-maj=25.2km s-min=12.1km az=35.0*
ISC 05 02:47:26.4±1.3, 32°27N±0°.04×115°36W±0°.03, h2km±9km, n71, σ2s07/92, mb3.6/4, 12C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart** baz=0.8	**0.77**	**331**	⇑S	**Sg**	**02 47 47.6**	**-3.5**
GLA	**Glamis** baz=0.9	**0.90**	**30**	⇑P	Pg	02 47 40.3	-3.5
GLA	baz=0.9			⇓S	Sg	02 47 49.8	-5.6
GLA	**Glamis**	**0.90**	**30**	*e*Pg	**Pg**	**02 47 42.8**	**-0.9**
GLA				*e*Sg	**Sg**	**02 47 54.8**	**-0.7**
MONP	**Monument Peak,** baz=1.2	**1.09**	**305**	⇑P	**Pb**	**02 47 45.9**	**-2.3**
MONP	baz=1.2			⇑S	**Sb**	**02 48 01.5**	**-1.5**
CBX	**Cerro Bola**	**1.11**	**273**	*e*P	**Pb**	**02 47 47.2**	**-1.2**
CBX	**Cerro Bola**	**1.11**	**273**	*e*P	**Pb**	**02 47 47.2**	**-1.2**
BAR	**Barrett**	**1.19**	**291**	*e*Pn	**Pn**	**02 47 48.5**	**-1.6**
BAR				*e*S	**Sb**	**02 48 04.0**	**-1.5**
SPIG	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pn**	**02 47 49.1**	**-1.8**
SPIG				*e*S	**Sb**	**02 48 06.1**	**-0.8**
SPIG	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pn**	**02 47 49.1**	**-1.8**
SPIG				*e*S	**Sb**	**02 48 06.1**	**-0.8**
BC3	**Big Chuckawall** baz=1.4	**1.39**	**357**	⇓P	Pn	02 47 48.5	-4.4
BC3	baz=1.4			⇓S	**Sn**	**02 48 06.6**	**-5.3**
113A	**Mohawk Valley,** baz=1.3	**1.43**	**69**	⇑P	Pn	02 47 48.9	-4.6
113A	baz=1.3			⇓S	**Sn**	**02 48 07.5**	**-5.4**
109C	**Camp Elliot, M** baz=1.7	**1.60**	**293**	⇑P	**Pn**	**02 47 54.2**	**-1.5**
109C	baz=1.7			⇓S	**Sn**	**02 48 15.8**	**-1.3**
PFO	**Pinyon Flats O** baz=146,slow=12	**1.63**	**326**	Pn	**Pn**	**02 47 53.6**	**-2.6**
PFO	baz=60,slow=20			Lg	Lg	02 48 16.2	
PFO	**Pinyon Flats O** baz=1.7	**1.63**	**326**	⇑P	Pn	02 47 53.1	-3.2
PFO	baz=1.7			⇑S	**Sn**	**02 48 13.8**	**-4.1**
PFO	**Pinyon Flats O**	**1.63**	**326**	Pn	**Pn**	**02 47 53.6**	**-2.6**
PFO				*e*S	**Sn**	**02 48 15.8**	**-2.0**
PFO				Lg	Lg	02 48 16.2	
Y12C	**Blythe** baz=1.6	**1.64**	**25**	⇓P	Pn	02 47 51.4	-4.8
IRM	**Iron Mountain** baz=1.9	**1.90**	**5**	⇑P	Pn	02 47 55.6	-4.3
214A	**Organ Pipe Nat**	**2.18**	**98**	*e*Pn	**Pn**	**02 48 02.1**	**-1.7**
214A				*e*S	**Sg**	**02 48 38.5**	**+1.9**
BBRC	**Big Bear Solar** baz=2.4	**2.38**	**327**	⇑P	Pn	02 48 01.8	-4.9
NEE2	**Needles Airpor** baz=2.6	**2.57**	**14**	⇓P	Pn	02 48 05.0	-4.1
BFSC	**Mount Baldy Ra** baz=2.8	**2.75**	**316**	⇑S	**Sn**	**02 48 43.4**	**-2.3**
SCI	**San Clemente I** baz=2.9	**2.78**	**286**	⇓P	Pn	**02 48 10.4**	**-1.7**
CIS	**Catalina Islan** baz=2.9	**2.80**	**295**	⇓Sb	**Sb**	**02 48 53.4**	**+1.3**
LDFC	**Landfair**	**2.81**	**4**	*e*Pn	**Pn**	**02 48 12.8**	**+0.3**
LDFC				*e*S	**Sg**	**02 49 00.1**	**+3.3**
FMP	**Fort Macarthur** baz=2.9	**2.86**	**301**	⇑Sb	**Sb**	**02 48 54.4**	**+0.8**
MWC	**Mount Wilson**	**2.99**	**311**	*e*Pn	**Pn**	**02 48 14.1**	**-1.0**
MWC				*e*S	**Sb**	**02 48 58.8**	**+1.2**
PASC	**Pasadena Art C**	**3.04**	**309**	*e*Pn	**Pn**	**02 48 17.4**	**+1.9**
PASC				*e*S	**Sb**	**02 48 59.3**	**+0.5**
DECC	**Green Verdugo**	**3.18**	**309**	⇓Sb	**Sb**	**02 49 04.2**	**+1.3**

baz=3.3
GSC Goldstone, Bar 3.26 339 *e*Pn **Pn** 02 48 17.9 -0.7
OSI Osito Audit: C 3.66 311 *e*Pn **Pn** 02 48 24.5 +0.3
OSI *e*S **Sb** 02 49 20.6 +3.8
TUC Tucson 3.87 88 *e*Pn **Pn** 02 48 27.1 0.0
TUC *e*S **Sg** 02 49 29.6 -1.3
SHPR Sheep Range 4.23 2 *e*Pn **Pn** 02 48 31.0 -1.1
SHPR *e*S **Sg** 02 49 38.4 -3.9
ISA Isabella, Lake 4.26 323 *e*Pn **Pn** 02 48 32.3 -0.2
ISA *e*Pg **Pg** 02 48 46.6 -1.6
ISA *e*S **Sg** 02 49 43.8 +0.3
WUAZ Wupatki 4.63 45 *e*Pn **Pn** 02 48 37.0 -0.6
WUAZ *e*S **Sg** 02 49 58.1 +2.8
W18A Petrified Fore 5.48 57 *e*Pn **Pn** 02 48 48.5 -0.8
96nm,0.6s
CCUT Cedar City 5.52 17 *e*Pn **Pn** 02 48 49.6 -0.3
87nm,0.9s
CCUT *e*Pg **Pg** 02 49 13.1 +0.9
CCUT *e*S **Sg** 02 50 28.4 +4.6
ARUT Antelope Range 5.73 15 *e*Pn **Pn** 02 48 49.6 -3.0
9.4nm,0.7s
ARUT *e*Pg **Pg** 02 49 15.2 -1.0
ARUT *e*S **Sg** 02 50 31.2 +0.7
TPH Tonopah 5.99 346 Pn Pn 02 48 59.8 +3.4
36nm,0.9s
TPH *e*Pg **Pg** 02 49 23.8 +2.5
TPH *e*S **Sg** 02 50 42.6 +3.6
121A Cookes Peak, D 6.41 86 *e*Pn **Pn** 02 49 00.5 -1.6
42nm,0.7s
121A *e*Sg **Sg** 02 50 51.1 -1.2
NVAR Mina Array Bea 6.60 339 Pn **Pn** 02 49 06.9 +2.2
0.2nm,0.3s,baz=140,slow=14,SNR=2.8
SAO San Andreas Ge 6.74 313 Pn **Pn** 02 49 07.3 +0.9
CMB Columbia Colle 7.08 326 Pn **Pn** 02 49 11.9 +0.8
CMB *e*S **Sg** 02 51 10.7 -2.9
LAZ Ladron 7.20 71 *e*Pn **Pn** 02 49 12.9 0.0
8.8nm,0.8s
LAZ *e*Sg **Sg** 02 51 22.0 +4.3
LENM Lemitar 7.28 73 *e*Pn **Pn** 02 49 12.7 -1.2
19nm,0.5s
LENM *e*S **Sn** 02 50 31.8 -5.5
MVCO Mesa Verde 7.49 47 *e*Pn **Pn** 02 49 16.2 -0.8
104nm,0.9s
MVCO *e*S **Sg** 02 51 24.9 -2.2
LPM Los Pinos Moun 7.58 72 *e*Pn **Pn** 02 49 17.2 -1.0
12nm,0.8s
LPM *e*S **Sg** 02 51 30.7 +0.7
TMUT Trail Mountain 7.78 24 *e*Pn **Pn** 02 49 22.2 +1.2
48nm,0.9s
TMUT *e*Pg **Pg** 02 49 54.5 -1.1
SRU San Rafael Swe 7.88 29 *e*Pn **Pn** 02 49 23.0 +0.8
58nm,1.0s
SRU *e*S **Sg** 02 51 40.7 +1.3
ANMO Albuquerque 7.89 68 Pn Pn 02 49 18.0 -4.4
0.1nm,0.3s,baz=251,slow=8.2,SNR=4.0
ANMO Lg Lg 02 51 30.5
0.3nm,0.3s,baz=348,slow=20,SNR=2.5
ANMO LR LR 02 52 18.7
comp=Z,672nm,19.5s,baz=252,slow=38
ANMO Albuquerque 7.89 68 *e*Pn **Pn** 02 49 23.0 +0.6
13nm,0.8s
ANMO Lg Lg 02 51 30.5
PV10 Paradox Valley 7.99 39 *e*Pn **Pn** 02 49 23.8 0.0
1µm,0.6s
PV01 Paradox Valley 8.07 42 *e*Pn **Pn** 02 49 23.2 -1.6
3µm,0.7s
PV01 *e*S Sg 02 51 36.9 -8.6
DUG Dugway, Tooele 8.17 14 Pn **Pn** 02 49 25.2 -1.0
11nm,0.8s
DUG *e*S Sb 02 51 27.4 +0.5
MPU Maple Canyon 8.30 20 *e*Pn Pn 02 49 33.5 +5.5
9.3nm,1.1s
MPU *e*S Sg 02 51 46.2 -6.6
ELK Elko 8.46 1 Pn Pn 02 49 36.0 +5.8
0.2nm,0.3s,baz=175,slow=11,SNR=6.1
ELK Lg Lg 02 51 52.2
0.1nm,0.3s,baz=182,slow=15,SNR=2.1
O20A White River Ci 9.73 34 *e*Pn **Pn** 02 49 47.6 0.0
82nm,1.0s
TXAR Lajitas Array 10.47 103 Pn **Pn** 02 49 58.4 +0.7
0.5nm,0.3s,baz=282,slow=14,SNR=24
TXAR Lg Lg 02 52 52.3
0.1nm,0.3s,baz=281,slow=18,SNR=3.3
MSTX Muleshoe 10.69 77 *e*Pn **Pn** 02 50 00.2 -0.5
12nm,0.8s
PDAR Pinedale Array 11.44 22 Pn **Pn** 02 50 12.7 +1.6
0.0nm,0.3s,baz=184,slow=11,SNR=3.1
AMTX Amarillo 11.70 73 *e*Pn **Pn** 02 50 12.7 -1.9
6.2nm,0.5s
JCT Junction City 13.41 94 *e*Pn **Pn** 02 50 37.9 0.0
10nm,1.1s
RSSD Black Hills 14.79 34 *e*Pn **Pn** 02 50 58.7 +1.9
6.4nm,1.0s
SWMT Swartz Lake 15.26 4 *e*Pn **P** 02 51 07.3 -0.7
3.5nm,1.1s
JTMT Jette 15.48 3 *e*Pn **P** 02 51 10.1 -0.5
13nm,1.5s
NEW Newport 16.04 356 Pn **P** 02 51 18.0 +1.4
0.2nm,0.3s,baz=177,slow=12,SNR=16
BBB Bella Bella 21.97 339 LR LR 03 00 47.9
comp=Z,676nm,19.8s,baz=174,slow=36
ULM Lac du Bonnet 23.06 33 P **P** 02 52 32.8 -0.3
2.9nm,1.0s,baz=224,slow=11,SNR=4.4
YKA Yellowknife Ar 30.25 1 P **P** 02 53 38.5 +0.1
0.2nm,0.8s,baz=182,slow=8.3,SNR=4.4
ILAR Eielson Array 37.86 339 P **P** 02 54 45.5 +1.1
1.0nm,0.9s,baz=147,slow=7.9,SNR=14
FINES FINESS Array B 81.51 18 P **P** 02 59 46.2 +1.1
1.2nm,0.9s,baz=192,slow=4.0,SNR=3.3
WRA Warramunga Arr 117.17 263 PKP **PKPdf** 03 06 17.4 +3.7
0.5nm,1.0s,baz=65,slow=2.8,SNR=3.3

*IDC **05** 02:50:54.8±2.0, 4°.06S×129°.40E, h0km, mb3.9/2, mb1 3.7/4, mb1mx3.3/36, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=166.7km s-min=25.6km az=69.0*
*ISCJB **05** 02:50:58.1±0.5, 4°.03S±0°.07×129°.45E±0°.07, h36km, mb3.9/2, Error ellipse: s-maj=12.7km s-min=5.4km az=138.0*
*DJA **05** 02:50:58.4±0.3, 4°S±4°×12°9E±°, h22km±5km, M4.0/12, mb4.7/3, MLv3.7/12*
ISC 05 02:50:59.2±1.0, 4°06S±0°.07×129°44E±0°.07, h36km, n13, σ0s93/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.65**	**135**	P	**Pn**	**02 51 11.6**	**-0.4**
BNDI				S	**Sn**	**02 51 21.3**	**+0.2**
MSAI	**Masohi**	**0.87**	**324**	P	**Pn**	**02 51 14.4**	**-0.6**
MSAI				S	**Sn**	**02 51 25.4**	**-1.1**
NLAI	**Namlea**	**2.47**	**289**	P	**Pn**	**02 51 37.4**	**+0.5**
FAKI	**Fak Fak**	**3.03**	**68**	P	**Pn**	**02 51 44.9**	**+0.3**
LBMI	**Labuha**	**3.91**	**330**	P	**Pn**	**02 51 56.8**	**0.0**
SANI	**Sanana**	**3.98**	**300**	P	**Pn**	**02 51 58.2**	**+0.5**
SAUI	**Saumlaki**	**4.31**	**155**	P	**Pn**	**02 52 03.3**	**+1.0**
TNTI	**Ternate**	**5.23**	**337**	P	**Pn**	**02 52 14.9**	**0.0**
	84nm,0.7s,0.5nm						
RKPI	**Ransiki, Papua**	**5.37**	**62**	P	**Pn**	**02 52 16.9**	**+0.1**
	44nm,0.9s,0.7nm						
WRA	**Warramunga Arr**	**16.49**	**164**	Pn	**Pn**	**02 54 45.8**	**-2.2**
	0.1nm,0.3s,baz=346,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**19.96**	**168**	P	**Pn**	**02 55 29.9**	**-0.5**
	0.3nm,0.3s,baz=346,slow=11,SNR=29						
MKAR	**Makanchi Array**	**65.48**	**326**	P	**P**	**03 01 39.8**	**+1.0**
	0.4nm,0.4s,baz=112,slow=8.4,SNR=14						
KURBB	**Kurchatov Arra**	**69.73**	**328**	P	**P**	**03 02 06.5**	**+1.1**
	0.9nm,0.6s,baz=120,slow=5.7,SNR=6.4						

*NEIC **05** 02:54:35.6, 32°.51N×115°.63W, h8km, mb4.5/13, MD4.2(MEX), ML4.3(PAS), ML4.4(ECX), After ECX.*
*IDC **05** 02:54:35.1±1.2, 32°.56N×115°.42W, h0km, mb3.9/8, mb1 4.0/14, mb1mx3.7/48, mbtmp3.7/14, ML3.5/6, MS4.1/1, Ms1 4.1/1, ms1mx3.3/50, Error ellipse: s-maj=23.2km s-min=11.4km az=49.0*
*MEX **05** 02:54:35.6±0.4, 32°.66N×115°.57W, h13km±16km, MD4.1*
*ECX **05** 02:54:35.6±0.5, 32°.50N×115°.64W, h8km, MD4.2, ML4.4*
ISC 05 02:54:34.6±1.1, 32°48N±0°.02×115°62W±0°.02, h4km±7km, n111, σ1s81/147, mb4.3/16, 18C-19D, California-Baja California border region

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

COK Cook Ranch 0.38 347 ⇓*i*P **Pg** 02 54 42.0 -0.1
SWSC Sam W. Stewart 0.48 343 ⇑P **Pg** 02 54 43.4 -0.6
baz=0.5
SWSC ⇓S **Sg** 02 54 49.5 -0.8
baz=0.5
CRR Carrizo Plain 0.50 325 ⇑*i*P **Pg** 02 54 43.8 -0.5
COA Coachella 0.57 47 ⇓*i*P **Pg** 02 54 45.7 0.0
EMX El Mayor 0.58 146 *e*P **Pg** 02 54 44.7 -1.1
EMX *e*S **Sg** 02 54 53.1 -0.4
EMX *e* 02 54 57.4
comp=E,13µm,1.1s
MONP Monument Peak, 0.79 302 ⇓P **Pg** 02 54 49.1 -0.7
baz=0.8
MONP ⇓S **Sg** 02 54 59.3 -0.7
baz=0.8
GLA Glamis 0.88 49 ⇑P **Pg** 02 54 50.1 -1.5
baz=0.9
GLA ⇓S **Sg** 02 55 01.6 -1.5
baz=0.9
GLA Glamis 0.88 49 *e*Pg **Pg** 02 54 50.1 -1.5
GLA *e*S **Sg** 02 55 01.2 -1.8
CBX Cerro Bola 0.90 260 *i* P **Pg** 02 54 51.5 -0.4
CBX *e*S **Sg** 02 55 03.4 -0.1
CBX Cerro Bola 0.90 260 *e*P **Pg** 02 54 51.4 -0.5
CBX *e*S **Sg** 02 55 03.6 +0.1
CBX Cerro Bola 0.90 260 *i* P **Pg** 02 54 51.5 -0.4
CBX *e*S **Sg** 02 55 03.4 -0.1
BAR Barrett 0.91 283 *e*Pg **Pg** 02 54 51.3 -0.8
BAR *e*S **Sg** 02 55 02.7 -1.2
ECBX El Chinero 1.11 154 *e*P **Pg** 02 54 54.4 -1.6
ECBX *e*S **Sg** 02 55 09.7 -0.8
BC3 Big Chuckawall 1.18 7 ⇑P Pg 02 54 54.5 -2.9
baz=1.2
BC3 ⇑S **Sg** **02 55 08.9** **-3.8**
baz=1.2
109C Camp Elliot, M 1.32 289 ⇑P **Pn** **02 54 57.8** **-1.9**
baz=1.3
109C ⇑S **Sb** **02 55 14.7** **-2.5**
baz=1.3
PFO Pinyon Flats O 1.33 328 Pn Pn 02 54 55.8 -4.2
baz=147,slow=13
PFO Lg Lg 02 55 13.3
baz=246,slow=12
PFO Pinyon Flats O 1.33 328 ⇓P Pn 02 54 56.7 -3.3
baz=1.4
PFO ⇑S **Sb** **02 55 13.2** **-4.4**
baz=1.4
PFO Pinyon Flats O 1.33 328 *e*Pn Pn 02 54 56.8 -3.3
PFO *e*S **Sb** **02 55 13.0** **-4.6**
PFO Lg Lg 02 55 13.3
SPIG San Pedro Mart 1.43 175 *e*P **Pn** **02 55 00.5** **-1.2**
SPIG *e*S **Sn** **02 55 20.3** **-0.8**
SPIG San Pedro Mart 1.43 175 *e*P **Pn** **02 55 00.5** **-1.2**
SPIG *e*S **Sn** **02 55 20.3** **-0.8**
SPX San Pedro Mart 1.43 175 *e*P **Pn** **02 55 00.5** **-1.2**
SPX *e*S **Sn** **02 55 21.2** **+0.1**
SPX ⇓*e* 02 55 32.5
comp=N,3µm,0.7s
BELC Belle Mtn. Jos 1.55 348 ⇑P Pn 02 54 60.0 -3.2
baz=1.6
BELC ⇑S **Sn** **02 55 18.2** **-5.6**
baz=1.6
Y12C Blythe 1.57 36 ⇑P Pn 02 55 00.1 -3.1
baz=1.6
113A Mohawk Valley, 1.59 79 ⇓P **Pn** **02 55 00.9** **-2.7**
baz=1.6
113A ⇓S **Sn** **02 55 20.4** **-4.2**
baz=1.6
IRM Iron Mountain 1.72 13 ⇑P **Pn** **02 55 02.5** **-2.9**
baz=1.8
MURC Murrieta 1.73 311 ⇓P **Pn** **02 55 03.1** **-2.5**
baz=1.8
MURC ⇑S **Sn** **02 55 24.5** **-3.6**
baz=1.8
PDMCI Parker Dam,Lak 2.20 34 ⇓P **Pn** **02 55 09.5** **-2.5**
baz=2.2
Z14A Wintersburg 2.42 68 ⇓P **Pn** **02 55 12.7** **-2.2**
baz=2.4
NEE2 Needles Airpor 2.43 20 ⇓P **Pn** **02 55 12.9** **-2.2**
baz=2.5
214A Organ Pipe Nat 2.44 102 ⇑P **Pn** **02 55 12.7** **-2.5**
baz=2.4
214A ⇑S **Sn** **02 55 41.5** **-4.0**
baz=2.4
214A Organ Pipe Nat 2.44 102 *e*Pn **Pn** **02 55 14.6** **-0.7**
214A *e*S **Sb** **02 55 52.4** **+2.9**
BFSC Mount Baldy Ra 2.45 316 ⇓Sb **Sb** **02 55 48.3** **-1.6**
baz=2.5
CIS Catalina Islan 2.52 292 ⇑P **Pn** **02 55 14.2** **-2.1**
baz=2.5
SCI San Clemente I 2.52 282 ⇑P **Pn** **02 55 14.5** **-1.8**
baz=2.5
FMP Fort Macarthur 2.56 300 ⇓Sb **Sb** **02 55 51.6** **-1.2**
baz=2.6
LDFC Landfair 2.63 9 *e*Pn **Pn** **02 55 16.4** **-1.5**
MWC Mount Wilson 2.68 311 Pn **Pn** **02 55 15.8** **-2.9**
MWC *e*S **Sb** **02 55 56.3** **-0.3**
PASC Pasadena Art C 2.73 309 Pn **Pn** 02 55 15.2 -4.1
PASC *e*S **Sb** **02 55 57.2** **-0.7**
DECC Green Verdugo 2.87 309 ⇓Sb **Sb** **02 56 01.4** **-0.6**
baz=2.9
GSC Goldstone, Bar 2.98 341 *e*Pn **Pn** **02 55 22.8** **0.0**
GSC *e*S **Sb** **02 56 06.3** **+1.0**
W13A Hualapai Mount 2.99 28 ⇓Sb **Sb** **02 56 04.7** **-0.8**
baz=3.0
EDW2 Edwards Air Fo 3.10 321 ⇑Sb **Sb** **02 56 08.0** **-0.7**
baz=3.1
OSI Osito Audit: C 3.35 310 ⇓Sb **Sb** **02 56 14.9** **-1.0**
baz=3.4
OSI Osito Audit: C 3.35 310 *e*Pn **Pn** **02 55 27.1** **-0.7**
OSI *e*S **Sb** **02 56 17.5** **+1.6**
ISA Isabella, Lake 3.96 324 *e*Pn **Pn** **02 55 33.9** **-2.3**
ISA *e*Pg **Pb** **02 55 48.2** **+3.1**
ISA *e*S **Sb** **02 56 35.8** **+2.4**
SHPR Sheep Range 4.04 5 *e*Pn **Pn** **02 55 36.4** **-1.0**
SHPR *e*Pg Pb 02 55 49.7 +3.3
SHPR *e*S **Sg** **02 56 40.5** **-3.8**
TUC Tucson 4.10 91 *e*Pn **Pn** **02 55 36.1** **-2.0**
TUC *e*S **Sb** **02 56 33.4** **-3.9**
TPNV Topopah Spring 4.49 354 *e*Pn **Pn** **02 55 43.5** **0.0**
TPNV *e*Pg **Pb** **02 55 56.9** **+2.8**
TPNV *e*S **Sg** **02 57 02.6** **+3.7**
WUAZ Wupatki 4.65 48 *e*Pn **Pn** **02 55 44.7** **-1.1**
WUAZ *e*S **Sb** **02 56 54.6** **+1.3**
CCUT Cedar City 5.39 19 *e*Pn **Pn** **02 55 55.7** **-0.3**
CCUT *e*S **Sg** **02 57 31.5** **+3.7**
W18A Petrified Fore 5.56 60 *e*Pn **Pn** **02 55 57.8** **-0.6**
comp=N,27nm,0.3s
W18A *e*S **Sg** **02 57 34.1** **+0.8**
ARUT Antelope Range 5.59 18 *e*Pn **Pn** **02 55 58.1** **-0.6**
comp=N,9.1nm,0.7s
ARUT *e*Pg **Pg** **02 56 22.3** **+0.5**
ARUT *e*S **Sg** **02 57 33.9** **-0.4**
R11A Troy Canyon, C 5.86 0 Pn Pn 02 55 59.2 -3.2
comp=N,13nm,0.6s
R11A *e*Pg **Pg** **02 56 26.9** **0.0**
R11A *e*S Sg 02 57 36.1 -6.7
NVAR Mina Array Bea 6.33 341 Pn **Pn** **02 56 09.6** **+0.7**
comp=N,0.2nm,0.3s,baz=162,slow=16,SNR=1.8
121A Cookes Peak, D 6.62 87 *e*Pn **Pn** **02 56 11.6** **-1.3**
comp=N,4.7nm,1.5s
121A *e*S **Sn** **02 57 25.8** **-3.0**
WAKR Walker 6.77 334 Pn Pn **02 56 14.2** **-0.7**
comp=N,19nm,1.0s
WAKR *e*Pg Pg 02 56 41.3 -3.1
WAKR *e*S **Sg** **02 58 08.1** **-3.9**
LAZ Ladron 7.35 73 *e*Pn **Pn** **02 56 22.4** **-0.4**
comp=N,23nm,1.1s
LAZ *e*S **Sg** **02 58 27.8** **-2.8**
LENM Lemitar 7.43 75 *e*Pn **Pn** **02 56 23.4** **-0.6**
comp=N,16nm,0.4s
MVCO Mesa Verde 7.52 49 *e*Pn **Pn** **02 56 26.6** **+1.3**
comp=N,516nm,0.9s
MVCO *e*S **Sg** **02 58 34.0** **-2.2**
TMUT Trail Mountain 7.69 27 *e*Pn **Pn** **02 56 29.5** **+1.9**
comp=N,31nm,0.9s
LPM Los Pinos Moun 7.74 74 *e*Pn **Pn** **02 56 27.6** **-0.6**
SRU San Rafael Swe 7.81 31 *e*Pn **Pn** **02 56 29.3** **+0.2**
comp=N,62nm,0.7s
SRU *e*S **Sb** **02 58 28.3** **+4.3**
ANMO Albuquerque 8.02 70 Pn **Pn** **02 56 31.9** **-0.2**
comp=N,0.8nm,0.3s,baz=243,slow=12,SNR=14
ANMO Lg Lg 02 58 46.0
comp=N,0.4nm,0.3s,baz=113,slow=14,SNR=3.5
ANMO Albuquerque 8.02 70 *e*Pn **Pn** **02 56 32.2** **0.0**

	comp=N,15nm,0.9s							
ANMO					Lg	Lg	02 58 46.0	
DUG	**Dugway, Tooele**	**8.03**	**16**	*e*Pn	Pn		02 56 35.6	+3.5
	comp=N,80nm,1.0s							
DUG				*e*Pg	**Pg**		**02 57 08.6**	**+0.3**
DUG				*e*S	**Sg**		**02 58 54.9**	**+2.5**
PV01	**Paradox Valley**	**8.07**	**44**	*e*Pn	**Pn**		**02 56 33.9**	**+1.2**
	comp=N,3µm,0.7s							
PV01				*e*Pg	Pg		02 57 04.7	-4.5
PV01				*e*S	Sg		02 58 47.7	-5.9
ELK	**Elko**	**8.26**	**2**	Pn	**Pn**		**02 56 38.2**	**+2.8**
	comp=N,0.1nm,0.3s,baz=108,slow=3.2,SNR=3.0							
ELK				Lg	Lg		02 58 51.5	
	comp=N,0.1nm,0.3s,baz=189,slow=5.9,SNR=2.4							
MNTX	**Cornudas Mount**	**8.72**	**92**	*e*Pn	**Pn**		**02 56 40.8**	**-0.8**
	comp=N,5.8nm,0.6s							
HWUT	**Hardware Ranch**	**9.67**	**18**	Pn	**Pn**		**02 56 56.9**	**+2.2**
	comp=N,5.5nm,0.9s							
SDCO	**Great Sand Dun**	**9.81**	**55**	*e*Pn	**Pn**		**02 56 55.8**	**-1.0**
	comp=N,7.8nm,0.8s							
TXAR	**Lajitas Array**	**10.74**	**104**	Pn	**Pn**		**02 57 09.8**	**+0.6**
	comp=N,0.4nm,0.3s,baz=282,slow=13,SNR=13							
TXAR				Lg	Lg		03 00 11.5	
	comp=N,0.1nm,0.3s,baz=293,slow=30,SNR=3.5							
MSTX	**Muleshoe**	**10.87**	**79**	*e*Pn	**Pn**		**02 57 12.1**	**+1.1**
	comp=N,57nm,0.8s							
PDAR	**Pinedale Array**	**11.34**	**23**	Pn	**Pn**		**02 57 18.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=201,slow=12,SNR=5.1							
SWMT	**Swartz Lake**	**15.06**	**4**	Pn	**P**		**02 58 11.4**	**-2.3**
	comp=N,4.9nm,1.2s							
JTMT	**Jette**	**15.29**	**3**	*e*Pn	**Pn**		**02 58 12.1**	**+0.8**
	comp=N,14nm,1.5s							
BSMT	**Bassoo Peak**	**15.37**	**2**	*e*Pn	**Pn**		**02 58 14.9**	**+2.5**
	comp=N,5.8nm,1.2s							
NEW	**Newport**	**15.81**	**356**	Pn	**Pn**		**02 58 19.8**	**+1.8**
	comp=N,0.1nm,0.3s,baz=178,slow=14,SNR=7.3							
LAO	**LASA Array**	**15.92**	**24**	*e*Pn	**Pn**		**02 58 19.5**	**+0.1**
	comp=N,38nm,1.2s							
HKT	**Hockley**	**17.12**	**93**	*e*Pn	**P**		**02 58 36.3**	**-0.1**
	comp=N,13nm,1.3s							
MIAR	**Mount Ida**	**18.50**	**78**	*e*P	**Pn**		**02 58 52.6**	**+0.8**
	comp=N,23nm,1.4s							
AGMN	**Agassiz Nation**	**21.73**	**38**	*e*P	**P**		**02 59 26.9**	**+0.2**
	comp=N,36nm,1.3s							
OXF	**Oxford**	**21.94**	**78**	*e*P	**P**		**02 59 30.0**	**+0.9**
	comp=N,21nm,0.9s							
ULM	**Lac du Bonnet**	**23.01**	**34**	P	**P**		**02 59 40.2**	**-0.2**
	comp=N,8.0nm,0.9s,baz=231,slow=9.2,SNR=21							
CMIG	**Matias Romero**	**24.20**	**124**	P	**P**		**02 59 52.6**	**+0.2**
	comp=N,5.1nm,0.9s,baz=327,slow=10,SNR=5.2							
ACSO	**Alum Creek Sta**	**27.29**	**64**	*e*P	**P**		**03 00 19.7**	**-0.5**
	comp=N,14nm,0.9s							
DLBC	**Dease Lake**	**27.73**	**344**	P	**P**		**03 00 25.9**	**+1.9**
	comp=N,1.8nm,0.8s,baz=201,slow=5.3,SNR=4.0							
YKA	**Yellowknife Ar**	**30.04**	**1**	P	**P**		**03 00 43.7**	**-0.7**
	comp=N,0.2nm,0.8s,baz=180,slow=9.0,SNR=4.2							
YKA				PcP	**PcP**		**03 03 46.4**	**+0.2**
	comp=N,0.2nm,0.7s,baz=174,slow=3.2,SNR=7.6							
SADO	**Sadowa**	**30.78**	**56**	LR	LR		03 12 33.6	
	comp=N,338nm,18.9s,baz=360,slow=35							
INK	**Inuvik**	**37.33**	**349**	P	**P**		**03 01 48.0**	**+0.4**
	comp=N,1.9nm,1.1s,baz=126,slow=12,SNR=4.4							
ILAR	**Eielson Array**	**37.58**	**339**	P	**P**		**03 01 50.8**	**+0.9**
	comp=N,0.6nm,0.8s,baz=148,slow=7.8,SNR=10.0							
LDF	**La Druitiere**	**80.91**	**37**	*e*P	**P**		**03 06 50.6**	**+0.7**
LDF	**La Druitiere**	**80.91**	**37**	*e*P	**P**		**03 06 50.6**	**+0.7**
FINES	**FINESS Array B**	**81.38**	**18**	P	**P**		**03 06 53.0**	**+0.9**
	comp=N,1.1nm,0.7s,baz=38,slow=3.4,SNR=5.9							
EVO	**Evora**	**82.47**	**49**	*e*P	**P**		**03 06 58.6**	**+0.2**
	comp=N,14nm,1.0s							
TCF	**Toulx Ste Croi**	**83.61**	**38**	*e*P	**P**		**03 07 04.8**	**+0.6**
TCF	**Toulx Ste Croi**	**83.61**	**38**	*e*P	**P**		**03 07 04.8**	**+0.6**
LOR	**Lormes**	**83.80**	**37**	*e*P	**P**		**03 07 06.0**	**+0.9**
	comp=N,33nm,1.4s							
LOR	**Lormes**	**83.80**	**37**	*e*P	**P**		**03 07 06.0**	**+0.9**
	comp=N,33nm,1.4s							
PAGF	**Fort de Pagny**	**83.84**	**35**	*e*P	**P**		**03 07 06.6**	**+1.3**
	comp=N,3.4nm,0.9s							
PAGF	**Fort de Pagny**	**83.84**	**35**	*e*P	**P**		**03 07 06.6**	**+1.3**
	comp=N,3.4nm,0.9s							
RJF	**Les Rejaudoux**	**83.89**	**39**	*e*P	**P**		**03 07 06.4**	**+0.8**
	comp=N,29nm,1.0s							
RJF	**Les Rejaudoux**	**83.89**	**39**	*e*P	**P**		**03 07 06.4**	**+0.8**
	comp=N,29nm,1.0s							
SMF	**Signal de Mont**	**84.21**	**37**	*e*P	**P**		**03 07 07.6**	**+0.4**
SMF	**Signal de Mont**	**84.21**	**37**	*e*P	**P**		**03 07 07.6**	**+0.4**
ESDC	**Sonseca Array**	**84.32**	**46**	P	**P**		**03 07 08.2**	**+0.2**
	comp=N,0.8nm,0.8s,baz=313,slow=5.7,SNR=5.8							
HAU	**Haudompre**	**84.52**	**35**	*e*P	**P**		**03 07 09.7**	**+0.9**
	comp=N,18nm,1.1s							
HAU	**Haudompre**	**84.52**	**35**	*e*P	**P**		**03 07 09.7**	**+0.9**
	comp=N,18nm,1.1s							
CDF	**Champ du Feu**	**84.69**	**34**	*e*P	**P**		**03 07 10.6**	**+0.9**
CDF	**Champ du Feu**	**84.69**	**34**	*e*P	**P**		**03 07 10.6**	**+0.9**
HINF	**Hinteralfeld**	**84.90**	**35**	*e*P	**P**		**03 07 11.5**	**+0.8**
HINF	**Hinteralfeld**	**84.90**	**35**	*e*P	**P**		**03 07 11.5**	**+0.8**

*IDC **05** 02:57:25.9±1.0, 7°.07S×154°.87E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/38, mbtmp4.0/9, ML2.6/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/36, Error ellipse: s-maj=38.5km s-min=20.6km az=133.0*

*ISCJB **05** 02:57:30.1±1.1, 7°.2S±0°.2×154°.9E±0°.1, h41km, mb4.0/9, Error ellipse: s-maj=34.2km s-min=10.6km az=148.5*

ISC 05 02:57:31.3±1.0, 7°.3S±0°.2×155°.0E±0°.1, h41km, n14, σ1s21/15, mb4.1/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**8.05**	**254**	Pn		**Pn**	**02 59 25.3**	**-0.5**
	0.4nm,0.3s,baz=90,slow=1.0,SNR=3.8							
PMG				Sn		**Sn**	**03 00 55.3**	**-0.3**
	0.7nm,0.3s,baz=114,slow=14,SNR=6.6							
JAY	**Jayapura**	**15.02**	**288**	LR		LR	03 06 12.0	
	comp=Z,423nm,21.0s,slow=36							
WRA	**Warramunga Arr**	**23.66**	**236**	P		**P**	**03 02 38.5**	**-0.8**
	2.6nm,0.7s,baz=58,slow=9.5,SNR=11							
WRA				PcP		**PcP**	**03 06 25.1**	**+1.9**
	0.6nm,0.9s,baz=49,slow=2.8,SNR=5.7							
ASAR	**Alice Springs**	**25.99**	**229**	P		**P**	**03 03 00.6**	**+0.1**
	0.6nm,0.7s,baz=57,slow=9.2,SNR=7.0							
CMAR	**Chiang Mai Arr**	**60.93**	**296**	P		**P**	**03 07 43.2**	**+2.6**
	1.6nm,0.3s,baz=107,slow=5.1,SNR=9.8							
SONM	**Songino Array**	**69.60**	**327**	P		**P**	**03 08 36.0**	**-0.5**
	1.4nm,0.8s,baz=134,slow=6.4,SNR=11							
MKAR	**Makanchi Array**	**83.64**	**319**	P		**P**	**03 09 55.8**	**0.0**
	2.5nm,0.7s,baz=104,slow=5.5,SNR=26							
ILAR	**Eielson Array**	**83.65**	**21**	P		**P**	**03 09 54.2**	**-1.1**
	0.4nm,0.4s,baz=235,slow=5.1,SNR=16							
ZALV	**Zalesovo Beam**	**84.44**	**326**	P		**P**	**03 09 58.5**	**-1.1**
	0.8nm,0.5s,baz=147,slow=6.4,SNR=3.2							
BVAR	**Borovoye Array**	**92.55**	**323**	P		**P**	**03 10 36.9**	**-1.5**
	0.3nm,0.4s,baz=119,slow=5.6,SNR=3.6							
YKA	**Yellowknife Ar**	**96.59**	**28**	P		**P**	**03 10 57.4**	**+0.8**
	1.5nm,0.9s,baz=267,slow=4.7,SNR=25							
GERES	**GERESS Array B**	**127.32**	**329**	PKP		**PKPdf**	**03 16 32.6**	**+0.8**
	0.6nm,0.8s,baz=5.7,slow=2.0,SNR=4.8							
BDFB	**Brasilia**	**147.75**	**135**	PKPbc		**PKPab**	**03 17 14.5**	**-0.8**
	2.7nm,0.9s,baz=169,slow=5.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**153.12**	**285**	PKPbc		**PKPbc**	**03 17 25.9**	**+0.2**
	1.7nm,0.8s,baz=72,slow=1.7,SNR=12							

*ISCJB **05** 03:01:42.6±2.2, 25°.4N±0°.3×60°.0E±0°.2, h10km, mb3.6/7, Error ellipse: s-maj=47.8km s-min=22.2km az=158.2*

*IDC **05** 03:01:42.9±2.5, 25°.45N×60°.01E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.3/45, mbtmp3.7/7, Error ellipse: s-maj=56.2km s-min=24.9km az=154.0*

ISC 05 03:01:44.6±2.4, 25°.5N±0°.4×60°.0E±0°.2, h10km, n7, σ1s06/7, mb3.7/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKTO	**Aktyubinsk**	**24.96**	**357**	P		**P**	**03 07 07.6**	**-0.6**
	2.9nm,0.8s,baz=165,slow=11,SNR=11							
BRTR	**Keskin Array B**	**26.23**	**309**	P		**P**	**03 07 21.7**	**+1.7**
	1.4nm,0.8s,baz=128,slow=11,SNR=9.3							
MKAR	**Makanchi Array**	**27.70**	**34**	P		**P**	**03 07 33.1**	**+0.1**
	0.5nm,0.8s,baz=216,slow=5.4,SNR=6.0							
BVAR	**Borovoye Array**	**28.61**	**13**	P		**P**	**03 07 40.5**	**-0.4**
	0.9nm,0.7s,baz=188,slow=8.7,SNR=6.6							
SONM	**Songino Array**	**42.61**	**46**	P		**P**	**03 09 41.6**	**+0.5**
	0.7nm,0.9s,baz=251,slow=7.5,SNR=3.5							
FINES	**FINESS Array B**	**42.64**	**337**	P		**P**	**03 09 40.3**	**-0.7**
	1.6nm,1.0s,baz=126,slow=13,SNR=5.9							
TORD	**Torodi Ar. Bea**	**55.98**	**269**	P		**P**	**03 11 23.1**	**-0.5**
	0.8nm,0.8s,baz=60,slow=7.9,SNR=9.7							

NEIC 05 03:02:35.2, 32°.64N×115°.80W, h0km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAR	**Barrett**	**0.73**	**273**	*e*Pg		Pg	03 02 49.5	+0.2
BAR				*e*S		Sg	03 02 59.5	+0.6
GLA	**Glamis**	**0.92**	**63**	*e*Pg		Pg	03 02 50.2	-2.6
GLA				*e*S		Sg	03 03 03.6	-1.2
PFO	**Pinyon Flats O**	**1.11**	**331**	*e*Pg		Pg	03 02 55.1	-1.5
PFO				*e*S		Sg	03 03 09.8	-1.4
MWC	**Mount Wilson**	**2.46**	**310**	*e*Pn		Pn	03 03 10.4	-6.4
MWC				*e*S		Sb	03 03 51.6	0.0
GSC	**Goldstone, Bar**	**2.78**	**343**	Pn		Pn	03 03 19.4	-1.7
OSI	**Osito Audit: C**	**3.13**	**310**	*e*Pn		Pn	03 03 22.4	-3.5
OSI				*e*S		Sb	03 04 10.7	0.0
ISA	**Isabella, Lake**	**3.74**	**324**	*e*Pn		Pn	03 03 31.5	-2.8
ISA				*e*Pg		Pb	03 03 43.3	+1.1
ISA				*e*S		Sb	03 04 27.9	-0.3
TUC	**Tucson**	**4.25**	**93**	*e*Pn		Pn	03 03 36.7	-4.7

*ISCJB **05** 03:08:08.9±1.2, 5°.84S±0°.08×147°.7E±0°.3, h60km, mb3.7/5, Error ellipse: s-maj=44.7km s-min=10.0km az=5.4*

*IDC **05** 03:08:12.0±4.5, 6°.01S×148°.00E, h84km±48km, mb3.4/5, mb1 3.7/7, mb1mx3.5/35, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=59.2km s-min=30.6km az=116.0*

ISC 05 03:08:10.3±1.3, 5°.8S±0°.1×147°.9E±0°.4, h60km, n8, σ1s00/9, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.62**	**191**	P		**Pn**	**03 09 05.4**	**+1.5**
	14nm,0.3s,baz=0.0,slow=7.1,SNR=34							
PMG				S		**Sn**	**03 09 44.0**	**-1.3**
	32nm,0.3s,baz=225,slow=20,SNR=7.0							
WRA	**Warramunga Arr**	**19.22**	**222**	P		**P**	**03 12 29.0**	**-0.6**
	0.8nm,0.3s,baz=44,slow=11,SNR=42							
ASAR	**Alice Springs**	**22.24**	**216**	P		**P**	**03 13 02.1**	**-0.1**
	5.2nm,0.7s,baz=53,slow=8.6,SNR=68							
SONM	**Songino Array**	**64.67**	**330**	P		**P**	**03 18 42.8**	**+0.8**
	0.2nm,0.5s,baz=150,slow=3.0,SNR=3.4							
MKAR	**Makanchi Array**	**77.91**	**320**	P		**P**	**03 20 01.7**	**-0.1**
	0.3nm,0.6s,baz=102,slow=7.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**79.32**	**328**	P		**P**	**03 20 09.0**	**-0.4**
	0.7nm,0.4s,baz=113,slow=6.3,SNR=3.3							
ILAR	**Eielson Array**	**84.99**	**23**	P		**P**	**03 20 38.2**	**-0.6**
	0.4nm,0.5s,baz=258,slow=5.0,SNR=10							
TORD	**Torodi Ar. Bea**	**145.87**	**285**	PKPbc		**PKPdf**	**03 27 42.9**	**-0.5**
	0.5nm,0.4s,baz=65,slow=3.1,SNR=24							

NEIC 05 03:09:53.8, 32°.54N×115°.65W, h14km, ML3.9(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLA	**Glamis**	**0.86**	**54**	*e*Pg		Pb	03 10 08.9	-1.7
GLA				*e*S		Sg	03 10 19.7	-2.3
BAR	**Barrett**	**0.87**	**279**	*e*Pg		Pb	03 10 09.9	-1.0
BAR				*e*S		Sg	03 10 20.9	-1.5
PFO	**Pinyon Flats O**	**1.26**	**328**	*e*Pn		Pn	03 10 15.2	-2.0
PFO				*e*S		Sb	03 10 30.0	-3.7
LDFC	**Landfair**	**2.57**	**10**	Pn		Pn	03 10 34.4	-0.7
LDFC				Pg		Pg	03 10 43.6	+0.3
PASC	**Pasadena Art C**	**2.67**	**308**	*e*Pn		Pn	03 10 38.3	+1.9
PASC				*e*S		Sb	03 11 14.3	+0.1
GSC	**Goldstone, Bar**	**2.92**	**341**	*e*Pn		Pn	03 10 38.6	-1.3
GSC				*e*Pg		Pb	03 10 45.8	0.0
GSC				*e*S		Sg	03 11 25.9	-1.9
OSI	**Osito Audit: C**	**3.29**	**310**	*e*Pn		Pn	03 10 44.8	-0.3
ISA	**Isabella, Lake**	**3.90**	**324**	*e*Pn		Pn	03 10 52.9	-0.5
ISA				*e*Pg		Pb	03 11 00.9	-1.5
ISA				*e*S		Sb	03 11 46.8	-2.7
TUC	**Tucson**	**4.12**	**92**	*e*Pn		Pn	03 10 49.0	-7.4
WUAZ	**Wupatki**	**4.63**	**49**	*e*Pn		Pn	03 11 04.4	+0.9
W18A	**Petrified Fore**	**5.55**	**61**	*e*Pn		Pn	03 11 17.2	+1.0
	22nm,0.4s							
R11A	**Troy Canyon, C**	**5.79**	**0**	*e*Pg		Pg	03 11 46.1	+1.0
	2.8nm,0.5s							
121A	**Cookes Peak, D**	**6.64**	**88**	*e*Pn		Pn	03 11 31.0	-0.2
	16nm,0.6s							

*NEIC **05** 03:11:01.3, 32°.08N×115°.00W, h6km, mb4.0/4, MD4.2(MEX), ML4.4(PAS), After PAS.*

*IDC **05** 03:11:04.1±1.5, 32°.35N×114°.51W, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.7/46, mbtmp3.8/11, ML4.0/3, MS3.7/2, Ms1 3.7/2, ms1mx3.2/52, Error ellipse: s-maj=31.6km s-min=12.9km az=47.0*

ISC 05 03:11:00.1±1.0, 32°.09N±0°.03×115°.01W±0°.02, h1km±7km, n78, σ1s76/107, mb4.0/10, 18C-15D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLA	**Glamis**	**0.97**	**9**	⇑P		**Pg**	**03 11 18.5**	**-0.2**
	baz=1.0							
GLA				⇓S		**Sg**	**03 11 31.9**	**+0.6**
	baz=1.0							
GLA	**Glamis**	**0.97**	**9**	*e*Pg		**Pg**	**03 11 18.5**	**-0.2**
GLA				*e*S		**Sb**	**03 11 32.7**	**-0.5**
SWSC	**Sam W. Stewart**	**1.08**	**322**	⇑P		**Pg**	**03 11 20.1**	**-0.7**
	baz=1.1							
SPIG	**San Pedro Mart**	**1.11**	**201**	*e*P		**Pb**	**03 11 20.6**	**-1.8**
SPIG				*e*S		**Sb**	**03 11 35.9**	**-1.6**
113A	**Mohawk Valley,**	**1.25**	**57**	⇑P		**Pn**	**03 11 22.7**	**-2.0**
	baz=1.2							
113A				⇑S		**Sb**	**03 11 39.5**	**-1.6**
	baz=1.2							
CBX	**Cerro Bola**	**1.42**	**279**	*e*P		**Pn**	**03 11 25.9**	**-1.4**
CBX				*e*S		**Sn**	**03 11 45.4**	**-1.3**
MONP	**Monument Peak,**	**1.43**	**304**	⇑P		**Pn**	**03 11 26.6**	**-1.0**
	baz=1.4							
MONP				⇑S		**Sn**	**03 11 44.7**	**-2.5**
	baz=1.4							
BAR	**Barrett**	**1.52**	**293**	*e*Pn		**Pn**	**03 11 27.6**	**-1.0**
BAR				*e*S		**Sn**	**03 11 48.0**	**-1.2**
BC3	**Big Chuckawall**	**1.60**	**347**	⇑P		**Pn**	**03 11 27.7**	**-2.1**
	baz=1.6							
BC3				⇑S		**Sn**	**03 11 47.7**	**-3.5**
	baz=1.6							
Y12C	**Blythe**	**1.70**	**14**	⇑P		**Pn**	**03 11 30.3**	**-0.8**
	baz=1.7							
214A	**Organ Pipe Nat**	**1.87**	**94**	⇑P		**Pn**	**03 11 30.9**	**-2.4**
	baz=1.9							
214A				⇑S		**Sn**	**03 11 54.2**	**-3.5**
	baz=1.9							
109C	**Camp Elliot, M**	**1.94**	**295**	⇑P		**Pn**	**03 11 32.8**	**-1.5**
	baz=2.0							
109C				⇓Sb		**Sb**	**03 12 00.2**	**-0.9**
	baz=2.0							
PFO	**Pinyon Flats O**	**1.94**	**322**	Pn		**Pn**	**03 11 32.5**	**-1.9**
	baz=155,slow=14							
PFO				LR		LR	03 12 15.3	
	comp=Z,943nm,19.8s,baz=144,slow=34							
PFO	**Pinyon Flats O**	**1.94**	**322**	⇑P		**Pn**	**03 11 32.3**	**-2.2**
	baz=2.0							
PFO	**Pinyon Flats O**	**1.94**	**322**	*e*Pn		**Pn**	**03 11 32.6**	**-1.9**
PFO				*e*S		**Sn**	**03 11 55.6**	**-4.0**
PDMCI	**Parker Dam,Lak**	**2.32**	**18**	⇓Sb		**Sg**	**03 12 14.1**	**-0.6**
	baz=2.3							
MURC	**Murrieta**	**2.38**	**310**	⇓Sb		**Sb**	**03 12 14.2**	**+0.4**
	baz=2.4							
BBRC	**Big Bear Solar**	**2.69**	**324**	⇓Sg		**Sg**	**03 12 27.8**	**+1.1**
	baz=2.7							
LDFC	**Landfair**	**2.98**	**358**	*e*Pn		**Pn**	**03 11 51.2**	**+2.5**
LDFC				*e*S		**Sg**	**03 12 41.7**	**+5.7**
BFSC	**Mount Baldy Ra**	**3.09**	**315**	⇓Sb		**Sb**	**03 12 35.4**	**+1.2**
	baz=3.1							
SCI	**San Clemente I**	**3.12**	**287**	⇓Sb		**Sb**	**03 12 33.6**	**-1.4**
	baz=3.1							
W13A	**Hualapai Mount**	**3.14**	**17**	⇑Sb		**Sb**	**03 12 38.2**	**+2.2**
	baz=3.2							
CIS	**Catalina Islan**	**3.15**	**296**	⇓Sb		**Sb**	**03 12 35.9**	**0.0**
	baz=3.2							
FMP	**Fort Macarthur**	**3.20**	**301**	⇓Sb		**Sb**	**03 12 37.3**	**-0.1**
	baz=3.2							
GSC	**Goldstone, Bar**	**3.54**	**335**	*e*Pn		**Pn**	**03 11 56.8**	**+0.5**
GSC				*e*Pg		**Pg**	**03 12 10.3**	**+2.4**
TUC	**Tucson**	**3.59**	**85**	*e*Pn		Pn	03 11 53.0	-4.0
TUC				*e*Pg		**Pg**	**03 12 08.6**	**-0.3**
TUC				*e*S		**Sg**	**03 12 54.4**	**-1.0**
X16A	**Lo Mia Camp, P**	**3.78**	**51**	⇓P		**Pn**	**03 11 59.5**	**-0.3**
	baz=3.8							
OSI	**Osito Audit: C**	**4.00**	**310**	Pn		**Pn**	**03 12 01.2**	**-1.4**
OSI				*e*S		**Sb**	**03 12 58.9**	**-1.5**
SHPR	**Sheep Range**	**4.41**	**358**	*e*Pn		Pn	03 11 57.7	-11
SHPR				*e*S		**Sg**	**03 13 23.4**	**+1.7**
WUAZ	**Wupatki**	**4.56**	**41**	⇑P		**Pn**	**03 12 11.2**	**+0.7**
	baz=4.6							
WUAZ	**Wupatki**	**4.56**	**41**	*e*Pn		**Pn**	**03 12 11.3**	**+0.7**
WUAZ				*e*Pg		**Pg**	**03 12 28.4**	**+0.8**
WUAZ				*e*S		**Sb**	**03 13 18.7**	**+1.9**
U15A	**North Rim**	**4.88**	**27**	⇑P		**Pn**	**03 12 15.4**	**+0.4**
	baz=4.9							
X18A	**Snowflake**	**4.88**	**59**	⇓P		**Pn**	**03 12 15.3**	**+0.4**
	baz=4.9							
319A	**Douglas**	**4.93**	**97**	⇑P		**Pn**	**03 12 15.3**	**-0.2**
	baz=4.9							
TPNV	**Topopah Spring**	**4.95**	**348**	*e*Pn		**Pn**	**03 12 17.3**	**+1.4**
TPNV				*e*Pg		**Pg**	**03 12 38.1**	**+3.0**
W18A	**Petrified Fore**	**5.34**	**54**	⇓P		**Pn**	**03 12 21.7**	**+0.5**
	baz=5.3							
W18A	**Petrified Fore**	**5.34**	**54**	*e*Pn		**Pn**	**03 12 21.9**	**+0.8**
	129nm,0.5s							
W18A				*e*S		**Sb**	**03 13 40.4**	**+1.4**
CCUT	**Cedar City**	**5.61**	**14**	*e*Pn		**Pn**	**03 12 25.9**	**+0.9**
	80nm,0.9s							
CCUT				*e*Pg		**Pg**	**03 12 47.9**	**+0.2**
CCUT				*e*Pg		**Sg**	**03 14 01.7**	**+1.2**
ARUT	**Antelope Range**	**5.83**	**12**	*e*Pn		**Pn**	**03 12 29.0**	**+1.1**
	6.2nm,0.6s							
ARUT				*e*Pg		**Pg**	**03 12 52.3**	**+0.4**
ARUT				*e*S		**Sg**	**03 14 06.8**	**-0.6**
121A	**Cookes Peak, D**	**6.13**	**84**	⇓P		**Pn**	**03 12 30.9**	**-1.1**
	baz=6.1							
121A	**Cookes Peak, D**	**6.13**	**84**	*e*Pn		**Pn**	**03 12 30.8**	**-1.2**
	60nm,0.5s							
121A				*e*S		**Sg**	**03 14 21.5**	**+4.3**
TPH	**Tonopah**	**6.24**	**344**	Pn		**Pn**	**03 12 34.0**	**+0.4**
TPH				*e*Pg		Pg	03 12 57.7	-2.0
TPH				*e*S		Sg	03 14 32.8	+12
R11A	**Troy Canyon, C**	**6.26**	**356**	*e*Pn		**Pn**	**03 12 34.8**	**+0.9**
	24nm,0.8s							
R11A				*e*Pg		Pg	03 12 58.2	-1.9
R11A				*e*S		**Sg**	**03 14 21.3**	**0.0**
LENM	**Lemitar**	**7.05**	**71**	*e*Pn		**Pn**	**03 12 44.9**	**+0.2**
	35nm,0.7s							
LENM				*e*S		**Sg**	**03 14 48.1**	**+1.5**
Y22D	**IRIS PASSCAL I**	**7.07**	**72**	⇑P		**Pn**	**03 12 45.4**	**+0.5**
	baz=7.1							
LPM	**Los Pinos Moun**	**7.36**	**70**	*e*Pn		**Pn**	**03 12 49.0**	**0.0**
	7.0nm,0.4s							
LPM				*e*S		**Sg**	**03 14 56.2**	**-0.4**
MVCO	**Mesa Verde**	**7.41**	**45**	⇓P		**Pn**	**03 12 51.7**	**+2.1**
	baz=7.4							
MVCO	**Mesa Verde**	**7.41**	**45**	*e*Pn		**Pn**	**03 12 52.0**	**+2.4**
	48nm,0.6s							
MVCO				*e*S		Sb	03 14 32.5	-6.0
ANMO	**Albuquerque**	**7.69**	**66**	Pn		**Pn**	**03 12 54.3**	**+0.9**
	0.7nm,0.3s,baz=253,slow=12,SNR=6.3							
ANMO				Lg		Lg	03 15 04.1	
	0.4nm,0.3s,baz=3.6,slow=16,SNR=1.9							
ANMO	**Albuquerque**	**7.69**	**66**	*e*Pn		**Pn**	**03 12 54.2**	**+0.7**
	21nm,0.8s							
ANMO				*e*Pg		**

*BJI **05** 03:15:23.0, 32°.60N × 116°.35W, h7km, mB4.9/4, mb4.7/5, Ms5.1/4, Ms7 4.7/4*
*NEIC **05** 03:15:25.2, 32°.63N × 115°.78W, h3km, mb4.5/24, ML4.8(ECX), ML5.0(PAS), After ECX.*
NEIC Felt [V] at Ensenada and [III] at Tijuana. Also felt at Puerto Penasco, Sonora. Felt [VI] at El Centro, [IV] at Oceanside and Santee and [III] at Aliso Viejo, Alpine, Borrego Springs, Brawley, Desert Hot Springs, El Cajon, Indian Wells, La Jolla, Palm Desert, Ramona, San Diego and San Jacinto, California. Felt in Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura Counties. Felt [V] at Yuma, Arizona. Also felt at Avondale, Chandler, Fountain Hills, Gilbert, Lake Havasu City, Maricopa, Mesa, Queen Creek, Scottsdale, Surprise and Tucson.
*ECX **05** 03:15:25.2±0.6, 32°.63N × 115°.78W, h3km, ML4.8*
*IDC **05** 03:15:26.2±1.6, 32°.88N × 115°.45W, h0km, mb4.0/9, mb1 4.2/13, mb1mx3.9/31, mbtmp4.0/13, ML4.0/4, MS4.0/6, Ms1 4.0/6, ms1mx3.5/48, Error ellipse: s-maj=34.3km s-min=12.2km az=46.0*
*MEX **05** 03:15:26.0±0.4, 32°.78N × 115°.80W, h12km, MD4.0*
ISC 05 03:15:23.8±1.0, 32°.66N±0°.02 × 115°.77W±0°.02, h2km±7km, n115, σ1^{s}72/150, mb4.3/19, 21C-17D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COK	**Cook Ranch**	**0.19**	**11**	*eP*	**Pg**	**03 15 29.2**	**+1.7**
CRR	**Carrizo Plain**	**0.28**	**323**	⇑*iP*	**Pg**	**03 15 30.4**	**+1.2**
SWSC	**Sam W. Stewart** baz=0.3	**0.28**	**356**	⇑P	**Pg**	**03 15 30.3**	**+1.1**
COA	**Coachella**	**0.58**	**70**	⇑*iP*	**Pg**	**03 15 35.5**	**+0.4**
MONP	**Monument Peak,** baz=0.6	**0.59**	**293**	⇑P	**Pg**	**03 15 36.0**	**+0.8**
MONP	baz=0.6			⇑S	**Sg**	**03 15 43.5**	**+0.6**
BAR	**Barrett**	**0.76**	**272**	⇑*iP*	**Pg**	**03 15 38.7**	**+0.3**
BAR	**Barrett**	**0.76**	**272**	*ePg*	**Pg**	**03 15 38.7**	**+0.3**
BAR				*eSg*	**Sg**	**03 15 48.4**	**+0.1**
EMX	**El Mayor**	**0.81**	**146**	⇓*eP*	**Pg**	**03 15 38.5**	**-0.8**
EMX				*eS*	**Sg**	**03 15 49.5**	**-0.3**
CBX	**Cerro Bola**	**0.83**	**245**	*eP*	**Pg**	**03 15 40.2**	**+0.4**
CBX				*eS*	**Sg**	**03 15 51.0**	**+0.4**
CBX	**Cerro Bola**	**0.83**	**245**	*eP*	**Pg**	**03 15 40.1**	**+0.4**
CBX				*eS*	**Sg**	**03 15 51.0**	**+0.4**
CBX	comp=N,50μm,0.6s			AML	AML	03 15 55.9	
CBX				⇑*e*		03 15 55.9	
CBX	**Cerro Bola**	**0.83**	**245**	*eP*	**Pg**	**03 15 40.2**	**+0.4**
CBX				*eS*	**Sg**	**03 15 51.0**	**+0.4**
GLA	**Glamis** baz=0.9	**0.89**	**64**	⇑P	**Pg**	**03 15 40.8**	**0.0**
GLA	baz=0.9			⇑S	**Sg**	**03 15 52.5**	**+0.2**
GLA	**Glamis**	**0.89**	**64**	*ePg*	**Pg**	**03 15 40.8**	**0.0**
GLA				*eS*	**Sg**	**03 15 52.4**	**+0.1**
BC3	**Big Chuckawall** baz=1.0	**1.03**	**15**	⇓P	**Pg**	**03 15 43.0**	**-0.5**
BC3	baz=1.0			⇓S	**Sg**	**03 15 56.0**	**-0.9**
PFO	**Pinyon Flats O** comp=N,1μm,0.3s,baz=147,slow=15,SNR=130	**1.10**	**329**	Pg	**Pb**	**03 15 44.1**	**-1.7**
PFO	comp=N,2μm,0.3s,baz=127,slow=12,SNR=14			Lg	Lg	03 15 58.6	
PFO	**Pinyon Flats O** baz=1.1	**1.10**	**329**	⇑P	**Pb**	**03 15 44.1**	**-1.7**
PFO	baz=1.1			⇑S	**Sg**	**03 15 58.6**	**-0.8**
109C	**Camp Elliot, M** baz=1.1	**1.15**	**282**	⇓P	**Pb**	**03 15 45.3**	**-1.0**
109C	baz=1.1			⇓S	**Sb**	**03 15 59.9**	**-1.8**
ECBX	**El Chinero**	**1.33**	**153**	⇓*eP*	**Pn**	**03 15 48.0**	**-1.5**
ECBX				*eS*	**Sb**	**03 16 05.5**	**-1.6**
BELC	**Belle Mtn. Jos** baz=1.4	**1.35**	**352**	⇑P	**Pn**	**03 15 47.7**	**-2.2**
BELC	baz=1.4			⇓S	**Sb**	**03 16 05.1**	**-2.6**
Y12C	**Blythe** baz=1.5	**1.51**	**44**	⇓P	**Pn**	**03 15 50.3**	**-1.6**
Y12C	baz=1.5			⇑S	**Sn**	**03 16 09.2**	**-3.0**
MURC	**Murrieta** baz=1.5	**1.52**	**308**	⇓P	**Pn**	**03 15 50.6**	**-1.5**
IRM	**Iron Mountain** baz=1.6	**1.58**	**19**	⇓P	**Pn**	**03 15 51.1**	**-1.9**
SPIG	**San Pedro Mart**	**1.63**	**171**	*eP*	**Pn**	**03 15 52.7**	**-1.2**
SPIG				*eS*	**Sn**	**03 16 15.1**	**-0.6**
SPIG	**San Pedro Mart**	**1.63**	**171**	⇓*eP*	**Pn**	**03 15 52.8**	**-1.1**
SPIG	**San Pedro Mart**	**1.63**	**171**	*eP*	**Pn**	**03 15 52.7**	**-1.2**
SPIG				*eS*	**Sn**	**03 16 15.1**	**-0.6**
SPX	**San Pedro Mart**	**1.63**	**171**	*eP*	**Pn**	**03 15 53.1**	**-0.9**
SPX				*eS*	**Sb**	**03 16 15.3**	**-0.8**
113A	**Mohawk Valley,** baz=1.7	**1.69**	**86**	⇓P	**Pn**	**03 15 52.7**	**-1.7**
113A	baz=1.7			⇑S	**Sn**	**03 16 13.5**	**-3.2**
BBRC	**Big Bear Solar** baz=1.9	**1.86**	**329**	⇑P	**Pn**	**03 15 55.9**	**-1.1**
BBRC	baz=1.9			⇓S	**Sn**	**03 16 18.6**	**-2.6**
GMRC	**Granite Mounta** baz=2.1	**2.12**	**2**	⇓P	**Pn**	**03 15 58.8**	**-1.6**
PDMCI	**Parker Dam,Lak** baz=2.1	**2.13**	**39**	⇑P	**Pn**	**03 15 59.5**	**-0.9**
PDMCI	baz=2.1			⇑S	**Sn**	**03 16 24.0**	**-3.4**
HEC	**Hector,Ludlow** baz=2.2	**2.21**	**348**	⇑P	**Pn**	**03 16 00.1**	**-1.5**
HEC	baz=2.2			⇓S	**Sn**	**03 16 26.2**	**-3.4**
BFSC	**Mount Baldy Ra** baz=2.2	**2.23**	**315**	⇑Sb	**Sb**	**03 16 32.3**	**-0.7**
NEE2	**Needles Airpor** baz=2.3	**2.31**	**24**	⇓P	**Pn**	**03 16 02.0**	**-1.0**
CIS	**Catalina Islan** baz=2.3	**2.33**	**289**	⇓Sb	**Sb**	**03 16 35.6**	**-0.3**
MWC	**Mount Wilson**	**2.47**	**310**	*ePn*	**Pn**	**03 16 06.2**	**+0.9**
MWC				*ePg*	**Pg**	**03 16 10.4**	**-0.7**
MWC				*eS*	**Sb**	**03 16 40.3**	**+0.4**
Z14A	**Wintersburg** baz=2.5	**2.48**	**73**	⇑P	**Pn**	**03 16 03.8**	**-1.4**
PASC	**Pasadena Art C**	**2.52**	**307**	*ePn*	**Pb**	**03 16 08.0**	**-1.8**
PASC				*eS*	**Sb**	**03 16 40.4**	**-0.9**
214A	**Organ Pipe Nat** baz=2.6	**2.60**	**105**	⇑P	**Pn**	**03 16 04.8**	**-2.3**
GSC	**Goldstone, Bar**	**2.77**	**342**	*ePn*	**Pn**	**03 16 07.9**	**-1.5**
GSC				*ePg*	**Pg**	**03 16 16.1**	**-0.8**
GSC				*eS*	**Sg**	**03 16 53.1**	**+0.3**
OSI	**Osito Audit: C**	**3.14**	**309**	Pn	**Pn**	**03 16 15.0**	**+0.6**
OSI				*ePg*	**Pb**	**03 16 21.4**	**+0.9**
OSI				*eS*	**Sg**	**03 17 02.7**	**-2.1**
ISA	**Isabella, Lake**	**3.74**	**324**	*ePn*	**Pn**	**03 16 22.2**	**-0.4**
ISA				*ePg*	**Pb**	**03 16 32.4**	**+1.7**
ISA				*eS*	**Sb**	**03 17 19.4**	**+2.9**
SHPR	**Sheep Range**	**3.87**	**7**	*ePn*	**Pn**	**03 16 25.4**	**+0.9**
SHPR				*ePg*	**Pg**	**03 16 39.0**	**+1.0**
SHPR				*eS*	**Sg**	**03 17 29.8**	**+1.6**
TUC	**Tucson**	**4.23**	**93**	*ePn*	**Pn**	**03 16 28.0**	**-1.4**
TUC				*eS*	**Sb**	**03 17 32.3**	**+1.7**
WUAZ	**Wupatki**	**4.63**	**51**	*ePn*	**Pn**	**03 16 35.7**	**+0.7**
WUAZ				*ePg*	**Pg**	**03 16 53.0**	**+0.4**
WUAZ				*eS*	**Sg**	**03 17 52.9**	**+0.4**
CCUT	**Cedar City**	**5.26**	**21**	*ePn*	**Pn**	**03 16 44.6**	**+0.9**
CCUT				*ePg*	**Pg**	**03 17 03.7**	**-1.0**
CCUT				*eS*	**Sg**	**03 18 12.5**	**-0.4**
ARUT	**Antelope Range** comp=N,0.3nm,0.2s	**5.46**	**20**	*ePn*	**Pn**	**03 16 45.4**	**-1.0**
ARUT				*ePg*	**Pg**	**03 17 08.5**	**+0.1**
ARUT				*eS*	**Sg**	**03 18 20.6**	**+1.4**
TPH	**Tonopah**	**5.53**	**348**	*ePn*	**Pn**	**03 16 47.8**	**+0.4**
TPH				*ePg*	Pg	03 17 07.3	-2.5
W18A	**Petrified Fore**	**5.58**	**62**	*ePn*	**Pn**	**03 16 49.1**	**+0.9**
W18A				*eS*	Sg	03 18 38.0	+14
R11A	**Troy Canyon, C**	**5.68**	**1**	*ePn*	**Pn**	**03 16 51.0**	**+1.6**
R11A				*ePg*	**Pg**	**03 17 12.4**	**-0.2**
R11A				*eS*	**Sg**	**03 18 29.0**	**+2.8**
NVAR	**Mina Array Bea**	**6.11**	**341**	Pn	**Pn**	**03 16 55.5**	**+0.1**
	comp=N,1.7nm,0.3s,baz=162,slow=15,SNR=7.8						
SAO	**San Andreas Ge**	**6.21**	**313**	*ePn*	**Pn**	**03 16 56.8**	**+0.2**
SAO				*ePg*	Pb	03 17 17.7	+4.9
WAKR	**Walker** comp=N,4.2nm,1.5s	**6.55**	**334**	*ePn*	Pn	03 17 05.9	+4.5
WAKR				*ePg*	Pg	03 17 24.6	-4.7
WAKR				*eS*	Sg	03 18 48.0	-6.2
CMB	**Columbia Colle**	**6.55**	**326**	*ePn*	**Pn**	**03 17 01.0**	**-0.3**
CMB				*eS*	Sb	03 18 43.9	+6.5
121A	**Cookes Peak, D**	**6.74**	**89**	*ePn*	**Pn**	**03 17 03.5**	**-0.5**
121A				*eS*	**Sg**	**03 18 59.9**	**-0.5**
MVCO	**Mesa Verde**	**7.50**	**51**	*ePn*	**Pn**	**03 17 16.4**	**+2.0**
MVCO				*ePg*	**Pg**	**03 17 47.7**	**+0.2**
MVCO				*eSg*	**Sg**	**03 19 25.9**	**+1.2**
TMUT	**Trail Mountain** comp=N,30nm,0.7s	**7.58**	**28**	Pn	**Pn**	**03 17 17.4**	**+1.7**
SRU	**San Rafael Swe** comp=N,102nm,0.7s	**7.71**	**32**	*ePn*	**Pn**	**03 17 18.0**	**+0.6**
LPM	**Los Pinos Moun** comp=N,25nm,0.3s	**7.81**	**75**	*ePn*	**Pn**	**03 17 18.8**	**+0.1**
LPM				*eS*	Sg	03 19 29.1	-5.6
BMN	**Battle Mountai**	**7.84**	**352**	*ePn*	**Pn**	**03 17 20.0**	**+0.9**
BMN				*ePg*	Pg	03 17 58.7	+4.7
BMN				*eS*	**Sg**	**03 19 35.4**	**-0.2**
PV01	**Paradox Valley**	**8.02**	**45**	*ePn*	**Pn**	**03 17 21.5**	**-0.2**
PV01				*ePg*	**Pg**	**03 17 59.3**	**+1.7**
ELK	**Elko** comp=N,0.2nm,0.3s,baz=181,slow=2.8,SNR=2.3	**8.08**	**3**	Lg	Lg	03 19 36.1	
ELK	comp=N,1μm,18.6s,baz=182,slow=41			LR	LR	03 20 45.9	
ANMO	**Albuquerque** comp=N,1.4nm,0.3s,baz=266,slow=12,SNR=16	**8.08**	**71**	Pn	**Pn**	**03 17 23.7**	**+1.3**
ANMO	comp=N,0.3nm,0.3s,baz=66,slow=20,SNR=2.2			Lg	Lg	03 19 35.1	
ANMO	comp=N,1μm,20.1s,baz=246,slow=41			LR	LR	03 20 45.6	
GDL2	**Guadalupe Moun** comp=N,19nm,0.5s	**9.65**	**90**	*ePn*	**Pn**	**03 17 45.0**	**+1.1**
LPIG	**La Paz** comp=N,554nm,19.4s,baz=344,slow=38	**9.79**	**149**	LR	LR	03 21 43.7	
CLNB	**Carlsbad**	**10.06**	**89**	*ePn*	**Pn**	**03 17 51.6**	**+2.2**
TXAR	**Lajitas Array** comp=N,1.2nm,0.3s,baz=289,slow=14,SNR=22	**10.90**	**105**	Pn	**Pn**	**03 18 01.6**	**+0.6**
TXAR	comp=N,0.2nm,0.3s,baz=322,slow=23,SNR=4.5			Lg	Lg	03 21 07.6	
TXAR	comp=N,646nm,19.4s,baz=0.0,slow=39			LR	LR	03 22 24.1	
MSTX	**Muleshoe** comp=N,162nm,0.9s	**10.96**	**80**	*ePn*	**Pn**	**03 18 03.3**	**+1.5**
PDAR	**Pinedale Array** comp=N,0.1nm,0.3s,baz=171,slow=19,SNR=3.1	**11.22**	**24**	Pn	**Pn**	**03 18 07.5**	**+2.0**
YMR	**Madison River** comp=N,39nm,1.4s	**12.56**	**16**	*ePn*	Pn	03 18 27.5	+3.8
QLMT	**Earthquake Lak** comp=N,0.3nm,0.7s	**12.61**	**14**	*ePn*	Pn	03 18 29.3	+4.9
LRM	**Limekiln Ridge** comp=N,137nm,1.4s	**13.39**	**10**	*ePn*	P	03 18 40.1	-4.8
CHMT	**Chamberlain Mo** comp=N,14nm,1.2s	**14.37**	**7**	*ePn*	P	03 18 51.4	-4.2
RSSD	**Black Hills** comp=N,61nm,1.9s	**14.66**	**35**	*ePn*	**Pn**	**03 18 53.7**	**+1.2**
SLMT	**Seeley Lake** comp=N,122nm,1.2s	**14.67**	**6**	*ePn*	**Pn**	**03 18 54.3**	**+1.9**
SWMT	**Swartz Lake** comp=N,7.9nm,0.8s	**14.89**	**5**	*ePn*	**P**	**03 18 58.7**	**-2.7**
JTMT	**Jette** comp=N,14nm,0.8s	**15.11**	**4**	*ePn*	**P**	**03 19 02.2**	**-1.6**
W34A	**Bridge Creek,** comp=N,14nm,0.9s	**15.16**	**75**	*ePn*	**P**	**03 19 01.1**	**-3.2**
BSMT	**Bassoo Peak** comp=N,27nm,1.4s	**15.19**	**3**	*ePn*	**P**	**03 19 02.0**	**-2.8**
YBMT	**Yellow Bay** comp=N,8.2nm,0.9s	**15.24**	**5**	*ePn*	**P**	**03 19 04.2**	**-1.2**
BLMT	**Blacktail Moun** comp=N,37nm,1.5s	**15.37**	**4**	*ePn*	**P**	**03 19 04.7**	**-2.1**
U34A	**Anderson Ranch** comp=N,40nm,1.0s	**15.49**	**71**	*ePn*	**Pn**	**03 19 04.5**	**+1.1**
NEW	**Newport** comp=N,0.2nm,0.3s,baz=178,slow=14,SNR=7.8	**15.62**	**357**	Pn	**P**	**03 19 07.8**	**-1.6**
NEW	comp=N,438nm,21.8s,baz=196,slow=35			LR	LR	03 24 27.1	
LAO	**LASA Array** comp=N,16nm,0.9s	**15.80**	**25**	*ePn*	**P**	**03 19 10.0**	**-1.4**
EGMT	**Eagleton** comp=N,43nm,1.5s	**16.01**	**15**	*ePn*	**P**	**03 19 12.4**	**-1.3**
BGNE	**Belgrade** comp=N,44nm,1.1s	**16.54**	**53**	*ePn*	**P**	**03 19 18.0**	**-1.5**
TUL1	**Leonard** comp=N,41nm,1.3s	**16.83**	**73**	*ePn*	**P**	**03 19 21.2**	**-1.6**
HKT	**Hockley** comp=N,72nm,1.9s	**17.25**	**94**	*ePn*	**P**	**03 19 27.6**	**+0.2**
DGMT	**Dagmar** comp=N,16nm,1.0s	**18.04**	**26**	*ePn*	**P**	**03 19 37.5**	**+1.3**
MIAR	**Mount Ida** comp=N,39nm,1.1s	**18.59**	**78**	*ePn*	**Pn**	**03 19 41.5**	**-0.9**
ECSD	**EROS Data Cent** comp=N,8.2nm,1.0s	**18.63**	**48**	*ePn*	**Pn**	**03 19 43.2**	**+0.3**
EDM	**Edmonton** comp=N,95nm,1.5s	**20.62**	**4**	*eP*	Pn	03 20 05.3	-1.3
AGMN	**Agassiz Nation** comp=N,24nm,1.1s	**21.66**	**38**	*eP*	**P**	**03 20 16.3**	**+0.7**
OXF	**Oxford** comp=N,37nm,1.1s	**22.02**	**78**	*eP*	**P**	**03 20 19.9**	**+0.4**
ULM	**Lac du Bonnet** comp=N,10nm,1.1s,baz=229,slow=8.8,SNR=10	**22.93**	**34**	P	**P**	**03 20 29.9**	**+0.8**
OLIL	**Olney** comp=N,17nm,1.0s	**23.23**	**67**	*eP*	**P**	**03 20 33.1**	**+0.8**
WVT	**Waverly** comp=N,7.9nm,1.5s	**23.28**	**74**	*eP*	**P**	**03 20 34.1**	**+1.2**
CMIG	**Matias Romero** comp=N,4.8nm,0.7s,baz=313,slow=7.9,SNR=8.5	**24.41**	**124**	P	**P**	**03 20 46.6**	**+2.8**
BLO	**Bloomington** comp=N,24nm,1.1s	**24.50**	**66**	*eP*	**P**	**03 20 46.1**	**+1.7**
ACSO	**Alum Creek Sta** comp=N,33nm,0.9s	**27.32**	**65**	*eP*	**P**	**03 21 11.2**	**+1.2**
DLBC	**Dease Lake** comp=N,2.9nm,0.8s,baz=170,slow=4.3,SNR=5.8	**27.52**	**344**	P	**P**	**03 21 14.5**	**+2.8**
YKA	**Yellowknife Ar** comp=N,0.3nm,0.7s,baz=179,slow=8.7,SNR=7.7	**29.86**	**1**	P	**P**	**03 21 33.0**	**+0.7**
BINY	**Binghamton** comp=N,15nm,1.4s	**32.74**	**62**	*eP*	**P**	**03 21 59.8**	**+1.7**
ACCN	**Adirondack Com** comp=N,12nm,1.3s	**34.52**	**60**	*eP*	**P**	**03 22 14.8**	**+1.3**
JTS	**JuntasAbangare** comp=N,240nm,19.1s,baz=308,slow=36	**36.08**	**121**	LR	LR	03 36 58.0	
INK	**Inuvik** comp=N,3.0nm,1.0s,baz=140,slow=10,SNR=8.5	**37.13**	**349**	P	**P**	**03 22 37.0**	**+1.5**
ILAR	**Eielson Array** comp=N,1.3nm,0.9s,baz=154,slow=8.1,SNR=12	**37.37**	**339**	P	**P**	**03 22 39.6**	**+2.1**
RES	**Resolute Bay** comp=N,1.1nm,0.9s,baz=186,slow=6.7,SNR=3.2	**43.34**	**8**	P	**P**	**03 23 25.8**	**-1.2**
OTAV	**Otavalo** comp=N,13nm,1.4s	**47.70**	**125**	*eP*	P	03 24 05.2	+2.4
SUMG	**Summit** comp=N,3.6nm,1.0s	**55.39**	**21**	*i* P	P	03 25 03.3	+3.8
FINES	**FINESS Array B** comp=N,1.4nm,0.9s,baz=306,slow=6.6,SNR=4.2	**81.24**	**17**	P	P	03 27 43.5	+2.5
MDJ	**Mudanjiang** comp=N,10.0nm,1.5s	**82.83**	**319**	P PMZ	**P**	**03 27 49.1**	**-0.6**
MDJ	comp=N,45nm,4.4s			PMZ			
ZALV	**Zalesovo Beam** comp=N,0.4nm,0.3s,baz=24,slow=4.9,SNR=3.3	**91.92**	**348**	P	**P**	**03 28 34.3**	**+0.6**
BJI	**Beijing** comp=N,10.0nm,0.9s	**93.15**	**323**	P PMZ	**P**	**03 28 37.7**	**-1.9**
GTA	**Gaotai** comp=Z,4.0nm,1.4s	**101.06**	**333**	*eP*	**Pdif**	**03 29 08.2**	**-7.4**
GTA				pP	pP	03 29 13.0	-3.4
GTA				sP		03 29 15.2	
GTA	comp=Z,4.0nm,1.4s			pmax	pmax		
KSH	**Kashi** comp=Z,170nm,6.9s	**107.36**	**351**	*eP*dif	**Pdif**	**03 29 49.7**	**+6.1**
KSH				S	**Sdif**	**03 41 55.2**	**+7.0**
KSH	comp=Z,170nm,16.5s			PPMZ			
KSH	comp=Z,89nm,7.1s			LN			
KSH	comp=Z,140nm,7.4s			LE			
				LZ			

*IDC **05** 03:22:18.2±1.6, 7°.30S × 155°.08E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/33, mbtmp3.9/8, Error ellipse:*
s-maj=55.7km s-min=24.1km az=127.0
*ISCJB **05** 03:22:21.8±1.5, 7°.3S±0°.2 × 155°.0E±0°.3, h31km, mb3.9/8, Error ellipse: s-maj=51.3km s-min=20.0km az=36.9*
ISC 05 03:22:23.0±1.6, 7°.3S±0°.3 × 155°.1E±0°.3, h31km, n9, σ0^{s}78/9, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.9nm,0.9s,baz=61,slow=9.7,SNR=13	**23.68**	**236**	P	**P**	**03 27 31.7**	**-0.6**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=57,slow=8.8,SNR=8.8	**26.00**	**229**	P	**P**	**03 27 53.5**	**0.0**
CMAR	**Chiang Mai Arr** 1.6nm,0.3s,baz=110,slow=4.7,SNR=4.7	**61.00**	**296**	P	**P**	**03 32 34.7**	**+0.7**
SONM	**Songino Array** 0.8nm,0.8s,baz=141,slow=6.6,SNR=5.9	**69.66**	**327**	P	**P**	**03 33 29.4**	**-0.3**
ILAR	**Eielson Array** 0.9nm,1.0s,baz=243,slow=4.8,SNR=6.4	**83.66**	**21**	P	**P**	**03 34 47.6**	**-0.8**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=101,slow=6.3,SNR=11	**83.71**	**319**	P	**P**	**03 34 49.5**	**+0.5**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=104,slow=4.9,SNR=2.3	**84.50**	**326**	P	**P**	**03 34 51.8**	**-1.0**
YKA	**Yellowknife Ar** 0.6nm,0.8s,baz=270,slow=4.6,SNR=11	**96.60**	**28**	P	**P**	**03 35 50.6**	**+0.9**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=66,slow=2.6,SNR=3.5	**153.18**	**285**	PKPbc	**PKPbc**	**03 42 19.0**	**+0.1**

*NEIC **05** 03:32:06.2±0.9, 32°.18N × 115°.30W, h13km±6km, mb4.2/7, MD4.0(MEX), ML4.4(PAS), Error ellipse: s-maj=7.4km s-min=4.5km az=199.0*
*IDC **05** 03:32:09.4±1.9, 32°.45N × 114°.91W, h0km, mb3.8/6, mb1 4.0/11, mb1mx3.7/51, mbtmp3.8/11, ML3.3/4, MS3.7/5, Ms1 3.7/5, ms1mx3.3/43, Error ellipse: s-maj=35.0km s-min=13.8km az=44.0*
*MEX **05** 03:32:09.1±0.3, 32°.31N × 115°.14W, h20km±112km, MD4.0*
ISC 05 03:32:05.9±1.1, 32°.23N±0°.03 × 115°.25W±0°.02, h8km±9km, n91, σ1^{s}46/108, mb3.9/9, MS3.8/3, 15C-15D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.55**	**24**	⇑*iP*	**Pg**	**03 32 18.3**	**+1.6**
DREC	**Desert Rsrch C**	**0.59**	**344**	⇓*iP*	**Pb**	**03 32 19.1**	**+0.5**
ERPC	**Ernies Place**	**0.61**	**326**	*eP*	**Pb**	**03 32 19.2**	**+0.3**
WESC	**Westside Schoo**	**0.66**	**323**	*eP*	**Pb**	**03 32 20.0**	**+0.3**
YMD	**Yuma Desert**	**0.68**	**62**	*eP*	**Pg**	**03 32 20.0**	**+1.0**
SWSC	**Sam W. Stewart** baz=0.9	**0.84**	**327**	⇑P	**Pg**	**03 32 22.0**	**-0.1**
GLA	**Glamis** baz=0.9	**0.89**	**24**	⇑P	**Pb**	**03 32 23.0**	**-0.7**
GLA	baz=0.9			⇓S	**Sg**	**03 32 35.2**	**+0.4**
GLA	**Glamis**	**0.89**	**24**	*ePg*	**Pb**	**03 32 23.0**	**-0.7**
GLA				*eS*	**Sg**	**03 32 35.9**	**+1.2**
MONP	**Monument Peak,** baz=1.2	**1.18**	**304**	⇑P	**Pn**	**03 32 27.7**	**-1.2**
MONP	baz=1.2			⇑S	**Sb**	**03 32 43.9**	**-0.3**
CBX	**Cerro Bola**	**1.20**	**274**	*eP*	**Pg**	**03 32 28.9**	**0.0**
CBX				*eS*	**Sg**	**03 32 44.0**	**-0.4**
CBX	**Cerro Bola**	**1.20**	**274**	*eP*	**Pg**	**03 32 28.9**	**0.0**
CBX				*eS*	**Sg**	**03 32 44.0**	**-0.4**
SPIG	**San Pedro Mart**	**1.20**	**189**	*eP*	**Pg**	**03 32 28.9**	**-0.1**
SPIG				*eS*	**Sn**	**03 32 44.8**	**-1.0**
SPIG	**San Pedro Mart**	**1.20**	**189**	*eP*	**Pg**	**03 32 28.9**	**-0.1**
SPIG				*eS*	**Sn**	**03 32 44.8**	**-1.0**
BAR	**Barrett**	**1.28**	**291**	*ePn*	**Pn**	**03 32 29.7**	**-0.4**
BAR				*eS*	**Sn**	**03 32 46.5**	**-0.9**
113A	**Mohawk Valley,** baz=1.4	**1.36**	**67**	⇑P	**Pn**	**03 32 30.5**	**-0.7**
113A	baz=1.4			⇓S	**Sn**	**03 32 47.7**	**-1.8**
BC3	**Big Chuckawall** baz=1.5	**1.43**	**353**	⇑P	**Pn**	**03 32 30.9**	**-1.3**
BC3	baz=1.5			⇑S	**Sn**	**03 32 49.2**	**-2.0**
Y12C	**Blythe** baz=1.7	**1.63**	**22**	⇑P	**Pn**	**03 32 34.0**	**-0.9**
Y12C	baz=1.7			⇑S	**Sn**	**03 32 54.4**	**-1.7**
109C	**Camp Elliot, M** baz=1.7	**1.69**	**293**	⇓P	**Pn**	**03 32 35.3**	**-0.4**
109C	baz=1.7			⇑Sb	**Sb**	**03 32 59.0**	**+0.3**
PFO	**Pinyon Flats O** baz=142,slow=13	**1.70**	**324**	Pn	**Pn**	**03 32 34.9**	**-1.1**
PFO	**Pinyon Flats O** baz=1.8	**1.70**	**324**	⇓P	**Pn**	**03 32 34.6**	**-1.4**
PFO	**Pinyon Flats O**	**1.70**	**324**	*ePn*	**Pn**	**03 32 34.6**	**-1.4**
PFO				*eS*	**Sn**	**03 32 56.2**	**-1.8**
BELC	**Belle Mtn. Jos** baz=1.9	**1.87**	**341**	⇓P	**Pn**	**03 32 36.8**	**-1.5**
IRM	**Iron Mountain** baz=2.0	**1.92**	**3**	⇑P	**Pn**	**03 32 37.9**	**-1.1**
214A	**Organ Pipe Nat** baz=2.1	**2.09**	**97**	⇓P	**Pn**	**03 32 40.0**	**-1.2**
214A	**Organ Pipe Nat**	**2.09**	**97**	*ePn*	**Pn**	**03 32 40.0**	**-1.2**
214A				*eS*	**Sb**	**03 33 12.7**	**+2.5**
MURC	**Murrieta** baz=2.2	**2.13**	**310**	⇓P	**Pn**	**03 32 40.7**	**-1.1**
MURC	baz=2.2			⇓Sb	**Sb**	**03 33 12.4**	**+1.0**
Z14A	**Wintersburg** baz=2.3	**2.25**	**59**	⇑P	**Pn**	**03 32 42.9**	**-0.4**
Y14A	**Wickenburg** baz=2.6	**2.54**	**47**	⇑P	**Pn**	**03 32 47.1**	**-0.4**
GMRC	**Granite Mounta** baz=2.6	**2.56**	**353**	⇓P	**Pn**	**03 32 46.7**	**-1.1**
BFSC	**Mount Baldy Ra** baz=2.9	**2.84**	**315**	⇓P	**Pn**	**03 32 50.5**	**-1.1**
LDFC	**Landfair**	**2.84**	**2**	*ePn*	**Pn**	**03 32 52.3**	**+0.7**
SCI	**San Clemente I** baz=2.9	**2.88**	**286**	⇓P	**Pn**	**03 32 51.3**	**-0.7**
CIS	**Catalina Islan** baz=2.9	**2.90**	**295**	⇓P	**Pn**	**03 32 52.0**	**-0.4**
CIS	baz=2.9			⇓Sb	**Sb**	**03 33 35.0**	**+1.5**
FMP	**Fort Macarthur** baz=3.0	**2.95**	**301**	⇓Sb	**Sb**	**03 33 36.3**	**+1.4**
MWC	**Mount Wilson**	**3.08**	**311**	*ePn*	**Pn**	**03 32 55.3**	**+0.3**
MWC				*eS*	**Sb**	**03 33 41.8**	**+3.1**
PASC	**Pasadena Art C**	**3.13**	**309**	*ePn*	**Pn**	**03 32 53.5**	**-2.0**
PASC				*eS*	**Sb**	**03 33 43.2**	**+3.2**
GSC	**Goldstone, Bar

66nm,0.8s
LPM Los Pinos Moun 7.51 72 *e*Pn **Pn 03 33 56.6 +0.7**
13nm,0.6s
TMUT Trail Mountain 7.78 24 *e*Pn Pn 03 34 03.3 +3.7
ANMO Albuquerque 7.82 67 Pn **Pn 03 34 01.9 +1.8**
0.3nm,0.3s,baz=254,slow=12,SNR=16
ANMO LR LR 03 37 17.8
comp=Z,455nm,19.1s,baz=252,slow=41
ANMO Albuquerque 7.82 67 *e*Pn **Pn 03 34 01.0 +0.8**
SRU San Rafael Swe 7.87 28 *e*Pn **Pn 03 34 02.5 +1.7**
35nm,0.8s
PV01 Paradox Valley 8.04 41 *e*Pn **Pn 03 34 03.4 +0.3**
DUG Dugway, Tooele 8.19 13 *e*Pn **Pn 03 34 05.0 0.0**
MNTX Cornudas Mount 8.40 91 *e*Pn **Pn 03 34 07.8 -0.1**
ELK Elko 8.49 0 Pn **Pn 03 34 11.8 +2.4**
0.1nm,0.3s,baz=360,slow=1.4,SNR=3.3
ELK Elko 8.49 0 *e*Pn **Pn 03 34 08.3 -1.1**
BGU Big Grassy Mou 8.86 11 *e*Pn **Pn 03 34 15.2 +0.9**
TCUT Toone Canyon 9.39 18 *e*Pn **Pn 03 34 23.1 +1.4**
SDCO Great Sand Dun 9.71 53 *e*Pn **Pn 03 34 28.7 +2.6**
O20A White River Ci 9.71 34 *e*Pn **Pn 03 34 28.8 +2.8**
TXAR Lajitas Array 10.38 103 Pn **Pn 03 34 37.5 +2.3**
1.7nm,0.3s,baz=282,slow=13,SNR=88
MSTX Muleshoe 10.61 77 *e*Pn **Pn 03 34 40.9 +2.5**
ISCO Idaho Springs 10.85 43 *e*Pn **Pn 03 34 42.9 +1.1**
PDAR Pinedale Array 11.44 22 Pn Pn 03 34 53.0 +3.2
0.0nm,0.3s,baz=232,slow=4.4,SNR=2.0
AMTX Amarillo 11.63 73 *e*Pn **Pn 03 34 50.8 -1.4**
HAWA Hanford 14.52 348 *e*Pn **Pn 03 35 30.6 -1.0**
SLMT Seeley Lake 15.05 5 *e*Pn **Pn 03 35 37.4 -1.5**
16nm,1.6s
V34A Guthrie 15.14 71 *e*Pn **Pn 03 35 37.8 -2.2**
25nm,1.0s
JTMT Jette 15.51 2 Pn **Pn 03 35 46.4 +1.4**
24nm,1.7s
NEW Newport 16.07 355 Pn **P 03 35 56.5 +0.9**
0.1nm,0.3s,baz=167,slow=12,SNR=6.7
NEW LR LR 03 42 32.4
comp=Z,200nm,21.9s,baz=356,slow=39
TUL1 Leonard 16.54 72 *e*Pn **Pn 03 35 56.3 -1.9**
18nm,0.9s
MIAR Mount Ida 18.25 77 *e*Pn **P 03 36 20.3 +0.6**
5.3nm,0.8s
AGMN Agassiz Nation 21.73 37 *e*P **P 03 36 59.0 +1.5**
19nm,1.1s
BBB Bella Bella 22.03 339 LR LR 03 45 44.3
comp=Z,334nm,18.7s,baz=137,slow=37
WVT Waverly 22.99 73 *e*P **P 03 37 10.3 -0.6**
5.9nm,0.9s
ULM Lac du Bonnet 23.04 33 P **P 03 37 13.3 +1.9**
3.5nm,0.9s,baz=244,slow=11,SNR=5.9
CMIG Matias Romero 23.81 124 LR LR 03 47 23.8
comp=Z,294nm,19.0s,baz=344,slow=39
TKL Tuckaleechee C 26.28 74 P **P 03 37 45.9 +4.1**
2.3nm,0.9s,baz=294,slow=2.8,SNR=3.7
TKL LR LR 03 47 37.3
comp=Z,113nm,18.4s,baz=168,slow=36
DLBC Dease Lake 28.06 343 P P 03 38 01.5 +3.9
1.6nm,0.8s,baz=197,slow=14,SNR=3.9
YKA Yellowknife Ar 30.28 1 P P 03 38 20.7 +3.6
0.1nm,0.7s,baz=177,slow=9.1,SNR=4.0
INK Inuvik 37.63 349 P P 03 39 24.2 +3.4
2.3nm,1.0s,baz=140,slow=7.7,SNR=6.0
ILAR Eielson Array 37.92 339 P P 03 39 27.0 +3.6
1.7nm,0.8s,baz=150,slow=7.3,SNR=17
FINES FINESS Array B 81.51 18 P P 03 44 26.6 +3.1
0.9nm,0.7s,baz=349,slow=1.9,SNR=5.9

SJA ***05*** *03:32:12.2±1.4, 33°.55S×71°.08W, h104km±42km, ML4.3*
BJI ***05*** *03:32:12.9, 33°.30S×71°.10W, h50km, mB4.8/1, Ms7 4.5/1*
ISCJB ***05*** *03:32:13.8±0.3, 33°.39S±0°.03×71°.12W±0°.05, h79km±2km, mb4.5/21, Error ellipse: s-maj=6.6km s-min=4.3km az=19.7*
GUC ***05*** *03:32:14.7±0.5, 33°.39S×71°.01W, h69km±4km, ML4.8*
NEIC ***05*** *03:32:14.0, 33°.39S×71°.03W, h67km, mb4.6/9, After GUC.*
NEIC Felt [V] in Talagante and at Maipo, Melipilla, San Antonio and San Fernando; [IV] at Buin, Casablanca, Casas de Chacabuco, Graneros, Puente Alto, Quillota, Quilpue, Rancagua, San Bernardo, Santiago and Valparaiso; [III] at Colina, La Calera, Machali, San Felipe, Villa Alemana and Vina del Mar; [II] at Curico. Also felt at El Monte, La Ligua, Lampa, Limache, Los Andes, Paine, Penaflor, Rengo and San Vicente.
IDC ***05*** *03:32:15.3±0.7, 33°.33S×70°.77W, h72km±6km, mb4.1/11, mb1 4.3/14, mb1mx3.9/30, mbtmp4.5/14, MS3.7/1, Ms1 3.7/1, ms1mx3.2/25, Error ellipse: s-maj=19.1km s-min=14.4km az=82.0*
ISC 05 03:32:14.2±0.5, 33°.39S±0°.03×71°.09W±0°.04, h67km±4km, n90, σ1°.43/110, mb4.5/21, 13C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAN	**Santiago**	**0.36**	**100**	↓*i* P	**Pn**	**03 32 26.0**	**+0.5**
SAN				*i* S	**Sn**	**03 32 34.4**	**+0.5**
SAN	**Santiago**	**0.36**	**100**	↓*i* P	**Pn**	**03 32 26.0**	**+0.5**
SAN				*i* S	**Sn**	**03 32 34.4**	**+0.5**
PEL	**Peldehue**	**0.42**	**54**	↓*i* P	**Pn**	**03 32 26.7**	**+0.6**
PEL				*i* S	**Sn**	**03 32 35.5**	**+0.7**
PEL				AML	AML	03 32 38.9	
	comp=N,39μm,0.2s						
PEL	**Peldehue**	**0.42**	**54**	↓*i* P	**Pn**	**03 32 26.7**	**+0.6**
PEL				*i* S	**Sn**	**03 32 35.5**	**+0.7**
ROCH	**El Roble**	**0.42**	**9**	↑*i* P	**Pn**	**03 32 27.2**	**+0.9**
ROCH				*i* S	**Sn**	**03 32 37.1**	**+2.0**
ROCH				AML	AML	03 32 37.7	
	comp=N,40μm,0.2s						
ROCH	**El Roble**	**0.42**	**9**	↑*i* P	**Pn**	**03 32 27.2**	**+0.9**
ROCH				*i* S	**Sn**	**03 32 37.1**	**+2.0**
CLCH	**Cerro Calan**	**0.46**	**91**	↑*i* P	**Pn**	**03 32 26.9**	**+0.4**
CLCH				*i* S	**Sn**	**03 32 36.4**	**+0.9**
CLCH				AML	AML	03 32 37.5	
	comp=E,137μm,0.9s						
CLCH				AML	AML	03 32 38.1	
	comp=E,167μm,0.9s						
LACH	**Col Las Americ**	**0.47**	**98**	↑*i* P	**Pn**	**03 32 26.6**	**+0.1**
LACH				*i* S	**Sn**	**03 32 36.1**	**+0.5**
LACH				AML	AML	03 32 36.6	
	comp=E,84μm,0.4s						
LACH	**Col Las Americ**	**0.47**	**98**	↑*i* P	**Pn**	**03 32 26.6**	**+0.1**
LACH				*i* S	**Sn**	**03 32 36.1**	**+0.5**
FSR	**Penalolen**	**0.48**	**101**	↑*i* P	**Pn**	**03 32 28.0**	**+1.4**
FSR				*i* S	**Sn**	**03 32 37.5**	**+1.8**
FSR	**Penalolen**	**0.48**	**101**	↑*i* P	**Pn**	**03 32 28.0**	**+1.4**
FSR				*i* S	**Sn**	**03 32 37.5**	**+1.8**
IHA	**Instituto Hidr**	**0.59**	**308**	↑*i* P	**Pn**	**03 32 29.2**	**+1.6**
IHA	**Instituto Hidr**	**0.59**	**308**	↑*i* P	**Pn**	**03 32 29.2**	**+1.6**
LNV	**Longovilo**	**0.62**	**205**	↓*i* P	**Pn**	**03 32 28.9**	**+0.9**
LNV	**Longovilo**	**0.62**	**205**	↓*i* P	**Pn**	**03 32 28.9**	**+0.9**
CHCH	**Chadas Angostu**	**0.65**	**146**	↓*i* P	**Pn**	**03 32 28.8**	**+0.4**
CHCH	**Chadas Angostu**	**0.65**	**146**	↓*i* P	**Pn**	**03 32 28.8**	**+0.4**
FCH	**Farellones**	**0.67**	**85**	AML	AML	03 31 47.6	
	comp=N,72μm,0.6s						
NICH	**Los Niches**	**1.61**	**184**	↓*i* P	**Pn**	**03 32 41.8**	**+1.2**
NICH				*i* S	**Sn**	**03 33 02.3**	**+1.7**
NICH	**Los Niches**	**1.61**	**184**	↓*i* P	**Pn**	**03 32 41.8**	**+1.2**
NICH				*i* S	**Sn**	**03 33 02.3**	**+1.7**
AUSP	**Uspallata**	**1.85**	**51**	*i* P	**Pn**	**03 32 46.0**	**+2.0**
AUSP				*i* S	**Sn**	**03 33 10.8**	**+4.2**
ARCO	**CERRO ARCO**	**1.89**	**74**	*i* P	**Pn**	**03 32 46.0**	**+1.5**
ARCO				*i* S	**Sn**	**03 33 09.8**	**+2.3**
ARCO				AML	AML	03 33 18.1	
	comp=Z,2μm,0.6s						
AAGR	**Agrelo**	**1.92**	**82**	*i* P	**Pn**	**03 32 46.4**	**+1.6**
AAGR				*i* S	**Sn**	**03 33 10.5**	**+2.4**
TALC	**Talca**	**2.05**	**192**	↑*i* P	**Pn**	**03 32 47.9**	**+1.3**
TALC				*i* S	**Sn**	**03 33 12.9**	**+1.8**
TALC	**Talca**	**2.05**	**192**	↑*i* P	**Pn**	**03 32 47.9**	**+1.3**
TALC				*i* S	**Sn**	**03 33 12.9**	**+1.8**
ASAL	**Salagasta**	**2.06**	**68**	*i* P	**Pn**	**03 32 48.5**	**+1.8**
ASAL				*i* S	**Sn**	**03 33 13.8**	**+2.5**
AVIZ	**Vizcacheras**	**2.15**	**93**	*i* P	**Pn**	**03 32 46.9**	**-1.1**
RTLS	**Leoncito**	**2.19**	**44**	*i* P	**Pn**	**03 32 50.4**	**+1.8**
RTLS				*i* P	**Pn**	**03 32 50.4**	**+1.8**
CMCH	**Combarbala**	**2.21**	**2**	↑*i* P	**Pn**	**03 32 49.2**	**+0.4**
CMCH				*i* S	**Sn**	**03 33 15.7**	**+0.6**
CMCH	**Combarbala**	**2.21**	**2**	↑*i* P	**Pn**	**03 32 49.2**	**+0.4**
CMCH				*i* S	**Sn**	**03 33 15.7**	**+0.6**
SJA	**San Juan**	**2.83**	**50**	*i* P	**Pn**	**03 32 58.5**	**+1.3**
SJA				AML	AML	03 34 12.8	
	comp=Z,714nm,0.7s						
CFAA	**Coronel Fontan**	**3.00**	**54**	P	**Pn**	**03 33 00.7**	**+1.3**
	comp=Z,14nm,0.3s,baz=229,slow=12,SNR=960						
CFAA				S	**Sn**	**03 33 36.2**	**+2.0**
	comp=Z,10.0nm,0.3s,baz=237,slow=11,SNR=7.8						
RTLL	**Cerro Villicun**	**3.02**	**48**	*i* P	**Pn**	**03 33 01.0**	**+1.3**
RTLL				*i* S	**Sn**	**03 33 37.6**	**+2.8**
AVFE	**Valle Fertil**	**4.12**	**50**	*i* P	**Pn**	**03 33 15.3**	**+0.6**
LCO	**Las Campanas**	**4.38**	**4**	*e*Pn	**Pn**	**03 33 18.0**	**-0.5**
LCO				*e*Sn	**Sn**	**03 34 06.3**	**-2.0**
PLCA	**Paso Flores**	**7.34**	**177**	P	**Pn**	**03 33 59.5**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=347,slow=11,SNR=29						
PLCA	**Paso Flores**	**7.34**	**177**	*e*Pn	**Pn**	**03 33 58.7**	**-0.1**
	comp=Z,25nm,0.9s						
TRQA	**Tornquist**	**8.75**	**125**	*e*Pn	**Pn**	**03 34 17.4**	**-0.6**
	comp=Z,108nm,0.8s						
LVC	**Limon Verde**	**10.91**	**11**	*e*Pn	Pn	03 34 42.9	-4.8
	comp=Z,41nm,1.1s						
LVC				*e*S	Sn	03 36 56.9	+8.7
LPAZ	**La Paz**	**17.24**	**10**	P	**Pn**	**03 36 11.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=194,slow=9.8,SNR=25						
LPAZ	**La Paz**	**17.24**	**10**	*e*Pn	**Pn**	**03 36 10.3**	**-0.9**
	comp=Z,22nm,0.9s						
SIV	**San Ignacio**	**19.55**	**30**	P	**P**	**03 36 35.6**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=220,slow=10,SNR=100						
EFI	**East Falkland**	**20.58**	**156**	*e*P	**P**	**03 36 46.5**	**-0.9**
	comp=Z,68nm,1.0s						
USHA	**Ushuaia**	**21.52**	**176**	P	**P**	**03 36 59.4**	**+2.0**
	comp=Z,28nm,0.8s,baz=349,slow=7.2,SNR=18						
SAML	**Samuel**	**25.39**	**18**	*e*P	**P**	**03 37 34.5**	**-1.0**
	comp=Z,13nm,0.9s						
ATAH	**Atahualpa**	**26.99**	**344**	LR	LR	03 47 05.1	
	comp=Z,166nm,21.8s,baz=244,slow=33						
BDFB	**Brasilia**	**27.34**	**55**	P	**P**	**03 37 51.9**	**-1.3**
	comp=Z,19nm,0.9s,baz=224,slow=8.0,SNR=23						
HOPE	**Hope Point**	**32.06**	**141**	*e*P	**P**	**03 38 34.8**	**+0.4**
	comp=Z,31nm,0.9s						
RPN	**Rapa Nui**	**33.48**	**270**	P	P	03 38 52.0	+4.8
	comp=Z,28nm,0.3s,baz=120,slow=6.4,SNR=4.5						
ROSC	**El Rosal**	**38.16**	**355**	P	P	03 39 31.4	+3.7
	comp=Z,3.4nm,0.6s,baz=60,slow=18,SNR=4.7						
SDV	**Santo Domingo**	**42.04**	**1**	*e*P	**P**	**03 39 58.6**	**-0.9**
	comp=Z,3.2nm,0.8s						
VNA3	**Neumayer Olymp**	**49.63**	**158**	P	**P**	**03 40 57.6**	**-0.9**
VNA2	**Neumayer--Watz**	**50.27**	**157**	P	**P**	**03 41 03.4**	**+0.1**
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**03 41 15.8**	**+0.5**
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**03 41 16.0**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=250,slow=10.0,SNR=11						
SNAA	**Sanae**	**51.85**	**158**	*e*P	**P**	**03 41 15.7**	**+0.4**
	comp=Z,4.0nm,0.6s						
SYO	**Syowa Base**	**66.14**	**158**	‖*e*pP	P	03 43 01.0	+7.0
TXAR	**Lajitas Array**	**69.60**	**330**	P	**P**	**03 43 17.5**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=150,slow=8.4,SNR=7.9						
TXAR				pP	**pP**	**03 43 36.5**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=153,slow=8.8,SNR=4.2						
TKL	**Tuckaleechee C**	**69.71**	**349**	P	**P**	**03 43 16.6**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=160,slow=7.3,SNR=6.1						
TKL				pP	**PcP**	**03 43 37.6**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=156,slow=9.4,SNR=3.6						
LIC	**Lamto**	**73.83**	**71**	*e*P	**P**	**03 43 41.1**	**-0.9**
	comp=Z,35nm,1.2s						
ACSO	**Alum Creek Sta**	**74.08**	**351**	*e*P	**P**	**03 43 42.7**	**-0.1**
	comp=Z,5.7nm,0.8s						
TIC	**Toumodi**	**74.09**	**71**	*e*P	**P**	**03 43 42.7**	**-0.8**
	comp=Z,2.0nm,0.2s						
KIC	**Kosan Boka**	**74.14**	**71**	*e*P	**P**	**03 43 42.7**	**-1.1**
	comp=Z,36nm,1.2s						
DBIC	**Dimbokro**	**74.23**	**71**	P	**P**	**03 43 43.6**	**-0.8**
	comp=Z,4.3nm,0.6s,baz=188,slow=4.9,SNR=9.2						
DBIC	**Dimbokro**	**74.23**	**71**	P	**P**	**03 43 44.2**	**-0.2**
	comp=Z,4.9nm,0.7s						
BOSA	**Boshof**	**79.65**	**117**	P	**P**	**03 44 14.6**	**-0.3**
	comp=Z,20nm,1.4s,baz=176,slow=2.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.26**	**70**	P	**P**	**03 44 33.5**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=288,slow=6.3,SNR=35						
PDAR	**Pinedale Array**	**83.58**	**333**	P	**P**	**03 44 36.1**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=183,slow=3.0,SNR=4.7						
NVAR	**Mina Array Bea**	**83.84**	**325**	P	**P**	**03 44 38.5**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=147,slow=6.5,SNR=4.0						
MDND	**Maddock**	**84.82**	**341**	*e*P	**P**	**03 44 40.3**	**-0.7**
	comp=Z,12nm,0.8s						
ULM	**Lac du Bonnet**	**86.12**	**344**	P	**P**	**03 44 47.2**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=167,slow=5.2,SNR=7.0						
ULM				pP	**pP**	**03 45 06.7**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=195,slow=3.3,SNR=3.7						
YKA	**Yellowknife Ar**	**101.74**	**341**	P	**Pdif**	**03 45 58.2**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=144,slow=4.4,SNR=7.8						
YKA				pP	pP	03 46 18.6	+0.8
	comp=Z,0.2nm,0.6s,baz=147,slow=4.9,SNR=4.1						
BRTR	**Keskin Array B**	**120.85**	**60**	PKP	**PKPdf**	**03 50 58.0**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=180,slow=3.6,SNR=4.0						
AKASG	**Malin Array Be**	**121.20**	**47**	PKP	**PKPdf**	**03 50 57.6**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=262,slow=3.0,SNR=4.4						
WRA	**Warramunga Arr**	**121.67**	**208**	PKP	**PKPdf**	**03 51 00.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=155,slow=1.8,SNR=14						
WRA				pPKP	**pPKPdf**	**03 51 20.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=160,slow=1.7,SNR=2.9						
ARCES	**ARCESS Array B**	**123.13**	**25**	PKP	**PKPdf**	**03 51 01.9**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=236,slow=4.1,SNR=9.7						
H11S2	**WAKE ISLAND Hyl**	**126.57**	**269**	T	T	06 10 20.7	
	baz=118,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hyl**	**126.58**	**269**	T	T	06 10 35.0	
	baz=118,slow=75,SNR=109						
H11S3	**WAKE ISLAND Hyl**	**126.59**	**269**	T	T	06 10 22.0	
	baz=118,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hyl**	**126.97**	**271**	T	T	06 10 48.0	
	baz=113,slow=78,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**126.98**	**270**	T	T	06 10 56.0	
	baz=113,slow=78,SNR=9.4						
H11N2	**WAKE ISLAND Hyl**	**126.99**	**271**	T	T	06 10 50.0	
	baz=113,slow=78,SNR=37						
KKAR	**Karatay Array**	**148.56**	**61**	*e*PKPbc	**PKPbc**	**03 51 53.1**	**-0.2**
AAK	**Ala-Archa**	**151.52**	**61**	*e*PKPbc	**PKPbc**	**03 52 01.3**	**+0.6**
ZALV	**Zalesovo Beam**	**153.29**	**32**	PKPbc	**PKPbc**	**03 52 04.0**	**0.0**
	comp=Z,5.5nm,0.6s,baz=300,slow=3.2,SNR=24						
MKAR	**Makanchi Array**	**155.77**	**49**	PKPbc	PKPbc	03 52 09.7	
	comp=Z,0.5nm,0.8s,baz=304,slow=1.4,SNR=4.7						
MKAR				PKPab	**PKPab**	**03 52 26.6**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=306,slow=4.8,SNR=17						
MDJ	**Mudanjiang**	**160.46**	**311**	PKP	**PKPdf**	**03 52 06.4**	**+0.5**
WMQ	**Urumqi**	**160.47**	**52**	*e*PKP	**PKPdf**	**03 52 07.8**	**+1.7**
WMQ				pPKP	**pPKPdf**	**03 52 19.0**	**-6.5**
HHC	**Hu-ho-hao-te**	**172.26**	**345**	*e*PKP	**PKPdf**	**03 52 14.5**	**-0.9**
HHC				PP	**PP**	**03 57 32.2**	**+2.0**
HHC				SKKS		04 04 12.9	
HHC				SS	**SS**	**04 18 35.5**	**+0.9**
HHC				PPMZ			
	comp=Z,92nm,8.2s						
HHC				LZ			
	comp=Z,61nm,16.0s						
CD2	**Chengdu**	**174.98**	**118**	PKP	**PKPdf**	**03 52 14.8**	**-1.8**

IDC 05 03:34:08.4±3.2, 26°.18N×141°.39E, h52km±29km, mb3.4/5, mb1 3.6/5, mb1mx3.2/39, mbtmp3.7/5, MS3.7/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=59.1km s-min=17.3km az=107.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.15**	**38**	P	Pn	03 34 29.4	+1.1
	106nm,0.3s,baz=68,slow=23,SNR=112						
JCJ				S	Sn	03 34 43.0	0.0
	93nm,0.3s,baz=290,slow=23,SNR=40						
CMAR	**Chiang Mai Arr**	**39.87**	**268**	LR	LR	03 59 37.5	
	comp=Z,107nm,19.8s,baz=137,slow=38						
WRA	**Warramunga Arr**	**46.36**	**189**	P	P	03 42 30.0	+0.4
	3.2nm,0.7s,baz=11,slow=8.7,SNR=18						
ASAR	**Alice Springs**	**50.08**	**189**	P	P	03 42 57.1	-1.1
	0.2nm,0.3s,baz=20,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**58.85**	**28**	P	P	03 44 01.8	+0.4
	0.3nm,0.7s,baz=238,slow=5.2,SNR=3.9						
YKA	**Yellowknife Ar**	**73.28**	**28**	P	P	03 45 34.4	+0.5
	0.4nm,0.8s,baz=291,slow=6.2,SNR=6.9						
FINES	**FINESS Array B**	**78.45**	**334**	P	P	03 46 02.9	-0.6
	0.7nm,0.7s,baz=113,slow=3.6,SNR=8.4						

IDC 05 03:36:03.8±12.0, 4°.70S×154°.12E, h102km±81km, mb3.3/3, mb1 3.7/4, mb1mx3.3/32, mbtmp3.9/4, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.2/16, Error ellipse: s-maj=161.4km s-min=32.9km az=100.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.33**	**236**	P	Pn	03 38 01.6	-0.2
	5.0nm,0.3s,baz=42,slow=6.9,SNR=23						
PMG				S	Sn	03 39 26.8	-7.6
	0.7nm,0.3s,baz=14,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**24.50**	**230**	P	P	03 41 14.2	+0.4
	2.3nm,0.4s,baz=54,slow=10.0,SNR=41						
ASAR	**Alice Springs**	**27.12**	**224**	P	P	03 41 37.1	-0.3
	0.3nm,0.4s,baz=55,slow=8.8,SNR=6.9						
RAO	**Raoul Island**	**36.02**	**136**	LR	LR	03 54 54.3	
	comp=Z,243nm,18.0s,baz=240,slow=31						
KSRS	**Korea Array**	**48.52**	**332**	LR	LR	04 02 54.6	
	comp=Z,40nm,20.4s,baz=185,slow=33						
SONM	**Songino Array**	**66.95**	**327**	P	P	03 46 45.9	+0.3
	0.1nm,0.4s,baz=124,slow=4.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**151.52**	**289**	PKPbc	PKPbc	03 55 46.4	-0.7
	0.3nm,0.6s,baz=75,slow=2.5,SNR=7.1						

NEIC 05 03:59:25.3, 32°.44N×115°.66W, h7km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**0.93**	**49**	*e*Pg	Pg	03 59 41.4	-1.9
GLA				*e*S	Sg	03 59 53.2	-2.2
PFO	**Pinyon Flats O**	**1.34**	**330**	*e*Pn	Pn	03 59 47.7	-3.0
PFO				*e*S	Sb	04 00 04.3	-4.3
214A	**Organ Pipe Nat**	**2.46**	**101**	*e*Pn	Pn	04 00 04.1	-1.9
214A				*e*S	Sn	04 00 33.1	-3.2
LDFC	**Landfair**	**2.67**	**10**	*e*Pn	Pn	04 00 06.6	-2.4
MWC	**Mount Wilson**	**2.69**	**312**	*e*Pn	Pn	04 00 02.3	-6.9
MWC				*e*S	Sb	04 00 46.8	-0.5
PASC	**Pasadena Art C**	**2.73**	**310**	*e*Pn	Pn	04 00 07.1	-2.6
PASC				*e*S	Sb	04 00 48.6	+0.3
GSC	**Goldstone, Bar**	**3.01**	**342**	*e*Pn	Pn	04 00 07.2	-6.4
GSC				*e*S	Sb	04 00 59.0	+2.5
OSI	**Osito Audit: C**	**3.36**	**311**	*e*Pn	Pn	04 00 17.2	-1.1
OSI				*e*S	Sn	04 00 57.9	-0.6
ISA	**Isabella, Lake**	**3.98**	**325**	*e*Pn	Pn	04 00 25.4	-1.5
ISA				*e*Pg	Pb	04 00 36.3	+0.4
ISA				*e*S	Sb	04 01 26.8	+2.5
SHPR	**Sheep Range**	**4.08**	**6**	*e*Pn	Pn	04 00 26.4	-2.0
SHPR				Pg	Pg	04 00 43.6	-0.1
SHPR				*e*S	Sg	04 01 33.0	-2.8
TUC	**Tucson**	**4.12**	**91**	*e*Pn	Pn	04 00 26.5	-2.4
TUC				*e*S	Sn	04 01 13.7	-3.7
CCUT	**Cedar City**	**5.43**	**20**	*e*Pn	Pn	04 00 45.6	-1.5
	2.9nm,0.5s						
CCUT				*e*S	Sg	04 02 17.6	-2.9
121A	**Cookes Peak, D**	**6.65**	**87**	*e*Pn	Pn	04 01 01.4	-2.4
	3.3nm,0.4s						
LAZ	**Ladron**	**7.38**	**72**	*e*Pn	Pn	04 01 13.3	-0.5

NEIC 05 04:07:01.2, 32°.25N×115°.27W, h7km, ML3.6(PAS), 1C-4D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.55**	**26**	P	Pg	04 07 12.0	+0.3
ERPC	**Ernies Place**	**0.60**	**326**	↓P	Pg	04 07 12.5	-0.3
COA	**Coachella**	**0.63**	**11**	↓P	Pg	04 07 13.3	-0.1
WESC	**Westside Schoo**	**0.65**	**323**	↑P	Pg	04 07 14.2	+0.5
COK	**Cook Ranch**	**0.72**	**327**	P	Pg	04 07 14.2	-0.8
GLA	**Glamis**	**0.89**	**25**	*e*Pg	Pg	04 07 16.3	-2.0
GLA				*e*S	Sg	04 07 28.0	-1.9
BAR	**Barrett**	**1.27**	**290**	Pn	Pn	04 07 20.6	-4.8
BAR				*e*S	Sb	04 07 39.2	-2.8
CPE	**Camp Elliot**	**1.68**	**293**	↓P	Pb	04 07 31.8	-0.7
CPE				S	Sn	04 07 50.9	-1.9
PFO	**Pinyon Flats O**	**1.69**	**324**	Pn	Pn	04 07 30.3	-1.0
BZNA	**Buzz No.'s Pla**	**1.71**	**317**	↓P	Pb	04 07 32.5	-0.8

NEIC 05 04:07:42.0, 32°.43N×115°.58W, h6km, ML3.7(PAS), 1C-2D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPC	**Ernies Place**	**0.32**	**348**	*e*P	Pg	04 07 48.3	+0.1
WESC	**Westside Schoo**	**0.35**	**339**	↓*i*P	Pg	04 07 48.7	-0.1
YUH	**Yuha Desert**	**0.36**	**307**	↓*i*P	Pg	04 07 48.5	-0.5
COK	**Cook Ranch**	**0.44**	**344**	↑*i*P	Pg	04 07 50.4	0.0
COA	**Coachella**	**0.58**	**42**	*e*P	Pg	04

GLA				⇑S		Sg	04 10 39.9	-1.4
	baz=0.9							
GLA	**Glamis**	**0.86**	**44**	*e*Pg		**Pb**	**04 10 29.8**	**-0.8**
GLA				*e*S		**Sg**	**04 10 39.9**	**-1.4**
MONP	**Monument Peak,**	**0.88**	**302**	⇑P		**Pg**	**04 10 30.3**	**-0.3**
	baz=0.9							
MONP				⇑S		**Sg**	**04 10 41.4**	**-0.7**
	baz=0.9							
CBX	**Cerro Bola**	**0.97**	**263**	*e*P		**Pg**	**04 10 32.1**	**-0.1**
CBX	**Cerro Bola**	**0.97**	**263**	*e*P		**Pg**	**04 10 32.1**	**-0.1**
BAR	**Barrett**	**0.99**	**285**	*e*Pg		**Sg**	**04 10 32.2**	**-0.6**
BAR				*e*S		**Sg**	**04 10 45.1**	**-0.6**
BC3	**Big Chuckawall**	**1.22**	**3**	⇑P		**Pn**	**04 10 34.7**	**-2.1**
	baz=1.3							
SPIG	**San Pedro Mart**	**1.38**	**178**	*e*P		Pn	04 10 35.3	-4.0
SPIG				*e*S		**Sg**	**04 10 58.3**	**+0.2**
SPIG	**San Pedro Mart**	**1.38**	**178**	*e*P		Pn	04 10 35.3	-4.0
SPIG				*e*S		**Sg**	**04 10 58.3**	**+0.2**
109C	**Camp Elliot, M**	**1.40**	**289**	⇓P		**Pn**	**04 10 38.8**	**-0.5**
	baz=1.4							
109C				⇓S		**Sn**	**04 10 56.1**	**-1.8**
	baz=1.4							
PFO	**Pinyon Flats O**	**1.41**	**327**	⇑P		**Pn**	**04 10 37.7**	**-1.8**
	baz=1.5							
PFO				⇑S		**Sn**	**04 10 54.5**	**-3.7**
	baz=1.5							
PFO	**Pinyon Flats O**	**1.41**	**327**	*e*Pn		**Pn**	**04 10 37.7**	**-1.8**
PFO				*e*S		**Sn**	**04 10 54.3**	**-3.9**
113A	**Mohawk Valley,**	**1.53**	**77**	⇓S		**Sn**	**04 10 58.8**	**-2.0**
	baz=1.6							
BELC	**Belle Mtn. Jos**	**1.61**	**346**	⇓P		**Pn**	**04 10 40.3**	**-2.0**
	baz=1.7							
IRM	**Iron Mountain**	**1.75**	**10**	⇓P		**Pn**	**04 10 42.0**	**-2.2**
	baz=1.8							
MURC	**Murrieta**	**1.82**	**310**	⇓Pb		**Pb**	**04 10 46.8**	**-0.3**
	baz=1.9							
MURC				⇓Sb		**Sb**	**04 11 09.3**	**-0.7**
	baz=1.9							
BBRC	**Big Bear Solar**	**2.17**	**328**	⇑Pb		**Pb**	**04 10 51.3**	**-1.8**
	baz=2.2							
214A	**Organ Pipe Nat**	**2.35**	**101**	Pn		**Pg**	**04 10 57.9**	**-0.9**
NEE2	**Needles Airpor**	**2.45**	**18**	⇑P		**Pn**	**04 10 52.6**	**-1.0**
	baz=2.5							
BFSC	**Mount Baldy Ra**	**2.53**	**316**	⇓Sb		**Sb**	**04 11 30.3**	**-0.3**
	baz=2.6							
CIS	**Catalina Islan**	**2.60**	**293**	⇑Sb		**Sb**	**04 11 33.2**	**+0.8**
	baz=2.6							
FMP	**Fort Macarthur**	**2.65**	**300**	⇓Sb		**Sb**	**04 11 33.6**	**-0.1**
	baz=2.7							
LDFC	**Landfair**	**2.66**	**7**	*e*Pn		**Pn**	**04 10 56.8**	**+0.1**
LDFC				*e*Pg		**Pg**	**04 11 05.6**	**+0.9**
LDFC				*e*S		Sg	04 11 50.0	+11
MWC	**Mount Wilson**	**2.77**	**311**	*e*Pn		**Pn**	**04 10 59.1**	**+0.9**
MWC				*e*S		**Sb**	**04 11 39.0**	**+1.6**
PASC	**Pasadena Art C**	**2.82**	**309**	*e*Pn		**Pn**	**04 11 00.4**	**+1.6**
PASC				*e*S		**Sb**	**04 11 40.3**	**+1.6**
DECC	**Green Verdugo**	**2.96**	**308**	⇓Sb		**Sb**	**04 11 44.2**	**+1.4**
	baz=3.0							
GSC	**Goldstone, Bar**	**3.05**	**340**	*e*Pn		**Pn**	**04 11 01.3**	**-0.7**
GSC				*e*Pg		**Pg**	**04 11 10.8**	**-1.3**
GSC				*e*S		**Sg**	**04 11 48.7**	**-3.0**
EDW2	**Edwards Air Fo**	**3.19**	**321**	⇓Sb		**Sb**	**04 11 49.7**	**+0.4**
	baz=3.2							
OSI	**Osito Audit: C**	**3.44**	**310**	⇓Sb		**Sb**	**04 11 57.6**	**+0.9**
	baz=3.5							
OSI	**Osito Audit: C**	**3.44**	**310**	*e*Pn		**Pb**	**04 11 11.6**	**-3.1**
OSI				*e*S		**Sb**	**04 11 59.9**	**+3.3**
TUC	**Tucson**	**4.02**	**90**	*e*Pn		Pn	04 11 09.7	-5.5
TUC				*e*S		**Sg**	**04 12 19.7**	**-2.9**
ISA	**Isabella, Lake**	**4.04**	**324**	*e*Pn		**Pn**	**04 11 16.9**	**+1.3**
ISA				*e*Pg		**Pg**	**04 11 29.4**	**-1.7**
ISA				*e*S		**Sg**	**04 12 20.1**	**-3.4**
SHPR	**Sheep Range**	**4.08**	**4**	*e*Pn		**Pn**	**04 11 17.7**	**+1.5**
SHPR				*e*Pg		**Pg**	**04 11 32.3**	**+0.6**
SHPR				*e*S		**Sg**	**04 12 26.8**	**+2.2**
TPNV	**Topopah Spring**	**4.54**	**353**	*e*Pn		**Pn**	**04 11 22.9**	**+0.3**
TPNV				*e*Pg		**Pg**	**04 11 40.4**	**-0.3**
TPNV				*e*S		**Sg**	**04 12 40.0**	**+0.5**
WUAZ	**Wupatki**	**4.63**	**47**	*e*Pn		**Pn**	**04 11 25.0**	**+1.2**
WUAZ				*e*S		**Sg**	**04 12 40.9**	**-1.3**
CCUT	**Cedar City**	**5.41**	**19**	*e*Pn		**Pn**	**04 11 36.0**	**+1.5**
	45nm,0.8s							
CCUT				*e*Pg		**Pg**	**04 11 56.6**	**-0.6**
CCUT				*e*S		**Sg**	**04 13 11.5**	**+4.2**
TPH	**Tonopah**	**5.80**	**347**	Pn		**Pn**	**04 11 40.5**	**+0.7**
TPH				*e*Pg		**Pg**	**04 12 05.0**	**+0.3**
TPH				*e*S		**Sg**	**04 13 23.6**	**+3.8**
R11A	**Troy Canyon, C**	**5.91**	**360**	Pn		**Pn**	**04 11 42.6**	**+1.3**
R11A				*e*Pg		**Pg**	**04 12 05.1**	**-1.6**
R11A				*e*S		**Sg**	**04 13 25.0**	**+1.8**
SAO	**San Andreas Ge**	**6.52**	**313**	Pn		**Pn**	**04 11 47.3**	**-2.3**
WAKR	**Walker**	**6.85**	**333**	*e*Pn		Pn	04 11 57.9	+3.6
WAKR				*e*S		Sg	04 13 44.7	-8.6
LENM	**Lemitar**	**7.37**	**74**	*e*Pn		**Pn**	**04 12 02.8**	**+1.3**
	4.6nm,0.4s							
MVCO	**Mesa Verde**	**7.49**	**49**	Pn		Pn	04 11 59.7	-3.4
MVCO				*e*S		**Sg**	**04 14 09.7**	**-4.4**
TMUT	**Trail Mountain**	**7.70**	**26**	Pn		Pn	04 11 57.2	-8.8
TMUT				*e*Pg		**Pg**	**04 12 38.2**	**-2.8**
TMUT				*e*S		**Sg**	**04 14 17.9**	**-2.7**
SRU	**San Rafael Swe**	**7.81**	**30**	Pn		**Pn**	**04 12 06.1**	**-1.4**
	26nm,0.7s							
SRU				*e*S		**Sb**	**04 14 05.3**	**+3.0**
ELK	**Elko**	**8.30**	**2**	Lg		Lg	04 14 32.9	
	baz=0.0,slow=3.0,SNR=2.3							
ELK				LR		LR	04 15 48.5	
	comp=Z,339nm,18.9s,baz=181,slow=41							
TXAR	**Lajitas Array**	**10.65**	**104**	Pn		Pn	04 12 49.1	+2.8
	0.3nm,0.3s,baz=284,slow=12,SNR=6.4							
TXAR				Lg		Lg	04 15 49.1	
	0.1nm,0.3s,baz=268,slow=27,SNR=2.7							
MSTX	**Muleshoe**	**10.80**	**78**	*e*Pn		Pn	04 12 53.2	+4.8
	8.7nm,0.8s							
PDAR	**Pinedale Array**	**11.35**	**23**	Pn		Pn	04 12 58.7	+2.7
	0.0nm,0.3s,baz=198,slow=8.9,SNR=4.2							
PDAR				LR		LR	04 18 18.2	
	comp=Z,105nm,20.3s,baz=212,slow=44							
MCMT	**McKenzie Canyo**	**12.55**	**9**	*e*Pn		Pn	04 13 15.5	+3.1
	2.0nm,1.1s							
ULM	**Lac du Bonnet**	**23.00**	**34**	P		**P**	**04 15 20.7**	**+2.2**
	1.5nm,0.8s,baz=224,slow=10,SNR=3.5							
CMIG	**Matias Romero**	**24.11**	**124**	LR		LR	04 25 11.6	
	comp=Z,180nm,21.0s,baz=135,slow=37							
TKL	**Tuckaleechee C**	**26.45**	**74**	LR		LR	04 26 53.0	
	comp=Z,135nm,21.0s,baz=116,slow=38							
DLBC	**Dease Lake**	**27.80**	**344**	P		**P**	**04 16 06.3**	**+3.6**
	1.4nm,0.8s,baz=179,slow=10,SNR=3.5							
INK	**Inuvik**	**37.39**	**349**	P		P	04 17 30.4	+4.2
	0.6nm,0.7s,baz=188,slow=3.3,SNR=3.6							
ILAR	**Eielson Array**	**37.65**	**339**	P		**P**	**04 17 31.1**	**+2.5**
	0.8nm,0.9s,baz=146,slow=7.7,SNR=10							
PLCA	**Paso Flores**	**83.82**	**147**	LR		LR	04 51 09.4	
	comp=Z,87nm,18.5s,baz=98,slow=29							

*ISCJB **05** 04:18:45.2±1.6,35°.63S±0°.05×73°.25W±0°.06,h8km±10km, mb3.8/5,Error ellipse: s-maj=9.0km s-min=7.9km az=137.0*

*IDC **05** 04:18:45.3±1.0,35°.69S×73°.31W,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.6/29,mbtmp3.7/7,ML3.1/3,Error ellipse: s-maj=38.9km s-min=21.3km az=93.0*

*GUC **05** 04:18:47.5±0.5,35°.69S×73°.11W,h24km±4km,ML3.5*

ISC 05 04:18:46.8±2.1,35°.67S±0°.05×73°.13W±0°.07,h11km±14km, n13,σ1°25°/19,mb3.7/5,3C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.54**	**149**	⇑*i*P	**Pb**	**04 18 57.9**	**-0.4**
COCH				*i* S	**Sb**	**04 19 06.4**	**+0.3**
COCH				AML	AML	04 19 08.4	
	comp=E,6μm,0.5s						
CCSP	**San Pedro de C**	**1.18**	**179**	*e*P	**Pg**	**04 19 09.0**	**-0.4**
CCSP				*i* S	**Sn**	**04 19 24.7**	**-0.5**
TALC	**Talca**	**1.25**	**78**	⇑*i*P	**Pn**	**04 19 10.3**	**+0.1**
TALC				*i* S	**Sb**	**04 19 27.0**	**+0.5**
LNCH	**Linares**	**1.26**	**99**	⇑*i*P	**Pn**	**04 19 10.1**	**-0.2**
LNCH				*i* S	**Sb**	**04 19 27.7**	**+0.9**
NICH	**Los Niches**	**1.69**	**67**	*e*P	**Pn**	**04 19 17.3**	**+1.0**
NICH				*i* S	**Sb**	**04 19 39.9**	**+0.7**
PLCA	**Paso Flores**	**5.45**	**159**	Pn	**Pn**	**04 20 08.6**	**+0.5**
	comp=E,0.2nm,0.3s,baz=334,slow=13,SNR=7.3						
PLCA				Lg	Lg	04 21 34.7	
	comp=E,1.2nm,0.3s,baz=259,slow=22,SNR=7.5						
CFAA	**Coronel Fontan**	**5.75**	**47**	Pn	**Pn**	**04 20 11.6**	**-0.6**
	comp=E,0.1nm,0.3s,baz=220,slow=11,SNR=13						
CFAA				Sn	**Sn**	**04 21 15.0**	**-3.1**
	comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=3.8						
LPAZ	**La Paz**	**19.81**	**14**	P	**Pn**	**04 23 20.7**	**+1.1**
	comp=E,0.0nm,0.3s,baz=133,slow=5.0,SNR=4.1						
SIV	**San Ignacio**	**22.36**	**32**	P	**P**	**04 23 46.9**	**+1.9**
	comp=E,2.9nm,0.9s,baz=223,slow=12,SNR=4.0						
QSPA	**South Pole Qui**	**54.57**	**180**	P	**P**	**04 28 15.1**	**+0.2**
	comp=E,1.1nm,0.8s,baz=130,slow=4.4,SNR=4.8						
TXAR	**Lajitas Array**	**70.76**	**332**	P	**P**	**04 30 02.5**	**-0.7**
	comp=E,0.3nm,0.6s,baz=164,slow=8.4,SNR=3.7						
PDAR	**Pinedale Array**	**84.85**	**334**	P	**P**	**04 31 23.0**	**+1.5**
	comp=E,0.2nm,0.5s,baz=123,slow=3.3,SNR=2.3						
ULM	**Lac du Bonnet**	**87.88**	**346**	P	**P**	**04 31 34.3**	**-1.5**
	comp=E,1.5nm,0.8s,baz=187,slow=3.7,SNR=4.4						

NEIC 05 04:22:16.4,32°.12N×115°.23W,h6km,ML3.9(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.99**	**20**	*e*Pg	Pg	04 22 34.8	-0.7
GLA				*e*S	Sg	04 22 45.0	-3.3
BAR	**Barrett**	**1.34**	**295**	Pn	Pn	04 22 37.6	-4.2
BAR				*e*S	Sb	04 22 57.7	-1.9
PFO	**Pinyon Flats O**	**1.81**	**325**	*e*Pn	Pn	04 22 55.2	-3.1
214A	**Organ Pipe Nat**	**2.06**	**94**	Pn	Pn	04 22 50.2	-1.4
214A				*e*S	Sg	04 23 23.9	+1.2
PASC	**Pasadena Art C**	**3.21**	**310**	Pn	Pn	04 23 07.6	+0.1
PASC				*e*S	Sb	04 23 54.9	+1.5
TUC	**Tucson**	**3.77**	**86**	Pn	Pn	04 23 02.9	-12
TUC				*e*S	Sg	04 24 19.9	+2.1
OSI	**Osito Audit: C**	**3.84**	**311**	Pn	Pn	04 23 04.8	-11
OSI				*e*S	Sb	04 24 12.6	+1.1
SHPR	**Sheep Range**	**4.37**	**1**	Pn	Pn	04 23 20.7	-2.9
SHPR				*e*S	Sg	04 24 39.0	+1.7
ISA	**Isabella, Lake**	**4.45**	**323**	*e*Pn	Pn	04 23 22.3	-2.2
ISA				*e*S	Sg	04 24 35.7	-3.7
WUAZ	**Wupatki**	**4.66**	**42**	Pn	Pn	04 23 25.9	-1.7
WUAZ				*e*S	Sg	04 24 45.1	-1.5
W18A	**Petrified Fore**	**5.47**	**55**	*e*Pn	Pn	04 23 38.2	-0.5
	34nm,0.9s						
W18A				*e*S	Sg	04 25 16.4	+3.8
R11A	**Troy Canyon, C**	**6.22**	**357**	*e*Pn	Pn	04 23 45.6	-3.4
R11A				*e*Pg	Pg	04 24 14.4	-1.4
R11A				*e*S	Sg	04 25 31.1	-5.5
121A	**Cookes Peak, D**	**6.31**	**84**	*e*Pn	Pn	04 23 44.7	-5.6
121A				*e*S	Sg	04 25 37.8	-1.8
MNTX	**Cornudas Mount**	**8.38**	**90**	*e*Pn	Pn	04 24 17.1	-1.4
	1.3nm,0.5s						

MEX 05 04:23:51.8±0.4,17°.10N×101°.23W,h16km±6km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.55**	**336**	*e*P	Pg	04 24 00.7	-2.0
ZIIG				*i* S	Sg	04 24 08.0	-2.1
CAIG	**El Cayaco**	**0.92**	**93**	*e*P	Pb	04 24 06.2	-3.2
CAIG				*e*S	Sb	04 24 17.0	-4.4
ARIG	**Puente Sto Nin**	**1.44**	**35**	*e*P	Pn	04 24 13.9	-3.4
ARIG				*e*S	Sn	04 24 30.5	-5.5
TLIG	**Tlapa**	**2.58**	**79**	*e*P	Pn	04 24 30.2	-2.9
TLIG				*i* S	Sn	04 24 50.3	-4.0
YAIG	**Yautepec**	**2.70**	**49**	*e*P	Pn	04 24 31.1	-3.7
YAIG				*i* S	Sn	04 25 02.7	-4.6

JMA 05 04:34:03.6±0.5,32°.56N×142°.08E,h0km,M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.98**	**287**	P	Pn	04 34 39.1	+0.7
BSO1	**Boso 1**	**2.28**	**337**	P	Pb	04 34 43.4	-1.6
JOD2	**Odawara 2**	**3.67**	**318**	*e*S	Sn	04 35 47.4	+1.8
JYN	**Shimob**	**4.15**	**316**	P	Pn	04 35 11.3	+3.0
JRY	**Ryogami san**	**4.34**	**324**	P	Pn	04 35 13.8	+3.0
JRY				*e*S	Sn	04 36 03.6	+1.4
JAG	**Ashikaga**	**4.42**	**331**	P	Pn	04 35 14.4	+2.4
JAG				*e*S	Sn	04 36 05.4	+1.2
JFT	**Otama**	**5.15**	**344**	P	Pn	04 35 22.9	+0.9
JFT				*e*S	Sn	04 36 17.9	-4.2

NEIC 05 04:35:52.8,32°.16N×115°.28W,h10km,ML3.5(PAS),2D, After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.63**	**23**	*e*P	Pg	04 36 04.8	-0.2
ERPC	**Ernies Place**	**0.67**	**331**	*e*P	Pg	04 36 05.1	-0.6
WESC	**Westside Schoo**	**0.71**	**327**	*e*P	Pg	04 36 06.8	+0.2
WESC				*e*S	Sg	04 36 15.8	-0.1
COA	**Coachella**	**0.71**	**11**	⇓*i*P	Pg	04 36 05.9	-0.7
COA				*e*S	Sg	04 36 15.4	-0.6
YMD	**Yuma Desert**	**0.73**	**57**	⇓*i*P	Pg	04 36 06.3	-0.7
BAR	**Barrett**	**1.29**	**294**	*e*Pn	Pn	04 36 15.1	-1.8
BAR				*e*S	Sb	04 36 31.9	-1.9
214A	**Organ Pipe Nat**	**2.10**	**95**	*e*Pn	Pn	04 36 26.6	-1.5
214A				*e*S	Sb	04 36 57.9	+0.5
WUAZ	**Wupatki**	**4.67**	**43**	Pn	Pn	04 37 05.6	+2.0
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn	Pn	04 37 26.3	-0.4

NEIC 05 04:37:20.4,32°.18N×115°.21W,h10km,ML3.8(PAS),1C, After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.59**	**19**	*e*P	Pg	04 37 31.4	-0.5
YMD	**Yuma Desert**	**0.68**	**56**	⇑*i*P	Pg	04 37 32.7	-0.8
COA	**Coachella**	**0.69**	**6**	*e*P	Pg	04 37 33.1	-0.6
WESC	**Westside Schoo**	**0.73**	**323**	*e*P	Pg	04 37 34.1	-0.4
WESC				*e*S	Sb	04 37 44.8	-0.4
YUH	**Yuha Desert**	**0.77**	**308**	*e*P	Pg	04 37 34.1	-1.1
GLA	**Glamis**	**0.93**	**20**	*e*Pg	Pg	04 37 36.7	-1.7
GLA				*e*Sg	Sg	04 37 49.3	-1.4
BAR	**Barrett**	**1.33**	**292**	*e*Pn	Pn	04 37 43.4	-1.8
BAR				*e*S	Sb	04 38 01.1	-1.7
214A	**Organ Pipe Nat**	**2.05**	**96**	Pn	Pn	04 37 54.3	-0.7
214A				*e*S	Sb	04 38 23.7	+0.3
121A	**Cookes Peak, D**	**6.29**	**85**	*e*Pn	Pn	04 38 52.4	-1.1

*ISCJB **05** 04:39:46.9±0.5,40°.54S±0°.03×174°.81E±0°.04,h48km±10km, mb4.2/2,Error ellipse: s-maj=6.1km s-min=4.8km az=135.1*

*WEL **05** 04:39:47.7±0.1,40°.54S×174°.83E,h42km±3km,ML3.6/14, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0*

ISC 05 04:39:47.3±1.4,40°.55S±0°.04×174°.81E±0°.04,h44km±16km, n43,σ0°.76/43,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.32**	**167**	P*	**Pn**	**04 39 55.8**	**-0.3**
KIW				S*	**Sn**	**04 40 02.4**	**+0.2**
KIW				AML	AML	04 40 03.6	
CAW	**Cannon Point**	**0.59**	**161**	P*	**Pn**	**04 39 59.4**	**+0.1**
CAW				S*	**Sn**	**04 40 08.5**	**+0.5**
CAW				AML	AML	04 40 10.5	
MRZ	**Mangatainoka R**	**0.59**	**101**	P*	**Pn**	**04 39 59.3**	**-0.1**
MRZ				S*	**Sn**	**04 40 08.5**	**+0.4**
MRZ				AML	AML	04 40 09.9	
HOWZ	**Holdsworth Sta**	**0.64**	**123**	P*	**Pn**	**04 39 59.6**	**-0.4**
HOWZ				S*	**Sn**	**04 40 09.4**	**+0.3**
DUWZ	**D'Urville Isla**	**0.72**	**249**	P*	**Pn**	**04 40 00.4**	**-0.7**
WEL	**Wellington**	**0.73**	**183**	P*	**Pn**	**04 40 01.2**	**-0.1**
WEL				AML	AML	04 40 13.0	
WEL				AML	AML	04 40 13.9	
POWZ	**Post Office Ro**	**0.74**	**78**	P*	**Pn**	**04 40 01.0**	**-0.5**
POWZ				S*	**Sn**	**04 40 11.9**	**+0.2**
TCW	**Tory Channel**	**0.78**	**212**	P*	**Pn**	**04 40 01.5**	**-0.3**
TCW				AML	AML	04 40 14.6	
TCW				AML	AML	04 40 14.6	
MTW	**Mount Morrison**	**0.80**	**139**	P*	**Pn**	**04 40 02.4**	**+0.2**
MTW				AML	AML	04 40 13.6	
MTW				AML	AML	04 40 14.2	
WAZ	**Wanganui**	**0.81**	**9**	PN	**Pn**	**04 40 02.1**	**-0.2**
TIWZ	**Tintock**	**0.85**	**106**	P*	**Pn**	**04 40 03.0**	**+0.2**
TIWZ				AML	AML	04 40 14.8	
TIWZ				AML	AML	04 40 15.4	
BHW	**Baring Head**	**0.86**	**177**	P*	**Pn**	**04 40 02.9**	**0.0**
BHW				AML	AML	04 40 15.9	
BHW				AML	AML	04 40 17.8	
PRWZ	**Pori Road**	**0.88**	**91**	P*	**Pn**	**04 40 03.4**	**+0.1**
MSWZ	**Moikau Station**	**0.92**	**159**	PN	**Pn**	**04 40 04.5**	**+0.7**
MSWZ				AML	AML	04 40 20.9	
MSWZ				AML	AML	04 40 21.4	
PAWZ	**Paruwai Farm**	**0.95**	**151**	PN	**Pn**	**04 40 04.7**	**+0.5**
PAWZ				AML	AML	04 40 20.2	
PAWZ				AML	AML	04 40 20.3	
TMWZ	**Te Maipa**	**0.99**	**125**	PN	**Pn**	**04 40 05.1**	**+0.4**
TSZ	**Takapari Road**	**1.01**	**61**	PN	**Pn**	**04 40 04.3**	**-0.7**
TSZ				AML	AML	04 40 19.9	
TSZ				AML	AML	04 40 21.2	
DVHZ	**Dannevirke**	**1.06**	**77**	PN	**Pn**	**04 40 05.9**	**+0.2**
TRWZ	**Traveller**	**1.07**	**142**	PN	**Pn**	**04 40 07.1**	**+1.2**
TRWZ				AML	AML	04 40 25.7	
TRWZ				AML	AML	04 40 27.1	
TUWZ	**Tuamarina**	**1.10**	**217**	PN	**Pn**	**04 40 06.3**	**+0.1**
TUWZ				AML	AML	04 40 22.4	
TUWZ				AML	AML	04 40 25.8	
BFZ	**Birch Farm**	**1.10**	**97**	PN	**Pn**	**04 40 04.9**	**-1.3**
CPWZ	**Castlepoint**	**1.11**	**109**	PN	**Pn**	**04 40 07.0**	**+0.6**
LREZ	**Lake Rotokare**	**1.14**	**344**	PN	**Pn**	**04 40 07.2**	**+0.5**
MTVZ	**Mangateitei**	**1.27**	**24**	PN	**Pn**	**04 40 08.8**	**+0.1**
NNZ	**Nelson**	**1.27**	**238**	PN	**Pn**	**04 40 08.7**	**+0.1**
PREZ	**Palmer Road**	**1.31**	**337**	PN	**Pn**	**04 40 09.5**	**+0.3**
PKVZ	**Pokaka**	**1.32**	**18**	PN	**Pn**	**04 40 09.4**	**0.0**
WPHZ	**Waipukurau**	**1.34**	**69**	PN	**Pn**	**04 40 08.6**	**-0.9**
NMEZ	**Namu Road**	**1.35**	**327**	PN	**Pn**	**04 40 09.5**	**-0.1**
MOVZ	**Moawhango**	**1.35**	**33**	PN	**Pn**	**04 40 09.0**	**-0.7**
BSWZ	**Blackbirch Sta**	**1.36**	**211**	PN	**Pn**	**04 40 09.8**	**0.0**
BSWZ				AML	AML	04 40 33.6	
BSWZ				AML	AML	04 40 34.4	
BHHZ	**Black Hill Sta**	**1.43**	**42**	PN	**Pn**	**04 40 10.2**	**-0.7**
DREZ	**Durham Road**	**1.44**	**341**	PN	**Pn**	**04 40 11.8**	**+0.9**
QRZ	**Quartz Range**	**1.76**	**260**	PN	**Pn**	**04 40 14.9**	**-0.4**
THZ	**Tophouse**	**1.88**	**229**	PN	**Pn**	**04 40 17.4**	**+0.3**
DSZ	**Denniston Nort**	**2.57**	**241**	PN	**Pn**	**04 40 28.2**	**+1.8**
LTZ	**Lake Taylor**	**2.93**	**220**	PN	**Pn**	**04 40 29.8**	**-1.6**
OXZ	**Oxford**	**3.46**	**216**	PN	**Pn**	**04 40 36.0**	**-2.6**
MQZ	**McQueen's Vall**	**3.54**	**206**	PN	Pn	04 40 36.4	-3.3
ASAR	**Alice Springs**	**38.14**	**284**	P	sP	04 47 18.1	-1.3
	2.0nm,0.6s,baz=116,slow=7.7,SNR=30						
WRA	**Warramunga Arr**	**40.10**	**289**	P	pP	04 47 29.9	-0.8
	4.3nm,0.5s,baz=118,slow=7.8,SNR=106						
FINES	**FINESS Array B**	**151.75**	**328**	PKPbc	PKPdf	04 59 21.8	-7.9
	0.5nm,0.6s,baz=18,slow=6.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.04**	**194**	PKPab	PKPab	05 00 05.9	+18
	0.2nm,0.5s,baz=170,slow=3.2,SNR=5.0						

*IDC **05** 04:55:22.6±1.4,31°.88N×114°.92W,h0km,mb3.8/7, mb1 4.0/12,mb1mx3.6/53,mbtmp3.8/12,ML3.3/4,MS3.9/20, Ms1 4.0/20,ms1mx3.8/34,Error ellipse: s-maj=22.5km s-min=11.6km az=43.0*

*NEIC **05** 04:55:23.2±0.6,31°.92N×114°.98W,h10km,mb4.0/9,Error ellipse: s-maj=8.1km s-min=5.3km az=25.0*

*ECX **05** 04:55:23.0±0.7,32°.06N×115°.10W,h4km,MD3.0,ML3.1*

*MEX **05** 04:55:24.5±0.3,32°.11N×114°.88W,h15km,MD3.6*

ISC 05 04:55:22.3±0.6,32°.02N±0°.02×115°.07W±0°.02,h3km±4km, n114,σ1°92/117,mb4.0/10,MS3.9/15,16C-23D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.15**	**259**	⇑*i*P	**Pg**	**04 55 25.2**	**-0.1**
EMX				*e*S	**Sg**	**04 55 27.9**	**+0.6**
ECBX	**El Chinero**	**0.54**	**178**	⇓*i*P	**Pg**	**04 55 33.1**	**+0.3**
ECBX				*e*S	**Sg**	**04 55 40.9**	**+1.1**
RDX	**Rancho Dawling**	**0.75**	**264**	⇑*i*P	Pg	04 55 26.2	-11
RDX				*e*S	Sg	04 55 36.6	-10
SPIG	**San Pedro Mart**	**1.02**	**199**	*i* P	**Pg**	**04 55 43.0**	**+1.0**
SPIG				*e*S	**Sb**	**04 55 57.2**	**+0.3**
SPIG	**San Pedro Mart**	**1.02**	**199**	*i*

baz=2.9
LDFC Landfair 3.06 359 *e*Pn **Pn 04 56 12.9 +1.3**
LDFC *e*Pg **Pg 04 56 22.4 +1.6**
LDFC *e*S **Sg 04 57 03.4 +2.9**
SCI San Clemente I 3.09 289 ⇓Sb **Sb 04 56 55.7 -0.4**
baz=3.2
BFSC Mount Baldy Ra 3.10 316 ⇑P Pn 04 56 09.4 -2.9
baz=3.2
BFSC ⇓Sb **Sb 04 56 56.2 -0.4**
baz=3.2
CIS Catalina Islan 3.13 297 ⇑Sb **Sb 04 56 57.2 -0.2**
baz=3.2
FMP Fort Macarthur 3.20 303 ⇑Sb **Sb 04 56 58.8 -0.3**
baz=3.3
RRX Edison Barstow 3.28 331 ⇓Sb **Sb 04 56 60.0 -1.6**
baz=3.4
MWC Mount Wilson 3.34 312 Pn **Pn 04 56 17.8 +2.2**
MWC *e*S **Sb 04 57 07.1 +3.7**
PASC Pasadena Art C 3.39 310 *e*Pn **Pn 04 56 17.9 +1.8**
PASC *e*S **Sb 04 57 04.0 -0.6**
GSC Goldstone, Bar 3.58 337 *e*Pn **Pn 04 56 21.1 +2.2**
GSC *e*Pg **Pg 04 56 32.1 +1.1**
GSC *e*S Sg 04 57 30.2 +13
TUC Tucson 3.64 84 *e*Pn Pn 04 56 16.2 -3.5
TUC *e*S **Sg 04 57 21.1 +1.7**
OSI Osito Audit: C 4.01 311 *e*Pn **Pn 04 56 27.2 +2.5**
OSI *e*S **Sb 04 57 27.2 +4.7**
SHPR Sheep Range 4.48 359 *e*Pn **Pn 04 56 30.0 -1.2**
SHPR *e*S **Sb 04 57 33.5 -2.6**
ISA Isabella, Lake 4.61 323 *e*Pn **Pn 04 56 34.1 +1.1**
ISA *e*Pg **Pg 04 56 49.0 -1.7**
ISA *e*S **Sg 04 57 46.0 -4.4**
WUAZ Wupatki 4.65 40 *e*Pn **Pn 04 56 32.4 -1.2**
WUAZ *e*S **Sg 04 57 56.1 +4.2**
TPNV Topopah Spring 5.02 349 *e*Pn **Pn 04 56 41.0 +2.4**
TPNV *e*Pg Pg 04 57 01.3 +2.8
TPNV *e*S Sg 04 58 11.9 +8.4
W18A Petrified Fore 5.42 54 *e*Pn **Pn 04 56 43.6 -0.6**
W18A *e*S **Sb 04 58 05.6 +2.4**
CCUT Cedar City 5.70 14 *e*Pn **Pn 04 56 47.2 -0.8**
CCUT *e*Pg **Pg 04 57 09.9 -1.6**
CCUT *e*S **Sg 04 58 28.5 +3.1**
ARUT Antelope Range 5.91 13 *e*Pn **Pn 04 56 50.1 -0.8**
ARUT *e*Pg **Pg 04 57 13.5 -2.1**
121A Cookes Peak, D 6.19 83 *e*Pn **Pn 04 56 52.6 -2.2**
121A *e*S Sb 04 58 31.6 +6.2
TPH Tonopah 6.30 344 *e*Pn Pn 04 56 58.9 +2.6
TPH *e*Pg **Pg 04 57 25.6 +2.6**
TPH *e*S **Sg 04 58 45.4 +0.8**
R11A Troy Canyon, C 6.33 356 *e*Pn **Pn 04 56 55.8 -0.9**
R11A *e*Pg **Pg 04 57 23.8 +0.2**
R11A *e*S **Sg 04 58 45.9 +0.2**
NVAR Mina Array Bea 6.92 338 Pn Pn 04 57 11.8 +6.9
comp=E,0.2nm,0.3s,baz=150,slow=15,SNR=5.0
LENM Lemitar 7.12 70 *e*Pn **Pn 04 57 06.6 -1.0**
LENM *e*S **Sg 04 59 13.1 +2.0**
CMB Columbia Colle 7.42 325 *e*Pn **Pn 04 57 12.5 +0.9**
CMB *e*Pg Pg 04 57 49.4 +5.0
CMB *e*S Sb 04 58 52.3 -8.3
LPM Los Pinos Moun 7.43 70 *e*Pn **Pn 04 57 10.1 -1.7**
LPM *e*S **Sg 04 59 22.6 +1.5**
MVCO Mesa Verde 7.49 44 *e*Pn **Pn 04 57 13.0 +0.3**
MVCO *e*S **Sg 04 59 23.1 +0.1**
ANMO Albuquerque 7.76 66 Pn **Pn 04 57 15.8 -0.6**
comp=E,0.3nm,0.3s,baz=252,slow=7.8,SNR=10
ANMO Lg Lg 04 59 26.4
comp=E,0.2nm,0.3s,baz=228,slow=15,SNR=2.2
ANMO LR LR 05 00 23.0
comp=E,1μm,21.3s,baz=244,slow=39
ANMO Albuquerque 7.76 66 *e*Pn **Pn 04 57 15.5 -0.9**
ANMO *e*Pg Pg 04 57 48.3 -2.8
ANMO Lg Lg 04 59 26.4
ANMO *e*S Sg 04 59 47.0 +15
TMUT Trail Mountain 7.91 22 *e*Pn **Pn 04 57 20.5 +2.0**
comp=E,50nm,0.9s
TMUT *e*Pg **Pg 04 57 53.9 0.0**
TMUT *e*S **Sg 04 59 35.9 -0.5**
SRU San Rafael Swe 7.99 26 *e*Pn Pn 04 57 21.9 +2.4
comp=E,62nm,0.7s
SRU *e*Pg Pg 04 57 51.5 -3.9
SRU *e*S Sg 04 59 31.3 -7.5
MNTX Cornudas Mount 8.25 90 *e*Pn **Pn 04 57 21.5 -1.3**
comp=E,8.2nm,0.5s
MNTX *e*S **Sg 04 59 43.9 -3.2**
NLU North Lily Min 8.29 16 *e*Pn Pn 04 57 26.9 +3.3
NLU *e*Pg **Pg 04 58 00.5 -0.5**
NLU *e*S **Sg 04 59 50.1 +1.8**
DUG Dugway, Tooele 8.36 12 *e*Pn **Pn 04 57 26.4 +1.8**
comp=E,35nm,1.1s
DUG *e*Pg Pg 04 57 58.8 -3.7
DUG *e*S **Sg 04 59 52.5 +1.7**
MPU Maple Canyon 8.45 18 *e*Pn **Pn 04 57 26.5 +0.7**
comp=E,28nm,1.0s
MPU *e*Pg Pg 04 57 59.9 -4.3
MPU *e*S **Sg 04 59 55.0 +1.3**
ELK Elko 8.71 359 Pn Pn 04 57 33.6 +4.1
comp=E,0.2nm,0.3s,baz=171,slow=11,SNR=6.5
ELK Lg Lg 05 00 02.9
comp=E,0.3nm,0.3s,baz=56,slow=11,SNR=3.0
ELK Elko 8.71 359 *e*Pn Pn 04 57 32.2 +2.8
ELK *e*Pg **Pg 04 58 09.1 -0.1**
ELK *e*S **Sg 05 00 02.4 +0.4**
ELK Lg Lg 05 00 02.9
LPIG La Paz 8.93 151 LR LR 05 00 43.2
comp=E,989nm,20.0s,baz=348,slow=37
CTU Camp Tracy 9.06 16 *e*Pn **Pn 04 57 33.2 -1.0**
TCUT Toone Canyon 9.55 17 Pn Pn 04 57 46.0 +5.1
SDCO Great Sand Dun 9.71 51 Pn **Pn 04 57 44.9 +1.7**
O20A White River Ci 9.80 32 *e*Pn Pn 04 57 50.5 +6.1
HWUT Hardware Ranch 9.97 15 *e*Pn **Pn 04 57 45.8 -0.8**
TXAR Lajitas Array 10.17 102 Pn **Pn 04 57 49.1 -0.2**
comp=E,1.9nm,0.3s,baz=287,slow=13,SNR=101
TXAR Lg Lg 05 00 40.3
comp=E,0.2nm,0.3s,baz=284,slow=32,SNR=3.3
TXAR LR LR 05 01 48.7
comp=E,880nm,19.2s,baz=0.0,slow=38
MSTX Muleshoe 10.51 76 *e*Pn **Pn 04 57 55.0 +1.1**
WVOR Wild Horse Val 10.78 346 *e*Pn **Pn 04 57 59.3 +1.7**
MFID Camas Ranch 11.40 357 *e*Pn **Pn 04 58 07.8 +1.7**
YBH Yreka Blue Hor 11.46 330 LR LR 05 02 21.0
comp=E,308nm,21.7s,baz=198,slow=36
PDAR Pinedale Array 11.59 21 Pn Pn 04 58 13.3 +4.5
comp=E,0.0nm,0.3s,baz=212,slow=8.2,SNR=3.8
PDAR Lg Lg 05 01 31.2
comp=E,0.0nm,0.3s,baz=226,slow=46,SNR=4.0
MCMT McKenzie Canyo 12.91 7 *e*Pn Pn 04 58 30.4 +3.5
JCT Junction City 13.15 93 Pn **Pn 04 58 30.1 +0.1**
CHMT Chamberlain Mo 14.94 5 *e*Pn **Pn 04 58 56.8 +2.2**
comp=E,7.3nm,1.5s
V34A Guthrie 15.06 71 *e*Pn **Pn 04 58 55.7 -0.3**
JTMT Jette 15.72 2 *e*Pn **P 04 59 07.7 -1.2**
comp=E,4.4nm,1.0s
BSMT Bassoo Peak 15.82 1 *e*Pn **P 04 59 08.7 -1.4**
comp=E,8.6nm,1.4s
LAO LASA Array 16.15 22 *e*Pn **P 04 59 12.4 -1.2**
comp=E,97nm,1.9s
NEW Newport 16.30 355 Pn **P 04 59 16.4 +1.1**
comp=E,0.1nm,0.3s,baz=182,slow=11,SNR=8.6
NEW LR LR 05 05 31.9
comp=E,478nm,20.1s,baz=182,slow=37
TUL1 Leonard 16.45 71 *e*Pn **Pn 04 59 13.2 -1.0**
comp=E,7.9nm,0.9s
HKT Hockley 16.62 92 *e*Pn **Pn 04 59 16.8 +0.5**
MIAR Mount Ida 18.15 76 *e*Pn **Pn 04 59 33.6 -1.8**
comp=E,15nm,1.2s
EDM Edmonton 21.23 3 *e*P **P 05 00 11.4 +2.1**
comp=E,73nm,1.7s
AGMN Agassiz Nation 21.81 36 *e*P **P 05 00 17.2 +1.7**
comp=E,22nm,1.6s
BBB Bella Bella 22.29 339 LR LR 05 09 32.1
comp=E,660nm,19.7s,baz=142,slow=38
WVT Waverly 22.90 72 *e*P **P 05 00 27.3 0.0**
comp=E,7.4nm,1.0s
ULM Lac du Bonnet 23.14 32 P **P 05 00 32.1 +2.6**
comp=E,1.6nm,0.8s,baz=272,slow=5.5,SNR=3.3
ULM Lg Lg 05 07 32.7
comp=E,0.4nm,0.4s,baz=117,slow=2.3,SNR=2.1
TKL Tuckaleechee C 26.19 73 P **P 05 00 57.1 -1.0**
comp=E,1.7nm,0.9s,baz=243,slow=9.0,SNR=2.8
TKL LR LR 05 11 31.7
comp=E,435nm,20.7s,baz=302,slow=37
APG El Apazote 28.10 121 LR LR 05 11 56.4
comp=E,695nm,19.9s,baz=290,slow=36
DLBC Dease Lake 28.31 343 P **P 05 01 18.5 +1.4**
comp=E,3.8nm,0.7s,baz=148,slow=7.9,SNR=9.5
DLBC LR LR 05 13 32.6
comp=E,515nm,19.2s,baz=172,slow=38
YKA Yellowknife Ar 30.49 0 P **P 05 01 36.7 +0.5**
comp=E,0.5nm,1.0s,baz=180,slow=9.0,SNR=7.1
SADO Sadowa 30.65 55 LR LR 05 15 29.4
comp=E,246nm,19.7s,baz=266,slow=39
INK Inuvik 37.87 349 P P 05 02 44.0 +4.0
comp=E,1.9nm,1.1s,baz=159,slow=9.2,SNR=5.9
ILAR Eielson Array 38.18 339 P **P 05 02 44.4 +1.6**
comp=E,2.3nm,0.8s,baz=151,slow=7.5,SNR=22
ILAR LR LR 05 18 27.5
comp=E,176nm,18.1s,baz=154,slow=36
SCHQ Schefferville 40.74 41 LR LR 05 18 26.2
comp=E,122nm,18.9s,baz=287,slow=34
ROSC El Rosal 46.70 117 LR LR 05 25 08.0
comp=E,73nm,20.0s,baz=26,slow=38
PPT Papeete 59.37 219 LR LR 05 23 43.8
comp=E,69nm,18.9s,baz=58,slow=29
ARCES ARCESS Array B 74.75 13 LR LR 05 40 18.2
comp=E,84nm,21.7s,baz=336,slow=36
NOA NORSAR Array B 77.51 24 LR LR 05 40 54.9
comp=E,51nm,21.1s,baz=305,slow=35
FINES FINESS Array B 81.67 18 P P 05 07 44.6 +3.0
comp=E,0.9nm,0.7s,baz=38,slow=9.6,SNR=4.3
FINES LR LR 05 43 02.0
comp=E,73nm,18.0s,baz=351,slow=35
PLCA Paso Flores 83.26 148 LR LR 05 38 32.5
comp=E,76nm,18.9s,baz=278,slow=31
GERES GERESS Array B 87.44 31 LR LR 05 47 07.3
comp=E,42nm,18.7s,baz=310,slow=36
SONM Songino Array 92.24 333 LR LR 05 49 14.0
comp=E,48nm,22.0s,baz=28,slow=35

GUC ***05*** *05:06:17.6±0.7, 36.˚17S×73.˚55W, h27km±4km, ML3.5*
IDC ***05*** *05:06:17.1±3.2, 36.˚14S×73.˚26W, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.3/22, mbtmpg3.3/4, ML3.3/2, Error ellipse: s-maj=67.9km s-min=21.2km az=85.0*
ISC 05 05:06:18.0±3.3, 36.˚14S±0.˚07×73.˚4W±0.˚1, h12km±17km, n10, σ1s25/17, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.49**	**89**	⇑*i*P	**Pb**	**05 06 29.2**	**+0.6**
COCH				*i* S	**Sn**	**05 06 37.6**	**+3.4**
COCH				AML	AML	05 06 39.5	
	comp=N,3μm,0.3s						
CCSP	**San Pedro de C**	**0.74**	**162**	⇑*i*P	**Pb**	**05 06 31.9**	**-0.9**
CCSP				*i* S	**Sb**	**05 06 42.1**	**-0.8**
CCSP				AML	AML	05 06 43.5	
	comp=E,6μm,0.5s						
LNCH	**Linares**	**1.49**	**79**	⇑*i*P	**Pb**	**05 06 45.1**	**-0.4**
LNCH				*i* S	**Sg**	**05 07 06.1**	**+0.2**
TALC	**Talca**	**1.62**	**63**	⇑*i*P	**Pb**	**05 06 47.1**	**-0.7**
TALC				*i* S	**Sg**	**05 07 09.5**	**-0.4**
NICH	**Los Niches**	**2.10**	**58**	*e*P	**Pb**	**05 06 54.2**	**-1.8**
NICH				*e*S	**Sb**	**05 07 21.7**	**-0.5**
CLCH	**Cerro Calan**	**3.61**	**42**	⇓*i*P	**Pn**	**05 07 14.3**	**+0.4**
CLCH				*i* S	**Sn**	**05 07 57.6**	**+1.1**
PLCA	**Paso Flores**	**5.10**	**155**	Pn	**Pn**	**05 07 35.0**	**+0.6**
	comp=E,0.4nm,0.3s,baz=328,slow=14,SNR=15						
PLCA				Lg	Lg	05 08 56.7	
	comp=E,1.1nm,0.3s,baz=251,slow=15,SNR=4.8						
CFAA	**Coronel Fontan**	**6.24**	**45**	Pn	**Pn**	**05 07 50.1**	**+0.2**
	comp=E,0.3nm,0.3s,baz=212,slow=11,SNR=62						
CFAA				Sn	**Sn**	**05 09 00.7**	**-0.5**
	comp=E,0.1nm,0.3s,baz=24,slow=20,SNR=2.4						
CFAA				Lg	Lg	05 09 26.1	
	comp=E,0.2nm,0.3s,baz=312,slow=18,SNR=8.1						
LPAZ	**La Paz**	**20.32**	**15**	P	**P**	**05 10 54.7**	**0.0**
	comp=E,0.5nm,0.6s,baz=198,slow=13,SNR=2.0						
TORD	**Torodi Ar. Bea**	**85.98**	**71**	P	**P**	**05 18 59.1**	**+0.5**
	comp=E,0.5nm,0.9s,baz=232,slow=3.6,SNR=2.7						

ISCJB ***05*** *05:08:43.5±0.9, 9.˚31S×0.˚09×123.˚76E±0.˚09, h10km, mb3.3/1, Error ellipse: s-maj=16.0km s-min=9.5km az=41.9*
DJA ***05*** *05:08:50.5±0.4, 9.˚3S±5.˚×12.˚3E±.˚, h10km, M3.7/8, MLv3.7/8*
IDC ***05*** *05:08:55.7±2.0, 10.˚00S×124.˚43E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/22, mbtmpg3.5/3, ML3.5/2, Error ellipse: s-maj=142.4km s-min=26.7km az=55.0*
ISC 05 05:08:43.6±1.2, 9.˚44S±0.˚09×123.˚86E±0.˚09, h10km, n10, σ2s94/11, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**2.25**	**287**	P	**Pn**	**05 09 19.2**	**-1.9**
EDFI				S	Sn	05 09 41.0	-8.0
BASI	**Baing, Sumba**	**3.33**	**256**	P	**Pn**	**05 09 36.5**	**+0.7**
WSI	**Waingapu**	**3.52**	**266**	P	**Pn**	**05 09 38.5**	**0.0**
BBSI	**Bau Bau**	**4.13**	**342**	P	**Pn**	**05 09 47.7**	**+0.9**
WBSI	**Waikabubak, Su**	**4.42**	**267**	P	**Pn**	**05 09 50.8**	**0.0**
BSSI	**Bau Bau, Buton**	**4.68**	**314**	P	**Pn**	**05 09 53.2**	**-1.1**
BKSI	**Bulukumba**	**5.52**	**318**	P	**Pn**	**05 10 03.9**	**-2.0**
WRA	**Warramunga Arr**	**14.54**	**137**	Pn	**Pn**	**05 12 12.3**	**+2.7**
	0.2nm,0.3s,baz=313,slow=13,SNR=17						
WRA				Sn	**Sn**	**05 14 46.5**	**-4.6**
	0.5nm,0.3s,baz=316,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**17.10**	**147**	Pn	**P**	**05 12 47.2**	**+2.6**
	0.3nm,0.3s,baz=319,slow=12,SNR=26						
ASAR				Sn	**Sn**	**05 15 48.3**	**-4.9**
	0.2nm,0.3s,baz=316,slow=22,SNR=6.8						
MKAR	**Makanchi Array**	**67.12**	**330**	P	P	05 19 56.0	+19
	0.2nm,0.6s,baz=138,slow=6.4,SNR=4.3						

IDC ***05*** *05:10:43.1±11.0, 53.˚82N×162.˚73W, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.2/47, mbtmpg3.2/4, ML3.3/2, Error ellipse: s-maj=221.8km s-min=40.1km az=83.0*
ISCJB ***05*** *05:10:45.7±1.0, 53.˚9N±0.˚1×163.˚5W±0.˚1, h69km±14km, mb3.1/2, Error ellipse: s-maj=22.1km s-min=5.7km az=151.5*
NEIC ***05*** *05:10:45.2, 53.˚85N×163.˚39W, h26km, ML3.2(AEIC), After AEIC.*
ISC 05 05:10:45.6±1.7, 53.˚9N±0.˚1×163.˚39W±0.˚07, h43km±25km, n20, σ0s99/25, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.92**	**311**	P	**Pn**	**05 11 02.3**	**+0.1**
FALS	**False Pass**	**0.98**	**359**	P	**Pn**	**05 11 03.3**	**+0.4**
FALS				S	**Sn**	**05 11 16.8**	**+1.2**
WESN	**West Dahl Nort**	**0.98**	**315**	P	**Pn**	**05 11 03.5**	**+0.5**
WESN				S	**Sn**	**05 11 16.7**	**+1.0**
SSLW	**Shishaldin Wes**	**0.99**	**335**	P	**Pn**	**05 11 03.6**	**+0.4**
SSLN	**Shishaldin Nor**	**1.00**	**340**	P	**Pn**	**05 11 04.2**	**+0.9**
DRIA	**Deer Island**	**1.27**	**31**	P	**Pn**	**05 11 07.3**	**+0.3**
DRIA				S	**Sn**	**05 11 23.8**	**+0.9**
DT1	**Dutton Round H**	**1.39**	**27**	P	**Pn**	**05 11 09.1**	**+0.5**
DTNA	**Dutton South F**	**1.44**	**27**	P	**Pn**	**05 11 09.9**	**+0.7**
ZRO	**Akutan Zero**	**1.54**	**279**	P	**Pn**	**05 11 10.9**	**+0.3**
ZRO				S	**Sn**	**05 11 31.0**	**+1.6**
UNV	**Unalaska Valle**	**1.84**	**270**	P	**Pn**	**05 11 14.3**	**-0.4**
UNV				S	**Sn**	**05 11 36.1**	**-0.7**
MTBL	**Makushin Table**	**1.94**	**274**	P	**Pn**	**05 11 16.6**	**+0.4**
MREP	**Makushin Rep't**	**1.99**	**269**	P	**Pn**	**05 11 17.5**	**+0.7**
MGOD	**Makushin Gods**	**2.06**	**269**	P	**Pn**	**05 11 18.4**	**+0.6**
MSOM	**Makushin Julie**	**2.11**	**270**	P	**Pn**	**05 11 18.6**	**+0.3**
SDPT	**Sand Point**	**2.25**	**48**	P	**Pn**	**05 11 21.3**	**+1.1**
OKFG	**Magazine Ridge**	**2.73**	**262**	P	**Pn**	**05 11 28.2**	**+1.3**
ILAR	**Eielson Array**	**13.73**	**31**	Pn	**Pn**	**05 13 55.1**	**-2.4**
	0.0nm,0.3s,baz=221,slow=14,SNR=3.1						
INK	**Inuvik**	**20.12**	**33**	P	**P**	**05 15 14.4**	**-1.1**
	0.1nm,0.3s,baz=244,slow=10,SNR=5.3						
YKA	**Yellowknife Ar**	**26.51**	**51**	P	**P**	**05 16 19.3**	**+0.7**
	0.2nm,0.6s,baz=271,slow=9.3,SNR=7.7						
TXAR	**Lajitas Array**	**49.20**	**95**	P	**P**	**05 19 30.1**	**+0.6**
	0.3nm,0.5s,baz=309,slow=5.3,SNR=4.0						

GUC 05 05:12:47.7±0.6, 35.˚27S×72.˚81W, h35km±5km, ML3.6, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.86**	**179**	⇓*i*P	Pn	05 13 03.6	+0.3
COCH				*i* S	Sn	05 13 15.3	+0.6
TALC	**Talca**	**0.97**	**98**	⇓*i*P	Pn	05 13 05.1	+0.3
TALC				*i* S	Sn	05 13 18.1	+0.7
LNCH	**Linares**	**1.14**	**121**	⇓*i*P	Pn	05 13 08.9	+1.7
LNCH				*i* S	Sn	05 13 24.1	+2.5
NICH	**Los Niches**	**1.32**	**79**	⇑*i*P	Pn	05 13 11.0	+1.3
NICH				*i* S	Sn	05 13 28.6	+2.5
CLCH	**Cerro Calan**	**2.65**	**46**	*e*P	Pn	05 13 29.6	+1.6
CLCH				*i* S	Sn	05 14 01.2	+2.2
CLCH				AML	AML	05 14 22.7	
	comp=E,207nm,0.6s						
PEL	**Peldehue**	**2.75**	**40**	*e*P	Pn	05 13 30.6	+1.2
PEL				*e*S	Sn	05 14 04.0	+2.4
PEL				AML	AML	05 14 21.4	
	comp=E,237nm,0.3s						

NEIC 05 05:16:44.8, 32.˚58N×115.˚76W, h5km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.77**	**278**	*e*Pg	Pg	05 16 60.0	+0.2
BAR				*e*Sg	Sg	05 17 10.6	+0.7
GLA	**Glamis**	**0.92**	**59**	*e*Pg	Pg	05 17 00.4	-2.1
GLA				*e*Sg	Sg	05 17 12.3	-2.2
PFO	**Pinyon Flats O**	**1.18**	**331**	*e*Pg	Pg	05 17 03.5	-4.1
PFO				*e*Sg	Sg	05 17 20.9	-2.2
MWC	**Mount Wilson**	**2.52**	**311**	*e*Pn	Pn	05 17 26.0	-0.7
MWC				*e*Sg	Sg	05 18 06.0	-0.4
PASC	**Pasadena Art C**	**2.57**	**309**	*e*Pn	Pn	05 17 27.1	-0.1
PASC				*e*Sg	Sg	05 18 08.5	+0.9
214A	**Organ Pipe Nat**	**2.58**	**103**	Pn	Pn	05 17 27.5	+0.2
214A				*e*Sn	Sn	05 17 58.7	-0.3
GSC	**Goldstone, Bar**	**2.85**	**343**	*e*Sn	Sn	05 18 05.2	-0.7
GSC				*e*Sn	Sn	05 18 05.2	-0.7
OSI	**Osito Audit: C**	**3.20**	**310**	*e*Pg	Pg	05 17 45.8	-0.4
OSI				*e*Sg	Sg	05 18 27.1	-0.6
ISA	**Isabella, Lake**	**3.81**	**325**	*e*Pn	Pn	05 17 44.6	+0.3
121A	**Cookes Peak, D**	**6.74**	**88**	*e*Pn	Pn	05 18 23.3	-1.3
	5.5nm,0.6s						
121A				*e*Sn	Sn	05 19 41.6	-0.3

IDC 05 05:19:36.5±11.0, 6.˚92S×129.˚21E, h69km±121km, mb3.1/1, mb1 3.4/4, mb1mx3.2/23, mbtmpg3.5/4, ML3.6/3, Error ellipse: s-maj=121.7km s-min=36.8km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.38**	**239**	P	Pn	05 21 08.1	+0.1
	5.0nm,0.3s,baz=243,slow=1.6,SNR=8.3						
BATI				S	Sn	05 22 07.5	-12
	4.3nm,0.3s,baz=246,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**13.87**	**159**	P	Pn	05 22 49.2	-0.7
	0.2nm,0.3s,baz=338,slow=10,SNR=14						
WRA				S	Sn	05 25 13.0	-9.4
	0.3nm,0.3s,baz=329,slow=22,SNR=6.5						
ASAR	**Alice Springs**	**17.25**	**165**	P	P	05 23 33.4	-0.1
	0.1nm,0.3s,baz=333,slow=9.3,SNR=9.3						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	05 30 26.7	0.0
	0.2nm,0.5s,baz=126,slow=7.3,SNR=4.9						

DJA 05 05:22:27.5±0.7, 8.˚3S±4.˚×117.˚9E±.˚, h264km±7km, M3.7/12, mb4.0/1, mb4.5/1, MLv3.6/12, Mw(mB)3.6/1, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.89**	**178**	P	Pn	05 23 10.7	+0.4
WBSI				S	S	05 23 43.2	-1.0
BSSI	**Bau Bau, Buton**	**1.96**	**36**	P	Pn	05 23 11.3	+0.5
WSI	**Waingapu**	**2.14**	**154**	P	Pn	05 23 12.6	+0.2
WSI				S	S	05 23 48.2	+0.2
BKSI	**Bulukumba**	**2.52**	**18**	P	Pn	05 23 16.1	0.0
EDFI	**Ende, Flores**	**2.53**	**113**	P	Pn	05 23 16.1	-0.1
EDFI				S	S	05 23 55.3	+0.4
TWSI	**Taliwang, Sumb**	**2.63**	**248**	P	Pn	05 23 16.9	-0.1
BASI	**Baing, Sumba**	**2.75**	**154**	P	Pn	05 23 19.1	+0.8
BNSI	**Bone**	**3.40**	**13**	P	Pn	05 23 25.5	+0.2
SPSI	**Sidrap Palu**	**3.77**	**7**	P	Pn	05 23 29.4	0.0
SOEI	**Soe**	**5.27**	**113**	P	Pn	05 23 46.5	-0.7

IDC ***05*** *05:27:54.3±6.0, 32.˚09N×114.˚81W, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.4/25, mbtmpg3.4/3, ML3.5/2, Error ellipse: s-maj=151.9km s-min=15.0km az=38.0*
NEIC ***05*** *05:28:04.8, 32.˚68N×115.˚86W, h0km, ML3.2(PAS), After PAS.*
ISC 05 05:28:02.1±1.9, 32.˚5N±0.˚1×115.˚80W±0.˚06, h10km, n15, σ2s62/18, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flats O**	**1.29**	**335**	Pn	**Pn**	**05 28 24.2**	**-2.1**
	12nm,0.3s,baz=150,slow=15,SNR=22						
OSI	**Osito Audit: C**	**3.27**	**312**	Pn	**Pn**	**05 28 56.0**	**+2.6**
ISA	**Isabella, Lake**	**3.90**	**326**	Pg	**Pg**	**05 29 17.1**	**+0.1**
SHPR	**Sheep Range**	**4.08**	**7**	*e*Pn	Pn	05 29 00.8	-4.0
SHPR				*e*Sn	**Sn**	**05 29 54.5**	**+1.7**
WUAZ	**Wupatki**	**4.78**	**49**	Pn	**Pn**	**05 29 13.0**	**-1.4**
WUAZ				*e*Sg	**Sg**	**05 30 30.6**	**-5.2**
CCUT	**Cedar City**	**5.47**	**21**	*e*Pg	**Pg**	**05 29 46.9**	**0.0**
	26nm,0.9s						
CCUT				*e*Sn	**Sn**	**05 30 31.2**	**+4.2**
ARUT	**Antelope Range**	**5.67**	**19**	*e*Pn	**Pn**	**05 29 26.5**	**0.0**
	2.1nm,0.5s						
W18A	**Petrified Fore**	**5.71**	**61**	*e*Pn	Pn	05 29 31.9	+4.8
	33nm,0.4s						
W18A				*e*Sn	**Sn**	**05 30 36.4**	**+3.6**
TPH	**Tonopah**	**5.74**	**349**	Pg	**Pg**	**05 29 51.2**	**-0.8**
	7.3nm,0.7s						
NVAR	**Mina Array Bea**	**6.31**	**342**	Pn	**Pn**	**05 29 37.8**	**+2.4**
	0.1nm,0.3s,baz=160,slow=16,SNR=5.4						
LAZ	**Ladron**	**7.50**	**73**	*e*Pn	**Pn**	**05 29 50.4**	**-1.3**
	2.9nm,0.8s						
LAZ				*e*Sn	**Sn**	**05 31 20.2**	**+3.4**
TMUT	**Trail Mountain**	**7.78**	**27**	*e*Pn	Pn	05 30 00.3	+4.6
	7.0nm,0.6s						
SRU	**San Rafael Swe**	**7.91**	**31**	*e*Pn	**Pn**	**05 29 57.8**	**+0.4**
	11nm,0.7s						
SRU				*e*Sg	**Sg**	**05 32 14.5**	**-1.4**
ANMO	**Albuquerque**	**8.17**	**70**	*e*Pn	**Pn**	**05 30 03.6**	**+2.7**
	4.3nm,0.7s						
ILAR	**Eielson Array**	**37.56**	**339**	P	**P**	**05 35 15.1**	**-1.2**
	1.0nm,0.7s,baz=148,slow=7.5,SNR=16						

IDC 05 05:35:28.6±4.3, 50.˚34S×115.˚18E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/15, mbtmpg3.7/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/14, Error ellipse: s-maj=643.3km s-min=62.8km az=120.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.45**	**357**	T	T	05 55 49.1	
	baz=173,slow=74,SNR=20						
H01W1	**Cape Leeuwin H**	**15.45**	**357**	T	T	05 55 51.4	
	baz=173,slow=74,SNR=29						
H01W3	**

COK	**Cook Ranch**	**0.19**	**7**	⇓*i*P		**Pb**	**05 41 42.4**	**-0.5**
SWSC	**Sam W. Stewart**	**0.28**	**353**	⇑P		**Pg**	**05 41 43.8**	**+0.5**
	baz=0.3							
SWSC				⇓S		**Sg**	**05 41 47.4**	**+0.3**
	baz=0.3							
CRR	**Carrizo Plain**	**0.29**	**321**	⇓*i*P		**Pg**	**05 41 43.7**	**+0.4**
MONP	**Monument Peak,**	**0.60**	**292**	⇓P		**Pg**	**05 41 49.5**	**+0.2**
	baz=0.6							
MONP				⇓S		**Sg**	**05 41 57.4**	**+0.1**
	baz=0.6							
BAR	**Barrett**	**0.77**	**272**	*e*Pg		**Pg**	**05 41 52.2**	**-0.3**
BAR				*e*Sg		**Sg**	**05 42 02.3**	**-0.3**
CBX	**Cerro Bola**	**0.84**	**246**	⇑*e*P		**Pg**	**05 41 53.6**	**-0.2**
CBX				*e*S		**Sg**	**05 42 04.8**	**0.0**
CBX				⇓*e*			05 42 08.4	
CBX					AML	AML	05 42 08.4	
	comp=N,5μm,0.4s							
CBX				⇑*e*			05 42 11.2	
CBX					AML	AML	05 42 11.2	
	comp=E,5μm,0.7s							
GLA	**Glamis**	**0.87**	**63**	⇓P		**Pg**	**05 41 53.7**	**-0.6**
	baz=0.9							
GLA				⇓S		**Sg**	**05 42 05.8**	**+0.1**
	baz=0.9							
GLA	**Glamis**	**0.87**	**63**	*e*Pg		**Pg**	**05 41 53.6**	**-0.7**
GLA				*e*Sg		**Sg**	**05 42 06.0**	**+0.3**
BC3	**Big Chuckawall**	**1.02**	**14**	⇑P		**Pb**	**05 41 56.3**	**-0.8**
	baz=1.1							
BC3				⇓S		**Sb**	**05 42 09.6**	**-0.9**
	baz=1.1							
PFO	**Pinyon Flats O**	**1.11**	**328**	⇑P		**Pb**	**05 41 57.6**	**-1.2**
	baz=1.2							
PFO				⇑S		**Sb**	**05 42 12.2**	**-1.0**
	baz=1.2							
PFO	**Pinyon Flats O**	**1.11**	**328**	*e*Pg		**Pb**	**05 41 57.5**	**-1.2**
PFO				*e*Sg		**Sb**	**05 42 12.4**	**-0.8**
109C	**Camp Elliot, M**	**1.16**	**282**	⇑P		**Pb**	**05 41 58.8**	**-0.7**
	baz=1.2							
109C				⇓S		**Sb**	**05 42 13.7**	**-0.7**
	baz=1.2							
BELC	**Belle Mtn. Jos**	**1.35**	**351**	⇓P		**Pn**	**05 42 00.9**	**-1.4**
	baz=1.4							
BELC				⇑S		**Sb**	**05 42 18.7**	**-1.3**
	baz=1.4							
Y12C	**Blythe**	**1.50**	**43**	⇓P		**Pn**	**05 42 03.3**	**-0.8**
	baz=1.5							
Y12C				⇓S		**Sn**	**05 42 22.6**	**-1.0**
	baz=1.5							
MURC	**Murrieta**	**1.53**	**308**	⇑P		**Pn**	**05 42 03.6**	**-1.0**
	baz=1.6							
MURC				⇓Sb		**Sb**	**05 42 25.1**	**-0.1**
	baz=1.6							
IRM	**Iron Mountain**	**1.58**	**19**	⇑P		**Pn**	**05 42 04.7**	**-0.5**
	baz=1.6							
IRM				⇓S		**Sn**	**05 42 24.7**	**-0.9**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.63**	**171**	*e*P		**Pn**	**05 42 06.7**	**+0.4**
SPIG				*e*S		**Sb**	**05 42 28.3**	**+0.1**
SPX	**San Pedro Mart**	**1.63**	**171**	*e*P		**Pn**	**05 42 06.6**	**+0.3**
SPX				*e*S		**Sb**	**05 42 28.9**	**+0.5**
SPX					AML	AML	05 42 32.5	
	comp=E,714nm,0.5s							
SPX				⇑*e*			05 42 32.5	
113A	**Mohawk Valley,**	**1.68**	**86**	⇓P		**Pn**	**05 42 05.6**	**-1.0**
	baz=1.7							
113A				⇓S		**Sn**	**05 42 26.6**	**-1.5**
	baz=1.7							
BBRC	**Big Bear Solar**	**1.87**	**329**	⇑P		**Pn**	**05 42 09.2**	**-0.2**
	baz=1.9							
BBRC				⇓S		**Sn**	**05 42 32.1**	**-1.0**
	baz=1.9							
GMRC	**Granite Mounta**	**2.11**	**2**	⇑P		**Pn**	**05 42 11.8**	**-0.9**
	baz=2.2							
PDMCI	**Parker Dam,Lak**	**2.12**	**39**	⇑S		**Sn**	**05 42 37.8**	**-1.1**
	baz=2.2							
BFSC	**Mount Baldy Ra**	**2.24**	**315**	⇓P		**Pn**	**05 42 13.6**	**-0.8**
	baz=2.3							
BFSC				⇓Sb		**Sb**	**05 42 45.8**	**+0.2**
	baz=2.3							
NEE2	**Needles Airpor**	**2.30**	**24**	⇓P		**Pn**	**05 42 14.6**	**-0.6**
	baz=2.4							
CIS	**Catalina Islan**	**2.34**	**289**	⇑Sb		**Sb**	**05 42 47.8**	**-0.7**
	baz=2.4							
LDFC	**Landfair**	**2.47**	**12**	*e*Pn		**Pn**	**05 42 18.1**	**+0.5**
LDFC				*e*Sg		**Sg**	**05 43 02.1**	**+5.3**
MWC	**Mount Wilson**	**2.48**	**310**	*e*Pn		**Pn**	**05 42 19.6**	**+1.8**
MWC				*e*Sn		**Sb**	**05 42 51.8**	**-0.8**
PASC	**Pasadena Art C**	**2.53**	**307**	*e*Pn		**Pb**	**05 42 21.1**	**-1.7**
PASC				*e*Sg		**Sg**	**05 42 58.3**	**-0.4**
214A	**Organ Pipe Nat**	**2.59**	**105**	*e*Pn		**Pn**	**05 42 20.5**	**+1.4**
214A				*e*Sn		**Sn**	**05 42 51.0**	**+0.4**
DECC	**Green Verdugo**	**2.67**	**307**	⇑Sb		**Sb**	**05 42 59.3**	**+1.3**
	baz=2.7							
GSC	**Goldstone, Bar**	**2.77**	**342**	*e*Pn		**Pn**	**05 42 23.2**	**+1.4**
GSC				*e*Sg		**Sg**	**05 43 09.6**	**+3.0**
ISA	**Isabella, Lake**	**3.75**	**324**	*e*Pn		**Pn**	**05 42 35.4**	**+0.2**
ISA				*e*Sn		**Sn**	**05 43 23.6**	**+4.3**
ARUT	**Antelope Range**	**5.45**	**20**	*e*Pn		Pn	05 43 02.0	+3.4
	comp=E,1.8nm,0.7s							
ARUT				*e*Sg		**Sg**	**05 44 34.2**	**+1.7**
TPH	**Tonopah**	**5.53**	**348**	*e*Pg		**Pg**	**05 43 21.7**	**-1.7**
	comp=E,12nm,0.8s							
121A	**Cookes Peak, D**	**6.73**	**89**	*e*Pn		**Pn**	**05 43 16.1**	**-0.1**
	comp=E,22nm,0.5s							
121A				*e*Sn		**Sn**	**05 44 33.6**	**+0.7**
MVCO	**Mesa Verde**	**7.49**	**51**	*e*Pn		Pn	05 43 31.2	+4.5
	comp=E,16nm,0.7s							
MVCO				*e*Sn		**Sn**	**05 44 53.8**	**+2.2**
TMUT	**Trail Mountain**	**7.58**	**28**	*e*Pn		**Pn**	**05 43 29.5**	**+1.6**
TMUT				*e*Sg		**Sg**	**05 45 40.4**	**-0.2**

MEX ***05*** *05:49:13.4±0.4, 32°.16N×116°.13W, h15km, MD3.9*
ISCJB ***05*** *05:49:14.5±1.1, 32°.11N±0°.06×115°.42W±0°.05, h10km, Error ellipse: s-maj=8.8km s-min=4.8km az=23.1*
ECX ***05*** *05:49:14.0±0.4, 32°.09N×114°.95W, h6km, ML3.9*
ISC 05 05:49:12.9±1.3, 32°.17N±0°.05×115°.56W±0°.05, h10km, n9, σ1s87/12, 3C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.32**	**123**	⇑*e*P	**Pg**	**05 49 18.7**	**-0.7**
EMX				*e*S	**Sg**	**05 49 22.7**	**-1.0**
RDX	**Rancho Dawling**	**0.40**	**234**	*e*P	**Pg**	**05 49 19.0**	**-1.9**
RDX				*e*S	**Sb**	**05 49 30.8**	**+2.3**
RMX	**La Rumorosa**	**0.62**	**315**	*e*P	**Pg**	**05 49 24.0**	**-0.9**
RMX				*e*S	**Sn**	**05 49 38.7**	**+0.7**
ECBX	**El Chinero**	**0.82**	**148**	*e*P	Pg	05 49 23.4	-5.2
ECBX				*e*S	Sg	05 49 32.0	-7.3
CBX	**Cerro Bola**	**0.95**	**279**	*e*P	Pn	05 49 39.4	+7.0
CBX				*e*S	Sn	05 49 59.4	+13
CBX				AML	AML	05 50 10.1	
	comp=N,2μm,0.5s						
CBX				⇑*e*		05 50 10.1	
CBX				AML	AML	05 50 15.7	
	comp=E,3μm,0.5s						
CBX				⇑*e*		05 50 15.7	
ECNX	**Esteban Cantu**	**1.02**	**240**	*e*P	Pg	05 49 29.4	-3.1
ECNX				*e*S	**Sn**	**05 49 48.9**	**+1.1**
PBX	**Punta Banda**	**1.08**	**247**	*e*P	**Pg**	**05 49 31.4**	**-2.2**
PBX				*e*S	**Sn**	**05 49 52.4**	**+3.3**
SPIG	**San Pedro Mart**	**1.12**	**176**	*e*P	**Pg**	**05 49 33.3**	**-1.2**
SPIG				*i* S	**Sg**	**05 49 47.9**	**-1.2**
SPX	**San Pedro Mart**	**1.12**	**176**	*e*P	**Pg**	**05 49 34.0**	**-0.5**

WEL 05 05:49:31.0±0.4, 36°.80S×177°.57E, h139km±4km, ML3.6/11, 4C, Error ellipse: s-maj=5.4km s-min=4.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**142**	⇑PN	Pn	05 49 54.3	0.0
MXZ				SN	Sn	05 50 12.8	+0.6
HAZ	**Te Kaha**	**0.97**	**170**	⇑PN	Pn	05 49 54.5	+0.1
HAZ				SN	Sn	05 50 11.9	-0.3
WMGZ	**Waiomatatini S**	**1.22**	**147**	PN	Pn	05 49 56.7	-0.1
WMGZ				SN	Sn	05 50 16.5	+0.1
PUZ	**Puketiti**	**1.38**	**157**	PN	Pn	05 49 58.1	-0.4
PUZ				SN	Sn	05 50 18.3	-1.2
PUZ				AML	AML	05 50 19.7	
TWGZ	**Tauwhareparae**	**1.41**	**167**	⇑PN	Pn	05 49 59.3	+0.5
TWGZ				SN	Sn	05 50 19.7	-0.4
URZ	**Urewera**	**1.50**	**194**	⇑PN	Pn	05 49 59.9	+0.2
URZ				AML	AML	05 50 22.1	
URZ				AML	AML	05 50 22.8	
MWZ	**Matawai**	**1.53**	**181**	PN	Pn	05 50 00.0	-0.1
MWZ				AML	AML	05 50 22.6	
MWZ				AML	AML	05 50 22.6	
TKGZ	**Te Karaka**	**1.65**	**172**	PN	Pn	05 50 01.3	-0.1
CNGZ	**Carnagh Statio**	**1.75**	**163**	PN	Pn	05 50 02.6	0.0
RIGZ	**Rimuhau**	**1.91**	**175**	PN	Pn	05 50 03.9	-0.4
SNGZ	**Shannon Statio**	**1.98**	**185**	PN	Pn	05 50 05.1	-0.2
PRGZ	**Paritu Road**	**2.13**	**173**	PN	Pn	05 50 06.2	-0.8
RAHZ	**Arahi**	**2.15**	**190**	PN	Pn	05 50 07.3	+0.1
KNZ	**Kokohu**	**2.22**	**178**	PN	Pn	05 50 07.1	-0.9
WHHZ	**Waihua**	**2.29**	**187**	PN	Pn	05 50 08.6	-0.3
MHGZ	**Mahia Peninsul**	**2.36**	**174**	PN	Pn	05 50 09.1	-0.8
ARHZ	**Arapaoanui**	**2.50**	**190**	PN	Pn	05 50 09.9	-1.6
BKZ	**Black Stump Fm**	**2.51**	**199**	PN	Pn	05 50 12.3	+0.6
MCHZ	**McNeill Hill**	**2.73**	**194**	PN	Pn	05 50 14.1	-0.3
FWVZ	**Far West T-bar**	**2.92**	**212**	PN	Pn	05 50 17.5	+0.4
BHHZ	**Black Hill Sta**	**2.93**	**203**	PN	Pn	05 50 16.4	-0.7
KRHZ	**Kereru**	**2.99**	**198**	PN	Pn	05 50 16.6	-1.2
KAHZ	**Kahuranaki**	**3.04**	**190**	PN	Pn	05 50 17.0	-1.4
PXZ	**Pawanui**	**3.27**	**190**	PN	Pn	05 50 19.1	-2.3
PNHZ	**Pukenui**	**3.29**	**199**	PN	Pn	05 50 19.9	-1.8
TSZ	**Takapari Road**	**3.49**	**201**	PN	Pn	05 50 22.4	-1.8
PRHZ	**Porangahau**	**3.54**	**192**	PN	Pn	05 50 23.1	-1.8
DVHZ	**Dannevirke**	**3.66**	**197**	PN	Pn	05 50 24.0	-2.5
PRWZ	**Pori Road**	**3.95**	**198**	PN	Pn	05 50 29.4	-0.9
BFZ	**Birch Farm**	**4.01**	**195**	PN	Pn	05 50 28.1	-3.0
MRZ	**Mangatainoka R**	**4.16**	**201**	PN	Pn	05 50 29.8	-3.1
TIWZ	**Tintock**	**4.18**	**198**	PN	Pn	05 50 30.6	-2.8
HOWZ	**Holdsworth Sta**	**4.39**	**201**	PN	Pn	05 50 32.6	-3.6
TMWZ	**Te Maipa**	**4.49**	**196**	PN	Pn	05 50 34.1	-3.4
KIW	**Kapiti Island**	**4.55**	**206**	AML	AML	05 50 42.5	
PLWZ	**Palliser**	**5.09**	**200**	PN	Pn	05 50 40.8	-4.6
TCW	**Tory Channel**	**5.10**	**209**	PN	Pn	05 50 41.7	-3.7
DSZ	**Denniston Nort**	**6.66**	**220**	PN	Pn	05 51 00.4	-6.1

IDC 05 05:51:16.7±8.3, 15°.57S×173°.16W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/33, mbtmp3.8/3, MS3.9/2, Ms1 3.9/2, ms1mx3.0/31, Error ellipse: s-maj=398.9km s-min=32.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.35**	**248**	LR	LR	06 02 13.8	
	comp=Z,55nm,20.7s,baz=150,slow=32						
WRA	**Warramunga Arr**	**50.03**	**257**	P	P	06 00 13.1	-0.3
	0.5nm,0.5s,baz=90,slow=6.9,SNR=15						
ASAR	**Alice Springs**	**50.27**	**252**	P	P	06 00 15.1	-0.2
	1.1nm,0.4s,baz=88,slow=8.4,SNR=20						
ILAR	**Eielson Array**	**82.57**	**11**	P	P	06 03 40.6	-0.5
	0.6nm,1.0s,baz=248,slow=4.8,SNR=4.2						
TEIG	**Tepich**	**90.63**	**69**	LR	LR	06 37 11.5	
	comp=Z,361nm,19.8s,baz=223,slow=30						
GERES	**GERESS Array B**	**146.34**	**352**	PKPbc	PKPdf	06 10 58.5	+0.1
	0.2nm,0.6s,baz=320,slow=2.6,SNR=3.1						
BRTR	**Keskin Array B**	**146.43**	**321**	PKPbc	PKPab	06 11 00.7	-0.4
	0.7nm,0.8s,baz=129,slow=1.8,SNR=3.9						

IDC ***05*** *06:02:03.9±0.9, 43°.05N×85°.10E, h0km, mb3.5/8, mb1 3.6/15, mb1mx3.5/34, mbtmp3.4/15, ML2.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/25, Error ellipse: s-maj=20.2km s-min=12.2km az=52.0*
ISCJB ***05*** *06:02:04.3±0.7, 43°.19N±0°.07×85°.12E±0°.09, h10km, mb3.5/8, MS2.9/1, Error ellipse: s-maj=10.9km s-min=9.3km az=15.3*
NNC ***05*** *06:02:10.1±1.9, 43°.29N×84°.83E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=18.1km s-min=9.3km az=125.0*
ISC 05 06:02:05.8±0.9, 43°.13N±0°.08×85°.08E±0°.08, h10km, n24, σ1s73/23, mb3.6/8, 11C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**4.09**	**275**	⇑Pn	**Pn**	**06 03 10.6**	**+2.3**
	2.7nm,0.4s						
PDGK				⇓Pg	**Pg**	**06 03 22.1**	**-2.0**
	9.6nm,0.4s						
PDGK				⇑Lg	Lg	06 04 13.3	
	65nm,0.7s						
MK31	**Makanchi Array**	**4.16**	**333**	⇑Pn	**Pn**	**06 03 12.3**	**+2.9**
	0.3nm,0.3s,baz=148,slow=15,SNR=160						
MK31				⇑Pg	**Pb**	**06 03 19.8**	**+0.7**
	5.0nm,0.4s,baz=151,slow=15,SNR=74						
MK31				⇑Lg	Lg	06 04 15.3	
	18nm,0.4s,baz=146,slow=29,SNR=9.6						
MKAR	**Makanchi Array**	**4.16**	**333**	Pn	**Pn**	**06 03 12.1**	**+2.7**
	0.5nm,0.3s,baz=149,slow=14,SNR=21						
MKAR				Pg	**Pb**	**06 03 20.8**	**+1.7**
	2.1nm,0.3s,baz=146,slow=16,SNR=29						
MKAR				Lg	Lg	06 04 15.7	
	20nm,0.3s,baz=144,slow=29,SNR=13						
TKM2	**Tokmak 2**	**6.95**	**271**	⇑Pn	**Pn**	**06 03 50.5**	**+2.7**
	2.8nm,0.8s						
TKM2				⇑Lg	Lg	06 05 46.3	
	8.7nm,0.6s						
AAK	**Ala-Archa**	**7.79**	**270**	⇑Lg	Lg	06 06 13.1	
	5.0nm,0.6s						
AAK	**Ala-Archa**	**7.79**	**270**	Pn	**Pn**	**06 04 00.8**	**+1.5**
	0.2nm,0.3s,baz=94,slow=14,SNR=2.6						
AAK				Lg	Lg	06 06 12.6	
	0.6nm,0.3s,baz=217,slow=20,SNR=2.9						
KURBB	**Kurchatov Arra**	**8.73**	**331**	⇓Pn	Pn	06 04 15.2	+3.2
	1.8nm,0.7s						
KURBB				⇑Lg	Lg	06 06 40.4	
	32nm,0.7s						
KURBB	**Kurchatov Arra**	**8.73**	**331**	Pn	**Pn**	**06 04 13.8**	**+1.9**
	0.0nm,0.3s,baz=145,slow=13,SNR=2.8						
KURBB				Sn	**Sn**	**06 05 49.4**	**-1.0**
	0.1nm,0.3s,baz=128,slow=30,SNR=4.6						
KURBB				Lg	Lg	06 06 40.3	
	0.3nm,0.3s,baz=158,slow=30,SNR=7.2						
KURK	**Kurchatov**	**8.78**	**332**	⇓Pn	Pn	06 04 16.7	+4.1
	0.9nm,0.9s						
KURK				⇓Lg	Lg	06 06 42.7	
	9.0nm,0.6s						
SFK	**Sufi-Kurgan**	**9.22**	**254**	⇑Lg	Lg	06 07 00.3	
	0.9nm,0.1s						
OTUK	**Ortayu**	**10.27**	**304**	⇑Lg	Lg	06 07 29.7	
	6.5nm,1.1s						
ZALV	**Zalesovo Beam**	**10.83**	**359**	Pn	**Pn**	**06 04 40.8**	**+0.1**
	0.3nm,0.3s,baz=177,slow=13,SNR=4.1						
ZALV				Sn	**Sn**	**06 06 38.1**	**-3.7**
	1.3nm,0.3s,baz=184,slow=22,SNR=12						
BVAR	**Borovoye Array**	**13.91**	**320**	Pn	**Pn**	**06 05 22.8**	**0.0**
	0.2nm,0.3s,baz=139,slow=11,SNR=2.7						
BVAR				Lg	Lg	06 09 28.3	
	0.3nm,0.3s,baz=120,slow=26,SNR=3.1						
SONM	**Songino Array**	**15.66**	**65**	Pn	**Pn**	**06 05 47.4**	**+0.9**
	0.1nm,0.3s,baz=252,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**19.84**	**301**	P	**Pn**	**06 06 38.0**	**-0.2**
	0.0nm,0.3s,baz=107,slow=11,SNR=1.9						
GEYT	**Alibeck**	**21.10**	**265**	P	**P**	**06 06 49.9**	**-0.5**
	1.7nm,0.4s,baz=93,slow=9.0,SNR=2.9						
ARCES	**ARCESS Array B**	**39.82**	**332**	P	**P**	**06 09 39.5**	**+0.8**
	1.9nm,1.1s,baz=96,slow=7.9,SNR=5.1						
MJAR	**Matsushiro Arr**	**40.75**	**81**	LR	LR	06 26 07.9	
	comp=Z,18nm,20.5s,baz=75,slow=35						
NOA	**NORSAR Array B**	**46.04**	**319**	P	**P**	**06 10 28.8**	**-0.4**
	0.2nm,0.4s,baz=77,slow=7.8,SNR=3.1						
ILAR	**Eielson Array**	**65.03**	**22**	P	**P**	**06 12 45.5**	**-0.1**
	0.3nm,0.8s,baz=316,slow=5.0,SNR=4.7						
YKA	**Yellowknife Ar**	**73.54**	**9**	P	**P**	**06 13 38.1**	**-0.2**
	0.1nm,0.5s,baz=338,slow=6.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**76.34**	**275**	P	**P**	**06 13 54.8**	**-0.5**
	0.3nm,0.5s,baz=51,slow=4.8,SNR=5.1						
WRA	**Warramunga Arr**	**77.38**	**133**	P	**P**	**06 14 00.4**	**-0.6**
	0.4nm,0.6s,baz=331,slow=5.5,SNR=5.4						
ASAR	**Alice Springs**	**80.21**	**136**	P	**P**	**06 14 15.7**	**-0.8**
	0.4nm,0.8s,baz=328,slow=5.1,SNR=5.1						

ISCJB ***05*** *06:03:18.0±0.4, 32°.77N±0°.03×115°.87W±0°.03, h11km±4km, Error ellipse: s-maj=5.0km s-min=3.4km az=37.6*
NEIC ***05*** *06:03:18.9, 32°.71N×115°.88W, h0km, ML3.4(PAS), After PAS.*
ECX ***05*** *06:03:19.5±0.5, 32°.71N×115°.86W, h3km, MD3.4, ML3.5*
ISC 05 06:03:18.6±0.9, 32°.69N±0°.03×115°.85W±0°.03, h15km±7km, n19, σ0s85/33, 2C-2D, California-Baja California border region

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

YUH	**Yuha Desert**	**0.08**	**235**	⇓*i*P		**Pg**	**06 03 21.4**	**-0.2**
SGL	**Mount Signal**	**0.11**	**112**	*e*P		**Pg**	**06 03 22.1**	**+0.2**
COK	**Cook Ranch**	**0.19**	**33**	⇑*i*P		**Pg**	**06 03 23.1**	**+0.1**
BAR	**Barrett**	**0.69**	**269**	*e*Pg		**Pg**	**06 03 32.0**	**-0.1**
BAR				*e*Sg		**Sg**	**06 03 41.2**	**-0.1**
CBX	**Cerro Bola**	**0.79**	**241**	*e*P		**Pg**	**06 03 34.0**	**+0.1**
CBX				*e*S		**Sg**	**06 03 44.5**	**+0.2**
CBX					AML	AML	06 03 45.8	
	comp=N,3μm,0.2s							
CBX				⇓*e*			06 03 45.8	
EMX	**El Mayor**	**0.87**	**144**	*e*P		**Pg**	**06 03 34.6**	**-0.9**
EMX				*e*S		**Sg**	**06 03 46.0**	**-0.1**
GLA	**Glamis**	**0.93**	**67**	*e*Pg		**Pg**	**06 03 36.0**	**-0.6**
GLA				*e*Sg		**Sg**	**06 03 49.3**	**+0.4**
PFO	**Pinyon Flats O**	**1.05**	**331**	*e*Pg		**Pb**	**06 03 37.4**	**-1.1**
PFO				*e*Sg		**Sb**	**06 03 51.8**	**-0.3**
YMD	**Yuma Desert**	**1.11**	**97**	⇑*i*P		**Pb**	**06 03 38.6**	**-0.9**
ECBX	**El Chinero**	**1.39**	**151**	*e*P		**Pb**	**06 03 44.3**	**0.0**
ECBX				*e*S		**Sg**	**06 04 03.1**	**-0.4**
SPIG	**San Pedro Mart**	**1.67**	**169**	*e*P		**Pn**	**06 03 48.8**	**+1.1**
SPX	**San Pedro Mart**	**1.67**	**169**	*e*P		**Pn**	**06 03 48.9**	**+1.1**
SPX				*e*S		**Sg**	**06 04 12.5**	**-0.1**
MWC	**Mount Wilson**	**2.40**	**310**	*e*Pg		**Pg**	**06 04 05.2**	**+0.6**
MWC				*e*Sg		**Sg**	**06 04 34.4**	**-1.3**
PASC	**Pasadena Art C**	**2.45**	**308**	*e*Pn		**Pn**	**06 03 59.9**	**+1.8**
PASC				*e*Sg		**Sg**	**06 04 36.5**	**-0.8**
GSC	**Goldstone, Bar**	**2.72**	**343**	*e*Pn		**Pn**	**06 04 03.7**	**+1.8**
GSC				*e*Sg		**Sg**	**06 04 46.0**	**-0.1**
OSI	**Osito Audit: C**	**3.07**	**309**	*e*Pn		**Pn**	**06 04 07.5**	**+0.9**
OSI				*e*Sg		**Sg**	**06 04 56.8**	**-0.5**
ISA	**Isabella, Lake**	**3.68**	**324**	*e*Pn		**Pn**	**06 04 15.7**	**+0.7**
ISA				*e*Sg		**Sg**	**06 05 16.1**	**-0.6**
121A	**Cookes Peak, D**	**6.81**	**89**	*e*Pn		**Pn**	**06 04 58.9**	**+0.7**
	comp=N,6.1nm,0.3s							
121A				*e*Sn		**Sn**	**06 06 14.0**	**-1.5**
SRU	**San Rafael Swe**	**7.72**	**32**	*e*Pn		**Pn**	**06 05 11.2**	**+0.5**
	comp=N,4.3nm,0.7s							
SRU				*e*Sg		**Sg**	**06 07 27.4**	**+0.9**

CSEM ***05*** *06:03:56.9±0.2, 39°.47N×31°.58E, h6km±1km, MD2.8, Error ellipse: s-maj=6.7km s-min=3.2km az=54.0*
DDA ***05*** *06:03:58.6, 39°.19N×31°.26E, h7km, MD2.6*
ISK 05 06:03:56.7, 39°.47N×31°.55E, h6km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRH	**Sivrihisar-ESK**	**0.03**	**232**	*e*PG	Pg	06 03 58.1	+0.1
SVRH	**Sivrihisar-ESK**	**0.03**	**232**	*e*Pg	Pg	06 03 58.1	+0.1
SEYT	**Eskypehyr**	**0.55**	**276**	*i* P	Pg	06 04 07.8	+0.4
SEYT				*i* S	Sb	06 04 16.9	-0.2
SEYT	**Eskypehyr**	**0.55**	**276**	*i* P	Pg	06 04 07.8	+0.4
SEYT				*i* S	Sb	06 04 16.9	-0.2
KIZT	**Kizilcal**	**0.64**	**156**	*e*PG	Pg	06 04 09.4	+0.3
KIZT				*e*SG	Sb	06 04 18.7	-1.0
KIZT	**Kizilcal**	**0.64**	**156**	*e*Pg	Pg	06 04 09.5	+0.4
KIZT				*e*Sg	Sb	06 04 18.7	-1.0
BORA	**Eskisehir**	**0.94**	**296**	*i* P	Pn	06 04 16.2	-0.5
BORA				*i* S	Sn	06 04 32.5	+1.9
BORA	**Eskisehir**	**0.94**	**296**	*i* P	Pn	06 04 16.1	-0.5
BORA				*i* S	Sn	06 04 32.5	+1.9
KDHN	**Kadinhani**	**1.04**	**155**	*i* P	Pb	06 04 17.1	-0.2
KDHN				*i* S	Sg	06 04 30.2	-0.2
KDHN	**Kadinhani**	**1.04**	**155**	*i* P	Pb	06 04 17.1	-0.1
KDHN				*i* S	Sg	06 04 30.2	-0.2
MDUB	**Mudurnu**	**1.04**	**345**	*e*PG	Pg	06 04 16.9	0.0
MDUB	**Mudurnu**	**1.04**	**345**	*e*Pg	Pg	06 04 16.9	0.0
ALT	**Altintas**	**1.19**	**250**	*e*PN	Pb	06 04 19.9	+0.1
ALT				*e*SN	Sn	06 04 36.7	0.0
ALT	**Altintas**	**1.19**	**250**	*e*Pn	Pn	06 04 20.0	-0.1
ALT				*e*Sn	Sn	06 04 36.7	0.0
GULT	**Gulveren**	**1.25**	**321**	*e*PN	Pg	06 04 21.3	+0.4
GULT

IRM	**Iron Mountain**	**1.60**	**19**	⇓P		**Pn**	**06 17 26.5**	**-1.8**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.61**	**171**	*e*P		**Pn**	**06 17 27.9**	**-0.8**
SPIG				*e*S		**Sn**	**06 17 48.7**	**-1.0**
SPIG	**San Pedro Mart**	**1.61**	**171**	*e*P		**Pn**	**06 17 27.9**	**-0.8**
SPIG	**San Pedro Mart**	**1.61**	**171**	*e*P		**Pn**	**06 17 27.9**	**-0.8**
SPIG				*e*S		**Sn**	**06 17 48.7**	**-1.0**
SPX	**San Pedro Mart**	**1.61**	**170**	*e*P		**Pn**	**06 17 27.9**	**-0.7**
SPX				AML		AML	06 17 58.7	
	comp=E,1μm,0.6s							
SPX				⇑*e*			06 17 58.7	
113A	**Mohawk Valley,**	**1.70**	**85**	⇑P		**Pn**	**06 17 27.9**	**-1.6**
	baz=1.7							
113A				⇓S		**Sn**	**06 17 48.7**	**-2.7**
	baz=1.7							
BBRC	**Big Bear Solar**	**1.88**	**330**	⇓P		**Pn**	**06 17 29.9**	**-2.5**
	baz=1.9							
GMRC	**Granite Mounta**	**2.14**	**3**	⇑P		**Pn**	**06 17 34.1**	**-1.7**
	baz=2.2							
GMRC				⇑S		**Sn**	**06 17 59.8**	**-2.6**
	baz=2.2							
PDMCI	**Parker Dam,Lak**	**2.15**	**39**	⇑P		**Pn**	**06 17 34.5**	**-1.3**
	baz=2.2							
HEC	**Hector,Ludlow**	**2.23**	**348**	⇑P		**Pn**	**06 17 35.3**	**-1.7**
	baz=2.3							
BFSC	**Mount Baldy Ra**	**2.24**	**316**	⇑P		**Pn**	**06 17 35.7**	**-1.4**
	baz=2.2							
BFSC				⇓Sb		**Sb**	**06 18 07.7**	**-0.7**
	baz=2.2							
NEE2	**Needles Airpor**	**2.33**	**24**	⇑P		**Pn**	**06 17 36.8**	**-1.5**
	baz=2.4							
NEE2				⇓S		**Sn**	**06 18 04.8**	**-2.2**
	baz=2.4							
SCI	**San Clemente I**	**2.36**	**279**	⇑S		**Sn**	**06 18 06.3**	**-1.5**
	baz=2.3							
FMP	**Fort Macarthur**	**2.37**	**298**	⇓Sb		**Sb**	**06 18 11.7**	**-0.2**
	baz=2.4							
MWC	**Mount Wilson**	**2.48**	**310**	*e*Pn		**Pn**	**06 17 41.4**	**+0.9**
MWC				*e*Sn		**Sg**	**06 18 20.9**	**+1.3**
Z14A	**Wintersburg**	**2.48**	**72**	⇑P		**Pn**	**06 17 38.8**	**-1.6**
	baz=2.5							
LDFC	**Landfair**	**2.50**	**13**	*e*Pn		**Pn**	**06 17 40.6**	**-0.1**
PASC	**Pasadena Art C**	**2.53**	**308**	*e*Pn		**Pn**	**06 17 39.7**	**-1.3**
PASC				*e*Sg		**Sg**	**06 18 20.7**	**-0.5**
214A	**Organ Pipe Nat**	**2.60**	**104**	⇑P		**Pn**	**06 17 39.9**	**-2.1**
	baz=2.6							
214A	**Organ Pipe Nat**	**2.60**	**104**	*e*Pn		**Pn**	**06 17 39.7**	**-2.3**
214A				*e*Sn		**Sn**	**06 18 09.5**	**-4.2**
Y14A	**Wickenburg**	**2.66**	**60**	⇑P		**Pn**	**06 17 41.5**	**-1.3**
	baz=2.7							
GSC	**Goldstone, Bar**	**2.79**	**342**	*e*Pn		**Pn**	**06 17 43.3**	**-1.4**
GSC				*e*Sn		**Sn**	**06 18 19.2**	**+0.7**
OSI	**Osito Audit: C**	**3.15**	**309**	*e*Pg		**Pg**	**06 17 59.4**	**-0.9**
OSI				*e*Sn		**Sn**	**06 18 28.8**	**+1.5**
ISA	**Isabella, Lake**	**3.76**	**324**	*e*Pn		**Pn**	**06 17 58.9**	**+1.0**
SHPR	**Sheep Range**	**3.89**	**7**	*e*Pn		**Pn**	**06 17 59.0**	**-0.8**
SHPR				*e*Sg		**Sg**	**06 19 04.3**	**-0.4**
TUC	**Tucson**	**4.23**	**93**	*e*P		**Pn**	**06 18 02.9**	**-1.5**
WUAZ	**Wupatki**	**4.64**	**51**	*e*Pn		**Pn**	**06 18 11.0**	**+0.7**
CCUT	**Cedar City**	**5.28**	**21**	*e*Pn		**Pn**	**06 18 20.2**	**+1.1**
	comp=E,35nm,0.8s							
CCUT				*e*Sn		**Sn**	**06 19 21.1**	**+0.9**
ARUT	**Antelope Range**	**5.48**	**20**	*e*Pn		**Pn**	**06 18 22.3**	**+0.6**
	comp=E,5.2nm,0.6s							
ARUT				*e*Sg		**Sg**	**06 20 00.9**	**+5.1**
TPH	**Tonopah**	**5.55**	**348**	*e*Pn		**Pn**	**06 18 24.0**	**+1.2**
	comp=E,19nm,0.8s							
TPH				*e*Sn		**Sn**	**06 19 23.6**	**-3.1**
W18A	**Petrified Fore**	**5.60**	**62**	*e*Pn		**Pn**	**06 18 24.6**	**+1.2**
	comp=E,65nm,0.5s							
W18A				*e*Sg		**Sg**	**06 19 59.7**	**+0.2**
R11A	**Troy Canyon, C**	**5.70**	**1**	*e*Pn		**Pn**	**06 18 26.4**	**+1.6**
	comp=E,14nm,0.7s							
R11A				*e*Sg		**Sg**	**06 20 05.4**	**+2.6**
NVAR	**Mina Array Bea**	**6.13**	**341**	Pn		Pn	06 18 36.2	+5.4
	comp=E,0.4nm,0.3s,baz=159,slow=15,SNR=4.6							
NVAR				Pg		Pb	06 18 51.3	+4.4
	comp=E,1.0nm,0.3s,baz=156,slow=17,SNR=12							
NVAR				Lg		Lg	06 20 17.2	
	baz=182,slow=33,SNR=2.9							
WAKR	**Walker**	**6.57**	**334**	*e*Pg		**Pg**	**06 19 05.0**	**-0.7**
	comp=E,14nm,0.9s							
121A	**Cookes Peak, D**	**6.74**	**89**	*e*Pn		**Pn**	**06 18 38.4**	**-0.7**
	comp=E,76nm,0.5s							
121A				*e*Sn		**Sn**	**06 19 55.1**	**-0.9**
LENM	**Lemitar**	**7.51**	**76**	*e*Pn		**Pn**	**06 18 50.1**	**+0.4**
	comp=E,21nm,0.5s							
MVCO	**Mesa Verde**	**7.51**	**51**	*e*Pn		**Pn**	**06 18 52.0**	**+2.3**
	comp=E,32nm,0.6s							
MVCO				*e*Sg		**Sg**	**06 21 04.1**	**+3.0**
TMUT	**Trail Mountain**	**7.60**	**28**	*e*Pn		**Pn**	**06 18 53.8**	**+2.8**
	comp=E,18nm,0.6s							
TMUT				*e*Sn		**Sn**	**06 20 19.5**	**+2.1**
SRU	**San Rafael Swe**	**7.74**	**32**	*e*Pn		**Pn**	**06 18 54.8**	**+2.1**
	comp=E,36nm,0.6s							
LPM	**Los Pinos Moun**	**7.82**	**75**	*e*Pn		**Pn**	**06 18 54.2**	**+0.3**
	comp=E,12nm,0.4s							
ANMO	**Albuquerque**	**8.09**	**71**	Pn		**Pn**	**06 18 58.9**	**+1.3**
	comp=E,0.8nm,0.3s,baz=258,slow=13,SNR=33							
ANMO				Lg		Lg	06 21 14.9	
	baz=30,slow=20,SNR=2.4							
ELK	**Elko**	**8.10**	**3**	Pn		Pn	06 19 05.0	+7.2
	comp=E,0.1nm,0.3s,baz=187,slow=17,SNR=2.6							
ELK				Lg		Lg	06 21 23.8	
	comp=E,0.1nm,0.3s,baz=241,slow=19,SNR=4.4							
O20A	**White River Ci**	**9.63**	**37**	*e*Pn		**Pn**	**06 19 21.0**	**+2.3**
	comp=E,15nm,0.8s							
TXAR	**Lajitas Array**	**10.90**	**104**	Pn		**Pn**	**06 19 37.1**	**+1.1**
	comp=E,0.3nm,0.3s,baz=284,slow=14,SNR=15							
MSTX	**Muleshoe**	**10.96**	**80**	*e*Pn		**Pn**	**06 19 38.5**	**+1.6**
	comp=E,36nm,0.8s							
PDAR	**Pinedale Array**	**11.24**	**24**	Pn		**Pn**	**06 19 43.8**	**+3.0**
	comp=E,0.1nm,0.3s,baz=219,slow=13,SNR=7.8							
NEW	**Newport**	**15.64**	**357**	Pn		**P**	**06 20 49.2**	**+4.7**
	comp=E,0.1nm,0.3s,baz=176,slow=16,SNR=9.9							
NEW				LR		LR	06 27 24.1	
	comp=E,162nm,20.4s,baz=206,slow=39							
BBB	**Bella Bella**	**21.50**	**339**	LR		LR	06 29 41.1	
	comp=E,151nm,21.6s,baz=180,slow=35							
ULM	**Lac du Bonnet**	**22.95**	**34**	P		**P**	**06 22 06.1**	**+1.9**
	comp=E,2.0nm,0.8s,baz=228,slow=10,SNR=4.0							
TKL	**Tuckaleechee C**	**26.59**	**75**	LR		LR	06 33 08.8	
	comp=E,72nm,18.9s,baz=216,slow=36							
YKA	**Yellowknife Ar**	**29.88**	**1**	P		P	06 23 11.4	+4.1
	comp=E,0.1nm,0.6s,baz=181,slow=9.5,SNR=4.9							
SADO	**Sadowa**	**30.79**	**56**	LR		LR	06 35 59.9	
	comp=E,32nm,20.9s,baz=60,slow=37							
INK	**Inuvik**	**37.15**	**349**	P		P	06 24 15.2	+4.8
	comp=E,0.6nm,0.8s,baz=151,slow=7.9,SNR=3.6							
ILAR	**Eielson Array**	**37.38**	**339**	P		P	06 24 17.6	+5.1
	comp=E,0.5nm,0.9s,baz=148,slow=7.1,SNR=5.5							

*IDC **05** 06:19:34.5±1.0, 35.°69S×73.°43W, h0km, mb4.0/6, mb1 4.1/9, mb1mx3.8/31, mbtmp4.0/9, ML3.8/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=32.5km s-min=17.1km az=89.0*
*ISCJB **05** 06:19:36.3±0.6, 35.°67S±0.°04×73.°49W±0.°07, h33km, mb4.0/6, MS3.5/4, Error ellipse: s-maj=7.8km s-min=5.1km az=2.0*
*GUC **05** 06:19:36.2±0.6, 35.°77S×73.°48W, h45km±2km, ML4.9*
*NEIC **05** 06:19:39.1±0.8, 35.°67S×73.°32W, h35km, mb4.2/1, Error ellipse: s-maj=20.1km s-min=11.1km az=88.0*

ISC 05 06:19:39.4±0.7, 35.°73S±0.°05×73.°41W±0.°08, h35km, n30, σ1$44/33, mb4.1/6, MS3.5/4, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.64**	**129**	⇓*i*P	**Pn**	**06 19 49.5**	**-2.5**
COCH				*i* S	**Sn**	**06 19 59.7**	**-1.3**
CCSP	**San Pedro de C**	**1.14**	**168**	*e*P	**Pn**	**06 19 56.0**	**-2.8**
LNCH	**Linares**	**1.47**	**95**	⇑*i*P	**Pn**	**06 20 02.3**	**-1.1**
LNCH				*i* S	**Sn**	**06 20 21.8**	**+0.4**
TALC	**Talca**	**1.48**	**78**	⇑*i*P	**Pn**	**06 20 01.7**	**-1.8**
TALC				*i* S	**Sn**	**06 20 21.6**	**-0.1**
NICH	**Los Niches**	**1.92**	**69**	*e*P	**Pn**	**06 20 08.4**	**-1.2**
CLCH	**Cerro Calan**	**3.32**	**46**	*e*P	**Pn**	**06 20 27.1**	**-1.8**
CLCH				AML	AML	06 21 37.3	
	comp=N,2μm,1.0s						
PEL	**Peldehue**	**3.42**	**42**	⇑*i*P	**Pn**	**06 20 28.7**	**-1.5**
PEL				AML	AML	06 21 45.3	
	comp=E,2μm,0.6s						
YECH	**El Yeso**	**3.42**	**54**	*e*P	**Pn**	**06 20 29.6**	**-0.9**
PLCA	**Paso Flores**	**5.48**	**157**	Pn	**Pn**	**06 20 58.3**	**-0.3**
	comp=E,1.4nm,0.3s,baz=332,slow=12,SNR=33						
PLCA				Lg	Lg	06 22 29.7	
	comp=E,3.6nm,0.3s,baz=270,slow=19,SNR=6.2						
PLCA				LR	LR	06 23 03.1	
	comp=E,215nm,20.4s,baz=292,slow=38						
PLCA	**Paso Flores**	**5.48**	**157**	*e*Pn	**Pn**	**06 20 58.3**	**-0.3**
	comp=E,83nm,0.8s						
PLCA				*e*Sn	**Sn**	**06 22 02.4**	**+1.9**
PLCA				Lg	Lg	06 22 29.7	
CFAA	**Coronel Fontan**	**5.95**	**48**	Pn	**Pn**	**06 21 03.8**	**-1.3**
	comp=E,0.9nm,0.3s,baz=222,slow=13,SNR=130						
CFAA				Lg	Lg	06 22 36.3	
	comp=E,0.2nm,0.3s,baz=94,slow=19,SNR=4.3						
CFAA				LR	LR	06 23 11.2	
	comp=E,16nm,21.1s,baz=236,slow=36						
LCO	**Las Campanas**	**7.07**	**20**	*e*Pn	**Pn**	**06 21 17.7**	**-3.0**
	comp=E,14nm,0.6s						
LCO				*e*Sn	**Sn**	**06 22 39.4**	**-0.7**
TRQA	**Tornquist**	**9.44**	**108**	*e*Pn	**Pn**	**06 21 52.5**	**-0.4**
	comp=E,20nm,1.1s						
USHA	**Ushuaia**	**19.41**	**171**	Pn	**Pn**	**06 24 04.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=340,slow=15,SNR=2.9						
LPAZ	**La Paz**	**19.92**	**15**	P	**Pn**	**06 24 11.7**	**+1.0**
	comp=E,0.1nm,0.3s,baz=185,slow=11,SNR=8.0						
LPAZ	**La Paz**	**19.92**	**15**	*e*P	**P**	**06 24 07.9**	**-0.9**
	comp=E,15nm,1.2s						
SIV	**San Ignacio**	**22.53**	**32**	P	**P**	**06 24 35.8**	**-0.5**
	comp=E,3.7nm,0.8s,baz=226,slow=14,SNR=7.3						
SIV				LR	LR	06 35 11.6	
	comp=E,289nm,18.7s,baz=251,slow=42						
NNA	**Nana**	**23.84**	**352**	LR	LR	06 32 10.2	
	comp=E,72nm,18.6s,baz=180,slow=32						
ATAH	**Atahualpa**	**28.82**	**350**	LR	LR	06 34 31.7	
	comp=E,69nm,19.0s,baz=198,slow=31						
BDFB	**Brasilia**	**30.24**	**55**	P	**P**	**06 25 45.7**	**-1.4**
	comp=E,2.1nm,0.8s,baz=191,slow=10,SNR=3.5						
BDFB				LR	LR	06 38 48.7	
	comp=E,136nm,18.9s,baz=270,slow=38						
VNA3	**Neumayer Olymp**	**48.20**	**157**	P	**P**	**06 28 16.1**	**+0.1**
VNA2	**Neumayer--Watz**	**48.87**	**156**	P	**P**	**06 28 21.6**	**+0.4**
	baz=295,slow=11						
SNAA	**Sanae**	**50.42**	**157**	P	**P**	**06 28 33.5**	**+0.4**
QSPA	**South Pole Qui**	**54.51**	**180**	P	**P**	**06 29 03.8**	**+0.3**
	comp=E,3.7nm,0.8s,baz=139,slow=9.3,SNR=12						
TXAR	**Lajitas Array**	**70.71**	**332**	P	**P**	**06 30 50.5**	**-1.4**
	comp=E,0.3nm,0.8s,baz=163,slow=6.6,SNR=3.6						
TORD	**Tordi Ar. Bea**	**85.85**	**71**	P	**P**	**06 32 18.2**	**+2.5**
	comp=E,1.2nm,0.9s,baz=259,slow=3.9,SNR=4.3						
ULM	**Lac du Bonnet**	**87.88**	**346**	P	**P**	**06 32 27.1**	**+2.3**
	comp=E,0.9nm,0.6s,baz=121,slow=5.9,SNR=2.0						
ABKAR	**Akbulak array**	**143.62**	**53**	*e*PKPdf	PKPbc	06 39 07.4	-0.1
ZALV	**Zalesovo Beam**	**156.28**	**33**	PKPab	**PKPab**	**06 39 58.2**	**+0.4**
	comp=E,0.7nm,0.4s,baz=315,slow=5.1,SNR=4.9						
MKAR	**Makanchi Array**	**158.73**	**51**	PKP	**PKPdf**	**06 39 32.7**	**-0.3**
	comp=E,0.3nm,0.8s,baz=318,slow=1.9,SNR=3.6						
MKAR				PKPab	**PKPab**	**06 40 08.2**	**-0.6**
	comp=E,0.4nm,0.8s,baz=300,slow=3.2,SNR=4.1						

*IDC **05** 06:20:50.5±8.9, 36.°03N×70.°01E, h91km±61km, mb3.4/4, mb1 3.4/8, mb1mx3.0/37, mbtmp3.7/8, ML3.5/4, Error ellipse: s-maj=83.0km s-min=45.3km az=162.0*
*NNC **05** 06:20:51.8±2.8, 36.°44N×69.°96E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=21.9km s-min=13.4km az=9.0*

ISC 05 06:20:53.4±1.8, 36.°3N±0.°1×69.°82E±0.°08, h100km, n29, σ1$27/36, mb3.7/3, 6C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.61**	**343**	⇑Pn	**Pn**	**06 21 34.5**	**+0.4**
	11nm,0.3s						
DZET				⇓Sn	**Sn**	**06 22 07.3**	**+2.0**
	57nm,0.5s						
SFK	**Sufi-Kurgan**	**4.70**	**37**	⇑Pn	**Pn**	**06 22 02.6**	**+0.3**
	10nm,0.3s						
SFK				⇓Sn	**Sn**	**06 22 57.3**	**+1.6**
	20nm,0.3s						
MNAS	**Manas**	**6.51**	**18**	⇑Pn	**Pn**	**06 22 27.7**	**+1.1**
	2.9nm,0.3s						
MNAS				⇓Sn	**Sn**	**06 23 40.2**	**+0.7**
	4.1nm,0.4s						
AML	**Almayashu**	**6.55**	**26**	P	**Pn**	**06 22 27.1**	**-0.2**
	SNR=112						
KK31	**Karatay Array**	**6.81**	**4**	Pn	**Pn**	**06 22 31.0**	**+0.4**
	1.2nm,0.3s,baz=188,slow=13,SNR=58						
KK31				⇓Sn	**Sn**	**06 23 48.3**	**+1.7**
	0.9nm,0.3s,baz=188,slow=23,SNR=4.7						
UCH	**Uchtor**	**6.94**	**30**	P	**Pn**	**06 22 32.5**	**-0.3**
	SNR=14						
EKS2	**Erkin-Say**	**7.04**	**25**	P	**Pn**	**06 22 34.1**	**+0.2**
	SNR=9.5						
KZA	**Kyzart**	**7.14**	**35**	P	**Pn**	**06 22 34.4**	**-1.1**
	SNR=28						
AAK	**Ala-Archa**	**7.28**	**28**	⇑Pn	**Pn**	**06 22 36.5**	**-0.6**
	4.8nm,0.6s						
AAK				⇓Sn	**Sn**	**06 23 59.4**	**+1.2**
	6.8nm,0.5s						
AAK	**Ala-Archa**	**7.28**	**28**	P	**Pn**	**06 22 37.2**	**+0.1**
	SNR=12						
AAK	**Ala-Archa**	**7.28**	**28**	P	**Pn**	**06 22 37.1**	**0.0**
	2.5nm,0.3s,baz=202,slow=8.0,SNR=26						
AAK				S	**Sn**	**06 23 59.7**	**+1.5**
	1.2nm,0.3s,baz=330,slow=22,SNR=13						
KBK	**Karagaybulak**	**7.48**	**30**	P	**Pn**	**06 22 39.7**	**-0.1**
	SNR=6.9						
CHMS	**Chumysh**	**7.69**	**28**	P	**Pn**	**06 22 43.2**	**+0.6**
	SNR=8.1						
ULHL	**Ulahol**	**7.74**	**38**	P	**Pn**	**06 22 43.0**	**-0.5**
	SNR=6.5						
USP	**Ospenovka**	**7.83**	**26**	P	**Pn**	**06 22 44.6**	**+0.1**
	SNR=11						
TKM2	**Tokmak 2**	**7.97**	**32**	⇓Pn	**Pn**	**06 22 45.5**	**-1.0**
	6.4nm,0.5s						
TKM2				⇑Sn	**Sn**	**06 24 14.6**	**-0.5**
	2.2nm,0.6s						
TKM2	**Tokmak 2**	**7.97**	**32**	P	**Pn**	**06 22 45.6**	**-1.0**
	SNR=14						
MK31	**Makanchi Array**	**14.02**	**38**	Pn	**P**	**06 24 11.6**	**-0.5**
	1.4nm,0.7s,baz=209,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**14.02**	**38**	P	Pn	06 24 04.7	-2.7
	0.0nm,0.3s,baz=226,slow=15,SNR=2.6						
AB31	**Akbulak array**	**14.81**	**334**	Pn	**Pn**	**06 24 17.0**	**-0.6**
	0.8nm,0.3s,baz=158,slow=13,SNR=52						
AB31				⇑Sn	**Sn**	**06 26 56.7**	**-4.1**
	0.5nm,0.5s,baz=157,slow=23,SNR=8.0						
KURBB	**Kurchatov Arra**	**15.62**	**21**	P	**Pn**	**06 24 24.6**	**-3.2**
	0.1nm,0.3s,baz=214,slow=13,SNR=3.9						
AKTO	**Aktyubinsk**	**16.49**	**333**	⇓Pn	**P**	**06 24 40.5**	**+1.1**
	1.9nm,0.8s						
AKTO	**Aktyubinsk**	**16.49**	**333**	P	**P**	**06 24 40.7**	**+1.2**
	0.2nm,0.3s,baz=145,slow=16,SNR=5.7						
BVAR	**Borovoye Array**	**16.72**	**1**	P	**P**	**06 24 43.2**	**+1.3**
	0.4nm,0.3s,baz=176,slow=11,SNR=4.9						
ZALV	**Zalesovo Beam**	**20.49**	**26**	P	**P**	**06 25 23.8**	**+0.7**
	2.2nm,0.3s,baz=219,slow=11,SNR=12						
FINES	**FINESS Array B**	**37.11**	**327**	P	**P**	**06 27 54.3**	**+0.4**
	0.5nm,0.5s,baz=121,slow=18,SNR=3.4						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**06 28 26.6**	**+0.8**
	0.9nm,0.8s,baz=110,slow=9.2,SNR=6.3						
NB2	**NORSAR Subarra**	**43.96**	**323**	P	**P**	**06 28 50.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**43.96**	**323**	P	**P**	**06 28 50.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=98,slow=8.1,SNR=4.2						

GUC 05 06:26:36.2±0.5, 34.°28S×72.°03W, h33km±2km, ML3.5, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.98**	**138**	⇓*i*P	**Pn**	**06 26 53.5**	**-0.1**
NICH				*i* S	**Sb**	**06 27 07.5**	**+0.1**
TALC	**Talca**	**1.17**	**164**	⇑*i*P	**Pn**	**06 26 56.6**	**+0.5**
TALC				*i* S	**Sb**	**06 27 12.4**	**-0.2**
IHA	**Instituto Hidr**	**1.29**	**15**	⇑*i*P	**Pn**	**06 26 58.5**	**+0.6**
IHA				*i* S	**Sb**	**06 27 15.9**	**-0.3**
LACH	**Col Las Americ**	**1.50**	**57**	*e*P	**Pn**	**06 27 01.9**	**+1.1**
LACH				*i* S	**Sb**	**06 27 21.8**	**-0.5**
CLCH	**Cerro Calan**	**1.52**	**55**	⇑*i*P	**Pb**	**06 27 02.7**	**-1.3**
CLCH				*i* S	**Sb**	**06 27 22.7**	**-0.3**
CLCH				AML	AML	06 27 32.9	
	comp=E,778nm,0.7s						
SJCH	**San Jose de Ma**	**1.53**	**66**	⇑*i*P	**Pn**	**06 27 02.5**	**+1.1**
SJCH				*i* S	**Sb**	**06 27 22.7**	**-0.7**
PEL	**Peldehue**	**1.59**	**45**	⇑*i*P	**Pb**	**06 27 03.7**	**-1.5**
PEL				*i* S	**Sb**	**06 27 24.4**	**-0.7**
PEL				AML	AML	06 27 28.5	
	comp=E,2μm,0.3s						
LNCH	**Linares**	**1.60**	**167**	⇓*i*P	**Pb**	**06 27 04.4**	**-0.9**
LNCH				*i* S	**Sb**	**06 27 25.3**	**+0.1**
YECH	**El Yeso**	**1.73**	**70**	⇑*i*P	**Pb**	**06 27 06.2**	**-1.7**
YECH				*e*S	**Sb**	**06 27 28.6**	**-0.9**
YECH				AML	AML	06 27 39.6	
	comp=N,530nm,0.6s						
COCH	**Cobquecura**	**1.95**	**198**	⇑*i*P	**Pn**	**06 27 08.5**	**+1.6**
COCH				*i* S	**Sn**	**06 27 31.2**	**+1.0**

GUC 05 06:31:51.0±0.7, 36.°22S×73.°10W, h29km±4km, ML4.6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.63**	**180**	*e*P	**Pb**	**06 32 03.1**	**-0.4**
CCSP				*i* S	**Sb**	**06 32 11.7**	**-0.3**
LNCH	**Linares**	**1.27**	**74**	⇓*i*P	**Pn**	**06 32 13.3**	**+0.5**
LNCH				*i* S	**Sb**	**06 32 29.9**	**-0.4**
TALC	**Talca**	**1.45**	**56**	*e*P	**Pn**	**06 32 15.8**	**+0.5**
TALC				*i* S	**Sb**	**06 32 34.7**	**-0.5**
NICH	**Los Niches**	**1.95**	**52**	*e*P	**Pn**	**06 32 23.6**	**+1.4**
NICH				*i* S	**Sb**	**06 32 48.1**	**-1.6**
CLCH	**Cerro Calan**	**3.52**	**38**	⇓*i*P	**Pn**	**06 32 45.0**	**+1.2**
CLCH				AML	AML	06 33 51.5	
	comp=N,651nm,0.8s						
PEL	**Peldehue**	**3.66**	**34**	*e*P	**Pn**	**06 32 47.0**	**+1.3**
PEL				AML	AML	06 33 51.7	
	comp=N,771nm,0.6s						

WEL 05 06:37:07.5±0.5, 36.°87S×176.°77E, h190km±8km, ML3.5/14, 1C-1D, Error ellipse: s-maj=7.8km s-min=7.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.20**	**138**	PN	**Pn**	**06 37 37.9**	**+0.3**
HAZ				SN	**Sn**	**06 38 00.5**	**-0.6**
URZ	**Urewera**	**1.42**	**169**	⇑PN	**Pn**	**06 37 39.5**	**+0.1**
URZ				SN	**Sn**	**06 38 04.3**	**-0.1**
MWZ	**Matawai**	**1.58**	**158**	PN	**Pn**	**06 37 41.7**	**+0.7**
MWZ				SN	**Sn**	**06 38 06.4**	**-0.9**
WMGZ	**Waiomatatini S**	**1.62**	**126**	PN	**Pn**	**06 37 41.4**	**+0.1**
WMGZ				SN	**Sn**	**06 38 07.4**	**-0.3**
TWGZ	**Tauwhareparae**	**1.62**	**144**	PN	**Pn**	**06 37 40.4**	**-1.0**
TWGZ				SN	**Sn**	**06 38 08.5**	**+0.5**
PUZ	**Puketiti**	**1.69**	**136**	PN	**Pn**	**06 37 41.8**	**-0.2**
PUZ				SN	**Sn**	**06 38 07.3**	**-1.6**
SNGZ	**Shannon Statio**	**1.96**	**167**	PN	**Pn**	**06 37 44.7**	**-0.1**
RIGZ	**Rimuhau**	**2.00**	**157**	PN	**Pn**	**06 37 45.1**	**0.0**
WHHZ	**Waihua**	**2.23**	**171**	PN	**Pn**	**06 37 47.4**	**-0.3**
KNZ	**Kokohu**	**2.26**	**162**	PN	**Pn**	**06 37 47.0**	**-1.0**
BKZ	**Black Stump Fm**	**2.31**	**185**	PN	**Pn**	**06 37 47.7**	**-0.8**
NGZ	**Ngauruhoe**	**2.48**	**201**	PN	**Pn**	**06 37 51.4**	**+0.8**
TUVZ	**Tukino**	**2.55**	**200**	PN	**Pn**	**06 37 51.4**	**-0.1**
FWVZ	**Far West T-bar**	**2.57**	**202**	⇓PN	**Pn**	**06 37 51.9**	**+0.2**
MCHZ	**McNeill Hill**	**2.57**	**181**	PN	**Pn**	**06 37 50.9**	**-0.6**
WNVZ	**Wahianoa**	**2.62**	**200**	PN	**Pn**	**06 37 52.1**	**-0.2**
BHHZ	**Black Hill Sta**	**2.67**	**192**	PN	**Pn**	**06 37 51.7**	**+1.1**
KRHZ	**Kereru**	**2.79**	**186**	PN	**Pn**	**06 37 53.0**	**-1.1**
KAHZ	**Kahuranaki**	**2.92**	**178**	PN	**Pn**	**06 37 54.2**	**-1.5**
PNHZ	**Pukenui**	**3.07**	**188**	PN	**Pn**	**06 37 55.7**	**-1.7**
PXZ	**Pawanui**	**3.16**	**179**	PN	**Pn**	**06 37 56.3**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.71**	**149**	P	**Pb**	**06 38 36.2**	**-0.9**
JOKE				S	**Sn**	**06 38 48.2**	**+0.7**
JTK	**Tokunoshima**	**0.73**	**105**	P	**Pb**	**06 38 36.2**	**-1.1**
JTK				S	**Sn**	**06 38 48.2**	**+0.5**
JAMN	**Amaminishikomi**	**0.94**	**73**	P	**Pn**	**06 38 39.0**	**-1.4**
JAMN				S	**Sb**	**06 38 53.1**	**+0.3**
JIH	**Iheya**	**0.95**	**190**	P	**Pn**	**06 38 39.2**	**-1.5**
JIH				S	**Sb**	**06 38 53.5**	**+0.1**
JOW	**Kunigami**	**1.15**	**175**	P	**Pn**	**06 38 42.7**	**-0.6**
JOW				S	**Sb**	**06 38 59.6**	**+0.8**
JOW	**Kunigami**	**1.15**	**175**	P	**Pn**	**06 38 42.9**	**-0.5**
	baz=348,slow=15						
JOW				S	**Sb**	**06 38 59.9**	**+1.1**
	baz=102,slow=20						
JAM	**Amami Oshima**	**1.35**	**71**	P	**Pn**	**06 38 45.6**	**-0.5**
JAM				S	**Sn**	**06 39 04.2**	**+1.1**
JNTH	**Nagotoyohara**	**1.46**	**185**	P	**Pn**	**06 38 47.3**	**-0.3**
JTAJ	**Takarajima**	**1.49**	**38**	P	**Pn**	**06 38 46.0**	**-2.0**
JAGN	**Aguni-jima**	**1.61**	**211**	P	**Pn**	**06 38 48.1**	**-1.6**
JZK	**Kikaishima**	**1.64**	**78**	P	**Pb**	**06 38 51.9**	**-0.8**
JJT2	**Tamagusuku 2**	**1.87**	**191**	P	**Pn**	**06 38 54.3**	**+1.0**
JKE	**Kume jima 2**	**2.05**	**217**	P	**Pn**	**06 38 55.8**	**0.0**
JKC	**Kuchinoerabu**	**3.05**	**35**	P	**Pn**	**06 39 11.2**	**+1.7**
JYAK	**Yakushimahirau**	**3.05**	**42**	P	**Pn**	**06 39 09.2**	**-0.3**
JNU	**Nakatsue**	**5.64**	**24**	P	Pn	06 39 49.8	+4.6
	6.0nm,0.3s,baz=211,slow=4.6,SNR=43						
KSRS	**Korea Array**	**9.45**	**359**	P	**Pn**	**06 40 39.5**	**+2.1**
	0.2nm,0.3s,baz=183,slow=13,SNR=5.2						
KSRS				LR	LR	06 44 24.7	
	comp=Z,287nm,18.0s,baz=176,slow=38						
MJAR	**Matsushiro Arr**	**12.04**	**42**	P	**Pn**	**06 41 14.8**	**+1.8**
	0.6nm,0.3s,baz=240,slow=14,SNR=3.7						
MJAR				LR	LR	06 46 12.6	
	comp=Z,64nm,18.8s,baz=240,slow=39						
USRK	**Ussuriysk Ar.**	**16.48**	**10**	P	**P**	**06 42 16.5**	**+1.8**
	0.3nm,0.3s,baz=194,slow=11,SNR=11						
USRK				LR	LR	06 47 55.1	
	comp=Z,90nm,19.1s,baz=165,slow=35						
SONM	**Songino Array**	**26.07**	**325**	P	**P**	**06 43 54.6**	**+0.3**
	2.3nm,1.1s,baz=132,slow=10,SNR=9.3						
CMAR	**Chiang Mai Arr**	**28.41**	**257**	LR	LR	06 56 57.6	
	comp=Z,38nm,19.0s,baz=196,slow=39						
PETK	**Petropavlovsk-**	**33.26**	**33**	LR	LR	06 57 26.6	
	comp=Z,27nm,21.2s,baz=192,slow=34						
MKAR	**Makanchi Array**	**40.34**	**310**	P	**P**	**06 45 57.0**	**-1.3**
	0.9nm,0.7s,baz=101,slow=7.5,SNR=6.0						
MKAR				LR	LR	07 02 56.5	
	comp=Z,31nm,18.6s,baz=96,slow=36						
ZALV	**Zalesovo Beam**	**40.83**	**322**	LR	LR	07 04 35.2	
	comp=Z,62nm,19.6s,baz=200,slow=38						
WRA	**Warramunga Arr**	**48.01**	**172**	P	**P**	**06 46 59.9**	**+0.1**
	1.2nm,0.7s,baz=354,slow=8.2,SNR=15						
WRA				LR	LR	07 09 14.8	
	comp=Z,18nm,18.4s,baz=230,slow=38						
ASAR	**Alice Springs**	**51.64**	**173**	P	**P**	**06 47 28.2**	**+0.7**
	0.6nm,0.5s,baz=1.6,slow=8.2,SNR=15						
ASAR				LR	LR	07 08 03.6	
	comp=Z,23nm,21.4s,baz=20,slow=34						
ILAR	**Eielson Array**	**62.94**	**29**	P	**P**	**06 48 45.1**	**-1.6**
	0.3nm,0.7s,baz=280,slow=9.1,SNR=6.3						
GNI	**Garni**	**67.83**	**305**	LR	LR	07 22 11.4	
	comp=Z,23nm,18.9s,baz=100,slow=39						
ARCES	**ARCESS Array B**	**68.36**	**338**	LR	LR	07 26 01.0	
	comp=Z,20nm,18.1s,baz=34,slow=42						
AKASG	**Malin Array Be**	**74.17**	**319**	LR	LR	07 25 04.2	
	comp=Z,63nm,18.0s,baz=95,slow=38						
YKA	**Yellowknife Ar**	**76.97**	**25**	P	**P**	**06 50 12.1**	**-0.8**
	0.9nm,0.8s,baz=306,slow=6.0,SNR=18						
NOA	**NORSAR Array B**	**77.72**	**334**	LR	LR	07 27 43.8	
	comp=Z,33nm,18.6s,baz=20,slow=38						

DJA 05 06:44:31.5±0.5, 8°S±4°×12°4E±°, h10km, M3.9/4, mb4.3/1, MLv3.7/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.78**	**166**	P	Pn	06 45 02.1	-0.4
SOEI				S	Sn	06 45 24.6	-0.7
BATI	**Baumata**	**2.18**	**184**	P	Pn	06 45 06.4	-1.5
BATI				S	Sn	06 45 34.0	-1.0
EDFI	**Ende, Flores**	**2.24**	**251**	P	Pn	06 45 09.2	+0.4
WSI	**Waingapu**	**3.86**	**245**	S	Sn	06 46 15.7	-0.6
KDI	**Kendari**	**4.21**	**343**	P	Pn	06 45 36.1	+0.3
BKSI	**Bulukumba**	**4.55**	**306**	P	Pn	06 45 40.2	-0.3
BKSI				S	Sn	06 46 33.2	-0.4
WBSI	**Waikabubak, Su**	**4.67**	**250**	P	Pn	06 45 42.3	+0.1
BNSI	**Bone**	**5.16**	**314**	P	Pn	06 45 48.9	0.0

*ISCJB **05** 06:49:44.4±0.6, 32°.61N±0°.03×115°.81W±0°.02, h12km±3km, Error ellipse: s-maj=5.6km s-min=2.9km az=8.5*
*NEIC **05** 06:49:45.9, 32°.65N×115°.85W, h13km, ML3.5(PAS), After PAS.*

ISC 05 06:49:44.9±1.0, 32°.63N±0°.04×115°.84W±0°.02, h13km±6km, n40, σ0.994/64, 19C-19D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.07**	**281**	⇑*i*P	**Pg**	**06 49 48.2**	**+0.6**
WESC	**Westside Schoo**	**0.15**	**35**	⇑*i*P	**Pb**	**06 49 49.1**	**-0.6**
ERPC	**Ernies Place**	**0.18**	**53**	⇑*i*P	**Pb**	**06 49 50.0**	**-0.2**
COK	**Cook Ranch**	**0.23**	**23**	⇑*i*P	**Pb**	**06 49 50.4**	**-0.6**
SWSC	**Sam W. Stewart**	**0.31**	**6**	⇓P	**Pg**	**06 49 51.3**	**0.0**
	baz=0.3						
SWSC				⇑S	**Sg**	**06 49 54.9**	**-0.7**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.31**	**6**	⇓*i*P	**Pg**	**06 49 51.3**	**0.0**
SWSC				*i* S	**Sg**	**06 49 55.1**	**-0.5**
MONP	**Monument Peak,**	**0.56**	**298**	⇑P	**Pg**	**06 49 55.8**	**-0.1**
	baz=0.5						
MONP				⇓S	**Sg**	**06 50 02.8**	**-0.5**
	baz=0.5						
BAR	**Barrett**	**0.71**	**274**	*e*Pg	**Pg**	**06 49 58.4**	**-0.3**
BAR				*e*Sg	**Sb**	**06 50 08.3**	**-0.6**
GLA	**Glamis**	**0.95**	**64**	⇑P	**Pg**	**06 50 02.4**	**-0.9**
	baz=0.9						
GLA				⇑S	**Sg**	**06 50 14.7**	**-0.9**
	baz=0.9						
GLA	**Glamis**	**0.95**	**64**	*e*Pg	**Pg**	**06 50 02.4**	**-0.9**
GLA				*e*Sg	**Sg**	**06 50 14.9**	**-0.7**
109C	**Camp Elliot, M**	**1.10**	**284**	⇑P	**Pb**	**06 50 05.6**	**-0.3**
	baz=1.1						
109C				⇑S	**Sg**	**06 50 19.2**	**-1.2**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.10**	**332**	⇓P	**Pb**	**06 50 04.9**	**-1.1**
	baz=1.1						
PFO				⇑S	**Sg**	**06 50 19.6**	**-1.1**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.10**	**332**	*e*Pg	**Pb**	**06 50 04.3**	**-1.6**
PFO				*e*Sg	**Sg**	**06 50 19.6**	**-1.1**
BELC	**Belle Mtn. Jos**	**1.37**	**354**	⇑P	**Pn**	**06 50 09.9**	**0.0**
	baz=1.4						
MURC	**Murrieta**	**1.50**	**310**	⇓P	**Pn**	**06 50 12.1**	**+0.5**
	baz=1.5						
MURC				⇓S	**Sb**	**06 50 31.6**	**+0.1**
	baz=1.5						
Y12C	**Blythe**	**1.57**	**44**	⇑P	**Pn**	**06 50 13.3**	**+0.8**
	baz=1.6						
BBRC	**Big Bear Solar**	**1.86**	**331**	⇑Pb	**Pb**	**06 50 19.4**	**+0.4**
	baz=1.8						
BBRC				⇑Sb	**Sb**	**06 50 43.2**	**+0.9**
	baz=1.8						
GMRC	**Granite Mounta**	**2.15**	**4**	⇓Sb	**Sb**	**06 50 52.0**	**+1.7**
	baz=2.1						
PDMCI	**Parker Dam,Lak**	**2.19**	**40**	⇓Sb	**Sg**	**06 50 54.0**	**-1.2**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.21**	**317**	⇑Pb	**Pb**	**06 50 24.7**	**-0.1**
	baz=2.2						
BFSC				⇓Sb	**Sb**	**06 50 52.6**	**+0.4**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.23**	**349**	⇓Sb	**Sb**	**06 50 54.6**	**+1.8**
	baz=2.2						
CIS	**Catalina Islan**	**2.29**	**290**	⇓S	**Sn**	**06 50 52.3**	**+1.7**
	baz=2.3						
FMP	**Fort Macarthur**	**2.33**	**298**	⇓Sb	**Sb**	**06 50 56.8**	**+1.4**
	baz=2.3						
RRX	**Edison Barstow**	**2.44**	**337**	⇓Pb	**Pb**	**06 50 29.0**	**+0.3**
	baz=2.4						
MWC	**Mount Wilson**	**2.44**	**311**	*e*Pn	**Pb**	**06 50 27.9**	**-1.0**
PASC	**Pasadena Art C**	**2.49**	**309**	*e*Pn	**Pn**	**06 50 25.1**	**-0.1**
PASC				*e*Sn	**Sn**	**06 50 54.3**	**-1.3**
LDFC	**Landfair**	**2.51**	**14**	*e*Pn	**Pn**	**06 50 26.8**	**+1.2**
LDFC				*e*Sg	**Sg**	**06 51 05.4**	**-0.3**
Z14A	**Wintersburg**	**2.54**	**73**	⇑Pb	**Pb**	**06 50 31.2**	**+0.8**
	baz=2.5						
Z14A				⇓Sb	**Sg**	**06 51 04.5**	**-1.9**
	baz=2.5						
DECC	**Green Verdugo**	**2.64**	**308**	⇑Pb	**Pb**	**06 50 32.3**	**+0.2**
	baz=2.6						
DECC				⇓Sb	**Sb**	**06 51 05.7**	**+1.3**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.65**	**104**	*e*Pn	**Pn**	**06 50 27.4**	**0.0**
214A				*e*Sn	**Sn**	**06 50 59.0**	**-0.5**
Y14A	**Wickenburg**	**2.71**	**60**	⇓Pb	**Pb**	**06 50 34.0**	**+0.7**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.78**	**343**	*e*Pn	**Pn**	**06 50 28.9**	**-0.4**
GSC				*e*Sn	**Sn**	**06 51 00.9**	**-1.9**
EDW2	**Edwards Air Fo**	**2.87**	**322**	⇑Pb	**Pb**	**06 50 36.6**	**+0.5**
	baz=2.9						
EDW2				⇓Sb	**Sb**	**06 51 13.0**	**+1.9**
	baz=2.9						
W13A	**Hualapai Mount**	**2.95**	**33**	⇓P	**Pn**	**06 50 31.4**	**-0.3**
	baz=2.9						
OSI	**Osito Audit: C**	**3.12**	**310**	⇓Sb	**Sb**	**06 51 19.6**	**+1.4**
	baz=3.1						
OSI	**Osito Audit: C**	**3.12**	**310**	*e*Pn	**Pn**	**06 50 34.0**	**+0.1**
OSI				*e*Sg	**Sg**	**06 51 25.1**	**+0.1**
ISA	**Isabella, Lake**	**3.73**	**325**	*e*Pn	**Pn**	**06 50 41.9**	**-0.4**
ISA				*e*Sn	**Sn**	**06 51 25.3**	**-0.9**
SHPR	**Sheep Range**	**3.90**	**8**	*e*Pn	**Pn**	**06 50 45.7**	**+0.9**
SHPR				*e*Sn	**Sn**	**06 51 31.3**	**+0.7**
121A	**Cookes Peak, D**	**6.80**	**89**	*e*Pn	**Pn**	**06 51 25.2**	**+0.7**
	4.0nm,0.5s						
121A				*e*Sn	**Sn**	**06 52 43.0**	**+1.1**
SRU	**San Rafael Swe**	**7.77**	**32**	*e*Pn	**Pn**	**06 51 37.7**	**-0.2**
	6.1nm,0.6s						
SRU				*e*Sn	**Sn**	**06 53 05.8**	**0.0**

MAN 05 07:02:49, 13°.70N×120°.54E, h74km, mb4.0, ML2.8, MS2.4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.28**	**276**	*e*P	Pn	07 03 02.9	+2.4
LUBP				*e*S	Sn	07 03 12.9	+3.9
PGP	**Puerto Galera**	**0.45**	**116**	⇓*e*P	Pn	07 03 05.2	+3.4
PGP				*i* S	Sn	07 03 15.4	+4.1
TGY	**Tagaytay City**	**0.56**	**44**	⇑*i*P	Pn	07 03 05.9	+3.0
TGY				*i* S	Sn	07 03 16.8	+3.8
SJMP	**San Jose**	**1.36**	**155**	*e*P	Pn	07 03 10.4	-1.9
BUSP	**Coron**	**1.72**	**191**	*e*P	Pn	07 03 19.3	+2.3

NEIC 05 07:03:45.2, 32°.09N×115°.23W, h10km, ML3.8(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**1.01**	**19**	*e*Pg	Pg	07 04 03.0	-1.9
GLA				*e*Sg	Sg	07 04 15.2	-3.0
BAR	**Barrett**	**1.35**	**296**	*e*Pn	Pb	07 04 10.7	-0.1
BAR				*e*Sn	Sb	07 04 27.8	-0.5
PFO	**Pinyon Flats O**	**1.83**	**326**	*e*Pn	Pn	07 04 14.9	-2.1
PFO				*e*Sn	Sb	07 04 43.1	+1.0
214A	**Organ Pipe Nat**	**2.06**	**93**	*e*Pn	Pn	07 04 17.8	-2.1
214A				*e*Sn	Sb	07 04 47.6	-0.8
LDFC	**Landfair**	**2.98**	**2**	*e*Pn	Pn	07 04 35.5	+2.8
LDFC				*e*Sg	Sg	07 05 26.3	+5.0
MWC	**Mount Wilson**	**3.19**	**313**	Pn	Pn	07 04 34.4	-1.2
PASC	**Pasadena Art C**	**3.23**	**311**	*e*Pg	Pb	07 04 43.0	+0.2
GSC	**Goldstone, Bar**	**3.46**	**338**	*e*Pg	Pg	07 04 52.1	+0.4
TUC	**Tucson**	**3.77**	**86**	*e*Pn	Pn	07 04 40.7	-2.9
TUC				*e*Pg	Pg	07 05 00.3	+2.7
TUC				*e*Sg	Sb	07 05 41.2	+3.3
WUAZ	**Wupatki**	**4.69**	**42**	*e*Pn	Pn	07 04 56.7	+0.5
WUAZ				*e*Sg	Sg	07 06 18.3	+2.2
121A	**Cookes Peak, D**	**6.32**	**84**	*e*Pn	Pn	07 05 16.5	-2.1
	13nm,0.4s						
121A				*e*Sn	Sn	07 06 33.6	+2.5
LAZ	**Ladron**	**7.16**	**69**	*e*Pn	Pn	07 05 29.3	-1.0
LAZ				*e*Sg	Sg	07 07 31.1	-4.3
SRU	**San Rafael Swe**	**7.98**	**27**	Pn	Pn	07 05 40.8	-0.7

*NEIC **05** 07:15:32.9, 32°.17N×115°.33W, h10km, ML4.2(PAS), After PAS.*
*ECX **05** 07:15:35.7±2.0, 32°.32N×115°.36W, h6km, MD4.1, ML4.3*
*IDC **05** 07:15:35.7±2.0, 32°.34N×115°.14W, h0km, mb3.4/3, mb1 3.8/8, mb1mx3.6/28, mbtmp3.5/8, ML3.6/5, MS3.4/4, Ms1 3.4/4, ms1mx3.0/20, Error ellipse: s-maj=31.0km s-min=13.6km az=48.0*

ISC 05 07:15:34.0±1.1, 32°.30N±0°.02×115°.32W±0°.02, h6km±8km, n74, σ1.955/102, mb3.4/3, MS3.4/3, 23C-18D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.32**	**168**	*e*P	**Pg**	**07 15 40.5**	**+0.3**
EMX				*e*S	**Sg**	**07 15 45.4**	**+1.0**
SGL	**Mount Signal**	**0.49**	**316**	⇓*i*P	**Pg**	**07 15 43.5**	**+0.1**
YUH	**Yuha Desert**	**0.62**	**304**	⇓*i*P	**Pg**	**07 15 45.7**	**-0.2**
RDX	**Rancho Dawling**	**0.65**	**235**	⇑*i*P	Pg	07 15 36.3	-10
RDX				*e*S	Sg	07 15 45.0	-10
COK	**Cook Ranch**	**0.65**	**328**	⇓*i*P	**Pg**	**07 15 46.5**	**0.0**
RMX	**La Rumorosa**	**0.71**	**295**	*e*P	Pg	07 15 36.6	-11
RMX				*e*S	Sg	07 15 45.6	-11
SWSC	**Sam W. Stewart**	**0.76**	**328**	⇑P	**Pg**	**07 15 47.8**	**-0.7**
	baz=0.9						
ECBX	**El Chinero**	**0.86**	**164**	*e*P	**Pg**	**07 15 49.8**	**-0.7**
ECBX				*e*S	**Sg**	**07 16 01.7**	**+0.1**
GLA	**Glamis**	**0.86**	**29**	⇑P	**Pg**	**07 15 49.8**	**-0.7**
	baz=1.0						
GLA				⇑S	**Sg**	**07 16 01.1**	**-0.5**
	baz=1.0						
GLA	**Glamis**	**0.86**	**29**	*e*Pg	**Pg**	**07 15 49.6**	**-0.9**
GLA				*e*Sg	**Sg**	**07 16 01.2**	**-0.5**
MONP	**Monument Peak,**	**1.10**	**303**	⇑P	**Pb**	**07 15 53.5**	**-2.0**
	baz=1.2						
MONP				⇓S	**Sg**	**07 16 08.4**	**-1.0**
	baz=1.2						
ZAX	**El Zacaton**	**1.13**	**226**	⇑*e*P	Pb	07 15 44.8	-11
ZAX				*e*S	Sb	07 15 59.5	-11
CBX	**Cerro Bola**	**1.14**	**271**	*e*P	**Pb**	**07 15 55.0**	**-1.2**
CBX				*e*S	**Sb**	**07 16 10.2**	**-1.0**
CBX				⇓*e*		07 16 11.4	
CBX				AML	AML	07 16 11.4	
	comp=N,13μm,0.4s						
SPIG	**San Pedro Mart**	**1.26**	**186**	*e*P	**Pn**	**07 15 57.3**	**-1.1**
SPIG				*e*S	**Sn**	**07 16 15.0**	**-0.8**
SPX	**San Pedro Mart**	**1.26**	**186**	⇑*e*P	**Pn**	**07 15 57.7**	**-0.7**
SPX				*e*S	**Sn**	**07 16 15.7**	**-0.1**
SPX				AML	AML	07 16 17.1	
	comp=E,3μm,0.5s						
SPX				⇓*e*		07 16 17.1	
ECNX	**Esteban Cantu**	**1.26**	**240**	*e*P	Pn	07 15 47.0	-11
ECNX				*e*S	Sb	07 16 03.8	-11
PBX	**Punta Banda**	**1.32**	**245**	*e*P	Pn	07 15 47.7	-11
PBX				*e*S	Sb	07 16 05.2	-11
BC3	**Big Chuckawall**	**1.36**	**355**	⇑P	**Pn**	**07 15 57.0**	**-2.6**
	baz=1.5						
BC3				⇑S	**Sb**	**07 16 13.4**	**-4.1**
	baz=1.5						
113A	**Mohawk Valley,**	**1.39**	**70**	⇑P	**Pn**	**07 15 58.2**	**-1.7**
	baz=1.4						
113A				⇓S	**Sn**	**07 16 17.1**	**-1.5**
	baz=1.4						
Y12C	**Blythe**	**1.59**	**25**	⇓P	**Pn**	**07 16 02.4**	**-0.3**
	baz=1.7						
Y12C				⇑S	**Sn**	**07 16 22.9**	**-0.7**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.62**	**324**	Pn	Pn	07 16 00.5	-2.7
PFO				Lg	Lg	07 16 20.5	
	baz=72,slow=20						
PFO	**Pinyon Flats O**	**1.62**	**324**	⇓P	**Pn**	**07 16 00.5**	**-2.7**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.62**	**324**	*e*Pn	**Pn**	**07 16 00.5**	**-2.7**
PFO				Lg	Lg	07 16 20.5	
PFO				*e*Sn	**Sb**	**07 16 25.1**	**+0.1**
109C	**Camp Elliot, M**	**1.62**	**292**	⇑P	**Pn**	**07 16 01.7**	**-1.3**
	baz=1.7						
109C				⇑S	**Sn**	**07 16 23.4**	**-0.8**
	baz=1.7						
IRM	**Iron Mountain**	**1.86**	**4**	⇑P	**Pn**	**07 16 05.2**	**-1.3**
	baz=2.0						
IRM				⇓Sb	**Sb**	**07 16 32.1**	**+0.1**
	baz=2.0						
MURC	**Murrieta**	**2.04**	**310**	⇓P	**Pn**	**07 16 07.2**	**-1.7**
	baz=2.1						
MURC				⇓Sb	**Sb**	**07 16 37.5**	**+0.2**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.15**	**98**	⇓P	**Pn**	**07 16 08.8**	**-1.7**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.15**	**98**	*e*Pn	**Pn**	**07 16 08.6**	**-1.8**
214A				*e*Sn	**Sn**	**07 16 35.6**	**-1.9**
PDMCI	**Parker Dam,Lak**	**2.23**	**26**	⇓Sb	**Sb**	**07 16 42.5**	**+0.1**
	baz=2.4						
Z14A	**Wintersburg**	**2.26**	**61**	⇑P	**Pn**	**07 16 10.6**	**-1.3**
	baz=2.3						
BBRC	**Big Bear Solar**	**2.37**	**326**	⇑P	**Pn**	**07 16 12.1**	**-1.6**
	baz=2.5						
GMRC	**Granite Mounta**	**2.49**	**354**	⇓P	**Pn**	**07 16 13.3**	**-1.9**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.75**	**315**	⇑P	**Pn**	**07 16 17.3**	**-1.5**
	baz=2.8						
BFSC				⇓Sb	**Sb**	**07 16 58.3**	**+0.6**
	baz=2.8						
LDFC	**Landfair**	**2.78**	**4**	*e*Pn	**Pn**	**07 16 18.2**	**-0.9**
LDFC				*e*Sn	**Sb**	**07 16 55.9**	**-2.5**
CIS	**Catalina Islan**	**2.82**	**294**	⇑Sb	**Sb**	**07 16 59.6**	**0.0**
	baz=2.9						
FMP	**Fort Macarthur**	**2.87**	**300**	⇑Sb	**Sb**	**07 17 01.2**	**+0.2**
	baz=2.9						
MWC	**Mount Wilson**	**2.99**	**311**	*e*Pn	**Pn**	**07 16 22.1**	**0.0**
MWC				*e*Sg	**Sg**	**07 17 11.7**	**+1.6**
W13A	**Hualapai Mount**	**3.04**	**23**	⇓P	**Pn**	**07 16 22.1**	**-0.6**
	baz=3.2						
PASC	**Pasadena Art C**	**3.04**	**309**	*e*Pn	**Pn**	**07 16 22.7**	**0.0**
PASC				*e*Sn	**Sn**	**07 16 59.3**	**0.0**
DECC	**Green Verdugo**	**3.18**	**308**	⇓Sb	**Sb**	**07 17 11.3**	**+1.2**
	baz=3.3						
GSC	**Goldstone, Bar**	**3.24**	**338**	*e*Pn	**Pn**	**07 16 26.1**	**+0.7**
GSC				*e*Sn	**Sn**	**07 16 59.2**	**-5.2**
EDW2	**Edwards Air Fo**	**3.40**	**320**	⇑P	**Pn**	**07 16 26.5**	**-1.2**
	baz=3.5						
OSI	**Osito Audit: C**	**3.66**	**310**	⇑Sb	**Sb**	**07 17 23.9**	**0.0**
	baz=3.7						
OSI	**Osito Audit: C**	**3.66**	**310**	*e*Pn	**Pn**	**07 16 30.8**	**-0.4**
OSI				*e*Sg	**Sg**	**07 17 31.4**	**-0.3**
TUC	**Tucson**	**3.84**	**89**	*e*Pn	**Pn**	**07 16 33.0**	**-0.7**
TUC				*e*Sg	**Sg**	**07 17 37.7**	**+0.3**
X16A	**Lo Mia Camp, P**	**3.87**	**56**	⇑P	**Pn**	**07 16 34.0**	**-0.2**
	baz=4.0						
ARVC	**Arvin**	**4.06**	**315**	⇑P	**Pn**	**07 16 36.0**	**-0.7**
	baz=4.2						
SHPR	**Sheep Range**	**4.20**	**2**	*e*Pn	**Pn**	**07 16 38.6**	**0.0**
SHPR				*e*Sg	**Sg**	**07 17 51.7**	**+2.9**
WUAZ	**Wupatki**	**4.59**	**45**	*e*Pn	**Pn**	**07 16 44.9**	**+0.8**
WUAZ				*e*Sg	**Sg**	**07 18 03.6**	**+2.2**
W18A	**Petrified Fore**	**5.44**	**57**	*e*Pn	**Pn**	**07 16 56.7**	**+1.0**
W18A				*e*Sn	**Sn**	**07 17 57.0**	**-1.7**
CCUT	**Cedar City**	**5.48**	**17**	*e*Pn	**Pn**	**07 16 56.5**	**+0.1**
CCUT				*e*Sg	**Sg**	**07 18 32.7**	**+2.8**
ARUT	**Antelope Range**	**5.69**	**15**	*e*Pg	**Pg**	**07 17 22.9**	**-0.1**
ARUT				*e*Sg	**Sg**	**07 18 34.8**	**-1.9**
TPH	**Tonopah**	**5.97**	**345**	*e*Pg	**Pg**	**07 17 29.5**	**+1.2**
R11A	**Troy Canyon, C**	**6.04**	**358**	*e*Pn	**Pn**	**07 17 04.2**	**+0.2**
R11A				*e*Sg	**Sg**	**07 18 50.4**	**+2.5**
121A	**Cookes Peak, D**	**6.38**	**86**	*e*Pn	**Pn**	**07 17 08.4**	**-0.3**
121A				*e*Sg	**Sg**	**07 18 56.4**	**-2.4**
NVAR	**Mina Array Bea**	**6.58**	**339**	Pg	Pg	07 17 36.5	-3.6
	comp=E,0.6nm,0.3s,baz=169,slow=19,SNR=8.5						
NVAR				Lg	Lg	07 19 06.0	
	comp=E,0.2nm,0.3s,baz=68,slow=25,SNR=2.0						
WAKR	**Walker**	**7.04**	**333**	*e*Pg	**Pg**	**07 17 46.8**	**-2.1**
WAKR				*e*Sg	**Sg**	**07 19 24.9**	**+4.8**
LAZ	**Ladron**	**7.16**	**71**	*e*Pn	**Pn**	**07 17 19.6**	**+0.2**
LAZ				*e*Sn	**Sn**	**07 18 40.1**	**-1.0**
LENM	**Lemitar**	**7.24**	**73**	*e*Pn	**Pn**	**07 17 21.1**	**+0.7**
MVCO	**Mesa Verde**	**7.45**	**47**	*e*Pn	**Pn**	**07 17 22.6**	**-0.8**
MVCO				Sg	**Sg**	**07 19 33.9**	**+0.8**
LPM	**Los Pinos Moun**	**7.54**	**72**	*e*Pn	**Pn**	**07 17 24.9**	**+0.3**
LPM				*e*Sn	**Sn**	**07 18 50.3**	**-0.3**
TMUT	**Trail Mountain**	**7.74**	**24**	*e*Pn	**Pn**	**07 17 27.5**	**0.0**
TMUT				Sn	**Sn**	**07 18 54.3**	**-1.3**
**S

ROCH	**El Roble**	**3.52**	**37**	AML	AML	07 28 52.1
	comp=N,333nm,0.6s					
PEL	**Peldehue**	**3.56**	**43**	AML	AML	07 28 52.7
	comp=N,514nm,0.5s					

NEIC 05 07:28:16.3, 32.25N×114.93W, h6km, ML3.5(PAS), **After PAS., Western Arizona-Sonora border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.80**	**6**	*e*Pg	Pg	07 28 30.3	-1.5
GLA				*e*Sg	Sn	07 28 46.0	-0.6
BAR	**Barrett**	**1.53**	**287**	*e*Pn	Pn	07 28 39.1	-5.2
BAR				*e*Sn	Sn	07 29 02.0	-2.6
PFO	**Pinyon Flats O**	**1.86**	**317**	*e*Pn	Pn	07 28 49.3	+0.3
PFO				*e*Sg	Sb	07 29 15.1	+0.3
LDFC	**Landfair**	**2.82**	**357**	*e*Pg	Pg	07 29 11.9	+1.3
LDFC				*e*Sg	Sg	07 29 46.7	-0.6
GSC	**Goldstone, Bar**	**3.42**	**333**	*e*Pn	Pn	07 29 07.4	-2.9
GSC				*e*Sn	Sn	07 29 51.3	0.0
121A	**Cookes Peak, D**	**6.05**	**85**	*e*Pn	Pn	07 29 44.9	-1.7
	12nm,0.4s						
121A				*e*Sg	Sg	07 31 31.2	+0.2
LAZ	**Ladron**	**6.86**	**70**	*e*Pn	Pn	07 29 56.4	-1.4
LAZ				*e*Sn	Sn	07 31 16.9	+0.5
MVCO	**Mesa Verde**	**7.24**	**45**	*e*Pn	Pn	07 30 03.2	+0.2
MVCO				*e*Sn	Sn	07 31 26.6	+0.8

IDC ***05*** *07:29:10.2±0.4, 17.91N×81.68W, h0km, mb4.7/28, mb1 4.8/32, mb1mx4.8/39, mbtmp4.7/32, ML3.9/4, MS4.1/29, Ms1 4.1/29, ms1mx4.1/34, Error ellipse: s-maj=15.1km s-min=10.4km az=51.0*

MOS ***05*** *07:29:10.8±1.0, 17.94N×81.64W, h10km, mb5.3/62, MS4.6/6, Error ellipse: s-maj=6.7km s-min=4.3km az=86.2*

ISCJB ***05*** *07:29:11.3±0.2, 17.96N±0.03×81.64W±0.02, h14km, mb4.9/199, MS4.3/31, Error ellipse: s-maj=3.9km s-min=1.8km az=22.2*

BJI ***05*** *07:29:11.6, 17.90N×81.60W, h10km, mB5.6/8, Ms5.1/5, Ms7 4.9/4*

GCMT ***05*** *07:29:12.2±0.3, 18.04N×81.71W, h14km±1km, MW5.1/83, Moment Tensor Solution. s19,c20; s83,c133; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-6.24±.39; Mθθ0.84±.21; Mϕϕ5.40±.27; Mrθ-0.60±.52; Mϕθ-2.10±.13; Mϕr0.03±.44; Best double couple: M06.25800×10^16 NP1:ϕs154.00000°, δ46.00000°, λ-97.00000°. NP2: ϕs344.00000°, δ44.00000°, λ-83.00000°. Principal axes: T 6.2240, Plg1.0000°, Azm249.0000°; N 0.0670, Plg5.0000°, Azm158.0000°; P -6.2920, Plg85.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***05*** *07:29:12.2±0.2, 17.86N×81.61W, h10km, mb5.0/133 Error ellipse: s-maj=4.4km s-min=2.7km az=214.0*

SSNC ***05*** *07:29:17.5, 17.68N×81.04W, h25km*

JSN ***05*** *07:30:44.9±253.0, 18.07N×78.22W, h1km±999km, MD4.2*

ISC 05 07:29:14.1±1.3, **17.90N**±0.04×**81.72W**±0.04, **h25**km±8km, **n894**, σ1.1**s14**/906, **mb5.0**/201, **MS4.3**/31, **242C-164D, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**3.70**	**82**	*i* S	Sn	07 30 43.4	-9.2
MBJ				*i* PA	**Sn**	**07 30 54.6**	**+2.0**
MCJ	**Malvern**	**3.84**	**89**	*e*P	**Pn**	**07 30 09.3**	**-2.4**
MCJ				*i* PA	**Pn**	**07 30 11.6**	**-0.1**
CVJ	**Coleyville**	**3.99**	**85**	*i* P	Pn	07 30 10.4	-3.5
MTDJ	**Mount Denham**	**3.99**	**85**	*e*Pn	Pn	07 30 10.4	-3.4
BBJ	**Bamboo Saint A**	**4.26**	**83**	*i* PA	**Pn**	**07 30 14.9**	**-2.6**
PCJ	**Portland Cotta**	**4.34**	**91**	*e*P	**Pn**	**07 30 16.6**	**-2.0**
PCJ				*i* PA	**Pn**	**07 30 18.6**	**0.0**
MGV	**Manicaragua**	**4.50**	**21**	*e*P	Pn	07 30 17.4	-3.3
MGV				*e*S	Sn	07 31 05.6	-6.6
STH	**Stony Hill**	**4.67**	**87**	*i* P	**Pn**	**07 30 20.4**	**-2.8**
STH				*i* PA	**Pn**	**07 30 21.5**	**-1.6**
STH				*i* PA		07 34 38.0	
HOJ	**Hope**	**4.73**	**88**	*e*P	**Pn**	**07 30 21.1**	**-2.8**
HOJ				*i* PA	**Pn**	**07 30 22.5**	**-1.3**
HOJ				*i* PA		07 34 38.0	
GWJ	**Greenwich**	**4.75**	**87**	*e*P	**Pn**	**07 30 22.1**	**-2.2**
GWJ				*i* PA	**Pn**	**07 30 23.1**	**-1.2**
GWJ				*i* PA		07 34 38.0	
LMGC	**Las Mercedes**	**4.95**	**63**	*e*P	**Pn**	**07 30 23.9**	**-3.0**
LMGC				*e*		07 30 24.4	
	baz=240,slow=14						
LMGC				*e*S	Sn	07 31 16.3	-7.1
LMGC				AML	AML	07 31 21.4	
	comp=E,466nm,0.7s						
LMGC				AML	AML	07 31 21.9	
	comp=N,286nm,0.7s						
CCCC	**Cccc**	**4.96**	**48**	*e*P	**Pn**	**07 30 27.0**	**-0.1**
CCCC				*e*S	**Sn**	**07 31 24.6**	**+0.8**
	comp=N,102nm,0.5s						
	comp=E,137nm,0.8s						
SOR	**Soroa**	**5.02**	**346**	*e*P	**Pn**	**07 30 28.9**	**+1.1**
SOR				*e*S	**Sn**	**07 31 23.7**	**-1.4**
CMJ	**Castle Mountai**	**5.09**	**87**	*i* PA	**Pn**	**07 30 29.4**	**+0.5**
RCC	**Rio Carpintero**	**6.07**	**69**	*e*P	Pn	07 30 38.6	-3.6
RCC				*e*		07 30 39.1	
	baz=247,slow=14						
RCC				*e*S	Sn	07 31 42.5	-8.5
RCC				AML	AML	07 36 56.6	
	comp=E,89nm,0.6s						
RCC				AML	AML	07 37 07.1	
	comp=N,111nm,0.8s						
HLGC	**Holguin**	**6.11**	**60**	*e*P	Pn	07 30 38.1	-4.8
HLGC				*e*S	**Sn**	**07 31 47.2**	**-4.9**
GTBY	**Guantanamo Bay**	**6.57**	**71**	*e*Pn	**Pn**	**07 30 46.5**	**-2.7**
TEIG	**Tepich**	**6.62**	**292**	*e*Pn	**Pn**	**07 30 48.4**	**-1.5**
MOAC	**Moa**	**6.95**	**66**	*e*P	**Pn**	**07 30 53.7**	**-0.6**
MOAC				*e*S	**Sn**	**07 32 09.8**	**-2.8**
MASC	**Masc**	**7.43**	**71**	*e*P	**Pn**	**07 30 59.3**	**-1.7**
MASC				*e*S	Sn	07 32 14.8	-10
JTS	**JuntasAbangare**	**8.19**	**203**	Pn	**Pn**	**07 31 12.9**	**+1.4**
	comp=N,257nm,1.0s,SNR=17						
JTS	**JuntasAbangare**	**8.19**	**203**	*c* iP	**Pn**	**07 31 12.2**	**+0.7**
JTS	**JuntasAbangare**	**8.19**	**203**	Pn	**Pn**	**07 31 12.4**	**+0.9**
	comp=N,5.8nm,0.3s,baz=322,slow=20,SNR=54						
JTS				Lg	Lg	07 33 48.5	
	comp=N,1.1nm,0.3s,baz=231,slow=15,SNR=3.5						
JTS	**JuntasAbangare**	**8.19**	**203**	*e*Pn	**Pn**	**07 31 11.7**	**+0.2**
JTS				*e*Sn	**Sn**	**07 32 43.7**	**+0.4**
JTS				Lg	Lg	07 33 48.5	
JAKH	**Jacmel**	**8.76**	**86**	*e*Pn	**Pn**	**07 31 18.3**	**-0.9**
BCIP	**Isla Barro Col**	**8.87**	**168**	*e*Pn	**Pn**	**07 31 23.7**	**+2.9**
APG	**El Apazote**	**8.87**	**252**	Pn	Pn	07 31 14.3	-6.8
	comp=N,0.9nm,0.3s,baz=72,slow=12,SNR=25						
APG				Lg	Lg	07 34 08.6	
	comp=N,0.1nm,0.3s,baz=150,slow=20,SNR=2.4						
APG				LR	LR	07 34 26.3	
	comp=N,1μm,19.0s,baz=86,slow=36						
PAPH	**Port-au-Prince**	**8.97**	**85**	*e*Pn	**Pn**	**07 31 22.2**	**0.0**
SDDR	**Presa de Saban**	**9.96**	**82**	*e*Pn	**Pn**	**07 31 34.5**	**-1.3**
SDDR				*e*Sn	**Sn**	**07 33 25.1**	**-1.7**
SMN1	**Samana, DR**	**11.87**	**82**	*e*Pn	**Pn**	**07 32 01.8**	**-0.2**
CMIG	**Matias Romero**	**12.59**	**268**	Pn	**Pn**	**07 32 09.9**	**-1.9**
	comp=N,0.7nm,0.3s,baz=56,slow=13,SNR=14						
CMIG				LR	LR	07 36 49.7	
	comp=N,2μm,21.8s,baz=66,slow=36						
TIGA	**Tifton**	**13.59**	**353**	⇓P	**Pn**	**07 32 22.9**	**-2.4**
	baz=14,SNR=11						
TIGA	**Tifton**	**13.59**	**353**	*e*Pn	**Pn**	**07 32 24.0**	**-1.3**
SDV	**Santo Domingo**	**14.01**	**128**	*e*Pn	Pn	07 32 27.7	-3.6
SDV				*e*Sn	**Sn**	**07 35 08.1**	**+1.9**
LRS	**Lares**	**14.15**	**86**	*e*Pn	**Pn**	**07 32 30.9**	**-2.2**
ROSC	**El Rosal**	**14.84**	**150**	Pn	**Pn**	**07 32 42.1**	**-0.8**
	comp=N,2.1nm,0.3s,baz=312,slow=14,SNR=2.9						
ROSC				LR	LR	07 38 42.3	
	comp=N,401nm,19.3s,baz=348,slow=38						
CBYP	**Canovanas**	**15.09**	**86**	*e*Pn	**Pn**	**07 32 46.4**	**+0.6**
	comp=N,48nm,1.2s						
CBYP				*e*Sn	**Sn**	**07 35 27.7**	**-4.6**
HUMP	**Col San Antoni**	**15.10**	**87**	*e*P	**P**	**07 32 52.4**	**+1.5**
CSU	**Charleston Suu**	**15.10**	**5**	*e*P	**P**	**07 32 51.6**	**+0.8**
MTP	**Monte Pirata**	**15.38**	**87**	*e*Pn	**Pn**	**07 32 49.1**	**-0.5**
	comp=N,49nm,1.0s						
MTP				*e*Sn	**Sn**	**07 35 39.2**	**-0.1**
GOGA	**Godfrey**	**15.53**	**355**	*e*P	**Pn**	**07 32 51.2**	**-0.3**
GOGA				pmax	pmax		
	comp=Z,134nm,1.0s						
GOGA	**Godfrey**	**15.53**	**355**	*e*Pn	**Pn**	**07 32 51.1**	**-0.3**
	comp=Z,134nm,1.0s						
LRAL	**Lakeview Retre**	**15.80**	**344**	*e*Pn	**Pn**	**07 32 53.6**	**-1.5**
	comp=Z,35nm,1.0s						
LRAL				*e*Sn	**Sn**	**07 35 53.5**	**+4.0**
VBMS	**Vicksburg**	**16.32**	**333**	*e*Pn	**Pn**	**07 33 01.7**	**+0.1**
	comp=Z,76nm,1.1s						
KMSC	**Kings Mountain**	**17.18**	**1**	⇑P	**Pn**	**07 33 11.3**	**-1.1**
	baz=17,SNR=24						
KMSC	**Kings Mountain**	**17.18**	**1**	*e*Pn	**Pn**	**07 33 12.0**	**-0.4**
	comp=Z,93nm,1.3s						
035Z	**Hargill**	**17.36**	**302**	⇓P	**Pn**	**07 33 12.5**	**-2.3**
	baz=18,SNR=7.0						
340A	**Bronson**	**17.40**	**323**	⇑P	**Pn**	**07 33 13.7**	**-1.6**
	baz=18						
538A	**Harpers Horsep**	**17.55**	**317**	⇓P	**Pn**	**07 33 15.9**	**-1.2**
	baz=18						
HKT	**Hockley**	**17.60**	**316**	*e*P	**Pn**	**07 33 16.3**	**-1.4**
HKT				pmax	pmax		
	comp=Z,126nm,1.5s						
HKT	**Hockley**	**17.60**	**316**	*e*Pn	**Pn**	**07 33 16.2**	**-1.4**
	comp=Z,126nm,1.5s						
035A	**Encino**	**17.60**	**304**	⇑P	**Pn**	**07 33 16.5**	**-1.3**
	baz=18						
KVTX	**Kingsville**	**17.73**	**306**	*e*P	**P**	**07 33 22.6**	**+2.6**
	comp=Z,107nm,0.9s						
339A	**Huntington**	**17.73**	**321**	⇑P	**Pn**	**07 33 17.5**	**-1.8**
	baz=18						
SMRT	**St. Maarten**	**17.74**	**87**	*e*Pn	**Pn**	**07 33 17.4**	**-2.1**
	comp=Z,90nm,1.1s						
TKL	**Tuckaleechee C**	**17.78**	**355**	*e*P	**Pn**	**07 33 19.2**	**-0.8**
TKL	**Tuckaleechee C**	**17.78**	**355**	Pn	**P**	**07 33 20.9**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=167,slow=11,SNR=30						
TKL				LR	LR	07 40 12.5	
	comp=Z,326nm,20.0s,baz=170,slow=37						
TKL	**Tuckaleechee C**	**17.78**	**355**	*e*Pn	**Pn**	**07 33 19.2**	**-0.8**
OTAV	**Otavalo**	**17.84**	**169**	*e*P	**P**	**07 33 23.2**	**+1.3**
438A	**Sam Houston St**	**17.89**	**318**	⇑P	**Pn**	**07 33 19.1**	**-2.2**
	baz=18						
OXF	**Oxford**	**17.91**	**339**	*e*P	**Pn**	**07 33 21.7**	**+0.1**
OXF				pmax	pmax		
	comp=Z,158nm,1.1s						
OXF	**Oxford**	**17.91**	**339**	*e*P	**Pn**	**07 33 21.7**	**+0.1**
	comp=Z,158nm,1.1s						
537A	**Green Hill Far**	**18.00**	**315**	⇓P	**Pn**	**07 33 20.6**	**-2.1**
	baz=18						
835A	**Beeville**	**18.05**	**308**	⇓P	**Pn**	**07 33 21.7**	**-1.6**
	baz=18						
NATX	**Nacogdoches**	**18.10**	**322**	*e*P	**P**	**07 33 24.0**	**-0.1**
	comp=Z,262nm,1.6s						
034A	**Hebbronville**	**18.12**	**303**	⇑P	**Pn**	**07 33 22.4**	**-1.8**
	baz=18						
636A	**Smothers Creek**	**18.15**	**312**	⇓P	**Pn**	**07 33 23.8**	**-0.8**
	baz=18,SNR=40						
239A	**Gary**	**18.18**	**323**	⇑P	**Pn**	**07 33 23.4**	**-1.5**
	baz=18						
338A	**Crockett**	**18.20**	**320**	⇑P	**Pn**	**07 33 23.8**	**-1.3**
	baz=18						
934A	**Benavides**	**18.24**	**305**	⇓P	**Pn**	**07 33 25.4**	**-0.2**
	baz=18,SNR=20						
735A	**Kenedy**	**18.34**	**309**	⇓P	**P**	**07 33 24.6**	**-2.1**
	baz=18						
834A	**Tilden**	**18.52**	**306**	⇑P	**P**	**07 33 27.5**	**-1.3**
	baz=19,SNR=18						
337A	**Centerville**	**18.53**	**319**	⇓P	**P**	**07 33 27.3**	**-1.6**
	baz=19						
238A	**Jacksonville**	**18.55**	**322**	⇑P	**P**	**07 33 27.6**	**-1.5**
	baz=19						
635A	**Leesville**	**18.61**	**311**	⇓P	**P**	**07 33 28.5**	**-1.3**
	baz=19						
436A	**Wall Ranch, Ga**	**18.76**	**316**	⇓P	**P**	**07 33 29.7**	**-1.7**
	baz=19						
535A	**Dale**	**18.84**	**313**	⇓P	**P**	**07 33 31.1**	**-1.2**
	baz=19,SNR=9.6						
933A	**Laredo**	**18.84**	**304**	⇑P	**P**	**07 33 32.0**	**-0.3**
	baz=19,SNR=40						
734A	**La Parita Cree**	**18.89**	**308**	⇑P	**P**	**07 33 31.7**	**-1.1**
	baz=19,SNR=6.9						
WVT	**Waverly**	**18.95**	**345**	*e*P	**P**	**07 33 33.8**	**+0.4**
WVT				pmax	pmax		
	comp=Z,62nm,1.1s						
WVT	**Waverly**	**18.95**	**345**	*e*P	**P**	**07 33 33.8**	**+0.4**
	comp=Z,62nm,1.1s						
237A	**Washetta, Mont**	**18.96**	**320**	⇑P	**P**	**07 33 32.3**	**-1.2**
	baz=19						
138A	**Matatall Enter**	**19.00**	**323**	⇑P	**P**	**07 33 33.1**	**-1.0**
	baz=19						
634A	**China Grove, S**	**19.02**	**310**	⇑P	**P**	**07 33 33.2**	**-1.2**
	baz=19						
336A	**Riesel**	**19.19**	**317**	⇑P	**P**	**07 33 35.5**	**-0.6**
	baz=19,SNR=9.7						
833A	**Chaparral WMA,**	**19.27**	**306**	⇑P	**P**	**07 33 37.1**	**+0.1**
	baz=19,SNR=53						
BLA	**Blacksburg**	**19.27**	**3**	*e*P	**Pn**	**07 33 38.4**	**+0.3**
BLA				*e*S	**S**	**07 37 18.4**	**+4.6**
BLA				pmax	pmax		
	comp=Z,48nm,1.0s						
BLA	**Blacksburg**	**19.27**	**3**	*e*P	**Pn**	**07 33 38.4**	**+0.3**
	comp=Z,48nm,1.0s						
BLA				*e*S	**S**	**07 37 18.4**	**+4.6**
UALR	**University of**	**19.30**	**333**	*e*Pn	**Pn**	**07 33 39.3**	**+0.9**
	comp=Z,123nm,1.8s						
HBAR	**Harrisburg**	**19.30**	**337**	*e*Pn	**Pn**	**07 33 39.4**	**+1.1**
435B	**Jarrell**	**19.30**	**315**	⇑P	**P**	**07 33 37.2**	**-0.1**
	baz=19,SNR=17						
VWCC	**Virginia Weste**	**19.34**	**4**	*e*Pn	**Pn**	**07 33 38.8**	**0.0**
137A	**Heron Place, G**	**19.35**	**322**	⇓P	**P**	**07 33 38.3**	**+0.5**
	baz=20,SNR=8.8						
733A	**Divot King Ran**	**19.38**	**307**	⇓P	**P**	**07 33 37.6**	**-0.6**
	baz=20,SNR=23						
UTMT	**University of**	**19.43**	**342**	*e*Pn	**Pn**	**07 33 42.7**	**+2.8**
	comp=Z,213nm,1.1s						
GNAR	**Gosnell**	**19.44**	**339**	*e*Pn	**Pn**	**07 33 41.8**	**+1.7**
534A	**Blanco**	**19.47**	**311**	⇑P	**P**	**07 33 39.2**	**-0.1**
	baz=20,SNR=35						
GLAT	**Glass**	**19.49**	**341**	*e*Pn	**Pn**	**07 33 43.2**	**+2.6**
335A	**Moody**	**19.50**	**316**	⇑P	**P**	**07 33 39.5**	**-0.1**
	baz=20						
MIAR	**Mount Ida**	**19.67**	**330**	*e*P	**P**	**07 33 41.9**	**+0.6**
MIAR				pmax	pmax		
	comp=Z,94nm,1.3s						
MIAR	**Mount Ida**	**19.67**	**330**	*e*P	**P**	**07 33 41.9**	**+0.6**
	comp=Z,94nm,1.3s						
633A	**Saathoff Ranch**	**19.67**	**309**	⇓P	**P**	**07 33 41.5**	**+0.1**
	baz=20						
832A	**Faith Ranch, C**	**19.70**	**305**	⇑P	**P**	**07 33 41.5**	**-0.2**
	baz=20,SNR=54						
434A	**Burnet**	**19.79**	**314**	⇑P	**P**	**07 33 43.1**	**+0.4**
	baz=20,SNR=29						
533A	**Kerrville**	**19.90**	**311**	⇓P	**Pn**	**07 33 44.8**	**-0.8**
	baz=20,SNR=29						
732A	**Laxson Ranch,**	**19.90**	**306**	⇑P	**P**	**07 33 43.8**	**-0.2**
	baz=20,SNR=42						
WHTX	**Lake Whitney,**	**19.98**	**318**	⇓P	**P**	**07 33 45.5**	**+0.8**
	baz=20,SNR=7.1						
WHTX	**Lake Whitney,**	**19.98**	**318**	*e*P	**P**	**07 33 43.7**	**-1.0**
	comp=Z,14nm,1.0s						
WHTX				*e*S	**S**	**07 37 24.0**	**-4.3**
PARMO	**Parma**	**19.99**	**341**	*e*Pn	**Pn**	**07 33 48.1**	**+1.5**
JSRW	**J. Sargeant Re**	**20.01**	**9**	*e*Pn	**P**	**07 33 44.6**	**-0.4**
334A	**Lometa**	**20.08**	**315**	⇑P	Pn	07 33 47.0	-0.8
	baz=20,SNR=28						
632A	**Uvalde**	**20.15**	**308**	⇑P	**P**	**07 33 47.6**	**+0.9**
	baz=20,SNR=59						
GRGR	**Grenville**	**20.20**	**104**	*e*Pn	**P**	**07 33 48.0**	**+0.8**
	comp=Z,241nm,1.1s						
PBMO	**Poplar Bluff**	**20.32**	**339**	*e*Pn	Pn	07 33 50.3	-0.2
	comp=Z,86nm,1.0s						
433A	**Art**	**20.32**	**312**	⇑P	**P**	**07 33 49.5**	**+1.0**
	baz=20,SNR=22						
135A	**Vickery Place,**	**20.32**	**319**	⇑P	**P**	**07 33 49.5**	**+1.0**
	baz=20,SNR=5.3						
532A	**Rocksprings**	**20.56**	**310**	⇓P	**P**	**07 33 52.2**	**+1.0**
	baz=21,SNR=64						
333A	**Richland Sprin**	**20.58**	**314**	⇓P	Pn	07 33 52.7	-0.9
	baz=21,SNR=24						
CBN	**Corbin Frederi**	**20.59**	**10**	*e*Pn	Pn	07 33 52.5	-1.1
	comp=Z,44nm,1.0s						
WCI	**Wyandotte Cave**	**20.65**	**350**	*e*P	**P**	**07 33 52.4**	**+0.4**
WCI				pmax	pmax		
	comp=Z,45nm,0.9s						
WCI	**Wyandotte Cave**	**20.65**	**350**	*e*P	**P**	**07 33 52.4**	**+0.4**
	comp=Z,45nm,0.9s						
USIN	**University of**	**20.66**	**347**	*e*P	**P**	**07 33 53.0**	**+0.9**
	comp=Z,93nm,1.1s						
JCT	**Junction City**	**20.68**	**311**	*e*P	**P**	**07 33 53.5**	**+1.1**
JCT				pmax	pmax		
	comp=Z,103nm,1.1s						
JCT	**Junction City**	**20.68**	**311**	⇓P	**P**	**07 33 53.1**	**+0.8**
	baz=21,SNR=43						
JCT	**Junction City**	**20.68**	**311**	*e*P	**P**	**07 33 53.5**	**+1.1**
	comp=Z,103nm,1.1s						
631A	**Perdido Creek**	**20.70**	**307**	⇑P	**P**	**07 33 53.3**	**+0.7**
	baz=21,SNR=121						
Z35A	**Perchaven, San**	**20.75**	**321**	⇑P	Pn	07 33 54.5	-1.1
	baz=21,SNR=5.7						
134A	**White-Moore Ra**	**20.76**	**318**	⇑P	Pn	07 33 55.0	-0.7
	baz=21,SNR=9.4						
SIUC	**Southern Illin**	**20.81**	**343**	*e*P	**P**	**07 33 54.5**	**+0.9**
	comp=Z,73nm,1.0s						
432A	**Menard**	**20.89**	**312**	⇑P	**P**	**07 33 55.4**	**+0.8**
	baz=21,SNR=66						
233A	**Rising Star**	**20.94**	**315**	⇑P	Pn	07 33 56.8	-1.0
	baz=21,SNR=24						
BBSR	**BB Station**	**21.05**	**44**	*e*P	**P**	**07 33 57.1**	**+0.8**
	comp=Z,103nm,1.1s						
531A	**Rocksprings**	**21.05**	**309**	⇑P	**P**	**07 33 57.5**	**+1.0**
	baz=21,SNR=40						
332A	**Millersview**	**21.14**	**313**	⇓P	**P**	**07 33 58.8**	**+1.4**
	baz=21,SNR=49						
Z34A	**Collier Ranch,**	**21.18**	**320**	⇓P	**P**	**07 34 00.8**	**+3.0**
	baz=21,SNR=7.8						
133A	**Hamilton Ranch**	**21.32**	**317**	⇓P	**P**	**07 34 00.9**	**+1.6**
	baz=22,SNR=22						
232A	**Coleman**	**21.37**	**314**	⇓P	**P**	**07 34 01.3**	**+1.5**
	baz=22,SNR=19						
431A	**Sonora**	**21.37**	**310**	⇑P	**P**	**07 34 01.2**	**+1.4**
	baz=22,SNR=71						
Y34A	**Reagan Ranch,**	**21.49**	**321**	⇑P	**P**	**07 34 03.0**	**+1.9**
	baz=22,SNR=8.7						
OLIL	**Olney**	**21.49**	**346**	*e*P	**P**	**07 34 01.8**	**+0.8**
331A	**San Angelo**	**21.58**	**312**	⇓P	**P**	**07 34 03.5**	**+1.4**
	baz=22,SNR=148						
BLO	**Bloomington**	**21.61**	**350**	*e*P	**P**	**07 34 03.2**	**+1.0**
BLO				pmax	pmax		
	comp=Z,134nm,1.3s						
BLO	**Bloomington**	**21.61**	**350**	*e*P	**P**	**07 34 03.2**	**+1.0**
	comp=Z,134nm,1.3s						
530A	**J-C Ranch, Com**	**21.64**	**308**	⇑P	**P**	**07 34 03.5**	**+0.8**
	baz=22,SNR=97						
Z33A	**Whitaker Ranch**	**21.66**	**318**	⇑P	**P**	**07 34 04.5**	**+1.6**
	baz=22,SNR=18						
ABTX	**Abilene, Hawle**	**21.81**	**316**	⇓P	**P**	**07 34 06.8**	**+2.3**
	baz=22,SNR=18						
ABTX	**Abilene, Hawle**	**21.81**	**316**	*e*P	**P**	**07 34 07.9**	**+3.4**
	comp=Z,107nm,1.1s						
SDMD	**Soldier's Deli**	**21.85**	**10**	*e*P	**P**	**07 34 05.6**	**+0.7**
	comp=Z,154nm,1.3s						
TUL1	**Leonard**	**21.85**	**328**	⇑P	**P**	**07 34 05.7**	**+0.9**
	baz=22,SNR=15						
TUL1	**Leonard**	**21.85**	**328**	*e*P	**P**	**07 34 05.2**	**+0.3**
	comp=Z,65nm,1.0s						
231A	**Bronte**	**21.86**	**313**	⇑P	**P**	**07 34 06.0**	**+0.9**
	baz=22,SNR=21						
430A	**Baggett Ranch,**	**21.89**	**310**	⇑P	**P**	**07 34 06.8**	**+1.4**
	baz=22,SNR=35						
SLM	**Saint Louis**	**21.96**	**342**	*e*P	**P**	**07 34 06.6**	**+0.6**
SLM				pmax	pmax		
	comp=Z,114nm,1.1s						
SLM	**Saint Louis**	**21.96**	**342**	*e*P	**P**	**07 34 06.6**	**+0.6**
	comp=Z,114nm,1.1s						
X34A	**Smith Ranch, M**	**21.99**	**322**	⇓P	**P**	**07 34 07.7**	**+1.4**
	baz=22						
Y33A	**Hilltop Ranch,**	**22.05**	**320**	⇑P	**P**	**07 34 09.1**	**+2.0**
	baz=22						
Z32A	**Haskell**	**22.13**	**317**	⇓P	**P**	**07 34 09.3**	**+1.4**
	baz=22,SNR=33						
330A	**Mertzon**	**22.17**	**311**	⇑P	**P**	**07 34 09.8**	**+1.3**
	baz=22,SNR=42						
V35A	**Meyer Ranch, C**	**22.28**	**326**	⇑P	**P**	**07 34 11.0**	**+1.5**
	baz=22,SNR=19						
ACSO	**Alum Creek Sta**	**22.28**	**357**	*e*P	**P**	**07 34 10.4**	**+1.0**
	comp=Z,69nm,1.0s						
429A	**Davenport Ranc**	**22.29**	**308**	⇑P	**P**	**07 34 11.3**	**+1.6**
	baz=22,SNR=20						
529A	**Stev Forest Ra**	**22.29**	**307**	⇑P	**P**	**07 34 11.2**	**+1.4**
	baz=22,SNR=40						
X33A	**Lawton**	**22.34**	**321**	⇑P	**P**	**07 34 11.3**	**+1.1**
	baz=22,SNR=18						
131A	**Roby**	**22.34**	**315**	⇓P	**P**	**07 34 11.0**	**+0.7**
	baz=22,SNR=26						
230A	**Sterling City**	**22.39**	**312**	⇓P	**P**	**07 34 11.7**	**+0.9**
	baz=22,SNR=7.1						
W34A	**Bridge Creek,**	**22.40**	**324**	⇓P	**P**	**07 34 11.7**	**+0.8**
	baz=22,SNR=15						
W34A	**Bridge Creek,**	**22.40**	**324**	*e*P	**P**	**07 34 12.8**	**+2.0**
	comp=Z,111nm,1.1s						
MVL	**Millersville**	**22.51**	**11**	*e*P	**P**	**07 34 13.9**	**+2.1**
	comp=Z,42nm,1.1s						
Y32A	**R-V Farms, Ver**	**22.55**	**319**

baz=24,SNR=7.7
Y29A Porterfield Fa 23.91 316 ⇑P P 07 34 27.1 +0.9
baz=24,SNR=22
U32A Winter Ranch, 23.92 324 ⇑P P 07 34 26.1 -0.1
baz=24
V31A Spring Creek L 23.98 322 ⇑P P 07 34 28.3 +1.5
baz=24,SNR=7.6
PAL Palisades 23.99 15 eP P 07 34 27.7 +1.0
PAL pmax pmax
comp=Z,102nm,1.8s
PAL Palisades 23.99 15 eP P 07 34 27.7 +1.0
comp=Z,102nm,1.8s
T33A Patterson Ranc 24.02 326 ⇑P P 07 34 27.5 +0.4
baz=24
W30A Crocket Farms 24.03 319 ⇑P P 07 34 28.4 +1.1
baz=24
Z28A Tucker Farm, M 24.06 314 ⇓P P 07 34 29.2 +1.6
baz=24,SNR=24
KSPA Keystone Colle 24.12 11 eP P 07 34 29.0 +1.0
comp=Z,206nm,2.0s
ERPA Erie 24.18 3 eP P 07 34 29.1 +0.6
comp=Z,240nm,2.1s
S33A Kaszmaul Farm, 24.27 327 ⇓P P 07 34 29.8 +0.4
baz=24
X29A Tulia 24.28 317 ⇑P P 07 34 30.5 +0.8
baz=24,SNR=19
Y28A McKinney Farm, 24.32 315 ⇑P P 07 34 31.1 +1.1
baz=24,SNR=31
AAM Ann Arbor 24.38 357 eP P 07 34 31.1 +0.8
AAM pmax pmax
comp=Z,55nm,1.1s
AAM Ann Arbor 24.38 357 eP P 07 34 31.1 +0.8
comp=Z,55nm,1.1s
U31A Nine Bar Ranch 24.40 323 ⇑P P 07 34 31.0 +0.4
baz=24
T32A Huddler Ranch, 24.46 325 ⇑P P 07 34 32.3 +1.1
baz=25,SNR=12
V30A Spur Ranch, Mi 24.48 320 ⇓P P 07 34 33.3 +1.8
baz=25,SNR=6.7
YLE Yale 24.52 16 eP P 07 34 33.5 +1.9
comp=Z,49nm,1.0s
AMTX Amarillo 24.54 317 ⇑P P 07 34 32.8 +0.8
baz=25
AMTX Amarillo 24.54 317 eP P 07 34 33.0 +1.1
comp=Z,69nm,1.0s
X28A Dimmitt 24.65 316 ⇑P P 07 34 34.5 +1.4
baz=25,SNR=7.6
W29A Amarillo 24.67 318 ⇑P P 07 34 33.6 +0.5
baz=25,SNR=12
BINY Binghamton 24.71 10 eP P 07 34 34.5 +1.1
comp=Z,48nm,1.1s
MSTX Muleshoe 24.71 314 ⇓P P 07 34 34.2 +0.6
baz=25,SNR=26
MSTX Muleshoe 24.71 314 eP P 07 34 33.6 0.0
comp=Z,48nm,1.0s
KSU1 Kansas State U 24.78 332 ⇑P P 07 34 33.8 -0.2
baz=25,SNR=5.6
KSU1 Kansas State U 24.78 332 eP P 07 34 34.5 +0.4
comp=Z,112nm,0.9s
T31A Randall Ranch, 24.81 324 ⇑P P 07 34 35.3 +0.9
baz=25,SNR=6.5
R33A Olander Ranch, 24.81 328 ⇓P P 07 34 34.9 +0.5
baz=25,SNR=52
S32A Newby Ranch, P 24.84 326 ⇑P P 07 34 35.2 +0.5
baz=25
MMNY Mt. Morris Dam 24.96 7 eP P 07 34 36.7 +1.1
comp=Z,83nm,1.2s
U30A WK&E Inc. Balk 24.98 322 ⇑P P 07 34 36.6 +0.7
baz=25,SNR=6.3
V29A Stinnett 25.07 319 ⇓P P 07 34 37.8 +1.1
baz=25,SNR=7.8
S31A Mullinville 25.08 325 ⇑P P 07 34 37.6 +0.8
baz=25
ATAH Atahualpa 25.09 172 P P 07 34 39.7 +2.3
comp=Z,15nm,0.9s,baz=203,slow=2.0,SNR=7.9
W28A Vega 25.11 318 ⇓P P 07 34 38.0 +0.8
baz=25
T30A Plains 25.26 323 ⇑P P 07 34 39.2 +0.8
baz=25
R32A Long Quarter, 25.27 327 ⇑P P 07 34 39.4 +0.9
baz=25,SNR=13
Q33A Connelly Farm, 25.27 330 ⇓P P 07 34 39.4 +0.9
baz=25,SNR=81
V28A Channing 25.43 318 ⇓P P 07 34 40.3 +0.2
baz=26
MNTX Cornudas Mount 25.43 307 ⇓P P 07 34 39.9 0.0
baz=26,SNR=17
MNTX Cornudas Mount 25.43 307 eP P 07 34 39.8 -0.2
comp=Z,17nm,1.1s
P33A Williams Farm, 25.55 330 ⇑P P 07 34 41.5 +0.4
baz=26
R31A Burdett 25.59 326 ⇓P P 07 34 42.2 +0.8
baz=26,SNR=24
Q32A Meitler Ranch, 25.62 329 ⇓P P 07 34 42.2 +0.5
baz=26,SNR=33
S30A Montezuma 25.64 324 ⇓P P 07 34 41.1 -0.7
baz=26
TRY Troy 25.68 14 eP P 07 34 43.9 +1.8
comp=Z,48nm,1.1s
T29A Hugoton 25.78 322 ⇓P P 07 34 42.2 -1.0
baz=26
SCIA State Center 25.87 340 eP P 07 34 44.8 +0.9
comp=Z,174nm,1.3s
JFWS Jewell Farm 25.97 346 eP P 07 34 45.1 +0.4
JFWS pmax pmax
comp=Z,51nm,1.0s
JFWS Jewell Farm 25.97 346 eP P 07 34 45.1 +0.4
comp=Z,51nm,1.0s
R30A Dighton 25.99 325 ⇑P P 07 34 45.8 +0.8
baz=26,SNR=15
S29A Ulysses 25.99 323 ⇑P P 07 34 45.5 +0.4
baz=26
W26A Owens Ranch, T 26.03 315 ⇑P P 07 34 46.0 +0.4
baz=26,SNR=8.9
Q31A Ellis 26.06 327 ⇓P P 07 34 46.3 +0.6
baz=26,SNR=6.8
P32A Huiting Farm, 26.13 329 ⇑P P 07 34 47.2 +0.9
baz=26,SNR=70
U27A Thompson Grove 26.23 319 ⇓P P 07 34 47.5 +0.2
baz=26
T28A Walsh 26.24 321 ⇑P P 07 34 47.2 -0.2
baz=26
ACCN Adirondack Com 26.30 13 eP P 07 34 49.9 +2.2
comp=Z,29nm,1.3s
S28A Manter 26.43 322 ⇓P P 07 34 50.1 +1.1
baz=27,SNR=8.3
P31A Stockton 26.44 328 ⇑P P 07 34 49.7 +0.6
baz=27,SNR=18
V26A Tequesquite Ra 26.46 317 ⇑P P 07 34 49.5 0.0
baz=27
Q30A Quinter 26.47 326 ⇓P P 07 34 49.5 +0.1
baz=27
O32A Brockman Farm, 26.48 331 ⇑P P 07 34 49.8 +0.4
baz=27,SNR=27
R29A Marienthal 26.57 324 ⇓P P 07 34 50.8 +0.5
baz=27
T27A Campo 26.57 320 ⇓P P 07 34 50.8 +0.4
baz=27
W25A X Bar L Ranch, 26.57 315 ⇑P P 07 34 51.0 +0.5
baz=27,SNR=10.0
U26A Atchley Ranch, 26.79 318 ⇓P P 07 34 53.2 +0.7
baz=27,SNR=17
Q29A Oakley 26.81 325 ⇑P P 07 34 52.8 +0.4
baz=27,SNR=8.5
SADO Sadowa 26.88 4 P P 07 34 52.9 0.0
comp=Z,20nm,1.0s,baz=208,slow=10.0,SNR=6.0
R28A Tribune 26.89 323 ⇑P P 07 34 53.3 +0.1
baz=27
N32A Stulken Farm, 26.89 331 ⇑P P 07 34 53.6 +0.5
baz=27,SNR=7.2
O31A Woolen Ranch, 26.90 329 ⇓P P 07 34 53.2 0.0
baz=27,SNR=8.5
P30A Selden 26.90 327 ⇑P P 07 34 53.8 +0.5
baz=27,SNR=7.6
HNH Hanover 26.93 15 eP P 07 34 58.8 +5.4
comp=Z,18nm,0.9s
MDV Middlebury 27.00 14 eP P 07 34 55.4 +1.4
V25A Rancho No Teng 27.03 316 ⇑P P 07 34 55.7 +1.1
baz=27,SNR=13
T26A Comanche Natio 27.18 319 ⇑P P 07 34 56.8 +0.8
baz=27,SNR=9.4
PTN Potsdam (NY) 27.19 11 eP P 07 34 56.8 +1.1
PTN pmax pmax
comp=Z,33nm,1.3s
PTN Potsdam (NY) 27.19 11 eP P 07 34 56.8 +1.1
comp=Z,33nm,1.3s
W24A Lazy 6 Ranch, 27.21 314 ⇓P P 07 34 57.2 +0.9
baz=27
U25A Circle Dot Ran 27.22 317 ⇑P P 07 34 57.1 +0.7
baz=27
N31A Bailey Ranch, 27.24 331 ⇑P P 07 34 56.7 +0.4
baz=27
O30A MW Ranch, Wils 27.28 328 ⇓P P 07 34 57.0 +0.4
baz=27
P29A Atwood 27.30 326 ⇓P P 07 34 57.1 +0.2
baz=27
LONY Lake Ozonia 27.31 11 eP P 07 34 56.9 +0.2
comp=Z,55nm,1.8s
BGNE Belgrade 27.34 332 ⇓P P 07 34 57.1 -0.1
baz=28
BGNE Belgrade 27.34 332 eP P 07 34 57.7 +0.5
comp=Z,42nm,1.0s
LPIG La Paz 27.37 288 P P 07 34 58.2 +0.7
comp=Z,40nm,1.0s,baz=258,slow=2.9,SNR=3.7
S26A Kim 27.39 320 ⇓P P 07 34 57.6 -0.2
baz=28
Q28A Sharon Springs 27.40 324 ⇓P P 07 34 57.6 -0.2
baz=28
R27A Eads 27.42 322 ⇓P P 07 34 59.0 +0.9
baz=28,SNR=10
LBNH Lisbon 27.52 15 eP P 07 35 00.7 +2.0
LBNH pmax pmax
comp=Z,21nm,1.2s
LBNH Lisbon 27.52 15 eP P 07 35 00.7 +2.0
comp=Z,22nm,1.2s
121A Cookes Peak, D 27.62 307 ⇑P P 07 35 01.0 +1.0
baz=28
M31A Lambtecht Ranc 27.66 331 ⇑P P 07 35 00.6 +0.5
baz=28,SNR=13
T25A Trinidad 27.67 318 ⇓P P 07 35 02.6 +2.2
baz=28,SNR=13
T25A Trinidad 27.67 318 eP P 07 35 02.8 +2.4
comp=Z,41nm,1.2s
P28A Saint Francis 27.72 325 ⇑P P 07 35 01.6 +0.9
baz=28
ANMO Albuquerque 27.80 313 eP P 07 35 01.9 +0.4
ANMO pmax pmax
comp=Z,34nm,1.0s
ANMO Albuquerque 27.80 313 P P 07 35 02.6 +1.1
comp=Z,4.8nm,1.0s,baz=148,slow=8.0,SNR=11
ANMO PcP PcP 07 38 18.2 +0.6
comp=Z,4.9nm,1.0s,baz=120,slow=3.1,SNR=4.8
ANMO Albuquerque 27.80 313 eP P 07 35 03.0 +1.4
ANMO PcP PcP 07 38 18.2 +0.6
KSCO Kaye Shedlock' 27.81 323 ⇑P P 07 35 02.4 +0.9
baz=28
KSCO Kaye Shedlock' 27.81 323 eP P 07 35 03.1 +1.5
comp=Z,52nm,1.5s
R26A Arlington 27.81 321 ⇑P P 07 35 02.3 +0.8
baz=28
S25A Robets Cordova 28.00 319 ⇓P P 07 35 04.7 +1.3
baz=28,SNR=17
LAZ Ladron 28.01 311 eP P 07 35 04.5 +1.1
comp=Z,7.6nm,1.5s
V23A Ortiz Mt. (NFS 28.03 314 ⇓P P 07 35 03.8 +0.2
baz=28
N29A Votaw Ranch, W 28.05 328 ⇑P P 07 35 03.8 +0.2
baz=28
O28A Krutsinger Ran 28.13 326 ⇑P P 07 35 05.0 +0.7
baz=28
P27A Ficken Ranch, 28.16 324 ⇑P P 07 35 05.7 +1.0
baz=28
R25A Fountain Ranch 28.22 320 ⇓P P 07 35 06.3 +1.1
baz=28
M30A Dale-Ortello V 28.23 330 ⇑P P 07 35 05.3 +0.1
baz=28
Q26A Hugo 28.27 322 ⇓P P 07 35 06.4 +0.8
baz=28
L31A Butterfield Fa 28.27 332 ⇓P P 07 35 05.6 +0.1
baz=28
PTGA Pitinga 28.30 129 P P 07 35 06.2 +0.3
comp=Z,12nm,0.9s,baz=306,slow=9.7,SNR=16
PTGA Pitinga 28.30 129 eP P 07 35 05.2 -0.8
comp=Z,27nm,1.2s
319A Douglas 28.33 303 ⇑P P 07 35 06.6 +0.4
baz=28
U23A El Rito 28.36 315 ⇑P P 07 35 08.5 +1.9
baz=28,SNR=11
N28A Pribbeno Ranch 28.41 327 ⇓P P 07 35 07.5 +0.7
baz=28
WVL Waterville 28.45 18 eP P 07 35 08.8 +1.9
comp=Z,38nm,1.4s
S24A Houchin Ranch, 28.48 318 ⇑P P 07 35 09.2 +1.4
baz=29
L30A Spencer Herefo 28.48 331 ⇓P P 07 35 07.6 +0.2
baz=29,SNR=10
M29A Burnside Ranch 28.55 329 ⇓P P 07 35 08.2 +0.2
baz=29
ECSD EROS Data Cent 28.66 337 ⇑P P 07 35 08.4 -0.5
baz=29,SNR=38
ECSD EROS Data Cent 28.66 337 eP P 07 35 08.6 -0.3
comp=Z,43nm,1.1s
SDCO Great Sand Dun 28.73 318 ⇓P P 07 35 11.2 +1.3
baz=29,SNR=16
SDCO Great Sand Dun 28.73 318 eP P 07 35 12.2 +2.4
comp=Z,27nm,1.3s
R24A Sanders Place, 28.78 319 ⇓P P 07 35 11.7 +1.4
baz=29,SNR=8.5
SPMN Marine on St. 28.78 344 ⇑P P 07 35 09.6 -0.3
baz=29,SNR=18
SPMN Marine on St. 28.78 344 eP P 07 35 10.0 +0.1
comp=Z,98nm,1.4s
M28A Bar X Bar Ranc 28.85 328 ⇑P P 07 35 11.0 +0.3
baz=29
L29A Maesberg Ranch 28.93 330 ⇑P P 07 35 11.4 +0.1
baz=29
K30A Basset 29.01 332 ⇓P P 07 35 12.3 +0.2
baz=29,SNR=62
N27A Anderson Farm, 29.02 326 ⇓P P 07 35 12.5 +0.3
baz=29
P25A Willow Gulch B 29.03 322 ⇓P P 07 35 12.9 +0.5
baz=29
R23A Moffat 29.20 319 ⇑P P 07 35 15.2 +1.1
baz=29,SNR=14
Q24A Divide 29.26 321 ⇑P P 07 35 14.6 -0.1
baz=29
K29A Lazy Trails An 29.39 331 ⇓P P 07 35 15.5 0.0
baz=30
J30A Dallas 29.48 333 ⇓P P 07 35 15.6 -0.6
baz=30,SNR=16
S22A 4UR Ranch, Cre 29.58 317 ⇓P P 07 35 16.6 -0.9
baz=30
S22A 4UR Ranch, Cre 29.58 317 eP P 07 35 20.0 +2.6
comp=Z,39nm,1.8s
M26A McRoberts Ranc 29.81 326 ⇑P P 07 35 19.1 -0.2
baz=30
K28A Ten Mile Ranch 29.84 330 ⇑P P 07 35 19.7 +0.2
baz=30
J29A Okreek 29.91 332 ⇓P P 07 35 20.0 0.0
baz=30,SNR=100
I30A Oacoma 29.93 334 ⇑P P 07 35 19.3 -0.9
baz=30,SNR=13
O24A Longmont 29.96 322 ⇑P P 07 35 21.1 +0.5
baz=30
ISCO Idaho Springs 30.07 321 eP P 07 35 23.5 +1.7
ISCO pmax pmax
comp=Z,32nm,1.5s
ISCO Idaho Springs 30.07 321 ⇑P P 07 35 22.8 +1.1
baz=30,SNR=12
ISCO Idaho Springs 30.07 321 eP P 07 35 23.5 +1.7
comp=Z,32nm,1.5s
X18A Snowflake 30.12 309 ⇑P P 07 35 23.0 +0.8
baz=30,SNR=6.6
BRSD Miller 30.17 335 ⇑P P 07 35 21.5 -0.7
baz=30,SNR=7.7
BRSD Miller 30.17 335 eP P 07 35 22.1 -0.1
comp=Z,63nm,1.0s
K27A Flueckinger Fa 30.26 329 ⇑P P 07 35 23.2 +0.1
baz=30,SNR=15
J28A Allard Ranch, 30.33 331 ⇓P P 07 35 23.7 0.0
baz=30,SNR=22
I29A Vivian Onida 30.39 333 ⇑P P 07 35 23.5 -0.7
baz=30,SNR=31
O23A Lake Granby, G 30.51 322 ⇑P P 07 35 27.1 +1.4
baz=31,SNR=6.1
J27A Elkhorn Farm, 30.56 330 ⇓P P 07 35 25.6 -0.2
baz=31,SNR=20
P22A Eagle 30.63 320 ⇓P P 07 35 26.7 0.0
baz=31
M24A Cheyenne 30.72 325 ⇓P P 07 35 26.4 -0.9
baz=31
I28A Midland 30.75 332 ⇑P P 07 35 26.8 -0.6
baz=31,SNR=26
G30A Faulkton 30.81 336 ⇓P P 07 35 27.2 -0.7
baz=31,SNR=72
H29A Onida 30.83 334 ⇓P P 07 35 27.0 -1.1
baz=31,SNR=9.5
O22A Kremmling 30.85 321 ⇑P P 07 35 29.8 +1.0
baz=31,SNR=13
K25A Mack Ranch, Ha 31.01 327 ⇑P P 07 35 28.0 -1.9
baz=31
EYMN Ely 31.02 347 eP P 07 35 29.5 -0.3
comp=Z,42nm,1.3s
J26A Sides Ranch, S 31.12 329 ⇑P P 07 35 31.1 +0.3
baz=31,SNR=9.8
G29A Hoven 31.18 335 ⇑P P 07 35 30.3 -0.9
baz=31,SNR=5.0
X16A Lo Mia Camp, P 31.19 308 ⇑P P 07 35 30.9 -0.7
baz=31
I27A Quinn 31.20 331 ⇓P P 07 35 31.4 0.0
baz=31,SNR=42
M23A Laramie 31.21 324 ⇑P P 07 35 30.5 -1.4
baz=31
H28A Mission Ridge 31.22 333 ⇑P P 07 35 30.7 -0.9
baz=31,SNR=7.4
F30A Leola 31.35 336 ⇓P P 07 35 31.7 -1.0
baz=32
G28A Parade 31.49 334 ⇑P P 07 35 33.3 -0.7
baz=32,SNR=5.1
J25A Sunshine Ranch 31.54 328 ⇑P P 07 35 35.4 +0.9
baz=32,SNR=8.8
I26A New Underwood 31.55 330 ⇓P P 07 35 34.3 -0.3
baz=32,SNR=12
WUAZ Wupatki 31.60 310 ⇑P P 07 35 35.8 +0.5
baz=32,SNR=5.2
WUAZ Wupatki 31.60 310 eP P 07 35 37.5 +2.3
L23A Garrett 31.64 325 ⇑P P 07 35 35.3 -0.2
baz=32
H27A Howes 31.65 332 ⇑P P 07 35 34.9 -0.5
baz=32,SNR=47
F29A Eureka 31.66 336 ⇓P P 07 35 34.6 -0.9
baz=32,SNR=24
O20A White River Ci 31.86 320 ⇓P P 07 35 37.3 -0.2
baz=32
O20A White River Ci 31.86 320 eP P 07 35 40.5 +3.0
comp=Z,28nm,1.2s
E30A Jud 31.87 337 ⇑P P 07 35 36.5 -0.8
baz=32,SNR=9.1
H26A Fairpoint 31.96 331 ⇑P P 07 35 37.7 -0.4
baz=32,SNR=21
I25A Rochford 31.96 329 ⇑P P 07 35 39.0 +0.7
baz=32,SNR=35
K23A Bowen Ranch, D 32.03 326 ⇑P P 07 35 38.0 -0.9
baz=32
F28A McLaughlin 32.07 335 ⇑P P 07 35 38.6 -0.4
baz=32,SNR=38
G27A Dupree 32.17 333 ⇓P P 07 35 39.5 -0.4
baz=32,SNR=25
RSSD Black Hills 32.19 329 eP P 07 35 40.9 +0.6
RSSD pmax pmax
comp=Z,23nm,1.1s
RSSD Black Hills 32.19 329 eP P 07 35 40.9 +0.6
comp=Z,23nm,1.1s
E29A Napoleon 32.20 337 ⇓P P 07 35 39.6 -0.5
baz=32,SNR=10
I24A Kuemmerle Ranc 32.29 328 ⇓P P 07 35 40.3 -0.8
baz=32
D30A Buchanan 32.33 338 ⇓P P 07 35 40.8 -0.5
baz=32,SNR=12
H25A Fruitdale 32.35 330 ⇓P P 07 35 41.3 -0.2
baz=32,SNR=28
SAML Samuel 32.35 144 eP P 07 35 41.4 -0.3
comp=Z,10.0nm,1.1s
G26A Maurine 32.40 332 ⇓P P 07 35 41.1 -0.8
baz=32,SNR=5.3
AGMN Agassiz Nation 32.44 342 ⇑P P 07 35 41.7 -0.5
baz=33,SNR=55
AGMN Agassiz Nation 32.44 342 eP P 07 35 41.8 -0.5
comp=Z,78nm,1.0s
K22A Casper 32.45 325 eP P 07 35 44.4 +1.8
comp=Z,18nm,1.3s
D29A Pettibone, Tap 32.60 337 ⇑P P 07 35 43.2 -0.4
baz=33,SNR=11
F27A Lemmon 32.60 333 ⇓P P 07 35 43.2 -0.4
baz=33,SNR=25
E28A Huff 32.62 335 ⇓P P 07 35 43.6 -0.2
baz=33,SNR=7.9
G25A Newell 32.69 331 ⇑P P 07 35 44.3 -0.2
baz=33,SNR=32
C30A Mose, Pekin 32.74 339 ⇓P P 07 35 44.3 -0.6
baz=33,SNR=20
SRU San Rafael Swe 32.75 316 eP P 07 35 47.3 +2.0
SRU pmax pmax
comp=Z,24nm,1.0s
SRU San Rafael Swe 32.75 316 eP P 07 35 47.2 +2.0
comp=Z,24nm,1.0s
K21A Alcova 32.84 324 ⇑P P 07 35 46.7 +0.6
baz=33,SNR=7.1
E27A Carson 32.85 334 ⇓P P 07 35 46.2 +0.3
baz=33,SNR=30
F26A Lodgepole 32.86 333 ⇑P P 07 35 45.6 -0.5
baz=33,SNR=5.4
H24A Dirks Ranch, A 32.90 329 ⇑P P 07 35 45.8 -0.6
baz=33,SNR=27
J22A Midwest 32.94 326 ⇑P P 07 35 47.4 +0.6
baz=33,SNR=6.5
D28A Regan 33.08 336 ⇑P P 07 35 46.4 -1.4
baz=33
E26A Carlson Angus 33.26 333 ⇑P P 07 35 49.2 -0.2
baz=33,SNR=16
G24A Alzada 33.26 330 ⇑P P 07 35 49.4 -0.1
baz=33,SNR=12
MDND Maddock 33.26 338 ⇑P P 07 35 49.0 -0.4
baz=33,SNR=18
MDND Maddock 33.26 338 eP P 07 35 49.4 -0.1
comp=Z,594nm,1.1s
I22A 9 Mile Ranch, 33.27 326 ⇑P P 07 35 49.4 -0.3
baz=33
F25A Bowman 33.27 332 ⇓P P 07 35 49.0 -0.6
baz=33,SNR=12
B30A Myrvik Farm, E 33.34 340 ⇑P P 07 35 49.5 -0.6
baz=34,SNR=26
D27A Center 33.38 335 ⇑P P 07 35 50.4 -0.1
baz=34,SNR=6.5
J21A Lysite 33.41 325 ⇓P P 07 35 51.5 +0.5
baz=34,SNR=12
C28A Hausauer Farms 33.44 337 ⇑P P 07 35 50.8 -0.2
baz=34,SNR=5.7
G23A Biddle 33.63 329 ⇑P P 07 35 52.7 -0.1
baz=34,SNR=22
I21A Big Trails, Te 33.64 326 ⇑P P 07 35 53.1 +0.1
baz=34,SNR=13
F24A Ekalaka 33.66 331 ⇑P P 07 35 52.1 -0.9
baz=34,SNR=12
H22A Clermont 33.68 328 ⇓P P 07 35 53.2 0.0
baz=34,SNR=12
E25A Miller Ranch, 33.69 333 ⇑P P 07 35 52.8 -0.4
baz=34,SNR=5.4
D26A Manning 33.69 334 ⇑P P 07 35 52.7 -0.5
baz=34,SNR=21
B29A Wagenman Farm, 33.70 339 ⇑P P 07 35 52.7 -0.6
baz=34,SNR=10.0
A30A Hoffart Farm, 33.76 340 ⇓P P 07 35 52.9 -0.8
baz=34,SNR=9.6
J20A Shoshoni 33.77 324 ⇑P P 07 35 53.4 -0.7
baz=34
C27A Sayler Ranch, 33.87 336 ⇓P P 07 35 54.1 -0.6
baz=34
CCUT Cedar City 33.94 312 eP P 07 35 57.7 +2.0
comp=Z,17nm,1.5s
MPU Maple Canyon 33.95 317 eP P 07 35 57.2 +1.5
comp=Z,12nm,1.3s
F23A Volborg 34.02 330 ⇑P P 07 35 55.4 -0.7
baz=34,SNR=10
B28A Dugan Ranch, T 34.04 338 ⇓P P 07 35 55.5 -0.7
baz=34,SNR=9.1
A29A Manning Farm, 34.05 339 ⇓P P 07 35 55.4 -0.8
baz=34,SNR=67
H21A Big Horn, Sher 34.06 327 ⇑P P 07 35 56.3 -0.3
baz=34,SNR=11
G22A Birney 34.09 328 ⇓P P 07 35 56.8 0.0
baz=34,SNR=10
E24A Baker 34.13 332 ⇓P P 07 35 56.1 -1.0
baz=34
D25A Fairfield 34.16 333 ⇑P P 07 35 57.3 0.0
baz=34,SNR=9.6
I20A Worland 34.19 325 ⇓P P 07 35 58.0 +0.3
baz=34,SNR=10
C26A Wahner Farm, P 34.19 335 ⇑P P 07 35 57.4 -0.1
baz=34,SNR=16
NLU North Lily Min 34.21 316 eP P 07 36 00.5 +2.5
NLU PcP PcP 07 38 36.5 +2.0
comp=Z,5.6nm,1.0s
ULM Lac du Bonnet 34.22 344 eP P 07 35 56.7 -0.9

ULM pmax pmax
comp=Z,84nm,1.1s
ULM Lac du Bonnet 34.22 344 P **P 07 35 56.7 -0.9**
comp=Z,62nm,1.0s,baz=157,slow=8.7,SNR=81
ULM LR LR 07 50 20.3
comp=Z,156nm,18.4s,baz=99,slow=37
ULM Lac du Bonnet 34.22 344 *e*P **P 07 35 56.7 -0.9**
comp=Z,84nm,1.1s
BW06 Boulder Array 34.24 322 *e*P **P 07 35 59.0 +0.7**
comp=Z,18nm,1.0s
PDAR Pinedale Array 34.24 322 P **P 07 35 58.8 +0.5**
comp=Z,14nm,0.9s,baz=127,slow=9.7,SNR=40
PDAR PcP **PcP 07 38 34.1 -0.4**
comp=Z,3.3nm,1.0s,baz=122,slow=3.4,SNR=3.7
PDAR LR LR 07 52 05.2
comp=Z,165nm,18.3s,baz=143,slow=40
J19A Crowheart 34.26 323 ⇓P **P 07 35 58.3 0.0**
baz=34,SNR=13
B27A Peters Farms, 34.34 337 ⇑P **P 07 35 58.3 -0.5**
baz=34,SNR=7.6
CTU Camp Tracy 34.39 318 *e*P **P 07 36 02.6 +3.0**
comp=Z,12nm,1.2s
A28A Rude Farm, Bot 34.40 338 ⇑P **P 07 35 58.4 -0.9**
baz=34,SNR=9.9
H20A Greybull 34.47 326 ⇓P **P 07 35 59.8 -0.3**
baz=35,SNR=11
F22A Rosebud 34.48 329 ⇑P **P 07 35 59.9 -0.1**
baz=35,SNR=33
E23A Ismay 34.55 331 ⇑P **P 07 36 00.5 -0.1**
baz=35
G21A Lodge Grass 34.56 328 ⇓P **P 07 36 00.8 -0.1**
baz=35,SNR=8.1
D24A Glendive 34.57 332 ⇑P **P 07 36 00.6 -0.2**
baz=35,SNR=35
C25A Freed Ranch, W 34.57 334 ⇑P **P 07 36 01.0 +0.1**
baz=35,SNR=5.6
B26A Jensen Ranch, 34.69 336 ⇑P **P 07 36 01.1 -0.7**
baz=35
I19A Meeteetse 34.72 325 ⇑P **P 07 36 02.9 +0.6**
baz=35,SNR=14
HWUT Hardware Ranch 34.77 319 *e*P **P 07 36 04.1 +1.3**
comp=Z,25nm,1.3s
A27A Ledoux Ranch, 34.79 337 ⇑P **P 07 36 03.3 +0.7**
baz=35
E22A Miles City 34.80 330 ⇓P **P 07 36 02.4 -0.5**
baz=35,SNR=8.2
SHPR Sheep Range 34.80 309 *e*P **P 07 36 04.8 +1.6**
DUG Dugway, Tooele 34.82 316 *e*P **P 07 36 05.3 +2.0**
DUG pmax pmax
comp=Z,31nm,1.6s
DUG Dugway, Tooele 34.82 316 ⇓P **P 07 36 03.5 +0.2**
baz=35
DUG Dugway, Tooele 34.82 316 *e*P **P 07 36 05.3 +2.0**
comp=Z,31nm,1.6s
C24A Savage 34.93 333 ⇓P **P 07 36 03.9 0.0**
baz=35
F21A Absaloka Mine, 34.93 328 ⇓P **P 07 36 03.8 -0.3**
baz=35,SNR=5.1
B25A Knox Farm, Ray 34.98 335 ⇓P **P 07 36 03.9 -0.4**
baz=35,SNR=13
D23A Lindsay 35.00 332 ⇓P **P 07 36 04.5 -0.1**
baz=35,SNR=37
A26A Wade Farm, Ken 35.04 336 ⇑P **P 07 36 04.1 -0.7**
baz=35
G20A Bridger 35.08 327 ⇓P **P 07 36 05.0 -0.4**
baz=35,SNR=11
HEC Hector,Ludlow 35.08 306 ⇓P **P 07 36 05.0 -0.4**
baz=35
LAO LASA Array 35.11 330 *e*P **P 07 36 05.8 +0.3**
comp=Z,25nm,1.3s
H19A Powell 35.12 325 ⇑P **P 07 36 06.1 +0.4**
baz=35,SNR=6.4
REDW Red Top Meadow 35.35 322 *e*P **P 07 36 09.1 +1.2**
comp=Z,58nm,1.4s
LOHW Long Hollow 35.36 323 *e*P **P 07 36 09.4 +1.5**
comp=Z,190nm,2.8s
E21A Keefer Ranch, 35.42 329 ⇓P **P 07 36 07.6 -0.5**
baz=36,SNR=9.1
D22A Cohagen 35.43 331 ⇓P **P 07 36 08.5 +0.2**
baz=36,SNR=35
F20A Billings 35.44 328 ⇓P **P 07 36 08.7 +0.3**
baz=36,SNR=12
C23A Lambert 35.47 332 ⇑P **P 07 36 08.7 +0.1**
baz=36,SNR=32
A25A Svangstu Ranch 35.49 336 ⇓P **P 07 36 08.3 -0.4**
baz=36
TPAW Teton Pass 35.49 322 *e*P **P 07 36 10.7 +1.6**
comp=Z,25nm,1.1s
H18A Shoshone NF, C 35.50 325 ⇓P **P 07 36 09.2 +0.1**
baz=36,SNR=9.7
I17A Pilgrim Ck. 35.53 323 ⇓P **P 07 36 10.2 +0.8**
baz=36,SNR=11
DGMT Dagmar 35.56 334 ⇑P **P 07 36 09.4 +0.1**
baz=36,SNR=14
DGMT Dagmar 35.56 334 *e*P **P 07 36 09.7 +0.4**
comp=Z,48nm,1.0s
FXWY Fox Creek 35.62 322 *e*P **P 07 36 11.3 +1.1**
comp=Z,18nm,1.1s
HVU Hansel Valley 35.62 319 *e*P **P 07 36 11.5 +1.4**
HVU Hansel Valley 35.62 319 *e*P **P 07 36 11.5 +1.4**
FLWY Flagg Ranch 35.70 323 *e*P **P 07 36 12.5 +1.6**
comp=Z,18nm,1.0s
IMW Indian Meadow 35.73 323 *e*P **P 07 36 12.5 +1.4**
comp=Z,31nm,1.4s
C22A Vida 35.74 332 ⇑P **P 07 36 10.7 -0.1**
baz=36,SNR=25
D21A La Casta Ranch 35.75 330 ⇑P **P 07 36 11.4 +0.3**
baz=36,SNR=7.7
TPNV Topopah Spring 35.78 309 *e*P **P 07 36 14.1 +2.5**
TPNV pmax pmax
comp=Z,13nm,0.9s
TPNV Topopah Spring 35.78 309 ⇑P **P 07 36 12.6 +1.0**
baz=36,SNR=6.2
TPNV Topopah Spring 35.78 309 *e*P **P 07 36 14.1 +2.5**
comp=Z,12nm,0.9s
H17A Grant Village 35.83 324 ⇓P **P 07 36 12.5 +0.6**
baz=36
H17A Grant Village 35.83 324 *e*P P 07 36 15.9 +4.0
comp=Z,24nm,1.5s
A24A Westby 35.83 335 ⇓P **P 07 36 11.9 +0.2**
baz=36,SNR=13
R11A Troy Canyon, C 35.87 312 ⇓P **P 07 36 12.9 +0.6**
baz=36
R11A Troy Canyon, C 35.87 312 *e*P **P 07 36 14.3 +2.0**
comp=Z,5.9nm,1.0s
F19A Roth Farm, Mol 35.88 327 ⇑P **P 07 36 12.0 -0.2**
baz=36,SNR=34
B23A Brockton 35.89 333 ⇓P **P 07 36 12.0 -0.1**
baz=36,SNR=33
E20A Meyer Farm, Mu 35.91 328 ⇑P **P 07 36 12.9 +0.5**
baz=36,SNR=32
YFT Old Faithful 36.01 324 *e*P **P 07 36 16.7 +3.2**
comp=Z,17nm,1.0s
B22A Reddig Ranch S 36.20 332 ⇓P **P 07 36 14.8 0.0**
baz=36,SNR=6.6
E19A Rath Farm, Rou 36.21 328 ⇓P **P 07 36 15.6 +0.6**
baz=36,SNR=39
GCMT Greycliff 36.22 326 *e*P **P 07 36 16.2 +1.0**
comp=Z,34nm,1.3s
D20A Manuel Ranch, 36.32 329 ⇓P **P 07 36 16.2 +0.3**
baz=36,SNR=40
C21A Desert Coulee 36.35 331 ⇑P **P 07 36 16.2 +0.1**
baz=36,SNR=24
EDW2 Edwards Air Fo 36.39 305 ⇑P **P 07 36 17.1 +0.4**
baz=36
MPMC Manual Prospec 36.39 307 ⇑P **P 07 36 17.4 +0.6**
baz=36
LPAZ La Paz 36.51 158 *e*P **P 07 36 18.4 0.0**
LPAZ La Paz 36.51 158 P **P 07 36 18.0 -0.4**
comp=Z,17nm,1.2s,baz=344,slow=8.4,SNR=20
LPAZ La Paz 36.51 158 *e*P **P 07 36 18.4 0.0**
QLMT Earthquake Lak 36.57 324 *e*P **P 07 36 21.3 +3.0**
A22A Carney Farms, 36.69 333 ⇑P **P 07 36 19.2 +0.2**
baz=37,SNR=20
C20A Veseth Ranch, 36.70 330 ⇓P **P 07 36 19.4 +0.3**
baz=37,SNR=90
ELK Elko 36.70 315 *e*P **P 07 36 21.4 +1.9**
ELK Elko 36.70 315 P **P 07 36 20.9 +1.4**
comp=Z,2.9nm,0.9s,baz=212,slow=4.1,SNR=7.4
ELK Elko 36.70 315 *e*P **P 07 36 21.4 +1.9**
D19A Cripps Ranch, 36.74 329 ⇓P **P 07 36 19.9 +0.4**
baz=37,SNR=73
B21A Ellsworth Farm 36.75 332 ⇓P **P 07 36 19.5 0.0**
baz=37
TPH Tonopah 36.93 310 *e*P **P 07 36 23.3 +1.9**
TPH pmax pmax
comp=Z,15nm,1.2s
TPH Tonopah 36.93 310 *e*P **P 07 36 23.3 +1.9**
comp=Z,15nm,1.2s
ISA Isabella, Lake 37.01 306 ⇑P **P 07 36 20.7 -1.3**
baz=37
ARVC Arvin 37.12 305 ⇑P **P 07 36 21.6 -1.2**
baz=37
A21A Bergtoll Ranch 37.13 332 ⇑P **P 07 36 22.6 -0.2**
baz=37
C19A Slack Wire Ran 37.21 329 ⇑P **P 07 36 23.8 +0.3**
baz=37,SNR=32
B20A Solberg Farm, 37.22 331 ⇑P **P 07 36 23.6 +0.1**
baz=37
MCMT McKenzie Canyo 37.38 323 *e*P **P 07 36 27.5 +2.3**
comp=Z,7.5nm,1.0s
A20A Cobblestone Ra 37.49 331 ⇓P **P 07 36 26.3 +0.4**
baz=38,SNR=69
DLMT Dillon 37.55 324 *e*P **P 07 36 26.3 -0.2**
comp=Z,33nm,1.5s
HLID Hailey 37.60 320 ⇓P **P 07 36 27.6 +0.6**
baz=38,SNR=15
HLID Hailey 37.60 320 *e*P **P 07 36 28.8 +1.8**
comp=Z,7.0nm,1.0s
B19A Brinkman Farms 37.67 330 ⇑P **P 07 36 27.1 -0.2**
baz=38
LRM Limekiln Ridge 37.75 324 *e*P **P 07 36 29.7 +1.4**
EGMT Eagleton 37.76 329 ⇓P **P 07 36 28.5 +0.4**
baz=38,SNR=38
EGMT Eagleton 37.76 329 *e*P **P 07 36 28.9 +0.8**
comp=Z,67nm,1.1s
RCTC Rector, Farmer 37.81 307 ⇓P **P 07 36 29.3 +0.7**
baz=38
NVAR Mina Array Bea 37.85 310 P **P 07 36 30.8 +1.5**
comp=Z,4.9nm,0.9s,baz=111,slow=8.2,SNR=17
BMN Battle Mountai 37.91 314 *e*P P 07 36 34.7 +5.1
BMN pmax pmax
comp=Z,87nm,2.3s
BMN Battle Mountai 37.91 314 *e*P P 07 36 34.7 +5.1
comp=Z,86nm,2.3s
A19A Klindworth Far 37.91 331 ⇓P **P 07 36 29.9 +0.5**
baz=38,SNR=29
HRY Holter Researc 37.96 326 *e*P **P 07 36 31.2 +1.3**
MFID Camas Ranch 38.40 319 *e*P **P 07 36 35.4 +1.7**
comp=Z,37nm,1.7s
SCHQ Schefferville 38.59 14 P **P 07 36 35.3 +0.3**
comp=Z,13nm,1.0s,baz=210,slow=9.5,SNR=9.8
SCHQ PcP **PcP 07 38 46.5 -0.6**
comp=Z,7.4nm,0.6s,baz=181,slow=3.1,SNR=15
SCHQ LR LR 07 53 07.4
comp=Z,351nm,18.2s,baz=220,slow=37
SCHQ Schefferville 38.59 14 *e*P **P 07 36 35.7 +0.7**
SCHQ PcP **PcP 07 38 46.5 -0.6**
SCHQ *e*PcP **PcP 07 38 47.0 -0.1**
CHMT Chamberlain Mo 38.85 325 *e*P **P 07 36 38.3 +0.8**
MSO Missoula 39.18 325 *e*P P 07 36 44.4 +4.2
comp=Z,18nm,1.4s
SLMT Seeley Lake 39.18 325 *e*P **P 07 36 41.8 +1.5**
SWMT Swartz Lake 39.62 325 *e*P **P 07 36 46.4 +2.6**
WVOR Wild Horse Val 39.74 316 *e*P **P 07 36 46.2 +1.3**
WVOR pmax pmax
comp=Z,47nm,1.4s
WVOR Wild Horse Val 39.74 316 *e*P **P 07 36 46.2 +1.3**
comp=Z,48nm,1.4s
YBMT Yellow Bay 39.84 326 *e*P **P 07 36 47.5 +1.8**
FFC Flin Flon 39.91 342 P **P 07 36 45.5 -0.5**
comp=Z,78nm,1.3s,SNR=9.6
FFC Flin Flon 39.91 342 *e*P **P 07 36 45.2 -0.8**
FFC pmax pmax
comp=Z,21nm,1.2s
FFC Flin Flon 39.91 342 *e*P **P 07 36 45.2 -0.8**
comp=Z,21nm,1.2s
JTMT Jette 39.91 326 *e*P **P 07 36 48.2 +1.9**
BLMT Blacktail Moun 40.12 326 *e*P **P 07 36 50.0 +2.0**
BSMT Bassoo Peak 40.25 325 *e*P **P 07 36 51.0 +1.9**
comp=Z,13nm,1.4s
WALA Waterton Lakes 40.52 327 *e*P **P 07 36 52.2 +0.9**
F10A Beach Ranch, E 40.58 321 *e*P **P 07 36 52.5 +0.7**
MOD Modoc Plateau 40.63 314 *e*P **P 07 36 53.9 +1.5**
comp=Z,17nm,1.1s
E09A Wood Farm, Sta 41.41 322 *e*P **P 07 36 59.4 +0.9**
comp=Z,26nm,1.4s
NEW Newport 41.77 324 *e*P **P 07 37 02.8 +1.3**
NEW Newport 41.77 324 P **P 07 37 01.8 +0.3**
comp=Z,3.1nm,0.8s,baz=131,slow=9.9,SNR=5.9
NEW Newport 41.77 324 *e*P **P 07 37 02.8 +1.3**
FCC Fort Churchill 41.80 350 *e*P **P 07 37 00.6 -0.9**
FCC pmax pmax
comp=Z,40nm,1.0s
FCC Fort Churchill 41.80 350 *e*P **P 07 37 00.6 -0.9**
comp=Z,40nm,1.0s
D08A Wollman Farm, 42.15 322 *e*P **P 07 37 06.1 +1.6**
C09A Chrisman Ranch 42.16 323 *e*P **P 07 37 05.7 +1.1**
comp=Z,40nm,1.5s
LVC Limon Verde 42.17 162 *e*P **P 07 37 05.8 +0.7**
comp=Z,83nm,1.1s
EDM Edmonton 42.98 332 *e*P **P 07 37 11.0 -0.3**
EDM Edmonton 42.98 332 *e*P **P 07 37 10.9 -0.3**
B08A Colville Reser 43.06 323 *e*P **P 07 37 12.3 +0.3**
comp=Z,79nm,1.9s
LON Longmire 43.73 320 *e*P **P 07 37 18.6 +1.2**
LON pmax pmax
comp=Z,23nm,1.2s
LON Longmire 43.73 320 *e*P **P 07 37 18.6 +1.2**
comp=Z,23nm,1.2s
BDFB Brasilia 47.05 133 P **P 07 37 44.8 +0.7**
comp=Z,31nm,1.0s,baz=308,slow=10,SNR=28
BDFB LR LR 07 59 39.6
comp=Z,238nm,18.2s,baz=308,slow=39
LCO Las Campanas 47.83 167 *e*P **P 07 37 50.0 -0.2**
comp=Z,22nm,0.9s
LCO *e*PcP **PcP 07 39 19.9 +1.2**
BBB Bella Bella 49.83 324 LR LR 08 03 44.5
comp=Z,75nm,19.8s,baz=106,slow=42
YKA Yellowknife Ar 50.07 341 P **P 07 38 05.7 -1.0**
comp=Z,7.0nm,1.0s,baz=135,slow=8.1,SNR=80
YKA PcP **PcP 07 39 25.7 -0.3**
comp=Z,3.6nm,1.0s,baz=137,slow=4.0,SNR=9.5
RCBR Riachuelo 50.99 113 *e*P **P 07 38 15.1 +0.7**
comp=Z,81nm,1.6s
SFJD Kangerlussuaq 53.03 15 P **P 07 38 27.4 -1.3**
comp=Z,3.6nm,0.6s,baz=233,slow=5.1,SNR=4.2
DLBC Dease Lake 53.64 331 P **P 07 38 34.5 +1.1**
comp=Z,13nm,1.1s,baz=126,slow=5.6,SNR=13
DLBC Dease Lake 53.64 331 *e*P **P 07 38 34.6 +1.2**
RES Resolute Bay 57.26 356 *e*P **P 07 38 58.1 -1.0**
RES pmax pmax
comp=Z,24nm,1.0s
RES Resolute Bay 57.26 356 *e*P **P 07 38 58.0 -1.0**
comp=Z,24nm,1.0s
PLCA Paso Flores 59.25 170 *e*P **P 07 39 13.1 -0.4**
PLCA Paso Flores 59.25 170 P **P 07 39 12.8 -0.6**
comp=Z,12nm,0.9s,baz=350,slow=9.5,SNR=16
PLCA Paso Flores 59.25 170 *e*P **P 07 39 13.1 -0.4**
SUMG Summit 59.99 14 *e*P **P 07 39 18.0 -0.6**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 59.99 14 *e*P **P 07 39 18.0 -0.6**
comp=Z,14nm,1.0s
SUMG Summit 59.99 14 *i* P **P 07 39 17.6 -1.0**
comp=Z,11nm,0.9s
DAWY Dawson 60.12 335 *e*P **P 07 39 20.6 +1.3**
RAGM Ragged Mountai 61.31 330 *e*P **P 07 39 28.5 +1.1**
comp=Z,98nm,0.8s
BORG Borgarnes 61.46 25 LR LR 08 03 39.6
comp=Z,219nm,18.3s,baz=258,slow=34
DOT Dot Lake 61.93 333 *e*P **P 07 39 33.9 +2.4**
PAX Paxson 62.35 332 *e*P **P 07 39 36.4 +2.0**
PAX pmax pmax
comp=Z,16nm,1.3s
PAX Paxson 62.35 332 *e*P **P 07 39 36.4 +2.0**
comp=Z,16nm,1.3s
ILAR Eielson Array 63.43 334 P **P 07 39 41.0 -0.5**
ILAR Eielson Array 63.43 334 P **P 07 39 41.0 -0.5**
comp=Z,4.1nm,0.9s,baz=108,slow=4.6,SNR=24
ILAR LR LR 08 10 03.6
comp=Z,114nm,18.2s,baz=126,slow=39
COLA College 63.85 334 *e*P **P 07 39 44.1 -0.1**
COLA pmax pmax
comp=Z,5.0nm,1.1s
COLA College 63.85 334 *e*P **P 07 39 44.1 -0.1**
comp=Z,5.2nm,1.1s
MCK McKinley 64.05 333 *e*P **P 07 39 43.2 -2.4**
MCK McKinley 64.05 333 *e*P **P 07 39 43.2 -2.4**
TRF Thorofare Moun 64.58 332 *e*P **P 07 39 50.0 +0.8**
comp=Z,32nm,1.3s
KTH Kantishna Hill 64.88 332 *e*P **P 07 39 51.6 +0.5**
comp=Z,12nm,1.0s
PPLA Purkeypile 65.33 332 *e*P P 07 39 58.5 +4.4
PCAS Casmilo, Conde 65.99 54 *e*P **P 07 39 59.6 +0.9**
comp=Z,35nm,1.6s
RKT Rikitea 66.10 234 *e*LR LR 08 00 50.8
comp=Z,408nm,28.5s
EVOP Sao Brissos 66.39 55 *e*P **P 07 40 01.4 +0.2**
EVOP pmax pmax
comp=Z,57nm,1.1s
EVOP Sao Brissos 66.39 55 *e*P **P 07 40 01.4 +0.2**
comp=Z,57nm,1.1s
EVO Evora 66.48 55 *e*P **P 07 40 01.4 -0.4**
comp=Z,57nm,1.1s
EVO *e*R
comp=Z,486nm,21.8s
EVO Evora 66.48 55 *e*P **P 07 40 02.4 +0.6**
comp=Z,30nm,2.1s
DAG Danmarks Havn 66.63 13 *i* P **P 07 40 00.5 -1.6**
DAG pmax pmax
comp=Z,4.0nm,1.1s
DAG Danmarks Havn 66.63 13 *i* P **P 07 40 00.5 -1.6**
comp=Z,2.9nm,1.1s
PESTR Estremoz 66.78 55 *e*P **P 07 40 04.5 +0.8**
comp=Z,40nm,1.6s
PMRV Marv??o 66.89 54 *e*P **P 07 40 04.6 +0.2**
comp=Z,18nm,1.0s
MVO Moncorvo 67.03 52 *e*P **P 07 40 06.0 +0.6**
comp=Z,26nm,1.2s
PBRG Braganca 67.21 52 *e*P **P 07 40 07.3 +0.9**
comp=Z,46nm,1.3s
PBAR Barrancos 67.27 55 *e*P **P 07 40 07.8 +1.0**
JMIC Jan Mayen 67.74 20 LR LR 08 08 55.9
comp=Z,46nm,20.3s,baz=262,slow=35
ESK Eskdalemuir 68.96 37 *i* P **P 07 40 18.1 +1.0**
EKA Eskdalemuir Ar 68.98 37 LR LR 08 05 47.9
comp=Z,163nm,20.0s,baz=260,slow=32
ROSF Rostrenen 69.22 44 *e*P **P 07 40 17.8 -1.0**
comp=Z,42nm,1.0s
ROSF Rostrenen 69.22 44 *e*P **P 07 40 17.8 -1.0**
ROSF pmax pmax
comp=Z,42nm,1.0s
ROSF Rostrenen 69.22 44 *e*P **P 07 40 17.8 -1.0**
comp=Z,42nm,1.0s
PAB San Pablo 69.22 54 *e*P **P 07 40 19.9 +0.7**
PAB pmax pmax
comp=Z,43nm,1.4s
PAB San Pablo 69.22 54 *e*P **P 07 40 19.9 +0.7**
comp=Z,43nm,1.4s
QUIF Quistinic 69.32 45 *e*P **P 07 40 19.5 +0.1**
comp=Z,38nm,1.0s
QUIF Quistinic 69.32 45 *e*P **P 07 40 19.5 +0.1**
QUIF pmax pmax
comp=Z,38nm,1.0s
QUIF Quistinic 69.32 45 *e*P **P 07 40 19.5 +0.1**
comp=Z,38nm,1.0s
ESDC Sonseca Array 69.50 54 P **P 07 40 21.5 +0.6**
comp=Z,14nm,0.9s,baz=284,slow=5.8,SNR=35
SGMF Saint Gilles 69.70 44 *e*P **P 07 40 21.6 -0.2**
SGMF Saint Gilles 69.70 44 *e*P **P 07 40 21.6 -0.2**
SGMF Saint Gilles 69.70 44 *e*P **P 07 40 21.6 -0.2**
GRR Gorron 70.82 44 *e*P **P 07 40 28.6 -0.1**
comp=Z,108nm,1.4s
GRR Gorron 70.82 44 *e*P **P 07 40 28.6 -0.1**
GRR pmax pmax
comp=Z,108nm,1.4s
GRR Gorron 70.82 44 *e*P **P 07 40 28.6 -0.1**
comp=Z,108nm,1.4s
FLN La Foliniere 71.03 44 *e*P **P 07 40 30.1 +0.2**
comp=Z,44nm,1.0s
FLN *e*R
comp=Z,497nm,23.0s
FLN La Foliniere 71.03 44 *e*P **P 07 40 30.1 +0.2**
FLN pmax pmax
comp=Z,44nm,1.0s
FLN La Foliniere 71.03 44 *e*P **P 07 40 30.1 +0.2**
comp=Z,44nm,1.0s
SJPF Ste Jean 71.14 50 *e*P **P 07 40 31.2 +0.4**
comp=Z,77nm,1.1s
SJPF Ste Jean 71.14 50 *e*P **P 07 40 31.2 +0.4**
SJPF pmax pmax
comp=Z,77nm,1.1s
SJPF Ste Jean 71.14 50 *e*P **P 07 40 31.2 +0.4**
comp=Z,77nm,1.1s
LDF La Druitiere 71.28 44 *e*P **P 07 40 31.6 +0.1**
comp=Z,42nm,0.9s
LDF La Druitiere 71.28 44 *e*P **P 07 40 31.6 +0.1**
LDF pmax pmax
comp=Z,42nm,0.9s
LDF La Druitiere 71.28 44 *e*P **P 07 40 31.6 +0.1**
comp=Z,42nm,0.9s
MFF Saint Martin d 71.49 46 *e*P **P 07 40 32.8 0.0**
comp=Z,32nm,1.0s
MFF Saint Martin d 71.49 46 *e*P **P 07 40 32.8 0.0**
MFF pmax pmax
comp=Z,32nm,1.0s
MFF Saint Martin d 71.49 46 *e*P **P 07 40 32.8 0.0**
comp=Z,32nm,1.0s
ETSF Etsaut 71.65 50 *e*P **P 07 40 34.4 +0.5**
comp=Z,26nm,1.1s
ETSF Etsaut 71.65 50 *e*P **P 07 40 34.4 +0.5**
ETSF pmax pmax
comp=Z,26nm,1.1s
ETSF Etsaut 71.65 50 *e*P **P 07 40 34.4 +0.5**
comp=Z,26nm,1.1s
EPF Esparros 72.29 50 *e*P **P 07 40 38.0 +0.3**
comp=Z,114nm,1.3s
EPF Esparros 72.29 50 *e*P **P 07 40 38.0 +0.3**
EPF pmax pmax
comp=Z,114nm,1.3s
EPF Esparros 72.29 50 *e*P **P 07 40 38.0 +0.3**
comp=Z,114nm,1.3s
TNA Tin City 72.30 334 *e*P **P 07 40 38.3 +1.1**
LFF La Frestale 72.31 48 *e*P **P 07 40 37.7 0.0**
comp=Z,115nm,1.2s
LFF La Frestale 72.31 48 *e*P **P 07 40 37.7 0.0**
LFF pmax pmax
comp=Z,115nm,1.2s
LFF La Frestale 72.31 48 *e*P **P 07 40 37.7 0.0**
comp=Z,115nm,1.2s
RJF Les Rejaudoux 72.81 47 *e*P **P 07 40 40.5 -0.2**
comp=Z,57nm,1.2s
RJF *e*R
comp=Z,686nm,22.2s
RJF Les Rejaudoux 72.81 47 *e*P **P 07 40 40.5 -0.2**
RJF pmax pmax
comp=Z,57nm,1.2s
RJF Les Rejaudoux 72.81 47 *e*P **P 07 40 40.5 -0.2**
comp=Z,57nm,1.2s
TCF Toulx Ste Croi 73.14 46 *e*P **P 07 40 42.4 -0.3**
comp=Z,71nm,1.4s
TCF Toulx Ste Croi 73.14 46 *e*P **P 07 40 42.4 -0.3**
TCF pmax pmax
comp=Z,71nm,1.4s
TCF Toulx Ste Croi 73.14 46 *e*P **P 07 40 42.4 -0.3**
comp=Z,71nm,1.4s
CAF Calviac 73.25 48 *e*P **P 07 40 43.2 -0.1**
comp=Z,56nm,1.1s
CAF Calviac 73.25 48 *e*P **P 07 40 43.2 -0.1**
CAF pmax pmax
comp=Z,57nm,1.1s
CAF Calviac 73.25 48 *e*P **P 07 40 43.2 -0.1**
comp=Z,56nm,1.1s
BGF Bois d'Agland 73.54 46 *e*P **P 07 40 44.6 -0.4**
BGF Bois d'Agland 73.54 46 *e*P **P 07 40 44.6 -0.4**
BGF Bois d'Agland 73.54 46 *e*P **P 07 40 44.6 -0.4**
MTLF Montolieu 73.60 49 *e*P **P 07 40 45.3 -0.1**
comp=Z,70nm,1.3s
MTLF Montolieu 73.60 49 *e*P **P 07 40 45.3 -0.1**
MTLF pmax pmax
comp=Z,70nm,1.3s
MTLF Montolieu 73.60 49 *e*P **P 07 40 45.3 -0.1**
comp=Z,70nm,1.3s
AVF Avril sur Loir 73.85 45 *e*P **P 07 40 46.2 -0.6**
comp=Z,43nm,1.2s
AVF Avril sur Loir 73.85 45 *e*P **P 07 40 46.2 -0.6**
AVF pmax pmax
comp=Z,43nm,1.2s
AVF Avril sur Loir 73.85 45 *e*P **P 07 40 46.2 -0.6**
comp=Z,43nm,1.2s
SNF Seneffe 73.89 42 P **P 07 40 47.1 +0.2**
BAIF Baives 73.91 42 *e*P **P 07 40 46.9 -0.2**
comp=Z,40nm,1.5s
BAIF Baives 73.91 42 *e*P **P 07 40 46.9 -0.2**
BAIF pmax pmax
comp=Z,40nm,1.5s
BAIF Baives 73.91 42 *e*P **P 07 40 46.9 -0.2**
comp=Z,40nm,1.5s
SSF Saint Saulge 73.91 45 *e*P **P 07 40 46.6 -0.6**
comp=Z,36nm,1.2s

SSF	**Saint Saulge**	**73.91**	**45**	*e*P		**P**	**07 40 46.6**	**-0.6**
SSF				pmax	pmax				
	comp=Z,36nm,1.3s								
SSF	**Saint Saulge**	**73.91**	**45**	*e*P		**P**	**07 40 46.6**	**-0.6**
	comp=Z,36nm,1.3s								
GAMB	**Gambell**	**74.11**	**332**	*e*P		**P**	**07 40 48.8**	**+0.9**
	comp=Z,2.2nm,0.8s								
LOR	**Lormes**	**74.11**	**45**	*e*P		**P**	**07 40 48.1**	**-0.3**
	comp=Z,62nm,1.4s								
LOR				*e*R					
	comp=Z,504nm,22.0s								
LOR	**Lormes**	**74.11**	**45**	*e*P		**P**	**07 40 48.1**	**-0.3**
LOR				pmax	pmax				
	comp=Z,62nm,1.4s								
LOR	**Lormes**	**74.11**	**45**	*e*P		**P**	**07 40 48.1**	**-0.3**
	comp=Z,62nm,1.4s								
DOU	**Dourbes**	**74.15**	**42**	P		**P**	**07 40 48.9**	**+0.4**
SMF	**Signal de Mont**	**74.20**	**46**	*e*P		**P**	**07 40 48.2**	**-0.7**
	comp=Z,52nm,1.3s								
SMF	**Signal de Mont**	**74.20**	**46**	*e*P		**P**	**07 40 48.2**	**-0.7**
SMF				pmax	pmax				
	comp=Z,52nm,1.3s								
SMF	**Signal de Mont**	**74.20**	**46**	*e*P		**P**	**07 40 48.2**	**-0.7**
	comp=Z,52nm,1.3s								
SPITS	**Spitsbergen Ar**	**74.26**	**12**	LR		LR	08 13 31.6		
	comp=Z,228nm,21.3s,baz=260,slow=36								
GIVF	**Givet**	**74.29**	**42**	*e*P		**P**	**07 40 49.0**	**-0.3**
	comp=Z,71nm,1.4s								
GIVF	**Givet**	**74.29**	**42**	*e*P		**P**	**07 40 49.0**	**-0.3**
GIVF				pmax	pmax				
	comp=Z,71nm,1.4s								
GIVF	**Givet**	**74.29**	**42**	*e*P		**P**	**07 40 49.0**	**-0.3**
	comp=Z,71nm,1.4s								
BCLA	**Clavier**	**74.55**	**42**	P		**P**	**07 40 51.2**	**+0.4**
	comp=Z,16nm,1.4s								
LASF	**Ste Croix**	**74.65**	**48**	*e*P		**P**	**07 40 51.9**	**+0.3**
	comp=Z,42nm,1.1s								
LASF	**Ste Croix**	**74.65**	**48**	*e*P		**P**	**07 40 51.9**	**+0.3**
	comp=Z,42nm,1.1s								
MEZF	**Maizieres J'vi**	**74.70**	**44**	*e*P		**P**	**07 40 51.7**	**0.0**
	comp=Z,92nm,1.3s								
MEZF	**Maizieres J'vi**	**74.70**	**44**	*e*P		**P**	**07 40 51.7**	**0.0**
	comp=Z,92nm,1.3s								
SFTF	**Sexfontaines**	**74.75**	**44**	*e*P		**P**	**07 40 51.7**	**-0.3**
	comp=Z,25nm,0.8s								
SFTF	**Sexfontaines**	**74.75**	**44**	*e*P		**P**	**07 40 51.7**	**-0.3**
	comp=Z,25nm,0.8s								
MEM	**Membach**	**74.96**	**41**	P		**P**	**07 40 53.7**	**+0.6**
	comp=Z,8.3nm,1.3s								
VIVF	**Saint-Julien-l**	**75.08**	**47**	*e*P		**P**	**07 40 54.6**	**+0.5**
	comp=Z,96nm,1.2s								
VIVF	**Saint-Julien-l**	**75.08**	**47**	*e*P		**P**	**07 40 54.6**	**+0.5**
VIVF				pmax	pmax				
	comp=Z,96nm,1.2s								
VIVF	**Saint-Julien-l**	**75.08**	**47**	*e*P		**P**	**07 40 54.6**	**+0.5**
	comp=Z,96nm,1.2s								
PAGF	**Fort de Pagny**	**75.14**	**43**	*e*P		**P**	**07 40 54.2**	**-0.1**
	comp=Z,21nm,1.2s								
PAGF	**Fort de Pagny**	**75.14**	**43**	*e*P		**P**	**07 40 54.2**	**-0.1**
	comp=Z,21nm,1.2s								
WLF	**Walferdange**	**75.21**	**42**	P		**P**	**07 40 55.0**	**+0.3**
	comp=Z,20nm,2.4s								
TIC	**Toumodi**	**75.36**	**88**	*e*P		**P**	**07 40 55.4**	**-0.8**
	comp=Z,3.2nm,0.2s								
LIC	**Lamto**	**75.47**	**88**	*e*P		**P**	**07 40 56.2**	**-0.6**
	comp=Z,38nm,1.1s,baz=276								
LIC				*e*R					
	comp=Z,158nm,21.2s								
LIC	**Lamto**	**75.47**	**88**	*e*P		**P**	**07 40 58.0**	**+1.2**
	comp=Z,45nm,1.1s								
LIC	**Lamto**	**75.47**	**88**	*e*P		**P**	**07 40 56.2**	**-0.6**
	comp=Z,38nm,1.1s								
PPT	**Papeete**	**75.48**	**246**	LR		LR	08 09 35.8		
	comp=Z,128nm,19.2s,baz=70,slow=32								
PPT2	**Papeete2**	**75.49**	**246**	*e*LR		LR	08 04 24.1		
	comp=Z,685nm,29.8s,baz=55								
DBIC	**Dimbokro**	**75.51**	**88**	P		**P**	**07 40 56.0**	**-0.9**
	comp=Z,5.7nm,1.0s,baz=271,slow=7.2,SNR=3.3								
DBIC				LR		LR	08 09 44.5		
	comp=Z,113nm,21.2s,baz=258,slow=32								
HAU	**Haudompre**	**75.64**	**44**	*e*P		**P**	**07 40 56.8**	**-0.4**
	comp=Z,44nm,1.2s								
HAU				*e*R					
	comp=Z,416nm,22.8s								
HAU	**Haudompre**	**75.64**	**44**	*e*P		**P**	**07 40 56.8**	**-0.4**
HAU				pmax	pmax				
	comp=Z,44nm,1.2s								
HAU	**Haudompre**	**75.64**	**44**	*e*P		**P**	**07 40 56.8**	**-0.4**
	comp=Z,44nm,1.2s								
KIC	**Kosan Boka**	**75.70**	**88**	*e*P		**P**	**07 40 57.1**	**-1.0**
	comp=Z,42nm,1.2s								
CABF	**La Chapelle**	**75.73**	**45**	*e*P		**P**	**07 40 57.7**	**-0.1**
	comp=Z,41nm,1.1s								
CABF	**La Chapelle**	**75.73**	**45**	*e*P		**P**	**07 40 57.7**	**-0.1**
CABF				pmax	pmax				
	comp=Z,41nm,1.1s								
CABF	**La Chapelle**	**75.73**	**45**	*e*P		**P**	**07 40 57.7**	**-0.1**
	comp=Z,41nm,1.1s								
ORIF	**Oris-en-Rattie**	**75.92**	**47**	*e*P		**P**	**07 40 59.2**	**+0.3**
	comp=Z,74nm,1.6s								
ORIF				*e*R					
	comp=Z,410nm,21.0s								
ORIF	**Oris-en-Rattie**	**75.92**	**47**	*e*P		**P**	**07 40 59.2**	**+0.3**
ORIF				pmax	pmax				
	comp=Z,74nm,1.5s								
ORIF	**Oris-en-Rattie**	**75.92**	**47**	*e*P		**P**	**07 40 59.2**	**+0.3**
	comp=Z,74nm,1.5s								
NB2	**NORSAR Subarra**	**75.93**	**30**	P		**P**	**07 40 58.3**	**-0.3**
	comp=Z,23nm,1.4s,baz=283,slow=5.9								
NB2	**NORSAR Subarra**	**75.93**	**30**	P		**P**	**07 40 58.3**	**-0.3**
	baz=283,slow=5.9								
NOA	**NORSAR Array B**	**75.93**	**30**	P		**P**	**07 40 58.4**	**-0.3**
	comp=Z,4.5nm,1.0s,baz=283,slow=5.6,SNR=8.9								
NOA				LR		LR	08 10 13.7		
	comp=Z,150nm,21.0s,baz=285,slow=32								
HINF	**Hinteralfeld**	**76.01**	**44**	*e*P		**P**	**07 40 58.7**	**-0.7**
	comp=Z,43nm,1.3s								
HINF	**Hinteralfeld**	**76.01**	**44**	*e*P		**P**	**07 40 58.7**	**-0.7**
HINF				pmax	pmax				
	comp=Z,43nm,1.3s								
HINF	**Hinteralfeld**	**76.01**	**44**	*e*P		**P**	**07 40 58.7**	**-0.7**
	comp=Z,43nm,1.3s								
CDF	**Champ du Feu**	**76.17**	**43**	*e*P		**P**	**07 40 59.9**	**-0.4**
	comp=Z,31nm,1.2s								
CDF	**Champ du Feu**	**76.17**	**43**	*e*P		**P**	**07 40 59.9**	**-0.4**
CDF				pmax	pmax				
	comp=Z,31nm,1.2s								
CDF	**Champ du Feu**	**76.17**	**43**	*e*P		**P**	**07 40 59.9**	**-0.4**
	comp=Z,31nm,1.2s								
LPG	**La Plagne**	**76.41**	**46**	*e*P		**P**	**07 41 02.4**	**+0.5**
	comp=Z,28nm,1.1s								
LPG	**La Plagne**	**76.41**	**46**	*e*P		**P**	**07 41 02.4**	**+0.5**
LPG				pmax	pmax				
	comp=Z,28nm,1.1s								
LPG	**La Plagne**	**76.41**	**46**	*e*P		**P**	**07 41 02.4**	**+0.5**
	comp=Z,28nm,1.1s								
MBDF	**Montbardon**	**76.58**	**47**	*e*P		**P**	**07 41 03.1**	**+0.3**
	comp=Z,30nm,1.2s								
MBDF	**Montbardon**	**76.58**	**47**	*e*P		**P**	**07 41 03.1**	**+0.3**
MBDF				pmax	pmax				
	comp=Z,30nm,1.2s								
MBDF	**Montbardon**	**76.58**	**47**	*e*P		**P**	**07 41 03.1**	**+0.3**
	comp=Z,30nm,1.2s								
LMR	**La Mourre**	**76.68**	**49**	*e*P		**P**	**07 41 02.9**	**-0.3**
LMR	**La Mourre**	**76.68**	**49**	*e*P		**P**	**07 41 02.9**	**-0.3**
LMR	**La Mourre**	**76.68**	**49**	*e*P		**P**	**07 41 02.9**	**-0.3**
BFO	**Black Forest**	**76.88**	**43**	*i* P		**P**	**07 41 04.7**	**+0.5**
HFS	**Hagfors**	**77.32**	**31**	LR		LR	08 10 30.9		
	comp=Z,149nm,22.0s,baz=276,slow=32								
TBI	**Tubuai**	**77.82**	**240**	*e*LR		LR	08 05 21.0		
	comp=Z,580nm,30.2s,baz=53								
DAVA	**Damuels**	**78.13**	**44**	⇑*i*P		**P**	**07 41 10.8**	**-0.6**
	comp=Z,12nm,1.3s								
DAVOX	**Davos/Dischmat**	**78.25**	**45**	LR		LR	08 10 13.9		
	comp=Z,308nm,22.0s,baz=264,slow=32								
GRF	**Grafenberg Arr**	**78.43**	**41**	*e*P		**P**	**07 41 13.0**	**+0.2**
	comp=Z,18nm,1.2s								
RETA	**Reutte**	**78.66**	**44**	⇑*i*P		**P**	**07 41 15.0**	**+0.7**
	comp=Z,24nm,1.2s								
FETA	**Feichten**	**78.76**	**44**	⇑*i*pP		**P**	**07 41 15.7**	**+0.9**
	comp=Z,14nm,1.1s								
MOTA	**Moosalm**	**78.92**	**44**	⇑*i*P		P	07 41 12.5	-3.3
	comp=Z,9.8nm,0.9s								
NKC	**Novy Kostel**	**79.06**	**41**	*e*P		**P**	**07 41 16.9**	**+0.6**
NKC				*e*			07 41 24.4		
NKC	**Novy Kostel**	**79.06**	**41**	*e*P		**P**	**07 41 16.9**	**+0.6**
NKC				*ex*		x	07 41 24.4		
CLL	**Collm**	**79.13**	**40**	⇓*i*P		**P**	**07 41 16.4**	**-0.2**
CLL				pmax	pmax				
	comp=Z,14nm,1.1s								
CLL				MLR	MLR				
	comp=Z,200nm,20.9s								
CLL	**Collm**	**79.13**	**40**	⇓*i*P		**P**	**07 41 16.4**	**-0.2**
	comp=Z,14nm,1.1s								
CLL				*e*			07 50 46.0		
CLL				*eS*		**S**	**07 51 14.0**	**-0.6**
CLL				*ePS*		**PnS**	**07 51 57.0**	**-2.1**
CLL				*e*			07 53 33.0		
CLL				LmV			08 12 00.0		
	comp=Z,200nm,20.9s								
ARCES	**ARCESS Array B**	**79.23**	**20**	P		**P**	**07 41 15.8**	**-1.0**
	comp=Z,7.3nm,1.1s,baz=305,slow=6.4,SNR=11								
ARCES				LR		LR	08 14 51.8		
	comp=Z,51nm,20.2s,baz=283,slow=35								
BRG	**Berggiesshubel**	**79.81**	**40**	*e*P		**P**	**07 41 20.6**	**+0.2**
	comp=Z,22nm,1.5s								
BRG				*e*			07 41 29.9		
	comp=Z,16nm,1.4s								
BRG	**Berggiesshubel**	**79.81**	**40**	*e*P		**P**	**07 41 20.6**	**+0.2**
BRG				*e*			07 41 29.9		
BRG				pmax	pmax				
	comp=Z,22nm,1.5s								
BRG				pmax	pmax				
	comp=Z,16nm,1.4s								
TORD	**Torodi Ar. Bea**	**79.89**	**79**	P		**P**	**07 41 20.9**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=295,slow=4.5,SNR=14								
TORD				LR		LR	08 12 24.3		
	comp=Z,130nm,21.8s,baz=280,slow=32								
KHC	**Kasperske Hory**	**80.06**	**42**	*e*P		**P**	**07 41 21.6**	**-0.2**
KHC				*e*			07 41 29.5		
KHC	**Kasperske Hory**	**80.06**	**42**	*e*P		**P**	**07 41 21.6**	**-0.2**
KHC				*ex*		x	07 41 29.5		
GERES	**GERESS Array B**	**80.22**	**42**	P		**P**	**07 41 23.2**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=262,slow=4.0,SNR=28								
GERES				LR		LR	08 12 40.2		
	comp=Z,242nm,19.9s,baz=268,slow=32								
PVCC	**Panska Ves**	**80.29**	**40**	*e*P		**P**	**07 41 23.8**	**+0.8**
PVCC	**Panska Ves**	**80.29**	**40**	*e*P		**P**	**07 41 23.8**	**+0.8**
PRA	**Prague**	**80.34**	**41**	*e*P		**P**	**07 41 24.1**	**+0.9**
PRA	**Prague**	**80.34**	**41**	*e*P		**P**	**07 41 24.1**	**+0.9**
PRU	**Pruhonice**	**80.43**	**41**	*e*P		**P**	**07 41 23.7**	**0.0**
PRU				*e*			07 41 32.8		
PRU				MLR	MLR				
	comp=Z,500nm,16.2s								
PRU	**Pruhonice**	**80.43**	**41**	*e*P		**P**	**07 41 23.7**	**0.0**
PRU				*ex*		x	07 41 32.8		
PRU				*ex*		x	07 41 37.2		
PRU				AMS	AMS		08 12 00.0		
	comp=Z,500nm,16.2s								
KEST	**Kesra**	**80.61**	**56**	P		**P**	**07 41 25.9**	**+0.8**
	comp=Z,8.0nm,1.0s,baz=270,slow=7.1,SNR=7.9								
KEST				LR		LR	08 13 50.1		
	comp=Z,59nm,19.2s,baz=252,slow=33								
TAM	**Tamanrasset**	**80.79**	**69**	*e*P		**P**	**07 41 27.4**	**+1.0**
TAM				pmax	pmax				
	comp=Z,1.0nm,0.5s								
TAM	**Tamanrasset**	**80.79**	**69**	*e*P		**P**	**07 41 27.4**	**+1.0**
	comp=Z,1.4nm,0.5s								
MOA	**Molln**	**80.85**	**43**	⇓*i*P		**P**	**07 41 25.9**	**-0.1**
	comp=Z,8.9nm,0.9s								
UPC	**Upice**	**81.18**	**40**	*e*P		**P**	**07 41 28.0**	**+0.3**
UPC				*e*			07 41 31.6		
UPC				*e*			07 41 37.2		
UPC	**Upice**	**81.18**	**40**	*e*P		**P**	**07 41 28.0**	**+0.3**
UPC				*epP*		**PcP**	**07 41 31.6**	**-2.4**
UPC				*ex*		x	07 41 37.2		
UPC				*ex*		x	07 41 41.6		
TREC	**Trest**	**81.21**	**41**	*e*P		**P**	**07 41 28.4**	**+0.4**
TREC				MLR	MLR				
	comp=Z,400nm,17.6s								
TREC	**Trest**	**81.21**	**41**	*e*P		**P**	**07 41 28.4**	**+0.4**
TREC				AMS	AMS		08 13 10.0		
	comp=Z,400nm,17.6s								
DPC	**Dobruska-Polom**	**81.42**	**40**	*e*P		**P**	**07 41 29.6**	**+0.6**
DPC				*e*			07 41 34.1		
DPC	**Dobruska-Polom**	**81.42**	**40**	*e*P		**P**	**07 41 29.6**	**+0.6**
DPC				*epP*		**PcP**	**07 41 34.1**	**-1.0**
DPC				*ex*		x	07 41 38.3		
DPC				*ex*		x	07 41 42.5		
BILL	**Bilibino**	**81.44**	**339**	*i* P		**P**	**07 41 28.4**	**-0.4**
BILL				*i*			07 41 36.1		
BILL				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,125nm,20.0s								
BILL	**Bilibino**	**81.44**	**339**	*e*P		**P**	**07 41 29.1**	**+0.3**
	comp=Z,16nm,1.4s								
KRLC	**Kraliky**	**81.78**	**40**	*e*P		**P**	**07 41 31.9**	**+0.9**
KRLC				*e*			07 41 37.6		
KRLC	**Kraliky**	**81.78**	**40**	*e*P		**P**	**07 41 31.9**	**+0.9**
KRLC				*epP*		**PcP**	**07 41 37.6**	**+0.9**
KRLC				*ex*		x	07 41 44.4		
VRAC	**Vranov**	**81.90**	**41**	⇑P		**P**	**07 41 32.1**	**+0.5**
VRAC	**Vranov**	**81.90**	**41**	⇑*i*P		**P**	**07 41 32.1**	**+0.5**
VRAC	**Vranov**	**81.90**	**41**	LR		LR	08 12 53.1		
	comp=Z,346nm,21.1s,baz=277,slow=32								
MORC	**Moravsky Berou**	**82.34**	**40**	⇑P		**P**	**07 41 34.8**	**+0.9**
MORC	**Moravsky Berou**	**82.34**	**40**	⇑*i*P		**P**	**07 41 34.8**	**+0.9**
KAF	**Kangasniemi**	**82.47**	**27**	*e*P		**P**	**07 41 32.7**	**-1.5**
KAF				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KAF	**Kangasniemi**	**82.47**	**27**	*ep*		**P**	**07 41 32.7**	**-1.5**
	comp=Z,2.1nm,0.8s								
FINES	**FINESS Array B**	**82.64**	**27**	P		**P**	**07 41 35.2**	**0.0**
	comp=Z,3.2nm,0.6s,baz=298,slow=3.0,SNR=27								
FINES				LR		LR	08 15 03.6		
	comp=Z,229nm,20.5s,baz=264,slow=33								
OKC	**Ostrava-Krasne**	**82.69**	**40**	*e*P		**P**	**07 41 36.1**	**+0.4**
OKC				*e*			07 41 40.0		
OKC				MLR	MLR				
	comp=Z,300nm,15.4s								
OKC	**Ostrava-Krasne**	**82.69**	**40**	*e*P		**P**	**07 41 36.1**	**+0.4**
OKC				*epP*		**PcP**	**07 41 40.0**	**-0.6**
OKC				*ex*		x	07 41 45.6		
OKC				AMS	AMS		08 15 00.0		
	comp=Z,300nm,15.4s								
APA	**Apatity**	**82.71**	**21**	*e*P		**P**	**07 41 32.6**	**-2.8**
APA				MLR	MLR				
	comp=Z,300nm,15.0s								
LVZ	**Lovozero**	**82.95**	**20**	⇑*e*P		**P**	**07 41 37.0**	**+0.3**
LVZ				pmax	pmax				
	comp=Z,14nm,1.2s								
PMSA	**Palmer Station**	**83.52**	**172**	*e*P		**P**	**07 41 38.9**	**-0.5**
VYHS	**Vyhne**	**83.56**	**41**	*e*P		**P**	**07 41 41.0**	**+0.8**
VYHS				pmax	pmax				
	comp=Z,9.0nm,1.3s								
VYHS	**Vyhne**	**83.56**	**41**	*e*P		**P**	**07 41 41.0**	**+0.8**
JOF	**Joensuu**	**84.20**	**25**	*e*P		**P**	**07 41 41.5**	**-1.6**
JOF				pmax	pmax				
	comp=Z,3.0nm,0.9s								
JOF	**Joensuu**	**84.20**	**25**	*ep*		**P**	**07 41 41.5**	**-1.6**
	comp=Z,2.8nm,0.9s								
PKSM	**Moragy**	**84.21**	**43**	⇑P		**P**	**07 41 43.8**	**+0.3**
PKSM	**Moragy**	**84.21**	**43**	⇑*i*P		**P**	**07 41 43.8**	**+0.3**
PKSM	**Moragy**	**84.21**	**43**	⇑*e*P		**P**	**07 41 44.0**	**+0.5**
PSZ	**Piszkesteto**	**84.43**	**41**	⇑P		**P**	**07 41 46.3**	**+1.5**
PSZ	**Piszkesteto**	**84.43**	**41**	⇑*i*P		**P**	**07 41 46.3**	**+1.5**
PSZ	**Piszkesteto**	**84.43**	**41**	*e*P		**P**	**07 41 45.8**	**+1.1**
	comp=Z,67nm,1.6s								
PSZ	**Piszkesteto**	**84.43**	**41**	⇑*epP*		**P**	**07 41 46.2**	**+1.5**
KECS	**Kecovo**	**84.60**	**41**	*e*P		**P**	**07 41 46.6**	**+1.1**
KECS				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KECS	**Kecovo**	**84.60**	**41**	*e*P		**P**	**07 41 46.6**	**+1.1**
STHS	**Stebnicka Huta**	**84.73**	**40**	*e*P		**P**	**07 41 47.6**	**+1.4**
STHS				pmax	pmax				
	comp=Z,3.0nm,1.0s								
STHS	**Stebnicka Huta**	**84.73**	**40**	*e*P		**P**	**07 41 47.6**	**+1.4**
CRVS	**Cervenica-Dubn**	**85.05**	**40**	*e*P		**P**	**07 41 48.9**	**+1.1**
CRVS				pmax	pmax				
	comp=Z,10.0nm,1.4s								
CRVS	**Cervenica-Dubn**	**85.05**	**40**	*e*P		**P**	**07 41 48.9**	**+1.1**
KOLS	**Kolonicke sedl**	**85.53**	**40**	*e*P		**P**	**07 41 51.1**	**+0.9**
KOLS				pmax	pmax				
	comp=Z,15nm,1.4s								
KOLS	**Kolonicke sedl**	**85.53**	**40**	*e*P		**P**	**07 41 51.1**	**+0.9**
UZH	**Uzhgorod**	**85.66**	**40**	⇓*i*P		**P**	**07 41 51.8**	**+1.0**
UZH				*e*			07 42 00.7		
TRPA	**Tarpa**	**86.00**	**41**	⇓*i*P		**P**	**07 41 53.6**	**+1.1**
LVV	**L'vov**	**86.25**	**39**	*e*P		**P**	**07 41 53.7**	**0.0**
BZS	**Buzias**	**86.36**	**43**	⇑P		**P**	**07 41 55.3**	**+1.0**
BZS	**Buzias**	**86.36**	**43**	⇑*i*P		**P**	**07 41 55.3**	**+1.0**
DRGR		**86.62**	**42**	⇑P		**P**	**07 41 56.5**	**+0.8**
DRGR		**86.62**	**42**	⇑*i*P		**P**	**07 41 56.5**	**+0.8**
GZR	**Gura Zlata**	**87.20**	**43**	⇑P		**P**	**07 41 59.4**	**+0.9**
GZR	**Gura Zlata**	**87.20**	**43**	⇑*i*P		**P**	**07 41 59.4**	**+0.9**
CJR	**Cluj-Napoca**	**87.21**	**42**	⇑P		**P**	**07 41 59.8**	**+1.3**
CJR	**Cluj-Napoca**	**87.21**	**42**	⇑*i*P		**P**	**07 41 59.8**	**+1.3**
BURAR	**Bucovina Array**	**87.86**	**40**	⇑P		**P**	**07 42 02.5**	**+0.8**
BURAR	**Bucovina Array**	**87.86**	**40**	⇑*i*P		**P**	**07 42 02.5**	**+0.8**
TIXI	**Tiksi**	**88.28**	**351**	*ce*P		**P**	**07 42 02.7**	**-0.3**
TIXI				pmax	pmax				
	comp=Z,12nm,1.2s								
TIXI	**Tiksi**	**88.28**	**351**	*e*P		**P**	**07 42 02.3**	**-0.7**
	comp=Z,12nm,1.1s								
ARR	**Arges**	**88.41**	**43**	⇑*i*P		**P**	**07 42 05.2**	**+0.9**
VTS	**Vitosha**	**88.57**	**46**	⇑P		**P**	**07 42 06.6**	**+1.3**
VTS	**Vitosha**	**88.57**	**46**	⇑*i*P		**P**	**07 42 06.6**	**+1.3**
VOIR		**88.65**	**42**	⇓P		**P**	**07 42 06.3**	**+0.8**
VOIR		**88.65**	**42**	⇓*i*P		**P**	**07 42 06.3**	**+0.8**
KIEV	**Kiev**	**88.89**	**36**	⇑*i*P		**P**	**07 42 05.6**	**-0.7**
AKASG	**Malin Array Be**	**88.89**	**36**	*ce*P		**P**	**07 42 05.6**	**-0.7**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**88.89**	**36**	P		**P**	**07 42 05.1**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=283,slow=4.1,SNR=9.5								
AKASG				LR		LR	08 17 24.5		
	comp=Z,214nm,21.9s,baz=285,slow=33								
MLR	**Muntele Rosu**	**89.20**	**42**	⇑P		**P**	**07 42 09.2**	**+1.1**
MLR	**Muntele Rosu**	**89.20**	**42**	⇑*i*P		**P**	**07 42 09.2**	**+1.1**
MLR	**Muntele Rosu**	**89.20**	**42**	LR		LR	08 18 20.6		
	comp=Z,63nm,20.6s,baz=302,slow=33								
MMB	**Musomiste**	**89.32**	**46**	⇑P		**P**	**07 42 09.8**	**+1.1**
MMB	**Musomiste**	**89.32**	**46**	⇑*i*P		**P**	**07 42 09.8**	**+1.1**
KDZ	**Kurdzhali**	**90.46**	**46**	⇓P		**P**	**07 42 14.7**	**+0.8**
KDZ	**Kurdzhali**	**90.46**	**46**	⇓*i*P		**P**	**07 42 14.7**	**+0.8**
OBN	**Obninsk**	**90.53**	**30**	⇓*e*P		**P**	**07 42 13.8**	**-0.1**
OBN				pmax	pmax				
	comp=Z,34nm,2.5s								
CFR	**Carcaliu**	**90.73**	**42**	⇑P		**P**	**07 42 14.8**	**-0.3**
CFR	**Carcaliu**	**90.73**	**42**	⇑*i*P		**P**	**07 42 14.8**	**-0.3**
TIRR	**Tirgusor**	**91.23**	**42**	⇑P		**P**	**07 42 18.2**	**+0.8**
TIRR	**Tirgusor**	**91.23**	**42**	⇑*i*P		**P**	**07 42 18.1**	**+0.7**
BRTR	**Keskin Array B**	**96.89**	**45**	*ce*P		**P**	**07 42 43.5**	**-0.2**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BRTR	**Keskin Array B**	**96.89**	**45**	P		**P**	**07 42 43.3**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=269,slow=4.9,SNR=8.4								
BRTR				LR		LR	08 24 59.3		
	comp=Z,59nm,18.3s,baz=286,slow=35								
ARU	**Arti**	**98.79**	**21**	*d*P		**P**	**07 42 51.5**	**-0.2**
ARU							07 46 52.7		
ARU				S		**SKSac**	**07 53 29.6**	**+1.4**
ARU				pmax	pmax				
	comp=Z,12nm,1.7s								
KIV	**Kislovodsk**	**100.21**	**37**	*e*P		**Pdif**	**07 42 54.9**	**-3.5**
KIV				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MKAR	**Makanchi Array**	**114.01**	**12**	PKP		PKPdf	07 47 49.6	-1.7
	comp=Z,0.4nm,0.9s,baz=339,slow=2.3,SNR=3.9								
SONM	**Songino Array**	**114.17**	**354**	PKP		PKPdf	07 47 50.3	-1.3
	comp=Z,0.5nm,0.5s,baz=22,slow=1.6,SNR=4.7								
AAK	**Ala-Archa**	**115.90**	**19**	⇓*i*PKIKP		**PKPdf**	**07 47 55.5**	**+0.3**
AAK				pmax	pmax				
	comp=Z,14nm,2.5s								
DZM	**Mont Dzumac**	**116.28**	**254**	*e*LR		LR	08 23 09.3		
	comp=Z,181nm,28.3s								
WMQ	**Urumqi**	**117.82**	**9**	*e*PKP		**PKPdf**	**07 47 56.1**	**-2.6**
WMQ				*e*PP		**P

IDC 05 07:50:26.9±1.8, 0°08'S×125°24'E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.1/36, mbtmp3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/21, Error ellipse: s-maj=175.6km s-min=25.3km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**10.18**	**189**	LR	LR	07 57 45.9	
	comp=Z,57nm,18.5s,baz=290,slow=43						
WRA	**Warramunga Arr**	**21.66**	**156**	P	P	07 55 20.6	+1.3
	1.0nm,0.4s,baz=335,slow=11,SNR=18						
ASAR	**Alice Springs**	**24.91**	**161**	P	P	07 55 50.7	-1.2
	0.2nm,0.5s,baz=348,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**59.87**	**327**	P	P	08 00 34.6	0.0
	0.3nm,0.7s,baz=122,slow=5.2,SNR=3.1						

*ISCJB **05** 07:57:15.0±0.5, 32°.21N±0.0°×115°.16W±0.0°.04, h10km±5km, Error ellipse: s-maj=5.3km s-min=3.5km az=176.4*
*NEIC **05** 07:57:16.0, 32°.13N×115°.26W, h10km, ML3.5(PAS), After PAS.*
*ECX **05** 07:57:17.5±0.5, 32°.20N×115°.26W, h5km, ML3.6*

ISC 05 07:57:15.5±0.9, 32°.16N±0°.03×115°.20W±0°.03, h14km±7km, n17, σ1°25/29, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.18**	**192**	*e*P	**Pg**	**07 57 19.7**	**-0.1**
EMX				*e*S	**Sg**	**07 57 23.1**	**+0.5**
SGL	**Mount Signal**	**0.66**	**317**	⇓*i*P	**Pg**	**07 57 27.9**	**-0.5**
YMD	**Yuma Desert**	**0.68**	**55**	⇑*i*P	**Pg**	**07 57 29.3**	**+0.6**
COA	**Coachella**	**0.70**	**5**	⇓*i*P	**Pg**	**07 57 29.2**	**0.0**
ECBX	**El Chinero**	**0.70**	**170**	*e*P	**Pb**	**07 57 29.5**	**-0.1**
ECBX				*e*S	**Sb**	**07 57 39.5**	**+0.5**
YUH	**Yuha Desert**	**0.78**	**308**	⇓*i*P	**Pg**	**07 57 29.8**	**-1.0**
COK	**Cook Ranch**	**0.82**	**327**	*e*P	**Pg**	**07 57 30.8**	**-0.6**
GLA	**Glamis**	**0.94**	**19**	*e*Pg	**Pb**	**07 57 33.4**	**-0.3**
GLA				*e*Sg	**Sb**	**07 57 45.1**	**-0.8**
SPIG	**San Pedro Mart**	**1.14**	**192**	*e*P	**Pn**	**07 57 37.6**	**+0.3**
SPIG				*e*S	**Sn**	**07 57 53.8**	**+0.8**
SPX	**San Pedro Mart**	**1.14**	**192**	*e*P	**Pn**	**07 57 37.6**	**+0.3**
SPX				*e*S	**Sn**	**07 57 53.8**	**+0.9**
SPX				AML	AML	07 57 55.0	
	comp=E,841nm,0.4s						
SPX				⇓*e*		07 57 55.0	
SPX				AML	AML	07 57 57.0	
	comp=N,565nm,0.2s						
SPX				*e*		07 57 57.0	
CBX	**Cerro Bola**	**1.25**	**277**	*e*P	**Pn**	**07 57 37.9**	**-0.8**
CBX				*e*S	**Sb**	**07 57 54.4**	**-0.7**
CBX				AML	AML	07 57 55.8	
	comp=E,3μm,0.5s						
CBX				⇑*e*		07 57 55.8	
CBX				⇑*e*		07 57 56.1	
CBX				AML	AML	07 57 56.1	
	comp=N,2μm,0.3s						
BAR	**Barrett**	**1.35**	**293**	*e*Pn	**Pn**	**07 57 38.9**	**-1.1**
BAR				*e*Sg	**Sb**	**07 57 56.4**	**-1.4**
PFO	**Pinyon Flats O**	**1.79**	**324**	*e*Pn	**Pn**	**07 57 44.5**	**-1.7**
PFO				*e*Sn	**Sn**	**07 58 08.0**	**-0.7**
214A	**Organ Pipe Nat**	**2.04**	**95**	*e*Pn	**Pn**	**07 57 47.8**	**-1.6**
214A				*e*Sg	**Sg**	**07 58 20.9**	**-0.2**
LDFC	**Landfair**	**2.91**	**1**	*e*Pn	**Pn**	**07 58 01.6**	**+0.1**
LDFC				*e*Sn	**Sn**	**07 58 38.8**	**+2.5**
GSC	**Goldstone, Bar**	**3.40**	**337**	*e*Pg	**Pg**	**07 58 22.2**	**+1.4**
GSC				*e*Sg	**Sg**	**07 59 08.6**	**+3.7**
TUC	**Tucson**	**3.74**	**87**	*e*Pn	**Pn**	**07 58 12.1**	**-0.9**
TUC				*e*Sg	**Sg**	**07 59 14.6**	**-1.1**

*CSEM **05** 08:07:17.0±0.3, 50°.17N×19°.10E, h2km, Error ellipse: s-maj=8.5km s-min=3.6km az=9.0*

PRU 05 08:07:18.1, 50°.16N×19°.08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**82**	*e*Pg	Pg	08 07 25.5	-1.6
OJC				*e*Sg	Sg	08 07 31.4	-1.8
OJC	**Ojcow**	**0.47**	**82**	*e*Pg	Pg	08 07 25.5	-1.6
OJC				*e*Sg	Sg	08 07 31.4	-1.8
OKC	**Ostrava-Krasne**	**0.68**	**242**	*e*PG	Pg	08 07 30.5	-0.7
OKC				*e*SG	Sg	08 07 40.2	+0.1
	comp=Z,5.3nm,0.3s						
OKC	**Ostrava-Krasne**	**0.68**	**242**	Pg	Pg	08 07 30.5	-0.7
OKC				Sg	Sg	08 07 40.2	+0.1
	5.3nm,0.3s						
LANS	**Liptovska Anna**	**1.04**	**166**	*e*Pg	Pg	08 07 37.6	-0.6
LANS				*e*Sg	Sg	08 07 50.5	-1.2
MORC	**Moravsky Berou**	**1.06**	**249**	*e*Pg	Pg	08 07 39.0	+0.4
MORC				*e*Sg	Sb	08 07 53.5	-0.5
NIE	**Niedzica**	**1.09**	**132**	*e*Pg	Pg	08 07 37.1	-2.0
NIE				*e*Sg	Sg	08 07 52.5	-0.8
NIE	**Niedzica**	**1.09**	**132**	*e*Pg	Pg	08 07 37.1	-2.0
NIE				*e*Sg	Sg	08 07 52.5	-0.8
KRLC	**Kraliky**	**1.48**	**268**	*e*PG	Pn	08 07 44.9	-1.2
KRLC				*e*SG	Sg	08 08 05.7	-0.2
KRLC	**Kraliky**	**1.48**	**268**	Pg	Pn	08 07 44.9	-1.2
KRLC				Sg	Sg	08 08 05.7	-0.2
STHS	**Stebnicka Huta**	**1.59**	**117**	*e*Pn	Pn	08 07 47.0	-0.5
STHS	**Stebnicka Huta**	**1.59**	**117**	*e*PN	Pn	08 07 47.0	-0.5
STHS				*e*SN	Sg	08 08 12.4	+3.2
VYHS	**Vyhne**	**1.68**	**186**	*e*Pn	Pn	08 07 46.9	-1.8
VYHS				*e*Sn	Sn	08 08 08.5	-2.4
VYHS	**Vyhne**	**1.68**	**186**	*e*PN	Pn	08 07 46.9	-1.8
VYHS				*e*SN	Sn	08 08 08.5	-2.4
DPC	**Dobruska-Polom**	**1.78**	**277**	*e*PG	Pn	08 07 50.3	+0.1
DPC				*e*SG	Sb	08 08 14.9	+0.3
DPC	**Dobruska-Polom**	**1.78**	**277**	Pg	Pn	08 07 50.3	+0.1
DPC				Sg	Sb	08 08 14.9	+0.3
KECS	**Kecovo**	**1.91**	**151**	*e*Pn	Pn	08 07 49.4	-2.6
KECS				*e*Sn	Sn	08 08 13.4	-3.4
KECS	**Kecovo**	**1.91**	**151**	*e*PN	Pn	08 07 49.4	-2.6
KECS				*e*SN	Sn	08 08 13.4	-3.4
UPC	**Upice**	**2.00**	**281**	*e*SG	Sg	08 08 22.2	-0.1
	comp=Z,1.1nm,0.2s						
UPC	**Upice**	**2.00**	**281**	Sg	Sg	08 08 22.2	-0.1
	1.1nm,0.2s						
CRVS	**Cervenica-Dubn**	**2.00**	**128**	*e*Pn	Pn	08 07 53.8	+0.7
CRVS				*e*Sn	Sn	08 08 19.0	+0.1
CRVS	**Cervenica-Dubn**	**2.00**	**128**	*e*PN	Pn	08 07 53.8	+0.7
CRVS				*e*SN	Sn	08 08 19.0	+0.1
PRU	**Pruhonice**	**2.93**	**268**	*e*SG	Sg	08 08 51.4	-0.8
PRU	**Pruhonice**	**2.93**	**268**	Sg	Sg	08 08 51.4	-0.8
KHC	**Kasperske Hory**	**3.72**	**256**	*e*SG	Sg	08 09 16.4	-1.4
KHC	**Kasperske Hory**	**3.72**	**256**	Sg	Sg	08 09 16.4	-1.4

*NNC **05** 08:09:16.7±1.8, 39°.15N×71°.36E, h0km±10km, mb3.7, mpv3.3, Error ellipse: s-maj=10.3km s-min=4.1km az=156.0*
*KRNET **05** 08:09:16.1±0.1, 39°.25N×71°.37E, h2km, mb3.5*
*ISCJB **05** 08:09:18.7±0.8, 39°.28N±0°.06×71°.26E±0°.05, h10km, Error ellipse: s-maj=9.0km s-min=4.8km az=163.7*

ISC 05 08:09:17.1±1.0, 39°.40N±0°.06×71°.33E±0°.04, h10km, n18, σ2°06/23, 8C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.37**	**78**	*e*P	**Pg**	**08 09 23.8**	**-0.8**
	baz=55						
DRK				*e*S	**Sg**	**08 09 30.0**	**+0.4**
	baz=55						
BTK	**Batken**	**0.76**	**329**	⇓*i*P	**Pn**	**08 09 33.8**	**-0.2**
	baz=332						
CHVK	**Chauvay**	**1.00**	**43**	*e*P	**Pn**	**08 09 37.1**	**-0.3**
	baz=35						
CHVK				*e*S	**Sn**	**08 09 53.1**	**+1.4**
	baz=35						
SFK	**Sufi-Kurgan**	**1.79**	**69**	⇓P	**Pb**	**08 09 49.9**	**-0.1**
	15nm,0.4s						
SFK				⇓S	**Sg**	**08 10 14.6**	**+0.1**
	239nm,0.4s						
DZET	**Dzherino**	**2.04**	**254**	⇑Pn	**Pn**	**08 09 52.4**	**+0.9**
	15nm,0.4s						
DZET				⇑Sn	**Sb**	**08 10 18.4**	**-1.3**
	121nm,0.5s						
SALK	**Salom-Alik**	**2.41**	**52**	*e*P	**Pb**	**08 10 00.0**	**-0.7**
	baz=48						
SALK				*e*S	**Sg**	**08 10 36.0**	**+1.3**
	baz=48						
MNAS	**Manas**	**3.21**	**16**	⇓Pn	**Pb**	**08 10 12.8**	**-1.5**
	4.7nm,0.5s						
MNAS				⇑Sn	**Sb**	**08 10 55.1**	**+1.7**
	15nm,0.4s						
AML	**Almayashu**	**3.27**	**33**	P	**Pb**	**08 10 14.6**	**-0.8**
	SNR=20						
ARLS	**Aral**	**3.35**	**42**	*i* P	Pb	08 10 13.1	-3.6
	baz=40						
UCH	**Uchtor**	**3.72**	**40**	P	**Pb**	**08 10 20.4**	**-2.7**
	SNR=12						
KK31	**Karatay Array**	**3.75**	**351**	⇓Pn	**Pb**	**08 10 20.4**	**-3.0**
	2.1nm,0.3s,baz=172,slow=12,SNR=72						
KK31				⇑Pg	**Pg**	**08 10 27.8**	**-1.1**
	1.1nm,0.2s,baz=171,slow=13,SNR=8.8						
KK31				⇓Sn	**Sb**	**08 11 07.4**	**-1.4**
	9.8nm,0.5s,baz=178,slow=24,SNR=6.2						
KK31				⇓Lg	Lg	08 11 21.5	
	5.2nm,0.3s,baz=149,slow=28,SNR=4.6						
KZA	**Kyzart**	**4.00**	**47**	P	Pb	08 10 24.6	-3.4
	SNR=9.7						
AAK	**Ala-Archa**	**4.02**	**36**	⇑Pn	Pb	08 10 23.8	-4.3
	3.3nm,0.3s						
AAK				⇓Sn	**Sb**	**08 11 15.1**	**-1.7**
	19nm,0.9s						
AAK	**Ala-Archa**	**4.02**	**36**	P	Pb	08 10 24.6	-3.5
	SNR=8.5						
USP	**Osenovka**	**4.54**	**31**	P	Pn	08 10 31.1	+5.2
	SNR=6.1						
TKM2	**Tokmak 2**	**4.77**	**41**	⇓Pn	Pn	08 10 34.0	+4.8
	2.1nm,0.5s						
TKM2				⇓Sn	Sb	08 11 32.0	-6.3
	6.0nm,0.7s						
TKM2				⇑Lg	Lg	08 11 50.9	
	6.9nm,0.7s						
AB31	**Akbulak array**	**12.77**	**324**	⇑Pn	**Pn**	**08 12 20.1**	**+1.5**
	0.6nm,0.6s						
AB31				⇑Sn	**Sn**	**08 14 45.5**	**+4.7**
AKTO	**Aktyubinsk**	**14.49**	**324**	⇓Pn	**P**	**08 12 46.5**	**-2.4**
	1.8nm,1.1s						
AKTO				⇓Sn	**Sn**	**08 15 27.0**	**+4.4**
	1.9nm,1.1s						

*CSEM **05** 08:11:15.6, 39°.59N×26°.20E, h26km, MD2.5*

ISK 05 08:11:15.6, 39°.59N×26°.20E, h26km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZN	**Ezine**	**0.26**	**22**	*e*PG	Pb	08 11 22.5	+0.4
EZN				*e*SG	Sb	08 11 27.5	+1.0
EZN	**Ezine**	**0.26**	**22**	*e*Pg	Pb	08 11 22.5	+0.4
EZN				*e*Sg	Sb	08 11 27.5	+1.0
SIGR	**SIGRI**	**0.46**	**216**	*e*PG	Pb	08 11 25.8	+0.6
SIGR	**SIGRI**	**0.46**	**216**	*e*Pg	Pb	08 11 25.8	+0.6
ERIK	**Erikli-Kesan**	**1.11**	**12**	*e*PN	Pb	08 11 35.9	-0.2
ERIK	**Erikli-Kesan**	**1.11**	**12**	*e*Pn	Pb	08 11 35.9	-0.2
CHOS	**Chios island**	**1.21**	**185**	*e*PN	Pb	08 11 37.4	-0.5
CHOS	**Chios island**	**1.21**	**185**	*e*Pn	Pb	08 11 37.4	-0.5
BLCB	**Balcova**	**1.37**	**151**	*e*PN	Pn	08 11 39.7	+0.7
BLCB	**Balcova**	**1.37**	**151**	*e*Pn	Pn	08 11 39.7	+0.7
IZM	**Izmir**	**1.45**	**145**	*e*PN	Pn	08 11 40.8	+0.6
IZM	**Izmir**	**1.45**	**145**	*e*Pn	Pn	08 11 40.8	+0.6
DST	**Dursunbey**	**1.87**	**89**	*e*PN	Pn	08 11 46.7	+0.8
DST	**Dursunbey**	**1.87**	**89**	*e*Pn	Pn	08 11 46.7	+0.7
AYDB	**Zeytinkoy-Aydi**	**2.10**	**141**	*e*PN	Pn	08 11 50.0	+0.7
AYDB	**Zeytinkoy-Aydi**	**2.10**	**141**	*e*Pn	Pn	08 11 50.1	+0.8

*ISCJB **05** 08:11:21.9±0.7, 30°.27N±0°.06×138°.9E±0°.2, h450km, mb2.8/2, Error ellipse: s-maj=21.5km s-min=6.8km az=168.3*
*JMA **05** 08:11:22.2±0.2, 30°.30N×139°.02E, h462km, M3.4*
*IDC **05** 08:11:23.0±1.4, 30°.33N×139°.34E, h460km±85km, mb2.5/2, mb1 2.9/5, mb1mx2.5/50, mbtmp3.7/5, Error ellipse: s-maj=262.3km s-min=17.5km az=72.0*

ISC 05 08:11:23.0±1.0, 30°.33N±0°.09×139°.1E±0°.2, h450km, n14, σ1°17/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.19**	**139**	P	**P**	**08 12 40.8**	**+0.9**
JCJ	**Chichijima**	**4.19**	**139**	P	**P**	**08 12 41.0**	**+1.1**
	3.7nm,0.3s,baz=244,slow=17,SNR=3.8						
JCJ				S	**S**	**08 13 41.6**	**-0.7**
	14nm,0.3s,baz=294,slow=22,SNR=7.6						
JOD2	**Odawara 2**	**4.92**	**360**	P	**P**	**08 12 47.6**	**+1.1**
JNY	**Yasuok**	**5.13**	**348**	P	**P**	**08 12 50.1**	**+1.6**
JHU	**Hanno**	**5.51**	**1**	P	**P**	**08 12 52.8**	**+0.6**
JRY	**Ryogami san**	**5.68**	**358**	P	**P**	**08 12 55.1**	**+1.2**
JYT	**Yasato**	**5.95**	**8**	P	**P**	**08 12 57.3**	**+0.7**
JAG	**Ashikaga**	**6.09**	**2**	P	**P**	**08 12 58.3**	**+0.3**
JAG				*e*S	**S**	**08 14 13.3**	**-2.5**
MJAR	**Matsushiro Arr**	**6.25**	**353**	P	**P**	**08 12 60.0**	**+0.3**
	1.1nm,0.3s,baz=172,slow=12,SNR=11						
MAT	**Matsushiro**	**6.25**	**353**	P	**P**	**08 13 00.1**	**+0.4**
JHO	**Hitachi**	**6.38**	**10**	P	**P**	**08 13 02.6**	**+1.6**
JHO				*e*S	**S**	**08 14 20.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**14.96**	**340**	P	**P**	**08 14 33.8**	**+0.4**
	0.5nm,0.3s,baz=149,slow=11,SNR=9.7						
WRA	**Warramunga Arr**	**50.19**	**186**	P	**P**	**08 19 35.4**	**-0.7**
	0.3nm,0.3s,baz=5.2,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**53.92**	**186**	P	**P**	**08 20 02.3**	**-0.8**
	0.1nm,0.4s,baz=1.5,slow=6.6,SNR=5.6						

*CSEM **05** 08:11:29.1, 39°.14N×27°.40E, h7km, MD2.8*

DDA 05 08:11:29.1, 39°.14N×27°.40E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.41**	**129**	*i* P	Pg	08 11 36.8	-0.3
AKHS				*i* S	Sg	08 11 42.2	-0.4
AKHS	**Akhisar**	**0.41**	**129**	*i* P	Pg	08 11 36.8	-0.3
AKHS				*i* S	Sg	08 11 42.2	-0.4
BALY	**Balya**	**0.62**	**15**	*i* P	Pg	08 11 41.0	-0.2
BALY	**Balya**	**0.62**	**15**	*i* P	Pg	08 11 41.0	-0.2
DURS	**Dursunbey**	**0.95**	**61**	*i* P	Pg	08 11 47.5	0.0
DURS				*i* S	Sn	08 12 02.3	-0.6
DURS	**Dursunbey**	**0.95**	**61**	*i* P	Pg	08 11 47.5	0.0
DURS				*i* S	Sn	08 12 02.3	-0.6
DEMI	**Demirci**	**1.03**	**95**	*i* P	Pb	08 11 49.2	-0.1
DEMI				*i* S	Sg	08 12 00.2	-2.1
DEMI	**Demirci**	**1.03**	**95**	*i* P	Pb	08 11 49.2	-0.1
DEMI				*i* S	Sg	08 12 00.2	-2.1
MANT	**Manisa**	**1.11**	**125**	*i* P	Pg	08 11 50.7	0.0
MANT				*i* S	Sb	08 12 05.7	-0.1
MANT	**Manisa**	**1.11**	**125**	*i* P	Pg	08 11 50.7	0.0
MANT				*i* S	Sb	08 12 05.7	0.0
KULA	**Kula-Manisa**	**1.16**	**122**	*e*PN	Pg	08 11 51.5	0.0
KULA	**Kula-Manisa**	**1.16**	**122**	*e*Pn	Pg	08 11 51.5	0.0

*NEIC **05** 08:14:33.5, 52°.27N×178°.82E, h26km, ML3.3(AEIC), After AEIC.*
*IDC **05** 08:14:36.0±11.0, 51°.76N×178°.54E, h108km±108km, mb3.2/10, mb1 3.3/10, mb1mx3.2/30, mbtmp3.5/10, MS3.4/1, Ms1 3.4/1, ms1mx2.8/15, Error ellipse: s-maj=35.4km s-min=20.1km az=12.0*

ISC 05 08:14:29.6±1.0, 51°.8N±0°.2×178°.34E±0°.08, h46km±8km, n25, σ1°30/33, mb3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.79**	**89**	P	**Pn**	**08 15 00.3**	**+2.3**
GAEA	**Gareloi East**	**1.81**	**89**	P	**Pn**	**08 15 00.1**	**+1.9**
GAEA				S	**Sn**	**08 15 19.0**	**-1.0**
TASE	**Tanaga Southea**	**2.25**	**87**	P	**Pn**	**08 15 05.9**	**+1.6**
TASE				S	**Sn**	**08 15 31.1**	**+0.3**
TAFP	**Tanaga Falls P**	**2.28**	**85**	P	**Pn**	**08 15 06.2**	**+1.5**
TAFP				S	**Sn**	**08 15 30.8**	**-0.9**
TAFL	**Tanaga Flats**	**2.34**	**89**	P	**Pn**	**08 15 07.1**	**+1.7**
TAFL				S	**Sn**	**08 15 33.2**	**+0.2**
SMY	**Shemya**	**2.78**	**292**	P	Pn	08 15 19.1	+7.7
SMY				S	Sn	08 15 53.8	+10
KIKV	**Kanaga Island**	**2.79**	**86**	P	**Pn**	**08 15 13.0**	**+1.3**
KIKV				S	**Sn**	**08 15 44.6**	**+0.6**
KIRH	**Kanaga Island**	**2.83**	**86**	P	**Pn**	**08 15 13.8**	**+1.5**
ADK	**Adak**	**3.09**	**86**	P	**Pn**	**08 15 16.9**	**+1.2**
ADK				S	**Sn**	**08 15 49.6**	**-1.8**
ADAG	**Mount Adagdak**	**3.14**	**84**	P	**Pn**	**08 15 16.9**	**+0.4**
ETKA	**Kagalaska Isla**	**3.26**	**86**	P	**Pn**	**08 15 19.6**	**+1.5**
ETKA				S	**Sn**	**08 15 56.7**	**+1.1**
GSCK	**Great Sitkin C**	**3.41**	**84**	P	**Pn**	**08 15 21.3**	**+1.1**
GSCK				S	**Sn**	**08 15 57.9**	**-1.5**
GSTD	**Great Sitkin T**	**3.42**	**83**	P	**Pn**	**08 15 21.9**	**+1.5**
GSMY	**Great Sitkin M**	**3.48**	**83**	P	**Pn**	**08 15 22.6**	**+1.4**
ILAR	**Eielson Array**	**22.07**	**41**	P	**P**	**08 19 21.2**	**+0.9**
	0.2nm,0.8s,baz=240,slow=8.0,SNR=4.2						
DLBC	**Dease Lake**	**29.62**	**57**	LR	LR	08 31 47.8	
	comp=Z,73nm,18.7s,baz=247,slow=35						
YKA	**Yellowknife Ar**	**36.25**	**46**	P	**P**	**08 21 26.9**	**-0.8**
	0.1nm,0.3s,baz=284,slow=7.6,SNR=7.1						
SONM	**Songino Array**	**44.87**	**295**	P	**P**	**08 22 40.5**	**+1.3**
	0.5nm,0.5s,baz=69,slow=8.1,SNR=6.8						
MKAR	**Makanchi Array**	**58.38**	**307**	P	**P**	**08 24 19.7**	**-0.2**
	0.5nm,0.4s,baz=56,slow=6.2,SNR=11						
BVAR	**Borovoye Array**	**59.42**	**318**	P	**P**	**08 24 27.4**	**+0.4**
	1.2nm,0.3s,baz=53,slow=8.1,SNR=13						
TXAR	**Lajitas Array**	**60.34**	**79**	P	**P**	**08 24 33.0**	**-0.8**
	0.0nm,0.3s,baz=312,slow=7.2,SNR=2.2						
TXAR				pP	**pP**	**08 24 44.8**	**-2.1**
	0.2nm,0.7s,baz=300,slow=4.1,SNR=1.5						
TXAR				sP	**sP**	**08 24 52.2**	**+0.1**
	0.2nm,0.5s,baz=330,slow=5.3,SNR=3.1						
AKTO	**Aktyubinsk**	**66.31**	**323**	P	**P**	**08 25 13.6**	**+0.8**
	2.4nm,0.6s,baz=50,slow=7.7,SNR=12						
AKASG	**Malin Array Be**	**74.59**	**340**	P	**P**	**08 26 02.2**	**-1.1**
	0.3nm,0.4s,baz=19,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**81.10**	**221**	P	**P**	**08 26 38.9**	**-0.8**
	0.8nm,1.1s,baz=33,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**84.61**	**220**	P	**P**	**08 26 57.7**	**-0.2**
	0.1nm,0.5s,baz=24,slow=5.1,SNR=2.7						

*ISCJB **05** 08:23:20.1±0.4, 32°.23N±0°.02×115°.20W±0°.02, h1km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=34.1*
*NEIC **05** 08:23:21.1, 32°.08N×115°.26W, h8km, ML3.7(PAS), After PAS.*
*ECX **05** 08:23:23.8±0.6, 32°.21N×115°.28W, h7km, MD3.8, ML4.0*
*MEX **05** 08:23:24.6±0.4, 32°.23N×115°.20W, h12km±14km, MD4.0*

ISC 05 08:23:21.5±1.0, 32°.18N±0°.02×115°.25W±0°.02, h10km±8km, n53, σ1°30/71, 18C-17D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.19**	**179**	⇓*e*P	**Pg**	**08 23 25.4**	**-0.1**
EMX				*e*S	**Sg**	**08 23 28.9**	**+0.7**
SGL	**Mount Signal**	**0.62**	**319**	⇑*i*P	**Pb**	**08 23 34.2**	**-0.3**
RDX	**Rancho Dawling**	**0.64**	**247**	⇓*e*P	Pg	08 23 24.0	-9.4
RDX				*e*S	Sg	08 23 33.0	-9.4
COA	**Coachella**	**0.69**	**9**	⇓*i*P	**Pg**	**08 23 35.2**	**+0.3**
YMD	**Yuma Desert**	**0.70**	**57**	⇑*i*P	**Pb**	**08 23 35.7**	**-0.2**
ECBX	**El Chinero**	**0.72**	**167**	*e*P	**Pg**	**08 23 35.0**	**-0.5**
ECBX				*e*S	**Sb**	**08 23 45.4**	**-0.7**
YUH	**Yuha Desert**	**0.74**	**309**	⇓*i*P	**Pg**	**08 23 35.9**	**0.0**
COK	**Cook Ranch**	**0.78**	**329**	⇓*i*P	**Pg**	**08 23 36.8**	**+0.2**
RMX	**La Rumorosa**	**0.82**	**301**	*e*P	Pg	08 23 26.8	-11
RMX				*e*S	Sg	08 23 37.4	-11
RMX				⇑*e*		08 23 38.3	
RMX				AML	AML	08 23 38.3	
	comp=N,6μm,0.2s						
SWSC	**Sam W. Stewart**	**0.89**	**329**	⇑P	**Pg**	**08 23 37.7**	**-1.0**
	baz=1.0						
GLA	**Glamis**	**0.94**	**22**	⇑P	**Pg**	**08 23 38.7**	**-1.0**
	baz=1.0						
GLA				⇑S	**Sg**	**08 23 49.7**	**-2.2**
	baz=1.0						
GLA	**Glamis**	**0.94**	**22**	*e*Pg	**Pg**	**08 23 38.6**	**-1.0**
GLA				*e*Sg	**Sg**	**08 23 50.2**	**-1.8**
ZAX	**El Zacaton**	**1.10**	**233**	*e*P	Pg	08 23 32.2	-10
ZAX				*e*S	Sg	08 23 47.1	-10
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pn**	**08 23 44.0**	**+0.1**
SPIG				*e*S	**Sn**	**08 23 58.7**	**-1.2**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pn**	**08 23 44.1**	**+0.1**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pn**	**08 23 44.0**	**+0.1**
SPIG				*e*S	**Sn**	**08 23 58.7**	**-1.2**
SPX	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pn**	**08 23 44.1**	**+0.1**
SPX				⇓*e*		08 24 02.0	
SPX				AML	AML	08 24 02.3	
	comp=N,2μm,0.3s						
SPX				⇑*e*		08 24 02.3	
CBX	**Cerro Bola**	**1.21**	**277**	*e*P	**Pb**	**08 23 43.9**	**-0.8**
CBX				*e*S	**Sb**	**08 23 59.6**	**-0.8**
CBX	**Cerro Bola**	**1.21**	**277**	*e*P	**Pb**	**08 23 43.8**	**-0.8**
CBX				*e*S	**Sb**	**08 24 00.1**	**-0.3**
CBX	**Cerro Bola**	**1.21**	**277**	*e*P	**Pb**	**08 23 43.9**	**-0.8**
CBX				*e*S	**Sb**	**08 23 59.6**	**-0.8**
MONP	**Monument Peak,**	**1.22**	**306**	⇓P	**Pn**	**08 23 44.5**	**-0.4**
	baz=1.3						
MONP				⇓S	**Sb**	**08 24 00.2**	**-0.6**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.26**	**246**	*e*P	Pn	08 23 34.5	-11
ECNX				*e*S	Sb	08 23

Error ellipse: s-maj=3.0km s-min=2.6km az=34.9
*NEIC **05** 08:29:28.0, 32°.16N×115°.29W, h10km, ML3.9(PAS), After PAS.*

*ECX **05** 08:29:29.4±0.5, 32°.24N×115°.30W, h4km, MD3.8, ML4.0*
ISC 05 08:29:27.5±1.1, 32°21N±0'.02×115°29W±0'.02, h5km±9km, n46, σ1§36/71, 18C-13D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.22**	**170**	⇓	*eP*	**Pg**		**08 29 31.4**	**-0.5**
EMX					*eS*	**Sg**		**08 29 35.2**	**+0.4**
COA	**Coachella**	**0.67**	**12**	⇓	*iP*	**Pg**		**08 29 40.7**	**+0.3**
YUH	**Yuha Desert**	**0.69**	**309**	⇑	*iP*	**Pg**		**08 29 41.1**	**+0.3**
YMD	**Yuma Desert**	**0.71**	**61**	⇑	*iP*	**Pg**		**08 29 41.5**	**+0.3**
COK	**Cook Ranch**	**0.74**	**330**	⇓	*iP*	**Pg**		**08 29 42.0**	**+0.3**
ECBX	**El Chinero**	**0.76**	**165**		*eP*	**Pg**		**08 29 41.0**	**-1.1**
ECBX					*eS*	**Sg**		**08 29 51.7**	**-0.3**
SWSC	**Sam W. Stewart** baz=0.8	**0.85**	**330**	⇓	P	**Pg**		**08 29 43.5**	**-0.3**
SWSC	baz=0.8			⇑	S	**Sg**		**08 29 55.1**	**+0.3**
GLA	**Glamis** baz=0.8	**0.93**	**25**	⇑	P	**Pg**		**08 29 44.3**	**-1.0**
GLA	baz=0.8			⇑	S	**Sg**		**08 29 55.7**	**-1.6**
GLA	**Glamis**	**0.93**	**25**		*e*Pn	**Pg**		**08 29 44.3**	**-1.0**
GLA					*e*Sg	**Sg**		**08 29 56.7**	**-0.6**
SPIG	**San Pedro Mart**	**1.17**	**188**		*eP*	**Pg**		**08 29 49.9**	**0.0**
SPIG					*eS*	**Sb**		**08 30 06.6**	**+0.7**
SPX	**San Pedro Mart**	**1.17**	**188**		*eP*	**Pg**		**08 29 50.0**	**0.0**
SPX					*eS*	**Sn**		**08 30 07.0**	**-0.2**
SPX	comp=E,1μm,0.3s				AML	AML		08 30 08.8	
SPX				⇓	*e*			08 30 08.8	
CBX	**Cerro Bola**	**1.17**	**275**		*eP*	**Pg**		**08 29 49.5**	**-0.5**
CBX					*eS*	**Sg**		**08 30 05.6**	**+0.4**
CBX				⇑	*e*			08 30 07.1	
CBX	comp=N,3μm,0.5s				AML	AML		08 30 07.1	
CBX	comp=E,3μm,0.6s				AML	AML		08 30 07.2	
CBX				⇓	*e*			08 30 07.2	
MONP	**Monument Peak,** baz=1.2	**1.18**	**306**	⇑	P	**Pg**		**08 29 49.7**	**-0.4**
MONP	baz=1.2			⇓	S	**Sg**		**08 30 04.5**	**-0.8**
BAR	**Barrett**	**1.26**	**292**		*e*Pn	**Pg**		**08 29 50.9**	**-0.9**
BAR					*e*Sg	**Sg**		**08 30 07.5**	**-0.6**
113A	**Mohawk Valley,** baz=1.3	**1.40**	**66**	⇓	P	**Pn**		**08 29 52.0**	**-1.6**
113A	baz=1.3			⇑	S	**Sb**		**08 30 09.5**	**-2.8**
BC3	**Big Chuckawall** baz=1.4	**1.45**	**354**	⇑	P	**Pn**		**08 29 52.2**	**-2.3**
Y12C	**Blythe** baz=1.6	**1.67**	**22**	⇑	P	**Pn**		**08 29 55.2**	**-2.1**
109C	**Camp Elliot, M** baz=1.7	**1.68**	**294**	⇑	P	**Pn**		**08 29 56.9**	**-0.6**
109C	baz=1.7			⇓	S	**Sn**		**08 30 19.4**	**0.0**
PFO	**Pinyon Flats O** baz=1.7	**1.71**	**325**	⇑	P	**Pn**		**08 29 55.9**	**-2.1**
PFO	**Pinyon Flats O**	**1.71**	**325**		*e*Pn	**Pn**		**08 29 56.0**	**-2.1**
PFO					*e*Sn	**Sn**		**08 30 19.2**	**-1.2**
IRM	**Iron Mountain** baz=1.9	**1.95**	**3**	⇓	P	**Pn**		**08 29 59.6**	**-1.6**
214A	**Organ Pipe Nat** baz=2.1	**2.12**	**96**	⇓	P	**Pn**		**08 30 01.6**	**-1.9**
214A	**Organ Pipe Nat**	**2.12**	**96**		*e*Pn	**Pn**		**08 30 01.3**	**-2.2**
214A					*e*Sn	**Sn**		**08 30 30.7**	**+0.5**
MURC	**Murrieta** baz=2.1	**2.13**	**311**	⇑	P	**Pn**		**08 30 02.4**	**-1.3**
MURC	baz=2.1			⇓	Sb	**Sb**		**08 30 34.1**	**+0.9**
Z14A	**Wintersburg** baz=2.2	**2.28**	**59**	⇑	P	**Pn**		**08 30 04.2**	**-1.5**
PDMCI	**Parker Dam,Lak** baz=2.2	**2.30**	**24**	⇑	Sb	**Sb**		**08 30 38.1**	**+0.1**
BFSC	**Mount Baldy Ra** baz=2.8	**2.84**	**316**	⇑	Sb	**Sb**		**08 30 54.2**	**+0.4**
LDFC	**Landfair**	**2.87**	**3**		*e*Pn	**Pn**		**08 30 13.7**	**-0.3**
LDFC					*e*Sg	**Sg**		**08 30 57.9**	**-1.7**
CIS	**Catalina Islan** baz=2.9	**2.88**	**295**	⇑	Sb	**Sb**		**08 30 56.0**	**+1.0**
FMP	**Fort Macarthur** baz=2.9	**2.94**	**301**	⇑	Sb	**Sb**		**08 30 57.7**	**+1.1**
MWC	**Mount Wilson**	**3.07**	**312**		*e*Pn	**Pn**		**08 30 16.2**	**-0.6**
PASC	**Pasadena Art C**	**3.12**	**310**		*e*Pn	**Pn**		**08 30 19.1**	**+1.8**
PASC					*e*Sn	**Sn**		**08 30 56.2**	**+1.2**
DECC	**Green Verdugo** baz=3.2	**3.27**	**309**	⇓	Sb	**Sb**		**08 31 07.9**	**+1.9**
GSC	**Goldstone, Bar**	**3.33**	**338**		*e*Pg	**Pg**		**08 30 32.1**	**+0.6**
GSC					*e*Sn	**Sn**		**08 31 00.1**	**-0.3**
OSI	**Osito Audit: C**	**3.75**	**311**		*e*Pn	**Pn**		**08 30 25.6**	**-0.4**
TUC	**Tucson**	**3.81**	**87**		*e*Pg	**Pg**		**08 30 41.9**	**+1.3**
TUC					*e*Sn	**Sn**		**08 31 11.9**	**-0.3**
SHPR	**Sheep Range**	**4.29**	**1**		*e*Pn	**Pn**		**08 30 34.2**	**+0.7**
SHPR					*e*Sg	**Sg**		**08 31 44.8**	**-0.5**
ISA	**Isabella, Lake**	**4.35**	**323**		*e*Pg	**Pg**		**08 30 51.3**	**+0.5**
W18A	**Petrified Fore** comp=E,15nm,0.4s	**5.46**	**56**		*e*Pn	**Pn**		**08 30 50.6**	**+0.9**
W18A					*e*Sg	**Sg**		**08 32 25.2**	**+2.2**
CCUT	**Cedar City** comp=E,27nm,0.8s	**5.56**	**16**		*e*Pn	**Pn**		**08 30 51.8**	**+0.7**
TPH	**Tonopah** comp=E,8.8nm,0.8s	**6.07**	**345**		*e*Pg	Pg		08 31 27.5	+3.8
R11A	**Troy Canyon, C** comp=E,7.4nm,0.6s	**6.13**	**358**		*e*Pn	**Pn**		**08 30 59.6**	**+0.7**
R11A					*e*Sn	**Sn**		**08 32 08.2**	**-1.2**
121A	**Cookes Peak, D** comp=E,600nm,0.8s	**6.35**	**85**		*e*Pn	**Pn**		**08 31 01.6**	**-0.4**
121A					*e*Sn	**Sn**		**08 32 12.3**	**-2.7**
LAZ	**Ladron** comp=E,0.8nm,0.4s	**7.16**	**70**		*e*Pn	**Pn**		**08 31 13.8**	**+0.7**
LAZ					*e*Sg	**Sg**		**08 33 22.1**	**+4.7**
MVCO	**Mesa Verde** comp=E,0.9nm,0.3s	**7.49**	**46**		*e*Pn	**Pn**		**08 31 20.1**	**+2.6**
MVCO					*e*Sg	**Sg**		**08 33 26.3**	**-1.7**
LPM	**Los Pinos Moun** comp=E,2.6nm,0.5s	**7.54**	**72**		*e*Pn	**Pn**		**08 31 19.0**	**+0.7**
LPM					*e*Sg	**Sg**		**08 33 31.3**	**+1.6**

*IDC **05** 08:29:40.8±2.0, 7°.05S×155°.60E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, Error ellipse: s-maj=75.7km s-min=27.6km az=126.0*
*ISCJB **05** 08:29:46.7±1.7, 7°.05S±0'.3×155°.5E±0'.4, h50km, mb3.3/6, Error ellipse: s-maj=68.8km s-min=21.5km az=37.9*
ISC 05 08:29:48.0±1.8, 7°.1S±0'.3×155°.5E±0'.4, h50km, n6, σ1§59/6, mb3.4/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.1nm,0.9s,baz=57,slow=9.5,SNR=6.3	**24.22**	**236**		P	**P**		**08 34 58.4**	**-1.9**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=60,slow=9.9,SNR=2.7	**26.53**	**229**		P	**P**		**08 35 22.9**	**+1.7**
SONM	**Songino Array** 0.6nm,0.8s,baz=116,slow=6.6,SNR=3.9	**69.67**	**327**		P	**P**		**08 40 53.4**	**+0.9**
ILAR	**Eielson Array** 0.5nm,1.0s,baz=248,slow=4.8,SNR=4.5	**83.24**	**21**		P	**P**		**08 42 08.3**	**-0.4**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=108,slow=4.7,SNR=4.0	**83.80**	**319**		P	**P**		**08 42 11.6**	**-0.5**
YKA	**Yellowknife Ar** 0.1nm,0.8s,baz=268,slow=4.8,SNR=3.4	**96.14**	**28**		P	**P**		**08 43 10.3**	**+0.1**

NEIC 05 08:30:49.4, 32°.64N×115°.82W, h7km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.72**	**274**		*e*Pg	Pg		08 31 03.0	-0.3
BAR					*e*Sg	Sg		08 31 12.3	-0.5
GLA	**Glamis**	**0.93**	**63**		*e*Pg	Pg		08 31 07.8	+0.3
GLA					*e*Sg	Sg		08 31 18.4	-1.3
PFO	**Pinyon Flats O**	**1.10**	**331**		*e*Pg	Pg		08 31 09.5	-1.4
PFO					*e*Sg	Sg		08 31 23.6	-1.8
LDFC	**Landfair**	**2.50**	**13**		*e*Pn	Pn		08 31 31.4	+0.6
LDFC					*e*Sn	Sn		08 32 01.6	-0.2
GSC	**Goldstone, Bar**	**2.78**	**343**		*e*Pn	Pn		08 31 32.6	-1.9
ISA	**Isabella, Lake**	**3.73**	**325**		*e*Pn	Pn		08 31 46.1	-1.5
ISA					*e*Sg	Sg		08 32 48.2	-1.4
WUAZ	**Wupatki**	**4.68**	**51**		*e*Pn	Pn		08 32 01.2	+0.4
WUAZ					*e*Sn	Sn		08 32 55.1	-0.3

GUC 05 08:31:27.0±0.5, 35°.22S×73°.24W, h37km±2km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.98**	**158**		*eP*	Pn		08 31 44.6	+0.4
COCH					*eS*	Sn		08 31 58.1	+1.4
TALC	**Talca**	**1.32**	**98**		*eP*	Pn		08 31 49.9	+1.0
TALC					*eS*	Sn		08 32 07.5	+2.2
LNCH	**Linares**	**1.47**	**115**		*eP*	Pn		08 31 52.1	+1.1
LNCH					*eS*	Sn		08 32 11.4	+2.4
CHCH	**Chadas Angostu**	**2.49**	**60**		*eP*	Pn		08 32 08.1	+3.0
CHCH					*eS*	Sn		08 32 37.9	+3.6
CLCH	**Cerro Calan**	**2.89**	**52**		*eP*	Pn		08 32 16.2	+5.7
CLCH					*eS*	Sn		08 32 50.0	+5.9
CLCH	comp=N,154nm,0.5s				AML	AML		08 33 04.9	
ROCH	**El Roble** comp=N,683nm,1.1s	**2.91**	**40**		AML	AML		08 33 15.0	
PEL	**Peldehue**	**2.96**	**46**		*eP*	Pn		08 32 12.8	+1.2
PEL					*eS*	Sn		08 32 48.0	+2.1
PEL	comp=E,180nm,0.8s				AML	AML		08 33 12.4	

IDC 05 08:32:02.1±12.0, 9°.28S×160°.32E, h204km±133km, mb3.3/7, mb1 3.5/8, mb1mx3.3/39, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=67.2km s-min=25.0km az=165.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** comp=Z,115nm,18.5s,baz=62,slow=33	**12.99**	**268**		LR	LR		08 39 05.8	
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=297,slow=18,SNR=5.9	**14.01**	**156**		P	Pn		08 35 13.0	+0.8
DZM	0.2nm,0.3s,baz=120,slow=20,SNR=3.1				S	S		08 37 48.1	+0.2
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=69,slow=9.5,SNR=12	**27.24**	**244**		P	P		08 37 27.6	0.0
H11S2	**WAKE ISLAND Hy** baz=194,slow=76,SNR=255	**28.31**	**13**		T	T		09 06 08.2	
H11S3	**WAKE ISLAND Hy** baz=194,slow=76,SNR=438	**28.31**	**13**		T	T		09 06 08.2	
H11S1	**WAKE ISLAND Hy** baz=194,slow=76,SNR=114	**28.32**	**13**		T	T		09 06 09.5	
ASAR	**Alice Springs** 0.4nm,0.6s,baz=63,slow=10,SNR=6.7	**29.02**	**237**		P	P		08 37 43.0	-0.4
H11N1	**WAKE ISLAND Hy** baz=194,slow=76,SNR=453	**29.53**	**13**		T	T		09 07 40.1	
H11N3	**WAKE ISLAND Hy** baz=194,slow=76,SNR=200	**29.54**	**13**		T	T		09 07 40.7	
H11N2	**WAKE ISLAND Hy** baz=194,slow=76,SNR=335	**29.55**	**13**		T	T		09 07 41.5	
SONM	**Songino Array** 1.6nm,0.9s,baz=141,slow=5.7,SNR=8.7	**74.15**	**326**		P	P		08 43 16.3	-0.1
ILAR	**Eielson Array** 0.8nm,0.7s,baz=248,slow=5.2,SNR=10	**83.63**	**20**		P	P		08 44 06.7	-0.7
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=99,slow=6.2,SNR=3.0	**88.61**	**318**		P	P		08 44 32.6	+0.5
KURBB	**Kurchatov Arra** 0.1nm,0.5s,baz=89,slow=4.6,SNR=2.5	**91.94**	**321**		P	P		08 44 47.9	+0.5
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=263,slow=4.9,SNR=6.0	**95.89**	**28**		P	P		08 45 05.4	+0.1

*NEIC **05** 08:32:44.1, 32°.27N×115°.33W, h10km, MD3.7(MEX), ML3.7(PAS), After PAS.*
*ECX **05** 08:32:44.5±0.3, 32°.25N×115°.34W, h6km, MD3.5, ML3.7*
*MEX **05** 08:32:46.8±0.5, 32°.19N×115°.38W, h5km, MD3.7*
ISC 05 08:32:42.7±1.1, 32°24N±0'.02×115°34W±0'.03, h6km±11km, n23, σ1§03/29, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.26**	**162**		*eP*	**Pg**		**08 32 47.8**	**0.0**
EMX					*eS*	**Sg**		**08 32 51.7**	**+0.4**
SGL	**Mount Signal**	**0.53**	**321**	⇓	*iP*	**Pg**		**08 32 53.5**	**+0.6**
RDX	**Rancho Dawling**	**0.60**	**239**		*eP*	Pg		08 32 44.3	-10
RDX					*eS*	Sg		08 32 52.8	-9.3
YUH	**Yuha Desert**	**0.64**	**310**		*eP*	**Pg**		**08 32 55.2**	**+0.1**
COA	**Coachella**	**0.65**	**16**		*eP*	**Pb**		**08 32 55.9**	**-0.5**
COK	**Cook Ranch**	**0.69**	**332**		*eP*	**Pg**		**08 32 56.5**	**+0.4**
RMX	**La Rumorosa**	**0.72**	**300**		*eP*	Pg		08 32 46.2	-10
RMX					*eS*	Sg		08 32 56.2	-10
RMX				⇑	*e*			08 32 56.9	
RMX	comp=N,3μm,0.2s				AML	AML		08 32 56.9	
ECBX	**El Chinero**	**0.80**	**162**		*eP*	**Pg**		**08 32 57.4**	**-0.7**
ECBX					*eS*	**Sg**		**08 33 08.4**	**-0.1**
GLA	**Glamis**	**0.92**	**28**		*e*Pg	**Pg**		**08 32 59.9**	**-0.5**
GLA					*e*Sg	**Sg**		**08 33 10.6**	**-1.7**
ZAX	**El Zacaton**	**1.07**	**228**		*eP*	Pg		08 32 52.5	-11
ZAX					*eS*	Sg		08 33 07.1	-10
CBX	**Cerro Bola**	**1.13**	**274**		*eP*	**Pg**		**08 33 04.3**	**-0.1**
CBX					*i S*	**Sg**		**08 33 19.5**	**+0.6**
CBX	**Cerro Bola**	**1.13**	**274**		*eP*	**Pg**		**08 33 04.3**	**-0.1**
CBX					*eS*	**Sg**		**08 33 19.2**	**+0.3**
CBX				⇑	*e*			08 33 21.0	
CBX	comp=E,3μm,0.6s				AML	AML		08 33 21.0	
CBX	**Cerro Bola**	**1.13**	**274**		*eP*	**Pg**		**08 33 04.3**	**-0.1**
CBX					*i S*	**Sg**		**08 33 19.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.19**	**185**		*eP*	**Pb**		**08 33 06.2**	**+0.3**
SPIG					*eS*	**Sg**		**08 33 19.9**	**-1.2**
SPIG	**San Pedro Mart**	**1.19**	**185**		*eP*	**Pb**		**08 33 06.2**	**+0.3**
SPIG					*eS*	**Sg**		**08 33 19.9**	**-1.2**
SPX	**San Pedro Mart** comp=E,944nm,0.4s	**1.19**	**185**		AML	AML		08 33 22.9	
SPX				⇑	*e*			08 33 22.9	
ECNX	**Esteban Cantu**	**1.22**	**242**		*eP*	Pg		08 32 55.3	-11
ECNX					*eS*	Sg		08 33 11.8	-10
PBX	**Punta Banda**	**1.28**	**248**		*eP*	Pg		08 32 56.0	-11
PBX					*eS*	Sg		08 33 13.1	-11
PFO	**Pinyon Flats O**	**1.66**	**326**		*e*Pn	**Pn**		**08 33 10.3**	**-2.2**
PFO					*e*Sn	**Sg**		**08 33 35.9**	**-0.2**
214A	**Organ Pipe Nat**	**2.16**	**97**		*e*Pn	**Pb**		**08 33 21.6**	**-0.7**
214A					*e*Sn	**Sn**		**08 33 45.9**	**-0.5**
LDFC	**Landfair**	**2.84**	**4**		*e*Pg	**Pg**		**08 33 38.8**	**+1.6**
LDFC					*e*Sn	**Sn**		**08 34 02.4**	**-0.8**
GSC	**Goldstone, Bar**	**3.29**	**339**		*e*Pn	**Pn**		**08 33 35.7**	**+0.8**
GSC					*e*Sn	**Sn**		**08 34 14.3**	**-0.1**
TUC	**Tucson**	**3.86**	**88**		*e*P	**Pn**		**08 33 45.6**	**+2.9**

IDC 05 08:34:20.6±10.0, 51°.02N×171°.02W, h0km, mb3.2/4, mb1 3.6/5, mb1mx3.1/57, mbtmp3.2/5, ML3.5/1, Error ellipse: s-maj=203.7km s-min=48.2km az=74.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array** 0.1nm,0.3s,baz=234,slow=10,SNR=8.6	**18.65**	**33**		P	P		08 38 39.0	-0.6
INK	**Inuvik** 0.7nm,0.8s,baz=238,slow=9.1,SNR=5.8	**25.04**	**32**		P	P		08 39 45.0	-1.0
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=271,slow=7.8,SNR=10.0	**31.91**	**47**		P	P		08 40 48.2	+0.9
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=305,slow=6.4,SNR=2.9	**41.69**	**77**		P	P		08 42 11.7	+0.6
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=316,slow=6.2,SNR=3.0	**53.83**	**87**		P	P		08 43 44.4	-0.8

MAN 05 08:37:21, 9°.23N×125°.71E, h22km, mb4.1, ML2.9, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.27**	**199**		*eP*	Pb		08 37 26.7	-0.7
BUTP					*eS*	Sb		08 37 29.5	-2.3
SCPH	**Surigao**	**0.59**	**338**		*eP*	Pn		08 37 34.8	+0.7
SCPH					*eS*	Sn		08 37 44.4	+1.3
BUKP	**Musuan**	**1.49**	**206**		*eP*	Pb		08 37 47.5	-0.6
PAGZ	**Pagadian**	**2.68**	**239**		*eP*	Pn		08 38 04.6	+1.7

NEIC 05 08:42:35.5, 32°.60N×115°.70W, h12km, ML3.5(PAS), 2C-1D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.14**	**13**	⇑	*iP*	Pg		08 42 38.7	-0.3
WESC	**Westside Schoo**	**0.16**	**351**	⇑	*iP*	Pg		08 42 38.6	-0.6
WESC					*i* S	Sg		08 42 41.6	-0.2
COK	**Cook Ranch**	**0.25**	**355**	⇓	*iP*	Pg		08 42 40.4	-0.3
BAR	**Barrett**	**0.82**	**276**		Pg	Pg		08 42 50.7	-0.8
BAR					*e*Sg	Sg		08 43 01.0	-1.3
GLA	**Glamis**	**0.86**	**58**		*e*Pg	Pg		08 42 50.7	-1.6
GLA					*e*Sg	Sg		08 43 02.0	-1.6
PFO	**Pinyon Flats O**	**1.19**	**328**		*e*Pg	Pn		08 42 55.4	-2.6
PFO					*e*Sg	Sb		08 43 10.2	-3.3
LDFC	**Landfair**	**2.52**	**11**		*e*Pn	Pn		08 43 15.1	-1.2
LDFC					*e*Sn	Sn		08 43 46.3	-0.7
MWC	**Mount Wilson**	**2.55**	**310**		*e*Pn	Pn		08 43 16.6	-0.3
MWC					*e*Sg	Sg		08 43 55.7	-2.3
PASC	**Pasadena Art C**	**2.60**	**308**		*e*Pn	Pn		08 43 16.6	-0.8
PASC					*e*Sn	Sn		08 43 49.0	+0.1
GSC	**Goldstone, Bar**	**2.84**	**341**		*e*Pn	Pn		08 43 20.9	+0.1
GSC					*e*Sg	Sg		08 44 05.0	-2.1
ISA	**Isabella, Lake**	**3.82**	**324**		*e*Pn	Pn		08 43 33.6	-0.6
ISA					*e*Sn	Sn		08 44 18.9	-0.2

*NEIC **05** 09:01:26.1, 32°.32N×115°.34W, h0km, MD3.8(MEX), ML3.6(PAS), After PAS.*
*ECX **05** 09:01:27.4±0.4, 32°.31N×115°.33W, h6km, MD3.5, ML3.8*
*MEX **05** 09:01:29.9±0.5, 32°.20N×115°.39W, h5km, MD3.8*
ISC 05 09:01:24.9±1.1, 32°29N±0'.02×115°33W±0'.03, h4km±10km, n38, σ1§25/54, 15C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.31**	**167**		*eP*	**Pg**		**09 01 30.8**	**-0.2**
EMX					*eS*	**Sg**		**09 01 35.5**	**+0.5**
COA	**Coachella**	**0.59**	**17**		*eP*	**Pb**		**09 01 37.8**	**-0.1**
YUH	**Yuha Desert**	**0.62**	**305**	⇓	*iP*	**Pb**		**09 01 37.9**	**-0.4**
COK	**Cook Ranch**	**0.65**	**329**	⇑	*eP*	**Pb**		**09 01 38.5**	**-0.3**
SWSC	**Sam W. Stewart** baz=0.7	**0.76**	**329**	⇑	P	**Pg**		**09 01 38.9**	**-0.5**
SWSC	baz=0.7			⇓	S	**Sg**		**09 01 49.6**	**+0.4**
ECBX	**El Chinero**	**0.85**	**164**		*eP*	**Pg**		**09 01 40.1**	**-1.1**
ECBX					*eS*	**Sg**		**09 01 52.1**	**-0.1**
GLA	**Glamis** baz=0.8	**0.86**	**29**	⇓	P	**Pg**		**09 01 41.1**	**-0.4**
GLA	baz=0.8			⇓	S	**Sg**		**09 01 52.7**	**0.0**
GLA	**Glamis**	**0.86**	**29**		*e*Pg	**Pg**		**09 01 41.8**	**+0.3**
GLA					*e*Sg	**Sg**		**09 01 52.8**	**0.0**
MONP	**Monument Peak,** baz=1.1	**1.10**	**303**	⇑	P	**Pg**		**09 01 45.9**	**-0.1**
MONP	baz=1.1			⇑	S	**Sg**		**09 02 00.9**	**+0.6**
CBX	**Cerro Bola**	**1.13**	**271**		*eP*	**Pn**		**09 01 47.4**	**-0.3**
CBX					*eS*	**Sg**		**09 02 02.1**	**+0.8**
CBX	**Cerro Bola**	**1.13**	**271**		*eP*	**Pn**		**09 01 47.5**	**-0.3**
CBX	comp=E,3μm,0.3s				AML	AML		09 02 03.9	
CBX				⇓	*e*			09 02 03.9	
CBX	**Cerro Bola**	**1.13**	**271**		*eP*	**Pn**		**09 01 47.4**	**-0.3**
CBX					*eS*	**Sg**		**09 02 02.1**	**+0.8**
BAR	**Barrett**	**1.20**	**289**		*e*Pg	**Pn**		**09 01 48.3**	**-0.2**
BAR					*e*Sg	**Sg**		**09 02 03.1**	**-0.4**
SPIG	**San Pedro Mart**	**1.25**	**186**		*eP*	**Pg**		**09 01 49.4**	**+0.5**
SPIG					*eS*	**Sg**		**09 02 03.6**	**-1.5**
SPIG	**San Pedro Mart**	**1.25**	**186**		*eP*	**Pg**		**09 01 49.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.25**	**186**		*eP*	**Pg**		**09 01 49.4**	**+0.5**
SPIG					*eS*	**Sg**		**09 02 03.6**	**-1.5**
SPX	**San Pedro Mart**	**1.25**	**185**		*eP*	**Pg**		**09 01 49.5**	**+0.6**
SPX					*eS*	**Sn**		**09 02 06.6**	**-0.3**
SPX				⇓	*e*			09 02 10.5	
SPX	comp=E,906nm,0.5s				AML	AML		09 02 10.5	
BC3	**Big Chuckawall** baz=1.3	**1.36**	**355**	⇓	P	**Pn**		**09 01 48.7**	**-2.1**
BC3	baz=1.3			⇑	S	**Sb**		**09 02 05.6**	**-3.3**
113A	**Mohawk Valley,** baz=1.4	**1.40**	**70**	⇑	P	**Pn**		**09 01 50.1**	**-1.1**
Y12C	**Blythe** baz=1.6	**1.60**	**25**	⇑	Pg	**Pb**		**09 01 54.9**	**-0.1**
109C	**Camp Elliot, M** baz=1.6	**1.62**	**292**	⇑	P	**Pn**		**09 01 53.6**	**-0.6**
109C	baz=1.6			⇑	S	**Sb**		**09 02 15.9**	**-0.1**
PFO	**Pinyon Flats O** baz=1.6	**1.62**	**324**	⇓	P	**Pn**		**09 01 52.6**	**-1.7**
PFO	baz=1.6			⇑	S	**Sn**		**09 02 13.1**	**-2.7**
PFO	**Pinyon Flats O**	**1.62**	**324**		*e*Pn	**Pn**		**09 01 54.7**	**+0.4**
MURC	**Murrieta** baz=2.0	**2.04**	**310**	⇓	Sb	**Sg**		**09 02 29.8**	**-0.8**
214A	**Organ Pipe Nat**	**2.16**	**98**		*e*Pn	**Pn**		**09 02 01.6**	**0.0**
BFSC	**Mount Baldy Ra** baz=2.7	**2.75**	**315**	⇑	Sb	**Sb**		**09 02 50.1**	**+1.2**
LDFC	**Landfair**	**2.78**	**4**		*e*Pn	**Pn**		**09 02 12.0**	**+1.6**
CIS	**Catalina Islan** baz=2.8	**2.82**	**294**	⇑	Sb	**Sb**		**09 02 52.5**	**+1.8**
FMP	**Fort Macarthur** baz=2.8	**2.87**	**300**	⇑	Sb	**Sb**		**09 02 53.4**	**+1.3**
PASC	**Pasadena Art C**	**3.04**	**309**		*e

SALU	Saltoluokta	0.78	240	*i* P		Pg	09 09 43.3	+0.4
SALU	Saltoluokta	0.78	240	P		Pg	09 09 43.3	+0.4
SALU	Saltoluokta	0.78	240	P		Pg	09 09 43.3	+0.4
KIF	Kilpisjarvi	1.25	9	Pg		Pb	09 09 52.3	0.0
KIF				Lg		Lg	09 10 08.9	
KIF				Rg		Rg	09 10 12.4	
KIF	Kilpisjarvi	1.25	9	*e*P		Pg	09 09 51.0	-0.8
KIF				*e*S		Sg	09 10 07.7	-0.3
KIF	Kilpisjarvi	1.25	9	*e*P		Pg	09 09 51.0	-0.8
	baz=194							
KIF				*e*S		Sg	09 10 07.5	-0.4
KIF	Kilpisjarvi	1.25	9	P		Pg	09 09 51.0	-0.8
KIF	Kilpisjarvi	1.25	9	Pg		Pb	09 09 52.3	0.0
KIF				S		Sg	09 10 07.5	-0.4
KIF				Lg		Lg	09 10 08.9	
PAJU	Pajala	1.34	123	*e*P		Pg	09 09 53.7	0.0
PAJU	Pajala	1.34	123	P		Pg	09 09 53.7	0.0
PAJU	Pajala	1.34	123	P		Pg	09 09 53.7	0.0
HEF	Hetta	1.43	62⇑	*e*P		Pn	09 09 54.6	-0.5
HEF	Hetta	1.43	62	*e*P		Pn	09 09 54.3	-0.8
	baz=247							
HEF				*e*SN		Sn	09 10 17.3	+2.7
HEF				MSG			09 10 17.3	
	comp=Z,20nm,0.2s							
HEF	Hetta	1.43	62⇑	*e*P		Pn	09 09 54.6	-0.5
	SNR=50							
HEF				Sn		Sn	09 10 17.3	+2.7
	comp=Z,20nm,0.2s							
ERTU	Ertsjaerv	1.45	148	*e*P		Pn	09 09 55.6	+0.1
ERTU				*e*SN		Sn	09 10 16.4	+1.3
ERTU	Ertsjaerv	1.45	148	P		Pn	09 09 55.8	+0.4
ERTU				Sn		Sn	09 10 16.4	+1.3
ERTU	Ertsjaerv	1.45	148	P		Pn	09 09 55.8	+0.4
HARU	Harads	1.65	170	*e*P		Pb	09 09 59.2	-0.1
HARU	Harads	1.65	170	P		Pb	09 09 59.2	-0.1
HARU	Harads	1.65	170	P		Pb	09 09 59.2	-0.1
KTK1	Kautokeino	1.66	41	*e*P		Pn	09 09 58.4	+0.1
KTK1				*e*S		Sn	09 10 19.9	-0.4
KTK1				IAML			09 10 24.2	
	comp=N,52nm,0.4s							
KTK1	Kautokeino	1.66	41	*e*P		Pn	09 09 58.4	+0.1
	SNR=50							
STEI	Steigen	1.90	277	*e*P		Pb	09 10 03.3	-0.2
STEI				*e*S		Sg	09 10 28.6	-0.5
STEI				IAML			09 10 31.0	
	comp=Z,18nm,0.4s							
STEI	Steigen	1.90	277	*e*P		Pb	09 10 03.3	-0.2
	SNR=50							
STEI				*e*S		Sg	09 10 28.6	-0.5
	SNR=50							
TRO	Tromso	1.92	346	*e*P		Pn	09 10 02.1	+0.2
TRO				*e*S		Sb	09 10 27.9	-0.4
TRO				IAML			09 10 30.4	
	comp=Z,27nm,0.3s							
TRO	Tromso	1.92	346	*e*P		Pn	09 10 02.1	+0.2
	SNR=50							
TRO				*e*S		Sb	09 10 27.9	-0.4
	SNR=50							
KALU	Kalix	2.29	146	*e*PB		Pb	09 10 09.1	-1.1
	baz=327							
KALU				*e*SB		Sb	09 10 39.4	+0.4
KALU	Kalix	2.29	146	P		Pb	09 10 09.2	-0.9
KALU	Kalix	2.29	146	P		Pb	09 10 09.2	-0.9
SGF	Sodankyl	2.43	95	*e*P		Pn	09 10 10.6	+1.7
SGF				MSG		Sg	09 10 44.2	-1.7
	comp=Z,9.5nm,0.2s							
SGF				*e*SG		Sg	09 10 44.2	-1.7
SGF	Sodankyl	2.43	95	P		Pn	09 10 10.6	+1.7
RNF	Rovaniemi	2.54	115	*e*PB		Pb	09 10 12.9	-1.4
RNF				MSG		Sb	09 10 46.3	+0.2
	comp=Z,22nm,0.2s							
RNF				*e*SB		Sb	09 10 46.3	+0.2
LOF	Lofoten	2.55	281	*e*P		Pb	09 10 13.2	-1.4
LOF				IAML			09 10 50.2	
	comp=Z,14nm,0.3s							
LOF	Lofoten	2.55	281	*e*P		Pb	09 10 13.2	-1.4
	SNR=50							
ARA0	ARCESS Array S	2.61	45	Pn		Pn	09 10 12.2	+0.9
	baz=213,slow=16							
ARA0				Sn		Sn	09 10 44.3	+0.6
	baz=232,slow=28							
ARA0	ARCESS Array S	2.61	45	Pn		Pn	09 10 12.2	+0.9
	baz=213,slow=16							
ARA0				Sn		Sn	09 10 44.3	+0.6
	baz=232,slow=28							
ARA0	ARCESS Array S	2.61	45	Pn		Pn	09 10 12.2	+0.9
	SNR=50							
ARA0				Sn		Sn	09 10 44.3	+0.6
	SNR=50							
ARCES	ARCESS Array B	2.61	45	Pn		Pn	09 10 12.2	+0.8
	comp=Z,1.8nm,0.3s,baz=225,slow=15,SNR=46							
ARCES				Lg		Lg	09 10 45.6	
	comp=Z,6.3nm,0.3s,baz=222,slow=30,SNR=18							
ARE0	ARCESS Array S	2.61	45	*e*P		Pn	09 10 12.3	+0.9
ARE0	ARCESS Array S	2.61	45	*e*P		Pn	09 10 11.8	+0.4
	baz=228							
ARE0				*e*			09 10 38.6	
ARE0				MSG			09 10 38.6	
	comp=Z,1.2nm,0.3s							
ARE0	ARCESS Array S	2.61	45	P		Pn	09 10 11.8	+0.4
MOR8	Moi Rana	2.80	237	*e*P		Pn	09 10 15.1	+1.1
MOR8				*e*Sg		Sn	09 10 50.9	+2.5
MOR8				IAML			09 10 53.9	
	comp=Z,31nm,0.4s							
MOR8	Moi Rana	2.80	237	*e*P		Pn	09 10 15.1	+1.1
	SNR=50							
FLOS	Flostrand	3.06	245	*e*P		Pn	09 10 19.5	+1.9
FLOS	Flostrand	3.06	245	*e*P		Pn	09 10 19.5	+1.9
	SNR=50							
KONS	Konsvik	3.07	248	*e*P		Pn	09 10 18.8	+1.2
KONS				IAML			09 11 08.0	
	comp=Z,14nm,0.5s							
KONS	Konsvik	3.07	248	*e*P		Pn	09 10 18.8	+1.2
	SNR=50							
KEV	Kevo	3.16	48	*e*P		Pn	09 10 19.2	+0.3
KEV	Kevo	3.16	48	*e*P		Pn	09 10 19.7	+0.8
KEV	Kevo	3.16	48	*e*P		Pn	09 10 19.2	+0.3
	SNR=50							
BURU	Burvik	3.25	171	*e*P		Pn	09 10 22.7	+2.5
BURU	Burvik	3.25	171	P		Pn	09 10 22.6	+2.5
OUL	Oulu	3.53	137	*e*PB		Pb	09 10 28.1	-3.3
	baz=319							
VRF	Varrio	3.56	86	*e*P		Pn	09 10 25.7	+1.3
VRF	Varrio	3.56	86	P		Pn	09 10 25.7	+1.3
UMAU	Umeaa	3.92	177	*e*P		Pn	09 10 31.8	+2.4
UMAU				*e*SG		Sg	09 11 32.7	-1.1
UMAU	Umeaa	3.92	177	P		Pn	09 10 31.7	+2.4
UMAU				Sg		Sg	09 11 32.7	-1.1
MSF	Maaselka	3.95	114	*e*P		Pn	09 10 31.6	+1.8
	baz=300							
MSF	Maaselka	3.95	114	P		Pn	09 10 31.6	+1.8
KU6	Riekki	4.19	110	*e*P		Pn	09 10 34.6	+1.6
	baz=295							
KU6	Riekki	4.19	110	P		Pn	09 10 34.6	+1.6
APA0	Apatity Array	4.86	86	Pn		Pn	09 10 41.6	-0.7
	baz=286,slow=12							
APA0				Sn		Sn	09 11 36.6	-2.6
	baz=279,slow=28							
APA0				Lg		Lg	09 11 54.8	
	baz=279,slow=28							
APA0	Apatity Array	4.86	86	Pn		Pn	09 10 41.6	-0.7
	baz=286,slow=12							
APA0				Sn		Sn	09 11 36.6	-2.6
	baz=279,slow=28							
APA0				Lg		Lg	09 11 54.8	
	baz=279,slow=28							
APA0	Apatity Array	4.86	86	Pn		Pn	09 10 41.6	-0.7
	SNR=50							
FIA0	FINESS Array S	6.84	156	Pn		Pn	09 11 11.3	+1.9
	baz=342,slow=11							
FIA0				Sn		Sn	09 12 27.6	-0.2
	baz=338,slow=22							
FIA0				Lg		Lg	09 13 00.6	
	baz=341,slow=28							
FIA0	FINESS Array S	6.84	156	Pn		Pn	09 11 11.3	+1.9
	baz=342,slow=11							
FIA0				Sn		Sn	09 12 27.6	-0.2
	baz=338,slow=22							
FIA0				Lg		Lg	09 13 00.6	
	baz=341,slow=28							
FIA0	FINESS Array S	6.84	156	Pn		Pn	09 11 11.3	+1.9
	SNR=50							
FIA0				Sn		Sn	09 12 27.6	-0.2
	SNR=50							
FIA0				Lg		Lg	09 13 00.6	
	SNR=17							
FINES	FINESS Array B	6.84	156	Pn		Pn	09 11 10.9	+1.5
	comp=Z,0.2nm,0.3s,baz=350,slow=12,SNR=9.5							
FINES				Sn		Sn	09 12 27.6	-0.2
	comp=Z,0.2nm,0.3s,baz=349,slow=21,SNR=3.6							
FINES				Lg		Lg	09 13 00.8	
	comp=Z,0.4nm,0.3s,baz=345,slow=26,SNR=8.3							
NB2	NORSAR Subarra	7.81	214	Pn		Pn	09 11 23.7	+0.9
NB2				Lg		Lg	09 13 34.3	
	baz=21,slow=37							
NB2	NORSAR Subarra	7.81	214	Pn		Pn	09 11 23.7	+0.9
NB2				Lg		Lg	09 13 34.3	
	baz=21,slow=37							
NB2	NORSAR Subarra	7.81	214	Pn		Pn	09 11 23.7	+0.9
	SNR=50							
NOA	NORSAR Array B	7.81	214	Pn		Pn	09 11 22.7	-0.1
	comp=Z,0.2nm,0.3s,baz=24,slow=11,SNR=4.6							
NOA				Lg		Lg	09 13 39.3	
	comp=Z,0.4nm,0.3s,baz=29,slow=22,SNR=5.0							
HFS	Hagfors	8.20	204	Pn		Pn	09 11 25.7	-2.3
	baz=11,slow=14							
HFS				Sn		Sn	09 12 56.5	-4.7
	baz=35,slow=28							
HFS	Hagfors	8.20	204	Pn		Pn	09 11 25.7	-2.3
	baz=11,slow=14							
HFS				Sn		Sn	09 12 56.5	-4.7
	baz=35,slow=28							
HFS	Hagfors	8.20	204	Pn		Pn	09 11 28.5	+0.5
	comp=Z,0.1nm,0.3s,baz=12,slow=15,SNR=3.3							
SPA0	Spitsbergen Ar	10.51	356	Pn		Pn	09 11 58.8	-0.9
	baz=150,slow=12							
SPA0	Spitsbergen Ar	10.51	356	Pn		Pn	09 11 58.8	-0.9
	baz=150,slow=12							
SPA0	Spitsbergen Ar	10.51	356	Pn		Pn	09 11 58.8	-0.9
	SNR=50							
SPITS	Spitsbergen Ar	10.51	356	Pn		Pn	09 11 59.7	+0.1
	baz=157,slow=15,SNR=8.3							
ILAR	Eielson Array	47.41	353	P		P	09 18 04.5	+1.1
	comp=Z,0.2nm,0.9s,baz=359,slow=5.4,SNR=4.2							

IDC ***05*** *09:09:59.5±1.8, 1.°02S×99.°90E, h0km, mb3.8/8, mb1 3.8/8, mb1mx3.6/42, mbtmp3.8/8, Error ellipse: s-maj=79.0km s-min=19.8km az=53.0*

DJA ***05*** *09:10:09.2±0.6, 1.°S×4.°×10.°E±.°, h111km±5km, M3.5/6, MLv3.5/6*

ISCJB ***05*** *09:10:10.8±0.6, 0.°78S±0.°08×100.°50E±0.°09, h100km, mb3.7/8, Error ellipse: s-maj=15.1km s-min=7.0km az=137.9*

ISC 05 09:10:12.3±0.8,**0.°83S**±0.°07×**100.°43E**±0.°09,**h100**km,**n18,** σ1§**72**/20,**mb4.0**/8,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDSI	Padang	0.09	158	P		Pn		09 10 27.1	+0.8
PDSI				S		Sn		09 10 37.9	+1.2
SDSI	Sungai Dareh	1.01	96	P		Pn		09 10 31.8	-1.0
MNSI	Mandailing Nat	1.82	332	P		Pn		09 10 40.5	-2.1
MNSI				S		Sn		09 11 03.6	-2.0
RGRI	Rengat	1.96	76	P		Pn		09 10 42.8	-1.6
MASI	Maura Aman, Be	2.93	142	P		Pn		09 10 54.3	-2.9
DSRI	Dabo	4.17	85	P		Pn		09 11 12.0	-1.7
LHSI	Lahat	4.30	134	P		Pn		09 11 13.2	-2.3
MNAI	Manna	4.33	144	P		Pn		09 11 13.4	-2.5
TPRI	Tanjung Pinang	4.45	67	P		Pn		09 11 16.0	-1.6
WRA	Warramunga Arr	38.23	122	P		P		09 17 23.9	+1.0
	0.1nm,0.4s,baz=303,slow=9.1,SNR=3.6								
ASAR	Alice Springs	39.61	128	P		P		09 17 36.5	+2.1
	0.1nm,0.6s,baz=300,slow=7.2,SNR=3.8								
MKAR	Makanchi Array	50.02	344	P		P		09 18 56.7	+0.1
	0.8nm,0.4s,baz=157,slow=8.5,SNR=26								
USRK	Ussuriysk Ar.	52.92	28	P		P		09 19 20.4	+2.2
	1.1nm,0.5s,baz=228,slow=6.0,SNR=4.0								
KURBB	Kurchatov Arra	54.55	343	P		P		09 19 29.6	-0.4
	0.7nm,0.7s,baz=166,slow=7.2,SNR=6.9								
ZALV	Zalesovo Beam	56.10	349	P		P		09 19 41.0	0.0
	0.5nm,0.3s,baz=156,slow=7.4,SNR=3.4								
FINES	FINESS Array B	83.28	332	P		P		09 22 27.4	-0.2
	0.7nm,0.8s,baz=115,slow=9.0,SNR=3.4								
ARCES	ARCESS Array B	85.52	340	P		P		09 22 38.7	-0.1
	3.4nm,1.1s,baz=90,slow=5.0,SNR=3.5								
TXAR	Lajitas Array	143.51	37	PKP		PKPdf		09 29 35.6	-0.6
	0.1nm,0.5s,baz=338,slow=1.9,SNR=3.6								

ISCJB ***05*** *09:15:54.3±0.7, 32.°35N×0.°03×115.°35W±0.°05, h12km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=163.2*

ECX ***05*** *09:15:55.8±0.4, 32.°32N×115.°36W, h6km, MD3.3, ML3.5*

NEIC ***05*** *09:15:55.1, 32.°33N×115.°33W, h13km, ML3.4(PAS), After PAS.*

ISC 05 09:15:54.2±1.1,**32.°34N**±0.°03×**115.°36W**±0.°04, **h12**km±12km,**n13,**σ0§**55**/18,**4C-2D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	El Mayor	0.36	164	*e*S		Sg		09 16 06.9	+0.6
COA	Coachella	0.56	20⇑	*i*P		Pb		09 16 05.9	-0.1
YUH	Yuha Desert	0.57	303	*i* P		Pg		09 16 05.7	+0.3
COK	Cook Ranch	0.60	329⇓	*i*P		Pb		09 16 06.7	0.0
YMD	Yuma Desert	0.72	72⇑	*i*P		Pg		09 16 08.0	-0.2
CRR	Carrizo Plain	0.76	317⇓	*i*P		Pg		09 16 08.9	0.0
GLA	Glamis	0.84	32	*e*Pg		Pn		09 16 11.8	-0.2
GLA				*e*Sg		Sg		09 16 20.6	-1.0
ECBX	El Chinero	0.90	163	*e*P		Pg		09 16 11.6	0.0
ECBX				*e*S		Sb		09 16 23.6	-0.1
CBX	Cerro Bola	1.11	269	*e*P		Pb		09 16 15.3	-0.1
CBX				*e*S		Sb		09 16 29.8	-0.1
CBX				⇑*e*				09 16 32.2	
CBX				AML		AML		09 16 32.2	
	comp=N,1μm,0.4s								
BAR	Barrett	1.16	288	*e*Pn		Pb		09 16 16.0	-0.4
BAR				*e*Sn		Sb		09 16 30.9	-0.5
SPX	San Pedro Mart	1.29	184	*e*P		Pn		09 16 17.9	-0.5
SPX				*e*S		Sb		09 16 35.2	-0.1
SPX				⇑*e*				09 16 39.1	
SPX				AML		AML		09 16 39.1	
	comp=E,513nm,0.4s								
214A	Organ Pipe Nat	2.19	99	*e*Pn		Pn		09 16 31.3	+0.7
LDFC	Landfair	2.74	4	*e*Pn		Pn		09 16 39.4	+1.2

NNC 05 09:30:07.3±1.3,**38.°85N**×**70.°68E, h0**km,**mb3.6, mpv3.2, 11C-8D, Error ellipse: s-maj=16.7km s-min=5.5km az=151.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	1.45	269	⇑Pn		Pn		09 30 33.4	-1.6
	30nm,0.5s								
DZET				⇑Sn		Sn		09 30 57.0	+2.1
	112nm,0.5s								
SFK	Sufi-Kurgan	2.47	61	⇓Pn		Pn		09 30 49.7	+0.4
	5.0nm,0.4s								
SFK				⇓Lg		Lg		09 31 25.1	
	31nm,0.4s								
MNAS	Manas	3.89	20	⇓Pn		Pn		09 31 09.1	+0.6
	2.5nm,0.4s								
MNAS				⇑Sn		Sn		09 31 57.1	+2.0
	5.8nm,0.6s								
KK31	Karatay Array	4.25	358	⇑Pn		Pn		09 31 13.4	+0.1
	2.9nm,0.6s,baz=188,slow=13,SNR=42								
KK31				⇓Pg		Pb		09 31 24.6	+1.6
	1.3nm,0.4s,baz=178,slow=16,SNR=5.7								
KK31				⇓Sn		Sn		09 32 02.9	-0.8
	3.2nm,0.6s,baz=177,slow=27,SNR=4.3								
KK31				⇑Lg		Lg		09 32 21.5	
	4.3nm,0.6s								
AAK	Ala-Archa	4.76	36	⇑Pn		Pn		09 31 22.5	+1.9
	3.0nm,0.8s								
AAK				⇑Sn		Sn		09 32 18.9	+2.3
	4.6nm,1.0s								
AAK				⇑Lg		Lg		09 32 38.2	
	4.1nm,0.8s								
TKM2	Tokmak 2	5.51	41	⇑Pn		Pn		09 31 30.7	-0.3
	1.2nm,0.5s								
TKM2				⇓Pg		Pb		09 31 45.3	+0.6
	1.4nm,0.6s								
TKM2				⇓Sn		Sn		09 32 36.8	+1.5
	2.3nm,0.8s								
TKM2				⇑Lg		Lg		09 33 02.5	
	2.7nm,0.8s								
AB31	Akbulak array	12.94	327	⇑Pn		Pn		09 33 08.6	-3.8
	0.5nm,0.4s,baz=147,slow=12,SNR=18								
AKTO	Aktyubinsk	14.65	326	⇓Pn		Pn		09 33 35.7	-0.1
	1.6nm,0.8s								

NIED ***05*** *09:36:00.36.°90N×141.°90E, h20km, Mw4.4 Best double couple: M0 4.40000×10^15 NP1:φ=198.00000°, δ=24.00000°, λ=126.00000°. NP2:φ=340.00000°, δ=71.00000°, λ=76.00000°.*

ISCJB ***05*** *09:36:31.9±0.9, 36.°94N±0.°02×142.°06E±0.°03, h15km±5km, mb4.5/64, Error ellipse: s-maj=4.0km s-min=3.6km az=140.4*

IDC ***05*** *09:36:31.5±0.6, 36.°84N×141.°96E, h0km, mb4.3/24, mb1 4.5/29, mb1mx4.4/34, mbtmp4.3/29, ML4.5/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/50, Error ellipse: s-maj=15.0km s-min=12.9km az=137.0*

BJI ***05*** *09:36:31.0, 36.°81N×142.°18E, h22km, mB4.8/27, mb4.7/49, Ms4.2/36, Ms7 4.0/31*

JMA ***05*** *09:36:33.9±0.2, 36.°91N×141.°98E, h45km±5km, M4.7*

JMA Felt I J1.

NEIC ***05*** *09:36:33.0±0.3, 36.°86N×142.°04E, h10km, mb4.7/15, MW4.4(NIED), Error ellipse: s-maj=7.0km s-min=4.9km az=128.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

MOS ***05*** *09:36:34.7±1.1, 36.°97N×141.°99E, h33km, mb4.7/37, Error ellipse: s-maj=9.0km s-min=6.0km az=113.2*

ISC 05 09:36:34.5±0.5,**36.°94N**±0.°04×**142.°02E**±0.°04,**h19**km±1km, **h19**km:**pP-P, n189,**σ1§**47**/237,**mb4.6**/64,**5C-13D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.99	280	P		Pb		09 36 51.1	-2.1
ONAJ				*e*S		Sb		09 37 03.7	-2.2
JFK	Kawauchi	1.01	296	⇓P		Pb		09 36 51.4	-2.1
JFK				*e*S		Sb		09 37 04.2	-2.3
JHO	Hitachi	1.21	255	⇓P		Pn		09 36 53.8	-2.7
JHO				*e*S		Sb		09 37 08.9	-3.2
JMM	Marumori	1.35	314	⇓P		Pn		09 36 56.8	-1.6
JMM				*e*S		Sn		09 37 13.4	-2.4
JFT	Otama	1.47	294	⇓P		Pn		09 36 58.9	-1.1
JFT				*e*S		Sn		09 37 17.1	-1.6
JIO	Ouri	1.61	341	P		Pn		09 37 00.5	-1.4
JIO				*e*S		Sn		09 37 20.0	-2.2
JOU	Okura	1.79	323	P		Pn		09 37 03.8	-0.7
JOU				*e*S		Sn		09 37 26.0	-0.7
JFY	Yanaizu	1.91	285	P		Pn		09 37 05.3	-0.8
JFY				*e*S		Sn		09 37 28.6	-1.1
JYS	Shirataka	2.02	310	P		Pn		09 37 07.4	-0.2
JYS				*e*S		Sn		09 37 32.1	-0.2
JMK	Ichinoseki	2.11	343	P		Pn		09 37 08.4	-0.5
JMK				*e*S		Sn		09 37 33.8	-0.8
JAG	Ashikaga	2.13	257	⇓P		Pn		09 37 07.4	-1.7
I30JP	ISUMI INFRASON	2.13	221	Pn		Pg		09 37 14.6	-0.9
	baz=47,slow=13								
JKT	Katashina	2.23	267	P		Pn		09 37 09.9	-0.7
JKT				*e*S		Sn		09 37 36.3	-1.4
MJAR	Matsushiro Arr	3.09	264	P		Pn		09 37 22.1	-0.2
MJAR								09 38 01.6	
MJAR				pmax		pmax			
	comp=Z,52nm,0.3s								
MJAR				smax		smax			
	comp=N,45nm,0.3s								
MJAR	Matsushiro Arr	3.09	264	Pn		Pn		09 37 22.1	-0.2
	comp=N,52nm,0.3s,baz=88,slow=15,SNR=132								
MJAR				Sn		Sn		09 38 01.6	+2.9
	comp=N,45nm,0.3s,baz=87,slow=28,SNR=11								
MJAR				LR		LR		09 38 39.7	
	comp=N,966nm,21.1s,baz=90,slow=43								
MAJO	Matsushiro	3.09	264	*e*P		Pn		09 37 22.7	+0.3
MAJO	Matsushiro	3.09	264	*e*Pn		Pn		09 37 22.6	+0.3
MAT	Matsushiro	3.09	264	P		Pn		09 37 22.5	+0.2
MAT				*e*S		Sn		09 38 01.5	+2.7
JHJ2	Mitsune	4.22	206	*e*Pn		Pn		09 37 36.7	-1.1
JHJ2				*e*Sn		Sn		09 38 26.1	-0.6
ERM	Erimo	5.15	9*d*	*i*P		Pn		09 37 49.6	-1.0
ERM				pmax		pmax			
	comp=Z,47nm,1.0s								
ERM	Erimo	5.15	9	*e*Pn		Pn		09 37 49.0	-1.6
ERM				*e*Sn		Sn		09 38 49.0	-0.4
ASAJ	Asahikawa	7.19	3	P		Pn		09 38 18.8	+0.2
ASAJ								09 39 38.7	
ASAJ				pmax		pmax			
	comp=Z,5.0nm,0.3s								
ASAJ				smax		smax			
	comp=N,2.0nm,0.3s								
ASAJ	Asahikawa	7.19	3	Pn		Pn		09 38 18.8	+0.2
	comp=N,4.8nm,0.3s,baz=219,slow=9.8,SNR=34								
ASAJ				Sn		Sn		09 39 38.7	-1.0
	comp=N,1.6nm,0.3s,baz=114,slow=20,SNR=2.5								
ASAJ	Asahikawa	7.19	3	*e*Pn		Pn		09 38 19.1	+0.6
ASAJ				Sn		Sn		09 39 38.7	-1.0
YUK	Yuzh-Kuril'sk	7.67	21*c*	*i*P		Pn		09 38 22.0	-3.2
YUK				*i* S		Sn		09 39 45.5	-6.0
YUK				pmax		pmax			
	comp=N,149nm,0.6s								
YUK				pmax		pmax			
	comp=E,43nm,0.6s								
YUK				pmax		pmax			
	comp=Z,205nm,0.6s								
YUK				pmax		pmax			
	comp=Z,854nm,2.0s								
YUK				smax		smax			
	comp=N,2μm,3.0s								
YUK				smax		smax			
	comp=E,1μm,3.0s								
KUR	Kuril'sk	9.39	26⇑	*i*P		Pn		09 38 46.5	-2.2
KUR				*i* S		Sn		09 40 29.0	-4.7
KUR				pmax		pmax			
	comp=E,39nm,1.0s								
KUR				pmax		pmax			
	comp=Z,58nm,0.9s								
KUR				pmax		pmax			
	comp=N,23nm,1.0s								
KUR				smax		smax			
	comp=N,50nm,0.4s								
KUR				smax		smax			
	comp=E,49nm,0.4s								
CBIJ	Chichi jima	9.81	179	Pn		Pn		09 38 51.9

SNY	**Shenyang**	**15.07 295**	⇓P		**P**		**09 40 11.7**	**+0.1**	
SNY			PMZ						
	comp=Z,17nm,0.7s								
SNY			LN						
	comp=Z,230nm,13.7s								
SNY			LE						
	comp=Z,530nm,15.7s								
SNY			LZ						
	comp=Z,500nm,15.3s								
PETK	**Petropavlovsk-**	**19.53 29**	P		**Pn**		**09 41 01.8**	**-0.3**	
	baz=210,slow=8.6,SNR=4.5								
PETK			LR		LR		09 48 29.1		
	comp=Z,83nm,21.9s,baz=222,slow=36								
NJ2	**Nanjing**	**19.69 263**	*e*P		**P**		**09 41 02.0**	**-0.7**	
NJ2			S		**Sn**		**09 44 44.5**	**-0.3**	
NJ2			PMZ						
	comp=Z,10.0nm,0.6s								
NJ2			LN						
	comp=Z,390nm,23.4s								
NJ2			LE						
	comp=Z,390nm,23.4s								
NJ2			LZ						
	comp=Z,530nm,27.7s								
TIA	**Tai'an**	**20.00 275**	⇓P		**Pn**		**09 41 08.5**	**+0.7**	
TIA			PMZ						
	comp=Z,10.0nm,0.9s								
TIA			LN						
	comp=Z,230nm,16.0s								
TIA			LE						
	comp=Z,460nm,14.5s								
TIA			LZ						
	comp=Z,360nm,13.5s								
BJI	**Beijing**	**20.45 287**	P		**P**		**09 41 07.5**	**-3.3**	
BJI			S		**S**		**09 44 57.3**	**-1.6**	
BJI			PMZ						
	comp=Z,14nm,0.6s								
BJI			LN						
	comp=Z,130nm,17.2s								
BJI			LE						
	comp=Z,230nm,15.6s								
BJI			LZ						
	comp=Z,68nm,22.4s								
TPUB	**Ta-pu**	**22.89 240**	P		**P**		**09 41 35.8**	**-1.4**	
WHN	**Wuhan**	**23.83 263**	P		**P**		**09 41 44.4**	**-2.1**	
WHN			S		S		09 45 47.7	-14	
WHN			LN						
	comp=Z,500nm,13.0s								
WHN			LE						
	comp=Z,520nm,12.1s								
WHN			LZ						
	comp=Z,640nm,16.0s								
HHC	**Hu-ho-hao-te**	**23.96 289**	*e*P		**P**		**09 41 46.2**	**-1.6**	
HHC			sP		**sP**		**09 41 54.3**	**-1.6**	
HHC			PP		**PnPn**		**09 42 20.2**	**+3.8**	
HHC			S		**S**		**09 46 00.6**	**-3.1**	
HHC			SS		**SnSn**		**09 46 50.7**	**+6.9**	
HHC			PMZ						
	comp=Z,21nm,0.8s								
HHC			PMZ						
	comp=Z,49nm,4.6s								
HHC			LN						
	comp=Z,250nm,15.8s								
HHC			LE						
	comp=Z,200nm,13.6s								
HHC			LZ						
	comp=Z,130nm,13.6s								
YAK	**Yakutsk**	**26.27 347**	*e*P		P		09 42 14.5	+6.1	
YAK			pmax		pmax				
	comp=Z,27nm,1.0s								
YAK	**Yakutsk**	**26.27 347**	P		**P**		**09 42 08.5**	**+0.1**	
SEY	**Seymchan**	**26.80 11**	P		**P**		**09 42 14.3**	**+1.2**	
	comp=Z,2.0nm,0.8s,baz=195,slow=6.8,SNR=11								
XAN	**Xi'an**	**27.03 274**	P		**P**		**09 42 14.2**	**-1.4**	
XAN			PMZ						
	comp=Z,2.0nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**27.68 121**	T		T		10 11 22.7		
	baz=314,slow=75,SNR=279								
H11N1	**WAKE ISLAND Hy**	**27.69 121**	T		T		10 11 23.0		
	baz=314,slow=75,SNR=361								
H11N3	**WAKE ISLAND Hy**	**27.70 121**	T		T		10 11 25.7		
	baz=314,slow=75,SNR=285								
ENH	**Enshi**	**27.81 266**	*e*P		**P**		**09 42 20.9**	**-1.8**	
	comp=Z,6.3nm,0.5s								
ULN	**Ulaanbaatar**	**27.81 304**	*e*P		**P**		**09 42 22.5**	**-0.1**	
ULN			pmax		pmax				
	comp=Z,15nm,1.3s								
ULN	**Ulaanbaatar**	**27.81 304**	*e*P		**P**		**09 42 22.5**	**-0.1**	
	comp=Z,15nm,1.3s								
BOD	**Bodaibo**	**27.87 327**	*e*P		P		09 42 16.9	-5.9	
BOD			pmax		pmax				
	comp=Z,4.0nm,1.8s								
SONM	**Songino Array**	**28.24 304**	P		**P**		**09 42 25.9**	**-0.6**	
SONM			pmax		pmax				
	comp=Z,14nm,0.8s								
SONM	**Songino Array**	**28.24 304**	P		**P**		**09 42 25.9**	**-0.6**	
	comp=Z,14nm,0.8s,baz=103,slow=7.9,SNR=89								
H11S1	**WAKE ISLAND Hy**	**28.40 124**	T		T		10 12 21.5		
	baz=316,slow=76,SNR=142								
H11S3	**WAKE ISLAND Hy**	**28.40 124**	T		T		10 12 17.1		
	baz=316,slow=76,SNR=90								
H11S2	**WAKE ISLAND Hy**	**28.41 124**	T		T		10 12 22.1		
	baz=316,slow=76,SNR=143								
LZH	**Lanzhou**	**30.56 280**	*e*P		**P**		**09 42 47.5**	**+0.3**	
LZH			pP		**pP**		**09 42 53.1**	**+0.2**	
LZH			sP		**sP**		**09 42 56.7**	**+1.4**	
LZH			PP		**PnPn**		**09 43 47.5**	**+1.1**	
LZH			*e*S		**S**		**09 47 45.4**	**-2.8**	
LZH			SS		**ScP**		**09 49 30.1**	**+2.9**	
LZH			PMZ						
	comp=Z,32nm,1.0s								
LZH			PMZ						
	comp=Z,120nm,4.2s								
LZH			LN						
	comp=Z,1μm,12.2s								
LZH			LE						
	comp=Z,1μm,14.7s								
LZH			LZ						
	comp=Z,1μm,14.9s								
ZAK	**Zakamensk**	**30.71 308**	*e*P		**P**		**09 42 47.3**	**-1.0**	
ZAK			pmax		pmax				
	comp=Z,3.0nm,1.1s								
TLY	**Talaya**	**30.76 311**	*e*P		**P**		**09 42 48.8**	**+0.2**	
TLY			pmax		pmax				
	comp=Z,6.0nm,0.6s								
TLY	**Talaya**	**30.76 311**	P		**P**		**09 42 48.9**	**+0.4**	
	comp=Z,5.6nm,0.8s,baz=82,slow=7.1,SNR=6.7								
TLY	**Talaya**	**30.76 311**	*e*P		**P**		**09 42 49.0**	**+0.4**	
	comp=Z,7.9nm,0.9s								
CD2	**Chengdu**	**32.16 271**	*e*P		**P**		**09 43 02.0**	**+0.8**	
CD2			pP		**pP**		**09 43 06.4**	**-0.5**	
CD2			sP		**sP**		**09 43 09.0**	**-0.3**	
CD2			PP		**PnPn**		**09 44 08.6**	**+1.5**	
CD2			S		**S**		**09 48 13.2**	**+0.2**	
CD2			PcS		**PcS**		**09 49 34.9**	**+0.1**	
CD2			SS		**SnSn**		**09 50 06.0**	**+2.1**	
CD2			PMZ						
	comp=Z,10.0nm,0.5s								
CD2			PMZ						
	comp=Z,140nm,5.4s								
CD2			LN						
	comp=Z,320nm,12.7s								
CD2			LE						
	comp=Z,250nm,14.3s								
CD2			LZ						
	comp=Z,340nm,13.9s								
MOY	**Mondy**	**32.37 310**	*e*P		**P**		**09 43 02.1**	**-0.8**	
GTA	**Gaotai**	**33.06 287**	P		**P**		**09 43 09.5**	**+0.5**	
GTA			pP		**pP**		**09 43 16.1**	**+1.3**	
GTA			sP		**sP**		**09 43 18.9**	**+1.8**	
GTA			PcP		**PcP**		**09 45 53.1**	**+0.8**	
GTA			S		**S**		**09 48 26.5**	**-0.5**	
GTA			SS		**SnSn**		**09 50 26.0**	**+0.4**	
GTA			PMZ						
	comp=Z,7.0nm,0.9s								
GTA			PMZ						
	comp=Z,62nm,4.3s								
GTA			LN						
	comp=Z,160nm,17.6s								
GTA			LE						
	comp=Z,120nm,18.1s								
GTA			LZ						
	comp=Z,120nm,18.5s								
QIZ	**Qiongzhong**	**33.33 246**	P		**P**		**09 43 11.3**	**-0.1**	
QIZ			pP		**pP**		**09 43 13.8**	**-3.4**	
QIZ			S		**S**		**09 48 32.7**	**+1.4**	
QIZ			PMZ						
	comp=Z,10.0nm,1.4s								
QIZ			LZ						
	comp=Z,120nm,5.1s								
BILL	**Bilibino**	**33.98 16**	*e*P		**P**		**09 43 16.7**	**+0.1**	
BILL			*i*				09 43 23.3		
BILL			pmax		pmax				
	comp=Z,2.0nm,1.0s								
TIXI	**Tiksi**	**35.45 353**	⇑*e*P		**P**		**09 43 29.3**	**+0.2**	
TIXI			pmax		pmax				
	comp=Z,1.0nm,0.7s								
SLVN	**Son La**	**36.48 255**	*e*P		**P**		**09 43 38.3**	**-0.3**	
	comp=Z,6.9nm,1.0s								
HVS	**Khovu-Aksy**	**36.84 308**	⇓*e*P		**P**		**09 43 41.6**	**+0.2**	
HVS			pmax		pmax				
	comp=Z,56nm,1.2s								
UBPT	**Khong Chiam**	**38.93 246**	P		**P**		**09 44 00.6**	**+1.2**	
	comp=Z,16nm,1.0s								
DLV	**T Lat**	**39.05 239**	*e*P		**P**		**09 44 00.8**	**+0.2**	
	comp=Z,60nm,1.3s								
CMAI	**Chiengmai2**	**41.03 258**	P		P		09 44 21.0	+4.0	
	comp=Z,7.2nm,1.1s								
WMQ	**Urumqi**	**41.32 297**	*e*P		**P**		**09 44 20.5**	**+1.5**	
WMQ			pP		**pP**		**09 44 25.0**	**+0.1**	
WMQ			sP		**sP**		**09 44 27.5**	**+0.3**	
WMQ			PcP		**PcP**		**09 46 19.0**	**+1.7**	
WMQ			*e*S		**S**		**09 50 34.0**	**+1.6**	
WMQ			SS		**SS**		**09 53 33.0**	**-3.0**	
WMQ			PMZ						
	comp=Z,14nm,0.7s								
WMQ			PMZ						
	comp=Z,72nm,5.0s								
WMQ			LN						
	comp=Z,410nm,13.8s								
WMQ			LE						
	comp=Z,200nm,10.4s								
WMQ			LZ						
	comp=Z,340nm,23.0s								
LAMP	**Lampang**	**41.37 255**	P		**P**		**09 44 20.7**	**+1.1**	
	comp=Z,3.7nm,0.9s,comp=Z,127nm								
PBKT	**Sadao Pong**	**41.49 252**	P		**P**		**09 44 20.7**	**+0.1**	
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**41.74 256**	*e*P		**P**		**09 44 22.3**	**-0.3**	
CHTO			pmax		pmax				
	comp=Z,6.0nm,0.9s								
CHTO	**Chiang Mai**	**41.74 256**	*e*P		**P**		**09 44 22.3**	**-0.3**	
	comp=Z,6.4nm,0.9s								
CHTO	**Chiang Mai**	**41.74 256**	P		**P**		**09 44 23.0**	**+0.4**	
	comp=Z,40nm,1.0s								
CMAR	**Chiang Mai Arr**	**41.94 256**	P		**P**		**09 44 24.2**	**-0.1**	
CMAR			pmax		pmax				
	comp=Z,5.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**41.94 256**	P		**P**		**09 44 24.2**	**-0.1**	
	comp=Z,4.9nm,0.5s,baz=44,slow=6.1,SNR=25								
ZALV	**Zalesovo Beam**	**42.34 312**	P		**P**		**09 44 27.2**	**+0.1**	
ZALV							09 46 20.2		
ZALV			pmax		pmax				
	comp=Z,9.0nm,0.9s								
ZALV			pmax		pmax				
	comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**42.34 312**	P		**P**		**09 44 27.2**	**+0.1**	
	comp=Z,9.2nm,0.9s,baz=93,slow=7.4,SNR=14								
ZALV			PcP		**PcP**		**09 46 20.2**	**-0.1**	
	comp=Z,2.2nm,0.7s,baz=81,slow=3.8,SNR=3.9								
CHBT	**CHBT**	**42.88 246**	P		**P**		**09 44 33.5**	**+1.6**	
	comp=Z,14nm,0.9s								
MHMT	**Maesarieng**	**42.89 256**	P		**P**		**09 44 32.9**	**+0.9**	
	comp=Z,11nm,0.9s,comp=Z,485nm								
NVS	**Novosibirsk**	**43.26 314**	*e*P		**P**		**09 44 33.0**	**-1.5**	
NVS			pmax		pmax				
	comp=N,2.0nm,1.0s								
NVS			pmax		pmax				
	comp=E,4.0nm,1.0s								
NVS			pmax		pmax				
	comp=Z,6.0nm,1.0s								
MK31	**Makanchi Array**	**44.58 302**	*i* P		**P**		**09 44 45.0**	**-0.4**	
MK31			pmax		pmax				
	comp=Z,9.0nm,0.8s								
MKAR	**Makanchi Array**	**44.58 302**	P		**P**		**09 44 45.0**	**-0.3**	
	comp=Z,7.6nm,0.9s,baz=87,slow=9.6,SNR=59								
MKAR			PcP		**PcP**		**09 46 27.8**	**-0.3**	
	comp=Z,1.5nm,0.9s,baz=73,slow=4.8,SNR=3.3								
KURK	**Kurchatov**	**46.38 308**	P		**P**		**09 44 58.5**	**-0.9**	
KURK			pmax		pmax				
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**46.38 308**	*e*P		**P**		**09 44 59.0**	**-0.4**	
	comp=Z,20nm,0.8s								
TAPN	**Taplejung**	**46.43 274**	*e*P		**P**		**09 45 00.1**	**-0.5**	
KDAK	**Kodiak Island**	**46.85 42**	*i* P		**P**		**09 45 05.7**	**+2.7**	
ODAN	**Odare**	**46.91 274**	*e*P		**P**		**09 45 03.9**	**-0.3**	
PDGK	**Podgornoye**	**47.25 298**	P		**P**		**09 45 06.0**	**-0.4**	
PDGK			pmax		pmax				
	comp=Z,8.0nm,1.0s								
RAMN	**Ramite**	**47.50 275**	*e*P		**P**		**09 45 08.5**	**-0.3**	
	comp=Z,41nm,0.8s								
JIRN	**Jiri**	**47.51 276**	*e*P		**P**		**09 45 09.3**	**+0.2**	
	comp=Z,22nm,0.7s								
GUN	**Gumba**	**47.65 276**	*e*P		**P**		**09 45 10.3**	**+0.2**	
PKI	**Pulchoki**	**48.17 276**	*e*P		**P**		**09 45 13.7**	**-0.5**	
KKN	**Kakani**	**48.18 276**	*e*P		**P**		**09 45 14.3**	**+0.2**	
GKN	**Gorkha**	**48.60 277**	*e*P		**P**		**09 45 17.0**	**-0.2**	
DANN	**Dangsing**	**49.15 278**	*e*P		**P**		**09 45 21.7**	**+0.1**	
	comp=Z,64nm,0.8s								
ILAR	**Eielson Array**	**49.32 32**	P		**P**		**09 45 22.6**	**+0.6**	
ILAR			pmax		pmax				
	comp=Z,3.0nm,0.9s								
ILAR	**Eielson Array**	**49.32 32**	P		**P**		**09 45 22.6**	**+0.6**	
	comp=Z,2.8nm,0.9s,baz=266,slow=6.3,SNR=30								
SOEI	**Soe**	**49.35 203**	*e*P		**P**		**09 45 24.9**	**+2.0**	
	comp=Z,26nm,0.8s								
SOEI			*e*pP		pP		09 45 38.1	+9.3	
IPM	**Ipoh**	**49.51 239**	*e*P		**P**		**09 45 22.8**	**-1.3**	
	comp=Z,11nm,0.8s								
KOLN	**Koldanda**	**49.52 277**	*e*P		**P**		**09 45 24.1**	**-0.3**	
PYUN	**Piuthan**	**49.87 278**	*e*P		**P**		**09 45 26.9**	**-0.1**	
	comp=Z,63nm,0.5s								
TKM2	**Tokmak 2**	**50.10 299**	*e*P		**P**		**09 45 29.3**	**+0.7**	
TKM2			pmax		pmax				
	comp=Z,6.0nm,0.8s								
TKM2	**Tokmak 2**	**50.10 299**	*e*P		**P**		**09 45 29.3**	**+0.7**	
	comp=Z,6.0nm,0.8s								
KSH	**Kashi**	**50.89 294**	*e*P		P		09 45 38.4	+3.9	
KSH			pP		pP		09 45 42.1	+1.6	
KSH			PcP		**PcP**		**09 46 53.7**	**+2.8**	
KSH			PP		**PP**		**09 47 34.6**	**+3.9**	
KSH			PcS		**PcS**		**09 50 49.8**	**+1.3**	
KSH			S		**S**		**09 52 54.7**	**+4.6**	
KSH			SS		**SS**		**09 56 27.5**	**+2.9**	
KSH			PMZ						
	comp=Z,130nm,7.2s								
KSH			LN						
	comp=Z,140nm,4.8s								
KSH			LE						
	comp=Z,87nm,5.4s								
KSH			LZ						
	comp=Z,140nm,6.3s								
AAK	**Ala-Archa**	**50.97 299**	⇓*e*P		**P**		**09 45 35.0**	**-0.1**	
AAK			pmax		pmax				
	comp=Z,5.0nm,0.7s								
AAK	**Ala-Archa**	**50.97 299**	*e*P		**P**		**09 45 34.9**	**-0.1**	
	comp=Z,2.7nm,0.8s								
KK31	**Karatay Array**	**53.59 300**	*i* P		**P**		**09 45 54.1**	**-0.3**	
KK31			pmax		pmax				
	comp=Z,4.0nm,1.0s								
KKAR	**Karatay Array**	**53.59 300**	*e*P		**P**		**09 45 54.3**	**-0.1**	
KKAR	**Karatay Array**	**53.59 300**	*e*P		**P**		**09 45 54.3**	**-0.1**	
HYT	**Haines Junctio**	**54.09 37**	P		**P**		**09 46 00.1**	**+2.3**	
INK	**Inuvik**	**54.25 27**	P		**P**		**09 45 59.8**	**+1.0**	
INK			pmax		pmax				
	comp=Z,2.0nm,0.7s								
INK	**Inuvik**	**54.25 27**	P		**P**		**09 45 59.8**	**+1.0**	
	comp=Z,2.3nm,0.7s,baz=301,slow=6.4,SNR=18								
DZET	**Dzherino**	**56.33 296**	P		**P**		**09 46 14.2**	**-0.2**	
DZET			pmax		pmax				
	comp=Z,12nm,0.6s								
ARU	**Arti**	**56.76 319**	*d i* P		**P**		**09 46 16.7**	**-0.3**	
ARU			S		**S**		**09 54 07.7**	**-1.0**	
ARU			pmax		pmax				
	comp=Z,10.0nm,0.8s								
ARU	**Arti**	**56.76 319**	*e*P		**P**		**09 46 16.5**	**-0.5**	
	comp=Z,13nm,1.0s								
ARU			*e*pP		**pP**		**09 46 24.6**	**+1.6**	
WRAB	**Tennant Creek**	**57.02 189**	*ce*P		**P**		**09 46 18.0**	**-1.1**	
WRAB			pmax		pmax				
	comp=Z,84nm,2.5s								
WRAB	**Tennant Creek**	**57.02 189**	*e*P		**P**		**09 46 18.1**	**-1.1**	
	comp=Z,11nm,0.9s								
WB2	**Warramunga Arr**	**57.03 189**	*e*P		**P**		**09 46 17.5**	**-1.8**	
WRA	**Warramunga Arr**	**57.03 189**	P		**P**		**09 46 18.2**	**-1.1**	
WRA			pmax		pmax				
	comp=Z,7.0nm,0.4s								
WRA	**Warramunga Arr**	**57.03 189**	P		**P**		**09 46 18.1**	**-1.1**	
	comp=Z,6.9nm,0.4s,baz=7.8,slow=7.7,SNR=135								
AB31	**Akbulak array**	**58.37 310**	*i* P		**P**		**09 46 27.7**	**-0.8**	
AB31			pmax		pmax				
	comp=Z,4.0nm,0.7s								
ABKAR	**Akbulak array**	**58.37 310**	*e*P		**P**		**09 46 28.0**	**-0.5**	
DLBC	**Dease Lake**	**58.40 38**	P		**P**		**09 46 29.5**	**+0.9**	
	comp=Z,3.3nm,1.0s,baz=277,slow=6.9,SNR=6.0								
HYB	**Hyderabad**	**58.69 269**	*i* P		**P**		**09 46 29.5**	**-1.6**	
AS31	**Alice Springs**	**60.76 189**	*e*P		**P**		**09 46 44.4**	**-0.7**	
ASAR	**Alice Springs**	**60.76 189**	P		**P**		**09 46 44.4**	**-0.8**	
ASAR			pmax		pmax				
	comp=Z,7.0nm,0.8s								
ASAR	**Alice Springs**	**60.76 189**	P		**P**		**09 46 44.4**	**-0.8**	
	comp=Z,6.9nm,0.8s,baz=11,slow=7.3,SNR=74								
PRGR	**Permogore**	**61.11 327**	P		**P**		**09 46 44.8**	**-2.3**	
PRGR			pmax		pmax				
	comp=Z,6.0nm,0.4s								
RES	**Resolute Bay**	**62.57 15**	P		**P**		**09 46 57.3**	**+0.5**	
RES			pmax		pmax				
	comp=Z,1.0nm,0.6s								
RES	**Resolute Bay**	**62.57 15**	P		**P**		**09 46 57.2**	**+0.5**	
	comp=Z,1.0nm,0.6s,baz=329,slow=5.9,SNR=6.2								
YKA	**Yellowknife Ar**	**63.65 30**	P		**P**		**09 47 04.5**	**+0.5**	
YKA			pmax		pmax				
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**63.65 30**	P		**P**		**09 47 04.5**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=300,slow=6.6,SNR=14								
KEV	**Kevo**	**63.71 339**	*e*P		**P**		**09 47 02.7**	**-1.6**	
KEV			pmax		pmax				
	comp=Z,3.0nm,0.7s								
ARCES	**ARCESS Array B**	**64.26 340**	P		**P**		**09 47 08.0**	**0.0**	
ARCES			pmax		pmax				
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**64.26 340**	P		**P**		**09 47 08.0**	**0.0**	
	comp=Z,1.9nm,0.8s,baz=56,slow=7.4,SNR=3.8								
GEYT	**Alibeck**	**64.31 299**	P		**P**		**09 47 08.8**	**-0.1**	
	comp=Z,3.1nm,0.5s,baz=347,slow=6.1,SNR=6.2								
JOF	**Joensuu**	**66.28 332**	*e*P		**P**		**09 47 19.5**	**-1.6**	
JOF			pmax		pmax				
	comp=Z,2.0nm,0.7s								
OBN	**Obninsk**	**68.47 323**	⇓*e*P		**P**		**09 47 33.6**	**-1.5**	
OBN			pmax		pmax				
	comp=Z,6.0nm,0.5s								
KAF	**Kangasniemi**	**68.62 333**	*e*P		**P**		**09 47 34.9**	**-1.0**	
KAF			pmax		pmax				
	comp=Z,3.0nm,0.6s								
FINES	**FINESS Array B**	**69.13 332**	P		**P**		**09 47 39.3**	**+0.2**	
FINES			pmax		pmax				
	comp=Z,5.0nm,0.8s								
FINES	**FINESS Array B**	**69.13 332**	P		**P**		**09 47 39.2**	**+0.2**	
	comp=Z,5.0nm,0.8s,baz=69,slow=7.7,SNR=20								
ZEI	**Tsey**	**71.24 310**	*e*P		**P**		**09 47 51.2**	**-1.5**	
ZEI			pmax		pmax				
	comp=Z,3.0nm,0.9s								
KBZ	**Khabaz**	**71.33 311**	P		**P**		**09 47 53.4**	**+0.4**	
KBZ			pmax		pmax				
	comp=Z,5.0nm,0.8s								
KBZ	**Khabaz**	**71.33 311**	P		**P**		**09 47 53.4**	**+0.4**	
	comp=Z,4.7nm,0.8s,baz=37,slow=2.3,SNR=13								
KIV	**Kislovodsk**	**71.34 311**	*e*P		**P**		**09 47 53.8**	**+0.7**	
KIV			pmax		pmax				
	comp=Z,13nm,1.0s								
NB2	**NORSAR Subarra**	**74.46 338**	P		**P**		**09 48 11.3**	**0.0**	
	comp=Z,2.9nm,0.8s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**74.46 338**	P		**P**		**09 48 11.4**	**+0.1**	
NOA			pmax		pmax				
	comp=Z,2.0nm,0.8s								
NOA	**NORSAR Array B**	**74.46 338**	P		**P**		**09 48 11.4**	**+0.1**	
	comp=Z,1.9nm,0.8s,baz=39,slow=5.8,SNR=9.8								
NVAR	**Mina Array Bea**	**74.66 53**	P		**P**		**09 48 14.5**	**+1.4**	
	comp=Z,1.7nm,0.9s,baz=286,slow=5.7,SNR=9.5								
AKASG	**Malin Array Be**	**74.67 323**	P		**P**		**09 48 12.3**	**-0.3**	
AKASG			pmax		pmax				
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**74.67 323**	P		**P**		**09 48 12.2**	**-0.3**	
	comp=Z,2.2nm,0.4s,baz=46,slow=5.9,SNR=33								
KIEV	**Kiev**	**74.68 323**	*d i*P		**P**		**09 48 12.5**	**-0.2**	
KIEV	**Kiev**	**74.68 323**	*e*P		**P**		**09 48 12.0**	**-0.7**	
PDAR	**Pinedale Array**	**77.39 46**	P		**P**		**09 48 28.9**	**+0.3**	
	comp=Z,0.7nm,0.9s,baz=288,slow=1.4,SNR=5.0								
KOLS	**Kolonicke sedl**	**79.19 324**	*e*P		**P**		**09 48 38.3**	**+0.2**	
BRTR	**Keskin Array B**	**79.28 312**	P		**P**		**09 48 39.9**	**+0.9**	
BRTR			pmax		pmax				
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**79.28 312**	P		**P**		**09 48 39.9**	**+0.9**	
	comp=Z,1.9nm,0.9s,baz=96,slow=3.8,SNR=10								
DPC	**Dobruska-Polom**	**80.80 328**	*e*P		**P**		**09 48 47.0**	**+0.2**	
DPC			*e*				09 48 52.0		
DPC	**Dobruska-Polom**	**80.80 328**	*e*P		**P**		**09 48 47.0**	**+0.2**	
DPC			*e*pP		**pP**		**09 48 52.0**	**-1.1**	
KRLC	**Kraliky**	**80.81 328**	*e*P		**P**		**09 48 47.1**	**+0.2**	
KRLC	**Kraliky**	**80.81 328**	*e*P		**P**		**09 48 47.1**	**+0.2**	
VYHS	**Vyhne**	**81.08 326**	*e*P		**P**		**09 48 49.5**	**+1.2**	
VYHS			pmax		pmax				
	comp=Z,7.0nm,1.8s								
RAYN	**Ar Rayn**	**81.14 293**	*e*P		**P**		**09 48 49.4**	**+0.2**	
	comp=Z,2.9nm,1.0s								
CLL	**Collm**	**81.42 330**	*e*P		P		09 48 59.0	+8.9	
KHC	**Kasperske Hory**	**82.88 329**	*e*P		**P**		**09 48 54.9**	**-2.9**	
KHC	**Kasperske Hory**	**82.88 329**	*e*P		**P**		**09 48 54.9**	**-2.9**	
GERES	**GERESS Array B**	**83.05 329**	P		**P**		**09 48 58.6**	**-0.2**	
GERES			pmax		pmax				
	comp=Z,1.0nm,0.6s								
GERES	**GERESS Array B**	**83.05 329**	P		**P**		**09 48 58.6**	**-0.2**	
	comp=Z,0.5nm,0.6s,baz=33,slow=5.9,SNR=5.9								
KSCO	**Kaye Shedlock'**	**83.81 45**	*e*P		**P

KUR	**Kuril'sk**	**3.85**	**250**	*e*P		**Pn**	**09 45 08.7**	**+1.6**
KUR				AMB	AMB		09 45 14.6	
	comp=E,81nm,0.6s							
KUR				*e*S		**Sn**	**09 45 54.2**	**+3.2**
KUR				A	A		09 46 02.4	
	comp=E,248nm,0.6s							
KUR				A	A		09 46 02.4	
	comp=E,88nm,0.6s							
KUR				AMS	AMS		09 46 20.5	
	comp=E,689nm,3.0s							
KUR				AMS	AMS		09 46 20.5	
	comp=E,2µm,3.0s							
SKR	**Severo-Kuril's**	**4.54**	**26**	*e*PN	Pn	**Pn**	09 45 15.0	-1.6
SKR				*e*S		**Sn**	**09 46 04.5**	**-3.6**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				smax	smax			
	comp=N,60nm,0.5s							
SKR				smax	smax			
	comp=E,90nm,0.5s							
SKR	**Severo-Kuril's**	**4.54**	**26**	*e*P		**Pn**	**09 45 16.6**	**0.0**
SKR				AMB	AMB		09 45 19.0	
	comp=E,80nm,0.5s							
SKR				*e*S		**Sn**	**09 46 06.9**	**-1.2**
SKR				A	A		09 46 10.5	
	comp=E,90nm,0.5s							
SKR				A	A		09 46 10.5	
	comp=E,60nm,0.5s							
SHO	**Shikotan**	**5.16**	**240**	*e*P		**Pn**	**09 45 25.2**	**+0.1**
SHO				*e*S		**Sn**	**09 46 22.5**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**5.67**	**245**	*c i*PN		Pn	09 45 35.3	+3.3
YUK				*i* S		Sn	09 46 41.7	+5.9
YUK				pmax	pmax			
	comp=N,56nm,0.6s							
YUK				pmax	pmax			
	comp=E,47nm,0.6s							
YUK				pmax	pmax			
	comp=Z,76nm,0.6s							
YUK				smax	smax			
	comp=N,235nm,0.7s							
YUK				smax	smax			
	comp=E,101nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.67**	**245**	*e*P		Pn	09 45 35.3	+3.3
YUK				AMB	AMB		09 45 36.1	
	comp=E,76nm,0.6s							
YUK				*e*S		Sn	09 46 41.7	+5.9
YUK				A	A		09 46 53.9	
	comp=E,101nm,0.7s							
YUK				A	A		09 46 53.9	
	comp=E,235nm,0.7s							
NEM2	**Nemuro 2**	**6.10**	**240**	P		**Pn**	**09 45 37.8**	**-0.2**
NEM2				*e*S		**Sn**	**09 46 43.3**	**-3.1**
JNK	**Nakash**	**6.61**	**245**	P		**Pn**	**09 45 46.5**	**+1.5**
JNK				*e*S		**Sn**	**09 46 59.1**	**+0.1**
JAK	**Akkeshi**	**6.94**	**241**	P		**Pn**	**09 45 49.4**	**-0.1**
JAK				*e*S		**Sn**	**09 47 03.7**	**-3.4**
JTKR	**Abashiri--Toko**	**6.94**	**251**	P		**Pn**	**09 45 52.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**7.04**	**276**	*e*PN		**Pn**	**09 45 53.8**	**+2.9**
YSS	**Yuzh-Sakhalins**	**7.04**	**276**	*e*P		**Pn**	**09 45 53.8**	**+2.9**
PETK	**Petropavlovsk-**	**7.15**	**23**	P		Pn	09 45 58.9	+6.5
	comp=E,1.9nm,0.3s,baz=45,slow=1.0,SNR=8.9							
PETK				S		Sn	09 47 26.8	+15
	comp=E,0.3nm,0.3s,baz=67,slow=26,SNR=2.1							
JMP	**Maruseppu**	**7.29**	**252**	P		**Pn**	**09 45 57.4**	**+3.1**
JAR	**Ashorobuto**	**7.35**	**246**	P		**Pn**	**09 45 56.9**	**+1.7**
PET	**Petropavlovsk**	**7.36**	**28**	*e*PN		**Pn**	**09 45 58.3**	**+3.1**
PET	**Petropavlovsk**	**7.36**	**28**	*e*P		**Pn**	**09 45 58.3**	**+3.1**
JOB	**Onbets**	**7.51**	**243**	P		**Pn**	**09 45 58.2**	**+0.8**
JOB				*e*S		**Sn**	**09 47 19.6**	**-1.7**
JKK2	**Kamakawa 2**	**7.74**	**253**	P		**Pn**	**09 46 03.2**	**+2.6**
ASAJ	**Asahikawa**	**7.75**	**255**	P		Pn	09 46 04.1	+3.5
	comp=E,0.7nm,0.3s,baz=87,slow=25,SNR=12							
ASAJ				LR		LR	09 48 50.2	
	comp=E,136nm,19.4s,baz=4.5,slow=36							
JCH	**Churui**	**7.96**	**243**	P		**Pn**	**09 46 04.0**	**+0.4**
JCH				*e*S		**Sn**	**09 47 28.6**	**-3.7**
MYR	**Moyori**	**8.19**	**241**	*e*P		**Pn**	**09 46 06.9**	**+0.2**
ERM	**Erimo**	**8.43**	**240**	⇓*e*PN		**Pn**	**09 46 12.1**	**+2.1**
JNBK	**Urakawa-nobuka**	**8.52**	**243**	*e*S		**Sn**	**09 47 42.3**	**-3.8**
JNB	**Noboribetsu**	**9.50**	**248**	P		**Pn**	**09 46 25.2**	**+0.6**
JNB				*e*S		**Sn**	**09 48 07.1**	**-2.9**
JKB	**Kayabe**	**9.81**	**245**	*e*S		Sn	09 48 10.0	-7.6
JYM2	**Yakumo 2**	**10.11**	**248**	P		**Pn**	**09 46 33.1**	**+0.2**
JANG	**Nango**	**10.43**	**237**	P		Pn	09 46 34.9	-2.4
JANG				*e*S		Sn	09 48 21.4	-11
JIO	**Ouri**	**11.85**	**231**	*e*S		Sn	09 48 50.0	-18
USRK	**Ussuriysk Ar.**	**14.95**	**268**	P		**Pn**	**09 47 38.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=68,slow=12,SNR=8.7							
USRK				LR		LR	09 53 14.4	
	comp=E,73nm,19.2s,baz=71,slow=36							
MJAR	**Matsushiro Arr**	**14.95**	**233**	P		**Pn**	**09 47 40.7**	**+1.7**
	comp=E,0.1nm,0.3s,baz=40,slow=9.6,SNR=3.0							
MJAR				LR		LR	09 53 24.1	
	comp=E,33nm,21.8s,baz=75,slow=37							
SEY	**Seymchan**	**16.33**	**359**	P		**Pn**	**09 47 58.8**	**+2.3**
	comp=E,0.3nm,0.3s,baz=170,slow=15,SNR=8.1							
SEY	**Seymchan**	**16.33**	**359**	*e*P		**Pn**	**09 47 58.6**	**+2.1**
YAK	**Yakutsk**	**20.37**	**328**	*e*P		**P**	**09 48 43.3**	**0.0**
KSRS	**Korea Array**	**20.69**	**253**	*e*P		Pn	09 48 50.1	+0.6
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KSRS	**Korea Array**	**20.69**	**253**	P		**P**	**09 48 48.3**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=58,slow=9.2,SNR=9.9							
BILL	**Bilibino**	**22.52**	**13**	⇑*e*P		**P**	**09 49 06.7**	**+0.4**
BILL				*i*			09 53 00.3	
BILL				pmax	pmax			
	comp=Z,4.0nm,1.7s							
BILL	**Bilibino**	**22.52**	**13**	*e*P		**P**	**09 49 08.4**	**+2.1**
TIXI	**Tiksi**	**27.55**	**344**	⇑*e*P		**P**	**09 49 51.2**	**-1.8**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
H11N2	**WAKE ISLAND Hy**	**29.16**	**152**	T		T	10 21 24.6	
	baz=340,slow=75,SNR=352							
H11N1	**WAKE ISLAND Hy**	**29.18**	**152**	T		T	10 21 34.3	
	baz=340,slow=75,SNR=269							
H11N3	**WAKE ISLAND Hy**	**29.18**	**152**	T		T	10 21 34.6	
	baz=340,slow=75,SNR=232							
H11S1	**WAKE ISLAND Hy**	**30.25**	**153**	T		T	10 22 54.3	
	baz=341,slow=76,SNR=175							
H11S3	**WAKE ISLAND Hy**	**30.25**	**154**	T		T	10 22 47.5	
	baz=341,slow=76,SNR=159							
H11S2	**WAKE ISLAND Hy**	**30.27**	**153**	T		T	10 23 06.1	
	baz=341,slow=76,SNR=149							
SONM	**Songino Array**	**31.29**	**290**	P		**P**	**09 50 26.1**	**-0.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**31.29**	**290**	P		**P**	**09 50 26.1**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=81,slow=8.9,SNR=3.1							
ILAR	**Eielson Array**	**36.68**	**38**	P		**P**	**09 51 12.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=259,slow=6.6,SNR=8.5							
INK	**Inuvik**	**41.78**	**32**	P		**P**	**09 51 56.6**	**+1.1**
INK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
INK	**Inuvik**	**41.78**	**32**	P		**P**	**09 51 56.6**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=306,slow=6.2,SNR=11							
MKAR	**Makanchi Array**	**46.92**	**297**	P		**P**	**09 52 34.9**	**-2.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**46.92**	**297**	P		**P**	**09 52 34.9**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=79,slow=7.5,SNR=9.8							
YKA	**Yellowknife Ar**	**51.06**	**37**	P		**P**	**09 53 08.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=296,slow=7.1,SNR=6.6							
YKA				PcP		**PcP**	**09 54 23.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=308,slow=3.7,SNR=7.7							
AAK	**Ala-Archa**	**53.81**	**296**	⇓*e*P		**P**	**09 53 29.3**	**+0.1**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
AAK	**Ala-Archa**	**53.81**	**296**	*e*P		**P**	**09 53 29.3**	**+0.1**
FFC	**Flin Flon**	**60.87**	**40**	*e*P		**P**	**09 54 20.2**	**+1.7**
JOF	**Joensuu**	**61.39**	**334**	*e*P		P	09 54 19.5	-2.4
JOF				pmax	pmax			
	comp=Z,1.0nm,0.6s							
JOF	**Joensuu**	**61.39**	**334**	*ep*		P	09 54 19.5	-2.4
	comp=Z,0.9nm,0.6s							
NVAR	**Mina Array Bea**	**62.55**	**62**	P		**P**	**09 54 31.5**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=296,slow=6.7,SNR=4.0							
KAF	**Kangasniemi**	**63.51**	**335**	*e*P		P	09 54 33.2	-2.8
KAF				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KAF	**Kangasniemi**	**63.51**	**335**	*ep*		P	09 54 33.2	-2.8
	comp=Z,1.4nm,0.6s							
FINES	**FINESS Array B**	**64.10**	**335**	P		**P**	**09 54 38.4**	**-1.5**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**64.10**	**335**	P		**P**	**09 54 38.4**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=42,slow=7.0,SNR=18							
FINES	**FINESS Array B**	**64.10**	**335**	*e*P		**P**	**09 54 38.2**	**-1.7**
PDAR	**Pinedale Array**	**64.87**	**54**	P		**P**	**09 54 46.3**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=288,slow=0.9,SNR=5.6							
NB2	**NORSAR Subarra**	**68.30**	**341**	P		**P**	**09 55 05.5**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.30**	**341**	P		**P**	**09 55 05.8**	**-1.2**
NOA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NOA	**NORSAR Array B**	**68.30**	**341**	P		**P**	**09 55 05.8**	**-1.2**
	comp=Z,3.6nm,0.8s,baz=27,slow=6.3,SNR=14							
WRA	**Warramunga Arr**	**68.39**	**199**	P		**P**	**09 55 08.1**	**+0.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**68.39**	**199**	P		**P**	**09 55 08.1**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=20,slow=7.0,SNR=6.0							
WRA	**Warramunga Arr**	**68.39**	**199**	*e*P		**P**	**09 55 08.5**	**+0.7**
KBZ	**Khabaz**	**70.88**	**314**	P		**P**	**09 55 23.1**	**+0.1**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KBZ	**Khabaz**	**70.88**	**314**	P		**P**	**09 55 23.1**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=20,slow=5.3,SNR=4.3							
AKASG	**Malin Array Be**	**71.59**	**326**	P		**P**	**09 55 25.5**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**71.59**	**326**	P		**P**	**09 55 25.5**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=33,slow=6.1,SNR=4.4							
KIEV	**Kiev**	**71.60**	**326**	*e*P		**P**	**09 55 27.0**	**-0.3**
ASAR	**Alice Springs**	**72.08**	**198**	P		**P**	**09 55 32.0**	**+1.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**72.08**	**198**	P		**P**	**09 55 31.9**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=12,slow=5.5,SNR=11							
ASAR	**Alice Springs**	**72.08**	**198**	*e*P		**P**	**09 55 31.0**	**+0.6**
CLL	**Collm**	**76.53**	**335**	*e*P		**P**	**09 55 55.0**	**-1.0**
CLL	**Collm**	**76.53**	**335**	*e*P		**P**	**09 55 55.0**	**-1.0**
KHC	**Kasperske Hory**	**78.30**	**334**	*e*P		**P**	**09 56 05.1**	**-1.0**
KHC	**Kasperske Hory**	**78.30**	**334**	*e*P		**P**	**09 56 05.1**	**-1.0**
BRTR	**Keskin Array B**	**78.41**	**317**	P		**P**	**09 56 06.4**	**-0.6**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**78.41**	**317**	P		**P**	**09 56 06.4**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=64,slow=2.9,SNR=4.7							
GERES	**GERESS Array B**	**78.52**	**334**	P		**P**	**09 56 06.2**	**-1.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**78.52**	**334**	P		**P**	**09 56 06.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=30,slow=6.0,SNR=5.0							
CFAA	**Coronel Fontan**	**145.09**	**79**	PKPbc		**PKPbc**	**10 03 43.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=297,slow=2.3,SNR=5.6							

*ISCJB **05** 09:52:55.3±0.8, 32°.31N±0°.03×115°.31W±0°.02, h12km±6km, Error ellipse: s-maj=4.7km s-min=3.1km az=10.6*
*NEIC **05** 09:52:56.0, 32°.26N×115°.38W, h16km, MD4.2(MEX), ML3.9(PAS), After PAS.*
*ECX **05** 09:52:57.2±0.6, 32°.29N×115°.38W, h6km, MD3.8, ML4.0*
*MEX **05** 09:52:57.2±0.3, 32°.38N×115°.29W, h7km±13km, MD4.2*
ISC 05 09:52:54.8±1.1, 32°.30N±0°.03×115°.36W±0°.02, h6km±10km, n43, σ1s03/58, 14C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.47**	**318**	*e*P		**Pb**	**09 53 05.2**	**-0.4**
YUH	**Yuha Desert**	**0.59**	**306**	*e*P		**Pg**	**09 53 06.9**	**+0.6**
COA	**Coachella**	**0.60**	**19**	*e*P		**Pb**	**09 53 07.6**	**-0.1**
COK	**Cook Ranch**	**0.64**	**330**	⇓*i*P		**Pb**	**09 53 08.2**	**-0.2**
YMD	**Yuma Desert**	**0.73**	**69**	⇓*i*P		**Pb**	**09 53 09.9**	**-0.1**
SWSC	**Sam W. Stewart**	**0.74**	**330**	⇓P		**Pg**	**09 53 09.4**	**+0.3**
	baz=0.8							
SWSC				⇑S		**Sg**	**09 53 19.5**	**+0.7**
	baz=0.8							
GLA	**Glamis**	**0.88**	**30**	⇓P		**Pg**	**09 53 11.7**	**+0.1**
	baz=0.9							
GLA				⇑S		**Sg**	**09 53 23.7**	**+0.7**
	baz=0.9							
GLA	**Glamis**	**0.88**	**30**	*e*Pg		**Pg**	**09 53 11.8**	**+0.1**
GLA				*e*Sg		**Sg**	**09 53 23.5**	**+0.5**
MONP	**Monument Peak,**	**1.08**	**304**	⇓P		**Pg**	**09 53 15.8**	**+0.2**
	baz=1.1							
MONP				⇓S		**Sg**	**09 53 29.7**	**+0.2**
	baz=1.1							
CBX	**Cerro Bola**	**1.11**	**271**	*e*P		**Pg**	**09 53 16.1**	**0.0**
CBX				*e*S		**Sg**	**09 53 30.8**	**+0.3**
CBX	**Cerro Bola**	**1.11**	**271**	*e*P		**Pg**	**09 53 16.4**	**+0.2**
CBX				*e*S		**Sb**	**09 53 31.1**	**-0.2**
CBX				AML	AML		09 53 36.2	
	comp=E,5µm,0.5s							
CBX				⇑*e*			09 53 36.2	
CBX				⇑*e*			09 53 36.4	
CBX				AML	AML		09 53 36.4	
	comp=N,5µm,0.6s							
CBX	**Cerro Bola**	**1.11**	**271**	*e*P		**Pg**	**09 53 16.1**	**0.0**
CBX				*e*S		**Sg**	**09 53 30.8**	**+0.3**
BAR	**Barrett**	**1.18**	**289**	*e*Pn		**Pg**	**09 53 17.5**	**+0.1**
BAR				*e*Sn		**Sg**	**09 53 31.8**	**-1.0**
SPIG	**San Pedro Mart**	**1.25**	**184**	*e*P		**Pb**	**09 53 18.9**	**-0.2**
SPIG	**San Pedro Mart**	**1.25**	**184**	*e*P		**Pb**	**09 53 18.9**	**-0.2**
SPX	**San Pedro Mart**	**1.25**	**184**	*e*P		**Pb**	**09 53 19.1**	**0.0**
SPX				*e*S		**Sg**	**09 53 35.6**	**+0.5**
BC3	**Big Chuckawall**	**1.36**	**357**	⇑P		**Pn**	**09 53 18.7**	**-1.9**
	baz=1.4							
113A	**Mohawk Valley,**	**1.42**	**70**	⇓P		**Pn**	**09 53 20.1**	**-1.1**
	baz=1.5							
113A				⇑S		**Sb**	**09 53 37.7**	**-2.4**
	baz=1.5							
109C	**Camp Elliot, M**	**1.59**	**292**	⇑P		**Pn**	**09 53 22.8**	**-0.8**
	baz=1.6							
109C				⇑Sb		**Sn**	**09 53 44.5**	**-0.1**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.60**	**325**	⇑P		**Pn**	**09 53 22.3**	**-1.7**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.60**	**325**	Pn		**Pn**	**09 53 22.2**	**-1.7**
MURC	**Murrieta**	**2.02**	**310**	⇑Sb		**Sb**	**09 53 58.4**	**+0.8**
	baz=2.0							
214A	**Organ Pipe Nat**	**2.18**	**98**	⇑P		**Pn**	**09 53 30.6**	**-1.2**
	baz=2.2							
214A	**Organ Pipe Nat**	**2.18**	**98**	*e*Pn		**Pn**	**09 53 30.8**	**-1.0**
214A				*e*Sn		**Sg**	**09 54 04.6**	**-0.5**
Z14A	**Wintersburg**	**2.29**	**62**	⇓P		**Pn**	**09 53 32.2**	**-1.0**
	baz=2.3							
BFSC	**Mount Baldy Ra**	**2.73**	**316**	⇑Sb		**Sb**	**09 54 18.3**	**+0.2**
	baz=2.8							
SCI	**San Clemente I**	**2.78**	**285**	⇑Sb		**Sb**	**09 54 20.3**	**+1.1**
	baz=2.8							
LDFC	**Landfair**	**2.78**	**4**	Pn		**Pn**	**09 53 40.7**	**+0.6**
CIS	**Catalina Islan**	**2.79**	**294**	⇓Sb		**Sb**	**09 54 21.0**	**+1.2**
	baz=2.8							
FMP	**Fort Macarthur**	**2.84**	**301**	⇓Sb		**Sb**	**09 54 22.2**	**+1.1**
	baz=2.8							
MWC	**Mount Wilson**	**2.97**	**311**	Pn		**Pn**	**09 53 43.8**	**+1.0**
PASC	**Pasadena Art C**	**3.02**	**309**	*e*Pn		**Pb**	**09 53 46.6**	**-2.5**
PASC				*e*Sn		**Sn**	**09 54 19.8**	**0.0**
GSC	**Goldstone, Bar**	**3.23**	**338**	Pn		**Pg**	**09 53 55.3**	**-1.5**
OSI	**Osito Audit: C**	**3.64**	**310**	Pn		**Pn**	**09 53 52.2**	**+0.3**
OSI				Sn		**Sn**	**09 54 35.2**	**-0.1**
TUC	**Tucson**	**3.87**	**89**	*e*Pn		**Pn**	**09 53 55.9**	**+0.8**
TUC				*e*Sn		**Sn**	**09 54 41.7**	**+0.8**
X16A	**Lo Mia Camp, P**	**3.90**	**56**	⇑P		**Pn**	**09 53 56.1**	**+0.6**
	baz=3.9							
SHPR	**Sheep Range**	**4.20**	**2**	Pn		**Pn**	**09 54 02.1**	**+2.4**
ISA	**Isabella, Lake**	**4.24**	**323**	Pn		**Pn**	**09 54 02.3**	**+2.1**
W18A	**Petrified Fore**	**5.46**	**57**	Pn		**Pn**	**09 54 17.2**	**+0.2**
	comp=N,13nm,0.5s							
CCUT	**Cedar City**	**5.49**	**17**	*e*Pn		**Pn**	**09 54 17.3**	**-0.2**
	comp=N,10nm,0.8s							
121A	**Cookes Peak, D**	**6.41**	**86**	*e*Pn		**Pn**	**09 54 30.1**	**+0.1**
	comp=N,9.7nm,0.4s							
MVCO	**Mesa Verde**	**7.47**	**47**	*e*Pn		**Pn**	**09 54 47.1**	**+2.4**
	comp=N,6.8nm,0.5s							
LPM	**Los Pinos Moun**	**7.57**	**72**	Pn		**Pn**	**09 54 46.4**	**+0.4**
	comp=N,2.1nm,0.4s							

*ATH **05** 09:54:49.6, 38°.98N×23°.00E, h18km±5km, MD2.9/12, ML1.9*
*CSEM **05** 09:54:49.4±0.1, 38°.98N×22°.98E, h18km±1km, MD2.9, Error ellipse: s-maj=3.9km s-min=2.4km az=144.0*
THE 05 09:54:50.1, 38°.98N×22°.99E, h11km±3km, ML1.7/6, Error ellipse: s-maj=3.8km s-min=0.4km az=248.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LKR	**Lokris**	**0.33**	**179**	P		Pg	09 54 56.6	-0.2
LKR				S		Sg	09 55 01.8	+0.5
LKR	**Lokris**	**0.33**	**179**	*e*PB		Pg	09 54 56.5	-0.3
LKR	**Lokris**	**0.33**	**179**	*e*Pb		Pg	09 54 56.5	-0.3
LKR				S		Sg	09 55 01.8	+0.5
AXAR	**Agios Charalam**	**0.34**	**230**	P		Pg	09 54 56.8	-0.1
AXAR				S		Sg	09 55 02.0	+0.5
AXAR	**Agios Charalam**	**0.34**	**230**	*e*PB		Pg	09 54 56.4	-0.5
AXAR				*e*SB		Sg	09 55 01.9	+0.4
AXAR	**Agios Charalam**	**0.34**	**230**	*e*Pb		Pg	09 54 56.4	-0.5
AXAR	**Agios Charalam**	**0.34**	**230**	P		Pg	09 54 56.8	-0.1
AXAR				S		Sg	09 55 02.0	+0.5
NEO	**Neokhori**	**0.37**	**29**	P		Pg	09 54 57.5	-0.1
NEO				S		Sg	09 55 02.5	0.0
NEO	**Neokhori**	**0.37**	**29**	*e*PB		Pg	09 54 57.7	+0.1
NEO				*e*SB		Sg	09 55 02.5	0.0
NEO	**Neokhori**	**0.37**	**29**	P		Pg	09 54 57.5	-0.1
NEO				S		Sg	09 55 02.5	0.0
SKIA	**Skiathos**	**0.41**	**64**	P		Pg	09 54 58.2	-0.1
SKIA				S		Sg	09 55 04.5	+0.7
SKIA	**Skiathos**	**0.41**	**64**	*e*PB		Pg	09 54 57.9	-0.4
SKIA				*e*SB		Sg	09 55 04.1	+0.3
SKIA	**Skiathos**	**0.41**	**64**	*e*Pb		Pg	09 54 57.9	-0.4
SKIA	**Skiathos**	**0.41**	**64**	P		Pg	09 54 58.2	-0.1
SKIA				*e*Sb		Sg	09 55 04.1	+0.3
SKIA				S		Sb	09 55 04.5	-1.3
XOR	**Xorichti**	**0.41**	**22**	P		Pg	09 54 58.2	-0.1
XOR				S		Sg	09 55 04.3	+0.4
XOR	**Xorichti**	**0.41**	**22**	*e*PB		Pg	09 54 58.3	0.0
XOR				*e*SB		Sg	09 55 04.1	+0.2
XOR	**Xorichti**	**0.41**	**22**	P		Pg	09 54 58.2	-0.1
XOR				*e*Sb		Sg	09 55 04.1	+0.2
AGG	**Agios Georgios**	**0.52**	**274**	P		Pg	09 54 59.4	-0.9
AGG	**Agios Georgios**	**0.52**	**274**	*e*PN		Pg	09 54 59.5	-0.8
AGG				*e*SN		Sb	09 55 08.2	-0.6
AGG	**Agios Georgios**	**0.52**	**274**	P		Pg	09 54 59.4	-0.9
AGG				*e*Sn		Sb	09 55 08.2	-0.6
MRKA	**Markates**	**0.54**	**121**	P		Pg	09 55 00.5	-0.2
MRKA				S		Sg	09 55 08.2	+0.3
MRKA	**Markates**	**0.54**	**121**	*e*PN		Pg	09 55 00.5	-0.2
MRKA				*e*SN		Sg	09 55 08.4	+0.5
MRKA	**Markates**	**0.54**	**121**	P		Pg	09 55 00.5	-0.2
MRKA				S		Sg	09 55 08.2	+0.3
AOS	**Alonnisos**	**0.72**	**75**	P		Pg	09 55 03.5	-0.5
AOS				S		Sg	09 55 13.6	+0.2
AOS	**Alonnisos**	**0.72**	**75**	*e*PN		Pb	09 55 04.8	+0.2
AOS				*e*SN		Sg	09 55 13.4	0.0
AOS	**Alonnisos**	**0.72**	**75**	P		Pg	09 55 03.5	-0.5
AOS	**Alonnisos**	**0.72**	**75**	*e*Pn		Pb	09 55 04.8	+0.2
AOS				S		Sg	09 55 13.6	+0.2
KALE	**Kalithea**	**0.89**	**229**	*e*PN		Pg	09 55 06.7	-0.7
KALE				*e*SN		Sg	09 55 18.3	-0.8
KALE	**Kalithea**	**0.89**	**229**	*e*Pn		Pg	09 55 06.7	-0.7
KALE				*e*Sn		Sg	09 55 18.3	-0.8
LTK	**Loutraki**	**0.96**	**181**	*e*PN		Pg	09 55 06.5	-2.1
LTK				*e*SN		Sg	09 55 20.4	-0.8
LTK	**Loutraki**	**0.96**	**181**	*e*Pn		Pg	09 55 06.5	-2.1
LTK				*e*Sn		Sg	09 55 20.4	-0.8
KLV	**Kalavryta, Ach**	**1.15**	**215**	*e*PN		Pb	09 55 12.0	0.0
KLV				*e*SN		Sb	09 55 27.0	0.0
KLV	**Kalavryta, Ach**	**1.15**	**215**	*e*Pn		Pb	09 55 12.0	0.0
KLV				*e*Sn		Sb	09 55 27.0	0.0
PTL	**Penteli**	**1.16**	**143**	*e*PN		Pb	09 55 11.2	-1.0
PTL				*e*SN		Sb	09 55 27.2	-0.1
PTL	**Penteli**	**1.16**	**143**	*e*Pn		Pb	09 55 11.2	-1.0
PTL				*e*Sn		Sb	09 55 27.2	-0.1

TEOL	**Teolo**	**1.11**	**214**	*e*Pg	Pn	09 56 40.8	+0.1
TEOL				*e*Sg	Sn	09 56 57.0	+1.1
TEOL	**Teolo**	**1.11**	**214**	*e*Pg	Pn	09 56 40.8	+0.1
TEOL				*e*Sg	Sn	09 56 57.0	+1.1
WTTA	**Wattenberg**	**1.16**	**328**	⇓*i*Pg	Pb	09 56 41.4	-0.2
WTTA				⇓*i*Sg	Sb	09 56 57.0	+0.2
	7.8nm,0.3s						
WTTA	**Wattenberg**	**1.16**	**328**	Pg	Pb	09 56 41.4	-0.2
WTTA				Sg	Sb	09 56 57.0	+0.2
	7.8nm,0.3s						
WATA	**Walderalm**	**1.24**	**328**	⇑*i*Pg	Pb	09 56 43.2	+0.2
WATA				⇑*i*Sg	Sg	09 57 00.3	+0.5
	2.6nm,0.2s						
WATA	**Walderalm**	**1.24**	**328**	Pg	Pb	09 56 43.2	+0.2
WATA				Sg	Sg	09 57 00.3	+0.5
	2.6nm,0.2s						
FETA	**Feichten**	**1.45**	**301**	⇓*i*Pg	Pg	09 56 47.2	-0.3
FETA				⇑*i*Sg	Sg	09 57 06.5	+0.1
	1.0nm,0.2s						
FETA	**Feichten**	**1.45**	**301**	Pg	Pg	09 56 47.2	-0.2
FETA				Sg	Sg	09 57 06.5	+0.1
	1.0nm,0.2s						
MOTA	**Moosalm**	**1.45**	**318**	⇓*i*Pn	Pn	09 56 45.0	-0.6
MOTA				⇓*i*Pg	Pb	09 56 46.8	+0.3
MOTA				⇓*i*Sn	Sn	09 57 04.8	+0.1
MOTA				⇓*i*Sg	Sg	09 57 06.8	+0.4
	2.6nm,0.4s						
MOTA	**Moosalm**	**1.45**	**318**	Pn	Pn	09 56 45.0	-0.6

NEIC 05 09:58:35.5, 32.12N×115.29W, h6km, ML3.5(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**1.00**	**23**	*e*Pg	Pg	09 58 53.0	-1.8
GLA				*e*Sg	Sg	09 59 05.1	-2.9
PFO	**Pinyon Flats O**	**1.78**	**327**	*e*Pn	Pn	09 59 04.1	-2.9
214A	**Organ Pipe Nat**	**2.11**	**94**	*e*Pn	Pn	09 59 09.6	-1.9
214A				*e*Sn	Sb	09 59 41.1	+0.3
LDFC	**Landfair**	**2.95**	**3**	*e*Pn	Pn	09 59 23.2	+0.1
MWC	**Mount Wilson**	**3.13**	**313**	*e*Pn	Pb	09 59 29.0	-2.8
MWC				*e*Sn	Sb	10 00 08.5	-1.9
PASC	**Pasadena Art C**	**3.17**	**311**	*e*Pn	Pb	09 59 29.9	-2.4
PASC				*e*Sn	Sn	10 00 07.2	+2.9
GSC	**Goldstone, Bar**	**3.41**	**339**	Pn	Pn	09 59 32.3	+2.8
OSI	**Osito Audit: C**	**3.80**	**312**	Pn	Pb	09 59 38.9	-4.2
TUC	**Tucson**	**3.82**	**86**	Pn	Pb	09 59 42.9	-0.6
ARUT	**Antelope Range**	**5.85**	**15**	Pn	Pn	10 00 08.7	+5.7
	1.8nm,0.4s						
121A	**Cookes Peak, D**	**6.37**	**84**	*e*Pn	Pn	10 00 09.4	-0.7

*CASC **05** 10:00:50.9±2.4, 15.50N×91.13W, h230km±15km, MD4.6, ML4.4*

*NEIC **05** 10:00:55.0±0.5, 14.88N×91.25W, h204km±4km, mb4.7/54, MD4.5(MEX), Error ellipse: s-maj=7.2km s-min=4.9km az=219.0*

NEIC Felt at Mazatenango, Morales and San Lucas Toliman.

*ISCJB **05** 10:00:55.2±0.2, 14.95N±0.04×91.26W±0.03, h216km±2km, mb4.4/65, Error ellipse: s-maj=7.2km s-min=3.8km az=38.8*

*BJI **05** 10:00:56.5, 15.00N×91.30W, h217km, mB5.2/2*

*IDC **05** 10:00:57.1±0.5, 15.15N×90.90W, h210km±4km, mb3.8/20, mb1 3.9/23, mb1mx3.7/45, mbtmp4.3/23, Error ellipse: s-maj=18.5km s-min=6.8km az=59.0*

*MEX **05** 10:00:58.1±0.7, 14.99N×91.51W, h212km±12km, MD4.5*

ISC 05 10:00:56.2±0.4, 14.97N±0.05×91.37W±0.04, h215km±3km, h215km:pP-P, n180, σ1s60/206, mb4.5/64, 12C-8D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.69**	**202**	*e*P	**Pn**	**10 01 24.7**	**-1.2**
APG	**El Apazote**	**0.88**	**88**	P	Pn	10 01 19.7	-7.4
	524nm,0.3s,baz=292,slow=4.4,SNR=2320						
APG				S	S	10 01 41.2	-10
	136nm,0.3s,baz=52,slow=22,SNR=53						
PCG	**Pacaya**	**0.93**	**128**	*e*P	**Pn**	**10 01 26.4**	**-1.0**
PCG				*e*S	**S**	**10 01 54.9**	**+3.2**
NBG	**Las Nubes**	**1.06**	**111**	*e*P	**Pn**	**10 01 27.4**	**-0.9**
NBG				*e*S	**S**	**10 01 51.7**	**-1.3**
CCIG	**Comitan**	**1.50**	**331**	*i*P	**Pn**	**10 01 30.8**	**-0.6**
CCIG				*i*S	**S**	**10 01 57.0**	**-1.8**
CCIG	**Comitan**	**1.50**	**331**	*i*P	**Pn**	**10 01 30.8**	**-0.6**
CCIG				*i*S	**S**	**10 01 57.0**	**-1.8**
MRL	**Marmol**	**1.63**	**86**	*e*P	**Pn**	**10 01 31.8**	**-0.7**
MRL				*e*S	**S**	**10 01 58.1**	**-2.5**
RBDL	**Robledal**	**1.84**	**117**	⇓*i*P	**Pn**	**10 01 32.7**	**-1.8**
PCIG		**1.93**	**293**	*i*P	**Pn**	**10 01 34.2**	**-0.9**
PCIG				*i*S	**S**	**10 02 02.4**	**-2.8**
PCIG		**1.93**	**293**	*i*P	**Pn**	**10 01 34.2**	**-0.9**
PCIG				*i*S	**S**	**10 02 02.4**	**-2.8**
RTR	**El Retiro**	**1.98**	**122**	⇓*i*P	**Pn**	**10 01 34.2**	**-1.6**
MTO2	**Montecristo 2**	**2.02**	**106**	⇓*e*P	**Pn**	**10 01 34.3**	**-2.0**
SNJE	**San Jose**	**2.03**	**122**	⇓*i*P	**Pn**	**10 01 34.7**	**-1.7**
SBLS	**San Blas**	**2.03**	**123**	⇓*i*P	**Pn**	**10 01 34.0**	**-2.4**
BOQS	**Boqueron**	**2.37**	**121**	⇑*i*P	**Pn**	**10 01 38.1**	**-1.8**
SNET	**Serv Nac Est T**	**2.43**	**121**	⇓*i*P	**Pn**	**10 01 38.6**	**-1.9**
SNET				*e*S	**S**	**10 02 16.8**	**+2.2**
SNET				AML	AML	10 02 18.6	
	comp=Z,2μm,0.2s						
LBRS	**Las Brisas**	**2.57**	**118**	⇓*i*P	**Pn**	**10 01 40.1**	**-1.8**
LFRS	**El Faro**	**2.61**	**121**	*e*P	**Pn**	**10 01 40.5**	**-1.9**
SNVI	**San Vicente**	**2.80**	**118**	*e*P	**Pn**	**10 01 42.2**	**-2.3**
VSM	**San Miguel**	**3.37**	**117**	*e*P	**Pn**	**10 01 49.8**	**-1.4**
SCIG	**Sabancuy**	**3.98**	**3**	*e*P	**Pn**	**10 01 57.5**	**-0.8**
SCIG				*i*S	**S**	**10 02 43.3**	**-3.7**
SCIG	**Sabancuy**	**3.98**	**3**	*e*P	**Pn**	**10 01 57.5**	**-0.8**
SCIG				*i*S	**S**	**10 02 43.3**	**-3.7**
CMIG	**Matias Romero**	**3.98**	**302**	*e*P	**Pn**	**10 01 57.5**	**-0.8**
CMIG				*i*S	**S**	**10 02 43.4**	**-3.6**
CMIG	**Matias Romero**	**3.98**	**302**	P	**Pn**	**10 01 58.3**	**0.0**
	comp=Z,28nm,0.3s,baz=145,slow=9.2,SNR=611						
CMIG				S	S	10 02 41.7	-5.3
	comp=Z,93nm,0.3s,baz=145,slow=9.9,SNR=19						
CMIG	**Matias Romero**	**3.98**	**302**	P	**Pn**	**10 01 58.3**	**0.0**
CMIG				S	S	10 02 41.7	-5.3
CMIG				*i*S	S	10 02 43.4	-3.6
TUIG	**Tuzandepetl**	**4.23**	**317**	*i*P	**Pn**	**10 02 01.1**	**-0.2**
TUIG	**Tuzandepetl**	**4.23**	**317**	*i*P	**Pn**	**10 02 01.1**	**-0.2**
HUIG	**Huatulco**	**4.64**	**281**	*e*P	**Pn**	**10 02 05.0**	**-1.5**
HUIG				*i*S	**S**	**10 02 58.8**	**-2.8**
HUIG	**Huatulco**	**4.64**	**281**	*e*P	**Pn**	**10 02 05.0**	**-1.5**
HUIG				*i*S	**S**	**10 02 58.8**	**-2.8**
COPN	**Copaltepe**	**5.41**	**120**	*i*P	**Pn**	**10 02 14.9**	**-1.3**
VHO	**Vista Hermosa**	**5.56**	**293**	*i*P	**Pn**	**10 02 19.2**	**+0.9**
VHO				*e*S	**S**	**10 03 19.0**	**-4.2**
VHO	**Vista Hermosa**	**5.56**	**293**	*i*P	**Pn**	**10 02 19.2**	**+0.9**
VHO				*e*S	**S**	**10 03 19.0**	**-4.2**
TEIG	**Tepich**	**6.00**	**29**	*e*Pn	**Pn**	**10 02 22.0**	**-1.7**
PNIG	**Pinotepa**	**6.66**	**283**	*e*P	**Pn**	**10 02 32.4**	**+0.2**
PNIG	**Pinotepa**	**6.66**	**283**	*e*P	**Pn**	**10 02 32.4**	**+0.2**
TPIG	**Tehuac#an**	**6.69**	**302**	*i*P	**Pn**	**10 02 33.0**	**+0.3**
TPIG	**Tehuac#an**	**6.69**	**302**	*i*P	**Pn**	**10 02 33.0**	**+0.3**
TLIG	**Tlapa**	**7.38**	**291**	*e*P	**Pn**	**10 02 43.3**	**+1.8**
JTS	**JuntasAbangare**	**7.80**	**126**	P	**Pn**	**10 02 45.8**	**-1.1**
	comp=Z,13nm,0.3s,baz=326,slow=14,SNR=69						
JTS				S	S	10 04 05.7	-10
	comp=Z,6.0nm,0.3s,baz=292,slow=19,SNR=6.6						
JCR	**Jicaral**	**7.95**	**129**	⇓*e*P	**Pn**	**10 02 48.2**	**-0.7**
JCR				*e*S	S	10 04 11.4	-7.6
CGA2	**Cerro Gallo 2**	**8.35**	**125**	*e*P	**Pn**	**10 02 54.1**	**0.0**
CGA2				*e*S	S	10 04 19.1	-9.4
PLIG	**Platanillo**	**8.50**	**295**	*e*P	**Pn**	**10 02 58.7**	**+2.7**
PLIG	**Platanillo**	**8.50**	**295**	*e*P	**Pn**	**10 02 58.7**	**+2.7**
BUS	**Buena Vista**	**9.18**	**125**	⇑*e*P	**Pn**	**10 03 04.3**	**-0.8**
BUS				*e*S	S	10 04 40.3	-8.3
ARIG	**Puente Sto Nin**	**9.21**	**292**	*i*P	Pn	10 03 08.3	+3.2
MTDJ	**Mount Denham**	**13.65**	**74**	*e*Pn	**Pn**	**10 04 01.5**	**+0.1**
GTBY	**Guantanamo Bay**	**16.28**	**70**	*e*Pn	**P**	**10 04 32.0**	**-0.2**
	comp=Z,71nm,0.8s						
VBMS	**Vicksburg**	**17.19**	**2**	*e*Pn	**Pn**	**10 04 44.8**	**+1.0**
	comp=Z,30nm,0.9s						
JCT	**Junction City**	**17.27**	**335**	*e*Pn	**Pn**	**10 04 47.2**	**+2.3**
	comp=Z,6.5nm,0.8s						
TIGA	**Tifton**	**17.88**	**22**	*e*Pn	**Pn**	**10 04 51.6**	**-0.3**
	comp=Z,74nm,0.9s						
TXAR	**Lajitas Array**	**18.26**	**324**	P	**Pn**	**10 04 57.9**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=144,slow=11,SNR=16						
TXAR				pP	**pP**	**10 05 32.6**	**+4.1**
	comp=Z,0.0nm,0.3s,baz=135,slow=13,SNR=1.8						
PAPH	**Port-au-Prince**	**18.60**	**76**	*e*P	**Pn**	**10 04 59.8**	**-0.8**
ABTX	**Abilene, Hawle**	**19.12**	**338**	*e*P	**P**	**10 05 04.7**	**+1.6**
	comp=Z,22nm,1.3s						
OTAV	**Otavalo**	**19.42**	**138**	*e*P	**Pn**	**10 05 08.6**	**-2.3**
	comp=Z,12nm,0.9s						
OXF	**Oxford**	**19.54**	**5**	*e*P	**P**	**10 05 07.7**	**+0.2**
	comp=Z,30nm,1.0s						
ROSC	**El Rosal**	**19.55**	**119**	P	**P**	**10 05 07.4**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=316,slow=12,SNR=3.1						
SDDR	**Presa de Saban**	**19.62**	**75**	*e*P	**P**	**10 05 09.2**	**+0.6**
	comp=Z,26nm,0.8s						
GOGA	**Godfrey**	**19.71**	**20**	*e*P	**P**	**10 05 10.3**	**+1.0**
	comp=Z,30nm,0.8s						
UALR	**University of**	**19.74**	**358**	*e*P	**P**	**10 05 11.1**	**+1.4**
	comp=Z,72nm,1.0s						
GRTK	**Grand Turk**	**20.28**	**68**	*e*P	**P**	**10 05 16.0**	**+0.3**
WMOK	**Wichita Mounta**	**20.79**	**343**	*e*P	**P**	**10 05 21.0**	**+0.1**
	comp=Z,17nm,1.4s						
WMOK				*e*pP	**pP**	**10 06 00.3**	**+3.8**
W34A	**Bridge Creek,**	**20.99**	**345**	*e*P	**P**	**10 05 23.1**	**+0.2**
	comp=Z,11nm,0.8s						
SDV	**Santo Domingo**	**21.16**	**104**	*e*P	**P**	**10 05 22.9**	**-2.3**
	comp=Z,21nm,0.6s						
TUL1	**Leonard**	**21.23**	**350**	*e*P	**P**	**10 05 25.3**	**-0.1**
	comp=Z,11nm,0.9s						
JSC	**Jenkinsville**	**21.29**	**24**	*e*P	**P**	**10 05 26.7**	**+0.7**
WVT	**Waverly**	**21.31**	**8**	*e*P	**P**	**10 05 25.3**	**-1.0**
	comp=Z,6.7nm,0.9s						
V34A	**Guthrie**	**21.50**	**346**	*e*P	**P**	**10 05 28.9**	**+0.7**
	comp=Z,26nm,1.0s						
PARMO	**Parma**	**21.66**	**4**	*e*P	**P**	**10 05 30.6**	**+0.9**
TKL	**Tuckaleechee C**	**21.70**	**17**	P	**P**	**10 05 31.4**	**+1.3**
	comp=Z,55nm,0.9s,baz=188,slow=9.1,SNR=76						
AMTX	**Amarillo**	**21.90**	**337**	*e*P	**P**	**10 05 32.9**	**+0.7**
	comp=Z,19nm,0.8s						
AMTX				*e*pP	**pP**	**10 06 12.7**	**+3.9**
KMSC	**Kings Mountain**	**22.02**	**22**	*e*P	**P**	**10 05 34.3**	**+1.0**
	comp=Z,25nm,1.0s						
KMSC				*e*pP	**pP**	**10 06 11.3**	**+1.3**
SIUC	**Southern Illin**	**22.74**	**4**	*e*P	**P**	**10 05 41.2**	**+1.4**
	comp=Z,20nm,0.7s						
CNNC	**Cliffs of the**	**23.54**	**29**	*e*P	**P**	**10 05 47.7**	**+0.7**
	comp=Z,29nm,0.8s						
WCI	**Wyandotte Cave**	**23.60**	**10**	*e*P	**P**	**10 05 48.2**	**+0.6**
	comp=Z,34nm,1.0s						
WCI				*e*pP	**pP**	**10 06 26.5**	**-0.7**
OLIL	**Olney**	**23.85**	**6**	*e*P	**P**	**10 05 51.1**	**+1.3**
	comp=Z,16nm,0.9s						
BLA	**Blacksburg**	**24.20**	**22**	*e*P	**P**	**10 05 53.7**	**+0.6**
	comp=Z,7.2nm,0.7s						
VWCC	**Virginia Weste**	**24.39**	**22**	*e*P	**P**	**10 05 55.9**	**+1.1**
TUC	**Tucson**	**24.71**	**318**	*e*P	**P**	**10 05 59.6**	**+1.7**
TUC				*e*pP	**pP**	**10 06 40.0**	**+0.8**
MTP	**Monte Pirata**	**24.94**	**79**	*e*P	**P**	**10 05 58.6**	**-1.3**
T25A	**Trinidad**	**24.94**	**335**	*e*pP	pP	10 06 45.1	+3.3
JSRW	**J. Sargeant Re**	**25.60**	**25**	*e*P	**P**	**10 06 06.8**	**+1.1**
JSRW				*e*pP	**pP**	**10 06 50.0**	**+1.7**
SDCO	**Great Sand Dun**	**25.92**	**334**	*e*P	**P**	**10 06 09.8**	**+1.0**
	comp=Z,18nm,0.8s						
SDCO				*e*pP	**pP**	**10 06 56.1**	**+4.3**
ACSO	**Alum Creek Sta**	**26.22**	**15**	*e*P	**P**	**10 06 11.9**	**+0.7**
	comp=Z,20nm,0.8s						
ISCO	**Idaho Springs**	**27.71**	**336**	*e*P	**P**	**10 06 26.4**	**+1.6**
	comp=Z,9.5nm,1.6s						
ISCO				*e*pP	**pP**	**10 07 09.9**	**+1.9**
SSPA	**Standing Stone**	**28.14**	**22**	*e*P	**P**	**10 06 29.0**	**+0.7**
	comp=Z,19nm,1.4s						
PHWY	**Pilot Hill**	**28.95**	**338**	*e*PcP	**PcP**	**10 09 36.8**	**-2.3**
ECSD	**EROS Data Cent**	**29.02**	**352**	*e*P	**P**	**10 06 37.5**	**+1.4**
	comp=Z,55nm,2.1s						
ODNJ	**Ogdensburg**	**29.82**	**26**	*e*P	**P**	**10 06 43.5**	**+0.3**
	comp=Z,12nm,1.3s						
MMNY	**Mt. Morris Dam**	**29.99**	**20**	*e*P	**P**	**10 06 45.5**	**+0.9**
	comp=Z,63nm,1.1s						
SHPR	**Sheep Range**	**30.17**	**320**	*e*P	P	10 06 50.6	+4.2
SPMN	**Marine on St.**	**30.18**	**358**	*e*P	**P**	**10 06 46.6**	**+0.3**
	comp=Z,26nm,1.4s						
BINY	**Binghamton**	**30.21**	**23**	*e*P	**P**	**10 06 47.0**	**+0.5**
	comp=Z,26nm,1.1s						
TPNV	**Topopah Spring**	**31.12**	**319**	*e*P	P	10 06 59.6	+4.7
	comp=Z,23nm,0.6s						
SADO	**Sadowa**	**31.46**	**17**	P	**P**	**10 06 57.5**	**0.0**
	comp=Z,6.7nm,0.4s,baz=224,slow=8.7,SNR=14						
TRY	**Troy**	**31.58**	**25**	*e*P	**P**	**10 06 59.7**	**+1.2**
	comp=Z,16nm,0.9s						
PDAR	**Pinedale Array**	**31.81**	**334**	P	**P**	**10 07 02.5**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=126,slow=9.1,SNR=3.6						
ACCN	**Adirondack Com**	**32.12**	**25**	*e*P	**P**	**10 07 03.4**	**+0.2**
	comp=Z,21nm,1.6s						
HRV	**Adam Dziewonsk**	**32.31**	**28**	*e*P	**P**	**10 07 05.2**	**+0.3**
	comp=Z,12nm,1.0s						
NCB	**Newcomb**	**32.39**	**23**	*e*P	**P**	**10 07 06.2**	**+0.6**
	comp=Z,20nm,0.6s						
PTN	**Potsdam (NY)**	**32.62**	**22**	*e*P	**P**	**10 07 08.2**	**+0.6**
	comp=Z,40nm,1.0s						
LONY	**Lake Ozonia**	**32.81**	**22**	*e*P	**P**	**10 07 09.7**	**+0.4**
	comp=Z,25nm,1.0s						
MDV	**Middlebury**	**32.83**	**25**	*e*P	**P**	**10 07 09.2**	**-0.2**
	comp=Z,28um,0.4s						
REDW	**Red Top Meadow**	**32.85**	**333**	*e*P	**P**	**10 07 12.0**	**+2.1**
	comp=Z,16nm,1.0s						
REDW				*e*pP	**pP**	**10 07 54.9**	**+1.1**
MTUM	**Tungsten Hills**	**32.85**	**318**	*e*P	**P**	**10 07 10.8**	**+0.9**
LOHW	**Long Hollow**	**32.94**	**334**	*e*pP	pP	10 07 56.0	+1.4
TPAW	**Teton Pass**	**32.99**	**333**	*e*pP	pP	10 07 56.7	+1.6
FXWY	**Fox Creek**	**33.14**	**333**	*e*pP	pP	10 07 57.2	+0.8
NVAR	**Mina Array Bea**	**33.32**	**320**	P	P	10 07 18.2	+4.2
	comp=Z,4.3nm,0.8s,baz=130,slow=7.7,SNR=17						
AGMN	**Agassiz Nation**	**33.44**	**355**	*e*P	**P**	**10 07 15.0**	**+0.4**
	comp=Z,7.2nm,0.9s						
H17A	**Grant Village**	**33.57**	**335**	*e*pP	pP	10 08 02.0	+1.9
YMR	**Madison River**	**33.95**	**335**	*e*pP	pP	10 08 05.5	+2.1
WAKR	**Walker**	**34.08**	**319**	P	**P**	**10 07 21.9**	**+1.4**
	comp=Z,6.6nm,0.9s						
PTGA	**Pitinga**	**34.76**	**114**	P	**P**	**10 07 24.1**	**-2.2**
	comp=Z,3.8nm,0.3s,baz=308,slow=8.9,SNR=13						
MCMT	**McKenzie Canyo**	**34.88**	**333**	*e*P	**P**	**10 07 29.8**	**+2.4**
	comp=Z,0.9nm,0.5s						
DLMT	**Dillon**	**35.20**	**334**	*e*pP	pP	10 08 15.6	+1.4
ULM	**Last Bonnet**	**35.38**	**355**	P	**P**	**10 07 30.8**	**-0.4**
	comp=Z,9.4nm,0.7s,baz=173,slow=8.8,SNR=23						
ULM	**Lac du Bonnet**	**35.38**	**355**	*e*P	**P**	**10 07 31.1**	**-0.1**
LRM	**Limekiln Ridge**	**35.50**	**334**	P	**P**	**10 07 33.9**	**+1.2**
LRM				*e*pP	**pP**	**10 08 18.1**	**+1.1**
EGMT	**Eagleton**	**36.30**	**339**	*e*pP	pP	10 08 24.0	+0.3
SAML	**Samuel**	**36.68**	**129**	*e*P	**P**	**10 07 40.5**	**-2.2**
	comp=Z,6.1nm,0.7s						
F10A	**Beach Ranch, E**	**37.77**	**330**	*e*P	**P**	**10 07 53.4**	**+1.8**
LPAZ	**La Paz**	**38.62**	**143**	P	**P**	**10 07 59.8**	**+0.3**
	comp=Z,7.1nm,0.7s,baz=326,slow=6.1,SNR=43						
LPAZ	**La Paz**	**38.62**	**143**	*e*P	**P**	**10 07 59.8**	**+0.3**
	comp=Z,7.5nm,0.7s						
FFC	**Flin Flon**	**40.52**	**351**	*e*P	**P**	**10 08 15.5**	**+1.4**
	comp=Z,17nm,1.6s						
EDM	**Edmonton**	**41.93**	**340**	*e*P	**P**	**10 08 26.3**	**+0.7**
EDM				*e*pP	**pP**	**10 09 11.3**	**+0.1**
SIV	**San Ignacio**	**42.92**	**135**	P	**P**	**10 08 33.4**	**-0.7**
	comp=Z,18nm,0.6s,baz=316,slow=8.7,SNR=43						
LVC	**Limon Verde**	**43.35**	**149**	*e*P	**P**	**10 08 39.1**	**+1.4**
FCC	**Fort Churchill**	**43.77**	**358**	*e*P	**P**	**10 08 40.3**	**+0.2**
DRLN	**Deer Lake**	**43.97**	**32**	*e*P	**P**	**10 08 41.8**	**-0.2**
	comp=Z,45nm,1.3s						
SCHQ	**Schefferville**	**44.11**	**20**	P	**P**	**10 08 42.8**	**-0.2**
	comp=Z,31nm,0.8s,baz=220,slow=7.0,SNR=58						
YKA	**Yellowknife Ar**	**50.23**	**346**	P	**P**	**10 09 30.7**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=148,slow=7.8,SNR=67						
YKA				pP	**pP**	**10 10 16.1**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=149,slow=7.4,SNR=11						
CFAA	**Coronel Fontan**	**51.35**	**155**	P	**P**	**10 09 40.0**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=332,slow=6.5,SNR=12						
CFAA				sP	**sP**	**10 10 51.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=301,slow=5.3,SNR=4.1						
DLBC	**Dease Lake**	**52.03**	**335**	P	**P**	**10 09 46.4**	**+2.8**
	comp=Z,3.6nm,0.6s,baz=158,slow=5.3,SNR=13						
BDFB	**Brasilia**	**52.53**	**124**	P	**P**	**10 09 44.9**	**-3.0**
	comp=Z,2.2nm,0.4s,baz=276,slow=11,SNR=4.6						
PLCA	**Paso Flores**	**58.69**	**162**	P	**P**	**10 10 33.0**	**+1.8**
	comp=Z,7.1nm,0.8s,baz=335,slow=9.3,SNR=14						
PLCA	**Paso Flores**	**58.69**	**162**	*e*P	**P**	**10 10 32.5**	**+1.3**
RAGM	**Ragged Mountai**	**59.36**	**332**	*e*P	**P**	**10 10 35.0**	**-0.6**
INK	**Inuvik**	**59.69**	**343**	P	**P**	**10 10 37.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=126,slow=7.3,SNR=31						
INK				pP	**pP**	**10 11 26.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=113,slow=7.0,SNR=5.6						
RES	**Resolute Bay**	**59.75**	**359**	P	**P**	**10 10 37.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=179,slow=12,SNR=13						
ILAR	**Eielson Array**	**62.20**	**336**	P	**P**	**10 10 55.2**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=116,slow=5.6,SNR=36						
ILAR				pP	**pP**	**10 11 43.8**	**-0.1**
	comp=Z,1.4nm,1.1s,baz=119,slow=3.8,SNR=4.7						
ILAR				sP	**sP**	**10 12 06.5**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=127,slow=4.5,SNR=4.0						
SUMG	**Summit**	**65.15**	**15**	*e*P	**P**	**10 11 13.9**	**-0.2**
	comp=Z,2.8nm,0.6s						
QUIF	**Quistinic**	**77.86**	**43**	*e*P	**P**	**10 12 28.7**	**-1.3**
QUIF	**Quistinic**	**77.86**	**43**	*e*P	**P**	**10 12 28.7**	**-1.3**
ESDC	**Sonseca Array**	**78.64**	**52**	P	**P**	**10 12 33.2**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=286,slow=6.2,SNR=6.2						
GRR	**Gorron**	**79.31**	**43**	⇑*i*P	**P**	**10 12 36.7**	**-1.2**
	comp=Z,29nm,0.8s						
GRR	**Gorron**	**79.31**	**43**	⇑*i*P	**P**	**10 12 36.7**	**-1.2**
	comp=Z,29nm,0.8s						
FLN	**La Foliniere**	**79.48**	**42**	⇑*i*P	**P**	**10 12 37.7**	**-1.1**
	comp=Z,8.6nm,0.5s						
FLN	**La Foliniere**	**79.48**	**42**	⇑*i*P	**P**	**10 12 37.7**	**-1.1**
	comp=Z,8.6nm,0.5s						
LDF	**La Druitiere**	**79.75**	**42**	⇑*i*P	**P**	**10 12 39.1**	**-1.2**
	comp=Z,5.1nm,0.4s						
LDF	**La Druitiere**	**79.75**	**42**	⇑*i*P	**P**	**10 12 39.1**	**-1.2**
	comp=Z,5.1nm,0.4s						
TCF	**Toulx Ste Croi**	**81.78**	**44**	*e*P	**P**	**10 12 49.4**	**-1.7**
TCF	**Toulx Ste Croi**	**81.78**	**44**	*e*P	**P**	**10 12 49.4**	**-1.7**
BGF	**Bois d'Agland**	**82.14**	**44**	⇑*i*P	**P**	**10 12 51.5**	**-1.5**
	comp=Z,12nm,0.7s						
BGF	**Bois d'Agland**	**82.14**	**44**	⇑*i*P	**P**	**10 12 51.5**	**-1.5**
	comp=Z,12nm,0.7s						
AVF	**Avril sur Loir**	**82.43**	**44**	*e*P	**P**	**10 12 52.6**	**-1.8**
AVF	**Avril sur Loir**	**82.43**	**44**	*e*P	**P**	**10 12 52.6**	**-1.8**
SSF	**Saint Saulge**	**82.47**	**43**	⇑*i*P	**P**	**10 12 53.0**	**-1.6**
	comp=Z,4.2nm,0.6s						
SSF	**Saint Saulge**	**82.47**	**43**	⇑*i*P	**P**	**10 12 53.0**	**-1.6**
	comp=Z,4.2nm,0.6s						
LOR	**Lormes**	**82.65**	**43**	*e*P	**P**	**10 12 54.2**	**-1.4**
	comp=Z,9.7nm,0.8s						
LOR	**Lormes**	**82.65**	**43**	*e*P	**P**	**10 12 54.2**	**-1.4**
	comp=Z,9.7nm,0.8s						
SMF	**Signal de Mont**	**82.79**	**44**	*e*P	**P**	**10 12 54.5**	**-1.8**
SMF	**Signal de Mont**	**82.79**	**44**	*e*P	**P**	**10 12 54.5**	**-1.8**
NOA	**NORSAR Array B**	**83.01**	**29**	P	**P**	**10 12 57.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=289,slow=5.4,SNR=4.0						
NOA				pP	**pP**	**10 13 48.5**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=289,slow=5.3,SNR=3.9						
**MEZ

IRM	**Iron Mountain**	**1.59**	**18**	⇑P		**Pn**	**10 06 03.3**	**-0.3**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.62**	**171**	*e*P		**Pn**	**10 06 05.5**	**+1.2**
SPIG				*e*S		**Sg**	**10 06 28.2**	**0.0**
SPX	**San Pedro Mart**	**1.62**	**171**	*e*P		**Pb**	**10 06 05.7**	**0.0**
SPX				*e*S		**Sg**	**10 06 28.3**	**+0.1**
113A	**Mohawk Valley,**	**1.68**	**85**	⇓P		**Pn**	**10 06 04.8**	**0.0**
	baz=1.7							
113A				⇓S		**Sn**	**10 06 25.6**	**-0.3**
	baz=1.7							
BBRC	**Big Bear Solar**	**1.88**	**329**	⇓P		**Pn**	**10 06 06.8**	**-1.1**
	baz=1.9							
BBRC				⇓Sb		**Sb**	**10 06 34.5**	**+0.8**
	baz=1.9							
GMRC	**Granite Mounta**	**2.13**	**2**	⇑P		**Pn**	**10 06 10.6**	**-0.5**
	baz=2.2							
BFSC	**Mount Baldy Ra**	**2.25**	**315**	⇑Sb		**Sb**	**10 06 44.3**	**+0.1**
	baz=2.2							
SCI	**San Clemente I**	**2.38**	**279**	⇑Sb		**Sb**	**10 06 48.9**	**+1.2**
	baz=2.3							
FMP	**Fort Macarthur**	**2.38**	**297**	⇓Sb		**Sb**	**10 06 48.7**	**+0.8**
	baz=2.4							
Z14A	**Wintersburg**	**2.46**	**72**	⇓P		**Pn**	**10 06 15.5**	**0.0**
	baz=2.5							
LDFC	**Landfair**	**2.48**	**12**	*e*Pn		**Pb**	**10 06 19.0**	**-1.4**
PASC	**Pasadena Art C**	**2.54**	**307**	*e*Pn		**Pn**	**10 06 18.9**	**+2.2**
PASC				*e*Sn		**Sn**	**10 06 50.0**	**+2.7**
214A	**Organ Pipe Nat**	**2.58**	**105**	⇓P		**Pn**	**10 06 16.8**	**-0.4**
	baz=2.6							
214A	**Organ Pipe Nat**	**2.58**	**105**	*e*Pn		**Pn**	**10 06 16.8**	**-0.4**
Y14A	**Wickenburg**	**2.63**	**60**	⇓P		**Pn**	**10 06 18.1**	**+0.1**
	baz=2.7							
DECC	**Green Verdugo**	**2.69**	**307**	⇑Sb		**Sb**	**10 06 57.7**	**+1.1**
	baz=2.7							
GSC	**Goldstone, Bar**	**2.79**	**342**	*e*Pn		**Pn**	**10 06 22.1**	**+2.0**
EDW2	**Edwards Air Fo**	**2.91**	**321**	⇑Sb		**Sb**	**10 07 04.4**	**+1.5**
	baz=2.9							
OSI	**Osito Audit: C**	**3.16**	**309**	Pn		Pn	10 06 29.0	+3.7
ISA	**Isabella, Lake**	**3.76**	**324**	Pn		Pb	10 06 38.8	-3.4
ARUT	**Antelope Range**	**5.46**	**20**	Pn		**Pn**	**10 06 58.3**	**+1.3**
	comp=E,1.5nm,0.5s							
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn		**Pn**	**10 07 15.3**	**+1.0**
	comp=E,22nm,0.6s							

BJI ***05*** *10:05:34.6,0.°81S×125.°27E,h10km,mB6.0/59,mb5.8/83, Ms5.7/94,Ms7 5.6/85*

ISCJB ***05*** *10:05:41.6±0.1,0.°12S±0.°02×125.°07E±0.°02,h17km, mb5.9/216,MS5.6/211,Error ellipse: s-maj=2.6km s-min=2.3km az=136.1*

NEIC ***05*** *10:05:42.0±0.0,0.°17S×125.°01E,h15km Best double couple: NP1:ϕs90.00000°,δ81.00000°,λ.99.00000°. NP2:ϕs219.00000°,δ12.00000°,λ.39.00000°. Principal axes: T 2.7600, Plg52.0000°, Azm11.0000°; N 0.0200, Plg9.0000°, Azm268.0000°; P -2.7800, Plg36.0000°, Azm171.0000°;*

KLM ***05*** *10:05:43.6,0.°17S×125.°20E,h15km,mb6.2,ML6.1,MS6.8*

MOS ***05*** *10:05:44.5±1.1,0.°06S×124.°92E,h33km,mb6.2/83, MS5.5/83,Error ellipse: s-maj=7.3km s-min=4.3km az=118.1*

NEIC ***05*** *10:05:44.6±0.1,0.°18S×125.°01E,h25km,mb6.1/118, ME5.8,MS5.6/156,MW6.2,Error ellipse: s-maj=4.0km s-min=3.2km az=58.0 Broadband fault plane solution: P waves. NP1:ϕs192.00000°,δ31.00000°,λ.19.00000°. NP2:ϕs85.00000°,δ80.00000°,λ.120.00000°. Principal axes: T Plg47.0000°, Azm26.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm151.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Bitung, Labuha, Manado and Ternate, Indonesia.

GCMT ***05*** *10:05:46.1±0.1,0.°25S×125.°07E,h28km,MW6.1/130, Moment Tensor Solution. s125,c266; s130,c321; Duration: 28 Moment tensor: Scale 10^18 Nm; Mrr 0.51±.01; Mθθ -0.77±.01; Mϕϕ 0.26±.01; Mrθ 1.71±.04; Mrϕ -0.44±.01; Mθϕ 0.15±.02; Best double couple: M0 1.87500×10^18 NP1:ϕs86.00000°,δ80.00000°, λ.101.00000°. NP2:ϕs220.00000°,δ15.00000°,λ.45.00000°. Principal axes: T 1.7030, Plg54.0000°, Azm9.0000°; N 0.3430, Plg11.0000°, Azm264.0000°; P -2.0460, Plg34.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***05*** *10:05:46.1±1.4,0.°13S×124.°89E,h33km±9km,mb5.5/39, mb1 5.4/39,mb1mx5.4/41,mbtmp5.6/39,MS5.3/27, Ms1 5.3/27,ms1mx5.1/35 Error ellipse: s-maj=13.0km s-min=8.1km az=66.0*

DJA ***05*** *10:05:49.5±0.1,0.°S±2.°×125.°5E±.°,h55km±2km,M6.1/125, mb6.0/125,mB6.3/117,MLv6.5/27,Mw(mB)6.1/117, Mwp6.0/29*

ISC 05 10:05:44.6±0.3,0.°09S±0.°02×125.°11E±0.°02,h28km±1km, h28km:pP-P,n1555,σ1.°57/1672,mb6.0/213,MS5.6/213, 264C-256D,Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.30**	**300**	P		**Pb**	**10 06 10.0**	**+1.5**
KMSI				S		**Sb**	**10 06 27.8**	**+3.0**
SANI	**Sanana**	**2.14**	**156**	P		**Pn**	**10 06 17.7**	**-0.8**
SANI				S		**Sn**	**10 06 40.3**	**-3.8**
TNTI	**Ternate**	**2.42**	**69**	P		**Pb**	**10 06 26.9**	**-0.6**
TNTI				S		**Sb**	**10 06 57.0**	**+0.1**
TNTI	**Ternate**	**2.42**	**69**	*e*Pn		**Pb**	**10 06 26.4**	**-1.1**
LBMI	**Labuha**	**2.46**	**103**	P		**Pn**	**10 06 24.9**	**+2.0**
LBMI				S		**Sn**	**10 06 53.7**	**+1.7**
LUWI	**Luwuk**	**2.52**	**248**	P		**Pn**	**10 06 25.6**	**+1.9**
LUWI				S		**Sb**	**10 07 02.3**	**+2.6**
LUWI	**Luwuk**	**2.52**	**248**	*e*Pn		**Pn**	**10 06 25.9**	**+2.2**
LUWI				*e*Sn		**Sn**	**10 06 53.6**	**+0.1**
MRSI	**Marisa**	**3.21**	**280**	P		Pb	10 06 37.5	-3.5
MRSI				S		**Sb**	**10 07 16.3**	**-3.5**
APSI	**Ampana**	**3.55**	**257**	P		**ScS**	**10 21 20.8**	**+5.8**
	83nm,2.0s							
APSI	**Ampana**	**3.55**	**257**	P		Pn	10 06 41.2	+3.3
APSI				S		**Sn**	**10 07 23.9**	**+4.9**
NLAI	**Namlea**	**3.71**	**148**	P		ScS	10 21 07.8	-7.3
NLAI	**Namlea**	**3.71**	**148**	P		**Pn**	**10 06 39.8**	**-0.3**
SGSI	**Sangihe**	**3.77**	**6**	P		**Pb**	**10 06 48.2**	**-2.4**
TOLI	**Toli-Toli**	**4.47**	**286**	*e*Pn		Pn	10 06 54.6	+4.0
MSAI	**Masohi**	**5.01**	**130**	P		**Pn**	**10 07 00.5**	**+2.5**
MPSI	**Mapaga**	**5.22**	**275**	P		**Pn**	**10 07 03.2**	**+2.3**
	3μm,1.2s,48μm76μm19nm							
PCI	**Palu**	**5.33**	**261**	P		Pn	10 07 06.5	+4.1
	12μm,1.0s,100μm44μm50nm							
TTSI	**Tana Toraja**	**6.04**	**241**	P		**Pn**	**10 07 14.8**	**+2.6**
	4μm,1.0s,59μm87μm27nm							
GSPH	**General Santos**	**6.14**	**359**	*e*P		Pn	10 07 20.9	+7.3
BNDI	**Bandanaira**	**6.51**	**133**	P		**Pn**	**10 07 19.7**	**+1.1**
	3μm,1.2s,53μm203μm36nm							
BNDI				S		**Sn**	**10 08 30.8**	**-1.2**
	3μm,1.2s,53μm203μm36nm							
SPSI	**Sidrap Palu**	**6.58**	**234**	P		**Pn**	**10 07 22.1**	**+2.6**
	4μm,0.8s,43μm112μm16nm							
SPSI				S		**Sn**	**10 08 34.2**	**+0.6**
	4μm,0.8s,43μm112μm16nm							
BNSI	**Bone**	**6.58**	**229**	P		**Pn**	**10 07 21.4**	**+1.8**
	2μm,0.8s,25μm134μm12nm							
BNSI				S		**Sn**	**10 08 33.0**	**-0.7**
	2μm,0.8s,25μm134μm12nm							
MATI	**Mati**	**7.08**	**9**	*e*P		Pn	10 07 35.3	+8.8
MATI				*e*S		Sb	10 09 00.2	-11
DAV	**Davao City (W)**	**7.13**	**4**	⇑*e*P		Pn	10 07 33.1	+6.0
DAV				⇑*e*S		**Sb**	**10 09 10.4**	**-2.0**
DAV	**Davao City (W)**	**7.13**	**4**	*e*Pn		Pn	10 07 35.1	+8.0
BKSI	**Bulukumba**	**7.20**	**224**	P		**Pn**	**10 07 30.6**	**+2.6**
	1μm,0.7s,17μm92μm9.5nm							
KAPI	**Kappang**	**7.25**	**227**	P		**Pn**	**10 07 31.4**	**+2.7**
	SNR=55							
KAPI	**Kappang**	**7.25**	**227**	*e*Pn		**Pn**	**10 07 30.9**	**+2.1**
CTBH	**Cotabato--PC H**	**7.31**	**353**	⇑*i*P		Pn	10 07 37.0	+7.4
SGKI	**Sangatta, Kali**	**7.51**	**267**	P		Pn	10 07 38.2	+5.8
	2μm,1.0s,19μm8.7nm							
BSSI	**Bau Bau, Buton**	**7.57**	**217**	P		**Pn**	**10 07 35.0**	**+1.7**
	2μm,1.6s,22μm6.2nm							
FAKI	**Fak Fak**	**7.67**	**112**	P		**Pn**	**10 07 34.4**	**-0.2**
FAKI	**Fak Fak**	**7.67**	**112**	*e*Pn		**Pn**	**10 07 35.3**	**+0.6**
BUKP	**Musuan**	**7.92**	**360**	*e*P		Pn	10 07 45.4	+7.4
PAGZ	**Pagadian**	**8.07**	**348**	*e*P		Pn	10 07 46.1	+6.1
IPIL	**Ipil**	**8.22**	**342**	*e*P		Pn	10 07 48.0	+5.8
BKB	**Balikpapan**	**8.29**	**262**	P		Pn	10 07 47.4	+4.3
	2μm,0.9s,22μm							
TSM	**Tawau**	**8.44**	**301**	⇓P		**Pn**	**10 07 47.4**	**+2.3**
CGP	**Cagayan de Oro**	**8.50**	**357**	⇓*e*P		Pn	10 07 54.9	+9.0
DCPH	**Dipolog City**	**8.79**	**349**	*e*P		Pn	10 07 57.4	+7.5
BUTP	**Butuan**	**9.01**	**3**	*e*P		Pn	10 08 01.4	+8.4
RKPI	**Ransiki, Papua**	**9.18**	**99**	P		**ScS**	**10 21 22.9**	**+1.5**
	208nm,1.6s							
RKPI	**Ransiki, Papua**	**9.18**	**99**	P		Pn	10 07 58.7	+3.4
	631nm,1.2s,47μm							
EDFI	**Ende, Flores**	**9.25**	**201**	P		**ScS**	**10 21 17.0**	**-4.6**
EDFI	**Ende, Flores**	**9.25**	**201**	P		**Pn**	**10 07 57.4**	**+1.0**
	1μm,1.2s,17μm66μm							
KBKI	**Kotabaru**	**9.48**	**250**	P		Pn	10 08 02.7	+3.2
	46nm,0.9s,10μm							
SNPH	**Sibulan**	**9.55**	**349**	*e*P		Pn	10 07 57.0	-3.5
SOEI	**Soe**	**9.64**	**185**	P		Pn	10 08 05.9	+4.2
	3μm,1.1s,45μm157μm							
SOEI	**Soe**	**9.64**	**185**	*e*Pn		Pn	10 08 05.4	+3.7
SDKM	**Sandakan**	**9.73**	**306**	⇑P		Pn	10 08 07.8	+4.9
SAUI	**Saumlaki**	**9.98**	**142**	P		**Pn**	**10 08 08.6**	**+2.3**
	2μm,1.4s,35μm117μm							
SAUI	**Saumlaki**	**9.98**	**142**	*e*Pn		**Pn**	**10 08 08.9**	**+2.6**
BATI	**Baumata**	**10.15**	**188**	P		Pn	10 08 14.0	+5.3
	1μm,1.0s,19μm4μm							
BATI	**Baumata**	**10.15**	**188**	Pn		Pn	10 08 13.8	+5.1
	50nm,0.3s,baz=182,slow=1.6,SNR=94							
MTKI	**Muara Teweh, K**	**10.24**	**265**	P		Pn	10 08 21.0	+11
WSI	**Waingapu**	**10.65**	**207**	P		Pn	10 08 29.4	+14
KKM	**Kota Kinabalu**	**10.76**	**305**	*e*Pn		Pn	10 08 22.9	+5.8
BBKI	**Banjar Baru**	**10.79**	**252**	P		Pn	10 08 20.6	+3.2
GUIM	**Jordan**	**10.94**	**347**	*e*P		Pn	10 08 27.6	+8.2
BASI	**Baing, Sumba**	**11.03**	**204**	P		**Pn**	**10 08 23.4**	**+2.8**
	2μm,1.5s,42μm101μm							
WBSI	**Waikabubak, Su**	**11.06**	**211**	P		**ScS**	**10 21 24.2**	**-0.5**
WBSI	**Waikabubak, Su**	**11.06**	**211**	P		**Pn**	**10 08 22.4**	**+1.3**
	421nm,1.5s,10μm							
PLP	**Palo**	**11.18**	**359**	⇓*e*P		Pn	10 08 28.3	+5.6
SRPI	**Serui, Papua**	**11.27**	**99**	P		Pn	10 08 30.4	+6.4
	205nm,0.4s,11μm							
PPR	**Puerto Princes**	**11.68**	**327**	⇓*i*P		Pn	10 08 37.6	+8.1
RCP	**Roxas**	**11.81**	**349**	⇓*e*P		Pn	10 08 40.2	+8.9
BTM	**Bintulu**	**12.45**	**285**	⇓P		Pn	10 08 45.4	+5.3
OTRP	**Odiongan**	**12.74**	**346**	*e*P		Pn	10 08 48.5	+4.4
SJMP	**San Jose**	**13.08**	**343**	*e*P		**Pn**	**10 08 55.9**	**-2.8**
SBUM	**Sibu**	**13.13**	**281**	⇑P		Pn	10 08 53.0	+3.7
SBUM	**Sibu**	**13.13**	**281**	*e*Pn		**Pn**	**10 08 52.5**	**+3.2**
IGBI	**Denpasar**	**13.18**	**229**	P		Pn	10 08 53.4	+3.4
	316nm,1.1s,5μm25μm							
ABJI	**Asem Bagus**	**13.27**	**235**	P		Pn	10 08 55.8	+4.5
	472nm,1.3s,11μm							
AUQP	**San Andres**	**13.54**	**350**	*e*P		P	10 09 08.6	+4.9
STKI	**Sintang**	**13.63**	**271**	P		P	10 09 00.5	-4.3
	732nm,1.3s,18μm							
PVCP	**Virac**	**13.63**	**356**	⇓*i*P		**P**	**10 09 02.2**	**-2.5**
PBKI	**Pangkalan Bun**	**13.68**	**259**	P		Pn	10 09 00.4	+3.5
	92nm,1.0s,9μm							
JAGI	**Jajag, Banyuwa**	**13.73**	**232**	P		Pn	10 09 01.3	+3.8
	516nm,2.0s,7μm45μm							
JAGI	**Jajag, Banyuwa**	**13.73**	**232**	*e*Pn		**Pn**	**10 09 00.1**	**+2.6**
	432nm,1.0s							
SMPI	**Sarmi**	**13.73**	**98**	P		P	10 09 02.0	-3.9
	460nm,2.6s,23μm							
BLJI	**Banyuglugur**	**13.77**	**236**	P		**P**	**10 09 09.0**	**+2.7**
GQP	**Guinayangan**	**14.15**	**349**	⇓*e*P		**P**	**10 09 11.2**	**+0.7**
GMJI	**Gumukmas**	**14.18**	**235**	P		P	10 09 07.6	-3.3
	371nm,1.0s,7μm39μm							
GRJI	**Gresik**	**14.30**	**241**	P		**P**	**10 09 10.4**	**-1.9**
	461nm,0.9s,5μm							
LUBP	**Lubang**	**14.55**	**341**	*e*P		**P**	**10 09 14.9**	**-0.1**
TGY	**Tagaytay City**	**14.69**	**344**	P		**P**	**10 09 18.0**	**+1.3**
TGY				pmax	pmax			
	comp=Z,22nm,0.3s							
TGY	**Tagaytay City**	**14.69**	**344**	Pn		**P**	**10 09 18.0**	**+1.3**
	comp=Z,22nm,0.3s,baz=316,slow=2.1,SNR=23							
TGY				LR	LR		10 15 41.8	
	comp=Z,677nm,19.9s,baz=123,slow=41							
TBJI	**Tambak Boyo**	**14.82**	**243**	P		**P**	**10 09 17.1**	**-0.9**
	comp=Z,3μm,0.9s,comp=Z,19μm							
KSM	**Kuching**	**14.88**	**276**	⇓P		**P**	**10 09 16.5**	**-2.1**
KSM	**Kuching**	**14.88**	**276**	*e*Pn		**P**	**10 09 16.4**	**-2.3**
GENI	**Genyem**	**15.26**	**99**	P		**Pn**	**10 09 19.7**	**+1.4**
	comp=Z,700nm,1.6s,comp=Z,11μm							
PWJI	**Pagerwojo**	**15.42**	**239**	P		**P**	**10 09 24.0**	**-0.7**
	comp=Z,652nm,1.0s,comp=Z,7μm							
JAY	**Jayapura**	**15.78**	**99**	P		**Pn**	**10 09 25.7**	**+0.6**
JAY				pmax	pmax			
	comp=Z,4.0nm,0.3s							
JAY	**Jayapura**	**15.78**	**99**	P		**P**	**10 09 27.9**	**-0.9**
	comp=Z,237nm,1.2s,comp=Z,4μm							
JAY	**Jayapura**	**15.78**	**99**	Pn		**Pn**	**10 09 25.7**	**+0.6**
	comp=Z,4.0nm,0.3s,baz=286,slow=7.9,SNR=13							
PCJI	**Pacitan**	**16.05**	**240**	P		**P**	**10 09 32.3**	**+0.7**
	comp=Z,883nm,1.2s,comp=Z,9μm							
WOJI	**Wonogiri, Jawa**	**16.10**	**241**	P		**P**	**10 09 32.9**	**+0.7**
	comp=Z,671nm,1.2s,comp=Z,8μm							
BALP	**Baler**	**16.11**	**348**	*e*P		**P**	**10 09 34.5**	**+2.2**
UGM	**Wanagama**	**16.48**	**242**	P		**P**	**10 09 39.5**	**+3.0**
	comp=Z,717nm,1.7s,comp=Z,14μm							
UGM	**Wanagama**	**16.48**	**242**	*e*P		**P**	**10 09 38.7**	**+2.2**
	comp=Z,765nm,1.1s							
MMPI	**Merauke**	**17.35**	**119**	P		**P**	**10 09 48.9**	**+2.8**
	comp=Z,3μm,1.6s,comp=Z,55μm							
TPI	**Tanjungpandan**	**17.64**	**261**	P		**P**	**10 09 50.8**	**+1.4**
	comp=Z,227nm,1.2s,comp=Z,5μm							
KPJI	**Karang Pucung**	**17.66**	**246**	P		**P**	**10 09 52.0**	**+2.4**
	comp=Z,2μm,0.9s,comp=Z,13μm							
FITZ	**Fitzroy Crossi**	**17.91**	**178**	*e*Pn		**Pn**	**10 09 49.9**	**-1.9**
	comp=Z,3μm,1.6s							
JCJI	**Jatiwangi**	**17.96**	**249**	P		**P**	**10 09 56.0**	**+3.1**
	comp=Z,2μm,1.5s,comp=Z,21μm							
CVP	**Callao Caves**	**17.97**	**350**	⇓*e*P		**P**	**10 09 55.6**	**+2.6**
SZP	**Santa**	**18.12**	**346**	*e*P		**P**	**10 09 58.3**	**+3.8**
	comp=Z,2μm,0.9s							
APYP	**Conner**	**18.24**	**348**	*e*P		**P**	**10 09 59.2**	**+3.3**
CMJI	**Cimerak**	**18.28**	**245**	P		**Pn**	**10 09 57.4**	**+1.0**
	comp=Z,792nm,0.9s,comp=Z,9μm							
LEM	**Lembang**	**18.68**	**249**	P		**Pn**	**10 10 03.0**	**+1.4**
LEM				pmax	pmax			
	comp=Z,24nm,0.3s							
LEM				MLR	MLR			
	comp=Z,31μm,20.3s							
LEM	**Lembang**	**18.68**	**249**	P		**Pn**	**10 10 02.9**	**+1.4**
	comp=Z,1μm,1.0s,comp=Z,15μm							
LEM	**Lembang**	**18.68**	**249**	P		**Pn**	**10 10 03.0**	**+1.4**
	comp=Z,24nm,0.3s,baz=54,slow=8.1,SNR=56							
LEM				LR	LR		10 18 06.9	
	comp=Z,31μm,20.3s,baz=62,slow=40							
CISI	**Cisompet, Garu**	**18.77**	**246**	P		**Pn**	**10 10 02.6**	**+0.2**
	comp=Z,2μm,0.9s,comp=Z,17μm							
CISI	**Cisompet, Garu**	**18.77**	**246**	*e*Pn		**Pn**	**10 10 02.6**	**+0.2**
	comp=Z,2μm,0.8s							
PIP	**Pasuquin**	**18.82**	**347**	⇑*e*P		**Pn**	**10 10 04.6**	**+1.7**
CBJI	**Citeko**	**19.27**	**251**	P		**Pn**	**10 10 08.9**	**+0.5**
	comp=Z,4μm,0.9s,comp=Z,38μm							
CNJI	**Cibinong**	**19.31**	**248**	P		**Pn**	**10 10 09.1**	**+0.2**
	comp=Z,966nm,0.9s,comp=Z,9μmcomp=Z,13μm							
SKJI	**Sukabumi**	**19.74**	**249**	P		Pn	10 10 19.3	+5.3
	comp=Z,988nm,1.0s,comp=Z,17μm							
SBJI	**Serang**	**19.86**	**252**	P		**Pn**	**10 10 15.9**	**+0.4**
	comp=Z,743nm,1.4s,comp=Z,14μm							
DLV	**T Lat**	**20.37**	**306**	*e*Pn		Pn	10 10 22.6	+0.8
	comp=Z,255nm,0.9s							
CGJI	**Cibinong**	**20.42**	**251**	P		**P**	**10 10 20.8**	**+0.9**
	comp=Z,1μm,1.0s,comp=Z,11μm							
BLSI	**Bandar Lampung**	**20.51**	**255**	P		Pn	10 10 24.0	+0.9
	comp=Z,410nm,0.9s,comp=Z,6μmcomp=Z,12μm							
PMBI	**Palembang**	**20.52**	**262**	P		Pn	10 10 23.2	0.0
	comp=Z,1μm,1.2s							
DSRI	**Dabo**	**20.53**	**269**	P		**P**	**10 10 21.9**	**+0.9**
	comp=Z,1μm,1.1s,comp=Z,15μm							
TPRI	**Tanjung Pinang**	**20.60**	**273**	P		Pn	10 10 23.2	-1.0
	comp=Z,576nm,1.1s							
KLI	**Kotabumi**	**20.77**	**257**	P		Pn	10 10 27.7	+1.5
	comp=Z,322nm,1.1s,comp=Z,8μm							
KASI	**Kota Agung**	**21.27**	**255**	P		**P**	**10 10 29.3**	**+0.3**
	comp=Z,730nm,1.2s,comp=Z,7μm							
MYKOM	**Kota Tinggi**	**21.33**	**275**	⇓P		**P**	**10 10 31.0**	**+1.4**
MYKOM	**Kota Tinggi**	**21.33**	**275**	*e*Pn		**P**	**10 10 31.1**	**+1.4**
	comp=Z,160nm,0.8s							
MDSI	**Maura Dua**	**21.36**	**258**	P		**P**	**10 10 29.2**	**-0.7**
JMBI	**JAMBI**	**21.52**	**266**	P		**P**	**10 10 34.0**	**+2.4**
	comp=Z,1μm,1.0s,comp=Z,14μm							
LWLI	**Liwa**	**21.58**	**257**	P		**P**	**10 10 35.7**	**+3.2**
	comp=Z,325nm,0.8s,comp=Z,12μm							
MBWA	**Marble Bar**	**21.59**	**194**	P		**P**	**10 10 32.0**	**-0.4**
	SNR=112							
MBWA	**Marble Bar**	**21.59**	**194**	*e*P		**P**	**10 10 31.3**	**-1.0**
	comp=Z,3μm,1.7s							
MBWA				LR	LR			
	comp=Z,13μm,22.0s							
WRAB	**Tennant Creek**	**21.70**	**156**	*d*i*P*		**P**	**10 10 31.7**	**-1.9**
WRAB				pmax	pmax			
	comp=Z,2μm,1.7s							
WRAB				MLR	MLR			
	comp=Z,35μm,22.0s							
WRAB	**Tennant Creek**	**21.70**	**156**	*e*P		**P**	**10 10 31.4**	**-2.2**
	comp=Z,2μm,1.3s							
WRAB				LR	LR			
	comp=Z,12μm,22.0s							
WRA	**Warramunga Arr**	**21.71**	**156**	P		**P**	**10 10 31.4**	**-2.2**
	comp=Z,88nm,0.5s,baz=334,slow=11,SNR=861							
WRA				ScP		**ScP**	**10 18 08.5**	**-1.2**
	comp=Z,20nm,1.0s,baz=335,slow=2.9,SNR=6.7							
WRA				LR	LR		10 19 28.1	
	comp=Z,12μm,21.9s,baz=325,slow=38							
WRA				ScS		**ScS**	**10 21 49.5**	**-4.7**
	comp=Z,15nm,1.2s,baz=282,slow=3.8,SNR=6.2							
WRA				PKiKP		**PKiKP**	**10 22 20.9**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=308,slow=1.3,SNR=4.6							
WRA				P3KPbc			10 44 25.2	
	comp=Z,1.2nm,0.9s,baz=153,slow=4.0,SNR=7.1							
WB2	**Warramunga Arr**	**21.71**	**156**	*e*P		**P**	**10 10 31.5**	**-2.2**
KGM	**Kluang**	**21.88**	**276**	⇓P		**P**	**10 10 36.2**	**+0.6**
LHSI	**Lahat**	**21.88**	**260**	P		**P**	**10 10 36.4**	**+0.8**
	comp=Z,153nm,1.1s,comp=Z,7μm							
XMIS	**Christmas Isla**	**21.93**	**241**	*e*P		**P**	**10 10 35.0**	**-1.1**
	comp=Z,528nm,0.9s							
MNAI	**Manna**	**22.53**	**259**	P		**P**	**10 10 46.5**	**+3.9**
	comp=Z,404nm,0.9s,comp=Z,13μm							
MNAI	**Manna**	**22.53**	**259**	*e*P		**P**	**10 10 42.2**	**-0.3**
	comp=Z,901nm,1.2s							
COEN	**Coen**	**22.58**	**128**	*e*P		**P**	**10 10 42.0**	**-1.1**
	comp=Z,298nm,1.3s							
KTGM	**Kuala Trenggan**	**22.59**	**284**	⇑P		**P**	**10 10 44.3**	**+1.1**
MASI	**Maura Aman, Be**	**23.05**	**262**	P		**P**	**10 10 48.2**	**+0.1**
	comp=Z,884nm,1.0s,comp=Z,13μm							
TWG	**Pinlang**	**23.11**	**350**	*e*P		**P**	**10 10 46.7**	**-1.8**
	comp=Z,449nm,0.6s							
YULB	**Yu-li**	**23.63**	**351**	*e*P		**P**	**10 10 52.3**	**-1.3**
	comp=Z,353nm,1.1s							
TPUB	**Ta-pu**	**23.65**	**350**	*e*P		**P**	**10 10 53.7**	**-0.2**
	comp=Z,1μm,0.9s							
SDSI	**Sungai Dareh**	**23.69**	**268**	P		**P**	**10 10 54.9**	**+0.6**
	comp=Z,332nm,1.5s,comp=Z,21μm							
PMG	**Port Moresby**	**23.83**	**113**	*de*P		**P**	**10 10 54.8**	**-0.8**
PMG				pmax	pmax			
	comp=Z,918nm,1.7s							
PMG	**Port Moresby**	**23.83**	**113**	P		**P**	**10 10 56.2**	**+0.6**
	comp=Z,129nm,0.6s,baz=320,slow=5.7,SNR=132							
PMG	**Port Moresby**	**23.83**	**113**	*e*P		**P**	**10 10 54.3**	**-1.3**
	comp=Z,1μm,2.2s							
PMG				LR	LR			
	comp=Z,8μm,20.0s							
GUMO	**Guam**	**23.83**	**54**	*e*P		**P**	**10 10 56.9**	**+1.3**
GUMO				pmax	pmax			
	comp=Z,181nm,1.1s							
GUMO	**Guam**	**23.83**	**54**	*e*P		**P**	**10 10 56.9**	**+1.3**
	comp=Z,181nm,1.1s							
GUMO				LR	LR			
	comp=Z,803nm,21.0s							
BKNI	**Bangkinang**	**24.07**	**271**	P		**P**	**10

comp=Z,552nm,1.2s
KHON Khomkaen 27.38 308 P **P** **10 11 28.9 +1.1**
comp=Z,78nm,0.9s,comp=Z,3µm
KCSI Kotacane, Aceh 27.55 278 P **P** **10 11 28.1 -1.4**
SURT Suratani 27.70 290 P **P** **10 11 31.0 +0.2**
comp=Z,42nm,1.7s,comp=Z,871nm
PKDT Phuket 27.84 287 P **P** **10 11 32.3 +0.3**
comp=Z,104nm,1.4s,comp=Z,6µm
TPTI 28.11 277 P **P** **10 11 36.4 +2.0**
comp=Z,191nm,1.6s,comp=Z,37µm
LHMI Lhok Sumawe 28.61 281 *e*P **P** **10 11 38.9 0.0**
CTA Charters Tower 28.70 135 P **P** **10 11 40.9 +1.3**
comp=Z,52nm,1.0s,baz=322,slow=13,SNR=28
CTA LR LR 10 24 58.1
comp=Z,5µm,21.2s,baz=326,slow=40
CTAO Charters Tower 28.70 135 *e*P **P** **10 11 40.9 +1.3**
CTAO pmax pmax
comp=Z,942nm,1.7s
CTAO MLR MLR
comp=Z,7µm,22.0s
CTAO Charters Tower 28.70 135 *e*P **P** **10 11 40.9 +1.3**
comp=Z,942nm,1.7s
CTAO LR LR
comp=Z,7µm,22.0s
PBKT Sadao Pong 28.99 306 P **P** **10 11 42.6 +0.4**
comp=Z,66nm,1.5s,comp=Z,2µm
SRDT SRDT 29.44 300 P **P** **10 11 47.4 +1.2**
comp=Z,227nm,0.9s
SLVN Son La 29.70 317 *e*P **P** **10 11 49.7 +1.2**
comp=Z,256nm,1.7s
UTTA Uttaradit 29.96 308 P **P** **10 11 51.6 +0.8**
comp=Z,22nm,1.4s,comp=Z,284nm
COCO West Island 30.52 246 *e*P **P** **10 11 55.7 -0.1**
COCO pmax pmax
comp=Z,150nm,0.7s
COCO MLR MLR
comp=Z,13µm,21.0s
COCO West Island 30.52 246 *e*P **P** **10 11 55.7 -0.1**
comp=Z,150nm,0.7s
COCO LR LR
comp=Z,13µm,21.0s
FORT Forrest 30.65 175 *e*P **P** **10 11 55.9 -0.9**
comp=Z,2µm,1.6s
LAMP Lampang 31.12 308 P **P** **10 12 02.5 +1.5**
comp=Z,24nm,0.8s,comp=Z,254nm
SSE Sheshan 31.24 354 ⇑P **P** **10 12 03.1 +1.2**
SSE pP **pP** **10 12 06.2 -3.9**
SSE sP sP 10 12 07.5 -6.1
SSE S **S** **10 17 10.2 +3.5**
SSE PMZ
comp=Z,170nm,1.5s
SSE PMZ
comp=Z,2µm,11.5s
SSE LN
comp=Z,8µm,23.1s
SSE LE
comp=Z,4µm,23.1s
SSE LZ
comp=Z,11µm,23.4s
CRAI Chiangrai 31.53 311 P **P** **10 12 02.3 -2.3**
comp=Z,41nm,1.9s,comp=Z,2µm
CBIJ Chichi jima 31.63 30 *e*P **P** **10 12 06.7 +1.3**
comp=Z,883nm,1.3s
CMAR Chiang Mai Arr 31.63 307 P **P** **10 12 06.5 +0.9**
CMAR 10 14 56.5
CMAR pmax pmax
comp=Z,35nm,1.1s
CMAR pmax pmax
comp=Z,13nm,0.7s
CMAR pmax pmax
comp=N,7.0nm,0.8s
CMAR MLR MLR
comp=Z,6µm,21.6s
CMAR Chiang Mai Arr 31.63 307 P **P** **10 12 06.5 +0.9**
comp=Z,35nm,1.1s,baz=137,slow=6.8,SNR=140
CMAR PcP **PcP** **10 14 56.5 -1.1**
comp=Z,13nm,0.7s,baz=156,slow=2.2,SNR=7.8
CMAR ScP **ScP** **10 18 38.0 -1.1**
comp=Z,6.6nm,0.8s,baz=161,slow=2.7,SNR=5.7
CMAR LR LR 10 25 07.5
comp=Z,6µm,21.6s,baz=132,slow=37
JCJ Chichijima 31.63 30 P **P** **10 12 06.1 +0.7**
comp=Z,964nm,0.9s,baz=253,slow=4.3,SNR=27
JCJ LR LR 10 23 33.6
comp=Z,3µm,21.4s,baz=236,slow=34
CMMT Chiang Mai 31.82 308 P **P** **10 12 07.7 +0.5**
comp=Z,291nm,1.2s,comp=Z,4µm
GYA Guiyang 31.82 327 ⇑*i*P **P** **10 12 08.2 +0.9**
GYA PP **PP** **10 13 17.0 -2.5**
GYA PcP PcP 10 14 49.6 -8.5
GYA S **S** **10 17 20.8 +4.6**
GYA ScP **ScP** **10 18 42.2 +2.5**
GYA SS **SnSn** **10 19 12.4 +7.3**
GYA PMZ
comp=Z,90nm,1.0s
GYA PMZ
comp=Z,1µm,7.4s
GYA LN
comp=Z,6µm,18.6s
GYA LE
comp=Z,3µm,16.2s
GYA LZ
comp=Z,6µm,16.1s
CHTO Chiang Mai 31.82 308 *e*P **P** **10 12 07.7 +0.5**
CHTO pmax pmax
comp=Z,261nm,1.3s
CHTO MLR MLR
comp=Z,5µm,20.0s
CHTO Chiang Mai 31.82 308 P **P** **10 12 08.2 +0.9**
SNR=118
CHTO Chiang Mai 31.82 308 *e*P **P** **10 12 07.7 +0.5**
comp=Z,261nm,1.3s
CHTO *e*ScP **ScP** **10 18 38.6 -1.1**
CHTO LR LR
comp=Z,5µm,20.0s
CHTO Chiang Mai 31.82 308 P **P** **10 12 07.8 +0.5**
comp=Z,1µm,1.1s,comp=Z,13µm
WHN Wuhan 32.13 342 ⇑P **P** **10 12 10.9 +1.1**
WHN S S 10 17 36.1 +15
WHN LN
comp=Z,23µm,22.0s
WHN LE
comp=Z,9µm,18.6s
WHN LZ
comp=Z,22µm,21.0s
MHMT Maesarieng 32.30 306 P **P** **10 12 12.4 +1.0**
comp=Z,111nm,1.0s,comp=Z,1µm
CMAI Chiengmai2 32.37 309 P **P** **10 12 12.6 +0.4**
comp=Z,113nm,1.5s,comp=Z,2µm
NJ2 Nanjing 32.51 350 *e*P **P** **10 12 14.9 +1.8**
NJ2 pP **pP** **10 12 18.5 -2.8**
NJ2 S **S** **10 17 31.5 +5.0**
NJ2 PMZ
comp=Z,120nm,0.7s
NJ2 PMZ
comp=Z,2µm,4.7s
NJ2 LN
comp=Z,22µm,25.2s
NJ2 LE
comp=Z,50µm,22.3s
NJ2 LZ
comp=Z,47µm,29.0s
KMI Kunming 33.11 321 P **P** **10 12 20.6 +1.9**
KMI PP **PP** **10 13 34.7 +0.8**
KMI S **S** **10 17 34.3 -2.2**
KMI PMZ
comp=Z,95nm,1.9s
KMI PMZ
comp=Z,1µm,5.2s
KMI LN
comp=Z,4µm,18.1s
KMI LE
comp=Z,7µm,18.7s
KMI LZ
comp=Z,9µm,19.8s
JNU Nakatsue 33.48 9 P **P** **10 12 22.9 +1.4**
comp=Z,304nm,0.9s,baz=186,slow=6.2,SNR=88
JNU LR LR 10 26 15.3
comp=Z,4µm,21.1s,baz=208,slow=37
JNU Nakatsue 33.48 9 *e*P **P** **10 12 23.0 +1.4**
comp=Z,141nm,1.0s
ENH Enshi 33.66 335 *e*P **P** **10 12 24.7 +1.5**
comp=Z,104nm,1.1s
ENH LR LR
comp=Z,10µm,20.0s
BBOO Buckleboo 34.15 163 *e*P **P** **10 12 26.6 -0.8**
comp=Z,14nm,1.2s

PBA Port Blair 34.19 291 *e*P P 10 12 25.2 -2.8
DGPR DIGLIPUR 34.51 294 *e*P **P** **10 12 28.9 -1.8**
EIDS Eidsvold 35.52 137 *e*P **P** **10 12 38.9 -0.4**
comp=Z,457nm,1.8s
HNR Honiara 35.90 106 LR LR 10 29 18.8
comp=Z,2µm,20.7s,baz=278,slow=39
TIA Tai'an 36.87 349 ⇑P **P** **10 12 51.2 +0.5**
TIA PP PnPn 10 14 22.6 +7.3
TIA PMZ
comp=Z,180nm,1.5s
TIA PMZ
comp=Z,2µm,7.7s
TIA LN
comp=Z,10µm,27.1s
TIA LE
comp=Z,4µm,19.8s
TIA LZ
comp=Z,20µm,30.0s
CD2 Chengdu 36.90 329 ⇑*i*P **P** **10 12 51.6 +0.5**
CD2 pP **pP** **10 12 56.0 -3.4**
CD2 sP **sP** **10 12 58.6 -4.3**
CD2 PP **PnPn** **10 14 18.0 +2.3**
CD2 S **S** **10 18 37.0 +2.6**
CD2 PcS **PcS** **10 18 59.7 -1.0**
CD2 PMZ
comp=Z,350nm,1.0s
CD2 PMZ
comp=Z,2µm,6.8s
CD2 LN
comp=Z,13µm,21.6s
CD2 LE
comp=Z,9µm,18.6s
CD2 LZ
comp=Z,12µm,21.6s
XAN Xi'an 37.19 337 P **P** **10 12 53.8 +0.2**
XAN pP **pP** **10 12 58.0 -3.9**
XAN sP **sP** **10 13 01.0 -4.3**
XAN PP **PP** **10 14 18.3 -0.4**
XAN S **S** **10 18 35.3 -3.5**
XAN PMZ
comp=Z,71nm,1.5s
XAN PMZ
comp=Z,380nm,12.4s
XAN LN
comp=Z,9µm,19.6s
XAN LE
comp=Z,2µm,19.6s
XAN LZ
comp=Z,4µm,18.1s
INCN Inchon 37.41 2 P **P** **10 12 58.2 +2.8**
SNR=31
INCN Inchon 37.41 2 *e*P **P** **10 12 57.9 +2.6**
comp=Z,362nm,1.3s
INCN LR LR
comp=Z,10µm,22.0s
KSAR Wonju Array Be 37.43 4 P **P** **10 12 57.9 +2.4**
KSAR 10 15 14.7
KSAR Wonju Array Be 37.43 4 P **P** **10 12 57.9 +2.4**
KSAR PcP **PcP** **10 15 14.7 +0.9**
KSAR ScP **ScP** **10 18 59.0 -0.4**
KSRS Korea Array 37.45 4 P **P** **10 12 57.9 +2.3**
KSRS 10 15 14.7
KSRS pmax pmax
comp=Z,114nm,0.8s
KSRS pmax pmax
comp=Z,19nm,0.9s
KSRS pmax pmax
comp=N,6.0nm,0.9s
KSRS MLR MLR
comp=Z,8µm,21.5s
KSRS Korea Array 37.45 4 P **P** **10 12 57.9 +2.3**
comp=Z,114nm,0.8s,baz=181,slow=9.5,SNR=219
KSRS PcP **PcP** **10 15 14.7 +0.8**
comp=Z,19nm,0.9s,baz=178,slow=2.8,SNR=5.9
KSRS ScP **ScP** **10 18 59.0 -0.4**
comp=Z,6.0nm,0.9s,baz=183,slow=3.4,SNR=6.3
KSRS LR LR 10 28 18.2
comp=Z,8µm,21.5s,baz=182,slow=36
MJAR Matsushiro Arr 38.42 17 P **P** **10 13 04.6 +0.7**
MJAR 10 19 02.6
MJAR pmax pmax
comp=Z,135nm,0.9s
MJAR pmax pmax
comp=N,16nm,1.0s
MJAR Matsushiro Arr 38.42 17 P **P** **10 13 04.6 +0.7**
comp=N,135nm,0.9s,baz=193,slow=9.1,SNR=147
MJAR ScP **ScP** **10 19 02.6 -0.6**
comp=N,16nm,1.0s,baz=202,slow=5.1,SNR=8.8
MAJO Matsushiro 38.42 17 *e*P **P** **10 13 04.7 +0.8**
MAJO *e* 10 19 02.1
MAJO pmax pmax
comp=Z,319nm,1.0s
MAJO MLR MLR
comp=Z,7µm,19.0s
MAJO Matsushiro 38.42 17 *e*P **P** **10 13 04.7 +0.8**
comp=Z,319nm,1.0s
MAJO *e*ScP **ScP** **10 19 02.1 -1.1**
MAJO LR LR
comp=Z,7µm,19.0s
MAT Matsushiro 38.42 17 P **P** **10 13 04.5 +0.6**
MAT S **S** **10 18 53.2 -4.1**
DL2 Dalian 38.94 356 P **P** **10 13 09.3 +1.2**
DL2 PMZ
comp=Z,340nm,1.5s
DL2 PMZ
comp=Z,1µm,5.7s
DL2 LN
comp=Z,4µm,20.1s
DL2 LE
comp=Z,2µm,22.6s
DL2 LZ
comp=Z,6µm,25.3s
IMP Imphal 39.01 312 *e*P **P** **10 13 09.0 0.0**
IMP *e*S **S** **10 19 05.0 -1.6**
ARMA Armidale 39.31 142 *e*ScP **ScP** **10 19 08.5 +1.6**
comp=Z,730nm,1.8s
TIY Taiyuan 39.39 344 *e*P **P** **10 13 11.8 -0.3**
TIY S **S** **10 19 08.9 -3.1**
TIY PMZ
comp=Z,970nm,6.5s
TIY LN
comp=Z,4µm,17.9s
TIY LE
comp=Z,2µm,15.0s
TIY LZ
comp=Z,12µm,29.9s
BJT Baijiatuau 40.74 349 *e*P **P** **10 13 23.1 -0.1**
BJT pmax pmax
comp=Z,376nm,1.0s
BJT MLR MLR
comp=Z,4µm,22.0s
BJT Baijiatuau 40.74 349 *e*P **P** **10 13 23.1 -0.1**
comp=Z,376nm,1.0s
BJT LR LR
comp=Z,4µm,22.0s
BJI Beijing 40.76 349 P **P** **10 13 24.0 +0.7**
BJI PP **PnPn** **10 15 00.7 -1.1**
BJI S **S** **10 19 31.3 -0.9**
BJI SS **SnSn** **10 22 40.7 -0.3**
BJI PMZ
comp=Z,240nm,1.5s
BJI PMZ
comp=Z,2µm,6.3s
BJI LN
comp=Z,7µm,30.8s
BJI LE
comp=Z,6µm,24.9s
BJI LZ
comp=Z,16µm,34.1s
SHL Shillong 40.98 311 *i* PCN **P** **10 13 26.0 +0.4**
SHL AMB AMB 10 13 32.0
comp=Z,66nm,0.0s
SHL *ex* x 10 19 16.0
LZH Lanzhou 41.06 333 *e*P **P** **10 13 27.2 +1.1**
LZH pP **pP** **10 13 33.0 -1.5**
LZH sP **sP** **10 13 36.4 -1.5**
LZH PP **PnPn** **10 15 06.4 +0.8**
LZH ScP **ScP** **10 19 14.7 +1.0**
LZH PcS **PcS** **10 19 18.4 +1.6**
LZH *e*S **S** **10 19 41.3 +4.0**
LZH SS **SS** **10 22 43.2 +2.9**
LZH PMZ
comp=Z,440nm,1.2s
LZH PMZ
comp=Z,1µm,5.0s
LZH LN
comp=Z,7µm,15.6s
LZH LE
comp=Z,8µm,17.6s
LZH LZ
comp=Z,16µm,19.4s
CAN Canberra 41.53 150 *e*P **P** **10 13 31.0 +1.2**
CAN pmax pmax
comp=Z,725nm,1.4s
CAN MLR MLR
comp=Z,7µm,20.0s
CAN Canberra 41.53 150 *e*P **P** **10 13 31.0 +1.2**
comp=Z,725nm,1.4s
CAN LR LR
comp=Z,7µm,20.0s
HHC Hu-ho-hao-te 42.57 345 *e*P **P** **10 13 40.0 +1.8**
HHC sP **sP** **10 13 47.3 -2.8**
HHC PP **PP** **10 15 18.6 +1.3**
HHC S **S** **10 20 01.0 +1.8**
HHC SS **SS** **10 23 12.1 +2.3**
HHC PMZ
comp=Z,93nm,1.1s
HHC PMZ
comp=Z,690nm,4.4s
HHC LN
comp=Z,5µm,25.9s
HHC LE
comp=Z,3µm,21.0s
HHC LZ
comp=Z,8µm,19.7s
BTO Baotou 42.77 343 *e*P **P** **10 13 38.8 -1.0**
VLA Vladivostok 43.45 7α *i*P **P** **10 13 47.6 +2.5**
VLA *e* 10 15 29.3
VLA *i* 10 15 34.7
VLA *i* S S 10 20 18.1 +6.3
VLA pmax pmax
comp=Z,341nm,1.4s
CN2 Changchun 43.70 0 ⇑P **P** **10 13 47.6 +0.4**
CN2 PMZ
comp=Z,130nm,1.6s
CN2 LN
comp=Z,4µm,25.0s
CN2 LE
comp=Z,4µm,25.0s
CN2 LZ
comp=Z,1µm,21.0s
LSA Lhasa 43.87 315 P **P** **10 13 49.3 -0.1**
LSA PP **PP** **10 15 32.5 +0.7**
LSA SS SS 10 23 34.6 -1.8
LSA PMZ
comp=Z,60nm,1.0s
LSA PMZ
comp=Z,910nm,7.0s
LSA LN
comp=Z,3µm,30.0s
LSA LE
comp=Z,3µm,30.0s
LSA LZ
comp=Z,8µm,30.0s
LSA Lhasa 43.87 315 *e*P **P** **10 13 49.9 +0.6**
LSA pmax pmax
comp=Z,582nm,1.5s
LSA MLR MLR
comp=Z,4µm,20.0s
LSA Lhasa 43.87 315 *e*P **P** **10 13 49.9 +0.6**
comp=Z,582nm,1.5s
LSA LR LR
comp=Z,4µm,20.0s
CHLP Challavanipeta 44.34 297 *i* P **P** **10 13 52.5 -0.3**
CHLP *e*PP **PcP** **10 15 38.0 +1.3**
CHLP *e* 10 19 15.3
CHLP *e*ScP **ScP** **10 19 26.1 -0.9**
CHLP *e*S **S** **10 20 22.6 -3.0**
CHLP *e*SS **SS** **10 23 45.3 +0.2**
CHLP IVMs_BB IVMs_BB 10 33 46.5
comp=Z,2µm,23.5s
USRK Ussuriysk Ar. 44.52 7 P **P** **10 13 55.5 +1.7**
comp=Z,168nm,0.8s,baz=190,slow=5.8,SNR=138
USRK PP **PP** **10 15 40.4 +2.3**
comp=Z,16nm,0.8s,baz=193,slow=7.6,SNR=4.3
USRK LR LR 10 32 49.9
comp=Z,4µm,21.3s,baz=163,slow=36
MDJ Mudanjiang 44.69 5 P **P** **10 13 57.0 +1.9**
MDJ pP **pP** **10 14 00.0 -3.6**
MDJ sP sP 10 14 01.4 -5.6
MDJ ScP **ScP** **10 19 30.2 +2.3**
MDJ PcS **PcS** **10 19 32.3 +1.6**
MDJ S **S** **10 20 31.6 +1.7**
MDJ PMZ
comp=Z,170nm,1.6s
MDJ PMZ
comp=Z,2µm,5.3s
MDJ LN
comp=Z,5µm,27.2s
MDJ LE
comp=Z,2µm,24.7s
MDJ LZ
comp=Z,7µm,28.2s
MDJ Mudanjiang 44.69 5 *e*P **P** **10 13 56.5 +1.3**
comp=Z,177nm,0.9s
MDJ LR LR
comp=Z,4µm,21.0s
VIS Vishakhapatnam 44.74 296 *e*P **P** **10 13 54.3 -1.6**
BOK Bokaro 44.84 305 *e*P **P** **10 13 56.0 -0.7**
PALK Pallekele 44.88 280 P **P** **10 13 57.2 0.0**
PALK 10 15 40.0
PALK pmax pmax
comp=Z,23nm,0.8s
PALK pmax pmax
comp=Z,48nm,1.1s
PALK pmax pmax
comp=N,7.0nm,0.6s
PALK Pallekele 44.88 280 P **P** **10 13 57.2 0.0**
comp=N,22nm,0.8s,baz=97,slow=8.6,SNR=13
PALK PP **PcP** **10 15 40.0 +1.3**
comp=N,48nm,1.1s,baz=95,slow=7.4,SNR=3.7
PALK ScP **ScP** **10 19 28.5 -0.9**
comp=N,6.7nm,0.6s,baz=126,slow=4.1,SNR=4.4
PALK Pallekele 44.88 280 ⇑*i*P **P** **10 13 55.1 -2.1**
SNR=8.2
PALK Pallekele 44.88 280 P **P** **10 13 59.3 +2.1**
SNR=8.6
PALK Pallekele 44.88 280 *e*P **P** **10 13 57.9 +0.7**
comp=N,101nm,2.1s
PALK PP **PcP** **10 15 40.0 +1.3**
PALK ScP **ScP** **10 19 28.5 -0.9**
PALK *e*ScP ScP 10 19 29.0 -0.4
ERM Erimo 44.97 19*d* *i*P **P** **10 13 59.9 +2.5**
ERM pmax pmax
comp=Z,283nm,1.7s
ERM MLR MLR
comp=Z,4µm,21.0s
ERM Erimo 44.97 19 *e*P P 10 14 00.6 +3.3
comp=Z,180nm,1.1s
ERM LR LR
comp=Z,4µm,22.0s
WAKE Wake Island 45.06 62 PFAKE 10 14 10.0 +12
WAKE LR LR
comp=Z,2µm,22.0s
ODAN Odare 45.09 310 *e*P **P** **10 13 58.6 -0.3**
comp=Z,86nm,0.5s
TAPN Taplejung 45.09 310 *e*P **P** **10 13 58.8 -0.2**
comp=Z,91nm,0.4s
GTA Gaotai 45.62 332 ⇑P **P** **10 14 03.2 +0.5**
GTA pP **pP** **10 14 07.8 -3.4**
GTA sP **sP** **10 14 10.3 -4.3**
GTA PcP **PcP** **10 15 41.1 +0.3**
GTA PP **PP** **10 15 50.5 +0.6**
GTA ScP **ScP** **10 19 31.6 -0.4**
GTA PcS **PcS** **10 19 33.7 -1.3**
GTA S **S** **10 20 46.0 +2.2**
GTA ScS **ScS** **10 23 54.9 -2.5**
GTA SS **SS** **10 24 02.2 -6.0**
GTA PMZ
comp=Z,310nm,1.7s
GTA PMZ
comp=Z,1µm,5.7s
GTA LN
comp=Z,8µm,19.9s
GTA LE
comp=Z,7µm,20.4s
GTA LZ
comp=Z,13µm,19.5s
NOUC Port Laguerre 45.70 121 *e*P **P** **10 14 03.3 -0.2**
RAMN Ramite 45.75 309 *e*P **P** **10 14 03.9 -0.2**
DZM Mont Dzumac 45.81 121 *e*P **P** **10 14 05.4 +0.9**
comp=Z,347nm,1.2s

DZM *eS* **S** **10 20 45.4 -1.6**
comp=Z,5μm,40.0s
DZM *eLR* LR 10 26 53.7
comp=Z,14μm,25.3s
DZM Mont Dzumac 45.81 121 LR LR 10 35 38.5
comp=E,1μm,19.5s,baz=301,slow=39
DZM Mont Dzumac 45.81 121 *eP* **P** **10 14 05.1 +0.6**
comp=Z,240nm,1.3s
LIFNC LIFOU 46.02 119 *eP* **P** **10 14 05.3 -0.7**
JIRN Jiri 46.41 310 *eP* **P** **10 14 09.3 -0.2**
comp=Z,107nm,0.3s
ASAJ Asahikawa 46.70 17 P **P** **10 14 13.5 +2.5**
ASAJ pmax pmax
comp=Z,50nm,0.3s
ASAJ Asahikawa 46.70 17 P **P** **10 14 13.5 +2.5**
comp=Z,50nm,0.3s,baz=229,slow=9.7,SNR=118
ASAJ Asahikawa 46.70 17 *eP* **P** **10 14 13.3 +2.4**
comp=Z,192nm,1.3s
GUN Gumba 46.78 310 *eP* **P** **10 14 12.1 -0.2**
comp=Z,242nm,0.4s
PKI Pulchoki 46.97 309 *eP* **P** **10 14 13.0 -0.9**
PKIN Phulchoki 46.99 309 *eP* **P** **10 14 14.2 +0.3**
SKHT Srikalahasti 47.00 289 *eP* **P** **10 14 12.2 -1.6**
SKHT *esP* **sP** **10 14 28.9 +3.2**
SKHT *ePcP* **PcP** **10 15 47.4 +1.4**
SKHT *ePP* **PP** **10 16 05.8 +1.1**
SKHT *eScP* **ScP** **10 19 37.1 -1.0**
SKHT *eS* **S** **10 21 01.6 -2.4**
SKHT *e* 10 24 05.1
SKHT *eSS* **SS** **10 24 29.6 -1.7**
SKHT IVMs_BB IVMs_BB 10 33 49.6
comp=Z,2μm,22.9s
TAU Tasmania Unive 47.06 158 *eP* **P** **10 14 15.1 +1.3**
TAU pmax pmax
comp=Z,345nm,1.4s
TAU MLR MLR
comp=Z,8μm,22.0s
TAU Tasmania Unive 47.06 158 *eP* **P** **10 14 15.1 +1.3**
comp=Z,345nm,1.4s
TAU LR LR
comp=Z,8μm,22.0s
KKN Kakani 47.18 309 *eP* **P** **10 14 14.7 -0.6**
ADKI Addanki 47.27 292 *i P* **P** **10 14 15.3 -0.6**
ADKI *esP* **sP** **10 14 31.5 +3.7**
ADKI *ePcP* **PcP** **10 15 48.0 +1.0**
ADKI *ePP* **PP** **10 16 06.4 -0.8**
ADKI *eScP* **ScP** **10 19 38.4 -0.8**
ADKI *eS* S 10 21 00.6 -7.3
ADKI *e* 10 24 06.5
ADKI *eSS* **SS** **10 24 30.2 -5.4**
ADKI IVMs_BB IVMs_BB 10 37 17.0
comp=Z,2μm,21.3s
YUK Yuzh-Kuril'sk 47.67 20*c i* P 10 14 14.0 -4.6
YUK *i* 10 16 07.6
YUK *i* PPP PPP 10 17 00.0
YUK *i* S **S** **10 21 14.0 +1.3**
YUK *i* SSS SSS 10 25 52.3
YUK MLR MLR
comp=N,504nm,17.0s
YUK MLR MLR
comp=E,1μm,17.0s
YUK MLR MLR
comp=Z,1μm,17.0s
GKN Gorkha 47.78 309 *eP* **P** **10 14 19.3 -0.6**
comp=Z,124nm,0.3s
TARA Tarawa 47.84 88 *eP* **P** **10 14 22.4 +2.1**
comp=Z,204nm,0.8s
TARA LR LR
comp=Z,5μm,21.0s
NJS Nagarjunasagar 48.07 292 *eP* **P** **10 14 20.6 -1.5**
NJS *esP* **sP** **10 14 36.9 +2.9**
NJS *e* 10 15 50.8
NJS *eScP* **ScP** **10 19 41.5 -1.1**
NJS *eS* S 10 21 10.5 -8.8
NJS *e* 10 24 10.8
NJS *eSS* **SS** **10 24 46.5 -2.2**
NJS IVMs_BB IVMs_BB 10 31 02.1
comp=Z,1μm,29.1s
KOLN Koldanda 48.48 308 *eP* **P** **10 14 25.2 -0.2**
comp=Z,382nm,0.9s
DANN Dangsing 48.63 309 *eP* **P** **10 14 26.1 -0.5**
comp=Z,314nm,0.6s
TRD Trivandrum 48.72 281 *eP* **P** **10 14 24.5 -2.7**
TRD ⇓*ex* x 10 14 41.9
TRD *eS* **S** **10 21 27.9 -0.6**
RPR Rampur 48.73 295 *eP* **P** **10 14 25.9 -1.3**
RPR *esP* **sP** **10 14 41.7 +2.6**
RPR *ePP* **PP** **10 16 21.0 +0.4**
RPR *eScP* **ScP** **10 19 43.6 -1.8**
RPR *eS* **S** **10 21 27.6 -0.9**
RPR *e* 10 24 13.7
RPR IVMs_BB IVMs_BB 10 37 20.5
comp=Z,2μm,17.7s
HYB Hyderabad 49.00 293 *i* P **P** **10 14 26.5 -2.8**
comp=Z,196nm,0.8s
HYB *epP* **pP** **10 14 40.0 +2.1**
HYB *ePcP* **PcP** **10 15 53.0 -0.2**
HYB *ePP* **PP** **10 16 24.0 +1.0**
HYB *eS* S 10 21 24.0 -8.4
HYB *e* 10 22 00.0
HYB *eScS* **ScS** **10 24 16.0 -4.3**
HYB *eSS* **SS** **10 25 02.0 -1.7**
HYB Hyderabad 49.00 293 *eP* **P** **10 14 26.5 -2.8**
HYBB Hyderabad (bro 49.00 293 *i* P **P** **10 14 27.2 -2.1**
HYBB *esP* **sP** **10 14 43.8 +2.5**
HYBB *ePP* **PP** **10 16 21.9 -1.1**
HYBB *e* 10 19 21.3
HYBB *eScP* **ScP** **10 19 45.1 -1.5**
HYBB *eS* S 10 21 23.4 -9.0
HYBB *e* 10 24 16.5
HYBB *eSS* **SS** **10 25 01.7 -2.0**
HYBB IVMsBB 10 38 29.8
comp=Z,1μm,18.5s
PYUN Piuthan 49.11 308 *eP* **P** **10 14 29.9 -0.3**
comp=Z,661nm,0.4s
HABR Khabarovsk 49.13 9*d i* P **P** **10 14 28.9 -0.8**
HABR *e**PP **pP** **10 14 38.6 +0.3**
HABR *e**SP **sP** **10 14 42.8 +1.1**
HABR *e* 10 15 51.0
HABR *e* 10 16 23.0
HABR *ePPP* PPP 10 17 15.8
HABR *eS* **S** **10 21 33.8 +0.6**
HABR *e**SS **sS** **10 21 50.8 +3.5**
HABR *e* 10 24 17.9
HABR *eSSS* SSS 10 26 27.2
HABR pmax pmax
comp=N,194nm,1.5s
HABR pmax pmax
comp=E,74nm,1.5s
HABR pmax pmax
comp=Z,432nm,1.5s
HABR pmax pmax
comp=Z,1μm,1.7s
HABR MLR MLR
comp=Z,2μm,19.0s
HABR MLR MLR
comp=N,2μm,19.0s
HABR MLR MLR
comp=E,3μm,19.0s
YSS Yuzh-Sakhalins 49.33 16*αeP* **P** **10 14 33.0 +1.7**
YSS *e**SP **sP** **10 14 44.0 +0.8**
YSS *e* 10 16 27.0
YSS *ePPP* PPP 10 17 20.0
YSS *eS* **S** **10 21 32.0 -4.1**
YSS pmax pmax
comp=Z,190nm,1.1s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=E,1μm,18.0s
YSS Yuzh-Sakhalins 49.33 16 *eP* **P** **10 14 33.0 +1.7**
comp=E,368nm,1.4s
YSS LR LR
comp=Z,1μm,21.0s
HIA Hailar 49.38 355 *eP* **P** **10 14 32.9 +1.2**
HIA pmax pmax
comp=Z,448nm,1.2s
HIA MLR MLR
comp=Z,6μm,20.0s
HIA Hailar 49.38 355 *eP* **P** **10 14 32.9 +1.2**
comp=Z,448nm,1.2s
HIA LR LR
comp=Z,6μm,20.0s
KUR Kuril'sk 49.42 21*c i* P P 10 14 26.8 -5.2
KUR *i* 10 16 34.7
KUR *i* PPP PPP 10 17 17.5
KUR *i* SS SS 10 25 11.1 +1.5
KUR *i* SSS SSS 10 26 38.6
KUR pmax pmax
comp=N,239nm,1.8s
KUR pmax pmax
comp=Z,777nm,1.8s
KUR pmax pmax
comp=E,95nm,0.9s
KUR MLR MLR
comp=N,730nm,19.0s
KUR MLR MLR
comp=E,2μm,19.0s
KUR MLR MLR
comp=Z,2μm,19.0s
KLR Kul'dur 49.46 6⇓*i* P **P** **10 14 29.2 -3.1**
KLR pmax pmax
comp=N,96nm,1.4s
KLR pmax pmax
comp=Z,350nm,1.4s
KLR pmax pmax
comp=Z,3μm,8.0s
KLR MLR MLR
comp=E,4μm,22.0s
URV Uravakonda 49.59 290 *eP* **P** **10 14 31.1 -2.8**
URV *esP* **sP** **10 14 48.2 +2.4**
URV *e* 10 15 55.8
URV *ePP* **PP** **10 16 31.1 +2.7**
URV *i* 10 19 51.0
URV *eS* **S** **10 21 35.4 -5.3**
URV *e* 10 24 19.6
URV *eSS* **SS** **10 25 13.9 +0.7**
URV IVMs_BB IVMs_BB 10 35 18.2
comp=Z,2μm,23.4s
NGP Nagpur 49.67 298 *eP* **P** **10 14 33.2 -1.2**
NGP *ex* x 10 21 34.8
ULN Ulaanbaatar 50.28 344 *eP* **P** **10 14 39.2 +0.5**
ULN pmax pmax
comp=Z,189nm,1.1s
ULN MLR MLR
comp=Z,6μm,20.0s
ULN Ulaanbaatar 50.28 344 P **P** **10 14 39.2 +0.5**
SNR=102
ULN Ulaanbaatar 50.28 344 *eP* **P** **10 14 39.2 +0.5**
comp=Z,189nm,1.1s
ULN LR LR
comp=Z,6μm,20.0s
SONM Songino Array 50.43 344 P **P** **10 14 40.7 +0.9**
comp=Z,88nm,0.7s,baz=168,slow=9.1,SNR=29
SONM ScP **ScP** **10 19 49.5 -2.7**
comp=Z,3.6nm,0.8s,baz=140,slow=4.2,SNR=3.9
SONM LR LR 10 36 30.6
comp=Z,6μm,21.2s,baz=153,slow=37
SONM PKPPKP **P'P'df** **10 45 28.6 +0.8**
comp=Z,0.6nm,0.9s,baz=169,slow=0.5,SNR=4.3
SONM PKP2bc 10 45 47.1
comp=Z,0.5nm,0.9s,baz=156,slow=1.5,SNR=3.7
AKL Akola 51.33 297 *eP* **P** **10 14 45.2 -1.8**
MNGI Mangalore 51.49 287 *eP* **P** **10 14 48.0 -0.1**
MNGI *ex* x 10 23 48.1
BHPL Bhopal 51.78 300 *eP* **P** **10 14 48.3 -2.0**
LGTI Lohaghat 51.87 309 *eP* **P** **10 14 52.8 +2.0**
LGTI *ex* x 10 16 05.4
GOA Goa 52.94 290 *eP* P 10 14 55.1 -3.8
DGAR Diego Garcia 53.00 261 P **P** **10 14 57.4 -2.0**
DGAR pmax pmax
comp=Z,141nm,1.0s
DGAR MLR MLR
comp=Z,6μm,22.0s
DGAR Diego Garcia 53.00 261 P **P** **10 14 57.4 -2.0**
comp=Z,140nm,1.0s
DGAR LR LR
comp=Z,6μm,22.0s
POO Poona 53.61 293 *ex* x 10 14 58.5
ZAK Zakamensk 53.62 343 *eP* **P** **10 15 02.5 -1.0**
ZAK pmax pmax
comp=Z,46nm,1.5s
NDI New Delhi 53.95 306 *eP* **P** **10 15 05.0 -1.2**
NDI *ex* x 10 22 34.0
TLY Talaya 54.67 344*c i* P **P** **10 15 11.5 +0.4**
TLY *e* 10 16 11.6
TLY *ePPP* PPP 10 18 32.4
TLY *eS* S 10 22 41.2 -8.2
TLY *e* 10 24 57.2
TLY pmax pmax
comp=Z,274nm,1.8s
TLY Talaya 54.67 344 P **P** **10 15 12.2 +1.1**
comp=Z,43nm,0.7s,baz=177,slow=4.1,SNR=33
TLY Talaya 54.67 344 P **P** **10 15 12.2 +1.1**
SNR=82
TLY Talaya 54.67 344 *eP* **P** **10 15 13.5 +2.4**
comp=Z,606nm,1.9s
TLY LR LR
comp=Z,4μm,20.0s
MSVF Nonsavu 54.92 112 *eP* **P** **10 15 15.2 +1.7**
MSVF pmax pmax
comp=Z,269nm,1.6s
MSVF MLR MLR
comp=Z,4μm,21.0s
MSVF Nonsavu 54.92 112 *eP* **P** **10 15 15.2 +1.7**
comp=Z,270nm,1.6s
MSVF LR LR
comp=Z,4μm,21.0s
WMQ Urumqi 54.98 328⇑*i* P **P** **10 15 15.0 +1.5**
WMQ pP **pP** **10 15 20.2 -2.0**
WMQ sP **sP** **10 15 22.8 -2.7**
WMQ PcP **PcP** **10 16 17.0 +1.9**
WMQ PP **PP** **10 17 19.0 +2.2**
WMQ ScP **ScP** **10 20 09.0 -3.0**
WMQ S **S** **10 22 54.8 +0.9**
WMQ SS **SS** **10 26 40.0 +2.1**
WMQ PMZ
comp=Z,200nm,1.6s
WMQ PMZ
comp=Z,680nm,6.4s
WMQ LN
comp=Z,11μm,20.0s
WMQ LE
comp=Z,10μm,24.8s
WMQ LZ
comp=Z,13μm,23.6s
SMLA Simla 54.99 309 *i* P **P** **10 15 13.4 -0.3**
SMLA AMB AMB 10 15 16.5
comp=Z,1μm,0.6s
SMLA *i* x x 10 22 49.1
IRK Irkutsk 55.01 345 *eP* **P** **10 15 14.6 +1.1**
IRK pmax pmax
comp=Z,334nm,1.6s
AJM Ajmer 55.26 303 *ex* **P** **10 15 15.0 -0.8**
SDNR Sundarnagar 55.30 309 *eP* **P** **10 15 16.0 0.0**
MOY Mondy 55.44 342 *eP* **P** **10 15 17.3 +0.6**
MOY pmax pmax
comp=Z,245nm,1.6s
BHK Bhakra 55.70 309 *eP* **P** **10 15 20.1 +1.3**
BHK *ex* x 10 16 07.7
DHRM DHARAMSHALA 56.13 310 *eP* **P** **10 15 19.9 -2.3**
DHRM AMB AMB 10 15 24.2
comp=Z,460nm,2.2s
DLH Dalhousie 56.51 310 *eP* **P** **10 15 23.0 -1.9**
DLH *ex* x 10 15 38.0
CLNS Chul'man 56.75 360 *eP* **P** **10 15 26.7 +0.8**
CLNS *e* 10 16 22.4
CLNS *e* 10 17 35.3
CLNS *eS* **S** **10 23 18.5 +1.6**
CLNS *e* 10 25 12.7
CLNS pmax pmax
comp=Z,183nm,1.1s
CLNS pmax pmax
comp=N,134nm,1.2s
CLNS pmax pmax
comp=E,40nm,0.9s
CLNS pmax pmax
comp=Z,34nm,1.4s
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=E,32nm,1.2s
CLNS smax smax
comp=N,639nm,14.4s
CLNS smax smax
comp=E,693nm,11.3s
CLNS MLR MLR
comp=N,2μm,20.0s
CLNS MLR MLR
comp=Z,4μm,21.0s
CLNS MLR MLR
comp=E,3μm,22.0s
SKR Severo-Kuril's 57.04 23 *eP* P 10 15 24.0 -4.0
SKR *eS* **S** **10 23 20.0 -0.8**
SKR *e* 10 25 10.0
SKR *eSS* **SS** **10 27 05.0 -4.9**
SKR pmax pmax
comp=Z,3μm,6.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR smax smax
comp=E,3μm,18.0s
SKR MLR MLR
comp=N,3μm,20.0s
SKR MLR MLR
comp=E,2μm,20.0s
SKR MLR MLR
comp=Z,4μm,20.0s
HVS Khovu-Aksy 57.55 337*d i* P **P** **10 15 32.3 +0.6**
HVS pmax pmax
comp=Z,348nm,0.8s
HVS MLR MLR
comp=Z,13μm,16.0s
AIS Amsterdam Isla 57.60 224 P P 10 15 14.0 -18
AIS S **S** **10 23 25.0 -3.7**
AIS L L 10 29 00.0
AIS R 10 32 00.0
BOD Bodaibo 58.41 353⇑*i* P **P** **10 15 39.0 +1.5**
BOD pmax pmax
comp=Z,47nm,1.8s
DCZ Deep Cove 58.43 146 *eP* **P** **10 15 38.9 +1.1**
comp=Z,281nm,1.4s
BHJ Bhuj 58.60 297 *eP* **P** **10 15 38.6 -0.9**
BHJ AMB AMB 10 16 30.6
comp=Z,86nm,0.7s
WHZ Wether Hill Ro 59.12 146 *eP* **P** **10 15 43.0 +0.3**
comp=Z,115nm,0.9s
HIZ Hauiti 59.48 136 *e*PN **P** **10 15 47.0 +1.7**
PETK Petropavlovsk- 59.56 22 P **P** **10 15 48.3 +2.7**
comp=Z,185nm,0.9s,baz=196,slow=5.7,SNR=73
PETK SKKP 10 40 25.4
comp=Z,0.4nm,0.3s,baz=79,slow=11,SNR=5.1
PETK LR LR 10 42 29.6
comp=Z,1μm,20.5s,baz=221,slow=37
RPZ Rata Peaks 59.65 143 *eP* **P** **10 15 47.5 +1.0**
comp=Z,444nm,1.3s
KSH Kashi 59.66 317⇑*i* P **P** **10 15 47.0 +0.3**
KSH pP **pP** **10 15 51.5 -3.9**
KSH sP **sP** **10 15 54.9 -3.9**
KSH PP **PP** **10 18 00.1 +1.5**
KSH PcS **PcS** **10 20 36.6 +0.7**
KSH S **S** **10 23 54.3 -1.4**
KSH PMZ
comp=Z,160nm,1.2s
KSH LN
comp=Z,5μm,23.5s
KSH LE
comp=Z,2μm,15.6s
KSH LZ
comp=Z,6μm,23.7s
MK31 Makanchi Array 59.81 327 P **P** **10 15 46.9 -0.6**
MK31 pmax pmax
comp=Z,46nm,0.4s
MKAR Makanchi Array 59.81 327 P **P** **10 15 46.9 -0.6**
comp=Z,50nm,0.3s,baz=123,slow=8.0,SNR=250
MKAR ScP **ScP** **10 20 31.4 -1.7**
comp=Z,9.4nm,0.8s,baz=135,slow=4.6,SNR=4.3
MKAR LR LR 10 43 11.3
comp=Z,7μm,19.2s,baz=120,slow=38
MKAR PKPPKP **P'P'df** **10 45 13.9 -0.8**
comp=Z,0.8nm,0.8s,baz=270,slow=2.4,SNR=4.2
MKAR PKP2bc 10 45 25.3
comp=Z,2.8nm,1.1s,baz=328,slow=2.2,SNR=5.8
PET Petropavlovsk 59.85 23 *eP* **P** **10 15 49.7 +2.1**
PET *eS* **S** **10 23 59.3 +1.9**
PET *eSS* **SS** **10 27 54.8 +0.8**
PET pmax pmax
comp=Z,3μm,8.0s
PET pmax pmax
comp=Z,509nm,1.4s
PET pmax pmax
comp=Z,1μm,15.9s
PET MLR MLR
comp=Z,2μm,20.0s
PET MLR MLR
comp=Z,2μm,20.0s
PET Petropavlovsk 59.85 23 *eP* **P** **10 15 50.0 +2.5**
comp=Z,915nm,1.4s
PET LR LR
comp=Z,2μm,21.0s
KHZ Kahutara 60.51 140 *eP* **P** **10 15 52.3 +0.1**
comp=Z,188nm,1.3s
SNZO South Karori 60.71 139 *eP* **P** **10 15 52.9 -0.7**
comp=Z,152nm,1.0s
SNZO LR LR
comp=Z,6μm,20.0s
ULHL Ulahol 60.83 320 P **P** **10 15 55.4 +0.6**
SNR=23
ULHL Ulahol 60.83 320 *i* P **P** **10 15 55.4 +0.6**
AAA Alma-Ata 60.91 321 *i* P **P** **10 15 55.3 +0.2**
AAA *i* S **S** **10 24 12.9 +1.4**
AAA pmax pmax
comp=Z,1μm,1.9s
AAA smax smax
comp=N,2μm,8.9s
AAA MLR MLR
comp=Z,5μm,19.0s
BKZ Black Stump Fm 60.92 136 PN **P** **10 15 55.1 -0.2**
BKZ Black Stump Fm 60.92 136 *eP* **P** **10 15 55.7 +0.4**
comp=Z,277nm,1.5s
URZ Urewera 60.95 135 P **P** **10 15 55.4 0.0**
comp=Z,30nm,0.5s,baz=259,slow=4.8,SNR=5.1
URZ Urewera 60.95 135 PN **P** **10 15 54.8 -0.6**
URZ Urewera 60.95 135 *eP* **P** **10 15 55.4 0.0**
comp=Z,86nm,1.0s
MRZ Mangatainoka R 60.98 138 PN **P** **10 15 54.9 -0.6**
HAZ Te Kaha 61.22 134 PN **P** **10 15 57.8 +0.6**
MWZ Matawai 61.28 135 PN **P** **10 15 57.5 -0.2**
KZA Kyzart 61.38 320 P **P** **10 15 59.2 +0.4**
SNR=147
KZA Kyzart 61.38 320 *i* P **P** **10 15 59.2 +0.4**
BFZ Birch Farm 61.44 138 *e*PN **P** **10 15 58.6 -0.1**
BFZ Birch Farm 61.44 138 *eP* **P** **10 15 59.2 +0.6**
comp=Z,241nm,1.4s
RAO Raoul Island 61.51 124 PFAKE 10 16 10.0 +11
RAO LR LR
comp=Z,5μm,20.0s
SFK Sufi-Kurgan 61.57 317 P **P** **10 16 00.1 +0.2**
SFK pmax pmax
comp=Z,169nm,1.2s
TKM2 Tokmak 2 61.58 321 P **P** **10 15 59.9 0.0**
SNR=122
TKM2 Tokmak 2 61.58 321 *eP* **P** **10 15 59.8 0.0**
TKM2 pmax pmax
comp=Z,1μm,1.9s
TKM2 MLR MLR
comp=Z,5μm,22.0s
TKM2 Tokmak 2 61.58 321 *eP* **P** **10 15 59.8 0.0**
comp=Z,1μm,1.9s
TKM2 LR LR
comp=Z,5μm,22.0s
RIGZ Rimuhau 61.60 135 PN **P** **10 16 00.1 +0.2**
KBK Karagaybulak 61.86 320 P **P** **10 16 04.8 +3.1**
SNR=89
KBK Karagaybulak 61.86 320 *i* P **P** **10 16 04.8 +3.1**
UCH Uchtor 61.94 319 P **P** **10 16 02.6 0.0**
SNR=154
UCH Uchtor 61.94 319 *i* P **P** **10 16 02.5 0.0**
YAK Yakutsk 62.06 2*c i* P **P** **10 16 03.2 +0.8**
YAK *e**PP **pP** **10 16 11.1 0.0**
YAK *e* 10 16 43.7
YAK *e* 10 18 16.8
YAK *eS* **S** **10 24 23.5 -1.7**
YAK *e**SS **sS** **10 24 37.5 -2.1**
YAK *e* 10 25 50.3
YAK *eSS* **SS** **10 28 25.1 -3.1**
YAK pmax pmax

	comp=Z,657nm,1.5s									
YAK					pmax	pmax				
	comp=N,316nm,1.4s									
YAK					pmax	pmax				
	comp=E,151nm,1.4s									
YAK					pmax	pmax				
	comp=E,108nm,2.0s									
YAK					pmax	pmax				
	comp=Z,217nm,1.5s									
YAK					pmax	pmax				
	comp=N,276nm,1.8s									
YAK					smax	smax				
	comp=E,1μm,1.9s									
YAK					smax	smax				
	comp=N,829nm,1.8s									
YAK					MLR	MLR				
	comp=Z,3μm,19.0s									
YAK					MLR	MLR				
	comp=N,2μm,18.0s									
YAK					MLR	MLR				
	comp=E,1μm,19.0s									
YAK	**Yakutsk**	**62.06**	**2**	P	**P**		**10 16 02.6**	**+0.3**		
	comp=E,415nm,0.8s,baz=194,slow=1.8,SNR=91									
YAK	**Yakutsk**	**62.06**	**2**	*e*P	**P**		**10 16 03.5**	**+1.2**		
	comp=E,511nm,0.8s									
YAK					LR	LR				
	comp=Z,3μm,20.0s									
AAK	**Ala-Archa**	**62.14**	**320**	P	**P**		**10 16 03.9**	**+0.3**		
	SNR=96									
AAK	**Ala-Archa**	**62.14**	**320**	*c i*P	**P**		**10 16 03.5**	**-0.1**		
AAK					pmax	pmax				
	comp=Z,854nm,1.8s									
AAK					MLR	MLR				
	comp=Z,19μm,20.0s									
AAK	**Ala-Archa**	**62.14**	**320**	P	**P**		**10 16 03.6**	**-0.1**		
	comp=Z,22nm,0.4s,baz=128,slow=4.6,SNR=75									
AAK	**Ala-Archa**	**62.14**	**320**	P	**P**		**10 16 03.7**	**+0.1**		
	SNR=183									
AAK	**Ala-Archa**	**62.14**	**320**	*e*P	**P**		**10 16 03.3**	**-0.3**		
	comp=Z,542nm,1.7s									
AAK					LR	LR				
	comp=Z,8μm,22.0s									
CHMS	**Chumysh**	**62.16**	**320**	P	**P**		**10 16 05.9**	**+2.4**		
	SNR=23									
CHMS	**Chumysh**	**62.16**	**320**	*i* P	**P**		**10 16 05.9**	**+2.4**		
FRU	**Bishkek**	**62.16**	**320**	*i* P	**P**		**10 16 05.0**	**+1.4**		
FRU				*e*			10 18 30.0			
FRU				*i* S	S		10 24 45.0	+18		
FRU					pmax	pmax				
	comp=N,330μm,1.6s									
FRU					MLR	MLR				
	comp=E,8μm,24.0s									
FRU					MLR	MLR				
	comp=E,7μm,24.0s									
AML	**Almayashu**	**62.42**	**319**	P	**P**		**10 16 05.8**	**0.0**		
	SNR=166									
AML	**Almayashu**	**62.42**	**319**	*i* P	**P**		**10 16 05.8**	**0.0**		
USP	**Ospenovka**	**62.45**	**320**	P	**P**		**10 16 05.3**	**-0.2**		
	SNR=132									
USP	**Ospenovka**	**62.45**	**320**	*i* P	**P**		**10 16 05.3**	**-0.2**		
KBL	**Kabul**	**62.61**	**310**	*e*P	**P**		**10 16 06.3**	**-0.7**		
KBL					pmax	pmax				
	comp=Z,122nm,0.9s									
KBL	**Kabul**	**62.61**	**310**	*e*P	**P**		**10 16 06.3**	**-0.7**		
	comp=Z,122nm,0.9s									
EKS2	**Erkin-Say**	**62.62**	**320**	P	**P**		**10 16 07.2**	**+0.4**		
	SNR=61									
EKS2	**Erkin-Say**	**62.62**	**320**	*e*P	**P**		**10 16 07.0**	**+0.3**		
EKS2					pmax	pmax				
	comp=Z,771nm,1.9s									
EKS2					MLR	MLR				
	comp=E,5μm,20.0s									
EKS2	**Erkin-Say**	**62.62**	**320**	*e*P	**P**		**10 16 07.0**	**+0.3**		
	comp=Z,771nm,1.9s									
EKS2					LR	LR				
	comp=Z,5μm,20.0s									
ZALV	**Zalesovo Beam**	**63.28**	**335**	P	**P**		**10 16 09.7**	**-1.0**		
	comp=Z,17nm,0.3s,baz=124,slow=3.9,SNR=94									
ZALV					PKP2bc		10 45 14.9			
	comp=Z,2.7nm,0.9s,baz=321,slow=2.1,SNR=6.0									
ZALV					LR	LR	10 46 16.8			
	comp=Z,4μm,18.1s,baz=118,slow=38									
MNAS	**Manas**	**63.37**	**319**	P	**P**		**10 16 11.6**	**-0.2**		
MNAS					pmax	pmax				
	comp=Z,451nm,1.8s									
AFI	**Afiamalu**	**63.93**	**105**	PFAKE			10 16 30.0	+14		
AFI					LR	LR				
	comp=Z,3μm,20.0s									
KURBB	**Kurchatov Arra**	**64.11**	**329**	P	**P**		**10 16 15.7**	**-0.6**		
	comp=Z,27nm,0.4s,baz=128,slow=6.2,SNR=81									
KURBB					PcP	**PcP**	**10 16 52.2**	**+1.0**		
	comp=Z,37nm,0.7s,baz=130,slow=5.4,SNR=5.2									
KURK	**Kurchatov**	**64.12**	**329**	P	**P**		**10 16 15.7**	**-0.6**		
KURK							10 16 52.2			
KURK					pmax	pmax				
	comp=Z,27nm,0.4s									
KURK					pmax	pmax				
	comp=Z,37nm,0.7s									
KURK	**Kurchatov**	**64.12**	**329**	P	**P**		**10 16 15.9**	**-0.3**		
	SNR=79									
KURK	**Kurchatov**	**64.12**	**329**	*e*P	**P**		**10 16 15.6**	**-0.7**		
	comp=Z,262nm,1.1s									
KURK					PcP	**PcP**	**10 16 52.2**	**+1.0**		
KURK					LR	LR				
	comp=Z,3μm,20.0s									
DZET	**Dzherino**	**64.35**	**314**	P	**P**		**10 16 16.7**	**-1.6**		
DZET					pmax	pmax				
	comp=Z,185nm,1.0s									
NVS	**Novosibirsk**	**64.56**	**335**	⇑*i*P	**P**		**10 16 16.7**	**-2.4**		
NVS				*e*S	S		10 24 48.2	-8.5		
NVS					pmax	pmax				
	comp=E,32nm,0.5s									
NVS					pmax	pmax				
	comp=Z,64nm,0.5s									
NVS					pmax	pmax				
	comp=N,32nm,0.7s									
NVS					smax	smax				
	comp=N,54nm,1.9s									
NVS					smax	smax				
	comp=E,115nm,1.9s									
KK31	**Karatay Array**	**64.96**	**319**	*i* P	**P**		**10 16 20.7**	**-1.3**		
KK31					pmax	pmax				
	comp=Z,148nm,1.1s									
KKAR	**Karatay Array**	**64.96**	**319**	*e*P	**P**		**10 16 21.4**	**-0.6**		
KKAR	**Karatay Array**	**64.96**	**319**	*e*P	**P**		**10 16 21.4**	**-0.6**		
SEY	**Seymchan**	**66.09**	**13**	P	**P**		**10 16 30.5**	**+1.6**		
SEY	**Seymchan**	**66.09**	**13**	P	**P**		**10 16 31.5**	**+2.6**		
	comp=Z,163nm,1.2s,baz=215,slow=5.6,SNR=152									
OTUK	**Ortayu**	**66.22**	**324**	*i* P	**P**		**10 16 28.5**	**-1.5**		
CASY	**Casey**	**66.86**	**186**	*e*P	**P**		**10 16 33.5**	**-0.2**		
	comp=Z,220nm,1.6s									
CASY					LR	LR				
	comp=Z,8μm,22.0s									
DRV	**Dumont d'Urvil**	**67.27**	**174**	P	P		10 16 11.0	-25		
DRV				PP	PP		10 18 38.0	-27		
DRV				S	S		10 25 10.0	-19		
DRV				SS	**SS**		**10 29 45.0**	**-4.3**		
DRV				L	L		10 32 00.0			
DRV				R			10 37 00.0			
PAF	**Port-aux-Franc**	**67.83**	**215**	P	P		10 16 27.0	-13		
PAF				S	S		10 25 19.0	-18		
PAF				SS	SS		10 29 44.0	-15		
PAF				L	L		10 33 00.0			
PAF				R			10 37 00.0			
PAF	**Port-aux-Franc**	**67.83**	**215**	PFAKE			10 16 50.0	+10		
PAF				LR	LR					
	comp=Z,5μm,20.0s									
JMDO	**Jabal Madar**	**68.83**	**294**	⇓P	**P**		**10 16 44.6**	**-2.4**		
	SNR=11									
IDAH	**Dahanechah**	**69.38**	**305**	*e*P	**P**		**10 16 49.9**	**-0.7**		
BVA0	**Borovoye Array**	**69.66**	**328**	P	**P**		**10 16 50.5**	**-1.0**		
BVA0					pmax	pmax				
	comp=Z,190nm,1.1s									
BVAR	**Borovoye Array**	**69.66**	**328**	P	**P**		**10 16 50.9**	**-0.6**		
BVAR					pmax	pmax				
	comp=Z,19nm,0.4s									
BVAR	**Borovoye Array**	**69.66**	**328**	P	**P**		**10 16 50.9**	**-0.6**		
	comp=Z,19nm,0.4s,baz=126,slow=7.5,SNR=112									
MSEY	**Mahe Island**	**69.69**	**265**	*e*P	**P**		**10 16 52.8**	**+0.2**		
MSEY					pmax	pmax				
	comp=Z,224nm,1.9s									
MSEY					MLR	MLR				
	comp=Z,3μm,20.0s									
MSEY	**Mahe Island**	**69.69**	**265**	⇓*i*P	**P**		**10 16 51.4**	**-1.2**		
	SNR=5.8									
MSEY	**Mahe Island**	**69.69**	**265**	P	**P**		**10 16 53.2**	**+0.7**		
	SNR=6.2									
MSEY	**Mahe Island**	**69.69**	**265**	*e*P	**P**		**10 16 52.8**	**+0.2**		
	comp=Z,224nm,1.9s									
MSEY					LR	LR				
	comp=Z,3μm,20.0s									
BSY	**Bisya**	**69.72**	**294**	P	**P**		**10 16 51.8**	**-0.8**		
	SNR=6.1									
IKOO	**Kooshah**	**70.01**	**305**	*e*P	**P**		**10 16 52.9**	**-1.6**		
MIR	**Mirnyy**	**70.09**	**193**	*e*P	**P**		**10 16 55.0**	**+1.1**		
MIR					pmax	pmax				
	comp=Z,18nm,1.5s									
ITEG	**Tejag**	**70.33**	**305**	*e*P	**P**		**10 16 55.4**	**-1.0**		
ARQ	**Araqi**	**70.43**	**295**	⇑P	**P**		**10 16 55.0**	**-1.9**		
	SNR=11									
SHAO	**Shalim**	**70.54**	**289**	⇓P	**P**		**10 16 55.9**	**-1.8**		
	SNR=8.5									
RER	**Riviere de l'E**	**70.76**	**248**	*e*P	**P**		**10 16 59.8**	**+0.8**		
	comp=Z,157nm,0.9s									
RER					LR	LR				
	comp=Z,4μm,22.0s									
HATD	**Hatta, Dubai**	**71.01**	**296**	⇓*i*P	**P**		**10 16 58.5**	**-1.9**		
	SNR=11									
HATD	**Hatta, Dubai**	**71.01**	**296**	⇓P	**P**		**10 16 58.6**	**-1.9**		
	SNR=12									
ADK	**Adak**	**71.02**	**34**	*e*P	**P**		**10 17 02.5**	**+2.6**		
ADK					pmax	pmax				
	comp=Z,673nm,1.3s									
ADK					MLR	MLR				
	comp=Z,2μm,19.0s									
ADK	**Adak**	**71.02**	**34**	*e*P	**P**		**10 17 02.5**	**+2.6**		
	comp=Z,673nm,1.3s									
ADK					LR	LR				
	comp=Z,2μm,19.0s									
BANOM	**Banah**	**71.04**	**297**	*i* P	**P**		**10 17 02.3**	**+1.7**		
	SNR=6.1									
ASHO	**Ashiyiah**	**71.05**	**296**	⇓*i*P	**P**		**10 17 00.0**	**-0.7**		
	SNR=7.3									
ASHO	**Ashiyiah**	**71.05**	**296**	⇓P	**P**		**10 16 58.5**	**-2.2**		
	SNR=11									
IAKL	**Akhelmad**	**71.22**	**309**	*e*P	**P**		**10 17 00.2**	**-1.6**		
GSTR	**Great Sitkin T**	**71.46**	**34**	*e*P	P		10 17 06.0	+3.5		
NAZ	**Nazwa, Dubai**	**71.46**	**296**	⇓*i*P	**P**		**10 17 01.4**	**-1.7**		
	SNR=6.3									
NAZ	**Nazwa, Dubai**	**71.46**	**296**	⇑P	**P**		**10 17 01.2**	**-1.9**		
	SNR=8.2									
FAQ	**Al Faqa, Dubai**	**71.48**	**296**	⇓*i*P	**P**		**10 17 01.2**	**-2.1**		
	SNR=7.9									
TIXI	**Tiksi**	**71.66**	**1**	*c i*P	**P**		**10 17 03.2**	**-0.2**		
TIXI					pmax	pmax				
	comp=Z,370nm,1.7s									
TIXI					MLR	MLR				
	comp=Z,6μm,24.0s									
TIXI	**Tiksi**	**71.66**	**1**	*e*P	**P**		**10 17 03.2**	**-0.2**		
	comp=Z,651nm,1.7s									
TIXI					LR	LR				
	comp=Z,6μm,22.0s									
ASUD	**Al Ashush, Dub**	**71.70**	**296**	*i* P	**P**		**10 17 04.5**	**-0.1**		
	SNR=8.8									
ASUD	**Al Ashush, Dub**	**71.70**	**296**	⇑P	**P**		**10 17 03.0**	**-1.6**		
	SNR=18									
RBK	**Rabkut**	**71.83**	**288**	⇓P	**P**		**10 17 03.0**	**-2.5**		
	SNR=20									
ISFR	**Sfrayin**	**71.92**	**309**	*e*P	**P**		**10 17 04.9**	**-1.2**		
GEYT	**Alibeck**	**72.05**	**310**	P	**P**		**10 17 05.7**	**-0.8**		
	comp=Z,7.6nm,0.3s,baz=132,slow=2.2,SNR=16									
GEYT					LR	LR	10 52 33.3			
	comp=Z,3μm,20.7s,baz=125,slow=39									
ABTO	**Aybut**	**72.68**	**288**	⇑P	**P**		**10 17 07.9**	**-2.7**		
	SNR=24									
BILL	**Bilibino**	**73.64**	**15**	*c i*P	**P**		**10 17 16.2**	**+1.0**		
BILL				*i*			10 17 31.8			
BILL				*i*			10 20 03.7			
BILL					pmax	pmax				
	comp=Z,174nm,1.7s									
BILL	**Bilibino**	**73.64**	**15**	*e*P	**P**		**10 17 15.4**	**+0.2**		
	comp=Z,202nm,1.5s									
BILL					LR	LR				
	comp=Z,2μm,22.0s									
ABKAR	**Akbulak array**	**74.09**	**322**	*e*P	**P**		**10 17 17.7**	**-0.6**		
IPAR	**Pars**	**74.52**	**301**	*e*P	**P**		**10 17 20.7**	**-0.9**		
IGLO	**Ghaloghah**	**75.06**	**308**	*e*P	P		10 17 21.1	-3.3		
IKAZ	**Kazeroun**	**75.55**	**301**	*e*P	**P**		**10 17 26.1**	**-1.4**		
IZEF	**Zefreh**	**75.62**	**304**	*e*P	**P**		**10 17 25.8**	**-2.0**		
AKTO	**Aktyubinsk**	**75.65**	**323**	P	**P**		**10 17 26.9**	**-0.4**		
AKTO					pmax	pmax				
	comp=Z,86nm,0.4s									
AKTO	**Aktyubinsk**	**75.65**	**323**	P	**P**		**10 17 26.9**	**-0.4**		
	comp=Z,86nm,0.4s,baz=106,slow=7.4,SNR=247									
IFIR	**Firoozkooh**	**75.76**	**307**	*e*P	**P**		**10 17 27.4**	**-1.1**		
IALA	**Alasht**	**75.79**	**307**	*e*P	**P**		**10 17 27.8**	**-1.0**		
RAR	**Rarotonga**	**76.11**	**112**	*e*P	**P**		**10 17 32.5**	**+2.1**		
RAR					pmax	pmax				
	comp=Z,1μm,2.7s									
RAR	**Rarotonga**	**76.11**	**112**	*e*P	**P**		**10 17 32.5**	**+2.1**		
	comp=Z,1μm,2.7s									
IPRN	**Peran**	**76.20**	**307**	*e*P	**P**		**10 17 29.3**	**-1.6**		
IKLH	**Kolahrood**	**76.31**	**304**	*e*P	**P**		**10 17 31.5**	**-0.2**		
SVE	**Sverdlovsk**	**76.37**	**329**	*de*P	**P**		**10 17 30.7**	**-0.5**		
SVE				*e*PPP	PPP		10 22 11.0			
SVE				*e*S	**S**		**10 27 09.6**	**-4.8**		
SVE					pmax	pmax				
	comp=Z,440nm,1.5s									
SVE					MLR	MLR				
	comp=Z,4μm,25.0s									
IVRN	**Varamin**	**76.47**	**306**	*e*P	**P**		**10 17 31.3**	**-1.0**		
MUKL	**Al Mukalla**	**76.54**	**285**	*e*P	**P**		**10 17 32.0**	**-0.9**		
IPIR	**Pirpir**	**76.78**	**304**	*e*P	**P**		**10 17 31.8**	**-2.6**		
IR3	**Iran Long-Peri**	**77.12**	**306**	*e*P	**P**		**10 17 34.6**	**-1.4**		
ARU	**Arti**	**77.30**	**329**	*c i*P	**P**		**10 17 35.6**	**-0.8**		
ARU				*e*			10 20 29.3			
ARU				PPP	PPP		10 22 15.4			
ARU				S	**S**		**10 27 24.6**	**0.0**		
ARU					pmax	pmax				
	comp=Z,408nm,1.7s									
ARU					MLR	MLR				
	comp=Z,3μm,21.0s									
ARU	**Arti**	**77.30**	**329**	*e*P	**P**		**10 17 35.6**	**-0.8**		
	comp=Z,232nm,1.1s									
ARU					LR	LR				
	comp=Z,3μm,22.0s									
XMAS	**Kiritimati**	**77.46**	**88**	PFAKE			10 17 50.0	+12		
XMAS					LR	LR				
	comp=Z,3μm,19.0s									
UNV	**Unalaska Valle**	**77.47**	**34**	*e*P	**P**		**10 17 39.3**	**+1.9**		
	comp=Z,1μm,1.6s									
KIP	**Kipapa**	**77.82**	**68**	PFAKE			10 17 50.0	+10		
KIP					LR	LR				
	comp=Z,4μm,21.0s									
IRAZ	**Razeghan**	**77.99**	**306**	*e*P	**P**		**10 17 39.7**	**-1.3**		
CRZF	**Crozet Islands**	**78.43**	**223**	S	S		10 27 28.0	-9.2		
CRZF				L	L		10 38 00.0			
CRZF				R			10 42 00.0			
ABPO	**Ambohimpanom**	**78.51**	**251**	*e*P	**P**		**10 17 44.1**	**-0.1**		
ABPO					pmax	pmax				
	comp=Z,176nm,1.5s									
ABPO					MLR	MLR				
	comp=Z,2μm,22.0s									
ABPO	**Ambohimpanom**	**78.51**	**251**	*e*P	**P**		**10 17 44.1**	**-0.1**		
	comp=Z,176nm,1.5s									
ABPO					LR	LR				
	comp=Z,2μm,22.0s									
GAMB	**Gambell**	**78.52**	**24**	*e*P	**P**		**10 17 45.4**	**+2.4**		
	comp=Z,491nm,1.3s									
SOKR	**Solikamsk**	**79.25**	**331**	*c i*P	**P**		**10 17 46.6**	**-0.5**		
SOKR							10 20 49.6			
SOKR					S	**S**		**10 27 41.4**	**-3.8**	
SOKR					pmax	pmax				
	comp=Z,170nm,1.1s									
SOKR					MLR	MLR				
	comp=Z,4μm,17.0s									
MAW	**Mawson**	**79.63**	**200**	P	**P**		**10 17 50.0**	**+0.9**		
MAW					pmax	pmax				
	comp=Z,82nm,1.3s									
MAW	**Mawson**	**79.63**	**200**	P	**P**		**10 17 50.0**	**+0.9**		
	comp=Z,82nm,1.3s,baz=56,slow=7.3,SNR=26									
MAW					LR	LR	10 50 20.2			
	comp=Z,1μm,20.8s,baz=52,slow=34									
VNDA	**Vanda**	**79.87**	**172**	*e*P	**P**		**10 17 50.2**	**-0.1**		
VNDA					pmax	pmax				
	comp=Z,44nm,1.1s									
VNDA	**Vanda**	**79.87**	**172**	P	**P**		**10 17 50.5**	**+0.2**		
	comp=Z,12nm,0.9s,baz=317,slow=6.1,SNR=31									
VNDA					LR	LR	10 53 20.3			
	comp=Z,2μm,19.5s,baz=343,slow=36									
VNDA	**Vanda**	**79.87**	**172**	*e*P	**P**		**10 17 50.2**	**-0.1**		
	comp=Z,44nm,1.1s									
POHA	**Pohakuloa**	**80.02**	**70**	*e*P	**P**		**10 17 54.2**	**+1.8**		
	comp=Z,334nm,1.1s									
PUH	**Pauahi**	**80.29**	**70**	*e*P	P		10 17 57.2	+3.5		
RAYN	**Ar Rayn**	**80.50**	**294**	*e*P	**P**		**10 17 53.8**	**-1.0**		
	comp=Z,28nm,0.8s									
TNA	**Tin City**	**80.72**	**23**	*e*P	**P**		**10 17 57.0**	**+2.0**		
	comp=Z,131nm,1.1s									
SBA	**Scott Base**	**80.81**	**172**	*e*P	**P**		**10 17 56.4**	**+1.2**		
SBA					pmax	pmax				
	comp=Z,272nm,1.9s									
SBA					MLR	MLR				
	comp=Z,4μm,22.0s									
SBA	**Scott Base**	**80.81**	**172**	*e*P	**P**		**10 17 56.4**	**+1.2**		
	comp=Z,272nm,1.9s									
SBA					LR	LR				
	comp=Z,4μm,22.0s									
MAK	**Makhachkala**	**80.99**	**313**	*e*P	**P**		**10 17 56.9**	**0.0**		
MAK				*e*			10 18 10.1			
MAK				*e*			10 21 01.0			
MAK				*e*PPP	PPP		10 22 47.8			
MAK				*e*S	**S**		**10 28 03.5**	**-0.8**		
MAK					pmax	pmax				
	comp=Z,158nm,1.5s									
DAMY	**Dhamar**	**81.03**	**285**	*e*P	**P**		**10 18 00.0**	**+1.9**		
	comp=Z,578nm,2.2s									
TRBA	**At Turbah**	**81.25**	**283**	*e*P	**P**		**10 18 00.2**	**+1.1**		
SDPT	**Sand Point**	**81.25**	**34**	*e*P	**P**		**10 17 59.9**	**+1.9**		
DGRG	**David-gareji**	**82.36**	**312**	P	**P**		**10 18 05.2**	**+1.0**		
DGRG				S	**S**		**10 28 15.7**	**-3.0**		
GNI	**Garni**	**82.69**	**310**	*c i*P	**P**		**10 18 06.4**	**+0.2**		
GNI					pmax	pmax				
	comp=Z,2μm,24.2s									
GNI	**Garni**	**82.69**	**310**	P	**P**		**10 18 06.0**	**-0.1**		
	comp=Z,6.1nm,0.4s,baz=190,slow=3.0,SNR=32									
GNI	**Garni**	**82.69**	**310**	⇓*i*P	**P**		**10 18 06.6**	**+0.5**		
	SNR=19									
GNI	**Garni**	**82.69**	**310**	P	**P**		**10 18 07.0**	**+0.9**		
	SNR=37									
GNI	**Garni**	**82.69**	**310**	*e*P	**P**		**10 18 07.3**	**+1.1**		
	comp=Z,135nm,1.2s									
GNI					LR	LR				
	comp=Z,1μm,20.0s									
SEAG	**Tbilisi Sea**	**82.82**	**312**	P	**P**		**10 18 06.9**	**+0.3**		
TBLG	**Delisi**	**82.86**	**312**	P	**P**		**10 18 06.9**	**+0.1**		
TBLG				S	**S**		**10 28 19.1**	**-4.8**		
KZR	**Kazreti**	**83.07**	**312**	P	**P**		**10 18 09.1**	**+1.2**		
GUDG	**Gudauri**	**83.14**	**313**	P	**P**		**10 18 09.5**	**+0.9**		
HKR	**Hakkari**	**83.20**	**308**	*e*P	**P**		**10 18 10.1**	**+1.2**		
CLDR	**Caldiran**	**83.21**	**309**	*e*P	**P**		**10 18 09.1**	**+0.1**		
HAKT	**HAKKARI**	**83.23**	**308**	*i* P	**P**		**10 18 06.9**	**-2.3**		
CUKT	**Cukurca**	**83.28**	**307**	*e*P	**P**		**10 18 08.4**	**-0.8**		
DYDN	**Diyadin**	**83.43**	**310**	*i* P	**P**		**10 18 10.8**	**+0.7**		
VANB	**Van**	**83.57**	**309**	*e*P	**P**		**10 18 09.7**	**-1.0**		
ZEI	**Tsey**	**83.60**	**313**	*e*P	P		10 18 07.3	-3.6		
ZEI					pmax	pmax				
	comp=Z,212nm,1.4s									
EAK	**Akyaka**	**83.60**	**311**	*i* P	**P**		**10 18 12.1**	**+1.2**		
DIGO	**Kars**	**83.75**	**311**	*i* P	**P**		**10 18 12.8**	**+1.0**		
AKH	**Akhalkalaki**	**83.76**	**312**	P	**P**		**10 18 12.1**	**+0.4**		
AKH				S	**S**		**10 28 30.9**	**-2.3**		
GEVA	**Gevas**	**83.81**	**308**	*i* P	**P**		**10 18 12.4**	**+0.4**		
NCK	**Nalchik**	**83.89**	**314**	⇑*e*P	**P**		**10 18 11.4**	**-0.7**		
ONI	**Oni**	**83.91**	**313**	P	**P**		**10 18 12.8**	**+0.5**		
ONI				S	**S**		**10 28 31.9**	**-2.5**		
AGRB	**Hanur-Agry**	**83.97**	**310**	*e*P	**P**		**10 18 13.3**	**+0.5**		
KARS	**Kars**	**84.00**	**311**	*e*P	**P**		**10 18 13.1**	**+0.2**		
SIRT	**Sirnak**	**84.23**	**308**	*e*P	**P**		**10 18 13.7**	**-0.4**		
EATA	**Eleskirt**	**84.38**	**310**	*i* P	**P**		**10 18 16.4**	**+1.3**		
KBZ	**Khabaz**	**84.42**	**314**	P	**P**		**10 18 14.2**	**-0.5**		
	comp=Z,57nm,0.9s,baz=103,slow=3.1,SNR=105									
KBZ					LR	LR	11 00 48.1			
	comp=Z,742nm,19.9s,baz=74,slow=39									
GOF	**Gofitskoye**	**84.44**	**315**	*e*P	**P**		**10 18 15.6**	**+0.7**		
GOF				*e*S	**S**		**10 28 34.2**	**-5.4**		
KIV	**Kislovodsk**	**84.59**	**314**	*e*P	**P**		**10 18 15.8**	**0.0**		
KIV				*e*			10 21 28.4			
KIV				*e*PPP	PPP		10 23 24.2			
KIV				*e*			10 28 36.1			
KIV					pmax	pmax				
	comp=Z,126nm,1.1s									
KIV					pmax	pmax				
	comp=Z,427nm,4.3s									
KIV					MLR	MLR				
	comp=Z,2μm,19.0s									
KIV	**Kislovodsk**	**84.59**	**314**	⇑*i*P	**P**		**10 18 15.5**	**-0.3**		
	SNR=41									
KIV	**Kislovodsk**	**84.59**	**314**	P	**P**		**10 18 16.0**	**+0.2**		
	SNR=78									
KIV	**Kislovodsk**	**84.59**	**314**	*e*P	**P**		**10 18 15.6**	**-0.1**		
	comp=Z,666nm,1.9s									
KIV					LR	LR				
	comp=Z,2μm,21.0s									
EKAR	**Karacoban**	**84.66**	**309**	*i* P	**P**		**10 18 17.4**	**+1.0**		
HOMI	**Horasan**	**84.84**	**310**	*i* P	**P**		**10 18 18.3**	**+1.0**		
SVW2	**Sparrevohn**	**84.91**	**29**	*e*P	**P**		**10 18 19.2**	**+2.4**		
ARTV	**Artvin**	**84.91**	**311**	*i* P	**P**		**10 18 18.0**	**+

KDAK LR LR
comp=Z,2µm,21.0s
DYBB Diyarbakir 86.08 308 *e*P **P** **10 18 24.2 +0.9**
RSO Redoubt South 86.19 29 *e*P **P** **10 18 24.6 +1.1**
BAYT Ayd¯–ntepe-Bay 86.21 310 *e*P **P** **10 18 23.9 -0.1**
IM04 Indian Mountai 86.45 24 *e*P **P** **10 18 25.0 +0.5**
FURI Furi 86.48 279 P **P** **10 18 28.5 +2.4**
FURI S **S** **10 28 59.5 -2.0**
ERZN Erzincan 86.49 309 *e*P **P** **10 18 25.5 +0.1**
SPU Mount Spurr 86.62 29 *e*P **P** **10 18 25.9 +0.5**
SOC Sochi 86.71 313*c* *i*P **P** **10 18 25.4 -0.8**
SOC *e**PP **pP** **10 18 33.8 -1.4**
SOC *e**SP **sP** **10 18 37.8 -0.7**
SOC *e* 10 21 48.7
SOC *e*PPP PPP 10 23 52.2
SOC *e*S **SKSac** **10 28 48.1 -3.2**
SOC *e**SS **ScS** **10 29 06.0 -3.9**
SOC *e*SS **SS** **10 34 42.7 -1.0**
SOC pmax pmax
comp=Z,209nm,1.2s
SOC pmax pmax
comp=Z,608nm,1.7s
SOC MLR MLR
comp=Z,2µm,22.0s
PPLA Purkeypile 86.75 27 *e*P **P** **10 18 27.7 +1.6**
comp=Z,166nm,1.4s
SVRC Sivrice-ELAZID 86.75 308 *e*P **P** **10 18 27.1 +0.3**
CAST Castle Rocks 86.85 27 *e*P **P** **10 18 28.0 +1.6**
comp=Z,17nm,0.8s
KELT Kelkit 86.88 310 *i*P **P** **10 18 28.2 +0.8**
KSRV Kasrt alli 86.89 306 *e*P **P** **10 18 29.0 +1.8**
ELZG Elazig 87.01 308 *i*P **P** **10 18 29.2 +1.2**
URFA Urfa 87.10 307 *e*P **P** **10 18 28.6 +0.3**
KTH Kantishna Hill 87.39 26 *e*P **P** **10 18 30.1 +0.9**
comp=Z,130nm,1.3s
VORD Divnogorie 87.42 321 *e*P P 10 18 26.2 -3.2
VORD *e*S **S** **10 29 02.8 -5.6**
VORD pmax pmax
comp=Z,390nm,1.5s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,170nm,1.2s
VORD smax smax
comp=E,60nm,0.9s
VORD smax smax
comp=Z,5.0nm,0.9s
VORD smax smax
comp=N,30nm,1.1s
VORD MLR MLR
comp=Z,4µm,24.0s
VORD MLR MLR
comp=N,3µm,23.0s
VORD MLR MLR
comp=E,3µm,23.0s
KEMA Kemaliye 87.43 309 *i*P **P** **10 18 30.5 +0.6**
MALT Malatya 87.44 308 *e*P **P** **10 18 30.8 +0.8**
MALT Malatya 87.44 308⇑ *i*P **P** **10 18 30.6 +0.6**
ATAB Bozova 87.52 307 *i*P **P** **10 18 31.1 +0.9**
VSR Storozhevoye 87.52 321 *e*P P 10 18 26.6 -3.3
VSR *e*S **S** **10 29 06.6 -2.7**
VSR pmax pmax
comp=Z,280nm,1.3s
VSR pmax pmax
comp=N,30nm,1.1s
VSR pmax pmax
comp=E,180nm,1.1s
VSR smax smax
comp=N,40nm,1.2s
VSR smax smax
comp=Z,2.0nm,0.6s
VSR smax smax
comp=E,30nm,1.1s
VSR MLR MLR
comp=N,2µm,25.0s
VSR MLR MLR
comp=Z,4µm,25.0s
VSR MLR MLR
comp=E,3µm,24.0s
VOR Voronezh 87.52 322⇑ *i*P **P** **10 18 28.0 -1.9**
VOR pmax pmax
comp=Z,1µm,1.6s
TRF Thorofare Moun 87.66 27 *e*P P 10 18 25.4 -5.1
comp=Z,105nm,1.2s
RC01 Rabbit Creek A 87.73 29 *e*P **P** **10 18 31.8 +1.1**
comp=Z,65nm,0.8s
SLMH Al Salmeh 87.77 306 *e*P **P** **10 18 33.1 +1.6**
SEW Seward 87.80 30 *e*P **P** **10 18 32.5 +1.5**
comp=Z,112nm,1.0s
AKCD Akcadag 87.84 308 *i*P **P** **10 18 32.4 +0.5**
KMBO Kilima Mbogo 87.85 269 P **P** **10 18 32.5 -0.2**
comp=Z,73nm,1.0s,baz=74,slow=5.9,SNR=112
KMBO LR LR 10 56 07.0
comp=Z,2µm,21.5s,baz=96,slow=34
KMBO Kilima Mbogo 87.85 269 P **P** **10 18 34.1 +1.5**
SNR=41
KMBO Kilima Mbogo 87.85 269 *e*P **P** **10 18 33.5 +0.9**
comp=Z,54nm,1.2s
COLD Coldfoot 88.02 23 *e*P **P** **10 18 33.9 +1.9**
comp=Z,120nm,1.0s
GZT Gaziantep 88.09 307 *i*P **P** **10 18 33.4 +0.2**
ZALF Zalf 88.17 303 *e*P **P** **10 18 34.6 +1.1**
ROOS tl_alroos 88.24 304 *e*P **P** **10 18 33.6 -0.2**
ROOS *i*P **PcP** **10 18 34.2 -1.4**
MCK McKinley 88.28 26 *e*P **P** **10 18 33.8 +0.5**
MCK pmax pmax
comp=Z,168nm,1.1s
MCK McKinley 88.28 26 *e*P **P** **10 18 33.8 +0.5**
comp=Z,168nm,1.1s
ANN Anapa 88.41 315 *e*P **P** **10 18 33.1 -1.1**
ANN *e* 10 28 58.6
ANN *e* 10 29 10.5
ANN pmax pmax
comp=Z,946nm,2.0s
ANN pmax pmax
comp=E,86nm,0.9s
ANN pmax pmax
comp=Z,350nm,0.9s
ANN pmax pmax
comp=N,132nm,0.9s
KUZU Kuzuini 88.47 307 *i*P **P** **10 18 35.4 +0.5**
MOS Moscow 88.65 326 *e*P **P** **10 18 33.3 -1.8**
MOS *e* 10 18 50.3
MOS *e* 10 22 03.0
MOS *e* 10 28 58.3
MOS *i* 10 29 12.4
MOS pmax pmax
comp=Z,474nm,1.3s
MOS pmax pmax
comp=Z,1µm,1.9s
MOS MLR MLR
comp=Z,4µm,21.0s
KFRA Kufra 88.66 305 *e*P **P** **10 18 36.7 +0.9**
SALA Sala 88.67 303 *e*P **P** **10 18 37.5 +1.4**
TMCR Tamitsa 88.80 334 *e*P **P** **10 18 32.8 -2.8**
TMCR pmax pmax
comp=Z,290nm,1.5s
KAMA Osmaniye 88.81 307 *i*P **P** **10 18 36.7 +0.2**
COLA College 88.82 25 *e*P **P** **10 18 36.0 +0.2**
COLA pmax pmax
comp=Z,23nm,0.8s
COLA MLR MLR
comp=Z,1µm,22.0s
COLA College 88.82 25 *e*P **P** **10 18 36.0 +0.2**
comp=Z,24nm,0.8s
COLA LR LR
comp=Z,1µm,22.0s
MARH Ras Al Marh 88.91 304 *e*P **P** **10 18 38.9 +1.6**
TOTH TOTAH 88.94 303 *e*P **P** **10 18 38.0 +0.8**
BTCH Batrach 88.95 306 *e*P **P** **10 18 38.4 +1.2**
FKH Fakeheh 88.97 304 *e*P **P** **10 18 38.0 +0.6**
HAWK Haweek 88.98 304 *e*P **P** **10 18 38.6 +1.2**
WRDH Warideh 88.98 305 *e*P **P** **10 18 36.8 -0.5**
WRDH *i*P **P** **10 18 38.0 +0.6**
BIDA Albida 89.05 305 *e*P **P** **10 18 38.6 +0.9**
ANDN Andirin 89.07 307 *i*P **P** **10 18 37.7 0.0**
ILAR Eielson Array 89.23 25 P **P** **10 18 37.1 -0.6**
comp=Z,19nm,0.9s,baz=247,slow=5.1,SNR=184
ILAR PP **PP** **10 22 08.6 +0.3**
comp=Z,5.6nm,0.9s,baz=266,slow=5.7,SNR=5.6
ILAR PKKPbc **PKKPbc** **10 36 14.9 -2.3**
comp=Z,0.9nm,0.6s,baz=92,slow=1.8,SNR=9.3
ILAR PKPPKP **P'P'df** **10 44 22.8 -0.2**
comp=Z,2.0nm,1.2s,baz=136,slow=2.6,SNR=5.3
ILAR LR LR 11 00 19.5
comp=Z,404nm,19.7s,baz=254,slow=37
OBN Obninsk 89.23 325*c* *i*P **P** **10 18 37.3 -0.6**
OBN *i* 10 22 13.9
OBN *i*S S 10 29 15.0 -10
OBN pmax pmax
comp=Z,760nm,1.7s
OBN Obninsk 89.23 325 P **P** **10 18 37.6 -0.2**
comp=Z,143nm,0.7s,baz=68,slow=1.1,SNR=87
OBN Obninsk 89.23 325 *e*P **P** **10 18 37.7 -0.2**
comp=Z,1µm,1.7s
OBN LR LR
comp=Z,4µm,21.0s
YAYL Yayladag 89.24 306 *i*P **P** **10 18 37.0 -1.5**
BRBR Barbar 89.34 303 *e*P **P** **10 18 40.3 +1.1**
ARNB Al Arnab 89.35 306 *e*P **P** **10 18 40.0 +1.0**
HWQ Hawqa 89.35 304 *e*P **P** **10 18 39.4 +0.3**
RCY Rachaya 89.44 303 *e*P **P** **10 18 39.9 +0.3**
BHL Bhannes 89.59 304 *e*P **P** **10 18 40.4 +0.2**
HAVZ Havza 89.59 311 *i*P **P** **10 18 39.3 -0.7**
DIV Divide 89.65 29 *e*P **P** **10 18 41.5 +1.7**
comp=Z,250nm,1.3s
DQRL Deir Qamar 89.66 304 *e*P **P** **10 18 41.3 +0.8**
MMAI Mount Meron Ar 89.80 303 P **P** **10 18 41.9 +0.7**
comp=Z,75nm,1.1s,baz=91,slow=4.4,SNR=60
PAX Paxson 89.82 27 *e*P **P** **10 18 41.8 +1.2**
PAX pmax pmax
comp=Z,195nm,1.3s
PAX Paxson 89.82 27 *e*P **P** **10 18 41.8 +1.2**
comp=Z,195nm,1.3s
QSPA South Pole Qui 89.84 180 *e*P **P** **10 18 41.1 +0.4**
QSPA LR LR
comp=Z,5µm,20.0s
EIL Elat 90.18 300 P **P** **10 18 43.8 +0.9**
comp=Z,0.0nm,0.8s,baz=248,slow=7.1,SNR=8.5
BOYT Boyabat 90.21 311 *i*P **P** **10 18 42.6 -0.3**
BMRM Bremner River 90.22 29 *e*P **P** **10 18 44.4 +1.9**
comp=Z,125nm,1.2s
LVZ Lovozero 90.25 338*c* *i*P **P** **10 18 41.2 -1.3**
LVZ pmax pmax
comp=Z,74nm,1.3s
LVZ Lovozero 90.25 338 *e*P **P** **10 18 40.6 -1.9**
comp=Z,99nm,1.4s
LVZ LR LR
comp=Z,4µm,20.0s
CTKT Corum 90.30 310 *i*P **P** **10 18 43.3 -0.2**
GULE Gulek 90.31 307 *i*P **P** **10 18 43.9 +0.3**
DOT Dot Lake 90.45 27 *e*P **P** **10 18 44.6 +1.1**
CDAG Cicekdag 90.62 309 *i*P **P** **10 18 44.6 -0.4**
APA Apatity 90.73 337⇑ *i*P **P** **10 18 44.0 -0.7**
APA *i* 10 22 21.0
APA *i*PPP PPP 10 24 26.4
APA *i* 10 29 14.0
APA *i*S **S** **10 29 34.0 -4.9**
APA pmax pmax
comp=Z,61nm,1.2s
SIM Simferopol' 90.76 315*c* *i*P **P** **10 18 44.8 -0.5**
SIM *e* 10 29 13.0
SIM *e*S **S** **10 29 36.0 -4.1**
SIM pmax pmax
comp=Z,103nm,0.9s
KIZK Mersin 90.83 306 *i*P **P** **10 18 45.6 -0.2**
BSTP Nigde 90.84 308 *i*P **P** **10 18 46.9 +0.9**
ILGA Ilgaz 91.11 311 *i*P **P** **10 18 47.2 -0.1**
BRTR Keskin Array B 91.19 310 P **P** **10 18 47.1 -0.5**
comp=Z,13nm,0.8s,baz=123,slow=4.6,SNR=71
BRTR PKKPbc **PKKPbc** **10 36 13.3 +1.8**
comp=Z,0.6nm,0.7s,baz=259,slow=1.3,SNR=4.1
BRTR PKPPKP **P'P'df** **10 44 21.4 +0.3**
comp=Z,0.3nm,0.5s,baz=151,slow=2.8,SNR=3.8
BRTR LR LR 11 07 14.7
comp=Z,766nm,20.4s,baz=76,slow=40
CSS Prodhromos 91.51 305 *e*P **P** **10 18 49.1 +0.1**
comp=Z,36nm,1.1s
CSS LR LR
comp=Z,452nm,22.0s
EGAK Eagle 91.68 25 *e*P **P** **10 18 49.7 +0.6**
comp=Z,340nm,1.9s
EGAK LR LR
comp=Z,1µm,21.0s
JOF Joensuu 91.81 333 *e*P **P** **10 18 47.6 -2.2**
JOF pmax pmax
comp=Z,19nm,0.5s
JOF Joensuu 91.81 333 *e*p **P** **10 18 47.6 -2.2**
comp=Z,19nm,0.5s
ERMK Ermenek 91.81 306 *i*P **P** **10 18 50.5 -0.2**
ANTO Ankara 91.83 310 *e*P **P** **10 18 50.1 -0.4**
ANTO pmax pmax
comp=Z,29nm,1.3s
ANTO MLR MLR
comp=Z,1µm,22.0s
ANTO Ankara 91.83 310⇑ *i*P **P** **10 18 49.9 -0.6**
ANTO Ankara 91.83 310 P **P** **10 18 50.3 -0.2**
SNR=11
ANTO Ankara 91.83 310 *e*P **P** **10 18 50.1 -0.4**
comp=Z,29nm,1.3s
ANTO LR LR
comp=Z,1µm,22.0s
BCAM Yenicaga 92.36 311 *i*P **P** **10 18 52.5 -0.5**
KDHN Kadinhani 92.40 308 *i*P **P** **10 18 51.8 -1.4**
HOPEN Hopen 92.44 347 *e*P **P** **10 18 52.5 +0.1**
HOPEN *e*SKSac **SKSac** **10 29 22.6 -1.0**
KEV Kevo 92.89 340 *e*P **P** **10 18 53.9 -0.7**
KEV MLR MLR
comp=Z,3µm,22.0s
KEV Kevo 92.89 340 *e*p **P** **10 18 54.3 -0.3**
comp=Z,8.3nm,0.8s
KEV Kevo 92.89 340 *e*P **P** **10 18 53.9 -0.7**
KEV LR LR
comp=Z,3µm,22.0s
BOLV Bolvadin 93.30 309 *i*P **P** **10 18 55.7 -1.7**
ARCES ARCESS Array B 93.44 340 P **P** **10 18 56.4 -0.8**
comp=Z,13nm,0.7s,baz=86,slow=3.8,SNR=48
ARCES PKiKP **PKiKP** **10 23 45.7 +2.6**
comp=Z,2.2nm,0.9s,baz=93,slow=1.6,SNR=7.8
ARCES PKKPbc **PKKPdf** **10 36 03.1 -1.7**
comp=Z,0.8nm,0.6s,baz=255,slow=2.4,SNR=5.9
ARE0 ARCESS Array S 93.44 340 *e*P **P** **10 18 56.5 -0.7**
ARE0 IAmb IAmb 10 18 57.4
comp=Z,166nm,1.5s
ARE0 *e*SKSac **SKSac** **10 29 26.3 -3.2**
ISP Isparta 93.68 308 PFAKE 10 19 10.0 +11
ISP LR LR
comp=Z,2µm,22.0s
HYT Haines Junctio 93.69 29 *e*P **P** **10 18 59.7 +1.0**
comp=Z,209nm,1.4s
AKASG Malin Array Be 93.80 321 P **P** **10 18 58.3 -0.9**
comp=Z,12nm,0.7s,baz=76,slow=3.9,SNR=152
AKASG LR LR 11 05 57.0
comp=Z,2µm,19.6s,baz=80,slow=38
KIEV Kiev 93.81 321*c* *i*P **P** **10 18 58.0 -1.3**
KIEV Kiev 93.81 321 *e*P **P** **10 18 57.8 -1.5**
KIEV LR LR
comp=Z,3µm,21.0s
SPA0 Spitsbergen Ar 93.88 349 *e*P **P** **10 18 58.8 -0.3**
SPA0 IAmb IAmb 10 19 01.8
comp=Z,879nm,1.8s
SPA0 *e*SKSac **SKSac** **10 29 30.0 -1.6**
SPITS Spitsbergen Ar 93.88 349 P **P** **10 18 58.6 -0.5**
SPITS pmax pmax
comp=Z,14nm,0.5s
SPITS Spitsbergen Ar 93.88 349 P **P** **10 18 58.6 -0.5**
comp=Z,14nm,0.5s
KAF Kangasniemi 94.20 332 *e*P **P** **10 18 58.5 -2.3**
KAF pmax pmax
comp=Z,16nm,0.6s
KAF Kangasniemi 94.20 332 *e*p **P** **10 18 58.5 -2.3**
comp=Z,16nm,0.6s
MICGM Minsk 94.28 325⇑ *i*P **P** **10 18 59.0 -2.3**
MNK Minsk 94.31 325⇑ *i*P **P** **10 18 59.0 -2.4**
MNK *e*PPP PPP 10 24 50.0
MNK *e* 10 29 32.0
MNK *e*S S 10 30 04.0 -7.3
MNK *e*PS **PS** **10 31 20.0 -10**
MNK pmax pmax
comp=Z,850nm,1.4s
MNK pmax pmax
comp=E,110nm,1.8s
KTK1 Kautokeino 94.33 339 *e*P **P** **10 19 00.4 -0.9**
KIS Kishinev 94.36 317*k* *i*P **P** **10 19 02.0 +0.1**
KIS *e* 10 22 53.0
KIS *e*PPP PPP 10 25 00.0
KIS *e*S **SKSac** **10 29 33.0 -2.3**
KIS *e*PS **S** **10 30 09.0 -3.1**
KIS pmax pmax
comp=Z,300nm,2.0s
KIS pmax pmax
comp=Z,300nm,2.0s
KIS MLR MLR
comp=Z,2µm,24.0s
KIS MLR MLR
comp=N,1µm,22.0s
KIS Kishinev 94.36 317⇓ *i*P **P** **10 19 02.0 +0.1**
comp=N,300nm,2.0s
KIS Kishinev 94.36 317 *e*PP PP 10 22 53.0 +3.8
FINES FINESS Array B 94.40 332 P **P** **10 19 00.8 -0.9**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,3µm,20.5s
FINES FINESS Array B 94.40 332 P **P** **10 19 00.8 -0.9**
comp=Z,6.4nm,0.6s,baz=80,slow=3.6,SNR=41
FINES LR LR 11 04 45.5
comp=Z,3µm,20.5s,baz=81,slow=38
HSP Hornsund 94.43 348 *e*P **P** **10 19 01.9 +0.3**
HSPB Hornsund (broa 94.44 348 *e*P **P** **10 19 01.9 +0.3**
HSPB *e*PP **PP** **10 22 50.6 +1.6**
HSPB *e*SKSac **SKSac** **10 29 33.0 -1.5**
KBS Kingsbay 94.45 350 *e*P **P** **10 19 01.4 -0.3**
KBS pmax pmax
comp=Z,8.0nm,1.2s
KBS MLR MLR
comp=Z,3µm,20.0s
KBS Kingsbay 94.45 350 *e*P **P** **10 19 01.8 +0.2**
KBS Kingsbay 94.45 350 *e*P **P** **10 19 01.4 -0.3**
comp=Z,8.2nm,1.2s
KBS LR LR
comp=Z,3µm,20.0s
GOLH Golhisar 94.47 307 *i*P **P** **10 19 01.0 -1.8**
TLCR 94.51 315⇑ *i*P **P** **10 19 02.6 0.0**
ULDT Uludag 94.63 310 *i*P **P** **10 19 02.0 -1.6**
IDID Didziasalis 94.84 325 *e*P P 10 19 07.8 +4.0
IDID AMB AMB 10 19 10.1
comp=Z,69nm,1.4s
TIRR Tirgusor 94.85 314 *e*P **P** **10 19 03.9 -0.3**
TIRR pmax pmax
comp=Z,121nm,1.4s
TIRR Tirgusor 94.85 314⇓ *i*P **P** **10 19 03.9 -0.3**
TIRR Tirgusor 94.85 314 *e*P **P** **10 19 03.9 -0.3**
comp=Z,121nm,1.4s
NACGM Naroch 94.87 325 *e*P P 10 19 00.0 -4.0
SKAG Skagway 94.94 30 *e*P **P** **10 19 05.8 +1.5**
comp=Z,116nm,1.0s
CFR Carcaliu 94.99 315⇓ *i*P **P** **10 19 04.3 -0.5**
PSN Preselentsi 95.08 314⇑ *i*P **P** **10 19 05.3 +0.1**
PSN Preselentsi 95.08 314 P **P** **10 19 04.6 -0.6**
TLB Topalu 95.10 315⇓ *i*P **P** **10 19 04.8 -0.5**
IIGN Ignalina 95.13 325 *e*P **P** **10 19 05.1 -0.1**
IIGN AMB AMB 10 19 07.4
comp=Z,63nm,1.4s
IIGN *e*PP2 10 22 55.0
ISAL Salakas 95.16 326 *e*P **P** **10 19 05.3 0.0**
ISAL AMB AMB 10 19 07.5
comp=Z,44nm,1.4s
HARR Harsova 95.17 315⇓ *i*P **P** **10 19 05.8 +0.2**
MANT Manisa 95.19 308 *i*P **P** **10 19 06.2 +0.1**
SIT Sitka 95.29 33 *e*P **P** **10 19 07.8 +1.9**
SIT pmax pmax
comp=Z,139nm,1.4s
SIT Sitka 95.29 33 *e*P **P** **10 19 07.8 +1.9**
comp=Z,139nm,1.4s
MSAB Monastry St. A 95.30 314⇑ *i*P **P** **10 19 06.1 -0.1**
TRO Tromso 95.68 340 *e*P **P** **10 19 06.2 -1.2**
TRO *e*SKSac **SKSac** **10 29 39.3 -2.1**
PRD Provadia 95.69 313 P **P** **10 19 07.2 -0.8**
TESR Tescani 95.89 317⇑ *i*P **P** **10 19 09.0 +0.1**
VRI Vrincioaia 95.91 316⇓ *i*P **P** **10 19 09.0 0.0**
PLOR Plostina 95.96 316⇓ *i*P **P** **10 19 09.6 +0.3**
PRAR RASCA 96.09 318⇑ *i*P **P** **10 19 10.1 +0.3**
JMB Yambol 96.36 313⇓ *i*P P 10 19 14.7 +3.6
JMB Yambol 96.36 313 P **P** **10 19 13.8 +2.7**
MLR Muntele Rosu 96.49 316 P **P** **10 19 11.5 -0.3**
MLR pmax pmax
comp=Z,10.0nm,0.8s
MLR Muntele Rosu 96.49 316⇓ *i*P **P** **10 19 12.1 +0.3**
MLR Muntele Rosu 96.49 316 P **P** **10 19 11.5 -0.3**
comp=Z,9.7nm,0.8s,baz=30,slow=2.4,SNR=51
KARP Karpathos 96.52 306 *e*P **P** **10 19 11.0 -1.1**
SMG Samos 96.60 308 *e*P **P** **10 19 11.0 -1.4**
LSZ Lusaka 96.65 255 *e*P **P** **10 19 12.4 -0.7**
LSZ pmax pmax
comp=Z,23nm,0.8s
LSZ MLR MLR
comp=Z,7µm,22.0s
LSZ Lusaka 96.65 255 P **P** **10 19 13.6 +0.5**
SNR=8.8
LSZ Lusaka 96.65 255 *e*P **P** **10 19 12.4 -0.7**
comp=Z,23nm,0.8s
LSZ LR LR
comp=Z,7µm,22.0s
BURAR Bucovina Array 96.74 318⇓ *i*P **P** **10 19 13.6 +0.7**
SZH Strazhica 96.75 313 P **P** **10 19 11.3 -1.6**
DOPR Dopca 96.82 316⇑ *i*P **P** **10 19 13.5 +0.3**
PRK Paraskevi 96.90 309 *e*P **P** **10 19 12.3 -1.4**
ALN Alexandroupoli 96.91 311 *e*P **P** **10 19 11.8 -1.9**
WRAK Wrangell Islan 97.01 33 *e*P Pdif 10 19 15.9 +2.1
comp=Z,75nm,1.3s
WRAK LR LR
comp=Z,2µm,22.0s
SUW Suwalki 97.08 324 *e*P **P** **10 19 13.4 -0.7**
SUW *e* 10 29 47.9
SUW *e*S **S** **10 30 29.5 -5.8**
SUW Suwalki 97.08 324 *e*P **P** **10 19 13.4 -0.7**
SUW *e*SKSac **SKSac** **10 29 47.9 -1.4**
SUW *e*S **S** **10 30 29.4 -5.8**
SUW LMZ LR 11 03 30.2
SUW Suwalki 97.08 324 *e*P **P** **10 19 13.8 -0.3**
comp=Z,478nm,1.4s
VOIR 97.12 316⇓ *i*P **P** **10 19 14.0 -0.6**
CHOS Chios island 97.16 309 *e*P **P** **10 19 12.6 -2.3**
PVL Pavlikeni 97.19 313 P Pdif 10 19 15.1 +0.2
LVV L'vov 97.22 320 *e*P **P** **10 19 14.0 -0.8**
LVV *e* 10 23 11.0
LVV *e* 10 29 48.0
LVV *e*S S 10 30 30.0 -6.7
LVV MLR MLR
comp=Z,2µm,23.0s
SIGR SIGRI 97.23 309 *e*P **P** **10 19 14.0 -1.1**
RDO Rodhopi 97.27 311 *e*P **P** **10 19 13.4 -1.9**
ZKR Zakros 97.33 305 *e*P **P** **10 19 14.8 -0.9**
SMTH Samothraki Isl 97.35 311 *e*P **P** **10 19 13.1 -2.6**
ARR Arges 97.42 316⇑ *i*P **P** **10 19 15.7 -0.3**
NVL N'lazarevskaya 97.44 198 *e*P **P** **10 19 14.6 -0.8**
NVL pmax pmax
comp=Z,9.0nm,0.9s
ALE Alert 97.57 1 P Pdif 10 19 16.0 +0.1
comp=Z,100nm,1.4s,SNR=6.4
LIA Limnos Island 97.67 310 *e*P **P** **10 19 15.5 -1.6**
PLD Plovdiv 97.78 312 P **P** **10 19 15.1 -2.5**
NPS Neapolis 97.81 305 *e*P **P** **10 19 17.4 -0.5**
RZN Rozhen 97.82 312 P **P** **10 19 17.1 -0.9**
SANT Santorini 97.83 307 *e*P **P** **10 19 17.1 -0.8**
SANT LR LR
comp=Z,729nm,21.0s
DLBC Dease Lake 97.83 31 *e*P Pdif 10 19 18.6 +1.1
comp=Z,190nm,1.9s
BMR Baia Mare 97.88 318⇑ *i*P Pdif 10 19 19.0 +1.1
LAST Lasithi 97.93 305 *e*P **P** **10 19 17.5 -1.0**
CJR Cluj-Napoca 97.95 317⇓ *i*P Pdif 10 19 18.9 +0.5
LOT Lotru 98.02 316⇓ *i*P Pdif 10 19 19.2 +0.4
KAVA Kavala 98.06 311 *e*P **P** **10 19 16.7 -2.1**
KWP Kalwaria Pacla 98.09 320 *e*P Pdif 10 19 18.9 +0.1
KWP *e* 10 29 53.7
KWP Kalwaria Pacla 98.09 320 *e*P **P** **10 19 18.8 0.0**
KWP *e*SKSac **SKSac** **10 29 53.7 -1.1**
KWP LMZ LR 11 03 58.9
KWP Kalwaria Pacla 98.09 320⇓ *i*P Pdif 10 19 19.3 +0.5
KWP Kalwaria Pacla 98.09 320 *e*P Pdif 10 19 18.9 0.0
comp=Z,222nm,1.3s
KWP LR LR
comp=Z,3µm,20.0s
PGB Panagyurishte 98.12 313 P **P** **10 19 18.2 -1.0**
MPEP Malo Peshtene 98.33 314 P **P** **10 19 19.8 -0.2**
IDI Anoyia 98.39 306 P **P** **10 19 20.0 -0.6**
comp=Z,17nm,0.8s,baz=37,slow=5.3,SNR=13
TRPA Tarpa 98.45 319⇑ *i*P **P** **10 19 20.1 -0.3**
TRPA Tarpa 98.45 319⇑ *e*sP **P** **10 19 20.6 +0.2**
SIVA Sivas 98.49 305 *e*P **P** **10 19 19.9 -1.0**

KOLS	**Kolonicke sedl**	**98.49**	**319**	*i*	P	Pdif	10 19 20.8	+0.2
KOLS	**Kolonicke sedl**	**98.49**	**319**		PDIF	Pdif	10 19 20.8	+0.2
NVR	**Nevrokopi**	**98.50**	**312**	*e*	P	**P**	**10 19 19.2**	**-1.7**
SRE	**Strehaia**	**98.52**	**315**	⇑	*i* P	Pdif	10 19 21.5	+0.6
UZH	**Uzhgorod**	**98.53**	**319**	⇓	*i* P	**P**	**10 19 20.5**	**-0.2**
UZH					*e*		10 19 29.3	
UZH					*e**PP	**pP**	**10 19 33.5**	**+3.6**
UZH					*e*PPP	PPP	10 25 36.4	
UZH					*e*		10 29 48.7	
UZH					*e*S	S	10 30 41.4	-6.4
UZH					*e*PS	**PS**	**10 32 08.8**	**-7.3**
OUR	**Ouranopolis**	**98.54**	**311**	*e*	P	**P**	**10 19 18.3**	**-2.7**
DRGR		**98.55**	**317**	⇓	*i* P	Pdif	10 19 21.1	+0.1
DEV	**Deva**	**98.55**	**316**	⇓	*i* P	Pdif	10 19 21.8	+0.8
MMB	**Musomiste**	**98.57**	**312**	⇓	*i* P	**P**	**10 19 20.1**	**-1.1**
MMB	**Musomiste**	**98.57**	**312**		P	**P**	**10 19 19.9**	**-1.3**
BOSA	**Boshof**	**98.61**	**241**		P	**P**	**10 19 21.6**	**-0.1**
	comp=Z,7.4nm,1.0s,baz=149,slow=4.7,SNR=4.9							
BOSA					LR	LR	10 58 37.5	
	comp=Z,3µm,22.0s,baz=102,slow=32							
GZR	**Gura Zlata**	**98.72**	**316**	⇓	*i* P	Pdif	10 19 21.9	+0.1
AOS	**Alonnisos**	**98.76**	**310**	*e*	P	**P**	**10 19 19.7**	**-2.3**
VTS	**Vitosha**	**98.82**	**313**	⇑	*i* P	**P**	**10 19 21.6**	**-0.8**
VTS	**Vitosha**	**98.82**	**313**		P	**P**	**10 19 21.2**	**-1.2**
PAIG	**Paliouri**	**98.82**	**310**	*e*	P	**P**	**10 19 19.9**	**-2.4**
BEL	**Belsk**	**98.89**	**323**	*e*	P	**P**	**10 19 22.3**	**0.0**
BEL				*e*			10 29 58.3	
BEL				*e*S		**S**	**10 30 48.9**	**-1.9**
BEL					MLR	MLR		
	comp=Z,4µm,23.4s							
BEL	**Belsk**	**98.89**	**323**	*e*	P	**P**	**10 19 22.3**	**0.0**
BEL				*e*	SKSac	**SKSac**	**10 29 58.3**	**-0.3**
BEL				*e*S		**S**	**10 30 48.9**	**-1.9**
BEL					LMZ	LR	11 05 50.3	
PLG	**Polygyros**	**98.94**	**311**	*e*	P	**P**	**10 19 20.7**	**-2.2**
VAM	**Vamos**	**98.94**	**306**	*e*	P	**P**	**10 19 20.2**	**-2.7**
KKB	**Krupnik**	**99.01**	**312**		P	**Pdif**	**10 19 21.8**	**-1.3**
CRVS	**Cervenica-Dubn**	**99.02**	**320**	*i*	P	**Pdif**	**10 19 23.4**	**+0.4**
CRVS	**Cervenica-Dubn**	**99.02**	**320**		PDIF	**Pdif**	**10 19 23.4**	**+0.4**
STHS	**Stebnicka Huta**	**99.07**	**320**	*i*	P	**Pdif**	**10 19 23.7**	**+0.5**
STHS	**Stebnicka Huta**	**99.07**	**320**		PDIF	**Pdif**	**10 19 23.6**	**+0.4**
RKT	**Rikitea**	**99.09**	**113**	*e*	SKSac	**SKSac**	**10 30 00.0**	**-0.8**
	comp=Z,1µm,30.0s							
RKT				*e*S		**S**	**10 30 49.5**	**-4.2**
	comp=Z,3µm,29.2s							
RKT				*e*SP		**SP**	**10 32 15.1**	**-4.4**
	comp=Z,678nm,30.2s							
RKT	**Rikitea**	**99.09**	**113**	*e*	LR	LR	10 51 28.1	
	comp=Z,2µm,26.8s							
KNT	**Kendrikon**	**99.25**	**312**	*e*	P	**Pdif**	**10 19 21.8**	**-2.4**
XOR	**Xorichti**	**99.27**	**310**	*e*	P	**Pdif**	**10 19 21.6**	**-2.7**
VAY	**Valandovo**	**99.47**	**312**	*i*	P	**Pdif**	**10 19 23.3**	**-1.8**
BZS	**Buzias**	**99.49**	**316**	⇓	*i* P	**Pdif**	**10 19 24.9**	**-0.2**
LKR	**Lokris**	**99.51**	**309**	*e*	P	**Pdif**	**10 19 22.9**	**-2.5**
ANKY	**Antikythira Is**	**99.62**	**306**	*e*	P	**Pdif**	**10 19 24.8**	**-1.1**
NIE	**Niedzica**	**99.67**	**320**	⇑	*i* P	**Pdif**	**10 19 26.4**	**+0.5**
NIE				*e*			10 23 34.9	
NIE				*e*			10 30 01.4	
NIE	**Niedzica**	**99.67**	**320**	*e*	P	**Pdif**	**10 19 26.4**	**+0.5**
NIE				*e*	SKSac	**SKSac**	**10 30 03.7**	**+1.0**
NIE					LMZ	LR	11 05 58.8	
LIT	**Litokhoron**	**99.70**	**311**	*e*	P	**Pdif**	**10 19 23.7**	**-2.5**
KECS	**Kecovo**	**99.73**	**319**	*i*	P	**Pdif**	**10 19 26.1**	**-0.1**
KECS	**Kecovo**	**99.73**	**319**		PDIF	**Pdif**	**10 19 26.1**	**-0.1**
VLI	**Veliai**	**99.80**	**307**	*e*	P	**Pdif**	**10 19 24.4**	**-2.3**
OJC	**Ojcow**	**99.83**	**321**	⇑	*i* P	**Pdif**	**10 19 26.5**	**-0.1**
OJC				*e*			10 23 36.4	
OJC				*e*			10 30 01.6	
OJC					MLR	MLR		
	comp=Z,3µm,19.8s							
OJC	**Ojcow**	**99.83**	**321**	*e*	P	**Pdif**	**10 19 26.5**	**-0.1**
OJC				*e*	SKSac	**SKSac**	**10 30 05.5**	**+2.1**
OJC					LMZ	LR	11 02 22.2	
NSS	**Namsos**	**99.86**	**336**	*e*	P	**Pdif**	**10 19 26.2**	**-0.1**
GUR	**Goura**	**100.11**	**308**	*e*	P	**Pdif**	**10 19 26.2**	**-2.0**
THL	**Klokotos Trika**	**100.14**	**310**	*e*	P	**Pdif**	**10 19 27.0**	**-1.2**
PSZ	**Piszkesteto**	**100.23**	**319**	*e*	P	**Pdif**	**10 19 28.7**	**+0.2**
PSZ					MLR	MLR		
	comp=Z,3µm,21.0s							
PSZ	**Piszkesteto**	**100.23**	**319**	⇑	*i* P	**Pdif**	**10 19 28.6**	**+0.1**
PSZ	**Piszkesteto**	**100.23**	**319**	*e*	Pdif	**Pdif**	**10 19 28.7**	**+0.2**
PSZ					LR	LR		
	comp=Z,3µm,21.0s							
PSZ	**Piszkesteto**	**100.23**	**319**	⇑	*e*pPKiKP	**Pdif**	**10 19 28.3**	**-0.2**
KLV	**Kalavryta, Ach**	**100.25**	**309**	*e*	P	**Pdif**	**10 19 26.4**	**-2.4**
PKSN	**Nyarlorinc**	**100.45**	**318**	⇓	*e*pPKiKP	**Pdif**	**10 19 30.3**	**+1.0**
ITM	**Ithomi**	**100.55**	**308**	*e*	P	**Pdif**	**10 19 28.6**	**-1.5**
HFS	**Hagfors**	**100.61**	**332**		P	**Pdif**	**10 19 28.8**	**-0.9**
HFS					pmax	pmax		
	comp=Z,20nm,1.1s							
HFS	**Hagfors**	**100.61**	**332**		P	**Pdif**	**10 19 28.8**	**-0.9**
	comp=Z,20nm,1.1s,baz=106,slow=4.8,SNR=46							
GKP	**Gorka Klasztor**	**100.69**	**324**	*e*	P	**Pdif**	**10 19 30.2**	**-0.1**
GKP				*e*			10 30 06.3	
GKP	**Gorka Klasztor**	**100.69**	**324**	*e*	P	**Pdif**	**10 19 30.1**	**-0.2**
GKP				*e*	SKSac	**SKSac**	**10 30 06.2**	**-1.2**
GKP					LMZ	LR	11 04 25.2	
PKS6	**Bocsa**	**100.71**	**317**	⇓	*e*PKiKP	**Pdif**	**10 19 31.5**	**+1.0**
PYL	**PYLOS**	**100.73**	**307**	*e*	P	**Pdif**	**10 19 28.3**	**-2.6**
RLS	**Riolos of Patr**	**100.78**	**309**	*e*	P	**Pdif**	**10 19 30.2**	**-0.8**
DAG	**Danmarks Havn**	**100.79**	**352**	*i*	P	**Pdif**	**10 19 29.0**	**-1.3**
DAG				*i*			10 23 41.6	
DAG				*i*			10 30 05.9	
DAG					MLR	MLR		
	comp=Z,2µm,25.0s							
DAG	**Danmarks Havn**	**100.79**	**352**	*i*	P	**Pdif**	**10 19 29.0**	**-1.3**
DAG				*i*			10 23 41.6	
DAG				*i*			10 30 05.9	
VYHS	**Vyhne**	**100.81**	**319**	*i*	P	**Pdif**	**10 19 30.6**	**-0.4**
VYHS				*e*			10 23 41.5	
VYHS	**Vyhne**	**100.81**	**319**		PDIF	**Pdif**	**10 19 30.6**	**-0.4**
VYHS				*e*PP		**PP**	**10 23 41.5**	**+2.9**
RAC	**Raciborz**	**100.87**	**321**	*e*	P	**Pdif**	**10 19 32.0**	**+0.8**
RAC					MLR	MLR		
	comp=Z,3µm,22.4s							
PKS7	**Kunszentmiklos**	**100.89**	**318**	⇓	*e*PKiKP	**Pdif**	**10 19 32.1**	**+0.8**
OKC	**Ostrava-Krasne**	**100.95**	**321**	*e*	P	**Pdif**	**10 19 32.0**	**+0.5**
OKC				*e*			10 23 45.1	
OKC				*e*			10 30 07.3	
OKC					MLR	MLR		
	comp=Z,2µm,21.5s							
OKC	**Ostrava-Krasne**	**100.95**	**321**	*e*	PDIFF	**Pdif**	**10 19 32.0**	**+0.5**
OKC				*e*	pP	pP	10 19 42.7	+1.9
OKC				*e*	PP	PP	10 23 45.1	+5.4
OKC				*e*	SKS		10 30 07.3	
OKC				*e*	x	x	10 32 54.9	
OKC					AMS	AMS	11 07 00.0	
	comp=Z,2µm,21.5s							
PKS2	**Kecel**	**100.97**	**317**	⇓	*e*PKiKP	**Pdif**	**10 19 32.8**	**+1.1**
MORC	**Moravsky Berou**	**101.35**	**321**	⇑	*i* P	**Pdif**	**10 19 34.0**	**+0.6**
PKSM	**Moragy**	**101.42**	**317**	⇑	*i* P	**Pdif**	**10 19 33.3**	**-0.4**
PKSM	**Moragy**	**101.42**	**317**	⇑	*e*PKiKP	**Pdif**	**10 19 33.4**	**-0.3**
CSKK	**Cs˙‡kako**	**101.43**	**318**	⇓	*e*pPKiKP	**Pdif**	**10 19 34.3**	**+0.6**
NB2	**NORSAR Subarra**	**101.45**	**333**		P	**Pdif**	**10 19 32.1**	**-1.4**
	comp=Z,42nm,1.2s,baz=69,slow=5.1							
NB2	**NORSAR Subarra**	**101.45**	**333**		P	**Pdif**	**10 19 32.1**	**-1.4**
	baz=69,slow=5.1							
NOA	**NORSAR Array B**	**101.45**	**333**		P	**Pdif**	**10 19 32.2**	**-1.4**
NOA					pmax	pmax		
	comp=Z,12nm,1.1s							
NOA	**NORSAR Array B**	**101.45**	**333**		P	**Pdif**	**10 19 32.1**	**-1.4**
	comp=Z,12nm,1.1s,baz=70,slow=4.5,SNR=12							
VLS	**Valsamata**	**101.45**	**309**	*e*	P	**Pdif**	**10 19 26.4**	**-7.6**
BSD	**Bornholm Skovb**	**101.51**	**327**	*i*	P	**Pdif**	**10 19 33.0**	**-0.9**
BSD				*i*			10 30 13.8	
BSD					MLR	MLR		
	comp=Z,3µm,20.0s							
BSD	**Bornholm Skovb**	**101.51**	**327**	*i*	P	**Pdif**	**10 19 33.0**	**-0.9**
BSD				*i*			10 30 13.8	
	comp=Z,3µm,19.0s							
PKST	**T˙s**	**101.60**	**318**	⇓	*e*pPKiKP	**Pdif**	**10 19 35.1**	**+0.6**
KRLC	**Kraliky**	**101.76**	**321**	*e*	P	**Pdif**	**10 19 35.8**	**+0.6**
KRLC				*e*			10 23 49.6	
KRLC	**Kraliky**	**101.76**	**321**	*e*	PDIFF	**Pdif**	**10 19 35.8**	**+0.6**
KRLC				*e*x		x	10 19 41.4	
KRLC				*e*PP		**PP**	**10 23 49.6**	**+3.8**
KSP	**Ksiaz**	**101.87**	**322**	*e*	P	**Pdif**	**10 19 35.9**	**+0.4**
KSP				*e*			10 23 48.5	
KSP				*e*			10 30 11.0	
KSP				*e*SP		SP	10 32 47.0	-0.7
KSP	**Ksiaz**	**101.87**	**322**	*e*	P	**Pdif**	**10 19 36.0**	**+0.4**
KSP					LMZ	LR	11 06 01.4	
DPC	**Dobruska-Polom**	**101.97**	**322**	*e*	P	**Pdif**	**10 19 36.5**	**+0.4**
DPC				*e*			10 23 51.8	
DPC				*e*			10 30 10.7	
DPC				*e*			10 32 47.9	
DPC				*e*SS		SS	10 38 28.3	+7.6
DPC	**Dobruska-Polom**	**101.97**	**322**	*e*	PDIFF	**Pdif**	**10 19 36.5**	**+0.4**
DPC				*e*pP		pP	10 19 45.2	-0.3
DPC				*e*PP		**PP**	**10 23 51.8**	**+4.4**
DPC				*e*SKS			10 30 10.7	
DPC				*e*SP		**SP**	**10 32 47.9**	**-1.1**
DPC				*e*SS		SS	10 38 28.3	+7.6
DPC					AMS	AMS	11 07 40.0	
DPC	**Dobruska-Polom**	**101.97**	**322**	*e*	Pdif	**Pdif**	**10 19 36.7**	**+0.6**
SUR	**Sutherland**	**102.01**	**237**		PFAKE		10 19 50.0	+13
SUR					LR	LR		
	comp=Z,3µm,21.0s							
VRAC	**Vranov**	**102.06**	**321**		P	**Pdif**	**10 19 37.0**	**+0.5**
VRAC					pmax	pmax		
	comp=Z,21nm,1.2s							
VRAC	**Vranov**	**102.06**	**321**	⇑	*i* P	**Pdif**	**10 19 37.3**	**+0.8**
VRAC	**Vranov**	**102.06**	**321**		P	**Pdif**	**10 19 37.0**	**+0.5**
	comp=Z,21nm,1.2s,baz=77,slow=5.0,SNR=23							
UPC	**Upice**	**102.12**	**322**	*e*	P	**Pdif**	**10 19 37.1**	**+0.3**
UPC				*e*			10 23 52.5	
UPC	**Upice**	**102.12**	**322**	*e*	PDIFF	**Pdif**	**10 19 37.1**	**+0.3**
UPC				*e*pP			10 19 47.1	
UPC				*e*PP		**PP**	**10 23 52.5**	**+4.0**
KONO	**Kongsberg**	**102.71**	**332**		PFAKE		10 19 50.0	+11
KONO					LR	LR		
	comp=Z,5µm,22.0s							
VNA2	**Neumayer--Watz**	**102.75**	**194**		P	**Pdif**	**10 19 36.7**	**-2.4**
TREC	**Trest**	**102.77**	**321**	*e*	P	**Pdif**	**10 19 40.2**	**+0.5**
TREC				*e*			10 23 59.0	
TREC				*e*			10 30 14.9	
TREC					MLR	MLR		
	comp=Z,3µm,22.6s							
TREC	**Trest**	**102.77**	**321**	*e*	PDIFF	**Pdif**	**10 19 40.2**	**+0.5**
TREC				*e*PP		**PKiKP**	**10 23 59.0**	**-1.2**
TREC				*e*SKS			10 30 14.9	
TREC				*ex*		x	10 33 10.6	
TREC					AMS	AMS	11 07 50.0	
	comp=Z,3µm,22.6s							
AKN	**Aaknes**	**102.85**	**335**	*e*	P	**Pdif**	**10 19 37.0**	**-2.8**
CONA	**Conrad Observa**	**102.87**	**319**	⇑	*i* Pdiff	**Pdif**	**10 19 40.3**	**+0.1**
	comp=Z,23nm,1.4s,SNR=6.5							
PVCC	**Panska Ves**	**103.01**	**322**	*e*	P	**Pdif**	**10 19 41.2**	**+0.5**
PVCC				*e*			10 23 55.6	
PVCC					MLR	MLR		
	comp=Z,3µm,20.3s							
PVCC	**Panska Ves**	**103.01**	**322**	*e*	PDIFF	**Pdif**	**10 19 41.2**	**+0.5**
PVCC				*e*pP			10 19 50.5	
PVCC				*e*PP		**PP**	**10 23 55.6**	**+0.5**
PVCC					AMS	AMS	11 08 20.0	
	comp=Z,3µm,20.3s							
VNA3	**Neumayer Olymp**	**103.08**	**194**		P	**Pdif**	**10 19 40.4**	**-0.2**
JMIC	**Jan Mayen**	**103.15**	**346**	*e*	PP	PP	10 23 59.1	+3.6
JMIC				*e*	SKSac	**SKSac**	**10 30 18.0**	**-0.5**
PRU	**Pruhonice**	**103.17**	**322**	*e*	P	**Pdif**	**10 19 41.9**	**+0.5**
PRU				*e*			10 24 01.0	
PRU				*e*			10 30 15.2	
PRU				*e*			10 32 59.0	
PRU				*e*SS		SS	10 38 34.7	-2.5
PRU					MLR	MLR		
	comp=Z,3µm,21.9s							
PRU	**Pruhonice**	**103.17**	**322**	*e*	PDIFF	**Pdif**	**10 19 41.9**	**+0.5**
PRU				*ex*		x	10 19 47.7	
PRU				*e*PP		**PKiKP**	**10 24 01.0**	**+0.1**
PRU				*e*SKS			10 30 15.2	
PRU				*e*SP		**SP**	**10 32 59.0**	**-2.6**
PRU				*e*SS		**SS**	**10 38 34.7**	**-2.5**
PRU					AMS	AMS	11 08 30.0	
	comp=Z,3µm,21.9s							
PRA	**Prague**	**103.22**	**322**	*e*	P	**Pdif**	**10 19 42.2**	**+0.6**
PRA				*e*			10 24 01.9	
PRA	**Prague**	**103.22**	**322**	*e*	PDIFF	**Pdif**	**10 19 42.2**	**+0.6**
PRA				*e*PP		**PKiKP**	**10 24 01.9**	**+0.9**
BRG	**Berggiesshubel**	**103.29**	**323**		PDIFF	**Pdif**	**10 19 39.0**	**-2.9**
BRG	**Berggiesshubel**	**103.29**	**323**		PKP		10 23 45.0	
BRG					PP	**PP**	**10 23 58.8**	**+1.6**
	comp=Z,55nm,1.8s							
BRG					SKS		10 30 18.0	
BRG					SDIFF	**Sdif**	**10 31 22.0**	**-5.7**
BRG					PS	PS	10 32 55.0	-12
BRG				*e*	PKKP	PKKPdf	10 35 58.3	+12
	comp=Z,19nm,1.9s							
BRG				*e*	PKPPKP	**P'P'df**	**10 43 56.8**	**-0.4**
	comp=Z,69nm,2.7s							
BRG	**Berggiesshubel**	**103.29**	**323**		P	**Pdif**	**10 19 39.0**	**-2.9**
YKA	**Yellowknife Ar**	**103.62**	**24**		Pdiff	**Pdif**	**10 19 44.3**	**+1.2**
	comp=Z,3.9nm,0.9s,baz=295,slow=4.7,SNR=52							
YKA					PKiKP	**PKiKP**	**10 24 02.2**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=303,slow=1.9,SNR=13							
YKA					PKKPbc	**PKKPbc**	**10 35 33.0**	**-4.8**
	comp=Z,0.7nm,0.6s,baz=114,slow=3.0,SNR=17							
CLL	**Collm**	**103.73**	**323**	*i*	P	**Pdif**	**10 19 43.5**	**-0.4**
CLL				*e*			10 24 02.0	
CLL				*e*			10 30 19.0	
CLL				*e*S		**Sdif**	**10 31 34.0**	**+2.7**
CLL					pmax	pmax		
	comp=Z,51nm,1.5s							
CLL					MLR	MLR		
	comp=Z,3µm,21.7s							
CLL	**Collm**	**103.73**	**323**	*i*	Pdif	**Pdif**	**10 19 43.5**	**-0.4**
	comp=Z,51nm,1.5s							
CLL				*i*			10 20 21.4	
CLL				*e*			10 23 17.0	
CLL				*e*PP		**PKiKP**	**10 24 02.0**	**+0.1**
CLL				*e*SKSac		**SKSac**	**10 30 19.0**	**-3.0**
CLL				*e*Sdif		**Sdif**	**10 31 34.0**	**+2.7**
CLL				*e*SP		**SP**	**10 33 06.0**	**-1.4**
CLL				*e*PPS		PPS	10 34 02.0	
CLL				*e*SS		**SS**	**10 38 49.0**	**+4.3**
CLL				*e*			10 39 33.0	
CLL				*e*SSS		SSS	10 42 54.0	
CLL				*e*			10 47 00.0	
CLL				*e*			10 47 42.0	
CLL					Lm	MLR	11 09 00.0	
	comp=Z,3µm,21.7s							
HOMB	**Homborsund**	**103.77**	**331**	*e*	P	**Pdif**	**10 19 44.0**	**+0.2**
HOMB				*e*PP		**PP**	**10 23 59.9**	**-0.5**
MOA	**Molln**	**103.93**	**320**	⇑	*i* Pdiff	**Pdif**	**10 19 45.0**	**+0.1**
	comp=Z,49nm,1.7s,SNR=6.7							
KHC	**Kasperske Hory**	**104.02**	**321**	*e*	P	**Pdif**	**10 19 45.1**	**-0.1**
KHC				*e*			10 24 05.7	
KHC				*e*			10 30 21.2	
KHC				*e*			10 33 08.5	
KHC				*e*SS		SS	10 38 54.1	+5.2
KHC					MLR	MLR		
	comp=Z,4µm,22.9s							
KHC	**Kasperske Hory**	**104.02**	**321**	*e*	PDIFF	**Pdif**	**10 19 45.1**	**-0.1**
KHC				*ex*		x	10 19 50.7	
KHC				*e*PP		**PP**	**10 24 05.7**	**+3.0**
KHC				*e*SKS			10 30 21.2	
KHC				*e*SP		**SP**	**10 33 08.5**	**-2.0**
KHC				*e*SS		**SS**	**10 38 54.1**	**+5.2**
KHC					AMS	AMS	11 08 50.0	
	comp=Z,4µm,22.9s							
GERES	**GERESS Array B**	**104.02**	**321**		P	**Pdif**	**10 19 45.8**	**+0.5**
GERES				*i*			10 24 03.6	
GERES					pmax	pmax		
	comp=Z,5.0nm,1.1s							
GERES					pmax	pmax		
	comp=Z,3.0nm,0.9s							
GERES	**GERESS Array B**	**104.02**	**321**		Pdiff	**Pdif**	**10 19 45.8**	**+0.5**
	comp=Z,5.0nm,1.1s,baz=81,slow=4.2,SNR=29							
GERES					PKiKP	**PP**	**10 24 03.6**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=72,slow=4.3,SNR=5.9							
GERES					PKKPbc	**PKKPbc**	**10 35 34.6**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=240,slow=3.8,SNR=3.4							
MUD	**Monsted U'grnd**	**104.13**	**329**	*e*	P	**Pdif**	**10 19 46.3**	**+0.8**
MUD					MLR	MLR		
	comp=Z,2µm,18.0s							
MUD	**Monsted U'grnd**	**104.13**	**329**	*i*	P	**Pdif**	**10 19 46.3**	**+0.8**
	comp=Z,2µm,18.0s							
NLWA	**Neilton Lookou**	**104.18**	**41**		PFAKE		10 20 00.0	+14
NLWA					LR	LR		
	comp=Z,4µm,21.0s							
TIP	**Timpagrande**	**104.22**	**310**		PFAKE		10 20 00.0	+14
TIP					LR	LR		
	comp=Z,1µm,22.0s							
BER	**Bergen**	**104.36**	**334**	*e*	P	**Pdif**	**10 19 51.7**	**+5.3**
BER				*e*	PP	**PP**	**10 24 03.9**	**-0.8**
BER				*e*	SKSac	**SKSac**	**10 30 25.3**	**+0.9**
CUC	**Castrocucco**	**104.76**	**311**		PFAKE		10 20 00.0	+11
CUC					LR	LR		
	comp=Z,1µm,21.0s							
CEL	**Celeste**	**105.07**	**310**		PFAKE		10 24 20.0	
CEL					LR	LR		
	comp=Z,1µm,21.0s							
GRF	**Grafenberg Arr**	**105.31**	**322**	*e*	Pdiff	**Pdif**	**10 19 51.3**	**+0.3**
GRF				*e*	PP	**PP**	**10 24 09.8**	**-2.5**
GRF				*e*	L	L	11 15 58.3	
	comp=Z,3µm,21.4s							
GRFO	**Grafenberg**	**105.31**	**322**	*e*	PKPdf	**PKiKP**	**10 24 05.2**	**+0.3**
KULLO	**Kullorsuaq**	**105.59**	**1**	*e*	P	**Pdif**	**10 19 52.3**	**+0.7**
KULLO	**Kullorsuaq**	**105.59**	**1**	*i*	P	**Pdif**	**10 19 52.3**	**+0.7**
	comp=Z,2µm,26.0s							
WTTA	**Wattenberg**	**105.81**	**320**	⇑	*i* Pdiff	**Pdif**	**10 19 53.5**	**0.0**
	comp=Z,47nm,1.6s,SNR=6.8							
WATA	**Walderalm**	**105.82**	**320**	⇓	*i* Pdiff	**Pdif**	**10 19 53.3**	**-0.2**
	comp=Z,46nm,1.7s,SNR=6.7							
AQU	**L'Aquila**	**105.97**	**314**		PFAKE		10 24 20.0	
AQU					LR	LR		
	comp=Z,2µm,22.0s							
FETA	**Feichten**	**106.47**	**319**	⇑	*i* Pdiff	**Pdif**	**10 19 56.2**	**-0.2**
	comp=Z,16nm,1.6s							
TSUM	**Tsumeb**	**106.50**	**250**		PFAKE		10 24 20.0	
TSUM					LR	LR		
	comp=Z,3µm,21.0s							
WDD	**Wield Dalam**	**106.64**	**307**		PFAKE		10 24 20.0	
WDD					LR	LR		
	comp=Z,1µm,22.0s							
I05D	**Terrebonne, OR**	**106.73**	**43**	⇓	P	**PKiKP**	**10 24 09.4**	**+1.7**
	baz=107							
SUMG	**Summit**	**106.88**	**355**	*e*	P	**Pdif**	**10 19 57.3**	**-0.7**
SUMG				*i*			10 24 28.7	
SUMG					MLR	MLR		
	comp=Z,1µm,24.0s							
SUMG	**Summit**	**106.88**	**355**	*i*	P	**Pdif**	**10 19 57.3**	**-0.7**
SUMG				*i*			10 24 28.7	
	comp=Z,1µm,24.0s							
SUMG	**Summit**	**106.88**	**355**	*i*	P	**PKKPab**	**10 35 40.0**	**-2.1**
	comp=Z,3.7nm,1.0s							
DAVOX	**Davos/Dischmat**	**107.10**	**319**		P	**Pdif**	**10 19 59.7**	**+0.5**
DAVOX					pmax	pmax		
	comp=Z,4.0nm,0.6s							
DAVOX	**Davos/Dischmat**	**107.10**	**319**		Pdiff	**Pdif**	**10 19 59.7**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=158,slow=3.2,SNR=7.9							
J05D	**Fort Rock, OR**	**107.11**	**44**	⇓	P	**PKiKP**	**10 24 10.1**	**+1.5**
	baz=107							
CLTB	**Caltabellotta**	**107.29**	**309**		PFAKE		10 24 20.0	
CLTB					LR	LR		
	comp=Z,635nm,20.0s							
HAWA	**Hanford**	**107.31**	**41**		PFAKE		10 24 20.0	
HAWA					LR	LR		
	comp=Z,2µm,19.0s							
TUE	**Stuetta**	**107.55**	**319**		PFAKE		10 24 20.0	
TUE					LR	LR		
	comp=Z,2µm,21.0s							
BFO	**Black Forest**	**107.56**	**321**		PFAKE		10 24 20.0	
BFO					LR	LR		
	comp=Z,2µm,21.0s							
VLC	**Villacollemand**	**107.58**	**317**		PFAKE		10 24 20.0	
VLC					LR	LR		
	comp=Z,2µm,20.0s							
MEM	**Membach**	**108.12**	**324**		P	**Pdif**	**10 20 03.6**	**+0.2**
	comp=Z,9.7nm,1.9s							
MEM					PP	PP	10 24 39.0	+6.2
CDF	**Champ du Feu**	**108.19**	**322**	*e*	P	**Pdif**	**10 20 03.9**	**0.0**
	comp=Z,82nm,1.7s							
CDF	**Champ du Feu**	**108.19**	**322**	*e*	P	**Pdif**	**10 20 03.9**	**0.0**
CDF					pmax	pmax		
	comp=Z,82nm,1.7s							
CDF	**Champ du Feu**	**108.19**	**322**	*e*	P	**Pdif**	**10 20 03.9**	**0.0**
	comp=Z,82nm,1.7s							
NEW	**Newport**	**108.21**	**38**		PFAKE		10 24 20.0	
NEW					LR	LR		
	comp=Z,2µm,22.0s							
BEBN	**Eben Emael**	**108.24**	**324**		PP	PP	10 24 39.2	+5.6
ECH	**Echery**	**108.

LRM Limekiln Ridge 112.10 40 ePKPdf PKiKP 10 24 18.8 +0.7
ELK Elko 112.14 45 i PKIKP PKiKP 10 24 20.4 +2.1
ELK pmax pmax
comp=Z,4.0nm,0.7s
ELK Elko 112.14 45 PKiKP PKiKP 10 24 20.4 +2.1
comp=Z,3.8nm,0.7s,baz=354,slow=0.6,SNR=7.5
MCMT McKenzie Canyo 112.25 41 ePKPdf PKiKP 10 24 16.6 -1.7
BFSC Mount Baldy Ra 112.33 53 ⇑P PKiKP 10 24 18.4 -0.3
baz=112
LDF La Druitiere 112.59 324 eP Pdif 10 20 22.7 -0.6
comp=Z,75nm,1.5s
LDF La Druitiere 112.59 324 eP Pdif 10 20 22.7 -0.6
LDF La Druitiere 112.59 324 eP Pdif 10 20 22.7 -0.6
R11A Troy Canyon, C 112.70 48 ⇓P PKiKP 10 24 20.5 +1.2
baz=113
BOZ Bozeman (W) 112.70 39 ePKIKP PKiKP 10 24 19.9 +0.8
BOZ MLR MLR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 112.70 39 ePKPdf PKiKP 10 24 19.9 +0.8
BOZ LR LR
comp=Z,1μm,21.0s
EGMT Eagleton 112.80 37 ⇑P PKiKP 10 24 20.0 +0.9
baz=113,SNR=11
EGMT Eagleton 112.80 37 ePKPdf PKiKP 10 24 19.9 +0.8
EGMT LR LR
comp=Z,1μm,21.0s
CAF Calviac 112.86 320 eP Pdif 10 20 23.8 -0.9
comp=Z,22nm,1.3s
CAF Calviac 112.86 320 eP Pdif 10 20 23.8 -0.9
CAF Calviac 112.86 320 eP Pdif 10 20 23.8 -0.9
SHOC Shoshone, Teco 112.94 51 ⇑P PKiKP 10 24 21.2 +1.6
baz=113
A19A Klindworth Far 112.97 35 ⇑P PKiKP 10 24 19.8 +0.5
baz=113
B19A Brinkman Farms 113.08 36 ⇓P PKiKP 10 24 20.4 +0.9
baz=113
SFJD Kangerlussuaq 113.16 358 PFAKE 10 24 30.0
SFJD LR LR
comp=Z,2μm,21.0s
QLMT Earthquake Lak 113.17 40 ePKPdf PKiKP 10 24 19.7 -0.3
FFC Flin Flon 113.34 28 ePKIKP PKiKP 10 24 18.4 -1.4
FFC MLR MLR
comp=Z,2μm,19.0s
FFC Flin Flon 113.34 28 ePKPdf PKiKP 10 24 18.4 -1.4
FFC LR LR
comp=Z,2μm,19.0s
C19A Slack Wire Ran 113.36 37 ⇓P PKiKP 10 24 21.2 +1.1
baz=113,SNR=5.7
PFO Pinyon Flats O 113.47 53 PFAKE 10 24 30.0
PFO LR LR
comp=Z,2μm,21.0s
HVU Hansel Valley 113.50 44 ePKIKP PKiKP 10 24 21.8 +1.1
HVU Hansel Valley 113.50 44 ePKPdf PKiKP 10 24 21.8 +1.1
YMR Madison River 113.54 40 ePKPdf PKiKP 10 24 21.7 +0.9
D19A Cripps Ranch, 113.72 37 ⇑P PKiKP 10 24 21.7 +0.8
baz=114
GCMT Greycliff 113.87 39 ePKPdf PKiKP 10 24 22.4 +1.1
FCC Fort Churchill 113.91 21 ePKIKP PKiKP 10 24 20.5 -0.2
FCC Fort Churchill 113.91 21 ePKPdf PKiKP 10 24 20.5 -0.2
H17A Grant Village 113.91 40 ⇓P PKiKP 10 24 21.5 0.0
baz=114
A21A Bergtoll Ranch 113.98 35 ⇑P PKiKP 10 24 22.3 +1.0
baz=114
C20A Veseth Ranch, 113.99 36 ⇓P PKiKP 10 24 21.9 +0.6
baz=114,SNR=6.5
DUG Dugway, Tooele 114.07 45 ⇑P PKPdf 10 24 22.0 +0.2
baz=114
DUG Dugway, Tooele 114.07 45 PFAKE 10 24 30.0 +8.2
DUG LR LR
comp=Z,2μm,19.0s
I17A Pilgrim Ck. 114.11 41 ⇓P PKPdf 10 24 22.4 +0.5
baz=114
E19A Rath Farm, Rou 114.11 38 ⇑P PKPdf 10 24 21.9 +0.3
baz=114
D20A Manuel Ranch, 114.21 37 ⇓P PKPdf 10 24 22.6 +0.8
baz=114,SNR=5.6
B21A Ellsworth Farm 114.21 35 ⇓P PKPdf 10 24 22.8 +1.1
baz=114,SNR=5.9
AHID Auburn Hatcher 114.25 42 PFAKE 10 24 30.0 +7.8
AHID LR LR
comp=Z,1μm,20.0s
F19A Roth Farm, Mol 114.30 38 ⇑P PKPdf 10 24 21.9 -0.2
baz=114
H18A Shoshone NF, C 114.37 40 ⇑P PKPdf 10 24 22.9 +0.5
baz=114
HWUT Hardware Ranch 114.40 43 ePKPdf PKPdf 10 24 23.5 +1.0
HWUT LR LR
comp=Z,1μm,20.0s
RLMT Red Lodge 114.42 39 ePKPdf PKPdf 10 24 22.4 -0.1
RLMT LR LR
comp=Z,2μm,21.0s
C21A Desert Coulee 114.47 36 ⇓P PKPdf 10 24 23.3 +1.1
baz=114,SNR=8.9
A22A Carney Farms, 114.55 34 ⇓P PKPdf 10 24 23.7 +1.3
baz=115,SNR=7.4
TCUT Toone Canyon 114.70 44 ePKPdf PKPdf 10 24 24.3 +1.2
TCUT ePP PP 10 25 19.9 -0.7
H19A Powell 114.81 40 ⇓P PKPdf 10 24 24.9 +1.7
baz=115,SNR=8.7
F20A Billings 114.81 38 ⇓P PKPdf 10 24 23.8 +0.7
baz=115
B22A Reddig Ranch S 114.86 35 ⇑P PKPdf 10 24 23.8 +0.8
baz=115
D21A La Casta Ranch 114.90 36 ⇑P PKPdf 10 24 24.2 +1.0
baz=115,SNR=8.5
PMSA Palmer Station 114.94 176 PFAKE 10 24 30.0 +7.5
PMSA LR LR
comp=Z,5μm,20.0s
Y12C Blythe 114.97 52 ⇑P PKPdf 10 24 23.8 +0.2
baz=115
G20A Bridger 115.04 39 ⇑P PKPdf 10 24 24.1 +0.5
baz=115
W13A Hualapai Mount 115.05 51 ⇓P PKPdf 10 24 24.4 +0.4
baz=115
DAU Daniels Canyon 115.09 45 ePKIKP PKPdf 10 24 24.2 +0.2
DAU Daniels Canyon 115.09 45 ePKPdf PKPdf 10 24 24.2 +0.2
I19A Meeteetse 115.09 40 ⇓P PKPdf 10 24 23.9 +0.1
baz=115
E21A Keefer Ranch, 115.11 37 ⇑P PKPdf 10 24 24.4 +0.9
baz=115,SNR=6.1
C22A Vida 115.21 35 ⇓P PKPdf 10 24 24.7 +1.1
baz=115,SNR=11
BW06 Boulder Array 115.28 42 ePKPdf PKPdf 10 24 24.9 +0.7
BW06 LR LR
comp=Z,2μm,22.0s
PDAR Pinedale Array 115.28 42 PKP PKPdf 10 24 25.2 +1.0
comp=Z,12nm,1.2s,baz=254,slow=1.1,SNR=23
PDAR PP PP 10 25 28.0 +3.4
comp=Z,4.1nm,1.0s,baz=276,slow=4.0,SNR=4.8
PDAR PKKPbc PKKPbc 10 34 58.5 -1.7
comp=Z,0.7nm,0.6s,baz=128,slow=4.3,SNR=6.1
D22A Cohagen 115.34 36 ⇑P PKPdf 10 24 25.0 +1.0
baz=115,SNR=23
B23A Brockton 115.35 34 ⇓P PKPdf 10 24 24.5 +0.6
baz=115,SNR=7.2
J19A Crowheart 115.39 41 ⇓P PKPdf 10 24 24.9 +0.5
baz=115,SNR=11
H20A Greybull 115.52 39 ⇓P PKPdf 10 24 24.9 +0.4
baz=116,SNR=5.6
LAO LASA Array 115.55 37 ePKPdf PKPdf 10 24 26.0 +1.6
LAO LR LR
comp=Z,1μm,22.0s
C23A Lambert 115.59 35 ⇑P PKPdf 10 24 25.7 +1.3
baz=116,SNR=13
A24A Westby 115.66 34 ⇑P PKPdf 10 24 25.3 +0.9
baz=116
G21A Lodge Grass 115.67 38 ⇓P PKPdf 10 24 25.4 +0.7
baz=116
I20A Worland 115.68 40 ⇓P PKPdf 10 24 25.8 +1.0
baz=116,SNR=8.2
FRB Frobisher Bay 115.69 7 PKKPbc PKKPbc 10 34 56.2 -2.7
comp=Z,2.0nm,0.9s,baz=163,slow=5.1,SNR=3.8
DGMT Dagmar 115.79 34 ⇓P PKPdf 10 24 25.5 +0.7
baz=116,SNR=7.2
DGMT Dagmar 115.79 34 ePKPdf PKPdf 10 24 25.6 +0.9
DGMT ePP PP 10 25 28.8 +1.1
DGMT LR LR
comp=Z,1μm,20.0s
U15A North Rim 115.82 49 ⇑P PKPdf 10 24 26.1 +0.6
baz=116
E22A Miles City 115.84 37 ⇓P PKPdf 10 24 26.0 +1.0
baz=116,SNR=16
D23A Lindsay 115.90 36 ⇑P PKPdf 10 24 26.7 +1.6
baz=116,SNR=11
F22A Rosebud 115.98 37 ⇑P PKPdf 10 24 26.1 +0.9
baz=116,SNR=5.7

J20A Shoshoni 115.98 41 ⇓P PKPdf 10 24 26.6 +1.2
baz=116,SNR=15
H21A Big Horn, Sher 116.06 39 ⇓P PKPdf 10 24 25.8 +0.2
baz=116
A25A Svangstu Ranch 116.14 33 ⇓P PKPdf 10 24 26.1 +0.7
baz=116
C24A Savage 116.17 35 ⇑P PKPdf 10 24 26.6 +1.1
baz=116
E23A Ismay 116.19 36 ⇓P PKPdf 10 24 26.7 +1.1
baz=116,SNR=12
G22A Birney 116.24 38 ⇓P PKPdf 10 24 26.2 +0.4
baz=116
I21A Big Trails, Te 116.28 40 ⇑P PKPdf 10 24 26.2 +0.2
baz=116,SNR=13
J21A Lysite 116.40 40 ⇑P PKPdf 10 24 27.0 +0.7
baz=116,SNR=9.2
D24A Glendive 116.44 35 ⇓P PKPdf 10 24 27.5 +1.4
baz=116,SNR=7.3
B25A Knox Farm, Ray 116.48 34 ⇑P PKPdf 10 24 27.2 +1.1
baz=116,SNR=5.6
H22A Clearmont 116.50 39 ⇑P PKPdf 10 24 26.6 +0.3
baz=116
F23A Volborg 116.53 37 ⇑P PKPdf 10 24 27.1 +0.8
baz=116,SNR=14
C25A Freed Ranch, W 116.73 34 ⇓P PKPdf 10 24 27.3 +0.7
baz=117
A26A Wade Farm, Ken 116.75 33 ⇓P PKPdf 10 24 27.3 +0.7
baz=117
E24A Baker 116.75 36 ⇓P PKPdf 10 24 27.7 +1.0
baz=117,SNR=6.3
I22A 9 Mile Ranch, 116.76 39 ⇑P PKPdf 10 24 26.9 0.0
baz=117
G23A Biddle 116.80 38 ⇑P PKPdf 10 24 27.7 +0.8
baz=117,SNR=7.4
WUAZ Wupatki 116.83 50 PFAKE 10 24 40.0 +13
WUAZ LR LR
comp=Z,2μm,19.0s
K21A Alcova 116.86 41 ⇓P PKPdf 10 24 27.9 +0.7
baz=117,SNR=14
B26A Jensen Ranch, 116.93 33 ⇓P PKPdf 10 24 27.5 +0.6
baz=117
J22A Midwest 116.99 40 ⇓P PKPdf 10 24 27.6 +0.2
baz=117,SNR=23
D25A Fairfield 117.00 35 ⇑P PKPdf 10 24 28.4 +1.3
baz=117,SNR=8.2
F24A Ekalaka 117.04 37 ⇑P PKPdf 10 24 27.9 +0.6
baz=117,SNR=9.4
TAM Tamanrasset 117.14 296 ePKIKP PKPdf 10 24 29.4 +1.2
TAM MLR MLR
comp=Z,1μm,22.0s
TAM Tamanrasset 117.14 296 ePKPdf PKPdf 10 24 29.4 +1.2
TAM LR LR
comp=Z,1μm,22.0s
A27A Ledoux Ranch, 117.14 32 ⇑P PKPdf 10 24 28.5 +1.2
baz=117,SNR=13
X16A Lo Mia Camp, P 117.17 51 ⇓P PKPdf 10 24 29.8 +1.8
baz=117
O20A White River Ci 117.30 44 ⇓P PKPdf 10 24 29.0 +0.9
baz=117
O20A White River Ci 117.30 44 ePKPdf PKPdf 10 24 29.3 +1.2
E25A Miller Ranch, 117.31 36 ⇓P PKPdf 10 24 29.0 +1.2
baz=117,SNR=12
C26A Wahner Farm, P 117.32 34 ⇓P PKPdf 10 24 29.1 +1.4
baz=117
K22A Casper 117.32 41 ⇓P PKPdf 10 24 28.7 +0.6
baz=117,SNR=11
K22A Casper 117.32 41 ePKPdf PKPdf 10 24 28.6 +0.6
G24A Alzada 117.33 37 ⇓P PKPdf 10 24 28.2 +0.3
baz=117,SNR=8.4
H24A Dirks Ranch, A 117.54 38 ⇓P PKPdf 10 24 28.7 +0.4
baz=118,SNR=17
D26A Manning 117.58 35 ⇑P PKPdf 10 24 29.3 +1.0
baz=118
F25A Bowman 117.58 36 ⇑P PKPdf 10 24 29.0 +0.7
baz=118,SNR=7.3
L22A Ellis Ranch, M 117.67 41 ⇓P PKPdf 10 24 29.6 +0.8
baz=118
A28A Rude Farm, Bot 117.69 32 ⇓P PKPdf 10 24 29.0 +0.6
baz=118,SNR=13
C27A Sayler Ranch, 117.72 34 ⇓P PKPdf 10 24 29.5 +1.0
baz=118
M22A Cedar Creek Ra 117.86 42 ⇓P PKPdf 10 24 29.8 +0.6
baz=118,SNR=11
K23A Bowen Ranch, D 117.86 40 ⇓P PKPdf 10 24 29.3 +0.3
baz=118
E26A Carlson Angus 117.87 35 ⇓P PKPdf 10 24 29.8 +1.0
baz=118,SNR=14
B28A Dugan Ranch, T 117.91 32 ⇑P PKPdf 10 24 29.8 +1.0
baz=118,SNR=19
PV01 Paradox Valley 117.91 46 ePKPdf PKPdf 10 24 30.4 +0.9
I24A Kuemmerle Ranc 117.95 39 ⇑P PKPdf 10 24 29.0 -0.2
baz=118
G25A Newell 118.00 37 ⇓P PKPdf 10 24 29.5 +0.3
baz=118,SNR=10
D27A Center 118.05 34 ⇑P PKPdf 10 24 29.4 +0.3
baz=118
F26A Lodgepole 118.09 36 ⇑P PKPdf 10 24 29.9 +0.6
baz=118,SNR=6.3
L23A Garrett 118.11 41 ⇓P PKPdf 10 24 30.1 +0.4
baz=118,SNR=5.4
RSSD Black Hills 118.18 38 ePKIKP PKPdf 10 24 29.8 +0.1
RSSD Black Hills 118.18 38 ePKPdf PKPdf 10 24 29.8 +0.1
H25A Fruitdale 118.19 37 ⇓P PKPdf 10 24 29.9 +0.4
baz=118,SNR=6.4
J24A Dixon Ranch, L 118.19 39 ⇓P PKPdf 10 24 29.8 +0.2
baz=118
A29A Manning Farm, 118.22 32 ⇑P PKPdf 10 24 30.0 +0.6
baz=118,SNR=25
N22A Wattenberg Ran 118.23 42 ⇓P PKPdf 10 24 30.8 +0.8
baz=118,SNR=15
W18A Petrified Fore 118.23 50 ⇑P PKPdf 10 24 31.1 +1.0
baz=118
W18A Petrified Fore 118.23 50 ePKPdf PKPdf 10 24 30.2 +0.2
X18A Snowflake 118.28 50 ⇓P PKPdf 10 24 31.7 +1.5
baz=118
C28A Hausauer Farms 118.33 33 ⇑P PKPdf 10 24 30.8 +1.2
baz=118
MVCO Mesa Verde 118.34 47 ⇓P PKPdf 10 24 31.9 +1.6
baz=118
MVCO Mesa Verde 118.34 47 ePKPdf PKPdf 10 24 31.2 +0.9
MVCO LR LR
comp=Z,3μm,22.0s
K24A Anderson Ranch 118.39 40 ⇓P PKPdf 10 24 30.4 +0.2
baz=118
TUC Tucson 118.41 53 PFAKE 10 24 40.0 +10
TUC LR LR
comp=Z,2μm,20.0s
M23A Laramie 118.41 41 ⇑P PKPdf 10 24 30.5 +0.2
baz=118
E27A Carson 118.41 35 ⇓P PKPdf 10 24 30.7 +0.9
baz=118,SNR=25
I25A Rochford 118.42 38 ⇓P PKPdf 10 24 30.5 +0.4
baz=118,SNR=20
G26A Maurine 118.43 36 ⇓P PKPdf 10 24 30.3 +0.3
baz=118,SNR=16
B29A Wagenman Farm, 118.44 32 ⇓P PKPdf 10 24 30.1 +0.3
baz=118,SNR=7.2
O22A Kremmling 118.45 43 ⇓P PKPdf 10 24 30.9 +0.4
baz=118
F27A Lemmon 118.46 36 ⇓P PKPdf 10 24 30.7 +0.7
baz=118,SNR=22
N23A Red Feather La 118.53 42 ⇓P PKPdf 10 24 31.4 +0.8
baz=119,SNR=6.1
D28A Regan 118.53 34 ⇑P PKPdf 10 24 30.8 +0.8
baz=118
MDND Maddock 118.68 33 ⇓P PKPdf 10 24 30.8 +0.5
baz=119,SNR=5.6
MDND Maddock 118.68 33 ePKPdf PKPdf 10 24 31.1 +0.8
MDND ePP PP 10 25 48.1 +0.4
H26A Fairpoint 118.69 37 ⇓P PKPdf 10 24 31.2 +0.7
baz=119,SNR=20
A30A Moffart Farm, 118.70 31 ⇑P PKPdf 10 24 30.5 +0.2
baz=119,SNR=15
J25A Sunshine Ranch 118.70 39 ⇑P PKPdf 10 24 31.2 +0.6
baz=119,SNR=6.1
G27A Dupree 118.78 36 ⇑P PKPdf 10 24 31.1 +0.4
baz=119,SNR=54
E28A Huff 118.82 34 ⇑P PKPdf 10 24 31.3 +0.6
baz=119,SNR=12
O23A Lake Granby, G 118.86 43 ⇓P PKPdf 10 24 32.4 +1.1
baz=119,SNR=13
I26A New Underwood 118.95 38 ⇑P PKPdf 10 24 31.5 +0.5
baz=119,SNR=13
B30A Myrvik Farm, E 118.99 32 ⇓P PKPdf 10 24 31.1 +0.2
baz=119,SNR=7.5
M24A Cheyenne 119.00 41 ⇑P PKPdf 10 24 31.9 +0.5
baz=119
K25A Mack Ranch, Ha 119.05 40 ⇑P PKPdf 10 24 31.4 0.0
baz=119
ULM Lac du Bonnet 119.07 29 PKP PKPdf 10 24 31.4 +0.4
comp=Z,11nm,0.6s,baz=318,slow=2.8,SNR=27
ULM SKP 10 28 04.3
comp=Z,2.7nm,0.7s,baz=333,slow=5.3,SNR=3.2
ULM PKKPbc PKKPbc 10 34 45.6 -0.9
comp=Z,3.3nm,0.8s,baz=48,slow=0.7,SNR=6.2
ULM PKKPab PKKPab 10 34 50.2 +2.4
comp=Z,1.9nm,0.7s,baz=195,slow=3.2,SNR=4.6
H27A Howes 119.10 37 ⇑P PKPdf 10 24 31.6 +0.3
baz=119,SNR=39
D29A Pettibone, Tap 119.15 33 ⇑P PKPdf 10 24 31.5 +0.3
baz=119,SNR=6.6
ESDC Sonseca Array 119.17 317 PKP PKPdf 10 24 32.5 +1.0
comp=Z,0.6nm,0.5s,baz=8.2,slow=0.8,SNR=8.2
ESDC PP PP 10 25 53.0 +1.4
comp=Z,0.5nm,0.2s,baz=70,slow=9.8,SNR=5.1
ESDC PKKPbc PKKPbc 10 34 46.4 +0.4
comp=Z,0.2nm,0.3s,baz=253,slow=5.2,SNR=5.6
F28A McLaughlin 119.17 35 ⇓P PKPdf 10 24 31.9 +0.6
baz=119,SNR=17
J26A Sides Ranch, S 119.19 39 ⇑P PKPdf 10 24 31.9 +0.3
baz=119,SNR=19
L25A Engebretsen Ra 119.22 40 ⇑P PKPdf 10 24 31.8 +0.1
baz=119
ISCO Idaho Springs 119.26 43 ePKIKP PKPdf 10 24 33.0 +1.0
ISCO MLR MLR
comp=Z,2μm,22.0s
ISCO Idaho Springs 119.26 43 ⇑P PKPdf 10 24 32.8 +0.7
baz=119,SNR=22
ISCO Idaho Springs 119.26 43 ePKPdf PKPdf 10 24 33.0 +1.0
ISCO LR LR
comp=Z,2μm,22.0s
P23A Jefferson 119.30 44 ⇓P PKPdf 10 24 33.0 +0.8
baz=119,SNR=12
S22A 4UR Ranch, Cre 119.32 46 ⇓P PKPdf 10 24 33.3 +1.0
baz=119
C30A Mose, Pekin 119.37 32 ⇓P PKPdf 10 24 32.3 +0.7
baz=119,SNR=12
E29A Napoleon 119.41 34 ⇑P PKPdf 10 24 31.8 0.0
baz=119
I27A Quinn 119.42 37 ⇓P PKPdf 10 24 31.9 0.0
baz=119,SNR=21
K26A Motz Farm, Whi 119.44 39 ⇑P PKPdf 10 24 32.4 +0.3
baz=120,SNR=12
O24A Longmont 119.48 43 ⇑P PKPdf 10 24 32.6 +0.3
baz=120
PAB San Pablo 119.49 317 PFAKE 10 24 40.0 +7.8
PAB LR LR
comp=Z,2μm,21.0s
Q23A Hartsel 119.52 44 ⇓P PKPdf 10 24 33.3 +0.7
baz=120
M25A Palm-Egli Farm 119.52 41 ⇓P PKPdf 10 24 32.8 +0.4
baz=120
G28A Parade 119.55 36 ⇓P PKPdf 10 24 32.7 +0.6
baz=120,SNR=32
D30A Buchanan 119.58 33 ⇑P PKPdf 10 24 32.2 +0.1
baz=120,SNR=12
H28A Mission Ridge 119.71 36 ⇓P PKPdf 10 24 32.8 +0.4
baz=120,SNR=20
F29A Eureka 119.74 35 ⇑P PKPdf 10 24 32.9 +0.5
baz=120,SNR=15
L26A Underwood Farm 119.85 40 ⇑P PKPdf 10 24 33.4 +0.5
baz=120
E30A Jud 119.86 34 ⇑P PKPdf 10 24 32.9 +0.2
baz=120,SNR=19
P24A Kohler Place, 119.87 43 ⇑P PKPdf 10 24 33.9 +0.8
baz=120,SNR=8.7
J27A Elkhorn Farm, 119.89 38 ⇑P PKPdf 10 24 33.7 +0.8
baz=120,SNR=25
319A Douglas 119.93 53 ⇓P PKPdf 10 24 34.3 +1.0
baz=120
Q24A Divide 119.96 44 ⇓P PKPdf 10 24 33.9 +0.4
baz=120
I28A Midland 119.99 37 ⇑P PKPdf 10 24 33.4 +0.4
baz=120,SNR=32
K27A Flueckinger Fa 120.04 39 ⇑P PKPdf 10 24 33.4 +0.2
baz=120,SNR=14
G29A Hoven 120.06 35 ⇑P PKPdf 10 24 33.4 +0.3
baz=120,SNR=9.6
M26A McRoberts Ranc 120.10 40 ⇑P PKPdf 10 24 34.0 +0.6
baz=120
O25A Wiggins 120.12 42 ⇓P PKPdf 10 24 34.2 +0.7
baz=120,SNR=9.8
F30A Leola 120.19 34 ⇓P PKPdf 10 24 33.8 +0.5
baz=120
T23A Casias Ranch, 120.20 46 ⇓P PKPdf 10 24 35.3 +1.4
baz=120
H29A Onida 120.21 36 ⇑P PKPdf 10 24 33.7 +0.3
baz=120,SNR=13
SDCO Great Sand Dun 120.27 45 ⇓P PKPdf 10 24 33.1 -0.9
baz=120
J28A Allard Ranch, 120.27 38 ⇑P PKPdf 10 24 34.3 +0.7
baz=120,SNR=27
R24A Sanders Place, 120.33 45 ⇑P PKPdf 10 24 35.3 +1.3
baz=120
AGMN Agassiz Nation 120.36 30 ⇓P PKPdf 10 24 33.3 -0.2
baz=120
AGMN Agassiz Nation 120.36 30 PFAKE 10 24 40.0 +6.5
AGMN LR LR
comp=Z,1μm,19.0s
N26A Koester Ranch, 120.37 41 ⇑P PKPdf 10 24 34.4 +0.5
baz=120
P25A Willow Gulch B 120.38 43 ⇑P PKPdf 10 24 34.9 +0.8
baz=120,SNR=36
U23A El Rito 120.39 47 ⇓P PKPdf 10 24 35.6 +1.3
baz=120
I29A Vivian Onida 120.50 37 ⇑P PKPdf 10 24 34.4 +0.4
baz=120,SNR=22
S24A Houchin Ranch, 120.52 45 ⇑P PKPdf 10 24 35.8 +1.3
baz=121
G30A Faulkton 120.54 35 ⇓P PKPdf 10 24 34.2 +0.2
baz=120,SNR=45
M27A Reverse DX Ran 120.56 40 ⇓P PKPdf 10 24 34.6 +0.4
baz=121
K28A Ten Mile Ranch 120.57 38 ⇑P PKPdf 10 24 34.6 +0.4
baz=121,SNR=12
O26A Horse Wrangler 120.60 42 ⇑P PKPdf 10 24 34.6 +0.2
baz=121
Q25A Bedland, Calha 120.61 43 ⇑P PKPdf 10 24 35.5 +0.9
baz=121,SNR=18
V23A Ortiz Mt. (NFS 120.64 48 ⇑P PKPdf 10 24 36.7 +2.0
baz=121
T24B San Luis 120.66 46 ⇓P PKPdf 10 24 36.6 +1.8
baz=121
121A Cookes Peak, D 120.70 52 ⇓P PKPdf 10 24 36.6 +1.7
baz=121,SNR=9.1
121A Cookes Peak, D 120.70 52 ePKPdf PKPdf 10 24 36.5 +1.7
ANMO Albuquerque 120.77 48 PKIKP PKPdf 10 24 36.3 +1.3
ANMO 10 26 08.6
ANMO pmax pmax
comp=Z,23nm,1.1s
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 120.77 48 PKP PKPdf 10 24 36.3 +1.3
comp=Z,23nm,1.1s,baz=238,slow=1.6,SNR=34
ANMO PP PP 10 26 08.6 +5.6
comp=Z,7.5nm,1.0s,baz=335,slow=6.2,SNR=3.9
ANMO Albuquerque 120.77 48 ePKPdf PKPdf 10 24 36.2 +1.3
ANMO PP PP 10 26 08.6 +5.6
ANMO LR LR
comp=Z,1μm,20.0s
Y22D IRIS PASSCAL I 120.77 50 ⇓P PKPdf 10 24 37.1 +2.1
baz=121,SNR=5.6
N27A Anderson Farm, 120.83 41 ⇑P PKPdf 10 24 35.3 +0.5
baz=121
J29A Okreek 120.83 37 ⇑P PKPdf 10 24 35.2 +0.6
baz=121,SNR=22
L28A Connealy Angus 120.86 39 ⇑P PKPdf 10 24 34.9 +0.1
baz=121
PGAV Gavieira, Arco 120.88 321 ePKPdf PKPdf 10 24 36.1 +1.3
POLO Lamas de Olo 120.89 320 ePKPdf PKPdf 10 24 35.9 +1.0
LPM Los Pinos Moun 120.89 49 ePKPdf PKPdf 10 24 36.5 +1.3
P26A Davis Ranch, A 120.91 42 ⇓P PKPdf 10 24 36.0 +1.0
baz=121,SNR=34
R25A Fountain Ranch 120.94 44 ⇑P PKPdf 10 24 36.1 +1.0
baz=121,SNR=16
U24A Moreno Valley 121.02 46 ⇑P PKPdf 10 24 35.3 -0.2
baz=121
BRSD Miller 121.05 36 ⇑P PKPdf 10 24 35.5 +0.5
baz=121,SNR=7.2
BRSD Miller 121.05 36 ePKPdf PKPdf 10 24 35.1 +0.1
S25A Robets Cordova 121.06 45 ⇑P PKPdf 10 24 36.8 +1.4
baz=121,SNR=6.1
I30A Oacoma 121.08 36 ⇓P PKPdf 10 24 35.7 +0.6
baz=121,SNR=21
OGNE Ogallala 121.08 40 ⇓P PKPdf 10 24 35.2 0.0
baz=121

OGNE Ogallala 121.08 40 ePKPdf PKPdf 10 24 36.0 +0.7
OGNE ePP PP 10 26 04.3 -0.4
OGNE LR LR
comp=Z,1µm,22.0s
Q26A Hugo 121.10 43 ⇑P PKPdf 10 24 36.9 +1.5
baz=121,SNR=16
O27A Beecher Island 121.18 41 ⇑P PKPdf 10 24 35.7 +0.2
baz=121
K29A Lazy Trails An 121.19 38 ⇓P PKPdf 10 24 35.9 +0.6
baz=121,SNR=17
MTE Manteigas 121.22 319 ePKPdf PKPdf 10 24 37.2 +1.7
MTE Manteigas 121.22 319 PFAKE 10 24 50.0 +15
MTE LR LR
comp=Z,2µm,21.0s
M28A Bar X Bar Ranc 121.27 40 ⇓P PKPdf 10 24 35.8 +0.2
baz=121
LPIG La Paz 121.29 62 PKP PKPdf 10 24 38.0 +2.1
comp=Z,85nm,1.2s,baz=296,slow=6.6,SNR=5.2
T25A Trinidad 121.32 45 ⇓P PKPdf 10 24 37.8 +1.8
baz=121,SNR=24
J30A Dallas 121.38 37 ⇓P PKPdf 10 24 36.0 +0.4
baz=121,SNR=21
P27A Ficken Ranch, 121.43 42 ⇓P PKPdf 10 24 36.9 +0.9
baz=122,SNR=14
W24A Lazy 6 Ranch, 121.44 48 ⇑P PKPdf 10 24 37.8 +1.6
baz=122,SNR=57
R26A Arlington 121.45 44 ⇑P PKPdf 10 24 37.1 +1.0
baz=122,SNR=22
L29A Maesberg Ranch 121.48 39 ⇓P PKPdf 10 24 36.1 +0.2
baz=122,SNR=5.9
N28A Pribbeno Ranch 121.54 40 ⇑P PKPdf 10 24 36.7 +0.6
baz=122,SNR=15
PMRV Marv??o 121.61 318 ePKPdf PKPdf 10 24 38.2 +2.0
U25A Circle Dot Ran 121.65 46 ⇓P PKPdf 10 24 38.3 +1.7
baz=122,SNR=33
KSCO Kaye Shedlock' 121.67 43 ⇓P PKPdf 10 24 37.6 +1.1
baz=122,SNR=6.8
KSCO Kaye Shedlock' 121.67 43 ePKPdf PKPdf 10 24 37.3 +0.8
K30A Basset 121.67 38 ⇓P PKPdf 10 24 36.8 +0.6
baz=122,SNR=17
O28A Krutsinger Ran 121.68 41 ⇑P PKPdf 10 24 36.9 +0.5
baz=122,SNR=8.7
M29A Burnside Ranch 121.68 39 ⇑P PKPdf 10 24 36.5 +0.1
baz=122
V25A Rancho No Teng 121.75 47 ⇓P PKPdf 10 24 38.2 +1.3
baz=122,SNR=52
S26A Kim 121.76 44 ⇓P PKPdf 10 24 37.9 +1.2
baz=122,SNR=20
T26A Comanche Natio 121.88 45 ⇓P PKPdf 10 24 38.3 +1.2
baz=122,SNR=38
R27A Eads 121.91 43 ⇑P PKPdf 10 24 37.9 +1.0
baz=122,SNR=18
P28A Saint Francis 121.97 42 ⇑P PKPdf 10 24 37.6 +0.6
baz=122,SNR=12
PBAR Barrancos 121.99 316 ePKPdf PKPdf 10 24 38.5 +1.6
L30A Spencer Herefo 122.01 38 ⇑P PKPdf 10 24 36.6 -0.3
baz=122
N29A Votaw Ranch, W 122.06 40 ⇑P PKPdf 10 24 38.1 +1.0
baz=122,SNR=6.1
S27A Las Animas 122.13 44 ⇑P PKPdf 10 24 38.5 +1.1
baz=122
U26A Atchley Ranch, 122.13 46 ⇓P PKPdf 10 24 38.6 +1.1
baz=122,SNR=9.8
W25A X Bar L Ranch, 122.14 47 ⇓P PKPdf 10 24 38.5 +1.0
baz=122,SNR=29
M30A Dale-Ortello V 122.15 39 ⇓P PKPdf 10 24 37.3 0.0
baz=122
Q28A Sharon Springs 122.18 42 ⇓P PKPdf 10 24 38.3 +0.9
baz=122,SNR=13
O29A 4D Ranch, Culb 122.31 41 ⇓P PKPdf 10 24 38.0 +0.4
baz=122
V26A Tequesquite Ra 122.37 46 ⇓P PKPdf 10 24 38.7 +0.8
baz=122,SNR=25
N30A Hueftle Ranch, 122.41 40 ⇑P PKPdf 10 24 38.1 +0.4
baz=122
L31A Butterfield Fa 122.43 38 ⇑P PKPdf 10 24 37.8 +0.1
baz=122,SNR=16
TORD Torodi Ar. Bea 122.46 285 PKP PKPdf 10 24 38.3 -0.2
comp=Z,14nm,0.6s,baz=168,slow=0.2,SNR=5.1
TORD PKKPbc PKKPab 10 34 35.5 +2.0
comp=Z,16nm,1.1s,baz=267,slow=2.8,SNR=23
EVO Evora 122.48 317 ePKIKP PKPdf 10 24 37.3 -0.6
comp=Z,72nm,1.4s
P29A Atwood 122.50 41 ⇓P PKPdf 10 24 38.7 +0.7
baz=122,SNR=5.3
T27A Campo 122.55 45 ⇓P PKPdf 10 24 39.4 +1.2
baz=123,SNR=14
R28A Tribune 122.55 43 ⇑P PKPdf 10 24 39.2 +1.0
baz=123,SNR=15
EVOP Sao Brissos 122.56 317 ePKIKP PKPdf 10 24 37.3 -0.7
EVOP Sao Brissos 122.56 317 ePKPdf PKPdf 10 24 37.3 -0.7
W26A Owens Ranch, T 122.70 47 ⇑P PKPdf 10 24 39.6 +1.0
baz=123,SNR=17
EYMN Ely 122.74 28 ePKPdf PKPdf 10 24 38.3 +0.2
EYMN LR LR
comp=Z,1µm,21.0s
O30A MW Ranch, Wils 122.77 40 ⇓P PKPdf 10 24 38.9 +0.5
baz=123,SNR=11
U27A Thompson Grove 122.78 45 ⇓P PKPdf 10 24 39.6 +0.9
baz=123,SNR=40
M31A Lambtecht Ranc 122.81 39 ⇑P PKPdf 10 24 38.5 0.0
baz=123,SNR=9.4
ECSD EROS Data Cent 122.83 35 ⇓P PKPdf 10 24 38.7 +0.2
baz=123
ECSD EROS Data Cent 122.83 35 ePKPdf PKPdf 10 24 38.9 +0.5
ECSD LR LR
comp=Z,2µm,21.0s
Q29A Oakley 122.84 42 ⇑P PKPdf 10 24 39.6 +0.9
baz=123,SNR=34
S28A Manter 122.87 44 ⇓P PKPdf 10 24 39.5 +0.7
baz=123,SNR=9.5
MNTX Cornudas Mount 122.90 52 ⇓P PKPdf 10 24 40.1 +1.2
baz=123
T28A Walsh 122.94 44 ⇓P PKPdf 10 24 40.1 +1.1
baz=123,SNR=14
PCVE Castro Verde 122.95 316 ePKPdf PKPdf 10 24 39.9 +1.1
MESJ Messejana 122.97 317 ePKPdf PKPdf 10 24 40.4 +1.6
R29A Marienthal 122.97 43 ⇓P PKPdf 10 24 39.8 +0.9
baz=123
P30A Selden 122.98 41 ⇑P PKPdf 10 24 39.6 +0.7
baz=123,SNR=14
V27A Dan Oppiter Fa 123.08 46 ⇑P PKPdf 10 24 40.6 +1.3
baz=123,SNR=15
N31A Bailey Ranch, 123.12 39 ⇑P PKPdf 10 24 39.5 +0.4
baz=123
U28A Mallet 123.22 45 ⇓P PKPdf 10 24 39.7 +0.2
baz=123
O31A Woolen Ranch, 123.25 40 ⇑P PKPdf 10 24 39.6 +0.2
baz=123
BGNE Belgrade 123.29 38 ⇑P PKPdf 10 24 39.7 +0.3
baz=123,SNR=19
BGNE Belgrade 123.29 38 ePKPdf PKPdf 10 24 39.9 +0.5
Q30A Quinter 123.30 42 ⇓P PKPdf 10 24 40.5 +0.9
baz=123,SNR=16
S29A Ulysses 123.39 43 ⇓P PKPdf 10 24 40.8 +1.0
baz=123,SNR=7.5
T29A Hugoton 123.50 44 ⇓P PKPdf 10 24 41.0 +1.0
baz=124,SNR=9.1
V28A Channing 123.52 46 ⇓P PKPdf 10 24 41.0 +0.9
baz=124
P31A Stockton 123.56 41 ⇑P PKPdf 10 24 40.6 +0.6
baz=124,SNR=28
N32A Stulken Farm, 123.56 39 ⇓P PKPdf 10 24 40.2 +0.3
baz=124
R30A Dighton 123.62 42 ⇓P PKPdf 10 24 40.8 +0.7
baz=124,SNR=12
HOPE Hope Point 123.72 193 PFAKE 10 24 50.0 +10
HOPE LR LR
comp=Z,2µm,19.0s
W28A Vega 123.76 46 ⇓P PKPdf 10 24 41.9 +1.3
baz=124
RTC Rabat Centre 123.81 312 PFAKE 10 24 50.0 +9.5
RTC LR LR
comp=Z,1µm,21.0s
S30A Montezuma 123.83 43 ⇓P PKPdf 10 24 41.1 +0.5
baz=124
Q31A Ellis 123.83 41 ⇓P PKPdf 10 24 41.2 +0.7
baz=124
O32A Brockman Farm, 123.86 39 ⇓P PKPdf 10 24 40.6 +0.1
baz=124,SNR=6.1
U29A Oasis Ranch, S 123.86 45 ⇑P PKPdf 10 24 41.1 +0.4
baz=124
MSTX Muleshoe 123.94 48 ⇓P PKPdf 10 24 41.8 +0.9
baz=124,SNR=36
MSTX Muleshoe 123.94 48 ePKPdf PKPdf 10 24 42.1 +1.1
V29A Stinnett 123.96 45 ⇓P PKPdf 10 24 42.0 +1.1
baz=124,SNR=6.2

SPMN Marine on St. 123.97 32 ⇑P PKPdf 10 24 40.7 +0.2
baz=124
SPMN Marine on St. 123.97 32 ePKPdf PKPdf 10 24 41.0 +0.4
P32A Huiting Farm, 124.01 40 ⇑P PKPdf 10 24 41.3 +0.5
baz=124,SNR=21
T30A Plains 124.08 44 ⇓P PKPdf 10 24 42.2 +1.1
baz=124,SNR=6.4
X28A Dimmitt 124.11 47 ⇓P PKPdf 10 24 42.2 +0.9
baz=124,SNR=21
R31A Burdett 124.12 42 ⇑P PKPdf 10 24 41.9 +0.8
baz=124,SNR=20
W29A Amarillo 124.23 46 ⇑P PKPdf 10 24 42.3 +0.8
baz=124
U30A WK&E Inc. Balk 124.26 44 ⇑P PKPdf 10 24 42.5 +1.1
baz=124,SNR=21
AMTX Amarillo 124.32 47 ⇑P PKPdf 10 24 42.6 +0.9
baz=124
AMTX Amarillo 124.32 47 ePKPdf PKPdf 10 24 42.9 +1.3
Y28A McKinney Farm, 124.35 48 ⇑P PKPdf 10 24 42.8 +1.0
baz=124,SNR=35
Q32A Meitler Ranch, 124.38 41 ⇑P PKPdf 10 24 42.1 +0.6
baz=124,SNR=12
S31A Mullinville 124.50 43 ⇑P PKPdf 10 24 43.0 +1.1
baz=124,SNR=11
X29A Tulia 124.51 47 ⇑P PKPdf 10 24 43.0 +1.0
baz=124,SNR=20
Z28A Tucker Farm, M 124.53 49 ⇑P PKPdf 10 24 43.0 +0.9
baz=125,SNR=12
SCHQ Schefferville 124.56 8 PKP PKPdf 10 24 42.2 +0.8
comp=Z,23nm,0.6s,baz=346,slow=1.4,SNR=62
R32A Long Quarter, 124.59 41 ⇑P PKPdf 10 24 42.9 +0.9
baz=125,SNR=20
V30A Spur Ranch, Mi 124.61 45 ⇓P PKPdf 10 24 43.6 +1.4
baz=125,SNR=23
T31A Randall Ranch, 124.64 43 ⇓P PKPdf 10 24 43.2 +1.0
baz=125,SNR=7.3
P33A Williams Farm, 124.69 40 ⇑P PKPdf 10 24 42.5 +0.4
baz=125
128A Castleberry Fa 124.75 49 ⇑P PKPdf 10 24 43.1 +0.6
baz=125
Y29A Porterfield Fa 124.80 48 ⇓P PKPdf 10 24 44.0 +1.4
baz=125,SNR=33
S32A Newby Ranch, P 124.83 42 ⇓P PKPdf 10 24 43.6 +1.2
baz=125,SNR=7.1
Q33A Connelly Farm, 124.85 40 ⇑P PKPdf 10 24 43.4 +1.0
baz=125,SNR=13
228A UT Block 9, Go 124.89 50 ⇓P PKPdf 10 24 44.0 +1.2
baz=125,SNR=8.3
U31A Nine Bar Ranch 124.89 44 ⇑P PKPdf 10 24 44.0 +1.4
baz=125,SNR=5.3
W30A Crocket Farms 124.97 46 ⇓P PKPdf 10 24 43.7 +0.8
baz=125
Z29A Hungry Hill Ra 125.05 48 ⇓P PKPdf 10 24 44.0 +0.9
baz=125,SNR=44
T32A Huddler Ranch, 125.11 43 ⇑P PKPdf 10 24 44.0 +1.0
baz=125,SNR=13
X30A Coker Ranch, T 125.11 47 ⇓P PKPdf 10 24 44.1 +0.9
baz=125,SNR=26
R33A Olander Ranch, 125.13 41 ⇓P PKPdf 10 24 44.1 +1.1
baz=125,SNR=14
TXAR Lajitas Array 125.19 53 PKIKP PKPdf 10 24 44.5 +1.0
TXAR S SKKPbc 10 38 10.0 -1.9
TXAR pmax pmax
comp=Z,13nm,1.0s
TXAR Lajitas Array 125.19 53 PKP PKPdf 10 24 44.5 +1.0
comp=Z,13nm,1.0s,baz=256,slow=1.0,SNR=51
TXAR SKKPbc SKKPbc 10 38 10.0 -1.9
comp=Z,0.6nm,1.0s,baz=131,slow=3.8,SNR=4.4
V31A Spring Creek L 125.20 45 ⇑P PKPdf 10 24 44.8 +1.6
baz=125,SNR=18
129A Stewart Farms, 125.21 49 ⇓P PKPdf 10 24 44.1 +0.7
baz=125,SNR=40
Y30A Stafford Cattl 125.36 47 ⇓P PKPdf 10 24 44.7 +1.0
baz=125,SNR=13
W31A Holland Ranch, 125.42 45 ⇓P PKPdf 10 24 45.0 +1.3
baz=126,SNR=35
Z30A Sanderson Ranc 125.47 48 ⇓P PKPdf 10 24 44.4 +0.5
baz=126,SNR=11
U32A Winter Ranch, 125.48 44 ⇓P PKPdf 10 24 44.9 +1.1
baz=126,SNR=11
S33A Kaszmaul Farm, 125.51 42 ⇑P PKPdf 10 24 44.4 +0.7
baz=126
229A Bryant Ranch, 125.55 50 ⇑P PKPdf 10 24 44.8 +0.7
baz=126,SNR=14
KSU1 Kansas State U 125.58 40 ⇑P PKPdf 10 24 44.3 +0.5
baz=126
KSU1 Kansas State U 125.58 40 ePKPdf PKPdf 10 24 44.8 +1.0
KSU1 LR LR
comp=Z,2µm,21.0s
T33A Patterson Ranc 125.62 42 ⇑P PKPdf 10 24 44.9 +0.9
baz=126,SNR=12
329A Wagon Wheel Ra 125.63 50 ⇓P PKPdf 10 24 45.1 +0.8
baz=126,SNR=33
X31A McDonald Ranch 125.67 46 ⇑P PKPdf 10 24 45.1 +1.0
baz=126,SNR=37
V32A Arapaho 125.79 44 ⇑P PKPdf 10 24 45.7 +1.4
baz=126,SNR=12
Y31A Rekieta Farm, 125.79 47 ⇓P PKPdf 10 24 45.1 +0.7
baz=126,SNR=14
130A Snyder 125.91 49 ⇓P PKPdf 10 24 45.6 +0.9
baz=126,SNR=12
SCIA State Center 125.92 35 ePKPdf PKPdf 10 24 44.9 +0.5
SCIA LR LR
comp=Z,3µm,22.0s
W32A Sentinel 125.95 45 ⇓P PKPdf 10 24 46.0 +1.3
baz=126,SNR=6.0
529A Stev Forest Ra 126.02 52 ⇓P PKPdf 10 24 45.9 +0.9
baz=126,SNR=29
S34A Willow Spring 126.04 41 ⇑P PKPdf 10 24 45.4 +0.7
baz=126,SNR=10.0
U33A Lingo Farm, Me 126.06 43 ⇓P PKPdf 10 24 45.2 +0.4
baz=126
429A Davenport Ranc 126.06 51 ⇑P PKPdf 10 24 46.0 +1.0
baz=126,SNR=65
230A Sterling City 126.12 49 ⇑P PKPdf 10 24 46.2 +1.1
baz=126,SNR=9.0
Z31A Sharp Cattle R 126.18 47 ⇓P PKPdf 10 24 46.2 +1.0
baz=126,SNR=20
V33A Lossen Ranch, 126.26 44 ⇑P PKPdf 10 24 46.1 +0.9
baz=126,SNR=19
X32A Elmer 126.27 46 ⇑P PKPdf 10 24 46.1 +0.8
baz=126,SNR=9.5
330A Mertzon 126.28 50 ⇓P PKPdf 10 24 46.2 +0.7
baz=126,SNR=13
131A Roby 126.30 48 ⇑P PKPdf 10 24 46.3 +0.9
baz=126,SNR=12
Y32A R-V Farms, Ver 126.36 46 ⇑P PKPdf 10 24 46.3 +0.8
baz=126,SNR=6.5
U34A Anderson Ranch 126.45 43 ⇑P PKPdf 10 24 46.8 +1.3
baz=126,SNR=14
U34A Anderson Ranch 126.45 43 ePKPdf PKPdf 10 24 46.6 +1.0
U34A ePP PP 10 26 38.5 -2.3
WMOK Wichita Mounta 126.47 45 ePKIKP PKPdf 10 24 46.5 +0.8
WMOK MLR MLR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 126.47 45 ePKPdf PKPdf 10 24 46.5 +0.8
WMOK LR LR
comp=Z,3µm,19.0s
W33A Caddo, Fort Co 126.48 45 ⇓P PKPdf 10 24 46.9 +1.2
baz=126,SNR=7.9
430A Baggett Ranch, 126.51 51 ⇑P PKPdf 10 24 46.9 +1.0
baz=126,SNR=83
Z32A Haskell 126.68 47 ⇓P PKPdf 10 24 47.3 +1.2
baz=127,SNR=35
231A Bronte 126.70 49 ⇓P PKPdf 10 24 47.0 +0.8
baz=127,SNR=25
530A J-C Ranch, Com 126.70 52 ⇓P PKPdf 10 24 47.7 +1.5
baz=127,SNR=67
X33A Lawton 126.77 45 ⇑P PKPdf 10 24 47.3 +1.1
baz=127,SNR=28
V34A Guthrie 126.78 43 ⇑P PKPdf 10 24 47.3 +1.1
baz=127,SNR=10
V34A Guthrie 126.78 43 ePKPdf PKPdf 10 24 47.5 +1.3
V34A ePP PP 10 26 41.1 -1.8
ABTX Abilene, Hawle 126.88 48 ⇓P PKPdf 10 24 47.8 +1.3
baz=127,SNR=9.4
ABTX Abilene, Hawle 126.88 48 ePKPdf PKPdf 10 24 46.6 +0.1
JFWS Jewell Farm 126.89 32 ePKIKP PKPdf 10 24 46.3 +0.1
JFWS MLR MLR
comp=Z,1µm,20.0s
JFWS Jewell Farm 126.89 32 ePKPdf PKPdf 10 24 46.3 +0.1
JFWS LR LR
comp=Z,1µm,20.0s
331A San Angelo 126.90 50 ⇑P PKPdf 10 24 47.6 +1.0
baz=127,SNR=22
W34A Bridge Creek, 126.92 44 ⇓P PKPdf 10 24 47.7 +1.2
baz=127,SNR=11
W34A Bridge Creek, 126.92 44 ePKPdf PKPdf 10 24 47.8 +1.2

Y33A Hilltop Ranch, 126.95 46 ⇑P PKPdf 10 24 47.9 +1.3
baz=127,SNR=9.4
S36A Lake Cedric, C 127.02 40 ⇓P PKPdf 10 24 47.0 +0.4
baz=127
431A Sonora 127.04 51 ⇓P PKPdf 10 24 48.0 +1.1
baz=127,SNR=37
Z33A Whitaker Ranch 127.21 47 ⇑P PKPdf 10 24 48.4 +1.3
baz=127,SNR=13
X34A Smith Ranch, M 127.21 45 ⇑P PKPdf 10 24 48.3 +1.2
baz=127,SNR=18
232A Coleman 127.22 49 ⇑P PKPdf 10 24 48.5 +1.2
baz=127,SNR=22
V35A Meyer Ranch, C 127.29 43 ⇓P PKPdf 10 24 48.2 +1.0
baz=127,SNR=13
531A Rocksprings 127.31 51 ⇓P PKPdf 10 24 48.4 +0.9
baz=127,SNR=56
332A Millersview 127.39 49 ⇓P PKPdf 10 24 48.5 +1.0
baz=127,SNR=29
133A Hamilton Ranch 127.43 48 ⇑P PKPdf 10 24 48.6 +1.0
baz=128,SNR=15
432A Menard 127.58 50 ⇓P PKPdf 10 24 48.9 +1.0
baz=128,SNR=17
Y34A Reagan Ranch, 127.60 46 ⇓P PKPdf 10 24 48.9 +1.1
baz=128,SNR=13
631A Perdido Creek 127.61 52 ⇓P PKPdf 10 24 49.1 +1.1
baz=128,SNR=44
233A Rising Star 127.72 48 ⇓P PKPdf 10 24 49.0 +0.9
baz=128,SNR=21
JCT Junction City 127.75 50 ePKIKP PKPdf 10 24 48.0 -0.2
JCT MLR MLR
comp=Z,2µm,19.0s
JCT Junction City 127.75 50 ⇑P PKPdf 10 24 49.5 +1.2
baz=128,SNR=57
JCT Junction City 127.75 50 ePKPdf PKPdf 10 24 48.0 -0.2
JCT LR LR
comp=Z,2µm,19.0s
Z34A Collier Ranch, 127.78 46 ⇑P PKPdf 10 24 48.8 +0.6
baz=128
532A Rocksprings 127.83 51 ⇓P PKPdf 10 24 49.5 +1.0
baz=128,SNR=36
TUL1 Leonard 127.92 42 ⇑P PKPdf 10 24 49.2 +0.9
baz=128,SNR=16
TUL1 Leonard 127.92 42 ePKPdf PKPdf 10 24 48.7 +0.3
TUL1 ePP PP 10 26 49.9 -0.5
TUL1 eSKPdf SKPdf 10 28 08.7 -13
333A Richland Sprin 127.99 49 ⇑P PKPdf 10 24 49.5 +0.9
baz=128,SNR=40
134A White-Moore Ra 128.06 47 ⇑P PKPdf 10 24 50.0 +1.3
baz=128,SNR=26
433A Art 128.17 50 ⇓P PKPdf 10 24 49.9 +0.8
baz=128,SNR=22
632A Uvalde 128.19 52 ⇑P PKPdf 10 24 50.4 +1.3
baz=128,SNR=26
Z35A Perchaven, San 128.28 46 ⇓P PKPdf 10 24 50.2 +1.1
baz=128,SNR=10
EFI East Falkland 128.35 177 PFAKE 10 25 00.0 +11
EFI LR LR
comp=Z,3µm,22.0s
732A Laxson Ranch, 128.38 52 ⇑P PKPdf 10 24 50.7 +1.2
baz=128,SNR=40
533A Kerrville 128.53 51 ⇓P PKPdf 10 24 50.4 +0.7
baz=129,SNR=28
334A Lometa 128.54 49 ⇓P PKPdf 10 24 50.5 +0.7
baz=129,SNR=19
135A Vickery Place, 128.56 47 ⇑P PKPdf 10 24 51.2 +1.5
baz=129,SNR=13
832A Faith Ranch, C 128.57 53 ⇑P PKPdf 10 24 51.4 +1.6
baz=129,SNR=73
633A Saathoff Ranch 128.69 51 ⇑P PKPdf 10 24 51.7 +1.7
baz=129,SNR=24
434A Burnet 128.77 49 ⇑P PKPdf 10 24 50.8 +0.6
baz=129,SNR=37
WHTX Lake Whitney, 128.81 48 ⇓P PKPdf 10 24 51.1 +0.9
baz=129,SNR=8.4
WHTX Lake Whitney, 128.81 48 ePKPdf PKPdf 10 24 50.3 +0.1
733A Divot King Ran 128.93 52 ⇑P PKPdf 10 24 52.2 +1.7
baz=129,SNR=25
SHEL Horse Pasture 128.96 249 PFAKE 10 25 00.0 +9.1
SHEL LR LR
comp=Z,3µm,22.0s
534A Blanco 128.98 50 ⇑P PKPdf 10 24 51.5 +0.9
baz=129,SNR=23
833A Chaparral WMA, 129.02 53 ⇓P PKPdf 10 24 52.1 +1.5
baz=129,SNR=29
335A Moody 129.18 48 ⇑P PKPdf 10 24 52.0 +1.1
baz=129,SNR=19
435B Jarrell 129.30 49 ⇑P PKPdf 10 24 52.6 +1.5
baz=129,SNR=6.8
634A China Grove, S 129.37 51 ⇓P PKPdf 10 24 52.6 +1.3
baz=129
933A Laredo 129.41 53 ⇑P PKPdf 10 24 53.4 +1.9
baz=130,SNR=17
734A La Parita Cree 129.45 52 ⇓P PKPdf 10 24 53.1 +1.6
baz=130,SNR=16
336A Riesel 129.56 48 ⇓P PKPdf 10 24 52.9 +1.3
baz=130,SNR=12
KIC Kosan Boka 129.57 278 ePKIKP PKPdf 10 24 53.0 +0.9
comp=Z,84nm,1.4s
KIC Kosan Boka 129.57 278 eP SKPbc 10 28 10.2 -2.2
comp=Z,195nm,1.6s
DBIC Dimbokro 129.65 279 ePKIKP PKPdf 10 24 51.9 -0.3
DBIC Dimbokro 129.65 279 PKP PKPdf 10 24 53.2 +0.9
comp=Z,9.7nm,0.6s,baz=72,slow=2.9,SNR=16
DBIC SKPbc SKPab 10 28 10.7 -1.3
comp=Z,26nm,1.1s,baz=71,slow=3.8,SNR=11
DBIC Dimbokro 129.65 279 ePKPdf PKPdf 10 24 51.9 -0.3
DBIC PKP PKPdf 10 24 53.2 +0.9
DBIC SKPbc SKPab 10 28 10.7 -1.3
535A Dale 129.67 50 ⇑P PKPdf 10 24 53.3 +1.5
baz=130,SNR=9.0
137A Heron Place, G 129.74 46 ⇑P PKPdf 10 24 53.7 +1.8
baz=130,SNR=11
834A Tilden 129.77 52 ⇓P PKPdf 10 24 54.3 +2.2
baz=130,SNR=11
635A Leesville 129.81 51 ⇓P PKPdf 10 24 53.9 +1.7
baz=130,SNR=13
TIC Toumodi 129.82 279 ePKIKP PKPdf 10 24 53.4 +0.8
comp=Z,9.3nm,0.2s
TIC Toumodi 129.82 279 eP SKPbc 10 28 10.0 -3.2
comp=Z,79nm,1.2s
LIC Lamto 129.86 278 ePKIKP PKPdf 10 24 53.4 +0.7
comp=Z,111nm,1.4s
LIC Lamto 129.86 278 eP SKPbc 10 28 12.2 -1.2
comp=Z,179nm,1.7s
436A Wall Ranch, Ga 129.90 49 ⇓P PKPdf 10 24 53.6 +1.4
baz=130
237A Washetta, Mont 130.01 47 ⇓P PKPdf 10 24 53.6 +1.1
baz=130
934A Benavides 130.03 53 ⇓P PKPdf 10 24 54.9 +2.3
baz=130
735A Kenedy 130.03 51 ⇓P PKPdf 10 24 54.6 +2.1
baz=130,SNR=16
536A Bastrop 130.03 49 ⇓P PKPdf 10 24 54.1 +1.6
baz=130,SNR=5.7
034A Hebbronville 130.12 54 ⇓P PKPdf 10 24 55.2 +2.4
baz=130,SNR=13
138A Matatall Enter 130.18 45 ⇓P PKPdf 10 24 54.6 +1.9
baz=130
MIAR Mount Ida 130.19 42 ePKIKP PKPdf 10 24 53.5 +0.8
MIAR MLR MLR
comp=Z,3µm,20.0s
MIAR Mount Ida 130.19 42 ePKPdf PKPdf 10 24 53.5 +0.8
MIAR LR LR
comp=Z,3µm,20.0s
835A Beeville 130.27 52 ⇑P PKPdf 10 24 55.7 +2.7
baz=130,SNR=7.1
337A Centerville 130.30 47 ⇑P PKPdf 10 24 55.1 +2.1
baz=130,SNR=6.1
636A Smothers Creek 130.32 50 ⇑P PKPdf 10 24 55.8 +2.7
baz=130,SNR=23
SFIN Lafayette 130.35 32 ⇑P PKPdf 10 24 53.2 +0.4
baz=130
SFIN Lafayette 130.35 32 ePKPdf PKPdf 10 24 53.4 +0.5
SFIN ePP PP 10 27 05.4 -0.4
SFIN eSKPbc SKPab 10 28 13.3 -0.9
437A Phantom Ranch, 130.36 48 ⇑P PKPdf 10 24 54.7 +1.6
baz=130
238A Jacksonville 130.50 46 ⇓P PKPdf 10 24 55.3 +1.9
baz=130
KVTX Kingsville 130.55 53 PFAKE 10 25 00.0 +6.4
KVTX LR LR
comp=Z,1µm,20.0s
537A Green Hill Far 130.60 49 ⇓P PKPdf 10 24 55.4 +1.8
baz=131,SNR=6.2
035A Encino 130.65 54 ⇑P PKPdf 10 24 56.6 +2.8
baz=131
AAM Ann Arbor 130.65 28 ePKIKP PKPdf 10 24 54.5 +1.1

AAM					MLR	MLR				
	comp=Z,2µm,22.0s									
AAM	**Ann Arbor**	**130.65**	**28**	*e*PKPdf	**PKPdf**	**10 24 54.5**	**+1.1**			
AAM					LR	LR				
	comp=Z,2µm,22.0s									
338A	**Crockett**	**130.70**	**47**	⇑P	**PKPdf**	**10 24 55.5**	**+1.7**			
	baz=131,SNR=7.3									
UALR	**University of**	**130.88**	**41**	*e*PKPdf	**PKPdf**	**10 24 54.8**	**+0.8**			
035Z	**Hargill**	**130.88**	**54**	⇓P	**PKPdf**	**10 24 56.5**	**+2.3**			
	baz=131									
438A	**Sam Houston St**	**130.89**	**48**	⇑P	**PKPdf**	**10 24 56.0**	**+1.8**			
	baz=131									
239A	**Gary**	**130.96**	**46**	⇑P	**PKPdf**	**10 24 55.9**	**+1.6**			
	baz=131									
NATX	**Nacogdoches**	**130.96**	**46**	*e*PKPdf	**PKPdf**	**10 24 55.2**	**+0.9**			
SIUC	**Southern Illin**	**130.99**	**36**	*e*PKPdf	**PKPdf**	**10 24 55.1**	**+0.9**			
HKT	**Hockley**	**131.03**	**49**	*e*PKIKP	**PKPdf**	**10 24 55.4**	**+1.1**			
HKT				*e*		10 27 09.6				
HKT	**Hockley**	**131.03**	**49**	*e*PKPdf	**PKPdf**	**10 24 55.4**	**+1.1**			
HKT				*e*PP	**PP**	**10 27 09.6**	**-1.2**			
HKT				*e*SKPbc	**SKPbc**	**10 28 16.2**	**-0.8**			
538A	**Harpers Horsep**	**131.15**	**48**	⇓P	**PKPdf**	**10 24 56.6**	**+2.0**			
	baz=131									
339A	**Huntington**	**131.27**	**47**	⇑P	**PKPdf**	**10 24 56.2**	**+1.4**			
	baz=131									
PARMO	**Parma**	**131.35**	**38**	*e*PKPdf	**PKPdf**	**10 24 55.7**	**+0.8**			
HBAR	**Harrisburg**	**131.50**	**40**	*e*PKPdf	**PKPdf**	**10 24 56.9**	**+1.7**			
BLO	**Bloomington**	**131.52**	**33**	*e*PKIKP	**PKPdf**	**10 24 56.3**	**+1.2**			
BLO	**Bloomington**	**131.52**	**33**	*e*PKPdf	**PKPdf**	**10 24 56.3**	**+1.2**			
GNAR	**Gosnell**	**131.64**	**39**	*e*PKPdf	**PKPdf**	**10 24 57.1**	**+1.7**			
340A	**Bronson**	**131.70**	**46**	⇑P	**PKPdf**	**10 24 56.8**	**+1.1**			
	baz=132									
USIN	**University of**	**131.72**	**35**	*e*PKPdf	**PKPdf**	**10 24 56.9**	**+1.4**			
WCI	**Wyandotte Cave**	**132.31**	**34**	*e*PKIKP	**PKPdf**	**10 24 56.5**	**-0.2**			
WCI				*e*		10 27 17.2				
WCI	**Wyandotte Cave**	**132.31**	**34**	*e*PKPdf	**PKPdf**	**10 24 56.5**	**-0.2**			
WCI				*e*PP	**PP**	**10 27 17.2**	**-1.5**			
WCI				*e*SKPbc	**SKPbc**	**10 28 20.6**	**-1.0**			
LONY	**Lake Ozonia**	**132.34**	**19**	*e*PKPdf	**PKPdf**	**10 24 56.5**	**0.0**			
LONY				LR	LR					
	comp=Z,1µm,21.0s									
ERPA	**Erie**	**132.44**	**25**	*e*PKPdf	**PKPdf**	**10 24 57.4**	**+0.6**			
ERPA				LR	LR					
	comp=Z,1µm,21.0s									
ACSO	**Alum Creek Sta**	**132.56**	**29**	*e*PKPdf	**PKPdf**	**10 24 57.4**	**+0.3**			
ACSO				LR	LR					
	comp=Z,2µm,22.0s									
WVT	**Waverly**	**132.87**	**37**	*e*PKIKP	**PKPdf**	**10 24 57.4**	**-0.4**			
WVT	**Waverly**	**132.87**	**37**	*e*PKPdf	**PKPdf**	**10 24 57.4**	**-0.4**			
OXF	**Oxford**	**132.95**	**40**	*e*PKIKP	**PKPdf**	**10 24 58.1**	**+0.2**			
OXF				*e*		10 27 21.7				
OXF	**Oxford**	**132.95**	**40**	*e*PKPdf	**PKPdf**	**10 24 58.1**	**+0.2**			
OXF				*e*PP	**PP**	**10 27 21.6**	**-1.2**			
OXF				*e*SKPbc	**SKPbc**	**10 28 23.5**	**-0.3**			
NCB	**Newcomb**	**133.03**	**19**	*e*PKPdf	**PKPdf**	**10 24 58.3**	**+0.5**			
NCB				LR	LR					
	comp=Z,3µm,19.0s									
PKME	**Peaks-Kenny Pk**	**133.25**	**14**	PFAKE		10 25 10.0	+12			
PKME				LR	LR					
	comp=Z,1µm,20.0s									
MDV	**Middlebury**	**133.34**	**18**	*e*PKPdf	**PKPdf**	**10 24 59.1**	**+0.7**			
LBNH	**Lisbon**	**133.50**	**17**	*e*PKIKP	**PKPdf**	**10 24 59.9**	**+1.2**			
LBNH				MLR	MLR					
	comp=Z,2µm,22.0s									
LBNH	**Lisbon**	**133.50**	**17**	*e*PKPdf	**PKPdf**	**10 24 59.9**	**+1.2**			
LBNH				LR	LR					
	comp=Z,2µm,22.0s									
ACCN	**Adirondack Com**	**133.74**	**19**	*e*PKPdf	**PKPdf**	**10 25 00.2**	**+1.0**			
BINY	**Binghamton**	**133.97**	**22**	*e*PKPdf	**PKPdf**	**10 25 00.2**	**+0.5**			
BINY				*e*PP	**PP**	**10 27 31.4**	**+2.6**			
BINY				*e*SKPbc	**SKPbc**	**10 28 25.6**	**-1.5**			
BINY				LR	LR					
	comp=Z,2µm,20.0s									
SSPA	**Standing Stone**	**134.55**	**25**	*e*PKPdf	**PKPdf**	**10 24 56.4**	**-4.4**			
SSPA				*e*PP	**PP**	**10 27 30.6**	**-2.0**			
SSPA				*e*SKPbc	**SKPbc**	**10 28 27.9**	**-1.1**			
HRV	**Adam Dziewonsk**	**135.19**	**18**	*e*PKIKP	**PKPdf**	**10 25 02.2**	**+0.3**			
HRV	**Adam Dziewonsk**	**135.19**	**18**	*e*PKPdf	**PKPdf**	**10 25 02.2**	**+0.3**			
TKL	**Tuckaleechee C**	**135.56**	**34**	*e*PKIKP	**PKPdf**	**10 25 02.3**	**-0.5**			
TKL	**Tuckaleechee C**	**135.56**	**34**	PKhKP	PKPpre	10 24 48.9				
	comp=Z,2.7nm,0.6s,baz=158,slow=6.7,SNR=6.6									
TKL				PKP	**PKPdf**	**10 25 03.6**	**+0.8**			
	comp=Z,34nm,0.8s,baz=239,slow=1.4,SNR=14									
TKL				SKPbc	**SKPbc**	**10 28 31.8**	**-0.6**			
	comp=Z,17nm,0.7s,baz=168,slow=3.9,SNR=11									
TKL	**Tuckaleechee C**	**135.56**	**34**	*e*PKPdf	**PKPdf**	**10 25 02.3**	**-0.5**			
TKL				PKP	**PKPdf**	**10 25 03.6**	**+0.8**			
TKL				SKPbc	**SKPbc**	**10 28 31.8**	**-0.6**			
SDMD	**Soldier's Deli**	**136.02**	**25**	*e*PKPdf	**PKPdf**	**10 25 04.6**	**+1.0**			
BLA	**Blacksburg**	**136.17**	**30**	*e*PKIKP	**PKPdf**	**10 25 04.0**	**0.0**			
BLA				MLR	MLR					
	comp=Z,2µm,20.0s									
BLA	**Blacksburg**	**136.17**	**30**	*e*PKPdf	**PKPdf**	**10 25 04.0**	**0.0**			
BLA				LR	LR					
	comp=Z,2µm,20.0s									
VWCC	**Virginia Weste**	**136.36**	**29**	*e*PKPdf	**PKPdf**	**10 25 04.6**	**+0.3**			
BRAL	**Brewton**	**136.69**	**42**	*e*PKPdf	**PKPdf**	**10 25 06.8**	**+1.8**			
BRAL				LR	LR					
	comp=Z,2µm,20.0s									
CBN	**Corbin Frederi**	**136.80**	**26**	*e*PKPdf	**PKPdf**	**10 25 06.3**	**+1.3**			
CBN				LR	LR					
	comp=Z,2µm,20.0s									
PLCA	**Paso Flores**	**136.95**	**163**	*i* PKIKP	PKPpre	10 25 01.0				
PLCA						10 25 06.0				
PLCA				pmax	pmax					
	comp=Z,4.0nm,1.1s									
PLCA				pmax	pmax					
	comp=Z,28nm,1.0s									
PLCA				pmax	pmax					
	comp=N,26nm,1.2s									
PLCA	**Paso Flores**	**136.95**	**163**	PKhKP	PKPpre	10 25 01.0				
	comp=N,3.5nm,1.1s,baz=192,slow=6.1,SNR=3.8									
PLCA				PKP	**PKPdf**	**10 25 06.0**	**+0.6**			
	comp=N,28nm,1.0s,baz=237,slow=2.9,SNR=21									
PLCA				SKPbc	**SKPbc**	**10 28 36.5**	**0.0**			
	comp=N,26nm,1.2s,baz=230,slow=3.5,SNR=10									
PLCA	**Paso Flores**	**136.95**	**163**	PKPpre	PKPpre	10 25 01.0				
PLCA				*e*PKPdf	**PKPdf**	**10 25 05.9**	**+0.5**			
PLCA				PKP	**PKPdf**	**10 25 06.0**	**+0.6**			
PLCA				SKPbc	**SKPbc**	**10 28 36.5**	**0.0**			
CMIG	**Matias Romero**	**137.16**	**65**	SKPbc	**SKPbc**	**10 28 37.7**	**0.0**			
	comp=N,15nm,0.9s,baz=236,slow=2.5,SNR=6.2									
KMSC	**Kings Mountain**	**137.28**	**33**	⇑P	**PKPdf**	**10 25 06.9**	**+0.9**			
	baz=137									
GOGA	**Godfrey**	**137.34**	**36**	PFAKE		10 25 20.0	+14			
GOGA				LR	LR					
	comp=Z,2µm,19.0s									
TIGA	**Tifton**	**138.64**	**38**	⇑P	**PKPdf**	**10 25 09.7**	**+1.0**			
	baz=139									
TIGA	**Tifton**	**138.64**	**38**	*e*PKPdf	**PKPdf**	**10 25 09.7**	**+1.0**			
ASCN	**Ascension**	**138.82**	**258**	PFAKE		10 25 20.0	+11			
ASCN				LR	LR					
	comp=Z,3µm,20.0s									
CNNC	**Cliffs of the**	**138.97**	**29**	*e*PKPdf	**PKPdf**	**10 25 09.8**	**+0.7**			
CNNC				LR	LR					
	comp=Z,2µm,21.0s									
TRQA	**Tornquist**	**141.48**	**171**	PFAKE		10 25 20.0	+6.3			
TRQA				LR	LR					
	comp=Z,4µm,22.0s									
PAYG	**Puerto Ayora**	**144.60**	**91**	*e*PKPdf	**PKPdf**	**10 25 20.3**	**+0.5**			
PAYG				LR	LR					
	comp=Z,2µm,20.0s									
SACV	**Santiago Islan**	**145.72**	**297**	*e*PKPdf	**PKPdf**	**10 25 21.7**	**+0.1**			
SACV				LR	LR					
	comp=Z,1µm,20.0s									
CFAA	**Coronel Fontan**	**146.04**	**159**	PKPbc	**PKPab**	**10 25 23.1**	**0.0**			
	comp=Z,8.4nm,0.9s,baz=219,slow=2.8,SNR=78									
BBSR	**BB Station**	**146.58**	**15**	*e*PKPdf	**PKPdf**	**10 25 23.3**	**+0.7**			
BBSR				LR	LR					
	comp=Z,1µm,22.0s									
LCO	**Las Campanas**	**147.36**	**154**	*e*PKPdf	**PKPdf**	**10 25 25.6**	**+1.1**			
LCO				LR	LR					
	comp=Z,1µm,19.0s									
JTS	**JuntasAbangare**	**148.44**	**70**	PKP2	**PKPbc**	**10 25 30.9**	**+1.2**			
JTS				pmax	pmax					
	comp=Z,199nm,1.1s									
JTS	**JuntasAbangare**	**148.44**	**70**	PKPbc	**PKPbc**	**10 25 30.9**	**+1.2**			
	comp=Z,199nm,1.1s,baz=260,slow=3.0,SNR=15									
JTS	**JuntasAbangare**	**148.44**	**70**	PKPbc	**PKPbc**	**10 25 30.9**	**+1.2**			
JTS				LR	LR					
	comp=Z,2µm,20.0s									
MTDJ	**Mount Denham**	**151.37**	**50**	*e*PKPdf	**PKPdf**	**10 25 31.7**	**+0.9**			
MTDJ				*e*PKPbc	**PKiKP**	**10 25 38.0**	**+0.7**			
MTDJ				LR	LR					
	comp=Z,1µm,21.0s									
GTBY	**Guantanamo Bay**	**152.06**	**44**	*e*PKPdf	**PKPdf**	**10 25 32.6**	**+0.9**			
GTBY				LR	LR					
	comp=Z,1µm,20.0s									
GRTK	**Grand Turk**	**153.46**	**36**	PFAKE		10 25 40.0	-1.4			
GRTK				LR	LR					
	comp=Z,1µm,21.0s									
BCIP	**Isla Barro Col**	**153.58**	**69**	*e*PKPdf	**PKPdf**	**10 25 34.6**	**+0.5**			
BCIP				*e*PKPbc	**PKiKP**	**10 25 42.3**	**+0.4**			
BCIP				LR	LR					
	comp=Z,1µm,22.0s									
LVC	**Limon Verde**	**153.63**	**150**	*e*PKPdf	**PKPdf**	**10 25 36.7**	**+2.4**			
LVC				LR	LR					
	comp=Z,2µm,21.0s									
NNA	**Nana**	**155.13**	**120**	PKIKP	**PKPdf**	**10 25 37.6**	**+1.3**			
NNA						10 25 46.1				
NNA				pmax	pmax					
	comp=Z,47nm,1.2s									
NNA				pmax	pmax					
	comp=Z,31nm,1.1s									
NNA	**Nana**	**155.13**	**120**	PKP	**PKPdf**	**10 25 37.6**	**+1.3**			
	comp=Z,47nm,1.2s,baz=225,slow=3.2,SNR=11									
NNA				PKPbc	PKPbc	10 25 46.1				
	comp=Z,31nm,1.1s,baz=262,slow=9.0,SNR=5.2									
NNA	**Nana**	**155.13**	**120**	PKP	**PKPdf**	**10 25 37.6**	**+1.3**			
NNA				*e*PKPdf	**PKPdf**	**10 25 38.0**	**+1.6**			
NNA				PKPbc	PKPbc	10 25 46.1				
NNA				LR	LR					
	comp=Z,2µm,22.0s									
SDDR	**Presa de Saban**	**155.28**	**40**	*e*PKPdf	**PKPdf**	**10 25 37.5**	**+1.1**			
SDDR				*e*PKPbc	PKPbc	10 25 46.0				
SDDR				LR	LR					
	comp=Z,2µm,21.0s									
ATAH	**Atahualpa**	**155.49**	**108**	PKP	**PKPdf**	**10 25 39.0**	**+1.7**			
	comp=Z,50nm,1.2s,baz=245,slow=1.1,SNR=22									
ATAH				PKPab	**PKPab**	**10 26 05.1**	**+2.1**			
	comp=Z,58nm,1.1s,baz=273,slow=3.7,SNR=10.0									
SMN1	**Samana, DR**	**156.35**	**36**	*e*PKPdf	**PKPdf**	**10 25 38.9**	**+1.1**			
OTAV	**Otavalo**	**156.44**	**90**	*e*PKPdf	**PKPdf**	**10 25 39.5**	**+0.8**			
OTAV				LR	LR					
	comp=Z,1µm,22.0s									
CELP	**Cerrillos**	**158.75**	**32**	*e*PKPdf	**PKPdf**	**10 25 40.7**	**-0.1**			
OBIP	**Obispado Ponce**	**158.76**	**32**	*e*PKPdf	**PKPdf**	**10 25 41.0**	**+0.2**			
LPAZ	**La Paz**	**159.14**	**142**	PKP	**PKPdf**	**10 25 43.5**	**+1.5**			
	comp=Z,61nm,1.4s,baz=350,slow=1.2,SNR=47									
LPAZ				PKPab	**PKPab**	**10 26 20.5**	**+1.8**			
	comp=Z,19nm,0.8s,baz=230,slow=3.6,SNR=12									
MTP	**Monte Pirata**	**159.26**	**30**	*e*PKPdf	**PKPdf**	**10 25 42.1**	**+0.7**			
ROSC	**El Rosal**	**160.02**	**76**	PKP	**PKPdf**	**10 25 44.4**	**+1.5**			
	comp=Z,9.9nm,0.5s,baz=297,slow=2.3,SNR=23									
ROSC				PKPab	**PKPab**	**10 26 25.6**	**+3.0**			
	comp=Z,15nm,0.4s,baz=153,slow=2.3,SNR=8.7									
RCBR	**Riachuelo**	**160.15**	**252**	PFAKE		10 25 50.0	+7.4			
RCBR				LR	LR					
	comp=Z,2µm,22.0s									
ANWB	**Willy Bob**	**161.26**	**21**	PFAKE		10 25 50.0	+6.4			
ANWB				LR	LR					
	comp=Z,988nm,21.0s									
SDV	**Santo Domingo**	**162.05**	**60**	*e*PKPdf	**PKPdf**	**10 25 44.8**	**0.0**			
SDV				LR	LR					
	comp=Z,2µm,22.0s									
SIV	**San Ignacio**	**162.90**	**159**	PKP	**PKPdf**	**10 25 46.5**	**+1.1**			
	comp=Z,14nm,1.1s,baz=228,slow=3.0,SNR=13									
SIV				PKPab	**PKPab**	**10 26 35.0**	**+0.7**			
	comp=Z,8.3nm,0.8s,baz=244,slow=5.9,SNR=5.6									
BDFB	**Brasilia**	**162.96**	**203**	PKIKP	**PKPdf**	**10 25 45.8**	**+0.3**			
BDFB						10 26 34.9				
BDFB				pmax	pmax					
	comp=Z,17nm,1.1s									
BDFB				pmax	pmax					
	comp=Z,23nm,1.2s									
BDFB	**Brasilia**	**162.96**	**203**	PKP	**PKPdf**	**10 25 45.8**	**+0.3**			
	comp=Z,17nm,1.1s,baz=16,slow=1.6,SNR=11									
BDFB				PKPab	**PKPab**	**10 26 34.9**	**+0.2**			
	comp=Z,23nm,1.2s,baz=95,slow=1.7,SNR=6.6									
FDF	**Fort de France**	**164.19**	**23**	*e*PKIKP	**PKPdf**	**10 25 46.7**	**+0.1**			
FDF				MLR	MLR					
	comp=Z,981nm,22.0s									
FDF	**Fort de France**	**164.19**	**23**	*e*PKPdf	**PKPdf**	**10 25 46.7**	**+0.1**			
FDF				LR	LR					
	comp=Z,981nm,22.0s									
BBGH	**Gun Hill**	**166.23**	**19**	PFAKE		10 26 00.0	+12			
BBGH				LR	LR					
	comp=Z,2µm,21.0s									
GRGR	**Grenville**	**166.28**	**29**	PFAKE		10 26 00.0	+12			
GRGR				LR	LR					
	comp=Z,1µm,22.0s									
SAML	**Samuel**	**167.80**	**138**	*e*PKPdf	**PKPdf**	**10 25 49.8**	**+0.3**			
SAML				LR	LR					
	comp=Z,2µm,22.0s									
PTGA	**Pitinga**	**174.86**	**99**	PKPab	**PKPab**	**10 27 28.4**	**+0.6**			
	comp=Z,13nm,1.2s,baz=253,slow=5.1,SNR=3.6									
PTGA	**Pitinga**	**174.86**	**99**	*e*PKPdf	**PKPdf**	**10 25 52.7**	**-0.4**			
PTGA				PKPab	**PKPab**	**10 27 28.4**	**+0.6**			
PTGA				LR	LR					
	comp=Z,2µm,22.0s									

*ISCJB **05** 10:09:22.2±0.6,32.°19N±0.°02×115.°14W±0.°02,h10km±4km, mb3.4/1,MS4.4/1,Error ellipse: s-maj=3.1km s-min=2.9km az=17.4*

*IDC **05** 10:09:23.4±3.9,31.°96N×115.°16W,h0km,mb3.5/1, mb1 3.8/4,mb1mx3.3/57,mbtmp3.5/4,ML4.2/2,MS4.4/1, Ms1 4.4/1,ms1mx3.0/30,Error ellipse: s-maj=85.9km s-min=14.2km az=38.0*

*NEIC **05** 10:09:24.1,32.°21N×115.°22W,h10km,ML4.0(PAS),After PAS.*

*ECX **05** 10:09:24.5±0.5,32.°18N×115.°25W,h7km,MD3.9,ML4.2*

ISC 05 10:09:22.8±1.0,32.°17N±0.°02×115.°19W±0.°03,h10km±8km, n47,σ1°39/65,17C-22D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.19**	**194**	⇓*e*P	**Pg**	**10 09 27.0**	**+0.2**
EMX				*e*S	**Sg**	**10 09 30.0**	**+0.5**
YMD	**Yuma Desert**	**0.67**	**55**	⇑*i*P	**Pg**	**10 09 36.4**	**+0.6**
COA	**Coachella**	**0.69**	**5**	*e*P	**Pg**	**10 09 36.5**	**+0.3**
ECBX	**El Chinero**	**0.71**	**170**	*e*P	**Pg**	**10 09 36.1**	**-0.4**
ECBX				*e*S	**Sg**	**10 09 46.1**	**+0.4**
SWSC	**Sam W. Stewart**	**0.92**	**326**	⇓S	**Sb**	**10 09 53.0**	**-0.4**
	baz=0.9						
GLA	**Glamis**	**0.93**	**19**	⇓P	**Pg**	**10 09 40.0**	**-0.8**
	baz=0.9						
GLA				⇑S	**Sg**	**10 09 51.8**	**-1.2**
	baz=0.9						
GLA	**Glamis**	**0.93**	**19**	*e*Pg	**Pg**	**10 09 40.8**	**0.0**
GLA				*e*Sg	**Sg**	**10 09 51.9**	**-1.1**
SPIG	**San Pedro Mart**	**1.15**	**192**	*e*P	**Pb**	**10 09 44.0**	**-1.0**
SPIG				*e*S	**Sb**	**10 10 00.1**	**+0.1**
SPX	**San Pedro Mart**	**1.15**	**192**	*e*P	**Pb**	**10 09 44.1**	**-0.8**
SPX				*e*S	**Sb**	**10 10 00.5**	**+0.4**
CBX	**Cerro Bola**	**1.26**	**277**	*e*P	**Pn**	**10 09 45.5**	**-1.1**
CBX				*e*S	**Sb**	**10 10 01.5**	**-1.5**
CBX				AML	AML	10 10 04.7	
	comp=E,8µm,0.3s						
CBX				⇑*e*		10 10 04.7	
MONP	**Monument Peak,**	**1.26**	**305**	⇑P	**Pn**	**10 09 44.6**	**-2.2**
	baz=1.2						
MONP				⇑S	**Sb**	**10 10 01.7**	**-1.6**
	baz=1.2						
113A	**Mohawk Valley,**	**1.34**	**63**	⇓P	**Pn**	**10 09 46.5**	**-1.1**
	baz=1.3						
113A				⇓S	**Sb**	**10 10 03.3**	**-2.1**
	baz=1.3						
BAR	**Barrett**	**1.35**	**292**	*e*Pn	**Pn**	**10 09 46.5**	**-1.4**
BAR				*e*Sn	**Sb**	**10 10 04.4**	**-1.3**
BC3	**Big Chuckawall**	**1.50**	**352**	⇓P	**Pn**	**10 09 47.9**	**-2.0**
	baz=1.5						
BC3				⇓S	**Sn**	**10 10 06.3**	**-3.3**
	baz=1.5						
Y12C	**Blythe**	**1.67**	**19**	⇑P	**Pn**	**10 09 52.1**	**-0.2**
	baz=1.7						
Y12C				⇓S	**Sn**	**10 10 13.2**	**-0.5**
	baz=1.7						
109C	**Camp Elliot, M**	**1.77**	**294**	⇓P	**Pn**	**10 09 52.3**	**-1.3**
	baz=1.7						
109C				⇓Sb	**Sn**	**10 10 16.8**	**+0.7**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.79**	**324**	Pn	**Pn**	**10 09 52.1**	**-1.8**
	baz=139,slow=13						
PFO				Lg	Lg	10 10 18.8	
	baz=105,slow=19						
PFO	**Pinyon Flats O**	**1.79**	**324**	⇑P	**Pn**	**10 09 51.8**	**-2.2**
	baz=1.7						
PFO				⇑Sb	**Sb**	**10 10 18.7**	**+0.4**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.79**	**324**	*e*Pn	**Pn**	**10 09 51.7**	**-2.2**
PFO				Lg	Lg	10 10 18.8	
IRM	**Iron Mountain**	**1.98**	**1**	⇑P	**Pn**	**10 09 56.7**	**+0.1**
	baz=2.0						
IRM				⇓S	**Sn**	**10 10 21.2**	**-0.3**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.03**	**95**	⇓P	**Pn**	**10 09 55.7**	**-1.4**
	baz=2.1						
214A				⇑S	**Sn**	**10 10 21.3**	**-1.3**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.03**	**95**	*e*Pn	**Pn**	**10 09 55.8**	**-1.4**
MURC	**Murrieta**	**2.21**	**311**	⇓P	**Pn**	**10 09 58.0**	**-1.7**
	baz=2.2						
MURC				⇓Sb	**Sb**	**10 10 31.0**	**+0.5**
	baz=2.2						
Z14A	**Wintersburg**	**2.23**	**57**	⇑P	**Pn**	**10 09 59.3**	**-0.6**
	baz=2.2						
Z14A				⇑S	**Sn**	**10 10 26.2**	**-1.4**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.30**	**22**	⇓S	**Sn**	**10 10 27.1**	**-2.1**
	baz=2.3						
BBRC	**Big Bear Solar**	**2.54**	**326**	⇑Sb	**Sb**	**10 10 41.4**	**+1.2**
	baz=2.5						
Y14A	**Wickenburg**	**2.54**	**46**	⇑P	**Pn**	**10 10 03.7**	**-0.6**
	baz=2.5						
Y14A				⇓S	**Sn**	**10 10 34.2**	**-1.2**
	baz=2.5						
GMRC	**Granite Mounta**	**2.63**	**352**	⇓P	**Pn**	**10 10 04.5**	**-1.0**
	baz=2.6						
LDFC	**Landfair**	**2.90**	**1**	*e*Pn	**Pn**	**10 10 09.2**	**0.0**
BFSC	**Mount Baldy Ra**	**2.92**	**316**	⇑P	**Pn**	**10 10 08.4**	**-1.1**
	baz=2.9						
BFSC				⇓Sb	**Sb**	**10 10 51.8**	**+0.8**
	baz=2.9						
SCI	**San Clemente I**	**2.95**	**287**	⇓Sb	**Sb**	**10 10 52.0**	**+0.4**
	baz=2.9						
CIS	**Catalina Islan**	**2.97**	**295**	⇑Sb	**Sb**	**10 10 53.3**	**+0.9**
	baz=2.9						
FMP	**Fort Macarthur**	**3.03**	**301**	⇓Sb	**Sb**	**10 10 54.3**	**+0.3**
	baz=3.0						
W13A	**Hualapai Mount**	**3.12**	**20**	⇑Sb	**Sb**	**10 10 58.8**	**+2.1**
	baz=3.1						
PASC	**Pasadena Art C**	**3.21**	**309**	*e*Pn	**Pn**	10 10 16.7	+3.3
PASC				*e*Sn	**Sb**	**10 10 57.9**	**-1.2**
DECC	**Green Verdugo**	**3.35**	**309**	⇓Sb	**Sb**	**10 11 04.9**	**+1.7**
	baz=3.3						
GSC	**Goldstone, Bar**	**3.40**	**337**	Pn	**Pn**	**10 10 16.8**	**+0.7**
EDW2	**Edwards Air Fo**	**3.57**	**320**	⇓Sb	**Sb**	**10 11 12.3**	**+2.6**
	baz=3.5						
TUC	**Tucson**	**3.73**	**87**	*e*Pn	**Pn**	**10 10 20.8**	**+0.1**
OSI	**Osito Audit: C**	**3.83**	**310**	Pn	**Pn**	**10 10 23.7**	**+1.7**
ISA	**Isabella, Lake**	**4.43**	**323**	*e*Pn	**Pn**	**10 10 32.0**	**+1.8**
121A	**Cookes Peak, D**	**6.28**	**85**	*e*Pn	**Pn**	**10 10 55.2**	**-0.5**
	comp=E,28nm,0.6s						
NVAR	**Mina Array Bea**	**6.74**	**339**	Pn	Pn	10 11 07.5	+5.3
	baz=161,slow=14,SNR=1.8						
ANMO	**Albuquerque**	**7.80**	**67**	Pn	**Pn**	**10 11 18.1**	**+1.5**
	comp=E,0.5nm,0.3s,baz=250,slow=14,SNR=6.7						
TXAR	**Lajitas Array**	**10.31**	**103**	Pn	**Pn**	**10 11 53.3**	**+2.4**
	comp=E,1.8nm,0.3s,baz=287,slow=13,SNR=81						
ILAR	**Eielson Array**	**38.00**	**339**	P	**P**	**10 16 43.5**	**+2.7**
	comp=E,0.5nm,0.6s,baz=148,slow=7.6,SNR=10						
NNA	**Nana**	**57.22**	**134**	LR	LR	10 40 45.2	
	comp=E,321nm,21.0s,baz=148,slow=33						

*IDC **05**

APG	**El Apazote**	**1.14**	**51**	P		**Pn**	10 23 23.9	-4.9
	90nm,0.3s,baz=248,slow=8.5,SNR=1336								
APG				S		**Sn**	**10 23 41.0**	**-4.1**
	171nm,0.3s,baz=336,slow=22,SNR=57								
RBDL	**Robledal**	**1.66**	**96**	*eP*		**Pn**	**10 23 34.9**	**-0.1**
RTR	**El Retiro**	**1.73**	**103**	*i*⇓*iP*		**Pn**	**10 23 36.2**	**+0.3**
RTR				*eS*		**Sn**	**10 23 57.7**	**-0.4**
SBLS	**San Blas**	**1.77**	**104**	*i P*		**Pn**	**10 23 36.9**	**+0.4**
SBLS				*eS*		**Sn**	**10 23 59.5**	**+0.5**
SNJE	**San Jose**	**1.78**	**103**	*i P*		**Pn**	**10 23 36.7**	**+0.2**
SNJE				*eS*		**Sn**	**10 23 58.9**	**-0.1**
MRL	**Marmol**	**1.82**	**64**⇑	*eP*		**Pn**	**10 23 38.9**	**+1.8**
CCIG	**Comitan**	**2.11**	**340**	*i P*		**Pn**	**10 23 42.5**	**+1.5**
CCIG				*i S*		**Sn**	**10 24 08.3**	**+1.4**
BOQS	**Boqueron**	**2.12**	**105**⇑	*i P*		**Pn**	**10 23 41.3**	**+0.3**
SNET	**Serv Nac Est T**	**2.17**	**106**	*i P*		**Pn**	**10 23 42.2**	**+0.6**
SNET					AML	AML	10 23 44.4		
	comp=Z,2μm,0.2s								
SNET				*eS*		**Sn**	**10 24 08.3**	**+0.2**
PCIG		**2.27**	**309**	*i P*		**Pn**	**10 23 42.8**	**0.0**
PCIG				*i S*		**Sn**	**10 24 09.3**	**-0.8**
LBRS	**Las Brisas**	**2.34**	**103**	*eP*		**Pn**	**10 23 44.0**	**+0.2**
LFRS	**El Faro**	**2.35**	**106**	*i P*		**Pn**	**10 23 44.6**	**+0.6**
SNVI	**San Vicente**	**2.56**	**105**	*eP*		**Pn**	**10 23 47.5**	**+0.7**
VSM	**San Miguel**	**3.14**	**105**	*eP*		**Pn**	**10 23 55.4**	**+0.8**
CNCH	**Conchagua**	**3.59**	**106**	*eP*		**Pn**	**10 24 01.0**	**+0.3**
CMIG	**Matias Romero**	**4.37**	**310**	*eP*		**Pn**	**10 24 10.7**	**-0.4**
CMIG				*eS*		**Sn**	**10 24 57.0**	**-3.9**
CMIG	**Matias Romero**	**4.37**	**310**	P		**Pn**	**10 24 10.9**	**-0.3**
	comp=Z,6.6nm,0.3s,baz=130,slow=11,SNR=101								
CMIG				S		**Sn**	**10 25 03.8**	**+2.8**
	comp=Z,11nm,0.3s,baz=15,slow=20,SNR=3.7								
SCIG	**Sabancuy**	**4.66**	**2**	*i P*		**Pn**	**10 24 15.4**	**+0.4**
VHO	**Vista Hermosa**	**5.85**	**299**	*eP*		**Pn**	**10 24 31.2**	**-0.2**
JTS	**JuntasAbangare**	**7.43**	**122**	P		**Pn**	**10 24 53.5**	**+0.6**
	comp=Z,2.9nm,0.3s,baz=294,slow=22,SNR=39								
TXAR	**Lajitas Array**	**18.80**	**325**	P		**Pn**	**10 27 21.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=143,slow=10.0,SNR=13								
TKL	**Tuckaleechee C**	**22.36**	**16**	P		**P**	**10 27 58.1**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=187,slow=9.3,SNR=4.6								
NVAR	**Mina Array Bea**	**33.83**	**320**	P		**P**	**10 29 42.7**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=138,slow=8.2,SNR=14								
NVAR				PcP		**PcP**	**10 32 18.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=128,slow=3.6,SNR=5.1								
SCHQ	**Schefferville**	**44.75**	**20**	P		**P**	**10 31 08.8**	**-2.2**
	comp=Z,2.2nm,0.8s,baz=218,slow=7.5,SNR=5.6								
YKA	**Yellowknife Ar**	**50.89**	**346**	P		**P**	**10 31 57.0**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=148,slow=7.6,SNR=21								
YKA				PcP		**PcP**	**10 33 12.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=150,slow=4.3,SNR=5.3								
DLBC	**Dease Lake**	**52.64**	**336**	P		**P**	**10 32 12.2**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=151,slow=6.8,SNR=5.7								
INK	**Inuvik**	**60.34**	**343**	P		**P**	**10 33 04.2**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=126,slow=5.5,SNR=9.4								
ILAR	**Eielson Array**	**62.82**	**337**	P		**P**	**10 33 22.4**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=172,slow=5.0,SNR=17								
WRA	**Warramunga Arr**	**136.04**	**256**	PKP		**PKPdf**	**10 42 18.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=88,slow=2.6,SNR=4.8								
ASAR	**Alice Springs**	**136.32**	**251**	PKP		**PKPdf**	**10 42 19.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=77,slow=2.1,SNR=3.8								
CMAR	**Chiang Mai Arr**	**145.91**	**342**	PKPbc		**PKPdf**	**10 42 36.3**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=331,slow=3.9,SNR=15								

*IDC **05** 10:23:30.6±0.8,0.°12S×125.°23E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/33,mbtmp3.7/6, Error ellipse: s-maj=58.1km s-min=19.0km az=72.0*
*DJA **05** 10:23:34.7±0.4,0.°S±4.°×12.°5E±.°,h10km,M4.3/8,mb4.4/1, MLv4.2/8*
*ISCJB **05** 10:23:35.8±0.5,0.°21S±0.°06×125.°26E±0.°05,h53km, mb3.7/6,Error ellipse: s-maj=9.4km s-min=5.4km az=30.2*

ISC 05 10:23:37.4±0.7,0.°26S±0.°07×125.°26E±0.°05,h53km,n16, σ1§50/21,mb3.9/6,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.52**	**303**	P	**Pn**	**10 24 02.0**	**-0.3**
KMSI				S	**Sn**	**10 24 19.4**	**-1.6**
SANI	**Sanana**	**1.92**	**158**	P	**Pn**	**10 24 07.0**	**-0.8**
SANI				S	**Sn**	**10 24 30.1**	**-0.7**
LBMI	**Labuha**	**2.27**	**100**	P	**Pn**	**10 24 12.3**	**-0.2**
LBMI				S	**Sn**	**10 24 41.0**	**+1.7**
GTOI	**Gorontalo**	**2.42**	**291**	P	**Pn**	**10 24 16.5**	**+1.9**
LUWI	**Luwuk**	**2.61**	**253**	P	**Pn**	**10 24 16.6**	**-0.6**
LUWI				S	**Sn**	**10 24 50.7**	**+3.0**
MRSI	**Marisa**	**3.40**	**282**	P	**Pn**	**10 24 26.7**	**-1.3**
APSI	**Ampana**	**3.67**	**260**	P	**Pn**	**10 24 32.3**	**+0.6**
TTSI	**Tana Toraja**	**6.11**	**243**	P	**Pn**	**10 25 03.1**	**-2.0**
WRA	**Warramunga Arr**	**21.49**	**158**	P	**P**	**10 28 21.3**	**-0.6**
	0.8nm,0.5s,baz=337,slow=11,SNR=5.4								
ASAR	**Alice Springs**	**24.74**	**161**	P	**P**	**10 28 55.9**	**+1.8**
	0.4nm,0.5s,baz=339,slow=8.5,SNR=9.6								
ASAR				PcP	**PcP**	**10 32 31.1**	**+1.1**
	0.3nm,0.4s,baz=353,slow=2.0,SNR=7.3								
MJAR	**Matsushiro Arr**	**38.53**	**17**	P	**P**	**10 30 53.1**	**-1.8**
	1.0nm,0.6s,baz=200,slow=10,SNR=3.3								
SONM	**Songino Array**	**50.63**	**344**	P	**P**	**10 32 31.2**	**-0.1**
	0.6nm,0.5s,baz=153,slow=6.8,SNR=4.7								
MKAR	**Makanchi Array**	**60.03**	**327**	P	**P**	**10 33 38.2**	**-0.6**
	0.9nm,0.4s,baz=123,slow=8.0,SNR=19								
ZALV	**Zalesovo Beam**	**63.49**	**335**	P	**P**	**10 34 01.4**	**-0.5**
	0.4nm,0.3s,baz=94,slow=4.3,SNR=3.7								
TORD	**Torodi Ar. Bea**	**122.66**	**285**	PKP	**PKPdf**	**10 42 28.3**	**-0.1**
	0.3nm,0.8s,baz=117,slow=1.6,SNR=2.4								
TXAR	**Lajitas Array**	**125.16**	**54**	PKP	**PKPdf**	**10 42 35.3**	**+2.4**
	0.4nm,0.9s,baz=205,slow=5.5,SNR=3.9								

*IDC **05** 10:25:17.8±1.8,0.°49S×124.°73E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/30,mbtmp3.5/3, Error ellipse: s-maj=183.1km s-min=27.1km az=63.0*
*DJA **05** 10:25:22.1±0.4,0.°S±4.°×12.°5E±.°,h10km,M4.1/4,MLv4.1/4*
*ISCJB **05** 10:25:23.0±0.7,0.°09S±0.°07×125.°31E±0.°05,h52km, mb3.4/3,Error ellipse: s-maj=11.3km s-min=5.7km az=26.6*

ISC 05 10:25:24.4±1.1,0.°13S±0.°08×125.°30E±0.°05,h52km,n11, σ1§73/14,mb3.3/3,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.49**	**298**	P	**Pn**	**10 25 48.3**	**-0.5**
KMSI				S	**Sn**	**10 26 04.4**	**-2.8**
SANI	**Sanana**	**2.02**	**160**	P	Pn	10 25 52.3	-3.8
SANI				S	**Sn**	**10 26 21.2**	**+1.0**
LBMI	**Labuha**	**2.26**	**103**	P	**Pn**	**10 25 59.6**	**+0.3**
LBMI				S	**Sn**	**10 26 28.2**	**+2.2**
GTOI	**Gorontalo**	**2.41**	**288**	P	**Pn**	**10 26 03.6**	**+2.2**
LUWI	**Luwuk**	**2.68**	**250**	P	**Pn**	**10 26 04.6**	**-0.5**
LUWI				S	**Sn**	**10 26 38.7**	**+2.3**
MRSI	**Marisa**	**3.41**	**280**	P	**Pn**	**10 26 15.2**	**+0.1**
NLAI	**Namlea**	**3.57**	**150**	P	**Pn**	**10 26 16.0**	**-1.3**
APSI	**Ampana**	**3.73**	**258**	P	**Pn**	**10 26 20.7**	**+1.2**
WRA	**Warramunga Arr**	**21.59**	**156**	P	**P**	**10 30 07.9**	**-2.0**
	0.6nm,0.4s,baz=333,slow=11,SNR=6.5								
ASAR	**Alice Springs**	**24.84**	**161**	P	**P**	**10 30 41.2**	**-0.9**
	0.4nm,0.5s,baz=339,slow=8.4,SNR=5.3								
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**10 35 25.9**	**+0.5**
	0.5nm,0.6s,baz=122,slow=7.8,SNR=4.9								

*ISCJB **05** 10:26:32.1±0.6,32.°07N±0.°04×115.°02W±0.°05,h12km, Error ellipse: s-maj=6.0km s-min=5.5km az=29.1*
*MEX **05** 10:26:34.9±0.3,32.°00N×114.°92W,h15km,MD3.7*
*NEIC **05** 10:26:35.4,32.°15N×115.°06W,h17km,ML3.7(PAS), After PAS.*

ISC 05 10:26:31.8±1.0,32.°03N±0.°04×115.°04W±0.°05,h12km,n14, σ1§20/18,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**1.04**	**10**	*ePg*	**Pb**	**10 26 51.5**	**-0.2**
GLA				*eSg*	**Sb**	**10 27 03.3**	**-2.0**
SPIG	**San Pedro Mart**	**1.05**	**201**	*eP*	**Pb**	**10 26 51.5**	**-0.5**
SPIG				*eS*	**Sb**	**10 27 05.3**	**-0.5**
SPIG	**San Pedro Mart**	**1.05**	**201**	*eP*	**Pb**	**10 26 51.5**	**-0.5**
SPIG				*eS*	**Sb**	**10 27 05.3**	**-0.5**
CBX	**Cerro Bola**	**1.41**	**282**	*eP*	**Pb**	**10 26 58.1**	**0.0**
CBX				*i S*	**Sn**	**10 27 15.7**	**-0.2**
CBX	**Cerro Bola**	**1.41**	**282**	*eP*	**Pb**	**10 26 58.1**	**0.0**
CBX				*i S*	**Sn**	**10 27 15.7**	**-0.2**
BAR	**Barrett**	**1.53**	**296**	*ePn*	**Pg**	**10 27 00.7**	**-0.4**
BAR				*eSn*	**Sb**	**10 27 19.1**	**-0.3**
214A	**Organ Pipe Nat**	**1.89**	**92**	*ePn*	**Pn**	**10 27 04.5**	**+0.6**
PFO	**Pinyon Flats O**	**1.98**	**323**	*ePn*	**Pn**	**10 27 04.2**	**-1.1**
LDFC	**Landfair**	**3.04**	**359**	Pn	**Pn**	**10 27 21.6**	**+1.7**
MWC	**Mount Wilson**	**3.35**	**312**	*ePn*	**Pn**	**10 27 27.2**	**+3.1**
GSC	**Goldstone, Bar**	**3.58**	**336**	Pn	Pb	10 27 31.8	-3.3
TUC	**Tucson**	**3.62**	**84**	*ePn*	Pn	10 27 31.6	+3.9
OSI	**Osito Audit: C**	**4.02**	**311**	Pn	**Pn**	**10 27 33.2**	**0.0**
121A	**Cookes Peak, D**	**6.16**	**83**	*ePn*	**Pn**	**10 28 04.4**	**+1.6**
	9.0nm,0.3s						

IDC 05 10:27:22.7±1.8,0.°11S×125.°24E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/29,mbtmp3.2/3,Error ellipse: s-maj=189.8km s-min=25.8km az=64.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.63**	**156**	P	P	10 32 13.9	-0.8
	0.3nm,0.4s,baz=334,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**24.88**	**161**	P	P	10 32 48.0	+0.7
	0.3nm,0.5s,baz=340,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	**59.90**	**327**	P	P	10 37 30.4	-0.1
	0.2nm,0.4s,baz=116,slow=7.8,SNR=3.4						

IDC 05 10:29:36.8±1.8,0.°10S×125.°34E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.3/33,mbtmp3.4/3,Error ellipse: s-maj=184.5km s-min=24.7km az=64.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.60**	**156**	P	P	10 34 27.3	-1.3
	0.3nm,0.3s,baz=334,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**24.86**	**161**	P	P	10 35 02.4	+1.0
	0.4nm,0.9s,baz=339,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	10 39 44.9	-0.1
	0.6nm,0.4s,baz=125,slow=8.0,SNR=13						

*DJA **05** 10:29:55.2±0.3,0.°S±3.°×12.°4E±.°,h10km,M4.4/10,mb4.5/3, mB5.7/2,MLv4.3/10,Mw(mB)5.3/2*
*IDC **05** 10:30:02.1±0.8,0.°22S×125.°06E,h0km,mb4.0/10, mb1 4.1/10,mb1mx3.9/34,mbtmp4.0/10,Error ellipse: s-maj=48.4km s-min=17.6km az=73.0*

ISC 05 10:30:03.2±0.7,0.°28S±0.°08×125.°1E±0.°1,h10km,n14, σ1§06/16,mb4.0/10,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.98**	**153**	P	**Pn**	**10 30 34.5**	**-2.4**
SANI				S	**Sg**	**10 31 07.6**	**+0.6**
LBMI	**Labuha**	**2.45**	**98**	P	**Pb**	**10 30 47.6**	**+0.2**
TNTI	**Ternate**	**2.51**	**66**	P	**Pb**	**10 30 48.3**	**-0.1**
NLAI	**Namlea**	**3.57**	**146**	P	**Pn**	**10 30 58.7**	**0.0**
WRA	**Warramunga Arr**	**21.55**	**156**	P	**P**	**10 34 53.5**	**+0.6**
	2.2nm,0.5s,baz=333,slow=11,SNR=25						
ASAR	**Alice Springs**	**24.78**	**160**	P	**P**	**10 35 27.0**	**+1.5**
	1.7nm,0.5s,baz=337,slow=7.8,SNR=23						
ASAR				PcP	**PcP**	**10 39 03.2**	**+1.1**
	0.2nm,0.4s,baz=360,slow=2.1,SNR=4.2						
KSRS	**Korea Array**	**37.63**	**4**	P	**P**	**10 37 19.1**	**+0.7**
	1.1nm,0.6s,baz=176,slow=10,SNR=7.4						
MJAR	**Matsushiro Arr**	**38.61**	**17**	P	**P**	**10 37 26.4**	**-0.3**
	1.2nm,0.7s,baz=197,slow=9.2,SNR=4.2						
SONM	**Songino Array**	**50.60**	**344**	P	**P**	**10 39 03.4**	**+1.0**
	2.3nm,0.9s,baz=156,slow=8.9,SNR=9.0						
MKAR	**Makanchi Array**	**59.95**	**327**	P	**P**	**10 40 10.4**	**+0.6**
	1.8nm,0.4s,baz=125,slow=8.0,SNR=23						
ZALV	**Zalesovo Beam**	**63.43**	**335**	P	**P**	**10 40 33.0**	**0.0**
	0.5nm,0.3s,baz=149,slow=3.1,SNR=3.9						
ILAR	**Eielson Array**	**89.40**	**25**	P	**P**	**10 42 59.4**	**-0.7**
	0.1nm,0.6s,baz=240,slow=6.0,SNR=5.5						
BRTR	**Keskin Array B**	**91.28**	**310**	P	**P**	**10 43 09.5**	**0.0**
	0.4nm,0.5s,baz=70,slow=4.1,SNR=3.1						
FINES	**FINESS Array B**	**94.55**	**332**	P	**P**	**10 43 22.3**	**-1.6**
	0.9nm,0.9s,baz=77,slow=4.6,SNR=2.5						

NEIC 05 10:30:57.9,32.°02N×115.°28W,h7km,ML3.7(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.76**	**19**	*ePg*	Pg	10 31 12.1	-0.4
ERPC	**Ernies Place**	**0.79**	**336**	*ePg*	Pg	10 31 12.8	-0.3
DREC	**Desert Rsrch C**	**0.79**	**350**	*ePg*	Pg	10 31 12.5	-0.7
WESC	**Westside Schoo**	**0.83**	**333**	*ePg*	Pg	10 31 13.3	-0.5
YUH	**Yuha Desert**	**0.83**	**319**	*ePg*	Pg	10 31 13.3	-0.5
COA	**Coachella**	**0.85**	**9**	*ePg*	Pg	10 31 13.5	-0.7
CRR	**Carrizo Plain**	**1.04**	**326**	*ePg*	Pg	10 31 16.9	-1.0
GLA	**Glamis**	**1.10**	**20**	*ePg*	Pg	10 31 16.8	-2.3
GLA				*eSg*	Sg	10 31 28.6	-4.9
CBKC	**Canebrake**	**1.20**	**317**	*ePg*	Pg	10 31 20.5	-0.5
BAR	**Barrett**	**1.35**	**300**	*ePn*	Pn	10 31 23.2	0.0
BAR				*eSn*	Sb	10 31 40.0	-1.1
FRK	**Frink**	**1.41**	**348**	*ePn*	Pg	10 31 25.6	+0.7
EML	**El Monte Cty P**	**1.58**	**304**	*eSn*	Sn	10 31 46.2	-0.9
DPP	**Dos Picos Cty**	**1.71**	**305**	*eSn*	Sn	10 31 50.3	0.0
HWB	**Hans Werner Br**	**1.74**	**306**	*eSn*	Sn	10 31 50.9	-0.1
CPE	**Camp Elliot**	**1.77**	**300**	*ePn*	Pb	10 31 30.4	-0.2
CPE				*eSn*	Sn	10 31 52.0	+0.3
CRY	**Cary Ranch**	**1.97**	**322**	*ePn*	Pb	10 31 34.2	0.0
SSK	**Sunset Peak**	**2.98**	**318**	*ePn*	Pb	10 31 51.6	+0.1
MWC	**Mount Wilson**	**3.20**	**314**	*ePn*	Pn	10 31 49.5	+0.6
PASC	**Pasadena Art C**	**3.25**	**312**	*ePn*	Pn	10 31 49.4	+0.2
PASC				*eSn*	Sb	10 32 37.0	+1.4

IDC 05 10:32:46.3±2.0,0.°09S×125.°40E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.3/33,mbtmp3.4/3,Error ellipse: s-maj=186.3km s-min=27.2km az=64.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**157**	P	P	10 37 37.0	-0.9
	0.4nm,0.4s,baz=335,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**24.85**	**161**	P	P	10 38 11.3	+0.6
	0.4nm,0.6s,baz=338,slow=8.5,SNR=6.2						
MKAR	**Makanchi Array**	**59.97**	**327**	P	P	10 42 54.5	-0.1
	0.3nm,0.4s,baz=122,slow=7.7,SNR=4.3						

IDC 05 10:33:25.1±673.0,29.°36N×79.°14W,h0km,Error ellipse: s-maj=320.9km s-min=169.7km az=26.0,Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I51GB	**BERMUDA INFRAS**	**12.77**	**73**	*i*		11 45 21.3	
	baz=262,slow=323,SNR=5.0						
I10CA	**LAC DU BONNET**	**24.42**	**333**	*i*		13 00 00.0	
	baz=139,slow=333,SNR=3.8						
I18DK	**QAANAAQ INFRAS**	**38.41**	**3**	*i*		15 34 10.0	
	baz=190,slow=335,SNR=8.0						
I53US	**FAIRBANKS INFR**	**54.80**	**331**	*i*		16 08 30.0	
	baz=94,slow=331,SNR=0.6						
I26DE	**FREYUNG INFRAS**	**70.27**	**44**	*i*		17 50 00.0	
	baz=291,slow=318,SNR=2.6						
I48TN	**KESRA INFRASON**	**72.36**	**59**	*i*		17 58 43.7	
	baz=293,slow=320,SNR=3.1						

*MDD **05** 10:35:11.9±1.6,36.°66N×11.°19W,h0km,mb4.3/10,Error ellipse: s-maj=14.5km s-min=11.4km az=31.0,PRXIMO*
*IGIL **05** 10:35:11.0,36.°48N×11.°44W,h22km,ML2.3*
*INMG **05** 10:35:12.6±1.2,36.°57N×11.°27W,h10km,ML2.4, Error ellipse: s-maj=5.5km s-min=4.4km az=72.0*
*CSEM **05** 10:35:13.5±0.4,36.°77N×11.°08W,h10km,ML3.3/16,Error ellipse: s-maj=6.8km s-min=5.1km az=43.0*
*LDG **05** 10:35:14.1±0.6,36.°85N×10.°99W,h20km,Ml3.0/4,Error ellipse: s-maj=11.6km s-min=9.1km az=42.0*

ISC 05 10:35:09.7±3.3,36.°6N±0.°1×11.°3W±0.°1,h10km,n86, σ1§33/150,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.02**	**74**	*ePn*	**Pn**	**10 35 44.9**	**+1.1**
PFVI				*eSn*	**Sn**	**10 36 08.3**	**-0.8**
PFVI				A	A	10 36 10.0	
	22nm,0.2s						
PFVI	**Vila Bisbo**	**2.02**	**74**	⇑P	**Pn**	**10 35 44.9**	**+1.1**
	16nm,0.1s,SNR=18						
PFVI				S	**Sn**	**10 36 08.3**	**-0.8**
	32nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**2.02**	**74**	P	**Pn**	**10 35 44.9**	**+1.1**
	16nm,0.1s,SNR=18						
PFVI				S	**Sn**	**10 36 08.3**	**-0.8**
	32nm,0.1s,SNR=10						
MORF	**Marmelete**	**2.20**	**71**	*eP*	**Pn**	**10 35 47.5**	**+1.1**
MORF				*eS*	**Sn**	**10 36 13.8**	**0.0**
MORF					AML	AML	10 36 15.7	
	comp=N,23nm,0.2s						
MORF	**Marmelete**	**2.20**	**71**	*ePn*	**Pn**	**10 35 47.5**	**+1.1**
MORF				*eSn*	**Sn**	**10 36 13.7**	**0.0**
MORF				A	A	10 36 19.3	
	comp=N,21nm,0.1s						
MORF	**Marmelete**	**2.20**	**71**	Pn	**Pn**	**10 35 47.5**	**+1.1**
MORF				Sn	**Sn**	**10 36 13.7**	**0.0**
	comp=N,21nm,0.1s						
MORF	**Marmelete**	**2.20**	**71**	*ePn*	**Pn**	**10 35 47.5**	**+1.1**
MORF				*eSn*	**Sn**	**10 36 13.7**	**0.0**
	comp=N,21nm,0.1s						
PTEO	**Sao Teotonio**	**2.23**	**64**	*ePn*	**Pn**	**10 35 48.2**	**+1.5**
PTEO				*eSn*	**Sn**	**10 36 14.9**	**+0.5**
PTEO				A	A	10 36 17.2	
	comp=N,9.6nm,0.3s						
PTEO	**Sao Teotonio**	**2.23**	**64**	Pn	**Pn**	**10 35 48.2**	**+1.5**
PTEO				Sn	**Sn**	**10 36 14.9**	**+0.5**
	comp=N,4.8nm,0.3s						
PTEO	**Sao Teotonio**	**2.23**	**64**	*ePn*	**Pn**	**10 35 48.2**	**+1.5**
PTEO				*eSn*	**Sn**	**10 36 14.9**	**+0.5**
	comp=N,9.6nm,0.3s						
PNCL	**Nicolau / Gran**	**2.64**	**54**	*ePn*	**Pn**	**10 35 53.9**	**+1.5**
PNCL				*eSn*	**Sn**	**10 36 24.8**	**+0.3**
PNCL				A	A	10 36 28.3	
	comp=N,9.8nm,0.1s						
PNCL	**Nicolau / Gran**	**2.64**	**54**	*ePn*	**Pn**	**10 35 53.9**	**+1.5**
PNCL				*eSn*	**Sn**	**10 36 24.8**	**+0.3**
	comp=N,9.8nm,0.1s						
MESJ	**Messejana**	**2.72**	**62**	*eP*	**Pn**	**10 35 54.6**	**+1.2**
MESJ				*eS*	**Sn**	**10 36 26.2**	**-0.1**
MESJ					AML	AML	10 36 29.0	
	comp=E,8.0nm,0.1s						
MESJ	**Messejana**	**2.72**	**62**	*ePn*	**Pn**	**10 35 54.6**	**+1.2**
MESJ				*eSn*	**Sn**	**10 36 27.4**	**+1.0**
MESJ				A	A	10 36 30.1	
	comp=E,5.3nm,0.1s						
MESJ	**Messejana**	**2.72**	**62**	Pn	**Pn**	**10 35 54.6**	**+1.2**
MESJ				Sn	**Sn**	**10 36 27.4**	**+1.0**
	comp=E,5.3nm,0.1s						
MESJ	**Messejana**	**2.72**	**62**	*ePn*	**Pn**	**10 35 54.6**	**+1.2**
MESJ				*eSn*	**Sn**	**10 36 27.4**	**+1.0**
	comp=E,5.3nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.74**	**75**	*ePn*	**Pn**	**10 35 55.1**	**+1.4**
PBDV				*eSn*	**Sn**	**10 36 25.8**	**-1.1**
PBDV				A	A	10 36 31.8	
	comp=E,8.4nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.74**	**75**	Pn	**Pn**	**10 35 55.1**	**+1.4**
PBDV				Sn	**Sn**	**10 36 25.8**	**-1.1**
	comp=E,8.4nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.74**	**75**	*ePn*	**Pn**	**10 35 55.1**	**+1.4**
PBDV				*eSn*	**Sn**	**10 36 25.8**	**-1.1**
	comp=E,8.4nm,0.4s						
PCVE	**Castro Verde**	**2.77**	**67**	*ePn*	**Pn**	**10 35 55.5**	**+1.4**
PCVE				*eSn*	**Sn**	**10 36 27.2**	**-0.4**
PCVE	**Castro Verde**	**2.77**	**67**	Pn	**Pn**	**10 35 55.5**	**+1.4**
PCVE				Sn	**Sn**	**10 36 27.2**	**-0.4**
PCVE	**Castro Verde**	**2.77**	**67**	*ePn*	**Pn**	**10 35 55.5**	**+1.4**
PCVE				*eSn*	**Sn**	**10 36 27.2**	**-0.4**
PMAFR	**Mafra**	**2.82**	**33**	*ePn*	**Pn**	**10 35 55.8**	**+0.9**
PMAFR				*eSn*	**Sn**	**10 36 29.5**	**+0.6**
PMAFR				A	A	10 36 31.0	
	comp=E,21nm,0.2s						
PMAFR	**Mafra**	**2.82**	**33**	P	**Pn**	**10 35 55.9**	**+1.0**
	comp=E,8.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**10 36 28.9**	**0.0**
	comp=E,17nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.82**	**33**	P	**Pn**	**10 35 55.9**	**+1.0**

PMRV	**Marv??o**	**4.16**	**46**	Pn		**Pn**	**10 36 14.0**	**+0.8**
PMRV				Sn		**Sn**	**10 37 00.5**	**-1.3**
	comp=E,3.5nm,0.2s							
PMRV	**Marv??o**	**4.16**	**46**	*e*Pn		**Pn**	**10 36 14.0**	**+0.8**
PMRV				*e*Sn		**Sn**	**10 37 00.5**	**-1.3**
	comp=E,3.5nm,0.2s							
ESPR	**Espera**	**4.34**	**85**	P		**Pn**	**10 36 16.1**	**+0.3**
	comp=E,5.4nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**10 37 05.1**	**-1.4**
	comp=E,28nm,0.3s,SNR=7.9							
ESPR	**Espera**	**4.34**	**85**	P		**Pn**	**10 36 16.1**	**+0.3**
	comp=E,5.4nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**10 37 05.1**	**-1.4**
	comp=E,28nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**4.88**	**71**	P		**Pn**	**10 36 24.2**	**+1.1**
	comp=E,2.0nm,0.1s,SNR=13							
ECAB				S		**Sn**	**10 37 17.1**	**-2.6**
	comp=E,1.7nm,0.1s,SNR=5.9							
ECAB	**El Cabril**	**4.88**	**71**	P		**Pn**	**10 36 24.2**	**+1.1**
	comp=E,2.0nm,0.1s,SNR=13							
ECAB				S		**Sn**	**10 37 17.1**	**-2.6**
	comp=E,1.7nm,0.1s,SNR=5.9							
PVIS	**Viseu**	**4.88**	**32**	*e*Pn		**Pn**	**10 36 23.8**	**+0.6**
PVIS				*e*Sn		**Sn**	**10 37 17.7**	**-2.0**
PVIS				A		A	10 37 21.1	
	comp=E,4.8nm,0.1s							
PVIS	**Viseu**	**4.88**	**32**	Pn		**Pn**	**10 36 23.8**	**+0.6**
PVIS				Sn		**Sn**	**10 37 17.7**	**-2.0**
	comp=E,2.4nm,0.1s							
PVIS	**Viseu**	**4.88**	**32**	*e*Pn		**Pn**	**10 36 23.8**	**+0.6**
PVIS				*e*Sn		**Sn**	**10 37 17.7**	**-2.0**
	comp=E,4.8nm,0.1s							
POLO	**Lamas de Olo**	**5.47**	**28**	*e*Pn		**Pn**	**10 36 32.1**	**+0.7**
POLO				*e*Sn		**Sn**	**10 37 31.3**	**-3.2**
POLO				A		A	10 37 34.7	
	comp=E,0.7nm,0.2s							
POLO	**Lamas de Olo**	**5.47**	**28**	*e*Pn		**Pn**	**10 36 32.1**	**+0.7**
POLO				*e*Sn		**Sn**	**10 37 31.3**	**-3.2**
	comp=E,0.7nm,0.2s							
MVO	**Moncorvo**	**5.62**	**35**	*e*Pn		**Pn**	**10 36 34.1**	**+0.7**
MVO				*e*Sn		**Sn**	**10 37 35.2**	**-2.9**
MVO				A		A	10 37 37.3	
	comp=E,2.0nm,0.1s							
MVO	**Moncorvo**	**5.62**	**35**	P		**Pn**	**10 36 34.1**	**+0.7**
	comp=E,1.2nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**10 37 35.5**	**-2.6**
	comp=E,1.8nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.62**	**35**	P		**Pn**	**10 36 34.1**	**+0.7**
	comp=E,1.2nm,0.1s,SNR=7.9							
MVO				*e*Sn		**Sn**	**10 37 35.2**	**-2.9**
	comp=E,2.0nm,0.1s							
MVO				S		**Sn**	**10 37 35.5**	**-2.6**
	comp=E,1.8nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.81**	**24**	P		**Pn**	**10 36 36.4**	**+0.4**
	comp=E,0.6nm,0.2s,SNR=7.9							
ELOB				S		Sn	10 37 39.5	-3.3
	comp=E,2.6nm,0.1s,SNR=6.8							
ELOB	**Lobios**	**5.81**	**24**	P		**Pn**	**10 36 36.4**	**+0.4**
	comp=E,0.6nm,0.2s,SNR=7.9							
ELOB				S		Sn	10 37 39.5	-3.3
	comp=E,2.6nm,0.1s,SNR=6.8							
PGAV	**Gavieira, Arco**	**5.83**	**22**	*e*Pn		**Pn**	**10 36 37.0**	**+0.6**
PGAV				*e*Sn		Sn	10 37 39.3	-4.1
PGAV				A		A	10 37 43.7	
	comp=E,2.9nm,0.2s							
PGAV	**Gavieira, Arco**	**5.83**	**22**	*e*Pn		**Pn**	**10 36 37.0**	**+0.6**
PGAV				*e*Sn		Sn	10 37 39.3	-4.1
	comp=E,2.9nm,0.2s							
PAB	**San Pablo**	**6.19**	**60**	P		**Pn**	**10 36 42.7**	**+1.5**
	comp=E,3.7nm,0.1s,SNR=7.9							
PAB				S		Sn	10 37 48.2	-3.9
	comp=E,3.8nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**6.19**	**60**	P		**Pn**	**10 36 42.7**	**+1.5**
	comp=E,3.7nm,0.1s,SNR=7.9							
PAB				S		Sn	10 37 48.2	-3.9
	comp=E,3.8nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**6.38**	**32**	P		**Pn**	**10 36 45.1**	**+1.3**
	comp=E,1.2nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**10 37 54.5**	**-2.2**
	comp=E,1.4nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.38**	**32**	P		**Pn**	**10 36 45.1**	**+1.3**
	comp=E,1.2nm,0.2s,SNR=7.9							
ECAL				S		**Sn**	**10 37 54.5**	**-2.2**
	comp=E,1.4nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**6.51**	**60**	P		**Pn**	**10 36 46.4**	**+0.8**
	comp=E,0.9nm,0.1s,baz=245,slow=13,SNR=4.8							
ESDC	**Sonseca Array**	**6.51**	**60**	P		**Pn**	**10 36 46.4**	**+0.8**
	comp=E,0.9nm,0.1s,SNR=4.8							
EMAZ	**Mazaricos**	**6.58**	**15**	P		**Pn**	**10 36 48.0**	**+1.6**
	comp=E,0.4nm,0.1s,SNR=4.0							
EMAZ				S		Sn	10 37 54.7	-6.8
	comp=E,1.5nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.58**	**15**	P		**Pn**	**10 36 48.0**	**+1.6**
	comp=E,0.4nm,0.1s,SNR=4.0							
EQES	**Quesada**	**6.64**	**77**	S		**Sn**	**10 38 00.7**	**-2.6**
	comp=E,2.1nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.64**	**77**	S		**Sn**	**10 38 00.7**	**-2.6**
	comp=E,2.1nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.66**	**21**	P		**Pn**	**10 36 48.0**	**+0.4**
	comp=E,0.5nm,0.1s,SNR=7.9							
EAGO				S		Sn	10 37 58.7	-4.8
	comp=E,1.2nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.66**	**21**	P		**Pn**	**10 36 48.0**	**+0.4**
	comp=E,0.5nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**6.87**	**52**	P		**Pn**	**10 36 52.1**	**+1.5**
	comp=E,0.3nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**10 38 07.2**	**-1.7**
	comp=E,0.5nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.87**	**52**	P		**Pn**	**10 36 52.1**	**+1.5**
	comp=E,0.3nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**10 38 07.2**	**-1.7**
	comp=E,0.5nm,0.2s,SNR=7.9							
ETOR	**Torete**	**8.33**	**57**	P		**Pn**	**10 37 11.7**	**+1.1**
	comp=E,5.7nm,0.3s,SNR=7.9							
ETOR				S		Sn	10 38 39.0	-5.8
	comp=E,2.4nm,0.2s,SNR=7.9							
ETOR	**Torete**	**8.33**	**57**	P		**Pn**	**10 37 11.7**	**+1.1**
	comp=E,5.7nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**10.08**	**47**	*e*Pn		Pn	10 37 30.8	-3.7
SJPF				*e*Sn		Sn	10 39 13.6	-14
	comp=E,0.8nm,0.3s							
ETSF	**Etsaut**	**10.36**	**49**	*e*Pn		Pn	10 37 34.6	-3.7
ETSF				*e*Sn		Sn	10 39 20.3	-14
	comp=E,0.5nm,0.4s							
EPF	**Esparros**	**10.98**	**51**	*e*Pn		Pn	10 37 43.3	-3.6
EPF				*e*Sn		Sn	10 39 35.3	-15
	comp=E,0.5nm,0.3s							

IDC 05 10:38:02.4±26.0, 19°.17S×178°.27W, h652km±172km, mb3.1/4, mb1 3.2/5, mb1mx2.8/37, mbtmp4.1/5, Error ellipse: s-maj=400.1km s-min=43.0km az=40.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.60**	**256**	P	P	10 41 05.5	+0.3
	0.2nm,0.3s,baz=198,slow=16,SNR=3.8						
CTA	**Charters Tower**	**33.40**	**262**	P	P	10 43 50.9	+0.6
	2.6nm,0.4s,baz=92,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**44.55**	**261**	P	P	10 45 19.2	-0.1
	0.7nm,0.3s,baz=97,slow=8.6,SNR=33						
ASAR	**Alice Springs**	**44.59**	**255**	P	P	10 45 19.6	0.0
	1.3nm,0.6s,baz=86,slow=8.0,SNR=30						
VNDA	**Vanda**	**59.20**	**185**	P	P	10 47 02.8	+0.1
	0.9nm,0.3s,baz=1.9,slow=5.9,SNR=5.4						

*IDC **05** 10:42:50.5±1.2, 0°.71S×123°.61E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/27, mbtmp3.4/4, MS4.1/2, Ms1 4.1/2, ms1mx3.4/24, Error ellipse: s-maj=137.0km s-min=21.0km az=65.0*

*DJA **05** 10:42:59.6±0.3, 0°.S±4°×12°.5E±°, h10km, M3.8/8, MLv3.8/8*

ISC 05 10:42:59.6±1.5, 0°.34S±0°.08×125°.1E±0°.1, h60km, n14, σ0s81/9, mb3.2/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.45**	**309**	P	Pn	10 43 27.6	+4.0
SANI	**Sanana**	**1.92**	**153**	P	**Pn**	**10 43 29.5**	**-0.5**
SANI				S	**Sn**	**10 43 52.3**	**-0.7**
LBMI	**Labuha**	**2.41**	**97**	P	**Pn**	**10 43 36.3**	**-0.4**
LBMI				S	**Sn**	**10 44 05.6**	**+0.5**
LUWI	**Luwuk**	**2.44**	**253**	P	Pn	10 43 42.9	+5.8
LUWI				S	Sn	10 44 14.7	+8.8
TNTI	**Ternate**	**2.51**	**64**	P	**Pn**	**10 43 37.8**	**-0.3**
MRSI	**Marisa**	**3.27**	**284**	P	Pn	10 43 52.7	+4.2
NLAI	**Namlea**	**3.50**	**145**	P	**Pn**	**10 43 52.3**	**+0.6**
APSI	**Ampana**	**3.51**	**261**	P	Pn	10 43 57.1	+5.4
WRA	**Warramunga Arr**	**21.48**	**156**	P	**P**	**10 47 42.7**	**-0.7**
	0.3nm,0.5s,baz=332,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**24.71**	**160**	P	**P**	**10 48 16.8**	**+1.3**
	0.5nm,0.9s,baz=340,slow=9.5,SNR=8.0						
HNR	**Honiara**	**35.83**	**106**	LR	LR	11 07 35.3	
	comp=Z,255nm,18.9s,baz=289,slow=40						
SONM	**Songino Array**	**50.67**	**344**	P	**P**	**10 51 53.0**	**-0.1**
	0.2nm,0.5s,baz=157,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**60.02**	**327**	P	P	10 52 54.3	-6.0
	1.3nm,0.6s,baz=123,slow=5.3,SNR=14						
URZ	**Urewera**	**60.77**	**135**	LR	LR	11 20 59.4	
	comp=Z,134nm,20.3s,baz=358,slow=37						

IDC 05 10:48:37.0±1.8, 0°.43S×124°.79E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/32, mbtmp3.2/3, Error ellipse: s-maj=192.9km s-min=26.3km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.53**	**155**	P	P	10 53 26.7	-1.3
	0.3nm,0.6s,baz=332,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**24.74**	**160**	P	P	10 54 01.4	+1.0
	0.2nm,0.5s,baz=342,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**59.92**	**328**	P	P	10 58 44.9	-0.1
	0.3nm,0.3s,baz=128,slow=7.7,SNR=6.8						

*IDC **05** 10:57:10.1±1.7, 0°.53S×124°.58E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/43, mbtmp3.5/3, Error ellipse: s-maj=179.4km s-min=24.4km az=63.0*

*ISCJB **05** 10:57:14.8±0.6, 0°.23S±0°.07×125°.12E±0°.04, h52km, mb3.5/3, Error ellipse: s-maj=10.0km s-min=5.0km az=24.3*

*DJA **05** 10:57:15.8±0.5, 0°.S±4°×12°.5E±°, h51km±14km, M4.2/10, mb4.3/2, mB5.1/1, MLv4.2/10, Mw(mB)4.4/1*

ISC 05 10:57:16.1±1.0, 0°.23S±0°.07×125°.12E±0°.05, h52km, n12, σ0s61/15, mb3.4/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.39**	**305**	P	**Pn**	**10 57 38.9**	**-0.3**
KMSI				S	**Sn**	**10 57 56.6**	**+0.1**
SANI	**Sanana**	**2.01**	**154**	P	**Pn**	**10 57 46.9**	**-0.7**
SANI				S	**Sn**	**10 58 11.9**	**+0.4**
LBMI	**Labuha**	**2.41**	**100**	P	**Pn**	**10 57 52.8**	**-0.3**
LBMI				S	**Sn**	**10 58 22.0**	**+0.5**
LUWI	**Luwuk**	**2.49**	**251**	P	**Pn**	**10 57 54.8**	**+0.6**
LUWI				S	**Sn**	**10 58 23.7**	**+0.4**
MRSI	**Marisa**	**3.26**	**282**	P	**Pn**	**10 58 03.9**	**-0.9**
APSI	**Ampana**	**3.54**	**259**	P	Pn	10 58 13.3	+4.7
NLAI	**Namlea**	**3.58**	**147**	P	**Pn**	**10 58 09.2**	**0.0**
MPSI	**Mapaga**	**5.26**	**276**	P	**Pn**	**10 58 31.7**	**-0.5**
	18nm,0.7s,0.1nm						
TTSI	**Tana Toraja**	**6.00**	**242**	P	**Pn**	**10 58 41.7**	**-0.6**
WRA	**Warramunga Arr**	**21.57**	**156**	P	**P**	**11 02 00.6**	**-1.0**
	0.7nm,0.5s,baz=332,slow=11,SNR=18						
ASAR	**Alice Springs**	**24.81**	**161**	P	**P**	**11 02 33.5**	**0.0**
	0.6nm,0.5s,baz=340,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**59.94**	**327**	P	**P**	**11 07 17.8**	**+0.8**
	0.3nm,0.3s,baz=123,slow=8.5,SNR=8.9						

*IDC **05** 11:00:22.8±9.5, 4°.21S×130°.59E, h0km, mb3.9/1, mb1 4.4/2, mb1mx3.4/34, mbtmp4.2/2, ML4.6/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/41, Error ellipse: s-maj=803.8km s-min=32.5km az=72.0*

*ISCJB **05** 11:00:26.6±0.7, 4°.57S±0°.05×130°.50E±0°.06, h33km, mb4.0/1, MS4.3/1, Error ellipse: s-maj=9.0km s-min=7.2km az=154.4*

*DJA **05** 11:00:31.7±0.6, 4°.S±13°×13°.0E±°, h39km±15km, M3.8/6, MLv3.8/6*

ISC 05 11:00:27.5±1.0, 4°.63S±0°.08×130°.47E±0°.07, h35km, n9, σ2s08/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.57**	**281**	P	Pn	11 00 45.3	+6.1
BNDI				S	Sn	11 00 55.7	+8.2
MSAI	**Masohi**	**2.00**	**310**	P	**Pn**	**11 01 00.2**	**+1.4**
MSAI				S	**Sn**	**11 01 21.8**	**-0.9**
FAKI	**Fak Fak**	**2.46**	**46**	P	**Pn**	**11 01 06.8**	**+1.6**
FAKI				S	**Sn**	**11 01 31.7**	**-2.3**
NLAI	**Namlea**	**3.64**	**292**	P	**Pn**	**11 01 21.6**	**+0.2**
WRA	**Warramunga Arr**	**15.68**	**166**	Pn	**Pn**	**11 04 06.0**	**0.0**
	0.6nm,0.3s,baz=349,slow=11,SNR=17						
WRA				Sn	Sn	11 06 53.5	-5.1
	0.3nm,0.3s,baz=352,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**19.21**	**170**	P	**Pn**	**11 04 52.6**	**+2.8**
	1.8nm,0.3s,baz=350,slow=9.8,SNR=131						
ASAR				S	**S**	**11 08 21.7**	**-2.9**
	0.1nm,0.3s,baz=347,slow=24,SNR=4.0						
SONM	**Songino Array**	**56.37**	**341**	LR	LR	11 35 30.4	
	comp=Z,228nm,18.0s,baz=232,slow=38						
MKAR	**Makanchi Array**	**66.52**	**326**	P	**P**	**11 11 12.6**	**-1.4**
	0.5nm,0.3s,baz=114,slow=7.9,SNR=16						
TORD	**Torodi Ar. Bea**	**128.77**	**283**	PKP	**PKPdf**	**11 19 33.7**	**+1.3**
	0.3nm,0.9s,baz=90,slow=2.0,SNR=2.2						

GUC 05 11:05:30.2±0.5, 21°.27S×69°.11W, h96km±4km, ML3.5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.41**	**302**	*e*P	Pn	11 05 45.5	+0.4
PB01				*e*S	Sn	11 05 56.8	+0.5
PB01				AML	AML	11 05 57.6	
	comp=E,3μm,0.2s						
PB07	**IPOC Station P**	**0.85**	**237**	*e*P	Pn	11 05 49.5	+0.5
PB07				*e*S	Sn	11 06 03.9	+0.8
PB07				AML	AML	11 06 05.9	
	comp=N,998nm,0.1s						
PATCX	**Punta Patache**	**1.07**	**294**	*e*P	Pn	11 05 51.8	+0.6
PATCX				*e*S	Sn	11 06 08.1	+1.0
PATCX				AML	AML	11 06 09.8	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	**1.22**	**323**	*e*P	Pn	11 05 53.5	+0.4
HMBC				*e*S	Sn	11 06 10.8	+0.5
HMBC				AML	AML	11 06 12.7	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.50**	**197**	*e*P	Pn	11 05 57.1	+0.7
PB06				*e*S	Sn	11 06 17.3	+1.0
PSGC	**Pisagua**	**1.91**	**330**	*e*P	Pn	11 06 01.3	-0.4
PSGC				*e*S	Sn	11 06 25.1	-0.5
MNMC	**Minimini**	**2.17**	**348**	*e*P	Pn	11 06 05.7	+0.4
MNMC				*e*S	Sn	11 06 33.5	+1.5

MAN 05 11:06:47, 8°.71N×122°.75E, h32km, mb4.7, ML3.6, MS3.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.61**	**102**	⇓*i*P	Pn	11 07 00.2	+0.8
DCPH				*e*S	Sn	11 07 09.2	+1.0
IPIL	**Ipil**	**0.93**	**191**	*e*P	Pn	11 07 04.2	+0.3
IPIL				*e*S	Sn	11 07 15.2	-0.9
PAGZ	**Pagadian**	**1.06**	**144**	*e*P	Pb	11 07 06.4	-0.5
PAGZ				*e*S	Sn	11 07 19.4	+0.1
BUTP	**Butuan**	**2.85**	**85**	*e*P	Pn	11 07 30.9	+0.6

*DJA **05** 11:06:43.5±0.9, 2°.S±8°×12°.6E±°, h349km±7km, M4.4/9, mb4.7/1, mB5.0/1, MLv4.3/9, Mw(mB)4.3/1*

*IDC **05** 11:06:56.8±1.9, 0°.27S×125°.34E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/36, mbtmp3.4/3, Error ellipse: s-maj=182.1km s-min=27.4km az=64.0*

ISC 05 11:06:57.5±0.8, 0°.29S±0°.09×125°.30E±0°.04, h10km, n11, σ0s90/11, mb3.3/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.57**	**303**	P	**Sn**	**11 07 46.6**	**+0.7**
SANI	**Sanana**	**1.88**	**159**	P	**Pn**	**11 07 29.8**	**+0.1**
SANI				S	Sg	11 08 03.7	+5.7
LBMI	**Labuha**	**2.23**	**99**	P	**Pn**	**11 07 33.2**	**-1.3**
LBMI				S	**Sg**	**11 08 08.7**	**-0.4**
TNTI	**Ternate**	**2.32**	**63**	P	**Pg**	**11 07 42.2**	**+0.2**
TNTI				S	**Sg**	**11 08 12.0**	**0.0**
GTOI	**Gorontalo**	**2.47**	**292**	P	Pg	11 07 55.7	+11
LUWI	**Luwuk**	**2.64**	**254**	P	Pg	11 07 51.6	+3.5
MRSI	**Marisa**	**3.45**	**283**	P	**Pg**	**11 08 03.5**	**-0.1**
APSI	**Ampana**	**3.71**	**260**	P	**Pb**	**11 08 01.7**	**-1.3**
WRA	**Warramunga Arr**	**21.45**	**156**	P	**P**	**11 11 47.1**	**+1.1**
	0.6nm,0.5s,baz=335,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**24.69**	**161**	P	**P**	**11 12 19.5**	**+0.6**
	0.4nm,0.6s,baz=339,slow=9.6,SNR=7.2						
MKAR	**Makanchi Array**	**60.08**	**327**	P	**P**	**11 17 05.9**	**+0.9**
	0.3nm,0.4s,baz=134,slow=7.1,SNR=4.1						

IDC 05 11:07:59.7±1.1, 0°.31S×125°.06E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, Error ellipse: s-maj=81.2km s-min=20.2km az=72.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**156**	P	P	11 12 49.3	-1.3
	0.5nm,0.5s,baz=335,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**24.75**	**160**	P	P	11 13 24.4	+1.2
	0.7nm,0.8s,baz=339,slow=8.4,SNR=5.0						
ASAR				PcP	PcP	11 16 59.6	-0.7
	0.3nm,0.4s,baz=352,slow=2.2,SNR=8.5						
KSRS	**Korea Array**	**37.67**	**4**	P	P	11 15 16.8	+0.1
	0.4nm,0.4s,baz=176,slow=7.6,SNR=3.2						
SONM	**Songino Array**	**50.63**	**344**	P	P	11 17 01.0	+0.3
	0.7nm,0.7s,baz=156,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**59.97**	**327**	P	P	11 18 07.5	-0.5
	0.8nm,0.4s,baz=126,slow=7.9,SNR=12						

IDC 05 11:12:26.6±1.8, 0°.34S×125°.04E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.1/43, mbtmp3.3/3, MS3.7/1, Ms1 3.7/1, ms1mx3.1/19, Error ellipse: s-maj=180.8km s-min=25.4km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.51**	**156**	P	P	11 17 17.4	+0.1
	0.4nm,0.5s,baz=334,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.74**	**160**	P	P	11 17 49.9	-0.1
	0.3nm,0.5s,baz=337,slow=8.3,SNR=6.8						
ASAJ	**Asahikawa**	**46.95**	**17**	LR	LR	11 40 54.0	
	comp=Z,102nm,21.9s,baz=313,slow=36						
MKAR	**Makanchi Array**	**59.98**	**327**	P	P	11 22 35.0	0.0
	0.3nm,0.4s,baz=127,slow=8.2,SNR=7.5						

*MEX **05** 11:14:13.9±0.3, 32°.87N×115°.93W, h10km, MD4.8*

*NEIC **05** 11:14:14.9, 32°.66N×115°.81W, h14km, mb4.8/58, MD5.0(MEX), ML5.2(ECX), MW4.9(PAS), After PAS.*

NEIC Felt [V] at El Centro, [IV] at Imperial and San Diego and [III] at Blythe, Campo, Chula Vista, Fallbrook, Indian Wells, Jamul, Murrieta, Palm Desert, San Marcos and Spring Valley. Felt in much of Orange and San Diego Counties and in parts of Imperial, Los Angeles, Riverside and San Bernardino Counties. Felt [II] at Yuma, Arizona. Also felt in the Phoenix area. Felt [IV] at Mexicali, [III] at Tijuana and [II] at Ensenada, Baja California. Also felt at Puerto Penasco, Sonora.

*GCMT **05** 11:14:14.9±0.5, 32°.76N×115°.79W, h21km±2km, MW5.1/71, Moment Tensor Solution. s6,c6; s71,c97; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.28±.55; Mθθ-3.52±.30; Mφφ5.80±.40; Mrθ2.26±.69; Mrφ0.90±.23; Mθφ-1.45±.51; Best double couple: M≈5.77600×10^16 NP1:φ=327.00000°, δ71.00000°, λ-145.00000°. NP2: φ=225.00000°, δ57.00000°, λ-23.00000°. Principal axes: T 6.0810, Plg9.0000°, Azm93.0000°; N -0.6090, Plg51.0000°, Azm352.0000°; P -5.4710, Plg38.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **05** 11:14:15.3±0.2, 32°.71N±0°.02×115°.83W±0°.02, h10km, mb4.6/75, MS4.5/13 Error ellipse: s-maj=2.8km s-min=1.9km az=9.2*

*ECX **05** 11:14:15.5±0.6, 32°.67N×115°.81W, h4km, ML5.2*

*IDC **05** 11:14:17.9±0.7, 32°.91N×115°.34W, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.2/51, mbtmp4.2/27, ML3.9/4, MS4.4/13, Ms1 4.4/13, ms1mx4.0/55, Error ellipse: s-maj=17.2km s-min=10.5km az=48.0*

*MOS **05** 11:14:19.4±1.6, 33°.08N×115°.53W, h10km, mb5.1/25, Error ellipse: s-maj=6.9km s-min=4.7km az=84.8*

ISC 05 11:14:15.8±0.3, 32°.70N±0°.02×115°.81W±0°.02, h10km, n352, σ1s97/257, mb4.7/74, MS4.5/13, 38C-30D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.09**	**125**	⇑*i*P	**Pg**	**11 14 17.2**	**-1.0**
YUH	**Yuha Desert**	**0.11**	**242**	⇑*i*P	**Pg**	**11 14 17.6**	**-0.9**
COK	**Cook Ranch**	**0.17**	**24**	⇓*i*P	**Pg**	**11 14 19.1**	**-0.3**
CRR	**Carrizo Plain**	**0.23**	**324**	⇑*i*P	**Pg**	**11 14 20.0**	**-0.6**
SWSC	**Sam W. Stewart**	**0.24**	**2**	⇑P	**Pg**	**11 14 20.1**	**-0.6**
	baz=0.2						
DREC	**Desert Rsrch C**	**0.32**	**71**	⇑*i*P	**Pg**	**11 14 22.1**	**-0.2**
CBKC	**Canebrake**	**0.42**	**298**	⇑*i*P	**Pg**	**11 14 23.6**	**-0.5**
MONP	**Monument Peak,**	**0.55**	**290**	⇓P	**Pg**	**11 14 25.6**	**-0.9**
	baz=0.6						
MONP				⇓S	**Sg**	**11 14 33.2**	**-0.7**
	baz=0.6						
COA	**Coachella**	**0.60**	**74**	⇑*i*P	**Pg**	**11 14 26.4**	**-1.0**
BAR	**Barrett**	**0.73**	**269**	*e*Pg	**Pg**	**11 14 28.6**	**-1.3**
BAR

SPIG *i*S **Sn** 11 15 05.1 -2.1
SPIG San Pedro Mart 1.67 170 *e*P **Pn** 11 14 43.4 -2.1
SPIG San Pedro Mart 1.67 170 *e*P **Pn** 11 14 42.9 -2.6
SPIG *e*S **Sn** 11 15 02.5 -4.7
SPX San Pedro Mart 1.68 170 *e*P **Pn** 11 14 44.2 -1.3
SPX ⇑*e* 11 15 19.2
comp=N,11µm,0.8s
113A Mohawk Valley, 1.72 87 ⇑P **Pn** 11 14 42.7 -3.1
baz=1.7
113A ⇓S **Sn** 11 15 03.9 -3.9
baz=1.7
BBRC Big Bear Solar 1.82 329 ⇑P **Pn** 11 14 45.2 -2.2
baz=1.8
BBRC ⇑S **Sn** 11 15 07.8 -2.7
baz=1.8
GMRC Granite Mounta 2.08 3 ⇓P **Pn** 11 14 48.1 -2.7
baz=2.1
GMRC ⇑S **Sn** 11 15 13.5 -3.4
baz=2.1
PDMCI Parker Dam,Lak 2.12 41 ⇓P **Pn** 11 14 48.6 -2.7
baz=2.1
PDMCI ⇑S **Sn** 11 15 13.7 -4.0
baz=2.1
HEC Hector,Ludlow 2.17 349 ⇓P **Pn** 11 14 49.4 -2.6
baz=2.2
BFSC Mount Baldy Ra 2.18 315 ⇑P **Pn** 11 14 49.7 -2.6
baz=2.2
BFSC ⇓Sb **Sb** 11 15 21.8 -0.7
baz=2.2
NEE2 Needles Airpor 2.29 25 ⇓P **Pn** 11 14 51.1 -2.5
baz=2.3
CIS Catalina Islan 2.29 289 ⇓P **Pn** 11 14 51.5 -2.2
baz=2.3
CIS ⇑Sb **Sb** 11 15 25.3 -0.4
baz=2.3
FMP Fort Macarthur 2.32 297 ⇓P **Pn** 11 14 51.5 -2.5
baz=2.3
FMP ⇑Sb **Sb** 11 15 25.9 -0.5
baz=2.3
SCI San Clemente I 2.32 278 ⇑S **Sn** 11 15 20.9 -1.8
baz=2.3
RRX Edison Barstow 2.39 336 ⇓P **Pn** 11 14 52.1 -2.9
baz=2.4
MWC Mount Wilson 2.42 310 *e*P **Pb** 11 14 58.2 -1.3
MWC *e* 11 15 29.5
MWC Mount Wilson 2.42 310 *e*Pn **Pb** 11 14 58.2 -1.3
MWC *e*Sn **Sb** 11 15 29.5 0.0
LDFC Landfair 2.44 14 *e*Pn **Pb** 11 14 57.9 -2.0
PASC Pasadena Art C 2.47 307 *e*Pn **Pn** 11 14 57.1 +0.9
Z14A Wintersburg 2.49 74 ⇓P **Pn** 11 14 53.3 -3.1
baz=2.5
214A Organ Pipe Nat 2.64 105 ⇓P Pn 11 14 55.0 -3.6
baz=2.6
214A Organ Pipe Nat 2.64 105 *e*Pn **Pn** 11 14 55.4 -3.1
Y14A Wickenburg 2.65 61 ⇓P **Pn** 11 14 55.9 -2.8
baz=2.6
Y14A ⇓S **Sn** 11 15 27.9 -3.1
baz=2.6
GSC Goldstone, Bar 2.73 343 *e*P **Pn** 11 14 57.3 -2.5
GSC Goldstone, Bar 2.73 343 ⇓P **Pn** 11 14 57.2 -2.5
baz=2.7
GSC Goldstone, Bar 2.73 343 *e*Pn **Pn** 11 14 57.3 -2.5
TUQ Turquoise Moun 2.73 358 ⇑P **Pn** 11 14 57.3 -2.6
baz=2.7
EDW2 Edwards Air Fo 2.83 321 ⇑P **Pn** 11 14 58.9 -2.3
baz=2.8
OSI Osito Audit: C 3.09 309 ⇓P **Pn** 11 15 02.3 -2.4
baz=3.1
OSI Osito Audit: C 3.09 309 *e*Pn **Pn** 11 15 06.3 +1.6
ARVC Arvin 3.49 315 ⇓P **Pn** 11 15 08.0 -2.2
baz=3.5
MPMC Manual Prospec 3.63 338 ⇑P **Pn** 11 15 09.8 -2.4
baz=3.6
ISA Isabella, Lake 3.69 324 *e*P **Pn** 11 15 10.8 -2.2
ISA Isabella, Lake 3.69 324 ⇑P **Pn** 11 15 10.7 -2.2
baz=3.7
ISA Isabella, Lake 3.69 324 *e*Pn **Pn** 11 15 10.8 -2.2
SHPR Sheep Range 3.83 8 *e*Pn **Pn** 11 15 13.6 -1.5
TPNV Topopah Spring 4.25 355 *e*P **Pn** 11 15 20.7 -0.2
TPNV Topopah Spring 4.25 355 *e*Pn **Pn** 11 15 20.6 -0.2
TUC Tucson 4.26 94 *e*P **Pn** 11 15 17.9 -2.9
TUC Tucson 4.26 94 *e*Pn **Pn** 11 15 17.9 -2.9
WUAZ Wupatki 4.63 51 *e*Pn **Pn** 11 15 25.8 -0.2
MTUM Tungsten Hills 5.17 335 *e*Pn **Pn** 11 15 33.3 0.0
CCUT Cedar City 5.24 22 *e*Pn **Pn** 11 15 34.1 -0.3
ARUT Antelope Range 5.43 20 *e*P **Pn** 11 15 36.5 -0.5
ARUT pmax pmax
comp=Z,51nm,0.8s
ARUT Antelope Range 5.43 20 *e*Pn **Pn** 11 15 36.5 -0.5
comp=Z,51nm,0.8s
TPH Tonopah 5.49 348 *e*P **Pn** 11 15 37.8 0.0
TPH Tonopah 5.49 348 *e*Pn **Pn** 11 15 37.8 0.0
W18A Petrified Fore 5.59 63 *e*Pn **Pn** 11 15 39.0 -0.2
R11A Troy Canyon, C 5.64 2 *e*Pn **Pn** 11 15 39.3 -0.6
NVAR Mina Array Bea 6.07 341 Pn **Pn** 11 15 45.2 -0.6
comp=Z,0.7nm,0.3s,baz=166,slow=15,SNR=12
NVAR Lg Lg 11 17 30.1
comp=Z,10nm,0.3s,baz=153,slow=32,SNR=4.1
SAO San Andreas Ge 6.16 313 *e*P **Pn** 11 15 47.4 +0.5
SAO San Andreas Ge 6.16 313 *e*Pn **Pn** 11 15 47.4 +0.5
WAKR Walker 6.50 334 *e*Pn **Pn** 11 15 53.7 +1.9
CMB Columbia Colle 6.50 326 *e*P Pn 11 15 54.7 +3.1
CMB Columbia Colle 6.50 326 *e*Pn Pn 11 15 54.7 +3.1
121A Cookes Peak, D 6.77 89 *e*Pn **Pn** 11 15 53.4 -2.0
comp=Z,355nm,1.0s
MVCO Mesa Verde 7.50 51 *e*Pn **Pn** 11 16 07.0 +1.5
LENM Lemitar 7.53 76 *e*Pn **Pn** 11 16 04.6 -1.2
TMUT Trail Mountain 7.56 28 *e*Pn **Pn** 11 16 06.9 +0.5
SRU San Rafael Swe 7.70 32 *e*P **Pn** 11 16 09.2 +1.0
SRU San Rafael Swe 7.70 32 *e*Pn **Pn** 11 16 09.2 +1.0
BMN Battle Mountai 7.80 352 *e*P Pn 11 16 03.8 -5.7
BMN Battle Mountai 7.80 352 *e*P Pn 11 16 03.8 -5.7
LPM Los Pinos Moun 7.83 76 *e*Pn **Pn** 11 16 09.0 -1.0
NLU North Lily Min 7.84 22 *e*Pn **Pn** 11 16 10.3 +0.2
DUG Dugway, Tooele 7.86 17 *e*P **Pn** 11 16 09.8 -0.5
DUG Dugway, Tooele 7.86 17 *e*Pn **Pn** 11 16 09.8 -0.5
MPU Maple Canyon 8.04 24 *e*Pn **Pn** 11 16 11.0 -1.9
ELK Elko 8.04 3 Pn **Pn** 11 16 15.2 +2.3
comp=Z,0.2nm,0.3s,baz=176,slow=12,SNR=7.6
ELK Lg Lg 11 18 28.5
comp=Z,0.8nm,0.3s,baz=90,slow=20,SNR=2.8
ELK LR LR 11 19 50.4
comp=Z,2µm,19.3s,baz=179,slow=42
ANMO Albuquerque 8.10 71⇑*e*P **Pn** 11 16 13.1 -0.5
ANMO pmax pmax
comp=Z,128nm,1.0s
ANMO Albuquerque 8.10 71 Pn **Pn** 11 16 13.4 -0.2
comp=Z,1.9nm,0.3s,baz=263,slow=12,SNR=116
ANMO Lg Lg 11 18 34.4
comp=Z,1.7nm,0.3s,baz=24,slow=19,SNR=3.7
ANMO LR LR 11 19 01.0
comp=Z,2µm,18.5s,baz=265,slow=37
BGU Big Grassy Mou 8.51 14 *e*Pn **Pn** 11 16 20.2 +1.0
CTU Camp Tracy 8.62 21 *e*Pn **Pn** 11 16 21.8 +1.1
MNTX Cornudas Mount 8.89 94 *e*Pn **Pn** 11 16 22.7 -1.7
S22A 4UR Ranch, Cre 8.90 53 *e*Pn **Pn** 11 16 25.7 +0.9
TCUT Toone Canyon 9.11 21 *e*Pn **Pn** 11 16 28.1 +0.6
comp=Z,113nm,1.0s
HVU Hansel Valley 9.38 14 *e*P **Pn** 11 16 31.3 +0.1
HVU Hansel Valley 9.38 14 *e*Pn **Pn** 11 16 31.3 +0.1
HWUT Hardware Ranch 9.51 20 *e*Pn **Pn** 11 16 34.1 +1.1
comp=Z,46nm,1.0s
O20A White River Ci 9.60 37 *e*Pn **Pn** 11 16 35.0 +0.8
SMCO Snowmass 9.64 45 *e*Pn **Pn** 11 16 37.4 +2.4
GDLJ Guadalupe Moun 9.68 90 *e*Pn **Pn** 11 16 35.2 -0.1
SDCO Great Sand Dun 9.82 56 *e*Pn **Pn** 11 16 35.4 -1.9
LPIG La Paz 9.84 149 Pn Pn 11 16 43.8 +6.5
baz=144,slow=1.4,SNR=5.2
MOD Modoc Plateau 9.86 340 *e*Pn **Pn** 11 16 36.1 -1.6
WVOR Wild Horse Val 9.97 348 P **Pn** 11 16 39.2 0.0
WVOR Wild Horse Val 9.97 348 Pn **Pn** 11 16 39.2 0.0
T25A Trinidad 10.35 62 *e*Pn **Pn** 11 16 45.9 +1.4
Q24A Divide 10.67 51 *e*Pn **Pn** 11 16 50.2 +1.3
MFID Camas Ranch 10.70 360 *e*Pn **Pn** 11 16 50.2 +1.0
AHID Auburn Hatcher 10.71 19 *e*Pn **Pn** 11 16 51.0 +1.5
comp=Z,100nm,1.1s
ISCO Idaho Springs 10.86 46 *e*P **Pn** 11 16 53.0 +1.5
ISCO Idaho Springs 10.86 46 *e*Pn **Pn** 11 16 53.0 +1.5
HLID Hailey 10.90 5 *e*Pn Pn 11 16 56.0 +4.0
TXAR Lajitas Array 10.94 105 Pn **Pn** 11 16 51.8 -0.7
comp=Z,1.2nm,0.3s,baz=288,slow=13,SNR=108
TXAR Lg Lg 11 19 56.5
comp=Z,0.3nm,0.3s,baz=292,slow=28,SNR=3.2
TXAR LR LR 11 20 26.1
comp=Z,1µm,20.4s,baz=0.0,slow=35

MSTX Muleshoe 10.98 80 *e*Pn **Pn** 11 16 53.7 +0.7
BW06 Boulder Array 11.20 24 *e*Pn **Pn** 11 16 57.6 +1.5
comp=Z,31nm,1.2s
PDAR Pinedale Array 11.20 24 Pn **Pn** 11 16 57.9 +1.8
comp=Z,0.2nm,0.3s,baz=200,slow=11,SNR=27
PDAR Lg Lg 11 20 05.7
comp=Z,0.1nm,0.3s,baz=174,slow=23,SNR=3.2
PDAR LR LR 11 21 04.4
comp=Z,1µm,19.4s,baz=225,slow=38
REDW Red Top Meadow 11.34 19 *e*Pn Pn 11 17 01.5 +3.5
N23A Red Feather La 11.37 41 *e*Pn Pn 11 17 02.3 +3.8
TPAW Teton Pass 11.43 18 *e*Pn Pn 11 17 03.0 +3.7
FXWY Fox Creek 11.55 18 *e*Pn Pn 11 17 04.5 +3.5
LOHW Long Hollow 11.64 19 *e*Pn Pn 11 17 04.9 +2.8
IMW Indian Meadow 11.81 17 *e*Pn Pn 11 17 08.0 +3.4
FLWY Flagg Ranch 12.05 18 *e*Pn Pn 11 17 11.4 +3.7
MCMT McKenzie Canyo 12.33 10 *e*Pn Pn 11 17 16.0 +4.4
comp=Z,7.3nm,1.0s
K22A Casper 12.35 34 *e*Pn **Pn** **11 17 13.6 +1.8**
H17A Grant Village 12.37 18 *e*Pn Pn 11 17 15.9 +3.7
KSCO Kaye Shedlock' 12.40 56 *e*Pn Pn 11 17 15.9 +3.4
YMR Madison River 12.53 16 *e*Pn Pn 11 17 19.2 +4.8
QLMT Earthquake Lak 12.58 14 *e*Pn Pn 11 17 19.8 +4.8
YNR Norris Junctio 12.64 17 *e*Pn Pn 11 17 21.5 +5.6
DLMT Dillon 12.89 10 *e*Pn Pn 11 17 23.4 +4.2
H04A Detroit Lake 12.96 339 *e*Pn Pn 11 17 25.0 +5.0
F10A Beach Ranch, E 13.30 356 *e*Pn P 11 17 29.9 -4.6
LRM Limekiln Ridge 13.36 10 *e*Pn Pn 11 17 29.9 +4.3
RLMT Red Lodge 13.40 20 *e*Pn **Pn** **11 17 28.5 +2.3**
comp=Z,31nm,1.3s
ABTX Abilene, Hawle 13.62 86 *e*Pn **Pn** **11 17 30.9 +1.8**
OGNE Ogallala 13.75 49 *e*Pn **Pn** **11 17 32.1 +1.2**
comp=Z,120nm,1.7s
JCT Junction City 13.82 95 *e*P **Pn** **11 17 33.5 +1.6**
JCT Junction City 13.82 95 *e*Pn **Pn** **11 17 33.5 +1.6**
GCMT Greycliff 13.91 18 *e*Pn **Pn** **11 17 35.7 +2.7**
comp=Z,11nm,1.1s
E09A Wood Farm, Sta 13.91 353 *e*Pn P 11 17 37.7 -3.5
HAWA Hanford 13.97 349 *e*Pn P 11 17 38.4 -3.5
MSO Missoula 14.19 5 *e*Pn P 11 17 40.3 -4.1
WMOK Wichita Mounta 14.32 77 *e*P **Pn** **11 17 38.6 -0.1**
WMOK Wichita Mounta 14.32 77 *e*Pn **Pn** **11 17 38.6 -0.1**
HRY Holter Researc 14.32 11 *e*Pn P 11 17 42.4 -3.5
CHMT Chamberlain Mo 14.33 7 *e*Pn P 11 17 42.2 -3.9
SLMT Seeley Lake 14.63 6 *e*Pn Pn 11 17 45.8 +2.8
RSSD Black Hills 14.65 36 *e*P **P** **11 17 51.2 +1.5**
RSSD Black Hills 14.65 36 *e*Pn **P** **11 17 51.2 +1.5**
LON Longmire 14.77 344 *e*P **Pn** **11 17 45.4 +0.7**
LON Longmire 14.77 344 *e*Pn **Pn** **11 17 45.4 +0.7**
SWMT Swartz Lake 14.86 5 *e*Pn **P** **11 17 48.9 -2.9**
JTMT Jette 15.07 4 *e*Pn **P** **11 17 53.1 -1.2**
BSMT Bassoo Peak 15.15 3 *e*Pn **P** **11 17 54.0 -1.2**
W34A Bridge Creek, 15.18 75 *e*Pn **Pn** **11 17 51.5 +1.2**
comp=Z,60nm,1.1s
C09A Chrisman Ranch 15.20 354 *e*Pn **P** **11 17 53.5 -2.0**
D05A Enumclaw 15.22 344 *e*Pn **P** **11 17 54.5 -1.2**
BLMT Blacktail Moun 15.33 4 *e*Pn **P** **11 17 56.0 -1.3**
V34A Guthrie 15.44 73 *e*Pn **P** **11 17 56.7 -1.6**
comp=Z,40nm,1.1s
NEW Newport 15.58 357 *e*P **P** **11 17 58.0 -1.8**
NEW pmax pmax
comp=Z,36nm,1.0s
NEW Newport 15.58 357 Pn **P** **11 17 58.1 -1.8**
comp=Z,0.1nm,0.3s,baz=174,slow=14,SNR=8.4
NEW LR LR 11 23 52.0
comp=Z,1µm,20.2s,baz=184,slow=37
NEW Newport 15.58 357 *e*Pn **P** **11 17 58.0 -1.8**
comp=Z,36nm,1.0s
LAO LASA Array 15.78 25 *e*Pn **P** **11 17 59.7 -2.4**
comp=Z,65nm,1.1s
B08A Colville Reser 15.87 351 *e*Pn **P** **11 18 02.6 -0.4**
comp=Z,126nm,2.3s
EGMT Eagleton 15.98 15 *e*Pn **P** **11 18 02.9 -1.3**
comp=Z,83nm,1.5s
WALA Waterton Lakes 16.41 4 *e*Pn **P** **11 18 08.9 -0.1**
BGNE Belgrade 16.54 53 *e*P **P** **11 18 12.3 +1.9**
comp=Z,56nm,1.1s
KSU1 Kansas State U 16.80 62 *e*Pn **P** **11 18 12.4 -0.9**
comp=Z,25nm,0.6s
TUL1 Leonard 16.84 74 *e*Pn **Pn** **11 18 11.8 +0.1**
comp=Z,44nm,1.0s
HKT Hockley 17.29 94 *e*P **P** **11 18 18.8 +0.2**
HKT pmax pmax
comp=Z,142nm,1.7s
HKT Hockley 17.29 94 *e*Pn **P** **11 18 18.8 +0.2**
comp=Z,142nm,1.7s
BRSD Miller 17.60 43 *e*P **P** **11 18 25.6 +3.5**
comp=Z,39nm,0.9s
DGMT Dagmar 18.02 26 *e*Pn **P** **11 18 27.8 +1.0**
comp=Z,47nm,1.1s
MIAR Mount Ida 18.61 78 *e*P **Pn** **11 18 33.6 +0.1**
MIAR pmax pmax
comp=Z,78nm,1.3s
MIAR Mount Ida 18.61 78 *e*Pn **Pn** **11 18 33.6 +0.1**
comp=Z,78nm,1.3s
ECSD EROS Data Cent 18.63 48 *e*P **Pn** **11 18 35.1 +1.3**
comp=Z,13nm,0.9s
UALR University of 19.62 77 *e*P **Pn** **11 18 45.4 -0.3**
comp=Z,40nm,1.3s
SCIA State Center 20.14 56 PFAKE 11 19 00.0 +8.1
SCIA LR LR
comp=Z,2µm,18.2s
EDM Edmonton 20.59 4 *e*P **P** **11 18 55.3 +0.5**
EDM Edmonton 20.59 4 *e*P **P** **11 18 55.3 +0.5**
PBMO Poplar Bluff 21.23 72 *e*P **P** **11 19 01.9 +0.1**
comp=Z,79nm,1.7s
VBMS Vicksburg 21.34 84 *e*Pn **P** **11 19 05.5 +2.5**
comp=Z,114nm,1.1s
VBMS LR LR
comp=Z,3µm,21.2s
BBB Bella Bella 21.43 339 LR LR 11 27 05.5
comp=Z,1µm,18.8s,baz=166,slow=36
AGMN Agassiz Nation 21.65 38 *e*P **P** **11 19 08.2 +2.0**
comp=Z,159nm,1.8s
AGMN LR LR
comp=Z,1µm,18.9s
PARMO Parma 21.77 72 *e*P P 11 19 14.2 +6.6
OXF Oxford 22.04 78 *e*P **P** **11 19 10.3 -0.3**
OXF pmax pmax
comp=Z,62nm,1.2s
OXF MLR MLR
comp=Z,2µm,20.8s
OXF Oxford 22.04 78 *e*P **P** **11 19 10.2 -0.3**
comp=Z,62nm,1.2s
OXF LR LR
comp=Z,2µm,20.8s
SIUC Southern Illin 22.26 70 *e*P **P** **11 19 16.5 +3.6**
comp=Z,27nm,1.0s
JFWS Jewell Farm 22.55 56 *e*P **P** **11 19 17.2 +1.3**
JFWS pmax pmax
comp=Z,15nm,0.8s
JFWS MLR MLR
comp=Z,902nm,20.6s
JFWS Jewell Farm 22.55 56 *e*P **P** **11 19 17.2 +1.3**
comp=Z,15nm,0.8s
JFWS LR LR
comp=Z,902nm,20.6s
ULM Lac du Bonnet 22.91 34 *e*P **P** **11 19 21.6 +1.9**
ULM pmax pmax
comp=Z,31nm,1.4s
ULM Lac du Bonnet 22.91 34 P **P** **11 19 20.7 +1.0**
comp=Z,6.7nm,0.9s,baz=230,slow=10,SNR=13
ULM Lac du Bonnet 22.91 34 *e*P **P** **11 19 21.6 +1.9**
comp=Z,31nm,1.4s
OLIL Olney 23.24 67 *e*P **P** **11 19 26.4 +3.2**
comp=Z,43nm,1.2s
OLIL *e*ScP **ScP** **11 26 52.3 +3.3**
WVT Waverly 23.30 74 *e*P **P** **11 19 25.4 +1.5**
WVT pmax pmax
comp=Z,12nm,1.0s
WVT Waverly 23.30 74 *e*P **P** **11 19 25.4 +1.5**
comp=Z,12nm,1.0s
USIN University of 23.51 69 *e*ScP **ScP** **11 26 46.0 -3.7**
EYMN Ely 23.85 43 *e*P P 11 19 35.1 +5.9
comp=Z,12nm,1.0s
FFC Flin Flon 24.09 20 *e*P **P** **11 19 32.5 +1.1**
FFC pmax pmax
comp=Z,59nm,1.6s
FFC Flin Flon 24.09 20 *e*P **P** **11 19 32.5 +1.1**
comp=Z,59nm,1.6s
LRAL Lakeview Retre 24.17 81 *e*P **P** **11 19 34.0 +1.7**
comp=Z,24nm,1.2s
SFIN Lafayette 24.23 63 *e*P **P** **11 19 34.7 +1.9**
comp=Z,29nm,1.0s
SFIN *e*ScP ScP 11 27 02.7 +11

CMIG Matias Romero 24.46 124 P **P** **11 19 37.5 +2.5**
comp=Z,11nm,0.8s,baz=310,slow=7.7,SNR=14
CMIG LR LR 11 29 00.6
comp=Z,2µm,18.7s,baz=272,slow=36
BLO Bloomington 24.51 66 *e*P **P** **11 19 36.9 +1.6**
BLO pmax pmax
comp=Z,32nm,1.0s
BLO Bloomington 24.51 66 *e*P **P** **11 19 36.9 +1.6**
comp=Z,32nm,1.0s
WCI Wyandotte Cave 24.61 69 *e*P **P** **11 19 38.2 +1.9**
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI Wyandotte Cave 24.61 69 *e*P **P** **11 19 38.2 +1.9**
comp=Z,8.5nm,0.8s
SWET Sewanee 24.87 76 *e*P **P** **11 19 39.3 +0.7**
comp=Z,17nm,1.0s
TKL Tuckaleechee C 26.60 75 *e*P **P** **11 19 55.2 +0.8**
TKL Tuckaleechee C 26.60 75 P **P** **11 19 54.2 -0.2**
comp=Z,2.9nm,0.7s,baz=275,slow=3.9,SNR=5.9
TKL Tuckaleechee C 26.60 75 *e*P **P** **11 19 55.2 +0.8**
GOGA Godfrey 27.06 80 *e*P **P** **11 19 59.3 +0.8**
GOGA pmax pmax
comp=Z,14nm,1.1s
GOGA Godfrey 27.06 80 *e*P **P** **11 19 59.3 +0.8**
comp=Z,14nm,1.1s
ACSO Alum Creek Sta 27.34 65 *e*P **P** **11 20 01.6 +0.7**
comp=Z,55nm,0.8s
DLBC Dease Lake 27.48 344 P **P** **11 20 03.0 +0.9**
comp=Z,2.0nm,0.7s,baz=168,slow=12,SNR=3.1
DLBC LR LR 11 31 02.8
comp=Z,2µm,18.8s,baz=100,slow=37
JSC Jenkinsville 28.78 77 *e*P **P** **11 20 14.7 +0.9**
JSC Jenkinsville 28.78 77 *e*P **P** **11 20 14.7 +0.9**
APG El Apazote 28.99 121 P **P** **11 20 16.8 +0.7**
comp=Z,2.8nm,0.8s,baz=66,slow=15,SNR=6.2
APG LR LR 11 31 13.5
comp=Z,1µm,19.5s,baz=291,slow=35
BLA Blacksburg 29.24 71 *e*P **P** **11 20 18.7 +0.7**
BLA pmax pmax
comp=Z,22nm,1.2s
BLA Blacksburg 29.24 71 *e*P **P** **11 20 18.7 +0.7**
comp=Z,22nm,1.2s
YKA Yellowknife Ar 29.82 1 P **P** **11 20 23.3 +0.6**
comp=Z,0.5nm,0.8s,baz=178,slow=9.2,SNR=13
YKA PcP **PcP** **11 23 29.2 +3.5**
comp=Z,0.6nm,0.9s,baz=171,slow=2.3,SNR=3.4
FCC Fort Churchill 29.88 23 *e*P P 11 20 26.4 +3.2
FCC Fort Churchill 29.88 23 *e*P P 11 20 26.4 +3.2
SSPA Standing Stone 31.24 64 *e*P **P** **11 20 36.2 +0.6**
comp=Z,2.0nm,0.9s
JSRW J. Sargeant Re 31.25 70 *e*P P 11 20 38.8 +3.2
MMNY Mt. Morris Dam 31.38 60 *e*P P 11 20 41.5 +4.7
comp=Z,81nm,1.3s
KSPA Keystone Colle 32.88 63 *e*P P 11 20 54.0 +4.0
comp=Z,19nm,1.2s
PTN Potsdam (NY) 33.69 57 *e*P P 11 21 03.6 +6.6
PTN pmax pmax
comp=Z,76nm,1.8s
PTN Potsdam (NY) 33.69 57 *e*P P 11 21 03.6 +6.6
comp=Z,76nm,1.8s
ODNJ Ogdensburg 33.74 64 *e*P P 11 21 01.3 +3.8
comp=Z,13nm,0.9s
NCB Newcomb 34.17 59 *e*P **P** **11 20 59.2 -2.0**
comp=Z,189nm,0.5s
ACCN Adirondack Com 34.53 60 *e*P P 11 21 08.9 +4.7
comp=Z,14nm,0.9s
JTS JuntasAbangare 36.12 121⇑*e*P P 11 21 21.9 +3.6
JTS pmax pmax
comp=Z,53nm,2.5s
JTS JuntasAbangare 36.12 121 P P 11 21 20.5 +2.3
comp=Z,4.0nm,0.7s,baz=306,slow=19,SNR=3.7
INK Inuvik 37.09 349 P **P** **11 21 28.4 +2.6**
comp=Z,2.2nm,0.8s,baz=162,slow=8.8,SNR=9.0
MCK McKinley 37.28 336 *e*P P 11 21 32.6 +5.0
MCK pmax pmax
comp=Z,50nm,1.8s
MCK McKinley 37.28 336 *e*P P 11 21 32.6 +5.0
comp=Z,50nm,1.8s
ILAR Eielson Array 37.32 339 P **P** **11 21 29.2 +1.3**
comp=Z,1.5nm,0.9s,baz=153,slow=7.1,SNR=11
ILAR LR LR 11 36 47.3
comp=Z,690nm,19.3s,baz=272,slow=36
KTH Kantishna Hill 37.85 335 *e*P P 11 21 38.5 +6.0
comp=Z,88nm,2.2s
PPLA Purkeypile 37.92 334 *e*P **P** **11 21 34.7 +1.5**
comp=Z,25nm,1.3s
PPLA *e*ScP **ScP** **11 27 36.5 -0.1**
SVW2 Sparrevohn 38.30 330 *e*P P 11 21 40.8 +4.5
comp=Z,21nm,1.4s
IM04 Indian Mountai 40.30 337 *e*P **P** **11 21 55.4 +2.5**
SCHQ Schefferville 40.65 42 P **P** **11 21 57.0 +1.1**
comp=Z,3.4nm,0.9s,baz=273,slow=3.8,SNR=5.4
RES Resolute Bay 43.31 8 LR LR 11 39 42.7
comp=Z,598nm,18.8s,baz=328,slow=35
TNA Tin City 45.23 332 *e*P P 11 22 37.9 +5.1
comp=Z,6.9nm,1.2s
GAMB Gambell 46.23 329 *e*P P 11 22 45.9 +5.2
comp=Z,45nm,2.4s
OTAV Otavalo 47.75 125 *e*P P 11 22 58.5 +4.7
comp=Z,26nm,1.3s
SDV Santo Domingo 47.94 109 *e*P P 11 22 58.1 +3.0
comp=Z,6.7nm,0.8s
SUMG Summit 55.37 21 *e*P P 11 23 53.5 +3.5
SUMG pmax pmax
comp=Z,20nm,1.2s
SUMG Summit 55.37 21 *e*P P 11 23 53.5 +3.5
comp=Z,20nm,1.2s
SUMG Summit 55.37 21 *i*P P 11 23 53.5 +3.5
comp=Z,5.7nm,1.1s
DAG Danmarks Havn 60.06 15 *i*P **P** **11 24 24.4 +1.9**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 60.06 15 *i*P **P** **11 24 24.4 +1.9**
comp=Z,2.4nm,0.7s
SEY Seymchan 62.23 329 P P 11 24 42.2 +4.9
comp=Z,3.4nm,0.9s,baz=106,slow=5.7,SNR=14
PETK Petropavlovsk- 62.61 317 P P 11 24 44.4 +4.3
comp=Z,6.6nm,0.8s,baz=68,slow=10,SNR=5.7
TIXI Tiksi 66.69 342⇑*e*P P 11 25 10.3 +3.9
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 66.69 342 *e*P P 11 25 11.3 +4.9
YAK Yakutsk 71.99 333 *e*P P 11 25 46.4 +7.1
ARCES ARCESS Array B 74.23 13 P P 11 25 55.6 +3.1
comp=Z,2.5nm,0.9s,baz=328,slow=9.0,SNR=3.8
ARCES LR LR 12 01 19.4
comp=Z,248nm,20.3s,baz=260,slow=38
NB2 NORSAR Subarra 77.14 23 P P 11 26 13.5 +4.2
comp=Z,4.6nm,1.2s,baz=317,slow=5.6
NOA NORSAR Array B 77.14 23 P P 11 26 12.1 +2.8
comp=Z,0.9nm,0.8s,baz=316,slow=5.5,SNR=3.8
LVZ Lovozero 77.29 11⇑*e*P P 11 26 15.1 +5.1
LVZ pmax pmax
comp=Z,26nm,1.7s
BOD Bodaibo 80.62 336 *e*P **P** **11 26 30.4 +2.0**
BOD pmax pmax
comp=Z,4.0nm,1.2s
KAF Kangasniemi 80.70 17 *e*P **P** **11 26 30.7 +1.9**
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 80.70 17 *e*p **P** **11 26 30.7 +1.9**
comp=Z,3.0nm,0.8s
JOF Joensuu 81.14 15 *e*P **P** **11 26 33.5 +2.4**
JOF pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 81.14 15 *e*p **P** **11 26 33.5 +2.4**
comp=Z,1.9nm,0.8s
FINES FINESS Array B 81.21 17 P P **11 26 31.8 +0.3**
comp=Z,2.0nm,1.0s,baz=260,slow=8.0,SNR=5.4
USRK Ussuriysk Ar. 81.70 318 P P 11 26 38.2 +3.8
comp=Z,4.3nm,0.9s,baz=49,slow=5.1,SNR=6.5
BAIF Baives 82.00 34 *e*P P 11 26 41.1 +5.2
MFF Saint Martin d 82.09 39 *e*P P 11 26 40.6 +4.1
comp=Z,54nm,1.3s
MFF Saint Martin d 82.09 39 *e*P P 11 26 40.6 +4.1
MFF pmax pmax
comp=Z,54nm,1.3s
MFF Saint Martin d 82.09 39 *e*P P 11 26 40.6 +4.1
comp=Z,54nm,1.3s
MJAR Matsushiro Arr 82.43 309 P P 11 26 41.9 +3.4
comp=Z,2.5nm,0.8s,baz=51,slow=4.6,SNR=8.1
MJAR LR LR 11 57 11.9
comp=Z,133nm,21.0s,baz=40,slow=31
MDJ Mudanjiang 82.78 319 P **P** **11 26 37.2 -2.9**
MDJ PMZ
comp=Z,6.0nm,1.4s
MDJ PMZ

comp=Z,85nm,4.4s
TCF Toulx Ste Croi 83.53 38 *e*P P 11 26 47.9 +3.9
TCF Toulx Ste Croi 83.53 38 *e*P P 11 26 47.9 +3.9
TCF Toulx Ste Croi 83.53 38 *e*P P 11 26 47.9 +3.9
SFTF Sexfontaines 83.66 35 *e*P P 11 26 49.0 +4.4
SFTF Sexfontaines 83.66 35 *e*P P 11 26 49.0 +4.4
SSF Saint Saulge 83.68 37 *e*P P 11 26 48.9 +4.2
comp=Z,28nm,1.3s
SSF Saint Saulge 83.68 37 *e*P P 11 26 48.9 +4.2
SSF pmax pmax
comp=Z,28nm,1.3s
SSF Saint Saulge 83.68 37 *e*P P 11 26 48.9 +4.2
comp=Z,28nm,1.3s
LOR Lormes 83.71 37 *e*P P 11 26 49.4 +4.5
comp=Z,58nm,1.3s
LOR Lormes 83.71 37 *e*P P 11 26 49.4 +4.5
LOR pmax pmax
comp=Z,58nm,1.3s
LOR Lormes 83.71 37 *e*P P 11 26 49.4 +4.5
comp=Z,58nm,1.3s
PUL Pulkovo 83.72 16‖ *e*P P 11 26 49.2 +4.6
PAGF Fort de Pagny 83.75 35 *e*P P 11 26 49.7 +4.6
comp=Z,9.1nm,1.1s
AVF Avril sur Loir 83.78 37 *e*P P 11 26 49.3 +4.1
comp=Z,30nm,1.4s
AVF Avril sur Loir 83.78 37 *e*P P 11 26 49.3 +4.1
AVF pmax pmax
comp=Z,30nm,1.4s
AVF Avril sur Loir 83.78 37 *e*P P 11 26 49.3 +4.1
comp=Z,30nm,1.4s
SMF Signal de Mont 84.13 37 *e*P P 11 26 50.9 +3.9
comp=Z,14nm,1.0s
SMF Signal de Mont 84.13 37 *e*P P 11 26 50.9 +3.9
SMF pmax pmax
comp=Z,14nm,1.0s
SMF Signal de Mont 84.13 37 *e*P P 11 26 50.9 +3.9
comp=Z,14nm,1.0s
CAF Calviac 84.35 39 *e*P P 11 26 52.3 +4.1
comp=Z,41nm,1.4s
CAF Calviac 84.35 39 *e*P P 11 26 52.3 +4.1
CAF pmax pmax
comp=Z,41nm,1.4s
CAF Calviac 84.35 39 *e*P P 11 26 52.3 +4.1
comp=Z,41nm,1.4s
HAU Haudompre 84.43 35 *e*P P 11 26 52.8 +4.2
HAU Haudompre 84.43 35 *e*P P 11 26 52.8 +4.2
HAU Haudompre 84.43 35 *e*P P 11 26 52.8 +4.2
CDF Champ du Feu 84.59 34 *e*P P 11 26 53.8 +4.4
comp=Z,13nm,1.1s
CDF Champ du Feu 84.59 34 *e*P P 11 26 53.8 +4.4
CDF pmax pmax
comp=Z,13nm,1.1s
CDF Champ du Feu 84.59 34 *e*P P 11 26 53.8 +4.4
comp=Z,13nm,1.1s
EPF Esparros 84.66 41 *e*P P 11 26 54.1 +4.3
comp=Z,35nm,1.5s
EPF Esparros 84.66 41 *e*P P 11 26 54.1 +4.3
EPF pmax pmax
comp=Z,35nm,1.5s
EPF Esparros 84.66 41 *e*P P 11 26 54.1 +4.3
comp=Z,35nm,1.5s
PRGR Permogore 84.80 9 *e*P P 11 26 53.1 +3.0
PRGR pmax pmax
comp=Z,28nm,1.5s
HINF Hinteralfeld 84.81 35 *e*P P 11 26 54.6 +4.1
comp=Z,17nm,1.2s
HINF Hinteralfeld 84.81 35 *e*P P 11 26 54.6 +4.1
HINF pmax pmax
comp=Z,17nm,1.2s
HINF Hinteralfeld 84.81 35 *e*P P 11 26 54.6 +4.1
comp=Z,17nm,1.2s
DPC Dobruska-Polom 87.11 28 *e*P P 11 27 09.4 +7.6
DPC *e* 11 27 12.7
DPC Dobruska-Polom 87.11 28 *e*pP P 11 27 09.4 +7.6
DPC *ex* x 11 27 12.7
GERES GERESS Array B 87.18 31 *e*P P 11 27 04.7 +2.5
comp=Z,0.3nm,0.8s,baz=223,slow=5.3,SNR=2.8
KSRS Korea Array 88.36 314 P P 11 27 12.7 +4.7
comp=Z,1.2nm,0.8s,baz=66,slow=4.2,SNR=6.9
KSAR Wonju Array Be 88.39 314 P P 11 27 12.7 +4.6
KSAR Wonju Array Be 88.39 314 P P 11 27 12.7 +4.6
TLY Talaya 89.12 337 *e*P P 11 27 15.6 +4.3
TLY pmax pmax
comp=Z,7.0nm,1.1s
TLY Talaya 89.12 337 *e*P P 11 27 15.8 +4.4
STHS Stebnicka Huta 89.77 26 *e*P P 11 27 18.7 +4.3
STHS Stebnicka Huta 89.77 26 *e*pP **P** **11 27 18.7 +4.3**
KECS Kecovo 90.24 27 *e*P **P** **11 27 16.5 -0.1**
KECS Kecovo 90.24 27 *e*P **P** **11 27 16.5 -0.1**
KOLS Kolonicke sedl 90.55 26 *e*P P 11 27 23.1 +5.0
KOLS Kolonicke sedl 90.55 26 *es*P P 11 27 23.1 +5.0
ARU Arti 91.09 3 P P 11 27 23.3 +2.9
SONM Songino Array 91.35 333 P P 11 27 25.9 +4.0
comp=Z,0.4nm,0.6s,baz=13,slow=4.5,SNR=4.3
AKASG Malin Array Be 91.40 21 P P 11 27 24.6 +2.7
comp=Z,1.5nm,0.8s,baz=318,slow=3.6,SNR=4.7
KIEV Kiev 91.40 21‖ *e*P P 11 27 26.3 +4.4
ZALV Zalesovo Beam 91.88 348 P P 11 27 28.2 +4.1
comp=Z,1.7nm,0.6s,baz=15,slow=5.5,SNR=8.0
BJI Beijing 93.10 323 P **P** **11 27 27.3 -2.7**
BJI PMZ
comp=Z,12nm,0.5s
HHC Hu-ho-hao-te 94.75 326 *e*P P 11 27 41.2 +3.4
HHC sP sP 11 27 48.4 +6.1
HHC PP PP 11 31 31.8 +6.5
HHC SKS **SKSac** **11 38 15.0 +1.4**
HHC S **S** **11 38 50.8 -0.7**
HHC SS **SS** **11 45 16.7 +3.0**
HHC PMZ
comp=Z,24nm,0.8s
HHC PMZ
comp=Z,110nm,4.0s
HHC LN
comp=Z,150nm,16.0s
HHC LE
comp=Z,88nm,14.8s
HHC LZ
comp=Z,140nm,14.8s
NJ2 Nanjing 97.48 316 *e*P Pdif 11 27 49.4 -0.8
NJ2 PMZ
comp=Z,20nm,0.6s
MKAR Makanchi Array 99.21 348 *ce*P **Pdif** **11 28 02.5 +4.8**
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 99.21 348 P **Pdif** **11 28 01.2 +3.5**
comp=Z,0.9nm,1.0s,baz=332,slow=7.2,SNR=5.2
WMQ Urumqi 100.88 343 *e*P **Pdif** **11 28 09.0 +3.8**
WMQ pP pP 11 28 14.0 +5.3
WMQ PMZ
comp=Z,6.0nm,0.5s
WMQ PMZ
comp=Z,110nm,5.2s
WMQ LN
comp=Z,440nm,25.2s
WMQ LE
comp=Z,420nm,28.0s
WMQ LZ
comp=Z,370nm,28.0s
NCK Nalchik 101.87 15‖ *e*P **Pdif** **11 28 15.0 +5.4**
LZH Lanzhou 102.15 328 *e*P **Pdif** **11 28 10.6 -0.6**
LZH pP 11 28 15.9
LZH sP 11 28 19.1
LZH PMZ
comp=Z,31nm,1.3s
LZH PMZ
comp=Z,160nm,5.0s
CD2 Chengdu 106.49 325 Pdif **Pdif** **11 28 33.2 +2.8**
KSH Kashi 107.32 350 *e*Pdif **Pdif** **11 28 37.9 +3.8**
KSH PP PP 11 33 09.5 +10
KSH S **Sdif** **11 40 40.2 +2.7**
KSH SS SS 11 48 19.0 +11
KSH PPMZ
comp=Z,68nm,5.8s
KSH LN
comp=Z,68nm,4.4s
KSH LE
comp=Z,82nm,6.7s
GYA Guiyang 108.62 320 *e*Pdif **Pdif** **11 28 38.2 -1.9**
GYA PKP **PKiKP** **11 32 42.0 -3.5**
GYA PP **PP** **11 33 11.8 +1.7**
GYA PKS 11 36 18.4
GYA SS SS 11 48 22.5 -4.0
GYA PPMZ
comp=Z,120nm,7.8s
GYA LN
comp=Z,130nm,18.6s
GYA LE
comp=Z,120nm,18.0s
GYA LZ
comp=Z,140nm,19.2s
QIZ Qiongzhong 112.54 313 Pdif **Pdif** **11 28 55.6 -1.9**
QIZ LZ
comp=Z,1μm,83.6s
CMAR Chiang Mai Arr 119.23 322 PKP PKPdf 11 33 10.6 +4.7
comp=Z,0.6nm,0.4s,baz=325,slow=3.3,SNR=5.1
DRV Dumont d'Urvil 125.13 208 R 11 35 00.0
BOSA Boshof 146.39 94 PKPbc **PKPab** **11 34 00.5 +2.2**
comp=Z,4.6nm,0.9s,baz=315,slow=3.3,SNR=4.9

*IDC **05** 11:14:48.8±0.8, 0.47S×124.52E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/42, mbtmp3.8/7, Error ellipse: s-maj=73.4km s-min=17.2km az=71.0*
*DJA **05** 11:14:53.6±0.2, 0.5S±3.3×12.5E±°, h10km, M4.6/19, mb4.8/9, mB5.1/5, MLv4.5/16, MLv4.6/19, Mw(mB)4.4/5*
*ISCJB **05** 11:14:55.1±0.4, 0.32S±0.04×125.08E±0.03, h68km±8km, mb3.8/7, Error ellipse: s-maj=7.1km s-min=4.9km az=7.5*
ISC 05 11:14:56.3±1.1, 0.29S±0.05×125.12E±0.04, h56km±12km, n25, σ1s77/32, mb3.8/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.43**	**307**	P	**Pn**	**11 15 17.7**	**-2.2**
KMSI				S	**Sn**	**11 15 36.8**	**-0.8**
SANI	**Sanana**	**1.95**	**154**	P	**Pn**	**11 15 25.1**	**-1.9**
SANI				S	**Sn**	**11 15 51.4**	**+1.0**
GTOI	**Gorontalo**	**2.30**	**293**	P	**Pn**	**11 15 33.8**	**+2.0**
LBMI	**Labuha**	**2.40**	**98**	P	**Pn**	**11 15 32.9**	**-0.3**
LBMI				S	**Sn**	**11 16 02.4**	**+0.9**
LUWI	**Luwuk**	**2.47**	**252**	P	**Pn**	**11 15 34.5**	**+0.4**
LUWI				S	**Sn**	**11 16 09.0**	**+6.0**
TNTI	**Ternate**	**2.48**	**65**	P	**Pn**	**11 15 34.3**	**+0.1**
TNTI				S	**Sn**	**11 16 05.1**	**+1.8**
MRSI	**Marisa**	**3.27**	**283**	P	**Pn**	**11 15 43.2**	**-1.9**
APSI	**Ampana**	**3.53**	**260**	P	**Pn**	**11 15 50.0**	**+1.4**
NLAI	**Namlea**	**3.54**	**146**	P	**Pn**	**11 15 48.4**	**-0.3**
MSAI	**Masohi**	**4.87**	**129**	S	**Sn**	**11 17 03.8**	**+1.7**
MPSI	**Mapaga**	**5.26**	**277**	P	**Pn**	**11 16 13.5**	**+1.1**
	67nm,0.5s,1μm0.4nm						
PCI	**Palu**	**5.32**	**263**	P	Pn	11 16 16.6	+3.4
	188nm,1.0s,1μm0.8nm						
TTSI	**Tana Toraja**	**5.97**	**243**	P	**Pn**	**11 16 22.3**	**+0.2**
	109nm,0.7s,3μm0.4nm						
BNSI	**Bone**	**6.46**	**231**	P	**Pn**	**11 16 29.3**	**+0.4**
	34nm,1.0s,0.2nm0.2nm						
SPSI	**Sidrap Palu**	**6.48**	**236**	P	**Pn**	**11 16 29.9**	**+0.8**
	73nm,0.7s,850nm0.3nm0.3nm						
SPSI				S	**Sn**	**11 17 40.4**	**-1.2**
	73nm,0.7s,850nm0.3nm0.3nm						
BKSI	**Bulukumba**	**7.07**	**225**	P	**Pn**	**11 16 37.8**	**+0.7**
	22nm,0.5s,0.1nm0.1nm						
BKSI				S	**Sn**	**11 17 53.8**	**-2.3**
	22nm,0.5s,0.1nm0.1nm						
FAKI	**Fak Fak**	**7.59**	**110**	P	**Pn**	**11 16 42.6**	**-1.7**
WRA	**Warramunga Arr**	**21.52**	**156**	P	**P**	**11 19 39.4**	**-1.4**
	1.6nm,0.5s,baz=335,slow=11,SNR=32						
ASAR	**Alice Springs**	**24.75**	**160**	P	**P**	**11 20 12.5**	**-0.3**
	1.3nm,0.5s,baz=336,slow=8.6,SNR=29						
ASAR				PcP	**PcP**	**11 23 49.1**	**+0.5**
	0.7nm,0.5s,baz=355,slow=2.1,SNR=7.7						
KSRS	**Korea Array**	**37.64**	**4**	P	**P**	**11 22 08.1**	**+2.2**
	0.5nm,0.5s,baz=177,slow=10,SNR=3.7						
SONM	**Songino Array**	**50.63**	**344**	P	**P**	**11 23 49.1**	**-0.7**
	0.4nm,0.4s,baz=163,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**11 24 56.2**	**-0.9**
	0.8nm,0.4s,baz=126,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**63.47**	**335**	P	**P**	**11 25 18.9**	**-1.4**
	0.3nm,0.3s,baz=143,slow=5.0,SNR=2.5						
QSPA	**South Pole Qui**	**89.64**	**180**	P	**P**	**11 27 49.3**	**+1.4**
	0.6nm,0.7s,baz=192,slow=1.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	**122.53**	**285**	PKP	**PKPdf**	**11 33 45.8**	**-0.7**
	0.2nm,0.5s,baz=64,slow=3.4,SNR=4.1						

MAN 05 11:16:25, 8.68N×122.73E, h32km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.62**	**98**	*i*P	Pn	11 16 39.1	+1.5
DCPH				*e*S	Sn	11 16 47.9	+1.4
IPIL	**Ipil**	**0.90**	**190**	*e*P	Pb	11 16 42.8	+0.7
IPIL				*e*S	Sb	11 16 53.9	+0.1
PAGZ	**Pagadian**	**1.04**	**142**	*e*P	Pb	11 16 45.1	+0.5
PAGZ				*e*S	Sb	11 16 58.1	+0.2

*ISCJB **05** 11:16:33.5±0.6, 42.60S±0.08×124.7E±0.2, h10km, mb4.1/11, Error ellipse: s-maj=21.0km s-min=10.7km az=6.5*
*IDC **05** 11:16:33.7±0.6, 42.64S×124.86E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/32, mbtmp4.1/11, ML2.2/1, Error ellipse: s-maj=34.0km s-min=15.7km az=97.0*
*NEIC **05** 11:16:35.3±0.3, 42.61S×124.82E, h10km, mb4.3/2, Error ellipse: s-maj=15.6km s-min=8.2km az=96.0*
ISC 05 11:16:35.2±0.5, 42.56S±0.09×124.6E±0.1, h10km, n131, σ0s75/123, mb4.2/11, 52C-52D, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**11.18**	**310**	T	T	11 30 55.2	
	baz=132,slow=74,SNR=4.7						
H01W2	**Cape Leeuwin H**	**11.19**	**310**	T	T	11 30 48.5	
	baz=132,slow=74,SNR=4.8						
H01W3	**Cape Leeuwin H**	**11.20**	**310**	T	T	11 30 59.7	
	baz=132,slow=74,SNR=3.8						
NWAO	**Narrogin (SRO)**	**11.24**	**326**	Pn	**Pn**	**11 19 16.9**	**+1.0**
	0.9nm,0.3s,baz=134,slow=12,SNR=13						
NWAO				Sn	**Sn**	**11 21 18.1**	**-3.5**
	0.4nm,0.3s,baz=77,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**20.37**	**25**	P	**P**	**11 21 11.5**	**-0.5**
	2.4nm,0.7s,baz=200,slow=9.8,SNR=14						
ASAR				PcP	**PcP**	**11 25 25.1**	**+0.3**
	1.0nm,0.9s,baz=212,slow=0.2,SNR=7.5						
WRA	**Warramunga Arr**	**24.00**	**23**	P	**P**	**11 21 49.5**	**-0.6**
	8.1nm,0.9s,baz=199,slow=9.4,SNR=18						
WRA				PcP	**PcP**	**11 25 31.6**	**-0.4**
	0.7nm,0.7s,baz=204,slow=1.7,SNR=5.8						
WRAB	**Tennant Creek**	**24.02**	**23**	*e*P	**P**	**11 21 49.4**	**-0.8**
	4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.40**	**2**	*e*P	**P**	**11 21 53.9**	**+0.1**
	18nm,1.8s						
COEN	**Coen**	**32.71**	**35**	P	**P**	**11 23 07.9**	**0.0**
VNDA	**Vanda**	**38.22**	**168**	P	**P**	**11 23 54.0**	**-0.7**
	1.4nm,0.7s,baz=298,slow=8.6,SNR=8.0						
QSPA	**South Pole Qui**	**47.56**	**180**	P	**P**	**11 25 10.6**	**-0.1**
	1.9nm,0.8s,baz=285,slow=2.2,SNR=8.0						
SNAA	**Sanae**	**60.19**	**197**	P	**P**	**11 26 41.5**	**-1.3**
	1.4nm,0.8s,baz=183,slow=4.7,SNR=8.3						
CMAR	**Chiang Mai Arr**	**65.16**	**333**	P	**P**	**11 27 18.7**	**+2.3**
	0.8nm,0.3s,baz=201,slow=6.0,SNR=5.9						
BOSA	**Boshof**	**77.55**	**243**	P	**P**	**11 28 32.2**	**+0.7**
	4.3nm,1.0s,baz=146,slow=3.6,SNR=3.1						
KSAR	**Wonju Array Be**	**79.68**	**3**	P	**P**	**11 28 43.4**	**+0.8**
KSRS	**Korea Array**	**79.69**	**3**	P	**P**	**11 28 43.4**	**+0.7**
	1.0nm,0.6s,baz=174,slow=5.5,SNR=6.2						
MJAR	**Matsushiro Arr**	**79.70**	**11**	P	**P**	**11 28 42.8**	**0.0**
	0.7nm,0.6s,baz=191,slow=5.8,SNR=3.2						
SONM	**Songino Array**	**91.44**	**348**	P	**P**	**11 29 41.6**	**+0.4**
	1.5nm,1.1s,baz=168,slow=5.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**122.91**	**257**	PKP	**PKPdf**	**11 35 32.6**	**+0.7**
	0.4nm,0.6s,baz=163,slow=1.3,SNR=4.0						
AKASG	**Malin Array Be**	**124.34**	**310**	PKP	**PKPdf**	**11 35 33.0**	**-0.6**
	0.1nm,0.3s,baz=284,slow=3.8,SNR=8.8						
ILAR	**Eielson Array**	**126.92**	**32**	PKP	**PKPdf**	**11 35 38.1**	**-0.1**
	0.4nm,0.7s,baz=271,slow=3.1,SNR=3.1						
FINES	**FINESS Array B**	**130.06**	**322**	PKP	**PKPdf**	**11 35 46.1**	**+1.9**
	0.8nm,0.6s,baz=148,slow=1.6,SNR=3.8						
ARCES	**ARCESS Array B**	**132.22**	**332**	PKP	**PKPdf**	**11 35 49.1**	**+1.0**
	1.4nm,0.9s,baz=8.5,slow=2.5,SNR=4.3						
TXAR	**Lajitas Array**	**139.28**	**93**	PKP	**PKPdf**	**11 36 02.0**	**-0.6**
	0.3nm,0.8s,baz=205,slow=4.0,SNR=2.7						
YKA	**Yellowknife Ar**	**140.58**	**39**	PKhKP	PKPpre	11 35 56.2	
	0.3nm,0.6s,baz=275,slow=3.7,SNR=11						
YKA				PKP	**PKPdf**	**11 36 01.4**	**-2.3**
	0.3nm,0.7s,baz=273,slow=2.0,SNR=8.1						
PDAR	**Pinedale Array**	**140.76**	**71**	PKhKP	PKPpre	11 35 58.0	
	0.2nm,0.6s,baz=270,slow=1.8,SNR=2.9						
PDAR				PKP	**PKPdf**	**11 36 03.2**	**-1.8**
	0.3nm,0.7s,baz=248,slow=2.4,SNR=3.1						

B20A Solberg Farm, 143.27 62 ⇓P PKPbc 11 36 05.5 -0.7
baz=143
A20A Cobblestone Ra 143.41 62 ⇓P PKPbc 11 36 06.2 -0.4
baz=143
333A Richland Sprin 143.77 93 ⇓P PKPab 11 36 07.0 -0.4
baz=144
R27A Eads 144.04 81 ⇑P PKPbc 11 36 08.5 -0.3
baz=144
A21A Bergtoll Ranch 144.08 62 ⇓P PKPbc 11 36 09.1 +0.5
baz=144,SNR=7.3
Y31A Rekieta Farm, 144.10 89 ⇓P PKPbc 11 36 08.7 -0.3
baz=144
Z32A Haskell 144.37 90 ⇑P PKPbc 11 36 10.1 +0.2
baz=144
133A Hamilton Ranch 144.45 92 ⇑P **PKPdf** **11 36 10.6 -1.0**
baz=144
Y32A R-V Farms, Ver 144.72 89 ⇑P PKPbc 11 36 10.8 -0.2
baz=145
A22A Carney Farms, 144.74 62 ⇓P **PKPab** **11 36 10.2 -0.3**
baz=145
R28A Tribune 144.78 81 ⇓P **PKPdf** **11 36 11.5 -0.6**
baz=145
H24A Dirks Ranch, A 144.80 69 ⇓P **PKPdf** **11 36 12.0 0.0**
baz=145
D23A Lindsay 144.89 65 ⇑P **PKPdf** **11 36 13.2 +1.3**
baz=145
Z33A Whitaker Ranch 144.89 91 ⇓P **PKPab** **11 36 11.0 -0.5**
baz=145
O27A Beecher Island 144.95 78 ⇓P **PKPdf** **11 36 11.7 -0.6**
baz=145
C23A Lambert 145.02 64 ⇑P **PKPdf** **11 36 12.9 +0.8**
baz=145
Q28A Sharon Springs 145.03 80 ⇓P **PKPdf** **11 36 12.5 0.0**
baz=145
G24A Alzada 145.03 68 ⇓P **PKPdf** **11 36 11.9 -0.5**
baz=145
L26A Underwood Farm 145.10 74 ⇓P **PKPdf** **11 36 12.6 0.0**
baz=145
N27A Anderson Farm, 145.11 77 ⇓P **PKPdf** **11 36 13.0 +0.4**
baz=145
F24A Ekalaka 145.13 67 ⇑P **PKPdf** **11 36 13.2 +0.7**
baz=145
I25A Rochford 145.19 71 ⇑P **PKPdf** **11 36 12.7 -0.1**
baz=145,SNR=5.7
T30A Plains 145.22 84 ⇓P **PKPdf** **11 36 13.7 +0.8**
baz=145
K26A Motz Farm, Whi 145.22 73 ⇑P **PKPbc** **11 36 12.1 -0.4**
baz=145
B23A Brockton 145.26 63 ⇑P **PKPdf** **11 36 14.6 +2.0**
baz=145
P28A Saint Francis 145.26 79 ⇓P **PKPdf** **11 36 13.4 +0.4**
baz=145
R29A Marienthal 145.30 81 ⇓P **PKPdf** **11 36 12.9 -0.1**
baz=145
Y33A Hilltop Ranch, 145.33 90 ⇑P **PKPab** **11 36 12.9 -0.2**
baz=145
W32A Sentinel 145.36 88 ⇓P **PKPab** **11 36 14.1 +0.9**
baz=145
E24A Baker 145.37 66 ⇑P **PKPab** **11 36 13.6 +0.6**
baz=145
336A Riesel 145.38 95 ⇑P **PKPab** **11 36 13.2 -0.1**
baz=145
H25A Fruitdale 145.43 70 ⇓P **PKPab** **11 36 13.1 -0.1**
baz=145,SNR=12
O28A Krutsinger Ran 145.43 78 ⇓P **PKPab** **11 36 13.8 +0.4**
baz=145,SNR=8.1
M27A Reverse DX Ran 145.44 75 ⇑P **PKPab** **11 36 13.0 -0.4**
baz=145
J26A Sides Ranch, S 145.46 72 ⇓P **PKPab** **11 36 13.8 +0.4**
baz=145
D24A Glendive 145.47 65 ⇓P **PKPab** **11 36 14.4 +1.2**
baz=146
C24A Savage 145.48 65 ⇓P **PKPab** **11 36 14.0 +0.8**
baz=146
OGNE Ogallala 145.51 77 ⇓P **PKPab** **11 36 13.5 -0.2**
baz=146
X33A Lawton 145.66 89 ⇑P **PKPab** **11 36 14.6 +0.3**
baz=146
G25A Newell 145.69 69 ⇓P **PKPab** **11 36 13.8 -0.3**
baz=146
V32A Arapaho 145.77 87 ⇓P **PKPab** **11 36 15.0 +0.2**
baz=146
DGMT Dagmar 145.78 63 ⇓P **PKPab** **11 36 14.2 -0.2**
baz=146,SNR=6.3
N28A Pribbeno Ranch 145.79 77 ⇓P **PKPab** **11 36 14.4 -0.3**
baz=146
I26A New Underwood 145.80 71 ⇑P **PKPab** **11 36 14.6 0.0**
baz=146
F25A Bowman 145.82 68 ⇑P **PKPab** **11 36 14.8 +0.1**
baz=146
T31A Randall Ranch, 145.86 84 ⇓P **PKPab** **11 36 14.6 -0.4**
baz=146
P29A Atwood 145.87 79 ⇓P **PKPab** **11 36 15.2 +0.1**
baz=146,SNR=5.9
R30A Dighton 145.88 82 ⇑P **PKPbc** **11 36 14.5 -0.1**
baz=146
K27A Flueckinger Fa 145.89 73 ⇓P **PKPbc** **11 36 14.4 -0.2**
baz=146
Y34A Reagan Ranch, 145.94 90 ⇑P **PKPab** **11 36 15.9 +0.5**
baz=146
W33A Caddo, Fort Co 145.95 88 ⇑P **PKPab** **11 36 15.2 -0.2**
baz=146
E25A Miller Ranch, 145.97 67 ⇓P **PKPab** **11 36 15.6 +0.4**
baz=146
A24A Westby 145.97 62 ⇑P **PKPab** **11 36 14.6 -0.5**
baz=146,SNR=6.7
H26A Fairpoint 146.00 70 ⇑P **PKPab** **11 36 15.1 -0.2**
baz=146,SNR=6.6
U32A Winter Ranch, 146.07 86 ⇑P **PKPbc** **11 36 15.1 -0.2**
baz=146
O29A 4D Ranch, Culb 146.14 78 ⇓P **PKPbc** **11 36 15.3 -0.1**
baz=146
D25A Fairfield 146.15 65 ⇑P **PKPab** **11 36 16.1 +0.3**
baz=146
Q30A Quinter 146.17 81 ⇑P **PKPab** **11 36 16.1 0.0**
baz=146
X34A Smith Ranch, M 146.18 89 ⇑P **PKPab** **11 36 16.4 +0.1**
baz=146
J27A Elkhorn Farm, 146.20 73 ⇑P **PKPab** **11 36 15.9 -0.2**
baz=146,SNR=6.4
S31A Mullinville 146.21 83 ⇑P **PKPab** **11 36 16.1 -0.2**
baz=146
G26A Maurine 146.28 69 ⇓P **PKPbc** **11 36 15.6 0.0**
baz=146,SNR=11
C25A Freed Ranch, W 146.29 64 ⇑P **PKPab** **11 36 17.1 +0.8**
baz=146
F26A Lodgepole 146.34 68 ⇑P **PKPab** **11 36 16.1 -0.5**
baz=146
P30A Selden 146.34 80 ⇑P **PKPab** **11 36 17.2 +0.3**
baz=146
I27A Quinn 146.37 71 ⇑P **PKPab** **11 36 16.3 -0.5**
baz=146
R31A Burdett 146.43 82 ⇑P **PKPbc** **11 36 16.0 -0.3**
baz=146
B25A Knox Farm, Ray 146.44 63 ⇓P **PKPab** **11 36 17.2 +0.3**
baz=146
T32A Huddler Ranch, 146.45 84 ⇑P **PKPbc** **11 36 16.1 -0.3**
baz=146
N29A Votaw Ranch, W 146.49 77 ⇓P **PKPab** **11 36 17.4 0.0**
baz=146
H27A Howes 146.49 70 ⇑P **PKPab** **11 36 17.3 +0.1**
baz=146
W34A Bridge Creek, 146.50 88 ⇑P **PKPbc** **11 36 16.3 -0.2**
baz=146
K28A Ten Mile Ranch 146.51 74 ⇑P **PKPab** **11 36 17.2 -0.2**
baz=146
A25A Svangstu Ranch 146.56 62 ⇓P **PKPab** **11 36 17.3 0.0**
baz=146
E26A Carlson Angus 146.60 67 ⇓P **PKPbc** **11 36 16.5 0.0**
baz=147
S32A Newby Ranch, P 146.64 83 ⇓P **PKPbc** **11 36 16.6 -0.3**
baz=147
O30A MW Ranch, Wils 146.69 79 ⇑P **PKPbc** **11 36 16.5 -0.4**
baz=147
U33A Lingo Farm, Me 146.75 86 ⇑P **PKPbc** **11 36 16.9 -0.3**
baz=147
J28A Allard Ranch, 146.79 73 ⇑P **PKPdf** **11 36 15.9 +0.6**
baz=147
T33A Patterson Ranc 146.91 85 ⇑P **PKPbc** **11 36 17.4 -0.3**
baz=147
P31A Stockton 146.97 80 ⇑P **PKPbc** **11 36 17.2 -0.5**
baz=147
I28A Midland 146.97 72 ⇑P **PKPbc** **11 36 17.2 -0.4**
baz=147
R32A Long Quarter, 147.07 82 ⇓P **PKPbc** **11 36 17.6 -0.5**
baz=147
C26A Wahner Farm, P 147.08 64 ⇑P **PKPbc** **11 36 17.6 -0.2**
baz=147

U34A	**Anderson Ranch**	**147.18**	**86**	⇑P		**PKPbc**	**11 36 17.8**	**-0.6**
	baz=147							
H28A	**Mission Ridge**	**147.23**	**70**	⇓P		**PKPbc**	**11 36 17.8**	**-0.5**
	baz=147							
A26A	**Wade Farm, Ken**	**147.26**	**62**	⇓P		**PKPab**	**11 36 19.4**	**-0.6**
	baz=147							
K29A	**Lazy Trails An**	**147.27**	**74**	⇓P		**PKPbc**	**11 36 18.1**	**-0.5**
	baz=147							
Q32A	**Meitler Ranch,**	**147.38**	**81**	⇓P		**PKPab**	**11 36 19.8**	**-1.1**
	baz=147							
G28A	**Parade**	**147.39**	**70**	⇑P		**PKPbc**	**11 36 18.4**	**-0.4**
	baz=147							
J29A	**Okreek**	**147.43**	**73**	⇓P		**PKPbc**	**11 36 18.5**	**-0.4**
	baz=147							
P32A	**Huiting Farm,**	**147.57**	**80**	⇓P		**PKPbc**	**11 36 18.5**	**-0.9**
	baz=148							
F28A	**McLaughlin**	**147.62**	**68**	⇑P		**PKPab**	**11 36 21.0**	**-0.6**
	baz=148							
A27A	**Ledoux Ranch,**	**147.79**	**63**	⇑P		**PKPbc**	**11 36 20.2**	**+0.5**
	baz=148							
H29A	**Onida**	**147.79**	**71**	⇑P		**PKPbc**	**11 36 19.9**	**0.0**
	baz=148							
Q33A	**Connelly Farm,**	**147.92**	**82**	⇓P		**PKPbc**	**11 36 18.7**	**-1.6**
	baz=148							
S34A	**Willow Spring**	**147.98**	**84**	⇓P		**PKPdf**	**11 36 18.4**	**+0.9**
	baz=148							
J30A	**Dallas**	**148.00**	**73**	⇑P		**PKPbc**	**11 36 20.4**	**0.0**
	baz=148							
TUL1	**Leonard**	**148.25**	**88**	⇓P		**PKPbc**	**11 36 20.4**	**-0.9**
	baz=148							
B28A	**Dugan Ranch, T**	**148.31**	**64**	⇑P		**PKPbc**	**11 36 21.6**	**+0.6**
	baz=148							
A28A	**Rude Farm, Bot**	**148.42**	**63**	⇓P		**PKPbc**	**11 36 21.4**	**0.0**
	baz=148							
A29A	**Manning Farm,**	**149.10**	**63**	⇑P		**PKPbc**	**11 36 23.1**	**0.0**
	baz=149							
S36A	**Lake Cedric, C**	**149.11**	**85**	⇓P		**PKPbc**	**11 36 22.4**	**-1.0**
	baz=149							
ECSD	**EROS Data Cent**	**150.13**	**73**	⇓P		**PKPbc**	**11 36 25.0**	**-0.8**
	baz=150							
ULM	**Lac du Bonnet**	**151.34**	**60**	PKPbc		**PKPbc**	**11 36 28.3**	**-0.1**
	2.7nm,0.6s,baz=296,slow=2.6,SNR=9.3							

*ISCJB **05** 11:17:00.8±1.1, 7.°1S±0.°2×154.°8E±0.°1, h41km, mb3.7/8, Error ellipse: s-maj=35.2km s-min=10.9km az=147.8*
*IDC **05** 11:17:01.0±8.9, 7.°15S×155.°02E, h36km±67km, mb3.6/8, mb1 3.8/9, mb1mx3.6/41, mbtmp3.8/9, ML2.7/1, Error ellipse: s-maj=49.3km s-min=30.7km az=122.0*

ISC 05 11:17:01.6±1.4, 7.°2S±0.°3×155.°0E±0.°2, h41km, n10, σ0s85/12, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.06**	**253**	Pn	**Pn**	**11 18 56.4**	**+0.1**
	0.6nm,0.3s,baz=355,slow=6.5,SNR=3.3						
PMG				Sn	**Sn**	**11 20 25.7**	**-0.4**
	0.3nm,0.3s,baz=288,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**23.71**	**236**	P	**P**	**11 22 09.2**	**-0.8**
	1.2nm,0.6s,baz=59,slow=9.2,SNR=5.8						
ASAR	**Alice Springs**	**26.05**	**229**	P	**P**	**11 22 32.4**	**+1.0**
	0.5nm,0.8s,baz=63,slow=8.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**60.85**	**296**	P	**P**	**11 27 12.0**	**+1.5**
	0.7nm,0.3s,baz=100,slow=5.0,SNR=5.3						
SONM	**Songino Array**	**69.48**	**327**	P	**P**	**11 28 05.7**	**-0.3**
	0.4nm,0.6s,baz=137,slow=4.4,SNR=3.2						
MKAR	**Makanchi Array**	**83.53**	**319**	P	**P**	**11 29 24.9**	**-0.5**
	0.7nm,0.8s,baz=98,slow=5.0,SNR=6.9						
ILAR	**Eielson Array**	**83.54**	**21**	P	**P**	**11 29 24.8**	**-0.3**
	0.5nm,0.9s,baz=249,slow=4.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**84.32**	**326**	P	**P**	**11 29 29.1**	**-0.1**
	0.5nm,0.5s,baz=98,slow=3.2,SNR=2.7						
YKA	**Yellowknife Ar**	**96.49**	**28**	P	**P**	**11 30 26.6**	**+0.1**
	0.4nm,0.8s,baz=269,slow=4.5,SNR=8.2						
TORD	**Torodi Ar. Bea**	**153.07**	**285**	PKPbc	**PKPbc**	**11 36 56.1**	**+0.2**
	0.4nm,0.7s,baz=71,slow=2.8,SNR=2.7						
TORD				PKPab	**PKPab**	**11 37 06.1**	**-1.3**
	0.8nm,0.8s,baz=65,slow=1.9,SNR=4.2						

NEIC 05 11:20:27.4, 32.°64N×115.°82W, h6km, ML3.7(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.72**	**273**	*e*Pg	Pg	11 20 40.8	-0.5
GLA	**Glamis**	**0.93**	**64**	*e*Pg	Pg	11 20 43.5	-1.9
PFO	**Pinyon Flats O**	**1.10**	**331**	Pg	Pg	11 20 47.9	-0.9
MWC	**Mount Wilson**	**2.45**	**311**	Pn	Pn	11 21 07.0	-1.1
PASC	**Pasadena Art C**	**2.50**	**308**	Pn	Pn	11 21 06.9	-1.6
ISA	**Isabella, Lake**	**3.73**	**325**	Pn	Pn	11 21 25.9	+0.3

NEIC 05 11:20:41.8, 32.°72N×115.°82W, h4km, ML3.5(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.72**	**267**	*e*Pg	Pg	11 20 55.0	-0.7
BAR				*e*Sg	Sg	11 21 04.6	-0.5
GLA	**Glamis**	**0.90**	**68**	*e*Pg	Pg	11 20 56.0	-3.2
GLA				*e*Sg	Sg	11 21 08.6	-2.3
PFO	**Pinyon Flats O**	**1.03**	**329**	*e*Pg	Pg	11 20 59.5	-2.3
PFO				*e*Sg	Sg	11 21 13.7	-1.7
MWC	**Mount Wilson**	**2.39**	**309**	*e*Pn	Pb	11 21 24.0	-1.8
PASC	**Pasadena Art C**	**2.45**	**307**	*e*Pn	Pn	11 21 24.2	+1.6

*CRAAG **05** 11:21:50.2, 35.°52N×0.°03W, Ml3.4*
*CSEM **05** 11:21:50.6±0.4, 35.°47N×0.°09W, h10km, ML3.4, Error ellipse: s-maj=10.4km s-min=5.3km az=5.0*
*ISCJB **05** 11:21:51.1±0.6, 35.°59N±0.°04×0.°12W±0.°04, h16km, Error ellipse: s-maj=6.1km s-min=4.1km az=14.9*
*MDD **05** 11:21:51.0±0.4, 35.°43N×0.°09W, h8km±6km, mb4.0/9, Error ellipse: s-maj=7.4km s-min=3.8km az=161.0, PRXIMO*

ISC 05 11:21:50.1±0.9, 35.°48N±0.°04×0.°10W±0.°02, h16km, n59, σ1s58/76, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ODJA	**Bouhanifia**	**0.16**	**196**	P	**Pg**	**11 21 55.0**	**+0.8**
ODJA	**Bouhanifia**	**0.16**	**196**	P	**Pg**	**11 21 55.0**	**+0.8**
ODJA	**Bouhanifia**	**0.16**	**196**	P	**Pg**	**11 21 55.0**	**+0.8**
OJBR	**Djebel Berber**	**0.37**	**74**	P	**Pg**	**11 21 58.0**	**+0.2**
OJBR	**Djebel Berber**	**0.37**	**74**	P	**Pg**	**11 21 58.0**	**+0.2**
OJBR	**Djebel Berber**	**0.37**	**74**	P	**Pg**	**11 21 58.0**	**+0.2**
USTO	**Oran**	**0.45**	**304**	P	**Pg**	**11 21 59.0**	**-0.1**
USTO	**Oran**	**0.45**	**304**	P	**Pg**	**11 21 59.0**	**-0.1**
USTO	**Oran**	**0.45**	**304**	P	**Pg**	**11 21 59.0**	**-0.1**
OJGS	**Djebel Guires**	**0.69**	**88**	P	Pg	11 21 57.5	-6.1
OJGS	**Djebel Guires**	**0.69**	**88**	P	Pg	11 21 57.5	-6.1
OKGL	**Djebel Kef Gue**	**0.82**	**47**	P	Pb	11 21 57.0	-8.9
OKGL	**Djebel Kef Gue**	**0.82**	**47**	P	**Pb**	**11 22 06.4**	**+0.5**
	68nm,0.1s,SNR=7.9						
OKGL				S	**Sg**	**11 22 18.1**	**+1.3**
	1µm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.82**	**47**	P	**Pb**	**11 22 06.4**	**+0.5**
	68nm,0.1s,SNR=7.9						
OKGL				S	**Sg**	**11 22 18.1**	**+1.3**
	1µm,0.3s,SNR=7.9						
EANR	**'Ain N'Sour**	**1.08**	**64**	P	**Pg**	**11 22 11.8**	**+0.8**
EANR	**'Ain N'Sour**	**1.08**	**64**	P	**Pg**	**11 22 11.8**	**+0.8**
EANR	**'Ain N'Sour**	**1.08**	**64**	P	**Pg**	**11 22 11.8**	**+0.8**
OLHC	**Oulhaca**	**1.11**	**258**	P	Pb	11 21 56.0	-15
OLHC	**Oulhaca**	**1.11**	**258**	P	Pb	11 21 56.0	-15
ETRT	**Tiaret**	**1.14**	**94**	P	**Pn**	**11 22 11.2**	**-0.3**
ETRT	**Tiaret**	**1.14**	**94**	P	**Pn**	**11 22 11.2**	**-0.3**
ETRT	**Tiaret**	**1.14**	**94**	P	**Pn**	**11 22 11.2**	**-0.3**
ECHF	**Ech Chlef**	**1.35**	**60**	P	Pg	11 22 20.0	+4.0
ECHA	**Ech Chlef**	**1.36**	**60**	P	Pg	11 22 20.0	+3.7
EBNR	**Beni Rached**	**1.55**	**58**	P	Pg	11 22 23.2	+3.4
ENIJ	**Nijar**	**2.26**	**312**	P	**Pb**	**11 22 29.5**	**-1.1**
	7.3nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**11 22 51.7**	**-2.8**
	21nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.26**	**312**	P	**Pb**	**11 22 29.5**	**-1.1**
	7.3nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**11 22 51.7**	**-2.8**
	21nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.53**	**339**	P	**Pn**	**11 22 31.0**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**11 22 59.3**	**-1.7**
	12nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.53**	**339**	P	**Pn**	**11 22 31.0**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**11 22 58.6**	**-2.4**
	12nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.67**	**303**	P	**Pn**	**11 22 32.5**	**0.0**
	4.7nm,0.1s,SNR=11						
EBER				S	**Sn**	**11 23 04.3**	**-0.3**
	16nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.67**	**303**	P	**Pn**	**11 22 32.5**	**0.0**
	4.7nm,0.1s,SNR=11						
EBER				S	**Sn**	**11 23 04.3**	**-0.3**
	16nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**3.08**	**320**	P	Pn	11 22 41.6	+3.5
	1.3nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**11 23 14.4**	**-0.2**
	3.3nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**3.08**	**320**	P	Pn	11 22 41.6	+3.5
	1.3nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**11 23 14.4**	**-0.2**
	3.3nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**3.12**	**297**	P	**Pn**	**11 22 39.7**	**+1.2**
	SNR=7.9						
EGUA				S	**Sn**	**11 23 15.5**	**+0.1**
	6.3nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**3.12**	**297**	P	**Pn**	**11 22 39.7**	**+1.2**
	SNR=7.9						
EGUA				S	**Sn**	**11 23 15.5**	**+0.1**
	6.3nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.22**	**358**	P	**Pn**	**11 22 41.2**	**+1.2**
	0.5nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**11 23 17.2**	**-0.8**
	1.6nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.22**	**358**	P	**Pn**	**11 22 41.2**	**+1.2**
	0.5nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**11 23 17.2**	**-0.8**
	1.6nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.29**	**324**	P	**Pn**	**11 22 43.0**	**+2.0**
	11nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**11 23 20.6**	**+0.7**
	14nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.29**	**324**	P	**Pn**	**11 22 43.0**	**+2.0**
	11nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**11 23 20.6**	**+0.7**
	14nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.33**	**315**	P	**Pn**	**11 22 44.1**	**+2.5**
	5.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**11 23 22.1**	**+1.1**
	7.1nm,0.2s,SNR=20						
EQES	**Quesada**	**3.33**	**315**	P	**Pn**	**11 22 44.1**	**+2.5**
	5.7nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**11 23 22.0**	**+1.1**
	7.1nm,0.2s,SNR=20						
ETOB	**Tobarra**	**3.36**	**340**	P	**Pn**	**11 22 43.8**	**+1.7**
	2.0nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**11 23 19.9**	**-1.8**
	8.6nm,0.3s,SNR=7.6						
ETOB	**Tobarra**	**3.36**	**340**	P	**Pn**	**11 22 43.8**	**+1.7**
	2.0nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**11 23 19.9**	**-1.8**
	8.6nm,0.3s,SNR=7.6						
EIBI	**Ibiza**	**3.72**	**18**	P	**Pn**	**11 22 47.9**	**+1.1**
	3.9nm,0.1s,SNR=20						
EIBI				S	**Sn**	**11 23 28.5**	**-1.9**
	6.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.72**	**18**	P	**Pn**	**11 22 47.9**	**+1.1**
	3.9nm,0.1s,SNR=20						
EIBI				S	**Sn**	**11 23 28.5**	**-1.9**
	6.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.94**	**287**	S	**Sn**	**11 23 33.1**	**-2.7**
	23nm,0.6s,SNR=7.9						
EMIJ	**Mijas**	**3.94**	**287**	S	**Sn**	**11 23 33.1**	**-2.7**
	23nm,0.6s,SNR=7.9						
ETOS	**Mallorca**	**4.86**	**27**	P	**Pn**	**11 23 03.4**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**11 23 56.1**	**-2.4**
	0.7nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**4.86**	**27**	P	**Pn**	**11 23 03.4**	**+0.8**
	0.4nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**11 23 56.1**	**-2.4**
	0.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.88**	**357**	P	**Pn**	**11 23 05.7**	**+2.7**
	0.5nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**11 23 57.3**	**-2.0**
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.88**	**357**	P	**Pn**	**11 23 05.7**	**+2.7**
	0.5nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**11 23 57.3**	**-2.0**
	1.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.00**	**303**	P	**Pn**	**11 23 06.4**	**+2.0**
	0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.00**	**303**	P	**Pn**	**11 23 06.4**	**+2.0**
	0.6nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**5.28**	**321**	P	**Pn**	**11 23 10.1**	**+1.7**
	4.5nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.28**	**321**	P	**Pn**	**11 23 10.1**	**+1.7**
	4.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.48**	**3**	P	**Pn**	**11 23 14.1**	**+3.1**
	0.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.48**	**3**	P	**Pn**	**11 23 14.1**	**+3.1**
	0.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.93**	**9**	P	**Pn**	**11 23 18.4**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**11 24 21.9**	**-3.1**
	0.8nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.93**	**9**	P	**Pn**	**11 23 18.4**	**+1.0**
	0.4nm,0.1s,SNR=7.9						

*BJI **05** 11:23:36.5, 43.°09S×125.°24E, h8km, mB5.2/27, mb5.1/37, Ms5.0/19, Ms7 4.7/17*
*ISCJB **05** 11:23:39.6±0.3, 42.°66S±0.°04×125.°00E±0.°07, h10km, mb5.0/43, MS4.2/6, Error ellipse: s-maj=7.2km s-min=6.2km az=3.0*
*IDC **05** 11:23:39.7±0.4, 42.°64S×125.°04E, h0km, mb4.8/18, mb1 4.9/18, mb1mx4.8/29, mbtmp4.8/18, MS4.2/6, Ms1 4.3/6, ms1mx3.7/26, Error ellipse: s-maj=19.2km s-min=13.3km az=98.0*
*MOS **05** 11:23:40.3±1.1, 42.°56S×125.°04E, h10km, mb5.5/10, Error ellipse: s-maj=16.4km s-min=10.2km az=82.7*
*NEIC **05** 11:23:41.2±0.2, 42.°63S×124.°95E, h10km, mb5.1/25, Error ellipse: s-maj=7.1km s-min=6.1km az=91.0*

ISC 05 11:23:42.1±0.4, 42.°74S±0.°05×125.°01E±0.°07, h15km, 2km, n532, σ1s47/502, mb5.0/43, MS4.3/6, 144C-139D, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**11.53**	**309**	T	T	11 37 58.7	
	baz=133,slow=74,SNR=32						
H01W2	**Cape Leeuwin H**	**11.54**	**309**	T	T	11 37 55.2	
	baz=133,slow=74,SNR=33						
H01W3	**Cape Leeuwin H**	**11.55**	**309**	T	T	11 38 02.0	
	baz=133,slow=74,SNR=34						
NWAO	**Narrogin (SRO)**	**11.56**	**325**	Pn	Pn	11 26 21.1	-5.5
	4.0nm,0.3s,baz=140,slow=12,SNR=39						
NWAO				Sn	Sn	11 28 20.4	-15
	7.5nm,0.3s,baz=223,slow=17,SNR=8.7						
NWAO				LR	LR	11 30 10.9	
	comp=Z,12nm,18.2s,baz=132,slow=34						
FORT	**Forrest**	**12.19**	**13**	*e*Pn	**Pn**	**11 26 33.2**	**-2.0**
BBOO	**Buckleboo**	**13.21**	**45**	*e*Pn	**Pn**	**11 26 47.9**	**-1.2**
TAU	**Tasmania Unive**	**16.37**	**98**	*e*P	**Pn**	**11 27 31.0**	**-0.2**
TAU				pmax	pmax		
	comp=Z,120nm,1.6s						
TAU	**Tasmania Unive**	**16.37**	**98**	*e*Pn	**Pn**	**11 27 31.0**	**-0.2**
	comp=Z,120nm,1.6s						
CAN	**Canberra**	**20.02**	**76**	*e*P	**P**	**11 28 14.9**	**+0.6**
CAN				pmax	pmax		
	comp=Z,39nm,1.2s						
CAN	**Canberra**	**20.02**	**76**	*e*P	**P**	**11 28 14.9**	**+0.6**
	comp=Z,40nm,1.2s						
ASAR	**Alice Springs**	**20.41**	**24**	P	**P**	**11 28 16.8**	**-1.8**
	comp=Z,8.9nm,0.7s,baz=191,slow=9.5,SNR=38						
ASAR				S	S	11 31 53.8	-13
	comp=Z,1.7nm,1.0s,baz=211,slow=22,SNR=3.9						
ASAR				PcP	**PcP**	**11 32 29.7**	**-1.2**
	comp=Z,5.4nm,0.9s,baz=198,slow=1.3,SNR=14						
AS31	**Alice Springs**	**20.41**	**24**	*e*P	**P**	**11 28 17.0**	**-1.6**
MBWA	**Marble Bar**	**21.97**	**347**	*e*P	**P**	**11 28 33.2**	**-2.2**
	comp=Z,34nm,0.8s						
WRA	**Warramunga Arr**	**24.06**	**22**	P	**P**	**11 28 54.7**	**-2.1**
	comp=Z,37nm,0.8s,baz=199,slow=9.3,SNR=93						
WRA				PcP	**PcP**	**11 32 37.9**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=214,slow=2.0,SNR=7.6						
WRA				LR	LR	11 37 40.8	
	comp=Z,230nm,21.8s,baz=345,slow=35						
WB2	**Warramunga Arr**	**24.06**	**22**	*e*P	**P**	**11 28 54.4**	**-2.4**

WRAB	**Tennant Creek**	**24.07**	**22**	P		**P**	**11 28 55.0**	**-1.9**
	comp=Z,247nm,0.8s,SNR=16							
WRAB	**Tennant Creek**	**24.07**	**22**	*c iP*		**P**	**11 28 55.3**	**-1.6**
WRAB				pmax	pmax			
	comp=Z,102nm,0.8s							
WRAB	**Tennant Creek**	**24.07**	**22**	*e*P		**P**	**11 28 54.5**	**-2.3**
	comp=Z,36nm,0.8s							
ARMA	**Armidale**	**24.55**	**69**	*e*P		**P**	**11 29 02.7**	**+1.3**
	comp=Z,61nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.57**	**1**	*e*P		**P**	**11 28 59.5**	**-2.0**
	comp=Z,29nm,0.9s							
CASY	**Casey**	**24.90**	**194**	*e*P		**P**	**11 29 04.7**	**+0.6**
	comp=Z,61nm,1.4s							
EIDS	**Eidsvold**	**27.53**	**59**	*e*P		**P**	**11 29 29.0**	**+0.8**
	comp=Z,30nm,1.1s							
BATI	**Baumata**	**32.43**	**358**	P		**P**	**11 30 09.9**	**-1.8**
	comp=Z,36nm,0.9s							
BATI	**Baumata**	**32.43**	**358**	P		**P**	**11 30 11.3**	**-0.3**
	comp=Z,47nm,0.8s,baz=219,slow=5.5,SNR=8.2							
BATI				LR	LR	11 44 12.7		
	comp=Z,593nm,19.7s,baz=213,slow=38							
COEN	**Coen**	**32.69**	**34**	*e*P		**P**	**11 30 12.8**	**-1.1**
	comp=Z,8.6nm,1.8s							
SOEI	**Soe**	**32.87**	**359**	P		**P**	**11 30 18.2**	**+2.6**
	comp=Z,30nm,0.9s							
SOEI	**Soe**	**32.87**	**359**	*e*P		**P**	**11 30 14.6**	**-1.0**
	comp=Z,18nm,0.8s							
BKSI	**Bulukumba**	**37.52**	**352**	P		**P**	**11 30 54.9**	**-0.6**
VNDA	**Vanda**	**37.97**	**168**	*e*P		**P**	**11 30 59.2**	**+0.5**
VNDA							11 33 15.1	
VNDA				pmax	pmax			
	comp=Z,12nm,1.2s							
VNDA	**Vanda**	**37.97**	**168**	P		**P**	**11 30 59.9**	**+1.2**
	comp=Z,4.0nm,0.8s,baz=316,slow=11,SNR=11							
VNDA				PcP		**PcP**	**11 33 15.1**	**+1.1**
	comp=Z,3.2nm,1.0s,baz=278,slow=1.6,SNR=3.2							
VNDA				LR	LR	11 44 58.0		
	comp=Z,317nm,18.8s,baz=323,slow=34							
VNDA	**Vanda**	**37.97**	**168**	*e*P		**P**	**11 30 59.2**	**+0.5**
	comp=Z,12nm,1.2s							
VNDA				PcP		**PcP**	**11 33 15.1**	**+1.1**
KPJI	**Karang Pucung**	**38.01**	**334**	P		**P**	**11 31 00.2**	**+0.6**
	comp=Z,27nm,0.8s							
CISI	**Cisompet, Garu**	**38.18**	**332**	P		**P**	**11 31 00.6**	**-0.6**
	comp=Z,77nm,1.0s,comp=Z,3µm							
BNSI	**Bone**	**38.43**	**352**	P		**P**	**11 31 03.2**	**0.0**
	comp=Z,27nm,1.0s							
PMG	**Port Moresby**	**38.46**	**37**	*c eP*		**P**	**11 31 03.8**	**+0.3**
PMG				pmax	pmax			
	comp=Z,54nm,1.7s							
PMG	**Port Moresby**	**38.46**	**37**	P		**P**	**11 31 03.2**	**-0.2**
	comp=Z,22nm,0.9s,baz=206,slow=7.5,SNR=13							
PMG	**Port Moresby**	**38.46**	**37**	*e*P		**P**	**11 31 03.4**	**0.0**
BKZ	**Black Stump Fm**	**38.56**	**103**	*e*P		**P**	**11 31 05.4**	**+1.3**
	comp=Z,40nm,1.4s							
SPSI	**Sidrap Palu**	**38.90**	**352**	P		**P**	**11 31 07.3**	**+0.2**
LEM	**Lembang**	**38.93**	**332**	P		**P**	**11 31 08.7**	**+1.1**
LEM	**Lembang**	**38.93**	**332**	P		**P**	**11 31 08.2**	**+0.7**
	comp=Z,38nm,0.8s,baz=249,slow=3.7,SNR=7.8							
LEM				LR	LR	11 45 37.2		
	comp=Z,447nm,22.0s,baz=180,slow=34							
URZ	**Urewera**	**39.35**	**102**	P		**P**	**11 31 10.4**	**-0.4**
	comp=Z,20nm,1.0s,baz=258,slow=3.1,SNR=4.5							
URZ				LR	LR	11 43 06.9		
	comp=Z,605nm,22.0s,baz=252,slow=30							
NLAI	**Namlea**	**39.38**	**3**	P		**P**	**11 31 10.9**	**-0.2**
DZM	**Mont Dzumac**	**40.10**	**72**	*e*P		**P**	**11 31 18.1**	**+0.8**
	comp=Z,29nm,1.3s							
DZM	**Mont Dzumac**	**40.10**	**72**	*e*LR	LR	11 42 12.2		
	comp=Z,556nm,22.9s							
DZM	**Mont Dzumac**	**40.10**	**72**	P		**P**	**11 31 17.2**	**-0.1**
	comp=Z,8.5nm,1.1s,baz=202,slow=11,SNR=3.8							
MAW	**Mawson**	**40.84**	**211**	P		**P**	**11 31 23.5**	**+0.8**
	comp=Z,8.5nm,0.9s,baz=60,slow=10,SNR=6.6							
KSM	**Kuching**	**45.97**	**339**	⇑P		**P**	**11 32 04.9**	**+0.2**
KSM	**Kuching**	**45.97**	**339**	*e*P		**P**	**11 32 03.5**	**-1.1**
	comp=Z,7.5nm,0.8s							
SBUM	**Sibu**	**46.45**	**342**	⇑P		**P**	**11 32 08.9**	**+0.5**
SBUM	**Sibu**	**46.45**	**342**	*e*P		**P**	**11 32 07.4**	**-1.0**
	comp=Z,14nm,0.9s							
BTM	**Bintulu**	**46.99**	**344**	⇓P		**P**	**11 32 13.2**	**+0.5**
TSM	**Tawau**	**47.26**	**350**	⇑P		**P**	**11 32 16.0**	**+1.2**
QSPA	**South Pole Qui**	**47.38**	**180**	P		**P**	**11 32 15.2

CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,450nm,18.1s
CD2 LE
comp=Z,350nm,16.2s
CD2 LZ
comp=Z,550nm,19.1s
ODAN Odare 77.45 326 *e*P **P 11 35 35.8 -1.1**
BOSA Boshof 77.73 242 P **P 11 35 39.3 +0.6**
comp=Z,7.7nm,0.9s,baz=125,slow=4.8,SNR=6.8
TAPN Taplejung 77.75 327 *e*P **P 11 35 38.5 -0.2**
XAN Xi'an 77.82 346 P **P 11 35 38.4 -0.2**
XAN PMZ
comp=Z,9.0nm,0.8s
XAN PMZ
comp=Z,20nm,5.9s
RAMN Ramite 77.85 325 *e*P **P 11 35 37.9 -1.3**
LSA Lhasa 78.53 330 *e*P **P 11 35 42.4 -0.8**
LSA pmax pmax
comp=Z,38nm,0.8s
LSA Lhasa 78.53 330 *e*P **P 11 35 42.4 -0.8**
comp=Z,38nm,0.8s
JIRN Jiri 78.65 325 *e*P **P 11 35 42.9 -0.9**
comp=Z,79nm,1.4s
PKI Pulchoki 78.90 325 *e*P **P 11 35 43.8 -1.3**
comp=Z,49nm,1.1s
GUN Gumba 79.00 325 *e*P **P 11 35 44.4 -1.3**
KKN Kakani 79.15 325 *e*P **P 11 35 45.6 -0.7**
GKN Gorkha 79.61 324 *e*P **P 11 35 47.5 -1.3**
comp=Z,66nm,1.1s
MJAR Matsushiro Arr 79.82 11 P **P 11 35 48.3 -1.3**
comp=Z,5.4nm,0.9s,baz=183,slow=6.1,SNR=13
KSAR Wonju Array Be 79.85 2 P **P 11 35 48.8 -0.8**
KSAR Wonju Array Be 79.85 2 P **P 11 35 48.8 -0.8**
KOLN Koldanda 79.85 323 *e*P **P 11 35 48.3 -1.9**
comp=Z,19nm,0.9s
KSRS Korea Array 79.86 2 P **P 11 35 48.8 -0.9**
comp=Z,10nm,0.9s,baz=178,slow=5.5,SNR=41
DANN Dangsing 80.29 324 *e*P **P 11 35 50.7 -1.9**
comp=Z,37nm,0.9s
LZH Lanzhou 80.80 343 *e*P **P 11 35 56.4 +1.4**
LZH pP **pP 11 35 59.6 -0.3**
LZH sP **sP 11 36 01.5 -0.2**
LZH PMZ
comp=Z,32nm,1.0s
LZH PMZ
comp=Z,190nm,5.5s
RKT Rikitea 81.60 114 *e*LR LR 12 01 29.3
comp=Z,492nm,26.0s
BJI Beijing 82.79 353 P **P 11 36 05.6 +0.5**
BJI S **S 11 46 27.1 +4.7**
BJI PMZ
comp=Z,17nm,0.8s
BJI PMZ
comp=Z,190nm,3.5s
HHC Hu-ho-hao-te 84.09 350 *e*P **P 11 36 13.1 +1.1**
HHC sP **sP 11 36 22.0 +3.3**
HHC PP **PP 11 39 28.3 +1.6**
HHC S **SKKSac 11 46 38.0 -1.7**
HHC SS **SS 11 52 08.9 +3.2**
HHC PMZ
comp=Z,27nm,1.0s
HHC PMZ
comp=Z,100nm,4.8s
HHC LN
comp=Z,120nm,13.6s
HHC LE
comp=Z,150nm,16.0s
HHC LZ
comp=Z,160nm,17.3s
LSZ Lusaka 84.68 254 *e*P **P 11 36 15.7 -0.1**
LSZ pmax pmax
comp=Z,24nm,0.8s
LSZ Lusaka 84.68 254 *e*P **P 11 36 15.7 -0.1**
comp=Z,24nm,0.8s
GTA Gaotai 84.91 341 *e*P **P 11 36 16.0 -0.2**
GTA pP **pP 11 36 20.9 -0.2**
GTA sP **sP 11 36 23.0 +0.1**
GTA SKS **SKSac 11 46 36.6 -3.2**
GTA S **S 11 46 43.2 -0.9**
GTA sS **sS 11 46 51.5 -0.7**
GTA SS **SS 11 52 19.1 +1.3**
GTA PMZ
comp=Z,17nm,1.0s
GTA PMZ
comp=Z,110nm,5.9s
GTA LN
comp=Z,260nm,21.4s
GTA LE
comp=Z,170nm,20.4s
GTA LZ
comp=Z,320nm,19.5s
ERM Erimo 85.95 13⇓ *e*P **P 11 36 18.5 -2.6**
ERM pmax pmax
comp=Z,56nm,1.2s
USRK Ussuriysk Ar. 86.78 5 P **P 11 36 25.1 -0.1**
comp=Z,8.8nm,1.0s,baz=196,slow=3.9,SNR=9.7
MDJ Mudanjiang 87.07 3 P **P 11 36 26.1 -0.5**
MDJ pP **PcP 11 36 29.3 +0.6**
MDJ sP **sP 11 36 30.3 -3.0**
MDJ S **S 11 47 04.8 0.0**
MDJ PMZ
comp=Z,11nm,0.9s
MDJ PMZ
comp=Z,75nm,11.6s
MDJ LN
comp=Z,270nm,28.9s
MDJ LE
comp=Z,91nm,22.6s
MDJ LZ
comp=Z,330nm,32.2s
KMBO Kilima Mbogo 87.59 271 P **P 11 36 31.1 +0.9**
comp=Z,1.4nm,0.3s,baz=132,slow=2.1,SNR=4.2
ULN Ulaanbaatar 91.61 348 *e*P **P 11 36 48.2 +0.1**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 91.61 348 *e*P **P 11 36 48.2 +0.1**
comp=Z,9.2nm,1.0s
SONM Songino Array 91.68 348 P **P 11 36 47.4 -0.9**
comp=Z,5.0nm,0.9s,baz=168,slow=4.8,SNR=28
WMQ Urumqi 92.44 334 P **P 11 36 51.4 -0.5**
WMQ pP **pP 11 36 56.0 -0.8**
WMQ sP **sP 11 36 58.5 -0.1**
WMQ *e*S **S 11 47 51.0 -3.8**
WMQ PMZ
comp=Z,20nm,1.0s
WMQ PMZ
comp=Z,160nm,6.0s
WMQ LN
comp=Z,520nm,19.6s
WMQ LE
comp=Z,430nm,19.6s
WMQ LZ
comp=Z,480nm,26.8s
KSH Kashi 93.15 324 *e*P **P 11 36 53.2 -2.2**
KSH sP **sP 11 36 59.2 -2.9**
KSH SKS **SKSac 11 47 24.5 -4.3**
KSH S S 11 47 55.0 -6.5
KSH PMZ
comp=Z,8.0nm,1.2s
KSH PMZ
comp=Z,120nm,5.2s
KSH LN
comp=Z,120nm,6.7s
KSH LE
comp=Z,74nm,7.4s
KSH LZ
comp=Z,170nm,6.7s
AAK Ala-Archa 96.35 325⇑ *e*P **P 11 37 09.1 -1.0**
AAK pmax pmax
comp=Z,18nm,1.7s
AAK Ala-Archa 96.35 325 *e*P **P 11 37 09.0 -1.0**
comp=Z,16nm,1.8s
MKAR Makanchi Array 96.86 332 P **P 11 37 11.2 -0.8**
comp=Z,3.1nm,0.9s,baz=141,slow=6.2,SNR=28
MKAR PP **PP 11 41 06.6 -1.4**
comp=Z,1.1nm,1.0s,baz=182,slow=8.3,SNR=4.4
KURBB Kurchatov Arra 101.43 332 P **Pdif 11 37 31.4 -1.0**
comp=Z,1.1nm,0.7s,baz=148,slow=4.0,SNR=13
KURK Kurchatov 101.48 332 P **Pdif 11 37 31.4 -1.2**
KURK Kurchatov 101.48 332 P **Pdif 11 37 31.4 -1.2**
ZALV Zalesovo Beam 102.29 337 P **Pdif 11 37 34.1 -1.9**
comp=Z,0.5nm,0.4s,baz=141,slow=5.0,SNR=5.0

KIV Kislovodsk 113.37 309 *e*PKIKP **PKiKP 11 42 19.3 +0.4**
KIV pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 114.12 1⇑ *i*PKIKP PKPdf 11 42 18.4 -0.9
BRTR Keskin Array B 116.36 301 PKP **PKPdf 11 42 23.2 -1.7**
comp=Z,0.3nm,0.5s,baz=134,slow=7.1,SNR=3.6
TORD Torodi Ar. Bea 123.16 257 PKP **PKPdf 11 42 38.1 -0.4**
comp=Z,3.3nm,0.8s,baz=125,slow=0.9,SNR=19
AKASG Malin Array Be 124.69 310 PKP **PKPdf 11 42 39.6 -0.7**
comp=Z,0.9nm,0.5s,baz=85,slow=2.2,SNR=18
KIEV Kiev 124.69 310⇑ *i*PKIKP **PKPdf 11 42 40.0 -0.3**
IM04 Indian Mountai 124.81 30 *e*PKPdf **PKPdf 11 42 40.3 +0.2**
MCK McKinley 125.67 33 *e*PKIKP **PKPdf 11 42 42.2 +0.4**
MCK McKinley 125.67 33 *e*PKPdf **PKPdf 11 42 42.2 +0.4**
COLA College 126.57 32 *e*PKIKP **PKPdf 11 42 42.1 -1.3**
COLA College 126.57 32 *e*PKPdf **PKPdf 11 42 42.1 -1.3**
COLD Coldfoot 126.65 29 *e*PKPdf **PKPdf 11 42 45.1 +1.5**
ILAR Eielson Array 126.91 32 PKP **PKPdf 11 42 42.9 -1.3**
comp=Z,1.9nm,0.8s,baz=296,slow=3.2,SNR=18
DOT Dot Lake 127.63 34 *e*PKPdf **PKPdf 11 42 47.7 +2.1**
KOLS Kolonicke sedl 127.98 305 *e*PKIKP **PKPdf 11 42 48.6 +1.9**
KOLS Kolonicke sedl 127.98 305 *e*PKP **PKPdf 11 42 48.6 +1.9**
KOLS e 12 04 45.4
DAWY Dawson 129.72 35 *e*PKPdf **PKPdf 11 42 51.4 +1.8**
VYHS Vyhne 129.90 304 *e*PKIKP **PKPdf 11 42 51.8 +1.4**
VYHS Vyhne 129.90 304 *e*PKP **PKPdf 11 42 51.8 +1.4**
FINES FINESS Array B 130.39 321 PKP **PKPdf 11 42 50.9 0.0**
comp=Z,2.7nm,0.8s,baz=96,slow=3.8,SNR=8.7
DLBC Dease Lake 132.47 44 PKP **PKPdf 11 42 55.5 +0.5**
comp=Z,4.9nm,1.2s,baz=281,slow=6.8,SNR=4.0
ARCES ARCESS Array B 132.52 332 PKP **PKPdf 11 42 54.9 +0.2**
comp=Z,1.7nm,0.7s,baz=119,slow=1.5,SNR=11
NVAR Mina Array Bea 132.72 73 PKP **PKPdf 11 42 57.6 +1.2**
comp=Z,1.0nm,0.8s,baz=226,slow=4.7,SNR=5.0
INK Inuvik 133.02 30 PKP **PKPdf 11 42 55.6 0.0**
comp=Z,5.5nm,0.9s,baz=207,slow=2.2,SNR=20
GERES GERESS Array B 133.20 302 PKP **PKPdf 11 42 56.9 +0.2**
comp=Z,0.5nm,0.7s,baz=82,slow=2.8,SNR=4.7
BRG Berggiesshubel 133.71 305 *e*PKP PKPpre 11 42 50.3
comp=Z,1.5nm,0.9s
BRG Berggiesshubel 133.71 305 *e*PKIKP PKPpre 11 42 50.3
BRG pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 134.40 305 *e*PKIKP **PKPdf 11 42 59.0 +0.3**
CLL Collm 134.40 305 *e*PKPdf **PKPdf 11 42 59.0 +0.3**
NEW Newport 137.16 60⇑P **PKPdf 11 43 04.5 +0.5**
baz=137
DUG Dugway, Tooele 137.33 73 *e*PKIKP **PKPdf 11 43 07.4 +2.6**
DUG Dugway, Tooele 137.33 73⇑P **PKPdf 11 43 04.2 -0.5**
baz=138
DUG Dugway, Tooele 137.33 73 *e*PKPdf **PKPdf 11 43 07.4 +2.6**
NOA NORSAR Array B 137.34 319 PKP **PKPdf 11 43 03.9 -0.1**
comp=Z,0.9nm,0.8s,baz=246,slow=3.1,SNR=3.9
HLID Hailey 137.46 68⇑P **PKPdf 11 43 03.7 -1.2**
baz=138
MSO Missoula 138.81 63⇑P **PKPdf 11 43 07.8 +0.6**
baz=139
MNTX Cornudas Mount 138.94 88⇑P **PKPdf 11 43 08.3 +0.5**
baz=139,SNR=8.3
MNTX Cornudas Mount 138.94 88 *e*PKPdf **PKPdf 11 43 09.0 +1.2**
SWMT Swartz Lake 138.97 62 *e*PKPdf **PKPdf 11 43 07.9 +0.4**
TXAR Lajitas Array 138.97 93 PKIKP **PKPdf 11 43 08.0 -0.1**
TXAR Lajitas Array 138.97 93 PKhKP PKPpre 11 42 59.0
TXAR PKP **PKPdf 11 43 08.0 -0.1**
comp=Z,0.7nm,0.9s,baz=204,slow=2.7,SNR=6.2
MVCO Mesa Verde 139.20 79⇓P **PKPdf 11 43 08.8 +0.4**
comp=Z,2.6nm,0.9s,baz=211,slow=4.8,SNR=14
baz=139
BAIF Baives 139.48 302 *e*PKIKP PKPpre 11 43 03.5
comp=Z,17nm,1.0s
REDW Red Top Meadow 139.84 69 *e*PKPdf PKPpre 11 43 03.2
LOHW Long Hollow 140.09 69 *e*PKPdf PKPpre 11 43 04.0
I17A Pilgrim Ck. 140.21 69⇑P **PKPdf 11 43 09.9 -0.1**
baz=140
U23A El Rito 140.50 82⇑P **PKPdf 11 43 10.0 -0.9**
baz=141
YKA Yellowknife Ar 140.53 39 PKhKP PKPpre 11 43 02.4
comp=Z,1.2nm,0.6s,baz=277,slow=3.4,SNR=17
YKA PKP **PKPdf 11 43 09.5 -0.1**
comp=Z,1.8nm,0.8s,baz=276,slow=2.8,SNR=17
PDAR Pinedale Array 140.54 71 PKhKP PKPpre 11 43 01.9
comp=Z,0.8nm,0.8s,baz=208,slow=1.6,SNR=7.5
PDAR PKP **PKPdf 11 43 11.0 +0.3**
comp=Z,0.5nm,0.6s,baz=150,slow=2.4,SNR=5.2
O20A White River Ci 140.54 75⇑P **PKPdf 11 43 08.4 -2.3**
baz=141
EDM Edmonton 140.60 54 *e*PKIKP **PKPdf 11 43 10.3 +0.1**
EDM Edmonton 140.60 54 *e*PKPdf **PKPdf 11 43 10.3 +0.1**
ETSF Etsaut 140.67 289 *e*PKIKP **PKPdf 11 43 06.3 -4.4**
comp=Z,22nm,1.2s
ETSF Etsaut 140.67 289 *e*PKIKP **PKPdf 11 43 06.3 -4.4**
ETSF Etsaut 140.67 289 *e*PKPdf **PKPdf 11 43 06.3 -4.4**
J19A Crowheart 141.05 70⇓P **PKPdf 11 43 10.8 -0.7**
baz=141
530A J-C Ranch, Com 141.12 93⇑P **PKPdf 11 43 10.7 -1.2**
baz=141
W25A X Bar L Ranch, 141.28 84⇓P **PKPdf 11 43 08.4 -3.8**
baz=141,SNR=9.8
V25A Rancho No Teng 141.44 83⇑P **PKPdf 11 43 09.3 -3.2**
baz=142
MFF Saint Martin d 141.47 295 *e*PKIKP PKPpre 11 43 04.6
comp=Z,36nm,1.0s
MFF Saint Martin d 141.47 295 *e*PKPdf PKPpre 11 43 04.6
H19A Powell 141.52 68⇓P **PKPdf 11 43 08.9 -3.4**
baz=142
128A Castleberry Fa 141.53 89⇓P **PKPdf 11 43 08.2 -4.4**
baz=142
833A Chaparral WMA, 141.55 97⇓P **PKPdf 11 43 08.3 -4.3**
baz=142
W26A Owens Ranch, T 141.73 85⇑P **PKPdf 11 43 08.8 -4.2**
baz=142
J20A Shoshoni 141.75 70⇓P **PKPdf 11 43 09.2 -3.5**
baz=142
O22A Kremmling 141.76 76⇓P **PKPdf 11 43 10.6 -2.5**
baz=142
U25A Circle Dot Ran 141.83 83⇑P **PKPdf 11 43 10.1 -3.1**
baz=142
EGMT Eagleton 141.87 63 *e*PKPdf **PKPdf 11 43 07.7 -5.0**
F19A Roth Farm, Mol 141.87 66⇑P **PKPdf 11 43 10.4 -2.4**
baz=142
MSTX Muleshoe 141.95 87⇓P **PKPdf 11 43 10.1 -3.3**
baz=142
MSTX Muleshoe 141.95 87 *e*PKPdf **PKPdf 11 43 09.0 -4.3**
ESDC Sonseca Array 141.96 283 PKhKP PKPpre 11 43 08.1
comp=Z,1.2nm,0.6s,baz=114,slow=2.0,SNR=6.7
129A Stewart Farms, 141.99 90⇑P **PKPdf 11 43 10.0 -3.4**
baz=142
834A Tilden 142.06 98⇑P **PKPdf 11 43 10.3 -3.2**
baz=142
K21A Alcova 142.10 72⇑P **PKPdf 11 43 10.7 -2.8**
baz=142
E19A Rath Farm, Rou 142.14 65⇓P **PKPdf 11 43 10.0 -3.3**
baz=142
H20A Greybull 142.14 69⇑P **PKPdf 11 43 09.7 -3.6**
baz=142
532A Rocksprings 142.16 94⇓P **PKPdf 11 43 10.8 -3.0**
baz=142
G20A Bridger 142.20 67⇓P **PKPdf 11 43 11.0 -2.5**
baz=142
D19A Cripps Ranch, 142.24 64⇓P **PKPdf 11 43 09.8 -3.6**
baz=142
C19A Slack Wire Ran 142.26 63⇓P **PKPdf 11 43 09.6 -3.8**
baz=142
ISCO Idaho Springs 142.30 77 *e*PKIKP **PKPdf 11 43 14.1 +0.1**
ISCO Idaho Springs 142.30 77⇓P **PKPdf 11 43 11.4 -2.7**
baz=142
ISCO Idaho Springs 142.30 77 *e*PKPdf **PKPdf 11 43 14.1 +0.1**
Y28A McKinney Farm, 142.31 87⇑P **PKPdf 11 43 11.9 -2.1**
baz=142
U26A Atchley Ranch, 142.32 83⇓P **PKPdf 11 43 12.4 -1.6**
baz=142
Q24A Divide 142.32 78⇑P **PKPdf 11 43 10.9 -3.2**
baz=142
S25A Robets Cordova 142.33 81⇓P **PKPdf 11 43 11.1 -2.9**
baz=142
633A Saathoff Ranch 142.34 96⇓P **PKPdf 11 43 11.0 -3.1**
baz=142
Z29A Hungry Hill Ra 142.41 89⇓P **PKPdf 11 43 10.5 -3.7**
baz=142
JCT Junction City 142.42 94 *e*PKIKP **PKPdf 11 43 12.7 -1.5**
JCT Junction City 142.42 94⇓P **PKPdf 11 43 11.1 -3.1**
baz=142
JCT Junction City 142.42 94 *e*PKPdf **PKPdf 11 43 12.7 -1.5**
I21A Big Trails, Te 142.44 70⇑P **PKPdf 11 43 10.8 -3.2**
baz=143
B19A Brinkman Farms 142.49 62⇑P **PKPdf 11 43 10.6 -3.2**
baz=143
E20A Meyer Farm, Mu 142.59 65⇑P **PKPdf 11 43 11.3 -2.8**
baz=143
K22A Casper 142.62 72⇑P **PKPdf 11 43 11.3 -3.0**
baz=143
K22A Casper 142.62 72 *e*PKPdf **PKPdf 11 43 12.4 -1.9**
432A Menard 142.63 93⇓P **PKPdf 11 43 11.5 -3.1**
baz=143
DAG Danmarks Havn 142.63 347 *i* PKIKP PKPdf 11 43 23.4 +10
DAG Danmarks Havn 142.63 347 *i* P PKPdf 11 43 23.4 +10
A19A Klindworth Far 142.71 61⇓P **PKPdf 11 43 10.8 -3.4**
baz=143,SNR=6.5
Y29A Porterfield Fa 142.71 88⇑P **PKPdf 11 43 11.4 -3.3**
baz=143
D20A Manuel Ranch, 142.72 65⇑P **PKPdf 11 43 11.5 -2.7**
baz=143
T26A Comanche Natio 142.75 82⇓P **PKPdf 11 43 11.4 -3.3**
baz=143
231A Bronte 142.78 92⇓P **PKPdf 11 43 11.5 -3.3**
baz=143
H21A Big Horn, Sher 142.84 69⇓P **PKPdf 11 43 11.6 -3.0**
baz=143
Z30A Sanderson Ranc 142.84 89⇑P **PKPdf 11 43 11.5 -3.4**
baz=143
J22A Midwest 142.88 71⇓P **PKPdf 11 43 11.7 -3.1**
baz=143
332A Millersview 142.93 93⇓P **PKPdf 11 43 12.3 -2.8**
baz=143
C20A Veseth Ranch, 142.95 64⇓P **PKPdf 11 43 12.5 -2.1**
baz=143
Q25A Bedland, Calha 142.96 79⇓P **PKPdf 11 43 13.3 -1.8**
baz=143
X29A Tulia 142.96 87⇓P **PKPdf 11 43 13.6 -1.6**
baz=143
U27A Thompson Grove 143.00 83⇓P PKPbc 11 43 13.5 +1.5
baz=143
735A Kenedy 143.01 98⇑P **PKPdf 11 43 13.6 -1.6**
baz=143
S26A Kim 143.02 81⇓P PKPbc 11 43 12.7 +0.6
baz=143,SNR=7.6
L23A Garrett 143.03 73⇓P PKPbc 11 43 12.8 +0.7
baz=143
433A Art 143.09 94⇑P PKPbc 11 43 12.4 +0.1
baz=143
B20A Solberg Farm, 143.09 62⇑P PKPbc 11 43 11.7 0.0
baz=143,SNR=6.3
131A Roby 143.09 90⇑P PKPbc 11 43 13.2 +0.9
baz=143
534A Blanco 143.16 96⇓P PKPbc 11 43 13.1 +0.7
baz=143
AMTX Amarillo 143.17 86⇑P PKPbc 11 43 13.4 +1.0
baz=143
AMTX Amarillo 143.17 86 *e*PKPdf PKPbc 11 43 13.9 +1.4
N24A Carr 143.19 76⇑P PKPbc 11 43 13.4 +1.0
baz=143
A20A Cobblestone Ra 143.23 62⇓P PKPbc 11 43 12.8 +0.6
baz=143,SNR=11
232A Coleman 143.25 92⇑P PKPbc 11 43 13.2 +0.5
baz=143
R26A Arlington 143.30 80⇓P PKPbc 11 43 13.4 +0.6
baz=143,SNR=6.3
W29A Amarillo 143.30 86⇓P PKPbc 11 43 13.3 +0.5
baz=143
H22A Clearmont 143.30 69⇓P PKPbc 11 43 13.3 +0.7
baz=143
RES Resolute Bay 143.33 17 PKP PKPbc 11 43 11.5 -0.1
comp=Z,4.4nm,0.9s,baz=245,slow=0.9,SNR=12
SGMF Saint Gilles 143.44 297 *e*PKIKP PKPab 11 43 10.5 -1.1
SGMF Saint Gilles 143.44 297 *e*PKPdf PKPab 11 43 10.5 -1.1
M24A Cheyenne 143.44 75⇓P PKPbc 11 43 13.8 +0.6
baz=144
333A Richland Sprin 143.46 93⇓P PKPbc 11 43 13.4 +0.1
baz=144,SNR=9.1
D21A La Casta Ranch 143.47 65⇑P PKPbc 11 43 13.8 +0.9
baz=144
C21A Desert Coulee 143.57 64⇓P PKPbc 11 43 14.0 +0.8
baz=144
X30A Coker Ranch, T 143.57 88⇓P PKPbc 11 43 14.5 +0.9
baz=144
Z31A Sharp Cattle R 143.59 90⇑P PKPbc 11 43 14.4 +0.8
baz=144
PBAR Barrancos 143.62 279 *e*PKP PKPbc 11 43 14.6 +1.1
ABTX Abilene, Hawle 143.62 91⇑P PKPbc 11 43 14.2 +0.5
baz=144
ABTX Abilene, Hawle 143.62 91 *e*PKPdf PKPbc 11 43 14.3 +0.6
F22A Rosebud 143.67 67⇑P PKPbc 11 43 14.3 +0.8
baz=144
434A Burnet 143.72 95⇑P PKPbc 11 43 14.1 +0.1
baz=144
B21A Ellsworth Farm 143.74 63⇑P PKPbc 11 43 14.0 +0.4
baz=144,SNR=6.6
R27A Eads 143.77 81⇓P PKPbc 11 43 15.1 +1.0
baz=144,SNR=7.5
Y31A Rekieta Farm, 143.80 89⇑P PKPbc 11 43 15.3 +1.1
baz=144
T28A Walsh 143.81 83⇑P PKPbc 11 43 15.3 +1.0
baz=144
P26A Davis Ranch, A 143.84 78⇑P **PKPdf 11 43 15.8 -0.8**
baz=144
233A Rising Star 143.87 92⇑P PKPbc 11 43 15.0 +0.5
baz=144,SNR=5.4
A21A Bergtoll Ranch 143.90 62⇑P PKPbc 11 43 14.4 +0.3
baz=144,SNR=8.6
LAO LASA Array 143.91 66 *e*PKPdf PKPbc 11 43 15.1 +0.9
ROSF Rostrenen 143.92 297 *e*PKIKP PKPab 11 43 12.3 -1.1
comp=Z,55nm,1.0s
ROSF Rostrenen 143.92 297 *e*PKPdf PKPab 11 43 12.3 -1.1
334A Lometa 144.01 94⇓P PKPbc 11 43 15.1 +0.2
baz=144,SNR=6.6
D22A Cohagen 144.04 65⇓P **PKPdf 11 43 15.8 -0.8**
baz=144
Z32A Haskell 144.07 90⇑P **PKPdf 11 43 16.5 -0.5**
baz=144,SNR=15
O26A Horse Wrangler 144.11 77⇓P **PKPdf 11 43 16.2 -0.8**
baz=144
G23A Biddle 144.12 68⇑P PKPbc 11 43 15.8 +0.9
baz=144,SNR=5.2
133A Hamilton Ranch 144.15 92⇓P **PKPdf 11 43 16.8 -0.3**
baz=144,SNR=12
S28A Manter 144.15 82⇓P **PKPdf 11 43 16.2 -0.9**
baz=144
KSCO Kaye Shedlock' 144.16 79⇓P **PKPdf 11 43 16.3 -0.9**
baz=144,SNR=7.1
KSCO Kaye Shedlock' 144.16 79 *e*PKPdf **PKPdf 11 43 16.8 -0.4**
F23A Volborg 144.24 67⇓P **PKPdf 11 43 16.1 -0.8**
baz=144,SNR=7.0
PESTR Estremoz 144.28 280 *e*PKP **PKPdf 11 43 17.0 -0.2**
V30A Spur Ranch, Mi 144.29 86⇑P **PKPdf 11 43 16.6 -0.8**
baz=144
X31A McDonald Ranch 144.31 88⇑P PKPbc 11 43 16.4 +0.6
baz=144
PMRV Marv??o 144.34 281 *e*PKP PKPbc 11 43 15.7 0.0
MESJ Messejana 144.35 278 *e*PKP **PKPdf 11 43 17.3 0.0**
C22A Vida 144.35 64⇓P **PKPdf 11 43 17.0 0.0**
baz=144
B22A Reddig Ranch S 144.38 63⇑P PKPbc 11 43 16.1 +0.5
baz=144,SNR=6.5
T29A Hugoton 144.42 83⇓P PKPbc 11 43 16.6 +0.5
baz=144
Y32A R-V Farms, Ver 144.42 89⇓P PKPbc 11 43 16.7 +0.6
baz=144,SNR=9.1
EVO Evora 144.46 279 *e*PKIKP **PKPab 11 43 15.3 -0.5**
comp=Z,76nm,1.2s
K25A Mack Ranch, Ha 144.47 73⇓P PKPbc 11 43 16.7 +0.6
baz=145
R28A Tribune 144.51 81⇑P **PKPdf 11 43 17.4 -0.3**
baz=145,SNR=13
EVOP Sao Brissos 144.54 279 *e*PKIKP **PKPab 11 43 15.3 -0.8**
EVOP Sao Brissos 144.54 279 *e*PKPdf **PKPab 11 43 15.3 -0.8**
A22A Carney Farms, 144.56 62⇓P PKPbc 11 43 16.1 0.0
baz=145,SNR=17
335A Moody 144.58 95⇓P **PKPdf 11 43 18.0 +0.1**
baz=145
H24A Dirks Ranch, A 144.58 69⇓P PKPbc 11 43 16.7 +0.3
baz=145,SNR=27
W31A Holland Ranch, 144.59 87⇓P PKPbc 11 43 17.1 +0.4
baz=145
Z33A Whitaker Ranch 144.59 91⇑P **PKPdf 11 43 17.6 -0.3**
baz=145,SNR=12
EKA Eskdalemuir Ar 144.60 309 PKIKP PKPbc 11 43 16.0 +0.1
EKA Eskdalemuir Ar 144.60 309 PKP PKPbc 11 43 16.0 0.0
comp=Z,16nm,0.7s,baz=110,slow=5.2,SNR=22
M26A McRoberts Banc 144.64 75⇓P **PKPdf 11 43 17.7 -0.2**
baz=145
U30A WK&E Inc. Balk 144.64 84⇑P PKPbc 11 43 16.9 +0.1
baz=145
PBRG Braganca 144.67 285 *e*PKP PKPbc 11 43 17.2 +0.5

MVO	Moncorvo	144.67	284	ePKP		PKPdf	11 43 17.5	-0.4
PNCL	Nicolau / Gran	144.68	278	ePKP		PKPdf	11 43 17.7	-0.1
O27A	Beecher Island baz=145,SNR=11	144.69	78	⇓P		PKPdf	11 43 17.8	-0.2
D23A	Lindsay baz=145,SNR=8.3	144.69	65	⇓P		PKPdf	11 43 17.3	-0.4
X32A	Elmer baz=145,SNR=7.4	144.73	89	⇑P		PKPdf	11 43 18.0	-0.1
S29A	Ulysses baz=145	144.73	82	⇓P		PKPdf	11 43 18.1	0.0
J25A	Sunshine Ranch baz=145	144.74	72	⇓P		PKPdf	11 43 17.9	-0.1
134A	White-Moore Ra baz=145	144.75	92	⇓P		PKPdf	11 43 17.9	-0.3
Q28A	Sharon Springs baz=145,SNR=9.4	144.76	80	⇑P		PKPdf	11 43 17.7	-0.5
RSSD	Black Hills	144.78	71	ePKIKP		PKPab	11 43 16.1	-1.0
RSSD	Black Hills	144.78	71	ePKPdf		PKPab	11 43 16.1	-1.0
MTE	Manteigas	144.79	283	ePKP		PKPdf	11 43 17.7	-0.4
G24A	Alzada baz=145,SNR=10	144.82	68	⇑P		PKPbc	11 43 17.5	+0.4
C23A	Lambert baz=145,SNR=9.8	144.83	64	⇓P		PKPdf	11 43 17.7	-0.1
N27A	Anderson Farm, baz=145,SNR=8.6	144.86	77	⇓P		PKPdf	11 43 18.3	+0.1
L26A	Underwood Farm baz=145	144.86	74	⇑P		PKPdf	11 43 18.4	+0.2
V31A	Spring Creek L baz=145,SNR=6.0	144.91	86	⇑P		PKPdf	11 43 19.2	+0.8
WHTX	Lake Whitney, baz=145	144.92	94	⇑P		PKPdf	11 43 18.8	+0.4
WHTX	Lake Whitney,	144.92	94	ePKPdf		PKPdf	11 43 19.0	+0.5
F24A	Ekalaka baz=145,SNR=12	144.92	68	⇑P		PKPbc	11 43 17.7	+0.2
T30A	Plains baz=145	144.94	84	⇑P		PKPdf	11 43 18.8	+0.4
I25A	Rochford baz=145,SNR=24	144.96	71	⇑P		PKPdf	11 43 18.1	-0.3
K26A	Motz Farm, Whi baz=145,SNR=18	144.99	73	⇓P		PKPdf	11 43 18.6	+0.2
P28A	Saint Francis baz=145,SNR=7.8	145.00	79	⇓P		PKPdf	11 43 19.1	+0.6
Y33A	Hilltop Ranch, baz=145,SNR=15	145.03	90	⇑P		PKPdf	11 43 19.0	+0.4
R29A	Marienthal baz=145,SNR=7.1	145.03	81	⇓P		PKPdf	11 43 19.0	+0.5
HKT	Hockley	145.05	98	ePKIKP		PKPdf	11 43 18.5	-0.2
HKT	Hockley	145.05	98	ePKPdf		PKPdf	11 43 18.5	-0.2
336A	Riesel baz=145	145.06	95	⇑P		PKPdf	11 43 18.5	-0.3
W32A	Sentinel baz=145,SNR=34	145.07	88	⇓P		PKPdf	11 43 19.1	+0.4
B23A	Brockton baz=145,SNR=11	145.07	63	⇑P		PKPdf	11 43 18.4	+0.1
U31A	Nine Bar Ranch baz=145	145.16	85	⇑P		PKPdf	11 43 19.4	+0.5
E24A	Baker baz=145,SNR=5.6	145.17	66	⇑P		PKPdf	11 43 19.0	+0.4
O28A	Krutsinger Ran baz=145,SNR=33	145.18	78	⇑P		PKPdf	11 43 19.3	+0.5
M27A	Reverse DX Ran baz=145,SNR=10	145.19	76	⇓P		PKPdf	11 43 19.3	+0.5
H25A	Fruitdale baz=145,SNR=61	145.21	70	⇑P		PKPbc	11 43 18.1	-0.3
S30A	Montezuma baz=145	145.22	83	⇑P		PKPdf	11 43 19.6	+0.7
A23A	Redstone baz=145	145.23	62	⇑P		PKPdf	11 43 18.8	+0.3
135A	Vickery Place, baz=145	145.23	93	⇓P		PKPbc	11 43 18.6	-0.1
J26A	Sides Ranch, S baz=145,SNR=23	145.23	72	⇑P		PKPdf	11 43 18.7	-0.1
WMOK	Wichita Mounta	145.24	88	ePKIKP		PKPdf	11 43 19.2	+0.2
WMOK	Wichita Mounta	145.24	88	ePKPdf		PKPdf	11 43 19.2	+0.2
Z34A	Collier Ranch, baz=145	145.25	91	⇑P		PKPdf	11 43 19.4	+0.4
OGNE	Ogallala baz=145,SNR=7.9	145.26	77	⇓P		PKPdf	11 43 19.4	+0.5
OGNE	Ogallala	145.26	77	ePKPdf		PKPdf	11 43 18.9	0.0
D24A	Glendive baz=145,SNR=17	145.27	65	⇓P		PKPdf	11 43 19.3	+0.6
C24A	Savage baz=145,SNR=13	145.28	65	⇑P		PKPdf	11 43 19.6	+0.9
POLO	Lamas de Olo	145.28	284	ePKP		PKPdf	11 43 19.5	+0.6
437A	Phantom Ranch, baz=145	145.29	96	⇓P		PKPdf	11 43 19.8	+0.6
Q29A	Oakley baz=145,SNR=9.2	145.32	80	⇑P		PKPab	11 43 19.6	+0.5
PCAS	Casmilo, Conde	145.36	282	ePKP		PKPab	11 43 19.7	+0.6
X33A	Lawton baz=146,SNR=11	145.36	89	⇑P		PKPab	11 43 19.6	+0.4
538A	Harpers Horsep baz=146	145.44	98	⇑P		PKPab	11 43 20.1	+0.5
G25A	Newell baz=146,SNR=22	145.47	69	⇓P		PKPab	11 43 19.5	0.0
V32A	Arapaho baz=146,SNR=8.2	145.48	87	⇓P		PKPab	11 43 20.1	+0.4
N28A	Pribbeno Ranch baz=146,SNR=13	145.53	77	⇑P		PKPab	11 43 20.3	+0.5
PMAFR	Mafra	145.54	279	ePKP		PKPab	11 43 20.3	+0.5
I26A	New Underwood baz=146,SNR=21	145.57	71	⇓P		PKPbc	11 43 19.5	0.0
T31A	Randall Ranch, baz=146,SNR=13	145.58	84	⇑P		PKPab	11 43 20.8	+0.8
DGMT	Dagmar baz=146,SNR=41	145.60	63	⇑P		PKPbc	11 43 19.4	-0.1
DGMT	Dagmar	145.60	63	ePKPdf		PKPdf	11 43 19.1	0.0
R30A	Dighton baz=146,SNR=23	145.60	82	⇑P		PKPab	11 43 20.9	+0.8
P29A	Atwood baz=146,SNR=20	145.60	79	⇓P		PKPab	11 43 21.1	+1.0
F25A	Bowman baz=146,SNR=24	145.61	68	⇑P		PKPab	11 43 20.3	+0.4
Y34A	Reagan Ranch, baz=146,SNR=22	145.64	90	⇑P		PKPab	11 43 20.8	+0.5
K27A	Fleckinger Fa baz=146,SNR=22	145.65	74	⇑P		PKPab	11 43 20.6	+0.4
W33A	Caddo, Fort Co baz=146,SNR=18	145.66	88	⇓P		PKPab	11 43 21.1	+0.8
Z35A	Perchaven, San baz=146,SNR=10	145.72	92	⇑P		PKPab	11 43 21.3	+0.7
337A	Centerville baz=146	145.73	96	⇑P		PKPab	11 43 22.4	+1.7
438A	Sam Houston St baz=146	145.74	97	⇑P		PKPab	11 43 22.0	+1.3
E25A	Miller Ranch, baz=146,SNR=16	145.77	67	⇑P		PKPab	11 43 20.9	+0.4
H26A	Fairpoint baz=146,SNR=28	145.78	70	⇑P		PKPab	11 43 21.0	+0.4
U32A	Winter Ranch, baz=146,SNR=11	145.79	86	⇑P		PKPab	11 43 21.2	+0.4
A24A	Westby baz=146,SNR=28	145.79	62	⇓P		PKPab	11 43 20.5	0.0
PGAV	Gavieira, Arco	145.81	285	ePKP		PKPab	11 43 20.9	+0.1
M28A	Bar X Bar Ranc baz=146	145.88	76	⇑P		PKPab	11 43 21.5	+0.4
X34A	Smith Ranch, M baz=146,SNR=37	145.88	89	⇓P		PKPab	11 43 21.9	+0.7
O29A	4D Ranch, Culb baz=146,SNR=14	145.88	79	⇓P		PKPab	11 43 21.3	+0.2
Q30A	Quinter baz=146,SNR=30	145.90	81	⇓P		PKPab	11 43 22.2	+1.0
S31A	Mullinville baz=146,SNR=19	145.93	83	⇑P		PKPab	11 43 21.9	+0.6
D25A	Fairfield baz=146,SNR=19	145.95	66	⇑P		PKPab	11 43 21.8	+0.7
J27A	Elkhorn Farm, baz=146,SNR=36	145.97	73	⇑P		PKPab	11 43 21.9	+0.5
G26A	Maurine baz=146,SNR=36	146.06	69	⇑P		PKPab	11 43 21.4	-0.2
V33A	Lossen Ranch, baz=146,SNR=9.7	146.08	87	⇓P		PKPab	11 43 22.1	+0.2
P30A	Selden baz=146,SNR=12	146.08	80	⇓P		PKPab	11 43 22.5	+0.6
C25A	Freed Ranch, W baz=146,SNR=7.0	146.09	65	⇓P		PKPab	11 43 21.7	+0.1
F26A	Lodgepole baz=146,SNR=11	146.13	68	⇓P		PKPab	11 43 21.7	-0.1
237A	Washetta, Mont baz=146	146.13	95	⇑P		PKPab	11 43 22.2	0.0
I27A	Quinn baz=146,SNR=20	146.15	71	⇓P		PKPab	11 43 22.3	+0.3
R31A	Burdett baz=146,SNR=19	146.15	82	⇓P		PKPab	11 43 22.0	-0.2
T32A	Huddler Ranch, baz=146,SNR=9.9	146.17	84	⇓P		PKPab	11 43 22.5	+0.2
W34A	Bridge Creek, baz=146,SNR=14	146.20	88	⇓P		PKPab	11 43 22.9	+0.5
W34A	Bridge Creek,	146.20	88	ePKPab		PKPab	11 43 22.5	+0.1
N29A	Votaw Ranch, W baz=146	146.23	77	⇓P		PKPab	11 43 23.0	+0.5
B25A	Knox Farm, Ray baz=146,SNR=18	146.25	64	⇑P		PKPab	11 43 22.7	+0.5
H27A	Howes baz=146,SNR=17	146.27	70	⇓P		PKPbc	11 43 21.9	+0.3
K28A	Ten Mile Ranch baz=146,SNR=8.0	146.27	74	⇓P		PKPab	11 43 22.2	-0.4
S32A	Newby Ranch, P baz=146,SNR=5.6	146.36	84	⇓P		PKPab	11 43 23.0	0.0
A25A	Svangstu Ranch baz=146,SNR=6.7	146.38	62	⇓P		PKPab	11 43 22.7	0.0
M29A	Burnside Ranch baz=146	146.38	76	⇓P		PKPab	11 43 22.9	-0.1
E26A	Carlson Angus baz=146,SNR=9.9	146.40	67	⇓P		PKPbc	11 43 22.3	+0.4
O30A	MW Ranch, Wils baz=147,SNR=9.8	146.43	79	⇓P		PKPab	11 43 23.0	-0.2
U33A	Lingo Farm, Me baz=147	146.46	86	⇓P		PKPbc	11 43 22.1	-0.4
137A	Heron Place, G baz=147	146.47	94	⇑P		PKPab	11 43 23.1	-0.3
Q31A	Ellis baz=147,SNR=8.9	146.51	81	⇑P		PKPab	11 43 23.1	-0.5
D26A	Manning baz=147	146.52	66	⇑P		PKPab	11 43 22.9	-0.4
G27A	Dupree baz=147,SNR=7.6	146.54	69	⇑P		PKPbc	11 43 22.8	+0.4
J28A	Allard Ranch, baz=147,SNR=9.1	146.55	73	⇑P		PKPab	11 43 23.4	-0.2
F27A	Lemmon baz=147	146.58	68	⇓P		PKPbc	11 43 22.9	+0.4
T33A	Patterson Ranc baz=147	146.63	85	⇓P		PKPab	11 43 23.9	-0.1
V34A	Guthrie baz=147	146.65	87	⇓P		PKPbc	11 43 23.1	+0.1
V34A	Guthrie	146.65	87	ePKPab		PKPab	11 43 24.1	-0.1
P31A	Stockton baz=147,SNR=8.8	146.70	80	⇑P		PKPbc	11 43 23.5	+0.5
339A	Huntington baz=147	146.71	97	⇓P		PKPbc	11 43 23.3	0.0
L29A	Maesberg Ranch baz=147	146.72	75	⇑P		PKPbc	11 43 22.7	-0.4
I28A	Midland baz=147,SNR=13	146.75	72	⇑P		PKPbc	11 43 22.8	-0.2
R32A	Long Quarter, baz=147,SNR=11	146.80	82	⇑P		PKPab	11 43 24.2	-0.4
B26A	Jensen Ranch, baz=147	146.87	64	⇑P		PKPab	11 43 24.0	-0.6
C26A	Wahner Farm, P baz=147,SNR=15	146.88	65	⇓P		PKPab	11 43 24.0	-0.7
U34A	Anderson Ranch baz=147,SNR=7.0	146.89	86	⇑P		PKPbc	11 43 24.3	+0.7
U34A	Anderson Ranch	146.89	86	ePKPab		PKPab	11 43 24.5	-0.5
O31A	Woolen Ranch, baz=147,SNR=7.6	146.95	79	⇑P		PKPbc	11 43 24.3	+0.5
138A	Matatall Enter baz=147	146.99	94	⇓P		PKPab	11 43 25.1	-0.4
E27A	Carson baz=147	147.00	67	⇓P		PKPbc	11 43 23.7	0.0
S33A	Kaszmaul Farm, baz=147	147.00	84	⇓P		PKPbc	11 43 24.3	+0.3
H28A	Mission Ridge baz=147,SNR=9.6	147.01	71	⇑P		PKPab	11 43 23.8	0.0
K29A	Lazy Trails An baz=147,SNR=9.7	147.03	74	⇓P		PKPbc	11 43 24.1	+0.2
A26A	Wade Farm, Ken baz=147,SNR=15	147.07	63	⇑P		PKPbc	11 43 24.2	+0.4
Q32A	Meitler Ranch, baz=147,SNR=8.8	147.11	82	⇑P		PKPbc	11 43 24.6	+0.4
V35A	Meyer Ranch, C baz=147	147.12	88	⇓P		PKPbc	11 43 24.5	+0.2
D27A	Benter baz=147	147.15	66	⇑P		PKPbc	11 43 24.2	+0.2
G28A	Parade baz=147,SNR=9.1	147.17	70	⇓P		PKPbc	11 43 24.6	+0.4
J29A	Okreek baz=147,SNR=27	147.19	73	⇓P		PKPbc	11 43 24.7	+0.4
L30A	Spencer Herefo baz=147	147.22	76	⇓P		PKPbc	11 43 25.1	+0.6
340A	Bronson baz=147	147.24	97	⇑P		PKPab	11 43 26.1	-0.4
C27A	Sayler Ranch, baz=147	147.26	65	⇓P		PKPbc	11 43 25.1	+0.8
R33A	Olander Ranch, baz=147	147.29	83	⇑P		PKPab	11 43 26.0	-0.6
P32A	Huiting Farm, baz=147,SNR=9.6	147.30	80	⇑P		PKPbc	11 43 25.5	+0.8
I29A	Vivian Onida baz=148,SNR=10	147.36	72	⇑P		PKPbc	11 43 25.2	+0.5
FFC	Flin Flon	147.39	52	ePKP2		PKPdf	11 43 22.6	+0.7
FFC	Flin Flon	147.39	52	ePKPdf		PKPdf	11 43 22.6	+0.7
F28A	McLaughlin baz=148,SNR=11	147.41	69	⇓P		PKPbc	11 43 25.3	+0.4
N31A	Bailey Ranch, baz=148	147.44	78	⇓P		PKPbc	11 43 26.0	+0.9
K30A	Basset baz=148	147.50	75	⇓P		PKPbc	11 43 25.7	+0.5
B27A	Peters Farms, baz=148	147.52	64	⇑P		PKPbc	11 43 25.2	+0.1
H29A	Onida baz=148,SNR=13	147.56	71	⇓P		PKPbc	11 43 25.0	-0.2
M31A	Lambtecht Ranc baz=148,SNR=6.9	147.58	77	⇓P		PKPbc	11 43 26.1	+0.6
A27A	Ledoux Ranch, baz=148	147.60	63	⇑P		PKPbc	11 43 25.6	+0.4
E28A	Huff baz=148	147.62	67	⇓P		PKPbc	11 43 25.6	+0.2
Q33A	Connelly Farm, baz=148,SNR=7.3	147.65	82	⇓P		PKPbc	11 43 25.8	+0.1
S34A	Willow Spring baz=148,SNR=8.4	147.70	85	⇑P		PKPbc	11 43 26.4	+0.6
O32A	Brockman Farm, baz=148,SNR=7.9	147.75	79	⇓P		PKPbc	11 43 26.6	+0.6
J30A	Dallas baz=148,SNR=14	147.76	73	⇑P		PKPbc	11 43 25.9	0.0
D28A	Regan baz=148	147.81	66	⇓P		PKPbc	11 43 25.9	+0.1
G29A	Hoven baz=148	147.88	70	⇓P		PKPbc	11 43 26.9	+0.8
P33A	Williams Farm, baz=148	147.90	81	⇑P		PKPbc	11 43 27.0	+0.6
I30A	Oacoma baz=148	147.95	72	⇓P		PKPbc	11 43 26.0	-0.3
TUL1	Leonard baz=148	147.95	88	⇑P		PKPbc	11 43 26.7	+0.1
TUL1	Leonard	147.95	88	ePKPab		PKPbc	11 43 27.0	+0.5
C28A	Hausauer Farms baz=148	148.01	65	⇑P		PKPbc	11 43 26.2	-0.1
F29A	Eureka baz=148	148.08	69	⇓P		PKPbc	11 43 26.2	-0.4
B28A	Dugan Ranch, T baz=148	148.12	64	⇓P		PKPbc	11 43 26.9	+0.3
BGNE	Belgrade baz=148	148.19	77	⇑P		PKPbc	11 43 27.6	+0.5
BGNE	Belgrade	148.19	77	ePKPbc		PKPbc	11 43 25.9	-1.2
A28A	Rude Farm, Bot baz=148	148.24	63	⇓P		PKPbc	11 43 27.2	+0.3
E29A	Napoleon baz=148	148.33	67	⇓P		PKPbc	11 43 27.5	+0.2
BRSD	Miller baz=148	148.40	72	⇑P		PKPbc	11 43 26.3	-1.2
BRSD	Miller	148.40	72	ePKPab		PKPbc	11 43 27.9	+0.4
G30A	Faulkton baz=148	148.41	70	⇓P		PKPbc	11 43 26.8	-0.7
D29A	Pettibone, Tap baz=148	148.44	67	⇓P		PKPbc	11 43 26.7	-0.8
B29A	Wagenman Farm, baz=149	148.79	64	⇓P		PKPbc	11 43 28.1	-0.2
E30A	Jud baz=149	148.82	68	⇑P		PKPbc	11 43 28.5	0.0
S36A	Lake Cedric, C baz=149	148.82	85	⇑P		PKPbc	11 43 29.0	+0.2
A29A	Manning Farm, baz=149	148.92	63	⇑P		PKPbc	11 43 28.9	+0.3
MIAR	Mount Ida	148.99	92	ePKP2		PKPbc	11 43 30.3	+1.0
MIAR	Mount Ida	148.99	92	ePKPab		PKPbc	11 43 30.3	+1.0
D30A	Buchanan baz=149	149.02	67	⇑P		PKPbc	11 43 29.1	+0.1
SUMG	Summit	149.05	350	ePKP2		PKPbc	11 43 28.7	-0.1
SUMG	Summit	149.05	350	ePKPdf		PKPbc	11 43 28.7	-0.1
SUMG	Summit comp=Z,10nm,1.0s	149.05	350	*i* P		PKPbc	11 43 28.5	-0.3
C30A	Mose, Pekin baz=149	149.28	66	⇓P		PKPbc	11 43 29.8	+0.1
B30A	Myrvik Farm, E baz=150	149.47	64	⇑P		PKPbc	11 43 29.4	-0.6
A30A	Hoffart Farm, baz=150	149.53	63	⇑P		PKPbc	11 43 30.1	0.0
ECSD	EROS Data Cent baz=150	149.89	74	⇑P		PKPbc	11 43 31.2	0.0
ECSD	EROS Data Cent	149.89	74	ePKPdf		PKPdf	11 43 26.6	+0.2
UALR	University of	150.00	93	ePKPdf		PKPbc	11 43 31.7	0.0
FCC	Fort Churchill	151.06	43	ePKIKP		PKPdf	11 43 27.2	-0.4
FCC	Fort Churchill	151.06	43	ePKPdf		PKPdf	11 43 27.2	-0.4
AGMN	Agassiz Nation baz=151	151.09	65	⇓P		PKPbc	11 43 33.3	-0.6
AGMN	Agassiz Nation	151.09	65	ePKPdf		PKPbc	11 43 32.8	-1.1
ULM	Lac du Bonnet	151.17	61	ePKIKP		PKPdf	11 43 27.6	-0.5
ULM							11 43 27.9	
ULM							11 43 34.1	
ULM							11 43 41.1	
ULM	Lac du Bonnet comp=Z,2.6nm,0.7s,baz=1.1,slow=3.6,SNR=5.6	151.17	61	PKP		PKPdf	11 43 27.9	-0.2
ULM	comp=Z,20nm,1.0s,baz=274,slow=4.1,SNR=31			PKPbc		PKPbc	11 43 34.0	0.0
ULM	comp=Z,12nm,1.1s,baz=272,slow=5.0,SNR=6.6			PKPab		PKPab	11 43 41.0	-0.9
ULM	Lac du Bonnet	151.17	61	ePKPdf		PKPdf	11 43 27.6	-0.5
ULM				PKP		PKPdf	11 43 27.9	-0.2
ULM				PKPbc		PKPbc	11 43 34.0	0.0
ULM				PKPab		PKPab	11 43 41.0	-0.9
SCIA	State Center	151.88	79	ePKPdf		PKPbc	11 43 36.0	0.0
SPMN	Marine on St. baz=153	152.84	72	⇑P		PKPbc	11 43 36.9	-1.1
SPMN	Marine on St.	152.84	72	ePKPdf		PKPbc	11 43 38.1	+0.1
SPMN				ePKPab		PKPab	11 43 49.5	+0.3
WVT	Waverly	153.91	94	ePKIKP		PKPbc	11 43 40.3	-0.3
WVT	Waverly	153.91	94	ePKPdf		PKPbc	11 43 40.3	-0.3
JFWS	Jewell Farm	154.25	77	ePKIKP		PKPbc	11 43 41.2	+0.1
JFWS	Jewell Farm	154.25	77	ePKPbc		PKPbc	11 43 41.2	+0.1
GOGA	Godfrey	155.82	103	ePKP2		PKPab	11 44 03.8	+1.7
GOGA	Godfrey	155.82	103	ePKPab		PKPab	11 44 03.8	+1.7
WCI	Wyandotte Cave	155.85	90	ePKIKP		PKPab	11 43 35.2	-0.1
WCI	Wyandotte Cave	155.85	90	ePKPdf		PKPdf	11 43 35.2	-0.1
SFIN	Lafayette	155.94	85	ePKPab		PKPab	11 44 03.4	+1.0
TKL	Tuckaleechee C	156.68	98	PKIKP		PKPdf	11 43 37.1	+0.7
TKL				*e*			11 43 37.8	
TKL	Tuckaleechee C comp=Z,0.7nm,0.3s,baz=273,slow=2.2,SNR=5.2	156.68	98	PKP		PKPdf	11 43 37.1	+0.7
TKL	comp=Z,1.8nm,0.3s,baz=263,slow=3.2,SNR=5.0			PKPab		PKPab	11 44 05.5	-0.3
TKL	Tuckaleechee C	156.68	98	PKP		PKPdf	11 43 37.1	+0.7
TKL				ePKPdf		PKPdf	11 43 37.8	+1.4
TKL				PKPab		PKPab	11 44 05.5	-0.3
KMSC	Kings Mountain	158.21	102	ePKPab		PKPab	11 44 14.5	+2.1
JSRW	J. Sargeant Re	161.83	98	ePKPab		PKPab	11 44 29.6	+1.5
SSPA	Standing Stone	162.78	89	ePKPdf		PKPdf	11 43 43.1	-0.1
SCHQ	Schefferville comp=Z,6.4nm,0.8s,baz=334,slow=6.0,SNR=7.8	165.63	29	PKPab		PKPab	11 44 44.0	-0.2

DJA 05 11:28:05.9±3.1, 0°N±13°×12°6E±°, h27km±51km, M4.1/5, MLv4.1/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	Cibinong	1.69	285	P		Pn	11 28 33.8	+0.1
KMSI				S		Sn	11 28 55.0	+0.4
SANI	Sanana	2.21	170	P		Pn	11 28 40.6	-0.2
GTOI	Gorontalo	2.66	281	P		Pb	11 28 49.9	-2.9
LUWI	Luwuk	3.08	248	P		Pn	11 28 54.4	+1.6
LUWI				S		Sn	11 29 31.0	+2.2
APSI	Ampana	4.11	255	P		Pn	11 29 06.6	-0.3

IDC 05 11:31:53.2±6.5, 42°44S×124°60E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/32, mbtmp3.6/3, ML1.8/1, Error ellipse: s-maj=100.4km s-min=63.0km az=11.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NWAO	Narrogin (SRO)	11.14	326	Pn		Pn	11 34 33.7	0.0
	0.4nm,0.3s,baz=152,slow=10,SNR=7.5							
ASAR	Alice Springs	20.26	25	P		Pn	11 36 31.4	-0.7
	0.5nm,0.6s,baz=197,slow=10,SNR=7.0							
WRA	Warramunga Arr	23.89	23	P		P	11 37 07.8	-0.8
	1.0nm,0.6s,baz=200,slow=10,SNR=6.7							
YKA	Yellowknife Ar	140.49	39	PKP		PKPdf	11 51 22.8	-0.5
	0.2nm,0.8s,baz=255,slow=1.3,SNR=2.9							

*IDC **05** 11:32:56.9±1.7, 0°73S×124°20E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.0/39, mbtmp3.2/3, Error ellipse: s-maj=187.2km s-min=26.0km az=63.0*
*ISCJB **05** 11:33:03.9±0.7, 0°38S±0°08×125°24E±0°05, h60km, mb3.1/3, Error ellipse: s-maj=11.3km s-min=7.5km az=14.3*
*DJA **05** 11:33:04.2±2.0, 0°S±5°×12°5E±°, h27km±25km, M3.9/10, mb4.0/1, MLv3.9/10*

ISC 05 11:33:04.6±1.1, 0°41S±0°08×125°19E±0°06, h60km, n12, σ1°33/10, mb2.9/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	Cibinong	1.56	309	P		Pn	11 33 30.2	+0.1
SANI	Sanana	1.81	154	P		Pn	11 33 33.6	+0.1
LBMI	Labuha	2.32	96	P		Pn	11 33 41.0	+0.5
GTOI	Gorontalo	2.42	296	P		Pn	11 33 42.8	+1.0
LUWI	Luwuk	2.50	256	P		Pn	11 33 44.8	+1.9
LUWI				S		Sn	11 34 14.4	+2.1
MRSI	Marisa	3.37	285	P		Pn	11 33 53.7	-1.1
APSI	Ampana	3.58	262	P		Pn	11 33 59.6	+1.9
SGSI	Sangihe	4.09	5	P		Pn	11 34 05.4	+0.7
MPSI	Mapaga	5.34	278	P		Pn	11 34 23.8	+1.9
WRA	Warramunga Arr	21.38	156	P		P	11 37 46.4	-0.9
	0.2nm,0.5s,baz=331,slow=11,SNR=5.4							
ASAR	Alice Springs	24.61	161	P		P	11 38 20.7	+1.2
	0.2nm,0.5s,baz=339,slow=9.9,SNR=4.4							
MKAR	Makanchi Array	60.13	327	P		P	11 43 04.4	-1.6
	0.3nm,0.4s,baz=123,slow=7.7,SNR=6.5							

*IDC **05** 11:44:51.3±0.9, 0°30S×124°96E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/29, mbtmp3.9/9, Error ellipse: s-maj=47.8km s-min=16.8km az=76.0*
*ISCJB **05** 11:44:57.5±0.5, 0°34S±0°05×125°10E±0°03, h66km±7km, mb3.8/9, Error ellipse: s-maj=7.6km s-min=5.4km az=10.1*
*DJA **05** 11:44:57.3±1.4, 0°S±3°×12°5E±°, h23km±18km, M4.3/18, mb4.4/5, mB4.8/4, MLv4.3/18, Mw(mB)4.0/4*

ISC 05 11:44:58.7±1.1, 0°33S±0°05×125°14E±0°04, h58km±12km, n24, σ1°22/30, mb3.8/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	Cibinong	1.47	308	P		Pn	11 45 22.0	-1.0
KMSI				S		Sn	11 45 39.6	-1.6
SANI	Sanana	1.91	154	P		Pn	11 45 28.0	-0.9
SANI				S		Sn	11 45 50.2	-1.6
GTOI	Gorontalo	2.34	294	P		Pn	11 45 37.3

0.9nm,0.7s,baz=186,slow=9.3,SNR=4.0
USRK Ussuriysk Ar. 44.76 7 P **P** **11 53 08.1 +1.6**
1.2nm,0.6s,baz=197,slow=8.3,SNR=3.6
ASAJ Asahikawa 46.91 17 P **P** **11 53 23.9 +0.5**
8.2nm,1.1s,baz=246,slow=13,SNR=5.4
SONM Songino Array 50.67 344 P **P** **11 53 51.6 -0.8**
0.9nm,0.8s,baz=159,slow=8.1,SNR=8.3
MKAR Makanchi Array 60.03 327 P **P** **11 54 59.1 -0.6**
1.0nm,0.4s,baz=125,slow=8.2,SNR=21
ZALV Zalesovo Beam 63.51 335 P **P** **11 55 22.3 -0.6**
0.4nm,0.5s,baz=158,slow=1.6,SNR=2.8

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*IDC **05** 11:53:36.7±0.9,0.°05S×125.°43E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/37, mbtmp3.9/7, Error ellipse: s-maj=58.5km s-min=18.8km az=71.0*
*ISCJB **05** 11:53:43.2±0.6,0.°02N±0.°07×125.°23E±0.°06, h49km, mb3.9/7, Error ellipse: s-maj=11.2km s-min=7.0km az=39.5*
*DJA **05** 11:53:43.9±0.3,0.°S±3.°×12.°5E±.°, h10km,M4.2/9,MLv4.2/9*
ISC 05 11:53:44.0±0.7,**0.°08S**±0.°08×**125.°23E**±0.°06,**h49**km,**n15,**
σ2§33/17,mb3.8/7,Southern Moluca Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.41 298**	P	**Pn**	**11 54 07.2**	**0.0**
KMSI			S	**Sn**	**11 54 29.0**	**+4.4**
SANI	**Sanana**	**2.10 159**	P	**Pn**	**11 54 16.3**	**-0.4**
SANI			S	**Sn**	**11 54 43.5**	**+1.9**
TNTI	**Ternate**	**2.30 68**	P	Pn	11 54 26.1	+6.6
TNTI			S	Sn	11 54 55.0	+8.4
LBMI	**Labuha**	**2.34 104**	P	**Pn**	**11 54 22.1**	**+2.1**
LBMI			S	**Sn**	**11 54 52.2**	**+4.6**
LUWI	**Luwuk**	**2.63 249**	P	**Pn**	**11 54 26.3**	**+2.3**
MRSI	**Marisa**	**3.33 280**	P	**Pn**	**11 54 34.4**	**+0.8**
APSI	**Ampana**	**3.67 257**	P	**Pn**	**11 54 40.5**	**+2.2**
WRA	**Warramunga Arr**	**21.66 156**	P	**P**	**11 58 28.3**	**-2.3**
	0.8nm,0.5s,baz=336,slow=11,SNR=27					
ASAR	**Alice Springs**	**24.91 161**	P	**P**	**11 59 01.6**	**-1.0**
	0.7nm,0.5s,baz=337,slow=9.1,SNR=18					
MJAR	**Matsushiro Arr**	**38.38 17**	P	**P**	**12 00 59.0**	**-1.6**
	0.4nm,0.4s,baz=190,slow=8.7,SNR=2.9					
SONM	**Songino Array**	**50.46 344**	P	**P**	**12 02 36.9**	**0.0**
	0.5nm,0.5s,baz=155,slow=8.6,SNR=6.7					
POO	**Poona**	**53.72 293** *ex*		**P**	**12 02 59.0**	**-2.6**
MKAR	**Makanchi Array**	**59.87 327**	P	**P**	**12 03 45.1**	**+0.4**
	1.1nm,0.4s,baz=121,slow=8.6,SNR=21					
AKTO	**Aktyubinsk**	**75.72 323**	P	**P**	**12 05 24.8**	**+0.4**
	1.3nm,0.3s,baz=98,slow=8.5,SNR=9.0					
ARCES	**ARCESS Array B**	**93.48 340**	P	**P**	**12 06 53.4**	**-0.7**
	1.5nm,0.9s,baz=80,slow=5.6,SNR=2.5					

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*IDC **05** 11:56:45.2±0.9,0.°46S×124.°50E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/40, mbtmp3.8/7, Error ellipse: s-maj=76.9km s-min=17.8km az=69.0*
*DJA **05** 11:56:51.2±1.0,0.°S±3.°×12.°5E±.°, h14km±7km, M4.2/11, MLv4.2/11*
*ISCJB **05** 11:56:52.2±0.5,0.°23S±0.°05×125.°17E±0.°04, h75km±7km, mb3.7/7, Error ellipse: s-maj=9.5km s-min=5.9km az=22.7*
ISC 05 11:56:53.5±1.1,**0.°22S**±0.°06×**125.°22E**±0.°04,**h62**km±12km,
n17,σ1§78/23,mb3.7/7,Southern Moluca Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.47 303**	P	**Pn**	**11 57 16.5**	**-1.4**
KMSI			S	**Sn**	**11 57 34.2**	**-2.0**
SANI	**Sanana**	**1.97 157**	P	**Pn**	**11 57 22.2**	**-2.4**
SANI			S	**Sn**	**11 57 48.6**	**+0.4**
LBMI	**Labuha**	**2.31 100**	P	**Pn**	**11 57 29.0**	**-0.3**
LBMI			S	**Sn**	**11 57 58.6**	**+1.9**
TNTI	**Ternate**	**2.36 65**	P	**Pn**	**11 57 29.1**	**-0.8**
TNTI			S	**Sn**	**11 57 59.8**	**+2.0**
GTOI	**Gorontalo**	**2.37 291**	P	**Pn**	**11 57 31.6**	**+1.6**
LUWI	**Luwuk**	**2.58 252**	P	**Pn**	**11 57 32.7**	**-0.2**
LUWI			S	**Sn**	**11 58 06.3**	**+3.1**
MRSI	**Marisa**	**3.35 282**	P	**Pn**	**11 57 41.7**	**-1.8**
NLAI	**Namlea**	**3.53 148**	P	**Pn**	**11 57 44.7**	**-1.2**
APSI	**Ampana**	**3.64 259**	P	**Pn**	**11 57 49.3**	**+2.0**
MSAI	**Masohi**	**4.83 130**	P	**Pn**	**11 58 05.2**	**+1.5**
WRA	**Warramunga Arr**	**21.54 156**	P	**P**	**12 01 36.3**	**-1.4**
	1.1nm,0.5s,baz=334,slow=11,SNR=20					
ASAR	**Alice Springs**	**24.78 161**	P	**P**	**12 02 09.5**	**-0.2**
	1.0nm,0.5s,baz=339,slow=9.2,SNR=16					
ASAR			PcP	**PcP**	**12 05 46.1**	**+1.0**
	0.4nm,0.4s,baz=354,slow=2.2,SNR=10					
KSRS	**Korea Array**	**37.57 4**	P	**P**	**12 04 04.6**	**+2.7**
	0.7nm,0.8s,baz=182,slow=9.6,SNR=3.8					
SONM	**Songino Array**	**50.59 344**	P	**P**	**12 05 44.7**	**-1.5**
	0.7nm,0.8s,baz=160,slow=4.9,SNR=4.5					
MKAR	**Makanchi Array**	**59.99 327**	P	**P**	**12 06 53.1**	**-0.5**
	1.0nm,0.6s,baz=121,slow=9.1,SNR=8.0					
ZALV	**Zalesovo Beam**	**63.45 335**	P	**P**	**12 07 14.6**	**-2.1**
	0.3nm,0.3s,baz=103,slow=3.1,SNR=2.8					
AKTO	**Aktyubinsk**	**75.83 323**	P	**P**	**12 08 32.9**	**-0.1**
	0.8nm,0.3s,baz=105,slow=8.4,SNR=4.9					

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*IDC **05** 12:06:21.3±1.9,0.°19S×125.°11E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.0/40, mbtmp3.0/3, Error ellipse: s-maj=196.6km s-min=27.2km az=64.0*
*DJA **05** 12:06:25.7±0.4,0.°S±8.°×12.°5E±.°, h10km,M3.4/5,MLv3.4/5*
*ISCJB **05** 12:06:26.8±0.8,0.°3S±0.°1×125.°1E±0.°1, h52km, mb2.9/3, Error ellipse: s-maj=25.3km s-min=7.5km az=41.9*
ISC 05 12:06:28.0±1.1,**0.3S**±0.°1×**125.1E**±0.1,**h52**km,**n9,**σ1§**53**/9,
mb2.7/3,Southern Moluca Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.43 306**	P	**Pn**	**12 06 50.7**	**-0.9**
KMSI			S	**Sn**	**12 07 07.6**	**-1.7**
SANI	**Sanana**	**1.96 154**	P	**Pn**	**12 06 58.5**	**-0.3**
GTOI	**Gorontalo**	**2.31 293**	P	**Pn**	**12 07 06.1**	**+2.5**
LBMI	**Labuha**	**2.40 99**	P	**Pn**	**12 07 05.7**	**+0.9**
APSI	**Ampana**	**3.54 260**	P	Pn	12 07 26.0	+5.5
NLAI	**Namlea**	**3.54 146**	P	**Pn**	**12 07 20.9**	**+0.4**
WRA	**Warramunga Arr**	**21.52 156**	P	**P**	**12 11 12.0**	**-1.0**
	0.2nm,0.6s,baz=334,slow=11,SNR=6.7					
ASAR	**Alice Springs**	**24.76 160**	P	**P**	**12 11 46.5**	**+1.5**
	0.1nm,0.4s,baz=342,slow=9.4,SNR=3.6					
MKAR	**Makanchi Array**	**59.98 327**	P	**P**	**12 16 28.9**	**-0.3**
	0.2nm,0.7s,baz=116,slow=8.4,SNR=4.2					

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*ISCJB **05** 12:07:57.8±0.5,42.°76N×0.°04×141.°92E±0.°05, h115km±3km, mb3.3/6, Error ellipse: s-maj=7.9km s-min=5.0km az=43.7*
*JMA **05** 12:07:58.9±0.1,42.°78N×141.°86E, h108km±1km, M2.8*
*IDC **05** 12:08:00.7±1.8,42.°96N×141.°86E, h117km±11km, mb3.2/6, mb1 3.3/7, mb1mx3.0/51, mbtmp3.5/7, Error ellipse: s-maj=37.5km s-min=20.1km az=126.0*
ISC 05 12:07:58.8±0.8,**42.°75N**±0.°04×**141.°93E**±0.°04,**h110**km±6km,
n24,σ0§53/37,mb3.4/6,Hokkaido region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.32 85**	P	**Pn**	**12 08 14.8**	**+0.2**
JBT2			*eS*	**Sn**	**12 08 26.9**	**+0.5**
JEW	**Eniwo**	**0.36 284**	P	**Pn**	**12 08 14.4**	**-0.3**
JEW			*eS*	**Sn**	**12 08 25.8**	**-0.9**
JFR	**Furan**	**0.64 50**	P	**Pn**	**12 08 16.4**	**-0.2**
JFR			*eS*	**Sn**	**12 08 30.0**	**0.0**
JNB	**Noboribetsu**	**0.71 247**	P	**Pn**	**12 08 16.8**	**-0.4**
JNB			*eS*	**Sn**	**12 08 30.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.77 127**	P	**Pn**	**12 08 18.3**	**+0.6**
JNBK			*eS*	**Sn**	**12 08 33.6**	**+1.6**
JAB	**Ashibetsu**	**0.78 16**	P	**Pn**	**12 08 18.2**	**+0.4**
JAB			*eS*	**Sn**	**12 08 32.6**	**+0.5**
JHR	**Hokuryu**	**1.00 352**	P	**Pn**	**12 08 20.5**	**+0.6**
JHR			*eS*	**Sn**	**12 08 36.4**	**+0.5**
JCH	**Churui**	**1.07 97**	P	**Pn**	**12 08 20.2**	**-0.4**
JCH			*eS*	**Sn**	**12 08 36.7**	**-0.4**
JKB	**Kayabe**	**1.09 218**	P	**Pn**	**12 08 20.8**	**0.0**
JKB			*eS*	**Sn**	**12 08 37.0**	**-0.5**
JSK	**Shakotan**	**1.22 300**	P	**Pn**	**12 08 22.4**	**+0.2**
JKK2	**Kamakawa 2**	**1.27 28**	P	**Pn**	**12 08 23.0**	**+0.1**
JKK2			*eS*	**Sn**	**12 08 41.0**	**-0.1**
JYM2	**Yakumo 2**	**1.31 242**	P	**Pn**	**12 08 23.6**	**+0.2**
JYM2			*eS*	**Sn**	**12 08 42.6**	**+0.6**
ASAJ	**Asahikawa**	**1.45 20**	P	**Pn**	**12 08 25.1**	**+0.2**
	9.6nm,0.3s,baz=221,slow=12,SNR=181					
ASAJ			S	**Sn**	**12 08 43.9**	**-0.8**
	4.6nm,0.3s,baz=315,slow=8.7,SNR=5.3					
JAR	**Ashorobuto**	**1.46 68**	P	**Pn**	**12 08 24.9**	**-0.1**
JAR			*eS*	**Sn**	**12 08 44.1**	**-0.9**
JOT	**Ohata**	**1.52 206**	P	**Pn**	**12 08 26.0**	**+0.2**
JOT			*eS*	**Sn**	**12 08 46.1**	**-0.1**
JYG	**Yagishiri**	**1.71 348**	P	**Pn**	**12 08 28.5**	**+0.4**
JOSM	**Okushiri--Mats**	**1.93 251**	P	**Pn**	**12 08 31.1**	**+0.2**
MJAR	**Matsushiro Arr**	**6.83 206**	P	Pn	12 09 40.7	+4.2
	0.3nm,0.3s,baz=15,slow=14,SNR=6.1					
SONM	**Songino Array**	**25.36 294**	P	**P**	**12 13 15.9**	**+0.3**
	0.3nm,0.8s,baz=74,slow=6.4,SNR=3.1					
MKAR	**Makanchi Array**	**41.65 297**	P	**P**	**12 15 35.8**	**-0.3**
	0.2nm,0.6s,baz=86,slow=8.2,SNR=3.7					
YKA	**Yellowknife Ar**	**58.71 32**	P	**P**	**12 17 44.5**	**+0.1**
	0.1nm,0.6s,baz=304,slow=6.2,SNR=4.5					
FINES	**FINESS Array B**	**63.97 331**	P	**P**	**12 18 19.7**	**-0.2**
	0.5nm,0.5s,baz=60,slow=8.3,SNR=4.6					
KBZ	**Khabaz**	**67.53 309**	P	**P**	**12 18 43.2**	**+0.2**
	1.3nm,0.8s,baz=53,slow=5.1,SNR=3.5					
HFS	**Hagfors**	**69.06 335**	P	**P**	**12 18 51.9**	**-0.3**
	1.3nm,0.9s,baz=23,slow=4.7,SNR=4.2					

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*BJI **05** 12:11:00.3,0.°10S×125.°20E, h10km, mB5.0/44, mb5.0/57, Ms4.5/45, Ms7 4.2/44*
*MOS **05** 12:11:02.5±1.3,0.°07S×124.°99E, h33km, mb5.3/36, Error ellipse: s-maj=9.7km s-min=5.1km az=115.6*
*IDC **05** 12:11:03.4±2.1,0.°14S×124.°92E, h29km±13km, mb4.7/32, mb1 4.7/33, mb1mx4.7/42, mbtmp4.9/33, ML4.2/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/33, Error ellipse: s-maj=15.3km s-min=7.9km az=72.0*
*ISCJB **05** 12:11:06.1±0.4,0.°21S±0.°02×125.°08E±0.°03, h70km±3km, mb4.8/105, Error ellipse: s-maj=4.2km s-min=3.7km az=166.0*
*KLM **05** 12:11:06.8,0.°09S×125.°30E, h94km, mb5.0, ML4.3, MS5.7*
*DJA **05** 12:11:07.8±0.2,0.°S±2.°×12.°5E±.°, h51km±2km, M5.0/58, mB5.4/24, mb5.2/58, MLv5.5/23, Mw(mB)4.9/24*
*GCMT **05** 12:11:07.5±0.4,0.°40S×125.°17E, h44km±2km, MW5.1/52, Moment Tensor Solution. s22,c27; s52,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.61±.53; $M_{\theta\theta}$-5.44±.31; $M_{\phi\phi}$0.83±.34; $M_{r\theta}$3.45±.25; $M_{\theta\phi}$-0.36±.25; $M_{r\phi}$0.20±.25; Best double couple: M_o6.10700×10^{16} NP1:ϕ87.00000°, δ62.00000°, λ90.00000°. NP2: ϕ267.00000°, δ28.00000°, λ90.00000°. Principal axes: T 5.6820, Plg73.0000°, Azm357.0000°; N 0.8550, Plg0.0000°, Azm87.0000°; P -6.5320, Plg17.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 12:11:07.5±0.6,0.°15S×125.°09E, h69km±6km, mb5.0/46 Error ellipse: s-maj=5.9km s-min=4.7km az=59.0*
ISC 05 12:11:05.3±0.5,**0.°21S**±0.°04×**125.°12E**±0.°04,**h41**km±4km,
n396,σ1§58/403,mb5.0/105,**MS4.0**/13,**17C-30D,**
Southern Moluca Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.38 304**	P	**Pn**	**12 11 27.7**	**-0.3**
SANI	**Sanana**	**2.03 154**	P	**Pn**	**12 11 35.4**	**-1.6**
GTOI	**Gorontalo**	**2.27 292**	P	**Pn**	**12 11 43.6**	**+3.4**
GTOI			S	Sn	12 12 15.4	+8.4
LBMI	**Labuha**	**2.42 100**	P	**Pn**	**12 11 42.7**	**+0.3**
TNTI	**Ternate**	**2.45 67**	P	**Pn**	**12 11 44.5**	**+1.6**
TNTI	**Ternate**	**2.45 67**	*e*Pn	**Pn**	**12 11 44.4**	**+1.6**
LUWI	**Luwuk**	**2.48 251**	P	Pn	12 11 47.4	+4.1
LUWI	**Luwuk**	**2.48 251**	*e*Pn	**Pn**	**12 11 46.3**	**+3.0**
MRSI	**Marisa**	**3.25 282**	P	**Pn**	**12 11 52.6**	**-1.1**
APSI	**Ampana**	**3.54 259**	P	**Pn**	**12 12 00.9**	**+3.2**
NLAI	**Namlea**	**3.60 147**	P	**Pn**	**12 11 58.8**	**+0.1**
NLAI			S	**Sn**	**12 12 40.3**	**+0.3**
SGSI	**Sangihe**	**3.89 6**	P	Pn	12 12 07.9	+5.3
TOLI	**Toli-Toli**	**4.52 287**	*e*Pn	**Pn**	**12 12 12.8**	**+1.6**
MSAI	**Masohi**	**4.92 129**	P	**Pn**	**12 12 19.0**	**+2.2**
MPSI	**Mapaga**	**5.25 276**	P	**Pn**	**12 12 23.4**	**+2.2**
	316nm,0.7s,8μm2.7nm					
PCI	**Palu**	**5.32 263**	P	Pn	12 12 28.4	+6.1
	641nm,0.8s,9μm8.0nm					
TTSI	**Tana Toraja**	**6.00 242**	P	**Pn**	**12 12 33.2**	**+1.7**
	342nm,0.6s,7μm3.2nm					
GSPH	**General Santos**	**6.26 358**	*e*P	Pn	12 12 38.5	+3.3
BNDI	**Bandanaira**	**6.42 132**	P	Pn	12 12 43.0	+5.6
BNSI	**Bone**	**6.51 230**	P	**Pn**	**12 12 39.4**	**+0.8**
	326nm,0.7s,3μm2.3nm					
SPSI	**Sidrap Palu**	**6.51 235**	P	**Pn**	**12 12 40.1**	**+1.4**
	318nm,0.7s,5μm1.5nm					
BKSI	**Bukukumba**	**7.12 224**	P	**Pn**	**12 12 48.8**	**+1.9**
	163nm,0.5s,2μm1.5nm					
KAPI	**Kappang**	**7.17 228**	Pn	**Pn**	**12 12 49.0**	**+1.3**
	1μm,0.4s,SNR=39					
KAPI	**Kappang**	**7.17 228**	*e*Pn	**Pn**	**12 12 49.3**	**+1.6**
CTBH	**Cotabato--PC H**	**7.43 353**	⇑*i*P	Pn	12 12 54.3	+3.1
BSSI	**Bau Bau, Buton**	**7.49 218**	P	**Pn**	**12 12 54.5**	**+2.5**
	192nm,0.5s,3μm0.8nm					
FAKI	**Fak Fak**	**7.62 111**	P	Pn	12 12 59.6	+5.7
FAKI	**Fak Fak**	**7.62 111**	*e*Pn	**Pn**	**12 12 53.5**	**-0.3**
BUKP	**Musuan**	**8.04 360**	*e*P	Pn	12 13 03.7	+4.1
PAGZ	**Pagadian**	**8.19 348**	*e*P	**Pn**	**12 13 03.6**	**+2.0**
PAGZ			*e*S	Px	12 13 25.6	
BKB	**Balikpapan**	**8.28 263**	P	Pn	12 13 21.2	+18
IPIL	**Ipil**	**8.34 342**	*e*P	**Pn**	**12 13 05.7**	**+1.9**
TSM	**Tawau**	**8.51 302**	⇓P	**Pn**	**12 13 06.2**	**+0.2**
CGP	**Cagayan de Oro**	**8.62 357**	⇓*e*P	Pn	12 13 12.7	+5.1
EDFI	**Ende, Flores**	**9.14 202**	P	**Pn**	**12 13 17.9**	**+3.0**
	71nm,0.7s,1μm					
KBKI	**Kotabaru**	**9.45 251**	P	Pn	12 13 31.9	+13
SOEI	**Soe**	**9.52 185**	P	Pn	12 13 25.9	+5.9
	393nm,1.1s,3μm					
SOEI	**Soe**	**9.52 185**	*e*Pn	Pn	12 13 24.1	+4.1
SDKM	**Sandakan**	**9.81 306**	⇑P	**Pn**	**12 13 26.9**	**+2.9**
BATI	**Baumata**	**10.04 188**	P	Pn	12 13 32.2	+5.2
	217nm,1.2s,2μm					
BATI	**Baumata**	**10.04 188**	Pn	Pn	12 13 31.1	+4.0
	10nm,0.3s,baz=139,slow=0.1,SNR=40					
BATI			LR	LR	12 18 52.4	
	comp=Z,991nm,19.0s,baz=330,slow=47					
KKM	**Kota Kinabalu**	**10.84 305**	⇓P	**Pn**	**12 13 41.1**	**+3.0**
KKM	**Kota Kinabalu**	**10.84 305**	*e*Pn	**Pn**	**12 13 41.3**	**+3.2**
KDM	**Kudat**	**10.88 311**	⇑P	Pn	12 13 41.9	+3.4
GUIM	**Jordan**	**11.05 347**	*e*P	**Pn**	**12 13 43.0**	**+2.1**
SRBI	**Singaraja**	**12.59 231**	P	P	12 14 17.2	+4.6
KMMI	**Kalianget**	**13.03 238**	P	P	12 14 21.3	+3.8
SBUM	**Sibu**	**13.16 282**	⇓P	**Pn**	**12 14 11.3**	**+1.5**
SBUM	**Sibu**	**13.16 282**	*e*Pn	Pn	12 14 13.6	+3.9
STKI	**Sintang**	**13.64 271**	P	P	**12 14 24.6**	**+0.3**
JAGI	**Jajag, Banyuwa**	**13.66 233**	P	P	12 14 29.2	+4.6
JAGI	**Jajag, Banyuwa**	**13.66 233**	*e*Pn	**Pn**	**12 14 18.8**	**+2.2**
	47nm,1.0s					
SMPI	**Sarmi**	**13.71 98**	P	**P**	**12 14 22.0**	**-3.0**
GMJI	**Gumukmas**	**14.12 235**	P	P	12 14 36.5	+6.9
TBJI	**Tambak Boyo**	**14.77 243**	P	P	12 14 40.8	+3.9
TGY	**Tagaytay City**	**14.81 344**	LR	LR	12 20 47.9	
	comp=Z,25nm,21.7s,baz=292,slow=40					
KSM	**Kuching**	**14.90 276**	*e*Pn	**Pn**	**12 14 35.0**	**+1.7**
GENI	**Genyem**	**15.23 99**	P	**P**	**12 14 43.4**	**+1.4**
PWJI	**Pagerwojo**	**15.37 239**	P	**P**	**12 14 44.4**	**+0.9**
	65nm,1.0s					
JAY	**Jayapura**	**15.75 98**	Pn	**P**	**12 14 47.8**	**-0.1**
	1.0nm,0.3s,baz=352,slow=23,SNR=19					
PCJI	**Pacitan**	**15.99 240**	P	**P**	**12 14 54.8**	**+4.3**
WOJI	**Wonogiri, Jawa**	**16.05 241**	P	**P**	**12 14 54.1**	**+3.0**
BALP	**Baler**	**16.23 348**	*e*P	**P**	**12 14 52.8**	**-0.3**
BOLP	**Bolinao**	**17.27 343**	*e*P	**P**	**12 15 06.3**	**+1.8**
KPJI	**Karang Pucung**	**17.62 246**	P	**P**	**12 15 10.1**	**+1.6**
	126nm,0.9s					
TPI	**Tanjungpandan**	**17.64 262**	P	**P**	**12 15 12.4**	**+3.7**
	22nm,0.9s,507nm					
SZP	**Santa**	**18.23 346**	*e*Pn	**Pn**	**12 15 16.7**	**+1.3**
	152nm,0.6s					
ABRA	**Dolores**	**18.27 346**	*e*P	**P**	**12 15 14.7**	**-0.8**
ABRA			*e*S	Px	12 15 37.0	
APYP	**Conner**	**18.36 348**	*e*P	**Pn**	**12 15 17.3**	**+0.5**
LEM	**Lembang**	**18.65 249**	P	**Pn**	**12 15 22.2**	**+1.5**
	101nm,0.9s					
LEM	**Lembang**	**18.65 249**	P	**P**	**12 15 20.5**	**+0.4**
	4.3nm,0.3s,baz=39,slow=10,SNR=12					
LEM			LR	LR	12 23 01.1	
	comp=Z,609nm,21.8s,baz=53,slow=39					
CISI	**Cisompet, Garu**	**18.73 247**	P	**P**	**12 15 21.0**	**+0.2**
	151nm,0.9s,2μm					
CISI	**Cisompet, Garu**	**18.73 247**	*e*P	**P**	**12 15 20.1**	**-0.7**
	98nm,0.6s					
PIP	**Pasuquin**	**18.94 347** ⇓*e*P		**P**	**12 15 23.0**	**0.0**
CBJI	**Citeko**	**19.24 251**	P	**Pn**	**12 15 27.1**	**-0.5**
	318nm,1.0s					
CGJI	**Cibinong**	**20.39 251**	P	Pn	12 15 41.8	+0.6
	170nm,0.6s,2μm					
DLV	**T Lat**	**20.45 307** *e*P		**P**	**12 15 39.8**	**0.0**
	34nm,0.9s					
TPRI	**Tanjung Pinang**	**20.62 273**	P	Pn	12 15 57.1	+13
KASI	**Kota Agung**	**21.25 255**	P	**P**	**12 15 50.0**	**+1.8**
	63nm,1.0s					
MDSI	**Maura Dua**	**21.34 258**	P	**P**	**12 15 48.7**	**-0.4**
	20nm,1.2s,1μm					
MYKOM	**Kota Tinggi**	**21.35 275** ⇑P		**P**	**12 15 47.5**	**-1.8**
MYKOM	**Kota Tinggi**	**21.35 275** *e*P		**P**	**12 15 48.9**	**-0.4**
	25nm,0.9s					
MBWA	**Marble Bar**	**21.48 194** *e*P		**P**	**12 15 50.1**	**-0.4**
	161nm,1.5s					
WRAB	**Tennant Creek**	**21.59 156** P		**P**	**12 15 51.0**	**-0.7**
	232nm,0.5s,SNR=30					
WRAB	**Tennant Creek**	**21.59 156** *d*P		**P**	**12 15 51.2**	**-0.5**
WRAB			pmax	pmax		
	comp=Z,120nm,1.7s					
WRAB	**Tennant Creek**	**21.59 156** *e*P		**P**	**12 15 50.0**	**-1.7**
	comp=Z,51nm,1.0s					
WRA	**Warramunga Arr**	**21.59 156** P		**P**	**12 15 51.4**	**-0.4**
	comp=Z,20nm,0.5s,baz=334,slow=11,SNR=258					
WRA			S	**S**	**12 19 52.9**	**+3.9**
	comp=Z,3.5nm,1.1s,baz=330,slow=16,SNR=5.3					
WRA			ScP	**ScP**	**12 23 26.3**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=339,slow=2.9,SNR=7.1					
WRA			LR	LR	12 25 20.7	
	comp=Z,239nm,20.6s,baz=310,slow=39					
WB2	**Warramunga Arr**	**21.60 156** *e*P		**P**	**12 15 50.9**	**-1.0**
XMIS	**Christmas Isla**	**21.88 242** *e*P		**P**	**12 15 54.1**	**-0.8**
	comp=Z,50nm,0.8s					
KGM	**Kluang**	**21.90 276** ⇑P		**P**	**12 15 54.7**	**-0.5**
COEN	**Coen**	**22.50 128** *e*P		**P**	**12 16 00.3**	**-1.3**
	comp=Z,7.8nm,1.1s					
KTGM	**Kuala Trenggan**	**22.63 284** ⇑P		**P**	**12 16 01.4**	**-1.6**
TWG	**Pinlang**	**23.23 351** *e*P		**P**	**12 16 05.8**	**-3.2**
	comp=Z,103nm,0.4s					
FRIM	**Kepong**	**23.73 278** ⇓P		**P**	**12 16 12.4**	**-1.5**
YULB	**Yu-li**	**23.75 351** *e*P		**P**	**12 16 10.7**	**-3.3**
	comp=Z,14nm,0.6s					
PMG	**Port Moresby**	**23.77 113** *c i*P		**P**	**12 16 13.5**	**-0.8**
PMG			pmax	pmax		
	comp=Z,47nm,1.7s					
PMG	**Port Moresby**	**23.77 113** *e*P		**P**	**12 16 13.8**	**-0.5**
	comp=Z,4.8nm,0.8s					
TPUB	**Ta-pu**	**23.77 350** *e*P		**P**	**12 16 11.0**	**-3.2**
	comp=Z,63nm,0.6s					
SSLB	**Suanglung**	**24.19 351** *e*P		**P**	**12 16 17.1**	**-1.0**
	comp=Z,29nm,0.9s					
NACB	**Ninganchiao**	**24.48 352** *e*P		**P**	**12 16 19.4**	**-1.2**
IPM	**Ipoh**	**24.51 281** ⇑P		**P**	**12 16 18.7**	**-2.5**
IPM	**Ipoh**	**24.51 281** *e*P		**P**	**12 16 19.1**	**-2.1**
PDSI	**Padang**	**24.66 268** P		**P**	**12 16 22.2**	**-0.3**
	comp=Z,51nm,1.1s					
UBPT	**Khong Chiam**	**24.77 309** P		**P**	**12 16 23.5**	**0.0**
	comp=Z,23nm,0.9s					
ASAR	**Alice Springs**	**24.83 161** P		**P**	**12 16 23.8**	**-0.2**
	comp=Z,60nm,1.1s,baz=337,slow=6.7,SNR=229					
ASAR			PcP	**PcP**	**12 19 59.4**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=351,slow=2.1,SNR=9.9					
ASAR			S	**S**	**12 20 48.5**	**+4.3**
	comp=Z,2.2nm,1.1s,baz=338,slow=16,SNR=4.8					
ASAR			ScP	**ScP**	**12 23 35.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=351,slow=1.9,SNR=7.8					
ASAR			LR	LR	12 27 34.4	
	comp=Z,295nm,20.4s,baz=326,slow=40					
YHNB	**Yeheng**	**25.00 352** *e*P		**P**	**12 16 23.8**	**-1.6**
	comp=Z,19nm,0.5s					
KULM	**Kulim**	**25.03 283** ⇓P		**P**	**12 16 23.1**	**-2.8**
KULM	**Kulim**	**25.03 283** *e*P		**P**	**12 16 23.4**	**-2.5**
	comp=Z,9.6nm,0.9s					
TATO	**Taipei**	**25.28 352** *e*P		**P**	**12 16 27.9**	**-0.1**
	comp=Z,255nm,1.8s					
MNSI	**Mandailing Nat**	**25.55 272** P		P	12 16 36.3	+5.7
	comp=Z,12nm,1.0s					
GZH	**Guangzhou**	**25.83 334** P		P	12 16 38.2	+5.2
GZH			LN			
	comp=Z,990nm,16.7s					
GZ

SNR=7.3
TIA Tai'an 36.99 349 ⇓P P 12 18 13.1 +2.2
TIA PMZ
comp=Z,20nm,0.6s
TIA PMZ
comp=Z,200nm,3.7s
TIA LN
comp=Z,390nm,28.4s
TIA LE
comp=Z,360nm,26.9s
TIA LZ
comp=Z,550nm,27.5s
CD2 Chengdu 37.00 329 *e*P P 12 18 12.3 +1.1
CD2 pP pP 12 18 16.7 -5.8
CD2 sP sP 12 18 19.3 -8.1
CD2 PP **PnPn 12 19 38.9 +2.3**
CD2 S **S 12 23 58.0 +3.9**
CD2 sS sS 12 24 04.8 -8.2
CD2 PcS **PcS 12 24 20.2 +0.2**
CD2 SS **SnSn 12 26 27.3 -2.7**
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,180nm,5.4s
CD2 LN
comp=Z,370nm,17.1s
CD2 LE
comp=Z,350nm,16.6s
CD2 LZ
comp=Z,550nm,18.1s
XAN Xi'an 37.30 338 P P 12 18 12.3 -1.4
XAN pP pP 12 18 16.4 -8.6
XAN PMZ
comp=Z,5.0nm,0.9s
XAN PMZ
comp=Z,27nm,9.3s
XAN LN
comp=Z,280nm,17.1s
XAN LE
comp=Z,66nm,19.5s
XAN LZ
comp=Z,140nm,18.9s
KSICN Icheon 37.37 3 P P 12 18 15.2 +1.1
SNR=6.7
KSAR Wonju Array Be 37.55 4 P P 12 18 15.8 +0.2
KSAR Wonju Array Be 37.55 4 P P 12 18 15.8 +0.2
KSRS Korea Array 37.57 4 P P 12 18 15.8 +0.1
comp=Z,24nm,1.0s,baz=180,slow=9.9,SNR=67
KSRS LR LR 12 33 23.8
comp=Z,279nm,21.9s,baz=199,slow=36
KSULL Ulleungdo 37.88 8 P P 12 18 21.3 +2.9
SNR=17
KSDDC Dongducheon 37.96 2 P P 12 18 20.6 +1.4
SNR=7.7
KSBAR Backryungdo 38.00 359 P P 12 18 21.4 +2.0
SNR=5.8
KSJMJ Jumunjin 38.05 5 P P 12 18 21.1 +1.3
SNR=9.1
YNCB YEONCHEON 38.10 2 P P 12 18 21.7 +1.5
SNR=5.2
KSSKC Sokcho 38.44 4 P P 12 18 24.7 +1.6
SNR=5.5
MAJO Matsushiro 38.53 17 *e*P P 12 18 21.9 -2.1
MAJO pmax pmax
comp=Z,18nm,0.8s
MAJO Matsushiro 38.53 17 *e*P P 12 18 21.9 -2.1
comp=Z,18nm,0.8s
MAT Matsushiro 38.53 17 P P 12 18 22.6 -1.4
MJAR Matsushiro Arr 38.53 17 P P 12 18 22.8 -1.1
comp=Z,13nm,0.7s,baz=193,slow=8.7,SNR=40
MJAR PcP **PcP 12 20 36.4 +0.2**
comp=Z,2.2nm,0.7s,baz=180,slow=2.5,SNR=5.0
ARMA Armidale 39.21 142 *e*P P 12 18 31.9 +2.1
comp=Z,13nm,0.7s
BJT Baijiatuan 40.86 349 P P 12 18 42.1 -1.2
BJT pmax pmax
comp=Z,20nm,0.5s
BJT Baijiatuan 40.86 349 P P 12 18 42.1 -1.2
comp=Z,20nm,0.5s
BJI Beijing 40.88 349 P P 12 18 43.8 +0.4
BJI S **S 12 24 57.8 +5.7**
BJI PMZ
comp=Z,24nm,0.9s
BJI PMZ
comp=Z,130nm,4.3s
BJI LN
comp=Z,280nm,32.2s
BJI LE
comp=Z,240nm,26.1s
BJI LZ
comp=Z,460nm,27.6s
LZH Lanzhou 41.18 333 *e*P P 12 18 47.5 +1.4
LZH pP pP 12 18 51.0 -6.6
LZH sP sP 12 18 52.6 -10
LZH PP **PnPn 12 20 29.4 +3.0**
LZH PcP **PcP 12 20 46.5 +1.6**
LZH ScP **ScP 12 24 34.9 +3.2**
LZH *e*S **S 12 24 59.5 +2.5**
LZH sS sS 12 25 07.0 -9.0
LZH PMZ
comp=Z,28nm,1.0s
LZH PMZ
comp=Z,130nm,5.5s
LZH LN
comp=Z,1μm,16.8s
LZH LE
comp=Z,1μm,16.5s
LZH LZ
comp=Z,1μm,18.9s
CAN Canberra 41.43 150 *e*P P 12 18 49.2 +1.2
CAN pmax pmax
comp=Z,34nm,0.8s
CAN Canberra 41.43 150 *e*P P 12 18 49.2 +1.2
comp=Z,34nm,0.8s
HHC Hu-ho-hao-te 42.68 345 *e*P P 12 19 00.9 +2.6
HHC PP **PP 12 20 42.2 +4.3**
HHC S S 12 25 25.2 +6.2
HHC sS sS 12 25 32.6 -5.5
HHC SS **SS 12 28 29.0 -1.6**
HHC PMZ
comp=Z,13nm,0.8s
HHC PMZ
comp=Z,130nm,5.2s
HHC LN
comp=Z,180nm,19.7s
HHC LE
comp=Z,250nm,17.3s
HHC LZ
comp=Z,170nm,17.3s
VLA Vladivostok 43.56 7⇑*e*P P 12 19 05.3 +0.1
VLA pmax pmax
comp=Z,41nm,1.0s
LSA Lhasa 43.96 316 *e*P P 12 19 07.2 -2.0
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 43.96 316 *e*P P 12 19 07.2 -2.0
comp=Z,8.0nm,0.6s
USRK Ussuriysk Ar. 44.64 7 P P 12 19 13.7 -0.1
comp=Z,18nm,0.5s,baz=187,slow=6.1,SNR=25
MDJ Mudanjiang 44.81 5 P P 12 19 14.9 -0.3
MDJ pP pP 12 19 17.9 -8.8
MDJ ScP **ScP 12 24 48.9 +3.0**
MDJ PcS **PcS 12 24 50.0 -0.1**
MDJ S **S 12 25 52.9 +3.2**
MDJ PMZ
comp=Z,17nm,0.8s
MDJ PMZ
comp=Z,82nm,3.6s
MDJ LN
comp=Z,210nm,28.0s
MDJ LE
comp=Z,74nm,28.2s
MDJ LZ
comp=Z,300nm,31.2s
MDJ Mudanjiang 44.81 5 *e*P P 12 19 14.3 -0.9
comp=Z,32nm,0.7s
ERM Erimo 45.08 19⇑*i*P P 12 19 14.9 -2.4
ERM pmax pmax
comp=Z,37nm,1.2s
ODAN Odare 45.17 310 *e*P P 12 19 17.5 -1.2
TAPN Taplejung 45.18 310 *e*P P 12 19 17.8 -1.0
comp=Z,23nm,0.5s
GTA Gaotai 45.73 332 ⇑P P 12 19 23.3 +0.6
GTA pP pP 12 19 28.0 -6.3
GTA sP sP 12 19 30.4 -8.7
GTA ScP **ScP 12 24 52.2 +2.2**
GTA S **S 12 26 05.5 +2.1**
GTA sS sS 12 26 14.1 -8.5
GTA SS **ScS 12 29 21.5 +5.7**
GTA PMZ
comp=Z,34nm,1.1s
GTA PMZ
comp=Z,200nm,5.9s
GTA LN
comp=Z,260nm,20.9s
GTA LE
comp=Z,270nm,20.4s
GTA LZ
comp=Z,530nm,19.5s
DZM Mont Dzumac 45.74 121 P P 12 19 23.3 +0.2
comp=Z,4.6nm,0.9s,baz=214,slow=14,SNR=6.6
RAMN Ramite 45.83 309 *e*P P 12 19 23.0 -0.9
comp=Z,37nm,0.5s
JIRN Jiri 46.50 310 *e*P P 12 19 28.6 -0.7
comp=Z,34nm,0.6s
ASAJ Asahikawa 46.81 17 P P 12 19 31.4 +0.5
comp=Z,9.5nm,0.4s,baz=227,slow=9.6,SNR=46
ASAJ Asahikawa 46.81 17 *e*P P 12 19 31.5 +0.6
GUN Gumba 46.86 310 *e*P P 12 19 30.7 -1.4
comp=Z,61nm,0.7s
SKHT Srikalahasti 47.05 289 *e*P P 12 19 32.2 -1.1
SKHT *e*pP **pP 12 19 47.0 +2.1**
PKI Pulchoki 47.06 309 *e*P P 12 19 32.4 -1.2
KKN Kakani 47.26 309 *e*P P 12 19 33.9 -1.2
comp=Z,20nm,0.7s
ADKI Addanki 47.32 292 *e*P P 12 19 33.8 -1.6
GKN Gorkha 47.86 309 *e*P P 12 19 37.8 -1.9
comp=Z,22nm,0.6s
NJS Nagarjunasagar 48.13 293 *e*P P 12 19 38.5 -3.1
KOLN Koldanda 48.56 308 *e*P P 12 19 43.6 -1.5
comp=Z,65nm,0.7s
DANN Dangsing 48.71 309 *e*P P 12 19 44.7 -1.6
comp=Z,73nm,0.7s
HYB Hyderabad 49.05 293 *i*P P 12 19 46.0 -2.8
HYB *e* 12 20 01.0
HYBB Hyderabad (bro 49.05 293 *e*P P 12 19 45.4 -3.4
PYUN Piuthan 49.19 308 *e*P P 12 19 48.6 -1.4
comp=Z,249nm,0.5s
HABR Khabarovsk 49.25 9 *e*P P 12 19 47.0 -2.7
HABR 12 21 10.1
HABR *e* 12 21 40.7
HABR *e*PPP PPP 12 22 31.8
HABR *e*S **S 12 26 53.0 +0.2**
HABR *e**SS sS 12 26 58.4 -14
HABR *e* 12 29 39.0
HABR *e*SSS SSS 12 31 42.3
YSS Yuzh-Sakhalins 49.45 16 *e*P P 12 19 51.3 0.0
HIA Hailar 49.50 355 *e*P P 12 19 50.6 -1.1
HIA pmax pmax
comp=Z,35nm,0.8s
HIA Hailar 49.50 355 *e*P P 12 19 50.6 -1.1
comp=Z,35nm,0.8s
KLR Kul'dur 49.58 6 *e*P P 12 19 47.8 -4.5
ULN Ulaanbaatar 50.40 344 *e*P P 12 19 56.8 -1.9
ULN pmax pmax
comp=Z,22nm,0.9s
ULN Ulaanbaatar 50.40 344 *e*P P 12 19 56.8 -1.9
comp=Z,22nm,0.9s
SONM Songino Array 50.55 344 P P 12 19 58.8 -1.0
comp=Z,17nm,0.7s,baz=157,slow=8.1,SNR=69
SONM LR LR 12 42 25.3
comp=Z,163nm,19.9s,baz=28,slow=37
ZAK Zakamensk 53.74 343 *e*P P 12 20 23.4 0.0
ZAK *e* 12 21 27.9
ZAK pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 54.79 344 *e*P P 12 20 30.3 -0.7
TLY pmax pmax
comp=Z,14nm,0.9s
TLY Talaya 54.79 344 P P 12 20 32.0 +1.0
comp=Z,6.5nm,0.5s,baz=269,slow=2.9,SNR=9.9
TLY Talaya 54.79 344 *e*P P 12 20 31.1 +0.1
comp=Z,16nm,1.0s
WMQ Urumqi 55.09 328 P P 12 20 33.1 -0.2
WMQ pP pP 12 20 38.0 -7.2
WMQ sP sP 12 20 41.0 -8.9
WMQ PcP **PcP 12 21 35.0 +0.6**
WMQ PP **PP 12 22 37.0 0.0**
WMQ *e*S **S 12 28 13.0 -0.2**
WMQ SS **SS 12 31 58.0 +0.3**
WMQ PMZ
comp=Z,12nm,0.5s
WMQ PMZ
comp=Z,120nm,5.2s
WMQ LN
comp=Z,590nm,21.2s
WMQ LE
comp=Z,400nm,16.2s
WMQ LZ
comp=Z,490nm,24.7s
MOY Mondy 55.56 342 *e*P P 12 20 36.4 -0.2
MOY pmax pmax
comp=Z,23nm,2.0s
CLNS Chul'man 56.87 360 *e*P P 12 20 45.3 -0.5
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
HVS Khovu-Aksy 57.66 337*de*P P 12 20 51.9 +0.3
BOD Bodaibo 58.53 353 *e*P P 12 20 56.2 -1.2
BOD pmax pmax
comp=Z,26nm,0.9s
PETK Petropavlovsk- 59.66 22 P P 12 21 06.3 +1.0
comp=Z,18nm,0.8s,baz=198,slow=5.2,SNR=12
KSH Kashi 59.75 317 P P 12 21 06.9 +0.5
KSH pP pP 12 21 11.9 -6.4
KSH PP **PP 12 23 20.1 +1.5**
KSH PcS **PcS 12 25 54.2 -1.0**
KSH S **S 12 29 14.6 -0.2**
KSH SS **SS 12 33 11.2 -0.2**
KSH PMZ
comp=Z,11nm,0.8s
KSH PMZ
comp=Z,150nm,5.3s
KSH LN
comp=Z,99nm,5.3s
KSH LE
comp=Z,87nm,5.3s
KSH LZ
comp=Z,330nm,18.9s
MKAR Makanchi Array 59.91 327 P P 12 21 05.0 -2.2
comp=Z,17nm,0.4s,baz=120,slow=8.4,SNR=151
MKAR ScP **ScP 12 25 50.6 -0.7**
comp=Z,0.7nm,0.6s,baz=141,slow=4.7,SNR=3.8
MKAR LR LR 12 48 36.1
comp=Z,261nm,19.4s,baz=330,slow=38
PET Petropavlovsk 59.96 23 *e*P P 12 21 07.9 +0.6
URZ Urewera 60.86 135 P P 12 21 12.7 -1.1
comp=Z,4.1nm,0.5s,baz=292,slow=5.3,SNR=5.5
KZA Kyzart 61.48 320 P P 12 21 19.3 +0.8
SNR=15
KZA Kyzart 61.48 320 *i*P P 12 21 19.3 +0.8
TKM2 Tokmak 2 61.68 321 P P 12 21 19.8 +0.3
SNR=25
TKM2 Tokmak 2 61.68 321 *i*P P 12 21 19.8 +0.3
TKM2 Tokmak 2 61.68 321 *e*P P 12 21 17.7 -1.8
KBK Karagaybulak 61.96 320 P P 12 21 21.9 +0.5
SNR=12
KBK Karagaybulak 61.96 320 *i*P P 12 21 21.9 +0.5
UCH Uchtor 62.03 319 P P 12 21 22.9 +0.7
SNR=25
UCH Uchtor 62.03 319 *i*P P 12 21 22.9 +0.7
YAK Yakutsk 62.18 2 *e*P P 12 21 20.7 -1.5
YAK *e**PP **pP 12 21 34.6 +0.4**
YAK *e* 12 22 00.9
YAK *e* 12 23 37.9
YAK *e*S **S 12 29 43.1 -1.5**
YAK *e**SS sS 12 30 11.5 +7.0
YAK *e* 12 31 08.3
YAK *e*SS **SS 12 33 48.3 +0.1**
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=N,61nm,3.8s
YAK pmax pmax
comp=Z,40nm,3.3s
YAK pmax pmax
comp=E,99nm,4.7s
YAK smax smax
comp=E,79nm,1.7s
YAK smax smax
comp=N,83nm,2.4s
YAK Yakutsk 62.18 2 P P 12 21 20.7 -1.5
comp=N,60nm,0.7s,baz=159,slow=1.6,SNR=22
YAK Yakutsk 62.18 2 *e*P P 12 21 21.2 -1.0
AAK Ala-Archa 62.24 320 P P 12 21 23.6 +0.3
comp=N,107nm,0.7s,SNR=11
AAK Ala-Archa 62.24 320 P P 12 21 23.8 +0.5
SNR=16
AAK Ala-Archa 62.24 320*d i*P P 12 21 23.3 +0.1
AAK pmax pmax
comp=Z,42nm,1.0s
AAK Ala-Archa 62.24 320 *e*P P 12 21 23.4 +0.1
AML Almayashu 62.52 319 P P 12 21 25.9 +0.5
SNR=29
AML Almayashu 62.52 319 *i*P P 12 21 25.9 +0.5
USP Ospenovka 62.55 320 P P 12 21 25.3 +0.1
SNR=8.4
USP Ospenovka 62.55 320 *i*P P 12 21 25.3 +0.1
KBL Kabul 62.70 310 *e*P P 12 21 25.6 -1.0
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 62.70 310 *e*P P 12 21 25.6 -1.0
comp=Z,9.9nm,0.8s
EKS2 Erkin-Say 62.72 320 P P 12 21 26.9 +0.5
SNR=7.7
EKS2 Erkin-Say 62.72 320 *i*P P 12 21 26.9 +0.5
EKS2 Erkin-Say 62.72 320 *e*P P 12 21 27.3 +0.9
ZALV Zalesovo Beam 63.39 335 P P 12 21 27.2 -3.3
comp=Z,14nm,0.8s,baz=124,slow=6.8,SNR=42
KURK Kurchatov 64.22 329 P P 12 21 33.5 -2.5
comp=Z,298nm,0.5s,SNR=20
KURK Kurchatov 64.22 329 *e*P P 12 21 33.6 -2.5
KURK pmax pmax
comp=Z,68nm,0.7s
KURK Kurchatov 64.22 329 *e*P P 12 21 33.6 -2.4
comp=Z,68nm,0.7s
NVS Novosibirsk 64.68 335⇑*i*P P 12 21 36.5 -2.4
NVS pmax pmax
comp=N,9.0nm,0.6s
NVS pmax pmax
comp=Z,14nm,0.6s
KKAR Karatay Array 65.05 319 *e*P P 12 21 40.2 -1.5
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 65.05 319 *e*P P 12 21 40.1 -1.5
comp=Z,8.7nm,0.8s
SEY Seymchan 66.21 13 P P 12 21 49.2 +0.6
comp=Z,9.1nm,0.9s,baz=217,slow=5.2,SNR=29
TIXI Tiksi 71.78 1*c i*P P 12 22 21.8 -1.3
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 71.78 1 *e*P P 12 22 21.4 -1.7
comp=Z,13nm,0.5s
GEYT Alibeck 72.14 310 P P 12 22 25.2 -0.7
comp=Z,3.2nm,0.8s,baz=143,slow=5.2,SNR=4.1
GEYT LR LR 12 57 50.8
comp=Z,118nm,20.9s,baz=175,slow=39
BILL Bilibino 73.75 15⇑*e*P P 12 22 32.5 -2.3
BILL *i* 12 22 41.3
BILL pmax pmax
comp=Z,23nm,2.5s
ABKAR Akbulak array 74.19 322 *e*P P 12 22 35.4 -2.4
comp=Z,9.2nm,0.6s
AKTO Aktyubinsk 75.75 323 P P 12 22 44.8 -2.0
comp=Z,19nm,0.6s,baz=104,slow=7.4,SNR=56
SVE Sverdlovsk 76.48 329⇑*e*P P 12 22 49.0 -1.8
SVE pmax pmax
comp=Z,26nm,0.9s
ARU Arti 77.41 329 P P 12 22 54.7 -1.3
comp=Z,117nm,0.9s,SNR=11
ARU Arti 77.41 329*c i*P P 12 22 54.1 -1.9
ARU 12 25 43.4
ARU S **S 12 32 44.5 +1.0**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 77.41 329 *e*P P 12 22 53.6 -2.4
comp=Z,18nm,0.9s
OPO Ambohidratompo 78.49 251 P P 12 23 02.0 -1.0
comp=Z,4.2nm,0.6s,baz=60,slow=5.0,SNR=9.7
GAMB Gambell 78.63 24 *e*P P 12 23 02.9 +0.3
comp=Z,21nm,1.1s
MAW Mawson 79.53 200 P P 12 23 08.4 +0.9
comp=Z,5.9nm,1.0s,baz=44,slow=7.9,SNR=4.0
MAW LR LR 12 57 04.0
comp=Z,138nm,20.8s,baz=184,slow=35
VNDA Vanda 79.75 172 P P 12 23 09.1 +0.6
comp=Z,3.8nm,0.8s,baz=308,slow=6.3,SNR=15
RAYN Ar Rayn 80.56 294 *e*P P 12 23 12.1 -2.0
comp=Z,6.1nm,0.9s
TNA Tin City 80.82 23 *e*P P 12 23 13.8 -0.7
comp=Z,8.8nm,1.0s
DGRG David-gareji 82.44 312 P P 12 23 23.9 +0.2
GNI Garni 82.77 310⇓*e*P P 12 23 25.1 -0.4
GNI pmax pmax
comp=Z,19nm,2.5s
GNI Garni 82.77 310 *e*P P 12 23 23.8 -1.7
comp=Z,14nm,1.0s
TBLG Delisi 82.95 312 P P 12 23 26.4 +0.1
GUDG Gudauri 83.23 313 P P 12 23 29.6 +1.7
ZEI Tsey 83.69 313 *e*P P 12 23 28.7 -1.6
ZEI pmax pmax
comp=Z,15nm,0.9s
ONI Oni 83.99 313 P P 12 23 32.6 +0.9
KBZ Khabaz 84.51 314 P P 12 23 32.8 -1.3
comp=Z,7.3nm,0.9s,baz=96,slow=4.2,SNR=23
GOF Gofitskoye 84.54 315 *e*P P 12 23 33.7 -0.6
NEY Neytrino 84.59 313 *e*P P 12 23 35.4 +0.6
KIV Kislovodsk 84.68 314 *e*P P 12 23 35.9 +0.7
KIV pmax pmax
comp=Z,8.0nm,0.7s
PRGR Permogore 85.19 332 *e*P P 12 23 33.6 -3.5
PRGR pmax pmax
comp=Z,19nm,0.8s
KDAK Kodiak Island 86.06 32*ce*P P 12 23 43.2 +1.7
VRHR Novokhopersk 86.06 321 *e*P P 12 23 38.5 -3.2
VRHR pmax pmax
comp=N,6.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=E,40nm,1.8s
SOC Sochi 86.80 313 *e*P P 12 23 43.4 -2.1
SOC *e* 12 27 00.7
SOC *e*S **SKSac 12 34 09.6 +0.2**
SOC pmax pmax
comp=Z,6.0nm,0.3s
PPLA Purkeypile 86.85 27 *e*P P 12 23 43.6 -1.9
VORD Divnogorie 87.52 321 *e*P P 12 23 48.8 0.0
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,140nm,1.6s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 87.61 321 *e*P P 12 23 46.1 -3.2
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.2s
KMBO Kilima Mbogo 87.86 269 *i*P P 12 23 52.0 +0.4
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 87.86 269 P P 12 23 51.2 -0.3
comp=Z,9.3nm,0.9s,baz=56,slow=6.2,SNR=19
KMBO LR LR 13 01 01.2
comp=Z,65nm,20.9s,baz=96,slow=34
KMBO Kilima Mbogo 87.86 269 *e*P P 12 23 50.8 -0.8
comp=Z,2.9nm,1.0s
COLD Coldfoot 88.12 23 *e*P P 12 23 50.7 -0.7
comp=Z,11nm,0.8s
ANN Anapa 88.50 315 *e*P P 12 23 52.0 -1.6
ANN pmax pmax
comp=Z,55nm,0.9s
ILAR Eielson Array 89.33 25 P P 12 23 55.4 -1.7
comp=Z,2.0nm,0.6s,baz=244,slow=4.9,SNR=46
OBN Obninsk 89.33 325 *e*P P 12 23 55.9 -1.4
OBN pmax pmax
comp=Z,30nm,0.7s

OBN					MLR	MLR			
	comp=Z,85nm,19.0s								
OBN	**Obninsk**	**89.33**	**325**		P	**P**	**12**	**23**	**55.9** **-1.4**
	comp=Z,28nm,0.5s,baz=257,slow=2.9,SNR=8.5								
QSPA	**South Pole Qui**	**89.72**	**180**		P	**P**	**12**	**23**	**59.1** **0.0**
	comp=Z,2.7nm,0.5s,baz=259,slow=0.3,SNR=22								
PAX	**Paxson**	**89.92**	**27**	*eP*		**P**	**12**	**23**	**59.0** **-1.1**
PAX					pmax	pmax			
	comp=Z,15nm,1.1s								
PAX	**Paxson**	**89.92**	**27**	*eP*		**P**	**12**	**23**	**59.0** **-1.1**
	comp=Z,15nm,1.1s								
BRTR	**Keskin Array B**	**91.27**	**310**		P	**P**	**12**	**24**	**04.8** **-2.1**
	comp=Z,2.7nm,1.0s,baz=132,slow=5.5,SNR=9.6								
BRTR					LR	LR	13	12	19.3
	comp=Z,26nm,19.5s,baz=86,slow=40								
JOF	**Joensuu**	**91.92**	**333**	*eP*		P	12	24	05.3 -3.9
JOF					pmax	pmax			
	comp=Z,8.0nm,0.6s								
JOF	**Joensuu**	**91.92**	**333**	*ep*		P	12	24	05.3 -3.9
	comp=Z,7.5nm,0.6s								
KEV	**Kevo**	**93.01**	**340**	*eP*		**P**	**12**	**24**	**14.8** **+0.7**
KEV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KEV	**Kevo**	**93.01**	**340**	*ep*		**P**	**12**	**24**	**14.8** **+0.7**
	comp=Z,0.5nm,0.4s								
ARCES	**ARCESS Array B**	**93.56**	**340**		P	**P**	**12**	**24**	**14.6** **-2.1**
	comp=Z,2.3nm,0.5s,baz=82,slow=7.5,SNR=12								
ARCES					LR	LR	13	10	20.8
	comp=Z,87nm,19.8s,baz=124,slow=38								
HYT	**Haines Junctio**	**93.79**	**29**	*eP*		**P**	**12**	**24**	**18.1** **+0.1**
AKASG	**Malin Array Be**	**93.90**	**321**		P	**P**	**12**	**24**	**15.9** **-2.7**
	comp=Z,1.1nm,0.5s,baz=70,slow=4.3,SNR=16								
KIEV	**Kiev**	**93.91**	**321⇓**	*eP*		**P**	**12**	**24**	**16.5** **-2.2**
KIEV	**Kiev**	**93.91**	**321**		P	**P**	**12**	**24**	**15.8** **-2.8**
	comp=Z,5.9nm,0.9s								
KAF	**Kangasniemi**	**94.31**	**332**	*eP*		P	12	24	16.7 -3.5
KAF					pmax	pmax			
	comp=Z,3.0nm,0.5s								
KAF	**Kangasniemi**	**94.31**	**332**	*ep*		P	12	24	16.7 -3.5
	comp=Z,3.3nm,0.5s								
INK	**Inuvik**	**94.39**	**21**		PKKPbc	PKKPbc	12	41	19.6 -3.3
	comp=Z,0.4nm,0.6s,baz=56,slow=3.6,SNR=4.1								
FINES	**FINESS Array B**	**94.51**	**332**		P	**P**	**12**	**24**	**18.1** **-3.1**
	comp=Z,2.7nm,0.6s,baz=108,slow=6.2,SNR=17								
TIRR	**Tirgusor**	**94.94**	**314**	*⇓P*		P	12	24	20.3 -3.2
TIRR	**Tirgusor**	**94.94**	**314**	*⇓iP*		P	12	24	20.3 -3.2
IDID	**Didziasalis**	**94.95**	**325**	*eP*		**P**	**12**	**24**	**21.4** **-1.9**
NACGM	**Naroch**	**94.97**	**325**	*e*		P	12	24	19.0 -4.4
CFR	**Carcaliu**	**95.08**	**315**	*⇓P*		**P**	**12**	**24**	**23.0** **-1.1**
CFR	**Carcaliu**	**95.08**	**315**	*⇓iP*		**P**	**12**	**24**	**23.0** **-1.1**
IIGN	**Ignalina**	**95.24**	**325**	*eP*		**P**	**12**	**24**	**22.1** **-2.6**
ISAL	**Salakas**	**95.26**	**326**	*eP*		**P**	**12**	**24**	**22.4** **-2.3**
TESR	**Tescani**	**95.99**	**317**	*⇓iP*		**P**	**12**	**24**	**26.6** **-1.7**
VRI	**Vrincioaia**	**96.00**	**316**	*⇓P*		**P**	**12**	**24**	**27.4** **-1.0**
VRI	**Vrincioaia**	**96.00**	**316**	*⇓iP*		**P**	**12**	**24**	**27.4** **-1.0**
MLR	**Muntele Rosu**	**96.58**	**316**	*⇓P*		**P**	**12**	**24**	**29.4** **-1.8**
MLR	**Muntele Rosu**	**96.58**	**316**	*⇓iP*		**P**	**12**	**24**	**29.4** **-1.8**
BURAR	**Bucovina Array**	**96.83**	**318**	*⇓P*		**P**	**12**	**24**	**31.3** **-0.9**
BURAR	**Bucovina Array**	**96.83**	**318**	*⇓iP*		**P**	**12**	**24**	**31.3** **-0.9**
SUW	**Suwalki**	**97.18**	**324**	*eP*		**P**	**12**	**24**	**32.0** **-1.5**
SUW	**Suwalki**	**97.18**	**324**	*eP*		**P**	**12**	**24**	**32.0** **-1.5**
SUW	**Suwalki**	**97.18**	**324**	*eP*		**P**	**12**	**24**	**31.6** **-1.9**
	comp=Z,24nm,0.9s								
KWP	**Kalwaria Pacla**	**98.19**	**320**	*⇓P*		**P**	**12**	**24**	**37.1** **-1.1**
KWP	**Kalwaria Pacla**	**98.19**	**320**	*eP*		**P**	**12**	**24**	**37.2** **-1.0**
KWP	**Kalwaria Pacla**	**98.19**	**320**	*⇓iP*		**P**	**12**	**24**	**37.1** **-1.1**
KWP	**Kalwaria Pacla**	**98.19**	**320**	*eP*		**P**	**12**	**24**	**36.8** **-1.3**
	comp=Z,13nm,0.9s								
BOSA	**Boshof**	**98.56**	**241**		LR	LR	13	02	57.6
	comp=Z,222nm,21.7s,baz=100,slow=32								
KOLS	**Kolonicke sedl**	**98.59**	**319**	*iP*		**P**	**12**	**24**	**39.2** **-0.8**
KOLS	**Kolonicke sedl**	**98.59**	**319**		PDIF	**P**	**12**	**24**	**39.2** **-0.8**
UZH	**Uzhgorod**	**98.62**	**319**	*⇓iP*		**P**	**12**	**24**	**38.3** **-1.8**
UZH				*e*PP*		**pP**	**12**	**24**	**52.7** **0.0**
DRGR		**98.64**	**317**	*⇓P*		**P**	**12**	**24**	**38.3** **-2.0**
DRGR		**98.64**	**317**	*⇓iP*		**P**	**12**	**24**	**38.3** **-2.0**
CRVS	**Cervenica-Dubn**	**99.12**	**320**	*iP*		**Pdif**	**12**	**24**	**41.0** **-1.4**
CRVS	**Cervenica-Dubn**	**99.12**	**320**		PDIF	**Pdif**	**12**	**24**	**41.0** **-1.4**
KECS	**Kecovo**	**99.83**	**319**	*iP*		**Pdif**	**12**	**24**	**44.4** **-1.1**
KECS	**Kecovo**	**99.83**	**319**		PDIF	**Pdif**	**12**	**24**	**44.4** **-1.1**
KECS				*e*			12	45	52.1
OJC	**Ojcow**	**99.93**	**321**	*eP*		**Pdif**	**12**	**24**	**44.8** **-1.1**
HFS	**Hagfors**	**100.72**	**332**		P	**Pdif**	**12**	**24**	**46.6** **-2.6**
	comp=Z,1.6nm,0.6s,baz=112,slow=4.0,SNR=12								
NB2	**NORSAR Subarra**	**101.56**	**333**		P	**Pdif**	**12**	**24**	**50.6** **-2.4**
	comp=Z,3.3nm,1.1s,baz=72,slow=4.6								
NOA	**NORSAR Array B**	**101.56**	**333**		P	**Pdif**	**12**	**24**	**50.9** **-2.1**
	comp=Z,2.5nm,1.0s,baz=71,slow=4.5,SNR=5.9								
KSP	**Ksiaz**	**101.97**	**322**	*eP*		**Pdif**	**12**	**24**	**54.8** **-0.2**
BRG	**Berggiesshubel**	**103.39**	**323**	*ePKP*		**Pdif**	**12**	**24**	**59.9** **-1.5**
	comp=Z,8.2nm,1.2s								
BRG	**Berggiesshubel**	**103.39**	**323**	*eP*		**Pdif**	**12**	**24**	**59.8** **-1.5**
BRG					pmax	pmax			
	comp=Z,8.0nm,1.2s								
YKA	**Yellowknife Ar**	**103.73**	**24**		Pdiff	**Pdif**	**12**	**25**	**02.2** **-0.3**
	comp=Z,0.4nm,0.6s,baz=295,slow=4.5,SNR=16								
YKA					PKiKP	**PKiKP**	**12**	**29**	**20.5** **+0.1**
	comp=Z,0.4nm,0.7s,baz=299,slow=1.6,SNR=7.9								
YKA					PKKPbc	**PKKPbc**	**12**	**40**	**54.8** **-1.6**
	comp=Z,0.1nm,0.6s,baz=115,slow=2.8,SNR=4.2								
GERES	**GERESS Array B**	**104.12**	**321**		Pdiff	**Pdif**	**12**	**25**	**03.0** **-1.7**
	comp=Z,0.3nm,0.7s,baz=67,slow=3.5,SNR=4.8								
HLID	**Hailey**	**111.78**	**42**		P	**PKiKP**	**12**	**29**	**36.7** **+0.4**
	baz=112								
B20A	**Solberg Farm,**	**113.72**	**36**		P	**PKiKP**	**12**	**29**	**39.5** **-0.2**
	baz=114								
C20A	**Veseth Ranch,**	**114.08**	**36**		P	**PKiKP**	**12**	**29**	**40.3** **-0.1**
	baz=114								
PDAR	**Pinedale Array**	**115.36**	**42**		PKP	**PKPdf**	**12**	**29**	**43.6** **+0.4**
	comp=Z,0.4nm,0.6s,baz=56,slow=1.1,SNR=3.4								
D22A	**Cohagen**	**115.43**	**36**		P	**PKPdf**	**12**	**29**	**43.5** **+0.5**
	baz=115								
E22A	**Miles City**	**115.93**	**37**		P	**PKPdf**	**12**	**29**	**44.0** **0.0**
	baz=116								
I21A	**Big Trails, Te**	**116.37**	**40**		P	**PKPdf**	**12**	**29**	**44.6** **-0.5**
	baz=116								
J22A	**Midwest**	**117.08**	**40**		P	**PKPdf**	**12**	**29**	**45.4** **-1.0**
	baz=117								
H24A	**Dirks Ranch, A**	**117.63**	**38**		P	**PKPdf**	**12**	**29**	**46.4** **-1.0**
	baz=118								
A29A	**Manning Farm,**	**118.32**	**32**		P	**PKPdf**	**12**	**29**	**47.8** **-0.7**
	baz=118								
I25A	**Rochford**	**118.51**	**38**		P	**PKPdf**	**12**	**29**	**48.1** **-1.1**
	baz=118								
ULM	**Lac du Bonnet**	**119.17**	**29**		PKP	**PKPdf**	**12**	**29**	**49.3** **-0.7**
	comp=Z,2.3nm,0.6s,baz=294,slow=2.3,SNR=5.9								
H27A	**Howes**	**119.19**	**37**		P	**PKPdf**	**12**	**29**	**49.4** **-0.9**
	baz=119								
C30A	**Mose, Pekin**	**119.46**	**32**		P	**PKPdf**	**12**	**29**	**50.3** **-0.4**
	baz=119								
K26A	**Motz Farm, Whi**	**119.53**	**39**		P	**PKPdf**	**12**	**29**	**50.5** **-0.6**
	baz=119								
G28A	**Parade**	**119.64**	**36**		P	**PKPdf**	**12**	**29**	**50.4** **-0.7**
	baz=120								
H28A	**Mission Ridge**	**119.80**	**36**		P	**PKPdf**	**12**	**29**	**50.8** **-0.7**
	baz=120								
I29A	**Vivian Onida**	**120.59**	**37**		P	**PKPdf**	**12**	**29**	**52.1** **-0.9**
	baz=120								
G30A	**Faulkton**	**120.63**	**35**		P	**PKPdf**	**12**	**29**	**52.1** **-0.9**
	baz=120								
ANMO	**Albuquerque**	**120.84**	**49**	*⇓iP*	KIKP	**PKPdf**	**12**	**29**	**55.0** **+1.0**
ANMO					pmax	pmax			
	comp=Z,14nm,1.7s								
TORD	**Torodi Ar. Bea**	**122.50**	**285**		PKP	**PKPdf**	**12**	**29**	**56.5** **-0.9**
	comp=Z,2.5nm,0.8s,baz=48,slow=1.6,SNR=11								
TORD					PKKPbc	**PKKPab**	**12**	**39**	**53.0** **+0.8**
	comp=Z,1.3nm,1.0s,baz=280,slow=4.2,SNR=4.0								
Q29A	**Oakley**	**122.92**	**42**		P	**PKPdf**	**12**	**29**	**57.7** **+0.1**
	baz=123								
ECSD	**EROS Data Cent**	**122.92**	**35**		P	**PKPdf**	**12**	**29**	**56.8** **-0.6**
	baz=123								
ECSD	**EROS Data Cent**	**122.92**	**35**	*ePKPdf*		**PKPdf**	**12**	**29**	**56.8** **-0.6**
MNTX	**Cornudas Mount**	**122.97**	**52**		P	**PKPdf**	**12**	**29**	**58.4** **+0.5**
	baz=123								
T28A	**Walsh**	**123.02**	**44**		P	**PKPdf**	**12**	**29**	**57.5** **-0.5**
	baz=123								
SCHQ	**Schefferville**	**124.68**	**8**		PKP	**PKPdf**	**12**	**30**	**00.2** **-0.2**
	comp=Z,3.0nm,0.6s,baz=106,slow=0.8,SNR=7.4								
TXAR	**Lajitas Array**	**125.25**	**54**		PKP	**PKPdf**	**12**	**30**	**02.0** **-0.4**
	comp=Z,1.1nm,1.0s,baz=298,slow=2.7,SNR=7.8								
529A	**Stev Forest Ra**	**126.08**	**52**		P	**PKPdf**	**12**	**30**	**03.8** **-0.2**
	baz=126								
429A	**Davenport Ranc**	**126.13**	**51**		P	**PKPdf**	**12**	**30**	**03.9** **-0.2**
	baz=126								
430A	**Baggett Ranch,**	**126.57**	**51**		P	**PKPdf**	**12**	**30**	**03.8** **-1.1**
	baz=126								
530A	**J-C Ranch, Com**	**126.77**	**52**		P	**PKPdf**	**12**	**30**	**04.5** **-0.8**
	baz=127								
431A	**Sonora**	**127.11**	**51**		P	**PKPdf**	**12**	**30**	**05.3** **-0.6**
	baz=127								
531A	**Rocksprings**	**127.38**	**51**		P	**PKPdf**	**12**	**30**	**06.1** **-0.3**
	baz=127								
332A	**Millersview**	**127.45**	**49**		P	**PKPdf**	**12**	**30**	**06.0** **-0.5**
	baz=127								
JCT	**Junction City**	**127.82**	**50**	*ePKIKP*		**PKPdf**	**12**	**30**	**07.7** **+0.5**
JCT	**Junction City**	**127.82**	**50**		P	**PKPdf**	**12**	**30**	**07.4** **+0.1**
	baz=128								
JCT	**Junction City**	**127.82**	**50**	*ePKPdf*		**PKPdf**	**12**	**30**	**07.7** **+0.5**
532A	**Rocksprings**	**127.89**	**51**		P	**PKPdf**	**12**	**30**	**06.9** **-0.5**
	baz=128								
333A	**Richland Sprin**	**128.06**	**49**		P	**PKPdf**	**12**	**30**	**07.3** **-0.4**
	baz=128								
433A	**Art**	**128.24**	**50**		P	**PKPdf**	**12**	**30**	**07.5** **-0.6**
	baz=128								
732A	**Laxson Ranch,**	**128.45**	**53**		P	**PKPdf**	**12**	**30**	**08.3** **-0.1**
	baz=128								
832A	**Faith Ranch, C**	**128.63**	**53**		P	**PKPdf**	**12**	**30**	**09.1** **+0.3**
	baz=129								
MIAR	**Mount Ida**	**130.27**	**43**	*ePKIKP*		**PKPdf**	**12**	**30**	**12.2** **+0.5**
MIAR	**Mount Ida**	**130.27**	**43**	*ePKPdf*		**PKPdf**	**12**	**30**	**12.2** **+0.5**
LRAL	**Lakeview Retre**	**135.52**	**40**	*ePKPdf*		**PKPdf**	**12**	**30**	**21.1** **-0.5**
PLCA	**Paso Flores**	**136.83**	**163**		PKP	**PKPdf**	**12**	**30**	**24.3** **+0.3**
	comp=Z,2.5nm,0.8s,baz=235,slow=2.9,SNR=5.0								
JTS	**JuntasAbangare**	**148.47**	**71**	*ePKIKP*		**PKPdf**	**12**	**30**	**45.2** **+0.1**
JTS				*e*			12	30	49.1
JTS	**JuntasAbangare**	**148.47**	**71**	*ePKPdf*		**PKPdf**	**12**	**30**	**45.2** **+0.1**
JTS				*ePKPbc*		**PKPbc**	**12**	**30**	**49.1** **+0.4**
LPAZ	**La Paz**	**159.03**	**142**		PKP	**PKPdf**	**12**	**31**	**01.2** **+0.4**
	comp=Z,1.7nm,1.0s,baz=0.6,slow=1.9,SNR=4.5								
LPAZ					PKPab	**PKPab**	**12**	**31**	**38.6** **+1.4**
	comp=Z,2.1nm,0.8s,baz=184,slow=7.0,SNR=5.1								

GUC 05 12:13:31.0±0.3, 36.62S×73.22W, h14km±1km, ML3.6,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.24**	**158**	*eP*	Pg	12 13 36.1	-0.1
CCSP				*eS*	Sg	12 13 40.0	+0.3
CCSP				AML	AML	12 13 41.0	
	comp=E,18μm,0.5s						
COCH	**Cobquecura**	**0.60**	**36**	*eP*	Pg	12 13 43.0	+0.2
COCH				*eS*	Sb	12 13 51.8	+0.2
LNCH	**Linares**	**1.52**	**60**	*eP*	Pn	12 13 58.0	+0.1
LNCH				*eS*	Sb	12 14 18.3	+0.1
LNCH				AML	AML	12 14 21.2	
	comp=N,1μm,0.5s						

*ZUR **05** 12:19:20.8, 46.27N×6.89E, h-1km, ML1.7/7*
*LDG **05** 12:19:20.9±0.0, 46.27N×6.89E, h2km, Md2.5/3, Ml2.5/20, Error ellipse: s-maj=0.5km s-min=0.4km az=93.0*
*STR **05** 12:19:21.7±0.2, 46.26N×6.88E, h10km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
CSEM 05 12:19:20.3±0.1, 46.27N×6.85E, h10km, ML2.4/20**, 8D, Error ellipse: s-maj=2.8km s-min=2.0km az=94.0, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMUR	**Muraz-Reservoi**	**0.05**	**78**	*⇓iPg*	Pg	12 19 21.7	-0.6
SMUR				*eSg*	Sg	12 19 22.0	-1.8
SMUR	**Muraz-Reservoi**	**0.05**	**78**	*⇓iPg*	Pg	12 19 21.7	-0.6
SMUR				*eSg*	Sg	12 19 22.0	-1.8
SMUK	**Muraz-Klaeranl**	**0.06**	**73**	*⇓iPg*	Pg	12 19 22.2	-0.3
SMUK	**Muraz-Klaeranl**	**0.06**	**73**	*⇓iPg*	Pg	12 19 22.2	-0.3
AIGLE	**Aigle**	**0.10**	**43**	*⇓iPg*	Pg	12 19 22.9	-0.1
	1μm,0.7s						
AIGLE				*eSg*	Sg	12 19 24.9	-0.1
	1μm,0.7s						
AIGLE	**Aigle**	**0.10**	**43**	*iPg*	Pg	12 19 22.9	-0.1
	1μm,0.7s						
AIGLE				*eSg*	Sg	12 19 24.9	-0.1
	1μm,0.7s						
NOV2	**NOV2**	**0.10**	**7**	*⇓iPg*	Pg	12 19 23.3	+0.3
	2μm,0.3s						
NOV2				*i Sg*	Sg	12 19 25.0	0.0
	2μm,0.3s						
NOV1	**NOV1**	**0.12**	**347**	*⇓iPg*	Pg	12 19 23.8	+0.5
	3μm,0.4s						
NOV1				*i Sg*	Sg	12 19 26.2	+0.7
	3μm,0.4s						
SALAN	**Lac Salanfe**	**0.15**	**146**	*ePg*	Pg	12 19 24.0	+0.1
	143nm,0.3s						
SALAN				*eSg*	Sg	12 19 26.4	0.0
	143nm,0.3s						
SALAN	**Lac Salanfe**	**0.15**	**146**	*ePg*	Pg	12 19 24.0	+0.1
	143nm,0.3s						
SALAN				*eSg*	Sg	12 19 26.4	0.0
	143nm,0.3s						
GRYON	**Gryon**	**0.18**	**95**	*ePg*	Pg	12 19 24.1	-0.2
	40nm,0.7s						
GRYON				*eSg*	Sg	12 19 26.7	-0.4
	40nm,0.7s						
GRYON	**Gryon**	**0.18**	**95**	*ePg*	Pg	12 19 24.1	-0.2
	40nm,0.7s						
GRYON				*eSg*	Sg	12 19 26.7	-0.4
	40nm,0.7s						
EMV	**Vieux Emosson**	**0.21**	**171**	*ePg*	Pg	12 19 25.4	+0.4
	272nm,0.3s						
EMV	**Vieux Emosson**	**0.21**	**171**	*ePg*	Pg	12 19 25.4	+0.4
	272nm,0.3s						
SENIN	**Lac Senin/Sane**	**0.32**	**73**	*ePg*	Pg	12 19 27.1	0.0
	156nm,0.6s						
SENIN				*i Sg*	Sg	12 19 31.8	+0.2
	156nm,0.6s						
SENIN	**Lac Senin/Sane**	**0.32**	**73**	*ePg*	Pg	12 19 27.1	0.0
	156nm,0.6s						
SENIN				*i Sg*	Sg	12 19 31.8	+0.2
	156nm,0.6s						
RSL	**Roselend**	**0.60**	**195**	Pg	Pg	12 19 32.6	+0.4
RSL				Sg	Sb	12 19 42.1	+0.3
RSL	**Roselend**	**0.60**	**195**	Pg	Pg	12 19 32.6	+0.4
RSL				Sg	Sb	12 19 42.1	+0.3
CABF	**La Chapelle**	**0.63**	**303**	*ePg*	Pb	12 19 34.4	+0.8
CABF	**La Chapelle**	**0.63**	**303**	*ePn*	Pn	12 19 35.7	+0.2
CABF				*eSg*	Sb	12 19 42.0	-0.6
CABF				*eSn*	Sn	12 19 46.0	+0.3
	58nm,0.7s						
CABF	**La Chapelle**	**0.63**	**303**	*ePg*	Pb	12 19 34.4	+0.8
CABF	**La Chapelle**	**0.63**	**303**	*ePn*	Pn	12 19 35.7	+0.2
CABF				*eSg*	Sb	12 19 42.0	-0.6
LPL	**La Plagne**	**0.76**	**187**	*ePg*	Pg	12 19 35.5	+0.3
LPL				*eSg*	Sg	12 19 45.3	0.0
	8.0nm,0.3s						
LPL	**La Plagne**	**0.76**	**187**	*ePg*	Pg	12 19 35.5	+0.3
LPL				*eSg*	Sg	12 19 45.3	0.0
	4.0nm,0.3s						
LPG	**La Plagne**	**0.77**	**185**	*ePg*	Pg	12 19 35.9	+0.3
LPG				*eSg*	Sg	12 19 46.0	0.0
	12nm,0.3s						
LPG	**La Plagne**	**0.77**	**185**	*ePg*	Pg	12 19 35.9	+0.3
LPG				*eSg*	Sg	12 19 46.0	0.0
	5.8nm,0.3s						
LOMF	**Lomont**	**1.08**	**359**	Pg	Pn	12 19 42.9	+1.2
LOMF				Sg	Sn	12 19 57.5	+0.6
LOMF	**Lomont**	**1.08**	**359**	Pg	Pn	12 19 42.9	+1.2
LOMF				Sg	Sn	12 19 57.5	+0.6
BBS	**Basel-Blauen**	**1.28**	**20**	Pg	Pg	12 19 45.9	+0.9
BBS				Sg	Sg	12 20 03.6	+1.9
ORIF	**Oris-en-Rattie**	**1.51**	**207**	*ePg*	Pg	12 19 49.5	0.0
ORIF				*eSg*	Sg	12 20 09.4	+0.2
	25nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.51**	**207**	*ePg*	Pg	12 19 49.5	0.0
ORIF				*eSg*	Sg	12 20 09.4	+0.2
	12nm,0.5s						
MBDF	**Montbardon**	**1.54**	**182**	*ePg*	Pg	12 19 49.9	-0.2
MBDF				*eSg*	Sg	12 20 09.7	-0.6
	11nm,0.4s						
MBDF	**Montbardon**	**1.54**	**182**	*ePg*	Pg	12 19 49.9	-0.2
MBDF				*eSg*	Sg	12 20 09.7	-0.6
	5.6nm,0.4s						
HINF	**Hinteralfeld**	**1.55**	**360**	*ePn*	Pn	12 19 47.8	-0.2
HINF	**Hinteralfeld**	**1.55**	**360**	*ePg*	Pg	12 19 49.8	-0.3
HINF				*eSn*	Sn	12 20 07.2	-1.1
HINF				*eSg*	Sg	12 20 09.8	-0.5
	12nm,0.2s						
HINF	**Hinteralfeld**	**1.55**	**360**	*ePn*	Pn	12 19 47.8	-0.2
HINF	**Hinteralfeld**	**1.55**	**360**	*ePg*	Pg	12 19 49.8	-0.3
HINF				*eSn*	Sn	12 20 07.2	-1.1
HINF				*eSg*	Sg	12 20 09.8	-0.5
	6.2nm,0.2s						
MOF	**Molkenrain**	**1.60**	**7**	Pg	Pg	12 19 51.1	0.0
MOF	**Molkenrain**	**1.60**	**7**	Pg	Pg	12 19 51.1	0.0
HAU	**Haudompre**	**1.77**	**349**	*ePn*	Pn	12 19 51.0	-0.1
HAU	**Haudompre**	**1.77**	**349**	*ePg*	Pg	12 19 54.0	-0.4
HAU				*eSn*	Sn	12 20 12.6	-1.1
HAU				*eSg*	Sg	12 20 16.9	-0.5
	13nm,0.3s						
HAU	**Haudompre**	**1.77**	**349**	*ePn*	Pn	12 19 51.0	-0.1
HAU	**Haudompre**	**1.77**	**349**	*ePg*	Pg	12 19 54.0	-0.4
HAU				*eSn*	Sn	12 20 12.6	-1.1
HAU				*eSg*	Sg	12 20 16.9	-0.5
	6.5nm,0.3s						
FELD	**Feldberg im Sc**	**1.79**	**26**	Pg	Pg	12 19 55.8	+0.9
ECH	**Echery**	**1.96**	**6**	Pn	Pn	12 19 54.6	+0.9
ECH	**Echery**	**1.96**	**6**	Pn	Pn	12 19 54.6	+0.9
THEF	**They Montfort**	**2.05**	**344**	Pn	Pn	12 19 55.1	+0.3
THEF	**They Montfort**	**2.05**	**344**	Pn	Pn	12 19 55.1	+0.3
VIVF	**Saint-Julien-l**	**2.08**	**228**	*eP*	Pb	12 19 57.6	-0.7
VIVF	**Saint-Julien-l**	**2.08**	**228**	*ePg*	Pg	12 20 00.0	-0.3
VIVF				*eSg*	Sg	12 20 27.1	-0.3
	7.6nm,0.3s						
VIVF	**Saint-Julien-l**	**2.08**	**228**	*eP*	Pb	12 19 57.6	-0.7
VIVF	**Saint-Julien-l**	**2.08**	**228**	*ePg*	Pg	12 20 00.0	-0.3
VIVF				*eSg*	Sg	12 20 27.1	-0.3
	3.8nm,0.3s						
SMF	**Signal de Mont**	**2.12**	**281**	*ePn*	Pn	12 19 55.7	-0.1
SMF	**Signal de Mont**	**2.12**	**281**	*ePg*	Pg	12 20 00.4	-0.5
SMF				*eSg*	Sg	12 20 28.1	-0.3
	5.2nm,0.2s						
SMF	**Signal de Mont**	**2.12**	**281**	*ePn*	Pn	12 19 55.7	-0.1
SMF	**Signal de Mont**	**2.12**	**281**	*ePg*	Pg	12 20 00.4	-0.5
SMF				*eSg*	Sg	12 20 28.1	-0.3
	2.6nm,0.2s						
CDF	**Champ du Feu**	**2.17**	**7**	*ePn*	Pn	12 19 56.4	-0.2
CDF	**Champ du Feu**	**2.17**	**7**	*ePg*	Pg	12 20 01.0	-1.0
CDF				*eSg*	Sg	12 20 29.0	-1.1
	6.4nm,0.4s						
CDF	**Champ du Feu**	**2.17**	**7**	*ePn*	Pn	12 19 56.4	-0.2
CDF	**Champ du Feu**	**2.17**	**7**	*ePg*	Pg	12 20 01.0	-1.0
CDF				*eSg*	Sg	12 20 29.0	-1.1
	3.2nm,0.4s						
LOR	**Lormes**	**2.29**	**297**	*ePn*	Pn	12 19 58.2	0.0
LOR	**Lormes**	**2.29**	**297**	*ePg*	Pg	12 20 03.6	-0.7
	baz=115						
LOR				*eSg*	Sg	12 20 33.4	-0.6
	12nm,0.5s,baz=120						
LOR	**Lormes**	**2.29**	**297**	*ePn*	Pn	12 19 58.2	0.0
LOR	**Lormes**	**2.29**	**297**	*ePg*	Pg	12 20 03.6	-0.7
LOR				*eSg*	Sg	12 20 33.4	-0.6
	6.1nm,0.5s						
SFTF	**Sexfontaines**	**2.30**	**328**	*ePn*	Pn	12 19 58.4	+0.1
SFTF

MKAR	Makanchi Array	60.01	327	P		P	12 35 08.4	-1.1
	0.6nm,0.4s,baz=128,slow=7.8,SNR=15							
KURBB	Kurchatov Arra	64.31	329	P		P	12 35 36.0	-2.2
	0.7nm,0.7s,baz=132,slow=6.1,SNR=7.6							

*ISCJB **05** 12:33:40.4±0.4, 44°.35N±0°.05×141°.60E±0°.08, h257km±3km, mb3.1/8, Error ellipse: s-maj=8.9km s-min=7.7km az=14.5*
*JMA **05** 12:33:40.7±0.4, 44°.42N×141°.60E, h259km±4km, M3.1*
*IDC **05** 12:33:40.9±0.5, 44°.44N×141°.52E, h243km±5km, mb2.8/7, mb1 2.9/9, mb1mx2.8/36, mbtmp3.4/9, Error ellipse: s-maj=17.6km s-min=13.8km az=122.0*
ISC 05 12:33:41.3±0.7, **44°.35N**±0°.06×**141°.61E**±0°.06, **h253**km±6km, **n31**, σ1**912/43**, **mb3.1/8**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYG	Yagishiri	0.15	301	P		Pn	12 34 13.9	+0.2
JSS	Shosan	0.18	74	P		Pn	12 34 14.4	+0.6
JHR	Hokuryu	0.61	172	P		Pn	12 34 15.8	+0.9
ASAJ	Asahikawa	0.75	108	P		Pn	12 34 15.6	+0.2
ASAJ	Asahikawa	0.75	108	P		Pn	12 34 15.7	+0.3
	16nm,0.3s,baz=225,slow=9.2,SNR=179							
ASAJ				S		S	12 34 40.7	-1.4
	baz=230,slow=17,SNR=4.0							
JRR	Rishiri	0.82	345	P		Pn	12 34 15.9	+0.4
JSE	Soyaes	0.93	49	P		Pn	12 34 15.9	-0.2
JKK2	Kamakawa 2	0.95	120	P		Pn	12 34 17.0	+0.7
JKK2				eS		S	12 34 44.3	+0.4
JWK2	Keihoku	0.99	12	P		Pn	12 34 16.2	-0.2
JWK2				eS		S	12 34 43.6	-0.6
JFR	Furan	1.39	149	P		Pn	12 34 19.3	+0.2
JEW	Eniwo	1.51	184	P		Pn	12 34 21.0	+1.0
JEW				eS		S	12 34 51.8	+1.4
JTKR	Abashiri--Toko	1.70	102	P		Pn	12 34 22.3	+1.0
JTKR				eS		S	12 34 53.7	+0.8
JAR	Ashorobuto	1.89	123	P		Pn	12 34 23.9	+0.9
JAR				eS		S	12 34 56.7	+0.9
JCH	Churui	2.15	143	P		Pn	12 34 24.6	-0.8
JCH				eS		S	12 34 57.9	-2.3
JNBK	Urakawa-nobuka	2.23	158	P		Pn	12 34 27.0	+0.9
JNBK				eS		S	12 35 02.1	+0.6
JKB	Kayabe	2.50	190	P		Pn	12 34 28.7	0.0
JKB				eS		S	12 35 04.5	-1.6
JRA	Rausu	2.56	98	P		Pn	12 34 30.5	+1.2
JAK	Akkeshi	2.62	120	P		Pn	12 34 29.3	-0.6
JAK				eS		S	12 35 06.6	-1.7
JOSM	Okushiri--Mats	2.75	215	P		Pn	12 34 31.3	0.0
JOT	Ohata	2.99	188	P		Pn	12 34 33.9	0.0
JOT				eS		S	12 35 13.9	-1.6
NEM2	Nemuro 2	3.15	107	P		Pn	12 34 34.9	-0.6
NEM2				eS		S	12 35 15.2	-3.2
USRK	Ussuriysk Ar.	6.91	272	P		Pn	12 35 18.8	-1.9
	0.2nm,0.3s,baz=84,slow=16,SNR=6.2							
SEY	Seymchan	19.63	15	P		P	12 37 49.5	-1.3
	0.2nm,0.3s,baz=156,slow=5.3,SNR=11							
SONM	Songino Array	24.53	291	P		P	12 38 37.8	-0.2
	0.3nm,0.4s,baz=78,slow=8.2,SNR=3.9							
MKAR	Makanchi Array	40.74	295	P		P	12 40 57.8	+0.2
	0.2nm,0.6s,baz=91,slow=9.9,SNR=3.4							
ILAR	Eielson Array	43.37	36	P		P	12 41 19.6	+1.2
	5.1nm,0.3s,baz=268,slow=9.0,SNR=3.3							
INK	Inuvik	47.89	30	P		P	12 41 53.8	+0.2
	0.3nm,0.4s,baz=294,slow=5.6,SNR=4.1							
YKA	Yellowknife Ar	57.48	32	P		P	12 43 03.5	-0.1
	0.1nm,0.4s,baz=307,slow=7.1,SNR=3.2							
FINES	FINESS Array B	62.46	331	P		P	12 43 36.8	-0.5
	0.7nm,0.8s,baz=42,slow=6.6,SNR=2.6							
WRA	Warramunga Arr	64.32	188	P		P	12 43 50.5	+0.5
	0.6nm,1.1s,baz=1.6,slow=5.0,SNR=3.0							
ASAR	Alice Springs	68.05	188	P		P	12 44 15.2	+1.6
	0.3nm,0.8s,baz=4.5,slow=5.6,SNR=4.3							

*IDC **05** 12:40:07.0±1.1, 0°.23S×125°.17E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/28, mbtmp3.5/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/22, Error ellipse: s-maj=80.4km s-min=19.5km az=72.0*
*ISCJB **05** 12:40:11.9±0.8, 0°.12S±0°.08×125°.48E±0°.06, h53km, mb3.4/5, Error ellipse: s-maj=11.5km s-min=7.8km az=24.2*
*DJA **05** 12:40:15.9±1.4, 0°N±8°×12°.5E±1°.1, h96km±20km, M4.0/5, MLv4.0/5*
ISC 05 12:40:13.4±1.0, **0°.12S**±0°.09×**125°.48E**±0°.08, **h53**km, **n12**, σ1**959/13**, **mb3.5/5**, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	Cibinong	1.65	295	P		Pn	12 40 38.8	-1.2
KMSI				S		Sn	12 40 55.9	-4.1
SANI	Sanana	1.98	165	P		Pn	12 40 43.0	-1.6
GTOI	Gorontalo	2.58	287	P		Pn	12 40 52.3	-0.4
GTOI				S		Sn	12 41 22.7	-0.2
LUWI	Luwuk	2.86	251	P		Pn	12 40 57.7	+1.2
LUWI				S		Sn	12 41 29.4	-0.3
MRSI	Marisa	3.59	279	P		Pn	12 41 02.1	-4.4
APSI	Ampana	3.91	258	P		Pn	12 41 10.9	0.0
BATI	Baumata	10.18	190	LR		LR	12 47 38.9	
	comp=Z,57nm,19.4s,baz=197,slow=45							
WRA	Warramunga Arr	21.53	157	P		P	12 44 57.7	-0.5
	0.4nm,0.4s,baz=333,slow=11,SNR=15							
ASAR	Alice Springs	24.80	161	P		P	12 45 31.2	+0.6
	0.3nm,0.6s,baz=342,slow=9.5,SNR=11							
KSRS	Korea Array	37.45	3	P		P	12 47 22.8	+1.2
	0.4nm,0.5s,baz=192,slow=7.8,SNR=3.3							
SONM	Songino Array	50.56	343	P		P	12 49 07.4	+0.6
	0.2nm,0.4s,baz=157,slow=7.3,SNR=3.7							
MKAR	Makanchi Array	60.04	327	P		P	12 50 15.3	+0.5
	0.6nm,0.4s,baz=125,slow=8.2,SNR=14							

*BEO **05** 12:43:32.1±1.9, 39°.60N×19°.37E, h41km±2km, ML3.4/9*
*ATH **05** 12:43:33.5, 40°.15N×19°.58E, h13km±1km, MD3.6/42*
*ROM **05** 12:43:33.5±0.5, 40°.17N×20°.03E, h10km, Ml3.7/1, Error ellipse: s-maj=5.7km s-min=2.6km az=64.0*
*IDC **05** 12:43:34.8±1.4, 40°.21N×19°.70E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/32, mbtmp3.4/6, ML3.7/1, Error ellipse: s-maj=29.3km s-min=16.9km az=72.0*
*THE **05** 12:43:34.7, 40°.16N×19°.69E, h0km±1km, ML3.5/7, Error ellipse: s-maj=1.9km s-min=0.7km az=293.0*
*CSEM **05** 12:43:35.8±0.1, 40°.13N×19°.77E, h2km, ML3.5, Error ellipse: s-maj=3.9km s-min=2.4km az=57.0*
*PDG **05** 12:43:36.4±0.4, 40°.07N×19°.80E, h11km±2km, ML3.3/9, Error ellipse: s-maj=1.6km s-min=1.2km az=90.0*
ISC 05 12:43:35.1±1.1, **40°.16N**±0°.01×**19°.73E**±0°.02, **h3**km±8km, **n203**, σ1**915/286**, **mb3.4/5**, **30C-5D**, **Albania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEK	Kerkira	0.45	173	P		Pg	12 43 43.1	-0.6
KEK				S		Sg	12 43 50.4	+0.8
KEK	Kerkira	0.45	173	ePB		Pg	12 43 43.7	0.0
KEK				eSB		Sg	12 43 49.8	+0.2
KEK	Kerkira	0.45	173	Pg		Pg	12 43 43.3	-0.4
KEK				Sg		Sg	12 43 51.0	+1.4
KEK	Kerkira	0.45	173	Pg		Pg	12 43 43.3	-0.4
KEK	Kerkira	0.45	173	ePb		Pg	12 43 43.7	0.0
KEK				eSb		Sg	12 43 49.8	+0.2
KEK				S		Sg	12 43 50.4	+0.8
KEK				Sg		Sg	12 43 51.0	+1.4
IGT	Igoumenitsa	0.78	143	P		Pg	12 43 48.8	-1.3
IGT				S		Sg	12 44 01.8	-0.6
IGT	Igoumenitsa	0.78	143	ePG		Pg	12 43 49.2	-0.9
IGT				eSB		Sg	12 44 00.5	+0.3
IGT	Igoumenitsa	0.78	143	ePg		Pg	12 43 49.2	-0.9
IGT				eSb		Sg	12 44 00.5	+0.3
IGT				S		Sb	12 44 01.8	-0.6
SCTE	Santa Cesarea	0.97	265	Pg		Pn	12 43 56.0	+0.3
SCTE				Sg		Sn	12 44 11.9	+1.9
JAN	Janina	1.00	120	P		Pg	12 43 54.0	-0.4
JAN				S		Sb	12 44 09.3	+0.6
JAN	Janina	1.00	120	ePG		Pg	12 43 53.9	-0.4
JAN				eSB		Sb	12 44 09.3	+0.6
JAN	Janina	1.00	120	ePg		Pg	12 43 53.9	-0.4
JAN				S		Sb	12 44 09.3	+0.6
NEST	Nestorio	1.04	75	P		Pg	12 43 54.6	-0.6
NEST				S		Sb	12 44 10.4	+0.3
NEST	Nestorio	1.04	75	ePG		Pg	12 43 54.5	-0.6
NEST				eSB		Sn	12 44 11.4	-0.6
NEST	Nestorio	1.04	75	ePg		Pg	12 43 54.5	-0.6
NEST				S		Sb	12 44 10.4	+0.3
NEST				eSb		Sn	12 44 11.4	-0.6
OHR	Ohrid	1.25	40	*i* Pn		Pg	12 43 58.4	-0.7
OHR				eSn		Sn	12 44 18.5	+1.4
OHR	Ohrid	1.25	40	*i* Pn		Pg	12 43 58.4	-0.7
OHR				eSn		Sn	12 44 18.5	+1.4
FNA	Florina	1.41	63	P		Pn	12 44 01.2	-0.6
FNA				S		Sn	12 44 21.8	+0.9
FNA	Florina	1.41	63	ePG		Pn	12 44 01.4	-0.4
FNA				eSB		Sn	12 44 23.9	+3.0
FNA	Florina	1.41	63	P		Pn	12 44 01.2	-0.6
FNA				S		Sn	12 44 21.8	+0.9
FNA				eSb		Sn	12 44 23.9	+3.0
DSL	Palaion Diasel	1.47	134	P		Pn	12 44 01.7	-0.9
DSL				S		Sg	12 44 22.8	+0.4
DSL	Palaion Diasel	1.47	134	ePG		Pn	12 44 02.2	-0.4
DSL				eSB		Sg	12 44 23.3	+0.9
DSL	Palaion Diasel	1.47	134	P		Pn	12 44 01.7	-0.9
DSL	Palaion Diasel	1.47	134	ePg		Pn	12 44 02.2	-0.4
DSL				S		Sg	12 44 22.8	+0.4
DSL				eSb		Sg	12 44 23.3	+0.9
MESG	Mesagne	1.50	287	Pg		Pb	12 44 03.5	-0.1
MESG				Sg		Sg	12 44 26.7	+3.5
	784nm,0.7s							
MESG	Mesagne	1.50	287	Pg		Pb	12 44 03.5	-0.1
MESG				Sg		Sg	12 44 26.7	+3.5
	784nm,0.7s							
LKD2	Lefkada Island	1.55	152	P		Pn	12 44 03.4	-0.3
LKD2				S		Sg	12 44 24.7	-0.1
LKD2	Lefkada Island	1.55	152	ePB		Pn	12 44 03.4	-0.3
LKD2				eSB		Sg	12 44 25.4	+0.6
LKD2	Lefkada Island	1.55	152	P		Pn	12 44 03.4	-0.3
LKD2				eSb		Sg	12 44 25.4	+0.6
KZN	Kozani	1.57	84	P		Pn	12 44 03.8	-0.3
KZN				S		Sg	12 44 25.9	+0.3
KZN	Kozani	1.57	84	ePG		Pb	12 44 04.7	-0.2
KZN				eSB		Sg	12 44 27.6	+2.0
KZN	Kozani	1.57	84	P		Pn	12 44 03.8	-0.3
KZN	Kozani	1.57	84	ePg		Pb	12 44 04.7	-0.2
KZN				S		Sg	12 44 25.9	+0.3
ULC	Ulcinj	1.84	349	⇑*i* Pn		Pb	12 44 09.6	+0.1
ULC				eSn		Sg	12 44 36.4	+2.2
ULC	Ulcinj	1.84	349	⇑*i* Pn		Pb	12 44 09.6	+0.1
ULC				eSn		Sg	12 44 36.4	+2.2
PEZ	Pezze di Greco	1.87	291	ePn		Pg	12 44 13.3	+0.3
PDO	Prodromos	1.93	144	P		Pn	12 44 08.4	-0.4
PDO	Prodromos	1.93	144	ePN		Pn	12 44 09.2	+0.4
PDO				eSN		Sb	12 44 34.5	-0.8
PDO	Prodromos	1.93	144	P		Pn	12 44 08.4	-0.4
PDO	Prodromos	1.93	144	ePn		Pn	12 44 09.2	+0.4
PDO				eSn		Sb	12 44 34.5	-0.8
EVR	Evrytania	2.03	127	ePG		Pb	12 44 12.1	-0.7
EVR	Evrytania	2.03	127	ePg		Pb	12 44 12.1	-0.7
DRME	Dracevica, Mon	2.07	349	⇑*i* Pn		Pb	12 44 12.3	-1.0
DRME				eSn		Sg	12 44 42.4	+0.9
DRME	Dracevica, Mon	2.07	349	⇑*i* Pn		Pb	12 44 12.3	-1.0
DRME				eSn		Sg	12 44 42.4	+0.9
PVO	Paravola	2.08	137	P		Pn	12 44 10.9	0.0
PVO	Paravola	2.08	137	P		Pn	12 44 10.9	0.0
VLS	Valsamata	2.09	161	P		Pn	12 44 10.3	-0.8
VLS				S		Sn	12 44 38.7	+1.0
VLS	Valsamata	2.09	161	ePN		Pn	12 44 10.3	-0.8
VLS				eSN		Sb	12 44 40.0	-0.1
VLS	Valsamata	2.09	161	P		Pn	12 44 10.3	-0.8
VLS				eSn		Sb	12 44 40.0	-0.1
LIT	Litokhoron	2.12	91	ePN		Pn	12 44 12.5	+1.0
LIT	Litokhoron	2.12	91	ePn		Pn	12 44 12.5	+1.0
MAKR	Makrakomi, Fth	2.18	121	ePG		Pb	12 44 14.5	-0.8
MAKR	Makrakomi, Fth	2.18	121	ePg		Pb	12 44 14.5	-0.8
KFL	Anninata	2.21	158	P		Pn	12 44 12.1	-0.6
KFL	Anninata	2.21	158	P		Pn	12 44 12.1	-0.6
SKO	Skopje	2.23	35	ePn		Pn	12 44 14.4	+1.4
SKO				eSn		Sg	12 44 47.0	+0.3
SKO	Skopje	2.23	35	ePn		Pn	12 44 12.2	-0.8
SKO				eSn		Sb	12 44 45.3	+1.3
SKO	Skopje	2.23	35	ePn		Pn	12 44 14.4	+1.4
SKO				eSn		Sb	12 44 45.3	+1.3
BUM	Brajici-Budva	2.23	344	⇑*i* Pn		Pb	12 44 15.7	-0.4
BUM				eSn		Sg	12 44 47.3	+0.5
BUM	Brajici-Budva	2.23	344	⇑*i* Pn		Pb	12 44 15.7	-0.4
LTRZ	Laterza	2.26	282	Pn		Pb	12 44 15.8	-0.9
LTRZ				Sn		Sb	12 44 44.1	-1.0
LTRZ	Laterza	2.26	282	Pn		Pb	12 44 15.8	-0.9
LTRZ				Sn		Sb	12 44 44.1	-1.0
LADO	San Nicola del	2.29	248	Pn		Pn	12 44 14.8	+0.9
LADO				Sn		Sb	12 44 44.5	-1.4
LADO	San Nicola del	2.29	248	Pn		Pn	12 44 14.8	+0.9
LADO				Sn		Sb	12 44 44.5	-1.4
PDG	Podgorica	2.30	351	ePn		Pn	12 44 15.0	+1.1
PDG				eSn		Sb	12 44 46.6	+0.6
PDG	Podgorica	2.30	351	ePn		Pn	12 44 15.0	+1.1
PDG				eSn		Sb	12 44 46.6	+0.6
TTG	Podgorica	2.30	351	⇓*i* Pn		Pb	12 44 17.3	+0.1
TTG				eSn		Sg	12 44 48.5	-0.4
AGG	Agios Georgios	2.31	119	ePN		Pn	12 44 15.6	+1.4
AGG	Agios Georgios	2.31	119	ePn		Pn	12 44 15.6	+1.4
MATE	Matera	2.36	283	Pn		Pn	12 44 16.2	+1.4
MATE				Sn		Sn	12 44 45.5	+1.3
MATE	Matera	2.36	283	Pn		Pn	12 44 16.2	+1.4
MATE				Sn		Sn	12 44 45.5	+1.3
EFP	Efpalio	2.42	135	ePN		Pn	12 44 16.6	+1.0
EFP	Efpalio	2.42	135	ePn		Pn	12 44 16.6	+1.0
PVY	Plav	2.44	4	⇓*i* Pn		Pb	12 44 18.9	-0.9
PVY				eSn		Sb	12 44 51.0	+0.7
PVY	Plav	2.44	4	⇓*i* Pn		Pb	12 44 18.9	-0.9
PVY				eSn		Sb	12 44 51.0	+0.7
VAY	Valandovo	2.45	61	ePn		Pn	12 44 17.4	+1.3
VAY				eSn		Sb	12 44 50.3	-0.2
VAY	Valandovo	2.45	61	ePn		Pb	12 44 18.1	-1.8
VAY				eSn		Sg	12 44 55.8	+1.8
VAY	Valandovo	2.45	61	ePn		Pn	12 44 17.4	+1.3
VAY				eSn		Sb	12 44 50.3	-0.2
HCY	Herceg Novi	2.47	338	⇑*i* Pn		Pb	12 44 18.8	-1.4
HCY				eSn		Sg	12 44 52.9	-1.5
HCY	Herceg Novi	2.47	338	⇑*i* Pn		Pb	12 44 18.8	-1.4
RLS	Riolos of Patr	2.50	147	ePN		Pn	12 44 17.2	+0.5
RLS	Riolos of Patr	2.50	147	ePn		Pn	12 44 17.2	+0.5
THE	Thessaloniki	2.52	78	ePB		Pn	12 44 17.1	+0.1
THE	Thessaloniki	2.52	78	ePb		Pn	12 44 17.1	+0.1
KALE	Kalithea	2.57	133	ePN		Pn	12 44 19.4	+1.6
KALE	Kalithea	2.57	133	ePn		Pn	12 44 19.4	+1.6
KNT	Kendrikon	2.61	66	ePB		Pb	12 44 20.9	-1.7
KNT	Kendrikon	2.61	66	ePb		Pb	12 44 20.9	-1.7
HORT	Hortiatis	2.61	79	ePN		Pn	12 44 19.1	+0.7
HORT	Hortiatis	2.61	79	ePn		Pn	12 44 19.1	+0.7
AXAR	Agios Charalam	2.66	121	ePB		Pn	12 44 20.3	+1.3
AXAR	Agios Charalam	2.66	121	ePb		Pn	12 44 20.3	+1.3
NKME	Niksic	2.67	348	⇑*i* Pn		Pb	12 44 21.6	-2.0
NKME				eSn		Sb	12 44 57.6	+0.8
NKME	Niksic	2.67	348	⇑*i* Pn		Pb	12 44 21.6	-2.0
NKME				eSn		Sb	12 44 57.6	+0.8
BEY	Berane	2.71	3	⇑*i* Pn		Pb	12 44 22.5	-1.9
IVA	Berane	2.71	3	⇑*i* Pn		Pb	12 44 22.5	-1.9
IVA				eSn		Sb	12 44 58.5	+0.4
XOR	Xorichti	2.79	105	ePN		Pn	12 44 21.2	+0.5
XOR	Xorichti	2.79	105	ePn		Pn	12 44 21.2	+0.5
NEO	Neokhori	2.83	106	ePN		Pn	12 44 22.0	+0.7
NEO	Neokhori	2.83	106	ePn		Pn	12 44 22.0	+0.7
KLV	Kalavryta, Ach	2.83	137	ePB		Pn	12 44 22.4	+1.0
KLV	Kalavryta, Ach	2.83	137	ePb		Pn	12 44 22.4	+1.0
SOH	Sokhos	2.84	75	ePN		Pn	12 44 22.7	+1.2
SOH	Sokhos	2.84	75	ePn		Pn	12 44 22.7	+1.2
PLG	Polygyros	2.85	84	ePB		Pn	12 44 22.9	+1.2
PLG	Polygyros	2.85	84	ePb		Pn	12 44 22.9	+1.2
LKR	Lokris	2.95	120	ePN		Pn	12 44 23.8	+0.9
LKR	Lokris	2.95	120	ePn		Pn	12 44 23.8	+0.9
GUR	Goura	3.01	137	ePB		Pn	12 44 24.9	+1.0
GUR	Goura	3.01	137	ePb		Pn	12 44 24.9	+1.0
PAIG	Paliouri	3.04	93	ePN		Pn	12 44 24.3	+0.1
PAIG	Paliouri	3.04	93	ePn		Pn	12 44 24.3	+0.1
AMT	Artemida-Makis	3.05	149	ePN		Pn	12 44 24.7	+0.4
AMT	Artemida-Makis	3.05	149	ePn		Pn	12 44 24.7	+0.4
SKIA	Skiathos	3.05	108	ePN		Pn	12 44 24.9	+0.6
SKIA	Skiathos	3.05	108	ePn		Pn	12 44 24.9	+0.6
BARS	Barje	3.08	30	ePn		Pn	12 44 26.7	+1.9
BARS				eSn		Sb	12 45 07.3	-1.4
SRS	Serrai	3.09	71	ePB		Pn	12 44 26.8	+1.9
SRS	Serrai	3.09	71	ePb		Pn	12 44 26.8	+1.9
UPM	Unac-Piva	3.10	349	⇑*i* Pn		Pb	12 44 28.4	-2.7
UPM				eSn		Sb	12 45 07.4	-2.0
UPM	Unac-Piva	3.10	349	⇑*i* Pn		Pb	12 44 28.4	-2.7
UPM				eSn		Sb	12 45 07.4	-2.0
SJES	Sjenica	3.10	3	ePn		Pn	12 44 26.6	+1.4
SJES	Sjenica	3.10	3	ePn		Pn	12 44 26.6	+1.4
STON	Ston	3.11	331	*i* Pn		Pn	12 44 24.7	-0.4
STON				Sn		Sn	12 45 01.4	-1.3
STON	Ston	3.11	331	ePn		Pn	12 44 24.6	-0.5
STON				eSn		Sn	12 45 02.2	-0.5
STON	Ston	3.11	331	ePn		Pn	12 44 24.6	-0.5
STON				eSn		Sn	12 45 02.2	-0.5
PLE	Pljevlja	3.18	356	⇑*i* Pn		Pb	12 44 29.9	-2.4
PLE				eSn		Sb	12 45 09.2	-2.3
PLE	Pljevlja	3.18	356	⇑*i* Pn		Pb	12 44 29.9	-2.4
PLE				eSn		Sb	12 45 09.2	-2.3
SELS	Selova	3.23	18	ePn		Pn	12 44 28.2	+1.4
OUR	Ouranopolis	3.26	86	ePN		Pn	12 44 28.4	+1.2
OUR	Ouranopolis	3.26	86	ePn		Pn	12 44 28.4	+1.2
LTK	Loutraki	3.30	129	ePN		Pn	12 44 27.5	-0.3
LTK	Loutraki	3.30	129	ePn		Pn	12 44 27.5	-0.3
MRKA	Markates	3.32	115	ePN		Pn	12 44 28.6	+0.5
MRKA	Markates	3.32	115	ePn		Pn	12 44 28.6	+0.5
MMB	Musomiste	3.35	63	⇑*i* P		Pn	12 44 29.6	+1.1
MMB	Musomiste	3.35	63	S		Sn	12 45 07.6	-1.3
MMB	Musomiste	3.35	63	⇑*i* P		Pn	12 44 29.6	+1.1
AOS	Alonnisos	3.35	106	ePN		Pn	12 44 28.7	+0.2
AOS	Alonnisos	3.35	106	ePn		Pn	12 44 28.7	+0.2
IVAS	Ivanjica	3.43	5	ePn		Pn	12 44 30.5	+0.9
IVAS				eSn		Sb	12 45 15.9	-2.8
IVAS	Ivanjica	3.43	5	ePn		Pn	12 44 30.5	+0.9
IVAS				eSn		Sb	12 45 15.9	-2.8
ITM	Ithomi	3.44	149	ePN		Pn	12 44 30.0	+0.3
ITM	Ithomi	3.44	149	ePn		Pn	12 44 30.0	+0.3
VTS	Vitosha	3.57	46	⇑*i* P		Pn	12 44 33.3	+1.6
VTS	Vitosha	3.57	46	⇑*i* P		Pn	12 44 33.3	+1.6
PYL	PYLOS	3.62	153	ePN		Pn	12 44 31.5	-0.7
PYL	PYLOS	3.62	153	ePn		Pn	12 44 31.5	-0.7
BBLS	Lazići	3.71	356	ePn		Pn	12 44 34.3	+0.8
BBLS	Lazići	3.71	356	ePn		Pn	12 44 34.3	+0.8
KAVA	Kavala	3.74	76	ePN		Pn	12 44 33.8	0.0
KAVA	Kavala	3.74	76	ePn		Pn	12 44 33.8	0.0
ZAPS	Zavoj	3.80	34	ePn		Pn	12 44 36.3	+1.7
GRUS	Gruza	3.80	11	ePn		Pn	12 44 35.8	+1.2
GRUS	Gruza	3.80	11	ePn		Pn	12 44 35.8	+1.2
PTL	Penteli	3.85	122	ePN		Pn	12 44 35.5	+0.2
PTL	Penteli	3.85	122	ePn		Pn	12 44 35.5	+0.2
DIVS	Divibare	3.94	3	ePn		Pn	12 44 37.1	+0.5
DIVS	Divibare	3.94	3	ePn		Pn	12 44 37.1	+0.5
BOLS	Boljevac	4.03	24	ePN		Pn	12 44 39.5	+1.8
BOLS	Boljevac	4.03	24	ePn		Pn	12 44 39.5	+1.8
VLI	Veliai	4.26	143	ePN		Pn	12 44 41.8	+0.8
VLI	Veliai	4.26	143	ePn		Pn	12 44 41.8	+0.8
KDZ	Kurdzhali	4.56	69	⇑*i* P		Pn	12 44 45.3	+0.2
KDZ	Kurdzhali	4.56	69	⇑*i* P		Pn	12 44 45.3	+0.2
ALN	Alexandroupoli	4.87	79	ePN		Pn	12 44 49.7	+0.4
ALN	Alexandroupoli	4.87	79	ePn		Pn	12 44 49.7	+0.4
FGSL	Fruska Gora	5.00	1	ePn		Pn	12 44 50.9	-0.2
FGSL				eSn		Sn	12 45 51.8	+2.4
FRGS	Fruska Gora	5.00	1	ePn		Pn	12 44 50.9	-0.2
FRGS				eSn		Sn	12 45 51.8	+2.4
ANKY	Antikythira Is	5.13	146	ePN		Pn	12 44 53.3	+0.4
ANKY	Antikythira Is	5.13	146	ePn		Pn	12 44 53.3	+0.4
CHOS	Chios island	5.22	108

CRR	**Carrizo Plain**	**0.31**	**323**	⇑*iP*	**Pg**	**12 49 42.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.43**	**120**	*e*P	**Pg**	**12 49 44.6**	**+0.3**
CPBX				*e*S	**Sb**	**12 49 51.8**	**+0.6**
COA	**Coachella**	**0.57**	**66**	⇑*iP*	**Pb**	**12 49 47.5**	**+0.2**
MONP	**Monument Peak,** baz=0.7	**0.62**	**294**	⇓P	**Pg**	**12 49 48.2**	**+0.2**
MONP				⇑S	**Sg**	**12 49 56.7**	**+0.5**
	baz=0.7						
EMX	**El Mayor**	**0.77**	**146**	⇑*e*P	**Pg**	**12 49 50.0**	**-0.6**
EMX				*e*S	**Sg**	**12 50 00.4**	**-0.5**
EMX				⇓*e*		12 50 00.8	
	comp=N,7μm,0.3s						
EMX				⇓*e*		12 50 01.8	
	comp=E,5μm,0.4s						
BAR	**Barrett**	**0.78**	**274**	*e*Pg	**Pb**	**12 49 50.6**	**-0.2**
BAR				*e*Sg	**Sg**	**12 50 00.6**	**-0.6**
CBX	**Cerro Bola**	**0.84**	**248**	*e*P	**Pb**	**12 49 51.7**	**-0.2**
CBX				*e*S	**Sb**	**12 50 02.8**	**-0.2**
GLA	**Glamis** baz=0.9	**0.88**	**61**	⇑P	**Pb**	**12 49 52.0**	**-0.6**
GLA				⇑S	**Sb**	**12 50 03.6**	**-0.5**
	baz=0.9						
GLA	**Glamis**	**0.88**	**61**	*e*Pg	**Pb**	**12 49 51.9**	**-0.6**
GLA				*e*Sg	**Sb**	**12 50 03.8**	**-0.3**
BC3	**Big Chuckawall** baz=1.1	**1.05**	**13**	⇓P	**Pb**	**12 49 54.9**	**-0.6**
BC3				⇑S	**Sb**	**12 50 08.5**	**-0.5**
	baz=1.1						
PFO	**Pinyon Flats O** baz=1.2	**1.14**	**329**	⇑P	**Pn**	**12 49 56.2**	**-0.9**
PFO				⇑S	**Sb**	**12 50 11.3**	**-0.4**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.14**	**329**	*e*P	**Pn**	**12 49 57.4**	**+0.3**
PFO				*e*S	**Sb**	**12 50 10.5**	**-1.2**
109C	**Camp Elliot, M** baz=1.2	**1.17**	**283**	⇑P	**Pn**	**12 49 57.4**	**0.0**
109C				⇑S	**Sb**	**12 50 12.6**	**+0.1**
	baz=1.2						
ECBX	**El Chinero**	**1.30**	**153**	*e*P	**Pn**	**12 49 59.4**	**+0.2**
ECBX				*e*S	**Sn**	**12 50 16.7**	**+0.5**
ECBX				⇑*e*		12 50 17.7	
	comp=E,3μm,0.4s						
BELC	**Belle Mtn. Jos** baz=1.4	**1.38**	**351**	⇑S	**Sn**	**12 50 16.6**	**-1.8**
Y12C	**Blythe** baz=1.6	**1.51**	**42**	⇓P	**Pn**	**12 50 01.5**	**-0.6**
Y12C				⇓S	**Sn**	**12 50 20.0**	**-1.5**
	baz=1.6						
MURC	**Murrieta** baz=1.6	**1.55**	**309**	⇑P	**Pn**	**12 50 02.4**	**-0.3**
IRM	**Iron Mountain** baz=1.7	**1.60**	**18**	⇑Pb	**Pn**	**12 50 04.1**	**+0.8**
SPX	**San Pedro Mart**	**1.60**	**171**	*e*P	**Pn**	**12 50 04.8**	**+1.1**
SPX				*e*S	**Sb**	**12 50 25.7**	**+0.5**
SPX				⇑*e*		12 50 28.0	
	comp=E,870nm,0.4s						
113A	**Mohawk Valley,** baz=1.7	**1.67**	**85**	⇓P	**Pn**	**12 50 03.5**	**-0.8**
113A				⇓S	**Sn**	**12 50 23.9**	**-1.6**
	baz=1.7						
BFSC	**Mount Baldy Ra** baz=2.3	**2.26**	**316**	⇓Sb	**Sb**	**12 50 45.5**	**+1.5**
NEE2	**Needles Airpor** baz=2.4	**2.33**	**24**	⇓S	**Sn**	**12 50 40.1**	**-1.5**
FMP	**Fort Macarthur** baz=2.4	**2.39**	**297**	⇓Sb	**Sb**	**12 50 49.2**	**+1.6**
MWC	**Mount Wilson**	**2.50**	**310**	*e*Pn	**Pb**	**12 50 18.8**	**-1.5**
MWC				*e*Sn	**Sb**	**12 50 49.7**	**-1.2**
PASC	**Pasadena Art C**	**2.55**	**308**	*e*Pn	**Pb**	**12 50 20.5**	**-0.5**
PASC				*e*Sn	**Sb**	**12 50 52.4**	**+0.2**
214A	**Organ Pipe Nat** baz=2.6	**2.58**	**104**	⇓S	**Sn**	**12 50 45.6**	**-2.2**
DECC	**Green Verdugo** baz=2.7	**2.69**	**307**	⇓Sb	**Sb**	**12 50 58.8**	**+2.4**
W13A	**Hualapai Mount** baz=3.0	**2.91**	**32**	⇓S	**Sn**	**12 50 54.4**	**-1.8**
EDW2	**Edwards Air Fo** baz=3.0	**2.92**	**321**	⇓Sb	**Sb**	**12 51 05.6**	**+2.8**
OSI	**Osito Audit: C**	**3.17**	**309**	*e*Pn	**Pn**	**12 50 27.2**	**+2.2**
W18A	**Petrified Fore**	**5.58**	**62**	*e*Pn	**Pn**	**12 51 00.1**	**+2.0**
W18A				*e*Sg	**Sg**	**12 52 38.9**	**+4.2**
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn	**Pn**	**12 51 14.2**	**+0.3**

GUC 05 12:49:51.6±0.3, 34°42S×72°09W, h48km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.92**	**130**	*e*P	Pn	12 50 08.6	+0.4
NICH				*e*S	Sn	12 50 21.5	+1.1
TALC	**Talca**	**1.05**	**159**	*e*P	Pn	12 50 10.5	+0.6
TALC				*e*S	Sn	12 50 24.9	+1.4
LNCH	**Linares**	**1.48**	**164**	*e*P	Pn	12 50 18.2	+2.4
LNCH				*e*S	Sn	12 50 37.4	+3.3
LNCH				AML	AML	12 50 45.4	
	comp=E,1μm,0.2s						
SJCH	**San Jose de Ma**	**1.64**	**62**	*e*P	Pn	12 50 18.4	+0.3
SJCH				*e*S	Sn	12 50 39.4	+1.3
SJCH				AML	AML	12 50 45.9	
	comp=N,796nm,1.8s						
CLCH	**Cerro Calan**	**1.65**	**52**	*e*P	Pn	12 50 19.4	+1.2
CLCH				*e*S	Sn	12 50 40.2	+2.0
CLCH				*e*S	Sn	12 50 40.4	+2.1
CLCH				AML	AML	12 50 46.5	
	comp=N,1μm,0.6s						
CLCH				AML	AML	12 50 51.5	
	comp=N,1μm,0.7s						
YECH	**El Yeso**	**1.83**	**66**	*e*P	Pn	12 50 22.6	+1.6
YECH				*e*S	Sn	12 50 46.0	+2.8
YECH				AML	AML	12 50 54.2	
	comp=E,637nm,0.4s						
FCH	**Farellones** comp=N,702nm,1.2s	**1.85**	**55**	AML	AML	12 50 56.4	

*ISCJB **05** 12:52:35.5±0.8, 21°.8S±0°.1×179°.3W±0°.1, h592km, mb3.9/13, Error ellipse: s-maj=20.0km s-min=14.2km az=150.2*
*IDC **05** 12:52:39.8±2.1, 21°.96S×179°.44W, h634km±23km, mb3.3/13, mb1 3.5/15, mb1mx3.4/26, mbtmp4.3/15, Error ellipse: s-maj=26.6km s-min=13.1km az=158.0*
ISC 05 12:52:36.1±0.8, 21°.9S±0°.2×179°.4W±0°.1, h592km, n25, σ1§30/26, mb3.9/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=75,slow=20,SNR=11	**13.19**	**267**	P	**P**	**12 55 28.3**	**+1.3**
URZ	**Urewera** 0.5nm,0.3s,baz=259,slow=3.8,SNR=5.4	**16.60**	**190**	P	**P**	**12 55 59.2**	**+0.2**
CTA	**Charters Tower** 6.2nm,0.6s,baz=90,slow=11,SNR=10.0	**32.13**	**267**	P	**P**	**12 58 17.6**	**+1.0**
PMG	**Port Moresby** 12nm,0.7s,baz=106,slow=2.8,SNR=7.9	**34.47**	**286**	P	**P**	**12 58 36.9**	**+0.6**
ASAR	**Alice Springs** 11nm,0.8s,baz=96,slow=7.7,SNR=178	**42.99**	**258**	P	**P**	**12 59 45.6**	**+0.8**
ASAR				PcP	**PcP**	**13 01 21.9**	**+0.5**
	1.1nm,0.6s,baz=104,slow=3.9,SNR=6.6						
ASAR				S	**S**	**13 05 26.8**	**-1.8**
	1.3nm,0.9s,baz=97,slow=15,SNR=8.8						
WRA	**Warramunga Arr** 6.7nm,0.6s,baz=97,slow=8.1,SNR=245	**43.18**	**264**	P	**P**	**12 59 46.5**	**+0.1**
WRA				S	**S**	**13 05 27.4**	**-3.9**
	0.7nm,0.8s,baz=98,slow=13,SNR=4.6						
JAY	**Jayapura** 9.9nm,0.5s,baz=67,slow=1.9,SNR=5.3	**43.33**	**291**	P	**P**	**12 59 47.8**	**+0.3**
MJAR	**Matsushiro Arr** 1.9nm,0.6s,baz=161,slow=6.2,SNR=6.2	**70.60**	**325**	P	**P**	**13 02 52.4**	**-0.4**
KSRS	**Korea Array** 0.3nm,0.5s,baz=138,slow=4.2,SNR=2.8	**77.11**	**319**	P	**P**	**13 03 30.6**	**+1.1**
PETK	**Petropavlovsky-** 4.0nm,0.9s,baz=233,slow=8.4,SNR=4.1	**77.30**	**346**	P	**P**	**13 03 29.9**	**-0.3**
USRK	**Ussuriysk Ar.** 1.9nm,0.9s,baz=125,slow=7.4,SNR=3.5	**79.42**	**327**	P	**P**	**13 03 43.0**	**+1.3**
NVAR	**Mina Array Bea** 0.6nm,1.0s,baz=215,slow=6.8,SNR=3.6	**82.89**	**44**	P	**P**	**13 04 00.5**	**+0.5**
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=191,slow=5.7,SNR=5.4	**88.86**	**58**	P	**P**	**13 04 29.2**	**+0.7**
CMAR	**Chiang Mai Arr** 2.3nm,0.8s,baz=138,slow=3.4,SNR=14	**89.40**	**290**	P	**P**	**13 04 31.9**	**+0.8**
ILAR	**Eielson Array** 0.1nm,0.4s,baz=222,slow=4.1,SNR=5.1	**89.94**	**13**	P	**P**	**13 04 31.8**	**-0.8**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=174,slow=1.4,SNR=2.5	**111.23**	**313**	PKiKP	**PKiKP**	**13 10 02.1**	**-1.3**
BVAR	**Borovoye Array** 0.6nm,0.4s,baz=94,slow=2.1,SNR=5.7	**119.32**	**319**	PKP	**PKPdf**	**13 10 17.1**	**-1.6**
ARCES	**ARCESS Array B** 0.8nm,0.7s,baz=343,slow=1.3,SNR=4.5	**130.04**	**349**	PKP	**PKPdf**	**13 10 37.5**	**-1.2**
FINES	**FINESS Array B** 0.4nm,0.5s,baz=40,slow=1.3,SNR=5.0	**136.73**	**342**	PKP	**PKPdf**	**13 10 49.2**	**-2.2**
HFS	**Hagfors** 1.3nm,0.7s,baz=46,slow=4.3,SNR=12	**140.69**	**350**	PKhKP	PKPpre	13 10 52.1	
AKASG	**Malin Array Be** 1.3nm,0.3s,baz=41,slow=4.2,SNR=22	**143.59**	**329**	PKP	PKPab	13 11 01.9	-1.2
BRTR	**Keskin Array B** 1.6nm,0.4s,baz=50,slow=5.6,SNR=3.9	**146.80**	**310**	PKPbc	**PKPbc**	**13 11 12.3**	**-0.7**
MMAI	**Mount Meron Ar** 6.3nm,1.3s	**147.37**	**297**	PKPbc	**PKPbc**	**13 11 15.1**	**+0.4**
BRG	**Berggiesshubel** 0.7nm,0.6s,baz=52,slow=2.2,SNR=7.0	**149.26**	**343**	*e*(P)	**PKPbc**	**13 11 18.8**	**+0.2**
GERES	**GERESS Array B**	**151.16**	**342**	PKPbc	**PKPbc**	**13 11 23.0**	**-0.3**

IDC 05 12:53:35.6±1.7, 17°.85S×174°.57W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/26, mbtmp3.9/4, Error ellipse: s-maj=58.7km s-min=29.8km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.1nm,0.3s,baz=18,slow=9.6,SNR=5.0	**21.60**	**198**	P	P	12 58 27.3	+0.1
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=98,slow=7.1,SNR=6.8	**48.24**	**259**	P	P	13 02 18.0	-0.6
ASAR	**Alice Springs** 2.1nm,0.6s,baz=91,slow=10.0,SNR=14	**48.33**	**254**	P	P	13 02 19.6	+0.3
ILAR	**Eielson Array** 0.5nm,0.9s,baz=226,slow=6.2,SNR=7.3	**85.05**	**12**	P	P	13 06 12.7	-0.1
GERES	**GERESS Array B** 0.3nm,0.5s,baz=34,slow=3.5,SNR=4.6	**148.36**	**350**	PKPbc	PKPbc	13 13 23.4	-0.7

*ISCJB **05** 13:07:27.5±0.4, 32°.69N±0°.03×115°.75W±0°.03, h11km±4km, Error ellipse: s-maj=5.5km s-min=3.9km az=23.1*
*ECX **05** 13:07:29.2±0.5, 32°.63N×115°.77W, h2km, MD3.4, ML3.6*
*NEIC **05** 13:07:29.0, 32°.64N×115°.77W, h2km, ML3.6(ECX), ML3.6(PAS), After ECX.*
ISC 05 13:07:28.3±1.0, 32°.63N±0°.03×115°.73W±0°.03, h8km±8km, n24, σ0§88/34, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.02**	**2**	⇓*e*P	**Pg**	**13 07 29.4**	**-0.3**
YUH	**Yuha Desert**	**0.17**	**277**	⇓*e*P	**Pg**	**13 07 31.7**	**-0.1**
COK	**Cook Ranch**	**0.22**	**360**	⇓*e*P	**Pg**	**13 07 33.6**	**+0.8**
CRR	**Carrizo Plain**	**0.33**	**322**	⇓*e*P	**Pg**	**13 07 35.0**	**+0.2**
CPBX	**Cerro Prieto**	**0.41**	**120**	*e*P	**Pg**	**13 07 37.0**	**+0.7**
CPBX				*e*S	**Sb**	**13 07 44.2**	**-0.1**
COA	**Coachella**	**0.56**	**65**	⇑*e*P	**Pg**	**13 07 39.9**	**+0.8**
BAR	**Barrett**	**0.80**	**274**	*e*Pg	**Pg**	**13 07 43.0**	**-0.7**
CBX	**Cerro Bola**	**0.85**	**249**	*e*P	**Pg**	**13 07 44.3**	**-0.4**
CBX				*e*S	**Sg**	**13 07 55.3**	**-0.5**
GLA	**Glamis**	**0.87**	**61**	*e*Pg	**Pg**	**13 07 44.3**	**-0.7**
GLA				*e*Sg	**Sg**	**13 07 56.2**	**-0.1**
YMD	**Yuma Desert**	**1.00**	**94**	⇑*e*P	**Pg**	**13 07 46.3**	**-1.2**
PFO	**Pinyon Flats O**	**1.15**	**328**	*e*Pg	**Pb**	**13 07 48.9**	**-1.8**
PFO				*e*Sg	**Sg**	**13 08 05.1**	**-0.4**
SPX	**San Pedro Mart**	**1.59**	**172**	*e*P	**Pn**	**13 07 57.4**	**+0.2**
SPX				*e*S	**Sn**	**13 08 19.1**	**+0.9**
SPX				⇓*e*		13 08 21.9	
	comp=E,362nm,0.7s						
LDFC	**Landfair**	**2.50**	**12**	Pn	**Pn**	**13 08 08.7**	**-0.7**
MWC	**Mount Wilson**	**2.52**	**310**	*e*Pn	**Pn**	**13 08 09.8**	**0.0**
MWC				*e*Pg	**Pb**	**13 08 14.7**	**+0.8**
MWC				*e*Sg	**Sb**	**13 08 45.7**	**+0.6**
214A	**Organ Pipe Nat**	**2.56**	**104**	*e*Pn	**Pn**	**13 08 08.2**	**-1.9**
PASC	**Pasadena Art C**	**2.57**	**307**	*e*Pn	**Pn**	**13 08 10.2**	**-0.1**
PASC				*e*Pg	**Pb**	**13 08 15.1**	**+0.4**
PASC				Sg	**Sb**	**13 08 47.5**	**+1.0**
GSC	**Goldstone, Bar**	**2.81**	**342**	*e*Pn	**Pn**	**13 08 13.7**	**0.0**
OSI	**Osito Audit: C**	**3.19**	**309**	*e*Pg	**Pb**	**13 08 27.0**	**+1.7**
ISA	**Isabella, Lake**	**3.79**	**324**	*e*Pn	**Pn**	**13 08 27.5**	**+0.4**
ISA				*e*Pg	**Pg**	**13 08 39.4**	**-1.5**
SHPR	**Sheep Range**	**3.90**	**7**	*e*Pn	**Pn**	**13 08 27.9**	**-0.8**
TUC	**Tucson**	**4.19**	**93**	*e*Pn	**Pn**	**13 08 31.9**	**-0.7**
W18A	**Petrified Fore**	**5.57**	**62**	*e*Pn	**Pn**	**13 08 52.8**	**+1.1**
121A	**Cookes Peak, D** comp=E,8.0nm,0.4s	**6.70**	**89**	*e*Pn	**Pn**	**13 09 06.9**	**-0.4**
LENM	**Lemitar** comp=E,2.2nm,0.3s	**7.48**	**76**	*e*Pn	**Pn**	**13 09 18.3**	**+0.4**

NEIC 05 13:12:19.9, 32°.02N×115°.25W, h10km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**1.09**	**19**	*e*P	Pb	13 12 40.7	-0.2
GLA				*e*Sg	Sg	13 12 50.6	-4.6
BAR	**Barrett**	**1.37**	**299**	*e*Pn	Pn	13 12 45.1	-0.1
BAR				*e*S	Sb	13 13 01.3	-2.1
PFO	**Pinyon Flats O**	**1.88**	**328**	*e*Pn	Pn	13 12 52.4	+0.1
PFO				*e*Sn	Sn	13 13 15.2	-1.1
214A	**Organ Pipe Nat**	**2.07**	**91**	*e*Pn	Pn	13 12 55.9	+1.1
LDFC	**Landfair**	**3.05**	**2**	Pn	Pn	13 13 03.9	-4.5
MWC	**Mount Wilson**	**3.22**	**314**	*e*Pg	Pb	13 13 19.5	+2.0
TUC	**Tucson**	**3.80**	**84**	Pn	Pn	13 13 17.1	-1.4
SHPR	**Sheep Range**	**4.48**	**1**	*e*Pn	Pn	13 13 27.9	-0.1
ISA	**Isabella, Lake**	**4.52**	**324**	*e*Pn	Pn	13 13 26.6	-1.8

*ISCJB **05** 13:21:04.2±0.5, 37°.47S±0°.04×72°.77W±0°.09, h35km, mb4.4/15, MS3.6/3, Error ellipse: s-maj=10.2km s-min=5.3km az=174.4*
*GUC **05** 13:21:05.8±0.6, 37°.41S×72°.86W, h44km±1km, ML4.2*
*NEIC **05** 13:21:05.9±0.4, 37°.28S×72°.83W, mb4.2/1, Error ellipse: s-maj=13.6km s-min=8.3km az=86.0*
*IDC **05** 13:21:05.8±0.5, 37°.42S×72°.69W, h38km±3km, mb3.9/11, mb1 4.1/12, mb1mx3.9/33, mbtmp4.1/12, ML3.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/27, Error ellipse: s-maj=20.8km s-min=14.4km az=84.0*
ISC 05 13:21:05.5±0.5, 37°.40S±0°.04×72°.83W±0°.08, h35km, h35km:pP-P, n46, σ1§10/71, mb4.4/15, MS3.8/3, 1C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.42**	**165**	⇑*iP*	**Pn**	**13 21 15.9**	**+0.8**
AGCH				*i*S	**Sn**	**13 21 22.9**	**+1.2**
CCSP	**San Pedro de C**	**0.59**	**338**	⇓*i*P	**Pn**	**13 21 18.2**	**+0.7**
CCSP				*i*S	**Sn**	**13 21 27.6**	**+1.7**
CCSP				AML	AML	13 21 29.6	
	comp=N,21μm,0.7s						
COCH	**Cobquecura**	**1.27**	**2**	*e*P	**Pn**	**13 21 27.8**	**+1.2**
COCH				*e*S	**Sn**	**13 21 44.3**	**+1.9**
LNCH	**Linares**	**1.84**	**33**	⇓*i*P	**Pn**	**13 21 36.1**	**+1.5**
LNCH				*i*S	**Sn**	**13 21 59.0**	**+2.4**
TALC	**Talca**	**2.22**	**26**	*e*P	**Pn**	**13 21 40.7**	**+1.0**
TALC				*i*S	**Sn**	**13 22 07.6**	**+1.7**
PEL	**Peldehue**	**4.59**	**23**	⇓*i*P	**Pn**	**13 22 12.6**	**+0.1**
CFAA	**Coronel Fontan** comp=N,1.2nm,0.3s,baz=195,slow=14,SNR=13	**6.91**	**35**	Pn	**Pn**	**13 22 43.5**	**-0.8**
LCO	**Las Campanas** comp=N,39nm,0.6s	**8.55**	**13**	*e*P	**Pn**	**13 23 05.7**	**-1.4**
TRQA	**Tornquist** comp=N,23nm,0.7s	**8.62**	**98**	*e*P	**Pn**	**13 23 09.3**	**+1.5**
EFI	**East Falkland**	**17.68**	**149**	P	**P**	**13 25 09.8**	**+0.3**
USHA	**Ushuaia** comp=N,0.2nm,0.3s,baz=341,slow=14,SNR=2.6	**17.70**	**172**	Pn	**P**	**13 25 13.4**	**+3.8**
LPAZ	**La Paz** comp=N,4.5nm,0.8s,baz=164,slow=9.5,SNR=12	**21.43**	**12**	P	**P**	**13 25 52.5**	**+1.2**
LPAZ	**La Paz**	**21.43**	**12**	*e*P	**P**	**13 25 51.1**	**-0.1**
SIV	**San Ignacio** comp=N,3.0nm,0.6s,baz=213,slow=9.5,SNR=8.2	**23.73**	**29**	P	**P**	**13 26 13.3**	**-1.2**
SIV				LR	LR	13 35 08.5	
	comp=N,100nm,20.3s,baz=240,slow=36						
SAML	**Samuel** comp=N,5.0nm,1.0s	**29.64**	**20**	*e*P	**P**	**13 27 05.8**	**-1.9**
SAML				*e*pP	**pP**	**13 27 17.6**	**-0.1**
SAML				*e*sP	**sP**	**13 27 22.1**	**+0.1**
BDFB	**Brasilia** comp=N,3.8nm,0.5s,baz=218,slow=6.1,SNR=4.8	**30.86**	**52**	P	**P**	**13 27 19.6**	**+1.0**
BDFB				LR	LR	13 41 02.4	
	comp=N,200nm,21.2s,baz=198,slow=39						
VNA3	**Neumayer Olymp**	**46.48**	**157**	P	sP	13 29 46.2	+2.9
VNA2	**Neumayer--Watz** baz=288,slow=8.5	**47.16**	**156**	P	pP	13 29 45.9	+1.5
SNAA	**Sanae**	**48.71**	**157**	P	pP	13 29 58.0	+1.5
SNAA	**Sanae** comp=N,1.7nm,0.8s,baz=287,slow=10,SNR=8.9	**48.71**	**157**	P	**P**	**13 29 45.5**	**-0.5**
SNAA				pP	**pP**	**13 29 57.4**	**+0.9**
	comp=N,2.3nm,0.8s,baz=246,slow=9.7,SNR=4.1						
QSPA	**South Pole Qui** comp=N,1.4nm,1.0s,baz=115,slow=1.0,SNR=4.3	**52.84**	**180**	P	**P**	**13 30 18.1**	**+0.7**
QSPA				pP	**pP**	**13 30 28.2**	**+0.3**
	comp=N,3.2nm,0.8s,baz=92,slow=0.9,SNR=5.1						
TXAR	**Lajitas Array** comp=N,0.6nm,0.8s,baz=149,slow=10,SNR=5.8	**72.40**	**332**	P	**P**	**13 32 28.4**	**+0.3**
TXAR				pP	**pP**	**13 32 40.2**	**+1.2**
	comp=N,1.2nm,0.7s,baz=149,slow=9.0,SNR=11						
LIC	**Lamto** comp=N,37nm,0.7s	**76.47**	**71**	*e*P	**P**	**13 32 50.8**	**-1.2**
TIC	**Toumodi** comp=N,31nm,0.8s	**76.75**	**71**	*e*P	**P**	**13 32 52.7**	**-0.9**
KIC	**Kosan Boka** comp=N,56nm,0.8s	**76.77**	**71**	*e*P	**P**	**13 32 53.0**	**-0.7**
DBIC	**Dimbokro** comp=N,3.3nm,0.6s,baz=208,slow=7.2,SNR=6.5	**76.89**	**71**	P	**P**	**13 32 54.0**	**-0.3**
DBIC				pP	**PcP**	**13 33 05.8**	**+0.4**
	comp=N,12nm,0.8s,baz=201,slow=6.0,SNR=7.9						
DBIC				sP	**sP**	**13 33 09.9**	**+0.6**
	comp=N,18nm,0.7s,baz=209,slow=7.4,SNR=15						
DBIC	**Dimbokro**	**76.89**	**71**	*e*P	**P**	**13 32 53.4**	**-0.9**
DBIC				*e*pP	**PcP**	**13 33 05.5**	**+0.1**
DBIC				pP	**PcP**	**13 33 05.8**	**+0.4**
DBIC				sP	**sP**	**13 33 09.9**	**+0.6**
DBIC				*e*sP	sP	13 33 10.2	+0.9
ANMO	**Albuquerque** comp=N,2.2nm,0.8s,baz=163,slow=5.9,SNR=4.3	**78.47**	**332**	pP	pP	13 33 14.9	+1.0
BOSA	**Boshof** comp=N,4.2nm,0.9s,baz=217,slow=6.9,SNR=4.8	**79.07**	**118**	P	**P**	**13 33 04.4**	**-2.1**
BOSA				sP	**sP**	**13 33 22.1**	**+0.6**
	comp=N,4.1nm,0.7s,baz=248,slow=5.1,SNR=3.4						
BOSA	**Boshof**	**79.07**	**118**	*e*P	**P**	**13 33 05.4**	**-1.1**
BOSA				sP	**sP**	**13 33 22.1**	**+0.6**
TORD	**Torodi Ar. Bea** comp=N,2.2nm,0.9s,baz=237,slow=4.1,SNR=9.4	**85.97**	**70**	P	**P**	**13 33 41.5**	**-0.9**
TORD				pP	**pP**	**13 33 53.2**	**-0.3**
	comp=N,1.3nm,0.7s,baz=221,slow=4.7,SNR=4.4						
TORD				sP	**sP**	**13 33 58.3**	**+0.8**
	comp=N,4.1nm,0.9s,baz=249,slow=3.9,SNR=11						
NVAR	**Mina Array Bea** comp=N,1.1nm,0.7s,baz=150,slow=5.9,SNR=8.3	**86.31**	**326**	pP	pP	13 33 56.6	+1.7
PDAR	**Pinedale Array** comp=N,1.1nm,1.1s,baz=199,slow=7.8,SNR=4.9	**86.51**	**334**	P	**P**	**13 33 44.1**	**-0.6**
PDAR				pP	**pP**	**13 33 57.3**	**+1.5**
	comp=N,0.9nm,0.8s,baz=182,slow=4.5,SNR=5.0						
ULM	**Lac du Bonnet** comp=N,1.8nm,0.9s,baz=179,slow=5.9,SNR=3.6	**89.61**	**345**	P	**P**	**13 33 58.3**	**-0.6**
NEW	**Newport** comp=N,32nm,20.7s,baz=72,slow=33	**93.96**	**332**	LR	LR	14 12 38.5	
BRTR	**Keskin Array B** comp=N,0.5nm,0.6s,baz=94,slow=2.0,SNR=3.3	**124.00**	**63**	PKP	**PKPdf**	**13 39 59.5**	**-0.5**
AKASG	**Malin Array Be** comp=N,0.1nm,0.3s,baz=272,slow=1.7,SNR=3.7	**124.93**	**49**	PKP	**PKPdf**	**13 39 59.5**	**-1.7**
SEY	**Seymchan** comp=N,0.9nm,0.9s,baz=33,slow=2.5,SNR=5.2	**142.60**	**328**	PKP	**PKPdf**	**13 40 32.8**	**-1.0**
SEY				pPKP	**pPKPdf**	**13 40 45.3**	**+0.1**
	comp=N,1.9nm,0.7s,baz=101,slow=5.7,SNR=8.9						
ABKAR	**Akbulak array**	**144.22**	**55**	*e*PKPdf	**PKPab**	**13 40 34.6**	**-0.4**
YAK	**Yakutsk** comp=N,3.0nm,0.3s,baz=348,slow=0.7,SNR=2.6	**151.67**	**338**	PKPbc	**PKPbc**	**13 40 54.2**	**-1.0**
YAK				PKPab	**PKPab**	**13 41 05.1**	**+1.0**
	comp=N,12nm,0.6s,baz=42,slow=0.6,SNR=7.5						
AAK	**Ala-Archa** baz=204,slow=4.0	**154.53**	**68**	PKPbc	**PKPbc**	**13 41 02.9**	**+0.5**
AAK				PKPab	**PKPab**	**13 41 16.0**	**-1.1**
	baz=209,slow=4.1						
AAK	**Ala-Archa**	**154.53**	**68**	*e*PKPbc	**PKPbc**	**13 41 02.5**	**+0.1**
AAK				PKPab	**PKPab**	**13 41 16.0**	**-1.1**
KURBB	**Kurchatov Arra** comp=N,1.4nm,0.8s,baz=286,slow=4.8,SNR=13	**155.71**	**48**	PKPab	**PKPab**	**13 41 20.9**	**-0.6**
KURBB				pPKPab	**pPKPab**	**13 41 33.1**	**+0.3**
	comp=N,0.8nm,0.7s,baz=290,slow=4.6,SNR=5.2						
KURK	**Kurchatov**	**155.72**	**48**	PKPab	**PKPab**	**13 41 20.9**	**-0.7**
KURK				pPKPab	**pPKPab**	**13 41 33.1**	**+0.2**
ZALV	**Zalesovo Beam** comp=N,0.7nm,0.6s,baz=292,slow=4.7,SNR=4.2	**157.40**	**36**	PKP	**PKPdf**	**13 40 56.0**	**-1.1**
ZALV				pPKP	**pPKPdf**	**13 41 07.7**	**-0.9**
	comp=N,1.2nm,0.8s,baz=320,slow=3.9,SNR=2.8						
ZALV				PKPab	**PKPab**	**13 41 28.6**	**-0.2**
	comp=N,0.7nm,0.6s,baz=310,slow=5.4,SNR=3.2						
MKAR	**Makanchi Array** comp=N,0.6nm,0.8s,baz=260,slow=2.0,SNR=7.4	**159.36**	**55**	PKP	**PKPdf**	**13 40 59.6**	**-0.2**
MKAR				pPKP	**pPKPdf**	**13 41 11.6**	**+0.3**
	comp=

comp=Z,0.2nm,0.6s,baz=250,slow=4.0,SNR=8.5

*IDC **05** 13:25:06.5±2.0,2°.71S×128°.41E,h0km,mb3.7/2, mb1 4.2/3,mb1mx3.6/35,mbtmp3.9/3,ML4.2/1,Error ellipse: s-maj=138.6km s-min=25.5km az=68.0*

*ISCJB **05** 13:25:12.0±0.6,3°.02S±0°.09×127°.79E±0°.06,h38km, mb3.7/2,Error ellipse: s-maj=13.8km s-min=6.5km az=28.7*

*DJA **05** 13:25:11.9±0.5,3°S±7°×12°.8E±°,h23km±8km,M4.3/10, mb5.0/2,mB5.2/1,MLv3.9/10,Mw(mB)4.6/1*

ISC 05 13:25:12.7±1.0,3°.00S±0°.08×127°.79E±0°.05,h38km,n11, σ1§38/12,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.73**	**251**	P	**Pn**	**13 25 27.2**	**+0.7**
MSAI	**Masohi**	**1.19**	**107**	P	**Pn**	**13 25 33.4**	**+0.7**
SANI	**Sanana**	**2.03**	**298**	P	**Pn**	**13 25 43.7**	**-0.7**
SANI				S	**Sn**	**13 26 09.0**	**+0.5**
LBMI	**Labuha**	**2.36**	**353**	P	**Pn**	**13 25 49.3**	**+0.4**
BNDI	**Bandanaira**	**2.60**	**126**	P	**Pn**	**13 25 53.9**	**+1.8**
FAKI	**Fak Fak**	**4.45**	**89**	P	**Pn**	**13 26 19.2**	**+1.5**
FAKI				S	**Sn**	**13 27 06.0**	**-2.3**
KMSI	**Cibinong** 110nm,1.2s,0.6nm	**5.21**	**313**	P	**Pn**	**13 26 29.4**	**+1.4**
APSI	**Ampana**	**6.48**	**289**	P	Pn	13 26 49.4	+3.9
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=340,slow=11,SNR=26	**18.02**	**160**	P	**Pn**	**13 29 18.8**	**-1.4**
ASAR	**Alice Springs** 6.2nm,0.7s,baz=344,slow=12,SNR=52	**21.38**	**164**	P	**P**	**13 29 56.5**	**-0.6**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=116,slow=6.6,SNR=3.2	**63.69**	**327**	P	**P**	**13 35 40.9**	**+0.6**

*ISCJB **05** 13:27:26.6±0.4,32°.23N±0°.03×115°.29W±0°.05,h17km, Error ellipse: s-maj=5.9km s-min=3.9km az=159.2*

*ECX **05** 13:27:28.3±0.5,32°.27N×115°.33W,h8km,MD3.5,ML3.7*

*NEIC **05** 13:27:28.3,32°.29N×115°.29W,h32km,ML3.5(PAS),After PAS.*

ISC 05 13:27:26.3±0.9,32°.21N±0°.03×115°.29W±0°.04,h17km,n20, σ0§72/26,6C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.23**	**170**	*e*P	**Pg**	**13 27 31.3**	**-0.2**
EMX				*e*S	**Sg**	**13 27 35.4**	**+0.3**
EMSC	**East Mesa**	**0.58**	**26**	⇓P	**Pg**	**13 27 38.6**	**+0.5**
ERPC	**Ernies Place**	**0.62**	**329**	P	**Pb**	**13 27 39.1**	**+0.4**
COA	**Coachella**	**0.67**	**12**	⇑P	**Pb**	**13 27 39.7**	**+0.2**
ECBX	**El Chinero**	**0.76**	**165**	*e*P	**Pb**	**13 27 40.5**	**-0.7**
ECBX				*e*S	**Sg**	**13 27 52.1**	**+0.7**
BTCC	**Brunts Corner**	**0.80**	**4**	⇑P	**Pg**	**13 27 42.0**	**0.0**
CRR	**Carrizo Plain**	**0.89**	**320**	⇓P	**Pb**	**13 27 43.2**	**-0.1**
GLA	**Glamis**	**0.92**	**25**	⇑P	**Pb**	**13 27 43.4**	**-0.5**
CBKC	**Canebrake**	**1.07**	**310**	⇓P	**Pn**	**13 27 46.6**	**0.0**
CBX	**Cerro Bola**	**1.17**	**275**	*e*P	**Pb**	**13 27 48.2**	**0.0**
CBX				*e*S	**Sb**	**13 28 03.2**	**0.0**
CBX				⇓*e*		13 28 08.4	
CBX	comp=N,2μm,0.6s			AML	AML	13 28 08.4	
CBX	comp=E,2μm,0.5s			AML	AML	13 28 08.8	
CBX				⇑*e*		13 28 08.8	
SPIG	**San Pedro Mart**	**1.17**	**188**	*e*P	**Pg**	**13 27 49.5**	**+0.4**
SPX	**San Pedro Mart**	**1.17**	**187**	*e*P	**Pg**	**13 27 49.5**	**+0.4**
SPX	comp=E,1μm,0.3s			AML	AML	13 28 08.5	
SPX				⇓*e*		13 28 08.5	
SPX				⇑*e*		13 28 08.9	
SPX	comp=N,1μm,0.5s			AML	AML	13 28 08.9	
BAR	**Barrett**	**1.26**	**292**	*e*Pn	**Pn**	**13 27 49.4**	**+0.2**
BAR				*e*Sn	**Sb**	**13 28 05.0**	**-0.6**
CPE	**Camp Elliot**	**1.68**	**294**	⇑P	**Pn**	**13 27 55.5**	**+0.6**
PFO	**Pinyon Flats O**	**1.71**	**325**	*e*Pn	**Pn**	**13 27 53.2**	**-2.2**
214A	**Organ Pipe Nat**	**2.12**	**96**	*e*Pn	**Pn**	**13 28 01.1**	**+0.1**
LDFC	**Landfair**	**2.86**	**3**	Pn	**Pn**	**13 28 11.2**	**-0.2**
MWC	**Mount Wilson**	**3.07**	**312**	Pn	**Pn**	**13 28 14.7**	**+0.4**
GSC	**Goldstone, Bar**	**3.33**	**338**	Pn	**Pn**	**13 28 18.6**	**+0.9**
GSC				*e*Pg	**Pg**	**13 28 31.1**	**+0.9**
ISA	**Isabella, Lake**	**4.34**	**323**	Pn	**Pn**	**13 28 30.2**	**-1.5**
ISA				*e*Pg	**Pg**	**13 28 49.2**	**-0.3**

*IASPEI **05** 13:33:04.8±1.1,32°.68N±0°.03×115°.79W±0°.02,h15km±6km, mb4.4/33,MS4.2/25,Error ellipse: s-maj=4.2km s-min=3.2km az=164.3*

*ISCJB **05** 13:33:04.9±0.3,32°.68N±0°.02×115°.76W±0°.02,h9km±2km, mb4.4/34,MS4.2/25,Error ellipse: s-maj=3.2km s-min=2.2km az=15.3*

*IDC **05** 13:33:05.2±0.9,32°.73N×115°.75W,h0km,mb4.1/15, mb1 4.2/21,mb1mx4.0/48,mbtmp4.0/21,ML4.0/6,MS4.2/29, Ms1 4.2/29,ms1mx4.1/44,Error ellipse: s-maj=18.6km s-min=8.2km az=42.0*

*NEIC **05** 13:33:05.4,32°.64N×115°.80W,h0km,mb4.7/34, MD5.0(MEX),ML5.1(ECX),ML5.1(PAS),After PAS.*

NEIC Felt [II] at Ensenada and Tijuana. Also felt at Mexicali and San Felipe. Felt at Puerto Penasco, Sonora. Felt [VI] at Calexico, [V] at El Centro, [IV] at Brawley and Imperial and [III] at Alpine, Anaheim, Bonita, Cathedral City, El Cajon, Julian, Lake Forest, San Diego and Santee, California. Felt in many parts of southern California. Felt at Yuma and in the Phoenix area, Arizona and at Las Vegas and Laughlin, Nevada.

*MOS **05** 13:33:05.6±0.9,32°.75N×115°.72W,h10km,mb4.9/9,Error ellipse: s-maj=7.1km s-min=5.1km az=90.8*

*BJI **05** 13:33:06.2,32°.57N×115°.99W,h5km,mB5.6/10,mb4.7/7, Ms5.0/9,Ms7 4.6/8*

*ECX **05** 13:33:06.4±0.7,32°.67N×115°.79W,h6km,MD4.9,ML5.1*

*GCMT **05** 13:33:06.0±0.4,32°.81N×115°.68W,h20km±1km,MW5.0/80, Moment Tensor Solution. s14,c16; s80,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.60±.19; Mθθ-3.61±.17; Mφφ3.01±.14; Mrθ-1.01±.31; Mrφ-0.66±.13; Mθφ-1.26±.29; Best double couple: M0.76000×10¹⁶ NP1:φs221.00000°,δ85.00000°,λ27.00000°. NP2: φs129.00000°,δ63.00000°,λ174.00000°. Principal axes: T 3.5550, Plg23.0000°, Azm88.0000°; N 0.4100, Plg63.0000°, Azm232.0000°; P -3.9660, Plg14.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MEX **05** 13:33:06.3±0.3,32°.80N×115°.73W,h15km±12km,MD4.7*

ISC 05 13:33:05.9±0.8,32°.68N±0°.02×115°.79W±0°.02,h7km±4km, n233,σ1§37/244,mb4.4/33,MS4.2/25,37C-32D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.06**	**117**	⇑*i*P	**Pg**	**13 33 06.7**	**-0.8**
WESC	**Westside Schoo**	**0.10**	**29**	⇓*i*P	**Pg**	**13 33 08.1**	**0.0**
YUH	**Yuha Desert**	**0.12**	**257**	⇑*i*P	**Pg**	**13 33 07.2**	**-1.2**
ERPC	**Ernies Place**	**0.12**	**57**	⇑*i*P	**Pg**	**13 33 08.5**	**-0.1**
COK	**Cook Ranch**	**0.18**	**16**	⇓*i*P	**Pg**	**13 33 09.9**	**+0.4**
COK	**Cook Ranch**	**0.18**	**16**	⇓*i*P	**Pg**	**13 33 09.9**	**+0.4**
CRR	**Carrizo Plain**	**0.26**	**324**	⇓*i*P	**Pg**	**13 33 11.1**	**0.0**
CRR	**Carrizo Plain**	**0.26**	**324**	⇓*i*P	**Pg**	**13 33 11.1**	**0.0**
SWSC	**Sam W. Stewart** baz=0.3	**0.27**	**358**	⇑P	**Pg**	**13 33 11.2**	**+0.1**
SWSC				⇓S	**Sg**	**13 33 15.2**	**+0.5**
SWSC	**Sam W. Stewart** baz=0.3	**0.27**	**358**	⇓*i*P	**Pg**	**13 33 11.2**	**+0.1**
DREC	**Desert Rsrch C**	**0.31**	**65**	⇑*i*P	**Pg**	**13 33 12.6**	**+0.6**
CPBX	**Cerro Prieto**	**0.48**	**122**	⇑*e*P	**Pg**	**13 33 14.9**	**-0.3**
CPBX				*e*S	**Sg**	**13 33 21.9**	**+0.4**
MONP	**Monument Peak,** baz=0.6	**0.58**	**292**	⇑P	**Pg**	**13 33 16.8**	**-0.2**
MONP				⇓S	**Sg**	**13 33 24.7**	**+0.1**
COA	**Coachella** baz=0.6	**0.59**	**71**	⇑*i*P	**Pg**	**13 33 17.1**	**-0.2**
COA	**Coachella**	**0.59**	**71**	⇑*i*P	**Pg**	**13 33 17.1**	**-0.2**
BAR	**Barrett**	**0.75**	**271**	⇑*i*P	**Pg**	**13 33 19.6**	**-0.7**
BAR	**Barrett**	**0.75**	**271**	*e*Pg	**Pg**	**13 33 19.6**	**-0.7**
BAR				*e*Sg	**Sg**	**13 33 29.5**	**-0.6**
CBX	**Cerro Bola**	**0.82**	**244**	*e*P	**Pg**	**13 33 21.0**	**-0.8**
CBX				*e*S	**Sg**	**13 33 32.4**	**-0.1**
CBX	**Cerro Bola**	**0.82**	**244**	⇑*e*P	**Pg**	**13 33 21.1**	**-0.7**
CBX				*e*S	**Sg**	**13 33 31.9**	**-0.6**
CBX	comp=E,118μm,0.4s			*e*		13 33 34.6	
CBX	comp=N,105μm,0.7s			⇓*e*		13 33 38.8	
CBX	**Cerro Bola**	**0.82**	**244**	*e*P	**Pg**	**13 33 21.0**	**-0.8**
CBX				*e*S	**Sg**	**13 33 32.4**	**-0.1**
GLA	**Glamis** baz=0.9	**0.89**	**65**	⇓P	**Pg**	**13 33 21.6**	**-1.5**
GLA	baz=0.9			⇑S	**Sg**	**13 33 33.5**	**-1.1**
BC3	**Big Chuckawall** baz=1.1	**1.02**	**16**	⇓P	**Pg**	**13 33 23.9**	**-1.6**
BC3	baz=1.1			⇓S	**Sg**	**13 33 37.0**	**-1.7**
PFO	**Pinyon Flats O**	**1.09**	**329**	*e*P	**Pg**	**13 33 24.9**	**-1.9**
PFO						13 33 39.8	
PFO	**Pinyon Flats O** comp=N,429nm,0.3s,baz=142,slow=12,SNR=396	**1.09**	**329**	Pn	**Pg**	**13 33 25.3**	**-1.5**
PFO	comp=N,2μm,0.3s,baz=230,slow=18,SNR=40			Lg	Lg	13 33 39.8	
PFO	**Pinyon Flats O** baz=1.1	**1.09**	**329**	⇑P	**Pg**	**13 33 25.1**	**-1.8**
PFO	baz=1.1			⇑S	**Sg**	**13 33 39.5**	**-1.4**
PFO	**Pinyon Flats O**	**1.09**	**329**	*e*Pg	**Pg**	**13 33 24.9**	**-1.9**
PFO				Pn	**Pg**	**13 33 25.3**	**-1.5**
PFO				*e*Sg	**Sg**	**13 33 39.4**	**-1.6**
PFO				Lg	Lg	13 33 39.8	
109C	**Camp Elliot, M** baz=1.1	**1.13**	**281**	⇑P	**Pg**	**13 33 26.3**	**-1.4**
109C	baz=1.1			⇑S	**Sg**	**13 33 41.1**	**-1.2**
BELC	**Belle Mtn. Jos** baz=1.4	**1.33**	**352**	⇓P	**Pn**	**13 33 28.5**	**-2.6**
BELC	baz=1.4			⇓S	**Sb**	**13 33 46.6**	**-2.2**
MURC	**Murrieta** baz=1.5	**1.50**	**308**	⇑P	**Pn**	**13 33 31.4**	**-2.0**
MURC	baz=1.5			⇑S	**Sb**	**13 33 53.9**	**+0.4**
Y12C	**Blythe** baz=1.5	**1.51**	**44**	⇓P	**Pn**	**13 33 30.9**	**-2.5**
Y12C	baz=1.5			⇑S	**Sn**	**13 33 50.2**	**-3.1**
IRM	**Iron Mountain** baz=1.6	**1.57**	**20**	⇑P	**Pn**	**13 33 32.1**	**-2.3**
SPIG	**San Pedro Mart**	**1.65**	**170**	*e*P	**Pn**	**13 33 33.2**	**-2.5**
SPIG				*e*S	**Sn**	**13 33 54.9**	**-2.3**
SPIG	**San Pedro Mart**	**1.65**	**170**	*e*P	**Pn**	**13 33 33.2**	**-2.5**
SPIG				*e*S	**Sn**	**13 33 54.9**	**-2.3**
SPX	**San Pedro Mart**	**1.65**	**170**	*e*P	**Pn**	**13 33 34.8**	**-0.9**
SPX	comp=N,8μm,1.2s			⇑*e*		13 34 01.0	
113A	**Mohawk Valley,** baz=1.7	**1.70**	**86**	⇑P	**Pn**	**13 33 33.4**	**-2.7**
113A	baz=1.7			⇓S	**Sn**	**13 33 55.0**	**-3.2**
BBRC	**Big Bear Solar** baz=1.9	**1.85**	**329**	⇓P	**Pn**	**13 33 36.6**	**-1.7**
BBRC	baz=1.9			⇑S	**Sn**	**13 34 00.3**	**-1.7**
GMRC	**Granite Mounta** baz=2.1	**2.10**	**3**	⇑P	**Pn**	**13 33 39.7**	**-2.0**
GMRC	baz=2.1			⇓S	**Sn**	**13 34 06.1**	**-2.2**
PDMCI	**Parker Dam,Lak** baz=2.2	**2.12**	**40**	⇓P	**Pn**	**13 33 40.0**	**-1.9**
HEC	**Hector,Ludlow** baz=2.2	**2.20**	**348**	⇑P	**Pn**	**13 33 40.9**	**-2.1**
HEC	baz=2.2			⇑S	**Sn**	**13 34 08.1**	**-2.4**
BFSC	**Mount Baldy Ra** baz=2.2	**2.21**	**315**	⇑P	**Pn**	**13 33 41.4**	**-1.8**
BFSC	baz=2.2			⇑Sb	**Sb**	**13 34 14.7**	**+0.7**
NEE2	**Needles Airpor** baz=2.3	**2.30**	**25**	⇑P	**Pn**	**13 33 42.7**	**-1.7**
CIS	**Catalina Islan** baz=2.3	**2.32**	**289**	⇓P	**Pn**	**13 33 44.2**	**-0.4**
CIS	baz=2.3			⇓Sb	**Sb**	**13 34 18.1**	**+1.2**
FMP	**Fort Macarthur** baz=2.3	**2.34**	**297**	⇑P	**Pn**	**13 33 44.4**	**-0.5**
SCI	**San Clemente I** baz=2.3	**2.34**	**278**	⇑P	**Pn**	**13 33 44.3**	**-0.6**
SCI	baz=2.3			⇓S	**Sn**	**13 34 14.4**	**+0.4**
RRX	**Edison Barstow** baz=2.4	**2.42**	**336**	⇓P	**Pn**	**13 33 43.9**	**-2.1**
MWC	**Mount Wilson**	**2.45**	**310**	*e*P	**Pn**	**13 33 46.4**	**-0.1**
MWC	**Mount Wilson**	**2.45**	**310**	*e*Pn	**Pn**	**13 33 46.4**	**-0.1**
MWC				*e*Pg	**Pb**	**13 33 50.1**	**-0.4**
LDFC	**Landfair**	**2.46**	**13**	*e*Pn	**Pn**	**13 33 45.9**	**-0.8**
Z14A	**Wintersburg** baz=2.5	**2.48**	**73**	⇓P	**Pn**	**13 33 44.3**	**-2.6**
PASC	**Pasadena Art C**	**2.50**	**307**	*e*Pn	**Pn**	**13 33 48.8**	**+1.7**
214A	**Organ Pipe Nat** baz=2.6	**2.62**	**105**	⇑P	**Pn**	**13 33 45.6**	**-3.1**
214A	**Organ Pipe Nat**	**2.62**	**105**	*e*Pn	Pn	13 33 45.5	-3.3
Y14A	**Wickenburg** baz=2.7	**2.65**	**61**	⇑P	**Pn**	**13 33 46.9**	**-2.3**
GSC	**Goldstone, Bar**	**2.75**	**342**	*e*P	**Pn**	**13 33 48.9**	**-1.8**
GSC	**Goldstone, Bar** baz=2.8	**2.75**	**342**	⇓P	**Pn**	**13 33 48.6**	**-2.1**
GSC	**Goldstone, Bar**	**2.75**	**342**	*e*Pn	**Pn**	**13 33 48.9**	**-1.8**
TUQ	**Turquoise Moun** baz=2.8	**2.76**	**358**	⇓P	**Pn**	**13 33 48.7**	**-2.1**
EDW2	**Edwards Air Fo** baz=2.9	**2.87**	**321**	⇓P	**Pn**	**13 33 50.5**	**-1.7**
OSI	**Osito Audit: C** baz=3.1	**3.12**	**309**	⇑P	**Pn**	**13 33 54.2**	**-1.5**
OSI	**Osito Audit: C**	**3.12**	**309**	*e*Pn	**Pn**	**13 33 54.6**	**-1.1**
ARVC	**Arvin** baz=3.5	**3.52**	**315**	⇓P	**Pn**	**13 33 59.5**	**-1.6**
MPMC	**Manual Prospec** baz=3.7	**3.66**	**338**	⇓P	**Pn**	**13 34 01.4**	**-1.8**
ISA	**Isabella, Lake**	**3.72**	**324**	*e*P	**Pn**	**13 34 02.4**	**-1.5**
ISA	**Isabella, Lake** baz=3.7	**3.72**	**324**	⇑P	**Pn**	**13 34 02.2**	**-1.7**
ISA	**Isabella, Lake**	**3.72**	**324**	*e*Pn	**Pn**	**13 34 02.4**	**-1.5**
SHPR	**Sheep Range**	**3.86**	**8**	*e*Pn	**Pn**	**13 34 04.8**	**-1.0**
TUC	**Tucson**	**4.24**	**94**	*e*P	Pn	13 34 07.7	-3.4
TUC	**Tucson**	**4.24**	**94**	*e*Pn	Pn	13 34 07.7	-3.4
WUAZ	**Wupatki**	**4.63**	**51**	*e*Pn	Pn	13 34 11.7	-4.8
CCUT	**Cedar City**	**5.25**	**22**	*e*Pn	**Pn**	**13 34 25.4**	**+0.3**
ARUT	**Antelope Range**	**5.45**	**20**	*e*P	**Pn**	**13 34 27.8**	**0.0**
ARUT	**Antelope Range**	**5.45**	**20**	*e*Pn	**Pn**	**13 34 27.8**	**0.0**
TPH	**Tonopah**	**5.51**	**348**	*e*P	**Pn**	**13 34 28.7**	**0.0**
TPH	**Tonopah**	**5.51**	**348**	*e*Pn	**Pn**	**13 34 28.7**	**0.0**
W18A	**Petrified Fore**	**5.59**	**63**	*e*Pn	**Pn**	**13 34 29.7**	**0.0**
R11A	**Troy Canyon, C**	**5.66**	**2**	*e*Pn	**Pn**	**13 34 30.9**	**+0.2**
NVAR	**Mina Array Bea** comp=N,1.0nm,0.3s,baz=162,slow=15,SNR=22	**6.10**	**341**	Pn	**Pn**	**13 34 36.5**	**-0.2**
NVAR	baz=159,slow=33,SNR=2.1			Lg	Lg	13 36 20.6	
SAO	**San Andreas Ge**	**6.19**	**313**	*e*P	**Pn**	**13 34 37.8**	**-0.1**
SAO	**San Andreas Ge**	**6.19**	**313**	*e*Pn	**Pn**	**13 34 37.8**	**-0.1**
CMB	**Columbia Colle**	**6.54**	**326**	*e*P	**Pn**	**13 34 42.8**	**+0.2**
CMB	**Columbia Colle**	**6.54**	**326**	*e*Pn	**Pn**	**13 34 42.8**	**+0.2**
121A	**Cookes Peak, D**	**6.75**	**89**	*e*Pn	**Pn**	**13 34 44.2**	**-1.5**
MVCO	**Mesa Verde**	**7.50**	**51**	*e*Pn	**Pn**	**13 34 57.6**	**+1.6**
LENM	**Lemitar**	**7.51**	**76**	*e*Pn	**Pn**	**13 34 55.4**	**-0.8**
TMUT	**Trail Mountain**	**7.58**	**28**	Pn	**Pn**	**13 34 58.3**	**+1.2**
SRU	**San Rafael Swe**	**7.71**	**32**	*e*P	**Pn**	**13 35 00.2**	**+1.4**
SRU	**San Rafael Swe**	**7.71**	**32**	*e*Pn	**Pn**	**13 35 00.2**	**+1.4**
NLU	**North Lily Min**	**7.86**	**21**	Pn	**Pn**	**13 35 01.9**	**+1.0**
DUG	**Dugway, Tooele**	**7.88**	**17**	*e*P	**Pn**	**13 35 02.4**	**+1.3**
DUG	**Dugway, Tooele**	**7.88**	**17**	*e*Pn	**Pn**	**13 35 02.4**	**+1.3**
PV01	**Paradox Valley**	**8.02**	**45**	*e*P	**Pn**	**13 35 02.4**	**-0.7**
MPU	**Maple Canyon**	**8.05**	**23**	Pn	**Pn**	**13 35 02.3**	**-1.2**
ELK	**Elko** comp=N,0.2nm,0.3s,baz=182,slow=13,SNR=7.3	**8.07**	**3**	Pn	**Pn**	**13 35 04.2**	**+0.5**
ELK	comp=N,0.4nm,0.3s,baz=0.0,slow=20,SNR=2.8			Lg	Lg	13 37 24.0	
ELK	comp=N,4μm,21.0s,baz=180,slow=40			LR	LR	13 38 26.8	
ANMO	**Albuquerque**	**8.09**	**71**	⇓*e*P	**Pn**	**13 35 04.4**	**+0.4**
ANMO	**Albuquerque** comp=N,0.9nm,0.3s,baz=262,slow=12,SNR=29	**8.09**	**71**	Pn	**Pn**	**13 35 04.3**	**+0.3**
ANMO	comp=N,0.5nm,0.3s,baz=343,slow=24,SNR=6.6			Lg	Lg	13 37 32.3	
ANMO	comp=N,3μm,18.5s,baz=258,slow=40			LR	LR	13 38 25.4	
BGU	**Big Grassy Mou**	**8.53**	**14**	*e*Pn	**Pn**	**13 35 10.4**	**+0.4**
TCUT	**Toone Canyon**	**9.12**	**21**	*e*Pn	**Pn**	**13 35 19.3**	**+1.0**
HVU	**Hansel Valley**	**9.40**	**14**	*e*P	**Pn**	**13 35 22.8**	**+0.8**
HVU	**Hansel Valley**	**9.40**	**14**	*e*Pn	**Pn**	**13 35 22.8**	**+0.8**
HWUT	**Hardware Ranch**	**9.53**	**19**	*e*P	**Pn**	**13 35 24.6**	**+0.8**
O20A	**White River Ci**	**9.61**	**37**	*e*P	**Pn**	**13 35 26.6**	**+1.7**
MOD	**Modoc Plateau**	**9.89**	**340**	P	Pn	13 35 33.5	+4.9
WVOR	**Wild Horse Val**	**10.00**	**348**	P	**Pn**	**13 35 30.6**	**+0.4**
WVOR	**Wild Horse Val**	**10.00**	**348**	P	**Pn**	**13 35 30.6**	**+0.4**
YBH	**Yreka Blue Hor** comp=N,2μm,18.1s,baz=264,slow=41	**10.59**	**331**	LR	LR	13 40 15.5	
MFID	**Camas Ranch**	**10.72**	**360**	*e*P	**Pn**	**13 35 40.2**	**+0.2**
AHID	**Auburn Hatcher**	**10.73**	**19**	*e*P	Pn	13 35 43.7	+3.4
ISCO	**Idaho Springs**	**10.86**	**46**	*e*P	**Pn**	**13 35 43.9**	**+1.8**
ISCO	**Idaho Springs**	**10.86**	**46**	*e*P	**Pn**	**13 35 43.9**	**+1.8**
TXAR	**Lajitas Array** comp=N,1.8nm,0.3s,baz=288,slow=13,SNR=87	**10.92**	**105**	Pn	**Pn**	**13 35 42.6**	**-0.2**
TXAR				Lg	Lg	13 38 49.4	
TXAR	comp=N,0.2nm,0.3s,baz=289,slow=34,SNR=4.1			LR	LR	13 40 16.1	
HLID	**Hailey** comp=N,2μm,21.1s,baz=0.0,slow=40	**10.92**	**5**	P	**Pn**	**13 35 43.8**	**+0.9**
MSTX	**Muleshoe**	**10.96**	**80**	*e*Pn	**Pn**	**13 35 44.2**	**+0.8**
BW06	**Boulder Array**	**11.21**	**24**	*e*P	**Pn**	**13 35 48.5**	**+1.6**
PDAR	**Pinedale Array** comp=N,0.2nm,0.3s,baz=183,slow=11,SNR=7.8	**11.21**	**24**	Pn	**Pn**	**13 35 49.1**	**+2.3**
PDAR	comp=N,0.1nm,0.3s,baz=205,slow=28,SNR=2.6			Lg	Lg	13 39 01.2	
PDAR	comp=N,596nm,19.7s,baz=218,slow=36			LR	LR	13 39 47.0	
AMTX	**Amarillo**	**11.94**	**76**	P	**Pn**	**13 35 56.7**	**0.0**
MCMT	**McKenzie Canyo**	**12.35**	**10**	*e*P	Pn	13 36 06.9	+4.5
K22A	**Casper**	**12.36**	**34**	*e*P	**Pn**	**13 36 02.7**	**+0.2**
YMR	**Madison River**	**12.55**	**16**	*e*P	**Pn**	**13 36 06.6**	**+1.5**
LRM	**Limekiln Ridge**	**13.38**	**10**	*e*P	Pn	13 36 20.1	+3.6
ABTX	**Abilene, Hawle**	**13.61**	**86**	*e*P	**Pn**	**13 36 19.1**	**-0.3**
OGNE	**Ogallala**	**13.75**	**49**	*e*P	**Pn**	**13 36 23.1**	**+1.6**
JCT	**Junction City**	**13.80**	**95**	*e*P	**Pn**	**13 36 23.1**	**+1.0**
JCT	**Junction City**	**13.80**	**95**	*e*P	**Pn**	**13 36 23.1**	**+1.0**
WMOK	**Wichita Mounta**	**14.31**	**77**	*e*P	**Pn**	**13 36 28.0**	**-1.0**
WMOK	**Wichita Mounta**	**14.31**	**77**	*e*P	**Pn**	**13 36 28.0**	**-1.0**
SLMT	**Seeley Lake**	**14.65**	**6**	P	**Pn**	**13 36 34.1**	**+0.3**
RSSD	**Black Hills**	**14.66**	**35**	*e*P	**Pn**	**13 36 33.9**	**-0.1**
RSSD	**Black Hills**	**14.66**	**35**	*e*P	**Pn**	**13 36 33.9**	**-0.1**
LON	**Longmire**	**14.79**	**344**	*e*P	**P**	**13 36 38.7**	**-3.0**
LON	**Longmire**	**14.79**	**344**	*e*P	**P**	**13 36 38.7**	**-3.0**
SWMT	**Swartz Lake**	**14.88**	**5**	*e*P	**Pn**	**13 36 39.3**	**+2.5**
JTMT	**Jette** comp=N,28nm,1.2s	**15.10**	**4**	*e*P	**Pn**	**13 36 41.6**	**+1.8**
W34A	**Bridge Creek,** comp=N,133nm,1.5s	**15.17**	**75**	*e*Pn	**Pn**	**13 36 41.6**	**+0.9**
BSMT	**Bassoo Peak** comp=N,26nm,1.2s	**15.18**	**3**	*e*P	**P**	**13 36 43.9**	**-2.2**
YBMT	**Yellow Bay** comp=N,24nm,1.3s	**15.23**	**5**	P	**Pn**	**13 36 42.0**	**+0.5**
BLMT	**Blacktail Moun** comp=N,37nm,1.4s	**15.36**	**4**	*e*P	**P**	**13 36 46.2**	**-1.9**
V34A	**Guthrie** comp=N,35nm,0.8s	**15.43**	**73**	*e*P	**Pn**	**13 36 43.9**	**-0.2**
U34A	**Anderson Ranch** comp=N,60nm,1.2s	**15.50**	**71**	*e*P	**Pn**	**13 36 45.0**	**0.0**
U34A				*e*		13 36 50.6	
WHTX	**Lake Whitney,** comp=N,238nm,1.4s	**15.51**	**88**	*e*P	**Pn**	**13 36 45.0**	**-0.2**
NEW	**Newport**	**15.61**	**357**	*e*P	**Pn**	**13 36 47.3**	**+0.9**
NEW	comp=Z,38nm,1.2s			pmax	pmax		
NEW	**Newport** comp=Z,0.3nm,0.3s,baz=167,slow=11,SNR=13	**15.61**	**357**	Pn	**Pn**	**13 36 48.1**	**+1.8**
NEW	comp=Z,1μm,20.7s,baz=188,slow=38			LR	LR	13 42 56.2	
NEW	**Newport** comp=Z,38nm,1.2s	**15.61**	**357**	*e*P	**Pn**	**13 36 47.3**	**+0.9**
LAO	**LASA Array** comp=Z,180nm,1.8s	**15.79**	**25**	*e*P	**Pn**	**13 36 50.4**	**+1.6**
EGMT	**Eagleton** comp=Z,66nm,1.5s	**16.00**	**15**	*e*P	**Pn**	**13 36 51.2**	**-0.2**
EGMT				*e*		13 36 59.6	
WALA	**Waterton Lakes** comp=Z,33nm,1.2s	**16.43**	**4**	*e*P	**Pn**	**13 36 58.0**	**+1.0**
BGNE	**Belgrade** comp=Z,97nm,1.2s	**16.54**	**53**	P	**P**	**13 37 00.8**	**-0.2**
TUL1	**Leonard** comp=Z,81nm,1.3s	**16.83**	**73**	*e*P	**Pn**	**13 37 02.4**	**+0.2**
HKT	**Hockley**	**17.27**	**94**	*e*P	**Pn**	**13 37 07.6**	**+0.1**
HKT	comp=Z,103nm,1.6s			pmax	pmax		
HKT	**Hockley** comp=Z,103nm,1.6s	**17.27**	**94**	*e*P	**Pn**	**13 37 07.6**	**+0.1**
DGMT	**Dagmar** comp=Z,37nm,1.2s	**18.03**	**26**	*e*P	**P**	**13 37 19.0**	**+1.5**
MIAR	**Mount Ida**	**18.59**	**78**	*e*P	**P**	**13 37 23.6**	**-0.2**
MIAR	comp=Z,82nm,1.2s			pmax	pmax		
MIAR	**Mount Ida** comp=Z,82nm,1.2s	**18.59**	**78**	*e*P	**P**	**13 37 23.6**	**-0.2**
ECSD	**EROS Data Cent** comp=Z,23nm,1.2s	**18.63**	**48**	*e*Pn	**Pn**	**13 37 25.2**	**+0.8**
MDND	**Maddock** comp=Z,53nm,1.1s	**19.49

BINY	**Binghamton**	**32.75**	**62**	*e*P		**P**	**13 39 40.5**	**+1.1**
	comp=Z,32nm,1.1s							
ACCN	**Adirondack Com**	**34.53**	**60**	*e*P		**P**	**13 39 55.2**	**+0.3**
	comp=Z,20nm,1.1s							
INK	**Inuvik**	**37.11**	**349**	P		**P**	**13 40 17.8**	**+1.1**
	comp=Z,4.1nm,1.0s,baz=153,slow=10,SNR=9.9							
ILAR	**Eielson Array**	**37.35**	**339**	P		**P**	**13 40 19.8**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=159,slow=8.1,SNR=16							
ILAR				LR		LR	13 55 47.0	
	comp=Z,357nm,18.6s,baz=160,slow=36							
SCHQ	**Schefferville**	**40.65**	**42**	P		**P**	**13 40 46.9**	**+0.3**
	comp=Z,5.5nm,1.0s,baz=271,slow=11,SNR=3.4							
SCHQ				LR		LR	13 58 14.8	
	comp=Z,292nm,21.5s,baz=268,slow=37							
ROSC	**El Rosal**	**47.54**	**117**	LR		LR	14 03 54.3	
	comp=Z,152nm,19.2s,baz=14,slow=39							
SUMG	**Summit**	**55.38**	**21**	*e*P		**P**	**13 42 40.5**	**-0.3**
SUMG	**Summit**	**55.38**	**21**	*e*P		**P**	**13 42 40.5**	**-0.3**
	comp=Z,14nm,0.1s							
BILL	**Bilibino**	**55.66**	**334**	⇓*e*P		**P**	**13 42 42.9**	**+0.5**
BILL				*i*			13 43 42.9	
BILL					pmax	pmax		
	comp=Z,7.0nm,2.5s							
BILL					MLR	MLR		
	comp=Z,139nm,16.0s							
BILL	**Bilibino**	**55.66**	**334**	*e*P		**P**	**13 42 43.5**	**+1.1**
	comp=Z,2.3nm,1.0s							
PPT	**Papeete**	**59.51**	**218**	LR		LR	14 03 08.5	
	comp=Z,74nm,20.6s,baz=3.5,slow=30							
PPT2	**Papeete2**	**59.52**	**218**	*e*LR		LR	14 00 31.7	
	comp=Z,117nm,25.2s							
SEY	**Seymchan**	**62.26**	**329**	P		**P**	**13 43 28.9**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=64,slow=19,SNR=6.2							
TBI	**Tubuai**	**64.32**	**214**	*e*LQ		LQ	14 00 00.1	
	comp=Z,343nm,35.5s							
LPAZ	**La Paz**	**66.68**	**129**	LR		LR	14 10 22.9	
	comp=Z,140nm,20.0s,baz=329,slow=34							
TIXI	**Tiksi**	**66.72**	**342**	⇑*e*P		**P**	**13 43 58.5**	**+1.3**
TIXI					pmax	pmax		
	comp=Z,5.0nm,1.7s							
YAK	**Yakutsk**	**72.02**	**333**	*e*P		**P**	**13 44 31.8**	**+1.6**
ARCES	**ARCESS Array B**	**74.25**	**13**	LR		LR	14 19 59.5	
	comp=Z,216nm,18.8s,baz=334,slow=38							
NOA	**NORSAR Array B**	**77.15**	**23**	LR		LR	14 19 42.2	
	comp=Z,109nm,19.2s,baz=325,slow=36							
LVZ	**Lovozero**	**77.31**	**11**	⇑*e*P		**P**	**13 45 02.5**	**+1.7**
LVZ					pmax	pmax		
	comp=Z,36nm,2.5s							
BDFB	**Brasilia**	**80.59**	**115**	LR		LR	14 25 56.0	
	comp=Z,61nm,20.4s,baz=294,slow=39							
FINES	**FINESS Array B**	**81.23**	**17**	P		**P**	**13 45 22.9**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=306,slow=1.6,SNR=3.7							
FINES				LR		LR	14 20 49.9	
	comp=Z,116nm,18.7s,baz=324,slow=35							
MJAR	**Matsushiro Arr**	**82.46**	**309**	LR		LR	14 15 09.5	
	comp=Z,62nm,21.4s,baz=75,slow=31							
ESDC	**Sonseca Array**	**84.28**	**46**	LR		LR	14 21 40.9	
	comp=Z,172nm,18.1s,baz=295,slow=35							
PRGR	**Permogore**	**84.82**	**9**	P		**P**	**13 45 41.4**	**+0.5**
PRGR					pmax	pmax		
	comp=Z,9.0nm,0.4s							
GERES	**GERESS Array B**	**87.19**	**31**	LR		LR	14 25 41.5	
	comp=Z,201nm,18.6s,baz=320,slow=36							
VRAC	**Vranov**	**88.04**	**29**	LR		LR	14 24 48.6	
	comp=Z,106nm,21.6s,baz=334,slow=35							
TLY	**Talaya**	**89.15**	**337**	*e*P		P	13 46 05.7	+3.5
TLY					pmax	pmax		
	comp=Z,6.0nm,1.4s							
HNR	**Honiara**	**90.25**	**259**	LR		LR	14 22 14.1	
	comp=Z,136nm,18.4s,baz=84,slow=33							
ARU	**Arti**	**91.12**	**3**	*d* *i*P		**P**	**13 46 12.3**	**+1.1**
ARU							13 49 49.2	
ARU					S	**SKSac**	**13 56 44.1**	**+0.4**
ARU					pmax	pmax		
	comp=Z,9.0nm,2.5s							
AKASG	**Malin Array Be**	**91.42**	**21**	P		**P**	**13 46 13.0**	**+0.3**
AKASG	**Malin Array Be**	**91.42**	**21**	P		**P**	**13 46 13.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=309,slow=4.5,SNR=2.8							
AKASG	**Malin Array Be**	**91.42**	**21**	P		**P**	**13 46 13.0**	**+0.3**
ZALV	**Zalesovo Beam**	**91.91**	**348**	P		**P**	**13 46 15.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=343,slow=4.6,SNR=4.7							
ZALV				LR		LR	14 31 44.8	
	comp=Z,39nm,21.1s,baz=70,slow=38							
DZM	**Mont Dzumac**	**92.01**	**245**	*e*LR		LR	14 15 39.8	
	comp=Z,91nm,21.1s							
DZM	**Mont Dzumac**	**92.01**	**245**	LR		LR	14 21 09.3	
	comp=Z,111nm,18.4s,baz=40,slow=31							
BVAR	**Borovoye Array**	**94.49**	**356**	P		**P**	**13 46 27.6**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=336,slow=3.3,SNR=4.7							
HHC	**Hu-ho-hao-te**	**94.78**	**326**	*e*P		**P**	**13 46 28.3**	**-0.3**
HHC				PP		**PP**	**13 50 18.4**	**+2.2**
HHC				SKS		**SKSac**	**13 57 03.3**	**-1.6**
HHC				S		**S**	**13 57 38.9**	**-3.9**
HHC				SS		**SS**	**14 04 04.9**	**-0.3**
HHC				PMZ				
	comp=Z,17nm,1.3s							
HHC				PMZ				
	comp=Z,140nm,5.4s							
HHC				LN				
	comp=Z,88nm,17.9s							
HHC				LE				
	comp=Z,240nm,17.6s							
HHC				LZ				
	comp=Z,70nm,16.9s							
KURK	**Kurchatov**	**96.00**	**351**	P		**P**	**13 46 34.9**	**+1.1**
KURK	**Kurchatov**	**96.00**	**351**	P		**P**	**13 46 34.9**	**+1.1**
KURBB	**Kurchatov Arra**	**96.10**	**351**	P		**P**	**13 46 34.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=11,slow=4.2,SNR=4.1							
NJ2	**Nanjing**	**97.51**	**316**	*e*P		**P**	**13 46 40.8**	**-0.2**
MKAR	**Makanchi Array**	**99.23**	**348**	P		**Pdif**	**13 46 50.3**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=5.3,slow=5.4,SNR=3.0							
MKAR				LR		LR	14 40 04.6	
	comp=Z,40nm,18.3s,baz=12,slow=40							
WMQ	**Urumqi**	**100.91**	**343**	*e*P		**Pdif**	**13 46 58.0**	**+1.9**
WMQ				pP		pP	13 47 02.5	+4.2
WMQ				*e*SKS		**SKSac**	**13 57 37.0**	**+1.1**
WMQ				S		**Sdif**	**13 58 34.0**	**-0.8**
WMQ				SS		**SS**	**14 05 34.0**	**+3.4**
WMQ				LN				
	comp=Z,120nm,28.4s							
WMQ				LE				
	comp=Z,150nm,26.0s							
WMQ				LZ				
	comp=Z,170nm,25.0s							
KIV	**Kislovodsk**	**101.24**	**16**	*e*P		**Pdif**	**13 46 55.4**	**-2.2**
KIV					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KIV					MLR	MLR		
	comp=Z,152nm,20.0s							
CD2	**Chengdu**	**106.52**	**325**	Pdif		**Pdif**	**13 47 20.9**	**-0.4**
CD2				PP		**PP**	**13 51 47.8**	**+2.7**
CD2				S		**Sdif**	**13 59 17.2**	**-4.9**
CD2				SS		**SS**	**14 06 48.0**	**-0.6**
CD2				PPMZ				
	comp=Z,120nm,5.4s							
KSH	**Kashi**	**107.35**	**350**	*e*Pdif		**Pdif**	**13 47 28.0**	**+3.1**
KSH				PP		PP	13 51 59.2	+8.4
KSH				S		**Sdif**	**13 59 30.2**	**+1.3**
KSH				SS		SS	14 07 09.2	+10
KSH				PPMZ				
	comp=Z,63nm,5.4s							
KSH				LN				
	comp=Z,58nm,6.1s							
KSH				LE				
	comp=Z,70nm,8.1s							
KSH				LZ				
	comp=Z,150nm,12.9s							
GYA	**Guiyang**	**108.65**	**320**	*e*Pdif		**Pdif**	**13 47 30.0**	**-0.9**
GYA				PKP		**PKiKP**	**13 51 34.4**	**-1.9**
GYA				PP		PP	13 52 06.8	+5.8
GYA				PKS			13 55 10.2	
GYA				PPMZ				
	comp=Z,120nm,7.9s							
GYA				LN				
	comp=Z,130nm,18.9s							
GYA				LE				
	comp=Z,120nm,18.4s							
GYA				LZ				
	comp=Z,140nm,19.8s							
WRA	**Warramunga Arr**	**116.87**	**263**	PKP		**PKPdf**	**13 51 52.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=58,slow=2.4,SNR=4.4							
ASAR	**Alice Springs**	**118.87**	**259**	PKP		**PKPdf**	**13 51 54.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=79,slow=2.9,SNR=4.7							

*IDC **05** 13:56:02.3±1.2,0.°29S×125.°06E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/37, mbtmp3.3/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/17, Error ellipse: s-maj=140.7km s-min=21.0km az=67.0*

*ISCJB **05** 13:56:08.1±0.5,0.°31S±0.°04×125.°15E±0.°03, h52km, mb3.2/4, MS3.1/1, Error ellipse: s-maj=6.5km s-min=4.5km az=16.8*

*DJA **05** 13:56:09.1±0.4,0.°S±4.°×12.°5E±.°, h53km±15km, M4.0/12, mb4.1/2, MLv4.0/12*

ISC 05 13:56:09.3±0.9, 0.°28S±0.°05×125.°19E±0.°04, h52km, n16, σ1s19/22, mb3.2/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.48**	**305**	P		**Pn**	**13 56 32.2**	**-1.3**
KMSI				S		**Sn**	**13 56 50.2**	**-1.5**
SANI	**Sanana**	**1.93**	**155**	P		**Pn**	**13 56 38.9**	**-0.8**
SANI				S		**Sn**	**13 57 01.3**	**-1.5**
LBMI	**Labuha**	**2.34**	**99**	P		**Pn**	**13 56 45.7**	**+0.3**
LBMI				S		**Sn**	**13 57 14.6**	**+1.6**
GTOI	**Gorontalo**	**2.36**	**293**	P		**Pn**	**13 56 48.3**	**+2.7**
TNTI	**Ternate**	**2.42**	**64**	P		**Pn**	**13 56 47.2**	**+0.8**
LUWI	**Luwuk**	**2.53**	**253**	P		**Pn**	**13 56 48.4**	**+0.5**
LUWI				S		**Sn**	**13 57 19.0**	**+1.5**
MRSI	**Marisa**	**3.33**	**283**	P		**Pn**	**13 56 59.1**	**+0.2**
NLAI	**Namlea**	**3.50**	**147**	P		**Pn**	**13 57 01.7**	**+0.4**
NLAI				S		**Sn**	**13 57 42.4**	**+0.9**
APSI	**Ampana**	**3.59**	**260**	P		**Pn**	**13 57 02.0**	**-0.5**
SPSI	**Sidrap Palu**	**6.53**	**236**	P		**Pn**	**13 57 44.3**	**+1.4**
	15nm,0.8s,0.1nm							
SPSI				S		**Sn**	**13 58 56.5**	**+0.4**
	15nm,0.8s,0.1nm							
BKSI	**Bulukumba**	**7.11**	**225**	P		**Pn**	**13 57 50.6**	**-0.2**
BKSI				S		**Sn**	**13 59 10.7**	**+0.3**
WRA	**Warramunga Arr**	**21.50**	**156**	P		**P**	**14 00 52.8**	**-1.1**
	0.3nm,0.4s,baz=336,slow=11,SNR=13							
ASAR	**Alice Springs**	**24.74**	**161**	P		**P**	**14 01 26.5**	**+0.4**
	0.3nm,0.4s,baz=340,slow=9.2,SNR=12							
KSRS	**Korea Array**	**37.64**	**4**	LR		LR	14 19 05.5	
	comp=Z,32nm,19.3s,baz=63,slow=37							
SONM	**Songino Array**	**50.64**	**344**	P		**P**	**14 05 04.0**	**+0.6**
	0.1nm,0.4s,baz=132,slow=6.0,SNR=2.8							
MKAR	**Makanchi Array**	**60.02**	**327**	P		**P**	**14 06 09.5**	**-1.2**
	0.3nm,0.4s,baz=124,slow=8.0,SNR=8.4							

NEIC 05 13:59:04.6, 32.°30N×115.°36W, h10km, ML3.7(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLA	**Glamis**	**0.88**	**30**	*e*P		Pg	13 59 20.6	-1.0
BAR	**Barrett**	**1.18**	**289**	*e*P		Pb	13 59 25.4	-1.7
BAR				*e*S		Sb	13 59 39.9	-2.5
PFO	**Pinyon Flats O**	**1.60**	**325**	*e*P		Pn	13 59 29.4	-3.7
214A	**Organ Pipe Nat**	**2.19**	**98**	*e*Pg		Pg	13 59 47.0	+0.5
LDFC	**Landfair**	**2.78**	**4**	Pn		Pn	13 59 48.3	-1.1
MWC	**Mount Wilson**	**2.97**	**311**	*e*Pn		Pn	13 59 54.0	+1.9
PASC	**Pasadena Art C**	**3.02**	**309**	*e*Pg		Pb	13 59 58.1	-0.4
GSC	**Goldstone, Bar**	**3.23**	**338**	Pn		Pn	13 59 55.8	+0.2
OSI	**Osito Audit: C**	**3.64**	**310**	Pn		Pn	13 59 60.0	-1.1
SHPR	**Sheep Range**	**4.20**	**2**	Pn		Pn	14 00 07.9	-1.1
ISA	**Isabella, Lake**	**4.24**	**323**	*e*Pn		Pn	14 00 09.7	+0.3
W18A	**Petrified Fore**	**5.46**	**57**	*e*Pn		Pn	14 00 26.9	+0.6
	26nm,0.4s							
CCUT	**Cedar City**	**5.49**	**17**	*e*Pn		Pn	14 00 30.5	+3.7
	13nm,0.8s							
ARUT	**Antelope Range**	**5.70**	**15**	*e*Pg		Pb	14 00 48.5	+4.1
	2.5nm,0.5s							

*NEIC **05** 14:07:05.0, 32.°22N×115.°33W, h2km, MD3.9(MEX), ML4.0(ECX), ML4.0(PAS), After ECX.*

*ECX **05** 14:07:05.3±0.5, 32.°22N×115.°33W, h3km, MD3.8, ML4.0*

*IDC **05** 14:07:05.1±1.7, 32.°36N×115.°27W, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.4/48, mbtmp3.6/8, ML3.6/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/43, Error ellipse: s-maj=32.6km s-min=10.3km az=31.0*

*MEX **05** 14:07:06.1±0.3, 32.°31N×115.°26W, h5km, MD3.9*

ISC 05 14:07:04.4±1.1, 32.°20N±0.°02×115.°38W±0.°03, h5km±8km, n47, σ0s89/52, mb3.9/5, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.23**	**17**	*e*P		**Pg**	**14 07 09.0**	**+0.1**
CPBX				*e*S		**Sg**	**14 07 12.5**	**+0.5**
EMX	**El Mayor**	**0.24**	**150**	*e*P		**Pg**	**14 07 09.8**	**+0.6**
EMX				*e*S		**Sg**	**14 07 13.3**	**+1.0**
EMX				⇑*e*			14 07 13.9	
	comp=N,13μm,0.5s							
EMX				⇓*e*			14 07 14.2	
	comp=E,10μm,0.5s							
RDX	**Rancho Dawling**	**0.55**	**240**	⇑*e*P		Pg	14 07 06.7	-8.2
RDX				*e*S		Sg	14 07 15.3	-6.8
RDX				⇓*e*			14 07 21.8	
	comp=N,10μm,0.6s							
YUH	**Yuha Desert**	**0.64**	**315**	⇑*i*P		**Pg**	**14 07 16.9**	**+0.2**
COK	**Cook Ranch**	**0.71**	**336**	⇓*i*P		**Pg**	**14 07 17.9**	**-0.2**
RMX	**La Rumorosa**	**0.71**	**305**	⇑*e*P		Pg	14 07 07.7	-10
RMX				*e*S		Sg	14 07 17.6	-10
RMX				⇓*e*			14 07 18.6	
	comp=N,7μm,0.4s							
ECBX	**El Chinero**	**0.78**	**159**	*e*P		**Pg**	**14 07 18.6**	**-0.8**
ECBX				*e*S		**Sg**	**14 07 29.6**	**+0.1**
GLA	**Glamis**	**0.97**	**29**	*e*P		**Pg**	**14 07 21.4**	**-1.7**
ZAX	**El Zacaton**	**1.02**	**228**	*e*P		Pg	14 07 14.8	-9.2
ZAX				*e*S		Sg	14 07 29.7	-7.5
CBX	**Cerro Bola**	**1.09**	**276**	*e*P		**Pg**	**14 07 25.4**	**+0.1**
CBX				*e*S		**Sb**	**14 07 40.8**	**+0.3**
CBX	**Cerro Bola**	**1.09**	**276**	*e*P		**Pg**	**14 07 25.4**	**+0.1**
CBX				*e*S		**Sb**	**14 07 40.8**	**+0.3**
SPIG	**San Pedro Mart**	**1.15**	**183**	*e*P		**Pb**	**14 07 26.9**	**-0.1**
SPIG				*e*S		**Sn**	**14 07 43.4**	**-0.4**
SPIG	**San Pedro Mart**	**1.15**	**183**	*e*P		**Pb**	**14 07 26.9**	**-0.1**
SPIG				*e*S		**Sn**	**14 07 43.4**	**-0.4**
SPX	**San Pedro Mart**	**1.15**	**183**	*e*P		**Pg**	**14 07 26.1**	**-0.5**
SPX				*e*S		**Sb**	**14 07 42.2**	**-0.2**
SPX				*e*			14 07 44.4	
	comp=N,1μm,0.7s							
SPX				⇑*e*			14 07 54.1	
	comp=E,2μm,0.6s							
ECNX	**Esteban Cantu**	**1.17**	**243**	*e*P		Pg	14 07 16.9	-10
ECNX				*e*S		Sg	14 07 33.5	-8.4
BAR	**Barrett**	**1.19**	**294**	*e*P		**Pg**	**14 07 26.7**	**-0.6**
BAR				*e*S		**Sg**	**14 07 42.5**	**-0.2**
PBX	**Punta Banda**	**1.23**	**249**	*e*P		Pg	14 07 17.3	-11
PBX				*e*S		Sg	14 07 35.0	-8.9
PFO	**Pinyon Flats O**	**1.67**	**328**	Pn		**Pn**	**14 07 34.4**	**-0.1**
	comp=E,28nm,0.3s,baz=115,slow=14,SNR=10							
PFO				Lg		Lg	14 07 54.0	
	comp=E,125nm,0.3s,baz=210,slow=7.0,SNR=9.6							
PFO				LR		LR	14 08 23.4	
	comp=E,507nm,18.6s,baz=132,slow=49							
PFO	**Pinyon Flats O**	**1.67**	**328**	Pn		Pn	14 07 31.0	-3.5
PFO				Lg		Lg	14 07 54.0	
PFO				*e*Sg		**Sn**	**14 07 56.2**	**-0.2**
214A	**Organ Pipe Nat**	**2.20**	**96**	*e*Pn		**Pn**	**14 07 40.0**	**-1.7**
LDFC	**Landfair**	**2.88**	**4**	*e*Pn		**Pn**	**14 07 50.3**	**-0.8**
MWC	**Mount Wilson**	**3.02**	**313**	*e*Pg		**Pb**	**14 07 58.3**	**-0.5**
PASC	**Pasadena Art C**	**3.06**	**311**	*e*Pg		**Pb**	**14 07 59.6**	**+0.1**
PASC				*e*Sg		**Sb**	**14 08 38.7**	**+1.6**
GSC	**Goldstone, Bar**	**3.31**	**339**	*e*Pg		**Pg**	**14 08 07.1**	**-0.8**
OSI	**Osito Audit: C**	**3.69**	**312**	*e*Pg		**Pb**	**14 08 08.1**	**-2.0**
TUC	**Tucson**	**3.90**	**87**	*e*Pn		**Pn**	**14 08 04.0**	**-1.0**
TUC				*e*Pg		**Pg**	**14 08 18.1**	**-1.1**
TUC				*e*Sg		**Sg**	**14 09 10.4**	**+0.7**
SHPR	**Sheep Range**	**4.30**	**2**	Pg		**Pg**	**14 08 28.4**	**+1.5**
ISA	**Isabella, Lake**	**4.30**	**324**	*e*Pg		**Pg**	**14 08 24.9**	**-2.0**
WUAZ	**Wupatki**	**4.70**	**44**	*e*Pn		**Pn**	**14 08 15.2**	**-1.0**
W18A	**Petrified Fore**	**5.54**	**57**	*e*Pn		**Pn**	**14 08 27.0**	**-0.7**
	comp=E,26nm,0.6s							
CCUT	**Cedar City**	**5.59**	**17**	Pn		**Pn**	**14 08 29.2**	**+0.7**
	comp=E,22nm,0.9s							
TPH	**Tonopah**	**6.05**	**346**	Pg		**Pg**	**14 08 59.6**	**-0.8**
	comp=E,14nm,0.9s							
R11A	**Troy Canyon, C**	**6.14**	**359**	*e*Pn		Pn	14 08 26.7	-9.3
	comp=E,8.0nm,0.6s							
R11A				*e*Pg		**Pg**	**14 09 01.9**	**-0.1**
121A	**Cookes Peak, D**	**6.44**	**85**	*e*Pn		**Pn**	**14 08 38.4**	**-1.7**
	comp=E,19nm,0.5s							
NVAR	**Mina Array Bea**	**6.66**	**340**	Pg		**Pg**	**14 09 11.7**	**-0.3**
	comp=E,0.4nm,0.3s,baz=164,slow=18,SNR=7.3							
LENM	**Lemitar**	**7.32**	**72**	*e*Pn		**Pn**	**14 08 51.0**	**-1.1**
	comp=E,6.0nm,0.4s							
MVCO	**Mesa Verde**	**7.56**	**47**	*e*Pn		**Pn**	**14 08 56.4**	**+0.9**
	comp=E,25nm,0.7s							
ANMO	**Albuquerque**	**7.94**	**67**	Pn		**Pn**	**14 09 01.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=243,slow=13,SNR=2.3							
ANMO				Lg		Lg	14 11 09.9	
	baz=0.9,slow=23,SNR=1.2							
SRU	**San Rafael Swe**	**7.95**	**28**	Pn		**Pn**	**14 09 01.6**	**+0.8**
	comp=E,1.1nm,0.6s							
TXAR	**Lajitas Array**	**10.48**	**103**	Pn		**Pn**	**14 09 36.6**	**+1.2**
	comp=E,0.4nm,0.3s,baz=279,slow=13,SNR=9.5							
TXAR				Lg		Lg	14 12 35.7	
	comp=E,0.1nm,0.3s,baz=272,slow=28,SNR=5.1							
PDAR	**Pinedale Array**	**11.52**	**22**	Pn		Pn	14 09 52.5	+2.8
	comp=E,0.1nm,0.3s,baz=191,slow=4.1,SNR=2.1							
PDAR				Pg			14 10 39.9	
	comp=E,0.0nm,0.3s,baz=216,slow=8.6,SNR=2.0							
BBB	**Bella Bella**	**22.02**	**339**	LR		LR	14 20 57.3	
	comp=E,123nm,18.4s,baz=146,slow=38							
ULM	**Lac du Bonnet**	**23.13**	**33**	P		**P**	**14 12 11.4**	**+0.1**
	comp=E,1.3nm,0.6s,baz=182,slow=4.2,SNR=2.7							
TKL	**Tuckaleechee C**	**26.39**	**74**	P		**P**	**14 12 42.0**	**+0.1**
	comp=E,1.5nm,0.4s,baz=348,slow=20,SNR=2.9							
ILAR	**Eielson Array**	**37.91**	**339**	P		**P**	**14 14 23.6**	**+1.2**
	comp=E,0.4nm,0.7s,baz=150,slow=7.1,SNR=2.8							
HFS	**Hagfors**	**78.95**	**23**	P		**P**	**14 19 09.1**	**+0.3**
	comp=E,1.2nm,0.8s,baz=230,slow=3.6,SNR=2.1							
FINES	**FINESS Array B**	**81.58**	**18**	P		**P**	**14 19 23.0**	**+0.1**
	comp=E,0.9nm,0.8s,baz=354,slow=11,SNR=1.7							

*IDC **05** 14:10:15.0±2.0, 0.°11S×125.°47E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.0/40, mbtmp3.2/3, Error ellipse: s-maj=184.2km s-min=27.0km az=64.0*

*ISCJB **05** 14:10:18.9±1.1, 0.°0N±0.°1×125.°51E±0.°07, h49km, mb3.1/3, Error ellipse: s-maj=15.6km s-min=8.4km az=28.1*

*DJA **05** 14:10:21.1±0.4, 0.°N±4.°×12.°5E±.°, h10km, M4.1/8, mb4.2/2, mB4.7/2, MLv4.0/8, Mw(mB)3.9/2*

ISC 05 14:10:20.3±1.4, 0.°0N±0.°1×125.°5E±0.°1, h49km, n11, σ1s88/10, mb3.1/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.66**	**290**	P		**Pn**	**14 10 45.4**	**-1.7**
KMSI				S		**Sn**	**14 11 03.8**	**-3.4**
LBMI	**Labuha**	**2.06**	**108**	P		Pn	14 11 00.0	+7.5
LBMI				S		Sn	14 11 29.4	+12
SANI	**Sanana**	**2.09**	**168**	P		**Pn**	**14 10 51.9**	**-1.0**
SANI				S		Sn	14 11 25.5	+7.8
LUWI	**Luwuk**	**2.96**	**249**	P		**Pn**	**14 11 04.5**	**-0.3**
LUWI				S		**Sn**	**14 11 38.5**	**-0.6**
MRSI	**Marisa**	**3.63**	**277**	P		Pn	14 11 10.5	-3.6
MRSI				S		Sn	14 12 02.8	+7.1
APSI	**Ampana**	**4.00**	**257**	P		**Pn**	**14 11 20.5**	**+1.4**
MPSI	**Mapaga**	**5.65**	**273**	P		**Pn**	**14 11 43.6**	**+1.7**
	16nm,0.8s,483nm0.1nm							
SPSI	**Sidrap Palu**	**6.99**	**236**	P		Pn	14 11 56.4	-3.7
WRA	**Warramunga Arr**	**21.61**	**157**	P		**P**	**14 15 05.7**	**-0.7**
	0.4nm,0.5s,baz=335,slow=11,SNR=13							
ASAR	**Alice Springs**	**24.89**	**162**	P		**P**	**14 15 39.3**	**+0.5**
	0.2nm,0.4s,baz=340,slow=10,SNR=10							
MKAR	**Makanchi Array**	**59.97**	**327**	P		**P**	**14 20 23.6**	**+1.8**
	0.1nm,0.3s,baz=122,slow=8.8,SNR=4.1							

*PRU **05** 14:19:17.6, 51.°52N×16.°08E, h0km*

CSEM 05 14:19:19.3, 51.°47N×16.°06E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**167**	*e*Pg		Pg	14 19 32.1	+0.4
KSP				*e*Sg		Sg	14 19 40.5	+0.4
UPC	**Upice**	**0.96**	**182**	*e*PG		Pg	14 19 36.6	-1.2
UPC				*e*SG		Sg	14 19 49.9	-0.5
	comp=Z,3.0nm,0.2s							
UPC	**Upice**	**0.96**	**182**	Pg		Pg	14 19 36.6	-1.2
UPC				Sg		Sg	14 19 49.9	-0.5
	3.0nm,0.2s							
DPC	**Dobruska-Polom**	**1.13**	**171**	*e*PG		Pg	14 19 39.7	-1.4
DPC				*e*SG		Sg	14 19 55.3	-0.6
DPC	**Dobruska-Polom**	**1.13**	**171**	Pg		Pg	14 19 39.7	-1.4
DPC				Sg		Sg	14 19 55.3	-0.6
PVCC	**Panska Ves**	**1

OSI	**Osito Audit: C**	**3.86**	**312**	*e*Pg	**Pg**	**14 31 32.9**	**-0.7**
SHPR	**Sheep Range**	**4.42**	**1**	*e*Pn	**Pn**	**14 31 27.2**	**+0.4**

GUC 05 14:30:49.4±0.5, 35.77S×72.70W, h15km±3km, ML3.9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.36**	**192**	⇓*i*P	Pg	14 30 56.8	0.0
COCH				*i* S	Sg	14 31 02.4	+0.5
LNCH	**Linares**	**0.89**	**95**	⇑*i*P	Pb	14 31 05.5	-1.1
LNCH				*i* S	Sb	14 31 17.7	-0.7
TALC	**Talca**	**0.94**	**67**	⇑*i*P	Pb	14 31 06.0	-1.5
TALC				*i* S	Sb	14 31 18.8	-1.0
NICH	**Los Niches**	**1.43**	**58**	⇓*i*P	Pn	14 31 13.8	-1.0
NICH				*i* S	Sn	14 31 32.4	-0.9
CLCH	**Cerro Calan**	**2.97**	**38**	*e*P	Pn	14 31 37.2	+1.2
CLCH				*i* S	Sn	14 32 13.1	+1.6
CLCH				AML	AML	14 32 34.1	
	comp=E,301nm,0.6s						
PEL	**Peldehue**	**3.11**	**33**	*e*P	Pn	14 31 39.4	+1.5
PEL				AML	AML	14 32 31.6	
	comp=E,320nm,0.1s						

*BJI **05** 14:40:09.0,0.°89S×125.°29E, h64km, mB5.0/40, mb5.1/58, Ms4.4/43, Ms7 4.2/43*
*MOS **05** 14:40:11.5±1.1,0.°18S×125.°05E, h33km, mb5.5/49, Error ellipse: s-maj=9.7km s-min=4.6km az=118.1*
*IDC **05** 14:40:12.6±2.1,0.°23S×124.°96E, h30km±14km, mb4.9/38, mb1 4.9/38, mb1mx4.8/44, mbtmp5.1/38, MS3.9/23, Ms1 3.9/23, ms1mx3.8/33, Error ellipse: s-maj=15.7km s-min=8.7km az=72.0*
*ISCJB **05** 14:40:15.4±0.3,0.°26S±0.°02×125.°10E±0.°02, h71km±3km, mb5.0/139, Error ellipse: s-maj=3.7km s-min=3.5km az=136.8*
*DJA **05** 14:40:17.0±0.2,0.°S±2.°×12.°5E±.°, h56km±2km, M5.0/78, mB5.5/45, mb5.2/78, MLv5.5/27, Mw(mB)5.0/45, Mwp5.7/2*
*GCMT **05** 14:40:17.2±0.3,0.°29S×125.°17E, h37km±1km, MW5.1/62, Moment Tensor Solution. s43,c54; s62,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.23; $M_{\theta\theta}$-4.22±.14; $M_{\phi\phi}$0.89±.18; $M_{r\theta}$2.58±.14; $M_{\theta\phi}$-0.55±.12; $M_{\phi r}$-0.89±.20; Best double couple: M_o4.72500×10^{16} NP1:ϕs101.00000°, δ64.00000°, λ108.00000°. NP2: ϕs244.00000°, δ32.00000°, λ58.00000°. Principal axes: T 4.4200, Plg66.0000°, Azm44.0000°; N 0.6140, Plg16.0000°, Azm272.0000°; P -5.0290, Plg17.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 14:40:17.2±0.6,0.°21S×125.°04E, h72km±5km, mb5.1/55 Error ellipse: s-maj=5.9km s-min=4.6km az=69.0*
*KLM **05** 14:40:17.9,0.°30S×125.°29E, h97km, mb5.1, ML5.1, MS5.8*

ISC 05 14:40:16.6±0.3, 0.°24S±0.°03×125.°13E±0.°04, h64km±2km, h64km:pP-P, n589, σ1°§45/643, mb5.2/139, 37C-33D, Southern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.40**	**305**	P	**Pn**	**14 40 37.3**	**-2.8**
SANI	**Sanana**	**1.99**	**154**	P	**Pn**	**14 40 45.1**	**-3.0**
GTOI	**Gorontalo**	**2.29**	**292**	P	**Pn**	**14 40 52.8**	**+0.8**
GTOI				S	**Sn**	**14 41 23.9**	**+4.7**
LBMI	**Labuha**	**2.41**	**100**	P	**Pn**	**14 40 52.5**	**-1.1**
TNTI	**Ternate**	**2.45**	**66**	P	**Pn**	**14 40 54.3**	**0.0**
TNTI				S	**Sn**	**14 41 22.8**	**-0.3**
TNTI	**Ternate**	**2.45**	**66**	*e*P	**Pn**	**14 40 54.0**	**-0.3**
LUWI	**Luwuk**	**2.49**	**251**	P	**Pn**	**14 40 55.7**	**+1.0**
LUWI	**Luwuk**	**2.49**	**251**	*e*Pn	**Pn**	**14 40 54.0**	**-0.8**
MRSI	**Marisa**	**3.27**	**283**	P	**Pn**	**14 41 02.4**	**-3.0**
APSI	**Ampana**	**3.54**	**259**	P	**Pn**	**14 41 10.5**	**+1.3**
NLAI	**Namlea**	**3.57**	**147**	P	**Pn**	**14 41 08.4**	**-1.2**
SGSI	**Sangihe**	**3.92**	**6**	P	**Pn**	**14 41 16.3**	**+2.0**
TOLI	**Toli-Toli**	**4.54**	**287**	*e*P	**Pn**	**14 41 21.6**	**-1.2**
MSAI	**Masohi**	**4.89**	**129**	P	**Pn**	**14 41 28.5**	**+0.8**
MPSI	**Mapaga** 501nm,0.9s,11μm2.9nm	**5.26**	**276**	P	**Pn**	**14 41 32.1**	**-0.6**
PCI	**Palu** 1μm,0.8s,11μm7.5nm	**5.33**	**263**	P	**Pn**	**14 41 36.2**	**+2.5**
TTSI	**Tana Toraja** 458nm,0.8s,10μm17μm4.2nm	**6.00**	**242**	P	**Pn**	**14 41 42.2**	**-0.5**
GSPH	**General Santos**	**6.29**	**358**	*e*P	**Pn**	**14 41 48.0**	**+1.2**
BNSI	**Bone** 451nm,0.8s,4μm2.1nm	**6.50**	**230**	P	**Pn**	**14 41 48.7**	**-1.0**
SPSI	**Sidrap Palu** 364nm,1.0s,5μm2.0nm	**6.51**	**235**	P	**Pn**	**14 41 49.3**	**-0.5**
BKSI	**Bulukumba** 146nm,0.7s,2μm0.9nm	**7.11**	**225**	P	**Pn**	**14 41 57.5**	**-0.5**
KAPI	**Kappang** 811nm,0.4s,SNR=11	**7.17**	**228**	Pn	**Pn**	**14 41 58.0**	**-0.8**
KAPI	**Kappang** SNR=12	**7.17**	**228**	Pn	**Pn**	**14 41 59.2**	**+0.4**
KAPI	**Kappang** 92nm,0.6s	**7.17**	**228**	*e*P	**Pn**	**14 41 57.9**	**-0.8**
MATI	**Mati**	**7.22**	**9**	*e*P	**Pn**	**14 42 02.2**	**+2.6**
DAV	**Davao City (W)** SNR=15	**7.27**	**4**	Pn	Pn	14 42 03.7	+3.5
DAV	**Davao City (W)**	**7.27**	**4**	P	**Pn**	**14 42 01.6**	**+1.3**
BSSI	**Bau Bau, Buton** 244nm,1.4s,3μm0.8nm	**7.47**	**218**	P	**Pn**	**14 42 02.5**	**-0.5**
FAKI	**Fak Fak** 58nm,0.9s,2μm0.6nm	**7.60**	**111**	P	**Pn**	**14 42 04.1**	**-0.6**
FAKI	**Fak Fak** 34nm,0.4s	**7.60**	**111**	*e*P	**Pn**	**14 42 02.6**	**-2.1**
BUKP	**Musuan**	**8.06**	**360**	⇑*e*P	Pn	14 42 04.2	-6.9
PAGZ	**Pagadian**	**8.22**	**348**	*e*P	**Pn**	**14 42 13.4**	**+0.2**
PAGZ				*e*S	Px	14 42 33.0	
BKB	**Balikpapan** 383nm,0.7s,3μm1.2nm	**8.29**	**263**	P	Pn	14 42 18.8	+4.6
IPIL	**Ipil**	**8.37**	**342**	*e*P	**Pn**	**14 42 15.2**	**-0.1**
EDFI	**Ende, Flores** 47nm,1.2s,902nm	**9.12**	**202**	P	Pn	**14 42 26.9**	**+1.2**
KBKI	**Kotabaru** 82nm,1.1s,2μm	**9.46**	**251**	P	Pn	14 42 34.5	+4.3
SOEI	**Soe** 498nm,1.0s,4μm	**9.49**	**185**	P	Pn	14 42 35.3	+4.5
SOEI	**Soe** 460nm,1.0s	**9.49**	**185**	*e*P	**Pn**	**14 42 33.5**	**+2.7**
SDKM	**Sandakan**	**9.84**	**307**	⇓P	Pn	14 42 39.0	+3.5
BATI	**Baumata** 218nm,1.0s,2μm	**10.01**	**188**	P	Pn	14 42 41.3	+3.5
BATI	**Baumata** 6.5nm,0.3s,baz=125,slow=0.9,SNR=68	**10.01**	**188**	Pn	Pn	14 42 41.2	+3.5
BATI				LR	LR	14 47 07.9	
	comp=Z,4μm,21.8s,baz=340,slow=42						
MTKI	**Muara Teweh, K**	**10.26**	**266**	P	Pn	14 42 48.8	+7.7
BBKI	**Banjar Baru**	**10.77**	**253**	P	Pn	14 43 04.1	+16
KKM	**Kota Kinabalu**	**10.87**	**305**	⇑P	Pn	14 42 52.8	+3.3
KKM	**Kota Kinabalu**	**10.87**	**305**	⇑S	**Sn**	**14 44 54.0**	**+4.3**
KKM	**Kota Kinabalu** 140nm,1.3s	**10.87**	**305**	*e*P	**Pn**	**14 42 50.0**	**+0.4**
BASI	**Baing, Sumba**	**10.90**	**204**	P	Pn	14 43 10.6	+21
KDM	**Kudat**	**10.91**	**311**	⇑P	Pn	14 42 54.5	+4.6
BTM	**Bintulu**	**12.51**	**286**	⇑P	**Pn**	**14 43 14.5**	**+2.6**
SRBI	**Singaraja**	**12.59**	**231**	P	**P**	**14 43 24.9**	**+2.7**
KMMI	**Kalianget**	**13.03**	**238**	P	P	14 43 30.4	+3.3
SBUM	**Sibu**	**13.18**	**282**	⇓P	**Pn**	**14 43 23.3**	**+2.3**
STKI	**Sintang** 102nm,0.7s	**13.65**	**271**	P	**Pn**	**14 43 28.3**	**+0.9**
JAGI	**Jajag, Banyuwa**	**13.66**	**233**	P	P	14 43 39.6	+5.5
JAGI	**Jajag, Banyuwa** 42nm,0.8s	**13.66**	**233**	*e*P	**Pn**	**14 43 28.9**	**+1.5**
SMPI	**Sarmi** 36nm,1.2s	**13.69**	**97**	P	**Pn**	**14 43 30.5**	**+2.7**
BLJI	**Banyuglugur**	**13.71**	**237**	P	P	14 43 39.6	+5.0
GMJI	**Gumukmas**	**14.12**	**235**	P	**P**	**14 43 42.0**	**+2.8**
TBJI	**Tambak Boyo**	**14.77**	**243**	P	**P**	**14 43 49.3**	**+2.8**
TGY	**Tagaytay City** 67nm,0.3s,baz=180,slow=5.3,SNR=4.1	**14.84**	**344**	Pn	**Pn**	**14 43 44.4**	**+1.4**
TGY				LR	LR	14 50 15.9	
	comp=Z,20nm,20.0s,baz=120,slow=41						
KSM	**Kuching**	**14.92**	**277**	⇓P	**P**	**14 43 46.3**	**-1.8**
KSM	**Kuching** 86nm,0.6s	**14.92**	**277**	*e*P	**Pn**	**14 43 44.5**	**+0.6**
GENI	**Genyem** 125nm,0.9s	**15.21**	**99**	P	**Pn**	**14 43 49.5**	**+1.7**
PWJI	**Pagerwojo** 124nm,0.9s	**15.37**	**239**	P	**P**	**14 43 53.4**	**+0.3**
JAY	**Jayapura** 1.6nm,0.3s,baz=42,slow=11,SNR=5.3	**15.73**	**98**	Pn	**P**	**14 43 57.7**	**+0.4**
JAY				LR	LR	14 52 02.5	
	comp=Z,510nm,20.7s,baz=289,slow=45						
PCJI	**Pacitan**	**15.99**	**240**	P	P	14 44 08.4	+8.3
WOJI	**Wonogiri, Jawa**	**16.05**	**242**	P	**P**	**14 44 04.3**	**+3.6**
BALP	**Baler**	**16.26**	**348**	*e*P	**P**	**14 44 02.9**	**-0.1**
SCZP	**Santa Cruz**	**16.73**	**342**	*e*P	**Pn**	**14 44 07.1**	**+0.3**
BOLP	**Bolinao**	**17.30**	**343**	*e*P	**P**	**14 44 15.1**	**+0.6**
KPJI	**Karang Pucung** 244nm,0.8s	**17.62**	**246**	P	**P**	**14 44 19.4**	**+1.3**
TPI	**Tanjungpandan** 46nm,0.7s,451nm	**17.65**	**262**	P	**P**	**14 44 18.5**	**+0.1**
CMJI	**Cimerak** 150nm,0.8s	**18.24**	**245**	P	**Pn**	**14 44 25.6**	**+0.2**
SZP	**Santa** 144nm,0.7s	**18.27**	**346**	*e*P	**P**	**14 44 24.6**	**-0.6**
ABRA	**Dolores**	**18.30**	**346**	*e*P	**P**	**14 44 24.5**	**-1.0**
APYP	**Conner**	**18.39**	**348**	*e*P	**Pn**	**14 44 27.1**	**-0.1**
LEM	**Lembang** 184nm,0.8s	**18.65**	**249**	P	**Pn**	**14 44 30.6**	**0.0**
LEM	**Lembang** 6.9nm,0.3s,baz=24,slow=9.1,SNR=19	**18.65**	**249**	P	**P**	**14 44 29.9**	**+0.2**
LEM				LR	LR	14 52 19.3	
	comp=Z,833nm,21.2s,baz=56,slow=39						
CISI	**Cisompet, Garu** 234nm,0.8s,2μm	**18.73**	**247**	P	**P**	**14 44 30.2**	**-0.2**
CISI	**Cisompet, Garu** 136nm,0.6s	**18.73**	**247**	*e*P	**P**	**14 44 30.0**	**-0.4**
PIP	**Pasuquin**	**18.97**	**347**	⇑*e*P	**P**	**14 44 32.0**	**-0.9**
CBJI	**Citeko** 666nm,0.8s	**19.25**	**251**	P	**P**	**14 44 36.5**	**+0.5**
CNJI	**Cibinong** 142nm,1.1s,1μm	**19.27**	**248**	P	**P**	**14 44 36.7**	**+0.4**
SKJI	**Sukabumi**	**19.71**	**250**	P	**Pn**	**14 44 47.7**	**+4.7**
CGJI	**Cibinong** 252nm,0.7s,2μm	**20.40**	**252**	P	**P**	**14 44 49.4**	**+0.9**
DLV	**T Lat** 42nm,0.7s	**20.48**	**307**	*e*P	**P**	**14 44 49.5**	**-0.1**
PMBI	**Palembang** 184nm,1.1s	**20.52**	**262**	P	**P**	**14 44 50.9**	**+1.0**
DSRI	**Dabo** 440nm,0.8s,4μm	**20.55**	**269**	P	**P**	**14 44 49.1**	**-1.1**
TPRI	**Tanjung Pinang** 121nm,0.7s,3μm	**20.63**	**273**	P	**P**	**14 44 50.8**	**-0.3**
KASI	**Kota Agung** 96nm,1.2s,1μm	**21.26**	**255**	P	**P**	**14 44 58.0**	**+0.2**
MDSI	**Maura Dua** 35nm,0.9s	**21.35**	**258**	P	**P**	**14 44 56.9**	**-1.8**
MYKOM	**Kota Tinggi**	**21.37**	**275**	⇑P	**P**	**14 44 59.0**	**+0.1**
MBWA	**Marble Bar** SNR=6.7	**21.45**	**194**	P	**P**	**14 44 60.0**	**+0.2**
MBWA	**Marble Bar** 62nm,1.2s	**21.45**	**194**	*e*P	**P**	**14 44 59.4**	**-0.4**
WRAB	**Tennant Creek** 175nm,0.8s,SNR=34	**21.56**	**156**	P	**P**	**14 44 59.0**	**-1.9**
WRAB	**Tennant Creek**	**21.56**	**156**	*de*P	**P**	**14 44 59.0**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,174nm,2.5s						
WRAB	**Tennant Creek** comp=Z,49nm,0.9s	**21.56**	**156**	*e*P	**P**	**14 44 58.9**	**-1.9**
WRA	**Warramunga Arr** comp=Z,5.6nm,0.4s,baz=335,slow=11,SNR=118	**21.56**	**156**	P	**P**	**14 44 59.2**	**-1.8**
WRA				S	**S**	**14 48 51.9**	**-4.7**
	comp=Z,2.2nm,1.1s,baz=334,slow=17,SNR=2.7						
WRA				ScP	**ScP**	**14 52 35.6**	**+2.5**
	comp=Z,1.5nm,1.0s,baz=330,slow=3.0,SNR=6.0						
WB2	**Warramunga Arr**	**21.57**	**156**	*e*P	**P**	**14 44 58.9**	**-2.1**
LWLI	**Liwa** comp=Z,67nm,0.9s,comp=Z,6μm	**21.57**	**257**	P	**P**	**14 45 03.0**	**+1.8**
XMIS	**Christmas Isla** comp=Z,354nm,0.7s	**21.88**	**242**	*e*P	**P**	**14 45 03.3**	**-1.1**
LHSI	**Lahat** comp=Z,43nm,0.9s,comp=Z,2μm	**21.88**	**260**	P	**P**	**14 45 07.7**	**+3.3**
KGM	**Kluang**	**21.92**	**276**	⇑P	**P**	**14 45 05.4**	**+0.5**
COEN	**Coen** comp=Z,20nm,0.7s	**22.47**	**128**	*e*P	**P**	**14 45 09.2**	**-1.6**
KTGM	**Kuala Trenggan**	**22.65**	**284**	⇓P	**P**	**14 45 12.5**	**-0.2**
SDSI	**Sungai Dareh** comp=Z,72nm,0.8s,comp=Z,7μm	**23.71**	**268**	P	**P**	**14 45 23.3**	**+0.3**
FRIM	**Kepong**	**23.74**	**279**	⇑P	**P**	**14 45 22.1**	**-1.2**
PMG	**Port Moresby**	**23.75**	**113**	*ce*P	**P**	**14 45 23.5**	**+0.2**
PMG				pmax	pmax		
	comp=Z,131nm,2.5s						
PMG	**Port Moresby** comp=Z,9.1nm,0.9s	**23.75**	**113**	*e*P	**P**	**14 45 23.9**	**+0.6**
YULB	**Yu-li** comp=Z,13nm,0.6s	**23.78**	**351**	*e*P	**P**	**14 45 19.5**	**-4.1**
TPUB	**Ta-pu** comp=Z,54nm,0.6s	**23.80**	**350**	*e*P	**P**	**14 45 20.8**	**-2.9**
BKNI	**Bangkinang** comp=Z,58nm,0.9s	**24.09**	**271**	P	**P**	**14 45 27.4**	**+0.9**
SSLB	**Suanglung** comp=Z,29nm,0.8s	**24.22**	**351**	P	**P**	**14 45 23.8**	**-3.8**
IPM	**Ipoh**	**24.53**	**281**	⇑P	**P**	**14 45 29.6**	**-0.8**
IPM	**Ipoh** comp=Z,23nm,0.8s	**24.53**	**281**	*e*P	**P**	**14 45 27.5**	**-2.9**
PDSI	**Padang** comp=Z,70nm,1.4s,comp=Z,694nmcomp=Z,17μm	**24.68**	**268**	P	**P**	**14 45 30.3**	**-1.5**
AS31	**Alice Springs**	**24.80**	**161**	*e*P	**P**	**14 45 32.5**	**-0.3**
ASAR	**Alice Springs** comp=Z,15nm,0.9s,baz=336,slow=7.0,SNR=80	**24.80**	**161**	P	**P**	**14 45 32.7**	**-0.1**
ASAR				PcP	**PcP**	**14 49 09.2**	**+1.1**
	comp=Z,8.5nm,0.5s,baz=352,slow=2.0,SNR=27						
ASAR				S	**S**	**14 49 52.4**	**+1.4**
	comp=Z,3.4nm,1.1s,baz=347,slow=16,SNR=5.5						
ASAR				ScP	**ScP**	**14 52 44.5**	**+2.8**
	comp=Z,4.0nm,1.2s,baz=354,slow=3.8,SNR=6.8						
ASAR				LR	LR	14 57 06.3	
	comp=Z,202nm,20.6s,baz=338,slow=41						
UBPT	**Khong Chiam** comp=Z,36nm,1.0s	**24.80**	**309**	P	**P**	**14 45 32.7**	**-0.2**
YHNB	**Yeheng** comp=Z,26nm,0.6s	**25.03**	**352**	*e*P	**P**	**14 45 32.6**	**-2.3**
KULM	**Kulim**	**25.05**	**283**	⇓P	**P**	**14 45 34.4**	**-0.8**
KULM	**Kulim** comp=Z,48nm,1.3s	**25.05**	**283**	*e*P	**P**	**14 45 33.0**	**-2.3**
MNSI	**Mandailing Nat** comp=Z,30nm,0.8s	**25.57**	**272**	P	**P**	**14 45 41.9**	**+2.0**
GZH	**Guangzhou**	**25.86**	**334**	P	P	14 45 47.3	+4.9
GZH				S	S	14 50 28.9	+21
GZH				SS	SS	14 52 00.8	
GZH				LR	LR		
	comp=N,790nm,17.1s						
GZH				LR	LR		
	comp=E,510nm,16.7s						
CHBT	**CHBT** comp=E,30nm,0.9s	**26.04**	**301**	P	**P**	**14 45 43.7**	**-0.4**
JOW	**Kunigami**	**27.08**	**6**	*e*P	**P**	**14 45 53.7**	**+0.3**
KHON	**Khomkaen** comp=E,16nm,1.0s,comp=E,4μm	**27.49**	**308**	P	**P**	**14 45 57.1**	**0.0**
SURT	**Surattani** comp=E,6.6nm,1.2s,comp=E,269nm	**27.77**	**290**	P	**P**	**14 46 01.8**	**+2.1**
CTA	**Charters Tower** comp=E,5.3nm,0.7s,baz=300,slow=16,SNR=2.6	**28.58**	**135**	P	**P**	**14 46 07.0**	**+0.1**
CTAO	**Charters Tower**	**28.58**	**135**	*e*P	**P**	**14 46 07.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,40nm,1.4s						
CTAO	**Charters Tower** comp=Z,40nm,1.4s	**28.58**	**135**	*e*P	**P**	**14 46 07.0**	**+0.1**
PBKT	**Sadao Pong** comp=Z,11nm,1.0s	**29.09**	**306**	P	**P**	**14 46 10.5**	**-0.9**
SRDT	**SRDT** comp=Z,49nm,0.9s,comp=Z,11μm	**29.54**	**300**	P	**P**	**14 46 15.6**	**+0.2**
SLVN	**Son La** comp=Z,10.0nm,0.9s	**29.82**	**317**	*e*P	**P**	**14 46 16.9**	**-1.0**
UTTA	**Uttaradit** comp=Z,4.5nm,1.1s,comp=Z,51nm	**30.07**	**308**	P	**P**	**14 46 19.4**	**-0.6**
NANT	**Nan** comp=Z,120nm,0.7s	**30.55**	**310**	P	**P**	**14 46 24.1**	**-0.2**
LAMP	**Lampang** comp=Z,5.4nm,0.9s	**31.23**	**308**	P	**P**	**14 46 30.2**	**-0.1**
CMAR	**Chiang Mai Arr** comp=Z,9.6nm,1.1s,baz=141,slow=7.3,SNR=47	**31.74**	**307**	P	**P**	**14 46 34.1**	**-0.6**
CMAR				PcP	**PcP**	**14 49 26.6**	**+1.4**
	comp=Z,6.1nm,0.8s,baz=177,slow=2.0,SNR=15						
CMAR				ScP	**ScP**	**14 53 07.2**	**+3.9**
	comp=Z,0.9nm,0.4s,baz=164,slow=2.7,SNR=6.2						
CMAR				LR	LR	14 59 31.4	
	comp=Z,164nm,22.0s,baz=136,slow=37						
CBIJ	**Chichi jima** comp=Z,66nm,0.9s	**31.75**	**30**	*e*P	**P**	**14 46 33.7**	**-1.0**
JCJ	**Chichijima** comp=Z,146nm,0.7s,baz=259,slow=23,SNR=6.4	**31.75**	**30**	P	**P**	**14 46 33.9**	**-0.8**
CMMT	**Chiang Mai** comp=Z,39nm,1.1s,comp=Z,419nm	**31.93**	**308**	P	**P**	**14 46 35.3**	**-1.2**
CHTO	**Chiang Mai**	**31.93**	**308**	*e*P	**P**	**14 46 35.2**	**-1.3**
CHTO				*e*		14 49 26.7	
CHTO				pmax	pmax		
	comp=Z,33nm,1.1s						
CHTO	**Chiang Mai** SNR=18	**31.93**	**308**	P	**P**	**14 46 35.8**	**-0.7**
CHTO	**Chiang Mai** comp=Z,33nm,1.1s	**31.93**	**308**	*e*P	**P**	**14 46 35.2**	**-1.3**
CHTO				*e*PcP	**PcP**	**14 49 26.7**	**+0.9**
CHTO	**Chiang Mai** comp=Z,135nm,1.1s,comp=Z,1μm	**31.93**	**308**	P	**P**	**14 46 35.4**	**-1.1**
GYA	**Guiyang**	**31.95**	**328**	P	**P**	**14 46 38.0**	**+1.3**
GYA				pP	**pP**	**14 46 54.4**	**+2.1**
GYA				PP	**PnPn**	**14 47 45.0**	**+1.0**
GYA				S	**S**	**14 51 44.5**	**+0.7**
GYA				sS	**sS**	**14 52 14.6**	**+4.2**
GYA				ScP	**ScP**	**14 53 03.2**	**-0.8**
GYA				SS	**SnSn**	**14 53 40.7**	**+2.4**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.8s						
GYA				LN			
	comp=Z,660nm,17.0s						
GYA				LE			
	comp=Z,580nm,18.4s						
GYA				LZ			
	comp=Z,620nm,17.8s						
WHN	**Wuhan**	**32.28**	**342**	P	**P**	**14 46 40.6**	**+1.2**
WHN				LZ			
	comp=Z,620nm,18.1s						
MHMT	**Maesarieng** comp=Z,14nm,1.2s,comp=Z,312nm	**32.40**	**306**	P	**P**	**14 46 40.0**	**-0.6**
CMAI	**Chiengmai2** comp=Z,22nm,1.4s,comp=Z,792nm	**32.48**	**310**	P	**P**	**14 46 40.7**	**-0.8**
NJ2	**Nanjing**	**32.66**	**350**	*e*P	**P**	**14 46 43.8**	**+1.2**
NJ2				pP	**pP**	**14 46 58.5**	**+0.2**
NJ2				sP	**sP**	**14 47 04.7**	**-1.0**
NJ2				S	**S**	**14 51 55.5**	**+1.2**
NJ2				sS	**sS**	**14 52 20.5**	**-0.5**
NJ2				PMZ			
	comp=Z,20nm,0.7s						
NJ2				PMZ			
	comp=Z,230nm,4.7s						
NJ2				LN			
	comp=Z,800nm,24.7s						
NJ2				LE			
	comp=Z,870nm,24.6s						
NJ2				LZ			
	comp=Z,810nm,23.6s						
KMI	**Kunming**	**33.24**	**321**	P	**P**	**14 46 48.1**	**0.0**
KMI				PMZ			
	comp=Z,17nm,1.0s						
NWAO	**Narrogin (SRO)**	**33.36**	**192**	P	**P**	**14 46 48.0**	**-0.8**
NWAO	**Narrogin (SRO)** comp=Z,5.4nm,0.6s,baz=356,slow=8.8,SNR=6.3	**33.36**	**192**	P	**P**	**14 46 48.0**	**-0.8**
JNU	**Nakatsue** comp=Z,41nm,0.8s,baz=187,slow=5.4,SNR=38	**33.62**	**9**	P	**P**	**14 46 50.7**	**-0.4**
JNU	**Nakatsue** comp=Z,20nm,0.9s	**33.62**	**9**	*e*P	**P**	**14 46 50.7**	**-0.4**
BBOO	**Buckleboo** comp=Z,70nm,1.6s	**34.00**	**163**	*e*P	**P**	**14 46 54.3**	**-0.1**
KSBUS	**Busan** SNR=5.5	**35.50**	**6**	P	**P**	**14 47 07.9**	**+0.7**
KSCPR	**CHUPUNGNYEONG** SNR=8.8	**36.37**	**4**	P	**P**	**14 47 15.5**	**+0.8**
KSBON	**Boeun** SNR=9.9	**36.64**	**4**	P	**P**	**14 47 18.5**	**+1.5**
TIA	**Tai'an**	**37.02**	**349**	⇑P	**P**	**14 47 20.9**	**+0.7**
CD2	**Chengdu**	**37.03**	**329**	*e*P	**P**	**14 47 20.7**	**+0.2**
CD2				pP	**pP**	**14 47 37.0**	**+0.7**
CD2				sP	**sP**	**14 47 44.8**	**+1.1**
CD2				PP	**PnPn**	**14 48 49.3**	**+2.4**
CD2				S	**S**	**14 53 01.9**	**+0.1**
CD2				PcS	**PcS**	**14 53 27.3**	**-1.3**
CD2				sS	**sS**	**14 53 29.7**	**+1.0**
CD2				PMZ			
	comp=Z,50nm,0.7s						
CD2				PMZ			
	comp=Z,220nm,5.6s						
CD2				LN			
	comp=Z,340nm,18.6s						
CD2				LE			
	comp=Z,210nm,13.7s						
CD2				LZ			
	comp=Z,410nm,17.1s						
XAN	**Xi'an**	**37.34**	**338**	P	**P**	**14 47 22.2**	**-0.8**
XAN				sS	**sS**	**14 53 37.8**	**+4.5**
XAN				PMZ			
	comp=Z,8.0nm,1.0s						
XAN				PMZ			
	comp=Z,9.0nm,3.1s						
XAN				LN			
	comp=Z,250nm,17.3s						
XAN				LE			
	comp=Z,58nm,18.4s						
XAN				LZ			
	comp=Z,110nm,16.3s						
KSTBA	**Taebaek** SNR=5.6	**37.34**	**5**	P	**P**	**14 47 24.5**	**+1.4**
KSSWO	**Suwon** SNR=6.5	**37.36**	**2**	P	**P**	**14 47 24.6**	**+1.6**
KSICN	**Icheon** SNR=7.3	**37.40**	**3**	P	**P**	**14 47 24.9**	**+1.5**
KSAR	**Wonju Array Be**	**37.58**	**4**	P	**P**	**14 47 25.6**	**+0.7**
KSAR						14 49 43.0	
KSAR	**Wonju Array Be**	**37.58**	**4**	P	**P**	**14 47 25.6**	**+0.7**
KSAR				PcP	**PcP**	**14 49 43.0**	**+1.3**
KSRS	**Korea Array** comp=Z,26nm,0.9s,baz=179,slow=10.0,SNR=125	**37.59**	**4**	P	**P**	**14 47 25.6**	**+0.5**
KSRS				PcP	**PcP**	**14 49 43.0**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=193,slow=2.6,SNR=9.1						
KSRS				LR	LR	15 02 31.4	
	comp=Z,241nm,21.7s,baz=188,slow=36						
KSDGY	**Daegwallycong** SNR=5.4	**37.88**	**5**	P	**P**	**14 47 28.7**	**+1.1**
KSMUS	**Musan** SNR=8.8	**37.97**	**2**	P	**P**	**14 47 30.6**	**+2.4**
KSDDC	**Dongducheon** SNR=10	**37.99**	**2**	P	**P**	**14 47 29.6**	**+1.3**
KSJMJ	**Jumunjin** SNR=11	**38.08**	**5**	P	**P**	**14 47 31.0**	**+1.9**
YNCB	**YEONCHEON** SNR=7.6	**38.12**	**2**	P	**P**	**14 47 31.5**	**+2.0**
KSIJA	**INJE** SNR=9.9	**38.14**	**4**	P	**P**	**14 47 31.4**	**+1.8**
KSCWO	**Cheorwon** SNR=7.2	**38.20**	**3**	P	**P**	**14 47 31.9**	**+1.8**
KSSKC	**Sokcho** SNR=14	**38

comp=Z,1μm,15.2s
LZH LE
comp=Z,1μm,16.6s
LZH LZ
comp=Z,1μm,17.8s
HHC Hu-ho-hao-te 42.71 345 *e*P **P 14 48 10.3 +2.8**
HHC PP **PcP 14 49 53.2 -5.1**
HHC S **S 14 54 30.3 +3.7**
HHC sS **sS 14 54 56.7 +2.8**
HHC SS **SS 14 57 36.7 -2.7**
HHC PMZ
comp=Z,14nm,1.3s
HHC PMZ
comp=Z,100nm,5.1s
HHC LN
comp=Z,100nm,14.5s
HHC LE
comp=Z,170nm,13.3s
HHC LZ
comp=Z,150nm,14.1s
CN2 Changchun 43.85 0 *e*P **P 14 48 14.0 -2.5**
CN2 PMZ
comp=Z,10.0nm,0.5s
LSA Lhasa 43.99 316 *e*P **P 14 48 17.7 -0.7**
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 43.99 316 *e*P **P 14 48 17.7 -0.7**
comp=Z,22nm,0.7s
CHLP Challavanipeta 44.43 297 *e*P P 14 48 17.8 -3.8
USRK Ussuriysk Ar. 44.66 7 P **P 14 48 23.2 +0.2**
comp=Z,16nm,0.5s,baz=191,slow=7.3,SNR=40
USRK LR LR 15 05 27.4
comp=Z,106nm,20.8s,baz=163,slow=34
MDJ Mudanjiang 44.84 5 P **P 14 48 24.7 +0.3**
MDJ pP **pP 14 48 38.8 -1.8**
MDJ sP **sP 14 48 47.1 -0.8**
MDJ ScP **ScP 14 53 52.4 +0.1**
MDJ PcS **PcS 14 53 59.3 +0.5**
MDJ S **S 14 54 58.3 +1.1**
MDJ sS **sS 14 55 24.9 +0.2**
MDJ PMZ
comp=Z,54nm,0.8s
MDJ PMZ
comp=Z,100nm,3.3s
MDJ LN
comp=Z,120nm,28.7s
MDJ LE
comp=Z,53nm,33.7s
MDJ LZ
comp=Z,170nm,30.4s
MDJ Mudanjiang 44.84 5 *e*P **P 14 48 24.6 +0.3**
comp=Z,41nm,0.8s
ERM Erimo 45.10 19⇓ *e*P **P 14 48 27.6 +1.1**
ERM pmax pmax
comp=Z,35nm,1.7s
ODAN Odare 45.20 310 *e*P **P 14 48 26.3 -1.6**
TAPN Taplejung 45.21 310 *e*P **P 14 48 26.1 -1.9**
comp=Z,62nm,0.8s
DZM Mont Dzumac 45.71 121 *e*P **P 14 48 33.2 +1.4**
comp=Z,34nm,1.2s
DZM Mont Dzumac 45.71 121 *e*LR LR 15 01 03.5
comp=Z,352nm,25.6s
DZM Mont Dzumac 45.71 121 *e*P **P 14 48 32.9 +1.1**
comp=Z,14nm,1.0s
GTA Gaotai 45.76 332 P **P 14 48 31.4 -0.5**
GTA pP **pP 14 48 47.2 -1.0**
GTA sP **sP 14 48 54.6 -0.9**
GTA PcP **PcP 14 50 09.4 +0.6**
GTA S **S 14 55 09.9 -1.1**
GTA sS **sS 14 55 37.0 -1.5**
GTA SS **ScS 14 58 27.1 +4.8**
GTA PMZ
comp=Z,60nm,1.4s
GTA PMZ
comp=Z,120nm,4.8s
GTA LN
comp=Z,220nm,17.6s
GTA LE
comp=Z,230nm,17.6s
GTA LZ
comp=Z,420nm,18.0s
RAMN Ramite 45.86 309 *e*P **P 14 48 31.6 -1.5**
comp=Z,70nm,0.5s
JIRN Jiri 46.53 310 *e*P **P 14 48 36.3 -2.2**
comp=Z,62nm,0.6s
ASAJ Asahikawa 46.83 17 P **P 14 48 40.8 +0.7**
comp=Z,12nm,0.4s,baz=234,slow=8.9,SNR=83
ASAJ Asahikawa 46.83 17 *e*P **P 14 48 40.8 +0.7**
comp=Z,9.9nm,0.8s
GUN Gumba 46.89 310 *e*P **P 14 48 39.4 -1.9**
comp=Z,123nm,0.7s
SKHT Srikalahasti 47.07 289 *e*P **P 14 48 40.3 -2.1**
PKI Pulchoki 47.09 309 *e*P **P 14 48 40.4 -2.4**
comp=Z,43nm,0.8s
PKIN Phulchoki 47.10 309 *e*P **P 14 48 41.8 -1.0**
comp=Z,18nm,0.6s
KKN Kakani 47.29 309 *e*P **P 14 48 43.0 -1.3**
comp=Z,49nm,0.8s
ADKI Addanki 47.35 292 *e*P **P 14 48 43.2 -1.4**
ADKI *e*pP **pP 14 48 58.9 -2.0**
GKN Gorkha 47.89 309 *e*P **P 14 48 46.6 -2.2**
comp=Z,48nm,0.7s
NJS Nagarjunasagar 48.15 293 *e*P **P 14 48 48.7 -2.1**
NJS *e*pP **pP 14 49 07.5 +0.4**
KOLN Koldanda 48.59 308 *e*P **P 14 48 52.4 -1.9**
comp=Z,106nm,0.7s
DANN Dangsing 48.74 309 *e*P **P 14 48 53.4 -2.1**
comp=Z,135nm,0.7s
RPR Rampur 48.82 295 *e*P **P 14 48 54.1 -1.8**
RPR *e*pP **pP 14 49 11.1 -1.2**
HYB Hyderabad 49.08 293 *i*P P 14 48 54.5 -3.4
comp=Z,64nm,1.2s
HYB *e* 14 49 12.0
HYBB Hyderabad (bro 49.08 293 *e*P **P 14 48 55.8 -2.1**
HYBB *e*pP **pP 14 49 13.4 -0.9**
PYUN Piuthan 49.22 308 *e*P **P 14 48 57.6 -1.5**
comp=Z,255nm,0.4s
HABR Khabarovsk 49.27 9*c e*P **P 14 48 58.2 -0.6**
HABR *e**PP **pP 14 49 12.8 -2.5**
HABR *e* 14 50 19.5
HABR *e*S **S 14 56 00.7 +0.4**
HABR *e* 14 58 43.0
HABR *e*SS **SS 14 59 34.1 +1.4**
HABR *e*SSS SSS 15 00 56.5
HABR pmax pmax
comp=Z,43nm,1.3s
YSS Yuzh-Sakhalins 49.47 16 *e*P **P 14 49 02.0 +1.6**
YSS Yuzh-Sakhalins 49.47 16 *e*P **P 14 49 00.4 0.0**
comp=Z,15nm,0.8s
HIA Hailar 49.53 355 *e*P **P 14 49 00.9 0.0**
HIA pmax pmax
comp=Z,62nm,1.0s
HIA Hailar 49.53 355 *e*P **P 14 49 00.9 0.0**
comp=Z,62nm,1.0s
KLR Kul'dur 49.60 6 *e*P P 14 48 56.8 -4.6
URV Uravakonda 49.66 290 *e*P P 14 48 59.2 -3.2
URV *e*pP pP 14 49 19.4 +0.6
ULN Ulaanbaatar 50.43 344 *e*P **P 14 49 06.5 -1.3**
ULN pmax pmax
comp=Z,49nm,1.0s
ULN Ulaanbaatar 50.43 344 P **P 14 49 09.1 +1.3**
SNR=19
ULN Ulaanbaatar 50.43 344 *e*P **P 14 49 06.5 -1.3**
comp=Z,49nm,1.0s
SONM Songino Array 50.58 344 P **P 14 49 07.8 -1.2**
comp=Z,28nm,0.8s,baz=158,slow=8.7,SNR=82
SONM LR LR 15 11 05.9
comp=Z,137nm,20.7s,baz=145,slow=37
ZAK Zakamensk 53.77 343 *e*P **P 14 49 30.8 -1.7**
ZAK *e* 14 50 37.9
ZAK pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 54.82 344 P **P 14 49 39.7 -0.4**
comp=Z,167nm,0.7s,SNR=6.3
TLY Talaya 54.82 344 *e*P **P 14 49 39.7 -0.4**
TLY pmax pmax
comp=Z,20nm,0.7s
TLY Talaya 54.82 344 P **P 14 49 39.7 -0.4**
comp=Z,16nm,0.7s,baz=205,slow=3.2,SNR=29
TLY Talaya 54.82 344 P **P 14 49 40.1 0.0**
SNR=8.5
TLY Talaya 54.82 344 *e*P **P 14 49 39.3 -0.8**
comp=Z,19nm,0.7s
WMQ Urumqi 55.12 328⇓ *i*P **P 14 49 42.8 +0.4**
WMQ pP **pP 14 49 59.0 -0.1**
WMQ sP **sP 14 50 05.5 -0.8**
WMQ PcP **PcP 14 50 43.0 -0.1**
WMQ PP **PP 14 51 48.0 +1.6**
WMQ ScP **ScP 14 54 35.0 -1.4**
WMQ S **S 14 57 19.0 -1.7**
WMQ SS **SS 15 01 02.0 -3.6**
WMQ PMZ
comp=Z,32nm,1.4s
WMQ PMZ
comp=Z,170nm,4.6s
WMQ LN
comp=Z,410nm,14.0s
WMQ LE
comp=Z,430nm,12.0s
WMQ LZ
comp=Z,570nm,23.6s
IRK Irkutsk 55.16 345 *e*P **P 14 49 42.7 +0.2**
IRK *e* 14 50 42.6
IRK pmax pmax
comp=Z,22nm,1.0s
MOY Mondy 55.59 342 *e*P **P 14 49 45.4 -0.3**
MOY pmax pmax
comp=Z,20nm,1.1s
CLNS Chul'man 56.90 360 *e*P **P 14 49 54.8 0.0**
CLNS pmax pmax
comp=Z,32nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=N,20nm,0.9s
HVS Khovu-Aksy 57.70 337*d i*P **P 14 49 59.6 -1.1**
BOD Bodaibo 58.56 353⇓ *i*P **P 14 50 05.8 -0.6**
BOD pmax pmax
comp=Z,47nm,0.9s
PETK Petropavlovsk- 59.68 22 P **P 14 50 15.4 +1.1**
comp=Z,32nm,0.8s,baz=193,slow=6.1,SNR=25
PETK PcP **PcP 14 51 01.2 +0.5**
comp=Z,6.3nm,0.7s,baz=213,slow=3.7,SNR=4.0
PETK LR LR 15 17 15.0
comp=Z,34nm,20.2s,baz=211,slow=37
KSH Kashi 59.78 317 P **P 14 50 16.7 +1.3**
KSH pP **pP 14 50 33.7 +1.4**
KSH PcP **PcP 14 51 03.3 +1.7**
KSH PP **PP 14 52 31.7 +3.7**
KSH PcS **PcS 14 55 03.6 -0.3**
KSH S **S 14 58 22.4 +0.2**
KSH PMZ
comp=Z,28nm,0.9s
KSH PMZ
comp=Z,97nm,3.2s
KSH LN
comp=Z,100nm,5.3s
KSH LE
comp=Z,99nm,4.4s
KSH LZ
comp=Z,160nm,17.0s
MK31 Makanchi Array 59.95 327 *e*P **P 14 50 15.2 -1.1**
MK31 pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 59.95 327 P **P 14 50 14.5 -1.8**
comp=Z,25nm,0.5s,baz=123,slow=9.2,SNR=202
MKAR PcP **PcP 14 51 02.1 +0.2**
comp=Z,9.6nm,0.7s,baz=118,slow=4.7,SNR=7.4
MKAR ScP **ScP 14 55 00.8 +3.1**
comp=Z,1.6nm,0.7s,baz=120,slow=4.8,SNR=5.2
MKAR LR LR 15 17 45.6
comp=Z,202nm,18.6s,baz=124,slow=38
PET Petropavlovsk 59.98 23 *e*P **P 14 50 17.8 +1.5**
SNZO South Karori 60.58 139 *e*P **P 14 50 19.7 -1.0**
comp=Z,23nm,0.7s
URZ Urewera 60.83 135 P **P 14 50 22.5 +0.1**
comp=Z,3.6nm,0.3s,baz=252,slow=4.6,SNR=12
ULHL Ulahol 60.96 320 P **P 14 50 24.6 +1.1**
SNR=11
ULHL Ulahol 60.96 320 *i*P **P 14 50 24.6 +1.1**
KZA Kyzart 61.51 320 P **P 14 50 28.9 +1.3**
SNR=50
KZA Kyzart 61.51 320 *i*P **P 14 50 28.8 +1.3**
SFK Sufi-Kurgan 61.70 317 P **P 14 50 28.1 -0.5**
SFK pmax pmax
comp=Z,26nm,0.8s
TKM2 Tokmak 2 61.71 321 P **P 14 50 29.5 +0.9**
SNR=59
TKM2 Tokmak 2 61.71 321 *i*P **P 14 50 29.4 +0.9**
TKM2 Tokmak 2 61.71 321 *e*P **P 14 50 26.8 -1.8**
comp=Z,34nm,0.7s
KBK Karagaybulak 61.99 320 P **P 14 50 31.7 +1.3**
SNR=24
KBK Karagaybulak 61.99 320 *i*P **P 14 50 31.7 +1.3**
UCH Uchtor 62.06 319 P **P 14 50 32.8 +1.6**
SNR=40
UCH Uchtor 62.06 319 *i*P **P 14 50 32.8 +1.6**
YAK Yakutsk 62.20 2*c i*P **P 14 50 31.0 -0.2**
YAK *e**PP **pP 14 50 48.5 +0.4**
YAK *e* 14 51 11.2
YAK *e* 14 52 46.8
YAK *e*S **S 14 58 50.1 -1.7**
YAK *e**SS **sS 14 59 22.0 +1.5**
YAK *e* 15 00 17.3
YAK *e*SS **SS 15 02 54.6 -1.4**
YAK pmax pmax
comp=Z,90nm,0.8s
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,87nm,3.8s
YAK pmax pmax
comp=Z,57nm,3.5s
YAK smax smax
comp=E,94nm,2.2s
YAK smax smax
comp=N,154nm,3.0s
YAK Yakutsk 62.20 2 P **P 14 50 29.9 -1.3**
comp=N,107nm,0.7s,baz=351,slow=0.9,SNR=93
YAK Yakutsk 62.20 2 *e*P **P 14 50 31.0 -0.2**
AAK Ala-Archa 62.27 320 P **P 14 50 33.8 +1.5**
comp=N,176nm,1.0s,SNR=15
AAK Ala-Archa 62.27 320 P **P 14 50 33.5 +1.3**
SNR=30
AAK Ala-Archa 62.27 320*d i*P **P 14 50 33.1 +0.8**
AAK pmax pmax
comp=Z,121nm,1.5s
AAK Ala-Archa 62.27 320 P **P 14 50 31.0 -1.3**
comp=Z,21nm,0.8s,baz=120,slow=5.3,SNR=69
AAK PcP **PcP 14 51 11.8 +0.2**
comp=Z,8.9nm,0.8s,baz=161,slow=6.8,SNR=5.7
AAK Ala-Archa 62.27 320 P **P 14 50 33.4 +1.1**
SNR=16
AAK Ala-Archa 62.27 320 *e*P **P 14 50 30.4 -1.9**
comp=Z,25nm,0.8s
AAK PcP **PcP 14 51 11.8 +0.2**
CHMS Chumysh 62.28 320 P **P 14 50 32.8 +0.6**
SNR=11
CHMS Chumysh 62.28 320 *i*P **P 14 50 32.8 +0.6**
AML Almayashu 62.55 319 P **P 14 50 35.8 +1.3**
SNR=76
AML Almayashu 62.55 319 *i*P **P 14 50 35.8 +1.3**
USP Ospenovka 62.58 320 P **P 14 50 35.1 +0.9**
SNR=51
USP Ospenovka 62.58 320 *i*P **P 14 50 35.0 +0.9**
KBL Kabul 62.73 310 *e*P **P 14 50 32.5 -3.0**
KBL pmax pmax
comp=Z,37nm,1.2s
KBL Kabul 62.73 310 *e*P **P 14 50 32.5 -3.0**
comp=Z,37nm,1.2s
EKS2 Erkin-Say 62.75 320 P **P 14 50 36.8 +1.4**
SNR=36
EKS2 Erkin-Say 62.75 320 *i*P **P 14 50 36.8 +1.4**
EKS2 Erkin-Say 62.75 320 *e*P **P 14 50 34.4 -1.1**
comp=Z,36nm,0.8s
ZALV Zalesovo Beam 63.42 335 P **P 14 50 37.0 -2.5**
comp=Z,28nm,0.9s,baz=128,slow=5.2,SNR=74
ZALV S **S 14 59 03.4 -4.0**
comp=Z,0.6nm,0.5s,baz=101,slow=7.7,SNR=5.0
ZALV LR LR 15 20 42.4
comp=Z,102nm,18.2s,baz=72,slow=38
MNAS Manas 63.50 319 P **P 14 50 41.2 +0.8**
MNAS pmax pmax
comp=Z,52nm,0.9s
KURBB Kurchatov Arra 64.25 329 P **P 14 50 43.0 -2.0**
comp=Z,33nm,0.7s,baz=130,slow=6.1,SNR=182
KURBB PcP **PcP 14 51 18.4 -0.8**
comp=Z,6.8nm,0.7s,baz=124,slow=3.6,SNR=6.0
KURK Kurchatov 64.26 329 P **P 14 50 43.7 -1.3**
comp=Z,396nm,0.6s,SNR=65
KURK Kurchatov 64.26 329 *e*P **P 14 50 42.4 -2.6**
KURK 14 51 18.4
KURK pmax pmax
comp=Z,78nm,0.6s
KURK Kurchatov 64.26 329 P **P 14 50 45.2 +0.2**
SNR=19
KURK Kurchatov 64.26 329 *e*P **P 14 50 42.4 -2.6**
comp=Z,78nm,0.6s
KURK PcP **PcP 14 51 18.4 -0.9**
DZET Dzherino 64.47 314 P **P 14 50 44.5 -2.4**
DZET pmax pmax
comp=Z,47nm,0.7s
NVS Novosibirsk 64.71 335⇑ *i*P P 14 50 44.2 -3.7
NVS pmax pmax
comp=Z,28nm,0.8s
NVS pmax pmax
comp=N,12nm,0.5s
NVS pmax pmax
comp=E,11nm,0.6s
KK31 Karatay Array 65.08 319 *i*P **P 14 50 50.1 -0.5**
KK31 pmax pmax
comp=Z,15nm,0.7s
SEY Seymchan 66.23 13 P **P 14 50 58.4 +0.8**
comp=Z,14nm,0.9s,baz=215,slow=5.6,SNR=75
IDAH Dahanechah 69.48 305 *e*P **P 14 51 17.5 -1.4**
BVA0 Borovoye Array 69.79 328 *i*P **P 14 51 18.5 -1.6**
BVA0 pmax pmax
comp=Z,30nm,1.0s
BVAR Borovoye Array 69.79 328 P **P 14 51 18.3 -1.8**
comp=Z,21nm,0.8s,baz=130,slow=8.0,SNR=91
IMYA Miami 70.22 309 *e*P **P 14 51 22.9 -0.4**
ITEG Tejag 70.44 305 *e*P **P 14 51 23.0 -1.8**
TIXI Tiksi 71.81 1*d e*P **P 14 51 31.4 -0.6**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI Tiksi 71.81 1 *e*P **P 14 51 30.7 -1.3**
comp=Z,33nm,0.9s
GEYT Alibeck 72.16 310 P **P 14 51 33.4 -1.4**
comp=Z,4.8nm,0.6s,baz=134,slow=4.3,SNR=13
GEYT LR LR 15 27 19.4
comp=Z,56nm,20.5s,baz=15,slow=39
IBAF Bafgh 72.79 303 *e*P P 14 51 35.3 -3.6
BILL Bilibino 73.77 15⇓ *i*P **P 14 51 44.0 +0.3**
BILL *i* 14 51 59.7
BILL *i* 14 54 30.6
BILL pmax pmax
comp=Z,13nm,1.7s
BILL Bilibino 73.77 15 P **P 14 51 42.6 -1.1**
comp=Z,24nm,1.4s
AB31 Akbulak array 74.22 322 *i*P **P 14 51 46.0 -0.7**
AB31 pmax pmax
comp=Z,13nm,0.5s
ABKAR Akbulak array 74.22 322 *e*P **P 14 51 45.0 -1.8**
comp=Z,22nm,0.7s
IPAR Pars 74.62 301 *e*P P 14 51 45.6 -4.2
IANJ Anjilo 74.90 307 *e*P **P 14 51 49.0 -2.3**
IKAZ Kazeroun 75.64 301 *e*P **P 14 51 52.7 -3.0**
AKTO Aktyubinsk 75.79 323 P **P 14 51 54.1 -1.6**
AKTO pmax pmax
comp=Z,42nm,0.6s
IFIR Firoozkooh 75.86 307 *e*P **P 14 51 54.1 -2.7**
IKLH Kolahrood 76.42 304 *e*P **P 14 51 59.2 -0.8**
SVE Sverdlovsk 76.51 329⇑ *i*P **P 14 51 58.7 -0.9**
SVE pmax pmax
comp=Z,48nm,0.9s
IPIR Pirpir 76.89 304 *e*P P 14 51 59.2 -3.5
ARU Arti 77.44 329 P **P 14 52 03.2 -1.7**
comp=Z,219nm,0.9s,SNR=20
ARU Arti 77.44 329*d i*P **P 14 52 03.5 -1.4**
ARU 14 54 54.3
ARU S **S 15 01 50.9 +0.3**
ARU pmax pmax
comp=Z,50nm,1.2s
ARU Arti 77.44 329 *e*P **P 14 52 02.1 -2.8**
comp=Z,34nm,0.9s
ABPO Ambohimpanom 78.48 251 *e*P **P 14 52 11.5 -0.2**
ABPO pmax pmax
comp=Z,7.0nm,0.6s
ABPO Ambohimpanom 78.48 251 *e*P **P 14 52 11.5 -0.2**
comp=Z,6.6nm,0.6s
GAMB Gambell 78.65 24 *e*P **P 14 52 12.9 +1.6**
comp=Z,32nm,1.0s
SOKR Solikamsk 79.39 331 *e*P **P 14 52 14.1 -1.4**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,240nm,20.0s
MAW Mawson 79.50 200 LR LR 15 22 13.1
comp=Z,183nm,21.9s,baz=60,slow=32
VNDA Vanda 79.72 172 P **P 14 52 17.4 +0.3**
comp=Z,3.2nm,0.8s,baz=321,slow=5.2,SNR=12
VNDA LR LR 15 27 38.0
comp=Z,103nm,19.6s,baz=330,slow=36
IKOM Komasi 79.89 305 *e*P **P 14 52 16.8 -2.3**
RAYN Ar Rayn 80.58 294 P **P 14 52 21.0 -1.9**
comp=Z,62nm,0.7s,SNR=8.2
RAYN Ar Rayn 80.58 294 *e*P **P 14 52 20.9 -1.9**
comp=Z,7.6nm,0.8s
TNA Tin City 80.84 23 *e*P **P 14 52 23.1 -0.2**
comp=Z,17nm,1.1s
IDHR Dehrash 80.88 305 *e*P **P 14 52 21.4 -3.0**
IMRD Marand 81.89 309 *e*P **P 14 52 29.5 -0.2**
DGRG David-gareji 82.47 312 P **P 14 52 32.3 -0.2**
GNI Garni 82.80 310*c e*P **P 14 52 34.6 +0.3**
GNI pmax pmax
comp=Z,14nm,1.2s
GNI Garni 82.80 310 P **P 14 52 34.6 +0.3**
comp=Z,2.3nm,0.3s,baz=267,slow=2.1,SNR=6.1
GNI Garni 82.80 310 *e*P **P 14 52 33.0 -1.3**
comp=Z,22nm,0.9s
TBLG Delisi 82.98 312 P **P 14 52 35.3 +0.3**
GUDG Gudauri 83.26 313 P **P 14 52 37.2 +0.5**
ZEI Tsey 83.71 313 *e*P **P 14 52 37.2 -1.9**
ZEI pmax pmax
comp=Z,52nm,1.3s
AKH Akhalkalaki 83.88 312 P **P 14 52 40.8 +0.9**
NCK Nalchik 84.01 314⇑ *i*P **P 14 52 40.3 0.0**
ONI Oni 84.02 313 P P 14 52 37.2 -3.2
KBZ Khabaz 84.54 314 P **P 14 52 42.6 -0.3**
comp=Z,14nm,0.8s,baz=111,slow=3.2,SNR=47
KBZ LR LR 15 35 03.8
comp=Z,19nm,20.1s,baz=90,slow=39
GOF Gofitskoye 84.57 315 *e*P **P 14 52 43.5 +0.4**
NEY Neytrino 84.62 313 *i*P **P 14 52 44.5 +0.9**
KIV Kislovodsk 84.71 314 *e*P **P 14 52 44.2 +0.2**
KIV pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 84.71 314 *e*P **P 14 52 44.0 +0.1**
comp=Z,16nm,0.8s
CHVG Ch'k'valeri 85.04 313 P **P 14 52 46.2 +0.7**
PRGR Permogore 85.22 332 *e*P **P 14 52 44.8 -1.1**
PRGR pmax pmax
comp=Z,91nm,1.0s
PPT Papeete 85.44 107 LR LR 15 31 17.2
comp=Z,35nm,18.3s,baz=343,slow=36
PPT2 Papeete2 85.44 108 *e*LR LR 15 19 22.0
comp=Z,113nm,25.2s
KDAK Kodiak Island 86.08 32 *i*P **P 14 52 52.0 +1.7**
VRHR Novokhopersk 86.09 321 *e*P **P 14 52 48.9 -1.6**
VRHR pmax pmax
comp=Z,60nm,0.6s
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,60nm,0.7s
SFNV Sufian 86.12 306 *i*P **P 14 52 51.7 +0.6**
SOC Sochi 86.83 313 *e*P **P 14 52 53.2 -2.0**
SOC *e* 14 56 19.0
SOC *e*S **SKSac 15 03 13.3 -2.7**
SOC pmax pmax
comp=Z,14nm,0.6s
KSRV Kasrt alli 86.99 306 *i*P **P 14 52 54.3 -1.0**
VORD Divnogorie 87.55 321 *e*P **P 14 52 55.3 -2.3**
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,40nm,0.9s
MALT Malatya 87.55 308⇓ *i*P **P 14 52 59.0 +0.9**
MALT Malatya 87.55 308⇓ *i*P **P 14 52 59.0 +0.9**
VSR Storozhevoye 87.64 321 *e*P **P 14 52 55.9 -2.2**
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,6.0nm,0.7s

VSR pmax pmax
comp=E,30nm,1.3s
KMBO Kilima Mbogo 87.87 269 *e*P **P 14 53 01.1 +0.8**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 87.87 269 P **P 14 53 01.1 +0.8**
comp=Z,18nm,0.8s,baz=71,slow=6.8,SNR=39
KMBO LR LR 15 31 32.9
comp=Z,88nm,19.1s,baz=95,slow=35
KMBO Kilima Mbogo 87.87 269 *e*P **P 14 53 01.1 +0.8**
comp=Z,7.2nm,1.0s
COLD Coldfoot 88.14 23 *e*P **P 14 53 01.4 +1.3**
comp=Z,23nm,1.0s
ZALF Zalf 88.27 303 *i*P **P 14 53 00.9 -0.6**
MCK McKinley 88.41 26 *e*P **P 14 53 00.9 -0.6**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 88.41 26 *e*P **P 14 53 00.9 -0.6**
comp=Z,21nm,1.1s
ANN Anapa 88.53 315 *d*/P **P 14 53 01.4 -1.0**
ANN *e**PP **pP 14 53 19.1 -1.1**
ANN *e* 14 56 29.1
ANN *e* 15 03 24.2
ANN pmax pmax
comp=Z,92nm,0.8s
ASF Jabal al Asfar 88.62 302 P **P 14 53 03.7 +0.4**
comp=Z,14nm,0.8s,baz=84,slow=2.7,SNR=17
SALA Sala 88.78 303 *i*P **P 14 53 02.2 -1.9**
MOS Moscow 88.78 326 *e*P P 14 52 59.4 -3.9
MOS pmax pmax
comp=Z,94nm,0.8s
TMCR Tamitsa 88.94 334 *e*P **P 14 53 02.2 -1.7**
TMCR *e* 14 56 36.4
TMCR pmax pmax
comp=Z,30nm,0.8s
COLA College 88.94 25 P **P 14 53 03.5 -0.4**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 88.94 25 P **P 14 53 03.5 -0.4**
comp=Z,3.9nm,0.8s
MARH Ras Al Marh 89.01 304 *i*P **P 14 53 06.2 +0.8**
HAWK Haweek 89.08 304 *i*P **P 14 53 04.9 -0.4**
ILAR Eielson Array 89.35 25 P **P 14 53 05.0 -0.9**
comp=Z,3.3nm,0.6s,baz=244,slow=5.0,SNR=53
ILAR PP **PP 14 56 33.8 -3.5**
comp=Z,1.2nm,1.0s,baz=255,slow=6.0,SNR=5.2
ILAR PKKPbc **PKKPbc 15 10 42.5 -1.9**
comp=Z,0.4nm,0.7s,baz=104,slow=1.3,SNR=5.9
OBN Obninsk 89.37 325 *c*/P **P 14 53 04.9 -1.2**
OBN pmax pmax
comp=Z,99nm,1.2s
OBN MLR MLR
comp=Z,60nm,18.0s
OBN Obninsk 89.37 325 P **P 14 53 05.0 -1.0**
comp=Z,67nm,0.7s,baz=80,slow=0.7,SNR=22
OBN Obninsk 89.37 325 *e*P **P 14 53 04.1 -2.0**
comp=Z,106nm,0.9s
QSPA South Pole Qui 89.70 180 P **P 14 53 07.9 +0.3**
comp=Z,7.1nm,0.7s,baz=295,slow=1.4,SNR=46
QSPA LR LR 15 33 29.6
comp=Z,161nm,20.2s,baz=342,slow=36
QSPA South Pole Qui 89.70 180 *e*P **P 14 53 07.0 -0.6**
comp=Z,8.1nm,0.8s
MMAI Mount Meron Ar 89.90 303 P **P 14 53 09.0 -0.2**
comp=Z,9.6nm,0.7s,baz=116,slow=1.9,SNR=13
PAX Paxson 89.94 27 *e*P **P 14 53 09.3 +0.6**
PAX pmax pmax
comp=Z,18nm,1.1s
PAX Paxson 89.94 27 *e*P **P 14 53 09.3 +0.6**
comp=Z,18nm,1.1s
LVZ Lovozero 90.40 338 *c*e P **P 14 53 09.0 -1.7**
LVZ pmax pmax
comp=Z,42nm,2.5s
DOT Dot Lake 90.57 27 *e*P **P 14 53 11.7 0.0**
comp=Z,11nm,0.8s
SIM Simferopol' 90.89 315 *e*P **P 14 53 12.0 -1.4**
SIM pmax pmax
comp=Z,20nm,1.0s
BRTR Keskin Array B 91.30 310 P **P 14 53 14.6 -1.1**
comp=Z,4.0nm,0.7s,baz=125,slow=4.5,SNR=18
BRTR LR LR 15 44 08.4
comp=Z,18nm,18.1s,baz=87,slow=42
CSS Prodhromos 91.61 305 *e*P **P 14 53 16.5 -0.5**
comp=Z,4.8nm,0.8s
JOF Joensuu 91.96 333 *e*P P 14 53 14.5 -3.5
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 91.96 333 *e*p P 14 53 14.5 -3.5
comp=Z,12nm,0.6s
KEV Kevo 93.04 340 *e*P **P 14 53 20.4 -2.4**
KEV pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 93.04 340 *e*p **P 14 53 20.4 -2.4**
comp=Z,3.7nm,0.8s
ARCES ARCESS Array B 93.59 340 P **P 14 53 23.7 -1.7**
comp=Z,8.7nm,0.9s,baz=94,slow=4.9,SNR=14
HYT Haines Junctio 93.81 29 *e*P **P 14 53 28.0 +1.3**
AKASG Malin Array Be 93.93 321 P **P 14 53 25.7 -1.6**
comp=Z,5.7nm,0.7s,baz=69,slow=4.4,SNR=53
AKASG LR LR 15 40 23.3
comp=Z,40nm,19.8s,baz=70,slow=38
KIEV Kiev 93.94 321 *c*/P **P 14 53 25.7 -1.7**
KIEV Kiev 93.94 321 *e*P **P 14 53 24.4 -3.0**
comp=Z,9.4nm,0.9s
KAF Kangasniemi 94.34 332 *e*P **P 14 53 25.9 -3.1**
KAF pmax pmax
comp=Z,6.0nm,0.7s
KAF Kangasniemi 94.34 332 *e*p **P 14 53 25.9 -3.1**
comp=Z,6.2nm,0.7s
INK Inuvik 94.42 21 P **P 14 53 29.4 +0.2**
baz=290,slow=5.3
FINES FINESS Array B 94.54 332 P **P 14 53 28.3 -1.6**
comp=Z,4.3nm,0.7s,baz=108,slow=6.2,SNR=23
FINES LR LR 15 39 10.1
comp=Z,86nm,20.4s,baz=70,slow=38
TIRR Tirgusor 94.97 314 ⇑P **P 14 53 31.5 -0.8**
TIRR Tirgusor 94.97 314 ⇑/P **P 14 53 31.5 -0.8**
IDID Didziasalis 94.98 325 *e*P **P 14 53 31.2 -0.8**
IDID AMB AMB 14 53 32.1
comp=Z,11nm,1.0s
NACGM Naroch 95.00 325 *e* P 14 53 28.0 -4.2
CFR Carcaliu 95.11 315 ⇓P **P 14 53 32.1 -0.8**
CFR Carcaliu 95.11 315 ⇓/P **P 14 53 32.1 -0.8**
TLB Topalu 95.22 315 ⇑P **P 14 53 32.2 -1.2**
TLB Topalu 95.22 315 ⇑/P **P 14 53 32.2 -1.2**
IIGN Ignalina 95.27 325 *e*P **P 14 53 32.5 -0.8**
IIGN AMB AMB 14 53 33.4
comp=Z,11nm,1.1s
ISAL Salakas 95.29 326 *e*P **P 14 53 32.6 -0.8**
ISAL AMB AMB 14 53 34.5
comp=Z,20nm,1.1s
TESR Tescani 96.02 317 ⇑/P **P 14 53 36.7 -0.3**
VRI Vrincioaia 96.03 316 ⇑P **P 14 53 37.2 +0.1**
VRI Vrincioaia 96.03 316 ⇑/P **P 14 53 37.2 +0.1**
PLOR Plostina 96.08 316 ⇑P **P 14 53 37.3 -0.1**
PLOR Plostina 96.08 316 ⇑/P **P 14 53 37.3 -0.1**
JMB Yambol 96.47 313 ⇓P P 14 53 43.0 +3.8
JMB Yambol 96.47 313 ⇓/P P 14 53 43.0 +3.8
MLR Muntele Rosu 96.61 316 ⇓/P **P 14 53 39.4 -0.6**
MLR Muntele Rosu 96.61 316 P **P 14 53 39.3 -0.6**
comp=Z,2.0nm,0.7s,baz=14,slow=1.8,SNR=20
LSZ Lusaka 96.64 255 *e*P **P 14 53 40.1 -0.5**
LSZ pmax pmax
comp=Z,7.0nm,0.7s
LSZ Lusaka 96.64 255 *e*P **P 14 53 40.1 -0.5**
comp=Z,7.1nm,0.7s
BURAR Bucovina Array 96.86 318 ⇓P **P 14 53 40.6 -0.4**
BURAR Bucovina Array 96.86 318 ⇓/P **P 14 53 40.6 -0.4**
SUW Suwalki 97.21 324 *e*P **P 14 53 41.7 -0.5**
SUW Suwalki 97.21 324 *e*P **P 14 53 41.6 -0.6**
VOIR 97.25 316 ⇓P **P 14 53 41.7 -1.0**
VOIR 97.25 316 ⇓/P **P 14 53 41.7 -1.0**
ARR Arges 97.55 316 ⇓/P **P 14 53 43.3 -0.8**
CJR Cluj-Napoca 98.08 317 ⇑P Pdif 14 53 47.2 +0.8
CJR Cluj-Napoca 98.08 317 ⇑/P Pdif 14 53 47.2 +0.8
IDI Anoyia 98.50 306 P **P 14 53 47.6 -1.0**
comp=Z,2.3nm,0.5s,baz=49,slow=3.1,SNR=7.7
BOSA Boshof 98.56 241 LR LR 15 32 52.7
comp=Z,162nm,21.8s,baz=108,slow=32
TRPA Tarpa 98.57 319 ⇑/P **P 14 53 48.3 -0.2**
KOLS Kolonicke sedl 98.62 319 *i*P **P 14 53 48.2 -0.5**
KOLS Kolonicke sedl 98.62 319 PDIF **P 14 53 48.2 -0.5**
UZH Uzhgorod 98.65 319 *e*P **P 14 53 48.3 -0.5**
UZH *i* 14 53 56.9
UZH *e*PP **pP 14 54 02.8 -4.0**

MMB Musomiste 98.69 312 ⇑P **P 14 53 47.9 -1.3**
MMB Musomiste 98.69 312 ⇑/P **P 14 53 47.9 -1.3**
GZR Gura Zlata 98.84 316 ⇓P **P 14 53 49.2 -0.7**
GZR Gura Zlata 98.84 316 ⇓/P **P 14 53 49.2 -0.7**
VTS Vitosha 98.94 313 ⇓P **P 14 53 49.5 -1.0**
VTS Vitosha 98.94 313 ⇓/P **P 14 53 49.5 -1.0**
BEL Belsk 99.03 323 *e*P **Pdif 14 53 50.5 0.0**
BEL Belsk 99.03 323 *e*P **Pdif 14 53 50.4 0.0**
CRVS Cervenica-Dubn 99.15 320 *i*P **Pdif 14 53 51.1 0.0**
CRVS Cervenica-Dubn 99.15 320 PDIF **Pdif 14 53 51.1 0.0**
STHS Stebnicka Huta 99.20 320 *i*P **Pdif 14 53 51.6 +0.3**
STHS Stebnicka Huta 99.20 320 PDIF **Pdif 14 53 51.6 +0.3**
BZS Buzias 99.61 316 ⇓P **Pdif 14 53 52.3 -0.9**
BZS Buzias 99.61 316 ⇓/P **Pdif 14 53 52.3 -0.9**
NIE Niedzica 99.79 320 *e*P **Pdif 14 53 54.3 +0.3**
NIE Niedzica 99.79 320 *e*P **Pdif 14 53 54.4 +0.4**
KECS Kecovo 99.86 319 *i*P **Pdif 14 53 53.6 -0.7**
KECS Kecovo 99.86 319 PDIF **Pdif 14 53 53.6 -0.7**
OJC Ojcow 99.96 321 *e*P **Pdif 14 53 54.4 -0.3**
OJC Ojcow 99.96 321 *e*P **Pdif 14 53 54.6 -0.1**
HFS Hagfors 100.75 332 P **Pdif 14 53 56.1 -1.8**
comp=Z,4.3nm,0.9s,baz=119,slow=5.2,SNR=11
VYHS Vyhne 100.94 319 *i*P **Pdif 14 53 58.4 -0.7**
VYHS Vyhne 100.94 319 PDIF **Pdif 14 53 58.4 -0.7**
OKC Ostrava-Krasne 101.08 321 *e*P **Pdif 14 53 59.6 -0.1**
OKC Ostrava-Krasne 101.08 321 *e*PDIFF **Pdif 14 53 59.6 -0.1**
MORC Moravsky Berou 101.48 321 ⇑P **Pdif 14 54 01.4 -0.1**
MORC Moravsky Berou 101.48 321 ⇑/P **Pdif 14 54 01.4 -0.1**
NB2 NORSAR Subarra 101.59 333 P **Pdif 14 53 59.6 -2.1**
comp=Z,0.2nm,0.7s,baz=73,slow=5.6
NOA NORSAR Array B 101.59 333 P **Pdif 14 53 59.8 -2.0**
comp=Z,2.3nm,0.9s,baz=70,slow=4.6,SNR=7.0
KRLC Kraliky 101.89 321 *e*P **Pdif 14 54 03.3 0.0**
KRLC Kraliky 101.89 321 *e*PDIFF **Pdif 14 54 03.3 0.0**
KSP Ksiaz 102.00 322 *e*P **Pdif 14 54 03.3 -0.4**
DPC Dobruska-Polom 102.10 322 *e*P **Pdif 14 54 03.8 -0.5**
DPC Dobruska-Polom 102.10 322 *e*PDIFF **Pdif 14 54 03.8 -0.5**
VRAC Vranov 102.19 321 P **Pdif 14 54 04.2 -0.4**
comp=Z,0.9nm,0.3s,baz=40,slow=1.8,SNR=3.7
PRU Pruhonice 103.30 322 *e*P **Pdif 14 54 08.8 -0.7**
PRU Pruhonice 103.30 322 *e*PDIFF **Pdif 14 54 08.8 -0.7**
PRU *ex* x 14 54 32.2
BRG Berggiesshubel 103.42 323 P **Pdif 14 54 09.5 -0.6**
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 103.42 323 PDIFF **Pdif 14 54 09.5 -0.6**
comp=Z,8.9nm,1.2s
YKA Yellowknife Ar 103.75 24 Pdiff **Pdif 14 54 10.9 -0.3**
comp=Z,0.6nm,0.6s,baz=298,slow=4.7,SNR=11
YKA PP **PKiKP 14 58 28.7 -0.2**
comp=Z,0.4nm,0.6s,baz=315,slow=2.0,SNR=5.6
YKA PKKPbc **PKKPbc 15 10 02.5 -2.5**
comp=Z,0.6nm,0.7s,baz=106,slow=2.4,SNR=9.4
GERES GERESS Array B 104.15 321 Pdiff **Pdif 14 54 12.0 -1.4**
comp=Z,1.1nm,0.8s,baz=72,slow=4.6,SNR=10
GERES PP **PP 14 58 33.0 +1.3**
comp=Z,0.5nm,0.8s,baz=78,slow=6.2,SNR=3.6
DAVOX Davos/Dischmat 107.23 319 Pdiff **Pdif 14 54 26.4 -0.9**
comp=Z,2.5nm,0.8s,baz=149,slow=8.0,SNR=3.0
NVAR Mina Array Bea 110.72 49 PKiKP **PKiKP 14 58 43.3 +0.3**
comp=Z,0.6nm,0.7s,baz=261,slow=3.5,SNR=3.5
NVAR PP PP 14 59 26.4 +6.0
comp=Z,1.2nm,0.8s,baz=276,slow=10,SNR=4.4
HLID Hailey 111.80 42 P **PKiKP 14 58 47.0 +2.2**
baz=112
EGMT Eagleton 112.91 37 P **PKiKP 14 58 47.9 +1.3**
baz=113
B20A Solberg Farm, 113.73 36 P **PKiKP 14 58 48.5 +0.3**
baz=114
C20A Veseth Ranch, 114.09 36 P PKPdf 14 58 50.0 +1.2
baz=114
G20A Bridger 115.14 39 P **PKPdf 14 58 52.1 +1.0**
baz=115
C22A Vida 115.32 35 P **PKPdf 14 58 52.6 +1.3**
baz=115
PDAR Pinedale Array 115.37 42 PKP **PKPdf 14 58 52.2 +0.5**
comp=Z,1.0nm,1.0s,baz=225,slow=1.9,SNR=5.8
PDAR PP **PP 14 59 56.0 +2.9**
comp=Z,0.6nm,0.9s,baz=298,slow=3.2,SNR=3.7
PDAR PKKPbc **PKKPab 15 09 31.6 -0.4**
comp=Z,0.7nm,0.7s,baz=111,slow=8.1,SNR=5.2
B23A Brockton 115.46 34 P **PKPdf 14 58 52.5 +1.0**
baz=115
C23A Lambert 115.69 35 P **PKPdf 14 58 53.4 +1.5**
baz=116
A24A Westby 115.76 34 P **PKPdf 14 58 52.4 +0.4**
baz=116
FRB Frobisher Bay 115.84 7 PKP **PKPdf 14 58 51.8 +0.1**
comp=Z,2.2nm,0.8s,baz=256,slow=3.2,SNR=3.4
J20A Shoshoni 116.08 41 P **PKPdf 14 58 53.6 +0.6**
baz=116
G22A Birney 116.34 38 P **PKPdf 14 58 54.1 +0.8**
baz=116
J21A Lysite 116.50 40 P **PKPdf 14 58 53.8 0.0**
baz=116
E24A Baker 116.85 36 P **PKPdf 14 58 55.5 +1.3**
baz=117
A26A Wade Farm, Ken 116.86 33 P **PKPdf 14 58 55.2 +1.1**
baz=117
G23A Biddle 116.90 38 P **PKPdf 14 58 55.4 +1.0**
baz=117
K21A Alcova 116.95 41 P **PKPdf 14 58 55.4 +0.6**
baz=117
N20A Spence Gulch, 117.08 43 P **PKPdf 14 58 56.1 +1.1**
baz=117
J22A Midwest 117.09 40 P **PKPdf 14 58 55.3 +0.4**
baz=117
F24A Ekalaka 117.14 37 P **PKPdf 14 58 55.9 +1.1**
baz=117
O20A White River Ci 117.39 44 P **PKPdf 14 58 57.3 +1.7**
baz=117
C26A Wahner Farm, P 117.43 34 P **PKPdf 14 58 55.9 +0.6**
baz=117
H24A Dirks Ranch, A 117.64 38 P **PKPdf 14 58 55.9 0.0**
baz=118
A28A Rude Farm, Bot 117.80 32 P **PKPdf 14 58 56.1 +0.2**
baz=118
M22A Cedar Creek Ra 117.95 42 P **PKPdf 14 58 57.2 +0.4**
baz=118
I24A Kuemmerle Ranc 118.05 39 P **PKPdf 14 58 56.6 -0.1**
baz=118
G25A Newell 118.10 37 P **PKPdf 14 58 57.0 +0.3**
baz=118
F26A Lodgepole 118.19 36 P **PKPdf 14 58 57.6 +0.8**
baz=118
A29A Manning Farm, 118.34 32 P **PKPdf 14 58 57.6 +0.6**
baz=118
K24A Anderson Ranch 118.49 40 P **PKPdf 14 58 58.2 +0.6**
baz=118
I25A Rochford 118.52 38 P **PKPdf 14 58 58.3 +0.6**
baz=118
G26A Maurine 118.54 36 P **PKPdf 14 58 58.2 +0.7**
baz=118
A30A Hoffart Farm, 118.81 31 P **PKPdf 14 58 58.3 +0.5**
baz=119
G27A Dupree 118.89 36 P **PKPdf 14 58 59.0 +0.9**
baz=119
O23A Lake Granby, G 118.95 43 P **PKPdf 14 59 00.2 +1.4**
baz=119
ULM Lac du Bonnet 119.19 29 PKP **PKPdf 14 58 58.2 -0.3**
comp=Z,3.2nm,0.7s,baz=254,slow=0.8,SNR=7.5
H27A Howes 119.20 37 P **PKPdf 14 58 59.5 +0.7**
baz=119
C30A Mose, Pekin 119.48 32 P **PKPdf 14 58 59.7 +0.5**
baz=119
I27A Quinn 119.52 37 P **PKPdf 14 58 60.0 +0.5**
baz=119
K26A Motz Farm, Whi 119.54 39 P **PKPdf 14 59 00.0 +0.4**
baz=120
G28A Parade 119.65 36 P **PKPdf 14 59 00.1 +0.4**
baz=120
D30A Buchanan 119.69 33 P **PKPdf 14 59 00.2 +0.6**
baz=120
H28A Mission Ridge 119.81 36 P **PKPdf 14 59 00.6 +0.7**
baz=120
F29A Eureka 119.85 35 P **PKPdf 14 59 00.6 +0.6**
baz=120
E30A Jud 119.97 34 P **PKPdf 14 59 00.7 +0.5**
baz=120
I28A Midland 120.10 37 P **PKPdf 14 59 01.1 +0.5**
baz=120
I29A Vivian Onida 120.60 37 P **PKPdf 14 59 02.0 +0.5**
baz=120
G30A Faulkton 120.65 35 P **PKPdf 14 59 01.8 +0.2**
baz=121
P26A Davis Ranch, A 121.00 42 P **PKPdf 14 59 03.8 +1.2**
baz=121
J30A Dallas 121.48 37 P **PKPdf 14 59 03.4 +0.2**
baz=121
W24A Lazy 6 Ranch, 121.52 48 P **PKPdf 14 59 05.3 +1.5**
baz=122
V25A Rancho No Teng 121.83 47 P **PKPdf 14 59 05.9 +1.6**
baz=122
S26A Kim 121.84 45 P **PKPdf 14 59 05.2 +1.0**
baz=122
T26A Comanche Natio 121.97 45 P **PKPdf 14 59 05.9 +1.4**
baz=122
W25A X Bar L Ranch, 122.22 47 P **PKPdf 14 59 06.3 +1.3**
baz=122
TORD Torodi Ar. Bea 122.52 285 PKP **PKPdf 14 59 05.8 -0.1**
comp=Z,5.7nm,0.7s,baz=64,slow=1.8,SNR=38
TORD PKKPbc **PKKPab 15 09 02.6 +1.9**
comp=Z,2.0nm,0.9s,baz=269,slow=4.7,SNR=7.3
R28A Tribune 122.64 43 P **PKPdf 14 59 06.9 +1.3**
baz=123
W26A Owens Ranch, T 122.79 47 P **PKPdf 14 59 06.9 +0.8**
baz=123
U27A Thompson Grove 122.86 45 P **PKPdf 14 59 07.2 +1.0**
baz=123
Q29A Oakley 122.93 42 P **PKPdf 14 59 07.0 +0.8**
baz=123
ECSD EROS Data Cent 122.94 35 P **PKPdf 14 59 06.5 +0.5**
baz=123
ECSD EROS Data Cent 122.94 35 *e*PKPdf **PKPdf 14 59 06.0 0.0**
MNTX Cornudas Mount 122.97 52 P **PKPdf 14 59 07.9 +1.5**
baz=123
T28A Walsh 123.03 44 P **PKPdf 14 59 08.0 +1.5**
baz=123
R29A Marienthal 123.06 43 P **PKPdf 14 59 08.1 +1.7**
baz=123
BGNE Belgrade 123.39 38 P **PKPdf 14 59 07.3 +0.4**
baz=123
P31A Stockton 123.66 41 P **PKPdf 14 59 07.9 +0.4**
baz=124
O32A Brockman Farm, 123.96 39 P **PKPdf 14 59 08.9 +0.9**
baz=124
USHA Ushuaia 123.99 171 PKP **PKPdf 14 59 09.5 +1.9**
comp=Z,2.5nm,0.6s,baz=152,slow=4.9,SNR=4.7
SPMN Marine on St. 124.08 32 P **PKPdf 14 59 09.1 +1.0**
baz=124
X28A Dimmitt 124.19 47 P **PKPdf 14 59 10.7 +1.9**
baz=124
Q32A Meitler Ranch, 124.48 41 P **PKPdf 14 59 09.7 +0.6**
baz=124
SCHQ Schefferville 124.70 8 PKP **PKPdf 14 59 10.0 +1.0**
comp=Z,7.2nm,0.7s,baz=319,slow=1.7,SNR=14
Z29A Hungry Hill Ra 125.13 48 P **PKPdf 14 59 11.5 +1.0**
baz=125
X30A Coker Ranch, T 125.20 47 P **PKPdf 14 59 11.8 +1.2**
baz=125
R33A Olander Ranch, 125.23 41 P **PKPdf 14 59 11.7 +1.1**
baz=125
TXAR Lajitas Array 125.25 54 PKP **PKPdf 14 59 12.4 +1.5**
comp=Z,2.1nm,0.8s,baz=211,slow=1.1,SNR=19
T33A Patterson Ranc 125.72 43 P **PKPdf 14 59 13.0 +1.5**
baz=126
529A Stev Forest Ra 126.09 52 P **PKPdf 14 59 14.1 +1.6**
baz=126
429A Davenport Ranc 126.14 51 P **PKPdf 14 59 13.9 +1.3**
baz=126
430A Baggett Ranch, 126.58 51 P **PKPdf 14 59 14.7 +1.3**
baz=127
Z32A Haskell 126.76 47 P **PKPdf 14 59 15.1 +1.5**
baz=127
530A J-C Ranch, Com 126.77 52 P **PKPdf 14 59 15.1 +1.3**
baz=127
231A Bronte 126.78 49 P **PKPdf 14 59 14.9 +1.2**
baz=127
431A Sonora 127.11 51 P **PKPdf 14 59 15.4 +1.0**
baz=127
531A Rocksprings 127.39 51 P **PKPdf 14 59 16.5 +1.5**
baz=127
332A Millersview 127.46 49 P **PKPdf 14 59 16.8 +1.8**
baz=127
631A Perdido Creek 127.69 52 P **PKPdf 14 59 16.9 +1.4**
baz=128
JCT Junction City 127.83 51 *e*PKIKP **PKPdf 14 59 16.2 +0.4**
JCT Junction City 127.83 51 P **PKPdf 14 59 17.1 +1.4**
baz=128
JCT Junction City 127.83 51 *e*PKPdf **PKPdf 14 59 16.2 +0.4**
532A Rocksprings 127.90 51 P **PKPdf 14 59 17.2 +1.2**
baz=128
333A Richland Sprin 128.06 49 P **PKPdf 14 59 16.9 +0.7**
baz=128
433A Art 128.25 50 P **PKPdf 14 59 17.7 +1.2**
baz=128
832A Faith Ranch, C 128.64 53 P **PKPdf 14 59 19.3 +2.0**
baz=129
434A Burnet 128.84 49 P **PKPdf 14 59 19.4 +1.7**
baz=129
534A Blanco 129.05 50 P **PKPdf 14 59 19.2 +1.1**
baz=129
833A Chaparral WMA, 129.09 53 P **PKPdf 14 59 20.3 +2.1**
baz=129
DBIC Dimbokro 129.70 278 PKP **PKPdf 14 59 20.1 +0.5**
comp=Z,1.9nm,0.6s,baz=250,slow=1.8,SNR=4.6
WVT Waverly 132.98 37 *e*PKIKP **PKPdf 14 59 25.9 +0.6**
WVT Waverly 132.98 37 *e*PKPdf **PKPdf 14 59 25.9 +0.6**
TKL Tuckaleechee C 135.67 34 *e*PKIKP **PKPdf 14 59 31.2 +0.8**
TKL Tuckaleechee C 135.67 34 *e*PKPdf **PKPdf 14 59 31.2 +0.8**
PLCA Paso Flores 136.80 163 PKP **PKPdf 14 59 33.6 +1.2**
comp=Z,6.4nm,0.9s,baz=222,slow=4.7,SNR=7.4
LCO Las Campanas 147.21 154 *e*PKPbc **PKPbc 14 59 53.7 -0.1**
JTS JuntasAbangare 148.46 71 *e*PKP2 **PKPbc 14 59 58.1 +0.9**
JTS JuntasAbangare 148.46 71 *e*PKPbc **PKPbc 14 59 58.0 +0.9**
LVC Limon Verde 153.49 150 *e*PKPbc **PKPbc 15 00 11.2 +2.1**
LPAZ La Paz 159.00 142 *e*PKIKP **PKPdf 15 00 11.0 +1.7**
LPAZ La Paz 159.00 142 PKP **PKPdf 15 00 10.9 +1.7**
comp=Z,2.3nm,0.9s,baz=292,slow=2.1,SNR=7.2
LPAZ PKPab **PKPab 15 00 48.0 +2.4**
comp=Z,3.4nm,0.7s,baz=188,slow=7.3,SNR=7.5
SDV Santo Domingo 162.10 61 *e*PKPdf **PKPdf 15 00 11.9 -0.3**

IDC 05 14:43:43.2±673.0, 50.84N×51.41E, h0km, Error ellipse: s-maj=336.6km s-min=89.9km az=92.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.24**	**93**	*i*		15 10 20.0	
	baz=278,slow=329,SNR=3.9						
I46RU	**ZALESOVO INFRA**	**20.51**	**68**	*i*		16 51 00.0	
	baz=276,slow=319,SNR=1.1						
I34MN	**SONGINO INFRAS**	**35.28**	**73**	*i*		18 19 10.0	
	baz=295,slow=326,SNR=0.6						

MAN 05 14:43:47, 15.37N×120.95E, h47km, mb4.5, ML3.3, MS3.2, Luzon

IDC 05 14:51:00.0±4.0, 58.85S×160.73E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/24, mbtmp3.6/2, Error ellipse: s-maj=402.3km s-min=73.2km az=55.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**38.72**	**287**	T	T	15 37 25.7	
	baz=137,slow=75,SNR=182						
H01W2	**Cape Leeuwin H**	**38.73**	**287**	T	T	15 37 26.3	
	baz=137,slow=75,SNR=247						
H01W3	**Cape Leeuwin H**	**38.74**	**287**	T	T	15 37 27.1	
	baz=137,slow=75,SNR=230						
ASAR	**Alice Springs**	**39.98**	**320**	P	P	14 58 36.2	+0.1
	0.8nm,0.9s,baz=164,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**43.31**	**322**	P	P	14 59 02.9	-0.5
	0.7nm,0.9s,baz=156,slow=7.0,SNR=6.5						
H08S2	**Diego Garcia H**	**82.60**	**268**	T	T	16 33 32.5	
	baz=144,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**82.61**	**268**	T	T	16 33 31.8	
	baz=144,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**82.62**	**268**	T	T	16 33 31.6	
	baz=144,slow=76,SNR=37						
H08N1	**Diego Carcia H**	**84.47**	**267**	T	T	16 35 56.1	
	baz=138,slow=76,SNR=12						
H08N3	**Diego Garcia H**	**84.48**	**267**	T	T	16 36 00.3	
	baz=138,slow=76,SNR=10						
H08N2	**Diego Garcia H**	**84.50**	**267**	T	T	16 36 03.1	
	baz=138,slow=76,SNR=13						
MKAR	**Makanchi Array**	**123.31**	**306**	PKP	PKPdf	15 09 57.8	0.0
	0.1nm,0.5s,baz=122,slow=1.9,SNR=1.8						

IDC ***05*** *14:56:09.7±1.0,29.°36N×67.°25E, h0km, mb3.7/15, mb1 3.8/16, mb1mx3.6/55, mbtmp3.7/16, ML4.1/1, MS3.3/3, Ms1 3.3/3, ms1mx2.7/43, Error ellipse: s-maj=22.2km s-min=19.6km az=170.0*

ISCJB ***05*** *14:56:14.4±0.6,29.°57N±0.°04×67.°68E±0.°05, h33km, mb3.7/15, MS3.2/2, Error ellipse: s-maj=7.6km s-min=4.5km az=42.2*

NNC ***05*** *14:56:17.0±2.6, 30.°02N×67.°18E, h0km, mb4.0, Error ellipse: s-maj=37.9km s-min=13.9km az=137.0*

ISC 05 14:56:15.2±0.8, 29.°46N±0.°08×67.°51E±0.°06, h35km, n47, σ1§56/54, mb3.6/15, 10C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHET	**Khetri**	**7.41**	**99**	*eP*	**Pn**	**14 58 01.7**	**+0.8**
KHET				*eS*	**Sn**	**14 59 22.6**	**-1.1**
KHET				AML	AML	14 59 23.6	
	comp=E,204nm,0.8s						
KHET				AML	AML	14 59 23.8	
	comp=N,300nm,0.3s						
KUDL	**Kundal**	**7.99**	**97**	*eP*	**Pn**	**14 58 09.1**	**+0.4**
KUDL				*eS*	**Sn**	**14 59 34.8**	**-3.0**
KUDL				AML	AML	14 59 39.2	
	comp=N,33nm,0.4s						
KUDL				AML	AML	14 59 39.8	
	comp=E,24nm,0.3s						
SONA	**Sohna**	**8.48**	**96**	*eP*	**Pn**	**14 58 16.1**	**+0.6**
SONA				*eS*	**Sn**	**14 59 47.9**	**-2.1**
SONA				AML	AML	14 59 52.0	
	comp=N,51nm,0.3s						
SONA				AML	AML	14 59 52.1	
	comp=E,51nm,0.4s						
SMLA	**Simla**	**8.51**	**76**	*i* P	**Pn**	**14 58 17.9**	**+1.9**
SMLA				*i* S	**Sn**	**14 59 52.5**	**+1.8**
SMLA				*i* S	**Sn**	**14 59 52.5**	**+1.8**
NDI	**New Delhi**	**8.53**	**93**	*eP*	**Pn**	**14 58 19.0**	**+2.8**
NDI				*eS*	**Sn**	**14 59 50.0**	**-1.2**
AGRA	**Agra**	**9.46**	**101**	*eS*	**Sn**	**15 00 11.4**	**-2.5**
AGRA				AML	AML	15 00 47.9	
	comp=N,51nm,0.0s						
AGRA				AML	AML	15 00 50.8	
	comp=E,69nm,0.3s						
JOSI	**Joshimath**	**10.50**	**81**	*eP*	Pn	14 58 51.0	+7.6
JOSI				*eS*	Sn	15 00 47.9	+8.0
JOSI				AML	AML	15 01 18.4	
	comp=E,77nm,1.0s						
JOSI				AML	AML	15 01 22.9	
	comp=N,65nm,0.6s						
GEYT	**Alibeck**	**11.51**	**320**	LR	LR	15 03 58.6	
	comp=N,113nm,19.1s,baz=55,slow=41						
SFK	**Sufi-Kurgan**	**11.62**	**23**	⇑Pn	**Pn**	**14 59 00.2**	**+1.5**
	comp=N,1.9nm,0.1s						
SFK				⇑Sn	**Sn**	**15 01 06.3**	**-1.0**
	comp=N,6.3nm,0.5s						
AML	**Almayashu**	**13.60**	**20**	P	**Pn**	**14 59 25.0**	**-0.9**
	SNR=20						
MNAS	**Manas**	**13.61**	**16**	⇓Pn	**Pn**	**14 59 25.1**	**-0.7**
	comp=N,6.5nm,0.9s						
MNAS				⇑Sn	**Sn**	**15 01 53.6**	**-2.2**
	comp=N,2.5nm,0.6s						
PYUN	**Piuthan**	**13.64**	**92**	*eP*	**Pn**	**14 59 25.5**	**-0.9**
	comp=N,60nm,0.5s						
PYUN				*eS*	Sn	15 01 45.0	-12
KK31	**Karatay Array**	**13.83**	**9**	⇑Pn	**Pn**	**14 59 29.1**	**+0.4**
	comp=N,0.3nm,0.3s,baz=231,slow=42,SNR=4.9						
KK31				⇑Sn	**Sn**	**15 01 59.1**	**-1.9**
	comp=N,0.3nm,0.3s,baz=194,slow=23,SNR=3.5						
UCH	**Uchtor**	**13.94**	**22**	P	**Pn**	**14 59 29.8**	**-0.8**
	SNR=8.5						
EKS2	**Erkin-Say**	**14.11**	**19**	P	**Pn**	**14 59 32.3**	**-0.3**
	SNR=7.5						
KOLN	**Koldanda**	**14.23**	**93**	*eP*	**Pn**	**14 59 33.2**	**-1.2**
DANN	**Dangsing**	**14.28**	**90**	*eP*	**Pn**	**14 59 34.3**	**-0.8**
AAK	**Ala-Archa**	**14.30**	**21**	⇑Pn	**Pn**	**14 59 35.0**	**-0.2**
	comp=N,3.0nm,0.5s						
AAK				⇑Sn	**Sn**	**15 02 10.6**	**-2.0**
	comp=N,6.1nm,1.0s						
AAK	**Ala-Archa**	**14.30**	**21**	P	**Pn**	**14 59 35.2**	**0.0**
	SNR=6.5						
AAK	**Ala-Archa**	**14.30**	**21**	Pn	**Pn**	**14 59 35.4**	**+0.1**
	comp=N,0.9nm,0.3s,baz=210,slow=4.1,SNR=18						
AAK				Sn	**Sn**	**15 02 08.2**	**-4.5**
	comp=N,0.1nm,0.3s,baz=343,slow=19,SNR=2.1						
CHMS	**Chumysh**	**14.71**	**21**	P	**Pn**	**14 59 40.0**	**-0.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**14.93**	**24**	⇑Pn	**Pn**	**14 59 43.2**	**-0.5**
	comp=N,4.1nm,0.7s						
TKM2	**Tokmak 2**	**14.93**	**24**	P	**Pn**	**14 59 43.9**	**+0.2**
	SNR=8.1						
GKN	**Gorkha**	**15.10**	**91**	*eP*	**Pn**	**14 59 44.7**	**-1.3**
KKN	**Kakani**	**15.69**	**92**	*eP*	**Pn**	**14 59 52.5**	**-1.4**
PKI	**Pulchoki**	**15.85**	**92**	*eP*	**Pn**	**14 59 53.7**	**-2.2**
GUN	**Gumba**	**16.20**	**91**	*eP*	**Pn**	**14 59 58.6**	**-1.8**
	comp=N,22nm,0.3s						
AB31	**Akbulak array**	**20.60**	**346**	⇑P	**P**	**15 00 51.2**	**+0.1**
	comp=N,5.7nm,1.0s,baz=153,slow=13,SNR=28						
MKAR	**Makanchi Array**	**20.79**	**30**	P	**P**	**15 00 53.9**	**+0.7**
	comp=N,2.7nm,0.7s,baz=210,slow=10,SNR=36						
GNI	**Garni**	**21.47**	**306**	P	**P**	**15 01 02.6**	**+1.8**
	comp=N,2.4nm,0.3s,baz=170,slow=3.7,SNR=5.1						
AKTO	**Aktyubinsk**	**22.14**	**344**	⇑P	**P**	**15 01 07.1**	**-0.6**
	comp=N,4.0nm,1.1s						
AKTO	**Aktyubinsk**	**22.14**	**344**	P	**P**	**15 01 07.7**	**-0.1**
	comp=N,1.4nm,0.7s,baz=150,slow=9.7,SNR=6.2						
KURBB	**Kurchatov Arra**	**22.71**	**18**	P	**P**	**15 01 13.6**	**-0.1**
	comp=N,3.2nm,0.8s,baz=210,slow=9.7,SNR=22						
BVAR	**Borovoye Array**	**23.64**	**4**	P	**P**	**15 01 23.1**	**+0.1**
	comp=N,1.0nm,0.6s,baz=179,slow=9.3,SNR=7.2						
ZALV	**Zalesovo Beam**	**27.52**	**22**	P	**P**	**15 02 01.2**	**+2.9**
	comp=N,0.7nm,0.4s,baz=224,slow=12,SNR=6.1						
MMAI	**Mount Meron Ar**	**27.62**	**286**	LR	LR	15 15 05.2	
	comp=N,76nm,18.6s,baz=25,slow=41						
BRTR	**Keskin Array B**	**29.55**	**299**	LR	LR	15 15 43.0	
	comp=N,56nm,19.9s,baz=84,slow=40						
SONM	**Songino Array**	**35.02**	**47**	P	**P**	**15 03 06.3**	**+1.9**
	comp=N,0.8nm,0.9s,baz=246,slow=8.5,SNR=6.4						
AKASG	**Malin Array Be**	**35.62**	**317**	P	**P**	**15 03 07.3**	**-2.0**
	comp=N,0.1nm,0.2s,baz=103,slow=7.2,SNR=8.6						
GERES	**GERESS Array B**	**44.97**	**311**	P	**P**	**15 04 26.4**	**-0.5**
	comp=N,0.3nm,0.5s,baz=101,slow=6.9,SNR=3.9						
ARCES	**ARCESS Array B**	**46.69**	**341**	P	**P**	**15 04 40.0**	**-0.1**
	comp=N,3.1nm,0.8s,baz=120,slow=7.2,SNR=8.7						
KSRS	**Korea Array**	**50.28**	**64**	P	**P**	**15 05 09.4**	**+1.2**
	comp=N,0.4nm,0.7s,baz=270,slow=7.4,SNR=2.2						
SEY	**Seymchan**	**61.92**	**31**	P	**P**	**15 06 32.3**	**+1.4**
	comp=N,1.0nm,0.8s,baz=271,slow=6.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**62.70**	**270**	P	**P**	**15 06 35.1**	**-1.8**
	comp=N,1.8nm,0.7s,baz=58,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**80.97**	**119**	P	**P**	**15 08 27.5**	**+1.0**
	comp=N,0.3nm,0.8s,baz=320,slow=4.7,SNR=1.3						
ASAR	**Alice Springs**	**82.82**	**122**	P	**P**	**15 08 36.4**	**+0.2**
	comp=N,0.2nm,0.6s,baz=313,slow=5.2,SNR=4.4						
YKA	**Yellowknife Ar**	**88.36**	**1**	P	**P**	**15 09 03.6**	**+0.6**
	comp=N,0.6nm,0.7s,baz=351,slow=4.9,SNR=16						

ISCJB ***05*** *15:01:41.4±0.8, 32.°48N±0.°04×115.°62W±0.°03, h6km±7km, Error ellipse: s-maj=6.0km s-min=4.6km az=3.9*

NEIC ***05*** *15:01:42.5, 32.°42N×115.°64W, h0km, MD3.9(MEX), ML3.6(PAS), After PAS.*

MEX ***05*** *15:01:44.6±0.5, 32.°51N×115.°59W, h7km±20km, MD3.5*

ISC 05 15:01:42.6±1.2, 32.°45N±0.°03×115.°64W±0.°03, h10km±11km, n20, σ1§14/34, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBX	**Cerro Bola**	**0.88**	**262**	*eP*	**Pg**	**15 01 59.9**	**+0.4**
CBX				*eS*	**Sb**	**15 02 12.4**	**+0.6**
CBX	**Cerro Bola**	**0.88**	**262**	*eP*	**Pg**	**15 01 59.9**	**+0.4**
CBX				*eS*	**Sb**	**15 02 12.4**	**+0.6**
BAR	**Barrett**	**0.90**	**285**	*eP*	**Pg**	**15 02 00.2**	**+0.2**
BAR				*eSg*	**Sg**	**15 02 11.2**	**-0.5**
GLA	**Glamis**	**0.91**	**48**	*eP*	**Pg**	**15 01 59.4**	**-0.8**
GLA				*eSg*	**Sg**	**15 02 11.4**	**-0.7**
PFO	**Pinyon Flats O**	**1.35**	**330**	*eP*	**Pn**	**15 02 05.8**	**-1.7**
PFO				*eS*	**Sb**	**15 02 22.3**	**-3.1**
SPIG	**San Pedro Mart**	**1.41**	**174**	*eP*	**Pn**	**15 02 08.7**	**+0.1**
SPIG				*eS*	**Sn**	**15 02 26.2**	**-1.1**
SPIG	**San Pedro Mart**	**1.41**	**174**	*eP*	**Pn**	**15 02 08.7**	**+0.1**
SPIG				*eS*	**Sn**	**15 02 26.2**	**-1.1**
214A	**Organ Pipe Nat**	**2.45**	**101**	*ePn*	**Pn**	**15 02 21.5**	**-1.1**
214A				*ePg*	**Pg**	**15 02 30.8**	**+1.3**
LDFC	**Landfair**	**2.66**	**9**	*ePn*	**Pn**	**15 02 26.3**	**+0.7**
MWC	**Mount Wilson**	**2.69**	**312**	Pn	**Pn**	**15 02 25.7**	**-0.4**
MWC				*ePg*	**Pb**	**15 02 31.4**	**+0.4**
MWC				*eSg*	**Sb**	**15 03 05.3**	**+1.2**
PASC	**Pasadena Art C**	**2.74**	**310**	*ePg*	**Pb**	**15 02 31.8**	**+0.1**
PASC				*eSg*	**Sb**	**15 03 06.6**	**+1.3**
GSC	**Goldstone, Bar**	**3.01**	**342**	*ePn*	**Pn**	**15 02 30.2**	**-0.1**
GSC				*ePg*	**Pg**	**15 02 40.2**	**0.0**
ISA	**Isabella, Lake**	**3.98**	**325**	*ePn*	**Pn**	**15 02 44.3**	**+0.6**
SHPR	**Sheep Range**	**4.07**	**5**	Pn	**Pn**	**15 02 45.2**	**+0.2**
SHPR				*ePg*	**Pg**	**15 03 01.4**	**+0.8**
TUC	**Tucson**	**4.11**	**91**	*ePn*	**Pn**	**15 02 45.0**	**-0.6**
TUC				*eSg*	**Sg**	**15 03 53.3**	**-1.3**
CCUT	**Cedar City**	**5.42**	**20**	*ePn*	**Pn**	**15 03 05.2**	**+1.5**
	3.3nm,0.5s						
W18A	**Petrified Fore**	**5.59**	**60**	*ePn*	**Pn**	**15 03 07.4**	**+1.4**
	18nm,0.5s						
121A	**Cookes Peak, D**	**6.64**	**87**	*ePn*	**Pn**	**15 03 20.1**	**-0.3**
	6.2nm,0.4s						
LENM	**Lemitar**	**7.45**	**74**	*ePn*	**Pn**	**15 03 32.4**	**+0.8**
	3.4nm,0.3s						
MVCO	**Mesa Verde**	**7.55**	**49**	P	**Pn**	**15 03 35.7**	**+2.7**
	6.1nm,0.6s						

ISCJB ***05*** *15:04:17.3±0.6, 32.°26N±0.°04×115.°28W±0.°06, h17km, Error ellipse: s-maj=7.5km s-min=5.4km az=24.4*

NEIC ***05*** *15:04:17.5, 32.°18N×115.°30W, h11km, MD3.8(MEX), ML3.9(PAS), After PAS.*

MEX ***05*** *15:04:20.5±0.4, 32.°28N×115.°25W, h24km±173km, MD3.8*

ISC 05 15:04:17.1±0.9, 32.°21N±0.°04×115.°31W±0.°04, h17km, n13, σ1§49/21, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**0.93**	**26**	*eP*	**Pb**	**15 04 34.7**	**-0.2**
GLA				*eSg*	**Sb**	**15 04 45.4**	**-1.6**
CBX	**Cerro Bola**	**1.15**	**275**	*eP*	**Pb**	**15 04 39.1**	**+0.3**
CBX				*eS*	**Sb**	**15 04 53.3**	**-0.1**
CBX	**Cerro Bola**	**1.15**	**275**	*eP*	**Pb**	**15 04 39.1**	**+0.3**
CBX				*eS*	**Sb**	**15 04 53.3**	**-0.1**
SPIG	**San Pedro Mart**	**1.17**	**187**	*eP*	**Pb**	**15 04 39.6**	**+0.4**
SPIG				*eS*	**Sg**	**15 04 55.4**	**+0.2**
SPIG	**San Pedro Mart**	**1.17**	**187**	*eP*	**Pb**	**15 04 39.6**	**+0.4**
SPIG				*eS*	**Sg**	**15 04 55.4**	**+0.2**
PFO	**Pinyon Flats O**	**1.69**	**326**	*ePn*	**Pn**	**15 04 44.9**	**-1.2**
LDFC	**Landfair**	**2.86**	**3**	*ePn*	**Pn**	**15 05 02.1**	**0.0**
MWC	**Mount Wilson**	**3.06**	**312**	*ePn*	**Pn**	**15 05 05.5**	**+0.6**
MWC				*ePg*	**Pb**	**15 05 10.9**	**-0.3**
PASC	**Pasadena Art C**	**3.10**	**310**	Pn	**Pn**	**15 05 05.9**	**+0.5**
PASC				*ePg*	**Pb**	**15 05 12.3**	**+0.4**
GSC	**Goldstone, Bar**	**3.32**	**338**	*ePn*	**Pn**	**15 05 11.5**	**+3.0**
TUC	**Tucson**	**3.83**	**87**	*eP*	**Pn**	**15 05 15.5**	**0.0**
SHPR	**Sheep Range**	**4.28**	**2**	Pn	**Pn**	**15 05 22.0**	**+0.3**
SHPR				*eSg*	**Sb**	**15 06 28.1**	**+4.6**
ISA	**Isabella, Lake**	**4.33**	**323**	*ePg*	**Pg**	**15 05 38.1**	**-2.1**

ISCJB ***05*** *15:08:15.5±0.6, 32.°69N±0.°03×115.°81W±0.°02, h8km±4km, Error ellipse: s-maj=4.8km s-min=3.0km az=175.2*

NEIC ***05*** *15:08:17.2, 32.°70N×115.°87W, h10km, ML3.8(PAS), After PAS.*

NEIC Felt at Alpine, Carlsbad, El Cajon, La Mesa, Lakeside, Ramona, San Diego, Santee, Spring Valley and Vista.

MEX ***05*** *15:08:20.6±0.4, 32.°84N×116.°07W, h26km±141km, MD3.6*

ISC 05 15:08:16.6±0.9, 32.°74N±0.°03×115.°84W±0.°02, h15km±7km, n32, σ0§98/50, 9C-19D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWSC	**Sam W. Stewart**	**0.20**	**11**	⇓P	**Pg**	**15 08 21.5**	**+0.2**
	baz=0.2						
SWSC				⇑S	**Sg**	**15 08 24.8**	**+0.3**
	baz=0.2						
MONP	**Monument Peak,**	**0.51**	**287**	⇓P	**Pg**	**15 08 26.9**	**+0.1**
	baz=0.5						
MONP				⇓S	**Sg**	**15 08 33.7**	**+0.1**
	baz=0.5						
BAR	**Barrett**	**0.70**	**265**	*ePg*	**Pg**	**15 08 29.9**	**-0.4**
BAR				*eSg*	**Sg**	**15 08 38.4**	**-1.2**
CBX	**Cerro Bola**	**0.81**	**239**	*eP*	**Pg**	**15 08 32.2**	**-0.2**
CBX				*eS*	**Sg**	**15 08 42.1**	**-1.0**
GLA	**Glamis**	**0.91**	**70**	⇓P	**Pb**	**15 08 33.7**	**-0.4**
	baz=0.9						
GLA				⇓S	**Sb**	**15 08 45.8**	**-0.2**
	baz=0.9						
GLA	**Glamis**	**0.91**	**70**	*ePg*	**Pb**	**15 08 33.5**	**-0.6**
GLA				*eSg*	**Sg**	**15 08 46.5**	**+0.3**
BC3	**Big Chuckawall**	**0.97**	**20**	⇑P	**Pb**	**15 08 34.6**	**-0.5**
	baz=1.0						
BC3				⇑S	**Sg**	**15 08 48.3**	**+0.2**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.01**	**330**	⇓P	**Pb**	**15 08 35.4**	**-0.4**
	baz=1.0						
PFO				⇓S	**Sg**	**15 08 49.1**	**-0.2**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.01**	**330**	*eP*	**Pb**	**15 08 35.2**	**-0.6**
PFO				*eSg*	**Sn**	**15 08 49.9**	**-0.4**
109C	**Camp Elliot, M**	**1.07**	**278**	⇓P	**Pb**	**15 08 36.5**	**-0.4**
	baz=1.1						
109C				⇓S	**Sb**	**15 08 50.4**	**-0.3**
	baz=1.1						
BELC	**Belle Mtn. Jos**	**1.27**	**354**	⇑P	**Pn**	**15 08 39.5**	**-0.3**
	baz=1.3						
BELC				⇓S	**Sg**	**15 08 57.2**	**-0.3**
	baz=1.3						
MURC	**Murrieta**	**1.43**	**307**	⇑P	**Pn**	**15 08 41.7**	**-0.3**
	baz=1.4						
MURC				⇓Sb	**Sg**	**15 09 01.9**	**-0.7**
	baz=1.4						
Y12C	**Blythe**	**1.50**	**47**	⇓P	**Pn**	**15 08 42.3**	**-0.5**
	baz=1.5						
Y12C				⇓S	**Sb**	**15 09 02.7**	**-0.1**
	baz=1.5						
IRM	**Iron Mountain**	**1.53**	**22**	⇓P	**Pn**	**15 08 43.1**	**-0.3**
	baz=1.6						
IRM				⇑S	**Sn**	**15 09 02.6**	**-0.5**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.72**	**169**	*eP*	**Pb**	**15 08 49.1**	**+1.1**
SPIG				*eS*	**Sb**	**15 09 10.9**	**+1.3**
113A	**Mohawk Valley,**	**1.75**	**88**	⇓P	**Pn**	**15 08 45.8**	**-0.5**
	baz=1.8						
113A				⇑S	**Sn**	**15 09 07.6**	**-0.8**
	baz=1.8						
BBRC	**Big Bear Solar**	**1.77**	**330**	⇓P	**Pn**	**15 08 46.7**	**-0.1**
	baz=1.8						
BBRC				⇓Sb	**Sg**	**15 09 12.9**	**-0.6**
	baz=1.8						
PDMCI	**Parker Dam,Lak**	**2.11**	**42**	⇑S	**Sn**	**15 09 16.8**	**-0.4**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.13**	**315**	⇓Sb	**Sb**	**15 09 22.4**	**+1.1**
	baz=2.1						
CIS	**Catalina Islan**	**2.25**	**288**	⇓Sb	**Sb**	**15 09 25.6**	**+1.0**
	baz=2.2						
MWC	**Mount Wilson**	**2.37**	**309**	*eP*	**Pb**	**15 08 59.0**	**-0.1**
MWC				*eSg*	**Sb**	**15 09 29.0**	**+0.8**
LDFC	**Landfair**	**2.41**	**14**	Pn	**Pb**	**15 08 58.1**	**-1.7**
PASC	**Pasadena Art C**	**2.42**	**307**	Pn	**Pb**	**15 08 58.6**	**-1.3**
Z14A	**Wintersburg**	**2.51**	**75**	⇑P	**Pn**	**15 08 56.4**	**-0.4**
	baz=2.5						
GSC	**Goldstone, Bar**	**2.68**	**343**	*ePn*	**Pn**	**15 09 01.7**	**+2.4**
214A	**Organ Pipe Nat**	**2.68**	**106**	*ePn*	**Pn**	**15 08 58.4**	**-0.9**
ISA	**Isabella, Lake**	**3.64**	**324**	*ePn*	**Pn**	**15 09 14.9**	**+2.5**
SHPR	**Sheep Range**	**3.80**	**8**	*ePg*	**Pg**	**15 09 30.7**	**+1.3**
TUC	**Tucson**	**4.29**	**94**	Pn	**Pn**	**15 09 21.2**	**-0.2**
CCUT	**Cedar City**	**5.21**	**22**	*ePn*	**Pn**	**15 09 36.5**	**+2.3**
	14nm,0.8s						
TPH	**Tonopah**	**5.44**	**348**	*ePg*	**Pg**	**15 09 59.6**	**-1.2**
	15nm,1.0s						
W18A	**Petrified Fore**	**5.60**	**63**	*ePn*	**Pn**	**15 09 41.6**	**+2.1**

IDC ***05*** *15:09:12.2±0.8, 0.°38S×124.°67E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/27, mbtmp3.8/8, Error ellipse: s-maj=60.9km s-min=17.2km az=71.0*

DJA ***05*** *15:09:17.8±0.2, 0.°5S±3.°×12.°5E±.°, h10km, M4.3/15, mb4.5/1, MLv4.2/15*

ISCJB ***05*** *15:09:18.2±0.5, 0.°27S±0.°05×125.°13E±0.°04, h52km, mb3.7/8, Error ellipse: s-maj=7.6km s-min=5.2km az=29.1*

ISC 05 15:09:19.5±0.7, 0.°26S±0.°06×125.°18E±0.°04, h52km, n23, σ1§71/26, mb3.8/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.45**	**305**	P	**Pn**	**15 09 41.1**	**-2.3**
SANI	**Sanana**	**1.95**	**155**	P	**Pn**	**15 09 48.9**	**-1.4**
LBMI	**Labuha**	**2.35**	**99**	P	**Pn**	**15 09 56.4**	**+0.7**
LBMI				S	**Sn**	**15 10 25.9**	**+2.4**
TNTI	**Ternate**	**2.42**	**65**	P	**Pn**	**15 09 57.5**	**+0.9**
TNTI				S	**Sn**	**15 10 27.9**	**+2.9**
LUWI	**Luwuk**	**2.53**	**252**	P	Pn	15 10 01.3	+3.2
LUWI				S	**Sn**	**15 10 32.7**	**+5.0**
MRSI	**Marisa**	**3.32**	**283**	P	**Pn**	**15 10 09.9**	**+1.0**
NLAI	**Namlea**	**3.53**	**147**	P	**Pn**	**15 10 12.0**	**+0.2**
NLAI				S	**Sn**	**15 10 52.0**	**-0.3**
APSI	**Ampana**	**3.58**	**260**	P	**Pn**	**15 10 14.0**	**+1.4**
MSAI	**Masohi**	**4.84**	**129**	P	**Pn**	**15 10 31.3**	**+1.4**
MSAI				S	**Sn**	**15 11 26.1**	**+1.4**
BNSI	**Bone**	**6.52**	**231**	P	Pn	15 10 57.4	+4.5
SPSI	**Sidrap Palu**	**6.54**	**236**	P	**Pn**	**15 10 54.0**	**+0.9**
SOEI	**Soe**	**9.48**	**185**	P	Pn	15 11 41.6	+8.1
BATI	**Baumata**	**9.99**	**189**	P	Pn	15 11 47.7	+7.2
BATI	**Baumata**	**9.99**	**189**	Pn	Pn	15 11 44.0	+3.4
	0.3nm,0.3s,baz=320,slow=1.3,SNR=5.1						
WRA	**Warramunga Arr**	**21.52**	**156**	P	**P**	**15 14 03.5**	**-0.9**
	0.5nm,0.5s,baz=335,slow=11,SNR=16						
WRA				PcP	**PcP**	**15 18 06.0**	**+0.4**
	0.4nm,1.1s,baz=334,slow=1.9,SNR=4.6						
ASAR	**Alice Springs**	**24.76**	**161**	P	**P**	**15 14 36.8**	**+0.3**
	0.5nm,0.5s,baz=336,slow=7.3,SNR=14						
ASAR				PcP	**PcP**	**15 18 13.2**	**+0.9**
	0.6nm,0.4s,baz=352,slow=1.9,SNR=20						
KSRS	**Korea Array**	**37.61**	**4**	P	**P**	**15 16 29.8**	**+0.6**
	0.9nm,0.7s,baz=178,slow=10,SNR=5.6						
USRK	**Ussuriysk Ar.**	**44.68**	**7**	P	**P**	**15 17 27.5**	**+0.3**
	0.8nm,0.5s,baz=225,slow=5.9,SNR=2.1						
SONM	**Songino Array**	**50.61**	**344**	P	**P**	**15 18 13.8**	**+0.5**
	0.9nm,0.7s,baz=156,slow=8.9,SNR=9.6						
MKAR	**Makanchi Array**	**59.99**	**327**	P	**P**	**15 19 19.8**	**-0.9**
	1.3nm,0.4s,baz=125,slow=8.0,SNR=30						
MKAR				PcP	**PcP**	**15 20 05.2**	**-1.2**
	0.6nm,0.7s,baz=113,slow=4.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**63.46**	**335**	P	**P**	**15 19 42.5**	**-1.4**
	0.5nm,0.5s,baz=94,slow=4.5,SNR=4.3						
BRTR	**Keskin Array B**	**91.35**	**310**	P	**P**	**15 22 18.2**	**-2.0**
	0.6nm,0.9s,baz=92,slow=4.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**122.58**	**285**	PKP	**PKPdf**	**15 28 09.5**	**-0.9**
	0.3nm,0.6s,baz=11,slow=1.5,SNR=1.5						

ISCJB ***05*** *15:15:23.2±0.6, 32.°53N±0.°05×115.°72W±0.°04, h14km, Error ellipse: s-maj=7.7km s-min=5.2km az=6.8*

NEIC ***05*** *15:15:25.6, 32.°61N×115.°80W, h0km, MD3.7(MEX), ML3.5(PAS), After PAS.*

MEX ***05*** *15:15:26.3±0.6, 32.°46N×115.°62W, h10km, MD3.6*

ISC 05 15:15:24.0±1.0, 32.°45N±0.°04×115.°74W±0.°04, h14km, n13, σ2§05/19, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBX	**Cerro Bola**	**0.80**	**260**	*i* P	**Pn**	**15 15 41.4**	**+0.4**
CBX				*eS*	**Sb**	**15 15 52.2**	**+1.8**
CBX	**Cerro Bola**	**0.80**	**260**	*i* P	**Pn**	**15 15 41.4**	**+0.4**
CBX				*eS*	**Sb**	**15 15 52.2**	**+1.8**
BAR	**Barrett**	**0.82**	**286**	*ePg*	**Pb**	**15 15 40.5**	**+0.3**
BAR				*eSg*	**Sg**	**15 15 50.4**	**-0.5**
GLA	**Glamis**	**0.97**	**52**	*ePg*	**Pb**	**15 15 42.0**	**-0.7**
PFO	**Pinyon Flats O**	**1.30**	**333**	*ePg*	**Pn**	**15 15 46.1**	**-1.9**
PFO				*eSg*	**Sn**	**15 16 00.5**	**-4.8**
SPIG	**San Pedro Mart**	**1.42**	**171**	*i* P	**Pn**	**15 15 49.0**	**-0.7**
SPIG				*i* S	**Sn**	**15 16 05.9**	**-2.5**
SPIG	**San Pedro Mart**	**1.42**	**171**	*eP*	**Pn**	**15 15 48.6**	**-1.2**
214A	**Organ Pipe Nat**	**2.53**	**100**	*ePn*	**Pn**	**15 16 03.8**	**-0.9**
PASC	**Pasadena Art C**	**2.67**	**311**	*ePg*	**Pb**	**15 16 13.5**	**+1.8**
SHPR	**Sheep Range**	**4.07**	**7**	*ePn*	**Pn**	**15 16 24.7**	**-1.4**
SHPR				*eSg*	**Sb**	**15 17 27.9**	**+3.1**
TUC	**Tucson**	**4.19**	**91**	*ePn*	**Pn**	**15 16 29.3**	**+1.6**
CCUT	**Cedar City**	**5.45**	**20**	*ePn*	**Pn**	**15 16 46.5**	**+1.5**
121A	**Cookes Peak, D**	**6.72**	**87**	*ePn*	**P

LNCH				*i* S		Sn	15 47 35.3	+0.2
NICH	**Los Niches**	**0.63**	**20**	⇓*i* P		Pn	15 47 27.2	+0.2
NICH				*i* S		Sn	15 47 39.9	+0.5
NICH	**Los Niches**	**0.63**	**20**	⇓*i* P		Pn	15 47 27.2	+0.2
NICH				*i* S		Sn	15 47 39.9	+0.5
LNV	**Longovilo**	**1.64**	**3**	*e*P		Pn	15 47 38.7	+0.4
LNV				*i* S		Sn	15 47 59.7	+0.4
LNV	**Longovilo**	**1.64**	**3**	*e*P		Pn	15 47 38.7	+0.4
LNV				*i* S		Sn	15 47 59.7	+0.4
CHCH	**Chadas Angostu**	**1.80**	**23**	⇓*i* P		Pn	15 47 40.6	+0.2
CHCH				*i* S		Sn	15 48 03.8	+0.6
CHCH	**Chadas Angostu**	**1.80**	**23**	⇓*i* P		Pn	15 47 40.6	+0.2
CHCH				*i* S		Sn	15 48 03.8	+0.6
CCSP	**San Pedro de C**	**1.80**	**226**	AML		AML	15 48 06.9	
	comp=E,1µm,0.4s							
YECH	**El Yeso**	**2.25**	**32**	AML		AML	15 48 11.5	
	comp=N,478nm,0.4s							
CLCH	**Cerro Calan**	**2.33**	**20**	⇑*i* P		Pn	15 47 47.7	+0.3
CLCH				*i* S		Sn	15 48 16.0	+0.3
CLCH				AML		AML	15 48 18.7	
	comp=E,523nm,0.3s							
FCH	**Farellones**	**2.47**	**24**	AML		AML	15 48 25.6	
	comp=N,515nm,0.2s							

*MEX **05** 15:47:29.5±0.3, 32.°80N×115.°48W, h5km, MD3.6*
*ISCJB **05** 15:47:31.3±0.6, 32.°61N±0.°06×115.°66W±0.°04, h14km, Error ellipse: s-maj=8.4km s-min=4.6km az=166.1*
*NEIC **05** 15:47:32.3, 32.°62N×115.°81W, h0km, MD3.7(MEX), ML3.6(PAS), After PAS.*

ISC 05 15:47:30.9±1.0, 32.°54N±0.°05×115.°67W±0.°04, h14km, n15, σ1§20/19, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.86**	**280**	*e*Pg	**Pg**	**15 47 46.6**	**-1.0**
BAR				*e*Pn	**Pn**	**15 47 49.8**	**+1.1**
BAR				*e*S	**Sn**	**15 48 00.2**	**-0.9**
CBX	**Cerro Bola**	**0.87**	**255**	*e*P	**Pb**	**15 47 47.8**	**-0.2**
CBX				*e*S	**Sn**	**15 48 02.1**	**+0.7**
CBX	**Cerro Bola**	**0.87**	**255**	*e*P	**Pb**	**15 47 47.8**	**-0.2**
CBX				*e*S	**Sn**	**15 48 02.1**	**+0.7**
GLA	**Glamis**	**0.88**	**54**	*e*Pg	**Pn**	**15 47 49.0**	**+0.1**
GLA				*e*Sg	**Sn**	**15 48 00.6**	**-0.9**
SPIG	**San Pedro Mart**	**1.50**	**173**	*e*P	**Pn**	**15 47 57.2**	**-0.5**
SPIG	**San Pedro Mart**	**1.50**	**173**	*e*P	**Pn**	**15 47 57.2**	**-0.5**
214A	**Organ Pipe Nat**	**2.49**	**103**	Pn	**Pn**	**15 48 12.7**	**+1.6**
LDFC	**Landfair**	**2.58**	**10**	*e*Pn	**Pn**	**15 48 11.9**	**-0.4**
MWC	**Mount Wilson**	**2.61**	**311**	Pn	**Pn**	**15 48 14.3**	**+1.4**
PASC	**Pasadena Art C**	**2.66**	**308**	*e*Pg	**Pg**	**15 48 20.9**	**-1.1**
GSC	**Goldstone, Bar**	**2.92**	**341**	*e*Pg	**Pg**	**15 48 27.0**	**+0.2**
ISA	**Isabella, Lake**	**3.89**	**324**	*e*Pn	**Pn**	**15 48 32.0**	**+1.7**
ISA				*e*Pg	Pg	15 48 41.4	-4.1
SHPR	**Sheep Range**	**3.98**	**6**	*e*Pn	**Pn**	**15 48 30.8**	**-0.9**
TUC	**Tucson**	**4.14**	**92**	*e*P	Pn	15 48 29.5	-4.3
121A	**Cookes Peak, D**	**6.66**	**88**	*e*Pn	**Pn**	**15 49 11.4**	**+2.9**
	8.4nm,0.6s						

IDC 05 15:47:42.5±2.0, 0.°56S×124.°43E, h0km, mb2.9/3, mb1 3.1/3, mb1mx3.0/37, mbtmp3.0/3, Error ellipse: s-maj=217.2km s-min=29.5km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**154**	P	P	15 52 32.8	-1.1
	0.1nm,0.3s,baz=331,slow=11,SNR=1.3						
ASAR	**Alice Springs**	**24.74**	**159**	P	P	15 53 06.7	+0.7
	0.2nm,0.8s,baz=342,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**59.84**	**328**	P	P	15 57 49.8	-0.1
	0.1nm,0.4s,baz=124,slow=8.8,SNR=1.8						

*IDC **05** 15:49:13.3±1.2, 0.°23S×125.°10E, h0km, mb3.5/6, mb1 3.5/6, mb1mx3.3/39, mbtmp3.5/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/20, Error ellipse: s-maj=138.7km s-min=20.6km az=65.0*
*DJA **05** 15:49:24.0±1.3, 1.°5S±7.°×12.°5E±1.°0, h10km, M3.3/4, MLv3.3/4*

ISC 05 15:49:19.8±0.9, 0.°2S±0.°2×125.°3E±0.°2, h49km, n14, σ1§24/11, mb3.5/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.51**	**300**	P	**Pn**	**15 49 42.3**	**-2.1**
SANI	**Sanana**	**1.99**	**160**	P	**Pn**	**15 49 49.9**	**-1.1**
LBMI	**Labuha**	**2.26**	**102**	P	Pn	15 49 57.6	+3.0
GTOI	**Gorontalo**	**2.42**	**289**	P	**Pn**	**15 49 58.8**	**+1.9**
LUWI	**Luwuk**	**2.66**	**251**	P	Pn	15 50 05.4	+5.2
NLAI	**Namlea**	**3.54**	**149**	P	**Pn**	**15 50 13.5**	**+1.2**
NLAI				S	**Sn**	**15 50 52.5**	**-0.4**
APSI	**Ampana**	**3.72**	**259**	P	Pn	15 50 22.0	+7.3
WRA	**Warramunga Arr**	**21.55**	**156**	P	**P**	**15 54 04.4**	**-0.8**
	0.3nm,0.4s,baz=335,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**15 54 37.7**	**+0.3**
	0.3nm,0.9s,baz=343,slow=9.1,SNR=6.2						
USRK	**Ussuriysk Ar.**	**44.58**	**7**	LR	LR	16 18 45.9	
	comp=Z,10nm,18.0s,baz=357,slow=40						
SONM	**Songino Array**	**50.57**	**344**	P	**P**	**15 58 14.4**	**+0.8**
	0.3nm,0.6s,baz=162,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**59.98**	**327**	P	**P**	**15 59 21.4**	**+0.1**
	0.5nm,0.4s,baz=123,slow=7.9,SNR=10						
MKAR				LR	LR	16 26 26.0	
	comp=Z,18nm,21.2s,baz=104,slow=37						
KURBB	**Kurchatov Arra**	**64.28**	**329**	P	**P**	**15 59 49.8**	**-0.2**
	0.4nm,0.7s,baz=128,slow=6.2,SNR=5.1						
AKTO	**Aktyubinsk**	**75.83**	**323**	P	**P**	**16 01 00.6**	**-0.3**
	0.8nm,0.6s,baz=117,slow=11,SNR=3.8						

*IDC **05** 15:50:02.2±3.6, 43.°46N×83.°76E, h0km, mb1 3.2/4, mb1mx3.0/49, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=50.4km s-min=29.1km az=54.0*
*NNC **05** 15:50:04.8±1.6, 43.°58N×84.°20E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=14.7km s-min=7.3km az=123.0*

ISC 05 15:50:05.2±1.9, 43.°5N±0.°1×84.°3E±0.°1, h10km, n12, σ1§55/12, 9C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.51**	**269**	⇑Pn	**Pn**	**15 50 59.9**	**0.0**
	0.7nm,0.4s						
PDGK				⇓Pg	**Pb**	**15 51 06.3**	**-1.1**
	4.6nm,0.4s						
PDGK				⇓Lg	Lg	15 51 52.7	
	17nm,0.5s						
MK31	**Makanchi Array**	**3.58**	**337**	⇑Pn	**Pn**	**15 51 00.6**	**-0.1**
	0.3nm,0.2s,baz=32,slow=34,SNR=98						
MK31				⇑Pg	**Pb**	**15 51 08.7**	**+0.2**
	1.0nm,0.2s,baz=150,slow=17,SNR=20						
MK31				⇑Lg	Lg	15 51 54.2	
	39nm,0.7s,baz=158,slow=30,SNR=11						
MKAR	**Makanchi Array**	**3.58**	**337**	Pn	**Pn**	**15 51 00.7**	**-0.1**
	0.8nm,0.3s,baz=158,slow=14,SNR=65						
MKAR				Pg	**Pb**	**15 51 08.8**	**+0.3**
	2.4nm,0.3s,baz=149,slow=17,SNR=18						
MKAR				Lg	Lg	15 51 54.2	
	9.5nm,0.3s,baz=179,slow=30,SNR=5.6						
TKM2	**Tokmak 2**	**6.38**	**268**	⇓Pn	**Pn**	**15 51 40.1**	**+0.5**
	1.2nm,0.8s						
TKM2				⇑Pg	Pg	15 52 01.2	-6.3
	2.6nm,1.1s						
TKM2				⇓Lg	Lg	15 53 27.0	
	5.3nm,0.9s						
AAK	**Ala-Archa**	**7.23**	**266**	⇑Pg	Pg	15 52 17.1	-6.6
	0.9nm,0.5s						
AAK				⇓Lg	Lg	15 53 54.0	
	1.7nm,0.5s						
AAK	**Ala-Archa**	**7.23**	**266**	Lg	Lg	15 53 51.1	
	0.2nm,0.3s,baz=153,slow=23,SNR=1.9						
KURBB	**Kurchatov Arra**	**8.13**	**333**	⇓Pn	**Pn**	**15 52 01.7**	**-1.5**
	1.4nm,0.6s						
KURBB				⇓Lg	Lg	15 54 21.1	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**8.13**	**333**	Pn	**Pn**	**15 52 00.8**	**-2.4**
	0.1nm,0.3s,baz=148,slow=13,SNR=4.7						
KURBB				Lg	Lg	15 54 19.0	
	0.1nm,0.3s,baz=153,slow=31,SNR=7.0						
KURK	**Kurchatov**	**8.18**	**334**	⇑Lg	Lg	15 54 22.1	
	3.3nm,0.7s						
OTUK	**Ortayu**	**9.59**	**304**	⇑Sn	**Sn**	**15 54 13.1**	**+2.1**
	0.5nm,0.4s						
OTUK				⇑Lg	Lg	15 55 09.0	
	6.3nm,1.2s						
ZALV	**Zalesovo Beam**	**10.45**	**2**	Pn	**Pn**	**15 52 32.6**	**-2.4**
	0.3nm,0.3s,baz=179,slow=12,SNR=5.1						
ZALV				Lg	Lg	15 55 34.4	
	0.1nm,0.3s,baz=188,slow=26,SNR=3.2						
SONM	**Songino Array**	**16.02**	**67**	Pn	**P**	**15 53 55.6**	**+1.5**
	0.1nm,0.3s,baz=266,slow=12,SNR=5.8						

*ISCJB **05** 15:57:04.5±0.7, 6.°92N±0.°08×73.°1W±0.°1, h166km, Error ellipse: s-maj=17.4km s-min=6.5km az=34.4*
*FUNV **05** 15:57:04.7, 6.°79N×73.°10W, h178km, MW2.9*
*IDC **05** 15:57:06.4±7.1, 6.°93N×75.°56W, h132km±64km, mb1 3.0/1, mb1mx2.6/32, mbtmp3.5/1, Error ellipse: s-maj=108.4km s-min=75.3km az=83.0*

ISC 05 15:57:04.7±1.2, 6.°89N±0.°08×73.°1W±0.°1, h166km, n10, σ0§84/14, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**37**	⇑*i* P	**Pn**	**15 57 34.2**	**+1.1**
CAPV				*e*S	**Sn**	**15 57 56.2**	**+1.2**
ROSC	**El Rosal**	**2.38**	**212**	P	**Pn**	**15 57 46.0**	**+0.4**
	6.7nm,0.3s,baz=284,slow=8.2,SNR=16						
ROSC				S	**Sn**	**15 58 16.8**	**-0.5**
	10.0nm,0.3s,baz=61,slow=20,SNR=9.5						
VIGV	**El Vigia**	**2.56**	**41**	*e*P	**Pn**	**15 57 48.6**	**+1.2**
VIGV				*e*S	**Sn**	**15 58 20.4**	**-0.2**
SOCV	**Socops**	**2.59**	**57**	*e*P	**Pn**	**15 57 48.3**	**+0.6**
SOCV				*e*S	**Sn**	**15 58 20.5**	**-0.5**
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P	**Pn**	**15 58 01.2**	**+0.4**
VIRV				*e*S	**Sn**	**15 58 43.4**	**-1.4**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**Pn**	**15 58 09.7**	**-0.5**
BAUV	**El Baul**	**5.37**	**67**	*e*P	**Pn**	**15 58 23.0**	**-0.3**
MKAR	**Makanchi Array**	**122.24**	**20**	PKP	PKPdf	16 15 47.1	+7.0
	0.2nm,0.6s,baz=311,slow=3.0,SNR=2.8						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	**PKPbc**	**16 16 34.0**	**-0.4**
	0.6nm,1.1s,baz=128,slow=3.3,SNR=5.9						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	**PKPbc**	**16 16 37.4**	**-0.1**
	0.3nm,0.8s,baz=106,slow=2.9,SNR=7.3						

SJA 05 15:58:14.4±1.0, 33.°88S×68.°85W, h20km±3km, MD3.5, ML2.9, MW3.1, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	**Vizcacheras**	**0.49**	**34**	*i* P4	Pn	15 58 30.5	+4.1
AAGR	**Agrelo**	**0.80**	**1**	*i* P	Pn	15 58 30.5	-0.1
AAGR				*e*S	Sn	15 58 41.7	-0.2
ARCO	**CERRO ARCO**	**1.04**	**356**	*i* P	Pn	15 58 34.8	+0.7
ARCO				*e*S	Sn	15 58 48.9	+0.7
ARCO				AML	AML	15 58 50.7	
	comp=Z,1µm,0.2s						
ASAL	**Salagasta**	**1.29**	**0**	*i* P	Pb	15 58 39.2	+1.1
ASAL				*i* S	Sb	15 58 57.3	+3.0
AUSP	**Uspallata**	**1.72**	**344**	*i* P	Pb	15 58 46.2	+0.6
AUSP				*i* S	Sb	15 59 09.6	+2.5
RTLS	**Leoncito**	**2.11**	**350**	*e*P9	Pb	15 58 53.8	+1.4
RTLS				*i* S3	Sb	15 59 22.4	+4.0
ACAN	**Cantantal**	**2.12**	**41**	*i* P4	Pn	15 58 50.0	+1.2
ACAN				*e*S	Sb	15 59 18.4	+0.2
CFAA	**Coronel Fontan**	**2.33**	**13**	*e*P9	Pb	15 58 56.0	+0.3
CFAA				*e*S	Sb	15 59 25.9	+1.7
CFAA				IAML		15 59 27.5	
	comp=Z,9.7nm,0.2s						
RTLL	**Cerro Villicun**	**2.57**	**7**	*i* P	Pn	15 58 56.6	+1.8
RTLL				*e*S3	Sb	15 59 28.5	-2.5
ACHE	**Chepes**	**3.28**	**35**	*e*P4	Pb	15 59 12.1	0.0
ACHE				*e*S4	Sb	15 59 54.9	+3.2
AVFE	**Valle Fertil**	**3.42**	**20**	IAML		16 00 00.3	
	comp=Z,55nm,0.3s						

GUC 05 16:00:51.4±0.8, 34.°90S×71.°88W, h39km±3km, ML3.7, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.53**	**158**	⇑*i* P	Pn	16 01 03.0	+0.4
TALC				*i* S	Sn	16 01 11.1	+0.6
NICH	**Los Niches**	**0.54**	**101**	⇓*i* P	Pn	16 01 02.8	0.0
NICH				*i* S	Sn	16 01 11.3	+0.6
LNCH	**Linares**	**0.97**	**167**	⇑*i* P	Pn	16 01 08.8	+0.3
LNCH				*i* S	Sn	16 01 22.0	+0.9
LNV	**Longovilo**	**1.02**	**22**	⇑*i* P	Pn	16 01 09.5	+0.3
LNV				*i* S	Sn	16 01 23.7	+1.4
CHCH	**Chadas Angostu**	**1.40**	**47**	⇓*i* P	Pn	16 01 15.2	+0.7
RCDM	**Rinconada Maip**	**1.67**	**33**	⇓*i* P	Pn	16 01 17.1	-1.0
RCDM				*i* S	Sn	16 01 39.0	+0.7
CLCH	**Cerro Calan**	**1.87**	**37**	⇑*i* P	Pn	16 01 22.0	+1.0
CLCH				*i* S	Sn	16 01 46.2	+2.8
CLCH				AML	AML	16 01 49.2	
	comp=N,1µm,0.4s						
YECH	**El Yeso**	**1.93**	**51**	*e*P	Pn	16 01 23.3	+1.2
YECH				*i* S	Sn	16 01 48.1	+2.7
YECH				AML	AML	16 01 54.0	
	comp=N,734nm,0.3s						
PEL	**Peldehue**	**2.02**	**30**	⇑*i* P	Pn	16 01 24.3	+1.4
PEL				*i* S	Sn	16 01 50.7	+3.7
PEL				AML	AML	16 01 57.8	
	comp=E,1µm,0.4s						
FCH	**Farellones**	**2.05**	**40**	*e*P	Pn	16 01 24.0	+0.2
FCH				*i* S	Sn	16 01 49.9	+1.5
FCH				AML	AML	16 01 55.3	
	comp=N,823nm,0.3s						

*ISCJB **05** 16:06:01.6±0.6, 32.°66N±0.°02×115.°73W±0.°02, h9km±4km, Error ellipse: s-maj=4.0km s-min=2.9km az=0.0*
*NEIC **05** 16:06:02.5, 32.°58N×115.°78W, h3km, MD3.8(MEX), ML3.7(PAS), After PAS.*
NEIC Felt at Yuma, Arizona and at Carlsbad, Chula Vista, El Cajon, La Jolla, La Mesa, Ramona, San Diego, Santee, Spring Valley and Valley Center, California.
*MEX **05** 16:06:04.7±0.4, 32.°80N×115.°84W, h15km, MD3.8*

ISC 05 16:06:02.8±1.4, 32.°63N±0.°03×115.°75W±0.°02, h19km±3km, n41, σ1§23/65, 16C-17D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.31**	**353**	⇑P	**Pg**	**16 06 09.2**	**-0.4**
	baz=0.4						
SWSC				⇑S	**Sg**	**16 06 13.9**	**-0.4**
	baz=0.4						
MONP	**Monument Peak,**	**0.62**	**295**	⇓P	**Pb**	**16 06 14.4**	**-0.6**
	baz=0.6						
MONP				⇓S	**Sb**	**16 06 22.6**	**-0.8**
	baz=0.6						
BAR	**Barrett**	**0.78**	**274**	*e*Pg	**Pb**	**16 06 16.9**	**-0.8**
BAR				*e*Sg	**Sb**	**16 06 26.9**	**-1.1**
CBX	**Cerro Bola**	**0.83**	**248**	*i* P	**Pb**	**16 06 18.2**	**-0.5**
CBX				*e*S	**Sb**	**16 06 29.0**	**-0.5**
CBX	**Cerro Bola**	**0.83**	**248**	*i* P	**Pb**	**16 06 18.2**	**-0.5**
CBX				*e*S	**Sb**	**16 06 29.0**	**-0.5**
GLA	**Glamis**	**0.89**	**61**	⇑P	**Pb**	**16 06 18.9**	**-0.7**
	baz=0.9						
GLA				⇓S	**Sb**	**16 06 31.0**	**-0.1**
	baz=0.9						
GLA	**Glamis**	**0.89**	**61**	*e*Pg	**Pb**	**16 06 18.8**	**-0.9**
GLA				*e*Sg	**Sb**	**16 06 31.1**	**0.0**
BC3	**Big Chuckawall**	**1.05**	**14**	⇓P	**Pb**	**16 06 21.6**	**-0.9**
	baz=1.1						
BC3				⇑S	**Sb**	**16 06 35.1**	**-0.9**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.14**	**329**	⇑P	Pn	**16 06 22.8**	**-1.2**
	baz=1.2						
PFO				⇑S	**Sb**	**16 06 37.3**	**-1.2**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.14**	**329**	*e*Pg	**Pn**	**16 06 22.6**	**-1.3**
PFO				*e*Sg	**Sb**	**16 06 37.3**	**-1.2**
109C	**Camp Elliot, M**	**1.17**	**283**	⇑P	**Pn**	**16 06 23.9**	**-0.2**
	baz=1.2						
109C				⇓S	**Sb**	**16 06 38.6**	**-0.6**
	baz=1.2						
BELC	**Belle Mtn. Jos**	**1.38**	**352**	⇓S	**Sn**	**16 06 43.4**	**-1.7**
	baz=1.4						
Y12C	**Blythe**	**1.52**	**42**	⇑P	**Pn**	**16 06 28.2**	**-0.7**
	baz=1.6						
Y12C				⇑S	**Sn**	**16 06 47.5**	**-0.8**
	baz=1.6						
MURC	**Murrieta**	**1.55**	**309**	⇑P	**Pn**	**16 06 28.9**	**-0.6**
	baz=1.6						
MURC				⇓Sb	**Sb**	**16 06 50.8**	**+0.5**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.60**	**171**	*e*P	**Pb**	**16 06 32.2**	**+0.3**
SPIG				*e*S	**Sb**	**16 06 53.0**	**+1.1**
SPIG	**San Pedro Mart**	**1.60**	**171**	*e*P	**Pb**	**16 06 32.2**	**+0.3**
SPIG				*e*S	**Sb**	**16 06 53.0**	**+1.1**
IRM	**Iron Mountain**	**1.61**	**18**	⇑P	**Pn**	**16 06 29.8**	**-0.4**
	baz=1.7						
IRM				⇓Sb	**Sb**	**16 06 51.5**	**-0.4**
	baz=1.7						
113A	**Mohawk Valley,**	**1.68**	**85**	⇑P	**Pn**	**16 06 30.6**	**-0.6**
	baz=1.7						
113A				⇓S	**Sn**	**16 06 51.3**	**-0.9**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.90**	**329**	⇓P	**Pn**	**16 06 33.8**	**-0.7**
	baz=1.9						
PDMCI	**Parker Dam,Lak**	**2.14**	**39**	⇑P	**Pn**	**16 06 37.5**	**-0.1**
	baz=2.2						
PDMCI				⇓S	**Sn**	**16 07 03.2**	**-0.4**
	baz=2.2						
GMRC	**Granite Mounta**	**2.15**	**2**	⇑S	**Sn**	**16 07 01.9**	**-2.1**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.25**	**348**	⇓P	**Pn**	**16 06 38.4**	**-0.6**
	baz=2.3						
HEC				⇓S	**Sn**	**16 07 05.0**	**-1.3**
	baz=2.3						
BFSC	**Mount Baldy Ra**	**2.26**	**316**	⇓Sb	**Sb**	**16 07 11.7**	**+0.9**
	baz=2.3						
NEE2	**Needles Airpor**	**2.33**	**24**	⇓P	**Pn**	**16 06 40.4**	**+0.2**
	baz=2.4						
NEE2				⇓S	**Sn**	**16 07 07.4**	**-1.0**
	baz=2.4						
FMP	**Fort Macarthur**	**2.39**	**298**	⇑Sb	**Sb**	**16 07 15.1**	**+0.8**
	baz=2.4						
MWC	**Mount Wilson**	**2.50**	**310**	*e*Pn	**Pn**	**16 06 44.6**	**+2.0**
MWC				*e*Sg	**Sb**	**16 07 19.3**	**+1.6**
LDFC	**Landfair**	**2.50**	**12**	*e*Pn	**Pn**	**16 06 44.0**	**+1.4**
PASC	**Pasadena Art C**	**2.55**	**308**	*e*Pg	**Pb**	**16 06 47.7**	**-0.3**
PASC				*e*Sg	**Sb**	**16 07 19.9**	**+1.0**
214A	**Organ Pipe Nat**	**2.58**	**104**	*e*Pn	**Pn**	**16 06 41.9**	**-1.7**
DECC	**Green Verdugo**	**2.69**	**308**	⇑Sb	**Sb**	**16 07 25.3**	**+2.2**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.81**	**342**	*e*Pn	**Pn**	**16 06 45.7**	**-1.0**
GSC				*e*Pg	**Pb**	**16 06 54.3**	**+2.0**
OSI	**Osito Audit: C**	**3.17**	**309**	⇓Sb	**Sb**	**16 07 37.9**	**+1.0**
	baz=3.2						
OSI	**Osito Audit: C**	**3.17**	**309**	Pn	**Pn**	**16 06 54.4**	**+2.6**
ISA	**Isabella, Lake**	**3.77**	**324**	*e*Pn	**Pn**	**16 07 00.3**	**+0.3**
ISA				*e*Pg	**Pb**	**16 07 11.4**	**+2.5**
SHPR	**Sheep Range**	**3.90**	**7**	*e*Pn	**Pn**	**16 07 03.1**	**+1.3**
TUC	**Tucson**	**4.21**	**93**	*e*P	**Pn**	**16 07 06.2**	**+0.1**
CCUT	**Cedar City**	**5.29**	**21**	*e*Pn	**Pn**	**16 07 22.9**	**+2.0**
	7.0nm,0.7s						
W18A	**Petrified Fore**	**5.59**	**62**	*e*Pn	**Pn**	**16 07 27.1**	**+2.1**
	14nm,0.4s						
121A	**Cookes Peak, D**	**6.73**	**89**	*e*Pn	**Pn**	**16 07 41.1**	**+0.4**
	12nm,0.5s						
MVCO	**Mesa Verde**	**7.51**	**50**	*e*Pn	**Pn**	**16 07 54.3**	**+2.8**
	4.9nm,0.4s						
SRU	**San Rafael Swe**	**7.74**	**32**	*e*Pn	**Pn**	**16 07 57.1**	**+2.5**
	14nm,0.6s						

*ISCJB **05** 16:12:42.1±1.0, 35.°5S±0.°1×105.°1W±0.°2, h13km, mb4.0/8, MS4.0/9, Error ellipse: s-maj=25.8km s-min=20.8km az=159.0*
*IDC **05** 16:12:42.0±1.2, 35.°45S×105.°06W, h0km, mb4.0/7, mb1 4.3/7, mb1mx3.8/37, mbtmp4.0/7, MS3.9/9, Ms1 3.9/9, ms1mx3.7/24, Error ellipse: s-maj=37.0km s-min=27.0km az=21.0*
*NEIC **05** 16:12:43.3±0.7, 35.°47S×105.°05W, h10km, mb4.4/2, Error ellipse: s-maj=22.5km s-min=21.6km az=70.0*
*GCMT **05** 16:12:43.3±0.3, 35.°48S×104.°97W, h20km±1km, MW4.9/73, Moment Tensor Solution. s25,c27; s73,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.05±.16; $M_{\theta\theta}$-0.75±.15; $M_{\phi\phi}$0.70±.14; $M_{r\theta}$-0.14±.28; $M_{\theta\phi}$-2.96±.13; $M_{\phi r}$-0.25±.27; Best double couple: M_o3.06000×10^{16} NP1:$\phi_8$7.00000°, δ88.00000°, λ-5.00000°. NP2: $\phi_8$97.00000°, δ85.00000°, λ-178.00000°. Principal axes: T 3.0280, Plg2.0000°, Azm52.0000°; N 0.0650, Plg85.0000°, Azm165.0000°; P -3.0930, Plg5.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 16:12:43.8±0.9, 35.°5S±0.°2×105.°1W±0.°2, h13km, n23, σ1§13/13, mb4.0/8, MS4.0/9, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**27.52**	**111**	P	**P**	**16 18 32.4**	**+2.3**
	2.4nm,1.0s,baz=286,slow=5.6,SNR=3.5						
ATAH	**Atahualpa**	**37.36**	**47**	P	**P**	**16 19 55.7**	**-1.0**
	4.9nm,0.8s,baz=247,slow=7.7,SNR=3.9						
LPAZ	**La Paz**	**38.04**	**69**	P	**P**	**16 20 02.4**	**-0.4**
	1.8nm,0.9s,baz=216,slow=2.9,SNR=6.1						
LPAZ				LR	LR	16 32 08.9	
	comp=Z,129nm,21.0s,baz=259,slow=31						
LPAZ	**La Paz**	**38.04**	**69**	P	**P**	**16 20 02.0**	**-0.7**
	12nm,1.6s						
PPT2	**Papeete2**	**43.24**	**282**	*e*LQ	LQ	16 30 40.8	
	698nm,28.2s						
SIV	**San Ignacio**	**43.70**	**75**	P	**P**	**16 20 48.2**	**-0.5**
	1.9nm,0.8s,baz=240,slow=15,SNR=3.2						
ROSC	**El Rosal**	**49.44**	**42**	LR	LR	16 38 39.7

WRA	**Warramunga Arr**	**21.51**	**156**	P	**P**	**16 18 32.5**	**-1.7**
	0.4nm,0.5s,baz=333,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**24.75**	**161**	P	**P**	**16 19 06.3**	**0.0**
	0.2nm,0.5s,baz=342,slow=8.6,SNR=8.9						
MKAR	**Makanchi Array**	**60.00**	**327**	P	**P**	**16 23 50.5**	**-0.3**
	0.3nm,0.4s,baz=130,slow=7.8,SNR=9.1						

*ISCJB **05** 16:16:29.3±0.6,31.87N±0.02×114.92W±0.02,h5km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=43.4*
*MEX **05** 16:16:32.8±0.3,31.89N×114.91W,h11km±10km, MD4.0*
*ECX **05** 16:16:32.2±0.6,31.88N×114.98W,h8km, MD4.0,ML4.3*
*NEIC **05** 16:16:33.4,31.91N×114.92W,h10km, MD3.9(MEX), ML4.0(PAS),After PAS.*
NEIC Felt at Alpine, Imperial and Santee, California. Also felt at Yuma, Arizona.

ISC 05 16:16:30.6±1.0,31.87N±0.02×114.96W±0.02,h13km±8km, n56,σ1s23/82,19C-20D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.27**	**297**	↑*iP*	**Pg**	**16 16 35.7**	**-0.5**
EMX				*eS*	**Sg**	**16 16 39.4**	**-0.6**
ECBX	**El Chinero**	**0.40**	**191**	↓*eP*	**Pg**	**16 16 38.3**	**-0.3**
ECBX				*eS*	**Sg**	**16 16 43.7**	**-0.3**
YMD	**Yuma Desert**	**0.77**	**27**	↓*iP*	**Pg**	**16 16 45.6**	**0.0**
YMD	**Yuma Desert**	**0.77**	**27**	↓*iP*	**Pg**	**16 16 45.6**	**0.0**
RDX	**Rancho Dawling**	**0.83**	**274**	↓*eP*	**Pg**	**16 16 46.7**	**-0.2**
RDX				*eS*	**Sg**	**16 16 57.8**	**0.0**
EMSC	**East Mesa**	**0.87**	**359**	↓*iP*	**Pg**	**16 16 47.1**	**-0.3**
SPIG	**San Pedro Mart**	**0.92**	**208**	*eP*	**Pg**	**16 16 48.8**	**+0.3**
SPIG				*eS*	**Sg**	**16 17 01.0**	**+0.3**
SPIG	**San Pedro Mart**	**0.92**	**208**	*eP*	**Pg**	**16 16 48.8**	**+0.3**
SPIG				*eS*	**Sg**	**16 17 01.0**	**+0.3**
SPX	**San Pedro Mart**	**0.92**	**208**	*eP*	**Pb**	**16 16 48.7**	**0.0**
COA	**Coachella**	**1.00**	**352**	↓*iP*	**Pb**	**16 16 48.8**	**-1.1**
COA	**Coachella**	**1.00**	**352**	↓*iP*	**Pb**	**16 16 48.8**	**-1.1**
DREC	**Desert Rsrch C**	**1.02**	**337**	*eP*	**Pb**	**16 16 49.3**	**-0.9**
YUH	**Yuha Desert**	**1.13**	**314**	*eP*	**Pb**	**16 16 50.3**	**-1.7**
BTCC	**Brunts Corner**	**1.16**	**349**	↓*iP*	**Pn**	**16 16 50.8**	**-1.8**
BTCC				*eS*	**Sb**	**16 17 06.0**	**-1.5**
ZAX	**El Zacaton**	**1.17**	**253**	*eP*	**Pn**	**16 16 52.6**	**-0.2**
ZAX				*eS*	**Sb**	**16 17 07.8**	**0.0**
GLA	**Glamis**	**1.19**	**6**	↓P	**Pn**	**16 16 51.5**	**-1.5**
	baz=1.1						
GLA				↑S	**Sb**	**16 17 06.9**	**-1.5**
	baz=1.1						
GLA	**Glamis**	**1.19**	**6**	*eP*	**Pn**	**16 16 51.4**	**-1.5**
GLA				*eS*	**Sb**	**16 17 08.7**	**+0.4**
RMX	**La Rumorosa**	**1.20**	**308**	*eP*	**Pb**	**16 16 53.3**	**+0.1**
RMX				*eS*	**Sb**	**16 17 08.9**	**+0.2**
RMX				↓*e*		16 17 10.1	
RMX				AML	AML	16 17 10.1	
	comp=N,7μm,0.2s						
CRR	**Carrizo Plain**	**1.33**	**320**	↑*iP*	**Pn**	**16 16 53.2**	**-1.7**
113A	**Mohawk Valley,**	**1.35**	**48**	↑P	**Pn**	**16 16 54.1**	**-1.1**
	baz=1.3						
113A				↑S	**Sn**	**16 17 11.4**	**-1.7**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.41**	**262**	↓*e*P	**Pn**	**16 16 55.9**	**-0.1**
PBX	**Punta Banda**	**1.51**	**266**	*eP*	**Pb**	**16 16 58.2**	**-0.2**
CBX	**Cerro Bola**	**1.51**	**288**	*eP*	**Pn**	**16 16 56.7**	**-0.8**
CBX				*eS*	**Sn**	**16 17 15.5**	**-1.6**
CBX	**Cerro Bola**	**1.51**	**288**	*eP*	**Pb**	**16 16 58.4**	**-0.2**
CBX				*eS*	**Sb**	**16 17 18.4**	**+0.7**
CBX	**Cerro Bola**	**1.51**	**288**	*eP*	**Pn**	**16 16 56.7**	**-0.8**
CBX				*eS*	**Sn**	**16 17 15.5**	**-1.6**
MONP	**Monument Peak,**	**1.60**	**310**	↓P	**Pn**	**16 16 57.5**	**-1.3**
	baz=1.6						
MONP				↑Sb	**Sb**	**16 17 20.9**	**+0.5**
	baz=1.6						
BAR	**Barrett**	**1.66**	**300**	*ePn*	**Pn**	**16 16 58.5**	**-0.9**
BAR				*eSn*	**Sb**	**16 17 22.2**	**+0.3**
BC3	**Big Chuckawall**	**1.83**	**347**	↑P	**Pn**	**16 17 00.5**	**-1.4**
	baz=1.8						
BC3				↓S	**Sn**	**16 17 22.4**	**-2.6**
	baz=1.8						
214A	**Organ Pipe Nat**	**1.83**	**87**	↑P	**Pn**	**16 17 00.6**	**-1.2**
	baz=1.8						
214A	**Organ Pipe Nat**	**1.83**	**87**	*ePn*	**Pn**	**16 17 00.4**	**-1.4**
Y12C	**Blythe**	**1.92**	**11**	↑P	**Pn**	**16 17 02.1**	**-0.9**
	baz=1.9						
Y12C				↑Sb	**Sb**	**16 17 30.5**	**+1.3**
	baz=1.9						
109C	**Camp Elliot, M**	**2.08**	**300**	↓P	**Pn**	**16 17 04.4**	**-0.8**
	baz=2.1						
109C				↑Sb	**Sb**	**16 17 34.5**	**+0.6**
	baz=2.1						
PFO	**Pinyon Flats O**	**2.15**	**325**	↓P	**Pn**	**16 17 04.8**	**-1.4**
	baz=2.1						
PFO				↓Sb	**Sb**	**16 17 37.6**	**+1.6**
	baz=2.1						
PFO	**Pinyon Flats O**	**2.15**	**325**	*ePn*	**Pn**	**16 17 04.7**	**-1.6**
Z14A	**Wintersburg**	**2.26**	**48**	↑P	**Pn**	**16 17 06.7**	**-1.1**
	baz=2.2						
Z14A				↓Sb	**Sb**	**16 17 40.7**	**+1.4**
	baz=2.2						
IRM	**Iron Mountain**	**2.29**	**356**	↑P	**Pn**	**16 17 06.9**	**-1.2**
	baz=2.3						
IRM				↑Sg	**Sg**	**16 17 44.1**	**-0.3**
	baz=2.3						
PDMCI	**Parker Dam,Lak**	**2.52**	**16**	↑P	**Pn**	**16 17 10.5**	**-0.8**
	baz=2.5						
PDMCI				↓Sb	**Sb**	**16 17 48.9**	**+2.2**
	baz=2.5						
MURC	**Murrieta**	**2.56**	**313**	↑P	**Pn**	**16 17 11.0**	**-0.8**
	baz=2.6						
MURC				↑Sb	**Sb**	**16 17 50.1**	**+2.4**
	baz=2.6						
Y14A	**Wickenburg**	**2.64**	**38**	↓Sb	**Sb**	**16 17 52.7**	**+2.4**
	baz=2.6						
BBRC	**Big Bear Solar**	**2.90**	**326**	↓Sg	**Sg**	**16 18 03.8**	**0.0**
	baz=2.9						
GMRC	**Granite Mounta**	**2.96**	**349**	↓P	**Pn**	**16 17 16.8**	**-0.7**
	baz=2.9						
LDFC	**Landfair**	**3.21**	**358**	*ePn*	**Pn**	**16 17 21.2**	**+0.4**
LDFC				*ePg*	**Pg**	**16 17 33.5**	**+1.4**
CIS	**Catalina Islan**	**3.28**	**299**	↑P	**Pn**	**16 17 20.9**	**-0.8**
	baz=3.3						
MWC	**Mount Wilson**	**3.50**	**313**	*ePn*	**Pn**	**16 17 26.0**	**+1.0**
MWC				*ePg*	**Pb**	**16 17 34.1**	**+1.5**
PASC	**Pasadena Art C**	**3.55**	**311**	*ePg*	**Pb**	**16 17 36.0**	**+2.7**
TUC	**Tucson**	**3.57**	**82**	*ePn*	**Pn**	**16 17 25.3**	**-0.5**
GSC	**Goldstone, Bar**	**3.75**	**336**	Pg	**Pg**	**16 17 44.9**	**+2.3**
OSI	**Osito Audit: C**	**4.18**	**312**	Pg	**Pb**	**16 17 45.7**	**+1.7**
SHPR	**Sheep Range**	**4.63**	**358**	*ePn*	**Pn**	**16 17 41.8**	**+1.4**
WUAZ	**Wupatki**	**4.71**	**38**	*ePn*	**Pn**	**16 17 43.5**	**+2.0**
ISA	**Isabella, Lake**	**4.78**	**323**	*ePn*	**Pn**	**16 17 43.7**	**+1.2**
W18A	**Petrified Fore**	**5.44**	**52**	*ePn*	**Pn**	**16 17 53.0**	**+1.5**
CCUT	**Cedar City**	**5.82**	**13**	*ePn*	**Pn**	**16 17 58.1**	**+1.3**
121A	**Cookes Peak, D**	**6.12**	**82**	*ePn*	**Pn**	**16 18 00.9**	**-0.1**
R11A	**Troy Canyon, C**	**6.49**	**356**	*ePn*	**Pn**	**16 18 06.9**	**+1.0**
MVCO	**Mesa Verde**	**7.54**	**43**	*ePn*	Pn	16 18 27.7	+7.3
MVCO				*eSg*	**Sg**	**16 20 31.4**	**-1.1**

DJA 05 16:23:05.8±0.4,0.S±4.×12.6E±.,h10km,M3.7/10, MLv3.7/10,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.76**	**295**	P	Pn	16 23 35.4	-0.9
KMSI				S	Sn	16 23 52.8	-6.0
SANI	**Sanana**	**1.92**	**168**	P	Pn	16 23 37.6	-1.0
SANI				S	Sn	16 24 03.2	+0.4
LBMI	**Labuha**	**1.98**	**104**	P	Pb	16 23 42.8	+0.9
TNTI	**Ternate**	**2.01**	**63**	P	Pn	16 23 37.9	-1.9
LUWI	**Luwuk**	**2.94**	**253**	P	Pn	16 23 53.6	+1.0
LUWI				S	Sn	16 24 25.3	-2.7
NLAI	**Namlea**	**3.42**	**154**	P	Pn	16 23 57.3	-1.9
NLAI				S	Sn	16 24 41.4	+1.7
MRSI	**Marisa**	**3.69**	**280**	P	Pn	16 24 03.1	+0.1
APSI	**Ampana**	**4.00**	**259**	P	Pn	16 24 08.2	+1.0

IDC 05 16:24:01.1±1.7,0.22S×125.14E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/29,mbtmp3.2/3,Error ellipse: s-maj=182.4km s-min=25.0km az=64.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.58**	**156**	P	P	16 28 52.0	-0.5
	0.2nm,0.4s,baz=334,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**24.82**	**161**	P	P	16 29 25.6	+0.5
	0.1nm,0.4s,baz=336,slow=9.0,SNR=4.1						
MKAR	**Makanchi Array**	**59.94**	**327**	P	P	16 34 09.1	-0.1
	0.4nm,0.4s,baz=124,slow=8.0,SNR=12						

*ISCJB **05** 16:25:47.1±0.5,32.19N±0.02×115.20W±0.02,h10km±3km, mb3.8/3,MS3.5/2,Error ellipse: s-maj=2.8km s-min=2.5km az=164.0*
*IDC **05** 16:25:48.7±1.6,32.30N×115.15W,h0km,mb3.7/2, mb1 4.0/7,mb1mx3.5/37,mbtmp3.7/7,ML3.5/4,MS3.3/5, Ms1 3.3/5,ms1mx2.9/36,Error ellipse: s-maj=26.9km s-min=10.5km az=33.0*
*NEIC **05** 16:25:49.0,32.19N×115.26W,h8km,mb4.1/2, MD4.2(MEX),ML4.2(PAS),ML4.3(ECX),After ECX.*
NEIC Felt at Ramona and San Clemente, California.
*MEX **05** 16:25:49.9±0.3,32.21N×115.22W,h5km,MD4.2*
*ECX **05** 16:25:49.1±0.5,32.19N×115.26W,h8km,MD4.0,ML4.2*

ISC 05 16:25:47.6±1.1,32.17N±0.02×115.24W±0.02,h3km±9km, n84,σ1s30/112,mb3.7/3,20C-24D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.19**	**181**	*eP*	**Pg**	**16 25 51.2**	**0.0**
EMX				*eS*	**Sg**	**16 25 54.5**	**+0.9**
CPBX	**Cerro Prieto**	**0.25**	**347**	*eP*	**Pg**	**16 25 53.2**	**+0.9**
CPBX				*eS*	**Sg**	**16 25 57.1**	**+1.5**
EMSC	**East Mesa**	**0.60**	**21**	↑*iP*	**Pg**	**16 25 59.8**	**+0.6**
SGL	**Mount Signal**	**0.63**	**319**	*eP*	**Pg**	**16 25 59.6**	**0.0**
SGL				*eP*	**Pg**	**16 25 59.6**	**0.0**
SGL	**Mount Signal**	**0.63**	**319**	*eP*	**Pg**	**16 25 59.6**	**0.0**
RDX	**Rancho Dawling**	**0.65**	**248**	*eP*	**Pg**	**16 26 00.6**	**+0.6**
RDX				*eS*	**Sg**	**16 26 09.2**	**+0.7**
DREC	**Desert Rsrch C**	**0.65**	**344**	↑*iP*	**Pg**	**16 26 00.7**	**+0.6**
ERPC	**Ernies Place**	**0.67**	**328**	↓*iP*	**Pg**	**16 26 01.1**	**+0.6**
COA	**Coachella**	**0.69**	**8**	↑*iP*	**Pg**	**16 26 01.1**	**+0.2**
COA				↑*iP*	**Pg**	**16 26 01.1**	**+0.2**
COA	**Coachella**	**0.69**	**8**	↑*iP*	**Pg**	**16 26 01.1**	**+0.2**
YMD	**Yuma Desert**	**0.70**	**57**	↑*iP*	**Pg**	**16 26 01.3**	**+0.4**
YMD				↑*iP*	**Pg**	**16 26 01.3**	**+0.4**
YMD	**Yuma Desert**	**0.70**	**57**	↑*iP*	**Pg**	**16 26 01.3**	**+0.4**
ECBX	**El Chinero**	**0.72**	**167**	*eP*	**Pg**	**16 26 00.8**	**-0.6**
ECBX				*eS*	**Sg**	**16 26 10.9**	**+0.3**
WESC	**Westside Schoo**	**0.72**	**324**	↓*iP*	**Pg**	**16 26 01.5**	**+0.2**
YUH	**Yuha Desert**	**0.75**	**309**	↓*iP*	**Pg**	**16 26 01.5**	**-0.5**
YUH				↓*iP*	**Pg**	**16 26 01.5**	**-0.5**
YUH	**Yuha Desert**	**0.75**	**309**	↓*iP*	**Pg**	**16 26 01.5**	**-0.5**
COK	**Cook Ranch**	**0.79**	**328**	*eP*	**Pg**	**16 26 02.6**	**-0.1**
COK				*eP*	**Pg**	**16 26 02.6**	**-0.1**
RMX	**La Rumorosa**	**0.83**	**301**	*eP*	**Pg**	**16 26 03.0**	**-0.5**
RMX				*eS*	**Sg**	**16 26 14.0**	**-0.3**
RMX				↓*e*		16 26 16.1	
	comp=N,6μm,0.2s						
SWSC	**Sam W. Stewart**	**0.90**	**328**	↓P	**Pg**	**16 26 03.9**	**-0.9**
	baz=0.9						
GLA	**Glamis**	**0.94**	**21**	↑P	**Pg**	**16 26 04.5**	**-1.1**
	baz=0.9						
GLA				↑S	**Sg**	**16 26 16.9**	**-1.0**
	baz=0.9						
GLA	**Glamis**	**0.94**	**21**	*ePg*	**Pg**	**16 26 04.3**	**-1.3**
GLA				*eSg*	**Sg**	**16 26 17.6**	**-0.2**
CRR	**Carrizo Plain**	**0.94**	**319**	↓*iP*	**Pg**	**16 26 05.1**	**-0.5**
ZAX	**El Zacaton**	**1.10**	**234**	*eP*	**Pg**	**16 26 08.6**	**-0.1**
ZAX				*eS*	**Sb**	**16 26 23.4**	**-0.7**
SPIG	**San Pedro Mart**	**1.14**	**190**	*eP*	**Pg**	**16 26 09.5**	**+0.1**
SPIG				*eS*	**Sg**	**16 26 24.9**	**+0.6**
SPIG	**San Pedro Mart**	**1.14**	**190**	*eP*	**Pg**	**16 26 09.5**	**+0.1**
SPIG				*eS*	**Sg**	**16 26 24.9**	**+0.6**
SPX	**San Pedro Mart**	**1.14**	**190**	*eP*	**Pg**	**16 26 09.4**	**-0.1**
SPX				*eS*	**Sg**	**16 26 24.7**	**+0.4**
SPX				AML	AML	16 26 27.5	
	comp=E,7μm,0.5s						
SPX				↑*e*		16 26 27.5	
SPX				AML	AML	16 26 29.4	
	comp=N,3μm,0.6s						
SPX				↑*e*		16 26 29.4	
CBX	**Cerro Bola**	**1.22**	**277**	*eP*	**Pb**	**16 26 09.8**	**-1.5**
CBX				*eS*	**Sb**	**16 26 25.6**	**-1.9**
CBX	**Cerro Bola**	**1.22**	**277**	*eP*	**Pb**	**16 26 09.8**	**-1.5**
CBX				*eS*	**Sb**	**16 26 25.9**	**-1.6**
CBX	**Cerro Bola**	**1.22**	**277**	*eP*	**Pb**	**16 26 09.8**	**-1.5**
CBX				*eS*	**Sb**	**16 26 25.6**	**-1.9**
MONP	**Monument Peak,**	**1.23**	**306**	↑P	**Pb**	**16 26 09.5**	**-2.1**
	baz=1.2						
MONP				↓S	**Sb**	**16 26 25.7**	**-2.1**
	baz=1.2						
ECNX	**Esteban Cantu**	**1.27**	**246**	*eP*	**Pn**	**16 26 11.1**	**-1.1**
ECNX				*eS*	**Sb**	**16 26 27.9**	**-1.0**
BAR	**Barrett**	**1.31**	**293**	*ePn*	**Pn**	**16 26 10.8**	**-2.0**
BAR				*eS*	**Sb**	**16 26 27.9**	**-2.3**
PBX	**Punta Banda**	**1.34**	**252**	*eP*	**Pn**	**16 26 12.2**	**-1.0**
PBX				*eS*	**Sb**	**16 26 30.2**	**-0.6**
113A	**Mohawk Valley,**	**1.38**	**64**	↓P	**Pn**	**16 26 11.7**	**-1.9**
	baz=1.4						
113A				↓S	**Sb**	**16 26 28.7**	**-3.2**
	baz=1.4						
BC3	**Big Chuckawall**	**1.49**	**353**	↑P	**Pn**	**16 26 12.3**	**-3.0**
	baz=1.5						
Y12C	**Blythe**	**1.68**	**21**	↓P	**Pn**	**16 26 15.4**	**-2.5**
	baz=1.7						
109C	**Camp Elliot, M**	**1.73**	**295**	↓Pb	**Pn**	**16 26 18.4**	**-0.1**
	baz=1.7						
109C				↑Sb	**Sn**	**16 26 40.7**	**-0.5**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.76**	**325**	Pn	**Pn**	**16 26 18.2**	**-0.9**
	comp=N,39nm,0.3s,baz=139,slow=11,SNR=22						
PFO				Lg	Lg	16 26 41.6	
	comp=N,82nm,0.3s,baz=262,slow=6.2,SNR=11						
PFO	**Pinyon Flats O**	**1.76**	**325**	↑P	**Pn**	**16 26 16.6**	**-2.5**
	baz=1.7						
IRM	**Iron Mountain**	**1.98**	**2**	↓P	**Pn**	**16 26 19.7**	**-2.4**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.07**	**95**	↓P	**Pn**	**16 26 21.3**	**-2.0**
	baz=2.1						
214A				↓S	**Sn**	**16 26 47.2**	**-2.4**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.07**	**95**	*ePn*	**Pn**	**16 26 21.4**	**-1.8**
MURC	**Murrieta**	**2.18**	**311**	↓P	**Pn**	**16 26 22.7**	**-2.1**
	baz=2.2						
MURC				↓Sb	**Sb**	**16 26 54.7**	**-0.4**
	baz=2.2						
Z14A	**Wintersburg**	**2.26**	**58**	↓P	**Pn**	**16 26 24.3**	**-1.6**
	baz=2.3						
Z14A				↓S	**Sn**	**16 26 52.6**	**-1.7**
	baz=2.3						
PDMCI	**Parker Dam,Lak**	**2.31**	**23**	↑P	**Pn**	**16 26 24.6**	**-1.9**
	baz=2.3						
Y14A	**Wickenburg**	**2.57**	**46**	↓P	**Pn**	**16 26 28.4**	**-1.7**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.89**	**316**	↑Sb	**Sb**	**16 27 15.3**	**-0.4**
	baz=2.9						
CIS	**Catalina Islan**	**2.94**	**296**	↑Sb	**Sb**	**16 27 16.6**	**-0.3**
	baz=2.9						
FMP	**Fort Macarthur**	**2.99**	**302**	↓Sb	**Sb**	**16 27 18.3**	**-0.2**
	baz=3.0						
PASC	**Pasadena Art C**	**3.17**	**310**	*ePn*	**Pn**	**16 26 38.8**	**+0.3**
DECC	**Green Verdugo**	**3.32**	**309**	↓Sb	**Sb**	**16 27 28.8**	**+0.9**
	baz=3.3						
GSC	**Goldstone, Bar**	**3.38**	**338**	*ePn*	**Pn**	**16 26 38.4**	**-3.0**
TUC	**Tucson**	**3.77**	**87**	*eP*	**Pn**	**16 26 46.5**	**-0.2**
OSI	**Osito Audit: C**	**3.80**	**311**	↑Sb	**Sb**	**16 27 41.5**	**-0.2**
	baz=3.8						
OSI	**Osito Audit: C**	**3.80**	**311**	*ePn*	**Pn**	**16 26 48.5**	**+1.5**
X16A	**Lo Mia Camp, P**	**3.89**	**54**	↓P	**Pn**	**16 26 47.6**	**-0.8**
	baz=3.9						
WUAZ	**Wupatki**	**4.63**	**43**	*ePn*	**Pn**	**16 26 58.9**	**+0.3**
W18A	**Petrified Fore**	**5.45**	**56**	*ePn*	**Pn**	**16 27 09.9**	**+0.1**
CCUT	**Cedar City**	**5.58**	**15**	*ePn*	**Pn**	**16 27 11.5**	**-0.2**
ARUT	**Antelope Range**	**5.79**	**14**	*ePn*	**Pn**	**16 27 14.8**	**+0.3**
TPH	**Tonopah**	**6.11**	**345**	*ePg*	**Pg**	**16 27 44.5**	**0.0**
R11A	**Troy Canyon, C**	**6.17**	**357**	*ePn*	**Pn**	**16 27 19.4**	**-0.3**
R11A				*ePg*	**Pg**	**16 27 46.0**	**+0.3**
121A	**Cookes Peak, D**	**6.32**	**85**	*ePn*	**Pn**	**16 27 21.3**	**-0.4**
NVAR	**Mina Array Bea**	**6.72**	**339**	Pn	Pn	16 27 32.7	+5.3
	comp=N,0.1nm,0.3s,baz=157,slow=17,SNR=2.7						
NVAR				Pg	**Pg**	**16 27 54.8**	**-1.7**
	comp=N,0.5nm,0.3s,baz=163,slow=17,SNR=10						
LAZ	**Ladron**	**7.13**	**70**	*ePn*	**Pn**	**16 27 33.2**	**+0.2**
LENM	**Lemitar**	**7.21**	**72**	*ePn*	**Pn**	**16 27 34.0**	**0.0**
MVCO	**Mesa Verde**	**7.48**	**46**	*ePn*	**Pn**	**16 27 39.2**	**+1.4**
LPM	**Los Pinos Moun**	**7.52**	**71**	*ePn*	**Pn**	**16 27 38.2**	**0.0**
TMUT	**Trail Mountain**	**7.82**	**24**	Pn	**Pn**	**16 27 45.2**	**+2.7**
ANMO	**Albuquerque**	**7.83**	**67**	Pn	**Pn**	**16 27 43.4**	**+0.9**
	comp=N,0.4nm,0.3s,baz=248,slow=14,SNR=5.8						
ANMO				Pg	**Pg**	**16 28 16.6**	**-0.9**
	comp=N,0.4nm,0.3s,baz=272,slow=15,SNR=5.6						
ANMO				Lg	Lg	16 29 52.1	
	comp=N,0.3nm,0.3s,baz=263,slow=12,SNR=1.1						
ANMO				LR	LR	16 30 31.9	
	comp=N,80nm,19.7s,baz=240,slow=37						
ANMO	**Albuquerque**	**7.83**	**67**	*ePn*	**Pn**	**16 27 43.1**	**+0.6**
ANMO				Pg	**Pg**	**16 28 16.6**	**-0.9**
ANMO				Lg	Lg	16 29 52.1	
ELK	**Elko**	**8.55**	**360**	Pn	**Pn**	**16 27 55.1**	**+2.6**
	comp=N,0.1nm,0.3s,baz=177,slow=7.1,SNR=4.1						
LPIG	**La Paz**	**9.14**	**150**	LR	LR	16 31 14.1	
	comp=N,257nm,20.6s,baz=340,slow=35						
TXAR	**Lajitas Array**	**10.35**	**103**	Pn	**Pn**	**16 28 18.9**	**+1.9**
	comp=N,1.9nm,0.3s,baz=286,slow=13,SNR=95						
TXAR				Lg	Lg	16 31 19.4	
	comp=N,0.3nm,0.3s,baz=281,slow=29,SNR=5.3						
PDAR	**Pinedale Array**	**11.49**	**21**	Pn	**Pn**	**16 28 35.0**	**+2.2**
	comp=N,0.1nm,0.3s,baz=224,slow=8.3,SNR=5.6						
PDAR				LR	LR	16 33 32.9	
	comp=N,153nm,19.6s,baz=213,slow=41						
CHMT	**Chamberlain Mo**	**14.80**	**5**	*eP*	**P**	**16 29 26.4**	**+2.4**
NEW	**Newport**	**16.14**	**355**	Pn	**P**	**16 29 38.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=172,slow=15,SNR=2.9						
MDND	**Maddock**	**19.65**	**33**	*eP*	**Pn**	**16 30 20.8**	**+2.0**
	comp=N,7.9nm,0.8s						
EDM	**Edmonton**	**21.08**	**3**	*eP*	**P**	**16 30 33.1**	**+0.2**
AGMN	**Agassiz Nation**	**21.77**	**37**	*eP*	**P**	**16 30 40.4**	**+0.1**
	comp=N,8.2nm,0.9s						
ULM	**Lac du Bonnet**	**23.08**	**33**	P	**P**	**16 30 54.5**	**+0.2**
	comp=N,1.7nm,0.7s,baz=207,slow=6.2,SNR=4.5						
ILAR	**Eielson Array**	**37.98**	**339**	P	**P**	**16 33 08.7**	**+2.4**
	comp=N,0.9nm,0.6s,baz=150,slow=7.8,SNR=14						
PPT	**Papeete**	**59.40**	**219**	LR	LR	16 56 43.2	
	comp=N,25nm,19.4s,baz=72,slow=31						
KEST	**Kesra**	**94.79**	**42**	LR	LR	17 21 24.8	
	comp=N,28nm,20.6s,baz=268,slow=35						

IDC 05 16:29:22.9±9.5,4.51S×153.40E,h104km±65km,mb3.1/2, mb1 3.5/3,mb1mx3.0/25,mbtmp3.7/3,ML3.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.4/10,Error ellipse: s-maj=129.8km s-min=59.4km az=124.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.88**	**231**	P	Pn	16 31 15.2	+0.4
	3.4nm,0.3s,baz=9.5,slow=6.1,SNR=7.5						
PMG				S	Sn	16 32 42.4	0.0
	6.0nm,0.3s,baz=350,slow=16,SNR=6.3						
HNR	**Honiara**	**8.14**	**127**	LR	LR	16 35 04.7	
	comp=Z,67nm,18.0s,baz=244,slow=42						
WRA	**Warramunga Arr**	**24.09**	**229**	P	P	16 34 29.5	+0.6
	1.2nm,0.6s,baz=54,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**26.77**	**223**	P	P	16 34 52.7	-0.5
	0.1nm,0.4s,baz=55,slow=8.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.78**	**289**	PKPbc	PKPbc	16 49 03.7	-0.5
	0.4nm,0.7s,baz=84,slow=1.7,SNR=2.4						

NEIC 05 16:29:29.0,32.56N×115.72W,h2km,ML3.5(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.81**	**279**	*ePg*	Pg	16 29 44.6	-0.1
BAR				*eSg*	Sg	16 29 55.1	-0.2
GLA	**Glamis**	**0.90**	**57**	*ePg*	Pg	16 29 44.6	-1.7
GLA				*eSg*	Sg	16 29 55.9	-2.1
PFO	**Pinyon Flats O**	**1.21**	**330**	*ePg*	Pg	16 29 49.6	-2.9
PFO				*eSg*	Sg	16 30 05.0	-3.4
PFO				*eSn*	Sb	16 30 07.1	-2.0
214A	**Organ Pipe Nat**	**2.54**	**103**	Pn	Pn	16 30 12.1	+0.9
214A

MONP				⇓S		Sg	17 26 58.4	+0.2
	baz=0.2								
SWSC	**Sam W. Stewart**	**0.52**	**105**	⇓P		**Pg**	**17 27 01.3**	**-0.1**
	baz=0.5								
SWSC				⇓S		**Sg**	**17 27 08.5**	**+0.3**
	baz=0.5								
PFO	**Pinyon Flats O**	**0.54**	**354**	⇓P		**Pg**	**17 27 02.2**	**+0.4**
	baz=0.5								
PFO				⇓S		**Sg**	**17 27 09.4**	**+0.5**
	baz=0.5								
PFO	**Pinyon Flats O**	**0.54**	**354**	*e*Pg		**Pg**	**17 27 02.0**	**+0.1**
109C	**Camp Elliot, M**	**0.63**	**253**	⇑P		**Pg**	**17 27 02.9**	**-0.8**
	baz=0.6								
109C				⇓S		**Sg**	**17 27 11.0**	**-0.9**
	baz=0.6								
MURC	**Murrieta**	**0.86**	**308**	⇓P		**Pg**	**17 27 07.3**	**-0.7**
	baz=0.8								
MURC				⇓S		**Sg**	**17 27 18.9**	**-0.2**
	baz=0.8								
BC3	**Big Chuckawall**	**0.97**	**53**	⇑P		**Pg**	**17 27 09.0**	**-1.1**
	baz=1.0								
BC3				⇑S		**Sg**	**17 27 21.4**	**-1.4**
	baz=1.0								
BELC	**Belle Mtn. Jos**	**0.98**	**19**	⇓P		**Pg**	**17 27 10.0**	**-0.3**
	baz=1.0								
BELC				⇑S		**Sg**	**17 27 23.4**	**+0.3**
	baz=1.0								
BBRC	**Big Bear Solar**	**1.27**	**340**	⇓Pb		**Pn**	**17 27 14.8**	**-0.7**
	baz=1.3								
BBRC				⇓S		**Sb**	**17 27 31.9**	**-0.1**
	baz=1.3								
GLA	**Glamis**	**1.31**	**91**	*e*Pn		Pn	17 27 11.0	-5.0
IRM	**Iron Mountain**	**1.50**	**43**	⇑P		**Pn**	**17 27 17.8**	**-0.7**
	baz=1.5								
BFSC	**Mount Baldy Ra**	**1.57**	**318**	⇓Pb		**Pn**	**17 27 19.7**	**+0.1**
	baz=1.6								
BFSC				⇓S		**Sn**	**17 27 39.7**	**-0.5**
	baz=1.6								
FMP	**Fort Macarthur**	**1.72**	**292**	⇑Sb		**Sb**	**17 27 44.6**	**-0.2**
	baz=1.7								
CIS	**Catalina Islan**	**1.72**	**282**	⇑Pb		**Pn**	**17 27 22.0**	**+0.5**
	baz=1.7								
CIS				⇓S		**Sn**	**17 27 42.7**	**-1.0**
	baz=1.7								
MWC	**Mount Wilson**	**1.80**	**310**	*e*Pn		**Pn**	**17 27 22.9**	**0.0**
MWC				*e*Sn		**Sn**	**17 27 46.6**	**+0.6**
GMRC	**Granite Mounta**	**1.81**	**19**	⇓Pb		**Pb**	**17 27 25.0**	**+0.2**
	baz=1.8								
GMRC				⇑Sb		**Sg**	**17 27 48.8**	**-0.7**
	baz=1.8								
PASC	**Pasadena Art C**	**1.86**	**307**	*e*Pn		**Pn**	**17 27 22.7**	**-0.7**
PASC				*e*Sn		**Sn**	**17 27 46.6**	**-0.4**
DECC	**Green Verdugo**	**2.00**	**306**	⇓Sb		**Sb**	**17 27 53.0**	**0.0**
	baz=2.0								
EDW2	**Edwards Air Fo**	**2.24**	**324**	⇑Sb		**Sb**	**17 28 00.4**	**+0.5**
	baz=2.2								
NEE2	**Needles Airpor**	**2.24**	**41**	⇓Sb		**Sg**	**17 28 01.9**	**-1.4**
	baz=2.3								
GSC	**Goldstone, Bar**	**2.25**	**351**	*e*Pn		**Pn**	**17 27 28.2**	**-0.7**
LDFC	**Landfair**	**2.26**	**28**	*e*Pg		**Pg**	**17 27 34.5**	**-0.3**
LDFC				*e*Sn		**Sg**	**17 28 04.2**	**0.0**
OSI	**Osito Audit: C**	**2.48**	**309**	⇓S		**Sn**	**17 28 02.8**	**+0.4**
	baz=2.5								
OSI	**Osito Audit: C**	**2.48**	**309**	*e*Pn		**Pn**	**17 27 32.5**	**+0.5**
LRMC	**Laurel Mtn Rad**	**2.63**	**336**	⇓Sb		**Sb**	**17 28 12.9**	**+1.7**
	baz=2.6								
ARVC	**Arvin**	**2.88**	**316**	⇓Sb		**Sb**	**17 28 19.5**	**+1.2**
	baz=2.9								
W13A	**Hualalpai Mount**	**2.90**	**45**	⇓Sb		**Sb**	**17 28 21.2**	**+2.3**
	baz=2.9								
ISA	**Isabella, Lake**	**3.10**	**327**	⇓Sb		**Sb**	**17 28 26.9**	**+2.1**
	baz=3.1								

NEIC 05 17:42:43.8, 32.63N×115.77W, h0km, ML3.5(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.76**	**274**	*e*Pg	Pg	17 42 56.7	-1.8
BAR				*e*Sg	Sg	17 43 08.6	+0.2
GLA	**Glamis**	**0.90**	**62**	*e*Pg	Pg	17 42 59.6	-1.5
GLA				*e*Sg	Sg	17 43 11.4	-1.5
PFO	**Pinyon Flats O**	**1.13**	**330**	*e*Pg	Pg	17 43 03.8	-1.9
PFO				*e*Sg	Sg	17 43 18.7	-1.8
MWC	**Mount Wilson**	**2.48**	**310**	*e*Pn	Pn	17 43 27.0	+1.3
MWC				*e*Sn	Sb	17 44 00.6	-0.3
OSI	**Osito Audit: C**	**3.16**	**310**	*e*Pn	Pn	17 43 34.9	+0.1

*IDC **05** 18:04:49.6±1.8, 0.33S×125.11E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/30, mbtmp3.1/3, Error ellipse: s-maj=183.7km s-min=25.3km az=64.0*
*ISCJB **05** 18:04:54.3±1.0, 0.1S±0.1×125.48E±0.07, h53km, mb3.0/3, Error ellipse: s-maj=15.9km s-min=8.2km az=29.0*
*DJA **05** 18:04:55.7±0.3, 0.5S±4×12.5E±∗, h10km, M3.6/10, MLv3.6/10*

ISC 05 18:04:55.2±1.3, 0.0S±0.1×125.46E±0.10, h53km, n12, σ1s91/11, mb2.9/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.59**	**292**	P	**Pn**	**18 05 19.5**	**-1.6**
KMSI				S	**Sn**	**18 05 36.9**	**-3.6**
TNTI	**Ternate**	**2.06**	**68**	P	Pn	18 05 36.1	+8.6
SANI	**Sanana**	**2.08**	**165**	P	**Pn**	**18 05 27.1**	**-0.7**
LBMI	**Labuha**	**2.13**	**107**	P	Pn	18 05 34.9	+6.5
GTOI	**Gorontalo**	**2.53**	**285**	P	**Pn**	**18 05 35.9**	**+2.0**
LUWI	**Luwuk**	**2.87**	**249**	P	Pn	18 05 41.5	+2.9
LUWI				S	**Sn**	**18 06 11.3**	**-0.7**
MRSI	**Marisa**	**3.55**	**278**	P	**Pn**	**18 05 48.1**	**+0.2**
NLAI	**Namlea**	**3.59**	**153**	P	**Pn**	**18 05 48.9**	**+0.4**
APSI	**Ampana**	**3.91**	**257**	P	**Pn**	**18 05 54.6**	**+1.8**
WRA	**Warramunga Arr**	**21.63**	**157**	P	**P**	**18 09 40.4**	**-0.8**
	0.3nm,0.5s,baz=334,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.89**	**161**	P	**P**	**18 10 12.6**	**-0.8**
	0.1nm,0.5s,baz=340,slow=8.4,SNR=7.3						
MKAR	**Makanchi Array**	**59.94**	**327**	P	**P**	**18 14 58.1**	**+2.1**
	0.2nm,0.4s,baz=123,slow=8.6,SNR=7.5						

IDC 05 18:11:06.8±2.8, 5.37S×151.77E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, ML2.7/1, MS3.8/3, Ms1 3.8/3, ms1mx2.8/33, Error ellipse: s-maj=88.7km s-min=25.2km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.08**	**228**	Pn	Pn	18 12 40.1	+2.0
	1.2nm,0.3s,baz=32,slow=14,SNR=8.1						
PMG				Sn	Sn	18 13 47.5	-0.9
	3.7nm,0.3s,baz=162,slow=16,SNR=6.4						
WRA	**Warramunga Arr**	**22.30**	**228**	P	P	18 16 05.5	-0.6
	3.9nm,0.5s,baz=52,slow=10.0,SNR=4.2						
ASAR	**Alice Springs**	**25.05**	**222**	P	P	18 16 33.2	+0.2
	3.2nm,0.7s,baz=55,slow=9.0,SNR=8.2						
RAO	**Raoul Island**	**37.22**	**133**	LR	LR	18 28 54.2	
	comp=Z,221nm,19.9s,baz=140,slow=29						
JOW	**Kunigami**	**39.27**	**326**	LR	LR	18 33 08.4	
	comp=Z,108nm,21.0s,baz=252,slow=34						
URZ	**Urewera**	**40.03**	**148**	LR	LR	18 32 16.9	
	comp=Z,138nm,19.8s,baz=8.0,slow=32						
SONM	**Songino Array**	**66.26**	**328**	P	P	18 21 57.3	+0.3
	0.1nm,0.5s,baz=134,slow=4.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.50**	**287**	PKPbc	PKPbc	18 30 58.1	-1.1
	0.3nm,0.5s,baz=91,slow=3.0,SNR=3.8						

IDC 05 18:20:53.1±2.1, 8.92S×130.83E, h0km, mb3.1/1, mb1 3.3/3, mb1mx3.1/24, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=114.8km s-min=31.3km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**11.47**	**163**	Pn	Pn	18 23 38.6	+0.2
	0.2nm,0.3s,baz=347,slow=14,SNR=15						
WRA				Sn	Sn	18 25 44.0	-3.4
	0.4nm,0.3s,baz=335,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**14.96**	**169**	Pn	Pn	18 24 25.6	-0.5
	0.1nm,0.3s,baz=343,slow=8.6,SNR=16						
ASAR				Sn	Sn	18 27 07.8	-4.8
	0.1nm,0.3s,baz=353,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**70.27**	**327**	P	P	18 32 08.3	0.0
	0.1nm,0.5s,baz=120,slow=6.6,SNR=2.6						

IDC 05 18:25:54.2±1.7, 7.15S×121.01E, h607km±17km, mb2.5/2, mb1 2.6/3, mb1mx2.3/29, mbtmp3.4/3, Error ellipse: s-maj=191.0km s-min=21.3km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.01**	**139**	P	P	18 27 21.9	+1.5
	20nm,0.3s,baz=333,slow=2.3,SNR=55						
BATI				S	S	18 28 30.1	-0.5
	15nm,0.3s,baz=322,slow=4.4,SNR=13						
WRA	**Warramunga Arr**	**18.13**	**136**	P	P	18 29 31.2	+0.5
	0.1nm,0.3s,baz=315,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**20.57**	**144**	P	P	18 29 53.0	+0.2
	0.2nm,0.3s,baz=322,slow=8.4,SNR=5.1						
ASAR				PcP	PcP	18 33 35.3	-0.9
	0.1nm,0.5s,baz=335,slow=1.4,SNR=4.4						
MKAR	**Makanchi Array**	**63.76**	**331**	P	P	18 35 27.9	0.0
	0.4nm,0.5s,baz=141,slow=6.8,SNR=9.8						

NEIC 05 18:25:59.3, 32.44N×115.71W, h3km, ML3.2(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.85**	**287**	*e*Pg	Pg	18 26 16.0	+0.3
GLA	**Glamis**	**0.96**	**50**	*e*Pg	Pg	18 26 17.8	-0.1
PFO	**Pinyon Flats O**	**1.33**	**332**	*e*Pg	Pn	18 26 22.6	-2.3
MWC	**Mount Wilson**	**2.66**	**313**	Pn	Pn	18 26 39.8	-3.4
ISA	**Isabella, Lake**	**3.95**	**325**	Pn	Pn	18 27 01.3	+0.3

NEIC 05 18:26:14.1, 32.68N×115.86W, h6km, ML3.0(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.68**	**270**	*e*Pg	Pg	18 26 26.5	-0.8
BAR	**Barrett**	**0.68**	**270**	*e*Sg	Pg	18 26 26.5	-0.9
GLA	**Glamis**	**0.95**	**67**	*e*Pg	Pg	18 26 29.2	-3.2
GLA	**Glamis**	**0.95**	**67**	*e*Sg	Pg	18 26 29.2	-3.2
PFO	**Pinyon Flats O**	**1.05**	**332**	*e*Pn	Pg	18 26 32.1	-2.5
MWC	**Mount Wilson**	**2.40**	**311**	Pn	Pn	18 26 56.0	+1.8
ISA	**Isabella, Lake**	**3.68**	**325**	*e*Pn	Pn	18 27 11.4	-0.2
CCUT	**Cedar City**	**5.27**	**22**	*e*Pg	Pb	18 27 50.0	+3.0

IDC 05 18:27:43.4±19.0, 24.82S×70.01E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/36, mbtmp3.8/3, Error ellipse: s-maj=652.6km s-min=44.3km az=49.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.24**	**8**	T	T	18 49 37.6	
	baz=188,slow=76,SNR=7.5						
H08S2	**Diego Garcia H**	**17.25**	**8**	T	T	18 49 30.8	
	baz=188,slow=76,SNR=9.0						
H08S3	**Diego Garcia H**	**17.26**	**8**	T	T	18 49 39.2	
	baz=188,slow=76,SNR=6.5						
WRA	**Warramunga Arr**	**59.21**	**99**	P	P	18 37 46.8	0.0
	0.8nm,0.9s,baz=253,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**72.14**	**9**	P	P	18 39 09.7	0.0
	1.0nm,0.9s,baz=199,slow=6.4,SNR=8.3						
ZALV	**Zalesovo Beam**	**79.48**	**9**	P	P	18 39 51.5	+0.1
	1.0nm,0.8s,baz=190,slow=4.4,SNR=3.7						

IDC 05 18:32:00.3±1.8, 0.51S×124.73E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/30, mbtmp3.1/3, Error ellipse: s-maj=184.9km s-min=25.9km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.48**	**155**	P	P	18 36 50.4	-0.3
	0.2nm,0.5s,baz=333,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**24.68**	**160**	P	P	18 37 23.3	+0.2
	0.1nm,0.5s,baz=341,slow=8.1,SNR=5.8						
MKAR	**Makanchi Array**	**59.97**	**328**	P	P	18 42 08.5	-0.1
	0.2nm,0.4s,baz=123,slow=8.4,SNR=6.7						

*THE **05** 18:35:02.7, 38.73N×22.70E, h10km±1km, ML1.9/4, Error ellipse: s-maj=2.0km s-min=0.7km az=281.0*
*CSEM **05** 18:35:03.1±0.1, 38.73N×22.73E, h5km, ML1.9, Error ellipse: s-maj=3.0km s-min=2.5km az=152.0*

ATH 05 18:35:03.6, 38.73N×22.72E, h4km, MD2.6/12, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AXAR	**Agios Charalam**	**0.06**	**307**	P	Pg	18 35 04.8	-0.2
AXAR				S	Sg	18 35 06.3	+0.3
AXAR	**Agios Charalam**	**0.06**	**307**	*e*PG	Pg	18 35 04.8	-0.2
AXAR				*e*SG	Sg	18 35 06.5	+0.5
AXAR	**Agios Charalam**	**0.06**	**307**	P	Pg	18 35 04.8	-0.2
AXAR				S	Sg	18 35 06.3	+0.3
LKR	**Lokris**	**0.23**	**110**	P	Pg	18 35 07.2	-0.9
LKR				S	Sg	18 35 11.2	0.0
LKR	**Lokris**	**0.23**	**110**	*e*PG	Pg	18 35 07.5	-0.6
LKR	**Lokris**	**0.23**	**110**	P	Pg	18 35 07.2	-0.9
LKR	**Lokris**	**0.23**	**110**	*e*Pg	Pg	18 35 07.5	-0.6
LKR				S	Sg	18 35 11.2	0.0
SMIA	**Simia**	**0.41**	**69**	P	Pg	18 35 11.2	-0.4
SMIA				S	Sg	18 35 17.8	+0.8
SMIA	**Simia**	**0.41**	**69**	*e*PG	Pg	18 35 11.1	-0.5
SMIA				*e*SG	Sg	18 35 17.9	+0.9
SMIA	**Simia**	**0.41**	**69**	*e*Pg	Pg	18 35 11.1	-0.5
SMIA				S	Sg	18 35 17.8	+0.8
AGG	**Agios Georgios**	**0.42**	**314**	*e*PG	Pg	18 35 11.4	-0.4
AGG				*e*SG	Sg	18 35 18.3	+0.9
AGG	**Agios Georgios**	**0.42**	**314**	*e*Pg	Pg	18 35 11.4	-0.4
AGG				*e*Sg	Sg	18 35 18.3	+0.9
MAKR	**Makrakomi, Fth**	**0.54**	**302**	*e*PG	Pg	18 35 14.2	+0.1
MAKR	**Makrakomi, Fth**	**0.54**	**302**	*e*Pg	Pg	18 35 14.2	+0.1
KALE	**Kalithea**	**0.57**	**234**	*e*PG	Pg	18 35 14.0	-0.6
KALE				*e*SG	Sg	18 35 22.6	+0.6
KALE	**Kalithea**	**0.57**	**234**	*e*Pg	Pg	18 35 14.0	-0.6
KALE				*e*Sg	Sg	18 35 22.6	+0.6
MRKA	**Markates**	**0.68**	**92**	*e*PB	Pb	18 35 17.7	-0.4
MRKA				*e*SG	Sg	18 35 25.9	+0.3
MRKA	**Markates**	**0.68**	**92**	*e*Pb	Pb	18 35 17.7	-0.4
MRKA				*e*Sg	Sg	18 35 25.9	+0.3
EFP	**Efpalio**	**0.71**	**245**	*e*PG	Pg	18 35 15.9	-1.3
EFP				*e*SG	Sg	18 35 27.4	+1.1
EFP	**Efpalio**	**0.71**	**245**	*e*Pg	Pg	18 35 15.9	-1.3
EFP				*e*Sg	Sg	18 35 27.4	+1.1
SKIA	**Skiathos**	**0.73**	**53**	*e*PB	Pb	18 35 18.3	-0.6
SKIA	**Skiathos**	**0.73**	**53**	*e*Pb	Pb	18 35 18.3	-0.6
LTK	**Loutraki**	**0.73**	**165**	P	Pg	18 35 16.4	-1.3
LTK				S	Sg	18 35 27.8	+0.6
LTK	**Loutraki**	**0.73**	**165**	*e*PG	Pg	18 35 16.5	-1.2
LTK				*e*SG	Sg	18 35 27.8	+0.6
LTK	**Loutraki**	**0.73**	**165**	*e*Pg	Pg	18 35 16.5	-1.2
LTK				S	Sg	18 35 27.8	+0.6
XOR	**Xorichti**	**0.73**	**30**	P	Pg	18 35 16.7	-1.1
XOR				S	Sg	18 35 27.5	+0.1
XOR	**Xorichti**	**0.73**	**30**	*e*PG	Pg	18 35 16.8	-1.0
XOR				*e*SG	Sg	18 35 27.7	+0.3
XOR	**Xorichti**	**0.73**	**30**	*e*Pg	Pg	18 35 16.8	-1.0
XOR				S	Sg	18 35 27.5	+0.1
GUR	**Goura**	**0.85**	**201**	*e*PB	Pb	18 35 20.6	-0.4
GUR				*e*SG	Sg	18 35 31.4	+0.3
GUR	**Goura**	**0.85**	**201**	*e*Pb	Pb	18 35 20.6	-0.4
GUR				*e*Sg	Sg	18 35 31.4	+0.3

*ATH **05** 18:35:01.4, 40.17N×19.59E, h5km±1km, MD3.5/26*
*TIR **05** 18:35:03.4±4.0, 40.12N×19.96E, h14km±10km, ML2.8*
*THE **05** 18:35:05.1, 40.07N×19.88E, h0km±2km, ML2.8/4, Error ellipse: s-maj=2.1km s-min=0.7km az=260.0*
*CSEM **05** 18:35:05.7±0.2, 40.05N×19.89E, h2km, ML2.8, Error ellipse: s-maj=5.4km s-min=3.1km az=78.0*
*BEO **05** 18:35:18.2, 41.05N×19.39E, h0km*

ISC 05 18:35:04.5±0.9, 40.09N±0.02×19.81E±0.02, h8km±7km, n91, σ1s43/135, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.26**	**145**	*i* PG	**Pg**	**18 35 09.1**	**-0.5**
SRN				*i* SG	**Sg**	**18 35 14.2**	**+1.2**
SRN	**Sarande**	**0.26**	**145**	P	**Pg**	**18 35 09.0**	**-0.5**
SRN				S	**Sg**	**18 35 13.0**	**0.0**
SRN				*i* Sg	**Sg**	**18 35 14.2**	**+1.2**
	SNR=90						
KEK	**Kerkira**	**0.38**	**182**	P	**Pg**	**18 35 11.5**	**-0.4**
KEK				S	**Sg**	**18 35 17.1**	**+0.3**
KEK	**Kerkira**	**0.38**	**182**	*e*PB	**Pg**	**18 35 11.5**	**-0.4**
KEK				*e*SB	**Sg**	**18 35 17.5**	**+0.7**
KEK	**Kerkira**	**0.38**	**182**	P	**Pg**	**18 35 11.5**	**-0.4**
KEK				S	**Sg**	**18 35 17.1**	**+0.3**
KEK				*e*Sb	**Sg**	**18 35 17.5**	**+0.7**
VLO	**Vlora**	**0.45**	**328**	*i* PG	**Pb**	**18 35 14.8**	**+0.2**
VLO				*i* SG	**Sn**	**18 35 24.1**	**+4.9**
VLO	**Vlora**	**0.45**	**328**	P	**Pb**	**18 35 14.9**	**+0.2**
VLO				S	**Sb**	**18 35 22.3**	**+0.8**
VLO	**Vlora**	**0.45**	**328**	P	**Pb**	**18 35 14.9**	**+0.2**
VLO				S	**Sb**	**18 35 22.3**	**+0.8**
VLO				*i* Sg	**Sn**	**18 35 24.1**	**+4.9**
	SNR=90						
IGT	**Igoumenitsa**	**0.69**	**144**	P	**Pg**	**18 35 16.7**	**-1.0**
IGT				S	**Sg**	**18 35 26.5**	**-0.2**
IGT	**Igoumenitsa**	**0.69**	**144**	*e*PG	**Pg**	**18 35 16.9**	**-0.8**
IGT				*e*SG	**Sb**	**18 35 28.2**	**-0.1**
IGT	**Igoumenitsa**	**0.69**	**144**	*e*Pg	**Pg**	**18 35 16.9**	**-0.8**
IGT				S	**Sg**	**18 35 26.5**	**-0.2**
IGT				*e*Sg	**Sb**	**18 35 28.2**	**-0.1**
JAN	**Janina**	**0.91**	**118**	P	**Pb**	**18 35 21.7**	**-0.8**
JAN				S	**Sb**	**18 35 34.1**	**-0.6**
JAN	**Janina**	**0.91**	**118**	*e*PB	**Pb**	**18 35 21.8**	**-0.8**
JAN				*e*SB	**Sn**	**18 35 36.8**	**0.0**
JAN	**Janina**	**0.91**	**118**	P	**Pb**	**18 35 21.7**	**-0.8**
JAN				S	**Sb**	**18 35 34.1**	**-0.6**
JAN				*e*Sb	**Sn**	**18 35 36.8**	**0.0**
KBN	**Korca**	**0.92**	**54**	*i* PG	**Pn**	**18 35 23.5**	**-0.2**
KBN				*i* SG	**Sn**	**18 35 36.2**	**-0.9**
KBN	**Korca**	**0.92**	**54**	*i* Pg	**Pn**	**18 35 23.5**	**-0.2**
	SNR=91						
KBN				*i* Sg	**Sn**	**18 35 36.2**	**-0.9**
	SNR=91						
NEST	**Nestorio**	**1.00**	**71**	P	**Pb**	**18 35 22.9**	**-1.2**
NEST	**Nestorio**	**1.00**	**71**	*e*PG	**Pb**	**18 35 22.2**	**-1.9**
NEST	**Nestorio**	**1.00**	**71**	*e*Pg	**Pb**	**18 35 22.2**	**-1.9**
NEST	**Nestorio**	**1.00**	**71**	P	**Pb**	**18 35 22.9**	**-1.2**
OHR	**Ohrid**	**1.27**	**36**	*e*Pn	**Pb**	**18 35 28.6**	**0.0**
OHR				*e*Sn	**Sg**	**18 35 46.8**	**+1.5**
OHR	**Ohrid**	**1.27**	**36**	*e*Pn	**Pb**	**18 35 28.6**	**0.0**
OHR				*e*Sn	**Sg**	**18 35 46.8**	**+1.5**
DSL	**Palaion Diasel**	**1.38**	**133**	P	**Pb**	**18 35 30.6**	**+0.1**
DSL				S	**Sg**	**18 35 49.4**	**+0.6**
DSL	**Palaion Diasel**	**1.38**	**133**	*e*PB	**Pg**	**18 35 31.0**	**+0.1**
DSL				*e*SB	**Sg**	**18 35 51.6**	**+2.8**
DSL	**Palaion Diasel**	**1.38**	**133**	P	**Pb**	**18 35 30.6**	**+0.1**
DSL	**Palaion Diasel**	**1.38**	**133**	*e*Pb	**Pg**	**18 35 31.0**	**+0.1**
DSL				S	**Sg**	**18 35 49.4**	**+0.6**
DSL				*e*Sb	**Sg**	**18 35 51.6**	**+2.8**
FNA	**Florina**	**1.38**	**59**	P	**Pn**	**18 35 29.8**	**-0.3**
FNA				S	**Sg**	**18 35 50.0**	**+1.1**
FNA	**Florina**	**1.38**	**59**	*e*PB	**Pn**	**18 35 30.0**	**-0.1**
FNA				*e*SB	**Sg**	**18 35 50.8**	**+1.9**
FNA	**Florina**	**1.38**	**59**	P	**Pn**	**18 35 29.8**	**-0.3**
FNA				S	**Sg**	**18 35 50.0**	**+1.1**
FNA				*e*Sb	**Sg**	**18 35 50.8**	**+1.9**
LKD2	**Lefkada island**	**1.46**	**153**	P	**Pb**	**18 35 31.5**	**-0.3**
LKD2	**Lefkada island**	**1.46**	**153**	*e*PB	**Pb**	**18 35 31.3**	**-0.5**
LKD2	**Lefkada island**	**1.46**	**153**	P	**Pb**	**18 35 31.5**	**-0.3**
KZN	**Kozani**	**1.52**	**81**	*e*PG	**Pn**	**18 35 32.1**	**+0.1**
KZN	**Kozani**	**1.52**	**81**	*e*Pg	**Pn**	**18 35 32.1**	**+0.1**
PHP	**Peshkopia**	**1.66**	**16**	*i* PN	**Pg**	**18 35 36.4**	**0.0**
PHP				*i* SN	**Sg**	**18 36 01.9**	**+3.9**
PHP	**Peshkopia**	**1.66**	**16**	*i* Pn	**Pg**	**18 35 36.4**	**0.0**
	SNR=40						
PHP				*i* Sn	**Sg**	**18 36 01.9**	**+3.9**
	SNR=40						
THL	**Klokotos Trika**	**1.77**	**106**	*e*PG	**Pg**	**18 35 39.1**	**+0.6**
THL				*e*SN	**Sg**	**18 36 03.4**	**+1.8**
THL	**Klokotos Trika**	**1.77**	**106**	*e*Pg	**Pg**	**18 35 39.1**	**+0.6**
THL				*e*Sn	**Sg**	**18 36 03.4**	**+1.8**
PDO	**Prodromos**	**1.83**	**144**	*e*PN	**Pb**	**18 35 37.8**	**-0.4**
PDO				*e*SN	**Sg**	**18 36 04.4**	**+1.1**
PDO	**Prodromos**	**1.83**	**144**	*e*Pn	**Pb**	**18 35 37.8**	**-0.4**
PDO				*e*Sn	**Sg**	**18 36 04.4**	**+1.1**
EVR	**Evrytania**	**1.94**	**127**	*e*PN	**Pb**	**18 35 39.6**	**-0.5**
EVR				*e*SN	**Sg**	**18 36 07.4**	**+0.6**
EVR	**Evrytania**	**1.94**	**127**	*e*Pn	**Pb**	**18 35 39.6**	**-0.5**
EVR				*e*Sn	**Sg**	**18 36 07.4**	**+0.6**
PUK	**Puka**	**1.95**	**2**	*i* PN	**Pb**	**18 35 40.8**	**+0.5**
PUK				*i* SN	**Sg**	**18 36 06.2**	**-1.0**
PUK	**Puka**	**1.95**	**2**	*i* Pn	**Pb**	**18 35 40.8**	**+0.5**
	SNR=40						
PUK				*i* Sn	**Sg**	**18 36 06.2**	**-1.0**
	SNR

*IDC **05** 18:41:17.5±0.8,0°.57S×100°.33E,h0km,mb3.9/21, mb1 4.0/22,mb1mx3.9/51,mbtmp3.9/22,ML3.6/1,MS3.2/5, Ms1 3.2/5,ms1mx2.7/37,Error ellipse: s-maj=26.0km s-min=15.1km az=41.0*

*NEIC **05** 18:41:19.5±5.2,0.57S×100.38E,h12km±31km,mb4.3/6, Error ellipse: s-maj=16.5km s-min=8.9km az=222.0*

NEIC Felt [IV] at Batusangkar and Padangpanjang.

*ISCJB **05** 18:41:20.4±0.4,0.48S±0.05×100.39E±0.03,h25km, mb4.1/27,MS3.3/3,Error ellipse: s-maj=7.2km s-min=4.7km az=15.5*

*KLM **05** 18:41:25.8,0.29S×100.53E,h22km,mb4.3,ML4.5,MS5.4*

*DJA **05** 18:41:25.3±0.3,0°.5S±3′×10°.1E±°,h10km,M4.6/14,mb4.6/6, mb4.7/1,MLv4.6/14,Mw(mB)3.9/1*

ISC 05 18:41:22.5±0.6,0.41S±0.06×100.39E±0.05,h25km,n73, σ1ᵍ30/66,mb4.1/27,MS3.4/3,7C-3D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.97**	**42**	P	**Pn**	**18 41 39.5**	**-1.1**
BKNI				S	**Sb**	**18 41 50.9**	**-2.3**
BKNI	**Bangkinang**	**0.97**	**42**	*e*Pn	**Pn**	**18 41 39.3**	**-1.3**
SDSI	**Sungai Dareh**	**1.16**	**117**	P	**Pn**	**18 41 42.0**	**-1.1**
SDSI				S	**Sn**	**18 41 56.2**	**-2.0**
MNSI	**Mandailing Nat**	**1.44**	**326**	P	**Pb**	**18 41 48.2**	**-0.5**
JMBI	**JAMBI**	**3.47**	**111**	P	**Pb**	**18 42 25.9**	**+2.6**
JMBI				S	**Sb**	**18 43 08.8**	**+3.8**
KGM	**Kluang**	**3.79**	**51**	⇑P	**Pn**	**18 42 20.7**	**+1.3**
FRIM	**Kepong**	**3.82**	**19**	⇑P	**Pn**	**18 42 21.5**	**+1.6**
MYKOM	**Kota Tinggi**	**4.09**	**58**	⇓P	**Pn**	**18 42 24.4**	**+0.9**
MYKOM	**Kota Tinggi**	**4.09**	**58**	⇑S	**Sn**	**18 43 09.2**	**-1.3**
TSI	**Tuntungan**	**4.29**	**335**	P	Pb	18 42 32.3	-4.9
TPRI	**Tanjung Pinang**	**4.34**	**72**	P	**Pn**	**18 42 27.5**	**+0.6**
LHSI	**Lahat**	**4.62**	**137**	P	Pn	18 42 34.9	+4.2
KCSI	**Kotacane, Aceh**	**4.70**	**326**	P	**Pn**	**18 42 34.9**	**+3.0**
IPM	**Ipoh**	**4.89**	**7**	⇑P	**Pn**	**18 42 36.7**	**+2.2**
IPM	**Ipoh** 46nm,0.6s	**4.89**	**7**	*e*Pn	**Pn**	**18 42 36.5**	**+1.9**
MDSI	**Maura Dua** 69nm,0.9s,0.3nm	**5.54**	**137**	P	Pn	18 42 48.6	+5.1
KULM	**Kulim**	**5.66**	**3**	⇑P	**Pn**	**18 42 47.4**	**+2.2**
KULM	**Kulim** 26nm,0.6s	**5.66**	**3**	*e*Pn	**Pn**	**18 42 46.8**	**+1.6**
LWLI	**Liwa** 72nm,0.8s,0.3nm	**5.86**	**141**	P	Pn	18 42 53.3	+5.3
KTGM	**Kuala Trenggan**	**6.32**	**26**	⇓P	**Pn**	**18 42 56.2**	**+2.0**
KASI	**Kota Agung** 36nm,1.0s,0.1nm	**6.53**	**141**	P	Pn	18 43 03.4	+6.4
LEM	**Lembang** comp=Z,129nm,18.4s,baz=272,slow=41	**9.62**	**132**	LR	LR	18 47 48.7	
SBUM	**Sibu**	**12.16**	**76**	⇓P	**Pn**	**18 44 15.3**	**+1.0**
BTM	**Bintulu**	**13.18**	**74**	⇑P	**Pn**	**18 44 28.5**	**+0.2**
KKM	**Kota Kinabalu**	**17.05**	**68**	⇑P	**Pn**	**18 45 20.5**	**+1.0**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=186,slow=8.2,SNR=3.2	**18.80**	**356**	P	**P**	**18 45 40.9**	**+0.6**
CMAR	comp=Z,31nm,21.2s,baz=160,slow=38			LR	LR	18 53 17.2	
BNSI	**Bone** 21nm,1.5s	**20.09**	**102**	P	Pn	18 45 59.3	+2.9
BKSI	**Bulukumba**	**20.30**	**104**	P	Pn	18 46 06.2	+7.4
PALK	**Pallekele** 5.3nm,0.9s,baz=122,slow=12,SNR=2.2	**21.07**	**292**	P	**P**	**18 46 03.1**	**-2.0**
H08S2	**Diego Garcia H** baz=77,slow=75,SNR=4.6	**28.73**	**255**	T	T	19 15 50.6	
H08S3	**Diego Garcia H** baz=77,slow=75,SNR=9.4	**28.73**	**255**	T	T	19 15 51.8	
H08S1	**Diego Carcia H** baz=77,slow=75,SNR=8.8	**28.75**	**255**	T	T	19 15 47.4	
TAPN	**Taplejung** 16nm,1.0s	**30.17**	**337**	*e*P	**P**	**18 47 31.8**	**+0.6**
JIRN	**Jiri**	**31.06**	**335**	*e*P	**P**	**18 47 40.3**	**+1.2**
LSA	**Lhasa**	**31.21**	**344**	*e*P	**P**	**18 47 40.7**	**+0.2**
PKI	**Pulchoki**	**31.32**	**334**	*e*P	**P**	**18 47 41.9**	**+0.5**
GUN	**Gumba** 16nm,0.6s	**31.41**	**335**	*e*P	**P**	**18 47 43.4**	**+1.2**
KKN	**Kakani**	**31.57**	**334**	*e*P	**P**	**18 47 44.0**	**+0.6**
GKN	**Gorkha**	**32.04**	**333**	*e*P	**P**	**18 47 48.1**	**+0.6**
KOLN	**Koldanda** 13nm,0.6s	**32.32**	**331**	*e*P	**P**	**18 47 50.7**	**+0.7**
DANN	**Dangsing** 11nm,0.6s	**32.74**	**332**	*e*P	**P**	**18 47 54.4**	**+0.6**
PYUN	**Piuthan** 10.0nm,0.4s	**32.89**	**331**	*e*P	**P**	**18 47 56.5**	**+1.5**
WRA	**Warramunga Arr** 2.3nm,0.9s,baz=299,slow=9.2,SNR=12	**38.48**	**122**	P	**P**	**18 48 40.5**	**-2.4**
WRAB	**Tennant Creek**	**38.49**	**122**	*e*P	**P**	**18 48 42.9**	**-0.1**
ASAR	**Alice Springs** 1.8nm,0.7s,baz=306,slow=7.7,SNR=26	**39.89**	**128**	P	**P**	**18 48 53.1**	**-1.5**
ASAR	1.1nm,0.9s,baz=299,slow=2.8,SNR=6.4			PcP	**PcP**	**18 50 60.0**	**-0.3**
KSAR	**Wonju Array Be**	**45.43**	**31**	P	**P**	**18 49 40.5**	**+1.2**
KSRS	**Korea Array** 1.3nm,0.7s,baz=227,slow=8.3,SNR=6.8	**45.46**	**31**	P	**P**	**18 49 40.5**	**+0.9**
KSRS	comp=Z,18nm,19.6s,baz=214,slow=38			LR	LR	19 10 17.9	
PMG	**Port Moresby** comp=Z,36nm,18.7s,baz=276,slow=41	**47.39**	**102**	LR	LR	19 13 52.7	
SONM	**Songino Array** 0.8nm,0.7s,baz=188,slow=9.1,SNR=7.2	**48.33**	**5**	P	**P**	**18 50 02.5**	**+0.4**
SONM	1.2nm,1.0s,baz=182,slow=4.3,SNR=4.4			PcP	**PcP**	**18 51 28.7**	**+0.1**
TKM2	**Tokmak 2** 3.6nm,0.8s	**48.54**	**336**	*e*P	**P**	**18 50 04.9**	**+1.0**
AAK	**Ala-Archa** 1.8nm,0.8s	**48.77**	**335**	*e*P	**P**	**18 50 05.1**	**-0.5**
EKS2	**Erkin-Say** 4.7nm,0.8s	**49.10**	**334**	*e*P	**P**	**18 50 09.6**	**+1.5**
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=155,slow=8.2,SNR=24	**49.61**	**344**	P	**P**	**18 50 11.8**	**0.0**
MJAR	**Matsushiro Arr** 0.6nm,0.9s,baz=193,slow=16,SNR=3.5	**50.80**	**40**	P	**P**	**18 50 20.5**	**-0.5**
KKAR	**Karatay Array** 1.8nm,0.7s	**50.93**	**332**	*e*P	**P**	**18 50 22.9**	**+1.0**
USRK	**Ussuriysk Ar.** 1.0nm,0.6s,baz=237,slow=5.0,SNR=2.9	**52.58**	**28**	P	**P**	**18 50 34.3**	**+0.3**
KURBB	**Kurchatov Arra** 1.3nm,0.8s,baz=175,slow=6.9,SNR=16	**54.15**	**343**	P	**P**	**18 50 45.0**	**-0.5**
KURBB	0.5nm,0.7s,baz=159,slow=3.5,SNR=4.7			PcP	**PcP**	**18 51 49.5**	**-0.4**
KURK	**Kurchatov** 3.1nm,0.8s	**54.20**	**343**	*e*P	**P**	**18 50 45.8**	**-0.1**
KURK				PcP	**PcP**	**18 51 49.5**	**-0.6**
GEYT	**Alibeck** 1.2nm,0.8s,baz=163,slow=5.6,SNR=3.6	**54.49**	**319**	P	**P**	**18 50 47.9**	**-0.5**
ZALV	**Zalesovo Beam** 2.4nm,0.7s,baz=145,slow=5.4,SNR=11	**55.69**	**349**	P	**P**	**18 50 55.6**	**-1.0**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=149,slow=10,SNR=7.7	**58.84**	**339**	P	**P**	**18 51 18.0**	**-0.9**
ABKAR	**Akbulak array** 6.0nm,0.7s	**60.45**	**331**	*e*P	**P**	**18 51 29.7**	**-0.3**
AKTO	**Aktyubinsk** 1.3nm,0.6s,baz=126,slow=2.9,SNR=7.6	**62.16**	**331**	P	**P**	**18 51 40.7**	**-0.9**
KMBO	**Kilima Mbogo** comp=Z,30nm,21.9s,baz=84,slow=29	**63.14**	**269**	LR	LR	19 11 48.1	
KBZ	**Khabaz** 2.7nm,0.9s,baz=109,slow=4.6,SNR=9.3	**67.38**	**319**	P	**P**	**18 52 15.8**	**+0.1**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=127,slow=7.6,SNR=5.5	**72.55**	**312**	P	**P**	**18 52 47.9**	**0.0**
AKASG	**Malin Array Be** 1.5nm,0.8s,baz=87,slow=4.8,SNR=7.9	**78.47**	**322**	P	**P**	**18 53 20.6**	**-0.8**
MLR	**Muntele Rosu** 0.5nm,1.0s,baz=244,slow=12,SNR=3.7	**79.42**	**316**	P	**P**	**18 53 27.0**	**+0.1**
FINES	**FINESS Array B** 0.8nm,0.7s,baz=98,slow=5.8,SNR=6.1	**82.89**	**332**	P	**P**	**18 53 43.9**	**-0.9**
ARCES	**ARCESS Array B** 2.1nm,0.9s,baz=26,slow=5.8,SNR=3.6	**85.12**	**340**	P	**P**	**18 53 55.8**	**-0.3**
GERES	**GERESS Array B** 0.6nm,0.7s,baz=98,slow=5.5,SNR=5.3	**88.12**	**319**	P	**P**	**18 54 11.1**	**-0.2**
DAVOX	**Davos/Dischmat** 1.7nm,0.7s,baz=119,slow=19,SNR=4.2	**90.65**	**317**	P	**P**	**18 54 22.9**	**-0.5**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=291,slow=2.5,SNR=3.1	**143.20**	**36**	PKP	PKPbc	19 00 52.6	+0.3

GUC 05 18:45:07.0±0.4,34.75S×72.01W,h13km±4km,ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.69**	**111**	*e*P	Pg	18 45 20.5	+0.1
NICH				*e*S	Sb	18 45 30.6	+0.4
TALC	**Talca**	**0.71**	**155**	*e*P	Pg	18 45 20.6	-0.2
TALC				*e*S	Sb	18 45 31.4	+0.5
LNCH	**Linares**	**1.14**	**163**	*e*P	Pb	18 45 27.9	-0.7
LNCH				*e*S	Sg	18 45 43.8	-0.2
CLCH	**Cerro Calan**	**1.82**	**42**	*e*P	Pn	18 45 38.7	+0.6
CLCH				*e*S	Sb	18 46 03.3	+0.1
CLCH	comp=N,2μm,0.8s			AML	AML	18 46 08.1	
PEL	**Peldehue**	**1.95**	**35**	*e*P	Pn	18 45 39.5	-0.3
PEL				*e*S	Sn	18 46 05.3	+1.1
PEL	comp=E,1μm,0.6s			AML	AML	18 46 09.8	

NEIC 05 18:47:10.9,32.63N×115.80W,h3km,ML3.6(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.74**	**274**	*e*Pg	Pg	18 47 25.0	-0.1
GLA	**Glamis**	**0.92**	**62**	*e*Pg	Pg	18 47 27.3	-1.3
PFO	**Pinyon Flats O**	**1.12**	**331**	*e*Pg	Pg	18 47 30.5	-2.1
MWC	**Mount Wilson**	**2.47**	**311**	*e*Pn	Pn	18 47 53.6	+1.4
LDFC	**Landfair**	**2.51**	**13**	Pg	Pg	18 48 01.4	+2.2
214A	**Organ Pipe Nat**	**2.62**	**104**	*e*Pn	Pn	18 47 55.4	+1.3
GSC	**Goldstone, Bar**	**2.79**	**343**	*e*Pn	Pn	18 47 56.3	-0.3
ISA	**Isabella, Lake**	**3.75**	**325**	*e*Pg	Pb	18 48 18.7	+0.8
SHPR	**Sheep Range**	**3.90**	**8**	*e*Pg	Pg	18 48 27.4	+1.4
121A	**Cookes Peak, D** 7.8nm,0.3s	**6.77**	**89**	*e*Pn	Pn	18 48 50.2	-1.2

*NEIC **05** 18:52:11.5,36.34S×177.31E,h275km,MG4.4(WEL), After WEL.*

WEL 05 18:52:11.2±0.4,36.26S×177.17E,h268km±3km,ML4.4/18, 8C-8D,Error ellipse: s-maj=4.3km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.57**	**162**	PN	Pn	18 52 51.7	0.0
HAZ				SN	S	18 53 22.1	-1.6
HAZ				SN		18 53 22.7	
MXZ	**Matakaoa Point**	**1.59**	**145**	⇓PN	Pn	18 52 51.8	0.0
MXZ				SN	S	18 53 23.5	-0.4
MXZ				AML	AML	18 53 25.3	
MXZ				AML	AML	18 53 25.3	
MXZ				AML	AML	18 53 33.9	
MXZ	**Matakaoa Point**	**1.59**	**145**	Pn	Pn	18 52 51.8	0.0
MXZ				Sn	S	18 53 23.6	-0.4
WMGZ	**Waiomatatini S**	**1.85**	**148**	PN	Pn	18 52 53.9	0.0
WMGZ				SN	S	18 53 26.9	-0.8
URZ	**Urewera**	**2.00**	**181**	PN	Pn	18 52 55.1	+0.1
URZ				AML	AML	18 53 38.1	
URZ				AML	AML	18 53 38.1	
URZ	**Urewera**	**2.00**	**181**	Pn	Pn	18 52 55.1	+0.1
PUZ	**Puketiti**	**2.01**	**155**	⇑PN	Pn	18 52 55.0	-0.2
PUZ				SN	S	18 53 28.9	-1.2
PUZ				AML	AML	18 53 39.3	
PUZ	**Puketiti**	**2.01**	**155**	Pn	Pn	18 52 55.0	-0.2
TWGZ	**Tauwhareparae**	**2.02**	**161**	⇑PN	Pn	18 52 55.8	+0.5
TARZ	**Mount Tarawera**	**2.04**	**195**	PN	Pn	18 52 56.3	+0.7
TARZ	**Mount Tarawera**	**2.04**	**195**	Pn	Pn	18 52 57.3	+1.7
MWZ	**Matawai**	**2.09**	**172**	⇓PN	Pn	18 52 56.2	+0.3
MWZ				AML	AML	18 53 33.8	
MWZ				AML	AML	18 53 34.0	
MWZ	**Matawai**	**2.09**	**172**	Pn	Pn	18 52 56.2	+0.3
TKGZ	**Te Karaka**	**2.24**	**166**	PN	Pn	18 52 57.4	+0.1
RIGZ	**Rimuhau**	**2.49**	**169**	PN	Pn	18 52 59.6	0.0
SNGZ	**Shannon Statio**	**2.52**	**177**	⇓PN	Pn	18 52 00.1	+0.2
RAHZ	**Arahi**	**2.65**	**181**	PN	Pn	18 53 01.6	+0.3
RAHZ	**Arahi**	**2.65**	**181**	Pn	Pn	18 53 01.6	+0.4
PRGZ	**Paritu Road**	**2.72**	**168**	Pn	Pn	18 53 01.7	-0.2
KNZ	**Kokohu**	**2.79**	**172**	PN	Pn	18 53 02.1	-0.4
KNZ	**Kokohu**	**2.79**	**172**	Pn	Pn	18 53 02.1	-0.4
WHHZ	**Waihua**	**2.81**	**179**	⇑PN	Pn	18 53 03.1	+0.3
MHGZ	**Mahia Peninsul**	**2.95**	**169**	PN	Pn	18 53 04.0	-0.2
MHGZ	**Mahia Peninsul**	**2.95**	**169**	Pn	Pn	18 53 04.0	-0.2
BKZ	**Black Stump Fm**	**2.95**	**190**	PN	Pn	18 53 03.9	-0.4
BKZ				AML	AML	18 53 48.0	
BKZ				AML	AML	18 53 48.2	
BKZ	**Black Stump Fm**	**2.95**	**190**	Pn	Pn	18 53 03.9	-0.4
KATZ	**Kakaramea**	**2.95**	**203**	PN	Pn	18 53 05.1	+0.7
KATZ	**Kakaramea**	**2.95**	**203**	Pn	Pn	18 53 05.1	+0.7
ARHZ	**Aropaoanui**	**3.00**	**183**	PN	Pn	18 53 05.0	+0.2
KRVZ	**Karewarewa**	**3.08**	**203**	PN	Pn	18 53 06.4	+0.7
KRVZ	**Karewarewa**	**3.08**	**203**	Pn	Pn	18 53 06.4	+0.7
WTVZ	**West Tongariro**	**3.12**	**203**	⇓PN	Pn	18 53 06.8	+0.7
WTVZ	**West Tongariro**	**3.12**	**203**	Pn	Pn	18 53 06.8	+0.7
TWVZ	**Taurewa**	**3.12**	**206**	PN	Pn	18 53 07.2	+1.0
TWVZ	**Taurewa**	**3.12**	**206**	Pn	Pn	18 53 07.2	+1.0
NGZ	**Ngauruhoe**	**3.17**	**203**	PN	Pn	18 53 07.3	+0.6
NGZ	**Ngauruhoe**	**3.17**	**203**	Pn	Pn	18 53 07.3	+0.6
MCHZ	**McNeill Hill**	**3.20**	**187**	PN	Pn	18 53 07.0	+0.2
MCHZ	**McNeill Hill**	**3.20**	**187**	Pn	Pn	18 53 07.0	+0.2
COVZ	**Chateau Observ**	**3.21**	**203**	⇑PN	Pn	18 53 07.6	+0.5
WPVZ	**Whakapapa**	**3.21**	**203**	PN	Pn	18 53 07.5	+0.4
WPVZ	**Whakapapa**	**3.21**	**203**	Pn	Pn	18 53 07.5	+0.4
TUVZ	**Tukino**	**3.23**	**201**	PN	Pn	18 53 07.7	+0.3
TUVZ	**Tukino**	**3.23**	**201**	Pn	Pn	18 53 07.7	+0.3
FWVZ	**Far West T-bar**	**3.25**	**203**	PN	Pn	18 53 07.9	+0.2
FWVZ	**Far West T-bar**	**3.25**	**203**	Pn	Pn	18 53 07.9	+0.2
WHVZ	**Whangaehu Hut**	**3.27**	**202**	⇑PN	Pn	18 53 08.1	+0.3
TRVZ	**Turoa**	**3.29**	**202**	⇑PN	Pn	18 53 08.5	+0.3
TRVZ	**Turoa**	**3.29**	**202**	Pn	Pn	18 53 08.5	+0.3
WNVZ	**Wahianoa**	**3.31**	**202**	PN	Pn	18 53 08.3	+0.2
WNVZ	**Wahianoa**	**3.31**	**202**	Pn	Pn	18 53 08.3	+0.2
MOVZ	**Moawhango**	**3.34**	**199**	⇓PN	Pn	18 53 08.0	-0.4
MOVZ	**Moawhango**	**3.34**	**199**	Pn	Pn	18 53 08.0	-0.4
BHHZ	**Black Hill Sta**	**3.34**	**195**	PN	Pn	18 53 07.7	-0.7
BHHZ	**Black Hill Sta**	**3.34**	**195**	Pn	Pn	18 53 07.8	-0.7
CKHZ	**Cape Kidnapper**	**3.40**	**181**	PN	Pn	18 53 08.5	-0.4
CKHZ	**Cape Kidnapper**	**3.40**	**181**	Pn	Pn	18 53 08.5	-0.4
MTVZ	**Mangateitei**	**3.40**	**203**	⇓PN	Pn	18 53 09.5	+0.4
MTVZ	**Mangateitei**	**3.40**	**203**	Pn	Pn	18 53 09.5	+0.4
KRHZ	**Kereru**	**3.44**	**190**	PN	Pn	18 53 08.7	-0.7
VRZ	**Vera Road**	**3.44**	**213**	Pn	Pn	18 53 09.9	+0.5
KAHZ	**Kahuranaki**	**3.54**	**184**	PN	Pn	18 53 10.1	-0.5
KAHZ	**Kahuranaki**	**3.54**	**184**	Pn	Pn	18 53 10.1	-0.5
PNHZ	**Pukenui**	**3.73**	**192**	PN	Pn	18 53 11.5	-1.2
PNHZ	**Pukenui**	**3.73**	**192**	Pn	Pn	18 53 11.5	-1.2
PXZ	**Pawanui**	**3.77**	**184**	⇓PN	Pn	18 53 12.0	-1.1
PXZ				AML	AML	18 53 03.4	
PXZ				AML	AML	18 54 04.9	
PXZ	**Pawanui**	**3.77**	**184**	Pn	Pn	18 53 12.0	-1.1
WPHZ	**Waipukurau**	**3.84**	**188**	PN	Pn	18 53 12.7	-1.2
WPHZ	**Waipukurau**	**3.84**	**188**	Pn	Pn	18 53 12.7	-1.2
WAZ	**Wanganui**	**3.89**	**206**	PN	Pn	18 53 14.6	+0.1
WAZ	**Wanganui**	**3.89**	**206**	Pn	Pn	18 53 14.6	+0.1
TSZ	**Takapari Road**	**3.91**	**194**	PN	Pn	18 53 13.4	-1.3
TSZ				AML	AML	18 54 06.6	
TSZ				AML	AML	18 54 07.9	
TSZ	**Takapari Road**	**3.91**	**194**	Pn	Pn	18 53 13.4	-1.3
PRHZ	**Porangahau**	**4.02**	**186**	PN	Pn	18 53 14.8	-1.2
PRHZ	**Porangahau**	**4.02**	**186**	Pn	Pn	18 53 14.8	-1.2
DVHZ	**Dannevirke**	**4.11**	**191**	PN	Pn	18 53 15.5	-1.5
DVHZ	**Dannevirke**	**4.11**	**191**	Pn	Pn	18 53 15.5	-1.5
POWZ	**Post Office Ro**	**4.27**	**194**	PN	Pn	18 53 17.5	-1.3
POWZ	**Post Office Ro**	**4.27**	**194**	Pn	Pn	18 53 17.5	-1.3
PRWZ	**Pori Road**	**4.39**	**192**	PN	Pn	18 53 19.1	-1.1
BFZ	**Birch Farm**	**4.47**	**189**	PN	Pn	18 53 19.4	-1.8
BFZ	**Birch Farm**	**4.47**	**189**	Pn	Pn	18 53 19.4	-1.8
MRZ	**Mangatainoka R**	**4.57**	**195**	⇓PN	Pn	18 53 20.5	-1.9
MRZ				AML	AML	18 54 19.1	
MRZ				AML	AML	18 54 19.3	
MRZ	**Mangatainoka R**	**4.57**	**195**	Pn	Pn	18 53 20.5	-1.9
TIWZ	**Tintock**	**4.62**	**192**	PN	Pn	18 53 21.1	-1.9
TIWZ				AML	AML	18 54 20.8	
TIWZ				AML	AML	18 54 22.2	
TIWZ	**Tintock**	**4.62**	**192**	Pn	Pn	18 53 21.1	-1.9
HOWZ	**Holdsworth Sta**	**4.81**	**195**	PN	Pn	18 53 23.1	-2.1
HOWZ	**Holdsworth Sta**	**4.81**	**195**	Pn	Pn	18 53 23.1	-2.1
KIW	**Kapiti Island**	**4.92**	**200**	PN	Pn	18 53 24.6	-2.0
KIW				AML	AML	18 54 27.3	
KIW				AML	AML	18 54 28.7	
KIW	**Kapiti Island**	**4.92**	**200**	Pn	Pn	18 53 24.6	-2.0
TMWZ	**Te Maipa**	**4.94**	**191**	PN	Pn	18 53 25.0	-1.8
TMWZ	**Te Maipa**	**4.94**	**191**	Pn	Pn	18 53 25.1	-1.8
MTW	**Mount Morrison**	**5.06**	**194**	⇑PN	Pn	18 53 26.0	-2.2
MTW				AML	AML	18 54 29.2	
MTW				AML	AML	18 54 30.9	
MTW	**Mount Morrison**	**5.06**	**194**	Pn	Pn	18 53 26.0	-2.2
CAW	**Cannon Point**	**5.11**	**198**	PN	Pn	18 53 26.4	-2.5
CAW				AML	AML	18 54 29.9	
CAW				AML	AML	18 54 31.2	
DUWZ	**D'Urville Isla**	**5.20**	**208**	PN	Pn	18 53 27.9	-2.0
DUWZ	**D'Urville Isla**	**5.20**	**208**	Pn	Pn	18 53 27.9	-2.0
TRWZ	**Traveller**	**5.26**	**192**	PN	Pn	18 53 28.5	-2.1
TRWZ				AML	AML	18 54 32.4	
TRWZ				AML	AML	18 54 36.9	
TRWZ	**Traveller**	**5.26**	**192**	Pn	Pn	18 53 28.5	-2.1
PAWZ	**Paruwai Farm**	**5.29**	**194**	PN	Pn	18 53 28.7	-2.3
PAWZ				AML	AML	18 54 32.5	
PAWZ				AML	AML	18 54 33.3	
PAWZ	**Paruwai Farm**	**5.29**	**194**	Pn	Pn	18 53 28.7	-2.3
WEL	**Wellington**	**5.36**	**200**	PN	Pn	18 53 29.7	-2.0
WEL	**Wellington**	**5.36**	**200**	Pn	Pn	18 53 29.7	-2.0
MSWZ	**Moikau Station**	**5.36**	**196**	PN	Pn	18 53 29.1	-2.8
MSWZ				AML	AML	18 54 34.6	
MSWZ				AML	AML	18 54 34.6	
MSWZ	**Moikau Station**	**5.36**	**196**	Pn	Pn	18 53 29.1	-2.8
TCW	**Tory Channel**	**5.44**	**204**	PN	Pn	18 53 30.5	-2.2
TCW				AML	AML	18 54 37.6	
TCW				AML	AML	18 54 37.6	
TCW	**Tory Channel**	**5.44**	**204**	Pn	Pn	18 53 30.5	-2.2
BHW	**Baring Head**	**5.45**	**199**	AML	AML	18 54 36.7	
BHW				AML	AML	18 54 39.8	
BHW	**Baring Head**	**5.45**	**199**	Pn	Pn	18 53 30.1	-2.7
PLWZ	**Palliser**	**5.51**	**195**	PN	Pn	18 53 31.1	-2.6
PLWZ	**Palliser**	**5.51**	**195**	Pn	Pn	18 53 31.1	-2.6
TUWZ	**Tuamarina**	**5.74**	**205**	PN	Pn	18 53 33.9	-2.6
TUWZ				SN	S	18 54 41.3	-3.5
TUWZ				AML	AML	18 54 44.9	
TUWZ	**Tuamarina**	**5.74**	**205**	Pn	Pn	18 53 33.9	-2.6
TUWZ				Sn	S	18 54 41.3	-3.5
NNZ	**Nelson**	**5.77**	**210**	⇑PN	Pn	18 53 34.2	-2.5
NNZ				SN	S	18 54 41.6	-3.8
NNZ	**Nelson**	**5.77**	**210**	Pn	Pn	18 53 34.2	-2.5
NNZ				Sn	S	18 54 41.6	-3.8
QRZ	**Quartz Range**	**5.83**	**217**	PN	Pn	18 53 35.4	-2.1
QRZ				SN	S	18 54 44.8	-2.1
QRZ	**Quartz Range**	**5.83**	**217**	Pn	Pn	18 53 35.5	-2.1
QRZ				Sn	S	18 54 44.8	-2.0
THZ	**Tophouse**	**6.42**	**210**	PN	Pn	18 53 42.6	-2.2
THZ				SN	S	18 54 57.1	-3.0
THZ	**Tophouse**	**6.42**	**210**	Pn	Pn	18 53 42.6	-2.2
THZ				Sn	S	18 54 57.1	-3.0
KHZ	**Kahutara**	**6.76**	**203**	PN	Pn	18 53 46.6	-2.4
KHZ				SN	S	18 55 04.4	-3.3
KHZ	**Kahutara**	**6.76**	**203**	Pn	Pn	18 53 46.6	-2.4
KHZ				Sn	S	18 55 04.4	-3.3
DSZ	**Denniston Nort**	**6.89**	**216**	PN	Pn	18 53 47.5	-3.1
DSZ				SN	S	18 55 06.7	-4.0
DSZ	**Denniston Nort**	**6.89**	**216**	Pn	Pn	18 53 47.5	-3.1
DSZ				Sn	S	18 55 06.7	-4.0
LTZ	**Lake Taylor**	**7.53**	**209**	PN	Pn	18 53 54.7	-4.0
LTZ				SN	S	18 55 19.2	-6.2
LTZ	**Lake Taylor**	**7.53**	**209**	Pn	Pn	18 53 54.7	-4.0
LTZ				Sn	S	18 55 19.2	-6.2
OXZ	**Oxford**	**8.08**	**208**	PN	Pn	18 54 01.7	-3.8
MQZ	**McQueen's Vall**	**8.21**	**204**	PN	Pn	18 54 03.3	-3.7
MQZ				SN	S	18 55 32.4	-8.2
MQZ	**McQueen's Vall**	**8.21**	**204**	Pn	Pn	18 54 03.3	-3.7
MQZ				Sn	S	18 55 32.4	-8.2
WVZ	**Waitaha Valley**	**8.42**	**214**	PN	Pn	18 54 06.6	-3.0
WVZ				SN	S	18 55 38.4	-7.1
WVZ	**Waitaha Valley**	**8.42**	**214**	Pn	Pn	18 54 06.6	-3.0
WVZ				Sn	S	18 55 38.4	-7.1
RPZ	**Rata Peaks**	**8.80**	**210**	PN	P

WB2	**Warramunga Arr**	**13.54**	**157**	*e*Pn		**Pn**	**19 13 16.1**	**-1.3**
WB2				*e*Sn		Sn	19 15 35.9	-12
COEN	**Coen**	**15.58**	**116**	*e*Pn		**Pn**	**19 13 43.6**	**+0.7**
	comp=Z,11nm,0.7s							
COEN				*e*Sn		Sn	19 16 25.1	-11
MBWA	**Marble Bar**	**16.16**	**212**	*e*Pn		**Pn**	**19 13 49.1**	**-0.7**
	comp=Z,12nm,0.6s							
MBWA				*e*Sn		S	19 16 36.4	-13
ASAR	**Alice Springs**	**16.85**	**163**	P		**Pn**	**19 14 00.9**	**+2.6**
	comp=Z,1.9nm,0.3s,baz=340,slow=11,SNR=288							
ASAR				S		S	19 16 56.5	-9.3
	comp=Z,2.5nm,0.3s,baz=320,slow=17,SNR=6.2							
SDKM	**Sandakan**	**17.38**	**318**	↑P		**Pn**	**19 14 05.7**	**+0.9**
PMG	**Port Moresby**	**18.33**	**97**	*e*P		**Pn**	**19 14 18.2**	**+2.3**
PMG				S		**S**	**19 17 32.4**	**-3.4**
PMG				pmax	pmax			
	comp=Z,8.0nm,0.8s							
PMG	**Port Moresby**	**18.33**	**97**	P		**Pn**	**19 14 17.3**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=243,slow=3.2,SNR=21							
PMG				S		**S**	**19 17 32.4**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=4.8							
PMG	**Port Moresby**	**18.33**	**97**	*e*P		**Pn**	**19 14 18.2**	**+2.3**
	comp=Z,7.9nm,0.8s							
PMG				S		**S**	**19 17 32.4**	**-3.4**
KKM	**Kota Kinabalu**	**18.34**	**317**	↑↑P		**Pn**	**19 14 17.3**	**+1.2**
KDM	**Kudat**	**18.58**	**320**	↓↓P		**Pn**	**19 14 19.4**	**+0.5**
STKI	**Sintang**	**18.77**	**293**	P		**Pn**	**19 14 21.7**	**+0.6**
	comp=Z,36nm,0.7s,comp=Z,2μm							
BTM	**Bintulu**	**18.87**	**304**	↑↑P		**P**	**19 14 21.1**	**+1.0**
SBUM	**Sibu**	**19.20**	**300**	↑↑P		**Pn**	**19 14 25.3**	**-0.9**
KSM	**Kuching**	**20.42**	**295**	↑P		**P**	**19 14 37.6**	**+0.8**
KSM	**Kuching**	**20.42**	**295**	*e*P		**P**	**19 14 36.6**	**-0.1**
	comp=Z,50nm,0.9s							
MYKOM	**Kota Tinggi**	**26.48**	**289**	↑↑P		**P**	**19 15 35.2**	**+0.6**
KGM	**Kluang**	**27.05**	**289**	↑↑P		**P**	**19 15 40.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**27.49**	**201**	P		**P**	**19 15 43.9**	**+0.4**
	comp=Z,5.5nm,0.3s,baz=47,slow=7.6,SNR=24							
UTHA	**Uthaitani**	**36.95**	**308**	P		**P**	**19 17 06.5**	**+0.5**
	comp=Z,3.8nm,0.9s							
UTTA	**Uttaradit**	**37.45**	**312**	P		**P**	**19 17 10.6**	**+0.4**
	comp=Z,4.2nm,0.9s							
SLVN	**Son La**	**37.60**	**320**	*e*P		**P**	**19 17 11.9**	**+0.4**
	comp=Z,2.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**39.09**	**312**	P		**P**	**19 17 24.1**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=145,slow=7.3,SNR=29							
CMAR				PcP		**PcP**	**19 19 32.2**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=169,slow=2.8,SNR=10							
CRAI	**Chiangrai**	**39.19**	**315**	P		**P**	**19 17 22.6**	**-2.2**
	comp=Z,17nm,1.1s							
CMMT	**Chiang Mai**	**39.30**	**312**	P		**P**	**19 17 26.0**	**+0.3**
	comp=Z,14nm,1.0s							
CHTO	**Chiang Mai**	**39.31**	**312**	*e*P		**P**	**19 17 25.7**	**0.0**
CHTO				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CHTO	**Chiang Mai**	**39.31**	**312**	*e*P		**P**	**19 17 25.7**	**0.0**
	comp=Z,9.8nm,1.0s							
CHTO	**Chiang Mai**	**39.31**	**312**	P		**P**	**19 17 26.1**	**+0.3**
	comp=Z,48nm,1.0s							
WHN	**Wuhan**	**40.24**	**341**	P		**P**	**19 17 33.5**	**+0.3**
MJAR	**Matsushiro Arr**	**44.67**	**11**	P		**P**	**19 18 07.3**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=189,slow=9.4,SNR=6.9							
KSAR	**Wonju Array Be**	**44.68**	**359**	P		**P**	**19 18 07.9**	**-1.1**
KSAR	**Wonju Array Be**	**44.68**	**359**	P		**P**	**19 18 07.8**	**-1.1**
KSRS	**Korea Array**	**44.69**	**359**	P		**P**	**19 18 07.8**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=172,slow=10.0,SNR=4.9							
XAN	**Xi'an**	**45.35**	**337**	P		**P**	**19 18 13.1**	**-1.4**
XAN				PMZ				
	comp=Z,5.0nm,0.8s							
XAN				PMZ				
	comp=Z,20nm,6.8s							
LZH	**Lanzhou**	**49.24**	**333**	*e*P		**P**	**19 18 45.3**	**+0.6**
LZH				PMZ				
	comp=Z,27nm,1.0s							
LZH				PMZ				
	comp=Z,130nm,4.0s							
LSA	**Lhasa**	**51.68**	**317**	*e*P		**P**	**19 19 02.8**	**-0.7**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
LSA	**Lhasa**	**51.68**	**317**	*e*P		**P**	**19 19 02.8**	**-0.7**
	comp=Z,4.8nm,0.6s							
ODAN	**Odare**	**52.62**	**312**	*e*P		**P**	**19 19 09.7**	**-0.5**
	comp=Z,18nm,0.5s							
TAPN	**Taplejung**	**52.67**	**313**	*e*P		**P**	**19 19 10.1**	**-0.5**
	comp=Z,16nm,0.5s							
ASAJ	**Asahikawa**	**52.85**	**13**	P		**P**	**19 19 10.5**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=238,slow=8.7,SNR=9.6							
RAMN	**Ramite**	**53.26**	**312**	*e*P		**P**	**19 19 14.7**	**-0.2**
	comp=Z,43nm,0.6s							
GTA	**Gaotai**	**53.79**	**332**	↑P		**P**	**19 19 18.6**	**+0.2**
GTA				PMZ				
	comp=Z,19nm,1.1s							
JIRN	**Jiri**	**53.96**	**312**	*e*P		**P**	**19 19 19.5**	**-0.6**
	comp=Z,14nm,0.6s							
GUN	**Gumba**	**54.32**	**312**	*e*P		**P**	**19 19 22.2**	**-0.5**
	comp=Z,34nm,0.6s							
PKI	**Pulchoki**	**54.48**	**312**	*e*P		**P**	**19 19 23.1**	**-0.8**
	comp=Z,14nm,0.5s							
PKIN	**Phulchoki**	**54.50**	**312**	*e*P		**P**	**19 19 23.3**	**-0.6**
KKN	**Kakani**	**54.70**	**312**	*e*P		**P**	**19 19 24.5**	**-0.8**
	comp=Z,13nm,0.5s							
GKN	**Gorkha**	**55.29**	**312**	*e*P		**P**	**19 19 28.8**	**-0.7**
	comp=Z,28nm,0.5s							
YSS	**Yuzh-Sakhalins**	**55.60**	**12**	*e*P		P	19 19 27.0	-4.0
KOLN	**Koldanda**	**55.94**	**311**	*e*P		**P**	**19 19 33.7**	**-0.5**
	comp=Z,23nm,0.6s							
DANN	**Dangsing**	**56.13**	**311**	*e*P		**P**	**19 19 34.8**	**-0.8**
	comp=Z,12nm,0.6s							
PYUN	**Piuthan**	**56.58**	**311**	*e*P		**P**	**19 19 38.1**	**-0.6**
	comp=Z,70nm,0.6s							
ULN	**Ulaanbaatar**	**58.33**	**343**	*e*P		**P**	**19 19 50.0**	**-0.5**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**58.33**	**343**	*e*P		**P**	**19 19 50.0**	**-0.5**
	comp=Z,4.3nm,0.9s							
SONM	**Songino Array**	**58.50**	**343**	P		**P**	**19 19 51.5**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=158,slow=6.9,SNR=22							
TLY	**Talaya**	**62.74**	**343**	*e*P		**P**	**19 20 20.6**	**+0.5**
PETK	**Petropavlovsk-**	**65.16**	**19**	P		**P**	**19 20 36.6**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=108,slow=3.4,SNR=5.3							
HVS	**Khovu-Aksy**	**65.71**	**337**	*de*P		**P**	**19 20 40.1**	**+0.5**
HVS				pmax	pmax			
	comp=Z,23nm,0.6s							
PDGK	**Podgornoye**	**67.41**	**323**	P		**P**	**19 20 50.5**	**+0.1**
PDGK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MK31	**Makanchi Array**	**67.94**	**328**	*e*P		**P**	**19 20 53.8**	**+0.1**
MK31				pmax	pmax			
	comp=Z,5.0nm,0.5s							
MKAR	**Makanchi Array**	**67.94**	**328**	P		**P**	**19 20 53.9**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=116,slow=8.0,SNR=150							
YAK	**Yakutsk**	**69.29**	**0**	*e*P		**P**	**19 21 00.6**	**-1.1**
YAK				pmax	pmax			
	comp=Z,16nm,1.0s							
YAK	**Yakutsk**	**69.29**	**0**	P		**P**	**19 21 01.5**	**-0.2**
	comp=Z,7.1nm,0.4s,baz=8.0,slow=2.8,SNR=13							
YAK	**Yakutsk**	**69.29**	**0**	*e*P		**P**	**19 21 01.4**	**-0.2**
	comp=Z,17nm,0.8s							
TKM2	**Tokmak 2**	**69.55**	**321**	P		**P**	**19 21 04.5**	**+0.4**
	SNR=8.6							
TKM2	**Tokmak 2**	**69.55**	**321**	*e*P		**P**	**19 21 04.2**	**+0.2**
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TKM2	**Tokmak 2**	**69.55**	**321**	*e*P		**P**	**19 21 04.2**	**+0.2**
	comp=Z,3.3nm,0.8s							
UCH	**Uchtor**	**69.87**	**320**	P		**P**	**19 21 06.8**	**+0.5**
	SNR=7.8							
UCH	**Uchtor**	**69.87**	**320**	*i* P		**P**	**19 21 06.8**	**+0.5**
AAK	**Ala-Archa**	**70.09**	**320**	P		**P**	**19 21 08.5**	**+1.2**
	SNR=10							
AAK	**Ala-Archa**	**70.09**	**320**	↑*e*P		**P**	**19 21 08.2**	**+0.9**
AAK				pmax	pmax			
	comp=Z,31nm,1.2s							
AAK	**Ala-Archa**	**70.09**	**320**	P		**P**	**19 21 07.6**	**+0.3**
	comp=Z,5.1nm,0.8s,baz=128,slow=6.3,SNR=30							
AAK	**Ala-Archa**	**70.09**	**320**	*e*P		**P**	**19 21 07.8**	**+0.5**
AML	**Almayashu**	**70.34**	**320**	P		**P**	**19 21 09.8**	**+0.7**
	SNR=13							
AML	**Almayashu**	**70.34**	**320**	*i* P		**P**	**19 21 09.8**	**+0.7**
USP	**Ospenovka**	**70.42**	**321**	P		**P**	**19 21 09.4**	**+0.3**
	SNR=6.5							
USP	**Ospenovka**	**70.42**	**321**	*i* P		**P**	**19 21 09.4**	**+0.3**
EKS2	**Erkin-Say**	**70.56**	**320**	P		**P**	**19 21 11.1**	**+1.0**
	SNR=14							
EKS2	**Erkin-Say**	**70.56**	**320**	*e*P		**P**	**19 21 10.6**	**+0.5**
EKS2				pmax	pmax			
	comp=Z,4.0nm,0.6s							
EKS2	**Erkin-Say**	**70.56**	**320**	*e*P		**P**	**19 21 10.6**	**+0.5**
	comp=Z,4.5nm,0.6s							
ZALV	**Zalesovo Beam**	**71.45**	**334**	P		**P**	**19 21 13.8**	**-1.2**
	comp=Z,5.5nm,0.4s,baz=138,slow=5.8,SNR=35							
VNDA	**Vanda**	**72.14**	**173**	P		**P**	**19 21 20.3**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=315,slow=7.7,SNR=8.6							
KURBB	**Kurchatov Arra**	**72.26**	**329**	P		**P**	**19 21 19.9**	**0.0**
	comp=Z,7.6nm,0.5s,baz=132,slow=5.1,SNR=70							
KURK	**Kurchatov**	**72.27**	**329**	*e*P		**P**	**19 21 20.0**	**0.0**
KURK	**Kurchatov**	**72.27**	**329**	*e*P		**P**	**19 21 20.0**	**0.0**
SEY	**Seymchan**	**72.50**	**11**	P		**P**	**19 21 21.4**	**+0.3**
	comp=Z,4.9nm,0.5s,baz=213,slow=4.5,SNR=45							
NVS	**Novosibirsk**	**72.74**	**334**	*e*P		P	19 21 19.1	-3.5
KK31	**Karatay Array**	**72.87**	**319**	*e*P		**P**	**19 21 23.7**	**0.0**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**72.87**	**319**	*e*P		**P**	**19 21 23.7**	**-0.1**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**72.87**	**319**	*e*P		**P**	**19 21 23.7**	**-0.1**
	comp=Z,2.4nm,0.4s							
OTUK	**Ortayu**	**74.29**	**325**	P		**P**	**19 21 32.3**	**+0.4**
OTUK				pmax	pmax			
	comp=Z,9.0nm,0.5s							
BVA0	**Borovoye Array**	**77.79**	**328**	*i* P		**P**	**19 21 51.0**	**-0.6**
BVA0				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BVAR	**Borovoye Array**	**77.79**	**328**	P		**P**	**19 21 51.3**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=129,slow=10.0,SNR=25							
TIXI	**Tiksi**	**78.95**	**0**	↓*e*P		**P**	**19 21 57.3**	**-0.3**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TIXI	**Tiksi**	**78.95**	**0**	*e*P		**P**	**19 21 56.1**	**-1.4**
	comp=Z,2.2nm,0.6s							
GEYT	**Alibeck**	**79.56**	**311**	P		**P**	**19 22 02.4**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=134,slow=4.3,SNR=4.3							
AB31	**Akbulak array**	**82.10**	**322**	*e*P		**P**	**19 22 14.3**	**-0.5**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ABKAR	**Akbulak array**	**82.10**	**322**	*e*P		**P**	**19 22 14.3**	**-0.5**
	comp=Z,2.6nm,0.4s							
QSPA	**South Pole Qui**	**82.51**	**180**	P		**P**	**19 22 18.1**	**+1.2**
	comp=Z,5.4nm,0.6s,baz=183,slow=0.3,SNR=61							
AKTO	**Aktyubinsk**	**83.68**	**323**	P		**P**	**19 22 23.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=119,slow=5.9,SNR=9.3							
ARU	**Arti**	**85.44**	**328**	*d i* P		**P**	**19 22 31.0**	**-0.6**
ARU				*PP		**pP**	**19 23 05.5**	**-4.1**
ARU							19 25 47.9	
ARU				S		S	19 32 41.9	-8.1
ARU				pmax	pmax			
	comp=Z,16nm,2.5s							
NVL	**N'lazarevskaya**	**91.54**	**197**	*e*P		P	19 23 06.5	+6.2
NVL				pmax	pmax			
	comp=Z,13nm,1.4s							
KBZ	**Khabaz**	**92.11**	**314**	P		**P**	**19 23 03.2**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=192,slow=4.2,SNR=3.6							
ILAR	**Eielson Array**	**94.30**	**25**	P		**P**	**19 23 11.5**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=311,slow=3.2,SNR=5.0							
ARCES	**ARCESS Array B**	**101.58**	**340**	P		**Pdif**	**19 23 45.2**	**-0.6**
	comp=Z,2.8nm,1.0s,baz=64,slow=5.5,SNR=6.4							
ARCES				PKiKP		**PKiKP**	**19 28 09.0**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=95,slow=1.5,SNR=5.0							
ARCES				PKKPbc		**PKKPbc**	**19 39 52.2**	**-3.5**
	comp=Z,1.1nm,0.8s,baz=248,slow=2.2,SNR=6.6							
FINES	**FINESS Array B**	**102.57**	**331**	PKiKP		**PKiKP**	**19 28 11.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=108,slow=4.2,SNR=9.4							
YKA	**Yellowknife Ar**	**108.72**	**26**	PKiKP		**PKiKP**	**19 28 22.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=281,slow=1.2,SNR=5.1							
GERES	**GERESS Array B**	**111.97**	**320**	PKiKP		**PKiKP**	**19 28 28.7**	**0.0**
	comp=Z,0.9nm,0.5s,baz=82,slow=1.7,SNR=14							
CDF	**Champ du Feu**	**116.17**	**321**	*e*PKiKP		**PKPdf**	**19 28 36.4**	**-0.3**
CDF	**Champ du Feu**	**116.17**	**321**	*e*PKiKP		**PKPdf**	**19 28 36.4**	**-0.3**
CDF	**Champ du Feu**	**116.17**	**321**	*e*PKPdf		**PKPdf**	**19 28 36.4**	**-0.3**
HINF	**Hinteralfeld**	**116.64**	**320**	*e*PKiKP		**PKPdf**	**19 28 37.1**	**-0.5**
	comp=Z,4.4nm,0.6s							
HINF	**Hinteralfeld**	**116.64**	**320**	*e*PKiKP		**PKPdf**	**19 28 37.1**	**-0.5**
HINF	**Hinteralfeld**	**116.64**	**320**	*e*PKPdf		**PKPdf**	**19 28 37.1**	**-0.5**
GIVF	**Givet**	**117.07**	**323**	*e*PKiKP		**PKPdf**	**19 28 38.4**	**+0.1**
GIVF	**Givet**	**117.07**	**323**	*e*PKiKP		**PKPdf**	**19 28 38.4**	**+0.1**
GIVF	**Givet**	**117.07**	**323**	*e*PKPdf		**PKPdf**	**19 28 38.4**	**+0.1**
PAGF	**Fort de Pagny**	**117.09**	**321**	*e*PKiKP		**PKPdf**	**19 28 38.5**	**+0.1**
PAGF	**Fort de Pagny**	**117.09**	**321**	*e*PKPdf		**PKPdf**	**19 28 38.5**	**+0.1**
LPG	**La Plagne**	**117.47**	**318**	*e*PKiKP		**PKPdf**	**19 28 39.5**	**-0.1**
	comp=Z,3.7nm,0.6s							
LPG	**La Plagne**	**117.47**	**318**	*e*PKiKP		**PKPdf**	**19 28 39.5**	**-0.1**
LPG	**La Plagne**	**117.47**	**318**	*e*PKPdf		**PKPdf**	**19 28 39.5**	**-0.1**
LPL	**La Plagne**	**117.47**	**318**	*e*PKiKP		**PKPdf**	**19 28 39.5**	**0.0**
	comp=Z,2.1nm,0.4s							
LPL	**La Plagne**	**117.47**	**318**	*e*PKiKP		**PKPdf**	**19 28 39.5**	**0.0**
LPL	**La Plagne**	**117.47**	**318**	*e*PKPdf		**PKPdf**	**19 28 39.5**	**0.0**
CABF	**La Chapelle**	**117.54**	**319**	*e*PKiKP		**PKPdf**	**19 28 39.6**	**+0.2**
	comp=Z,6.6nm,0.5s							
CABF	**La Chapelle**	**117.54**	**319**	*e*PKiKP		**PKPdf**	**19 28 39.6**	**+0.2**
CABF	**La Chapelle**	**117.54**	**319**	*e*PKPdf		**PKPdf**	**19 28 39.6**	**+0.2**
KEST	**Kesra**	**118.10**	**307**	PKP		**PKPdf**	**19 28 41.2**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=94,slow=2.4,SNR=5.7							
ORIF	**Oris-en-Rattie**	**118.23**	**317**	*e*PKiKP		**PKPdf**	**19 28 40.7**	**-0.1**
	comp=Z,3.1nm,0.5s							
ORIF	**Oris-en-Rattie**	**118.23**	**317**	*e*PKiKP		**PKPdf**	**19 28 40.7**	**-0.1**
ORIF	**Oris-en-Rattie**	**118.23**	**317**	*e*PKPdf		**PKPdf**	**19 28 40.7**	**-0.1**
LOR	**Lormes**	**118.73**	**320**	*e*PKiKP		**PKPdf**	**19 28 41.4**	**-0.2**
	comp=Z,1.5nm,0.4s							
LOR	**Lormes**	**118.73**	**320**	*e*PKiKP		**PKPdf**	**19 28 41.4**	**-0.2**
LOR	**Lormes**	**118.73**	**320**	*e*PKPdf		**PKPdf**	**19 28 41.4**	**-0.2**
SMRF	**Simiane la Rot**	**118.75**	**316**	*e*PKiKP		**PKPdf**	**19 28 42.1**	**+0.3**
SMRF	**Simiane la Rot**	**118.75**	**316**	*e*PKPdf		**PKPdf**	**19 28 42.1**	**+0.3**
SMF	**Signal de Mont**	**118.97**	**320**	*e*PKiKP		**PKPdf**	**19 28 41.8**	**-0.3**
	comp=Z,2.2nm,0.4s							
SMF	**Signal de Mont**	**118.97**	**320**	*e*PKiKP		**PKPdf**	**19 28 41.8**	**-0.3**
SMF	**Signal de Mont**	**118.97**	**320**	*e*PKPdf		**PKPdf**	**19 28 41.8**	**-0.3**
SSF	**Saint Saulge**	**119.03**	**320**	*e*PKiKP		**PKPdf**	**19 28 42.2**	**0.0**
	comp=Z,5.6nm,0.7s							
SSF	**Saint Saulge**	**119.03**	**320**	*e*PKiKP		**PKPdf**	**19 28 42.2**	**0.0**
SSF	**Saint Saulge**	**119.03**	**320**	*e*PKPdf		**PKPdf**	**19 28 42.2**	**0.0**
VIVF	**Saint-Julien-l**	**119.06**	**318**	*e*PKiKP		**PKPdf**	**19 28 42.3**	**0.0**
	comp=Z,3.4nm,0.6s							
VIVF	**Saint-Julien-l**	**119.06**	**318**	*e*PKiKP		**PKPdf**	**19 28 42.3**	**0.0**
VIVF	**Saint-Julien-l**	**119.06**	**318**	*e*PKPdf		**PKPdf**	**19 28 42.3**	**0.0**
AVF	**Avril sur Loir**	**119.23**	**320**	*e*PKiKP		**PKPdf**	**19 28 42.2**	**-0.3**
	comp=Z,1.6nm,0.4s							
AVF	**Avril sur Loir**	**119.23**	**320**	*e*PKiKP		**PKPdf**	**19 28 42.2**	**-0.3**
AVF	**Avril sur Loir**	**119.23**	**320**	*e*PKPdf		**PKPdf**	**19 28 42.2**	**-0.3**
BGF	**Bois d'Agland**	**119.64**	**320**	*e*PKiKP		**PKPdf**	**19 28 43.7**	**+0.3**
	comp=Z,6.8nm,0.5s							
BGF	**Bois d'Agland**	**119.64**	**320**	*e*PKiKP		**PKPdf**	**19 28 43.7**	**+0.3**
BGF	**Bois d'Agland**	**119.64**	**320**	*e*PKPdf		**PKPdf**	**19 28 43.7**	**+0.3**
TCF	**Toulx Ste Croi**	**120.15**	**320**	*e*PKiKP		**PKPdf**	**19 28 44.4**	**0.0**
TCF	**Toulx Ste Croi**	**120.15**	**320**	*e*PKiKP		**PKPdf**	**19 28 44.4**	**0.0**
TCF	**Toulx Ste Croi**	**120.15**	**320**	*e*PKPdf		**PKPdf**	**19 28 44.4**	**0.0**
CAF	**Calviac**	**120.77**	**318**	*e*PKiKP		**PKPdf**	**19 28 46.0**	**+0.4**
	comp=Z,2.4nm,0.5s							
CAF	**Calviac**	**120.77**	**318**	*e*PKiKP		**PKPdf**	**19 28 46.0**	**+0.4**
CAF	**Calviac**	**120.77**	**318**	*e*PKPdf		**PKPdf**	**19 28 46.0**	**+0.4**
GRR	**Gorron**	**121.17**	**323**	*e*PKiKP		**PKPdf**	**19 28 46.4**	**+0.2**
GRR	**Gorron**	**121.17**	**323**	*e*PKiKP		**PKPdf**	**19 28 46.4**	**+0.2**
GRR	**Gorron**	**121.17**	**323**	*e*PKPdf		**PKPdf**	**19 28 46.4**	**+0.2**
MTLF	**Montolieu**	**121.25**	**317**	*e*PKiKP		**PKPdf**	**19 28 46.5**	**-0.1**
	comp=Z,2.8nm,0.5s							
MTLF	**Montolieu**	**121.25**	**317**	*e*PKiKP		**PKPdf**	**19 28 46.5**	**-0.1**
MTLF	**Montolieu**	**121.25**	**317**	*e*PKPdf		**PKPdf**	**19 28 46.5**	**-0.1**
MFF	**Saint Martin d**	**121.51**	**321**	*e*PKiKP		**PKPdf**	**19 28 47.0**	**+0.1**
	comp=Z,5.6nm,0.6s							
MFF	**Saint Martin d**	**121.51**	**321**	*e*PKiKP		**PKPdf**	**19 28 47.0**	**+0.1**
MFF	**Saint Martin d**	**121.51**	**321**	*e*PKPdf		**PKPdf**	**19 28 47.0**	**+0.1**
FRB	**Frobisher Bay**	**122.46**	**9**	PKP		**PKPdf**	**19 28 48.2**	**0.0**
	comp=Z,1.8nm,0.4s,baz=53,slow=3.2,SNR=6.8							
EPF	**Esparros**	**122.64**	**317**	*e*PKiKP		**PKPdf**	**19 28 49.2**	**-0.1**
	comp=Z,2.9nm,0.5s							
EPF	**Esparros**	**122.64**	**317**	*e*PKiKP		**PKPdf**	**19 28 49.2**	**-0.1**
EPF	**Esparros**	**122.64**	**317**	*e*PKPdf		**PKPdf**	**19 28 49.2**	**-0.1**
QUIF	**Quistinic**	**122.75**	**323**	*e*PKiKP		**PKPdf**	**19 28 49.2**	**-0.1**
QUIF	**Quistinic**	**122.75**	**323**	*e*PKiKP		**PKPdf**	**19 28 49.2**	**-0.1**
QUIF	**Quistinic**	**122.75**	**323**	*e*PKPdf		**PKPdf**	**19 28 49.2**	**-0.1**
TXAR	**Lajitas Array**	**126.24**	**59**	PKP		**PKPdf**	**19 28 57.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=208,slow=1.8,SNR=7.0							
TORD	**Torodi Ar. Bea**	**127.67**	**281**	PKP		**PKPdf**	**19 28 59.5**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=64,slow=1.9,SNR=24							
PLCA	**Paso Flores**	**128.85**	**161**	PKP		**PKPdf**	**19 29 02.7**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=164,slow=8.5,SNR=4.1							
SCHQ	**Schefferville**	**131.15**	**12**	PKP		**PKPdf**	**19 29 06.2**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=56,slow=2.5,SNR=7.2							
DBIC	**Dimbokro**	**133.95**	**272**	PKP		**PKPdf**	**19 29 12.4**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=87,slow=1.7,SNR=4.5							
LIC	**Lamto**	**134.09**	**271**	*e*PKiKP		**PKPdf**	**19 29 11.4**	**-0.4**
	comp=Z,5.4nm,0.6s							
LIC	**Lamto**	**134.09**	**271**	*e*PKPdf		**PKPdf**	**19 29 11.4**	**-0.4**
LVC	**Limon Verde**	**145.47**	**150**	*e*PKPdf		**PKPab**	**19 29 35.1**	**+2.0**
LPAZ	**La Paz**	**151.09**	**145**	PKPbc		**PKPbc**	**19 29 49.2**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=40,slow=3.7,SNR=13							
LPAZ				PKPab		**PKPab**	**19 29 58.4**	**+2.2**
	comp=Z,4.7nm,0.6s,baz=152,slow=4.7,SNR=15							

*ISCJB **05** 19:12:30.2±1.3, 27.7N±0.3×139.7E±0.2, h492km, mb3.0/4, Error ellipse: s-maj=46.8km s-min=16.1km az=33.1*
*IDC **05** 19:12:30.8±1.4, 27.64N×140.04E, h503km±28km, mb2.7/4, mb1 2.7/5, mb1mx2.4/54, mbtmp3.5/5, Error ellipse: s-maj=80.7km s-min=50.9km az=64.0*

ISC 05 19:12:31.1±1.6, 27.6N±0.3×139.8E±0.2, h492km, n6, σ0.6 67/7, mb3.3/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.23**	**103**	P		**P**	**19 13 37.4**	**+0.7**
	baz=282,slow=19							
JCJ				S		**S**	**19 14 29.1**	**-0.8**
	6.3nm,0.3s,baz=288,slow=20,SNR=2.6							
MJAR	**Matsushiro Arr**	**8.98**	**352**	P		**P**	**19 14 37.7**	**+0.2**
	0.2nm,0.3s,baz=169,slow=10.0,SNR=3.6							
MKAR	**Makanchi Array**	**48.47**	**309**	P		**P**	**19 20 28.1**	**+0.1**
	0.1nm,0.7s,baz=91,slow

ZALV	**Zalesovo Beam**	**79.69**	**9**	P		**P**	**19 42 25.1**	**-1.1**
	1.9nm,0.6s,baz=197,slow=4.6,SNR=11							
AKASG	**Malin Array Be**	**83.50**	**335**	P		**P**	**19 42 45.7**	**-0.7**
	0.4nm,0.6s,baz=122,slow=4.8,SNR=5.9							

MEX 05 19:30:46.1±0.4, 31°.86N×114°.93W, h14km±18km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.93**	**209**	*e*P	Pb	19 31 01.2	-3.3
SPIG				*e*S	Sb	19 31 13.0	-4.1
CBX	**Cerro Bola**	**1.54**	**287**	*e*P	Pn	19 31 09.5	-3.7

IDC ***05*** *20:25:48.0±0.6, 0°.25S×124°.99E, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.3/35, mbtmp4.3/21, MS3.2/7, Ms1 3.2/7, ms1mx2.9/31, Error ellipse: s-maj=25.6km s-min=15.5km az=82.0*
BJI ***05*** *20:25:50.9, 0°.11S×125°.34E, h23km, mB4.8/11, mb4.7/17*
MOS ***05*** *20:25:51.7±1.1, 0°.21S×125°.15E, h33km, mb4.8/20, Error ellipse: s-maj=18.0km s-min=7.4km az=117.3*
ISCJB ***05*** *20:25:53.6±0.3, 0°.23S±0°.03×125°.25E±0°.04, h53km, mb4.5/44, MS3.1/6, Error ellipse: s-maj=6.3km s-min=4.9km az=165.9*
NEIC ***05*** *20:25:56.7±0.8, 0°.25S×125°.16E, h70km±8km, mb4.5/15, Error ellipse: s-maj=9.2km s-min=6.8km az=73.0*
DJA ***05*** *20:25:57.8±0.3, 0°.3S×123°.5E±°, h51km±4km, M4.5/16, mb4.8/14, mB4.9/6, MLv4.7/16, Mw(mB)4.2/6*

ISC 05 20:25:55.4±0.4, 0°.19S±0°.06×125°.25E±0°.06, h53km, n110, σ1§44/105, mb4.4/44, MS3.0/6, 10C-2D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.48**	**301**	P	**Pn**	**20 26 17.8**	**-1.8**
KMSI				S	**Sn**	**20 26 39.0**	**+1.1**
SANI	**Sanana**	**1.99**	**158**	P	**Pn**	**20 26 24.1**	**-2.5**
LBMI	**Labuha**	**2.30**	**101**	P	Pn	20 26 37.2	+6.4
TNTI	**Ternate**	**2.33**	**66**	P	**Pn**	**20 26 34.3**	**+3.1**
TNTI	**Ternate**	**2.33**	**66**	*e*Pn	**Pn**	**20 26 34.0**	**+2.8**
LUWI	**Luwuk**	**2.62**	**251**	P	Pn	20 26 39.7	+4.5
LUWI	**Luwuk**	**2.62**	**251**	*e*Pn	**Pn**	**20 26 36.5**	**+1.3**
MRSI	**Marisa**	**3.37**	**281**	P	**Pn**	**20 26 46.1**	**+0.5**
NLAI	**Namlea**	**3.55**	**149**	P	**Pn**	**20 26 46.4**	**-1.6**
APSI	**Ampana**	**3.67**	**259**	P	Pn	20 26 54.1	+4.5
SGSI	**Sangihe**	**3.86**	**4**	P	Pn	20 27 11.3	+19
TOLI	**Toli-Toli**	**4.64**	**286**	*e*Pn	**Pn**	**20 27 02.3**	**-0.7**
MSAI	**Masohi**	**4.83**	**130**	P	**Pn**	**20 27 08.8**	**+3.2**
MPSI	**Mapaga**	**5.38**	**276**	P	Pn	20 27 17.5	+4.4
	56nm,1.0s,842nm0.3nm						
PCI	**Palu**	**5.46**	**263**	P	Pn	20 27 18.4	+4.2
	103nm,0.9s,1μm0.6nm						
TTSI	**Tana Toraja**	**6.12**	**242**	P	**Pn**	**20 27 23.6**	**+0.3**
	57nm,0.7s,819nm0.3nm						
BNSI	**Bone**	**6.62**	**231**	P	**Pn**	**20 27 29.3**	**-0.9**
	73nm,0.7s,0.2nm						
SPSI	**Sidrap Palu**	**6.63**	**236**	P	**Pn**	**20 27 30.0**	**-0.3**
	73nm,0.6s,901nm0.3nm						
BKSI	**Bulukumba**	**7.22**	**225**	P	**Pn**	**20 27 39.1**	**+0.7**
	37nm,0.5s,471nm0.2nm						
KAPI	**Kappang**	**7.29**	**229**	*e*Pn	**Pn**	**20 27 39.0**	**-0.3**
	20nm,0.6s						
CTBH	**Cotabato--PC H**	**7.43**	**352**	⇓*i*P	Pn	20 27 45.8	+4.5
SOEI	**Soe**	**9.55**	**186**	P	Pn	20 28 16.2	+5.8
SOEI	**Soe**	**9.55**	**186**	*e*Pn	**Pn**	**20 28 13.4**	**+2.9**
	81nm,1.0s						
BATI	**Baumata**	**10.07**	**189**	P	Pn	20 28 22.8	+5.3
BATI	**Baumata**	**10.07**	**189**	Pn	**Pn**	**20 28 16.1**	**-1.4**
	1.6nm,0.3s,baz=45,slow=11,SNR=2.6						
BATI				LR	LR	20 32 47.8	
	comp=Z,430nm,21.2s,baz=340,slow=42						
KPJI	**Karang Pucung**	**17.75**	**246**	P	**P**	**20 30 00.9**	**+1.8**
	23nm,0.8s						
SZP	**Santa**	**18.25**	**345**	*e*P	**P**	**20 30 01.6**	**-3.0**
	28nm,0.7s						
LEM	**Lembang**	**18.78**	**249**	LR	LR	20 38 11.7	
	comp=Z,106nm,21.6s,baz=50,slow=40						
CBJI	**Citeko**	**19.37**	**251**	P	Pn	20 30 27.4	+8.9
MBWA	**Marble Bar**	**21.52**	**194**	*e*P	**P**	**20 30 39.1**	**-1.0**
WRAB	**Tennant Creek**	**21.55**	**156**	⇑*i*P	**P**	**20 30 38.9**	**-1.6**
WRAB	**Tennant Creek**	**21.55**	**156**	*e*P	**P**	**20 30 39.2**	**-1.3**
	8.2nm,0.8s						
WRA	**Warramunga Arr**	**21.55**	**156**	P	**P**	**20 30 39.3**	**-1.2**
	4.7nm,0.6s,baz=333,slow=11,SNR=4.6						
WB2	**Warramunga Arr**	**21.56**	**156**	*e*P	**P**	**20 30 39.5**	**-1.0**
PMG	**Port Moresby**	**23.65**	**113**	⇑*e*P	**P**	**20 31 03.7**	**+1.5**
PMG				pmax	pmax		
	comp=Z,12nm,1.2s						
TPUB	**Ta-pu**	**23.78**	**349**	*e*P	**P**	**20 31 01.1**	**-2.2**
	comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**24.80**	**161**	*e*P	**P**	**20 31 13.1**	**+0.5**
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**20 31 13.1**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=340,slow=8.6,SNR=53						
ASAR				PcP	**PcP**	**20 34 49.2**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=348,slow=2.1,SNR=15						
ASAR				LR	LR	20 42 10.8	
	comp=Z,38nm,18.7s,baz=336,slow=40						
CMAR	**Chiang Mai Arr**	**31.80**	**307**	P	**P**	**20 32 13.6**	**-1.6**
	comp=Z,1.8nm,1.2s,baz=156,slow=6.7,SNR=4.4						
CMAR				PcP	**PcP**	**20 35 06.5**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=186,slow=1.8,SNR=7.1						
CMAR				LR	LR	20 47 17.5	
	comp=Z,18nm,18.4s,baz=151,slow=41						
CMMT	**Chiang Mai**	**31.99**	**308**	P	**P**	**20 32 16.6**	**-0.3**
	comp=Z,7.1nm,1.1s						
CHTO	**Chiang Mai**	**32.00**	**308**	*e*P	**P**	**20 32 15.6**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,21nm,1.9s						
CHTO	**Chiang Mai**	**32.00**	**308**	*e*P	**P**	**20 32 15.6**	**-1.3**
	comp=Z,20nm,1.9s						
CHTO	**Chiang Mai**	**32.00**	**308**	P	**P**	**20 32 16.7**	**-0.2**
	comp=Z,31nm,1.1s						
KSAR	**Wonju Array Be**	**37.53**	**3**	P	**P**	**20 33 05.8**	**+1.5**
KSAR	**Wonju Array Be**	**37.53**	**3**	P	**P**	**20 33 05.8**	**+1.5**
KSRS	**Korea Array**	**37.54**	**3**	P	**P**	**20 33 05.8**	**+1.3**
	comp=Z,4.0nm,0.8s,baz=180,slow=10,SNR=18						
KSRS				LR	LR	20 48 23.2	
	comp=Z,15nm,21.2s,baz=206,slow=36						
MJAR	**Matsushiro Arr**	**38.48**	**17**	P	**P**	**20 33 12.8**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=190,slow=8.8,SNR=14						
LSA	**Lhasa**	**44.04**	**315**	*e*P	**P**	**20 33 59.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	**Lhasa**	**44.04**	**315**	*e*P	**P**	**20 33 59.7**	**+1.0**
	comp=Z,1.9nm,0.5s						
USRK	**Ussuriysk Ar.**	**44.61**	**7**	P	**P**	**20 34 02.1**	**-0.2**
	comp=Z,6.6nm,0.9s,baz=132,slow=5.7,SNR=12						
MDJ	**Mudanjiang**	**44.78**	**4**	*e*P	**P**	**20 34 04.4**	**+0.6**
	comp=Z,6.2nm,0.8s						
GTA	**Gaotai**	**45.77**	**332**	*e*P	**P**	**20 34 13.3**	**+1.4**
GTA				pP	**pP**	**20 34 23.6**	**-2.4**
GTA				sP	**sP**	**20 34 27.4**	**-4.7**
GTA				PMZ			
	comp=Z,8.0nm,0.6s						
ASAJ	**Asahikawa**	**46.75**	**17**	P	**P**	**20 34 20.1**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=231,slow=10,SNR=9.4						
ULN	**Ulaanbaatar**	**50.42**	**344**	*e*P	**P**	**20 34 48.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**50.42**	**344**	*e*P	**P**	**20 34 48.0**	**+0.3**
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**50.57**	**344**	P	**P**	**20 34 47.9**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=158,slow=8.7,SNR=31						
SONM				LR	LR	20 58 19.9	
	comp=Z,22nm,18.0s,baz=182,slow=39						
ZAK	**Zakamensk**	**53.76**	**343**	*e*P	**P**	**20 35 13.4**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TLY	**Talaya**	**54.81**	**344**	*e*P	**P**	**20 35 20.3**	**+0.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY	**Talaya**	**54.81**	**344**	P	**P**	**20 35 20.2**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=116,slow=5.0,SNR=5.7						
HVS	**Khovu-Aksy**	**57.70**	**337**	*c i*P	**P**	**20 35 41.9**	**+1.3**
HVS				pmax	pmax		
	comp=Z,53nm,1.2s						
BOD	**Bodaibo**	**58.53**	**353**	*e*P	**P**	**20 35 45.9**	**-0.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PETK	**Petropavlovsk-**	**59.60**	**22**	P	**P**	**20 35 55.2**	**+1.5**
	comp=Z,4.4nm,0.8s,baz=188,slow=3.0,SNR=3.9						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**20 35 56.4**	**0.0**
	comp=Z,3.4nm,0.5s,baz=122,slow=8.4,SNR=58						
MKAR				PcP	**PcP**	**20 36 42.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=111,slow=5.1,SNR=6.0						
MKAR				LR	LR	21 04 42.7	
	comp=Z,15nm,18.2s,baz=129,slow=39						
TKM2	**Tokmak 2**	**61.75**	**321**	P	**P**	**20 36 10.4**	**+1.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**61.75**	**321**	*e*P	**P**	**20 36 09.5**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TKM2	**Tokmak 2**	**61.75**	**321**	*e*P	**P**	**20 36 09.5**	**+0.7**
	comp=Z,3.5nm,0.8s						
UCH	**Uchtor**	**62.10**	**319**	P	**P**	**20 36 13.1**	**+1.6**
	SNR=7.0						
UCH	**Uchtor**	**62.10**	**319**	*i* P	**P**	**20 36 13.1**	**+1.6**
YAK	**Yakutsk**	**62.15**	**2**	*e*P	**P**	**20 36 10.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
YAK	**Yakutsk**	**62.15**	**2**	P	**P**	**20 36 10.6**	**-0.1**
	comp=Z,23nm,0.7s,baz=208,slow=1.8,SNR=8.0						
AAK	**Ala-Archa**	**62.31**	**320**	*ce*P	**P**	**20 36 13.9**	**+1.4**
AAK				pmax	pmax		
	comp=Z,19nm,1.7s						
AAK	**Ala-Archa**	**62.31**	**320**	*e*P	**P**	**20 36 11.9**	**-0.6**
	comp=Z,4.0nm,0.9s						
AML	**Almayashu**	**62.59**	**319**	P	**P**	**20 36 16.2**	**+1.5**
	SNR=7.9						
AML	**Almayashu**	**62.59**	**319**	*i* P	**P**	**20 36 16.2**	**+1.5**
USP	**Ospenovka**	**62.62**	**320**	P	**P**	**20 36 15.2**	**+0.8**
	SNR=6.3						
USP	**Ospenovka**	**62.62**	**320**	*i* P	**P**	**20 36 15.2**	**+0.8**
EKS2	**Erkin-Say**	**62.79**	**320**	P	**P**	**20 36 16.8**	**+1.1**
	SNR=8.6						
EKS2	**Erkin-Say**	**62.79**	**320**	*e*P	**P**	**20 36 16.2**	**+0.5**
EKS2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
EKS2	**Erkin-Say**	**62.79**	**320**	*e*P	**P**	**20 36 16.2**	**+0.5**
	comp=Z,10nm,1.2s						
ZALV	**Zalesovo Beam**	**63.43**	**335**	P	**P**	**20 36 19.1**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=114,slow=6.6,SNR=14						
KURK	**Kurchatov**	**64.28**	**329**	*e*P	**P**	**20 36 22.4**	**-2.7**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**64.28**	**329**	*e*P	**P**	**20 36 22.4**	**-2.7**
	comp=Z,12nm,0.8s						
NVS	**Novosibirsk**	**64.72**	**335**	*e*P	P	20 36 25.0	-2.9
KKAR	**Karatay Array**	**65.13**	**319**	*e*P	**P**	**20 36 31.4**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**65.13**	**319**	*e*P	**P**	**20 36 31.4**	**+0.5**
	comp=Z,3.1nm,0.8s						
SEY	**Seymchan**	**66.16**	**13**	P	**P**	**20 36 38.6**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=215,slow=5.6,SNR=11						
TIXI	**Tiksi**	**71.76**	**1**	⇑*i*P	**P**	**20 37 12.1**	**+0.4**
TIXI				*i* *PP	pP	20 37 18.0	-8.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**71.76**	**1**	*e*P	**P**	**20 37 11.1**	**-0.6**
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**74.26**	**322**	*e*P	**P**	**20 37 26.6**	**-0.3**
	comp=Z,3.2nm,0.7s						
SVE	**Sverdlovsk**	**76.53**	**329**	⇑*i*P	**P**	**20 37 39.8**	**0.0**
SVE				pmax	pmax		
	comp=Z,16nm,1.5s						
ARU	**Arti**	**77.46**	**328**	*d i*P	**P**	**20 37 44.2**	**-0.8**
ARU						20 40 34.0	
ARU				S	**S**	**20 47 36.0**	**+4.2**
ARU				SS	**SS**	**20 52 31.0**	**-0.6**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARU	**Arti**	**77.46**	**328**	*e*P	**P**	**20 37 43.9**	**-1.2**
	comp=Z,3.5nm,0.8s						
ZEI	**Tsey**	**83.77**	**313**	*e*P	**P**	**20 38 18.6**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KBZ	**Khabaz**	**84.59**	**314**	P	**P**	**20 38 22.9**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=126,slow=5.8,SNR=5.0						
KIV	**Kislovodsk**	**84.77**	**314**	*e*P	**P**	**20 38 25.8**	**+1.5**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PRGR	**Permogore**	**85.23**	**332**	*e*P	P	20 38 22.7	-3.3
PRGR				pmax	pmax		
	comp=Z,14nm,1.1s						
KMBO	**Kilima Mbogo**	**87.99**	**269**	*ce*P	**P**	**20 38 42.2**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**87.99**	**269**	P	**P**	**20 38 40.6**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=48,slow=8.5,SNR=5.2						
ILAR	**Eielson Array**	**89.26**	**25**	P	**P**	**20 38 44.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=237,slow=5.5,SNR=5.7						
OBN	**Obninsk**	**89.40**	**325**	⇑*i*P	**P**	**20 38 45.0**	**-1.3**
OBN				pmax	pmax		
	comp=Z,16nm,1.7s						
OBN				MLR	MLR		
	comp=Z,38nm,16.0s						
BRTR	**Keskin Array B**	**91.36**	**310**	*ce*P	**P**	**20 38 55.2**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**91.36**	**310**	P	**P**	**20 38 54.4**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=33,slow=2.9,SNR=3.9						
ARCES	**ARCESS Array B**	**93.59**	**340**	P	**P**	**20 39 05.0**	**-0.5**
ARCES	**ARCESS Array B**	**93.59**	**340**	P	**P**	**20 39 05.0**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=46,slow=3.9,SNR=2.8						
AKASG	**Malin Array Be**	**93.97**	**321**	*ce*P	**P**	**20 39 06.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**93.97**	**321**	P	**P**	**20 39 05.7**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=72,slow=4.4,SNR=5.1						
INK	**Inuvik**	**94.33**	**21**	P	**P**	**20 39 09.6**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=286,slow=4.8,SNR=6.0						
CRVS	**Cervenica-Dubn**	**99.19**	**320**	*i* P	**Pdif**	**20 39 31.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**99.19**	**320**	PDIF	**Pdif**	**20 39 31.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.63**	**285**	PKP	**PKPdf**	**20 44 44.8**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=8.0,slow=0.9,SNR=6.1						

IDC 05 20:34:19.1±11.0, 30°.24S×69°.45W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.5/23, mbtmp3.6/1, Error ellipse: s-maj=841.6km s-min=119.0km az=1.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**80.84**	**69**	P	P	20 46 35.3	0.0
	0.4nm,0.7s,baz=242,slow=5.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**149.88**	**31**	PKPbc	PKPbc	20 54 10.4	-0.4
	0.3nm,0.4s,baz=333,slow=1.6,SNR=3.1						
MKAR	**Makanchi Array**	**152.59**	**45**	PKPbc	PKPbc	20 54 17.3	-0.1
	0.2nm,0.5s,baz=290,slow=3.0,SNR=4.5						

ISCJB ***05*** *20:55:59.6±0.5, 32°.15N±0°.04×115°.09W±0°.05, h12km, Error ellipse: s-maj=5.8km s-min=5.6km az=153.6*
MEX ***05*** *20:56:01.9±0.3, 32°.11N×115°.05W, h5km, MD3.9*
NEIC ***05*** *20:56:02.4, 32°.18N×115°.13W, h7km, MD3.9(MEX), ML3.8(PAS), After PAS.*
NEIC Felt at Somerton and Yuma, Arizona. Also felt at Chula Vista, Lakeside, Poway, San Diego and Spring Valley, California.

ISC 05 20:56:00.2±0.9, 32°.08N±0°.04×115°.12W±0°.04, h12km, n18, σ1§24/23, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**1.00**	**14**	*e*Pg	**Pb**	**20 56 18.1**	**-1.4**
SPIG	**San Pedro Mart**	**1.07**	**196**	*e*P	**Pb**	**20 56 20.7**	**-0.1**
SPIG				*e*S	**Sg**	**20 56 35.4**	**+0.6**
SPIG	**San Pedro Mart**	**1.07**	**196**	*e*P	**Pb**	**20 56 20.7**	**-0.1**
SPIG				*e*S	**Sg**	**20 56 35.4**	**+0.6**
CBX	**Cerro Bola**	**1.33**	**281**	*e*P	**Pn**	**20 56 24.1**	**-0.6**
CBX				*i* S	**Sn**	**20 56 41.7**	**-0.7**
CBX	**Cerro Bola**	**1.33**	**281**	*e*P	**Pn**	**20 56 24.1**	**-0.6**
CBX				*i* S	**Sn**	**20 56 41.7**	**-0.7**
PFO	**Pinyon Flats O**	**1.90**	**324**	*e*Pn	**Pn**	**20 56 30.8**	**-1.7**
214A	**Organ Pipe Nat**	**1.96**	**93**	*e*Pn	**Pn**	**20 56 32.5**	**-0.8**
LDFC	**Landfair**	**2.99**	**0**	*e*Pg	**Pg**	**20 56 56.7**	**-0.8**
MWC	**Mount Wilson**	**3.26**	**312**	*e*Pn	**Pn**	**20 56 53.3**	**+2.0**
PASC	**Pasadena Art C**	**3.31**	**310**	*e*Pg	**Pb**	**20 56 59.8**	**+1.0**
GSC	**Goldstone, Bar**	**3.51**	**337**	*e*Pg	**Pg**	**20 57 06.3**	**-1.1**
TUC	**Tucson**	**3.68**	**85**	*e*Pn	**Pn**	**20 56 56.5**	**-0.5**
SHPR	**Sheep Range**	**4.42**	**360**	*e*Pn	**Pn**	**20 57 07.9**	**+0.8**
ISA	**Isabella, Lake**	**4.53**	**323**	*e*Pn	**Pn**	**20 57 11.1**	**+2.4**
ISA				*e*Pg	**Pg**	**20 57 27.3**	**+0.3**
W18A	**Petrified Fore**	**5.42**	**55**	*e*Pn	**Pn**	**20 57 22.6**	**+1.6**
	23nm,0.6s						
CCUT	**Cedar City**	**5.65**	**14**	*e*Pn	**Pn**	**20 57 25.9**	**+1.8**
	25nm,0.9s						
121A	**Cookes Peak, D**	**6.23**	**84**	*e*Pn	**Pn**	**20 57 32.1**	**+0.1**
	23nm,0.3s						
LENM	**Lemitar**	**7.14**	**71**	*e*Pn	**Pn**	**20 57 46.5**	**+1.8**

NEIC 05 21:04:36.0, 32°.64N×115°.85W, h4km, ML3.7(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**275**	*e*Pg	Pg	21 04 38.0	+0.6
ERPC	**Ernies Place**	**0.19**	**57**	*e*Pg	Pg	21 04 40.2	+0.5
CRR	**Carrizo Plain**	**0.26**	**338**	*e*Pg	Pg	21 04 41.0	-0.2
SWSC	**Sam W. Stewart**	**0.30**	**9**	*e*Pg	Pg	21 04 41.5	-0.4
CBKC	**Canebrake**	**0.43**	**307**	*e*Pg	Pg	21 04 44.6	+0.3
CLIC	**Calipatria**	**0.57**	**28**	*e*Pg	Pg	21 04 47.1	+0.2
COA	**Coachella**	**0.65**	**70**	*e*Pg	Pg	21 04 48.5	0.0
BAR	**Barrett**	**0.69**	**273**	*e*Pg	Pg	21 04 49.4	0.0
BAR				*e*Sg	Sg	21 04 57.9	-0.7
EMSC	**East Mesa**	**0.73**	**82**	*e*Pg	Pg	21 04 50.1	0.0
FRK	**Frink**	**0.78**	**13**	*e*Pg	Pg	21 04 50.0	-1.0
BORC	**Borrego Spring**	**0.79**	**323**	*e*Pg	Pg	21 04 50.4	-0.7
BATC	**Bat Cave Butte**	**0.81**	**0**	*e*Pg	Pg	21 04 51.2	-0.5
EML	**El Monte City P**	**0.88**	**287**	*e*Pg	Pg	21 04 52.2	-0.7
GLA	**Glamis**	**0.95**	**64**	*e*Pg	Pg	21 04 52.4	-2.0
GLA				*e*Sg	Sg	21 05 04.9	-1.9
DPP	**Dos Picos Cty**	**0.99**	**291**	*e*Pg	Pg	21 04 54.1	-0.9
HWB	**Hans Werner Br**	**1.01**	**293**	*e*Pg	Pg	21 04 54.5	-1.0
HWB				*e*Sg	Sg	21 05 07.5	-1.1
CTW	**Cottonwood Mou**	**1.03**	**359**	*e*Pg	Pg	21 04 53.8	-2.2
FRD	**Ford Ranch, An**	**1.06**	**324**	*e*Pg	Pg	21 04 55.0	-1.5
HAY	**Hayfield**	**1.07**	**7**	*e*Pg	Pg	21 04 55.4	-1.2
CPE	**Camp Elliot**	**1.09**	**283**	*e*Pg	Pg	21 04 55.9	-1.0
PFO	**Pinyon Flats O**	**1.09**	**332**	*e*Pg	Pg	21 04 55.2	-1.9
PFO				*e*Sg	Sg	21 05 07.9	-3.5
PLM	**Palomar**	**1.11**	**310**	*e*Pg	Pg	21 04 56.9	-0.7
SNDA	**J Saunders Pla**	**1.11**	**325**	*e*Pg	Pg	21 04 55.9	-1.6
DNR	**Dunn Ranch,Anz**	**1.13**	**325**	*e*Pg	Pg	21 04 57.3	-0.7
CRY	**Cary Ranch**	**1.19**	**321**	*e*Pg	Pg	21 04 57.0	-2.0
BACC	**Bachelor Mtn.**	**1.39**	**314**	*e*Pg	Pn	21 04 59.9	-2.4
BACC				*e*Sn	Sb	21 05 19.1	-1.7
DGR	**Domenigoni Val**	**1.40**	**316**	*e*Pg	Pn	21 05 00.2	-2.1
HMTC	**Hemet**	**1.44**	**318**	*e*Pg	Pn	21 05 00.7	-2.3
HMTC				*e*Sn	Sb	21 05 20.4	-1.8
TPC	**Twentynine Pal**	**1.47**	**354**	*e*Pn	Pn	21 05 00.6	-2.7
RVR	**Riverside**	**1.86**	**317**	*e*Sn	Sn	21 05 33.1	+0.5
SSK	**Sunset Peak**	**2.20**	**316**	*e*Pn	Pb	21 05 15.8	-0.8
MWC	**Mount Wilson**	**2.43**	**311**	*e*Pn	Pn	21 05 18.3	+1.5
MWC				*e*Sn	Sn	21 05 49.0	+1.9
PASC	**Pasadena Art C**	**2.48**	**309**	*e*Pn	Pn	21 05 16.8	-0.4
PASC				*e*Sn	Sn	21 05 44.4	-3.6
LDFC	**Landfair**	**2.51**	**14**	*e*Pn	Pn	21 05 19.6	+1.9
LDFC				*e*Sn	Sb	21 05 53.0	-0.1
214A	**Organ Pipe Nat**	**2.66**	**104**	*e*Pn	Pn	21 05 16.9	-2.8
214A				*e*Sn	Sn	21 05 47.6	-4.9
GSC	**Goldstone, Bar**	**2.77**	**344**	*e*Pn	Pb	21 05 26.3	+0.1
GSC				*e*Sn	Sn	21 05 57.2	+2.0
OSI	**Osito Audit: C**	**3.10**	**310**	*e*Pn	Pb	21 05 31.9	+0.1
OSI				*e*Sn	Sb	21 06 10.8	+0.7
ISA	**Isabella, Lake**	**3.72**	**325**	*e*Pn	Pn	21 05 33.1	-1.2
ISA				*e*Pg	Pb	21 05 42.8	+0.5
SHPR	**Sheep Range**	**3.90**	**8**	*e*Pn	Pn	21 05 38.0	+1.1
SHPR				*e*Sn	Sn	21 06 19.6	-3.6
TUC	**Tucson**	**4.29**	**93**	*e*Pn	Pn	21 05 40.6	-1.6
TPNV	**Topopah Spring**	**4.31**	**356**	*e*Pn	Pn	21 05 42.3	-0.2
WUAZ	**Wupatki**	**4.69**	**51**	*e*Pn	Pn	21 05 46.0	-1.8
DPD

mb4.0/7,MS3.2/2,Error ellipse: s-maj=12.6km s-min=6.3km az=28.3

GUC ***05*** *21:36:29.3±0.5,36°.24S×73°.27W,h27km±4km,ML3.7*

ISC 05 21:36:28.5±2.5,36°.27S±0°.06×73°.1W±0°.1,h12km±14km, n22,σ0°.87/29,mb4.1/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.57**	**181**	*eP*	**Pb**	**21 36 40.6**	**+0.2**
CCSP				*eS*	**Sb**	**21 36 48.9**	**+0.5**
LNCH	**Linares**	**1.28**	**71**	*eP*	**Pg**	**21 36 52.8**	**-0.3**
LNCH				*eS*	**Sg**	**21 37 10.4**	**+0.6**
TALC	**Talca**	**1.47**	**54**	*eP*	**Pb**	**21 36 55.6**	**-0.1**
TALC				*eS*	**Sg**	**21 37 15.3**	**-0.5**
AGCH	**Angol**	**1.56**	**168**	*eP*	**Pn**	**21 36 56.2**	**+0.2**
AGCH				*eS*	**Sb**	**21 37 17.1**	**0.0**
NICH	**Los Niches**	**1.98**	**51**	*eP*	**Pn**	**21 37 02.9**	**+1.1**
NICH				*eS*	**Sb**	**21 37 28.6**	**-0.4**
PLCA	**Paso Flores**	**4.88**	**157**	Pn	**Pn**	**21 37 42.4**	**+0.7**
	1.2nm,0.3s,baz=328,slow=8.8,SNR=11						
PLCA				Lg	Lg	21 38 58.9	
	5.1nm,0.3s,baz=264,slow=23,SNR=5.2						
PLCA				LR	LR	21 39 31.9	
	comp=Z,223nm,20.5s,baz=277,slow=38						
CFAA	**Coronel Fontan**	**6.16**	**42**	Pn	**Pn**	**21 37 59.6**	**+0.3**
	0.2nm,0.3s,baz=219,slow=12,SNR=9.5						
CFAA				Sn	**Sn**	**21 39 11.7**	**+1.9**
	0.4nm,0.3s,baz=137,slow=3.7,SNR=2.9						
CFAA				Lg	Lg	21 39 27.1	
	0.4nm,0.3s,baz=301,slow=18,SNR=7.5						
CFAA				LR	LR	21 40 25.9	
	comp=Z,36nm,22.0s,baz=226,slow=39						
LPAZ	**La Paz**	**20.39**	**14**	P	**P**	**21 41 06.0**	**+0.2**
	2.3nm,1.0s,baz=172,slow=8.4,SNR=5.6						
SIV	**San Ignacio**	**22.86**	**31**	P	**P**	**21 41 30.2**	**-1.6**
	4.7nm,0.8s,baz=224,slow=13,SNR=6.3						
SIV				LR	LR	21 52 08.2	
	comp=Z,98nm,18.1s,baz=227,slow=41						
BDFB	**Brasilia**	**30.35**	**54**	LR	LR	21 54 17.9	
	comp=Z,50nm,21.0s,baz=256,slow=35						
SNAA	**Sanae**	**49.82**	**157**	P	**P**	**21 45 21.2**	**+0.4**
	1.3nm,0.8s,baz=25,slow=20,SNR=3.9						
QSPA	**South Pole Qui**	**53.97**	**180**	P	**P**	**21 45 52.5**	**+0.5**
	1.8nm,0.8s,baz=108,slow=3.6,SNR=4.1						
TXAR	**Lajitas Array**	**71.31**	**332**	P	**P**	**21 47 49.0**	**+1.1**
	1.0nm,0.8s,baz=152,slow=9.4,SNR=9.3						
BOSA	**Boshof**	**79.78**	**118**	P	**P**	**21 48 36.4**	**-0.4**
	3.5nm,0.7s,baz=288,slow=4.4,SNR=5.3						
NVAR	**Mina Array Bea**	**85.27**	**326**	P	**P**	**21 49 06.2**	**+1.1**
	0.9nm,0.8s,baz=175,slow=5.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**85.79**	**70**	P	**P**	**21 49 07.2**	**-0.9**
	1.7nm,0.9s,baz=245,slow=4.7,SNR=7.0						
WRA	**Warramunga Arr**	**118.36**	**210**	PKP	**PKPdf**	**21 55 15.0**	**-1.4**
	0.2nm,0.6s,baz=158,slow=2.0,SNR=5.4						
BVAR	**Borovoye Array**	**149.51**	**45**	PKPbc	**PKPbc**	**21 56 16.6**	**-0.4**
	0.7nm,0.6s,baz=318,slow=1.9,SNR=6.7						
AAK	**Ala-Archa**	**154.28**	**66**	PKPbc	**PKPbc**	**21 56 28.2**	**-0.3**
	0.2nm,0.3s,baz=231,slow=2.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**156.60**	**34**	PKP	**PKPdf**	**21 56 21.0**	**-1.7**
	0.3nm,0.6s,baz=280,slow=4.0,SNR=3.1						
ZALV				PKPbc	PKPbc	21 56 31.0	
	0.3nm,0.3s,baz=306,slow=5.3,SNR=3.7						
ZALV				PKPab	**PKPab**	**21 56 51.8**	**-0.1**
	0.3nm,0.4s,baz=314,slow=5.2,SNR=2.3						
MKAR	**Makanchi Array**	**158.87**	**53**	PKP	**PKPdf**	**21 56 25.4**	**-0.5**
	0.4nm,0.9s,baz=22,slow=1.6,SNR=3.1						
MKAR				PKPab	**PKPab**	**21 57 01.9**	**-0.1**
	0.4nm,0.9s,baz=243,slow=4.7,SNR=2.8						
SONM	**Songino Array**	**168.44**	**2**	PKPab	**PKPab**	**21 57 43.2**	**-0.7**
	0.4nm,1.0s,baz=0.0,slow=3.0,SNR=3.6						

ISCJB ***05*** *21:45:34.2±1.0,13°.4N±0°.2×57°.6E±0°.1,h10km,mb3.5/8, Error ellipse: s-maj=29.1km s-min=16.1km az=147.4*

IDC ***05*** *21:45:34.2±1.3,13°.30N×57°.60E,h0km,mb3.6/8, mb1 3.6/8,mb1mx3.3/46,mbtmp3.6/8,Error ellipse: s-maj=36.3km s-min=20.4km az=150.0*

ISC 05 21:45:35.7±1.3,13°.3N±0°.2×57°.6E±0°.2,h10km,n13, σ0°.89/8,mb3.5/8,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**23.62**	**145**	T	T	22 15 02.8	
	baz=325,slow=76,SNR=52						
H08N3	**Diego Garcia H**	**23.63**	**145**	T	T	22 15 05.3	
	baz=325,slow=76,SNR=48						
H08N1	**Diego Carcia H**	**23.64**	**145**	T	T	22 15 05.9	
	baz=325,slow=76,SNR=61						
KMBO	**Kilima Mbogo**	**24.76**	**236**	P	**P**	**21 50 57.3**	**-0.8**
	1.4nm,0.6s,baz=63,slow=9.1,SNR=6.1						
AAK	**Ala-Archa**	**32.67**	**23**	P	**P**	**21 52 09.1**	**+0.8**
	0.9nm,0.9s,baz=191,slow=5.7,SNR=5.1						
BRTR	**Keskin Array B**	**33.73**	**326**	P	**P**	**21 52 17.4**	**-0.2**
	0.6nm,0.9s,baz=148,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**37.02**	**0**	P	**P**	**21 52 44.5**	**-1.1**
	0.5nm,0.8s,baz=198,slow=6.8,SNR=4.5						
MKAR	**Makanchi Array**	**39.29**	**27**	P	**P**	**21 53 04.6**	**-0.2**
	0.6nm,0.7s,baz=212,slow=8.6,SNR=9.3						
CMAR	**Chiang Mai Arr**	**40.03**	**77**	P	**P**	**21 53 11.1**	**-0.2**
	0.7nm,0.8s,baz=272,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**53.05**	**39**	P	**P**	**21 54 53.9**	**+0.6**
	0.6nm,0.9s,baz=231,slow=7.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**54.32**	**277**	P	**P**	**21 55 03.9**	**+1.0**
	0.3nm,0.7s,baz=60,slow=6.7,SNR=3.3						
H01W3	**Cape Leeuwin H**	**71.88**	**134**	T	T	23 15 17.6	
	baz=303,slow=74,SNR=7.1						
H01W2	**Cape Leeuwin H**	**71.88**	**134**	T	T	23 15 19.0	
	baz=71,slow=74,SNR=7.6						

IDC 05 21:47:58.9±3.6,55°.60S×28°.07W,h0km,mb3.9/2, mb1 4.0/2,mb1mx3.7/16,mbtmp3.9/2,Error ellipse: s-maj=128.1km s-min=45.9km az=170.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**49.71**	**306**	P	P	21 56 53.1	-0.3
	1.2nm,0.6s,baz=151,slow=7.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**72.91**	**30**	P	P	21 59 29.7	0.0
	0.5nm,0.5s,baz=198,slow=6.8,SNR=16						
INK	**Inuvik**	**145.14**	**321**	PKPbc	PKPbc	22 07 36.2	0.0
	1.8nm,0.9s,baz=117,slow=4.5,SNR=6.4						
ILAR	**Eielson Array**	**149.44**	**312**	PKPbc	PKPbc	22 07 47.3	-1.1
	0.7nm,0.9s,baz=129,slow=1.3,SNR=5.2						

IDC 05 21:53:11.7±1.4,21°.97N×143°.00E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.2/51,mbtmp3.4/3,MS2.5/1,Ms1 2.5/1, ms1mx2.0/25,Error ellipse: s-maj=90.0km s-min=32.5km az=102.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**33.06**	**16**	LR	LR	22 11 42.0	
	comp=Z,9.3nm,21.4s,baz=83,slow=34						
WRA	**Warramunga Arr**	**42.51**	**192**	P	P	22 01 09.1	-0.1
	0.4nm,0.8s,baz=16,slow=9.0,SNR=5.0						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	P	22 05 02.5	+0.3
	0.1nm,0.4s,baz=286,slow=5.5,SNR=3.0						
FINES	**FINESS Array B**	**82.86**	**334**	P	P	22 05 37.5	-0.4
	0.3nm,0.5s,baz=72,slow=6.2,SNR=5.7						

ISCJB ***05*** *21:56:04.4±0.4,38°.59N±0°.02×23°.67E±0°.04,h7km±3km, Error ellipse: s-maj=4.9km s-min=2.6km az=167.7*

THE ***05*** *21:56:04.9,38°.59N×23°.65E,h6km±4km,ML2.1/9,Error ellipse: s-maj=4.6km s-min=0.5km az=333.0*

CSEM ***05*** *21:56:04.6±0.1,38°.59N×23°.66E,h10km,ML2.1,Error ellipse: s-maj=2.9km s-min=1.8km az=75.0*

ATH ***05*** *21:56:05.1,38°.59N×23°.68E,h9km±7km,MD2.8/12,ML2.3*

ISC 05 21:56:04.5±0.8,38°.60N±0°.02×23°.67E±0°.02,h13km±6km, n51,σ0°.91/88,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.12**	**330**	P	**Pg**	**21 56 07.4**	**-0.3**
MRKA				S	**Sg**	**21 56 09.8**	**-0.4**
MRKA	**Markates**	**0.12**	**330**	*e*PG	**Pg**	**21 56 07.5**	**-0.3**
MRKA	**Markates**	**0.12**	**330**	*e*Pg	**Pg**	**21 56 07.5**	**-0.3**
MRKA				S	**Sg**	**21 56 09.8**	**-0.4**
LKR	**Lokris**	**0.53**	**276**	P	**Pg**	**21 56 13.8**	**-1.0**
LKR				S	**Sg**	**21 56 22.0**	**+0.2**
LKR	**Lokris**	**0.53**	**276**	*e*PB	**Pg**	**21 56 14.5**	**-0.3**
LKR	**Lokris**	**0.53**	**276**	P	**Pg**	**21 56 13.8**	**-1.0**
LKR				S	**Sg**	**21 56 22.0**	**+0.2**
PTL	**Penteli**	**0.57**	**164**	P	**Pg**	**21 56 15.5**	**-0.1**
PTL				S	**Sg**	**21 56 24.2**	**+1.1**
PTL	**Penteli**	**0.57**	**164**	*e*PB	**Pg**	**21 56 15.5**	**-0.1**
PTL				*e*SB	**Sg**	**21 56 23.5**	**+0.4**
PTL	**Penteli**	**0.57**	**164**	P	**Pg**	**21 56 15.5**	**-0.1**
PTL				*e*Sb	**Sg**	**21 56 23.5**	**+0.4**
PTL				S	**Sg**	**21 56 24.2**	**+1.1**
SKIA	**Skiathos**	**0.59**	**345**	P	**Pg**	**21 56 16.9**	**+0.9**
SKIA				S	**Sb**	**21 56 25.4**	**+0.4**
SKIA	**Skiathos**	**0.59**	**345**	*e*PB	**Pb**	**21 56 17.1**	**+0.4**
SKIA				*e*SB	**Sb**	**21 56 26.0**	**+1.0**
SKIA	**Skiathos**	**0.59**	**345**	*e*Pb	**Pb**	**21 56 17.1**	**+0.4**
SKIA				S	**Sb**	**21 56 25.4**	**+0.4**
SKIA				*e*Sb	**Sb**	**21 56 26.0**	**+1.0**
AOS	**Alonnisos**	**0.60**	**16**	P	**Pg**	**21 56 16.0**	**-0.1**
AOS				S	**Sg**	**21 56 24.5**	**+0.5**
AOS	**Alonnisos**	**0.60**	**16**	*e*PG	**Pg**	**21 56 16.1**	**-0.1**
AOS				*e*SB	**Sg**	**21 56 25.0**	**+1.0**
AOS	**Alonnisos**	**0.60**	**16**	*e*Pg	**Pg**	**21 56 16.1**	**-0.1**
AOS				S	**Sg**	**21 56 24.5**	**+0.5**
AOS				*e*Sb	**Sg**	**21 56 25.0**	**+1.0**
ATH	**Athens Observa**	**0.62**	**176**	P	**Pg**	**21 56 16.6**	**-0.1**
ATH				S	**Sb**	**21 56 26.0**	**+0.1**
ATH	**Athens Observa**	**0.62**	**176**	*e*PB	**Pg**	**21 56 16.5**	**-0.1**
ATH				*e*SB	**Sg**	**21 56 25.4**	**+0.5**
ATH	**Athens Observa**	**0.62**	**176**	*e*Pb	**Pg**	**21 56 16.5**	**-0.1**
ATH				*e*Sb	**Sg**	**21 56 25.4**	**+0.5**
ATH				S	**Sb**	**21 56 26.0**	**+0.1**
ATHU	**Athens Univers**	**0.64**	**172**	P	**Pg**	**21 56 16.7**	**-0.2**
ATHU				S	**Sg**	**21 56 25.6**	**+0.3**
ATHU	**Athens Univers**	**0.64**	**172**	P	**Pg**	**21 56 16.7**	**-0.2**
ATHU				S	**Sg**	**21 56 25.6**	**+0.3**
MRMA	**Marmari**	**0.78**	**134**	P	**Pg**	**21 56 20.2**	**+0.7**
MRMA				S	**Sb**	**21 56 30.8**	**+0.5**
MRMA	**Marmari**	**0.78**	**134**	P	**Pg**	**21 56 20.2**	**+0.7**
MRMA				S	**Sb**	**21 56 30.8**	**+0.5**
NEO	**Neokhori**	**0.79**	**334**	P	**Pg**	**21 56 20.4**	**+0.7**
NEO				S	**Sg**	**21 56 30.5**	**+0.4**
NEO	**Neokhori**	**0.79**	**334**	*e*PB	**Pg**	**21 56 20.5**	**+0.7**
NEO	**Neokhori**	**0.79**	**334**	*e*Pb	**Pg**	**21 56 20.5**	**+0.7**
NEO				S	**Sg**	**21 56 30.5**	**+0.4**
LTK	**Loutraki**	**0.80**	**224**	P	**Pg**	**21 56 19.1**	**-0.8**
LTK				S	**Sb**	**21 56 31.7**	**+0.9**
LTK	**Loutraki**	**0.80**	**224**	*e*PB	**Pg**	**21 56 20.2**	**+0.3**
LTK				*e*SB	**Sb**	**21 56 31.7**	**+0.9**
LTK	**Loutraki**	**0.80**	**224**	P	**Pg**	**21 56 19.1**	**-0.8**
LTK	**Loutraki**	**0.80**	**224**	*e*Pb	**Pg**	**21 56 20.2**	**+0.3**
LTK				S	**Sb**	**21 56 31.7**	**+0.9**
AXAR	**Agios Charalam**	**0.81**	**282**	*e*PG	**Pg**	**21 56 20.1**	**0.0**
AXAR				*e*SB	**Sb**	**21 56 32.5**	**+1.3**
AXAR	**Agios Charalam**	**0.81**	**282**	*e*Pg	**Pg**	**21 56 20.1**	**0.0**
AXAR				*e*Sb	**Sb**	**21 56 32.5**	**+1.3**
XOR	**Xorichti**	**0.85**	**334**	P	**Pg**	**21 56 21.4**	**+0.5**
XOR				S	**Sg**	**21 56 33.0**	**+0.8**
XOR	**Xorichti**	**0.85**	**334**	*e*PB	**Pg**	**21 56 21.5**	**+0.5**
XOR				*e*SB	**Sg**	**21 56 32.7**	**+0.5**
XOR	**Xorichti**	**0.85**	**334**	*e*Pb	**Pg**	**21 56 21.5**	**+0.5**
XOR				*e*Sb	**Sg**	**21 56 32.7**	**+0.5**
XOR				S	**Sg**	**21 56 33.0**	**+0.8**
AGG	**Agios Georgios**	**1.13**	**293**	*e*PB	**Pg**	**21 56 26.5**	**+0.3**
AGG	**Agios Georgios**	**1.13**	**293**	*e*Pb	**Pg**	**21 56 26.5**	**+0.3**
GUR	**Goura**	**1.23**	**238**	*e*PG	**Pn**	**21 56 28.0**	**+0.5**
GUR	**Goura**	**1.23**	**238**	*e*Pg	**Pn**	**21 56 28.0**	**+0.5**
KLV	**Kalavryta, Ach**	**1.31**	**246**	*e*PB	**Pg**	**21 56 30.2**	**+0.5**
KLV	**Kalavryta, Ach**	**1.31**	**246**	*e*Pb	**Pg**	**21 56 30.2**	**+0.5**
PAIG	**Paliouri**	**1.33**	**0**	*e*PN	**Pn**	**21 56 28.7**	**0.0**
PAIG				*e*SN	Sb	21 56 41.2	-5.0
PAIG	**Paliouri**	**1.33**	**0**	*e*Pn	**Pn**	**21 56 28.7**	**0.0**
PAIG				*e*Sn	Sb	21 56 41.2	-5.0
OUR	**Ouranopolis**	**1.75**	**8**	*e*PN	**Pn**	**21 56 34.9**	**+0.3**
OUR				*e*SN	**Sn**	**21 56 52.3**	**-4.4**
OUR	**Ouranopolis**	**1.75**	**8**	*e*Pn	**Pn**	**21 56 34.9**	**+0.3**
OUR				*e*Sn	**Sn**	**21 56 52.3**	**-4.4**
PLG	**Polygyros**	**1.78**	**355**	*e*PN	**Pn**	**21 56 35.5**	**+0.5**
PLG	**Polygyros**	**1.78**	**355**	*e*Pn	**Pn**	**21 56 35.5**	**+0.5**
HORT	**Hortiatis**	**2.05**	**348**	*e*PN	**Pn**	**21 56 39.5**	**+0.8**
HORT	**Hortiatis**	**2.05**	**348**	*e*Pn	**Pn**	**21 56 39.5**	**+0.8**
KNT	**Kendrikon**	**2.63**	**347**	*e*PN	**Pn**	**21 56 47.8**	**+1.2**
KNT	**Kendrikon**	**2.63**	**347**	*e*Pn	**Pn**	**21 56 47.8**	**+1.2**

IDC 05 22:03:16.7±1.2,0°.01S×125°.67E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.3/34,mbtmp3.4/4,Error ellipse: s-maj=135.9km s-min=20.8km az=67.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.55**	**157**	P	P	22 08 08.0	+0.1
	0.4nm,0.4s,baz=338,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.84**	**162**	P	P	22 08 41.0	0.0
	0.2nm,0.4s,baz=340,slow=7.9,SNR=5.3						
SONM	**Songino Array**	**50.52**	**343**	P	P	22 12 17.8	+0.9
	0.2nm,0.4s,baz=156,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	22 13 24.7	-0.8
	0.6nm,0.3s,baz=126,slow=8.0,SNR=27						

NEIC 05 22:05:22.2,32°.26N×115°.36W,h21km,ML3.5(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.55**	**333**	*e*Pg	Pb	22 05 33.2	0.0
EMSC	**East Mesa**	**0.58**	**33**	*e*Pg	Pb	22 05 34.0	+0.3
YUH	**Yuha Desert**	**0.61**	**310**	*e*Pg	Pb	22 05 33.7	-0.6
COA	**Coachella**	**0.64**	**18**	*e*Pg	Pb	22 05 34.6	-0.1
CRR	**Carrizo Plain**	**0.81**	**321**	*e*Pg	Pb	22 05 37.1	-0.4
CLIC	**Calipatria**	**0.89**	**351**	*e*Pg	Pb	22 05 38.1	-0.8
GLA	**Glamis**	**0.91**	**29**	*e*Pg	Pb	22 05 37.9	-1.5
GLA				*e*Sg	Sb	22 05 46.5	-4.7
CBKC	**Canebrake**	**0.99**	**311**	*e*Pg	Pb	22 05 40.5	-0.1
BAR	**Barrett**	**1.19**	**291**	*e*Pn	Pn	22 05 43.5	0.0
BAR				*e*Sg	Sb	22 05 58.2	-0.7
BORC	**Borrego Spring**	**1.34**	**319**	*e*Pn	Pn	22 05 44.8	+0.9
EML	**El Monte Cty P**	**1.40**	**297**	*e*Pn	Pb	22 05 48.0	+0.3
CTW	**Cottonwood Mou**	**1.48**	**343**	*e*Pn	Pb	22 05 51.5	+2.4
DPP	**Dos Picos Cty**	**1.52**	**300**	*e*Sn	Sb	22 06 09.0	+0.3
HWB	**Hans Werner Br**	**1.55**	**300**	*e*Pn	Pb	22 05 50.4	+0.2
CPE	**Camp Elliot**	**1.60**	**294**	*e*Pn	Pb	22 05 51.0	-0.1
PFO	**Pinyon Flats O**	**1.63**	**326**	*e*Pn	Pn	22 05 48.5	-1.4
PLM	**Palomar**	**1.67**	**311**	*e*Pn	Pn	22 05 50.3	-0.2
BACC	**Bachelor Mtn.**	**1.96**	**314**	*e*Pn	Pb	22 05 57.9	+0.7
BACC				*e*Sn	Sb	22 06 22.2	+1.1
HMTC	**Hemet**	**2.00**	**317**	*e*Pn	Pb	22 05 58.4	+0.5
HMTC				*e*Sn	Sb	22 06 23.8	+1.4
214A	**Organ Pipe Nat**	**2.19**	**97**	*e*Pn	Pn	22 05 56.8	-0.5
MWC	**Mount Wilson**	**2.99**	**312**	*e*Pn	Pn	22 06 09.0	+0.4
MWC				*e*Sn	Sb	22 06 50.5	-0.8
PASC	**Pasadena Art C**	**3.04**	**310**	*e*Pn	Pn	22 06 09.3	+0.3
PASC				*e*Sn	Sn	22 06 48.3	+3.4
IR2C	**Iron Canyon**	**3.31**	**311**	*e*Pg	Pg	22 06 21.8	+1.5
TUC	**Tucson**	**3.88**	**88**	*e*Pn	Pn	22 06 22.3	+1.7
TUC				*e*Sn	Sn	22 07 08.2	+2.5
SHPR	**Sheep Range**	**4.24**	**2**	*e*Pn	Pn	22 06 26.0	+0.2
SHPR				*e*Sg	Sb	22 07 35.9	+8.6
W18A	**Petrified Fore**	**5.49**	**57**	*e*Pn	Pn	22 06 42.8	-0.2
R11A	**Troy Canyon, C**	**6.08**	**358**	*e*Pn	Pn	22 06 53.2	+2.1
R11A				*e*Pg	Pb	22 07 21.8	+14

MEX ***05*** *22:07:31.6±0.4,32°.26N×114°.80W,h15km,MD3.7*

NEIC ***05*** *22:07:33.5,32°.10N×115°.29W,h10km,ML3.8(PAS),After PAS.*

ISC 05 22:07:31.7±1.1,32°.15N±0°.03×115°.17W±0°.03, h15km±10km,n27,σ1°.47/34,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.61**	**15**	*e*Pg	**Pb**	**22 07 44.2**	**+0.3**
COA	**Coachella**	**0.71**	**3**	*e*Pg	**Pg**	**22 07 45.5**	**-0.1**
ERPC	**Ernies Place**	**0.72**	**325**	*e*Pg	Pg	22 07 40.3	-5.5
GLA	**Glamis**	**0.94**	**18**	*e*P	**Pn**	**22 07 52.5**	**+2.1**
GLA				*e*S	**Sg**	**22 08 00.1**	**-2.2**
SPIG	**San Pedro Mart**	**1.13**	**193**	*i* P	**Pb**	**22 07 52.6**	**-0.6**
SPIG				*e*S	**Sg**	**22 08 08.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.13**	**193**	*i* P	**Pb**	**22 07 52.6**	**-0.6**
SPIG				*e*S	**Sg**	**22 08 08.6**	**+0.1**
CBX	**Cerro Bola**	**1.28**	**278**	*e*P	**Pg**	**22 07 55.9**	**-0.5**
CBX				*e*S	**Sg**	**22 08 13.8**	**+0.8**
CBX	**Cerro Bola**	**1.28**	**278**	*e*P	**Pg**	**22 07 55.9**	**-0.5**
CBX				*e*S	**Sg**	**22 08 13.8**	**+0.8**
BAR	**Barrett**	**1.38**	**293**	*e*Pn	**Pb**	**22 07 57.4**	**+0.2**
BAR				*e*Sn	**Sn**	**22 08 11.9**	**-2.5**
EML	**El Monte Cty P**	**1.60**	**298**	*e*Pn	Pn	22 07 54.3	-5.0
EML				*e*Sn	**Sn**	**22 08 19.9**	**+0.2**
DPP	**Dos Picos Cty**	**1.72**	**300**	*e*Pn	**Pb**	**22 08 02.6**	**-0.4**
HWB	**Hans Werner Br**	**1.75**	**300**	*e*Pn	**Pb**	**22 08 03.2**	**-0.2**
PFO	**Pinyon Flats O**	**1.81**	**324**	*e*Pn	**Pn**	**22 08 00.9**	**-1.5**
PFO				*e*Sn	**Sn**	**22 08 22.4**	**-2.9**
BACC	**Bachelor Mtn.**	**2.15**	**313**	*e*Sn	**Sb**	**22 08 37.6**	**+0.9**
HMTC	**Hemet**	**2.19**	**316**	*e*Sn	**Sb**	**22 08 38.9**	**+0.9**
LDFC	**Landfair**	**2.92**	**1**	*e*Pn	**Pn**	**22 08 19.5**	**+1.9**
MWC	**Mount Wilson**	**3.19**	**311**	*e*Pn	**Pn**	**22 08 21.0**	**-0.4**
MWC				*e*Sn	**Sn**	**22 08 57.6**	**-1.6**
PASC	**Pasadena Art C**	**3.23**	**309**	*e*Pn	**Pn**	**22 08 23.4**	**+1.5**
PASC				*e*Sg	**Sb**	**22 09 10.7**	**+2.7**
GSC	**Goldstone, Bar**	**3.43**	**337**	*e*Pn	**Pn**	**22 08 26.2**	**+1.6**
TUC	**Tucson**	**3.72**	**86**	*e*Pn	Pn	22 08 32.4	+3.8
TUC				*e*Sn	**Sn**	**22 09 11.8**	**-0.3**
ISA	**Isabella, Lake**	**4.45**	**323**	*e*Pn	**Pn**	**22 08 40.7**	**+2.0**
ISA				*e*Lg	Lg	22 09 52.1	
WUAZ	**Wupatki**	**4.61**	**42**	*e*Pn	**Pn**	**22 08 39.0**	**-1.9**
W18A	**Petrified Fore**	**5.41**	**55**	*e*Pn	**Pn**	**22 08 54.4**	**+2.5**
MSU	**Marysvale**	**6.80**	**20**	*e*Pn	**Pn**	**22 09 09.6**	**-1.5**
BNM	**Barren Site**	**7.43**	**72**	*e*Pn	**Pn**	**22 09 20.5**	**+0.7**
LPM	**Los Pinos Moun**	**7.47**	**71**	*e*Pn	**Pn**	**22 09 20.4**	**+0.2**
MNTX	**Cornudas Mount**	**8.33**	**91**	*e*Pn	Pn	22 09 27.3	-4.6

NIED ***05*** *22:19:00,44°.10N×148°.10E,h65km,Mw3.7 Best double couple: M₀3.88000×10¹⁴ NP1:φs289.00000°,δ28.00000°, λ-166.00000°. NP2:φs186.00000°,δ84.00000°, λ-63.00000°.*

ISCJB ***05*** *22:19:42.3±1.0,44°.42N±0°.07×148°.3E±0°.1,h63km±8km, mb3.5/9,Error ellipse: s-maj=15.4km s-min=6.4km az=40.2*

JMA ***05*** *22:19:42.7±0.2,44°.07N×148°.10E,h0km,M4.5*

SKHL ***05*** *22:19:43.4±2.1,44°.42N×148°.34E,h35km±4km,mb4.9/3*

MOS ***05*** *22:19:43.0±1.0,44°.64N×148°.19E,h69km,mb4.1/1,Error ellipse: s-maj=21.7km s-min=18.6km az=65.4*

IDC ***05*** *22:19:43.7±4.3,44°.60N×148°.28E,h56km±39km,mb3.3/9, mb1 3.5/10,mb1mx3.3/37,mbtmp3.6/10,ML3.6/1,MS2.5/1, Ms1 2.5/1,ms1mx2.1/1,Error ellipse: s-maj=24.8km s-min=19.5km az=118.0*

ISC 05 22:19:41.9±2.0,44°.41N±0°.07×148°.4E±0°.1,h44km±17km, n30,σ1°.21/42,mb3.5/9,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.92**	**334**	*d* iPN	**Pn**	**22 19 58.5**	**+0.2**
KUR				*i* S	**Sn**	**22 20 10.8**	**+0.4**
KUR				pmax	pmax		
	comp=Z,995nm,0.4s						
KUR				smax	smax		
	comp=N,3μm,0.2s						
KUR				smax	smax		
	comp=E,743nm,0.2s						
KUR	**Kuril'sk**	**0.92**	**334**	*e*P	**Pn**	**22 19 58.5**	**+0.2**
KUR				AMB	AMB	22 19 59.0	
	comp=E,995nm,0.4s						
KUR				*e*S	**Sn**	**22 20 09.5**	**-0.9**
KUR				A	A	22 20 11.5	
	comp=E,3μm,0.2s						
KUR				A	A	22 20 11.5	
	comp=E,830nm,0.2s						
SHO	**Shikotan**	**1.27**	**246**	*e*P	**Pn**	**22 20 03.1**

ASAR					S	S		22 29 29.6	+0.6
	0.0nm,0.3s,baz=339,slow=17,SNR=4.7									
MKAR	**Makanchi Array**	**66.66**	**327**		P	P		22 32 44.4	+0.8
	0.3nm,0.5s,baz=116,slow=8.2,SNR=8.3									
ZALV	**Zalesovo Beam**	**70.13**	**334**		P	P		22 33 03.7	-1.0
	0.3nm,0.5s,baz=134,slow=4.2,SNR=2.4									

NNC ***05*** *22:31:55.6±3.6,37.°61N×71.°56E,h169km±30km,mb2.6, mpv3.5, Error ellipse: s-maj=33.2km s-min=12.8km az=160.0*

ISC 05 22:31:55.0±3.0,37.°5N±0.′2×71.°70E±0.′09,h109km,n12, σ1ᵗ84/17,10C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
DZET	**Dzherino**	**2.62**	**301**	⇑P		**Pn**	**22 32 37.3**	**+1.2**
	19nm,0.5s							
DZET				⇑S		**Sn**	**22 33 10.6**	**+3.0**
	108nm,0.4s							
SFK	**Sufi-Kurgan**	**2.89**	**29**	⇑P		**Pn**	**22 32 41.2**	**+1.4**
	13nm,0.3s							
SFK				⇑S		**Sn**	**22 33 18.4**	**+4.2**
	41nm,0.2s							
AML	**Almayashu**	**4.89**	**18**	P		**Pn**	**22 33 06.9**	**+0.2**
	SNR=21							
MNAS	**Manas**	**5.04**	**7**	⇑P		**Pn**	**22 33 08.8**	**+0.4**
	1.6nm,0.2s							
MNAS				⇑S		**Sn**	**22 34 06.0**	**+0.5**
	68nm,0.8s							
UCH	**Uchtor**	**5.21**	**24**	P		**Pn**	**22 33 11.0**	**0.0**
	SNR=20							
KZA	**Kyzart**	**5.34**	**30**	P		**Pn**	**22 33 12.2**	**-0.6**
	SNR=10							
EKS2	**Erkin-Say**	**5.41**	**16**	P		**Pn**	**22 33 14.4**	**+0.9**
	SNR=10.0							
AAK	**Ala-Archa**	**5.57**	**22**	⇑P		**Pn**	**22 33 16.1**	**+0.5**
	1.6nm,0.3s							
AAK				S		**Sn**	**22 34 19.4**	**+0.9**
	22nm,0.8s							
AAK	**Ala-Archa**	**5.57**	**22**	P		**Pn**	**22 33 15.2**	**-0.4**
	SNR=6.6							
KK31	**Karatay Array**	**5.69**	**351**	⇓P		**Pn**	**22 33 17.4**	**+0.4**
	0.8nm,0.2s,baz=178,slow=13							
KK31				⇑S		**Sn**	**22 34 20.9**	**-0.2**
	12nm,0.4s,baz=179,slow=25							
AB31	**Akbulak array**	**14.52**	**328**	⇓P		**Pn**	**22 35 12.5**	**-2.6**
	1.2nm,0.6s							
AB31				⇑S		Sn	22 37 47.0	-8.2
	2.7nm,0.8s							
AKTO	**Aktyubinsk**	**16.23**	**327**	⇑P		**Pn**	**22 35 33.8**	**-2.7**
	4.0nm,1.0s							

ISCJB ***05*** *22:36:54.8±0.4, 19.°79S±0.′02×68.°98W±0.′02, h84km±3km, mb5.6/290, Error ellipse: s-maj=4.2km s-min=3.2km az=137.2*

NEIC ***05*** *22:36:57.2±0.3, 19.°86S×68.°84W, h94km±2km, mb5.8/176, MW5.7, MW5.7, Error ellipse: s-maj=4.1km s-min=2.9km az=64.0, Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁷Nm; Mrr-1.62; Mθθ0.57; Mϕϕ1.05; Mrθ2.46; Mθϕ-0.28; Mrϕ-4.24; Best double couple: M₀5.10000×10¹⁷ NP1:φs330.00000°, δ82.00000°, λ-91.00000°. NP2: φs156.00000°, δ8.00000°, λ-84.00000°. Principal axes: T 4.8700, Plg37.0000°, Azm60.0000°; N 0.4500, Plg0.0000°, Azm330.0000°; P -5.3200, Plg52.0000°, Azm239.0000°;*

NEIC Felt [V] at Alto Hospicio, Camina, Huara, Iquique, La Tirana, Mamina and Pozo Almonte; [IV] at Coya and Pica; [III] at Arica, and Calama; [II] at Codpa, Putre and Sierra Gorda. Felt [III] at Tacna and [II] at Arequipa and Ilo, Peru.

GUC ***05*** *22:36:57.3±0.7, 20.°02S×69.°25W, h107km±5km, ML5.8*

GCMT ***05*** *22:36:57.2±0.1, 20.°07S×69.°32W, h124km, MW5.8/131, Moment Tensor Solution. s116,c226; s131,c288; Duration: 1ᵗ9 Moment tensor: Scale 10¹⁷Nm; Mrr-2.54±.06; Mθθ-0.05±.07; Mϕϕ2.59±.08; Mrθ2.79±.04; Mθϕ-0.65±.06; Mrϕ-4.53±.05; Best double couple: M₀5.94200×10¹⁷ NP1:φs330.00000°, δ77.00000°, λ-98.00000°. NP2:φs183.00000°, δ15.00000°, λ-58.00000°. Principal axes: T 5.9220, Plg32.0000°, Azm67.0000°; N 0.0430, Plg8.0000°, Azm332.0000°; P -5.9610, Plg57.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***05*** *22:36:58.8±0.4, 19.°90S×68.°92W, h109km±2km, mb5.1/38, mb1 5.2/40, mb1mx5.1/49, mbtmp5.5/40, MS4.6/28, Ms1 4.6/28, ms1mx4.5/37 Error ellipse: s-maj=9.5km s-min=7.0km az=80.0*

LDG ***05*** *22:36:59.5±0.3, 19.°11S×68.°76W, h104km, Mb5.6/46, Ms4.7/12*

BJI ***05*** *22:36:59.0, 20.°00S×69.°20W, h106km, mB5.4/41*

MOS ***05*** *22:37:02.5±1.1, 19.°47S×68.°85W, h138km, mb5.8/59, Error ellipse: s-maj=8.4km s-min=5.5km az=85.0*

NEIC ***05*** *22:37:11.9±0.0, 20.°28S×68.°43W, h82km, Moment Tensor Solution. s117 Moment tensor: Scale 10¹⁷Nm; Mrr-2.30; Mθθ0.36; Mϕϕ1.94; Mrθ2.15; Mθϕ-1.25; Mrϕ-3.82; Best double couple: M₀5.00000×10¹⁷ NP1:φs152.00000°, δ15.00000°, λ-88.00000°. NP2:φs331.00000°, δ75.00000°, λ-89.00000°. Principal axes: T 5.1900, Plg30.0000°, Azm60.0000°; N -0.3300, Plg0.0000°, Azm330.0000°; P -4.8600, Plg59.0000°, Azm240.0000°;*

ISC 05 22:36:58.0±0.2,19.°97S±0.′02×69.°05W±0.′04,h106km±1km, h106km:pP-P,n1421,σ1ᵗ58/1568,mb5.6/283,263C-241D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PB11	**IPOC Station P**	**0.61**	**289**	⇑*e*P		**Pn**	**22 37 13.7**	**-1.7**
PB11				*e*S		**Sn**	**22 37 26.4**	**-2.1**
PB11	**IPOC Station P**	**0.61**	**289**	⇑*e*P		**Pn**	**22 37 13.7**	**-1.7**
PB11				*e*S		**Sn**	**22 37 26.4**	**-2.1**
HMBC	**Humberstone**	**0.85**	**248**	⇑*i*P		**Pn**	**22 37 15.4**	**-2.0**
HMBC				*e*S		**Sn**	**22 37 29.2**	**-2.9**
HMBC				AML		AML	22 37 31.6	
	comp=E,735μm,0.3s							
HMBC	**Humberstone**	**0.85**	**248**	⇑*i*P		**Pn**	**22 37 15.4**	**-2.0**
HMBC				*e*S		**Sn**	**22 37 29.2**	**-2.9**
MNMC	**Minimini**	**0.98**	**328**	⇓*e*P		**Pn**	**22 37 18.6**	**-0.3**
MNMC				*e*S		**Sn**	**22 37 34.9**	**+0.2**
MNMC	**Minimini**	**0.98**	**328**	⇓*e*P		**Pn**	**22 37 18.6**	**-0.3**
MNMC				*e*S		**Sn**	**22 37 34.9**	**+0.2**
PB01	**IPOC Station P**	**1.15**	**201**	⇑*i*P		**Pn**	**22 37 19.5**	**-1.1**
PB01				*e*S		**Sn**	**22 37 35.9**	**-1.8**
PB01	**IPOC Station P**	**1.15**	**201**	⇑*i*P		**Pn**	**22 37 19.5**	**-1.1**
PB01				*e*S		**Sn**	**22 37 35.9**	**-1.8**
PATCX	**Punta Patache**	**1.34**	**230**	⇑*i*P		**Pn**	**22 37 20.6**	**-2.2**
PATCX				*i* S		**Sn**	**22 37 38.5**	**-3.0**
PATCX				AML		AML	22 37 48.3	
	comp=N,138μm,0.5s							
PB09	**IPOC Station P**	**1.83**	**186**	⇑*e*P		**Pn**	**22 37 28.4**	**-0.4**
PB09				*e*S		**Sn**	**22 37 51.9**	**-0.5**
PB09	**IPOC Station P**	**1.83**	**186**	⇑*e*P		**Pn**	**22 37 28.4**	**-0.4**
PB09				*e*S		**Sn**	**22 37 51.9**	**-0.5**
PB07	**IPOC Station P**	**1.92**	**204**	⇑*e*P		**Pn**	**22 37 28.3**	**-1.7**
PB07				*e*S		**Sn**	**22 37 52.5**	**-1.9**
PB07				AML		AML	22 37 58.5	
	comp=E,109μm,0.5s							
PB07	**IPOC Station P**	**1.92**	**204**	⇑*e*P		**Pn**	**22 37 28.3**	**-1.7**
PB07				*e*S		**Sn**	**22 37 52.5**	**-1.9**
MACH	**Maria Elena**	**2.32**	**197**	*e*P		**Pn**	**22 37 34.0**	**-1.1**
MACH				*e*S		**Sn**	**22 38 01.1**	**-2.4**
MACH	**Maria Elena**	**2.32**	**197**	*e*P		**Pn**	**22 37 34.0**	**-1.1**
MACH				S		**Sn**	**22 38 01.1**	**-2.4**
LVC	**Limon Verde**	**2.64**	**177**	*e*P		**Pn**	**22 37 39.5**	**+0.1**
LVC				*e*S		**Sn**	**22 38 11.3**	**+0.2**
LVC	**Limon Verde**	**2.64**	**177**	*e*P		**Pn**	**22 37 39.5**	**+0.1**
LVC				*e*S		**Sn**	**22 38 11.3**	**+0.2**
CEN1	**Los Morros**	**3.57**	**197**	⇓*e*P		**Pn**	**22 37 52.6**	**+1.0**
CEN1	**Los Morros**	**3.57**	**197**	P		**Pn**	**22 37 52.6**	**+1.0**
LPAZ	**La Paz**	**3.76**	**14**	P		**Pn**	**22 37 55.4**	**+0.7**
LPAZ				S		**Sn**	**22 38 38.8**	**+0.4**
LPAZ				pmax		pmax		
	comp=Z,219nm,0.3s							
LPAZ				smax		smax		
	comp=N,141nm,0.3s							
LPAZ	**La Paz**	**3.76**	**14**	P		**Pn**	**22 37 55.4**	**+0.7**
	comp=N,219nm,0.3s,baz=192,slow=5.6,SNR=2294							
LPAZ				S		**Sn**	**22 38 38.8**	**+0.4**
	comp=N,141nm,0.3s,baz=176,slow=11,SNR=3.8							
LPAZ	**La Paz**	**3.76**	**14**	*e*Pn		**Pn**	**22 37 57.4**	**+2.7**
LPAZ				*e*Sn		Sn	22 38 24.5	-14
I08BO	**LAS PENAS INFR**	**3.77**	**9**	P		**Pn**	**22 37 56.5**	**+1.7**
	baz=195,slow=20,SNR=0.7							
I08BO				*i*			23 00 20.0	
	baz=190,slow=328,SNR=0.9							
PB10	**IPOC Station P**	**3.80**	**201**	⇑*e*P		Pn	22 37 50.9	-3.6
PB10				*e*S		**Sn**	**22 38 34.4**	**-4.0**
SIV	**San Ignacio**	**8.56**	**64**	P		**Pn**	**22 38 57.9**	**-1.2**
	comp=N,266nm,0.3s,baz=261,slow=13,SNR=2067							
LCO	**Las Campanas**	**9.13**	**189**	*e*Pn		Pn	22 39 00.8	-6.3
LCO				*e*Sn		Sn	22 40 37.1	-11
NNA	**Nana**	**10.91**	**315**	P		**Pn**	**22 39 28.5**	**-2.6**
NNA				S		**Sn**	**22 41 26.4**	**-4.8**
NNA				pmax		pmax		
	comp=Z,6.0nm,0.3s							
NNA				smax		smax		
	comp=N,23nm,0.3s							
NNA	**Nana**	**10.91**	**315**	P		**Pn**	**22 39 28.5**	**-2.6**
	comp=N,6.4nm,0.3s,baz=171,slow=8.7,SNR=18							
NNA				S		**Sn**	**22 41 26.4**	**-4.8**
	comp=N,23nm,0.3s,baz=243,slow=16,SNR=3.4							
NNA				LR		LR	22 43 29.3	
	comp=N,2μm,18.2s,baz=178,slow=36							
NNA	**Nana**	**10.91**	**315**	*e*Pn		Pn	22 39 27.6	-3.5
NNA				*e*Sn		Sn	22 41 16.9	-14
CFAA	**Coronel Fontan**	**11.61**	**177**	P		Pn	22 39 36.0	-4.5
	comp=N,1.1nm,0.3s,baz=348,slow=12,SNR=76							
CFAA				S		Sn	22 41 36.6	-12
	comp=N,3.4nm,0.3s,baz=286,slow=7.9,SNR=10.0							
SAML	**Samuel**	**12.33**	**28**	*e*Pn		**Pn**	**22 39 47.0**	**-3.1**
SAML				*e*Sn		Sn	22 41 58.2	-7.5
ATAH	**Atahualpa**	**15.65**	**323**	P		**Pn**	**22 40 33.1**	**0.0**
	comp=N,0.2nm,0.3s,baz=135,slow=13,SNR=8.6							
ATAH				LR		LR	22 47 30.3	
	comp=N,2μm,18.9s,baz=167,slow=40							
TRQA	**Tornquist**	**19.05**	**163**	*e*P		**P**	**22 41 11.7**	**-0.2**
	comp=N,406nm,1.1s							
TRQA				*e*S		**S**	**22 44 36.5**	**-5.8**
BDFB	**Brasilia**	**20.48**	**81**	P		**P**	**22 41 27.2**	**-0.4**
	comp=N,672nm,0.6s,baz=257,slow=11,SNR=290							
BDFB				LR		LR	22 50 44.4	
	comp=N,7μm,18.4s,baz=230,slow=41							
PLCA	**Paso Flores**	**20.74**	**183**	*e*P		**P**	**22 41 30.1**	**-0.1**
PLCA				pmax		pmax		
	comp=Z,761nm,1.0s							
PLCA	**Paso Flores**	**20.74**	**183**	P		**P**	**22 41 29.9**	**-0.3**
	comp=Z,652nm,1.1s,baz=15,slow=13,SNR=191							
PLCA	**Paso Flores**	**20.74**	**183**	*e*P		**P**	**22 41 30.1**	**-0.1**
	comp=Z,761nm,1.0s							
PTGA	**Pitinga**	**21.08**	**26**	P		**P**	**22 41 31.8**	**-2.1**
	comp=Z,180nm,0.3s,baz=211,slow=12,SNR=327							
PTGA				LR		LR	22 50 40.7	
	comp=Z,5μm,19.0s,baz=216,slow=39							
PTGA	**Pitinga**	**21.08**	**26**	P		**P**	**22 41 31.8**	**-2.1**
	comp=Z,202nm,1.3s							
OTAV	**Otavalo**	**22.09**	**334**	*e*P		**P**	**22 41 46.4**	**+1.2**
	comp=Z,268nm,1.1s							
ROSC	**El Rosal**	**25.21**	**348**	P		**P**	**22 42 15.3**	**+0.9**
	comp=Z,39nm,0.5s,baz=153,slow=3.8,SNR=18							
ROSC				LR		LR	22 53 06.4	
	comp=Z,3μm,20.0s,baz=190,slow=38							
PAYG	**Puerto Ayora**	**28.28**	**310**	*e*P		**P**	**22 42 42.5**	**+0.9**
	comp=Z,71nm,1.1s							
SDV	**Santo Domingo**	**28.71**	**357**	*e*P		**P**	**22 42 44.4**	**-1.2**
	comp=Z,140nm,0.8s							
PCRV	**Puerto La Cruz**	**30.27**	**9**	P		**P**	**22 42 59.0**	**-0.2**
	comp=Z,84nm,0.5s,baz=192,slow=3.1,SNR=57							
PCRV				LR		LR	22 56 01.2	
	comp=Z,3μm,19.7s,baz=180,slow=38							
BCIP	**Isla Barro Col**	**30.84**	**339**	*e*P		**P**	**22 43 06.0**	**+1.9**
	comp=Z,120nm,1.1s							
TBH	**Brigand Hill**	**31.26**	**15**	*e*		**P**	**22 43 09.5**	**+1.6**
TRN	**Trinidad (W)**	**31.34**	**15**	*e*		**P**	**22 43 10.2**	**+1.6**
BOT	**Bacolet**	**32.01**	**16**	*e*		**P**	**22 43 15.3**	**+1.0**
TPR	**Prospect**	**32.01**	**15**	*e*		**P**	**22 43 15.7**	**+1.2**
TOSP	**Speyside**	**32.18**	**16**	*e*		**P**	**22 43 15.4**	**-0.5**
GRGR	**Grenville**	**32.72**	**13**	*e*P		**P**	**22 43 20.2**	**-0.5**
	comp=Z,1μm,1.3s							
GRW	**Mount Saint Ca**	**32.74**	**13**	*e*		**P**	**22 43 20.9**	**-0.1**
EFI	**East Falkland**	**32.80**	**167**	*d* iP		**P**	**22 43 20.9**	**0.0**
EFI				pmax		pmax		
	comp=Z,711nm,1.0s							
EFI	**East Falkland**	**32.80**	**167**	*e*P		**P**	**22 43 21.2**	**+0.3**
	comp=Z,401nm,1.2s							
GRHS	**Sauteurs**	**32.81**	**13**	*e*		**P**	**22 43 21.5**	**+0.1**
GRSS	**Sisters**	**32.89**	**13**	*e*		**P**	**22 43 21.9**	**-0.2**
FCV	**Fort Charlotte**	**33.80**	**14**	*e*		**P**	**22 43 29.4**	**-0.7**
JTS	**JuntasAbangare**	**33.90**	**331**	*d* iP		**P**	**22 43 33.4**	**+2.4**
JTS				pmax		pmax		
	comp=Z,99nm,1.7s							
JTS	**JuntasAbangare**	**33.90**	**331**	P		**P**	**22 43 32.2**	**+1.2**
	comp=Z,21nm,0.8s,baz=131,slow=1.8,SNR=14							
JTS	**JuntasAbangare**	**33.90**	**331**	*e*P		**P**	**22 43 33.4**	**+2.4**
	comp=Z,66nm,1.2s							
SVB	**Belmont**	**33.91**	**14**	*e*		**P**	**22 43 29.5**	**-1.4**
SVV	**Soufriere Volc**	**33.96**	**14**	*e*		**P**	**22 43 31.4**	**0.0**
SSV	**Crater Summit**	**33.98**	**14**	*e*		**P**	**22 43 31.6**	**0.0**
BBGH	**Gun Hill**	**34.20**	**17**	*e*P		**P**	**22 43 33.5**	**0.0**
	comp=Z,617nm,1.1s							
MCLT	**Moule a Chique**	**34.40**	**14**	*e*		**P**	**22 43 36.1**	**+0.8**
USHA	**Ushuaia**	**34.81**	**179**	P		**P**	**22 43 38.8**	**+0.5**
	comp=Z,83nm,1.0s,baz=344,slow=6.2,SNR=30							
USHA				LR		LR	22 58 05.3	
	comp=Z,687nm,19.1s,baz=339,slow=36							
H05S1	**Guadeloupe/Mar**	**35.12**	**14**	P		**P**	**22 43 40.5**	**-0.9**
RCBR	**Riachuelo**	**35.14**	**71**	P		**P**	**22 43 41.0**	**-0.7**
	comp=Z,633nm,0.6s,baz=236,slow=8.0,SNR=137							
RCBR				LR		LR	22 58 56.6	
	comp=Z,2μm,21.3s,baz=219,slow=38							
RCBR	**Riachuelo**	**35.14**	**71**	*e*P		**P**	**22 43 41.5**	**-0.3**
	comp=Z,544nm,0.7s							
FDF	**Fort de France**	**35.35**	**13**	*e*P		**P**	**22 43 40.9**	**-2.5**
FDF				*e*			22 45 03.9	
FDF				pmax		pmax		
	comp=Z,261nm,0.5s							
FDF	**Fort de France**	**35.35**	**13**	*e*P		**P**	**22 43 40.9**	**-2.5**
	comp=Z,261nm,0.5s							
FDF				*e*PP		**PnPn**	**22 45 03.9**	**-1.6**
H05N1	**Guadeloupe/Mar**	**36.90**	**13**	P		**P**	**22 43 54.7**	**-1.9**
	SNR=19							
RPN	**Rapa Nui**	**37.49**	**251**	LR		LR	22 55 59.4	
	comp=Z,2μm,21.1s,baz=100,slow=30							
ICMP	**Isla Caja de M**	**37.70**	**4**	*e*P		**P**	**22 44 02.0**	**-1.3**
ICMP				*e*S		**S**	**22 49 44.5**	**-1.3**
SEUS	**St. Eustatius**	**37.70**	**9**	*e*P		**P**	**22 44 01.9**	**-1.4**
	comp=Z,178nm,0.8s							
CDVI	**St. Croix**	**37.72**	**7**	*e*P		**P**	**22 44 01.5**	**-2.0**
	comp=Z,152nm,0.6s							
CDVI				*e*PP		**PP**	**22 45 29.3**	**-2.5**
CRPR	**Cabo Rojo, PR**	**37.78**	**3**	*e*P		**P**	**22 44 02.5**	**-1.5**
	comp=Z,1μm,1.7s							
CRPR				*e*PP		**PP**	**22 45 31.2**	**-1.3**
SABA	**Saba**	**37.78**	**9**	*e*P		**P**	**22 44 02.0**	**-2.0**
	comp=Z,230nm,0.7s							
OBIP	**Obispado Ponce**	**37.85**	**4**	*e*P		P	22 44 00.5	-4.1
	comp=Z,416nm,0.6s							
OBIP				*e*PP		**PP**	**22 45 32.6**	**-0.6**
CELP	**Cerrillos**	**37.88**	**4**	*e*P		**P**	**22 44 03.3**	**-1.5**
CELP				*e*S		**S**	**22 49 42.9**	**-5.7**
LSP	**Las Mesas**	**37.95**	**3**	*e*P		**P**	**22 44 03.9**	**-1.6**
MTP	**Monte Pirata**	**37.98**	**5**	*e*P		**P**	**22 44 03.0**	**-2.6**
	comp=Z,277nm,1.0s							
MTP				*e*S		**S**	**22 49 47.3**	**-2.8**
MPR	**Mayaguez**	**37.99**	**3**	*e*P		**P**	**22 44 03.6**	**-2.1**
	comp=Z,179nm,0.9s							
MPR				*e*S		**S**	**22 49 54.9**	**+4.8**
HUMP	**Col San Antoni**	**38.00**	**5**	*e*P		**P**	**22 44 03.9**	**-1.9**
HUMP				*e*S		**S**	**22 49 48.3**	**-2.0**
ANWB	**Willy Bob**	**38.07**	**11**	*e*P		P	22 44 02.9	-3.6
	comp=Z,208nm,0.7s							
LRS	**Lares**	**38.08**	**3**	*e*P		**P**	**22 44 04.6**	**-2.0**
LRS				*e*S		**S**	**22 49 47.8**	**-3.8**
CBYP	**Canovanas**	**38.13**	**5**	*e*P		**P**	**22 44 04.7**	**-2.2**
	comp=Z,824nm,1.3s							
AOPR	**Arecibo Observ**	**38.14**	**4**	*e*P		**P**	**22 44 05.1**	**-1.9**
	comp=Z,191nm,0.6s							
AOPR				*e*S		**S**	**22 49 49.1**	**-3.4**
SDD	**Santo Domingo**	**38.19**	**359**	*e*P		**P**	**22 44 06.9**	**-0.5**
	comp=Z,1μm,1.8s							
SMRT	**St. Maarten**	**38.23**	**9**	*e*P		**P**	**22 44 04.8**	**-3.0**
	comp=Z,244nm,0.7s							
PCDR	**Punta Cana, DR**	**38.25**	**1**	*e*P		**P**	**22 44 07.7**	**-0.2**
STVI	**Saint Thomas**	**38.29**	**6**	*e*P		**P**	**22 44 06.9**	**-1.3**
	comp=Z,72nm,0.6s							
SDDR	**Presa de Saban**	**38.77**	**357**	*e*P		**P**	**22 44 10.9**	**-1.4**
	comp=Z,62nm,0.8s							
MTDJ	**Mount Denham**	**38.86**	**347**	*e*P		**P**	**22 44 13.3**	**+0.1**
	comp=Z,228nm,0.8s							
SMN1	**Samana, DR**	**38.91**	**360**	*e*P		**P**	**22 44 11.9**	**-1.6**
GTBY	**Guantanamo Bay**	**40.09**	**351**	*e*P		**P**	**22 44 22.9**	**-0.3**
	comp=Z,153nm,1.0s							
APG	**El Apazote**	**40.63**	**327**	P		P	22 44 24.5	-3.6
	comp=Z,46nm,0.8s,baz=158,slow=8.0,SNR=12							
GRTK	**Grand Turk**	**41.27**	**357**	*e*P		**P**	**22 44 32.1**	**-0.8**
	comp=Z,422nm,1.0s							
HOPE	**Hope Point**	**42.28**	**152**	*e*P		**P**	**22 44 42.3**	**+1.5**
	comp=Z,335nm,1.1s							
HOPE				*e*			22 45 06.8	
TEIG	**Tepich**	**44.16**	**334**	LR		LR	23 06 14.6	
	comp=Z,846nm,20.4s,baz=43,slow=40							
TEIG	**Tepich**	**44.16**	**334**	*e*P		**P**	**22 44 56.6**	**+0.3**
	comp=Z,49nm,0.6s							
CMIG	**Matias Romero**	**44.72**	**324**	P		**P**	**22 45 01.5**	**+0.7**
	comp=Z,41nm,1.1s,baz=131,slow=5.6,SNR=29							
PMSA	**Palmer Station**	**44.91**	**177**	P		**P**	**22 45 01.2**	**-0.5**
	comp=Z,94nm,1.1s,baz=0.9,slow=5.9,SNR=4.1							
BBSR	**BB Station**	**52.21**	**5**	*e*P		**P**	**22 45 56.8**	**-1.2**
	comp=Z,118nm,0.8s							
TIGA	**Tifton**	**52.98**	**344**	⇑P		**P**	**22 46 03.3**	**-0.4**
	baz=53,SNR=6.1							
TIGA	**Tifton**	**52.98**	**344**	*e*P		**P**	**22 46 04.0**	**+0.3**
	comp=Z,220nm,1.2s							
TIGA				*e*pP		**pP**	**22 46 29.9**	**+0.7**
BRAL	**Brewton**	**53.56**	**341**	*e*P		**P**	**22 46 09.5**	**+1.5**
	comp=Z,269nm,0.9s							
BRAL				*e*pP		**pP**	**22 46 36.2**	**+2.8**
H10S3	**ASCENSION HYDR**	**53.58**	**86**	P		**P**	**22 46 09.6**	**+1.4**
	baz=254,slow=11,SNR=4.2							
H10S2	**ASCENSION HYDR**	**53.60**	**86**	P		**P**	**22 46 09.7**	**+1.4**
	baz=254,slow=11,SNR=11							
H10S1	**ASCENSION HYDR**	**53.60**	**86**	P		**P**	**22 46 09.8**	**+1.4**
	baz=254,slow=11,SNR=11							
RGRS	**Roger Stewart**	**53.64**	**348**	*e*P		**P**	**22 46 09.1**	**+0.5**
RGRS				*e*SP		**sP**	**22 46 48.2**	**+2.4**
CSU	**Charleston Sou**	**53.70**	**348**	*e*P		**P**	**22 46 08.7**	**-0.2**
NHSC	**New Hope**	**53.83**	**348**	*e*P		**P**	**22 46 09.9**	**0.0**
	comp=Z,980nm,1.0s							
NHSC				*e*pP		**pP**	**22 46 36.9**	**+1.5**
035Z	**Hargill**	**54.06**	**328**	⇑P		**P**	**22 46 11.9**	**+0.2**
	baz=54							
H10N3	**ASCENSION HYDR**	**54.09**	**85**	P		**P**	**22 46 13.1**	**+1.2**
	baz=262,slow=5.7,SNR=5.9							
H10N2	**ASCENSION HYDR**	**54.10**	**85**	P		**P**	**22 46 13.5**	**+1.5**
	baz=262,slow=5.7,SNR=14							
H10N1	**ASCENSION HYDR**	**54.10**	**85**	P		**P**	**22 46 13.1**	**+1.1**
	baz=262,slow=5.7,SNR=10							
ASCN	**Ascension**	**54.19**	**85**	*e*P		**P**	**22 46 11.8**	**-1.2**
	comp=Z,224nm,0.7s							
035A	**Encino**	**54.47**	**328**	⇑P		**P**	**22 46 15.5**	**+0.8**
	baz=55							
GOGA	**Godfrey**	**54.83**	**345**	*e*P		**P**	**22 46 15.6**	**-1.6**
GOGA				*e*S		**S**	**22 53 49.1**	**-1.1**
GOGA				pmax		pmax		
	comp=Z,126nm,1.4s							
GOGA	**Godfrey**	**54.83**	**345**	*e*P		**P**	**22 46 15.6**	**-1.6**
	comp=Z,126nm,1.4s							
GOGA				*e*S		**S**	**22 53 49.1**	**-1.1**
034A	**Hebbronville**	**54.87**	**327**	⇓P		**P**	**22 46 18.0**	**+0.4**
	baz=55,SNR=5.6							
JSC	**Jenkinsville**	**55.19**	**348**	*e*P		**P**	**22 46 19.8**	**+0.1**
JSC				pmax		pmax		
	comp=Z,115nm,0.9s							
JSC	**Jenkinsville**	**55.19**	**348**	*e*P		**P**	**22 46 19.8**	**+0.1**
	comp=Z,115nm,0.9s							
934A	**Benavides**	**55.23**	**328**	⇓P		**P**	**22 46 20.0**	**-0.2**
	baz=56							
LRAL	**Lakeview Retre**	**55.42**	**342**	*e*P		**P**	**22 46 20.5**	**-0.9**
	comp=Z,73nm,1.1s							
LRAL				*e*pP		**pP**	**22 46 45.2**	**-1.9**
835A	**Beeville**	**55.45**	**329**	⇓P		**P**	**22 46 21.4**	**-0.3**
	baz=56							
CNNC	**Cliffs of the**	**55.54**	**351**	*e*P		**P**	**22 46 22.2**	**+0.1**
	comp=Z,67nm,0.9s							
933A	**Laredo**	**55.62**	**327**	⇓P		**P**	**22 46 23.1**	**+0.2**
	baz=56,SNR=10							
834A	**Tilden**	**55.67**	**328**	⇓P		**P**	**22 46 23.7**

JSRW **J. Sargeant Re** 57.95 352 *eP* P 22 46 39.2 0.0
138A **Matatall Enter** 57.95 334 ⇓P P 22 46 39.6 +0.3
baz=58,SNR=8.8
532A **Rocksprings** 57.99 328 ⇑P P 22 46 39.8 +0.1
baz=58,SNR=21
433A **Art** 58.11 329 ⇓P P 22 46 40.5 -0.1
baz=58,SNR=13
137A **Heron Place, G** 58.18 333 ⇑P P 22 46 40.6 -0.4
baz=58,SNR=7.0
334A **Lometa** 58.19 331 ⇑P P 22 46 41.1 0.0
baz=58,SNR=12
JCT **Junction City** 58.23 329 *eP* P 22 46 41.6 +0.2
JCT pmax pmax
comp=Z,39nm,0.8s
JCT **Junction City** 58.23 329 ⇑P P 22 46 41.1 -0.3
baz=58,SNR=9.0
JCT **Junction City** 58.23 329 *eP* P 22 46 41.6 +0.2
comp=Z,39nm,0.8s
531A **Rocksprings** 58.34 328 ⇑P P 22 46 42.1 0.0
baz=59,SNR=29
CBN **Corbin Frederi** 58.39 352 *eP* P 22 46 43.0 +0.7
comp=Z,146nm,1.2s
WHTX **Lake Whitney,** 58.40 332 ⇓P P 22 46 42.5 +0.1
baz=59
WHTX **Lake Whitney,** 58.40 332 *eP* P 22 46 43.4 +1.0
comp=Z,437nm,1.6s
333A **Richland Sprin** 58.54 330 ⇓P P 22 46 43.1 -0.3
baz=59,SNR=13
432A **Menard** 58.55 329 ⇑P P 22 46 43.2 -0.5
baz=59,SNR=23
WVT **Waverly** 58.55 342 *eP* P 22 46 41.8 -1.6
WVT **Waverly** 58.55 342 *eP* P 22 46 41.8 -1.6
234A **Clairette** 58.71 331 P P 22 46 44.9 +0.2
baz=59
530A **J-C Ranch, Com** 58.73 327 ⇑P P 22 46 45.0 +0.1
baz=59,SNR=40
UALR **University of** 58.77 338 *eP* P 22 46 45.1 +0.1
UALR *epP* pP 22 47 11.8 +0.9
431A **Sonora** 58.79 328 ⇓P P 22 46 45.0 -0.3
baz=59,SNR=20
135A **Vickery Place,** 58.85 332 ⇓P P 22 46 45.9 +0.2
baz=59
SLBS **Sierra La Lagu** 58.92 316 *eP* P 22 46 48.2 +1.8
comp=Z,109nm,1.4s
332A **Millersview** 58.94 329 ⇓P P 22 46 46.2 -0.1
baz=59,SNR=12
MIAR **Mount Ida** 59.02 336 *eP* P 22 46 46.6 -0.1
MIAR pmax pmax
comp=Z,119nm,1.0s
MIAR **Mount Ida** 59.02 336 *eP* P 22 46 46.6 -0.1
comp=Z,120nm,1.0s
MIAR *epP* pP 22 47 13.3 +0.6
233A **Rising Star** 59.07 330 ⇑P P 22 46 47.0 -0.2
baz=59,SNR=12
529A **Stev Forest Ra** 59.16 326 ⇑P P 22 46 47.5 -0.4
baz=59,SNR=51
134A **White-Moore Ra** 59.17 331 ⇓P P 22 46 48.0 +0.2
baz=59
430A **Baggett Ranch,** 59.19 328 ⇓P P 22 46 47.9 -0.2
baz=59,SNR=23
331A **San Angelo** 59.21 329 ⇓P P 22 46 47.6 -0.6
baz=60,SNR=13
LTX **Lajitas** 59.30 325 *eP* P 22 46 48.9 0.0
LTX **Lajitas** 59.30 325 *eP* P 22 46 48.9 0.0
LTX *epP* pP 22 47 14.5 -0.4
LTX ⇑*e* 23 16 29.8
TXAR **Lajitas Array** 59.30 325 P P 22 46 48.9 -0.1
comp=Z,5.2nm,0.7s,baz=148,slow=7.9,SNR=46
TXAR pP pP 22 47 14.5 -0.4
comp=Z,3.5nm,0.9s,baz=324,slow=29,SNR=4.8
TXAR PKP2bc 23 16 29.8
comp=Z,0.6nm,0.9s,baz=249,slow=2.1,SNR=4.2
232A **Coleman** 59.32 330 ⇓P P 22 46 48.7 -0.2
baz=60,SNR=18
429A **Davenport Ranc** 59.39 327 ⇑P P 22 46 49.2 -0.3
baz=60,SNR=35
Z35A **Perchaven, San** 59.45 333 ⇑P P 22 46 49.3 -0.3
baz=60,SNR=5.3
SDMD **Soldier's Deli** 59.51 353 *eP* P 22 46 48.9 -1.1
comp=Z,231nm,1.3s
133A **Hamilton Ranch** 59.58 331 ⇓P P 22 46 50.4 -0.2
baz=60,SNR=8.5
PARMO **Parma** 59.62 341 *eP* P 22 46 51.3 +0.5
330A **Mertzon** 59.66 328 ⇓P P 22 46 50.7 -0.6
baz=60,SNR=11
231A **Bronte** 59.67 329 ⇑P P 22 46 50.8 -0.6
baz=60
Z34A **Collier Ranch,** 59.77 332 ⇓P P 22 46 51.7 -0.2
baz=60,SNR=11
ABTX **Abilene, Hawle** 59.92 330 ⇑P P 22 46 52.8 -0.2
baz=60,SNR=10
ABTX **Abilene, Hawle** 59.92 330 *eP* P 22 46 53.3 +0.3
ABTX *epP* pP 22 47 18.1 -0.9
PBMO **Poplar Bluff** 59.94 340 *eP* P 22 46 52.7 -0.3
comp=Z,92nm,0.8s
230A **Sterling City** 60.02 329 ⇓P P 22 46 53.7 -0.1
baz=60,SNR=7.2
MVL **Millersville** 60.04 354 *eP* P 22 46 53.9 +0.3
SHEL **Horse Pasture** 60.05 97 *eP* P 22 46 54.4 +0.1
SHEL pmax pmax
comp=Z,274nm,0.9s
SHEL **Horse Pasture** 60.05 97 *eP* P 22 46 54.4 +0.1
comp=Z,274nm,0.9s
Z33A **Whitaker Ranch** 60.08 331 ⇓P P 22 46 53.9 -0.1
baz=60,SNR=11
WCI **Wyandotte Cave** 60.11 344 *eP* P 22 46 53.0 -1.2
WCI pmax pmax
comp=Z,223nm,1.4s
WCI **Wyandotte Cave** 60.11 344 *eP* P 22 46 53.0 -1.2
comp=Z,222nm,1.4s
329A **Wagon Wheel Ra** 60.13 328 ⇓P P 22 46 54.5 0.0
baz=60
Y34A **Reagan Ranch,** 60.20 333 ⇓P P 22 46 54.7 -0.1
baz=60,SNR=18
131A **Roby** 60.32 330 ⇑P P 22 46 55.5 -0.2
baz=61,SNR=12
Z32A **Haskell** 60.42 331 ⇑P P 22 46 56.3 -0.1
baz=61
229A **Bryant Ranch,** 60.43 328 ⇓P P 22 46 56.1 -0.4
baz=61,SNR=11
SIUC **Southern Illin** 60.43 342 *eP* P 22 46 56.1 -0.2
comp=Z,259nm,0.9s
130A **Snyder** 60.53 329 ⇑P P 22 46 56.9 -0.3
baz=61,SNR=11
BRNJ **Basking Ridge** 60.55 355 *eP* P 22 46 58.4 +1.3
comp=Z,68nm,0.9s
Y33A **Hilltop Ranch,** 60.62 332 ⇑P P 22 46 57.5 -0.2
baz=61,SNR=9.3
Z31A **Sharp Cattle R** 60.73 330 ⇑P P 22 46 58.3 -0.2
baz=61,SNR=13
X34A **Smith Ranch, M** 60.78 333 ⇓P P 22 46 58.6 -0.2
baz=61,SNR=8.1
PAL **Palisades** 60.83 356 *eP* P 22 46 59.2 +0.3
PAL pmax pmax
comp=Z,72nm,1.0s
PAL **Palisades** 60.83 356 *eP* P 22 46 59.2 +0.3
comp=Z,72nm,1.0s
SSPA **Standing Stone** 60.85 352 *eP* P 22 46 59.1 0.0
comp=Z,42nm,0.8s
RKT **Rikitea** 60.94 254 *eS* S 22 55 09.2 -1.2
comp=Z,2μm,26.2s
RKT *eLQ* LQ 23 02 33.9
comp=Z,1μm,28.8s
RKT *eLR* LR 23 05 08.2
comp=Z,4μm,35.0s,baz=109
RKT **Rikitea** 60.94 254 *eT* T 23 52 22.3
comp=Z,1.4nm,0.2s
228A **UT Block 9, Go** 60.94 328 ⇑P P 22 46 59.9 -0.2
baz=61,SNR=7.0
ODNJ **Ogdensburg** 60.95 355 *eP* P 22 46 59.4 -0.4
comp=Z,141nm,1.7s
Y32A **R-V Farms, Ver** 60.98 331 ⇓P P 22 47 00.3 +0.1
baz=61
129A **Stewart Farms,** 61.00 328 ⇓P P 22 47 00.1 -0.3
baz=61,SNR=14
X33A **Lawton** 61.02 332 ⇓P P 22 47 00.1 -0.3
baz=61
BLO **Bloomington** 61.06 345 *eP* P 22 46 59.8 -0.8
BLO pmax pmax
comp=Z,138nm,1.1s
BLO **Bloomington** 61.06 345 *eP* P 22 46 59.8 -0.8
comp=Z,138nm,1.1s
OLIL **Olney** 61.06 343 *eP* P 22 46 59.6 -1.0
comp=Z,73nm,0.9s
TUL1 **Leonard** 61.07 335 ⇑P P 22 47 00.9 +0.2
baz=61,SNR=9.5
TUL1 **Leonard** 61.07 335 *eP* P 22 47 00.9 +0.2
YLE **Yale** 61.07 357 *eP* P 22 47 01.0 +0.4
Z30A **Sanderson Ranc** 61.17 329 ⇑P P 22 47 01.1 -0.5
baz=61,SNR=26
X32A **Elmer** 61.26 332 ⇓P P 22 47 02.5 +0.4
baz=62
ACSO **Alum Creek Sta** 61.28 348 *eP* P 22 47 01.8 -0.3
comp=Z,138nm,0.9s
128A **Castleberry Fa** 61.30 328 ⇑P P 22 47 02.2 -0.2
baz=62,SNR=11
W34A **Bridge Creek,** 61.30 333 ⇑P P 22 47 02.8 +0.5
baz=62
WMOK **Wichita Mounta** 61.31 332 *eP* P 22 47 02.0 -0.4
WMOK pmax pmax
comp=Z,121nm,1.8s
WMOK **Wichita Mounta** 61.31 332 *eP* P 22 47 01.9 -0.4
comp=Z,121nm,1.8s
Y31A **Rekieta Farm,** 61.32 331 ⇑P P 22 47 01.8 -0.7
baz=62
V35A **Meyer Ranch, C** 61.36 334 ⇓P P 22 47 02.0 -0.7
baz=62
Z29A **Hungry Hill Ra** 61.43 329 ⇑P P 22 47 02.5 -0.8
baz=62,SNR=18
W33A **Caddo, Fort Co** 61.52 333 ⇑P P 22 47 03.9 +0.1
baz=62,SNR=5.9
KSPA **Keystone Colle** 61.52 354 *eP* P 22 47 04.2 +0.5
comp=Z,38nm,0.8s
Y30A **Stafford Cattl** 61.55 330 ⇑P P 22 47 03.5 -0.6
baz=62
VNA3 **Neumayer Olymp** 61.56 162 P P 22 47 04.8 +1.1
BRYW **Bryant College** 61.61 358 *eP* P 22 47 04.4 +0.2
comp=Z,197nm,0.8s
V34A **Guthrie** 61.70 334 ⇑P P 22 47 04.8 -0.2
baz=62
V34A **Guthrie** 61.70 334 *eP* P 22 47 05.3 +0.4
comp=Z,268nm,1.6s
X31A **McDonald Ranch** 61.75 331 ⇑P P 22 47 04.9 -0.4
baz=62
VNA1 **Neumayer--Stat** 61.77 161 P P 22 47 06.4 +1.5
Z28A **Tucker Farm, M** 61.78 329 ⇓P P 22 47 04.9 -0.8
baz=62,SNR=5.8
W32A **Sentinel** 61.84 332 ⇓P P 22 47 05.7 -0.2
baz=62,SNR=12
Y29A **Porterfield Fa** 61.90 329 ⇓P P 22 47 06.0 -0.5
baz=62,SNR=6.0
GDL2 **Guadalupe Moun** 61.92 326 *eP* P 22 47 07.5 +0.8
GDL2 *epP* pP 22 47 34.2 +1.4
QUA2 **Belchertown** 62.01 357 *eP* P 22 47 07.0 +0.2
QUA2 *epP* pP 22 47 35.8 +2.8
X30A **Coker Ranch, T** 62.01 330 ⇓P P 22 47 06.5 -0.6
baz=62,SNR=11
V33A **Lossen Ranch,** 62.01 333 ⇑P P 22 47 06.4 -0.7
baz=62,SNR=6.7
BBTS **Babate** 62.05 60 P P 22 47 08.2 +0.6
comp=Z,472nm,0.7s,baz=192,slow=0.3,SNR=66
MNTX **Cornudas Mount** 62.07 325 ⇓P P 22 47 07.4 -0.1
baz=62,SNR=13
MNTX **Cornudas Mount** 62.07 325 *eP* P 22 47 07.2 -0.3
comp=Z,54nm,1.1s
VNA2 **Neumayer--Watz** 62.13 161 P P 22 47 08.2 +0.8
ALLY **Alegheny Colle** 62.16 351 *eP* P 22 47 07.7 -0.2
comp=Z,265nm,0.7s
BINY **Binghamton** 62.18 354 *eP* P 22 47 06.7 -1.4
comp=Z,253nm,1.3s
W31A **Holland Ranch,** 62.20 332 ⇓P P 22 47 07.9 -0.4
baz=62
HRV **Adam Dziewonsk** 62.20 358 *eP* P 22 47 08.5 +0.4
HRV pmax pmax
comp=Z,98nm,0.8s
HRV **Adam Dziewonsk** 62.20 358 *eP* P 22 47 08.5 +0.4
comp=Z,98nm,0.8s
U34A **Anderson Ranch** 62.23 334 ⇓P P 22 47 08.1 -0.3
baz=62,SNR=10
U34A **Anderson Ranch** 62.23 334 *eP* P 22 47 08.8 +0.4
comp=Z,196nm,1.3s
U34A *epP* pP 22 47 35.1 +0.5
V32A **Arapaho** 62.25 333 ⇑P P 22 47 07.8 -0.9
baz=62
SFIN **Lafayette** 62.34 345 ⇓P P 22 47 08.1 -1.0
baz=63,SNR=15
SFIN **Lafayette** 62.34 345 *eP* P 22 47 08.0 -1.2
SFIN *epP* pP 22 47 34.1 -1.2
X29A **Tulia** 62.39 330 ⇑P P 22 47 09.1 -0.7
baz=63
MSTX **Muleshoe** 62.52 329 ⇑P P 22 47 10.0 -0.6
baz=63,SNR=22
MSTX **Muleshoe** 62.52 329 *eP* P 22 47 10.5 -0.1
MSTX *epP* pP 22 47 34.3 -2.6
TRY **Troy** 62.53 356 *eP* P 22 47 11.0 +0.7
TRY *epP* pP 22 47 33.8 -2.7
S36A **Lake Cedric, C** 62.59 336 ⇓P P 22 47 10.7 -0.1
baz=63,SNR=26
V31A **Spring Creek L** 62.64 332 ⇑P P 22 47 11.3 -0.1
baz=63
X28A **Dimmitt** 62.69 329 ⇑P P 22 47 11.7 -0.1
baz=63
AMTX **Amarillo** 62.74 330 ⇓P P 22 47 12.1 +0.1
baz=63
U32A **Winter Ranch,** 62.79 333 ⇓P P 22 47 12.3 +0.1
baz=63
W29A **Amarillo** 62.92 330 ⇓P P 22 47 13.4 +0.2
baz=63
V30A **Spur Ranch, Mi** 63.01 331 ⇓P P 22 47 14.2 +0.4
baz=63
T33A **Patterson Ranc** 63.07 334 ⇑P P 22 47 14.6 +0.5
baz=63
S34A **Willow Spring** 63.15 335 ⇓P P 22 47 14.9 +0.3
baz=63
U31A **Nine Bar Ranch** 63.15 332 ⇑P P 22 47 15.0 +0.3
baz=63
ACCN **Adirondack Com** 63.18 356 *eP* P 22 47 14.9 +0.3
W28A **Vega** 63.30 330 ⇑P P 22 47 15.9 +0.2
baz=64
AAM **Ann Arbor** 63.41 348 *eP* P 22 47 15.9 -0.3
AAM pmax pmax
comp=Z,57nm,0.9s
AAM **Ann Arbor** 63.41 348 *eP* P 22 47 15.9 -0.3
comp=Z,57nm,0.9s
S33A **Kaszmaul Farm,** 63.41 335 ⇑P P 22 47 16.5 +0.2
baz=64
HNH **Hanover** 63.42 357 *eP* P 22 47 17.2 +1.0
T32A **Huddler Ranch,** 63.44 334 ⇓P P 22 47 17.2 +0.7
baz=64
T31A **Randall Ranch,** 63.69 333 ⇑P P 22 47 18.7 +0.5
baz=64
V28A **Channing** 63.71 330 ⇑P P 22 47 19.0 +0.6
baz=64
MDV **Middlebury** 63.76 357 *eP* P 22 47 18.8 +0.3
SNAA **Sanae** 63.77 161 P P 22 47 19.1 +0.8
SNAA **Sanae** 63.77 161 ‖*iP* P 22 47 18.4 +0.1
SNAA **Sanae** 63.77 161 *diP* P 22 47 18.9 +0.6
SNAA pmax pmax
comp=Z,223nm,1.0s
SNAA **Sanae** 63.77 161 P P 22 47 18.9 +0.6
comp=Z,70nm,1.0s,baz=286,slow=7.3,SNR=159
SNAA **Sanae** 63.77 161 *eP* P 22 47 18.8 +0.5
NCB **Newcomb** 63.80 356 *eP* P 22 47 18.9 +0.2
comp=Z,56nm,0.8s
W26A **Owens Ranch, T** 63.91 329 ⇑P P 22 47 19.7 -0.1
baz=64,SNR=6.2
V27A **Dan Oppiter Fa** 64.00 330 ⇑P P 22 47 20.8 +0.5
baz=64
319A **Douglas** 64.00 322 ⇑P P 22 47 21.8 +1.4
baz=64
121A **Cookes Peak, D** 64.02 324 ⇓P P 22 47 21.5 +0.9
baz=64
R33A **Olander Ranch,** 64.02 335 ⇑P P 22 47 19.9 -0.4
baz=64
S31A **Mullinville** 64.05 333 ⇓P P 22 47 21.1 +0.6
baz=64
KSU1 **Kansas State U** 64.17 336 ⇑P P 22 47 21.5 +0.2
baz=64
WVL **Waterville** 64.22 360 *eP* P 22 47 20.9 -0.5
WVL *epP* pP 22 47 50.8 +3.1
U28A **Mallet** 64.22 331 ⇓P P 22 47 21.6 -0.2
baz=64
W25A **X Bar L Ranch,** 64.35 328 ⇑P P 22 47 22.5 -0.2
baz=65,SNR=8.1
EMMW **East Machias** 64.38 1 *eP* P 22 47 22.9 +0.5
comp=Z,48nm,0.8s
R32A **Long Quarter,** 64.41 334 ⇓P P 22 47 22.5 -0.3
baz=65,SNR=5.9
PTN **Potsdam (NY)** 64.45 355 *eP* P 22 47 23.3 +0.4
PTN pmax pmax
comp=Z,148nm,1.3s
PTN **Potsdam (NY)** 64.45 355 *eP* P 22 47 23.3 +0.4
comp=Z,148nm,1.3s
LONY **Lake Ozonia** 64.47 356 *eP* P 22 47 23.5 +0.4
V26A **Tequesquite Ra** 64.48 329 ⇓P P 22 47 23.3 -0.3
baz=65,SNR=7.1
U27A **Thompson Grove** 64.53 330 ⇓P P 22 47 24.1 +0.2
baz=65
Q33A **Connelly Farm,** 64.55 335 ⇑P P 22 47 24.0 +0.2
baz=65
R31A **Burdett** 64.63 334 ⇑P P 22 47 25.1 +0.7
baz=65
S29A **Ulysses** 64.75 332 ⇑P P 22 47 25.9 +0.7
baz=65
LPM **Los Pinos Moun** 64.75 326 *eP* P 22 47 26.5 +1.1
T28A **Walsh** 64.78 331 ⇓P P 22 47 26.0 +0.6
baz=65
LENM **Lemitar** 64.82 326 *eP* P 22 47 24.9 -0.9
Q32A **Meitler Ranch,** 64.83 335 ⇑P P 22 47 25.5 -0.1
baz=65,SNR=17
P33A **Williams Farm,** 64.88 336 ⇑P P 22 47 26.4 +0.5
baz=65
PKME **Peaks-Kenny Pk** 64.92 360 *eP* P 22 47 26.3 +0.3
comp=Z,31nm,0.7s
V25A **Rancho No Teng** 64.92 329 ⇓P P 22 47 26.2 -0.3
baz=65,SNR=14
R30A **Dighton** 64.94 333 ⇓P P 22 47 26.9 +0.5
baz=65
U26A **Atchley Ranch,** 64.95 330 ⇓P P 22 47 26.3 -0.3
baz=65,SNR=6.6
T27A **Campo** 65.01 331 ⇓P P 22 47 26.6 -0.3
baz=65
S28A **Manter** 65.07 332 ⇓P P 22 47 27.5 +0.2
baz=65
SADO **Sadowa** 65.08 352 P P 22 47 26.7 -0.3
comp=Z,52nm,0.7s,baz=190,slow=6.5,SNR=55
ANMO **Albuquerque** 65.15 327 ⇑*iP* P 22 47 28.9 +0.9
ANMO *i* *PP pP 22 47 56.2 +1.9
ANMO pmax pmax
comp=Z,55nm,0.9s
ANMO **Albuquerque** 65.15 327 P P 22 47 28.5 +0.5
comp=Z,8.0nm,0.8s,baz=163,slow=9.4,SNR=11
ANMO **Albuquerque** 65.15 327 *eP* P 22 47 28.6 +0.7
Q31A **Ellis** 65.18 334 ⇑P P 22 47 28.5 +0.6
baz=65
U25A **Circle Dot Ran** 65.27 329 ⇑P P 22 47 28.4 -0.3
baz=66,SNR=8.2
P32A **Huiting Farm,** 65.39 335 ⇑P P 22 47 29.6 +0.4
baz=66
R29A **Marienthal** 65.43 333 ⇓P P 22 47 29.8 +0.2
baz=66
SCIA **State Center** 65.50 340 *eP* P 22 47 29.4 -0.4
comp=Z,164nm,0.9s
Q30A **Quinter** 65.50 334 ⇓P P 22 47 30.1 +0.1
baz=66,SNR=8.3
T26A **Comanche Natio** 65.50 330 ⇑P P 22 47 30.7 +0.5
baz=66,SNR=6.8
JFWS **Jewell Farm** 65.55 343 *eP* P 22 47 29.9 -0.2
JFWS pmax pmax
comp=Z,275nm,1.4s
JFWS **Jewell Farm** 65.55 343 *eP* P 22 47 29.9 -0.2
comp=Z,275nm,1.4s
P31A **Stockton** 65.62 335 ⇓P P 22 47 30.4 -0.3
baz=66,SNR=10
V23A **Ortiz Mt. (NFS** 65.63 327 ⇑P P 22 47 31.8 +0.7
baz=66
R28A **Tribune** 65.65 332 ⇓P P 22 47 31.6 +0.6
baz=66
U24A **Moreno Valley** 65.70 328 ⇑P P 22 47 31.8 +0.2
baz=66
Q29A **Oakley** 65.75 333 ⇑P P 22 47 31.7 +0.1
baz=66,SNR=12
S26A **Kim** 65.81 331 ⇑P P 22 47 32.4 +0.4
baz=66,SNR=18
O32A **Brockman Farm,** 65.82 336 ⇑P P 22 47 31.8 -0.1
baz=66
T25A **Trinidad** 65.86 330 ⇑P P 22 47 33.1 +0.5
baz=66,SNR=7.2
T25A **Trinidad** 65.86 330 *eP* P 22 47 33.6 +1.0
P30A **Selden** 65.99 334 ⇑P P 22 47 33.2 +0.1
baz=66
R27A **Eads** 66.04 331 ⇑P P 22 47 33.9 +0.4
baz=66,SNR=6.8
U23A **El Rito** 66.09 328 ⇑P P 22 47 34.3 +0.3
baz=66
Q28A **Sharon Springs** 66.26 333 ⇓P P 22 47 34.9 0.0
baz=66
N32A **Stulken Farm,** 66.26 336 ⇓P P 22 47 35.0 +0.3
baz=66
T24B **San Luis** 66.27 329 ⇑P P 22 47 35.8 +0.6
baz=66
S25A **Robets Cordova** 66.29 330 ⇑P P 22 47 35.6 +0.3
baz=67,SNR=8.3
P29A **Atwood** 66.32 334 ⇑P P 22 47 35.6 +0.4
baz=67
R26A **Arlington** 66.35 331 ⇑P P 22 47 36.0 +0.5
baz=67,SNR=20
O30A **MW Ranch, Wils** 66.45 334 ⇓P P 22 47 36.4 +0.4
baz=67
KSCO **Kaye Shedlock'** 66.56 332 ⇓P P 22 47 37.1 +0.2
baz=67
T23A **Casias Ranch,** 66.57 328 ⇑P P 22 47 37.6 +0.5
baz=67
S24A **Houchin Ranch,** 66.65 329 ⇑P P 22 47 38.5 +0.8
baz=67,SNR=8.1
X18A **Snowflake** 66.71 324 ⇓P P 22 47 38.8 +0.8
baz=67
O29A **4D Ranch, Culb** 66.71 334 ⇑P P 22 47 37.6 -0.1
baz=67
BGNE **Belgrade** 66.76 337 ⇓P P 22 47 38.3 +0.3
baz=67,SNR=9.0
BGNE **Belgrade** 66.76 337 *eP* P 22 47 38.2 +0.2
SDCO **Great Sand Dun** 66.87 329 ⇓P P 22 47 39.7 +0.7
baz=67,SNR=6.0
SDCO **Great Sand Dun** 66.87 329 *eP* P 22 47 40.2 +1.2
comp=Z,97nm,1.2s
SDCO *epP* PcP 22 48 06.5 -0.5
Q26A **Hugo** 66.89 331 ⇑P P 22 47 39.7 +0.7
baz=67
P27A **Ficken Ranch,** 66.99 332 ⇓P P 22 47 40.3 +0.7
baz=67
N30A **Hueftle Ranch,** 66.99 335 ⇑P P 22 47 40.2 +0.8
baz=67
M31A **Lambtecht Ranc** 67.02 336 ⇓P P 22 47 39.7 +0.1
baz=67,SNR=6.3
W18A **Petrified Fore** 67.03 325 ⇓P P 22 47 41.0 +1.0
baz=67
W18A **Petrified Fore** 67.03 325 *eP* P 22 47 41.5 +1.5
comp=Z,65nm,1.0s
R24A **Sanders Place,** 67.07 330 ⇑P P 22 47 40.9 +0.7
baz=67,SNR=11
Q25A **Bedland, Calha** 67.21 331 ⇑P P 22 47 40.6 -0.5
baz=68
N29A **Votaw Ranch, W** 67.22 334 ⇑P P 22 47 41.7 +0.8
baz=68
P26A **Davis Ranch, A** 67.33 332 ⇑P P 22 47 42.9 +1.1
baz=68
R23A **Moffat** 67.38 329 ⇓P P 22 47 43.3 +1.1
baz=68
X16A **Lo Mia Camp, P** 67.46 323 ⇓P P 22 47 44.0 +1.2
baz=68
O27A **Beecher Island** 67.47 333 ⇑P P 22 47 43.4 +0.9
baz=68,SNR=5.4
N28A **Pribbeno Ranch** 67.49 334 ⇑P P 22 47 43.6 +1.0
baz=68
S22A **4UR Ranch, Cre** 67.52 328 ⇓P P 22 47 44.0 +0.8
baz=68
P25A **Willow Gulch B** 67.66 331 ⇑P P 22 47 44.2 +0.3
baz=68,SNR=12
Q24A **Divide** 67.67 330 ⇑P P 22 47 44.4 +0.3
baz=68,SNR=7.7
Q24A **Divide** 67.67 330 *eP* P 22 47 45.2 +1.1
comp=Z,148nm,1.4s
L31A **Butterfield Fa** 67.68 336 ⇑P P 22 47 44.0 +0.2
baz=68,SNR=10
M29A **Burnside Ranch** 67.78 335 ⇑P P 22 47 45.2 +0.8
baz=68
L30A **Spencer Herefo** 67.82 336 ⇓P P 22 47 45.5 +0.8
baz=68
O26A **Horse Wrangler** 67.88 332 ⇑P P 22 47 45.9 +0.7
baz=68
OGNE **Ogallala** 67.91 334 ⇑P P 22 47 46.1 +0.8
baz=68
MVCO **Mesa Verde** 67.95 327 ⇓P P 22 47 47.1 +1.3
baz=68
MVCO **Mesa Verde** 67.95 327 *eP* P 22 47 47.4 +1.6
comp=Z,70nm,1.3s
N27A **Anderson Farm,** 68.00 333 ⇓P P 22 47 47.0 +1.1
baz=68
M28A **Bar X Bar Ranc** 68.01 334 ⇓P P 22 47 47.2 +1.3
baz=68

LIC	**Lamto**	68.09	74	⇑*i*P		P		22 47 45.9	-1.0
	comp=Z,409nm,1.0s,baz=253								
LIC				*e*R					
	comp=Z,2µm,22.5s								
LIC	**Lamto**	68.09	74	*e*P		P		22 47 46.1	-0.8
	comp=Z,716nm,1.3s								
LIC	**Lamto**	68.09	74	⇑*i*P		P		22 47 45.9	-1.0
	comp=Z,409nm,1.0s								
O25A	**Wiggins**	68.13	332	⇓P		P		22 47 47.9	+1.1
	baz=68								
L29A	**Maesberg Ranch**	68.22	335	⇓P		P		22 47 48.3	+1.2
	baz=68								
WUAZ	**Wupatki**	68.22	324	⇓P		P		22 47 48.7	+1.3
	baz=68								
COWI	**Conover**	68.23	345	*e*P		P		22 47 46.2	-0.8
	comp=Z,43nm,0.9s								
COWI				*ep*P		PcP		22 48 11.6	-0.5
ECSD	**EROS Data Cent**	68.25	339	⇓P		P		22 47 46.9	-0.4
	baz=68,SNR=15								
ECSD	**EROS Data Cent**	68.25	339	*e*P		P		22 47 47.1	-0.1
	comp=Z,149nm,1.4s								
TIC	**Toumodi**	68.27	74	*e*P		P		22 47 47.2	-0.8
	comp=Z,574nm,1.3s								
NVL	**N'lazarevskaya**	68.31	159	*e*P		P		22 47 46.4	-0.9
NVL				*e*S		S		22 56 35.1	-4.3
NVL				pmax		pmax			
	comp=Z,153nm,0.9s								
N26A	**Koester Ranch,**	68.32	333	⇓P		P		22 47 48.5	+0.6
	baz=69,SNR=7.3								
P23A	**Jefferson**	68.32	330	⇑P		P		22 47 48.9	+0.6
	baz=69,SNR=8.9								
EMSC	**East Mesa**	68.37	319	*e*PKiKP		PKiKP		22 54 12.2	+3.9
SPMN	**Marine on St.**	68.39	342	⇓P		P		22 47 47.7	-0.3
	baz=69								
K30A	**Basset**	68.40	336	⇓P		P		22 47 48.1	-0.2
	baz=69,SNR=13								
KIC	**Kosan Boka**	68.41	74	*e*P		P		22 47 48.1	-0.8
	comp=Z,1µm,1.2s								
DBIC	**Dimbokro**	68.43	74	⇑*i*P		P		22 47 48.4	-0.6
DBIC	**Dimbokro**	68.43	74	*e*P		P		22 47 48.9	-0.1
DBIC	**Dimbokro**	68.43	74	P		P		22 47 48.4	-0.6
	comp=Z,318nm,0.9s,baz=225,slow=6.6,SNR=151								
DBIC				LR		LR		23 15 52.0	
	comp=Z,1µm,22.0s,baz=239,slow=34								
DBIC	**Dimbokro**	68.43	74	*e*P		P		22 47 48.9	-0.1
ISCO	**Idaho Springs**	68.55	330	*e*P		P		22 47 50.7	+1.1
ISCO				pmax		pmax			
	comp=Z,53nm,1.0s								
ISCO	**Idaho Springs**	68.55	330	⇓P		P		22 47 49.8	+0.2
	baz=69,SNR=24								
ISCO	**Idaho Springs**	68.55	330	*e*P		P		22 47 50.7	+1.1
	comp=Z,53nm,1.0s								
O24A	**Longmont**	68.56	331	⇑P		P		22 47 50.5	+1.0
	baz=69								
N25A	**Grover**	68.68	332	⇓P		P		22 47 50.7	+0.5
	baz=69,SNR=7.5								
K29A	**Lazy Trails An**	68.75	336	⇓P		P		22 47 50.6	+0.2
	baz=69,SNR=5.1								
M26A	**McRoberts Ranc**	68.81	333	⇑P		P		22 47 51.7	+0.8
	baz=69								
H07S1	**FLORES T-PHASE**	68.82	31	*e*P		P		22 47 55.9	+5.0
YUH	**Yuha Desert**	68.89	319	*e*P		P		22 47 55.6	+4.2
YUH				*e*PKiKP		PKiKP		22 54 07.2	-1.9
J30A	**Dallas**	68.92	337	⇓P		P		22 47 51.3	-0.1
	baz=69,SNR=13								
P22A	**Eagle**	68.93	330	⇑P		P		22 47 52.3	+0.4
	baz=69,SNR=12								
O23A	**Lake Granby, G**	69.02	331	⇓P		P		22 47 52.9	+0.5
	baz=69,SNR=35								
N24A	**Carr**	69.05	332	⇓P		P		22 47 53.2	+0.7
	baz=69,SNR=9.0								
K28A	**Ten Mile Ranch**	69.12	335	⇑P		P		22 47 53.7	+0.9
	baz=69								
M25A	**Palm-Egli Farm**	69.17	333	⇓P		P		22 47 54.1	+0.9
	baz=69								
L26A	**Underwood Farm**	69.25	334	⇓P		P		22 47 54.4	+0.8
	baz=70								
O22A	**Kremmling**	69.28	330	⇑P		P		22 47 54.5	+0.5
	baz=70,SNR=41								
BC3	**Big Chuckawall**	69.28	320	⇑P		P		22 47 55.7	+1.7
	baz=70								
J29A	**Okreek**	69.30	336	⇑P		P		22 47 54.0	+0.2
	baz=70,SNR=7.5								
W13A	**Hualapai Mount**	69.35	322	⇓P		P		22 47 55.5	+0.9
	baz=70								
U15A	**North Rim**	69.39	324	⇓P		P		22 47 56.2	+1.3
	baz=70,SNR=12								
I30A	**Oacoma**	69.40	337	⇓P		P		22 47 55.2	+0.9
	baz=70								
IRM	**Iron Mountain**	69.44	320	⇑P		P		22 47 56.4	+1.5
	baz=70								
K27A	**Flueckinger Fa**	69.46	334	⇓P		P		22 47 56.0	+1.2
	baz=70								
PCAN	**Candelaria**	69.47	33	*e*P		P		22 47 56.7	+1.8
	comp=Z,47nm,0.5s								
PCED	**Cedros**	69.48	33	*e*P		P		22 47 55.5	+0.5
	comp=Z,44nm,0.6s								
PICO	**Pico**	69.53	33	*e*P		P		22 47 56.3	+1.0
M24A	**Cheyenne**	69.54	332	⇑P		P		22 47 56.3	+0.8
	baz=70,SNR=25								
N23A	**Red Feather La**	69.58	331	⇓P		P		22 47 56.2	+0.4
	baz=70,SNR=19								
N23A	**Red Feather La**	69.58	331	*e*P		P		22 47 57.0	+1.1
N23A				*ep*P		pP		22 48 24.1	+1.6
J28A	**Allard Ranch,**	69.67	336	⇓P		P		22 47 56.4	+0.3
	baz=70,SNR=34								
DRLN	**Deer Lake**	69.67	8	*e*P		P		22 47 55.6	-0.3
	comp=Z,133nm,0.7s								
BRSD	**Miller**	69.69	338	⇓P		P		22 47 56.5	+0.4
	baz=70								
BRSD	**Miller**	69.69	338	*e*P		P		22 47 56.3	+0.2
PHWY	**Pilot Hill**	69.69	332	*e*P		P		22 47 57.6	+1.0
L25A	**Engebretsen Ra**	69.72	333	⇑P		P		22 47 56.9	+0.3
	baz=70								
N22A	**Wattenberg Ran**	69.74	331	⇑P		P		22 47 57.7	+0.9
	baz=70,SNR=16								
ROSA	**Rosais**	69.79	33	*e*P		P		22 47 57.3	+0.4
	comp=Z,51nm,0.7s								
PMAN	**Manadas**	69.80	33	*e*P		P		22 47 58.2	+1.3
	comp=Z,62nm,0.7s								
I29A	**Vivian Onida**	69.82	336	⇑P		P		22 47 57.1	+0.1
	baz=70,SNR=6.3								
J27A	**Elkhorn Farm,**	69.83	335	⇑P		P		22 47 57.5	+0.4
	baz=70,SNR=39								
K26A	**Motz Farm, Whi**	69.84	334	⇓P		P		22 47 58.1	+0.8
	baz=70								
BELC	**Belle Mtn. Jos**	69.85	320	⇓P		P		22 47 58.1	+0.5
	baz=70								
TOPO	**Topo**	69.86	33	*e*P		P		22 47 57.7	+0.4
PFO	**Pinyon Flats O**	69.86	319	P		P		22 47 57.5	-0.1
	comp=Z,41nm,0.9s,baz=128,slow=6.5,SNR=5.5								
PFO				LR		LR		23 14 12.7	
	comp=Z,134nm,21.2s,baz=138,slow=32								
PFO	**Pinyon Flats O**	69.86	319	⇓P		P		22 47 58.7	+1.1
	baz=70,SNR=6.8								
M23A	**Laramie**	69.94	331	⇓P		P		22 47 58.3	+0.3
	baz=70,SNR=23								
L24A	**Wheatland**	70.05	332	⇑P		P		22 47 59.3	+0.7
	baz=70								
K25A	**Mack Ranch, Ha**	70.06	333	⇑P		P		22 47 59.3	+0.7
	baz=70								
O20A	**White River Ci**	70.06	329	⇓P		P		22 47 59.7	+0.9
	baz=70,SNR=11								
KNB	**Kanab**	70.11	324	*e*P		P		22 48 01.5	+2.4
KNB				pmax		pmax			
	comp=Z,176nm,1.1s								
KNB	**Kanab**	70.11	324	*e*P		P		22 48 01.5	+2.4
	comp=Z,176nm,1.1s								
I28A	**Midland**	70.13	336	⇓P		P		22 47 59.7	+0.8
	baz=70								
PGRA	**Graciosa**	70.15	33	*e*P		P		22 48 00.1	+1.0
	comp=Z,174nm,1.0s								
GMRC	**Granite Mounta**	70.18	321	⇑P		P		22 48 00.3	+0.8
	baz=70,SNR=16								
PSMA	**Santa Maria**	70.18	36	*e*P		P		22 47 59.8	+0.5
	comp=Z,105nm,1.2s								
QSPA	**South Pole Qui**	70.22	180	P		P		22 48 00.5	+1.2
	comp=Z,214nm,1.1s,baz=160,slow=0.9,SNR=349								
QSPA				pP		pP		22 48 28.3	+2.3
	comp=Z,157nm,1.0s,baz=139,slow=5.0,SNR=7.0								
PSMN	**Pico do Norte,**	70.22	36	*e*P		P		22 48 00.1	+0.6
	comp=Z,94nm,1.0s								
ADH	**Angra Heroismo**	70.26	34	*e*P		P		22 47 59.4	-0.3
	comp=Z,54nm,0.7s								
M22A	**Cedar Creek Ra**	70.28	331	⇓P		P		22 48 00.6	+0.4
	baz=70,SNR=16								
H29A	**Onida**	70.30	337	⇓P		P		22 47 59.3	-0.6
	baz=71,SNR=9.0								
J26A	**Sides Ranch, S**	70.31	334	⇓P		P		22 48 00.6	+0.6
	baz=71,SNR=15								
G30A	**Faulkton**	70.35	338	⇓P		P		22 47 59.6	-0.6
	baz=71,SNR=6.5								
SRU	**San Rafael Swe**	70.42	327	*e*P		P		22 48 02.4	+1.4
SRU				pmax		pmax			
	comp=Z,51nm,1.0s								
SRU	**San Rafael Swe**	70.42	327	*e*P		P		22 48 02.4	+1.4
	comp=Z,51nm,1.0s								
L23A	**Garrett**	70.45	332	⇑P		P		22 48 01.3	+0.2
	baz=71,SNR=9.0								
PSET	**Sete Cidades**	70.45	35	*e*P		P		22 48 02.2	+1.2
	comp=Z,356nm,1.4s								
I27A	**Quinn**	70.53	335	⇑P		P		22 48 02.1	+0.7
	baz=71,SNR=11								
EYMN	**Ely**	70.54	344	*e*P		P		22 48 00.9	-0.3
	comp=Z,57nm,0.9s								
K24A	**Anderson Ranch**	70.55	333	⇓P		P		22 48 02.5	+0.9
	baz=71								
HEC	**Hector,Ludlow**	70.61	320	⇓P		P		22 48 03.7	+1.6
	baz=71								
N20A	**Spence Gulch,**	70.62	329	⇑P		P		22 48 02.8	+0.6
	baz=71,SNR=10								
H28A	**Mission Ridge**	70.64	336	⇑P		P		22 48 02.1	+0.2
	baz=71,SNR=7.7								
J25A	**Sunshine Ranch**	70.67	334	⇓P		P		22 48 03.4	+1.1
	baz=71								
L22A	**Ellis Ranch, M**	70.71	331	⇑P		P		22 48 03.0	+0.3
	baz=71,SNR=8.7								
BART	**Pico Bartolome**	70.72	36	*e*P		P		22 48 03.7	+1.0
	comp=Z,297nm,1.1s								
SCI	**San Clemente I**	70.76	317	⇑P		P		22 48 04.7	+1.8
	baz=71								
CCUT	**Cedar City**	70.80	324	*e*P		P		22 48 05.8	+2.5
	comp=Z,102nm,1.1s								
I26A	**New Underwood**	70.81	335	⇑P		P		22 48 03.9	+0.8
	baz=71,SNR=9.0								
F30A	**Leola**	70.92	338	⇑P		P		22 48 04.2	+0.6
	baz=71								
TMUT	**Mount Baldy Ra**	70.92	327	*e*P		P		22 48 05.9	+1.8
K23A	**Bowen Ranch, D**	70.93	332	⇑P		P		22 48 04.3	+0.4
	baz=71,SNR=11								
G28A	**Parade**	70.94	337	⇑P		P		22 48 04.1	+0.3
	baz=71,SNR=10								
CIS	**Catalina Islan**	70.94	318	⇓P		P		22 48 06.0	+1.9
	baz=71								
J24A	**Dixon Ranch, L**	70.98	333	⇑P		P		22 48 04.6	+0.4
	baz=71,SNR=6.2								
H27A	**Howes**	71.01	336	⇑P		P		22 48 04.0	-0.2
	baz=71,SNR=22								
BFSC	**Mount Baldy Ra**	71.03	319	⇑P		P		22 48 05.7	+1.1
	baz=71,SNR=8.4								
RRX	**Edison Barstow**	71.05	320	⇓P		P		22 48 06.7	+2.1
	baz=71								
SHPR	**Sheep Range**	71.07	322	*e*P		P		22 48 06.9	+2.0
FMP	**Fort Macarthur**	71.08	318	⇓P		P		22 48 06.6	+1.8
	baz=71								
I25A	**Rochford**	71.16	334	⇑P		P		22 48 06.8	+1.5
	baz=71								
F29A	**Eureka**	71.20	338	⇑P		P		22 48 05.4	+0.1
	baz=72,SNR=16								
GSC	**Goldstone, Bar**	71.22	320	*e*P		P		22 48 07.7	+1.9
GSC				pmax		pmax			
	comp=Z,87nm,1.4s								
GSC	**Goldstone, Bar**	71.22	320	⇑P		P		22 48 06.8	+1.0
	baz=72,SNR=12								
GSC	**Goldstone, Bar**	71.22	320	*e*P		P		22 48 07.7	+1.9
	comp=Z,86nm,1.4s								
K22A	**Casper**	71.24	332	⇑P		P		22 48 06.1	+0.3
	baz=72,SNR=10								
MWC	**Mount Wilson**	71.26	319	*e*P		P		22 48 08.0	+1.8
MWC				pmax		pmax			
	comp=Z,119nm,1.4s								
MWC	**Mount Wilson**	71.26	319	*e*P		P		22 48 08.0	+1.8
	comp=Z,119nm,1.4s								
H26A	**Fairpoint**	71.27	335	⇓P		P		22 48 06.6	+0.8
	baz=72								
PASC	**Pasadena Art C**	71.31	319	*e*P		P		22 48 08.1	+1.9
	comp=Z,93nm,1.1s								
SHOC	**Shoshone, Teco**	71.31	321	⇓P		P		22 48 07.8	+1.6
	baz=72								
RSSD	**Black Hills**	71.37	334	*e*P		P		22 48 07.6	+1.0
RSSD	**Black Hills**	71.37	334	*e*P		P		22 48 07.5	+1.0
I24A	**Kuemmerle Ranc**	71.40	334	⇓P		P		22 48 07.2	+0.6
	baz=72,SNR=9.1								
DECC	**Green Verdugo**	71.45	319	⇓P		P		22 48 08.0	+0.9
	baz=72,SNR=6.2								
E30A	**Jud**	71.46	339	⇑P		P		22 48 06.8	0.0
	baz=72,SNR=8.1								
FLU	**Fool Peak**	71.48	326	*e*P		P		22 48 06.5	-0.9
K21A	**Alcova**	71.55	331	⇑P		P		22 48 08.1	+0.4
	baz=72,SNR=51								
F28A	**McLaughlin**	71.56	337	⇓P		P		22 48 07.8	+0.3
	baz=72,SNR=11								
G27A	**Dupree**	71.58	336	⇑P		P		22 48 07.9	+0.3
	baz=72,SNR=9.2								
H25A	**Fruitdale**	71.60	335	⇓P		P		22 48 08.3	+0.5
	baz=72,SNR=13								
EDW2	**Edwards Air Fo**	71.66	319	⇓P		P		22 48 09.2	+0.8
	baz=72,SNR=13								
MPU	**Maple Canyon**	71.67	327	*e*P		P		22 48 10.0	+1.5
E29A	**Napoleon**	71.77	338	⇑P		P		22 48 08.9	+0.2
	baz=72								
G26A	**Maurine**	71.77	336	⇑P		P		22 48 08.3	-0.5
	baz=72,SNR=28								
DAU	**Daniels Canyon**	71.77	327	*e*P		P		22 48 11.1	+1.8
DAU	**Daniels Canyon**	71.77	327	*e*P		P		22 48 11.1	+1.8
J22A	**Midwest**	71.83	332	⇑P		P		22 48 09.5	+0.2
	baz=72,SNR=21								
WSHM	**Spangler Hills**	71.83	320	*e*P		P		22 48 11.0	+1.6
NLU	**North Lily Min**	71.85	326	*e*P		P		22 48 11.3	+1.6
	comp=Z,67nm,1.4s								
LRMC	**Laurel Mtn Rad**	71.87	320	⇑P		P		22 48 10.8	+1.1
	baz=72								
D30A	**Buchanan**	71.93	339	⇓P		P		22 48 09.4	-0.3
	baz=72,SNR=22								
OSI	**Osito Audit: C**	71.94	319	⇑P		P		22 48 11.2	+1.2
	baz=72								
OSI	**Osito Audit: C**	71.94	319	*e*P		P		22 48 11.6	+1.6
HTU	**Hoyt Peak**	71.95	328	*e*P		P		22 48 11.3	+1.1
G25A	**Newell**	72.00	335	⇑P		P		22 48 10.7	+0.5
	baz=72								
TPNV	**Topopah Spring**	72.01	322	*e*P		P		22 48 12.8	+2.2
TPNV				pmax		pmax			
	comp=Z,52nm,0.9s								
TPNV	**Topopah Spring**	72.01	322	⇑P		P		22 48 11.7	+1.1
	baz=72,SNR=21								
TPNV	**Topopah Spring**	72.01	322	*e*P		P		22 48 12.8	+2.2
	comp=Z,52nm,0.9s								
F27A	**Lemmon**	72.03	336	⇑P		P		22 48 10.5	+0.2
	baz=72,SNR=13								
FURC	**Furnace Creek,**	72.04	321	⇓P		P		22 48 11.8	+1.3
	baz=72,SNR=12								
AGMN	**Agassiz Nation**	72.07	342	⇑P		P		22 48 10.1	-0.3
	baz=72,SNR=24								
AGMN	**Agassiz Nation**	72.07	342	*e*P		P		22 48 10.2	-0.2
	comp=Z,63nm,0.8s								
H24A	**Dirks Ranch, A**	72.09	334	⇑P		P		22 48 10.9	+0.1
	baz=72,SNR=32								
BSC	**Santa Cruz Isl**	72.10	318	⇓P		P		22 48 12.6	+1.5
	baz=72								
MPMC	**Manual Prospec**	72.14	320	⇑P		P		22 48 12.1	+0.6
	baz=72,SNR=11								
E28A	**Huff**	72.14	338	⇓P		P		22 48 11.3	+0.3
	baz=72,SNR=11								
D29A	**Pettibone, Tap**	72.17	339	⇑P		P		22 48 11.2	+0.1
	baz=72,SNR=20								
J21A	**Lysite**	72.20	332	⇓P		P		22 48 12.0	+0.4
	baz=72,SNR=13								
I22A	**9 Mile Ranch,**	72.21	333	⇑P		P		22 48 11.5	0.0
	baz=72,SNR=25								
CTU	**Camp Tracy**	72.23	327	*e*P		P		22 48 13.2	+1.4
	comp=Z,46nm,1.2s								
F26A	**Lodgepole**	72.26	336	⇓P		P		22 48 12.1	+0.4
	baz=72,SNR=21								
FUL	**Funchal**	72.27	44	*e*P		P		22 48 10.5	-1.4
	comp=Z,189nm,1.5s								
H23A	**Clabaugh Cattl**	72.29	334	⇓P		P		22 48 13.1	+1.1
	baz=72								
PMAR	**Madeira**	72.30	44	*e*P		P		22 48 14.3	+1.9
	comp=Z,214nm,1.5s								
E27A	**Carson**	72.33	337	⇓P		P		22 48 12.4	+0.3
	baz=73,SNR=8.2								
ARVC	**Arvin**	72.34	319	⇑P		P		22 48 14.0	+1.7
	baz=73								
C30A	**Mose, Pekin**	72.36	340	⇓P		P		22 48 12.1	-0.1
	baz=73,SNR=37								
DUG	**Dugway, Tooele**	72.41	326	*e*P		P		22 48 13.9	+1.0
DUG				pmax		pmax			
	comp=Z,100nm,1.3s								
DUG	**Dugway, Tooele**	72.41	326	⇑P		P		22 48 13.8	+1.0
	baz=73,SNR=19								
DUG	**Dugway, Tooele**	72.41	326	*e*P		P		22 48 13.9	+1.0
	comp=Z,100nm,1.3s								
ISA	**Isabella, Lake**	72.47	320	*e*P		P		22 48 15.1	+1.9
ISA	**Isabella, Lake**	72.47	320	⇑P		P		22 48 14.5	+1.2
	baz=73,SNR=28								
ISA	**Isabella, Lake**	72.47	320	*e*P		P		22 48 15.1	+1.9
J20A	**Shoshoni**	72.50	331	⇓P		P		22 48 13.8	+0.5
	baz=73,SNR=9.4								
I21A	**Big Trails, Te**	72.50	332	⇑P		P		22 48 13.3	-0.1
	baz=73,SNR=45								
G24A	**Alzada**	72.51	335	⇑P		P		22 48 13.3	0.0
	baz=73,SNR=15								
R11A	**Troy Canyon, C**	72.60	323	⇓P		P		22 48 15.0	+0.9
	baz=73,SNR=22								
R11A	**Troy Canyon, C**	72.60	323	*e*P		P		22 48 15.2	+1.1
	comp=Z,256nm,0.9s								
F25A	**Bowman**	72.63	336	⇑P		P		22 48 14.3	+0.4
	baz=73,SNR=14								
D28A	**Regan**	72.63	338	⇑P		P		22 48 14.2	+0.3
	baz=73,SNR=21								
MCU	**Monte Cristo P**	72.68	328	*e*P		P		22 48 15.2	+0.6
E26A	**Carlson Angus**	72.70	337	⇓P		P		22 48 14.6	+0.3
	baz=73,SNR=8.5								
GRAC	**Grapevine Rang**	72.70	321	⇑P		P		22 48 15.3	+0.8
	baz=73								
H22A	**Clearmont**	72.72	333	⇓P		P		22 48 14.5	0.0
	baz=73,SNR=6.3								
BW06	**Boulder Array**	72.72	330	*e*P		P		22 48 13.8	-0.9
	comp=Z,32nm,1.1s								
PD31	**Pinedale Array**	72.72	330	*e*P		P		22 48 14.9	+0.1
PDAR	**Pinedale Array**	72.72	330	P		P		22 48 14.9	+0.1
	comp=Z,7.0nm,0.7s,baz=130,slow=7.9,SNR=32								
RSUT	**Red Spur Mount**	72.77	328	*e*P		P		22 48 15.8	+0.7
G23A	**Biddle**	72.81	334	⇑P		P		22 48 15.1	+0.1
	baz=73,SNR=7.1								
MDND	**Maddock**	72.86	339	⇓P		P		22 48 15.4	+0.3
	baz=73,SNR=28								
MDND	**Maddock**	72.86	339	*e*P		P		22 48 14.7	-0.5
	comp=Z,150nm,0.6s								
MDND				*ep*P		pP		22 48 43.1	+1.1
J19A	**Crowheart**	72.87	331	⇑P		P		22 48 16.0	+0.4
	baz=73,SNR=24								
PMPS	**Porto Santo**	72.89	44	*e*P		P		22 48 17.5	+1.9
	comp=Z,347nm,1.8s								
D27A	**Center**	72.89	337	⇓P		P		22 48 16.1	+0.7
	baz=73								
BMUT	**Black Mountain**	72.92	328	*e*P		P		22 48 15.7	-0.3
F24A	**Ekalaka**	72.95	335	⇓P		P		22 48 16.2	+0.4
	baz=73,SNR=13								
VES	**Vestal, Richgr**	72.96	319	⇑P		P		22 48 17.0	+1.0
	baz=73,SNR=17								
B30A	**Myrvik Farm, E**	72.97	340	⇑P		P		22 48 15.8	0.0
	baz=73,SNR=22								
I20A	**Worland**	72.98	332	⇑P		P		22 48 17.0	+0.9
	baz=73								
C28A	**Hausauer Farms**	73.01	338	⇑P		P		22 48 16.3	+0.2
	baz=73								
H21A	**Big Horn, Sher**	73.04	333	⇑P		P		22 48 16.7	+0.2
	baz=73,SNR=15								
BGU	**Big Grassy Mou**	73.06	327	*e*P		P		22 48 17.8	+1.1
BGU				*ep*P		pP		22 48 41.9	-1.7
E25A	**Miller Ranch,**	73.08	336	⇓P		P		22 48 16.7	+0.2
	baz=73,SNR=11								
D26A	**Manning**	73.16	337	⇓P		P		22 48 17.9	+0.9
	baz=73								
SMMC	**Simmler**	73.18	318	⇓P		P		22 48 18.9	+1.5
	baz=73,SNR=13								
G22A	**Birney**	73.19	333	⇑P		P		22 48 17.1	-0.2
	baz=74,SNR=8.8								
F23A	**Volborg**	73.23	334	⇑P		P		22 48 17.9	+0.4
	baz=74,SNR=24								
TIN	**Tinemaha, Big**	73.25	321	⇑P		P		22 48 19.3	+1.5
	baz=74								
B29A	**Wagenman Farm,**	73.31	339	⇓P		P		22 48 18.1	+0.3
	baz=74,SNR=65								
TPH	**Tonopah**	73.35	322	*e*P		P		22 48 20.2	+1.7
TPH				pmax		pmax			
	comp=Z,46nm,1.0s								
TPH	**Tonopah**	73.35	322	*e*P		P		22 48 20.2	+1.7
	comp=Z,46nm,1.0s								
H20A	**Greybull**	73.35	332	⇓P		P		22 48 18.1	-0.1

NVAR comp=Z,22nm,0.8s,baz=150,slow=6.5,SNR=62 pP **pP** 22 48 51.9 +1.4

B26A Jensen Ranch, baz=74 **74.22 338** ⇑P **P** 22 48 24.0 +0.8

IMW Indian Meadow **74.24 330** *e*P **P** 22 48 25.0 +1.3
IMW ępP **pP** 22 48 54.6 +4.0

H18A Shoshone NF, C baz=74,SNR=68 **74.24 331** ⇓P **P** 22 48 24.0 +0.4

FLWY Flagg Ranch **74.27 330** *e*P **P** 22 48 25.6 +1.8
YTP The Promontory **74.31 331** *e*P **P** 22 48 25.4 +1.4

C24A Savage baz=75 **74.33 336** ⇑P **P** 22 48 24.5 +0.7

D23A Lindsay baz=75,SNR=12 **74.34 335** ⇑P **P** 22 48 24.7 +0.8

A27A Ledoux Ranch, baz=75,SNR=5.1 **74.37 339** ⇑P **P** 22 48 24.6 +0.7

VAH Vaihoa comp=Z,213nm,1.1s **74.43 259** *e*P **P** 22 48 26.8 +1.7

H17A Grant Village baz=75,SNR=21 **74.44 330** ⇓P **P** 22 48 25.8 +1.0

H17A Grant Village comp=Z,119nm,1.6s **74.44 330** *e*P **P** 22 48 26.8 +1.9

F20A Billings baz=75,SNR=11 **74.45 333** ⇑P **P** 22 48 25.3 +0.7

B25A Knox Farm, Ray baz=75,SNR=9.2 **74.47 337** ⇓P **P** 22 48 25.6 +1.0

LKWY Lake **74.49 331** *e*PKKPdf PKKPdf 23 07 39.5 -1.4
SCHQ Schefferville **74.52 1** P **P** 22 48 24.6 -0.1
SCHQ comp=Z,40nm,0.8s,baz=191,slow=4.7,SNR=61 LR LR 23 22 32.8

MCID Moose Creek comp=Z,208nm,20.0s,baz=212,slow=37 **74.57 330** *e*P **P** 22 48 24.3 -1.2
E21A Keefer Ranch, baz=75 **74.58 334** ⇑P **P** 22 48 26.3 +1.0

A26A Wade Farm, Ken baz=75 **74.60 338** ⇓P **P** 22 48 25.8 +0.5

YFT Old Faithful comp=Z,66nm,0.9s **74.61 330** *e*P **P** 22 48 28.9 +3.2
YFT ępP pP 22 48 58.6 +5.9

D22A Cohagen baz=75,SNR=28 **74.71 335** ⇓P **P** 22 48 26.9 +0.9

PMOR Pomariorio Ree comp=Z,259nm,1.1s **74.74 259** *e*P **P** 22 48 28.8 +1.9

F19A Roth Farm, Mol baz=75,SNR=27 **74.83 332** ⇑P **P** 22 48 27.5 +0.7

C23A Lambert baz=75,SNR=14 **74.84 336** ⇑P **P** 22 48 27.2 +0.4

YHH Holmes Hill **74.87 331** *e*P **P** 22 48 28.9 +1.5
WAKR Walker **74.92 321** *e*P **P** 22 48 29.8 +2.1
YMV Mammoth Vault **74.94 331** *e*PKiKP **PKiKP** 22 54 21.4 +3.8

D21A La Casta Ranch baz=75,SNR=23 **74.97 334** ⇑P **P** 22 48 28.5 +1.0

E20A Meyer Farm, Mu baz=75,SNR=26 **75.00 333** ⇓P **P** 22 48 28.3 +0.6

YHB Horse Butte **75.00 330** *e*P **P** 22 48 29.6 +1.6
A25A Svangstu Ranch baz=75,SNR=16 **75.01 338** ⇓P **P** 22 48 28.1 +0.4

DGMT Dagmar baz=75,SNR=19 **75.02 337** ⇑P **P** 22 48 28.8 +1.0

DGMT Dagmar comp=Z,61nm,0.8s **75.02 337** *e*P **P** 22 48 28.7 +0.9

CRMT Chrome Mountai **75.06 331** *e*P **P** 22 48 29.3 +0.9
C22A Vida baz=75,SNR=18 **75.07 335** ⇓P **P** 22 48 28.7 +0.6

QLMT Earthquake Lak **75.17 330** *e*P **P** 22 48 31.0 +2.1
CMB Columbia Colle **75.18 320** *e*P **P** 22 48 27.9 -1.1
CMB comp=Z,38nm,1.3s pmax pmax

CMB Columbia Colle comp=Z,38nm,1.3s **75.18 320** *e*P **P** 22 48 27.9 -1.1

TVO Taravao comp=Z,41nm,1.2s **75.19 256** *e*P **P** 22 48 31.5 +2.0

E19A Rath Farm, Rou baz=76,SNR=112 **75.24 333** ⇑P **P** 22 48 29.9 +0.7

B23A Brockton baz=76,SNR=27 **75.31 336** ⇑P **P** 22 48 30.2 +0.8

A24A Westby baz=76,SNR=32 **75.32 337** ⇑P **P** 22 48 30.4 +0.9

TIAR Tiarei comp=Z,17nm,0.8s **75.34 256** *e*P **P** 22 48 32.0 +1.6
TIAR Tiarei comp=Z,3.8nm,0.2s **75.34 256** *e*T T 00 10 01.8

D20A Manuel Ranch, baz=76,SNR=13 **75.46 334** ⇓P **P** 22 48 30.9 +0.5

PPT2 Papeete2 comp=Z,125nm,1.2s **75.55 256** *e*P **P** 22 48 33.6 +2.0
PPT2 comp=Z,1μm,28.2s *e*S **S** 22 58 02.0 -2.2

PPT2 Papeete2 comp=Z,1μm,29.0s **75.55 256** *e*LQ LQ 23 08 46.7
PPT2 comp=Z,2μm,29.2s,baz=115 *e*LR LR 23 11 54.5

PPT Papeete comp=Z,123nm,1.1s,baz=164,slow=4.0,SNR=4.7 **75.55 256** P **P** 22 48 34.3 +2.7
PPT LR LR 23 15 32.3

B22A Reddig Ranch S baz=76,SNR=8.1 comp=Z,252nm,18.8s,baz=138,slow=31 **75.57 336** ⇓P **P** 22 48 31.9 +1.0

C21A Desert Coulee baz=76,SNR=13 **75.62 335** ⇓P **P** 22 48 31.9 +0.6

A23A Redstone baz=76 **75.68 337** ⇓P **P** 22 48 32.8 +1.3

HLID Hailey baz=76,SNR=62 **75.68 328** ⇑P **P** 22 48 33.6 +1.7

HLID Hailey comp=Z,86nm,1.0s **75.68 328** *e*P **P** 22 48 33.0 +1.1

D19A Cripps Ranch, baz=76,SNR=28 **75.83 333** ⇑P **P** 22 48 33.0 +0.5

MCMT McKenzie Canyo **75.84 329** P **P** 22 48 34.0 +1.2
BOZ Bozeman (W) **75.88 331** *e*P **P** 22 48 32.8 -0.1
BOZ comp=Z,58nm,1.1s pmax pmax

BOZ Bozeman (W) comp=Z,58nm,1.1s **75.88 331** *e*P **P** 22 48 32.8 -0.1

C20A Veseth Ranch, baz=76,SNR=20 **75.90 334** ⇑P **P** 22 48 33.2 +0.4

A22A Carney Farms, baz=76,SNR=51 **76.10 336** ⇓P **P** 22 48 34.3 +0.4

DLMT Dillon comp=Z,76nm,1.2s **76.12 330** *e*P **P** 22 48 35.8 +1.5

MFID Camas Ranch comp=Z,113nm,1.2s **76.30 327** *e*P **P** 22 48 36.6 +1.4

C19A Slack Wire Ran baz=77,SNR=31 **76.35 333** ⇑P **P** 22 48 35.9 +0.5

LRM Limekiln Ridge **76.39 330** *e*P **P** 22 48 36.9 +1.0
B20A Solberg Farm, baz=77,SNR=18 **76.48 334** ⇓P **P** 22 48 36.9 +0.8

A21A Bergtoll Ranch baz=77,SNR=16 **76.49 335** ⇓P **P** 22 48 36.5 +0.4

OHCM Honcut **76.68 321** *e*P **P** 22 48 38.9 +1.6
A20A Cobblestone Ra baz=77,SNR=46 **76.80 335** ⇑P **P** 22 48 38.0 +0.2

B19A Brinkman Farms baz=77,SNR=30 **76.87 334** ⇑P **P** 22 48 39.0 +0.7

EGMT Eagleton baz=77,SNR=23 **76.87 333** ⇓P **P** 22 48 39.0 +0.6

EGMT Eagleton comp=Z,67nm,1.0s **76.87 333** *e*P **P** 22 48 38.7 +0.3

TOA0 Torodi Ar. Sit **76.97 71** *e*P **P** 22 48 38.5 -1.0
TOA0 ępP **pP** 22 49 06.8 +0.1
TOA0 *e*sP **sP** 22 49 19.0 +1.0
TOA0 *e*S **S** 22 58 16.1 -3.5

TORD Torodi Ar. Bea comp=Z,92nm,0.4s,baz=253,slow=5.5,SNR=436 **76.97 71** P **P** 22 48 38.5 -1.0
TORD pP **pP** 22 49 06.8 +0.1
TORD comp=Z,253nm,1.0s,baz=252,slow=5.2,SNR=6.5 sP **sP** 22 49 19.0 +1.0
TORD comp=Z,146nm,1.0s,baz=257,slow=4.9,SNR=3.0 S **S** 22 58 16.1 -3.5

TORD comp=Z,11nm,0.8s,baz=245,slow=11,SNR=13 LR LR 23 21 44.6

A19A Klindworth Far baz=77,SNR=27 comp=Z,765nm,20.0s,baz=235,slow=35 **77.16 334** ⇑P **P** 22 48 40.4 +0.4

SBA Scott Base **77.31 190** *e*P **P** 22 48 41.2 +0.9
SBA *e**PP **pP** 22 49 11.5 +4.1
SBA comp=Z,105nm,1.2s pmax pmax

SBA Scott Base comp=Z,104nm,1.2s **77.31 190** *e*P **P** 22 48 41.2 +0.9
SBA ępP **pP** 22 49 11.5 +4.1

KOMG Komaggas **77.45 117** *e*P **P** 22 48 43.5 +1.4
KOMG comp=Z,86nm,1.3s AMB AMB 22 49 13.8

KOMG Komaggas **77.45 117** *e*P **P** 22 48 43.5 +1.4
MSO Missoula **77.83 330** ⇑P **P** 22 48 44.3 +0.6
baz=78

MSO Missoula comp=Z,35nm,1.0s **77.83 330** *e*P **P** 22 48 45.0 +1.2

SYO Syowa Base **77.98 160** ⇑*i*P **P** 22 48 43.8 -0.4
SYO Syowa Base **77.98 160** ⇓*i*P P 22 48 49.8 +5.6

ELIM Elim **77.98 123** *e*P **P** 22 48 46.1 +1.1
ELIM AMB AMB 22 48 47.2

ELIM Elim comp=Z,151nm,1.8s **77.98 123** *e*P **P** 22 48 46.1 +1.1

VNDA Vanda comp=Z,26nm,1.0s,baz=134,slow=4.9,SNR=39 **78.33 190** P **P** 22 48 47.9 +1.9

N02D Trinity Center baz=79,SNR=6.1 **78.44 322** ⇓P **P** 22 48 47.3 0.0

M04C Macdoel baz=79,SNR=12 **78.46 323** ⇓P **P** 22 48 47.9 +0.5

KMRM Mail Ridge **78.56 320** *e*P **P** 22 48 50.4 +2.4
KMRM ępP **pP** 22 49 18.4 +3.2

I07A Izee comp=Z,31nm,0.9s **78.68 325** *e*P **P** 22 48 50.3 +1.8

M02C Callahan baz=79 **78.79 322** ⇑P **P** 22 48 49.7 +0.5

LAMM Antelope Mount **78.80 322** P **P** 22 48 49.5 +0.1
F10A Beach Ranch, E comp=Z,31nm,0.8s **78.81 328** *e*P **P** 22 48 50.5 +1.4

YBH Yreka Blue Hor **78.93 322** *e*P **P** 22 48 50.1 +0.2
YBH comp=Z,319nm,2.7s pmax pmax

YBH Yreka Blue Hor comp=Z,166nm,18.2s,baz=118,slow=37 **78.93 322** LR LR 23 25 05.7

YBH Yreka Blue Hor comp=Z,318nm,2.7s **78.93 322** *e*P **P** 22 48 50.1 +0.2

K04D Chiloquin, OR baz=79 **78.95 323** ⇑P **P** 22 48 50.6 +0.5

BSMT Bassoo Peak **78.97 331** P **P** 22 48 51.4 +1.3
J05D Fort Rock, OR baz=79,SNR=11 **79.09 324** ⇓P **P** 22 48 51.7 +0.8

G08A Pilot Rock **79.21 327** *e*P **P** 22 48 52.8 +1.4
PINOR Pine Mountain comp=Z,44nm,1.0s **79.24 325** *e*P **P** 22 48 53.8 +2.4

SUR Sutherland **79.46 121** *e*P **P** 22 48 55.3 +1.9
SUR comp=Z,85nm,2.0s AMB AMB 22 48 58.2

J04D Umpqua Nationa baz=80 **79.55 324** ⇓P **P** 22 48 54.2 +0.8

E09A Wood Farm, Sta comp=Z,83nm,1.4s **79.64 328** *e*P **P** 22 48 54.6 +1.1

L02D Cave Junction, baz=80 **79.71 322** ⇑P **P** 22 48 55.3 +1.2

I05D Terrebonne, OR baz=80,SNR=8.5 **79.84 325** ⇑P **P** 22 48 55.7 +0.9

G06A Carlson Farm, comp=Z,400nm,2.6s **80.05 326** *e*P **P** 22 48 57.9 +2.0

I04A Tendick Farm, baz=80 **80.07 324** ⇓P **P** 22 48 56.5 +0.5

KBO Bosley Butte comp=Z,2μm,2.2s **80.11 322** *e*P P 22 49 00.1 +3.8

H2OWA Water **80.20 327** P **P** 22 48 58.2 +1.7
PFVI Vila Bisbo comp=Z,192nm,1.5s **80.25 45** *e*P P 22 49 03.5 +6.4

NEW Newport comp=Z,8.2nm,0.7s,baz=136,slow=8.3,SNR=12 **80.36 330** P **P** 22 48 57.5 0.0
NEW LR LR 23 29 34.2

NEW Newport comp=Z,220nm,18.6s,baz=123,slow=39 baz=81 **80.36 330** ⇓P **P** 22 48 57.9 +0.4

D08A Wollman Farm, comp=Z,36nm,1.0s **80.40 328** *e*P **P** 22 48 59.2 +1.6

G05D Wamic, OR baz=81,SNR=7.9 **80.42 325** ⇑P **P** 22 48 59.1 +1.3

MORF Marmelete **80.47 45** *e*P **P** 22 48 56.9 -1.4
MORF AMb AMB 22 49 05.8
MORF comp=Z,140nm,1.0s *e*S **S** 22 58 53.4 -2.8

MORF Marmelete comp=Z,286nm,1.3s **80.47 45** *e*P **P** 22 48 59.6 +1.3

MORF Marmelete **80.47 45** *e*P **P** 22 48 56.8 -1.4
MORF *e*S **S** 22 58 53.3 -2.8

H04A Detroit Lake comp=Z,60nm,1.0s **80.52 325** *e*P **P** 22 48 59.3 +0.9

OD2 Odessa Site #2 **80.52 328** P **P** 22 48 59.4 +1.0
E07A Sunnyside comp=Z,49nm,1.2s **80.53 327** *e*P **P** 22 48 59.9 +1.5

I03D Drain, OR baz=81 **80.53 323** ⇑P **P** 22 48 59.5 +1.1

VFP Flag Point **80.55 325** P **P** 22 49 00.3 +1.6
PTEO Sao Teotonio comp=Z,445nm,1.3s **80.55 44** *e*P **P** 22 49 01.3 +2.7

C09A Chrisman Ranch comp=Z,80nm,1.0s **80.59 329** *e*P **P** 22 48 59.6 +1.0

DPW Dapnport **80.61 329** P **P** 22 49 00.1 +1.3
DPW Davenport **80.61 329** P **P** 22 49 00.1 +1.3
TSUM Tsumeb **80.61 107** *e*P **P** 22 49 01.1 +1.4
TSUM Tsumeb comp=Z,110nm,0.6s **80.61 107** *e*P **P** 22 48 59.7 +0.1

MDT Midelt comp=Z,64nm,1.1s,baz=247,slow=6.2,SNR=31 **80.87 50** P **P** 22 49 01.5 +0.9

PBDV Barranco-do-Ve comp=Z,248nm,1.6s **80.91 45** *e*P **P** 22 49 02.0 +1.4

LIS Lisbon **80.93 43** *e*P **P** 22 48 59.2 -1.4
LIS AMb AMB 22 49 07.8
LIS Lisbon comp=Z,120nm,1.1s **80.93 43** *e*P **P** 22 48 59.2 -1.4

PMAFR Mafra comp=Z,208nm,1.4s **80.98 43** *e*P **P** 22 49 00.3 -0.6

PNCL Nicolau / Gran comp=Z,100nm,1.0s **81.00 44** *e*P **P** 22 49 01.9 +0.9

MESJ Messejana **81.05 44** *e*P **P** 22 48 59.7 -1.6
MESJ AMb AMB 22 49 12.0
MESJ comp=Z,129nm,2.1s *e*S **S** 22 58 59.9 -2.2

MESJ Messejana comp=Z,134nm,0.9s **81.05 44** *e*P **P** 22 49 02.5 +1.2

MESJ Messejana **81.05 44** *e*P **P** 22 48 59.7 -1.6
MESJ *e*S **S** 22 58 59.8 -2.2

PVAQ Vaqueiros comp=Z,127nm,1.8s **81.14 45** *e*P **P** 22 49 03.4 +1.6

PVAQ Vaqueiros **81.14 45** *e*S **S** 22 59 07.1 +4.1
PVAQ Vaqueiros **81.14 45** *e*LQ LQ 23 10 15.7
PVAQ *e*LR LR 23 15 36.9
comp=Z,421nm,22.0s

PACT Alcochete comp=Z,218nm,2.0s **81.17 43** *e*P **P** 22 49 03.3 +1.4

TBM Table Mountain **81.32 327** P **P** 22 49 04.2 +1.6
WTV Waterville **81.35 328** P **P** 22 49 04.0 +1.2
LTY Liberty comp=Z,248nm,1.8s **81.42 327** *e*P **P** 22 49 01.4 -1.7

G03D McMinnville, O baz=82 **81.45 325** ⇑P **P** 22 49 04.2 +1.0

ETW Entiat **81.48 328** *e*P **P** 22 49 04.6 +1.1
EVOP Sao Brissos **81.49 44** *e*P **P** 22 49 04.3 +0.7
EVOP Sao Brissos **81.49 44** *e*P **P** 22 49 04.3 +0.7
B08A Colville Reser comp=Z,110nm,1.8s **81.49 329** *e*P **P** 22 49 03.9 +0.5

EVO Evora comp=Z,100nm,0.7s **81.56 44** *e*P **P** 22 49 04.3 +0.3
EVO *e*R
comp=Z,686nm,21.5s

EVO Evora comp=Z,108nm,1.7s **81.56 44** *e*P **P** 22 49 04.1 +0.1

PMTG Montargil comp=Z,145nm,1.0s **81.73 43** *e*P **P** 22 49 05.6 +0.8

PTOM Tomar comp=Z,180nm,1.3s **81.91 43** *e*P **P** 22 49 06.5 +0.7

PBAR Barrancos comp=Z,230nm,1.7s **82.01 45** *e*P **P** 22 49 07.2 +0.8

PESTR Estremoz comp=Z,132nm,1.4s **82.03 44** *e*P **P** 22 49 07.3 +0.8

PCAS Casmilo, Conde comp=Z,89nm,1.3s **82.10 42** *e*P **P** 22 49 07.4 +0.6

EDM Edmonton **82.32 335** *e*P **P** 22 49 07.2 -0.5
EDM Edmonton **82.32 335** *e*P **P** 22 49 07.2 -0.5
E03A Lebam comp=Z,150nm,1.3s **82.46 325** *e*P **P** 22 49 10.4 +1.9

PMRV Marv??o comp=Z,54nm,1.2s **82.46 43** *e*P **P** 22 49 10.2 +1.5

PMRV Marv??o **82.46 43** *e*S **S** 22 59 20.0 +3.4
PMRV Marv??o **82.46 43** *e*LQ LQ 23 10 57.9
PMRV *e*LR LR 23 15 42.4
comp=Z,362nm,20.0s

PCBR Castelo Branco comp=Z,55nm,1.0s **82.64 43** *e*P **P** 22 49 08.8 -0.8

PTO Porto comp=Z,110nm,1.6s **82.65 41** *e*P **P** 22 49 11.1 +1.5

PVIS Viseu comp=Z,107nm,1.4s **82.85 42** *e*P **P** 22 49 11.8 +1.0

MTE Manteigas **82.90 43** *e*P **P** 22 49 11.5 +0.5
comp=Z,100nm,1.3s

MTE Manteigas **82.90 43** *e*S **S** 22 59 26.4 +5.3
MTE Manteigas **82.90 43** *e*LQ LQ 23 11 11.3
MTE *e*LR LR 23 16 02.9
comp=Z,456nm,16.0s

CMW Cultus Mountai **82.92 328** P **P** 22 49 11.6 +0.6
RUDU RUNDU **82.94 106** *e*P **P** 22 49 13.6 +1.7
RUDU AMB AMB 22 49 15.3
comp=Z,138nm,1.2s

RUDU RUNDU **82.94 106** *e*P **P** 22 49 13.6 +1.7

A05A Maple Falls comp=Z,72nm,0.9s **83.28 328** *e*P **P** 22 49 13.4 +0.8

PVRL Vila Real comp=Z,98nm,1.4s **83.28 42** *e*P **P** 22 49 13.6 +0.7

POLO Lamas de Olo comp=Z,38nm,1.3s **83.28 42** *e*P **P** 22 49 13.8 +0.8

PGAV Gavieira, Arco comp=Z,85nm,1.7s **83.32 41** *e*P **P** 22 49 13.7 +0.5

PGAV Gavieira, Arco **83.32 41** *e*S **S** 22 59 29.0 +3.6
PGAV Gavieira, Arco **83.32 41** *e*LQ LQ 23 10 32.2
PGAV *e*LR LR 23 16 26.7
comp=Z,796nm,18.0s

PCAB Cabril comp=Z,108nm,1.3s **83.33 41** *e*P **P** 22 49 13.6 +0.5

MVO Moncorvo comp=Z,143nm,1.6s **83.65 42** *e*P **P** 22 49 15.6 +0.7

MVO Moncorvo **83.65 42** *e*S **S** 22 59 31.8 +3.1
MVO Moncorvo **83.65 42** *e*LQ LQ 23 11 23.3
MVO *e*LR LR 23 16 13.2
comp=Z,587nm,18.0s

HVD Gariep Dam **83.82 120** *e*P **P** 22 49 16.6 +0.4
HVD AMB AMB 22 49 48.0
comp=Z,112nm,1.2s

HVD Gariep Dam **83.82 120** *e*P **P** 22 49 16.6 +0.4
HVD Gariep Dam **83.82 120** *e*P **P** 22 49 16.6 +0.4
PBRG Braganca comp=Z,135nm,1.4s **84.18 42** *e*P **P** 22 49 18.0 +0.5

TAM Tamanrasset **84.25 63** *e*P **P** 22 49 18.1 -0.4
TAM pmax pmax
comp=Z,99nm,1.2s

TAM Tamanrasset comp=Z,99nm,1.2s **84.25 63** *e*P **P** 22 49 18.1 -0.4

BOSA Boshof **84.28 118** *e*P **P** 22 49 18.0 -0.6
BOSA AMB AMB 22 49 49.3
comp=Z,79nm,1.1s

BOSA Boshof comp=Z,64nm,0.9s,baz=254,slow=3.1,SNR=40 **84.28 118** P **P** 22 49 19.0 +0.4
BOSA pP **pP** 22 49 47.0 +0.9
comp=Z,77nm,1.0s,baz=264,slow=6.3,SNR=7.1
BOSA LR LR 23 25 21.3
comp=Z,204nm,18.1s,baz=256,slow=34

PAB San Pablo **84.52 45** *e*P **P** 22 49 19.3 0.0
PAB pmax pmax
comp=Z,77nm,0.8s

PAB San Pablo comp=Z,77nm,0.8s **84.52 45** *e*P **P** 22 49 19.3 0.0

ESDC Sonseca Array comp=Z,43nm,1.1s,baz=243,slow=5.0,SNR=76 **84.84 45** P **P** 22 49 21.6 +0.7
ESDC pP **pP** 22 49 49.3 +0.9
comp=Z,23nm,1.0s,baz=224,slow=3.3,SNR=3.0
ESDC LR LR 23 23 32.0
comp=Z,328nm,21.6s,baz=255,slow=33

LBTB Lobatse **85.78 115** *e*P **P** 22 49 27.1 +1.0
LBTB AMB AMB 22 49 27.9
comp=Z,81nm,2.2s

LBTB Lobatse **85.78 115** *e*P **P** 22 49 26.7 +0.6
LBTB pmax pmax
comp=Z,80nm,1.0s

LBTB Lobatse comp=Z,80nm,1.0s **85.78 115** *e*P **P** 22 49 26.7 +0.6

MAW Mawson comp=Z,44nm,0.9s,baz=208,slow=5.3,SNR=22 **85.83 163** P **P** 22 49 26.4 +1.1

SEK Senekal **86.34 119** *e*P **P** 22 49 28.3 -0.6
SEK AMB AMB 22 49 31.4
comp=Z,58nm,1.8s

SEK Senekal **86.34 119** *e*P **P** 22 49 28.3 -0.6
ETRT Tiaret **86.40 50** P P 22 49 35.0 +6.2
EANR 'Ain N'Sour **86.52 50** P **P** 22 49 32.0 +2.7
KSR Koster **86.59 116** *e*P **P** 22 49 31.9 +1.7
KSR AMB AMB 22 50 01.8
comp=Z,36nm,1.1s

KSR Koster **86.59 116** *e*P **P** 22 49 31.9 +1.7
PRYS Parys **86.61 117** *e*P P 22 49 33.5 +3.2
PRYS AMB AMB 22 50 10.9
comp=Z,27nm,3.3s

PRYS Parys **86.61 117** *e*P P 22 49 33.5 +3.2
ECHA Ech Chlef **86.80 50** P **P** 22 49 33.1 +2.5
WDLM Western Deep L **86.84 117** *e*P **P** 22 49 32.3 +0.9
WDLM AMB AMB 22 49 43.9
comp=Z,30nm,0.7s

EBNR Beni Rached **86.98 50** P **P** 22 49 34.2 +2.7
KLOF Kloof **87.02 117** *e*P **P** 22 49 33.4 +1.2
KLOF AMB AMB 22 49 44.7
comp=Z,59nm,0.8s

KLOF Kloof **87.02 117** *e*P **P** 22 49 33.4 +1.2
ERPM east rand prop **87.55 117** *e*P **P** 22 49 35.6 +0.8
ERPM AMB AMB 22 49 37.7
comp=Z,56nm,3.7s

ERPM east rand prop **87.55 117** *e*P **P** 22 49 35.6 +0.8
SFJD Kangerlussuaq **87.79 7** *e*P **P** 22 49 36.0 +1.4
SFJD Kangerlussuaq **87.79 7** P **P** 22 49 34.8 +0.3
comp=Z,7.0nm,0.8s,baz=254,slow=7.9,SNR=4.9

SFJD Kangerlussuaq **87.79 7** *i*P **P** 22 49 36.0 +1.4
SLR Silverton **87.80 116** *e*P **P** 22 49 37.0 +1.0
SLR AMB AMB 22 49 46.2
comp=Z,52nm,3.5s

SLR Silverton **87.80 116** *e*P **P** 22 49 37.0 +1.0
SLR Silverton **87.80 116** *e*P **P** 22 49 37.0 +1.0
EMHD Djebel Mahouad **87.97 50** P P 22 49 40.3 +3.9
BBB Bella Bella comp=Z,73nm,19.1s,baz=121,slow=37 **88.27 328** LR LR 23 31 59.4

SJPF Ste Jean comp=Z,109nm,0.8s **88.35 43** *e*P **P** 22 49 37.8 0.0

SJPF Ste Jean **88.35 43** *e*P **P** 22 49 37.8 0.0
SJPF Ste Jean **88.35 43** *e*P **P** 22 49 37.8 0.0
ETSF Etsaut comp=Z,44nm,0.7s **88.67 43** *e*P **P** 22 49 39.4 0.0

ETSF Etsaut **88.67 43** *e*P **P** 22 49 39.4 0.0
ETSF pmax pmax
comp=Z,44nm,0.7s

ETSF Etsaut comp=Z,44nm,0.7s **88.67 43** *e*P **P** 22 49 39.4 0.0

XMAS Kiritimati comp=Z,141nm,1.0s **89.18 272** *e*P **P** 22 49 45.0 +2.6

EPF Esparros comp=Z,43nm,0.8s **89.31 43** *e*P **P** 22 49 42.3 -0.1

EPF Esparros **89.31 43** *e*P **P** 22 49 42.3 -0.1
EPF Esparros **89.31 43** *e*P **P** 22 49 42.3 -0.1
QUIF Quistinic comp=Z,77nm,0.9s **89.58 38** *e*P **P** 22 49 42.4 -1.0

QUIF Quistinic **89.58 38** *e*P **P** 22 49 42.4 -1.0
QUIF pmax pmax
comp=Z,77nm,0.9s

QUIF Quistinic comp=Z,77nm,0.9s **89.58 38** *e*P **P** 22 49 42.4 -1.0

YKA Yellowknife Ar comp=Z,52nm,0.8s,baz=134,slow=4.6,SNR=537 **89.70 341** P **P** 22 49 43.8 +0.2
YKA pP **pP** 22 50 12.8 +1.4
comp=Z,61nm,1.0s,baz=129,slow=4.5,SNR=5.5
YKA PKKPbc **PKKPdf** 23 07 16.7 +1.4
comp=Z,0.8nm,1.0s,baz=350,slow=3.6,SNR=3.8

YKB5 Yellowknife Ar **89.70 341** *e*P **P** 22 49 43.9 +0.2
YKB5 *e*PKKPdf **PKKPdf** 23 07 16.7 +1.4
ROSF Rostrenen comp=Z,45nm,0.8s **89.73 37** *e*P **P** 22 49 43.3 -0.9

ROSF Rostrenen **89.73 37** *e*P **P** 22 49 43.3 -0.9
ROSF Rostrenen **89.73 37** *e*P **P** 22 49 43.3 -0.9
SGMF Saint Gilles comp=Z,26nm,0.7s **90.10 38** *e*P **P** 22 49 44.7 -1.2

SGMF Saint Gilles **90.10 38** *e*P **P** 22 49 44.7 -1.2
SGMF pmax pmax
comp=Z,26nm,0.7s

SGMF Saint Gilles comp=Z,26nm,0.7s **90.10 38** *e*P **P** 22 49 44.7 -1.2

LFF La Frestale comp=Z,88nm,0.6s **90.47 42** *e*P **P** 22 49 46.7 -1.0

LFF La Frestale **90.47 42** *e*P **P** 22 49 46.7 -1.0
LFF pmax pmax
comp=Z,88nm,0.6s

LFF La Frestale comp=Z,88nm,0.6s **90.47 42** *e*P **P** 22 49 46.7 -1.0

MSNA Messina **90.52 114** *e*P **P** 22 49 50.4 +1.8
MSNA AMB AMB 22 50 23.8
comp=Z,47nm,1.6s

MSNA Messina **90.52 114** *e*P **P** 22 49 50.4 +1.8

MTLF **Montolieu** 90.67 44 *e*P P 22 49 47.9 -0.8
comp=Z,24nm,0.7s
MTLF **Montolieu** 90.67 44 *e*P P 22 49 47.9 -0.8
MTLF pmax pmax
comp=Z,24nm,0.7s
MTLF **Montolieu** 90.67 44 *e*P P 22 49 47.9 -0.8
comp=Z,24nm,0.7s
MFF **Saint Martin d** 90.71 40 *e*P P 22 49 47.9 -0.9
comp=Z,154nm,0.7s
MFF **Saint Martin d** 90.71 40 *e*P P 22 49 47.9 -0.9
MFF pmax pmax
comp=Z,154nm,0.7s
MFF **Saint Martin d** 90.71 40 *e*P P 22 49 47.9 -0.9
comp=Z,154nm,0.7s
RJF **Les Rejaudoux** 91.12 42 *e*P P 22 49 49.6 -1.2
comp=Z,53nm,0.8s
RJF *e*R
comp=Z,648nm,20.2s
RJF **Les Rejaudoux** 91.12 42 *e*P P 22 49 49.6 -1.2
RJF **Les Rejaudoux** 91.12 42 *e*P P 22 49 49.6 -1.2
GRR **Gorron** 91.15 38 *e*P P 22 49 49.6 -1.2
comp=Z,128nm,0.7s
GRR **Gorron** 91.15 38 *e*P P 22 49 49.6 -1.2
GRR **Gorron** 91.15 38 *e*P P 22 49 49.6 -1.2
CAF **Calviac** 91.29 42 *e*P P 22 49 50.4 -1.2
comp=Z,43nm,0.6s
CAF **Calviac** 91.29 42 *e*P P 22 49 50.4 -1.2
CAF pmax pmax
comp=Z,43nm,0.6s
CAF **Calviac** 91.29 42 *e*P P 22 49 50.4 -1.2
comp=Z,43nm,0.6s
LSZ **Lusaka** 91.46 107 *e*P P 22 49 55.5 +2.3
LSZ **Lusaka** 91.46 107 *e*P P 22 49 53.1 -0.1
LSZ pmax pmax
comp=Z,19nm,0.8s
LSZ **Lusaka** 91.46 107 *e*P P 22 49 53.1 -0.1
comp=Z,19nm,0.8s
FLN **La Foliniere** 91.55 38 *e*P P 22 49 51.6 -1.0
comp=Z,120nm,1.1s,baz=234
FLN *e*R
comp=Z,498nm,23.0s
FLN **La Foliniere** 91.55 38 *e*P P 22 49 51.6 -1.0
FLN **La Foliniere** 91.55 38 *e*P P 22 49 51.6 -1.0
LDF **La Druitiere** 91.68 38 *e*P P 22 49 52.2 -1.0
comp=Z,99nm,0.7s
LDF **La Druitiere** 91.68 38 *e*P P 22 49 52.2 -1.0
LDF pmax pmax
comp=Z,99nm,0.7s
LDF **La Druitiere** 91.68 38 *e*P P 22 49 52.2 -1.0
comp=Z,99nm,0.7s
TCF **Toulx Ste Croi** 92.00 41 *e*P P 22 49 53.7 -1.1
comp=Z,79nm,0.7s
TCF **Toulx Ste Croi** 92.00 41 *e*P P 22 49 53.7 -1.1
TCF pmax pmax
comp=Z,79nm,0.7s
TCF **Toulx Ste Croi** 92.00 41 *e*P P 22 49 53.7 -1.1
comp=Z,79nm,0.7s
BORG **Borgarnes** 92.02 19 P P 22 49 54.6 +0.3
comp=Z,21nm,0.6s,baz=179,slow=3.6,SNR=6.7
LASF **Ste Croix** 92.06 44 *e*P P 22 49 54.7 -0.5
comp=Z,30nm,0.9s
LASF **Ste Croix** 92.06 44 *e*P P 22 49 54.7 -0.5
comp=Z,30nm,0.9s
KEST **Kesra** 92.49 53 P P 22 49 58.1 +0.7
comp=Z,3.6nm,0.8s,baz=237,slow=1.1,SNR=10
BGF **Bois d'Agland** 92.52 41 *e*P P 22 49 56.2 -1.0
comp=Z,121nm,0.7s
BGF **Bois d'Agland** 92.52 41 *e*P P 22 49 56.2 -1.0
BGF pmax pmax
comp=Z,121nm,0.7s
BGF **Bois d'Agland** 92.52 41 *e*P P 22 49 56.2 -1.0
comp=Z,121nm,0.7s
HYF **Humbligny** 92.71 40 *e*P P 22 49 57.2 -0.8
HYF **Humbligny** 92.71 40 *e*P P 22 49 57.2 -0.8
DLBC **Dease Lake** 92.79 333 P P 22 49 58.9 +0.7
comp=Z,19nm,1.1s,baz=96,slow=4.9,SNR=12
DLBC LR LR 23 36 16.8
comp=Z,283nm,19.6s,baz=121,slow=38
VIVF **Saint-Julien-l** 92.93 43 *e*P P 22 49 58.7 -0.4
comp=Z,35nm,1.0s
VIVF **Saint-Julien-l** 92.93 43 *e*P P 22 49 58.7 -0.4
VIVF pmax pmax
comp=Z,35nm,1.0s
VIVF **Saint-Julien-l** 92.93 43 *e*P P 22 49 58.7 -0.4
comp=Z,35nm,1.0s
AVF **Avril sur Loir** 92.94 41 *e*P P 22 49 57.9 -1.2
comp=Z,90nm,0.8s
AVF **Avril sur Loir** 92.94 41 *e*P P 22 49 57.9 -1.2
AVF pmax pmax
comp=Z,91nm,0.8s
AVF **Avril sur Loir** 92.94 41 *e*P P 22 49 57.9 -1.2
comp=Z,90nm,0.8s
SSB **Saint Sauveur** 93.02 43 *e*P P 22 49 59.4 -0.2
SSB pmax pmax
comp=Z,27nm,0.8s
SSB **Saint Sauveur** 93.02 43 *e*P P 22 49 59.4 -0.2
comp=Z,27nm,0.8s
SSF **Saint Saulge** 93.15 41 *e*P P 22 49 58.8 -1.3
comp=Z,103nm,0.6s
SSF **Saint Saulge** 93.15 41 *e*P P 22 49 58.8 -1.3
SSF **Saint Saulge** 93.15 41 *e*P P 22 49 58.8 -1.3
SMF **Signal de Mont** 93.17 41 *e*P P 22 49 59.3 -0.9
comp=Z,178nm,0.7s
SMF **Signal de Mont** 93.17 41 *e*P P 22 49 59.3 -0.9
SMF **Signal de Mont** 93.17 41 *e*P P 22 49 59.3 -0.9
EKA **Eskdalemuir Ar** 93.38 31 P P 22 50 00.1 -0.8
comp=Z,6.5nm,0.9s,baz=212,slow=3.0,SNR=6.1
EKA pP pP 22 50 28.6 -0.1
comp=Z,16nm,1.1s,baz=240,slow=4.7,SNR=3.1
EKA LR LR 23 28 57.4
comp=Z,206nm,19.0s,baz=245,slow=33
LOR **Lormes** 93.45 41 *e*P P 22 50 00.2 -1.3
comp=Z,113nm,0.7s,baz=259
LOR *e*R
comp=Z,660nm,20.0s
LOR **Lormes** 93.45 41 *e*P P 22 50 00.2 -1.3
LOR pmax pmax
comp=Z,113nm,0.7s
LOR **Lormes** 93.45 41 *e*P P 22 50 00.2 -1.3
comp=Z,113nm,0.7s
LMR **La Mourre** 93.49 45 *e*P P 22 50 01.3 -0.4
comp=Z,28nm,0.7s
LMR **La Mourre** 93.49 45 *e*P P 22 50 01.3 -0.4
LMR **La Mourre** 93.49 45 *e*P P 22 50 01.3 -0.4
FRF **La Foret Royal** 93.68 45 *e*P P 22 50 01.7 -0.9
comp=Z,28nm,0.9s
FRF **La Foret Royal** 93.68 45 *e*P P 22 50 01.7 -0.9
FRF pmax pmax
comp=Z,28nm,0.9s
FRF **La Foret Royal** 93.68 45 *e*P P 22 50 01.7 -0.9
comp=Z,28nm,0.9s
ORIF **Oris-en-Rattie** 93.73 43 *e*P P 22 50 02.9 0.0
comp=Z,70nm,0.8s
ORIF *e*R
comp=Z,989nm,19.2s
ORIF **Oris-en-Rattie** 93.73 43 *e*P P 22 50 02.9 0.0
ORIF pmax pmax
comp=Z,71nm,0.8s
ORIF **Oris-en-Rattie** 93.73 43 *e*P P 22 50 02.9 0.0
comp=Z,70nm,0.8s
CASY **Casey** 94.02 180 *e*P P 22 50 04.6 +0.8
comp=Z,81nm,1.1s
MBDF **Montbardon** 94.23 44 *e*P P 22 50 04.9 -0.4
comp=Z,28nm,0.8s
MBDF **Montbardon** 94.23 44 *e*P P 22 50 04.9 -0.4
MBDF pmax pmax
comp=Z,28nm,0.8s
MBDF **Montbardon** 94.23 44 *e*P P 22 50 04.9 -0.4
comp=Z,28nm,0.8s
BNI **Bardonecchia** 94.30 44 *e*P P 22 50 06.9 +1.3
BNI *e* 22 53 52.9
BNI pmax pmax
comp=Z,160nm,2.9s
BNI **Bardonecchia** 94.30 44 *e*P P 22 50 06.8 +1.3
comp=Z,160nm,2.9s
BNI *e*PP PP 22 53 52.9 -1.4
SBF **Sospel** 94.32 45 *e*P P 22 50 05.1 -0.5
comp=Z,78nm,0.8s
SBF **Sospel** 94.32 45 *e*P P 22 50 05.1 -0.5
SBF **Sospel** 94.32 45 *e*P P 22 50 05.1 -0.5
LPL **La Plagne** 94.53 43 *e*P P 22 50 06.7 0.0
comp=Z,50nm,0.8s
LPL **La Plagne** 94.53 43 *e*P P 22 50 06.7 0.0
LPL pmax pmax
comp=Z,50nm,0.8s
LPL **La Plagne** 94.53 43 *e*P P 22 50 06.7 0.0
comp=Z,50nm,0.8s
LPG **La Plagne** 94.53 43 *e*P P 22 50 05.5 -1.3
comp=Z,54nm,0.9s
LPG **La Plagne** 94.53 43 *e*P P 22 50 05.5 -1.3
LPG pmax pmax
comp=Z,54nm,0.9s
LPG **La Plagne** 94.53 43 *e*P P 22 50 05.5 -1.3
comp=Z,54nm,0.9s
CABF **La Chapelle** 94.56 42 *e*P P 22 50 05.9 -0.8
comp=Z,32nm,0.8s
CABF **La Chapelle** 94.56 42 *e*P P 22 50 05.9 -0.8
CABF pmax pmax
comp=Z,32nm,0.8s
CABF **La Chapelle** 94.56 42 *e*P P 22 50 05.9 -0.8
comp=Z,32nm,0.8s
SUMG **Summit** 94.57 9 *e*P P 22 50 07.0 +0.5
SUMG *e* 22 53 51.8
SUMG pmax pmax
comp=Z,37nm,0.6s
SUMG **Summit** 94.57 9 *e*P P 22 50 07.0 +0.5
comp=Z,37nm,0.6s
SUMG *e*PP PP 22 53 51.8 -4.2
SUMG **Summit** 94.57 9 *i* P P 22 50 13.9 +7.4
SFTF **Sexfontaines** 94.58 40 *e*P P 22 50 05.5 -1.1
comp=Z,84nm,0.8s
SFTF **Sexfontaines** 94.58 40 *e*P P 22 50 05.5 -1.1
LPG comp=Z,84nm,0.8s
MEZF **Maizieres J'vi** 94.71 40 *e*P P 22 50 06.4 -0.8
comp=Z,164nm,0.7s,baz=244
MEZF **Maizieres J'vi** 94.71 40 *e*P P 22 50 06.4 -0.8
comp=Z,164nm,0.7s
PGF **Pioggiola** 94.86 47 *e*P P 22 50 07.0 -1.2
comp=Z,31nm,0.7s
PGF **Pioggiola** 94.86 47 *e*P P 22 50 07.0 -1.2
PGF pmax pmax
comp=Z,31nm,0.7s
PGF **Pioggiola** 94.86 47 *e*P P 22 50 07.0 -1.2
comp=Z,31nm,0.7s
BAIF **Baives** 94.87 38 *e*P P 22 50 06.8 -1.1
comp=Z,22nm,0.7s
BAIF **Baives** 94.87 38 *e*P P 22 50 06.8 -1.1
BAIF **Baives** 94.87 38 *e*P P 22 50 06.8 -1.1
SNF **Seneffe** 95.10 38 P P 22 50 09.5 +0.6
DOU **Dourbes** 95.11 38 P P 22 50 06.4 -2.6
PAGF **Fort de Pagny** 95.14 40 *e*P P 22 50 08.6 -0.6
comp=Z,24nm,0.7s
PAGF **Fort de Pagny** 95.14 40 *e*P P 22 50 08.6 -0.6
SENIN **Lac Senin/Sane** 95.23 43 *e*P P 22 50 11.1 +1.2
GIVF **Givet** 95.25 38 *e*P P 22 50 08.7 -0.9
comp=Z,80nm,0.8s
GIVF **Givet** 95.25 38 *e*P P 22 50 08.7 -0.9
GIVF pmax pmax
comp=Z,80nm,0.8s
GIVF **Givet** 95.25 38 *e*P P 22 50 08.7 -0.9
comp=Z,80nm,0.8s
UCC **Uccle** 95.27 38 P P 22 50 10.2 +0.6
HAU **Haudompre** 95.29 41 *e*P P 22 50 08.8 -1.1
comp=Z,41nm,0.7s
HAU *e*R
comp=Z,530nm,21.2s
HAU **Haudompre** 95.29 41 *e*P P 22 50 08.8 -1.1
HAU **Haudompre** 95.29 41 *e*P P 22 50 08.8 -1.1
HINF **Hinteralfeld** 95.53 41 *e*P P 22 50 09.7 -1.3
comp=Z,41nm,0.7s
HINF **Hinteralfeld** 95.53 41 *e*P P 22 50 09.7 -1.3
HINF pmax pmax
comp=Z,41nm,0.7s
HINF **Hinteralfeld** 95.53 41 *e*P P 22 50 09.7 -1.3
comp=Z,41nm,0.7s
BCLA **Clavier** 95.66 38 P P 22 50 10.5 -0.9
comp=Z,19nm,2.2s
WLF **Walferdange** 95.85 39 P P 22 50 12.6 +0.3
comp=Z,55nm,1.2s
WLF AP pP 22 50 39.8 -0.4
WLF **Walferdange** 95.85 39 *e*P P 22 50 13.2 +0.8
WLF pmax pmax
comp=Z,64nm,0.9s
WLF **Walferdange** 95.85 39 *e*P P 22 50 13.2 +0.8
comp=Z,64nm,0.9s
RES **Resolute Bay** 95.87 353 PKKPbc PKKPbc 23 07 00.5 -3.3
comp=Z,1.4nm,0.8s,baz=304,slow=5.3,SNR=6.6
ECH **Echery** 95.88 41 *e*P P 22 50 11.6 -1.0
ECH pmax pmax
comp=Z,54nm,1.3s
ECH **Echery** 95.88 41 *e*P P 22 50 11.6 -1.0
comp=Z,54nm,1.3s
CDF **Champ du Feu** 96.03 41 *e*P P 22 50 12.2 -1.1
comp=Z,61nm,0.9s
CDF **Champ du Feu** 96.03 41 *e*P P 22 50 12.2 -1.1
CDF pmax pmax
comp=Z,61nm,0.9s
CDF **Champ du Feu** 96.03 41 *e*P P 22 50 12.2 -1.1
comp=Z,61nm,0.9s
MEM **Membach** 96.14 38 P P 22 50 14.1 +0.5
BFO **Black Forest** 96.64 41 *i* P P 22 50 17.0 +1.0
DAVOX **Davos/Dischmat** 97.03 43 P P 22 50 17.4 -0.6
comp=Z,3.4nm,0.7s,baz=323,slow=12,SNR=7.9
DAVOX PP PP 22 54 15.5 0.0
comp=Z,5.7nm,0.9s,baz=297,slow=5.3,SNR=4.9
DAVOX PKKPbc PKKPbc 23 06 59.2 -0.7
comp=Z,2.6nm,0.6s,baz=231,slow=8.7,SNR=13
DAVOX LR LR 23 31 20.6
comp=Z,343nm,21.2s,baz=245,slow=34
FUORN **Ofenpass-Fuorn** 97.22 43 *e*P Pdif 22 50 19.9 +0.9
comp=Z,18nm,0.8s
MOTA **Moosalm** 98.02 43⇑ *i*P P 22 50 21.1 -1.3
comp=Z,6.4nm,0.9s
WATA **Walderalm** 98.31 43⇑ *i*Pdiff P 22 50 23.0 -0.7
comp=Z,5.5nm,0.7s
WTTA **Wattenberg** 98.33 43⇑ *i*Pdiff Pdif 22 50 23.9 0.0
comp=Z,16nm,1.0s
ABTA **Abfaltersbach** 98.71 43⇑ *i*Pdiff Pdif 22 50 25.7 +0.2
comp=Z,8.9nm,1.0s
GRFO **Grafenberg** 98.91 40 *e*P P 22 50 25.7 -0.5
GRFO *e* 22 54 26.8
GRFO pmax pmax
comp=Z,21nm,0.8s
GRFO **Grafenberg** 98.91 40 *e*P P 22 50 25.7 -0.5
comp=Z,22nm,0.8s
GRFO *e*PP PP 22 54 26.8 -2.7
GRF **Grafenberg Arr** 98.91 40 *e*Pdiff P 22 50 25.7 -0.5
GRF *e*PPdiff pPdiff 22 54 15.5
KBA **Koelnbreinsper** 99.36 43⇓ *i*Pdiff Pdif 22 50 27.1 -1.4
comp=Z,7.1nm,1.1s,SNR=6.7
MYKA **Terra Mystica** 99.41 44⇑ *i*Pdiff Pdif 22 50 28.1 -0.5
comp=Z,7.2nm,0.9s,SNR=13
INK **Inuvik** 99.46 340 P Pdif 22 50 27.1 -1.0
comp=Z,4.0nm,0.8s,baz=97,slow=6.1,SNR=16
INK PKKPbc PKKPbc 23 06 52.1 -1.5
comp=Z,3.7nm,1.1s,baz=296,slow=0.7,SNR=6.9
INK LR LR 23 38 07.6
comp=Z,378nm,21.7s,baz=114,slow=37
CRNS **Crni Vrh** 99.64 45 *e*Pdiff Pdif 22 50 31.1 +1.5
CRNS *e* 22 50 41.1
JMIC **Jan Mayen** 99.73 17 LR LR 23 33 21.2
comp=Z,108nm,19.1s,baz=265,slow=34
OBKA **Obir** 99.96 44⇑ *i*Pdiff Pdif 22 50 30.6 -0.5
comp=Z,7.1nm,0.8s
MUD **Monsted U'grnd** 100.12 34 *i* P Pdif 22 50 43.2 +12
GEC2 **GERESS Array S** 100.16 42 *e*P Pdif 22 50 31.5 -0.4
GEC2 *e* 22 54 37.4
GEC2 **GERESS Array S** 100.16 42 *e*Pdif Pdif 22 50 31.5 -0.4
GEC2 *e*PP PP 22 54 37.4 -1.8
GEC2 *e*PKKPbc PKKPbc 23 06 49.2 -1.8
GEC2 *e*P'P'df P'P'df 23 15 04.2 -1.6
GERES **GERESS Array B** 100.16 42 P Pdif 22 50 31.5 -0.4
comp=Z,1.2nm,0.9s,baz=250,slow=4.0,SNR=8.2
GERES PP PP 22 54 37.4 -1.8
comp=Z,4.1nm,1.1s,baz=232,slow=6.6,SNR=5.7
GERES PKKPbc PKKPbc 23 06 49.2 -1.8
comp=Z,0.6nm,0.7s,baz=90,slow=2.7,SNR=6.6
GERES PKPPKP P'P'df 23 15 04.2 -1.6
comp=Z,0.3nm,0.8s,baz=142,slow=6.8,SNR=3.5
KHC **Kasperske Hory** 100.17 41 *e*P Pdif 22 50 31.6 -0.3
KHC *e* 22 54 32.6
KHC *e* 23 01 01.2
KHC *e* 23 03 23.4
KHC **Kasperske Hory** 100.17 41 *e*PDIFF Pdif 22 50 31.6 -0.3
KHC *ex* x 22 50 41.2
KHC *e*PP PP 22 54 32.6 -6.6
KHC *e*SKS 23 01 01.2
KHC *e*SP SP 23 03 23.4 -4.0
PERS **Pernice** 100.38 44 *e* Pdif 22 50 42.7 +10
CLL **Collm** 100.52 39 *i* P Pdif 22 50 33.6 +0.3
CLL *e* 22 54 38.0
CLL *e* 23 01 01.0
CLL *e*S Sdif 23 01 55.0 -5.7
CLL pmax pmax
comp=Z,20nm,1.6s
CLL **Collm** 100.52 39 *i* Pdif Pdif 22 50 33.6 +0.3
comp=Z,20nm,1.6s
CLL *e* 22 50 42.0
CLL *i* 22 50 45.4
comp=Z,19nm,0.8s
CLL *es*Pdif sPdif 22 51 06.0 -6.4
CLL *e*PP PP 22 54 38.0 -3.6
comp=Z,21nm,1.2s
CLL *ep*PP 22 55 02.0
CLL *e*SKSac SKSac 23 01 01.0 -1.2
CLL *e*Sdif Sdif 23 01 55.0 -5.7
CLL *e*SP SP 23 03 32.0 +1.1
CLL *es*PS 23 04 13.0
CLL *e*SS SS 23 08 54.0 -5.6
CLL *e*(PPPrev) 23 15 36.0
CLL Lm MLR 23 33 00.0
comp=N,100nm,19.9s
CLL Lm MLR 23 33 00.0
comp=E,400nm,20.7s
CLL Lm MLR 23 33 00.0
comp=Z,500nm,21.3s
CLL **Collm** 100.52 39 *e*Pdif Pdif 22 50 32.9 -0.3
ARSA **Arzberg** 100.83 44⇓ *i*Pdiff Pdif 22 50 33.8 -1.0
comp=Z,6.2nm,1.7s,SNR=5.5
BRG **Berggiesshubel** 100.95 40 PDIFF Pdif 22 50 45.8 +11
comp=Z,11nm,0.8s
BRG PP PP 22 54 42.0 -2.9
BRG SKS 23 01 03.0
BRG SDIFF Sdif 23 01 59.0 -5.3
BRG *e* 23 06 43.1
comp=Z,6.0nm,1.4s
comp=N,282nm,18.1s
comp=E,468nm,24.5s
comp=Z,454nm,20.5s
BRG **Berggiesshubel** 100.95 40 *e*(P) PP 22 54 39.7 -5.2
comp=Z,26nm,1.6s
BRG **Berggiesshubel** 100.95 40 P Pdif 22 50 45.8 +11
BRG 22 54 42.0
BRG 23 01 03.0
BRG S Sdif 23 01 59.0 -5.3
BRG pmax pmax
comp=Z,11nm,0.8s
BRG MLR MLR
comp=N,282nm,18.1s
BRG MLR MLR
comp=E,468nm,24.5s
BRG MLR MLR
comp=Z,454nm,20.5s
PRA **Prague** 101.00 41 *e*P Pdif 22 50 37.1 +1.7
PRA *e* 22 54 41.1
PRA *e* 23 03 36.3
PRA **Prague** 101.00 41 *e*PDIFF Pdif 22 50 37.1 +1.7
PRA *ex* x 22 50 45.9
PRA *e*PP PP 22 54 41.1 -4.2
PRA *e*SKS 23 01 09.7
PRA *e*SP SP 23 03 36.3 +0.3
PRU **Pruhonice** 101.04 41 *e*P Pdif 22 50 36.1 +0.5
PRU *e* 22 54 40.9
PRU *e* 23 03 34.7
PRU MLR MLR
comp=Z,400nm,18.5s
PRU **Pruhonice** 101.04 41 *e*PDIFF Pdif 22 50 36.1 +0.5
PRU *ex* x 22 50 45.5
PRU *e*PP PP 22 54 40.9 -4.7
PRU *e*SKS 23 01 08.9
PRU *e*SP SP 23 03 34.7 -1.8
PRU AMS AMS 23 34 20.0
comp=Z,400nm,18.5s
PVCC **Panska Ves** 101.22 40 *e*P Pdif 22 50 37.2 +0.8
PVCC *e* 22 54 43.5
PVCC *e* 23 03 38.4
PVCC **Panska Ves** 101.22 40 *e*PDIFF Pdif 22 50 37.2 +0.8
PVCC *ex* x 22 50 47.1
PVCC *e*PP PP 22 54 43.5 -3.5
PVCC *e*SKS 23 01 09.9
PVCC *e*SP SP 23 03 38.4 0.0
CONA **Conrad Observa** 101.25 43⇓ *i*Pdiff Pdif 22 50 35.7 -1.1
comp=Z,3.5nm,1.3s
TREC **Trest** 101.42 42 *e*P Pdif 22 50 36.3 -1.1
TREC *e* 23 03 39.7
TREC **Trest** 101.42 42 *e*PDIFF Pdif 22 50 36.3 -1.1
TREC *ex* x 22 50 47.7
TREC *e*PP PP 22 54 42.0 -6.5
TREC *e*SKS 23 01 09.8
TREC *e*SP SP 23 03 39.7 -0.9
SOP **Sopron** 101.63 43⇓ *e*P PP 22 54 47.2 -2.9
VLS **Valsamata** 101.78 54 *e*P PKiKP 22 55 02.0 0.0
UPC **Upice** 102.09 41 *e*P Pdif 22 50 41.3 +1.0
UPC **Upice** 102.09 41 *e*PDIFF Pdif 22 50 41.3 +1.0
UPC *ex* x 22 50 51.1
UPC *e*PP PP 22 54 46.6 -6.9
VRAC **Vranov** 102.11 42 ⇓P Pdif 22 50 45.3 +4.9
VRAC **Vranov** 102.11 42 ⇓ *i*P Pdif 22 50 45.3 +4.9
VRAC **Vranov** 102.11 42 ⇓ *i*P PP 22 54 51.5 -2.2
VRAC **Vranov** 102.11 42 PP PP 22 54 52.3 -1.4
comp=Z,7.6nm,1.0s,baz=260,slow=8.1,SNR=5.2
DPC **Dobruska-Polom** 102.24 41 *e*P Pdif 22 50 41.9 +0.9
DPC *e* 23 03 48.6
DPC **Dobruska-Polom** 102.24 41 *e*PDIFF Pdif 22 50 41.9 +0.9
DPC *ex* x 22 50 51.6
DPC *e*SKS 23 01 14.1
DPC *e*SP SP 23 03 48.6 -0.7
DPC AMS AMS 23 35 20.0
DPC **Dobruska-Polom** 102.24 41 *e*Pdif Pdif 22 50 42.0 +1.0
PYL **PYLOS** 102.32 55 *e*P PKiKP 22 55 03.0 0.0
PDO **Prodromos** 102.35 53 *e*P PKiKP 22 55 00.5 -2.5
KSP **Ksiaz** 102.36 40 *e*P Pdif 22 50 42.7 +1.2
KSP *e* 23 01 13.0
KSP *e*SP SP 23 03 50.5 0.0
KRLC **Kraliky** 102.45 41 *e*P Pdif 22 50 43.8 +1.8
KRLC *e* 22 54 52.5
KRLC **Kraliky** 102.45 41 *e*PDIFF Pdif 22 50 43.8 +1.8
KRLC *ex* x 22 50 53.0
KRLC *e*PP PP 22 54 52.5 -3.7
ITM **Ithomi** 102.53 55 *e*P PP 22 54 51.0 -6.2
PKSM **Moragy** 102.59 45 ⇓ *i*P PP 22 54 48.4 -8.9
PKSM **Moragy** 102.59 45⇓ *e*P PP 22 54 53.8 -3.5
NB2 **NORSAR Subarra** 102.66 29 P Pdif 22 50 44.5 +1.9
comp=Z,6.8nm,0.8s,baz=253,slow=4.4
NB2 **NORSAR Subarra** 102.66 29 P Pdif 22 50 44.5 +1.9
baz=253,slow=4.4
NB200 **NORSAR Array S** 102.66 29 *e*Pdif Pdif 22 50 42.5 -0.1
NB200 *e*PP PP 22 54 53.7 -3.8
NB200 *e*PKKPbc PKKPbc 23 06 41.3 -2.9
NOA **NORSAR Array B** 102.66 29 P Pdif 22 50 42.5 -0.1
comp=Z,2.4nm,1.0s,baz=253,slow=4.5,SNR=3.4
NOA PP PP 22 54 53.7 -3.8
comp=Z,7.8nm,1.1s,baz=251,slow=7.2,SNR=4.2
NOA PKKPbc PKKPbc 23 06 41.3 -2.9
comp=Z,0.7nm,0.7s,baz=259,slow=2.8,SNR=3.6
NEST **Nestorio** 102.73 52 *e*P PKiKP 22 55 09.5 +5.7
ILAR **Eielson Array** 102.81 335 P Pdif 22 50 42.8 -0.4
comp=Z,0.6nm,0.8s,baz=108,slow=2.9,SNR=5.1
ILAR PP PKiKP 22 55 01.6 -1.4
comp=Z,1.5nm,0.7s,baz=107,slow=7.1,SNR=5.5
MORC **Moravsky Berou** 102.84 42 ⇓P Pdif 22 50 45.5 +1.8
MORC **Moravsky Berou** 102.84 42 ⇓ *i*P Pdif 22 50 45.5 +1.8
MORC **Moravsky Berou** 102.84 42 ⇓ *i*P PP 22 54 56.4 -2.8
KLV **Kalavryta, Ach** 102.94 54 *e*P PP 22 54 59.5 -0.8
GUR **Goura** 103.05 54 *e*P PP 22 55 02.0 +0.8
FNA **Florina** 103.07 51 *e*P PP 22 54 51.0 -10
MAKR **Makrakomi, Fth** 103.17 53 *e*P PP 22 54 59.5 -2.5
BUD **Budapest** 103.18 44 *e*P PP 22 54 54.9 -6.8
VLI **Veliai** 103.19 56 *e*P PP 22 54 59.5 -2.6
THL **Klokotos Trika** 103.23 53 *e*P PP 22 55 03.0 +0.7
OKC **Ostrava-Krasne** 103.23 42 *e*P Pdif 22 50 45.6 +0.2
OKC *e* 22 54 56.4
OKC *e* 23 04 11.3
OKC **Ostrava-Krasne** 103.23 42 *e*PDIFF Pdif 22 50 45.6 +0.2
OKC *ex* x 22 50 56.1
OKC *e*PP PP 22 54 56.4 -5.6
OKC *e*PS PS 23 04 11.3 -1.9
VYHS **Vyhne** 103.32 43 *i* P Pdif 22 50 46.2 +0.4
VYHS *e* 22 55 01.3
VYHS **Vyhne** 103.32 43 PDIF Pdif 22 50 46.2 +0.4
VYHS *e* 22 50 56.2
VYHS *e*PP PP 22 55 01.2 -1.6
LTK **Loutraki** 103.55 54 *e*P PP 22 54 59.5 -5.3
HFS **Hagfors** 103.56 31 Pdiff Pdif 22 50 50.2 +3.7

HFS PP **PP** **22 55 02.8 -1.4**
comp=Z,21nm,1.2s,baz=238,slow=4.5,SNR=10
KARN Karanos 103.62 57 *e*P **PP** 22 55 02.0 -3.4
LIT Litokhoron 103.72 52 *e*P PP 22 54 58.0 -8.0
PSZ Piszkesteto 103.86 44 ⇓P **Pdif** **22 50 49.4 +1.1**
PSZ Piszkesteto 103.86 44 ⇓*i*P **Pdif** **22 50 49.4 +1.1**
PSZ Piszkesteto 103.86 44 ⇑*i*P **PKiKP** **22 55 04.6 -1.0**
PSZ Piszkesteto 103.86 44 ⇓*e*pP **PKiKP** **22 55 06.6 +1.0**
SMIA Simia 103.95 53 *e*P PKiKP 22 54 58.5 -7.5
XOR Xorichti 104.06 53 *e*P **PKiKP** **22 55 06.0 -0.2**
NEO Neokhori 104.07 53 *e*P **PKiKP** **22 55 06.0 -0.2**
MRKA Markates 104.19 54 *e*P **PKiKP** **22 55 01.5 -4.9**
THE Thessaloniki 104.20 52 *e*P PKiKP 22 54 59.5 -6.8
SKIA Skiathos 104.22 53 *e*P **PKiKP** **22 55 06.0 -0.4**
SIVA Sivas 104.23 58 *e*P **PKiKP** **22 55 11.5 +4.9**
PTL Penteli 104.25 54 *e*P **PKiKP** **22 55 05.5 -1.1**
KNT Kendrikon 104.28 51 *e*P **PKiKP** **22 55 08.5 +2.0**
HORT Hortiatis 104.29 52 *e*P **PKiKP** **22 55 03.0 -3.6**
OJC Ojcow 104.36 42 *e*PKP **PKiKP** **22 55 07.7 +1.4**
KECS Kecovo 104.38 43 *e*PP **PKiKP** **22 55 07.5 +1.1**
BZS Buzias 104.44 46 ⇑P **Pdif** **22 50 52.8 +1.9**
BZS Buzias 104.44 46 ⇑*i*P **Pdif** **22 50 52.8 +1.9**
BZS Buzias 104.44 46 ⇑*i*P **PKiKP** **22 55 10.9 +4.3**
BZS Buzias 104.44 46 ⇓*i*P **PKKPab** **23 06 55.8 +1.4**
PLG Polygyros 104.49 52 *e*P **PKiKP** **22 55 02.0 -4.9**
AOS Alonnisos 104.53 53 *e*P PKiKP 22 55 18.5 +12
PAIG Paliouri 104.56 53 *e*P **PKiKP** **22 55 09.0 +2.0**
SRS Serrai 104.78 51 *e*P PKiKP 22 55 01.0 -6.4
LAST Lasithi 104.80 58 *e*P **PKiKP** **22 55 08.0 +0.3**
VTS Vitosha 104.85 50 ⇓*i*P **PKiKP** **22 55 07.2 -0.5**
OUR Ouranopolis 104.88 52 *e*P **PKiKP** **22 55 06.5 -1.1**
NPS Neapolis 104.93 58 *e*P **PKiKP** **22 55 08.0 +0.1**
MMB Musomiste 104.99 51 ⇑P **Pdif** **22 50 55.6 +2.1**
MMB Musomiste 104.99 51 ⇑⇑*i*P **Pdif** **22 50 55.6 +2.1**
MMB Musomiste 104.99 51 ⇑*i*P **PKKPab** **23 06 53.4 +1.2**
NVR Nevrokopi 105.03 51 *e*P **PKiKP** **22 55 03.0 -4.9**
CRVS Cervenica-Dubn 105.10 43 *e*PP **PKiKP** **22 55 08.5 +0.7**
GZR Gura Zlata 105.19 47 ⇑⇑*i*P **PP** **22 55 15.6 -1.2**
GZR Gura Zlata 105.19 47 ⇓*i*P **PKKPab** **23 06 53.3 +2.1**
APE Apeiranthos 105.30 56 *e*P **PP** **22 55 14.5 -3.3**
ZKR Zakros 105.38 58 *e*P **PKiKP** **22 55 07.5 -1.2**
KAVA Kavala 105.43 52 *e*P **PKiKP** **22 55 07.0 -1.6**
DRGR 105.45 45 ⇓*i*P **PP** **22 55 16.5 -2.2**
DRGR 105.45 45 ⇓*i*P **PKKPab** **23 06 52.5 +2.5**
TRPA Tarpa 105.63 44 ⇓*i*P **PP** **22 55 19.0 -0.9**
TRPA Tarpa 105.63 44 ⇓*e*PKiKP **PP** **22 55 18.6 -1.3**
LIA Limnos Island 105.68 53 *e*P **PKiKP** **22 55 11.0 +1.9**
CHOS Chios island 106.00 55 *e*P **PP** **22 55 21.5 -1.5**
CJR Cluj-Napoca 106.03 46 ⇓⇓*i*P **PP** **22 55 22.1 -0.9**
SIGR SIGRI 106.03 54 *e*P **PKiKP** **22 55 14.5 +4.8**
KWP Kalwaria Pacla 106.06 43 ⇑P **Pdif** **22 51 00.7 +2.7**
KWP Kalwaria Pacla 106.06 43 *e*PKP **PP** **22 55 22.3 -0.7**
KWP Kalwaria Pacla 106.06 43 ⇑*i*P **Pdif** **22 51 00.7 +2.7**
KWP Kalwaria Pacla 106.06 43 ⇓*i*P **PP** **22 55 22.5 -0.5**
SMTH Samothraki Isl 106.07 52 *e*P **PKiKP** **22 55 07.0 -2.8**
RDO Rodhopi 106.22 52 *e*P **PP** **22 55 25.0 +0.6**
KARP Karpathos 106.23 58 *e*P **PP** **22 55 20.0 -4.7**
SMG Samos 106.45 55 *e*P **PP** **22 55 24.5 -1.8**
ARR Arges 106.46 47 ⇓⇓*i*P **Pdif** **22 51 00.4 +0.5**
ARR Arges 106.46 47 ⇓⇓*i*P **PKKPab** **23 06 47.8 +2.3**
ALN Alexandroupoli 106.54 52 *e*P **PKiKP** **22 55 13.0 +2.4**
ARG Arkhangelos 107.14 57 *e*P **PP** **22 55 29.0 -2.3**
SUW Suwalki 107.19 38 *e*PKP **PP** **22 55 26.2 -5.0**
BURAR Bucovina Array 107.29 45 ⇓P **Pdif** **22 51 06.7 +3.1**
BURAR Bucovina Array 107.29 45 ⇓*i*P **Pdif** **22 51 06.7 +3.1**
BURAR Bucovina Array 107.29 45 ⇑⇑*i*P PKiKP 22 55 21.0 +9.0
BURAR Bucovina Array 107.29 45 ⇑*i*P **PKKPab** **23 06 44.8 +3.0**
MLR Muntele Rosu 107.39 47 ⇓⇓P **Pdif** **22 51 09.9 +5.7**
MLR Muntele Rosu 107.39 47 ⇓⇓*i*P **Pdif** **22 51 09.9 +5.7**
MLR Muntele Rosu 107.39 47 ⇑⇑*i*P PP 22 55 23.8 -9.3
MLR Muntele Rosu 107.39 47 ⇓⇓*i*P **PKKPab** **23 06 44.2 +2.7**
MLR Muntele Rosu 107.39 47 PP PP 22 55 23.6 -9.5
comp=Z,4.3nm,1.2s,baz=323,slow=2.5,SNR=6.5
PLOR Plostina 107.94 47 ⇑⇑*i*P **PP** **22 55 34.1 -2.9**
VRI Vrincioaia 108.00 47 ⇑⇑*i*P **PP** **22 55 36.9 -0.5**
VRI Vrincioaia 108.00 47 ⇓⇓*i*P **PKKPab** **23 06 41.2 +2.5**
TESR Tescani 108.06 46 ⇓⇓*i*P **PKKPab** **23 06 40.3 +2.0**
MSAB Monastry St. A 108.45 49 ⇑⇑P PKKPdf 23 06 48.1 +8.0
TLLB Topalu 108.69 48 ⇑⇑P PP 22 55 36.0 -6.4
CFR Carcaliu 108.85 48 ⇓⇓*i*P **PKiKP** **22 55 15.3 +0.5**
ISAL Salakas 109.12 37 *e*P **PP** **22 55 40.0 -5.1**
ISAL AMB AMB 22 55 43.7
comp=Z,19nm,1.3s
IIGN Ignalina 109.15 37 *e*P PP 22 55 40.1 -5.3
IIGN AMB AMB 22 55 44.0
comp=Z,15nm,1.4s
NACGM Naroch 109.41 38 *e* PP 22 55 34.0 -13
NACGM Naroch 109.41 38 *e* **PKKPab** **23 06 31.0 -1.0**
IDID Didziasalis 109.43 37 *e*P PP 22 55 41.6 -5.8
IDID AMB AMB 22 55 46.0
comp=Z,14nm,1.3s
KIS Kishinev 109.61 46 *e* 23 05 38.0
FIA0 FINESS Array S 109.76 31 *e*P **Pdif** **22 51 20.8 +6.7**
FIA0 *e* 22 55 49.7
FIA0 *e* 23 06 17.2
FIA0 FINESS Array S 109.76 31 *e*Pdif **Pdif** **22 51 20.8 +6.7**
FIA0 *e*PP **PP** **22 55 49.6 +0.1**
FIA0 *e*PKKPbc **PKKPbc** **23 06 17.2 -4.8**
FINES FINESS Array B 109.76 31 Pdiff **Pdif** **22 51 20.8 +6.7**
comp=Z,1.5nm,1.1s,baz=15,slow=5.9,SNR=2.7
FINES PP **PP** **22 55 49.6 +0.1**
comp=Z,7.6nm,1.0s,baz=237,slow=6.6,SNR=7.6
FINES PKKPbc **PKKPbc** **23 06 17.2 -4.8**
comp=Z,2.0nm,0.7s,baz=120,slow=1.5,SNR=9.5
KAF Kangasniemi 109.93 30 *e*pkp PP 22 55 39.2 -12
MICGM Minsk 109.99 38 *e* PP 22 55 37.0 -15
ARA0 ARCESS Array S 110.12 22 *e*PP PP 22 55 55.4 +3.3
ARA0 *e*PKKPbc **PKKPbc** **23 06 18.4 -2.7**
ARCES ARCESS Array B 110.12 22 PP PP 22 55 55.4 +3.3
comp=Z,1.4nm,0.7s,baz=268,slow=3.6,SNR=3.6
ARCES PKKPbc **PKKPbc** **23 06 18.4 -2.7**
comp=Z,1.8nm,0.8s,baz=89,slow=3.5,SNR=15
AKASG Malin Array Be 110.37 42 Pdiff **Pdif** **22 51 25.0 +8.0**
comp=Z,0.8nm,0.6s,baz=268,slow=3.8,SNR=5.2
AKASG PKiKP **PKiKP** **22 55 18.0 +0.5**
comp=Z,0.7nm,0.4s,baz=273,slow=2.7,SNR=7.2
AKASG PP PP 22 55 49.1 -5.2
comp=Z,17nm,1.1s,baz=260,slow=6.5,SNR=13
AKASG PKKPbc **PKKPbc** **23 06 18.1 -1.6**
comp=Z,1.7nm,0.7s,baz=68,slow=3.7,SNR=7.9
AKBB Malin Array Si 110.37 42 *e*PKiKP **PKiKP** **22 55 18.0 +0.5**
AKBB *e*PP PP 22 55 49.1 -5.2
AKBB *e*PKKPbc **PKKPbc** **23 06 18.1 -1.6**
DZM Mont Dzumac 111.56 235 *e*Pdif **Pdif** **22 51 25.3 +2.0**
comp=Z,117nm,27.5s
DZM Mont Dzumac 111.56 235 *e*PP PP 22 56 08.7 +5.6
comp=Z,291nm,24.2s
DZM Mont Dzumac 111.56 235 *e*PS PS 23 05 40.6 +3.5
comp=Z,457nm,27.1s
DZM Mont Dzumac 111.56 235 *e*LR LR 23 28 42.4
comp=Z,2μm,32.4s,baz=122
BR101 Keskin Array S 112.05 54 *e*PKiKP **PKiKP** **22 55 21.3 +0.1**
BR101 *e*PP PP 22 55 59.6 -7.3
BR101 *e*PKKPab **PKKPab** **23 06 21.8 +0.6**
BRTR Keskin Array B 112.05 54 *c i*PKiKP **PKiKP** **22 55 22.7 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 112.05 54 PKiKP **PKiKP** **22 55 21.3 +0.1**
comp=Z,1.8nm,0.7s,baz=190,slow=2.3,SNR=6.9
BRTR PP PP 22 55 59.6 -7.3
comp=Z,7.9nm,1.0s,baz=243,slow=5.4,SNR=8.4
BRTR PKKPbc **PKKPab** **23 06 21.8 +0.6**
comp=Z,3.0nm,0.9s,baz=91,slow=3.8,SNR=11
JOF Joensuu 112.28 29 *e*pkp pPKiKP 22 55 48.2 -1.6
OBN Obninsk 115.04 38 *i* PKIKP **PKPdf** **22 55 28.1 +1.9**
OBN *i* 22 56 26.0
OBN *i* SS SS 23 12 05.8 -10
OBN pmax pmax
comp=Z,9.0nm,1.0s
ANN Anapa 115.36 49 *e*P **Pdif** **22 51 37.6 -1.8**
ANN *e* 22 56 32.2
ANN *e* 23 02 03.4
ANN *e*SP SP 23 06 02.7 +4.2
ANN pmax pmax
comp=Z,14nm,1.0s
MALT Malatya 115.58 56 ⇓PKIKP **PKPdf** **22 55 29.0 +1.0**
MALT Malatya 115.58 56 ⇓*i*P **PKPdf** **22 55 29.0 +1.0**
MALT Malatya 115.58 56 ⇓*i*P **PKKPab** **23 06 07.9 +2.3**
SOC Sochi 116.94 51 *i* PKIKP **PKPdf** **22 55 29.3 -1.0**
SOC *e* 22 56 39.4
SOC *e* 23 02 03.6
SOC *e*PS **PKKPab** **23 06 00.3 +1.1**
SOC *e*SS SS 23 12 55.5 +15
SOC pmax pmax
comp=Z,12nm,0.6s
PRGR Permogore 119.06 30 *e*PKIKP **PKPdf** **22 55 33.3 -0.5**
PRGR pmax pmax
comp=Z,91nm,2.1s
KIV Kislovodsk 119.10 50 *i* PKIKP **PKPdf** **22 55 35.5 +0.9**
KIV *e* 22 56 54.5
KIV *e* 23 02 19.2
KIV *e*PS **PS** **23 06 45.7 +0.2**
KIV pmax pmax
comp=Z,13nm,1.1s
NEY Neytrino 119.12 51 *e*PKIKP **PKPdf** **22 55 31.2 -3.6**
KBZ Khabaz 119.25 50 PKIKP **PKPdf** **22 55 35.0 +0.3**
KBZ Khabaz 119.25 50 PKP **PKPdf** **22 55 35.0 +0.3**
comp=Z,9.1nm,0.8s,baz=201,slow=0.7,SNR=23
GOF Gofitskoye 119.35 49 *e*PKIKP **PKPdf** **22 55 35.4 +0.5**
NCK Nalchik 119.76 51 ⇑*i*PKIKP **PKPdf** **22 55 36.2 +0.4**
ZEI Tsey 119.98 52 *i* PKIKP **PKPdf** **22 55 36.2 -0.3**
ZEI pmax pmax
comp=Z,5.0nm,0.6s
GNI Garni 120.59 55 ⇓*i*PKIKP **PKPdf** **22 55 37.5 -0.2**
GNI pmax pmax
comp=Z,8.0nm,0.6s
BILL Bilibino 121.05 339 ⇑*i*PKIKP **PKPdf** **22 55 38.0 +0.5**
BILL *i* 22 56 11.3
BILL *i* 22 57 07.4
BILL pmax pmax
comp=Z,6.0nm,1.3s
MAK Makhachkala 122.63 51 *e*P **Pdif** **22 52 17.2 +5.4**
MAK *i* 22 55 42.7
MAK *e* 22 56 21.2
MAK *e* 22 57 29.0
MAK *e*PPP PPP 23 00 00.6
MAK *e* 23 02 31.1
MAK *e*SP SP 23 07 00.7 -3.1
MAK pmax pmax
comp=Z,19nm,0.9s
SOKR Solikamsk 124.92 30 *e*PKIKP **PKPdf** **22 55 45.4 +0.3**
SOKR pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 126.95 33 *i* PKIKP **PKPdf** **22 55 49.6 +0.5**
ARU 22 57 51.0
ARU PPP PPP 23 00 28.4
ARU SS SS 23 14 43.8 -3.4
ARU Arti 126.95 33 *e*PKPdf **PKPdf** **22 55 49.0 -0.1**
ARU *e*PP PP 22 57 54.8 +6.4
TIXI Tiksi 127.26 353 *c i*PKIKP **PKPdf** **22 55 49.0 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
CTAO Charters Tower 127.27 223 *e*PKIKP **PKPdf** **22 55 51.3 +0.4**
CTAO Charters Tower 127.27 223 *e*PKPdf **PKPdf** **22 55 51.3 +0.4**
H11S2 WAKE ISLAND Hyd 127.54 278 T T 01 15 34.4
baz=102,slow=75,SNR=1497
H11S1 WAKE ISLAND Hyd 127.55 278 T T 01 15 43.8
baz=102,slow=75,SNR=898
H11S3 WAKE ISLAND Hyd 127.56 278 T T 01 15 36.8
baz=102,slow=75,SNR=946
H11N3 WAKE ISLAND Hyd 127.58 280 T T 01 15 34.7
baz=101,slow=74,SNR=1613
H11N2 WAKE ISLAND Hyd 127.60 280 T T 01 15 35.3
baz=101,slow=74,SNR=1084
H11N1 WAKE ISLAND Hyd 127.60 280 T T 01 15 45.0
baz=101,slow=74,SNR=1225
SVE Sverdlovsk 127.86 32 *e*PKIKP **PKPdf** **22 55 51.5 +0.7**
SVE pmax pmax
comp=Z,18nm,1.2s
AKTO Aktyubinsk 128.57 41 PKP **PKPdf** **22 55 53.6 +1.2**
comp=Z,6.7nm,0.8s,baz=311,slow=1.8,SNR=22
SEY Seymchan 128.64 337 PKP **PKPdf** **22 55 53.5 +1.4**
comp=Z,19nm,0.9s,baz=106,slow=2.3,SNR=44
BSY Bisya 130.09 77 ⇑PKPdf PKPdf **22 55 55.7 -0.4**
SNR=5.5
ABKAR Akbulak array 130.11 42 *e*pPKPdf pPKPdf 22 56 27.4 +3.1
SMDO Samad 130.90 76 ⇑PKPdf **PKPdf** **22 55 57.3 -0.5**
SNR=8.6
GEYT Alibeck 131.08 57 PKhKP PKPpre 22 55 48.5
comp=Z,1.0nm,0.8s,baz=294,slow=4.7,SNR=3.6
GEYT PKP **PKiKP** **22 55 58.6 +0.1**
comp=Z,4.1nm,0.8s,baz=259,slow=3.0,SNR=11
GEYT PP **PP** **22 58 15.0 -1.1**
comp=Z,22nm,1.1s,baz=270,slow=7.4,SNR=10
AS12 Alice Springs 131.20 208 *e*PKPpre PKPpre 22 55 39.0
AS12 *e*PKPdf **PKPdf** **22 55 58.2 -0.2**
AS12 *e*pPKPdf pPKPdf 22 56 27.7 +0.3
AS12 *e*PP **PP** **22 58 13.8 -1.9**
AS12 *e*SKPbc **SKPbc** **22 59 12.2 -1.4**
ASAR Alice Springs 131.20 208 PKhKP PKPpre 22 55 39.0
comp=Z,0.3nm,0.5s,baz=139,slow=2.5,SNR=5.3
ASAR PKP **PKPdf** **22 55 58.2 -0.2**
comp=Z,17nm,0.9s,baz=144,slow=2.3,SNR=57
ASAR pPKP pPKPdf 22 56 27.7 +0.3
comp=Z,23nm,1.0s,baz=151,slow=2.5,SNR=9.5
ASAR PP **PP** **22 58 13.8 -1.9**
comp=Z,6.5nm,1.1s,baz=150,slow=5.8,SNR=5.4
ASAR SKPbc **SKPbc** **22 59 12.2 -1.4**
comp=Z,12nm,1.0s,baz=145,slow=4.2,SNR=6.9
PEA2 Petropavlovsk- 131.25 324 *e*PKPdf **PKPdf** **22 55 57.5 +0.1**
PETK Petropavlovsk- 131.25 324 PKP **PKPdf** **22 55 57.5 +0.1**
comp=Z,13nm,1.0s,baz=91,slow=7.6,SNR=6.4
PMG Port Moresby 133.93 234 ⇑*i*PKIKP **PKPdf** **22 56 04.9 +1.3**
PMG pmax pmax
comp=Z,35nm,1.2s
WRA Warramunga Arr 134.20 211 PKhKP PKPpre 22 55 47.1
comp=Z,2.1nm,0.9s,baz=141,slow=3.2,SNR=11
WRA PKP **PKPdf** **22 56 03.7 -0.4**
comp=Z,11nm,0.6s,baz=140,slow=1.6,SNR=61
WRA pPKP pPKPdf 22 56 33.0 -0.1
comp=Z,15nm,1.0s,baz=139,slow=1.4,SNR=5.0
WRA SKPbc **SKPbc** **22 59 24.0 0.0**
comp=Z,25nm,1.0s,baz=144,slow=2.8,SNR=12
WRAB Tennant Creek 134.20 211 *d i*PKIKP **PKPdf** **22 56 04.0 -0.1**
WRAB Tennant Creek 134.20 211 *e*PKPdf PKPpre 22 55 59.2
WRAB *e*SKPbc **SKPbc** **22 59 24.4 +0.4**
BVAR Borovoye Array 134.60 33 PKhKP PKPpre 22 55 56.6
comp=Z,0.7nm,0.6s,baz=267,slow=3.0,SNR=5.0
BVAR PKP **PKPdf** **22 56 04.1 +0.3**
comp=Z,5.7nm,0.7s,baz=274,slow=2.5,SNR=28
BVAR SKKPbc SKKPbc 23 08 33.6 -1.8
comp=Z,2.5nm,1.0s,baz=160,slow=4.6,SNR=4.8
YAK Yakutsk 136.00 347 *e*PKIKP PKPdf 22 56 15.1 +9.1
YAK pmax pmax
comp=Z,205nm,16.7s
NVS Novosibirsk 139.34 24 *e*PKHKP PKPpre 22 56 04.0
NVS pmax pmax
comp=Z,22nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.4s
KURK Kurchatov 140.11 32 *e*PKIKP **PKPdf** **22 56 15.2 +1.3**
KURK Kurchatov 140.11 32 *e*PP PP 22 59 14.9 +2.9
KURK SKKPbc SKKPbc 23 08 12.9 -1.2
KURBB Kurchatov Arra 140.12 32 PP PP 22 59 09.2 -2.8
comp=E,3.9nm,1.0s,baz=311,slow=6.7,SNR=6.6
KURBB SKKPbc SKKPbc 23 08 12.9 -1.2
comp=E,0.6nm,0.7s,baz=116,slow=2.2,SNR=4.1
KBL Kabul 140.30 60 *e*PKHKP PKPpre 22 56 03.4
KBL *e* 22 59 11.5
KBL Kabul 140.30 60 *e*PKPpre PKPpre 22 56 03.4
KBL *e*PP **PP** **22 59 11.5 -2.9**
ZAA1 Zalesovo Array 140.62 24 *e*PKPpre PKPpre 22 56 08.4
ZAA1 *e*SKPbc **SKPbc** **22 59 41.7 +0.1**
ZALV Zalesovo Beam 140.62 24 PKhKP PKPpre 22 56 08.4
comp=E,11nm,0.6s,baz=294,slow=3.0,SNR=33
ZALV SKPbc **SKPbc** **22 59 41.7 +0.1**
comp=E,38nm,1.1s,baz=291,slow=4.6,SNR=8.3
FRU Bishkek 141.94 45 *e*PKIKP **PKPdf** **22 56 16.0 -1.6**
FRU *e* 22 59 23.0
AAK Ala-Archa 141.94 45 *ce*PKIKP PKPpre 22 56 14.7
AAK Ala-Archa 141.94 45 PKP **PKPdf** **22 56 16.6 -1.2**
baz=177,slow=3.2
BOD Bodaibo 142.13 357 *e*PKHKP PKPpre 22 56 11.3
BOD pmax pmax
comp=Z,19nm,0.7s
TKM2 Tokmak 2 142.55 44 *e*PKIKP **PKPdf** **22 56 17.7 -1.2**
TKM2 Tokmak 2 142.55 44 *e*PKPdf **PKPdf** **22 56 17.6 -1.2**
YSS Yuzh-Sakhalins 142.65 323 *e*PKIKP **PKPdf** **22 56 16.0 -2.6**
JAY Jayapura 143.23 236 PKP PKPab 22 56 17.0 +0.4
GENI Genyem 143.60 235 PKP PKPbc 22 56 18.7 -0.3
GENI Genyem 143.60 235 PKP **PKPdf** **22 56 20.4 -0.9**
KSH Kashi 144.22 49 PKP PKPbc 22 56 20.4 +0.1
KSH pPKP pPKPdf 22 56 47.9 -3.0
KSH sPKP 22 56 59.7
KSH PP **PP** **22 59 39.1 +1.4**
KSH PKS **PKSdf** **22 59 56.3 -1.2**
KSH SKS **SKSdf** **23 03 20.6 -1.2**
KSH SKKS **SKKSac** **23 06 18.8 -1.6**
KSH SS **SS** **23 18 12.7 -2.2**
KSH PPMZ
comp=Z,430nm,4.9s
KSH LN
comp=Z,98nm,5.7s
KSH LE
comp=Z,130nm,5.5s
KSH LZ
comp=Z,190nm,11.3s
ASAJ Asahikawa 144.31 320 SKPbc **SKPbc** **22 59 51.3 +0.2**
comp=Z,22nm,1.1s,baz=258,slow=9.6,SNR=3.6
MK32 Makanchi Array 144.46 35 *e*PKPdf PKPbc 22 56 20.6 0.0
MK32 *e*SKPbc **SKPbc** **22 59 49.9 -1.5**
MKAR Makanchi Array 144.46 35 PKP PKPbc 22 56 20.6 0.0
comp=Z,17nm,0.5s,baz=325,slow=4.3,SNR=170
MKAR SKPbc **SKPbc** **22 59 49.9 -1.5**
comp=Z,5.2nm,0.8s,baz=305,slow=4.3,SNR=4.4
MKAR PKKP **PKKPdf** **23 05 29.3 -1.8**
comp=Z,0.5nm,0.4s,baz=120,slow=8.0,SNR=12
MKAR SKKPbc SKKPab 23 07 39.5 -15
comp=Z,1.2nm,0.8s,baz=120,slow=7.6,SNR=6.7
ERM Erimo 145.03 316 *de*PKIKP **PKPdf** **22 56 22.9 0.0**
SMPI Sarmi 145.10 234 PKP **PKPdf** **22 56 24.2 +0.3**
SMPI Sarmi 145.10 234 PKP **PKPdf** **22 56 24.3 +0.3**
COCO West Island 145.16 155 *i* PKP2 **PKPdf** **22 56 26.5 +2.5**
TRD Trivandrum 145.22 104 ⇓*ex* **PKiKP** **22 56 30.9 +2.9**
HABR Khabarovsk 145.56 331 *de*PKP2 **PKPdf** **22 56 23.3 -0.3**
HABR *e* 22 59 44.7
HABR *e*PPP PPP 23 02 59.0
HABR *e* 23 02 21.3
HABR *e* 23 12 28.6
HABR *e*SS SS 23 18 29.9 +1.4
HABR *e*SSS SSS 23 23 59.2
HABR pmax pmax
comp=E,46nm,2.2s
HABR pmax pmax
comp=N,54nm,2.2s
HABR pmax pmax
comp=Z,203nm,2.2s
SAUI Saumlaki 145.76 218 PKP **PKPdf** **22 56 25.1 0.0**
SAUI Saumlaki 145.76 218 *e*PKPdf **PKPab** **22 56 27.4 +1.3**
SAUI Saumlaki 145.76 218 PKP **PKPab** **22 56 28.9 +2.8**
HVS Khovu-Aksy 146.05 20 *de*PKIKP **PKPdf** **22 56 24.1 -0.5**
DLH Dalhousie 146.37 61 *e*P **PKPbc** **22 56 27.0 -0.3**
DLH *ex* x 22 56 57.0
KLR Kul'dur 146.38 335 *e*PKHKP PKPpre 22 56 21.8
KLR pmax pmax
comp=Z,38nm,1.2s
BHK Bhakra 146.99 63 *ex* **PKiKP** **22 56 33.2 +2.0**
KHET Khetri 146.99 69 *e*P **PKPdf** **22 56 24.8 -1.9**
SRPI Serui, Papua 147.04 232 PKP **PKPbc** **22 56 29.5 +0.1**
IRK Irkutsk 147.37 8 *e*PKIKP **PKPdf** **22 56 27.7 +1.1**
IRK pmax pmax
comp=Z,88nm,0.7s
MOY Mondy 147.41 12 *e*PKP2 **PKPbc** **22 56 28.2 -1.3**
MOY pmax pmax
comp=Z,74nm,2.5s
BATI Baumata 147.51 204 PKP **PKPbc** **22 56 30.5 -0.2**
URV Uravakonda 147.51 93 *e*PKPdf **PKPdf** **22 56 26.6 -1.3**
URV *e*PKPbc **PKPbc** **22 56 29.3 -1.3**
URV *e*PKPab **PKiKP** **22 56 31.2 -1.6**
URV *ep*PKiKP **pPKiKP** **22 56 59.1 -2.6**
URV *e*PP **PP** **22 59 54.6 -3.3**
URV *e* 23 06 34.9
URV *e*SS SS 23 18 52.5 -1.3
LATR Latur 147.51 87 *e*P SKKSac 23 06 31.0 -8.6
KUDL Kundal 147.58 69 *e*P **PKPdf** **22 56 27.4 -0.3**
KUDL *ex* x 22 56 57.8
KUDL *ex* x 22 57 02.1
KKR Kurukshetra 147.60 65 *e*P **PKPdf** **22 56 28.2 +0.5**
SMLA Simla 147.67 63 *i* P **PKPdf** **22 56 27.2 -0.6**
SOEI Soe 147.69 205 PKP **PKPbc** **22 56 32.2 +0.9**
TLY Talaya 147.83 9 PKPbc **PKPbc** **22 56 30.8 +0.4**
baz=184,slow=3.1
TLY Talaya 147.83 9 *ep*PKPdf pPKPdf 22 56 50.4 -6.1
CIT Chita 147.94 357 *e*PKIKP **PKPdf** **22 56 29.1 +1.5**
CIT pmax pmax
comp=Z,145nm,1.4s
PALK Pallekele 148.08 109 *i* PKP2 **PKPbc** **22 56 33.5 +1.2**
PALK Pallekele 148.08 109 PKPbc **PKPbc** **22 56 31.1 -1.2**
comp=Z,21nm,0.8s,baz=263,slow=3.9,SNR=15
NDI New Delhi 148.15 68 *e*P **PKPdf** **22 56 30.0 +1.4**
NDI *ex* x 22 57 02.5
BASI Baing, Sumba 148.54 198 PKP **PKPbc** **22 56 34.7 +1.3**
ASOR Ausora 148.62 67 *ex* PKPdf 22 56 22.2 -7.1
AGRA Agra 148.97 70 *e*P **PKPdf** **22 56 28.3 -1.7**
ZAK Zakamensk 149.04 10 *e*PKIKP **PKPdf** **22 56 30.6 +1.0**
ZAK pmax pmax
comp=Z,30nm,1.3s
ZAK pmax pmax
comp=Z,42nm,1.3s
FAKI Fak Fak 149.10 225 PKP **PKPbc** **22 56 34.4 -0.5**
FAKI Fak Fak 149.10 225 PKP **PKPbc** **22 56 35.6 +0.7**
HYB Hyderabad 149.23 89 *i* PKP **PKPdf** **22 56 30.5 -0.2**
HYB *e* 22 56 35.0
HYB *e*PKPAB **PKPab** **22 56 40.0 +0.1**
HYB *e* 22 57 04.0
HYB *e* 22 57 23.0
HYB *e*SKKS 23 06 48.0
HYBB Hyderabad (bro 149.23 89 *e*PKPdf **PKPdf** **22 56 30.0 -0.7**
HYBB *e*PKiKP **PKiKP** **22 56 35.7 -0.5**
HYBB *e*PP **PP** **23 00 05.6 -2.4**
HYBB *e*SS SS 23 19 08.2 -4.8
WMQ Urumqi 149.29 34 *e*PKPbc **PKPdf** **22 56 29.9 -0.2**
WMQ PKPab **PKPab** **22 56 39.2 -0.2**
WMQ sPKP 22 57 07.0
WMQ SKS **SKSdf** **23 03 26.0 -2.6**
WMQ SKKS **SKKSac** **23 06 53.0 +4.6**
WMQ PPMZ
comp=Z,190nm,3.7s
WMQ LN
comp=Z,700nm,33.5s
WMQ LE
comp=Z,670nm,33.5s
WMQ LZ
comp=Z,780nm,35.2s
XMIS Christmas Isla 149.30 170 *e*PKPdf **PKPdf** **22 56 32.1 +1.2**
XMIS *ep*PKPab **pPKPab** **22 57 08.6 +0.4**
KALG Kalgarh 149.34 66 *e*P **PKPdf** **22 56 30.9 +0.4**
KALG *ex* x 22 57 12.2
SKHT Srikalahasti 149.50 97 *e*PKPdf **PKPdf** **22 56 30.5 -0.7**
SKHT *e*PKiKP **PKiKP** **22 56 36.8 0.0**
SKHT *ep*PKPdf **pPKPdf** **22 56 55.9 -4.3**
SKHT *es*PKPdf **sPKPdf** **22 57 06.0 -5.2**
SKHT *es*PKPbc **sPKPbc** **22 57 10.0 -5.6**
SKHT *e*PP **PP** **23 00 07.5 -1.9**
SKHT *e* 23 04 49.1
SKHT ⇓*e*SS **SS** **23 19 17.9 +2.0**
EDFI Ende, Flores 149.57 201 PKP **PKPdf** **22 56 30.8 -0.7**
NJS Nagarjunasagar 149.78 91 *e*PKPdf **PKPdf** **22 56 31.7 +0.1**
NJS *e*PKiKP **PKPbc** **22 56 36.6 +0.2**
NJS *ep*PKPdf **pPKPdf** **22 56 56.4 -4.2**
NJS *es*PKPdf **sPKPdf** **22 57 06.3 -5.3**
NJS *e*PP **PP** **23 00 08.1 -3.0**
NJS *e* 23 06 45.1
NJS *e*SS **SS** **23 19 16.9 -2.2**
JOSI Joshimath 149.81 63 *ex* **pPKPdf** **22 56 57.1 -3.5**
JOSI *ex* x 22 57 24.1
JOSI *ex* x 22 57 24.4
NGP Nagpur 150.13 82 *ex* **PKiKP** **22 56 38.1 +0.2**
NGP *ex* x 22 57 07.6
NGP *ex* x 22 57 09.6
comp=E,40nm,0.8s
RPR Rampur 150.14 87 *e*PKPdf **PKPdf** **22 56 29.9 -2.2**
RPR *e*PKiKP **PKiKP** **22 56 37.7 -0.3**
RPR *ep*PKPdf **pPKPdf** **22 56 56.0 -5.2**
RPR *ep*PKPab **pPKPab** **22 57 07.9 -3.7**
RPR *e*PP **PP** **23 00 14.1 +0.9**
RPR *e* 23 06 46.5
RPR *e*SS SS 23 19 19.6 -3.5
USRK Ussuriysk Ar. 150.14 329 PKP **PKPdf** **22 56 32.1 +0.8**
comp=E,11nm,1.1s,baz=31,slow=0.8,SNR=7.9
USRK PKPbc **PKiKP** **22 56 37.1 -0.2**
comp=E,55nm,0.8s,baz=202,slow=2.1,SNR=8.0
USRK PKPbc **pPKPbc** **22 57 05.7 +0.3**
comp=E,53nm,0.8s,baz=1.8,slow=1.4,SNR=8.2
ADKI Addanki 150.26 93 *e*PKPdf **PKPdf** **22 56 32.2 -0.1**
ADKI *e*PKiKP **PKPbc** **22 56 37.8 +0.3**
ADKI *ep*PKPdf **pPKPdf** **22 56 56.9 -4.4**

ADKI				*es*PKPdf	**sPKPdf**	22 57 07.2	-5.1
ADKI				*e*PP	**PP**	23 00 12.3	-1.5
ADKI				*e*SKKS	**SKKSac**	23 06 50.3	-4.7
ADKI				*e*PKKS		23 07 45.8	
ADKI				*e*PPP	PPP	23 10 19.1	
ADKI				*e*SPP	SPP	23 12 38.1	
ADKI				*e*PPS	PPS	23 12 58.3	
ADKI				*e*SS	**SS**	23 19 21.8	-2.6
LGTI	**Lohaghat**	**150.62**	**65**	*ex*	**PKiKP**	22 56 40.1	+1.4
LGTI				*ex*	x	22 57 11.8	
MDJ	**Mudanjiang**	**150.94**	**332**	PKPbc	**PKPdf**	22 56 32.9	+0.3
MDJ				PP	**PP**	23 00 18.9	+2.9
MDJ				SS	SS	23 19 31.2	+2.4
MDJ				PPMZ			
	comp=E,120nm,12.2s						
MDJ				LN			
	comp=E,200nm,31.5s						
MDJ				LE			
	comp=E,170nm,25.3s						
MDJ				LZ			
	comp=E,280nm,26.6s						
MDJ	**Mudanjiang**	**150.94**	**332**	*ep*PKPdf	pPKPdf	22 57 07.7	+6.0
MJAR	**Matsushiro Arr**	**151.00**	**310**	PKP	**PKPdf**	**22 56 34.6**	**+1.7**
	comp=E,27nm,1.0s,baz=107,slow=1.1,SNR=24						
MJAR				PKPbc	**PKPbc**	**22 56 38.8**	**0.0**
	comp=E,44nm,0.9s,baz=94,slow=1.4,SNR=96						
MJAR				pPKPbc	**pPKPbc**	**22 57 08.5**	**+0.8**
	comp=E,35nm,0.9s,baz=98,slow=0.8,SNR=5.8						
MAJO	**Matsushiro**	**151.00**	**310**	*e*PKIKP	**PKPdf**	**22 56 34.6**	**+1.7**
MAJO				*e*		22 57 08.5	
MAJO	**Matsushiro**	**151.00**	**310**	*e*PKPdf	**PKPdf**	**22 56 34.6**	**+1.7**
MAJO				*e*PKPbc	**PKPbc**	**22 56 38.8**	**-0.1**
MAJO				*ep*PKPdf	**pPKPdf**	**22 57 08.5**	**+6.5**
MAT	**Matsushiro**	**151.00**	**310**	PKP	**PKPbc**	**22 56 38.8**	**0.0**
IGBI	**Denpasar**	**151.10**	**189**	PKP	**PKPbc**	**22 56 40.8**	**+1.2**
IGBI	**Denpasar**	**151.10**	**189**	PKP	**PKPbc**	**22 56 41.9**	**+2.3**
SRBI	**Singaraja**	**151.81**	**189**	PKP	**PKPbc**	**22 56 41.5**	**+0.3**
SRBI	**Singaraja**	**151.81**	**189**	PKP	**PKPbc**	**22 56 41.6**	**+0.3**
SONA0	**Songino Array**	**151.95**	**7**	*e*PKPdf	**PKPdf**	**22 56 35.2**	**+1.0**
SONA0				*e*PKPbc	**PKPbc**	**22 56 40.8**	**+0.1**
SONM	**Songino Array**	**151.95**	**7**	PKP	**PKPdf**	**22 56 35.2**	**+1.0**
	comp=E,6.7nm,0.8s,baz=313,slow=0.8,SNR=54						
SONM				PKPbc	**PKPbc**	**22 56 40.8**	**+0.1**
	comp=E,16nm,0.4s,baz=332,slow=1.3,SNR=96						
ULN	**Ulaanbaatar**	**151.99**	**6**	*e*PKIKP	**PKPdf**	**22 56 35.0**	**+0.7**
ULN	**Ulaanbaatar** SNR=19	**151.99**	**6**	⇓PKPdf	**PKPdf**	**22 56 35.1**	**+0.7**
ULN	**Ulaanbaatar**	**151.99**	**6**	*e*PKPdf	**PKPdf**	**22 56 35.0**	**+0.7**
NLAI	**Namlea**	**152.01**	**216**	PKP	**PKPbc**	**22 56 42.5**	**+0.8**
ABJI	**Asem Bagus**	**152.22**	**187**	PKP	**PKPbc**	**22 56 43.4**	**+1.2**
BLJI	**Banyuglugur**	**152.34**	**186**	PKP	**PKPbc**	**22 56 44.6**	**+2.1**
BSSI	**Bau Bau, Buton**	**152.41**	**201**	PKP	**PKPbc**	**22 56 46.9**	**+4.3**
CISI	**Cisompet, Garu**	**152.48**	**173**	*ep*PKPdf	pPKPdf	22 57 09.3	+4.4
CNJI	**Cibinong**	**152.64**	**172**	PKP	**PKPbc**	**22 56 45.0**	**+1.9**
CGJI	**Cibinong**	**153.09**	**168**	PKP	**PKPbc**	**22 56 44.2**	**+0.1**
LEM	**Lembang**	**153.18**	**173**	PKP	**PKPdf**	**22 56 37.9**	**+0.8**
	comp=E,9.7nm,0.4s,baz=172,slow=15,SNR=5.1						
LEM				PKPbc	**PKiKP**	**22 56 45.8**	**+1.2**
	comp=E,96nm,0.8s,baz=43,slow=2.7,SNR=19						
GRJI	**Gresik**	**153.25**	**183**	PKP	**PKPbc**	**22 56 46.5**	**+2.0**
PYUN	**Piuthan**	**153.25**	**67**	*e*P	**PKPdf**	**22 56 37.0**	**+0.2**
BKSI	**Bulukumba**	**153.30**	**201**	PKP	**PKPdf**	**22 56 37.8**	**+0.8**
BKSI	**Bulukumba**	**153.30**	**201**	PKP	**PKPbc**	**22 56 41.3**	**-3.3**
SANI	**Sanana**	**153.61**	**216**	PKP	**PKPbc**	**22 56 43.9**	**-1.4**
KAPI	**Kappang**	**153.71**	**200**	*e*PKPbc	**PKPbc**	**22 56 46.5**	**+1.0**
KOLN	**Koldanda**	**153.85**	**67**	*e*P	**PKPdf**	**22 56 37.5**	**-0.2**
DANN	**Dangsing**	**153.87**	**66**	*e*P	**PKPdf**	**22 56 38.2**	**+0.4**
BNSI	**Bone**	**154.17**	**201**	PKP	**PKPbc**	**22 56 45.4**	**-1.1**
CHLP	**Challavanipeta**	**154.57**	**89**	*e*PKPdf	**PKPdf**	**22 56 37.8**	**-0.8**
CHLP				*ep*PKPdf	**PKPab**	**22 57 03.5**	**+1.3**
CHLP				*es*PKPdf	**sPKPdf**	**22 57 13.6**	**-5.1**
CHLP				*e*PP	**PP**	**23 00 40.0**	**+1.7**
CHLP				*e*		23 01 10.2	
CHLP				*e*SS	**SS**	**23 20 12.7**	**+0.9**
SPSI	**Sidrap Palu**	**154.69**	**201**	PKP	**PKPbc**	**22 56 49.5**	**+1.9**
GKN	**Gorkha**	**154.70**	**67**	*e*P	**PKPdf**	**22 56 38.6**	**-0.2**
LHSI	**Lahat**	**155.25**	**162**	PKP	**PKPdf**	**22 56 40.1**	**+0.3**
KKN	**Kakani**	**155.30**	**67**	*e*P	**PKPdf**	**22 56 39.8**	**+0.1**
PKIN	**Phulchoki**	**155.45**	**67**	*e*P	**PKPdf**	**22 56 39.6**	**-0.4**
PKI	**Pulchoki**	**155.46**	**67**	*e*P	**PKPdf**	**22 56 39.5**	**-0.6**
TTSI	**Tana Toraja**	**155.53**	**202**	PKP	**PKPab**	**22 57 02.3**	**-3.8**
GUN	**Gumba**	**155.79**	**66**	*e*P	**PKPdf**	**22 56 40.1**	**-0.4**
LUWI	**Luwuk**	**156.12**	**210**	PKP	**PKPdf**	**22 56 42.8**	**+1.9**
KBKI	**Kotabaru**	**156.32**	**193**	PKP	**PKPab**	**22 57 10.7**	**+1.2**
RAMN	**Ramite**	**156.63**	**68**	*e*P	**PKPdf**	**22 56 41.6**	**+0.1**
APSI	**Ampana**	**156.75**	**208**	PKP	PKPab	22 57 19.8	+8.4
KMSI	**Cibinong**	**156.89**	**215**	PKP	**PKPab**	**22 57 15.4**	**+3.4**
KSRS	**Korea Array**	**157.15**	**323**	PKIKP	**PKPdf**	**22 56 41.8**	**+0.3**
KSRS				pmax	pmax		
	comp=Z,11nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**157.15**	**323**	PKP	**PKPdf**	**22 56 41.8**	**+0.3**
	comp=Z,10nm,1.0s,baz=41,slow=0.9,SNR=41						
KSRS				PKPab	**PKPab**	**22 57 12.1**	**-0.5**
	comp=Z,16nm,1.0s,baz=56,slow=2.6,SNR=12						
KS15	**Wonju Array Si**	**157.18**	**323**	*e*PKPdf	**PKPdf**	**22 56 41.8**	**+0.3**
KS15				*e*PKPab	**PKPab**	**22 57 12.1**	**-0.7**
KSAR	**Wonju Array Be**	**157.18**	**323**	PKIKP	**PKPdf**	**22 56 41.8**	**+0.3**
KSAR	**Wonju Array Be**	**157.18**	**323**	PKP	**PKPdf**	**22 56 41.8**	**+0.3**
KSAR				PKPab	**PKPab**	**22 57 12.1**	**-0.7**
ODAN	**Odare**	**157.34**	**68**	*e*P	**PKPdf**	**22 56 42.3**	**-0.1**
GTOI	**Gorontalo**	**157.45**	**213**	PKP	PKPab	22 57 21.4	+6.9
TAPN	**Taplejung**	**157.50**	**67**	*e*P	**PKPdf**	**22 56 42.8**	**+0.1**
GTA	**Gaotai**	**158.38**	**24**	PKP	**PKPdf**	**22 56 43.8**	**+0.6**
GTA				pPKP	**pPKPdf**	**22 57 13.5**	**+1.2**
GTA				PKPab	**PKPab**	**22 57 20.4**	**+2.4**
GTA				sPKP		22 57 25.0	
GTA				PP	**PP**	**23 01 02.3**	**+4.7**
GTA				SKS	**SKSdf**	**23 03 37.9**	**-1.5**
GTA				SKKS	**SKKSac**	**23 07 39.5**	**+1.9**
GTA				SS	**SS**	**23 20 52.2**	**+2.8**
GTA				PPMZ			
	comp=Z,190nm,8.1s						
GTA				LN			
	comp=Z,200nm,21.4s						
GTA				LE			
	comp=Z,190nm,22.3s						
GTA				LZ			
	comp=Z,310nm,19.5s						
MPSI	**Mapaga**	**158.62**	**205**	PKP	**PKPab**	**22 57 19.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**159.18**	**359**	*e*PKP	**PKPdf**	**22 56 44.3**	**+0.3**
HHC				PKS	**PKSdf**	**23 00 16.5**	**-1.1**
HHC				PP	**PP**	**23 01 05.5**	**+3.9**
HHC				SKS	**SKSdf**	**23 03 38.3**	**-1.8**
HHC				SKKS	**SKKSac**	**23 07 42.4**	**+0.9**
HHC				SS	**SS**	**23 21 00.2**	**+3.0**
HHC				PPMZ			
	comp=Z,88nm,5.5s						
BJI	**Beijing**	**159.50**	**348**	PKP	**PKPdf**	**22 56 45.0**	**+0.8**
BJI				pPKP	**pPKPdf**	**22 57 14.7**	**+1.3**
BJI				sPKP		22 57 23.8	
BJI				PP	**PP**	**23 01 05.2**	**+2.0**
BJI				PPMZ			
	comp=Z,220nm,5.3s						
LSA	**Lhasa**	**159.61**	**58**	*e*PKP2	PKPab	22 57 16.7	-7.5
LSA				*e*		23 01 07.0	
LSA	**Lhasa**	**159.61**	**58**	*ep*PKPdf	PKPab	22 57 16.7	-7.5
LSA				*e*PP	**PP**	**23 01 07.0**	**+0.9**
MYKOM	**Kota Tinggi**	**160.65**	**158**	*e*PKPab	**PKPab**	**22 57 29.3**	**+1.0**
SHL	**Shillong**	**161.56**	**69**	*e*P	**PKPdf**	**22 56 47.5**	**+0.3**
KSM	**Kuching**	**161.61**	**178**	*e*PKPdf	**PKPdf**	**22 56 48.1**	**+0.8**
KSM				*e*PKPab	**PKPab**	**22 57 28.2**	**-4.2**
KULM	**Kulim**	**162.30**	**144**	*ep*PKPdf	**pPKPdf**	**22 57 17.9**	**+0.6**
KULM				*e*PKPab	**PKPab**	**22 57 35.2**	**-0.4**
SBUM	**Sibu**	**162.55**	**184**	*e*PKPdf	**PKPdf**	**22 56 49.2**	**+0.8**
SBUM				*e*PKPab	**PKPab**	**22 57 38.2**	**+1.6**
LZH	**Lanzhou**	**162.77**	**20**	*e*PKP	**PKPdf**	**22 56 49.8**	**+1.7**
LZH				pPKP	**pPKPdf**	**22 57 15.0**	**-2.3**
LZH				sPKP		22 57 25.2	
LZH				PKPab	**PKPab**	**22 57 38.8**	**+1.5**
LZH				PKS	**PKSdf**	**23 00 23.2**	**+1.8**
LZH				PP	**PP**	**23 01 24.2**	**+3.0**
LZH				SKS	**SKSdf**	**23 03 45.7**	**+2.3**
LZH				SKKS	**SKKSac**	**23 08 01.0**	**+0.6**
LZH				PPMZ			
	comp=Z,200nm,4.9s						
LZH				LN			
	comp=Z,370nm,19.7s						
LZH				LE			
	comp=Z,330nm,17.0s						
LZH				LZ			
	comp=Z,480nm,21.0s						
TIA	**Tai'an**	**162.93**	**343**	⇑PKP	**PKPdf**	**22 56 49.1**	**+1.1**
XAN	**Xi'an**	**165.87**	**7**	PKP	**PKPdf**	**22 56 51.5**	**+0.7**
XAN				pPKP	**pPKPdf**	**22 57 19.2**	**-0.8**
XAN				sPKP		22 57 29.5	
XAN				PKS	**PKSdf**	**23 00 23.5**	**-0.1**
XAN				SKS	**SKSdf**	**23 03 44.5**	**-1.0**
XAN				PPMZ			
	comp=Z,55nm,12.3s						
CD2	**Chengdu**	**167.32**	**29**	PKP	**PKPdf**	**22 56 52.6**	**+0.6**
CD2				pPKP	**pPKPdf**	**22 57 22.8**	**+1.6**
CD2				sPKP		22 57 34.7	
CD2				PKS	**PKSdf**	**23 00 23.9**	**-0.8**
CD2				PP	**PP**	**23 01 48.4**	**+3.4**
CD2				SKS	**SKSdf**	**23 03 43.6**	**-2.9**
CD2				SKKS	**SKKSac**	**23 08 22.8**	**-0.5**
CD2				SS	**SS**	**23 22 21.7**	**-0.3**
CD2				PPMZ			
	comp=Z,280nm,6.2s						
CD2				LN			
	comp=Z,580nm,33.3s						
CD2				LE			
	comp=Z,450nm,29.4s						
CD2				LZ			
	comp=Z,590nm,27.4s						
MHMT	**Maesarieng**	**167.56**	**96**	P	**PKPdf**	**22 56 53.4**	**+1.0**
CM31	**Chiang Mai Arr**	**168.56**	**96**	*e*PKPdf	**PKPdf**	**22 56 53.0**	**-0.1**
CM31				*ep*PKPdf	**pPKPdf**	**22 57 23.6**	**+1.2**
CM31				*e*PKPab	**PKPab**	**22 58 03.6**	**+0.3**
CM31				*e*PP	PP	23 01 58.5	+5.4
CMAR	**Chiang Mai Arr**	**168.56**	**96**	PKP	**PKPdf**	**22 56 53.0**	**-0.1**
	comp=Z,7.0nm,1.0s,baz=271,slow=1.8,SNR=32						
CMAR				pPKP	**pPKPdf**	**22 57 23.6**	**+1.2**
	comp=Z,4.5nm,1.0s,baz=264,slow=2.0,SNR=3.2						
CMAR				PKPab	**PKPab**	**22 58 03.6**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=258,slow=6.1,SNR=12						
CMAR				PP	PP	23 01 58.5	+5.4
	comp=Z,1.4nm,0.3s,baz=254,slow=5.9,SNR=5.6						
CHTO	**Chiang Mai**	**168.61**	**94**	*e*PKP2	**PKPab**	**22 58 04.8**	**+1.3**
CHTO				*e*		23 01 50.6	
CHTO	**Chiang Mai**	**168.61**	**94**	*e*PKPab	**PKPab**	**22 58 04.8**	**+1.3**
CHTO				*ep*PKPab	**pPKPab**	**22 58 34.5**	**+3.0**
CHTO				*e*PP	**PP**	**23 01 50.6**	**-2.7**
CHTO	**Chiang Mai**	**168.61**	**94**	P	**PKPdf**	**22 56 53.2**	**+0.1**
	comp=Z,44nm,1.4s						
CMMT	**Chiang Mai**	**168.61**	**94**	P	**PKPdf**	**22 56 53.2**	**0.0**
	comp=Z,14nm,1.2s,comp=Z,397nm						
WHN	**Wuhan**	**169.03**	**344**	PKP	**PKPdf**	**22 56 54.1**	**+1.1**
WHN				LZ			
	comp=Z,1μm,28.3s						
CHBT	**CHBT**	**169.05**	**130**	P	**PKPdf**	**22 56 55.0**	**+1.5**
	comp=Z,14nm,1.2s						
LAMP	**Lampang**	**169.21**	**96**	P	**PKPdf**	**22 56 54.5**	**+1.0**
	comp=Z,4.8nm,1.1s,comp=Z,71nm						
ENH	**Enshi**	**169.65**	**7**	*e*PKPdf	**PKPdf**	**22 56 54.3**	**+0.8**
UTTA	**Uttaradit**	**169.91**	**101**	P	**PKPdf**	**22 56 54.3**	**+0.4**
	comp=Z,3.3nm,1.2s,comp=Z,51nm						
PBKT	**Sadao Pong**	**169.94**	**108**	P	**PKPdf**	**22 56 53.9**	**0.0**
	comp=Z,18nm,1.1s,comp=Z,819nm						
SSLB	**Suanglung**	**169.97**	**294**	*ep*PKPdf	pPKPdf	22 57 25.1	+2.0
KMI	**Kunming**	**170.84**	**54**	PKP	**PKPdf**	**22 56 54.4**	**-0.2**
GYA	**Guiyang**	**172.43**	**31**	PKP	**PKPdf**	**22 56 52.8**	**-2.4**
GYA				pPKP	**pPKPdf**	**22 57 23.0**	**-1.4**
GYA				PKPab	**PKPab**	**22 58 19.4**	**-0.7**
GYA				PKS	**PKSdf**	**23 00 24.2**	**-3.5**
GYA				PP	**PP**	**23 02 11.6**	**+0.8**
GYA				SKKS		23 08 45.5	
GYA				SS	**SS**	**23 23 09.8**	**-3.1**
GYA				PPMZ			
	comp=Z,160nm,7.9s						
GYA				LN			
	comp=Z,230nm,23.5s						
GYA				LE			
	comp=Z,170nm,24.0s						
GYA				LZ			
	comp=Z,190nm,23.2s						
QIZ	**Qiongzhong**	**178.60**	**131**	PKP	**PKPdf**	**22 56 57.4**	**+0.6**
QIZ				PP	**PP**	**23 02 40.7**	**-0.1**
QIZ				SS	SS	23 24 12.1	-0.7
QIZ				PPMZ			
	comp=Z,260nm,7.5s						
QIZ	**Qiongzhong**	**178.60**	**131**	*ep*PKPdf	pPKPdf	22 57 27.9	+1.9

NEIC 05 23:02:29.5, 32.62N×115.75W, h2km, ML3.6(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPC	**Ernies Place**	**0.14**	**32**	*e*Pg	Pg	23 02 33.1	+0.8
DREC	**Desert Rsrch C**	**0.32**	**55**	*e*Pg	Pb	23 02 37.0	-1.0
CRR	**Carrizo Plain**	**0.32**	**326**	*e*Pg	Pg	23 02 36.1	+0.4
SWSC	**Sam W. Stewart**	**0.32**	**354**	*e*Pg	Pg	23 02 36.0	+0.3
ERRC	**Elmore Ranch**	**0.50**	**353**	*e*Pg	Pg	23 02 39.8	+0.8
CBKC	**Canebrake**	**0.50**	**304**	*e*Pg	Pg	23 02 40.1	+0.9
CLIC	**Calipatria**	**0.55**	**20**	*e*Pg	Pg	23 02 40.8	+0.7
COA	**Coachella**	**0.58**	**65**	*e*Pg	Pg	23 02 41.4	+0.7
EMSC	**East Mesa**	**0.66**	**80**	*e*Pg	Pg	23 02 42.9	+0.7
BAR	**Barrett**	**0.78**	**275**	*e*Pn	Pg	23 02 44.7	+0.2
BAR				*e*Sg	Sg	23 02 53.8	-0.8
FRK	**Frink**	**0.78**	**7**	*e*Pg	Pg	23 02 43.9	-0.7
BATC	**Bat Cave Butte**	**0.84**	**355**	*e*Pg	Pg	23 02 45.1	-0.5
BORC	**Borrego Spring**	**0.85**	**319**	*e*Pg	Pg	23 02 45.8	-0.1
GLA	**Glamis**	**0.89**	**61**	*e*Pg	Pg	23 02 45.6	-1.1
GLA				*e*Sg	Sg	23 02 57.7	-0.6
EML	**El Monte Cty P**	**0.96**	**287**	*e*Pg	Pg	23 02 47.7	-0.3
LTC	**Little Chuckwa**	**1.04**	**33**	*e*Pg	Pg	23 02 48.7	-0.8
CTW	**Cottonwood Mou**	**1.06**	**355**	*e*Pg	Pg	23 02 48.2	-1.7
DPP	**Dos Picos Cty**	**1.07**	**291**	*e*Pg	Pg	23 02 49.7	-0.4
HWB	**Hans Werner Br**	**1.09**	**292**	*e*Pg	Pg	23 02 50.0	-0.6
HWB				*e*Sg	Sg	23 03 03.8	-1.0
FRD	**Ford Ranch, An**	**1.12**	**321**	*e*Pg	Pg	23 02 49.8	-1.5
PFO	**Pinyon Flats O**	**1.15**	**329**	*e*Sg	Sg	23 03 04.2	-2.6
CPE	**Camp Elliot**	**1.17**	**284**	*e*Pg	Pg	23 02 51.3	-0.7
SNDA	**J Saunders Pla**	**1.18**	**322**	*e*Pg	Pg	23 02 50.7	-1.6
PLM	**Palomar**	**1.18**	**308**	*e*Pg	Pg	23 02 51.2	-1.3
DNR	**Dunn Ranch,Anz**	**1.20**	**322**	*e*Pg	Pg	23 02 51.1	-1.5
CRY	**Cary Ranch**	**1.25**	**319**	*e*Pg	Pg	23 02 51.7	-2.0
BACC	**Bachelor Mtn.**	**1.46**	**313**	*e*Pn	Pn	23 02 57.0	-0.1
BACC				*e*Sn	Sg	23 03 15.4	-1.3
TPC	**Twentynine Pal**	**1.50**	**351**	*e*Pn	Pn	23 02 55.1	-2.6
HMTC	**Hemet**	**1.51**	**316**	*e*Pn	Pn	23 02 55.9	-1.8
PASC	**Pasadena Art C**	**2.55**	**308**	*e*Pn	Pb	23 03 15.4	-0.8
PASC				*e*Sn	Sn	23 03 41.5	-2.3
GSC	**Goldstone, Bar**	**2.81**	**342**	*e*Pn	Pn	23 03 13.6	-2.2
GSC				*e*Sn	Sn	23 03 47.1	-3.3
OSI	**Osito Audit: C**	**3.18**	**310**	*e*Pn	Pn	23 03 21.1	+0.4
OSI				*e*Sn	Sn	23 03 56.0	-3.2
ISA	**Isabella, Lake**	**3.78**	**324**	*e*Pn	Pn	23 03 27.1	-1.9
ISA				*e*Sn	Sn	23 04 10.8	-3.4
SHPR	**Sheep Range**	**3.91**	**7**	*e*Pn	Pn	23 03 29.7	-1.1
SHPR				*e*Sn	Sn	23 04 18.9	+1.5
TUC	**Tucson**	**4.21**	**93**	*e*Pn	Pn	23 03 34.0	-0.9
TUC				*e*Sn	Sn	23 04 19.8	-5.1
TPNV	**Topopah Spring**	**4.34**	**355**	*e*Pn	Pn	23 03 33.8	-3.0
W18A	**Petrified Fore**	**5.59**	**62**	*e*Pn	Pn	23 03 51.4	-2.7
R11A	**Troy Canyon, C**	**5.72**	**1**	*e*Pg	Pg	23 04 19.4	0.0
121A	**Cookes Peak, D** 12nm,0.5s	**6.73**	**89**	*e*Pn	Pn	23 04 08.3	-1.3
LENM	**Lemitar**	**7.50**	**76**	*e*Pn	Pn	23 04 18.4	-1.9

IDC 05 23:04:11.9±2.2, 5.58S×151.89E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/33, mbtmpg3.6/4, ML2.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/18, Error ellipse: s-maj=141.0km s-min=26.9km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.03**	**231**	Pn	Pn	23 05 42.2	-0.3
	1.8nm,0.3s,baz=34,slow=3.6,SNR=4.8						
PMG				Sn	Sn	23 06 48.3	-4.1
	1.8nm,0.3s,baz=6.0,slow=19,SNR=3.3						
WRA	**Warramunga Arr** 1.0nm,1.1s,baz=54,slow=10.0,SNR=7.6	**22.25**	**229**	P	P	23 09 11.1	+0.5
ASAR	**Alice Springs** 1.1nm,0.8s,baz=52,slow=9.4,SNR=6.2	**24.96**	**222**	P	P	23 09 37.2	-0.1
JNU	**Nakatsue** comp=Z,115nm,21.7s,slow=33	**43.35**	**334**	LR	LR	23 28 10.0	
ILAR	**Eielson Array** 0.5nm,0.8s,baz=244,slow=5.2,SNR=4.9	**83.22**	**22**	P	P	23 16 40.3	+0.4
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=78,slow=2.7,SNR=4.3	**149.67**	**286**	PKPbc	PKPbc	23 24 03.9	-0.9

NEIC 05 23:06:32.1, 32.24N×115.31W, h11km, ML3.7(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.57**	**28**	*e*Pg	Pg	23 06 43.2	+0.1
ERPC	**Ernies Place**	**0.58**	**329**	*e*Pg	Pg	23 06 43.8	+0.3
WESC	**Westside Schoo**	**0.63**	**325**	*e*Pg	Pg	23 06 44.3	-0.1
COA	**Coachella**	**0.64**	**14**	*e*Pg	Pg	23 06 44.2	-0.4
YUH	**Yuha Desert**	**0.66**	**308**	*e*Pg	Pg	23 06 44.2	-0.8
CRR	**Carrizo Plain**	**0.85**	**319**	*e*Pg	Pg	23 06 47.4	-1.2
GLA	**Glamis**	**0.90**	**26**	*e*P	Pg	23 06 47.9	-1.7
GLA				*e*S	Sg	23 06 59.8	-1.8
CBKC	**Canebrake**	**1.03**	**310**	*e*Pg	Pb	23 06 50.5	-1.6
FRK	**Frink**	**1.19**	**346**	*e*Pg	Pn	23 06 51.6	-3.1
BAR	**Barrett**	**1.24**	**291**	*e*Pn	Pn	23 06 53.8	-1.6
BAR				*e*Sg	Sb	23 07 09.6	-1.9
LTC	**Little Chuckwa**	**1.26**	**9**	*e*Pg	Pn	23 06 53.5	-2.1
EML	**El Monte Cty P**	**1.45**	**297**	*e*Sn	Sn	23 07 16.5	-0.9
CTW	**Cottonwood Mou**	**1.51**	**342**	*e*Pn	Pg	23 07 02.0	+0.8
DPP	**Dos Picos Cty**	**1.57**	**299**	*e*Sn	Sn	23 07 20.6	+0.2
HWB	**Hans Werner Br**	**1.60**	**300**	*e*Pn	Pn	23 07 00.8	+0.4
CPE	**Camp Elliot**	**1.65**	**294**	*e*Pn	Pn	23 06 59.8	-1.2
PFO	**Pinyon Flats O**	**1.67**	**325**	*e*Pn	Pn	23 06 59.0	-2.5
PFO				*e*Sn	Sn	23 07 23.2	+0.1
PLM	**Palomar**	**1.72**	**311**	*e*Pn	Pn	23 07 00.3	-1.8
BACC	**Bachelor Mtn.**	**2.00**	**314**	*e*Pn	Pb	23 07 08.4	-0.1
BACC				*e*Sn	Sb	23 07 33.5	-0.1
DGR	**Domenigoni Val**	**2.01**	**315**	*e*Pn	Pn	23 07 04.2	-1.8
HMTC	**Hemet**	**2.04**	**316**	*e*Pn	Pb	23 07 09.4	0.0
214A	**Organ Pipe Nat**	**2.13**	**97**	*e*Pn	Pn	23 07 05.5	-2.2
214A				*e*Sg	Sg	23 07 41.1	+0.2
BFSC	**Mount Baldy Ra**	**2.80**	**316**	*e*Pn	Pn	23 07 15.3	-1.7
SSK	**Sunset Peak**	**2.80**	**315**	*e*Pn	Pb	23 07 22.7	+0.2
LDFC	**Landfair**	**2.83**	**3**	*e*Pn	Pn	23 07 17.1	-0.4
LDFC				*e*Sn	Sb	23 07 56.7	-1.0
MWC	**Mount Wilson**	**3.04**	**311**	*e*Pn	Pn	23 07 20.4	+0.1
MWC				*e*Sn	Sn	23 07 58.4	+1.5
PASC	**Pasadena Art C**	**3.09**	**309**	*e*Pn	Pn	23 07 20.1	-0.7
PASC				*e*Sn	Sn	23 07 56.0	-1.8
GSC	**Goldstone, Bar**	**3.30**	**338**	*e*Pn	Pn	23 07 23.2	-0.6
TUC	**Tucson**	**3.83**	**88**	*e*Pg	Pg	23 07 45.6	0.0
ISA	**Isabella, Lake**	**4.31**	**323**	*e*Pn	Pn	23 07 36.3	-1.4
ISA				*e*Sn	Sn	23 08 28.2	+0.2
TPNV	**Topopah Spring**	**4.76**	**351**	*e*Pn	Pn	23 07 44.9	+0.9
TPNV				*e*Pg	Pg	23 08 04.8	+1.2
EKU	**East Kanab**	**5.35**	**25**	*e*Pn	Pn	23 07 55.8	+3.7
W18A	**Petrified Fore** 17nm,0.5s	**5.46**	**57**	*e*Pn	Pn	23 07 53.6	0.0
CCUT	**Cedar City**	**5.53**	**16**	*e*Pn	Pn	23 07 55.8	+1.1
ARUT	**Antelope Range**	**5.74**	**15**	*e*Pn	Pn	23 07 51.1	-6.4
R11A	**Troy Canyon, C**	**6.10**	**358**	*e*Pn	Pn	23 08 01.6	-0.8
LENM	**

MWC	**Mount Wilson**	**3.19**	**311**	*e*Pn	Pn	23 29 22.3	-2.0
MWC				*e*Sn	Sb	23 30 06.6	-3.3
GSC	**Goldstone, Bar**	**3.43**	**337**	*e*Pn	Pn	23 29 30.2	+2.6
TUC	**Tucson**	**3.72**	**86**	*e*Pn	Pn	23 29 28.9	-2.7
TUC				*e*Sn	Sn	23 30 19.8	+4.3
OSI	**Osito Audit: C**	**3.86**	**311**	*e*Pn	Pn	23 29 34.1	+0.7
OSI				*e*Sn	Sn	23 30 18.7	-0.2
SHPR	**Sheep Range**	**4.35**	**0**	*e*Pn	Pn	23 29 40.4	+0.1
SHPR				Sn	Sn	23 30 30.5	-0.7
ISA	**Isabella, Lake**	**4.45**	**323**	*e*Pn	Pn	23 29 41.3	-0.3
ISA				*e*Sn	Sb	23 30 42.2	-4.0
TPNV	**Topopah Spring**	**4.87**	**350**	*e*Pn	Pn	23 29 47.5	0.0
R11A	**Troy Canyon, C**	**6.20**	**357**	*e*Pn	Pn	23 30 05.3	-0.4
R11A				*e*Sg	Sg	23 31 53.3	0.0
121A	**Cookes Peak, D**	**6.26**	**85**	*e*Pn	Pn	23 30 04.7	-1.9
	11nm,0.3s						

IDC 05 23:29:33.2±4.3, 5°19'S×153°80'E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=146.3km s-min=27.9km az=108.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.95**	**231**	P		P	23 34 49.4	0.0
	0.4nm,0.8s,baz=49,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**26.55**	**224**	P		P	23 35 13.1	0.0
	0.2nm,0.5s,baz=45,slow=10,SNR=2.7							
SONM	**Songino Array**	**67.18**	**327**	P		P	23 40 28.2	-1.1
	0.2nm,0.6s,baz=149,slow=5.0,SNR=3.0							
MKAR	**Makanchi Array**	**81.27**	**319**	P		P	23 41 52.4	+1.0
	0.4nm,0.8s,baz=105,slow=5.0,SNR=3.8							
ZALV	**Zalesovo Beam**	**82.03**	**326**	P		P	23 41 56.0	+0.8
	0.8nm,0.7s,baz=134,slow=6.4,SNR=4.5							
TORD	**Torodi Ar. Bea**	**151.37**	**288**	PKPbc	PKPbc		23 49 29.6	-0.6
	0.4nm,0.8s,baz=83,slow=1.3,SNR=11							

NEIC 05 23:39:30.8, 32°31'N×115°39'W, h18km, ML3.6(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLA	**Glamis**	**0.88**	**32**	*e*P		Pb	23 39 46.5	-1.2
GLA				*e*S		Sb	23 39 57.3	-1.9
BAR	**Barrett**	**1.15**	**289**	*e*P		Pn	23 39 51.1	-1.0
BAR				*e*S		Sb	23 40 05.8	-1.0
PFO	**Pinyon Flats O**	**1.58**	**326**	*e*Pn		Pn	23 39 56.7	-1.4
PFO				*e*Sn		Sn	23 40 15.8	-2.5
214A	**Organ Pipe Nat**	**2.21**	**98**	*e*Pn		Pn	23 40 05.0	-1.7
214A				*e*Sg		Sg	23 40 41.7	-0.4
MWC	**Mount Wilson**	**2.94**	**311**	*e*Pn		Pn	23 40 13.8	-3.1
MWC				*e*Sn		Sb	23 40 56.2	-2.6
PASC	**Pasadena Art C**	**2.99**	**309**	Pn		Pn	23 40 16.5	-0.9
TUC	**Tucson**	**3.90**	**89**	*e*Pn		Pn	23 40 27.9	-2.0
TUC				*e*Sn		Sn	23 41 13.9	-1.4
SHPR	**Sheep Range**	**4.19**	**3**	*e*Pn		Pn	23 40 33.4	-0.7
ISA	**Isabella, Lake**	**4.22**	**323**	*e*Pn		Pn	23 40 33.8	-0.6
121A	**Cookes Peak, D**	**6.43**	**86**	*e*Pn		Pn	23 41 03.9	-1.1
	7.7nm,0.4s							

IDC 05 23:51:34.7±16.0, 56°89'S×27°42'W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.4/22, mbtmp3.7/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/21, Error ellipse: s-maj=1020.0km s-min=74.0km az=143.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CFAA	**Coronel Fontan**	**37.78**	**294**	LR		LR	00 14 10.7	
	comp=Z,22nm,20.0s,slow=36							
MAW	**Mawson**	**39.55**	**143**	LR		LR	00 11 40.2	
	comp=Z,90nm,21.7s,baz=238,slow=30							
TORD	**Torodi Ar. Bea**	**73.85**	**30**	P		P	00 03 11.1	0.0
	0.4nm,0.5s,baz=201,slow=7.1,SNR=5.8							
MDT	**Midelt**	**91.43**	**19**	LR		LR	00 40 29.7	
	comp=Z,31nm,18.6s,slow=32							
YKA	**Yellowknife Ar**	**136.71**	**317**	PKP		PKPdf	00 10 56.9	-0.4
	0.2nm,0.7s,baz=121,slow=2.6,SNR=3.5							
ILAR	**Eielson Array**	**150.58**	**311**	PKPbc		PKPbc	00 11 26.6	-0.3
	0.4nm,0.8s,baz=124,slow=4.5,SNR=5.1							

*ISCJB **05** 23:52:20.9±2.7, 33°62S±0°08×72°79W±0°08, h7km±19km, mb3.5/3, Error ellipse: s-maj=15.2km s-min=8.9km az=144.3*

*GUC **05** 23:52:21.2±0.6, 33°50S×72°85W, h27km±5km, ML3.7*

*IDC **05** 23:52:21.7±0.9, 33°55S×72°76W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/27, mbtmp3.5/5, ML3.9/2, Error ellipse: s-maj=30.2km s-min=21.0km az=124.0*

ISC 05 23:52:21.4±2.2, 33°61S±0°09×72°66W±0°08, h1km±13km, n16, σ0°97/21, mb3.7/3, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**1.03**	**56**	*e*P		Pg	23 52 41.0	-0.2
IHA				*i* S		Sb	23 52 55.7	-0.4
ROCH	**El Roble**	**1.52**	**66**↑	*i*P		Pn	23 52 49.5	-0.4
ROCH				*e*S		Sn	23 53 10.3	-0.1
ROCH				AML	AML		23 53 24.3	
	comp=N,882nm,0.5s							
RCDM	**Rinconada Maip**	**1.55**	**86**	*e*P		Pn	23 52 50.1	-0.1
RCDM				*i* S		Sn	23 53 09.5	-1.4
PEL	**Peldehue**	**1.72**	**75**↓	*i*P		Pn	23 52 52.6	+0.1
PEL				*i* S		Sg	23 53 16.7	+0.1
PEL				AML	AML		23 53 31.9	
	comp=E,2μm,0.5s							
CLCH	**Cerro Calan**	**1.79**	**84**↑	*i*P		Pn	23 52 53.9	+0.4
CLCH				*i* S		Sg	23 53 18.7	-0.1
CLCH				AML	AML		23 53 30.4	
	comp=N,866nm,0.6s							
COCH	**Cobquecura**	**2.51**	**182**	*e*P		Pn	23 53 02.8	-0.5
CFAA	**Coronel Fontan**	**4.23**	**63**	Pn		Pn	23 53 29.6	+2.6
	comp=N,0.2nm,0.3s,baz=233,slow=12,SNR=8.5							
CFAA				Lg		Lg	23 54 35.0	
	comp=N,0.4nm,0.3s,baz=158,slow=13,SNR=3.9							
PLCA	**Paso Flores**	**7.30**	**167**	Pn		Pn	23 54 10.5	+1.2
	comp=N,0.9nm,0.3s,baz=339,slow=11,SNR=22							
LPAZ	**La Paz**	**17.73**	**14**	P		P	23 56 31.6	+0.4
	comp=N,0.1nm,0.3s,baz=173,slow=6.6,SNR=3.9							
QSPA	**South Pole Qui**	**56.62**	**180**	P		P	00 02 06.4	+0.7
	comp=N,1.1nm,0.8s,baz=223,slow=1.2,SNR=8.1							
TXAR	**Lajitas Array**	**69.15**	**331**	P		P	00 03 28.0	-1.5
	comp=N,0.1nm,0.6s,baz=154,slow=6.9,SNR=3.5							
TORD	**Torodi Ar. Bea**	**84.56**	**70**	P		P	00 04 57.4	+0.7
	comp=N,0.4nm,0.8s,baz=254,slow=4.3,SNR=2.8							
BVAR	**Borovoye Array**	**147.35**	**42**	PKPbc		PKPab	00 12 07.9	-0.2
	comp=N,0.4nm,0.7s,baz=323,slow=2.2,SNR=5.0							
KURBB	**Kurchatov Arra**	**152.94**	**42**	PKPbc		PKPbc	00 12 19.6	-0.3
	comp=N,0.5nm,0.7s,baz=298,slow=3.0,SNR=6.7							
ZALV	**Zalesovo Beam**	**154.17**	**31**	PKPbc		PKPbc	00 12 23.8	+1.3
	comp=N,0.7nm,0.4s,baz=327,slow=2.5,SNR=5.0							
MKAR	**Makanchi Array**	**156.89**	**48**	PKPab		PKPab	00 12 48.3	0.0
	comp=N,0.5nm,0.7s,baz=307,slow=4.4,SNR=6.0							

*IDC **06** 00:10:53.1±0.6, 33°77S×71°85W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.1/25, mbtmp4.2/10, ML4.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/30, Error ellipse: s-maj=30.6km s-min=18.2km az=86.0*

*ISCJB **06** 00:10:57.3±0.8, 33°81S±0°03×72°06W±0°07, h41km±9km, mb4.2/9, MS3.5/1, Error ellipse: s-maj=9.8km s-min=5.6km az=6.3*

*GUC **06** 00:10:57.0±0.7, 33°83S×72°00W, h39km±5km, ML4.3*

*NEIC **06** 00:10:57.0, 33°83S×72°00W, h39km, MG4.3(GUC), After GUC.*

NEIC Felt [III] at Santiago and Santo Domingo; [II] at San Antonio and Valparaiso.

ISC 06 00:10:58.7±0.6, 33°81S±0°03×71°98W±0°07, h39km±5km, n50, σ0°92/67, mb4.2/9, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.83**	**20**↓	*e*P		Pn	00 11 13.2	-0.7
IHA				*e*S		Sn	00 11 25.2	+0.3
IHA	**Instituto Hidr**	**0.83**	**20**↓	*e*P		Pn	00 11 13.2	-0.7
IHA				*e*S		Sn	00 11 25.2	+0.3
RCDM	**Rinconada Maip**	**1.03**	**73**	*e*P		Pn	00 11 14.7	-1.9
RCDM				*e*S		Sn	00 11 29.2	-0.6
RCDM				AML	AML		00 11 30.9	
	comp=N,11μm,0.4s							
RCDM	**Rinconada Maip**	**1.03**	**73**	*e*P		Pn	00 11 14.7	-1.9
RCDM				*e*S		Sn	00 11 29.2	-0.6
ROCH	**El Roble**	**1.16**	**45**↓	*e*P		Pn	00 11 18.1	-0.6
ROCH				*e*S		Sn	00 11 35.0	+1.6
ROCH				AML	AML		00 11 40.0	
	comp=N,13μm,0.5s							
ROCH	**El Roble**	**1.16**	**45**↓	*e*P		Pn	00 11 18.1	-0.6
ROCH				*e*S		Sn	00 11 35.0	+1.6
FSR	**Penalolen**	**1.26**	**75**	*e*P		Pn	00 11 20.7	+0.9
FSR	**Penalolen**	**1.26**	**75**	P		Pn	00 11 20.7	+0.9
LACH	**Col Las Americ**	**1.26**	**74**	*e*P		Pn	00 11 19.5	-0.3
LACH				*e*S		Sn	00 11 36.5	+0.9
LACH	**Col Las Americ**	**1.26**	**74**	*e*P		Pn	00 11 19.5	-0.3
LACH				*e*S		Sn	00 11 36.5	+0.9
PEL	**Peldehue**	**1.27**	**59**↑	*e*P		Pn	00 11 20.0	+0.1
PEL				*e*S		Sn	00 11 37.5	+1.7
PEL				AML	AML		00 11 43.2	
	comp=E,24μm,0.4s							
PEL	**Peldehue**	**1.27**	**59**↑	*e*P		Pn	00 11 20.0	+0.1
PEL				*e*S		Sn	00 11 37.5	+1.7
CLCH	**Cerro Calan**	**1.27**	**72**↓	*i*P		Pn	00 11 19.9	-0.2
CLCH				*e*S		Sn	00 11 36.9	+0.9
CLCH				AML	AML		00 11 43.4	
	comp=E,8μm,1.1s							
NICH	**Los Niches**	**1.35**	**153**	*e*P		Pn	00 11 20.1	-0.9
NICH				*e*S		Sn	00 11 38.1	+0.4
NICH	**Los Niches**	**1.35**	**153**	*e*P		Pn	00 11 20.1	-0.9
NICH				*e*S		Sn	00 11 38.1	+0.4
FCH	**Farellones**	**1.49**	**72**↓	*e*P		Pn	00 11 23.7	+0.5
FCH				*e*S		Sn	00 11 41.9	+0.2
FCH	**Farellones**	**1.49**	**72**	P		Pn	00 11 23.7	+0.5
FCH				S		Sn	00 11 41.9	+0.2
YECH	**El Yeso**	**1.59**	**85**	*e*P		Pn	00 11 25.0	+0.5
YECH				*e*S		Sn	00 11 44.8	+0.7
YECH				AML	AML		00 11 50.6	
	comp=N,6μm,0.3s							
YECH	**El Yeso**	**1.59**	**85**	*e*P		Pn	00 11 25.0	+0.5
YECH				S		Sn	00 11 44.8	+0.7
LNCH	**Linares**	**2.06**	**171**	*e*P		Pn	00 11 31.5	+0.7
LNCH	**Linares**	**2.06**	**171**	P		Pn	00 11 31.5	+0.7
CMCH	**Combarbala**	**2.75**	**18**	*e*P		Pn	00 11 40.1	-0.2
CMCH	**Combarbala**	**2.75**	**18**	*e*P		Pn	00 11 40.1	-0.2
CFAA	**Coronel Fontan**	**3.84**	**56**	Pn		Pn	00 11 56.7	+1.4
	comp=N,1.6nm,0.3s,baz=218,slow=9.2,SNR=22							
CFAA				Lg		Lg	00 12 50.0	
	comp=N,6.1nm,0.3s,baz=30,slow=12,SNR=6.7							
LCO	**Las Campanas**	**4.90**	**13**	*e*Pn		Pn	00 12 09.1	-1.0
LCO				*e*Sn		Sn	00 13 04.7	-1.0
PLCA	**Paso Flores**	**7.01**	**171**	Pn		Pn	00 12 38.2	-0.5
	comp=N,1.7nm,0.3s,baz=332,slow=11,SNR=47							
PLCA				Lg		Lg	00 14 29.4	
	comp=N,0.4nm,0.3s,baz=235,slow=23,SNR=4.3							
PLCA	**Paso Flores**	**7.01**	**171**	*e*Pn		Pn	00 12 38.4	-0.4
	comp=N,2.9nm,0.4s							
PLCA				Sn		Sn	00 13 55.6	-1.6
PLCA				Lg		Lg	00 14 29.4	
TRQA	**Tornquist**	**9.15**	**120**	*e*Pn		Pn	00 13 07.7	-0.4
	comp=N,10nm,0.9s							
LPAZ	**La Paz**	**17.79**	**12**	P		P	00 15 04.5	+0.2
	comp=N,0.3nm,0.3s,baz=187,slow=6.1,SNR=22							
LPAZ	**La Paz**	**17.79**	**12**	*e*Pn		Pn	00 15 02.3	-1.6
	comp=N,8.4nm,0.8s							
SIV	**San Ignacio**	**20.28**	**32**	P		P	00 15 30.6	-0.5
	comp=N,2.4nm,0.6s,baz=220,slow=9.2,SNR=7.5							
USHA	**Ushuaia**	**21.17**	**174**	LR		LR	00 25 04.2	
	comp=N,228nm,21.3s,baz=294,slow=40							
SAML	**Samuel**	**26.03**	**20**	*e*P		P	00 16 25.6	-2.6
	comp=N,2.9nm,0.7s							
SNAA	**Sanae**	**51.75**	**158**	P		P	00 20 02.0	+0.2
	comp=N,2.2nm,0.8s,baz=328,slow=6.0,SNR=6.2							
QSPA	**South Pole Qui**	**56.43**	**180**	P		P	00 20 36.7	+0.6
	comp=N,5.4nm,0.9s,baz=185,slow=0.8,SNR=13							
TXAR	**Lajitas Array**	**69.59**	**331**	P		P	00 22 04.9	+1.1
	comp=N,0.5nm,0.5s,baz=159,slow=8.7,SNR=14							
PDAR	**Pinedale Array**	**83.61**	**333**	P		P	00 23 24.0	+1.1
	comp=N,0.9nm,0.8s,baz=132,slow=2.2,SNR=6.3							
NVAR	**Mina Array Bea**	**83.75**	**325**	P		P	00 23 24.2	+0.5
	comp=N,0.3nm,0.3s,baz=103,slow=6.6,SNR=3.1							
URZ	**Iwewera**	**83.82**	**228**	P		P	00 23 24.9	+0.8
	comp=N,3.5nm,0.5s,baz=79,slow=5.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	**84.10**	**70**	P		P	00 23 25.8	0.0
	comp=N,3.0nm,0.7s,baz=286,slow=6.3,SNR=26							
ULM	**Lac du Bonnet**	**86.32**	**345**	P		P	00 23 35.8	-0.2
	comp=N,1.4nm,0.7s,baz=146,slow=3.2,SNR=4.1							
YKA	**Yellowknife Ar**	**101.89**	**341**	P		Pdif	00 24 46.8	-0.5
	comp=N,0.2nm,0.6s,baz=141,slow=4.5,SNR=4.6							
BRTR	**Keskin Array B**	**121.70**	**61**	PKP		PKPdf	00 29 48.3	+0.1
	comp=N,0.4nm,0.7s,baz=174,slow=4.3,SNR=3.1							
ARCES	**ARCESS Array B**	**123.82**	**25**	PKP		PKPdf	00 29 51.0	-0.2
	comp=N,1.3nm,0.8s,baz=289,slow=2.8,SNR=4.7							
H11S2	**WAKE ISLAND Hyd**	**25.82**	**269**	T		T	02 48 55.4	
	baz=118,slow=74,SNR=3.2							
H11S1	**WAKE ISLAND Hyd**	**25.83**	**269**	T		T	02 48 57.2	
	baz=118,slow=74,SNR=3.3							
H11S3	**WAKE ISLAND Hyd**	**25.84**	**269**	T		T	02 48 58.9	
	baz=118,slow=74,SNR=2.8							
BVAR	**Borovoye Array**	**147.11**	**43**	PKPbc		PKPbc	00 30 35.8	-1.0
	comp=N,1.6nm,0.5s,baz=311,slow=1.2,SNR=14							
ZALV	**Zalesovo Beam**	**154.04**	**32**	PKP		PKPdf	00 30 44.9	-0.4
	comp=N,0.5nm,0.4s,baz=355,slow=1.8,SNR=3.6							
ZALV				PKPbc		PKiKP	00 30 53.5	0.0
	comp=N,2.2nm,0.5s,baz=289,slow=3.1,SNR=12							
ZALV				PKPab		PKPab	00 31 07.1	+0.1
	comp=N,1.3nm,0.5s,baz=296,slow=4.9,SNR=4.7							
MKAR	**Makanchi Array**	**156.60**	**49**	PKPab		PKPab	00 31 17.8	-0.5
	comp=N,0.7nm,0.6s,baz=295,slow=3.9,SNR=8.5							

*BJI **06** 00:25:13.7, 9°20S×123°58E, h111km, mB4.9/18, mb4.8/29*

*IDC **06** 00:25:16.7±0.6, 9°04S×123°45E, h103km±4km, mb4.4/23, mb1 4.4/25, mb1mx4.4/30, mbtmp4.7/25, MS3.4/4, Ms1 3.5/4, ms1mx2.9/28, Error ellipse: s-maj=14.0km s-min=9.2km az=81.0*

*MOS **06** 00:25:16.1±1.2, 8°95S×123°39E, h110km, mb4.9/19, Error ellipse: s-maj=12.1km s-min=7.1km az=117.3*

*NEIC **06** 00:25:16.4±0.6, 9°16S×123°47E, h104km±6km, mb4.8/22, Error ellipse: s-maj=9.3km s-min=5.7km az=56.0*

*ISCJB **06** 00:25:16.2±0.4, 9°27S±0°03×123°42E±0°04, h127km±3km, mb4.7/64, Error ellipse: s-maj=6.3km s-min=5.1km az=146.2*

*DJA **06** 00:25:18.4±0.2, 9°S±2°×12°3E±°, h111km±2km, M4.8/64, mb5.0/64, mB5.4/30, MLv5.1/19, Mw(mB)4.8/30, Mwp6.7/1*

ISC 06 00:25:16.1±0.5, 9°17S±0°05×123°47E±0°05, h101km±4km, h101km;pP-P, n185, σ1°25/191, mb4.7/64, 4C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**0.97**	**127**	P		Pn	00 25 37.1	+0.6
SOEI	**Soe**	**0.97**	**127**	*e*Pn		Pn	00 25 36.3	-0.2
SOEI				*e*Sn		Sn	00 25 49.0	-2.9
BATI	**Baumata**	**1.05**	**170**	P		Pn	00 25 37.9	+0.7
BATI	**Baumata**	**1.05**	**170**	P		Pn	00 25 37.9	+0.7
	9μm,0.3s,baz=6.4,slow=2.4,SNR=7587							
BATI				S		Sn	00 25 54.3	+1.2
	2μm,0.3s,baz=94,slow=22,SNR=11							
EDFI	**Ende, Flores**	**1.81**	**283**	P		Pn	00 25 47.3	+0.9
BASI	**Baing, Sumba**	**3.04**	**250**	P		Pn	00 26 02.7	+0.3
WSI	**Waingapu**	**3.17**	**261**	P		Pn	00 26 05.7	+1.6
BBSI	**Bau Bau**	**3.77**	**346**	P		Pn	00 26 14.5	+2.3
BSSI	**Bau Bau, Buton**	**4.22**	**315**	P		Pn	00 26 20.2	+2.0
BKSI	**Bulukumba**	**5.07**	**319**	P		Pn	00 26 31.0	+1.3
	325nm,0.7s,3μm1.1nm							
KAPI	**Kappang**	**5.54**	**318**	*e*Pn		Pn	00 26 37.5	+1.3
BNSI	**Bone**	**5.80**	**325**	P		Pn	00 26 42.2	+2.5
	436nm,0.9s,4μm1.2nm							
SPSI	**Sidrap Palu**	**6.35**	**324**	P		Pn	00 26 49.6	+2.5
	125nm,1.1s,958nm0.3nm							
NLAI	**Namlea**	**6.91**	**32**	P		Pn	00 26 59.5	+4.7
	270nm,0.7s,3μm1.0nm							
TTSI	**Tana Toraja**	**7.09**	**329**	P		Pn	00 27 01.7	+4.5
	158nm,1.0s,2μm0.5nm							
SANI	**Sanana**	**7.50**	**20**	P		Pn	00 27 05.1	+2.2
	95nm,0.9s,1μm0.6nm							
MSAI	**Masohi**	**7.93**	**43**	P		Pn	00 27 15.4	+6.7
	30nm,0.8s,0.1nm							
LUWI	**Luwuk**	**8.11**	**355**	P		Pn	00 27 12.4	+1.3
	220nm,1.2s,3μm							
LUWI	**Luwuk**	**8.11**	**355**	*e*Pn		Pn	00 27 12.7	+1.7
APSI	**Ampana**	**8.40**	**347**	P		Pn	00 27 17.4	+2.3
	176nm,0.8s,2μm							

PCI	**Palu**	**8.97**	**336**	P		Pn	00 27 26.7	+3.8
	139nm,1.0s,1μm								
KBKI	**Kotabaru**	**9.31**	**308**	P		Pn	00 27 30.8	+3.3
	34nm,1.1s,2μm								
LBMI	**Labuha**	**9.38**	**26**	P		Pn	00 27 33.1	+4.7
	174nm,1.1s,2μm								
MRSI	**Marisa**	**9.71**	**351**	P		Pn	00 27 34.4	+1.6
	257nm,1.1s,2μm								
GTOI	**Gorontalo**	**9.75**	**357**	P		Pn	00 27 39.6	+6.1
	68nm,0.9s								
MPSI	**Mapaga**	**10.09**	**339**	P		Pn	00 27 41.3	+3.2
	59nm,0.7s,495nm								
BBKI	**Banjar Baru**	**10.28**	**303**	P		Pn	00 27 43.4	+2.7
	61nm,1.0s								
TNTI	**Ternate**	**10.61**	**22**	P		Pn	00 27 49.2	+4.0
	120nm,1.4s,4μm								
PWJI	**Pagerwojo**	**11.60**	**275**	P		Pn	00 27 57.9	-0.5
	40nm,0.7s								
PCJI	**Pacitan**	**12.20**	**274**	P		Pn	00 28 03.9	-2.5
	99nm,0.7s								
MBWA	**Marble Bar**	**12.45**	**196**	*e*Pn		Pn	00 28 08.4	-1.3
RKPI	**Ransiki, Papua**	**13.09**	**55**	P		P	00 28 26.8	+2.2
KPJI	**Karang Pucung**	**14.51**	**276**	P		Pn	00 28 34.5	-2.1
	37nm,0.6s								
WRA	**Warramunga Arr**	**15.00**	**137**	P		Pn	00 28 37.4	-5.5
	4.2nm,0.3s,baz=320,slow=13,SNR=139								
WRA				S		Sn	00 31 12.0	-17	
	17nm,0.3s,baz=312,slow=22,SNR=11								
WRA				LR		LR	00 35 40.9		
	comp=Z,202nm,20.1s,baz=320,slow=41								
WRAB	**Tennant Creek**	**15.00**	**137**	*de*P		Pn	00 28 37.8	-5.0	
WRAB				pmax		pmax			
	comp=Z,118nm,1.2s								
WRAB	**Tennant Creek**	**15.00**	**137**	*e*Pn		Pn	00 28 42.2	-0.6	
WB2	**Warramunga Arr**	**15.01**	**137**	*e*Pn		Pn	00 28 37.6	-5.3	
WB2				*e*Sn		Sn	00 31 11.4	-17	
STKI	**Sintang**	**15.06**	**307**	P		P	00 28 46.2	-0.3	
	comp=Z,25nm,0.9s,comp=Z,18μm								
CISI	**Cisompet, Garu**	**15.57**	**275**	P		P	00 28 51.7	-0.6	
	comp=Z,100nm,0.6s,comp=Z,12μm								
CISI	**Cisompet, Garu**	**15.57**	**275**	*e*Pn		Pn	00 28 48.4	-1.7	
	comp=Z,63nm,0.6s								
LEM	**Lembang**	**15.87**	**277**	P		P	00 28 55.4	-0.3	
	comp=Z,49nm,0.9s								
LEM	**Lembang**	**15.87**	**277**	P		Pn	00 28 53.1	-0.9	
	comp=Z,4.8nm,0.3s,baz=61,slow=13,SNR=5.0								
LEM				S		S	00 31 57.1	-0.3	
	comp=Z,4.7nm,0.3s,baz=315,slow=20,SNR=2.8								
LEM				LR		LR	00 36 16.8		
	comp=Z,99nm,18.6s,baz=339,slow=42								
SBUM	**Sibu**	**16.09**	**315**	*e*Pn		P	00 28 59.0	+1.1	
	comp=Z,28nm,0.9s								
CNJI	**Cibinong**	**16.28**	**275**	P		Pn	00 28 57.9	-1.0	
	comp=Z,87nm,0.8s,comp=Z,1μm								
KKM	**Kota Kinabalu**	**16.76**	**334**	*e*Pn		P	00 29 06.6	+1.2	
	comp=Z,48nm,0.4s								
KSM	**Kuching**	**16.85**	**308**	P		P	00 29 07.5	+1.2	
ASAR	**Alice Springs**	**17.53**	**147**	P		P	00 29 12.4	-1.4	
	comp=Z,6.3nm,0.3s,baz=322,slow=12,SNR=136								
ASAR				S		Sn	00 32 16.3	-13	
	comp=Z,6.8nm,0.3s,baz=320,slow=26,SNR=14								
ASAR				LR		LR	00 36 59.5		
	comp=Z,240nm,18.9s,baz=321,slow=40								
CGJI	**Cibinong**	**17.79**	**277**	P		P	00 29 14.9	-1.8	
	comp=Z,69nm,0.5s,comp=Z,2μm								
JAY	**Jayapura**	**18.36**	**70**	P		Pn	00 29 24.5	+0.2	
	comp=Z,1.0nm,0.3s,baz=204,slow=12,SNR=3.9								
KASI	**Kota Agung**	**19.16**	**280**	P		P	00 29 30.5	-1.2	
	comp=Z,137nm,0.4s,comp=Z,2μm								
MDSI	**Maura Dua**	**19.71**	**282**	P		P	00 29 36.6	-1.1	
	comp=Z,14nm,0.9s								
COEN	**Coen**	**19.88**	**106**	*e*P		P	00 29 40.1	+0.7	
	comp=Z,5.9nm,0.7s								
FORT	**Forrest**	**21.92**	**169**	*e*P		P	00 30 00.7	-0.5	
	comp

comp=Z,75nm,0.5s
KKN Kakani 52.12 316 *e*P P **00 34 15.4 -1.0**
comp=Z,82nm,0.7s
GKN Gorkha 52.69 316 *e*P P **00 34 19.4 -1.2**
comp=Z,95nm,0.6s
GTA Gaotai 53.09 337 *e*P P **00 34 24.2 +0.9**
GTA PMZ
comp=Z,11nm,1.1s
KOLN Koldanda 53.27 315 *e*P P **00 34 23.5 -1.4**
comp=Z,115nm,0.7s
DANN Dangsing 53.51 316 *e*P P **00 34 25.7 -1.1**
comp=Z,335nm,0.6s
USRK Ussuriysk Ar. 53.68 8 P P **00 34 26.8 -0.5**
comp=Z,9.0nm,0.6s,baz=194,slow=7.9,SNR=18
MDJ Mudanjiang 53.82 5 P P **00 34 27.8 -0.5**
MDJ PMZ
comp=Z,28nm,0.8s
MDJ PMZ
comp=Z,76nm,4.5s
MDJ Mudanjiang 53.82 5 *e*P P **00 34 27.5 -0.8**
comp=Z,19nm,0.8s
PYUN Piuthan 53.89 315 *e*P P **00 34 28.6 -0.9**
comp=Z,340nm,0.6s
ULN Ulaanbaatar 58.62 347 *e*P P **00 35 01.5 -1.1**
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 58.62 347 *e*P P **00 35 01.5 -1.1**
comp=Z,8.6nm,1.3s
SONM Songino Array 58.74 347 P P **00 35 02.5 -0.9**
comp=Z,4.7nm,0.5s,baz=162,slow=8.5,SNR=57
SONM ScP **ScP 00 39 42.5 -1.0**
comp=Z,0.3nm,0.4s,baz=167,slow=3.7,SNR=4.4
ZAK Zakamensk 61.86 345 *e*P P **00 35 23.0 -1.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
WMQ Urumqi 61.93 331 P P **00 35 25.5 +0.3**
WMQ PMZ
comp=Z,23nm,0.8s
WMQ PMZ
comp=Z,180nm,5.5s
TLY Talaya 62.97 346 *e*P P **00 35 32.4 +0.5**
MOY Mondy 63.62 345 *e*P P **00 35 36.4 +0.1**
HVS Khovu-Aksy 65.35 340*d iP* P **00 35 46.6 -0.9**
HVS pmax pmax
comp=Z,75nm,1.0s
PDGK Podgornoye 65.78 326 P P **00 35 49.9 -0.4**
PDGK pmax pmax
comp=Z,17nm,0.7s
MK31 Makanchi Array 66.70 330 *e*P P **00 35 55.3 -0.9**
MK31 pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 66.70 330 P P **00 35 55.9 -0.3**
comp=Z,17nm,0.7s,baz=132,slow=7.5,SNR=182
MKAR pP **pP 00 36 22.4 +0.8**
comp=Z,5.2nm,0.5s,baz=135,slow=6.6,SNR=3.5
MKAR PKP2bc 01 04 29.0
comp=Z,0.2nm,0.3s,baz=64,slow=3.4,SNR=9.0
BOD Bodaibo 67.20 355 *e*P P **00 35 58.5 -0.6**
BOD pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 67.37 313 *e*P P **00 35 59.5 -1.4**
KBL pmax pmax
comp=Z,45nm,0.8s
KBL Kabul 67.37 313 *e*P P **00 35 59.5 -1.4**
comp=Z,45nm,0.8s
KZA Kyzart 67.42 323 P P **00 36 01.5 +0.1**
SNR=11
KZA Kyzart 67.42 323 *i*P P **00 36 01.4 +0.1**
TKM2 Tokmak 2 67.72 324 P P **00 36 02.7 -0.3**
SNR=9.1
TKM2 Tokmak 2 67.72 324 *i*P P **00 36 01.7 -1.3**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 67.72 324 *e*P P **00 36 01.6 -1.4**
comp=Z,7.7nm,0.7s
UCH Uchtor 67.94 323 P P **00 36 03.1 -1.6**
SNR=8.8
UCH Uchtor 67.94 323 *i*P P **00 36 03.1 -1.6**
AAK Ala-Archa 68.20 323 P P **00 36 06.0 +0.1**
SNR=14
AAK Ala-Archa 68.20 323 *i*P P **00 36 05.7 -0.2**
AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 68.20 323 *e*P P **00 36 05.1 -0.8**
comp=Z,9.4nm,0.6s
AML Almayashu 68.38 322 P P **00 36 07.1 -0.2**
SNR=23
AML Almayashu 68.38 322 *i*P P **00 36 07.1 -0.2**
PETK Petropavlovsk- 68.54 21 P P **00 36 07.6 +0.1**
comp=Z,11nm,0.7s,baz=190,slow=8.0,SNR=14
PETK pP **pP 00 36 34.4 +1.2**
comp=Z,7.3nm,0.8s,baz=165,slow=6.2,SNR=3.7
EKS2 Erkin-Say 68.64 323 P P **00 36 09.0 +0.3**
SNR=8.6
EKS2 Erkin-Say 68.64 323 *i*P P **00 36 08.9 +0.3**
EKS2 Erkin-Say 68.64 323 *e*P P **00 36 08.4 -0.3**
comp=Z,7.3nm,0.9s
MNAS Manas 69.31 322 P P **00 36 12.1 -0.7**
MNAS pmax pmax
comp=Z,8.0nm,0.7s
MAW Mawson 70.61 201 P P **00 36 21.3 +1.2**
comp=Z,6.8nm,0.7s,baz=72,slow=8.8,SNR=5.0
ZALV Zalesovo Beam 70.85 337 P P **00 36 20.2 -1.5**
comp=Z,22nm,0.4s,baz=132,slow=4.9,SNR=128
ZALV pP **pP 00 36 47.2 -0.2**
comp=Z,3.4nm,0.5s,baz=148,slow=3.9,SNR=2.2
KKAR Karatay Array 70.86 322 *e*P P **00 36 20.8 -1.3**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 70.86 322 *e*P P **00 36 20.8 -1.3**
comp=Z,1.7nm,0.6s
YAK Yakutsk 71.15 3 *e*P P **00 36 23.0 -0.3**
VNDA Vanda 71.16 172 P P **00 36 24.1 +0.7**
comp=Z,2.4nm,0.5s,baz=312,slow=6.9,SNR=12
KURK Kurchatov 71.17 332 *e*P P 00 36 27.4 +3.7
KURK pmax pmax
comp=Z,32nm,0.8s
KURK Kurchatov 71.17 332 *e*P P 00 36 27.4 +3.7
comp=Z,32nm,0.8s
NVS Novosibirsk 72.13 337⇑*iP* P **00 36 26.6 -2.8**
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,19nm,1.0s
OTUK Ortayu 72.76 327 P P **00 36 32.7 -0.7**
OTUK pmax pmax
comp=Z,21nm,1.1s
OPO Ambohidratompo 74.21 253 P P **00 36 44.2 +1.5**
comp=Z,5.5nm,0.7s,baz=28,slow=3.8,SNR=8.6
BVAR Borovoye Array 76.58 330 P P **00 36 54.3 -1.0**
comp=Z,3.4nm,0.7s,baz=140,slow=7.2,SNR=16
GEYT Alibeck 76.78 312 P P **00 36 56.1 -0.7**
comp=Z,3.2nm,0.8s,baz=131,slow=4.1,SNR=7.8
AB31 Akbulak array 80.28 323 *i*P P **00 37 14.2 -1.5**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 80.28 323 *e*P P **00 37 13.7 -2.0**
comp=Z,1.3nm,0.5s
TIXI Tiksi 80.72 2⇑*eP* P **00 37 17.0 -0.6**
TIXI pmax pmax
comp=Z,16nm,1.7s
TIXI Tiksi 80.72 2 *e*P P **00 37 14.6 -3.0**
comp=Z,5.1nm,0.6s
QSPA South Pole Qui 80.82 180 P P **00 37 19.5 +0.9**
comp=Z,7.9nm,0.6s,baz=298,slow=1.0,SNR=55
QSPA South Pole Qui 80.82 180 *e*P P **00 37 19.6 +1.1**
comp=Z,7.3nm,0.8s
AKTO Aktyubinsk 81.92 324 P P **00 37 22.6 -1.8**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 82.76 295 *e*P P **00 37 29.3 -0.1**
comp=Z,7.1nm,0.8s
RAYN *ep*P **pP 00 37 55.2 -0.6**
BILL Bilibino 82.77 15 *e*P P **00 37 27.7 -0.7**
BILL pmax pmax
comp=Z,4.0nm,1.1s
SVE Sverdlovsk 83.36 331 *e*P P **00 37 31.2 -0.5**
SVE pmax pmax
comp=Z,12nm,0.8s
ARU Arti 84.21 330*c iP* P **00 37 35.0 -1.0**
ARU S **S 00 47 55.4 +2.7**
ARU SS **SS 00 53 24.6 +0.2**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 84.21 330 *e*P P **00 37 35.4 -0.6**

comp=Z,7.9nm,0.8s
KMBO Kilima Mbogo 86.09 269 P P **00 37 48.2 +1.5**
comp=Z,0.9nm,0.5s,baz=59,slow=6.5,SNR=5.1
ZEI Tsey 88.60 314 *e*P P **00 37 57.3 -0.8**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 89.53 314 P P **00 38 03.6 +1.5**
comp=Z,1.7nm,0.9s,baz=121,slow=4.1,SNR=6.3
SNAA Sanae 91.99 195*ceP* P **00 38 14.9 +1.7**
SNAA pmax pmax
comp=Z,24nm,2.5s
SNAA Sanae 91.99 195 P P **00 38 14.9 +1.7**
comp=Z,4.0nm,0.8s,baz=169,slow=4.6,SNR=13
SNAA Sanae 91.99 195 *e*P P **00 38 14.1 +0.9**
comp=Z,14nm,1.1s
BOSA Boshof 92.79 241 P P **00 38 18.9 +1.1**
comp=Z,3.4nm,0.6s,baz=92,slow=3.8,SNR=8.9
BRTR Keskin Array B 95.66 309 P P **00 38 32.0 +1.2**
BRTR Keskin Array B 95.66 309 P P **00 38 31.9 +1.2**
comp=Z,1.1nm,0.9s,baz=142,slow=4.5,SNR=5.6
OBN Obninsk 95.68 325 *e*P P **00 38 30.9 +0.7**
OBN pmax pmax
comp=Z,5.0nm,1.5s
ILAR Eielson Array 98.07 26 P P **00 38 38.8 -2.1**
comp=Z,0.5nm,0.9s,baz=278,slow=4.6,SNR=4.7
GERES GERESS Array B 109.85 319 PP PP 00 44 10.9 +1.7
comp=Z,0.4nm,0.8s,baz=353,slow=5.4,SNR=3.5
YKA Yellowknife Ar 112.50 25 PKiKP **PKiKP 00 43 39.8 -0.2**
comp=Z,0.2nm,0.4s,baz=302,slow=1.8,SNR=15
YKA SKP 00 47 05.1
comp=Z,0.4nm,0.7s,baz=298,slow=1.8,SNR=8.7
YKA PKKPbc **PKKPbc 00 54 29.9 -2.3**
comp=Z,0.7nm,0.7s,baz=108,slow=3.5,SNR=15
YKA PKKPab **PKKPab 00 54 37.8 -0.2**
comp=Z,0.2nm,0.5s,baz=110,slow=4.8,SNR=3.8
TORD Torodi Ar. Bea 122.84 280 PKP **PKPdf 00 44 01.8 +0.5**
comp=Z,1.0nm,0.5s,baz=56,slow=1.8,SNR=31
TORD pPKP **pPKPdf 00 44 29.8 +0.6**
comp=Z,1.7nm,0.6s,baz=58,slow=1.7,SNR=5.1
TORD SKP 00 47 27.6
comp=Z,0.5nm,0.6s,baz=86,slow=1.4,SNR=5.6
PDAR Pinedale Array 122.98 45 PKP **PKPdf 00 44 00.4 -0.7**
comp=Z,0.6nm,0.4s,baz=54,slow=2.8,SNR=5.3
PDAR PKKPbc **PKKPbc 00 53 54.4 +0.1**
comp=Z,0.2nm,0.3s,baz=121,slow=5.7,SNR=3.8
FRB Frobisher Bay 124.84 6 SKP 00 47 30.1
comp=Z,1.4nm,0.8s,baz=350,slow=4.9,SNR=3.6
DBIC Dimbokro 128.79 271 PKP **PKPdf 00 44 13.9 +1.1**
comp=Z,2.0nm,0.5s,baz=59,slow=1.8,SNR=5.9
TXAR Lajitas Array 131.58 59 PKP **PKPdf 00 44 19.2 +1.5**
comp=Z,0.2nm,0.4s,baz=343,slow=1.9,SNR=3.1
TXAR SKPbc **SKPbc 00 47 34.4 +0.2**
comp=Z,0.8nm,0.5s,baz=234,slow=3.7,SNR=21
SCHQ Schefferville 133.72 8 PKP **PKPdf 00 44 21.6 +0.7**
comp=Z,0.9nm,0.5s,baz=266,slow=4.9,SNR=4.8
SCHQ SKPbc **SKPbc 00 47 39.6 -1.1**
comp=Z,9.4nm,1.0s,baz=18,slow=4.7,SNR=10
TKL Tuckaleechee C 143.78 39 PKP **PKPdf 00 44 39.7 -0.1**
comp=Z,1.8nm,0.5s,baz=42,slow=7.1,SNR=3.7
TKL SKPbc **SKPbc 00 48 09.2 -0.3**
comp=Z,1.7nm,0.5s,baz=214,slow=3.6,SNR=3.5
GOGA Godfrey 145.39 42 *e*PKIKP **PKPbc 00 44 42.7 -0.1**
GOGA Godfrey 145.39 42 *e*PKP **PKPbc 00 44 42.7 -0.1**
KMSC Kings Mountain 145.62 38 *e*PKP **PKPdf 00 44 43.2 +0.1**
LVC Limon Verde 146.16 159 *e*PKPdf **PKPdf 00 44 44.8 +0.2**
JTS JuntasAbangare 151.97 85 PKPbc **PKPbc 00 45 01.4 +0.9**
comp=Z,5.6nm,0.8s,baz=250,slow=15,SNR=3.4
LPAZ La Paz 152.22 156 PKPbc **PKPbc 00 45 03.2 +1.5**
comp=Z,3.5nm,0.5s,baz=124,slow=3.3,SNR=24
LPAZ PKPab **PKPab 00 45 13.5 +1.9**
comp=Z,14nm,0.6s,baz=135,slow=0.7,SNR=23
ATAH Atahualpa 152.85 126 PKPbc **PKPbc 00 45 03.5 +0.6**
comp=Z,4.6nm,0.6s,baz=225,slow=7.1,SNR=3.5

DJA 06 00:30:54.5±2.0,0°S±3°×12°5E±°,h33km±24km,M3.7/9, MLv3.7/9,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.46**	**307**	P	Pn	00 31 18.6	0.0
KMSI				S	Sn	00 31 35.9	-0.7
SANI	**Sanana**	**1.92**	**154**	P	Pn	00 31 24.4	-0.4
SANI				S	Sn	00 31 46.6	-1.2
GTOI	**Gorontalo**	**2.33**	**294**	P	Pn	00 31 33.2	+2.6
GTOI				S	Sb	00 32 03.4	-0.9
LBMI	**Labuha**	**2.38**	**98**	P	Pn	00 31 31.4	+0.1
LBMI				S	Sn	00 32 01.1	+1.7
LUWI	**Luwuk**	**2.47**	**253**	P	Pn	00 31 34.1	+1.6
LUWI				S	Sb	00 32 10.0	+1.6
TNTI	**Ternate**	**2.48**	**64**	P	Pn	00 31 32.0	-0.6
TNTI				S	Sn	00 32 04.4	+2.7
MRSI	**Marisa**	**3.30**	**284**	P	Pn	00 31 44.6	+0.8
NLAI	**Namlea**	**3.50**	**146**	P	Pn	00 31 49.6	+3.0
NLAI				S	Sn	00 32 25.2	-1.7
APSI	**Ampana**	**3.54**	**260**	P	Pn	00 31 48.5	+1.3

*ISCJB **06** 00:40:22.7±0.5,32°.24N±0°.03×115°.20W±0°.03,h8km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=159.4*
*NEIC **06** 00:40:24.6,32°.18N×115°.26W,h10km,ML3.7(PAS),After PAS.*
*ECX **06** 00:40:25.6±0.6,32°.22N×115°.26W,h6km,MD3.8,ML4.0*
ISC 06 00:40:24.1±1.1,32°22N±0°.03×115°26W±0°.02,h10km±9km, n43,σ1º10/57,4C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMSC	**East Mesa**	**0.57**	**24**	*e*Pg	**Pb**	**00 40 35.9**	**-0.2**
SGL	**Mount Signal**	**0.59**	**318**⇓	*iP*	**Pg**	**00 40 35.6**	**+0.2**
ERPC	**Ernies Place**	**0.63**	**327**	*e*Pg	**Pb**	**00 40 37.2**	**+0.1**
RDX	**Rancho Dawling**	**0.65**	**244**	*e*P	**Pg**	**00 40 37.1**	**+0.5**
RDX				*e*S	**Sg**	**00 40 45.9**	**+0.7**
COA	**Coachella**	**0.66**	**10**	*e*Pg	**Pg**	**00 40 37.1**	**+0.3**
YMD	**Yuma Desert**	**0.69**	**60**⇑	*i*P	**Pg**	**00 40 37.5**	**+0.1**
YUH	**Yuha Desert**	**0.71**	**308**⇑	*i*P	**Pb**	**00 40 38.2**	**-0.3**
COK	**Cook Ranch**	**0.75**	**328**⇑	*i*P	**Pg**	**00 40 38.6**	**+0.1**
RMX	**La Rumorosa**	**0.79**	**299**	*e*P	**Pg**	**00 40 39.1**	**-0.4**
RMX				*e*S	**Sg**	**00 40 50.1**	**+0.3**
SWSC	**Sam W. Stewart**	**0.85**	**328**	*e*Pn	**Sg**	**00 40 52.0**	**+0.3**
CRR	**Carrizo Plain**	**0.90**	**318**	*e*Pg	**Pg**	**00 40 41.3**	**-0.1**
GLA	**Glamis**	**0.91**	**23**	*e*Pg	**Pg**	**00 40 40.7**	**-0.9**
GLA				*e*Sg	**Sg**	**00 40 52.3**	**-1.2**
CLIC	**Calipatria**	**0.95**	**346**	*e*Pg	**Pg**	**00 40 41.2**	**-1.1**
CBKC	**Canebrake**	**1.08**	**309**	*e*Pg	**Pg**	**00 40 44.7**	**-0.2**
ZAX	**El Zacaton**	**1.11**	**231**	*e*P	**Pg**	**00 40 44.8**	**-0.6**
ZAX				*e*S	**Sg**	**00 40 59.8**	**-0.1**
ZAX				⇓*e*		00 41 01.1	
ZAX				AML	AML	00 41 01.1	
	comp=N,4μm,0.3s						
ZAX				AML	AML	00 41 05.0	
	comp=E,4μm,0.5s						
ZAX				⇑*e*		00 41 05.0	
FRK	**Frink**	**1.23**	**345**	*e*Pn	**Pg**	**00 40 49.9**	**+2.2**
ECNX	**Esteban Cantu**	**1.27**	**244**	*e*P	**Pn**	**00 40 47.6**	**-0.3**
ECNX				*e*S	**Sg**	**00 41 04.8**	**-0.1**
LTC	**Little Chuckwa**	**1.28**	**7**	*e*Pg	**Pn**	**00 40 46.3**	**-1.7**
BAR	**Barrett**	**1.28**	**292**	*e*Pg	**Pn**	**00 40 47.8**	**-0.3**
BAR				*e*Sg	**Sb**	**00 41 04.0**	**-0.9**
PBX	**Punta Banda**	**1.33**	**250**	*e*P	**Pn**	**00 40 48.7**	**-0.1**
PBX				*e*S	**Sg**	**00 41 06.7**	**-0.3**
EML	**El Monte Cty P**	**1.50**	**297**	*e*Sn	**Sn**	**00 41 10.6**	**0.0**
CTW	**Cottonwood Mou**	**1.55**	**341**	*e*Pn	**Pg**	**00 40 55.1**	**+1.3**
DPP	**Dos Picos Cty**	**1.62**	**299**	*e*Sn	**Sb**	**00 41 14.4**	**-0.3**
CPE	**Camp Elliot**	**1.70**	**294**	*e*Pn	**Pb**	**00 40 55.3**	**-0.1**
CPE				*e*Sn	**Sb**	**00 41 16.6**	**-0.2**
PFO	**Pinyon Flats O**	**1.72**	**324**	*e*Pn	**Pn**	**00 40 52.0**	**-2.2**
LDFC	**Landfair**	**2.86**	**2**	*e*Pn	**Pb**	**00 41 13.7**	**-1.6**
MWC	**Mount Wilson**	**3.09**	**311**	*e*Pn	**Pb**	**00 41 19.9**	**+0.7**
MWC				*e*Sn	**Sn**	**00 41 50.4**	**+0.3**
PASC	**Pasadena Art C**	**3.13**	**309**	*e*Pn	**Pn**	**00 41 14.7**	**+1.2**
PASC				*e*Sn	**Sn**	**00 41 50.2**	**-0.9**
PASC				*e*Sg	**Sb**	**00 42 00.5**	**+2.3**
GSC	**Goldstone, Bar**	**3.34**	**338**	*e*Pg	**Pb**	**00 41 25.8**	**+2.4**
TUC	**Tucson**	**3.79**	**87**	*e*Pn	**Pn**	**00 41 21.3**	**-1.3**
TUC				*e*Pg	**Pg**	**00 41 36.8**	**+0.1**
TUC				*e*Sg	**Sg**	**00 42 26.1**	**+0.3**
WWPM	**Walker Pass**	**4.22**	**327**	*e*Pg	**Pg**	**00 41 42.0**	**-3.0**
SHPR	**Sheep Range**	**4.28**	**1**	*e*Pn	**Pn**	**00 41 29.2**	**-0.3**
SHPR				*e*Sn	**Sn**	**00 42 20.3**	**+0.7**
ISA	**Isabella, Lake**	**4.36**	**323**	*e*Pg	**Pg**	**00 41 46.1**	**-1.4**
WUAZ	**Wupatki**	**4.61**	**43**	*e*Pn	**Pn**	**00 41 33.2**	**-0.8**

TPNV Topopah Spring 4.79 350 *e*Pn Pn 00 41 42.0 +5.5
W18A Petrified Fore 5.44 56 *e*Pn **Pn 00 41 47.0 +1.6**
W18A *e*Lg Lg 00 43 26.8
CCUT Cedar City 5.55 16 *e*Pn **Pn 00 41 47.1 +0.3**
ARUT Antelope Range 5.76 15 *e*Pn **Pn 00 41 49.3 -0.4**
TPH Tonopah 6.06 345 *e*Pg **Pg 00 42 22.1 +1.9**
R11A Troy Canyon, C 6.13 358 *e*Pn **Pn 00 41 55.4 +0.6**
R11A *e*Pg **Pg 00 42 19.3 -2.0**
121A Cookes Peak, D 6.33 85 *e*Pn **Pn 00 41 56.9 -0.7**
comp=E,14nm,0.3s
MVU Marysvale 6.75 21 *e*Pn Pn 00 41 58.3 -5.1
MVU *e*Pg **Pg 00 42 34.5 +1.2**
LENM Lemitar 7.21 72 *e*Pn **Pn 00 42 10.5 +0.8**

*IDC **06** 00:43:29.0±3.3,36°.05N×71°.24E,h57km±28km,mb3.7/11, mb1 3.8/16,mb1mx3.4/51,mbtmp4.0/16,ML3.8/5,MS3.2/4, Ms1 3.2/4,ms1mx2.8/35,Error ellipse: s-maj=23.6km s-min=20.0km az=141.0*
*ISCJB **06** 00:43:31.4±0.4,36°.18N±0°.03×71°.36E±0°.06,h102km, mb3.8/11, Error ellipse: s-maj=8.0km s-min=3.3km az=156.2*
*NNC **06** 00:43:35.9±2.1,36°.59N×70°.91E,h137km,mb3.2,mpv3.9, Error ellipse: s-maj=16.9km s-min=8.5km az=173.0*
ISC 06 00:43:31.9±0.7,36°.16N±0°.05×71°.20E±0°.07,h102km,n61, σ2º25/64,mb3.8/11,6C-10D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino** 16nm,0.4s	**3.25**	**325**	⇓P	**Pn**	**00 44 19.4**	**-1.6**
DZET				⇓S	**Sn**	**00 44 54.6**	**-4.4**
	90nm,0.4s						
SFK	**Sufi-Kurgan** 6.5nm,0.3s	**4.25**	**25**	⇓P	**Pn**	**00 44 35.5**	**+0.9**
SFK				⇑S	**Sn**	**00 45 23.6**	**+0.2**
	20nm,0.5s						
DLH	**Dalhousie**	**5.34**	**131**	*e*P	**Pn**	**00 44 52.0**	**+2.5**
DLH				*e*S	**Sn**	**00 45 51.0**	**+1.2**
DHRM	**DHARAMSHALA**	**5.75**	**131**	*e*P	**Pn**	**00 44 57.1**	**+2.2**
DHRM				*e*S	**Sn**	**00 46 01.5**	**+1.8**
DHRM				AML	AML	00 46 40.4	
	comp=N,145nm,0.7s						
DHRM				AML	AML	00 46 42.1	
	comp=E,184nm,0.5s						
AML	**Almayashu** SNR=68	**6.27**	**17**	P	**Pn**	**00 45 02.1**	**0.0**
MNAS	**Manas** comp=E,3.7nm,0.4s	**6.40**	**9**	⇓P	**Pn**	**00 45 03.0**	**-0.7**
MNAS				⇓S	**Sn**	**00 46 10.2**	**-5.0**
	comp=E,12nm,0.5s						
UCH	**Uchtor** SNR=16	**6.58**	**22**	P	**Pn**	**00 45 06.6**	**+0.2**
SDNR	**Sundarnagar**	**6.68**	**132**	*e*P	**Pn**	**00 45 10.0**	**+2.6**
SDNR				*ex*	x	00 46 19.5	
KZA	**Kyzart** SNR=15	**6.69**	**27**	P	**Pn**	**00 45 08.3**	**+0.4**
EKS2	**Erkin-Say** SNR=28	**6.79**	**16**	P	**Pn**	**00 45 09.2**	**+0.2**
AAK	**Ala-Archa** comp=E,12nm,0.4s	**6.95**	**20**	⇓P	**Pn**	**00 45 11.4**	**+0.3**
AAK				⇑S	**Sn**	**00 46 25.5**	**-3.2**
	comp=E,6.5nm,0.6s						
AAK	**Ala-Archa** SNR=32	**6.95**	**20**	P	**Pn**	**00 45 11.5**	**+0.3**
AAK	**Ala-Archa** comp=E,8.6nm,0.3s,baz=175,slow=6.1,SNR=144	**6.95**	**20**	P	**Pn**	**00 45 11.4**	**+0.3**
AAK				S	**Sn**	**00 46 26.1**	**-2.5**
	comp=E,0.8nm,0.3s,baz=2.6,slow=15,SNR=4.0						
KK31	**Karatay Array** comp=E,1.4nm,0.2s,baz=178,slow=12	**6.95**	**356**	⇓P	**Pn**	**00 45 09.7**	**-1.4**
KK31				⇑S	Sn	00 46 22.2	-6.4
	comp=E,5.7nm,0.4s,baz=183,slow=25						
SMLA	**Simla**	**7.06**	**134**	*iP*	**Pn**	**00 45 13.5**	**+0.9**
SMLA				*i* S	**Sn**	**00 46 30.7**	**-0.6**
SMLA				*i* S	**Sn**	**00 46 31.2**	**-0.1**
SMLA				AML	AML	00 46 32.6	
	comp=N,112nm,0.4s						
SMLA				AML	AML	00 46 34.6	
	comp=E,90nm,0.0s						
KBK	**Karagaybulak** SNR=6.7	**7.10**	**23**	P	**Pn**	**00 45 13.8**	**+0.5**
ULHL	**Ulahol** SNR=7.6	**7.22**	**31**	P	**Pn**	**00 45 16.1**	**+1.2**
CHMS	**Chumysh** SNR=5.3	**7.36**	**21**	P	**Pn**	**00 45 16.8**	**+0.2**
TKM2	**Tokmak 2** comp=E,6.5nm,0.5s	**7.55**	**25**	⇑P	**Pn**	**00 45 19.2**	**-0.2**
TKM2				⇓S	**Sn**	**00 46 40.3**	**-3.2**
	comp=E,6.3nm,1.3s						
TKM2	**Tokmak 2** SNR=6.4	**7.55**	**25**	P	**Pn**	**00 45 19.7**	**+0.2**
KHET	**Khetri**	**8.96**	**153**	*e*P	**Pn**	**00 45 38.3**	**-0.1**
KHET				*e*S	Sn	00 47 11.2	-6.3
KHET				*e*S	**Sn**	**00 47 11.9**	**-5.6**
KHET				AML	AML	00 47 16.2	
	comp=N,125nm,0.5s						
KHET				AML	AML	00 47 16.6	
	comp=E,134nm,0.3s						
KUDL	**Kundal**	**9.16**	**149**	*e*P	**Pn**	**00 45 40.7**	**-0.4**
KUDL				*e*S	**Sn**	**00 47 17.1**	**-5.3**
KALG	**Kalgarh**	**9.18**	**134**	*e*S	**Sn**	**00 47 21.3**	**-1.6**
AGRA	**Agra**	**10.59**	**145**	*e*S	**Sn**	**00 47 52.4**	**-4.7**
AGRA				AML	AML	00 48 12.1	
	comp=N,76nm,0.3s						
AGRA				AML	AML	00 48 21.6	
	comp=E,66nm,0.4s						
GEYT	**Alibeck**	**10.61**	**283**	P	Pn	00 45 57.5	-3.3
	comp=E,2.2nm,0.3s,baz=101,slow=8.7,SNR=26						
PYUN	**Piuthan** comp=E,55nm,0.4s	**12.81**	**126**	*e*P	**Pn**	**00 46 28.9**	**-1.5**
DANN	**Dangsing** comp=E,13nm,0.4s	**13.16**	**123**	*e*P	**Pn**	**00 46 33.4**	**-1.7**
KOLN	**Koldanda** comp=E,9.0nm,0.5s	**13.43**	**125**	*e*P	**Pn**	**00 46 37.6**	**-0.9**
MK31	**Makanchi Array**	**13.47**	**35**	⇓P	**Pn**	**00 46 38.6**	**-0.2**
	comp=E,0.3nm,0.3s,baz=217,slow=11,SNR=16						
MKAR	**Makanchi Array**	**13.47**	**35**	P	**Pn**	**00 46 37.8**	**-1.0**
	comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=6.2						
GKN	**Gorkha** comp=E,15nm,0.5s	**13.98**	**122**	*e*P	**Pn**	**00 46 44.5**	**-1.2**
KKN	**Kakani** comp=E,15nm,0.5s	**14.56**	**121**	*e*P	**Pn**	**00 46 51.0**	**-2.1**
PKIN	**Phulchoki** comp=E,7.0nm,0.4s	**14.77**	**121**	*e*P	**Pn**	**00 46 54.2**	**-1.7**
PKI	**Pulchoki** comp=E,13nm,0.6s	**14.79**	**121**	*e*P	**Pn**	**00 46 54.6**	**-1.5**
GUN	**Gumba** comp=E,8.0nm,0.4s	**14.91**	**119**	*e*P	**Pn**	**00 46 54.9**	**-2.7**
JIRN	**Jiri** comp=E,16nm,0.4s	**15.28**	**119**	*e*P	**Pn**	**00 47 00.4**	**-1.9**
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.3s,baz=207,slow=10,SNR=6.0	**15.39**	**18**	P	**P**	**00 47 04.9**	**-0.6**
AB31	**Akbulak array** comp=E,3.0nm,0.6s,baz=144,slow=12,SNR=120	**15.46**	**331**	⇑P	**Pn**	**00 47 00.6**	**-3.5**
RAMN	**Ramite** comp=E,8.4nm,0.4s	**16.00**	**121**	*e*P	**Pn**	**00 47 09.0**	**-2.3**
TAPN	**Taplejung** comp=E,9.3nm,0.6s	**16.54**	**117**	*e*P	**Pn**	**00 47 16.9**	**-1.1**
ODAN	**Odare** comp=E,5.9nm,0.4s	**16.61**	**119**	*e*P	**Pn**	**00 47 16.9**	**-1.9**
BVA0	**Borovoye Array** comp=E,1.9nm,0.8s,baz=163,slow=12,SNR=9.7	**16.87**	**358**	⇑P	**Pn**	**00 47 17.2**	**-4.4**
BVAR	**Borovoye Array** comp=E,0.6nm,0.3s,baz=153,slow=13,SNR=6.0	**16.87**	**358**	P	**Pn**	**00 47 20.1**	**-1.5**
AKTO	**Aktyubinsk** comp=E,4.8nm,0.7s	**17.16**	**330**	⇓P	**Pn**	**00 47 21.8**	**-3.2**
AKTO	**Aktyubinsk** comp=E,0.6nm,0.3s,baz=123,slow=9.9,SNR=15	**17.16**	**330**	P	**Pn**	**00 47 24.5**	**-0.5**
AKTO				LR	LR	00 54 38.5	
	comp=E,43nm,18.1s,baz=175,slow=39						
ZALV	**Zalesovo Beam** comp=E,5.5nm,0.4s,baz=211,slow=10,SNR=52	**20.16**	**24**	P	Pn	00 47 58.3	-2.3
ZALV				pP	pP	00 48 11.8	-5.3
	comp=E,3.5nm,0.5s,baz=220,slow=10,SNR=7.1						
JOF	**Joensuu** comp=E,1.2nm,0.6s	**36.24**	**330**	*ep*	**P**	**00 50 27.4**	**+2.7**
FINES	**FINESS Array B**	**37.86**	**326**	P	P	00 50

comp=Z,0.7nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 44.75 323 P P 00 51 37.0 +2.1
comp=Z,1.2nm,0.7s,baz=96,slow=7.8,SNR=7.0
KSRS Korea Array 44.84 71 LR LR 01 13 51.2
comp=Z,21nm,18.5s,baz=196,slow=41
SPITS Spitsbergen Ar 47.86 347 P P 00 52 02.5 +3.6
comp=Z,3.3nm,0.8s,baz=165,slow=12,SNR=4.3
KEST Kesra 49.30 289 LR LR 01 16 29.7
comp=Z,20nm,19.7s,baz=212,slow=40
JCJ Chichijima 59.92 77 LR LR 01 21 37.8
comp=Z,66nm,18.9s,baz=94,slow=38
TORD Torodi Ar. Bea 65.88 269 P P 00 54 08.0 +1.0
comp=Z,1.3nm,0.5s,baz=50,slow=5.6,SNR=24
INK Inuvik 74.21 9 P P 00 54 59.1 +2.1
comp=Z,0.6nm,0.5s,baz=276,slow=0.7,SNR=7.1
BOSA Boshof 77.59 220 P P 00 55 20.6 +3.7
comp=Z,2.4nm,0.7s,baz=20,slow=7.1,SNR=5.9
YKA Yellowknife Ar 81.58 3 P P 00 55 40.0 +2.2
comp=Z,0.2nm,0.4s,baz=351,slow=5.4,SNR=10
WRA Warramunga Arr 81.67 122 P P 00 55 40.5 +1.4
comp=Z,0.5nm,0.9s,baz=325,slow=4.9,SNR=5.4

NEIC 06 00:46:38.3,31.82N×114.85W,h10km,ML3.5(PAS)**, After PAS., Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMSC	**East Mesa**	**0.93**	**353**	*e*Pg		Pg	00 46 53.8	-2.3
YUH	**Yuha Desert**	**1.23**	**313**	*e*Pg		Pn	00 46 52.1	-9.4
GLA	**Glamis**	**1.23**	**1**	*e*Pn		Pn	00 46 58.0	-3.6
GLA				*e*Sn		Sn	00 47 22.6	+4.2
CBKC	**Canebrake**	**1.60**	**313**	*e*Pn		Pn	00 47 06.3	-0.4
LTC	**Little Chuckwa**	**1.68**	**354**	*e*Pn		Pn	00 47 05.2	-2.6
FRK	**Frink**	**1.71**	**337**	*e*Pn		Pg	00 47 11.0	-0.2
BAR	**Barrett**	**1.77**	**300**	*e*Pn		Pn	00 47 08.6	-0.4
BAR				*e*Sn		Sn	00 47 25.0	-6.6
BORC	**Borrego Spring**	**1.96**	**318**	*e*Pn		Pn	00 47 04.4	-7.2
PFO	**Pinyon Flats O**	**2.24**	**323**	*e*Pn		Pn	00 47 08.9	-6.8
PFO				*e*Sn		Sn	00 47 41.8	-1.7
VTV	**Victorville**	**3.44**	**323**	*e*Sn		Sn	00 48 03.5	-9.4
TUC	**Tucson**	**3.49**	**81**	*e*Pn		Pn	00 47 32.8	+0.1
TUC				*e*Sn		Sn	00 48 12.1	-2.1
MWC	**Mount Wilson**	**3.61**	**313**	*e*Pn		Pn	00 47 34.0	-0.6
MWC				*e*Sn		Sn	00 48 14.4	-3.0
PASC	**Pasadena Art C**	**3.66**	**311**	*e*Pn		Pn	00 47 29.8	-5.1
SRTC	**Snort**	**4.56**	**329**	*e*Pg		Pb	00 47 59.5	+1.0
WUAZ	**Wupatki**	**4.69**	**37**	*e*Pn		Pn	00 47 50.2	+0.8
RCWM	**Renegade Canyo**	**4.73**	**331**	*e*Pg		Pb	00 47 59.5	-2.0
WWPM	**Walker Pass**	**4.75**	**326**	*e*Pn		Pn	00 47 45.4	-4.7
WWPM				*e*Sn		Sn	00 48 39.6	-5.7
WWPM				*e*Lg		Lg	00 49 26.9	
WLHM	**Little Horse**	**5.19**	**327**	*e*Pn		Pn	00 47 59.5	+3.0

IDC ***06*** *00:47:00.1±0.8,39.24N×54.88E,h0km,mb3.7/20, mb1 3.9/26,mb1mx3.8/50,mbtmp3.8/26,ML3.6/6,MS3.2/2, Ms1 3.2/2,ms1mx2.4/47,Error ellipse: s-maj=18.9km s-min=9.7km az=179.0*
BJI ***06*** *00:47:01.8,39.40N×55.00E,h10km,mB4.5/1,mb4.3/4*
ISCJB ***06*** *00:47:02.9±0.2,39.48N±0.02×54.96E±0.02,h29km, mb3.9/28,MS3.0/1,Error ellipse: s-maj=3.3km s-min=2.5km az=9.2*
CSEM ***06*** *00:47:02.7±0.1,39.48N×54.97E,h10km,mb4.2/13,Error ellipse: s-maj=4.2km s-min=3.8km az=36.0*
TEH ***06*** *00:47:04.4,39.50N×54.92E,h18km,ML3.9*
MOS ***06*** *00:47:05.1±1.9,39.73N×55.07E,h33km,mb4.3/10,Error ellipse: s-maj=8.3km s-min=6.1km az=108.0*
AZER ***06*** *00:47:06.6±0.0,39.12N×54.33E,h10km,Error ellipse: s-maj=2.6km s-min=2.2km az=359.0*
THR ***06*** *00:47:07.4±0.5,39.27N×54.30E,h15km,ML3.8*
NNC ***06*** *00:47:09.5±1.4,39.92N×55.91E,h0km,mb4.4,mpv4.4, Error ellipse: s-maj=14.1km s-min=7.0km az=83.0*

ISC 06 00:47:04.5±0.5,39.51N±0.04×54.97E±0.03,h29km,n213, σ1.991/228,mb4.0/28,44C-29D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**2.04**	**154**	*e*Pn		Pb	00 47 44.6	+3.6
MRVT				AML		AML	00 48 10.2	
	comp=E,525nm,0.3s							
MRVT				AML		AML	00 48 10.3	
	comp=N,643nm,0.4s							
MRVT	**Maraveh tapeh**	**2.04**	**154**	*e*Pn		Pb	00 47 44.6	+3.6
	comp=N,643nm,0.4s							
ISHV	**Shirvan**	**2.91**	**132**	*e*Pn		**Pn**	**00 47 50.1**	**+1.0**
ISHV				*e*			00 48 50.5	
	comp=Z,6μm,0.3s							
ISHV	**Shirvan**	**2.91**	**132**	*e*Pn		**Pn**	**00 47 50.1**	**+1.0**
GEYT	**Alibeck**	**2.92**	**122**	Pn		**Pn**	**00 47 48.4**	**-0.7**
	comp=Z,11nm,0.3s,baz=304,slow=16,SNR=70							
GEYT				Lg		Lg	00 48 33.7	
	comp=Z,27nm,0.3s,baz=281,slow=22,SNR=5.2							
ASHT	**Ashkhabad**	**3.09**	**119**	⇑Pn		**Pn**	**00 47 54.3**	**+2.9**
	comp=Z,94nm,0.8s							
ASHT				⇑Pg		**Pb**	**00 47 59.9**	**+1.1**
	comp=Z,203nm,0.6s							
ASHT				⇓Lg		Lg	00 48 37.0	
	comp=Z,994nm,0.6s							
IGLO	**Ghaloghah**	**3.13**	**197**	*e*Pn		**Pn**	**00 47 51.4**	**-0.8**
IGLO				*e*			00 48 29.9	
	comp=Z,3μm,0.2s							
ISFR	**Sfrayin**	**3.42**	**135**	*e*Pn		**Pn**	**00 47 56.6**	**+0.5**
ISFR				*e*			00 48 31.7	
	comp=Z,3μm,0.3s							
GALA	**Gala**	**3.81**	**285**	⇑P		Pn	00 48 05.5	+4.3
GALA	**Gala**	**3.81**	**285**	P		Pn	00 48 05.5	+4.3
IALA	**Alasht**	**3.82**	**207**	*e*Pn		**Pn**	**00 48 01.3**	**-0.4**
IALA				*e*			00 48 46.3	
	comp=Z,9μm,0.1s							
IALA	**Alasht**	**3.82**	**207**	*e*Pn		**Pn**	**00 48 01.3**	**-0.4**
IPRN	**Peran**	**3.87**	**213**	*e*Pn		**Pn**	**00 48 00.8**	**-1.4**
IPRN				*e*Sn		**Sn**	**00 48 44.2**	**-2.5**
IPRN				*e*			00 48 46.8	
	comp=Z,8μm,0.1s							
NDR	**Nardaran**	**3.97**	**287**	⇑P		**Pn**	**00 48 05.3**	**+1.9**
NDR	**Nardaran**	**3.97**	**287**	P		**Pn**	**00 48 05.3**	**+1.9**
GOBA	**Gobu**	**4.12**	**284**	⇓P		**Pn**	**00 48 08.4**	**+2.9**
GOBA	**Gobu**	**4.12**	**284**	P		**Pn**	**00 48 08.4**	**+2.9**
IAKL	**Akhelmad**	**4.16**	**133**	*e*Pn		**Pn**	**00 48 06.6**	**+0.2**
IAKL				*e*			00 49 52.2	
	comp=Z,1μm,0.2s							
IAKL	**Akhelmad**	**4.16**	**133**	*e*Pn		**Pn**	**00 48 06.6**	**+0.2**
IFIR	**Firoozkooh**	**4.24**	**205**	*e*			00 48 13.0	
	comp=Z,2μm,0.1s							
IFIR				*e*Pn		**Pn**	**00 48 08.4**	**+1.0**
IPAY	**Payeh**	**4.41**	**133**	*e*Pn		**Pn**	**00 48 10.7**	**+1.0**
IPAY				*e*			00 49 56.4	
	comp=Z,1μm,0.2s							
IPAY	**Payeh**	**4.41**	**133**	*e*Pn		**Pn**	**00 48 10.7**	**+1.0**
DAMV	**Damavand**	**4.55**	**213**	*e*Pn		**Pn**	**00 48 11.7**	**+0.1**
DAMV	**Damavand**	**4.55**	**213**	*e*Pn		**Pn**	**00 48 11.7**	**+0.1**
IDMV	**Damavand**	**4.57**	**212**	*e*Pn		**Pn**	**00 48 12.6**	**+0.7**
IDMV				*e*			00 49 06.7	
	comp=Z,706nm,0.1s							
IDMV	**Damavand**	**4.57**	**212**	*e*Pn		**Pn**	**00 48 12.6**	**+0.7**
ALIB	**Äli-Bayra** SNR=6.0	**4.62**	**277**	⇑P		**Pn**	**00 48 14.5**	**+2.1**
ALIB	**Äli-Bayra** SNR=6.0	**4.62**	**277**	P		**Pn**	**00 48 14.5**	**+2.1**
CHTH	**Charan**	**4.71**	**222**	*e*Pn		**Pn**	**00 48 13.2**	**-0.7**
CHTH	**Charan**	**4.71**	**222**	*e*Pn		**Pn**	**00 48 13.2**	**-0.7**
ATGJ	**Altiaghaj** SNR=7.5	**4.81**	**288**	⇓P		**Pn**	**00 48 16.6**	**+1.5**
ATGJ				⇑S		**Sn**	**00 49 13.4**	**+3.5**
ATGJ	**Altiaghaj** SNR=7.5	**4.81**	**288**	P		**Pn**	**00 48 16.6**	**+1.5**
ATGJ				S		**Sn**	**00 49 13.4**	**+3.5**
IMOG	**Moghan**	**4.84**	**133**	*e*Pn		**Pn**	**00 48 16.3**	**+0.6**
IMOG				*e*			00 50 05.5	
	comp=Z,993nm,0.2s							
IMOG	**Moghan**	**4.84**	**133**	*e*Pn		**Pn**	**00 48 16.3**	**+0.6**
IGZV	**Ghazvin**	**4.88**	**232**	*e*Pn		**Pn**	**00 48 15.5**	**-0.7**
IGZV				*e*			00 49 09.8	
	comp=Z,1μm,0.1s							
IGZV	**Ghazvin**	**4.88**	**232**	*e*Pn		**Pn**	**00 48 15.5**	**-0.7**
LKRN	**Lenkeran, Azer** SNR=5.6	**4.88**	**263**	⇑P		**Pn**	**00 48 17.2**	**+1.3**
LKRN				⇑S		**Sn**	**00 49 08.0**	**-3.5**
LKRN	**Lenkeran, Azer** SNR=5.6	**4.88**	**263**	P		**Pn**	**00 48 17.2**	**+1.3**
LKRN				S		**Sn**	**00 49 08.0**	**-3.5**
PQL	**Pirkuli** SNR=3.6	**5.05**	**287**	⇓P		**Pn**	**00 48 20.0**	**+1.6**
PQL				⇓S		**Sn**	**00 49 18.7**	**+2.8**
PQL	**Pirkuli** SNR=3.6	**5.05**	**287**	P		**Pn**	**00 48 20.0**	**+1.6**
PQL				S		**Sn**	**00 49 18.7**	**+2.8**
GLBA	**Clilabad** SNR=14	**5.11**	**269**	⇑P		**Pn**	**00 48 19.4**	**+0.4**
GLBA				⇑S		**Sn**	**00 49 14.9**	**-2.1**
GLBA	**Clilabad** SNR=14	**5.11**	**269**	P		**Pn**	**00 48 19.4**	**+0.4**
GLBA				S		**Sn**	**00 49 14.9**	**-2.1**
IMYA	**Miami**	**5.14**	**126**	*e*Pn		**Pn**	**00 48 20.2**	**+0.5**
IMYA				*e*			00 50 09.6	
	comp=Z,2μm,0.3s							
IMYA	**Miami**	**5.14**	**126**	*e*Pn		**Pn**	**00 48 20.2**	**+0.5**
IVRN	**Varamin**	**5.20**	**211**	*e*Pn		**Pn**	**00 48 20.5**	**+0.2**
IVRN				*e*			00 49 29.7	
	comp=Z,283nm,0.1s							
IVRN	**Varamin**	**5.20**	**211**	*e*Pn		**Pn**	**00 48 20.5**	**+0.2**
LRK	**Lerik**	**5.23**	**263**	⇓P		**Pn**	**00 48 19.3**	**-1.6**
LRK				⇓S		**Sn**	**00 49 15.3**	**-5.1**
LRK	**Lerik**	**5.23**	**263**	P		**Pn**	**00 48 19.3**	**-1.6**
QUBA	**Quba, Azerbaij**	**5.28**	**293**	⇑P		**Pn**	**00 48 23.8**	**+2.4**
QUBA				⇓S		**Sn**	**00 49 21.9**	**+0.6**
QUBA	**Quba, Azerbaij**	**5.28**	**293**	P		**Pn**	**00 48 23.8**	**+2.4**
QUBA				S		**Sn**	**00 49 21.9**	**+0.6**
KDMR	**Kurdemir**	**5.29**	**282**	⇑S		**Sn**	**00 49 21.9**	**+0.5**
KDMR	**Kurdemir**	**5.29**	**282**	S		**Sn**	**00 49 21.9**	**+0.5**
IML	**Ismayilli** SNR=6.0	**5.36**	**286**	⇓P		**Pn**	**00 48 23.6**	**+1.1**
IML				⇓S		**Sn**	**00 49 24.0**	**+0.7**
IML	**Ismayilli** SNR=6.0	**5.36**	**286**	P		**Pn**	**00 48 23.6**	**+1.1**
IML				S		**Sn**	**00 49 24.0**	**+0.7**
GRMI	**Germi**	**5.55**	**265**	*e*Pn		**Pn**	**00 48 24.2**	**-1.0**
GRMI	**Germi**	**5.55**	**265**	*e*Pn		**Pn**	**00 48 24.2**	**-1.0**
ZNJK	**Zanjan**	**5.71**	**242**	*e*Pn		**Pn**	**00 48 26.3**	**-1.3**
ZNJK				AML		AML	00 49 34.9	
	comp=N,45nm,0.6s							
ZNJK				AML		AML	00 49 35.7	
	comp=E,57nm,0.5s							
ZNJK	**Zanjan**	**5.71**	**242**	*e*Pn		**Pn**	**00 48 26.3**	**-1.3**
	comp=E,57nm,0.5s							
IRAZ	**Razeghan**	**5.73**	**226**	*e*Pn		**Pn**	**00 48 27.5**	**-0.3**
IRAZ				*e*			00 49 39.0	
	comp=Z,359nm,0.3s							
IRAZ	**Razeghan**	**5.73**	**226**	*e*Pn		**Pn**	**00 48 27.5**	**-0.3**
GHVR	**GHOM**	**5.82**	**212**	*e*Pn		**Pn**	**00 48 29.4**	**+0.5**
GHVR	**GHOM**	**5.82**	**212**	*e*Pn		**Pn**	**00 48 29.4**	**+0.5**
BRDA	**Brd** SNR=6.7	**6.04**	**280**	⇑P		**Pn**	**00 48 32.7**	**+0.8**
BRDA				⇑S		**Sn**	**00 49 40.7**	**+0.7**
BRDA	**Brd** SNR=6.7	**6.04**	**280**	P		**Pn**	**00 48 32.7**	**+0.8**
BRDA				S		**Sn**	**00 49 40.7**	**+0.7**
MNGR	**Mingechevir, A**	**6.17**	**284**	⇓S		**Sn**	**00 49 44.6**	**+1.4**
MNGR	**Mingechevir, A**	**6.17**	**284**	S		**Sn**	**00 49 44.6**	**+1.4**
SEKA	**Sheki** SNR=11	**6.18**	**288**	⇑P		**Pn**	**00 48 35.0**	**+1.2**
SEKA				⇓S		**Sn**	**00 49 43.9**	**+0.4**
SEKA	**Sheki** SNR=11	**6.18**	**288**	P		**Pn**	**00 48 35.0**	**+1.2**
SEKA				S		**Sn**	**00 49 43.9**	**+0.4**
ZKTA	**Zakatala** SNR=4.1	**6.70**	**291**	⇑P		**Pn**	**00 48 42.6**	**+1.7**
ZKTA				⇑S		**Sn**	**00 49 57.8**	**+1.4**
GANJ	**Ganja** SNR=4.3	**6.73**	**282**	⇑P		**Pn**	**00 48 41.1**	**-0.3**
GANJ				⇓S		**Sn**	**00 49 53.6**	**-3.5**
GANJ	**Ganja** SNR=4.3	**6.73**	**282**	P		**Pn**	**00 48 41.1**	**-0.3**
IKLH	**Kolahrood**	**6.75**	**205**	*e*Pn		**Pn**	**00 48 41.8**	**-0.1**
IKLH				*e*			00 48 52.9	
	comp=Z,104nm,0.2s							
IKLH	**Kolahrood**	**6.75**	**205**	*e*Pn		**Pn**	**00 48 41.8**	**-0.1**
IZEF	**Zefreh**	**6.94**	**199**	*e*Pn		**Pn**	**00 48 43.7**	**-0.7**
IZEF				*e*			00 50 43.1	
	comp=Z,54nm,0.2s							
IZEF	**Zefreh**	**6.94**	**199**	*e*Pn		**Pn**	**00 48 43.7**	**-0.7**
KHMZ	**Khomeyn**	**7.03**	**217**	*e*Pn		**Pn**	**00 48 44.8**	**-0.8**
KHMZ	**Khomeyn**	**7.03**	**217**	*e*Pn		**Pn**	**00 48 44.8**	**-0.8**
NAX	**Nakhchivan**	**7.35**	**270**	⇑P		**Pn**	**00 48 49.9**	**0.0**
NAX				⇓S		**Sn**	**00 50 08.8**	**-3.6**
NAX	**Nakhchivan**	**7.35**	**270**	P		**Pn**	**00 48 49.9**	**0.0**
IPIR	**Pirpir**	**7.57**	**207**	*e*Pn		**Pn**	**00 48 53.4**	**+0.3**
IPIR				*e*			00 48 55.3	
	comp=Z,103nm,0.3s							
IPIR	**Pirpir**	**7.57**	**207**	*e*Pn		**Pn**	**00 48 53.4**	**+0.3**
ISAD	**Sadrabad**	**7.65**	**188**	*e*Pn		**Pn**	**00 48 54.1**	**-0.2**
ISAD				*e*			00 48 59.1	
	comp=Z,260nm,0.1s							
ISAD	**Sadrabad**	**7.65**	**188**	*e*Pn		**Pn**	**00 48 54.1**	**-0.2**
GNI	**Garni**	**7.90**	**278**	⇓P		Pn	00 49 04.8	+7.3
GNI	**Garni**	**7.90**	**278**	Pn		Pn	00 49 04.7	+7.2
	comp=Z,2.0nm,0.3s,baz=118,slow=3.5,SNR=13							
GNI						**Sn**	**00 50 27.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=343,slow=20,SNR=3.1							
IBAF	**Bafgh**	**7.92**	**176**	*e*Pn		**Pn**	**00 48 58.1**	**+0.3**
IBAF				*e*			00 49 18.7	
	comp=Z,86nm,0.1s							
IBAF	**Bafgh**	**7.92**	**176**	*e*Pn		**Pn**	**00 48 58.1**	**+0.3**
KBZ	**Khabaz**	**9.97**	**299**	Pn		**Pn**	**00 49 25.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=148,slow=2.2,SNR=14							
KBZ						Sn	00 51 10.8	-5.9
	comp=Z,0.3nm,0.3s,baz=127,slow=20,SNR=2.2							
KBZ	**Khabaz**	**9.97**	**299**	P		**Pn**	**00 49 25.0**	**-0.8**
KIV	**Kislovodsk**	**10.20**	**300**	*e*P		**Pn**	**00 49 28.2**	**-0.8**
KIV				*e*S		**Sn**	**00 51 17.7**	**-4.6**
KIV				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KIV	**Kislovodsk**	**10.20**	**300**	*e*P		**Pn**	**00 49 28.2**	**-0.8**
	comp=Z,6.0nm,0.6s							
AB31	**Akbulak array**	**10.37**	**18**	P		**Pn**	**00 49 31.4**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=201,slow=14,SNR=45							
AB31				S		**Sn**	**00 51 21.4**	**-4.9**
	comp=Z,15nm,0.8s,baz=194,slow=22,SNR=10							
AB31	**Akbulak array**	**10.37**	**18**	P		**Pn**	**00 49 31.6**	**+0.4**
AB31				S		**Sn**	**00 51 21.7**	**-4.6**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.2s							
AB31				smax		smax		
	comp=N,5.0nm,0.2s							
AB31	**Akbulak array**	**10.37**	**18**	P		**Pn**	**00 49 31.6**	**+0.4**
	comp=N,2.0nm,0.2s							
DZET	**Dzherino**	**10.78**	**89**	⇑P		**Pn**	**00 49 37.3**	**+0.3**
	comp=N,11nm,0.6s							
DZET				⇑S		**Sn**	**00 51 33.0**	**-3.8**
	comp=N,29nm,0.9s							
AKTK	**Aktyubinsk**	**11.13**	**10**	P		**Pn**	**00 49 41.7**	**+0.1**
	comp=N,6.0nm,0.5s							
AKTO	**Aktyubinsk**	**11.13**	**10**	⇓P		**Pn**	**00 49 42.2**	**+0.6**
	comp=N,8.3nm,0.6s							
AKTO				⇓S		**Sn**	**00 51 42.5**	**-2.6**
	comp=N,18nm,0.7s							
AKTO	**Aktyubinsk**	**11.13**	**10**	P		**Pn**	**00 49 41.7**	**+0.1**
AKTO				S		**Sn**	**00 51 39.7**	**-5.4**
AKTO				pmax		pmax		
	comp=Z,6.0nm,0.5s							
AKTO				smax		smax		
	comp=N,12nm,0.5s							
AKTO	**Aktyubinsk**	**11.13**	**10**	Pn		**Pn**	**00 49 42.7**	**+1.1**
	comp=N,1.1nm,0.3s,baz=148,slow=4.8,SNR=10							
AKTO						Sn	**00 51 41.0**	**-4.1**
	comp=N,2.2nm,0.3s,baz=77,slow=22,SNR=9.0							
AKTO	**Aktyubinsk**	**11.13**	**10**	P		**Pn**	**00 49 42.2**	**+0.6**
	comp=N,8.3nm,0.6s							
KK31	**Karatay Array**	**12.22**	**68**	⇑P		**Pn**	**00 49 54.7**	**-1.9**
	comp=N,9.5nm,0.8s							
KK31				⇓S		Sn	00 52 04.8	-7.0
	comp=N,4.6nm,0.4s							
KK31	**Karatay Array**	**12.22**	**68**	P		**Pn**	**00 49 54.7**	**-1.9**
KK31				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MNAS	**Manas**	**13.57**	**72**	⇓P		**Pn**	**00 50 13.0**	**-2.1**
	comp=Z,4.4nm,1.0s							
MNAS				⇓S		Sn	00 52 37.1	-7.9
	comp=Z,8.4nm,0.7s							
ANN	**Anapa**	**14.04**	**298**	*e*P		**Pn**	**00 50 20.0**	**-1.3**
ANN				*e*S		**Sn**	**00 52 53.8**	**-2.2**
ANN				pmax		pmax		
	comp=Z,17nm,0.9s							
ANN	**Anapa**	**14.04**	**298**	*e*P		**Pn**	**00 50 20.0**	**-1.3**
	comp=Z,17nm,0.9s							
SFK	**Sufi-Kurgan**	**14.27**	**82**	⇓P		**Pn**	**00 50 22.8**	**-1.9**
	comp=Z,4.7nm,0.8s							
SFK				⇑S		Sn	00 52 53.3	-8.7
	comp=Z,15nm,1.3s							
SFK	**Sufi-Kurgan**	**14.27**	**82**	P		**Pn**	**00 50 22.8**	**-1.9**
SFK				S		Sn	00 52 53.3	-8.7
SFK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SFK				smax		smax		
	comp=N,15nm,1.3s							
VRHR	**Novokhopersk**	**14.89**	**325**	*e*P		**Pn**	**00 50 30.9**	**-1.9**
VRHR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
VRHR				pmax		pmax		
	comp=N,10.0nm,0.8s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.8s							
AAK	**Ala-Archa**	**15.05**	**72**	P		**Pn**	**00 50 33.5**	**-1.8**
AAK	**Ala-Archa**	**15.05**	**72**	*i* P		**Pn**	**00 50 33.9**	**-1.3**
AAK	**Ala-Archa**	**15.05**	**72**	Pn		**Pn**	**00 50 34.3**	**-0.9**
	comp=E,0.4nm,0.3s,baz=203,slow=16,SNR=3.8							
AAK				Sn		**Sn**	**00 53 14.9**	**-6.1**
	comp=E,0.2nm,0.3s,baz=17,slow=17,SNR=2.3							
OTUK	**Ortayu**	**15.24**	**49**	⇑P		**Pn**	**00 50 35.3**	**-2.2**
	comp=E,6.8nm,0.6s							
OTUK				⇑S		Sn	00 53 16.0	-9.4
	comp=E,6.3nm,0.4s							
OTUK	**Ortayu**	**15.24**	**49**	P		**Pn**	**00 50 35.3**	**-2.2**
OTUK				S		Sn	00 53 13.5	-12
OTUK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
OTUK				smax		smax		
	comp=N,6.0nm,0.4s							
VORD	**Divnogorie**	**15.87**	**321**	*e*P		**Pn**	**00 50 44.1**	**-1.6**
VORD				pmax		pmax		
	comp=N,30nm,0.6s							
VORD				pmax		pmax		
	comp=E,20nm,0.6s							
VORD				pmax		pmax		
	comp=Z,5.0nm,0.6s							
TKM2	**Tokmak 2**	**15.89**	**71**	⇓P		**Pn**	**00 50 46.1**	**0.0**
	comp=Z,3.2nm,0.7s							
TKM2				⇓S		Sn	00 53 31.6	-10
	comp=Z,4.2nm,1.0s							
VSR	**Storozhevoye**	**16.10**	**322**	*e*P		**Pn**	**00 50 45.7**	**-2.8**
VSR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
VSR				pmax		pmax		
	comp=N,10.0nm,1.2s							
VSR				pmax		pmax		
	comp=E,10.0nm,1.0s							
BRTR	**Keskin Array B**	**16.44**	**278**	*e*P		P	00 51 01.8	+6.1
BRTR	**Keskin Array B**	**16.44**	**278**	Pn		**P**	**00 50 55.0**	**-0.7**
	comp=E,0.1nm,0.3s,baz=101,slow=12,SNR=3.4							
ARU	**Arti**	**17.10**	**7**	*c i*P		**Pn**	**00 50 57.7**	**-3.4**
ARU				S		Sn	00 53 59.2	-11
ARU				pmax		pmax		
	comp=Z,6.0nm,1.7s							
BVA0	**Borovoye Array**	**17.16**	**33**	P		**P**	**00 51 04.5**	**+1.1**
	comp=Z,7.1nm,1.3s,baz=220,slow=11,SNR=21							
BVA0				S		Sn	00 54 04.4	-7.4
	comp=Z,5.3nm,1.1s,baz=226,slow=24,SNR=11							
BVA0	**Borovoye Array**	**17.16**	**33**	P		**P**	**00 51 04.5**	**+1.1**
	comp=Z,7.1nm,1.3s,SNR=21							
BVAR	**Borovoye Array**	**17.16**	**33**	Pn		**Pn**	**00 51 01.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=6.0							
BVAR				Sn		**Sn**	**00 54 05.1**	**-6.8**
	comp=Z,1.3nm,0.3s,baz=225,slow=25,SNR=7.2							
BVAR				LR		LR	00 58 54.1	
	comp=Z,81nm,21.9s,baz=220,slow=41							
SVE	**Sverdlovsk**	**17.73**	**10**	*e*P		**P**	**00 51 11.5**	**+1.9**
SVE				*e*S		Sn	00 54 16.2	-9.2
SVE				pmax		pmax		
	comp=Z,6.0nm,1.0s							
SVE	**Sverdlovsk**	**17.73**	**10**	*e*P		**P**	**00 51 11.5**	**+1.9**
	comp=Z,6.0nm,1.0s							
OBN	**Obninsk**	**19.89**	**328**	*i* P		**Pn**	**00 51 35.0**	**0.0**
OBN				pmax		pmax		
	comp=Z,8.0nm,1.1s							
OBN	**Obninsk**	**19.89**	**328**	*i* P		**Pn**	**00 51 35.0**	**0.0**
	comp=Z,8.0nm,1.1s							
KURBB	**Kurchatov Arra**	**19.92**	**48**	P		Pn	00 51 36.2	+0.8
	comp=Z,1.7nm,0.9s,baz=246,slow=8.8,SNR=3.9							
KURK	**Kurchatov**	**20.01**	**48**	P		Pn	00 51 36.2	-0.3
KURK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**20.01**	**48**	P		Pn	00 51 36.2	-0.3
	comp=Z,1.0nm,0.7s							
CFR	**Carcaliu**	**20.58**	**295**	⇓*i*P		**P**	**00

FINES	**FINESS Array B**	**28.22**	**331**	P	**P**	**00 52 56.1**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=131,slow=13,SNR=6.0						
BRG	**Berggiesshubel**	**30.68**	**305**	*e*P	P	00 53 25.1	+8.7
	comp=Z,1.8nm,0.8s						
BRG	**Berggiesshubel**	**30.68**	**305**	*e*P	P	00 53 25.1	+8.7
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**30.70**	**301**	P	**P**	**00 53 18.4**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=93,slow=6.0,SNR=3.4						
HFS	**Hagfors**	**32.91**	**323**	P	**P**	**00 53 37.3**	**+1.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**32.91**	**323**	P	**P**	**00 53 37.3**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=166,slow=6.7,SNR=3.7						
DAVOX	**Davos/Dischmat**	**33.32**	**298**	P	**P**	**00 53 40.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=131,slow=19						
ARCES	**ARCESS Array B**	**33.90**	**342**	*e*P	**P**	**00 53 46.8**	**+2.4**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARCES	**ARCESS Array B**	**33.90**	**342**	P	**P**	**00 53 45.8**	**+1.4**
	comp=Z,3.3nm,1.0s,baz=139,slow=7.7,SNR=6.5						
ARCES	**ARCESS Array B**	**33.90**	**342**	*e*P	**P**	**00 53 46.8**	**+2.4**
	comp=Z,4.0nm,1.1s						
NB2	**NORSAR Subarra**	**34.36**	**323**	P	**P**	**00 53 49.4**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=111,slow=8.6						
NB2	**NORSAR Subarra**	**34.36**	**323**	P	**P**	**00 53 49.4**	**+0.9**
	comp=Z,3.1nm,0.8s,SNR=6.6						
NOA	**NORSAR Array B**	**34.36**	**323**	P	**P**	**00 53 49.5**	**+0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**34.36**	**323**	P	**P**	**00 53 49.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=118,slow=8.2,SNR=3.8						
CDF	**Champ du Feu**	**34.97**	**301**	*e*P	P	00 54 01.3	+7.3
HAU	**Haudompre**	**35.62**	**300**	*e*P	P	00 54 07.0	+7.5
	comp=Z,14nm,1.0s						
LPL	**La Plagne**	**35.62**	**296**	*e*P	P	00 54 07.5	+7.7
MBDF	**Montbardon**	**35.71**	**294**	*e*P	P	00 54 08.1	+7.6
	comp=Z,16nm,1.0s						
SONM	**Songino Array**	**37.51**	**60**	P	**P**	**00 54 17.7**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=282,slow=9.4,SNR=2.4						
AVF	**Avril sur Loir**	**37.78**	**298**	*e*P	P	00 54 25.0	+7.1
	comp=Z,13nm,1.2s						
ESDC	**Sonseca Array**	**44.68**	**290**	P	**P**	**00 55 15.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=54,slow=8.6,SNR=3.4						
TIXI	**Tiksi**	**48.01**	**24**⇓	*e*P	**P**	**00 55 43.5**	**+3.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	**Tiksi**	**48.01**	**24**	*e*P	**P**	**00 55 43.5**	**+3.2**
	comp=Z,6.0nm,2.5s						
TORD	**Torodi Ar. Bea**	**53.57**	**256**	P	**P**	**00 56 22.3**	**-0.7**
	comp=Z,0.5nm,1.1s,baz=51,slow=7.5,SNR=4.3						
USRK	**Ussuriysk Ar.**	**55.58**	**58**	P	**P**	**00 56 37.8**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=243,slow=9.5,SNR=4.3						
KSRS	**Korea Array**	**55.65**	**67**	P	**P**	**00 56 37.6**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**55.65**	**67**	P	**P**	**00 56 37.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=275,slow=7.2,SNR=4.4						
SEY	**Seymchan**	**58.81**	**32**	*e*P	P	00 57 04.0	+4.2
BILL	**Bilibino**	**61.22**	**24**	*e*P	**P**	**00 57 15.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s						
BILL	**Bilibino**	**61.22**	**24**	*e*P	**P**	**00 57 15.9**	**-0.3**
	comp=Z,10.0nm,1.7s						
ILAR	**Eielson Array**	**74.65**	**10**	P	**P**	**00 58 42.4**	**+1.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**74.65**	**10**	P	**P**	**00 58 42.4**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=332,slow=2.0,SNR=4.7						
YKA	**Yellowknife Ar**	**78.00**	**355**	P	**P**	**00 59 00.7**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=6.9,slow=5.9,SNR=6.7						
WRA	**Warramunga Arr**	**94.62**	**112**	P	**P**	**01 00 22.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**94.62**	**112**	P	**P**	**01 00 22.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=316,slow=4.4,SNR=8.0						

*ISCJB **06** 00:51:19.1±0.4,32.˚61N±0.˚02×115.˚75W±0.˚03,h12km±3km, Error ellipse: s-maj=3.7km s-min=3.4km az=154.2*
*ECX **06** 00:51:20.4±0.6,32.˚64N×115.˚80W,h3km,MD3.6,ML3.8*
*NEIC **06** 00:51:20.0,32.˚64N×115.˚80W,h3km,ML3.8(PAS), ML3.8(ECX),After ECX.*

ISC 06 00:51:19.2±0.9,32.˚58N±0.˚02×115.˚75W±0.˚02,h9km±6km, n45,σ0°95/60,7C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.07**	**20**⇑	*e*P	**Pg**	**00 51 21.1**	**-0.2**
SGL	**Mount Signal**	**0.07**	**20**	*e*P	**Pg**	**00 51 21.1**	**-0.2**
ERPC	**Ernies Place**	**0.18**	**25**	*e*Pg	**Pg**	**00 51 23.5**	**+0.6**
COK	**Cook Ranch**	**0.27**	**5**⇓	*e*P	**Pg**	**00 51 24.8**	**+0.2**
COK	**Cook Ranch**	**0.27**	**5**	*e*P	**Pg**	**00 51 24.8**	**+0.2**
RMX	**La Rumorosa**	**0.28**	**275**⇑	*e*P	**Pg**	**00 51 24.8**	**+0.1**
RMX				*e*S	**Sg**	**00 51 28.6**	**+0.1**
RMX	**La Rumorosa**	**0.28**	**275**	*e*P	**Pg**	**00 51 24.8**	**+0.1**
RMX				*e*S	**Sg**	**00 51 28.6**	**+0.1**
SWSC	**Sam W. Stewart**	**0.36**	**354**	*e*Pg	**Pg**	**00 51 26.0**	**+1.3**
CPBX	**Cerro Prieto**	**0.41**	**113**	*e*P	**Pb**	**00 51 29.0**	**+0.4**
CLIC	**Calipatria**	**0.59**	**19**	*e*Pg	**Pg**	**00 51 31.0**	**+0.4**
COA	**Coachella**	**0.60**	**62**⇑	*e*P	**Pb**	**00 51 31.5**	**-0.3**
COA	**Coachella**	**0.60**	**62**	*e*Pg	**Pb**	**00 51 31.5**	**-0.3**
EMSC	**East Mesa**	**0.67**	**76**	*e*Pg	**Pb**	**00 51 32.9**	**-0.1**
RDX	**Rancho Dawling**	**0.67**	**194**	*e*P	**Pg**	**00 51 32.5**	**+0.3**
RDX				*e*S	**Sb**	**00 51 42.4**	**-0.2**
RDX				⇑*e*		00 51 46.5	
	comp=E,2µm,0.4s						
RDX	**Rancho Dawling**	**0.67**	**194**	*e*P	**Pg**	**00 51 32.6**	**+0.4**
RDX				*e*S	**Sb**	**00 51 42.4**	**-0.2**
EMX	**El Mayor**	**0.73**	**144**	*i*P	**Pg**	**00 51 32.0**	**-1.3**
EMX				*e*S	**Sg**	**00 51 43.4**	**+0.6**
EMX				⇓*e*		00 51 45.1	
	comp=N,3µm,0.4s						
EMX				*e*		00 51 45.1	
	comp=E,2µm,0.3s						
EMX	**El Mayor**	**0.73**	**144**	*i*P	**Pg**	**00 51 32.0**	**-1.3**
EMX				*e*S	**Sg**	**00 51 43.4**	**+0.6**
BAR	**Barrett**	**0.78**	**277**	*e*P	**Pg**	**00 51 33.5**	**-0.7**
BAR				*e*S	**Sg**	**00 51 43.3**	**-1.1**
CBX	**Cerro Bola**	**0.81**	**251**⇑	*e*P	**Pg**	**00 51 35.0**	**+0.1**
CBX				*e*S	**Sg**	**00 51 45.8**	**+0.3**
CBX				⇑*e*		00 51 47.6	
	comp=E,5µm,0.3s						
CBX	**Cerro Bola**	**0.81**	**251**	*e*P	**Pg**	**00 51 35.0**	**+0.1**
CBX				*e*S	**Sg**	**00 51 45.8**	**+0.3**
FRK	**Frink**	**0.82**	**7**	*e*Pg	**Pg**	**00 51 34.0**	**-1.1**
BATC	**Bat Cave Butte**	**0.88**	**355**	*e*Pg	**Pg**	**00 51 35.0**	**-1.1**
GLA	**Glamis**	**0.91**	**59**	*e*P	**Pg**	**00 51 35.9**	**-0.8**
GLA				*e*S	**Sg**	**00 51 47.8**	**-0.8**
ZAX	**El Zacaton**	**1.15**	**203**	*e*P	**Pb**	**00 51 41.4**	**+0.1**
ECNX	**Esteban Cantu**	**1.17**	**218**⇓	*e*P	**Pb**	**00 51 41.4**	**-0.1**
PBX	**Punta Banda**	**1.17**	**225**⇓	*e*P	**Pb**	**00 51 41.5**	**-0.1**
PBX	**Punta Banda**	**1.17**	**225**	*e*P	**Pb**	**00 51 41.5**	**-0.1**
PFO	**Pinyon Flats O**	**1.18**	**330**	*e*P	**Pb**	**00 51 40.8**	**-1.0**
PFO				*e*S	**Sb**	**00 51 54.1**	**-3.2**
ECBX	**El Chinero**	**1.26**	**151**	*e*P	**Pn**	**00 51 41.6**	**-1.3**
ECBX				*e*S	**Sb**	**00 51 59.5**	**+0.3**
ECBX				⇑*e*		00 52 00.3	
	comp=E,984nm,0.8s						
SPX	**San Pedro Mart**	**1.55**	**171**	*e*P	**Pn**	**00 51 47.9**	**+0.7**
SPX	**San Pedro Mart**	**1.55**	**171**	*e*P	**Pn**	**00 51 47.9**	**+0.7**
SSK	**Sunset Peak**	**2.30**	**316**	*e*Pn	**Pb**	**00 52 00.8**	**0.0**
MWC	**Mount Wilson**	**2.53**	**311**	*e*Pn	**Pb**	**00 52 03.9**	**-0.9**
LDFC	**Landfair**	**2.55**	**12**	*e*Pn	**Pn**	**00 52 02.2**	**+1.4**
LDFC				*e*Sg	**Sg**	**00 52 43.8**	**+2.7**
HOLC	**Holcomb Ridge**	**2.56**	**318**	*e*Pn	**Pb**	**00 52 05.2**	**-0.1**
214A	**Organ Pipe Nat**	**2.57**	**103**	*e*Pn	**Pn**	**00 51 59.7**	**-1.3**
PASC	**Pasadena Art C**	**2.58**	**309**	*e*Pn	**Pn**	**00 52 01.3**	**+0.2**
GSC	**Goldstone, Bar**	**2.85**	**342**	*e*Pn	**Pn**	**00 52 06.0**	**+1.1**
OSI	**Osito Audit: C**	**3.20**	**310**	*e*Pn	**Pn**	**00 52 08.9**	**-0.8**
OSI				*e*Sn	**Sn**	**00 52 48.9**	**+0.9**
WWPM	**Walker Pass**	**3.69**	**329**	*e*Sn	**Sn**	**00 53 02.3**	**+2.1**
WASM	**Alta Sierra Ca**	**3.91**	**324**	*e*Sn	**Sn**	**00 53 06.2**	**+0.5**
TUC	**Tucson**	**4.21**	**92**	*e*Pn	**Pn**	**00 52 22.5**	**-1.1**
W18A	**Petrified Fore**	**5.61**	**62**	*e*Pn	**Pn**	**00 52 44.3**	**+1.3**
W18A				*e*Pg	**Pb**	**00 52 57.1**	**-0.2**
PV10	**Paradox Valley**	**7.96**	**42**	*e*Pn	**Pn**	**00 53 17.0**	**+1.7**
HRU	**Hogsback Ridge**	**8.76**	**20**	*e*Pn	**Pn**	**00 53 25.9**	**-0.2**

NEIC 06 00:53:53.7,32.˚57N×115.˚78W,h10km,ML3.8(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.15**	**304**	*e*Pg	Pg	00 53 56.7	-0.3
ERPC	**Ernies Place**	**0.20**	**29**	*e*Pg	Pg	00 53 57.6	-0.3
CRR	**Carrizo Plain**	**0.36**	**334**	*e*Pg	Pg	00 54 00.1	-0.7
SWSC	**Sam W. Stewart**	**0.38**	**358**	*e*Pg	Pg	00 53 59.6	-1.6
CBKC	**Canebrake**	**0.52**	**310**	*e*Pg	Pg	00 54 03.7	-0.2
ERRC	**Elmore Ranch**	**0.55**	**356**	*e*Pg	Pg	00 54 04.1	-0.3
CLIC	**Calipatria**	**0.61**	**20**	*e*Pg	Pg	00 54 05.0	-0.5
COA	**Coachella**	**0.63**	**62**	*e*Pg	Pg	00 54 05.5	-0.4
BTCC	**Brunts Corner**	**0.65**	**46**	*e*Pg	Pg	00 54 05.4	-0.8
EMSC	**East Mesa**	**0.69**	**75**	*e*Pg	Pg	00 54 06.8	-0.2
BAR	**Barrett**	**0.76**	**279**	*e*P	Pg	00 54 07.7	-0.8
BAR				*e*S	Sg	00 54 18.0	-0.4
FRK	**Frink**	**0.84**	**8**	*e*Pg	Pg	00 54 08.1	-1.8
BORC	**Borrego Spring**	**0.88**	**323**	*e*Pg	Pg	00 54 09.7	-1.0
BATC	**Bat Cave Butte**	**0.89**	**357**	*e*Pg	Pg	00 54 09.1	-1.8
GLA	**Glamis**	**0.94**	**59**	*e*P	Pg	00 54 09.9	-2.0
GLA				*e*S	Sg	00 54 22.6	-1.5
DPP	**Dos Picos Cty**	**1.07**	**294**	*e*Pg	Pg	00 54 13.1	-1.3
CTCC	**Cactus City**	**1.10**	**351**	*e*Pn	Pb	00 54 12.0	-2.9
CTW	**Cottonwood Mou**	**1.11**	**356**	*e*Pn	Pb	00 54 12.3	-2.7
FRD	**Ford Ranch, An**	**1.16**	**324**	*e*Pn	Pb	00 54 13.6	-2.4
CPE	**Camp Elliot**	**1.16**	**286**	*e*Pn	Pb	00 54 14.8	-1.0
PFO	**Pinyon Flats O**	**1.19**	**332**	*e*P	Pb	00 54 13.8	-2.7
PFO				*e*S	Sb	00 54 28.0	-4.0
SNDA	**J Saunders Pla**	**1.21**	**325**	*e*Pn	Pn	00 54 14.4	-2.4
DNR	**Dunn Ranch,Anz**	**1.23**	**325**	*e*Pn	Pn	00 54 14.8	-2.3
DGR	**Domenigoni Val**	**1.50**	**317**	*e*Sn	Sn	00 54 39.4	-0.9
HMTC	**Hemet**	**1.54**	**318**	*e*Sn	Sn	00 54 40.8	-0.4
SVD	**Seven Oaks Dam**	**1.89**	**325**	*e*Sn	Sb	00 54 52.7	+0.6
SSK	**Sunset Peak**	**2.29**	**316**	*e*Pn	Pb	00 54 34.8	-0.6
FMP	**Fort Macarthur**	**2.40**	**299**	*e*Pn	Pb	00 54 36.2	-0.7
MWC	**Mount Wilson**	**2.52**	**312**	*e*Pn	Pb	00 54 38.3	-1.0
HOLC	**Holcomb Ridge**	**2.56**	**318**	*e*Pn	Pn	00 54 34.7	-0.7
HOLC				*e*Pg	Pb	00 54 39.3	-0.6
PASC	**Pasadena Art C**	**2.57**	**309**	*e*Pn	Pb	00 54 39.4	-0.6
SBI	**Santa Barbara**	**2.88**	**289**	*e*Sn	Sb	00 55 20.8	+0.5
STTC	**Scott Ranch**	**3.15**	**315**	*e*Pg	Pb	00 54 50.8	+0.9
OSI	**Osito Audit: C**	**3.20**	**311**	*e*Pg	Pb	00 54 51.1	+0.5
RCWM	**Renegade Canyo**	**3.71**	**336**	*e*Pg	Pb	00 55 01.5	+2.0
ISA	**Isabella, Lake**	**3.81**	**325**	*e*Pg	Pb	00 55 02.8	+1.6
KNB	**Kanab**	**5.06**	**28**	*e*Pn	Pn	00 55 10.2	+0.3
EKU	**East Kanab**	**5.25**	**30**	*e*Pn	Pn	00 55 12.8	+0.4
TPH	**Tonopah**	**5.62**	**348**	*e*Pg	Pg	00 55 46.2	+4.5
R11A	**Troy Canyon, C**	**5.77**	**2**	*e*Pg	Pg	00 55 48.1	+3.6
MVU	**Marysvale**	**6.60**	**25**	*e*Pn	Pn	00 55 32.1	+1.0
	6.7nm,0.5s						
MVU				*e*Pg	Pg	00 56 00.8	+0.4
LENM	**Lemitar**	**7.54**	**75**	*e*Pn	Pn	00 55 43.9	0.0
BNM	**Barren Site**	**7.82**	**76**	*e*Pn	Pn	00 55 48.1	+0.3
ELU	**Electric Lake**	**7.97**	**26**	*e*Sn	Sn	00 57 26.7	+6.1
PV09	**Paradox Valley**	**8.02**	**41**	*e*Pn	Pn	00 55 53.4	+2.7
ROA	**Roan Cliffs**	**8.32**	**30**	*e*Sn	Sn	00 57 29.5	+0.2
GRD	**Gardner Farm**	**8.59**	**20**	*e*Sn	Sn	00 57 29.9	-5.5
WVOR	**Wild Horse Val**	**10.11**	**348**	*e*Pn	Pn	00 56 18.3	-0.7
PHWY	**Pilot Hill**	**12.00**	**40**	*e*Pn	Pn	00 56 44.0	-1.1
SCCW	**Shoreline CC**	**15.97**	**344**	*e*Pn	Pn	00 57 36.5	-1.7

*ISCJB **06** 00:56:39.6±0.5,32.˚15N±0.˚02×115.˚13W±0.˚02,h4km±3km, mb3.7/6,Error ellipse: s-maj=3.1km s-min=2.7km az=140.8*
*NEIC **06** 00:56:42.0,32.˚18N×115.˚21W,h0km,mb3.9/3, MD4.4(ECX),ML4.1(PAS),After ECX.*
NEIC Felt at San Luis Rio Colorado, Sonora. Felt [II] at San Diego, California. Also felt at Cathedral City, El Cajon, Imperial, Lakeside, Poway, San Marcos, Spring Valley and Temecula.
*IDC **06** 00:56:42.4±2.1,32.˚27N×114.˚97W,h0km,mb3.8/5, mb1 4.0/10,mb1mx3.6/40,mbtmp3.7/10,ML3.4/4,MS3.3/1, Ms1 3.3/1,ms1mx2.5/52,Error ellipse: s-maj=38.2km s-min=13.9km az=45.0*
*ECX **06** 00:56:42.2±0.5,32.˚18N×115.˚21W,h8km,MD4.0,ML4.3*

ISC 06 00:56:40.4±1.1,32.˚15N±0.˚02×115.˚18W±0.˚02,h1km±8km, n81,σ1°60/104,mb3.8/6,12C-26D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.17**	**198**⇓	*e*P	**Pg**	**00 56 42.9**	**-0.7**
EMX				*e*S	**Sg**	**00 56 46.0**	**+0.3**
EMX	**El Mayor**	**0.17**	**198**	*e*P	**Pg**	**00 56 42.9**	**-0.7**
EMX				*e*S	**Sg**	**00 56 46.8**	**+0.3**
CPBX	**Cerro Prieto**	**0.29**	**339**⇓	*e*P	**Pg**	**00 56 46.8**	**+0.8**
CPBX	**Cerro Prieto**	**0.29**	**339**⇓	*e*P	**Pg**	**00 56 46.8**	**+0.8**
YMD	**Yuma Desert**	**0.68**	**53**⇑	*e*P	**Pg**	**00 56 54.1**	**+0.8**
YMD	**Yuma Desert**	**0.68**	**53**	*e*P	**Pg**	**00 56 54.1**	**+0.8**
ECBX	**El Chinero**	**0.68**	**171**⇓	*e*P	Pg	00 56 52.5	-1.0
ECBX				*e*S	**Sg**	**00 57 02.4**	**+0.2**
SGL	**Mount Signal**	**0.68**	**318**	*e*P	**Pg**	**00 56 53.7**	**+0.2**
SGL	**Mount Signal**	**0.68**	**318**	*e*P	**Pg**	**00 56 53.7**	**+0.2**
RDX	**Rancho Dawling**	**0.68**	**252**⇓	*e*P	**Pg**	**00 56 54.2**	**+0.7**
RDX				*e*S	**Sg**	**00 57 03.7**	**+1.4**
RDX	**Rancho Dawling**	**0.68**	**252**	*e*P	**Pg**	**00 56 54.2**	**+0.7**
RDX				*e*S	**Sg**	**00 57 03.7**	**+1.4**
COA	**Coachella**	**0.72**	**4**⇑	*e*P	**Pg**	**00 56 54.4**	**+0.2**
COA	**Coachella**	**0.72**	**4**	*e*P	**Pg**	**00 56 54.4**	**+0.2**
COK	**Cook Ranch**	**0.84**	**327**⇓	*e*P	**Pg**	**00 56 56.5**	**0.0**
COK	**Cook Ranch**	**0.84**	**327**	*e*P	**Pg**	**00 56 56.5**	**0.0**
RMX	**La Rumorosa**	**0.89**	**301**	*e*P	**Pg**	**00 56 57.3**	**-0.1**
RMX				*e*S	**Sg**	**00 57 08.0**	**-0.1**
RMX	**La Rumorosa**	**0.89**	**301**	*e*P	**Pg**	**00 56 57.3**	**-0.1**
RMX				*e*S	**Sg**	**00 57 08.8**	**-0.1**
SWSC	**Sam W. Stewart**	**0.95**	**327**	⇓P	**Pg**	**00 56 57.3**	**-1.3**
	baz=0.9						
GLA	**Glamis**	**0.95**	**18**⇑	*e*P	**Pg**	**00 56 57.7**	**-1.0**
GLA	**Glamis**	**0.95**	**18**	⇓P	**Pg**	**00 56 57.6**	**-1.0**
	baz=0.9						
GLA				⇑S	**Sg**	**00 57 10.0**	**-1.0**
	baz=0.9						
GLA	**Glamis**	**0.95**	**18**	*e*Pg	**Pg**	**00 56 57.8**	**-1.0**
CRR	**Carrizo Plain**	**0.99**	**318**⇑	*e*P	**Pg**	**00 56 59.0**	**-0.5**
CRR	**Carrizo Plain**	**0.99**	**318**	*e*P	**Pg**	**00 56 59.0**	**-0.5**
SPIG	**San Pedro Mart**	**1.12**	**193**	P	**Pb**	**00 57 02.1**	**-0.7**
SPIG				S	**Sb**	**00 57 16.6**	**-1.5**
SPX	**San Pedro Mart**	**1.12**	**192**	*e*P	**Pb**	**00 57 02.2**	**-0.7**
SPX				*e*S	**Sb**	**00 57 18.4**	**+0.3**
SPX				⇓*e*		00 57 19.5	
SPX				AML	AML	00 57 19.5	
	comp=E,6µm,0.3s						
SPX				⇓*e*		00 57 20.9	
SPX	**San Pedro Mart**	**1.12**	**192**	*e*P	**Pb**	**00 57 02.2**	**-0.7**
SPX				*e*S	**Sb**	**00 57 18.4**	**+0.3**
ZAX	**El Zacaton**	**1.12**	**236**⇓	*e*P	**Pb**	**00 57 01.8**	**-0.9**
ZAX				*e*S	**Sb**	**00 57 17.4**	**-0.5**
CBX	**Cerro Bola**	**1.27**	**278**⇓	*e*P	**Pn**	**00 57 03.4**	**-2.0**
CBX				*e*S	**Sb**	**00 57 20.7**	**-1.3**
CBX				AML	AML	00 57 25.9	
	comp=E,5µm,0.5s						
CBX				⇓*e*		00 57 25.9	
CBX	**Cerro Bola**	**1.27**	**278**	P	**Pn**	**00 57 03.4**	**-2.0**
CBX				S	**Sb**	**00 57 17.4**	**-4.6**
MONP	**Monument Peak,**	**1.28**	**306**	⇑P	**Pn**	**00 57 04.2**	**-1.5**
	baz=1.2						
ECNX	**Esteban Cantu**	**1.30**	**248**⇓	*e*P	**Pn**	**00 57 04.4**	**-1.4**
ECNX				*e*S	**Sb**	**00 57 22.2**	**-0.7**
113A	**Mohawk Valley,**	**1.35**	**62**	⇑P	**Pn**	**00 57 04.6**	**-1.8**
	baz=1.4						
113A				⇑S	**Sb**	**00 57 21.4**	**-2.8**
	baz=1.4						
BAR	**Barrett**	**1.37**	**293**	*e*Sn	**Sb**	**00 57 20.7**	**-4.2**
PBX	**Punta Banda**	**1.37**	**253**⇓	*e*P	**Pn**	**00 57 05.5**	**-1.2**
PBX				*e*S	**Sb**	**00 57 23.8**	**-1.2**
PBX	**Punta Banda**	**1.37**	**253**	*e*P	**Pn**	**00 57 05.5**	**-1.2**
PBX				*e*S	**Sb**	**00 57 23.8**	**-1.2**
BC3	**Big Chuckawall**	**1.52**	**351**	⇓P	**Pn**	**00 57 06.0**	**-2.9**
	baz=1.5						
BC3				⇑S	**Sn**	**00 57 24.6**	**-4.8**
	baz=1.5						
Y12C	**Blythe**	**1.69**	**19**	⇓P	**Pn**	**00 57 08.6**	**-2.5**
	baz=1.7						
109C	**Camp Elliot, M**	**1.79**	**295**	⇓P	**Pn**	**00 57 11.1**	**-1.2**
	baz=1.7						
109C				⇓S	**Sn**	**00 57 34.8**	**-1.0**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.81**	**324**	Pn	**Pn**	**00 57 09.9**	**-3.0**
	comp=E,28nm,0.3s,baz=138,slow=10,SNR=4.6						
PFO				Lg	Lg	00 57 34.1	
	comp=E,40nm,0.3s,baz=146,slow=8.7,SNR=7.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**1.81**	**324**	⇑P	**Pn**	**00 57 09.9**	**-3.0**
	baz=1.8						
214A	**Organ Pipe Nat**	**2.02**	**95**	⇑P	**Pn**	**00 57 13.6**	**-2.1**
	baz=2.0						
MURC	**Murrieta**	**2.23**	**311**	⇓P	**Pn**	**00 57 16.7**	**-1.9**
	baz=2.2						
MURC				⇓Sb	**Sb**	**00 57 49.9**	**+0.1**
	baz=2.2						
Z14A	**Wintersburg**	**2.24**	**57**	⇑P	**Pn**	**00 57 16.9**	**-1.8**
	baz=2.2						
GMRC	**Granite Mounta**	**2.66**	**351**	⇓P	**Pn**	**00 57 22.4**	**-2.1**
	baz=2.6						
LDFC	**Landfair**	**2.92**	**1**	*e*Pn	**Pn**	**00 57 28.9**	**+0.7**
LDFC				*e*Pg	**Pg**	**00 57 38.8**	**+2.3**
BFSC	**Mount Baldy Ra**	**2.94**	**316**	⇓Sb	**Sb**	**00 58 11.1**	**+0.8**
	baz=2.9						
CIS	**Catalina Islan**	**2.99**	**296**	⇓Sb	**Sb**	**00 58 12.4**	**+0.8**
	baz=3.0						
FMP	**Fort Macarthur**	**3.05**	**302**	⇓Sb	**Sb**	**00 58 13.2**	**+0.1**
	baz=3.0						
MWC	**Mount Wilson**	**3.18**	**311**	*e*Pn	**Pn**	**00 57 33.4**	**+1.7**
MWC				*e*Sn	**Sb**	**00 58 18.1**	**+0.9**
DECC	**Green Verdugo**	**3.37**	**309**	⇓Sb	**Sb**	**00 58 23.9**	**+1.4**
	baz=3.3						
GSC	**Goldstone, Bar**	**3.43**	**337**	*e*Pn	**Pn**	**00 57 35.2**	**+0.2**
GSC				*e*Pb	Pg	00 57 51.6	+5.5
ISA	**Isabella, Lake**	**4.45**	**323**	*e*Pn	Pn	00 57 52.8	+3.7
WUAZ	**Wupatki**	**4.62**	**42**	*e*Pn	**Pn**	**00 57 49.5**	**-2.1**
TPNV	**Topopah Spring**	**4.87**	**350**	*e*Pn	**Pn**	**00 57 54.9**	**-0.1**
TPNV				*e*Pb	Pg	00 58 17.7	+3.9
W18A	**Petrified Fore**	**5.42**	**55**	*e*Pn	**Pn**	**00 58 03.3**	**+0.7**
MTUM	**Tungsten Hills**	**5.89**	**333**	*e*Pn	**Pn**	**00 58 08.8**	**-0.2**
TPH	**Tonopah**	**6.15**	**345**	*e*Pn	Pn	00 58 16.0	+3.5
TPH				*e*Pb	**Pg**	**00 58 40.9**	**+2.7**
R11A	**Troy Canyon, C**	**6.20**	**357**	*e*Pn	**Pn**	**00 58 13.0**	**-0.2**
R11A				*e*Pb	**Pg**	**00 58 39.6**	**+0.4**
NVAR	**Mina Array Bea**	**6.77**	**339**	Pg	**Pg**	**00 58 49.4**	**-0.7**
	comp=E,0.3nm,0.3s,baz=158,slow=19,SNR=5.1						
MVU	**Marysvale**	**6.79**	**20**	*e*Pn	Pn	00 58 15.2	-6.2
ANMO	**Albuquerque**	**7.80**	**67**	Pn	**Pn**	**00 58 34.0**	**-1.3**
	comp=E,0.5nm,0.3s,baz=267,slow=11,SNR=6.1						
ANMO				Lg	Lg	01 00 48.8	
	comp=E,0.1nm,0.3s,baz=342,slow=19,SNR=

CERT	**Cerreto**	**0.56**	**207**	Pg	Pg	00 57 17.9	-0.4
CERT				Sg	Sb	00 57 27.2	-0.1
	58nm,0.5s						
CERT	**Cerreto**	**0.56**	**207**	Pg	Pg	00 57 17.9	-0.4
CERT				Sg	Sb	00 57 27.2	-0.1
	58nm,0.5s						
FDMO	**Fiordimonte**	**0.61**	**343**	Pg	Pg	00 57 19.0	-0.2
FDMO				Sg	Sb	00 57 28.6	-0.1
	29nm,0.2s						
FDMO	**Fiordimonte**	**0.61**	**343**	Pg	Pg	00 57 19.0	-0.2
FDMO				Sg	Sb	00 57 28.6	-0.1
	29nm,0.2s						
INTR	**Introdacqua**	**0.61**	**136**	Pg	Pg	00 57 18.7	-0.5
	132nm,0.7s						
INTR	**Introdacqua**	**0.61**	**136**	Pg	Pg	00 57 18.7	-0.5
	132nm,0.7s						
VVLD	**Villa Vallelon**	**0.62**	**159**	Pg	Pb	00 57 20.3	+0.1
VVLD	**Villa Vallelon**	**0.62**	**159**	Pg	Pb	00 57 20.3	+0.1
CESI	**CESI - Serrava**	**0.64**	**331**	Pg	Pg	00 57 19.5	-0.2
CESI	**CESI - Serrava**	**0.64**	**331**	Pg	Pg	00 57 19.5	-0.2
GUAR	**Guarcino**	**0.66**	**181**	Pg	Pb	00 57 21.0	+0.2
	40nm,0.4s						
GUAR	**Guarcino**	**0.66**	**181**	Pg	Pb	00 57 21.0	+0.2
	40nm,0.4s						
LPEL	**Lama dei Pelig**	**0.75**	**122**	Pg	Pg	00 57 20.7	-1.1
LPEL				Sg	Sg	00 57 31.4	-0.3
	79nm,0.2s						
LPEL	**Lama dei Pelig**	**0.75**	**122**	Pg	Pg	00 57 20.7	-1.1
LPEL				Sg	Sg	00 57 31.4	-0.3
	79nm,0.2s						
GUMA	**Gualdo di Mace**	**0.76**	**36**	Pg	Pg	00 57 19.5	-2.4
GUMA	**Gualdo di Mace**	**0.76**	**36**	Pg	Pg	00 57 19.5	-2.4
SDI	**San Donato**	**0.82**	**154**	Pg	Pg	00 57 22.9	-0.3
	25nm,0.6s						
SDI	**San Donato**	**0.82**	**154**	Pg	Pg	00 57 22.9	-0.3
	25nm,0.6s						

*CSEM **06** 00:57:52.1,42.45N×13.34E,h13km,ML1.9/1*
ROM 06 00:57:52.1±0.1,42.45N×13.34E,h13km±1km,MI1.9/1,
Error ellipse: s-maj=0.9km s-min=0.6km az=96.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.09**	**180**	Pg	Pg	00 57 55.2	+0.2
T0104				Sg	Sg	00 57 57.5	+0.4
CAMP	**Campotosto**	**0.10**	**31**	Pg	Pg	00 57 55.6	+0.3
CAMP				Sg	Sg	00 57 57.9	+0.4
CAMP	**Campotosto**	**0.10**	**31**	Pg	Pg	00 57 55.6	+0.3
CAMP				Sg	Sg	00 57 57.9	+0.4
AQU	**L'Aquila**	**0.11**	**154**	Pg	Pg	00 57 55.5	+0.3
AQU				Sg	Sg	00 57 57.8	+0.4
AQU	**L'Aquila**	**0.11**	**154**	Pg	Pg	00 57 55.5	+0.3
AQU				Sg	Sg	00 57 57.8	+0.4
T0106	**Roio Piano**	**0.15**	**167**	Pg	Pg	00 57 56.2	+0.4
T0106				Sg	Sg	00 57 59.0	+0.5
SMA1	**SAN MARTINO**	**0.18**	**359**	Pg	Pg	00 57 56.7	+0.3
SMA1				Sg	Sg	00 58 00.1	+0.7
FIAM	**Fiamignano**	**0.24**	**222**	Pg	Pg	00 57 57.4	0.0
FIAM				Sg	Sb	00 58 02.0	-0.9
FIAM	**Fiamignano**	**0.24**	**222**	Pg	Pg	00 57 57.4	0.0
FIAM				Sg	Sb	00 58 02.0	-0.9
TERO	**Teramo**	**0.26**	**48**	Pg	Pg	00 57 57.8	+0.1
TERO				Sg	Sg	00 58 02.2	+0.7
TERO	**Teramo**	**0.26**	**48**	Pg	Pg	00 57 57.8	+0.1
TERO				Sg	Sg	00 58 02.2	+0.7
LNSS	**Leonessa**	**0.27**	**305**	Pg	Pg	00 57 58.0	+0.1
LNSS				Sg	Sg	00 58 02.4	+0.6
LNSS	**Leonessa**	**0.27**	**305**	Pg	Pg	00 57 58.0	+0.1
LNSS				Sg	Sg	00 58 02.4	+0.6
CERT	**Cerreto**	**0.57**	**208**	Pg	Pg	00 58 03.4	+0.1
	58nm,0.5s						
CERT	**Cerreto**	**0.57**	**208**	Pg	Pg	00 58 03.4	+0.1
	58nm,0.5s						
FDMO	**Fiordimonte**	**0.62**	**343**	Pg	Pg	00 58 04.3	+0.1
FDMO	**Fiordimonte**	**0.62**	**343**	Pg	Pg	00 58 04.3	+0.1

*ISCJB **06** 01:00:48.9±0.7,32.20N±0.03×115.17W±0.05,h7km±8km,*
Error ellipse: s-maj=8.2km s-min=5.0km az=28.1
*NEIC **06** 01:00:51.9,32.24N×115.23W,h10km,ML3.5(PAS),After PAS.*
*ECX **06** 01:00:51.6±0.3,32.19N×115.23W,h8km,MD3.5,ML3.7*
ISC 06 01:00:48.9±1.1,32.20N±0.03×115.17W±0.05,h12km±9km,
n14,σ0§77/24,3C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.22**	**196**	*e*P	**Pg**	**01 00 53.7**	**+0.1**
EMX				*e*S	**Sg**	**01 00 56.5**	**-0.3**
RDX	**Rancho Dawling**	**0.71**	**248**	*e*P	**Pg**	**01 01 03.2**	**+0.5**
RDX				*e*S	**Sg**	**01 01 12.2**	**+0.1**
ECBX	**El Chinero**	**0.73**	**172**	*e*P	**Pg**	**01 01 03.2**	**+0.1**
ECBX				*e*S	**Sb**	**01 01 13.2**	**-0.4**
YUH	**Yuha Desert**	**0.78**	**305**	⇑*i*P	**Pg**	**01 01 04.3**	**+0.4**
COK	**Cook Ranch**	**0.80**	**324**	⇑*i*P	**Pb**	**01 01 05.4**	**+0.7**
RMX	**La Rumorosa**	**0.87**	**298**	*e*P	**Pg**	**01 01 06.2**	**+0.5**
RMX				*e*S	**Sg**	**01 01 17.4**	**+0.4**
RMX				⇓*e*		01 01 20.2	
RMX				AML	AML	01 01 20.2	
	comp=N,2μm,0.3s						
GLA	**Glamis**	**0.90**	**19**	*e*Pg	**Pb**	**01 01 06.8**	**+0.4**
GLA				*e*S	**Sb**	**01 01 19.1**	**+0.8**
CRR	**Carrizo Plain**	**0.96**	**315**	⇑*i*P	**Pb**	**01 01 08.1**	**+0.6**
ZAX	**El Zacaton**	**1.16**	**234**	*e*P	**Pb**	**01 01 10.9**	**0.0**
ZAX				*e*S	**Sb**	**01 01 26.0**	**-0.1**
ZAX				AML	AML	01 01 29.0	
	comp=N,2μm,0.4s						
ZAX				*e*		01 01 29.0	
ZAX				AML	AML	01 01 29.6	
	comp=E,2μm,0.6s						
ZAX				⇓*e*		01 01 29.6	
ECNX	**Esteban Cantu**	**1.33**	**246**	*e*P	**Pn**	**01 01 13.7**	**+0.4**
ECNX				*e*S	**Sn**	**01 01 31.1**	**0.0**
BAR	**Barrett**	**1.36**	**291**	*e*Pn	**Pn**	**01 01 13.9**	**+0.3**
BAR				*e*S	**Sn**	**01 01 31.7**	**+0.1**
PBX	**Punta Banda**	**1.40**	**251**	*e*P	**Pn**	**01 01 14.7**	**+0.4**
PBX				*e*S	**Sb**	**01 01 33.0**	**+0.2**
PFO	**Pinyon Flats O**	**1.77**	**323**	Pn	**Pn**	**01 01 18.3**	**-1.2**
MWC	**Mount Wilson**	**3.15**	**311**	Pn	**Pb**	**01 01 43.9**	**-1.0**
MWC				*e*S	**Sg**	**01 02 27.7**	**-2.5**

*ISCJB **06** 01:04:34.9±0.4,32.63N±0.02×115.78W±0.03,h10km±3km,*
Error ellipse: s-maj=4.6km s-min=3.5km az=12.7
*NEIC **06** 01:04:35.2,32.61N×115.78W,h5km,ML4.0(PAS),After PAS.*
*ECX **06** 01:04:35.7±0.5,32.64N×115.80W,h3km,MD3.8,ML4.0*
ISC 06 01:04:35.3±0.9,32.61N±0.02×115.80W±0.03,h8km±6km,
n30,σ1§11/49,8C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.07**	**58**	⇑*i*P	**Pg**	**01 04 36.6**	**-0.7**
SGL	**Mount Signal**	**0.07**	**58**	⇑*i*P	**Pg**	**01 04 36.6**	**-0.7**
YUH	**Yuha Desert**	**0.11**	**288**	⇑*i*P	**Pg**	**01 04 37.8**	**-0.2**
YUH	**Yuha Desert**	**0.11**	**288**	⇑*i*P	**Pg**	**01 04 37.8**	**-0.2**
WESC	**Westside Schoo**	**0.16**	**20**	⇓*i*P	**Pg**	**01 04 38.2**	**-0.4**
WESC				*i* S	**Sg**	**01 04 41.0**	**+0.1**
ERPC	**Ernies Place**	**0.17**	**40**	⇑*i*P	**Pg**	**01 04 38.9**	**0.0**
RMX	**La Rumorosa**	**0.24**	**268**	⇑*e*P	**Pg**	**01 04 40.4**	**+0.2**
RMX				*e*S	**Sg**	**01 04 44.1**	**+0.7**
COK	**Cook Ranch**	**0.24**	**14**	⇓*i*P	**Pg**	**01 04 40.0**	**-0.1**
COK	**Cook Ranch**	**0.24**	**14**	⇓*i*P	**Pg**	**01 04 40.1**	**-0.1**
CRR	**Carrizo Plain**	**0.31**	**332**	⇓*i*P	**Pg**	**01 04 41.1**	**-0.4**
CRR	**Carrizo Plain**	**0.31**	**332**	⇓*i*P	**Pg**	**01 04 41.1**	**-0.4**
SWSC	**Sam W. Stewart**	**0.33**	**360**	⇓*i*P	**Pg**	**01 04 41.3**	**-0.5**
ERRC	**Elmore Ranch**	**0.50**	**357**	⇓*i*P	**Pg**	**01 04 45.1**	**0.0**
RDX	**Rancho Dawling**	**0.69**	**190**	*e*P	**Pg**	**01 04 48.4**	**-0.3**
RDX				*e*S	**Sg**	**01 04 58.6**	**+0.9**
EMX	**El Mayor**	**0.78**	**143**	*e*P	**Pg**	**01 04 50.0**	**-0.2**
EMX				*e*S	**Sb**	**01 05 01.0**	**-0.8**
GLA	**Glamis**	**0.93**	**61**	*e*Pg	**Pg**	**01 04 51.6**	**-1.5**
GLA				*e*S	**Sg**	**01 05 04.1**	**-1.1**
PFO	**Pinyon Flats O**	**1.14**	**331**	*e*Pg	**Pg**	**01 04 55.0**	**-2.1**
PFO				*e*S	**Sg**	**01 05 09.6**	**-2.4**
ZAX	**El Zacaton**	**1.17**	**200**	*e*P	**Pg**	**01 04 57.0**	**-0.7**
ZAX				*e*S	**Sg**	**01 05 12.6**	**-0.2**
ZAX				⇑*e*		01 05 14.9	
ZAX				AML	AML	01 05 14.9	
	comp=N,3μm,0.3s						
ZAX				⇑*e*		01 05 18.9	
ZAX				AML	AML	01 05 18.9	
	comp=E,3μm,0.6s						
ECNX	**Esteban Cantu**	**1.17**	**216**	*e*P	**Pg**	**01 04 56.8**	**-1.0**
ECNX				*e*S	**Sg**	**01 05 12.7**	**-0.3**
PBX	**Punta Banda**	**1.17**	**223**	*e*P	**Pg**	**01 04 56.7**	**-1.1**
PBX				*e*S	**Sg**	**01 05 12.7**	**-0.3**
ECBX	**El Chinero**	**1.30**	**151**	*e*P	**Pn**	**01 04 59.4**	**-0.3**
ECBX				*e*S	**Sb**	**01 05 17.0**	**+0.2**
LDFC	**Landfair**	**2.52**	**13**	Pn	**Pn**	**01 05 17.4**	**+0.7**
PASC	**Pasadena Art C**	**2.53**	**309**	*e*Pn	**Pn**	**01 05 17.8**	**+1.1**
PASC				*e*S	**Sb**	**01 05 52.4**	**+0.1**
GSC	**Goldstone, Bar**	**2.81**	**343**	*e*Pn	**Pn**	**01 05 21.2**	**+0.6**
GSC				Pg	**Pb**	**01 05 26.3**	**+0.5**
GSC				*e*S	**Sn**	**01 05 55.6**	**+0.8**
OSI	**Osito Audit: C**	**3.16**	**310**	*e*Pn	**Pn**	**01 05 25.1**	**-0.2**
OSI				*e*S	**Sg**	**01 06 14.2**	**-2.5**
ISA	**Isabella, Lake**	**3.77**	**325**	*e*Pn	**Pn**	**01 05 33.8**	**0.0**
ISA				*e*Pg	**Pg**	**01 05 45.2**	**-2.3**
ISA				*e*S	**Sb**	**01 06 27.0**	**-0.9**
TPH	**Tonopah**	**5.57**	**348**	*e*Pn	**Pn**	**01 05 59.2**	**+0.5**
	comp=E,12nm,0.8s						
TPH				*e*S	**Sb**	**01 07 23.6**	**+3.6**
R11A	**Troy Canyon, C**	**5.73**	**2**	Pn	**Pn**	**01 06 02.0**	**+1.2**
	comp=E,5.5nm,0.6s						
R11A				*e*Pg	**Pg**	**01 06 25.0**	**0.0**
R11A				*e*S	**Sg**	**01 07 38.4**	**-0.8**
MVU	**Marysvale**	**6.56**	**25**	*e*Pn	**Pn**	**01 06 14.0**	**+1.7**
LENM	**Lemitar**	**7.54**	**76**	*e*Pn	**Pn**	**01 06 24.9**	**-0.7**
	comp=E,5.4nm,0.5s						

NEIC 06 01:04:44.1,32.45N×115.54W,h11km,ML3.5(PAS),After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.85**	**45**	Pg	Pg	01 05 00.4	-0.1
BAR	**Barrett**	**0.99**	**284**	*e*P	Pg	01 05 00.8	-2.4
BAR				*e*S	Sg	01 05 15.5	-0.6
EML	**El Monte Cty P**	**1.19**	**292**	*e*P	Pb	01 05 05.8	-0.8
EML				*i* S	Sb	01 05 20.5	-1.6
214A	**Organ Pipe Nat**	**2.36**	**101**	Pn	Pn	01 05 24.2	+1.4

*NEIC **06** 01:08:10.8,31.91N×115.01W,h10km,MD3.7(MEX),*
ML3.7(PAS),After PAS.
*ECX **06** 01:08:13.7±0.5,32.08N×115.07W,h10km,MD3.6,ML3.8*
*MEX **06** 01:08:14.9±0.3,32.10N×115.10W,h5km,MD3.7*
ISC 06 01:08:11.9±1.0,32.06N±0.02×115.04W±0.02,h9km±9km,
n27,σ1§52/49,2C-1D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.19**	**249**	*e*P	**Pg**	**01 08 16.1**	**+0.4**
EMX				*e*S	**Sg**	**01 08 18.6**	**+0.3**
ECBX	**El Chinero**	**0.58**	**181**	*e*P	**Pg**	**01 08 22.8**	**-0.4**
ECBX				*e*S	**Sg**	**01 08 31.4**	**+0.6**
YMD	**Yuma Desert**	**0.65**	**40**	*e*P	**Pb**	**01 08 25.0**	**-0.4**
RDX	**Rancho Dawling**	**0.78**	**261**	*e*P	**Pg**	**01 08 27.2**	**+0.3**
RDX				*e*S	**Sg**	**01 08 37.8**	**+0.7**
SGL	**Mount Signal**	**0.83**	**316**	*e*P	**Pg**	**01 08 29.0**	**-0.7**
YUH	**Yuha Desert**	**0.95**	**308**	*e*P	**Pg**	**01 08 29.8**	**-0.4**
GLA	**Glamis**	**1.01**	**10**	*e*Pn	**Pn**	**01 08 33.2**	**+1.0**
GLA				*e*S	**Sg**	**01 08 44.3**	**-0.1**
RMX	**La Rumorosa**	**1.04**	**302**	*e*P	**Pg**	**01 08 31.4**	**-0.4**
RMX				*e*S	**Sg**	**01 08 44.8**	**-0.5**
RMX				⇑*e*		01 08 46.4	
RMX				AML	AML	01 08 46.4	
	comp=N,2μm,0.5s						
SPIG	**San Pedro Mart**	**1.07**	**200**	*e*P	**Pg**	**01 08 33.0**	**+0.6**
SPIG				*i* S	**Sb**	**01 08 47.9**	**+0.9**
SPIG	**San Pedro Mart**	**1.07**	**200**	*e*P	**Pg**	**01 08 33.0**	**+0.6**
SPIG				*i* S	**Sb**	**01 08 47.9**	**+0.9**
ZAX	**El Zacaton**	**1.18**	**243**	*e*P	**Pb**	**01 08 33.7**	**-0.9**
ZAX				*e*S	**Sb**	**01 08 50.1**	**+0.1**
ZAX				⇓*e*		01 08 52.4	
ZAX				AML	AML	01 08 52.4	
	comp=N,2μm,0.6s						
ZAX				⇑*e*		01 08 53.2	
ZAX				AML	AML	01 08 53.2	
	comp=E,2μm,0.6s						
ECNX	**Esteban Cantu**	**1.39**	**254**	*e*P	**Pn**	**01 08 37.3**	**-0.2**
ECNX				*e*S	**Sb**	**01 08 55.8**	**-0.1**
CBX	**Cerro Bola**	**1.40**	**281**	*e*P	**Pn**	**01 08 36.7**	**-1.1**
CBX				*i* S	**Sb**	**01 08 54.0**	**-2.3**
CBX	**Cerro Bola**	**1.40**	**281**	*e*P	**Pn**	**01 08 36.7**	**-1.1**
PBX	**Punta Banda**	**1.47**	**258**	*e*P	**Pn**	**01 08 38.2**	**-0.3**
PBX				*e*S	**Sn**	**01 08 58.0**	**+0.1**
BAR	**Barrett**	**1.52**	**295**	*e*Pn	**Pb**	**01 08 40.0**	**-0.2**
BAR				*e*S	**Sb**	**01 08 59.3**	**-0.3**
214A	**Organ Pipe Nat**	**1.89**	**92**	*e*Pn	**Pn**	**01 08 42.8**	**-1.6**
214A				*e*S	**Sg**	**01 09 12.1**	**-0.7**
PFO	**Pinyon Flats O**	**1.96**	**323**	*e*Pn	**Pn**	**01 08 45.6**	**+0.2**
LDFC	**Landfair**	**3.02**	**359**	Pn	**Pn**	**01 09 02.2**	**+2.3**
MWC	**Mount Wilson**	**3.33**	**311**	*e*Pn	**Pn**	**01 09 06.2**	**+1.9**
MWC				*e*S	**Sb**	**01 09 55.3**	**+3.4**
GSC	**Goldstone, Bar**	**3.56**	**336**	Pn	**Pn**	**01 09 05.9**	**-1.4**
GSC				*e*Pg	**Pg**	**01 09 22.4**	**+2.3**
GSC				*e*S	**Sg**	**01 10 06.2**	**+0.1**
TUC	**Tucson**	**3.62**	**85**	*e*Pn	**Pn**	**01 09 07.2**	**-1.0**
TUC				*e*S	**Sb**	**01 10 01.4**	**+1.4**
OSI	**Osito Audit: C**	**4.00**	**311**	*e*Pn	**Pn**	**01 09 13.7**	**+0.2**
OSI				*e*S	**Sb**	**01 10 10.9**	**-0.3**
ISA	**Isabella, Lake**	**4.59**	**322**	*e*Pn	**Pn**	**01 09 24.3**	**+2.7**
ISA				*e*S	**Sg**	**01 10 34.9**	**-4.5**
ARUT	**Antelope Range**	**5.87**	**12**	*e*Pn	**Pn**	**01 09 41.0**	**+1.9**
ARUT				*e*Pg	**Pg**	**01 10 03.6**	**-0.7**
ARUT				*e*S	**Sg**	**01 11 16.5**	**-3.8**
TPH	**Tonopah**	**6.27**	**344**	Pn	**Pn**	**01 09 46.9**	**+2.2**
MVU	**Marysvale**	**6.83**	**19**	Pn	**Pn**	**01 09 54.9**	**+2.4**
	comp=E,6.3nm,0.5s						
MVU				*e*Pg	**Pg**	**01 10 22.6**	**-0.2**

*AZER **06** 01:14:30.1±0.1,34.09N×43.75E,h35km,Error ellipse:*
s-maj=37.7km s-min=23.4km az=306.0
*CSEM **06** 01:14:42.8,35.74N×44.99E,h3km,ML3.4*
*ISN **06** 01:14:42.8±2.2,35.74N×44.99E,h3km±9km,ML3.4*
*ISCJB **06** 01:14:50.1±0.6,35.42N±0.04×44.85E±0.05,h10km,Error ellipse: s-maj=6.1km s-min=5.4km az=9.4*
*ISK **06** 01:14:56.7,36.63N×45.48E,h5km,ML3.6*
ISC 06 01:14:47.2±0.8,35.56N±0.03×44.82E±0.03,h10km,n38,
σ1§62/49,5C-5D,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.42**	**248**	*e*PG	**Pb**	**01 14 56.8**	**+0.1**
IKRK				eSG	**Sb**	**01 15 05.8**	**+2.6**
HAKT	**HAKKARI**	**2.19**	**336**	*i* P	**Pb**	**01 15 28.1**	**+1.1**
HAKT	**HAKKARI**	**2.19**	**336**	*i* P	**Pb**	**01 15 28.1**	**+1.1**
HAKT				*i* S	**Sg**	**01 15 56.6**	**-0.9**
HKR	**Hakkari**	**2.19**	**337**	*e*PN	**Pg**	**01 15 28.3**	**-1.0**
BHD	**Baghdad**	**2.31**	**189**	*e*Pn	**Pn**	**01 15 26.0**	**+0.7**
BHD				*i* Sn	**Sn**	**01 15 55.0**	**+1.2**
BHD	**Baghdad**	**2.31**	**189**	*e*Pn	**Pn**	**01 15 26.0**	**+0.7**
	SNR=3.0						
BHD				*i* Sn	**Sn**	**01 15 55.0**	**+1.2**
	SNR=3.0						
IBDR	**Badra**	**2.61**	**159**	*e*PN	**Pn**	**01 15 27.8**	**-1.6**
IBDR				*e*SN	**Sn**	**01 15 58.1**	**-3.1**
SIRT	**Sirnak**	**2.72**	**316**	*e*PN	**Pg**	**01 15 41.6**	**+2.2**
SIRT				*e*SN	**Sg**	**01 16 14.2**	**-0.6**
SIRN	**S¨–rnak**	**2.74**	**316**	*i* S	**Sg**	**01 15 15.7**	**+0.6**
SIRN	**S¨–rnak**	**2.74**	**316**	*i* P	**Pb**	**01 15 36.4**	**+0.1**
SIRN				*i* S	**Sg**	**01 16 15.7**	**+0.6**
GEVA	**Gevas**	**3.09**	**333**	*i* P	**Pb**	**01 15 41.4**	**-0.9**
GEVA	**Gevas**	**3.09**	**333**	*i* P	**Pb**	**01 15 41.4**	**-0.9**
GEVA				*i* S	**Sb**	**01 16 18.5**	**-1.6**
TVAN	**Van**	**3.17**	**340**	*i* P	**Pb**	**01 15 43.2**	**-0.6**
TVAN	**Van**	**3.17**	**340**	*i* P	**Pb**	**01 15 43.2**	**-0.6**
TVAN				*i* S	**Sb**	**01 16 24.0**	**+1.4**
VANB	**Van**	**3.24**	**340**	*e*PN	Pb	01 15 41.6	-3.3
CLDR	**Caldiran**	**3.65**	**349**	*e*PN	**Pn**	**01 15 44.0**	**0.0**
NAX	**Nakhchivan**	**3.65**	**8**	⇓P	**Pb**	**01 15 50.7**	**-1.1**
NAX				⇑S	**Sg**	**01 16 48.0**	**+3.6**
NAX	**Nakhchivan**	**3.65**	**8**	P	**Pb**	**01 15 50.7**	**-1.1**
BEST	**Besiri**	**3.68**	**310**	*i* P	**Pb**	**01 15 49.2**	**-3.2**
BEST				*i* S	**Sb**	**01 16 33.7**	**-3.4**
MARD	**Mardin**	**3.70**	**299**	*i* P	Pb	01 15 49.2	-3.5
MARD				*i* S	**Sg**	**01 16 43.9**	**-2.0**
BTMT	**Batman**	**3.75**	**316**	*e*PN	**Pb**	**01 15 54.6**	**+1.1**
SVAN	**Silvan-Diyarba**	**3.89**	**313**	*e*PN	**Pb**	**01 15 58.1**	**+2.2**
MAZI	**Mazidag**	**4.00**	**300**	*e*PN	**Pg**	**01 16 02.2**	**-1.6**
TUTA	**Tutak**	**4.15**	**338**	*i* P	**Pn**	**01 15 51.7**	**+0.8**
LRK	**Lerik**	**4.17**	**41**	⇓P	Pb	01 15 56.9	-3.9
LRK				⇓S	**Sg**	**01 17 02.5**	**+1.3**
LRK	**Lerik**	**4.17**	**41**	P	Pb	01 15 56.9	-3.9
LRK				S	**Sg**	**01 17 02.5**	**+1.3**
DYBB	**Diyarbakir**	**4.45**	**304**	*e*PN	**Pb**	**01 16 08.1**	**+2.6**
LKRN	**Lenkeran, Azer**	**4.46**	**44**	⇑P	Pb	01 16 00.5	-5.1
LKRN				⇓S	**Sg**	**01 17 11.1**	**+0.6**
LKRN	**Lenkeran, Azer**	**4.46**	**44**	P	Pb	01 16 00.5	-5.1
LKRN				S	**Sg**	**01 17 11.1**	**+0.6**
RTB	**Rutbah**	**4.50**	**237**	*e*Pn	**Pn**	**01 15 55.1**	**-0.4**
RTB				*i* Sn	**Sn**	**01 16 47.1**	**-0.9**
RTB	**Rutbah**	**4.50**	**237**	*e*Pn	**Pn**	**01 15 55.1**	**-0.4**
	SNR=3.0						
RTB				*i* Sn	**Sn**	**01 16 47.1**	**-0.9**
	SNR=3.0						
GLBA	**Clilabad**	**4.65**	**37**	⇑P	Pb	01 16 04.2	-4.6
GLBA				⇑S	**Sg**	**01 17 17.0**	**+0.5**
GLBA	**Clilabad**	**4.65**	**37**	P	Pb	01 16 04.2	-4.6
GLBA				S	**Sg**	**01 17 17.0**	**+0.5**
URFA	**Urfa**	**5.18**	**293**	*e*PN	**Pb**	**01 16 21.1**	**+3.1**
GANJ	**Ganja**	**5.21**	**13**	⇓P	Pb	01 16 13.0	-5.5
GANJ				⇑S	**Sg**	**01 17 36.9**	**+2.2**
GANJ	**Ganja**	**5.21**	**13**	P	Pb	01 16 13.0	-5.5
SVRC	**Sivrice-ELAZID**	**5.23**	**304**	*e*PN	**Pb**	**01 16 18.7**	**-0.1**
MALT	**Malatya**	**5.81**	**300**	*e*PN	**Pb**	**01 16 27.8**	**-0.9**

*ISCJB **06** 01:15:13.9±0.5,32.28N±0.02×115.31W±0.03,h7km±5km,*
Error ellipse: s-maj=4.7km s-min=4.1km az=14.6
*NEIC **06** 01:15:14.2,32.20N×115.33W,h10km,ML3.5(PAS),After PAS.*
*ECX **06** 01:15:15.8±0.5,32.30N×115.34W,h6km,MD3.4,ML3.6*
ISC 06 01:15:14.4±1.1,32.24N±0.03×115.33W±0.03,h7km±12km,
n17,σ1§14/29,2C-6D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.26**	**164**	*e*P	**Pg**	**01 15 19.9**	**+0.4**
EMX				*e*S	**Sg**	**01 15 24.6**	**+1.6**
SGL	**Mount Signal**	**0.53**	**320**	⇓*i*P	**Pg**	**01 15 24.3**	**-0.3**
RDX	**Rancho Dawling**	**0.61**	**239**	*e*P	**Pg**	**01 15 26.7**	**+0.6**
RDX				*e*S	**Sb**	**01 15 36.3**	**0.0**
COA	**Coachella**	**0.64**	**15**	⇓*i*P	**Pg**	**01 15 26.5**	**-0.2**
YUH	**Yuha Desert**	**0.65**	**309**	⇓*i*P	**Pg**	**01 15 26.4**	**-0.5**
COK	**Cook Ranch**	**0.69**	**331**	⇓*i*P	**Pg**	**01 15 27.4**	**-0.3**
YMD	**Yuma Desert**	**0.73**	**64**	⇑*i*P	**Pg**	**01 15 27.9**	**-0.6**
RMX	**La Rumorosa**	**0.73**	**300**	*e*P	**Pg**	**01 15 27.9**	**-0.5**
RMX				*e*S	**Sg**	**01 15 37.5**	**-0.6**
RMX				⇑*e*		01 15 37.9	
RMX				AML	AML	01 15 37.9	
	comp=N,5μm,0.1s						
ECBX	**El Chinero**	**0.80**	**163**	*e*P	**Pg**	**01 15 29.8**	**+0.1**
ECBX				*e*S	**Sb**	**01 15 41.5**	**-0.1**
GLA	**Glamis**	**0.91**	**27**	*e*Pg	**Pg**	**01 15 30.0**	**-1.0**
GLA				*e*S	**Sg**	**01 15 43.0**	**-0.7**
ZAX	**El Zacaton**	**1.08**	**228**	*e*P	**Pg**	**01 15 35.1**	**-0.1**
ZAX				*e*S	**Sb**	**01 15 50.1**	**+0.3**
ZAX				⇓*e*		01 15 54.5	
ZAX				AML	AML	01 15 54.5	
	comp=E,940nm,0.6s						
ZAX				⇓*e*		01 15 55.6	
ZAX				AML	AML	01 15 55.6	
	comp=N,905nm,0.7s						
BAR	**Barrett**	**1.22**	**291**	*e*Pn	**Pb**	**01 15 36.4**	**-1.4**
BAR				*e*S	**Sg**	**01 15 52.0**	**-1.7**
ECNX	**Esteban Cantu**	**1.23**	**242**	*e*P	**Pb**	**01 15 37.2**	**-0.8**
ECNX				*e*S	**Sb**	**01 15 54.3**	**+0.2**
PBX	**Punta Banda**	**1.29**	**248**	*e*P	**Pn**	**01 15 38.0**	**-0.8**
PBX				*e*S	**Sg**	**01 15 55.9**	**0.0**
214A	**Organ Pipe

	baz=218							
TYC	**Yuchr**	**1.78**	**224**	*e*P		**Pn**	**01 20 39.7**	**0.0**
	baz=233							
HATJ	**Hateruma jima**	**1.83**	**128**	P		**Pn**	**01 20 40.8**	**+0.7**
HATJ				S		**S**	**01 21 09.6**	**+0.6**
EHY	**Hungye**	**1.86**	**206**	*e*P		**Pn**	**01 20 40.4**	**-0.1**
	baz=204							
EHY				*e*S		**S**	**01 21 10.1**	**+0.4**
	baz=204							
JIJ	**Ishigaki jima**	**1.93**	**115**	P		**Pn**	**01 20 40.9**	**-0.2**
JIJ				S		**S**	**01 21 09.8**	**-0.9**
JISG	**Ishigakijimahi**	**1.99**	**107**	P		**Pn**	**01 20 41.8**	**+0.1**
JISG				S		**S**	**01 21 11.0**	**-0.8**
TWF1	**Yuli**	**2.01**	**205**	*e*P		**Pn**	**01 20 41.4**	**-0.6**
	baz=204							
YUS	**Yu-Shan**	**2.05**	**215**	*e*P		**Pn**	**01 20 43.4**	**+0.5**
	baz=215							
ALS	**Alishan**	**2.11**	**218**	*e*P		**Pn**	**01 20 43.2**	**-0.1**
	baz=223							
CHN5	**Tsauling**	**2.12**	**222**	*i* P		**Pn**	**01 20 43.4**	**+0.3**
	baz=223							
CHN5				*e*S		**S**	**01 21 14.3**	**0.0**
	baz=223							
ELDTW	**Lidau**	**2.27**	**209**	*e*P		**Pn**	**01 20 44.8**	**+0.1**
	baz=207							
JTJ	**Tarama**	**2.32**	**103**	P		**Pn**	**01 20 45.5**	**+0.4**
JTJ				S		**S**	**01 21 17.4**	**-0.4**
CHN4	**Tsaushan**	**2.35**	**219**	⇑*i*P		**Pn**	**01 20 45.7**	**+0.2**
	baz=221							
STYT	**Tauyuan**	**2.42**	**214**	*e*P		**Pn**	**01 20 45.9**	**-0.4**
	baz=220							
WTP	**Ta-pu**	**2.42**	**217**	P		**Pn**	**01 20 46.3**	**0.0**
	baz=224							
TWK	**Hsinying**	**2.48**	**220**	*e*P		**Pn**	**01 20 47.0**	**+0.1**
	baz=228							
CHN1	**Nanshi**	**2.52**	**218**	⇑*i*P		**Pn**	**01 20 47.5**	**+0.2**
	baz=223							
SGST	**Jiashian**	**2.57**	**216**	*e*P		**Pn**	**01 20 47.8**	**-0.1**
	baz=217							
TWG	**Pinlang**	**2.58**	**204**	*e*P		**Pn**	**01 20 47.7**	**-0.3**
	baz=201							
JIRB	**Irabujima**	**2.71**	**97**	P		**Pn**	**01 20 49.5**	**+0.2**
JIRB				S		**S**	**01 21 24.7**	**-0.7**
JIKM	**Ikemajima**	**2.76**	**95**	P		**Pn**	**01 20 50.6**	**+0.7**
JIKM				*e*S		**S**	**01 21 28.3**	**+1.8**
JMJ	**Miyako jima 2**	**2.82**	**97**	P		**Pn**	**01 20 51.1**	**+0.5**
JMJ				S		**S**	**01 21 26.7**	**-0.9**
SSD	**Sandimen**	**2.83**	**211**	*e*P		**Pn**	**01 20 50.9**	**+0.1**
	baz=212							
JOGS	**Gusukube**	**2.92**	**98**	P		**Pn**	**01 20 52.7**	**+0.9**
EAST	**Anshuo**	**3.06**	**204**	*e*P		**Pn**	**01 20 53.7**	**+0.2**
	baz=211							
JKE	**Kume jima 2**	**4.27**	**74**	P		**Pn**	**01 21 07.4**	**-0.6**
JKE				*e*S		**S**	**01 21 59.0**	**-0.2**

*ISCJB **06** 01:22:56.9±0.5, 32.°08N±0.°02×115.°01W±0.°02, h7km±3km, mb3.7/6, MS3.5/6, Error ellipse: s-maj=2.8km s-min=2.2km az=169.1*

*IDC **06** 01:22:57.2±1.9, 32.°11N×115.°13W, h0km, mb3.4/4, mb1 3.7/9, mb1mx3.4/58, mbtmp3.4/9, ML3.3/5, MS3.7/12, Ms1 3.7/12, ms1mx3.5/23, Error ellipse: s-maj=32.2km s-min=11.1km az=37.0*

*NEIC **06** 01:22:59.8, 32.°06N×115.°11W, h12km, mb4.3/3, MD4.4(MEX), ML4.6(PAS), ML4.7(ECX), After ECX.*

NEIC Felt at Yuma, Arizona and at El Centro, California.

*ECX **06** 01:22:59.8±0.6, 32.°06N×115.°11W, h12km, MD4.6, ML4.7*

*MEX **06** 01:23:00.1±0.3, 32.°11N×114.°97W, h13km±5km, MD4.2*

ISC 06 01:22:58.8±0.7, 32.°06N±0.°02×115.°09W±0.°02, h13km±5km, n110, σ1°69/138, mb3.6/6, MS3.5/6, 25C-26D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.14**	**240**	⇑*e*P	**Pg**	**01 23 01.8**	**-0.5**
EMX				*e*S	**Sg**	**01 23 04.2**	**-0.7**
CPBX	**Cerro Prieto**	**0.40**	**334**	⇑*e*P	**Pg**	**01 23 06.8**	**0.0**
CPBX				*e*S	**Sg**	**01 23 13.0**	**+0.9**
ECBX	**El Chinero**	**0.59**	**176**	⇓*e*P	**Pg**	**01 23 10.1**	**-0.2**
ECBX				*e*S	**Sg**	**01 23 18.4**	**+0.3**
RDX	**Rancho Dawling**	**0.73**	**260**	⇑*e*P	**Pg**	**01 23 13.0**	**-0.1**
RDX				*e*S	**Sg**	**01 23 22.9**	**+0.1**
YUH	**Yuha Desert**	**0.91**	**310**	*e*P	**Pg**	**01 23 15.2**	**-1.3**
RMX	**La Rumorosa**	**0.99**	**303**	*e*P	**Pb**	**01 23 16.9**	**-1.1**
RMX				*e*S	**Sg**	**01 23 30.5**	**-0.5**
RMX				⇓*e*		01 23 31.4	
	comp=N,12μm,0.8s						
GLA	**Glamis**	**1.01**	**13**	⇓P	Pb	01 23 15.9	-2.4
	baz=1.0						
GLA				⇑S	**Sb**	**01 23 28.6**	**-2.9**
	baz=1.0						
GLA	**Glamis**	**1.01**	**13**	*e*Pg	Pb	01 23 15.7	-2.6
GLA				*e*Sg	**Sb**	**01 23 29.0**	**-2.6**
SPIG	**San Pedro Mart**	**1.06**	**198**	*e*P	**Pb**	**01 23 18.4**	**-0.8**
SPIG				*i* S	**Sb**	**01 23 32.4**	**-0.7**
SPIG	**San Pedro Mart**	**1.06**	**198**	*e*P	**Pb**	**01 23 18.4**	**-0.8**
SPIG				*i* S	**Sb**	**01 23 32.4**	**-0.7**
SPX	**San Pedro Mart**	**1.06**	**197**	⇓*e*P	**Pb**	**01 23 18.5**	**-0.7**
SPX				*e*S	**Sb**	**01 23 32.5**	**-0.6**
SPX				⇑*e*		01 23 36.6	
	comp=N,11μm,0.8s						
CRR	**Carrizo Plain**	**1.11**	**318**	⇑*i*P	**Pb**	**01 23 18.7**	**-1.1**
ZAX	**El Zacaton**	**1.14**	**242**	⇓*e*P	**Pb**	**01 23 19.7**	**-0.8**
ZAX				*e*S	**Sb**	**01 23 35.0**	**-0.2**
113A	**Mohawk Valley,**	**1.33**	**57**	⇓P	Pn	01 23 20.7	-2.3
	baz=1.3						
113A				⇑S	**Sb**	**01 23 37.5**	**-2.9**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.34**	**253**	⇓*e*P	**Pn**	**01 23 22.9**	**-0.4**
ECNX				*e*S	**Sb**	**01 23 40.3**	**-0.7**
CBX	**Cerro Bola**	**1.35**	**281**	*e*P	**Pn**	**01 23 22.3**	**-1.3**
CBX				*e*S	**Sb**	**01 23 39.9**	**-1.5**
CBX	**Cerro Bola**	**1.35**	**281**	⇓*e*P	**Pn**	**01 23 22.6**	**-1.0**
CBX				*e*S	**Sb**	**01 23 40.8**	**-0.7**
CBX				⇑*e*		01 23 42.5	
	comp=N,32μm,0.5s						
CBX				*e*		01 23 44.2	
	comp=E,23μm,0.4s						
CBX	**Cerro Bola**	**1.35**	**281**	*e*P	**Pn**	**01 23 22.3**	**-1.3**
CBX				*e*S	**Sb**	**01 23 39.9**	**-1.5**
MONP	**Monument Peak,**	**1.39**	**307**	⇑S	**Sn**	**01 23 42.3**	**-0.2**
	baz=1.4						
PBX	**Punta Banda**	**1.42**	**258**	⇓*e*P	**Pn**	**01 23 24.0**	**-0.4**
PBX				*e*S	**Sn**	**01 23 42.6**	**-0.5**
BAR	**Barrett**	**1.47**	**295**	*e*Pn	**Pn**	**01 23 24.2**	**-0.8**
BAR				*e*Sn	**Sn**	**01 23 43.5**	**-0.7**
BC3	**Big Chuckawall**	**1.62**	**349**	⇑P	Pn	01 23 24.7	-2.5
	baz=1.6						
BC3				⇓S	**Sn**	**01 23 44.4**	**-3.6**
	baz=1.6						
Y12C	**Blythe**	**1.75**	**16**	⇑P	Pn	01 23 26.6	-2.3
	baz=1.8						
109C	**Camp Elliot, M**	**1.89**	**296**	⇓P	**Pn**	**01 23 29.4**	**-1.4**
	baz=1.9						
109C				⇑Sb	**Sn**	**01 23 56.4**	**+1.9**
	baz=1.9						
PFO	**Pinyon Flats O**	**1.92**	**324**	Pn	Pn	01 23 28.7	-2.7
	comp=E,60nm,0.3s,baz=133,slow=13,SNR=16						
PFO				Lg	Lg	01 23 58.1	
	comp=E,104nm,0.3s,baz=239,slow=21,SNR=8.0						
PFO				LR	LR	01 24 03.9	
	comp=E,500nm,20.1s,baz=136,slow=36						
PFO	**Pinyon Flats O**	**1.92**	**324**	⇓P	Pn	01 23 29.0	-2.4
	baz=1.9						
PFO	**Pinyon Flats O**	**1.92**	**324**	*e*Pn	Pn	01 23 29.0	-2.4
PFO				*e*S	**Sn**	**01 23 51.6**	**-3.9**
PFO				Lg	Lg	01 23 58.1	
214A	**Organ Pipe Nat**	**1.94**	**92**	⇓P	Pn	01 23 29.3	-2.2
	baz=1.9						
214A				⇑S	**Sn**	**01 23 53.5**	**-2.4**
	baz=1.9						
BELC	**Belle Mtn. Jos**	**2.08**	**339**	⇑P	**Pn**	**01 23 31.5**	**-2.0**
	baz=2.1						
IRM	**Iron Mountain**	**2.10**	**359**	⇑P	Pn	01 23 31.3	-2.4
	baz=2.1						
Z14A	**Wintersburg**	**2.23**	**54**	⇓P	**Pn**	**01 23 33.8**	**-1.7**
	baz=2.2						
Z14A				⇓S	**Sn**	**01 24 00.3**	**-2.6**
	baz=2.2						
MURC	**Murrieta**	**2.35**	**311**	⇓P	**Pn**	**01 23 35.5**	**-1.6**
	baz=2.3						
MURC				⇓Sb	**Sb**	**01 24 10.7**	**+0.9**
	baz=2.3						
PDMCI	**Parker Dam,Lak**	**2.37**	**19**	⇑S	**Sn**	**01 24 04.1**	**-2.3**
	baz=2.4						
Y14A	**Wickenburg**	**2.57**	**43**	⇓P	**Pn**	**01 23 38.2**	**-1.9**
	baz=2.6						
NEE2	**Needles Airpor**	**2.73**	**8**	⇑P	**Pn**	**01 23 40.5**	**-1.8**
	baz=2.7						
GMRC	**Granite Mounta**	**2.75**	**350**	⇓P	**Pn**	**01 23 40.8**	**-2.0**
	baz=2.8						
LDFC	**Landfair**	**3.01**	**360**	*e*Pn	**Pn**	**01 23 45.3**	**-1.0**
LDFC				*e*S	**Sb**	**01 24 33.3**	**+4.2**
BFSC	**Mount Baldy Ra**	**3.06**	**316**	⇑Sb	**Sb**	**01 24 31.5**	**+1.0**
	baz=3.1						
CIS	**Catalina Islan**	**3.10**	**297**	⇑Sb	**Sb**	**01 24 33.0**	**+1.5**
	baz=3.1						
FMP	**Fort Macarthur**	**3.16**	**302**	⇓Sb	**Sb**	**01 24 34.2**	**+1.1**
	baz=3.1						
MWC	**Mount Wilson**	**3.29**	**312**	*e*Pn	**Pn**	**01 23 51.2**	**+1.0**
MWC				*e*Sn	**Sn**	**01 24 31.2**	**+1.8**
MWC				*e*S	**Sb**	**01 24 41.7**	**+4.4**
PASC	**Pasadena Art C**	**3.34**	**310**	*e*Pn	**Pn**	**01 23 50.5**	**-0.2**
PASC				*e*S	**Sb**	**01 24 40.3**	**+1.8**
DECC	**Green Verdugo**	**3.48**	**310**	⇓Sb	**Sb**	**01 24 44.6**	**+2.0**
	baz=3.5						
GSC	**Goldstone, Bar**	**3.53**	**337**	*e*Pn	**Pn**	**01 23 54.9**	**+1.4**
GSC				*e*S	Sg	01 24 58.3	+6.0
TUC	**Tucson**	**3.66**	**85**	*e*Pn	Pn	01 23 52.6	-2.6
TUC				*e*S	**Sb**	**01 24 52.6**	**+4.8**
EDW2	**Edwards Air Fo**	**3.71**	**320**	⇑Sb	**Sb**	**01 24 51.6**	**+2.4**
	baz=3.7						
X16A	**Lo Mia Camp, P**	**3.86**	**51**	⇑P	**Pn**	**01 23 57.4**	**-0.6**
	baz=3.9						
X16A				⇓S	**Sn**	**01 24 39.8**	**-3.6**
	baz=3.9						
OSI	**Osito Audit: C**	**3.96**	**311**	⇓Sb	**Sb**	**01 24 57.7**	**+1.3**
	baz=4.0						
OSI	**Osito Audit: C**	**3.96**	**311**	*e*Pn	**Pn**	**01 24 00.1**	**+0.7**
OSI				*e*Pg	Pb	01 24 12.5	+3.9
OSI				*e*S	**Sb**	**01 24 55.8**	**-0.6**
SHPR	**Sheep Range**	**4.43**	**359**	*e*Pn	**Pn**	**01 24 06.0**	**0.0**
SHPR				*e*S	**Sb**	**01 25 10.8**	**+0.6**
ISA	**Isabella, Lake**	**4.56**	**323**	*e*Pn	**Pn**	**01 24 07.9**	**+0.3**
ISA				*e*Pg	**Pg**	**01 24 24.8**	**-1.4**
ISA				*e*S	**Sg**	**01 25 21.6**	**-3.7**
WUAZ	**Wupatki**	**4.63**	**41**	⇓P	**Pn**	**01 24 08.8**	**+0.1**
	baz=4.6						
WUAZ	**Wupatki**	**4.63**	**41**	*e*Pn	**Pn**	**01 24 09.0**	**+0.3**
WUAZ				*e*Sn	**Sn**	**01 25 02.5**	**0.0**
U15A	**North Rim**	**4.94**	**27**	⇓P	**Pn**	**01 24 12.7**	**-0.2**
	baz=5.0						
X18A	**Snowflake**	**4.96**	**59**	⇓P	**Pn**	**01 24 12.9**	**-0.3**
	baz=5.0						
TPNV	**Topopah Spring**	**4.97**	**349**	⇑P	**Pn**	**01 24 12.7**	**-0.6**
	baz=5.0						
TPNV	**Topopah Spring**	**4.97**	**349**	*e*Pn	**Pn**	**01 24 12.9**	**-0.4**
319A	**Douglas**	**5.00**	**96**	⇑P	**Pn**	**01 24 12.8**	**-0.9**
	baz=5.0						
W18A	**Petrified Fore**	**5.41**	**54**	*e*Pn	**Pn**	**01 24 19.6**	**+0.2**
W18A				*e*S	**Sn**	**01 25 19.8**	**-1.9**
CCUT	**Cedar City**	**5.66**	**14**	*e*Pn	**Pn**	**01 24 22.9**	**+0.1**
CCUT				*e*Pg	**Pg**	**01 24 45.9**	**-1.3**
CCUT				*e*S	**Sg**	**01 25 57.4**	**-3.1**
ARUT	**Antelope Range**	**5.87**	**13**	*e*Pn	**Pn**	**01 24 24.5**	**-1.2**
	comp=E,14nm,0.7s						
ARUT				*e*S	**Sg**	**01 26 04.1**	**-3.2**
MTUM	**Tungsten Hills**	**6.00**	**333**	*e*Pn	Pn	01 24 31.4	+3.9
121A	**Cookes Peak, D**	**6.21**	**84**	⇑P	**Pn**	**01 24 29.3**	**-1.0**
	baz=6.2						
121A	**Cookes Peak, D**	**6.21**	**84**	*e*Pn	**Pn**	**01 24 28.9**	**-1.4**
	comp=E,70nm,0.5s						
121A				*e*S	Sb	01 26 10.5	+9.4
TPH	**Tonopah**	**6.25**	**344**	*e*Pn	**Pn**	**01 24 31.4**	**+0.5**
TPH				*e*Pg	**Pg**	**01 24 58.3**	**-0.2**
R11A	**Troy Canyon, C**	**6.29**	**356**	*e*Pn	**Pn**	**01 24 31.1**	**-0.3**
R11A				*e*Pg	Pg	01 24 56.0	-3.2
R11A				*e*S	**Sg**	**01 26 20.9**	**+0.3**
MVU	**Marysvale**	**6.85**	**19**	*e*Pn	**Pn**	**01 24 39.3**	**+0.1**
MVU				*e*Pg	Pb	01 25 04.6	+6.8
MVU				*e*S	**Sg**	**01 26 38.4**	**-0.1**
NVAR	**Mina Array Bea**	**6.88**	**338**	Pn	**Pn**	**01 24 39.2**	**-0.3**
	comp=E,0.2nm,0.3s,baz=160,slow=13,SNR=2.8						
NVAR				Pg	Pb	01 25 04.3	+6.0
	comp=E,0.5nm,0.3s,baz=159,slow=15,SNR=6.9						
NVAR				Lg	Lg	01 26 45.1	
	comp=E,0.2nm,0.3s,baz=188,slow=30,SNR=2.1						
LENM	**Lemitar**	**7.13**	**71**	*e*Pn	**Pn**	**01 24 43.2**	**+0.2**
MVCO	**Mesa Verde**	**7.48**	**45**	*e*Pn	**Pn**	**01 24 49.7**	**+1.9**
MVCO				*e*S	**Sg**	**01 26 59.6**	**+0.9**
ANMO	**Albuquerque**	**7.77**	**66**	Pn	**Pn**	**01 24 52.0**	**+0.2**
	comp=E,0.7nm,0.3s,baz=248,slow=8.3,SNR=22						
ANMO				Lg	Lg	01 27 00.8	
	comp=E,0.2nm,0.3s,baz=3.5,slow=19,SNR=2.7						
ANMO				LR	LR	01 27 59.3	
	comp=E,838nm,18.9s,baz=252,slow=39						
ANMO	**Albuquerque**	**7.77**	**66**	*e*Pn	**Pn**	**01 24 52.0**	**+0.2**
ANMO				*e*Pg	**Pg**	**01 25 29.8**	**+2.3**
ANMO				Lg	Lg	01 27 00.8	
ANMO				*e*S	**Sg**	**01 27 07.1**	**-0.9**
TMUT	**Trail Mountain**	**7.88**	**23**	Pn	**Pn**	**01 24 52.7**	**-0.7**
TMUT				*e*S	Sg	01 27 04.1	-7.6
SRU	**San Rafael Swe**	**7.96**	**27**	Pn	**Pn**	**01 24 57.3**	**+2.9**
SRU				*e*S	Sb	01 26 59.3	+7.9
PV10	**Paradox Valley**	**8.01**	**36**	*e*Pn	**Pn**	**01 24 56.5**	**+1.3**
	comp=E,731nm,0.5s						
NLU	**North Lily Min**	**8.25**	**16**	*e*Pn	Pn	01 25 05.2	+6.8
NLU				*e*S	**Sg**	**01 27 20.7**	**-2.8**
MNTX	**Cornudas Mount**	**8.27**	**90**	⇑P	**Pn**	**01 24 57.7**	**-0.8**
	baz=8.3						
MNTX	**Cornudas Mount**	**8.27**	**90**	*e*Pn	**Pn**	**01 24 57.6**	**-0.8**
MPU	**Maple Canyon**	**8.42**	**18**	*e*Pn	**Pn**	**01 25 01.4**	**+0.7**
MPU				*e*S	Sg	01 27 20.6	-8.8
ELK	**Elko**	**8.67**	**359**	Pn	**Pn**	**01 25 04.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=170,slow=14,SNR=3.3						
ELK				Pg	Pg	01 25 37.8	-6.9
	comp=E,0.3nm,0.3s,baz=171,slow=14,SNR=2.9						
ELK				Lg	Lg	01 27 34.0	
	comp=E,0.2nm,0.3s,baz=174,slow=2.1,SNR=5.3						
ELK				LR	LR	01 28 44.7	
	comp=E,700nm,18.2s,baz=178,slow=40						
LPIG	**La Paz**	**8.98**	**151**	LR	LR	01 28 10.3	
	comp=E,544nm,21.4s,baz=342,slow=35						
SMCO	**Snowmass**	**9.70**	**41**	*e*Pn	**Pn**	**01 25 21.1**	**+2.7**
HVU	**Hansel Valley**	**9.88**	**10**	*e*Pn	**Pn**	**01 25 23.3**	**+2.7**
TXAR	**Lajitas Array**	**10.21**	**102**	Pn	**Pn**	**01 25 26.6**	**+1.5**
	comp=E,2.8nm,0.3s,baz=286,slow=13,SNR=112						
TXAR				Sn	**Sn**	**01 27 21.0**	**+1.5**
	comp=E,0.3nm,0.3s,baz=257,slow=20,SNR=4.1						
TXAR				Lg	Lg	01 28 23.5	
	comp=E,0.3nm,0.3s,baz=272,slow=33,SNR=7.8						
TXAR				LR	LR	01 29 46.4	
	comp=E,446nm,18.4s,baz=0.0,slow=40						
MSTX	**Muleshoe**	**10.52**	**76**	*e*Pn	**Pn**	**01 25 31.1**	**+1.6**
ISCO	**Idaho Springs**	**10.89**	**42**	*e*Pn	Pn	01 25 37.9	+3.2
MFID	**Camas Ranch**	**11.35**	**357**	*e*Pn	**Pn**	**01 25 42.6**	**+1.8**
YBH	**Yreka Blue Hor**	**11.41**	**330**	LR	LR	01 30 33.2	
	comp=E,355nm,20.3s,baz=224,slow=40						
HLID	**Hailey**	**11.50**	**2**	*e*Pn	Pn	01 25 51.7	+8.9
PDAR	**Pinedale Array**	**11.55**	**21**	Pn	**Pn**	**01 25 45.9**	**+2.3**
	comp=E,0.0nm,0.3s,baz=205,slow=15,SNR=2.8						
PDAR				Lg	Lg	01 28 55.3	
	comp=E,0.0nm,0.3s,baz=179,slow=25,SNR=2.4						
TPAW	**Teton Pass**	**11.87**	**15**	*e*Pn	Pn	01 25 52.5	+4.5
FXWY	**Fox Creek**	**11.99**	**14**	*e*Pn	Pn	01 25 53.5	+3.9
LRM	**Limekiln Ridge**	**13.89**	**8**	*e*Pn	**Pn**	**01 26 14.0**	**-1.6**
	comp=E,81nm,1.5s						
NEW	**Newport**	**16.26**	**355**	Pn	**Pn**	**01 26 49.4**	**+2.5**
	comp=E,0.1nm,0.3s,baz=159,slow=11,SNR=6.4						
NEW				LR	LR	01 33 26.7	
	comp=E,376nm,18.7s,baz=178,slow=39						
MIAR	**Mount Ida**	**18.16**	**76**	*e*Pn	**Pn**	**01 27 09.5**	**-1.2**
	comp=E,13nm,1.2s						
EDM	**Edmonton**	**21.19**	**3**	*e*Pn	**P**	**01 27 46.4**	**+2.5**
BBB	**Bella Bella**	**22.24**	**339**	LR	LR	01 36 43.5	
	comp=E,283nm,19.3s,baz=150,slow=37						
WVT	**Waverly**	**22.91**	**72**	*e*P	**P**	**01 28 03.5**	**+1.1**
	comp=E,8.3nm,1.0s						
ULM	**Lac du Bonnet**	**23.11**	**33**	P	**P**	**01 28 05.3**	**+1.0**
	comp=E,0.7nm,0.6s,baz=207,slow=5.3,SNR=2.2						
ULM				LR	LR	01 36 59.1	
	comp=E,122nm,20.0s,baz=286,slow=36						
TKL	**Tuckaleechee C**	**26.20**	**74**	P	**P**	**01 28 33.9**	**+0.6**
	comp=E,0.8nm,0.5s,baz=225,slow=4.3,SNR=2.3						
TKL				LR	LR	01 39 08.0	
	comp=E,223nm,19.5s,baz=291,slow=37						
APG	**El Apazote**	**28.14**	**121**	LR	LR	01 40 30.2	
	comp=E,106nm,19.6s,baz=274,slow=37						
DLBC	**Dease Lake**	**28.26**	**343**	LR	LR	01 42 25.4	
	comp=E,94nm,19.6s,baz=148,slow=41						
YKA	**Yellowknife Ar**	**30.45**	**0**	P	**P**	**01 29 11.6**	**+0.8**
	comp=E,0.2nm,0.8s,baz=180,slow=8.5,SNR=3.7						
ILAR	**Eielson Array**	**38.13**	**339**	P	**P**	**01 30 17.9**	**+0.6**
	comp=E,1.1nm,0.9s,baz=148,slow=7.5,SNR=9.2						
ILAR				LR	LR	01 46 02.8	
	comp=E,97nm,19.7s,baz=176,slow=36						
BILL	**Bilibino**	**56.47**	**334**	*e*P	**P**	**01 32 41.5**	**+1.5**
	comp=E,17nm,1.3s						
HHC	**Hu-ho-hao-te**	**95.62**	**326**	*e*P	**P**	**01 36 23.1**	**-1.1**
HHC				PP	**PP**	**01 40 15.9**	**+1.3**
HHC				S	S	01 47 35.5	-5.7
HHC				SS	**SS**	**01 54 07.0**	**-1.3**
HHC				LZ			
	comp=E,83nm,19.7s						
WMQ	**Urumqi**	**101.66**	**343**	*e*P	**Pdif**	**01 36 55.0**	**+3.8**
WMQ				pP	pP	01 37 00.0	+4.2
WHN	**Wuhan**	**102.07**	**318**	P	**Pdif**	**01 36 51.7**	**-1.5**
CD2	**Chengdu**	**107.36**	**326**	Pdif	**Pdif**	**01 37 17.7**	**+0.9**
KSH	**Kashi**	**108.05**	**351**	*e*Pdif	**Pdif**	**01 37 22.9**	**+3.1**
KSH				PP	PP	01 41 55.6	+7.8
KSH				S	**Sdif**	**01 49 26.7**	**+0.9**
KSH				SS	SS	01 57 07.5	+7.8

GUC 06 01:24:28.5±0.4, 33.°97S×72.°12W, h25km±12km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.20**	**67**	*e*P	Pn	01 24 49.3	-0.4
RCDM				*e*S	Sn	01 25 05.3	+0.1
NICH	**Los Niches**	**1.27**	**145**	*e*P	Pn	01 24 50.4	-0.3
NICH				*e*S	Sn	01 25 07.3	+0.4
ROCH	**El Roble**	**1.36**	**43**	*e*P	Pn	01 24 52.4	+0.2
ROCH				*e*S	Sb	01 25 10.8	0.0
CLCH	**Cerro Calan**	**1.44**	**67**	*e*P	Pn	01 24 53.5	+0.3
CLCH				*e*S	Sb	01 25 12.4	-0.4
CLCH				AML	AML	01 25 13.3	
	comp=E,871nm,0.4s						
PEL	**Peldehue**	**1.46**	**56**	*e*P	Pn	01 24 53.6	+0.3
PEL				*e*S	Sb	01 25 12.8	-0.3
PEL				AML	AML	01 25 18.6	
	comp=E,2μm,0.5s						
TALC	**Talca**	**1.48**	**164**	*e*P	Pn	01 24 54.3	+0.7
TALC				*e*S	Sb	01 25 13.3	-0.6
YECH	**El Yeso**	**1.73**	**81**	*e*P	Pb	01 24 58.8	-1.2
YECH				*e*S	Sb	01 25 21.5	+0.1
LNCH	**Linares**	**1.93**	**167**	*e*P	Pn	01 25 01.1	+1.4
LNCH				*e*S	Sb	01 25 25.8	-0.8

TAP 06 01:38:13.0, 22.°95N×120.°71E, h21km, ML3.6, 9C-8D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.18**	**320**	⇓*i*P	Pb	01 38 18.8	-0.2
	baz=327						
SGST				S	Sb	01 38 22.5	-0.6
	baz=327						
SSD	**Sandimen**	**0.21**	**199**	⇑*i*P	Pb	01 38 18.8	-0.1
	baz=198						
SSD				*i* S	Sb	01 38 22.8	-0.2
	baz=198						
STYT	**Tauyuan**	**0.22**	**12**	⇑*i*P	Pb	01 38 19.2	+0.1
	baz=20						
STYT				*i* S	Sb	01 38 23.4	+0.2
	baz=20						
CHN1	**Nanshi**	**0.29**	**325**	⇓*i*P	Pb	01 38 20.5	+0.9
	baz=333						
CHN1				*i* S	Sn	01 38 26.1	-1.8
	baz=333						
TWM1	**Shoushan**	**0.29**	**245**	P	Pb	01 38 20.7	+1.1
	baz=249						
TWM1				*e*S	Sn	01 38 26.7	-1.1
	baz=249						
SGLT	**Jiouru**	**0.30**	**222**	P	Pb	01 38 20.8	+1.2
	baz=216						
WTP	**Ta-pu**	**0.31**	**344**	⇓*i*P	Pb	01 38 20.7	+0.8
	baz=345						
WTP				*i* S	Sb	01 38 26.2	+1.5
	baz=345						
CHN3	**Shinhua**	**0.34**	**292**	*e*P	Pn	01 38 21.7	-1.0
	baz=292						
TWG	**Pinlang**	**0.36**	**110**	⇓*i*P	Pb	01 38 21.6	+1

	baz=51							
EHY				*i*	S	Sn	01 38 39.4	-0.9
	baz=51							
WSF	**Szhu**	**0.82**	**327**	*e*	P	Pn	01 38 29.1	-0.3
	baz=327							
WSF					S	Sn	01 38 41.6	+0.8
	baz=327							
WNT	**Mingjian**	**0.93**	**359**	*e*	P	Pn	01 38 31.2	+0.4
	baz=345							
HEN	**Hengchun**	**0.94**	**178**	*e*	P	Pn	01 38 31.5	+0.6
	baz=171							
HEN					S	Sn	01 38 44.9	+1.1
	baz=171							
SMLT	**Sun Moon Lake**	**0.95**	**11**	⇑*i*	P	Pn	01 38 32.2	+1.0
	baz=10.0							
SMLT					S	Sn	01 38 45.7	+1.4
	baz=10.0							
TYC	**Yuchr**	**0.96**	**8**		P	Pn	01 38 32.4	+1.1
	baz=8.0							
TYC					S	Sn	01 38 46.3	+2.0
	baz=8.0							
WTCT	**Ta-ch'eng**	**0.99**	**337**	*e*	P	Pn	01 38 31.9	+0.2
	baz=335							
TWK1	**Hengchun**	**1.00**	**175**	*e*	P	Pn	01 38 32.4	+0.5
	baz=175							
TWK1					S	Sn	01 38 46.9	+1.5
	baz=175							
WDGT	**Dungji**	**1.01**	**288**	*e*	P	Pb	01 38 31.0	-0.8
	baz=288							
WDGT					S	Sb	01 38 44.5	-0.2
	baz=288							
TSEB	**Hengchuen, Pin**	**1.06**	**170**	*e*	P	Pn	01 38 34.0	+1.4
	baz=173							
TSEB					S	Sn	01 38 48.3	+1.6
	baz=173							
ESL	**Shilin**	**1.09**	**38**		P	Pb	01 38 33.9	+0.7
	baz=30							
ESL					S	Sn	01 38 49.4	+1.9
	baz=30							
LAY	**Lan-yu**	**1.19**	**139**	*e*	P	Pn	01 38 34.4	-0.2
	baz=129							
TCU	**Taichung**	**1.20**	**359**	*e*	P	Pb	01 38 35.1	+0.1
	baz=342							
PNG	**Penghu**	**1.23**	**300**	*e*	P	Pn	01 38 34.9	0.0
	baz=300							
PNG					S	Sb	01 38 50.0	-0.9
	baz=300							
WHF	**Hehuan Shan**	**1.30**	**23**	*e*	P	Pb	01 38 37.4	+0.1
	baz=23							
WHF					S	Sb	01 38 55.6	+1.7
	baz=23							
TWT	**Tachien**	**1.37**	**18**	*e*	P	Pb	01 38 38.6	+0.4
	baz=16							
TWD	**Chiawan**	**1.39**	**36**	*e*	P	Pb	01 38 39.1	+0.8
	baz=35							
TWD					S	Sb	01 38 57.5	+1.9
	baz=35							
TWQ1	**Liyutan**	**1.40**	**2**	*e*	P	Pb	01 38 38.8	+0.4
	baz=2.0							
TWQ1					S	Sb	01 38 57.5	+1.7
	baz=2.0							
NSY	**Sanyi**	**1.46**	**2**	*e*	P	Pb	01 38 39.7	+0.2
	baz=346							
NSY					S	Sb	01 38 59.2	+1.5
	baz=346							
NNS	**Nan Shan**	**1.61**	**22**	*e*	P	Pb	01 38 42.1	-0.1
	baz=20							
NSTT	**Nanjuang**	**1.70**	**9**	*e*	P	Pn	01 38 42.5	+1.0
	baz=351							
ENA	**Nanau**	**1.75**	**33**	*e*	P	Pb	01 38 43.9	-0.6
	baz=31							
NSK	**Sanguang**	**1.82**	**19**	*e*	P	Pb	01 38 45.5	-0.2
	baz=19							
NSK					S	Sb	01 39 09.0	+0.8
	baz=19							
ENTT	**Nioudou**	**1.86**	**25**	*e*	P	Pb	01 38 46.8	+0.5
	baz=8.0							
TWC	**Suao**	**1.96**	**32**	*e*	P	Pb	01 38 47.7	-0.2
	baz=30							
TWE	**Neicheng**	**1.97**	**26**	*e*	P	Pb	01 38 47.4	-0.8
	baz=42							
NWF	**Wu-fen Shan**	**2.33**	**25**	*e*	P	Pb	01 38 53.6	-0.9
	baz=6.0							
TWB1	**Santiao Chiao**	**2.36**	**29**	*e*	P	Pb	01 38 55.9	+1.1
	baz=28							

*IDC **06** 01:45:16.9±7.4, 36°.01N×70°.20E, h116km±67km, mb3.2/2, mb1 3.1/6, mb1mx2.8/45, mbtmp3.5/6, Error ellipse: s-maj=78.5km s-min=43.0km az=145.0*
*NNC **06** 01:45:22.4±1.8, 36°.58N×70°.05E, h153km, mb2.7, mpv3.5, Error ellipse: s-maj=14.3km s-min=8.1km az=2.0*

ISC 06 01:45:19.9±2.5, 36°.4N±0°.2×70°.10E±0°.08, h100km, n16, σ1°80/23, 10C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.59**	**337**	⇑P	**Pn**	**01 46 02.5**	**+2.1**
	4.7nm,0.3s						
DZET				⇓S	**Sn**	**01 46 34.5**	**+3.1**
	96nm,0.4s						
SFK	**Sufi-Kurgan**	**4.48**	**36**	⇓P	**Pn**	**01 46 27.5**	**+1.7**
	2.5nm,0.3s						
SFK				⇓S	**Sn**	**01 47 18.5**	**+1.6**
	7.9nm,0.2s						
MNAS	**Manas**	**6.34**	**16**	⇑P	**Pn**	**01 46 53.0**	**+2.0**
	1.2nm,0.4s						
MNAS				⇑S	**Sn**	**01 48 03.8**	**+1.8**
	3.6nm,0.7s						
KK31	**Karatay Array**	**6.69**	**3**	⇓P	**Pn**	**01 46 56.6**	**+1.0**
	2.0nm,0.3s,baz=181,slow=13,SNR=83						
KK31				⇑S	**Sn**	**01 48 10.6**	**+0.3**
	1.0nm,0.3s,baz=191,slow=25,SNR=4.9						
AAK	**Ala-Archa**	**7.08**	**27**	⇓P	**Pn**	**01 47 02.2**	**+1.2**
	1.8nm,0.4s						
AAK				⇓S	**Sn**	**01 48 19.9**	**0.0**
	3.0nm,0.5s						
AAK	**Ala-Archa**	**7.08**	**27**	P	**Pn**	**01 47 02.3**	**+1.4**
	1.2nm,0.3s,baz=194,slow=8.9,SNR=8.0						
AAK				S	**Sn**	**01 48 20.2**	**+0.3**
	0.2nm,0.3s,baz=334,slow=22,SNR=3.5						
TKM2	**Tokmak 2**	**7.76**	**31**	⇓P	**Pn**	**01 47 10.9**	**+0.7**
	2.1nm,0.8s						
TKM2				⇑S	**Sn**	**01 48 36.7**	**+0.2**
	1.8nm,0.8s						
MK31	**Makanchi Array**	**13.79**	**37**	⇓P	**Pn**	**01 48 29.8**	**-1.3**
	0.9nm,0.8s,baz=145,slow=1.8,SNR=7.2						
MKAR	**Makanchi Array**	**13.79**	**37**	P	**Pn**	**01 48 30.9**	**-0.1**
	0.1nm,0.3s,baz=221,slow=14,SNR=6.0						
AB31	**Akbulak array**	**14.82**	**333**	⇑P	**Pn**	**01 48 43.6**	**-0.6**
	0.5nm,0.3s,baz=158,slow=12,SNR=34						
AB31				⇑S	Sn	01 51 20.6	-7.0
	0.8nm,0.7s,baz=159,slow=23,SNR=5.0						
AKTO	**Aktyubinsk**	**16.51**	**332**	⇑P	**Pn**	**01 49 03.8**	**-1.5**
	4.7nm,1.4s						
AKTO				⇑S	**Sn**	**01 52 03.4**	**-4.8**
	1.5nm,1.0s						
AKTO	**Aktyubinsk**	**16.51**	**332**	P	**P**	**01 49 06.5**	**+0.3**
	0.1nm,0.3s,baz=133,slow=12,SNR=3.7						
BVA0	**Borovoye Array**	**16.61**	**1**	⇑P	**Pn**	**01 49 04.3**	**-2.3**
	1.9nm,1.1s,baz=183,slow=11,SNR=6.5						
BVAR	**Borovoye Array**	**16.61**	**1**	P	**Pn**	**01 49 06.3**	**-0.2**
	0.3nm,0.3s,baz=166,slow=9.7,SNR=7.1						
ZALV	**Zalesovo Beam**	**20.30**	**26**	P	**P**	**01 49 47.1**	**-0.4**
	1.8nm,0.4s,baz=221,slow=12,SNR=12						
TORD	**Torodi Ar. Bea**	**64.99**	**268**	P	P	01 55 45.2	-4.4
	0.3nm,0.8s,baz=46,slow=5.7,SNR=3.1						

*NEIC **06** 01:48:18.2, 32°.15N×115°.32W, h7km, ML3.5(PAS), After PAS.*
*ECX **06** 01:48:20.1±0.5, 32°.26N×115°.33W, h6km, ML3.6*

ISC 06 01:48:18.1±1.1, 32°.20N±0°.03×115°.32W±0°.03, h6km±10km, n20, σ1°61/35, 2C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.21**	**163**	*e*P	**Pg**	**01 48 22.6**	**+0.2**
EMX				*e*S	**Sg**	**01 48 26.7**	**+1.4**
SGL	**Mount Signal**	**0.57**	**323**	⇓*i*P	**Pg**	**01 48 29.3**	**+0.2**
RDX	**Rancho Dawling**	**0.59**	**244**	*e*P	**Pb**	**01 48 30.9**	**-0.2**
RDX				*e*S	**Sb**	**01 48 39.5**	**-0.3**
YUH	**Yuha Desert**	**0.68**	**311**	⇓*i*P	**Pg**	**01 48 31.2**	**-0.1**
COA	**Coachella**	**0.69**	**14**	⇑*i*P	**Pg**	**01 48 31.6**	**+0.2**
COK	**Cook Ranch**	**0.74**	**332**	⇓*i*P	**Pg**	**01 48 32.3**	**-0.1**
YMD	**Yuma Desert**	**0.74**	**61**	⇑*i*P	**Pg**	**01 48 32.2**	**-0.2**
ECBX	**El Chinero**	**0.76**	**163**	*e*P	**Pg**	**01 48 31.9**	**-0.7**
ECBX				*e*S	**Sb**	**01 48 43.1**	**-1.0**
RMX	**La Rumorosa**	**0.76**	**302**	*e*P	**Pg**	**01 48 32.8**	**-0.1**
RMX				*e*S	**Sg**	**01 48 42.5**	**-0.3**
RMX				AML	AML	01 48 43.5	
	comp=N,2μm,0.1s						
RMX				⇓*e*		01 48 43.5	
GLA	**Glamis**	**0.95**	**26**	*e*Pg	**Pg**	**01 48 35.5**	**-0.9**
GLA				*e*S	**Sg**	**01 48 46.6**	**-2.1**
ZAX	**El Zacaton**	**1.06**	**230**	*e*P	**Pn**	**01 48 39.1**	**-0.5**
ZAX				*e*S	**Sn**	**01 48 54.2**	**-0.5**
ZAX				⇓*e*		01 48 54.8	
ZAX				AML	AML	01 48 54.8	
	comp=N,2μm,0.4s						
ZAX				AML	AML	01 48 57.4	
	comp=E,2μm,0.7s						
ZAX				*e*		01 48 57.4	
ECNX	**Esteban Cantu**	**1.22**	**244**	*e*P	**Pb**	**01 48 41.4**	**-0.2**
ECNX				*e*S	**Sn**	**01 48 57.9**	**-0.6**
PBX	**Punta Banda**	**1.28**	**250**	*e*P	**Pg**	**01 48 42.6**	**-0.1**
PBX				*e*S	**Sn**	**01 49 00.0**	**0.0**
PFO	**Pinyon Flats O**	**1.71**	**326**	*e*Pn	**Pn**	**01 48 46.1**	**-2.4**
PFO				*e*S	**Sn**	**01 49 09.9**	**-0.8**
MWC	**Mount Wilson**	**3.06**	**312**	*e*Pn	**Pn**	**01 49 08.0**	**+0.8**
MWC				*e*S	**Sb**	**01 49 52.1**	**+1.3**
GSC	**Goldstone, Bar**	**3.34**	**339**	Pn	**Pn**	**01 49 11.4**	**+0.5**
TUC	**Tucson**	**3.84**	**87**	Pn	**Pn**	**01 49 19.4**	**+1.5**
TUC				*e*Pg	**Pg**	**01 49 33.1**	**+1.4**
TUC				*e*S	**Sg**	**01 50 18.1**	**-3.4**
ISA	**Isabella, Lake**	**4.34**	**324**	Pn	**Pn**	**01 49 26.4**	**+1.7**
ISA				*e*Pg	**Pg**	**01 49 40.1**	**-1.3**
ISA				*e*S	**Sb**	**01 50 33.5**	**+5.9**
ARUT	**Antelope Range**	**5.79**	**15**	*e*Pn	**Pn**	**01 49 43.0**	**-1.6**
	comp=E,4.3nm,0.6s						
121A	**Cookes Peak, D**	**6.38**	**85**	*e*Pn	**Pn**	**01 49 52.4**	**-0.5**
	comp=E,6.0nm,0.3s						
121A				*e*S	**Sg**	**01 51 44.7**	**+1.7**

*ISCJB **06** 01:57:00.2±0.4, 32°.25N±0°.02×115°.28W±0°.03, h9km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=13.5*
*NEIC **06** 01:57:02.3, 32°.25N×115°.32W, h5km, ML4.0(PAS), ML4.1(ECX), After ECX.*
*ECX **06** 01:57:02.3±0.5, 32°.25N×115°.32W, h5km, ML4.1*

ISC 06 01:57:00.3±0.7, 32°.23N±0°.02×115°.28W±0°.02, h15km±7km, n29, σ1°06/45, 10C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**355**	⇓*e*P	**Pg**	**01 57 05.4**	**+0.7**
CPBX				*e*S	**Sg**	**01 57 08.1**	**+0.4**
EMX	**El Mayor**	**0.24**	**172**	*e*P	**Pg**	**01 57 05.2**	**-0.4**
EMX				*e*S	**Sg**	**01 57 09.3**	**+0.1**
EMX				⇑*e*		01 57 10.2	
	comp=N,10μm,0.6s						
SGL	**Mount Signal**	**0.56**	**318**	⇑*i*P	**Pg**	**01 57 11.7**	**+0.4**
RDX	**Rancho Dawling**	**0.63**	**242**	⇓*e*P	**Pg**	**01 57 13.4**	**+0.6**
RDX				*e*S	**Sg**	**01 57 21.6**	**+0.3**
COA	**Coachella**	**0.65**	**12**	⇑*i*P	**Pg**	**01 57 13.5**	**+0.5**
YUH	**Yuha Desert**	**0.68**	**308**	⇑*i*P	**Pg**	**01 57 13.6**	**-0.1**
YMD	**Yuma Desert**	**0.70**	**62**	⇑*i*P	**Pg**	**01 57 14.5**	**+0.5**
COK	**Cook Ranch**	**0.72**	**329**	⇓*i*P	**Pg**	**01 57 14.7**	**+0.3**
RMX	**La Rumorosa**	**0.77**	**299**	⇑*e*P	**Pg**	**01 57 15.2**	**-0.1**
RMX				*e*S	**Sg**	**01 57 25.1**	**-0.4**
ECBX	**El Chinero**	**0.78**	**165**	⇓*e*P	**Pg**	**01 57 14.8**	**-0.6**
ECBX				*e*S	**Sg**	**01 57 26.1**	**+0.3**
ECBX				⇓*e*		01 57 27.2	
	comp=E,8μm,0.7s						
ECBX				⇓*e*		01 57 30.8	
	comp=N,5μm,0.9s						
GLA	**Glamis**	**0.91**	**25**	*e*Pg	**Pb**	**01 57 17.2**	**-0.6**
GLA				*e*S	**Sg**	**01 57 28.9**	**-0.9**
ZAX	**El Zacaton**	**1.10**	**230**	⇑*e*P	**Pb**	**01 57 21.4**	**+0.3**
ZAX				*e*S	**Sg**	**01 57 36.2**	**+0.2**
CBX	**Cerro Bola**	**1.17**	**274**	⇑*e*P	**Pn**	**01 57 22.1**	**-0.2**
CBX				*e*S	**Sb**	**01 57 37.6**	**+0.2**
CBX				⇓*e*		01 57 39.1	
	comp=N,7μm,0.5s						
SPX	**San Pedro Mart**	**1.19**	**187**	*e*P	**Pn**	**01 57 22.7**	**0.0**
SPX				*e*S	**Sg**	**01 57 40.1**	**+1.3**
ECNX	**Esteban Cantu**	**1.25**	**243**	⇑*e*P	**Pn**	**01 57 23.9**	**+0.5**
ECNX				*e*S	**Sb**	**01 57 40.3**	**+0.6**
BAR	**Barrett**	**1.26**	**291**	*e*Pn	**Pn**	**01 57 23.3**	**0.0**
BAR				*e*S	**Sb**	**01 57 39.0**	**-0.8**
PBX	**Punta Banda**	**1.32**	**249**	*e*P	**Pb**	**01 57 24.9**	**+0.2**
PFO	**Pinyon Flats O**	**1.69**	**325**	*e*Pn	**Pn**	**01 57 30.2**	**+0.8**
PFO				*e*S	**Sn**	**01 57 49.5**	**-1.4**
214A	**Organ Pipe Nat**	**2.12**	**97**	*e*Pn	**Pb**	**01 57 37.5**	**-0.8**
PASC	**Pasadena Art C**	**3.11**	**309**	*e*Pn	**Pb**	**01 57 54.2**	**-1.1**
PASC				*e*S	**Sb**	**01 58 35.0**	**+2.0**
GSC	**Goldstone, Bar**	**3.32**	**338**	*e*Pn	Pn	01 57 55.3	+3.6
GSC				*e*Pg	**Pg**	**01 58 04.1**	**+0.3**
TUC	**Tucson**	**3.81**	**88**	*e*Pn	**Pn**	**01 58 00.5**	**+2.0**
TUC				*e*Pg	**Pg**	**01 58 13.9**	**+0.6**
SHPR	**Sheep Range**	**4.27**	**1**	*e*Pn	**Pn**	**01 58 06.9**	**+2.0**
ISA	**Isabella, Lake**	**4.33**	**323**	*e*Pn	**Pn**	**01 58 08.5**	**+2.9**
ISA				*e*Pg	**Pg**	**01 58 23.8**	**+0.6**
WUAZ	**Wupatki**	**4.62**	**44**	*e*Pn	**Pn**	**01 58 12.0**	**+2.3**
CCUT	**Cedar City**	**5.54**	**16**	*e*Pn	Pn	01 58 25.8	+3.4
	comp=N,15nm,0.8s						
CCUT				*e*Pg	**Pg**	**01 58 45.4**	**-0.9**
R11A	**Troy Canyon, C**	**6.11**	**358**	*e*Pn	**Pn**	**01 58 31.1**	**+0.9**
	comp=N,4.9nm,0.6s						
R11A				*e*Pg	**Pg**	**01 58 57.7**	**+0.4**
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn	**Pn**	**01 58 34.1**	**+0.6**
	comp=N,10nm,0.3s						
MVU	**Marysvale**	**6.74**	**21**	*e*Pn	Pn	01 58 42.5	+3.5
MVU				*e*Pg	**Pg**	**01 59 06.8**	**-2.6**

*BJI **06** 01:58:11.0, 32°.30N×115°.40W, h6km, mb4.7/1, Ms7 4.2/2*
*ECX **06** 01:58:15.5±0.6, 32°.32N×115°.34W, h6km, MD4.4, ML4.6*
*NEIC **06** 01:58:15.2, 32°.33N×115°.32W, h9km, mb4.0/2, ML4.5(PAS), ML4.6(ECX), After ECX.*
*IDC **06** 01:58:16.0±2.1, 32°.29N×115°.11W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.6/38, mbtmp3.7/8, ML3.6/3, MS3.6/17, Ms1 3.6/17, ms1mx3.4/34, Error ellipse: s-maj=39.6km s-min=17.5km az=42.0*

ISC 06 01:58:14.5±0.9, 32°.28N±0°.02×115°.34W±0°.02, h6km±6km, n84, σ2°14/106, mb3.9/6, MS3.6/11, 23C-20D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**11**	⇑*e*P	**Pg**	**01 58 17.2**	**-0.2**
CPBX				*e*S	**Sg**	**01 58 19.5**	**+0.1**
EMX	**El Mayor**	**0.30**	**164**	⇓*e*P	**Pg**	**01 58 19.3**	**-1.0**
EMX				*e*S	**Sg**	**01 58 24.2**	**0.0**
SGL	**Mount Signal**	**0.50**	**319**	⇓*i*P	**Pg**	**01 58 23.5**	**-0.5**
COA	**Coachella**	**0.61**	**17**	⇑*i*P	**Pg**	**01 58 25.9**	**-0.4**
YUH	**Yuha Desert**	**0.62**	**307**	⇓*i*P	**Pg**	**01 58 25.7**	**-0.7**
RDX	**Rancho Dawling**	**0.62**	**236**	⇑*e*P	**Pg**	**01 58 26.7**	**+0.3**
RDX				*e*S	**Sb**	**01 58 35.6**	**-1.4**
RMX	**La Rumorosa**	**0.71**	**298**	⇑*e*P	**Pg**	**01 58 27.4**	**-0.6**
RMX				*e*S	**Sg**	**01 58 37.1**	**-0.2**
RMX				⇓*e*		01 58 38.4	
	comp=N,18μm,0.7s						
YMD	**Yuma Desert**	**0.72**	**67**	⇓*i*P	**Pg**	**01 58 27.8**	**-0.5**
SWSC	**Sam W. Stewart**	**0.77**	**330**	⇑P	**Pg**	**01 58 27.6**	**-1.6**
	baz=0.7						
SWSC				⇑S	**Sg**	**01 58 37.9**	**-1.3**
	baz=0.7						
ECBX	**El Chinero**	**0.84**	**163**	⇓*e*P	**Pg**	**01 58 28.5**	**-2.0**
ECBX				*e*S	**Sg**	**01 58 40.9**	**-0.6**
GLA	**Glamis**	**0.88**	**29**	⇑P	**Pg**	**01 58 29.8**	**-1.7**
	baz=0.8						
GLA				⇓S	**Sg**	**01 58 41.1**	**-1.8**
	baz=0.8						
GLA	**Glamis**	**0.88**	**29**	*e*Pg	**Pg**	**01 58 29.7**	**-1.8**
GLA				*e*S	**Sg**	**01 58 41.3**	**-1.7**
MONP	**Monument Peak,**	**1.10**	**304**	⇓P	**Pg**	**01 58 34.1**	**-1.5**
	baz=1.1						
MONP				⇑S	**Sg**	**01 58 48.7**	**-1.3**
	baz=1.1						
ZAX	**El Zacaton**	**1.10**	**227**	⇓*e*P	**Pg**	**01 58 35.4**	**-0.2**
ZAX				*e*S	**Sb**	**01 58 50.4**	**-0.2**
ZAX				AML	AML	01 58 54.5	
	comp=N,8μm,0.4s						
ZAX				⇑*e*		01 58 54.5	
CBX	**Cerro Bola**	**1.12**	**272**	⇑*e*P	**Pg**	**01 58 35.1**	**-1.0**
CBX				*e*S	**Sg**	**01 58 50.2**	**-0.4**
CBX				⇑*e*		01 58 55.4	
	comp=N,23μm,0.6s						
CBX				⇓*e*		01 58 56.6	
	comp=E,38μm,0.9s						
BAR	**Barrett**	**1.20**	**290**	*e*Pg	**Pg**	**01 58 36.3**	**-1.2**
BAR				*e*S	**Sg**	**01 58 51.6**	**-1.5**
SPX	**San Pedro Mart**	**1.23**	**185**	*e*P	**Pg**	**01 58 37.2**	**-0.9**
ECNX	**Esteban Cantu**	**1.24**	**240**	⇑*e*P	**Pg**	**01 58 37.5**	**-0.7**
ECNX				*e*S	**Sb**	**01 58 54.2**	**-0.4**
PBX	**Punta Banda**	**1.29**	**246**	⇑*e*P	**Pg**	**01 58 38.2**	**-1.1**
BC3	**Big Chuckawall**	**1.38**	**356**	⇑P	Pn	01 58 37.1	-3.3
	baz=1.3						
BC3				⇑S	**Sb**	**01 58 54.0**	**-4.7**
	baz=1.3						
113A	**Mohawk Valley,**	**1.41**	**69**	⇓P	**Pn**	**01 58 38.1**	**-2.2**
	baz=1.4						
109C	**Camp Elliot, M**	**1.61**	**293**	⇑Pb	**Pn**	**01 58 43.4**	**-0.2**
	baz=1.6						
109C				⇓Sb	**Sn**	**01 59 04.1**	**-0.6**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.63**	**325**	Pn	**Pn**	**01 58 40.8**	**-3.1**
	comp=E,65nm,0.3s,baz=140,slow=12,SNR=11						
PFO				LR	LR	01 59 19.2	
	comp=E,737nm,20.7s,baz=138,slow=36						
PFO	**Pinyon Flats O**	**1.63**	**325**	⇑P	**Pn**	**01 58 40.7**	**-3.2**
	baz=1.6						
PFO				⇑S	**Sn**	**01 59 00.5**	**-4.8**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.63**	**325**	*e*Pn	**Pn**	**01 58 40.8**	**-3.1**
PFO				*e*S	**Sn**	**01 58 60.0**	**-5.3**
IRM	**Iron Mountain**	**1.89**	**5**	⇓Sb	**Sn**	**01 59 11.8**	**+0.3**
	baz=1.8						
MURC	**Murrieta**	**2.05**	**311**	⇑P	**Pn**	**01 58 47.1**	**-2.4**
	baz=2.0						
MURC				⇓Sb	**Sb**	**01 59 17.4**	**-0.5**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.17**	**98**	⇓Pb	**Pb**	**01 58 53.5**	**-0.7**
	baz=2.2						
Z14A	**Wintersburg**	**2.29**	**61**	⇑Pb	**Pb**	**01 58 54.8**	**-1.3**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.76**	**316**	⇓Sb	**Sb**	**01 59 38.1**	**-0.4**
	baz=2.7						
SCI	**San Clemente I**	**2.80**	**285**	⇓Sb	**Sb**	**01 59 39.7**	**+0.2**
	baz=2.8						
CIS	**Catalina Islan**	**2.82**	**294**	⇓Sb	**Sb**	**01 59 40.0**	**0.0**
	baz=2.8						
FMP	**Fort Macarthur**	**2.87**	**301**	⇓Sb	**Sb**	**01 59 41.5**	**+0.1**
	baz=2.9						
DECC	**Green Verdugo**	**3.19**	**309**	⇑Sb	**Sb**	**01 59 51.6**	**+0.9**
	baz=3.2						
GSC	**Goldstone, Bar**	**3.26**	**338**	Pn	**Pn**	**01 59 07.8**	**+1.6**
EDW2	**Edwards Air Fo**	**3.41**	**320**	⇓Sb	**Sb**	**01 59 58.7**	**+1.5**
	baz=3.4						
OSI	**Osito Audit: C**	**3.67**	**310**	⇑Sb	**Sb**	**02 00 05.0**	**+0.4**
	baz=3.6						
OSI	**Osito Audit: C**	**3.67**	**310**	Pn	**Pn**	**01 59 10.7**	**-1.2**
OSI				*e*Pg	**Pb**	**01 59 20.3**	**+0.5**
OSI				*e*S	**Sb**	**02 00 06.8**	**+2.3**
TUC	**Tucson**	**3.85**	**88**	Pn	**Pn**	**01 59 06.9**	**-7.5**
TUC				*e*Sg	**Sg**	**02 00 15.9**	**-2.4**
X16A	**Lo Mia Camp, P**	**3.90**	**56**	⇑P	**Pn**	**01 59 13.6**	**-1.5**
	baz=3.9						
SHPR	**Sheep Range**	**4.22**	**2**	*e*Pn	**Pn**	**01 59 18.6**	**-0.9**
SHPR				*e*S	**Sb**	**02 00 23.9**	**+3.3**
ISA	**Isabella, Lake**	**4.27**	**323**	*e*Pn	**Pn**	**01 59 17.1**	**-3.0**
ISA				*e*Pg	**Pg**	**01 59 34.9**	**-1.4**
ISA				*e*S	**Sg**	**02 00 29.4**	**-2.1**
WUAZ	**Wupatki**	**4.62**	**44**	*e*Pn	**Pn**	**01 59 24.5**	**-0.5**
WUAZ				*e*S	Sg	02 00 50.3	+7.6
CCUT	**Cedar City**	**5.51**	**17**	*e*Pn	**Pn**	**01 59 36.4**	**-0.9**
CCUT				*e*S	Sb	02 01 04.6	+7.1
ARUT	**Antelope Range**	**5.71**	**15**	*e*Pn	**Pn**	**01 59 39.2**	**-0.9**
ARUT				*e*S	**Pg**	**02 00 02.3**	**-1.7**
ARUT				*e*S	**Sn**	**02 00 43.0**	**-3.1**
TPH	**Tonopah**	**5.99**	**346**	*e*Pn	**Pn**	**01 59 42.0**	**-1.8**
TPH				*e*Pg	**Pg**	**02 00 10.0**	**+0.8**
TPH				*e*Sg	**Sg**	**02 01 30.7**	**+4.0**
121A	**Cookes Peak, D**	**6.39**	**86**	*e*Pn	**Pn**	**01 59 48.5**	**-0.9**
121A				*e*S	**Sg**	**02 01 42.8**	**+3.1**
NVAR	**Mina Array Bea**	**6.60**	**339**	Pg	**Pg**	**02 00 20.3**	**-0.6**
	comp=E,1.2nm,0.3s,baz=166,slow=15,SNR=11						
CMB	**Columbia Colle**	**7.08**	**326**	Pn	**Pn**	**01 59 59.0**	**+0.3**
CMB				*e*Pg	Pg	02 00 25.3	-4.7
CMB				*e*S	Sg	02 01 53.5	-8.2
LAZ	**Ladron**	**7.18**	**71**	*e*Pn	**Pn**	**02 00 01.3**	**+1.1**
LENM	**Lemitar**	**7.26**	**73**	*e*Pn	**Pn**	**02 00 00.6**	**-0.7**
LENM				*e*S	**Sg**	**02 02 11.2**	**+3.7**
MVCO	**Mesa Verde**	**7.47**	**47**	*e*Pn	**Pn**	**02 00 05.2**	**+0.9**
MVCO				*e*Pg	**Pg**	**02 00 34.9**	**-2.7**
MVCO				*e*S	Sg	02 02 20.6	+6.2
SRU	**San Rafael Swe**	**7.86**	**28**	*e*Pn	**Pn**	**02 00 08.7**	**-0.8

MKAR	**Makanchi Array**	**99.70**	**348**	LR	LR	03 04 42.6	
	comp=E,17nm,18.0s,baz=35,slow=40						
WMQ	**Urumqi**	**101.40**	**343**	*eP*	**Pdif**	**02 12 06.4**	**-0.5**
WMQ				pP	pP	02 12 09.6	+0.6
WMQ				LZ			
	comp=E,82nm,16.0s						
LZH	**Lanzhou**	**102.72**	**328**	*eP*	**Pdif**	**02 12 19.7**	**+6.6**
LZH				pP		02 12 28.8	
LZH				sP		02 12 32.9	
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.5s						
LZH	**Lanzhou**	**102.72**	**328**	*eP*	**Pdif**	**02 12 11.9**	**-1.2**
LZH				pP		02 12 19.6	
LZH				sP		02 12 24.2	
CD2	**Chengdu**	**107.06**	**325**	Pdif	**Pdif**	**02 12 31.1**	**-1.3**
KSH	**Kashi**	**107.80**	**351**	*e*Pdif	**Pdif**	**02 12 38.2**	**+2.6**
KSH				PP	PP	02 17 10.4	+7.6
KSH				S	**Sdif**	**02 24 41.3**	**-0.2**
KSH				SS	**SS**	**02 32 20.9**	**+6.9**

*ISCJB **06** 02:08:06.0±0.7, 32°.16N±0°.03×115°.13W±0°.04, h8km±6km, Error ellipse: s-maj=6.4km s-min=4.5km az=36.1*
*NEIC **06** 02:08:06.5, 32°.05N×115°.20W, h10km, ML3.4(PAS), After PAS.*
*ECX **06** 02:08:09.3±0.4, 32°.18N×115°.25W, h7km, ML3.6*
ISC 06 02:08:06.5±1.0, 32°.17N±0°.03×115°.18W±0°.03, h9km±10km, n16, σ0°63/26, 5C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.19**	**197**	*e*P		**Pg**		**02 08 10.1**	**-0.2**
EMX				*e*S		**Sg**		**02 08 13.3**	**+0.3**
SGL	**Mount Signal**	**0.67**	**316**	↑*i*P		**Pb**		**02 08 20.2**	**-0.1**
RDX	**Rancho Dawling**	**0.69**	**250**	*e*P		**Pb**		**02 08 20.7**	**-0.1**
RDX				*e*S		**Sg**		**02 08 29.6**	**+0.7**
COA	**Coachella**	**0.70**	**4**	↑*i*P		**Pb**		**02 08 21.6**	**+0.8**
ECBX	**El Chinero**	**0.70**	**171**	*e*P		**Pg**		**02 08 19.5**	**-0.5**
ECBX				*e*S		**Sg**		**02 08 29.1**	**0.0**
YUH	**Yuha Desert**	**0.79**	**307**	↑*i*P		**Pg**		**02 08 22.0**	**+0.3**
COK	**Cook Ranch**	**0.82**	**326**	↑*i*P		**Pb**		**02 08 22.9**	**0.0**
RMX	**La Rumorosa**	**0.88**	**300**	*e*P		**Pg**		**02 08 23.5**	**+0.1**
RMX				*e*S		**Sg**		**02 08 35.1**	**+0.3**
RMX				AML		AML		02 08 37.0	
	comp=N,2μm,0.2s								
RMX				*e*				02 08 37.0	
GLA	**Glamis**	**0.93**	**18**	*e*Pg		**Pg**		**02 08 24.1**	**-0.3**
GLA				*e*S		**Sg**		**02 08 35.5**	**-1.1**
ZAX	**El Zacaton**	**1.14**	**235**	*e*P		**Pb**		**02 08 28.3**	**0.0**
ZAX				*e*S		**Sb**		**02 08 43.2**	**0.0**
ZAX				AML		AML		02 08 46.5	
	comp=E,2μm,0.7s								
ZAX				⇑*e*				02 08 46.5	
ECNX	**Esteban Cantu**	**1.31**	**248**	*e*P		**Pb**		**02 08 31.6**	**+0.2**
ECNX				*e*S		**Sb**		**02 08 48.4**	**+0.2**
BAR	**Barrett**	**1.36**	**292**	*e*Pn		**Pn**		**02 08 31.4**	**-0.3**
BAR				*e*S		**Sb**		**02 08 49.5**	**-0.2**
PBX	**Punta Banda**	**1.38**	**253**	*e*P		**Pn**		**02 08 32.0**	**0.0**
PBX				*e*S		**Sb**		**02 08 50.0**	**-0.2**
PFO	**Pinyon Flats O**	**1.80**	**324**	*e*Pn		**Pn**		**02 08 36.3**	**-1.5**
PFO				*e*S		**Sb**		**02 09 03.2**	**+0.9**
214A	**Organ Pipe Nat**	**2.02**	**95**	*e*Pn		**Pn**		**02 08 40.0**	**-0.8**
121A	**Cookes Peak, D**	**6.27**	**85**	*e*Pn		**Pn**		**02 09 40.7**	**+1.4**
	comp=E,2.9nm,0.4s								

*ISCJB **06** 02:08:48.7±0.7, 32°.15N±0°.03×115°.16W±0°.04, h12km±5km, Error ellipse: s-maj=6.1km s-min=4.7km az=34.9*
*NEIC **06** 02:08:49.2, 32°.10N×115°.21W, h10km, ML3.5(PAS), After PAS.*
*ECX **06** 02:08:50.7±0.4, 32°.18N×115°.22W, h8km, MD3.6, ML3.7*
ISC 06 02:08:48.7±1.0, 32°.15N±0°.03×115°.19W±0°.03, h11km±9km, n14, σ1°04/25, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.16**	**197**	*e*P		**Pg**		**02 08 52.3**	**0.0**
EMX				*e*S		**Sg**		**02 08 55.2**	**+0.5**
RDX	**Rancho Dawling**	**0.68**	**252**	*e*P		**Pb**		**02 09 02.9**	**+0.2**
RDX				*e*S		**Sb**		**02 09 11.8**	**-0.3**
SGL	**Mount Signal**	**0.68**	**318**	↑*i*P		**Pg**		**02 09 02.1**	**+0.3**
ECBX	**El Chinero**	**0.68**	**170**	*e*P		**Pg**		**02 09 01.6**	**-0.3**
ECBX				*e*S		**Sg**		**02 09 11.3**	**+0.6**
YMD	**Yuma Desert**	**0.68**	**53**	↑*i*P		**Pg**		**02 09 02.5**	**+0.6**
YUH	**Yuha Desert**	**0.80**	**309**	*e*P		**Pg**		**02 09 04.0**	**-0.1**
RMX	**La Rumorosa**	**0.88**	**301**	*e*P		**Pg**		**02 09 05.4**	**-0.3**
RMX				*e*S		**Sg**		**02 09 16.9**	**-0.3**
RMX				AML		AML		02 09 17.7	
	comp=N,3μm,0.1s								
RMX				⇑*e*				02 09 17.7	
GLA	**Glamis**	**0.95**	**18**	*e*Pg		**Pn**		**02 09 09.2**	**+1.1**
GLA				*e*S		**Sg**		**02 09 17.9**	**-1.7**
ZAX	**El Zacaton**	**1.12**	**236**	*e*P		**Pg**		**02 09 09.9**	**-0.3**
ZAX				*e*S		**Sb**		**02 09 25.1**	**+0.4**
ZAX				⇓*e*				02 09 28.3	
ZAX				AML		AML		02 09 28.3	
	comp=E,2μm,0.6s								
ECNX	**Esteban Cantu**	**1.29**	**248**	*e*P		**Pg**		**02 09 13.0**	**-0.6**
ECNX				*e*S		**Sb**		**02 09 29.9**	**+0.1**
BAR	**Barrett**	**1.36**	**293**	*e*Pn		**Pn**		**02 09 12.8**	**-0.9**
BAR				*e*S		**Sg**		**02 09 30.8**	**-1.8**
PBX	**Punta Banda**	**1.37**	**253**	*e*P		**Pn**		**02 09 13.8**	**+0.1**
PBX				*e*S		**Sb**		**02 09 32.0**	**+0.2**
PASC	**Pasadena Art C**	**3.23**	**310**	*e*Pn		**Pn**		**02 09 41.9**	**+2.5**
PASC				*e*S		**Sb**		**02 10 25.7**	**+0.4**
TUC	**Tucson**	**3.73**	**86**	*e*Pn		**Pn**		**02 09 46.2**	**-0.1**
TUC				*e*S		**Sg**		**02 10 46.2**	**-2.4**

*IDC **06** 02:17:09.0±0.8, 19°.75S×174°.86W, h70km±5km, mb3.7/8, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, MS3.3/2, Ms1 3.3/2, ms1mx2.8/33, Error ellipse: s-maj=30.8km s-min=16.3km az=144.0*
ISC 06 02:17:14.1±0.7, 19°.8S±0°.2×174°.8W±0°.2, h115km, n25, σ1°20/19, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.66**	**259**	*e*P			Pn	02 21 16.6	+3.5
	32nm,0.8s								
DZM				*e*LR			LR	02 25 19.5	
	146nm,25.9s								
DZM	**Mont Dzumac**	**17.66**	**259**	P			**Pn**	**02 21 15.4**	**+2.3**
	1.1nm,0.3s,baz=81,slow=17,SNR=13								
DZM				LR			LR	02 26 37.2	
	comp=Z,124nm,18.8s,baz=36,slow=32								
URZ	**Urewera**	**19.68**	**199**	P			**P**	**02 21 32.1**	**-2.1**
	2.6nm,0.3s,baz=308,slow=1.9,SNR=10								
URZ				S			S	02 25 02.1	-7.7
	0.5nm,0.3s,baz=225,slow=20,SNR=3.0								
TBI	**Tubuai**	**23.82**	**103**	*e*T			T	02 46 17.9	
	20nm,0.3s								
PAE	**Paea**	**23.98**	**89**	*e*T			T	02 46 29.7	
	8.7nm,0.3s								
PPT2	**Papeete2**	**23.99**	**89**	*e*LR			LR	02 27 49.9	
	167nm,25.8s								
PPT2	**Papeete2**	**23.99**	**89**	*e*T			T	02 46 35.4	
	9.1nm,0.3s								
MEH	**Mehetia**	**25.37**	**90**	*e*T			T	02 48 24.6	
	56nm,0.3s								
RKT	**Rikitea**	**37.13**	**102**	*e*T			T	03 02 56.7	
	5.7nm,0.3s								
ASAR	**Alice Springs**	**47.60**	**256**	P			**P**	**02 25 37.8**	**-1.0**
	2.8nm,0.7s,baz=95,slow=8.3,SNR=30								
ASAR				pP			pP	02 25 55.9	-10
	1.1nm,0.5s,baz=86,slow=8.3,SNR=2.7								
ASAR				PcP			**PcP**	**02 27 07.7**	**+0.8**
	0.9nm,0.4s,baz=110,slow=3.6,SNR=5.8								
WRA	**Warramunga Arr**	**47.67**	**261**	P			**P**	**02 25 37.4**	**-1.9**
	2.1nm,0.4s,baz=92,slow=6.9,SNR=107								
WRA				PcP			**PcP**	**02 27 08.2**	**+1.1**
	0.4nm,0.5s,baz=95,slow=3.6,SNR=2.8								
MJAR	**Matsushiro Arr**	**71.49**	**322**	P			**P**	**02 28 21.9**	**-0.5**
	1.2nm,0.5s,baz=170,slow=9.3,SNR=3.0								
ASAJ	**Asahikawa**	**74.60**	**330**	LR			LR	02 54 57.8	
	comp=Z,16nm,21.4s,slow=30								
NVAR	**Mina Array Bea**	**78.48**	**42**	P			**P**	**02 29 02.5**	**-0.4**
	1.3nm,0.8s,baz=219,slow=8.1,SNR=5.4								
NVAR				pP			pP	02 29 23.4	-8.7
	0.3nm,0.4s,baz=250,slow=35,SNR=2.9								
TXAR	**Lajitas Array**	**84.17**	**56**	P			**P**	**02 29 33.5**	**+0.6**
	1.2nm,1.1s,baz=212,slow=7.5,SNR=7.7								
PDAR	**Pinedale Array**	**86.42**	**42**	P			**P**	**02 29 43.0**	**-1.0**
	0.6nm,0.9s,baz=211,slow=3.2,SNR=3.5								
ILAR	**Eielson Array**	**87.01**	**12**	P			**P**	**02 29 45.9**	**-0.1**
	0.7nm,0.9s,baz=226,slow=5.6,SNR=7.1								
ILAR				pP			pP	02 30 04.2	-12
	0.4nm,0.5s,baz=234,slow=5.6,SNR=2.5								
SNAA	**Sanae**	**88.59**	**177**	P			**P**	**02 29 54.1**	**+0.4**
VNA3	**Neumayer Olymp**	**88.60**	**175**	P			**P**	**02 29 55.3**	**+1.5**
VNA2	**Neumayer--Watz**	**89.08**	**176**	P			**P**	**02 29 57.5**	**+1.5**
	baz=186,slow=4.1								
YKA	**Yellowknife Ar**	**94.65**	**24**	P			**P**	**02 30 21.6**	**-0.1**
	0.3nm,0.8s,baz=232,slow=4.8,SNR=6.8								
YKA				pP			pP	02 30 40.4	-11
	0.2nm,0.8s,baz=236,slow=4.1,SNR=3.8								
ARCES	**ARCESS Array B**	**128.75**	**351**	PKP			**PKPdf**	**02 36 07.6**	**+0.3**
	1.3nm,0.8s,baz=297,slow=4.0,SNR=5.2								
BRTR	**Keskin Array B**	**148.53**	**315**	PKPbc			**PKPbc**	**02 36 48.1**	**+0.2**
	0.6nm,0.7s,baz=130,slow=6.1,SNR=4.6								
GERES	**GERESS Array B**	**150.23**	**349**	PKPbc			**PKPbc**	**02 36 51.3**	**-0.4**
	0.4nm,0.6s,baz=344,slow=2.9,SNR=5.3								
GERES				pPKPbc			pPKPbc	02 37 11.5	-11
	0.9nm,0.9s,baz=358,slow=4.0,SNR=4.7								
TORD	**Torodi Ar. Bea**	**172.57**	**153**	PKPab			**PKPab**	**02 38 36.2**	**+0.3**
	0.7nm,0.8s,baz=211,slow=3.1,SNR=4.9								

*MOS **06** 02:18:05.5±0.8, 47°.21N×155°.66E, h5km, mb4.4/1, Error ellipse: s-maj=99.9km s-min=19.2km az=76.1*
KRSC 06 02:18:18.3±2.0, 48°.20N×156°.23E, h7km±35km, ML4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.49**	**358**	*e*P			Pn	02 19 00.0	+0.8
SKR				*e*S			Sn	02 19 30.7	+0.9
PAU	**Pauzhetka**	**3.30**	**6**	PN			Pn	02 19 13.6	+3.3
PAU	**Pauzhetka**	**3.30**	**6**	*e*P			Pn	02 19 13.6	+3.3
PAU				*e*S			Sb	02 19 54.0	-3.3
MIPR	**Malaya Ipel'ka**	**4.10**	**5**	*e*P			Pn	02 19 24.4	+3.1
ASAK	**Asacha**	**4.33**	**14**	*e*P			Pn	02 19 28.6	+4.0
MTVR	**Mutnovka**	**4.47**	**16**	*e*P			Pn	02 19 30.8	+4.2
MTVR				*e*S			Sn	02 20 24.3	+5.3
RUS	**Russkaya**	**4.49**	**18**	PN			Pn	02 19 30.5	+3.9
RUS	**Russkaya**	**4.49**	**18**	*e*P			Pn	02 19 30.4	+3.8
APC	**Apacha**	**4.77**	**7**	*e*P			Pn	02 19 34.1	+3.6
UGLR	**Uglovaya**	**5.28**	**17**	*e*P			Pn	02 19 42.7	+5.0
AVH	**Avacha**	**5.32**	**17**	*e*P			Pn	02 19 43.1	+4.9
KOK	**Koryaka**	**5.33**	**16**	*e*P			Pn	02 19 43.7	+5.4
SMAR	**Somma**	**5.33**	**17**	*e*P			Pn	02 19 43.2	+4.7
KRER	**Koryakskii**	**5.36**	**16**	*e*P			Pn	02 19 43.7	+4.8
SDLR	**Sedlovina**	**5.36**	**17**	*e*P			Pn	02 19 42.9	+4.1
KRX	**Arik**	**5.39**	**16**	*e*P			Pn	02 19 44.1	+4.8
SPN	**Mys Shipunski**	**5.47**	**25**	PN			Pn	02 19 45.0	+4.9
SPN	**Mys Shipunski**	**5.47**	**25**	*e*P			Pn	02 19 45.0	+4.9
GNL	**Ganaly**	**5.61**	**10**	*e*P			Pn	02 19 46.2	+4.0
MKZ	**Mys Kozlova**	**7.24**	**26**	PN			Pn	02 20 08.3	+3.9
MKZ	**Mys Kozlova**	**7.24**	**26**	*e*P			Pn	02 20 08.3	+3.9
TUMR	**Tumrok**	**7.50**	**17**	*e*P			Pn	02 20 13.5	+5.3
KBTR	**Krutoberegovo**	**8.98**	**24**	PN			Pn	02 20 33.9	+5.6
KBTR	**Krutoberegovo**	**8.98**	**24**	*e*P			Pn	02 20 33.9	+5.6

KRSC 06 02:22:48.0±0.8, 55°.32N×161°.18E, h107km±12km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.55**	**248**	*e*P			Pn	02 23 05.7	+0.7
TUMR	**Tumrok**	**0.59**	**267**	*e*P			Pn	02 23 06.6	+1.3
KMNR	**Kamenistaya**	**0.69**	**309**	*e*P			Pn	02 23 07.4	+1.4
KMNR				*i* S			Sn	02 23 20.9	+1.3
MKZ	**Mys Kozlova**	**0.83**	**157**	*e*P			Pn	02 23 08.8	+1.7
MKZ				*e*S			Sn	02 23 23.7	+2.2
KOZ	**Kozyrevsk**	**1.05**	**315**	*e*P			Pn	02 23 10.1	+0.7
KOZ				*e*S			Sn	02 23 25.6	+0.1
BDR	**Baidarnaya**	**1.25**	**1**	*e*P			Pn	02 23 13.7	+2.0
BDR				*i* S			Sn	02 23 31.8	+2.2
KBTR	**Krutoberegovo**	**1.28**	**46**	*e*P			Pn	02 23 14.2	+2.3
KBTR				*i* S			Sn	02 23 32.6	+2.5
SRDR	**Sredinnyy**	**1.29**	**321**	*e*P			Pn	02 23 13.1	+0.9
SRKR	**Sorokina**	**1.33**	**360**	*e*P			Pn	02 23 15.1	+2.4
ESO	**Esso**	**1.53**	**294**	*i* P			Pn	02 23 15.8	+0.8
SPN	**Mys Shipunski**	**2.33**	**197**	*e*P			Pn	02 23 26.1	+1.1
SPN				*e*S			Sn	02 23 53.3	-0.1
NLC	**Nalytchevo**	**2.41**	**207**	*e*S			Sn	02 23 57.6	+2.4
SDLR	**Sedlovina**	**2.45**	**214**	*e*P			Pn	02 23 28.8	+2.0
SDLR				*e*S			Sn	02 23 57.7	+1.1
KRX	**Arik**	**2.46**	**218**	*e*P			Pn	02 23 28.2	+1.2
KRER	**Koryakskii**	**2.48**	**216**	*e*P			Pn	02 23 29.8	+2.6
KRER				*e*S			Sn	02 23 59.3	+2.0
SMAR	**Somma**	**2.49**	**215**	*e*P			Pn	02 23 29.8	+2.4
GNL	**Ganaly**	**2.50**	**231**	*e*P			Pn	02 23 28.8	+1.5
AVH	**Avacha**	**2.51**	**216**	*e*P			Pn	02 23 30.1	+2.6
KOK	**Koryaka**	**2.52**	**217**	*e*P			Pn	02 23 30.4	+2.7
UGLR	**Uglovaya**	**2.53**	**214**	*e*P			Pn	02 23 30.2	+2.4
BKI	**Bering**	**2.74**	**91**	*e*S			Sn	02 24 03.0	0.0
RUS	**Russkaya**	**3.30**	**210**	*e*P			Pn	02 23 39.2	+1.4
MTVR	**Mutnovka**	**3.35**	**213**	*e*P			Pn	02 23 40.6	+1.9
MTVR				*e*S			Sn	02 24 18.9	+1.0

*ISCJB **06** 02:29:06.8±0.5, 32°.69N±0°.03×115°.74W±0°.03, h12km±4km, Error ellipse: s-maj=4.7km s-min=4.3km az=164.2*
*NEIC **06** 02:29:07.8, 32°.66N×115°.80W, h11km, ML3.4(PAS), After PAS.*
*ECX **06** 02:29:08.6±0.6, 32°.69N×115°.81W, h4km, ML3.6*
ISC 06 02:29:07.2±0.9, 32°.64N±0°.03×115°.74W±0°.03, h15km±6km, n19, σ1°34/32, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.02**	**57**	↑*i*P		**Pg**		**02 29 10.1**	**+0.3**
YUH	**Yuha Desert**	**0.15**	**273**	↑*i*P		**Pg**		**02 29 10.7**	**-0.4**
COK	**Cook Ranch**	**0.21**	**4**	↑*i*P		**Pg**		**02 29 12.0**	**0.0**
RMX	**La Rumorosa**	**0.28**	**263**	↑*e*P		**Pg**		**02 29 13.1**	**-0.2**
RMX				*e*S		**Sg**		**02 29 17.1**	**-0.4**
CRR	**Carrizo Plain**	**0.31**	**323**	↑*i*P		**Pg**		**02 29 12.9**	**-0.7**
COA	**Coachella**	**0.57**	**67**	↑*i*P		**Pb**		**02 29 19.4**	**+0.5**
RDX	**Rancho Dawling**	**0.73**	**193**	*e*P		**Pb**		**02 29 21.9**	**+0.2**
RDX				*e*S		**Sb**		**02 29 32.6**	**+1.0**
EMX	**El Mayor**	**0.78**	**147**	*e*P		**Pg**		**02 29 20.0**	**-2.3**
EMX				*e*S		**Sg**		**02 29 31.2**	**-1.3**
BAR	**Barrett**	**0.78**	**273**	*e*Pg		**Pg**		**02 29 21.7**	**-0.7**
BAR				*e*S		**Sg**		**02 29 31.4**	**-1.4**
GLA	**Glamis**	**0.88**	**62**	*e*Pg		**Pg**		**02 29 23.8**	**-0.3**
GLA				*e*Sg		**Sg**		**02 29 35.7**	**0.0**
PFO	**Pinyon Flats O**	**1.14**	**329**	*e*Pg		**Pg**		**02 29 26.4**	**-2.7**
PFO				*e*S		**Sg**		**02 29 40.5**	**-3.6**
ZAX	**El Zacaton**	**1.21**	**202**	*e*P		**Pg**		**02 29 30.6**	**+0.1**
ZAX				*e*S		**Sn**		**02 29 47.0**	**+1.2**
ZAX				⇓*e*				02 29 49.6	
ZAX				AML		AML		02 29 49.6	
	comp=N,1μm,0.4s								
ECNX	**Esteban Cantu**	**1.22**	**217**	*e*P		**Pb**		**02 29 30.3**	**+0.3**
ECNX				*e*S		**Sn**		**02 29 47.1**	**+1.0**
PBX	**Punta Banda**	**1.22**	**223**	*e*P		**Pb**		**02 29 30.1**	**+0.1**
PBX				*e*S		**Sg**		**02 29 46.5**	**-0.2**
ECBX	**El Chinero**	**1.30**	**153**	*e*P		**Pn**		**02 29 29.2**	**-1.6**
ECBX				*e*S		**Sb**		**02 29 48.1**	**+0.2**
MWC	**Mount Wilson**	**2.50**	**310**	*e*Pn		**Pn**		**02 29 47.6**	**+0.1**
MWC				*e*S		**Sb**		**02 30 21.9**	**-0.6**
PASC	**Pasadena Art C**	**2.55**	**307**	*e*Pn		**Pn**		**02 29 49.3**	**+1.3**
PASC				*e*S		**Sb**		**02 30 24.1**	**+0.2**
214A	**Organ Pipe Nat**	**2.58**	**105**	*e*Pn		**Pn**		**02 29 49.3**	**+0.9**
ISA	**Isabella, Lake**	**3.77**	**324**	*e*Pn		**Pn**		**02 30 05.4**	**+0.6**
ISA				*e*S		**Sb**		**02 31 02.2**	**+3.2**

*ECX **06** 02:33:25.8±0.5, 31°.93N×115°.02W, h8km, MD3.8, ML4.0*
*NEIC **06** 02:33:25.7, 31°.93N×115°.02W, h12km, mb4.1/7, ML4.0(ECX), ML4.0(PAS), After ECX.*
*MEX **06** 02:33:26.7±0.9, 31°.93N×114°.94W, h5km, MD4.1*
*IDC **06** 02:33:27.5±2.1, 32°.10N×114°.62W, h0km, mb3.8/5, mb1 4.0/10, mb1mx3.6/43, mbtmp3.7/10, ML3.6/5, MS3.5/20, Ms1 3.5/20, ms1mx3.3/44, Error ellipse: s-maj=37.8km s-min=12.5km az=43.0*
ISC 06 02:33:24.8±1.1, 31°.89N±0°.02×115°.06W±0°.02, h1km±9km, n76, σ1°92/95, mb4.0/9, MS3.5/13, 4C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.19**	**303**	*e*P		**Pg**		**02 33 22.9**	**-5.5**
EMX				*e*S		**Sg**		**02 33 26.0**	**-4.8**
ECBX	**El Chinero**	**0.41**	**179**	⇓*e*P		**Pg**		**02 33 27.9**	**-4.9**
ECBX				*e*S		**Sg**		**02 33 34.5**	**-3.6**
CPBX	**Cerro Prieto**	**0.57**	**339**	↑*e*P		**Pg**		**02 33 35.3**	**-0.5**
CPBX				*e*S		**Sg**		**02 33 43.2**	**0.0**
RDX	**Rancho Dawling**	**0.75**	**273**	*e*P		**Pg**		**02 33 40.0**	**+0.7**
RDX				*e*S		**Sg**		**02 33 50.5**	**+1.5**
SPIG	**San Pedro Mart**	**0.91**	**203**	*e*P		**Pg**		**02 33 42.8**	**+0.6**
SPIG				*e*S		**Sb**		**02 33 57.0**	**+0.8**
SPIG	**San Pedro Mart**	**0.91**	**203**	*e*P		**Pg**		**02 33 42.8**	**+0.6**
SPIG				*e*S		**Sb**		**02 33 57.0**	**+0.8**
SPX	**San Pedro Mart**	**0.91**	**203**	*e*P		**Pg**		**02 33 42.9**	**+0.7**
SPX				*e*S		**Sg**		**02 33 56.4**	**+2.4**
SPX				⇑*e*				02 34 00.5	
	comp=E,4μm,1.1s								
ZAX	**El Zacaton**	**1.10**	**251**	⇓*e*P		**Pg**		**02 33 45.5**	**-0.4**
ZAX				*e*S		**Sg**		**02 34 01.1**	**+1.0**
RMX	**La Rumorosa**	**1.12**	**310**	*e*P		**Pg**		**02 33 45.2**	**-1.2**
RMX				*e*S		**Sg**		**02 34 00.4**	**-0.5**
RMX				⇑*e*				02 34 02.5	
	comp=E,3μm,0.4s								
RMX				⇓*e*				02 34 04.3	
	comp=N,3μm,0.6s								
GLA	**Glamis**	**1.18**	**10**	*e*Pg		**Pg**		**02 33 45.0**	**-2.5**
GLA				*e*S		**Sg**		**02 34 00.2**	**-2.6**
ECNX	**Esteban Cantu**	**1.33**	**261**	*e*P		**Pn**		**02 33 49.0**	**-1.6**
ECNX				*e*S		**Sb**		**02 34 08.0**	**-0.2**
PBX	**Punta Banda**	**1.43**	**265**	*e*P		**Pn**		**02 33 50.5**	**-1.3**
PBX				*e*S		**Sn**		**02 34 10.1**	**-1.1**
CBX	**Cerro Bola**	**1.43**	**288**	*e*P		**Pn**		**02 33 50.0**	**-2.0**
CBX				*i* S		**Sn**		**02 34 10.4**	**-1.1**
CBX	**Cerro Bola**	**1.43**	**288**	*e*P		**Pn**		**02 33 50.4**	**-1.6**
CBX				*e*S		**Sn**		**02 34 10.0**	**-1.4**
CBX	**Cerro Bola**	**1.43**	**288**	*e*P		**Pn**		**02 33 50.0**	**-2.0**
CBX				*i* S		**Sn**		**02 34 10.4**	**-1.1**
214A	**Organ Pipe Nat**	**1.91**	**87**	*e*Pn		Pn		02 33 54.4	-4.2
214A				*e*S		**Sn**		**02 34 18.3**	**-5.0**
PFO	**Pinyon Flats O**	**2.08**	**326**	Pn		**Pn**		**02 33 59.5**	**-1.5**
	comp=N,9.8nm,0.3s,baz=145,slow=11,SNR=24								
PFO				Lg		Lg		02 34 31.8	
	comp=N,114nm,0.3s,baz=111,slow=8.1,SNR=10								
PFO				LR		LR		02 34 37.8	
	comp=N,415nm,20.8s,baz=130,slow=32								
PFO	**Pinyon Flats O**	**2.08**	**326**	*e*Pn		Pn		02 33 57.0	-4.0
PFO				Lg		Lg		02 34 31.8	
LDFC	**Landfair**	**3.18**	**359**	*e*Pn		**Pn**		**02 34 15.9**	**-0.3**
LDFC				*e*Pg		**Pg**		**02 34 24.4**	**-1.4**
LDFC				*e*S		Sg		02 35 16.6	+9.4
MWC	**Mount Wilson**	**3.43**	**314**	*e*Pn		**Pn**		**02 34 20.5**	**+0.9**
MWC				*e*S		**Sg**		**02 35 13.0**	**-2.2**
PASC	**Pasadena Art C**	**3.48**	**312**	Pn		**Pn**		**02 34 19.0**	**-1.1**
PASC				Pg		**Pb**		**02 34 26.5**	**-0.7**
PASC				*e*S		**Sb**		**02 35 10.7**	**+0.7**
TUC	**Tucson**	**3.65**	**82**	*e*Pn		**Pn**		**02 34 19.8**	**-2.7**
TUC				*e*Pg		**Pb**		**02 34 31.6**	**+1.4**
TUC				*e*S		**Sg**		**02 35 20.9**	**-1.3**
GSC	**Goldstone, Bar**	**3.71**	**337**	Pn		**P

comp=N,23nm,0.9s
SPMN Marine on St. 21.83 46 *e*P P 02 38 17.3 -1.1
comp=N,3.5nm,0.3s
AGMN Agassiz Nation 21.91 36 *e*P P 02 38 19.6 +0.2
comp=N,17nm,1.4s
BBB Bella Bella 22.41 339 LR LR 02 47 26.3
comp=N,118nm,18.9s,baz=126,slow=38
WVT Waverly 22.93 72 *e*P P 02 38 28.9 -1.4
comp=N,8.3nm,1.0s
ULM Lac du Bonnet 23.24 32 P P 02 38 33.2 -0.2
comp=N,2.8nm,0.9s,baz=230,slow=6.7,SNR=5.3
ULM LR LR 02 47 50.8
comp=N,193nm,18.1s,baz=244,slow=38
CMIG Matias Romero 23.48 124 LR LR 02 47 42.3
comp=N,123nm,19.3s,baz=278,slow=37
COWI Conover 24.51 47 *e*P P 02 38 44.8 -0.8
comp=N,12nm,0.9s
APG El Apazote 28.03 121 LR LR 02 51 40.8
comp=N,59nm,19.2s,baz=285,slow=39
DLBC Dease Lake 28.44 343 P P 02 39 24.1 +3.1
comp=N,1.4nm,0.6s,baz=123,slow=4.8,SNR=4.1
YKA Yellowknife Ar 30.62 0 P P 02 39 41.6 +1.4
comp=N,0.4nm,0.8s,baz=178,slow=8.7,SNR=13
INK Inuvik 38.00 349 P P 02 40 43.8 -0.2
comp=N,1.3nm,1.0s,baz=170,slow=9.2,SNR=3.8
ILAR Eielson Array 38.31 339 P P 02 40 47.2 +0.6
comp=N,1.5nm,0.9s,baz=151,slow=7.6,SNR=15
ILAR LR LR 02 58 37.9
comp=N,61nm,19.1s,baz=184,slow=40
SCHQ Schefferville 40.83 41 LR LR 02 59 01.1
comp=N,66nm,20.0s,baz=60,slow=38
ROSC El Rosal 46.64 117 LR LR 03 03 17.4
comp=N,34nm,19.3s,baz=350,slow=39
PPT Papeete 59.27 219 LR LR 03 04 19.5
comp=N,27nm,18.5s,baz=192,slow=31
ARCES ARCESS Array B 74.87 13 LR LR 03 19 26.3
comp=N,34nm,19.2s,baz=293,slow=37
NOA NORSAR Array B 77.63 24 LR LR 03 20 54.1
comp=N,34nm,18.4s,baz=260,slow=37
FINES FINESS Array B 81.79 18 LR LR 03 20 58.1
comp=N,42nm,20.1s,baz=86,slow=35
GERES GERESS Array B 87.55 31 LR LR 03 25 13.4
comp=N,30nm,18.2s,baz=288,slow=36
AKASG Malin Array Be 91.92 22 LR LR 03 28 48.1
comp=N,20nm,19.4s,baz=285,slow=36

IDC 06 02:34:12.5±1.9, 0°04'S×125°28'E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, Error ellipse: s-maj=194.0km s-min=26.4km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**156**	P	P	02 39 03.1	-1.9
	0.2nm,0.4s,baz=335,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**24.93**	**161**	P	P	02 39 39.0	+1.4
	0.1nm,0.3s,baz=329,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**59.87**	**327**	P	P	02 44 19.9	-0.2
	0.2nm,0.4s,baz=133,slow=7.9,SNR=5.1						

*IDC **06** 03:23:42.3±1.3, 39°.01N×140°.94E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.2/42, mbtmp3.1/5, ML2.4/2, Error ellipse: s-maj=32.1km s-min=18.6km az=119.0*
*ISCJB **06** 03:23:43.2±0.6, 39°.04N±0°.03×140°.89E±0°.04, h13km±4km, mb3.2/3, Error ellipse: s-maj=5.2km s-min=5.0km az=169.7*
*JMA **06** 03:23:43.8, 39°.04N×140°.86E, h7km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕ±227.00000°, δ65.00000°, λ120.00000°. NP2: ϕ±354.00000°, δ38.00000°, λ43.00000°. Principal axes: T Plg59.0000°, Azm180.0000°; N Plg27.0000°, Azm34.0000°; P Plg15.0000°, Azm296.0000°;*
JMA Felt I J1.

ISC 06 03:23:43.9±1.0, 39°.03N±0°.03×140°.88E±0°.03, h9km±8km, n18, σ0°63/19, mb3.2/3, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.28**	**105**	⇓P	**Pg**	**03 23 49.3**	**-0.1**
JMK				S	**Sg**	**03 23 53.3**	**+0.2**
JRG	**Rokugo**	**0.41**	**333**	⇓P	**Pg**	**03 23 51.7**	**-0.3**
JRG				S	**Sg**	**03 23 57.4**	**-0.1**
JYK	**Kaneyama**	**0.42**	**255**	⇓P	**Pg**	**03 23 51.9**	**-0.2**
JYK				S	**Sg**	**03 23 57.5**	**-0.1**
JOM	**Ohasama**	**0.55**	**36**	⇑P	**Pg**	**03 23 54.2**	**-0.4**
JOM				S	**Sg**	**03 24 01.7**	**-0.1**
JIO	**Ouri**	**0.68**	**147**	⇓P	**Pg**	**03 23 56.6**	**-0.4**
JIO				S	**Sg**	**03 24 05.8**	**-0.1**
JOU	**Okura**	**0.68**	**194**	P	**Pg**	**03 23 56.9**	**-0.1**
JOU				S	**Sg**	**03 24 05.9**	**0.0**
JYA	**Atsumi**	**1.01**	**245**	P	**Pg**	**03 24 02.7**	**-0.5**
JYA				*e*S	**Sb**	**03 24 16.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.26**	**221**	Pn	**Pn**	**03 24 36.2**	**+1.0**
	0.7nm,0.3s,baz=34,slow=13,SNR=6.1						
MJAR				Lg	Lg	03 25 27.9	
	0.3nm,0.3s,baz=20,slow=26,SNR=4.0						
USRK	**Ussuriysk Ar.**	**8.43**	**311**	Pn	**Pn**	**03 25 47.4**	**+1.2**
	0.3nm,0.3s,baz=124,slow=15,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**29.56**	**123**	T	T	04 00 20.7	
	baz=317,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy**	**29.57**	**123**	T	T	04 00 21.6	
	baz=317,slow=75,SNR=93						
H11N3	**WAKE ISLAND Hy**	**29.58**	**123**	T	T	04 00 22.3	
	baz=317,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**30.32**	**125**	T	T	04 01 15.3	
	baz=319,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**30.32**	**125**	T	T	04 01 19.4	
	baz=319,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.34**	**125**	T	T	04 01 19.3	
	baz=319,slow=76,SNR=19						
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**03 31 40.3**	**-1.0**
	0.2nm,0.6s,baz=85,slow=8.8,SNR=3.2						
ILAR	**Eielson Array**	**48.05**	**33**	P	**P**	**03 32 23.8**	**+0.5**
	0.2nm,0.8s,baz=278,slow=6.3,SNR=3.6						
WRA	**Warramunga Arr**	**58.98**	**187**	P	**P**	**03 33 42.7**	**-1.1**
	0.2nm,0.4s,baz=4.0,slow=7.2,SNR=11						

*ECX **06** 03:26:51.8±0.4, 32°.04N×115°.05W, h10km, MD3.6, ML3.8*
*IDC **06** 03:26:52.2±2.3, 32°.15N×114°.79W, h0km, mb3.2/1, mb1 3.5/5, mb1mx3.1/44, mbtmp3.2/5, ML3.5/4, Error ellipse: s-maj=34.4km s-min=13.5km az=43.0*
*NEIC **06** 03:26:52.4, 32°.13N×115°.06W, h10km, ML3.4(PAS), After PAS.*

ISC 06 03:26:51.1±1.1, 32°.07N±0°.03×115°.10W±0°.02, h4km±10km, n32, σ1°54/58, 1C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.14**	**236**	⇓*e*P	**Pg**	**03 26 53.8**	**-0.1**
EMX				*e*S	**Sg**	**03 26 56.5**	**+0.7**
ECBX	**El Chinero**	**0.60**	**176**	*e*P	Pg	03 27 01.1	-1.4
ECBX				*e*S	**Sg**	**03 27 09.2**	**-1.1**
RDX	**Rancho Dawling**	**0.72**	**259**	*e*P	**Pg**	**03 27 05.7**	**+0.6**
RDX				*e*S	**Sg**	**03 27 16.3**	**+1.8**
RMX	**La Rumorosa**	**0.98**	**303**	*e*P	**Pg**	**03 27 09.9**	**-0.1**
RMX				*e*S	**Sg**	**03 27 23.9**	**+1.2**
GLA	**Glamis**	**1.01**	**13**	*e*Pg	**Pg**	**03 27 08.6**	**-1.9**
GLA				*e*S	**Sg**	**03 27 21.9**	**-1.7**
ZAX	**El Zacaton**	**1.14**	**241**	*e*P	**Pb**	**03 27 12.1**	**-1.3**
ZAX				*e*S	**Sb**	**03 27 27.8**	**-0.8**
ZAX				AML	AML	03 27 30.2	
	comp=N,2μm,0.5s						
ZAX				⇑*e*		03 27 30.2	
ZAX				AML	AML	03 27 30.3	
	comp=E,2μm,0.7s						
ZAX				⇓*e*		03 27 30.3	
ECNX	**Esteban Cantu**	**1.33**	**252**	*e*P	**Pn**	**03 27 15.3**	**-1.4**
ECNX				*e*S	**Sb**	**03 27 33.8**	**-0.5**
PBX	**Punta Banda**	**1.42**	**257**	*e*P	**Pn**	**03 27 16.5**	**-1.2**
PBX				*e*S	**Sn**	**03 27 36.5**	**-0.3**
BAR	**Barrett**	**1.46**	**295**	*e*Pn	**Pn**	**03 27 18.4**	**0.0**
BAR				*e*S	**Sn**	**03 27 37.8**	**-0.2**
PFO	**Pinyon Flats O**	**1.91**	**324**	Pn	Pn	03 27 20.9	-3.8
	comp=E,1.0nm,0.3s,baz=131,slow=12,SNR=5.7						
PFO	**Pinyon Flats O**	**1.91**	**324**	*e*Pn	**Pn**	**03 27 22.2**	**-2.5**
PFO				*e*S	**Sb**	**03 27 51.5**	**+0.6**
214A	**Organ Pipe Nat**	**1.95**	**93**	*e*Pn	Pn	03 27 21.3	-3.8
214A				*e*S	**Sb**	**03 27 50.9**	**-1.1**
LDFC	**Landfair**	**3.00**	**360**	*e*Pn	**Pn**	**03 27 39.4**	**-0.3**
LDFC				*e*S	**Sg**	**03 28 28.1**	**+0.6**
MWC	**Mount Wilson**	**3.28**	**312**	Pn	**Pn**	**03 27 44.2**	**+0.7**
MWC				*e*Pg	**Pg**	**03 27 53.8**	**-0.2**
MWC				*e*S	**Sg**	**03 28 36.5**	**-0.1**
TUC	**Tucson**	**3.67**	**85**	*e*Pn	**Pn**	**03 27 46.6**	**-2.2**
TUC				*e*Pg	**Pg**	**03 28 04.5**	**+3.0**
TUC				*e*S	**Sb**	**03 28 43.8**	**+2.3**
SHPR	**Sheep Range**	**4.43**	**359**	*e*Pn	**Pn**	**03 27 58.8**	**-0.4**
SHPR				*e*Pg	**Pg**	**03 28 15.8**	**-0.2**
SHPR				*e*S	Sg	03 29 18.8	+5.4
ISA	**Isabella, Lake**	**4.55**	**323**	*e*Pn	**Pn**	**03 28 03.2**	**+2.3**
ISA				*e*Pg	**Pg**	**03 28 17.6**	**-0.7**
ISA				*e*S	**Sg**	**03 29 20.8**	**+3.5**
WUAZ	**Wupatki**	**4.63**	**41**	*e*Pn	**Pn**	**03 28 01.4**	**-0.7**
WUAZ				*e*Pg	**Pg**	**03 28 20.9**	**+1.0**
WUAZ				*e*S	**Sg**	**03 29 18.1**	**-1.9**
W18A	**Petrified Fore**	**5.42**	**54**	*e*Pn	**Pn**	**03 28 12.6**	**-0.3**
	comp=E,28nm,0.6s						
W18A				*e*Sg	**Sg**	**03 29 47.4**	**+2.3**
CCUT	**Cedar City**	**5.65**	**14**	*e*Pn	**Pn**	**03 28 15.9**	**-0.3**
	comp=E,70nm,1.1s						
CCUT				*e*Pg	**Pg**	**03 28 38.8**	**-0.6**
CCUT				*e*S	**Sb**	**03 29 36.6**	**-2.2**
ARUT	**Antelope Range**	**5.87**	**13**	*e*Pn	**Pn**	**03 28 19.1**	**0.0**
	comp=E,3.4nm,0.6s						
ARUT				*e*Pg	**Pg**	**03 28 42.7**	**-0.8**
ARUT				*e*S	**Sg**	**03 30 00.6**	**+1.1**
121A	**Cookes Peak, D**	**6.21**	**84**	*e*Pn	**Pn**	**03 28 21.5**	**-2.3**
	comp=E,13nm,0.6s						
121A				*e*S	Sg	03 30 03.6	-7.2
TPH	**Tonopah**	**6.24**	**344**	Pn	**Pn**	**03 28 25.1**	**+0.9**
	comp=E,9.4nm,0.8s						
TPH				*e*Pg	**Pg**	**03 28 48.7**	**-2.0**
TPH				*e*S	Sb	03 30 01.4	+5.9
R11A	**Troy Canyon, C**	**6.28**	**357**	*e*Pn	**Pn**	**03 28 24.9**	**+0.1**
	comp=E,4.2nm,0.6s						
R11A				*e*Pg	**Pg**	**03 28 51.0**	**-0.4**
R11A				*e*S	**Sg**	**03 30 16.9**	**+4.2**
MVU	**Marysvale**	**6.84**	**19**	*e*Pn	**Pn**	**03 28 32.2**	**-0.3**
	comp=E,16nm,0.6s						
MVU				*e*Pg	Pg	03 28 57.7	-4.5
NVAR	**Mina Array Bea**	**6.86**	**338**	Pg	Pg	03 29 06.2	+3.5
	comp=E,0.2nm,0.3s,baz=158,slow=17,SNR=5.9						
ANMO	**Albuquerque**	**7.77**	**66**	Pn	**Pn**	**03 28 44.6**	**-0.6**
	comp=E,0.1nm,0.3s,baz=234,slow=8.7,SNR=2.5						
ANMO				Pg	**Pg**	**03 29 18.0**	**-2.0**
	comp=E,0.1nm,0.3s,baz=240,slow=12,SNR=6.8						
ANMO				Lg	Lg	03 30 49.7	
	comp=E,0.1nm,0.3s,baz=6.2,slow=17,SNR=1.9						
SRU	**San Rafael Swe**	**7.95**	**27**	Pn	Pb	03 28 58.6	-11
SRU				*e*S	**Sb**	**03 30 44.6**	**-0.2**
ELK	**Elko**	**8.66**	**359**	Pn	**Pn**	**03 29 00.2**	**+2.7**
	comp=E,0.1nm,0.3s,baz=180,slow=17,SNR=2.7						
ELK				Lg	Lg	03 31 21.7	
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=2.4						
TXAR	**Lajitas Array**	**10.22**	**103**	Pn	**Pn**	**03 29 17.9**	**-0.8**
	comp=E,0.7nm,0.3s,baz=286,slow=14,SNR=43						
TXAR				Lg	Lg	03 32 06.2	
	comp=E,0.0nm,0.3s,baz=277,slow=23,SNR=2.3						
PDAR	**Pinedale Array**	**11.55**	**21**	Pn	**Pn**	**03 29 38.8**	**+1.8**
	comp=E,0.1nm,0.3s,baz=185,slow=12,SNR=3.2						
ILAR	**Eielson Array**	**38.12**	**339**	P	**P**	**03 34 12.1**	**+1.1**
	comp=E,0.5nm,0.8s,baz=144,slow=8.2,SNR=4.3						

*ISCJB **06** 03:27:25.3±0.5, 21°.24S±0°.04×68°.22W±0°.08, h139km±7km, mb4.4/10, Error ellipse: s-maj=12.4km s-min=5.8km az=179.2*
*NEIC **06** 03:27:26.0±0.8, 21°.38S×67°.91W, h118km±9km, mb4.3/7, Error ellipse: s-maj=18.3km s-min=9.0km az=106.0*
*GUC **06** 03:27:26.3±0.5, 21°.25S×68°.59W, h163km±3km, ML4.1*
*IDC **06** 03:27:27.4±2.6, 21°.20S×68°.03W, h133km±22km, mb4.4/3, mb1 4.2/7, mb1mx3.6/31, mbtmp4.6/7, Error ellipse: s-maj=23.6km s-min=21.0km az=21.0*

ISC 06 03:27:25.7±0.8, 21°.26S±0°.04×68°.09W±0°.07, h124km±8km, n40, σ1°95/46, mb4.6/10, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.20**	**243**	⇑*e*P	**Pn**	**03 27 51.7**	**+1.4**
PB09				*e*S	**Sn**	**03 28 10.8**	**+1.9**
PB09				AML	AML	03 28 11.8	
	comp=N,5μm,0.7s						
PB01	**IPOC Station P**	**1.32**	**279**	⇑*e*P	**Pn**	**03 27 51.9**	**+0.4**
PB01				*e*S	**Sn**	**03 28 11.5**	**+0.4**
PB01				AML	AML	03 28 12.0	
	comp=N,1μm,0.5s						
LVC	**Limon Verde**	**1.55**	**209**	*e*Pn	**Pn**	**03 27 56.2**	**+2.0**
LVC				*e*S	**Sn**	**03 28 17.7**	**+1.7**
PB04	**IPOC Station P**	**1.64**	**232**	⇑*e*P	Pn	03 28 01.6	+6.5
PB04				*e*S	Sn	03 28 27.7	+10
PB04				AML	AML	03 28 35.2	
	comp=E,728nm,0.6s						
PB07	**IPOC Station P**	**1.74**	**254**	⇑*e*P	**Pn**	**03 27 55.8**	**-0.5**
PB07				*e*S	**Sn**	**03 28 17.9**	**-1.8**
PB07				AML	AML	03 28 20.3	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	**1.94**	**300**	⇓*e*P	**Pn**	**03 27 58.2**	**-0.6**
HMBC				*e*S	**Sn**	**03 28 22.7**	**-1.4**
HMBC				AML	AML	03 28 24.4	
	comp=N,3μm,0.4s						
PATCX	**Punta Patache**	**1.98**	**282**	*e*P	**Pn**	**03 27 58.0**	**-1.1**
PATCX				*e*S	**Sn**	**03 28 21.8**	**-2.9**
PATCX				AML	AML	03 28 26.5	
	comp=E,4μm,0.6s						
PB06	**IPOC Station P**	**1.99**	**223**	⇑*e*P	**Pn**	**03 28 00.1**	**+0.6**
PB06				*e*S	**Sn**	**03 28 25.6**	**+0.3**
PB06				AML	AML	03 28 26.4	
	comp=E,1μm,0.4s						
PSGC	**Pisagua**	**2.52**	**311**	*e*P	**Pn**	**03 28 05.1**	**-1.0**
PSGC				*e*S	**Sn**	**03 28 35.5**	**-1.6**
PSGC				AML	AML	03 28 41.5	
	comp=N,323nm,0.6s						
MNMC	**Minimini**	**2.54**	**326**	⇑*e*P	**Pn**	**03 28 07.3**	**+0.8**
MNMC				*e*S	**Sn**	**03 28 38.4**	**+0.5**
MNMC				AML	AML	03 28 41.2	
	comp=N,1μm,0.2s						
PB10	**IPOC Station P**	**3.20**	**225**	*e*P	**Pn**	**03 28 13.9**	**-0.8**
PB10				*e*S	**Sn**	**03 28 50.5**	**-2.2**
PB10				AML	AML	03 29 02.9	
	comp=N,796nm,0.5s						
LPAZ	**La Paz**	**4.94**	**360**	P	**Pn**	**03 28 41.2**	**+2.6**
	comp=N,12nm,0.3s,baz=171,slow=7.0,SNR=183						
LPAZ				S	**Sn**	**03 29 39.6**	**+4.5**
	baz=282,slow=20,SNR=1.9						
LPAZ	**La Paz**	**4.94**	**360**	*e*Pn	**Pn**	**03 28 41.1**	**+2.6**
LPAZ				S	**Sn**	**03 29 31.6**	**-3.5**
LCO	**Las Campanas**	**8.07**	**197**	*e*Pn	Pn	03 29 17.0	-3.5
	comp=N,12nm,0.6s						
LCO				*e*S	**Sn**	**03 30 46.6**	**-3.7**
SIV	**San Ignacio**	**8.46**	**53**	P	**Pn**	**03 29 24.8**	**-0.8**
	comp=N,12nm,0.3s,baz=249,slow=13,SNR=139						
SIV				S	**Sn**	**03 30 54.1**	**-5.4**
	baz=289,slow=18,SNR=4.5						
CFAA	**Coronel Fontan**	**10.31**	**181**	P	**Pn**	**03 29 47.8**	**-2.5**
	comp=N,0.1nm,0.3s,baz=354,slow=13,SNR=8.2						
CFAA				S	Sn	03 31 35.7	-8.3
	comp=N,0.1nm,0.3s,baz=244,slow=18,SNR=4.6						
SAML	**Samuel**	**13.12**	**22**	*e*Pn	**Pn**	**03 30 27.1**	**-0.4**
	comp=N,12nm,1.1s						
TRQA	**Tornquist**	**17.56**	**164**	*e*Pn	**P**	**03 31 22.1**	**+0.1**
	comp=N,3.4nm,0.6s						
PLCA	**Paso Flores**	**19.53**	**186**	P	**Pn**	**03 31 44.9**	**-1.2**
	comp=N,0.4nm,0.3s,baz=24,slow=14,SNR=7.3						
PLCA	**Paso Flores**	**19.53**	**186**	*e*P	**Pn**	**03 31 44.9**	**-1.2**
	comp=N,10nm,0.8s						
BDFB	**Brasília**	**19.84**	**77**	P	**P**	**03 31 47.9**	**+0.7**
	comp=N,1.8nm,0.3s,baz=248,slow=9.5,SNR=22						
PTGA	**Pitinga**	**21.89**	**22**	P	**P**	**03 32 07.0**	**-1.9**
	comp=N,9.6nm,0.4s,baz=194,slow=18,SNR=32						
OTAV	**Otavalo**	**23.64**	**333**	P	**P**	**03 32 29.3**	**+2.9**
	comp=N,2.8nm,0.7s						
TXAR	**Lajitas Array**	**60.87**	**324**	P	**P**	**03 37 25.0**	**-0.5**
	comp=N,0.3nm,0.6s,baz=150,slow=9.2,SNR=3.8						
LIC	**Lamto**	**67.59**	**73**	*e*PKIKP	**P**	**03 38 11.8**	**+2.3**
	comp=N,34nm,1.5s						
TIC	**Toumodi**	**67.78**	**73**	*e*PKIKP	**P**	**03 38 11.6**	**+0.8**
	comp=N,5.4nm,0.2s						
KIC	**Kosan Boka**	**67.90**	**73**	*e*PKIKP	**P**	**03 38 11.9**	**+0.4**
	comp=N,14nm,0.5s						
DBIC	**Dimbokro**	**67.93**	**73**	P	**P**	**03 38 11.6**	**-0.2**
	comp=N,9.4nm,0.7s,baz=220,slow=6.7,SNR=19						
QSPA	**South Pole Qui**	**68.93**	**180**	P	**P**	**03 38 18.1**	**+0.8**
	comp=N,3.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.55**	**70**	P	**P**	**03 39 03.2**	**+0.2**
	comp=N,10nm,0.8s,baz=254,slow=5.4,SNR=101						
YKA	**Yellowknife Ar**	**91.22**	**340**	P	**P**	**03 40 17.2**	**+0.8**
	comp=N,1.0nm,0.6s,baz=134,slow=4.7,SNR=41						
H11S2	**WAKE ISLAND Hy**	**28.61**	**277**	T	T	06 06 40.4	
	baz=106						
H11S1	**WAKE ISLAND Hy**	**28.61**	**277**	T	T	06 06 40.4	
	baz=106						
H11S3	**WAKE ISLAND Hy**	**28.62**	**277**	T	T	06 06 41.1	
	baz=106						
H11N3	**WAKE ISLAND Hy**	**28.68**	**279**	T	T	06 06 40.8	
	baz=107						
H11N2	**WAKE ISLAND Hy**	**28.69**	**279**	T	T	06 06 40.9	
	baz=107						
H11N1	**WAKE ISLAND Hy**	**28.69**	**279**	T	T	06 06 49.2	
	baz=107						
ASAR	**Alice Springs**	**130.48**	**207**	PKP	**PKPdf**	**03 46 23.2**	**+0.6**
	comp=N,0.6nm,0.8s,baz=154,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**133.55**	**210**	PKP	**PKPdf**	**03 46 29.1**	**+0.7**
	comp=N,0.5nm,0.6s,baz=150,slow=1.8,SNR=10						
MKAR	**Makanchi Array**	**144.99**	**36**	PKP	**PKPdf**	**03 46 49.5**	**+1.2**
	comp=N,2.4nm,0.7s,baz=320,slow=3.5,SNR=29						

*IDC **06** 03:40:00.8±1.3, 30°.09S×64°.20W, h0km, mb3.4/1, mb1 3.1/2, mb1mx2.8/29, mbtmp3.1/2, ML2.4/1, Error ellipse: s-maj=214.1km s-min=19.4km az=155.0*
*SJA **06** 03:40:07.0±1.0, 30°.20S×64°.39W, h60km±28km, ML3.6*
*ISCJB **06** 03:40:08.1±1.1, 30°.19S±0°.06×64°.38W±0°.09, h33km, mb3.1/1, Error ellipse: s-maj=12.7km s-min=6.7km az=153.2*

ISC 06 03:40:07.1±1.1, 30°.14S±0°.06×64°.22W±0°.08, h35km, n13, σ1°05/17, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIL	**Pilar**	**1.56**	**169**	*i* P	**Pn**	**03 40 33.5**	**+1.2**
PIL				*i* S	**Sn**	**03 40 53.0**	**+1.8**
CYA	**Choya**	**2.18**	**320**	*i* P	**Pn**	**03 40 42.1**	**+1.2**
CYA				*i* S	**Sn**	**03 41 08.3**	**+1.6**
CYA				AML	AML	03 41 13.3	
	comp=Z,362nm,0.4s						
ACAN	**Cantantal**	**3.32**	**229**	*i* P	**Pn**	**03 40 56.6**	**0.0**
CFAA	**Coronel Fontan**	**3.75**	**246**	Pn	**Pn**	**03 41 02.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=68,slow=16,SNR=35						
CFAA				Pg		03 41 13.6	
	comp=Z,1.0nm,0.3s,baz=70,slow=17,SNR=28						
CFAA				Sn	**Sn**	**03 41 46.1**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=19,slow=14,SNR=5.7						
CFAA				Lg	Lg	03 41 59.7	
	comp=Z,2.7nm,0.3s,baz=170,slow=22,SNR=8.4						
CFAA	**Coronel Fontan**	**3.75**	**246**	*i* P	**Pn**	**03 41 02.6**	**+0.1**
CFAA				*i* P	**Pn**	**03 41 02.6**	**+0.1**
AGUA	**GUANDACOL**	**3.77**	**279**	*i* P	**Pn**	**03 41 03.1**	**+0.3**
AMOG	**MOGNA**	**3.77**	**257**	*i* P	**Pn**	**03 41 04.1**	**+1.3**
RTLL	**Cerro Villicun**	**3.85**	**251**	*i* P	**Pn**	**03 41 03.2**	**-0.7**
RTLS	**Leoncito**	**4.67**	**248**	*i* P	**Pn**	**03 41 15.8**	**+0.6**
AUSP	**Uspallata**	**4.89**	**244**	*i* P	**Pn**	**03 41 19.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.62**	**66**	P	**P**	**03 51 53.4**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=252,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**127.10**	**202**	PKP	**PKPdf**	**03 59 07.4**	**-0.9**
	comp=Z,0.1nm,0.7s,baz=166,slow=1.6,SNR=4.9						
MKAR	**Makanchi Array**	**149.24**	**48**	PKPbc	**PKPbc**	**03 59 50.5**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=286,slow=4.3,SNR=2.5						

KRSC 06 03:53:12.4±0.7, 55°.14N×160°.36E, h-1km±4km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.04**	**233**	*i* P	Pg	03 53 15.0	+1.5
TUMR	**Tumrok**	**0.19**	**320**	*i* P	Pg	03 53 17.7	+1.5
TUMR				*e*S	Sg	03 53 21.0	+2.2
KMNR	**Kamenistaya**	**0.62**	**354**	*e*P	Pb	03 53 25.9	-0.5
KMNR				*e*S	Sb	03 53 36.0	+0.3
BZMR	**Bezymyannaya**	**0.80**	**5**	P	Pb	03 53 28.9	-0.6
BZMR				S	Sb	03 53 41.6	+0.6
KIRR	**Kirishev**	**0.81**	**359**	P	Pg	03 53 28.7	+0.4
KIRR				S	Sb	03 53 41.7	+0.3
BZGR	**Bezymyannyi-Gr**	**0.82**	**13**	S	Sb	03 53 41.6	0.0
BZWR	**Bezymyannyi-We**	**0.83**	**5**	P	Pb	03 53 29.5	-0.5
BZWR				S	Sb	03 53 42.2	+0.3
KPT	**Kopyto**	**0.83**	**355**	P	Pn	03 53 30.8	-0.8
KOZ	**Kozyrevsk**	**0.96**	**344**	P	Pb	03 53 32.0	0.0
KOZ				S	Sn	03 53 47.3	-0.3
MKZ	**Mys Kozlova**	**0.99**	**126**	*e*P	Pg	03 53 31.7	+0.4
MKZ				*e*S	Sn	03 53 47.1	-1.0
KLY	**Klyuchi**	**1.19**	**8**	P	Pn	03 53 36.4	+0.1
KLY				S	Sn	03 53 54.8	+1.7
KII	**Karymskiy**	**1.23**	**206**	P	Pn	03 53 37.0	+0.1
ESO	**Esso**	**1.23**	**311**	*e*P	Pg	03 53 35.4	-0.6
ESO				S	Sn	03 53 53.9	-0.3
SRDR	**Sredinnyy**	**1.23**	**343**	*e*P	Pb	03 53 36.8	+0.1
BDR	**Baidarnaya**	**1.51**	**18**	P	Pg	03 53 42.6	+1.1
SMKR	**Semkarok**	**1.58**	**23**	*e*P	Pg	03 53 42.7	-0.1
SMKR				*e*S	Sg	03 54 06.4	+3.1
SRKR	**Sorokina**	**1.58**	**16**	*e*P	Pg	03 53 44.3

mb3.9/6,MS3.5/7,Error ellipse: s-maj=3.9km s-min=3.5km az=140.4

*IDC **06** 04:12:19.7±1.5,32°.66N×115°.80W,h0km,mb3.6/3, mb1 3.8/8,mb1mx3.5/52,mbtmp3.6/8,ML3.8/5,MS3.4/9, Ms1 3.4/9,ms1mx3.1/33,Error ellipse: s-maj=25.7km s-min=9.1km az=46.0*

*ECX **06** 04:12:21.6±0.6,32°.61N×115°.77W,h2km,ML4.6*

*NEIC **06** 04:12:21.6,32°.61N×115°.77W,h2km,mb4.2/5, MD4.5(MEX),MD4.6(ECX),ML4.6(PAS),After ECX.*

NEIC Felt [II] at Tijuana. Also felt at Mexicali. Felt [IV] at Calexico, El Centro and Rancho Mirage; [III] at Coronado, Imperial, La Mesa, San Diego and Spring Valley; [II] at Aliso Viejo, Alpine, Bonita, Carlsbad, Chula Vista, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, Indio, Jamul, La Jolla, La Quinta, Lakeside, Lemon Grove, National City, Oceanside, Palm Desert, Palm Springs, Poway, Ramona, San Marcos and Santee, California. Felt as far as Newbury Park and Ridgecrest. Felt [III] at Yuma, Arizona. Also felt at Chandler and Somerton.

*MEX **06** 04:12:22.3±0.7,32°.69N×115°.81W,h6km±21km,MD4.4*

ISC 06 04:12:21.0±0.9,32°.59N±0°.02×115°.70W±0°.02,h4km±6km, n99,σ1§92/138,mb3.9/6,MS3.5/7,23C-20D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**340**	⇑*iP*	**Pg**	**04 12 22.6**	**+0.2**
YUH	**Yuha Desert**	**0.20**	**287**	⇑*iP*	**Pg**	**04 12 24.2**	**-0.6**
COK	**Cook Ranch**	**0.26**	**355**	⇑*iP*	**Pg**	**04 12 26.4**	**+0.4**
RMX	**La Rumorosa**	**0.32**	**272**	⇑*eP*	**Pg**	**04 12 26.6**	**-0.6**
RMX				*eS*	**Sg**	**04 12 30.4**	**-1.0**
SWSC	**Sam W. Stewart**	**0.36**	**347**	⇑P	**Pg**	**04 12 27.7**	**-0.3**
	baz=0.4						
SWSC				⇓S	**Sg**	**04 12 32.5**	**-0.1**
	baz=0.4						
CPBX	**Cerro Prieto**	**0.38**	**117**	⇓*eP*	**Pb**	**04 12 29.9**	**-0.3**
MONP	**Monument Peak,**	**0.68**	**296**	⇑P	**Pg**	**04 12 33.0**	**-1.0**
	baz=0.6						
MONP				⇓S	**Sg**	**04 12 41.2**	**-1.6**
	baz=0.6						
RDX	**Rancho Dawling**	**0.69**	**197**	⇑*eP*	**Pg**	**04 12 34.0**	**-0.3**
RDX				*eS*	**Sg**	**04 12 43.8**	**+0.5**
EMX	**El Mayor**	**0.71**	**147**	⇓*eP*	**Pg**	**04 12 34.8**	**+0.1**
EMX				*eS*	**Sb**	**04 12 45.4**	**-0.8**
EMX				⇓*e*		04 12 51.0	
	comp=E,14μm,0.8s						
BAR	**Barrett**	**0.82**	**277**	*e*Pg	**Pg**	**04 12 35.5**	**-1.3**
BAR				*eS*	**Sg**	**04 12 45.6**	**-1.9**
CBX	**Cerro Bola**	**0.86**	**252**	*iP*	**Pg**	**04 12 36.7**	**-0.8**
CBX				*eS*	**Sg**	**04 12 46.6**	**-2.1**
CBX	**Cerro Bola**	**0.86**	**252**	⇑*eP*	**Pg**	**04 12 36.6**	**-0.9**
CBX				*eS*	**Sg**	**04 12 47.5**	**-1.1**
CBX	**Cerro Bola**	**0.86**	**252**	*iP*	**Pg**	**04 12 36.7**	**-0.8**
CBX				*eS*	**Sg**	**04 12 46.6**	**-2.1**
GLA	**Glamis**	**0.87**	**58**	⇓P	**Pg**	**04 12 37.2**	**-0.5**
	baz=0.9						
GLA				⇓S	**Sg**	**04 12 48.9**	**+0.1**
	baz=0.9						
GLA	**Glamis**	**0.87**	**58**	*e*Pg	**Pg**	**04 12 37.2**	**-0.5**
GLA				*eS*	**Sg**	**04 12 49.0**	**+0.1**
BC3	**Big Chuckawall**	**1.08**	**11**	⇑P	**Pg**	**04 12 39.9**	**-1.9**
	baz=1.1						
BC3				⇓S	**Sg**	**04 12 53.2**	**-2.6**
	baz=1.1						
ZAX	**El Zacaton**	**1.18**	**205**	*eP*	**Pg**	**04 12 42.7**	**-0.8**
ZAX				*eS*	**Sg**	**04 12 58.2**	**-0.7**
PFO	**Pinyon Flats O**	**1.20**	**328**	Pg	**Pg**	**04 12 41.1**	**-2.9**
	comp=E,388nm,0.3s,baz=155,slow=16,SNR=106						
PFO				Lg	Lg	04 12 55.6	
	comp=E,2μm,0.3s,baz=211,slow=18,SNR=33						
PFO	**Pinyon Flats O**	**1.20**	**328**	⇑P	**Pg**	**04 12 41.1**	**-2.9**
	baz=1.2						
PFO				⇓S	**Sg**	**04 12 55.8**	**-3.7**
	baz=1.2						
ECNX	**Esteban Cantu**	**1.20**	**220**	⇑*eP*	**Pg**	**04 12 42.9**	**-1.2**
PBX	**Punta Banda**	**1.21**	**226**	*eP*	**Pg**	**04 12 43.0**	**-1.3**
109C	**Camp Elliot, M**	**1.22**	**285**	⇑P	**Pg**	**04 12 42.3**	**-2.1**
	baz=1.2						
109C				⇓S	**Sg**	**04 12 57.3**	**-2.9**
	baz=1.2						
ECBX	**El Chinero**	**1.24**	**154**	⇓*eP*	**Pg**	**04 12 42.1**	**-2.7**
ECBX				*eS*	**Sg**	**04 12 59.6**	**-1.4**
ECBX				⇑*e*		04 13 10.5	
	comp=E,7μm,1.0s						
BELC	**Belle Mtn. Jos**	**1.43**	**350**	⇓P	**Pn**	**04 12 44.7**	**-3.1**
	baz=1.4						
BELC				⇑S	**Sg**	**04 13 01.5**	**-5.4**
	baz=1.4						
Y12C	**Blythe**	**1.52**	**40**	⇓P	**Pn**	**04 12 46.6**	**-2.4**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.55**	**173**	*eP*	**Pn**	**04 12 48.4**	**-1.3**
SPIG				*iS*	**Sn**	**04 13 09.8**	**-0.7**
SPIG	**San Pedro Mart**	**1.55**	**173**	*eP*	**Pn**	**04 12 48.4**	**-1.3**
SPIG				*iS*	**Sn**	**04 13 09.8**	**-0.7**
SPX	**San Pedro Mart**	**1.55**	**172**	*eP*	**Pn**	**04 12 49.0**	**-0.7**
SPX				*e*		04 13 13.4	
	comp=E,4μm,0.5s						
MURC	**Murrieta**	**1.61**	**309**	⇑P	**Pn**	**04 12 47.1**	**-3.2**
	baz=1.6						
IRM	**Iron Mountain**	**1.63**	**16**	⇓P	**Pn**	**04 12 48.1**	**-2.5**
	baz=1.6						
113A	**Mohawk Valley,**	**1.64**	**83**	⇓P	**Pn**	**04 12 48.8**	**-1.9**
	baz=1.7						
113A				⇑S	**Sn**	**04 13 09.4**	**-2.8**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.96**	**329**	⇓P	**Pn**	**04 12 52.8**	**-2.4**
	baz=1.9						
PDMCI	**Parker Dam,Lak**	**2.15**	**37**	⇑P	**Pn**	**04 12 55.8**	**-1.8**
	baz=2.2						
GMRC	**Granite Mounta**	**2.19**	**1**	⇑P	**Pn**	**04 12 55.4**	**-2.9**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.32**	**316**	⇓P	**Pn**	**04 12 57.5**	**-2.7**
	baz=2.3						
BFSC				⇑Sb	**Sn**	**04 13 30.0**	**+0.8**
	baz=2.3						
NEE2	**Needles Airpor**	**2.35**	**22**	⇓P	**Pn**	**04 12 58.5**	**-2.0**
	baz=2.4						
CIS	**Catalina Islan**	**2.41**	**290**	⇑P	**Pn**	**04 12 59.0**	**-2.3**
	baz=2.4						
Z14A	**Wintersburg**	**2.44**	**71**	⇓P	**Pn**	**04 12 59.7**	**-2.0**
	baz=2.5						
FMP	**Fort Macarthur**	**2.45**	**298**	⇓Pb	**Pn**	**04 13 02.9**	**+1.2**
	baz=2.4						
214A	**Organ Pipe Nat**	**2.53**	**104**	⇑P	**Pn**	**04 13 00.9**	**-2.0**
	baz=2.6						
214A				⇑S	**Sn**	**04 13 30.9**	**-3.3**
	baz=2.6						
LDFC	**Landfair**	**2.53**	**11**	*e*Pn	**Pn**	**04 13 02.1**	**-0.9**
LDFC				*e*Pg	**Pb**	**04 13 07.8**	**+0.7**
LDFC				*eS*	**Sb**	**04 13 39.0**	**+0.3**
MWC	**Mount Wilson**	**2.56**	**310**	*e*Pn	**Pn**	**04 13 02.5**	**-1.0**
MWC				*eS*	**Sb**	**04 13 38.3**	**-1.2**
PASC	**Pasadena Art C**	**2.61**	**308**	*e*Pn	**Pn**	**04 13 02.1**	**-1.8**
PASC				*eS*	**Sb**	**04 13 38.8**	**-2.0**
Y14A	**Wickenburg**	**2.63**	**58**	⇑P	**Pn**	**04 13 02.3**	**-2.0**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.86**	**342**	*e*Pn	**Pn**	**04 13 05.2**	**-2.3**
GSC				*e*Pg	**Pb**	**04 13 12.9**	**+0.2**
GSC				*eS*	**Sg**	**04 13 50.4**	**-2.4**
OSI	**Osito Audit: C**	**3.23**	**309**	*e*Pn	**Pn**	**04 13 10.4**	**-2.2**
OSI				*eS*	**Sn**	**04 13 52.2**	**+0.7**
ISA	**Isabella, Lake**	**3.83**	**324**	*e*Pn	**Pn**	**04 13 18.4**	**-2.4**
ISA				*e*Pg	**Pb**	**04 13 30.0**	**+0.7**
ISA				*eS*	**Sb**	**04 14 19.7**	**+3.7**
SHPR	**Sheep Range**	**3.93**	**6**	*e*Pn	**Pn**	**04 13 21.2**	**-1.1**
SHPR				*e*Pg	**Pg**	**04 13 36.9**	**+0.6**
SHPR				*eS*	**Sg**	**04 14 23.9**	**-3.4**
TUC	**Tucson**	**4.17**	**93**	*e*Pn	**Pn**	**04 13 23.7**	**-1.7**
TUC				*eS*	**Sn**	**04 14 10.2**	**-4.4**
WUAZ	**Wupatki**	**4.63**	**50**	*e*Pn	**Pn**	**04 13 31.3**	**-0.6**
CCUT	**Cedar City**	**5.31**	**21**	*e*Pn	**Pn**	**04 13 41.2**	**0.0**
W18A	**Petrified Fore**	**5.57**	**61**	*e*Pn	**Pn**	**04 13 45.4**	**+0.6**
	comp=E,122nm,0.5s						
TPH	**Tonopah**	**5.61**	**348**	*e*Pn	**Pn**	**04 13 45.0**	**-0.5**
	comp=E,46nm,0.8s						
TPH				*e*Pg	Pg	04 14 04.6	-3.9
R11A	**Troy Canyon, C**	**5.75**	**1**	*e*Pn	**Pn**	**04 13 48.0**	**+0.7**
R11A				*e*Pg	**Pg**	**04 14 12.3**	**+1.2**
R11A				*eS*	**Sg**	**04 15 23.2**	**-2.4**
NVAR	**Mina Array Bea**	**6.20**	**341**	Pn	**Pn**	**04 13 52.0**	**-1.6**
	comp=E,0.3nm,0.3s,baz=152,slow=15,SNR=4.2						
NVAR				Pg	Pb	04 14 14.2	+4.6
	comp=E,3.3nm,0.3s,baz=160,slow=19,SNR=17						
NVAR				Lg	Lg	04 15 36.9	
	comp=E,1.6nm,0.3s,baz=150,slow=30,SNR=2.7						
SAO	**San Andreas Ge**	**6.30**	**313**	*e*Pn	**Pn**	**04 13 53.9**	**-0.8**
	comp=E,4.5nm,0.8s						
MVU	**Marysvale**	**6.55**	**25**	*e*Pn	**Pn**	**04 13 59.0**	**+0.6**
	comp=E,23nm,0.4s						
MVU				*eS*	**Sg**	**04 15 47.0**	**-4.4**
CMB	**Columbia Colle**	**6.65**	**326**	*e*Pn	**Pn**	**04 13 57.7**	**-1.8**
	comp=E,17nm,0.8s						
CMB				*eS*	**Sb**	**04 15 42.5**	**+5.5**
LAZ	**Ladron**	**7.38**	**73**	*e*Pn	**Pn**	**04 14 09.8**	**+0.1**
LENM	**Lemitar**	**7.47**	**75**	*e*Pn	**Pn**	**04 14 10.7**	**-0.2**
	comp=E,21nm,0.5s						
MVCO	**Mesa Verde**	**7.50**	**50**	*e*Pn	**Pn**	**04 14 11.8**	**+0.4**
	comp=E,56nm,0.6s						
MVCO				*eS*	**Sg**	**04 16 17.0**	**-4.7**
TMUT	**Trail Mountain**	**7.62**	**27**	*e*Pn	**Pn**	**04 14 15.3**	**+2.2**
	comp=E,36nm,0.5s						
TMUT				*eS*	**Sg**	**04 16 28.4**	**+2.8**
SRU	**San Rafael Swe**	**7.74**	**31**	*e*Pn	**Pn**	**04 14 15.7**	**+1.0**
	comp=E,148nm,0.7s						
PV10	**Paradox Valley**	**7.92**	**41**	*e*Pn	**Pn**	**04 14 17.9**	**+0.7**
	comp=E,2μm,0.9s						
PV01	**Paradox Valley**	**8.03**	**44**	*e*Pn	**Pn**	**04 14 20.2**	**+1.5**
	comp=E,2μm,0.4s						
PV01				*eS*	Sg	04 16 31.5	-7.3
ANMO	**Albuquerque**	**8.05**	**71**	Pn	**Pn**	**04 14 19.6**	**+0.8**
	comp=E,0.8nm,0.3s,baz=249,slow=11,SNR=9.8						
ANMO				Lg	Lg	04 16 29.4	
	comp=E,0.3nm,0.3s,baz=351,slow=19,SNR=3.1						
ANMO	**Albuquerque**	**8.05**	**71**	*e*Pn	**Pn**	**04 14 19.8**	**+0.9**
	comp=E,12nm,0.8s						
ANMO				Lg	Lg	04 16 29.4	
ELK	**Elko**	**8.15**	**2**	Pn	**Pn**	**04 14 20.3**	**0.0**
	comp=E,0.2nm,0.3s,baz=208,slow=15,SNR=2.9						
ELK				Lg	Lg	04 16 37.9	
	comp=E,0.2nm,0.3s,baz=86,slow=14,SNR=2.5						
O20A	**White River Ci**	**9.63**	**36**	*e*Pn	**Pn**	**04 14 38.9**	**-1.7**
	comp=E,71nm,1.1s						
AHID	**Auburn Hatcher**	**10.79**	**18**	*e*Pn	**Pn**	**04 14 56.5**	**+0.1**
	comp=E,25nm,0.9s						
TXAR	**Lajitas Array**	**10.83**	**104**	Pn	**Pn**	**04 14 57.8**	**+0.9**
	comp=E,0.3nm,0.3s,baz=290,slow=14,SNR=9.1						
TXAR				Sn	**Sn**	**04 16 59.7**	**+1.1**
	comp=E,0.2nm,0.3s,baz=297,slow=18,SNR=3.6						
TXAR				Lg	Lg	04 17 59.3	
	comp=E,0.1nm,0.3s,baz=300,slow=26,SNR=3.2						
TXAR				LR	LR	04 18 48.1	
	comp=E,112nm,21.5s,baz=0.0,slow=36						
MSTX	**Muleshoe**	**10.91**	**79**	*e*Pn	**Pn**	**04 14 59.0**	**+1.0**
	comp=E,37nm,0.9s						
PDAR	**Pinedale Array**	**11.26**	**24**	Pn	**Pn**	**04 15 05.0**	**+2.0**
	comp=E,0.3nm,0.3s,baz=183,slow=12,SNR=14						
PDAR				LR	LR	04 19 18.1	
	comp=E,215nm,20.9s,baz=218,slow=37						
K22A	**Casper**	**12.39**	**33**	*e*Pn	**Pn**	**04 15 18.1**	**-0.2**
	comp=E,6.6nm,0.7s						
MCMT	**McKenzie Canyo**	**12.42**	**9**	*e*Pn	**Pn**	**04 15 21.4**	**+2.6**
	comp=E,2.8nm,1.0s						
LRM	**Limekiln Ridge**	**13.45**	**10**	*e*Pn	Pn	04 15 36.3	+3.5
	comp=E,42nm,1.3s						
CHMT	**Chamberlain Mo**	**14.43**	**7**	*e*Pn	**Pn**	**04 15 47.6**	**+1.4**
	comp=E,1.7nm,0.8s						
SWMT	**Swartz Lake**	**14.96**	**4**	Pn	**Pn**	**04 15 54.2**	**+1.0**
	comp=E,4.1nm,1.1s						
NEW	**Newport**	**15.69**	**356**	Pn	**P**	**04 16 07.7**	**+0.6**
	comp=E,0.1nm,0.3s,baz=163,slow=11,SNR=12						
LAO	**LASA Array**	**15.84**	**25**	*e*Pn	**Pn**	**04 16 06.3**	**+1.4**
	comp=E,23nm,1.2s						
DGMT	**Dagmar**	**18.08**	**25**	*e*Pn	**P**	**04 16 33.4**	**-0.1**
	comp=E,12nm,0.9s						
MIAR	**Mount Ida**	**18.54**	**78**	*e*Pn	**Pn**	**04 16 39.5**	**+0.8**
	comp=E,5.8nm,0.9s						
BBB	**Bella Bella**	**21.56**	**339**	LR	LR	04 25 19.5	
	comp=E,166nm,18.3s,baz=157,slow=36						
AGMN	**Agassiz Nation**	**21.68**	**38**	*e*P	**P**	**04 17 12.6**	**-0.1**
	comp=E,12nm,1.0s						
ULM	**Lac du Bonnet**	**22.95**	**34**	P	**P**	**04 17 26.0**	**-0.2**
	comp=E,4.2nm,0.8s,baz=228,slow=8.5,SNR=12						
ULM				LR	LR	04 26 23.6	
	comp=E,103nm,21.7s,baz=220,slow=37						
CMIG	**Matias Romero**	**24.32**	**124**	P	**P**	**04 17 41.3**	**+1.4**
	comp=E,2.1nm,0.8s,baz=309,slow=11,SNR=4.6						
ACSO	**Alum Creek Sta**	**27.30**	**64**	*e*P	**P**	**04 18 07.5**	**+0.9**
	comp=E,13nm,1.0s						
YKA	**Yellowknife Ar**	**29.93**	**1**	P	**P**	**04 18 29.6**	**-0.2**
	comp=E,0.3nm,1.1s,baz=181,slow=9.9,SNR=2.8						
ILAR	**Eielson Array**	**37.45**	**339**	P	**P**	**04 19 37.8**	**+2.6**
	comp=E,0.8nm,0.8s,baz=147,slow=6.2,SNR=8.9						
ILAR				LR	LR	04 34 47.0	
	comp=E,57nm,18.0s,baz=144,slow=36						
SCHQ	**Scheferville**	**40.67**	**42**	LR	LR	04 37 21.3	
	comp=E,88nm,18.8s,baz=92,slow=37						
ARCES	**ARCESS Array B**	**74.31**	**13**	LR	LR	04 57 30.1	
	comp=E,28nm,19.7s,baz=334,slow=36						
NOA	**NORSAR Array B**	**77.20**	**24**	LR	LR	04 57 43.4	
	comp=E,5.2nm,18.5s,baz=325,slow=35						
GERES	**GERESS Array B**	**87.22**	**31**	LR	LR	05 09 06.6	
	comp=E,44nm,18.1s,baz=298,slow=39						
HHC	**Hu-ho-hao-te**	**94.89**	**326**	*e*P	**P**	**04 25 44.9**	**+0.3**
HHC				PP	**PP**	**04 29 35.2**	**+2.6**
HHC				SKS	**SKSac**	**04 36 19.9**	**-1.4**
HHC				S	**S**	**04 36 55.8**	**-3.8**
HHC				SS	**SS**	**04 43 22.4**	**-0.1**
HHC				PMZ			
	comp=E,68nm,8.6s						
HHC				LN			
	comp=E,89nm,21.0s						
HHC				LE			
	comp=E,240nm,20.6s						
HHC				LZ			
	comp=E,85nm,19.6s						
NJ2	**Nanjing**	**97.62**	**316**	*e*P	Pdif	04 25 57.6	+0.5
WMQ	**Urumqi**	**101.01**	**343**	*e*P	**Pdif**	**04 26 11.6**	**-0.4**
WMQ				pP	pP	04 26 16.5	+3.1
WMQ				LZ			
	comp=E,83nm,18.0s						
CD2	**Chengdu**	**106.63**	**325**	Pdif	**Pdif**	**04 26 35.0**	**-2.3**
KSH	**Kashi**	**107.44**	**351**	*e*Pdif	**Pdif**	**04 26 44.5**	**+3.7**
KSH				PP	PP	04 31 15.7	+8.7
KSH				S	**Sdif**	**04 38 46.6**	**+1.1**
KSH				SS	SS	04 46 25.3	+9.2
KSH				PPMZ			
	comp=E,73nm,3.6s						
KSH				LZ			
	comp=E,200nm,6.1s						
WRA	**Warramunga Arr**	**116.93**	**263**	PKP	**PKPdf**	**04 31 06.3**	**-1.2**
	comp=E,0.4nm,0.9s,baz=62,slow=2.5,SNR=2.9						

KRSC 06 04:30:16.6±0.5,55°.14N×160°.36E,h2km±3km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.04**	**234**	*i*P	Pg	04 30 18.7	+0.9
TUMR	**Tumrok**	**0.19**	**320**	*i*P	Pg	04 30 21.4	+0.9
TUMR				*eS*	Sg	04 30 25.1	+2.1
KMNR	**Kamenistaya**	**0.62**	**354**	*eP*	Pb	04 30 29.6	-0.8
KMNR				*eS*	Sb	04 30 40.1	+0.4
BZMR	**Bezymyannaya**	**0.80**	**5**	P	Pg	04 30 32.7	+0.5
BZMR				S	Sb	04 30 44.9	-0.1
KIRR	**Kirishev**	**0.81**	**359**	P	Pb	04 30 33.7	-0.1
KIRR				S	Sb	04 30 45.8	+0.4
BZWR	**Bezymyannyi-We**	**0.83**	**5**	P	Pb	04 30 34.1	0.0
KPT	**Kopyto**	**0.83**	**355**	P	Pb	04 30 33.5	-0.5
KPT				S	Sb	04 30 45.9	+0.1
KOZ	**Kozyrevsk**	**0.96**	**344**	P	Pb	04 30 35.8	-0.3
KOZ				S	Sb	04 30 49.7	+0.4
MKZ	**Mys Kozlova**	**0.99**	**126**	*eP*	Pg	04 30 35.4	-0.1
MKZ				*eS*	Sb	04 30 50.6	+0.7
KRSR	**Krestovskiy**	**1.09**	**6**	P	Pn	04 30 39.3	+0.2
KLY	**Klyuchi**	**1.19**	**8**	P	Pn	04 30 40.4	+0.1
KLY				S	Sn	04 30 57.9	+0.9
KII	**Karymskiy**	**1.23**	**206**	P	Pb	04 30 40.8	+0.1
ESO	**Esso**	**1.23**	**311**	P	Pg	04 30 39.5	-0.7
ESO				S	Sn	04 30 57.8	-0.3
SRDR	**Sredinnyy**	**1.23**	**343**	*eP*	Pg	04 30 39.1	-1.3
SRDR				S	Sb	04 30 57.4	+0.1
BDR	**Baidarnaya**	**1.51**	**18**	P	Pg	04 30 45.9	+0.2
BDR				S	Sg	04 31 07.7	+2.3
SMKR	**Semkarok**	**1.57**	**23**	P	Pb	04 30 46.4	-0.2
SMKR				S	Sg	04 31 09.6	+2.1
SRKR	**Sorokina**	**1.58**	**16**	*eP*	Pb	04 30 46.6	-0.2
SRKR				*eS*	Sg	04 31 09.1	+1.3
KBTR	**Krutoberegovo**	**1.76**	**51**	P	Pn	04 30 47.7	-0.4
KBTR				S	Sb	04 31 11.8	-0.3
GNL	**Ganaly**	**2.02**	**225**	P	Pn	04 30 52.7	+0.8
GNL				S	Sb	04 31 19.5	-0.5
KRX	**Arik**	**2.05**	**210**	P	Pb	04 30 54.2	-0.5
SPN	**Mys Shipunski**	**2.06**	**186**	P	Pn	04 30 51.6	-0.6
SPN				S	Sb	04 31 19.6	-1.1
SDLR	**Sedlovina**	**2.06**	**205**	*eP*	Pb	04 30 54.1	-0.8
NLC	**Nalytchevo**	**2.06**	**197**	P	Pb	04 30 54.3	-0.4
KRER	**Koryakskii**	**2.07**	**208**	P	Pb	04 30 54.9	-0.3
SMAR	**Somma**	**2.09**	**207**	*eP*	Pb	04 30 54.9	-0.7
AVH	**Avacha**	**2.11**	**208**	P	Pb	04 30 55.3	-0.4
KOK	**Koryaka**	**2.11**	**209**	P	Pb	04 30 55.4	-0.4
UGLR	**Uglovaya**	**2.13**	**206**	P	Pb	04 30 56.2	0.0
APC	**Apacha**	**2.91**	**222**	P	Pn	04 31 05.5	+1.5
RUS	**Russkaya**	**2.92**	**203**	*eP*	Pn	04 31 05.6	+1.5
MTVR	**Mutnovka**	**2.96**	**207**	P	Pb	04 31 07.9	-2.4

GUC 06 04:53:59.9±0.4,35°.06S×72°.96W,h35km±5km,ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.08**	**173**	*eP*	Pb	04 54 20.0	-0.2
COCH				*eS*	Sb	04 54 34.8	+0.7
TALC	**Talca**	**1.14**	**108**	*eP*	Pb	04 54 20.8	-0.3
TALC				*eS*	Sb	04 54 36.4	+0.8
LNCH	**Linares**	**1.36**	**126**	*eP*	Pb	04 54 24.1	-0.8
LNCH				*eS*	Sb	04 54 42.9	+0.9
CLCH	**Cerro Calan**	**2.60**	**51**	*eP*	Pn	04 54 42.6	+2.9
CLCH				*eS*	Sb	04 55 15.2	-2.5
CLCH				AML	AML	04 55 30.1	
	comp=N,386nm,0.7s						
ROCH	**El Roble**	**2.63**	**38**	*eP*	Pn	04 54 43.1	+2.8
ROCH				*eS*	Sb	04 55 16.4	-2.5
ROCH				AML	AML	04 55 30.0	
	comp=N,230nm,0.4s						

*IDC **06** 04:53:57.7±1.1,0°.40S×124°.83E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/33,mbtmp3.8/6,MS3.1/1,Ms1 3.1/1, ms1mx2.3/31,Error ellipse: s-maj=128.5km s-min=19.4km az=65.0*

*DJA **06** 04:54:01.6±0.3,0°.5S±4°×12°.5E±°,h10km,M4.0/15,mb4.0/3, mB4.5/1,MLv4.0/15,Mw(mB)3.7/1*

*ISCJB **06** 04:54:02.6±0.5,0°.11S±0°.07×125°.44E±0°.05,h49km, mb3.7/6,Error ellipse: s-maj=10.7km s-min=6.1km az=24.1*

ISC 06 04:54:04.7±0.8,0°.06S±0°.06×125°.44E±0°.05,h49km,n20, σ2§10/21,mb3.8/6,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.59**	**293**	P	Pn	04 54 26.7	-3.8
KMSI				S	**Sn**	**04 54 50.5**	**+0.6**
SANI	**Sanana**	**2.05**	**165**	P	**Pn**	**04 54 34.2**	**-2.6**
SANI				S	**Sn**	**04 55 05.5**	**+4.3**
TNTI	**Ternate**	**2.09**	**67**	P	**Pn**	**04 54 37.0**	**-0.4**
LBMI	**Labuha**	**2.14**	**106**	P	**Pn**	**04 54 36.7**	**-1.3**
GTOI	**Gorontalo**	**2.53**	**286**	P	**Pn**	**04 54 43.5**	**+0.2**
GTOI				S	**Sn**	**04 55 16.2**	**+3.3**
LUWI	**Luwuk**	**2.84**	**250**	P	**Pn**	**04 54 48.0**	**+0.4**
LUWI				S	**Sn**	**04 55 23.5**	**+2.8**
MRSI	**Marisa**	**3.54**	**279**	P	**Pn**	**04 54 54.6**	**-2.6**
NLAI	**Namlea**	**3.57**	**152**	P	**Pn**	**04 54 57.4**	**-0.2**
APSI	**Ampana**	**3.89**	**257**	P	**Pn**	**04 55 01.7**	**-0.3**
MSAI	**Masohi**	**4.78**	**133**	P	**Pn**	**04 55 16.8**	**+2.6**
MPSI	**Mapaga**	**5.56**	**274**	P	**Pn**	**04 55 24.0**	**-0.9**
	14nm,0.9s,482nm0.1nm						
SPSI	**Sidrap Palu**	**6.87**	**236**	P	**Pn**	**04 55 40.0**	**-2.9**
	14nm,0.8s,0.1nm						
BKSI	**Bulukumba**	**7.45**	**225**	P	Pn	04 55 46.3	-4.6
BATI	**Baumata**	**10.24**	**190**	LR	LR	05 00 56.0	
	comp=Z,99nm,19.6s,baz=332,slow=43						
WRA	**Warramunga Arr**	**21.60**	**157**	P	**P**	**04 58 48.4**	**-2.2**
	0.8nm,0.4s,baz=334,slow=11,SNR=21						
ASAR	**Alice Springs**	**24.86**	**161**	P	**P**	**04 59 21.6**	**-1.3**
	0.4nm,0.4s,baz=330,slow=10,SNR=7.9						
SONM	**Songino Array**	**50.50**	**343**	P	**P**	**05 02 59.5**	**+1.5**
	0.4nm,0.5s,baz=144,slow=7.5,SNR=4.3						
MKAR	**Makanchi Array**	**59.97**	**327**	P	**P**	**05 04 06.0**	**-0.1**
	0.9nm,0.4s,baz=127,slow=7.9,SNR=26						
KURBB	**Kurchatov Arra**	**64.25**

PWJI	**Pagerwojo**	**5.12**	**96**	P	Pn	05 09 23.6	+3.2
JAGI	**Jajag, Banyuwa**	**7.48**	**98**	*e*Pn	Pn	05 09 55.9	+3.1
	29nm,0.3s						
CMAR	**Chiang Mai Arr**	**26.93**	**344**	P	**P**	**05 13 39.2**	**-2.3**
	0.6nm,0.3s,baz=185,slow=8.1,SNR=4.4						
H01W3	**Cape Leeuwin H**	**28.07**	**167**	T	T	05 43 32.0	
	baz=342,slow=78,SNR=22						
H01W1	**Cape Leeuwin H**	**28.08**	**167**	T	T	05 43 36.4	
	baz=342,slow=78,SNR=16						
H01W2	**Cape Leeuwin H**	**28.08**	**167**	T	T	05 43 32.7	
	baz=342,slow=78,SNR=27						
WRA	**Warramunga Arr**	**29.52**	**118**	P	**P**	**05 14 06.4**	**+1.7**
	0.4nm,0.5s,baz=289,slow=12,SNR=7.4						
WRA				PcP	**PcP**	**05 17 10.1**	**+1.4**
	0.2nm,0.3s,baz=306,slow=2.1,SNR=6.9						
WRA				LR	LR	05 27 37.9	
	comp=Z,20nm,20.1s,baz=275,slow=40						
WRAB	**Tennant Creek**	**29.53**	**117**	*e*P	**P**	**05 14 06.8**	**+2.1**
ASAR	**Alice Springs**	**30.66**	**125**	P	**P**	**05 14 17.4**	**+2.7**
	0.5nm,0.6s,baz=299,slow=7.9,SNR=6.5						
H08S2	**Diego Garcia H**	**33.86**	**268**	T	T	05 50 12.9	
	baz=91,slow=76,SNR=86						
H08S3	**Diego Garcia H**	**33.87**	**268**	T	T	05 50 14.8	
	baz=91,slow=76,SNR=104						
H08S1	**Diego Carcia H**	**33.88**	**268**	T	T	05 50 15.4	
	baz=91,slow=76,SNR=88						
KSAR	**Wonju Array Be**	**48.95**	**22**	P	**P**	**05 16 44.8**	**-1.2**
KSRS	**Korea Array**	**48.98**	**22**	P	**P**	**05 16 44.8**	**-1.3**
	0.7nm,0.3s,baz=186,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**58.28**	**341**	P	**P**	**05 17 52.1**	**-2.0**
	0.6nm,0.5s,baz=132,slow=7.8,SNR=14						
ABKAR	**Akbulak array**	**69.70**	**329**	*e*P	**P**	**05 19 07.9**	**-1.1**
	1.6nm,0.4s						
BRTR	**Keskin Array B**	**81.93**	**312**	P	**P**	**05 20 19.0**	**-0.1**
	0.5nm,0.6s,baz=122,slow=8.0,SNR=3.4						
AKASG	**Malin Array Be**	**87.91**	**322**	P	**P**	**05 20 48.6**	**0.0**
	0.6nm,0.6s,baz=89,slow=4.3,SNR=3.8						
FINES	**FINESS Array B**	**92.08**	**332**	P	**P**	**05 21 08.4**	**+0.5**
	0.7nm,0.8s,baz=120,slow=9.8,SNR=3.0						
ARCES	**ARCESS Array B**	**93.92**	**340**	P	**P**	**05 21 15.5**	**-0.8**
	1.2nm,0.9s,baz=114,slow=4.4,SNR=3.4						
TBI	**Tubuai**	**99.63**	**115**	*e*T	T	05 38 59.8	
	12nm,0.3s						
TBI				*e*T	T	05 39 00.0	
YKA	**Yellowknife Ar**	**117.49**	**20**	PKP	**PKPdf**	**05 26 44.3**	**+0.1**
	0.1nm,0.4s,baz=331,slow=0.1,SNR=8.4						
TXAR	**Lajitas Array**	**144.18**	**49**	PKP	**PKPdf**	**05 27 35.4**	**0.0**
	0.5nm,0.5s,baz=348,slow=2.3,SNR=14						

*ISCJB **06** 05:38:36.8±0.2,38°.10S±0°.02×73°.10W±0°.07,h22km, mb4.5/21,MS3.5/3,Error ellipse: s-maj=7.5km s-min=3.6km az=177.4*

*GUC **06** 05:38:37.2±0.8,38°.15S×73°.56W,h25km±6km,ML4.7*

*NEIC **06** 05:38:37.2,38°.15S×73°.56W,h25km, mb4.9/5, ML4.7(GUC),After GUC.*

NEIC Felt [IV] at Angol and Canete and [II] at Puerto Saavedra and Tolten.

*IDC **06** 05:38:38.9±0.8,38°.15S×73°.19W,h29km±4km,mb4.1/12, mb1 4.2/14,mb1mx4.2/18,mbtmp4.2/14,ML3.7/2,MS3.2/4, Ms1 3.2/4,ms1mx3.0/20,Error ellipse: s-maj=23.7km s-min=14.5km az=89.0*

ISC 06 05:38:38.1±0.5,38°.11S±0°.03×73°.21W±0°.09,h22km,n213, σ0s84/220,mb4.6/21,MS3.5/3,81C-67D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.27**	**4**	*e*P		**Pn**		**05 39 00.8**	**+0.2**
CCSP				*e*S		**Sn**		**05 39 17.8**	**+0.9**
CCSP				AML		AML		05 39 23.9	
	comp=N,13μm,0.6s								
CCSP	**San Pedro de C**	**1.27**	**4**	*e*P		**Pn**		**05 39 00.8**	**+0.2**
CCSP				*e*S		**Sn**		**05 39 17.8**	**+0.9**
VLCH	**Valdivia**	**1.69**	**181**	*e*P		**Pn**		**05 39 05.9**	**-0.4**
VLCH				*e*S		**Sn**		**05 39 26.6**	**-0.6**
VLCH				AML		AML		05 39 34.1	
	comp=N,19μm,0.7s								
VLCH	**Valdivia**	**1.69**	**181**	*e*P		**Pn**		**05 39 05.9**	**-0.4**
VLCH				*e*S		**Sn**		**05 39 26.6**	**-0.6**
OSCH	**Osorno**	**2.46**	**179**	*e*P		**Pn**		**05 39 16.4**	**-0.4**
OSCH				*e*S		**Sn**		**05 39 46.9**	**+0.6**
OSCH	**Osorno**	**2.46**	**179**	*e*P		**Pn**		**05 39 16.4**	**-0.4**
OSCH				*e*S		**Sn**		**05 39 46.9**	**+0.6**
LNCH	**Linares**	**2.60**	**30**	*e*P		**Pn**		**05 39 20.9**	**+2.1**
LNCH				*e*S		**Sb**		**05 39 53.8**	**-1.8**
LNCH				AML		AML		05 40 16.0	
	comp=N,4μm,0.7s								
LNCH	**Linares**	**2.60**	**30**	*e*P		**Pn**		**05 39 20.9**	**+2.1**
LNCH				S		**Sb**		**05 39 53.8**	**-1.8**
TALC	**Talca**	**2.99**	**25**	*e*P		**Pn**		**05 39 25.0**	**+0.8**
TALC	**Talca**	**2.99**	**25**	P		**Pn**		**05 39 25.0**	**+0.8**
PLCA	**Paso Flores**	**3.33**	**143**	Pn		**Pn**		**05 39 30.4**	**+1.4**
	comp=N,3.0nm,0.3s,baz=319,slow=10,SNR=70								
PLCA				Lg		Lg		05 40 16.2	
	comp=N,37nm,0.3s,baz=276,slow=15,SNR=5.1								
PLCA	**Paso Flores**	**3.33**	**143**	*e*Pn		**Pn**		**05 39 30.8**	**+1.8**
PLCA				Lg		Lg		05 40 16.2	
PMCH	**Puerto Montt**	**3.38**	**176**	*e*P		**Pn**		**05 39 28.9**	**-0.6**
PMCH	**Puerto Montt**	**3.38**	**176**	P		**Pn**		**05 39 28.9**	**-0.6**
RCDM	**Rinconada Maip**	**5.01**	**24**	*e*P		**Pn**		**05 39 51.9**	**-0.2**
RCDM	**Rinconada Maip**	**5.01**	**24**	P		**Pn**		**05 39 51.9**	**-0.2**
CLCH	**Cerro Calan**	**5.18**	**26**	P		**Pn**		**05 39 54.0**	**-0.4**
PEL	**Peldehue**	**5.37**	**23**	*e*P		**Pn**		**05 39 56.7**	**-0.3**
PEL	**Peldehue**	**5.37**	**23**	P		**Pn**		**05 39 56.7**	**-0.3**
ROCH	**El Roble**	**5.43**	**20**	*e*P		**Pn**		**05 39 57.5**	**-0.5**
ROCH	**El Roble**	**5.43**	**20**	P		**Pn**		**05 39 57.5**	**-0.5**
CMCH	**Combarbala**	**7.16**	**15**	*e*P		**Pn**		**05 40 20.1**	**-1.5**
CMCH	**Combarbala**	**7.16**	**15**	P		**Pn**		**05 40 20.1**	**-1.5**
CFAA	**Coronel Fontan**	**7.67**	**34**	Pn		**Pn**		**05 40 27.3**	**-1.3**
	comp=N,0.4nm,0.3s,baz=212,slow=12,SNR=45								
CFAA				Sn		**Sn**		**05 41 53.5**	**-1.4**
	comp=N,0.3nm,0.3s,baz=290,slow=12,SNR=2.2								
CFAA				LR		LR		05 44 09.2	
	comp=N,28nm,21.7s,baz=191,slow=43								
TRQA	**Tornquist**	**8.85**	**93**	*e*Pn		**Pn**		**05 40 45.6**	**+0.9**
	comp=N,14nm,0.6s								
LCO	**Las Campanas**	**9.32**	**14**	*e*Pn		**Pn**		**05 40 49.5**	**-1.9**
	comp=N,12nm,0.6s								
LVC	**Limon Verde**	**15.88**	**15**	*e*Pn		**Pn**		**05 42 19.6**	**-1.0**
USHA	**Ushuaia**	**17.04**	**171**	Pn		**P**		**05 42 37.7**	**+1.3**
	comp=N,0.2nm,0.3s,baz=344,slow=19,SNR=2.3								
EFI	**East Falkland**	**17.24**	**147**	*e*Pn		**Pn**		**05 42 36.4**	**-0.9**
LPAZ	**La Paz**	**22.20**	**13**	P		**P**		**05 43 34.9**	**+1.3**
	comp=N,8.1nm,0.7s,baz=190,slow=6.0,SNR=25								
LPAZ	**La Paz**	**22.20**	**13**	*e*P		**P**		**05 43 34.5**	**+0.9**
SIV	**San Ignacio**	**24.50**	**29**	P		**P**		**05 43 55.2**	**-0.6**
	comp=N,2.4nm,0.7s,baz=214,slow=10,SNR=6.5								
BDFB	**Brasilia**	**31.53**	**52**	P		**P**		**05 45 00.7**	**+1.8**
	comp=N,2.0nm,0.5s,baz=210,slow=5.2,SNR=5.6								
BDFB				LR		LR		05 58 29.2	
	comp=N,104nm,20.3s,baz=233,slow=38								
ROSC	**El Rosal**	**42.76**	**358**	P		**P**		**05 46 37.0**	**+2.6**
	comp=N,3.8nm,0.7s,baz=102,slow=20,SNR=3.2								
ROSC				LR		LR		06 03 54.7	
	comp=N,51nm,18.3s,baz=214,slow=35								
VNA3	**Neumayer Olymp**	**45.95**	**156**	P		**P**		**05 46 59.4**	**+0.5**
VNA1	**Neumayer--Stat**	**46.30**	**155**	P		**P**		**05 47 02.2**	**+0.6**
VNA2	**Neumayer--Watz**	**46.63**	**156**	P		**P**		**05 47 04.8**	**+0.5**
	baz=296,slow=9.8								
SDV	**Santo Domingo**	**46.82**	**3**	*e*P		**P**		**05 47 05.5**	**-1.0**
	comp=N,6.4nm,0.9s								
SNAA	**Sanae**	**48.17**	**156**	P		**P**		**05 47 16.8**	**+0.5**
SNAA	**Sanae**	**48.17**	**156**	P		**P**		**05 47 14.8**	**-1.5**
	comp=N,3.4nm,1.1s,baz=286,slow=6.5,SNR=14								
SNAA	**Sanae**	**48.17**	**156**	*e*P		**P**		**05 47 14.9**	**-1.4**
QSPA	**South Pole Qui**	**72.13**	**180**	P		**P**		**05 47 46.6**	**+0.1**
	comp=N,6.2nm,0.8s,baz=136,slow=2.1,SNR=15								
QSPA				pP		**pP**		**05 47 55.0**	**+1.6**
	comp=N,3.6nm,0.5s,baz=320,slow=1.9,SNR=7.1								
VAH	**Vaihoa**	**68.59**	**267**	*e*T		T		05 49 17.7	
	comp=N,29nm,0.3s								
034A	**Hebbronville**	**69.10**	**336**	⇓P		**P**		**05 49 43.0**	**+0.7**
	baz=69								
933A	**Laredo**	**69.80**	**335**	⇑P		**P**		**05 49 46.3**	**-0.4**
	baz=70								
738A	**Farr-Stevens R**	**69.84**	**339**	⇓P		**P**		**05 49 48.3**	**+1.4**
	baz=70								
834A	**Tilden**	**70.04**	**336**	⇑P		**P**		**05 49 49.0**	**+0.8**
	baz=70								
833A	**Chaparral WMA,**	**70.49**	**336**	⇓P		**P**		**05 49 52.1**	**+1.2**
	baz=71								
832A	**Faith Ranch, C**	**70.65**	**335**	⇓P		**P**		**05 49 52.3**	**+0.4**
	baz=71								
733A	**Divot King Ran**	**70.83**	**336**	⇑P		**P**		**05 49 53.9**	**+1.0**
	baz=71								
636A	**Smothers Creek**	**70.85**	**338**	⇑P		**P**		**05 49 53.9**	**+0.9**
	baz=71								
732A	**Laxson Ranch,**	**71.06**	**335**	⇓P		**P**		**05 49 55.0**	**+0.7**
	baz=71,SNR=6.1								
536A	**Bastrop**	**71.41**	**338**	⇑P		**P**		**05 49 56.9**	**+0.5**
	baz=72								
633A	**Saathoff Ranch**	**71.48**	**336**	⇓P		**P**		**05 49 57.7**	**+0.8**
	baz=72								
632A	**Uvalde**	**71.72**	**336**	⇓P		**P**		**05 49 59.4**	**+1.1**
	baz=72								
631A	**Perdido Creek**	**71.89**	**335**	⇑P		**P**		**05 49 59.4**	**0.0**
	baz=72								
533A	**Kerrville**	**72.00**	**337**	⇑P		**P**		**05 50 00.8**	**+0.7**
	baz=72,SNR=5.3								
532A	**Rocksprings**	**72.33**	**336**	⇑P		**P**		**05 50 02.7**	**+0.6**
	baz=73,SNR=9.0								
434A	**Burnet**	**72.46**	**338**	⇓P		**P**		**05 50 03.0**	**+0.3**
	baz=73,SNR=6.7								
531A	**Rocksprings**	**72.57**	**335**	⇑P		**P**		**05 50 04.3**	**+0.8**
	baz=73,SNR=6.4								
336A	**Riesel**	**72.58**	**339**	⇑P		**P**		**05 50 04.0**	**+0.6**
	baz=73								
JCT	**Junction City**	**72.62**	**336**	⇓P		**P**		**05 50 04.0**	**+0.2**
	baz=73,SNR=6.8								
JCT	**Junction City**	**72.62**	**336**	*e*P		**P**		**05 50 03.9**	**+0.2**
	comp=N,13nm,1.1s								
433A	**Art**	**72.65**	**337**	⇑P		**P**		**05 50 03.9**	**0.0**
	baz=73								
530A	**J-C Ranch, Com**	**72.82**	**335**	⇑P		**P**		**05 50 06.2**	**+1.2**
	baz=73,SNR=8.2								
TXAR	**Lajitas Array**	**72.90**	**332**	P		**P**		**05 50 06.1**	**+0.6**
	comp=N,2.2nm,0.7s,baz=151,slow=8.3,SNR=28								
334A	**Lometa**	**72.93**	**338**	⇓P		**P**		**05 50 06.1**	**+0.5**
	baz=73,SNR=5.8								
432A	**Menard**	**72.99**	**336**	⇑P		**P**		**05 50 05.7**	**-0.2**
	baz=73								
431A	**Sonora**	**73.07**	**336**	⇑P		**P**		**05 50 06.7**	**+0.2**
	baz=73,SNR=5.3								
529A	**Stev Forest Ra**	**73.10**	**334**	⇑P		**P**		**05 50 07.2**	**+0.5**
	baz=73,SNR=7.0								
333A	**Richland Sprin**	**73.15**	**337**	⇓P		**P**		**05 50 06.4**	**-0.5**
	baz=73,SNR=5.4								
KMSC	**Kings Mountain**	**73.28**	**353**	⇓P		**P**		**05 50 07.1**	**-0.4**
	baz=74								
430A	**Baggett Ranch,**	**73.37**	**335**	⇑P		**P**		**05 50 08.5**	**+0.3**
	baz=74,SNR=8.9								
332A	**Millersview**	**73.44**	**337**	⇑P		**P**		**05 50 08.5**	**-0.1**
	baz=74,SNR=5.8								
429A	**Davenport Ranc**	**73.45**	**334**	⇓P		**P**		**05 50 09.2**	**+0.5**
	baz=74,SNR=7.6								
331A	**San Angelo**	**73.59**	**336**	⇓P		**P**		**05 50 09.6**	**+0.1**
	baz=74,SNR=9.5								
233A	**Rising Star**	**73.77**	**337**	⇓P		**P**		**05 50 10.9**	**+0.4**
	baz=74								
232A	**Coleman**	**73.88**	**337**	⇑P		**P**		**05 50 11.2**	**0.0**
	baz=74,SNR=5.3								
330A	**Mertzon**	**73.92**	**335**	⇑P		**P**		**05 50 11.3**	**-0.2**
	baz=74								
231A	**Bronte**	**74.13**	**336**	⇑P		**P**		**05 50 12.6**	**-0.1**
	baz=74								
329A	**Wagon Wheel Ra**	**74.27**	**335**	⇓P		**P**		**05 50 13.9**	**+0.5**
	baz=74,SNR=5.1								
133A	**Hamilton Ranch**	**74.33**	**338**	⇓P		**P**		**05 50 13.7**	**0.0**
	baz=75								
230A	**Sterling City**	**74.34**	**336**	⇓P		**P**		**05 50 14.0**	**+0.1**
	baz=75								
ABTX	**Abilene, Hawle**	**74.56**	**337**	⇑P		**P**		**05 50 14.9**	**-0.2**
	baz=75								
229A	**Bryant Ranch,**	**74.65**	**335**	⇓P		**P**		**05 50 15.8**	**+0.1**
	baz=75								
131A	**Roby**	**74.84**	**336**	⇑P		**P**		**05 50 16.7**	**-0.1**
	baz=75								
Z33A	**Whitaker Ranch**	**74.91**	**338**	⇓P		**P**		**05 50 17.3**	**+0.2**
	baz=75								
130A	**Snyder**	**74.95**	**336**	⇓P		**P**		**05 50 17.3**	**-0.1**
	baz=75								
228A	**UT Block 9, Go**	**75.05**	**334**	⇑P		**P**		**05 50 18.9**	**+0.8**
	baz=75								
Z32A	**Haskell**	**75.14**	**337**	⇓P		**P**		**05 50 18.3**	**-0.2**
	baz=75,SNR=5.2								
Y34A	**Reagan Ranch,**	**75.25**	**339**	⇑P		**P**		**05 50 20.1**	**+1.1**
	baz=76								
129A	**Stewart Farms,**	**75.28**	**335**	⇑P		**P**		**05 50 19.3**	**0.0**
	baz=76								
Z31A	**Sharp Cattle R**	**75.36**	**337**	⇑P		**P**		**05 50 19.8**	**+0.1**
	baz=76								
128A	**Castleberry Fa**	**75.47**	**335**	⇑P		**P**		**05 50 21.1**	**+0.6**
	baz=76								
Y33A	**Hilltop Ranch,**	**75.55**	**338**	⇑P		**P**		**05 50 20.7**	**0.0**
	baz=76								
Z30A	**Sanderson Ranc**	**75.64**	**336**	⇓P		**P**		**05 50 21.0**	**-0.3**
	baz=76								
MNTX	**Cornudas Mount**	**75.66**	**332**	⇓P		**P**		**05 50 21.0**	**-0.4**
	baz=76								
Y32A	**R-V Farms, Ver**	**75.78**	**338**	⇓P		**P**		**05 50 22.2**	**+0.1**
	baz=76								
Z29A	**Hungry Hill Ra**	**75.80**	**336**	⇓P		**P**		**05 50 22.2**	**-0.1**
	baz=76,SNR=8.7								
X34A	**Smith Ranch, M**	**75.88**	**339**	⇑P		**P**		**05 50 23.0**	**+0.4**
	baz=76								
Y31A	**Rekieta Farm,**	**75.99**	**337**	⇑P		**P**		**05 50 23.8**	**+0.4**
	baz=76								
Z28A	**Tucker Farm, M**	**76.05**	**335**	⇓P		**P**		**05 50 23.8**	**0.0**
	baz=76								
Y30A	**Stafford Cattl**	**76.11**	**337**	⇑P		**P**		**05 50 24.0**	**-0.1**
	baz=76								
X32A	**Elmer**	**76.12**	**338**	⇑P		**P**		**05 50 24.3**	**+0.3**
	baz=76								
Y29A	**Porterfield Fa**	**76.34**	**336**	⇑P		**P**		**05 50 25.6**	**+0.2**
	baz=77								
W34A	**Bridge Creek,**	**76.45**	**340**	⇓P		**P**		**05 50 26.4**	**+0.5**
	baz=77								
X31A	**McDonald Ranch**	**76.53**	**338**	⇑P		**P**		**05 50 26.3**	**0.0**
	baz=77,SNR=5.4								
TUL1	**Leonard**	**76.57**	**341**	⇑P		**P**		**05 50 26.2**	**-0.3**
	baz=77								
W33A	**Caddo, Fort Co**	**76.57**	**339**	⇑P		**P**		**05 50 27.8**	**+1.2**
	baz=77								
Y28A	**McKinney Farm,**	**76.57**	**335**	⇓P		**P**		**05 50 26.9**	**+0.2**
	baz=77								
V35A	**Meyer Ranch, C**	**76.70**	**340**	⇓P		**P**		**05 50 26.8**	**-0.4**
	baz=77								
W32A	**Sentinel**	**76.77**	**338**	⇓P		**P**		**05 50 27.5**	**-0.2**
	baz=77,SNR=5.6								
MSTX	**Muleshoe**	**76.80**	**335**	⇓P		**P**		**05 50 28.5**	**+0.4**
	baz=77								
X29A	**Tulia**	**76.89**	**336**	⇓P		**P**		**05 50 28.7**	**+0.2**
	baz=77								
V34A	**Guthrie**	**76.95**	**340**	⇑P		**P**		**05 50 29.1**	**+0.5**
	baz=77								
LIC	**Lamto**	**76.98**	**71**	*e*P		P		05 50 37.9	+8.5
	comp=N,46nm,1.4s								
W31A	**Holland Ranch,**	**77.03**	**338**	⇓P		**P**		**05 50 29.0**	**-0.2**
	baz=77								
V33A	**Loeen Ranch,**	**77.15**	**339**	⇑P		**P**		**05 50 29.9**	**+0.1**
	baz=77								
TIC	**Toumodi**	**77.26**	**71**	*e*P		P		05 50 40.4	+9.4
	comp=N,4.1nm,0.2s								
KIC	**Kosan Boka**	**77.28**	**71**	*e*P		P		05 50 40.0	+8.9
	comp=N,19nm,0.7s								
DBIC	**Dimbokro**	**77.40**	**71**	P		**P**		**05 50 31.7**	**0.0**
	comp=N,5.2nm,0.7s,baz=173,slow=4.1,SNR=8.4								
DBIC				pP		**PcP**		**05 50 40.8**	**-1.3**
	comp=N,6.2nm,0.7s,baz=194,slow=4.3,SNR=4.2								
W29A	**Amarillo**	**77.49**	**336**	⇓P		**P**		**05 50 32.2**	**+0.3**
	baz=78								
V31A	**Spring Creek L**	**77.55**	**338**	⇑P		**P**		**05 50 33.1**	**+1.0**
	baz=78								
W26A	**Owens Ranch, T**	**78.16**	**335**	⇓P		**P**		**05 50 36.4**	**+0.8**
	baz=78								
ACSO	**Alum Creek Sta**	**78.48**	**352**	*e*P		**P**		**05 50 35.9**	**-1.2**
	comp=N,5.7nm,0.7s								
W25A	**X Bar L Ranch,**	**78.51**	**334**	⇓P		**P**		**05 50 38.1**	**+0.6**
	baz=79								
T32A	**Huddler Ranch,**	**78.60**	**339**	⇓P		**P**		**05 50 39.0**	**+1.2**
	baz=79								
BOSA	**Boshof**	**79.00**	**118**	P		**P**		**05 50 39.9**	**-0.8**
	comp=N,3.4nm,0.7s,baz=169,slow=3.7,SNR=6.1								
BOSA				pP		**PcP**		**05 50 49.5**	**+0.3**
	comp=N,4.1nm,0.6s,baz=199,slow=5.6,SNR=2.3								
BOSA				LR		LR		06 22 25.0	
	comp=N,22nm,20.5s,baz=185,slow=33								
V25A	**Rancho No Teng**	**79.12**	**334**	⇑P		**P**		**05 50 41.7**	**+0.7**
	baz=79								
T28A	**Walsh**	**79.48**	**337**	⇓P		**P**		**05 50 43.2**	**+0.4**
	baz=80								
U25A	**Circle Dot Ran**	**79.56**	**335**	⇓P		**P**		**05 50 44.1**	**+0.7**
	baz=80								
R32A	**Long Quarter,**	**79.70**	**340**	⇓P		**P**		**05 50 44.6**	**+0.7**
	baz=80								
R31A	**Burdett**	**79.80**	**339**	⇑P		**P**		**05 50 45.0**	**+0.6**
	baz=80								
S28A	**Manter**	**79.85**	**337**	⇑P		**P**		**05 50 45.4**	**+0.6**
	baz=80								
T26A	**Comanche Natio**	**80.00**	**336**	⇓P		**P**		**05 50 46.2**	**+0.4**
	baz=80								
T25A	**Trinidad**	**80.23**	**335**	⇑P		**P**		**05 50 48.4**	**+1.4**
	baz=80								
S26A	**Kim**	**80.37**	**336**	⇑P		**P**		**05 50 48.4**	**+0.8**
	baz=81								
X16A	**Lo Mia Camp, P**	**80.42**	**329**	⇑P		**P**		**05 50 49.0**	**+0.9**
	baz=81								
R28A	**Tribune**	**80.51**	**338**	⇑P		**P**		**05 50 49.2**	**+0.9**
	baz=81								
Q30A	**Quinter**	**80.64**	**339**	⇑P		**P**		**05 50 49.8**	**+0.9**
	baz=81								
R27A	**Eads**	**80.76**	**337**	⇓P		**P**		**05 50 50.6**	**+0.9**
	baz=81								
P29A	**Atwood**	**81.42**	**339**	⇑P		**P**		**05 50 54.4**	**+1.3**
	baz=82								
R24A	**Sanders Place,**	**81.46**	**335**	⇓P		**P**		**05 50 54.7**	**+1.1**
	baz=82								
MVCO	**Mesa Verde**	**81.73**	**332**	⇑P		**P**		**05 50 55.8**	**+0.8**
	baz=82								
O28A	**Krutsinger Ran**	**82.15**	**338**	⇑P		**P**		**05 50 58.1**	**+1.2**
	baz=82								
O27A	**Beecher Island**	**82.42**	**338**	⇓P		**P**		**05 50 59.5**	**+1.1**
	baz=83								
U15A	**North Rim**	**82.51**	**329**	⇓P		**P**		**05 50 59.6**	**+0.4**
	baz=83								
O23A	**Lake Granby, G**	**83.51**	**335**	⇑P		**P**		**05 51 05.3**	**+1.0**
	baz=84								
O22A	**Kremmling**	**83.68**	**335**	⇑P		**P**		**05 51 06.1**	**+0.9**
	baz=84								
K30A	**Basset**	**83.92**	**341**	⇑P		**P**		**05 51 07.4**	**+1.4**
	baz=84								
ECSD	**EROS Data Cent**	**84.19**	**343**	⇑P		**P**		**05 51 07.8**	**+0.5**
	baz=84								
ECSD	**EROS Data Cent**	**84.19**	**343**	*e*P		**P**		**05 51 06.5**	**-0.8**
	comp=N,15nm,1.1s								
N22A	**Wattenberg Ran**	**84.22**	**335**	⇓P		**P**		**05 51 09.5**	**+1.6**
	baz=84								
K28A	**Ten Mile Ranch**	**84.43**	**340**	⇑P		**P**		**05 51 09.8**	**+1.1**
	baz=85								
ISA	**Isabella, Lake**	**84.53**	**324**	⇑P		**P**		**05 51 10.2**	**+0.8**
	baz=85								
J29A	**Okreek**	**84.79**	**341**	⇓P		**P**		**05 51 12.0**	**+1.6**
	baz=85								
SPMN	**Marine on St.**	**84.82**	**346**	⇑P		**P**		**05 51 10.6**	**+0.2**
	baz=85								
N20A	**Spence Gulch,**	**84.86**	**334**	⇑P		**P**		**05 51 11.6**	**+0.5**
	baz=85								
VES	**Vestal, Richgr**	**84.96**	**324**	⇑P		**P**		**05 51 12.3**	**+1.0**
	baz=85								
I30A	**Oacoma**	**85.03**	**341**	⇓P		**P**		**05 51 12.3**	**+0.7**
	baz=85								
J28A	**Allard Ranch,**	**85.05**	**340**	⇓P		**P**		**05 51 13.1**	**+1.4**
	baz=85								
J27A	**Elkhorn Farm,**	**85.10**	**339**	⇑P		**P**		**05 51 13.4**	**+1.3**
	baz=85								
L23A	**Garrett**	**85.16**	**336**	⇑P		**P**		**05 51 13.3**	**+0.8**
	baz=85								
J26A	**Sides Ranch, S**	**85.46**	**339**	⇓P		**P**		**05 51 15.0**	**+1.2**
	baz=86								
R11A	**Troy Canyon, C**	**85.51**	**328**	⇑P		**P**		**05 51 15.4**	**+1.1**
	baz=86						

comp=N,1.0nm,0.6s,baz=279,slow=3.7,SNR=7.7

*IDC **06** 05:48:39.5±1.5,33.43S×178.49W,h0km,mb4.2/3, mb1 4.4/4,mb1mx4.1/17,mbtmp4.3/4,ML4.1/1,MS3.8/2, Ms1 3.8/2,ms1mx2.9/27,Error ellipse: s-maj=41.4km s-min=33.1km az=56.0*

*ISCJB **06** 05:48:43.2±1.4,33.55S±0.10×178.5W±0.2,h41km, mb4.2/3,MS4.1/1,Error ellipse: s-maj=28.9km s-min=10.4km az=20.3*

ISC 06 05:48:44.1±1.6,33.6S±0.1×178.3W±0.3,h41km,n21, σ1s22/18,mb4.2/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.01**	**211**	*e*PN		**Pn**	**Pn**	**05 49 56.6**	**-0.2**
WMGZ							SN	**05 50 55.3**	**+1.9**
HAZ	**Te Kaha**	**5.25**	**216**	PN		**Pn**	**Pn**	**05 49 60.0**	**-0.1**
HAZ							*e*SN	**05 51 00.5**	**+1.2**
PUZ	**Puketiti**	**5.29**	**211**	*e*PN		**Pn**	**Pn**	**05 49 59.1**	**-1.6**
PUZ							SN	**05 51 01.1**	**+0.8**
CNGZ	**Carnagh Statio**	**5.66**	**209**	*e*PN		**Pn**	**Pn**	**05 50 04.5**	**-1.2**
URZ	**Urewera**	**5.98**	**217**	Pn		**Pn**	**Pn**	**05 50 09.1**	**-0.9**
	4.4nm,0.3s,baz=26,slow=4.9,SNR=21								
URZ							Sn	**05 51 15.1**	**-2.1**
	3.2nm,0.3s,baz=182,slow=4.3,SNR=6.7								
URZ	**Urewera**	**5.98**	**217**	PN		**Pn**	**Pn**	**05 50 09.4**	**-0.7**
RIGZ	**Rimuhau**	**6.03**	**210**	PN		**Pn**	**Pn**	**05 50 10.1**	**-0.8**
SNGZ	**Shannon Statio**	**6.28**	**213**	*e*PN		**Pn**	**Pn**	**05 50 14.1**	**-0.1**
DZM	**Mont Dzumac**	**17.64**	**307**	eLR		LR	LR	05 57 03.3	
	130nm,23.9s								
DZM	**Mont Dzumac**	**17.64**	**307**	LR		LR	LR	05 58 15.1	
	comp=Z,185nm,19.0s,baz=190,slow=33								
TBI	**Tubuai**	**27.27**	**76**	*e*LR		LR	LR	06 00 55.9	
	125nm,31.8s								
PPT2	**Papeete2**	**30.29**	**65**	*e*LR		LR	LR	06 02 33.7	
	61nm,21.8s								
ASAR	**Alice Springs**	**42.75**	**270**	P		**P**	**P**	**05 56 38.0**	**+0.3**
	2.3nm,0.7s,baz=111,slow=7.5,SNR=26								
ASAR				PcP		**PcP**	**PcP**	**05 58 29.6**	**+0.9**
	0.4nm,0.4s,baz=116,slow=4.2,SNR=5.0								
WRA	**Warramunga Arr**	**44.03**	**276**	P		**P**	**P**	**05 56 47.7**	**-0.3**
	3.2nm,0.8s,baz=115,slow=7.9,SNR=31								
QSPA	**South Pole Qui**	**56.56**	**180**	P		P	P	05 58 25.4	+3.0
	5.1nm,1.2s,baz=13,slow=1.8,SNR=3.7								
VNA3	**Neumayer Olymp**	**75.19**	**176**	P		P	P	06 00 35.2	+13
VNA2	**Neumayer--Watz**	**75.61**	**177**	P		P	P	06 00 38.2	+14
	baz=135,slow=3.4								
PLCA	**Paso Flores**	**80.57**	**133**	LR		LR	LR	06 30 31.0	
	comp=Z,80nm,18.2s,baz=7.0,slow=31								
FINES	**FINESS Array B**	**147.98**	**338**	PKPbc		**PKPab**	**06 08 25.4**		**-1.5**
	2.5nm,0.8s,baz=62,slow=4.5,SNR=8.0								
BRTR	**Keskin Array B**	**153.71**	**293**	PKPbc		**PKPbc**	**06 08 40.6**		**+1.9**
	0.8nm,1.0s,baz=78,slow=3.2,SNR=2.7								
TORD	**Torodi Ar. Bea**	**159.69**	**180**	PKPab		**PKPab**	**06 09 17.3**		**-0.3**
	0.3nm,0.7s,baz=192,slow=2.7,SNR=2.5								

*IDC **06** 06:23:36.9±0.8,11.74N×124.62E,h0km,mb4.0/13, mb1 4.1/13,mb1mx3.9/26,mbtmp4.0/13,MS3.5/12, Ms1 3.6/12,ms1mx3.2/35,Error ellipse: s-maj=38.1km s-min=16.7km az=68.0*

*ISCJB **06** 06:23:38.1±0.5,11.74N±0.05×124.41E±0.06,h15km, mb4.2/19,MS3.5/12,Error ellipse: s-maj=8.5km s-min=6.5km az=148.4*

*MAN **06** 06:23:39,11.76N×124.35E,h25km,mb5.2,ML4.2,MS4.4*

MAN INTENSITY III - NAVAL BILIRAN.

*NEIC **06** 06:23:44.9±1.0,11.73N×124.58E,h64km±9km,mb4.5/5, Error ellipse: s-maj=14.2km s-min=6.1km az=65.0*

NEIC Felt [III PIVS] at Naval.

ISC 06 06:23:39.2±0.6,11.72N±0.06×124.51E±0.07,h15km,n43, σ1s56/29,mb4.3/19,MS3.4/12,3C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**1.07**	**306**	⇓*e*P			Pb	06 23 56.2	-3.2
MMPH				*e*S			**Sb**	**06 24 09.5**	**-3.8**
RCP	**Roxas**	**1.73**	**265**	⇑*e*P			Pn	06 24 05.8	-3.0
RCP				*e*S			**Sn**	**06 24 26.3**	**-4.3**
PVCP	**Virac**	**1.90**	**350**	⇑*e*P			**Pn**	**06 24 11.3**	**+0.3**
TBP	**Tagbilaran**	**2.11**	**197**	*e*P			**Pn**	**06 24 13.5**	**-0.5**
KALP	**Kalibo**	**2.12**	**269**	⇑*e*P			**Pg**	**06 24 23.1**	**+3.2**
SCPH	**Surigao**	**2.16**	**153**	*e*P			**Pg**	**06 24 20.8**	**+0.2**
GQP	**Guinayangan**	**2.96**	**317**	⇓*e*P			**Pn**	**06 24 23.9**	**-1.7**
GQP				*e*				06 24 59.8	
TGY	**Tagaytay City**	**4.21**	**305**	Pn			Pn	06 24 47.3	+4.4
	61nm,0.3s,baz=166,slow=4.2,SNR=2.3								
DAV	**Davao City (W)**	**4.74**	**167**	Pn			Pn	06 24 53.8	+3.6
JAY	**Jayapura**	**21.43**	**130**	LR			LR	06 35 03.8	
	comp=Z,127nm,22.0s,baz=74,slow=32								
BATI	**Baumata**	**21.80**	**182**	LR			LR	06 38 48.5	
	comp=Z,133nm,18.8s,baz=328,slow=42								
SLVN	**Son La**	**21.92**	**298**	*e*P			**P**	**06 28 34.4**	**+2.2**
JAGI	**Jajag, Banyuwa**	**22.55**	**208**	*e*P			**P**	**06 28 40.6**	**+1.7**
	103nm,1.4s								
CMAR	**Chiang Mai Arr**	**25.55**	**288**	P			**P**	**06 29 07.9**	**+0.1**
	0.7nm,0.3s,baz=100,slow=8.3,SNR=6.8								
CMAR							LR	06 39 42.2	
	comp=Z,79nm,18.2s,baz=144,slow=38								
KSAR	**Wonju Array Be**	**25.79**	**6**	P			**P**	**06 29 10.2**	**+0.5**
KSRS	**Korea Array**	**25.81**	**6**	P			**P**	**06 29 10.2**	**+0.4**
	1.2nm,0.4s,baz=185,slow=11,SNR=6.1								
KSRS							LR	06 39 07.7	
	comp=Z,91nm,21.0s,baz=190,slow=36								
MJAR	**Matsushiro Arr**	**27.63**	**24**	LR			LR	06 40 35.5	
	comp=Z,64nm,18.6s,baz=200,slow=37								
WRA	**Warramunga Arr**	**32.92**	**163**	P			**P**	**06 30 12.7**	**-0.5**
	0.8nm,0.9s,baz=343,slow=9.1,SNR=7.3								
ASAR	**Alice Springs**	**36.35**	**165**	P			**P**	**06 30 43.4**	**+0.5**
	0.7nm,0.6s,baz=349,slow=7.2,SNR=14								
ULN	**Ulaanbaatar**	**38.89**	**341**	*e*P			**P**	**06 31 04.2**	**-0.1**
	1.6nm,0.6s								
SONM	**Songino Array**	**39.07**	**341**	P			**P**	**06 31 06.2**	**+0.4**
	423nm,1.0s,baz=161,slow=8.5,SNR=8.0								
SONM							LR	06 47 35.3	
	comp=Z,105nm,21.4s,baz=160,slow=37								
H11S3	**WAKE ISLAND Hy**	**41.20**	**75**	T			T	07 15 32.5	
	baz=276								
H11S1	**WAKE ISLAND Hy**	**41.22**	**75**	T			T	07 15 28.9	
	baz=276								
H11S2	**WAKE ISLAND Hy**	**41.22**	**75**	T			T	07 15 36.9	
	baz=276								
H11N1	**WAKE ISLAND Hy**	**41.48**	**74**	T			T	07 15 27.0	
	baz=267,slow=74,SNR=20								
H11N2	**WAKE ISLAND Hy**	**41.48**	**73**	T			T	07 15 27.5	
	baz=267,slow=74,SNR=15								
H11N3	**WAKE ISLAND Hy**	**41.49**	**74**	T			T	07 15 28.3	
	baz=267,slow=74,SNR=18								
MKAR	**Makanchi Array**	**49.83**	**323**	P			**P**	**06 32 32.1**	**+0.4**
	3.0nm,0.8s,baz=116,slow=8.2,SNR=21								
ZALV	**Zalesovo Beam**	**52.53**	**332**	P			**P**	**06 32 51.8**	**0.0**
	1.3nm,0.5s,baz=122,slow=6.6,SNR=7.7								
ZALV							LR	06 55 34.5	
	comp=Z,74nm,18.4s,baz=62,slow=36								
KURK	**Kurchatov**	**53.90**	**326**	P			**P**	**06 33 02.6**	**+0.7**
KURBB	**Kurchatov Arra**	**53.90**	**325**	P			**P**	**06 33 02.6**	**+0.6**
	5.4nm,0.9s,baz=123,slow=7.2,SNR=36								
KKAR	**Karatay Array**	**56.00**	**314**	*e*P			**P**	**06 33 16.4**	**-0.9**
	1.6nm,0.4s								
BVAR	**Borovoye Array**	**59.49**	**325**	P			**P**	**06 33 41.7**	**0.0**
	1.8nm,0.7s,baz=120,slow=8.9,SNR=11								
BVAR							LR	06 58 21.1	
	comp=Z,35nm,18.6s,baz=110,slow=35								
GEYT	**Alibeck**	**64.29**	**306**	P			**P**	**06 34 16.2**	**+1.9**
	0.8nm,0.3s,baz=46,slow=10,SNR=2.9								
GEYT							LR	07 04 18.1	
	comp=Z,39nm,19.3s,baz=120,slow=38								
ABKAR	**Akbulak array**	**64.65**	**319**	*e*P			**P**	**06 34 16.3**	**-0.1**
	3.0nm,0.6s								
AKTO	**Aktyubinsk**	**66.11**	**320**	P			**P**	**06 34 25.9**	**+0.1**
	1.6nm,0.7s,baz=94,slow=7.9,SNR=8.9								
ARU	**Arti**	**67.07**	**327**	*e*P			**P**	**06 34 31.2**	**-0.6**
	11nm,1.1s								
ARCES	**ARCESS Array B**	**82.24**	**339**	P			**P**	**06 35 59.9**	**+0.3**
	1.9nm,1.0s,baz=60,slow=7.7,SNR=3.0								
BRTR	**Keskin Array B**	**83.28**	**309**	LR			LR	07 16 08.3	
	comp=Z,11nm,20.1s,baz=85,slow=38								
FINES	**FINESS Array B**	**83.80**	**331**	P			**P**	**06 36 07.7**	**-0.1**
	0.8nm,0.8s,baz=53,slow=5.8,SNR=2.6								
NOA	**NORSAR Array B**	**90.70**	**333**	LR			LR	07 20 41.2	
	comp=Z,46nm,20.1s,baz=270,slow=38								
YKA	**Yellowknife Ar**	**93.14**	**24**	P			**P**	**06 36 51.0**	**-1.5**
	0.1nm,0.6s,baz=299,slow=3.8,SNR=3.0								
GERES	**GERESS Array B**	**94.49**	**322**	LR			LR	07 19 56.9	

comp=Z,37nm,22.0s,baz=78,slow=36

NEIC 06 06:38:50.5,32.22N×115.36W,h29km,ML3.5(PAS), 1C-1D,After PAS.,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.53**	**324**	⇓P			Pb	06 39 00.7	-0.7
WESC	**Westside Schoo**	**0.63**	**330**	P			Pb	06 39 02.1	-0.8
WESC				S			Sb	06 39 11.5	+0.1
SWSC	**Sam W. Stewart**	**0.81**	**333**	⇑P			Pn	06 39 05.1	-0.8
GLA	**Glamis**	**0.95**	**28**	*e*Pg			Pn	06 39 07.1	-0.8
GLA				*e*Sg			Sn	06 39 18.1	-2.4
BAR	**Barrett**	**1.20**	**293**	*e*Pn			Pn	06 39 11.8	+0.4
BAR				*e*Sn			Sb	06 39 27.7	-0.2
PFO	**Pinyon Flats O**	**1.67**	**327**	*e*Pn			Pn	06 39 17.5	-0.4
PFO				*e*Sn			Sn	06 39 37.0	-1.4
214A	**Organ Pipe Nat**	**2.18**	**96**	*e*Pn			Pn	06 39 24.7	-0.1
WUAZ	**Wupatki**	**4.67**	**44**	Pn			Pn	06 39 55.8	-3.4

*ISCJB **06** 06:39:48.1±0.6,32.36N±0.03×115.37W±0.04,h3km±6km, Error ellipse: s-maj=5.6km s-min=4.6km az=152.1*

*ECX **06** 06:39:50.5±0.5,32.38N×115.43W,h4km,MD3.6,ML3.8*

*NEIC **06** 06:39:50.0,32.39N×115.43W,h4km,ML3.7(PAS), ML3.9(ECX),After ECX.*

ISC 06 06:39:49.0±1.1,32.30N±0.03×115.43W±0.03,h3km±11km, n22,σ0s78/35,2C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**41**	*e*P			**Pg**	**06 39 52.8**	**+0.6**
CPBX				*e*S			**Sg**	**06 39 54.7**	**+0.4**
EMX	**El Mayor**	**0.35**	**152**	*e*P			**Pg**	**06 39 54.4**	**-1.2**
EMX				*e*S			**Sg**	**06 40 00.3**	**+0.1**
EMX				⇓*e*				06 40 06.0	
	comp=E,5μm,0.8s								
EMX	**El Mayor**	**0.35**	**152**	*e*P			**Pg**	**06 39 54.4**	**-1.2**
EMX				*e*S			**Sg**	**06 40 00.3**	**+0.1**
YUH	**Yuha Desert**	**0.54**	**310**	*e*P			**Pg**	**06 39 58.8**	**-0.6**
RDX	**Rancho Dawling**	**0.57**	**230**	*e*P			**Pb**	**06 40 02.3**	**+0.6**
RDX				*e*S			**Sb**	**06 40 10.8**	**+0.5**
RDX	**Rancho Dawling**	**0.57**	**230**	*e*P			**Pb**	**06 40 02.4**	**+0.7**
RDX				*e*S			**Sb**	**06 40 10.8**	**+0.5**
COK	**Cook Ranch**	**0.61**	**336**	⇓*i*P			**Pg**	**06 40 00.0**	**-0.6**
RMX	**La Rumorosa**	**0.63**	**299**	*e*P			**Pg**	**06 40 00.7**	**-0.3**
RMX	**La Rumorosa**	**0.63**	**299**	*e*P			**Pg**	**06 40 00.7**	**-0.3**
CRR	**Carrizo Plain**	**0.74**	**322**	⇓*i*P			**Pg**	**06 40 02.3**	**-0.9**
ECBX	**El Chinero**	**0.88**	**158**	*e*P			**Pg**	**06 40 04.2**	**-1.7**
ECBX				*e*S			**Sg**	**06 40 17.0**	**-0.3**
CBX	**Cerro Bola**	**1.04**	**271**	⇑*e*P			**Pg**	**06 40 09.3**	**+0.3**
CBX				*e*S			**Sg**	**06 40 22.9**	**+0.4**
CBX	**Cerro Bola**	**1.04**	**271**	*e*P			**Pg**	**06 40 09.3**	**+0.3**
CBX				*e*S			**Sg**	**06 40 22.9**	**+0.4**
ZAX	**El Zacaton**	**1.06**	**223**	*e*P			**Pn**	**06 40 10.7**	**-0.2**
ZAX				*e*S			**Sn**	**06 40 25.4**	**-0.7**
ECNX	**Esteban Cantu**	**1.18**	**238**	*e*P			**Pg**	**06 40 12.5**	**+0.9**
ECNX				*e*S			**Sn**	**06 40 28.6**	**-0.5**
PBX	**Punta Banda**	**1.23**	**244**	*e*P			**Pb**	**06 40 12.8**	**-0.1**
PBX				*e*S			**Sn**	**06 40 29.7**	**-0.6**
PBX	**Punta Banda**	**1.23**	**244**	*e*P			**Pb**	**06 40 12.8**	**-0.1**
PBX				*e*S			**Sn**	**06 40 29.7**	**-0.6**
SPX	**San Pedro Mart**	**1.25**	**181**	*e*P			**Pg**	**06 40 13.7**	**+0.8**
SPX				*e*S			**Sn**	**06 40 32.0**	**+0.9**
SPX				⇑*e*				06 40 36.5	
	comp=N,1μm,0.8s								
MWC	**Mount Wilson**	**2.92**	**312**	Pn			**Pn**	**06 40 34.7**	**-1.9**
PASC	**Pasadena Art C**	**2.97**	**310**	Pn			**Pn**	**06 40 36.4**	**-0.7**
TUC	**Tucson**	**3.93**	**89**	*e*Pn			**Pn**	**06 40 51.0**	**+0.6**
121A	**Cookes Peak, D**	**6.47**	**86**	*e*Pn			**Pn**	**06 41 26.0**	**+0.7**
	comp=N,9.1nm,0.6s								

GUC 06 06:48:53.4±0.6,35.07S×71.11W,h76km±4km,ML3.8, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.12**	**306**	*e*P			Pn	06 49 04.8	+0.3
NICH				*e*S			Sn	06 49 13.0	+0.5
CHCH	**Chadas Angostu**	**1.20**	**19**	*e*P			Pn	06 49 15.0	+0.2
CHCH				*e*S			Sn	06 49 31.4	+0.6
PEL	**Peldehue**	**1.96**	**11**	*e*P			Pn	06 49 25.1	+0.4
PEL				*e*S			Sn	06 49 49.5	+1.0
PEL					AML	AML		06 49 52.8	
	comp=N,1μm,1.7s								
ROCH	**El Roble**	**2.10**	**2**	*e*P			Pn	06 49 24.7	-2.1
ROCH				*e*S			Sn	06 49 50.2	-2.0
ROCH					AML	AML		06 49 53.0	
	comp=E,697nm,0.6s								

*ISCJB **06** 06:53:10.5±0.5,32.27N±0.02×115.32W±0.04,h10km±4km, Error ellipse: s-maj=5.0km s-min=4.1km az=166.0*

*NEIC **06** 06:53:12.0,32.27N×115.33W,h7km,ML3.5(PAS), ML3.6(ECX),After ECX.*

*ECX **06** 06:53:12.0±0.6,32.27N×115.33W,h7km,MD3.4,ML3.6*

ISC 06 06:53:10.7±0.9,32.26N±0.02×115.33W±0.03,h14km±7km, n25,σ0s86/42,4C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**7**	*e*P			**Pg**	**06 53 14.5**	**-0.2**
CPBX				*e*S			**Sg**	**06 53 17.6**	**+0.2**
EMX	**El Mayor**	**0.28**	**165**	*e*P			**Pg**	**06 53 16.1**	**-0.4**
EMX				*e*S			**Sg**	**06 53 20.3**	**-0.3**
EMX				*e*				06 53 21.2	
	comp=N,4μm,0.4s								
EMX				⇑*e*				06 53 21.4	
	comp=E,4μm,0.6s								
EMX	**El Mayor**	**0.28**	**165**	*e*P			**Pg**	**06 53 16.1**	**-0.4**
EMX				*e*S			**Sg**	**06 53 21.2**	**+0.7**
SGL	**Mount Signal**	**0.52**	**319**	⇓*e*P			**Pg**	**06 53 20.7**	**-0.2**
RDX	**Rancho Dawling**	**0.62**	**238**	*e*P			**Pg**	**06 53 22.9**	**0.0**
RDX				*e*S			**Sg**	**06 53 31.7**	**+0.6**
RDX				*e*				06 53 34.1	
	comp=N,3μm,0.4s								
RDX	**Rancho Dawling**	**0.62**	**238**	*e*P			**Pg**	**06 53 22.9**	**0.0**
RDX				*e*S			**Sg**	**06 53 33.7**	**+1.8**
COA	**Coachella**	**0.63**	**16**	⇑*e*P			**Pg**	**06 53 22.9**	**-0.1**
YUH	**Yuha Desert**	**0.64**	**308**	⇓*e*P			**Pg**	**06 53 22.7**	**-0.5**
COK	**Cook Ranch**	**0.68**	**330**	⇓*e*P			**Pg**	**06 53 24.0**	**0.0**
RMX	**La Rumorosa**	**0.72**	**299**	*e*P			**Pg**	**06 53 24.3**	**-0.5**
RMX				*e*S			**Sg**	**06 53 34.5**	**+0.1**
RMX	**La Rumorosa**	**0.72**	**299**	*e*P			**Pg**	**06 53 24.3**	**-0.5**
RMX				*e*S			**Sg**	**06 53 34.5**	**+0.1**
YMD	**Yuma Desert**	**0.72**	**66**	⇑*e*P			**Pg**	**06 53 24.4**	**-0.4**
ECBX	**El Chinero**	**0.82**	**163**	*e*P			**Pg**	**06 53 25.4**	**-1.1**
ECBX				*e*S			**Sg**	**06 53 36.6**	**-0.7**
GLA	**Glamis**	**0.90**	**28**	*e*Pg			**Pg**	**06 53 27.0**	**-1.1**
ZAX	**El Zacaton**	**1.09**	**228**	*e*P			**Pg**	**06 53 31.3**	**-0.6**
ZAX				*e*S			**Sg**	**06 53 46.2**	**0.0**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P			**Pg**	**06 53 31.9**	**-0.7**
CBX				*e*S			**Sg**	**06 53 46.9**	**-0.5**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P			**Pg**	**06 53 31.9**	**-0.7**
CBX				*e*S			**Sg**	**06 53 46.9**	**-0.5**
BAR	**Barrett**	**1.21**	**291**	*e*Pg			**Pg**	**06 53 33.1**	**-0.9**
BAR				*e*Sg			**Sg**	**06 53 46.8**	**-3.1**
SPX	**San Pedro Mart**	**1.21**	**186**	*e*P			**Pg**	**06 53 33.4**	**-0.7**
SPX				*e*S			**Sg**	**06 53 50.1**	**+0.1**
SPX				⇑*e*				06 53 53.3	
	comp=E,831nm,0.4s								
SPX	**San Pedro Mart**	**1.21**	**186**	*e*P			**Pg**	**06 53 33.4**	**-0.7**
SPX				*e*S			**Sg**	**06 53 50.1**	**+0.1**
ECNX	**Esteban Cantu**	**1.24**	**241**	*e*P			**Pg**	**06 53 33.8**	**-0.7**
ECNX				*e*S			**Sg**	**06 53 50.2**	**-0.5**
PBX	**Punta Banda**	**1.29**	**247**	*e*P			**Pn**	**06 53 34.0**	**-0.3**
PBX				*e*S			**Sg**	**06 53 51.9**	**-0.6**
PFO	**Pinyon Flats O**	**1.65**	**325**	*e*Pn			**Pn**	**06 53 38.5**	**-0.8**
214A	**Organ Pipe Nat**	**2.15**	**97**	*e*Pn			**Pb**	**06 53 49.5**	**0.0**
MWC	**Mount Wilson**	**3.01**	**311**	*e*Pn			**Pn**	**06 53 60.0**	**+1.9**
MWC				*e*Sn			**Sb**	**06 54 41.8**	**+0.9**

*BYKL **06** 07:03:52.4±0.2,55.67N×110.18E,h8km±4km*

*MOS **06** 07:03:53.0±1.8,55.63N×110.19E,h10km,mb4.2/1,Error ellipse: s-maj=35.1km s-min=24.3km az=77.4*

ISC 06 07:03:51.7±1.2,55.64N±0.03×110.18E±0.02,h0km±10km, n29,σ1s80/73,5C-13D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**291**	⇑*i*Pg			**Pg**	**07 03 59.2**	**+0.1**
NIZ				*e*				07 04 00.0	
NIZ				*e*				07 04 03.6	
NIZ				*e*Sg			**Sg**	**07 04 04.4**	**+0.3**
NIZ				max					
	218nm,0.2s								
NIZ				Smax					
	1μm,0.2s								
KMO	**Kumora**	**0.63**	**66**	⇓*i*Pg			**Pg**	**07 04 03.2**	**-0.4**
	4.0nm,0.2s								
KMO				⇓*i*Pg			**Pg**	**07 04 03.2**	**-0.4**
	9.0nm,0.2s								
KMO				⇓*i*Pg			**Pg**	**07 04 03.2**	**-0.4**
	74nm,0.2s								
KMO				*e*Pb			**Pb**	**07 04 04.3**	**-1.1**
KMO				*e*Sg			**Sg**	**07 04 11.5**	**-0.2**
KMO				max					
	94nm,0.3s								
KMO				Smax					
	283nm,0.3s								
YLYR	**Ulyunkhan**	**0.95**	**143**	⇑*i*PG			**Pg**	**07 04 09.9**	**+0.1**
YLYR				*e*				07 04 22.6	
YLYR				pmax		pmax			
	comp=Z,57nm,0.1s								
YLYR				smax		smax			
	comp=N,556nm,0.1s								
YLYR	**Ulyunkhan**	**0.95**	**143**	⇓*i*Pg			**Pg**	**07 04 09.9**	**+0.1**
	comp=N,66nm,0.3s								
YLYR				⇑*i*Pg			**Pg**	**07 04 09.9**	**+0.1**
	comp=N,42nm,0.3s								
YLYR				⇑*i*Pg			**Pg**	**07 04 09.9**	**+0.1**
	comp=N,87nm,0.3s								
YLYR				*e*Pb			**Pb**	**07 04 10.9**	**0.0**
YLYR				*i* Sg			**Sg**	**07 04 23.4**	**+1.3**
YLYR				max					
	comp=N,57nm,0.1s								
YLYR				Smax					
	comp=N,357nm,0.1s								
YOA	**Uoyan**	**1.00**	**60**	*e*PG			**Pn**	**07 04 14.0**	**+1.1**
YOA				*e*				07 04 24.3	
YOA				pmax		pmax			
	comp=Z,292nm,0.2s								
YOA				smax		smax			
	comp=N,802nm,0.2s								
YOA	**Uoyan**	**1.00**	**60**	*e*Pg			**Pg**	**07 04 10.5**	**-0.3**
YOA				*e*Sg			**Sg**	**07 04 24.3**	**+0.6**
YOA				Smax					
	comp=N,804nm,0.3s								
SVKR	**Severomuysk**	**1.96**	**75**	*e*Pn			**Pn**	**07 04 26.7**	**+0.5**
SVKR				*e*Pg			**Pb**	**07 04 27.8**	**-0.4**
SVKR				*e*				07 04 31.3	
SVKR				*e*Sg			**Sb**	**07 04 54.0**	**+0.8**
SVKR				*e*				07 04 57.8	
SVKR				Pmax					
	comp=N,99nm,0.4s								
SVKR				max					
	comp=N,412nm,0.3s								
UKT	**Uakit**	**1.96**	**93**	*e*PN			**Pn**	**07 04 27.0**	**+0.8**
UKT				*e*				07 04 53.0	
UKT				pmax		pmax			
	comp=Z,38nm,0.4s								
UKT				smax		smax			
	comp=N,325nm,0.2s								
UKT	**Uakit**	**1.96**	**93**	⇑*i*Pg			**Pn**	**07 04 27.0**	**+0.8**
	comp=N,8.0nm,0.4s								
UKT				⇓*i*Pg			**Pn**	**07 04 27.0**	**+0.8**
	comp=N,30nm,0.4s								
UKT				⇓*i*Pg			**Pn**	**07 04 27.0**	**+0.8**
	comp=N,30nm,0.4s								
UKT				*i* Sg			**Sb**	**07 04 53.6**	**+0.3**
UKT				Pmax					
	comp=N,52nm,1.0s								
UKT				Smax					
	comp=N,325nm,0.3s								
SYVR	**Suvo**	**1.99**	**183**	*e*PN			**Pb**	**07 04 28.6**	**-0.1**
SYVR				*e*				07 04 55.0	
SYVR				pmax		pmax			
	comp=Z,34nm,0.2s								
SYVR				smax		smax			
	comp=N,430nm,0.3s								
OGRR	**Ongureny**	**2.50**	**218**	⇓*i*Pn			**Pn**	**07 04 34.5**	**+0.9**
OGRR				⇓*i*Pg			**Pb**	**07 04 37.3**	**-0.1**
OGRR				*e*PgPg			**PnPn**	**07 04 40.5**

CRS				max				
	comp=E,57nm,1.6s							
LSTR	**Listvyanka**	**4.94**	**222**	*e*Pg		**Pb**	**07 05 21.3**	**+2.4**
LSTR				*e*Sn		**Sn**	**07 06 03.1**	**-1.6**
LSTR				*e*Sg		**Sg**	**07 06 25.3**	**-4.8**
LSTR				Pmax				
	comp=E,3.0nm,0.4s							
LSTR				Smax				
	comp=E,31nm,1.4s							
TLY	**Talaya**	**5.55**	**227**	*e*Pn		**Pn**	**07 05 14.4**	**-1.1**
TLY				*e*			07 05 25.7	
TLY				*e*Pg		**Pb**	**07 05 31.7**	**+2.3**
TLY				*e*			07 06 19.4	
TLY				*e*Sg		Sg	07 06 44.2	-5.7
TLY				Pmax				
	comp=E,2.0nm,0.3s							
TLY				Smax				
	comp=E,11nm,0.3s							
TUP	**Tupik**	**5.75**	**98**	*e*Pn		**Pn**	**07 05 17.9**	**-0.3**
TUP				*e*			07 05 31.1	
TUP				*e*Pg		**Pb**	**07 05 35.7**	**+3.0**
TUP				*e*Sn		**Sn**	**07 06 22.0**	**-2.8**
TUP				*e*Sg		**Sg**	**07 06 51.3**	**-4.9**
TUP				Pmax				
	comp=E,3.0nm,0.6s							
TUP				Smax				
	comp=E,45nm,0.9s							
ARS	**Arshan**	**5.92**	**234**	⇓*i*Pn		**Pn**	**07 05 21.5**	**+1.0**
ARS				*e*			07 05 24.5	
ARS				*e*Pg		Pb	07 05 39.7	+4.1
ARS				*e*Sn		**Sn**	**07 06 25.5**	**-3.5**
ARS				*e*Sg		Sg	07 06 56.1	-5.5
ARS				*e*			07 07 00.5	
ARS				Pmax				
	comp=E,8.0nm,0.6s							
ARS				max				
	comp=E,58nm,1.1s							
KPC	**Khapcheranga**	**6.09**	**166**	*e*		Pb	07 05 32.9	-5.7
KPC				*e*Pg		Pg	07 05 42.8	-5.6
KPC				*e*Sn		**Sn**	**07 06 30.5**	**-2.8**
KPC				*e*Sg		Sg	07 07 01.3	-6.0
KPC				Pmax				
	comp=E,3.0nm,0.6s							
KPC				Smax				
	comp=E,23nm,0.9s							
MOY	**Mondy**	**6.76**	**238**	*e*		**Pn**	**07 05 33.9**	**+1.8**
MOY				*e*			07 05 49.7	
MOY				*e*Sg		Sg	07 07 21.3	-7.2
MOY				max				
	comp=E,5.0nm,0.5s							
MOY				Smax				
	comp=E,17nm,1.6s							
ORL	**Orlik**	**6.85**	**247**	*e*PN		**Pn**	**07 05 32.8**	**-0.5**
ORL				*e*			07 05 55.1	
ORL				*e*S		**Sn**	**07 06 50.4**	**-1.5**
ORL				*e*			07 07 24.7	
ORL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ORL				smax		smax		
	comp=N,18nm,1.0s							
ORL	**Orlik**	**6.85**	**247**	⇓*i*Pn		**Pn**	**07 05 34.5**	**+1.2**
ORL				*e*			07 05 37.9	
ORL				*e*Pg		Pb	07 05 56.1	+4.6
ORL				*i* Sn		**Sn**	**07 06 50.6**	**-1.3**
ORL				*e*Sg		Sg	07 07 24.8	-6.6
ORL				Pmax				
	comp=N,3.0nm,0.4s							
ORL				Smax				
	comp=N,17nm,1.0s							

*IDC **06** 07:06:17.9±2.3,54.°02N×86.°51E, h0km, mb1 3.7/2, mb1mx3.2/30, mbtmp3.7/2, ML3.4/2, Error ellipse: s-maj=19.1km s-min=11.1km az=64.0*
*NNC **06** 07:06:21.6±2.3,53.°82N×86.°32E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=18.4km s-min=14.6km az=2.0*

ISC 06 07:06:22.0±4.8, 54.°0N±0.°2×86.°6E±0.°2, h35km, n7, σ0s50/9, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**266**	*i*		07 13 24.2	
	baz=85,slow=340,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.05**	**266**	Pg	Pn	07 06 35.3	-4.9
	4.8nm,0.3s,baz=87,slow=16,SNR=56						
ZALV				Lg	Lg	07 06 51.5	
	9.2nm,0.3s,baz=86,slow=32,SNR=22						
KURK	**Kurchatov**	**5.91**	**239**	⇓Pn	**Pn**	**07 07 46.8**	**-0.2**
	0.5nm,0.3s						
KURK				⇑Sn	**Sn**	**07 08 54.4**	**+0.9**
	0.6nm,0.6s						
KURK				⇑Lg	Lg	07 09 22.5	
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.01**	**239**	⇓Pn	**Pn**	**07 07 48.2**	**-0.2**
	2.3nm,0.2s						
KURBB				⇑Sn	**Sn**	**07 08 55.4**	**-0.6**
	2.7nm,0.5s						
KURBB				⇑Lg	Lg	07 09 24.4	
	3.6nm,0.6s						
KURBB	**Kurchatov Arra**	**6.01**	**239**	Pn	**Pn**	**07 07 48.5**	**+0.1**
	0.6nm,0.3s,baz=54,slow=13,SNR=51						
KURBB				Lg	Lg	07 09 27.9	
	0.1nm,0.3s,baz=53,slow=31,SNR=5.0						
MK31	**Makanchi Array**	**7.76**	**202**	⇓Pn	**Pn**	**07 08 12.6**	**+0.2**
	0.3nm,0.2s,baz=25,slow=13,SNR=110						
MK31				⇑Sn	**Sn**	**07 09 39.0**	**0.0**
	0.3nm,0.4s,baz=22,slow=25,SNR=3.9						
MK31				⇑Lg	Lg	07 10 20.1	
	0.8nm,0.6s,baz=28,slow=31,SNR=3.8						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	**Pn**	**07 08 12.5**	**+0.1**
	1.2nm,0.3s,baz=22,slow=13,SNR=66						
MKAR				Sn	**Sn**	**07 09 38.6**	**-0.4**
	0.4nm,0.3s,baz=20,slow=26,SNR=6.6						
MKAR				Lg	Lg	07 10 23.3	
	0.1nm,0.3s,baz=22,slow=32,SNR=5.9						

DJA 06 07:06:50.4±0.5, 2°N±3°×99°E±°, h10km, M3.5/7, MLv3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.34**	**138**	P	Pn	07 07 12.5	-2.6
TSI	**Tuntungan**	**1.69**	**356**	P	Pn	07 07 18.9	-1.2
KCSI	**Kotacane, Aceh**	**1.94**	**332**	P	Pn	07 07 21.5	-2.0
KCSI				S	Sn	07 07 48.8	+0.8
TPTI		**2.09**	**314**	P	Pn	07 07 25.1	-0.4
TPTI				S	Sb	07 07 53.3	-1.3
BKNI	**Bangkinang**	**2.77**	**122**	P	Pn	07 07 35.2	+0.3

*IDC **06** 07:11:47.9±12.0, 24.°59S×70.°40E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/27, mbtmp3.8/6, MS3.6/2, Ms1 3.5/2, ms1mx2.7/37, Error ellipse: s-maj=421.8km s-min=31.1km az=48.0*

ISC 06 07:11:46.8±13.0, 25°S±2°×70°E±°, h10km, n11, σ1s13/6, mb3.9/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.36**	**9**	T	T	07 33 33.2	
	baz=188,slow=76,SNR=19						
H08S2	**Diego Garcia H**	**17.36**	**9**	T	T	07 33 30.8	
	baz=188,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**17.38**	**9**	T	T	07 33 32.0	
	baz=188,slow=76,SNR=17						
PALK	**Pallekele**	**33.69**	**20**	LR	LR	07 29 15.9	
	comp=Z,94nm,19.0s,baz=199,slow=32						
BOSA	**Boshof**	**39.84**	**255**	LR	LR	07 34 57.2	
	comp=Z,66nm,18.0s,baz=168,slow=34						
ASAR	**Alice Springs**	**57.87**	**103**	P	**P**	**07 21 39.7**	**+0.5**
	0.1nm,0.4s,baz=251,slow=5.6,SNR=2.6						
WRA	**Warramunga Arr**	**59.31**	**99**	P	**P**	**07 21 48.5**	**-0.8**
	0.9nm,0.9s,baz=258,slow=6.9,SNR=5.4						
MKAR	**Makanchi Array**	**72.25**	**9**	P	**P**	**07 23 12.3**	**+0.3**
	1.2nm,0.8s,baz=190,slow=5.8,SNR=16						
KURBB	**Kurchatov Arra**	**75.60**	**6**	P	**P**	**07 23 32.8**	**+1.3**
	1.0nm,0.9s,baz=193,slow=6.5,SNR=10						
BVAR	**Borovoye Array**	**77.61**	**0**	P	**P**	**07 23 42.5**	**-0.4**
	0.4nm,0.6s,baz=164,slow=5.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**79.60**	**9**	P	**P**	**07 23 54.9**	**+1.1**
	0.7nm,0.3s,baz=212,slow=5.3,SNR=4.6						

GUC 06 07:20:43.0±0.4, 36.°66S×73.°38W, h2km±1km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.28**	**130**	*e*P	Pg	07 20 48.9	+0.4
CCSP				*e*S	Sg	07 20 53.1	+0.9
CCSP				AML	AML	07 20 54.2	
	comp=E,12μm,0.4s						
COCH	**Cobquecura**	**0.71**	**42**	*e*P	Pb	07 20 57.4	-0.7
COCH				*e*S	Sb	07 21 08.6	+0.3
LNCH	**Linares**	**1.65**	**61**	*e*P	Pn	07 21 12.4	-0.6
LNCH				*e*S	Sn	07 21 34.7	0.0

*ISCJB **06** 07:23:01.0±0.4, 32.°73N±0.°03×115.°85W±0.°03, h13km±3km, Error ellipse: s-maj=4.9km s-min=3.9km az=161.3*
*NEIC **06** 07:23:01.9, 32.°68N×115.°87W, h6km, ML3.7(PAS), ML3.7(ECX), After PAS.*
*ECX **06** 07:23:02.4±0.6, 32.°71N×115.°88W, h4km, MD3.5, ML3.7*

ISC 06 07:23:01.6±0.8, 32.°65N±0.°02×115.°83W±0.°02, h14km±5km, n34, σ1s02/52, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.07**	**268**	⇑*e*P	**Pg**	**07 23 04.0**	**-0.4**
YUH	**Yuha Desert**	**0.07**	**268**	*e*P	**Pg**	**07 23 04.0**	**-0.4**
SGL	**Mount Signal**	**0.09**	**91**	⇓*e*P	**Pg**	**07 23 04.6**	**+0.1**
SGL	**Mount Signal**	**0.09**	**91**	*e*P	**Pg**	**07 23 04.6**	**+0.1**
WESC	**Westside Schoo**	**0.14**	**39**	*e*P	**Pg**	**07 23 04.8**	**-0.3**
ERPC	**Ernies Place**	**0.17**	**57**	*e*P	**Pg**	**07 23 05.9**	**+0.3**
RMX	**La Rumorosa**	**0.21**	**257**	⇑*i*P	**Pg**	**07 23 06.3**	**-0.1**
RMX				*e*S	**Sg**	**07 23 09.4**	**-0.3**
RMX	**La Rumorosa**	**0.21**	**257**	*e*P	**Pg**	**07 23 06.3**	**-0.1**
RMX				*e*S	**Sg**	**07 23 09.4**	**-0.3**
COK	**Cook Ranch**	**0.22**	**24**	⇓*e*P	**Pg**	**07 23 05.8**	**-0.5**
COK	**Cook Ranch**	**0.22**	**24**	*e*P	**Pg**	**07 23 05.8**	**-0.5**
CRR	**Carrizo Plain**	**0.26**	**334**	⇓*e*P	**Pg**	**07 23 06.2**	**-0.9**
CRR	**Carrizo Plain**	**0.26**	**334**	*e*P	**Pg**	**07 23 06.2**	**-0.9**
SWSC	**Sam W. Stewart**	**0.29**	**6**	*e*P	**Pg**	**07 23 07.0**	**-0.7**
CPBX	**Cerro Prieto**	**0.50**	**117**	*e*P	**Pb**	**07 23 12.6**	**+0.4**
CPBX				*e*S	**Sb**	**07 23 20.9**	**+1.5**
BAR	**Barrett**	**0.71**	**273**	*e*Pg	**Pg**	**07 23 14.7**	**-0.6**
BAR				*e*Sg	**Sg**	**07 23 24.0**	**-0.7**
CBX	**Cerro Bola**	**0.78**	**245**	⇑*e*P	**Pg**	**07 23 16.7**	**0.0**
CBX				*e*S	**Sg**	**07 23 26.9**	**0.0**
CBX				⇑*e*		07 23 31.2	
CBX				AML	AML	07 23 31.2	
	comp=E,3μm,0.7s						
CBX	**Cerro Bola**	**0.78**	**245**	*e*P	**Pg**	**07 23 16.7**	**0.0**
CBX				*e*S	**Sg**	**07 23 26.9**	**0.0**
EMX	**El Mayor**	**0.83**	**143**	*e*P	**Pg**	**07 23 15.7**	**-1.9**
EMX				*e*S	**Sg**	**07 23 27.8**	**-0.7**
EMX				⇑*e*		07 23 30.9	
	comp=E,2μm,0.5s						
EMX	**El Mayor**	**0.83**	**143**	*e*P	**Pg**	**07 23 15.7**	**-1.9**
EMX				*e*S	**Sg**	**07 23 27.8**	**-0.7**
GLA	**Glamis**	**0.94**	**64**	*e*Pg	**Pb**	**07 23 18.3**	**-1.3**
GLA				*e*Sg	**Sb**	**07 23 31.7**	**-0.2**
PFO	**Pinyon Flats O**	**1.09**	**332**	*e*Pg	**Pb**	**07 23 20.2**	**-2.1**
PFO				*e*Sg	**Sb**	**07 23 34.2**	**-2.2**
ZAX	**El Zacaton**	**1.19**	**198**	*e*P	**Pb**	**07 23 24.4**	**+0.4**
ZAX				*e*S	**Sn**	**07 23 40.4**	**+0.4**
ECBX	**El Chinero**	**1.35**	**150**	*e*P	**Pn**	**07 23 25.2**	**-0.8**
ECBX				*e*S	**Sb**	**07 23 44.4**	**+0.6**
SPX	**San Pedro Mart**	**1.63**	**169**	*e*P	**Pb**	**07 23 31.5**	**-0.2**
SPX				*e*S	**Sg**	**07 23 54.5**	**+0.3**
SPX				⇑*e*		07 23 56.8	
	comp=E,422nm,0.5s						
SPX	**San Pedro Mart**	**1.63**	**169**	*e*P	**Pb**	**07 23 31.5**	**-0.2**
SPX				*e*S	**Sg**	**07 23 54.5**	**+0.3**
MWC	**Mount Wilson**	**2.43**	**311**	*e*Pg	**Pb**	**07 23 44.2**	**-1.1**
MWC				*e*Sg	**Sb**	**07 24 15.4**	**+0.2**
PASC	**Pasadena Art C**	**2.48**	**308**	*e*Pn	**Pb**	**07 23 44.8**	**-1.2**
PASC				*e*Sg	**Sb**	**07 24 15.8**	**-0.6**
LDFC	**Landfair**	**2.50**	**14**	*e*Pg	**Pg**	**07 23 50.6**	**+1.2**
214A	**Organ Pipe Nat**	**2.65**	**104**	*e*Pn	**Pb**	**07 23 48.4**	**-0.4**
OSI	**Osito Audit: C**	**3.11**	**310**	*e*Pg	**Pb**	**07 23 56.0**	**-0.7**
ISA	**Isabella, Lake**	**3.72**	**325**	*e*Pg	**Pb**	**07 24 08.2**	**+1.2**
ISA				*e*Sg	**Sb**	**07 24 54.4**	**+2.4**
SHPR	**Sheep Range**	**3.88**	**8**	*e*Pn	**Pn**	**07 24 03.8**	**+2.7**
SHPR				*e*Pg	**Pg**	**07 24 15.1**	**-1.0**
W18A	**Petrified Fore**	**5.64**	**62**	*e*Pn	**Pn**	**07 24 26.4**	**+1.2**
	comp=E,12nm,0.3s						
121A	**Cookes Peak, D**	**6.79**	**89**	*e*Pn	**Pn**	**07 24 41.1**	**+0.1**
	comp=E,13nm,0.6s						

NNC 06 07:38:02.8±0.5, 52.°88N×69.°23E, h0km, mpv1.8, 3C, Error ellipse: s-maj=11.5km s-min=2.4km az=164.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVB5	**Borovoye Array**	**0.70**	**78**	P	Pg	07 38 16.7	+0.4
BVB5				S	Sg	07 38 26.6	+1.1
BVA3	**Borovoye Array**	**0.71**	**78**	P	Pg	07 38 16.7	+0.2
BVA3				S	Sg	07 38 26.6	+0.9
BVB6	**Borovoye Array**	**0.71**	**77**	P	Pg	07 38 16.6	+0.1
BVB6				S	Sg	07 38 26.5	+0.7
BVB9	**Borovoye Array**	**0.71**	**79**	P	Pg	07 38 16.9	+0.4
BVB9				S	Sg	07 38 26.8	+1.0
BVA0	**Borovoye Array**	**0.72**	**78**	⇑P	Pg	07 38 16.8	+0.2
	2.3nm,0.9s,baz=310,slow=18,SNR=12						
BVA0				⇑S	Sg	07 38 26.4	+0.5
	0.6nm,0.4s,baz=240,slow=37,SNR=19						
BVA0				⇑Rg	Rg	07 38 30.1	
	24nm,1.4s						
BVA1	**Borovoye Array**	**0.72**	**78**	P	Pg	07 38 16.8	+0.2
BVA1				S	Sg	07 38 26.5	+0.6
BVA2	**Borovoye Array**	**0.72**	**78**	P	Pg	07 38 16.9	+0.3
BVA2				S	Sg	07 38 26.9	+1.0
BVA4	**Borovoye Array**	**0.72**	**78**	P	Pg	07 38 16.8	+0.2
BVA4				S	Sg	07 38 26.5	+0.4
BVB7	**Borovoye Array**	**0.72**	**77**	P	Pg	07 38 16.9	+0.2
BVB7				S	Sg	07 38 26.6	+0.5
BVB8	**Borovoye Array**	**0.73**	**78**	P	Pg	07 38 17.1	+0.2
BVB8				S	Sg	07 38 26.9	+0.6

*MEX **06** 07:39:43.2±0.5, 16.°70N×99.°24W, h14km±5km, MD4.4*
*NEIC **06** 07:39:43.2, 16.°70N×99.°24W, h14km, MD4.4(MEX), After MEX.*
*IDC **06** 07:39:46.6±4.9, 16.°34N×98.°86W, h101km±40km, mb3.4/4, mb1 3.4/7, mb1mx3.3/25, mbtmp3.5/7, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=63.9km s-min=32.3km az=14.0*

ISC 06 07:39:39.6±1.2, 16.°73N±0.°04×99.°21W±0.°02, h9km±9km, n34, σ1s17/57, mb3.8/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.64**	**283**	*e*P	**Pb**	**07 39 55.4**	**+2.5**
ACX				*e*S	**Sb**	**07 40 03.4**	**+1.4**
ACX	**Acapulco**	**0.64**	**283**	*e*P	**Pb**	**07 39 55.4**	**+2.5**
ACX				*e*S	**Sb**	**07 40 03.4**	**+1.4**
TLIG	**Tlapa**	**1.03**	**36**	*e*P	**Pg**	**07 39 59.5**	**+0.1**
TLIG				*i* S	**Sg**	**07 40 13.0**	**+0.1**
CAIG	**El Cayaco**	**1.06**	**288**	*e*P	**Pg**	**07 39 59.3**	**-0.6**
CAIG				*i* S	**Sg**	**07 40 12.4**	**-1.3**
CAIG	**El Cayaco**	**1.06**	**288**	*e*P	**Pg**	**07 39 59.3**	**-0.6**
CAIG				*i* S	**Sg**	**07 40 12.4**	**-1.3**
PNIG	**Pinotepa**	**1.09**	**108**	*e*P	**Pb**	**07 40 00.5**	**-0.1**
PNIG				*i* S	**Sb**	**07 40 14.4**	**-0.6**
PNIG	**Pinotepa**	**1.09**	**108**	*e*P	**Pb**	**07 40 00.5**	**-0.1**
PNIG				*i* S	**Sb**	**07 40 14.4**	**-0.6**
MEIG	**Mezcala**	**1.25**	**342**	*i* P	**Pn**	**07 40 02.9**	**-0.5**
MEIG				*i* S	**Sb**	**07 40 18.5**	**-1.2**
MEIG	**Mezcala**	**1.25**	**342**	*i* P	**Pn**	**07 40 02.9**	**-0.5**
MEIG				*i* S	**Sb**	**07 40 18.5**	**-1.2**
PLIG	**Platanillo**	**1.68**	**350**	*e*P	**Pn**	**07 40 09.1**	**-0.1**
PLIG				*i* S	**Sn**	**07 40 28.9**	**-2.0**
PLIG	**Platanillo**	**1.68**	**350**	*e*P	**Pn**	**07 40 09.1**	**-0.1**
PLIG				*i* S	**Sn**	**07 40 28.9**	**-2.0**
ARIG	**Puente Sto Nin**	**1.89**	**325**	*e*P	**Pn**	**07 40 12.2**	**+0.2**
ARIG				*i* S	**Sn**	**07 40 34.1**	**-1.9**
YAIG	**Yautepec**	**2.13**	**4**	*e*P	**Pn**	**07 40 16.6**	**+1.1**
YAIG				*e*S	**Sn**	**07 40 41.5**	**-0.6**
YAIG	**Yautepec**	**2.13**	**4**	*e*P	**Pn**	**07 40 16.6**	**+1.1**
YAIG				*e*S	**Sn**	**07 40 41.5**	**-0.6**
ZIIG	**Zihuatanejo**	**2.33**	**292**	*e*P	**Pn**	**07 40 17.7**	**-0.3**
ZIIG				*i* S	**Sn**	**07 40 44.6**	**-2.2**
ZIIG	**Zihuatanejo**	**2.33**	**292**	*e*P	**Pn**	**07 40 17.7**	**-0.3**
ZIIG				*i* S	**Sn**	**07 40 44.6**	**-2.2**
VHO	**Vista Hermosa**	**2.40**	**81**	*e*P	**Pn**	**07 40 20.0**	**+0.8**
VHO				*i* S	**Sn**	**07 40 48.6**	**-0.1**
VHO	**Vista Hermosa**	**2.40**	**81**	*e*P	**Pn**	**07 40 20.0**	**+0.8**
VHO				*i* S	**Sn**	**07 40 48.6**	**-0.1**
TPIG	**Tehuac#an**	**2.44**	**46**	*e*P	**Pn**	**07 40 20.0**	**+0.3**
TPIG				*i* S	**Sn**	**07 40 49.1**	**-0.6**
TPIG	**Tehuac#an**	**2.44**	**46**	*e*P	**Pn**	**07 40 20.0**	**+0.3**
TPIG				*i* S	**Sn**	**07 40 49.1**	**-0.6**
UNM	**Universidad Na**	**2.59**	**1**	*e*P	**Pn**	**07 40 23.3**	**+1.4**
UNM				*i* S	**Sn**	**07 40 53.4**	**-0.2**
UNM	**Universidad Na**	**2.59**	**1**	*e*P	**Pn**	**07 40 23.3**	**+1.4**
UNM				*i* S	**Sn**	**07 40 53.4**	**-0.2**
HUIG	**Huatulco**	**3.13**	**107**	*e*P	**Pn**	**07 40 29.8**	**+0.7**
HUIG				*i* S	**Sn**	**07 41 05.5**	**-1.1**
HUIG	**Huatulco**	**3.13**	**107**	*e*P	**Pn**	**07 40 29.8**	**+0.7**
HUIG				*i* S	**Sn**	**07 41 05.5**	**-1.1**
CMIG	**Matias Romero**	**4.16**	**84**	*e*P	**Pn**	**07 40 44.6**	**+1.4**
CMIG				*e*S	**Sn**	**07 41 31.1**	**-0.8**
CMIG	**Matias Romero**	**4.16**	**84**	P	**Pn**	**07 40 43.8**	**+0.5**
	0.9nm,0.3s,baz=245,slow=15,SNR=11						
CMIG				S	**Sn**	**07 41 29.4**	**-2.6**
	3.4nm,0.3s,baz=276,slow=11,SNR=6.2						
CMIG				Lg	Lg	07 41 50.1	
	6.2nm,0.3s,baz=240,slow=20,SNR=6.0						
CMIG	**Matias Romero**	**4.16**	**84**	*e*P	**Pn**	**07 40 44.6**	**+1.4**
CMIG				*e*S	**Sn**	**07 41 31.1**	**-0.8**
APG	**El Apazote**	**8.59**	**100**	P	Pn	07 41 43.5	-0.9
	0.1nm,0.3s,baz=270,slow=17,SNR=2.5						
APG				Lg	Lg	07 44 11.4	
	0.3nm,0.3s,baz=30,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**13.20**	**343**	P	**P**	**07 42 58.0**	**+0.5**
	0.1nm,0.3s,baz=155,slow=14,SNR=6.1						
ANMO	**Albuquerque**	**19.27**	**342**	LR	LR	07 53 12.0	
	comp=Z,76nm,21.4s,baz=227,slow=41						
PDAR	**Pinedale Array**	**27.42**	**343**	P	**P**	**07 45 26.1**	**+0.2**
	0.8nm,0.9s,baz=133,slow=10,SNR=5.8						
SCHQ	**Schefferville**	**45.45**	**26**	P	P	07 47 57.5	-1.3
	1.3nm,0.5s,baz=215,slow=7.7,SNR=7.4						
YKA	**Yellowknife Ar**	**46.98**	**350**	P	P	07 48 09.4	-1.2
	0.3nm,0.7s,baz=159,slow=7.4,SNR=8.1						
INK	**Inuvik**	**55.96**	**345**	P	**P**	**07 49 17.8**	**0.0**
	1.6nm,1.0s,baz=130,slow=5.2,SNR=6.0						

*IDC **06** 07:45:17.0±3.0, 34.°88S×179.°04W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/29, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=75.4km s-min=44.4km az=133.0*

ISC 06 07:45:19.0±2.1, 35.°6S±0.°2×178.°3W±0.°2, h35km, n23, σ2s25/27, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.35**	**233**	PN	**Pn**	**07 46 11.5**	**+2.6**
WMGZ	**Waiomatatini S**	**3.44**	**229**	PN	Pn	07 46 13.4	+3.4
PUZ	**Puketiti**	**3.70**	**227**	PN	**Pn**	**07 46 16.3**	**+2.7**
PUZ				SN	**Sn**	**07 46 56.1**	**+0.2**
HAZ	**Te Kaha**	**3.80**	**234**	PN	Pn	07 46 18.3	+3.5
HAZ				SN	**Sn**	**07 46 59.1**	**+0.6**
TWGZ	**Tauwhareparae**	**3.93**	**228**	PN	**Pn**	**07 46 19.8**	**+3.0**
TWGZ				SN	**Sn**	**07 47 02.8**	**+1.0**
TKGZ	**Te Karaka**	**4.18**	**226**	PN	**Pn**	**07 46 23.0**	**+2.8**
TKGZ				SN	**Sn**	**07 47 08.7**	**+0.9**
MWZ	**Matawai**	**4.31**	**229**	PN	**Pn**	**07 46 24.4**	**+2.4**
RIGZ	**Rimuhau**	**4.41**	**224**	PN	**Pn**	**07 46 26.2**	**+2.8**
URZ	**Urewera**	**4.53**	**233**	Pn	**Pn**	**07 46 27.3**	**+2.3**
	1.7nm,0.3s,baz=129,slow=20,SNR=15						
URZ				Sn	**Sn**	**07 47 14.0**	**-2.4**
	14nm,0.3s,baz=127,slow=14,SNR=22						
URZ	**Urewera**	**4.53**	**233**	PN	**Pn**	**07 46 27.3**	**+2.3**
URZ				SN	**Sn**	**07 47 14.6**	**-1.7**
KNZ	**Kokohu**	**4.68**	**222**	PN	**Pn**	**07 46 29.3**	**+2.2**
SNGZ	**Shannon Statio**	**4.71**	**226**	PN	**Pn**	**07 46 29.7**	**+2.2**
BKZ	**Black Stump Fm**	**5.46**	**228**	PN	**Pn**	**07 46 39.3**	**+1.4**
MCHZ	**McNeill Hill**	**5.52**	**224**	PN	**Pn**	**07 46 41.2**	**+2.6**
PXZ	**Pawanui**	**5.85**	**219**	PN	**Pn**	**07 46 44.3**	**+1.2**
PXZ				SN	**Sn**	**07 47 47.6**	**-1.2**
BFZ	**Birch Farm**	**6.64**	**218**	PN	**Pn**	**07 46 54.3**	**+0.2**
MRZ	**Mangatainoka R**	**6.98**	**222**	PN	**Pn**	**07 46 58.6**	**-0.1**
MRZ				*e*SN	**Sn**	**07 48 12.6**	**-4.3**
KIW	**Kapiti Island**	**7.49**	**223**	*e*PN	**Pn**	**07 47 08.0**	**+2.4**
THZ	**Tophouse**	**9.22**	**225**	*e*SN	Sn	07 49 04.3	-7.6
MQZ	**McQueen's Vall**	**10.68**	**218**	*e*SN	Sn	07 49 37.2	-10
ASAR	**Alice Springs**	**42.82**	**273**	P	**P**	**07 53 11.7**	**-2.0**
	1.2nm,0.4s,baz=117,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**44.27**	**278**	P	**P**	**07 53 23.1**	**-2.2**
	0.4nm,0.4s,baz=117,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**149.86**	**337**	PKPbc	**PKPbc**	**08 05 05.5**	**+1.1**
	1.2nm,0.8s,baz=48,slow=2.1,SNR=3.5						

NEIC 06 07:56:51.3, 32.°61N×115.°73W, h5km, ML3.9(PAS), After PAS., California-Baja California border region

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

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	24nm,0.8s						
KURBB				⇓Lg	Lg	08 08 48.9	
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**8.06**	**252**	Pn	**Pn**	**08 06 35.8**	**-0.3**
	0.1nm,0.3s,baz=64,slow=14,SNR=10						
KURBB				Sn	**Sn**	**08 08 06.3**	**+0.4**
	0.1nm,0.3s,baz=66,slow=25,SNR=4.6						
KURBB				Lg	Lg	08 08 53.2	
	0.1nm,0.3s,baz=68,slow=33,SNR=3.8						
TLY	**Talaya**	**8.17**	**99**	Lg	Lg	08 08 36.3	
	0.0nm,0.3s,baz=324,slow=19,SNR=11						
MK31	**Makanchi Array**	**8.76**	**221**	⇑Pn	**Pn**	**08 06 45.6**	**-0.1**
	1.5nm,0.8s,baz=41,slow=13,SNR=7.2						
MK31				⇑Sn	**Sn**	**08 08 23.4**	**+0.2**
	1.6nm,0.7s,baz=42,slow=23,SNR=2.8						
MK31				⇓Lg	Lg	08 09 09.1	
	11nm,1.0s,baz=58,slow=37,SNR=4.2						
MKAR	**Makanchi Array**	**8.76**	**221**	Pn	**Pn**	**08 06 45.5**	**-0.2**
	0.2nm,0.3s,baz=33,slow=16,SNR=11						
MKAR				Sn	**Sn**	**08 08 24.5**	**+1.2**
	0.1nm,0.3s,baz=34,slow=25,SNR=2.9						
MKAR				Lg	Lg	08 09 13.5	
	0.2nm,0.3s,baz=35,slow=28,SNR=5.5						
SONM	**Songino Array**	**11.59**	**114**	Lg	Lg	08 10 32.6	
	baz=306,slow=25,SNR=12						

IDC 06 08:07:10.7±3.4, 53.75N×88.05E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=29.2km s-min=16.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**277**	*i*		08 19 58.2	
	baz=96,slow=341,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.92**	**277**	Pg	Pn	08 07 45.1	+0.5
	2.8nm,0.3s,baz=91,slow=15,SNR=7.5						
ZALV				Lg	Lg	08 08 11.8	
	3.4nm,0.3s,baz=90,slow=27,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.64**	**246**	Pn	Pn	08 08 50.5	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**7.88**	**210**	Pn	Pn	08 09 07.6	+1.0
	0.2nm,0.3s,baz=29,slow=14,SNR=6.1						
MKAR				Sn	Sn	08 10 35.7	-0.8
	0.1nm,0.3s,baz=16,slow=28,SNR=3.4						
MKAR				Lg	Lg	08 11 20.9	
	0.1nm,0.3s,baz=23,slow=33,SNR=3.3						

*BJI **06** 08:12:23.5, 32.00N×115.00W, h8km, mb4.8/1, Ms4.9/3, Ms7 4.7/4*
*NEIC **06** 08:12:26.5, 31.99N×114.99W, h8km, mb4.5/22, MD4.6(MEX), ML4.7(PAS), ML4.9(ECX), After ECX. NEIC Felt at San Luis Rio Colorado.*
*MEX **06** 08:12:26.7±0.4, 31.96N×114.91W, h5km, MD4.6*
*ECX **06** 08:12:26.5±0.5, 31.97N×114.99W, h8km, MD4.8, ML4.9*
*GCMT **06** 08:12:26.5±0.4, 31.98N×114.93W, h15km±2km, MW4.9/85, Moment Tensor Solution. s13,c14; s85,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.39±.10; $M_{\theta\theta}$-1.68±.10; $M_{\phi\phi}$1.29±.08; $M_{r\theta}$-0.11±.18; $M_{\theta\phi}$1.90±.09; $M_{\phi r}$-0.55±.23; Best double couple: $M_0$2.48800×10^{16} NP1:ϕ_s160.00000°, δ81.00000°, λ167.00000°. NP2: ϕ_s252.00000°, δ77.00000°, λ9.00000°. Principal axes: T 2.3630, Plg15.0000°, Azm116.0000°; N 0.2480, Plg74.0000°, Azm306.0000°; P -2.6130, Plg3.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **06** 08:12:28.8±1.3, 32.22N×114.52W, h0km, mb3.9/6, mb1 4.1/13, mb1mx3.9/32, mbtmp3.9/13, ML4.1/5, MS4.3/42, Ms1 4.3/42, ms1mx4.2/55 Error ellipse: s-maj=26.9km s-min=10.1km az=48.0*

ISC 06 08:12:26.6±0.9, 31.96N±0.02×115.05W±0.02, h7km±6km, n195, σ1§68/175, mb4.4/16, MS4.3/36, 19C-25D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.16**	**280**	⇓*eP*	**Pg**	**08 12 28.4**	**-1.6**
EMX				*eS*	**Sg**	**08 12 31.9**	**-0.4**
EMX	**El Mayor**	**0.16**	**280**	*eP*	**Pg**	**08 12 28.4**	**-1.6**
EMX				*eS*	**Sg**	**08 12 31.9**	**-0.4**
ECBX	**El Chinero**	**0.49**	**180**	⇓*eP*	**Pg**	**08 12 34.0**	**-2.0**
ECBX				*eS*	**Sg**	**08 12 40.7**	**-1.6**
CPBX	**Cerro Prieto**	**0.51**	**335**	⇑*eP*	**Pg**	**08 12 36.0**	**-0.3**
YMD	**Yuma Desert**	**0.73**	**36**	⇑*iP*	**Pg**	**08 12 38.6**	**-2.1**
YMD	**Yuma Desert**	**0.73**	**36**	*i P*	**Pg**	**08 12 38.6**	**-2.1**
RDX	**Rancho Dawling**	**0.76**	**268**	⇓*eP*	**Pg**	**08 12 41.1**	**-0.1**
RDX				*eS*	**Sb**	**08 12 52.2**	**-0.6**
RDX	**Rancho Dawling**	**0.76**	**268**	*eP*	**Pg**	**08 12 41.1**	**-0.1**
RDX				*eS*	**Sb**	**08 12 52.2**	**-0.6**
EMSC	**East Mesa**	**0.78**	**4**	*i P*	**Pg**	**08 12 40.2**	**-1.3**
SGL	**Mount Signal**	**0.89**	**320**	*eP*	**Pg**	**08 12 42.3**	**-1.5**
SGL	**Mount Signal**	**0.89**	**320**	*eP*	**Pg**	**08 12 42.3**	**-1.5**
COA	**Coachella**	**0.90**	**356**	⇓*iP*	**Pg**	**08 12 41.9**	**-2.0**
COA	**Coachella**	**0.90**	**356**	*i P*	**Pg**	**08 12 41.9**	**-2.0**
DREC	**Desert Rsrch C**	**0.91**	**338**	*i P*	**Pg**	**08 12 42.4**	**-1.7**
ERPC	**Ernies Place**	**0.94**	**327**	*i P*	**Pg**	**08 12 42.7**	**-1.9**
SPIG	**San Pedro Mart**	**0.98**	**201**	*eP*	**Pg**	**08 12 44.2**	**-1.1**
SPIG				*i S*	**Sg**	**08 12 57.7**	**-0.4**
SPIG	**San Pedro Mart**	**0.98**	**201**	⇓*eP*	**Pg**	**08 12 44.3**	**-1.1**
SPIG	**San Pedro Mart**	**0.98**	**201**	*eP*	**Pg**	**08 12 44.2**	**-1.1**
SPIG				*i S*	**Sg**	**08 12 57.7**	**-0.4**
SPX	**San Pedro Mart**	**0.98**	**201**	⇓*eP*	**Pg**	**08 12 44.3**	**-1.1**
SPX				*e*		08 13 00.7	
	comp=N,21μm,0.8s						
SPX	**San Pedro Mart**	**0.98**	**201**	*eP*	**Pg**	**08 12 44.3**	**-1.1**
RMX	**La Rumorosa**	**1.08**	**307**	*eP*	**Pg**	**08 12 45.5**	**-1.8**
RMX				*eS*	**Sg**	**08 13 01.0**	**-0.4**
RMX	**La Rumorosa**	**1.08**	**307**	*eP*	**Pg**	**08 12 45.5**	**-1.8**
RMX				*eS*	**Sg**	**08 13 01.0**	**-0.4**
GLA	**Glamis**	**1.11**	**10**	⇑P	**Pg**	**08 12 44.8**	**-3.0**
	baz=1.2						
GLA				⇓S	**Sg**	**08 13 00.3**	**-1.9**
	baz=1.2						
GLA	**Glamis**	**1.11**	**10**	*ePn*	**Pg**	**08 12 45.3**	**-2.6**
GLA				*eSn*	**Sg**	**08 13 01.6**	**-0.6**
ZAX	**El Zacaton**	**1.13**	**247**	⇑*eP*	**Pg**	**08 12 47.0**	**-1.3**
ZAX				*eS*	**Sb**	**08 13 02.9**	**-0.6**
SWSC	**Sam W. Stewart**	**1.16**	**327**	⇓P	Pg	08 12 45.5	-3.4
	baz=1.3						
SWSC				⇓S	**Sg**	**08 13 02.1**	**-1.9**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.35**	**257**	*eP*	**Pn**	**08 12 50.9**	**-1.1**
ECNX				*eS*	**Sn**	**08 13 09.9**	**-0.2**
113A	**Mohawk Valley,**	**1.35**	**53**	⇑P	Pn	08 12 47.7	-4.1
	baz=1.4						
113A				⇓S	**Sb**	**08 13 05.7**	**-4.0**
	baz=1.4						
CBX	**Cerro Bola**	**1.41**	**285**	*eP*	**Pn**	**08 12 50.6**	**-2.2**
CBX				*eS*	**Sb**	**08 13 10.2**	**-1.3**
CBX	**Cerro Bola**	**1.41**	**285**	*eP*	**Pn**	**08 12 51.7**	**-1.1**
CBX				*eS*	**Sb**	**08 13 11.5**	**-0.1**
CBX				AML	AML	08 13 15.2	
	comp=E,24μm,0.5s						
CBX				⇓*e*		08 13 15.2	
CBX	**Cerro Bola**	**1.41**	**285**	*eP*	**Pn**	**08 12 51.7**	**-1.1**
CBX				*eS*	**Sb**	**08 13 11.5**	**-0.1**
PBX	**Punta Banda**	**1.44**	**262**	⇓*eP*	**Pn**	**08 12 51.9**	**-1.2**
PBX				*eS*	**Sg**	**08 13 12.3**	**-0.6**
PBX	**Punta Banda**	**1.44**	**262**	*eP*	**Pn**	**08 12 51.9**	**-1.2**
PBX				*eS*	**Sg**	**08 13 12.3**	**-0.6**
MONP	**Monument Peak,**	**1.48**	**309**	⇓P	Pn	08 12 50.5	-3.3
	baz=1.6						
MONP				⇑S	**Sn**	**08 13 12.4**	**-1.2**
	baz=1.6						
BAR	**Barrett**	**1.55**	**298**	*ePn*	**Pn**	**08 12 52.5**	**-2.1**
BAR				*eSn*	**Sb**	**08 13 15.2**	**-0.3**
BC3	**Big Chuckawall**	**1.72**	**349**	⇓P	Pn	08 12 53.8	-3.3
	baz=1.8						
BC3				⇓S	**Sn**	**08 13 15.4**	**-4.0**
	baz=1.8						
Y12C	**Blythe**	**1.84**	**14**	⇓P	**Pn**	**08 12 55.7**	**-2.8**
	baz=1.9						
Y12C				⇑S	**Sn**	**08 13 22.0**	**-0.1**
	baz=1.9						
214A	**Organ Pipe Nat**	**1.90**	**90**	⇑P	Pn	08 12 54.5	-5.0
	baz=1.9						
214A				⇑S	**Sn**	**08 13 19.5**	**-4.2**
	baz=1.9						
214A	**Organ Pipe Nat**	**1.90**	**90**	*ePn*	Pn	08 12 55.7	-3.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
109C	**Camp Elliot, M**	**1.97**	**299**	⇓P	**Pn**	**08 12 58.5**	**-1.9**
	baz=2.0						
109C				⇑S	**Sn**	**08 13 25.0**	**-0.2**
	baz=2.0						
PFO	**Pinyon Flats O**	**2.03**	**325**	Pn	**Pn**	**08 12 58.4**	**-2.9**
	comp=E,8.8nm,0.3s,baz=133,slow=14,SNR=11						
PFO				Lg	Lg	08 13 29.4	
	comp=E,71nm,0.3s,baz=112,slow=16,SNR=9.8						
PFO				LR	LR	08 14 10.3	
	comp=E,7μm,19.0s,baz=144,slow=48						
PFO	**Pinyon Flats O**	**2.03**	**325**	⇓P	**Pn**	**08 12 58.3**	**-2.9**
	baz=2.1						
PFO				⇑Sb	**Sb**	**08 13 30.1**	**+0.8**
	baz=2.1						
PFO	**Pinyon Flats O**	**2.03**	**325**	*e*Pn	**Pn**	**08 12 58.7**	**-2.6**
PFO				Lg	Lg	08 13 29.4	
BELC	**Belle Mtn. Jos**	**2.19**	**339**	⇑P	**Pn**	**08 13 01.1**	**-2.3**
	baz=2.3						
IRM	**Iron Mountain**	**2.20**	**358**	⇓P	**Pn**	**08 13 01.3**	**-2.2**
	baz=2.3						
Z14A	**Wintersburg**	**2.26**	**51**	⇓P	Pn	08 13 01.0	-3.3
	baz=2.3						
Z14A				⇑Sb	**Sb**	**08 13 34.6**	**-1.3**
	baz=2.3						
MURC	**Murrieta**	**2.44**	**313**	⇓P	**Pn**	**08 13 04.6**	**-2.3**
	baz=2.5						
MURC				⇑Sb	**Sb**	**08 13 42.3**	**+1.2**
	baz=2.5						
PDMCI	**Parker Dam,Lak**	**2.46**	**18**	⇑P	**Pn**	**08 13 04.6**	**-2.4**
	baz=2.5						
PDMCI				⇑Sb	**Sb**	**08 13 41.9**	**+0.4**
	baz=2.5						
Y14A	**Wickenburg**	**2.62**	**41**	⇓P	Pn	08 13 05.4	-3.9
	baz=2.7						
BBRC	**Big Bear Solar**	**2.78**	**326**	⇑P	**Pn**	**08 13 10.1**	**-1.6**
	baz=2.9						
NEE2	**Needles Airpor**	**2.82**	**7**	⇓P	**Pn**	**08 13 09.7**	**-2.4**
	baz=2.9						
GMRC	**Granite Mounta**	**2.86**	**350**	⇓P	**Pn**	**08 13 10.4**	**-2.3**
	baz=3.0						
LDFC	**Landfair**	**3.11**	**359**	*e*Pn	**Pn**	**08 13 14.9**	**-1.3**
CIS	**Catalina Islan**	**3.17**	**298**	⇑P	**Pn**	**08 13 14.6**	**-2.3**
	baz=3.3						
W13A	**Hualapai Mount**	**3.28**	**17**	⇓P	**Pn**	**08 13 16.5**	**-2.0**
	baz=3.4						
MWC	**Mount Wilson**	**3.39**	**313**	*e*Pn	**Pn**	**08 13 22.6**	**+2.5**
PASC	**Pasadena Art C**	**3.43**	**311**	*e*Pg	**Pb**	**08 13 27.9**	**+0.1**
TUC	**Tucson**	**3.64**	**83**	*e*Pn	Pn	08 13 17.6	-5.7
TUC				*e*Pg	**Pg**	**08 13 36.9**	**+0.6**
TUC				*e*Sg	**Sb**	**08 14 18.7**	**+3.1**
GSC	**Goldstone, Bar**	**3.64**	**337**	*e*Pn	**Pn**	**08 13 24.8**	**+1.3**
X16A	**Lo Mia Camp, P**	**3.90**	**50**	⇑P	**Pn**	**08 13 24.6**	**-2.4**
	baz=3.9						
OSI	**Osito Audit: C**	**4.06**	**312**	*e*Pn	**Pn**	**08 13 28.9**	**-0.2**
SHPR	**Sheep Range**	**4.54**	**359**	*e*Pn	**Pn**	**08 13 35.0**	**-0.8**
ISA	**Isabella, Lake**	**4.66**	**323**	*e*Pn	**Pn**	**08 13 38.2**	**+0.7**
WUAZ	**Wupatki**	**4.69**	**40**	*e*Pn	**Pn**	**08 13 37.0**	**-0.9**
TPNV	**Topopah Spring**	**5.07**	**349**	*e*Pn	**Pn**	**08 13 42.4**	**-0.8**
W18A	**Petrified Fore**	**5.44**	**53**	*e*Pn	**Pn**	**08 13 47.5**	**-0.7**
W18A				*e*Sg	**Sg**	**08 15 24.9**	**+3.5**
CCUT	**Cedar City**	**5.75**	**14**	*e*Pn	**Pn**	**08 13 52.3**	**-0.2**
ARUT	**Antelope Range**	**5.96**	**12**	*e*Pn	**Pn**	**08 13 54.6**	**-0.8**
121A	**Needles Peak, D**	**6.18**	**83**	*e*Pn	**Pn**	**08 13 56.0**	**-2.4**
	comp=E,102nm,0.8s						
TPH	**Tonopah**	**6.36**	**344**	*e*Pn	**Pn**	**08 14 02.7**	**+1.9**
R11A	**Troy Canyon, C**	**6.39**	**356**	*e*Pn	**Pn**	**08 14 00.7**	**-0.6**
MVU	**Marysvale**	**6.93**	**19**	*e*Pn	**Pn**	**08 14 08.3**	**-0.5**
NVAR	**Mina Array Bea**	**6.98**	**338**	Pn	Pn	08 14 13.8	+4.4
	comp=E,0.2nm,0.3s,baz=159,slow=14,SNR=10						
NVAR				Pg	**Pg**	**08 14 42.4**	**+2.1**
	comp=E,0.7nm,0.3s,baz=160,slow=16,SNR=8.9						
NVAR				Lg	Lg	08 16 18.3	
	baz=150,slow=30,SNR=1.9						
LAZ	**Ladron**	**7.07**	**68**	*e*Pn	**Pn**	**08 14 10.1**	**-0.5**
LENM	**Lemitar**	**7.13**	**70**	*e*Pn	Pn	08 14 07.9	-3.5
WAKR	**Walker**	**7.45**	**332**	*e*Pn	**Pn**	**08 14 16.3**	**+0.5**
CMB	**Columbia Colle**	**7.47**	**326**	*e*Pn	**Pn**	**08 14 17.6**	**+1.5**
	comp=E,26nm,1.1s						
MVCO	**Mesa Verde**	**7.52**	**44**	*e*Pn	**Pn**	**08 14 17.3**	**+0.4**
ANMO	**Albuquerque**	**7.77**	**65**	Pn	**Pn**	**08 14 20.3**	**0.0**
	comp=E,0.4nm,0.3s,baz=230,slow=9.9,SNR=13						
ANMO				Pg	Pg	08 14 59.1	+3.6
	comp=E,0.8nm,0.3s,baz=256,slow=13,SNR=9.6						
ANMO				Lg	Lg	08 16 31.7	
	comp=E,0.7nm,0.3s,baz=274,slow=18,SNR=3.1						
TMUT	**Trail Mountain**	**7.96**	**22**	*e*Pn	**Pn**	**08 14 25.0**	**+2.0**
SRU	**San Rafael Swe**	**8.03**	**26**	*e*Pn	**Pn**	**08 14 25.9**	**+2.1**
PV10	**Paradox Valley**	**8.07**	**36**	*e*Pn	**Pn**	**08 14 25.4**	**+0.9**
	comp=E,2μm,0.7s						
PV09	**Paradox Valley**	**8.12**	**35**	*e*Pn	**Pn**	**08 14 27.5**	**+2.3**
PV01	**Paradox Valley**	**8.13**	**39**	*e*Pn	**Pn**	**08 14 26.9**	**+1.6**
MNTX	**Cornudas Mount**	**8.23**	**89**	*e*Pn	**Pn**	**08 14 24.8**	**-1.6**
DUG	**Dugway, Tooele**	**8.41**	**12**	*e*Pn	**Pn**	**08 14 31.7**	**+2.7**
MPU	**Maple Canyon**	**8.50**	**18**	*e*Pn	**Pn**	**08 14 30.9**	**+0.6**
ELK	**Elko**	**8.77**	**359**	Pn	**Pn**	**08 14 33.9**	**-0.1**
	comp=E,0.5nm,0.3s,baz=167,slow=10.0,SNR=7.8						
ELK				Lg	Lg	08 17 12.4	
	comp=E,0.3nm,0.3s,baz=182,slow=3.5,SNR=7.6						
ELK				LR	LR	08 17 40.6	
	comp=E,1μm,20.9s,baz=180,slow=37						
ELK	**Elko**	**8.77**	**359**	*e*Pn	**Pn**	**08 14 36.7**	**+2.8**
ELK				Lg	Lg	08 17 12.4	
LPIG	**La Paz**	**8.88**	**151**	Pn	Pn	08 14 38.3	+3.0
	comp=E,3.7nm,0.3s,baz=54,slow=4.5,SNR=6.1						
LPIG				Lg	Lg	08 17 25.4	
	comp=E,1.2nm,0.3s,baz=13,slow=17,SNR=2.5						
LPIG				LR	LR	08 17 43.3	
	comp=E,964nm,18.7s,baz=340,slow=35						
S22A	**4UR Ranch, Cre**	**8.88**	**47**	*e*Pn	**Pn**	**08 14 38.0**	**+2.4**
BGU	**Big Grassy Mou**	**9.09**	**10**	*e*Pn	Pn	08 14 43.6	+5.3
	comp=E,16nm,1.4s						
CTU	**Camp Tracy**	**9.11**	**16**	*e*Pn	Pn	08 14 41.8	+3.1
SMCO	**Snowmass**	**9.75**	**40**	*e*Pn	**Pn**	**08 14 49.7**	**+2.2**
O20A	**White River Ci**	**9.84**	**32**	*e*Pn	**Pn**	**08 14 50.5**	**+1.8**
HVU	**Hansel Valley**	**9.97**	**10**	*e*Pn	**Pn**	**08 14 51.1**	**+0.8**
	comp=E,16nm,1.0s						
TXAR	**Lajitas Array**	**10.15**	**102**	Pn	**Pn**	**08 14 52.9**	**+0.1**
	comp=E,1.6nm,0.3s,baz=279,slow=14,SNR=90						
TXAR				Lg	Lg	08 17 48.4	
	comp=E,0.6nm,0.3s,baz=279,slow=30,SNR=5.3						
TXAR				LR	LR	08 19 01.3	
	comp=E,3μm,18.6s,baz=0.0,slow=40						
MSTX	**Muleshoe**	**10.51**	**76**	*e*Pn	**Pn**	**08 14 58.8**	**+1.0**
MOD	**Modoc Plateau**	**10.77**	**339**	*e*Pn	**Pn**	**08 15 02.8**	**+1.4**
	comp=E,76nm,1.9s						
ISCO	**Idaho Springs**	**10.94**	**42**	*e*Pn	**Pn**	**08 15 04.9**	**+1.2**
AHID	**Auburn Hatcher**	**11.23**	**15**	*e*Pn	Pn	08 15 11.3	+3.7
	comp=E,34nm,1.5s						
MFID	**Camas Ranch**	**11.45**	**357**	*e*Pn	Pn	08 15 13.8	+3.2
	comp=E,15nm,1.2s						
YBH	**Yreka Blue Hor**	**11.52**	**330**	Pn	Pn	08 15 17.6	+6.1
	baz=159,slow=8.6,SNR=3.8						
YBH				LR	LR	08 19 32.2	
	comp=E,854nm,19.6s,baz=153,slow=37						
HLID	**Hailey**	**11.59**	**2**	*e*Pn	Pn	08 15 17.2	+4.6
PDAR	**Pinedale Array**	**11.63**	**20**	Pn	**Pn**	**08 15 14.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=195,slow=10,SNR=8.7						
PDAR				Lg	Lg	08 18 37.7	
	comp=E,0.0nm,0.3s,baz=195,slow=20,SNR=3.2						
PDAR				LR	LR	08 19 55.6	
	comp=E,3μm,19.9s,baz=204,slow=40						
KSCO	**Kaye Shedlock'**	**12.32**	**52**	*e*Pn	Pn	08 15 26.8	+4.2
K22A	**Casper**	**12.64**	**30**	*e*Pn	**Pn**	**08 15 28.2**	**+1.4**
PINOR	**Pine Mountain**	**12.69**	**340**	*e*Pn	**Pn**	**08 15 28.5**	**+1.1**
	comp=E,148nm,1.9s						
JCT	**Junction City**	**13.14**	**92**	*e*Pn	**Pn**	**08 15 35.0**	**+1.4**
WMOK	**Wichita Mounta**	**13.88**	**74**	*e*Pn	**Pn**	**08 15 45.6**	**+1.8**
	comp=E,5.8nm,1.0s						
LRM	**Limekiln Ridge**	**13.99**	**8**	*e*P	**P**	**08 15 50.3**	**-3.2**
GCMT	**Greycliff**	**14.43**	**15**	*e*Pn	**Pn**	**08 15 51.1**	**-0.2**
	comp=E,17nm,1.5s						
HAWA	**Hanford**	**14.82**	**348**	*e*P	**P**	**08 16 02.3**	**-0.1**
	comp=E,22nm,0.9s						
RSSD	**Black Hills**	**14.90**	**32**	*e*P	**Pn**	**08 16 00.5**	**+2.6**
HRY	**Holter Researc**	**14.94**	**9**	*e*Pn	**Pn**	**08 15 59.3**	**+1.1**
CHMT	**Chamberlain Mo**	**15.00**	**5**	*e*P	**P**	**08 16 04.0**	**-0.6**
V34A	**Guthrie**	**15.06**	**70**	*e*Pn	**Pn**	**08 16 01.6**	**+1.7**
SLMT	**Seeley Lake**	**15.31**	**4**	*e*P	**P**	**08 16 06.2**	**-1.9**
SWMT	**Swartz Lake**	**15.55**	**3**	*e*P	**P**	**08 16 09.9**	**-0.8**
LON	**Longmire**	**15.66**	**343**	*e*P	**P**	**08 16 12.2**	**+0.4**
	comp=E,33nm,1.3s						
JTMT	**Jette**	**15.78**	**2**	*e*P	**P**	**08 16 14.6**	**+1.3**
BSMT	**Bassoo Peak**	**15.87**	**1**	*e*P	**P**	**08 16 14.9**	**+0.6**
LAO	**LASA Array**	**16.20**	**22**	*e*P	**P**	**08 16 16.2**	**-1.6**
	comp=E,86nm,1.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**16.36**	**355**	Pn	**P**	**08 16 18.7**	**-0.9**
	comp=E,0.2nm,0.3s,baz=173,slow=9.2,SNR=13						
NEW				Lg	Lg	08 21 16.1	
	comp=E,0.1nm,0.3s,baz=22,slow=19,SNR=2.5						
NEW	**Newport**	**16.36**	**355**	*eP*	**P**	**08 16 20.4**	**+0.8**
	comp=E,238nm,2.9s						
NEW				Lg	Lg	08 21 16.1	
TUL1	**Leonard**	**16.46**	**71**	*eP*	**Pn**	**08 16 18.5**	**+0.5**
	comp=E,90nm,1.8s						
EGMT	**Eagleton**	**16.54**	**13**	*eP*	**P**	**08 16 20.8**	**-0.8**
	comp=E,140nm,2.0s						
HKT	**Hockley**	**16.61**	**92**	*eP*	**P**	**08 16 21.7**	**-0.7**
	comp=E,46nm,1.6s						
WALA	**Waterton Lakes**	**17.10**	**3**	*eP*	**Pn**	**08 16 24.9**	**-1.2**
	comp=E,25nm,1.6s						
MIAR	**Mount Ida**	**18.15**	**76**	*eP*	**Pn**	**08 16 38.6**	**-0.5**
	comp=E,40nm,1.3s						
DGMT	**Dagmar**	**18.43**	**23**	*eP*	**Pn**	**08 16 45.0**	**+2.6**
	comp=E,49nm,1.4s						
ECSD	**EROS Data Cent**	**18.66**	**46**	*eP*	**Pn**	**08 16 47.5**	**+2.2**
	comp=E,44nm,1.8s						
PBMO	**Poplar Bluff**	**20.86**	**70**	*e*Pn	**P**	**08 17 09.4**	**+0.4**
	comp=E,22nm,1.3s						
EDM	**Edmonton**	**21.29**	**3**	*eP*	**P**	**08 17 14.5**	**+1.0**
	comp=E,16nm,0.9s						
SPMN	**Marine on St.**	**21.77**	**46**	*eP*	**P**	**08 17 19.2**	**+0.4**
	comp=E,23nm,1.4s						
AGMN	**Agassiz Nation**	**21.85**	**36**	*eP*	**P**	**08 17 21.1**	**+1.5**
	comp=E,79nm,2.0s						
SIUC	**Southern Illin**	**21.93**	**68**	*eP*	**P**	**08 17 21.5**	**+0.9**
	comp=E,56nm,1.6s						
BBB	**Bella Bella**	**22.35**	**339**	LR	LR	08 26 39.2	
	comp=E,589nm,18.8s,baz=158,slow=38						
WVT	**Waverly**	**22.91**	**72**	*eP*	**P**	**08 17 31.3**	**+0.4**
	comp=E,260nm,2.9s						
OLIL	**Olney**	**22.95**	**65**	*eP*	**P**	**08 17 32.5**	**+1.1**
	comp=E,22nm,1.1s						
ULM	**Lac du Bonnet**	**23.18**	**32**	P	**P**	**08 17 31.6**	**-2.0**
	comp=E,1.7nm,0.7s,baz=238,slow=8.4,SNR=3.3						
ULM				Lg	Lg	08 24 42.5	
	comp=E,0.6nm,0.6s,baz=312,slow=15,SNR=3.9						
ULM	**Lac du Bonnet**	**23.18**	**32**	*eP*	**P**	**08 17 34.3**	**+0.7**
	comp=E,26nm,1.4s						
ULM				Lg	Lg	08 24 42.5	
CMIG	**Matias Romero**	**23.51**	**124**	P	**P**	**08 17 37.4**	**+0.1**
	comp=E,6.3nm,0.9s,baz=306,slow=9.2,SNR=6.8						
CMIG				LR	LR	08 27 32.9	
	comp=E,922nm,18.8s,baz=289,slow=39						
COWI	**Conover**	**24.45**	**47**	*eP*	**P**	**08 17 45.6**	**-0.4**
	comp=E,12nm,1.1s						
FFC	**Flin Flon**	**24.58**	**18**	*eP*	**P**	**08 17 49.4**	**+2.4**
	comp=E,17nm,1.4s						
TKL	**Tuckaleechee C**	**26.19**	**73**	Lg	Lg	08 26 13.1	
	comp=E,0.9nm,0.7s,baz=292,slow=19,SNR=2.3						
TKL				LR	LR	08 27 43.2	
	comp=E,362nm,19.0s,baz=273,slow=36						
TKL	**Tuckaleechee C**	**26.19**	**73**	*eP*	**P**	**08 18 04.1**	**+2.3**
TKL				Lg	Lg	08 26 13.1	
APG	**El Apazote**	**28.06**	**121**	LR	LR	08 28 55.8	
	comp=E,780nm,21.0s,baz=294,slow=36						
DLBC	**Dease Lake**	**28.37**	**343**	P	**P**	**08 18 23.4**	**+2.2**
	comp=E,4.3nm,0.9s,baz=136,slow=8.6,SNR=5.5						
DLBC

comp=E,220nm,28.0s
CD2 Chengdu 107.46 326 Pdif **Pdif 08 26 45.4 -0.6**
KSH Kashi 108.15 351 *e*Pdif **Pdif 08 26 51.3 +2.3**
KSH PP PP 08 31 26.4 +9.2
KSH S **Sdif 08 38 57.6 +1.6**
KSH LZ
comp=E,120nm,6.8s
BOSA Boshof 145.69 95 PKPbc **PKPdf 08 32 06.3 +0.1**
comp=E,4.7nm,0.9s,baz=311,slow=5.7,SNR=4.4

*NNC **06** 08:13:29.3±4.7, 54°.59N×89°.95E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=40.1km s-min=32.3km az=176.0*
*IDC **06** 08:13:46.5±2.6, 54°.13N×86°.46E, h0km, mb1 2.8/2, mb1mx2.7/30, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=22.0km s-min=13.2km az=53.0*
ISC 06 08:13:47.0±3.5, 54°.3N±0°.2×86°.4E±0°.1, h10km, n7, σ1§31/6, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**250**	*i*		08 20 56.0	
	baz=81,slow=339,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.97**	**250**	Pg	**Pg**	**08 14 04.2**	**-1.4**
	1.2nm,0.3s,baz=74,slow=16,SNR=18						
ZALV				Lg	Lg	08 14 20.0	
	3.2nm,0.3s,baz=78,slow=30,SNR=13						
ZALV				Rg	Rg	08 14 25.7	
	7.5nm,0.4s,baz=76,slow=32,SNR=9.6						
KURK	**Kurchatov**	**5.92**	**236**	⇓Pn	Pb	08 15 25.5	-4.8
	2.5nm,1.4s						
KURK				⇓Sn	**Sg**	**08 16 57.6**	**+0.5**
	1.5nm,0.8s						
KURK				⇑Lg	Lg	08 17 40.6	
	1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**6.03**	**236**	⇑Pn	Pb	08 15 26.2	-5.8
	1.0nm,0.3s						
KURBB				⇑Sn	**Sg**	**08 17 00.5**	**+0.1**
	2.2nm,0.6s						
KURBB				⇓Lg	Lg	08 17 42.8	
	3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**6.03**	**236**	Pn	**Pn**	**08 15 17.8**	**+1.6**
	0.1nm,0.3s,baz=54,slow=13,SNR=9.6						
KURBB				Lg	Lg	08 17 03.5	
	0.0nm,0.3s,baz=55,slow=32,SNR=5.2						
MK31	**Makanchi Array**	**7.94**	**201**	⇓Pn	**Pn**	**08 15 42.8**	**+0.4**
	0.2nm,0.5s,baz=30,slow=14,SNR=4.8						
MK31				⇑Sn	Sb	08 17 26.5	-13
	0.3nm,0.6s						
MK31				⇑Lg	Lg	08 18 20.5	
	1.9nm,1.0s,baz=26,slow=28						
MKAR	**Makanchi Array**	**7.94**	**201**	Pn	**Pn**	**08 15 42.5**	**+0.1**
	0.1nm,0.3s,baz=23,slow=15,SNR=15						
MKAR				Lg	Lg	08 17 55.9	
	0.0nm,0.3s,baz=24,slow=32,SNR=2.9						

*ISCJB **06** 08:25:05.9±0.5, 32°.14N±0°.02×115°.16W±0°.03, h7km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=22.1*
*NEIC **06** 08:25:07.5, 32°.13N×115°.17W, h4km, MD3.6(ECX), ML3.7(PAS), After ECX.*
*ECX **06** 08:25:07.6±0.5, 32°.13N×115°.17W, h4km, MD3.5, ML3.7*
ISC 06 08:25:06.8±0.9, 32°.11N±0°.02×115°.23W±0°.03, h11km±6km, n23, σ1§07/44, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.12**	**184**	⇓*e*P	**Pg**	**08 25 09.4**	**-0.3**
EMX				*e*S	**Sg**	**08 25 12.2**	**+0.3**
EMX				⇑*e*		08 25 12.6	
	comp=N,13μm,0.4s						
EMX	**El Mayor**	**0.12**	**184**	*e*P	**Pg**	**08 25 09.4**	**-0.3**
EMX				*e*S	**Sg**	**08 25 12.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.31**	**349**	*e*P	**Pg**	**08 25 13.2**	**+0.1**
CPBX				*e*S	**Sg**	**08 25 18.4**	**+1.0**
RDX	**Rancho Dawling**	**0.63**	**254**	*e*P	**Pb**	**08 25 20.0**	**+0.1**
RDX				*e*S	**Sb**	**08 25 29.3**	**+0.4**
RDX				⇑*e*		08 25 31.9	
	comp=N,3μm,0.5s						
RDX	**Rancho Dawling**	**0.63**	**254**	*e*P	**Pb**	**08 25 20.0**	**+0.1**
RDX				*e*S	**Sb**	**08 25 29.3**	**+0.4**
ECBX	**El Chinero**	**0.65**	**166**	*e*P	**Pg**	**08 25 18.8**	**-0.6**
ECBX				*e*S	**Sg**	**08 25 27.9**	**-0.1**
RMX	**La Rumorosa**	**0.87**	**305**	*e*P	**Pg**	**08 25 23.2**	**-0.4**
RMX				*e*S	**Sb**	**08 25 35.8**	**+0.1**
RMX				⇑*e*		08 25 36.9	
RMX				AML	AML	08 25 36.9	
	comp=N,2μm,0.2s						
RMX	**La Rumorosa**	**0.87**	**305**	*e*P	**Pg**	**08 25 23.2**	**-0.4**
RMX				*e*S	**Sb**	**08 25 35.8**	**+0.1**
GLA	**Glamis**	**1.00**	**20**	*e*Pg	**Pg**	**08 25 23.2**	**-2.8**
GLA				*e*Sg	**Sg**	**08 25 36.9**	**-2.2**
ZAX	**El Zacaton**	**1.07**	**237**	*e*P	**Pb**	**08 25 27.2**	**-0.2**
ZAX				*e*S	**Sn**	**08 25 42.7**	**0.0**
SPX	**San Pedro Mart**	**1.08**	**191**	*e*P	**Pb**	**08 25 27.2**	**-0.5**
SPX				*e*S	**Sn**	**08 25 42.4**	**-1.0**
SPX	**San Pedro Mart**	**1.08**	**191**	*e*P	**Pb**	**08 25 27.2**	**-0.5**
SPX				*e*S	**Sn**	**08 25 42.4**	**-1.0**
CBX	**Cerro Bola**	**1.23**	**280**	*e*P	**Pn**	**08 25 29.9**	**-0.2**
CBX				*e*S	**Sg**	**08 25 47.1**	**+0.6**
CBX	**Cerro Bola**	**1.23**	**280**	*e*P	**Pn**	**08 25 29.9**	**-0.2**
CBX				*e*S	**Sg**	**08 25 47.1**	**+0.6**
ECNX	**Esteban Cantu**	**1.25**	**249**	*e*P	**Pn**	**08 25 30.0**	**-0.3**
ECNX				*e*S	**Sg**	**08 25 48.0**	**+1.1**
PBX	**Punta Banda**	**1.32**	**254**	*e*P	**Pn**	**08 25 31.1**	**-0.2**
PBX				*e*S	**Sg**	**08 25 50.0**	**+0.6**
PBX	**Punta Banda**	**1.32**	**254**	*e*P	**Pn**	**08 25 31.1**	**-0.2**
PBX				*e*S	**Sg**	**08 25 50.0**	**+0.6**
BAR	**Barrett**	**1.35**	**295**	*e*Pn	**Pn**	**08 25 30.5**	**-1.1**
BAR				*e*Sg	**Sb**	**08 25 49.2**	**-0.2**
PFO	**Pinyon Flats O**	**1.82**	**326**	*e*Pg	**Pg**	**08 25 42.3**	**+0.6**
PFO				*e*Sn	**Sb**	**08 26 03.1**	**+0.1**
GSC	**Goldstone, Bar**	**3.44**	**338**	*e*Pg	**Pg**	**08 26 14.8**	**+2.0**
TUC	**Tucson**	**3.77**	**86**	*e*Pn	**Pn**	**08 26 07.4**	**+2.4**
TUC				*e*Pg	**Pg**	**08 26 20.1**	**+0.9**
TUC				*e*Sg	**Sg**	**08 27 11.2**	**+3.2**
W18A	**Petrified Fore**	**5.48**	**55**	*e*Pn	**Pn**	**08 26 28.2**	**-0.3**
	comp=N,12nm,0.6s						
121A	**Cookes Peak, D**	**6.32**	**84**	*e*Pn	**Pn**	**08 26 38.5**	**-1.5**
	comp=N,5.3nm,0.3s						

NEIC 06 08:27:11.9, 32°.69N×115°.85W, h1km, ML3.8(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.70**	**269**	*e*Pg	Pg	08 27 25.3	0.0
BAR				*e*Sg	Sg	08 27 35.2	+0.7
GLA	**Glamis**	**0.93**	**67**	*e*Pg	Pg	08 27 28.3	-1.5
GLA				*e*Sg	Sg	08 27 40.7	-1.2
PFO	**Pinyon Flats O**	**1.05**	**331**	*e*Pg	Pg	08 27 30.6	-1.6
PFO				*e*Sg	Sg	08 27 44.5	-1.5
MWC	**Mount Wilson**	**2.40**	**310**	*e*Pn	Pb	08 27 55.0	-1.2
PASC	**Pasadena Art C**	**2.45**	**308**	*e*Pg	Pb	08 27 55.5	-1.3
ISA	**Isabella, Lake**	**3.68**	**324**	*e*Pg	Pb	08 28 19.1	+1.3

*ISCJB **06** 08:27:30.8±0.7, 32°.66N±0°.03×115°.88W±0°.03, h2km±5km, Error ellipse: s-maj=5.6km s-min=4.4km az=31.9*
*NEIC **06** 08:27:30.4, 32°.68N×115°.85W, h7km, ML3.8(PAS), ML3.9(ECX), After PAS.*
*ECX **06** 08:27:31.9±0.5, 32°.69N×115°.89W, h5km, MD3.7, ML3.9*
ISC 06 08:27:32.3±0.9, 32°.62N±0°.03×115°.92W±0°.03, h10km±7km, n19, σ0§93/37, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMX	**La Rumorosa**	**0.13**	**264**	*e*P	**Pg**	**08 27 35.4**	**-0.1**
RMX				*e*S	**Sg**	**08 27 38.0**	**+0.2**
RMX				⇑*e*		08 27 38.9	
	comp=E,14μm,0.4s						
RMX	**La Rumorosa**	**0.13**	**264**	*e*P	**Pg**	**08 27 35.4**	**-0.1**
RMX				*e*S	**Sg**	**08 27 38.0**	**+0.2**
CPBX	**Cerro Prieto**	**0.56**	**110**	*e*P	**Pg**	**08 27 41.9**	**-1.4**
CPBX				*e*S	**Sg**	**08 27 49.8**	**-0.8**
BAR	**Barrett**	**0.64**	**276**	*e*Pg	**Pg**	**08 27 43.2**	**-1.5**
BAR				*e*Sg	**Sg**	**08 27 52.6**	**-0.4**
RDX	**Rancho Dawling**	**0.69**	**181**	*e*P	**Pg**	**08 27 45.3**	**-0.3**
RDX				*e*S	**Sg**	**08 27 55.1**	**+0.5**
RDX				⇑*e*		08 27 55.8	
	comp=N,5μm,0.3s						
RDX	**Rancho Dawling**	**0.69**	**181**	*e*P	**Pg**	**08 27 45.3**	**-0.3**
RDX				*e*S	**Sg**	**08 27 55.1**	**+0.5**
CBX	**Cerro Bola**	**0.69**	**244**	*e*P	**Pg**	**08 27 45.2**	**-0.6**
CBX				*e*S	**Sg**	**08 27 55.7**	**+0.8**
CBX				⇓*e*		08 27 58.5	
CBX				AML	AML	08 27 58.5	
	comp=E,7μm,0.5s						
CBX				⇑*e*		08 28 01.3	
CBX				AML	AML	08 28 01.3	
	comp=N,6μm,0.7s						
CBX	**Cerro Bola**	**0.69**	**244**	*e*P	**Pg**	**08 27 45.2**	**-0.6**
CBX				*e*S	**Sg**	**08 27 55.7**	**+0.8**
PBX	**Punta Banda**	**1.10**	**218**	*e*P	**Pg**	**08 27 52.3**	**-1.3**
PBX				*e*S	**Sb**	**08 28 08.5**	**+0.6**
PBX	**Punta Banda**	**1.10**	**218**	*e*P	**Pg**	**08 27 52.3**	**-1.3**
PBX				*e*S	**Sb**	**08 28 08.5**	**+0.6**
ECNX	**Esteban Cantu**	**1.11**	**211**	*e*P	**Pb**	**08 27 52.8**	**-1.0**
ECNX				*e*S	**Sb**	**08 28 08.8**	**+0.5**
ZAX	**El Zacaton**	**1.14**	**195**	*e*P	**Pb**	**08 27 52.9**	**-1.2**
ZAX				*e*S	**Sb**	**08 28 09.4**	**+0.4**
SPX	**San Pedro Mart**	**1.61**	**166**	*e*P	**Pn**	**08 28 01.0**	**-0.2**
SPX				*e*S	**Sb**	**08 28 23.9**	**+1.0**
SPX				*e*		08 28 25.2	
	comp=N,1μm,0.3s						
SPX	**San Pedro Mart**	**1.61**	**166**	*e*P	**Pn**	**08 28 01.0**	**-0.2**
SPX				*e*S	**Sb**	**08 28 23.9**	**+1.0**
MWC	**Mount Wilson**	**2.40**	**313**	*e*Pn	**Pn**	**08 28 12.7**	**+0.9**
MWC				*e*Sg	**Sb**	**08 28 44.6**	**-0.8**
PASC	**Pasadena Art C**	**2.45**	**310**	*e*Pn	**Pn**	**08 28 13.2**	**+0.8**
PASC				*e*Sg	**Sb**	**08 28 44.8**	**-1.9**
214A	**Organ Pipe Nat**	**2.72**	**103**	*e*Pg	**Pb**	**08 28 22.0**	**+1.0**
OSI	**Osito Audit: C**	**3.07**	**311**	*e*Pn	**Pn**	**08 28 22.8**	**+1.8**
OSI				*e*Sg	**Sb**	**08 29 06.0**	**+1.3**
ISA	**Isabella, Lake**	**3.70**	**326**	*e*Pg	**Pb**	**08 28 37.4**	**-0.5**
ISA				*e*Sn	**Sn**	**08 29 13.6**	**+0.2**

IDC 06 08:29:23.5±9.2, 9°.88N×123°.27E, h200km±91km, mb3.1/8, mb1 3.2/8, mb1mx3.1/25, mbtmp3.7/8, 1D, Error ellipse: s-maj=119.7km s-min=17.4km az=66.0, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.61**	**108**	*e*P	Pn	08 29 45.0	-6.2
RCP	**Roxas**	**1.75**	**343**	⇓*e*P	Pn	08 29 51.0	-8.5
RCP				*e*S	S	08 30 14.4	-13
WRA	**Warramunga Arr**	**31.57**	**160**	P	P	08 35 26.9	-0.6
	0.1nm,0.6s,baz=337,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**34.92**	**163**	P	P	08 35 56.9	+0.4
	0.1nm,0.7s,baz=338,slow=7.2,SNR=3.3						
SONM	**Songino Array**	**40.42**	**342**	P	P	08 36 42.5	+0.2
	0.6nm,0.7s,baz=152,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**50.58**	**324**	P	P	08 38 01.9	0.0
	0.7nm,0.6s,baz=124,slow=7.9,SNR=14						
MKAR				PcP	PcP	08 39 17.0	+0.4
	0.4nm,0.6s,baz=120,slow=3.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.59**	**333**	P	P	08 38 23.1	-0.7
	0.9nm,0.6s,baz=133,slow=8.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**54.74**	**327**	P	P	08 38 32.1	-0.1
	0.5nm,0.4s,baz=120,slow=9.0,SNR=7.8						
ARCES	**ARCESS Array B**	**83.53**	**339**	P	P	08 41 29.0	+0.3
	1.7nm,0.8s,baz=82,slow=5.5,SNR=8.0						
FINES	**FINESS Array B**	**84.82**	**331**	P	P	08 41 34.2	-1.1
	0.3nm,0.5s,baz=76,slow=5.9,SNR=3.5						

*IDC **06** 08:45:15.5±1.2, 29°.87S×71°.64W, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=36.6km s-min=26.1km az=42.0*
*GUC **06** 08:45:19.7±0.8, 30°.06S×71°.58W, h30km±4km, ML4.7*
*NEIC **06** 08:45:19.7, 30°.06S×71°.58W, h30km, mb4.2/2, ML4.7(GUC), After GUC.*
NEIC Felt [IV] at Coquimbo.
ISC 06 08:45:16.7±1.8, 30°.04S±0°.03×71°.71W±0°.10, h6km±10km, n36, σ1§21/46, mb4.3/5, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.28**	**152**	⇑*i*P	**Pg**	**08 45 41.0**	**-0.3**
CMCH				*e*S	**Sg**	**08 45 57.3**	**-0.7**
CMCH				AML	AML	08 46 00.1	
	comp=N,20μm,0.8s						
CMCH	**Combarbala**	**1.28**	**152**	⇑*i*P	**Pg**	**08 45 41.0**	**-0.3**
CMCH				*e*S	**Sg**	**08 45 57.3**	**-0.7**
LCO	**Las Campanas**	**1.35**	**41**	*e*Pn	**Pb**	**08 45 42.8**	**+0.3**
LCO				*e*Sn	**Sg**	**08 45 59.6**	**-0.5**
VACH	**Vallenar**	**1.68**	**30**	*e*P	**Pb**	**08 45 48.0**	**0.0**
VACH				*e*S	**Sn**	**08 46 08.9**	**+0.4**
VACH	**Vallenar**	**1.68**	**30**	*e*P	**Pb**	**08 45 48.0**	**0.0**
VACH				*e*S	**Sn**	**08 46 08.9**	**+0.4**
CPCH	**Copiapo**	**2.92**	**24**	*e*P	**Pn**	**08 46 04.6**	**+0.8**
CPCH				*e*S	**Sn**	**08 46 39.6**	**+0.3**
CPCH				AML	AML	08 46 53.0	
	comp=E,2μm,0.2s						
CPCH	**Copiapo**	**2.92**	**24**	*e*P	**Pn**	**08 46 04.6**	**+0.8**
CPCH				*e*S	**Sn**	**08 46 39.6**	**+0.3**
IHA	**Instituto Hidr**	**2.98**	**179**	*e*P	**Pn**	**08 46 04.2**	**-0.3**
IHA	**Instituto Hidr**	**2.98**	**179**	P	**Pn**	**08 46 04.2**	**-0.3**
ROCH	**El Roble**	**2.98**	**169**	*e*P	**Pn**	**08 46 06.0**	**+1.3**
ROCH				*e*S	**Sb**	**08 46 46.8**	**-0.4**
ROCH				AML	AML	08 46 57.8	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**2.98**	**169**	*e*P	**Pn**	**08 46 06.0**	**+1.3**
ROCH				S	**Sb**	**08 46 46.8**	**-0.4**
PEL	**Peldehue**	**3.21**	**165**	*e*P	**Pn**	**08 46 09.4**	**+1.6**
PEL				*e*S	**Sn**	**08 46 47.3**	**+0.9**
PEL				AML	AML	08 47 03.0	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**3.21**	**165**	*e*P	**Pn**	**08 46 09.4**	**+1.6**
PEL				S	**Sn**	**08 46 47.3**	**+0.9**
CFAA	**Coronel Fontan**	**3.37**	**118**	Pn	**Pn**	**08 46 11.3**	**+1.4**
	comp=N,1.7nm,0.3s,baz=301,slow=8.8,SNR=171						
CFAA				Sn	**Sn**	**08 46 51.2**	**+1.0**
	comp=N,12nm,0.3s,baz=1.5,slow=23,SNR=6.9						
CLCH	**Cerro Calan**	**3.49**	**164**	*e*P	**Pn**	**08 46 13.0**	**+1.3**
CLCH				*e*S	**Sn**	**08 46 53.5**	**+0.2**
CLCH				AML	AML	08 47 06.5	
	comp=E,1μm,0.5s						
LACH	**Col Las Americ**	**3.55**	**164**	*e*S	**Sn**	**08 46 54.1**	**-0.5**
YECH	**El Yeso**	**3.87**	**160**	*e*S	**Sn**	**08 47 05.9**	**+3.0**
YECH				AML	AML	08 47 25.2	
	comp=N,813nm,0.4s						
LVC	**Limon Verde**	**7.81**	**19**	*e*Pn	**Pn**	**08 47 12.4**	**+1.3**
	comp=N,14nm,0.5s						
PLCA	**Paso Flores**	**10.71**	**175**	Pn	**Pn**	**08 47 52.3**	**+1.6**
	comp=N,1.1nm,0.3s,baz=352,slow=14,SNR=2.6						
PLCA	**Paso Flores**	**10.71**	**175**	*e*Pn	**Pn**	**08 47 52.7**	**+2.0**
TRQA	**Tornquist**	**11.35**	**137**	*e*Pn	**Pn**	**08 47 59.7**	**+0.3**
	comp=N,8.5nm,0.6s						
LPAZ	**La Paz**	**14.08**	**14**	Pn	**Pn**	**08 48 39.8**	**+2.5**
	comp=N,0.3nm,0.3s,baz=204,slow=4.1,SNR=13						
LPAZ	**La Paz**	**14.08**	**14**	*e*Pn	**Pn**	**08 48 40.2**	**+2.9**
SIV	**San Ignacio**	**17.05**	**37**	Pn	**P**	**08 49 17.5**	**-0.2**
	comp=N,1.5nm,0.3s,baz=225,slow=13,SNR=23						
SAML	**Samuel**	**22.45**	**23**	*e*P	**P**	**08 50 15.8**	**-0.8**
	comp=N,15nm,1.3s						
BDFB	**Brasilia**	**26.04**	**62**	P	**P**	**08 50 48.6**	**-2.5**
	comp=N,4.0nm,0.5s,baz=223,slow=6.5,SNR=6.8						
TXAR	**Lajitas Array**	**66.45**	**330**	P	**P**	**08 56 06.0**	**-1.0**
	comp=N,0.2nm,0.5s,baz=148,slow=7.3,SNR=3.3						
ECSD	**EROS Data Cent**	**76.88**	**342**	*e*P	**P**	**08 57 09.6**	**+0.1**
	comp=N,2.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**82.61**	**70**	P	**P**	**08 57 39.9**	**-1.3**
	comp=N,1.3nm,0.5s,baz=279,slow=6.1,SNR=25						
KIS	**Kishinev**	**118.14**	**50**	*e*L	L	09 05 58.0	
KIS				LRM	MLR	09 09 58.0	
	comp=N,300nm,18.0s						
WRA	**Warramunga Arr**	**124.33**	**210**	PKP	**PKPdf**	**09 04 15.9**	**-1.3**
	comp=N,0.3nm,0.8s,baz=153,slow=1.7,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**126.02**	**272**	T	T	11 23 12.7	
	baz=116						
H11S1	**WAKE ISLAND Hyl**	**126.03**	**272**	T	T	11 23 12.2	
	baz=116						
H11S3	**WAKE ISLAND Hyl**	**126.04**	**272**	T	T	11 23 13.3	
	baz=116						
ZALV	**Zalesovo Beam**	**150.68**	**29**	PKPbc	**PKPbc**	**09 05 08.9**	**-0.3**
	comp=N,2.5nm,0.7s,baz=301,slow=3.0,SNR=9.2						
MKAR	**Makanchi Array**	**153.81**	**43**	PKPbc	**PKPbc**	**09 05 16.4**	**-0.2**
	comp=N,0.2nm,0.7s,baz=338,slow=3.1,SNR=3.0						
MKAR				PKPab	**PKPab**	**09 05 30.1**	**+0.5**
	comp=N,0.2nm,0.7s,baz=276,slow=1.3,SNR=3.0						

*ISCJB **06** 08:54:01.7±2.0, 33°.91S±0°.04×72°.48W±0°.07, h4km±15km, mb4.2/4, MS3.7/2, Error ellipse: s-maj=9.8km s-min=6.2km az=8.6*
*IDC **06** 08:54:02.5±1.1, 34°.05S×72°.30W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.9/17, mbtmp3.9/5, ML3.4/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/20, Error ellipse: s-maj=38.3km s-min=21.3km az=91.0*
*GUC **06** 08:54:02.2±0.3, 33°.90S×72°.48W, h13km±3km*
*NEIC **06** 08:54:07.5±0.7, 33°.94S×72°.42W, h35km, mb4.5/2, Error ellipse: s-maj=18.9km s-min=11.9km az=92.0*
ISC 06 08:54:03.3±3.6, 33°.95S±0°.06×72°.37W±0°.08, h7km±22km, n28, σ0§95/30, mb4.4/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.56**	**157**	*e*P	**Pn**	**08 54 31.3**	**-0.2**
TALC				*e*S	**Sg**	**08 54 53.3**	**-0.3**
FSR	**Penalolen**	**1.61**	**73**	*e*P	**Pn**	**08 54 31.8**	**-0.4**
FSR				*e*S	**Sb**	**08 54 54.3**	**+0.5**
LACH	**Col Las Americ**	**1.61**	**72**	*e*P	**Pn**	**08 54 32.0**	**-0.3**
LACH				*e*S	**Sb**	**08 54 54.4**	**+0.3**
SJCH	**San Jose de Ma**	**1.71**	**80**	*e*P	**Pn**	**08 54 33.0**	**-0.6**
SJCH				*e*S	**Sb**	**08 54 56.9**	**+0.1**
LNCH	**Linares**	**1.99**	**162**	*e*P	**Pn**	**08 54 37.8**	**+0.4**
LNCH				*e*S	**Sb**	**08 55 05.1**	**+0.1**
COCH	**Cobquecura**	**2.20**	**189**	*e*P	**Pn**	**08 54 40.4**	**+0.1**
CMCH	**Combarbala**	**3.00**	**23**	*e*P	**Pn**	**08 54 51.4**	**0.0**
CFAA	**Coronel Fontan**	**4.19**	**57**	Pn	**Pn**	**08 55 09.4**	**+1.7**
	0.2nm,0.3s,baz=221,slow=13,SNR=6.2						
CFAA				Lg	Lg	08 56 12.7	
	2.9nm,0.3s,baz=301,slow=18,SNR=8.4						
CFAA				LR	LR	08 56 16.4	
	comp=Z,12nm,21.3s,baz=240,slow=32						
LCO	**Las Campanas**	**5.13**	**17**	*e*Pn	**Pn**	**08 55 20.4**	**-0.4**
	98nm,0.8s						
PLCA	**Paso Flores**	**6.92**	**168**	Pn	**Pn**	**08 55 45.3**	**0.0**
	0.2nm,0.3s,baz=345,slow=14,SNR=3.6						
PLCA				Lg	Lg	08 57 37.4	
	0.0nm,0.3s,baz=45,slow=20,SNR=2.6						
PLCA				LR	LR	08 58 32.7	
	comp=Z,385nm,18.2s,baz=322,slow=40						
PLCA	**Paso Flores**	**6.92**	**168**	*e*Pn	**Pn**	**08 55 44.5**	**-0.7**
PLCA				Lg	Lg	08 57 37.4	
TRQA	**Tornquist**	**9.36**	**119**	*e*Pn	**Pn**	**08 56 22.5**	**+3.9**
LPAZ	**La Paz**	**18.00**	**13**	P	**P**	**08 58 16.3**	**+1.0**
	0.1nm,0.3s,baz=187,slow=7.1,SNR=9.4						
SIV	**San Ignacio**	**20.58**	**32**	P	**P**	**08 58 42.6**	**-0.4**
	2.8nm,0.7s,baz=218,slow=10.0,SNR=9.5						
BDFB	**Brasilia**	**28.54**	**56**	LR	LR	09 12 25.2	
	comp=Z,195nm,19.4s,baz=204,slow=39						
RPN	**Rapa Nui**	**32.43**	**272**	LR	LR	09 10 39.1	
	comp=Z,159nm,19.2s,baz=112,slow=31						
QSPA	**South Pole Qui**	**56.28**	**180**	*e*P	**P**	**09 03 44.6**	**+0.2**
	3.9nm,1.0s						
TXAR	**Lajitas Array**	**69.56**	**331**	P	**P**	**09 05 14.2**	**+1.2**
	0.4nm,0.8s,baz=151,slow=8.4,SNR=4.9						
WVT	**Waverly**	**71.20**	**347**	*e*P	**P**	**09 05 23.3**	**+0.5**
	5.1nm,0.8s						
WVT				*e*		09 05 32.1	
R11A	**Troy Canyon, C**	**82.37**	**327**	*e*Sn	**P**	**09 06 26.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P	**P**	**09 06 36.9**	**-0.2**
	2.6nm,0.8s,baz=244,slow=3.8,SNR=12						
WRA	**Warramunga Arr**	**120.67**	**209**	PKP	**PKPdf**	**09 12 56.2**	**-0.4**
	0.3nm,0.9s,baz=163,slow=1.8,SNR=3.3						
BVAR	**Borovoye Array**	**147.43**	**43**	PKPbc	**PKPbc**	**09 13 47.7**	**+0.2**
	0.9nm,0.5s,baz=298,slow=3.2,SNR=6.3						
AAK	**Ala-Archa**	**152.72**	**62**	PKPbc	**PKPbc**	**09 14 01.5**	**+0.6**
	0.6nm,0.3s,baz=157,slow=7.7,SNR=4.0						
AAK	**Ala-Archa**	**152.72**	**62**	*e*PKPbc	**PKPbc**	**09 14 01.4**	**+0.4**
KURK	**Kurchatov**	**153.03**	**43**	*e*PKPdf	**PKPdf**	**09 13 49.9**	**-3.8**
ZALV	**Zalesovo Beam**	**154.33**	**32**	PKPbc	**PKPbc**	**09 14 04.0**	**+0.2**
	1.3nm,0.6s,baz=228,slow=1.8,SNR=6.2						
MKAR	**Makanchi Array**	**156.94**	**49**	PKPab	**PKPab**	**09 14 28.8**	**-0.6**
	0.6nm,0.8s,baz=296,slow=4.1,SNR=4.8						

*PGC **06** 08:54:40.8±1.7, 55°.27N×134°.04W, h10km, ML3.6/8, 185km Wnw of Masset, Bc Southeastern Alaska*
*IDC **06** 08:54:43.8±2.4, 55°.09N×133°.51W, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/27, mbtmp3.2/4, ML3.5/3, Error ellipse: s-maj=31.4km s-min=15.0km az=82.0*
*NEIC **06** 08:54:43.2, 55°.28N×133°.56W, h18km, ML3.3(AEIC), ML3.6(OTT), After AEIC.*
**ISC 06 08:54:42.6±1.4, 55°.25N±0°.02×133°.59W

H11N2	**WAKE ISLAND Hy**	**56.72**	**256**	T	T	10 05 47.0
	baz=35					
H11N3	**WAKE ISLAND Hy**	**56.72**	**256**	T	T	10 05 47.3
	baz=35					
H11N1	**WAKE ISLAND Hy**	**56.73**	**256**	T	T	10 05 48.3
	baz=35					
H11S1	**WAKE ISLAND Hy**	**57.81**	**256**	T	T	10 07 07.8
	baz=37					
H11S2	**WAKE ISLAND Hy**	**57.82**	**256**	T	T	10 07 06.1
	baz=37					
H11S3	**WAKE ISLAND Hy**	**57.83**	**256**	T	T	10 07 09.3
	baz=37					

*ISCJB **06** 09:00:04.4±0.4, 59°.31N±0°.03×21°.53E±0°.04, h0km, Error ellipse: s-maj=4.6km s-min=3.1km az=4.6*
*CSEM **06** 09:00:05.3±0.2, 59°.28N×21°.55E, h2km, ML2.0, Error ellipse: s-maj=4.6km s-min=3.1km az=2.0, Mining explosion.*
*HEL **06** 09:00:05.9±0.1, 59°.28N×21°.52E, h0km, ML2.6, ML2.0(UPP), Explosion*
*IDC **06** 09:00:05.7±2.3, 59°.14N×21°.69E, h8km±15km, mb1 3.4/4, mb1mx3.1/30, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=29.6km s-min=8.7km az=164.0*
*UPP **06** 09:00:07.3, 59°.34N×21°.25E, h0km, ML2.0, Suspected Mining explosion.*
*NAO **06** 09:00:07.1±1.4, 59°.40N×21°.58E, ML2.6*
*BER **06** 09:00:09.0±4.1, 59°.52N×21°.52E, h0km, ML2.6(NAO), Suspected explosion*

ISC 06 09:00:04.6±0.8, 59°.31N±0°.03×21°.59E±0°.02, h0km, n85, σ1§09/112, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.19**	**318**	*e*P	**Pg**	**09 00 27.0**	**-0.3**
AAL				*e*S	**Sg**	**09 00 42.5**	**-0.2**
AAL	**Aland**	**1.19**	**318**	P	**Pg**	**09 00 27.0**	**-0.3**
AAL				S	**Sg**	**09 00 42.5**	**-0.2**
AAL	**Aland**	**1.19**	**318**	P	**Pg**	**09 00 27.0**	**-0.3**
AAL				S	**Sg**	**09 00 42.5**	**-0.2**
SRPE	**Suurupi**	**1.44**	**83**	*e*P	**Pn**	**09 00 32.0**	**+0.2**
SRPE				*e*S	**Sg**	**09 00 50.8**	**+0.1**
SRPE	**Suurupi**	**1.44**	**83**	P	**Pn**	**09 00 32.0**	**+0.2**
SRPE				S	**Sg**	**09 00 50.7**	**+0.1**
NRTU	**Norrtaelje**	**1.55**	**285**	*e*P	**Pn**	**09 00 33.0**	**-0.4**
NRTU	**Norrtaelje**	**1.55**	**285**	P	**Pn**	**09 00 33.0**	**-0.4**
NRTU	**Norrtaelje**	**1.55**	**285**	P	**Pn**	**09 00 33.0**	**-0.4**
MEF	**Metsahovi**	**1.69**	**56**	*e*P	**Pb**	**09 00 36.6**	**+0.2**
MEF				*e*S	**Sb**	**09 00 58.4**	**+0.3**
MEF	**Metsahovi**	**1.69**	**56**	P	**Pb**	**09 00 36.6**	**+0.2**
MEF				S	**Sb**	**09 00 58.4**	**+0.3**
RAF	**Rauma**	**1.72**	**3**	*e*P	**Pb**	**09 00 36.9**	**-0.1**
RAF				*e*S	**Sg**	**09 01 00.1**	**+0.3**
RAF	**Rauma**	**1.72**	**3**	P	**Pb**	**09 00 36.9**	**-0.1**
RAF				S	**Sg**	**09 01 00.1**	**+0.3**
SLIT	**Slitere, Latvi**	**1.73**	**167**	*e*P	**Pn**	**09 00 36.3**	**+0.5**
SLIT				*e*S	**Sn**	**09 00 58.1**	**-0.3**
SLIT	**Slitere, Latvi**	**1.73**	**167**	P	**Pn**	**09 00 36.2**	**+0.5**
SLIT				S	**Sn**	**09 00 58.1**	**-0.3**
GRAU	**Graesoe**	**1.85**	**305**	*e*P	**Pn**	**09 00 37.5**	**-0.1**
GRAU	**Graesoe**	**1.85**	**305**	P	**Pn**	**09 00 37.5**	**-0.1**
GRAU	**Graesoe**	**1.85**	**305**	P	**Pn**	**09 00 37.5**	**-0.1**
NYNU	**Nynaeshamn**	**1.87**	**262**	*e*P	**Pn**	**09 00 38.5**	**+0.7**
NYNU	**Nynaeshamn**	**1.87**	**262**	P	**Pn**	**09 00 38.5**	**+0.7**
NYNU	**Nynaeshamn**	**1.87**	**262**	P	**Pn**	**09 00 38.5**	**+0.7**
FORU	**Forsmark**	**2.03**	**304**	*e*P	**Pn**	**09 00 40.8**	**+0.8**
FORU	**Forsmark**	**2.03**	**304**	P	**Pn**	**09 00 40.8**	**+0.8**
FORU	**Forsmark**	**2.03**	**304**	P	**Pn**	**09 00 40.8**	**+0.8**
FLYU	**Flymyra**	**2.05**	**295**	*e*P	**Pn**	**09 00 40.8**	**+0.6**
FLYU	**Flymyra**	**2.05**	**295**	P	**Pn**	**09 00 40.8**	**+0.6**
FLYU	**Flymyra**	**2.05**	**295**	P	**Pn**	**09 00 40.8**	**+0.6**
BACU	**Backbrunna**	**2.34**	**285**	*e*P	**Pn**	**09 00 45.2**	**+0.9**
BACU	**Backbrunna**	**2.34**	**285**	P	**Pn**	**09 00 45.2**	**+0.9**
BACU	**Backbrunna**	**2.34**	**285**	P	**Pn**	**09 00 45.2**	**+0.9**
OSTU	**Oestervaala**	**2.44**	**294**	*e*P	**Pn**	**09 00 46.4**	**+0.8**
OSTU	**Oestervaala**	**2.44**	**294**	P	**Pn**	**09 00 46.4**	**+0.8**
OSTU	**Oestervaala**	**2.44**	**294**	P	**Pn**	**09 00 46.4**	**+0.8**
PVF	**Pernaja**	**2.48**	**58**	*e*P	**Pb**	**09 00 48.5**	**-1.5**
PVF				*e*SB	**Sb**	**09 01 21.8**	**+0.8**
PVF	**Pernaja**	**2.48**	**58**	P	**Pb**	**09 00 48.4**	**-1.5**
PVF				Sb	**Sb**	**09 01 21.8**	**+0.8**
IGGU	**Iggoen**	**2.65**	**308**	*e*P	**Pn**	**09 00 49.5**	**+0.9**
IGGU	**Iggoen**	**2.65**	**308**	P	**Pn**	**09 00 49.4**	**+0.9**
IGGU	**Iggoen**	**2.65**	**308**	P	**Pn**	**09 00 49.5**	**+0.9**
VIKU	**Vikbolandet**	**2.66**	**254**	*e*P	**Pn**	**09 00 49.0**	**+0.4**
VIKU	**Vikbolandet**	**2.66**	**254**	P	**Pn**	**09 00 49.0**	**+0.4**
VIKU	**Vikbolandet**	**2.66**	**254**	P	**Pn**	**09 00 49.0**	**+0.4**
ESKU	**Eskilstuna**	**2.67**	**271**	*e*P	**Pn**	**09 00 49.9**	**+1.2**
ESKU	**Eskilstuna**	**2.67**	**271**	P	**Pn**	**09 00 49.9**	**+1.2**
ESKU	**Eskilstuna**	**2.67**	**271**	P	**Pn**	**09 00 49.9**	**+1.2**
VSU	**Vasula**	**2.80**	**105**	Pn	**Pb**	**09 00 55.3**	**-0.1**
VSU				Sn	**Sb**	**09 01 30.0**	**-0.3**
VSU	**Vasula**	**2.80**	**105**	Pn	**Pb**	**09 00 55.3**	**-0.1**
VSU				Sn	**Sb**	**09 01 30.0**	**-0.3**
VSU	**Vasula**	**2.80**	**105**	*e*PB	**Pb**	**09 00 55.4**	**-0.1**
VSU				*e*SB	**Sb**	**09 01 30.0**	**-0.3**
VSU	**Vasula**	**2.80**	**105**	Pb	**Pb**	**09 00 55.3**	**-0.1**
VSU	**Vasula**	**2.80**	**105**	Pn	**Pb**	**09 00 55.3**	**-0.1**
	SNR=50						
VSU				Sb	**Sb**	**09 01 29.9**	**-0.3**
VSU				Sn	**Sb**	**09 01 30.0**	**-0.3**
	SNR=50						
FIA0	**FINESS Array S**	**3.09**	**44**	Pn	**Pn**	**09 00 56.9**	**+2.4**
	baz=211,slow=14						
FIA0				Pg	**Pb**	**09 00 59.1**	**-1.2**
	baz=225,slow=16						
FIA0	**FINESS Array S**	**3.09**	**44**	Pn	**Pn**	**09 00 56.9**	**+2.4**
	baz=211,slow=14						
FIA0				Pg	**Pb**	**09 00 59.1**	**-1.2**
	baz=225,slow=16						
FIA0	**FINESS Array S**	**3.09**	**44**	Pn	**Pn**	**09 00 56.9**	**+2.4**
	SNR=50						
FIA0	**FINESS Array S**	**3.09**	**44**	Pg	**Pb**	**09 00 59.2**	**-1.2**
	SNR=50						
FINES	**FINESS Array B**	**3.09**	**44**	Pn	**Pn**	**09 00 57.0**	**+2.4**
	1.6nm,0.3s,baz=222,slow=13,SNR=30						
FINES				Sn	**Sn**	**09 01 34.4**	**+2.2**
	1.9nm,0.3s,baz=224,slow=22,SNR=4.3						
VJF	**Virojoki**	**3.25**	**65**	MSG		09 01 55.0	
	comp=Z,14nm,0.3s						
KEF	**Keuruu**	**3.29**	**28**	MSG		09 01 57.3	
	comp=Z,10nm,0.3s						
KAF	**Kangasniemi**	**3.64**	**37**	MSG		09 02 06.3	
	comp=Z,12nm,0.3s						
VAF	**Ylistaro**	**3.78**	**7**	MSG		09 02 10.2	
	comp=Z,13nm,0.3s						
SUF	**Sumiainen**	**4.08**	**31**	MSG		09 02 15.8	
	comp=Z,14nm,0.3s						
HFS	**Hagfors**	**4.08**	**285**	Pn	**Pn**	**09 01 08.9**	**+0.7**
	baz=106,slow=12						
HFS				Pg	**Pb**	**09 01 18.4**	**+1.2**
	baz=97,slow=16						
HFS	**Hagfors**	**4.08**	**285**	Pn	**Pn**	**09 01 08.9**	**+0.7**
	baz=106,slow=12						
HFS				Pg	**Pb**	**09 01 18.4**	**+1.2**
	baz=97,slow=16						
HFS	**Hagfors**	**4.08**	**285**	Pn	**Pn**	**09 01 08.3**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=106,slow=14,SNR=18						
HFS				Pg	**Pb**	**09 01 18.0**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=104,slow=18,SNR=32						
HFS				Sn	**Sn**	**09 01 57.6**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=102,slow=21,SNR=8.4						
HFS				Lg	Lg	09 02 10.0	
	comp=Z,12nm,0.3s,baz=104,slow=31,SNR=12						
HFS	**Hagfors**	**4.08**	**285**	Pn	**Pn**	**09 01 08.9**	**+0.7**
	SNR=50						
NB2	**NORSAR Subarra**	**5.46**	**293**	Pn	**Pn**	**09 01 26.8**	**-0.3**
	baz=104,slow=14						
NB2				Sn	**Sn**	**09 02 29.9**	**-0.7**
NB2				Lg	Lg	09 02 54.9	
NB2	**NORSAR Subarra**	**5.46**	**293**	Pn	**Pn**	**09 01 26.8**	**-0.3**
	baz=104,slow=14						
NB2				Sn	**Sn**	**09 02 29.9**	**-0.7**
NB2				Lg	Lg	09 02 54.9	
NB2	**NORSAR Subarra**	**5.46**	**293**	Pn	**Pn**	**09 01 26.8**	**-0.3**
	SNR=50						
NB2				Sn	**Sn**	**09 02 29.9**	**-0.7**
	SNR=50						
NB2				Lg	Lg	09 02 54.9	
NB2				Lg	Lg	09 02 54.9	
	SNR=19						
NOA	**NORSAR Array B**	**5.46**	**293**	Pn	**Pn**	**09 01 25.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=112,slow=14,SNR=17						
NOA				Sn	**Sn**	**09 02 28.2**	**-2.5**
	comp=Z,1.1nm,0.3s,baz=117,slow=15,SNR=3.6						
NOA				Lg	Lg	09 02 49.8	
	comp=Z,2.4nm,0.3s,baz=47,slow=18,SNR=5.8						
BSD	**Bornholm Skovb**	**5.55**	**224**	*i* P	**Sn**	**09 02 28.2**	**-4.6**
LILU	**Lilltraesk**	**6.05**	**353**	*e*P	**Pn**	**09 01 36.7**	**+1.5**
LILU				*e*S	**Sn**	**09 02 43.1**	**-2.0**
LILU	**Lilltraesk**	**6.05**	**353**	P	**Pn**	**09 01 36.7**	**+1.5**
LILU				S	**Sn**	**09 02 43.1**	**-2.0**
LILU	**Lilltraesk**	**6.05**	**353**	P	**Pn**	**09 01 36.7**	**+1.5**
LILU				S	**Sn**	**09 02 43.1**	**-2.0**
SJUU	**Sjulsmark**	**6.22**	**0**	*e*P	**Pn**	**09 01 39.1**	**+1.6**
SJUU	**Sjulsmark**	**6.22**	**0**	P	**Pn**	**09 01 39.1**	**+1.6**
SJUU	**Sjulsmark**	**6.22**	**0**	P	**Pn**	**09 01 39.1**	**+1.6**
HARU	**Harads**	**6.89**	**358**	*e*P	**Pn**	**09 01 48.0**	**+1.4**
HARU	**Harads**	**6.89**	**358**	P	**Pn**	**09 01 48.0**	**+1.4**
HARU	**Harads**	**6.89**	**358**	P	**Pn**	**09 01 48.0**	**+1.4**
ERTU	**Ertsjaerv**	**7.28**	**2**	*e*P	**Pn**	**09 01 52.6**	**+0.7**
ERTU	**Ertsjaerv**	**7.28**	**2**	P	**Pn**	**09 01 52.7**	**+0.7**
ERTU	**Ertsjaerv**	**7.28**	**2**	P	**Pn**	**09 01 52.6**	**+0.7**
APA0	**Apatity Array**	**9.74**	**27**	Pn	**Pn**	**09 02 26.2**	**+0.4**
	baz=217,slow=14						
APA0	**Apatity Array**	**9.74**	**27**	Pn	**Pn**	**09 02 26.2**	**+0.4**
	baz=217,slow=14						
APA0	**Apatity Array**	**9.74**	**27**	Pn	**Pn**	**09 02 26.2**	**+0.4**
	SNR=50						
ARA0	**ARCESS Array S**	**10.40**	**8**	Pn	**Pn**	**09 02 33.6**	**-1.2**
	baz=185,slow=14						
ARA0				Sn	Sn	09 04 24.6	-7.2
	baz=194,slow=22						
ARA0	**ARCESS Array S**	**10.40**	**8**	Pn	**Pn**	**09 02 33.6**	**-1.2**
	baz=185,slow=14						
ARA0				Sn	Sn	09 04 24.6	-7.2
	baz=194,slow=22						
ARCES	**ARCESS Array B**	**10.40**	**8**	Pn	**Pn**	**09 02 33.8**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=192,slow=14,SNR=51						
ARCES				Sn	Sn	09 04 24.5	-7.4
	comp=Z,0.6nm,0.3s,baz=194,slow=21,SNR=5.3						

*ISCJB **06** 09:03:44.8±0.5, 32°.29N±0°.02×115°.31W±0°.02, h2km±4km, mb3.3/1, Error ellipse: s-maj=3.8km s-min=2.9km az=155.2*
*IDC **06** 09:03:46.9±2.6, 32°.15N×115°.28W, h0km, mb3.4/1, mb1 3.5/5, mb1mx3.4/27, mbtmp3.1/5, ML3.3/3, Error ellipse: s-maj=42.9km s-min=14.0km az=40.0*
*NEIC **06** 09:03:47.0, 32°.29N×115°.34W, h0km, ML3.7(PAS), ML3.8(ECX), After ECX.*
*ECX **06** 09:03:47.1±0.6, 32°.29N×115°.34W, h10km, MD3.7, ML3.8*

ISC 06 09:03:46.5±1.1, 32°.26N±0°.03×115°.36W±0°.02, h5km±9km, n32, σ1§19/52, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**17**	*e*P	**Pg**	**09 03 49.8**	**-0.2**
CPBX				*e*S	**Sg**	**09 03 52.2**	**0.0**
RDX	**Rancho Dawling**	**0.59**	**237**	*e*P	**Pg**	**09 03 58.4**	**+0.5**
RDX				*e*S	**Sg**	**09 04 06.7**	**+1.1**
RDX				⇑*e*		09 04 07.2	
	comp=N,4μm,0.5s						
RMX	**La Rumorosa**	**0.70**	**300**	*e*P	**Pg**	**09 03 59.6**	**-0.3**
RMX				*e*S	**Sg**	**09 04 09.0**	**0.0**
RMX				⇑*e*		09 04 10.1	
	comp=E,3μm,0.5s						
GLA	**Glamis**	**0.92**	**30**	*e*Pg	**Pg**	**09 04 02.4**	**-1.7**
GLA				*e*Sg	**Sg**	**09 04 14.4**	**-1.6**
ZAX	**El Zacaton**	**1.07**	**227**	*e*P	**Pg**	**09 04 06.8**	**-0.3**
ZAX				*e*S	**Sb**	**09 04 21.7**	**-0.3**
CBX	**Cerro Bola**	**1.10**	**273**	⇑*e*P	**Pg**	**09 04 07.2**	**-0.6**
CBX				*e*S	**Sg**	**09 04 21.7**	**-0.3**
CBX				⇓*e*		09 04 23.7	
CBX				AML	AML	09 04 23.7	
	comp=E,3μm,0.5s						
CBX				⇓*e*		09 04 27.8	
CBX				AML	AML	09 04 27.8	
	comp=N,3μm,0.7s						
ECNX	**Esteban Cantu**	**1.21**	**241**	*e*P	**Pg**	**09 04 09.0**	**-0.7**
ECNX				*e*S	**Sg**	**09 04 25.5**	**+0.2**
SPX	**San Pedro Mart**	**1.21**	**184**	*e*P	**Pg**	**09 04 08.4**	**-1.3**
SPX				*e*S	**Sg**	**09 04 25.5**	**+0.1**
SPX				⇑*e*		09 04 29.6	
	comp=N,2μm,0.5s						
PBX	**Punta Banda**	**1.27**	**247**	*e*P	**Pn**	**09 04 09.9**	**-1.0**
PBX				*e*S	**Sg**	**09 04 27.1**	**-0.2**
PFO	**Pinyon Flats O**	**1.63**	**326**	Pn	**Pn**	**09 04 13.5**	**-2.6**
	comp=N,17nm,0.3s,baz=143,slow=10,SNR=24						
PFO				Lg	Lg	09 04 36.5	
	comp=N,24nm,0.3s,baz=61,slow=16,SNR=13						
PFO				LR	LR	09 05 05.9	
	comp=N,291nm,18.5s,baz=180,slow=45						
PFO	**Pinyon Flats O**	**1.63**	**326**	Pn	**Pn**	**09 04 13.5**	**-2.6**
PFO				Lg	Lg	09 04 36.5	
PFO				*e*Sn	**Sb**	**09 04 37.9**	**-0.3**
214A	**Organ Pipe Nat**	**2.19**	**97**	*e*Pn	**Pn**	**09 04 20.5**	**-3.2**
214A				*e*Sn	**Sn**	**09 04 48.5**	**-2.7**
MWC	**Mount Wilson**	**2.99**	**312**	*e*Pn	**Pn**	**09 04 35.2**	**+0.4**
MWC				*e*Sg	**Sg**	**09 05 23.3**	**+0.6**
PASC	**Pasadena Art C**	**3.04**	**310**	*e*Pn	**Pn**	**09 04 36.5**	**+1.2**
PASC				*e*Sg	**Sg**	**09 05 23.7**	**-0.6**
GSC	**Goldstone, Bar**	**3.27**	**339**	*e*Pg	**Pg**	**09 04 49.1**	**-0.1**
GSC				*e*Sn	**Sn**	**09 05 17.8**	**-0.1**
OSI	**Osito Audit: C**	**3.66**	**311**	*e*Pg	**Pg**	**09 04 57.4**	**+0.6**
OSI				*e*Sg	**Sg**	**09 05 43.7**	**-0.6**
TUC	**Tucson**	**3.88**	**88**	*e*Pn	**Pn**	**09 04 47.0**	**+0.1**
TUC				Sn	**Sn**	**09 05 32.9**	**-0.1**
SHPR	**Sheep Range**	**4.24**	**2**	*e*Pn	**Pn**	**09 04 53.4**	**+1.4**
ISA	**Isabella, Lake**	**4.27**	**324**	*e*Pn	**Pn**	**09 04 53.1**	**+0.8**
ISA				*e*Sn	**Sn**	**09 05 42.1**	**-0.4**
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn	**Pn**	**09 04 58.0**	**+0.4**
WUAZ				*e*Sn	**Sn**	**09 05 52.9**	**+0.9**
W18A	**Petrified Fore**	**5.49**	**57**	*e*Pn	**Pn**	**09 05 09.5**	**+0.3**
	comp=N,12nm,0.6s						
W18A				*e*Sg	**Sg**	**09 06 42.3**	**-0.6**
CCUT	**Cedar City**	**5.53**	**17**	*e*Pg	**Pg**	**09 05 34.8**	**+2.2**
	comp=N,8.7nm,0.7s						
ARUT	**Antelope Range**	**5.74**	**15**	*e*Pn	**Pn**	**09 05 11.9**	**-0.8**
	comp=N,0.8nm,0.4s						
R11A	**Troy Canyon, C**	**6.08**	**358**	*e*Pn	**Pn**	**09 05 16.1**	**-1.2**
	comp=N,2.6nm,0.6s						
121A	**Cooks Peak, D**	**6.42**	**86**	*e*Pn	**Pn**	**09 05 21.0**	**-0.9**
	comp=N,7.9nm,0.4s						
121A				*e*Sg	**Sg**	**09 07 15.3**	**+2.7**
NVAR	**Mina Array Bea**	**6.61**	**340**	Pn	**Pn**	09 05 28.3	+3.7
	comp=N,0.0nm,0.3s,baz=156,slow=18,SNR=2.5						
NVAR				Pg	**Pg**	**09 05 52.6**	**-0.6**
	comp=N,0.2nm,0.3s,baz=163,slow=18,SNR=7.0						
ANMO	**Albuquerque**	**7.90**	**68**	Pn	**Pn**	**09 05 43.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=257,slow=16,SNR=2.6						
ANMO				Lg	Lg	09 07 54.1	
	comp=N,0.0nm,0.3s,baz=342,slow=18,SNR=2.4						
ELK	**Elko**	**8.47**	**1**	Pg	**Pg**	**09 06 29.2**	**+0.4**
	comp=N,0.1nm,0.3s,baz=138,slow=16,SNR=2.7						
HVU	**Hansel Valley**	**9.73**	**12**	*e*Pn	**Pn**	**09 06 07.0**	**-0.3**
	comp=N,16nm,1.8s						
HVU				*e*Sn	**Sn**	**09 07 57.0**	**-0.1**
TXAR	**Lajitas Array**	**10.47**	**103**	Pn	**Pn**	**09 06 18.6**	**+1.1**
	comp=N,0.3nm,0.3s,baz=285,slow=12,SNR=22						
TXAR				Lg	Lg	09 09 13.6	
	comp=N,0.0nm,0.3s,baz=283,slow=9,SNR=3.4						
PDAR	**Pinedale Array**	**11.46**	**22**	Pn	Pn	09 06 36.5	+5.5
	comp=N,0.0nm,0.3s,baz=200,slow=13,SNR=2.7						
ILAR	**Eielson Array**	**37.87**	**339**	P	**P**	**09 11 05.2**	**+1.1**
	comp=N,0.7nm,1.1s,baz=151,slow=5.8,SNR=4.6						

IDC 06 09:18:59.2±2.1, 6°.61S×129°.07E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, ML3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/36, Error ellipse: s-maj=111.5km s-min=31.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.20**	**159**	Pn	Pn	09 22 21.9	0.0
	0.2nm,0.3s,baz=338,slow=12,SNR=12						
WRA				Sn	Sn	09 24 46.5	-14
	0.3nm,0.3s,baz=332,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.58**	**165**	P	Pn	09 23 05.8	-0.1
	1.9nm,0.3s,baz=341,slow=12,SNR=219						
ASAR				S	Sn	09 26 11.5	-11
	0.1nm,0.3s,baz=352,slow=24,SNR=4.1						
JCJ	**Chichijima**	**35.84**	**20**	LR	LR	09 37 59.5	
	comp=Z,61nm,19.4s,baz=48,slow=32						
MKAR	**Makanchi Array**	**67.40**	**327**	P	P	09 29 56.5	0.0
	0.3nm,0.4s,baz=115,slow=8.2,SNR=5.7						

*ISCJB **06** 09:28:35.6±0.4, 32°.68N±0°.03×115°.77W±0°.03, h12km±3km, Error ellipse: s-maj=4.3km s-min=3.5km az=159.1*
*ECX **06** 09:28:37.1±0.7, 32°.62N×115°.77W, h4km, ML3.4*
*NEIC **06** 09:28:37.0, 32°.63N×115°.77W, h4km, ML3.3(PAS), ML3.5(ECX), After ECX.*

ISC 06 09:28:36.1±0.9, 32°.61N±0°.02×115°.75W±0°.03, h9km±7km, n21, σ0§94/36, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.05**	**28**	⇑*e*P	**Pg**	**09 28 37.8**	**-0.1**
YUH	**Yuha Desert**	**0.15**	**286**	⇑*e*P	**Pg**	**09 28 39.5**	**+0.1**
COK	**Cook Ranch**	**0.24**	**5**	⇓*e*P	**Pg**	**09 28 41.7**	**+0.7**
RMX	**La Rumorosa**	**0.28**	**269**	⇑*e*P	**Pg**	**09 28 41.9**	**+0.2**
RMX				*e*S	**Sg**	**09 28 45.8**	**+0.3**
CRR	**Carrizo Plain**	**0.33**	**327**	⇓*e*P	**Pg**	**09 28 42.9**	**+0.2**
CPBX	**Cerro Prieto**	**0.42**	**116**	*e*P	**Pb**	**09 28 45.4**	**-0.3**
CPBX				*e*S	**Sb**	**09 28 51.8**	**-0.4**
RDX	**Rancho Dawling**	**0.70**	**194**	*e*P	**Pg**	**09 28 49.5**	**0.0**
RDX				*e*S	**Sg**	**09 28 58.8**	**+0.1**
RDX				*e*		09 29 03.3	
	comp=N,2μm,0.4s						
BAR	**Barrett**	**0.78**	**276**	*e*Pg	**Pg**	**09 28 50.9**	**-0.3**
BAR				*e*Sg	**Sg**	**09 29 00.8**	**-0.5**
CBX	**Cerro Bola**	**0.82**	**249**	⇑*e*P	**Pg**	**09 28 52.0**	**0.0**
CBX				*e*S	**Sg**	**09 29 02.9**	**+0.1**
CBX				⇓*e*		09 29 04.9	
CBX				AML	AML	09 29 04.9	
	comp=E,1μm,0.3s						
GLA	**Glamis**	**0.90**	**60**	*e*Pg	**Pg**	**09 28 52.7**	**-0.6**
GLA				*e*Sg	**Sg**	**09 29 04.7**	**-0.4**
YMD	**Yuma Desert**	**1.02**	**93**	⇑*e*P	**Pg**	**09 28 54.7**	**-1.0**
PFO	**Pinyon Flats O**	**1.16**	**330**	*e*Pg	**Pg**	**09 28 56.5**	**-1.9**
PFO				*e*Sg	**Sg**	**09 29 11.6**	**-1.9**
ZAX	**El Zacaton**	**1.18**	**202**	*e*P	**Pg**	**09 28 57.9**	**-0.8**
ZAX				*e*S	**Sg**	**09 29 13.7**	**-0.3**
ECNX	**Esteban Cantu**	**1.19**	**217**	*e*P	**Pg**	**09 28 58.1**	**-0.9**
ECNX				*e*S	**Sg**	**09 29 14.4**	**0.0**
PBX	**Punta Banda**	**1.19**	**224**	*e*P	**Pg**	**09 28 58.2**	**-0.8**
PBX				*e*S	**Sg**	**09 29 14.0**	**-0.5**
ECBX	**El Chinero**	**1.28**	**152**	*e*P	**Pn**	**09 29 00.2**	**+0.1**
ECBX				*e*S	**Sn**	**09 29 18.0**	**+0.6**
SPX	**San Pedro Mart**	**1.58**	**171**	*e*P	**Pn**	**09 29 05.2**	**+0.6**
SPX				*e*S	**Sn**	**09 29 26.2**	**+1.0**
SPX				*e*		09 29 29.4	
	comp=E,216nm,0.4s						
LDFC	**Landfair**	**2.52**	**12**	*e*Pn	**Pn**	**09 29 17.5**	**+0.1**
214A	**Organ Pipe Nat**	**2.57**	**104**	*e*Pn	**Pn**	**09 29 16.1**	**-1.9**
214A				*e*Sn	**Sn**	**09 29 52.3**	**+2.9**
SHPR	**Sheep Range**	**3.92**	**7**	*e*Pn	**Pn**	**09 29 37.4**	**+0.7**
SHPR				*e*Sg	**Sg**	**09 30 42.6**	**+0.6**
121A	**Cookes Peak, D**	**6.72**	**88**	*e*Pn	**Pn**	**09 30 15.3**	**+0.1**
	comp=E,4.6nm,0.5s						
121A				*e*Sg	**Sg**	**09 32 13.1**	**+1.1**

NEIC 06 09:29:12.4, 32°.66N×115°.78W, h5km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.75**	**272**	*e*Pg	Pg	09 29 26.8	-0.2
BAR				*e*Sg	Sg	09 29 36.6	-0.2
GLA	**Glamis**	**0.89**	**64**	*e*Pg	Pg	09 29 28.1	-1.6
GLA				*e*Sg	Sg	09 29 40.3	-1.1
PFO	**Pinyon Flats O**	**1.10**	**329**	*e*Pg	Pg	09 29 32.6	-1.2
PFO				*e*Sg	Sg	09 29 45.4	-2.9
LDFC	**Landfair**	**2.48**	**13**	Pn	Pn	09 29 54.6	+1.0
PASC	**Pasadena Art C**	**2.51**	**308**	*e*Pn	Pn	09 29 53.7	-0.3
PASC				*e*Sg	Sg	09 30 32.4	-0.8
OSI	**Osito Audit: C**	**3.13**	**309**	*e*Pg	Pg	09 30 12.8	+0.2
OSI				*e*Sg	Sg	09 30 53.2	-0.

ECBX				⇓*e*			09 41 33.4		
	comp=E,3μm,0.5s								
CBX	**Cerro Bola**	**1.07**	**270**	*e*P		**Pg**	**09 41 24.5**	**-0.2**
CBX				*e*S		**Sg**	**09 41 39.0**	**+0.4**
ZAX	**El Zacaton**	**1.09**	**223**	*e*P		**Pg**	**09 41 25.2**	**0.0**
ZAX				*e*S		**Sb**	**09 41 41.0**	**+0.8**
BAR	**Barrett**	**1.13**	**289**	*e*Pg		**Pg**	**09 41 24.6**	**-1.3**
BAR				*e*Sg		**Sg**	**09 41 40.6**	**0.0**
ECNX	**Esteban Cantu**	**1.21**	**237**	*e*P		**Pg**	**09 41 27.4**	**-0.1**
ECNX				*e*S		**Sb**	**09 41 44.4**	**+0.8**
PBX	**Punta Banda**	**1.26**	**243**	*e*P		**Pg**	**09 41 28.1**	**-0.4**
PBX				*e*S		**Sb**	**09 41 45.6**	**+0.6**
SPX	**San Pedro Mart**	**1.27**	**182**	*e*P		**Pn**	**09 41 27.8**	**-1.1**
SPX				*e*S		**Sg**	**09 41 46.3**	**+1.1**
SPX				⇑*e*			09 41 48.3		
	comp=N,627nm,0.7s								
PFO	**Pinyon Flats O**	**1.56**	**326**	*e*Pn		**Pn**	09 41 29.5	-3.2	
PFO				*e*Sn		**Sb**	**09 41 54.1**	**+0.4**
214A	**Organ Pipe Nat**	**2.23**	**99**	*e*Pg		**Pg**	**09 41 47.3**	**+0.3**
214A				*e*Sg		**Sg**	**09 42 18.8**	**+2.9**
LDFC	**Landfair**	**2.76**	**5**	*e*Pg		**Pg**	**09 41 58.5**	**+1.3**
LDFC				*e*Sg		**Sg**	**09 42 31.9**	**-1.1**
MWC	**Mount Wilson**	**2.92**	**311**	*e*Pg		**Pg**	**09 42 00.9**	**+0.6**
MWC				*e*Sg		**Sg**	**09 42 38.2**	**0.0**
PASC	**Pasadena Art C**	**2.97**	**309**	*e*Pg		**Pg**	**09 42 01.4**	**+0.2**
PASC				*e*Sg		**Sg**	**09 42 38.3**	**-1.4**
GSC	**Goldstone, Bar**	**3.19**	**339**	*e*Pg		**Pg**	**09 42 05.2**	**-0.3**
GSC				*e*Sg		**Sg**	**09 42 48.3**	**+1.4**
OSI	**Osito Audit: C**	**3.60**	**310**	*e*Pg		**Pg**	**09 42 11.8**	**-1.4**
OSI				*e*Sg		**Sg**	**09 42 59.5**	**-0.2**
TUC	**Tucson**	**3.91**	**89**	*e*Pg		**Pg**	**09 42 19.8**	**+0.6**
TUC				*e*Sg		**Sg**	**09 43 11.2**	**+1.3**
SHPR	**Sheep Range**	**4.18**	**3**	*e*Pn		**Pn**	**09 42 09.5**	**+0.7**
SHPR				*e*Sn		**Sn**	**09 42 55.9**	**-2.0**
ISA	**Isabella, Lake**	**4.20**	**323**	*e*Pg		**Pg**	**09 42 23.8**	**-0.9**
ISA				*e*Sg		**Sg**	**09 43 16.7**	**-2.4**
WUAZ	**Wupatki**	**4.62**	**45**	*e*Pn		**Pn**	**09 42 16.8**	**+2.0**
WUAZ				*e*Sg		**Sg**	**09 43 31.9**	**-0.9**
CCUT	**Cedar City**	**5.48**	**17**	*e*Pn		**Pn**	**09 42 27.6**	**+1.0**
	comp=N,4.8nm,0.8s								
CCUT				*e*Sn		**Sn**	**09 43 27.6**	**-2.5**
ARUT	**Antelope Range**	**5.69**	**16**	*e*Pn		**Pn**	**09 42 32.2**	**+2.8**
	comp=N,0.2nm,0.4s								
ARUT				*e*Sg		**Sg**	**09 44 08.2**	**+1.3**
121A	**Cookes Peak, D**	**6.45**	**86**	*e*Pn		**Pn**	**09 42 38.1**	**-1.8**
	comp=N,4.1nm,0.5s								
121A				*e*Sg		**Sg**	**09 44 28.4**	**-2.8**
WAKR	**Walker**	**6.99**	**333**	*e*Pn		**Pn**	**09 42 49.0**	**+1.6**
MVCO	**Mesa Verde**	**7.49**	**47**	*e*Pn		**Pn**	**09 42 57.0**	**+2.8**
	comp=N,2.9nm,0.6s								

*ISCJB **06** 09:58:51.8±0.7, 1°.59S±0'.06×99°.20E±0'.06, h10km, mb4.3/7, Error ellipse: s-maj=8.6km s-min=8.1km az=149.0*
*IDC **06** 09:58:55.4±3.4, 0°.97S×100°.19E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.8/5, Error ellipse: s-maj=160.3km s-min=19.4km az=55.0*
*DJA **06** 09:58:56.6±0.7, 2°.5±3°.3×9°.9E±°, h10km, M4.5/8, mb4.6/3, mB5.1/2, MLv4.4/8, Mw(mB)4.4/2*
*NEIC **06** 09:59:01.1±1.0, 0°.82S×100°.44E, h35km, mb4.4/1, Error ellipse: s-maj=29.0km s-min=11.1km az=68.0*
NEIC Felt [II] at Padang.
ISC 06 09:58:54.6±1.2, 1°.58S±0'.07×99°.35E±0'.09, h10km, n30, σ1°.59/20, mb4.1/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.29**	**59**	P	**Pn**	**09 59 16.9**	**-1.8**
PDSI				S	**Sb**	**09 59 33.4**	**-2.3**
SDSI	**Sungai Dareh**	**2.17**	**73**	P	**Pn**	**09 59 33.2**	**+2.4**
SDSI	**Sungai Dareh**	**2.17**	**73**	S	**Sb**	**10 00 01.0**	**0.0**
MNSI	**Mandailing Nat**	**2.37**	**5**	P	**Pn**	**09 59 35.6**	**+2.1**
BKNI	**Bangkinang**	**2.53**	**42**	P	Pn	09 59 41.2	+5.4
BKNI	**Bangkinang**	**2.53**	**42**	*e*Sn	Pn	09 59 40.8	+5.0
BKNI	**Bangkinang**	**2.53**	**42**	S	**Sn**	**10 00 09.8**	**+3.0**
MNAI	**Manna**	**4.54**	**128**	P	**Pn**	**10 00 05.0**	**+1.6**
LHSI	**Lahat**	**4.73**	**118**	P	**Pn**	**10 00 07.1**	**+1.1**
MDSI	**Maura Dua**	**5.62**	**121**	P	**Pn**	**10 00 20.4**	**+2.1**
	23nm,0.7s,824nm0.1nm						
IPM	**Ipoh**	**6.24**	**16**	*e*Pn	Pn	10 00 20.6	-6.3
	6.1nm,0.6s						
KASI	**Kota Agung**	**6.46**	**128**	P	**Pn**	**10 00 30.7**	**+0.9**
	47nm,0.6s,0.3nm						
CGJI	**Cibinong**	**8.06**	**129**	P	**Pn**	**10 00 50.5**	**-1.4**
H08S2	**Diego Garcia H**	**27.43**	**256**	T	T	10 32 32.6	
	baz=77,slow=75,SNR=134						
H08S3	**Diego Garcia H**	**27.44**	**256**	T	T	10 32 33.1	
	baz=77,slow=75,SNR=138						
H08S1	**Diego Carcia H**	**27.45**	**256**	T	T	10 32 40.0	
	baz=77,slow=75,SNR=145						
H01W3	**Cape Leeuwin H**	**35.89**	**159**	T	T	10 43 49.0	
	baz=335,slow=75,SNR=7.7						
H01W2	**Cape Leeuwin H**	**35.90**	**159**	T	T	10 43 47.2	
	baz=335,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**35.90**	**159**	T	T	10 43 48.0	
	baz=335,slow=75,SNR=11						
WRA	**Warramunga Arr**	**38.76**	**121**	P	**P**	**10 06 18.4**	**-1.3**
	2.6nm,0.5s,baz=302,slow=9.1,SNR=40						
WB2	**Warramunga Arr**	**38.77**	**121**	*e*P	**P**	**10 06 18.4**	**-1.3**
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**10 06 29.9**	**-0.3**
	0.7nm,0.5s,baz=300,slow=7.6,SNR=19						
AS31	**Alice Springs**	**40.02**	**126**	*e*P	**P**	**10 06 29.7**	**-0.5**
SONM	**Songino Array**	**49.59**	**6**	P	P	10 07 42.7	-3.4
	150nm,0.4s,baz=203,slow=9.6,SNR=2.6						
MKAR	**Makanchi Array**	**50.45**	**345**	P	**P**	**10 07 52.0**	**-0.5**
	0.9nm,0.7s,baz=151,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**54.97**	**344**	P	**P**	**10 08 25.5**	**-0.4**
	0.2nm,0.5s,baz=161,slow=7.3,SNR=4.0						
KURK	**Kurchatov**	**55.02**	**344**	P	**P**	**10 08 25.5**	**-0.8**
ZALV	**Zalesovo Beam**	**56.64**	**350**	P	**P**	**10 08 37.8**	**0.0**
	0.8nm,0.4s,baz=180,slow=3.9,SNR=4.8						
QSPA	**South Pole Qui**	**88.38**	**180**	*e*P	P	10 11 45.3	-1.4
	1.6nm,0.7s						
TXAR	**Lajitas Array**	**144.75**	**36**	PKP	**PKPab**	**10 18 31.1**	**-0.4**
	0.4nm,0.7s,baz=253,slow=1.7,SNR=5.8						

*ISCJB **06** 10:06:36.8±0.4, 32°.69N±0°.01×115°.75W±0°.02, h12km±2km, mb3.9/8, MS3.5/10, Error ellipse: s-maj=2.6km s-min=2.3km az=22.8*
*NEIC **06** 10:06:36.9, 32°.62N×115°.79W, h4km, mb4.0/6, ML4.6(ECX), ML4.6(PAS), After PAS.*
NEIC Felt [II] at Mexicali. Also felt at Tijuana and at Puerto Penasco, Sonora. Felt [IV] at El Centro, [III] at El Cajon and [II] at Imperial and San Diego, California. Felt in much of Imperial and San Diego Counties and in parts of Orange, Los Angeles and Riverside Counties.
*MEX **06** 10:06:37.5±0.7, 32°.84N×115°.84W, h5km, MD4.2*
*IDC **06** 10:06:38.9±1.9, 32°.86N×115°.48W, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.7/29, mbtmp3.5/9, ML3.6/5, MS3.4/14, Ms1 3.5/14, ms1mx3.2/32, Error ellipse: s-maj=33.2km s-min=11.9km az=41.0*
*ECX **06** 10:06:38.2±0.8, 32°.67N×115°.81W, h3km, MD4.5, ML4.7*
ISC 06 10:06:37.7±0.9, 32°.66N±0°.02×115°.79W±0°.02, h9km±5km, n99, σ1°.69/135, mb3.9/8, MS3.5/10, 32C-30D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.13**	**51**	⇑P	**Pg**	**10 06 40.9**	**+0.2**
COK	**Cook Ranch**	**0.20**	**14**	⇓*e*P	**Pg**	**10 06 41.9**	**+0.1**
COK	**Cook Ranch**	**0.20**	**14**	⇓P	**Pg**	**10 06 41.9**	**+0.1**
RMX	**La Rumorosa**	**0.25**	**257**	⇑*e*P	**Pg**	**10 06 42.6**	**-0.3**
RMX				*e*S	**Sg**	**10 06 46.4**	**0.0**
RMX	**La Rumorosa**	**0.25**	**257**	⇑*e*P	**Pg**	**10 06 42.6**	**-0.3**
RMX				*e*S	**Sg**	**10 06 46.4**	**0.0**
CRR	**Carrizo Plain**	**0.28**	**326**	⇓*e*P	**Pg**	**10 06 42.9**	**-0.3**
CRR	**Carrizo Plain**	**0.28**	**326**	⇓P	**Pg**	**10 06 42.9**	**-0.3**
SWSC	**Sam W. Stewart**	**0.28**	**358**	⇑P	**Pg**	**10 06 43.1**	**-0.2**
	baz=0.3						
SWSC				⇑S	**Sg**	**10 06 46.8**	**-0.4**
	baz=0.3						
CPBX	**Cerro Prieto**	**0.47**	**121**	⇑*e*P	**Pg**	**10 06 47.3**	**+0.4**
CPBX	**Cerro Prieto**	**0.47**	**121**	⇑*e*P	**Pg**	**10 06 47.3**	**+0.4**
MONP	**Monument Peak,**	**0.58**	**293**	⇓P	**Pg**	**10 06 48.6**	**-0.4**
	baz=0.6						
MONP				⇓S	**Sg**	**10 06 56.3**	**-0.5**
	baz=0.6						
COA	**Coachella**	**0.59**	**70**	⇓*e*P	**Pg**	**10 06 48.0**	**-1.2**
COA	**Coachella**	**0.59**	**70**	⇓P	**Pg**	**10 06 48.0**	**-1.2**
RDX	**Rancho Dawling**	**0.74**	**190**	⇓*e*P	**Pg**	**10 06 51.2**	**-0.8**
RDX				*e*S	**Sg**	**10 07 01.3**	**-0.4**
RDX	**Rancho Dawling**	**0.74**	**190**	⇓*e*P	**Pg**	**10 06 51.2**	**-0.8**
RDX				*e*S	**Sg**	**10 07 01.3**	**-0.4**
EMX	**El Mayor**	**0.81**	**145**	*e*P	**Pg**	**10 06 51.8**	**-1.5**
EMX				*e*S	**Sg**	**10 07 03.1**	**-0.7**
EMX				⇑*e*		10 07 05.2	
	comp=E,18μm,0.7s						
CBX	**Cerro Bola**	**0.82**	**245**	*i*P	**Pg**	**10 06 53.0**	**-0.5**
CBX				*i*S	**Sg**	**10 07 03.8**	**-0.4**
CBX	**Cerro Bola**	**0.82**	**245**	⇑*e*P	**Pg**	**10 06 53.0**	**-0.5**
CBX				*e*S	**Sg**	**10 07 03.9**	**-0.3**
CBX	**Cerro Bola**	**0.82**	**245**	*i*P	**Pg**	**10 06 53.0**	**-0.5**
CBX				*i*S	**Sg**	**10 07 03.8**	**-0.4**
GLA	**Glamis**	**0.90**	**64**	⇑P	**Pg**	**10 06 53.6**	**-1.3**
	baz=0.9						
GLA				⇓S	**Sg**	**10 07 05.4**	**-1.2**
	baz=0.9						
BC3	**Big Chuckawall**	**1.03**	**16**	⇑P	**Pg**	**10 06 55.8**	**-1.7**
	baz=1.1						
BC3				⇓S	**Sg**	**10 07 08.5**	**-2.5**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.10**	**329**	Pg	**Pb**	**10 06 56.8**	**-2.2**
	comp=E,366nm,0.3s,baz=148,slow=16,SNR=560						
PFO				LR	LR	10 07 10.4	
	comp=E,167nm,21.6s,baz=270,slow=28						
PFO				Lg	Lg	10 07 11.3	
	comp=E,2μm,0.3s,baz=236,slow=15,SNR=59						
PFO	**Pinyon Flats O**	**1.10**	**329**	⇓P	**Pb**	**10 06 56.8**	**-2.2**
	baz=1.1						
PFO				⇑S	**Sg**	**10 07 11.7**	**-1.5**
	baz=1.1						
109C	**Camp Elliot, M**	**1.14**	**282**	⇑P	**Pb**	**10 06 57.9**	**-1.6**
	baz=1.1						
109C				⇓S	**Sb**	**10 07 12.3**	**-2.0**
	baz=1.1						
PBX	**Punta Banda**	**1.21**	**221**	⇑*e*P	**Pn**	**10 06 59.8**	**-1.0**
PBX				*e*S	**Sb**	**10 07 15.9**	**-0.7**
PBX	**Punta Banda**	**1.21**	**221**	⇑*e*P	**Pn**	**10 06 59.8**	**-1.0**
PBX				*e*S	**Sb**	**10 07 15.9**	**-0.7**
ECNX	**Esteban Cantu**	**1.21**	**215**	*e*P	**Pn**	**10 06 59.9**	**-1.0**
ECNX				*e*S	**Sb**	**10 07 16.3**	**-0.3**
ZAX	**El Zacaton**	**1.22**	**200**	⇓*e*P	**Pn**	**10 06 59.8**	**-1.0**
ZAX				*e*S	**Sb**	**10 07 16.6**	**0.0**
ZAX				⇓*e*		10 07 21.8	
ZAX				AML	AML	10 07 21.8	
	comp=N,13μm,0.7s						
ZAX				AML	AML	10 07 23.3	
	comp=E,15μm,0.6s						
ZAX				⇑*e*		10 07 23.3	
ECBX	**El Chinero**	**1.34**	**152**	*e*P	**Pn**	**10 07 00.1**	**-2.3**
ECBX				*e*S	**Sb**	**10 07 18.7**	**-1.4**
BELC	**Belle Mtn. Jos**	**1.35**	**352**	⇑P	**Pn**	**10 07 00.5**	**-2.3**
	baz=1.4						
BELC				⇓S	**Sb**	**10 07 17.9**	**-2.8**
	baz=1.4						
MURC	**Murrieta**	**1.51**	**309**	⇓P	**Pn**	**10 07 03.1**	**-1.9**
	baz=1.5						
MURC				⇓S	**Sn**	**10 07 23.0**	**-1.8**
	baz=1.5						
Y12C	**Blythe**	**1.52**	**44**	⇑P	**Pn**	**10 07 02.9**	**-2.0**
	baz=1.6						
Y12C				⇑S	**Sn**	**10 07 22.8**	**-2.0**
	baz=1.6						
IRM	**Iron Mountain**	**1.59**	**19**	⇓P	**Pn**	**10 07 04.1**	**-1.9**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.63**	**170**	*e*P	**Pn**	**10 07 05.7**	**-1.1**
SPIG				*e*S	**Sb**	**10 07 29.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.63**	**170**	⇓*e*P	**Pn**	**10 07 05.7**	**-1.1**
SPIG	**San Pedro Mart**	**1.63**	**170**	*e*P	**Pn**	**10 07 05.7**	**-1.1**
SPIG				*e*S	**Sb**	**10 07 29.4**	**+0.5**
SPX	**San Pedro Mart**	**1.63**	**170**	*e*P	**Pn**	**10 07 07.3**	**+0.4**
113A	**Mohawk Valley,**	**1.71**	**86**	⇓P	**Pn**	**10 07 05.6**	**-1.9**
	baz=1.7						
113A				⇑S	**Sn**	**10 07 26.9**	**-2.5**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.86**	**330**	⇑P	**Pn**	**10 07 08.5**	**-1.3**
	baz=1.9						
BBRC				⇑Sb	**Sb**	**10 07 35.1**	**-0.3**
	baz=1.9						
GMRC	**Granite Mounta**	**2.12**	**3**	⇑P	**Pn**	**10 07 11.6**	**-1.8**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.14**	**40**	⇑P	**Pn**	**10 07 12.0**	**-1.5**
	baz=2.2						
PDMCI				⇑S	**Sn**	**10 07 37.2**	**-2.9**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.21**	**348**	⇓P	**Pn**	**10 07 12.7**	**-1.9**
	baz=2.3						
BFSC	**Mount Baldy Ra**	**2.22**	**316**	⇓P	**Pn**	**10 07 13.3**	**-1.5**
	baz=2.2						
BFSC				⇓Sb	**Sb**	**10 07 45.3**	**-0.4**
	baz=2.2						
NEE2	**Needles Airpor**	**2.32**	**24**	⇑P	**Pn**	**10 07 14.6**	**-1.4**
	baz=2.4						
NEE2				⇑S	**Sn**	**10 07 41.4**	**-3.2**
	baz=2.4						
CIS	**Catalina Islan**	**2.32**	**289**	⇑P	**Pn**	**10 07 16.1**	**+0.1**
	baz=2.3						
CIS				⇓Sb	**Sb**	**10 07 47.9**	**-0.6**
	baz=2.3						
SCI	**San Clemente I**	**2.35**	**279**	⇑P	**Pn**	**10 07 15.9**	**-0.5**
	baz=2.3						
RRX	**Edison Barstow**	**2.44**	**336**	⇓P	**Pn**	**10 07 16.2**	**-1.4**
	baz=2.5						
Z14A	**Wintersburg**	**2.49**	**73**	⇑P	**Pn**	**10 07 16.4**	**-1.8**
	baz=2.5						
PASC	**Pasadena Art C**	**2.51**	**308**	*e*Pn	**Pb**	**10 07 21.1**	**-1.9**
PASC				*e*Sn	**Sn**	**10 07 48.8**	**-0.6**
214A	**Organ Pipe Nat**	**2.61**	**105**	⇓P	**Pn**	**10 07 17.8**	**-2.3**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.61**	**105**	*e*Pn	**Pn**	**10 07 17.5**	**-2.5**
214A				*e*Sg	**Sb**	**10 07 59.2**	**+2.4**
Y14A	**Wickenburg**	**2.66**	**61**	⇓P	**Pn**	**10 07 19.2**	**-1.5**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.77**	**342**	⇓P	**Pn**	**10 07 20.7**	**-1.6**
	baz=2.8						
GSC	**Goldstone, Bar**	**2.77**	**342**	*e*Pn	**Pn**	**10 07 20.4**	**-1.8**
TUQ	**Turquoise Moun**	**2.77**	**358**	⇑P	**Pn**	**10 07 20.7**	**-1.6**
	baz=2.8						
EDW2	**Edwards Air Fo**	**2.88**	**321**	⇑P	**Pn**	**10 07 22.2**	**-1.5**
	baz=2.9						
OSI	**Osito Audit: C**	**3.13**	**309**	*e*Pn	**Pn**	**10 07 27.2**	**0.0**
OSI				Sn	**Sn**	**10 08 03.9**	**-0.9**
SHPR	**Sheep Range**	**3.87**	**7**	*e*Pn	**Pn**	**10 07 37.0**	**-0.5**
SHPR				*e*Sn	**Sn**	**10 08 27.8**	**+4.6**
TUC	**Tucson**	**4.24**	**93**	*e*Pn	**Pn**	**10 07 39.9**	**-2.5**
TUC				*e*Sg	**Sg**	**10 08 51.3**	**-2.5**
WUAZ	**Wupatki**	**4.64**	**51**	*e*Pn	**Pn**	**10 07 48.4**	**+0.4**
WUAZ				*e*Sn	**Sn**	**10 08 48.9**	**+2.8**
CCUT	**Cedar City**	**5.27**	**21**	*e*Pn	**Pn**	**10 07 57.1**	**+0.4**
	comp=E,38nm,0.8s						
ARUT	**Antelope Range**	**5.46**	**20**	*e*Pn	**Pn**	**10 07 59.6**	**+0.2**
	comp=E,2.0nm,0.6s						
ARUT				*e*Sg	**Sg**	**10 09 38.7**	**+5.5**
TPH	**Tonopah**	**5.53**	**348**	*e*Pn	**Pn**	**10 08 00.5**	**+0.2**
	comp=E,45nm,0.8s						
TPH				*e*Sg	**Sg**	**10 09 33.1**	**-2.1**
W18A	**Petrified Fore**	**5.60**	**62**	*e*Pn	**Pn**	**10 08 02.0**	**+0.8**
	comp=E,77nm,0.6s						
W18A				*e*Sg	**Sg**	**10 09 36.8**	**-0.5**
R11A	**Troy Canyon, C**	**5.68**	**2**	*e*Pn	**Pn**	**10 08 02.2**	**-0.1**
	comp=E,25nm,0.9s						
R11A				*e*Sg	**Sg**	**10 09 42.8**	**+2.7**
NVAR	**Mina Array Bea**	**6.11**	**341**	Pn	**Pn**	**10 08 07.6**	**-0.7**
	comp=E,0.6nm,0.3s,baz=108,slow=23,SNR=15						
NVAR				Pg	Pg	10 08 30.1	-4.6
	comp=E,2.2nm,0.3s,baz=164,slow=18,SNR=17						
NVAR				Lg	Lg	10 09 52.1	
	comp=E,0.5nm,0.3s,baz=145,slow=22,SNR=2.8						
PV01	**Paradox Valley**	**8.03**	**45**	*e*Pn	**Pn**	**10 08 35.8**	**+1.2**
	comp=E,6μm,1.2s						
PV01				*e*Sg	**Sg**	**10 10 55.8**	**+0.4**
ELK	**Elko**	**8.08**	**3**	Pn	**Pn**	**10 08 35.6**	**+0.3**
	comp=E,0.1nm,0.3s,baz=180,slow=9.4,SNR=2.6						
ELK				Pg	**Pg**	**10 09 09.4**	**-2.9**
	comp=E,0.6nm,0.3s,baz=178,slow=14,SNR=9.7						
ELK				Lg	Lg	10 10 54.7	
	comp=E,0.3nm,0.3s,baz=90,slow=20,SNR=2.9						
ANMO	**Albuquerque**	**8.09**	**71**	Pn	**Pn**	**10 08 36.3**	**+0.8**
	comp=E,0.5nm,0.3s,baz=258,slow=12,SNR=24						
ANMO				Lg	Lg	10 10 47.5	
	baz=22,slow=19,SNR=2.0						
ANMO				LR	LR	10 11 49.6	
	comp=E,226nm,20.1s,baz=258,slow=40						
ANMO	**Albuquerque**	**8.09**	**71**	*e*Pn	**Pn**	**10 08 36.1**	**+0.7**
ANMO				*e*Sn	**Sn**	**10 10 03.6**	**-3.6**
ANMO				Lg	Lg	10 10 47.5	
O20A	**White River Ci**	**9.62**	**37**	*e*Pn	**Pn**	**10 08 56.1**	**-0.4**
	comp=E,15nm,0.8s						
O20A				*e*Sn	**Sn**	**10 10 45.6**	**+0.9**
YBH	**Yreka Blue Hor**	**10.60**	**331**	LR	LR	10 13 31.5	
	comp=E,78nm,19.5s,baz=286,slow=39						
ISCO	**Idaho Springs**	**10.87**	**46**	*e*Pn	**Pn**	**10 09 14.1**	**+0.5**
	comp=E,2.2nm,1.0s						
TXAR	**Lajitas Array**	**10.91**	**104**	Pn	**Pn**	**10 09 14.4**	**+0.3**
	comp=E,0.6nm,0.3s,baz=289,slow=13,SNR=53						
TXAR				Lg	Lg	10 12 15.6	
	comp=E,0.0nm,0.3s,baz=272,slow=31,SNR=3.0						
TXAR				LR	LR	10 13 48.9	
	comp=E,253nm,20.0s,baz=0.0,slow=40						
MSTX	**Muleshoe**	**10.97**	**80**	*e*Pn	**Pn**	**10 09 15.8**	**+1.0**
	comp=E,44nm,0.9s						
MSTX				*e*Sn	**Sn**	**10 11 12.8**	**-4.8**
PDAR	**Pinedale Array**	**11.23**	**24**	Pn	**Pn**	**10 09 20.6**	**+2.2**
	comp=E,0.1nm,0.3s,baz=209,slow=9.2,SNR=5.0						
PDAR				LR	LR	10 13 55.9	
	comp=E,189nm,18.1s,baz=217,slow=40						
JTMT	**Jette**	**15.11**	**4**	*e*Pn	**Pn**	**10 10 12.9**	**+1.5**
	comp=E,4.7nm,0.8s						
JTMT				*e*S	**S**	**10 13 15.6**	**-0.7**
BSMT	**Bassoo Peak**	**15.19**	**3**	Pn	**Pn**	**10 10 13.5**	**+1.0**
	comp=E,8.2nm,1.4s						
BSMT				*e*S	**S**	**10 13 22.3**	**+4.3**
NEW	**Newport**	**15.62**	**357**	Pn	**P**	**10 10 21.1**	**-1.1**
	comp=E,0.1nm,0.3s,baz=188,slow=14,SNR=7.2						
NEW				LR	LR	10 16 55.5	
	comp=E,175nm,19.1s,baz=189,slow=40						
EGMT	**Eagleton**	**16.01**	**15**	*e*P	**P**	**10 10 26.3**	**-0.2**
	comp=E,28nm,1.7s						
MIAR	**Mount Ida**	**18.60**	**78**	*e*P	**Pn**	**10 10 56.9**	**+1.6**
	comp=E,8.9nm,1.0s						
BBB	**Bella Bella**	**21.47**	**339**	LR	LR	10 20 21.4	
	comp=E,168nm,19.3s,baz=299,slow=38						
AGMN	**Agassiz Nation**	**21.67**	**38**	*e*P	**P**	**10 11 29.8**	**+1.4**
	comp=E,11nm,1.2s						
ULM	**Lac du Bonnet**	**22.93**	**34**	P	**P**	**10 11 43.1**	**+1.2**
	comp=E,3.0nm,0.8s,baz=232,slow=6.4,SNR=5.7						
TKL	**Tuckaleechee C**	**26.60**	**75**	LR	LR	10 23 28.9	
	comp=E,114nm,21.1s,baz=306,slow=38						
ACSO	**Alum Creek Sta**	**27.34**	**65**	*e*P	**P**	**10 12 24.6**	**+1.8**
	comp=E,9.2nm,0.9s						
DLBC	**Dease Lake**	**27.52**	**344**	LR	LR	10 24 27.0	
	comp=E,115nm,18.6s,baz=154,slow=39						
APG	**El Apazote**	**28.95**	**121**	LR	LR	10 23 43.6	
	comp=E,110nm,18.9s,baz=254,slow=36						
YKA	**Yellowknife Ar**	**29.86**	**1**	P	**P**	**10 12 47.6**	**+2.6**
	comp=E,0.1nm,0.6s,baz=180,slow=9.3,SNR=6.3						
SADO	**Sadowa**	**30.79**	**56**	LR	LR	10 25 04.6	
	comp=E,100nm,19.3s,baz=298,slow=36						
ILAR	**Eielson Array**	**37.36**	**339**	P	**P**	**10 13 52.4**	**+2.1**
	comp=E,0.5nm,0.7s,baz=150,slow=8.0,SNR=9.0						
ILAR				LR	LR	10 31 12.8	
	comp=E,76nm,18.1s,baz=170,slow=40						
FRB	**Frobisher Bay**	**42.63**	**29**	LR	LR	10 32 35.6	
	comp=E,81nm,19.2s,baz=327,slow=37						
RES	**Resolute Bay**	**43.35**	**8**	P	P	10 14 43.5	+3.9
	comp=E,0.8nm,0.9s,baz=207,slow=9.0,SNR=3.5						
SEY	**Seymchan**	**62.27**	**329**	P	P	10 17 03.8	+4.2
	comp=E,0.3nm,0.3s,baz=49,slow=19,SNR=3.8						
ARCES	**ARCESS Array B**	**74.26**	**13**	LR	LR	10 52 33.9	
	comp=E,25nm,18.9s,baz=6.5,slow=37						
MJAR	**Matsushiro Arr**	**82.47**	**309**	LR	LR	10 51 49.4	
	comp=E,5.5nm,19.3s,baz=90,slow=33						
HHC	**Hu-ho-hao-te**	**94.80**	**326**	*e*P	**P**	**10 20 00.4**	**+0.5**
HHC				PP	**PP**	**10 23 50.5**	**+2.9**
HHC	**Hu-ho-hao-te**	**94.80**	**326**	S	**S**	**10 31 11.0**	**-2

AAK smax smax
comp=Z,41nm,0.8s
AAK Ala-Archa 6.57 23 P **Pn 10 14 55.7 +1.6**
comp=Z,9.8nm,0.3s,baz=192,slow=8.7,SNR=37
AAK S **Sn 10 16 07.7 -1.2**
comp=Z,3.3nm,0.3s,baz=201,slow=19,SNR=9.6
KBK Karagaybulak 6.74 25 P **Pn 10 14 58.1 +1.8**
SNR=34
KBK Karagaybulak 6.74 25 *i* PN **Pn 10 14 58.1 +1.8**
ULHL Ulahol 6.91 34 P **Pn 10 14 59.8 +1.2**
SNR=27
ULHL Ulahol 6.91 34 *i* PN **Pn 10 14 59.7 +1.2**
CHMS Chumysh 6.98 23 P **Pn 10 15 00.4 +1.1**
SNR=18
CHMS Chumysh 6.98 23 *i* PN **Pn 10 15 00.4 +1.1**
SDNR Sundarnagar 7.07 134 *eP* **Pn 10 15 01.0 +0.4**
SDNR *eS* **Sn 10 16 17.0 -3.6**
USP Ospenovka 7.15 21 P **Pn 10 15 03.0 +1.4**
SNR=18
USP Ospenovka 7.15 21 *i* PN **Pn 10 15 03.0 +1.4**
TKM2 Tokmak 2 7.20 28 ⇓P **Pn 10 15 03.7 +1.2**
comp=Z,69nm,0.7s
TKM2 ⇑S **Sn 10 16 22.7 -1.2**
comp=Z,23nm,0.9s
TKM2 Tokmak 2 7.20 28 P **Pn 10 15 03.6 +1.2**
SNR=104
TKM2 Tokmak 2 7.20 28 *i* PN **Pn 10 15 03.6 +1.2**
SMLA Simla 7.46 135 *i* P **Pn 10 15 07.0 +1.4**
SMLA *i* S **Sn 10 16 27.0 -2.8**
SMLA *i* S **Sn 10 16 27.2 -2.6**
SMLA AML AML 10 17 24.6
comp=E,103nm,0.8s
SMLA AML AML 10 17 25.9
comp=N,71nm,0.1s
BHGR Bahadurgarh 9.32 146 *eP* **Pn 10 15 29.7 -0.4**
KHET Khetri 9.41 153 *eP* **Pn 10 15 30.4 -0.8**
KHET *eS* Sn 10 17 08.4 -7.9
KHET AML AML 10 17 15.4
comp=N,104nm,0.1s
KHET AML AML 10 17 15.8
comp=E,101nm,0.2s
NDI New Delhi 9.45 145 *eP* **Pn 10 15 32.0 +0.2**
KUDL Kundal 9.60 150 *eP* **Pn 10 15 33.9 +0.1**
KUDL *eS* Sn 10 17 12.5 -8.5
KUDL AML AML 10 17 32.1
comp=E,41nm,0.2s
KUDL AML AML 10 17 32.2
comp=N,48nm,0.2s
BISR Bishrakh 9.65 144 *ex* Pn 10 15 30.4 -4.0
ASOR Ausora 9.65 142 *ex* **Pn 10 15 33.1 -1.3**
GEYT Alibeck 10.40 281 P **Pn 10 15 43.6 -0.5**
comp=N,0.9nm,0.3s,baz=78,slow=7.5,SNR=3.2
GEYT S **Sn 10 17 38.5 -1.5**
comp=N,2.0nm,0.3s,baz=102,slow=18,SNR=4.0
AGRA Agra 11.02 146 *eP* **Pn 10 15 52.0 -0.1**
AGRA *eS* Sn 10 17 48.0 -6.8
AGRA AML AML 10 18 10.0
comp=N,71nm,0.4s
AGRA AML AML 10 18 10.4
comp=E,94nm,0.4s
PYUN Piuthan 13.17 127 *eP* **Pn 10 16 18.7 -1.0**
comp=E,91nm,0.3s
MK31 Makanchi Array 13.17 36 P **Pn 10 16 19.1 -0.3**
comp=E,4.0nm,0.8s,baz=211,slow=10.0,SNR=27
MK31 Makanchi Array 13.17 36 *i* P **Pn 10 16 19.0 -0.3**
MK31 pmax pmax
comp=Z,1.0nm,0.2s
MKAR Makanchi Array 13.17 36 *ce*P **Pn 10 16 20.6 +1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 13.17 36 P **Pn 10 16 19.2 -0.2**
comp=Z,0.3nm,0.3s,baz=218,slow=7.7,SNR=16
MKAR S **S 10 18 51.4 +3.0**
baz=226,slow=18,SNR=2.8
DANN Dangsing 13.51 124 *eP* **Pn 10 16 23.5 -0.5**
comp=Z,17nm,0.2s
KOLN Koldanda 13.79 126 *eP* **Pn 10 16 26.5 -0.9**
comp=Z,30nm,0.4s
GKN Gorkha 14.32 123 *eP* **Pn 10 16 34.6 +0.6**
comp=Z,18nm,0.2s
KKN Kakani 14.89 122 *eP* **Pn 10 16 41.5 +0.4**
comp=Z,12nm,0.3s
KURBB Kurchatov Area 15.00 19 P **Pn 10 16 41.3 -0.7**
comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=8.0
AB31 Akbulak array 15.01 331 ⇓P **Sn 10 16 41.6 -0.6**
comp=Z,8.4nm,0.6s,baz=136,slow=12,SNR=105
AB31 ⇓S **S 10 19 25.0 -4.8**
comp=Z,1.6nm,0.5s,baz=158,slow=24,SNR=6.5
AB31 Akbulak array 15.01 331 P **Pn 10 16 41.6 -0.6**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
PKIN Phulchoki 15.11 123 *eP* **P 10 16 44.5 -0.1**
comp=Z,19nm,0.4s
KURK Kurchatov 15.11 19 P **Pn 10 16 41.3 -2.0**
PKI Pulchoki 15.12 123 *eP* **P 10 16 44.5 -0.3**
comp=Z,33nm,0.5s
GUN Gumba 15.23 121 *eP* **P 10 16 46.0 0.0**
comp=Z,21nm,0.3s
JIRN Jiri 15.60 121 *eP* **P 10 16 50.5 +0.4**
comp=Z,42nm,0.4s
RAMN Ramite 16.33 122 *eP* **Pn 10 16 59.0 +0.4**
comp=Z,21nm,0.3s
BVA0 Borovoye Array 16.42 359 P **Pn 10 16 59.8 +0.6**
comp=Z,3.9nm,0.8s,baz=203,slow=8.1,SNR=27
BVA0 Borovoye Array 16.42 359 *i* P **Pn 10 16 59.8 +0.6**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 16.42 359 P **Pn 10 16 59.7 +0.5**
BVAR S **S 10 20 01.0 +0.7**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 16.42 359 P **Pn 10 16 59.7 +0.5**
comp=Z,1.3nm,0.3s,baz=167,slow=14,SNR=26
BVAR S **S 10 20 01.0 +0.7**
comp=Z,0.1nm,0.3s,baz=164,slow=23,SNR=5.8
AKTO Aktyubinsk 16.71 330 ⇑S **S 10 20 04.0 -2.4**
comp=Z,3.1nm,0.9s
AKTO Aktyubinsk 16.71 330 P **Pn 10 17 03.7 +1.0**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 16.71 330 P **Pn 10 17 03.6 +1.0**
comp=Z,1.2nm,0.3s,baz=134,slow=9.6,SNR=31
TAPN Taplejung 16.85 118 *eP* **Pn 10 17 06.2 +1.3**
comp=Z,21nm,0.3s
ODAN Odare 16.93 120 *eP* **Pn 10 17 07.3 +1.5**
ZALV Zalesovo Beam 19.79 25 *i* P **P 10 17 35.7 +0.5**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 19.79 25 P **P 10 17 35.7 +0.5**
comp=Z,1.5nm,0.3s,baz=223,slow=12,SNR=23
NVS Novosibirsk 20.06 21 *eP* **P 10 17 37.4 -0.6**
NVS *e* 10 21 10.4
SONM Songino Array 28.23 55 P **P 10 18 55.5 +0.7**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 28.23 55 P **P 10 18 55.5 +0.7**
comp=Z,1.5nm,0.7s,baz=262,slow=9.1,SNR=10
OBN Obninsk 29.89 319 *eP* **P 10 19 06.5 -2.7**
OBN pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 32.92 309 *ce*P **P 10 19 37.5 +1.7**
AKASG Malin Array Be 32.92 309 P **P 10 19 36.8 +1.0**
comp=Z,0.4nm,0.4s,baz=81,slow=7.1,SNR=4.3
UZH Uzhgorod 37.24 304 ⇓P P 10 20 17.2 +4.5
KOLS Kolonicke sedl 37.26 305 *eP* **P 10 20 14.7 +1.8**
KOLS Kolonicke sedl 37.26 305 *eP* **P 10 20 14.7 +1.8**
FINES FINESS Array B 37.42 326 *i* P **P 10 20 15.3 +1.2**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 37.42 326 P **P 10 20 15.1 +1.1**
comp=Z,1.8nm,0.8s,baz=76,slow=8.0,SNR=5.2
CRVS Cervenica-Dubn 37.79 305 *eP* **P 10 20 19.5 +2.1**
CRVS Cervenica-Dubn 37.79 305 *eP* **P 10 20 19.5 +2.1**
ARCES ARCESS Array B 41.06 338 P **P 10 20 44.9 +0.8**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 41.06 338 P **P 10 20 44.9 +0.8**
comp=Z,1.6nm,0.7s,baz=104,slow=8.0,SNR=11
HFS Hagfors 43.01 322 P **P 10 21 01.0 +1.0**
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 43.01 322 P **P 10 21 01.0 +1.0**
comp=Z,4.2nm,0.5s,baz=98,slow=10,SNR=13
NB2 NORSAR Subarra 44.32 323 P **P 10 21 10.8 +0.3**
comp=Z,1.8nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.32 323 P **P 10 21 11.0 +0.5**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 44.32 323 P **P 10 21 11.0 +0.5**
comp=Z,2.6nm,0.6s,baz=97,slow=7.8,SNR=12
TIXI Tiksi 45.65 22 *i*P **P 10 21 20.9 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
SEY Seymchan 54.30 34 P **P 10 22 26.0 +0.2**
comp=Z,0.3nm,0.4s,baz=270,slow=9.4,SNR=6.4
BILL Bilibino 58.48 26 *eP* **P 10 22 56.4 +1.1**
BILL pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 65.77 269 P **P 10 23 43.3 -1.3**
comp=Z,0.9nm,0.5s,baz=48,slow=5.6,SNR=15
RES Resolute Bay 68.59 356 P **P 10 24 01.8 +0.4**
comp=Z,0.4nm,0.5s,baz=43,slow=7.0,SNR=4.6
INK Inuvik 73.79 9 P **P 10 24 33.7 +1.1**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 73.79 9 P **P 10 24 33.6 +1.1**
comp=Z,4.0nm,0.5s,baz=345,slow=6.7,SNR=56
ILAR Eielson Array 74.66 16 P **P 10 24 37.2 -0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 74.66 16 P **P 10 24 37.2 -0.6**
comp=Z,0.9nm,0.7s,baz=316,slow=4.5,SNR=15
FRB Frobisher Bay 74.97 343 P **P 10 24 39.4 -0.1**
FRB pmax pmax
comp=Z,2.0nm,1.0s
FRB Frobisher Bay 74.97 343 P **P 10 24 39.4 -0.1**
comp=Z,1.9nm,0.9s,baz=14,slow=9.1,SNR=3.1
BOSA Boshof 77.86 220 P **P 10 24 55.9 -0.5**
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 77.86 220 P **P 10 24 55.9 -0.5**
comp=Z,3.1nm,0.9s,baz=17,slow=5.3,SNR=3.7
YKA Yellowknife Ar 81.13 3 P **P 10 25 13.7 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 81.13 3 P **P 10 25 13.7 +0.3**
comp=Z,1.5nm,0.5s,baz=350,slow=5.4,SNR=62
WRA Warramunga Arr 82.00 122 P **P 10 25 17.3 -1.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 82.00 122 P **P 10 25 17.3 -1.3**
comp=Z,1.7nm,0.7s,baz=325,slow=4.9,SNR=28
ASAR Alice Springs 84.27 125 P **P 10 25 29.1 -1.1**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 84.27 125 P **P 10 25 29.1 -1.1**
comp=Z,1.8nm,0.7s,baz=309,slow=5.2,SNR=30

*NEIC **06** 10:21:12.7, 34.75S×71.90W, h28km, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Curico, Molina, Pencahue, San Javier and Talca; [II] at San Antonio, San Fernando and Santiago.
GUC 06 10:21:12.7±0.7, 34.75S×71.90W, h28km±4km, ML4.1, 5C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**115**	⇓*i*P		Pb	10 21 24.7	-0.1
NICH				*i* S		Sb	10 21 33.1	0.0
NICH	**Los Niches**	**0.61**	**115**	⇓*i*P		Pb	10 21 24.7	-0.1
NICH				*i* S		Sb	10 21 33.1	0.0
TALC	**Talca**	**0.68**	**161**	⇑*i*P		Pb	10 21 26.1	0.0
TALC				*i* S		Sb	10 21 35.2	0.0
TALC	**Talca**	**0.68**	**161**	⇑*i*P		Pb	10 21 26.1	0.0
TALC				*i* S		Sb	10 21 35.2	0.0
LNCH	**Linares**	**1.12**	**168**	⇑*i*P		Pn	10 21 32.3	-0.3
LNCH				*i* S		Sn	10 21 47.3	+0.1
LNCH	**Linares**	**1.12**	**168**	⇑*i*P		Pn	10 21 32.3	-0.3
LNCH				*i* S		Sn	10 21 47.3	+0.1
LACH	**Col Las Americ**	**1.72**	**42**	*e*P		Pn	10 21 42.0	+1.1
LACH				*i* S		Sb	10 22 04.4	-0.7
LACH	**Col Las Americ**	**1.72**	**42**	*e*P		Pn	10 21 42.0	+1.1
LACH				*i* S		Sb	10 22 04.4	-0.7
CLCH	**Cerro Calan**	**1.76**	**40**	⇑*i*P		Pn	10 21 42.4	+0.9
CLCH				*i* S		Sb	10 22 05.7	-0.6
CLCH				AML	AML		10 22 11.1	
	comp=N,3μm,0.7s							
YECH	**El Yeso**	**1.85**	**55**	⇓*i*P		Pb	10 21 45.1	-1.2
YECH				*e*S		Sb	10 22 08.9	-0.5
YECH				AML	AML		10 22 16.1	
	comp=N,2μm,0.5s							
YECH	**El Yeso**	**1.85**	**55**	⇓*i*P		Pb	10 21 45.1	-1.2
YECH				*e*S		Sb	10 22 08.9	-0.5
PEL	**Peldehue**	**1.89**	**33**	⇓*i*P		Pn	10 21 44.7	+1.4
PEL				AML	AML		10 22 13.0	
	comp=N,4μm,0.6s							
PEL	**Peldehue**	**1.89**	**33**	⇓*i*P		Pn	10 21 44.7	+1.4
ROCH	**El Roble**	**1.92**	**23**	⇓*i*P		Pn	10 21 45.1	+1.2
ROCH				AML	AML		10 22 15.1	
	comp=N,3μm,0.4s							
ROCH	**El Roble**	**1.92**	**23**	⇓*i*P		Pn	10 21 45.1	+1.2
LCO	**Las Campanas**	**5.81**	**10**	*e*Pn		Pn	10 22 37.3	-0.1
	comp=N,8.9nm,0.5s							
LCO				*e*Sn		Sn	10 23 42.8	-0.6
PLCA	**Paso Flores**	**6.07**	**170**	*e*Pn		Pn	10 22 41.3	+0.6
PLCA				*e*Sn		Sn	10 23 53.7	+4.4

*CSEM **06** 10:22:42.6±0.8, 74.07N×10.22E, h10km, ML1.5, Error ellipse: s-maj=21.7km s-min=10.1km az=65.0*
*ISCJB **06** 10:22:43.4±1.0, 74.09N±0.06×11.5E±0.2, h10km, mb2.9/2, Error ellipse: s-maj=9.6km s-min=8.2km az=145.7*
*NAO **06** 10:22:44.0±6.3, 74.06N×10.84E, h2km±72km, ML3.1*
*IDC **06** 10:22:44.8±1.6, 74.05N×11.18E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.1/29, mbtmp3.2/4, ML3.3/2, MS2.5/2, Ms1 2.5/2, ms1mx2.2/22, Error ellipse: s-maj=32.0km s-min=12.6km az=69.0*
*BER **06** 10:22:45.8±6.4, 74.06N×10.62E, h15km±51km, ML1.5, ML3.1(NAO)*
ISC 06 10:22:43.1±1.5, 74.07N±0.07×10.70E±0.08, h10km, n23, σ1s70/32, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**2.35**	**75**	*e*P		**Pn**	**10 23 23.4**	**+1.7**
BJO				*e*Sg		**Sb**	**10 23 53.0**	**-1.5**
BJO	**Bjornoya**	**2.35**	**75**	*e*P		**Pn**	**10 23 23.4**	**+1.7**
	SNR=50							
BJO				*e*Sg		**Sb**	**10 23 53.0**	**-1.5**
	SNR=90							
HSPB	**Hornsund (broa**	**3.19**	**20**	*e*P		**Pn**	**10 23 33.3**	**+0.1**
HSPB				*e*S		**Sn**	**10 24 06.3**	**-4.9**
HSPB				IAML			10 24 14.6	
	comp=Z,1.4nm,0.3s							
HSPB	**Hornsund (broa**	**3.19**	**20**	*e*P		**Pn**	**10 23 33.3**	**+0.1**
	SNR=50							
HSP	**Hornsund**	**3.20**	**20**	Pn		**Pn**	**10 23 33.3**	**0.0**
SPA0	**Spitsbergen Ar**	**4.35**	**16**	Pn		**Pn**	**10 23 49.9**	**+0.7**
	baz=173,slow=22							
SPA0				Sn		**Sn**	**10 24 39.4**	**-0.4**
SPA0	**Spitsbergen Ar**	**4.35**	**16**	Pn		**Pn**	**10 23 49.9**	**+0.7**
	baz=173,slow=22							
SPA0				Sn		**Sn**	**10 24 39.4**	**-0.4**
SPA0				IAML			10 24 49.9	
	comp=Z,2.3nm,0.5s							
SPA0	**Spitsbergen Ar**	**4.35**	**16**	Pn		**Pn**	**10 23 49.8**	**+0.7**
	baz=173,slow=21,SNR=50							
SPA0				Sn		**Sn**	**10 24 39.4**	**-0.4**
	SNR=50							
SPITS	**Spitsbergen Ar**	**4.35**	**16**	Pn		**Pn**	**10 23 50.0**	**+0.8**
	baz=185,slow=14,SNR=89							
SPITS				Sn		**Sn**	**10 24 40.0**	**+0.1**
	baz=211,slow=25,SNR=1.5							
HOPEN	**Hopen**	**4.39**	**49**	Pn		**Pn**	**10 23 51.5**	**+1.9**
HOPEN				Sn		**Sn**	**10 24 41.6**	**+0.9**
HOPEN	**Hopen**	**4.39**	**49**	*e*P		**Pn**	**10 23 51.5**	**+1.9**
HOPEN				Sn		**Sn**	**10 24 41.6**	**+0.9**
HOPEN				IAML			10 24 45.5	
	comp=Z,3.9nm,0.2s							
HOPEN	**Hopen**	**4.39**	**49**	*e*P		**Pn**	**10 23 51.5**	**+1.9**
	SNR=49							
HOPEN				Sn		**Sn**	**10 24 41.6**	**+0.9**
	SNR=50							
KBS	**Kingsbay**	**4.90**	**3**	Pn		**Pn**	**10 23 57.5**	**+0.9**
KBS	**Kingsbay**	**4.90**	**3**	*e*P		**Pn**	**10 23 54.9**	**-1.7**
KBS	**Kingsbay**	**4.90**	**3**	*e*P		**Pn**	**10 23 54.9**	**-1.7**
	SNR=49							
KBS	**Kingsbay**	**4.90**	**3**	Pn		**Pn**	**10 23 57.5**	**+0.9**
ARA0	**ARCESS Array S**	**6.48**	**127**	Pn		**Pn**	**10 24 19.0**	**+0.7**
	baz=318,slow=14							
ARA0	**ARCESS Array S**	**6.48**	**127**	Pn		**Pn**	**10 24 19.0**	**+0.7**
	baz=318,slow=14							
ARA0	**ARCESS Array S**	**6.48**	**127**	Pn		**Pn**	**10 24 19.0**	**+0.7**
	baz=318,slow=13,SNR=50							
ARCES	**ARCESS Array B**	**6.48**	**127**	Pn		**Pn**	**10 24 18.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=325,slow=11,SNR=22							
ARCES				Sn		**Sn**	**10 25 27.7**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=326,slow=19,SNR=4.3							
ARCES				LR		LR	10 27 32.2	
	comp=Z,41nm,18.2s,baz=299,slow=45							
FINES	**FINESS Array B**	**13.87**	**148**	LR		LR	10 30 02.8	
	comp=Z,20nm,20.4s,baz=202,slow=32							
YKA	**Yellowknife Ar**	**39.01**	**323**	P		**P**	**10 30 11.1**	**+2.1**
	comp=Z,0.1nm,0.6s,baz=16,slow=8.6,SNR=2.8							
ILAR	**Eielson Array**	**40.63**	**345**	P		P	10 30 27.9	+5.3
	comp=Z,0.5nm,0.9s,baz=9.2,slow=6.8,SNR=7.5							

*ISCJB **06** 10:28:22.7±1.0, 14.05S±0.07×167.0E±0.2, h200km, mb3.9/7, Error ellipse: s-maj=30.5km s-min=10.3km az=0.2*
*IDC **06** 10:28:25.6±4.5, 14.13S×167.10E, h218km±46km, mb3.7/7, mb1 3.8/8, mb1mx3.6/20, mbtmp4.2/8, Error ellipse: s-maj=45.7km s-min=24.3km az=150.0*
ISC 06 10:28:24.1±1.1, 14.09S±0.09×167.0E±0.3, h200km, n11, σ1s25/12, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.96**	**184**	P		**Pn**	**10 30 18.8**	**+1.9**
	0.5nm,0.3s,baz=3.8,slow=15,SNR=7.6							
DZM				S		**Sn**	**10 31 44.8**	**-1.9**
	0.1nm,0.3s,baz=342,slow=7.4,SNR=1.9							
WRA	**Warramunga Arr**	**31.76**	**255**	P		**P**	**10 34 29.6**	**-0.2**
	2.8nm,0.5s,baz=86,slow=9.5,SNR=85							
ASAR	**Alice Springs**	**32.69**	**248**	P		**P**	**10 34 37.5**	**-0.3**
	2.6nm,0.4s,baz=76,slow=9.4,SNR=74							
ASAR				PcP		**PcP**	**10 37 17.8**	**-1.1**
	0.3nm,0.6s,baz=80,slow=2.1,SNR=4.7							
SEY	**Seymchan**	**77.62**	**353**	P		**P**	**10 39 57.2**	**-0.6**
	1.1nm,1.8s,baz=170,slow=3.6,SNR=6.2							
SONM	**Songino Array**	**81.85**	**324**	P		**P**	**10 40 22.2**	**+1.2**
	0.5nm,0.4s,baz=141,slow=5.3,SNR=7.8							
ILAR	**Eielson Array**	**86.00**	**18**	P		P	10 40 39.5	-2.0
	0.7nm,0.7s,baz=238,slow=5.1,SNR=12							
MKAR	**Makanchi Array**	**96.58**	**316**	P		**P**	**10 41 32.0**	**+0.9**
	0.8nm,0.6s,baz=89,slow=5.5,SNR=10.0							
ZALV	**Zalesovo Beam**	**96.74**	**324**	P		**P**	**10 41 30.6**	**-1.0**
	0.4nm,0.3s,baz=107,slow=3.5,SNR=3.6							
ARCES	**ARCESS Array B**	**119.58**	**345**	PKP		**PKPdf**	**10 46 48.5**	**-0.9**
	2.5nm,0.8s,baz=57,slow=1.8,SNR=12							
FINES	**FINESS Array B**	**125.05**	**338**	PKP		**PKPdf**	**10 46 59.2**	**-0.9**
	0.8nm,0.5s,baz=104,slow=5.9,SNR=2.9							
KEST	**Kesra**	**150.57**	**321**	PKPbc		**PKPbc**	**10 47 53.3**	**+0.6**
	1.6nm,0.7s,baz=196,slow=2.4,SNR=5.3							

NNC 06 10:47:18.4±2.2, 37.24N×71.35E, h159km, mb2.5, mpv3.5, 5C-8D, Error ellipse: s-maj=20.1km s-min=8.0km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.53**	**309**	⇓P		Pn	10 47 59.9	-0.5
	4.7nm,0.2s							
DZET				⇑S		Sn	10 48 33.3	+0.3
	29nm,0.2s							
SFK	**Sufi-Kurgan**	**3.24**	**31**	⇑P		Pn	10 48 09.4	+0.1
	4.3nm,0.3s							
SFK				⇑S		Sn	10 48 50.0	+0.9
	5.7nm,0.2s							
MNAS	**Manas**	**5.31**	**9**	⇓P		Pn	10 48 37.1	+0.9
	4.7nm,0.4s							
MNAS				⇑S		Sn	10 49 37.2	+0.1
	8.0nm,0.8s							
KK31	**Karatay Array**	**5.89**	**354**	P		Pn	10 48 45.1	+1.5
	2.1nm,0.3s,baz=172,slow=12,SNR=91							
KK31				⇓S		Sn	10 49 52.5	+1.9
	1.4nm,0.3s,baz=169,slow=23,SNR=7.2							
AAK	**Ala-Archa**	**5.90**	**23**	⇓P		Pn	10 48 44.3	+0.3
	2.8nm,0.3s							
AAK				⇓S		Sn	10 49 50.3	-0.8
	4.1nm,0.5s							
TKM2	**Tokmak 2**	**6.54**	**29**	⇓P		Pn	10 48 51.5	-1.1
	1.0nm,0.6s							
TKM2				⇓S		Sn	10 50 04.8	-1.6
AB31	**Akbulak array**	**14.58**	**329**	⇓P		P	10 50 38.5	-0.6
	0.2nm,0.3s,baz=136,slow=14,SNR=14							
AB31				⇑S		Sn	10 53 14.4	-4.5
	0.4nm,0.6s							

WEL 06 10:58:50.1±0.3, 36.79S×177.36E, h150km±3km, ML3.7/15, 5D, Error ellipse: s-maj=4.0km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.02**	**161**	PN		Pn	10 59 15.0	0.0
HAZ				SN		Sn	10 59 33.8	-0.2
MXZ	**Matakaoa Point**	**1.08**	**136**	PN		Pn	10 59 15.9	+0.5
MXZ				SN		Sn	10 59 34.8	-0.1
MXZ				AML	AML		10 59 40.6	
WMGZ	**Waiomatatini S**	**1.32**	**141**	PN		Pn	10 59 17.8	+0.1
WMGZ				SN		Sn	10 59 39.2	+0.1
PUZ	**Puketiti**	**1.46**	**151**	PN		Pn	10 59 19.0	-0.3
PUZ				SN		Sn	10 59 40.5	-1.2
PUZ				AML	AML		10 59 42.4	
TWGZ	**Tauwhareparae**	**1.47**	**161**	PN		Pn	10 59 19.8	+0.4
URZ	**Urewera**	**1.48**	**188**	⇓PN		Pn	10 59 19.7	+0.4
URZ				SN		Sn	10 59 42.7	+0.8
MWZ	**Matawai**	**1.55**	**175**	⇓PN		Pn	10 59 20.2	0.0
MWZ				AML	AML		10 59 34.0	
MWZ				SN		Sn	10 59 43.5	+0.1
TKGZ	**Te Karaka**	**1.69**	**167**	⇓PN		Pn	10 59 21.5	-0.1
CNGZ	**Carnagh Statio**	**1.82**	**159**	PN		Pn	10 59 23.1	+0.1
RIGZ	**Rimuhau**	**1.94**	**171**	PN		Pn	10 59 24.1	-0.4
SNGZ	**Shannon Statio**	**1.99**	**181**	PN		Pn	10 59 24.7	-0.3
RAHZ	**Arahi**	**2.13**	**186**	PN		Pn	10 59 26.8	0.0
KNZ	**Kokohu**	**2.24**	**174**	⇓PN		Pn	10 59 27.2	-0.7
WHHZ	**Waihua**	**2.28**	**183**	PN		Pn	10 59 28.3	-0.2
MHGZ	**Mahia Peninsul**	**2.40**	**170**	PN		Pn	10 59 29.4	-0.5
BKZ	**Black Stump Fm**	**2.47**	**196**	PN		Pn	10 59 30.0	-0.8
ARHZ	**Aropaoanui**	**2.48**	**187**	PN		Pn	10 59 30.7	-0.2
MCHZ	**McNeill Hill**	**2.70**	**191**	PN		Pn	10 59 33.2	-0.4
FWVZ	**Far West T-bar**	**2.85**	**210**	PN		Pn	10 59 35.8	+0.1
BHHZ	**Black Hill Sta**	**2.88**	**200**	PN		Pn	10 59 35.1	-0.9
WNVZ	**Wahianoa**	**2.89**	**208**	PN		Pn	10 59 36.1	-0.1
MOVZ	**Moawhango**	**2.91**	**205**	PN		Pn	10 59 35.5	-0.8
KRHZ	**Kereru**	**2.95**	**195**	PN		Pn	10 59 35.6	-1.3
KAHZ	**Kahuranaki**	**3.02**	**187**	PN		Pn	10 59 36.5	-1.2
PNHZ	**Pukenui**	**3.25**	**196**	PN		Pn	10 59 38.8	-1.8
PXZ	**Pawanui**	**3.26**	**187**	PN		Pn	10 59 38.6	-2.0
WPHZ	**Waipukurau**	**3.35**	**192**	PN		Pn	10 59 40.0	-1.8
TSZ	**Takapari Road**	**3.44**	**198**	PN		Pn	10 59 41.1	-2.0
PRHZ	**Porangahau**	**3.52**	**189**	PN		Pn	10 59 42.0	-2.0
DVHZ	**Dannevirke**	**3.63**	**195**	PN		Pn	10 59 42.9	-2.6
POWZ	**Post Office Ro**	**3.81**	**199**	PN		Pn	10 59 45.4	-2.3
PRWZ	**Pori Road**	**3.91**	**196**	PN		Pn	10 59 47.4	-1.7
BFZ	**Birch Farm**	**3.98**	**192**	PN		Pn	10 59 47.2	-2.9
MRZ	**Mangatainoka R**	**4.11**	**199**	PN		Pn	10 59 48.6	-3.1
MRZ				AML	AML		11 00 15.2	
MRZ				AML	AML		11 00 36.0	
TIWZ	**Tintock**	**4.14**	**196**	PN		Pn	10 59 49.5	-2.7
HOWZ	**Hold

az=175.6

*IDC **06** 11:12:32.7±1.9,31°.68N×115°.11W,h0km,mb3.5/1, mb1 3.5/6,mb1mx3.3/27,mbtmp3.1/6,ML3.2/5,MS3.1/7, Ms1 3.1/7,ms1mx2.8/27,Error ellipse: s-maj=26.5km s-min=12.4km az=43.0*

*MEX **06** 11:12:33.9±0.3,32°.21N×114°.85W,h15km,MD3.8*

*NEIC **06** 11:12:34.4,32°.16N×115°.10W,h2km,ML3.7(PAS),After PAS.*

ISC 06 11:12:33.6±0.8,32°.08N±0°.04×115°.14W±0°.03,h10km,n34, σ1s33/49,MS3.0/3,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GLA	**Glamis**	**1.01**	**15**	*e*Pg		**Pg**	**11 12 50.8**	**-2.2**
GLA				*e*Sg		**Sg**	**11 13 03.9**	**-2.2**
SPIG	**San Pedro Mart**	**1.07**	**195**	*e*P		**Pb**	**11 12 53.9**	**-0.5**
SPIG				*e*S		**Sb**	**11 13 09.2**	**+0.7**
SPIG	**San Pedro Mart**	**1.07**	**195**	*e*P		**Pb**	**11 12 53.9**	**-0.5**
SPIG				*e*S		**Sb**	**11 13 09.2**	**+0.7**
CBX	**Cerro Bola**	**1.31**	**281**	*e*P		**Pn**	**11 12 57.3**	**-0.7**
CBX				*i* S		**Sb**	**11 13 15.5**	**+0.3**
CBX	**Cerro Bola**	**1.31**	**281**	*e*P		**Pn**	**11 12 57.3**	**-0.7**
BAR	**Barrett**	**1.43**	**295**	*e*Pn		**Pn**	**11 12 58.5**	**-1.1**
BAR				*e*Sg		**Sn**	**11 13 19.0**	**+0.6**
PFO	**Pinyon Flats O**	**1.88**	**324**	Pn		**Pn**	**11 13 03.9**	**-2.0**
	5.7nm,0.3s,baz=146,slow=12,SNR=16							
PFO				Lg		Lg	11 13 32.5	
	25nm,0.3s,baz=145,slow=7.4,SNR=12							
PFO				LR		LR	11 13 56.1	
	comp=Z,221nm,20.9s,baz=138,slow=37							
PFO	**Pinyon Flats O**	**1.88**	**324**	Pn		**Pn**	**11 13 03.9**	**-2.0**
PFO				*e*Sn		**Sn**	**11 13 29.6**	**-0.2**
PFO				Lg		Lg	11 13 32.5	
214A	**Organ Pipe Nat**	**1.98**	**93**	*e*Pn		Pn	11 13 04.5	-2.8
214A				*e*Sn		**Sn**	**11 13 33.3**	**+1.1**
LDFC	**Landfair**	**2.99**	**1**	*e*Pn		**Pn**	**11 13 20.5**	**-0.7**
LDFC				*e*Sn		**Sn**	**11 13 57.2**	**+0.1**
MWC	**Mount Wilson**	**3.25**	**312**	*e*Pn		**Pn**	**11 13 25.4**	**+0.6**
MWC				*e*Sg		**Sg**	**11 14 16.9**	**-1.0**
PASC	**Pasadena Art C**	**3.30**	**310**	*e*Pn		**Pn**	**11 13 26.9**	**+1.7**
PASC				*e*Sg		**Sg**	**11 14 18.0**	**-1.4**
GSC	**Goldstone, Bar**	**3.50**	**337**	*e*Pn		**Pn**	**11 13 29.8**	**+1.6**
GSC				*e*Sn		**Sn**	**11 14 10.2**	**+0.6**
TUC	**Tucson**	**3.70**	**85**	*e*Pn		**Pn**	**11 13 28.9**	**-2.0**
TUC				*e*Sg		**Sg**	**11 14 31.0**	**-1.4**
OSI	**Osito Audit: C**	**3.92**	**311**	*e*Pn		**Pn**	**11 13 36.3**	**+2.4**
OSI				*e*Sg		**Sg**	**11 14 38.0**	**-1.5**
SHPR	**Sheep Range**	**4.42**	**360**	*e*Pn		**Pn**	**11 13 40.9**	**+0.1**
SHPR				*e*Sg		**Sg**	**11 14 53.4**	**-2.0**
ISA	**Isabella, Lake**	**4.52**	**323**	*e*Pn		**Pn**	**11 13 43.5**	**+1.4**
ISA				*e*Sg		**Sg**	**11 14 58.1**	**-0.7**
WUAZ	**Wupatki**	**4.65**	**41**	*e*Pn		**Pn**	**11 13 44.5**	**+0.5**
WUAZ				*e*Sn		**Sn**	**11 14 38.4**	**+0.3**
W18A	**Petrified Fore**	**5.43**	**55**	*e*Pn		**Pn**	**11 13 55.0**	**+0.2**
	14nm,0.5s							
W18A				Sn		**Sn**	**11 14 55.9**	**-1.6**
CCUT	**Cedar City**	**5.65**	**15**	*e*Pn		**Pn**	**11 13 58.5**	**+0.7**
	20nm,1.0s							
CCUT				*e*Sn		**Sn**	**11 15 04.0**	**+1.1**
ARUT	**Antelope Range**	**5.87**	**13**	*e*Pn		**Pn**	**11 14 01.4**	**+0.7**
	5.8nm,1.0s							
ARUT				*e*Sn		**Sn**	**11 15 09.1**	**+1.1**
121A	**Cookes Peak, D**	**6.25**	**84**	*e*Pn		**Pn**	**11 14 04.3**	**-1.7**
	12nm,0.6s							
121A				*e*Sn		**Sn**	**11 15 17.3**	**-0.2**
NVAR	**Mina Array Bea**	**6.84**	**339**	Pn		Pn	11 14 20.9	+6.8
	0.1nm,0.3s,baz=165,slow=14,SNR=3.4							
MVCO	**Mesa Verde**	**7.49**	**45**	*e*Pn		**Pn**	**11 14 25.2**	**+2.1**
	8.7nm,0.6s							
MVCO				*e*Sg		**Sg**	**11 16 34.9**	**+0.8**
ANMO	**Albuquerque**	**7.80**	**66**	Pn		**Pn**	**11 14 27.9**	**+0.6**
	0.1nm,0.3s,baz=249,slow=14,SNR=3.6							
ANMO				Lg		Lg	11 16 44.8	
	0.1nm,0.3s,baz=0.0,slow=20,SNR=4.0							
ANMO				LR		LR	11 17 45.1	
	comp=Z,172nm,21.8s,baz=264,slow=39							
SRU	**San Rafael Swe**	**7.96**	**27**	*e*Pn		**Pn**	**11 14 29.5**	**0.0**
SRU				*e*Pg		**Pg**	**11 15 04.6**	**-1.4**
SRU				*e*Sn		**Sn**	**11 16 01.6**	**+2.0**
ELK	**Elko**	**8.65**	**360**	Pn		Pn	11 14 45.7	+6.8
	0.1nm,0.3s,baz=179,slow=18,SNR=3.4							
ELK				Lg		Lg	11 17 17.5	
	0.1nm,0.3s,baz=270,slow=20,SNR=3.2							
TXAR	**Lajitas Array**	**10.25**	**102**	Pn		**Pn**	**11 15 01.6**	**+0.7**
	0.4nm,0.3s,baz=286,slow=13,SNR=25							
TXAR				Lg		Lg	11 17 48.7	
	0.0nm,0.3s,baz=274,slow=27,SNR=2.9							
TXAR				LR		LR	11 19 23.3	
	comp=Z,104nm,19.9s,baz=0.0,slow=40							
PDAR	**Pinedale Array**	**11.55**	**21**	Pn		Pn	11 15 28.7	+10
	0.0nm,0.3s,baz=229,slow=15,SNR=2.6							
PDAR				Lg		Lg	11 18 48.1	
	0.0nm,0.3s,baz=217,slow=32,SNR=3.3							
NEW	**Newport**	**16.24**	**355**	LR		LR	11 23 17.7	
	comp=Z,83nm,19.2s,baz=185,slow=39							
BBB	**Bella Bella**	**22.21**	**339**	LR		LR	11 27 01.1	
	comp=Z,42nm,20.7s,baz=224,slow=38							
TKL	**Tuckaleechee C**	**26.23**	**74**	LR		LR	11 28 20.6	
	comp=Z,49nm,20.6s,baz=332,slow=36							
INK	**Inuvik**	**37.80**	**349**	LR		LR	11 37 03.7	
	comp=Z,66nm,19.1s,baz=238,slow=38							
ILAR	**Eielson Array**	**38.10**	**339**	P		**P**	**11 19 55.0**	**+2.7**
	0.6nm,0.8s,baz=148,slow=8.1,SNR=11							

*GUC **06** 11:24:43.7±0.3,37°.46S×73°.77W,h7km±4km,ML3.9*

*IDC **06** 11:24:43.8±1.1,37°.33S×73°.46W,h0km,mb3.7/5, mb1 3.8/7,mb1mx3.7/22,mbtmp3.6/7,ML3.6/2,Error ellipse: s-maj=28.7km s-min=18.3km az=79.0*

*ISCJB **06** 11:24:44.9±0.9,37°.47S±0°.05×73°.77W±0°.09,h23km, mb3.6/5,Error ellipse: s-maj=9.8km s-min=7.3km az=172.0*

ISC 06 11:24:47.0±1.0,37°.40S±0°.05×73°.53W±0°.10,h23km,n13, σ1s15/19,mb3.7/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.65**	**32**	*e*P		**Pb**	**11 24 59.0**	**-0.6**
CCSP				*e*S		**Sn**	**11 25 10.9**	**+0.6**
CCSP				AML		AML	11 25 13.3	
	comp=E,18μm,0.5s							
AGCH	**Angol**	**0.78**	**122**	*e*P		**Pb**	**11 25 01.0**	**-0.9**
AGCH				*e*S		**Sn**	**11 25 13.9**	**+0.3**
COCH	**Cobquecura**	**1.40**	**26**	*e*P		**Pn**	**11 25 10.9**	**-0.2**
COCH				*e*S		**Sb**	**11 25 31.5**	**+1.7**
LNCH	**Linares**	**2.19**	**46**	*e*P		**Pb**	**11 25 24.0**	**-2.0**
LNCH				*e*S		**Sb**	**11 25 54.6**	**+1.9**
PLCA	**Paso Flores**	**4.06**	**146**	Pn		**Pn**	**11 25 49.1**	**+1.3**
	comp=E,1.3nm,0.3s,baz=326,slow=12,SNR=28							
PLCA				Lg		Lg	11 26 54.0	
	comp=E,3.4nm,0.3s,baz=44,slow=13,SNR=8.0							
CFAA	**Coronel Fontan**	**7.25**	**39**	Pn		**Pn**	**11 26 30.8**	**-0.7**
	comp=E,0.3nm,0.3s,baz=215,slow=17,SNR=9.2							
CFAA				Sn		**Sn**	**11 27 53.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=211,slow=17,SNR=2.7							
CFAA				Lg		Lg	11 28 31.5	
	comp=E,0.1nm,0.3s,baz=338,slow=16,SNR=2.8							
LPAZ	**La Paz**	**21.56**	**14**	P		**P**	**11 29 36.0**	**+0.4**
	comp=E,0.7nm,0.6s,baz=173,slow=10,SNR=3.5							
SIV	**San Ignacio**	**24.01**	**31**	P		**P**	**11 29 58.5**	**-1.6**
	comp=E,2.4nm,0.8s,baz=225,slow=12,SNR=5.4							
TXAR	**Lajitas Array**	**72.14**	**333**	P		**P**	**11 36 10.3**	**+0.6**
	comp=E,0.2nm,0.5s,baz=159,slow=8.9,SNR=5.6							
TORD	**Torodi Ar. Bea**	**86.50**	**71**	P		**P**	**11 37 28.0**	**-0.3**
	comp=E,0.3nm,0.6s,baz=224,slow=4.0,SNR=3.1							
ULM	**Lac du Bonnet**	**89.47**	**346**	P		**P**	**11 37 42.3**	**+0.7**
	comp=E,0.7nm,0.5s,baz=180,slow=3.0,SNR=2.6							
BVAR	**Borovoye Array**	**150.55**	**46**	PKPbc		**PKPbc**	**11 44 36.7**	**+0.5**
	comp=E,0.8nm,0.8s,baz=291,slow=4.1,SNR=5.2							
MKAR	**Makanchi Array**	**159.82**	**55**	PKP		**PKPdf**	**11 44 42.6**	**-1.0**
	comp=E,0.1nm,0.5s,baz=286,slow=3.1,SNR=2.1							
MKAR				PKPab		**PKPab**	**11 45 21.7**	**-1.2**
	comp=E,0.2nm,0.7s,baz=298,slow=3.1,SNR=3.2							

IDC 06 11:33:18.3±2.8,54°.50N×86°.35E,h0km,mb1 3.0/3, mb1mx2.9/31,mbtmp3.0/3,ML2.6/3,Error ellipse: s-maj=22.2km s-min=12.7km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**239**	*i*			11 40 57.7	
	baz=57,slow=334,SNR=1.9							
ZALV	**Zalesovo Beam**	**1.05**	**239**	Pg		Pg	11 33 37.3	-1.2
	0.8nm,0.3s,baz=61,slow=16,SNR=21							
ZALV				Lg		Lg	11 33 53.7	
	3.6nm,0.3s,baz=56,slow=27,SNR=21							
KURBB	**Kurchatov Arra**	**6.14**	**234**	Pn		Pn	11 34 50.3	+0.1
	0.1nm,0.3s,baz=50,slow=14,SNR=4.9							
KURBB				Lg		Lg	11 36 35.2	
	0.1nm,0.3s,baz=52,slow=33,SNR=11							
MKAR	**Makanchi Array**	**8.13**	**200**	Pn		Pn	11 35 18.7	+1.2
	0.1nm,0.3s,baz=26,slow=14,SNR=3.8							
MKAR				Sn		Sn	11 36 49.4	-0.7
	0.1nm,0.3s,baz=25,slow=27,SNR=7.6							
MKAR				Lg		Lg	11 37 33.1	
	0.0nm,0.3s,baz=20,slow=31,SNR=8.0							
BVAR	**Borovoye Array**	**9.57**	**268**	Pn		Pn	11 35 36.8	-0.4
	0.1nm,0.3s,baz=66,slow=14,SNR=2.4							
BVAR				Sn		Sn	11 37 16.6	-8.8
	0.1nm,0.3s,baz=73,slow=32,SNR=3.4							

*ISCJB **06** 11:36:45.6±1.4,3°.58S±0°.06×128°.79E±0°.05,h11km±9km, mb3.4/1,Error ellipse: s-maj=11.4km s-min=7.1km az=28.0*

*IDC **06** 11:36:46.0±2.2,3°.83S×127°.98E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.5/22,mbtmp3.7/3,ML3.6/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/27,Error ellipse: s-maj=171.8km s-min=28.0km az=67.0*

*DJA **06** 11:36:47.3±0.3,3°.5S×12°.9E±°,h10km,M4.4/4,mb4.8/2, mB5.7/1,MLv4.1/4,Mw(mB)5.2/1*

ISC 06 11:36:45.8±2.2,3°.56S±0°.08×128°.80E±0°.06,h3km±15km, n11,σ1s31/13,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSAI	**Masohi**	**0.25**	**32**	P		**Pg**	**11 36 50.4**	**-0.3**
BNDI	**Bandanaira**	**1.46**	**131**	P		**Pn**	**11 37 13.0**	**0.0**
NLAI	**Namlea**	**1.72**	**281**	P		**Pn**	**11 37 17.3**	**+0.6**
LBMI	**Labuha**	**3.18**	**336**	P		**Pn**	**11 37 37.3**	**+0.6**
LBMI				S		**Sn**	**11 38 15.8**	**+0.6**
SANI	**Sanana**	**3.18**	**298**	P		**Pn**	**11 37 36.1**	**-0.7**
SANI				S		**Sn**	**11 38 13.6**	**-1.6**
FAKI	**Fak Fak**	**3.51**	**80**	P		**Pn**	**11 37 42.2**	**+1.0**
FAKI				S		**Sn**	**11 38 23.6**	**+0.4**
LUWI	**Luwuk**	**6.52**	**292**	P		**Pn**	**11 38 25.5**	**+2.8**
	53nm,0.8s,5μm							
WRA	**Warramunga Arr**	**17.16**	**162**	P		**Pn**	**11 40 46.0**	**-0.7**
	0.2nm,0.3s,baz=341,slow=13,SNR=13							
PMG	**Port Moresby**	**19.14**	**109**	LR		LR	11 50 38.1	
	comp=Z,48nm,20.4s,baz=347,slow=42							
ASAR	**Alice Springs**	**20.59**	**167**	P		**P**	**11 41 27.0**	**+0.9**
	3.2nm,0.7s,baz=348,slow=12,SNR=51							
MKAR	**Makanchi Array**	**64.71**	**327**	P		**P**	**11 47 24.5**	**-0.8**
	0.2nm,0.5s,baz=117,slow=7.7,SNR=5.5							

SKO 06 11:43:18.1,41°.55N×22°.14E,h30km,M0.7,ML1.1, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VAY	**Valandovo**	**0.40**	**125**	*i* Pg		Pn	11 43 27.5	-0.3
VAY				*i* Sg		Sn	11 43 33.6	-0.6
VAY				*e*Lg		Lg	11 43 34.1	
	comp=E,14nm,0.5s							
VAY				*e*Lg		Lg	11 43 34.1	
	comp=N,13nm,0.3s							

*CSEM **06** 11:46:07.0,39°.47N×38°.60E,h18km,MD2.8*

ISK 06 11:46:07.0,39°.47N×38°.60E,h18km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILIC	**ilic-Erzincan**	**0.03**	**241**	*e*PG		Pg	11 46 10.5	+0.1
ILIC				*e*SG		Sg	11 46 12.6	-0.1
ILIC	**ilic-Erzincan**	**0.03**	**241**	*e*Pg		Pg	11 46 10.5	+0.1
ILIC				*e*Sg		Sg	11 46 12.6	0.0
EZC	**Erzincan**	**0.65**	**64**	*e*Pg		Pn	11 46 24.3	+2.8
EZC				*e*Sg		Sn	11 46 37.2	+5.8
PTK	**Pertek**	**0.84**	**133**	*e*PG		Pg	11 46 23.6	-0.1
PTK	**Pertek**	**0.84**	**133**	*e*Pg		Pg	11 46 23.6	-0.1
ERZN	**Erzincan**	**0.87**	**82**	*e*PG		Pg	11 46 24.3	0.0
ERZN				*e*SG		Sn	11 46 37.2	+0.2
MALT	**Malatya**	**1.16**	**187**	*e*PN		Pg	11 46 29.4	-0.3
MALT	**Malatya**	**1.16**	**187**	*e*Pn		Pg	11 46 29.4	-0.2
SVRC	**Sivrice-ELAZID**	**1.22**	**153**	*e*PN		Pn	11 46 29.3	-0.1
SVRC	**Sivrice-ELAZID**	**1.22**	**153**	*e*Pn		Pn	11 46 29.3	-0.1
DARE	**Darende-Malaty**	**1.25**	**225**	*e*PN		Pb	11 46 30.3	+0.1
DARE	**Darende-Malaty**	**1.25**	**225**	*e*Pn		Pb	11 46 30.3	+0.1
SVSK	**Karacayir**	**1.32**	**290**	*e*PN		Pb	11 46 30.9	-0.3
SVSK	**Karacayir**	**1.32**	**290**	*e*Pn		Pb	11 46 30.9	-0.3

*NNC **06** 11:47:45.2±3.0,54°.43N×86°.80E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=28.6km s-min=22.0km az=91.0*

IDC 06 11:47:45.6±3.0,54°.54N×86°.60E,h0km,mb1 3.3/2, mb1mx3.0/30,mbtmp3.3/2,ML2.7/2,3C-4D,Error ellipse: s-maj=24.5km s-min=14.5km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**241**	*i*			11 56 01.5	
	baz=61,slow=335,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.20**	**241**	Pg		Pg	11 48 06.8	-1.7
	2.5nm,0.3s,baz=61,slow=17,SNR=25							
ZALV				Lg		Lg	11 48 25.1	
	2.9nm,0.3s,baz=58,slow=27,SNR=44							
KURK	**Kurchatov**	**6.18**	**235**	⇑Pn		Pn	11 49 18.0	-0.1
	1.9nm,0.8s							
KURK				⇓Lg		Lg	11 51 03.3	
	7.0nm,1.5s							
KURBB	**Kurchatov Arra**	**6.29**	**235**	⇑Pn		Pn	11 49 19.5	0.0
	4.2nm,0.7s							
KURBB				⇓Lg		Lg	11 51 05.2	
	9.3nm,0.7s							
KURBB	**Kurchatov Arra**	**6.29**	**235**	Pn		Pn	11 49 20.4	+1.0
	0.1nm,0.3s,baz=52,slow=14,SNR=15							
KURBB				Lg		Lg	11 51 07.4	
	0.1nm,0.3s,baz=57,slow=31,SNR=4.5							
MK31	**Makanchi Array**	**8.22**	**201**	⇑Pn		Pn	11 49 45.3	-0.8
	0.1nm,0.2s,baz=26,slow=14,SNR=11							
MK31				⇓Sn		Sn	11 51 19.0	-0.6
	3.4nm,1.2s,baz=31,slow=26,SNR=7.8							
MK31				⇓Lg		Lg	11 52 05.1	
	1.7nm,0.8s,baz=19,slow=32,SNR=3.6							
MKAR	**Makanchi Array**	**8.22**	**201**	Pn		Pn	11 49 47.0	+0.9
	0.2nm,0.3s,baz=24,slow=14,SNR=9.7							
MKAR				Sn		Sn	11 51 18.9	-0.7
	0.1nm,0.3s,baz=32,slow=25,SNR=13							
MKAR				Lg		Lg	11 52 03.5	
	baz=15,slow=29,SNR=3.0							

KRSC 06 11:50:41.6±1.6,53°.88N×163°.68E,h80km±25km,ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**1.33**	**301**	P		Pn	11 51 06.8	+2.2
MKZ				S		Sn	11 51 24.5	+2.5
BKI	**Bering**	**1.88**	**44**	S		Sn	11 51 34.5	-0.3
SPN	**Mys Shipunski**	**2.32**	**252**	S		Sn	11 51 46.2	+0.8
KBTR	**Krutoberegovo**	**2.38**	**348**	P		Pn	11 51 20.7	+2.2
KBTR				S		Sn	11 51 47.8	+0.9
TUMR	**Tumrok**	**2.49**	**306**	P		Pn	11 51 23.6	+3.4
NLC	**Nalytchevo**	**2.69**	**256**	S		Sn	11 51 55.4	+1.3
SDLR	**Sedlovina**	**2.92**	**260**	P		Pn	11 51 28.9	+2.9
SDLR				S		Sn	11 52 02.5	+2.3
SMAR	**Somma**	**2.98**	**260**	P		Pn	11 51 29.8	+3.0
SMAR				S		Sn	11 52 04.0	+2.3
UGLR	**Uglovaya**	**2.98**	**259**	P		Pn	11 51 29.6	+2.9
UGLR				S		Sn	11 52 03.7	+2.3
KRER	**Koryakskii**	**3.00**	**261**	P		Pn	11 51 29.8	+2.7
KRER				S		Sn	11 52 03.5	+1.4
AVH	**Avacha**	**3.01**	**260**	P		Pn	11 51 30.4	+3.3
AVH				S		Sn	11 52 04.9	+2.7
KRX	**Arik**	**3.04**	**262**	P		Pn	11 51 30.5	+2.9
KRX				S		Sn	11 52 05.1	+1.9
KOK	**Koryaka**	**3.07**	**261**	P		Pn	11 51 30.3	+2.4
KOK				S		Sn	11 52 04.8	+1.2
GNL	**Ganaly**	**3.41**	**269**	P		Pn	11 51 36.2	+3.6
RUS	**Russkaya**	**3.43**	**247**	P		Pn	11 51 35.0	+2.3
RUS				S		Sn	11 52 13.2	+0.9
MTVR	**Mutnovka**	**3.59**	**249**	P		Pn	11 51 38.4	+3.3
MTVR				S		Sn	11 52 18.1	+1.6

*CSEM **06** 11:59:45.9,37°.15N×28°.19E,h12km,MD2.7*

ISK 06 11:59:45.9,37°.15N×28°.19E,h12km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YER	**Yerkesik**	**0.07**	**98**	*e*PG		Pg	11 59 48.6	0.0
YER				*e*SG		Sg	11 59 50.8	+0.3
YER	**Yerkesik**	**0.07**	**98**	*e*Pg		Pg	11 59 48.6	+0.1
YER				*e*Sg		Sg	11 59 50.8	+0.3
DALY	**Dalyan (Mu˘la**	**0.49**	**131**	*e*PG		Pb	11 59 56.2	-0.3
DALY	**Dalyan (Mu˘la**	**0.49**	**131**	*e*Pg		Pb	11 59 56.2	-0.3
BODT	**Bodrum**	**0.71**	**264**	*e*PG		Pb	12 00 00.4	+0.2
BODT				*e*SG		Sb	12 00 10.3	+0.3
BODT	**Bodrum**	**0.71**	**264**	*e*Pg		Pb	12 00 00.4	+0.1
BODT				*e*Sg		Sb	12 00 10.3	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.83**	**343**	*e*PG		Pb	12 00 02.5	-0.1
AYDB	**Zeytinkoy-Aydi**	**0.83**	**343**	*e*Pg		Pb	12 00 02.5	-0.1
FETY	**Fethiye**	**0.88**	**125**	*e*PG		Pb	12 00 03.1	0.0
FETY	**Fethiye**	**0.88**	**125**	*e*Pg		Pb	12 00 03.2	+0.1

*IDC **06** 12:11:55.0±1.2,0°.44N×126°.12E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/33,mbtmp3.7/4,MS2.6/2,Ms1 2.7/2, ms1mx2.3/34,Error ellipse: s-maj=135.7km s-min=20.6km az=68.0*

*ISCJB **06** 12:12:01.6±0.6,0°.20N±0°.07×126°.07E±0°.06,h44km, mb3.7/4,MS2.5/2,Error ellipse: s-maj=10.0km s-min=7.9km az=17.2*

*DJA **06** 12:12:01.3±0.3,0°.N±3°×12°.6E±°,h10km,M4.5/2,mb4.6/1, MLv4.4/2*

ISC 06 12:12:02.0±0.9,0°.23N±0°.07×126°.05E±0°.05,h44km,n19, σ1s80/15,mb3.8/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.42**	**68**	P		**Pn**	**12 12 25.5**	**0.0**
TNTI				S		**Sn**	**12 12 46.9**	**+3.9**
LBMI	**Labuha**	**1.69**	**121**	P		**Pn**	**12 12 29.7**	**+0.6**
KMSI	**Cibinong**	**2.09**	**279**	P		**Pn**	**12 12 35.2**	**+0.5**
SANI	**Sanana**	**2.27**	**181**	P		**Pn**	**12 12 36.5**	**-0.6**
GTOI	**Gorontalo**	**3.06**	**278**	P		Pn	12 12 51.7	+3.7
SGSI	**Sangihe**	**3.47**	**351**	P		**Pn**	**12 12 54.2**	**+0.6**
LUWI	**Luwuk**	**3.51**	**249**	P		Pn	12 12 58.6	+4.5
NLAI	**Namlea**	**3.60**	**163**	P		**Pn**	**12 12 56.6**	**+1.2**
MRSI	**Marisa**	**4.11**	**273**	P		**Pn**	**12 13 05.3**	**+2.9**
APSI	**Ampana**	**4.54**	**256**	P		**Pn**	**12 13 08.7**	**+0.4**
TTSI	**Tana Toraja**	**7.03**	**242**	P		Pn	12 13 49.3	+6.9
SPSI	**Sidrap Palu**	**7.53**	**236**	P		**Pn**	**12 13 51.3**	**+1.9**
WSI	**Waingapu**	**11.38**	**210**	P		Pn	12 14 38.9	-3.2
WRA	**Warramunga Arr**	**21.63**	**158**	P		**P**	**12 16 48.0**	**-0.7**
	4.0nm,0.8s,baz=338,slow=11,SNR=22							
ASAR	**Alice Springs**	**24.95**	**163**	P		**P**	**12 17 22.6**	**+1.0**
	0.9nm,0.6s,baz=342,slow=9.2,SNR=30							
ASAR				PcP		**PcP**	**12 20 56.0**	**-0.3**
	0.3nm,0.7s,baz=347,slow=2.5,SNR=4.9							
CMAR	**Chiang Mai Arr**	**32.20**	**306**	LR		LR	12 33 32.5	
	comp=Z,12nm,18.5s,baz=150,slow=40							
KSRS	**Korea Array**	**37.08**	**2**	LR		LR	12 32 44.3	
	comp=Z,5.9nm,19.5s,baz=72,slow=34							
SONM	**Songino Array**	**50.40**	**343**	P		**P**	**12 20 53.8**	**-1.3**
	0.6nm,0.8s,baz=161,slow=7.3,SNR=4.6							
MKAR	**Makanchi Array**	**60.05**	**327**	P		**P**	**12 22 02.3**	**-2.4**
	0.6nm,0.6s,baz=120,slow=7.2,SNR=11							

*CSEM **06** 12:17:39.0,38°.09N×27°.27E,h6km,MD2.5*

ISK 06 12:17:39.0,38°.09N×27°.27E,h6km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IZM	**Izmir**	**0.31**	**359**	*e*PG		Pg	12 17 45.8	+0.6
IZM	**Izmir**	**0.31**	**359**	*e*Pg		Pg	12 17 45.8	+0.7
BLCB	**Balcova**	**0.35**	**329**	*e*PG		Pg	12 17 46.4	+0.6
BLCB				*e*SG		Sg	12 17 51.4	+1.1
BLCB	**Balcova**	**0.35**	**329**	*e*Pg		Pg	12 17 46.4	+0.6
BLCB				*e*Sg	

WHVZ	**Whangaehu Hut**	**7.47 206**	PN	**P**	**12 23 20.6**	**+0.3**
BHHZ	**Black Hill Sta**	**7.49 203**	PN	**P**	**12 23 20.0**	**-0.3**
TRVZ	**Turoa**	**7.50 206**	PN	**P**	**12 23 21.4**	**+0.8**
WNVZ	**Wahianoa**	**7.51 206**	PN	**P**	**12 23 21.0**	**+0.4**
MOVZ	**Moawhango**	**7.52 204**	PN	**P**	**12 23 20.3**	**-0.4**
KRHZ	**Kereru**	**7.54 200**	PN	**P**	**12 23 20.9**	**+0.1**
KAHZ	**Kahuranaki**	**7.54 197**	PN	**P**	**12 23 20.3**	**-0.5**
PXZ	**Pawanui**	**7.77 197**	PN	**P**	**12 23 22.8**	**-0.5**
PNHZ	**Pukenui**	**7.84 201**	PN	**Pn**	**12 23 22.6**	**-1.1**
TSZ	**Takapari Road**	**8.04 201**	PN	**P**	**12 23 26.3**	**-0.1**
PRHZ	**Porangahau**	**8.05 197**	PN	**P**	**12 23 27.7**	**+1.3**
WAZ	**Wanganui**	**8.11 207**	PN	**P**	**12 23 27.8**	**+0.6**
DVHZ	**Dannevirke**	**8.21 200**	PN	**P**	**12 23 28.2**	**0.0**
POWZ	**Post Office Ro**	**8.41 201**	PN	**P**	**12 23 30.6**	**+0.2**
PRWZ	**Pori Road**	**8.50 200**	PN	**P**	**12 23 31.8**	**+0.4**
BFZ	**Birch Farm**	**8.54 198**	PN	**P**	**12 23 31.4**	**-0.5**
MRZ	**Mangatainoka R**	**8.71 202**	PN	**Pn**	**12 23 31.6**	**-2.1**
MRZ			*e*SN	**S**	**12 25 10.9**	**-3.8**
TIWZ	**Tintock**	**8.73 200**	PN	**P**	**12 23 34.1**	**+0.1**
CPWZ	**Castlepoint**	**8.76 198**	PN	**P**	**12 23 35.9**	**+1.6**
HOWZ	**Holdsworth Sta**	**8.95 201**	PN	**P**	**12 23 36.3**	**-0.1**
TMWZ	**Te Maipa**	**9.03 199**	PN	**P**	**12 23 37.9**	**+0.5**
KIW	**Kapiti Island**	**9.11 204**	PN	**P**	**12 23 38.3**	**+0.1**
MTW	**Mount Morrison**	**9.19 201**	PN	**Pn**	**12 23 39.1**	**-0.1**
CAW	**Cannon Point**	**9.28 203**	PN	**P**	**12 23 38.5**	**-1.6**
TRWZ	**Traveller**	**9.36 199**	*e*PN	**Pn**	**12 23 41.6**	**+0.5**
PAWZ	**Paruwai Farm**	**9.42 200**	*e*PN	**Pn**	**12 23 42.0**	**+0.2**
DUWZ	**D'Urville Isla**	**9.43 208**	PN	**P**	**12 23 41.1**	**-0.7**
MSWZ	**Moikau Station**	**9.50 201**	PN	**Pn**	**12 23 42.7**	**-0.1**
WEL	**Wellington**	**9.54 203**	*e*PN	**P**	**12 23 41.4**	**-1.5**
PLWZ	**Palliser**	**9.64 201**	PN	**Pn**	**12 23 44.8**	**+0.4**
TCW	**Tory Channel**	**9.64 206**	PN	**P**	**12 23 43.9**	**-0.3**
TUWZ	**Tuamarina**	**9.96 206**	PN	**P**	**12 23 46.8**	**-0.8**
NNZ	**Nelson**	**10.00 209**	PN	**P**	**12 23 48.0**	**0.0**
QRZ	**Quartz Range**	**10.05 213**	*e*PN	**P**	**12 23 48.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**10.23 206**	PN	**Pn**	**12 23 51.8**	**+0.6**
THZ	**Tophouse**	**10.65 209**	*e*PN	**P**	**12 23 54.8**	**-0.5**
THZ			*e*SN	**S**	**12 25 52.6**	**-2.1**
KHZ	**Kahutara**	**10.96 205**	PN	**Pn**	**12 23 59.4**	**-0.3**
LTZ	**Lake Taylor**	**11.76 208**	PN	**P**	**12 24 07.0**	**-0.5**
OXZ	**Oxford**	**12.31 207**	PN	**Pn**	**12 24 14.4**	**-0.8**
MQZ	**McQueen's Vall**	**12.41 205**	PN	**Pn**	**12 24 16.2**	**-0.1**
MQZ			*e*SN	**S**	**12 26 30.3**	**+0.1**
WVZ	**Waitaha Valley**	**12.64 212**	PN	**Pn**	**12 24 18.4**	**-0.7**
FOZ	**Fox Glacier**	**13.50 213**	PN	**Pn**	**12 24 28.6**	**-0.4**
ODZ	**Otahua Downs**	**14.30 207**	PN	P	12 24 38.9	+3.6
DZM	**Mont Dzumac**	**15.80 308**	P	P	12 24 45.3	-6.7
	1.0nm,0.3s,baz=140,slow=12,SNR=13					
CTA	**Charters Tower**	**32.38 284**	P	P	12 27 23.2	-1.9
	3.8nm,0.5s,baz=104,slow=9.9,SNR=7.6					
AS31	**Alice Springs**	**41.15 270**	*e*P	P	12 28 36.4	-1.8
ASAR	**Alice Springs**	**41.15 270**	P	P	12 28 36.4	-1.8
	5.5nm,0.5s,baz=106,slow=7.6,SNR=78					
WB2	**Warramunga Arr**	**42.34 276**	*e*P	P	12 28 45.2	-2.4
WRAB	**Tennant Creek**	**42.34 276**	*e*P	P	12 28 45.2	-2.4
	11nm,0.6s					
WRA	**Warramunga Arr**	**42.35 276**	P	P	12 28 45.2	-2.5
	9.8nm,0.4s,baz=114,slow=7.8,SNR=92					
QSPA	**South Pole Qui**	**57.51 180**	P	P	12 30 44.0	+4.4
	3.0nm,0.7s,baz=30,slow=2.2,SNR=14					
QSPA	**South Pole Qui**	**57.51 180**	P	P	12 30 44.0	+4.4
SNAA	**Sanae**	**75.99 179**	P	**P**	**12 32 37.5**	**+2.9**
VNA3	**Neumayer Olymp**	**76.22 177**	P	P	12 32 25.7	-10
VNA2	**Neumayer--Watz**	**76.63 178**	P	P	12 32 30.6	-7.5
	baz=306,slow=16					
NVAR	**Mina Array Bea**	**91.15 44**	P	**P**	**12 33 49.6**	**-1.8**
	0.6nm,0.6s,baz=219,slow=8.3,SNR=8.8					
YKA	**Yellowknife Ar**	**108.26 26**	PKiKP	**PKiKP**	**12 39 08.5**	**-2.6**
	0.1nm,0.3s,baz=238,slow=5.7					
MKAR	**Makanchi Array**	**117.72 310**	PKP	**PKPdf**	**12 39 27.1**	**-2.7**
	0.6nm,0.7s,baz=192,slow=1.8,SNR=5.5					
ZALV	**Zalesovo Beam**	**118.40 318**	PKP	**PKPdf**	**12 39 28.0**	**-2.8**
	1.1nm,0.3s,baz=76,slow=6.1,SNR=2.8					
KURK	**Kurchatov**	**121.18 313**	PKP	**PKPdf**	**12 39 33.5**	**-2.8**
KURBB	**Kurchatov Arra**	**121.21 313**	PKP	**PKPdf**	**12 39 33.4**	**-2.8**
	baz=114,slow=1.9					
BVAR	**Borovoye Array**	**126.63 315**	PKP	**PKPdf**	**12 39 44.7**	**-1.9**
	1.0nm,0.4s,baz=74,slow=2.2,SNR=8.1					
GEYT	**Alibeck**	**132.73 294**	SKPbc	**SKPbc**	**12 42 49.3**	**+1.4**
	2.4nm,0.8s,baz=282,slow=2.9,SNR=4.3					
AKTO	**Aktyubinsk**	**134.13 311**	PKP	**PKPdf**	**12 40 00.0**	**-0.9**
	0.7nm,0.5s,baz=86,slow=6.1,SNR=3.8					
KEV	**Kevo**	**139.82 346**	*e*pkp	PKPdf	12 40 06.6	-4.2
ARCES	**ARCESS Array B**	**140.31 346**	PKhKP	PKPpre	12 40 03.5	
	0.9nm,0.6s,baz=33,slow=1.9,SNR=8.6					
ARCES			PKP	**PKPdf**	**12 40 09.4**	**-2.3**
	1.4nm,0.6s,baz=74,slow=1.8,SNR=9.0					
JOF	**Joensuu**	**143.71 336**	*e*pkp	PKPbc	12 40 12.2	-4.2
	1.3nm,0.5s					
KAF	**Kangasniemi**	**145.93 338**	*e*pkp	**PKPdf**	**12 40 18.8**	**-3.0**
	6.5nm,0.5s					
FINES	**FINESS Array B**	**146.50 337**	PKPbc	**PKPdf**	**12 40 21.9**	**-0.8**
	12nm,0.5s,baz=57,slow=3.4,SNR=98					
NB2	**NORSAR Subarra**	**150.59 349**	PKP	**PKPdf**	**12 40 32.2**	**+2.8**
	comp=Z,3.6nm,0.5s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**150.59 349**	PKPbc	**PKPdf**	**12 40 32.8**	**+3.3**
	comp=Z,4.1nm,0.7s,baz=16,slow=4.2,SNR=14					
AKASG	**Malin Array Be**	**151.79 319**	PKPbc	**PKPdf**	**12 40 35.7**	**+4.2**
	comp=Z,1.0nm,0.3s,baz=51,slow=2.1,SNR=4.9					
BRTR	**Keskin Array B**	**151.87 294**	PKPbc	**PKPdf**	**12 40 36.8**	**+4.6**
	comp=Z,0.9nm,0.5s,baz=116,slow=3.3,SNR=4.0					
TORD	**Torodi Ar. Bea**	**160.55 186**	PKP	**PKPdf**	**12 40 43.0**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=128,slow=2.1,SNR=3.0					
TORD			PKPab	**PKPab**	**12 41 29.1**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=188,slow=3.3,SNR=20					

IDC 06 12:23:04.9±2.4, 6.42S×129.25E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=158.4km s-min=32.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.32**	**160**	Pn	Pn	12 26 28.6	-0.6
	0.2nm,0.3s,baz=343,slow=12,SNR=18						
WRA				Sn	Sn	12 28 58.7	-10
	0.8nm,0.3s,baz=334,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**17.72**	**166**	P	Pn	12 27 13.7	+0.3
	0.5nm,0.3s,baz=339,slow=9.6,SNR=50						
ASAR				S	Sn	12 30 20.6	-11
	0.1nm,0.3s,baz=357,slow=28,SNR=3.5						
MKAR	**Makanchi Array**	**67.33**	**327**	P	P	12 34 01.8	0.0
	0.3nm,0.5s,baz=114,slow=8.3,SNR=3.8						

IDC 06 12:30:46.6±3.7, 54.15N×87.50E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.5/2, 1C-2D, Error ellipse: s-maj=36.8km s-min=19.9km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**264**	*i*		12 41 20.0	
	baz=85,slow=339,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.59**	**264**	Pn	Pb	12 31 16.6	-0.4
	4.0nm,0.3s,baz=77,slow=15,SNR=22						
ZALV				Sn	Sg	12 31 38.2	+0.3
	4.2nm,0.3s,baz=75,slow=27,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.53**	**241**	Pn	Pn	12 32 23.2	-0.6
	0.1nm,0.3s,baz=58,slow=14,SNR=4.0						
KURBB				Lg	Lg	12 34 13.5	
	0.1nm,0.3s,baz=57,slow=28,SNR=16						
MK31	**Makanchi Array**	**8.08**	**206**	⇑Pn	Pn	12 32 47.0	+1.8
	0.5nm,0.7s,baz=24,slow=13,SNR=6.0						
MK31				⇓Sn	Sn	12 34 16.7	-0.5
	0.5nm,0.5s,baz=29,slow=26,SNR=7.0						
MK31				⇓Lg	Lg	12 34 58.2	
	14nm,1.4s,baz=29,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**8.08**	**206**	Pn	Pn	12 32 46.6	+1.4
	0.1nm,0.3s,baz=28,slow=14,SNR=7.1						
MKAR				Sn	Sn	12 34 17.7	+0.4
	0.2nm,0.3s,baz=29,slow=26,SNR=5.4						
MKAR				Lg	Lg	12 34 57.6	
	0.1nm,0.3s,baz=29,slow=28,SNR=7.0						

*IDC **06** 13:04:38.7±0.4, 34.99S×72.65W, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.7/27, mbtmp4.6/24, ML5.1/1, MS4.1/16, Ms1 4.1/16, ms1mx4.0/25, Error ellipse: s-maj=21.4km s-min=11.9km az=76.0*

*ISCJB **06** 13:04:40.7±1.3, 35.02S±0.03×72.75W±0.06, h21km±9km, mb4.9/69, MS4.2/16, Error ellipse: s-maj=7.9km s-min=5.2km az=160.0*

*BJI **06** 13:04:43.3, 35.00S×72.70W, h28km, mB5.2/11, Ms5.4/8, Ms7 5.0/7*

*MOS **06** 13:04:43.0±1.2, 34.97S×72.70W, h33km, mb5.3/18, Error ellipse: s-maj=22.5km s-min=8.9km az=100.0*

*GUC **06** 13:04:43.1±0.4, 35.21S×72.74W, h18km±5km, ML5.0*

*NEIC **06** 13:04:44.1±0.6, 35.04S×72.69W, h36km±5km, mb5.1/45, ML5.0(GUC), Error ellipse: s-maj=7.6km s-min=4.2km az=81.0*

NEIC Felt at Curico, Lebu, Penaflor and Santiago.

ISC 06 13:04:43.5±0.7, 35.05S±0.04×72.74W±0.04, h33km±3km, n519, σ0.99/534, mb5.0/69, MS4.1/16, 158C-157D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.97**	**111**	*e*P	**Pn**	**13 04 59.6**	**-1.2**
TALC				*e*S	**Sn**	**13 05 12.2**	**-1.2**
TALC	**Talca**	**0.97**	**111**	*e*P	**Pn**	**13 04 59.6**	**-1.2**
TALC				*e*S	**Sn**	**13 05 12.2**	**-1.2**
LNCH	**Linares**	**1.23**	**131**	*e*P	**Pn**	**13 05 04.1**	**-0.2**
LNCH				*e*S	**Sn**	**13 05 18.9**	**-0.8**
LNCH	**Linares**	**1.23**	**131**	*e*P	**Pn**	**13 05 04.1**	**-0.2**
LNCH				*e*S	**Sn**	**13 05 18.9**	**-0.8**
NICH	**Los Niches**	**1.24**	**88**	*e*P	**Pn**	**13 05 04.7**	**+0.1**
NICH				*i* S	**Sb**	**13 05 21.3**	**-0.8**
NICH	**Los Niches**	**1.24**	**88**	*e*P	**Pn**	**13 05 04.7**	**+0.1**
NICH				*i* S	**Sb**	**13 05 21.3**	**-0.8**
CCSP	**San Pedro de C**	**1.82**	**189**	*e*P	**Pn**	**13 05 11.3**	**-1.2**
CCSP				*e*S	**Sn**	**13 05 32.3**	**-2.1**
CCSP				AML	AML	13 05 44.6	
	comp=N,35μm,0.5s						
CCSP	**San Pedro de C**	**1.82**	**189**	*e*P	**Pn**	**13 05 11.3**	**-1.2**
CCSP				*e*S	**Sn**	**13 05 32.3**	**-2.1**
IHA	**Instituto Hidr**	**2.21**	**25**	*e*P	**Pb**	**13 05 22.0**	**-0.9**
IHA	**Instituto Hidr**	**2.21**	**25**	*e*P	**Pb**	**13 05 22.0**	**-0.9**
CLCH	**Cerro Calan**	**2.46**	**49**	*e*P	**Pb**	**13 05 24.9**	**-2.2**
CLCH				*e*S	**Sb**	**13 05 56.9**	**-0.1**
CLCH				AML	AML	13 06 10.0	
	comp=E,8μm,0.8s						
CLCH				AML	AML	13 06 10.6	
	comp=E,10μm,0.6s						
PEL	**Peldehue**	**2.55**	**43**	AML	AML	13 06 13.6	
	comp=N,8μm,0.5s						
YECH	**El Yeso**	**2.59**	**59**	AML	AML	13 06 19.6	
	comp=N,5μm,0.6s						
CFAA	**Coronel Fontan**	**5.10**	**49**	Pn	**Pn**	**13 05 58.2**	**+0.6**
	comp=N,1.7nm,0.3s,baz=223,slow=12,SNR=56						
CFAA				LR	LR	13 08 25.6	
	comp=N,243nm,19.4s,baz=232,slow=45						
PLCA	**Paso Flores**	**5.94**	**164**	*e*P	**Pn**	**13 06 09.4**	**+0.3**
PLCA	**Paso Flores**	**5.94**	**164**	Pn	**Pn**	**13 06 09.6**	**+0.4**
	comp=N,11nm,0.3s,baz=331,slow=11,SNR=279						
PLCA				Lg	Lg	13 07 42.8	
	comp=N,5.5nm,0.3s,baz=86,slow=19,SNR=3.1						
PLCA	**Paso Flores**	**5.94**	**164**	*e*P	**Pn**	**13 06 09.3**	**+0.3**
	comp=N,450nm,0.9s						
PLCA				Lg	Lg	13 07 42.8	
LCO	**Las Campanas**	**6.26**	**17**	*e*P	Pn	13 06 10.4	-3.4
	comp=N,68nm,0.6s						
TRQA	**Tornquist**	**9.16**	**112**	*e*P	**Pn**	**13 06 55.0**	**+1.6**
	comp=N,48nm,0.9s						
LVC	**Limon Verde**	**12.83**	**16**	*e*P	**Pn**	**13 07 44.6**	**+0.8**
	comp=N,17nm,0.8s						
LPAZ	**La Paz**	**19.13**	**14**	*e*P	**Pn**	**13 09 06.0**	**+0.5**
LPAZ	**La Paz**	**19.13**	**14**	P	**Pn**	**13 09 06.2**	**+0.7**
	comp=N,1.3nm,0.3s,baz=189,slow=4.8,SNR=50						
LPAZ	**La Paz**	**19.13**	**14**	*e*P	**Pn**	**13 09 06.1**	**+0.5**
	comp=N,13nm,0.8s						
EFI	**East Falkland**	**19.69**	**152**	*e*P	**P**	**13 09 09.5**	**-0.2**
EFI	**East Falkland**	**19.69**	**152**	*e*P	**P**	**13 09 09.5**	**-0.2**
USHA	**Ushuaia**	**20.01**	**173**	P	**P**	**13 09 13.4**	**+0.3**
	comp=N,21nm,0.8s,baz=320,slow=6.4,SNR=12						
USHA				LR	LR	13 18 01.8	
	comp=N,1μm,19.1s,baz=303,slow=40						
SIV	**San Ignacio**	**21.67**	**32**	P	**P**	**13 09 30.3**	**-1.1**
	comp=N,7.5nm,0.7s,baz=225,slow=6.0,SNR=25						
NNA	**Nana**	**23.26**	**350**	P	**P**	**13 09 48.5**	**+0.3**
	comp=N,5.7nm,0.4s,baz=225,slow=10.0,SNR=3.2						
NNA				LR	LR	13 16 59.0	
	comp=N,579nm,18.7s,baz=188,slow=32						
SAML	**Samuel**	**27.41**	**21**	*e*P	**P**	**13 10 25.8**	**-0.3**
	comp=N,13nm,1.1s						
ATAH	**Atahualpa**	**28.26**	**348**	P	**P**	**13 10 35.7**	**+1.5**
	comp=N,6.8nm,0.9s,baz=202,slow=5.4,SNR=5.6						
ATAH				LR	LR	13 19 44.0	
	comp=N,317nm,19.4s,baz=190,slow=32						
BDFB	**Brasilia**	**29.40**	**55**	P	**P**	**13 10 43.3**	**-0.8**
	comp=N,1.6nm,0.4s,baz=185,slow=11,SNR=2.4						
RPN	**Rapa Nui**	**32.18**	**274**	LR	LR	13 20 13.9	
	comp=N,434nm,20.1s,baz=104,slow=29						
OTAV	**Otavalo**	**35.51**	**350**	*e*P	**P**	**13 11 38.1**	**+0.3**
	comp=N,49nm,1.5s						
PTGA	**Pitinga**	**36.16**	**22**	P	**P**	**13 11 42.5**	**-0.4**
	comp=N,5.7nm,0.6s,baz=199,slow=9.7,SNR=11						
PTGA	**Pitinga**	**36.16**	**22**	*e*P	**P**	**13 11 42.3**	**-0.6**
	comp=N,29nm,1.2s						
ROSC	**El Rosal**	**39.72**	**358**	LR	LR	13 28 21.3	
	comp=N,337nm,19.1s,baz=320,slow=36						
SDV	**Santo Domingo**	**43.74**	**3**	*e*P	**P**	**13 12 45.4**	**-0.6**
	comp=N,21nm,1.1s						
PCRV	**Puerto La Cruz**	**45.62**	**11**	LR	LR	13 33 16.2	
	comp=N,415nm,20.6s,baz=160,slow=38						
JTS	**JuntasAbangare**	**46.55**	**343**	P	**P**	**13 13 07.8**	**-0.3**
	comp=N,3.0nm,0.7s,baz=127,slow=7.5,SNR=4.4						
VNA3	**Neumayer Olymp**	**48.61**	**157**	P	**P**	**13 13 25.1**	**+1.5**
VNA1	**Neumayer--Stat**	**48.94**	**156**	P	**P**	**13 13 28.2**	**+2.1**
VNA2	**Neumayer--Watz**	**49.28**	**157**	P	**P**	**13 13 29.9**	**+1.3**
SNAA	**Sanae**	**50.84**	**157**	P	**P**	**13 13 41.8**	**+1.2**
SNAA	**Sanae**	**50.84**	**157**	⇑*i*P	**P**	**13 13 41.8**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,27nm,1.4s						
SNAA	**Sanae**	**50.84**	**157**	P	**P**	**13 13 41.4**	**+0.9**
	comp=Z,6.7nm,1.1s,baz=274,slow=6.6,SNR=15						
SNAA	**Sanae**	**50.84**	**157**	*e*P	**P**	**13 13 41.4**	**+0.9**
	comp=Z,39nm,1.0s						
RKT	**Rikitea**	**54.89**	**265**	*e*T	T	14 13 11.4	
	comp=Z,1.7nm,0.2s						
QSPA	**South Pole Qui**	**55.19**	**180**	*e*P	**P**	**13 14 13.8**	**+1.0**
	comp=Z,26nm,0.9s						
NVL	**N'lazarevskaya**	**55.59**	**156**	*e*P	P	13 14 20.6	+5.2
NVL				pmax	pmax		
	comp=Z,33nm,1.6s						
VNDA	**Vanda**	**62.96**	**191**	P	**P**	**13 15 07.9**	**+1.7**
	comp=Z,3.8nm,1.0s,baz=144,slow=3.4,SNR=6.8						
VNDA				LR	LR	13 39 24.1	
	comp=Z,176nm,18.0s,baz=160,slow=33						
035A	**Encino**	**66.15**	**335**	⇓P	**P**	**13 15 28.6**	**+1.0**
	baz=66						
034A	**Hebbronville**	**66.47**	**335**	⇑P	**P**	**13 15 30.8**	**+1.2**
	baz=67						
TBI	**Tubuai**	**66.52**	**257**	*e*LR	LR	13 35 32.6	
	comp=Z,241nm,25.2s						
TIGA	**Tifton**	**66.92**	**350**	⇓P	**P**	**13 15 31.9**	**-0.5**
	baz=67						
933A	**Laredo**	**67.18**	**335**	⇓P	**P**	**13 15 34.9**	**+0.7**
	baz=68						
835A	**Beeville**	**67.30**	**336**	⇑P	**P**	**13 15 36.2**	**+1.3**
	baz=68						
834A	**Tilden**	**67.40**	**335**	⇓P	**P**	**13 15 36.8**	**+1.3**
	baz=68						
735A	**Kenedy**	**67.82**	**336**	⇑P	**P**	**13 15 39.3**	**+1.1**
	baz=68						
833A	**Chaparral WMA,**	**67.87**	**335**	⇓P	**P**	**13 15 39.4**	**+0.9**
	baz=68,SNR=7.4						
832A	**Faith Ranch, C**	**68.04**	**334**	⇓P	**P**	**13 15 40.0**	**+0.4**
	baz=68,SNR=6.0						
MEH	**Mehetia**	**68.14**	**263**	*e*T	T	14 29 44.2	
	comp=Z,32nm,0.2s						
636A	**Smothers Creek**	**68.16**	**337**	⇑P	**P**	**13 15 41.4**	**+1.1**
	baz=68						
733A	**Divot King Ran**	**68.20**	**335**	⇑P	**P**	**13 15 41.7**	**+1.1**
	baz=68						
732A	**Laxson Ranch,**	**68.45**	**334**	⇑P	**P**	**13 15 42.7**	**+0.6**
	baz=69,SNR=13						
535A	**Dale**	**68.83**	**337**	⇓P	**P**	**13 15 45.1**	**+0.6**
	baz=69						
633A	**Saathoff Ranch**	**68.84**	**335**	⇑P	**P**	**13 15 45.0**	**+0.5**
	baz=69						
GOGA	**Godfrey**	**68.84**	**350**	*e*P	**P**	**13 15 43.9**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,47nm,1.7s						
GOGA	**Godfrey**	**68.84**	**350**	*e*P	**P**	**13 15 43.9**	**-0.6**
	comp=Z,47nm,1.7s						
632A	**Uvalde**	**69.09**	**335**	⇓P	**P**	**13 15 46.7**	**+0.5**
	baz=69,SNR=8.2						
TVO	**Taravao**	**69.15**	**262**	*e*T	T	14 31 00.1	
	comp=Z,2.1nm,0.3s						
TIAR	**Tiarei**	**69.35**	**263**	*e*T	T	14 31 14.5	
	comp=Z,4.4nm,0.2s						
533A	**Kerrville**	**69.35**	**336**	⇑P	**P**	**13 15 48.7**	**+0.9**
	baz=70						
337A	**Centerville**	**69.51**	**339**	⇓P	**P**	**13 15 50.0**	**+1.3**
	baz=70						
PPT2	**Papeete2**	**69.52**	**263**	*e*S	**S**	**13 24 53.2**	**-1.8**
	comp=Z,53nm,22.0s						
PPT2	**Papeete2**	**69.52**	**263**	*e*LR	LR	13 36 59.2	
	comp=Z,177nm,24.0s						
PPT	**Papeete**	**69.53**	**263**	LR	LR	13 37 40.2	
	comp=Z,112nm,21.6s,baz=112,slow=28						
435B	**Jarrell**	**69.53**	**337**	⇓P	**P**	**13 15 49.8**	**+1.0**
	baz=70						
532A	**Rocksprings**	**69.70**	**335**	⇓P	**P**	**13 15 50.5**	**+0.6**
	baz=70,SNR=22						
239A	**Gary**	**69.77**	**340**	⇑P	**P**	**13 15 50.9**	**+0.6**
	baz=70						
434A	**Burnet**	**69.78**	**337**	⇓P	**P**	**13 15 50.7**	**+0.3**
	baz=70,SNR=7.4						
336A	**Riesel**	**69.86**	**338**	⇓P	**P**	**13 15 51.0**	**+0.2**
	baz=70						
531A	**Rocksprings**	**69.96**	**335**	⇑P	**P**	**13 15 52.2**	**+0.7**
	baz=70,SNR=11						
JCT	**Junction City**	**69.98**	**335**	*e*P	**P**	**13 15 52.2**	**+0.5**
JCT				pmax	pmax		
	comp=Z,35nm,1.1s						
JCT	**Junction City**	**69.98**	**335**	⇓P	**P**	**13 15 52.2**	**+0.5**
	baz=70,SNR=6.9						
JCT	**Junction City**	**69.98**	**335**	*e*P	**P**	**13 15 52.1**	**+0.5**
	comp=Z,35nm,1.1s						
433A	**Art**	**70.00**	**336**	⇑P	**P**	**13 15 51.9**	**+0.2**
	baz=70,SNR=18						
530A	**J-C Ranch, Com**	**70.22**	**334**	⇓P	**P**	**13 15 54.1**	**+1.0**
	baz=71,SNR=17						
334A	**Lometa**	**70.25**	**337**	⇓P	**P**	**13 15 53.6**	**+0.4**
	baz=71,SNR=11						
432A	**Menard**	**70.34**	**335**	⇓P	**P**	**13 15 54.5**	**+0.6**
	baz=71						
TXAR	**Lajitas Array**	**70.37**	**332**	P	**P**	**13 15 54.7**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=152,slow=8.6,SNR=48						
TXAR				LR	LR	13 42 18.8	
	comp=Z,304nm,18.0s,baz=0.0,slow=32						
431A	**Sonora**	**70.45**	**335**	⇓P	**P**	**13 15 55.0**	**+0.4**
	baz=71						
333A	**Richland Sprin**	**70.49**	**336**	⇑P	**P**	**13 15 54.9**	**+0.2**
	baz=71,SNR=9.6						
529A	**Stev Forest Ra**	**70.53**	**333**	⇑P	**P**	**13 15 55.7**	**+0.7**
	baz=71,SNR=21						
WHTX	**Lake Whitney,**	**70.61**	**338**	⇑P	**P**	**13 15 55.8**	**+0.4**
	baz=71						
137A	**Heron Place, G**	**70.67**	**340**	⇑P	**P**	**13 15 56.1**	**+0.4**
	baz=71						
430A	**Baggett Ranch,**	**70.77**	**334**	⇓P	**P**	**13 15 56.8**	**+0.3**
	baz=71,SNR=6.1						
332A	**Millersview**	**70.79**	**336**	⇑P	**P**	**13 15 56.7**	**+0.1**
	baz=71,SNR=9.6						
234A	**Clairette**	**70.84**	**337**	⇓P	**P**	**13 15 57.1**	**+0.3**
	baz=71						
429A	**Davenport Ranc**	**70.86**	**334**	⇓P	**P**	**13 15 57.5**	**+0.5**
	baz=71,SNR=10						
331A	**San Angelo**	**70.96**	**335**	⇑P	**P**	**13 15 57.6**	**0.0**
	baz=71,SNR=7.7						
SWET	**Sewanee**	**70.98**	**349**	*e*P	**P**	**13 15 57.1**	**-0.5**
	comp=Z,32nm,1.1s						
TKL	**Tuckaleechee C**	**71.09**	**351**	P	**P**	**13 15 57.8**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=172,slow=8.0,SNR=9.1						
233A	**Rising Star**	**71.10**	**337**	⇓P	**P**	**13 15 58.5**	**+0.1**
	baz=71,SNR=6.2						
232A	**Coleman**	**71.22**	**336**	⇓P	**P**	**13 15 59.3**	**+0.1**
	baz=72,SN

baz=75
V34A **Guthrie** 74.21 339 *e*P P 13 16 16.6 -0.2
comp=Z,42nm,1.3s
X29A **Tulia** 74.25 335 ⇓P P 13 16 17.3 +0.1
baz=75,SNR=5.5
W31A **Holland Ranch,** 74.35 337 ⇓P P 13 16 17.6 -0.1
baz=75,SNR=5.9
V33A **Lossen Ranch,** 74.42 339 ⇓P P 13 16 18.2 +0.2
baz=75,SNR=6.4
319A **Douglas** 74.47 328 ⇑P P 13 16 19.6 +1.0
baz=75,SNR=7.2
V32A **Arapaho** 74.56 338 ⇑P P 13 16 19.7 +0.8
baz=75
AMTX **Amarillo** 74.64 336 ⇓P P 13 16 20.0 +0.6
baz=75
AMTX **Amarillo** 74.64 336 *e*P P 13 16 19.7 +0.2
comp=Z,41nm,1.0s
U34A **Anderson Ranch** 74.78 339 ⇑P P 13 16 20.6 +0.5
baz=75
121A **Cookes Peak, D** 74.84 330 ⇑P P 13 16 21.8 +1.0
baz=75,SNR=8.3
W29A **Amarillo** 74.85 336 ⇓P P 13 16 20.8 +0.2
baz=75,SNR=8.8
V31A **Spring Creek L** 74.86 337 ⇓P P 13 16 21.7 +1.1
baz=75
U33A **Lingo Farm, Me** 74.94 339 ⇓P P 13 16 21.2 +0.1
baz=75
U32A **Winter Ranch,** 75.16 338 ⇑P P 13 16 22.4 +0.1
baz=76
S36A **Lake Cedric, C** 75.45 341 ⇓P P 13 16 24.0 0.0
baz=76,SNR=5.8
ACSO **Alum Creek Sta** 75.50 352 *e*P P 13 16 23.9 -0.3
comp=Z,22nm,0.8s
W26A **Owens Ranch, T** 75.55 334 ⇓P P 13 16 25.6 +0.8
baz=76,SNR=10
T33A **Patterson Ranc** 75.58 339 ⇑P P 13 16 25.0 +0.3
baz=76,SNR=7.0
V28A **Channing** 75.61 336 ⇑P P 13 16 25.8 +0.7
baz=76
LIC **Lamto** 75.65 72 *e*PKP2 P 13 16 28.4 +2.7
comp=Z,37nm,1.3s
U30A **WK&E Inc. Balk** 75.81 337 ⇓P P 13 16 26.6 +0.5
baz=76,SNR=6.5
V27A **Dan Oppiter Fa** 75.83 335 ⇓P P 13 16 26.9 +0.6
baz=76,SNR=5.0
T32A **Huddler Ranch,** 75.87 339 ⇓P P 13 16 26.9 +0.5
baz=76
TIC **Toumodi** 75.92 71 *e*PKP2 P 13 16 27.0 -0.2
comp=Z,8.8nm,0.2s
W25A **X Bar L Ranch,** 75.92 334 ⇓P P 13 16 27.1 +0.2
baz=76,SNR=12
TUC **Tucson** 75.93 327 *e*P P 13 16 28.3 +1.4
TUC pmax pmax
comp=Z,45nm,1.9s
TUC **Tucson** 75.93 327 *e*P P 13 16 28.3 +1.4
comp=Z,45nm,1.9s
KIC **Kosan Boka** 75.96 72 *e*PKP2 P 13 16 27.4 0.0
comp=Z,25nm,0.8s
S33A **Kaszmaul Farm,** 75.99 340 ⇓P P 13 16 27.1 +0.1
baz=76
T31A **Randall Ranch,** 76.02 338 ⇓P P 13 16 27.7 +0.4
baz=76
DBIC **Dimbokro** 76.06 71 P P 13 16 28.4 +0.4
comp=Z,9.0nm,0.9s,baz=202,slow=4.8,SNR=5.8
DBIC LR LR 13 47 27.6
comp=Z,94nm,19.8s,baz=218,slow=34
U28A **Mallet** 76.18 336 ⇑P P 13 16 28.4 +0.1
baz=76
V26A **Tequesquite Ra** 76.20 334 ⇓P P 13 16 28.7 +0.3
baz=76,SNR=6.5
SFIN **Lafayette** 76.21 349 ⇓P P 13 16 27.6 -0.6
baz=77
LAZ **Ladron** 76.22 331 *e*P P 13 16 30.0 +1.4
comp=Z,9.4nm,1.2s
U27A **Thompson Grove** 76.42 335 ⇑P P 13 16 30.3 +0.6
baz=77,SNR=5.8
ANMO **Albuquerque** 76.43 332 ⇓*i*P P 13 16 30.5 +0.7
ANMO pmax pmax
comp=Z,68nm,1.1s
ANMO **Albuquerque** 76.43 332 P P 13 16 31.3 +1.5
comp=Z,10nm,1.0s,baz=157,slow=7.8,SNR=20
ANMO **Albuquerque** 76.43 332 *e*P P 13 16 30.3 +0.5
comp=Z,15nm,1.0s
S31A **Mullinville** 76.45 338 ⇑P P 13 16 29.9 +0.2
baz=77
V25A **Rancho No Teng** 76.53 334 ⇓P P 13 16 30.9 +0.5
baz=77,SNR=15
214A **Organ Pipe Nat** 76.55 326 ⇑P P 13 16 31.4 +1.0
baz=77
R33A **Olander Ranch,** 76.65 340 ⇓P P 13 16 31.1 +0.3
baz=77
U26A **Atchley Ranch,** 76.72 335 ⇓P P 13 16 32.0 +0.6
baz=77
S30A **Montezuma** 76.77 338 ⇑P P 13 16 32.0 +0.5
baz=77
T28A **Walsh** 76.82 336 ⇓P P 13 16 32.2 +0.3
baz=77,SNR=17
S29A **Ulysses** 76.95 337 ⇓P P 13 16 33.0 +0.4
baz=77,SNR=6.3
U25A **Circle Dot Ran** 76.96 334 ⇑P P 13 16 33.4 +0.6
baz=77,SNR=8.5
R32A **Long Quarter,** 76.96 339 ⇑P P 13 16 32.9 +0.3
baz=77
T27A **Campo** 76.97 336 ⇑P P 13 16 33.1 +0.3
baz=77
V23A **Ortiz Mt. (NFS** 77.03 333 ⇑P P 13 16 33.9 +0.7
baz=77
R31A **Burdett** 77.08 339 ⇓P P 13 16 33.5 +0.2
baz=77
S28A **Manter** 77.18 337 ⇑P P 13 16 34.6 +0.7
baz=78,SNR=8.4
Q33A **Connelly Farm,** 77.25 340 ⇑P P 13 16 34.7 +0.6
baz=78
R30A **Dighton** 77.30 338 ⇓P P 13 16 35.4 +0.9
baz=78
T26A **Comanche Natio** 77.37 335 ⇓P P 13 16 35.8 +0.7
baz=78,SNR=10
Q32A **Meitler Ranch,** 77.45 340 ⇓P P 13 16 36.1 +0.8
baz=78
X18A **Snowflake** 77.47 329 ⇓P P 13 16 37.2 +1.5
baz=78,SNR=7.3
U23A **El Rito** 77.55 333 ⇑P P 13 16 37.4 +1.3
baz=78
T25A **Trinidad** 77.62 335 ⇓P P 13 16 37.7 +1.2
baz=78,SNR=21
R29A **Marienthal** 77.70 338 ⇑P P 13 16 37.6 +0.9
baz=78
Q31A **Ellis** 77.70 339 ⇓P P 13 16 37.4 +0.7
baz=78
S26A **Kim** 77.73 335 ⇓P P 13 16 38.1 +1.1
baz=78,SNR=22
R28A **Tribune** 77.83 337 ⇓P P 13 16 38.3 +0.8
baz=78
W18A **Petrified Fore** 77.89 330 ⇑P P 13 16 39.4 +1.3
baz=78
T24B **San Luis** 77.90 334 ⇓P P 13 16 39.5 +1.3
baz=78,SNR=6.1
Q30A **Quinter** 77.92 338 ⇑P P 13 16 38.3 +0.4
baz=78,SNR=6.5
X16A **Lo Mia Camp, P** 78.01 328 ⇑P P 13 16 40.0 +1.3
baz=78,SNR=12
ACCN **Adirondack Com** 78.06 359 *e*P P 13 16 39.2 +0.7
comp=Z,23nm,1.3s
Q29A **Oakley** 78.07 338 ⇑P P 13 16 39.2 +0.4
baz=78,SNR=5.6
S25A **Robets Cordova** 78.10 335 ⇑P P 13 16 40.1 +1.0
baz=78,SNR=9.3
R27A **Eads** 78.10 336 ⇓P P 13 16 39.4 +0.4
baz=78,SNR=18
T23A **Casias Ranch,** 78.12 333 ⇓P P 13 16 40.1 +0.7
baz=78
P31A **Stockton** 78.17 339 ⇑P P 13 16 39.9 +0.6
baz=78
R26A **Arlington** 78.33 336 ⇑P P 13 16 41.2 +0.9
baz=79,SNR=18
S24A **Houchin Ranch,** 78.35 334 ⇓P P 13 16 42.0 +1.3
baz=79,SNR=15
R25A **Fountain Ranch** 78.48 335 ⇑P P 13 16 42.2 +1.0
baz=79
Q28A **Sharon Springs** 78.50 337 ⇓P P 13 16 41.9 +0.7
baz=79
O32A **Brockman Farm,** 78.55 340 ⇑P P 13 16 41.9 +0.6
baz=79
SDCO **Great Sand Dun** 78.55 334 ⇑P P 13 16 42.6 +0.8
baz=79
MDV **Middlebury** 78.67 360 *e*P P 13 16 42.4 +0.6
KSCO **Kaye Shedlock'** 78.71 337 ⇑P P 13 16 43.7 +1.3
baz=79
KSCO **Kaye Shedlock'** 78.71 337 *e*P P 13 16 43.7 +1.3
P29A **Atwood** 78.71 338 ⇑P P 13 16 43.2 +0.9
baz=79,SNR=5.6
Y12C **Blythe** 78.83 326 ⇑P P 13 16 45.3 +2.3
baz=79
R24A **Sanders Place,** 78.84 335 ⇑P P 13 16 44.4 +1.1
baz=79,SNR=9.4
WUAZ **Wupatki** 78.92 329 ⇑P P 13 16 45.0 +1.3
baz=79,SNR=9.3
LBNH **Lisbon** 78.92 1 *e*P P 13 16 44.3 +1.1
LBNH pmax pmax
comp=Z,6.0nm,0.8s
LBNH **Lisbon** 78.92 1 *e*P P 13 16 44.3 +1.1
comp=Z,6.3nm,0.8s
Q26A **Hugo** 78.92 336 ⇑P P 13 16 44.3 +0.7
baz=79,SNR=6.9
O30A **MW Ranch, Wils** 78.98 339 ⇓P P 13 16 44.4 +0.6
baz=79
S22A **4UR Ranch, Cre** 79.04 333 ⇑P P 13 16 45.3 +0.9
baz=79,SNR=8.0
R23A **Moffat** 79.06 334 ⇓P P 13 16 45.5 +0.9
baz=79
MVCO **Mesa Verde** 79.20 332 ⇓P P 13 16 46.3 +1.0
baz=80,SNR=11
MVCO **Mesa Verde** 79.20 332 *e*P P 13 16 46.0 +0.7
comp=Z,25nm,1.3s
JFWS **Jewell Farm** 79.22 347 *e*P P 13 16 44.4 -0.5
JFWS pmax pmax
comp=Z,33nm,1.3s
JFWS **Jewell Farm** 79.22 347 *e*P P 13 16 44.4 -0.5
comp=Z,32nm,1.3s
LONY **Lake Ozonia** 79.31 359 *e*P P 13 16 45.7 +0.3
comp=Z,21nm,1.2s
P26A **Davis Ranch, A** 79.44 336 ⇑P P 13 16 47.4 +1.0
baz=80,SNR=6.2
O28A **Krutsinger Ran** 79.45 338 ⇑P P 13 16 47.2 +0.8
baz=80
Q24A **Divide** 79.51 335 ⇓P P 13 16 47.9 +0.9
baz=80,SNR=12
BGNE **Belgrade** 79.58 341 ⇑P P 13 16 47.8 +0.8
baz=80
BGNE **Belgrade** 79.58 341 *e*P P 13 16 47.3 +0.3
PFO **Pinyon Flats O** 79.63 324 P P 13 16 49.3 +1.7
PFO pmax pmax
comp=Z,6.0nm,0.6s
PFO **Pinyon Flats O** 79.63 324 P P 13 16 49.3 +1.7
comp=Z,5.7nm,0.6s
SADO **Sadows** 79.66 355 P P 13 16 46.9 -0.3
comp=Z,6.2nm,0.8s,baz=178,slow=3.5,SNR=6.2
W13A **Hualapai Mount** 79.66 327 ⇑P P 13 16 49.2 +1.4
baz=80
P25A **Willow Gulch B** 79.67 336 ⇓P P 13 16 48.8 +1.1
baz=80,SNR=17
O27A **Beecher Island** 79.73 337 ⇑P P 13 16 48.9 +1.0
baz=80
BELC **Belle Mtn. Jos** 79.73 325 ⇓P P 13 16 49.6 +1.5
baz=80
N29A **Votaw Ranch, W** 79.74 339 ⇑P P 13 16 48.8 +0.9
baz=80
M31A **Lambtecht Ranc** 79.75 340 ⇑P P 13 16 49.1 +1.2
baz=80
PV01 **Paradox Valley** 80.03 332 *e*P P 13 16 51.1 +1.3
comp=Z,1μm,1.1s
O26A **Horse Wrangler** 80.04 337 ⇑P P 13 16 50.5 +0.8
baz=80
U15A **North Rim** 80.08 329 ⇓P P 13 16 51.6 +1.5
baz=80,SNR=16
BOSA **Boshof** 80.10 118 *e*P P 13 16 51.1 +0.6
BOSA pmax pmax
comp=Z,18nm,0.9s
BOSA **Boshof** 80.10 118 P P 13 16 51.2 +0.8
comp=Z,17nm,1.0s,baz=228,slow=5.7,SNR=13
BOSA LR LR 13 47 59.0
comp=Z,94nm,19.6s,baz=228,slow=32
BOSA **Boshof** 80.10 118 *e*P P 13 16 51.0 +0.6
comp=Z,18nm,0.9s
P23A **Jefferson** 80.12 335 ⇓P P 13 16 51.7 +1.4
baz=80
O25A **Wiggins** 80.19 336 ⇓P P 13 16 51.6 +1.1
baz=80
GMRC **Granite Mounta** 80.21 325 ⇑P P 13 16 52.4 +1.8
baz=80
OGNE **Ogallala** 80.28 338 ⇑P P 13 16 51.9 +1.1
baz=81
N27A **Anderson Farm,** 80.31 338 ⇑P P 13 16 51.8 +0.8
baz=81
M29A **Burnside Ranch** 80.33 339 ⇓P P 13 16 52.1 +1.0
baz=81
ISCO **Idaho Springs** 80.42 335 ⇓P P 13 16 52.8 +0.9
baz=81,SNR=8.0
L31A **Butterfield Fa** 80.48 341 ⇑P P 13 16 53.2 +1.3
baz=81
HEC **Hector,Ludlow** 80.57 325 ⇑P P 13 16 54.6 +2.1
baz=81
P22A **Eagle** 80.64 334 ⇑P P 13 16 54.4 +1.4
baz=81
BFSC **Mount Baldy Ra** 80.72 324 ⇓P P 13 16 55.3 +1.9
baz=81
L29A **Maesberg Ranch** 80.84 339 ⇑P P 13 16 54.9 +1.1
baz=81
TUQ **Turquoise Moun** 80.88 326 ⇓P P 13 16 55.6 +1.4
baz=81,SNR=6.3
O23A **Lake Granby, G** 80.89 335 ⇑P P 13 16 55.4 +1.0
baz=81,SNR=12
M27A **Reverse DX Ran** 80.92 338 ⇓P P 13 16 55.9 +1.6
baz=81
O22A **Kremmling** 81.07 334 ⇑P P 13 16 56.2 +0.8
baz=81,SNR=16
N24A **Carr** 81.09 336 ⇑P P 13 16 56.4 +1.1
baz=81
K30A **Basset** 81.16 340 ⇑P P 13 16 56.4 +1.0
baz=82
GSC **Goldstone, Bar** 81.18 325 ⇑P P 13 16 57.4 +1.6
baz=82
M25A **Palm-Egli Farm** 81.36 337 ⇓P P 13 16 57.7 +1.0
baz=82
ECSD **EROS Data Cent** 81.37 343 ⇓P P 13 16 56.5 0.0
baz=82,SNR=26
ECSD **EROS Data Cent** 81.37 343 *e*P P 13 16 56.3 -0.2
comp=Z,29nm,1.0s
EDW2 **Edwards Air Fo** 81.40 324 ⇑P P 13 16 58.4 +1.5
baz=82
SHPR **Sheep Range** 81.41 327 *e*P P 13 16 58.4 +1.3
comp=Z,64nm,1.9s
CCUT **Cedar City** 81.49 328 *e*P P 13 16 59.1 +1.6
comp=Z,17nm,1.0s
N23A **Red Feather La** 81.51 335 ⇓P P 13 16 58.6 +0.9
baz=82,SNR=8.1
N22A **Wattenberg Ran** 81.61 335 ⇓P P 13 16 59.2 +1.1
baz=82,SNR=11
M24A **Cheyenne** 81.64 336 ⇑P P 13 16 59.4 +1.2
baz=82
O20A **White River Ci** 81.66 333 ⇓P P 13 16 59.5 +1.2
baz=82
K28A **Ten Mile Ranch** 81.69 339 ⇑P P 13 16 59.2 +0.9
baz=82
ARUT **Antelope Range** 81.72 329 *e*P P 13 17 00.6 +1.9
ARUT **Antelope Range** 81.72 329 *e*P P 13 17 00.6 +1.9
comp=Z,0.5nm,0.4s
J30A **Dallas** 81.73 341 ⇑P P 13 16 59.2 +0.8
baz=82
LRMC **Laurel Mtn Rad** 81.74 324 ⇑P P 13 17 00.5 +1.7
baz=82
SPMN **Marine on St.** 81.94 346 ⇓P P 13 16 59.8 +0.3
baz=82
SPMN **Marine on St.** 81.94 346 *e*P P 13 16 59.0 -0.4
comp=Z,11nm,0.6s
J29A **Okreek** 82.03 340 ⇓P P 13 17 00.5 +0.4
baz=82,SNR=11
MPMC **Manual Prospec** 82.12 325 ⇓P P 13 17 02.2 +1.3
baz=82
FURC **Furnace Creek,** 82.16 325 ⇓P P 13 17 02.3 +1.6
baz=82
M22A **Cedar Creek Ra** 82.19 335 ⇓P P 13 17 02.5 +1.4
baz=82
K26A **Motz Farm, Whi** 82.23 338 ⇓P P 13 17 02.4 +1.2
baz=83
TPNV **Topopah Spring** 82.27 326 ⇓P P 13 17 03.1 +1.5
baz=83,SNR=5.9
ISA **Isabella, Lake** 82.27 324 ⇓P P 13 17 02.9 +1.4
baz=83,SNR=5.7
N20A **Spence Gulch,** 82.28 334 ⇓P P 13 17 02.3 +0.7
baz=83
J27A **Elkhorn Farm,** 82.38 339 ⇑P P 13 17 02.5 +0.6
baz=83,SNR=6.1
LBTB **Lobatse** 82.39 115 *e*P P 13 17 03.2 +0.6
LBTB pmax pmax
comp=Z,15nm,0.9s
LBTB **Lobatse** 82.39 115 *e*P P 13 17 03.2 +0.6
comp=Z,15nm,0.9s
L23A **Garrett** 82.51 336 ⇑P P 13 17 03.7 +0.8
baz=83
I29A **Vivian Onida** 82.60 340 ⇑P P 13 17 03.7 +0.8
baz=83
L22A **Ellis Ranch, M** 82.69 335 ⇑P P 13 17 04.4 +0.6
baz=83
VES **Vestal, Richgr** 82.71 324 ⇓P P 13 17 05.8 +2.2
baz=83
J26A **Sides Ranch, S** 82.75 338 ⇓P P 13 17 04.6 +0.8
baz=83
K24A **Anderson Ranch** 82.77 337 ⇑P P 13 17 04.9 +0.9
baz=83
I28A **Midland** 82.82 340 ⇓P P 13 17 05.1 +1.0
baz=83
J25A **Sunshine Ranch** 83.05 338 ⇑P P 13 17 06.2 +0.7
baz=83
K23A **Bowen Ranch, D** 83.06 336 ⇓P P 13 17 06.2 +0.7
baz=83
R11A **Troy Canyon, C** 83.12 327 ⇓P P 13 17 07.1 +1.1
baz=83,SNR=14
H29A **Onida** 83.13 341 ⇑P P 13 17 06.2 +0.5
baz=84
I27A **Quinn** 83.14 339 ⇑P P 13 17 06.5 +0.7
baz=84
J24A **Dixon Ranch, L** 83.26 337 ⇑P P 13 17 07.4 +0.9
baz=84
K22A **Casper** 83.27 336 ⇓P P 13 17 07.3 +0.7
baz=84,SNR=7.1
K22A **Casper** 83.27 336 *e*P P 13 17 06.2 -0.5
comp=Z,24nm,1.2s
G30A **Faulkton** 83.31 342 ⇓P P 13 17 07.1 +0.5
baz=84
H28A **Mission Ridge** 83.40 340 ⇑P P 13 17 07.8 +0.7
baz=84
DUG **Dugway, Tooele** 83.49 330 *e*P P 13 17 08.8 +1.0
DUG pmax pmax
comp=Z,26nm,1.2s
DUG **Dugway, Tooele** 83.49 330 ⇑P P 13 17 08.5 +0.7
baz=84,SNR=13
DUG **Dugway, Tooele** 83.49 330 *e*P P 13 17 08.8 +1.0
comp=Z,26nm,1.2s
K21A **Alcova** 83.50 335 ⇑P P 13 17 08.4 +0.6
baz=84,SNR=13
G29A **Hoven** 83.58 341 ⇓P P 13 17 08.4 +0.4
baz=84
I25A **Rochford** 83.59 338 ⇑P P 13 17 08.9 +0.6
baz=84,SNR=8.0
H27A **Howes** 83.66 339 ⇓P P 13 17 09.1 +0.6
baz=84
I24A **Kuemmerle Ranc** 83.73 337 ⇑P P 13 17 09.7 +0.8
baz=84
G28A **Parade** 83.74 340 ⇑P P 13 17 09.4 +0.6
baz=84
J22A **Midwest** 83.93 336 ⇑P P 13 17 10.4 +0.4
baz=84
MLAC **Mammoth, Mammo** 84.02 325 ⇓P P 13 17 12.5 +1.8
baz=84
H25A **Fruitdale** 84.10 338 ⇑P P 13 17 11.5 +0.8
baz=84
F29A **Eureka** 84.14 341 ⇑P P 13 17 11.5 +0.6
baz=84
HWUT **Hardware Ranch** 84.19 332 *e*P P 13 17 11.9 +0.4
comp=Z,14nm,0.9s
J21A **Lysite** 84.20 335 ⇑P P 13 17 12.7 +1.3
baz=84
EYMN **Ely** 84.31 347 *e*P P 13 17 10.4 -1.2
comp=Z,14nm,1.1s
I22A **9 Mile Ranch,** 84.36 336 ⇓P P 13 17 12.2 +0.1
baz=85,SNR=6.5
G26A **Maurine** 84.41 339 ⇓P P 13 17 12.0 -0.3
baz=85,SNR=5.5
NVAR **Mina Array Bea** 84.42 326 P P 13 17 13.7 +1.0
comp=Z,3.9nm,0.9s,baz=150,slow=5.8,SNR=23
F28A **McLaughlin** 84.42 341 ⇓P P 13 17 13.1 +0.8
baz=85
J20A **Shoshoni** 84.42 335 ⇓P P 13 17 13.4 +0.9
baz=85,SNR=13
PDAR **Pinedale Array** 84.44 334 P P 13 17 12.9 +0.2
comp=Z,3.0nm,1.0s,baz=142,slow=4.6,SNR=14
H24A **Dirks Ranch, A** 84.50 338 ⇓P P 13 17 13.0 +0.2
baz=85
E30A **Jud** 84.53 342 ⇑P P 13 17 13.3 +0.5
baz=85
I21A **Big Trails, Te** 84.56 336 ⇓P P 13 17 13.2 0.0
baz=85,SNR=9.2
J19A **Crowheart** 84.69 334 ⇓P P 13 17 14.0 +0.2
baz=85,SNR=9.8
HVU **Hansel Valley** 84.81 331 *e*P P 13 17 14.9 +0.4
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU **Hansel Valley** 84.81 331 *e*P P 13 17 14.9 +0.4
comp=Z,7.3nm,0.9s
H22A **Clearmont** 84.94 337 ⇑P P 13 17 14.8 -0.3
baz=85,SNR=5.9
F26A **Lodgepole** 84.94 340 ⇓P P 13 17 15.3 +0.4
baz=85
ELK **Elko** 84.95 329 P P 13 17 16.0 +0.6
ELK **Elko** 84.95 329 P P 13 17 16.0 +0.6
comp=Z,5.0nm,0.9s,baz=155,slow=3.1,SNR=14
I20A **Worland** 84.96 335 ⇑P P 13 17 16.0 +0.8
baz=85
WAKR **Walker** 85.00 325 *e*P P 13 17 17.6 +2.0
comp=Z,30nm,1.8s
D30A **Buchanan** 85.06 342 ⇑P P 13 17 15.4 0.0
baz=85,SNR=5.4
E28A **Huff** 85.06 341 ⇓P P 13 17 16.0 +0.6
baz=85
TORD **Torodi Ar. Bea** 85.11 70 P P 13 17 16.5 0.0
comp=Z,4.8nm,0.8s,baz=244,slow=5.3,SNR=29
TORD LR LR 13 51 25.3
comp=Z,87nm,21.4s,baz=255,slow=33
G23A **Biddle** 85.17 337 ⇓P P 13 17 16.6 +0.5
baz=86
H21A **Big Horn, Sher** 85.20 336 ⇓P P 13 17 16.9 +0.6
baz=86
D29A **Pettibone, Tap** 85.22 342 ⇑P P 13 17 16.9 +0.6
baz=86
F25A **Bowman** 85.24 339 ⇓P P 13 17 17.2 +0.8
baz=86
I19A **Meeteetse** 85.34 335 ⇑P P 13 17 18.0 +0.8
baz=86
H20A **Greybull** 85.39 336 ⇓P P 13 17 17.2 -0.1
baz=86,SNR=8.6
E26A **Carlson Angus** 85.45 340 ⇓P P 13 17 17.6 +0.1
baz=86
F24A **Ekalaka** 85.46 338 ⇓P P 13 17 17.8 +0.3
baz=86
G22A **Birney** 85.48 337 ⇓P P 13 17 17.9 +0.2
baz=86
AGMN **Agassiz Nation** 85.51 345 ⇑P P 13 17 17.4 -0.3
baz=86,SNR=6.1
AGMN **Agassiz Nation** 85.51 345 *e*P P 13 17 17.1 -0.5
comp=Z,4.2nm,0.7s
C30A **Mose, Pekin** 85.55 343 ⇓P P 13 17 18.1 +0.2
baz=86,SNR=10.0
F23A **Volborg** 85.64 338 ⇑P P 13 17 18.3 -0.2
baz=86,SNR=7.6
G21A **Lodge Grass** 85.78 336 ⇓P P 13 17 19.1 -0.1
baz=86,SNR=7.3
I17A **Pilgrim Ck.** 85.81 334 ⇑P P 13 17 20.2 +0.6
baz=86,SNR=7.6
D26A **Manning** 85.95 340 ⇑P P 13 17 20.2 +0.2
baz=86,SNR=7.2
MDND **Maddock** 85.96 342 ⇓P P 13 17 20.4 +0.5
baz=86
MDND **Maddock** 85.96 342 *e*P P 13 17 20.2 +0.3
comp=Z,57nm,1.3s
F22A **Rosebud** 85.96 337 ⇓P P 13 17 20.6 +0.5
baz=86
E24A **Baker** 86.06 339 ⇓P P 13 17 21.1 +0.5
baz=86
G20A **Bridger** 86.11 336 ⇑P P 13 17 20.9 0.0
baz=86,SNR=14
H18A **Shoshone NF, C** 86.14 335 ⇓P P 13 17 21.0 -0.2
baz=86,SNR=22
B30A **Myrvik Farm, E** 86.21 343 ⇓P P 13 17 21.1 0.0
baz=87,SNR=9.3
E23A **Ismay** 86.31 338 ⇑P P 13 17 22.2 +0.5
baz=87
D25A **Fairfield** 86.31 340 ⇑P P 13 17 22.3 +0.6
baz=87,SNR=6.4
E22A **Miles City** 86.45 338 ⇓P P 13 17 22.9 +0.5
baz=87
B29A **Wagenman Farm,** 86.47 343 ⇑P P 13 17 22.9 +0.5
baz=87
D24A **Glendive** 86.57 339 ⇑P P 13 17 23.3 +0.3

baz=87,SNR=5.9
C26A Wahner Farm, P 86.59 341 ⇑P P 13 17 23.7 +0.7
baz=87
A30A Hoffart Farm, 86.66 343 ⇓P P 13 17 23.5 +0.2
baz=87
B28A Dugan Ranch, T 86.71 342 ⇓P P 13 17 23.7 +0.2
baz=87,SNR=6.0
LAO LASA Array 86.76 338 eP P 13 17 23.9 0.0
comp=Z,17nm,1.0s
A29A Manning Farm, 86.86 343 ⇑P P 13 17 24.1 -0.3
baz=87,SNR=7.5
D23A Lindsay 86.89 338 ⇑P P 13 17 25.0 +0.5
baz=87
QLMT Earthquake Lak 86.90 334 eP P 13 17 26.0 +1.1
comp=Z,0.7nm,0.9s
F19A Roth Farm, Mol 86.91 336 ⇑P P 13 17 24.6 -0.2
baz=87,SNR=6.6
HLID Hailey 86.97 331 ⇑P P 13 17 26.0 +0.9
baz=87,SNR=10.0
C24A Savage 86.97 339 ⇓P P 13 17 25.1 +0.2
baz=87
A28A Rude Farm, Bot 87.11 342 ⇑P P 13 17 25.3 -0.2
baz=88,SNR=5.4
D22A Cohagen 87.16 338 ⇓P P 13 17 26.2 +0.4
baz=88,SNR=8.7
E20A Meyer Farm, Mu 87.21 336 ⇑P P 13 17 26.2 +0.1
baz=88,SNR=11
B25A Knox Farm, Ray 87.29 340 ⇓P P 13 17 27.2 +0.8
baz=88,SNR=7.1
D21A La Casta Ranch 87.34 337 ⇓P P 13 17 27.3 +0.5
baz=88
ULM Lac du Bonnet 87.36 345 P P 13 17 26.1 -0.5
comp=Z,12nm,1.0s,baz=162,slow=3.6,SNR=18
E19A Rath Farm, Rou 87.39 336 ⇓P P 13 17 27.1 +0.1
baz=88,SNR=8.2
A27A Ledoux Ranch, 87.40 342 ⇑P P 13 17 27.5 +0.6
baz=88
MCMT McKenzie Canyo 87.43 333 eP P 13 17 28.7 +1.2
comp=Z,7.2nm,1.2s
C23A Lambert 87.44 339 ⇑P P 13 17 27.4 +0.2
baz=88,SNR=13
A26A Wade Farm, Ken 87.55 341 ⇑P P 13 17 28.0 +0.3
baz=88
BOZ Bozeman (W) 87.67 334 eP P 13 17 27.9 -0.6
BOZ pmax pmax
comp=Z,16nm,1.8s
BOZ Bozeman (W) 87.67 334 eP P 13 17 27.9 -0.6
comp=Z,16nm,1.8s
D20A Manuel Ranch, 87.73 337 ⇓P P 13 17 28.7 +0.1
baz=88,SNR=5.3
DGMT Dagmar 87.76 340 ⇑P P 13 17 29.1 +0.5
baz=88,SNR=7.7
DGMT Dagmar 87.76 340 eP P 13 17 29.2 +0.5
comp=Z,58nm,1.1s
A25A Svangstu Ranch 87.88 341 ⇑P P 13 17 29.7 +0.5
baz=88
B23A Brockton 87.98 339 ⇑P P 13 17 30.2 +0.4
baz=88
D19A Cripps Ranch, 88.04 336 ⇑P P 13 17 30.0 -0.1
baz=88
C21A Desert Coulee 88.05 338 ⇓P P 13 17 30.0 -0.1
baz=88,SNR=5.1
A24A Westby 88.11 340 ⇑P P 13 17 30.6 +0.3
baz=88
LRM Limekiln Ridge 88.12 333 eP P 13 17 31.4 +0.6
comp=Z,84nm,1.4s
B22A Reddig Ranch S 88.13 339 ⇑P P 13 17 30.7 +0.2
baz=88
C20A Veseth Ranch, 88.23 337 ⇑P P 13 17 30.8 -0.2
baz=89,SNR=6.2
M04C Macdoel 88.72 326 ⇑P P 13 17 34.6 +1.1
baz=89
A22A Carney Farms, 88.73 339 ⇓P P 13 17 32.9 -0.4
baz=89,SNR=7.6
B20A Solberg Farm, 88.88 337 ⇑P P 13 17 33.7 -0.3
baz=89,SNR=5.5
A21A Bergtoll Ranch 89.03 338 ⇑P P 13 17 34.8 +0.1
baz=89
EGMT Eagleton 89.08 336 ⇓P P 13 17 35.3 +0.3
baz=89
YBH Yreka Blue Hor 89.09 325 P P 13 17 35.1 -0.2
comp=Z,4.8nm,1.0s,baz=112,slow=5.4,SNR=2.4
YBH LR LR 13 51 32.6
comp=Z,423nm,21.2s,baz=254,slow=32
B19A Brinkman Farms 89.19 337 ⇑P P 13 17 35.8 +0.3
baz=90
A20A Cobblestone Ra 89.24 338 ⇓P P 13 17 36.0 +0.3
baz=90
MSO Missoula 89.53 333 ⇑P P 13 17 38.3 +1.1
baz=90
A19A Klindworth Far 89.54 337 ⇓P P 13 17 37.2 0.0
baz=90
J05D Fort Rock, OR 89.63 327 ⇑P P 13 17 39.3 +1.5
baz=90
SCHQ Schefferville 89.66 3 P P 13 17 36.0 -1.4
comp=Z,4.1nm,1.0s,baz=222,slow=11,SNR=3.3
SCHQ LR LR 13 57 34.7
comp=Z,38nm,21.8s,baz=315,slow=35
J04D Umpqua Nationa 89.99 326 ⇓P P 13 17 41.3 +1.7
baz=90
TAM Tamanrasset 93.79 65 P P 13 17 58.2 +0.6
TAM Tamanrasset 93.79 65 P P 13 17 58.2 +0.6
DZM Mont Dzumac 100.16 234 eLR LR 13 51 11.9
comp=Z,91nm,25.1s
YKA Yellowknife Ar 102.86 341 P Pdif 13 18 36.7 -0.5
comp=Z,0.7nm,0.8s,baz=144,slow=4.3,SNR=15
YKA PP PP 13 22 51.5 -0.6
comp=Z,0.4nm,0.9s,baz=137,slow=7.8,SNR=5.8
GERES GERESS Array B 113.30 46 PKiKP PKiKP 13 23 17.3 -0.1
comp=Z,0.3nm,0.2s,baz=298,slow=2.1,SNR=4.9
ILAR Eielson Array 114.86 333 PKP PKPdf 13 23 20.1 +0.3
comp=Z,0.3nm,0.8s,baz=159,slow=1.3,SNR=4.1
VYHS Vyhne 116.22 48 ePKiKP PKPdf 13 23 23.2 +0.3
VYHS Vyhne 116.22 48 ePKP PKPdf 13 23 23.2 +0.3
ASAR Alice Springs 116.37 207 PKP PKPdf 13 23 22.4 -1.8
comp=Z,0.4nm,0.8s,baz=198,slow=2.5,SNR=5.9
ASAR PKKPbc PKKPbc 13 33 52.5 +0.4
comp=Z,0.4nm,0.6s,baz=337,slow=3.2,SNR=8.6
ASAR PKKPab PKKPab 13 33 57.4 -2.6
comp=Z,0.4nm,0.7s,baz=338,slow=2.9,SNR=6.5
UZH Uzhgorod 118.39 49 ePKiKP PKPdf 13 23 34.4 +7.4
UZH e 13 23 46.8
WRA Warramunga Arr 119.57 209 PKP PKPdf 13 23 29.5 -0.9
comp=Z,1.0nm,0.8s,baz=156,slow=1.6,SNR=15
WRA PKKPbc PKKPbc 13 33 40.5 -0.1
comp=Z,0.5nm,1.0s,baz=340,slow=4.7,SNR=3.5
BRTR Keskin Array B 122.84 62c iPKiKP PKPdf 13 23 36.7 +0.6
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 122.84 62 PKP PKPdf 13 23 36.8 +0.6
comp=Z,1.4nm,0.8s,baz=175,slow=6.2,SNR=4.0
AKASG Malin Array Be 123.32 48 PKP PKPdf 13 23 35.9 -0.5
comp=Z,0.2nm,0.3s,baz=264,slow=3.0,SNR=9.0
FINES FINESS Array B 124.18 35 PKiKP PKPdf 13 23 38.0 +0.2
FINES FINESS Array B 124.18 35 PKP PKPdf 13 23 38.0 +0.2
comp=Z,1.1nm,0.8s,baz=265,slow=9.6,SNR=3.1
H11S2 WAKE ISLAND Hyl 125.17 269 T T 15 41 34.5
baz=112
H11S1 WAKE ISLAND Hyl 125.19 269 T T 15 41 34.3
baz=112
H11S3 WAKE ISLAND Hyl 125.19 269 T T 15 41 29.9
baz=112
ARCES ARCESS Array B 125.21 25 PKP PKPdf 13 23 39.7 +0.1
comp=Z,3.2nm,0.9s,baz=307,slow=8.9,SNR=3.0
H11N3 WAKE ISLAND Hyl 125.61 270 T T 15 41 51.3
baz=116,slow=79,SNR=9.5
H11N1 WAKE ISLAND Hyl 125.62 270 T T 15 41 50.2
baz=116,slow=79,SNR=19
H11N2 WAKE ISLAND Hyl 125.63 270 T T 15 41 50.5
baz=116,slow=79,SNR=19
OBN Obninsk 128.59 44⇑iPKiKP PKPdf 13 23 47.8 +1.4
OBN e 13 25 50.4
OBN pmax pmax
comp=Z,10.0nm,1.5s
MOS Moscow 129.27 43 ePKiKP PKPdf 13 24 00.6 +13
KIV Kislovodsk 130.53 59 iPKiKP PKPdf 13 23 51.5 +0.9
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR 13 23 51.5 +0.9
comp=Z,45nm,21.0s
KBZ Khabaz 130.63 59 PKP PKPdf 13 23 50.8 +0.1
comp=Z,2.2nm,0.9s,baz=252,slow=7.0,SNR=4.1
PRGR Permogore 133.51 35 PKiKP PKPdf 13 23 53.2 -2.3
PRGR pmax pmax
comp=Z,9.0nm,0.4s
BILL Bilibino 133.52 334 ePKiKP PKPdf 13 23 50.6 -4.8
BILL e 13 23 55.0
BILL e 13 26 28.2
BILL pmax pmax
comp=Z,4.0nm,1.1s
SEY Seymchan 140.64 329 iPKiKP PKPdf 13 24 09.2 +0.5
ARU Arti 140.91 41 iPKiKP PKPdf 13 24 09.4 0.0
TIXI Tiksi 141.61 349 ePKiKP PKPdf 13 24 08.6 -1.6
TIXI Tiksi 141.61 349 ePKPpre PKPdf 13 24 08.6 -1.6
ABKAR Akbulak array 142.78 53 ePKPpre PKPpre 13 24 08.8
KSM Kuching 146.48 186 ePKPdf PKPdf 13 24 21.0 +0.5
SKHT Srikalahasti 147.33 124 ePKPdf PKPdf 13 24 20.4 -1.3
BVAR Borovoye Array 148.44 44 PKPbc PKPdf 13 24 23.6 +1.1
comp=Z,1.8nm,0.6s,baz=270,slow=1.5,SNR=17
ADKI Addanki 148.97 121 epPKPdf PKPab 13 24 33.4 +0.8
NJS Nagarjunasagar 148.98 119 ePKPbc PKPbc 13 24 28.4 -0.1
HYB Hyderabad 149.00 117 iPKP PKPbc 13 24 27.5 -1.1
HYB e 13 24 32.0
HYB e 13 24 37.0
HYBB Hyderabad (bro 149.00 117 ePKPbc PKPbc 13 24 27.7 -0.9
IPM Ipoh 149.04 168 ePKPbc PKPbc 13 24 28.6 -0.3
YAK Yakutsk 149.51 339 ePKHKP PKPpre 13 24 25.6
YAK pmax pmax
comp=Z,36nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK Yakutsk 149.51 339 ePKPbc PKPbc 13 24 27.6 -0.8
KULM Kulim 149.76 167 ePKPbc PKPbc 13 24 30.2 -0.3
KKAR Karatay Array 150.54 63 ePKiKP PKPbc 13 24 31.9 +0.3
KKAR Karatay Array 150.54 63 ePKPbc PKPbc 13 24 31.9 +0.3
YSS Yuzh-Sakhalins 150.94 305 ePKiKP PKPbc 13 24 31.6 -0.7
YSS e 13 24 40.5
ASAJ Asahikawa 151.48 299 PKiKP PKPbc 13 24 33.8 +0.1
ASAJ pmax pmax
comp=Z,22nm,1.0s
ASAJ Asahikawa 151.48 299 PKPbc PKPbc 13 24 33.8 +0.1
comp=Z,22nm,1.0s,baz=246,slow=16,SNR=5.7
EKS2 Erkin-Say 152.97 64 ePKiKP PKPbc 13 24 38.2 +0.9
EKS2 Erkin-Say 152.97 64 ePKPbc PKPbc 13 24 38.2 +0.9
AAK Ala-Archa 153.50 64c iPKiKP PKPdf 13 24 32.6 +1.7
AAK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 153.50 64 ePKPdf PKPdf 13 24 31.7 +0.8
AAK ePKPbc PKiKP 13 24 39.3 +0.7
CHLP Challavanipeta 153.63 123 ePKPdf PKPdf 13 24 31.3 -0.2
KURK Kurchatov 154.03 44 ePKiKP PKPdf 13 24 31.4 +0.3
KURK Kurchatov 154.03 44 ePKPdf PKPdf 13 24 31.4 +0.3
NVS Novosibirsk 154.13 33 ePKiKP PKPdf 13 24 28.8 -2.3
NVS pmax pmax
comp=Z,17nm,1.2s
KSH Kashi 154.78 71 ePKPbc PKPdf 13 24 36.6 +3.9
KSH PKS PKSdf 13 28 08.9 +2.0
KSH SKS SKSdf 13 31 36.8 -0.1
KSH PPMZ
comp=Z,120nm,5.2s
KSH LN
comp=Z,120nm,5.8s
KSH LE
comp=Z,110nm,4.9s
KSH LZ
comp=Z,170nm,6.1s
ZALV Zalesovo Beam 155.42 33 PKP PKPdf 13 24 32.8 -0.1
comp=Z,4.2nm,0.9s,baz=298,slow=3.2,SNR=16
ZALV PKPab PKPab 13 24 57.8 -0.7
comp=Z,4.2nm,0.8s,baz=300,slow=3.8,SNR=4.2
BOD Bodaibo 156.78 351 ePKP2 PKPab 13 25 03.7 -0.5
BOD pmax pmax
comp=Z,18nm,1.8s
MKAR Makanchi Array 157.88 50 PKP PKPdf 13 24 36.6 +0.3
comp=Z,1.5nm,0.9s,baz=318,slow=1.6,SNR=12
MKAR PKPab PKPab 13 25 09.4 0.0
comp=Z,0.7nm,0.6s,baz=291,slow=3.4,SNR=4.4
CMAR Chiang Mai Arr 161.90 154 PKP PKPdf 13 24 42.3 +0.6
comp=Z,2.0nm,1.1s,baz=243,slow=2.8,SNR=11
CMAR PKPab PKPab 13 25 26.8 -0.7
comp=Z,1.7nm,0.9s,baz=218,slow=5.6,SNR=7.1
WMQ Urumqi 162.56 54 ePKP PKPdf 13 24 40.2 -1.5
WMQ pPKP pPKPdf 13 24 50.5 -2.1
WMQ sPKP 13 24 54.5
WMQ PKPab PKPab 13 25 31.0 +1.0
WMQ SKS SKSdf 13 31 40.0 -3.9
WMQ SKKS SKKSac 13 35 59.0 -1.2
WMQ SS SS 13 49 34.0 -1.0
WMQ PPMZ
comp=Z,140nm,4.0s
WMQ LN
comp=Z,120nm,17.5s
WMQ LE
comp=Z,130nm,22.0s
WMQ LZ
comp=Z,93nm,21.2s
KSRS Korea Array 163.16 284 PKIKP PKPdf 13 24 43.8 +1.4
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS Korea Array 163.16 284 PKP PKPdf 13 24 43.8 +1.4
comp=Z,1.1nm,0.8s,baz=49,slow=3.5,SNR=3.3
KSAR Wonju Array Be 163.19 284 PKIKP PKPdf 13 24 43.8 +1.4
KSAR Wonju Array Be 163.19 284 PKP PKPdf 13 24 43.8 +1.4
ZAK Zakamensk 164.40 10 ePKP2 PKPab 13 25 37.9 +0.1
ZAK e 13 29 25.7
ZAK pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 167.21 3 PKP PKPdf 13 24 45.3 -0.4
comp=Z,0.8nm,1.0s,baz=166,slow=0.6,SNR=5.1
SONM PKPab PKPab 13 25 51.1 +0.9
comp=Z,2.4nm,0.9s,baz=332,slow=3.6,SNR=12
GYA Guiyang 171.42 176 ePKP PKPdf 13 24 48.0 -0.9
GYA PKPab PKPab 13 26 11.6 +2.2
GYA PKS PKSdf 13 28 18.7 -2.8
GYA PP PP 13 30 02.6 +3.4
GYA SKKS 13 36 45.2
GYA SS SS 13 51 03.8 +1.4
GYA PPMZ
comp=Z,120nm,8.2s
GYA LN
comp=Z,130nm,22.8s
GYA LE
comp=Z,110nm,23.2s
GYA LZ
comp=Z,120nm,21.6s
GTA Gaotai 172.64 52 ePKP PKPdf 13 24 50.1 +1.0
GTA pPKP pPKPdf 13 25 00.7 +0.7
GTA sPKP 13 25 04.3
GTA PKPab PKPab 13 26 15.5 +0.8
HHC Hu-ho-hao-te 173.28 331 ePKP PKPdf 13 24 48.6 -0.7
HHC pPKP pPKPdf 13 24 59.4 -0.8
HHC sPKP 13 25 03.0
HHC PP PP 13 30 11.5 +2.7
HHC SKS SKSdf 13 31 46.5 -3.5
HHC SS SS 13 51 20.7 -0.7
HHC PPMZ
comp=Z,55nm,9.9s
HHC LN
comp=Z,100nm,17.3s
HHC LE
comp=Z,140nm,18.5s
HHC LZ
comp=Z,130nm,18.5s
CD2 Chengdu 174.93 144 PKP PKPdf 13 24 48.8 -1.3
CD2 pPKP pPKPdf 13 24 59.6 -1.4
CD2 sPKP 13 25 03.2
CD2 PKS PKSdf 13 28 19.6 -2.8
CD2 PP PP 13 30 19.4 +2.5
CD2 SKS SKSdf 13 31 47.1 -3.7
CD2 SKKS SKKSac 13 37 00.7 -0.6
CD2 SS SS 13 51 36.6 -0.9
CD2 PPMZ
comp=Z,120nm,6.2s

DJA 06 13:12:54.5±0.4,1°N±5°,12°1E±°, h10km, M3.6/2, MLv3.6/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	Marisa	1.03	121	P	Pg	13 13 12.5	-1.8
MRSI				S	Sg	13 13 27.3	-0.4
MPSI	Mapaga	1.34	240	P	Pn	13 13 18.3	-1.0
APSI	Ampana	2.00	163	P	Pn	13 13 27.0	-1.3
PCI	Palu	2.26	213	P	Pn	13 13 32.0	0.0
LUWI	Luwuk	2.66	140	P	Pn	13 13 38.6	+1.1

*ISCJB **06** 13:13:14.5±0.9, 13°.93N±0°.07×92°.47W±0°.05, h46km, Error ellipse: s-maj=11.5km s-min=4.6km az=26.9*
*CASC **06** 13:13:18.9±1.9, 13°.81N×91°.88W, h0km±24km, MD3.8*
*MEX **06** 13:13:19.6±0.3, 14°.16N×92°.58W, h5km±21km, MD4.0*
*NEIC **06** 13:13:19.6, 14°.16N×92°.58W, h5km, MD4.0(MEX), After MEX.*

ISC 06 13:13:15.3±1.5, 13°.93N±0°.08×92°.41W±0°.04, h46km, n19, σ1§47/30, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	Jato	0.84	63	⇑iP	Pn	13 13 31.5	+0.8
PCIG		1.93	336	eP	Pn	13 13 45.6	-0.1
PCIG				eS	Sn	13 14 06.5	-2.3
PCIG		1.93	336	eP	Pn	13 13 45.6	-0.1
PCIG				eS	Sn	13 14 06.5	-2.3
NBG	Las Nubes	2.10	72	eP	Pn	13 13 49.6	+1.4
NBG				eS	Sn	13 14 15.7	+2.4
CCIG	Comitan	2.35	6	iP	Pn	13 13 53.3	+1.6
CCIG				eS	Sn	13 14 19.1	-0.4
CCIG	Comitan	2.35	6	iP	Pn	13 13 53.3	+1.6
CCIG				eS	Sn	13 14 19.1	-0.4
RBDL	Robledal	2.65	86	eP	Pn	13 13 55.9	+0.3
RTR	El Retiro	2.68	90	eP	Pn	13 13 56.9	+0.8
SBLS	San Blas	2.70	92	eP	Pn	13 13 56.4	-0.1
SBLS				eS	Sn	13 14 26.1	-2.0
SNJE	San Jose	2.72	91	eP	Pn	13 13 57.0	+0.3
MRL	Marmol	2.86	66	eP	Pn	13 13 59.3	+0.7
TGIG		2.92	346	eP	Pn	13 14 00.2	+0.9
TGIG		2.92	346	eP	Pn	13 14 00.2	+0.9
BOQS	Boqueron	3.04	93	eP	Pn	13 14 02.1	+1.0
LFRS	El Faro	3.26	95	eP	Pn	13 14 04.5	+0.4
LFRS				eS	Sn	13 14 39.4	-2.4
CMIG	Matias Romero	3.95	323	eP	Pn	13 14 14.4	+1.0
CMIG				iS	Sn	13 14 56.8	-1.7
CMIG	Matias Romero	3.95	323	eP	Pn	13 14 14.4	+1.0
CMIG				iS	Sn	13 14 56.8	-1.7
HUIG	Huatulco	4.02	298	eP	Pn	13 14 16.6	+2.2
HUIG				iS	Sn	13 14 59.2	-1.0
HUIG	Huatulco	4.02	298	eP	Pn	13 14 16.6	+2.2
HUIG				iS	Sn	13 14 59.2	-1.0

*ISCJB **06** 13:22:44.4±0.9, 37°.30S±0°.06×73°.90W±0°.08, h10km, mb3.7/5, Error ellipse: s-maj=9.8km s-min=8.1km az=155.8*
*IDC **06** 13:22:44.1±1.6, 37°.24S×74°.06W, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.8/18, mbtmp3.5/7, ML3.2/2, MS2.7/2, Ms1 2.7/2, ms1mx2.6/24, Error ellipse: s-maj=35.7km s-min=30.6km az=81.0*
*GUC **06** 13:22:48.0±0.3, 37°.27S×73°.66W, h39km±2km, ML3.6*

ISC 06 13:22:46.1±1.1, 37°.26S±0°.06×73°.82W±0°.08, h10km, n10, σ2§31/14, mb3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	San Pedro de C	0.71	54	iP	Pg	13 23 00.1	+0.4
CCSP				iS	Sg	13 23 09.0	+0.1
CCSP				AML	AML	13 23 11.3	
	comp=N,14μm,0.8s						
AGCH	Angol	1.05	122	iP	Pb	13 23 04.9	-1.4
AGCH				iS	Sb	13 23 17.9	-2.3
COCH	Cobquecura	1.40	37	iP	Pn	13 23 10.8	-0.8
COCH				eS	Sn	13 23 26.6	-3.6
COCH				AML	AML	13 23 35.9	
	comp=E,1μm,0.8s						
PLCA	Paso Flores	4.30	145	Pn	Pn	13 23 52.9	+1.2
	comp=E,0.5nm,0.3s,baz=322,slow=13,SNR=11						
PLCA				Lg	Lg	13 24 57.8	
	comp=E,2.4nm,0.3s,baz=12,slow=11,SNR=9.9						
PLCA				LR	LR	13 25 02.6	
	comp=E,177nm,18.5s,baz=296,slow=31						
CFAA	Coronel Fontan	7.29	41	Pn	Pn	13 24 34.4	+1.7
	comp=E,0.1nm,0.3s,baz=231,slow=13,SNR=4.4						
CFAA				Sn	Sn	13 26 01.0	+5.6
	comp=E,0.1nm,0.3s,baz=196,slow=18,SNR=2.4						
CFAA				Lg	Lg	13 26 35.6	
	comp=E,0.1nm,0.3s,baz=118,slow=21,SNR=9.3						
CFAA				LR	LR	13 27 23.8	
	comp=E,24nm,21.2s,baz=234,slow=38						
LPAZ	La Paz	21.49	15	P	P	13 27 36.0	+0.3
	comp=E,1.3nm,0.9s,baz=207,slow=8.9,SNR=4.3						
SIV	San Ignacio	24.01	31	P	P	13 28 00.2	-0.9
	comp=E,2.0nm,0.8s,baz=240,slow=9.6,SNR=3.8						
TXAR	Lajitas Array	71.91	333	P	P	13 34 08.5	-1.0
	comp=E,0.8nm,0.9s,baz=144,slow=9.2,SNR=6.2						
PDAR	Pinedale Array	86.04	334	P	P	13 35 26.5	-0.3
	comp=E,0.7nm,1.0s,baz=167,slow=5.5,SNR=2.6						
TORD	Torodi Ar. Bea	86.67	71	P	P	13 35 30.7	+0.4
	comp=E,0.8nm,1.2s,baz=242,slow=3.1,SNR=3.0						

*ISCJB **06** 13:32:00.6±0.3, 32°.32N±0°.02×115°.33W±0°.03, h19km±3km, Error ellipse: s-maj=4.2km s-min=3.4km az=34.1*
*NEIC **06** 13:32:00.2, 32°.19N×115°.40W, h28km, MD3.8(MEX), ML3.8(ECX), ML3.8(PAS), After PAS.*
*ECX **06** 13:32:02.5±0.8, 32°.32N×115°.39W, h6km, MD3.7, ML3.9*
*MEX **06** 13:32:02.0±0.4, 32°.40N×115°.28W, h5km, MD3.8*

ISC 06 13:32:00.6±0.9, 32°.29N±0°.02×115°.36W±0°.02, h13km±7km, n37, σ0§84/57, 5C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.13	22	⇓eP	Pb	13 32 04.5	-0.5
CPBX				eS	Sg	13 32 07.3	+0.8
EMX	El Mayor	0.32	162	⇓iP	Pg	13 32 06.6	-0.6
EMX				eS	Sg	13 32 11.8	+0.2
EMX				e		13 32 16.1	
	comp=E,5μm,0.3s						
YUH	Yuha Desert	0.59	307	⇑eP	Pg	13 32 12.0	-0.2
COA	Coachella	0.60	19	⇓eP	Pb	13 32 13.2	+0.2
RDX	Rancho Dawling	0.61	234	eP	Pg	13 32 12.9	+0.3
RDX				eS	Sg	13 32 21.0	+0.2
RDX				⇓e		13 32 23.8	
	comp=N,5μm,0.7s						
COK	Cook Ranch	0.63	331	⇓eP	Pb	13 32 13.4	-0.1
RMX	La Rumorosa	0.68	297	eP	Pg	13 32 13.6	-0.3
RMX				eS	Sg	13 32 22.7	-0.2
RMX				e		13 32 26.4	
RMX				AML	AML	13 32 26.4	
	comp=N,4μm,0.2s						
YMD	Yuma Desert	0.74	69	⇑eP	Pb	13 32 15.4	+0.2
CRR	Carrizo Plain	0.78	319	⇑eP	Pb	13 32 15.8	-0.3
ECBX	El Chinero	0.86	162	eP	Pg	13 32 16.0	-1.3
ECBX				eS	Sg	13 32 28.3	-0.2
GLA	Glamis	0.88	31	ePn	Pg	13 32 17.2	-0.5
GLA				eS	Sg	13 32 28.6	-0.5
ZAX	El Zacaton	1.10	225	eP	Pn	13 32 21.8	0.0
ZAX				eS	Sn	13 32 36.7	-0.2
ZAX				⇓e		13 32 37.7	
ZAX				AML	AML	13 32 37.7	
	comp=N,4μm,0.3s						
ZAX				AML	AML	13 32 40.0	
	comp=E,3μm,0.4s						
ZAX				⇑e		13 32 40.0	
CBX	Cerro Bola	1.10	271	eP	Pb	13 32 21.4	-0.1
CBX				eS	Sg	13 32 36.0	-0.2
CBX	Cerro Bola	1.10	271	eP	Pb	13 32 21.4	-0.1
CBX				eS	Sg	13 32 36.1	-0.2
CBX				AML	AML	13 32 38.0	
	comp=N,4μm,0.4s						
CBX				⇑e		13 32 38.0	
CBX				AML	AML	13 32 38.7	
	comp=E,3μm,0.4s						
CBX				e		13 32 38.7	
CBX	Cerro Bola	1.10	271	eP	Pb	13 32 21.4	-0.1
CBX				eS	Sg	13 32 36.0	-0.2
BAR	Barrett	1.17	289	ePn	Pb	13 32 22.3	-0.4
BAR				eS	Sb	13 32 36.4	-1.4
ECNX	Esteban Cantu	1.23	239	eP	Pg	13 32 24.1	-0.2
ECNX				eS	Sb	13 32 39.7	+0.2
SPIG	San Pedro Mart	1.25	184	iP	Pn	13 32 24.0	0.0
SPIG				eS	Sg	13 32 41.7	+0.8
SPIG	San Pedro Mart	1.25	184	eP	Pn	13 32 24.0	0.0
SPIG				eS	Sg	13 32 41.4	+0.5
SPIG	San Pedro Mart	1.25	184	iP	Pn	13 32 24.0	0.0
SPIG				eS	Sg	13 32 41.7	+0.8
SPX	San Pedro Mart	1.25	184	⇓eP	Pn	13 32 24.1	0.0
SPX				eS	Sg	13 32 42.2	+1.3
SPX				⇓e		13 32 44.7	
	comp=E,1μm,0.5s						

PBX	Punta Banda	1.28	245	*e*P	Pb	13 32 24.8	+0.2
PBX				*e*S	Sn	13 32 41.6	+0.4
LDFC	Landfair	2.78	4	*e*Pn	Pn	13 32 45.6	+0.7
MWC	Mount Wilson	2.97	311	*e*Pn	Pn	13 32 46.2	-1.3
MWC				*e*Pg	Pb	13 32 53.2	-0.2
MWC				*e*Sg	Sb	13 33 31.5	+1.8
PASC	Pasadena Art C	3.02	309	*e*Pg	Pb	13 32 53.7	-0.5
PASC				*e*Sg	Sb	13 33 32.4	+1.5
GSC	Goldstone, Bar	3.23	339	Pn	Pn	13 32 51.9	+0.8
TUC	Tucson	3.88	89	*e*Pn	Pn	13 32 58.9	-1.1
SHPR	Sheep Range	4.20	2	*e*P	Pn	13 33 04.8	+0.2
DAC	Darwin (Calif)	4.38	336	*e*Pn	Pn	13 33 04.7	-2.3
WUAZ	Wupatki	4.62	45	Pn	Pn	13 33 09.9	-0.3
W18A	Petrified Fore comp=E,10.0nm,0.3s	5.47	57	*e*Pn	Pn	13 33 23.8	+1.8
CCUT	Cedar City comp=E,9.6nm,0.8s	5.50	17	*e*Pn	Pn	13 33 23.6	+1.3
R11A	Troy Canyon, C comp=E,2.9nm,0.5s	6.04	358	*e*Pn	Pn	13 33 30.4	+0.5
121A	Cookes Peak, D comp=E,11nm,0.3s	6.41	86	*e*Pn	Pn	13 33 35.6	+0.8
LAZ	Ladron comp=E,63nm,0.8s	7.19	71	*e*P	Pn	13 33 47.2	+1.5
LENM	Lemitar comp=E,7.4nm,0.4s	7.27	73	*e*Pn	Pn	13 33 45.0	-1.7
MVCO	Mesa Verde comp=E,8.2nm,0.6s	7.48	47	P	Pn	13 33 48.7	-0.9

IDC 06 13:34:58.3±1.2, 3°42N×125°42E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=140.9km s-min=21.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 1.0nm,0.6s,baz=337,slow=11,SNR=12	24.81	160	P	P	13 40 22.4	0.0
ASAR	Alice Springs 0.2nm,0.7s,baz=346,slow=7.3,SNR=4.1	28.16	163	P	P	13 40 52.7	0.0
SONM	Songino Array 0.6nm,0.7s,baz=162,slow=8.3,SNR=5.7	47.19	343	P	P	13 43 32.8	-0.1
MKAR	Makanchi Array 0.5nm,0.5s,baz=123,slow=8.2,SNR=6.9	57.07	326	P	P	13 44 46.9	+0.4
ARCES	ARCESS Array B 1.6nm,0.9s,baz=94,slow=4.7,SNR=2.9	90.29	340	P	P	13 47 60.0	-0.9

*IDC **06** 13:36:09.9±0.9, 5°44N×93°12E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.0/28, mbtmp4.1/13, ML3.1/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/50, Error ellipse: s-maj=34.1km s-min=17.4km az=45.0*
*ISCJB **06** 13:36:12.3±0.4, 5°46N±0°07'×93°21E±0°06, h28km, mb4.2/17, MS3.3/3, Error ellipse: s-maj=11.8km s-min=5.2km az=41.2*
*NEIC **06** 13:36:14.3±2.3, 5°52N×93°20E, h30km±16km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=6.2km az=218.0*
*DJA **06** 13:36:29.1±2.4, 5°N±7'×9°4E±2'3, h10km, M4.1/6, mB5.0/1, mb4.2/6, MLv4.0/3, Mw(mB)4.3/1*

ISC 06 13:36:14.0±0.6, 5°49N±0°09×93°20E±0°08, h28km, n56, σ1§06/45, mb4.1/17, MS3.3/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	3.74	94	*e*P	Pn	13 37 11.0	+1.1
TPTI		4.54	119	P	Pn	13 37 20.6	-0.4
KCSI	Kotacane, Aceh	4.96	113	P	Pn	13 37 27.9	+1.2
KULM	Kulim 16nm,0.9s	7.42	91	*e*P	Pn	13 38 00.8	+0.2
KULM				*e*		13 38 09.1	
IPM	Ipoh 21nm,0.9s	7.86	97	*e*P	Pn	13 38 06.4	-0.2
MNSI	Mandailing Nat 21nm,1.1s,955nm	7.89	126	P	Pn	13 38 06.4	-0.6
PALK	Pallekele 0.3nm,0.3s,baz=98,slow=15,SNR=2.3	12.55	279	Pn	Pn	13 39 10.1	-0.8
PALK				Sn	Sn	13 41 16.2	-14
PALK	3.3nm,0.3s,baz=14,slow=23,SNR=7.6			LR	LR	13 43 36.4	
CMAR	comp=Z,252nm,18.3s,baz=145,slow=36 Chiang Mai Arr 0.0nm,0.3s,baz=218,slow=13,SNR=19	14.06	23	Pn	Pn	13 39 31.7	+0.2
CMAR				LR	LR	13 44 25.2	
CHTO	comp=Z,60nm,21.2s,baz=50,slow=35 Chiang Mai 3.0nm,1.0s	14.38	22	*e*P	Pn	13 39 35.6	-0.3
CHTO				*e*		13 39 43.6	
MDSI	Maura Dua 7.1nm,1.3s	14.78	132	P	Pn	13 39 43.0	+1.7
KASI	Kota Agung	15.71	134	P	P	13 39 56.8	-0.5
SLVN	Son La 4.1nm,0.8s	18.86	32	P	P	13 40 30.1	-2.2
RAMN	Ramite 34nm,1.0s	22.25	344	*e*P	P	13 41 12.1	+3.0
TAPN	Taplejung 24nm,1.0s	22.36	347	*e*P	P	13 41 12.7	+2.3
JIRN	Jiri 26nm,1.0s	23.04	344	*e*P	P	13 41 18.3	+0.8
PKI	Pulchoki 7.8nm,0.2s	23.18	342	*e*P	P	13 41 19.3	+0.4
PKIN	Phulchoki 52nm,1.5s	23.19	342	*e*P	P	13 41 20.2	+1.2
GUN	Gumba 37nm,0.9s	23.36	343	*e*P	P	13 41 21.3	+0.5
KKN	Kakani 12nm,0.6s	23.43	342	*e*P	P	13 41 20.6	-0.7
GKN	Gorkha 38nm,1.0s	23.83	341	*e*P	P	13 41 25.0	0.0
KOLN	Koldanda 15nm,0.6s	23.97	339	*e*P	P	13 41 26.9	+0.5
H08S3	Diego Garcia H baz=58,slow=75,SNR=877	24.43	238	T	T	14 06 50.9	
H08S2	Diego Garcia H baz=58,slow=75,SNR=1026	24.43	238	T	T	14 06 45.4	
DANN	Dangsing 24nm,0.7s	24.44	340	*e*P	P	13 41 30.4	-0.5
H08S1	Diego Garcia H baz=58,slow=75,SNR=852	24.45	238	T	T	14 06 54.9	
PYUN	Piuthan	24.49	338	*e*P	P	13 41 29.1	-2.2
H08N1	Diego Garcia H baz=59	25.07	242	T	T	14 07 53.8	
H08N2	Diego Garcia H baz=59,slow=74	25.07	242	T	T	14 07 51.2	
H08N3	Diego Garcia H baz=59,slow=74	25.09	242	T	T	14 07 51.8	
AAK	Ala-Archa 5.0nm,1.3s	40.54	339	*e*P	P	13 43 51.9	+0.8
MKAR	Makanchi Array 2.0nm,0.9s,baz=161,slow=7.7,SNR=14	42.22	349	P	P	13 44 04.6	0.0
KKAR	Karatay Array	42.49	335	*e*P	P	13 44 07.0	0.0
SONM	Songino Array 1.8nm,0.9s,baz=196,slow=9.6,SNR=11	43.68	13	P	P	13 44 16.9	+0.3
SONM				PcP	PcP	13 46 04.3	+0.9
ULN	Ulaanbaatar 0.5nm,0.8s,baz=204,slow=3.2,SNR=3.0	43.86	13	P	P	13 44 16.2	-1.8
H01W3	Cape Leeuwin H baz=330,slow=76,SNR=6.5	44.74	155	T	T	14 32 17.4	
H01W2	Cape Leeuwin H baz=330,slow=76,SNR=5.3	44.75	155	T	T	14 32 15.5	
H01W1	Cape Leeuwin H baz=330,slow=76,SNR=8.2	44.76	155	T	T	14 32 13.8	
KSRS	Korea Array comp=Z,15nm,19.4s,baz=335,slow=38	44.88	40	LR	LR	14 04 34.4	
GEYT	Ailbeck 9.0nm,0.7s,baz=142,slow=7.3,SNR=18	45.39	320	P	P	13 44 31.7	+1.4
KURK	Kurchatov 2.6nm,0.6s	46.70	347	*e*P	P	13 44 40.5	+0.2
WRA	Warramunga Arr 4.0nm,0.9s,baz=301,slow=9.0,SNR=22	47.69	123	P	P	13 44 48.9	+0.3
WRAB	Tennant Creek 4.7nm,0.8s	47.70	123	*e*P	P	13 44 48.7	+0.1
WB2	Warramunga Arr	47.70	123	*e*P	P	13 44 48.9	+0.2
ZALV	Zalesovo Beam 3.1nm,0.6s,baz=175,slow=8.3,SNR=18	48.80	353	P	P	13 44 57.3	+0.8
AS31	Alice Springs	49.15	128	*e*P	P	13 44 58.8	-1.1
ASAR	Alice Springs 1.1nm,0.8s,baz=302,slow=7.5,SNR=12	49.15	128	P	P	13 45 00.3	+0.5
RAYN	Ar Rayn 5.3nm,0.9s	49.26	296	*e*P	P	13 45 01.6	+1.0
MJAR	Matsushiro Arr comp=Z,29nm,18.9s,baz=355,slow=40	51.46	47	LR	LR	14 10 16.5	
ABKAR	Akbulak array 16nm,0.9s	51.89	333	*e*P	P	13 45 19.8	-0.3
KBZ	Khabaz 0.6nm,0.3s,baz=135,slow=5.7,SNR=3.0	58.24	319	P	P	13 46 06.6	+0.6
BRTR	Keskin Array B 0.4nm,0.3s,baz=119,slow=9.1,SNR=4.5	63.29	312	P	P	13 46 40.3	-0.4
OBN	Obninsk comp=Z,44nm,21.5s,baz=269,slow=38	66.90	329	LR	LR	14 18 10.2	
AKASG	Malin Array Be 0.8nm,0.6s,baz=88,slow=5.4,SNR=5.2	69.45	322	P	P	13 47 18.4	-1.4
TIXI	Tiksi 1.0nm,0.6s	69.74	11	*e*P	P	13 47 20.6	-0.4
FINES	FINESS Array B 1.9nm,0.8s,baz=104,slow=5.9,SNR=5.5	74.38	333	P	P	13 47 48.9	-0.2
GERES	GERESS Array B 1.3nm,0.7s,baz=94,slow=5.4,SNR=9.9	78.98	319	P	P	13 48 15.5	0.0

*NIED **06** 13:49:00, 37°50N×135°70E, h360km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs333.00000°, δ60.00000°, λ-10.00000°. NP2:φs68.00000°, δ81.00000°, λ-150.00000°.*
*ISCJB **06** 13:49:14.0±0.3, 37°45N±0°04×135°76E±0°05, h365km, mb3.4/14, Error ellipse: s-maj=5.8km s-min=4.8km az=29.4*
*JMA **06** 13:49:14.7±0.3, 37°47N×135°72E, h354km±3km, M3.7*
*IDC **06** 13:49:15.0±0.9, 37°53N×135°57E, h347km±10km, mb3.1/13, mb1 3.3/18, mb1mx3.2/32, mbtmp3.9/18, Error ellipse: s-maj=14.4km s-min=10.8km az=83.0*

ISC 06 13:49:15.3±0.6, 37.45N±0°07×135.72E±0°06, h365km, n46, σ1§54/53, mb3.6/14, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	1.03	67	P	Pn	13 50 01.2	-1.5
JHG				S	S	13 50 37.3	-3.6
JKG	Kaga	1.27	157	P	Pn	13 50 02.0	-1.8
JSZ	Suzu	1.31	89	P	Pn	13 50 02.6	-1.3
JSD	Sado	2.10	73	P	Pn	13 50 07.0	-1.6
JWT	Wachi	2.17	187	P	Pn	13 50 07.9	-1.4
JWT				S	S	13 50 48.8	-3.9
MAT	Matsushiro	2.19	114	P	Pn	13 50 08.2	-1.1
MAT				*e*S	S	13 50 51.6	-1.2
MAT	Matsushiro	2.19	114	P	Pn	13 50 08.2	-1.1
MJAR	Matsushiro Arr 21nm,0.3s,baz=293,slow=8.8,SNR=255	2.19	114	P	Pn	13 50 08.6	-0.7
JRY	Ryogami san	2.93	118	P	Pn	13 50 14.2	-1.0
JYN	Shimob	2.99	130	P	Pn	13 50 14.6	-1.3
JIE	Ise	3.15	165	P	Pn	13 50 16.9	-0.3
JIE				S	S	13 51 04.2	-2.9
JAG	Ashikaga	3.16	108	P	Pn	13 50 15.6	-1.6
JWY	Kouya	3.22	182	P	Pn	13 50 17.1	-0.9
JHS	Saijyo	3.22	222	P	Pn	13 50 16.6	-1.3
JOD2	Odawara 2	3.48	128	P	Pn	13 50 19.5	-0.8
JMK	Ichinoseki	4.59	69	P	Pn	13 50 30.6	-0.5
JMK				S	S	13 51 29.8	-2.7
BSO1	Boso 1	5.09	122	P	Pn	13 50 35.0	-1.0
BSO1				S	S	13 51 38.6	-2.9
JTO	Tosashimizu	5.16	208	P	Pn	13 50 36.9	-0.5
JTO				S	S	13 51 37.3	-6.6
JNU	Nakatsue 3.0nm,0.3s,baz=14,slow=0.5,SNR=31	5.85	224	P	Pn	13 50 44.2	-0.9
KSRS	Korea Array 0.5nm,0.3s,baz=83,slow=12,SNR=13	6.20	272	P	Pn	13 50 47.8	-1.1
USRK	Ussuriysk Ar. 0.8nm,0.3s,baz=166,slow=12,SNR=15	7.32	338	P	Pn	13 51 00.4	-1.1
USRK				S	S	13 52 24.4	-3.7
ASAJ	Asahikawa 20nm,0.3s,baz=243,slow=11,SNR=328	8.46	36	P	Pn	13 51 13.1	-1.8
ASAJ				S	S	13 52 44.4	-8.5
PETK	Petropavlovsk- 0.8nm,0.7s,baz=270,slow=4.3,SNR=2.7	21.88	37	P	P	13 53 40.8	+1.8
SONM	Songino Array 2.2nm,0.5s,baz=106,slow=9.3,SNR=17	23.81	305	P	P	13 53 56.1	-0.6
CMAR	Chiang Mai Arr 0.5nm,0.3s,baz=47,slow=7.9,SNR=3.7	37.28	250	P	P	13 55 54.8	+0.8
MKAR	Makanchi Array 0.9nm,0.7s,baz=82,slow=10,SNR=14	40.03	301	P	P	13 56 15.7	-0.5
TAPN	Taplejung 6.7nm,0.4s	41.38	270	*e*P	P	13 56 27.9	+0.2
JIRN	Jiri	42.46	272	*e*P	P	13 56 36.9	+0.5
GUN	Gumba 17nm,0.4s	42.59	272	*e*P	P	13 56 37.7	+0.3
PKI	Pulchoki 3.6nm,0.3s	43.12	272	*e*P	P	13 56 41.3	-0.3
KKN	Kakani	43.12	272	*e*P	P	13 56 41.4	-0.1
GKN	Gorkha 17nm,0.5s	43.54	273	*e*P	P	13 56 45.1	+0.4
DANN	Dangsing 16nm,0.4s	44.09	274	*e*P	P	13 56 49.6	+0.4
KOLN	Koldanda	44.47	273	*e*P	P	13 56 52.3	+0.2
PYUN	Piuthan 41nm,0.4s	44.81	274	*e*P	P	13 56 55.0	+0.3
ILAR	Eielson Array 0.3nm,0.8s,baz=258,slow=4.5,SNR=3.2	51.58	32	P	P	13 57 46.2	+1.1
INK	Inuvik 0.2nm,0.5s,baz=270,slow=4.0,SNR=2.3	56.08	27	P	P	13 58 19.1	+2.0
WRA	Warramunga Arr 1.3nm,0.4s,baz=359,slow=7.5,SNR=36	57.09	182	P	P	13 58 26.5	+1.6
GEYT	Ailbeck 2.0nm,0.8s,baz=29,slow=3.3,SNR=3.4	59.62	296	P	P	13 58 43.0	+0.9
ASAR	Alice Springs 0.6nm,0.9s,baz=360,slow=6.9,SNR=8.6	60.81	182	P	P	13 58 52.0	+1.9
ARCES	ARCESS Array B 2.0nm,0.9s,baz=65,slow=8.4,SNR=6.4	61.97	338	P	P	13 58 58.0	+0.8
JOF	Joensuu 0.6nm,0.4s	63.41	330	*e*p	P	13 59 06.5	-0.2
FINES	FINESS Array B 0.8nm,0.4s,baz=77,slow=4.5,SNR=12	66.27	330	P	P	13 59 25.6	+0.6
AKASG	Malin Array Be 0.7nm,0.3s,baz=50,slow=6.1,SNR=5.0	71.12	320	P	P	13 59 54.9	+0.1
NB2	NORSAR Subarra comp=Z,0.7nm,0.4s,baz=43,slow=5.9	71.97	335	P	P	14 00 00.3	+0.6
NOA	NORSAR Array B comp=Z,0.7nm,0.6s,baz=54,slow=7.8,SNR=5.2	71.97	335	P	P	14 00 00.6	+0.8

*IDC **06** 13:49:51.4±1.2, 20°53N×123°03E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.3/25, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=50.6km s-min=22.6km az=72.0*
*ISCJB **06** 13:49:55.0±0.7, 20°69N±0°04×123°15E±0°09, h33km, mb3.2/4, Error ellipse: s-maj=11.5km s-min=5.4km az=6.9*
*JMA **06** 13:49:56.5±0.6, 20°83N×122°81E, h38km, M4.4*

ISC 06 13:49:56.5±0.9, 20°67N±0°06×123°17E±0°09, h35km, n33, σ1§65/38, mb3.3/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	3.42	10	P	Pn	13 50 48.8	+1.5
HATJ				S	Sn	13 51 25.0	-1.6
IRIF	Iriomote-Funau	3.68	8	P	Pn	13 50 52.5	+1.6
IRIF				S	Sn	13 51 31.9	-1.2
JYNG	Yonagunijimaku	3.77	357	P	Pn	13 50 53.0	+0.9
JYNG				S	Sn	13 51 33.4	-1.8
YOJ	Yonaguni jima	3.78	358	P	Pn	13 50 52.9	+0.7
YOJ				S	Sn	13 51 34.0	-1.4
JIJ	Ishigaki jima	3.78	14	P	Pn	13 50 53.4	+1.1
JIJ				S	Sn	13 51 33.8	-1.8
JISG	Ishigakijimahi	4.04	15	P	Pn	13 50 56.7	+0.9
JTJ	Tarama	4.20	19	P	Pn	13 50 59.9	+2.0
JTJ				S	Sn	13 51 45.9	+0.2
JIRB	Irabujima	4.53	24	P	Pn	13 51 04.2	+1.7
JIRB				S	Sn	13 51 54.9	+0.9
JOGS	Gusukube	4.56	26	P	Pn	13 51 05.3	+2.3
JOGS				S	Sn	13 51 56.2	+1.4
JMJ	Miyako jima 2	4.56	25	P	Pn	13 51 06.0	+3.0
JIKM	Ikemajima	4.64	24	P	Pn	13 51 06.2	+2.1
JKE	Kume jima 2	6.53	30	P	Pn	13 51 31.3	+1.2
JKE				S	Sn	13 52 41.8	-1.6
JJT2	Tamagusuku 2	6.87	37	P	Pn	13 51 37.2	+2.4
JAGN	Aguni-jima	6.97	32	P	Pn	13 51 37.7	+1.6
PVCP	Virac	7.10	172	*e*P	Pn	13 51 38.2	+0.3
JNTH	Nagotoyohara	7.32	36	P	Pn	13 51 42.4	+1.5
JIH	Iheya	7.70	34	P	Pn	13 51 47.5	+1.3
JOW	Kunigami	7.71	36	P	Pn	13 51 48.0	+1.7
JOW				S	Sn	13 53 09.4	-2.9
JOW	Kunigami 0.3nm,0.3s,baz=229,slow=11,SNR=9.7	7.71	36	Pn	Pn	13 51 47.9	+1.7
JOW				Sn	Sn	13 53 09.1	-3.2
JOKE	Okinoerabujima	8.29	35	P	Pn	13 51 55.1	+0.9
JTK	Tokunoshima	8.83	36	P	Pn	13 52 02.2	+0.6
JMZ	Minamidaito 2	9.00	54	P	Pn	13 52 04.2	+0.3
JAM	Amami Oshima	9.68	36	P	Pn	13 52 14.1	+0.9
H11N1	WAKE ISLAND Hy baz=265	40.95	83	T	T	14 41 45.5	
H11N2	WAKE ISLAND Hy baz=265	40.95	83	T	T	14 41 45.9	
H11S3	WAKE ISLAND Hy baz=286	40.97	85	T	T	14 41 50.1	
H11N3	WAKE ISLAND Hy baz=265	40.97	83	T	T	14 41 46.8	
H11S1	WAKE ISLAND Hy baz=286	40.98	85	T	T	14 41 45.2	
H11S2	WAKE ISLAND Hy baz=286	40.98	85	T	T	14 41 46.9	
WRA	Warramunga Arr 0.5nm,0.8s,baz=346,slow=9.1,SNR=4.9	41.82	164	P	P	13 57 41.5	-1.6
MKAR	Makanchi Array 0.2nm,0.7s,baz=125,slow=7.7,SNR=2.8	42.15	318	P	P	13 57 46.1	+0.6
ZALV	Zalesovo Beam 0.6nm,0.6s,baz=114,slow=9.6,SNR=3.3	44.18	328	P	P	13 58 01.7	-0.1
ASAR	Alice Springs 0.2nm,0.5s,baz=350,slow=7.6,SNR=9.6	45.29	166	P	P	13 58 10.8	-0.1

GUC 06 13:51:22.5±0.4, 35°08S×71°77W, h57km±3km, ML3.6, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.34	161	*i* P	Pn	13 51 32.4	-0.3
TALC				*i* S	Sn	13 51 39.6	-0.4
TALC				AML	AML	13 51 41.2	
NICH	comp=E,12μm,0.1s Los Niches	0.45	81	*i* P	Pn	13 51 33.5	-0.2
NICH				*i* S	Sn	13 51 42.1	+0.3
NICH				AML	AML	13 51 42.9	
LNV	comp=E,7μm,0.3s Longovilo	1.16	15	*i* P	Pn	13 51 42.9	+0.4
LNV				*i* S	Sn	13 51 58.3	+0.9
CHCH	Chadas Angostu	1.47	39	*i* P	Pn	13 51 47.2	+0.5
CHCH				*i* S	Sn	13 52 05.9	+0.9
CLCH	Cerro Calan	1.96	32	*i* P	Pn	13 51 54.7	+1.2
CLCH				*i* S	Sn	13 52 18.4	+1.2
CLCH				AML	AML	13 52 25.3	
YECH	comp=E,361nm,0.5s El Yeso	1.98	45	*i* P	Pn	13 51 55.2	+1.1
YECH				*i* S	Sn	13 52 20.1	+2.0
PEL	Peldehue	2.13	25	*i* P	Pn	13 51 56.8	+1.0
PEL				*i* S	Sn	13 52 22.2	+1.1
PEL				AML	AML	13 52 30.1	
	comp=E,432nm,0.4s						

GUC 06 13:58:36.5±0.3, 35°18S×71°97W, h45km±3km, ML3.8, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.35	128	*i* P	Pn	13 58 46.1	+0.5
TALC				*i* S	Sn	13 58 52.9	+0.8
TALC				AML	AML	13 58 53.7	
NICH	comp=E,37μm,0.1s Los Niches	0.64	74	*i* P	Pn	13 58 50.0	+0.8
NICH				*i* S	Sn	13 59 00.2	+1.8
NICH				AML	AML	13 59 00.7	
LNCH	comp=N,9μm,0.3s Linares	0.73	155	*i* P	Pn	13 58 51.2	+0.8
LNCH				*i* S	Sn	13 59 02.4	+1.9
LNCH				AML	AML	13 59 03.3	
CLCH	comp=E,2μm,0.4s Cerro Calan	2.14	34	*i* P	Pn	13 59 12.0	+2.1
CLCH				*i* S	Sn	13 59 39.2	+3.9
CLCH				*i* S		13 59 39.8	
CLCH				AML	AML	13 59 46.6	
PEL	comp=N,700nm,0.5s Peldehue	2.30	28	*i* P	Pn	13 59 14.4	+2.4
PEL				*i* S	Sn	13 59 42.9	+3.8
PEL				AML	AML	13 59 52.8	
	comp=N,959nm,0.4s						

*IDC **06** 14:16:42.7±0.6, 6°46S×150°60E, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.6/24, mbtmp4.5/21, ML3.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/22, Error ellipse: s-maj=19.2km s-min=13.6km az=104.0*
*NEIC **06** 14:16:44.0±5.5, 6°48S×150°55E, h9km±34km, mb4.9/18, Error ellipse: s-maj=10.9km s-min=9.2km az=58.0*
*ISCJB **06** 14:16:45.8±0.3, 6°57S±0°04×150°56E±0°05, h33km, mb4.6/38, MS3.3/5, Error ellipse: s-maj=8.0km s-min=5.2km az=27.1*
*BJI **06** 14:16:47.9, 6°40S×150°48E, h40km, mB5.1/17, mb4.7/23, Ms4.8/9, Ms7 4.4/8*
*DJA **06** 14:16:53.8±2.5, 7°S±13'×15°0E±1°6, h67km±15km, M5.2/16, mB5.6/1, mb5.0/16, MLv5.3/1, Mw(mB)5.1/1*

ISC 06 14:16:48.1±0.5, 6°64S±0°05×150°58E±0°07, h33km, n77, σ1§91/100, mb4.7/38, MS3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby 23nm,0.3s,baz=40,slow=11,SNR=108	4.37	231	Pn	Pn	14 17 52.1	0.0
PMG				Sn	Sn	14 18 41.5	-0.4
COEN	42nm,0.3s,baz=160,slow=18,SNR=7.3 Coen 31nm,1.4s	10.30	224	*e*P	Pn	14 19 13.2	-0.4
JAY	Jayapura comp=Z,448nm,18.3s,baz=110,slow=40	10.66	292	LR	LR	14 23 52.0	
CTA	Charters Tower 0.3nm,0.3s,baz=15,slow=15,SNR=4.5	14.02	197	Pn	Pn	14 20 04.8	+0.3
EIDS	Eidsvold 48nm,1.0s	18.63	179	*e*P	Pn	14 21 04.1	+0.6
FAKI	Fak Fak	18.64	281	*e*P	P	14 21 02.6	-0.7
WRAB	Tennant Creek 77nm,0.9s	20.57	228	*e*P	P	14 21 23.9	-0.3
WB2	Warramunga Arr	20.57	228	*e*P	P	14 21 24.0	-0.4
WRA	Warramunga Arr 50nm,0.9s,baz=53,slow=11,SNR=148	20.58	228	P	P	14 21 23.7	-0.7
WRA				S	S	14 25 09.3	-3.7
WRA	4.3nm,1.1s,baz=55,slow=20,SNR=4.1			PcP	PcP	14 25 35.3	+0.5
WRA	2.2nm,1.0s,baz=46,slow=2.2,SNR=3.6			ScP	ScP	14 29 13.2	+4.0
BNDI	2.1nm,1.1s,baz=51,slow=2.1,SNR=4.0 Bandanaira	20.69	275	P	P	14 21 25.2	-0.4
DZM	Mont Dzumac 9.3nm,0.8s,baz=351,slow=18,SNR=4.7	21.68	137	P	P	14 21 35.5	-0.7
AS31	Alice Springs	23.32	222	*e*P	P	14 21 52.8	-0.7
ASAR	Alice Springs 22nm,0.7s,baz=57,slow=9.0,SNR=90	23.32	222	P	P	14 21 53.0	-0.5
ASAR				PcP	PcP	14 25 41.5	+1.3
ASAR	1.1nm,0.9s,baz=46,slow=4.0,SNR=2.2			S	S	14 26 02.1	-2.0
ASAR	2.0nm,0.8s,baz=45,slow=17,SNR=5.3			ScP	ScP	14 29 20.6	+4.5
ASAR	0.3nm,0.8s,baz=48,slow=3.1,SNR=2.9			LR	LR	14 31 49.2	
NLAI	comp=Z,99nm,21.7s,baz=31,slow=39 Namlea 24nm,0.8s	23.64	277	P	P	14 21 57.4	+0.8
ARMA	Armidale 63nm,1.4s	23.68	178	*e*P	P	14 21 57.3	+0.3
SANI	Sanana 25nm,1.0s	24.94	279	P	P	14 22 11.5	+2.9
SOEI	Soe 38nm,1.2s	26.23	261	P	P	14 22 22.4	+1.9
SOEI	Soe 80nm,1.0s	26.23	261	P	P	14 22 21.6	+1.2
BATI	Baumata	26.86	261	P	P	14 22 28.7	+2.6
BATI	Baumata 24nm,0.8s,baz=88,slow=5.8,SNR=7.6	26.86	261	P	P	14 22 26.1	+0.1
EDFI	Ende, Flores	28.71	264	P	P	14 22 42.7	0.0
BNSI	Bone	30.41	273	P	P	14 22 57.5	-0.2

10nm,1.0s,baz=142,slow=10,SNR=4.1
MJAR Matsushiro Arr 44.49 346 P **P** **14 24 53.7 -2.8**
2.9nm,1.0s,baz=165,slow=8.7,SNR=4.0
KASI Kota Agung 45.83 269 P **P** **14 25 06.5 -0.9**
MDSI Maura Dua 46.23 270 P **P** **14 25 09.4 -1.2**
LHSI Lahat 46.93 271 P P 14 25 22.3 +6.2
QIZ Qiongzhong 47.56 303 P **P** **14 25 19.5 -1.4**
QIZ pP **pP** **14 25 31.0 +0.2**
QIZ sP **sP** **14 25 36.2 +1.5**
QIZ PP **PP** **14 27 11.4 -1.3**
QIZ S **S** **14 32 12.1 -2.1**
QIZ sS **sS** **14 32 31.9 +1.4**
QIZ PMZ
24nm,1.9s
KSRS Korea Array 48.70 336 P **P** **14 25 28.0 -1.3**
7.4nm,0.9s,baz=154,slow=8.8,SNR=14
KSRS LR LR 14 43 36.1
comp=Z,20nm,20.8s,baz=160,slow=33
KSAR Wonju Array Be 48.71 336 P **P** **14 25 28.1 -1.4**
NJ2 Nanjing 48.94 324 *e*P **P** **14 25 30.3 -1.0**
NJ2 PMZ
30nm,0.7s
PDSI Padang 50.31 274 P P 14 25 50.0 +7.9
MNSI Mandailing Nat 51.43 276 P **P** **14 25 50.4 -0.2**
USRK Ussuriysk Ar. 53.31 343 P **P** **14 26 03.3 -0.7**
2.6nm,0.8s,baz=164,slow=8.7,SNR=4.9
USRK LR LR 14 47 06.6
comp=Z,42nm,18.8s,baz=317,slow=34
GYA Guiyang 53.80 310 *e*P **P** **14 26 08.7 +0.7**
MDJ Mudanjiang 54.41 342 P **P** **14 26 11.6 -0.4**
MDJ PMZ
9.0nm,1.0s
MDJ PMZ
69nm,6.3s
CMAR Chiang Mai Arr 56.70 297 P **P** **14 26 28.4 -0.5**
0.5nm,0.4s,baz=125,slow=4.9,SNR=7.0
CMAR PcP **PcP** **14 27 24.9 0.0**
0.9nm,0.7s,baz=132,slow=2.7,SNR=3.9
CD2 Chengdu 58.30 313 P **P** **14 26 40.5 +0.5**
CD2 pP **pP** **14 26 52.8 +2.7**
CD2 sP **sP** **14 26 57.9 +3.9**
CD2 PcS **PcS** **14 31 31.2 -1.4**
CD2 S **S** **14 34 37.6 -2.8**
CD2 sS **sS** **14 34 58.4 +1.4**
CD2 SS **SS** **14 38 31.3 -1.7**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.4s
HHC Hu-ho-hao-te 59.29 326 *e*P **P** **14 26 48.6 +1.8**
HHC PP **PP** **14 29 01.6 +3.4**
HHC S **S** **14 34 51.9 -1.2**
HHC sS **sS** **14 35 13.4 +3.7**
HHC SS **SS** **14 38 48.6 +0.2**
HHC PMZ
22nm,0.9s
HHC PMZ
110nm,8.6s
HHC LN
80nm,16.0s
HHC LE
130nm,16.0s
HHC LZ
71nm,18.5s
PETK Petropavlovsk- 59.82 5 P **P** **14 26 47.8 -2.3**
3.0nm,0.8s,baz=172,slow=8.0,SNR=7.1
PETK LR LR 14 48 48.1
comp=Z,19nm,19.3s,baz=199,slow=32
GTA Gaotai 65.54 319 *e*P **P** **14 27 30.2 +1.5**
GTA pP **pP** **14 27 42.3 +3.4**
GTA sP **sP** **14 27 47.4 +4.7**
GTA PMZ
2.0nm,1.0s
ULN Ulaanbaatar 66.42 330 *e*P **P** **14 27 31.9 -2.3**
3.9nm,0.8s
SONM Songino Array 66.73 329 P **P** **14 27 35.0 -1.2**
3.8nm,0.7s,baz=150,slow=6.3,SNR=2.9
SEY Seymchan 69.38 1 P **P** **14 27 50.8 -1.5**
0.8nm,0.5s,baz=164,slow=7.4,SNR=6.9
VNDA Vanda 71.09 177 P **P** **14 28 04.0 +1.3**
3.8nm,0.8s,baz=322,slow=6.1,SNR=13
WMQ Urumqi 75.61 318 *e*P **P** **14 28 29.3 -0.7**
WMQ pP **PcP** **14 28 42.0 -0.7**
WMQ sP **sP** **14 28 48.0 +3.9**
WMQ PP **PP** **14 31 21.0 +1.1**
WMQ *e*S **S** **14 38 05.0 -4.0**
WMQ ScS **SKSac** **14 38 35.0 -2.8**
WMQ PMZ
28nm,1.0s
WMQ PMZ
140nm,3.9s
WMQ LN
170nm,18.0s
WMQ LE
170nm,21.0s
WMQ LZ
180nm,17.6s
MKAR Makanchi Array 80.27 320 P **P** **14 28 53.9 -1.8**
0.5nm,0.5s,baz=104,slow=7.0,SNR=7.6
ZALV Zalesovo Beam 81.47 327 P **P** **14 28 58.8 -3.1**
1.4nm,0.6s,baz=112,slow=6.0,SNR=8.7
KSH Kashi 82.47 311 *e*P P 14 29 11.9 +4.2
KSH pP pP 14 29 25.1 +7.0
KSH S **S** **14 39 27.3 +5.1**
KSH PMZ
91nm,4.8s
KSH LN
99nm,4.7s
KSH LE
110nm,5.3s
KSH LZ
220nm,5.6s
KTH Kantishna Hill 82.54 23 *e*P **P** **14 29 05.8 -1.6**
9.5nm,1.0s
TRF Thorofare Moun 82.73 23 *e*P **P** **14 29 06.6 -2.0**
5.3nm,0.8s
QSPA South Pole Qui 83.33 180 *e*P **P** **14 29 12.3 +0.7**
4.5nm,0.8s
MCK McKinley 83.40 23 *e*P **P** **14 29 10.6 -1.2**
19nm,0.9s
KURK Kurchatov 83.86 323 *e*P **P** **14 29 11.6 -2.8**
4.6nm,1.0s
AAK Ala-Archa 84.33 314 *e*P **P** **14 29 16.3 -1.0**
1.9nm,0.8s
COLA College 84.37 22 *e*P **P** **14 29 15.2 -1.5**
11nm,0.9s
ILAR Eielson Array 84.68 22 P **P** **14 29 16.1 -2.2**
9.2nm,0.9s,baz=252,slow=5.1,SNR=51
COLD Coldfoot 84.71 20 *e*P **P** **14 29 19.0 +0.6**
5.4nm,0.9s
EGAK Eagle 86.91 23 *e*P **P** **14 29 29.4 +0.1**
12nm,1.0s
HYT Haines Junctio 87.08 28 *e*P **P** **14 29 32.1 +1.7**
KKAR Karatay Array 87.29 314 *e*P **P** **14 29 30.0 -1.7**
2.4nm,0.7s
BVAR Borovoye Array 89.39 323 LR LR 15 11 06.1
comp=Z,17nm,18.7s,baz=109,slow=37
INK Inuvik 90.95 21 P **P** **14 29 47.2 -1.1**
3.9nm,1.0s,baz=253,slow=4.2,SNR=13
NVAR Mina Array Bea 94.95 52 P **P** **14 30 06.8 -1.0**
3.6nm,0.9s,baz=264,slow=6.0,SNR=14
YKA Yellowknife Ar 98.07 28 P **P** **14 30 20.3 -0.8**
0.5nm,0.6s,baz=272,slow=4.6,SNR=13
PDAR Pinedale Array 101.71 48 P **Pdif** **14 30 38.2 +0.1**
2.0nm,1.0s,baz=247,slow=2.0,SNR=7.6
GERES GERESS Array B 124.42 327 PKP **PKPdf** **14 35 43.4 -0.6**
0.9nm,0.5s,baz=50,slow=1.3,SNR=8.8
TORD Torodi Ar. Bea 148.70 284 PKPbc **PKPbc** **14 36 32.3 -0.7**
9.0nm,0.8s,baz=75,slow=2.4,SNR=40
BDFB Brasilia 151.20 140 PKPbc **PKPbc** **14 36 41.4 +2.1**
2.5nm,0.5s,baz=140,slow=4.9,SNR=3.3

GUC 06 14:17:52.3±0.4, 33°99S×72°35W, h55km±23km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCH	**Cerro Calan**	**1.62**	**69**	*e*P	Pn	14 18 19.5	+0.8
CLCH				*i* P		14 18 19.7	
CLCH				*i* S	Sn	14 18 40.0	+1.3
CLCH				*e*S		14 18 40.2	
CLCH				AML	AML	14 19 00.1	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.63**	**59**	*i* P	Pn	14 18 19.4	+0.7
PEL				*i* S	Sn	14 18 39.8	+1.2
PEL				AML	AML	14 18 49.8	
	comp=E,3μm,0.4s						
YECH	**El Yeso**	**1.92**	**81**	*i* P	Pn	14 18 24.2	+1.3
YECH				*i* S	Sn	14 18 48.4	+2.2

*IDC **06** 14:33:30.7±1.9, 2°.53S×99°.62E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/31, mbtmp4.0/8, Error ellipse: s-maj=67.2km s-min=18.7km az=59.0*
*DJA **06** 14:33:32.7±1.1, 3°S±5°×10°0E±1°0, h10km, M3.9/5, MLv3.9/5*
*NEIC **06** 14:33:34.6±3.8, 2°.48S×99°.63E, h28km±24km, mb4.2/2, Error ellipse: s-maj=25.3km s-min=6.0km az=61.0*
ISC 06 14:33:35.2±0.9, 2°.48S±0°.08×99°.7E±0°.1, h32km, n31, σ1s19/27, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.76**	**28**	P	**Pn**	**14 34 03.5**	**0.0**
PDSI				S	**Sb**	**14 34 29.1**	**+0.4**
SDSI	**Sungai Dareh**	**2.36**	**49**	P	**Pn**	**14 34 13.1**	**+1.4**
BKNI	**Bangkinang**	**3.12**	**27**	*e*Pn	**Pn**	**14 34 22.1**	**-0.1**
MNSI	**Mandailing Nat**	**3.26**	**359**	P	**Pn**	**14 34 25.0**	**+0.9**
MNAI	**Manna**	**3.79**	**120**	P	**Pn**	**14 34 31.8**	**+0.3**
MNAI	**Manna**	**3.79**	**120**	*e*P	**Pn**	**14 34 31.7**	**+0.3**
KULM	**Kulim**	**7.79**	**7**	P	**Pn**	**14 35 25.8**	**-0.6**
CISI	**Cisompet, Garu**	**9.57**	**122**	*e*P	**Pn**	**14 35 51.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**20.82**	**358**	P	**P**	**14 38 13.8**	**-0.4**
	1.5nm,0.6s,baz=187,slow=10,SNR=15						
LUWI	**Luwuk**	**23.16**	**87**	P	**P**	**14 38 39.1**	**-0.1**
LUWI	**Luwuk**	**23.16**	**87**	*e*P	**P**	**14 38 39.2**	**-0.1**
	743nm,0.4s						
GTOI	**Gorontalo**	**23.56**	**83**	P	**P**	**14 38 40.8**	**-2.4**
KMSI	**Cibinong**	**24.52**	**83**	P	**P**	**14 38 47.5**	**-4.6**
H08S2	**Diego Garcia H**	**27.52**	**258**	T	T	15 07 55.4	
	baz=80,slow=75,SNR=232						
H08S3	**Diego Garcia H**	**27.52**	**258**	T	T	15 07 55.1	
	baz=80,slow=75,SNR=265						
H08S1	**Diego Garcia H**	**27.54**	**258**	T	T	15 07 57.7	
	baz=80,slow=75,SNR=261						
H01W3	**Cape Leeuwin H**	**34.94**	**159**	T	T	15 17 28.5	
	baz=335,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**34.95**	**159**	T	T	15 17 27.9	
	baz=335,slow=76,SNR=8.4						
H01W1	**Cape Leeuwin H**	**34.96**	**159**	T	T	15 17 27.9	
	baz=335,slow=76,SNR=6.2						
WRA	**Warramunga Arr**	**38.06**	**120**	P	**P**	**14 40 50.9**	**-0.2**
	1.1nm,0.4s,baz=306,slow=9.1,SNR=34						
WRAB	**Tennant Creek**	**38.06**	**120**	*e*P	**P**	**14 40 51.0**	**-0.2**
	3.7nm,0.6s						
WRAB				*e*		14 41 00.4	
WB2	**Warramunga Arr**	**38.07**	**120**	*e*P	**P**	**14 40 51.0**	**-0.2**
ASAR	**Alice Springs**	**39.26**	**125**	P	**P**	**14 41 01.3**	**+0.1**
	0.7nm,0.5s,baz=299,slow=8.1,SNR=14						
KSAR	**Wonju Array Be**	**47.59**	**31**	P	**P**	**14 42 08.4**	**+0.4**
KSRS	**Korea Array**	**47.61**	**31**	P	**P**	**14 42 08.4**	**+0.2**
	1.6nm,0.7s,baz=229,slow=8.2,SNR=4.4						
SONM	**Songino Array**	**50.46**	**6**	P	**P**	**14 42 30.8**	**+0.7**
	0.9nm,0.4s,baz=190,slow=8.8,SNR=16						
SONM				PcP	**PcP**	**14 43 48.4**	**+0.5**
	0.5nm,0.8s,baz=174,slow=4.8,SNR=3.3						
MKAR	**Makanchi Array**	**51.40**	**345**	P	**P**	**14 42 37.6**	**+0.6**
	0.9nm,0.5s,baz=158,slow=8.4,SNR=13						
USRK	**Ussuriysk Ar.**	**54.75**	**28**	P	**P**	**14 43 02.7**	**+1.0**
	2.7nm,0.5s,baz=227,slow=3.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**57.58**	**350**	P	**P**	**14 43 22.0**	**+0.3**
	2.8nm,0.7s,baz=180,slow=5.2,SNR=15						
ABKAR	**Akbulak array**	**61.89**	**332**	*e*P	**P**	**14 43 50.8**	**-0.7**
	0.9nm,0.8s						
TXAR	**Lajitas Array**	**145.30**	**37**	PKPbc	**PKPdf**	**14 53 11.0**	**+0.3**
	2.3nm,0.6s,baz=275,slow=1.0,SNR=34						

*NEIC **06** 14:36:27.0, 16°.97N×100°.84W, h13km, MD4.0(MEX), After MEX.*
MEX 06 14:36:27.0±0.6, 16°.97N×100°.84W, h13km±10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.55**	**82**	*i* P	Pg	14 36 36.3	-1.6
CAIG				*e*S	Sg	14 36 43.6	-1.6
CAIG	**El Cayaco**	**0.55**	**82**	*i* P	Pg	14 36 36.3	-1.6
CAIG				*e*S	Sg	14 36 43.6	-1.6
ZIIG	**Zihuatanejo**	**0.87**	**317**	*e*P	Pg	14 36 41.3	-2.5
ZIIG				*e*S	Sg	14 36 51.8	-3.5
ZIIG	**Zihuatanejo**	**0.87**	**317**	*e*P	Pg	14 36 41.3	-2.5
ZIIG				*e*S	Sg	14 36 51.8	-3.5
ACX	**Acapulco**	**0.94**	**96**	*e*P	Pb	14 36 44.4	-0.8
ACX				*i* S	Sb	14 36 56.2	-1.5
ACX	**Acapulco**	**0.94**	**96**	*e*P	Pb	14 36 44.4	-0.8
ACX				*i* S	Sb	14 36 56.2	-1.5
ARIG	**Puente Sto Nin**	**1.38**	**20**	*e*P	Pn	14 36 47.8	-4.2
ARIG				*e*S	Sn	14 37 04.3	-5.9
MEIG	**Mezcala**	**1.50**	**51**	*e*P	Pn	14 36 50.7	-3.0
MEIG				*e*S	Sn	14 37 09.1	-4.1
MEIG	**Mezcala**	**1.50**	**51**	*e*P	Pn	14 36 50.7	-3.0
MEIG				*e*S	Sn	14 37 09.1	-4.1
PLIG	**Platanillo**	**1.90**	**42**	*e*P	Pn	14 36 55.9	-3.3
PLIG				*i* S	Sn	14 37 18.8	-4.4
PLIG	**Platanillo**	**1.90**	**42**	*e*P	Pn	14 36 55.9	-3.3
PLIG				*i* S	Sn	14 37 18.8	-4.4
YAIG	**Yautepec**	**2.52**	**42**	*e*P	Pn	14 37 05.4	-2.5
YAIG				*i* S	Sn	14 37 33.9	-4.8
YAIG	**Yautepec**	**2.52**	**42**	*e*P	Pn	14 37 05.4	-2.5
YAIG				*i* S	Sn	14 37 33.9	-4.8

IDC 06 14:41:05.7±501.0, 56°.60N×13°.03E, h0km, Error ellipse: s-maj=209.7km s-min=146.4km az=154.0, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**7.77**	**177**	*i*		15 30 30.0	
	baz=357,slow=332,SNR=0.6						
I43RU	**DUBNA INFRASON**	**13.29**	**79**	*i*		16 01 42.4	
	baz=279,slow=318,SNR=0.2						
I46RU	**ZALESOVO INFRA**	**39.27**	**63**	*i*		18 42 10.0	
	baz=304,slow=336,SNR=0.6						

IDC 06 14:54:11.2±3.2, 33°.95S×178°.68W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=72.9km s-min=36.5km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.48**	**217**	Pn	Pn	14 55 34.2	0.0
	4.6nm,0.3s,baz=284,slow=1.8,SNR=45						
URZ				Sn	Sn	14 56 38.0	0.0
	3.6nm,0.3s,baz=187,slow=7.3,SNR=8.5						
ASAR	**Alice Springs**	**42.47**	**271**	P	P	15 02 08.2	0.0
	0.7nm,0.6s,baz=111,slow=7.5,SNR=16						
WRA	**Warramunga Arr**	**43.78**	**276**	P	P	15 02 18.6	-0.2
	0.6nm,0.4s,baz=118,slow=7.4,SNR=24						
FINES	**FINESS Array B**	**148.24**	**338**	PKPbc	PKPbc	15 13 57.7	-0.6
	1.1nm,0.7s,baz=97,slow=4.6,SNR=4.8						

NEIC 06 14:58:37.5, 32°.62N×115°.77W, h2km, ML3.5(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.76**	**275**	*e*Pg	Pg	14 58 52.1	-0.1
BAR				*e*Sg	Sg	14 59 01.7	-0.4
GLA	**Glamis**	**0.90**	**61**	*e*Pg	Pg	14 58 53.3	-1.6
GLA				*e*Sg	Sg	14 59 05.1	-1.6
PFO	**Pinyon Flats O**	**1.14**	**330**	*e*Pg	Pg	14 58 57.5	-2.1
PFO				*e*Sg	Sg	14 59 12.6	-2.0
LDFC	**Landfair**	**2.51**	**12**	*e*Pn	Pn	14 59 20.3	+0.8
PASC	**Pasadena Art C**	**2.54**	**308**	*e*Pg	Pb	14 59 22.9	-1.0
214A	**Organ Pipe Nat**	**2.59**	**104**	*e*Pn	Pb	14 59 23.0	-1.7
GSC	**Goldstone, Bar**	**2.81**	**342**	*e*Pn	Pn	14 59 21.3	-2.2
OSI	**Osito Audit: C**	**3.17**	**310**	*e*Pg	Pb	14 59 34.5	-0.1
ISA	**Isabella, Lake**	**3.77**	**324**	*e*Pn	Pn	14 59 35.2	-1.6
ISA				*e*Pg	Pb	14 59 46.1	+1.2
ISA				*e*Sg	Sb	15 00 33.9	+2.7
SHPR	**Sheep Range**	**3.91**	**7**	*e*Pn	Pn	14 59 37.6	-1.2
DAC	**Darwin (Calif)**	**3.95**	**338**	*e*Pn	Pn	14 59 37.0	-2.3
TUC	**Tucson**	**4.22**	**93**	*e*Pn	Pn	14 59 40.0	-3.0
WUAZ	**Wupatki**	**4.65**	**50**	Pn	Pn	14 59 48.5	-0.6
CCUT	**Cedar City**	**5.30**	**21**	*e*Pn	Pn	14 59 57.8	-0.2
	7.8nm,1.0s						
ARUT	**Antelope Range**	**5.50**	**20**	*e*Pg	Pg	15 00 21.8	-1.3
	0.6nm,0.5s						
W18A	**Petrified Fore**	**5.60**	**62**	*e*Pn	Pn	15 00 01.9	-0.2
121A	**Cookes Peak, D**	**6.74**	**89**	*e*Pn	Pn	15 00 16.1	-1.6
	13nm,0.5s						

*ISCJB **06** 15:10:59.5±0.4, 0°.32N±0°.06×122°.35E±0°.05, h148km, mb3.6/5, Error ellipse: s-maj=8.6km s-min=7.0km az=26.7*
*IDC **06** 15:11:00.6±8.7, 0°.26N×122°.29E, h144km±85km, mb3.3/5, mb1 3.5/5, mb1mx3.2/23, mbtmp3.7/5, Error ellipse: s-maj=72.0km s-min=15.0km az=60.0*
*DJA **06** 15:11:01.5±0.6, 0°N±4°×12°2E±°, h117km±6km, M3.9/11, MLv3.9/11*
ISC 06 15:11:01.2±0.7, 0°.36N±0°.07×122°.31E±0°.05, h148km, n20, σ2s16/26, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.39**	**288**	P	**Pn**	**15 11 18.6**	**-3.1**
MRSI				S	**Sn**	**15 11 32.2**	**-5.2**
GTOI	**Gorontalo**	**0.75**	**69**	P	**Pn**	**15 11 21.5**	**-2.3**
GTOI				S	**Sn**	**15 11 37.8**	**-3.2**
APSI	**Ampana**	**1.42**	**208**	P	**Pn**	**15 11 28.4**	**-1.4**
LUWI	**Luwuk**	**1.47**	**162**	P	**Pn**	**15 11 28.9**	**-1.3**
LUWI				S	**Sn**	**15 11 50.8**	**-1.7**
KMSI	**Cibinong**	**1.69**	**83**	P	**Pn**	**15 11 32.3**	**-0.3**
KMSI				S	**Sn**	**15 11 55.6**	**-1.0**
MPSI	**Mapaga**	**2.41**	**269**	P	**Pn**	**15 11 39.9**	**-1.2**
PCI	**Palu**	**2.77**	**243**	P	**Pn**	**15 11 43.4**	**-2.2**
TTSI	**Tana Toraja**	**4.20**	**216**	P	**Pn**	**15 12 04.0**	**0.0**
SANI	**Sanana**	**4.39**	**123**	P	**Pn**	**15 12 04.4**	**-2.1**
WRA	**Warramunga Arr**	**23.37**	**150**	P	**P**	**15 15 55.6**	**-1.0**
	0.7nm,0.4s,baz=324,slow=11,SNR=37						
WRA				pP	**pP**	**15 16 27.9**	**+2.7**
	0.4nm,0.5s,baz=337,slow=9.7,SNR=2.0						
ASAR	**Alice Springs**	**26.41**	**156**	P	**P**	**15 16 23.4**	**-0.7**
	0.3nm,0.5s,baz=344,slow=15,SNR=15						
ASAR				PcP	**PcP**	**15 19 45.2**	**-0.8**
	0.1nm,0.3s,baz=346,slow=2.1,SNR=7.3						
CMAR	**Chiang Mai Arr**	**29.16**	**309**	P	**P**	**15 16 49.0**	**+0.4**
	0.8nm,0.7s,baz=131,slow=7.1,SNR=8.4						
TAPN	**Taplejung**	**42.69**	**312**	*e*P	**P**	**15 18 44.7**	**+0.7**
	2.8nm,0.4s						
RAMN	**Ramite**	**43.31**	**311**	*e*P	P	15 18 53.8	+4.9
JIRN	**Jiri**	**44.00**	**311**	*e*P	**P**	**15 18 55.3**	**+0.8**
	3.8nm,0.2s						
GUN	**Gumba**	**44.36**	**311**	*e*P	**P**	**15 18 58.1**	**+0.7**
	7.4nm,0.4s						
GKN	**Gorkha**	**45.35**	**311**	*e*P	**P**	**15 19 06.5**	**+1.5**
DANN	**Dangsing**	**46.19**	**310**	*e*P	**P**	**15 19 12.2**	**+0.4**
SONM	**Songino Array**	**49.27**	**346**	P	**P**	**15 19 35.2**	**+0.3**
	0.7nm,0.5s,baz=163,slow=9.2,SNR=9.8						
MKAR	**Makanchi Array**	**57.95**	**329**	P	**P**	**15 20 38.5**	**+0.4**
	1.6nm,0.6s,baz=122,slow=9.0,SNR=18						
MKAR				pP	**pP**	**15 21 17.5**	**+4.7**
	0.4nm,0.5s,baz=118,slow=8.8,SNR=3.7						

*NEIC **06** 15:13:19.2, 32°.72N×115°.90W, h0km, mb4.1/2, MD4.1(MEX), ML3.9(PAS), After PAS.*
NEIC Felt at San Diego and Vista.
*IDC **06** 15:13:20.3±2.3, 32°.84N×115°.63W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.4/26, mbtmp3.3/5, ML3.4/3, MS3.1/2, Ms1 3.0/2, ms1mx2.7/17, Error ellipse: s-maj=38.3km s-min=12.1km az=43.0*
*MEX **06** 15:13:21.2±0.4, 32°.95N×116°.05W, h15km±20km, MD3.9*
ISC 06 15:13:18.9±1.3, 32°.75N±0°.03×115°.89W±0°.03, h1km±12km, n37, σ0s89/44, mb3.8/4, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**0.67**	**264**	*e*Pg	**Pg**	**15 13 32.1**	**+0.5**
BAR				*e*Sg	**Sg**	**15 13 41.0**	**+0.7**
CBX	**Cerro Bola**	**0.79**	**236**	*i* P	**Pg**	**15 13 34.2**	**+0.1**
CBX				*i* S	**Sg**	**15 13 44.7**	**+0.4**
CBX	**Cerro Bola**	**0.79**	**236**	*i* P	**Pg**	**15 13 34.2**	**+0.1**
CBX				*i* S	**Sg**	**15 13 44.7**	**+0.4**
GLA	**Glamis**	**0.94**	**71**	*e*Pg	**Pg**	**15 13 36.3**	**-0.7**
GLA				*e*Sg	**Sg**	**15 13 49.8**	**+0.5**
PFO	**Pinyon Flats O**	**0.98**	**331**	*e*Pg	**Pg**	**15 13 37.9**	**+0.2**
PFO				*e*Sg	**Sb**	**15 13 51.5**	**-0.8**
SPIG	**San Pedro Mart**	**1.74**	**168**	*i* P	**Pn**	**15 13 51.2**	**+0.6**
SPIG				*i* S	**Sb**	**15 14 14.1**	**-0.3**
SPIG	**San Pedro Mart**	**1.74**	**168**	*i* P	**Pn**	**15 13 51.2**	**+0.6**
MWC	**Mount Wilson**	**2.33**	**310**	*e*Pn	**Pb**	**15 13 59.9**	**-2.1**
MWC				*e*Sg	**Sb**	**15 14 32.1**	**+0.8**
PASC	**Pasadena Art C**	**2.38**	**307**	*e*Pn	**Pn**	**15 13 59.5**	**+0.2**
PASC				*e*Sg	**Sb**	**15 14 32.8**	**+0.1**
LDFC	**Landfair**	**2.41**	**15**	*e*Pn	**Pn**	**15 13 58.9**	**-0.7**
GSC	**Goldstone, Bar**	**2.65**	**344**	Pn	**Pn**	**15 14 01.9**	**-1.0**
GSC				*e*Pg	**Pg**	**15 14 09.0**	**-0.8**
214A	**Organ Pipe Nat**	**2.72**	**106**	*e*Pn	Pn	15 13 59.2	-4.7
OSI	**Osito Audit: C**	**3.01**	**309**	*e*Pn	**Pn**	**15 14 07.2**	**-0.6**
OSI				*e*Pg	**Pb**	**15 14 14.2**	**+0.8**
ISA	**Isabella, Lake**	**3.61**	**324**	*e*Pn	**Pn**	**15 14 15.7**	**-0.4**
ISA				*e*Pg	**Pg**	**15 14 26.3**	**-1.8**
DAC	**Darwin (Calif)**	**3.79**	**339**	*e*Pn	**Pn**	**15 14 18.1**	**-0.5**
SHPR	**Sheep Range**	**3.79**	**9**	*e*Pn	**Pn**	**15 14 18.5**	**-0.2**
SHPR				Pg	**Pg**	**15 14 32.5**	**+0.9**
TUC	**Tucson**	**4.33**	**94**	*e*Pn	**Pn**	**15 14 24.5**	**-1.6**
WUAZ	**Wupatki**	**4.65**	**52**	*e*Pn	**Pn**	**15 14 30.3**	**-0.2**
CCUT	**Cedar City**	**5.21**	**23**	*e*Pn	**Pn**	**15 14 38.8**	**+0.5**
ARUT	**Antelope Range**	**5.41**	**21**	*e*Pn	**Pn**	**15 14 41.6**	**+0.7**
TPH	**Tonopah**	**5.42**	**349**	Pg	Pg	15 14 59.9	-2.9
R11A	**Troy Canyon, C**	**5.59**	**2**	*e*Pn	Pn	15 14 46.0	+2.6
R11A				*e*Pg	**Pg**	**15 15 05.6**	**-0.5**
W18A	**Petrified Fore**	**5.63**	**64**	*e*Pn	**Pn**	**15 14 44.4**	**+0.3**
NVAR	**Mina Array Bea**	**6.00**	**342**	Pn	**Pn**	**15 14 49.7**	**+0.6**
	0.2nm,0.3s,baz=160,slow=16,SNR=4.5						
NVAR				Pg	Pg	15 15 10.3	-3.5
	0.7nm,0.3s,baz=159,slow=18,SNR=13						
NVAR				Lg	Lg	15 16 29.9	
	0.2nm,0.3s,baz=163,slow=35,SNR=2.1						
WAKR	**Walker**	**6.42**	**334**	*e*Pg	Pg	15 15 17.8	-4.3
121A	**Cookes Peak, D**	**6.84**	**90**	*e*Pn	**Pn**	**15 14 59.3**	**-1.3**
LAZ	**Ladron**	**7.49**	**75**	*e*Pn	**Pn**	**15 15 09.8**	**+0.3**
MVCO	**Mesa Verde**	**7.52**	**52**	Pn	**Pn**	**15 15 10.9**	**+0.9**
SRU	**San Rafael Swe**	**7.69**	**33**	*e*Pn	**Pn**	**15 15 13.5**	**+1.2**
PV01	**Paradox Valley**	**8.03**	**46**	Pn	**Pn**	**15 15 18.5**	**+1.6**
ANMO	**Albuquerque**	**8.14**	**72**	*e*Pn	**Pn**	**15 15 19.2**	**+0.7**
TXAR	**Lajitas Array**	**11.02**	**105**	Pn	**Pn**	**15 15 58.0**	**+0.1**
	0.2nm,0.3s,baz=288,slow=14,SNR=12						
TXAR				Lg	Lg	15 19 01.9	
	0.1nm,0.3s,baz=292,slow=28,SNR=3.3						
TXAR				LR	LR	15 20 20.4	
	comp=Z,65nm,20.2s,baz=0.0,slow=39						
PDAR	**Pinedale Array**	**11.18**	**25**	Pn	Pn	15 16 02.6	+2.5
	0.0nm,0.3s,baz=190,slow=15,SNR=6.3						
AGMN	**Agassiz Nation**	**21.65**	**38**	*e*P	**P**	**15 18 12.1**	**+1.3**
	4.8nm,0.3s						
ULM	**Lac du Bonnet**	**22.91**	**34**	P	**P**	**15 18 25.6**	**+1.4**
	2.5nm,0.9s,baz=235,slow=14,SNR=3.3					

JAGI	**Jajag, Banyuwa**	**3.85**	**52**	P		**Pn**	**15 15 59.8**	**+1.2**
JAGI				S		**Sn**	**15 16 41.1**	**-1.6**
CMJI	**Cimerak**	**4.03**	**319**	P		**Pn**	**15 16 01.5**	**+0.5**
IGBI	**Denpasar**	**4.49**	**63**	P		Pn	15 16 09.4	+2.0
SRBI	**Singaraja**	**4.92**	**56**	P		**Pn**	**15 16 15.1**	**+1.7**
CGJI	**Cibinong**	**6.81**	**308**	P		**Pn**	**15 16 39.9**	**+0.6**
WRA	**Warramunga Arr**	**24.13**	**115**	P		**P**	**15 20 13.2**	**-1.5**
	0.6nm,0.7s,baz=286,slow=11,SNR=10							
ASAR	**Alice Springs**	**25.18**	**123**	P		**P**	**15 20 23.5**	**-0.8**
	0.5nm,0.5s,baz=298,slow=9.1,SNR=17							
CMAR	**Chiang Mai Arr**	**31.51**	**338**	P		**P**	**15 21 21.6**	**+0.9**
	0.4nm,0.7s,baz=181,slow=8.1,SNR=4.9							
CMAR				LR		LR	15 34 49.9	
	comp=Z,7.7nm,21.0s,baz=340,slow=38							
MKAR	**Makanchi Array**	**62.92**	**338**	P		**P**	**15 25 24.8**	**+0.2**
	0.2nm,0.4s,baz=153,slow=8.2,SNR=5.2							

*ISCJB **06** 15:22:27.0±0.3,5.93S±0.04×128.09E±0.04, h400km, mb3.4/7, Error ellipse: s-maj=6.1km s-min=5.5km az=160.2*
*IDC **06** 15:22:28.4±1.7,5.99S×127.93E, h400km±18km, mb3.2/7, mb1 3.5/11, mb1mx3.4/24, mbtmp4.3/11, Error ellipse: s-maj=22.7km s-min=9.8km az=74.0*
*DJA **06** 15:22:28.3±0.3,6°S±3°×12°8E±°, h380km±7km, M4.7/13, mB5.1/4, mb4.3/13, MLv4.9/4, Mw(mB)4.4/4*

ISC 06 15:22:27.9±0.5,5.95S±0.06×128.07E±0.06, h400km, n33, σ1§13/41, mb3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.31**	**52**	P		**Pn**	**15 23 24.7**	**-1.3**
BNDI				S		**S**	**15 24 11.7**	**-1.1**
MSAI	**Masohi**	**2.72**	**18**	P		**Pn**	**15 23 26.9**	**-2.1**
NLAI	**Namlea**	**2.86**	**340**	P		**Pn**	**15 23 29.3**	**-0.8**
SAUI	**Saumlaki**	**3.79**	**122**	P		**Pn**	**15 23 38.1**	**+0.1**
SAUI				S		**S**	**15 24 31.4**	**-3.4**
SANI	**Sanana**	**4.40**	**332**	P		**Pn**	**15 23 42.0**	**-1.9**
FAKI	**Fak Fak**	**5.14**	**54**	P		**Pn**	**15 23 50.3**	**-1.1**
FAKI				S		S	15 24 52.1	-7.2
LBMI	**Labuha**	**5.31**	**354**	P		**Pn**	**15 23 52.4**	**-0.8**
SOEI	**Soe**	**5.34**	**225**	P		**Pn**	**15 23 53.8**	**+0.2**
BATI	**Baumata**	**6.08**	**226**	P		**Pn**	**15 24 01.9**	**+0.4**
BATI	**Baumata**	**6.08**	**226**	P		**Pn**	**15 24 01.3**	**-0.2**
	23nm,0.3s,baz=122,slow=0.9,SNR=50							
BATI				S		**S**	**15 25 14.9**	**-2.7**
	8.9nm,0.3s,baz=291,slow=21,SNR=6.9							
EDFI	**Ende, Flores**	**6.92**	**246**	P		**P**	**15 24 11.1**	**-0.3**
RKPI	**Ransiki, Papua**	**7.52**	**54**	P		**P**	**15 24 18.0**	**0.0**
BKSI	**Bulukumba**	**7.94**	**274**	P		**P**	**15 24 23.0**	**+0.3**
BNSI	**Bone**	**8.08**	**281**	P		**P**	**15 24 24.8**	**+0.5**
	28nm,1.1s							
SPSI	**Sidrap Palu**	**8.50**	**283**	P		**P**	**15 24 29.4**	**+0.4**
	40nm,0.6s							
WSI	**Waingapu**	**8.54**	**244**	P		**P**	**15 24 30.0**	**+0.6**
	169nm,0.6s,0.8nm							
TTSI	**Tana Toraja**	**8.72**	**289**	P		**P**	**15 24 32.5**	**+1.1**
	23nm,0.8s							
MRSI	**Marisa**	**8.85**	**316**	P		**P**	**15 24 32.2**	**-0.6**
	18nm,0.9s							
SRPI	**Serui, Papua**	**9.10**	**64**	P		**Pn**	**15 24 35.6**	**0.0**
	135nm,0.5s,4μm							
WBSI	**Waikabubak, Su**	**9.35**	**246**	P		**P**	**15 24 36.2**	**-2.2**
	28nm,1.0s,11μm							
GENI	**Genyem**	**12.51**	**75**	P		Pn	15 25 18.3	+3.1
JAY	**Jayapura**	**13.05**	**75**	P		**Pn**	**15 25 21.3**	**-0.1**
	1.5nm,0.3s,baz=259,slow=10,SNR=7.1							
BBKI	**Banjar Baru**	**13.42**	**280**	P		**Pn**	**15 25 25.6**	**0.0**
WRA	**Warramunga Arr**	**15.19**	**157**	P		**P**	**15 25 43.3**	**+0.8**
	4.5nm,0.3s,baz=335,slow=11,SNR=402							
WRA				S		**S**	**15 28 22.4**	**-1.2**
	0.5nm,0.3s,baz=340,slow=20,SNR=9.4							
ASAR	**Alice Springs**	**18.49**	**163**	P		**P**	**15 26 18.5**	**+0.8**
	2.6nm,0.3s,baz=342,slow=12,SNR=286							
ASAR				S		**S**	**15 29 28.3**	**+1.2**
	0.4nm,0.3s,baz=339,slow=16,SNR=28							
ASAR				PcP		**PcP**	**15 30 27.7**	**+0.3**
	0.2nm,0.3s,baz=20,slow=3.0,SNR=5.2							
NWAO	**Narrogin (SRO)**	**28.68**	**199**	P		**P**	**15 27 50.0**	**-0.1**
	2.1nm,0.6s,baz=11,slow=7.6,SNR=4.3							
CMAR	**Chiang Mai Arr**	**37.60**	**311**	P		**P**	**15 29 06.5**	**0.0**
	0.2nm,0.3s,baz=144,slow=7.8,SNR=5.0							
CMAR				PcP		**PcP**	**15 31 15.9**	**+1.2**
	0.2nm,0.3s,baz=177,slow=1.8,SNR=4.1							
KSRS	**Korea Array**	**43.18**	**360**	P		**P**	**15 29 52.0**	**+0.7**
	0.6nm,0.5s,baz=172,slow=8.6,SNR=3.4							
SONM	**Songino Array**	**56.86**	**343**	P		**P**	**15 31 32.6**	**-0.1**
	0.8nm,0.7s,baz=162,slow=7.9,SNR=9.6							
SONM				PcP		**PcP**	**15 32 23.3**	**+0.3**
	0.3nm,0.8s,baz=136,slow=3.9,SNR=2.4							
MKAR	**Makanchi Array**	**66.31**	**327**	P		**P**	**15 32 35.2**	**+0.2**
	1.6nm,0.5s,baz=123,slow=8.0,SNR=33							
MKAR				PcP		**PcP**	**15 33 01.3**	**-0.1**
	0.4nm,0.5s,baz=125,slow=4.5,SNR=4.2							
ZALV	**Zalesovo Beam**	**69.81**	**334**	P		**P**	**15 32 56.1**	**-0.2**
	1.5nm,0.5s,baz=130,slow=4.7,SNR=9.4							
SEY	**Seymchan**	**71.15**	**11**	P		**P**	**15 33 05.2**	**+1.1**
	1.0nm,0.7s,baz=223,slow=6.5,SNR=12							
TORD	**Torodi Ar. Bea**	**126.72**	**282**	PKP		**PKPdf**	**15 40 45.3**	**-0.4**
	0.5nm,0.7s,baz=92,slow=2.3,SNR=2.9							

*ISCJB **06** 15:32:18.6±1.0,63.5N±0.2×19.7W±0.3, h10km, mb3.4/5, MS3.0/1, Error ellipse: s-maj=32.5km s-min=19.9km az=13.8*
*IDC **06** 15:32:19.0±1.1,63.55N×19.75W, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/31, mbtmp3.4/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/44, Error ellipse: s-maj=35.9km s-min=22.8km az=17.0*

ISC 06 15:32:20.5±1.1, 63.6N±0.2×19.7W±0.2, h10km, n7, σ1§03/6, mb3.5/5, Iceland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FINES	**FINESS Array B**	**20.91**	**75**	P		**P**	**15 37 01.4**	**-1.2**
	2.0nm,0.8s,baz=287,slow=10.0,SNR=4.2							
YKA	**Yellowknife Ar**	**39.26**	**313**	P		**P**	**15 39 49.1**	**+0.4**
	0.1nm,0.5s,baz=45,slow=9.3,SNR=4.5							
GNI	**Garni**	**43.76**	**91**	LR		LR	15 58 13.6	
	comp=Z,18nm,19.1s,baz=66,slow=36							
TORD	**Torodi Ar. Bea**	**52.55**	**153**	P		**P**	**15 41 34.0**	**+0.2**
	0.5nm,0.8s,baz=340,slow=7.2,SNR=3.3							
PDAR	**Pinedale Array**	**52.71**	**292**	P		**P**	**15 41 34.3**	**-0.9**
	0.7nm,0.4s,baz=58,slow=8.6,SNR=3.3							
MKAR	**Makanchi Array**	**54.15**	**56**	P		**P**	**15 41 45.7**	**+0.3**
	0.2nm,0.7s,baz=316,slow=6.0,SNR=3.6							
CMAR	**Chiang Mai Arr**	**85.55**	**57**	P		**P**	**15 44 59.5**	**+0.8**
	0.4nm,0.7s,baz=314,slow=7.0,SNR=4.0							

*ISCJB **06** 15:40:52.4±0.6,36.84N±0.04×71.26E±0.07, h200km, Error ellipse: s-maj=8.9km s-min=4.7km az=153.8*
*NNC **06** 15:40:57.3±1.6,37.11N×71.20E, h180km, mb2.5, mpv3.4, Error ellipse: s-maj=13.9km s-min=5.9km az=166.0*

ISC 06 15:40:53.4±1.1, 36.92N±0.08×71.17E±0.07, h200km, n16, σ1§75/21, 5C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**2.64**	**316**	⇓P		**Pn**	**15 41 39.7**	**+0.7**
	8.2nm,0.3s							
DZET				⇓S		**Sn**	**15 42 15.1**	**+0.5**
	91nm,0.6s							
SFK	**Sufi-Kurgan**	**3.59**	**30**	⇑P		**Pn**	**15 41 51.5**	**+1.2**
	4.0nm,0.3s							
SFK				⇓S		**Sn**	**15 42 34.2**	**-0.7**
	23nm,0.2s							
MNAS	**Manas**	**5.65**	**10**	⇑P		**Pn**	**15 42 17.8**	**+1.6**
	2.5nm,0.3s							
MNAS				⇓S		**Sn**	**15 43 20.7**	**-1.0**
	25nm,0.8s							
KK31	**Karatay Array**	**6.19**	**356**	P		**Pn**	**15 42 24.9**	**+1.8**
	0.8nm,0.2s,baz=177,slow=12,SNR=25							
KK31				⇓S		**Sn**	**15 43 32.7**	**-1.5**
	6.3nm,0.6s,baz=170,slow=29,SNR=3.9							
AAK	**Ala-Archa**	**6.25**	**23**	⇑P		**Pn**	**15 42 25.2**	**+1.2**
	1.7nm,0.7s							
AAK				⇑S		**Sn**	**15 43 35.0**	**-0.7**
	5.6nm,0.7s							
TKM2	**Tokmak 2**	**6.89**	**28**	P		**Pn**	**15 42 33.9**	**+1.6**
TKM2				S		**Sn**	**15 43 51.4**	**+0.7**
PYUN	**Piuthan**	**13.29**	**128**	*e*P		Pn	15 43 52.0	-2.8
	34nm,0.3s							
DANN	**Dangsing**	**13.61**	**125**	*e*P		Pn	15 43 55.6	-3.3
	6.6nm,0.3s							
GKN	**Gorkha**	**14.42**	**124**	*e*P		Pn	15 44 05.8	-2.9
	6.9nm,0.3s							
AB31	**Akbulak array**	**14.78**	**330**	⇓P		**P**	**15 44 14.4**	**+0.7**
	0.4nm,0.5s,baz=148,slow=11,SNR=15							
AB31				⇓S		**S**	**15 46 53.1**	**-3.7**
	1.2nm,0.6s,baz=148,slow=23,SNR=6.0							
KKN	**Kakani**	**14.99**	**123**	*e*P		**Pn**	**15 44 14.4**	**-1.4**
	9.4nm,0.5s							
PKIN	**Phulchoki**	**15.21**	**124**	*e*P		**Pn**	**15 44 17.1**	**-1.4**
	5.9nm,0.3s							
PKI	**Pulchoki**	**15.22**	**124**	*e*P		**Pn**	**15 44 16.9**	**-1.8**
	9.0nm,0.4s							
JIRN	**Jiri**	**15.69**	**122**	*e*P		**P**	**15 44 22.5**	**-1.8**
	17nm,0.4s							
AKTO	**Aktyubinsk**	**16.48**	**329**	⇑P		**Pn**	**15 44 36.4**	**+3.1**
	1.8nm,0.4s							
AKTO				⇓S		**Sn**	**15 47 37.1**	**-1.6**
	2.7nm,1.2s							
TAPN	**Taplejung**	**16.93**	**120**	*e*P		**P**	**15 44 39.4**	**+1.5**

IDC 06 15:42:40.1±3.8, 40.16S×77.89E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, MS3.6/2, Ms1 3.5/2, ms1mx3.1/10, Error ellipse: s-maj=149.9km s-min=53.7km az=29.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**29.08**	**91**	T		T	16 18 59.9	
	baz=248,slow=74,SNR=99							
H01W3	**Cape Leeuwin H**	**29.09**	**91**	T		T	16 19 00.5	
	baz=248,slow=74,SNR=89							
H01W1	**Cape Leeuwin H**	**29.10**	**91**	T		T	16 19 01.2	
	baz=248,slow=74,SNR=70							
H08S2	**Diego Garcia H**	**32.73**	**350**	T		T	16 24 03.2	
	baz=179							
H08S1	**Diego Carcia H**	**32.73**	**350**	T		T	16 24 11.2	
	baz=173							
H08S3	**Diego Garcia H**	**32.75**	**350**	T		T	16 24 11.2	
	baz=173							
BOSA	**Boshof**	**44.36**	**268**	LR		LR	16 05 12.2	
	comp=Z,56nm,18.5s,baz=162,slow=30							
ASAR	**Alice Springs**	**49.52**	**88**	P		P	15 51 32.9	+0.2
	0.2nm,0.8s,baz=247,slow=5.8,SNR=5.0							
ASAR				PcP		PcP	15 52 54.1	-0.6
	0.3nm,0.7s,baz=224,slow=3.1,SNR=7.1							
WRA	**Warramunga Arr**	**51.95**	**85**	P		P	15 51 50.8	-0.3
	0.6nm,0.9s,baz=240,slow=8.5,SNR=4.6							
WRA				PcP		PcP	15 53 03.4	-0.3
	0.3nm,0.8s,baz=243,slow=2.7,SNR=3.9							
MKAR	**Makanchi Array**	**86.66**	**3**	P		P	15 55 25.3	+0.2
	0.2nm,0.7s,baz=174,slow=6.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**88.11**	**289**	LR		LR	16 32 02.1	
	comp=Z,37nm,19.5s,baz=125,slow=34							

*MEX **06** 16:13:07.3±0.4, 13.84N×91.99W, h30km, MD4.1*
*CASC **06** 16:13:08.4±1.7, 13.79N×91.34W, h22km±12km, MD3.9, ML3.6*

ISC 06 16:13:02.5±2.0, 13.7N±0.1×91.78W±0.08, h35km, n17, σ1§67/27, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCG	**Pacaya**	**1.32**	**59**	*e*P		**Pn**	**16 13 25.3**	**+0.6**
NBG	**Las Nubes**	**1.64**	**58**	*e*P		**Pn**	**16 13 30.8**	**+1.7**
NBG				*e*S		**Sn**	**16 13 49.8**	**+0.7**
RBDL	**Robledal**	**2.07**	**79**	*e*P		**Pn**	**16 13 36.0**	**+1.1**
RTR	**El Retiro**	**2.08**	**85**	*e*P		**Pn**	**16 13 36.4**	**+1.2**
RTR				*e*S		**Sn**	**16 13 58.4**	**-1.6**
SBLS	**San Blas**	**2.10**	**87**	*e*P		**Pn**	**16 13 36.6**	**+1.2**
SBLS				*e*S		**Sn**	**16 13 58.7**	**-1.8**
SNJE	**San Jose**	**2.12**	**86**	*e*P		**Pn**	**16 13 37.1**	**+1.5**
SNJE				*e*S		**Sn**	**16 13 59.1**	**-1.8**
PCIG		**2.41**	**325**	*e*P		**Pn**	**16 13 39.8**	**+0.3**
PCIG				*e*S		**Sn**	**16 14 05.6**	**-2.2**
MRL	**Marmol**	**2.43**	**56**	*e*P		**Pn**	**16 13 41.0**	**+1.2**
BOQS	**Boqueron**	**2.43**	**89**	*e*P		**Pn**	**16 13 41.5**	**+1.5**
BOQS				*e*S		**Sn**	**16 14 07.0**	**-1.7**
MTO2	**Montecristo 2**	**2.44**	**74**	*e*P		**Pn**	**16 13 40.0**	**-0.1**
SNET	**Serv Nac Est T**	**2.48**	**90**	*e*S		**Sn**	**16 14 07.0**	**-2.6**
SNET				AML		AML	16 14 15.1	
	comp=Z,624nm,0.2s							
CCIG	**Comitan**	**2.57**	**352**	*e*P		**Pn**	**16 13 43.4**	**+1.6**
CCIG				*e*S		**Sn**	**16 14 11.4**	**-0.6**
LFU	**La Fuente**	**2.59**	**89**	*e*P		**Pn**	**16 13 43.6**	**+1.5**
LFRS	**El Faro**	**2.65**	**92**	*e*P		**Pn**	**16 13 44.8**	**+2.0**
LFRS				*e*S		**Sn**	**16 14 11.9**	**-1.9**
TGIG		**3.30**	**337**	*e*P		**Pn**	**16 13 53.6**	**+1.7**
TGIG				*e*S		**Sn**	**16 14 28.4**	**-1.5**
VSM	**San Miguel**	**3.42**	**94**	*e*P		**Pn**	**16 13 56.1**	**+2.5**
VSM				*e*S		**Sn**	**16 14 31.2**	**-2.0**
CNCH	**Conchagua**	**3.87**	**96**	*e*P		**Pn**	**16 14 00.9**	**+1.3**

NEIC 06 16:23:23.0, 32.31N×115.34W, h0km, ML3.8(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLA	**Glamis**	**0.86**	**30**	*e*Pg		Pg	16 23 38.9	-0.7
GLA				*e*Sg		Sg	16 23 50.2	-0.6
BAR	**Barrett**	**1.19**	**289**	*e*Pg		Pg	16 23 44.9	-0.9
BAR				*e*Sg		Sg	16 24 00.4	-0.9
PFO	**Pinyon Flats O**	**1.60**	**324**	*e*Pn		Pn	16 23 49.7	-3.1
214A	**Organ Pipe Nat**	**2.17**	**99**	*e*Pn		Pn	16 23 57.8	-2.8
MWC	**Mount Wilson**	**2.97**	**311**	*e*Pg		Pb	16 24 16.5	-0.6
GSC	**Goldstone, Bar**	**3.23**	**338**	*e*Pg		Pg	16 24 25.3	+0.3
W18A	**Petrified Fore**	**5.45**	**58**	*e*Pn		Pn	16 24 45.3	-0.4

*IDC **06** 16:23:55.9±2.3,32.29N×115.38W, h0km, mb3.7/1, mb1 3.7/6, mb1mx3.5/27, mbtmp3.5/6, ML2.9/3, MS3.2/9, Ms1 3.2/9, ms1mx2.9/36, Error ellipse: s-maj=37.2km s-min=10.2km az=36.0*
*ISCJB **06** 16:23:56.1±0.4,32.23N±0.02×115.24W±0.02, h3km±3km, mb3.7/3, MS3.3/4, Error ellipse: s-maj=2.8km s-min=2.4km az=169.9*
*NEIC **06** 16:23:59.0,32.23N×115.31W, h4km, mb4.1/1, MD4.2(MEX), ML4.1(PAS), ML4.2(ECX), After ECX.*
NEIC Felt at Mexicali. Felt (II) at Chula Vista, California. Also felt at El Cajon, Oceanside and San Diego.
*ECX **06** 16:23:59.0±0.6,32.22N×115.31W, h4km, MD4.0, ML4.2*
*MEX **06** 16:24:00.4±0.3,32.33N×115.24W, h15km±10km, MD4.1*

ISC 06 16:23:56.9±1.1, 32.21N±0.02×115.28W±0.02, h1km±9km, n82, σ1§26/108, mb3.8/3, MS3.2/4, 22C-25D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**355**	⇓*e*P		**Pg**	**16 24 02.6**	**+1.5**
CPBX				*e*S		**Sg**	**16 24 06.2**	**+2.3**
EMX	**El Mayor**	**0.22**	**171**	⇓*e*P		**Pg**	**16 24 01.4**	**+0.3**
EMX				*e*S		**Sg**	**16 24 05.1**	**+1.1**
EMX				⇑*e*			16 24 08.9	
	comp=N,29μm,0.8s							
RDX	**Rancho Dawling**	**0.63**	**244**	⇑*e*P		**Pb**	**16 24 10.2**	**-0.6**
RDX				*e*S		**Sb**	**16 24 18.6**	**-1.6**
COA	**Coachella**	**0.67**	**11**	⇑*i*P		**Pb**	**16 24 10.6**	**-0.8**
YUH	**Yuha Desert**	**0.70**	**309**	⇓*i*P		**Pg**	**16 24 10.7**	**+0.3**
COK	**Cook Ranch**	**0.74**	**330**	⇓*i*P		**Pg**	**16 24 11.8**	**+0.6**
ECBX	**El Chinero**	**0.76**	**165**	⇓*e*P		**Pg**	**16 24 10.8**	**-0.7**
ECBX				*e*S		**Sg**	**16 24 21.7**	**+0.4**
RMX	**La Rumorosa**	**0.78**	**301**	⇓*e*P		**Pg**	**16 24 12.2**	**+0.3**
RMX				*e*S		**Sg**	**16 24 22.4**	**+0.3**
RMX				*e*			16 24 24.0	
	comp=E,9μm,0.1s							
SWSC	**Sam W. Stewart**	**0.85**	**329**	⇑P		**Pg**	**16 24 13.0**	**-0.3**
	baz=0.8							
SWSC				⇑S		**Sg**	**16 24 24.2**	**-0.2**
	baz=0.8							
CRR	**Carrizo Plain**	**0.90**	**320**	⇑*i*P		**Pg**	**16 24 13.9**	**-0.2**
GLA	**Glamis**	**0.93**	**24**	⇑P		**Pg**	**16 24 14.2**	**-0.5**
	baz=0.9							
GLA				⇓S		**Sg**	**16 24 26.1**	**-0.7**
	baz=0.9							
GLA	**Glamis**	**0.93**	**24**	*e*Pg		**Pg**	**16 24 14.2**	**-0.5**
GLA				*e*Sg		**Sg**	**16 24 25.6**	**-1.2**
ZAX	**El Zacaton**	**1.09**	**231**	*e*P		**Pg**	**16 24 18.0**	**+0.2**
ZAX				*e*S		**Sg**	**16 24 32.1**	**+0.1**
SPIG	**San Pedro Mart**	**1.17**	**188**	*e*P		**Pn**	**16 24 20.6**	**0.0**
SPIG				*i* S		**Sn**	**16 24 36.4**	**-1.0**
SPX	**San Pedro Mart**	**1.17**	**188**	⇓*e*P		**Pg**	**16 24 19.4**	**+0.1**
SPX				⇑*e*			16 24 39.1	
	comp=N,3μm,0.6s							
CBX	**Cerro Bola**	**1.18**	**276**	*e*P		**Pg**	**16 24 19.1**	**-0.4**
CBX				*e*S		**Sg**	**16 24 33.6**	**-1.1**
CBX	**Cerro Bola**	**1.18**	**276**	⇓*e*P		**Pg**	**16 24 18.9**	**-0.6**
CBX				*e*S		**Sg**	**16 24 34.7**	**-0.1**
CBX				⇑*e*			16 24 36.5	
CBX				AML		AML	16 24 36.5	
	comp=N,10μm,0.5s							
CBX	**Cerro Bola**	**1.18**	**276**	*e*P		**Pg**	**16 24 19.1**	**-0.4**
CBX				*e*S		**Sg**	**16 24 33.6**	**-1.1**
MONP	**Monument Peak,**	**1.18**	**306**	⇑P		**Pg**	**16 24 19.5**	**0.0**
	baz=1.1							
MONP				⇓S		**Sg**	**16 24 34.6**	**-0.3**
	baz=1.1							
ECNX	**Esteban Cantu**	**1.25**	**244**	*e*P		**Pg**	**16 24 20.6**	**-0.2**
ECNX				*e*S		**Sg**	**16 24 37.1**	**+0.1**
BAR	**Barrett**	**1.27**	**292**	*e*Pn		**Pg**	**16 24 20.2**	**-1.0**
BAR				*e*S		**Sg**	**16 24 36.3**	**-1.4**
PBX	**Punta Banda**	**1.31**	**250**	*e*P		**Pg**	**16 24 21.8**	**-0.2**
PBX				*e*S		**Sg**	**16 24 39.1**	**0.0**
113A	**Mohawk Valley,**	**1.40**	**66**	⇓P		**Pn**	**16 24 22.0**	**-1.5**
	baz=1.4							
113A				⇓S		**Sb**	**16 24 39.2**	**-3.0**
	baz=1.4							
BC3	**Big Chuckawall**	**1.45**	**354**	⇓P		**Pn**	**16 24 22.1**	**-2.3**
	baz=1.4							
Y12C	**Blythe**	**1.67**	**22**	⇓P		**Pn**	**16 24 25.0**	**-2.3**
	baz=1.6							
109C	**Camp Elliot, M**	**1.69**	**294**	⇑P		**Pn**	**16 24 26.0**	**-1.5**
	baz=1.7							
109C				⇑S		**Sn**	**16 24 48.6**	**-1.2**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.71**	**325**	Pg		**Pn**	**16 24 25.6**	**-2.4**
	comp=N,43nm,0.3s,baz=144,slow=13,SNR=26							
PFO				LR		LR	16 24 45.5	
	comp=N,181nm,19.7s,baz=150,slow=31							
PFO				Lg		Lg	16 24 49.4	
	comp=N,125nm,0.3s,baz=54,slow=18,SNR=7.5							
PFO	**Pinyon Flats O**	**1.71**	**325**	⇓P		**Pn**	**16 24 25.8**	**-2.3**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.71**	**325**	*e*Pn		**Pn**	**16 24 25.3**	**-2.7**
PFO				Pg		**Pn**	**16 24 25.6**	**-2.4**
PFO				Lg		Lg	16 24 49.4	
BELC	**Belle Mtn. Jos**	**1.89**	**342**	⇑Pg		**Pg**	**16 24 32.7**	**-0.5**
	baz=1.8							
IRM	**Iron Mountain**	**1.95**	**3**	⇓P		**Pn**	**16 24 29.3**	**-2.0**
	baz=1.9							
214A	**Organ Pipe Nat**	**2.11**	**96**	⇑P		**Pn**	**16 24 31.7**	**-1.7**
	baz=2.1							
214A				⇑Sb		**Sb**	**16 25 03.3**	**+0.5**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.11**	**96**	*e*Pn		**Pn**	**16 24 31.1**	**-2.3**
214A				*e*Sg		**Sg**	**16 25 04.2**	**-0.6**
MURC	**Murrieta**	**2.13**	**311**	⇑P		**Pn**	**16 24 32.0**	**-1.7**
	baz=2.1							
MURC				⇓Sb		**Sb**	**16 25 03.6**	**+0.3**
	baz=2.1							
Z14A	**Wintersburg**	**2.28**	**59**	⇓P		**Pn**	**16 24 34.2**	**-1.6**
	baz=2.3							
PDMCI	**Parker Dam,Lak**	**2.30**	**24**	⇑P		**Pn**	**16 24 34.2**	**-1.7**
	baz=2.3							
PDMCI				⇓Sb		**Sb**	**16 25 07.0**	**-1.1**
	baz=2.3							
Y14A	**Wickenburg**	**2.58**	**47**	⇑P		**Pn**	**16 24 38.6**	**-1.2**
	baz=2.6							
GMRC	**Granite Mounta**	**2.59**	**353**	⇓P		**Pn**	**16 24 38.8**	**-1.3**
	baz=2.6							
NEE2	**Needles Airpor**	**2.62**	**12**	⇑P		**Pn**	**16 24 38.8**	**-1.5**
	baz=2.6							
BFSC	**Mount Baldy Ra**	**2.84**	**316**	⇓Pb		**Pb**	**16 24 48.0**	**-0.6**
	baz=2.8							
BFSC				⇑Sb		**Sb**	**16 25 24.1**	**+0.2**
	baz=2.8							
SCI	**San Clemente I**	**2.86**	**287**	⇓P		**Pn**	**16 24 42.1**	**-1.7**
	baz=2.8							
SCI				⇓Sb		**Sb**	**16 25 25.3**	**+1.0**
	baz=2.8							
LDFC	**Landfair**	**2.87**	**3**	*e*Pn		**Pn**	**16 24 43.6**	**-0.3**
CIS	**Catalina Islan**	**2.89**	**295**	⇑P		**Pn**	**16 24 43.1**	**-1.1**
	baz=2.9							
CIS				⇓Sb		**Sb**	**16 25 25.7**	**+0.6**
	baz=2.9				

s-maj=32.5km s-min=26.1km az=102.0

ISC 06 17:06:03.2±1.4, 48°1N±0°2×153°0E±0°2, h128km, n9, σ1§40/6, mb3.1/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.82**	**29**	P	**Pn**	**17 07 27.9**	**+0.8**
	0.3nm,0.3s,baz=204,slow=14,SNR=3.9						
PETK				S	Sn	17 08 42.1	+10
	baz=102,slow=19,SNR=1.8						
ASAJ	**Asahikawa**	**8.27**	**245**	P	**Pn**	**17 08 01.6**	**+1.4**
	1.0nm,0.3s,baz=74,slow=12,SNR=10						
H11S1	**WAKE ISLAND Hy**	**31.57**	**155**	T	T	17 45 29.0	
	baz=345						
H11S3	**WAKE ISLAND Hy**	**31.58**	**155**	T	T	17 45 30.8	
	baz=345						
H11S2	**WAKE ISLAND Hy**	**31.59**	**155**	T	T	17 45 30.2	
	baz=345						
MKAR	**Makanchi Array**	**46.27**	**296**	P	**P**	**17 14 14.7**	**-0.8**
	0.2nm,0.5s,baz=61,slow=7.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**46.66**	**302**	P	**P**	**17 14 17.0**	**-1.4**
	0.4nm,0.7s,baz=71,slow=8.8,SNR=4.5						
WRA	**Warramunga Arr**	**69.78**	**199**	P	**P**	**17 16 58.7**	**-0.7**
	0.2nm,0.6s,baz=17,slow=6.5,SNR=3.9						
ASAR	**Alice Springs**	**73.48**	**198**	P	**P**	**17 17 21.2**	**-0.3**
	0.1nm,0.6s,baz=14,slow=5.7,SNR=5.4						

*NEIC **06** 17:19:35.0, 32°.09N×115°.30W, h22km, ML4.0(PAS), After PAS.*

*ISCJB **06** 17:19:36.6±0.3, 32°.23N±0°.02×115°.28W±0°.02, h26km±4km, Error ellipse: s-maj=3.5km s-min=3.2km az=32.0*

*ECX **06** 17:19:37.9±0.5, 32°.25N×115°.32W, h6km, MD4.1, ML4.3*

ISC 06 17:19:35.8±1.1, 32°21N±0°02×115°28W±0°02, h16km±9km, n35, σ1§12/49, 18C-14D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.23**	**171**	⇓*eP*	**Pb**	**17 19 41.5**	**-0.1**
EMX				*eS*	**Sb**	**17 19 45.6**	**+0.2**
SGL	**Mount Signal**	**0.57**	**320**	⇓*iP*	**Pg**	**17 19 47.1**	**-0.1**
RDX	**Rancho Dawling**	**0.63**	**243**	⇑*eP*	**Pb**	**17 19 48.7**	**+0.2**
RDX				*eS*	**Sb**	**17 19 57.3**	**+0.2**
COA	**Coachella**	**0.66**	**12**	*iP*	**Pg**	**17 19 49.0**	**+0.1**
YUH	**Yuha Desert**	**0.69**	**309**	⇑*iP*	**Pg**	**17 19 49.1**	**-0.3**
COK	**Cook Ranch**	**0.74**	**330**	*eP*	**Pg**	**17 19 50.1**	**-0.2**
ECBX	**El Chinero**	**0.76**	**165**	*eP*	**Pb**	**17 19 51.0**	**+0.3**
ECBX				*eS*	**Sn**	**17 20 02.1**	**-1.0**
RMX	**La Rumorosa**	**0.78**	**300**	AML	AML	17 20 03.4	
	comp=N,8μm,0.7s						
RMX				*e*		17 20 03.4	
SWSC	**Sam W. Stewart**	**0.85**	**329**	⇑P	**Pg**	**17 19 51.4**	**-0.9**
	baz=1.0						
SWSC				⇑S	**Sg**	**17 20 02.9**	**-0.6**
	baz=1.0						
GLA	**Glamis**	**0.92**	**25**	⇑P	**Pb**	**17 19 53.1**	**-0.4**
	baz=1.0						
GLA				⇓S	**Sb**	**17 20 05.0**	**-0.6**
	baz=1.0						
GLA	**Glamis**	**0.92**	**25**	*e*Pn	**Pb**	**17 19 53.0**	**-0.5**
ZAX	**El Zacaton**	**1.09**	**231**	⇑*eP*	**Pg**	**17 19 57.2**	**+0.2**
ZAX				*eS*	**Sn**	**17 20 12.0**	**+0.7**
ZAX				⇓*e*		17 20 13.7	
ZAX				AML	AML	17 20 13.7	
	comp=E,10μm,0.5s						
SPIG	**San Pedro Mart**	**1.17**	**188**	P	**Pg**	**17 19 58.1**	**-0.5**
SPIG				S	**Sg**	**17 20 13.8**	**-0.1**
CBX	**Cerro Bola**	**1.17**	**275**	⇑*eP*	**Pn**	**17 19 57.8**	**+0.1**
CBX				*eS*	**Sn**	**17 20 13.5**	**+0.1**
CBX	**Cerro Bola**	**1.17**	**275**	P	**Pb**	**17 19 57.9**	**+0.1**
CBX				S	**Sg**	**17 20 13.8**	**-0.1**
SPX	**San Pedro Mart**	**1.17**	**188**	*e*P	**Pg**	**17 19 58.8**	**+0.2**
MONP	**Monument Peak,**	**1.17**	**306**	⇑P	**Pn**	**17 19 57.9**	**0.0**
	baz=1.2						
MONP				⇓S	**Sb**	**17 20 12.9**	**0.0**
	baz=1.2						
PBX	**Punta Banda**	**1.31**	**249**	⇑*eP*	**Pb**	**17 20 00.3**	**+0.2**
PBX				*eS*	**Sg**	**17 20 17.9**	**-0.4**
113A	**Mohawk Valley,**	**1.40**	**66**	⇑P	**Pn**	**17 19 60.0**	**-0.7**
	baz=1.5						
113A				⇑S	**Sn**	**17 20 17.3**	**-1.5**
	baz=1.5						
BC3	**Big Chuckawall**	**1.45**	**354**	⇓P	**Pn**	**17 20 00.1**	**-1.4**
	baz=1.6						
Y12C	**Blythe**	**1.66**	**22**	⇑Pb	**Pn**	**17 20 05.3**	**+1.0**
	baz=1.8						
Y12C				⇓Sb	**Sb**	**17 20 26.8**	**0.0**
	baz=1.8						
109C	**Camp Elliot, M**	**1.68**	**294**	⇑Pb	**Pb**	**17 20 05.7**	**-0.7**
	baz=1.7						
109C				⇓Sb	**Sb**	**17 20 27.6**	**+0.3**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.71**	**325**	⇓P	**Pn**	**17 20 03.9**	**-1.1**
	baz=1.8						
PFO				⇑S	**Sn**	**17 20 24.7**	**-2.0**
	baz=1.8						
PFO	**Pinyon Flats O**	**1.71**	**325**	*e*Pn	**Pn**	**17 20 03.8**	**-1.2**
IRM	**Iron Mountain**	**1.95**	**3**	⇓Pb	**Pb**	**17 20 10.8**	**-0.2**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.11**	**96**	⇑Sb	**Sb**	**17 20 41.7**	**+1.9**
	baz=2.1						
MURC	**Murrieta**	**2.12**	**311**	⇓P	**Pn**	**17 20 08.8**	**-1.9**
	baz=2.2						
MURC				⇑Sb	**Sb**	**17 20 41.5**	**+1.4**
	baz=2.2						
Z14A	**Wintersburg**	**2.28**	**59**	⇑Sb	**Sb**	**17 20 45.9**	**+1.3**
	baz=2.4						
PDMCI	**Parker Dam,Lak**	**2.29**	**24**	⇓Sb	**Sb**	**17 20 46.8**	**+1.9**
	baz=2.4						
BBRC	**Big Bear Solar**	**2.46**	**327**	⇓Sb	**Sb**	**17 20 52.2**	**+2.1**
	baz=2.6						
Y14A	**Wickenburg**	**2.57**	**47**	⇓Sb	**Sb**	**17 20 55.1**	**+2.0**
	baz=2.7						
BFSC	**Mount Baldy Ra**	**2.84**	**316**	⇑Sb	**Sb**	**17 21 02.7**	**+1.9**
	baz=2.9						
GSC	**Goldstone, Bar**	**3.33**	**338**	*e*Pn	**Pb**	**17 20 36.3**	**+1.7**
ISA	**Isabella, Lake**	**4.34**	**323**	*e*Pn	**Pb**	**17 20 54.9**	**+3.0**
ANMO	**Albuquerque**	**7.85**	**67**	Pn	Pn	17 21 25.1	-4.4

*VIE **06** 17:25:51.5±0.4, 45°.21N×14°.86E, h10km±1km, mb2.4/11, ML2.7/13, Error ellipse: s-maj=2.1km s-min=1.2km az=164.0 38 km ESE of Rijeka*

*ROM **06** 17:25:51.6±0.3, 45°.12N×14°.90E, h10km, Ml3.0/15, Error ellipse: s-maj=10.0km s-min=3.9km az=34.0*

*LDG **06** 17:25:51.7±0.1, 45°.23N×14°.85E, h2km, Ml2.8/16, Error ellipse: s-maj=3.0km s-min=1.9km az=148.0*

*CSEM **06** 17:25:51.2±0.2, 45°.17N×14°.83E, h10km, ML3.3/16, Error ellipse: s-maj=3.6km s-min=3.2km az=96.0*

*PRU **06** 17:25:52.3, 45°.24N×14°.93E, h0km*

*SZGRF **06** 17:25:52.5, 45°.04N×14°.93E, h10km, mb2.8, Northwestern Balkan Peninsula*

ISC 06 17:25:51.6±0.9, 45°19N±0°02×14°86E±0°02, h14km±8km, n125, σ1§26/195, 26C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.35**	**354**	⇓*iPg*	**Pg**	**17 25 58.9**	**+0.1**
GBRS				*i* Sg	**Sb**	**17 26 04.3**	**-0.8**
	182nm,0.1s						
BOJS	**Bojanci**	**0.42**	**41**	⇓*iPg*	**Pg**	**17 25 59.7**	**-0.4**
BOJS				*eSg*	**Sg**	**17 26 05.4**	**-0.4**
	comp=Z,192nm,0.1s						
BOJS	**Bojanci**	**0.42**	**41**	⇓*iPg*	**Pg**	**17 25 59.7**	**-0.4**
BOJS				*eSg*	**Sg**	**17 26 05.4**	**-0.4**
	comp=Z,192nm,0.1s						
KNDS	**Knezji Dol**	**0.48**	**315**	⇑*iPg*	**Pg**	**17 26 01.1**	**-0.2**
KNDS				*i* Sg	**Sb**	**17 26 09.2**	**+0.2**
	comp=Z,252nm,0.3s						
KNDS	**Knezji Dol**	**0.48**	**315**	⇑*iPg*	**Pg**	**17 26 01.1**	**-0.2**
KNDS				*i* Sg	**Sb**	**17 26 09.2**	**+0.2**
	comp=Z,252nm,0.3s						
VISS	**Visnje**	**0.62**	**358**	*i* Pg	**Pg**	**17 26 03.4**	**-0.4**
VISS				*i* Sg	**Sb**	**17 26 11.9**	**-1.0**
	comp=Z,168nm,0.2s						
VISS	**Visnje**	**0.62**	**358**	*i* Pg	**Pg**	**17 26 03.4**	**-0.4**
VISS				*i* Sg	**Sb**	**17 26 11.9**	**-1.0**
	comp=Z,168nm,0.2s						
NVLJ	**Novalja**	**0.62**	**179**	*i* Pg	**Pg**	**17 26 03.7**	**-0.1**
NVLJ				Sg	**Sg**	**17 26 12.9**	**+0.9**
NVLJ	**Novalja**	**0.62**	**179**	*i* Pg	**Pg**	**17 26 03.6**	**-0.1**
NVLJ				Sg	**Sg**	**17 26 12.9**	**+0.9**
CEY	**Cerknica**	**0.63**	**331**	⇑*iPg*	**Pg**	**17 26 03.8**	**-0.3**
CEY				*eSg*	**Sb**	**17 26 14.3**	**+1.0**
	comp=Z,499nm,0.2s						
CEY	**Cerknica**	**0.63**	**331**	⇑*iPg*	**Pg**	**17 26 03.8**	**-0.3**
CEY				*eSg*	**Sb**	**17 26 14.3**	**+1.0**
	comp=Z,499nm,0.2s						
SKDS	**Skadanscina**	**0.70**	**301**	*i* Pg	**Pg**	**17 26 04.5**	**-0.8**
SKDS				*i* Sg	**Sb**	**17 26 16.7**	**+1.5**
	comp=Z,116nm,0.2s						
SKDS	**Skadanscina**	**0.70**	**301**	*i* Pg	**Pg**	**17 26 04.5**	**-0.8**
CRES	**Cresnjev**	**0.77**	**33**	*i* Pg	**Pg**	**17 26 06.2**	**-0.3**
CRES				*eSg*	**Sb**	**17 26 16.1**	**-1.0**
	comp=Z,146nm,0.3s						
CRES	**Cresnjev**	**0.77**	**33**	*i* Pg	**Pg**	**17 26 06.2**	**-0.3**
CRES				*eSg*	**Sb**	**17 26 16.1**	**-1.0**
	comp=Z,146nm,0.3s						
LEGS	**Legarje**	**0.83**	**23**	*i* Pg	**Pb**	**17 26 07.3**	**-0.5**
LEGS	**Legarje**	**0.83**	**23**	*i* Pg	**Pb**	**17 26 07.3**	**-0.5**
GCIS	**Gornji Cirnik**	**0.87**	**38**	*i* Pg	**Pb**	**17 26 08.3**	**-0.2**
GCIS	**Gornji Cirnik**	**0.87**	**38**	*i* Pg	**Pb**	**17 26 08.3**	**-0.2**
PDKS	**Podkum**	**0.88**	**6**	*i* Pg	**Pg**	**17 26 08.4**	**-0.3**
	comp=Z,69nm,0.2s						
PDKS	**Podkum**	**0.88**	**6**	*i* Pg	**Pg**	**17 26 08.4**	**-0.3**
	comp=Z,69nm,0.2s						
LJU	**Ljubljana**	**0.89**	**345**	*e*Pg	**Pn**	**17 26 10.0**	**+0.2**
JAVS	**Javornik**	**0.90**	**322**	*e*Pg	**Pg**	**17 26 08.2**	**-1.0**
JAVS				*i* Sg	**Sn**	**17 26 23.1**	**+0.1**
	comp=Z,222nm,0.3s						
JAVS	**Javornik**	**0.90**	**322**	*e*Pg	**Pg**	**17 26 08.2**	**-1.0**
JAVS				*i* Sg	**Sn**	**17 26 23.1**	**+0.1**
	comp=Z,222nm,0.3s						
UDBI	**Udbina**	**0.92**	**135**	*e*Pg	**Pg**	**17 26 08.8**	**-0.7**
UDBI				Sg	**Sg**	**17 26 21.6**	**+0.1**
UDBI	**Udbina**	**0.92**	**135**	*e*Pg	**Pg**	**17 26 08.7**	**-0.7**
UDBI				Sg	**Sg**	**17 26 21.5**	**+0.1**
VNDS	**Vrh nad Dolski**	**0.92**	**353**	*i* Pg	**Pb**	**17 26 09.4**	**-0.1**
	comp=Z,45nm,0.1s						
TRI	**Trieste**	**0.93**	**305**	Pn	**Pg**	**17 26 08.6**	**-1.1**
TRI				Sn	**Sn**	**17 26 24.3**	**+0.8**
	comp=Z,141nm,0.8s						
TRI	**Trieste**	**0.93**	**305**	Pn	**Pg**	**17 26 08.6**	**-1.1**
TRI				Sn	**Sn**	**17 26 24.3**	**+0.8**
	comp=Z,141nm,0.8s						
DOBS	**Dobrina**	**1.05**	**24**	⇑*iPg*	**Pn**	**17 26 11.9**	**-0.1**
DOBS	**Dobrina**	**1.05**	**24**	⇑*iPg*	**Pn**	**17 26 11.9**	**-0.1**
VOJS	**Vojsko**	**1.09**	**321**	*e*Pg	**Pb**	**17 26 11.5**	**-0.9**
VOJS				*eSg*	**Sn**	**17 26 29.1**	**+1.5**
	comp=Z,64nm,0.1s						
VOJS	**Vojsko**	**1.09**	**321**	*e*Pg	**Pb**	**17 26 11.5**	**-0.9**
VOJS				*eSg*	**Sn**	**17 26 29.1**	**+1.5**
	comp=Z,64nm,0.1s						
SISC	**Sisak**	**1.10**	**74**	Sg	**Sg**	**17 26 26.0**	**-1.3**
SISC	**Sisak**	**1.10**	**74**	Sg	**Sg**	**17 26 25.9**	**-1.3**
MOZS	**Mozjanca**	**1.15**	**345**	*e*Pg	**Pn**	**17 26 13.9**	**+0.6**
MOZS				*eSg*	**Sn**	**17 26 30.4**	**+1.5**
	comp=Z,48nm,0.2s						
MOZS	**Mozjanca**	**1.15**	**345**	*e*Pg	**Pn**	**17 26 13.9**	**+0.6**
MOZS				*eSg*	**Sn**	**17 26 30.4**	**+1.5**
	comp=Z,48nm,0.2s						
SABO	**M.te Sabotino**	**1.19**	**312**	Pn	**Pb**	**17 26 13.1**	**-0.9**
SABO				Sn	**Sn**	**17 26 32.4**	**+2.5**
	comp=Z,299nm,0.6s						
SABO	**M.te Sabotino**	**1.19**	**312**	Pn	**Pb**	**17 26 13.1**	**-0.9**
GORS	**Gorjuse**	**1.28**	**332**	*i* Pg	**Pb**	**17 26 16.0**	**+0.3**
GORS				*eSg*	**Sg**	**17 26 34.2**	**+1.1**
	comp=Z,68nm,0.2s						
GORS	**Gorjuse**	**1.28**	**332**	*i* Pg	**Pb**	**17 26 16.0**	**+0.3**
GORS				*eSg*	**Sg**	**17 26 34.2**	**+1.1**
	comp=Z,68nm,0.2s						
OBKA	**Obir**	**1.34**	**351**	*e*Pn	**Pg**	**17 26 17.6**	**+0.1**
OBKA				*e*Sn	**Sg**	**17 26 36.6**	**+1.6**
OBKA	**Obir**	**1.34**	**351**	⇑*e*Pg	**Pg**	**17 26 17.5**	**+0.1**
	SNR=12						
OBKA				⇑*i*Sg	**Sg**	**17 26 35.5**	**+0.5**
	comp=Z,86nm,0.3s						
OBKA	**Obir**	**1.34**	**351**	Pg	**Pg**	**17 26 17.5**	**+0.1**
	SNR=12						
OBKA				Sg	**Sg**	**17 26 35.5**	**+0.5**
	comp=Z,86nm,0.3s						
OBKA				*e*Sn	**Sg**	**17 26 36.6**	**+1.6**
ROBS	**Robic**	**1.42**	**319**	*i* Pn	**Pg**	**17 26 18.8**	**-0.2**
ROBS	**Robic**	**1.42**	**319**	*i* Pn	**Pg**	**17 26 18.8**	**-0.2**
SOKA	**Soboth**	**1.50**	**4**	⇑*e*Pg	**Pb**	**17 26 19.3**	**0.0**
	SNR=13						
SOKA				⇑*i*Sn	**Sn**	**17 26 37.3**	**-0.3**
SOKA				⇑*i*Sg	**Sg**	**17 26 39.4**	**-0.5**
	comp=Z,24nm,0.3s						
SOKA	**Soboth**	**1.50**	**4**	Pg	**Pb**	**17 26 19.3**	**0.0**
	SNR=13						
SOKA				Sn	**Sn**	**17 26 37.3**	**-0.3**
SOKA				Sg	**Sg**	**17 26 39.4**	**-0.5**
	comp=Z,24nm,0.3s						
VINO	**Villanova**	**1.54**	**315**	Pn	**Pb**	**17 26 20.0**	**0.0**
VINO				Sn	**Sg**	**17 26 42.9**	**+1.6**
	comp=Z,170nm,0.7s						
VINO	**Villanova**	**1.54**	**315**	Pn	**Pb**	**17 26 20.0**	**0.0**
PTCC	**Patocco-Chiusa**	**1.61**	**320**	Pn	**Pb**	**17 26 21.7**	**+0.4**
PTCC				Sn	**Sg**	**17 26 44.2**	**+0.6**
	comp=Z,132nm,0.9s						
PTCC	**Patocco-Chiusa**	**1.61**	**320**	Pn	**Pb**	**17 26 21.7**	**+0.4**
GEPF	**Gemona**	**1.63**	**313**	Pn	**Pb**	**17 26 21.4**	**0.0**
GEPF				Sn	**Sg**	**17 26 44.0**	**0.0**
	comp=Z,131nm,0.4s						
GEPF	**Gemona**	**1.63**	**313**	Pn	**Pb**	**17 26 21.4**	**0.0**
ACOM	**Acomizza, Ital**	**1.66**	**326**	Pn	**Pb**	**17 26 22.7**	**+0.6**
	comp=Z,295nm,0.8s						
MYKA	**Terra Mystica**	**1.68**	**330**	⇑*e*Pg	**Pb**	**17 26 22.8**	**+0.4**
	SNR=7.2						
MYKA				⇓*i*Sg	**Sg**	**17 26 46.0**	**+0.3**
	comp=Z,43nm,0.3s						
MYKA	**Terra Mystica**	**1.68**	**330**	Pg	**Pb**	**17 26 22.8**	**+0.4**
	SNR=7.2						
MYKA				Sg	**Sg**	**17 26 46.0**	**+0.3**
	comp=Z,43nm,0.3s						
BLY	**Banja Luka**	**1.70**	**104**	Pn	**Pn**	**17 26 21.7**	**+0.8**
	comp=Z,62nm,0.4s						
BLY	**Banja Luka**	**1.70**	**104**	Pn	**Pn**	**17 26 21.7**	**+0.8**
	comp=Z,62nm,0.4s						
POLC	**Polcenigo**	**1.86**	**298**	Pn	**Pb**	**17 26 24.9**	**-0.5**
	comp=Z,219nm,0.6s						
FSSB	**Fossombrone**	**2.11**	**226**	Pn	**Pn**	**17 26 28.5**	**+1.9**
	comp=Z,68nm,0.3s						
ARSA	**Arzberg**	**2.12**	**12**	⇑*i*Pn	**Pn**	**17 26 26.7**	**+0.1**
ARSA				⇑*e*Pg	**Pg**	**17 26 31.4**	**-0.9**
	SNR=6.0						
ARSA				⇑*i*Sn	**Sn**	**17 26 53.7**	**+1.0**
ARSA	**Arzberg**	**2.12**	**12**	Pn	**Pn**	**17 26 26.7**	**+0.1**
KBA	**Koelnbreinsper**	**2.17**	**331**	*e*Pn	**Pb**	**17 26 29.6**	**-1.2**
KBA	**Koelnbreinsper**	**2.17**	**331**	⇓*i*Pn	**Pn**	**17 26 27.5**	**0.0**
KBA				⇑*i*Sn	**Sn**	**17 26 53.1**	**+0.8**
KBA				⇓*i*Sg	**Sg**	**17 27 03.3**	**+1.9**
	comp=Z,10nm,0.3s						
KBA	**Koelnbreinsper**	**2.17**	**331**	Pn	**Pn**	**17 26 27.5**	**0.0**
KBA				Sn	**Sn**	**17 26 55.1**	**+0.8**
KBA				Sg	**Sg**	**17 27 03.3**	**+1.9**
	comp=Z,10nm,0.3s						
CGRP	**Cima Grappa**	**2.26**	**289**	Pn	**Pn**	**17 26 29.9**	**+1.1**
	comp=Z,77nm,0.8s						
CGRP	**Cima Grappa**	**2.26**	**289**	Pn	**Pn**	**17 26 29.9**	**+1.1**
	comp=Z,77nm,0.8s						
ABTA	**Abfaltersbach**	**2.27**	**314**	⇓*i*Pn	**Pn**	**17 26 28.5**	**-0.2**
ABTA				⇓*i*Sn	**Sn**	**17 26 57.4**	**+0.9**
ABTA	**Abfaltersbach**	**2.27**	**314**	Pn	**Pn**	**17 26 28.5**	**-0.2**
ABTA				Sn	**Sn**	**17 26 57.4**	**+0.9**
RISI	**Rein**	**2.62**	**313**	Pn	**Pn**	**17 26 36.0**	**+2.3**
	comp=Z,117nm,0.6s						
MOA	**Molln**	**2.70**	**351**	*e*Pn	**Pn**	**17 26 36.8**	**+2.2**
MOA				*e*Sn	**Sb**	**17 27 10.2**	**-2.4**
MOA	**Molln**	**2.70**	**351**	⇑*i*Pn	**Pn**	**17 26 34.7**	**+0.1**
MOA				⇑*i*Sn	**Sn**	**17 27 08.2**	**+1.1**
MOA	**Molln**	**2.70**	**351**	Pn	**Pn**	**17 26 34.7**	**+0.1**
MOA				Sn	**Sn**	**17 27 08.2**	**+1.1**
CONA	**Conrad Observa**	**2.83**	**14**	⇑*i*Pn	**Pn**	**17 26 36.4**	**-0.1**
CONA				⇑*i*Sn	**Sn**	**17 27 11.5**	**+1.1**
CONA				⇑*i*Sg	**Sg**	**17 27 24.6**	**+2.1**
	comp=Z,3.7nm,0.5s						
CONA	**Conrad Observa**	**2.83**	**14**	Pn	**Pn**	**17 26 36.4**	**-0.1**
CONA				Sn	**Sn**	**17 27 11.5**	**+1.1**
CONA				Sg	**Sg**	**17 27 24.6**	**+2.1**
	comp=Z,3.7nm,0.5s						
APPI	**Appiano**	**2.85**	**298**	Pn	**Pn**	**17 26 39.3**	**+2.5**
	comp=Z,33nm,0.4s						
ABSI	**Aberstueckl**	**2.91**	**303**	Pn	**Pn**	**17 26 39.5**	**+1.8**
	comp=Z,62nm,0.5s						
ABSI	**Aberstueckl**	**2.91**	**303**	Pn	**Pn**	**17 26 39.5**	**+1.8**
	comp=Z,62nm,0.5s						
MAGA	**Magasa**	**3.04**	**283**	Pn	**Pn**	**17 26 40.5**	**+1.1**
	comp=Z,79nm,0.8s						
MAGA	**Magasa**	**3.04**	**283**	Pn	**Pn**	**17 26 40.5**	**+1.1**
	comp=Z,79nm,0.8s						
WTTA	**Wattenberg**	**3.06**	**314**	*e*Pn	**Pn**	**17 26 42.9**	**+3.2**
WTTA	**Wattenberg**	**3.06**	**314**	⇑*i*Pn	**Pn**	**17 26 39.9**	**+0.2**
WTTA				⇑*i*Sg	**Sg**	**17 27 31.6**	**+1.8**
	comp=Z,14nm,0.4s						
WTTA	**Wattenberg**	**3.06**	**314**	Pn	**Pn**	**17 26 39.9**	**+0.2**
WTTA				Sg	**Sg**	**17 27 31.6**	**+1.8**
	comp=Z,14nm,0.4s						
STON	**Ston**	**3.09**	**138**	*e*Pn	**Pn**	**17 26 41.5**	**+1.6**
STON				Sn	**Sn**	**17 27 21.0**	**+4.3**
STON	**Ston**	**3.09**	**138**	*e*Pn	**Pn**	**17 26 41.5**	**+1.6**
STON				Sn	**Sn**	**17 27 20.9**	**+4.3**
WATA	**Walderalm**	**3.13**	**315**	⇑*i*Pn	**Pn**	**17 26 40.6**	**-0.1**
WATA	**Walderalm**	**3.13**	**315**	Pn	**Pn**	**17 26 40.6**	**-0.1**
MOTA	**Moosalm**	**3.39**	**311**	⇑*i*Pn	**Pn**	**17 26 44.1**	**-0.1**
MOTA				⇑*i*Sn	**Sn**	**17 27 24.9**	**+0.7**
MOTA	**Moosalm**	**3.39**	**311**	Pn	**Pn**	**17 26 44.1**	**-0.1**
MOTA				Sn	**Sn**	**17 27 24.9**	**+0.7**
KHC	**Kasperske Hory**	**4.04**	**348**	*e*Pn	**Pn**	**17 26 55.0**	**+1.9**
KHC				*e*PG	**Pb**	**17 27 05.7**	**+3.1**
KHC				*e*SN	**Sn**	**17 27 40.3**	**0.0**
KHC				*e*SG	**Sg**	**17 28 00.6**	**-0.8**
	comp=Z,4.6nm,0.8s						
KHC	**Kasperske Hory**	**4.04**	**348**	Pn	**Pn**	**17 26 55.0**	**+1.9**
WET	**Wettzell**	**4.19**	**342**	*e*Pn	**Pn**	**17 26 57.0**	**+1.9**
WET				*e*Sn	**Sn**	**17 27 44.0**	**+0.2**
WET	**Wettzell**	**4.19**	**342**	*e*Pn	**Pn**	**17 26 57.0**	**+1.9**
WET				*e*Sn	**Sn**	**17 27 44.0**	**+0.2**
PRU	**Pruhonice**	**4.81**	**358**	*e*SN	**Sn**	**17 27 58.0**	**-1.1**
PRU				*e*SG	**Sg**	**17 28 24.2**	**-1.8**
PRU	**Pruhonice**	**4.81**	**358**	Sn	**Sn**	**17 27 58.0**	**-1.1**
PRU				Sg	**Sg**	**17 28 24.2**	**-1.8**
PGF	**Pioggiola**	**4.99**	**240**	*e*Pn	**Pn**	**17 27 05.5**	**-0.7**
PGF				*e*Sn	**Sn**	**17 28 00.3**	**-3.5**
	comp=Z,1.4nm,0.4s						
PGF	**Pioggiola**	**4.99**	**240**	*e*Pn	**Pn**	**17 27 05.5**	**-0.7**
PGF				*e*Sn	**Sn**	**17 28 00.3**	**-3.5**
	comp=Z,0.7nm,0.4s						
DPC	**Dobruska-Polom**	**5.26**	**10**	*e*SG	**Sg**	**17 28 37.7**	**-2.7**
DPC	**Dobruska-Polom**	**5.26**	**10**	Sg	**Sg**	**17 28 37.7**	**-2.7**
SBF	**Sospel**	**5.47**	**259**	*e*Pn	**Pn**	**17 27 11.7**	**-1.1**
SBF				*e*Sn	**Sn**	**17 28 11.5**	**-4.1**
	comp=Z,2.3nm,0.3s						
SBF	**Sospel**	**5.47**	**259**	*e*Pn	**Pn**	**17 27 11.7**	**-1.1**
BFO	**Black Forest**	**5.48**	**307**	*e*Pn	**Pn**	**17 27 14.0**	**+1.1**
BFO	**Black Forest**	**5.48**	**307**	*e*Pn	**Pn**	**17 27 14.0**	**+1.1**
BRG	**Berggiesshubel**	**5.73**	**354**	SG	Sg	17 29 02.7	+7.4
	comp=Z,2.3nm,0.8s						
LPG	**La Plagne**	**5.73**	**276**	*e*Pn	**Pn**	**17 27 15.2**	**-1.3**
LPG				*e*Sn	Sn	17 28 17.4	-4.7
	comp=Z,2.9nm,0.5s						
LPG	**La Plagne**	**5.73**	**276**	*e*Pn	**Pn**	**17 27 15.2**	**-1.3**
LPL	**La Plagne**	**5.74**	**276**	*e*Pn	**Pn**	**17 27 15.7**	**-0.9**
LPL				*e*Sn	Sn	17 28 17.7	-4.7
	comp=Z,3.3nm,0.5s						
LPL	**La Plagne**	**5.74**	**276**	*e*Pn	**Pn**	**17 27 15.7**	**-0.9**
MBDF	**Montbardon**	**5.76**	**268**	*e*Pn	**Pn**	**17 27 15.9**	**-0.9**
MBDF				*e*Sn	Sn	17 28 18.0	-4.8
	comp=Z,3.6nm,0.5s						
MBDF	**Montbardon**	**5.76**	**268**	*e*Pn	**Pn**	**17 27 15.9**	**-0.9**
FRF	**La Foret Royal**	**6.11**	**257**	*e*Pn	**Pn**	**17 27 21.1**	**-0.4**
FRF				*e*Sn	Sn	17 28 26.6	-4.5
	comp=Z,1.2nm,0.5s						
FRF	**La Foret Royal**	**6.11**	**257**	*e*Pn	**Pn**	**17 27 21.1**	**-0.4**

BC3	**Big Chuckawall**	**1.60**	**348**	⇓P		**Pn**	**17 31 43.1**	**-1.9**	
	baz=1.6								
BC3				⇓S		**Sn**	**17 32 02.6**	**-3.4**	
	baz=1.6								
Y12C	**Blythe**	**1.71**	**15**	⇓P		**Pn**	**17 31 45.1**	**-1.4**	
	baz=1.7								
Y12C				⇑S		**Sn**	**17 32 08.3**	**-0.5**	
	baz=1.7								
214A	**Organ Pipe Nat**	**1.90**	**93**	⇑P		**Pn**	**17 31 47.5**	**-1.6**	
	baz=1.9								
214A				⇓S		**Sn**	**17 32 11.7**	**-1.7**	
	baz=1.9								
214A	**Organ Pipe Nat**	**1.90**	**93**	*e*Pn		**Pn**	**17 31 47.1**	**-2.0**	
109C	**Camp Elliot, M**	**1.92**	**295**	⇓P		**Pn**	**17 31 48.3**	**-1.0**	
	baz=1.9								
109C				⇑Sb		**Sb**	**17 32 15.5**	**-0.2**	
	baz=1.9								
PFO	**Pinyon Flats O**	**1.93**	**322**	Pn		**Pn**	**17 31 47.6**	**-1.9**	
	comp=E,5.8nm,0.3s,baz=136,slow=15,SNR=28								
PFO				Lg		Lg	17 32 11.1		
	comp=E,83nm,0.3s,baz=140,slow=10,SNR=14								
PFO				LR		LR	17 32 32.3		
	comp=E,847nm,19.6s,baz=136,slow=40								
PFO	**Pinyon Flats O**	**1.93**	**322**	⇓P		**Pn**	**17 31 47.7**	**-1.9**	
	baz=1.9								
PFO				⇑S		**Sn**	**17 32 12.1**	**-2.1**	
	baz=1.9								
PFO	**Pinyon Flats O**	**1.93**	**322**	*e*Pn		Pn	17 31 46.0	-3.6	
PFO				Lg		Lg	17 32 11.1		
IRM	**Iron Mountain**	**2.06**	**358**	⇓P		**Pn**	**17 31 49.5**	**-2.0**	
	baz=2.1								
Z14A	**Wintersburg**	**2.17**	**54**	⇓P		**Pn**	**17 31 51.8**	**-1.0**	
	baz=2.2								
Z14A				⇓S		**Sn**	**17 32 18.4**	**-1.7**	
	baz=2.2								
PDMCI	**Parker Dam,Lak**	**2.33**	**19**	⇓P		**Pn**	**17 31 53.9**	**-1.1**	
	baz=2.4								
MURC	**Murrieta**	**2.36**	**310**	⇑P		**Pn**	**17 31 54.1**	**-1.3**	
	baz=2.4								
MURC				⇑Sb		**Sg**	**17 32 30.1**	**-1.8**	
	baz=2.4								
Y14A	**Wickenburg**	**2.52**	**42**	⇑P		**Pn**	**17 31 56.5**	**-1.1**	
	baz=2.5								
NEE2	**Needles Airpor**	**2.69**	**7**	⇓P		**Pn**	**17 31 59.0**	**-1.0**	
	baz=2.7								
GMRC	**Granite Mounta**	**2.73**	**349**	⇓P		**Pn**	**17 31 59.5**	**-1.2**	
	baz=2.8								
SCI	**San Clemente I**	**3.09**	**288**	⇑Sb		**Sb**	**17 32 50.4**	**+0.9**	
	baz=3.1								
CIS	**Catalina Islan**	**3.12**	**296**	⇓Sb		**Sb**	**17 32 51.9**	**+1.5**	
	baz=3.1								
W13A	**Hualapai Mount**	**3.15**	**18**	⇓P		**Pn**	**17 32 06.4**	**-0.1**	
	baz=3.2								
FMP	**Fort Macarthur**	**3.18**	**301**	⇓Sb		**Sb**	**17 32 53.1**	**+1.2**	
	baz=3.2								
MWC	**Mount Wilson**	**3.31**	**311**	*e*Pn		Pn	17 32 03.0	-5.6	
PASC	**Pasadena Art C**	**3.35**	**309**	Pn		**Pn**	**17 32 11.4**	**+2.3**	
GSC	**Goldstone, Bar**	**3.52**	**336**	*e*Pn		**Pn**	**17 32 12.6**	**+1.1**	
TUC	**Tucson**	**3.62**	**85**	*e*P		**Pn**	**17 32 13.4**	**+0.6**	
TUC				*e*S		**Sn**	**17 32 54.2**	**-1.7**	
ISA	**Isabella, Lake**	**4.56**	**322**	Pn		**Pn**	**17 32 28.6**	**+2.7**	
WUAZ	**Wupatki**	**4.58**	**41**	*e*Pn		**Pn**	**17 32 27.0**	**+0.9**	
DAC	**Darwin (Calif)**	**4.68**	**334**	*e*Pn		**Pn**	**17 32 28.6**	**+1.1**	
W18A	**Petrified Fore**	**5.36**	**54**	*e*Pn		**Pn**	**17 32 37.7**	**+0.9**	
	comp=E,46nm,0.4s								
CCUT	**Cedar City**	**5.62**	**14**	*e*Pn		**Pn**	**17 32 41.1**	**+0.6**	
	comp=E,55nm,0.8s								
121A	**Cookes Peak, D**	**6.16**	**84**	*e*Pn		**Pn**	**17 32 46.9**	**-0.9**	
	comp=E,47nm,0.4s								
R11A	**Troy Canyon, C**	**6.26**	**356**	*e*Pn		**Pn**	**17 32 49.8**	**+0.6**	
	comp=E,18nm,0.7s								
NVAR	**Mina Array Bea**	**6.86**	**338**	Pn		**Pn**	**17 32 59.6**	**+2.1**	
	comp=E,0.1nm,0.3s,baz=163,slow=14,SNR=2.3								
NVAR				Pg		**Pg**	**17 33 28.7**	**+1.1**	
	comp=E,0.5nm,0.3s,baz=155,slow=16,SNR=5.9								
LENM	**Lemitar**	**7.08**	**71**	*e*Pn		**Pn**	**17 33 01.5**	**+1.0**	
	comp=E,9.3nm,0.6s								
MVCO	**Mesa Verde**	**7.42**	**45**	*e*Pn		**Pn**	**17 33 06.6**	**+1.3**	
	comp=E,25nm,0.6s								
ANMO	**Albuquerque**	**7.71**	**66**	Pn		**Pn**	**17 33 11.3**	**+2.1**	
	comp=E,0.2nm,0.3s,baz=260,slow=18,SNR=2.7								
ANMO				Lg		Lg	17 35 20.7		
	baz=233,slow=20,SNR=2.1								
ANMO				LR		LR	17 36 18.4		
	comp=E,832nm,18.1s,baz=250,slow=39								
ELK	**Elko**	**8.64**	**359**	Pn		**Pn**	**17 33 22.6**	**+0.7**	
	comp=E,0.1nm,0.3s,baz=185,slow=16,SNR=2.4								
ELK				Lg		Lg	17 35 55.3		
	comp=E,0.0nm,0.3s,baz=270,slow=20,SNR=2.3								
ELK				LR		LR	17 36 44.9		
	comp=E,460nm,20.5s,baz=180,slow=38								
LPIG	**La Paz**	**8.99**	**151**	LR		LR	17 36 16.4		
	comp=E,324nm,21.6s,baz=3.5,slow=33								
TXAR	**Lajitas Array**	**10.17**	**103**	Pn		**Pn**	**17 33 45.2**	**+2.4**	
	comp=E,1.6nm,0.3s,baz=284,slow=13,SNR=36								
TXAR				Lg		Lg	17 36 40.8		
	comp=E,0.3nm,0.3s,baz=307,slow=39,SNR=4.3								
TXAR				LR		LR	17 38 05.7		
	comp=E,534nm,18.6s,baz=0.0,slow=40								
YBH	**Yreka Blue Hor**	**11.41**	**330**	LR		LR	17 37 57.1		
	comp=E,263nm,20.4s,baz=208,slow=35								
PDAR	**Pinedale Array**	**11.51**	**21**	Pn		Pn	17 34 04.5	+3.3	
	comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=2.9								
NEW	**Newport**	**16.23**	**355**	Pn		**P**	**17 35 07.8**	**-0.1**	
	comp=E,0.1nm,0.3s,baz=176,slow=14,SNR=2.3								
NEW				LR		LR	17 41 16.5		
	comp=E,240nm,21.2s,baz=180,slow=37								
BBB	**Bella Bella**	**22.23**	**338**	LR		LR	17 45 27.9		
	comp=E,310nm,19.3s,baz=140,slow=38								
ULM	**Lac du Bonnet**	**23.06**	**33**	LR		LR	17 44 54.8		
	comp=E,111nm,18.8s,baz=291,slow=36								
TKL	**Tuckaleechee C**	**26.15**	**74**	LR		LR	17 48 05.0		
	comp=E,223nm,21.6s,baz=296,slow=39								
APG	**El Apazote**	**28.12**	**121**	LR		LR	17 47 51.7		
	comp=E,389nm,19.9s,baz=109,slow=35								
DLBC	**Dease Lake**	**28.24**	**343**	P		**P**	**17 37 11.7**	**+1.9**	
	comp=E,0.9nm,0.4s,baz=153,slow=2.3,SNR=3.6								
DLBC				LR		LR	17 50 31.1		
	comp=E,125nm,18.5s,baz=178,slow=41								
SADO	**Sadowa**	**30.59**	**55**	LR		LR	17 51 25.3		
	comp=E,111nm,18.2s,baz=281,slow=40								
JTS	**JuntasAbangare**	**35.25**	**121**	LR		LR	17 52 28.6		
	comp=E,165nm,20.1s,baz=318,slow=36								
INK	**Inuvik**	**37.80**	**349**	P		**P**	**17 38 34.4**	**+1.6**	
	comp=E,0.4nm,0.8s,baz=170,slow=5.6,SNR=2.0								
ILAR	**Eielson Array**	**38.12**	**339**	P		**P**	**17 38 37.1**	**+1.5**	
	comp=E,0.6nm,0.7s,baz=156,slow=7.4,SNR=7.3								
ILAR				LR		LR	17 54 23.3		
	comp=E,105nm,18.3s,baz=157,slow=36								
SCHQ	**Schefferville**	**40.67**	**41**	LR		LR	17 56 01.6		
	comp=E,86nm,18.2s,baz=291,slow=36								
ROSC	**El Rosal**	**46.72**	**117**	LR		LR	18 01 15.4		
	comp=E,71nm,18.4s,baz=334,slow=38								
SFJD	**Kangerlussuaq**	**50.94**	**27**	LR		LR	18 00 29.7		
	comp=E,71nm,18.2s,baz=252,slow=34								
PCRV	**Puerto La Cruz**	**51.29**	**104**	LR		LR	18 06 08.1		
	comp=E,36nm,18.2s,slow=41								
ARCES	**ARCESS Array B**	**74.67**	**13**	LR		LR	18 17 06.0		
	comp=E,49nm,19.5s,baz=326,slow=37								
SONM	**Songino Array**	**92.18**	**333**	LR		LR	18 28 23.6		
	comp=E,24nm,18.6s,baz=48,slow=37								
USHA	**Ushuaia**	**95.39**	**155**	LR		LR	18 17 07.5		
	comp=E,75nm,18.9s,baz=74,slow=29								

*ISCJB **06** 17:46:54.7±1.4,50.6°N±0.2×29.7°W±0.3,h10km,mb3.6/7, MS3.1/8, Error ellipse: s-maj=33.1km s-min=24.9km az=44.4*

*IDC **06** 17:46:54.9±1.3,50.58°N×29.76°W,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.3/58,mbtmp3.6/7,MS3.2/8,Ms1 3.2/8, ms1mx2.8/48, Error ellipse: s-maj=35.0km s-min=28.6km az=27.0*

ISC 06 17:46:56.2±1.3,50.6N±0.2×29.8W±0.2,h10km,n16, σ0s60/10,mb3.6/7,MS3.1/8,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOA	**NORSAR Array B**	**24.90**	**49**	LR	LR	17 59 45.6	
	comp=Z,41nm,18.3s,baz=280,slow=31						
HFS	**Hagfors**	**26.06**	**52**	LR		18 00 10.3	
	comp=Z,40nm,20.2s,baz=270,slow=31						
DAVOX	**Davos/Dischmat**	**26.25**	**83**	LR	LR	18 01 00.6	
	comp=Z,48nm,19.1s,baz=244,slow=32						
GERES	**GERESS Array B**	**27.89**	**76**	LR	LR	18 02 49.1	
	comp=Z,52nm,18.3s,baz=266,slow=34						
VRAC	**Vranov**	**29.51**	**74**	LR	LR	18 04 07.9	
	comp=Z,52nm,19.0s,baz=312,slow=35						
FINES	**FINESS Array B**	**32.07**	**49**	P	**P**	**17 53 22.9**	**0.0**
	0.5nm,0.6s,baz=263,slow=8.3,SNR=3.4						
FINES				LR	LR	18 05 09.7	
	comp=Z,26nm,21.6s,baz=337,slow=34						
AKASG	**Malin Array Be**	**36.57**	**66**	LR	LR	18 09 05.9	
	comp=Z,34nm,19.2s,baz=320,slow=36						
YKA	**Yellowknife Ar**	**44.85**	**319**	P	**P**	**17 55 10.4**	**+0.3**
	0.5nm,0.9s,baz=59,slow=8.5,SNR=6.4						
YKA				PcP	**PcP**	**17 56 51.6**	**0.0**
	0.5nm,0.7s,baz=66,slow=3.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**45.26**	**134**	P	**P**	**17 55 14.0**	**+0.1**
	0.4nm,0.7s,baz=335,slow=8.9,SNR=2.6						
INK	**Inuvik**	**48.80**	**331**	LR	LR	18 14 51.9	
	comp=Z,39nm,18.3s,baz=231,slow=34						
AKTO	**Aktyubinsk**	**52.58**	**54**	P	**P**	**17 56 10.3**	**+0.6**
	1.5nm,0.6s,baz=297,slow=8.1,SNR=5.9						
BVAR	**Borovoye Array**	**56.93**	**45**	P	**P**	**17 56 41.6**	**+0.4**
	0.8nm,0.6s,baz=311,slow=7.0,SNR=7.8						
KURBB	**Kurchatov Arra**	**62.23**	**43**	P	**P**	**17 57 16.6**	**-1.1**
	0.1nm,0.3s,baz=319,slow=6.2,SNR=4.1						
MKAR	**Makanchi Array**	**66.75**	**44**	P	**P**	**17 57 47.2**	**-0.2**
	0.3nm,0.6s,baz=351,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**146.97**	**28**	PKPbc	**PKPbc**	**18 06 38.2**	**-0.8**
	0.2nm,0.5s,baz=341,slow=3.5,SNR=5.4						
ASAR	**Alice Springs**	**150.31**	**31**	PKPbc	**PKPbc**	**18 06 47.4**	**-0.3**
	0.3nm,0.7s,baz=356,slow=2.2,SNR=5.9						

*TIF **06** 17:49:59.6,42.56N×43.52E,h15km±1km*
*CSEM **06** 17:50:00.3±0.1,42.54N×43.47E,h2km,mb3.9,Error ellipse: s-maj=2.6km s-min=1.8km az=117.0*
*MOS **06** 17:50:00.8±1.2,42.59N×43.47E,h13km,mb3.9/1,Error ellipse: s-maj=9.4km s-min=5.5km az=84.4*
*DDA **06** 17:50:01.2,42.60N×43.52E,h16km,MD3.3*
*ISK **06** 17:50:04.3,42.23N×43.46E,h16km,MD3.2*

ISC 06 17:50:00.6±0.8,42.54N±0.02×43.49E±0.02,h10km±5km, n70,σ0s70/124,7C-8D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.06**	**329**	P	**Pg**	**17 50 02.7**	**0.0**
ONI				S	**Sg**	**17 50 04.8**	**+0.6**
DIGR	**Digorskoe uzhe**	**0.36**	**11**	⇓*i*Pg	**Pg**	**17 50 07.0**	**-0.8**
DIGR				*i* S	**Sg**	**17 50 12.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.36**	**11**	*i* Pg	**Pg**	**17 50 07.0**	**-0.8**
DIGR				*i* Sg	**Sg**	**17 50 12.5**	**-0.2**
ZEI	**Tsey**	**0.39**	**51**	⇓*i*Pg	**Pg**	**17 50 07.5**	**-0.8**
ZEI				*i* S	**Sg**	**17 50 13.1**	**-0.4**
LACR	**Lac**	**0.66**	**64**	⇓*i*Pg	**Pg**	**17 50 12.2**	**-1.1**
LACR				*i* S	**Sg**	**17 50 21.3**	**-0.7**
LACR	**Lac**	**0.66**	**64**	*i* Pg	**Pg**	**17 50 12.2**	**-1.1**
LACR				*i* Sg	**Sg**	**17 50 21.3**	**-0.7**
KORR	**Kora**	**0.69**	**38**	⇑*i*Pg	**Pg**	**17 50 13.4**	**-0.5**
KORR				*e*S	**Sg**	**17 50 23.2**	**+0.3**
KORR	**Kora**	**0.69**	**38**	*i* Pg	**Pg**	**17 50 13.4**	**-0.5**
KORR				*e*Sg	**Sg**	**17 50 23.2**	**+0.3**
LSNR	**Lesken**	**0.78**	**18**	⇓*i*Pg	**Pg**	**17 50 15.0**	**-0.5**
LSNR				*e*S	**Sg**	**17 50 25.9**	**+0.3**
LSNR	**Lesken**	**0.78**	**18**	*i* Pg	**Pg**	**17 50 15.0**	**-0.5**
LSNR				*e*Sg	**Sg**	**17 50 25.9**	**+0.3**
ARNR	**Ardon**	**0.86**	**42**	⇑*i*PG	**Pg**	**17 50 17.3**	**+0.1**
ARNR				*e*S	**Sb**	**17 50 29.2**	**-0.1**
ARNR	**Ardon**	**0.86**	**42**	*i* Pg	**Pg**	**17 50 17.3**	**+0.1**
ARNR				*e*Sg	**Sb**	**17 50 29.2**	**-0.1**
NEY	**Neytrino**	**0.90**	**322**	⇑*i*PG	**Pg**	**17 50 18.0**	**0.0**
NEY				*i* S	**Sb**	**17 50 30.7**	**+0.1**
NEY	**Neytrino**	**0.90**	**322**	*i* Pg	**Pg**	**17 50 18.0**	**0.0**
NEY				*i* Sg	**Sb**	**17 50 30.7**	**+0.1**
STDR	**Stavd-Durt**	**0.93**	**27**	⇓*i*PG	**Pb**	**17 50 18.6**	**-0.1**
STDR				*e*S	**Sb**	**17 50 31.6**	**+0.5**
STDR	**Stavd-Durt**	**0.93**	**27**	*i* Pg	**Pb**	**17 50 18.6**	**-0.1**
STDR				*e*Sg	**Sb**	**17 50 31.6**	**+0.5**
NCK	**Nalchik**	**0.95**	**5**	⇑*i*PG	**Pb**	**17 50 19.0**	**-0.2**
NCK				*i* S	**Sn**	**17 50 33.0**	**-0.8**
NCK	**Nalchik**	**0.95**	**5**	*i* Pg	**Pb**	**17 50 19.0**	**-0.2**
NCK				*i* Sg	**Sn**	**17 50 33.0**	**-0.8**
VLKR	**Vladikavkaz**	**1.01**	**60**	⇓*i*PG	**Pg**	**17 50 20.3**	**+0.3**
VLKR				*e*S	**Sg**	**17 50 33.9**	**+0.8**
VLKR	**Vladikavkaz**	**1.01**	**60**	*i* Pg	**Pg**	**17 50 20.3**	**+0.3**
VLKR				*e*Sg	**Sg**	**17 50 33.9**	**+0.8**
CHVG	**Ch'k'valeri**	**1.05**	**280**	*e*PG	**Pb**	**17 50 20.2**	**-0.6**
CHVG				*e*SG	**Sb**	**17 50 33.1**	**-1.4**
CHVG	**Ch'k'valeri**	**1.05**	**280**	P	**Pb**	**17 50 20.1**	**-0.8**
CHVG				S	**Sg**	**17 50 34.9**	**+0.4**
CHVG	**Ch'k'valeri**	**1.05**	**280**	*e*Pg	**Pb**	**17 50 20.3**	**-0.6**
CHVG				*e*Sg	**Sb**	**17 50 33.3**	**-1.4**
SNJR	**Sundja**	**1.10**	**61**	⇓*i*PG	**Pn**	**17 50 21.8**	**-0.4**
SNJR				*e*S	**Sn**	**17 50 36.8**	**-0.7**
SNJR	**Sundja**	**1.10**	**61**	*i* Pg	**Pn**	**17 50 21.8**	**-0.4**
SNJR				*e*Sg	**Sn**	**17 50 36.8**	**-0.7**
AKH	**Akhalkalaki**	**1.13**	**180**	*e*PG	**Pb**	**17 50 21.0**	**-1.3**
AKH	**Akhalkalaki**	**1.13**	**180**	P	**Pb**	**17 50 21.5**	**-0.8**
AKH				S	**Sb**	**17 50 37.2**	**0.0**
AKH	**Akhalkalaki**	**1.13**	**180**	*e*Pg	**Pb**	**17 50 21.0**	**-1.3**
BTKR	**Batakoyurt**	**1.13**	**43**	⇓*i*PG	**Pg**	**17 50 23.1**	**+0.8**
BTKR				*e*S	**Sn**	**17 50 38.7**	**+0.5**
BTKR	**Batakoyurt**	**1.13**	**43**	*i* Pg	**Pg**	**17 50 23.1**	**+0.8**
BTKR				*e*Sg	**Sn**	**17 50 38.7**	**+0.5**
TBLG	**Delisi**	**1.23**	**131**	*e*PG	**Pg**	**17 50 24.5**	**+0.2**
TBLG				*e*SG	**Sg**	**17 50 41.2**	**+1.0**
TBLG	**Delisi**	**1.23**	**131**	*e*PG	**Pg**	**17 50 24.4**	**+0.2**
TBLG	**Delisi**	**1.23**	**131**	P	**Pg**	**17 50 24.4**	**+0.2**
TBLG				S	**Sb**	**17 50 39.7**	**-0.2**
TBLG	**Delisi**	**1.23**	**131**	P	**Pg**	**17 50 24.4**	**+0.2**
TBLG				S	**Sb**	**17 50 39.7**	**-0.2**
TBLG				*e*Sg	**Sg**	**17 50 41.2**	**+1.0**
KUBR	**Kubataba**	**1.26**	**357**	⇑*e*PG	**Pg**	**17 50 25.1**	**+0.4**
KUBR				*i* S	**Sg**	**17 50 43.0**	**+1.9**
KUBR	**Kubataba**	**1.26**	**357**	*e*Pg	**Pg**	**17 50 25.1**	**+0.4**
KUBR				*i* Sg	**Sg**	**17 50 43.0**	**+1.9**
PRTR	**Priterechnaya**	**1.34**	**25**	*e*PG	**Pg**	**17 50 26.7**	**+0.4**
PRTR				*e*S	**Sg**	**17 50 44.9**	**+1.2**
PRTR	**Priterechnaya**	**1.34**	**25**	*e*Pg	**Pg**	**17 50 26.7**	**+0.4**
PRTR				*e*Sg	**Sg**	**17 50 44.9**	**+1.2**
KZR	**Kazreti**	**1.35**	**149**	P	**Pn**	**17 50 24.7**	**-0.8**
KZR				S	**Sn**	**17 50 42.1**	**-1.4**
PYA	**Pyatigorsk**	**1.52**	**348**	⇑*i*PG	**Pb**	**17 50 28.8**	**-0.1**
PYA				*i* S	**Sg**	**17 50 49.3**	**-0.2**
PYA	**Pyatigorsk**	**1.52**	**348**	*i* Pg	**Pb**	**17 50 28.8**	**-0.1**
PYA				*i* Sg	**Sg**	**17 50 49.3**	**-0.2**
KIV	**Kislovodsk**	**1.53**	**338**	⇑*e*PG	**Pb**	**17 50 28.7**	**-0.4**
KIV				*i* S	**Sg**	**17 50 49.6**	**-0.2**
KIV	**Kislovodsk**	**1.53**	**338**	*e*Pg	**Pb**	**17 50 28.7**	**-0.4**
KIV				*i* Sg	**Sg**	**17 50 49.6**	**-0.2**
BCA	**Borcka**	**1.77**	**232**	*e*PN	**Pn**	**17 50 31.6**	**+0.3**
BCA	**Borcka**	**1.77**	**232**	*e*Pn	**Pn**	**17 50 31.6**	**+0.3**
DGRG	**David-gareji**	**1.78**	**127**	*e*PN	**Pb**	**17 50 33.1**	**-0.2**
DGRG	**David-gareji**	**1.78**	**127**	P	**Pb**	**17 50 33.1**	**-0.2**
DGRG				S	**Sg**	**17 50 58.9**	**+1.2**
DGRG	**David-gareji**	**1.78**	**127**	*e*Pn	**Pb**	**17 50 33.1**	**-0.2**
ARTV	**Artvin**	**1.79**	**221**	*i* P	**Pn**	**17 50 32.2**	**+0.5**
ARTV				*i* S	**Sb**	**17 50 57.0**	**+0.8**
ARTV	**Artvin**	**1.79**	**221**	*i* P	**Pn**	**17 50 32.2**	**+0.5**
ARTV				*i* S	**Sb**	**17 50 57.0**	**+0.8**
DBOC	**Borcka**	**1.81**	**229**	*i* P	**Pn**	**17 50 32.2**	**+0.3**
DBOC				*i* S	**Sb**	**17 50 57.6**	**+1.0**
DBOC	**Borcka**	**1.81**	**229**	*i* P	**Pn**	**17 50 32.2**	**+0.3**
DBOC				*i* S	**Sb**	**17 50 57.6**	**+1.0**
EAK	**Akyaka**	**1.86**	**177**	*i* P	**Pn**	**17 50 32.5**	**-0.1**
EAK				*i* S	**Sb**	**17 50 58.5**	**+0.5**
EAK	**Akyaka**	**1.86**	**177**	*i* P	**Pn**	**17 50 32.5**	**-0.1**
EAK				*i* S	**Sb**	**17 50 58.5**	**+0.5**
DAGI	**Agillar**	**1.88**	**219**	*i* P	**Pn**	**17 50 33.6**	**+0.8**
DAGI				*i* S	**Sb**	**17 50 59.5**	**+0.8**
DBAD	**Bademkaya**	**2.03**	**222**	*i* P	**Pn**	**17 50 35.5**	**+0.6**
DBAD				*i* S	**Sb**	**17 51 03.5**	**+0.5**
DBAD	**Bademkaya**	**2.03**	**222**	*i* P	**Pn**	**17 50 35.5**	**+0.6**
DBAD				*i* S	**Sb**	**17 51 03.5**	**+0.5**
DDEM	**Demirkent**	**2.10**	**219**	*i* P	**Pn**	**17 50 37.1**	**+1.2**
DDEM				*i* S	**Sb**	**17 51 04.5**	**-0.5**
DDEM	**Demirkent**	**2.10**	**219**	*i* P	**Pn**	**17 50 37.1**	**+1.2**
DDEM				*i* S	**Sb**	**17 51 04.5**	**-0.5**
DIGO	**Kars**	**2.13**	**182**	*i* P	**Pb**	**17 50 38.0**	**-1.4**
DIGO	**Kars**	**2.13**	**182**	*i* P	**Pb**	**17 50 38.0**	**-1.4**
DIGO				*i* S	**Sg**	**17 51 09.0**	**+0.1**
GOF	**Gofitskoye**	**2.54**	**353**	*e*PN	**Pg**	**17 50 48.7**	**-0.4**
GOF				*e*S	**Sg**	**17 51 21.8**	**-0.2**
GOF	**Gofitskoye**	**2.54**	**353**	*e*Sb	**Sg**	**17 51 21.8**	**-0.2**
GNI	**Garni**	**2.57**	**158**	*e*PN	**Pb**	**17 50 47.1**	**+0.3**
SOC	**Sochi**	**2.95**	**292**	*e*PN	Pg	17 51 00.4	+3.2
SOC				*e*		17 51 28.5	
SOC				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,15nm,0.5s						
ANN	**Anapa**	**4.94**	**299**	*e*PN	**Pn**	**17 51 15.0**	**+0.2**
ANN				pmax	pmax		
	comp=Z,52nm,1.2s						
ANN	**Anapa**	**4.94**	**299**	*e*Pn	**Pn**	**17 51 15.0**	**+0.2**
	comp=Z,52nm,1.2s						
OBN	**Obninsk**	**13.37**	**343**	*e*P	**Pn**	**17 53 11.0**	**+0.8**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	**Obninsk**	**13.37**	**343**	*e*P	**Pn**	**17 53 11.0**	**+0.8**
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**22.46**	**304**	*e*P	**P**	**17 54 59.0**	**-0.6**

*IDC **06** 17:52:53.4±3.2,12.34S×167.64E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/18,mbtmp3.6/4,MS3.2/1,Ms1 3.2/1, ms1mx2.6/18,Error ellipse: s-maj=153.4km s-min=30.8km az=140.0,Santa Cruz Islands*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**28.41**	**288**	LR	LR	18 10 15.2	
	comp=Z,54nm,21.2s,slow=37						
WRA	**Warramunga Arr**	**32.82**	**252**	P	P	17 59 29.3	+0.3
	0.1nm,0.4s,baz=85,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**33.92**	**246**	P	P	17 59 38.9	+0.3
	0.2nm,0.6s,baz=68,slow=9.7,SNR=5.7						
ILAR	**Eielson Array**	**84.16**	**18**	P	P	18 05 27.1	+1.0
	0.9nm,0.6s,baz=221,slow=5.0,SNR=15						
MKAR	**Makanchi Array**	**95.73**	**317**	P	P	18 06 20.3	-1.2
	0.4nm,0.7s,baz=108,slow=4.7,SNR=5.7						
ARCES	**ARCESS Array B**	**118.04**	**346**	PKP	PKPdf	18 11 40.3	-1.5
	1.7nm,0.8s,baz=50,slow=2.5,SNR=6.2						

*IDC **06** 18:01:38.3±1.2,38.29S×75.21W,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.9/17,mbtmp3.7/7,ML3.4/2,MS3.4/1, Ms1 3.4/1,ms1mx2.8/17, Error ellipse: s-maj=32.7km s-min=30.3km az=65.0*

*ISCJB **06** 18:01:43.4±1.0,38.03S±0.07×75.0W±0.1,h33km,mb3.8/5, MS3.5/1,Error ellipse: s-maj=14.2km s-min=9.6km az=158.9*

ISC 06 18:01:44.2±1.0,38.12S±0.10×75.1W±0.1,h35km,n11, σ1s15/12,mb3.9/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.39**	**128**	Pn	**Pn**	**18 02 46.8**	**-1.6**
	0.6nm,0.3s,baz=299,slow=13,SNR=15						
PLCA				Sn	**Sn**	**18 03 40.5**	**+2.2**
	3.4nm,0.3s,baz=255,slow=22,SNR=8.2						
CFAA	**Coronel Fontan**	**8.60**	**43**	Pn	**Pn**	**18 03 46.3**	**0.0**
	0.1nm,0.3s,baz=269,slow=5.9,SNR=6.8						
CFAA				Sn	**

MKAR	**Makanchi Array**	**44.06**	**348**	P		**P**	**18 23 37.5**	**-0.4**	
	0.4nm,0.4s,baz=166,slow=8.9,SNR=3.6								
SONM	**Songino Array**	**45.09**	**12**	P		**P**	**18 23 45.8**	**-0.5**	
	0.1nm,0.4s,baz=201,slow=7.6,SNR=1.9								
WRA	**Warramunga Arr**	**45.91**	**122**	P		**P**	**18 23 53.2**	**+0.1**	
	0.8nm,0.7s,baz=298,slow=9.1,SNR=8.3								
ASAR	**Alice Springs**	**47.31**	**127**	P		**P**	**18 24 04.5**	**+0.5**	
	0.4nm,0.6s,baz=299,slow=7.9,SNR=12								

*ISCJB **06** 18:22:59.8±0.5, 48.81N±0.05×155.18E±0.09, h50km, mb3.6/11, MS3.2/2, Error ellipse: s-maj=10.8km s-min=3.0km az=39.2*
*SKHL **06** 18:23:00.8±0.4, 48.74N×155.38E, h74km±8km, mb5.1/2*
*MOS **06** 18:23:01.2±0.9, 49.02N×155.01E, h73km, mb4.0/3, Error ellipse: s-maj=19.6km s-min=7.3km az=67.9*
*KRSC **06** 18:23:01.2±3.4, 48.82N×156.66E, h15km±7km, ML4.5*
*IDC **06** 18:23:04.3±2.7, 48.96N×154.85E, h84km±25km, mb3.3/11, mb1 3.6/16, mb1mx3.4/30, mbtmp3.7/16, MS2.9/4, Ms1 2.9/4, ms1mx2.6/23, Error ellipse: s-maj=22.9km s-min=13.1km az=137.0*

ISC 06 18:23:00.3±0.7, 48.74N±0.07×155.39E±0.07, h50km, n78, σ2s02/96, mb3.6/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**2.00**	**13**	*e*	P	N	Pn	18 23 27.9	-3.7
SKR				*i*	S		**Sn**	**18 23 51.0**	**-4.4**
SKR					pmax	pmax			
	comp=N,70nm,0.4s								
SKR					pmax	pmax			
	comp=Z,30nm,0.4s								
SKR					smax	smax			
	comp=N,980nm,0.4s								
SKR					smax	smax			
	comp=E,470nm,0.4s								
SKR	**Severo-Kuril's**	**2.00**	**13**	*i*	P		**Pn**	**18 23 32.0**	**+0.3**
SKR					S		**Sn**	**18 23 54.6**	**-0.8**
SKR	**Severo-Kuril's**	**2.00**	**13**	*e*	P		**Pn**	**18 23 31.9**	**+0.3**
SKR					S		**Sn**	**18 23 55.0**	**-0.4**
SKR					A	A		18 23 58.0	
	comp=E,980nm,0.7s								
PAU	**Pauzhetka**	**2.88**	**18**		PN		**Pn**	**18 23 45.8**	**+2.2**
PAU					S		**Sn**	**18 24 18.2**	**+1.2**
PAU	**Pauzhetka**	**2.88**	**18**	*e*	P		**Pn**	**18 23 45.8**	**+2.2**
PAU					eS		**Sn**	**18 24 18.2**	**+1.2**
PAU	**Pauzhetka**	**2.88**	**18**	*e*	P		**Pn**	**18 23 44.8**	**+1.2**
PAU					eS		**Sn**	**18 24 18.1**	**+1.1**
PAU					A	A		18 24 27.4	
	comp=E,2μm,0.8s								
MIPR	**Malaya Ipel'ka**	**3.65**	**13**	*e*	P		**Pn**	**18 23 55.5**	**+1.3**
MIPR					S		**Sn**	**18 24 34.8**	**-1.1**
ASAK	**Asacha**	**3.98**	**23**	*e*	P		**Pn**	**18 24 01.4**	**+2.5**
ASAK					eS		**Sn**	**18 24 46.2**	**+1.9**
MTVR	**Mutnovka**	**4.15**	**24**	*e*	P		**Pn**	**18 24 03.4**	**+2.2**
MTVR					eS		**Sn**	**18 24 48.7**	**+0.3**
RUS	**Russkaya**	**4.20**	**27**		PN		**Pn**	**18 24 02.8**	**+1.0**
RUS					S		**Sn**	**18 24 48.0**	**-1.4**
RUS	**Russkaya**	**4.20**	**27**	*i*	P		**Pn**	**18 24 02.7**	**+1.0**
RUS					eS		**Sn**	**18 24 48.0**	**-1.4**
APC	**Apacha**	**4.34**	**14**	*e*	P		**Pn**	**18 24 06.6**	**+3.0**
APC					eS		**Sn**	**18 24 55.1**	**+2.3**
PETK	**Petropavlovsk-**	**4.61**	**18**		P		**Pn**	**18 24 09.7**	**+2.2**
	comp=E,2.9nm,0.3s,baz=173,slow=14,SNR=84								
PETK					S		Sn	18 25 07.0	+7.4
	baz=175,slow=17,SNR=3.2								
PETK					LR	LR		18 25 59.1	
	comp=E,60nm,18.6s,baz=198,slow=39								
PET	**Petropavlovsk**	**4.76**	**25**	*e*	PN		**Pn**	**18 24 11.6**	**+2.2**
PET					eS		**Sn**	**18 25 05.7**	**+2.5**
PET					smax	smax			
	comp=E,133nm,0.6s								
PET					smax	smax			
	comp=N,180nm,1.0s								
PET	**Petropavlovsk**	**4.76**	**25**	*e*	P		**Pn**	**18 24 10.8**	**+1.4**
PET					eS		**Sn**	**18 25 03.0**	**-0.3**
PET	**Petropavlovsk**	**4.76**	**25**	*e*	P		**Pn**	**18 24 11.0**	**+1.6**
PET					eS		**Sn**	**18 25 02.9**	**-0.3**
UGLR	**Uglovaya**	**4.97**	**25**	*e*	P		**Pn**	**18 24 14.9**	**+2.5**
UGLR					eS		**Sn**	**18 25 08.9**	**+0.2**
KOK	**Koryaka**	**5.00**	**23**	*e*	P		Pn	18 24 16.0	+3.2
KOK					eS		**Sn**	**18 25 12.3**	**+3.1**
AVH	**Avacha**	**5.00**	**24**	*e*	P		**Pn**	**18 24 15.9**	**+3.1**
AVH					eS		**Sn**	**18 25 11.3**	**+2.0**
SMAR	**Somma**	**5.02**	**24**	*e*	P		**Pn**	**18 24 15.6**	**+2.5**
KRER	**Koryakskii**	**5.04**	**24**	*e*	P		**Pn**	**18 24 16.1**	**+2.7**
KRER					eS		**Sn**	**18 25 11.3**	**+0.9**
SDLR	**Sedlovina**	**5.05**	**25**	*e*	P		**Pn**	**18 24 15.3**	**+1.8**
SDLR					eS		**Sn**	**18 25 10.5**	**-0.1**
KRX	**Arik**	**5.06**	**23**	*e*	P		**Pn**	**18 24 16.5**	**+2.8**
KRX					eS		**Sn**	**18 25 12.7**	**+1.8**
NLC	**Nalytchevo**	**5.09**	**28**		P		**Pn**	**18 24 13.6**	**-0.4**
NLC					S		**Sn**	**18 25 06.9**	**-4.5**
GNL	**Ganaly**	**5.21**	**17**	*e*	P		**Pn**	**18 24 18.8**	**+3.0**
SPN	**Mys Shipunski**	**5.26**	**32**		PN		**Pn**	**18 24 17.4**	**+1.2**
SPN					S		**Sn**	**18 25 13.1**	**-2.3**
SPN	**Mys Shipunski**	**5.26**	**32**	*e*	P		**Pn**	**18 24 17.4**	**+1.2**
SPN					eS		**Sn**	**18 25 13.1**	**-2.3**
KII	**Karymskiy**	**5.88**	**24**		P		Pn	18 24 28.4	+3.5
KII					S		**Sn**	**18 25 32.9**	**+2.0**
KUR	**Kuril'sk**	**6.22**	**239**	⇑ *i*	PN		**Pn**	**18 24 31.7**	**+2.2**
KUR					eS		**Sn**	**18 25 44.9**	**+5.6**
KUR					pmax	pmax			
	comp=Z,23nm,1.5s								
KUR					pmax	pmax			
	comp=Z,520nm,3.2s								
KUR					smax	smax			
	comp=E,13nm,1.6s								
KUR					pmax	pmax			
	comp=N,438nm,3.8s								
KUR					smax	smax			
	comp=N,427nm,3.0s								
KUR	**Kuril'sk**	**6.22**	**239**	*e*	P		**Pn**	**18 24 30.9**	**+1.4**
KUR					AMB	AMB		18 24 32.1	
	comp=N,45nm,0.8s								
KUR					eS		**Sn**	**18 25 43.3**	**+4.0**
KUR					A	A		18 25 58.5	
	comp=N,220nm,0.9s								
KUR					A	A		18 25 58.5	
	comp=N,260nm,0.9s								
MKZ	**Mys Kozlova**	**7.03**	**32**		PN		**Pn**	**18 24 40.4**	**-0.1**
MKZ	**Mys Kozlova**	**7.03**	**32**	*e*	P		**Pn**	**18 24 40.4**	**-0.1**
MKZ					S		**Sn**	**18 25 53.9**	**-5.1**
TUMR	**Tumrok**	**7.18**	**22**		P		**Pn**	**18 24 44.5**	**+1.8**
SHO	**Shikotan**	**7.67**	**234**	*e*	P		**Pn**	**18 24 51.7**	**+2.4**
YSS	**Yuzh-Sakhalins**	**8.68**	**263**		PN		**Pn**	**18 25 03.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**8.68**	**263**	*e*	P		**Pn**	**18 25 04.7**	**+1.5**
YSS					AMB	AMB		18 25 04.9	
	comp=N,150nm,0.5s								
YSS					eS		**Sn**	**18 26 39.0**	**-0.6**
YSS					A	A		18 26 56.2	
	comp=N,201nm,1.3s								
KBTR	**Krutoberegovo**	**8.74**	**28**		PN		**Pn**	**18 25 04.9**	**+1.0**
KBTR	**Krutoberegovo**	**8.74**	**28**		P		**Pn**	**18 25 04.9**	**+1.0**
BKI	**Bering**	**9.19**	**41**	*e*	S		Sn	18 26 44.1	-7.8
ASAJ	**Asahikawa**	**9.96**	**247**		P		**Pn**	**18 25 22.6**	**+1.9**
	comp=N,2.1nm,0.3s,baz=76,slow=13,SNR=21								
ASAJ					LR	LR		18 29 08.9	
	comp=N,36nm,18.8s,baz=284,slow=38								
ERM	**Erimo**	**10.91**	**237**	*i*	PN		**Pn**	**18 25 31.6**	**-2.0**
ERM	**Erimo**	**10.91**	**237**	*e*	P		**Pn**	**18 25 31.6**	**-2.0**
SEY	**Seymchan**	**14.32**	**354**		P		**Pn**	**18 26 21.1**	**+1.1**
	comp=N,0.1nm,0.3s,baz=176,slow=12,SNR=5.5								
USRK	**Ussuriysk Ar.**	**16.72**	**263**		P		**Pn**	**18 26 49.4**	**-1.5**
	comp=N,0.1nm,0.3s,baz=66,slow=14,SNR=2.7								
YAK	**Yakutsk**	**19.57**	**322**		P		**P**	**18 27 19.8**	**-3.9**
	comp=N,0.0nm,0.3s,baz=104,slow=3.4,SNR=3.2								
YAK	**Yakutsk**	**19.57**	**322**	*e*	P		**Pn**	**18 27 24.6**	**-0.8**
BILL	**Bilibino**	**20.12**	**12**	*e*	P		**P**	**18 27 28.8**	**-0.8**
BILL					pmax	pmax			
	comp=Z,6.0nm,1.7s								
KSRS	**Korea Array**	**22.88**	**251**	*e*	P		**P**	**18 27 58.6**	**-0.8**
KSRS	**Korea Array**	**22.88**	**251**		P		**P**	**18 27 57.3**	**-2.2**
	comp=Z,1.5nm,0.7s,baz=46,slow=10,SNR=4.6								
KSRS	**Korea Array**	**22.88**	**251**	*e*	P		**P**	**18 27 58.6**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**30.39**	**158**		T		T	19 01 35.6	
	baz=345,slow=76,SNR=27								
H11N1	**WAKE ISLAND Hy**	**30.41**	**158**		T		T	19 01 38.1	
	baz=345,slow=76,SNR=27								
H11N3	**WAKE ISLAND Hy**	**30.41**	**158**		T		T	19 01 33.1	
	baz=345,slow=76,SNR=21								
H11S1	**WAKE ISLAND Hy**	**31.52**	**159**		T		T	19 02 58.4	
	baz=346,slow=76,SNR=623								
H11S3	**WAKE ISLAND Hy**	**31.53**	**159**		T		T	19 02 59.1	
	baz=346,slow=76,SNR=485								
H11S2	**WAKE ISLAND Hy**	**31.54**	**159**		T		T	19 02 58.5	
	baz=346,slow=76,SNR=450								
ILAR	**Eielson Array**	**34.04**	**40**	P			**P**	**18 29 39.8**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=272,slow=8.8,SNR=4.1								
MKAR	**Makanchi Array**	**47.40**	**297**	*e*	P		**P**	**18 31 28.6**	**-0.8**
MKAR	**Makanchi Array**	**47.40**	**297**		P		**P**	**18 31 26.5**	**-2.9**
	comp=Z,0.1nm,0.4s,baz=71,slow=7.5,SNR=8.2								
MKAR					LR	LR		18 52 06.2	
	comp=Z,21nm,19.0s,baz=40,slow=37								
MKAR	**Makanchi Array**	**47.40**	**297**	*e*	P		**P**	**18 31 28.6**	**-0.8**
YKA	**Yellowknife Ar**	**48.41**	**38**		P		**P**	**18 31 37.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=300,slow=7.5,SNR=8.6								
YKA	**Yellowknife Ar**	**48.41**	**38**	*e*	P		**P**	**18 31 38.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**54.32**	**257**	*e*	P		**P**	**18 32 21.7**	**0.0**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**54.32**	**257**		P		**P**	**18 32 20.9**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=27,slow=6.3,SNR=10								
CMAR	**Chiang Mai Arr**	**54.32**	**257**	*e*	P		**P**	**18 32 21.6**	**-0.1**
ARCES	**ARCESS Array B**	**56.47**	**341**		LR	LR		19 00 12.7	
	comp=Z,24nm,19.0s,baz=283,slow=40								
PDAR	**Pinedale Array**	**62.35**	**56**		P		**P**	**18 33 20.4**	**+2.7**
	comp=Z,0.8nm,1.0s,baz=308,slow=3.3,SNR=3.0								
FINES	**FINESS Array B**	**62.88**	**335**		P		**P**	**18 33 18.3**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=42,slow=9.0,SNR=5.5								
FINES	**FINESS Array B**	**62.88**	**335**	*e*	P		**P**	**18 33 18.0**	**-2.6**
AKASG	**Malin Array Be**	**70.73**	**327**		P		**P**	**18 34 09.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=31,slow=6.2,SNR=2.4								
WRA	**Warramunga Arr**	**70.91**	**201**		P		**P**	**18 34 11.8**	**-0.2**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**70.91**	**201**		P		**P**	**18 34 11.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=17,slow=6.4,SNR=8.8								
WRA	**Warramunga Arr**	**70.91**	**201**	*e*	P		**P**	**18 34 11.5**	**-0.6**
ASAR	**Alice Springs**	**74.60**	**200**		P		**P**	**18 34 34.8**	**+0.9**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**74.60**	**200**	*e*	P		**P**	**18 34 34.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=13,slow=5.6,SNR=20								
ASAR	**Alice Springs**	**74.60**	**200**	*e*	P		**P**	**18 34 34.9**	**+1.0**
TXAR	**Lajitas Array**	**75.19**	**62**		P		**P**	**18 34 38.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=311,slow=4.2,SNR=5.2								
TXAR	**Lajitas Array**	**75.19**	**62**	*e*	P		**P**	**18 34 39.9**	**+2.3**

*IDC **06** 18:23:46.2±5.3, 18.12S×70.82W, h120km±40km, mb3.4/3, mb1 3.4/5, mb1mx3.2/21, mbtmp3.7/5, MS2.4/1, Ms1 2.6/1, ms1mx2.3/16, Error ellipse: s-maj=54.2km s-min=47.1km az=53.0*

ISC 06 18:23:35.0±1.4, 19.05S±0.2×71.43W±0.1, h35km, n15, σ2s05/8, mb4.0/3, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LPAZ	**La Paz**	**4.03**	**49**		P		**Pn**	**18 24 35.5**	**+0.7**
	1.4nm,0.3s,baz=244,slow=9.7,SNR=21								
LPAZ					LR	LR		18 26 12.4	
	comp=Z,71nm,22.0s,baz=186,slow=46								
NNA	**Nana**	**8.75**	**322**		S		**Sn**	**18 27 17.6**	**+1.0**
	5.8nm,0.3s,baz=66,slow=23,SNR=13								
SIV	**San Ignacio**	**10.20**	**75**		P		**Pn**	**18 26 00.5**	**+1.4**
	0.6nm,0.3s,baz=276,slow=12,SNR=6.3								
PTGA	**Pitinga**	**21.26**	**33**		P		P	18 28 12.3	-6.1
	1.8nm,0.3s,baz=152,slow=7.0,SNR=4.6								
TORD	**Torodi Ar. Bea**	**78.67**	**72**		P		**P**	**18 35 32.1**	**-2.0**
	0.5nm,0.7s,baz=253,slow=4.8,SNR=4.8								
YKA	**Yellowknife Ar**	**88.07**	**341**		P		**P**	**18 36 19.7**	**-1.7**
	0.5nm,0.6s,baz=136,slow=4.9,SNR=14								
H11S2	**WAKE ISLAND Hy**	**125.28**	**280**		T		T	21 00 03.3	
	baz=100,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hy**	**125.29**	**280**		T		T	21 00 02.9	
	baz=100,slow=75,SNR=22								
H11S3	**WAKE ISLAND Hy**	**125.30**	**280**		T		T	21 00 03.6	
	baz=100,slow=75,SNR=27								
H11N3	**WAKE ISLAND Hy**	**125.31**	**281**		T		T	21 00 00.8	
	baz=98,slow=74								
H11N2	**WAKE ISLAND Hy**	**125.32**	**281**		T		T	20 59 57.4	
	baz=98,slow=74								
H11N1	**WAKE ISLAND Hy**	**125.32**	**281**		T		T	21 00 11.6	
	baz=98								
ASAR	**Alice Springs**	**131.01**	**211**		PKP		**PKPdf**	**18 42 45.0**	**+1.2**
	0.5nm,1.1s,baz=150,slow=3.9,SNR=3.5								
WRA	**Warramunga Arr**	**133.88**	**214**		PKP		**PKPdf**	**18 42 52.3**	**+3.0**
	0.4nm,1.0s,baz=136,slow=1.9,SNR=3.7								
MKAR	**Makanchi Array**	**144.79**	**32**		PKP		**PKPab**	**18 43 06.7**	**-0.5**
	0.3nm,0.8s,baz=320,slow=5.1,SNR=3.6								

*ISCJB **06** 18:41:08.2±2.6, 34.79S±0.04×72.85W±0.06, h9km±16km, mb4.2/13, MS3.6/7, Error ellipse: s-maj=8.0km s-min=6.1km az=3.5*
*IDC **06** 18:41:08.5±0.7, 34.81S×72.75W, h0km, mb4.2/11, mb1 4.3/14, mb1mx4.2/21, mbtmp4.1/14, ML4.1/3, MS3.6/8, Ms1 3.6/8, ms1mx3.3/23, Error ellipse: s-maj=24.1km s-min=17.3km az=85.0*
*GUC **06** 18:41:10.4±0.4, 34.83S×72.85W, h46km±5km, ML4.3*
*NEIC **06** 18:41:11.1±4.2, 34.78S×72.81W, h18km±25km, mb4.6/3, Error ellipse: s-maj=17.2km s-min=7.7km az=85.0*

ISC 06 18:41:11.1±2.7, 34.79S±0.04×72.83W±0.08, h18km±12km, n39, σ1s34/47, mb4.2/13, MS3.7/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TALC	**Talca**	**1.15**	**122**	*i*	P		**Pn**	**18 41 30.5**	**-1.8**
TALC				*i*	S		**Sb**	**18 41 45.1**	**-1.9**
TALC					AML	AML		18 41 52.3	
	comp=E,18μm,0.9s								
NICH	**Los Niches**	**1.33**	**99**	*i*	P		**Pn**	**18 41 34.0**	**-0.8**
NICH				*i*	S		**Sb**	**18 41 51.6**	**-0.6**
NICH					AML	AML		18 41 57.0	
	comp=N,16μm,0.6s								
COCH	**Cobquecura**	**1.33**	**179**	*i*	P		**Pn**	**18 41 33.4**	**-1.4**
COCH				*i*	S		**Sn**	**18 41 50.2**	**-1.9**
COCH					AML	AML		18 41 51.5	
	comp=E,2μm,0.6s								
LNCH	**Linares**	**1.45**	**137**	*i*	P		**Pn**	**18 41 35.3**	**-1.1**
LNCH				*i*	S		**Sn**	**18 41 53.7**	**-1.3**
LNCH					AML	AML		18 41 57.8	
	comp=N,16μm,0.5s								
CLCH	**Cerro Calan**	**2.36**	**54**	*i*	P		**Pn**	**18 41 48.7**	**-0.3**
CLCH				*i*	S		**Sn**	**18 42 18.8**	**+1.3**
CLCH					AML	AML		18 42 30.3	
	comp=N,2μm,0.7s								
PEL	**Peldehue**	**2.42**	**48**	*i*	P		**Pn**	**18 41 49.5**	**-0.3**
PEL				*i*	S		**Sn**	**18 42 19.3**	**+0.2**
PEL					AML	AML		18 42 34.7	
	comp=E,2μm,0.4s								
CFAA	**Coronel Fontan**	**4.99**	**52**		Pn		**Pn**	**18 42 25.5**	**+0.4**
	comp=E,1.2nm,0.3s,baz=227,slow=12,SNR=30								
CFAA					Sn		**Sn**	**18 43 22.9**	**+0.5**
	comp=E,0.4nm,0.3s,baz=235,slow=12,SNR=2.5								
LCO	**Las Campanas**	**6.04**	**18**	*e*	Pn		**Pn**	**18 42 37.8**	**-2.0**
	comp=E,19nm,0.4s								
LCO				*e*	Sn		**Sn**	**18 43 44.8**	**-3.9**
PLCA	**Paso Flores**	**6.20**	**164**		Pn		**Pn**	**18 42 42.2**	**+0.5**
	comp=E,1.7nm,0.3s,baz=339,slow=12,SNR=32								
PLCA					Lg	Lg		18 44 17.2	
	comp=E,0.6nm,0.3s,baz=228,slow=23,SNR=3.0								
PLCA					LR	LR		18 45 10.1	
	comp=E,449nm,21.6s,baz=326,slow=39								
PLCA	**Paso Flores**	**6.20**	**164**	*e*	Pn		**Pn**	**18 42 41.4**	**-0.4**
PLCA				*e*	Sg		**Sb**	**18 44 17.0**	**+4.7**
PLCA					Lg	Lg		18 44 17.2	
TRQA	**Tornquist**	**9.33**	**114**	*e*	Pn		**Pn**	**18 43 26.0**	**+1.4**
	comp=E,8.0nm,0.7s								
LPAZ	**La Paz**	**18.91**	**14**		P		**Pn**	**18 45 32.6**	**+0.6**
	comp=E,0.5nm,0.3s,baz=177,slow=7.9,SNR=17								
LPAZ	**La Paz**	**18.91**	**14**		P		**Pn**	**18 45 32.6**	**+0.6**
LPAZ				*e*	Pn		**P**	**18 45 33.1**	**+1.7**
USHA	**Ushuaia**	**20.27**	**173**		LR	LR		18 54 23.1	
	comp=E,343nm,20.4s,baz=286,slow=39								
SIV	**San Ignacio**	**21.49**	**32**		P		**P**	**18 45 58.5**	**-0.4**
	comp=E,5.3nm,0.8s,baz=226,slow=12,SNR=12								
SIV					LR	LR		18 55 41.9	
	comp=E,206nm,18.2s,baz=210,slow=41								
NNA	**Nana**	**23.00**	**350**		LR	LR		18 52 50.4	
	comp=E,98nm,19.6s,baz=172,slow=30								
SAML	**Samuel**	**27.20**	**21**	*e*	P		**P**	**18 46 51.9**	**-2.0**
	comp=E,2.8nm,0.8s								
ROSC	**El Rosal**	**39.46**	**358**		LR	LR		19 05 30.8	
	comp=E,32nm,19.8s,baz=335,slow=37								
SNAA	**Sanae**	**51.10**	**158**		P		**P**	**18 50 12.5**	**+0.3**
	comp=E,1.0nm,1.0s,baz=290,slow=8.2,SNR=4.4								
QSPA	**South Pole Qui**	**55.44**	**180**		P		**P**	**18 50 44.9**	**+0.5**
	comp=E,2.2nm,1.0s,baz=124,slow=3.6,SNR=3.8								
QSPA	**South Pole Qui**	**55.44**	**180**	*e*	P		**P**	**18 50 43.6**	**-0.7**
	comp=E,7.8nm,1.1s								
TXAR	**Lajitas Array**	**70.11**	**332**		P		**P**	**18 52 23.4**	**+1.0**
	comp=E,1.3nm,0.7s,baz=153,slow=8.0,SNR=13								
TXAR					LR	LR		19 18 19.0	
	comp=E,61nm,18.4s,baz=0.0,slow=32								
MAW	**Mawson**	**72.60**	**164**	LR		LR		19 26 41.2	
	comp=E,60nm,18.5s,baz=238,slow=38								
DBIC	**Dimbokro**	**76.05**	**72**		P		**P**	**18 52 57.6**	**-0.2**
	comp=E,2.8nm,0.8s,baz=219,slow=6.5,SNR=5.1								
BOSA	**Boshof**	**80.28**	**118**		P		**P**	**18 53 21.1**	**-0.2**
	comp=E,6.2nm,1.0s,baz=188,slow=8.1,SNR=5.0								
ECSD	**EROS Data Cent**	**81.11**	**343**	*e*	P		**P**	**18 53 24.8**	**-0.1**
	comp=E,10nm,1.2s								
NVAR	**Mina Array Bea**	**84.17**	**326**		P		**P**	**18 53 42.3**	**+1.0**
	comp=E,1.2nm,0.8s,baz=152,slow=6.8,SNR=5.4								
PDAR	**Pinedale Array**	**84.18**	**334**		P		**P**	**18 53 41.9**	**+0.6**
	comp=E,0.7nm,0.8s,baz=140,slow=9.5,SNR=4.7								
ELK	**Elko**	**84.70**	**329**		P		**P**	**18 53 44.7**	**+0.7**
	comp=E,2.0nm,0.9s,baz=180,slow=2.4,SNR=5.8								
TORD	**Torodi Ar. Bea**	**85.09**	**70**		P		**P**	**18 53 45.9**	**-0.2**
	comp=E,2.4nm,0.7s,baz=258,slow=4.1,SNR=22								
ULM	**Lac du Bonnet**	**87.10**	**345**		P		**P**	**18 53 55.1**	**-0.1**
	comp=E,0.8nm,0.5s,baz=160,slow=7.7,SNR=4.0								
MDT	**Midelt**	**92.82**	**52**	LR		LR		19 34 41.8	
	comp=E,28nm,18.6s,baz=150,slow=35								
YKA	**Yellowknife Ar**	**102.60**	**342**	Pdiff		**Pdif**	**P**	**18 55 04.8**	**-1.1**
	comp=E,0.1nm,0.8s,baz=146,slow=3.9,SNR=3.6								
WRA	**Warramunga Arr**	**119.75**	**210**	PKP		**PKPdf**	**P**	**19 00 00.0**	**-0.7**
	comp=E,0.5nm,0.7s,baz=166,slow=1.8,SNR=6.7								
AAK	**Ala-Archa**	**153.45**	**63**	*e*	PKPdf	**PKPdf**		**19 01 00.3**	**-0.4**
AAK				*e*	PKPbc	**PKiKP**		**19 01 09.2**	**+0.7**
ZALV	**Zalesovo Beam**	**155.24**	**32**		PKP	**PKPdf**		**19 01 02.6**	**0.0**
	comp=E,0.6nm,0.5s,baz=325,slow=1.8,SNR=4.0								
ZALV					PKPbc	PKPbc		19 01 11.8	
	comp=E,1.7nm,0.8s,baz=270,slow=2.8,SNR=6.2								
ZALV					PKPab	**PKPab**		**19 01 28.3**	**+0.6**
	comp=E,1.7nm,0.6s,baz=308,slow=5.3,SNR=5.0								
MKAR	**Makanchi Array**	**157.77**	**50**		PKP	**PKPdf**		**19 01 05.5**	**-0.6**
	comp=E,0.4nm,0.8s,baz=45,slow=2.1,SNR=3.8								
MKAR					PKPab	**PKPab**		**19 01 38.4**	**-0.5**
	comp=E,0.9nm,1.1s,baz=262,slow=5.8,SNR=4.1								
CMAR	**Chiang Mai Arr**	**162.16**	**154**		PKP	**PKPdf**		**19 01 11.8**	**-0.2**
	comp=E,0.5nm,0.8s,baz=326,slow=1.7,SNR=4.1								
SONM	**Songino Array**	**166.96**	**2**		PKPab	**PKPab**		**19 02 19.5**	**+0.5**
	comp=E,0.2nm,0.4s,baz=327,slow=5.4,SNR=3.6								

IDC 06 18:54:30.4±6.3, 5.80S×149.23E, h150km±44km, mb3.1/2, mb1 3.2/3, mb1mx2.9/32, mbtmp3.5/3, Error ellipse: s-maj=123.9km s-min=52.5km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**4.12**	**210**		P		Pn	18 55 32.4	+0.2
	0.7nm,0.3s,baz=14,slow=8.3,SNR=3

TORD	**Torodi Ar. Bea**	**77.64**	**70**	P	P	19 54 02.4	-0.3
	0.4nm,0.6s,baz=249,slow=5.5,SNR=8.6						
YKA	**Yellowknife Ar**	**92.13**	**341**	P	P	19 55 13.9	-0.8
	0.1nm,0.5s,baz=132,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**146.40**	**37**	PKPbc	PKPbc	20 01 47.0	+0.2
	0.4nm,0.5s,baz=319,slow=3.7,SNR=8.1						

*ISCJB **06** 20:14:22.6±0.7, 31°.83N±0°.02×114°.94W±0°.04, h7km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=10.5*
*NEIC **06** 20:14:25.0, 31°.81N×115°.02W, h6km, mb4.6/1, ML4.0(PAS), ML4.2(ECX), After ECX.*
*ECX **06** 20:14:25.3±0.5, 31°.82N×114°.99W, h6km, ML4.2*
*MEX **06** 20:14:25.2±0.6, 31°.80N×114°.96W, h5km, MD3.9*

ISC 06 20:14:23.1±1.1, 31°.83N±0°.03×115°.00W±0°.04, h10km±9km, n32, σ1=98/42, 7C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.26**	**308**	⇓*e*P		**Pg**	**20 14 27.9**	**-0.6**
EMX				*e*S		**Sg**	**20 14 31.6**	**-0.4**
ECBX	**El Chinero**	**0.35**	**187**	⇑*e*P		**Pg**	**20 14 29.8**	**-0.4**
ECBX				*e*S		**Sg**	**20 14 34.8**	**-0.1**
MBIG	**Mexicali**	**0.60**	**344**	*e*P		**Pb**	**20 14 36.3**	**+0.5**
MBIG				*i* S		**Sn**	**20 14 46.6**	**-1.0**
CPBX	**Cerro Prieto**	**0.65**	**336**	*e*P		**Pb**	**20 14 37.2**	**+0.6**
CPBX				*e*S		**Sb**	**20 14 45.7**	**+0.1**
RDX	**Rancho Dawling**	**0.81**	**278**	⇓*e*P		**Pb**	**20 14 39.6**	**+0.2**
RDX				*e*S		**Sb**	**20 14 50.9**	**+0.5**
YMD	**Yuma Desert**	**0.82**	**28**	⇑*i*P		**Pg**	**20 14 39.0**	**0.0**
SPIG	**San Pedro Mart**	**0.87**	**207**	*i* P		**Pb**	**20 14 40.7**	**+0.1**
SPIG				*i* S		**Sg**	**20 14 52.1**	**+0.7**
SPIG	**San Pedro Mart**	**0.87**	**207**	*i* P		**Pb**	**20 14 40.7**	**+0.1**
SPIG				*i* S		**Sg**	**20 14 52.1**	**+0.7**
SPX	**San Pedro Mart**	**0.87**	**207**	⇓*e*P		**Pb**	**20 14 40.8**	**+0.2**
SPX				*e*S		**Sb**	**20 14 52.6**	**+0.1**
SPX				⇑*e*			20 14 54.1	
	comp=E,7μm,0.2s							
SPX				⇓*e*			20 14 55.3	
	comp=N,7μm,0.2s							
SGL	**Mount Signal**	**1.03**	**323**	*e*P		**Pb**	**20 14 43.5**	**+0.4**
ZAX	**El Zacaton**	**1.13**	**254**	*e*P		**Pg**	**20 14 44.9**	**0.0**
YUH	**Yuha Desert**	**1.13**	**317**	*e*P		**Pg**	**20 14 45.1**	**+0.2**
RMX	**La Rumorosa**	**1.20**	**311**	*e*P		**Pb**	**20 14 46.1**	**+0.1**
RMX				⇑*e*			20 15 02.7	
	comp=N,3μm,0.2s							
RMX				⇑*e*			20 15 02.7	
	comp=E,4μm,0.2s							
GLA	**Glamis**	**1.23**	**7**	*e*Pg		**Pb**	**20 14 44.7**	**-1.8**
ECNX	**Esteban Cantu**	**1.37**	**263**	⇓*e*P		**Pb**	**20 14 49.5**	**+0.5**
PBX	**Punta Banda**	**1.47**	**267**	*e*P		**Pb**	**20 14 50.9**	**+0.3**
CBX	**Cerro Bola**	**1.49**	**289**	*e*P		**Pn**	**20 14 49.4**	**-0.8**
CBX				*e*S		**Sn**	**20 15 08.6**	**-1.3**
CBX	**Cerro Bola**	**1.49**	**289**	*e*P		**Pb**	**20 14 51.3**	**+0.2**
CBX				*e*S		**Sb**	**20 15 11.3**	**+1.1**
CBX				⇑*e*			20 15 12.2	
	comp=N,4μm,0.2s							
CBX	**Cerro Bola**	**1.49**	**289**	*e*P		**Pn**	**20 14 49.4**	**-0.8**
CBX				*e*S		**Sn**	**20 15 08.6**	**-1.3**
MONP	**Monument Peak,**	**1.60**	**312**	*e*P		**Pb**	**20 14 53.7**	**+0.7**
BAR	**Barrett**	**1.65**	**301**	*e*P		**Pb**	**20 14 54.4**	**+0.7**
PFO	**Pinyon Flats O**	**2.16**	**326**	*e*Pn		**Pn**	**20 14 57.9**	**-1.5**
LDFC	**Landfair**	**3.25**	**358**	*e*Pn		**Pn**	**20 15 13.2**	**-1.1**
MWC	**Mount Wilson**	**3.51**	**314**	*e*Pn		**Pn**	**20 15 16.3**	**-1.7**
TUC	**Tucson**	**3.61**	**81**	Pn		Pn	20 15 23.0	+3.8
GSC	**Goldstone, Bar**	**3.78**	**337**	*e*Pn		**Pn**	**20 15 20.6**	**-1.0**
WUAZ	**Wupatki**	**4.76**	**38**	*e*Pn		**Pn**	**20 15 36.2**	**+1.0**
ISA	**Isabella, Lake**	**4.80**	**324**	Pn		**Pn**	**20 15 38.6**	**+3.1**
ARUT	**Antelope Range**	**6.09**	**12**	*e*Pn		**Pn**	**20 15 55.2**	**+1.9**
	comp=N,2.1nm,0.6s							
121A	**Cookes Peak, D**	**6.16**	**82**	*e*Pn		**Pn**	**20 15 51.7**	**-2.6**
	comp=N,11nm,0.6s							
MVCO	**Mesa Verde**	**7.59**	**43**	*e*Pn		**Pn**	**20 16 15.4**	**+1.3**
	comp=N,13nm,0.8s							
BGNE	**Belgrade**	**16.54**	**50**	Pn		**Pn**	**20 18 16.1**	**+0.9**
	comp=N,24nm,0.4s							

DJA 06 20:39:09.0±1.9, 0°S±8°×12°5E±°, h16km±28km, M3.5/8, mb3.5/1, MLv3.5/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.51**	**293**	P		Pn	20 39 34.4	-1.1
KMSI				S		Sn	20 39 52.4	-2.5
SANI	**Sanana**	**2.10**	**163**	P		Pn	20 39 41.0	-2.5
SANI				S		Sn	20 40 10.2	+0.9
GTOI	**Gorontalo**	**2.45**	**286**	P		Pn	20 39 50.3	+1.9
LUWI	**Luwuk**	**2.79**	**249**	P		Pn	20 39 55.3	+2.3
LUWI				S		Sn	20 40 26.3	0.0
MRSI	**Marisa**	**3.47**	**278**	P		Pn	20 40 00.1	-2.2
APSI	**Ampana**	**3.82**	**257**	P		Pn	20 40 09.0	+1.8
MPSI	**Mapaga**	**5.48**	**274**	P		Pn	20 40 33.0	+2.9

*ISCJB **06** 21:06:57.7±1.9, 34°.27S±0°.03×72°.11W±0°.07, h10km±13km, mb4.1/5, MS3.5/1, Error ellipse: s-maj=10.0km s-min=5.2km az=10.9*
*IDC **06** 21:06:58.5±0.9, 34°.28S×71°.95W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/35, mbtmp4.0/8, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=29.6km s-min=17.0km az=111.0*
*NEIC **06** 21:06:59.3, 34°.31S×72°.11W, h16km, ML4.3(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu.
*GUC **06** 21:06:59.3±0.4, 34°.31S×72°.11W, h16km±4km, ML4.3*

ISC 06 21:06:59.3±1.8, 34°.31S±0°.04×72°.02W±0°.08, h10km±11km, n36, σ1=35/44, mb4.1/5, 7C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**55**	⇑*i*P		**Pg**	**21 07 11.8**	**+0.6**
LNV	**Longovilo**	**0.62**	**55**	⇑*i*P		**Pg**	**21 07 11.8**	**+0.6**
NICH	**Los Niches**	**0.95**	**137**	*e*P		**Pb**	**21 07 17.3**	**-0.6**
NICH				*i* S		**Sb**	**21 07 30.6**	**0.0**
NICH	**Los Niches**	**0.95**	**137**	*e*P		**Pb**	**21 07 17.3**	**-0.6**
NICH				*i* S		**Sb**	**21 07 30.6**	**0.0**
TACH	**Talagante**	**1.11**	**54**	⇓*i*P		**Pn**	**21 07 19.5**	**-1.4**
TACH	**Talagante**	**1.11**	**54**	⇓*i*P		**Pn**	**21 07 19.5**	**-1.4**
TALC	**Talca**	**1.13**	**164**	⇑*i*P		**Pn**	**21 07 19.3**	**-1.9**
TALC				*i* S		**Sb**	**21 07 34.8**	**-1.0**
TALC	**Talca**	**1.13**	**164**	⇑*i*P		**Pn**	**21 07 19.3**	**-1.9**
TALC				*i* S		**Sb**	**21 07 34.8**	**-1.0**
CHCH	**Chadas Angostu**	**1.20**	**72**	⇓*i*P		**Pn**	**21 07 21.2**	**-1.0**
CHCH	**Chadas Angostu**	**1.20**	**72**	⇓*i*P		**Pn**	**21 07 21.2**	**-1.0**
RCDM	**Rinconada Maip**	**1.30**	**51**	⇑*i*P		**Pn**	**21 07 21.0**	**-2.6**
RCDM				*i* S		**Sn**	**21 07 38.4**	**-2.6**
RCDM	**Rinconada Maip**	**1.30**	**51**	⇑*i*P		**Pn**	**21 07 21.0**	**-2.6**
RCDM				*i* S		**Sn**	**21 07 38.4**	**-2.6**
CLCH	**Cerro Calan**	**1.53**	**54**	⇑*i*P		**Pn**	**21 07 26.6**	**-0.2**
CLCH				*i* S		**Sn**	**21 07 47.2**	**+0.3**
CLCH					AML	AML	21 07 56.5	
	comp=N,7μm,0.7s							
CLCH					AML	AML	21 07 57.1	
	comp=N,8μm,0.7s							
ROCH	**El Roble**	**1.58**	**33**		AML	AML	21 07 54.2	
	comp=N,5μm,0.5s							
PEL	**Peldehue**	**1.61**	**44**	⇓*i*P		**Pn**	**21 07 27.8**	**-0.1**
PEL				*i* S		**Sn**	**21 07 49.0**	**+0.4**
PEL					AML	AML	21 07 53.4	
	comp=E,8μm,0.4s							
PEL	**Peldehue**	**1.61**	**44**	⇓*i*P		**Pn**	**21 07 27.8**	**-0.1**
PEL				*i* S		**Sn**	**21 07 49.0**	**+0.4**
YECH	**El Yeso**	**1.73**	**69**	⇓*i*P		**Pn**	**21 07 30.3**	**+0.5**
YECH	**El Yeso**	**1.73**	**69**	⇓*i*P		**Pn**	**21 07 30.3**	**+0.5**
CFAA	**Coronel Fontan**	**4.17**	**51**	Pn		**Pn**	**21 08 04.0**	**+0.9**
	comp=E,0.4nm,0.3s,baz=222,slow=13,SNR=18							
CFAA				Lg		Lg	21 09 08.6	
	comp=E,2.2nm,0.3s,baz=292,slow=6.1,SNR=14							
CFAA				LR		LR	21 09 21.6	
	comp=E,11nm,20.8s,baz=266,slow=35							
LCO	**Las Campanas**	**5.40**	**12**	*e*Pn		**Pn**	**21 08 19.5**	**-0.7**
	comp=E,16nm,0.4s							
LCO				*e*Sn		**Sn**	**21 09 20.3**	**-2.2**
PLCA	**Paso Flores**	**6.52**	**170**	Pn		**Pn**	**21 08 37.5**	**+2.2**
	comp=E,1.3nm,0.3s,baz=342,slow=12,SNR=19							
PLCA				Lg		Lg	21 10 19.8	
	comp=E,0.4nm,0.3s,baz=258,slow=17,SNR=3.3							
PLCA	**Paso Flores**	**6.52**	**170**	*e*Pn		**Pn**	**21 08 35.4**	**+0.1**
	comp=E,6.0nm,0.5s							
PLCA				Lg		Lg	21 10 19.8	
TRQA	**Tornquist**	**8.94**	**118**	*e*Pn		**Pn**	**21 09 08.5**	**0.0**
	comp=E,20nm,1.3s							
LVC	**Limon Verde**	**11.97**	**14**	*e*Pn		**Pn**	**21 09 47.6**	**-2.7**
LPAZ	**La Paz**	**18.28**	**12**	P		**P**	**21 11 15.5**	**+1.5**
	comp=E,0.2nm,0.3s,baz=192,slow=6.9,SNR=12							
LPAZ	**La Paz**	**18.28**	**12**	*e*P		**Pn**	**21 11 12.9**	**-0.9**
	comp=E,3.0nm,0.8s							
SIV	**San Ignacio**	**20.73**	**31**	P		**P**	**21 11 39.4**	**-0.7**
	comp=E,1.8nm,0.5s,baz=223,slow=6.7,SNR=7.5							
BDFB	**Brasilia**	**28.50**	**55**	LR		LR	21 25 25.4	
	comp=E,128nm,19.4s,baz=243,slow=39							
SNAA	**Sanae**	**51.29**	**158**	P		**P**	**21 16 04.2**	**+1.0**
	comp=E,1.0nm,0.8s,baz=259,slow=5.2,SNR=4.5							
QSPA	**South Pole Qui**	**55.93**	**180**	P		**P**	**21 16 38.4**	**+1.1**
	comp=E,5.9nm,1.0s,baz=186,slow=1.8,SNR=6.1							
BOSA	**Boshof**	**79.91**	**118**	P		**P**	**21 19 09.5**	**+0.7**
	comp=E,3.9nm,1.0s,baz=249,slow=3.2,SNR=5.1							
NVAR	**Mina Array Bea**	**84.14**	**325**	P		**P**	**21 19 32.6**	**+1.9**
	comp=E,0.6nm,0.8s,baz=140,slow=7.1,SNR=3.3							
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P		**P**	**21 19 31.6**	**-0.2**
	comp=E,0.8nm,0.7s,baz=276,slow=4.0,SNR=5.8							
YKA	**Yellowknife Ar**	**102.35**	**341**	P		**Pdif**	**21 20 53.7**	**-0.7**
	comp=E,0.1nm,0.6s,baz=141,slow=4.8,SNR=3.5							
WRA	**Warramunga Arr**	**120.50**	**209**	PKP		**PKPdf**	**21 25 51.2**	**-0.5**
	comp=E,0.7nm,1.0s,baz=162,slow=1.4,SNR=5.4							
ZALV	**Zalesovo Beam**	**154.48**	**33**	PKPbc		**PKPbc**	**21 26 59.6**	**+0.1**
	comp=E,0.9nm,0.5s,baz=325,slow=2.3,SNR=4.6							

*ISCJB **06** 21:15:12.5±0.6, 34°.73N±0°.08×136°.90E±0°.07, h340km±5km, mb3.0/4, Error ellipse: s-maj=12.5km s-min=9.4km az=166.9*
*JMA **06** 21:15:12.8±0.3, 34°.78N×136°.84E, h340km±3km, M3.2*
*IDC **06** 21:15:12.3±2.8, 34°.51N×136°.65E, h308km±66km, mb3.0/4, mb1 3.2/5, mb1mx2.8/44, mbtmp3.6/5, Error ellipse: s-maj=126.6km s-min=16.9km az=59.0*

ISC 06 21:15:13.4±0.9, 34°.75N±0°.08×136°.86E±0°.06, h333km±7km, n24, σ0=61/31, mb3.1/4, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.36**	**264**	P		**Pn**	**21 15 56.0**	**+0.5**
JIE	**Ise**	**0.38**	**200**	P		**Pn**	**21 15 56.1**	**+0.5**
JIE				S		**S**	**21 16 29.0**	**-0.3**
JGM	**Miyama**	**0.96**	**353**	P		**Pn**	**21 15 57.5**	**+0.3**
JGM				S		**S**	**21 16 31.8**	**-0.4**
TK02	**Tokai 2**	**1.09**	**137**	P		**Pn**	**21 15 58.5**	**+1.0**
JWY	**Kouya**	**1.17**	**244**	P		**Pn**	**21 15 58.6**	**+0.3**
JWT	**Wachi**	**1.31**	**294**	P		**Pn**	**21 15 58.9**	**+0.1**
JWZ	**Kozaga**	**1.54**	**218**	P		**Pn**	**21 16 00.1**	**-0.1**
JYN	**Shimob**	**1.57**	**61**	P		**Pn**	**21 16 00.6**	**+0.3**
JKG	**Kaga**	**1.59**	**344**	P		**Pn**	**21 16 00.3**	**0.0**
JOD2	**Odawara 2**	**1.90**	**74**	P		**Pn**	**21 16 02.9**	**+0.4**
JRY	**Ryogami san**	**2.10**	**52**	P		**Pn**	**21 16 04.4**	**+0.5**
JRY				S		**S**	**21 16 44.2**	**-0.1**
MAT	**Matsushiro**	**2.10**	**31**	P		**Pn**	**21 16 04.2**	**+0.3**
MAT				S		**S**	**21 16 43.3**	**-1.0**
MAT	**Matsushiro**	**2.10**	**31**	P		**Pn**	**21 16 04.2**	**+0.3**
MAT				S		**S**	**21 16 43.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.10**	**31**	P		**Pn**	**21 16 04.2**	**+0.4**
	2.8nm,0.3s,baz=206,slow=8.7,SNR=40							
MJAR				S		**S**	**21 16 43.7**	**-0.6**
	baz=223,slow=14,SNR=4.8							
JAI	**Aioi**	**2.21**	**245**	P		**Pn**	**21 16 04.7**	**-0.1**
JMN	**Monobe**	**2.67**	**248**	P		**Pn**	**21 16 08.6**	**0.0**
JHJ2	**Mitsune**	**2.95**	**123**	P		**Pn**	**21 16 12.0**	**+0.9**
JHS	**Saijyo**	**3.09**	**276**	P		**Pn**	**21 16 12.5**	**+0.1**
SAI	**Saigo**	**3.22**	**298**	P		**Pn**	**21 16 13.1**	**-0.4**
BSO1	**Boso 1**	**3.39**	**90**	P		**Pn**	**21 16 13.8**	**-0.9**
BSO1				*e*S		**S**	**21 17 03.2**	**-0.8**
SONM	**Songino Array**	**26.17**	**309**	P		**P**	**21 20 19.8**	**+1.4**
	0.9nm,0.8s,baz=118,slow=9.2,SNR=8.8							
MKAR	**Makanchi Array**	**42.25**	**304**	P		**P**	**21 22 35.4**	**+0.4**
	0.4nm,0.5s,baz=89,slow=10,SNR=8.1							
WRA	**Warramunga Arr**	**54.44**	**183**	P		**P**	**21 24 06.7**	**-0.6**
	0.6nm,0.3s,baz=0.5,slow=7.7,SNR=26							
ASAR	**Alice Springs**	**58.16**	**183**	P		**P**	**21 24 32.5**	**-0.8**
	0.2nm,0.4s,baz=8.3,slow=4.0,SNR=4.4							

IDC 06 21:25:12.2±6.5, 15°.20S×173°.71W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/36, mbtmp3.9/2, Error ellipse: s-maj=311.6km s-min=44.5km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.60**	**257**	P		P	21 34 05.6	-0.1
	0.6nm,0.7s,baz=92,slow=7.0,SNR=14							
ASAR	**Alice Springs**	**49.89**	**252**	P		P	21 34 07.5	-0.4
	2.0nm,0.6s,baz=87,slow=8.2,SNR=32							
BRTR	**Keskin Array B**	**145.81**	**321**	PKPbc		PKPbc	21 44 54.0	+0.1
	1.3nm,1.1s,baz=74,slow=4.5,SNR=4.4							
GERES	**GERESS Array B**	**145.90**	**351**	PKPbc		PKPdf	21 44 52.1	-1.0
	1.9nm,1.2s,baz=56,slow=2.5,SNR=4.7							

GUC 06 21:26:43.5±0.4, 35°.38S×73°.05W, h15km±2km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.78**	**164**	*e*P		Pg	21 26 57.4	-1.2
COCH				*e*S		Sg	21 27 08.4	-0.5
TALC	**Talca**	**1.16**	**91**	*e*P		Pn	21 27 03.8	-1.4
TALC				*e*S		Sb	21 27 19.1	-0.9
LNCH	**Linares**	**1.27**	**112**	*e*P		Pn	21 27 05.5	-1.2
LNCH				*e*S		Sb	21 27 22.2	-1.1
CLCH	**Cerro Calan**	**2.87**	**47**	*e*P		Pn	21 27 29.9	+1.0
CLCH				*e*S		Sn	21 28 05.2	+1.9
CLCH					AML	AML	21 28 26.3	
	comp=N,264nm,0.8s							
PEL	**Peldehue**	**2.97**	**42**	*e*P		Pn	21 27 31.1	+0.8
PEL				*e*S		Sn	21 28 07.4	+1.7
PEL					AML	AML	21 28 29.0	
	comp=E,275nm,0.6s							

WEL 06 21:28:15.5±0.4, 37°.95S×175°.92E, h135km±5km, ML3.5/14, 1C-1D, Error ellipse: s-maj=5.8km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.99**	**109**	*e*PN		Pn	21 28 38.6	-0.1
URZ				SN		Sn	21 28 57.0	+0.6
BKZ	**Black Stump Fm**	**1.30**	**160**	PN		Pn	21 28 41.9	0.0
BKZ				SN		Sn	21 29 01.4	-0.7
MWZ	**Matawai**	**1.33**	**108**	PN		Pn	21 28 42.3	+0.2
MWZ				SN		Sn	21 29 01.9	-0.5
RAHZ	**Arahi**	**1.34**	**137**	PN		Pn	21 28 42.5	+0.3
FWVZ	**Far West T-bar**	**1.34**	**192**	*e*PN		Pn	21 28 43.9	+1.3
SNGZ	**Shannon Statio**	**1.40**	**127**	PN		Pn	21 28 43.1	+0.2
SNGZ				SN		Sn	21 29 03.0	-0.7
HAZ	**Te Kaha**	**1.49**	**83**	*e*PN		Pn	21 28 43.6	-0.1
BHHZ	**Black Hill Sta**	**1.55**	**176**	PN		Pn	21 28 44.5	-0.1
ARHZ	**Aropaoanui**	**1.56**	**148**	PN		Pn	21 28 44.8	+0.1
MCHZ	**McNeill Hill**	**1.62**	**158**	PN		Pn	21 28 45.5	+0.3
RIGZ	**Rimuhau**	**1.64**	**118**	PN		Pn	21 28 45.1	-0.4
KRHZ	**Kereru**	**1.73**	**168**	PN		Pn	21 28 46.2	-0.4
PUZ	**Puketiti**	**1.85**	**95**	⇓PN		Pn	21 28 47.3	-0.7
MHGZ	**Mahia Peninsul**	**1.97**	**128**	PN		Pn	21 28 48.4	-1.0
PNHZ	**Pukenui**	**1.98**	**174**	PN		Pn	21 28 48.7	-0.9
WMGZ	**Waiomatatini S**	**1.98**	**87**	PN		Pn	21 28 49.0	-0.5
KAHZ	**Kahuranaki**	**1.99**	**158**	PN		Pn	21 28 48.9	-0.8
TSZ	**Takapari Road**	**2.11**	**179**	PN		Pn	21 28 50.1	-1.0
PXZ	**Pawanui**	**2.21**	**161**	PN		Pn	21 28 50.8	-1.5
PXZ					AML	AML	21 28 53.5	
DVHZ	**Dannevirke**	**2.36**	**175**	PN		Pn	21 28 52.4	-1.8
PRWZ	**Pori Road**	**2.61**	**179**	PN		Pn	21 28 55.4	-1.9
MRZ	**Mangatainoka R**	**2.73**	**185**	⇑PN		Pn	21 28 56.5	-2.3
BFZ	**Birch Farm**	**2.75**	**175**	PN		Pn	21 28 56.5	-2.5
TIWZ	**Tintock**	**2.83**	**180**	PN		Pn	21 28 57.7	-2.5
HOWZ	**Holdsworth Sta**	**2.97**	**186**	PN		Pn	21 28 59.1	-2.8
KIW	**Kapiti Island**	**3.02**	**195**	PN		Pn	21 29 00.1	-2.4
MTW	**Mount Morrison**	**3.23**	**186**	PN		Pn	21 29 01.9	-3.4
CAW	**Cannon Point**	**3.23**	**191**	PN		Pn	21 29 02.5	-2.8
TCW	**Tory Channel**	**3.50**	**201**	PN		Pn	21 29 06.1	-2.7
MSWZ	**Moikau Station**	**3.50**	**188**	PN		Pn	21 29 05.3	-3.5
TUWZ	**Tuamarina**	**3.80**	**203**	PN		Pn	21 29 09.8	-2.9

IDC 06 21:49:26.4±3.1, 33°.37S×178°.59W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/36, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=72.5km s-min=45.9km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.00**	**214**	Pn		Pn	21 50 55.9	-0.4
	1.5nm,0.3s,baz=266,slow=3.1,SNR=8.9							
URZ				Sn		Sn	21 52 01.3	-4.4
	5.2nm,0.3s,baz=44,slow=23,SNR=9.4							
ASAR	**Alice Springs**	**42.54**	**270**	P		P	21 57 23.8	-0.1
	0.4nm,0.3s,baz=114,slow=7.5,SNR=9.7							
WRA	**Warramunga Arr**	**43.79**	**276**	P		P	21 57 34.0	-0.1
	0.7nm,0.4s,baz=116,slow=7.7,SNR=26							
FINES	**FINESS Array B**	**147.73**	**338**	PKPbc		PKPbc	22 09 11.5	-0.7
	0.7nm,0.6s,baz=46,slow=1.0,SNR=5.4							

*IDC **06** 21:53:31.1±1.5, 0°.08N×98°.63E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/37, mbtmp3.8/10, ML3.5/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/43, Error ellipse: s-maj=46.2km s-min=20.5km az=58.0*
*ISCJB **06** 21:53:35.6±0.8, 0°.11N±0°.07×98°.46E±0°.08, h48km, mb3.9/9, Error ellipse: s-maj=12.9km s-min=7.8km az=138.6*
*DJA **06** 21:53:38.0±1.5, 0°.N±5°×9°9E±°, h23km±15km, M4.1/8, mb4.2/3, mB4.8/1, MLv4.1/8, Mw(mB)4.1/1*

ISC 06 21:53:38.1±0.9, 0°.18N±0°.10×98°.46E±0°.08, h48km, n18, σ1=54/18, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.27**	**61**	P		**Pn**	**21 53 59.1**	**-0.4**
MNSI				S		**Sn**	**21 54 14.5**	**-0.9**
BKNI	**Bangkinang**	**2.58**	**87**	P		Pn	21 54 21.8	+4.4
BKNI				S		**Sn**	**21 54 51.9**	**+4.3**
TPTI		**3.31**	**337**	P		**Pn**	**21 54 28.2**	**+0.7**
TPTI				S		**Sn**	**21 55 05.3**	**-0.3**
KCSI	**Kotacane, Aceh**	**3.39**	**348**	P		**Pn**	**21 54 29.3**	**+0.8**
MDSI	**Maura Dua**	**7.36**	**129**	P		**Pn**	**21 55 23.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.17**	**1**	Pn		**Pn**	**21 57 47.4**	**+0.4**
	0.1nm,0.3s,baz=192,slow=12,SNR=8.3							
CMAR				LR		LR	22 04 59.5	
	comp=Z,54nm,18.9s,baz=221,slow=38							
H08S2	**Diego Garcia H**	**27.04**	**253**	T		T	22 27 08.9	
	baz=74,slow=75,SNR=28							
H08S3	**Diego Garcia H**	**27.04**	**253**	T		T	22 26 49.1	
	baz=74,slow=75,SNR=34							
H08S1	**Diego Garcia H**	**27.05**	**253**	T		T	22 27 10.3	
	baz=74,slow=75,SNR=48							
WRA	**Warramunga Arr**	**40.43**	**122**	P		**P**	**22 01 09.9**	**-2.3**
	0.5nm,0.9s,baz=303,slow=9.1,SNR=3.7							
ASAR	**Alice Springs**	**41.78**	**127**	P		**P**	**22 01 21.3**	**-1.9**
	0.2nm,0.3s,baz=304,slow=8.0,SNR=5.6							
KSRS	**Korea Array**	**45.99**	**33**	P		**P**	**22 01 55.6**	**-1.0**
	1.9nm,0.6s,baz=229,slow=8.8,SNR=7.2							
SONM	**Songino Array**	**47.96**	**7**	P		**P**	**22 02 12.7**	**+0.6**
	1.5nm,0.7s,baz=191,slow=8.2,SNR=13							
SONM				PcP		**PcP**	**22 03 40.4**	**+0.6**
	0.5nm,0.7s,baz=200,slow=4.2,SNR=2.6							
MKAR	**Makanchi Array**	**48.53**	**345**	P		**P**	**22 02 17.4**	**+1.0**
	0.8nm,0.6s,baz=154,slow=7.4,SNR=15							
MJAR	**Matsushiro Arr**	**51.61**	**41**	P		**P**	**22 02 38.2**	**-1.7**
	1.5nm,0.9s,baz=39,slow=43,SNR=3.7							
USRK	**Ussuriysk Ar.**	**53.00**	**30**	P		**P**	**22 02 49.9**	**-0.2**
	2.9nm,0.8s,baz=204,slow=4.2,SNR=7.9							
ZALV	**Zalesovo Beam**	**54.76**	**350**	P		**P**	**22 03 02.6**	**-0.1**
	1.0nm,0.

RDX	**Rancho Dawling**	**0.71**	**195**	*e*P		**Pg**	**22 09 23.6**	**+0.1**
RDX				*e*S		**Sb**	**22 09 33.4**	**-0.3**
RDX				⇓*e*			22 09 37.2	
	comp=E,7μm,0.6s							
EMX	**El Mayor**	**0.75**	**147**	*e*P		**Pg**	**22 09 23.2**	**-1.0**
EMX				*e*S		**Sg**	**22 09 34.1**	**+0.1**
EMX				⇓*e*			22 09 37.0	
	comp=E,5μm,0.8s							
BAR	**Barrett**	**0.81**	**275**	*e*P		**Pg**	**22 09 24.6**	**-0.6**
BAR				*e*S		**Sg**	**22 09 35.2**	**-0.6**
CBX	**Cerro Bola**	**0.85**	**249**	*e*P		Pg	22 09 16.7	-9.4
CBX				*e*S		Sg	22 09 24.9	-13
CBX	**Cerro Bola**	**0.85**	**249**	*e*P		**Pg**	**22 09 25.9**	**-0.2**
CBX				*e*S		**Sb**	**22 09 37.5**	**-0.2**
CBX				⇑*e*			22 09 42.3	
CBX				AML		AML	22 09 42.3	
	comp=N,8μm,0.5s							
CBX	**Cerro Bola**	**0.85**	**249**	*e*P		Pg	22 09 16.7	-9.4
CBX				*e*S		Sg	22 09 24.9	-13
GLA	**Glamis**	**0.87**	**60**	⇑P		**Pg**	**22 09 25.9**	**-0.5**
	baz=0.9							
GLA				⇓S		**Sg**	**22 09 37.3**	**-0.6**
	baz=0.9							
GLA	**Glamis**	**0.87**	**60**	*e*P		**Pg**	**22 09 25.4**	**-1.1**
GLA				*e*S		**Sg**	**22 09 37.0**	**-0.8**
BC3	**Big Chuckawall**	**1.06**	**12**	⇑P		**Pg**	**22 09 28.8**	**-1.2**
	baz=1.1							
BC3				⇑S		**Sg**	**22 09 42.1**	**-1.8**
	baz=1.1							
PFO	**Pinyon Flats O**	**1.17**	**328**	Pg		**Pb**	**22 09 30.2**	**-1.4**
	comp=N,113nm,0.3s,baz=149,slow=12,SNR=348							
PFO				Lg		Lg	22 09 45.1	
	comp=N,576nm,0.3s,baz=134,slow=12,SNR=32							
PFO	**Pinyon Flats O**	**1.17**	**328**	⇓P		**Pb**	**22 09 30.3**	**-1.4**
	baz=1.2							
PFO				⇓S		**Sb**	**22 09 45.4**	**-1.3**
	baz=1.2							
109C	**Camp Elliot, M**	**1.20**	**283**	⇑P		**Pb**	**22 09 31.7**	**-0.4**
	baz=1.2							
109C				⇓S		**Sb**	**22 09 46.8**	**-0.7**
	baz=1.2							
ZAX	**El Zacaton**	**1.20**	**203**	*e*P		**Pb**	**22 09 31.9**	**-0.2**
ZAX				*e*S		**Sn**	**22 09 48.6**	**+0.4**
ZAX				AML		AML	22 09 54.0	
	comp=E,3μm,0.8s							
ZAX				⇑*e*			22 09 54.0	
ECNX	**Esteban Cantu**	**1.21**	**218**	*e*P		**Pn**	**22 09 32.3**	**0.0**
ECNX				*e*S		**Sn**	**22 09 48.7**	**+0.1**
PBX	**Punta Banda**	**1.22**	**225**	*e*P		**Pn**	**22 09 31.8**	**-0.5**
PBX				*e*S		**Sn**	**22 09 48.9**	**+0.2**
ECBX	**El Chinero**	**1.28**	**153**	*e*P		**Pn**	**22 09 32.2**	**-0.8**
ECBX				*e*S		**Sb**	**22 09 49.3**	**-0.4**
BELC	**Belle Mtn. Jos**	**1.40**	**351**	⇓P		**Pn**	**22 09 33.7**	**-1.2**
	baz=1.4							
BELC				⇑S		**Sn**	**22 09 51.4**	**-1.9**
	baz=1.4							
Y12C	**Blythe**	**1.51**	**41**	⇓P		**Pn**	**22 09 35.4**	**-0.9**
	baz=1.5							
Y12C				⇓S		**Sn**	**22 09 54.4**	**-1.4**
	baz=1.5							
MURC	**Murrieta**	**1.58**	**309**	⇓P		**Pn**	**22 09 36.5**	**-0.8**
	baz=1.6							
MURC				⇓S		**Sn**	**22 09 56.3**	**-1.3**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.58**	**172**	*e*P		Pn	22 09 34.0	-3.6
SPIG				*e*S		**Sn**	**22 09 53.6**	**-4.4**
SPIG	**San Pedro Mart**	**1.58**	**172**	*e*P		Pn	22 09 34.0	-3.6
SPIG				*e*S		**Sn**	**22 09 53.6**	**-4.4**
SPX	**San Pedro Mart**	**1.58**	**172**	*e*P		**Pb**	**22 09 38.7**	**-0.2**
SPX				*e*S		**Sg**	**22 10 00.5**	**-0.2**
SPX				⇓*e*			22 10 04.0	
	comp=E,1μm,0.9s							
IRM	**Iron Mountain**	**1.61**	**17**	⇑P		**Pn**	**22 09 36.8**	**-0.9**
	baz=1.6							
113A	**Mohawk Valley,**	**1.66**	**84**	⇑P		**Pn**	**22 09 37.5**	**-0.7**
	baz=1.7							
113A				⇑S		**Sn**	**22 09 58.0**	**-1.4**
	baz=1.7							
BBRC	**Big Bear Solar**	**1.92**	**329**	⇓P		**Pn**	**22 09 41.7**	**-0.5**
	baz=1.9							
BBRC				⇓S		**Sn**	**22 10 04.5**	**-1.8**
	baz=1.9							
PDMCI	**Parker Dam,Lak**	**2.14**	**38**	⇑S		**Sn**	**22 10 10.0**	**-1.3**
	baz=2.2							
GMRC	**Granite Mounta**	**2.16**	**1**	⇑P		**Pn**	**22 09 44.6**	**-0.7**
	baz=2.2							
GMRC				⇑S		**Sn**	**22 10 10.5**	**-1.5**
	baz=2.2							
HEC	**Hector,Ludlow**	**2.26**	**347**	⇑P		**Pn**	**22 09 45.9**	**-0.8**
	baz=2.3							
BFSC	**Mount Baldy Ra**	**2.29**	**315**	⇑P		**Pn**	**22 09 46.5**	**-0.6**
	baz=2.3							
BFSC				⇑Sb		**Sb**	**22 10 19.6**	**+0.5**
	baz=2.3							
NEE2	**Needles Airpor**	**2.33**	**23**	⇓P		**Pn**	**22 09 47.2**	**-0.4**
	baz=2.4							
CIS	**Catalina Islan**	**2.39**	**290**	⇑P		**Pn**	**22 09 48.5**	**+0.1**
	baz=2.4							
Z14A	**Wintersburg**	**2.45**	**72**	⇑P		**Pn**	**22 09 48.1**	**-1.1**
	baz=2.5							
MWC	**Mount Wilson**	**2.53**	**310**	*e*Pn		**Pn**	**22 09 51.9**	**+1.4**
MWC				*e*Sg		**Sb**	**22 10 27.6**	**+1.6**
214A	**Organ Pipe Nat**	**2.55**	**104**	⇑P		**Pn**	**22 09 49.7**	**-0.9**
	baz=2.6							
214A	**Organ Pipe Nat**	**2.55**	**104**	*e*Pn		**Pn**	**22 09 49.9**	**-0.7**
214A				*e*Sg		**Sg**	**22 10 32.2**	**+0.5**
PASC	**Pasadena Art C**	**2.58**	**308**	*e*Pn		**Pb**	**22 09 54.3**	**-1.4**
PASC				*e*Sn		**Sn**	**22 10 23.4**	**+1.2**
DECC	**Green Verdugo**	**2.72**	**307**	⇑Sb		**Sb**	**22 10 32.8**	**+1.3**
	baz=2.7							
W13A	**Hualapai Mount**	**2.91**	**31**	⇓Sb		**Sb**	**22 10 37.6**	**+0.7**
	baz=2.9							
EDW2	**Edwards Air Fo**	**2.94**	**321**	⇓Sb		**Sb**	**22 10 39.4**	**+1.6**
	baz=3.0							
OSI	**Osito Audit: C**	**3.20**	**309**	*e*Pn		**Pn**	**22 09 59.5**	**-0.1**
OSI				*e*Sn		**Sn**	**22 10 39.0**	**+1.4**
ISA	**Isabella, Lake**	**3.80**	**324**	*e*Pn		**Pn**	**22 10 07.3**	**-0.5**
ISA				*e*Pg		**Pg**	**22 10 21.6**	**-0.9**
ISA				*e*Sg		**Sg**	**22 10 41.4**	**-3.3**
SHPR	**Sheep Range**	**3.91**	**7**	*e*Pn		**Pn**	**22 10 10.7**	**+1.3**
SHPR				*e*Pg		**Pg**	**22 10 25.6**	**+1.1**
SHPR				*e*Sg		**Sg**	**22 11 15.2**	**+0.1**
DAC	**Darwin (Calif)**	**3.96**	**338**	*e*Pn		**Pn**	**22 10 10.9**	**+0.7**
DAC				*e*Sg		**Sg**	**22 11 15.5**	**-1.4**
TUC	**Tucson**	**4.18**	**93**	*e*Pn		**Pn**	**22 10 11.7**	**-1.5**
TUC				Sg		**Sg**	**22 11 23.1**	**-0.9**
WUAZ	**Wupatki**	**4.62**	**50**	*e*Pn		**Pn**	**22 10 19.8**	**+0.5**
WUAZ				*e*Pg		**Pg**	**22 10 38.3**	**+0.2**
CCUT	**Cedar City**	**5.29**	**21**	*e*Pn		**Pn**	**22 10 30.9**	**+2.5**
CCUT				*e*Sg		**Sg**	**22 12 00.0**	**+0.7**
ARUT	**Antelope Range**	**5.49**	**19**	*e*Pn		**Pn**	**22 10 32.2**	**+1.1**
W18A	**Petrified Fore**	**5.57**	**62**	*e*Pn		**Pn**	**22 10 33.8**	**+1.5**
TPH	**Tonopah**	**5.58**	**348**	*e*Pn		**Pn**	**22 10 33.6**	**+1.1**
R11A	**Troy Canyon, C**	**5.72**	**1**	*e*Pn		**Pn**	**22 10 36.6**	**+2.3**
NVAR	**Mina Array Bea**	**6.17**	**341**	Pn		**Pn**	**22 10 42.1**	**+1.6**
	comp=E,0.2nm,0.3s,baz=165,slow=15,SNR=3.5							
MVU	**Marysvale**	**6.53**	**25**	*e*Pn		**Pn**	**22 10 47.2**	**+1.6**
WAKR	**Walker**	**6.61**	**334**	*e*Pn		**Pn**	**22 10 47.4**	**+0.8**
121A	**Cookes Peak, D**	**6.70**	**89**	*e*Pn		**Pn**	**22 10 48.2**	**+0.4**
MVCO	**Mesa Verde**	**7.49**	**50**	*e*Pn		**Pn**	**22 10 57.2**	**-1.6**
ANMO	**Albuquerque**	**8.05**	**71**	Pn		**Pn**	**22 11 07.6**	**+1.2**
	comp=E,0.3nm,0.3s,baz=265,slow=15,SNR=3.7							
ANMO				Lg		Lg	22 13 20.9	
	comp=E,0.1nm,0.3s,baz=346,slow=19,SNR=2.6							
ANMO				LR		LR	22 14 29.0	
	comp=E,205nm,20.2s,baz=256,slow=40							
ANMO	**Albuquerque**	**8.05**	**71**	*e*Pn		**Pn**	**22 11 08.4**	**+2.0**
ANMO				Lg		Lg	22 13 20.9	
ELK	**Elko**	**8.12**	**3**	Lg		Lg	22 13 30.6	
	comp=E,0.1nm,0.3s,baz=184,slow=2.3,SNR=3.3							
TXAR	**Lajitas Array**	**10.85**	**104**	Pn		**Pn**	**22 11 46.4**	**+1.7**
	comp=E,0.2nm,0.3s,baz=288,slow=13,SNR=11							
TXAR				Lg		Lg	22 14 57.1	
	comp=E,0.0nm,0.3s,baz=278,slow=25,SNR=4.2							
TXAR				LR		LR	22 16 27.6	
	comp=E,201nm,18.2s,baz=0.0,slow=40							
PDAR	**Pinedale Array**	**11.24**	**24**	Pn		**Pn**	**22 11 52.1**	**+2.0**
	comp=E,0.1nm,0.3s,baz=224,slow=8.8,SNR=3.0							
NEW	**Newport**	**15.66**	**357**	Pn		**Pn**	**22 12 51.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=225,slow=11,SNR=2.6							
NEW	**Newport**	**15.66**	**357**	*e*Pn		**Pn**	**22 12 50.0**	**+0.1**
AGMN	**Agassiz Nation**	**21.67**	**38**	*e*P		**P**	**22 14 00.1**	**+0.3**
	comp=E,10.0nm,0.7s							
ULM	**Lac du Bonnet**	**22.94**	**34**	P		**P**	**22 14 15.4**	**+2.1**
	comp=E,3.6nm,0.9s,baz=226,slow=9.1,SNR=4.3							

FFC	**Flin Flon**	**24.14**	**20**	*e*P		**P**	**22 14 24.1**	**-0.9**
	comp=E,4.7nm,1.0s								
INK	**Inuvik**	**37.18**	**349**	P		P	22 16 23.4	+3.5	
	comp=E,1.4nm,1.0s,baz=149,slow=8.9,SNR=3.6								
ILAR	**Eielson Array**	**37.42**	**339**	P		**P**	**22 16 23.8**	**+1.8**	
	comp=E,0.6nm,0.8s,baz=146,slow=7.3,SNR=7.2								
HHC	**Hu-ho-hao-te**	**94.86**	**326**	S		**S**	**22 33 44.8**	**-0.5**	
HHC	**Hu-ho-hao-te**	**94.86**	**326**	SS		SS	22 40 11.4	+3.2	
HHC				pmax		pmax			
	comp=Z,10.0nm,1.0s								
HHC				pmax		pmax			
	comp=Z,62μm,7.4s								
HHC				LR		LR			
	comp=N,60μm,17.3s								
HHC				LR		LR			
	comp=E,44μm,15.5s								
HHC				LR		LR			
	comp=Z,46μm,16.0s								

IDC 06 22:12:44.9±4.5, 18°.63S×169°.24E, h237km±60km, mb3.7/6, mb1 4.0/7, mb1mx3.6/40, mbtmp4.3/7, Error ellipse: s-maj=116.6km s-min=21.5km az=161.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.31**	**217**	P	Pn	22 13 51.8	-0.2
	4.9nm,0.3s,baz=39,slow=17,SNR=33						
CTA	**Charters Tower**	**21.73**	**262**	P	P	22 17 18.9	+1.3
	6.1nm,0.9s,baz=92,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**32.93**	**262**	P	P	22 18 56.8	-0.7
	2.5nm,0.6s,baz=92,slow=8.5,SNR=58						
ASAR	**Alice Springs**	**33.28**	**255**	P	P	22 19 00.2	-0.3
	21nm,0.4s,baz=82,slow=8.9,SNR=343						
NVAR	**Mina Array Bea**	**88.40**	**49**	P	P	22 25 11.0	+0.5
	0.4nm,0.5s,baz=230,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**89.65**	**17**	P	P	22 25 14.7	-0.8
	0.5nm,0.8s,baz=230,slow=6.7,SNR=4.8						
INK	**Inuvik**	**95.97**	**18**	P	P	22 25 43.7	-0.7
	0.8nm,1.1s,baz=188,slow=4.3,SNR=2.5						
YKA	**Yellowknife Ar**	**100.13**	**27**	P	Pdif	22 26 04.8	+1.7
	0.2nm,0.6s,baz=251,slow=4.8,SNR=4.5						

*IDC **06** 22:14:57.3±0.3, 2°.47N×97°.18E, h0km, mb5.9/44, mb1 5.9/47, mb1mx5.9/47, mbtmp5.9/47, ML5.2/3, MS7.7/40, Ms1 7.7/40, ms1mx7.7/44, Error ellipse: s-maj=9.3km s-min=7.8km az=63.0*

*BJI **06** 22:14:59.4, 2°.31N×97°.20E, h34km, mB7.4/50, mb6.5/69, Ms7.9/92, Ms7 7.8/86*

*ISCJB **06** 22:14:59.4±0.5, 2°.39N±0°.02×97°.13E±0°.01, h25km±3km, mb6.6/226, MS7.8/322, Error ellipse: s-maj=2.8km s-min=1.9km az=27.2*

*MOS **06** 22:15:00.6±1.1, 2°.43N×97°.17E, h33km, mb7.0/72, MS7.7/61, Error ellipse: s-maj=6.2km s-min=3.5km az=119.2 Broadband fault plane solution: P waves. $M_0$1.00000×10²⁰ NP1:ϕ_s135.00000°, δ84.00000°, λ89.00000°. NP2:ϕ_s325.00000°, δ7.00000°, λ100.00000°. Principal axes: T Plg51.0000°, Azm44.0000°; N Plg1.0000°, Azm135.0000°; P Plg39.0000°, Azm226.0000°;*

*NEIC **06** 22:15:01.6±0.1, 2°.38N×97°.05E, h31km, mb7.0/106, ME7.6, MS7.9/213, MW7.7 Error ellipse: s-maj=4.4km s-min=3.4km az=199.0, Complex earthquake, with at least two large events occurring about 12 seconds apart, observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from CMT mechanism.*

NEIC Felt [V] at Meulaboh and Sibolga; [IV] at Banda Aceh and Medan; [III] at Padangsidempuan, Samosir and Tarutung. Also felt at Belawan, Duri, Lhokseumawe and Padang. Felt at Bandung and Jakarta, Java and at Kuta, Bali. Felt [IV] at Butterworth and Perai; [III] at Ayer Itam, Gelugor Estate, George Town, Sungai Ara and Tanjong Bunga Estate; [II] at Banting, Kuala Lumpur, Petaling Jaya and Tanjong Malim, Malaysia. Felt along the west coast of Peninsular Malaysia and [II] in Singapore. Also felt at Male, Maldives. A tsunami was recorded along the coast of Sumatra with heights [center-to-peak] at the following tide stations: 44 cm at Meulaboh, 19 cm at Sibolga, 17 cm at Telukdalam, 7 cm at Padang and 7 cm on Pulau Tanahbalah.

*GCMT **06** 22:15:01.6±0.1, 2°.07N×96°.74E, h18km, MW7.8/136, Moment Tensor Solution. s136,c349; Duration: 19s5 Moment tensor: Scale 10²⁰Nm; M_{rr}1.72±.01; $M_{\theta\theta}$-1.06±.01; $M_{\phi\phi}$-0.66±.01; $M_{r\theta}$4.97±.06; $M_{\theta\phi}$0.77±.00; $M_{\phi r}$-3.98±.06; Best double couple: $M_0$6.58700×10²⁰ NP1:ϕ_s129.00000°, δ83.00000°, λ90.00000°. NP2: ϕ_s307.00000°, δ7.00000°, λ88.00000°. Principal axes: T 6.6190, Plg52.0000°, Azm39.0000°; N -0.0660, Plg0.0000°, Azm309.0000°; P -6.5560, Plg38.0000°, Azm218.0000°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=150s.*

*SZGRF **06** 22:15:02.6, 2°.80N×96°.06E, h33km, mb6.9, MS7.7, Northern Sumatera, Indonesia*

*NEIC **06** 22:15:02.0±0.0, 1°.74N×96°.55E, h35km, Moment Tensor Solution. s35 Moment tensor: Scale 10²⁰Nm; M_{rr}1.54; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$-0.68; $M_{r\theta}$2.69; $M_{\theta\phi}$0.85; $M_{\phi r}$-2.32; Best double couple: $M_0$3.90000×10²⁰ NP1:ϕ_s130.00000°, δ78.00000°, λ89.00000°. NP2:ϕ_s312.00000°, δ12.00000°, λ91.00000°. Principal axes: T 3.8500, Plg57.0000°, Azm40.0000°; N 0.0900, Plg0.0000°, Azm130.0000°; P -3.9300, Plg32.0000°, Azm221.0000°;*

*DJA **06** 22:15:03.2±0.4, 2°.N±2°×9°.7E±°, h29km±3km, M7.5/17, mb6.7/17, mB7.6/17, Mw(mB)7.7/17, Mwp7.2/16*

*KLM **06** 22:15:06.3, 2°.41N×97°.15E, h62km, mb7.2, MS7.4*

ISC 06 22:15:02.1±0.2, 2°.36N±0°.02×97°.11E±0°.02, h33km, h34km:pP-P,n2420,c1951/2375, mb6.7/230, MS7.8/346, 533C-252D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.79**	**274**	P	**Pb**	**22 15 18.4**	**+1.0**
TPTI		**0.90**	**4**	P	**Pb**	**22 15 19.6**	**+0.3**
KCSI	**Kotacane, Aceh**	**1.33**	**30**	P	**Pb**	**22 15 27.1**	**+0.5**
TSI	**Tuntungan**	**1.84**	**52**	P	**Pb**	**22 15 33.9**	**-1.3**
LHMI	**Lhok Sumawe**	**2.85**	**357**	P	**Pn**	**22 15 48.2**	**+2.8**
LHMI	**Lhok Sumawe**	**2.85**	**357**	*e*Pn	**Pn**	**22 15 47.4**	**+2.0**
LHMI				*e*Sn	**Sn**	**22 16 16.7**	**-1.9**
MNSI	**Mandailing Nat**	**2.92**	**122**	P	**Pn**	**22 15 47.1**	**+0.9**
BKNI	**Bangkinang**	**4.42**	**117**	P	**Pn**	**22 16 07.9**	**+1.0**
BKNI	**Bangkinang**	**4.42**	**117**	*e*Pn	**Pn**	**22 16 08.3**	**+1.4**
BKNI				*e*Sn	**Sn**	**22 16 56.6**	**-0.6**
IPM	**Ipoh**	**4.44**	**62**	*e*Pn	**Pn**	**22 16 09.2**	**+2.1**
IPM				*e*Sn	Sn	22 16 51.5	-6.2
KULM	**Kulim**	**4.58**	**50**	*e*Pn	**Pn**	**22 16 11.4**	**+2.4**
KULM				*e*Sn	**Sn**	**22 17 04.5**	**+3.5**
SDSI	**Sungai Dareh**	**5.42**	**127**	P	**Pn**	**22 16 21.4**	**+0.8**
CMBY	**CAMPBELL BAY**	**5.61**	**326**	*e*P	**Pn**	**22 16 22.4**	**-0.8**
CMBY				AMB	AMB	22 18 02.9	
	comp=Z,61μm,1.3s						
PKDT	**Phuket**	**5.63**	**12**	P	**Pn**	**22 16 23.5**	**0.0**
	comp=Z,7μm,1.1s,comp=Z,499μmcomp=Z,255nm						
KGM	**Kluang**	**6.21**	**93**	⇓P	Pn	22 16 35.3	+3.7
KTGM	**Kuala Trenggan**	**6.69**	**64**	⇑P	Pn	**22 16 41.2**	**+3.0**
MYKOM	**Kota Tinggi**	**6.76**	**95**	⇑P	Pn	22 16 42.4	+3.4
MYKOM	**Kota Tinggi**	**6.76**	**95**	⇑S	**Sn**	**22 17 59.9**	**+5.0**
MYKOM	**Kota Tinggi**	**6.76**	**95**	*e*Pn	**Pn**	**22 16 39.9**	**+0.8**
SURT	**Suratani**	**6.76**	**14**	P	**Pn**	**22 16 39.3**	**+0.2**
	comp=Z,3μm,0.8s,comp=Z,128μmcomp=Z,66nm						
TPRI	**Tanjung Pinang**	**7.55**	**101**	P	**Pn**	**22 16 51.3**	**+1.4**
JMBI	**JAMBI**	**7.64**	**121**	P	**Pn**	**22 16 52.0**	**+0.8**
DSRI	**Dabo**	**7.98**	**111**	P	**Pn**	**22 16 56.9**	**+1.1**
MNAI	**Manna**	**8.87**	**139**	P	**Pn**	**22 17 08.4**	**+0.3**
MNAI	**Manna**	**8.87**	**139**	*e*Pn	**Pn**	**22 17 06.7**	**-1.4**
MNAI				*e*Sn	**Sn**	**22 18 48.1**	**+1.2**
LHSI	**Lahat**	**8.88**	**134**	P	**Pn**	**22 17 08.7**	**+0.5**
PMBI	**Palembang**	**9.29**	**124**	P	**Pn**	**22 17 13.5**	**-0.3**
PMBI	**Palembang**	**9.29**	**124**	*e*Pn	**Pn**	**22 17 16.9**	**+3.1**
PMBI				*e*Sn	**Sn**	**22 18 53.9**	**-3.3**
MDSI	**Maura Dua**	**9.80**	**134**	P	**Pn**	**22 17 21.2**	**+0.3**
LWLI	**Liwa**	**10.09**	**137**	P	**Pn**	**22 17 25.2**	**+0.2**
PBA	**Port Blair**	**10.20**	**335**	*e*P	Pn	22 17 25.8	-0.5
PBA				AMB	AMB	22 18 06.7	
	comp=Z,9μm,0.7s						
KLI	**Kotabumi**	**10.55**	**133**	P	**Pn**	**22 17 31.5**	**+0.4**
KASI	**Kota Agung**	**10.76**	**137**	P	**Pn**	**22 17 32.9**	**-1.0**
BLSI	**Bandar Lampung**	**11.18**	**133**	P	**Pn**	**22 17 40.3**	**+0.6**
DGPR	**DIGLIPUR**	**11.52**	**339**	*e*P	**Pn**	**22 17 42.7**	**-1.6**
CHBT	**CHBT**	**11.55**	**26**	P	**Pn**	**22 17 46.8**	**+2.1**
	comp=Z,4μm,1.6s,comp=Z,179μm						
TPI	**Tanjungpandan**	**11.70**	**116**	P	**Pn**	**22 17 47.8**	**+1.0**
SRDT	**SRDT**	**12.08**	**9**	P	**Pn**	**22 17 53.9**	**+1.9**
	comp=Z,4μm,0.7s,comp=Z,450μm						
SBJI	**Serang**	**12.33**	**133**	P	**Pn**	**22 17 55.8**	**+0.3**
CGJI	**Cibinong**	**12.36**	**136**	P	Pn	22 17 51.3	-4.6
TNG	**Tangerang**	**12.75**	**132**	P	P	22 18 20.0	+8.2
TNG				P	Pn	22 17 51.6	-10
KSM	**Kuching**	**13.22**	**94**	⇑P	**Pn**	**22 18 10.6**	**+3.0**
KSM	**Kuching**	**13.22**	**94**	*e*Pn	**Pn**	**22 18 10.6**	**+3.0**
SKJI	**Sukabumi**	**13.24**	**135**	P	Pn	**22 18 06.6**	**-1.4**
	comp=Z,2μm,1.1s,comp=Z,88μm						
UTHA	**Uthaitani**	**13.31**	**10**	P	**Pn**	**22 18 09.9**	**+1.0**
	comp=Z,338nm,1.0s,comp=Z,6μm						
CNJI	**Cibinong**	**13.86**	**134**	P	Pn	22 18 12.1	-4.3
LEM	**Lembang**	**13.90**	**131**	P	Pn	**22 18 15.0**	**-2.1**
LEM	**Lembang**	**13.90**	**131**	Pn	**Pn**	**22 18 15.0**	**-2.1**
	comp=Z,6.1nm,0.3s,baz=328,slow=8.8,SNR=15						
LEM				Sn	S	22 21 04.9	-6.7
	comp=Z,18nm,0.3s,baz=180,slow=20,SNR=1.5						
LEM				LR	LR	22 24 54.2	
	comp=Z,3773μm,20.0s,baz=280,slow=43						
COCO	**West Island**	**14.46**	**181**	*e*P	**Pn**	**22 18 22.3**	**-2.2**
COCO	**West Island**	**14.46**	**181**	Pn	**Pn**	**22 18 23.7**	**-0.8**
	SNR=28						
COCO	**West Island**	**14.46**	**181**	*e*Pn	**Pn**	**22 18 22.3**	**-2.2**
COCO				*es*P		22 18 51.4	
CISI	**Cisompet, Garu**	**14.53**	**133**	P	Pn	22 18 21.4	-4.2
CISI	**Cisompet, Garu**	**14.53**	**133**	⇓*e*Pn	Pn	22 18 19.8	-5.8
	comp=Z,2μm,0.8s						
STKI	**Sintang**	**14.54**	**99**	P	**Pn**	**22 18 27.1**	**+1.4**
PBKT	**Sadao Pong**	**14.62**	**15**	P	**Pn**	**22 18 27.2**	**+0.5**
	comp=Z,3μm,1.2s,comp=Z,229μm						
DLV	**T Lat**	**14.76**	**49**	*e*Pn	**Pn**	**22 18 30.6**	**+1.9**
DLV				*e*Sn	**Sn**	**22 21 16.2**	**+4.9**
KHON	**Khomkaen**	**14.98**	**22**	P	**Pn**	**22 18 32.3**	**+0.7**
	comp=Z,1μm,0.9s,comp=Z,12μm						
SBUM	**Sibu**	**15.10**	**89**	⇑P	**Pn**	**22 18 35.2**	**+2.1**
SBUM	**Sibu**	**15.10**	**89**	*e*Pn	**Pn**	**22 18 33.5**	**+0.4**
	comp=Z,12μm,1.9s						
SBUM				*e*Sn	**Sn**	**22 21 21.1**	**+1.8**
CMJI	**Cimerak**	**15.15**	**132**	P	**Pn**	**22 18 29.6**	**-4.2**
KPJI	**Karang Pucung**	**15.23**	**129**	P	**Pn**	**22 18 33.5**	**-1.3**
UBPT	**Khong Chiam**	**15.26**	**32**	P	**Pn**	**22 18 35.9**	**+0.7**
	comp=Z,3μm,1.9s,comp=Z,282μm						
XMIS	**Christmas Isla**	**15.33**	**146**	*e*Pn	**Pn**	**22 18 32.4**	**-3.8**
	comp=Z,402nm,0.9s						
XMIS				*e*Sn	**Sn**	**22 21 25.7**	**+0.6**
PBKI	**Pangkalan Bun**	**15.40**	**109**	P	**Pn**	**22 18 38.2**	**+1.1**
UTTA	**Uttaradit**	**15.66**	**12**	P	**Pn**	**22 18 40.7**	**+0.3**
	comp=Z,1μm,0.9s,comp=Z,7μm						
MHMT	**Maesarieng**	**15.74**	**3**	P	**Pn**	**22 18 41.0**	**-0.5**
	comp=Z,1μm,0.9s,comp=Z,64μm						
BTM	**Bintulu**	**15.97**	**87**	⇑P	**P**	**22 18 47.2**	**-0.6**
CM31	**Chiang Mai Arr**	**16.10**	**6**	*e*Pn	**Pn**	**22 18 44.5**	**-1.5**
CM31				*e*S	**S**	**22 21 55.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.10**	**6**	Pn	**Pn**	**22 18 44.5**	**-1.5**
	comp=Z,4.6nm,0.3s,baz=193,slow=13,SNR=351						
CMAR				Sn	**S**	**22 21 55.2**	**-1.2**
	baz=78,slow=28,SNR=2.0						
CMAR				LR	LR	22 25 31.4	
	comp=Z,4467μm,19.2s,baz=200,slow=40						
CMAR				P3KP		22 54 35.2	
	comp=Z,1.1nm,0.3s,baz=321,slow=2.3,SNR=5.1						
LAMP	**Lampang**	**16.25**	**9**	P	**Pn**	**22 18 48.5**	**+0.5**
	comp=Z,1μm,1.0s,comp=Z,11μm						
CMMT	**Chiang Mai**	**16.45**	**6**	P	**P

TRD Trivandrum 20.96 288 eP P 22 19 41.4 -1.1
DNP Denpasar 21.11 121 P P 22 19 50.6 +6.4
IGBI Denpasar 21.13 122 P P 22 19 45.3 +0.9
ADKI Addanki 21.56 309 eP P 22 19 51.9 +3.0
ADKI IAmb IAmb 22 20 18.8
comp=Z,39µm,2.5s
ADKI eS S 22 23 45.9 -0.4
ADKI IAMs_20 IAMs_20 22 27 13.4
comp=Z,4039µm,22.0s
NJS Nagarjunasagar 22.49 310 eP P 22 20 01.1 +2.1
NJS IAmb IAmb 22 20 25.7
comp=Z,4µm,1.0s
NJS eS S 22 24 04.5 +0.7
NJS IAMs_20 IAMs_20 22 28 04.8
comp=Z,3469µm,20.1s
IMP Imphal 22.50 352 ex P 22 19 57.0 -2.1
MPSI Mapaga 22.87 95 P P 22 20 03.1 +0.1
PCI Palu 22.95 98 P P 22 20 03.9 0.0
URV Uravakonda 23.24 304 eP P 22 20 08.7 +2.0
URV IAmb IAmb 22 20 37.2
comp=Z,2µm,1.1s
URV eS S 22 24 18.1 +1.3
URV IAMs_20 IAMs_20 22 28 09.9
comp=Z,3807µm,20.6s
KMI Kunming 23.27 13 P P 22 20 07.1 -0.1
KMI pP pP 22 20 17.4 +1.0
KMI sP sP 22 20 22.3 +1.8
KMI S S 22 24 18.8 +1.2
KMI PMZ
comp=Z,3µm,1.3s
KMI PMZ
comp=Z,99µm,12.9s
KMI LN
comp=Z,2700µm,19.1s
KMI LE
comp=Z,1830µm,16.6s
KMI LZ
comp=Z,3810µm,19.4s
TTSI Tana Toraja 23.32 103 P P 22 20 08.9 +1.3
SPSI Sidrap Palu 23.50 105 P P 22 20 10.5 +1.2
HYB Hyderabad 23.58 311 eP P 22 20 11.0 +0.9
HYB eS S 22 24 24.0 +1.6
HYB Hyderabad 23.58 311⇑ iP P 22 20 11.0 +0.9
HYB eS S 22 24 24.0 +1.6
HYB LR LR 22 42 40.0
comp=Z,338nm,20.0s
HYB Hyderabad 23.58 311 eP P 22 20 10.1 0.0
HYB Hyderabad 23.58 311 eP P 22 20 11.0 +0.9
HYB eS S 22 24 24.0 +1.6
HYBB Hyderabad (bro 23.58 311 eP P 22 20 11.8 +1.7
HYBB IAmb IAmb 22 20 41.5
comp=Z,4µm,1.1s
HYBB eS S 22 24 24.8 +2.3
HYBB IAMs_20 IAMs_20 22 28 47.6
comp=Z,3064µm,20.0s
SHL Shillong 23.62 348 i PCN 22 20 09.0
TOLI Toli-Toli 23.70 93⇑ iP P 22 20 10.7 -0.6
comp=Z,3µm,0.8s
TOLI eS S 22 24 21.4 -3.0
TOLI LR LR
comp=Z,2208µm,22.0s
KAPI Kappang 23.77 108 P P 22 20 12.0 0.0
SNR=244
KAPI Kappang 23.77 108 eP P 22 20 11.7 -0.2
comp=Z,2µm,1.7s
KAPI LR LR
comp=Z,2020µm,20.0s
BOK Bokaro 23.92 334 eP P 22 20 12.6 -0.6
BOK AMB AMB 22 20 31.9
comp=Z,8µm,1.9s
BNSI Bone 23.94 106 P P 22 20 14.5 +1.0
RPR Rampur 23.94 314 eP P 22 20 15.3 +1.9
RPR IAmb IAmb 22 20 39.1
comp=Z,4µm,1.0s
RPR eS S 22 24 30.7 +2.7
RPR IAMs_20 IAMs_20 22 28 55.6
comp=Z,2425µm,22.6s
BKSI Bulukumba 24.22 108 P P 22 20 16.9 +0.8
MNGI Mangalore 24.43 297 ex P 22 20 10.7 -7.3
MNGI ex S 22 24 39.1 +3.1
APSI Ampana 24.75 97 P P 22 20 22.0 +1.1
BSSI Bau Bau, Buton 24.83 110 P P 22 20 22.4 +0.8
MRSI Marisa 24.89 94 P P 22 20 23.3 +1.1
WBSI Waikabubak, Su 25.19 119 P P 22 20 24.6 -0.4
SLGI Shiliguri 25.60 342 ex P 22 20 29.0 +0.6
GYA Guiyang 25.66 20⇑ iP P 22 20 27.9 -1.2
GYA PP PnPn 22 21 11.0 +4.8
GYA PcP PcP 22 24 01.6 +2.2
GYA S S 22 24 55.2 -0.4
GYA sS sS 22 25 11.0 -0.5
GYA SS SnSn 22 26 00.9 +9.2
GYA ScP ScP 22 27 36.7 +0.2
GYA PMZ
comp=Z,970nm,0.9s
GYA LN
comp=Z,2676µm,17.0s
GYA LE
comp=Z,1055µm,17.0s
GYA LZ
comp=Z,1003µm,17.0s
NGP Nagpur 25.66 318 eP P 22 20 30.7 +1.6
NGP ex x 22 20 52.4
comp=Z,4µm,1.4s
NGP eS S 22 24 57.7 +2.2
LATR Latur 25.70 310 ex P 22 20 33.0 +3.6
HKC Hong Kong Obse 25.84 39 i P P 22 20 30.0 -0.7
LUWI Luwuk 25.88 97 P P 22 20 32.2 +1.1
LUWI Luwuk 25.88 97 eP P 22 20 30.9 -0.2
comp=Z,11µm,1.2s
LUWI eS S 22 24 54.9 -4.2
LUWI LR LR
comp=Z,1584µm,21.0s
GZH Guangzhou 25.93 36 P P 22 20 36.4 +5.0
GZH PP PnPn 22 21 36.5 +27
GZH PcP PcP 22 23 40.3 -20
GZH S S 22 25 32.1 +32
GZH sS sS 22 25 46.9 +31
GZH LR LR
comp=N,5587µm,20.6s
GZH LR LR
comp=E,2534µm,20.8s
GTOI Gorontalo 25.95 93 P P 22 20 31.0 -0.8
PGP Puerto Galera 26.04 64⇑ eP P 22 20 34.4 +1.7
ODAN Odare 26.08 340 eP P 22 20 33.8 +0.7
comp=E,5µm,0.8s
GTK Tadong 26.13 343 eP P 22 20 30.5 -3.0
TGY Tagaytay City 26.27 62 P P 22 20 33.6 -1.1
comp=E,329nm,0.5s,baz=274,slow=2.8,SNR=17
TGY LR LR 22 31 20.8
comp=E,31µm,20.2s,baz=298,slow=38
TGY Tagaytay City 26.27 62⇑ eP P 22 20 35.8 +1.0
GOA Goa 26.40 301 eP P 22 20 35.1 -0.7
GOA ex x 22 20 40.2
GOA AMB AMB 22 20 58.2
comp=Z,2µm,0.7s
TAPN Taplejung 26.43 341 eP P 22 20 37.3 +1.0
comp=Z,13µm,0.9s
RAMN Ramite 26.45 339 eP P 22 20 37.6 +1.2
comp=Z,16µm,1.3s
DGAR Diego Garcia 26.45 248 d iP P 22 20 35.4 -0.9
DGAR Diego Garcia 26.45 248 P P 22 20 42.9 +6.6
SNR=55
DGAR Diego Garcia 26.45 248 eP P 22 20 35.1 -1.2
comp=Z,5µm,1.0s
DGAR eS S 22 25 11.2 +3.1
DGAR LR LR
comp=Z,5173µm,20.0s
H08S2 Diego Garcia H 26.50 248 P P 22 20 38.0 +1.5
baz=44,slow=10,SNR=1139
H08S2 T T 22 47 43.1
baz=69,slow=75
BASI Baing, Sumba 26.50 119 P P 22 20 37.6 +0.9
H08S3 Diego Garcia H 26.50 248 P P 22 20 27.1 -9.4
baz=44,slow=10,SNR=1441
H08S3 T T 22 47 35.9
baz=69,slow=75
H08S1 Diego Garcia H 26.51 248 P P 22 20 38.0 +1.4
baz=44,slow=10,SNR=1875
H08S1 T T 22 47 37.0
baz=69,slow=75
AKL Akola 26.77 314 eP P 22 20 38.6 -0.5
EDFI Ende, Flores 26.87 115 P P 22 20 41.1 +0.8
KMSI Cibinong 26.92 93 P P 22 20 41.9 +1.3
BCPH Baguio City Da 26.97 57⇑ iP P 22 20 40.0 -1.2

RCP Roxas 27.01 69⇑ eP P 22 20 41.9 +0.5
JIRN Jiri 27.24 338 eP P 22 20 44.5 +0.8
comp=Z,10µm,1.0s
SZP Santa 27.45 55 eP P 22 20 45.1 -0.1
comp=Z,6µm,1.2s
SZP LR LR
comp=Z,2698µm,20.0s
H08N1 Diego Carcia H 27.45 252 P P 22 20 47.4 +2.4
baz=83,slow=5.6,SNR=2869
H08N1 T T 22 49 11.2
baz=46,slow=75,SNR=6325
PKI Pulchoki 27.46 337 eP P 22 20 46.0 +0.4
CTBH Cotabato--PC H 27.46 79⇑ eP P 22 20 45.4 0.0
H08N2 Diego Garcia H 27.46 252 P P 22 20 47.5 +2.4
baz=83,slow=5.6,SNR=3734
H08N2 T T 22 49 09.7
baz=46,slow=75,SNR=7326
H08N3 Diego Garcia H 27.48 252 P P 22 20 47.4 +2.3
baz=83,slow=5.6,SNR=3495
H08N3 T T 22 49 10.2
baz=46,slow=75,SNR=6430
GQP Guinayangan 27.54 64⇓ eP P 22 20 44.9 -1.2
GUN Gumba 27.58 338 eP P 22 20 47.5 +0.7
comp=Z,10µm,0.8s
SIPP Brgy, Tapao 27.64 54⇑ iP P 22 20 45.8 -1.1
KKN Kakani 27.70 337 eP P 22 20 48.3 +0.6
comp=Z,10µm,1.3s
LSA Lhasa 27.77 349 P P 22 20 48.7 +0.1
LSA PcP PcP 22 24 07.2 +2.5
LSA S S 22 25 21.5 -8.1
LSA LN
comp=Z,795µm,25.4s
LSA LE
comp=Z,1600µm,27.2s
LSA LZ
comp=Z,1760µm,23.6s
LSA Lhasa 27.77 349⇑ iP P 22 20 48.3 -0.3
LSA S S 22 25 31.3 +1.7
LSA MLR MLR
comp=Z,1893µm,21.0s
LSA Lhasa 27.77 349⇑ iP P 22 20 48.3 -0.3
comp=Z,107nm,1.3s
LSA S S 22 25 31.2 +1.7
LSA LR LR
comp=Z,1893µm,21.0s
POO Poona 27.89 307 eP P 22 20 49.1 -0.1
GSPH General Santos 28.00 82 eP P 22 20 55.8 +5.3
CGP Cagayan de Oro 28.11 76⇓ eP P 22 20 50.6 -0.6
GKN Gorkha 28.15 336 eP P 22 20 52.3 +0.7
comp=Z,12µm,1.2s
BHPL Bhopal 28.19 319 eP P 22 20 51.1 -0.8
KOLN Koldanda 28.38 334 eP P 22 20 54.6 +0.9
comp=Z,5µm,0.7s
SGSI Sangihe 28.41 87 P P 22 20 55.6 +1.7
DAV Davao City (W) 28.75 80 P P 22 20 58.4 +1.4
SNR=69
DAV Davao City (W) 28.75 80⇑ eP P 22 20 58.3 +1.4
DAV Davao City (W) 28.75 80⇑ eS S 22 26 10.0 +26
DAV Davao City (W) 28.75 80 eP P 22 20 59.5 +2.6
comp=Z,3µm,0.9s
DAV eS S 22 25 50.8 +6.3
DAV LR LR
comp=Z,1679µm,19.0s
DANN Dangsing 28.82 335 eP P 22 20 58.4 +0.7
PYUN Piuthan 28.93 334 eP P 22 20 59.4 +0.8
PVCP Virac 28.97 66⇓ eP P 22 20 57.7 -1.2
PLP Palo 29.00 71⇓ eP P 22 20 58.4 -0.7
CD2 Chengdu 29.08 12⇑ iP P 22 20 58.2 -1.5
CD2 pP pP 22 21 10.2 +0.8
CD2 sP sP 22 21 15.8 +2.3
CD2 PP PnPn 22 21 54.5 +1.6
CD2 PcP PcP 22 24 03.8 -3.6
CD2 S S 22 25 47.5 -1.9
CD2 sS sS 22 26 07.7 +2.4
CD2 SS SnSn 22 27 21.2 +6.1
CD2 PMZ
comp=Z,470nm,0.8s
CD2 PMZ
comp=Z,104µm,11.2s
CD2 LN
comp=Z,3026µm,21.1s
CD2 LE
comp=Z,2776µm,16.7s
CD2 LZ
comp=Z,3484µm,23.5s
JHNI Jhansi 29.11 324 ex P 22 20 56.0 -4.0
JHNI ex x 22 26 02.0
SCPH Surigao 29.14 74 eP P 22 21 03.4 +3.0
SANI Sanana 29.20 98 P P 22 21 00.5 -0.4
BATI Baumata 29.24 116 P P 22 21 01.9 +0.6
BATI Baumata 29.24 116 P P 22 21 00.3 -1.0
comp=Z,192nm,0.6s,baz=308,slow=5.5,SNR=29
SOEI Soe 29.61 114 P P 22 21 05.4 +0.7
SOEI Soe 29.61 114 eP P 22 21 01.1 -3.6
comp=Z,3µm,1.1s
SOEI LR LR
comp=Z,2312µm,21.0s
BIPH Bislig 29.68 78⇑ eP P 22 21 04.5 -0.7
ENH Enshi 30.14 22⇑ iP P 22 21 07.3 -1.8
comp=Z,540nm,0.9s
ENH eS S 22 26 02.4 -3.5
ENH LR LR
comp=Z,1216µm,22.0s
TNTI Ternate 30.28 92 P P 22 21 10.8 +0.2
TNTI Ternate 30.28 92 eP P 22 21 10.2 -0.3
comp=Z,820nm,1.0s
TNTI eS S 22 26 06.3 -2.3
TNTI LR LR
comp=Z,602µm,22.0s
NLAI Namlea 30.49 100 P P 22 21 13.5 +1.2
LBMI Labuha 30.53 95 P P 22 21 13.8 +1.1
QZH Quanzhou 30.55 41 P P 22 21 12.5 -0.2
QZH PMZ
comp=Z,4µm,1.5s
QZH PMZ
comp=Z,116µm,12.1s
QZH LN
comp=Z,4590µm,18.4s
QZH LE
comp=Z,2016µm,15.5s
QZH LZ
comp=Z,5505µm,20.6s
AGRA Agra 30.80 325 eP P 22 21 15.2 +0.3
TPUB Ta-pu 30.86 46 eP P 22 21 14.8 -0.8
comp=Z,2µm,1.0s
TPUB ePP PP 22 22 28.6 +3.0
TPUB eS S 22 26 14.0 -3.4
TWG Pinlang 30.88 47 eP P 22 21 14.8 -0.9
comp=Z,6µm,1.1s
TWG ePP PP 22 22 29.4 +3.5
TWG eS S 22 26 12.5 -5.3
LGTI Lohaghat 31.35 331 eP P 22 21 20.2 +0.5
LGTI ex x 22 26 42.1
YULB Yu-li 31.40 46 eP P 22 21 21.1 +0.9
comp=Z,1µm,1.0s
YULB eS S 22 26 25.8 -0.1
NACB Ninganchiao 32.09 45 eP P 22 21 26.3 -0.1
comp=Z,899nm,0.9s
BISR Bishrakh 32.11 326 ex P 22 21 15.5 -11
BISR AMB AMB 22 21 33.8
comp=Z,2µm,0.6s
KALG Kalgarh 32.15 329 ex P 22 21 33.4 +6.7
KALG AMB AMB 22 21 53.1
comp=Z,2µm,0.6s
AYAN Aya Nagar 32.22 326 eP P 22 21 26.8 -0.6
AJM Ajmer 32.25 320 ex P 22 21 29.0 +1.2
YHNB Yeheng 32.25 44 eP P 22 21 27.0 -0.8
comp=Z,679nm,0.9s
YHNB eS S 22 26 40.2 +1.0
YHNB LR LR
comp=Z,1483µm,21.0s
MSAI Masohi 32.30 100 P P 22 21 29.0 +0.6
NDI New Delhi 32.32 326 eP P 22 21 27.0 -1.3
comp=Z,495nm,0.5s
KUDL Kundal 32.33 324⇑ iP P 22 21 28.1 -0.2
WHN Wuhan 32.44 28⇑ iP P 22 21 28.5 -0.8
WHN sP sP 22 21 44.1 +1.1
WHN S S 22 26 45.0 +3.2
WHN LN
comp=Z,3698µm,16.1s
WHN LE
comp=Z,1175µm,13.2s
WHN LZ
comp=Z,5501µm,16.4s
BHGR Bahadurgarh 32.48 326 eP P 22 21 29.8 +0.1

TATO Taipei 32.53 44 eP P 22 21 30.5 +0.4
comp=Z,13µm,2.6s
TATO eS S 22 26 39.8 -3.6
TATO LR LR
comp=Z,1048µm,21.0s
KHET Khetri 32.68 324 eP P 22 21 31.8 +0.3
DDI Dehra Dun 33.16 329 ex P 22 21 39.2 +3.5
DDI ex x 22 27 04.5
YOJ Yonaguni jima 33.29 46 eP P 22 21 36.8 0.0
YOJ pmax pmax
comp=Z,440nm,1.0s
YOJ Yonaguni jima 33.29 46 eP P 22 21 36.8 0.0
comp=Z,440nm,1.0s
XAN Xi'an 33.39 18 P P 22 21 36.0 -1.7
XAN PP PP 22 22 53.8 +0.2
XAN S S 22 26 57.4 +0.7
XAN SS SnSn 22 28 57.1 -2.7
XAN PMZ
comp=Z,400nm,0.8s
XAN LN
comp=Z,1310µm,18.0s
XAN LE
comp=Z,567µm,16.4s
XAN LZ
comp=Z,869µm,19.4s
BNDI Bandanaira 33.47 102 P P 22 21 39.9 +1.3
KKR Kurukshetra 33.53 327 eP P 22 21 38.0 -0.9
KKR AMB AMB 22 21 58.7
comp=Z,4µm,0.9s
BHJ Bhuj 33.75 310 eP P 22 21 39.9 -1.0
BHJ AMB AMB 22 21 49.9
comp=Z,771nm,0.7s
LZH Lanzhou 34.13 10 eP P 22 21 43.5 -0.7
LZH pP pP 22 21 51.9 -2.0
LZH sP sP 22 21 55.8 -2.2
LZH PP PnPn 22 22 56.4 -2.2
LZH PcP PcP 22 24 19.7 -1.4
LZH S S 22 27 05.3 -3.1
LZH sS sS 22 27 19.6 -4.8
LZH SS SnSn 22 29 21.3 +3.4
LZH PMZ
comp=Z,5µm,1.1s
LZH PMZ
comp=Z,31µm,5.4s
LZH LE
comp=Z,2112µm,16.1s
LZH LZ
comp=Z,2390µm,17.1s
SMLA Simla 34.26 329 i P P 22 21 45.6 +0.4
SMLA AMB AMB 22 21 52.7
comp=Z,3µm,0.6s
SMLA i S S 22 27 11.4 +1.3
SDNR Sundarnagar 34.66 329 eP P 22 21 49.6 +0.9
SDNR ex x 22 27 24.0
BHK Bhakra 34.88 328 eP P 22 21 50.2 -0.4
BHK ex x 22 26 12.2
FAKI Fak Fak 35.51 98 P P 22 21 55.4 -0.9
FAKI Fak Fak 35.51 98 eP P 22 21 55.0 -1.3
comp=Z,1µm,1.1s
FAKI LR LR
comp=Z,559µm,21.0s
DHRM DHARAMSHALA 35.60 329 eP P 22 21 53.8 -3.2
DHRM AMB AMB 22 22 02.9
comp=Z,5µm,5.6s
SAUI Saumlaki 35.61 107 P P 22 21 56.0 -1.1
SAUI Saumlaki 35.61 107 eP P 22 21 54.8 -2.3
comp=Z,3µm,1.4s
SAUI epP pP 22 22 10.1 +3.3
SAUI LR LR
comp=Z,1181µm,22.0s
NJ2 Nanjing 35.93 32 eP P 22 21 59.8 +0.2
NJ2 sP sP 22 22 12.9 -0.5
NJ2 PcP PcP 22 24 27.0 +0.8
NJ2 S S 22 27 37.5 +1.7
NJ2 sS sS 22 27 50.0 -1.9
NJ2 PMZ
comp=Z,1µm,0.8s
NJ2 PMZ
comp=Z,208µm,9.6s
NJ2 LN
comp=Z,3041µm,16.6s
NJ2 LE
comp=Z,4237µm,16.3s
NJ2 LZ
comp=Z,3618µm,16.2s
DLH Dalhousie 36.00 329 eP P 22 22 00.0 -0.4
DLH eS S 22 27 38.0 +0.7
SSE Sheshan 36.53 36 P P 22 22 04.3 -0.4
SSE sP sP 22 22 20.4 +1.9
SSE PP PP 22 23 30.2 +2.0
SSE S S 22 27 51.8 +6.9
SSE PMZ
comp=Z,400nm,1.0s
SSE PMZ
comp=Z,60µm,9.2s
SSE LN
comp=Z,1400µm,17.2s
SSE LE
comp=Z,1170µm,17.2s
SSE LZ
comp=Z,2060µm,17.6s
GTA Gaotai 36.96 3 ⇑P P 22 22 07.6 -0.8
GTA pP pP 22 22 17.5 -0.7
GTA sP sP 22 22 21.3 -0.9
GTA PP PnPn 22 23 36.1 +2.7
GTA S S 22 27 50.9 -0.7
GTA sS sS 22 28 08.6 +0.9
GTA ScP ScP 22 28 11.1 -2.8
GTA SS SnSn 22 30 22.3 -3.9
GTA ScS ScS 22 32 16.4 -4.8
GTA PMZ
comp=Z,44µm,8.5s
GTA LN
comp=Z,539µm,23.3s
GTA LE
comp=Z,1158µm,21.4s
GTA LZ
comp=Z,861µm,22.8s
RKPI Ransiki, Papua 37.26 96 P P 22 22 11.9 +0.7
TIY Taiyuan 37.89 20 eP P 22 22 15.3 -1.0
TIY sP sP 22 22 29.2 -0.9
TIY S S 22 28 05.5 -0.2
TIY PMZ
comp=Z,200nm,0.7s
TIY PMZ
comp=Z,44µm,12.0s
TIY LN
comp=Z,2227µm,15.4s
TIY LE
comp=Z,796µm,16.7s
TIY LZ
comp=Z,2034µm,15.7s
TIA Tai'an 38.44 26 ⇑P P 22 22 19.7 -1.1
TIA PMZ
comp=Z,270nm,0.3s
TIA PMZ
comp=Z,52µm,15.0s
TIA LN
comp=Z,1096µm,27.0s
TIA LE
comp=Z,1582µm,21.0s
TIA LZ
comp=Z,1653µm,24.0s
JOW Kunigami 38.53 48 P P 22 22 21.1 -0.5
comp=Z,49nm,0.5s,baz=230,slow=8.2
JOW S S 22 28 01.6 -14
baz=303,slow=18
JOW LR LR 22 38 10.5
comp=Z,103µm,21.8s,slow=36
JOW Kunigami 38.53 48 eP P 22 22 21.6 -0.1
comp=Z,3µm,1.9s
JOW S S 22 28 01.6 -14
SRPI Serui, Papua 39.34 96 P P 22 22 29.6 +0.9
comp=Z,1µm,1.3s,comp=Z,65µmcomp=Z,817µm
BTO Baotou 39.82 15 eP P 22 22 31.8 -0.7
BTO PP PnPn 22 24 10.5 +2.7
BTO S S 22 28 33.7 -1.1
BTO LN
comp=Z,206µm,16.2s
BTO LE
comp=Z,334µm,22.1s
NWAO Narrogin (SRO) 39.92 153 P P 22 22 34.6 +1.3
comp=Z,250nm,0.9s,baz=322,slow=11,SNR=44
NWAO LR LR 22 38 33.6
comp=Z,12µm,21.2s,baz=342,slow=35

H01W3 **Cape Leeuwin H** 40.35 158 P P 22 22 40.2 +3.7
baz=312,slow=5.2,SNR=68
H01W2 **Cape Leeuwin H** 40.36 158 P P 22 22 42.2 +5.7
baz=312,slow=5.2,SNR=88
H01W1 **Cape Leeuwin H** 40.36 158 P P 22 22 40.3 +3.8
baz=312,slow=5.2,SNR=64
HHC Hu-ho-hao-te 40.48 17 *e*P P 22 22 33.9 -4.0
HHC Hu-ho-hao-te 40.48 17 *e*P **P** **22 22 38.3 +0.3**
HHC S S 22 28 36.6 -8.0
HHC LR LR
comp=N,142µm,17.7s
HHC LR LR
comp=E,317µm,22.0s
HHC Hu-ho-hao-te 40.48 17 *e*P **P** **22 22 38.2 +0.3**
HHC S **S** **22 28 39.1 -5.5**
HHC sS **sS** **22 29 01.6 +0.8**
HHC SS **SS** **22 31 42.4 -2.5**
HHC PMZ
comp=E,62µm,6.0s
HHC LN
comp=E,1225µm,17.9s
HHC LE
comp=E,1312µm,17.3s
HHC LZ
comp=E,1483µm,18.5s
BJT Baijiatuau 41.28 22⇑ *i*P **P** **22 22 44.7 +0.3**
BJT *e* 22 24 16.4
BJT *e*S **S** **22 29 01.2 +4.8**
BJT pmax pmax
comp=Z,5µm,1.0s
BJT MLR MLR
comp=Z,967µm,19.0s
BJT Baijiatuau 41.28 22⇑ *i*P **P** **22 22 44.7 +0.3**
comp=Z,5µm,1.0s
BJT *e*PP **PP** **22 24 16.4 -3.7**
BJT *e*S **S** **22 29 01.2 +4.8**
BJT LR LR
comp=Z,967µm,19.0s
BJI Beijing 41.30 22 P **P** **22 22 44.9 +0.4**
BJI PMZ
comp=Z,760nm,0.8s
BJI LN
comp=Z,581µm,19.4s
BJI LE
comp=Z,1437µm,19.4s
BJI LZ
comp=Z,810µm,25.5s
KBL Kabul 41.33 324 *e*P **P** **22 22 44.5 -0.7**
KBL pmax pmax
comp=Z,808nm,1.1s
KBL Kabul 41.33 324 *e*P **P** **22 22 44.5 -0.7**
comp=Z,808nm,1.1s
KSHUK **Heuksando** 41.59 36 P **P** **22 22 47.5 +0.4**
SNR=9.8
KSH Kashi 41.69 335⇑ *i*P **P** **22 22 46.6 -1.3**
KSH pP **pP** **22 22 56.4 -1.3**
KSH sP **sP** **22 23 00.4 -1.3**
KSH PP **PP** **22 24 26.0 +1.3**
KSH ScP **ScP** **22 28 31.2 -1.0**
KSH PcS **PcS** **22 28 35.4 -0.3**
KSH S **S** **22 28 59.2 -3.4**
KSH sS **sS** **22 29 15.4 -3.5**
KSH SS SS 22 31 59.1 -10
KSH ScS **ScS** **22 32 45.7 -3.2**
KSH PMZ
comp=Z,860nm,1.3s
KSH PMZ
comp=Z,46µm,7.7s
KSH LN
comp=Z,393µm,15.7s
KSH LE
comp=Z,682µm,16.5s
KSH LZ
comp=Z,552µm,20.4s
SMPI Sarmi 41.81 96 P **P** **22 22 47.8 -1.3**
comp=Z,2µm,1.5s,comp=Z,111µm
KSJDO **Jindo** 41.96 37 P **P** **22 22 50.1 0.0**
SNR=14
WBK Wadi Bani Khal 42.12 302 P **P** **22 22 53.8 +2.3**
SNR=108
WMQ Urumqi 42.12 350⇑ *i*P **P** **22 22 51.7 +0.4**
WMQ pP **pP** **22 23 01.0 -0.2**
WMQ sP **sP** **22 23 06.0 +0.8**
WMQ PP **PP** **22 24 32.0 +2.7**
WMQ ScP **ScP** **22 28 32.0 -1.7**
WMQ S **S** **22 29 10.0 +1.1**
WMQ sS **sS** **22 29 27.0 +1.9**
WMQ SS **SS** **22 32 14.0 -3.4**
WMQ ScS **ScS** **22 32 49.0 -2.3**
WMQ PMZ
comp=Z,610nm,1.1s
WMQ PMZ
comp=Z,61µm,6.2s
WMQ LN
comp=Z,575µm,18.2s
WMQ LE
comp=Z,872µm,24.8s
WMQ LZ
comp=Z,622µm,23.6s
MSEY Mahe Island 42.18 260 *e*P P 22 22 46.4 -5.8
MSEY *e*S **S** **22 29 10.8 +0.3**
MSEY pmax pmax
comp=Z,926nm,1.2s
MSEY MLR MLR
comp=Z,2175µm,22.0s
MSEY Mahe Island 42.18 260⇓ *i*P **P** **22 22 53.5 +1.3**
SNR=5.9
MSEY Mahe Island 42.18 260 P P 22 22 57.5 +5.3
SNR=16
MSEY Mahe Island 42.18 260 *e*P P 22 22 46.4 -5.8
comp=Z,926nm,1.2s
MSEY *e*S **S** **22 29 10.8 +0.3**
MSEY LR LR
comp=Z,2175µm,22.0s
KSHAN **Haenam** 42.18 37 P P 22 23 01.6 +10
SNR=9.0
DL2 Dalian 42.70 29 ⇑P **P** **22 22 55.1 -0.9**
DL2 PP **PP** **22 24 36.4 +0.9**
DL2 S **S** **22 29 17.4 0.0**
DL2 PMZ
comp=Z,570nm,0.8s
DL2 PMZ
comp=Z,37µm,9.8s
DL2 LN
comp=Z,530µm,19.0s
DL2 LE
comp=Z,741µm,17.7s
DL2 LZ
comp=Z,944µm,19.6s
WRA Warramunga Arr 42.73 123 P **P** **22 22 55.5 -1.0**
comp=Z,158nm,0.9s,baz=302,slow=9.2,SNR=300
WRA S **S** **22 29 15.3 -3.0**
comp=Z,73nm,1.2s,baz=287,slow=20,SNR=4.6
WRA LR LR 22 44 35.9
comp=Z,854µm,19.0s,baz=295,slow=42
WRA PKPPKP **P'P'df** **22 54 54.1 -2.4**
comp=Z,8.9nm,0.9s,baz=71,slow=2.2,SNR=5.9
WRAB Tennant Creek 42.73 123 *ce*P **P** **22 22 55.7 -0.9**
WRAB pmax pmax
comp=Z,1µm,1.5s
WRAB MLR MLR
comp=Z,2931µm,20.0s
WRAB Tennant Creek 42.73 123 *e*P **P** **22 22 55.6 -0.9**
comp=Z,2µm,1.1s
WRAB *e*S **S** **22 29 13.1 -5.3**
WRAB LR LR
comp=Z,1240µm,20.0s
JMDO Jabal Madar 42.76 301 P **P** **22 22 58.6 +1.8**
SNR=69
KSKWJ **Gwangju** 42.84 37 P **P** **22 22 57.9 +0.8**
SNR=7.6
KSJEU **Jeongeup** 43.03 36 P **P** **22 22 58.6 -0.1**
SNR=15
SMDO Samad 43.07 302 P **P** **22 23 01.4 +2.0**
SNR=155
KSGUS **GUNSAN** 43.31 36 P **P** **22 23 00.4 -0.6**
SNR=18
GENI Genyem 43.32 96 P **P** **22 23 00.4 -1.0**
KSJEO **Jeonju** 43.55 36 P **P** **22 23 03.0 +0.1**
SNR=18
SHAO Shalim 43.55 294 P P 22 23 10.4 +7.2
SNR=18
KSBAR **Backryungdo** 43.55 32 P **P** **22 23 02.2 -0.6**
SNR=22
KSSES **Seosan** 43.65 35 P **P** **22 23 03.3 -0.4**
SNR=15

BSY Bisya 43.68 301 P **P** **22 23 06.1 +1.9**
SNR=215
JAY Jayapura 43.85 96 P **P** **22 23 06.7 +1.0**
JAY Jayapura 43.85 96 P **P** **22 23 03.5 -2.2**
comp=Z,159nm,0.8s,baz=272,slow=7.9,SNR=48
JAY S S 22 29 27.8 -7.2
comp=Z,53nm,1.1s,baz=276,slow=9.6,SNR=3.3
AIS Amsterdam Isla 43.87 202 P P 22 23 01.0 -4.4
AIS S **S** **22 29 31.0 -3.4**
AIS L L 22 32 00.0
AIS R 22 35 00.0
ULHL Ulahol 43.90 338 P **P** **22 23 07.3 +1.4**
SNR=5.6
ULHL Ulahol 43.90 338 *i* P **P** **22 23 07.2 +1.4**
HOQ Hoqain 43.90 302 P **P** **22 23 08.0 +2.0**
SNR=92
JNU Nakatsue 44.01 42 P **P** **22 23 06.2 -0.5**
comp=Z,214nm,0.9s,baz=188,slow=2.4,SNR=32
JNU S S 22 29 25.8 -11
comp=Z,84nm,1.3s,baz=219,slow=14,SNR=2.4
JNU LR LR 22 43 26.7
comp=Z,718µm,18.4s,baz=244,slow=39
JNU Nakatsue 44.01 42 *e*P **P** **22 23 06.4 -0.2**
comp=Z,620nm,1.2s
JNU S S 22 29 25.8 -11
KSCEA **Cheonan** 44.13 35 P **P** **22 23 07.3 -0.3**
SNR=27
KZA Kyzart 44.14 337 P **P** **22 23 08.9 +0.9**
SNR=9.4
KZA Kyzart 44.14 337 *i* P **P** **22 23 08.9 +0.9**
KSCPR **CHUPUNGNYEONG** 44.14 37 P **P** **22 23 07.4 -0.3**
SNR=17
AS12 Alice Springs 44.17 128 *e*P **P** **22 23 07.5 -0.7**
AS12 *e*S **S** **22 29 36.1 -3.3**
ASAR Alice Springs 44.17 128 P **P** **22 23 07.5 -0.7**
comp=Z,80nm,0.8s,baz=305,slow=7.8,SNR=322
ASAR S **S** **22 29 36.1 -3.3**
comp=Z,19nm,0.9s,baz=295,slow=15,SNR=4.2
ASAR LR LR 22 44 03.6
comp=Z,830µm,19.3s,baz=303,slow=40
ASAR P3KP 22 53 48.9
comp=Z,3.0nm,1.1s,baz=159,slow=0.2,SNR=4.7
AS31 Alice Springs 44.17 128⇑ *i*P **P** **22 23 07.2 -0.9**
KSBUS **Busan** 44.19 38 P **P** **22 23 08.8 +0.8**
SNR=8.6
FORT Forrest 44.22 141 *e*P **P** **22 23 09.4 +1.0**
comp=Z,3µm,0.9s
FORT *e*S **S** **22 29 40.4 +0.6**
KSBON **Boeun** 44.23 36 P **P** **22 23 08.5 +0.1**
SNR=38
INCN Inchon 44.24 34 P **P** **22 23 07.5 -0.9**
SNR=20
INCN Inchon 44.24 34 *e*P **P** **22 23 07.2 -1.3**
comp=Z,3µm,1.4s
INCN *e*S **S** **22 29 38.4 -1.6**
INCN LR LR
comp=Z,2439µm,20.0s
KSGAH **Ganghwa** 44.30 34 P **P** **22 23 08.2 -0.6**
SNR=14
KSDAG **Daegu** 44.40 38 P **P** **22 23 10.8 +1.1**
SNR=8.4
KSSEO **Seoul** 44.40 34 P **P** **22 23 09.1 -0.6**
SNR=9.8
ARQ Araqi 44.48 301 P **P** **22 23 13.0 +2.4**
SNR=80
AAA Alma-Ata 44.52 339 *i* P **P** **22 23 11.1 +0.4**
AAA *e*S **S** **22 29 43.4 -0.6**
AAA pmax pmax
comp=Z,108µm,12.5s
AAA smax smax
comp=E,163µm,8.8s
KSICN **Icheon** 44.55 35 P **P** **22 23 10.3 -0.6**
SNR=11
UCH Uchtor 44.56 336 P **P** **22 23 12.4 +0.9**
SNR=582
UCH Uchtor 44.56 336 *i* P **P** **22 23 12.4 +0.9**
KSCHJ **Chungju** 44.59 36 P P 22 23 17.6 +6.4
SNR=8.0
KSMUS **Musan** 44.60 34 P **P** **22 23 10.6 -0.6**
SNR=35
RBK Rabkut 44.72 293 P **P** **22 23 14.4 +1.8**
SNR=211
TKM2 Tokmak 2 44.72 337 P **P** **22 23 13.2 +0.8**
SNR=15
TKM2 Tokmak 2 44.72 337 *i* P **P** **22 23 13.2 +0.8**
TKM2 Tokmak 2 44.72 337 *e*P **P** **22 23 13.1 +0.7**
comp=E,4µm,1.4s
TKM2 *e*S **S** **22 29 51.1 +3.9**
TKM2 LR LR
comp=Z,1410µm,21.0s
KBK Karagaybulak 44.75 337 P **P** **22 23 14.0 +1.4**
SNR=543
KBK Karagaybulak 44.75 337 *i* P **P** **22 23 14.0 +1.4**
KSDDC **Dongducheon** 44.77 34 P **P** **22 23 11.3 -1.4**
SNR=25
YNCB YEONCHEON 44.80 34 P **P** **22 23 12.2 -0.6**
SNR=14
AML Almayashu 44.82 335 P **P** **22 23 14.5 +1.0**
SNR=423
AML Almayashu 44.82 335 *i* P **P** **22 23 14.5 +1.0**
MRIV Mauritius Mete 44.90 238⇓ *i*P **P** **22 23 13.7 -0.3**
AAK Ala-Archa 44.91 336 P **P** **22 23 15.1 +1.1**
SNR=101
AAK Ala-Archa 44.91 336 *c* P **P** **22 23 15.0 +1.1**
AAK Ala-Archa 44.91 336 P **P** **22 23 15.0 +1.1**
comp=Z,155nm,0.7s,baz=140,slow=6.4,SNR=191
AAK S **S** **22 29 50.9 +1.1**
comp=Z,101nm,1.1s,baz=227,slow=19,SNR=2.5
AAK LR LR 22 43 56.0
comp=Z,1444µm,21.4s,baz=140,slow=39
AAK Ala-Archa 44.91 336 P **P** **22 23 15.2 +1.3**
SNR=1577
AAK Ala-Archa 44.91 336 *e*P **P** **22 23 15.0 +1.1**
comp=Z,5µm,1.6s
AAK S **S** **22 29 50.9 +1.1**
KS15 Wonju Array Si 44.92 35 *e*P **P** **22 23 13.2 -0.6**
KSAR Wonju Array Be 44.92 35 P **P** **22 23 13.3 -0.6**
KSAR Wonju Array Be 44.92 35 P **P** **22 23 13.2 -0.6**
KSRS Korea Array 44.95 35 P **P** **22 23 13.2 -0.8**
comp=Z,133nm,0.7s,baz=226,slow=9.5,SNR=190
KSRS LR LR 22 43 31.4
comp=Z,1542µm,20.0s,baz=214,slow=38
KSPHA **Pohang** 44.97 38 P **P** **22 23 15.1 +0.9**
SNR=12
KSWJU **Wonju** 44.99 35 P **P** **22 23 14.5 0.0**
SNR=47
FRU Bishkek 45.03 337⇑ *i*P **P** **22 23 16.6 +1.9**
FRU *e*S **S** **22 29 56.5 +5.2**
FRU pmax pmax
comp=Z,48µm,3.6s
FRU smax smax
comp=N,92µm,12.0s
FRU MLR MLR
comp=Z,1237µm,20.5s
KSYOW **Yeongwol** 45.07 36 P **P** **22 23 15.2 +0.1**
SNR=18
CHMS Chumysh 45.11 337 P **P** **22 23 16.0 +0.6**
SNR=298
CHMS Chumysh 45.11 337 *i* P **P** **22 23 15.9 +0.6**
KSCHC **Chuncheon** 45.12 35 P P 22 23 21.6 +6.2
SNR=13
KSCWO **Chonwon** 45.16 34 P **P** **22 23 15.4 -0.4**
SNR=26
EKS2 Erkin-Say 45.22 336 P **P** **22 23 17.6 +1.3**
SNR=537
EKS2 Erkin-Say 45.22 336 *i* P **P** **22 23 17.6 +1.3**
EKS2 Erkin-Say 45.22 336 *e*P **P** **22 23 17.6 +1.3**
comp=Z,8µm,2.0s
EKS2 LR LR
comp=Z,1124µm,22.0s
KSULJ **Ulijin** 45.32 37 P **P** **22 23 18.6 +1.5**
SNR=15
KSTBA **Taebaek** 45.33 36 P **P** **22 23 17.4 +0.2**
SNR=30
HATD Hatta, Dubai 45.37 303 *i* P **P** **22 23 19.3 +1.6**
SNR=131
ASHO Ashiyiah 45.38 303 *i* P **P** **22 23 19.3 +1.5**
SNR=42
ASHO Ashiyiah 45.38 303 P **P** **22 23 19.6 +1.8**
SNR=124
KSIJA INJE 45.43 35 P **P** **22 23 17.3 -0.6**
SNR=27
USP Ospenovka 45.44 337 P **P** **22 23 18.7 +0.8**
SNR=15
USP Ospenovka 45.44 337 *i* P **P** **22 23 18.7 +0.8**
ABTO Aybut 45.52 292 P **P** **22 23 20.7 +1.7**
SNR=209

KSDGY **Daegwallycong** 45.55 36 P **P** **22 23 19.1 +0.2**
SNR=15
BANOM **Banah** 45.67 305⇓ *i*P **P** **22 23 21.5 +1.5**
SNR=42
BANOM **Banah** 45.67 305 P P 22 23 28.4 +8.3
SNR=30
SEHB SEOHWA 45.70 35 P **P** **22 23 19.1 -1.0**
SNR=15
KSJMJ **Jumunjin** 45.73 35 P P 22 23 30.1 +10
SNR=12
FAQ Al Faqa, Dubai 45.79 303⇑ *i*P **P** **22 23 22.2 +1.2**
SNR=22
NAZ Nazwa, Dubai 45.83 303 *i* P **P** **22 23 22.7 +1.4**
SNR=32
NAZ *i* P **P** **22 23 22.7 +1.4**
SNR=84
KSSKC **Sokcho** 45.87 35 P **P** **22 23 21.5 +0.1**
SNR=26
SNY Shenyang 45.92 28 ⇑P **P** **22 23 20.6 -1.1**
SNY LN
comp=Z,1354µm,20.4s
SNY LE
comp=Z,616µm,20.4s
SNY LZ
comp=Z,1672µm,20.0s
ASUD Al Ashush, Dub 45.97 302⇓ *i*P **P** **22 23 24.3 +1.9**
SNR=55
SONA0 **Songino Array** 46.01 9 *e*P **P** **22 23 22.4 -0.1**
SONA0 *e*ScP **ScP** **22 28 52.6 +3.0**
SONM **Songino Array** 46.01 9 P **P** **22 23 22.4 -0.1**
comp=Z,248nm,0.6s,baz=190,slow=8.9,SNR=484
SONM ScP **ScP** **22 28 52.6 +3.0**
comp=Z,16nm,0.9s,baz=172,slow=5.5,SNR=2.1
SONM LR LR 22 45 29.0
comp=Z,1284µm,18.1s,baz=186,slow=40
SONM PKPPKP P'P'df 22 54 41.6 -9.1
comp=Z,4.8nm,1.1s,baz=9.2,slow=1.6,SNR=6.8
MK32 Makanchi Array 46.10 346 *e*P **P** **22 23 23.0 -0.1**
MKAR Makanchi Array 46.10 346 P **P** **22 23 23.0 -0.1**
comp=Z,681nm,0.8s,baz=159,slow=7.9,SNR=1638
MKAR LR LR 22 46 00.9
comp=Z,586µm,21.5s,baz=156,slow=40
MKAR PKPPKP P'P'df 22 54 41.4 -9.2
comp=Z,2.2nm,0.8s,baz=280,slow=3.6,SNR=5.3
IBND Bandar-abas 46.11 307 *e*P **P** **22 23 24.9 +1.4**
IBND *e*P pP 22 23 25.9 -7.6
ULN Ulaanbaatar 46.14 9 *e*P **P** **22 23 23.4 -0.1**
ULN pmax pmax
comp=Z,10µm,2.6s
ULN MLR MLR
comp=Z,1507µm,21.0s
ULN Ulaanbaatar 46.14 9 P **P** **22 23 23.1 -0.4**
SNR=624
ULN Ulaanbaatar 46.14 9 *e*P **P** **22 23 23.4 -0.1**
comp=Z,10µm,2.6s
ULN LR LR
comp=Z,1507µm,21.0s
IDAH Dahanechah 46.18 315 *e*P **P** **22 23 24.8 +0.5**
IKOO Kooshah 46.63 314 *e*P **P** **22 23 27.8 0.0**
KSULL Ulleungdo 46.73 37 P P 22 23 35.9 +7.7
SNR=9.9
RER Riviere de l'E 46.74 238⇓ *e*P **P** **22 23 28.5 -0.1**
comp=Z,2µm,1.0s
RER LR LR
comp=Z,1657µm,19.0s
KKAR Karatay Array 46.98 333 *e*P **P** **22 23 30.3 +0.2**
KKAR Karatay Array 46.98 333 *e*P **P** **22 23 30.2 +0.2**
ITEG Tejag 47.06 314 *e*P **P** **22 23 31.6 +0.5**
IMYA Miami 48.06 319 *e*P **P** **22 23 38.6 -0.1**
ZAK Zakamensk 48.13 5 *e*P **P** **22 23 38.8 -0.2**
ZAK pmax pmax
comp=Z,762nm,2.0s
CN2 Changchun 48.32 27 *e*P **P** **22 23 39.4 -1.0**
CN2 *e*pP **pP** **22 23 49.2 -1.2**
CN2 PcP **PcP** **22 25 05.9 -0.9**
CN2 *e*PP **PP** **22 25 31.6 -1.5**
CN2 *e*S **S** **22 30 35.1 -3.2**
CN2 *e*SS **SS** **22 34 01.3 -6.9**
CN2 PMZ
comp=Z,37µm,6.0s
IMOG Moghan 48.43 318 *e*P **P** **22 23 41.4 -0.3**
COEN Coen 48.45 111 *e*P **P** **22 23 40.8 -1.1**
comp=Z,100nm,0.9s
ISRO Mashad 48.46 319 *e*P **P** **22 23 39.4 -2.4**
GUMO Guam 48.49 74 *e*P **P** **22 23 44.0 +1.8**
GUMO pmax pmax
comp=Z,232nm,1.3s
GUMO MLR MLR
comp=Z,99µm,21.0s
GUMO Guam 48.49 74 *e*P **P** **22 23 44.0 +1.8**
comp=Z,232nm,1.3s
GUMO LR LR
comp=Z,99µm,21.0s
HVS Khovu-Aksy 48.69 357 *c* *i*P **P** **22 23 43.2 0.0**
HVS pmax pmax
comp=Z,6µm,1.5s
HVS MLR MLR
comp=Z,900µm,16.0s
IBAF Bafgh 48.74 311 *e*P **P** **22 23 43.3 -0.7**
IPAY Payeh 48.85 319 *e*P **P** **22 23 45.1 +0.2**
MUKL Al Mukalla 48.94 287 *e*P **P** **22 23 48.1 +2.5**
IAKL Akhelmad 49.10 319 *e*P **P** **22 23 44.3 -2.6**
MOY Mondy 49.24 3 *e*P **P** **22 23 47.4 -0.1**
IKRD Kardeh 49.35 319 *e*P P 22 23 44.6 -4.2
IMEH Mehriz 49.37 310 *e*P **P** **22 23 47.5 -1.5**
TLY Talaya 49.45 5 *i* P **P** **22 23 49.7 +0.7**
TLY *e* 22 25 49.3
TLY *e*PPP PPP 22 26 32.2
TLY *e*S S 22 30 45.0 -9.0
TLY pmax pmax
comp=Z,930nm,1.0s
TLY MLR MLR
comp=Z,2124µm,22.0s
TLY Talaya 49.45 5 P **P** **22 23 49.8 +0.7**
comp=Z,144nm,0.8s,baz=200,slow=7.1,SNR=126
TLY S S 22 30 39.5 -15
comp=Z,27nm,1.1s,baz=236,slow=15,SNR=2.3
TLY LR LR 22 46 55.1
comp=Z,2078µm,20.8s,baz=170,slow=39
TLY Talaya 49.45 5 P **P** **22 23 49.9 +0.9**
SNR=524
TLY Talaya 49.45 5 *e*P **P** **22 23 48.8 -0.2**
comp=Z,5µm,2.0s
TLY S S 22 30 39.5 -15
CBIJ Chichi jima 49.64 56 *e*P **P** **22 23 48.7 -2.1**
comp=Z,1µm,0.9s
CBIJ S S 22 31 14.0 +17
JCJ Chichijima 49.64 56 P **P** **22 23 48.0 -2.8**
comp=Z,1µm,0.6s,baz=255,slow=22,SNR=22
JCJ S S 22 31 14.0 +17
baz=52,slow=19
JCJ LR LR 22 43 05.9
comp=Z,588µm,21.2s,baz=224,slow=34
CBI Chichi jima 49.64 56 *e*P **P** **22 23 48.0 -2.8**
ISRV Sarvestan 49.66 307 *e*P **P** **22 23 51.0 -0.4**
ISFR Sfrayin 49.85 319 *e*P **P** **22 23 52.9 +0.3**
ICHK Chekchek 49.91 311 *e*P **P** **22 23 52.1 -1.0**
IRK Irkutsk 50.07 6 *e*P **P** **22 23 53.6 -0.1**
IRK *e*S **S** **22 31 08.0 +5.4**
GEYT Alibeck 50.27 320 P **P** **22 23 56.2 +0.7**
comp=Z,277nm,0.7s,baz=149,slow=6.3,SNR=301
GEYT S **S** **22 31 05.8 -0.2**
comp=Z,25nm,1.0s,baz=330,slow=5.5,SNR=1.7
GEYT LR LR 22 48 02.2
comp=Z,889µm,21.4s,baz=155,slow=40
GEYT PKPPKP **P'P'df** **22 54 50.1 +3.7**
comp=Z,3.6nm,1.1s,baz=248,slow=3.9,SNR=4.0
ISAD Sadrabad 50.31 311 *e*P **P** **22 23 55.5 -0.7**
ISHV Shirvan 50.32 319 *e*P **P** **22 23 56.7 +0.6**
JHJ2 Mitsune 50.32 48 *e*P **P** **22 23 56.5 +0.6**
comp=Z,678nm,1.0s
HIA Hailar 50.58 19⇑ *i*P **P** **22 23 57.1 -0.5**
HIA *e*S **S** **22 31 09.5 -0.3**
HIA pmax pmax
comp=Z,1µm,1.1s
HIA MLR MLR
comp=Z,1807µm,19.0s
HIA Hailar 50.58 19⇑ *i*P **P** **22 23 57.1 -0.5**
comp=Z,1µm,1.1s
HIA *e*S **S** **22 31 09.5 -0.3**
HIA LR LR
comp=Z,1807µm,19.0s
KURBB **Kurchatov Arra** 50.59 345 P **P** **22 23 57.9 +0.2**
comp=Z,282nm,0.8s,baz=164,slow=6.7,SNR=533
KURBB S S 22 31 21.5 +12
comp=Z,77nm,1.1s,baz=159,slow=14,SNR=4.2

KURBB PKPPKP P'P'df 22 54 36.7 -7.9
comp=Z,2.3nm,0.2s,baz=286,slow=3.3,SNR=6.6
KURK Kurchatov 50.66 345 *e*P **P 22 23 58.2 +0.1**
KURK *e*S **S 22 31 08.6 -2.2**
KURK pmax pmax
comp=Z,4μm,1.2s
KURK MLR MLR
comp=Z,1562μm,22.0s
KURK Kurchatov 50.66 345 P **P 22 23 58.6 +0.5**
SNR=1308
KURK Kurchatov 50.66 345 *e*P **P 22 23 58.1 +0.1**
comp=Z,4μm,1.2s
KURK *e*S **S 22 31 08.6 -2.2**
KURK P'P' 22 54 36.7
KURK LR LR
comp=Z,1562μm,22.0s
BBOO Buckleboo 50.78 137 *e*P **P 22 23 59.1 -0.3**
comp=Z,108nm,1.4s
BBOO *e*S **S 22 31 17.9 +4.9**
IKAZ Kazeroun 50.84 307 *e*P **P 22 24 00.3 0.0**
MAJO Matsushiro 50.90 43 *e*P **P 22 23 59.3 -1.0**
MAJO *e*S **S 22 31 09.9 -4.8**
MAJO pmax pmax
comp=Z,3μm,1.5s
MAJO MLR MLR
comp=Z,595μm,21.0s
MAJO Matsushiro 50.90 43 *e*P **P 22 23 59.3 -1.0**
comp=Z,3μm,1.5s
MAJO *e*S **S 22 31 09.9 -4.8**
MAJO LR LR
comp=Z,595μm,21.0s
MAT Matsushiro 50.90 43 P **P 22 23 59.3 -1.0**
MAT S **S 22 31 15.8 +1.1**
MJAR Matsushiro Arr 50.90 43 P **P 22 23 59.5 -0.8**
comp=Z,114nm,1.0s,baz=220,slow=7.0,SNR=163
MJAR LR LR 22 47 00.1
comp=Z,440μm,19.6s,baz=230,slow=38
MDJ Mudanjiang 50.91 30 P **P 22 24 00.1 0.0**
MDJ pP **pP 22 24 09.0 -1.2**
MDJ sP **sP 22 24 13.0 -1.1**
MDJ PcP **PcP 22 25 15.1 -1.2**
MDJ PP **PP 22 25 56.1 -0.6**
MDJ ScP **ScP 22 29 11.3 +1.0**
MDJ PcS **PcS 22 29 16.0 +2.3**
MDJ S **S 22 31 15.4 +1.0**
MDJ ScS **ScS 22 33 48.1 -0.3**
MDJ PMZ
comp=Z,180nm,1.3s
MDJ LN
comp=Z,567μm,17.2s
MDJ LE
comp=Z,1576μm,17.2s
MDJ LZ
comp=Z,1690μm,17.2s
MDJ Mudanjiang 50.91 30⇑ *i*P **P 22 23 59.8 -0.3**
comp=Z,790nm,0.9s
MDJ *e*sP **sP 22 24 10.5 -3.6**
MDJ *e*S **S 22 31 19.3 +4.9**
MDJ LR LR
comp=Z,1215μm,22.0s
VLA Vladivostok 51.04 32α *i*P **P 22 24 01.0 -0.1**
VLA *e* 22 25 16.0
VLA *i* 22 25 55.9
VLA *i* S **S 22 31 16.6 +0.3**
VLA pmax pmax
comp=Z,668nm,1.1s
PMG Port Moresby 51.21 104*c i*P **P 22 24 02.4 -0.5**
PMG pmax pmax
comp=Z,646nm,1.7s
PMG Port Moresby 51.21 104 P **P 22 24 02.0 -0.8**
comp=Z,201nm,0.8s,baz=287,slow=5.4,SNR=53
PMG S S 22 31 27.6 +8.0
comp=Z,30nm,1.1s,baz=132,slow=16,SNR=1.7
PMG LR LR 22 50 21.1
comp=Z,325μm,19.2s,baz=270,slow=42
PMG Port Moresby 51.21 104 *e*P **P 22 24 02.4 -0.5**
comp=Z,379nm,0.8s
PMG *e*S **S 22 31 21.9 +2.3**
CIT Chita 51.37 13 *e*P **P 22 24 04.2 +0.7**
CIT *e* 22 31 26.0
I45RU USSURIYSK INFR 51.83 32 P P 22 24 11.4 +4.4
baz=230,slow=6.6,SNR=0.9
USRK Ussuriysk Ar. 51.83 32 P **P 22 24 06.8 -0.2**
comp=Z,322nm,0.9s,baz=233,slow=6.0,SNR=175
USRK LR LR 22 46 36.8
comp=Z,1185μm,21.8s,baz=207,slow=37
USRK PKPPKP **P'P'df 22 54 42.9 -0.7**
comp=Z,0.8nm,0.3s,baz=163,slow=3.2,SNR=4.1
IGLO Ghaloghah 52.39 316 *e*P **P 22 24 10.9 -0.7**
ZALV Zalesovo Beam 52.41 351 P **P 22 24 11.3 +0.2**
comp=Z,1μm,0.8s,baz=164,slow=5.9,SNR=1090
ZALV S **S 22 31 35.9 +1.1**
comp=Z,33nm,0.8s,baz=214,slow=4.9,SNR=3.3
ZALV LR LR 22 50 46.3
comp=Z,524μm,18.1s,baz=176,slow=41
ZALV PKPPKP P'P'df 22 54 26.1 -16
comp=Z,2.9nm,0.9s,baz=276,slow=2.8,SNR=4.4
I46RU ZALESOVO INFRA 52.41 351 P **P 22 24 12.4 +1.3**
baz=163,slow=7.2,SNR=1.4
ZAA1 Zalesovo Array 52.41 351 *e*P **P 22 24 11.3 +0.1**
ZAA1 *e*S **S 22 31 35.9 +1.0**
IFIR Firoozkooh 52.73 314 *e*P **P 22 24 14.1 -0.1**
QAM Ghamsar 52.82 312 *e*P **P 22 24 14.2 -0.6**
IALA Alasht 52.90 315 *e*P **P 22 24 15.7 +0.2**
CTA Charters Tower 53.10 117 P **P 22 24 17.0 +0.2**
comp=Z,174nm,0.8s,baz=293,slow=9.8,SNR=78
CTA S **S 22 31 45.3 -0.1**
comp=Z,20nm,1.0s,baz=20,slow=23,SNR=10.0
CTA LR LR 22 50 15.1
comp=Z,1168μm,19.5s,baz=281,slow=40
CTAO Charters Tower 53.10 117 *e*P **P 22 24 17.1 +0.2**
CTAO *e*S **S 22 31 42.0 -3.4**
CTAO pmax pmax
comp=Z,2μm,1.2s
CTAO MLR MLR
comp=Z,1627μm,22.0s
CTAO Charters Tower 53.10 117 *e*P **P 22 24 17.1 +0.2**
comp=Z,2μm,1.2s
CTAO *e*S **S 22 31 42.0 -3.4**
CTAO LR LR
comp=Z,1627μm,22.0s
IVRN Varamin 53.17 313 *e*P **P 22 24 16.3 -0.9**
IDMV Damavand 53.21 314 *e*P **P 22 24 17.3 -0.5**
IPRN Peran 53.31 315 *e*P **P 22 24 17.6 -0.7**
OPO Ambohidratompo 53.33 245 LR LR 22 44 36.6
comp=Z,1984μm,18.3s,baz=44,slow=33
DAMY Dhamar 53.40 286 *e*P P 22 24 23.9 +4.4
comp=Z,3μm,1.4s
DAMY *e*S **S 22 31 46.2 -4.0**
DAMY LR LR
comp=Z,1264μm,20.0s
ABPO Ambohimpanom 53.43 244 PFAKE 22 24 30.0 +10
ABPO LR LR
comp=Z,1892μm,20.0s
TRBA At Turbah 53.49 285 *e*P **P 22 24 22.5 +2.4**
NVS Novosibirsk 53.53 350⇑ *i*P **P 22 24 19.0 -0.3**
NVS *e*S **S 22 31 46.3 -3.7**
NVS pmax pmax
comp=Z,2μm,1.0s
NVS smax smax
comp=N,2μm,2.1s
NVS smax smax
comp=E,4μm,3.0s
KRAR Krasnoyarsk 53.60 357*c i*P **P 22 24 18.3 -1.5**
RAYN Ar Rayn 54.14 297 *e*P **P 22 24 25.2 +0.7**
comp=E,384nm,0.9s
RAYN *e*S **S 22 32 00.8 +1.3**
IMHD Mahdasht 54.25 313 *e*P **P 22 24 25.1 0.0**
HAJJ Hajjah 54.32 288 *e*P **P 22 24 28.6 +2.5**
HAJJ AMb AMB 22 24 38.3
comp=Z,15μm,2.0s
IRAZ Razeghan 54.66 313 *e*P **P 22 24 27.9 -0.4**
IGZV Ghazvin 54.89 314 *e*P **P 22 24 29.6 -0.4**
BVAR Borovoye Array 55.13 341 P **P 22 24 30.8 -0.3**
comp=Z,503nm,0.7s,baz=144,slow=8.5,SNR=896
BVAR LR LR 22 50 35.1
comp=Z,863μm,22.0s,baz=156,slow=39
BVAR PKP2bc 22 54 49.4
comp=Z,10nm,1.2s,baz=282,slow=7.4,SNR=8.1
KLR Kul'dur 55.27 27⇓ *i*P P 22 24 28.8 -3.3
KLR pmax pmax
comp=N,260nm,1.8s
KLR pmax pmax
comp=E,560nm,1.8s
KLR pmax pmax
comp=Z,1μm,1.8s
IBZA Bozab 55.81 311 *e*P **P 22 24 35.1 -1.6**
IKOM Komasi 55.96 310 *e*P **P 22 24 36.0 -1.7**
HABR Khabarovsk 56.30 29*c i*P **P 22 24 39.2 -0.3**
HABR *e**PP **pP 22 24 47.2 -2.5**
HABR *e**SP **sP 22 24 51.4 -2.2**
HABR *e* 22 25 34.1
HABR *e* 22 26 42.7
HABR *e*PPP PPP 22 27 57.9
HABR *e*S **S 22 32 28.0 +0.7**
HABR *e**SS **sS 22 32 42.6 -1.5**
HABR *e* 22 34 24.9
HABR *e*SS **SS 22 36 15.4 +0.8**
HABR pmax pmax
comp=E,105nm,1.4s
HABR pmax pmax
comp=N,143nm,1.4s
HABR pmax pmax
comp=Z,705nm,1.4s
HABR pmax pmax
comp=Z,14μm,3.5s
HABR MLR MLR
comp=N,1228μm,17.0s
HABR MLR MLR
comp=Z,2205μm,17.0s
HABR MLR MLR
comp=E,945μm,15.0s
PAF Port-aux-Franc 56.51 201 P P 22 24 36.0 -5.0
PAF S **S 22 32 25.0 -5.1**
PAF R 22 41 00.0
IGHG Ghaleghazi 56.74 310 *e*P **P 22 24 41.7 -1.6**
BOD Bodaibo 56.89 11⇓ *i*P **P 22 24 43.4 -0.2**
BOD pmax pmax
comp=Z,1μm,2.3s
IDHR Dehrash 57.02 311 *e*P **P 22 24 43.1 -2.1**
ERM Erimo 57.04 40*d i*P **P 22 24 45.5 +0.6**
ERM pmax pmax
comp=Z,275nm,1.0s
ERM Erimo 57.04 40 *e*P **P 22 24 45.5 +0.6**
comp=Z,2μm,1.1s
ERM *e*S **S 22 32 35.5 -1.9**
ERM LR LR
comp=Z,716μm,19.0s
ISRB Sarab 57.36 314 *e*P **P 22 24 46.9 -0.6**
ASAJ Asahikawa 57.80 37 P **P 22 24 50.8 +0.6**
ASAJ pmax pmax
comp=Z,309nm,0.8s
ASAJ MLR MLR
comp=Z,696μm,21.6s
ASAJ Asahikawa 57.80 37 P **P 22 24 50.8 +0.6**
comp=Z,309nm,0.8s,baz=251,slow=11,SNR=56
ASAJ LR LR 22 49 44.8
comp=Z,696μm,21.6s,baz=241,slow=36
ASAJ Asahikawa 57.80 37 *e*P **P 22 24 50.5 +0.3**
IHRS Heris 58.01 315 *e*P **P 22 24 51.2 -1.0**
AKTO Aktyubinsk 58.17 332 P **P 22 24 52.6 -0.2**
comp=Z,196nm,0.9s,baz=125,slow=12,SNR=329
IFTB Fath-abad 58.35 314 *e*P **P 22 24 52.8 -1.8**
FURI Furi 58.46 279 P P 22 25 00.2 +4.4
FURI S S 22 33 05.5 +8.0
FURI Furi 58.46 279 *e*P P 22 25 00.1 +4.4
comp=Z,5μm,2.1s
FURI *e*S **S 22 32 56.2 -1.3**
FURI LR LR
comp=Z,870μm,20.0s
IAZR Azarshahr 58.51 314 *e*P **P 22 24 55.1 -0.5**
ITEZ Tabriz 58.62 314 *e*P **P 22 24 55.2 -1.1**
CLNS Chul'man 58.67 17*c i*P **P 22 24 56.8 +0.7**
CLNS *e**PP **pP 22 25 06.8 +0.5**
CLNS *e* 22 27 07.3
CLNS *e*PPP PPP 22 28 37.5
CLNS *e*S **S 22 32 59.4 +1.1**
CLNS pmax pmax
comp=Z,577nm,1.0s
CLNS pmax pmax
comp=E,206nm,1.0s
CLNS pmax pmax
comp=N,307nm,1.0s
CLNS pmax pmax
comp=Z,346nm,1.4s
CLNS pmax pmax
comp=N,357nm,1.7s
CLNS pmax pmax
comp=E,312nm,1.3s
CLNS smax smax
comp=E,24μm,7.8s
CLNS smax smax
comp=N,16μm,13.1s
CLNS MLR MLR
comp=N,360μm,21.0s
CLNS MLR MLR
comp=E,297μm,20.0s
CLNS MLR MLR
comp=Z,453μm,24.0s
EIDS Eidsvold 59.05 121 *e*P **P 22 24 59.7 +0.3**
comp=Z,828nm,0.9s
IMRD Marand 59.13 315 *e*P **P 22 24 59.9 0.0**
YSS Yuzh-Sakhalins 59.45 35*α i*P **P 22 25 02.0 +0.3**
YSS *i**SP **sP 22 25 19.0 +3.2**
YSS *e* 22 27 19.0
YSS *e*PPP PPP 22 28 40.0
YSS *e*S **S 22 33 10.0 +1.3**
YSS *e*PS **PnS 22 33 27.0 +2.9**
YSS pmax pmax
comp=Z,2μm,1.0s
YSS pmax pmax
comp=Z,58μm,7.0s
YSS MLR MLR
comp=E,550μm,17.0s
YSS MLR MLR
comp=Z,657μm,17.0s
YUK Yuzh-Kuril'sk 59.77 39*c i*P **P 22 25 04.3 +0.4**
YUK *e* 22 25 49.4
YUK *e*PPP PPP 22 28 42.0
YUK *i*S **S 22 33 16.8 +3.9**
YUK pmax pmax
comp=Z,7μm,1.4s
YUK pmax pmax
comp=N,1μm,0.7s
YUK pmax pmax
comp=E,703nm,0.7s
YUK pmax pmax
comp=Z,44μm,4.1s
YUK MLR MLR
comp=N,202μm,18.0s
YUK MLR MLR
comp=E,756μm,18.0s
YUK MLR MLR
comp=Z,750μm,18.0s
MAK Makhachkala 59.80 320 *e*P **P 22 25 04.1 0.0**
MAK *e* 22 25 51.8
MAK *e* 22 27 11.9
MAK *e*PPP PPP 22 28 47.2
MAK *e*S **S 22 33 13.1 -0.2**
MAK *e* 22 34 49.5
MAK *e*SS SS 22 37 02.4 -7.4
MAK pmax pmax
comp=Z,23μm,4.8s
MAK pmax pmax
comp=Z,2μm,2.4s
MAK pmax pmax
comp=N,2μm,1.4s
MAK pmax pmax
comp=E,1μm,0.9s
MAK smax smax
comp=N,58μm,7.8s
MAK smax smax
comp=E,36μm,8.8s
MAK MLR MLR
comp=E,415μm,23.0s
MAK MLR MLR
comp=Z,345μm,23.0s
MAK MLR MLR
comp=N,339μm,20.0s
KMBO Kilima Mbogo 59.95 267 P **P 22 25 07.5 +1.5**
comp=N,60nm,1.1s,baz=56,slow=8.6,SNR=39
KMBO S **S 22 33 19.4 +2.7**
comp=N,2.4nm,0.8s,baz=98,slow=15,SNR=1.9
KMBO LR LR 22 46 49.1
comp=N,1999μm,20.8s,baz=84,slow=32
KMBO Kilima Mbogo 59.95 267 P **P 22 25 07.8 +1.8**
SNR=99
CUKT Cukurca 60.08 312 *e*P **P 22 25 05.8 -0.6**
HKR Hakkari 60.10 313 *e*P **P 22 25 07.0 +0.4**
HAKT HAKKARI 60.12 313 *i*P **P 22 25 07.6 +0.8**
GNI Garni 60.41 316*c i*P **P 22 25 09.0 +0.4**
GNI pmax pmax
comp=Z,144nm,1.0s
GNI Garni 60.41 316 *i*P **P 22 25 09.5 +0.9**
SNR=265
GNI Garni 60.41 316 P **P 22 25 09.3 +0.7**
SNR=356
GNI Garni 60.41 316 PFAKE 22 25 20.0 +11
GNI LR LR
comp=Z,343μm,19.0s
DGRG David-gareji 60.52 317 P **P 22 25 10.5 +1.3**
CLDR Caldiran 60.58 314 *e*P **P 22 25 10.3 +0.4**
MAUS Longido 60.60 266 *i*P **P 22 25 11.9 +1.5**
TVAN Van 60.71 314 *i*P P 22 25 15.3 +4.5
VANB Van 60.75 314 *e*P **P 22 25 10.6 -0.3**
GEVA Gevas 60.88 313 *i*P **P 22 25 11.8 -0.1**
DYDN Diyadin 60.90 315 *i*P **P 22 25 12.7 +0.6**
SIRT Sirnak 61.03 312 *e*P **P 22 25 12.6 -0.2**
SEAG Tbilisi Sea 61.04 317 P P 22 25 18.7 +5.9
SIRN S¨¬rnak 61.05 312 *i*P **P 22 25 12.9 -0.1**
TBLG Delisi 61.07 317 P **P 22 25 13.3 +0.3**
KZR Kazreti 61.14 317 P P 22 25 17.5 +4.0
CAN Canberra 61.27 133 PFAKE 22 25 30.0 +16
CAN LR LR
comp=Z,2179μm,22.0s
AGRB Hanur-Agry 61.41 315 *e*P **P 22 25 16.2 +0.7**
EAK Akyaka 61.41 316 *i*P **P 22 25 16.2 +0.7**
DIGO Kars 61.47 316 *i*P **P 22 25 15.8 -0.2**
TUTA Tutak 61.47 314 *i*P P 22 25 12.4 -3.6
TATV Tatvan 61.53 313 *i*P **P 22 25 16.3 0.0**
GUDG Gudauri 61.56 318 P **P 22 25 16.0 -0.5**
SVE Sverdlovsk 61.59 338*d i*P **P 22 25 16.2 +0.1**
SVE *e* 22 27 36.0
SVE *i*S **S 22 33 34.0 -1.7**
SVE pmax pmax
comp=Z,2μm,1.0s
SVE pmax pmax
comp=Z,41μm,14.4s
SVE MLR MLR
comp=Z,719μm,23.0s
SVE MLR MLR
comp=N,432μm,23.0s
KUR Kuril'sk 61.60 38*c i*P P 22 25 11.6 -4.8
KUR *i* 22 27 31.6
KUR *i*PPP PPP 22 28 59.1
KUR *i*S **S 22 33 34.5 -1.8**
KUR pmax pmax
comp=N,469nm,1.0s
KUR pmax pmax
comp=E,534nm,1.0s
KUR pmax pmax
comp=Z,4μm,1.0s
KUR MLR MLR
comp=N,558μm,22.0s
KUR MLR MLR
comp=E,262μm,22.0s
KUR MLR MLR
comp=Z,543μm,22.0s
KARS Kars 61.76 316 *e*P **P 22 25 17.4 -0.4**
AKH Akhalkalaki 61.79 317 *e*P **P 22 25 19.2 +1.2**
AKH Akhalkalaki 61.79 317 P **P 22 25 18.5 +0.5**
MZRK Al-Mazaregh 61.80 310 *e*P **P 22 25 18.7 +0.7**
DODT Dodoma, Tanzan 61.85 262 *i*P **P 22 25 20.3 +1.4**
EATA Eleskirt 61.88 315 *i*P **P 22 25 19.3 +0.5**
EKAR Karacoban 61.95 314 *i*P **P 22 25 20.7 +1.4**
BTMT Batman 61.98 313 *e*P P 22 25 23.5 +4.2
BEST Besiri 62.04 312 *i*P **P 22 25 21.9 +2.3**
ZEI Tsey 62.08 318 *e*P **P 22 25 20.4 +0.4**
ZEI *e*S **S 22 33 42.5 -0.5**
ZEI pmax pmax
comp=Z,3μm,2.3s
ZEI pmax pmax
comp=N,901nm,1.0s
ZEI pmax pmax
comp=E,846nm,1.0s
ARU Arti 62.09 337*c i*P **P 22 25 19.0 -0.5**
ARU 22 25 53.6
ARU 22 27 32.8
ARU PPP PPP 22 29 08.1
ARU S **S 22 33 43.3 +1.2**
ARU 22 35 04.7
ARU SSS SSS 22 40 21.8
ARU pmax pmax
comp=Z,561nm,1.7s
ARU pmax pmax
comp=Z,23μm,8.8s
ARU MLR MLR
comp=Z,715μm,18.0s
ARU Arti 62.09 337 PFAKE 22 25 30.0 +11
ARU LR LR
comp=Z,776μm,19.0s
SVAN Silvan-Diyarba 62.18 312 *e*P **P 22 25 20.9 +0.3**
MARD Mardin 62.20 311 *i*P **P 22 25 21.2 +0.4**
KBSD Kabsdagh 62.28 311 *e*P **P 22 25 21.4 +0.3**
ONI Oni 62.30 318 P **P 22 25 22.2 +0.9**
VRTB Varto-Mus 62.36 314 *e*P **P 22 25 23.0 +1.1**
HOMI Horasan 62.36 315 *i*P **P 22 25 21.9 -0.1**
SFNV Sufian 62.41 310 *e*P **P 22 25 23.6 +1.5**
BNGL BINGOL 62.50 313 *i*P **P 22 25 23.4 +0.5**
MAZI Mazidag 62.50 311 *e*P **P 22 25 23.2 +0.4**
NCK Nalchik 62.59 319*c i*P **P 22 25 23.3 +0.2**
ERZM Erzurum 62.69 314 *i*P **P 22 25 25.5 +1.3**
EZM Erzurum 62.70 314 *e*P **P 22 25 25.8 +1.6**
DAGI Agillar 62.75 316 *i*P **P 22 25 25.2 +0.8**
ARTV Artvin 62.78 316 *i*P **P 22 25 25.4 +0.7**
DDEM Demirkent 62.79 315 *i*P **P 22 25 24.8 +0.1**
CRZF Crozet Islands 62.81 214 P P 22 25 20.0 -4.4
CRZF S S 22 33 41.0 -10
CRZF R 22 43 00.0
BNGB Bing¨¶l 62.86 313 *e*P **P 22 25 25.9 +0.7**
DBAD Bademkaya 62.88 316 *i*P **P 22 25 25.2 0.0**
DYBB Diyarbakir 62.90 312 *e*P **P 22 25 26.2 +0.9**
DIYA Diyarbakir 62.90 312 *i*P **P 22 25 26.4 +1.0**
MNKR ALMNKUR 62.91 309 *e*P **P 22 25 26.8 +1.4**
DBOC Borcka 63.02 316 *i*P **P 22 25 26.3 +0.2**
NEY Neytrino 63.06 318 *i*P **P 22 25 27.7 +1.2**
KSRV Kasrt alli 63.09 309 *e*P **P 22 25 26.8 +0.2**
BCA Borcka 63.09 316 *e*P **P 22 25 26.7 +0.2**
KBZ Khabaz 63.15 319 P **P 22 25 26.8 0.0**
comp=Z,68nm,0.8s,baz=122,slow=7.8
KBZ S **S 22 33 54.5 -1.3**
comp=Z,19nm,1.0s,baz=342,slow=20,SNR=2.1
KBZ PKP2bc 22 54 33.4
comp=Z,3.0nm,0.9s,baz=186,slow=2.3,SNR=4.5
KBZ LR LR 22 56 21.1
comp=Z,188μm,22.0s,baz=119,slow=39
CHVG Ch'k'valeri 63.27 317 P **P 22 25 28.1 +0.4**
KOPT Kop Dagi 63.36 314 *i*P **P 22 25 31.0 +2.4**
KIV Kislovodsk 63.38 319*c i*P **P 22 25 28.5 0.0**
KIV *e* 22 27 48.6
KIV *e*S **S 22 33 57.6 -1.4**
KIV *e*SS **SS 22 38 08.7 +2.5**
KIV pmax pmax
comp=Z,9μm,6.1s
KIV pmax pmax
comp=Z,1μm,1.1s
KIV MLR MLR
comp=Z,305μm,17.0s
KIV Kislovodsk 63.38 319⇑ *i*P **P 22 25 28.6 +0.1**
SNR=68
KIV Kislovodsk 63.38 319 P **P 22 25 28.9 +0.5**
SNR=459
KIV Kislovodsk 63.38 319 PFAKE 22 25 40.0 +12
KIV LR LR
comp=Z,387μm,20.0s
ZALF Zalf 63.57 306 *e*P P 22 25 34.0 +4.1
GOF Gofitskoye 63.61 320⇑ *i*P **P 22 25 29.8 -0.1**
GOF *e*S **S 22 33 59.2 -2.4**
SVRC Sivrice-ELAZID 63.66 312 *e*P **P 22 25 30.8 +0.3**
HNR Honiara 63.68 102 *e*P P 22 25 27.3 -3.6
HNR *e*S **S 22 34 03.2 -0.2**
HNR pmax pmax
comp=Z,121nm,0.9s
HNR Honiara 63.68 102 *e*P P 22 25 27.3 -3.6
comp=Z,121nm,0.9s
HNR *e*S **S 22 34 03.2 -0.2**
HNR LR LR
comp=Z,72nm,21.0s
URFA Urfa 63.72 311 *e*P **P 22 25 31.8 +1.0**
BAYT Ayd¨¬ntepe-Bay 63.75 314 *e*P **P 22 25 32.0 +1.0**
ERZN Erzincan 63.76 313 *e*P **P 22 25 29.1 -2.0**
TAU Tasmania Unive 63.77 141 PFAKE 22 25 40.0 +9.1
TAU LR LR

comp=Z,825μm,21.0s
EUZM Uzumlu 63.82 314 *i* P **P** **22 25 31.2 -0.3**
ELZG Elazig 63.94 312 *i* P **P** **22 25 32.9 +0.5**
ROOS tl_alroos 63.94 307 *e* P **P** **22 25 34.0 +1.6**
SALA Sala 64.00 305 *e* P **P** **22 25 34.0 +1.1**
SLMH Al Salmeh 64.02 309 *e* P **P** **22 25 34.7 +1.9**
ATAB Bozova 64.12 311 *i* P P 22 25 25.9 -7.5
MACK Trabzon 64.21 315 *i* P **P** **22 25 34.9 +1.0**
MALT Malatya 64.29 312 *e* P **P** **22 25 33.0 -1.7**
MALT Malatya 64.29 312 ⇑ *i* P **P** **22 25 35.7 +1.1**
KELT Kelkit 64.29 314 *i* P **P** **22 25 35.1 +0.4**
YAK Yakutsk 64.34 16 *c i* P **P** **22 25 33.8 -0.4**
YAK *e* *PP **pP** **22 25 47.3 +2.7**
YAK *e* 22 26 08.5
YAK *e* 22 27 53.5
YAK *e* S **S** **22 34 07.6 -2.4**
YAK *e* *SS **sS** **22 34 29.3 +2.4**
YAK *e* 22 35 20.4
YAK pmax pmax
comp=E,977nm,1.1s
YAK pmax pmax
comp=N,729nm,1.0s
YAK pmax pmax
comp=Z,12μm,5.7s
YAK pmax pmax
comp=E,5μm,4.9s
YAK pmax pmax
comp=N,6μm,4.5s
YAK smax smax
comp=N,7μm,3.6s
YAK smax smax
comp=E,12μm,4.5s
YAK MLR MLR
comp=Z,1109μm,17.0s
YAK MLR MLR
comp=N,790μm,19.0s
YAK MLR MLR
comp=E,850μm,17.0s
YAK Yakutsk 64.34 16 P **P** **22 25 33.9 -0.4**
comp=E,2μm,0.8s,baz=220,slow=2.8,SNR=264
YAK S **S** **22 34 09.9 -0.1**
comp=E,8.2nm,0.3s,baz=147,slow=18,SNR=3.3
YAK LR LR 22 56 22.2
comp=E,1269μm,19.2s,baz=223,slow=39
TOTH TOTAH 64.42 306 *e* P **P** **22 25 36.8 +1.3**
MARH Ras Al Marh 64.55 307 *e* P **P** **22 25 38.5 +1.9**
KEMA Kemaliye 64.55 313 *i* P **P** **22 25 37.4 +1.1**
QASN Qassioun 64.58 306 *e* P **P** **22 25 36.2 -0.4**
KFRA Kufra 64.61 308 *e* P **P** **22 25 37.8 +1.1**
GZT Gaziantep 64.64 311 *i* P **P** **22 25 38.4 +1.5**
FKH Fakeheh 64.66 307 *e* P **P** **22 25 38.4 +1.3**
AKCD Akcadag 64.66 312 *i* P **P** **22 25 38.2 +1.1**
HAWK Haweek 64.74 307 *e* P **P** **22 25 37.3 -0.3**
BRBR Barbar 64.81 306 *e* P **P** **22 25 39.5 +1.3**
KUZU Kuzuini 64.84 310 *i* P **P** **22 25 39.2 +1.0**
RCY Rachaya 64.93 306 *e* P **P** **22 25 39.8 +0.8**
BIDA Albida 64.94 308 *e* P **P** **22 25 39.0 +0.1**
SOKR Solikamsk 65.00 339 *c i* P **P** **22 25 38.8 +0.3**
SOKR S **S** **22 34 17.6 -0.5**
SOKR pmax pmax
comp=E,610nm,1.1s
SOKR MLR MLR
comp=Z,653μm,20.0s
WRDH Warideh 65.00 308 *e* P **P** **22 25 40.7 +1.5**
HWQ Hawqa 65.04 307 *e* P **P** **22 25 40.4 +0.8**
SUSE Susehri 65.07 314 *i* P **P** **22 25 41.3 +1.5**
BHL Bhannes 65.18 306 *e* P **P** **22 25 41.4 +0.9**
DQRL Deir Qamar 65.20 306 *e* P **P** **22 25 41.9 +1.3**
SOC Sochi 65.21 318 *c i* P **P** **22 25 39.9 -0.4**
SOC *e* *SP **sP** **22 25 53.8 -0.7**
SOC *e* 22 26 10.7
SOC *e* 22 28 03.4
SOC *i* S **S** **22 34 16.0 -5.4**
SOC *e* *SS **sS** **22 34 36.0 -2.4**
SOC *e* 22 35 24.4
SOC *e* SS **SS** **22 38 27.8 -6.7**
SOC pmax pmax
comp=Z,17μm,3.7s
SOC pmax pmax
comp=Z,1μm,1.3s
SOC MLR MLR
comp=E,274μm,20.0s
SOC MLR MLR
comp=Z,303μm,20.0s
SOC MLR MLR
comp=N,143μm,20.0s
GRSN GIRESUNGRSN 65.27 314 *i* P **P** **22 25 41.1 +0.3**
KAMA Osmaniye 65.28 310 *i* P **P** **22 25 41.7 +0.6**
YAYL Yayladag 65.38 309 *i* P **P** **22 25 41.1 -0.7**
NAQL Naqoura 65.40 305 *e* P **P** **22 25 42.3 +0.6**
ARNB Al Arnab 65.44 309 *e* P **P** **22 25 43.4 +1.2**
ANDN Andirin 65.64 310 *i* P **P** **22 25 43.8 +0.5**
PINB Pinarbasi 65.92 312 *i* P P 22 25 52.0 +6.7
TOKA Tokat 66.36 313 *i* P **P** **22 25 48.4 +0.5**
GULE Gulek 66.75 310 *i* P **P** **22 25 51.8 +1.1**
KIZK Mersin 67.03 309 *i* P P 22 25 59.5 +7.3
VRHR Novokhopersk 67.12 326 *e* P **P** **22 25 50.8 -1.6**
VRHR *e* 22 25 56.6
VRHR *e* S **S** **22 34 39.0 -5.4**
VRHR pmax pmax
comp=Z,840nm,1.0s
VRHR pmax pmax
comp=N,190nm,1.5s
VRHR pmax pmax
comp=E,600nm,1.4s
VRHR smax smax
comp=E,44μm,8.1s
VRHR smax smax
comp=Z,14μm,9.3s
VRHR smax smax
comp=N,13μm,4.2s
HAVZ Havza 67.14 314 *i* P P 22 25 56.1 +3.3
ANN Anapa 67.18 318 *e* P **P** **22 25 52.2 -0.7**
ANN *e* S S 22 34 38.9 -6.4
ANN pmax pmax
comp=N,4μm,3.6s
ANN pmax pmax
comp=Z,51μm,14.5s
ANN pmax pmax
comp=E,18μm,14.4s
ANN pmax pmax
comp=N,94nm,0.6s
ANN pmax pmax
comp=Z,555nm,1.3s
ANN pmax pmax
comp=E,51nm,0.6s
ANN smax smax
comp=E,36μm,13.6s
ANN smax smax
comp=N,58μm,13.4s
ANN smax smax
comp=Z,26μm,13.4s
ANN MLR MLR
comp=E,260μm,19.0s
ANN MLR MLR
comp=Z,205μm,19.0s
ANN MLR MLR
comp=N,319μm,19.0s
CSS Prodhromos 67.30 307 P **P** **22 25 53.6 -0.4**
CSS Prodhromos 67.30 307 PFAKE 22 26 10.0 +16
CSS LR LR
comp=Z,154μm,22.0s
CTKT Corum 67.68 313 *i* P **P** **22 25 57.0 +0.5**
CDAG Cicekdag 67.70 312 *i* P **P** **22 25 56.1 -0.4**
BOYT Boyabat 67.83 314 *i* P **P** **22 25 57.9 +0.7**
ERMK Ermenek 68.03 309 *i* P **P** **22 25 59.2 +0.4**
BR101 Keskin Array S 68.27 312 *e* P **P** **22 25 59.4 -0.7**
BR101 *e* S **S** **22 34 58.8 -0.2**
BR101 *e* *P'P'df **P'P'df** **22 54 24.3 +5.2**
BRTR Keskin Array B 68.27 312 P **P** **22 25 59.4 -0.7**
comp=Z,27nm,0.8s,baz=130,slow=6.8,SNR=90
BRTR S **S** **22 34 58.8 -0.2**
comp=Z,3.1nm,0.9s,baz=139,slow=4.7,SNR=2.1
BRTR PKP2ab 22 54 24.3
comp=Z,14nm,1.3s,baz=306,slow=1.1,SNR=5.8
BRTR LR LR 22 58 40.9
comp=Z,231μm,18.9s,baz=92,slow=38
VORD Divnogorie 68.40 325 *e* P **P** **22 25 58.7 -1.8**
VORD *e* 22 26 04.5
VORD *e* S **S** **22 34 54.3 -5.3**
VORD pmax pmax
comp=Z,420nm,1.0s
VORD pmax pmax
comp=N,100nm,1.3s
VORD pmax pmax
comp=E,160nm,1.1s
VORD smax smax
comp=N,33μm,9.4s
VORD smax smax
comp=Z,5μm,5.7s
VORD smax smax
comp=E,26μm,7.7s
GAZI Gazipasa 68.40 308 *i* P **P** **22 26 00.6 -0.2**
VSR Storozhevoye 68.57 325 *e* P **P** **22 25 59.0 -2.6**
VSR *e* 22 26 05.7
VSR *e* S 22 34 54.3 -7.4
VSR pmax pmax
comp=Z,530nm,1.0s
VSR pmax pmax
comp=N,50nm,1.3s
VSR pmax pmax
comp=E,190nm,1.3s
VSR smax smax
comp=N,42μm,9.0s
VSR smax smax
comp=Z,7μm,6.5s
VSR smax smax
comp=E,8μm,5.3s
VSR MLR MLR
comp=E,320μm,24.0s
VSR MLR MLR
comp=Z,427μm,24.0s
VSR MLR MLR
comp=N,285μm,20.0s
BBAL Bala 68.61 312 *i* P **P** **22 26 02.1 -0.2**
ELDT Eldivan 68.64 313 *i* P P 22 26 08.5 +6.1
VOR Voronezh 68.77 326 ⇑ *i* P **P** **22 26 03.0 +0.2**
VOR *e* S **S** **22 35 04.0 0.0**
VOR pmax pmax
comp=Z,1μm,1.6s
ANTO Ankara 68.94 312 ⇓ *i* P **P** **22 26 04.0 -0.2**
ANTO Ankara 68.94 312 P **P** **22 26 04.1 -0.1**
SNR=119
ANTO Ankara 68.94 312 PFAKE 22 26 20.0 +16
ANTO LR LR
comp=Z,425μm,22.0s
SKR Severo-Kuril's 68.97 36 ⇑ *i* P **P** **22 26 01.2 -2.8**
SKR *i* 22 26 18.8
SKR *e* 22 28 44.0
SKR *e* PPP PPP 22 30 18.0
SKR *i* S **S** **22 35 09.0 +2.6**
SKR *i* 22 35 45.6
SKR *e* SSS SSS 22 42 40.0
SKR pmax pmax
comp=E,360nm,1.0s
SKR pmax pmax
comp=Z,1μm,1.0s
SKR pmax pmax
comp=N,13μm,6.0s
SKR pmax pmax
comp=E,33μm,6.0s
SKR pmax pmax
comp=Z,71μm,6.0s
SKR pmax pmax
comp=N,11μm,6.0s
SKR pmax pmax
comp=E,9μm,6.0s
SKR pmax pmax
comp=Z,15μm,6.0s
SKR smax smax
comp=N,35μm,14.0s
SKR smax smax
comp=E,64μm,14.0s
SKR MLR MLR
comp=Z,551μm,18.0s
SKR MLR MLR
comp=N,259μm,20.0s
SKR MLR MLR
comp=E,241μm,20.0s
KDHN Kadinhani 69.11 310 *i* P **P** **22 26 04.7 -0.6**
CASY Casey 69.16 174 PFAKE 22 26 20.0 +15
CASY LR LR
comp=Z,715μm,21.0s
SIM Simferopol' 69.45 317 *c e* P **P** **22 26 07.2 0.0**
SIM *e* 22 28 40.1
SIM *e* S **S** **22 35 08.8 -3.6**
SIM pmax pmax
comp=Z,445nm,0.9s
SIM pmax pmax
comp=Z,18μm,11.0s
SIM MLR MLR
comp=Z,73μm,17.0s
BCAM Yenicaga 69.72 313 *i* P **P** **22 26 09.6 +0.5**
MSNA Messina 69.84 245 *e* P **P** **22 26 10.0 0.0**
MSNA AMB AMB 22 26 33.9
comp=Z,1μm,3.5s
MSNA AMS AMS 22 51 59.9
comp=Z,2395μm,20.5s
MSNA Messina 69.84 245 *e* P **P** **22 26 10.0 0.0**
H11S3 WAKE ISLAND Hy 69.89 71 P **P** **22 26 13.1 +2.9**
baz=308,slow=6.5,SNR=13
H11S1 WAKE ISLAND Hy 69.91 71 P **P** **22 26 13.2 +2.9**
baz=308,slow=6.5,SNR=15
H11S2 WAKE ISLAND Hy 69.91 71 P P 22 26 13.5 +3.2
baz=308,slow=6.5,SNR=12
WAKE Wake Island 69.92 70 PFAKE 22 26 20.0 +9.5
WAKE LR LR
comp=Z,590μm,22.0s
BOLV Bolvadin 70.04 310 *i* P **P** **22 26 08.6 -2.5**
KORT Korkueli 70.12 309 *i* P **P** **22 26 12.2 +0.6**
ISP Isparta 70.16 309 P **P** **22 26 09.7 -2.2**
ISP Isparta 70.16 309 ⇑ *i* P **P** **22 26 12.4 +0.5**
ISP Isparta 70.16 309 PFAKE 22 26 20.0 +8.1
ISP LR LR
comp=Z,617μm,20.0s
H11N1 WAKE ISLAND Hy 70.18 70 P **P** **22 26 14.6 +2.7**
baz=241,slow=6.0,SNR=79
H11N2 WAKE ISLAND Hy 70.19 70 P **P** **22 26 14.4 +2.5**
baz=241,slow=6.0,SNR=64
H11N3 WAKE ISLAND Hy 70.20 70 P **P** **22 26 14.5 +2.5**
baz=241,slow=6.0,SNR=132
SEYT Eskypehyr 70.30 311 *i* P **P** **22 26 14.1 +1.4**
LSZ Lusaka 70.36 253 S **S** **22 35 23.1 -1.2**
comp=Z,6.9nm,1.0s,baz=358,slow=17,SNR=2.4
LSZ LR LR 22 52 52.8
comp=Z,1856μm,20.7s,baz=140,slow=32
BTAS Taskesti 70.44 312 *i* P **P** **22 26 13.1 -0.4**
AKAS Kas 70.54 308 *i* P P 22 26 10.3 -4.0
PRGR Permogore 70.55 337 ⇑ *i* P **P** **22 26 13.3 -0.2**
PRGR *i* S **S** **22 35 25.7 +1.2**
PRGR pmax pmax
comp=Z,2μm,0.9s
HENT Hendek 70.58 313 *i* P **P** **22 26 13.4 -0.9**
BORA Eskisehir 70.69 312 *i* P **P** **22 26 14.0 -1.0**
ALT Altintas 70.75 311 P **P** **22 26 14.6 -0.8**
ALT Altintas 70.75 311 P **P** **22 26 14.6 -0.8**
GOLH Golhisar 70.78 309 *i* P **P** **22 26 14.4 -1.3**
PETK Petropavlovsk- 70.83 34 P **P** **22 26 15.3 -0.1**
comp=Z,45nm,0.8s,baz=198,slow=4.2,SNR=37
PETK PKPPKP P'P'df 22 54 23.1 +9.4
comp=Z,3.3nm,0.8s,baz=35,slow=5.3,SNR=3.6
PETK LR LR 22 59 41.1
comp=Z,231μm,18.4s,baz=226,slow=38
PEA2 Petropavlovsk- 70.83 34 *e* P **P** **22 26 15.3 -0.2**
PEA2 *e* P'P'df P'P'df 22 54 23.1 +9.4
GDZ Gediz 71.24 311 *i* P **P** **22 26 17.7 -0.8**
DNZL Cakiroluk 71.28 309 *i* P P 22 26 25.3 +6.6
MOS Moscow 71.30 329 *α i* P **P** **22 26 18.1 -0.1**
MOS *e* 22 26 37.4
MOS *e* 22 28 54.5
MOS *e* PPP PPP 22 30 39.4
MOS *i* S **S** **22 35 30.8 -2.7**
MOS pmax pmax
comp=Z,3μm,1.9s
MOS pmax pmax
comp=Z,20μm,3.0s
MOS pmax pmax
comp=N,9μm,3.5s
MOS pmax pmax
comp=E,10μm,3.5s
MOS smax smax
comp=N,64μm,7.2s
MOS smax smax
comp=E,27μm,5.5s
MOS MLR MLR
comp=N,626μm,21.0s
MOS MLR MLR
comp=Z,912μm,21.0s
MOS MLR MLR
comp=E,594μm,23.0s
PET Petropavlovsk 71.33 34 *α i* P **P** **22 26 18.6 +0.2**
PET *e* S **S** **22 35 32.4 -1.5**
PET pmax pmax
comp=Z,57μm,6.0s
PET pmax pmax
comp=Z,64μm,16.8s
PET pmax pmax
comp=Z,2μm,1.0s
PET MLR MLR
comp=Z,676μm,18.0s
PET MLR MLR
comp=Z,600μm,18.0s
PET Petropavlovsk 71.33 34 PFAKE 22 26 30.0 +12
PET LR LR
comp=Z,576μm,20.0s
TURN Turunc 71.46 308 *i* P **P** **22 26 20.8 +1.2**
OBN Obninsk 71.59 328 *c i* P **P** **22 26 19.0 -1.0**
OBN *e* 22 26 38.0
OBN *e* 22 29 03.9
OBN *i* S **S** **22 35 32.5 -4.4**
OBN *e* SS **SS** **22 40 06.6 -6.0**
OBN pmax pmax
comp=Z,769nm,1.7s
OBN pmax pmax
comp=Z,28μm,3.8s
OBN MLR MLR
comp=Z,350μm,20.0s
OBN Obninsk 71.59 328 PFAKE 22 26 30.0 +10
OBN LR LR
comp=Z,344μm,19.0s
NOUC Port Laguerre 71.71 114 *e* P **P** **22 26 20.6 -0.8**
ARG Arkhangelos 71.71 307 P P **P** **22 26 19.4 -1.7**
ARG Arkhangelos 71.71 307 P P **P** **22 26 19.4 -1.7**
ARG Arkhangelos 71.71 307 *e* P **P** **22 26 21.3 +0.2**
ARG Arkhangelos 71.71 307 P P **P** **22 26 19.4 -1.7**
ULDT Uludag 71.73 312 *i* P **P** **22 26 21.1 -0.4**
KULA Kula-Manisa 71.74 310 P P **P** **22 26 20.7 -0.7**
KULA Kula-Manisa 71.74 310 P P **P** **22 26 20.7 -0.7**
DEMI Demirci 71.81 310 *i* P **P** **22 26 21.4 -0.4**
MANT Manisa 71.82 310 *i* P **P** **22 26 22.0 0.0**
BUY Buyukada 71.90 312 *i* P **P** **22 26 21.1 -1.0**
I43RU DUBNA INFRASON 71.92 330 P **P** **22 26 20.3 -1.6**
baz=88,slow=11,SNR=2.0
ISK Istanbul-Kandi 71.99 312 P P **P** **22 26 21.6 -1.1**
ISK Istanbul-Kandi 71.99 312 P P **P** **22 26 21.6 -1.1**
ISK Istanbul-Kandi 71.99 312 P P **P** **22 26 21.6 -1.1**
TIXI Tiksi 72.07 10 *c i* P **P** **22 26 21.4 -1.1**
TIXI pmax pmax
comp=Z,791nm,2.5s
TIXI MLR MLR
comp=Z,865μm,17.0s
TIXI Tiksi 72.07 10 PFAKE 22 26 30.0 +7.5
TIXI LR LR
comp=Z,900μm,20.0s
SLR Silverton 72.07 242 *e* P **P** **22 26 23.9 +0.2**
SLR AMB AMB 22 27 02.7
comp=Z,1μm,1.7s
SLR AMS AMS 22 53 20.0
comp=Z,1697μm,20.1s
SLR Silverton 72.07 242 *e* P **P** **22 26 23.9 +0.2**
SLR Silverton 72.07 242 *e* P **P** **22 26 23.9 +0.2**
DURS Dursunbey 72.11 311 *i* P **P** **22 26 22.1 -1.5**
KSD Kokstad 72.15 237 *e* P **P** **22 26 24.5 +0.4**
KSD AMB AMB 22 26 48.7
comp=Z,335nm,7.1s
KSD AMS AMS 22 52 44.9
comp=Z,853μm,19.0s
KSD Kokstad 72.15 237 *e* P **P** **22 26 24.5 +0.4**
AYDN Tasoluk 72.18 309 *i* P **P** **22 26 24.8 +0.8**
ERPM east rand prop 72.23 242 *e* P **P** **22 26 24.7 +0.1**
ERPM AMB AMB 22 26 48.6
comp=Z,710nm,3.4s
ERPM AMS AMS 22 52 50.6
comp=Z,1102μm,20.3s
ERPM east rand prop 72.23 242 *e* P **P** **22 26 24.7 +0.1**
LIFNC LIFOU 72.34 113 *e* P **P** **22 26 24.9 -0.3**
KARP Karpathos 72.36 307 P P **P** **22 26 23.0 -2.1**
KARP Karpathos 72.36 307 *e* P **P** **22 26 25.6 +0.5**
KARP Karpathos 72.36 307 P P **P** **22 26 23.0 -2.1**
BDRM Kayabasi 72.41 308 *i* P **P** **22 26 23.4 -1.9**
AKHS Akhisar 72.47 310 *i* P **P** **22 26 25.5 -0.1**
ELBA Catalca 72.47 312 *i* P **P** **22 26 26.3 +0.7**
ITZ Itezhi-Tezhi 72.50 253 *i* P **P** **22 26 25.2 -1.1**
NIS1 Nisyros Isl. 72.53 308 P P **P** **22 26 23.6 -2.5**
NIS1 Nisyros Isl. 72.53 308 *e* P **P** **22 26 26.2 +0.1**
NIS1 Nisyros Isl. 72.53 308 P P **P** **22 26 23.6 -2.5**
SEY Seymchan 72.74 23 P P **P** **22 26 27.1 +0.3**
comp=Z,443nm,0.9s,baz=245,slow=6.3,SNR=546
SEY S **S** **22 35 52.5 +2.7**
comp=Z,5.4nm,0.7s,baz=72,slow=19,SNR=2.7
SEY LR LR 23 00 57.5
comp=Z,829μm,20.9s,baz=239,slow=38
BALY Balya 72.78 311 *i* P **P** **22 26 27.7 +0.1**
KLOF Kloof 72.79 242 *e* P **P** **22 26 26.5 -1.5**
KLOF AMB AMB 22 26 52.3
comp=Z,641nm,1.6s
KLOF AMS AMS 22 57 11.1
comp=Z,673μm,17.4s
KLOF Kloof 72.79 242 *e* P **P** **22 26 26.5 -1.5**
MANR Mangalia 72.96 315 ⇑ *i* P **P** **22 26 29.1 +0.7**
WDLM Western Deep L 72.97 242 *e* P **P** **22 26 29.9 +0.8**
WDLM AMB AMB 22 26 59.9
comp=Z,356nm,1.2s
EFOR EFORIE 72.99 315 ⇑ *i* P **P** **22 26 29.3 +0.7**
SMG Samos 73.00 309 P P **P** **22 26 27.4 -1.4**
SMG Samos 73.00 309 *e* P **P** **22 26 28.9 +0.1**
SMG Samos 73.00 309 P P **P** **22 26 27.4 -1.4**
ZKR Zakros 73.05 306 P P **P** **22 26 26.6 -2.6**
ZKR Zakros 73.05 306 *e* P **P** **22 26 29.7 +0.5**
ZKR Zakros 73.05 306 P P **P** **22 26 26.6 -2.6**
PRYS Parys 73.12 241 *e* P **P** **22 26 30.3 +0.4**
PRYS AMB AMB 22 26 53.6
comp=Z,497nm,2.1s
PRYS AMS AMS 22 56 37.2
comp=Z,565μm,17.7s
PRYS Parys 73.12 241 *e* P **P** **22 26 30.3 +0.4**
TLCR 73.13 317 ⇑ *i* P **P** **22 26 30.0 +0.6**
SEK Senekal 73.18 240 *e* P **P** **22 26 30.7 +0.4**
SEK AMB AMB 22 26 53.5
comp=Z,1μm,3.4s
SEK AMS AMS 22 56 40.4
comp=Z,1827μm,17.6s
SEK Senekal 73.18 240 *e* P **P** **22 26 30.7 +0.4**
PSN Preselentsi 73.22 315 ⇑ *i* P **P** **22 26 30.3 +0.4**
PSN Preselentsi 73.22 315 *e* P **P** **22 26 30.5 +0.6**
TIRR Tirgusor 73.23 316 ⇑ *i* P **P** **22 26 29.7 -0.3**
TIRR Tirgusor 73.23 316 PFAKE 22 26 40.0 +10
TIRR LR LR
comp=Z,296μm,18.0s
SART Tekirdag 73.31 312 *i* P P 22 26 41.4 +11
KSR Koster 73.32 242 *e* P **P** **22 26 32.1 +1.0**
KSR AMB AMB 22 26 55.1
comp=Z,612nm,3.1s
KSR AMS AMS 22 54 15.5
comp=Z,781μm,20.1s
KSR Koster 73.32 242 *e* P **P** **22 26 32.1 +1.0**
ZEY ˙zmir 73.35 309 *i* P **P** **22 26 30.4 -0.4**
AYVA Ayvalik 73.41 310 *i* P **P** **22 26 32.9 +1.7**
CVD Cernavoda 73.47 316 ⇓ *i* P **P** **22 26 32.0 +0.6**
TLB Topalu 73.52 316 ⇑ *i* P **P** **22 26 31.9 +0.2**
MSAB Monastry St. A 73.56 315 ⇑ *i* P **P** **22 26 32.3 +0.3**
NPS Neapolis 73.56 306 P P **P** **22 26 32.2 0.0**
NPS Neapolis 73.56 306 P P **P** **22 26 32.2 0.0**
NPS Neapolis 73.56 306 *e* P **P** **22 26 33.0 +0.8**
NPS Neapolis 73.56 306 P P **P** **22 26 32.2 0.0**
KIS Kishinev 73.58 318 *α i* P **P** **22 26 31.0 -1.0**
KIS *i* 22 26 44.0
KIS *i* 22 29 17.0
KIS *i* PPP PPP 22 31 04.0
KIS *i* S **S** **22 35 56.0 -3.9**
KIS *i* PS **PnS** **22 36 34.0 -1.5**
KIS pmax pmax
comp=N,2μm,2.6s
KIS pmax pmax
comp=E,4μm,2.6s
KIS pmax pmax
comp=Z,46μm,14.0s
KIS pmax pmax
comp=N,4μm,13.0s
KIS pmax pmax
comp=E,19μm,13.0s
KIS pmax pmax
comp=E,15μm,14.0s

KIS pmax pmax
comp=Z,30μm,14.0s
KIS pmax pmax
comp=N,8μm,13.0s
KIS MLR MLR
comp=Z,315μm,21.0s
KIS MLR MLR
comp=N,134μm,20.0s
KIS MLR MLR
comp=E,138μm,20.0s
KIS Kishinev 73.58 318⇑ *i*P **P 22 26 31.5 -0.5**
KIS Kishinev 73.58 318 *i* P **P 22 26 31.0 -1.0**
comp=E,10μm,3.2s
KIS Kishinev 73.58 318 *i* PcP **PcP 22 26 44.0 -3.8**
KIS Kishinev 73.58 318 *i* PP PP 22 29 17.0 +0.7
comp=E,8μm,13.0s
KIS Kishinev 73.58 318 *i* PPP PPP 22 31 04.0
KIS Kishinev 73.58 318 *e*PsP 22 32 22.0
KIS *i* S **S 22 35 56.0 -3.9**
comp=E,67μm,15.0s
KIS *i* ScS x 22 36 20.0
KIS Kishinev 73.58 318 *i* PS 22 36 34.0
KIS *e*SS SS 22 40 33.0 -10
KIS *e*SSS SSS 22 43 42.0
KIS *e*LQ LQ 22 49 58.0
KIS LRM MLR 23 01 24.0
comp=E,315μm,21.0s
CFR Carcaliu 73.59 317⇑ *i*P **P 22 26 32.0 -0.1**
GIUM Giurgiulesti 73.62 317⇓ *i*P **P 22 26 32.2 -0.1**
HARR Harsova 73.62 316⇑ *i*P **P 22 26 33.0 +0.7**
LAST Lasithi 73.66 306 P **P 22 26 33.0 +0.2**
LAST Lasithi 73.66 306 *e*P **P 22 26 33.0 +0.2**
LAST Lasithi 73.66 306 P **P 22 26 33.0 +0.2**
PRD Provadia 73.67 314 *e*P **P 22 26 32.3 -0.3**
PRK Paraskevi 73.72 310 P **P 22 26 31.9 -1.1**
PRK Paraskevi 73.72 310 P **P 22 26 31.9 -1.1**
PRK Paraskevi 73.72 310 *e*P **P 22 26 33.0 0.0**
PRK Paraskevi 73.72 310 P **P 22 26 31.9 -1.1**
CHOS Chios island 73.73 309 P **P 22 26 32.0 -1.2**
CHOS Chios island 73.73 309 *e*P **P 22 26 33.5 +0.3**
CHOS Chios island 73.73 309 P **P 22 26 32.0 -1.2**
MAW Mawson 73.81 193 P **P 22 26 35.5 +2.5**
comp=E,49nm,0.9s,baz=10,slow=4.9,SNR=11
MAW S S 22 36 09.0 +7.3
comp=E,5.0nm,0.9s,baz=163,slow=17,SNR=1.4
MAW LR LR 22 54 25.2
comp=E,228μm,18.9s,baz=30,slow=32
LEOM Leova 73.83 318⇑ *i*P **P 22 26 33.7 +0.2**
EDRB Edirne 73.86 313 P **P 22 26 32.2 -1.6**
EDRB Edirne 73.86 313 P **P 22 26 32.2 -1.6**
SANT Santorini 73.86 307 P P 22 26 30.4 -3.6
SANT Santorini 73.86 307 *e*P **P 22 26 34.3 +0.3**
SANT Santorini 73.86 307 P P 22 26 30.4 -3.6
SANT *e*S **SKiKP 22 35 56.2 -4.6**
SANT LR LR
comp=Z,319μm,22.0s
APE Apeirianthos 73.92 308 P **P 22 26 32.5 -1.8**
APE Apeirianthos 73.92 308*c* *i*P **P 22 26 35.5 +1.2**
APE pmax pmax
comp=Z,525nm,2.4s
APE Apeirianthos 73.92 308 *e*P P 22 26 39.2 +4.9
APE Apeirianthos 73.92 308⇑ *i*P **P 22 26 33.2 -1.1**
APE Apeirianthos 73.92 308 P **P 22 26 32.5 -1.8**
BOZC Bozcaada 73.99 311 *i* P **P 22 26 33.5 -1.0**
AMRR Amara 74.02 316⇑ *i*P **P 22 26 35.2 +0.6**
SIGR SIGRI 74.03 310 P **P 22 26 33.8 -1.0**
SIGR SIGRI 74.03 310 *e*P **P 22 26 34.8 0.0**
SIGR SIGRI 74.03 310 P **P 22 26 33.8 -1.0**
JMB Yambol 74.10 314 P P 22 26 39.2 +4.0
JMB Yambol 74.10 314 P P 22 26 39.2 +4.0
JMB Yambol 74.10 314⇓ *i*P P 22 26 40.8 +5.6
JMB Yambol 74.10 314 *e*P P 22 26 41.0 +5.8
JMB Yambol 74.10 314 P P 22 26 39.2 +4.0
SIVA Sivas 74.18 306 P **P 22 26 33.7 -2.1**
SIVA Sivas 74.18 306 *e*P **P 22 26 35.9 +0.1**
SIVA Sivas 74.18 306 P **P 22 26 33.7 -2.1**
ALN Alexandroupoli 74.19 312 P **P 22 26 35.1 -0.6**
ALN Alexandroupoli 74.19 312 P **P 22 26 35.1 -0.6**
ALN Alexandroupoli 74.19 312 P **P 22 26 35.1 -0.6**
AKASG Malin Array Be 74.29 322 P **P 22 26 35.4 -0.7**
comp=Z,44nm,0.6s,baz=89,slow=4.7,SNR=337
AKASG S **SKiKP 22 36 03.4 +2.5**
comp=Z,1.9nm,0.8s,baz=169,slow=1.9,SNR=3.1
AKASG PKPPKP P'P'df 22 54 23.7 +16
comp=Z,0.2nm,0.2s,baz=284,slow=2.7,SNR=4.2
AKASG LR LR 23 02 40.7
comp=Z,220μm,21.1s,baz=120,slow=39
AKBB Malin Array Si 74.29 322 *e*P **P 22 26 35.4 -0.7**
AKBB *e*S **SKiKP 22 36 03.4 +2.4**
AKBB Malin Array Si 74.29 322 *e*P **P 22 26 35.4 -0.7**
AKBB *e*S **SKiKP 22 36 03.4 +2.4**
AKBB *e*P'P'df P'P'df 22 54 23.7 +16
KIEV Kiev 74.30 322*c* *i*P **P 22 26 35.4 -0.7**
KIEV Kiev 74.30 322 *e*P **P 22 26 35.5 -0.7**
comp=Z,1μm,1.0s
KIEV LR LR
comp=Z,236μm,20.0s
LBTB Lobatse 74.32 243 *e*P **P 22 26 37.7 +0.8**
LBTB AMB AMB 22 27 00.9
comp=Z,1μm,3.1s
LBTB AMS AMS 22 54 28.3
comp=Z,1948μm,20.0s
PGOR Pogoanele 74.33 316⇓ *i*P **P 22 26 37.6 +1.2**
PETR Petresti 74.34 317⇓ *i*P **P 22 26 38.0 +1.5**
GRER 74.44 317⇓ *i*P **P 22 26 38.1 +1.0**
SMTH Samothraki Isl 74.50 311 P **P 22 26 36.3 -1.3**
SMTH Samothraki Isl 74.50 311 *e*P **P 22 26 36.9 -0.7**
SMTH Samothraki Isl 74.50 311 P **P 22 26 36.3 -1.3**
RDO Rodhopi 74.61 312 P **P 22 26 37.2 -1.0**
RDO Rodhopi 74.61 312 *e*P **P 22 26 37.4 -0.8**
RDO Rodhopi 74.61 312 P **P 22 26 37.2 -1.0**
LIA Limnos Island 74.66 311 P **P 22 26 35.6 -2.9**
LIA Limnos Island 74.66 311 *e*P **P 22 26 38.1 -0.4**
LIA Limnos Island 74.66 311 P **P 22 26 35.6 -2.9**
ISTR Istrita 74.68 316⇓ *i*P **P 22 26 39.6 +1.0**
VRI Vrincioaia 74.71 317⇑ *i*P **P 22 26 39.7 +1.0**
VAM Vamos 74.73 306 P **P 22 26 37.4 -1.6**
VAM Vamos 74.73 306 P **P 22 26 37.4 -1.6**
VAM Vamos 74.73 306 *e*P **P 22 26 37.7 -1.3**
VAM Vamos 74.73 306 P **P 22 26 37.4 -1.6**
SZH Strazhica 74.73 314 *e*P **P 22 26 37.7 -1.1**
PLOR Plostina 74.76 317⇑ *i*P **P 22 26 39.8 +0.8**
DIM Dimitrovgrad 74.78 313 *e*P P 22 26 43.3 +4.1
SULR 74.79 316⇓ *i*P **P 22 26 39.9 +0.8**
KDZ Kurdzhali 74.80 312⇑ *i*P **P 22 26 39.2 -0.1**
KDZ Kurdzhali 74.80 312 *e*P **P 22 26 39.5 +0.2**
BAPR Bucharest-Chil 74.83 315⇑ *i*P P 22 26 43.0 +3.7
TMCR Tamitsa 74.83 337 *e*P **P 22 26 39.2 +0.3**
TMCR *e* 22 29 26.6
TMCR pmax pmax
comp=Z,950nm,1.5s
BUC1 Bucharest 74.88 315⇓ *i*P **P 22 26 40.3 +0.7**
TESR Tescani 74.91 318⇑ *i*P **P 22 26 40.2 +0.4**
KARN Karanos 74.95 306 P **P 22 26 39.6 -0.7**
KARN Karanos 74.95 306 *e*P **P 22 26 40.4 +0.1**
KARN Karanos 74.95 306 P **P 22 26 39.6 -0.7**
SECR 74.99 316⇑ *i*P **P 22 26 41.5 +1.2**
PLAR PLOIESTI 74.99 316⇓ *i*P **P 22 26 41.4 +1.1**
CIOR Ciorogarla 75.00 315⇓ *i*P **P 22 26 41.2 +0.8**
PVL Pavlikeni 75.15 314 *e*P **P 22 26 41.5 +0.3**
MLR Muntele Rosu 75.17 316⇑ *i*P **P 22 26 42.3 +0.8**
GRM Grahamstown 75.20 235 *e*P **P 22 26 43.2 +1.4**
GRM AMB AMB 22 27 06.0
comp=Z,933nm,5.2s
GRM AMS AMS 22 52 23.6
comp=Z,1716μm,21.3s
GRM Grahamstown 75.20 235 *e*P **P 22 26 43.2 +1.4**
GRM Grahamstown 75.20 235 *i*P P 22 26 46.6 +4.8
GRM Grahamstown 75.20 235 *e*P **P 22 26 43.2 +1.4**
ZIMR 75.21 315⇑ *i*P **P 22 26 42.0 +0.4**
BOSA Boshof 75.28 240 *e*P **P 22 26 43.2 +0.7**
BOSA AMB AMB 22 27 06.0
comp=Z,893nm,3.2s
BOSA AMS AMS 22 58 37.3
comp=Z,1436μm,17.1s
BOSA Boshof 75.28 240 P **P 22 26 42.9 +0.4**
comp=Z,99nm,1.1s,baz=85,slow=5.7,SNR=26
BOSA S **S 22 36 19.9 -0.1**
comp=Z,5.7nm,1.0s,baz=277,slow=18,SNR=2.3
BOSA LR LR 22 56 40.8
comp=Z,1476μm,18.7s,baz=60,slow=33
DRV Dumont d'Urvil 75.28 164 P P 22 26 18.0 -23
DRV PP PP 22 29 38.0 +7.6
DRV S **SKiKP 22 35 58.0 -4.0**
DRV SS **SS 22 41 10.0 +1.5**
DRV L L 22 45 00.0
DRV R 22 49 00.0
RZN Rozhen 75.32 312 *e*P **P 22 26 42.0 -0.5**
PTL Penteli 75.38 309 P **P 22 26 41.1 -1.6**
PTL Penteli 75.38 309 *e*P **P 22 26 41.1 -1.6**
PTL Penteli 75.38 309 P **P 22 26 41.1 -1.6**
PRAR RASCA 75.38 318⇑ *i*P **P 22 26 42.8 +0.3**
PLD Plovdiv 75.40 313 P **P 22 26 41.1 -1.6**
PLD Plovdiv 75.40 313 P **P 22 26 41.1 -1.6**
PLD Plovdiv 75.40 313 *e*P **P 22 26 42.0 -0.7**
PLD Plovdiv 75.40 313 P **P 22 26 41.1 -1.6**
ATHU Athens Univers 75.43 309 P **P 22 26 40.6 -2.4**
ATHU Athens Univers 75.43 309 P **P 22 26 40.6 -2.4**
HVD Gariep Dam 75.46 238 *e*P **P 22 26 43.9 +0.4**
HVD AMB AMB 22 27 07.4
comp=Z,1μm,3.6s
HVD AMS AMS 22 57 20.9
comp=Z,1954μm,17.9s
HVD Gariep Dam 75.46 238 *e*P **P 22 26 43.9 +0.4**
HVD Gariep Dam 75.46 238 *e*P **P 22 26 43.9 +0.4**
ATH Athens Observa 75.48 309 P **P 22 26 41.0 -2.2**
ATH Athens Observa 75.48 309 P **P 22 26 41.0 -2.2**
ATH Athens Observa 75.48 309 *e*P **P 22 26 42.0 -1.2**
ATH Athens Observa 75.48 309 P **P 22 26 41.0 -2.2**
ANKY Antikythira Is 75.51 306 *e*P **P 22 26 43.8 +2.3**
AOS Alonnisos 75.53 310 P **P 22 26 41.1 -2.4**
AOS Alonnisos 75.53 310 *e*P P 22 26 50.8 +7.3
AOS Alonnisos 75.53 310 P **P 22 26 41.1 -2.4**
OUR Ouranopolis 75.64 311 P **P 22 26 42.2 -1.9**
OUR Ouranopolis 75.64 311 P **P 22 26 42.2 -1.9**
OUR Ouranopolis 75.64 311 *e*P P 22 26 37.8 -6.3
OUR Ouranopolis 75.64 311 P **P 22 26 42.2 -1.9**
DOPR Dopca 75.65 317⇑ *i*P **P 22 26 44.1 0.0**
HUMR Humele 75.65 315⇑ *i*P **P 22 26 43.6 -0.5**
MRKA Markates 75.69 309 *e*P **P 22 26 45.8 +1.3**
GOLR 75.72 316⇓ *i*P **P 22 26 45.3 +0.8**
MTUR Matau 75.72 316⇓ *i*P **P 22 26 45.1 +0.5**
TARA Tarawa 75.77 89 PFAKE 22 27 00.0 +15
TARA LR LR
comp=Z,211μm,19.0s
VOIR 75.78 316⇑ *i*P **P 22 26 44.5 -0.4**
KYTH Kithira 75.78 307 *e*P **P 22 26 44.4 -0.7**
PAIG Paliouri 75.80 311 P **P 22 26 43.4 -1.7**
PAIG Paliouri 75.80 311 P **P 22 26 43.4 -1.7**
PAIG Paliouri 75.80 311 *e*P **P 22 26 44.7 -0.4**
PAIG Paliouri 75.80 311 P **P 22 26 43.4 -1.7**
SKIA Skiathos 75.85 310 *e*P **P 22 26 45.1 -0.3**
PGB Panagyurishte 75.87 313 *e*P **P 22 26 44.8 -0.7**
NVR Nevrokopi 75.89 312 P **P 22 26 44.0 -1.6**
NVR Nevrokopi 75.89 312 *e*P **P 22 26 44.7 -0.9**
NVR Nevrokopi 75.89 312 P **P 22 26 44.0 -1.6**
VLI Veliai 75.92 307 P P 22 26 42.6 -3.2
VLI Veliai 75.92 307 *e*P **P 22 26 46.3 +0.5**
VLI Veliai 75.92 307 P P 22 26 42.6 -3.2
SMIA Simia 76.01 309 *e*P **P 22 26 46.4 +0.1**
MCQ Macquarie Isla 76.01 148 *e*P **P 22 26 46.0 +0.1**
MCQ pmax pmax
comp=Z,2μm,1.1s
MCQ Macquarie Isla 76.01 148 *e*P **P 22 26 46.0 +0.1**
comp=Z,2μm,1.1s
MMB Musomiste 76.03 312⇑ *i*P **P 22 26 45.5 -1.0**
MMB Musomiste 76.03 312 *e*P **P 22 26 45.4 -1.0**
ARR Arges 76.05 316⇑ *i*P **P 22 26 46.5 0.0**
PLG Polygyros 76.05 311 P **P 22 26 44.2 -2.3**
PLG Polygyros 76.05 311 P **P 22 26 44.2 -2.3**
PLG Polygyros 76.05 311 *e*P **P 22 26 45.5 -1.0**
PLG Polygyros 76.05 311 P **P 22 26 44.2 -2.3**
SRS Serrai 76.06 312 P **P 22 26 44.5 -2.0**
SRS Serrai 76.06 312 P **P 22 26 44.5 -2.0**
SRS Serrai 76.06 312 *e*P **P 22 26 45.5 -1.0**
SRS Serrai 76.06 312 P **P 22 26 44.5 -2.0**
NEO Neokhori 76.06 310 *e*P P 22 26 51.4 +4.8
LTK Loutraki 76.07 308 P P 22 26 40.6 -6.1
LTK Loutraki 76.07 308 *e*P **P 22 26 46.1 -0.6**
LTK Loutraki 76.07 308 P P 22 26 40.6 -6.1
XOR Xorichti 76.09 310 *e*P P 22 26 52.7 +5.9
BURAR Bucovina Array 76.10 319⇑ *i*P **P 22 26 47.8 +1.0**
MICGM Minsk 76.12 326⇑ *i*P **P 22 26 44.0 -2.5**
LKR Lokris 76.14 309 P P 22 26 42.7 -4.3
LKR Lokris 76.14 309 *e*P **P 22 26 45.3 -1.7**
LKR Lokris 76.14 309 P P 22 26 42.7 -4.3
MNK Minsk 76.15 326⇑ *i*P **P 22 26 44.0 -2.7**
MNK *e* 22 27 06.0
MNK *e* 22 29 40.0
MNK *e*PPP PPP 22 31 22.0
MNK *i* S S 22 36 22.0 -6.3
MNK *e*PS PnS 22 36 52.0 -17
MNK pmax pmax
comp=E,680nm,1.5s
MNK pmax pmax
comp=Z,770nm,1.0s
MNK pmax pmax
comp=E,28μm,6.0s
MNK pmax pmax
comp=Z,73μm,6.0s
MNK MLR MLR
comp=N,159μm,23.0s
MNK MLR MLR
comp=Z,251μm,20.0s
MNK MLR MLR
comp=E,136μm,18.0s
SOH Sokhos 76.19 311 P **P 22 26 45.2 -2.1**
SOH Sokhos 76.19 311 P **P 22 26 45.2 -2.1**
SOH Sokhos 76.19 311 *e*P **P 22 26 46.2 -1.1**
SOH Sokhos 76.19 311 P **P 22 26 45.2 -2.1**
MPEP Malo Peshtene 76.32 314 *e*P **P 22 26 46.9 -1.0**
HORT Hortiatis 76.34 311 P **P 22 26 46.4 -1.9**
HORT Hortiatis 76.34 311 *e*P **P 22 26 47.0 -1.3**
HORT Hortiatis 76.34 311 P **P 22 26 46.4 -1.9**
MDB Medias 76.37 317⇑ *i*P **P 22 26 49.4 +1.2**
AXAR Agios Charalam 76.42 309 P **P 22 26 46.0 -2.6**
AXAR Agios Charalam 76.42 309 P **P 22 26 46.0 -2.6**
PUL Pulkovo 76.44 331*c* *i*P **P 22 26 48.6 +0.4**
PUL pmax pmax
comp=Z,1μm,1.7s
PUL MLR MLR
comp=Z,690μm,20.0s
CRAR CRAIOVA 76.44 315⇓ *i*P **P 22 26 48.7 +0.1**
VLX Vlachokerasia 76.45 308 P **P 22 26 46.2 -2.7**
VLX Vlachokerasia 76.45 308 *e*P **P 22 26 46.3 -2.7**
VLX Vlachokerasia 76.45 308 P **P 22 26 46.2 -2.7**
THE Thessaloniki 76.45 311 P **P 22 26 46.8 -1.9**
THE Thessaloniki 76.45 311 P **P 22 26 46.8 -1.9**
THE Thessaloniki 76.45 311 *e*P P 22 26 53.4 +4.7
THE Thessaloniki 76.45 311 P **P 22 26 46.8 -1.9**
GUR Goura 76.55 308 P **P 22 26 47.4 -2.1**
GUR Goura 76.55 308 *e*P **P 22 26 48.3 -1.2**
GUR Goura 76.55 308 P **P 22 26 47.4 -2.1**
KKB Krupnik 76.55 312 *e*P **P 22 26 48.2 -1.1**
VTS Vitosha 76.58 313 P **P 22 26 48.2 -1.4**
VTS Vitosha 76.58 313 P **P 22 26 48.2 -1.4**
VTS Vitosha 76.58 313⇑ *i*P **P 22 26 49.3 -0.3**
VTS Vitosha 76.58 313 *e*P **P 22 26 49.0 -0.6**
VTS Vitosha 76.58 313 P **P 22 26 48.2 -1.4**
KNT Kendrikon 76.58 312 P **P 22 26 47.0 -2.5**
KNT Kendrikon 76.58 312 P **P 22 26 47.0 -2.5**
KNT Kendrikon 76.58 312 *e*P **P 22 26 48.3 -1.2**
KNT Kendrikon 76.58 312 P **P 22 26 47.0 -2.5**
LOT Lotru 76.66 316⇑ *i*P **P 22 26 49.7 -0.3**
AGG Agios Georgios 76.70 309 P **P 22 26 48.3 -2.0**
AGG Agios Georgios 76.70 309 P **P 22 26 48.3 -2.0**
AGG Agios Georgios 76.70 309 *e*P **P 22 26 47.9 -2.4**
AGG Agios Georgios 76.70 309 P **P 22 26 48.3 -2.0**
KLV Kalavryta, Ach 76.72 308 P **P 22 26 47.9 -2.5**
KLV Kalavryta, Ach 76.72 308 *e*P **P 22 26 49.1 -1.3**
KLV Kalavryta, Ach 76.72 308 P **P 22 26 47.9 -2.5**
LIT Litokhoron 76.73 311 P P 22 26 47.2 -3.2
LIT Litokhoron 76.73 311 P P 22 26 47.2 -3.2
LIT Litokhoron 76.73 311 *e*P **P 22 26 49.3 -1.1**
LIT Litokhoron 76.73 311 P P 22 26 47.2 -3.2
KALE Kalithea 76.77 309 P **P 22 26 48.8 -1.9**
KALE Kalithea 76.77 309 *e*P **P 22 26 49.1 -1.6**
KALE Kalithea 76.77 309 P **P 22 26 48.8 -1.9**
ITM Ithomi 76.78 308 P **P 22 26 48.6 -2.1**
ITM Ithomi 76.78 308 *e*P **P 22 26 48.3 -2.4**
ITM Ithomi 76.78 308 P **P 22 26 48.6 -2.1**
BUFB Buffelsbos 76.81 234 *e*P **P 22 26 52.0 +1.1**
BUFB AMB AMB 22 27 08.0
comp=Z,17nm,14.8s
BUFB Buffelsbos 76.81 234 *e*P **P 22 26 52.0 +1.1**
NACGM Naroch 76.84 326 *e*P P 22 26 47.0 -3.6
VAY Valandovo 76.85 312 P **P 22 26 48.3 -2.7**
VAY Valandovo 76.85 312 P **P 22 26 48.3 -2.7**
VAY Valandovo 76.85 312 *i* P **P 22 26 49.9 -1.1**
VAY Valandovo 76.85 312 P **P 22 26 48.3 -2.7**
MAKR Makrakomi, Fth 76.86 309 P P 22 26 46.1 -5.0
MAKR Makrakomi, Fth 76.86 309 *e*P **P 22 26 49.3 -1.8**
MAKR Makrakomi, Fth 76.86 309 P P 22 26 46.1 -5.0
PYL PYLOS 76.89 307 P **P 22 26 49.1 -2.2**
PYL PYLOS 76.89 307 *e*P P 22 26 56.6 +5.3
PYL PYLOS 76.89 307 P **P 22 26 49.1 -2.2**
SRE Strehaia 76.92 315⇓ *i*P **P 22 26 51.3 0.0**
EFP Efpalio 76.95 309 P P 22 26 48.3 -3.3
EFP Efpalio 76.95 309 *e*P **P 22 26 51.4 -0.2**
IDID Didziasalis 76.97 326 *e*P **P 22 26 51.9 +0.6**
IDID AMB AMB 22 27 00.5
comp=Z,439nm,1.3s
AMT Artemida-Makis 77.00 308 P **P 22 26 48.7 -3.2**
AMT Artemida-Makis 77.00 308 *e*P **P 22 26 49.0 -2.9**
CJR Cluj-Napoca 77.01 317⇓ *i*P **P 22 26 52.7 +0.9**
THL Klokotos Trika 77.02 310 P **P 22 26 50.7 -1.3**
THL Klokotos Trika 77.02 310 *e*P **P 22 26 51.5 -0.5**
DRO Drossia 77.05 308 P **P 22 26 50.8 -1.4**
JOF Joensuu 77.06 335 *e*P **P 22 26 51.4 -0.3**
JOF pmax pmax
comp=Z,263nm,0.9s
JOF Joensuu 77.06 335 *ep* **P 22 26 51.4 -0.3**
comp=Z,263nm,0.9s
EVR Evrytania 77.09 309 P **P 22 26 49.5 -3.1**
EVR Evrytania 77.09 309 *e*P **P 22 26 51.0 -1.6**
EVR Evrytania 77.09 309 P **P 22 26 49.5 -3.1**
RLS Riolos of Patr 77.25 308 P **P 22 26 54.2 +0.9**
RLS Riolos of Patr 77.25 308 *e*P **P 22 26 53.5 +0.2**
RLS Riolos of Patr 77.25 308 P **P 22 26 54.2 +0.9**
BMR Baia Mare 77.25 318⇓ *i*P **P 22 26 54.5 +1.4**
BMR Baia Mare 77.25 318⇓ *i*P **P 22 26 54.5 +1.4**
IIGN Ignalina 77.27 326 *e*P **P 22 26 53.6 +0.5**
IIGN AMB AMB 22 27 01.5
comp=Z,455nm,1.2s
RMGR Halanga-Turnu 77.28 315⇓ *i*P **P 22 26 53.4 +0.1**
KZN Kozani 77.31 311 P P 22 26 50.5 -3.2
KZN Kozani 77.31 311 P P 22 26 50.5 -3.2
KZN Kozani 77.31 311 *e*P **P 22 26 53.0 -0.7**
KZN Kozani 77.31 311 P P 22 26 50.5 -3.2
LVV L'vov 77.32 321 *e*P **P 22 26 53.0 -0.4**
LVV *e*S **S 22 36 40.0 -1.3**
LVV MLR MLR
comp=Z,45μm,19.0s
DEV Deva 77.34 316⇓ *i*P **P 22 26 54.6 +1.0**
GZR Gura Zlata 77.34 316⇓ *i*P **P 22 26 54.2 +0.4**
ISAL Salakas 77.38 327 *e*P **P 22 26 54.1 +0.5**
ISAL AMB AMB 22 27 02.0
comp=Z,364nm,1.2s
PDO Prodromos 77.54 309 P **P 22 26 53.9 -1.0**
PDO Prodromos 77.54 309 *e*P **P 22 26 54.6 -0.3**
DRGR 77.62 317⇑ *i*P **P 22 26 56.0 +0.7**
FNA Florina 77.67 311 P **P 22 26 54.2 -1.5**
FNA Florina 77.67 311 P **P 22 26 54.2 -1.5**
FNA Florina 77.67 311 *e*P **P 22 26 53.9 -1.8**
FNA Florina 77.67 311 P **P 22 26 54.2 -1.5**
DSL Palaion Diasel 77.67 309 P **P 22 26 52.6 -3.1**
DSL Palaion Diasel 77.67 309 *e*P **P 22 26 55.0 -0.7**
DSL Palaion Diasel 77.67 309 P **P 22 26 52.6 -3.1**
LVZ Lovozero 77.72 340*c* *i*P **P 22 26 55.1 -0.3**
LVZ pmax pmax
comp=Z,159nm,0.6s
LVZ Lovozero 77.72 340 PFAKE 22 27 10.0 +15
LVZ LR LR
comp=Z,646μm,20.0s
SKO Skopje 77.78 312 P **P 22 26 54.4 -1.8**
SKO Skopje 77.78 312 P **P 22 26 54.4 -1.8**
SKO Skopje 77.78 312 *i* P **P 22 26 54.8 -1.4**
SKO Skopje 77.78 312 P **P 22 26 54.4 -1.8**
VSU Vasula 77.81 330*c* *i*P **P 22 26 56.2 +0.3**
VSU pmax pmax
comp=Z,5μm,2.7s
DCZ Deep Cove 77.83 137 *e*P **P 22 26 57.3 +1.0**
comp=Z,774nm,1.2s
DCZ LR LR
comp=Z,750μm,22.0s
NEST Nestorio 77.87 311 P **P 22 26 54.1 -2.7**
NEST Nestorio 77.87 311 *e*P **P 22 26 55.6 -1.2**
JAN Janina 77.92 310 P **P 22 26 56.1 -1.0**
JAN Janina 77.92 310 P **P 22 26 56.1 -1.0**
JAN Janina 77.92 310 *e*P **P 22 26 56.6 -0.5**
JAN Janina 77.92 310 P **P 22 26 56.1 -1.0**
VLS Valsamata 77.95 308 P **P 22 26 55.8 -1.5**
VLS Valsamata 77.95 308 P **P 22 26 55.8 -1.5**
VLS Valsamata 77.95 308 *e*P **P 22 26 56.3 -1.0**
VLS Valsamata 77.95 308 P **P 22 26 55.8 -1.5**
LKD2 Lefkada island 77.97 309 P **P 22 26 55.9 -1.5**
LKD2 Lefkada island 77.97 309 *e*P **P 22 26 56.8 -0.6**
LKD2 Lefkada island 77.97 309 P **P 22 26 55.9 -1.5**
APA Apatity 78.02 339⇓ *i*P **P 22 26 57.0 +0.1**
APA *i* 22 27 14.0
APA *i* 22 29 58.0
APA *i* PPP PPP 22 31 48.0
APA *i* S **S 22 36 46.0 -2.1**
APA *i* PS **PnS 22 37 27.0 -5.0**
APA pmax pmax
comp=Z,229nm,1.0s
KBN Korca 78.09 311 P **P 22 26 55.9 -2.2**
KBN Korca 78.09 311 P **P 22 26 55.9 -2.2**
KBN Korca 78.09 311 P **P 22 26 55.9 -2.2**
KWP Kalwaria Pacla 78.13 320⇑ *e*P **P 22 26 58.5 +0.5**
KWP *e**PP **PcP 22 27 03.4 -4.1**
KWP *e*S **S 22 36 49.1 -1.0**
KWP Kalwaria Pacla 78.13 320 *e*P **P 22 26 58.4 +0.5**
KWP *e*pP **PcP 22 27 03.3 -4.2**
KWP *e*S **S 22 36 49.0 -1.0**
KWP LMZ LR 22 56 17.4
KWP Kalwaria Pacla 78.13 320⇑ *i*P **P 22 26 59.3 +1.3**
KWP Kalwaria Pacla 78.13 320 *e*P **P 22 26 57.9 0.0**
comp=Z,1μm,1.0s
KWP *e*S **S 22 36 50.7 +0.6**
KWP LR LR
comp=Z,233μm,21.0s
OHR Ohrid 78.14 311 *i* P **P 22 26 55.4 -2.9**
BZS Buzias 78.18 316⇑ *i*P **P 22 26 58.4 +0.1**
UZH Uzhgorod 78.22 319 *e*P **P 22 27 01.0 +2.6**
UZH *e* 22 27 07.6
UZH *e* 22 27 17.0
UZH *e*PPP PPP 22 31 44.6
UZH *i* S **S 22 36 52.4 +1.4**
UZH *i* PS **PnS 22 37 38.8 +3.6**
UZH *e*SS **SS 22 41 56.0 +2.5**
UZH MLR MLR
comp=N,190μm,19.0s
UZH MLR MLR
comp=E,230μm,19.0s
UZH MLR MLR
comp=Z,90μm,19.0s
KOLS Kolonicke sedl 78.28 319 *e*P **P 22 26 59.8 +0.9**
KOLS *e* 22 27 07.1
KOLS *e*S **S 22 36 50.5 -1.3**
KOLS Kolonicke sedl 78.28 319 *e*P **P 22 26 59.8 +0.9**
KOLS *e*PCP **PcP 22 27 07.1 -1.1**
KOLS *e*S **S 22 36 50.5 -1.3**
IGT Igoumenitsa 78.31 310 P **P 22 26 57.5 -1.7**
IGT Igoumenitsa 78.31 310 P **P 22 26 57.5 -1.7**
IGT Igoumenitsa 78.31 310 *e*P **P 22 26 57.1 -2.1**
IGT Igoumenitsa 78.31 310 P **P 22 26 57.5 -1.7**
WHZ Wether Hill Ro 78.47 138 PFAKE 22 27 10.0 +10
WHZ LR LR
comp=Z,869μm,22.0s
TIM Timisoara 78.48 316⇑ *i*P **P 22 27 00.3 +0.4**
PHP Peshkopia 78.48 312 P P 22 26 56.5 -3.7
PHP Peshkopia 78.48 312 P P 22 26 56.5 -3.7
PHP Peshkopia 78.48 312 P P 22 26 56.5 -3.7
JCZ Jackson Bay 78.56 136 *e*PN **P 22 27 00.3 -0.2**
JCZ PP PP 22 30 14.6 +16
SRN Sarande 78.60 310 P **P 22 26 57.8 -3.0**
SRN Sarande 78.60 310 P **P 22 26 57.8 -3.0**
SUW Suwalki 78.68 325 *e*P **P 22 27 00.6 -0.3**
SUW *e*pP **PcP 22 27 05.4 -4.3**
SUW *e*S **S 22 36 55.1 -0.7**
SUW LMZ LR 23 02 21.5
SUW Suwalki 78.68 325 PFAKE 22 27 10.0 +9.1
SUW LR LR

comp=Z,249µm,21.0s
KEK Kerkira 78.74 310 P P 22 26 58.2 -3.3
KEK Kerkira 78.74 310 *e*P P 22 27 05.7 +4.2
KEK Kerkira 78.74 310 P P 22 26 58.2 -3.3
CRVS Cervenica-Dubn 78.81 319 *e*P **P** **22 27 02.3 +0.6**
CRVS *e* 22 27 08.8
CRVS *e*S **S** **22 36 55.7 -1.7**
CRVS Cervenica-Dubn 78.81 319 *e*P **P** **22 27 02.3 +0.6**
CRVS *e*PCP **PcP** **22 27 08.8 -1.6**
CRVS *e*S **S** **22 36 55.7 -1.7**
FIA0 FINESS Array S 78.94 332 *e*P **P** **22 27 02.1 0.0**
FIA0 FINESS Array S 78.94 332 *e*P **P** **22 27 02.1 0.0**
FIA0 *e*PKKPbc **PKKPbc** **22 45 60.0 +2.1**
FINES FINESS Array B 78.94 332 P **P** **22 27 02.1 0.0**
comp=Z,120nm,0.5s,baz=113,slow=6.7,SNR=297
FINES PKKPbc **PKKPbc** **22 45 60.0 +2.1**
comp=Z,1.8nm,0.8s,baz=350,slow=1.9,SNR=3.5
FINES LR LR 23 07 41.0
comp=Z,407µm,19.6s,baz=116,slow=40
KAF Kangasniemi 79.01 333 *e*P **P** **22 27 02.7 +0.1**
KAF pmax pmax
comp=Z,272nm,0.7s
KAF Kangasniemi 79.01 333 *e*p **P** **22 27 02.7 +0.1**
comp=Z,272nm,0.7s
STHS Stebnicka Huta 79.03 320 *e*P **P** **22 27 03.7 +0.7**
STHS Stebnicka Huta 79.03 320 *e*P **P** **22 27 03.7 +0.7**
IVA Berane 79.03 313⇑ *i*P **P** **22 27 02.5 -0.7**
FOZ Fox Glacier 79.08 135 *e*PN **P** **22 27 04.8 +1.5**
DIVS Divibare 79.11 314 P **P** **22 27 03.0 -0.6**
KECS Kecovo 79.38 319 *e*P **P** **22 27 05.0 +0.1**
KECS *e* 22 27 13.4
KECS Kecovo 79.38 319 *e*P **P** **22 27 05.0 +0.1**
KECS *e*PCP **PcP** **22 27 13.4 +0.5**
ULC Ulcinj 79.40 312⇑ *i*P **P** **22 27 05.3 +0.1**
PDG Podgorica 79.45 313 P **P** **22 27 04.6 -0.7**
TTG Podgorica 79.45 313⇑ *i*P **P** **22 27 04.9 -0.4**
TTG Podgorica 79.45 313 P **P** **22 27 04.6 -0.7**
TTG Podgorica 79.45 313 P **P** **22 27 04.6 -0.7**
PLE Pljevlja 79.45 314⇑ *i*P **P** **22 27 05.8 +0.3**
DRME Dracevica, Mon 79.47 312⇑ *i*P **P** **22 27 04.9 -0.6**
PKSN Nyarlorinc 79.57 317⇑ *e*PKiKP **P** **22 27 06.7 +0.8**
LBZ Lake Benmore 79.63 136 PN **P** **22 27 05.8 -0.4**
NIE Niedzica 79.63 320⇑ *i*P **P** **22 27 07.0 +0.7**
NIE *i* *PP **pP** **22 27 18.1 +1.3**
NIE *i* *SP **sP** **22 27 24.5 +3.8**
NIE *i* S **S** **22 37 04.3 -1.9**
NIE *e*SS **SS** **22 42 19.6 +4.8**
NIE MLR MLR
comp=Z,234µm,20.7s
NIE Niedzica 79.63 320 *e*P **P** **22 27 06.9 +0.7**
NIE *e*pP **PcP** **22 27 11.9 -2.1**
NIE *e*S **S** **22 37 07.1 +0.9**
NIE LMZ LR 23 02 53.5
NKY Niksic 79.68 313⇑ *i*P **P** **22 27 06.4 -0.4**
PSZ Piszkesteto 79.69 318⇑ *i*P **P** **22 27 07.4 +0.7**
PSZ Piszkesteto 79.69 318 PFAKE 22 27 20.0 +13
PSZ LR LR
comp=Z,319µm,21.0s
PSZ Piszkesteto 79.69 318⇑ *e*PKiKP **P** **22 27 07.3 +0.6**
BUM Brajici-Budva 79.70 312⇑ *i*P **P** **22 27 06.6 -0.2**
BEL Belsk 79.71 322⇑ *e*P **P** **22 27 07.1 +0.5**
BEL *e**PP **PcP** **22 27 11.8 -2.4**
BEL *e*S **S** **22 37 06.0 -0.7**
BEL Belsk 79.71 322 *e*P **P** **22 27 07.0 +0.5**
BEL *e*pP **PcP** **22 27 11.8 -2.4**
BEL *e*S **S** **22 37 06.0 -0.7**
BEL LMZ LR 23 00 38.5
NKME Niksic 79.71 313⇑ *i*P **P** **22 27 06.3 -0.5**
WVZ Waitaha Valley 79.71 134 *e*PN **P** **22 27 06.4 -0.3**
SUR Sutherland 79.72 237 *e*P **P** **22 27 08.9 +1.6**
SUR AMB AMB 22 27 31.9
comp=Z,903nm,3.6s
SUR Sutherland 79.72 237 P P 22 27 12.1 +4.8
SNR=22
SUR Sutherland 79.72 237 PFAKE 22 27 20.0 +13
SUR LR LR
comp=Z,1598µm,20.0s
PKS6 Bocsa 79.74 317⇑ *e*PKiKP **P** **22 27 07.4 +0.6**
UPM Unac-Piva 79.79 313⇑ *i*P **P** **22 27 06.8 -0.7**
PKS2 Kecel 79.96 317⇑ *e*PKiKP **P** **22 27 08.6 +0.6**
HCY Herceg Novi 80.01 313⇑ *i*P **P** **22 27 08.7 +0.3**
PKS7 Kunszentmiklos 80.07 317⇑ *e*PKiKP **P** **22 27 09.2 +0.6**
OJC Ojcow 80.08 320⇑ *i*P **P** **22 27 08.9 +0.3**
OJC *i* *PP **pP** **22 27 20.1 +0.9**
OJC *i* *SP **sP** **22 27 26.9 +3.9**
OJC *i* S **S** **22 37 08.7 -2.1**
OJC *e*SS **SS** **22 42 22.7 +1.3**
OJC MLR MLR
comp=Z,360µm,18.7s
OJC Ojcow 80.08 320 *e*P **P** **22 27 08.9 +0.3**
OJC *e*pP **PcP** **22 27 13.8 -2.1**
OJC *e*S **S** **22 37 11.0 +0.2**
OJC LMZ LR 23 12 42.5
RPZ Rata Peaks 80.08 135 *e*PN **P** **22 27 08.6 -0.2**
RPZ Rata Peaks 80.08 135 PFAKE 22 27 20.0 +11
RPZ LR LR
comp=Z,1501µm,22.0s
ODZ Otahua Downs 80.10 136 PFAKE 22 27 20.0 +11
ODZ LR LR
comp=Z,685µm,22.0s
BILL Bilibino 80.12 21*c*e*P P 22 27 05.1 -3.4
BILL *e* 22 27 17.4
BILL *e* 22 30 16.6
BILL *i* S **S** **22 37 08.0 -2.5**
BILL pmax pmax
comp=Z,17µm,4.9s
BILL pmax pmax
comp=Z,935nm,2.5s
BILL MLR MLR
comp=Z,1546µm,20.0s
BILL Bilibino 80.12 21 PFAKE 22 27 20.0 +12
BILL LR LR
comp=Z,1355µm,19.0s
DSZ Denniston Nort 80.20 133 PN **P** **22 27 10.1 +0.6**
BUD Budapest 80.22 318⇑ *e*PKiKP **P** **22 27 09.5 +0.1**
SMY Shemya 80.25 37 *e*P **P** **22 27 09.7 +0.2**
SMY *e*S **S** **22 37 16.9 +4.4**
SMY Shemya 80.25 37 *e*P **P** **22 27 09.7 +0.2**
SMY *e*S **S** **22 37 16.9 +4.4**
PKSM Moragy 80.32 316⇑ *i*P **P** **22 27 10.2 +0.2**
PKSM Morągy 80.32 316⇑ *e*PKiKP **P** **22 27 10.0 0.0**
VYHS Vyhne 80.47 319 *e*P **P** **22 27 09.9 +0.1**
VYHS *e*S **S** **22 37 09.6 -5.4**
VYHS Vyhne 80.47 319 *e*P **P** **22 27 10.9 +0.1**
VYHS *e*PCP **PcP** **22 27 15.8 -1.9**
VYHS *e*S **S** **22 37 09.6 -5.4**
QRZ Quartz Range 80.55 132 *e*PN **P** **22 27 11.6 +0.3**
PKSG 80.63 318⇑ *e*PKiKP **P** **22 27 12.2 +0.6**
STON Ston 80.64 313 P **P** **22 27 10.9 -0.9**
OXZ Oxford 80.70 134 *e*PN **P** **22 27 11.5 -0.6**
CSKK Cs˘tkako 80.72 317⇑ *e*PKiKP **P** **22 27 12.8 +0.7**
PKST T˘s 80.86 317⇑ *e*PKiKP **P** **22 27 13.1 +0.2**
TSUM Tsumeb 80.89 250 *e*P **P** **22 27 14.1 +0.4**
TSUM Tsumeb 80.89 250 PFAKE 22 27 20.0 +6.2
TSUM LR LR
comp=Z,1025µm,19.0s
ELIM Elim 80.96 235 *e*P **P** **22 27 14.6 +0.9**
ELIM AMB AMB 22 27 47.3
comp=Z,768nm,6.7s
ELIM AMS AMS 22 58 27.2
comp=Z,1376µm,18.8s
ELIM Elim 80.96 235 *e*P **P** **22 27 14.6 +0.9**
KEV Kevo 80.98 341 *e*P **P** **22 27 13.3 +0.3**
KEV pmax pmax
comp=Z,114nm,0.8s
KEV Kevo 80.98 341 *e*p **P** **22 27 13.3 +0.3**
comp=Z,114nm,0.8s
KEV Kevo 80.98 341 PFAKE 22 27 20.0 +7.0
KEV LR LR
comp=Z,521µm,21.0s
THZ Tophouse 81.01 133 *e*PN **P** **22 27 13.5 -0.3**
TIP Timpagrande 81.03 309 P **P** **22 27 13.6 -0.5**
TIP Timpagrande 81.03 309 P **P** **22 27 13.6 -0.5**
TIP LR LR
comp=Z,258µm,20.0s
WCZ Waipu Caves 81.07 127 *e*PN **P** **22 27 16.0 +1.8**
SYO Syowa Base 81.07 198⇑ *i*P **P** **22 27 13.0 -0.5**
OKC Ostrava-Krasne 81.08 320 *e*P **P** **22 27 14.5 +0.5**
OKC *e* 22 27 22.8
OKC *e*S **S** **22 37 20.8 -0.5**
OKC *e* 22 42 42.1
OKC MLR MLR
comp=Z,154µm,17.5s
OKC Ostrava-Krasne 81.08 320 *e*P **P** **22 27 14.5 +0.5**
OKC *e*PCP **PcP** **22 27 19.8 -0.5**
OKC *e*pP **pP** **22 27 22.8 -1.8**
OKC *e*x x 22 27 34.5
OKC *e*S **S** **22 37 20.8 -0.5**
OKC *e*SS **SS** **22 42 42.1 +5.7**
OKC *e*PKPPKP P'P'df 22 54 10.0 +14
OKC *e*x x 22 54 16.4
OKC AMS AMS 23 13 20.0
comp=Z,154µm,17.5s
RAC Raciborz 81.08 320 *e*P **P** **22 27 14.6 +0.6**
RAC *e* 22 27 20.2
RAC *e*S **S** **22 37 22.4 +1.1**
RAC MLR MLR
comp=N,550µm,23.9s
RAC MLR MLR
comp=E,330µm,19.6s
RAC MLR MLR
comp=Z,350µm,19.7s
MQZ McQueen's Vall 81.21 135 *e*PN **P** **22 27 16.8 +2.0**
ARA0 ARCESS Array S 81.42 340 *e*P **P** **22 27 15.9 +0.5**
ARA0 *e*PP **PP** **22 30 25.8 +4.2**
ARA0 *e*S **S** **22 37 22.8 -1.3**
ARCES ARCESS Array B 81.42 340 P **P** **22 27 15.9 +0.5**
comp=Z,68nm,0.7s,baz=90,slow=7.3,SNR=150
ARCES PP **PP** **22 30 25.8 +4.2**
comp=Z,113nm,0.8s,baz=109,slow=7.1,SNR=5.8
ARCES S **S** **22 37 22.8 -1.3**
comp=Z,2.6nm,0.7s,baz=128,slow=25,SNR=2.6
ARCES LR LR 23 06 34.3
comp=Z,427µm,21.0s,baz=115,slow=38
MORC Moravsky Berou 81.46 320⇑ *i*P **P** **22 27 16.8 +0.7**
BEHE Becsehely 81.63 316⇑ *e*PKiKP **P** **22 27 18.0 +1.0**
CEL Celeste 81.64 308 PFAKE 22 27 30.0 +13
CEL LR LR
comp=Z,249µm,21.0s
CUC Castrocucco 81.82 310 PFAKE 22 27 30.0 +12
CUC LR LR
comp=Z,246µm,20.0s
SISC Sisak 81.82 315 P **P** **22 27 18.4 +0.4**
HIZ Hauiti 81.89 129 PN **P** **22 27 19.6 +1.0**
SOP Sopron 81.90 318⇑ *e*PKiKP **P** **22 27 18.5 +0.1**
KRLC Kraliky 81.98 320 *e*P **P** **22 27 19.6 +0.7**
KRLC *e* 22 27 27.9
KRLC Kraliky 81.98 320 *e*P **P** **22 27 19.6 +0.7**
KRLC *e*PCP **PcP** **22 27 24.2 -0.1**
KRLC *e*pP **pP** **22 27 27.9 -1.5**
KRLC *e*x x 22 27 39.6
KRLC *e*PKPPKP P'P'df 22 54 04.1 +10
KRLC *e*x x 22 54 16.7
VRAC Vranov 82.03 319⇑ *i*P **P** **22 27 19.5 +0.4**
GKP Gorka Klasztor 82.06 323⇑ *e*P **P** **22 27 19.0 -0.1**
GKP *e*S **S** **22 37 31.1 -0.1**
GKP MLR MLR
comp=Z,390µm,24.5s
GKP Gorka Klasztor 82.06 323 *e*P **P** **22 27 18.9 -0.1**
GKP *e*pP **PcP** **22 27 23.8 -0.7**
GKP *e*S **S** **22 37 31.1 -0.1**
GKP LMZ LR 23 04 28.7
KTK1 Kautokeino 82.06 340 *e*P **P** **22 27 18.4 -0.3**
KTK1 *i* 22 37 28.2
KTK1 IAMs_20 IAMs_20 23 08 21.6
comp=N,551µm,20.8s
KTK1 IVMs_BB IVMs_BB 23 08 25.7
comp=N,164µm,19.9s
MSVF Nonsavu 82.09 108 PFAKE 22 27 30.0 +10
MSVF LR LR
comp=Z,482µm,20.0s
KOMG Komaggas 82.17 240 *e*P P 22 27 23.5 +3.3
KOMG AMB AMB 22 27 44.9
comp=Z,1µm,3.7s
KOMG AMS AMS 23 00 49.2
comp=Z,1925µm,18.0s
KOMG Komaggas 82.17 240 *e*P P 22 27 23.5 +3.3
UDBI Udbina 82.18 314 P **P** **22 27 20.0 0.0**
WAZ Wanganui 82.20 130 PN **P** **22 27 21.1 +1.0**
SNZO South Karori 82.25 132 *e*PP PP 22 30 32.0 +2.9
SNZO LR LR
comp=Z,1277µm,22.0s
DPC Dobruska-Polom 82.31 320 *e*P **P** **22 27 21.4 +0.9**
DPC *e* 22 27 29.7
DPC *e*S **S** **22 37 34.7 +0.6**
DPC Dobruska-Polom 82.31 320 *e*P **P** **22 27 21.4 +0.9**
DPC *e*PCP **PcP** **22 27 26.0 +0.3**
DPC *e*pP **pP** **22 27 29.7 -1.4**
DPC *e*S **S** **22 37 34.7 +0.6**
DPC *e*x x 22 43 44.2
DPC *e*PKPPKP P'P'df 22 54 02.8 +9.1
DPC *e*x x 22 54 17.4
DPC AMS AMS 23 10 50.0
DPC Dobruska-Polom 82.31 320 PFAKE 22 27 30.0 +9.5
DPC LR LR
comp=Z,2662µm,19.0s
KSP Ksiaz 82.37 321⇑ *e*P **P** **22 27 21.3 +0.5**
KSP *e* 22 27 26.6
KSP *e*S **S** **22 37 30.5 -4.1**
KSP MLR MLR
comp=Z,1504µm,23.5s
KSP Ksiaz 82.37 321 *e*P **P** **22 27 21.5 +0.7**
KSP *e*pP **PcP** **22 27 26.3 +0.3**
KSP *e*S **S** **22 37 34.3 -0.3**
KSP LMZ LR 23 08 03.3
CONA Conrad Observa 82.39 318 *i* P **P** **22 27 21.1 +0.1**
comp=Z,13µm,4.6s,SNR=26
UPC Upice 82.52 320 *e*P **P** **22 27 22.3 +0.7**
UPC *e* 22 27 27.6
UPC Upice 82.52 320 *e*P **P** **22 27 22.3 +0.7**
UPC *e*PCP **PcP** **22 27 27.6 +1.0**
UPC *e*PKPPKP P'P'df 22 54 12.1 +19
UPC *e*x x 22 54 22.2
COVZ Chateau Observ 82.53 130 PN **P** **22 27 22.5 +0.5**
FWVZ Far West T-bar 82.55 130 PN **P** **22 27 22.1 -0.1**
TRVZ Turoa 82.55 130 PN **P** **22 27 22.5 +0.2**
ARSA Arzberg 82.56 317 *i* P **P** **22 27 22.4 +0.6**
comp=Z,15µm,4.2s,SNR=36
WNVZ Wahianoa 82.60 130 PN **P** **22 27 22.5 +0.1**
BOJS Bojanci 82.61 315 *e*P **P** **22 27 22.6 +0.4**
BOJS *e*S **S** **22 37 33.3 -4.0**
TREC Trest 82.75 319 *e*P **P** **22 27 23.1 +0.3**
TREC *e* 22 27 31.5
TREC *e*S **S** **22 37 40.1 +1.5**
TREC MLR MLR
comp=Z,246µm,18.2s
TREC Trest 82.75 319 *e*P **P** **22 27 23.1 +0.3**
TREC *e*PCP **PcP** **22 27 27.8 +0.1**
TREC *e*pP **pP** **22 27 31.5 -1.9**
TREC *e*x x 22 27 43.0
TREC *e*S **S** **22 37 40.1 +1.5**
TREC *e*x x 22 43 52.0
TREC *e*PKPPKP P'P'df 22 54 03.6 +11
TREC *e*x x 22 54 16.4
TREC *e*x x 22 54 24.2
TREC AMS AMS 23 11 20.0
comp=Z,246µm,18.2s
HOWZ Holdsworth Sta 82.79 132 *e*PN **P** **22 27 22.9 -0.3**
PERS Pernice 82.79 317 *i* P **P** **22 27 23.7 +0.5**
PERS *e*S **S** **22 37 37.4 -1.7**
MRZ Mangatainoka R 82.80 131 *e*PN **P** **22 27 22.5 -0.7**
MRZ PP PP 22 30 43.7 +10
NVLJ Novalja 82.82 314 P **P** **22 27 22.4 -0.8**
MTW Mount Morrison 82.82 132 *e*PN **P** **22 27 22.7 -0.6**
SOKA Soboth 82.85 317⇑ *i*P **P** **22 27 24.2 +0.8**
comp=Z,17µm,4.6s,SNR=83
VNDS Vrh nad Dolski 83.04 316 *e*P **P** **22 27 25.1 +0.7**
VNDS *e*S **S** **22 37 40.2 -1.4**
LJU Ljubljana 83.16 316 *i* P **P** **22 27 25.6 +0.6**
LJU *e* 22 27 28.9
LJU *e*S **S** **22 37 41.0 -1.8**
OBKA Obir 83.17 316 *i* P **P** **22 27 25.7 +0.5**
comp=Z,16µm,4.2s,SNR=31
GOPC GO Pecny, Ondr 83.25 320 *i* P **P** **22 27 25.9 +0.5**
GOPC *e*x x 22 29 50.6
GOPC *e*S **S** **22 37 42.9 -0.8**
GOPC AMS AMS 23 11 20.0
BKZ Black Stump Fm 83.26 130 PN **P** **22 27 25.6 -0.1**
BKZ Black Stump Fm 83.26 130 *e*P **P** **22 27 25.7 0.0**
comp=Z,1µm,0.9s
BKZ LR LR
comp=Z,1467µm,21.0s
BFZ Birch Farm 83.30 131 *e*P **P** **22 27 26.6 +0.8**
comp=Z,1µm,1.3s
BFZ LR LR
comp=Z,1420µm,21.0s
WPHZ Waipukurau 83.35 131 PN **P** **22 27 26.1 0.0**
PRU Pruhonice 83.42 320 *e*P **P** **22 27 26.0 -0.2**
PRU *e* 22 27 31.9
PRU *e*S **S** **22 37 42.0 -3.2**
PRU MLR MLR
comp=Z,335µm,19.1s
PRU Pruhonice 83.42 320 *e*P **P** **22 27 26.0 -0.2**
PRU *e*PCP **PcP** **22 27 31.9 +1.4**
PRU *e*S **S** **22 37 42.0 -3.2**
PRU *e*x x 22 43 55.1
PRU *e*PKPPKP P'P'df 22 54 04.9 +13
PRU *e*x x 22 54 10.7
PRU AMS AMS 23 11 30.0
comp=Z,335µm,19.1s
PVCC Panska Ves 83.44 320 *e*P **P** **22 27 26.4 +0.1**
PVCC *e* 22 27 35.3
PVCC *e*S **S** **22 37 42.6 -2.8**
PVCC MLR MLR
comp=Z,307µm,19.2s
PVCC Panska Ves 83.44 320 *e*P **P** **22 27 26.4 +0.1**
PVCC *e*PCP **PcP** **22 27 32.2 +1.6**
PVCC *e*pP **pP** **22 27 35.3 -1.6**
PVCC *e*x x 22 27 47.0
PVCC *e*S **S** **22 37 42.6 -2.8**
PVCC *e*PKPPKP P'P'df 22 54 03.4 +12
PVCC *e*x x 22 54 12.4
PVCC AMS AMS 23 11 20.0
comp=Z,307µm,19.2s
MOA Molln 83.45 318 *i* P **P** **22 27 26.6 +0.1**
comp=Z,13µm,4.8s,SNR=33
JAVS Javornik 83.47 316 *i* P **P** **22 27 26.4 -0.3**
JAVS *e*S **S** **22 37 44.1 -2.1**
PRA Prague 83.49 320 *e*P **P** **22 27 26.4 -0.2**
PRA *e* 22 27 35.4
PRA *e*S **S** **22 37 40.5 -5.5**
PRA Prague 83.49 320 *e*P **P** **22 27 26.4 -0.2**
PRA *e*PCP **PcP** **22 27 31.9 +1.0**
PRA *e*pP **pP** **22 27 35.4 -1.8**
PRA *e*S **S** **22 37 40.5 -5.5**
PRA *e*PKPPKP P'P'df 22 54 05.1 +14
PRA *e*x x 22 54 18.9
HOPEN Hopen 83.58 347 *e*P **P** **22 27 26.5 0.0**
HOPEN IVMs_BB IVMs_BB 23 09 22.9
comp=Z,237µm,23.3s
BSD Bornholm Skovb 83.60 325⇑ *i*P **P** **22 27 26.8 -0.2**
BSD pmax pmax
comp=Z,140nm,0.8s
BSD MLR MLR
comp=Z,260µm,21.0s
BSD Bornholm Skovb 83.60 325⇑ *i*P **P** **22 27 26.8 -0.2**
comp=Z,136nm,0.8s
comp=Z,264µm,20.0s
URZ Urewera 83.61 129 P **P** **22 27 27.4 -0.1**
comp=Z,40nm,0.7s,baz=223,slow=4.6,SNR=17
URZ Urewera 83.61 129 PN **P** **22 27 27.1 -0.3**
URZ Urewera 83.61 129 P **P** **22 27 27.4 -0.1**
URZ *e*PP **PP** **22 30 43.7 +3.4**
URZ LR LR
comp=Z,1158µm,21.0s
TRI Trieste 83.67 316 *e*PP PP 22 30 46.5 +6.0
TRO Tromso 83.69 340 *e*P **P** **22 27 28.9 +1.7**
TRO *e* 22 38 05.2
TRO IAMs_20 IAMs_20 23 09 28.8
comp=Z,506µm,19.1s
TRO IVMs_BB IVMs_BB 23 09 33.5
comp=Z,167µm,18.3s
CLTB Caltabellotta 83.73 307 PFAKE 22 27 40.0 +12
CLTB LR LR
comp=Z,164µm,20.0s
AQU L'Aquila 83.77 312 PFAKE 22 27 40.0 +12
AQU LR LR
comp=Z,343µm,20.0s
MYKA Terra Mystica 83.80 316 *i* P **P** **22 27 28.6 +0.2**
comp=Z,14µm,4.6s,SNR=45
BRG Berggiesshubel 83.86 321 *i* P **P** **22 27 29.0 +0.5**
comp=Z,279nm,2.1s
BRG *i* 22 27 33.8
comp=Z,2µm,2.2s
BRG Berggiesshubel 83.86 321 S **S** **22 37 49.0 -0.7**
BRG *e*PKPPKP P'P'df 22 54 02.1 +11
comp=Z,24nm,1.7s
comp=N,250µm,20.2s
comp=E,190µm,24.1s
comp=Z,195µm,19.9s
BRG Berggiesshubel 83.86 321 *i* P **P** **22 27 29.0 +0.5**
BRG S **S** **22 37 49.0 -0.7**
BRG pmax pmax
comp=Z,2µm,2.2s
BRG MLR MLR
comp=N,250µm,20.2s
BRG MLR MLR
comp=E,190µm,24.1s
BRG MLR MLR
comp=Z,195µm,19.9s
BRG Berggiesshubel 83.86 321 *e*P **P** **22 27 28.9 +0.5**
comp=Z,1µm,1.8s
BRG *e*S **S** **22 37 48.1 -1.6**
GEC2 GERESS Array S 83.89 319 *e*P **P** **22 27 29.1 +0.2**
GEC2 GERESS Array S 83.89 319 *e*P **P** **22 27 29.0 +0.2**
comp=Z,2µm,1.8s
GEC2 *e*S **S** **22 37 50.4 +0.1**
GEC2 GERESS Array S 83.89 319 *e*P **P** **22 27 29.1 +0.2**
GEC2 *e*PKKPbc **PKKPbc** **22 45 44.3 -1.9**
GEC2 *e*P'P'df **P'P'df** **22 53 50.5 -0.4**
GERES GERESS Array B 83.89 319 P **P** **22 27 29.1 +0.2**
comp=Z,21nm,0.7s,baz=101,slow=5.7,SNR=141
GERES S **S** **22 37 54.2 +3.9**
comp=Z,2.0nm,0.8s,baz=70,slow=1.1,SNR=3.0
GERES PKKPbc **PKKPbc** **22 45 44.3 -1.9**
comp=Z,1.4nm,0.9s,baz=95,slow=1.6,SNR=3.7
GERES PKPPKP **P'P'df** **22 53 50.5 -0.4**
comp=Z,1.0nm,1.0s,baz=318,slow=1.8,SNR=4.0
GERES LR LR 23 11 07.6
comp=Z,164µm,18.7s,baz=86,slow=40
MWZ Matawai 83.94 129 *e*PN **P** **22 27 28.3 -0.9**
KHC Kasperske Hory 83.99 319 *e*P **P** **22 27 28.8 -0.4**
KHC *e* 22 27 33.8
KHC *e* 22 27 45.0
KHC *e*S **SKSac** **22 37 49.3 -0.8**
KHC MLR MLR
comp=Z,277µm,21.3s
KHC Kasperske Hory 83.99 319 *e*P **P** **22 27 28.8 -0.4**
KHC *e*PCP **PcP** **22 27 33.8 +0.7**
KHC *e*sP **sP** **22 27 45.0 +1.3**
KHC *e*S **SKSac** **22 37 49.3 -0.8**
KHC *e*x x 22 44 12.5
KHC *e*PKPPKP **P'P'df** **22 53 50.7 0.0**
KHC *e*x x 22 54 04.3
KHC *e*x x 22 54 19.2
KHC AMS AMS 23 12 00.0
comp=Z,277µm,21.3s
KBA Koelnbreinsper 84.03 317 *i* P **P** **22 27 29.3 -0.3**
comp=Z,9µm,4.9s,SNR=33
RUE Ruedersdorf 84.07 322 PFAKE 22 27 40.0 +11
RUE LR LR
comp=Z,273µm,22.0s
RJOB Jochberg 84.44 318 *e*P **P** **22 27 31.2 -0.4**
RJOB *e*S **S** **22 37 52.8 -2.9**
WET Wettzell 84.45 319 *e*P **P** **22 27 31.9 +0.3**
WET *e*S **S** **22 37 56.0 +0.3**
CLL Collm 84.48 321⇑ *i*P **P** **22 27 31.6 0.0**
CLL *i* 22 27 44.8
CLL *e*S **S** **22 37 56.0 +0.2**
CLL MLR MLR
comp=Z,412µm,20.4s
CLL Collm 84.48 321 *e*P **P** **22 27 31.7 0.0**
comp=Z,2µm,2.6s
CLL *e*S **S** **22 37 55.8 0.0**
CLL Collm 84.48 321⇑ *i*P **P** **22 27 31.6 0.0**
comp=Z,12µm,4.4s
CLL *e*Pmax 22 27 35.0
CLL ⇓ *i*Pmax 22 27 36.6
comp=Z,12µm,4.4s
CLL *i* sP **sP** **22 27 44.8 -1.3**
CLL *i* 22 27 50.1
CLL *i* 22 27 55.7
CLL *e*PP PP 22 30 40.0 -7.0
CLL *e*PPP PPP 22 32 54.0
CLL *e*S **S** **22 37 56.0 +0.2**
comp=N,178µm,45.7s
CLL *e*S **S** **22 37 56.0 +0.2**
comp=E,24µm,32.2s

CLL ePS PnS 22 39 03.0 +10
CLL ePPS PPS 22 39 27.0
CLL e(SS) 22 44 06.0
CLL eSSS SSS 22 47 00.0
CLL e 22 48 36.0
CLL e(SSSS) 22 50 24.0
CLL ePKPPKPd **P'P'df** **22 53 49.0 -0.5**
CLL LmV 23 13 00.0
comp=Z,412µm,20.4s
CLL Collm 84.48 321 eP **P** **22 27 31.6 0.0**
comp=Z,386nm,1.1s
CLL LR LR
comp=Z,224µm,20.0s
RGN Rugen 84.48 324 PFAKE 22 27 40.0 +8.5
RGN LR LR
comp=Z,272µm,21.0s
BJO Bjornoya 84.51 345 eP **P** **22 27 30.3 -1.0**
BJO i 22 38 09.0
ABTA Abfaltersbach 84.58 317 i P **P** **22 27 32.0 -0.4**
comp=Z,9µm,4.9s,SNR=34
HFS Hagfors 84.68 330 P **P** **22 27 32.7 +0.3**
comp=Z,59nm,1.0s,baz=100,slow=3.3,SNR=60
HFS S **S** **22 38 03.1 +5.6**
comp=Z,9.8nm,1.0s,baz=74,slow=11,SNR=1.7
STEI Steigen 84.76 338 eP **P** **22 27 32.6 -0.1**
TANN Tannenbergstha 84.78 320 eP **P** **22 27 33.7 +0.5**
comp=Z,1µm,2.1s
TANN eS **S** **22 37 59.1 +0.1**
ROTZ Rotzenmuhle 84.91 320 eP **P** **22 27 34.7 +0.8**
comp=Z,1µm,1.9s
ROTZ eS **S** **22 38 01.2 +0.9**
COP Copenhagen 85.06 326⇑ iP **P** **22 27 35.2 +0.8**
COP pmax pmax
comp=Z,68nm,0.8s
COP MLR MLR
comp=Z,120µm,18.0s
COP Copenhagen 85.06 326⇑ iP **P** **22 27 35.2 +0.8**
comp=Z,68nm,0.8s
COP Copenhagen 85.06 326⇑ iP **P** **22 27 35.2 +0.8**
comp=Z,68nm,0.8s
comp=Z,115µm,18.0s
LLD Lille Linde 85.16 325 eP **P** **22 27 35.5 +0.6**
LLD Lille Linde 85.16 325 i P **P** **22 27 35.5 +0.6**
WTTA Wattenberg 85.20 317 i P **P** **22 27 35.2 -0.4**
comp=Z,10µm,4.8s,SNR=51
WATA Walderalm 85.25 317 i P **P** **22 27 35.0 -0.8**
comp=Z,466nm,1.3s,SNR=31
MOX Moxa 85.33 320 eP **P** **22 27 36.3 +0.4**
comp=Z,2µm,2.5s
MOX eS **S** **22 38 05.4 +1.1**
FLOS Flostrand 85.33 336 eP **P** **22 27 37.6 +2.0**
LOF Lofoten 85.42 338 eP **P** **22 27 34.5 -1.5**
LOF IVMs_BB IVMs_BB 23 08 29.4
comp=Z,174µm,21.8s
KONS Konsvik 85.44 336 eP **P** **22 27 39.2 +3.1**
KONS i 22 37 52.1
FUR Furstenfeldbru 85.47 318 eP **P** **22 27 36.5 -0.2**
comp=Z,852nm,1.7s
FUR eS **S** **22 38 05.0 -0.9**
STOK Stokkvaagen 85.47 336 eP **P** **22 27 38.1 +1.9**
STOK i 22 38 06.4
GRF Grafenberg Arr 85.55 319 eP **P** **22 27 37.6 +0.6**
comp=Z,1µm,1.6s
GRF eS **S** **22 38 07.7 +1.1**
GRF ePKPPKP P'P'df 22 53 54.3 +6.6
GRF eL L 23 13 11.0
comp=Z,289µm,19.4s
GRFO Grafenberg 85.55 319 ePP PP 22 30 53.6 -2.2
GRFO LR LR
comp=Z,267µm,19.0s
MOTA Moosalm 85.57 317 i P **P** **22 27 36.9 -0.5**
comp=Z,616nm,1.2s,SNR=58
NSS Namsos 85.79 334 eP **P** **22 27 37.4 -0.4**
NSS IVMs_BB IVMs_BB 23 10 31.9
comp=Z,174µm,20.7s
RETA Reutte 85.80 317 i P **P** **22 27 38.2 -0.2**
comp=Z,11µm,4.8s,SNR=47
ADK Adak 85.81 38 eP **P** **22 27 37.9 -0.3**
ADK pmax pmax
comp=Z,2µm,1.3s
ADK MLR MLR
comp=Z,128µm,21.0s
ADK Adak 85.81 38 eP **P** **22 27 37.9 -0.3**
comp=Z,2µm,1.3s
ADK LR LR
comp=Z,128µm,21.0s
HSP Hornsund 85.81 347 eP **P** **22 27 37.7 -0.1**
FETA Feichten 85.81 317 i P **P** **22 27 38.6 -0.1**
comp=Z,11µm,4.6s,SNR=36
NB2 NORSAR Subarra 85.96 331 P **P** **22 27 39.0 +0.1**
comp=Z,11µm,3.3s,baz=94,slow=4.8
NB2 NORSAR Subarra 85.96 331 P **P** **22 27 39.0 +0.1**
baz=94,slow=4.8
NB200 NORSAR Array S 85.96 331 eP **P** **22 27 38.7 -0.1**
NOA NORSAR Array B 85.96 331 P **P** **22 27 38.7 -0.1**
comp=Z,66nm,0.9s,baz=93,slow=4.9,SNR=128
NOA LR LR 23 10 40.6
comp=Z,376µm,20.3s,baz=90,slow=39
FUORN Ofenpass-Fuorn 86.13 316 eP **P** **22 27 40.8 +0.5**
comp=Z,4µm,1.8s
CLZ Clausthal 86.14 322 eP **P** **22 27 40.4 +0.4**
comp=Z,3µm,2.3s
CLZ eS **S** **22 38 10.1 -2.2**
OSL Oslo 86.16 330 eP **P** **22 27 39.9 +0.1**
OSL IAMs_20 IAMs_20 23 11 17.6
comp=Z,332µm,20.5s
OSL IVMs_BB IVMs_BB 23 11 21.7
comp=Z,101µm,19.8s
BSEG Bad Segeberg 86.21 324 eP **P** **22 27 40.8 +0.6**
comp=Z,1µm,1.5s
BSEG eS **S** **22 38 11.3 -1.5**
NRDL Niedersach Rie 86.31 322 eP **P** **22 27 41.3 +0.7**
comp=Z,8µm,2.7s
NRDL eS **S** **22 38 12.7 -1.0**
UBBA Unterbreizbach 86.36 321 eP **P** **22 27 41.3 +0.5**
comp=Z,3µm,2.6s
UBBA eS **S** **22 38 12.2 -1.9**
DAVA Damuels 86.40 317 i P **P** **22 27 41.4 -0.1**
comp=Z,15µm,5.0s,SNR=35
TBLU Trondheim 86.48 333 eP **P** **22 27 40.8 -0.5**
TBLU e 22 31 06.2
TBLU IVMs_BB IVMs_BB 23 09 46.7
comp=Z,201µm,21.7s
KONO Kongsberg 86.72 329 eP **P** **22 27 41.6 -0.9**
KONO IAMs_20 IAMs_20 23 08 33.0
comp=Z,284µm,20.3s
KONO IVMs_BB IVMs_BB 23 08 37.3
comp=Z,86µm,20.2s
KONO Kongsberg 86.72 329 PFAKE 22 27 50.0 +7.4
KONO LR LR
comp=Z,281µm,21.0s
RAO Raoul Island 86.75 119 PFAKE 22 27 50.0 +6.6
RAO LR LR
comp=Z,459µm,21.0s
TUE Stuetta 86.76 316 PFAKE 22 27 50.0 +6.6
TUE LR LR
comp=Z,374µm,21.0s
VSL Villasalto 86.76 309 ePP PP 22 31 11.4 +5.4
VSL LR LR
comp=Z,169µm,22.0s
KBS Kingsbay 86.77 349⇑ iP **P** **22 27 42.0 -0.5**
KBS e 22 39 02.8
KBS IAMs_20 IAMs_20 23 16 49.2
comp=Z,558µm,18.0s
KBS IVMs_BB IVMs_BB 23 16 53.0
comp=Z,196µm,17.6s
KBS Kingsbay 86.77 349 PFAKE 22 27 50.0 +7.5
KBS LR LR
comp=Z,511µm,19.0s
KEST Kesra 86.82 305 P **P** **22 27 44.9 +1.2**
comp=Z,26nm,0.8s,baz=352,slow=0.5,SNR=34
KEST S **S** **22 38 16.4 -3.4**
comp=Z,2.6nm,0.9s,baz=266,slow=15,SNR=2.9
KEST LR LR 23 13 11.7
comp=Z,56µm,18.5s,baz=49,slow=40
STU Stuttgart 86.86 319 eP **P** **22 27 43.7 +0.2**
comp=Z,1µm,2.0s
STU eS **S** **22 38 18.3 -1.1**
STU Stuttgart 86.86 319 PFAKE 22 27 50.0 +6.5
STU LR LR
comp=Z,279µm,19.0s
MUD Monsted U'grnd 86.91 326⇑ iP **P** **22 27 44.6 +1.1**
MUD pmax pmax
comp=Z,430nm,1.1s
MUD MLR MLR
comp=Z,180µm,18.0s

MUD Monsted U'grnd 86.91 326⇑ iP **P** **22 27 44.6 +1.1**
comp=Z,426nm,1.1s
comp=Z,184µm,18.0s
VNDA Vanda 86.97 169 P **P** **22 27 44.5 +1.1**
comp=Z,12nm,0.9s,baz=298,slow=5.0,SNR=21
VNDA S S 22 38 13.2 -6.2
comp=Z,2.1nm,1.0s,baz=309,slow=13,SNR=1.7
VNDA PKKPbc **PKKPbc** **22 45 41.1 +1.3**
comp=Z,7.3nm,0.9s,baz=204,slow=1.1,SNR=7.4
VNDA PKPPKP **P'P'df** **22 53 43.0 +0.2**
comp=Z,1.6nm,0.8s,baz=340,slow=4.5,SNR=3.2
VNDA LR LR 23 03 29.2
comp=Z,488µm,18.8s,baz=308,slow=33
DOMB Dombas 87.01 332 eP **P** **22 27 44.3 +0.3**
PGF Pioggiola 87.03 312⇑ iP **P** **22 27 44.6 0.0**
comp=Z,936nm,1.2s
PGF Pioggiola 87.03 312⇑ iP **P** **22 27 44.6 0.0**
PGF pmax pmax
comp=Z,936nm,1.2s
PGF Pioggiola 87.03 312⇑ iP **P** **22 27 44.6 0.0**
comp=Z,936nm,1.2s
HOMB Homborsund 87.27 328 eP **P** **22 27 44.7 -0.5**
HOMB IAMs_20 IAMs_20 23 11 35.5
comp=Z,350µm,19.7s
HOMB IVMs_BB IVMs_BB 23 11 40.1
comp=Z,112µm,19.5s
BFO Black Forest 87.44 318 i P **P** **22 27 46.1 -0.3**
BFO Black Forest 87.44 318 eP **P** **22 27 46.3 -0.1**
comp=Z,252nm,1.2s
BFO eS **S** **22 38 23.3 -1.8**
BFO Black Forest 87.44 318 ePP PP 22 31 14.6 +3.4
BFO LR LR
comp=Z,219µm,20.0s
MOL Molde 87.72 332 eP **P** **22 27 47.9 +0.6**
MOL e 22 31 26.8
MOL IAMs_20 IAMs_20 23 11 11.5
comp=Z,693µm,22.4s
MOL IVMs_BB IVMs_BB 23 11 16.0
comp=Z,191µm,22.6s
IBBN Ibbenburen 87.75 322 eP **P** **22 27 48.3 +0.6**
comp=Z,2µm,1.6s
IBBN eS **S** **22 38 25.8 -2.0**
SNART Snartemo 87.96 328 eP **P** **22 27 48.8 +0.2**
SNART IAMs_20 IAMs_20 23 11 55.1
comp=Z,291µm,20.8s
SNART IVMs_BB IVMs_BB 23 11 58.1
comp=Z,89µm,20.7s
AKN Aaknes 87.98 332 eP **P** **22 27 49.4 +0.7**
AKN IAMs_20 IAMs_20 23 11 08.2
comp=Z,661µm,21.9s
AKN IVMs_BB IVMs_BB 23 11 22.1
comp=Z,192µm,22.0s
SBA Scott Base 88.07 169 PFAKE 22 28 00.0 +11
SBA LR LR
comp=Z,436µm,20.0s
BUG Bochum--Univer 88.07 321 eP **P** **22 27 49.7 +0.5**
comp=Z,749nm,1.4s
BUG eS **S** **22 38 30.5 -0.3**
CDF Champ du Feu 88.14 318⇑ iP **P** **22 27 49.7 -0.1**
comp=Z,486nm,1.1s
CDF Champ du Feu 88.14 318⇑ iP **P** **22 27 49.7 -0.1**
CDF pmax pmax
comp=Z,487nm,1.1s
CDF Champ du Feu 88.14 318⇑ iP **P** **22 27 49.7 -0.1**
comp=Z,486nm,1.1s
SBF Sospel 88.15 314⇑ iP **P** **22 27 49.9 0.0**
comp=Z,892nm,0.9s
SBF Sospel 88.15 314⇑ iP **P** **22 27 49.9 0.0**
SBF pmax pmax
comp=Z,892nm,0.9s
SBF Sospel 88.15 314⇑ iP **P** **22 27 49.9 0.0**
comp=Z,892nm,0.9s
SENIN Lac Senin/Sane 88.18 316 eP **P** **22 27 50.5 +0.3**
SENIN ePP PP 22 31 10.0 -7.4
ODD1 Odda 88.22 330 eP **P** **22 27 50.0 +0.2**
ODD1 IAMs_20 IAMs_20 23 19 04.9
comp=Z,432µm,20.1s
ODD1 IVMs_BB IVMs_BB 23 19 08.6
comp=Z,134µm,19.3s
ECH Echery 88.23 318 PFAKE 22 28 00.0 +10
ECH LR LR
comp=Z,336µm,22.0s
BLS5 Blasjo 88.32 329 eP **P** **22 27 49.7 -0.7**
BLS5 i 22 39 05.0
ABSA Djebel Ababsia 88.32 306 P P 22 27 57.0 +6.0
WTSB Winterswijk 88.35 322 i P **P** **22 27 51.1 +0.6**
comp=Z,3µm,2.3s
WTSB Winterswijk 88.35 322 i P **P** **22 27 51.1 +0.6**
comp=Z,3µm,2.3s
CMAH Djebel Manchou 88.36 306 P P 22 27 56.5 +5.4
HYA Hoyanger 88.40 331 eP **P** **22 27 50.6 0.0**
HYA IAMs_20 IAMs_20 23 10 31.5
comp=Z,322µm,20.6s
HYA IVMs_BB IVMs_BB 23 10 35.5
comp=Z,95µm,19.8s
HINF Hinteralfeld 88.44 318 eP **P** **22 27 50.7 -0.5**
comp=Z,282nm,1.1s
HINF Hinteralfeld 88.44 318 eP **P** **22 27 50.7 -0.5**
HINF pmax pmax
comp=Z,282nm,1.0s
HINF Hinteralfeld 88.44 318 eP **P** **22 27 50.7 -0.5**
comp=Z,282nm,1.0s
LPG La Plagne 88.59 315⇑ iP **P** **22 27 52.5 +0.3**
comp=Z,1µm,1.1s
LPG La Plagne 88.59 315⇑ iP **P** **22 27 52.5 +0.3**
LPG pmax pmax
comp=Z,1µm,1.1s
LPG La Plagne 88.59 315⇑ iP **P** **22 27 52.5 +0.3**
comp=Z,1µm,1.1s
MBDF Montbardon 88.60 315⇑ iP **P** **22 27 51.5 -0.6**
comp=Z,371nm,0.9s
MBDF Montbardon 88.60 315⇑ iP **P** **22 27 51.5 -0.6**
MBDF pmax pmax
comp=Z,371nm,0.9s
MBDF Montbardon 88.60 315⇑ iP **P** **22 27 51.5 -0.6**
comp=Z,371nm,0.9s
LPL La Plagne 88.60 315⇑ iP **P** **22 27 52.5 +0.3**
comp=Z,2µm,1.2s
LPL La Plagne 88.60 315⇑ iP **P** **22 27 52.5 +0.3**
LPL pmax pmax
comp=Z,2µm,1.2s
LPL La Plagne 88.60 315⇑ iP **P** **22 27 52.5 +0.3**
comp=Z,2µm,1.2s
BNI Bardonecchia 88.65 315 ePP PP 22 31 23.9 +2.7
BNI LR LR
comp=Z,222µm,21.0s
FRF La Foret Royal 88.73 313⇑ iP **P** **22 27 53.0 +0.4**
comp=Z,4µm,1.8s
FRF La Foret Royal 88.73 313⇑ iP **P** **22 27 53.0 +0.4**
FRF pmax pmax
comp=Z,4µm,1.8s
FRF La Foret Royal 88.73 313⇑ iP **P** **22 27 53.0 +0.4**
comp=Z,4µm,1.8s
HAU Haudompre 88.78 318⇑ iP **P** **22 27 52.6 -0.1**
comp=Z,706nm,0.8s
HAU eR
comp=Z,212µm,19.8s
HAU Haudompre 88.78 318⇑ iP **P** **22 27 52.6 -0.1**
HAU pmax pmax
comp=Z,707nm,0.8s
HAU Haudompre 88.78 318⇑ iP **P** **22 27 52.6 -0.1**
comp=Z,706nm,0.8s
CAEH 'Ain El Ouahch 88.81 307 P P 22 27 58.0 +4.9
RUND Rundenannen 88.83 330 eP P 22 27 59.0 +6.3
LMR La Mourre 88.84 313⇑ iP **P** **22 27 53.4 +0.3**
comp=Z,2µm,1.8s
LMR La Mourre 88.84 313⇑ iP **P** **22 27 53.4 +0.3**
LMR pmax pmax
comp=Z,2µm,1.8s
LMR La Mourre 88.84 313⇑ iP **P** **22 27 53.4 +0.3**
comp=Z,2µm,1.8s
WLF Walferdange 88.84 319 P **P** **22 27 53.9 +0.9**
comp=Z,660nm,2.7s
WLF Walferdange 88.84 319 eP **P** **22 27 53.7 +0.8**
comp=Z,5µm,2.6s
WLF eS **S** **22 38 35.5 -2.7**
WLF Walferdange 88.84 319 PFAKE 22 28 00.0 +7.1
WLF LR LR
comp=Z,214µm,19.0s
BER Bergen 88.85 330 eP P 22 27 48.0 -4.7
BER i 22 31 28.0
BER e 22 39 00.4
BER IAMs_20 IAMs_20 23 13 16.1
comp=Z,392µm,19.6s
BER IVMs_BB IVMs_BB 23 13 20.2
comp=Z,122µm,19.4s

MEM Membach 88.90 320 P **P** **22 27 53.6 +0.4**
comp=Z,223nm,1.2s
MEM Membach 88.90 320 AP pP 22 27 58.6 -5.3
MEM Membach 88.90 320 eP **P** **22 27 53.8 +0.6**
MEM e 22 31 19.1
MEM pmax pmax
comp=Z,569nm,1.1s
MEM Membach 88.90 320 eP **P** **22 27 53.8 +0.6**
comp=Z,569nm,1.1s
MEM ePP **PP** **22 31 19.1 -3.6**
ASK Askoy 88.91 330 eP P 22 27 59.5 +6.5
ASK IAMs_20 IAMs_20 23 12 03.0
comp=Z,427µm,21.4s
ASK IVMs_BB IVMs_BB 23 12 17.9
comp=Z,128µm,20.1s
FOO Floro 88.93 331 eP **P** **22 27 51.8 -1.3**
FOO e 22 31 31.2
FOO IVMs_BB IVMs_BB 23 14 22.1
comp=Z,45µm,19.0s
FOO IAMs_20 IAMs_20 23 14 27.4
comp=Z,137µm,19.2s
CKFL Kef-Lekhel 88.93 306 P P 22 27 58.0 +4.2
HGN Heimansgroeve 88.94 321 i P **P** **22 27 53.8 +0.4**
comp=Z,4µm,3.3s
HGN ePP **PP** **22 31 21.8 -1.2**
HGN i S **S** **22 38 40.5 +1.4**
KMY Karmoy 88.95 329 eP **P** **22 27 52.2 -1.0**
KMY IAMs_20 IAMs_20 23 09 39.8
comp=Z,272µm,22.3s
KMY IVMs_BB IVMs_BB 23 15 45.1
comp=Z,92µm,18.4s
CABF La Chapelle 89.01 316⇑ iP **P** **22 27 54.4 +0.5**
comp=Z,1µm,1.1s
CABF La Chapelle 89.01 316⇑ iP **P** **22 27 54.4 +0.5**
CABF pmax pmax
comp=Z,1µm,1.1s
CABF La Chapelle 89.01 316⇑ iP **P** **22 27 54.4 +0.5**
comp=Z,1µm,1.1s
SUE Sulen 89.09 331 eP **P** **22 27 53.9 0.0**
SUE IAMs_20 IAMs_20 23 10 50.4
comp=Z,420µm,20.4s
SUE IVMs_BB IVMs_BB 23 10 54.7
comp=Z,126µm,19.4s
BEBN Eben Emael 89.10 321 P **P** **22 27 54.9 +0.8**
comp=Z,164nm,1.6s
CASM Ain Smara 89.12 306 P **P** **22 27 57.0 +2.3**
PAGF Fort de Pagny 89.17 318⇑ iP **P** **22 27 54.7 +0.2**
comp=Z,163nm,1.4s
PAGF Fort de Pagny 89.17 318⇑ iP **P** **22 27 54.7 +0.2**
comp=Z,163nm,1.4s
CTEI Djebel Teioual 89.20 306 P **P** **22 27 57.2 +2.1**
ORIF Oris-en-Rattie 89.22 315⇑ iP **P** **22 27 55.6 +0.6**
comp=Z,2µm,1.5s
ORIF eR
comp=Z,374µm,23.0s
ORIF Oris-en-Rattie 89.22 315⇑ iP **P** **22 27 55.6 +0.6**
ORIF pmax pmax
comp=Z,2µm,1.5s
ORIF Oris-en-Rattie 89.22 315⇑ iP **P** **22 27 55.6 +0.6**
comp=Z,2µm,1.5s
BCLA Clavier 89.35 320 P **P** **22 27 55.5 +0.2**
comp=Z,477nm,2.0s
BCLA AP **PcP** **22 28 00.8 +4.0**
SMRF Simiane la Rot 89.49 314⇑ iP **P** **22 27 57.2 +1.0**
comp=Z,2µm,1.6s
SMRF Simiane la Rot 89.49 314⇑ iP **P** **22 27 57.2 +1.0**
comp=Z,2µm,1.6s
DFRA Djebel Bou Aff 89.60 306 P P 22 28 03.0 +6.0
MEZF Maizieres J'vi 89.62 318⇑ iP **P** **22 27 57.0 +0.4**
comp=Z,3µm,1.7s
MEZF Maizieres J'vi 89.62 318⇑ iP **P** **22 27 57.0 +0.4**
comp=Z,3µm,1.7s
SFTF Sexfontaines 89.64 318⇑ iP **P** **22 27 57.1 +0.3**
comp=Z,1µm,1.1s
SFTF Sexfontaines 89.64 318⇑ iP **P** **22 27 57.1 +0.3**
comp=Z,1µm,1.1s
GIVF Givet 89.68 320⇑ iP **P** **22 27 57.4 +0.5**
comp=Z,849nm,1.1s
GIVF Givet 89.68 320⇑ iP **P** **22 27 57.4 +0.5**
GIVF pmax pmax
comp=Z,849nm,1.1s
GIVF Givet 89.68 320⇑ iP **P** **22 27 57.4 +0.5**
comp=Z,849nm,1.1s
DOU Dourbes 89.83 320 P **P** **22 27 58.1 +0.6**
comp=Z,399nm,3.1s
DOU AP **PcP** **22 28 03.4 +4.5**
CKHR Kef el Ahmar 89.92 306 P P 22 28 05.0 +6.5
TNA Tin City 89.93 24 ePP PP 22 31 29.2 -1.3
UCC Uccle 89.93 321 P **P** **22 27 58.4 +0.4**
comp=Z,720nm,3.1s
SNF Seneffe 90.00 320 P **P** **22 27 59.0 +0.7**
SNF AP **PcP** **22 28 04.1 +4.5**
SET Setif 90.00 306 P P 22 28 03.0 +4.2
BAIF Baives 90.08 320⇑ iP **P** **22 27 59.5 +0.8**
comp=Z,2µm,1.1s
BAIF Baives 90.08 320⇑ iP **P** **22 27 59.5 +0.8**
BAIF pmax pmax
comp=Z,2µm,1.1s
BAIF Baives 90.08 320⇑ iP **P** **22 27 59.5 +0.8**
comp=Z,2µm,1.1s
VIVF Saint-Julien-l 90.08 315⇑ iP **P** **22 27 59.3 +0.4**
comp=Z,1µm,1.4s
VIVF Saint-Julien-l 90.08 315⇑ iP **P** **22 27 59.3 +0.4**
VIVF pmax pmax
comp=Z,1µm,1.4s
VIVF Saint-Julien-l 90.08 315⇑ iP **P** **22 27 59.3 +0.4**
comp=Z,1µm,1.4s
SSB Saint Sauveur 90.15 315 PFAKE 22 28 10.0 +11
SSB LR LR
comp=Z,205µm,22.0s
LOR Lormes 90.50 317⇑ iP **P** **22 28 01.1 +0.3**
comp=Z,2µm,1.5s
LOR eR
comp=Z,237µm,23.0s
LOR Lormes 90.50 317⇑ iP **P** **22 28 01.1 +0.3**
LOR pmax pmax
comp=Z,2µm,1.5s
LOR Lormes 90.50 317⇑ iP **P** **22 28 01.1 +0.3**
comp=Z,2µm,1.5s
SMF Signal de Mont 90.55 317⇑ iP **P** **22 28 01.3 +0.2**
comp=Z,1µm,1.2s
SMF Signal de Mont 90.55 317⇑ iP **P** **22 28 01.3 +0.2**
SMF pmax pmax
comp=Z,1µm,1.2s
SMF Signal de Mont 90.55 317⇑ iP **P** **22 28 01.3 +0.2**
comp=Z,1µm,1.2s
TAM Tamanrasset 90.56 293 PFAKE 22 28 10.0 +8.2
TAM LR LR
comp=Z,479µm,21.0s
NVL N'lazarevskaya 90.65 199⇓ iP **P** **22 28 01.5 +0.6**
NVL e*PP **pP** **22 28 12.0 +0.4**
NVL pmax pmax
comp=Z,292nm,0.9s
LASF Ste Croix 90.72 314⇑ iP **P** **22 28 02.7 +0.8**
comp=Z,1µm,1.4s
LASF Ste Croix 90.72 314⇑ iP **P** **22 28 02.7 +0.8**
comp=Z,1µm,1.4s
SSF Saint Saulge 90.75 317⇑ iP **P** **22 28 02.5 +0.5**
comp=Z,2µm,1.5s
SSF Saint Saulge 90.75 317⇑ iP **P** **22 28 02.5 +0.5**
SSF pmax pmax
comp=Z,2µm,1.5s
SSF Saint Saulge 90.75 317⇑ iP **P** **22 28 02.5 +0.5**
comp=Z,2µm,1.5s
AVF Avril sur Loir 90.88 317⇑ iP **P** **22 28 02.9 +0.4**
comp=Z,819nm,1.1s
AVF Avril sur Loir 90.88 317⇑ iP **P** **22 28 02.9 +0.4**
AVF pmax pmax
comp=Z,819nm,1.1s
AVF Avril sur Loir 90.88 317⇑ iP **P** **22 28 02.9 +0.4**
comp=Z,819nm,1.1s
BGF Bois d'Agland 91.24 317⇑ iP **P** **22 28 05.1 +0.8**
comp=Z,3µm,1.5s
BGF Bois d'Agland 91.24 317⇑ iP **P** **22 28 05.1 +0.8**
BGF pmax pmax
comp=Z,3µm,1.5s
BGF Bois d'Agland 91.24 317⇑ iP **P** **22 28 05.1 +0.8**
comp=Z,3µm,1.5s
HYF Humbligny 91.32 317⇑ iP **P** **22 28 05.6 +1.0**
HYF Humbligny 91.32 317⇑ iP **P** **22 28 05.6 +1.0**
AFI Afiamalu 91.64 104 PFAKE 22 28 20.0 +13
AFI LR LR
comp=Z,121µm,22.0s
TCF Toulx Ste Croi 91.70 316⇑ iP **P** **22 28 07.1 +0.7**
comp=Z,2µm,1.4s
TCF Toulx Ste Croi 91.70 316⇑ iP **P** **22 28 07.1 +0.7**

TCF pmax pmax
comp=Z,2µm,1.4s
TCF Toulx Ste Croi 91.70 316⇑ *i*P P 22 28 07.1 +0.7
comp=Z,2µm,1.4s
ABA Alger-Bouzarea 91.87 307 P P 22 28 13.6 +6.2
CAF Calviac 91.93 315⇑ *i*P P 22 28 08.5 +1.0
comp=Z,963nm,1.3s
CAF Calviac 91.93 315⇑ *i*P P 22 28 08.5 +1.0
CAF pmax pmax
comp=Z,963nm,1.3s
CAF Calviac 91.93 315⇑ *i*P P 22 28 08.5 +1.0
comp=Z,963nm,1.3s
ELSH Elham, Standar 91.94 321 *e*P P 22 28 06.7 -0.6
ELSH AMS AMS 23 19 15.1
comp=Z,246µm,18.7s
MTLF Montolieu 91.96 313⇑ *i*P P 22 28 08.4 +0.7
comp=Z,2µm,1.7s
MTLF Montolieu 91.96 313⇑ *i*P P 22 28 08.4 +0.7
MTLF pmax pmax
comp=Z,2µm,1.7s
MTLF Montolieu 91.96 313⇑ *i*P P 22 28 08.4 +0.7
comp=Z,2µm,1.7s
EMHD Djebel Mahouad 91.98 306 P P 22 28 09.8 +1.7
LRW Lerwick 92.10 330 *e*P P 22 28 08.5 +0.6
LRW AMB AMB 22 28 15.9
comp=Z,690nm,3.1s
RJF Les Rejaudoux 92.28 315⇑ *i*P P 22 28 10.1 +1.0
comp=Z,2µm,1.6s
RJF *e*R
comp=Z,249µm,21.5s
RJF Les Rejaudoux 92.28 315⇑ *i*P P 22 28 10.1 +1.0
RJF pmax pmax
comp=Z,2µm,1.6s
RJF Les Rejaudoux 92.28 315⇑ *i*P P 22 28 10.1 +1.0
comp=Z,2µm,1.6s
QSPA South Pole Qui 92.30 180 S SKSac 22 38 37.7 -1.8
comp=Z,6.1nm,1.0s,baz=280,slow=6.1,SNR=2.7
QSPA PKKP **PKKPdf 22 45 19.5 -4.7**
comp=Z,13nm,1.1s,baz=240,slow=0.4,SNR=2.4
HMNX Herstmonceux 92.47 321 *e*P P 22 28 10.5 +0.8
HMNX AMB AMB 22 28 17.3
comp=Z,793nm,4.1s
HMNX AMS AMS 23 19 33.0
comp=Z,244µm,17.8s
LMK Market Rasen 92.55 324 *e*P P 22 28 10.0 -0.2
JMIC Jan Mayen 92.84 342 *e*P P 22 28 13.4 +2.3
JMIC *e* 22 31 57.6
JMIC IVMs_BB IVMs_BB 23 15 10.0
comp=Z,81µm,23.5s
JMIC Jan Mayen 92.84 342 P P 22 28 16.4 +5.3
comp=Z,93nm,0.5s,baz=346,slow=7.3,SNR=3.1
LFF La Frestale 92.86 315⇑ *i*P P 22 28 12.9 +1.1
comp=Z,965nm,1.1s
LFF La Frestale 92.86 315⇑ *i*P P 22 28 12.9 +1.1
LFF pmax pmax
comp=Z,965nm,1.1s
LFF La Frestale 92.86 315⇑ *i*P P 22 28 12.9 +1.1
comp=Z,965nm,1.1s
LDF La Druitiere 93.03 319⇑ *i*P P 22 28 12.9 +0.4
comp=Z,1µm,1.2s
LDF La Druitiere 93.03 319⇑ *i*P P 22 28 12.9 +0.4
LDF pmax pmax
comp=Z,1µm,1.2s
LDF La Druitiere 93.03 319⇑ *i*P P 22 28 12.9 +0.4
comp=Z,1µm,1.2s
EBNR Beni Rached 93.12 306 P P 22 28 14.0 +0.8
HPK Haverah Park 93.25 324 *e*P P 22 28 13.1 -0.2
HPK AMS AMS 23 12 06.4
comp=Z,188µm,22.1s
FLN La Foliniere 93.25 319⇑ *i*P P 22 28 13.8 +0.3
comp=Z,876nm,1.1s
FLN *e*R
comp=Z,253µm,21.2s
FLN La Foliniere 93.25 319⇑ *i*P P 22 28 13.8 +0.3
FLN pmax pmax
comp=Z,876nm,1.1s
FLN La Foliniere 93.25 319⇑ *i*P P 22 28 13.8 +0.3
comp=Z,876nm,1.1s
ECHA Ech Chlef 93.26 306 P P 22 28 15.0 +1.2
DRUM Mains of Drumt 93.28 327 *e*P P 22 28 13.6 +0.3
DRUM AMS AMS 23 13 14.0
comp=Z,236µm,22.2s
MFF Saint Martin d 93.29 317⇑ *i*P P 22 28 14.2 +0.5
comp=Z,808nm,1.0s
MFF Saint Martin d 93.29 317⇑ *i*P P 22 28 14.2 +0.5
MFF pmax pmax
comp=Z,808nm,1.0s
MFF Saint Martin d 93.29 317⇑ *i*P P 22 28 14.2 +0.5
comp=Z,808nm,1.0s
KBI1 Birley Grange 93.30 323 *e*P P 22 28 12.8 -0.7
EPF Esparros 93.36 313⇑ *i*P P 22 28 14.0 -0.2
comp=Z,956nm,1.7s
EPF Esparros 93.36 313⇑ *i*P P 22 28 14.0 -0.2
EPF pmax pmax
comp=Z,956nm,1.7s
EPF Esparros 93.36 313⇑ *i*P P 22 28 14.0 -0.2
comp=Z,956nm,1.7s
ETRT Tiaret 93.39 305 P P 22 28 16.0 +1.4
LHO Holmfirth 93.45 324 *e*P P 22 28 14.6 +0.3
DAG Danmarks Havn 93.45 348⇑ *i*P P 22 28 13.5 -0.3
DAG pmax pmax
comp=Z,100nm,0.9s
DAG MLR MLR
comp=Z,560µm,22.0s
DAG Danmarks Havn 93.45 348⇑ *i*P P 22 28 13.5 -0.3
comp=Z,124nm,0.9s
comp=Z,505µm,21.0s
XAL Allendale 93.45 325 *e*P P 22 28 14.5 +0.3
MME1 Meikle Cairn 93.47 328 *e*P P 22 28 14.1 -0.2
EANR 'Ain N'Sour 93.50 306 P P 22 28 17.0 +2.0
GRR Gorron 93.55 319⇑ *i*P P 22 28 15.4 +0.6
comp=Z,710nm,1.1s
GRR Gorron 93.55 319⇑ *i*P P 22 28 15.4 +0.6
GRR pmax pmax
comp=Z,710nm,1.1s
GRR Gorron 93.55 319⇑ *i*P P 22 28 15.4 +0.6
comp=Z,710nm,1.1s
MCD Coleburn Disti 93.58 328 *e*P P 22 28 14.6 -0.2
EDU Dundee 93.62 327 *e*P P 22 28 15.2 +0.2
SWN1 Swindon 93.72 322 *e*P P 22 28 14.8 -0.7
SWN1 AMB AMB 22 28 23.2
comp=Z,736nm,3.4s
SWN1 *e* 22 32 03.9
STNC Stoke 93.72 323 *e*P P 22 28 16.0 +0.5
STNC *e* 22 32 02.8
BIGH Upper Bighouse 93.76 329 *e*P P 22 28 14.9 -0.6
BIGH AMS AMS 23 15 11.2
comp=Z,523µm,21.2s
STRD Stroud 93.90 322 *e*P P 22 28 16.5 +0.1
STRD AMB AMB 22 28 23.2
comp=Z,545nm,4.7s
STRD *e* 22 32 03.0
STRD AMS AMS 23 12 54.7
comp=Z,158µm,22.2s
ECK Cauldkaine Hil 93.92 326 *e*P P 22 28 16.3 -0.1
ESK Eskdalemuir 93.94 326 *i*P P 22 28 17.9 +1.4
ESK Eskdalemuir 93.94 326 *e*P P 22 28 15.8 -0.7
ESK AMB AMB 22 28 24.1
comp=Z,392nm,3.3s
ESK AMS AMS 23 16 10.2
comp=Z,198µm,21.1s
ESK Eskdalemuir 93.94 326 PFAKE 22 28 30.0 +14
ESK LR LR
comp=Z,275µm,22.0s
KESW Keswick, Cumbr 94.01 325 *e*P P 22 28 16.6 -0.2
KESW *e* 22 32 03.9
KESW AMS AMS 23 17 20.3
comp=Z,198µm,20.3s
ETSF Etsaut 94.03 313⇑ *i*P P 22 28 18.3 +1.0
comp=Z,833nm,1.2s
ETSF Etsaut 94.03 313⇑ *i*P P 22 28 18.3 +1.0
ETSF pmax pmax
comp=Z,833nm,1.2s
ETSF Etsaut 94.03 313⇑ *i*P P 22 28 18.3 +1.0
comp=Z,833nm,1.2s
BATH Bath 94.05 322 *e*P P 22 28 16.9 -0.2
OLDB Oldbury-Upon-S 94.16 322 *e*P P 22 28 18.2 +0.7
OLDB AMB AMB 22 28 24.9
comp=Z,542nm,3.3s
OLDB *e* 22 32 09.0
MDO Dochfour 94.19 328 *e*P P 22 28 16.5 -1.1
HLM1 Long Mynd 94.22 323 *e*P P 22 28 18.1 +0.2
HLM1 AMB AMB 22 28 25.6
comp=Z,416nm,3.2s
HLM1 AMS AMS 23 11 58.8
comp=Z,211µm,22.9s

MONM Monmouth 94.28 322 *e*P P 22 28 17.5 -0.6
MONM *e* 22 32 09.9
JSA Saint Aubin 94.29 320 *e*P P 22 28 17.5 -0.7
JSA AMB AMB 22 28 25.5
comp=Z,317nm,3.4s
JSA *e* 22 32 05.7
JSA AMS AMS 23 12 28.7
comp=Z,185µm,23.3s
FOEL Foel Wylfa 94.35 323 *e*P P 22 28 17.9 -0.5
FOEL AMS AMS 23 17 07.1
comp=Z,328µm,21.0s
MCH1 Michaelchurch 94.38 322 *e*P P 22 28 18.0 -0.5
MCH1 AMB AMB 22 28 26.0
comp=Z,345nm,3.4s
MCH1 *e* 22 32 07.9
EAB Aberfoyle 94.42 327 *e*P P 22 28 18.9 +0.3
SJPF Ste Jean 94.49 313⇑ *i*P P 22 28 20.2 +0.9
comp=Z,1µm,1.5s
SJPF Ste Jean 94.49 313⇑ *i*P P 22 28 20.2 +0.9
SJPF pmax pmax
comp=Z,1µm,1.5s
SJPF Ste Jean 94.49 313⇑ *i*P P 22 28 20.2 +0.9
comp=Z,1µm,1.5s
PGBU Glenifferbraes 94.57 326 *e*P P 22 28 19.9 +0.5
PGBU AMB AMB 22 28 26.9
comp=Z,444nm,3.8s
ODJA Bouhanifia 94.57 306 P P 22 28 24.0 +4.1
KAC Achnashellach 94.67 328 *e*P P 22 28 20.0 +0.2
SGMF Saint Gilles 94.69 319⇑ *i*P P 22 28 21.5 +1.4
SGMF Saint Gilles 94.69 319⇑ *i*P P 22 28 21.5 +1.4
SGMF Saint Gilles 94.69 319⇑ *i*P P 22 28 21.5 +1.4
WPM1 Penmaenmawr 94.70 324 *e*P P 22 28 19.9 -0.1
ALE Alert 94.72 357 P P 22 28 19.0 -0.6
comp=Z,730nm,1.0s,SNR=58
TOA0 Torodi Ar. Sit 94.74 283 *e*P P 22 28 21.1 0.0
TORD Torodi Ar. Bea 94.74 283 P P 22 28 21.1 0.0
comp=Z,23nm,1.0s,baz=85,slow=5.1,SNR=39
TORD PKKP PKKPbc 22 45 23.4 +5.4
comp=Z,2.3nm,0.6s,baz=312,slow=2.3,SNR=6.6
TORD LR LR 23 09 55.9
comp=Z,1001µm,19.3s,baz=95,slow=35
USTO Oran 94.85 306 P P 22 28 25.0 +3.9
GAL1 Galloway 94.87 325 *e*P P 22 28 21.2 +0.5
GAL1 AMB AMB 22 28 26.7
comp=Z,332nm,3.7s
GAL1 AMS AMS 23 17 01.2
comp=Z,266µm,20.9s
KPL Plockton 94.89 328 *e*P P 22 28 21.9 +1.2
WME Myndd Eilian 94.91 324 *e*P P 22 28 22.3 +1.3
WLF1 Llynfaes 94.99 324 *e*P P 22 28 21.4 +0.1
WLF1 AMB AMB 22 28 29.3
comp=Z,294nm,3.0s
LPW Lampeter 95.01 323 *e*P P 22 28 20.5 -0.9
YRC Rhoscolyn 95.10 324 *e*P P 22 28 23.6 +1.8
SDPT Sand Point 95.11 34 *e*P P 22 28 21.5 -0.3
QUIF Quistinic 95.14 318⇑ *i*P P 22 28 23.4 +1.2
comp=Z,610nm,1.5s
QUIF Quistinic 95.14 318⇑ *i*P P 22 28 23.4 +1.2
QUIF pmax pmax
comp=Z,610nm,1.5s
QUIF Quistinic 95.14 318⇑ *i*P P 22 28 23.4 +1.2
comp=Z,610nm,1.5s
ROSF Rostrenen 95.15 319⇑ *i*P P 22 28 22.2 0.0
comp=Z,218nm,1.1s
ROSF Rostrenen 95.15 319⇑ *i*P P 22 28 22.2 0.0
ROSF pmax pmax
comp=Z,218nm,1.1s
ROSF Rostrenen 95.15 319⇑ *i*P P 22 28 22.2 0.0
comp=Z,218nm,1.1s
DYA Yadsworthy 95.22 321 *e*P P 22 28 21.7 -0.8
DYA AMS AMS 23 18 41.2
comp=Z,217µm,19.7s
DYA Yadsworthy 95.22 321 *e*P P 22 28 26.3 +3.9
comp=Z,254nm,1.1s
DYA *e*PP PP 22 32 07.0 -5.5
SNAA Sanae 95.36 198 P P 22 28 28.9 +6.1
SNAA Sanae 95.36 198 *e*P P 22 28 27.0 +4.2
SNAA Sanae 95.36 198 *e*PP PP 22 32 16.2 +3.0
HTL Hartland 95.46 322 *e*P P 22 28 22.8 -0.7
HTL AMB AMB 22 28 31.4
comp=Z,320nm,3.1s
HTL AMS AMS 23 19 35.9
comp=Z,305µm,19.1s
IM04 Indian Mountai 95.54 23 *e*P P 22 28 24.0 +0.4
GMM Mts of Mourne 95.71 325 *e*P P 22 28 24.3 -0.3
CCA1 Carnmenellis 96.08 321 *e*P P 22 28 26.6 +0.2
CCA1 AMS AMS 23 19 16.4
comp=Z,257µm,19.9s
DSB Dublin 96.16 324 *e*PP PP 22 32 21.8 +2.1
DSB LR LR
comp=Z,138µm,20.0s
SVW2 Sparrevohn 96.24 28 *e*P P 22 28 27.7 +0.8
COLD Coldfoot 96.45 21 *e*PP PP 22 32 16.8 -4.7
VNA2 Neumayer--Watz 96.94 199 P P 22 28 34.2 +4.3
ESDC Sonseca Array 97.01 310 P P **22 28 30.8 -0.1**
comp=Z,3.6nm,0.7s,baz=64,slow=4.2,SNR=19
ESDC PKKPbc **PKKPdf 22 45 17.6 +3.2**
comp=Z,2.0nm,0.8s,baz=267,slow=2.6,SNR=4.9
ESDC LR LR 23 15 38.4
comp=Z,249µm,20.4s,baz=110,slow=38
CAST Castle Rocks 97.07 25 *e*P Pdif 22 28 31.1 +0.3
comp=Z,381nm,1.2s
KUK Kukurantumi 97.18 276 *i*P Pdif 22 28 34.4 +2.1
PPLA Purkeypile 97.20 26 *e*PP PP 22 32 19.0 -8.6
VNA1 Neumayer--Stat 97.29 199 P Pdif 22 28 39.6 +8.1
PAB San Pablo 97.33 310 *e*PP PP 22 32 24.9 -4.4
PAB LR LR
comp=Z,370µm,21.0s
VNA3 Neumayer Olymp 97.59 198 P Pdif 22 28 47.5 +15
COLA College 98.25 23 PFAKE 22 28 50.0 +14
COLA LR LR
comp=Z,377µm,19.0s
ILAR Eielson Array 98.67 23 P P **22 28 36.0 -1.7**
comp=Z,2.8nm,0.7s,baz=295,slow=4.4,SNR=30
ILAR PP PP **22 32 35.4 -3.2**
comp=Z,18nm,0.9s,baz=286,slow=8.8,SNR=4.1
ILAR PKKPbc **PKKPbc 22 45 10.1 +1.2**
comp=Z,5.5nm,0.9s,baz=136,slow=0.8,SNR=4.4
ILAR PKPPKP P'P'df 22 53 35.7 +13
comp=Z,2.6nm,1.0s,baz=149,slow=1.2,SNR=6.6
ILAR LR LR 23 17 11.8
comp=Z,308µm,20.1s,baz=310,slow=38
ILB Eielson Array 98.67 23 *e*P P 22 28 36.0 -1.7
ILB *e*PP **PP 22 32 35.4 -3.2**
ILB *e*PKKPbc **PKKPbc 22 45 10.1 +1.2**
ILB *e*P'P'df P'P'df 22 53 35.7 +13
KDAK Kodiak Island 98.70 31 *i*P P 22 28 37.9 -0.1
KDAK Kodiak Island 98.70 31 PFAKE 22 28 50.0 +12
KDAK LR LR
comp=Z,444µm,19.0s
PBRG Braganca 98.72 313 *e*Pdif Pdif 22 28 41.2 +2.6
PBRG Braganca 98.72 313 *e*PP PP 22 32 47.5 +7.7
VAL Valentia 98.77 323 *e*P Pdif 22 28 40.5 +2.1
VAL *e*PP **PP 22 32 40.5 +0.8**
VAL Valentia 98.77 323⇓ *i*S S 22 40 04.6 -1.3
MVO Moncorvo 99.06 312 *e*Pdif Pdif 22 28 44.1 +3.9
MVO Moncorvo 99.06 312 *e*PP PP 22 32 47.1 +4.6
MVO *e*S **S 22 40 06.7 -2.4**
MVO *e*SS SS 22 47 21.8 +25
MVO *e*LQ LQ 22 54 22.2
MVO Moncorvo 99.06 312 *e*LR LR 23 05 59.1
comp=Z,310µm,22.0s
PVRL Vila Real 99.55 312 *e*Pdif Pdif 22 28 46.3 +4.0
POLO Lamas de Olo 99.58 312 *e*Pdif Pdif 22 28 43.9 +1.4
POLO Lamas de Olo 99.58 312 *e*PP PP 22 32 53.3 +6.8
MTE Manteigas 99.59 311 *e*Pdif Pdif 22 28 46.6 +4.1
MTE Manteigas 99.59 311 *e*PP PP 22 32 55.8 +9.3
MTE *e*S **S 22 40 12.8 -0.8**
MTE *e*SS **SS 22 47 06.5 +2.0**
MTE *e*LQ LQ 22 54 21.8
MTE Manteigas 99.59 311 *e*LR LR 23 05 55.2
comp=Z,249µm,18.0s
MTE Manteigas 99.59 311 *es*P sP 22 28 57.4 +0.4
MTE LR LR
comp=Z,256µm,19.0s
BORG Borgarnes 99.62 338 P **Pdif 22 28 40.2 -1.8**
BORG MLR MLR
comp=Z,398µm,22.0s
BORG Borgarnes 99.62 338 P **Pdif 22 28 40.2 -1.8**
comp=Z,14nm,0.9s,baz=163,slow=8.1,SNR=3.0
BORG Borgarnes 99.62 338 P **Pdif 22 28 40.2 -1.8**
BORG LR LR
comp=Z,398µm,22.0s
PBAR Barrancos 99.63 309 *e*Pdif Pdif 22 28 43.4 +0.7

PBAR Barrancos 99.63 309 *e*PP PP 22 32 50.5 +3.7
PCBR Castelo Branco 99.65 311 *e*Pdif Pdif 22 28 47.5 +4.8
PCBR Castelo Branco 99.65 311 *e*PP PP 22 32 56.0 +9.1
PMRV Marv??o 99.67 310 *e*Pdif Pdif 22 28 43.1 +0.3
PMRV Marv??o 99.67 310 *e*PP PP 22 32 49.7 +2.6
PMRV *e*SKS **S 22 40 13.1 -1.1**
PMRV *e*SS SS 22 47 15.3 +10
PMRV *e*LQ LQ 22 54 24.5
PMRV Marv??o 99.67 310 A A 23 20 27.2
comp=Z,253µm,18.0s
PCAB Cabril 99.69 313 *e*PP PP 22 32 45.7 -1.4
PVIS Viseu 99.79 312 *e*Pdif Pdif 22 28 48.5 +5.1
PGAV Gavieira, Arco 99.81 313 *e*Pdif Pdif 22 28 44.3 +0.8
PGAV Gavieira, Arco 99.81 313 *e*PP PP 22 32 55.1 +6.9
PGAV *e*S **S 22 40 14.2 -1.3**
PGAV *e*SS SS 22 47 15.5 +8.0
PGAV *e*LQ LQ 22 54 38.8
PGAV Gavieira, Arco 99.81 313 *e*LR LR 23 06 42.8
comp=Z,212µm,20.0s
PESTR Estremoz 99.93 310 *e*Pdif Pdif 22 28 45.2 +1.2
PESTR Estremoz 99.93 310 *e*PP PP 22 32 57.6 +8.6
PAX Paxson 100.01 24 *e*PP PP 22 32 33.9 -15
SUMG Summit 100.13 348 *i*P Pdif 22 28 45.2 +0.6
SUMG pmax pmax
comp=Z,94nm,0.9s
SUMG MLR MLR
comp=Z,350µm,20.0s
SUMG Summit 100.13 348 *e*PP PP 22 32 39.4 -11
SUMG LR LR
comp=Z,460µm,20.0s
SUMG Summit 100.13 348 *i*P Pdif 22 28 45.2 +0.6
comp=Z,94nm,0.9s
comp=Z,351µm,19.0s
RTC Rabat Centre 100.23 305 PFAKE 22 29 00.0 +15
RTC LR LR
comp=Z,278µm,20.0s
PVAQ Vaqueiros 100.31 309 *e*Pdif Pdif 22 28 48.6 +2.9
PVAQ Vaqueiros 100.31 309 *e*PP PP 22 32 53.9 +2.0
PVAQ *e*S **Sdif 22 40 19.8 +0.3**
PVAQ *e*SS **SS 22 47 18.7 +4.2**
PVAQ *e*LQ LQ 22 54 59.0
PVAQ Vaqueiros 100.31 309 A A 23 15 58.1
comp=Z,399µm,22.0s
EVO Evora 100.32 310⇑ *i*P Pdif 22 28 47.7 +2.0
comp=Z,57nm,1.1s
EVO *e*R
comp=Z,507µm,22.0s
EVO Evora 100.32 310 *e*Pdif Pdif 22 28 47.1 +1.4
EVO Evora 100.32 310 *e*PP PP 22 33 00.6 +8.6
PMTG Montargil 100.37 310 *e*Pdif Pdif 22 28 49.2 +3.3
PMTG Montargil 100.37 310 *e*PP PP 22 33 00.6 +8.2
PCAS Casmilo, Conde 100.38 311 *e*Pdif Pdif 22 28 50.1 +4.1
PCAS Casmilo, Conde 100.38 311 *e*PP PP 22 32 58.2 +5.8
EVOP Sao Brissos 100.40 310⇑ *i*P Pdif 22 28 47.7 +1.6
EVOP pmax pmax
comp=Z,57nm,1.1s
EVOP Sao Brissos 100.40 310⇑ *i*P Pdif 22 28 47.7 +1.6
comp=Z,57nm,1.1s
PBDV Barranco-do-Ve 100.50 308 *e*Pdif Pdif 22 28 48.5 +1.9
PBDV Barranco-do-Ve 100.50 308 *e*PP PP 22 32 56.1 +2.6
PCVE Castro Verde 100.51 309 *e*Pdif Pdif 22 28 47.3 +0.7
PCVE Castro Verde 100.51 309 *e*PP PP 22 32 55.1 +1.6
MESJ Messejana 100.61 309 *e*P Pdif 22 28 46.6 -0.4
MESJ *e*PP **PP 22 32 54.5 +0.3**
MESJ *e*SS SS 22 47 19.6 +0.9
MESJ AMS AMS 23 17 33.0
comp=E,341µm,20.1s
MESJ Messejana 100.61 309 *e*Pdif Pdif 22 28 47.6 +0.6
MESJ Messejana 100.61 309 *e*PP PP 22 32 58.5 +4.3
MESJ Messejana 100.61 309 *e*P Pdif 22 28 46.6 -0.4
MESJ *e* 22 32 54.4
MESJ *e*SS SS 22 47 19.6 +0.9
PNCL Nicolau / Gran 100.80 309 *e*Pdif Pdif 22 28 50.7 +2.9
PNCL Nicolau / Gran 100.80 309 *e*PP PP 22 33 00.8 +5.2
EGAK Eagle 100.85 22 *e*PP PP 22 32 49.3 -5.8
EGAK LR LR
comp=Z,588nm,20.0s
PACT Alcochete 100.90 310 *e*Pdif Pdif 22 28 50.1 +1.9
PACT Alcochete 100.90 310 *e*PP PP 22 33 02.2 +5.9
MORF Marmelete 101.05 309 *e*P Pdif 22 28 48.6 -0.5
MORF AMS AMS 23 18 09.2
comp=Z,323µm,18.8s
MORF Marmelete 101.05 309 *e*Pdif Pdif 22 28 49.7 +0.6
MORF Marmelete 101.05 309 *e*PP PP 22 33 00.7 +3.0
MORF Marmelete 101.05 309 *e*P Pdif 22 28 48.6 -0.5
PTEO Sao Teotonio 101.06 309 *e*Pdif Pdif 22 28 53.1 +4.1
LIS Lisbon 101.15 310 *e*P Pdif 22 28 49.1 -0.3
LIS *e*SS SS 22 47 27.6 +1.5
LIS AMS AMS 23 24 21.4
comp=E,336µm,18.3s
LIS Lisbon 101.15 310 *e*Pdif Pdif 22 28 48.2 -1.2
LIS Lisbon 101.15 310 *e*PP PP 22 33 03.5 +5.2
LIS Lisbon 101.15 310 *e*P Pdif 22 28 49.1 -0.3
LIS *e*SS SS 22 47 27.5 +1.4
PMST Lisbon--Monsan 101.17 310 *e*Pdif Pdif 22 28 52.6 +3.1
PMST Lisbon--Monsan 101.17 310 *e*PP PP 22 33 03.2 +4.8
PMAFR Mafra 101.20 310 *e*Pdif Pdif 22 28 51.9 +2.3
PMAFR Mafra 101.20 310 *e*PP PP 22 33 04.2 +5.5
INK Inuvik 101.40 17 P **Pdif 22 28 49.2 -0.6**
comp=E,15nm,0.9s,baz=313,slow=5.7,SNR=26
INK PKPPKP **P'P'df 22 53 21.0 +4.1**
comp=E,1.8nm,1.1s,baz=243,slow=2.3,SNR=2.6
KIC Kosan Boka 101.51 277 *e*P Pdif 22 28 54.6 +3.1
comp=E,105nm,1.0s
DBIC Dimbokro 101.60 277 *e*P Pdif 22 28 57.6 +5.7
DBIC Dimbokro 101.60 277 P **Pdif 22 28 53.5 +1.6**
comp=E,9.9nm,1.0s,baz=62,slow=4.3,SNR=6.8
KULLO Kullorsuaq 101.63 353⇑ *i*P Pdif 22 28 50.9 +0.2
KULLO pmax pmax
comp=Z,87nm,1.0s
KULLO MLR MLR
comp=Z,440µm,22.0s
KULLO Kullorsuaq 101.63 353⇑ *i*P Pdif 22 28 50.9 +0.2
comp=Z,87nm,0.9s
comp=Z,439µm,22.0s
TIC Toumodi 101.76 277 *e*P Pdif 22 28 53.7 +1.0
comp=Z,9.7nm,0.2s
LIC Lamto 101.80 277 *e*P Pdif 22 28 55.9 +3.1
comp=Z,85nm,1.1s
LIC *e*R
comp=Z,1641µm,22.2s
LIC Lamto 101.80 277 *e*P Pdif 22 28 52.4 -0.4
comp=Z,102nm,1.1s
LIC Lamto 101.80 277 *e*P Pdif 22 28 55.9 +3.1
comp=Z,85nm,1.1s
DAWY Dawson 101.87 22 *e*Pdif Pdif 22 28 52.1 0.0
RES Resolute Bay 102.73 3 P **Pdif 22 28 55.8 +0.2**
RES pmax pmax
comp=Z,6.0nm,1.1s
RES Resolute Bay 102.73 3 P **Pdif 22 28 55.8 +0.2**
comp=Z,10nm,0.8s,baz=359,slow=5.5,SNR=44
RES Resolute Bay 102.73 3 P **Pdif 22 28 55.8 +0.2**
comp=Z,5.7nm,1.1s
SHEL Horse Pasture 103.01 254 PFAKE 22 29 10.0 +12
SHEL LR LR
comp=Z,732µm,20.0s
XMAS Kiritimati 105.33 87 PFAKE 22 33 30.0
XMAS LR LR
comp=Z,294µm,22.0s
ILULI Ilulissat 105.37 349 *i*P Pdif 22 29 07.6 +0.2
ILULI pmax pmax
comp=Z,13nm,0.9s
ILULI MLR MLR
comp=Z,430µm,22.0s
ILULI Ilulissat 105.37 349 *i*P Pdif 22 29 07.6 +0.2
comp=Z,13nm,0.8s
comp=Z,430µm,22.0s
POHA Pohakuloa 105.48 69 PFAKE 22 33 30.0
POHA LR LR
comp=Z,186µm,21.0s
H09N1 TRISTAN DA CUN 106.88 232 T T 00 28 08.5
SNR=22
H09W1 TRISTAN DA CUN 106.89 232 T T 00 28 10.8
SNR=56
SFJD Kangerlussuaq 107.12 347 P **Pdif 22 29 15.1 -0.2**
SFJD 22 33 44.0
SFJD MLR MLR
comp=Z,290µm,21.0s
SFJD Kangerlussuaq 107.12 347 Pdiff **Pdif 22 29 15.1 -0.2**
comp=Z,4.9nm,0.9s,baz=53,slow=5.1,SNR=2.1
SFJD PP **PP 22 33 44.0 +2.5**
comp=Z,114nm,1.1s,baz=50,slow=4.3,SNR=7.5
SFJD Kangerlussuaq 107.12 347 Pdif **Pdif 22 29 15.1 -0.2**
SFJD PP **PP 22 33 44.0 +2.5**

SFJD LR LR
comp=Z,290µm,21.0s
PMPS Porto Santo 108.16 306 *e*PP PP 22 33 54.5 +4.1
PMAR Madeira 108.72 306 *e*PP PP 22 33 58.1 +3.3
FUL Funchal 108.72 306 *e*PP PP 22 33 58.0 +3.4
DLBC Dease Lake 108.83 24 Pdiff **Pdif 22 29 22.9 -0.3**
comp=Z,1.3nm,0.6s,baz=198,slow=20,SNR=1.7
DLBC PP **PP 22 33 55.1 +0.7**
comp=Z,41nm,0.9s,baz=278,slow=5.8,SNR=8.4
WRAK Wrangell Islan 109.08 27 PFAKE 22 33 40.0
WRAK LR LR
comp=Z,259µm,21.0s
YKA Yellowknife Ar 111.00 15 Pdiff **Pdif 22 29 33.2 +0.6**
comp=Z,2.4nm,0.7s,baz=329,slow=4.9,SNR=16
YKA PKiKP **PKiKP 22 33 33.1 +1.3**
comp=Z,6.4nm,1.0s,baz=326,slow=8.1,SNR=5.5
YKA PP **PP 22 34 05.5 -4.3**
comp=Z,35nm,0.9s,baz=331,slow=7.5,SNR=11
YKA PKKPbc **PKKPbc 22 44 29.5 -2.0**
comp=Z,4.8nm,0.9s,baz=140,slow=3.2,SNR=4.6
YKB5 Yellowknife Ar 111.00 15 *e*Pdif **Pdif 22 29 33.2 +0.6**
YKB5 *e*PKiKP **PKiKP 22 33 33.1 +1.4**
YKB5 *e*PP **PP 22 34 05.5 -4.3**
YKB5 *e*PKKPbc **PKKPbc 22 44 29.5 -2.0**
ASCN Ascension 111.58 262 PFAKE 22 33 50.0
ASCN LR LR
comp=Z,535µm,19.0s
TBI Tubuai 112.41 114 *e*Pdif **Pdif 22 29 41.0 +1.2**
comp=Z,10µm,32.2s
TBI Tubuai 112.41 114 *e*PP PP 22 34 22.1 +0.5
comp=Z,37µm,32.0s
TBI *e*Sdif Sdif 22 42 03.0 +2.0
comp=Z,163µm,31.2s
TBI Tubuai 112.41 114 *e*PS PS 22 43 54.9 -1.3
comp=Z,130µm,34.5s
TBI *e*SS SS 22 50 01.9 +1.7
comp=Z,319µm,30.2s
TBI Tubuai 112.41 114 *e*LQ LQ 23 02 28.1
comp=Z,1070µm,41.8s
TBI *e*LR LR 23 07 11.6
comp=Z,655µm,26.8s
PPT2 Papeete2 112.92 108 *e*Pdif **Pdif 22 29 42.8 +0.6**
comp=Z,15µm,29.0s
PPT2 Papeete2 112.92 108 *e*PP PP 22 34 23.1 -2.4
comp=Z,59µm,29.8s
PPT2 *e*Sdif Sdif 22 42 03.2 -2.4
comp=Z,211µm,28.8s
PPT2 Papeete2 112.92 108 *e*PS PS 22 44 02.3 +1.0
comp=Z,146µm,27.2s
PPT2 *e*SS SS 22 50 06.8 -0.6
comp=Z,288µm,33.0s
PPT2 Papeete2 112.92 108 *e*LQ LQ 23 02 41.3
comp=Z,1404µm,40.2s
PPT2 *e*LR LR 23 07 20.2
comp=Z,736µm,24.5s
FRB Frobisher Bay 113.20 353 Pdiff **Pdif 22 29 44.4 +2.0**
comp=Z,0.9nm,0.6s,baz=15,slow=4.1,SNR=3.4
BART Pico Bartolome 113.44 313 *e*PP PP 22 34 30.8 +2.4
PSMN Pico do Norte, 113.67 312 *e*PP PP 22 34 34.4 +4.5
PSMN *e*SP SP 22 44 11.9 +9.3
PSMN *e*SS **SS 22 50 20.2 +4.5**
PSMN Pico do Norte, 113.67 312 *e*LQ LQ 23 01 29.5
GRON Grota Negra 113.72 313 *e*PP PP 22 34 31.9 +1.7
PSMA Santa Maria 113.72 312 *e*PP PP 22 34 34.0 +3.8
PDA Ponta Delgada 113.82 313 *e*PP PP 22 34 31.9 +1.0
PSET Sete Cidades 113.83 313 *e*PP PP 22 34 33.8 +2.8
PSET *e*SP SP 22 44 12.4 +8.4
PSET *e*SS **SS 22 50 16.4 -1.4**
PSET Sete Cidades 113.83 313 *e*LQ LQ 23 01 38.4
ADH Angra Heroismo 114.58 315 *e*PP PP 22 34 42.5 +6.3
PGRA Graciosa 114.94 315 *e*PP PP 22 34 40.9 +2.1
PGRA *e*SP SP 22 44 20.6 +6.5
PGRA *e*SS SS 22 50 16.4 -16
PGRA Graciosa 114.94 315 *e*LQ LQ 23 01 36.6
VAH Vaihoa 114.98 106 *e*PKiKP PKPdf 22 33 40.3 -0.4
comp=Z,264nm,1.3s
TOPO Topo 115.09 315 *e*PP PP 22 34 40.9 +1.0
PMAN Manadas 115.19 315 *e*PP PP 22 34 43.4 +2.8
ROSA Rosais 115.26 315 *e*PP PP 22 34 44.4 +3.3
ROSA *e*SP SP 22 44 12.4 -4.6
ROSA *e*SS **SS 22 50 36.6 +0.1**
ROSA Rosais 115.26 315 *e*LQ LQ 23 01 45.6
PID Ribeirinha 115.30 315 *e*PP PP 22 34 45.2 +3.9
PICO Pico 115.49 315 *e*PP PP 22 34 43.4 +0.7
PCAN Candelaria 115.55 315 *e*PP PP 22 34 46.2 +3.1
PCED Cedros 115.63 315 *e*PP PP 22 34 45.8 +2.2
CALA Caldeira 115.65 315 *e*PP PP 22 34 46.0 +2.1
HOPE Hope Point 115.92 208 PFAKE 22 33 50.0 +8.6
HOPE LR LR
comp=Z,465µm,20.0s
PMSA Palmer Station 116.24 189 PFAKE 22 33 50.0 +8.3
PMSA LR LR
comp=Z,407µm,19.0s
H07S1 FLORES T-PHASB 117.02 317 *e*PP PP 22 35 00.1 +6.8
H07S1 *e*SP SP 22 44 37.9 +5.0
H07S1 *e*SS SS 22 50 50.5 -8.8
H07S1 FLORES T-PHASB 117.02 317 *e*LQ LQ 23 02 01.6
FCC Fort Churchill 118.42 7 *e*P Pdif 22 30 16.7 +11
FCC *e* 22 33 45.6
FCC Fort Churchill 118.42 7 *e*Pdif Pdif 22 30 16.7 +11
FCC *e*PKPdf **PKPdf 22 33 45.6 -0.5**
VDB Vedder Mountai 118.61 28 *e*P **PKPdf 22 33 46.1 -0.7**
A05A Maple Falls 118.63 28 *e*PKPdf **PKPdf 22 33 46.8 -0.1**
NLWA Neilton Lookou 118.85 31 PFAKE 22 34 00.0 +13
NLWA LR LR
comp=Z,237µm,22.0s
MBW Mount Baker 118.87 28 P **PKPdf 22 33 47.2 -0.3**
SACV Santiago Islan 118.87 288 PFAKE 22 34 00.0 +12
SACV LR LR
comp=Z,379µm,20.0s
HDW Hoodsport 119.09 30 P **PKPdf 22 33 48.6 +0.7**
B06A Marblemount 119.25 28 *e*PKPdf **PKPdf 22 33 47.8 -0.3**
D05A Enumclaw 119.93 30 *e*PKPdf **PKPdf 22 33 50.3 +0.9**
WRW Wenatchee Ridg 120.00 29 P **PKPdf 22 33 49.6 -0.1**
F04D Rainier, OR 120.16 31 ⇓PKiKP **PKPdf 22 33 48.9 -1.0**
baz=120
B08A Colville Reser 120.37 27 *e*PKPdf **PKPdf 22 33 50.3 0.0**
TDL Tradedollar La 120.39 31 P **PKPdf 22 33 51.1 +0.6**
LTY Liberty 120.53 29 *e*PKPdf **PKPdf 22 33 50.6 -0.1**
WTV Waterville 120.56 28 P **PKPdf 22 33 50.5 -0.2**
F04A Amboy 120.57 31 *e*PKPdf **PKPdf 22 33 51.2 +0.5**
G03D McMinnville, O 120.61 32 ⇑PKiKP **PKPdf 22 33 50.2 -0.6**
baz=120
SAW Saint Andrews 120.81 28 P **PKPdf 22 33 50.9 -0.2**
FFC Flin Flon 120.96 13 *e*PP PP 22 35 10.0 -10
FFC LR LR
comp=Z,265µm,20.0s
COR Corvallis 121.00 33 PFAKE 22 34 00.0 +8.5
COR LR LR
comp=Z,185µm,21.0s
C09A Chrisman Ranch 121.26 27 *e*PKPdf **PKPdf 22 33 52.3 +0.3**
OD2 Odessa Site #2 121.36 28 P **PKPdf 22 33 52.2 0.0**
E07A Sunnyside 121.42 29 *e*PKPdf **PKPdf 22 33 53.0 +0.6**
NEW Newport 121.44 26 PKiKP **PKPdf 22 33 52.1 -0.2**
NEW *e* 22 35 26.0
NEW MLR MLR
comp=Z,293µm,20.0s
NEW Newport 121.44 26 PKP **PKPdf 22 33 52.1 -0.2**
comp=Z,21nm,0.9s,baz=266,slow=2.4,SNR=8.1
NEW PKKPab PKKPbc 22 44 03.3 +8.7
comp=Z,7.0nm,1.0s,baz=226,slow=3.3,SNR=3.6
NEW Newport 121.44 26 ⇓PKiKP **PKPdf 22 33 52.4 0.0**
baz=121
NEW Newport 121.44 26 PKP **PKPdf 22 33 52.1 -0.2**
NEW *e*PP **PP 22 35 26.0 +2.8**
NEW PKKPab PKKPbc 22 44 03.3 +8.7
NEW LR LR
comp=Z,293µm,20.0s
SCHQ Schefferville 121.48 349 PKP **PKPdf 22 33 51.9 -0.3**
comp=Z,15nm,0.8s,baz=20,slow=2.3,SNR=16
SCHQ PKKPab **PKKPbc 22 43 56.0 +1.5**
comp=Z,7.9nm,0.9s,baz=184,slow=2.6,SNR=5.1
SCHQ Schefferville 121.48 349 PKP **PKPdf 22 33 51.9 -0.3**
SCHQ *e*PP PP 22 35 13.4 -10
SCHQ PKKPab **PKKPbc 22 43 56.0 +1.5**
D08A Wollman Farm, 121.51 28 *e*PKPdf **PKPdf 22 33 53.0 +0.5**
H04A Detroit Lake 121.53 32 *e*PKPdf **PKPdf 22 33 52.8 +0.2**
I03D Drain, OR 121.55 34 ⇑PKiKP **PKiKP 22 33 52.8 +0.1**
baz=121
G05D Wamic, OR 121.60 31 ⇑PKiKP **PKiKP 22 33 54.4 +1.5**
baz=122
HAWA Hanford 121.69 29 *e*PP PP 22 35 16.0 -9.0
HAWA LR LR
comp=Z,236µm,21.0s
G06A Carlson Farm, 121.96 31 *e*PKPdf **PKPdf 22 33 54.1 +0.7**
G06A *e*PP **PP 22 35 24.6 -2.2**
I04A Tendick Farm, 122.00 33 ⇑PKiKP **PKiKP 22 33 54.3 +0.6**
baz=122
WALA Waterton Lakes 122.17 24 *e*PP PP 22 35 26.2 -2.0
I05D Terrebonne, OR 122.21 32 ⇓PKiKP **PKiKP 22 33 54.5 +0.4**
baz=122
L02D Cave Junction, 122.39 35 ⇑PKiKP **PKiKP 22 33 54.9 +0.4**
baz=122
HUMO Hull Mountain 122.47 34 PFAKE 22 34 10.0 +16
HUMO LR LR
comp=Z,160µm,21.0s
J04D Umpqua Nationa 122.53 33 ⇓PKiKP **PKPdf 22 33 54.7 -0.1**
baz=122
G08A Pilot Rock 122.76 30 *e*PKPdf **PKPdf 22 33 55.6 +0.5**
G08A *e*PP **PP 22 35 30.9 -1.5**
PINOR Pine Mountain 122.81 32 *e*PKPdf **PKPdf 22 33 56.5 +1.5**
PINOR *e*PP **PP 22 35 36.8 +4.2**
J05D Fort Rock, OR 122.98 33 ⇑PKiKP **PKiKP 22 33 56.2 +0.4**
baz=123
JTMT Jette 123.05 25 *e*PP PP 22 35 30.2 -4.0
YBMT Yellow Bay 123.07 25 *e*PP PP 22 35 26.8 -7.6
F10A Beach Ranch, E 123.10 28 *e*PKPdf **PKPdf 22 33 55.8 +0.1**
F10A *e*PP **PP 22 35 35.0 +0.4**
KHMM Horse Mountain 123.13 36 *e*PP PP 22 35 36.2 +1.0
K04D Chiloquin, OR 123.13 34 ⇑PKiKP **PKiKP 22 33 56.3 +0.2**
baz=123
YBH Yreka Blue Hor 123.18 35 PKiKP **PKPdf 22 33 56.5 +0.5**
YBH *e* 22 35 39.8
YBH MLR MLR
comp=Z,206µm,21.0s
YBH Yreka Blue Hor 123.18 35 PKP **PKPdf 22 33 56.5 +0.5**
comp=Z,8.0nm,0.8s,baz=39,slow=6.2,SNR=6.6
YBH Yreka Blue Hor 123.18 35 PKP **PKPdf 22 33 56.5 +0.5**
YBH *e*PP **PP 22 35 39.8 +4.4**
YBH LR LR
comp=Z,206µm,21.0s
M02C Callahan 123.31 35 ⇓PKiKP **PKiKP 22 33 56.6 +0.2**
baz=123
I07A Izee 123.34 31 *e*PKPdf **PKPdf 22 33 56.8 +0.5**
K05A Summer Lake 123.54 33 *e*PKPdf **PKPdf 22 33 57.5 +0.7**
K05A *e*PP PP 22 35 32.3 -5.5
KMRM Mail Ridge 123.55 37 *e*PKPdf **PKPdf 22 33 58.0 +1.4**
M04C Macdoel 123.64 34 ⇑PKiKP **PKPdf 22 33 56.8 -0.1**
baz=124
N02D Trinity Center 123.67 36 ⇑PKiKP **PKPdf 22 33 56.5 -0.4**
baz=124
SLMT Seeley Lake 123.78 25 *e*PP PP 22 35 32.8 -6.4
BMO Blue Mountains 123.89 29 PFAKE 22 34 10.0 +13
BMO LR LR
comp=Z,124µm,20.0s
MSO Missoula 123.92 25 ⇓PKiKP **PKPdf 22 33 56.9 -0.4**
baz=124
MSO Missoula 123.92 25 *e*PKPdf **PKPdf 22 33 56.8 -0.4**
MSO *e*PP **PP 22 35 44.7 +4.7**
MSO LR LR
comp=Z,478µm,21.0s
WDC Whiskeytown Da 124.02 36 *e*PP PP 22 35 43.7 +2.8
WDC LR LR
comp=Z,196µm,21.0s
DRLN Deer Lake 124.09 340 *e*PKPdf **PKPdf 22 33 57.2 -0.1**
CHMT Chamberlain Mo 124.14 25 *e*PP PP 22 35 44.0 +2.3
A19A Klindworth Far 124.21 20 ⇑PKiKP **PKPdf 22 33 57.2 -0.5**
baz=124
MOD Modoc Plateau 124.42 33 PFAKE 22 34 10.0 +12
MOD LR LR
comp=Z,174µm,21.0s
A20A Cobblestone Ra 124.53 20 ⇓PKiKP **PKPdf 22 33 57.4 -0.9**
baz=124
LBCM Butte Creek Ri 124.54 35 P **PKPdf 22 33 58.8 +0.1**
B19A Brinkman Farms 124.54 21 ⇑PKiKP **PKPdf 22 33 57.6 -0.7**
baz=124
EGMT Eagleton 124.61 22 ⇓PKiKP **PKPdf 22 33 58.4 -0.1**
baz=124
EGMT Eagleton 124.61 22 *e*PKPdf **PKPdf 22 33 58.6 +0.2**
EGMT *e*PP PP 22 35 56.5 +12
EGMT LR LR
comp=Z,466µm,21.0s
HOPS Hopland Field 124.70 38 PFAKE 22 34 10.0 +11
HOPS LR LR
comp=Z,178µm,20.0s
A21A Bergtoll Ranch 124.77 19 ⇓PKiKP **PKPdf 22 33 58.7 0.0**
baz=125
B20A Solberg Farm, 124.88 20 ⇓PKiKP **PKPdf 22 33 58.9 -0.1**
baz=125
WVOR Wild Horse Val 124.95 32 PFAKE 22 34 10.0 +11
WVOR LR LR
comp=Z,221µm,20.0s
A22A Carney Farms, 125.09 18 ⇑PKiKP **PKPdf 22 33 59.5 +0.1**
baz=125
C19A Slack Wire Ran 125.11 21 ⇑PKiKP **PKiKP 22 33 59.8 0.0**
baz=125
NMTM Middletown 125.19 38 *e*PKPdf **PKPdf 22 34 00.7 +0.9**
B21A Ellsworth Farm 125.23 19 ⇑PKiKP **PKPdf 22 33 59.6 0.0**
baz=125
MCCM Marconi Confer 125.34 38 PFAKE 22 34 10.0 +10
MCCM LR LR
comp=Z,176µm,20.0s
A23A Redstone 125.44 18 ⇑PKiKP **PKPdf 22 33 59.7 -0.2**
baz=125
C20A Veseth Ranch, 125.51 21 ⇓PKiKP **PKPdf 22 33 59.9 -0.3**
baz=125
RKT Rikitea 125.54 117 *e*PP PP 22 35 52.5 +0.3
comp=Z,37µm,33.0s
RKT *e*Sdif Sdif 22 43 51.5 +1.0
comp=Z,74µm,30.2s
RKT Rikitea 125.54 117 *e*PS PS 22 45 54.4 +0.1
comp=Z,115µm,29.0s
RKT *e*SS SS 22 52 48.7 -1.0
comp=Z,294µm,32.8s
RKT Rikitea 125.54 117 *e*LQ LQ 23 07 58.8
comp=Z,588µm,43.8s
RKT *e*LR LR 23 13 09.1
comp=Z,693µm,29.0s
DLMT Dillon 125.65 25 *e*PKPdf **PKPdf 22 34 01.4 +0.7**
D19A Cripps Ranch, 125.66 22 ⇑PKiKP **PKPdf 22 33 59.7 -0.8**
baz=126
MFID Camas Ranch 125.66 29 PFAKE 22 34 10.0 +9.3
MFID LR LR
comp=Z,194µm,20.0s
B22A Reddig Ranch S 125.67 19 ⇓PKiKP **PKPdf 22 34 00.4 -0.1**
baz=126
C21A Desert Coulee 125.72 20 ⇑PKiKP **PKPdf 22 34 00.5 -0.1**
baz=126
A24A Westby 125.73 17 ⇓PKiKP **PKPdf 22 34 00.5 0.0**
baz=126
BOZ Bozeman (W) 125.83 25 PFAKE 22 34 10.0 +9.0
BOZ LR LR
comp=Z,139µm,20.0s
B23A Brockton 125.85 18 ⇓PKiKP **PKPdf 22 34 00.3 -0.5**
baz=126
MCMT McKenzie Canyo 125.96 26 *e*PP PP 22 35 53.3 -0.6
A25A Svangstu Ranch 125.98 16 ⇓PKiKP **PKPdf 22 34 00.8 -0.2**
baz=126
D20A Manuel Ranch, 125.99 21 ⇑PKiKP **PKPdf 22 34 01.2 +0.1**
baz=126
DGMT Dagmar 126.08 17 ⇑PKiKP **PKPdf 22 34 01.0 -0.3**
baz=126
DGMT Dagmar 126.08 17 *e*PP PP 22 35 48.9 -5.3
DGMT LR LR
comp=Z,473µm,20.0s
C22A Vida 126.20 19 ⇑PKiKP **PKPdf 22 34 01.4 -0.1**
baz=126
HLID Hailey 126.23 28 ⇑PKiKP **PKPdf 22 34 01.9 +0.1**
baz=126
HLID Hailey 126.23 28 *e*PP PP 22 35 56.1 +0.5
HLID LR LR
comp=Z,283µm,19.0s
E19A Rath Farm, Rou 126.28 22 ⇑PKiKP **PKPdf 22 34 01.6 -0.2**
baz=126
A26A Wade Farm, Ken 126.31 16 ⇓PKiKP **PKPdf 22 34 01.2 -0.5**
baz=126
C23A Lambert 126.37 19 ⇓PKiKP **PKiKP 22 34 02.1 -0.1**
baz=126
D21A La Casta Ranch 126.41 20 ⇑PKiKP **PKPdf 22 34 02.0 +0.1**
baz=126
ULM Lac du Bonnet 126.42 10 PKP **PKPdf 22 34 00.9 -0.8**
comp=Z,40nm,0.7s,baz=356,slow=3.0,SNR=36
A27A Ledoux Ranch, 126.47 15 ⇑PKiKP **PKPdf 22 34 02.1 +0.2**
baz=126
E20A Meyer Farm, Mu 126.49 21 ⇓PKiKP **PKPdf 22 34 02.0 -0.2**
baz=126
GCMT Greycliff 126.50 23 *e*PP PP 22 36 02.1 +4.8
B25A Knox Farm, Ray 126.57 17 ⇓PKiKP **PKiKP 22 34 02.5 -0.1**
baz=126
D22A Cohagen 126.62 20 ⇓PKiKP **PKiKP 22 34 02.6 -0.2**
baz=126
EFI East Falkland 126.63 199 PFAKE 22 34 10.0 +7.9
EFI LR LR
comp=Z,423µm,22.0s
B26A Jensen Ranch, 126.73 16 ⇑PKiKP **PKPdf 22 34 02.4 -0.1**
baz=126
F19A Roth Farm, Mol 126.73 23 ⇓PKiKP **PKPdf 22 34 02.4 -0.2**
baz=127
A28A Rude Farm, Bot 126.75 14 ⇓PKiKP **PKPdf 22 34 02.4 -0.1**
baz=127
E21A Keefer Ranch, 126.84 21 ⇓PKiKP **PKPdf 22 34 02.8 +0.1**
baz=127
C24A Savage 126.85 18 ⇑PKiKP **PKPdf 22 34 02.8 +0.1**
baz=127
D23A Lindsay 126.92 19 ⇑PKiKP **PKiKP 22 34 03.4 0.0**
baz=127
CMB Columbia Colle 126.93 37 PFAKE 22 34 10.0 +6.8
CMB LR LR
comp=Z,175µm,22.0s
B27A Peters Farms, 126.97 15 ⇑PKiKP **PKPdf 22 34 02.4 -0.5**
baz=127
A29A Manning Farm, 126.99 13 ⇑PKiKP **PKPdf 22 34 01.8 -1.1**
baz=127
LAO LASA Array 127.01 20 PFAKE 22 34 10.0 +6.9
LAO LR LR
comp=Z,266µm,21.0s
C25A Freed Ranch, W 127.04 17 ⇓PKiKP **PKiKP 22 34 03.6 0.0**
baz=127
F20A Billings 127.08 22 ⇑PKiKP **PKPdf 22 34 02.9 -0.5**
baz=127
SAO San Andreas Ge 127.09 39 *e*PP PP 22 36 03.6 +2.1
SAO LR LR
comp=Z,154µm,20.0s
BMN Battle Mountai 127.11 33 *e*PP PP 22 35 59.0 -2.7
BMN LR LR
comp=Z,178µm,21.0s
B28A Dugan Ranch, T 127.16 15 ⇑PKiKP **PKPdf 22 34 02.8 -0.5**
baz=127
A30A Hoffart Farm, 127.18 13 ⇑PKiKP **PKPdf 22 34 02.2 -1.1**
baz=127
RLMT Red Lodge 127.22 23 PFAKE 22 34 10.0 +6.2
RLMT LR LR
comp=Z,265µm,21.0s
D24A Glendive 127.25 18 ⇓PKiKP **PKPdf 22 34 03.6 +0.1**
baz=127
C26A Wahner Farm, P 127.27 16 ⇓PKiKP **PKiKP 22 34 03.8 -0.2**
baz=127
H17A Grant Village 127.28 25 ⇑PKiKP **PKiKP 22 34 04.5 0.0**
baz=127
H17A Grant Village 127.28 25 *e*PP PP 22 35 57.0 -5.6
E22A Miles City 127.32 20 ⇑PKiKP **PKiKP 22 34 03.9 -0.3**
baz=127
B29A Wagenman Farm, 127.39 14 ⇓PKiKP **PKPdf 22 34 03.2 -0.5**
baz=127
H18A Shoshone NF, C 127.43 24 ⇑PKiKP **PKiKP 22 34 04.6 -0.1**
baz=127
F21A Absaloka Mine, 127.44 21 ⇑PKiKP **PKPdf 22 34 03.7 -0.2**
baz=127
E23A Ismay 127.48 19 ⇓PKiKP **PKPdf 22 34 04.2 -0.3**
baz=127
FLWY Flagg Ranch 127.48 25 *e*PKPdf **PKPdf 22 34 05.3 +1.0**
D25A Fairfield 127.53 17 ⇓PKiKP **PKiKP 22 34 04.3 -0.3**
baz=127
IMW Indian Meadow 127.53 25 *e*PKPdf **PKPdf 22 34 05.3 +0.8**
C27A Sayler Ranch, 127.54 16 ⇑PKiKP **PKPdf 22 34 04.1 +0.1**
baz=127
G20A Bridger 127.54 22 ⇓PKiKP **PKPdf 22 34 04.4 +0.1**
baz=127
B30A Myrvik Farm, E 127.64 13 ⇓PKiKP **PKPdf 22 34 03.3 -0.9**
baz=127
I17A Pilgrim Ck. 127.67 25 ⇓PKiKP **PKiKP 22 34 05.3 0.0**
baz=128
FXWY Fox Creek 127.70 26 *e*PKPdf **PKPdf 22 34 02.9 -1.8**
H19A Powell 127.70 23 ⇑PKiKP **PKiKP 22 34 05.3 +0.2**
baz=128
E24A Baker 127.75 19 ⇓PKiKP **PKPdf 22 34 04.5 0.0**
baz=128
F22A Rosebud 127.78 21 ⇓PKiKP **PKPdf 22 34 04.4 -0.2**
baz=128
C28A Hausauer Farms 127.83 15 ⇓PKiKP **PKPdf 22 34 04.3 -0.3**
baz=128
NV01 Mina Array Sit 127.90 35 *e*PKPpre PKPpre 22 34 00.4
NV01 *e*PKPdf **PKiKP 22 34 06.2 +0.3**
NVAR Mina Array Bea 127.90 35 PKhKP PKPpre 22 34 00.4
comp=Z,8.4nm,0.9s,baz=278,slow=2.3,SNR=4.4
NVAR PKP **PKiKP 22 34 06.2 +0.3**
comp=Z,56nm,0.9s,baz=276,slow=2.1,SNR=16
D26A Manning 127.90 17 ⇑PKiKP **PKPdf 22 34 04.4 -0.4**
baz=128
LOHW Long Hollow 127.90 25 *e*PKPdf **PKPdf 22 34 05.1 -0.1**
LOHW *e*PP **PP 22 36 02.8 -3.8**
MDND Maddock 127.90 14 ⇑PKiKP **PKPdf 22 34 04.0 -0.7**
baz=128
MDND Maddock 127.90 14 *e*PP PP 22 36 01.7 -4.4
G21A Lodge Grass 127.92 22 ⇓PKiKP **PKPdf 22 34 04.9 -0.1**
baz=128
ELK Elko 127.93 31 PKiKP **PKPdf 22 34 05.9 +0.6**
ELK *e* 22 36 06.4
ELK Elko 127.93 31 PKP **PKPdf 22 34 05.9 +0.6**
comp=Z,19nm,0.9s,baz=3.0,slow=0.5,SNR=19
ELK Elko 127.93 31 PKP **PKPdf 22 34 05.9 +0.6**
ELK *e*PP **PP 22 36 06.4 -0.7**
SNOW Snow King Moun 127.96 26 *e*PKPdf **PKPdf 22 34 05.8 +0.5**
REDW Red Top Meadow 128.00 26 *e*PKPdf **PKPdf 22 34 06.1 +0.7**
D27A Center 128.09 16 ⇑PKiKP **PKPdf 22 34 05.2 +0.1**
baz=128
E25A Miller Ranch, 128.09 18 ⇓PKiKP **PKPdf 22 34 05.2 0.0**
baz=128
MLAC Mammoth, Mammt 128.12 36 ⇓PKiKP **PKPdf 22 34 05.8 0.0**
baz=128
MLAC Mammoth, Mammt 128.12 36 *e*PKPpre PKPpre 22 33 56.7
F23A Volborg 128.13 20 ⇑PKiKP **PKPdf 22 34 04.6 -0.6**
baz=128
I19A Meeteetse 128.23 24 ⇑PKiKP **PKPdf 22 34 05.7 0.0**
baz=128
H20A Greybull 128.24 23 ⇑PKiKP **PKPdf 22 34 05.1 -0.5**
baz=128
G22A Birney 128.25 21 ⇑PKiKP **PKPdf 22 34 05.5 -0.1**
baz=128
D28A Regan 128.27 15 ⇓PKiKP **PKPdf 22 34 05.1 -0.3**
baz=128
AGMN Agassiz Nation 128.29 11 ⇑PKiKP **PKPdf 22 34 04.5 -0.9**
baz=128
AGMN Agassiz Nation 128.29 11 PFAKE 22 34 20.0 +15
AGMN LR LR
comp=Z,291µm,21.0s
C30A Mose, Pekin 128.31 13 ⇓PKiKP **PKPdf 22 34 04.3 -1.2**
baz=128
F24A Ekalaka 128.34 19 ⇑PKiKP **PKPdf 22 34 05.4 -0.3**
baz=128
AHID Auburn Hatcher 128.37 26 PFAKE 22 34 20.0 +14
AHID LR LR
comp=Z,251µm,20.0s
E26A Carlson Angus 128.40 17 ⇓PKiKP **PKPdf 22 34 05.5 -0.2**
baz=128
H21A Big Horn, Sher 128.49 22 ⇓PKiKP **PKPdf 22 34 05.7 -0.3**
baz=128
PTRM Twissleman Ran 128.56 39 *e*PP PP 22 36 20.0 +8.7
F25A Bowman 128.58 18 ⇑PKiKP **PKPdf 22 34 05.9 -0.2**
baz=128
G23A Biddle 128.59 20 ⇓PKiKP **PKPdf 22 34 05.3 -0.9**
baz=128
D29A Pettibone, Tap 128.64 15 ⇓PKiKP **PKPdf 22 34 05.4 -0.8**
baz=128
I20A Worland 128.64 23 ⇓PKiKP **PKPdf 22 34 06.3 -0.1**
baz=128
E27A Carson 128.69 16 ⇑PKiKP **PKPdf 22 34 05.9 -0.4**
baz=128
RCTC Rector, Farmer 128.75 38 ⇑PKiKP **PKPdf 22 34 05.7 -0.9**
baz=129
TPH Tonopah 128.76 35 *e*PP PP 22 36 11.4 -1.2
TPH LR LR
comp=Z,141µm,22.0s
H22A Clearmont 128.77 21 ⇑PKiKP **PKPdf 22 34 06.1 -0.5**
baz=129
D30A Buchanan 128.80 14 ⇑PKiKP **PKPdf 22 34 05.3 -1.2**
baz=129
E28A Huff 128.80 16 ⇓PKiKP **PKPdf 22 34 05.5 -1.0**
baz=129
G24A Alzada 128.81 19 ⇑PKiKP **PKPdf 22 34 05.5 -1.1**
baz=129
J19A Crowheart 128.84 24 ⇓PKiKP **PKPdf 22 34 06.8 0.0**
baz=129
TIN Tinemaha, Big 128.87 36 ⇑PKiKP **PKPdf 22 34 06.3 -0.7**
baz=129
F26A Lodgepole 128.89 18 ⇓PKiKP **PKPdf 22 34 06.5 -0.2**
baz=129

SMMC Simmler 128.91 39 ⇓PKiKP PKPdf 22 34 07.3 +0.2
baz=129
BW06 Boulder Array 129.04 25 PFAKE 22 34 20.0 +13
BW06 LR LR
comp=Z,273μm,21.0s
PD31 Pinedale Array 129.04 25 ePKPdf PKPdf 22 34 06.4 -0.9
PDAR Pinedale Array 129.04 25 PKP PKPdf 22 34 06.4 -0.9
comp=Z,10nm,0.7s,baz=243,slow=1.0,SNR=18
F27A Lemmon 129.07 17 ⇓PKiKP PKPdf 22 34 06.6 -0.4
baz=129
HWUT Hardware Ranch 129.07 28 PFAKE 22 34 20.0 +13
HWUT LR LR
comp=Z,216μm,20.0s
E29A Napoleon 129.09 15 ⇑PKiKP PKPdf 22 34 06.2 -0.8
baz=129
I21A Big Trails, Te 129.09 23 ⇓PKiKP PKPdf 22 34 06.2 -1.0
baz=129
H23A Clabaugh Cattl 129.14 21 ⇓PKiKP PKPdf 22 34 06.5 -0.7
baz=129
VES Vestal, Richgr 129.15 38 ⇑PKiKP PKPdf 22 34 06.9 -0.5
baz=129
J20A Shoshoni 129.16 24 ⇓PKiKP PKPdf 22 34 07.4 0.0
baz=129
G25A Newell 129.25 19 ⇓PKiKP PKPdf 22 34 06.5 -0.9
baz=129
PTCN Pitcairn Islan 129.26 121 PFAKE 22 34 20.0 +12
PTCN LR LR
comp=Z,332μm,22.0s
H24A Dirks Ranch, A 129.27 20 ⇑PKiKP PKPdf 22 34 06.8 -0.7
baz=129
I22A 9 Mile Ranch, 129.32 22 ⇓PKiKP PKPdf 22 34 07.1 -0.6
baz=129
E30A Jud 129.33 14 ⇓PKiKP PKPdf 22 34 06.9 -0.6
baz=129
EYMN Ely 129.34 7 ePP PP 22 36 13.8 -1.6
EYMN LR LR
comp=Z,340μm,20.0s
GRAC Grapevine Rang 129.41 36 ⇑PKiKP PKPdf 22 34 07.8 -0.2
baz=129
G26A Maurine 129.42 18 ⇑PKiKP PKPdf 22 34 07.3 -0.5
baz=129
J21A Lysite 129.42 23 ⇓PKiKP PKPdf 22 34 07.1 -0.9
baz=129
F28A McLaughlin 129.44 16 ⇑PKiKP PKPdf 22 34 06.9 -0.8
baz=129
R11A Troy Canyon, C 129.48 33 ⇓PKiKP PKPdf 22 34 08.1 -0.1
baz=129
G27A Dupree 129.54 17 ⇑PKiKP PKPdf 22 34 07.5 -0.4
baz=129
DUG Dugway, Tooele 129.57 30 ePKIKP PKPdf 22 34 09.4 +1.1
DUG MLR MLR
comp=Z,181μm,22.0s
DUG Dugway, Tooele 129.57 30 ⇑PKiKP PKPdf 22 34 08.4 +0.2
baz=129
DUG Dugway, Tooele 129.57 30 ePKPdf PKPdf 22 34 09.4 +1.1
DUG LR LR
comp=Z,181μm,22.0s
ISA Isabella, Lake 129.64 38 ePKIKP PKPdf 22 34 06.7 -1.8
ISA Isabella, Lake 129.64 38 ⇑PKiKP PKPdf 22 34 08.2 -0.3
baz=130
ISA Isabella, Lake 129.64 38 ePKPdf PKPdf 22 34 06.7 -1.8
I23A Meade Ranch, G 129.64 21 ⇓PKiKP PKPdf 22 34 07.7 -0.6
baz=130
SBC Santa Barbara 129.64 40 ⇓PKiKP PKPdf 22 34 08.4 +0.1
baz=130
H25A Fruitdale 129.70 19 ⇓PKiKP PKPdf 22 34 07.8 -0.5
baz=130
F29A Eureka 129.72 15 ⇑PKiKP PKPdf 22 34 07.4 -0.8
baz=130
J22A Midwest 129.74 22 ⇓PKiKP PKPdf 22 34 07.9 -0.6
baz=130
DAC Darwin (Calif) 129.76 37 PFAKE 22 34 20.0 +11
DAC LR LR
comp=Z,190μm,22.0s
ARVC Arvin 129.77 39 ⇓PKiKP PKPdf 22 34 08.4 -0.2
baz=130
F30A Leola 129.92 15 ⇑PKiKP PKPdf 22 34 07.6 -1.1
baz=130
H26A Fairpoint 129.97 18 ⇓PKiKP PKPdf 22 34 08.1 -0.7
baz=130
BSC Santa Cruz Isl 129.97 40 ⇑PKiKP PKPdf 22 34 07.6 -1.5
baz=130
MPMC Manual Prospec 129.97 37 ⇑PKiKP PKPdf 22 34 08.6 -0.6
baz=130
RSSD Black Hills 130.00 20 PFAKE 22 34 20.0 +11
RSSD LR LR
comp=Z,374μm,21.0s
I24A Kuemmerle Ranc 130.03 20 ⇓PKiKP PKPdf 22 34 08.0 -1.0
baz=130
FURC Furnace Creek, 130.07 36 ⇓PKiKP PKPdf 22 34 08.2 -0.9
baz=130
J23A Dills Ranch, B 130.09 22 ⇓PKiKP PKPdf 22 34 08.1 -1.1
baz=130
TPNV Topopah Spring 130.10 35 ePKIKP PKPdf 22 34 11.2 +1.8
TPNV MLR MLR
comp=Z,171μm,22.0s
TPNV Topopah Spring 130.10 35 ⇑PKiKP PKPdf 22 34 08.4 -1.0
baz=130
TPNV Topopah Spring 130.10 35 ePKPdf PKPdf 22 34 11.2 +1.8
TPNV LR LR
comp=Z,171μm,22.0s
K21A Alcova 130.10 23 ⇑PKiKP PKPdf 22 34 08.4 -0.9
baz=130
G28A Parade 130.12 17 ⇑PKiKP PKPdf 22 34 08.0 -1.1
baz=130
OSI Osito Audit: C 130.16 39 ⇑PKiKP PKPdf 22 34 08.8 -0.7
baz=130
H27A Howes 130.17 18 ⇓PKiKP PKPdf 22 34 08.3 -0.9
baz=130
I25A Rochford 130.19 20 ⇑PKiKP PKPdf 22 34 08.5 -0.9
baz=130
LRMC Laurel Mtn Rad 130.24 38 ⇓PKiKP PKPdf 22 34 09.3 -0.3
baz=130
G29A Hoven 130.28 16 ⇓PKiKP PKPdf 22 34 08.7 -0.7
baz=130
K22A Casper 130.37 23 ⇑PKiKP PKPdf 22 34 08.9 -0.9
baz=130
EDW2 Edwards Air Fo 130.45 38 ⇓PKiKP PKPdf 22 34 09.5 -0.5
baz=130
H28A Mission Ridge 130.45 17 ⇑PKiKP PKPdf 22 34 09.2 -0.5
baz=130
I26A New Underwood 130.47 19 ⇓PKiKP PKPdf 22 34 09.3 -0.5
baz=130
J24A Dixon Ranch, L 130.47 21 ⇓PKiKP PKPdf 22 34 08.6 -1.2
baz=130
G30A Faulkton 130.55 15 ⇑PKiKP PKPdf 22 34 08.8 -1.1
baz=130
K23A Bowen Ranch, D 130.62 22 ⇑PKiKP PKPdf 22 34 09.1 -1.1
baz=130
DECC Green Verdugo 130.65 39 ⇓PKiKP PKPdf 22 34 10.1 -0.3
baz=130
LRRC Littlerock Res 130.66 39 ePKPdf PKPdf 22 34 11.3 +1.0
I27A Quinn 130.69 18 ⇓PKiKP PKPdf 22 34 09.5 -0.7
baz=130
J25A Sunshine Ranch 130.72 20 ⇓PKiKP PKPdf 22 34 09.7 -0.6
baz=130
H29A Onida 130.73 16 ⇓PKiKP PKPdf 22 34 09.5 -0.7
baz=130
PASC Pasadena Art C 130.79 39 PFAKE 22 34 20.0 +9.4
PASC LR LR
comp=Z,154μm,20.0s
SHOC Shoshone, Teco 130.80 36 ⇑PKiKP PKPdf 22 34 10.2 -0.4
baz=131
GSC Goldstone, Bar 130.89 37 ePKIKP PKPdf 22 34 11.9 +1.0
GSC Goldstone, Bar 130.89 37 ⇓PKiKP PKPdf 22 34 10.4 -0.5
baz=131
GSC Goldstone, Bar 130.89 37 ePKPdf PKPdf 22 34 11.9 +1.0
L22A Ellis Ranch, M 130.93 23 ⇑PKiKP PKPdf 22 34 10.3 -0.6
baz=131
K24A Anderson Ranch 130.95 21 ⇓PKiKP PKPdf 22 34 09.7 -1.1
baz=131
FMP Fort Macarthur 131.01 40 ⇓PKiKP PKPdf 22 34 11.2 +0.2
baz=131
I28A Midland 131.02 17 ⇓PKiKP PKPdf 22 34 10.3 -0.5
baz=131
J26A Sides Ranch, S 131.04 20 ⇑PKiKP PKPdf 22 34 10.7 -0.1
baz=131
RRX Edison Barstow 131.06 38 ⇑PKiKP PKPdf 22 34 11.1 0.0
baz=131
PKME Peaks-Kenny Pk 131.06 347 PFAKE 22 34 20.0 +9.3
PKME LR LR
comp=Z,213μm,21.0s
BFSC Mount Baldy Ra 131.07 39 ⇓PKiKP PKPdf 22 34 10.9 -0.4
baz=131
BFSC Mount Baldy Ra 131.07 39 ePKPdf PKPdf 22 34 10.9 -0.4
CIS Catalina Islan 131.14 40 ⇑PKiKP PKPdf 22 34 10.8 -0.5
baz=131
L23A Garrett 131.14 23 ⇑PKiKP PKPdf 22 34 10.5 -0.8
baz=131
EMMW East Machias 131.15 345 ePKPdf PKPdf 22 34 11.0 +0.1
MVU Marysvale 131.16 31 PFAKE 22 34 20.0 +8.5
MVU LR LR
comp=Z,213μm,22.0s
N20A Spence Gulch, 131.18 26 ⇓PKiKP PKPdf 22 34 10.6 -0.8
baz=131
BRSD Miller 131.24 15 ⇑PKiKP PKPdf 22 34 10.3 -0.9
baz=131
I29A Vivian Onida 131.26 17 ⇓PKiKP PKPdf 22 34 10.5 -0.7
baz=131
SCI San Clemente I 131.31 41 ⇓PKiKP PKPdf 22 34 11.0 -0.7
baz=131
TUQ Turquoise Moun 131.33 36 ⇑PKiKP PKPdf 22 34 10.5 -1.2
baz=131
K25A Mack Ranch, Ha 131.38 21 ⇓PKiKP PKPdf 22 34 10.6 -1.1
baz=131
M22A Cedar Creek Ra 131.40 24 ⇓PKiKP PKPdf 22 34 10.8 -1.1
baz=131
COWI Conover 131.43 6 PFAKE 22 34 20.0 +8.5
COWI LR LR
comp=Z,398μm,20.0s
J27A Elkhorn Farm, 131.44 19 ⇑PKiKP PKPdf 22 34 10.9 -0.8
baz=131
L24A Wheatland 131.50 22 ⇑PKiKP PKPdf 22 34 10.1 -1.7
baz=131
HEC Hector,Ludlow 131.50 37 ⇑PKiKP PKPdf 22 34 11.3 -0.7
baz=131
BBRC Big Bear Solar 131.52 38 ⇓PKiKP PKPdf 22 34 12.0 -0.3
baz=131
J28A Allard Ranch, 131.53 18 ⇑PKiKP PKPdf 22 34 11.0 -0.8
baz=131
K26A Motz Farm, Whi 131.54 20 ⇓PKiKP PKPdf 22 34 11.3 -0.6
baz=131
I30A Oacoma 131.60 16 ⇑PKiKP PKPdf 22 34 11.2 -0.7
baz=131
M23A Laramie 131.69 23 ⇓PKiKP PKPdf 22 34 11.3 -1.0
baz=132
L25A Engebretsen Ra 131.75 21 ⇑PKiKP PKPdf 22 34 11.9 -0.5
baz=132
O20A White River Ci 131.76 26 ⇑PKiKP PKPdf 22 34 11.7 -0.8
baz=132
O20A White River Ci 131.76 26 PFAKE 22 34 20.0 +7.5
O20A LR LR
comp=Z,307μm,21.0s
MURC Murrieta 131.78 39 ⇑PKiKP PKPdf 22 34 11.8 -0.7
baz=132
SPMN Marine on St. 131.81 9 ⇑PKiKP PKPdf 22 34 11.5 -0.6
baz=132
WVL Waterville 131.81 347 ePKPdf PKPdf 22 34 12.5 +0.4
J29A Okreek 131.81 17 ⇑PKiKP PKPdf 22 34 11.8 -0.5
baz=132
K27A Flueckinger Fa 131.86 19 ⇓PKiKP PKPdf 22 34 11.7 -0.8
baz=132
BACC Bachelor Mtn. 131.87 39 ePKPpre PKPpre 22 34 05.9
PHWY Pilot Hill 131.93 23 ePKPdf PKPdf 22 34 13.3 +0.4
GMRC Granite Mounta 131.94 37 ⇑PKiKP PKPdf 22 34 12.3 -0.6
baz=132
KNB Kanab 131.95 32 ePKIKP PKPdf 22 34 15.2 +2.3
KNB Kanab 131.95 32 ePKPdf PKPdf 22 34 15.2 +2.3
N22A Wattenberg Ran 131.96 24 ⇑PKiKP PKPdf 22 34 12.5 -0.5
baz=132
M24A Cheyenne 132.03 22 ⇓PKiKP PKPdf 22 34 12.4 -0.6
baz=132
N23A Red Feather La 132.09 24 ⇓PKiKP PKPdf 22 34 12.7 -0.5
baz=132
N23A Red Feather La 132.09 24 ePKPdf PKPdf 22 34 14.2 +1.0
N23A epPKPdf pPKPdf 22 34 25.9 +1.7
N23A LR LR
comp=Z,330μm,20.0s
J30A Dallas 132.13 16 ⇑PKiKP PKPdf 22 34 13.0 +0.1
baz=132
K28A Ten Mile Ranch 132.13 18 ⇑PKiKP PKPdf 22 34 12.8 -0.2
baz=132
L26A Underwood Farm 132.17 20 ⇓PKiKP PKPdf 22 34 13.1 0.0
baz=132
PFO Pinyon Flats O 132.24 39 ⇑PKiKP PKPdf 22 34 13.3 -0.2
baz=132
BELC Belle Mtn. Jos 132.26 38 ⇑PKiKP PKPdf 22 34 13.6 0.0
baz=132
109C Camp Elliot, M 132.30 40 ⇑PKiKP PKPdf 22 34 12.8 -0.7
baz=132
M25A Palm-Egli Farm 132.35 22 ⇓PKiKP PKPdf 22 34 13.2 -0.3
baz=132
L27A T5 Ranch, Ells 132.39 20 ⇑PKiKP PKPdf 22 34 13.3 -0.2
baz=132
K29A Lazy Trails An 132.41 17 ⇓PKiKP PKPdf 22 34 12.9 -0.6
baz=132
O22A Kremmling 132.46 25 ⇑PKiKP PKPdf 22 34 14.1 +0.1
baz=132
ECSD EROS Data Cent 132.49 13 ⇑PKiKP PKPdf 22 34 13.9 +0.3
baz=132
ECSD EROS Data Cent 132.49 13 PFAKE 22 34 20.0 +6.5
ECSD LR LR
comp=Z,349μm,20.0s
N24A Carr 132.56 23 ⇓PKiKP PKPdf 22 34 13.8 -0.1
baz=132
NEE2 Needles Airpor 132.56 36 ⇓PKiKP PKPdf 22 34 14.3 +0.4
baz=132
LBNH Lisbon 132.58 349 PFAKE 22 34 30.0 +16
LBNH LR LR
comp=Z,197μm,19.0s
LONY Lake Ozonia 132.64 352 PFAKE 22 34 30.0 +16
LONY LR LR
comp=Z,476μm,21.0s
M26A McRoberts Ranc 132.65 21 ⇑PKiKP PKPdf 22 34 13.6 -0.5
baz=132
IRM Iron Mountain 132.67 37 ⇓PKiKP PKPdf 22 34 13.9 -0.3
baz=133
U15A North Rim 132.68 33 ⇑PKiKP PKPdf 22 34 13.9 -0.6
baz=132
O23A Lake Granby, G 132.68 24 ⇓PKiKP PKPdf 22 34 14.1 -0.3
baz=132
K30A Basset 132.69 17 ⇓PKiKP PKPdf 22 34 14.3 +0.3
baz=132
L28A Connealy Angus 132.72 19 ⇑PKiKP PKPdf 22 34 13.9 -0.2
baz=132
MONP Monument Peak, 132.74 39 ⇓PKiKP PKPdf 22 34 14.0 -0.6
baz=133
PTN Potsdam (NY) 132.75 352 ePKIKP PKPdf 22 34 12.8 -1.2
PTN Potsdam (NY) 132.75 352 ePKPdf PKPdf 22 34 12.8 -1.2
W13A Hualapai Mount 132.76 35 ⇓PKiKP PKPdf 22 34 13.6 -0.9
baz=133
BC3 Big Chuckawall 132.83 38 ⇑PKiKP PKPdf 22 34 14.0 -0.6
baz=133
P22A Eagle 132.84 25 ⇓PKiKP PKPdf 22 34 14.2 -0.5
baz=133
M27A Reverse DX Ran 132.86 20 ⇓PKiKP PKPdf 22 34 13.7 -0.7
baz=133
N25A Grover 132.88 22 ⇑PKiKP PKPdf 22 34 13.6 -1.0
baz=133
L29A Maesberg Ranch 132.99 18 ⇓PKiKP PKPdf 22 34 13.8 -0.8
baz=133
RCBR Riachuelo 133.02 264 PKP PKPdf 22 34 15.8 +0.4
comp=Z,19nm,0.8s,baz=38,slow=2.9,SNR=6.9
RCBR Riachuelo 133.02 264 PKP PKPdf 22 34 15.8 +0.4
RCBR LR LR
comp=Z,346μm,20.0s
PV05 Paradox Valley 133.03 28 ePKPdf PKPdf 22 34 15.1 +0.1
O24A Longmont 133.09 23 ⇓PKiKP PKPdf 22 34 14.4 -0.6
baz=133
SWSC Sam W. Stewart 133.10 39 ⇓PKiKP PKPdf 22 34 14.5 -0.5
baz=133
SMCO Snowmass 133.10 26 ePKPpre PKPpre 22 34 09.5
ISCO Springs 133.15 24 ⇑PKiKP PKPdf 22 34 14.3 -1.0
baz=133
ISCO Idaho Springs 133.15 24 PFAKE 22 34 30.0 +15
ISCO LR LR
comp=Z,378μm,21.0s
PDMCI Parker Dam,Lak 133.17 36 ⇓PKiKP PKPdf 22 34 14.6 -0.5
baz=133
N26A Koester Ranch, 133.18 21 ⇑PKiKP PKPdf 22 34 14.1 -0.9
baz=133
YUH Yuha Desert 133.21 39 ePKPpre PKPpre 22 34 06.5
NCB Newcomb 133.23 351 PFAKE 22 34 30.0 +15
NCB LR LR
comp=Z,372μm,22.0s
M28A Bar X Bar Ranc 133.31 19 ⇑PKiKP PKPdf 22 34 14.6 -0.7
baz=133
Y12C Blythe 133.33 37 ⇑PKiKP PKPdf 22 34 14.7 -0.7
baz=133
L30A Spencer Herefo 133.33 17 ⇑PKiKP PKPdf 22 34 14.6 -0.6
baz=133
L31A Butterfield Fa 133.37 16 ⇑PKiKP PKPdf 22 34 14.5 -0.8
baz=133
P23A Jefferson 133.42 25 ⇑PKiKP PKPdf 22 34 15.2 -0.6
baz=133
N27A Anderson Farm, 133.45 21 ⇑PKiKP PKPdf 22 34 15.0 -0.5
baz=133
O25A Wiggins 133.47 22 ⇓PKiKP PKPdf 22 34 15.1 -0.6
baz=133
M29A Burnside Ranch 133.49 18 ⇓PKiKP PKPdf 22 34 15.1 -0.5
baz=133
OGNE Ogallala 133.50 20 ⇓PKiKP PKPdf 22 34 14.7 -0.9
baz=133
OGNE Ogallala 133.50 20 PFAKE 22 34 30.0 +14
OGNE LR LR
comp=Z,441μm,22.0s
GLA Glamis 133.62 38 ⇓PKiKP PKPdf 22 34 15.7 -0.4
baz=134
M30A Dale-Ortello V 133.66 18 ⇑PKiKP PKPdf 22 34 15.0 -0.9
baz=134
O26A Horse Wrangler 133.66 22 ⇓PKiKP PKPdf 22 34 15.0 -1.0
baz=134
P24A Kohler Place, 133.68 24 ⇑PKiKP PKPdf 22 34 15.7 -0.4
baz=134
ACCN Adirondack Com 133.71 351 ePP PP 22 36 38.4 -5.2
Q23A Hartsel 133.81 25 ⇓PKiKP PKPdf 22 34 15.8 -0.8
baz=134
WUAZ Wupatki 133.85 33 ⇑PKiKP PKPdf 22 34 16.1 -0.5
baz=134
WUAZ Wupatki 133.85 33 PFAKE 22 34 30.0 +13
WUAZ LR LR
comp=Z,176μm,22.0s
N28A Pribbeno Ranch 133.89 20 ⇑PKiKP PKPdf 22 34 15.7 -0.7
baz=134
P25A Willow Gulch B 133.97 23 ⇓PKiKP PKPdf 22 34 15.8 -0.9
baz=134
MVCO Mesa Verde 134.00 29 ⇑PKiKP PKPdf 22 34 16.3 -0.6
baz=134
MVCO Mesa Verde 134.00 29 ePKPdf PKPdf 22 34 15.2 -1.7
MVCO LR LR
comp=Z,373μm,20.0s
O27A Beecher Island 134.01 21 ⇓PKiKP PKPdf 22 34 16.1 -0.5
baz=134
Q24A Divide 134.05 24 ⇑PKiKP PKPdf 22 34 16.0 -1.0
baz=134
Q24A Divide 134.05 24 PFAKE 22 34 30.0 +13
Q24A LR LR
comp=Z,348μm,22.0s
N29A Votaw Ranch, W 134.08 19 ⇓PKiKP PKPdf 22 34 15.6 -1.1
baz=134
Y14A Wickenburg 134.09 36 ⇓PKiKP PKPdf 22 34 15.7 -1.2
baz=134
M31A Lambtecht Ranc 134.10 17 ⇓PKiKP PKPdf 22 34 15.4 -1.3
baz=134
HRV Adam Dziewonsk 134.18 348 PFAKE 22 34 30.0 +13
HRV LR LR
comp=Z,197μm,21.0s
P26A Davis Ranch, A 134.25 22 ⇑PKiKP PKPdf 22 34 15.9 -1.3
baz=134
N30A Hueftle Ranch, 134.26 18 ⇑PKiKP PKPdf 22 34 16.1 -0.9
baz=134
BGNE Belgrade 134.28 16 ⇓PKiKP PKPdf 22 34 15.9 -1.0
baz=134
BGNE Belgrade 134.28 16 ePKPdf PKPdf 22 34 17.0 0.0
O28A Krutsinger Ran 134.32 20 ⇓PKiKP PKPdf 22 34 16.5 -0.7
baz=134
S22A 4UR Ranch, Cre 134.34 27 ⇓PKiKP PKPdf 22 34 16.5 -1.0
baz=134
S22A 4UR Ranch, Cre 134.34 27 ePKPdf PKPdf 22 34 12.8 -4.8
S22A LR LR
comp=Z,290μm,20.0s
TRY Troy 134.35 350 ePKPdf PKPdf 22 34 14.8 -2.2
R23A Moffat 134.42 25 ⇓PKiKP PKPdf 22 34 17.1 -0.6
baz=134
JFWS Jewell Farm 134.45 8 ePP PP 22 36 43.2 -5.0
JFWS LR LR
comp=Z,607μm,20.0s
Q25A Bedland, Calha 134.46 23 ⇑PKiKP PKPdf 22 34 16.7 -0.9
baz=134
113A Mohawk Valley, 134.46 37 ⇑PKiKP PKPdf 22 34 17.0 -0.5
baz=134
P27A Ficken Ranch, 134.53 21 ⇓PKiKP PKPdf 22 34 16.9 -0.8
baz=134
Z14A Wintersburg 134.54 36 ⇓PKiKP PKPdf 22 34 16.9 -0.7
baz=134
QUA2 Belchertown 134.55 349 ePKPdf PKPdf 22 34 17.9 +0.5
N31A Bailey Ranch, 134.59 17 ⇓PKiKP PKPdf 22 34 16.5 -1.1
baz=134
X16A Lo Mia Camp, P 134.63 34 ⇑PKiKP PKPdf 22 34 17.5 -0.5
baz=134
O29A 4D1 Ranch, Culb 134.65 19 ⇑PKiKP PKPdf 22 34 16.9 -0.9
baz=134
R24A Sanders Place, 134.69 25 ⇓PKiKP PKPdf 22 34 17.4 -0.7
baz=134
Q26A Hugo 134.73 23 ⇑PKiKP PKPdf 22 34 17.7 -0.4
baz=135
BRYW Bryant College 134.74 348 ePKPdf PKPdf 22 34 18.1 +0.3
S23A Nye Farm, Mont 134.75 26 ⇓PKiKP PKPdf 22 34 17.5 -0.8
baz=135
P28A Saint Francis 134.81 21 ⇓PKiKP PKPdf 22 34 17.2 -1.0
baz=135
N32A Stulken Farm, 134.83 17 ⇓PKiKP PKPdf 22 34 17.2 -0.9
baz=135
O30A MW Ranch, Wils 134.84 19 ⇓PKiKP PKPdf 22 34 17.2 -0.9
baz=135
MMNY Mt. Morris Dam 134.89 355 ePKPdf PKPdf 22 34 18.0 0.0
SCIA State Center 134.95 11 ePKPdf PKPdf 22 34 19.7 +1.5
SCIA LR LR
comp=Z,436μm,22.0s
KSCO Kaye Shedlock' 135.00 22 ⇑PKiKP PKPdf 22 34 17.5 -1.0
baz=135
W18A Petrified Fore 135.02 32 ⇑PKiKP PKPdf 22 34 18.7 -0.1
baz=135
P29A Atwood 135.07 20 ⇓PKiKP PKPdf 22 34 18.1 -0.5
baz=135
O31A Woolen Ranch, 135.09 18 ⇑PKiKP PKPdf 22 34 17.9 -0.7
baz=135
R25A Fountain Ranch 135.10 24 ⇓PKiKP PKPdf 22 34 18.1 -0.7
baz=135
S24A Houchin Ranch, 135.14 25 ⇑PKiKP PKPdf 22 34 19.3 +0.2
baz=135
BINY Binghamton 135.21 353 PFAKE 22 34 30.0 +11
BINY LR LR
comp=Z,424μm,20.0s
Q28A Sharon Springs 135.24 21 ⇑PKiKP PKiKP 22 34 19.9 -0.6
baz=135
T23A Casias Ranch, 135.29 27 ⇓PKiKP PKiKP 22 34 20.2 -0.7
baz=135
R26A Arlington 135.30 23 ⇓PKiKP PKPdf 22 34 19.8 +0.6
baz=135
O32A Brockman Farm, 135.31 17 ⇓PKiKP PKiKP 22 34 20.2 -0.3
baz=135
P30A Selden 135.35 19 ⇑PKiKP PKiKP 22 34 19.9 -0.8
baz=135
X18A Snowflake 135.36 32 ⇓PKiKP PKPdf 22 34 19.9 +0.5
baz=135
S25A Robets Cordova 135.45 25 ⇓PKiKP PKPdf 22 34 19.6 +0.1
baz=135
AAM Ann Arbor 135.54 1 PFAKE 22 34 30.0 +11
AAM LR LR
comp=Z,490μm,20.0s
T24B San Luis 135.55 26 ⇑PKiKP PKPdf 22 34 19.6 -0.3
baz=135
R27A Eads 135.57 23 ⇓PKiKP PKPdf 22 34 19.6 0.0
baz=135
214A Organ Pipe Nat 135.61 37 ⇓PKiKP PKPdf 22 34 20.0 +0.2
baz=136
ERPA Erie 135.65 357 ePP PP 22 36 50.2 -5.6
ERPA LR LR
comp=Z,495μm,20.0s
P31A Stockton 135.65 18 ⇓PKiKP PKPdf 22 34 19.8 +0.1
baz=136
Q29A Oakley 135.69 20 ⇓PKiKP PKPdf 22 34 20.1 +0.3
baz=136
P32A Huiting Farm, 135.80 17 ⇑PKiKP PKPdf 22 34 20.0 +0.2
baz=136
KSPA Keystone Colle 135.81 352 ePKPdf PKPdf 22 34 19.1 -0.7
Q30A Quinter 135.88 19 ⇑PKiKP PKPdf 22 34 20.2 +0.1
baz=136
S26A Kim 135.88 24 ⇓PKiKP PKPdf 22 34 20.2 0.0
baz=136
R28A Tribune 135.89 21 ⇑PKiKP PKPdf 22 34 19.8 -0.4
baz=136
T25A Trinidad 135.91 25 ⇑PKiKP PKPdf 22 34 20.3 -0.2
baz=136
T25A Trinidad 135.91 25 ePKPpre PKPpre 22 34 11.2
T25A LR LR
comp=Z,309μm,21.0s
S27A Las Animas 136.05 23 ⇓PKiKP PKPdf 22 34 20.3 -0.3
baz=136
R29A Marienthal 136.06 21 ⇑PKiKP PKPdf 22 34 20.5 0.0

baz=136
PAL **Palisades** **136.07 350** *e*PKIKP **PKPdf** **22 34 20.1 -0.2**
PAL MLR MLR
comp=Z,418µm,22.0s
PAL **Palisades** **136.07 350** *e*PKPdf **PKPdf** **22 34 20.1 -0.2**
PAL LR LR
comp=Z,418µm,22.0s
Q31A **Ellis** **136.12 19** ⇑PKiKP **PKPdf** **22 34 20.8 +0.3**
baz=136
ALLY **Alegheny Colle** **136.13 357** *e*PP PP 22 37 02.3 +3.5
U24A **Moreno Valley** **136.14 26** ⇓PKiKP **PKPdf** **22 34 21.1 +0.2**
baz=136
T26A **Comanche Natio** **136.21 24** ⇑PKiKP **PKPdf** **22 34 21.2 +0.3**
baz=136
P33A **Williams Farm,** **136.24 17** ⇑PKiKP **PKPdf** **22 34 21.1 +0.4**
baz=136
V23A **Ortiz Mt. (NFS** **136.28 28** ⇑PKiKP **PKPdf** **22 34 21.2 0.0**
baz=136
Q32A **Meitler Ranch,** **136.39 18** ⇓PKiKP **PKPdf** **22 34 21.3 +0.3**
baz=136
R30A **Dighton** **136.48 20** ⇓PKiKP **PKPdf** **22 34 21.1 -0.1**
baz=136
S28A **Manter** **136.52 22** ⇓PKiKP **PKPdf** **22 34 21.2 -0.2**
baz=136
U25A **Circle Dot Ran** **136.53 25** ⇑PKiKP **PKPdf** **22 34 21.4 -0.2**
baz=136
TUC **Tucson** **136.55 35** PFAKE 22 34 30.0 +8.4
TUC LR LR
comp=Z,208µm,21.0s
Q33A **Connelly Farm,** **136.60 17** ⇑PKiKP **PKPdf** **22 34 21.7 +0.3**
baz=136
T27A **Campo** **136.66 23** ⇑PKiKP **PKPdf** **22 34 21.4 -0.3**
baz=136
R31A **Burdett** **136.73 19** ⇓PKiKP **PKPdf** **22 34 21.8 +0.1**
baz=136
S29A **Ulysses** **136.78 21** ⇓PKiKP **PKiKP** **22 34 23.4 -0.3**
baz=137
ANMO **Albuquerque** **136.80 29** PFAKE 22 34 30.0 +7.9
ANMO LR LR
comp=Z,346µm,20.0s
U26A **Atchley Ranch,** **136.82 25** ⇑PKiKP **PKiKP** **22 34 23.8 -0.1**
baz=137
T28A **Walsh** **136.85 23** ⇓PKiKP **PKiKP** **22 34 23.5 -0.3**
baz=137
KSU1 **Kansas State U** **136.85 16** ⇓PKiKP **PKiKP** **22 34 23.1 -0.5**
baz=137
KSU1 **Kansas State U** **136.85 16** PFAKE 22 34 30.0 +8.2
KSU1 LR LR
comp=Z,464µm,20.0s
R32A **Long Quarter,** **136.87 18** ⇑PKiKP **PKiKP** **22 34 23.5 -0.2**
baz=137
V25A **Rancho No Teng** **136.91 26** ⇑PKiKP **PKiKP** **22 34 24.0 -0.1**
baz=137
SSPA **Standing Stone** **136.97 354** PFAKE 22 34 30.0 +8.0
SSPA LR LR
comp=Z,315µm,20.0s
S30A **Montezuma** **136.99 21** ⇑PKiKP **PKiKP** **22 34 23.8 -0.3**
baz=137
T29A **Hugoton** **137.12 22** ⇓PKiKP **PKiKP** **22 34 24.0 -0.3**
baz=137
U27A **Thompson Grove** **137.17 24** ⇑PKiKP **PKiKP** **22 34 23.7 -0.8**
baz=137
R33A **Olander Ranch,** **137.19 18** ⇓PKiKP **PKPdf** **22 34 23.4 +0.9**
baz=137
Y22D **IRIS PASSCAL I** **137.28 30** ⇓PKiKP **PKiKP** **22 34 25.1 +0.2**
baz=137
SFIN **Lafayette** **137.29 5** ⇓PKiKP **PKiKP** **22 34 24.3 -0.2**
baz=137
V26A **Tequesquite Ra** **137.31 25** ⇑PKiKP **PKiKP** **22 34 24.7 -0.1**
baz=137
S31A **Mullinville** **137.35 20** ⇑PKiKP **PKiKP** **22 34 24.4 -0.3**
baz=137
BNM **Barren Site** **137.36 30** *e*PKPdf **PKPdf** **22 34 20.9 -2.3**
MVL **Millersville** **137.42 353** *e*PKPdf **PKPdf** **22 34 18.6 -4.2**
U28A **Mallet** **137.45 23** ⇑PKiKP **PKiKP** **22 34 24.6 -0.5**
baz=137
S32A **Newby Ranch, P** **137.46 19** ⇓PKiKP **PKiKP** **22 34 24.6 -0.3**
baz=137
T30A **Plains** **137.50 21** ⇓PKiKP **PKiKP** **22 34 24.7 -0.4**
baz=137
W25A **X Bar L Ranch,** **137.50 26** ⇓PKiKP **PKiKP** **22 34 25.4 +0.2**
baz=137
Q37A **Longview Farm,** **137.60 13** ⇓PKiKP **PKPdf** **22 34 24.1 +0.9**
baz=137
ACSO **Alum Creek Sta** **137.61 0** PFAKE 22 34 30.0 +6.8
ACSO LR LR
comp=Z,373µm,22.0s
V27A **Dan Oppiter Fa** **137.74 24** ⇑PKiKP **PKiKP** **22 34 25.1 -0.5**
baz=138
T31A **Randall Ranch,** **137.75 20** ⇑PKiKP **PKiKP** **22 34 25.1 -0.4**
baz=138
U29A **Oasis Ranch, S** **137.75 22** ⇑PKiKP **PKiKP** **22 34 25.2 -0.5**
baz=138
S33A **Kaszmaul Farm,** **137.85 18** ⇑PKiKP **PKiKP** **22 34 25.7 0.0**
baz=138
U30A **WK&E Inc. Balk** **137.92 22** ⇓PKiKP **PKiKP** **22 34 26.2 +0.2**
baz=138
W26A **Owens Ranch, T** **137.92 26** ⇑PKiKP **PKiKP** **22 34 26.2 +0.1**
baz=138
T32A **Huddler Ranch,** **137.93 19** ⇑PKiKP **PKiKP** **22 34 25.8 -0.1**
baz=138
V28A **Channing** **138.00 24** ⇓PKiKP **PKiKP** **22 34 25.6 -0.6**
baz=138
S34A **Willow Spring** **138.02 17** ⇓PKiKP **PKiKP** **22 34 25.2 -0.8**
baz=138
121A **Cookes Peak, D** **138.05 32** ⇓PKiKP **PKiKP** **22 34 26.8 +0.4**
baz=138
R37A **Teagarden Farm** **138.05 14** ⇓PKiKP **PKPdf** **22 34 24.9 +0.9**
baz=138
319A **Douglas** **138.10 35** ⇑PKiKP **PKiKP** **22 34 27.3 +0.8**
baz=138
V29A **Stinnett** **138.17 23** ⇑PKiKP **PKiKP** **22 34 27.0 +0.5**
baz=138
T33A **Patterson Ranc** **138.24 19** ⇓PKiKP **PKiKP** **22 34 27.1 +0.6**
baz=138
S35A **Otter Creek Ra** **138.26 16** ⇑PKiKP **PKiKP** **22 34 26.1 -0.5**
baz=138
U31A **Nine Bar Ranch** **138.35 21** ⇑PKiKP **PKiKP** **22 34 26.6 -0.2**
baz=138
S36A **Lake Cedric, C** **138.41 15** ⇑PKiKP **PKPdf** **22 34 25.6 +0.9**
baz=138
W28A **Vega** **138.43 24** ⇑PKiKP **PKiKP** **22 34 26.8 -0.3**
baz=138
V30A **Spur Ranch, Mi** **138.58 22** ⇑PKiKP **PKiKP** **22 34 27.0 -0.3**
baz=138
U32A **Winter Ranch,** **138.63 20** ⇓PKiKP **PKiKP** **22 34 27.9 +0.5**
baz=138
W29A **Amarillo** **138.78 24** ⇑PKiKP **PKiKP** **22 34 28.1 +0.3**
baz=139
U33A **Lingo Farm, Me** **138.88 19** ⇑PKiKP **PKiKP** **22 34 27.6 -0.3**
baz=139
V31A **Spring Creek L** **138.88 21** ⇑PKiKP **PKiKP** **22 34 27.9 0.0**
baz=139
AMTX **Amarillo** **138.97 24** ⇑PKiKP **PKiKP** **22 34 28.8 +0.7**
baz=139
AMTX **Amarillo** **138.97 24** *e*PP PP 22 37 17.6 +0.5
AMTX LR LR
comp=Z,382µm,20.0s
U34A **Anderson Ranch** **139.06 18** ⇑PKiKP **PKiKP** **22 34 28.2 +0.1**
baz=139
U34A **Anderson Ranch** **139.06 18** *e*PP PP 22 37 11.5 -5.8
U34A LR LR
comp=Z,392µm,21.0s
X28A **Dimmitt** **139.07 25** ⇑PKiKP **PKiKP** **22 34 28.7 +0.2**
baz=139
W30A **Crocket Farms** **139.14 22** ⇑PKiKP **PKiKP** **22 34 28.0 -0.5**
baz=139
V32A **Arapaho** **139.22 20** ⇓PKiKP **PKiKP** **22 34 28.5 0.0**
baz=139
MSTX **Muleshoe** **139.30 26** ⇑PKiKP **PKiKP** **22 34 28.3 -0.6**
baz=139
CBN **Corbin Frederi** **139.32 353** PFAKE 22 34 40.0 +14
CBN LR LR
comp=Z,441µm,20.0s
X29A **Tulia** **139.34 24** ⇑PKiKP **PKiKP** **22 34 28.8 -0.2**
baz=139
W31A **Holland Ranch,** **139.37 22** ⇑PKiKP **PKiKP** **22 34 28.8 -0.1**
baz=139
V33A **Lossen Ranch,** **139.38 19** ⇑PKiKP **PKiKP** **22 34 28.8 -0.1**
baz=139
WCI **Wyandotte Cave** **139.49 4** PFAKE 22 34 40.0 +13
WCI LR LR
comp=Z,223µm,19.0s
Y28A **McKinney Farm,** **139.58 25** ⇓PKiKP **PKiKP** **22 34 29.6 +0.1**
baz=139
V34A **Guthrie** **139.62 18** ⇓PKiKP **PKiKP** **22 34 29.3 -0.1**
baz=139
V34A **Guthrie** **139.62 18** PFAKE 22 34 40.0 +13
V34A LR LR
comp=Z,319µm,19.0s
TRQA **Tornquist** **139.63 206** *e*PP PP 22 37 25.8 +4.6
TRQA LR LR
comp=Z,453µm,21.0s
USIN **University of** **139.63 6** *e*PKPpre PKPpre 22 34 22.1
USIN *e*SKPbc SKPbc 22 37 52.1 -8.2
X30A **Coker Ranch, T** **139.67 23** ⇑PKiKP **PKiKP** **22 34 28.6 -0.9**
baz=140
W32A **Sentinel** **139.68 21** ⇓PKiKP **PKiKP** **22 34 29.0 -0.5**
baz=140
SIUC **Southern Illin** **139.70 8** *e*PP PP 22 37 19.7 -1.3
X31A **McDonald Ranch** **139.85 22** ⇑PKiKP **PKiKP** **22 34 29.7 -0.2**
baz=140
Y29A **Porterfield Fa** **139.86 25** ⇑PKiKP **PKiKP** **22 34 30.5 +0.4**
baz=140
V35A **Meyer Ranch, C** **139.89 18** ⇑PKiKP **PKiKP** **22 34 30.1 +0.2**
baz=140
W33A **Caddo, Fort Co** **139.93 20** ⇑PKiKP **PKiKP** **22 34 29.8 -0.2**
baz=140
MNTX **Cornudas Mount** **139.95 30** ⇑PKiKP **PKiKP** **22 34 30.3 +0.1**
baz=140
MNTX **Cornudas Mount** **139.95 30** PFAKE 22 34 40.0 +12
MNTX LR LR
comp=Z,314µm,22.0s
URVA **University of** **139.96 353** *e*PKPdf **PKPdf** **22 34 24.1 -3.4**
Z28A **Tucker Farm, M** **140.05 26** ⇓PKiKP **PKiKP** **22 34 29.7 -0.7**
baz=140
TUL1 **Leonard** **140.06 16** ⇑PKiKP **PKiKP** **22 34 30.4 +0.2**
baz=140
W34A **Bridge Creek,** **140.08 19** ⇑PKiKP **PKiKP** **22 34 29.7 -0.6**
baz=140
W34A **Bridge Creek,** **140.08 19** PFAKE 22 34 40.0 +12
W34A LR LR
comp=Z,428µm,22.0s
Y30A **Stafford Cattl** **140.16 24** ⇑PKiKP **PKiKP** **22 34 30.3 -0.4**
baz=140
WMOK **Wichita Mounta** **140.19 21** *e*PP PP 22 37 29.1 +4.7
WMOK LR LR
comp=Z,327µm,22.0s
PLCA **Paso Flores** **140.21 195** PKhKP PKPpre 22 34 20.4
comp=Z,4.0nm,0.7s,baz=251,slow=1.8,SNR=11
X32A **Elmer** **140.30 21** ⇓PKiKP **PKiKP** **22 34 30.1 -0.7**
baz=140
Y31A **Rekieta Farm,** **140.34 23** ⇑PKiKP **PKiKP** **22 34 30.2 -0.7**
baz=140
Z29A **Hungry Hill Ra** **140.36 25** ⇓PKiKP **PKiKP** **22 34 29.9 -1.2**
baz=140
PBMO **Poplar Bluff** **140.43 10** *e*PKPpre PKPpre 22 34 23.2
X33A **Lawton** **140.47 20** ⇑PKiKP **PKiKP** **22 34 30.8 -0.3**
baz=140
BLA **Blacksburg** **140.56 357** *e*PP PP 22 37 27.2 +0.8
BLA LR LR
comp=Z,652µm,21.0s
128A **Castleberry Fa** **140.57 26** ⇑PKiKP **PKiKP** **22 34 31.7 +0.2**
baz=140
Z30A **Sanderson Ranc** **140.58 24** ⇑PKiKP **PKiKP** **22 34 31.4 -0.1**
baz=140
Y32A **R-V Farms, Ver** **140.61 22** ⇓PKPdf PKPpre 22 34 22.2
baz=140
X34A **Smith Ranch, M** **140.64 20** ⇑PKPdf PKPpre 22 34 23.0
baz=140
129A **Stewart Farms,** **140.83 26** ⇑PKPdf PKPpre 22 34 23.4
baz=141
Y33A **Hilltop Ranch,** **140.91 21** ⇑PKPdf PKPpre 22 34 23.5
baz=141
228A **UT Block 9, Go** **140.95 27** ⇑PKPdf PKPpre 22 34 23.6
baz=141
Z31A **Sharp Cattle R** **140.95 23** ⇓PKPdf PKPpre 22 34 23.6
baz=141
Z32A **Haskell** **141.22 22** ⇑PKPdf PKPpre 22 34 23.7
baz=141
130A **Snyder** **141.25 25** ⇑PKPdf PKPpre 22 34 23.7
baz=141
Y34A **Reagan Ranch,** **141.25 20** ⇑PKPdf PKPpre 22 34 24.1
baz=141
BBSR **BB Station** **141.39 335** PFAKE 22 34 40.0 +10
BBSR LR LR
comp=Z,173µm,19.0s
131A **Roby** **141.42 24** ⇑PKPdf PKPpre 22 34 24.4
baz=141
229A **Bryant Ranch,** **141.43 26** ⇑PKPdf PKPpre 22 34 25.2
baz=141
WVT **Waverly** **141.43 6** *e*PP PP 22 37 31.0 -0.6
WVT LR LR
comp=Z,276µm,20.0s
Z33A **Whitaker Ranch** **141.50 22** ⇑PKPdf PKPpre 22 34 24.5
baz=141
Z34A **Collier Ranch,** **141.73 21** ⇓PKPdf PKPpre 22 34 25.7
baz=142
329A **Wagon Wheel Ra** **141.76 27** ⇓PKPdf PKPpre 22 34 25.0
baz=142
ABTX **Abilene, Hawle** **141.76 23** ⇑PKPdf PKPpre 22 34 25.4
baz=142
230A **Sterling City** **141.80 25** ⇑PKPdf PKPpre 22 34 25.4
baz=142
MIAR **Mount Ida** **141.94 14** *e*PKHKP PKPpre 22 34 25.2
MIAR MLR MLR
comp=Z,345µm,20.0s
MIAR **Mount Ida** **141.94 14** *e*PKPpre PKPpre 22 34 25.2
MIAR LR LR
comp=Z,345µm,20.0s
Z35A **Perchaven, San** **142.00 20** ⇑PKPdf PKPpre 22 34 25.4
baz=142
UALR **University of** **142.01 13** *e*PKPpre PKPpre 22 34 26.5
133A **Hamilton Ranch** **142.05 22** ⇑PKPdf PKPpre 22 34 25.5
baz=142
231A **Bronte** **142.09 24** ⇓PKPdf PKPpre 22 34 25.6
baz=142
330A **Mertzon** **142.18 26** ⇓PKPdf PKPpre 22 34 26.1
baz=142
CNNC **Cliffs of the** **142.31 353** PFAKE 22 34 40.0 +8.2
CNNC LR LR
comp=Z,712µm,21.0s
134A **White-Moore Ra** **142.40 21** ⇓PKPdf PKPpre 22 34 26.5
baz=142
232A **Coleman** **142.41 24** ⇑PKPdf PKPpre 22 34 26.9
baz=142
SWET **Sewanee** **142.51 4** *e*PKPpre PKPpre 22 34 26.1
429A **Davenport Ranc** **142.52 27** ⇑PKPdf PKPpre 22 34 27.5
baz=142
LPIG **La Paz** **142.55 44** PKhKP PKPpre 22 34 29.4
comp=Z,18nm,0.3s,baz=340,slow=2.0,SNR=3.3
233A **Rising Star** **142.59 23** ⇑PKPdf PKPpre 22 34 27.2
baz=142
331A **San Angelo** **142.59 25** ⇓PKPdf PKPpre 22 34 27.2
baz=142
135A **Vickery Place,** **142.65 20** ⇑PKPdf PKPpre 22 34 27.9
baz=142
KMSC **Kings Mountain** **142.67 358** ⇑PKPdf PKPpre 22 34 28.0
baz=142
430A **Baggett Ranch,** **142.69 27** ⇑PKPdf PKPpre 22 34 28.3
baz=142
LTX **Lajitas** **142.73 31** *e*PKiKP PKPpre 22 34 29.0
LTX **Lajitas** **142.73 31** *e*PKPpre PKPpre 22 34 29.0
TXAR **Lajitas Array** **142.73 31** PKhKP PKPpre 22 34 29.0
comp=Z,24nm,0.7s,baz=22,2,slow=1.3,SNR=35
529A **Stev Forest Ra** **142.79 28** ⇑PKPdf PKPpre 22 34 28.5
baz=143
332A **Millersview** **142.81 24** ⇓PKPdf PKPpre 22 34 28.7
baz=143
OXF **Oxford** **142.81 9** PFAKE 22 34 40.0 +7.2
OXF LR LR
comp=Z,398µm,21.0s
234A **Clairette** **142.89 22** ⇑PKPdf **PKPdf** **22 34 28.3 -4.7**
baz=143
431A **Sonora** **143.05 26** ⇑PKPdf PKPab 22 34 29.0 +0.3
baz=143
SLBS **Sierra La Lagu** **143.07 44** *e*PKPdf PKPbc 22 34 31.4 +1.0
SLBS LR LR
comp=Z,159µm,20.0s
WHTX **Lake Whitney,** **143.14 21** ⇓PKPdf PKPab 22 34 29.1 +0.2
baz=143
137A **Heron Place, G** **143.16 18** ⇑PKPdf PKPab 22 34 29.5 +0.5
baz=143
333A **Richland Sprin** **143.17 23** ⇓PKPdf PKPab 22 34 29.0 0.0
baz=143
530A **J-C Ranch, Com** **143.18 27** ⇓PKPdf PKPbc 22 34 30.2 -0.3
baz=143
BDFB **Brasilia** **143.20 247** PKP PKPbc 22 34 32.1 +1.1
comp=Z,28nm,0.9s,baz=104,slow=2.0,SNR=12
432A **Menard** **143.23 25** ⇑PKPdf PKPab 22 34 30.0 +0.6
baz=143
138A **Matatall Enter** **143.30 17** ⇑PKPdf PKPbc 22 34 30.2 -0.5
baz=143
334A **Lometa** **143.45 22** ⇓PKPdf PKPab 22 34 30.5 +0.3
baz=143
531A **Rocksprings** **143.52 26** ⇑PKPdf PKPab 22 34 30.6 +0.1
baz=143
JCT **Junction City** **143.57 25** ⇑PKPdf PKPab 22 34 30.5 -0.3
baz=143
JCT **Junction City** **143.57 25** PFAKE 22 34 50.0 +16
JCT LR LR
comp=Z,314µm,22.0s
433A **Art** **143.63 24** ⇓PKPdf PKPab 22 34 30.3 -0.6
baz=144
237A **Washetta, Mont** **143.69 19** ⇓PKPdf PKPab 22 34 31.2 +0.2
baz=144
335A **Moody** **143.80 21** ⇑PKPdf PKPab 22 34 31.1 -0.4
baz=144
532A **Rocksprings** **143.84 25** ⇑PKPdf PKPab 22 34 31.7 0.0
baz=144
434A **Burnet** **143.90 23** ⇑PKPdf PKPab 22 34 31.0 -0.9
baz=144
238A **Jacksonville** **143.91 18** ⇓PKPdf PKPbc 22 34 32.2 -0.3
baz=144
336A **Riesel** **143.91 20** ⇑PKPdf PKPab 22 34 31.8 -0.1
baz=144
239A **Gary** **144.09 17** ⇓PKPdf **PKPab** **22 34 32.4 -0.2**
baz=144
631A **Perdido Creek** **144.15 27** ⇑PKPdf **PKPab** **22 34 32.5 -0.4**
baz=144
435B **Jarrell** **144.19 22** ⇑PKPdf **PKPab** **22 34 32.8 -0.2**
baz=144
533A **Kerrville** **144.25 24** ⇑PKPdf **PKPab** **22 34 33.1 -0.1**
baz=144
NATX **Nacogdoches** **144.27 17** PFAKE 22 34 50.0 +15
NATX LR LR
comp=Z,497µm,20.0s
337A **Centerville** **144.30 19** ⇓PKPdf PKPbc 22 34 33.7 0.0
baz=144
GOGA **Godfrey** **144.42 1** PFAKE 22 34 50.0 +14
GOGA LR LR
comp=Z,339µm,20.0s
632A **Uvalde** **144.42 26** ⇑PKPdf **PKPab** **22 34 33.9 0.0**
baz=144
338A **Crockett** **144.45 18** ⇑PKPdf **PKPab** **22 34 33.8 -0.1**
baz=144
436A **Wall Ranch, Ga** **144.49 21** ⇓PKPdf **PKPab** **22 34 34.0 -0.1**
baz=144
534A **Blanco** **144.51 24** ⇓PKPdf **PKPab** **22 34 34.1 -0.2**
baz=144
LRAL **Lakeview Retre** **144.58 6** PFAKE 22 34 50.0 +14
LRAL LR LR
comp=Z,330µm,21.0s
NHSC **New Hope** **144.63 356** PFAKE 22 34 50.0 +14
NHSC LR LR
comp=Z,599µm,22.0s
437A **Phantom Ranch,** **144.66 20** ⇓PKPdf **PKPab** **22 34 34.7 0.0**
baz=144
RPN **Rapa Nui** **144.67 137** PKP **PKPdf** **22 34 36.8 +0.6**
comp=Z,252nm,1.0s,baz=273,slow=3.6,SNR=5.9
339A **Huntington** **144.70 17** ⇑PKPdf **PKPab** **22 34 34.8 0.0**
baz=144
633A **Saathoff Ranch** **144.73 25** ⇓PKiKP **PKPdf** **22 34 37.5 +1.2**
baz=145
340A **Bronson** **144.82 16** ⇓PKiKP **PKPdf** **22 34 37.7 +1.3**
baz=145
VBMS **Vicksburg** **144.86 11** *e*PKPdf **PKPdf** **22 34 36.0 -0.4**
VBMS LR LR
comp=Z,331µm,21.0s
535A **Dale** **144.87 22** ⇓PKiKP **PKPdf** **22 34 38.0 +1.5**
baz=145
438A **Sam Houston St** **144.96 19** ⇑PKiKP **PKPdf** **22 34 38.3 +1.7**
baz=145
732A **Laxson Ranch,** **145.01 27** ⇓PKiKP **PKPdf** **22 34 38.6 +1.8**
baz=145
536A **Bastrop** **145.02 22** ⇑PKiKP **PKPdf** **22 34 38.5 +1.7**
baz=145
634A **China Grove, S** **145.14 24** ⇓PKiKP **PKiKP** **22 34 38.9 -1.9**
baz=145
537A **Green Hill Far** **145.28 21** ⇑PKiKP **PKiKP** **22 34 39.6 -1.5**
baz=145
733A **Divot King Ran** **145.32 26** ⇓PKiKP **PKiKP** **22 34 39.4 -1.8**
baz=145
635A **Leesville** **145.36 23** ⇑PKiKP **PKiKP** **22 34 39.7 -1.6**
baz=145
832A **Faith Ranch, C** **145.39 27** ⇑PKiKP **PKiKP** **22 34 40.0 -1.4**
baz=145
538A **Harpers Horsep** **145.44 19** ⇑PKiKP **PKiKP** **22 34 40.4 -1.0**
baz=145
734A **La Parita Cree** **145.52 25** ⇑PKiKP **PKiKP** **22 34 40.6 -1.1**
baz=145
636A **Smothers Creek** **145.56 22** ⇑PKiKP **PKiKP** **22 34 40.7 -1.0**
baz=145
HKT **Hockley** **145.57 20** PFAKE 22 34 50.0 +12
HKT LR LR
comp=Z,443µm,21.0s
833A **Chaparral WMA,** **145.62 26** ⇑PKiKP **PKiKP** **22 34 40.8 -1.1**
baz=146
735A **Kenedy** **145.82 24** ⇓PKiKP **PKiKP** **22 34 41.5 -0.7**
baz=146
834A **Tilden** **146.15 25** ⇓PKiKP **PKiKP** **22 34 42.5 -0.4**
baz=146
933A **Laredo** **146.28 27** ⇓PKiKP **PKiKP** **22 34 43.2 0.0**
baz=146
835A **Beeville** **146.31 24** ⇑PKiKP **PKiKP** **22 34 43.4 +0.1**
baz=146
TIGA **Tifton** **146.38 1** ⇓PKiKP **PKiKP** **22 34 42.9 -0.4**
baz=146
BRAL **Brewton** **146.58 7** *e*PKPdf **PKPbc** **22 34 40.6 -0.2**
934A **Benavides** **146.62 26** ⇓PKiKP **PKiKP** **22 34 44.5 +0.6**
baz=146
738A **Farr-Stevens R** **146.65 21** ⇑PKiKP **PKiKP** **22 34 44.5 +0.5**
baz=146
KVTX **Kingsville** **146.94 25** PFAKE 22 34 50.0 +6.7
KVTX LR LR
comp=Z,223µm,21.0s
034A **Hebbronville** **147.02 26** ⇓PKiKP **PKiKP** **22 34 44.3 -0.4**
baz=147
936A **North Padre Is** **147.29 24** ⇑PKiKP **PKiKP** **22 34 45.5 +0.2**
baz=147
035A **Encino** **147.38 26** ⇓PKiKP **PKiKP** **22 34 46.0 +0.5**
baz=147
CFAA **Coronel Fontan** **147.79 204** PKPbc **PKPbc** **22 34 44.7 +0.4**
comp=Z,9.8nm,0.7s,baz=162,slow=2.5,SNR=24
035Z **Hargill** **147.81 26** ⇓PKiKP **PKiKP** **22 34 45.7 -0.7**
baz=148
ANIG **Ahuacatlan** **148.53 41** P **PKPbc** **22 34 46.0 -0.6**
LCO **Las Campanas** **151.07 202** PFAKE 22 35 00.0 -0.3
LCO LR LR
comp=Z,431µm,19.0s
ANWB **Willy Bob** **151.21 315** *e*P **PKPbc** **22 34 50.2 -2.9**
ANWB **Willy Bob** **151.21 315** PFAKE 22 35 00.0 -0.9
ANWB LR LR
comp=Z,539µm,22.0s
DEG **La Desirade** **151.55 311** *e*P **PKPbc** **22 34 53.3 -0.7**
BPA **Boggy Peak** **151.67 314** *e*P **PKPbc** **22 34 53.6 -0.6**
BPA **Boggy Peak** **151.67 314** *e*P **PKPbc** **22 34 54.5 +0.3**
SEG **Port Louis** **151.82 312** *e*P **PKPbc** **22 34 51.4 -3.1**
SMRT **St. Maarten** **151.85 317** *e*P **PKPdf** **22 34 48.4 +0.2**
SMRT **St. Maarten** **151.85 317** *e*PKPdf **PKPbc** **22 34 52.5 -2.0**
SSG **Sans Toucher** **152.15 312** *e*P **PKPbc** **22 34 54.9 -0.5**
CRG **Carmichael** **152.16 312** *e*P **PKPbc** **22 34 57.5 +1.9**
LKG **Breislack** **152.16 312** *e*P **PKPdf** **22 34 51.9 +3.0**
SEUS **St. Eustatius** **152.17 316** *ep*PKPab *p*PKPab 22 35 13.9 -1.8
FNG **Fond-Bernard** **152.18 312** *e*P **PKPbc** **22 34 58.6 +3.1**
BBGH **Gun Hill** **152.19 304** PFAKE 22 35 00.0 +4.6
BBGH LR LR
comp=Z,559µm,21.0s
LZG **Guadaloupe-1** **152.19 312** *e*P **PKPbc** **22 34 55.1 -0.3**
MLG **Mont-d'or** **152.19 312** *e*P **PKPbc** **22 34 52.2 -3.3**
SABA **Saba** **152.26 316** *e*P **PKPbc** **22 34 52.4 -3.1**
SABA **Saba** **152.26 316** *e*PKPbc **PKPbc** **22 34 57.0 +1.5**
TBG **Guadaloupe-3** **152.28 311** *e*P **PKPbc** **22 34 55.3 -0.3**
DLPL **La Plaine** **152.29 310** *e*P **PKPbc** **22 34 52.8 -2.9**
DLPL **La Plaine** **152.29 310** *e* **PKPbc** **22 34 52.9 -2.8**
BBL **Barber's Block** **152.34 311** *e*P **PKPbc** **22 34 53.6 -2.2**
MVM **Montagne Vaucl** **152.48 308** *e*P **PKPbc** **22 35 01.0 +4.9**
LPMF **Morne Lapointe** **152.53 308** *e*P **PKPbc** **22 35 00.1 +3.9**
FDF **Fort de France** **152.58 309** *e*P **PKPbc** **22 34 52.8 -3.5**
FDF **Fort de France** **152.58 309** *e*P **PKPbc** **22 34 53.0 -3.3**
FDF **Fort de France** **152.58 309** PFAKE 22 35 00.0 +3.7
FDF LR LR
comp=Z,339µm,20.0s
ZAM **Aeronautique** **152.58 308** *e*P **PKPbc** **22 34 53.8 -2.4**
MCLT **Moule a Chique** **153.01 307** *e* **PKPbc** **22 34 58.9 +1.6**
SVB **Belmont** **153.50 306** *e* **PKPdf** **22 34 54.0 +3.3**
SVB **Belmont** **153.50 306** *e*P **PKPbc** **22 34 54.8 -3.5**
HUMP **Col San Antoni** **153.60 321** *e*PKPdf **PKPdf** **22 34 51.1 +0.4**
GRTK **Grand Turk** **153.63 335** *e*PKPab **PKPab** **22 35 09.8 -1.0**
GRTK LR LR
comp=Z,446µm,21.0s

TOSP	Speyside	153.95	302	*e*		**PKPdf**	**22 34 52.9**	**+1.6**
TOSP	Speyside	153.95	302	*e*P		**PKPdf**	**22 34 55.2**	**+3.9**
AOPR	Arecibo Observ	154.00	323	*e*PKPbc		**PKPbc**	**22 35 00.6**	**+1.2**
BOT	Bacolet	154.18	302	*e*		**PKPbc**	**22 35 01.5**	**+1.7**
CAIG	El Cayaco	154.19	41	*e*PKPbc		**PKPbc**	**22 34 57.8**	**-1.9**
TPR	Prospect	154.22	302	*e*	PKPab		22 35 08.2	-5.5
GRSS	Sisters	154.33	305	*e*	PKPbc		22 35 07.0	+6.9
MPR	Mayaguez	154.34	323	*e*PKPdf		**PKPdf**	**22 34 50.4**	**-1.3**
GRGR	Grenville	154.46	305	*e*P		**PKPdf**	**22 34 49.1**	**-2.9**
GRGR	Grenville	154.46	305	PFAKE			22 35 00.0	-0.4
GRGR				LR	LR			
	comp=Z,276µm,22.0s							
SIV	San Ignacio	154.60	236	PKP		**PKPdf**	**22 34 51.8**	**-0.4**
	comp=Z,15nm,1.0s,baz=122,slow=4.7,SNR=7.1							
TBH	Brigand Hill	154.81	301	*e*	PKPbc		22 35 08.5	+7.3
TRN	Trinidad (W)	155.01	302	*e*	PKPab		**22 35 14.9**	**-2.1**
LVC	Limon Verde	155.72	213	PFAKE			22 35 00.0	+6.1
LVC				LR	LR			
	comp=Z,302µm,20.0s							
SDDR	Presa de Saban	155.92	332	PFAKE			22 35 00.0	+6.0
SDDR				LR	LR			
	comp=Z,483µm,20.0s							
GTBY	Guantanamo Bay	156.57	341	PFAKE			22 35 10.0	-13
GTBY				LR	LR			
	comp=Z,402µm,20.0s							
TEIG	Tepich	156.94	13	PFAKE			22 35 10.0	+15
TEIG				LR	LR			
	comp=Z,310µm,20.0s							
PTGA	Pitinga	157.03	274	PKP		**PKPdf**	**22 34 55.7**	**+0.1**
	comp=Z,43nm,1.2s,baz=129,slow=1.1,SNR=10							
PTGA				PKPab		**PKPab**	**22 35 27.1**	**+1.2**
	comp=Z,73nm,1.0s,baz=62,slow=2.8,SNR=7.7							
PTGA	Pitinga	157.03	274	PKP		**PKPdf**	**22 34 55.7**	**+0.1**
PTGA				PKPab		**PKPab**	**22 35 27.1**	**+1.2**
PTGA				LR	LR			
	comp=Z,916µm,20.0s							
CMIG	Matias Romero	157.34	31	PKP		**PKPdf**	**22 34 55.5**	**-0.3**
	comp=Z,16nm,1.0s,baz=70,slow=2.5,SNR=2.7							
PCRV	Puerto La Cruz	157.97	305	PKP		**PKPdf**	**22 34 56.9**	**+0.2**
	comp=Z,28nm,1.2s,baz=67,slow=3.4,SNR=6.8							
BBJ	Bamboo Saint A	158.66	345	*i* PA		PKPdf	22 35 03.5	+6.0
STH	Stony Hill	158.83	344	*i* P		**PKPdf**	**22 34 57.2**	**-0.4**
MTDJ	Mount Denham	158.88	346	*e*PP		PP	22 39 16.0	+3.5
MTDJ				LR	LR			
	comp=Z,413µm,21.0s							
HOJ	Hope	158.88	344	*i* P		**PKPdf**	**22 34 58.2**	**+0.5**
SAML	Samuel	159.34	251	PFAKE			22 35 10.0	+12
SAML				LR	LR			
	comp=Z,708µm,20.0s							
LPAZ	La Paz	159.94	225	PKP		**PKPdf**	**22 34 59.7**	**0.0**
	comp=Z,39nm,1.1s,baz=72,slow=1.6,SNR=28							
APG	El Apazote	161.19	23	PKP		PKPdf	22 34 53.9	-6.7
	comp=Z,13nm,1.0s,baz=260,slow=6.1,SNR=6.2							
APG				PKPab		**PKPab**	**22 35 40.2**	**-3.6**
	comp=Z,129nm,1.0s,baz=234,slow=8.5,SNR=13							
SDV	Santo Domingo	163.45	313	PFAKE			22 35 10.0	+7.1
SDV				LR	LR			
	comp=Z,748µm,20.0s							
JTS	JuntasAbangare	167.26	9	PKP		**PKPdf**	**22 35 03.5**	**-2.3**
	comp=Z,2.6nm,0.5s,baz=321,slow=5.9,SNR=3.2							
JTS				PKPab		**PKPab**	**22 36 08.6**	**-1.6**
	comp=Z,23nm,0.9s,baz=93,slow=5.4,SNR=4.6							
BCIP	Isla Barro Col	168.15	345	*e*PP		PP	22 39 57.3	-4.0
BCIP				LR	LR			
	comp=Z,506µm,21.0s							
NNA	Nana	168.71	212	PKIKP		**PKPdf**	**22 35 06.6**	**-0.2**
NNA				MLR	MLR			
	comp=Z,523µm,20.0s							
NNA	Nana	168.71	212	PKP		**PKPdf**	**22 35 06.6**	**-0.2**
	comp=Z,10nm,0.5s,baz=301,slow=6.4,SNR=3.3							
NNA	Nana	168.71	212	PKP		**PKPdf**	**22 35 06.6**	**-0.2**
NNA				LR	LR			
	comp=Z,523µm,20.0s							
ROSC	El Rosal	168.84	310	PKP		**PKPdf**	**22 35 07.2**	**-0.2**
	comp=Z,68nm,1.1s,baz=98,slow=3.1,SNR=14							
PAYG	Puerto Ayora	172.42	77	PFAKE			22 35 20.0	+11
PAYG				LR	LR			
	comp=Z,455µm,21.0s							
ATAH	Atahualpa	173.48	223	PKP		**PKPdf**	**22 35 10.2**	**+0.5**
	comp=Z,39nm,1.1s,baz=153,slow=1.6,SNR=15							
OTAV	Otavalo	174.87	300	PFAKE			22 35 20.0	+10
OTAV				LR	LR			
	comp=Z,863µm,19.0s							

CSEM ***06*** *22:25:56.2±0.2, 50.27N×18.75E, h2km, ML2.9/7, Error ellipse: s-maj=5.9km s-min=3.3km az=17.0*
IPEC ***06*** *22:25:56.1±0.2, 50.29N×18.82E, h3km±2km, ML2.2/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*

PRU 06 22:25:56.8, 50.28N×18.76E, h0km, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.41**	**242**	*e*Pg	Pb	22 26 06.0	-1.0
RAC				*e*Sg	Sb	22 26 13.0	-0.8
OKC	**Ostrava-Krasne**	**0.59**	**222**	*e*PG	Pg	22 26 07.7	-0.5
OKC				*e*SG	Sg	22 26 16.0	+0.1
	comp=Z,40nm,0.4s						
OKC	**Ostrava-Krasne**	**0.59**	**222**	Pg	Pg	22 26 07.7	-0.5
OKC				Sg	Sg	22 26 16.0	+0.1
	40nm,0.4s						
OJC	**Ojcow**	**0.67**	**95**	*e*Pg	Pg	22 26 08.4	-1.3
OJC				*i* Sg	Sg	22 26 17.1	-1.3
OJC	**Ojcow**	**0.67**	**95**	*e*Pg	Pg	22 26 08.4	-1.3
MORC	**Moravsky Berou**	**0.93**	**238**	*e*Pg	Pg	22 26 14.7	-0.1
MORC				*e*Sg	Sg	22 26 26.3	-0.6
	30nm,0.3s,baz=58						
LANS	**Liptovska Anna**	**1.22**	**158**	*e*Pg	Pg	22 26 19.5	-0.8
KRLC	**Kraliky**	**1.29**	**262**	*e*PG	Pg	22 26 20.4	-1.2
KRLC				*e*SG	Sg	22 26 37.9	-0.5
KRLC	**Kraliky**	**1.29**	**262**	Pg	Pg	22 26 20.4	-1.2
KRLC				Sg	Sg	22 26 37.9	-0.5
NIE	**Niedzica**	**1.32**	**130**	*e*Pg	Pg	22 26 20.7	-1.6
NIE				*e*Sg	Sg	22 26 39.2	-0.3
NIE	**Niedzica**	**1.32**	**130**	*e*Pg	Pg	22 26 20.7	-1.6
DPC	**Dobruska-Polom**	**1.56**	**274**	*e*PG	Pn	22 26 25.3	-0.6
DPC				*e*SG	Sn	22 26 47.0	0.0
DPC	**Dobruska-Polom**	**1.56**	**274**	Pg	Pn	22 26 25.3	-0.6
DPC				Sg	Sn	22 26 47.0	0.0
KSP	**Ksiaz**	**1.67**	**291**	*e*Pn	Pn	22 26 27.1	-0.2
KSP				*i* Pg	Pg	22 26 29.0	+0.1
KSP				*e*Sg	Sg	22 26 51.9	+1.3
KSP	**Ksiaz**	**1.67**	**291**	*e*Pn	Pn	22 26 27.1	-0.2
VRAC	**Vranov**	**1.71**	**236**	*e*Pn	Pn	22 26 27.2	-0.7
	baz=55						
VRAC				*e*Sg	Sb	22 26 50.9	-0.3
	23nm,0.3s,baz=55						
UPC	**Upice**	**1.77**	**278**	*e*PG	Pn	22 26 28.8	+0.1
UPC				*e*SG	Sb	22 26 53.1	+0.1
	comp=Z,7.3nm,0.5s						
UPC	**Upice**	**1.77**	**278**	Pg	Pn	22 26 28.8	+0.1
UPC				Sg	Sb	22 26 53.1	+0.1
	7.3nm,0.5s						
VYHS	**Vyhne**	**1.79**	**178**	*e*Pn	Pn	22 26 27.6	-1.4
VYHS				*e*Sn	Sn	22 26 51.7	-0.7
VYHS	**Vyhne**	**1.79**	**178**	*e*PN	Pn	22 26 27.6	-1.4
VYHS				*e*SN	Sn	22 26 51.7	-0.7
STHS	**Stebnicka Huta**	**1.82**	**117**	*e*Pn	Pn	22 26 29.2	-0.3
STHS	**Stebnicka Huta**	**1.82**	**117**	*e*PN	Pn	22 26 29.2	-0.3
KRUC	**Moravsky**	**1.96**	**232**	*e*Pn	Pn	22 26 30.7	-0.6
	baz=51						
KRUC				*e*Sg	Sb	22 26 58.5	+0.1
	20nm,0.5s,baz=51						
KECS	**Kecovo**	**2.12**	**147**	*e*Pn	Pn	22 26 33.8	+0.3
KECS				*e*Sn	Sn	22 26 58.1	-2.5
KECS	**Kecovo**	**2.12**	**147**	*e*PN	Pn	22 26 33.8	+0.3
KECS				*e*SN	Sn	22 26 58.1	-2.5
CRVS	**Cervenica-Dubn**	**2.23**	**127**	*e*Pn	Pb	22 26 37.3	-0.8
CRVS	**Cervenica-Dubn**	**2.23**	**127**	*e*PN	Pb	22 26 37.3	-0.8
TREC	**Trest**	**2.34**	**246**	*e*PN	Pn	22 26 36.0	-0.5
TREC				*e*PG	Pb	22 26 39.0	-0.9
TREC				*e*SG	Sb	22 27 10.0	+0.7
	comp=Z,8.8nm,0.4s						
TREC	**Trest**	**2.34**	**246**	Pn	Pn	22 26 36.0	-0.5
PVCC	**Panska Ves**	**2.69**	**277**	*e*PN	Pn	22 26 40.8	-0.6
PVCC				*e*PG	Pb	22 26 46.5	+0.6
PVCC				*e*SG	Sg	22 27 22.5	-0.9
PVCC	**Panska Ves**	**2.69**	**277**	Pn	Pn	22 26 40.8	-0.6
PVCC	**Panska Ves**	**2.69**	**277**	Pg	Pb	22 26 46.5	+0.6
PVCC				Sg	Sg	22 27 22.5	-0.9
PRU	**Pruhonice**	**2.73**	**265**	*e*PN	Pn	22 26 40.8	-1.1
PRU				*e*PG	Pb	22 26 46.9	+0.4
PRU				*e*SG	Sg	22 27 22.3	+1.8
	comp=Z,5.7nm,0.4s						
PRU	**Pruhonice**	**2.73**	**265**	Pn	Pn	22 26 40.8	-1.1
PRU	**Pruhonice**	**2.73**	**265**	Pg	Pb	22 26 46.9	+0.4
PRU				Sg	Sb	22 27 22.3	+1.8
	5.7nm,0.4s						
TRPA	**Tarpa**	**3.28**	**130⇑**	*i* P	Pg	22 26 58.0	-1.7
TRPA	**Tarpa**	**3.28**	**130⇑**	*e*P	Pg	22 26 57.9	-1.8
KHC	**Kasperske Hory**	**3.56**	**253**	*e*PN	Pn	22 26 52.1	-1.2
KHC				*e*PG	Pb	22 27 01.8	+1.2
KHC	**Kasperske Hory**	**3.56**	**253**	Pn	Pn	22 26 52.1	-1.2

IDC ***06*** *22:26:04.3±1.0, 2.36N×96.93E, h0km, mb4.7/12, mb1 4.8/12, mb1mx4.4/48, mbtmp4.7/12, Error ellipse: s-maj=45.9km s-min=17.0km az=51.0*
ISCJB ***06*** *22:26:06.7±0.5, 2.16N±0.04×96.73E±0.06, h33km, mb4.8/16, Error ellipse: s-maj=9.0km s-min=6.2km az=169.2*
DJA ***06*** *22:26:09.9±0.6, 2.1N±4.7×9.7E±.7, h25km±11km, M5.6/8, MLv5.6/8*
NEIC ***06*** *22:26:09.6±0.5, 2.40N×97.07E, h35km, mb4.1/1, Error ellipse: s-maj=12.8km s-min=6.8km az=57.0*

ISC 06 22:26:09.2±0.6, 2.30N±0.06×96.96E±0.06, h33km, n45, σ1§06/47, mb4.8/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.64**	**280**	P	**Pb**	**22 26 21.7**	**-0.4**
TPTI		**0.98**	**13**	P	**Pn**	**22 26 27.0**	**+0.4**
TPTI				S	**Sb**	**22 26 41.4**	**+1.1**
KCSI	**Kotacane, Aceh**	**1.46**	**34**	P	**Pb**	**22 26 36.3**	**+0.5**
KCSI				S	**Sb**	**22 26 54.9**	**+0.9**
TSI	**Tuntungan**	**2.00**	**53**	P	**Pn**	**22 26 43.0**	**+2.4**
LHMI	**Lhok Sumawe**	**2.91**	**360**	P	**Pn**	**22 26 54.9**	**+1.7**
LHMI	**Lhok Sumawe**	**2.91**	**360**	*e*Pn	**Pn**	**22 26 52.5**	**-0.7**
MNSI	**Mandailing Nat**	**3.02**	**120**	P	**Pn**	**22 26 57.3**	**+2.7**
IPM	**Ipoh**	**4.60**	**62**	*e*Pn	**Pn**	**22 27 15.0**	**-1.5**
KULM	**Kulim**	**4.73**	**51**	*e*Pn	**Pn**	**22 27 15.4**	**-2.8**
MYKOM	**Kota Tinggi**	**6.90**	**94**	*e*Pn	Pn	22 27 56.8	+8.6
MNAI	**Manna**	**8.93**	**138**	*e*Pn	**Pn**	**22 28 15.3**	**-0.6**
CM31	**Chiang Mai Arr**	**16.17**	**7**	*e*Pn	**P**	**22 29 57.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.17**	**7**	Pn	**P**	**22 29 57.5**	**+0.5**
	0.3nm,0.3s,baz=199,slow=10,SNR=4.1						
KAPI	**Kappang**	**23.90**	**108**	*e*P	**P**	**22 31 20.3**	**+0.1**
	1.5nm,0.9s						
MSEY	**Mahe Island**	**42.02**	**260**	*e*S	**S**	**22 40 16.2**	**+1.0**
WRA	**Warramunga Arr**	**42.82**	**123**	P	**P**	**22 34 04.8**	**+0.4**
	3.6nm,0.5s,baz=301,slow=9.1,SNR=4.7						
WRAB	**Tennant Creek**	**42.83**	**123**	*e*P	**P**	**22 34 04.5**	**+0.1**
	741nm,2.1s						
AS12	**Alice Springs**	**44.25**	**128**	*e*P	**P**	**22 34 16.1**	**+0.2**
AS12				*e*SS	SS	22 44 03.6	-3.2
ASAR	**Alice Springs**	**44.25**	**128**	P	**P**	**22 34 16.1**	**+0.2**
	4.8nm,0.7s,baz=295,slow=7.9,SNR=5.5						
FORT	**Forrest**	**44.27**	**140**	*e*P	**P**	**22 34 17.1**	**+1.2**
	38nm,0.4s						
TKM2	**Tokmak 2**	**44.72**	**338**	*e*P	**P**	**22 34 19.7**	**+0.2**
EKS2	**Erkin-Say**	**45.21**	**336**	*e*P	**P**	**22 34 23.1**	**-0.3**
SONA0	**Songino Array**	**46.09**	**9**	*e*P	**P**	**22 34 29.4**	**-0.8**
SONA0				*e*PcP	**PcP**	**22 36 05.5**	**-0.6**
SONM	**Songino Array**	**46.09**	**9**	P	**P**	**22 34 29.4**	**-0.8**
	6.2nm,0.8s,baz=191,slow=9.1,SNR=4.7						
SONM				PcP	**PcP**	**22 36 05.5**	**-0.6**
	8.6nm,1.2s,baz=203,slow=2.8,SNR=3.4						
MK32	**Makanchi Array**	**46.12**	**346**	*e*P	**P**	**22 34 30.6**	**+0.2**
MKAR	**Makanchi Array**	**46.12**	**346**	P	**P**	**22 34 30.6**	**+0.2**
	6.6nm,0.7s,baz=163,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**46.12**	**346**	*e*P	**P**	**22 34 29.8**	**-0.6**
ULN	**Ulaanbaatar**	**46.22**	**9**	P	**P**	**22 34 32.1**	**+0.9**
GEYT	**Alibeck**	**50.22**	**320**	P	**P**	**22 35 02.4**	**+0.2**
	8.6nm,0.7s,baz=161,slow=9.2,SNR=4.5						
KURBB	**Kurchatov Arra**	**50.61**	**345**	P	**P**	**22 35 04.3**	**-0.5**
	4.7nm,0.8s,baz=170,slow=6.2,SNR=5.2						
KURK	**Kurchatov**	**50.67**	**345**	*e*P	**P**	**22 35 04.3**	**-0.9**
PMG	**Port Moresby**	**51.34**	**104**	P	**P**	**22 35 11.6**	**+0.7**
	5.8nm,0.3s,baz=342,slow=9.6,SNR=6.7						
ZALV	**Zalesovo Beam**	**52.44**	**351**	P	**P**	**22 35 18.1**	**-0.3**
	5.1nm,0.4s,baz=168,slow=7.1,SNR=6.4						
ZAA1	**Zalesovo Array**	**52.45**	**351**	*e*P	**P**	**22 35 18.1**	**-0.4**
BVAR	**Borovoye Array**	**55.14**	**341**	P	**P**	**22 35 37.4**	**-0.9**
	6.7nm,0.7s,baz=150,slow=11,SNR=4.9						
EIDS	**Eidsvold**	**59.15**	**121**	*e*P	**P**	**22 36 06.4**	**-0.7**
	427nm,2.3s						
FIA0	**FINESS Array S**	**78.92**	**332**	*e*P	**P**	**22 38 07.7**	**-1.4**
FINES	**FINESS Array B**	**78.92**	**332**	P	**P**	**22 38 07.7**	**-1.4**
	13nm,1.0s,baz=112,slow=5.2,SNR=6.1						
ARA0	**ARCESS Array S**	**81.42**	**340**	*e*P	**P**	**22 38 22.6**	**+0.1**
ARCES	**ARCESS Array B**	**81.42**	**340**	P	**P**	**22 38 22.6**	**+0.1**
	12nm,1.0s,baz=71,slow=3.7,SNR=7.3						
GEC2	**GERESS Array S**	**83.83**	**319**	*e*P	**P**	**22 38 36.0**	**+0.4**
GERES	**GERESS Array B**	**83.83**	**319**	P	**P**	**22 38 36.0**	**+0.4**
	2.5nm,0.8s,baz=108,slow=5.4,SNR=3.8						
CBKC	**Canebrake**	**132.98**	**39**	*e*PKPpre	PKPpre	22 45 10.6	
GLA	**Glamis**	**133.76**	**38**	*e*PKPdf	**PKPdf**	**22 45 20.9**	**-2.5**
CFAA	**Coronel Fontan**	**147.68**	**204**	PKPbc	**PKPbc**	**22 45 51.1**	**0.0**
	3.2nm,1.0s,baz=202,slow=1.9,SNR=4.1						

IDC ***06*** *22:28:43.7±1.0, 0.50S×98.20E, h26km±4km, mb4.2/9, mb1 4.3/9, mb1mx3.9/43, mbtmp4.4/9, Error ellipse: s-maj=46.1km s-min=16.0km az=49.0*

ISC 06 22:28:43.3±1.0, 0.6S±0.1×98.1E±0.1, h27km, n12, σ1§11/15, mb4.4/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**2.04**	**47**	P	**Pb**	**22 29 19.8**	**+0.2**
WRA	**Warramunga Arr**	**40.34**	**121**	P	**P**	**22 36 18.9**	**0.0**
	1.3nm,0.7s,baz=298,slow=9.3,SNR=4.1						
WRA				pP	**pP**	**22 36 26.6**	**-0.5**
	2.6nm,0.5s,baz=304,slow=8.9,SNR=2.4						
ASAR	**Alice Springs**	**41.61**	**126**	P	**P**	**22 36 29.3**	**-0.1**
	3.2nm,0.9s,baz=308,slow=6.7,SNR=3.2						
KSRS	**Korea Array**	**46.84**	**33**	pP	pP	22 37 17.3	-1.9
	7.6nm,0.9s,baz=224,slow=8.7,SNR=9.4						
SONM	**Songino Array**	**48.78**	**7**	P	**P**	**22 37 26.7**	**+0.6**
	7.7nm,0.7s,baz=187,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**49.20**	**346**	P	**P**	**22 37 27.2**	**-1.9**
	12nm,0.7s,baz=160,slow=8.3,SNR=11						
TLY	**Talaya**	**52.30**	**4**	P	**P**	**22 37 53.7**	**+1.2**
	5.4nm,0.7s,baz=238,slow=3.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**53.69**	**345**	P	**P**	**22 38 01.5**	**-1.2**
	2.9nm,0.6s,baz=156,slow=7.1,SNR=4.1						
KURBB				pP	**pP**	**22 38 09.3**	**-1.7**
	3.0nm,0.6s,baz=165,slow=6.7,SNR=2.8						
USRK	**Ussuriysk Ar.**	**53.86**	**30**	pP	pP	22 38 10.6	-1.7
	15nm,1.0s,baz=240,slow=4.8,SNR=7.4						
ZALV	**Zalesovo Beam**	**55.47**	**351**	P	**P**	**22 38 15.3**	**-0.2**
	2.0nm,0.3s,baz=181,slow=6.9,SNR=6.3						
ZALV				pP	**pP**	**22 38 22.8**	**-1.0**
	8.8nm,0.7s,baz=178,slow=7.6,SNR=3.9						
BRTR	**Keskin Array B**	**70.98**	**313**	P	**P**	**22 39 58.8**	**-0.1**
	1.5nm,0.9s,baz=92,slow=3.9,SNR=2.6						
BRTR				pP	**pP**	**22 40 08.2**	**+0.8**
	2.7nm,0.8s,baz=122,slow=5.9,SNR=3.3						
AKASG	**Malin Array Be**	**77.22**	**323**	P	**P**	**22 40 36.6**	**+1.7**
	0.9nm,0.6s,baz=91,slow=4.7,SNR=5.5						
AKASG				pP	**PcP**	**22 40 45.3**	**-0.2**
	3.0nm,0.7s,baz=90,slow=4.8,SNR=4.6						

IDC ***06*** *22:34:24.6±1.2, 1.53N×97.14E, h0km, mb4.2/13, mb1 4.2/14, mb1mx4.0/48, mbtmp4.2/14, ML4.2/1, Error ellipse: s-maj=35.4km s-min=18.1km az=49.0*
ISCJB ***06*** *22:34:26.3±0.7, 1.49N±0.08×97.14E±0.07, h28km, mb4.4/17, Error ellipse: s-maj=13.2km s-min=9.1km az=35.5*
NEIC ***06*** *22:34:29.3±0.5, 1.50N×97.12E, h35km, mb4.0/2, Error ellipse: s-maj=11.0km s-min=7.7km az=54.0*
DJA ***06*** *22:34:35.9±0.6, 2.1N±4.9×9.8E±.1, h10km, M5.6/3, MLv5.6/3*

ISC 06 22:34:28.0±0.8, 1.41N±0.07×97.02E±0.09, h28km, n40, σ1§09/35, mb4.4/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.22**	**325**	P	Pb	22 35 04.9	+15
TPTI		**1.85**	**5**	P	Pb	22 35 04.6	+3.5
KCSI	**Kotacane, Aceh**	**2.23**	**20**	P	**Pb**	**22 35 10.1**	**+2.5**
KCSI				S	**Sb**	**22 35 34.4**	**-0.5**
MNSI	**Mandailing Nat**	**2.63**	**103**	P	**Pb**	**22 35 16.5**	**+2.1**
IPM	**Ipoh**	**5.03**	**53**	*e*Pn	**Pn**	**22 35 40.7**	**-1.0**
KULM	**Kulim**	**5.29**	**43**	*e*Pn	**Pn**	**22 35 44.2**	**-1.0**
TPRI	**Tanjung Pinang**	**7.52**	**94**	P	**Pn**	**22 36 14.5**	**-1.3**
CM31	**Chiang Mai Arr**	**17.05**	**6**	*e*Pn	**Pn**	**22 38 22.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**17.05**	**6**	Pn	**Pn**	**22 38 22.5**	**-2.0**
	0.3nm,0.3s,baz=198,slow=11,SNR=6.4						
KKM	**Kota Kinabalu**	**19.69**	**76**	*e*P	**P**	**22 38 55.9**	**+0.6**
	5.9nm,0.4s						
H08S2	**Diego Garcia H**	**26.07**	**249**	T	T	23 07 02.4	
	baz=70,slow=75,SNR=5.8						
H08S3	**Diego Garcia H**	**26.07**	**250**	T	T	23 07 04.1	
	baz=70,slow=75,SNR=6.0						
H08S1	**Diego Garcia H**	**26.08**	**249**	T	T	23 07 03.9	
	baz=70,slow=75,SNR=9.6						
NWAO	**Narrogin (SRO)**	**39.12**	**153**	*e*P	**P**	**22 41 51.8**	**-1.3**
WRA	**Warramunga Arr**	**42.29**	**122**	P	**P**	**22 42 20.4**	**+0.9**
	0.8nm,0.5s,baz=301,slow=9.2,SNR=4.0						
AS12	**Alice Springs**	**43.66**	**127**	*e*P	**P**	**22 42 31.0**	**+0.4**
ASAR	**Alice Springs**	**43.66**	**127**	P	**P**	**22 42 31.0**	**+0.4**
	0.4nm,0.5s,baz=298,slow=8.2,SNR=3.0						
TKM2	**Tokmak 2**	**45.56**	**338**	*e*P	**P**	**22 42 45.7**	**0.0**
KS15	**Wonju Array Si**	**45.75**	**35**	*e*P	**P**	**22 42 45.6**	**-1.4**
KSAR	**Wonju Array Be**	**45.75**	**35**	P	**P**	**22 42 45.6**	**-1.4**
KSRS	**Korea Array**	**45.78**	**35**	P	**P**	**22 42 45.6**	**-1.6**
	5.3nm,0.9s,baz=220,slow=10,SNR=10						
EKS2	**Erkin-Say**	**46.05**	**336**	*e*P	**P**	**22 42 51.0**	**+1.6**
	68nm,2.8s						
SONA0	**Songino Array**	**46.96**	**9**	*e*P	**P**	**22 42 56.3**	**-0.1**
SONM	**Songino Array**	**46.96**	**9**	P	**P**	**22 42 56.3**	**-0.1**
	4.9nm,0.7s,baz=189,slow=8.9,SNR=12						
MK32	**Makanchi Array**	**47.00**	**346**	*e*P	**P**	**22 42 57.1**	**+0.4**
MKAR	**Makanchi Array**	**47.00**	**346**	P	**P**	**22 42 57.1**	**+0.4**
	7.1nm,0.6s,baz=162,slow=9.0,SNR=45						
ULN	**Ulaanbaatar**	**47.09**	**9**	*e*P	P	22 42 53.7	-3.8
	252nm,2.7s						
KKAR	**Karatay Array**	**47.79**	**334**	*e*P	**P**	**22 43 02.3**	**-0.6**
	0.3nm,0.3s						
TLY	**Talaya**	**50.41**	**5**	P	**P**	**22 43 23.2**	**+0.4**
	3.8nm,0.8s,baz=303,slow=6.5,SNR=3.7						
GEYT	**Alibeck**	**50.94**	**320**	P	**P**	**22 43 28.4**	**+1.3**
	1.6nm,0.7s,baz=163,slow=5.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**51.49**	**345**	P	**P**	**22 43 31.4**	**+0.6**
	1.5nm,0.5s,baz=161,slow=6.8,SNR=4.3						
KURK	**Kurchatov**	**51.55**	**345**	P	**P**	**22 43 31.4**	**+0.1**
MAJO	**Matsushiro**	**51.66**	**43**	*e*P	**P**	**22 43 32.1**	**-0.3**
	155nm,2.5s						
MJAR	**Matsushiro Arr**	**51.66**	**43**	P	**P**	**22 43 32.2**	**-0.3**
	1.2nm,0.7s,baz=222,slow=5.6,SNR=4.7						
USRK	**Ussuriysk Ar.**	**52.69**	**31**	P	**P**	**22 43 39.6**	**-0.3**
	6.4nm,0.8s,baz=237,slow=6.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**53.33**	**351**	P	**P**	**22 43 44.6**	**+0.1**
	4.6nm,0.5s,baz=168,slow=6.6,SNR=9.2						
ZAA1	**Zalesovo Array**	**53.33**	**351**	*e*P	**P**	**22 43 44.6**	**+0.1**
BVAR	**Borovoye Array**	**56.00**	**341**	P	**P**	**22 44 04.1**	**+0.2**
	2.3nm,0.7s,baz=136,slow=10,SNR=7.3						
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**22 46 06.6**	**-0.1**
	0.4nm,0.5s,baz=86,slow=5.9,SNR=3.3						
AKBB	**Malin Array Si**	**74.99**	**322**	*e*P	**P**	**22 46 06.6**	**-0.1**

**IDC 06 22:36:48.0±5.1, 17.10S×69.33W, h176km±24km, mb4.1/3, mb1 4.1/4, mb1mx3.5/44, mbtmp4.5/4, Error ellipse: s-maj=

SZGRF ***06*** *22:53:55.5,0˚.48N×98˚.33E,h33km,mb4.9,Northern Sumatera, Indonesia*
BJI ***06*** *22:53:58.6,1˚.69N×96˚.89E,h36km,mB5.1/7,mb5.0/38, Ms5.1/3,Ms7.4/9/3*
MOS ***06*** *22:54:03.7±0.9,2˚.37N×97˚.33E,h33km,mb5.5/36,Error ellipse: s-maj=10.9km s-min=5.1km az=113.6*
ISCJB ***06*** *22:54:04.1±0.2,2˚.33N±0˚.03×97˚.17E±0˚.03,h33km, mb5.0/92,MS5.8/1,Error ellipse: s-maj=5.1km s-min=3.1km az=38.7*
IDC ***06*** *22:54:04.6±3.2,2˚.36N×97˚.25E,h26km±20km,mb4.5/27, mb1 4.6/28,mb1mx4.4/40,mbtmp4.7/28,ML4.7/1,Error ellipse: s-maj=20.0km s-min=12.3km az=35.0*
NEIC ***06*** *22:54:06.0±0.2,2˚.35N×97˚.17E,h35km,mb5.3/43,Error ellipse: s-maj=5.2km s-min=3.5km az=33.0*
DJA ***06*** *22:54:07.1±0.5,2˚N±2˚×9˚7E±˚,h29km±6km,M5.2/11, mb4.9/3,MLv5.4/11*
KLM ***06*** *22:54:11.1,2˚.70N×97˚.51E,h60km,mb4.9,MS6.9*

ISC 06 22:54:05.3±0.3,2˚.25N±0˚.04×97˚.16E±0˚.04,h33km,n385, σ1§20/404,mb5.1/92,17C-16D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.84**	**281**	P	**Pb**	**22 54 22.7**	**+1.2**
TPTI		**1.00**	**1**	P	**Pn**	**22 54 22.2**	**-0.9**
TPTI				S	**Sn**	**22 54 36.1**	**0.0**
KCSI	**Kotacane, Aceh**	**1.41**	**26**	P	**Pn**	**22 54 29.7**	**+1.1**
KCSI				S	**Sb**	**22 54 48.1**	**-0.5**
TSI	**Tuntungan**	**1.88**	**48**	P	**Pb**	**22 54 38.4**	**-0.6**
MNSI	**Mandailing Nat**	**2.82**	**121**	P	**Pb**	**22 54 52.2**	**-2.8**
LHMI	**Lhok Sumawe**	**2.97**	**356**	P	**Pn**	**22 54 51.1**	**+1.0**
LHMI	**Lhok Sumawe**	**2.97**	**356**	*e*Pn	**Pn**	**22 54 51.1**	**+1.0**
LHMI				*e*Sn	**Sn**	**22 55 26.1**	**+1.6**
BKNI	**Bangkinang**	**4.33**	**116**	P	Pn	22 55 13.5	+4.7
BKNI	**Bangkinang**	**4.33**	**116**	*e*Pn	**Pn**	**22 55 10.9**	**+2.1**
IPM	**Ipoh**	**4.45**	**60**	*e*Pn	**Pn**	**22 55 12.8**	**+2.2**
KULM	**Kulim**	**4.61**	**49**	*e*Pn	**Pn**	**22 55 13.6**	**+0.8**
PKDT	**Phuket** 2µm,2.9s,8.1nm	**5.73**	**12**	P	**Pn**	**22 55 30.2**	**+2.1**
KGM	**Kluang**	**6.16**	**92**	⇓P	**Pn**	**22 55 33.0**	**-1.1**
MYKOM	**Kota Tinggi**	**6.71**	**94**	*e*Pn	**Pn**	**22 55 44.0**	**+2.5**
SURT	**Suratani** 795nm,3.1s,3.3nm	**6.86**	**14**	P	**Pn**	**22 55 44.1**	**+0.4**
MNAI	**Manna**	**8.76**	**139**	P	**Pn**	**22 56 11.2**	**+1.5**
MNAI	**Manna**	**8.76**	**139**	*e*Pn	**Pn**	**22 56 10.4**	**+0.7**
MNAI				*e*Sn	Sn	22 57 41.2	-6.2
LHSI	**Lahat**	**8.77**	**133**	P	**Pn**	**22 56 13.0**	**+3.1**
MDSI	**Maura Dua**	**9.70**	**134**	P	**Pn**	**22 56 24.1**	**+1.5**
TPI	**Tanjungpandan**	**11.61**	**115**	P	Pn	22 56 53.0	+4.2
KSM	**Kuching**	**13.17**	**93**	⇓P	**Pn**	**22 57 08.4**	**-1.7**
STKI	**Sintang**	**14.48**	**98**	P	**P**	**22 57 37.3**	**+3.0**
PBKT	**Sadao Pong** 680nm,1.1s	**14.72**	**15**	P	**P**	**22 57 36.0**	**-0.9**
DLV	**T Lat**	**14.80**	**49**	*e*P	**P**	**22 57 37.3**	**-0.8**
CMJI	**Cimerak**	**15.04**	**132**	P	**P**	**22 57 39.7**	**-0.8**
SBUM	**Sibu**	**15.05**	**89**	⇓P	**Pn**	**22 57 32.7**	**-3.0**
SBUM	**Sibu**	**15.05**	**89**	*e*Pn	**Pn**	**22 57 37.9**	**+2.1**
KHON	**Khomkaen** 17nm,0.8s,1µm	**15.07**	**21**	P	**P**	**22 57 40.7**	**-0.2**
KPJI	**Karang Pucung**	**15.12**	**129**	P	**P**	**22 57 39.4**	**-2.0**
UTTA	**Uttaradit** 9.0nm,0.9s	**15.76**	**12**	P	**P**	**22 57 48.0**	**-0.5**
BTM	**Bintulu**	**15.94**	**86**	⇓P	**Pn**	**22 57 47.6**	**+0.3**
CM31	**Chiang Mai Arr**	**16.20**	**6**	*e*Pn	**Pn**	**22 57 49.5**	**-1.1**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=198,slow=11,SNR=20	**16.20**	**6**	Pn	**Pn**	**22 57 49.5**	**-1.1**
LAMP	**Lampang** 7.2nm,0.9s	**16.36**	**8**	P	**Pn**	**22 57 52.7**	**+0.2**
CHTO	**Chiang Mai**	**16.56**	**6**	*e*P	**Pn**	**22 57 54.4**	**-0.7**
CHTO	comp=Z,129nm,2.3s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,129nm,2.3s	**16.56**	**6**	*e*Pn	**Pn**	**22 57 54.4**	**-0.7**
BBKI	**Banjar Baru**	**18.57**	**108**	P	**Pn**	**22 58 21.8**	**+1.8**
KKM	**Kota Kinabalu**	**19.38**	**78**	⇓P	**P**	**22 58 28.8**	**+0.2**
KKM	**Kota Kinabalu** comp=Z,26nm,0.8s	**19.38**	**78**	*e*P	**Pn**	**22 58 29.4**	**-0.6**
BKB	**Balikpapan** comp=Z,234nm,4.7s	**20.04**	**100**	P	Pn	22 58 38.6	+0.9
SLVN	**Son La** comp=Z,28nm,0.9s	**20.08**	**19**	*e*P	**P**	**22 58 35.4**	**-0.8**
KDM	**Kudat**	**20.15**	**76**	⇑P	Pn	22 58 38.6	-0.4
SDKM	**Sandakan**	**20.27**	**80**	⇑P	**Pn**	**22 58 39.0**	**+0.7**
SRBI	**Singaraja**	**20.73**	**120**	P	Pn	22 58 46.1	+0.4
TSM	**Tawau**	**20.78**	**84**	⇓P	**P**	**22 58 44.5**	**+0.7**
QIZ	**Qiongzhong** comp=Z,62nm,1.6s	**20.80**	**36**	*e*P	**P**	**22 58 43.0**	**-0.9**
MPSI	**Mapaga**	**22.82**	**94**	P	**P**	**22 59 05.5**	**-0.1**
PCI	**Palu** comp=Z,80nm,4.3s	**22.89**	**98**	P	**P**	**22 59 06.7**	**+0.2**
TTSI	**Tana Toraja**	**23.26**	**103**	P	**P**	**22 59 13.8**	**+3.7**
KMI	**Kunming**	**23.37**	**13**	P	**P**	**22 59 11.2**	**-0.2**
KMI	comp=Z,33nm,1.3s			PMZ			
KAPI	**Kappang** comp=Z,293nm,2.6s	**23.70**	**108**	*e*P	**P**	**22 59 16.1**	**+1.7**
BNSI	**Bone**	**23.87**	**106**	P	**P**	**22 59 17.9**	**+1.9**
BKSI	**Bulukumba**	**24.14**	**108**	P	**P**	**22 59 19.7**	**+1.1**
APSI	**Ampana**	**24.69**	**97**	P	**P**	**22 59 24.9**	**+1.3**
MRSI	**Marisa**	**24.84**	**94**	P	**P**	**22 59 27.1**	**+2.2**
GYA	**Guiyang**	**25.75**	**20**	P	**P**	**22 59 36.2**	**+3.1**
GYA				pP	**pP**	**22 59 45.0**	**+2.4**
GYA				PP	**PnPn**	**23 00 16.8**	**+6.2**
GYA				S	S	23 04 10.4	+10
GYA				sS	**sS**	**23 04 18.3**	**+2.3**
GYA	comp=Z,20nm,0.8s			PMZ			
GYA	comp=Z,130nm,4.8s			PMZ			
GYA	comp=Z,540nm,17.0s			LN			
GYA	comp=Z,480nm,18.0s			LE			
GYA	comp=Z,520nm,17.6s			LZ			
GTOI	**Gorontalo**	**25.90**	**93**	P	**P**	**22 59 34.0**	**-0.5**
ODAN	**Odare** comp=Z,90nm,0.9s	**26.20**	**340**	*e*P	**P**	**22 59 37.1**	**-0.3**
H08S2	**Diego Garcia H** baz=69,slow=75,SNR=20	**26.50**	**248**	T	T	23 27 03.4	
H08S3	**Diego Garcia H** baz=69,slow=75,SNR=20	**26.50**	**248**	T	T	23 27 07.3	
H08S1	**Diego Carcia H** baz=69,slow=75,SNR=27	**26.51**	**248**	T	T	23 27 03.9	
TAPN	**Taplejung** comp=Z,104nm,0.9s	**26.55**	**341**	*e*P	**P**	**22 59 40.5**	**-0.1**
RAMN	**Ramite** comp=Z,81nm,0.8s	**26.57**	**339**	*e*P	**P**	**22 59 40.9**	**+0.2**
JIRN	**Jiri** comp=Z,106nm,0.9s	**27.36**	**338**	*e*P	**P**	**22 59 47.8**	**-0.2**
PKI	**Pulchoki** comp=Z,75nm,1.3s	**27.58**	**337**	*e*P	**P**	**22 59 49.3**	**-0.6**
PKIN	**Phulchoki**	**27.59**	**337**	*e*P	**P**	**22 59 49.7**	**-0.2**
GUN	**Gumba**	**27.70**	**338**	*e*P	**P**	**22 59 51.0**	**0.0**
KKN	**Kakani** comp=Z,78nm,0.9s	**27.82**	**337**	*e*P	**P**	**22 59 51.6**	**-0.3**
LSA	**Lhasa**	**27.89**	**349**	*e*P	**P**	**22 59 52.3**	**-0.5**
LSA	comp=Z,143nm,2.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,143nm,2.8s	**27.89**	**349**	*e*P	**P**	**22 59 52.3**	**-0.5**
GKN	**Gorkha** comp=Z,109nm,1.0s	**28.27**	**336**	*e*P	**P**	**22 59 55.7**	**-0.2**
KOLN	**Koldanda** comp=Z,68nm,0.8s	**28.50**	**334**	*e*P	**P**	**22 59 58.1**	**+0.1**
DANN	**Dangsing** comp=Z,88nm,0.9s	**28.93**	**335**	*e*P	**P**	**23 00 01.8**	**-0.1**
PYUN	**Piuthan** comp=Z,59nm,0.4s	**29.05**	**334**	*e*P	**P**	**23 00 03.0**	**+0.1**
CD2	**Chengdu**	**29.18**	**12**	*e*P	**P**	**23 00 04.1**	**+0.3**
CD2				pP	**pP**	**23 00 14.0**	**+0.6**
CD2				sP	**sP**	**23 00 18.2**	**+0.8**
CD2				PP	**PnPn**	**23 00 59.7**	**+2.3**
CD2				S	**S**	**23 04 53.7**	**-0.5**
CD2				sS	**sS**	**23 05 10.3**	**+0.3**
CD2	comp=Z,30nm,0.5s			PMZ			
CD2	comp=Z,220nm,5.2s			PMZ			
TWG	**Pinlang** comp=Z,869nm,2.2s	**30.93**	**47**	*e*P	**P**	**23 00 19.6**	**+0.3**
YULB	**Yu-li**	**31.44**	**46**	*e*P	**P**	**23 00 22.9**	**-0.9**
YULB	comp=Z,28nm,0.9s			*e*S	**S**	**23 05 33.1**	**+3.3**
SSLB	**Suanglung** comp=Z,25nm,1.0s	**31.44**	**45**	*e*P	**P**	**23 00 22.4**	**-1.5**
XAN	**Xi'an**	**33.48**	**18**	P	**P**	**23 00 39.8**	**-1.9**
XAN				pP	**pP**	**23 00 48.1**	**-3.2**
XAN	comp=Z,9.0nm,0.9s			PMZ			
LZH	**Lanzhou**	**34.23**	**10**	*e*P	**P**	**23 00 47.6**	**-0.7**
LZH				pP	**pP**	**23 00 58.0**	**+0.1**
LZH				sP	**sP**	**23 01 02.3**	**+0.4**
LZH	comp=Z,31nm,1.2s			PMZ			
LZH	comp=Z,140nm,4.3s			PMZ			
FAKI	**Fak Fak** comp=Z,109nm,2.2s	**35.45**	**98**	*e*P	**P**	**23 00 57.5**	**-1.4**
NJ2	**Nanjing**	**36.00**	**32**	*e*P	**P**	**23 01 04.8**	**+1.4**
GTA	**Gaotai**	**37.07**	**3**	*e*P	**P**	**23 01 11.9**	**-0.6**
GTA				pP	**pP**	**23 01 21.4**	**-0.8**
GTA				sP	**sP**	**23 01 25.6**	**-0.6**
GTA	comp=Z,20nm,1.0s			PMZ			
JOW	**Kunigami** baz=180,slow=20	**38.57**	**48**	P	**P**	**23 01 23.3**	**-2.0**
HHC	**Hu-ho-hao-te**	**40.57**	**17**	*e*P	**P**	**23 01 45.0**	**+3.1**
HHC				PP	**PnPn**	**23 03 23.0**	**+3.2**
HHC				S	**S**	**23 07 52.9**	**+3.6**
HHC				sS	**sS**	**23 08 09.0**	**+3.7**
HHC				SS	**SS**	**23 10 49.0**	**-1.0**
HHC	comp=Z,48nm,1.0s			PMZ			
BJI	**Beijing**	**41.39**	**22**	P	**P**	**23 01 48.6**	**+0.2**
BJI	comp=Z,32nm,1.0s			PMZ			
KBL	**Kabul**	**41.45**	**324**	*e*P	**P**	**23 01 50.2**	**+0.9**
KBL	comp=Z,199nm,2.9s			pmax	pmax		
KBL	**Kabul** comp=Z,199nm,2.9s	**41.45**	**324**	*e*P	**P**	**23 01 50.2**	**+0.9**
KSH	**Kashi**	**41.80**	**335**	P	**P**	**23 01 50.1**	**-2.0**
KSH				sP	**sP**	**23 02 04.0**	**-1.8**
KSH				PP	**PP**	**23 03 30.1**	**+1.0**
KSH				ScP	**ScP**	**23 07 34.9**	**-1.0**
KSH				S	**S**	**23 08 02.8**	**-4.8**
KSH				sS	**sS**	**23 08 19.0**	**-4.7**
KSH				ScS	**ScS**	**23 11 48.6**	**-4.3**
KSH	comp=Z,10.0nm,0.6s			PMZ			
MSEY	**Mahe Island**	**42.20**	**261**	*e*P	P	23 02 01.5	+5.9
MSEY	**Mahe Island** comp=Z,688nm,1.2s	**42.20**	**261**	*e*P	P	23 02 01.5	+5.9
WMQ	**Urumqi**	**42.24**	**350**	P	**P**	**23 01 55.4**	**-0.1**
WMQ				pP	**pP**	**23 02 05.0**	**-0.2**
WMQ				sP	**sP**	**23 02 10.0**	**+0.8**
WMQ				PP	**PP**	**23 03 36.0**	**+2.3**
WMQ				*e*S	**S**	**23 08 13.0**	**-0.8**
WMQ	comp=Z,32nm,1.2s			PMZ			
WMQ	comp=Z,5µm,24.8s			LN			
WMQ	comp=Z,4µm,20.7s			LE			
WMQ	comp=Z,3µm,24.9s			LZ			
WRA	**Warramunga Arr** comp=Z,6.9nm,0.7s,baz=304,slow=9.0,SNR=40	**42.63**	**123**	P	**P**	**23 01 58.6**	**-0.3**
WRAB	**Tennant Creek** comp=Z,168nm,0.5s,SNR=17	**42.64**	**123**	P	**P**	**23 01 59.0**	**0.0**
WRAB	**Tennant Creek**	**42.64**	**123**	*ce*P	**P**	**23 01 59.7**	**+0.7**
WRAB	comp=Z,149nm,2.5s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,44nm,1.3s	**42.64**	**123**	*e*P	**P**	**23 01 59.2**	**+0.2**
JAY	**Jayapura** comp=Z,3.7nm,0.4s,baz=135,slow=7.0,SNR=4.5	**43.79**	**96**	P	**P**	**23 02 06.5**	**-2.0**
ULHL	**Ulahol** SNR=11	**44.01**	**338**	P	**P**	**23 02 10.2**	**+0.2**
ULHL	**Ulahol**	**44.01**	**338**	*i* P	**P**	**23 02 10.2**	**+0.2**
JNU	**Nakatsue** comp=Z,103nm,1.5s	**44.06**	**42**	*e*P	**P**	**23 02 08.7**	**-1.6**
AS12	**Alice Springs**	**44.06**	**128**	*e*P	**P**	**23 02 10.9**	**+0.4**
ASAR	**Alice Springs** comp=Z,2.3nm,0.5s,baz=298,slow=7.8,SNR=15	**44.06**	**128**	P	**P**	**23 02 10.9**	**+0.4**
FORT	**Forrest** comp=Z,35nm,0.8s	**44.10**	**141**	*e*P	**P**	**23 02 12.2**	**+1.5**
KZA	**Kyzart** SNR=8.5	**44.26**	**337**	P	**P**	**23 02 12.6**	**+0.4**
KZA	**Kyzart**	**44.26**	**337**	*i* P	**P**	**23 02 12.6**	**+0.4**
UCH	**Uchtor** SNR=14	**44.68**	**336**	P	**P**	**23 02 16.1**	**+0.4**
UCH	**Uchtor**	**44.68**	**336**	*i* P	**P**	**23 02 16.0**	**+0.4**
TKM2	**Tokmak 2** SNR=17	**44.84**	**337**	P	**P**	**23 02 16.6**	**0.0**
TKM2	**Tokmak 2**	**44.84**	**337**	*i* P	**P**	**23 02 16.6**	**0.0**
TKM2	**Tokmak 2** comp=Z,28nm,1.0s	**44.84**	**337**	*e*P	**P**	**23 02 16.6**	**0.0**
KBK	**Karagaybulak** SNR=26	**44.87**	**337**	P	**P**	**23 02 17.7**	**+0.9**
KBK	**Karagaybulak**	**44.87**	**337**	*i* P	**P**	**23 02 17.7**	**+0.9**
AML	**Almayashu** SNR=12	**44.94**	**335**	P	**P**	**23 02 18.2**	**+0.6**
AML	**Almayashu**	**44.94**	**335**	*i* P	**P**	**23 02 18.2**	**+0.6**
KS15	**Wonju Array Si**	**44.99**	**35**	*e*P	**P**	**23 02 16.9**	**-0.7**
KSAR	**Wonju Array Be**	**44.99**	**35**	P	**P**	**23 02 16.9**	**-0.7**
KSAR	**Wonju Array Be**	**44.99**	**35**	P	**P**	**23 02 16.9**	**-0.7**
KSRS	**Korea Array** comp=Z,3.0nm,0.5s,baz=225,slow=8.4,SNR=6.9	**45.02**	**35**	P	**P**	**23 02 16.9**	**-1.0**
AAK	**Ala-Archa** comp=Z,71nm,0.7s,SNR=5.2	**45.03**	**336**	P	**P**	**23 02 18.3**	**+0.2**
AAK	**Ala-Archa** SNR=7.2	**45.03**	**336**	P	**P**	**23 02 18.3**	**+0.2**
AAK	**Ala-Archa**	**45.03**	**336**	⇑*i*P	**P**	**23 02 18.4**	**+0.4**
AAK	comp=Z,62nm,1.5s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,9.2nm,0.9s,baz=142,slow=7.2,SNR=25	**45.03**	**336**	P	**P**	**23 02 18.4**	**+0.4**
CHMS	**Chumysh** SNR=13	**45.23**	**337**	P	**P**	**23 02 19.7**	**+0.1**
CHMS	**Chumysh**	**45.23**	**337**	*i* P	**P**	**23 02 19.6**	**+0.1**
EKS2	**Erkin-Say** SNR=11	**45.34**	**336**	P	**P**	**23 02 21.3**	**+0.8**
EKS2	**Erkin-Say**	**45.34**	**336**	*i* P	**P**	**23 02 21.3**	**+0.8**
EKS2	**Erkin-Say** comp=Z,15nm,0.7s	**45.34**	**336**	*e*P	**P**	**23 02 21.3**	**+0.8**
USP	**Ospenovka** SNR=30	**45.56**	**337**	P	**P**	**23 02 22.4**	**+0.3**
USP	**Ospenovka**	**45.56**	**337**	*i* P	**P**	**23 02 22.4**	**+0.3**
SONA0	**Songino Array**	**46.11**	**9**	*e*P	**P**	**23 02 25.7**	**-0.7**
SONA0				*e*PcP	**PcP**	**23 04 02.5**	**+0.2**
SONA0				*e*ScP	**ScP**	**23 07 54.7**	**+1.5**
SONM	**Songino Array** comp=Z,7.5nm,0.5s,baz=191,slow=9.3,SNR=50	**46.11**	**9**	P	**P**	**23 02 25.7**	**-0.7**
SONM	comp=Z,4.1nm,0.6s,baz=188,slow=3.9,SNR=7.2			PcP	**PcP**	**23 04 02.5**	**+0.2**
SONM	comp=Z,0.7nm,0.9s,baz=186,slow=4.6,SNR=3.6			ScP	**ScP**	**23 07 54.7**	**+1.5**
MK32	**Makanchi Array**	**46.22**	**346**	*e*P	**P**	**23 02 27.0**	**-0.2**
MK32				*e*ScP	**ScP**	**23 07 52.6**	**-1.0**
MKAR	**Makanchi Array** comp=Z,20nm,0.7s	**46.22**	**346**	*ce*P	**P**	**23 02 26.6**	**-0.6**
MKAR	**Makanchi Array** comp=Z,20nm,0.7s,baz=156,slow=8.8,SNR=80	**46.22**	**346**	P	**P**	**23 02 27.0**	**-0.2**
MKAR	comp=Z,0.6nm,0.8s,baz=163,slow=5.8,SNR=4.9			ScP	**ScP**	**23 07 52.6**	**-1.0**
MKAR	**Makanchi Array**	**46.22**	**346**	*e*P	**P**	**23 02 26.6**	**-0.6**
MKAR				ScP	**ScP**	**23 07 52.6**	**-1.0**
ULN	**Ulaanbaatar** comp=Z,240nm,2.9s	**46.24**	**9**	*e*P	**P**	**23 02 26.9**	**-0.6**
ULN	comp=Z,240nm,2.9s			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,240nm,2.9s	**46.24**	**9**	*e*P	**P**	**23 02 26.9**	**-0.6**
KKAR	**Karatay Array**	**47.10**	**333**	*e*P	**P**	**23 02 34.1**	**-0.1**
KKAR	**Karatay Array**	**47.10**	**333**	*e*P	**P**	**23 02 34.1**	**-0.1**
ZAK	**Zakamensk**	**48.24**	**5**	*e*P	**P**	**23 02 42.6**	**-0.4**
ZAK	comp=Z,4.0nm,1.4s			pmax	pmax		
COEN	**Coen** comp=Z,20nm,1.3s	**48.37**	**111**	*e*P	**P**	**23 02 44.2**	**-0.2**
CN2	**Changchun**	**48.40**	**27**	*e*P	**P**	**23 02 44.4**	**+0.2**
TLY	**Talaya** comp=Z,7.5nm,0.8s,baz=322,slow=22,SNR=7.0	**49.56**	**5**	P	**P**	**23 02 52.3**	**-0.7**
GEYT	**Alibeck** comp=Z,30nm,0.7s,baz=148,slow=8.7,SNR=59	**50.39**	**320**	P	**P**	**23 03 00.4**	**+0.8**
BBOO	**Buckleboo** comp=Z,63nm,1.9s	**50.67**	**137**	*e*P	**P**	**23 03 02.8**	**+1.1**
KURBB	**Kurchatov Arra** comp=Z,4.4nm,0.4s,baz=204,slow=6.6,SNR=23	**50.71**	**345**	P	**P**	**23 03 00.9**	**-0.8**
KURK	**Kurchatov**	**50.77**	**345**	P	**P**	**23 03 00.9**	**-1.3**
KURK	**Kurchatov**	**50.77**	**345**	P	**P**	**23 03 00.9**	**-1.3**
MAJO	**Matsushiro**	**50.95**	**43**	*e*P	**P**	**23 03 03.4**	**-0.5**
MAJO	comp=Z,93nm,2.2s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,94nm,2.2s	**50.95**	**43**	*e*P	**P**	**23 03 03.4**	**-0.5**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.6s,baz=230,slow=6.7,SNR=4.3	**50.95**	**43**	P	**P**	**23 03 03.4**	**-0.5**
PMG	**Port Moresby**	**51.14**	**104**	⇑*e*P	**P**	**23 03 05.2**	**-0.4**
PMG	comp=Z,57nm,2.5s			pmax	pmax		
PMG	**Port Moresby** comp=Z,168nm,2.6s	**51.14**	**104**	*e*P	**P**	**23 03 05.7**	**+0.1**
USRK	**Ussuriysk Ar.** comp=Z,6.3nm,0.8s,baz=231,slow=5.2,SNR=11	**51.90**	**31**	P	**P**	**23 03 10.1**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,38nm,0.6s,baz=174,slow=6.0,SNR=69	**52.52**	**351**	P	**P**	**23 03 14.7**	**-0.5**
ZAA1	**Zalesovo Array**	**52.53**	**351**	*e*P	**P**	**23 03 14.7**	**-0.5**
CTA	**Charters Tower** comp=Z,17nm,1.1s,baz=321,slow=8.9,SNR=5.2	**53.01**	**117**	P	**P**	**23 03 20.0**	**+0.6**
RAYN	**Ar Rayn** comp=Z,98nm,0.7s,SNR=8.7	**54.23**	**297**	P	**P**	**23 03 29.0**	**+0.7**
RAYN	**Ar Rayn** comp=Z,120nm,2.9s	**54.23**	**297**	*e*P	**P**	**23 03 29.1**	**+0.7**
BRVK	**Borovoye** comp=Z,149nm,0.7s,SNR=5.5	**55.31**	**341**	P	**P**	**23 03 35.2**	**-0.4**
ABKAR	**Akbulak array**	**56.58**	**332**	*e*P	**P**	**23 03 44.3**	**-0.4**
BOD	**Bodaibo**	**56.99**	**11**	*e*P	**P**	**23 03 46.7**	**-0.8**
BOD	comp=Z,24nm,1.3s			pmax	pmax		
ERM	**Erimo**	**57.10**	**40**	*e*P	**P**	**23 03 47.0**	**-1.5**
ERM	comp=Z,258nm,1.9s			pmax	pmax		
ERM	**Erimo** comp=Z,258nm,1.9s	**57.10**	**40**	*e*P	**P**	**23 03 47.0**	**-1.5**
ASAJ	**Asahikawa** comp=Z,14nm,0.9s,baz=216,slow=7.9,SNR=8.3	**57.86**	**37**	P	**P**	**23 03 53.4**	**-0.5**
YSS	**Yuzh-Sakhalins**	**59.51**	**35**	⇓*i*P	**P**	**23 04 05.2**	**-0.1**
YSS				*e*		23 04 20.2	
YSS	comp=Z,50nm,1.1s			pmax	pmax		
YSS	**Yuzh-Sakhalins** comp=Z,49nm,0.9s	**59.51**	**35**	*e*P	**P**	**23 04 05.7**	**+0.3**
GNI	**Garni**	**60.52**	**316**	P	**P**	**23 04 13.0**	**+0.4**
GNI	**Garni** comp=Z,2.1nm,0.6s,baz=356,slow=2.6,SNR=4.4	**60.52**	**316**	P	**P**	**23 04 12.9**	**+0.4**
ZEI	**Tsey**	**62.20**	**318**	*e*P	**P**	**23 04 23.6**	**-0.4**
ZEI	comp=Z,5.0nm,0.6s			pmax	pmax		
ARU	**Arti** comp=Z,88nm,1.2s,SNR=6.5	**62.21**	**337**	P	**P**	**23 04 22.6**	**-0.9**
ARU	**Arti**	**62.21**	**337**	*c* *i*P	**P**	**23 04 22.9**	**-0.6**
ARU				S	**S**	**23 12 47.4**	**+0.6**
ARU				SS	**SS**	**23 16 46.2**	**-4.2**
ARU	comp=Z,26nm,1.2s			pmax	pmax		
ARU	**Arti** comp=Z,20nm,1.0s	**62.21**	**337**	*e*P	**P**	**23 04 22.3**	**-1.2**
KBZ	**Khabaz**	**63.26**	**319**	P	**P**	**23 04 31.0**	**+0.3**
KBZ	**Khabaz** comp=Z,7.2nm,0.8s,baz=114,slow=4.9,SNR=12	**63.26**	**319**	P	**P**	**23 04 31.0**	**+0.3**
KIV	**Kislovodsk**	**63.49**	**319**	*e*P	**P**	**23 04 32.8**	**+0.4**
KIV	comp=Z,12nm,1.1s			pmax	pmax		
YAK	**Yakutsk**	**64.43**	**16**	*e*P	**P**	**23 04 36.2**	**-1.9**
YAK	comp=Z,75nm,1.0s			pmax	pmax		
YAK	comp=E,25nm,1.2s			pmax	pmax		
YAK	comp=N,26nm,1.2s			pmax	pmax		
SOKR	**Solikamsk**	**65.11**	**339**	*e*P	**P**	**23 04 41.6**	**-0.9**
SOKR	comp=Z,40nm,1.1s			pmax	pmax		
SOC	**Sochi**	**65.32**	**318**	*e*P	**P**	**23 04 42.5**	**-1.7**
SOC	comp=Z,22nm,0.9s			pmax	pmax		
ANN	**Anapa**	**67.29**	**318**	*e*P	P	23 04 52.1	-4.7
ANN	comp=Z,45nm,0.9s			pmax	pmax		
BR101	**Keskin Array S**	**68.38**	**312**	*e*P	**P**	**23 05 03.5**	**-0.6**
BRTR	**Keskin Array B**	**68.38**	**312**	*ce*P	**P**	**23 05 03.5**	**-0.5**
BRTR	comp=Z,4.0nm,1.0s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,3.7nm,1.0s,baz=141,slow=7.8,SNR=10	**68.38**	**312**	P	**P**	**23 05 03.5**	**-0.5**
PRGR	**Permogore**	**70.66**	**337**	*e*P	**P**	**23 05 15.8**	**-1.6**
PRGR				*e*		23 05 28.9	
PRGR	comp=Z,60nm,0.9s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,2.3nm,0.7s,baz=191,slow=1.5,SNR=2.6	**70.89**	**34**	P	**P**	**23 05 18.9**	**-0.2**
PEA2	**Petropavlovsk-**	**70.90**	**34**	*e*P	**P**	**23 05 18.9**	**-0.2**
MOS	**Moscow**	**71.42**	**329**	*e*P	**P**	**23 05 20.6**	**-1.5**
OBN	**Obninsk**	**71.71**	**328**	⇓*i*P	**P**	**23 05 23.7**	**-0.2**
OBN				*e*		23 08 06.3	
OBN	comp=Z,29nm,1.0s			pmax	pmax		
TIXI	**Tiksi**	**72.17**	**10**	*i* P	**P**	**23 05 25.3**	**-1.1**
SEY	**Seymchan** comp=Z,7.1nm,0.7s,baz=230,slow=4.8,SNR=9.0	**72.82**	**23**	P	**P**	**23 05 29.8**	**-0.6**
AKASG	**Malin Array Be**	**74.41**	**322**	*ce*P	**P**	**23 05 39.4**	**-0.6**
AKASG	comp=Z,9.0nm,0.6s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,5.7nm,0.6s,baz=90,slow=4.9,SNR=42	**74.41**	**322**	P	**P**	**23 05 39.4**	**-0.6**
AKBB	**Malin Array Si**	**74.41**	**322**	*e*P	**P**	**23 05 39.4**	**-0.6**
AKBB	**Malin Array Si**	**74.41**	**322**	*e*P	**P**	**23 05 39.4**	**-0.6**
KIEV	**Kiev**	**74.41**	**322**	*e*P	**P**	**23 05 39.1**	**-0.9**
KIEV	comp=Z,14nm,0.7s			pmax	pmax		
KIEV	**Kiev** comp=Z,14nm,0.7s	**74.41**	**322**	*e*P	**P**	**23 05 39.0**	**-0.9**
PGOR	**Pogoanele**	**74.44**	**316**	⇑*i*P	P	23 05 36.5	-3.8
PLOR	**Plostina**	**74.87**	**317**	⇓P	**P**	**23 05 43.4**	**+0.5**
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SUW	Suwalki	78.80	325	eP		P	23 06 04.5	-0.2
SUW	Suwalki	78.80	325	eP		P	23 06 04.5	-0.2
	comp=Z,84nm,1.2s							
FIA0	FINESS Array S	79.05	332	eP		P	23 06 05.7	-0.3
FIA0	FINESS Array S	79.05	332	eP		P	23 06 05.7	-0.3
FINES	FINESS Array B	79.05	332	P		P	23 06 05.7	-0.3
	comp=Z,13nm,0.8s,baz=112,slow=6.0,SNR=51							
KAF	Kangasniemi	79.13	333	eP		P	23 06 04.9	-1.5
KAF				pmax	pmax			
	comp=Z,15nm,0.6s							
KAF	Kangasniemi	79.13	333	ep		P	23 06 04.9	-1.5
	comp=Z,15nm,0.6s							
STHS	Stebnicka Huta	79.14	320	eP		P	23 06 08.1	+1.3
STHS				pmax	pmax			
	comp=Z,7.0nm,1.1s							
STHS	Stebnicka Huta	79.14	320	eP		P	23 06 08.1	+1.3
KECS	Kecovo	79.49	319	eP		P	23 06 08.7	0.0
KECS				pmax	pmax			
	comp=Z,4.0nm,1.3s							
KECS	Kecovo	79.49	319	eP		P	23 06 08.7	0.0
RPZ	Rata Peaks	79.97	135	eP		P	23 06 11.4	0.0
	comp=Z,136nm,1.9s							
BILL	Bilibino	80.21	21	eP		P	23 06 10.4	-1.7
BILL				e			23 06 17.0	
BILL				e			23 09 12.1	
VYHS	Vyhne	80.58	319	eP		P	23 06 14.7	+0.1
VYHS	Vyhne	80.58	319	eP		P	23 06 14.7	+0.1
ARA0	ARCESS Array S	81.54	340	eP		P	23 06 19.3	0.0
ARCES	ARCESS Array B	81.54	340	P		P	23 06 19.3	0.0
	comp=Z,9.3nm,0.9s,baz=93,slow=5.2,SNR=38							
KSP	Ksiaz	82.49	321	eP		P	23 06 24.1	-0.5
ARSA	Arzberg	82.67	317	⇑iP		P	23 06 26.4	+0.7
BOJS	Bojanci	82.72	315	iP		P	23 06 26.2	+0.3
BOJS	Bojanci	82.72	315	P		P	23 06 26.2	+0.3
PERS	Pernice	82.90	317	eP		P	23 06 27.4	+0.5
PERS	Pernice	82.90	317	eP		P	23 06 27.4	+0.5
SOKA	Soboth	82.96	317	⇑iP		P	23 06 27.5	+0.2
	comp=Z,7.9nm,1.1s							
VISS	Visnje	83.03	316	iP		P	23 06 28.1	+0.5
VISS	Visnje	83.03	316	iP		P	23 06 28.1	+0.5
JAVS	Javornik	83.58	316	eP		P	23 06 31.3	+0.8
JAVS	Javornik	83.58	316	eP		P	23 06 31.3	+0.8
BRG	Berggiesshubel	83.97	321	eP		P	23 06 33.5	+1.2
	comp=Z,3.3nm,1.2s							
BRG	Berggiesshubel	83.97	321	eP		P	23 06 33.5	+1.2
BRG				pmax	pmax			
	comp=Z,3.0nm,1.2s							
GEC2	GERESS Array S	84.00	319	eP		P	23 06 33.1	+0.5
GEC2	GERESS Array S	84.00	319	eP		P	23 06 33.0	+0.5
GERES	GERESS Array B	84.00	319	P		P	23 06 33.0	+0.5
	comp=Z,5.6nm,1.1s,baz=98,slow=5.5,SNR=19							
CLL	Collm	84.59	321	eP		P	23 06 35.0	-0.4
CLL	Collm	84.59	321	eP		P	23 06 35.0	-0.4
GRF	Grafenberg Arr	85.66	319	eP		P	23 06 41.5	+0.7
	comp=Z,7.0nm,1.0s							
MOTA	Moosalm	85.68	317	⇑iP		P	23 06 40.2	-0.9
	comp=Z,4.5nm,0.8s							
FETA	Feichten	85.93	317	⇓iP		P	23 06 41.8	-0.6
	comp=Z,5.8nm,1.0s							
NB2	NORSAR Subarra	86.07	331	P		P	23 06 42.0	-0.6
	comp=Z,2.8nm,0.7s,baz=96,slow=4.8							
NB200	NORSAR Array S	86.07	331	eP		P	23 06 42.3	-0.3
NOA	NORSAR Array B	86.07	331	P		P	23 06 42.3	-0.3
	comp=Z,9.4nm,1.0s,baz=92,slow=5.0,SNR=15							
FUORN	Ofenpass-Fuorn	86.24	316	eP		P	23 06 44.7	+0.6
	comp=Z,29nm,1.8s							
DAVA	Damuels	86.51	317	⇑iP		P	23 06 45.3	+0.1
	comp=Z,9.4nm,1.1s							
KEST	Kesra	86.92	305	P		P	23 06 48.5	+1.1
	comp=Z,3.1nm,1.0s,baz=357,slow=5.0,SNR=4.3							
PGF	Pioggiola	87.13	312	eP		P	23 06 48.3	0.0
	comp=Z,23nm,1.2s							
PGF	Pioggiola	87.13	312	eP		P	23 06 48.3	0.0
PGF				pmax	pmax			
	comp=Z,23nm,1.2s							
PGF	Pioggiola	87.13	312	eP		P	23 06 48.3	0.0
	comp=Z,23nm,1.2s							
CDF	Champ du Feu	88.25	318	eP		P	23 06 53.1	-0.4
CDF	Champ du Feu	88.25	318	eP		P	23 06 53.1	-0.4
CDF	Champ du Feu	88.25	318	eP		P	23 06 53.1	-0.4
GAMB	Gambell	88.51	26	eP		P	23 06 54.5	+0.3
	comp=Z,5.5nm,1.1s							
LPG	La Plagne	88.70	315	eP		P	23 06 56.0	0.0
	comp=Z,20nm,1.2s							
LPG	La Plagne	88.70	315	eP		P	23 06 56.0	0.0
LPG				pmax	pmax			
	comp=Z,20nm,1.3s							
LPG	La Plagne	88.70	315	eP		P	23 06 56.1	0.0
	comp=Z,20nm,1.3s							
MBDF	Montbardon	88.71	315	eP		P	23 06 55.2	-0.7
MBDF	Montbardon	88.71	315	eP		P	23 06 55.2	-0.7
MBDF	Montbardon	88.71	315	eP		P	23 06 55.2	-0.7
LPL	La Plagne	88.71	315	eP		P	23 06 56.1	+0.2
	comp=Z,12nm,1.1s							
LPL	La Plagne	88.71	315	eP		P	23 06 56.1	+0.2
LPL				pmax	pmax			
	comp=Z,12nm,1.1s							
LPL	La Plagne	88.71	315	eP		P	23 06 56.1	+0.2
	comp=Z,12nm,1.1s							
HAU	Haudompre	88.89	318	eP		P	23 06 56.2	-0.3
HAU	Haudompre	88.89	318	eP		P	23 06 56.2	-0.3
HAU	Haudompre	88.89	318	eP		P	23 06 56.2	-0.3
CABF	La Chapelle	89.12	316	eP		P	23 06 57.9	+0.2
CABF	La Chapelle	89.12	316	eP		P	23 06 57.9	+0.2
CABF	La Chapelle	89.12	316	eP		P	23 06 57.9	+0.2
ORIF	Oris-en-Rattie	89.33	315	eP		P	23 06 59.0	+0.3
ORIF	Oris-en-Rattie	89.33	315	eP		P	23 06 59.0	+0.3
ORIF	Oris-en-Rattie	89.33	315	eP		P	23 06 59.0	+0.3
SMRF	Simiane la Rot	89.59	314	eP		P	23 07 01.3	+1.4
SMRF	Simiane la Rot	89.59	314	eP		P	23 07 01.3	+1.4
SFTF	Sexfontaines	89.75	318	eP		P	23 07 00.7	+0.2
SFTF	Sexfontaines	89.75	318	eP		P	23 07 00.7	+0.2
BAIF	Baives	90.19	320	eP		P	23 07 03.1	+0.6
	comp=Z,23nm,1.1s							
BAIF	Baives	90.19	320	eP		P	23 07 03.1	+0.6
BAIF				pmax	pmax			
	comp=Z,23nm,1.1s							
BAIF	Baives	90.19	320	eP		P	23 07 03.1	+0.6
	comp=Z,23nm,1.1s							
VIVF	Saint-Julien-l	90.19	315	eP		P	23 07 02.8	+0.1
	comp=Z,26nm,1.3s							
VIVF	Saint-Julien-l	90.19	315	eP		P	23 07 02.8	+0.1
VIVF				pmax	pmax			
	comp=Z,26nm,1.3s							
VIVF	Saint-Julien-l	90.19	315	eP		P	23 07 02.8	+0.1
	comp=Z,26nm,1.3s							
LOR	Lormes	90.61	317	eP		P	23 07 04.7	+0.2
	comp=Z,26nm,1.2s							
LOR	Lormes	90.61	317	eP		P	23 07 04.7	+0.2
LOR				pmax	pmax			
	comp=Z,27nm,1.2s							
LOR	Lormes	90.61	317	eP		P	23 07 04.7	+0.2
	comp=Z,26nm,1.2s							
SMF	Signal de Mont	90.66	317	eP		P	23 07 04.8	0.0
	comp=Z,29nm,1.3s							
SMF	Signal de Mont	90.66	317	eP		P	23 07 04.8	0.0
SMF				pmax	pmax			
	comp=Z,29nm,1.3s							
SMF	Signal de Mont	90.66	317	eP		P	23 07 04.8	0.0
	comp=Z,29nm,1.3s							
SSF	Saint Saulge	90.86	317	eP		P	23 07 06.3	+0.6
	comp=Z,8.7nm,1.0s							
SSF	Saint Saulge	90.86	317	eP		P	23 07 06.3	+0.6
SSF				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SSF	Saint Saulge	90.86	317	eP		P	23 07 06.3	+0.6
	comp=Z,8.7nm,1.0s							
AVF	Avril sur Loir	90.99	317	eP		P	23 07 06.4	+0.2
	comp=Z,17nm,1.1s							
AVF	Avril sur Loir	90.99	317	eP		P	23 07 06.4	+0.2
AVF				pmax	pmax			
	comp=Z,17nm,1.1s							
AVF	Avril sur Loir	90.99	317	eP		P	23 07 06.4	+0.2
	comp=Z,17nm,1.1s							
CAF	Calviac	92.04	315	eP		P	23 07 11.9	+0.7
CAF	Calviac	92.04	315	eP		P	23 07 11.9	+0.7
CAF	Calviac	92.04	315	eP		P	23 07 11.9	+0.7
RJF	Les Rejaudoux	92.39	315	eP		P	23 07 13.7	+0.9
RJF	Les Rejaudoux	92.39	315	eP		P	23 07 13.7	+0.9
RJF	Les Rejaudoux	92.39	315	eP		P	23 07 13.7	+0.9
MFF	Saint Martin d	93.40	317	eP		P	23 07 17.6	+0.2
MFF	Saint Martin d	93.40	317	eP		P	23 07 17.6	+0.2
MFF	Saint Martin d	93.40	317	eP		P	23 07 17.6	+0.2
SJPF	Ste Jean	94.59	313	eP		P	23 07 23.7	+0.7
	comp=Z,18nm,1.2s							
SJPF	Ste Jean	94.59	313	eP		P	23 07 23.7	+0.7
SJPF				pmax	pmax			
	comp=Z,18nm,1.2s							
SJPF	Ste Jean	94.59	313	eP		P	23 07 23.7	+0.7
	comp=Z,18nm,1.2s							
TOA0	Torodi Ar. Sit	94.81	283	eP		P	23 07 25.4	+0.8
TORD	Torodi Ar. Bea	94.81	283	P		P	23 07 25.4	+0.8
	comp=Z,1.7nm,1.0s,baz=83,slow=2.1,SNR=2.7							
QUIF	Quistinic	95.25	318	eP		P	23 07 27.2	+1.3
QUIF	Quistinic	95.25	318	eP		P	23 07 27.2	+1.3
QUIF	Quistinic	95.25	318	eP		P	23 07 27.2	+1.3
ROSF	Rostrenen	95.26	319	eP		P	23 07 26.4	+0.5
	comp=Z,77nm,1.3s							
ROSF	Rostrenen	95.26	319	eP		P	23 07 26.4	+0.5
ROSF				pmax	pmax			
	comp=Z,77nm,1.3s							
ROSF	Rostrenen	95.26	319	eP		P	23 07 26.4	+0.5
	comp=Z,77nm,1.3s							
ILAR	Eielson Array	98.76	23	PP		PP	23 11 32.8	-10
	comp=Z,0.4nm,0.9s,baz=290,slow=5.6,SNR=2.7							
YKA	Yellowknife Ar	111.10	15	PP		PP	23 13 06.2	-7.4
	comp=Z,0.6nm,0.8s,baz=324,slow=8.4,SNR=4.8							
SCHQ	Schefferville	121.59	349	PKP		PKPdf	23 12 55.5	-0.1
	comp=Z,2.8nm,0.8s,baz=293,slow=2.4,SNR=3.7							
F10A	Beach Ranch, E	123.17	28	ePKPdf		PKPdf	23 12 59.4	+0.3
MSO	Missoula	124.00	25	P		PKPdf	23 13 00.1	-0.5
	baz=124							
MSO	Missoula	124.00	25	ePKPdf		PKPdf	23 13 00.2	-0.4
A19A	Klindworth Far	124.30	20	P		PKPdf	23 13 00.6	-0.5
	baz=124							
A20A	Cobblestone Ra	124.62	20	P		PKPdf	23 13 01.5	-0.1
	baz=124							
A21A	Bergtoll Ranch	124.86	19	P		PKPdf	23 13 02.0	-0.1
	baz=124							
A22A	Carney Farms,	125.18	18	P		PKPdf	23 13 02.6	-0.1
	baz=125							
C20A	Veseth Ranch,	125.59	21	P		PKPdf	23 13 03.9	+0.3
	baz=125							
DLMT	Dillon	125.73	26	ePKPdf		PKPdf	23 13 05.0	+1.0
HLID	Hailey	126.31	28	P		PKPdf	23 13 05.9	+0.6
	baz=126							
A26A	Wade Farm, Ken	126.40	16	P		PKPdf	23 13 05.3	+0.3
	baz=126							
C23A	Lambert	126.46	19	P		PKPdf	23 13 05.7	+0.5
	baz=126							
ULM	Lac du Bonnet	126.52	10	PKP		PKPdf	23 13 04.7	-0.4
	comp=Z,4.3nm,0.8s,baz=16,slow=3.2,SNR=7.2							
B25A	Knox Farm, Ray	126.66	17	P		PKPdf	23 13 06.5	+1.0
	baz=126							
D22A	Cohagen	126.71	20	P		PKPdf	23 13 06.2	+0.5
	baz=126							
A29A	Manning Farm,	127.09	13	P		PKPdf	23 13 06.7	+0.4
	baz=127							
LAO	LASA Array	127.09	20	ePKPdf		PKPdf	23 13 08.0	+1.5
NV01	Mina Array Sit	127.96	35	ePKPdf		PKPdf	23 13 09.7	+1.1
NVAR	Mina Array Bea	127.96	35	PKP		PKPdf	23 13 09.7	+1.1
	comp=Z,2.2nm,0.8s,baz=278,slow=3.5,SNR=8.5							
REDW	Red Top Meadow	128.08	26	ePKPdf		PKPdf	23 13 09.8	+1.1
PD31	Pinedale Array	129.12	25	ePKPdf		PKPdf	23 13 10.8	+0.2
PDAR	Pinedale Array	129.12	25	PKP		PKPdf	23 13 10.8	+0.2
	comp=Z,1.2nm,0.8s,baz=203,slow=1.1,SNR=6.9							
I21A	Big Trails, Te	129.17	23	P		PKPdf	23 13 10.6	-0.1
	baz=129							
R11A	Troy Canyon, C	129.55	33	P		PKPdf	23 13 12.5	+1.0
	baz=129							
R11A	Troy Canyon, C	129.55	33	ePKPdf		PKPdf	23 13 12.6	+1.0
DUG	Dugway, Tooele	129.64	30	ePKIKP		PKPdf	23 13 13.3	+1.6
DUG	Dugway, Tooele	129.64	30	P		PKPdf	23 13 12.5	+0.9
	baz=129							
DUG	Dugway, Tooele	129.64	30	ePKPdf		PKPdf	23 13 13.2	+1.6
K26A	Motz Farm, Whi	131.63	20	P		PKPdf	23 13 15.2	-0.1
	baz=131							
O20A	White River Ci	131.84	26	P		PKPdf	23 13 16.2	+0.3
	baz=132							
MIAR	Mount Ida	142.04	14	ePKIKP		PKPdf	23 13 30.3	-4.3
MIAR				e			23 13 37.1	
MIAR	Mount Ida	142.04	14	ePKPdf		PKPdf	23 13 30.3	-4.3
MIAR				ePKPdf		PKiKP	23 13 37.1	-0.4
TXAR	Lajitas Array	142.80	31	PKhKP		PKPpre	23 13 32.0	
	comp=Z,0.9nm,0.7s,baz=88,slow=0.9,SNR=11							
BDFB	Brasilia	143.19	247	PKP		PKPdf	23 13 42.1	+4.8
	comp=Z,4.9nm,1.0s,baz=124,slow=3.6,SNR=3.7							
530A	J-C Ranch, Com	143.26	27	P		PKPbc	23 13 33.5	-0.5
	baz=143							
531A	Rocksprings	143.60	26	P		PKPab	23 13 33.6	-0.5
	baz=143							
JCT	Junction City	143.66	25	ePKIKP		PKPab	23 13 34.5	+0.3
JCT	Junction City	143.66	25	P		PKPab	23 13 34.0	-0.2
	baz=143							
JCT	Junction City	143.66	25	ePKPdf		PKPab	23 13 34.5	+0.3
335A	Moody	143.88	21	P		PKPab	23 13 34.9	-0.2
	baz=144							
631A	Perdido Creek	144.23	27	P		PKPab	23 13 35.9	-0.6
	baz=144							
732A	Laxson Ranch,	145.09	27	P		PKPab	23 13 39.6	+0.1
	baz=145							
832A	Faith Ranch, C	145.47	27	P		PKPab	23 13 41.6	+0.6
	baz=145							
833A	Chaparral WMA,	145.69	26	P		PKPab	23 13 42.2	+0.4
	baz=145							
735A	Kenedy	145.90	24	P		PKPab	23 13 43.4	+0.8
	baz=146							
834A	Tilden	146.24	25	P		PKPab	23 13 44.5	+0.7
	baz=146							
933A	Laredo	146.36	27	P		PKPab	23 13 44.8	+0.5
	baz=146							
835A	Beeville	146.40	24	P		PKPab	23 13 45.4	+1.0
	baz=146							
034A	Hebbronville	147.10	27	P		PKPab	23 13 47.3	+0.1
	baz=147							

*CSEM **06** 23:01:00.5, 37.10N×36.31E, h7km, MD2.6*

DDA 06 23:01:00.5, 37.10N×36.31E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMA	Osmaniye	0.30	73	iP	Pg	23 01 05.7	-1.0
KAMA				iS	Sg	23 01 09.8	-0.9
KUZU	Kuzuini	0.70	118	iP	Pb	23 01 14.6	-0.5
KUZU				iS	Sb	23 01 24.3	-0.7
KUZU	Kuzuini	0.70	118	iP	Pb	23 01 14.6	-0.5
KUZU				iS	Sb	23 01 24.3	-0.7
GZT	Gaziantep	1.04	75	iP	Pg	23 01 20.4	-0.3
GZT				iS	Sb	23 01 35.6	+0.6
AKCD	Akcadag	1.75	47	iP	Pg	23 01 34.3	-0.1
AKCD				iS	Sn	23 01 54.8	+0.6
AKCD	Akcadag	1.75	47	iP	Pg	23 01 34.3	0.0
AKCD				iS	Sn	23 01 54.8	+0.5

*IDC **06** 23:07:20.6±1.7, 2.28N×96.62E, h0km, mb3.8/8, mb1 3.8/8, mb1mx3.6/41, mbtmp3.8/8, Error ellipse: s-maj=75.5km s-min=19.5km az=53.0*

*DJA **06** 23:07:24.4±0.5, 2.1N±3.3×9.7E±.7, h10km, M4.7/7, MLv4.7/7*

ISC 06 23:07:23.8±0.9, 2.18N±0.07×96.61E±0.05, h28km, n14, σ1s96/18, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	0.36	308	P	Pb	23 07 31.3	-0.7
SNSI				S	Sb	23 07 36.7	-0.9
TPTI		1.21	28	P	Pb	23 07 45.6	-0.5
TPTI				S	Sb	23 08 03.3	+2.0
KCSI	Kotacane, Aceh	1.76	41	P	Pb	23 07 54.0	-1.5
KCSI				S	Sb	23 08 19.6	+2.4
LHMI	Lhok Sumawe	3.04	6	P	Pb	23 08 14.5	-2.8
LHMI				S	Sb	23 08 49.7	-4.3
MNSI	Mandailing Nat	3.27	115	P	Pb	23 08 17.1	-4.0
MNSI				S	Sb	23 08 56.9	-3.6
CMAR	Chiang Mai Arr	16.33	8	Pn	P	23 11 14.3	+0.3
	1.0nm,0.3s,baz=198,slow=11,SNR=9.7						
WRA	Warramunga Arr	43.05	123	P	P	23 15 22.8	+1.2
	0.3nm,0.5s,baz=300,slow=9.4,SNR=4.5						
ASAR	Alice Springs	44.45	128	P	P	23 15 34.2	+1.4
	0.2nm,0.5s,baz=303,slow=8.4,SNR=3.3						
MKAR	Makanchi Array	46.15	346	P	P	23 15 46.3	+0.4
	2.1nm,0.7s,baz=158,slow=8.9,SNR=22						
SONM	Songino Array	46.26	9	P	P	23 15 47.2	+0.4
	0.5nm,0.4s,baz=190,slow=9.6,SNR=7.6						
GEYT	Ailbeck	50.09	320	P	P	23 16 17.2	+0.7
	0.8nm,0.5s,baz=152,slow=6.5,SNR=3.3						
KURBB	Kurchatov Arra	50.64	345	P	P	23 16 20.9	+0.6
	0.9nm,0.6s,baz=166,slow=7.1,SNR=8.0						
ZALV	Zalesovo Beam	52.50	351	P	P	23 16 34.1	-0.1
	1.2nm,0.4s,baz=168,slow=7.6,SNR=6.6						
BVAR	Borovoye Array	55.14	341	P	P	23 16 53.3	-0.2
	0.8nm,0.7s,baz=144,slow=11,SNR=4.9						

DJA 06 23:16:10.6±0.6, 2.1N±4.3×9.7E±.7, h10km, M4.2/6, MLv4.2/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	0.74	285	P	Pg	23 16 23.6	-1.3
TPTI		1.04	8	P	Pg	23 16 29.6	-1.1
TPTI				S	Sg	23 16 41.6	-2.7
KCSI	Kotacane, Aceh	1.48	29	P	Pb	23 16 37.9	-0.5
KCSI				S	Sb	23 16 57.5	+0.2
TSI	Tuntungan	1.98	50	P	Pn	23 16 41.6	-2.7
MNSI	Mandailing Nat	2.91	119	P	Pn	23 16 56.7	-0.2
LHMI	Lhok Sumawe	2.99	358	P	Pn	23 17 00.2	+2.1

*NEIC **06** 23:16:52.0, 32.22N×115.29W, h5km, ML3.3(PAS), ML3.7(ECX), After ECX.*

*ECX **06** 23:16:52.4±0.3, 32.22N×115.30W, h6km, MD3.2, ML3.4*

ISC 06 23:16:50.8±1.1, 32.17N±0.03×115.27W±0.03, h5km±10km, n43, σ1s24/56, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	El Mayor	0.19	172	⇓iP	Pg	23 16 53.4	-1.1
EMX				eS	Sg	23 16 56.8	-0.2
EMX				⇓e		23 16 57.4	
	comp=N,5μm,0.3s						
SGL	Mount Signal	0.61	321	⇓iP	Pg	23 17 02.4	-0.1
EMSC	East Mesa	0.61	23	ePg	Pg	23 17 02.6	0.0
RDX	Rancho Dawling	0.62	247	eP	Pg	23 17 03.5	+0.8
RDX				eS	Sg	23 17 11.9	+1.1
DREC	Desert Rsrch C	0.65	347	ePg	Pg	23 17 03.5	+0.2
ERPC	Ernies Place	0.66	330	ePg	Pg	23 17 03.8	+0.3
COA	Coachella	0.70	10	⇓eP	Pg	23 17 03.8	-0.5
COA	Coachella	0.70	10	ePg	Pg	23 17 03.8	-0.5
WESC	Westside Schoo	0.70	327	ePg	Pg	23 17 04.3	0.0
ECBX	El Chinero	0.72	165	eP	Pg	23 17 03.1	-1.6
ECBX				eS	Sg	23 17 13.6	-0.6
YUH	Yuha Desert	0.72	311	⇑eP	Pg	23 17 04.3	-0.4
YUH	Yuha Desert	0.72	311	ePg	Pg	23 17 04.3	-0.4
COK	Cook Ranch	0.78	330	⇑eP	Pg	23 17 05.4	-0.3
RMX	La Rumorosa	0.80	302	⇑eP	Pg	23 17 05.8	-0.5
RMX				eS	Sg	23 17 16.4	-0.3
BTCC	Brunts Corner	0.84	3	ePg	Pg	23 17 05.7	-1.2
CRR	Carrizo Plain	0.92	321	ePg	Pg	23 17 07.9	-0.6
GLA	Glamis	0.95	23	ePg	Pg	23 17 07.3	-1.9
CLIC	Calipatria	0.99	348	ePg	Pg	23 17 08.0	-1.8
ERRC	Elmore Ranch	1.05	334	ePg	Pg	23 17 09.0	-1.9
ZAX	El Zacaton	1.08	233	eP	Pb	23 17 11.4	-0.6
ZAX				eS	Sg	23 17 26.2	+0.8
CBKC	Canebrake	1.10	311	ePg	Pg	23 17 11.4	-0.5
SPIG	San Pedro Mart	1.14	188	eP	Pb	23 17 12.8	-0.3
SPIG				eS	Sb	23 17 29.0	+0.7
SPX	San Pedro Mart	1.14	188	eP	Pb	23 17 13.2	0.0
SPX				eS	Sb	23 17 28.9	+0.5
SPX				AML	AML	23 17 30.4	
	comp=E,466nm,0.3s						
SPX				⇑e		23 17 30.4	
CBX	Cerro Bola	1.19	277	eP	Pb	23 17 12.7	-1.1
CBX				eS	Sb	23 17 28.3	-1.2
CBX				⇑e		23 17 30.6	
CBX				AML	AML	23 17 30.6	
	comp=N,852nm,0.4s						
ECNX	Esteban Cantu	1.24	246	eP	Pn	23 17 14.1	-0.8
ECNX				eS	Sb	23 17 30.6	-0.4
FRK	Frink	1.26	346	ePg	Pn	23 17 11.4	-3.7
FRK				ePn	Pg	23 17 16.7	+1.6
BAR	Barrett	1.29	293	ePg	Pn	23 17 14.1	-1.3
PBX	Punta Banda	1.31	251	eP	Pn	23 17 15.0	-0.7
PBX				eS	Sb	23 17 32.8	-0.2
LTC	Little Chuckwa	1.32	7	ePg	Pn	23 17 13.1	-2.9
EML	El Monte Cty P	1.51	299	eSg	Sn	23 17 37.6	-0.9
CTW	Cottonwood Mou	1.58	342	ePn	Pg	23 17 21.9	+0.7
DPP	Dos Picos Cty	1.63	301	ePn	Pn	23 17 20.9	+0.8
DPP				eSn	Sn	23 17 41.5	0.0
HWB	Hans Werner Br	1.66	301	ePn	Pn	23 17 20.8	+0.2
CPE	Camp Elliot	1.70	295	ePn	Pn	23 17 21.5	+0.3
CPE				eSn	Sb	23 17 43.9	-0.4
PLM	Palomar	1.78	312	ePn	Pb	23 17 23.9	-0.2
BACC	Bachelor Mtn.	2.07	314	ePn	Pn	23 17 21.5	-4.7
BACC				ePg	Pb	23 17 28.9	+0.1
BACC				eSn	Sb	23 17 54.2	-0.5
HMTC	Hemet	2.11	317	ePn	Pb	23 17 30.2	+0.6
HMTC				eSn	Sb	23 17 56.2	+0.1
BFSC	Mount Baldy Ra	2.87	316	ePn	Pn	23 17 39.9	+2

ASAR	**Alice Springs**	**44.26**	**128**	P		**P**	**23 35 52.2**	**-1.4**
	0.3nm,0.5s,baz=300,slow=8.1,SNR=4.7							
MKAR	**Makanchi Array**	**46.31**	**346**	P		**P**	**23 36 10.0**	**+0.5**
	2.3nm,0.8s,baz=158,slow=7.8,SNR=24							
SONM	**Songino Array**	**46.36**	**9**	P		**P**	**23 36 10.1**	**+0.1**
	0.5nm,0.4s,baz=189,slow=9.2,SNR=9.2							
SONM				PcP		**PcP**	**23 37 44.2**	**-0.5**
	0.4nm,0.4s,baz=179,slow=4.5,SNR=4.8							
GEYT	**Alibeck**	**50.28**	**320**	P		**P**	**23 36 40.9**	**+0.6**
	0.6nm,0.6s,baz=167,slow=9.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**52.65**	**351**	P		**P**	**23 36 58.2**	**+0.6**
	2.7nm,0.6s,baz=178,slow=7.1,SNR=17							
ARCES	**ARCESS Array B**	**81.59**	**340**	P		**P**	**23 40 01.2**	**+0.2**
	1.3nm,0.8s,baz=104,slow=6.0,SNR=3.5							

*IDC **06** 23:35:33.5±0.4, 1.°87N×96.°80E, h0km, mb4.6/32, mb1 4.7/34, mb1mx4.6/46, mbtmp4.6/34, ML4.7/2, Error ellipse: s-maj=14.5km s-min=9.6km az=51.0*

*ISCJB **06** 23:35:34.7±1.0, 1.°90N±0.°03×96.°67E±0.°03, h15km±6km, mb4.8/78, Error ellipse: s-maj=6.0km s-min=3.7km az=144.7*

*BJI **06** 23:35:34.6, 1.°71N×96.°76E, h30km, mB5.1/6, mb5.1/49, Ms5.4/6, Ms7 5.3/6*

*MOS **06** 23:35:37.4±0.9, 1.°96N×96.°83E, h33km, mb5.1/24, Error ellipse: s-maj=10.8km s-min=5.4km az=109.6*

*DJA **06** 23:35:37.8±0.7, 2.°N±2.°×9.°E±.°, h11km±7km, M5.2/28, mb5.0/28, mB6.6/1, MLv5.3/9, Mw(mB)6.4/1*

*NEIC **06** 23:35:38.2±1.8, 1.°91N×96.°72E, h28km±12km, mb5.1/21, Error ellipse: s-maj=7.5km s-min=4.8km az=49.0*

*KLM **06** 23:35:40.7, 2.°10N×96.°71E, h120km, mb4.7, ML4.9, MS5.8*

ISC 06 23:35:38.8±0.4, **1.°88N**±0.°04×**96.°72E**±0.°04, **h33**km±2km, **h33**km**:pP-P, n346,** σ1º**18**/356**, mb4.9**/78**, 14C-6D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	Az°	Phase	Op	ID	Time h m s	Res
SNSI	**Sinabang, Aceh**	**0.66**	**324**	P	P	**Pn**	**23 35 50.6**	**-1.2**
TPTI		**1.45**	**19**	P	P	**Pn**	**23 36 01.0**	**-1.8**
TPTI				S	S	**Sn**	**23 36 19.9**	**-0.7**
KCSI	**Kotacane, Aceh**	**1.94**	**33**	P	P	**Pn**	**23 36 09.2**	**-0.4**
KCSI				S	S	**Sn**	**23 36 34.6**	**+1.7**
TSI	**Tuntungan**	**2.45**	**49**	P	P	**Pb**	**23 36 20.8**	**-1.4**
MNSI	**Mandailing Nat**	**3.06**	**111**	P	P	**Pn**	**23 36 25.9**	**+1.0**
LHMI	**Lhok Sumawe**	**3.34**	**4**	P	P	**Pn**	**23 36 28.4**	**-0.4**
LHMI	**Lhok Sumawe**	**3.34**	**4**	*e*Pn	P	**Pn**	**23 36 28.4**	**-0.4**
BKNI	**Bangkinang**	**4.59**	**110**	P	P	**Pn**	**23 36 47.3**	**+1.3**
BKNI	**Bangkinang**	**4.59**	**110**	*e*Pn	P	**Pn**	**23 36 47.1**	**+1.1**
IPM	**Ipoh**	**5.02**	**59**	⇓P	P	**Pn**	**23 36 52.8**	**+0.9**
IPM	**Ipoh**	**5.02**	**59**	*e*Pn	P	**Pn**	**23 36 52.0**	**+0.1**
KULM	**Kulim**	**5.19**	**49**	⇑P	P	**Pn**	**23 36 54.4**	**+0.2**
KULM	**Kulim**	**5.19**	**49**	*e*Pn	P	**Pn**	**23 36 54.0**	**-0.1**
SDSI	**Sungai Dareh**	**5.48**	**121**	P	P	**Pn**	**23 36 59.5**	**+1.3**
	107nm,0.9s,1.4nm							
CMBY	**CAMPBELL BAY**	**5.81**	**331**	*e*P	P	**Pn**	**23 37 00.2**	**-2.6**
CMBY					AMB	AMB	23 37 19.5	
	comp=Z,703nm,4.2s							
PKDT	**Phuket**	**6.19**	**15**	P	P	**Pn**	**23 37 06.6**	**-1.4**
	comp=Z,401nm,0.8s,comp=Z,1.6nm							
KGM	**Kluang**	**6.60**	**89**	⇓P	P	**Pn**	**23 37 15.2**	**+1.6**
MYKOM	**Kota Tinggi**	**7.13**	**91**	⇑P	P	**Pn**	**23 37 22.6**	**+1.7**
MYKOM	**Kota Tinggi**	**7.13**	**91**	*e*Pn	P	**Pn**	**23 37 21.4**	**+0.4**
KTGM	**Kuala Trenggan**	**7.26**	**62**	⇑P	P	**Pn**	**23 37 23.1**	**+0.4**
SURT	**Suratani**	**7.33**	**16**	P	P	**Pn**	**23 37 21.7**	**-2.0**
	comp=Z,584nm,0.8s,comp=Z,2.3nm							
JMBI	**JAMBI**	**7.75**	**117**	P	P	**Pn**	**23 37 30.3**	**+0.8**
TPRI	**Tanjung Pinang**	**7.87**	**97**	P	P	**Pn**	**23 37 33.0**	**+2.0**
	comp=Z,104nm,0.6s							
MNAI	**Manna**	**8.79**	**135**	P	P	**Pn**	**23 37 43.6**	**-0.1**
	comp=Z,287nm,1.1s							
MNAI	**Manna**	**8.79**	**135**	*e*Pn	P	**Pn**	**23 37 43.2**	**-0.6**
MNAI				*e*Sn	S	**Sn**	**23 39 20.6**	**-1.2**
LHSI	**Lahat**	**8.86**	**130**	P	P	**Pn**	**23 37 45.6**	**+1.0**
MDSI	**Maura Dua**	**9.78**	**130**	P	P	**Pn**	**23 37 56.6**	**-0.6**
	comp=Z,112nm,1.1s							
LWLI	**Liwa**	**10.04**	**133**	P	P	**Pn**	**23 38 01.4**	**+0.5**
KLSI		**10.33**	**129**	P	P	**Pn**	**23 38 05.4**	**+0.6**
PBA	**Port Blair**	**10.48**	**338**	*e*P	P	Pn	23 38 02.5	-4.4
PBA					AMB	AMB	23 38 27.9	
	comp=Z,438nm,10.0s							
PBA				*e*S	S	Sn	23 39 54.6	-8.6
KASI	**Kota Agung**	**10.70**	**133**	P	P	**Pn**	**23 38 08.0**	**-1.9**
DGPR	**DIGLIPUR**	**11.84**	**342**	*ex*	P	Pn	23 38 19.6	-5.8
DGPR					AMB	AMB	23 38 52.6	
	comp=Z,416nm,7.6s							
DGPR				*e*S	S	Sn	23 40 27.7	-8.7
TPI	**Tanjungpandan**	**11.86**	**113**	P	P	**Pn**	**23 38 27.6**	**+1.8**
	comp=Z,101nm,0.9s							
CHBT	**CHBT**	**12.15**	**27**	P	P	P	23 38 38.6	-3.3
CGJI	**Cibinong**	**12.31**	**133**	P	P	Pn	23 38 27.9	-4.0
SRDT	**SRDT**	**12.62**	**11**	P	P	**Pn**	**23 38 35.5**	**-0.6**
	comp=Z,399nm,3.7s							
KSM	**Kuching**	**13.59**	**91**	*e*Pn	P	**Pn**	**23 38 48.4**	**-1.1**
CNJI	**Cibinong**	**13.83**	**131**	P	P	Pn	23 38 47.4	-5.3
UTHA	**Uthaitani**	**13.86**	**11**	P	P	**Pn**	**23 38 54.4**	**+1.3**
	comp=Z,7.1nm,0.8s							
STKI	**Sintang**	**14.87**	**97**	P	P	**Pn**	**23 39 08.4**	**+1.6**
PBKT	**Sadao Pong**	**15.19**	**16**	P	P	**Pn**	**23 39 09.3**	**-1.7**
	comp=Z,904nm,1.0s							
KPJI	**Karang Pucung**	**15.24**	**127**	P	P	**Pn**	**23 39 09.6**	**-2.2**
DLV	**T Lat**	**15.37**	**49**	*e*Pn	P	**Pn**	**23 39 15.3**	**+1.7**
	comp=Z,129nm,1.3s							
SBUM	**Sibu**	**15.50**	**88**	*e*Pn	P	**Pn**	**23 39 16.5**	**+1.2**
	comp=Z,138nm,2.0s							
KHON	**Khomkaen**	**15.58**	**22**	P	P	**P**	**23 39 20.5**	**+0.4**
PBKI	**Pangkalan Bun**	**15.63**	**107**	P	P	**Pn**	**23 39 18.6**	**+1.8**
UBPT	**Khong Chiam**	**15.87**	**32**	P	P	**P**	**23 39 22.8**	**-0.5**
MHMT	**Maesarieng**	**16.24**	**4**	P	P	**Pn**	**23 39 22.8**	**-1.8**
	comp=Z,346nm,0.8s							
CM31	**Chiang Mai Arr**	**16.62**	**7**	*e*Pn	P	**Pn**	**23 39 27.6**	**-1.9**
CM31				*e*ScP	S	**ScP**	**23 47 52.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.62**	**7**	*ce*P	P	**Pn**	**23 39 27.6**	**-1.9**
CMAR					pmax	pmax		
	comp=Z,19nm,0.6s							
CMAR	**Chiang Mai Arr**	**16.62**	**7**	Pn	P	**Pn**	**23 39 27.6**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=207,slow=11,SNR=72							
CMAR					ScP	**ScP**	**23 47 52.3**	**+1.0**
	baz=213,slow=4.5,SNR=5.2							
LAMP	**Lampang**	**16.79**	**10**	P	P	**Pn**	**23 39 30.1**	**-1.5**
	comp=Z,13nm,1.2s,comp=Z,137nm							
PALK	**Pallekele**	**16.83**	**289**	*i* P	P	**P**	**23 39 37.9**	**+3.8**
PALK	**Pallekele**	**16.83**	**289**	Pn	P	**Pn**	**23 39 32.6**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=116,slow=12,SNR=7.2							
PALK					Sn	Sn	23 42 22.0	-17
	comp=Z,3.5nm,0.3s,baz=87,slow=8.8,SNR=7.9							
CHTO	**Chiang Mai**	**16.97**	**7**	*e*P	P	**Pn**	**23 39 31.6**	**-2.3**
CHTO					pmax	pmax		
	comp=Z,23nm,0.7s							
CHTO	**Chiang Mai**	**16.97**	**7**	*e*Pn	P	**Pn**	**23 39 31.6**	**-2.3**
	comp=Z,23nm,0.7s							
CHTO	**Chiang Mai**	**16.97**	**7**	P	P	**Pn**	**23 39 31.7**	**-2.2**
	comp=Z,983nm,1.9s							
CMMT	**Chiang Mai**	**16.97**	**7**	P	P	**Pn**	**23 39 31.7**	**-2.2**
	comp=Z,1µm,0.8s							
PWJI	**Pagerwojo**	**17.98**	**123**	P	P	**Pn**	**23 39 46.1**	**-0.3**
	comp=Z,2µm,2.5s							
MTKI	**Muara Teweh, K**	**18.39**	**99**	P	P	**Pn**	**23 39 52.7**	**+1.2**
	comp=Z,90nm,0.9s							
CRAI	**Chiangrai**	**18.59**	**11**	P	P	**P**	**23 39 49.2**	**-4.2**
	comp=Z,572nm,0.7s							
BBKI	**Banjar Baru**	**18.88**	**106**	P	P	**Pn**	**23 39 57.3**	**-0.1**
	comp=Z,70nm,1.1s							
KKM	**Kota Kinabalu**	**19.88**	**77**	*e*Pn	P	**Pn**	**23 40 09.3**	**-0.2**
	comp=Z,42nm,0.8s							
ABJI	**Asem Bagus**	**19.94**	**119**	P	P	Pn	23 40 15.4	+5.3
KBKI	**Kotabaru**	**20.11**	**105**	P	P	Pn	23 40 13.6	+1.5
	comp=Z,517nm,0.7s							
BKB	**Balikpapan**	**20.42**	**99**	P	P	Pn	23 40 16.1	+0.4
	comp=Z,380nm,0.9s							
VIS	**Vishakhapatnam**	**20.51**	**321**	*e*P	P	**P**	**23 40 13.3**	**-1.1**
VIS					AMB	AMB	23 40 39.8	
	comp=Z,297nm,8.7s							
SLVN	**Son La**	**20.57**	**19**	*e*Pn	P	**P**	**23 40 13.2**	**-1.8**
	comp=Z,57nm,1.1s							
SRBI	**Singaraja**	**20.93**	**118**	P	P	**P**	**23 40 19.5**	**+0.5**
	comp=Z,70nm,1.3s							
QIZ	**Qiongzhong**	**21.35**	**36**	P	P	**P**	**23 40 22.0**	**-1.5**
QIZ				S	S	**S**	**23 44 17.8**	**-1.2**
MPSI	**Mapaga**	**23.23**	**94**	P	P	**P**	**23 40 44.3**	**+0.9**
	comp=Z,38nm,0.9s							
PCI	**Palu**	**23.28**	**97**	P	P	**P**	**23 40 44.7**	**+0.7**
	comp=Z,80nm,1.6s							
HYB	**Hyderabad**	**23.60**	**312**	*e*P	P	**P**	**23 40 47.2**	**+0.2**
HYB					AMB	AMB	23 40 59.3	
	comp=Z,621nm,9.7s							
KMI	**Kunming**	**23.83**	**14**	P	P	**P**	**23 40 49.7**	**+0.3**
KMI					PMZ			
	comp=Z,26nm,1.5s							
SHL	**Shillong**	**24.01**	**349**	*e*P	P	**P**	**23 40 47.0**	**-3.9**
SHL					AMB	AMB	23 41 16.4	
	comp=Z,196nm,8.5s							
BOK	**Bokaro**	**24.18**	**335**	*e*P	P	**P**	**23 40 51.4**	**-1.0**
BOK					AMB	AMB	23 41 03.1	
	comp=Z,40nm,0.7s							
H08S2	**Diego Garcia H**	**25.95**	**248**	T	T		00 07 58.2	
	baz=69,slow=75,SNR=646							
H08S3	**Diego Garcia H**	**25.95**	**248**	T	T		00 07 58.2	
	baz=69,slow=75,SNR=649							
H08S1	**Diego Garcia H**	**25.97**	**248**	T	T		00 07 59.7	
	baz=69,slow=75,SNR=676							
ODAN	**Odare**	**26.40**	**341**	*e*P	P		**23 41 12.8**	**0.0**
	comp=Z,105nm,0.5s							
RAMN	**Ramite**	**26.75**	**340**	*e*P	P		**23 41 16.5**	**+0.5**
	comp=Z,88nm,0.5s							
TAPN	**Taplejung**	**26.76**	**342**	*e*P	P		**23 41 16.5**	**+0.4**
	comp=Z,74nm,0.7s							
H08N1	**Diego Garcia H**	**26.93**	**252**	T	T		00 10 02.7	
	baz=30,slow=70,SNR=15							
H08N2	**Diego Garcia H**	**26.94**	**252**	T	T		00 10 00.7	
	baz=30,slow=70,SNR=18							
H08N3	**Diego Garcia H**	**26.95**	**252**	T	T		00 10 20.3	
	baz=30,slow=70,SNR=17							
JIRN	**Jiri**	**27.55**	**339**	*e*P	P		**23 41 23.5**	**+0.3**
	comp=Z,82nm,0.6s							
PKI	**Pulchoki**	**27.75**	**338**	*e*P	P		**23 41 24.9**	**-0.1**
	comp=Z,52nm,0.5s							
PKIN	**Phulchoki**	**27.76**	**338**	*e*P	P		**23 41 25.1**	**+0.1**
	comp=Z,23nm,0.6s							
GUN	**Gumba**	**27.88**	**339**	*e*P	P		**23 41 26.4**	**+0.2**
	comp=Z,168nm,0.6s							
KKN	**Kakani**	**27.99**	**338**	*e*P	P		**23 41 27.0**	**-0.1**
	comp=Z,40nm,0.5s							
GKN	**Gorkha**	**28.43**	**337**	*e*P	P		**23 41 31.0**	**+0.1**
	comp=Z,70nm,0.6s							
KOLN	**Koldanda**	**28.64**	**335**	*e*P	P		**23 41 33.1**	**+0.3**
	comp=Z,84nm,0.5s							
DANN	**Dangsing**	**29.09**	**336**	*e*P	P		**23 41 36.9**	**0.0**
	comp=Z,62nm,0.6s							
PYUN	**Piuthan**	**29.19**	**335**	*e*P	P		**23 41 37.6**	**-0.1**
	comp=Z,48nm,0.4s							
BATI	**Baumata**	**29.39**	**115**	P	P		**23 41 36.7**	**-2.7**
	comp=Z,7.2nm,0.3s,baz=253,slow=11,SNR=3.5							
CD2	**Chengdu**	**29.63**	**12**	*e*P	P		**23 41 42.2**	**+0.8**
CD2					pP	**pP**	**23 41 52.2**	**+1.4**
CD2					sP	**sP**	**23 41 56.4**	**+1.6**
CD2					S	**S**	**23 46 34.3**	**-0.6**
CD2					sS	**sS**	**23 46 50.9**	**+0.4**
CD2					SS	**SnSn**	**23 48 09.8**	**+4.5**
CD2					PMZ			
	comp=Z,30nm,0.5s							
CD2					PMZ			
	comp=Z,250nm,6.2s							
WHN	**Wuhan**	**33.05**	**29**	P	P		23 42 19.1	+7.7
XAN	**Xi'an**	**33.97**	**18**	P	P		**23 42 17.5**	**-2.0**
XAN					pP	**pP**	**23 42 26.4**	**-2.6**
XAN					sP	**sP**	**23 42 30.8**	**-2.1**
XAN					PMZ			
	comp=Z,6.0nm,1.0s							
SMLA	**Simla**	**34.47**	**330**	*e*P	P		**23 42 23.6**	**-0.1**
SMLA					AMB	AMB	23 42 36.1	
	comp=Z,340nm,10.0s							
LZH	**Lanzhou**	**34.67**	**10**	*e*P	P		**23 42 24.8**	**-0.9**
LZH					pP	**pP**	**23 42 33.7**	**-1.5**
LZH					sP	**sP**	**23 42 39.3**	**+0.2**
LZH					PMZ			
	comp=Z,37nm,1.1s							
LZH					PMZ			
	comp=Z,160nm,5.0s							
DHRM	**DHARAMSHALA**	**35.81**	**330**	*e*P	P		**23 42 35.1**	**-0.5**
DHRM					AMB	AMB	23 43 05.9	
	comp=Z,73nm,1.6s							
NJ2	**Nanjing**	**36.55**	**33**	*e*P	P		**23 42 42.6**	**+1.0**
GTA	**Gaotai**	**37.46**	**4**	*e*P	P		**23 42 48.8**	**-0.7**
GTA					pP	**pP**	**23 42 58.7**	**-0.3**
GTA					sP	**sP**	**23 43 02.5**	**-0.5**
GTA					PMZ			
	comp=Z,57nm,1.0s							
NWAO	**Narrogin (SRO)**	**39.68**	**153**	P	P		**23 43 08.1**	**0.0**
	comp=Z,11nm,0.9s,baz=319,slow=12,SNR=4.7							
H01W3	**Cape Leeuwin H**	**40.05**	**158**	T	T		00 25 49.5	
	baz=333,slow=76,SNR=6.4							
H01W2	**Cape Leeuwin H**	**40.06**	**158**	T	T		00 25 42.2	
	baz=333,slow=76,SNR=8.8							
H01W1	**Cape Leeuwin H**	**40.07**	**158**	T	T		00 25 43.1	
	baz=333,slow=76,SNR=6.9							
HHC	**Hu-ho-hao-te**	**41.05**	**17**	*e*P	P		**23 43 22.3**	**+2.9**
HHC					PP	**PnPn**	**23 45 00.8**	**+1.8**
HHC					S	**S**	**23 49 32.8**	**+2.8**
HHC					sS	**sS**	**23 49 49.0**	**+3.1**
HHC					SS	**SS**	**23 52 32.0**	**-1.2**
HHC					PMZ			
	comp=Z,14nm,0.7s							
HHC					LZ			
	comp=Z,11µm,18.5s							
KBL	**Kabul**	**41.49**	**325**	*e*P	P		**23 43 24.2**	**+0.9**
KBL					pmax	pmax		
	comp=Z,7.0nm,0.6s							
KBL	**Kabul**	**41.49**	**325**	*e*P	P		**23 43 24.1**	**+0.9**
	comp=Z,6.7nm,0.6s							
BJI	**Beijing**	**41.90**	**23**	P	P		**23 43 26.4**	**+0.2**
BJI					PMZ			
	comp=Z,33nm,0.8s							
KSH	**Kashi**	**41.96**	**336**	P	P		**23 43 25.1**	**-1.8**
KSH					pP	**pP**	**23 43 34.9**	**-1.6**
KSH					PP	**PP**	**23 45 05.3**	**+0.9**
KSH					S	S	23 49 37.1	-6.4
KSH					sS	sS	23 49 53.7	-5.7
KSH					SS	SS	23 52 38.9	-12
KSH					ScS	**ScS**	**23 53 24.1**	**-3.4**
KSH					PMZ			
	comp=Z,10.0nm,0.6s							
WMQ	**Urumqi**	**42.53**	**350**	*e*P	P		**23 43 33.1**	**+1.7**
WMQ					pP	**pP**	**23 43 43.0**	**+2.0**
WMQ					sP	**sP**	**23 43 48.0**	**+3.1**
WMQ					PP	**PP**	**23 45 14.0**	**+3.6**
WMQ					*e*S	**S**	**23 49 52.0**	**+0.3**
WMQ					PMZ			
	comp=Z,27nm,2.0s							
WMQ					LN			
	comp=Z,3µm,15.4s							
WMQ					LE			
	comp=Z,2µm,15.8s							
WMQ					LZ			
	comp=Z,2µm,19.9s							
WRA	**Warramunga Arr**	**42.80**	**122**	P	P		**23 43 33.7**	**-0.2**
	comp=Z,22nm,0.8s,baz=301,slow=9.1,SNR=100							
WRA					PcP	**PcP**	**23 45 24.1**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=311,slow=2.6,SNR=4.6							
WRAB	**Tennant Creek**	**42.81**	**122**	P	P		**23 43 33.6**	**-0.4**
	comp=Z,224nm,0.9s,SNR=26							
AS12	**Alice Springs**	**44.19**	**127**	*e*P	P		**23 43 45.2**	**+0.2**
AS12				*e*PP	P	**PcP**	**23 45 30.1**	**+0.5**
AS12				*e*S	S	**S**	**23 50 16.9**	**+0.4**
ASAR	**Alice Springs**	**44.19**	**127**	P	P		**23 43 45.2**	**+0.2**
	comp=Z,20nm,1.0s,baz=304,slow=7.4,SNR=115							
ASAR					PcP	**PcP**	**23 45 30.1**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=302,slow=3.1,SNR=5.9							
ASAR					S	**S**	**23 50 16.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=298,slow=14,SNR=3.3							
ULHL	**Ulahol**	**44.19**	**338**	P	P		**23 43 45.3**	**+0.2**
	SNR=9.3							
ULHL	**Ulahol**	**44.19**	**338**	*i* P	P		**23 43 45.2**	**+0.2**
JAY	**Jayapura**	**44.19**	**96**	P	P		**23 43 42.8**	**-2.5**
	comp=Z,21nm,0.8s,baz=250,slow=18,SNR=8.1							
KZA	**Kyzart**	**44.42**	**337**	P	P		**23 43 47.7**	**+0.5**
	SNR=16							
KZA	**Kyzart**	**44.42**	**337**	*i* P	P		**23 43 47.6**	**+0.5**
JNU	**Nakatsue**	**44.62**	**42**	P	P		**23 43 47.8**	**-0.6**
	comp=Z,7.7nm,0.5s,baz=342,slow=3.2,SNR=7.7							
UCH	**Uchtor**	**44.84**	**337**	P	P		**23 43 50.9**	**+0.4**
	SNR=20							
UCH	**Uchtor**	**44.84**	**337**	*i* P	P		**23 43 50.9**	**+0.4**
TKM2	**Tokmak 2**	**45.01**	**338**	P	P		**23 43 51.8**	**+0.3**
	SNR=26							
TKM2	**Tokmak 2**	**45.01**	**338**	*i* P	P		**23 43 51.8**	**+0.3**
TKM2	**Tokmak 2**	**45.01**	**338**	*e*P	P		**23 43 51.8**	**+0.3**
	comp=Z,49nm,1.4s							
KBK	**Karagaybulak**	**45.03**	**337**	P	P		**23 43 52.6**	**+0.9**
	SNR=34							
KBK	**Karagaybulak**	**45.03**	**337**	*i* P	P		**23 43 52.6**	**+0.9**
AML	**Almayashu**	**45.09**	**336**	P	P		**23 43 52.9**	**+0.5**
	SNR=28							
AML	**Almayashu**	**45.09**	**336**	*i* P	P		**23 43 52.9**	**+0.5**
AAK	**Ala-Archa**	**45.19**	**337**	P	P		**23 43 53.6**	**+0.7**
	comp=Z,90nm,1.3s,SNR=15							
AAK	**Ala-Archa**	**45.19**	**337**	P	P		**23 43 54.1**	**+1.1**
	SNR=11							
AAK	**Ala-Archa**	**45.19**	**337**	*i* P	P		**23 43 54.0**	**+1.1**
AAK	**Ala-Archa**	**45.19**	**337**	P	P		**23 43 53.5**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=146,slow=7.4,SNR=27							
CHMS	**Chumysh**	**45.40**	**337**	P	P		**23 43 54.6**	**+0.2**
	SNR=13							
CHMS	**Chumysh**	**45.40**	**337**	*i* P	P		**23 43 54.6**	**+0.2**
EKS2	**Erkin-Say**	**45.50**	**336**	P	P		**23 43 56.0**	**+0.7**
	SNR=26							
EKS2	**Erkin-Say**	**45.50**	**336**	*i* P	P		**23 43 56.0**	**+0.7**
EKS2	**Erkin-Say**	**45.50**	**336**	*e*P	P		**23 43 56.0**	**+0.7**
	comp=Z,160nm,2.4s							
KS15	**Wonju Array Si**	**45.54**	**35**	*e*P	P		**23 43 55.5**	**0.0**
KSAR	**Wonju Array Be**	**45.54**	**35**	P	P		**23 43 55.6**	**0.0**
KSAR	**Wonju Array Be**	**45.54**	**35**	P	P		**23 43 55.5**	**0.0**
KSRS	**Korea Array**	**45.57**	**35**	P	P		**23 43 55.5**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=230,slow=8.8,SNR=12							
USP	**Ospenovka**	**45.72**	**337**	P	P		**23 43 57.3**	**+0.2**
	SNR=35							
USP	**Ospenovka**	**45.72**	**337**	*i* P	P		**23 43 57.2**	**+0.2**
MK32	**Makanchi Array**	**46.47**	**346**	*e*P	P		**23 44 02.5**	**-0.3**
MKAR	**Makanchi Array**	**46.47**	**346**	*e*P	P		**23 44 02.6**	**-0.2**
MKAR	**Makanchi Array**	**46.47**	**346**	P	P		**23 44 02.5**	**-0.3**
	comp=Z,26nm,0.8s,baz=163,slow=7.6,SNR=233							
MKAR	**Makanchi Array**	**46.47**	**346**	*e*P	P		**23 44 02.6**	**-0.2**
SNY	**Shenyang**	**46.53**	**28**	⇓P	P		**23 44 02.9**	**-0.3**
SNY					PMZ			
	comp=Z,42nm,0.5s							
SONA0	**Songino Array**	**46.54**	**9**	*e*P	P		**23 44 03.1**	**-0.3**
SONA0				*e*PcP	P	**PcP**	**23 45 37.6**	**+0.2**
SONM	**Songino Array**	**46.54**	**9**	P	P		**23 44 03.1**	**-0.3**
	comp=Z,5.9nm,0.5s,baz=192,slow=9.0,SNR=64							
SONM					PcP	**PcP**	**23 45 37.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=207,slow=3.4,SNR=4.1							
ULN	**Ulaanbaatar**	**46.67**	**10**	*e*P	P		**23 44 04.6**	**+0.1**
ULN					pmax	pmax		
	comp=Z,28nm,1.4s							
ULN	**Ulaanbaatar**	**46.67**	**10**	*e*P	P		**23 44 04.6**	**+0.1**
	comp=Z,28nm,1.4s							
KKAR	**Karatay Array**	**47.24**	**334**	*e*P	P		**23 44 09.0**	**+0.1**
KKAR	**Karatay Array**	**47.24**	**334**	*e*P	P		**23 44 09.0**	**+0.1**
ZAK	**Zakamensk**	**48.65**	**6**	⇑*i*P	P		**23 44 19.2**	**-0.5**
ZAK				*e*			23 46 11.2	
ZAK					pmax	pmax		
	comp=Z,10.0nm,2.0s							
CN2	**Changchun**	**48.93**	**27**	*e*P	P		**23 44 21.1**	**-0.7**
CN2					PMZ			
	comp=Z,20nm,0.6s							
MOY	**Mondy**	**49.74**	**3**	*e*P	P		**23 44 28.7**	**+0.6**
TLY	**Talaya**	**49.97**	**6**	*e*P	P		**23 44 30.5**	**+0.8**
TLY					pmax	pmax		
	comp=Z,15nm,1.2s							
TLY	**Talaya**	**49.97**	**6**	P	P		**23 44 29.6**	**-0.1**
	comp=Z,6.2nm,0.6s,baz=199,slow=6.6,SNR=9.4							
GEYT	**Alibeck**	**50.39**	**320**	P	P		**23 44 33.3**	**+0.1**
	comp=Z,12nm,0.6s,baz=148,slow=8.7,SNR=42							
KURBB	**Kurchatov Arra**	**50.95**	**345**	P	P		**23 44 37.0**	**-0.1**
	comp=Z,9.6nm,0.6s,baz=162,slow=7.0,SNR=69							
KURK	**Kurchatov**	**51.02**	**345**	P	P		**23 44 37.7**	**+0.1**
	comp=Z,55nm,0.7s,SNR=5.3							
KURK	**Kurchatov**	**51.02**	**345**	*e*P	P		**23 44 37.4**	**-0.2**
KURK	**Kurchatov**	**51.02**	**345**	*e*P	P		**23 44 37.4**	**-0.2**
PMG	**Port Moresby**	**51.48**	**104**

VSR	**Storozhevoye**	**68.74**	**325**	*e*P	**P**	**23 46 36.4**	**-3.0**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
LSZ	**Lusaka**	**69.84**	**253**	*e*P	**P**	**23 46 48.1**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LSZ	**Lusaka**	**69.84**	**253**	*e*P	**P**	**23 46 48.1**	**+1.0**
	comp=Z,5.5nm,0.9s						
PRGR	**Permogore**	**70.83**	**337**	*e*P	P	23 46 48.8	-3.2
PRGR				pmax	pmax		
	comp=Z,134nm,1.7s						
OBN	**Obninsk**	**71.79**	**328**	⇓*i*P	**P**	**23 46 57.6**	**-0.4**
OBN				*e*		23 47 06.2	
OBN				pmax	pmax		
	comp=Z,29nm,1.5s						
TIXI	**Tiksi**	**72.61**	**10**	*e*P	**P**	**23 47 01.6**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,111nm,2.3s						
TIXI	**Tiksi**	**72.61**	**10**	*e*P	**P**	**23 47 01.6**	**-0.9**
	comp=Z,111nm,2.3s						
MAW	**Mawson**	**73.26**	**193**	P	**P**	**23 47 06.2**	**-0.3**
	comp=Z,7.7nm,0.7s,baz=74,slow=22,SNR=4.3						
SEY	**Seymchan**	**73.33**	**23**	P	**P**	**23 47 06.7**	**-0.4**
	comp=Z,3.7nm,0.5s,baz=232,slow=5.1,SNR=18						
AKASG	**Malin Array Be**	**74.43**	**322**	P	**P**	**23 47 12.8**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=91,slow=4.8,SNR=12						
AKASG				PP	**PP**	**23 49 58.8**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=97,slow=7.8,SNR=4.1						
AKBB	**Malin Array Si**	**74.43**	**322**	*e*P	**P**	**23 47 12.8**	**-0.9**
AKBB				*e*		23 49 58.8	
AKBB	**Malin Array Si**	**74.43**	**322**	*e*P	**P**	**23 47 12.8**	**-0.9**
AKBB				*e*PP	**PP**	**23 49 58.8**	**-1.5**
BOSA	**Boshof**	**74.70**	**240**	P	**P**	**23 47 16.5**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=112,slow=5.5,SNR=8.6						
TESR	**Tescani**	**75.00**	**318**	⇑*i*P	**P**	**23 47 16.9**	**-0.2**
BURAR	**Bucovina Array**	**76.20**	**319**	⇑P	**P**	**23 47 24.9**	**+0.8**
BURAR	**Bucovina Array**	**76.20**	**319**	⇑*i*P	**P**	**23 47 24.9**	**+0.8**
IDID	**Didziasalis**	**77.15**	**327**	*e*P	**P**	**23 47 29.2**	**+0.1**
IDID				AMB	AMB	23 47 30.6	
	comp=Z,1.6nm,1.0s						
JOF	**Joensuu**	**77.33**	**335**	*e*P	**P**	**23 47 28.8**	**-1.2**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JOF	**Joensuu**	**77.33**	**335**	*e*p	**P**	**23 47 28.8**	**-1.2**
	comp=Z,2.8nm,0.7s						
LVV	**L'vov**	**77.44**	**321**	*e*P	P	23 47 38.3	+7.4
IIGN	**Ignalina**	**77.45**	**327**	*e*P	**P**	**23 47 30.9**	**+0.1**
IIGN				AMB	AMB	23 47 31.9	
	comp=Z,3.0nm,0.8s						
ISAL	**Salakas**	**77.56**	**327**	*e*P	**P**	**23 47 31.5**	**+0.1**
ISAL				AMB	AMB	23 47 32.1	
	comp=Z,5.0nm,1.1s						
UZH	**Uzhgorod**	**78.32**	**319**	*e*P	**P**	**23 47 36.6**	**+0.8**
UZH				*e*		23 47 48.2	
APA	**Apatity**	**78.33**	**340**	⇓*i*P	**P**	**23 47 36.0**	**+0.6**
KOLS	**Kolonicke sedl**	**78.39**	**320**	*e*P	**P**	**23 47 37.0**	**+0.8**
KOLS				*e*		23 47 44.9	
KOLS	**Kolonicke sedl**	**78.39**	**320**	*e*P	**P**	**23 47 37.0**	**+0.8**
KOLS				*e*pP	**PcP**	**23 47 44.9**	**-0.5**
SUW	**Suwalki**	**78.84**	**325**	*e*P	**P**	**23 47 37.5**	**-1.1**
SUW				pmax	pmax		
	comp=Z,32nm,0.9s						
SUW	**Suwalki**	**78.84**	**325**	*e*P	**P**	**23 47 37.5**	**-1.1**
	comp=Z,32nm,0.9s						
CRVS	**Cervenica-Dubn**	**78.91**	**319**	*e*P	**P**	**23 47 40.1**	**+1.0**
CRVS				*e*		23 47 48.2	
CRVS	**Cervenica-Dubn**	**78.91**	**319**	*e*P	**P**	**23 47 40.1**	**+1.0**
CRVS				*e*pP	**PcP**	**23 47 48.1**	**+0.4**
STHS	**Stebnicka Huta**	**79.14**	**320**	*e*P	**P**	**23 47 41.2**	**+0.8**
STHS				*e*		23 47 48.8	
STHS	**Stebnicka Huta**	**79.14**	**320**	*e*P	**P**	**23 47 41.2**	**+0.8**
STHS				*e*PCP	**PcP**	**23 47 48.8**	**+0.1**
FIA0	**FINESS Array S**	**79.18**	**333**	*e*P	**P**	**23 47 40.0**	**-0.2**
FIA0	**FINESS Array S**	**79.18**	**333**	*e*P	**P**	**23 47 40.0**	**-0.2**
FINES	**FINESS Array B**	**79.18**	**333**	P	**P**	**23 47 40.0**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=110,slow=6.4,SNR=15						
KAF	**Kangasniemi**	**79.26**	**333**	*e*P	**P**	**23 47 39.4**	**-1.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	**Kangasniemi**	**79.26**	**333**	*e*p	**P**	**23 47 39.4**	**-1.3**
	comp=Z,3.6nm,0.6s						
PKSM	**Moragy**	**80.39**	**316**	⇑P	**P**	**23 47 46.1**	**-1.1**
PKSM	**Moragy**	**80.39**	**316**	⇑*i*P	**P**	**23 47 46.1**	**-1.1**
VYHS	**Vyhne**	**80.57**	**319**	*e*P	**P**	**23 47 49.4**	**+1.3**
VYHS				*e*		23 47 57.6	
VYHS	**Vyhne**	**80.57**	**319**	*e*P	**P**	**23 47 49.4**	**+1.3**
VYHS				*e*pP	**pP**	**23 47 57.6**	**-0.8**
BILL	**Bilibino**	**80.71**	**21**	*e*P	**P**	**23 47 48.7**	**+0.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.7s						
OKC	**Ostrava-Krasne**	**81.19**	**320**	*e*P	**pP**	**23 47 59.4**	**-2.3**
OKC				*e*		23 48 05.0	
OKC	**Ostrava-Krasne**	**81.19**	**320**	*e*pP	**pP**	**23 47 59.4**	**-2.3**
OKC				*ex*	x	23 48 05.0	
KEV	**Kevo**	**81.31**	**341**	*e*P	**P**	**23 47 51.3**	**-0.2**
KEV	**Kevo**	**81.31**	**341**	*e*p	**P**	**23 47 51.3**	**-0.2**
	comp=Z,0.2nm,0.3s						
ARA0	**ARCESS Array S**	**81.74**	**340**	*e*P	**P**	**23 47 53.9**	**0.0**
ARCES	**ARCESS Array B**	**81.74**	**340**	P	**P**	**23 47 53.9**	**0.0**
	comp=Z,1.4nm,0.4s,baz=99,slow=6.8,SNR=41						
KRLC	**Kraliky**	**82.10**	**320**	*e*P	**P**	**23 47 57.3**	**+1.1**
KRLC				*e*		23 48 03.1	
KRLC	**Kraliky**	**82.10**	**320**	*e*P	**P**	**23 47 57.3**	**+1.1**
KRLC				*e*pP	**PcP**	**23 48 03.1**	**+1.5**
DPC	**Dobruska-Polom**	**82.42**	**320**	*e*P	**P**	**23 47 59.1**	**+1.2**
DPC				*e*		23 48 05.1	
DPC	**Dobruska-Polom**	**82.42**	**320**	*e*P	**P**	**23 47 59.1**	**+1.2**
DPC				*e*pP	**PcP**	**23 48 05.1**	**+2.1**
TREC	**Trest**	**82.85**	**319**	*e*P	pP	23 48 06.9	-3.6
TREC	**Trest**	**82.85**	**319**	*e*pP	pP	23 48 06.9	-3.6
PRU	**Pruhonice**	**83.53**	**320**	*e*P	P	23 48 07.0	+3.4
PRU	**Pruhonice**	**83.53**	**320**	*e*P	P	23 48 07.0	+3.4
PRU				*e*pP	pP	23 48 11.3	-2.6
BRG	**Berggiesshubel**	**83.98**	**321**	*e*P	pP	23 48 13.2	-3.0
	comp=Z,40nm,2.2s						
BRG	**Berggiesshubel**	**83.98**	**321**	*e*P	**pP**	**23 48 13.2**	**-3.0**
BRG				pmax	pmax		
	comp=Z,40nm,2.2s						
GEC2	**GERESS Array S**	**83.99**	**319**	*e*P	**P**	**23 48 06.4**	**+0.3**
GEC2	**GERESS Array S**	**83.99**	**319**	*e*P	**P**	**23 48 06.3**	**+0.3**
GERES	**GERESS Array B**	**83.99**	**319**	P	**P**	**23 48 07.2**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=87,slow=5.6,SNR=11						
KHC	**Kasperske Hory**	**84.09**	**319**	*e*P	**P**	**23 48 07.3**	**+0.8**
KHC				*e*		23 48 13.8	
KHC	**Kasperske Hory**	**84.09**	**319**	*e*P	**P**	**23 48 07.3**	**+0.8**
KHC				*e*pP	**pP**	**23 48 13.8**	**-3.1**
CLL	**Collm**	**84.60**	**321**	*e*P	**P**	**23 48 09.0**	**0.0**
CLL	**Collm**	**84.60**	**321**	*e*P	**P**	**23 48 09.0**	**0.0**
FETA	**Feichten**	**85.89**	**317**	⇑*i*P	**P**	**23 48 15.6**	**-0.3**
	comp=Z,11nm,1.3s						
NB2	**NORSAR Subarra**	**86.18**	**331**	P	**P**	**23 48 17.8**	**+1.0**
	comp=Z,10nm,1.1s,baz=91,slow=5.3						
NB200	**NORSAR Array S**	**86.18**	**331**	*e*P	**P**	**23 48 17.9**	**+1.2**
NOA	**NORSAR Array B**	**86.18**	**331**	P	**P**	**23 48 18.0**	**+1.2**
NOA	**NORSAR Array B**	**86.18**	**331**	P	**P**	**23 48 17.9**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=71,slow=1.5,SNR=3.4						
FUORN	**Ofenpass-Fuorn**	**86.20**	**316**	*e*P	**P**	**23 48 18.3**	**+0.9**
	comp=Z,15nm,1.2s						
VNDA	**Vanda**	**86.58**	**169**	P	**P**	**23 48 18.6**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=286,slow=5.5,SNR=5.1						
KEST	**Kesra**	**86.78**	**306**	P	**P**	**23 48 20.0**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=191,slow=5.2,SNR=4.1						
LPG	**La Plagne**	**88.65**	**315**	*e*P	**P**	**23 48 28.9**	**-0.4**
	comp=Z,15nm,1.1s						
LPG	**La Plagne**	**88.65**	**315**	*e*P	**P**	**23 48 28.9**	**-0.4**
LPG				pmax	pmax		
	comp=Z,15nm,1.1s						
LPG	**La Plagne**	**88.65**	**315**	*e*P	**P**	**23 48 28.9**	**-0.4**
	comp=Z,15nm,1.1s						
LPL	**La Plagne**	**88.66**	**315**	*e*P	**P**	**23 48 28.8**	**-0.5**
	comp=Z,34nm,1.3s						
LPL	**La Plagne**	**88.66**	**315**	*e*P	**P**	**23 48 28.8**	**-0.5**
LPL				pmax	pmax		
	comp=Z,34nm,1.3s						
LPL	**La Plagne**	**88.66**	**315**	*e*P	**P**	**23 48 28.8**	**-0.5**
	comp=Z,34nm,1.3s						
HAU	**Haudompre**	**88.86**	**318**	*e*P	**P**	**23 48 30.0**	**+0.1**
	comp=Z,9.2nm,0.8s						
HAU	**Haudompre**	**88.86**	**318**	*e*P	**P**	**23 48 30.0**	**+0.1**
HAU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HAU	**Haudompre**	**88.86**	**318**	*e*P	**P**	**23 48 30.0**	**+0.1**
	comp=Z,9.2nm,0.8s						
GAMB	**Gambell**	**89.03**	**26**	*e*P	**P**	**23 48 31.1**	**+0.9**
	comp=Z,14nm,1.3s						
NVL	**N'lazarevskaya**	**90.07**	**199**	*e*P	**P**	**23 48 35.2**	**+0.2**
NVL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BAIF	**Baives**	**90.19**	**320**	*e*P	**P**	**23 48 35.5**	**-0.5**
	comp=Z,26nm,1.1s						
BAIF	**Baives**	**90.19**	**320**	*e*P	**P**	**23 48 35.5**	**-0.5**
BAIF				pmax	pmax		
	comp=Z,26nm,1.1s						
BAIF	**Baives**	**90.19**	**320**	*e*P	**P**	**23 48 35.5**	**-0.5**
	comp=Z,26nm,1.1s						
BGF	**Bois d'Agland**	**91.32**	**316**	*e*P	**P**	**23 48 41.4**	**0.0**
BGF	**Bois d'Agland**	**91.32**	**316**	*e*P	**P**	**23 48 41.4**	**0.0**
BGF	**Bois d'Agland**	**91.32**	**316**	*e*P	**P**	**23 48 41.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**94.47**	**283**	*e*P	**P**	**23 48 56.6**	**0.0**
TORD	**Torodi Ar. Bea**	**94.47**	**283**	P	**P**	**23 48 56.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=88,slow=1.8,SNR=11						
IM04	**Indian Mountai**	**96.14**	**23**	*e*P	**P**	**23 49 03.5**	**+0.4**
ILAR	**Eielson Array**	**99.27**	**23**	PKKPbc	PKKPbc	00 05 41.0	-3.0
	comp=Z,0.3nm,0.6s,baz=170,slow=2.7,SNR=4.3						
YKA	**Yellowknife Ar**	**111.57**	**15**	PKKPbc	PKKPbc	00 05 03.2	-3.2
	comp=Z,0.7nm,1.0s,baz=161,slow=3.1,SNR=7.7						
YKA				PKKPab	**PKKPab**	**00 05 12.9**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=146,slow=4.7,SNR=7.0						
B20A	**Solberg Farm,**	**125.46**	**20**	P	**PKPdf**	**23 54 36.6**	**-0.3**
	baz=125						
C19A	**Slack Wire Ran**	**125.70**	**21**	P	**PKPdf**	**23 54 37.0**	**-0.4**
	baz=126						
C20A	**Veseth Ranch,**	**126.09**	**20**	P	**PKPdf**	**23 54 38.4**	**+0.3**
	baz=126						
D20A	**Manuel Ranch,**	**126.58**	**21**	P	**PKPdf**	**23 54 38.1**	**-1.0**
	baz=126						
HLID	**Hailey**	**126.84**	**28**	*e*PKPdf	**PKPdf**	**23 54 41.6**	**+1.7**
C23A	**Lambert**	**126.95**	**18**	P	**PKPdf**	**23 54 41.0**	**+1.3**
	baz=127						
ULM	**Lac du Bonnet**	**126.96**	**10**	PKIKP	**PKPdf**	**23 54 39.0**	**-0.6**
ULM	**Lac du Bonnet**	**126.96**	**10**	PKP	**PKPdf**	**23 54 39.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=322,slow=5.4,SNR=3.2						
E20A	**Meyer Farm, Mu**	**127.08**	**21**	P	**PKPdf**	**23 54 40.2**	**+0.2**
	baz=127						
D22A	**Cohagen**	**127.20**	**19**	P	**PKPdf**	**23 54 40.2**	**-0.1**
	baz=127						
A29A	**Manning Farm,**	**127.55**	**13**	P	**PKPdf**	**23 54 40.7**	**0.0**
	baz=127						
F20A	**Billings**	**127.67**	**22**	P	**PKPdf**	**23 54 41.3**	**+0.1**
	baz=128						
G20A	**Bridger**	**128.14**	**22**	P	**PKPdf**	**23 54 42.3**	**+0.1**
	baz=128						
NV01	**Mina Array Sit**	**128.51**	**35**	*e*PKPdf	**PKPdf**	**23 54 44.1**	**+0.9**
NVAR	**Mina Array Bea**	**128.51**	**35**	PKP	**PKPdf**	**23 54 44.1**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=278,slow=1.0,SNR=4.7						
REDW	**Red Top Meadow**	**128.60**	**26**	*e*PKPdf	**PKPdf**	**23 54 44.8**	**+1.6**
PD31	**Pinedale Array**	**129.64**	**25**	*e*PKPdf	**PKPdf**	**23 54 45.4**	**+0.1**
PDAR	**Pinedale Array**	**129.64**	**25**	PKP	**PKPdf**	**23 54 45.4**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=349,slow=1.5,SNR=5.1						
R11A	**Troy Canyon, C**	**130.10**	**33**	P	**PKPdf**	**23 54 46.6**	**+0.4**
	baz=130						
R11A	**Troy Canyon, C**	**130.10**	**33**	*e*PKPdf	**PKPdf**	**23 54 47.6**	**+1.4**
DUG	**Dugway, Tooele**	**130.18**	**30**	*e*PKIKP	**PKPdf**	**23 54 48.1**	**+1.9**
DUG	**Dugway, Tooele**	**130.18**	**30**	*e*PKPdf	**PKPdf**	**23 54 48.1**	**+1.9**
O20A	**White River Ci**	**132.36**	**26**	*e*PKPdf	**PKPdf**	**23 54 51.4**	**+0.9**
BELC	**Belle Mtn. Jos**	**132.88**	**38**	P	**PKPdf**	**23 54 53.8**	**+2.2**
	baz=133						
ECSD	**EROS Data Cent**	**133.04**	**13**	*e*PKPdf	**PKPdf**	**23 54 52.5**	**+1.2**
O22A	**Kremmling**	**133.06**	**24**	P	**PKPdf**	**23 54 51.8**	**-0.1**
	baz=133						
LTX	**Lajitas**	**143.34**	**31**	*e*PKIKP	PKPbc	23 55 08.4	+0.6
LTX	**Lajitas**	**143.34**	**31**	*e*PKPdf	PKPbc	23 55 08.4	+0.5
TXAR	**Lajitas Array**	**143.34**	**31**	PKP	PKPbc	23 55 08.4	+0.5
	comp=Z,0.6nm,0.8s,baz=221,slow=0.7,SNR=4.8						
529A	**Stev Forest Ra**	**143.40**	**28**	P	**PKPdf**	**23 55 09.4**	**-1.4**
	baz=143						
530A	**J-C Ranch, Com**	**143.79**	**27**	P	PKPbc	23 55 09.1	+0.1
	baz=144						
334A	**Lometa**	**144.04**	**22**	P	PKPbc	23 55 10.7	+0.9
	baz=144						
JCT	**Junction City**	**144.17**	**25**	*e*PKIKP	**PKPdf**	**23 55 11.7**	**-0.4**
JCT	**Junction City**	**144.17**	**25**	P	PKPbc	23 55 11.0	+0.8
	baz=144						
JCT	**Junction City**	**144.17**	**25**	*e*PKPdf	**PKPdf**	**23 55 11.7**	**-0.4**
434A	**Burnet**	**144.49**	**23**	P	**PKPab**	**23 55 10.9**	**0.0**
	baz=144						
239A	**Gary**	**144.66**	**17**	P	**PKPdf**	**23 55 13.2**	**+0.3**
	baz=144						
632A	**Uvalde**	**145.03**	**26**	P	**PKPdf**	**23 55 14.8**	**+1.2**
	baz=145						
LRAL	**Lakeview Retre**	**145.10**	**5**	*e*PKPbc	**PKPbc**	**23 55 13.0**	**0.0**
633A	**Seathoff Ranch**	**145.33**	**25**	P	**PKPdf**	**23 55 14.3**	**+0.1**
	baz=145						
732A	**Laxson Ranch,**	**145.61**	**27**	P	**PKPab**	**23 55 15.3**	**+0.3**
	baz=145						
832A	**Faith Ranch, C**	**145.99**	**27**	P	**PKPab**	**23 55 16.4**	**-0.1**
	baz=146						
734A	**La Parita Cree**	**146.12**	**24**	P	**PKPab**	**23 55 17.2**	**+0.2**
	baz=146						
833A	**Chaparral WMA,**	**146.22**	**26**	P	**PKPab**	**23 55 17.3**	**0.0**
	baz=146						
735A	**Kenedy**	**146.42**	**23**	P	**PKPab**	**23 55 18.6**	**+0.5**
	baz=146						
834A	**Tilden**	**146.75**	**25**	P	**PKPab**	**23 55 19.2**	**-0.2**
	baz=147						
CFAA	**Coronel Fontan**	**147.20**	**204**	PKPbc	**PKPbc**	**23 55 20.0**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=232,slow=4.2,SNR=3.5						

IDC 06 23:39:50.0±3.5, 1.79N×97.14E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/48, mbtmp3.8/5, Error ellipse: s-maj=140.5km s-min=26.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.31**	**249**	T	T	00 12 43.4	
	baz=70						
H08S3	**Diego Garcia H**	**26.31**	**249**	T	T	00 12 43.7	
	baz=70						
H08S1	**Diego Garcia H**	**26.33**	**249**	T	T	00 12 44.8	
	baz=70,SNR=20						
WRA	**Warramunga Arr**	**42.40**	**122**	P	P	23 47 46.5	-0.1
	0.5nm,0.8s,baz=299,slow=9.2,SNR=2.4						
SONM	**Songino Array**	**46.56**	**9**	P	P	23 48 19.6	0.0
	0.4nm,0.4s,baz=188,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**46.66**	**346**	P	P	23 48 20.4	+0.1
	0.8nm,0.5s,baz=160,slow=8.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**51.15**	**345**	P	P	23 48 54.6	0.0
	0.8nm,0.6s,baz=161,slow=6.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**52.97**	**351**	P	P	23 49 07.6	-0.6
	3.1nm,0.5s,baz=174,slow=6.7,SNR=6.8						

*ISCJB **06** 23:41:17.9±0.5, 32.34N±0.02×115.36W±0.02, h6km±4km, Error ellipse: s-maj=3.6km s-min=3.3km az=40.4*
*NEIC **06** 23:41:19.6, 32.29N×115.41W, h10km, ML4.0(PAS), After PAS.*
*ECX **06** 23:41:20.6±0.6, 32.33N×115.42W, h5km, ML4.1*
ISC 06 23:41:19.0±1.1, 32.29N±0.02×115.38W±0.02, h4km±11km, n24, σ0.90/41, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.33**	**158**	*e*P	**Pg**	**23 41 25.6**	**+0.2**
EMX				*e*S	**Sg**	**23 41 31.0**	**+1.4**
RDX	**Rancho Dawling**	**0.60**	**233**	*e*P	**Pg**	**23 41 30.9**	**+0.3**
RDX				*e*S	**Sg**	**23 41 39.0**	**+0.7**
COK	**Cook Ranch**	**0.63**	**332**	⇓*i*P	**Pg**	**23 41 31.4**	**+0.3**
RMX	**La Rumorosa**	**0.67**	**298**	⇓*e*P	**Pg**	**23 41 31.2**	**-0.6**
RMX				*e*S	**Sg**	**23 41 40.0**	**-0.5**
CRR	**Carrizo Plain**	**0.77**	**320**	⇓*i*P	**Pg**	**23 41 33.0**	**-0.9**
ECBX	**El Chinero**	**0.86**	**161**	*e*P	**Pg**	**23 41 35.0**	**-0.7**
ECBX				*e*S	**Sg**	**23 41 47.2**	**+0.4**
GLA	**Glamis**	**0.89**	**32**	*e*P	**Pg**	**23 41 35.0**	**-1.1**
GLA				*e*S	**Sg**	**23 41 47.3**	**-0.4**
CBX	**Cerro Bola**	**1.08**	**271**	⇓*e*P	**Pg**	**23 41 39.2**	**-0.7**
CBX				*e*S	**Sg**	**23 41 53.1**	**-0.9**
CBX				AML	AML	23 41 55.4	
	comp=N,5μm,0.4s						
CBX				⇑*e*		23 41 55.4	
ZAX	**El Zacaton**	**1.08**	**225**	*e*P	**Pg**	**23 41 39.9**	**0.0**
ZAX				*e*S	**Sb**	**23 41 54.7**	**-0.2**
ZAX				⇑*e*		23 41 58.8	
ZAX				AML	AML	23 41 58.8	
	comp=N,6μm,0.7s						
ECNX	**Esteban Cantu**	**1.21**	**239**	*e*P	**Pg**	**23 41 41.9**	**-0.4**
ECNX				*e*S	**Sg**	**23 41 57.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.25**	**183**	*e*P	**Pg**	**23 41 42.4**	**-0.6**
SPX	**San Pedro Mart**	**1.25**	**183**	⇑*e*P	**Pg**	**23 41 42.4**	**-0.5**
SPX				*e*S	**Sb**	**23 42 00.2**	**+0.4**
SPX				⇓*e*		23 42 02.4	
SPX				AML	AML	23 42 02.4	
	comp=N,2μm,0.4s						
PBX	**Punta Banda**	**1.27**	**245**	*e*P	**Pn**	**23 41 42.3**	**-1.2**
PBX				*e*S	**Sg**	**23 41 59.2**	**-0.5**
214A	**Organ Pipe Nat**	**2.21**	**98**	*e*Pn	**Pn**	**23 41 54.6**	**-1.8**
214A				*e*Pg	**Pg**	**23 42 01.7**	**+0.3**
214A				*e*Sg	**Sg**	**23 42 30.7**	**+0.8**
PASC	**Pasadena Art C**	**3.00**	**309**	*e*Pn	**Pn**	**23 42 07.5**	**+0.1**
PASC				*e*S	**Sb**	**23 42 49.6**	**-0.5**
GSC	**Goldstone, Bar**	**3.23**	**339**	*e*Pn	**Pn**	**23 42 10.8**	**+0.3**
GSC				*e*Pg	**Pg**	**23 42 20.9**	**+0.1**
OSI	**Osito Audit: C**	**3.63**	**311**	Pn	**Pn**	**23 42 16.3**	**+0.3**
TUC	**Tucson**	**3.89**	**89**	*e*Pn	**Pn**	**23 42 18.7**	**-1.0**
TUC				*e*Sn	**Sn**	**23 43 05.8**	**-0.1**
SHPR	**Sheep Range**	**4.21**	**2**	*e*Pn	**Pn**	**23 42 23.4**	**-0.7**
SHPR				*e*Pg	**Pg**	**23 42 39.6**	**-0.1**
SHPR				*e*Sg	**Sg**	**23 43 33.9**	**-0.3**
ISA	**Isabella, Lake**	**4.23**	**323**	*e*Pn	**Pn**	**23 42 24.6**	**+0.3**
ISA				*e*S	**Sb**	**23 43 29.1**	**+3.7**
WUAZ	**Wupatki**	**4.63**	**45**	*e*Pn	Pb	23 42 36.2	-4.7
CCUT	**Cedar City**	**5.50**	**17**	*e*Pn	**Pn**	**23 42 41.7**	**-0.2**
	comp=N,25nm,0.9s						
MVCO	**Mesa Verde**	**7.49**	**47**	*e*Pn	**Pn**	**23 43 09.9**	**+0.6**
	comp=N,11nm,0.5s						
PV01	**Paradox Valley**	**8.06**	**42**	Pn	**Pn**	**23 43 16.9**	**-0.2**

*IDC **06** 23:44:01.9±4.5, 2.61N×97.19E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=175.6km s-min=33.1km az=58.0*
*DJA **06** 23:44:07.2±0.5, 3.7N±4.4×97.7E±7, h10km, M4.0/6, MLv4.0/6*
ISC 06 23:44:04.7±1.1, 2.57N±0.06×96.66E±0.08, h33km, n8, σ1.45/10, mb3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.37**	**245**	P	**Pn**	**23 44 14.8**	**+1.0**
TPTI		**0.86**	**37**	P	**Pb**	**23 44 21.3**	**+0.1**
TPTI				S	**Sb**	**23 44 34.3**	**+1.8**
KCSI	**Kotacane, Aceh**	**1.46**	**49**	P	**Pb**	**23 44 30.4**	**-0.9**
KCSI				S	**Sb**	**23 44 50.2**	**+0.7**
LHMI	**Lhok Sumawe**	**2.66**	**6**	P	**Pb**	**23 44 50.2**	**-1.4**
LHMI				S	**Sb**	**23 45 22.4**	**-1.5**
MNSI	**Mandailing Nat**	**3.41**	**121**	P	**Pb**	**23 45 03.5**	**-0.9**
WRA	**Warramunga Arr**	**43.22**	**123**	P	**P**	**23 52 01.6**	**-1.5**
	0.2nm,0.6s,baz=302,slow=9.2,SNR=1.9						
MKAR	**Makanchi Array**	**45.79**	**346**	P	P	23 52 25.8	+2.5
	0.3nm,0.5s,baz=157,slow=8.7,SNR=9.7						
SONM	**Songino Array**	**45.87**	**9**	P	**P**	**23 52 25.3**	**+1.3**
	0.2nm,0.3s,baz=184,slow=9.7,SNR=2.3						

*NAO **06** 23:50:19.9±1.9, 73.99N×9.88E, ML4.4*
*MOS **06** 23:50:20.2±1.1, 73.83N±8.50E, h10km, mb5.2/77, MS6.0/5, Error ellipse: s-maj=17.7km s-min=3.1km az=93.3*
*IDC **06** 23:50:20.1±0.4, 73.85N×8.80E, h0km, mb4.3/32, mb1 4.5/38, mb1mx4.4/53, mbtmp4.4/38, ML4.1/6, Error ellipse: s-maj=11.0km s-min=7.8km az=47.0*
*BJI **06** 23:50:20.0, 73.80N×8.80E, h10km, mB5.3/6, mb4.9/32, Ms5.4/8, Ms7

KEV **Kevo** 7.05 116 *e*Pn **Pn** 23 52 03.1 -2.3
DAG **Danmarks Havn** 7.47 306 *i* P **Pn** 23 52 08.6 -2.5
DAG pmax pmax
comp=Z,17nm,0.9s
DAG **Danmarks Havn** 7.47 306 *i* P **Pn** 23 52 08.6 -2.5
comp=Z,21nm,0.9s
DAG *i* S Sn 23 53 23.2 -12
KONS **Konsvik** 7.50 166 *e*P **Pn** 23 52 10.0 -1.6
KONS *e*S Sn 23 53 26.0 -10
KONS IAML 23 53 34.5
comp=Z,35nm,0.5s
STOK **Stokkvaagen** 7.66 166 *e*P **Pn** 23 52 12.8 -0.9
STOK *e*S Sn 23 53 30.3 -10
STOK IAML 23 53 32.0
comp=N,34nm,0.3s
FLOS **Flostrand** 7.68 165 *ex* **Pn** 23 52 15.0 +1.0
FLOS IAML 23 53 41.2
comp=Z,41nm,0.4s
MOR8 **Moi Rana** 7.93 162 *e*P **Pn** 23 52 16.3 -1.1
MOR8 *e*S Sn 23 53 36.9 -10
MOR8 IAML 23 53 39.9
comp=Z,28nm,0.4s
NSS **Namsos** 9.40 171 *e*P **Pn** 23 52 37.6 +0.1
APA0 **Apatity Array** 10.12 115 Pn Pn 23 52 42.4 -5.0
baz=316,slow=8.6
APA0 **Apatity Array** 10.12 115 Pn Pn 23 52 42.4 -5.0
baz=316,slow=8.6
APA0 **Apatity Array** 10.12 115 P Pn 23 52 43.5 -3.9
APA0 S Sn 23 54 23.7 -17
APA **Apatity** 10.26 115⇑ *i*P Pn 23 52 46.0 -3.3
APA pmax pmax
comp=Z,36nm,1.0s
APA **Apatity** 10.26 115 *i* P Pn 23 52 46.0 -3.3
comp=Z,36nm,1.0s
LVZ **Lovozero** 10.34 112 Pn Pn 23 52 44.0 -6.4
comp=Z,270nm,1.5s,SNR=5.7
LVZ **Lovozero** 10.34 112 *i* P **Pn** 23 52 50.6 +0.2
LVZ **Lovozero** 10.34 112 *i* P **Pn** 23 52 50.6 +0.2
LVZ **Lovozero** 10.34 112 *e*Pn Pn 23 52 45.2 -5.2
TBLU **Trondheim** 10.62 176 *e*P **Pn** 23 52 51.8 -2.5
NB2 **NORSAR Subarra** 12.86 174 Pn **Pn** 23 53 23.3 -1.6
baz=357,slow=14
NB2 **NORSAR Subarra** 12.86 174 Pn **Pn** 23 53 23.3 -1.6
baz=357,slow=14
NB2 **NORSAR Subarra** 12.86 174 Pn **Pn** 23 53 23.3 -1.6
SNR=1.0
NB200 **NORSAR Array S** 12.86 174 *e*Pn **Pn** 23 53 23.6 -1.4
NOA **NORSAR Array B** 12.86 174 Pn **Pn** 23 53 23.6 -1.4
comp=Z,0.7nm,0.3s,baz=219,slow=25,SNR=13
NOA Sn **Sn** 23 55 43.1 -4.4
comp=Z,0.4nm,0.3s,baz=300,slow=17,SNR=3.7
SUMG **Summit** 13.37 288 *i* P **Pn** 23 53 30.2 -1.8
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG **Summit** 13.37 288 *i* P **Pn** 23 53 30.2 -1.8
comp=Z,15nm,0.9s
SUMG **Summit** 13.37 288 *e*Pn **Pn** 23 53 29.6 -2.5
SUMG **Summit** 13.37 288 *i* P **Pn** 23 53 30.2 -1.8
comp=Z,15nm,0.9s
KAF **Kangasniemi** 13.41 142 *e*P **Pn** 23 53 29.1 -3.2
KAF pmax pmax
comp=Z,24nm,0.6s
KAF **Kangasniemi** 13.41 142 *e*p **Pn** 23 53 29.1 -3.2
comp=Z,24nm,0.6s
KAF **Kangasniemi** 13.41 142 *e*P **Pn** 23 53 29.1 -3.2
comp=Z,24nm,0.6s
HFS **Hagfors** 13.87 169 Pn **Pn** 23 53 37.6 -1.0
baz=352,slow=12
HFS **Hagfors** 13.87 169 Pn **Pn** 23 53 37.6 -1.0
baz=352,slow=12
HFS **Hagfors** 13.87 169 Pn **Pn** 23 53 37.8 -0.8
comp=Z,0.6nm,0.3s,baz=347,slow=12,SNR=17
HFS **Hagfors** 13.87 169 Pn **Pn** 23 53 37.6 -1.0
SNR=0.4
FIA0 **FINESS Array S** 13.99 143 Pn Pn 23 53 36.9 -3.5
baz=345,slow=12
FIA0 **FINESS Array S** 13.99 143 Pn Pn 23 53 36.9 -3.5
baz=345,slow=12
FIA0 **FINESS Array S** 13.99 143 Pn Pn 23 53 36.8 -3.5
SNR=6.7
FINES **FINESS Array B** 13.99 143 Pn **Pn** 23 53 37.5 -2.8
comp=Z,0.6nm,0.3s,baz=342,slow=10,SNR=30
TMCR **Tamitsa** 14.12 118 *e*P Pn 23 53 38.0 -4.0
ALE **Alert** 15.51 332 Pn **Pn** 23 53 56.3 -4.3
comp=Z,165nm,1.2s,SNR=12
PUL **Pulkovo** 16.32 138⇑ *i*P **Pn** 23 54 09.3 -1.8
PUL pmax pmax
comp=Z,136nm,0.5s
VSU **Vasula** 16.93 146 *i* P **P** 23 54 20.0 -0.7
VSU **Vasula** 16.93 146 *i* P **P** 23 54 20.0 -0.7
KULLO **Kullorsuaq** 17.12 304 *i* P Pn 23 54 15.3 -5.8
KULLO pmax pmax
comp=Z,29nm,0.9s
KULLO **Kullorsuaq** 17.12 304 *i* P Pn 23 54 15.3 -5.8
comp=Z,29nm,0.9s
MUD **Monsted U'grnd** 17.42 179 *i* P **P** 23 54 26.9 +0.7
MUD pmax pmax
comp=Z,8.0nm,0.8s
MUD **Monsted U'grnd** 17.42 179 *i* P **P** 23 54 26.9 +0.7
comp=Z,8.0nm,0.8s
MUD **Monsted U'grnd** 17.42 179 *i* P **P** 23 54 26.9 +0.7
comp=Z,8.1nm,0.8s
PRGR **Permogore** 18.16 112 *e*P Pn 23 54 25.7 -8.4
PRGR S Sn 23 57 44.9 -11
BSD **Bornholm Skovb** 18.95 169 *i* P **P** 23 54 43.2 +0.3
BSD pmax pmax
comp=Z,16nm,0.8s
BSD **Bornholm Skovb** 18.95 169 *i* P **P** 23 54 43.2 +0.3
comp=Z,16nm,0.8s
BSD **Bornholm Skovb** 18.95 169 *i* P **P** 23 54 43.2 +0.3
comp=Z,16nm,0.8s
EKA **Eskdalemuir Ar** 19.14 201 P **P** 23 54 45.1 +0.1
baz=356,slow=11,SNR=49
ESK **Eskdalemuir** 19.16 201 *i* P **Pn** 23 54 48.1 +1.9
ESK **Eskdalemuir** 19.16 201 *i* P **Pn** 23 54 48.1 +1.9
ESK **Eskdalemuir** 19.16 201 *e*P **Pn** 23 54 45.8 -0.4
comp=Z,78nm,1.0s
ISAL **Salakas** 19.63 149 *e*P **P** 23 54 50.3 0.0
ISAL AMB AMB 23 54 58.8
comp=Z,18nm,1.4s
ISAL **Salakas** 19.63 149 *e*P **P** 23 54 50.3 0.0
comp=Z,18nm,1.4s,SNR=35
IIGN **Ignalina** 19.85 149 *e*P **P** 23 54 52.8 0.0
IIGN AMB AMB 23 55 00.3
comp=Z,16nm,1.1s
IIGN **Ignalina** 19.85 149 *e*P **P** 23 54 52.8 0.0
comp=Z,16nm,1.1s,SNR=35
BSEG **Bad Segeberg** 19.96 177 *e*P **Pn** 23 54 55.2 -0.5
comp=Z,56nm,1.6s
BSEG **Bad Segeberg** 19.96 177 *e*P **Pn** 23 54 55.2 -0.5
comp=Z,56nm,1.6s
IDID **Didziasalis** 19.96 148 *e*P **P** 23 54 54.1 +0.1
IDID AMB AMB 23 54 59.7
comp=Z,26nm,1.6s
IDID **Didziasalis** 19.96 148 *e*P **P** 23 54 54.1 +0.1
comp=Z,26nm,1.6s,SNR=34
SFJD **Kangerlussuaq** 20.09 281 *e*P Pn 23 54 57.4 +0.2
SFJD pmax pmax
comp=Z,229nm,1.5s
SFJD **Kangerlussuaq** 20.09 281 P Pn 23 54 56.4 -0.8
comp=Z,38nm,1.1s,baz=44,slow=11,SNR=18
SFJD **Kangerlussuaq** 20.09 281 *e*P Pn 23 54 57.4 +0.2
comp=Z,229nm,1.5s
SFJD **Kangerlussuaq** 20.09 281 *e*P Pn 23 54 57.4 +0.2
comp=Z,229nm,1.5s
SFJD **Kangerlussuaq** 20.09 281 *i* P Pn 23 54 56.7 -0.5
comp=Z,22nm,1.1s
NACGM **Naroch** 20.37 149 *e* **P** 23 54 54.0 -4.5
SUW **Suwalki** 20.76 155 *e*P **P** 23 55 02.2 -0.5
SUW pmax pmax
comp=Z,191nm,1.3s
SUW **Suwalki** 20.76 155 *e*P **P** 23 55 02.3 -0.5
SUW **Suwalki** 20.76 155 *e*P **P** 23 55 02.2 -0.5
comp=Z,191nm,1.3s
SUW **Suwalki** 20.76 155 *e*P **P** 23 55 02.2 -0.5
comp=Z,191nm,1.3s
MNK **Minsk** 20.91 147 *e*P **P** 23 55 03.0 -1.4
MNK **Minsk** 20.91 147 *e*P **P** 23 55 03.0 -1.4
MICGM **Minsk** 20.92 147 *e*P **P** 23 55 03.0 -1.4
GKP **Gorka Klasztor** 20.93 165 *e*P **P** 23 55 05.0 +0.5
GKP **Gorka Klasztor** 20.93 165 *e*P **P** 23 55 04.9 +0.5
GKP **Gorka Klasztor** 20.93 165 *e*P **P** 23 55 05.0 +0.5
NRDL **Niedersach Rie** 21.40 177 *e*P **P** 23 55 09.9 +0.4
comp=Z,60nm,1.4s
NRDL **Niedersach Rie** 21.40 177 *e*P **P** 23 55 09.9 +0.4
comp=Z,60nm,1.4s

MOS **Moscow** 21.53 131 *e*P **P** 23 55 09.5 -1.4
MOS *e* 23 55 29.3
MOS *e*S **S** 23 59 05.5 -3.1
MOS pmax pmax
comp=Z,203nm,1.9s
MOS pmax pmax
comp=N,90nm,1.1s
MOS **Moscow** 21.53 131 *e*P **P** 23 55 09.5 -1.4
comp=N,90nm,1.1s
IBBN **Ibbenburen** 21.58 181 *e*P **P** 23 55 11.7 +0.2
comp=Z,68nm,1.4s
IBBN **Ibbenburen** 21.58 181 *e*P **P** 23 55 11.7 +0.2
comp=Z,68nm,1.4s
OBN **Obninsk** 21.89 134 P **P** 23 55 14.1 -0.8
comp=Z,444nm,1.2s,SNR=9.6
OBN **Obninsk** 21.89 134⇓ *i*P **P** 23 55 14.0 -0.8
OBN *e* 23 55 22.0
OBN *e* 23 59 12.5
OBN pmax pmax
comp=Z,265nm,2.5s
OBN **Obninsk** 21.89 134 P **P** 23 55 13.5 -1.3
comp=Z,84nm,1.1s,baz=145,slow=13,SNR=19
OBN **Obninsk** 21.89 134 *i* P **P** 23 55 14.0 -0.8
comp=Z,265nm,2.5s
OBN **Obninsk** 21.89 134 *e*P **P** 23 55 14.0 -0.8
comp=Z,2μm,2.9s
CLZ **Clausthal** 22.06 177 *e*P **P** 23 55 17.4 +0.7
comp=Z,102nm,1.6s
CLZ **Clausthal** 22.06 177 *e*P **P** 23 55 17.4 +0.7
comp=Z,102nm,1.6s
BUG **Bochum--Univer** 22.45 182 *e*P **P** 23 55 21.1 +0.2
comp=Z,92nm,1.4s
BUG **Bochum--Univer** 22.45 182 *e*P **P** 23 55 21.1 +0.2
comp=Z,92nm,1.4s
BEL **Belsk** 22.65 160 *e*P **P** 23 55 24.0 +1.0
BEL **Belsk** 22.65 160 *e*P **P** 23 55 23.9 +1.0
BEL **Belsk** 22.65 160 *e*P **P** 23 55 24.0 +1.0
CLL **Collm** 22.66 173 *e*P **P** 23 55 23.0 -0.1
CLL **Collm** 22.66 173 *e*P **P** 23 55 23.0 -0.1
CLL *i* *e*(sP) **sP** 23 55 30.0 -0.1
CLL *i* 23 55 33.2
CLL **Collm** 22.66 173 *e*P **P** 23 55 23.0 -0.1
SOKR **Solikamsk** 22.87 102 *c i*P **P** 23 55 26.6 +1.4
SOKR pmax pmax
comp=Z,100nm,1.1s
BRG **Berggiesshubel** 23.13 171 *e*P **P** 23 55 27.6 -0.4
comp=Z,15nm,1.5s
comp=N,35μm,21.3s
comp=E,31μm,20.9s
comp=Z,54μm,22.0s
BRG **Berggiesshubel** 23.13 171 *e*P **P** 23 55 27.6 -0.4
BRG pmax pmax
comp=Z,15nm,1.5s
BRG MLR MLR
comp=N,35μm,21.3s
BRG MLR MLR
comp=E,31μm,20.9s
BRG **Berggiesshubel** 23.13 171 *e*P **P** 23 55 27.5 -0.4
comp=Z,32nm,1.6s
BRG **Berggiesshubel** 23.13 171 *e*P **P** 23 55 27.6 -0.4
comp=Z,35μm,21.3s
HGN **Heimansgroeve** 23.15 184 *e*P **P** 23 55 28.5 +0.3
UCC **Uccle** 23.16 187 P **P** 23 55 29.1 +0.8
UCC **Uccle** 23.16 187 *e*P **P** 23 55 28.3 +0.1
UCC pmax pmax
comp=Z,36nm,1.1s
UCC **Uccle** 23.16 187 *e*P **P** 23 55 28.3 +0.1
comp=Z,36nm,1.1s
UCC **Uccle** 23.16 187 *e*P **P** 23 55 28.3 +0.1
comp=Z,36nm,1.1s
MOX **Moxa** 23.28 175 *e*P **P** 23 55 29.4 -0.1
comp=Z,44nm,1.1s
MOX **Moxa** 23.28 175 *e*P **P** 23 55 29.4 -0.1
comp=Z,44nm,1.1s
KSP **Ksiaz** 23.28 167 *e*P **P** 23 55 28.7 -0.8
KSP **Ksiaz** 23.28 167 *e*P **P** 23 55 29.3 -0.2
KSP **Ksiaz** 23.28 167 *e*P **P** 23 55 28.7 -0.8
MEM **Membach** 23.30 184 P **P** 23 55 30.3 +0.6
comp=Z,28nm,1.4s
MEM **Membach** 23.30 184 *e*P **P** 23 55 30.6 +0.9
MEM pmax pmax
comp=Z,42nm,1.0s
MEM **Membach** 23.30 184 *e*P **P** 23 55 30.6 +0.9
comp=Z,42nm,1.0s
MEM **Membach** 23.30 184 *e*P **P** 23 55 30.6 +0.9
comp=Z,42nm,1.0s
SNF **Seneffe** 23.45 187 P **P** 23 55 31.9 +0.8
SNF AP **pP** 23 55 34.6 -1.5
PVCC **Panska Ves** 23.50 170 *e*P **P** 23 55 31.9 +0.2
PVCC *e* 23 55 39.8
PVCC MLR MLR
comp=Z,39μm,21.0s
PVCC **Panska Ves** 23.50 170 *e*P **P** 23 55 31.9 +0.2
PVCC *ex* x 23 55 39.8
PVCC *ex* x 23 55 42.8
PVCC AMS AMS 00 38 30.0
comp=Z,39μm,21.0s
PVCC **Panska Ves** 23.50 170 *e*P **P** 23 55 31.9 +0.2
BCLA **Clavier** 23.51 185 P **P** 23 55 32.4 +0.6
TANN **Tannenbergstha** 23.54 174 *e*P **P** 23 55 32.2 +0.1
comp=Z,39nm,1.4s
TANN **Tannenbergstha** 23.54 174 *e*P **P** 23 55 32.2 +0.1
comp=Z,39nm,1.4s
UPC **Upice** 23.60 168 *e*P **P** 23 55 33.2 +0.5
UPC **Upice** 23.60 168 *e*P **P** 23 55 33.2 +0.5
UPC *ex* x 23 55 44.5
UPC **Upice** 23.60 168 *e*P **P** 23 55 33.2 +0.5
DPC **Dobruska-Polom** 23.78 168 *e*P **P** 23 55 34.4 0.0
DPC **Dobruska-Polom** 23.78 168 *e*P **P** 23 55 34.4 0.0
DPC AMS AMS 00 40 30.0
DPC **Dobruska-Polom** 23.78 168 *e*P **P** 23 55 34.4 0.0
DPC **Dobruska-Polom** 23.78 168 *e*P **P** 23 55 35.9 +1.4
comp=Z,209nm,1.6s
GIVF **Givet** 23.84 186 *e*P **P** 23 55 34.6 -0.4
GIVF **Givet** 23.84 186 *e*P **P** 23 55 34.6 -0.4
GIVF **Givet** 23.84 186 *e*P **P** 23 55 34.6 -0.4
GIVF **Givet** 23.84 186 *e*P **P** 23 55 34.6 -0.4
DOU **Dourbes** 23.85 186 P **P** 23 55 34.5 -0.6
BAIF **Baives** 23.90 187 *e*P **P** 23 55 35.3 -0.2
comp=Z,72nm,1.2s
BAIF **Baives** 23.90 187 *e*P **P** 23 55 35.3 -0.2
BAIF pmax pmax
comp=Z,72nm,1.2s
BAIF **Baives** 23.90 187 *e*P **P** 23 55 35.3 -0.2
comp=Z,36nm,1.2s
BAIF **Baives** 23.90 187 *e*P **P** 23 55 35.3 -0.2
comp=Z,72nm,1.2s
PRA **Prague** 23.96 171 *e*P **P** 23 55 36.5 +0.5
PRA **Prague** 23.96 171 *e*P **P** 23 55 36.5 +0.5
PRA *ex* x 23 55 45.8
PRA *ex* x 23 55 53.4
PRA **Prague** 23.96 171 *e*P **P** 23 55 36.5 +0.5
ABH **Alteburg** 24.01 182 *e*P **P** 23 55 37.8 +1.2
PRU **Pruhonice** 24.04 170 *e*P **P** 23 55 37.4 +0.5
PRU MLR MLR
comp=Z,56μm,20.7s
PRU **Pruhonice** 24.04 170 *e*P **P** 23 55 37.4 +0.5
PRU *ex* x 23 55 46.8
PRU *ex* x 23 55 53.2
PRU AMS AMS 00 38 10.0
comp=Z,56μm,20.7s
PRU **Pruhonice** 24.04 170 *e*P **P** 23 55 37.4 +0.5
comp=Z,56μm,20.7s
KRLC **Kraliky** 24.08 167 *e*P **P** 23 55 36.5 -0.8
KRLC *e* 23 55 42.0
KRLC **Kraliky** 24.08 167 *e*P **P** 23 55 36.5 -0.8
KRLC *e*pP **pP** 23 55 42.0 -0.4
KRLC *ex* x 23 55 47.3
KRLC **Kraliky** 24.08 167 *e*P **P** 23 55 36.5 -0.8
OJC **Ojcow** 24.16 162 *e*P **P** 23 55 37.1 -0.9
OJC pmax pmax
comp=Z,39nm,1.0s
OJC **Ojcow** 24.16 162 *e*P **P** 23 55 38.4 +0.4
OJC **Ojcow** 24.16 162 *e*P **P** 23 55 37.1 -0.9
comp=Z,39nm,1.0s
OJC **Ojcow** 24.16 162 *e*P **P** 23 55 37.1 -0.9
comp=Z,39nm,1.0s
RUP **Ruppelstein** 24.20 182 *e*P **P** 23 55 39.4 +1.0
GRA1 **Grafenberg Arr** 24.23 176 *e*P **P** 23 55 39.1 +0.5
comp=Z,47nm,1.3s
GRF **Grafenberg Arr** 24.23 176 *e*P **P** 23 55 39.1 +0.5
comp=Z,47nm,1.3s
GRFO **Grafenberg** 24.23 176 *e*P **P** 23 55 39.6 +1.0
GRFO pmax pmax
comp=Z,250nm,2.3s

GRFO **Grafenberg** 24.23 176 *e*P **P** 23 55 39.6 +1.0
comp=Z,250nm,2.3s
GRFO **Grafenberg** 24.23 176 *e*P **P** 23 55 39.5 +1.0
comp=Z,250nm,2.3s
WLF **Walferdange** 24.25 184 P **P** 23 55 40.0 +1.3
comp=Z,28nm,2.2s
TOD **Tromm** 24.28 180 *e*P **P** 23 55 40.1 +0.9
OKC **Ostrava-Krasne** 24.41 165 *e*P **P** 23 55 40.4 +0.1
OKC MLR MLR
comp=Z,49μm,20.6s
OKC **Ostrava-Krasne** 24.41 165 *e*P **P** 23 55 40.4 +0.1
OKC *ex* x 23 55 51.6
OKC AMS AMS 00 39 40.0
comp=Z,49μm,20.6s
OKC **Ostrava-Krasne** 24.41 165 *e*P **P** 23 55 40.4 +0.1
comp=Z,49μm,20.6s
KTD **Kalmit** 24.57 181 *e*P **P** 23 55 42.6 +0.8
RES **Resolute Bay** 24.77 322 P **P** 23 55 43.1 -0.2
comp=Z,3.1nm,1.1s,baz=33,slow=17,SNR=5.1
RES PcP **PcP** 23 59 18.9 0.0
comp=Z,1.6nm,0.7s,baz=91,slow=1.9,SNR=5.4
TREC **Trest** 24.78 169 *e*P **P** 23 55 43.8 +0.1
TREC **Trest** 24.78 169 *e*P **P** 23 55 43.8 +0.1
TREC *ex* x 23 55 54.9
TREC AMS AMS 00 33 40.0
comp=Z,74μm,26.7s
TREC **Trest** 24.78 169 *e*P **P** 23 55 43.8 +0.1
AKASG **Malin Array Be** 24.81 148 *ce*P **P** 23 55 42.5 -1.3
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG **Malin Array Be** 24.81 148 P **P** 23 55 42.5 -1.3
comp=Z,4.0nm,0.7s,baz=341,slow=10.0,SNR=14
AKBB **Malin Array Si** 24.81 148 *e*P **P** 23 55 42.6 -1.3
AKBB **Malin Array Si** 24.81 148 *e*P **P** 23 55 42.6 -1.3
AKBB **Malin Array Si** 24.81 148 *e*P **P** 23 55 42.5 -1.3
KIEV **Kiev** 24.82 148⇑ *i*P **P** 23 55 43.2 -0.7
KIEV **Kiev** 24.82 148 *i* P **P** 23 55 43.2 -0.7
KIEV **Kiev** 24.82 148 *e*P **P** 23 55 43.0 -0.9
comp=Z,64nm,1.5s
WET **Wettzell** 24.82 173 *e*P **P** 23 55 44.7 +0.7
comp=Z,30nm,1.4s
WET **Wettzell** 24.82 173 *e*P **P** 23 55 44.7 +0.7
comp=Z,30nm,1.4s
VRAC **Vranov** 24.83 167 ⇓P **P** 23 55 44.7 +0.6
VRAC **Vranov** 24.83 167 ⇓*i*P **P** 23 55 44.7 +0.6
VRAC **Vranov** 24.83 167 P **P** 23 55 44.5 +0.4
comp=Z,17nm,0.9s,baz=0.4,slow=13,SNR=23
VRAC **Vranov** 24.83 167 P **P** 23 55 44.7 +0.6
KHC **Kasperske Hory** 24.86 172 *e*P **P** 23 55 44.7 +0.3
KHC MLR MLR
comp=Z,94μm,23.3s
KHC **Kasperske Hory** 24.86 172 *e*P **P** 23 55 44.7 +0.3
KHC *ex* x 23 55 54.4
KHC AMS AMS 00 32 50.0
comp=Z,94μm,23.3s
KHC **Kasperske Hory** 24.86 172 *e*P **P** 23 55 44.7 +0.3
comp=Z,94μm,23.3s
KHC **Kasperske Hory** 24.86 172 *e*P **P** 23 55 44.7 +0.3
comp=Z,11nm,1.1s
LANF **Langenberg** 24.91 181 *e*P **P** 23 55 45.2 +0.4
LVV **L'vov** 24.98 156 *e*P **P** 23 55 44.9 -0.6
LVV **L'vov** 24.98 156 *e*P **P** 23 55 44.9 -0.6
NIE **Niedzica** 25.00 162 *e*P **P** 23 55 46.6 +0.9
KWP **Kalwaria Pacla** 25.02 158 ⇑P **P** 23 55 46.1 +0.3
KWP **Kalwaria Pacla** 25.02 158 *e*P **P** 23 55 46.3 +0.5
KWP **Kalwaria Pacla** 25.02 158⇑ *i*P **P** 23 55 46.1 +0.3
KWP **Kalwaria Pacla** 25.02 158 P **P** 23 55 46.1 +0.3
STHS **Stebnicka Huta** 25.09 160 *e*P **P** 23 55 47.4 +1.0
STHS pmax pmax
comp=Z,13nm,1.1s
STHS **Stebnicka Huta** 25.09 160 *e*P **P** 23 55 47.4 +1.0
comp=Z,13nm,1.1s
STHS **Stebnicka Huta** 25.09 160 *e*P **P** 23 55 47.4 +1.0
STU **Stuttgart** 25.12 179 *e*P **P** 23 55 47.8 +1.1
STU pmax pmax
comp=Z,33nm,1.0s
STU **Stuttgart** 25.12 179 *e*P **P** 23 55 47.5 +0.8
comp=Z,41nm,1.1s
STU **Stuttgart** 25.12 179 *e*P **P** 23 55 47.5 +0.8
comp=Z,41nm,1.1s
STU **Stuttgart** 25.12 179 *e*P **P** 23 55 47.8 +1.1
comp=Z,33nm,1.0s
GEC2 **GERESS Array S** 25.15 172 *e*P **P** 23 55 48.4 +1.3
GEC2 **GERESS Array S** 25.15 172 *e*P **P** 23 55 47.7 +0.6
comp=Z,26nm,1.2s
GEC2 **GERESS Array S** 25.15 172 *e*P **P** 23 55 47.7 +0.6
comp=Z,26nm,1.2s
GEC2 **GERESS Array S** 25.15 172 *e*P **P** 23 55 48.4 +1.3
GERES **GERESS Array B** 25.15 172 P **P** 23 55 48.2 +1.1
comp=Z,6.4nm,0.9s,baz=12,slow=7.4,SNR=38
PAGF **Fort de Pagny** 25.36 184 *e*P **P** 23 55 49.3 +0.4
comp=Z,42nm,1.3s
PAGF **Fort de Pagny** 25.36 184 *e*P **P** 23 55 49.3 +0.4
comp=Z,21nm,1.3s
PAGF **Fort de Pagny** 25.36 184 *e*P **P** 23 55 49.3 +0.4
comp=Z,42nm,1.3s
FLN **La Foliniere** 25.43 194 *e*P **P** 23 55 48.7 -0.8
comp=Z,62nm,1.2s
FLN **La Foliniere** 25.43 194 *e*P **P** 23 55 48.7 -0.8
FLN pmax pmax
comp=Z,62nm,1.2s
FLN **La Foliniere** 25.43 194 *e*P **P** 23 55 48.7 -0.8
comp=Z,31nm,1.2s
FLN **La Foliniere** 25.43 194 *e*P **P** 23 55 48.7 -0.8
comp=Z,62nm,1.2s
MEZF **Maizieres J'vi** 25.43 185 *e*P **P** 23 55 49.8 +0.3
comp=Z,55nm,0.9s
MEZF **Maizieres J'vi** 25.43 185 *e*P **P** 23 55 49.8 +0.3
comp=Z,28nm,0.9s
MEZF **Maizieres J'vi** 25.43 185 *e*P **P** 23 55 49.8 +0.3
comp=Z,55nm,0.9s
CDF **Champ du Feu** 25.48 182 *e*P **P** 23 55 50.0 -0.1
comp=Z,95nm,1.5s
CDF **Champ du Feu** 25.48 182 *e*P **P** 23 55 50.0 -0.1
CDF pmax pmax
comp=Z,95nm,1.5s
CDF **Champ du Feu** 25.48 182 *e*P **P** 23 55 50.0 -0.1
comp=Z,48nm,1.5s
CDF **Champ du Feu** 25.48 182 *e*P **P** 23 55 50.0 -0.1
comp=Z,95nm,1.5s
BFO **Black Forest** 25.56 180 P **P** 23 55 51.7 +1.0
comp=Z,202nm,1.2s,SNR=14
BFO **Black Forest** 25.56 180 *i* P **P** 23 55 51.7 +1.0
BFO **Black Forest** 25.56 180 *e*P **P** 23 55 51.3 +0.6
comp=Z,64nm,1.3s
BFO **Black Forest** 25.56 180 *e*P **P** 23 55 51.3 +0.6
comp=Z,64nm,1.3s
BFO **Black Forest** 25.56 180 *e*P **P** 23 55 51.7 +1.0
comp=Z,52nm,1.2s
LDF **La Druitiere** 25.58 193 *e*P **P** 23 55 50.2 -0.6
comp=Z,18nm,0.9s
LDF **La Druitiere** 25.58 193 *e*P **P** 23 55 50.2 -0.6
LDF pmax pmax
comp=Z,18nm,0.9s
LDF **La Druitiere** 25.58 193 *e*P **P** 23 55 50.2 -0.6
comp=Z,18nm,0.9s
LDF **La Druitiere** 25.58 193 *e*P **P** 23 55 50.2 -0.6
comp=Z,18nm,0.9s
VOR **Voronezh** 25.61 133 *e*P **P** 23 55 50.0 -1.1
VOR pmax pmax
comp=Z,260nm,1.8s
VOR **Voronezh** 25.61 133 *e*P **P** 23 55 50.0 -1.1
comp=Z,260nm,1.8s
CRVS **Cervenica-Dubn** 25.62 160 *e*P **P** 23 55 51.8 +0.6
CRVS pmax pmax
comp=Z,52nm,1.7s
CRVS **Cervenica-Dubn** 25.62 160 *e*P **P** 23 55 51.8 +0.6
comp=Z,52nm,1.7s
CRVS **Cervenica-Dubn** 25.62 160 *e*P **P** 23 55 51.8 +0.6
KOLS **Kolonicke sedl** 25.67 159 *e*P **P** 23 55 52.2 +0.5
KOLS pmax pmax
comp=Z,32nm,1.4s
KOLS **Kolonicke sedl** 25.67 159 *e*P **P** 23 55 52.2 +0.5
comp=Z,32nm,1.4s
KOLS **Kolonicke sedl** 25.67 159 *e*P **P** 23 55 52.2 +0.5
KOLS *e* 00 28 54.9
ECH **Echery** 25.68 182 *e*P **P** 23 55 53.0 +1.2
THEF **They Montfort** 25.69 184 *e*P **P** 23 55 52.2 +0.3
SFTF **Sexfontaines** 25.73 185 *e*P **P** 23 55 52.3 +0.1
comp=Z,71nm,1.2s
SFTF **Sexfontaines** 25.73 185 *e*P **P** 23 55 52.3 +0.1
comp=Z,36nm,1.2s
SFTF **Sexfontaines** 25.73 185 *e*P **P** 23 55 52.3 +0.1
comp=Z,71nm,1.2s
SPAK **Spaichingen-Ko** 25.79 180 *e*P **P** 23 55 54.2 +1.3
VYHS **Vyhne** 25.80 164 *e*P **P** 23 55 53.3 +0.5

VYHS pmax pmax
comp=Z,33nm,1.8s
VYHS Vyhne 25.80 164 *e*P **P 23 55 53.3 +0.5**
comp=Z,33nm,1.8s
VYHS Vyhne 25.80 164 *e*P **P 23 55 53.3 +0.5**
GRR Gorron 25.83 194 *e*P **P 23 55 52.7 -0.4**
GRR Gorron 25.83 194 *e*P **P 23 55 52.7 -0.4**
GRR Gorron 25.83 194 *e*P **P 23 55 52.7 -0.4**
GRR Gorron 25.83 194 *e*P **P 23 55 52.7 -0.4**
HAU Haudompre 25.90 183 *e*P **P 23 55 53.9 +0.1**
comp=Z,68nm,1.0s
HAU Haudompre 25.90 183 *e*P **P 23 55 53.9 +0.1**
HAU pmax pmax
comp=Z,68nm,1.0s
HAU Haudompre 25.90 183 *e*P **P 23 55 53.9 +0.1**
comp=Z,34nm,1.0s
HAU Haudompre 25.90 183 *e*P **P 23 55 53.9 +0.1**
comp=Z,68nm,1.0s
KECS Kecovo 25.95 162 *e*P **P 23 55 54.3 +0.1**
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 25.95 162 *e*P **P 23 55 54.3 +0.1**
comp=Z,5.0nm,1.1s
KECS Kecovo 25.95 162 *e*P **P 23 55 54.3 +0.1**
UZH Uzhgorod 25.97 159 *e*P **P 23 55 53.2 -1.2**
UZH *e* 23 55 56.2
UZH Uzhgorod 25.97 159 *e*P **P 23 55 53.2 -1.2**
FELD Feldberg im Sc 26.02 181 *e*P **P 23 55 55.3 +0.3**
MOF Molkenrain 26.05 182 *e*P **P 23 55 56.3 +1.1**
ROSF Rostrenen 26.07 198 *e*P **P 23 55 54.4 -0.9**
comp=Z,99nm,1.6s
ROSF Rostrenen 26.07 198 *e*P **P 23 55 54.4 -0.9**
ROSF pmax pmax
comp=Z,99nm,1.6s
ROSF Rostrenen 26.07 198 *e*P **P 23 55 54.4 -0.9**
comp=Z,50nm,1.6s
ROSF Rostrenen 26.07 198 *e*P **P 23 55 54.4 -0.9**
comp=Z,99nm,1.6s
ARU Arti 26.08 104 P **P 23 55 56.2 +0.9**
comp=Z,626nm,0.8s,SNR=7.5
ARU Arti 26.08 104*d i*P **P 23 55 55.7 +0.4**
ARU PPP PPP 23 56 44.1
ARU S **S 00 00 27.9 +2.5**
ARU SS **SnSn 00 01 24.2 +1.0**
ARU pmax pmax
comp=Z,36nm,2.5s
ARU Arti 26.08 104 *i* P **P 23 55 55.7 +0.4**
comp=Z,36nm,2.5s
ARU Arti 26.08 104 *e*P **P 23 55 55.4 +0.1**
comp=Z,207nm,1.1s
HINF Hinteralfeld 26.09 183 *e*P **P 23 55 55.3 -0.2**
comp=Z,53nm,1.4s
HINF Hinteralfeld 26.09 183 *e*P **P 23 55 55.3 -0.2**
HINF pmax pmax
comp=Z,53nm,1.4s
HINF Hinteralfeld 26.09 183 *e*P **P 23 55 55.3 -0.2**
comp=Z,26nm,1.4s
HINF Hinteralfeld 26.09 183 *e*P **P 23 55 55.3 -0.2**
comp=Z,53nm,1.4s
SGMF Saint Gilles 26.09 197 *e*P **P 23 55 54.9 -0.6**
comp=Z,84nm,1.2s
SGMF Saint Gilles 26.09 197 *e*P **P 23 55 54.9 -0.6**
SGMF pmax pmax
comp=Z,84nm,1.2s
SGMF Saint Gilles 26.09 197 *e*P **P 23 55 54.9 -0.6**
comp=Z,42nm,1.2s
SGMF Saint Gilles 26.09 197 *e*P **P 23 55 54.9 -0.6**
comp=Z,84nm,1.2s
VSR Storozhevoye 26.09 133 *e*P **P 23 55 56.4 +0.9**
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,9.0nm,0.8s
VSR pmax pmax
comp=N,20nm,1.0s
VSR Storozhevoye 26.09 133 *e*P **P 23 55 56.4 +0.9**
comp=N,20nm,1.0s
CONA Conrad Observa 26.16 169⇑*i*P **P 23 55 57.2 +0.9**
comp=N,31nm,1.4s,SNR=14
MOA Molln 26.17 171 *i* P **P 23 55 57.1 +0.9**
comp=N,16nm,1.5s,SNR=9.0
SVE Sverdlovsk 26.30 102 *e*P **P 23 55 59.3 +2.0**
SVE pmax pmax
comp=Z,71nm,1.6s
SVE Sverdlovsk 26.30 102 *e*P **P 23 55 59.3 +2.0**
comp=Z,71nm,1.6s
VORD Divnogorie 26.36 133 *e*P **P 23 55 57.5 -0.3**
VORD pmax pmax
comp=Z,20nm,1.5s
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD Divnogorie 26.36 133 *e*P **P 23 55 57.5 -0.3**
comp=E,40nm,0.8s
BBS Basel-Blauen 26.43 182 *e*P **P 23 55 59.3 +0.7**
PSZ Piszkesteto 26.45 163 *e*P **P 23 55 59.8 +0.9**
PSZ pmax pmax
comp=Z,35nm,1.3s
PSZ Piszkesteto 26.45 163 *e*P **P 23 55 59.8 +0.9**
comp=Z,35nm,1.3s
PSZ Piszkesteto 26.45 163 *e*P **P 23 55 59.8 +0.9**
comp=Z,35nm,1.3s
QUIF Quistinic 26.48 198 *e*P **P 23 55 57.8 -1.2**
QUIF Quistinic 26.48 198 *e*P **P 23 55 57.8 -1.2**
QUIF Quistinic 26.48 198 *e*P **P 23 55 57.8 -1.2**
QUIF Quistinic 26.48 198 *e*P **P 23 55 57.8 -1.2**
TRPA Tarpa 26.49 159⇑*i*P **P 23 55 59.9 +0.8**
MOTA Moosalm 26.57 176⇑*i*P **P 23 56 01.0 +0.9**
comp=Z,15nm,1.3s
WATA Walderalm 26.59 175⇑*i*P **P 23 56 01.2 +1.0**
comp=Z,12nm,1.2s
DAVA Damuels 26.61 178⇑*i*P **P 23 56 01.7 +1.3**
comp=Z,28nm,1.2s,SNR=9.2
WTTA Wattenberg 26.66 175⇑*i*P **P 23 56 02.0 +1.1**
comp=Z,17nm,1.4s
LOR Lormes 26.70 187 *e*P **P 23 56 00.2 -0.9**
comp=Z,66nm,1.5s
LOR Lormes 26.70 187 *e*P **P 23 56 00.2 -0.9**
LOR pmax pmax
comp=Z,66nm,1.5s
LOR Lormes 26.70 187 *e*P **P 23 56 00.2 -0.9**
comp=Z,33nm,1.5s
LOR Lormes 26.70 187 *e*P **P 23 56 00.2 -0.9**
comp=Z,66nm,1.5s
VRHR Novokhopersk 26.73 130 *e*P **P 23 55 58.1 -3.1**
VRHR pmax pmax
comp=Z,20nm,1.7s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR Novokhopersk 26.73 130 *e*P **P 23 55 58.1 -3.1**
comp=E,20nm,1.7s
HYF Humbligny 26.75 189 *e*P **P 23 56 01.1 -0.4**
HYF Humbligny 26.75 189 *e*P **P 23 56 01.1 -0.4**
HYF Humbligny 26.75 189 *e*P **P 23 56 01.1 -0.4**
ARSA Arzberg 26.82 169⇑*i*P **P 23 56 03.5 +1.4**
comp=E,19nm,1.6s
KBA Koelnbreinsper 26.90 173⇑*i*P **P 23 56 04.4 +1.4**
comp=E,19nm,1.3s,SNR=8.6
SSF Saint Saulge 26.92 188 *e*P **P 23 56 02.3 -0.7**
comp=E,32nm,1.3s
SSF Saint Saulge 26.92 188 *e*P **P 23 56 02.3 -0.7**
SSF pmax pmax
comp=Z,32nm,1.3s
SSF Saint Saulge 26.92 188 *e*P **P 23 56 02.3 -0.7**
comp=Z,16nm,1.3s
SSF Saint Saulge 26.92 188 *e*P **P 23 56 02.3 -0.7**
comp=Z,32nm,1.3s
DAVOX Davos/Dischmat 27.12 178 P **P 23 56 06.0 +1.0**
comp=Z,3.5nm,1.0s,baz=352,slow=8.8,SNR=5.1
AVF Avril sur Loir 27.20 188 *e*P **P 23 56 04.7 -0.8**
AVF Avril sur Loir 27.20 188 *e*P **P 23 56 04.7 -0.8**
AVF Avril sur Loir 27.20 188 *e*P **P 23 56 04.7 -0.8**
AVF Avril sur Loir 27.20 188 *e*P **P 23 56 04.7 -0.8**
FUORN Ofenpass-Fuorn 27.28 177 *e*P **P 23 56 08.0 +1.5**
comp=Z,32nm,1.7s
BURAR Bucovina Array 27.30 155⇑P **P 23 56 06.3 -0.2**
BURAR Bucovina Array 27.30 155⇑*i*P **P 23 56 06.3 -0.2**
CABF La Chapelle 27.30 184 *e*P **P 23 56 06.4 -0.1**
comp=Z,49nm,1.1s
CABF La Chapelle 27.30 184 *e*P **P 23 56 06.4 -0.1**
CABF pmax pmax
comp=Z,49nm,1.1s
CABF La Chapelle 27.30 184 *e*P **P 23 56 06.4 -0.1**
comp=Z,25nm,1.1s
CABF La Chapelle 27.30 184 *e*P **P 23 56 06.4 -0.1**
comp=Z,49nm,1.1s
SMF Signal de Mont 27.33 187 *e*P **P 23 56 06.6 -0.1**
comp=Z,66nm,1.7s
SMF Signal de Mont 27.33 187 *e*P **P 23 56 06.6 -0.1**
SMF pmax pmax
comp=Z,66nm,1.7s
SMF Signal de Mont 27.33 187 *e*P **P 23 56 06.6 -0.1**
comp=Z,33nm,1.7s
SMF Signal de Mont 27.33 187 *e*P **P 23 56 06.6 -0.1**
comp=Z,66nm,1.7s
MYKA Terra Mystica 27.36 172⇑*i*pP **P 23 56 08.6 +1.6**
comp=Z,28nm,2.0s
SOKA Soboth 27.37 170⇑*i*P **P 23 56 08.0 +0.8**
comp=Z,14nm,1.3s,SNR=6.8
TUE Stuetta 27.42 179 *e*P **P 23 56 08.6 +0.9**
comp=Z,24nm,1.2s
FRB Frobisher Bay 27.43 290 P **P 23 56 06.8 -0.5**
comp=Z,4.1nm,1.1s,baz=13,slow=4.8,SNR=3.8
FRB PcP **PcP 23 59 24.4 -0.8**
comp=Z,3.1nm,0.9s,baz=47,slow=4.8,SNR=5.6
BGF Bois d'Agland 27.45 189 *e*P **P 23 56 07.3 -0.5**
comp=Z,39nm,1.0s
BGF Bois d'Agland 27.45 189 *e*P **P 23 56 07.3 -0.5**
BGF pmax pmax
comp=Z,39nm,1.0s
BGF Bois d'Agland 27.45 189 *e*P **P 23 56 07.3 -0.5**
comp=Z,20nm,1.0s
BGF Bois d'Agland 27.45 189 *e*P **P 23 56 07.3 -0.5**
comp=Z,39nm,1.0s
OBKA Obir 27.52 171⇓*i*pP **P 23 56 09.8 +1.3**
comp=Z,16nm,1.1s,SNR=5.1
SENIN Lac Senin/Sane 27.53 182 *e*P **P 23 56 10.1 +1.3**
MFF Saint Martin d 27.56 193 *e*P **P 23 56 08.1 -0.6**
comp=Z,113nm,1.6s
MFF Saint Martin d 27.56 193 *e*P **P 23 56 08.1 -0.6**
MFF pmax pmax
comp=Z,113nm,1.6s
MFF Saint Martin d 27.56 193 *e*P **P 23 56 08.1 -0.6**
comp=Z,56nm,1.6s
MFF Saint Martin d 27.56 193 *e*P **P 23 56 08.1 -0.6**
comp=Z,113nm,1.6s
TCF Toulx Ste Croi 27.75 189 *e*P **P 23 56 09.9 -0.6**
comp=Z,80nm,1.4s
TCF Toulx Ste Croi 27.75 189 *e*P **P 23 56 09.9 -0.6**
TCF pmax pmax
comp=Z,80nm,1.4s
TCF Toulx Ste Croi 27.75 189 *e*P **P 23 56 09.9 -0.6**
comp=Z,40nm,1.4s
TCF Toulx Ste Croi 27.75 189 *e*P **P 23 56 09.9 -0.6**
comp=Z,80nm,1.4s
KIS Kishinev 28.37 150 *e*P P 23 56 25.0 +9.1
KIS *e* 23 57 08.0
KIS *e* 23 57 19.0
KIS Kishinev 28.37 150 *e*P P 23 56 25.0 +9.1
LPL La Plagne 28.39 183 *e*P **P 23 56 16.9 +0.5**
comp=Z,36nm,1.0s
LPL La Plagne 28.39 183 *e*P **P 23 56 16.9 +0.5**
LPL pmax pmax
comp=Z,36nm,1.0s
LPL La Plagne 28.39 183 *e*P **P 23 56 16.9 +0.5**
comp=Z,18nm,1.0s
LPL La Plagne 28.39 183 *e*P **P 23 56 16.9 +0.5**
comp=Z,36nm,1.0s
LPG La Plagne 28.41 183 *e*P **P 23 56 17.3 +0.7**
comp=Z,65nm,1.1s
LPG La Plagne 28.41 183 *e*P **P 23 56 17.3 +0.7**
LPG pmax pmax
comp=Z,65nm,1.1s
LPG La Plagne 28.41 183 *e*P **P 23 56 17.3 +0.7**
comp=Z,32nm,1.1s
LPG La Plagne 28.41 183 *e*P **P 23 56 17.3 +0.7**
comp=Z,65nm,1.1s
RJF Les Rejaudoux 28.76 190 *e*P **P 23 56 18.8 -0.7**
comp=Z,26nm,1.1s
RJF Les Rejaudoux 28.76 190 *e*P **P 23 56 18.8 -0.7**
RJF pmax pmax
comp=Z,26nm,1.1s
RJF Les Rejaudoux 28.76 190 *e*P **P 23 56 18.8 -0.7**
comp=Z,13nm,1.1s
RJF Les Rejaudoux 28.76 190 *e*P **P 23 56 18.8 -0.7**
comp=Z,26nm,1.1s
BNI Bardonecchia 28.85 183 *e*P **P 23 56 21.6 +1.2**
BNI pmax pmax
comp=Z,26nm,1.1s
BNI Bardonecchia 28.85 183 *e*P **P 23 56 21.6 +1.2**
comp=Z,26nm,1.1s
BNI Bardonecchia 28.85 183 *e*P **P 23 56 21.6 +1.2**
comp=Z,26nm,1.1s
BZS Buzias 28.89 161⇑P **P 23 56 21.5 +0.9**
BZS Buzias 28.89 161⇑*i*P **P 23 56 21.5 +0.9**
BZS Buzias 28.89 161 P **P 23 56 21.5 +0.9**
ORIF Oris-en-Rattie 29.00 184 *e*P **P 23 56 21.7 0.0**
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 29.00 184 *e*P **P 23 56 21.7 0.0**
ORIF pmax pmax
comp=Z,16nm,0.8s
ORIF Oris-en-Rattie 29.00 184 *e*P **P 23 56 21.7 0.0**
comp=Z,7.8nm,0.8s
ORIF Oris-en-Rattie 29.00 184 *e*P **P 23 56 21.7 0.0**
comp=Z,16nm,0.8s
VIVF Saint-Julien-l 29.09 186 *e*P **P 23 56 22.2 -0.2**
comp=Z,36nm,1.2s
VIVF Saint-Julien-l 29.09 186 *e*P **P 23 56 22.2 -0.2**
VIVF pmax pmax
comp=Z,37nm,1.2s
VIVF Saint-Julien-l 29.09 186 *e*P **P 23 56 22.2 -0.2**
comp=Z,18nm,1.2s
VIVF Saint-Julien-l 29.09 186 *e*P **P 23 56 22.2 -0.2**
comp=Z,36nm,1.2s
CAF Calviac 29.11 189 *e*P **P 23 56 22.1 -0.5**
comp=Z,73nm,1.8s
CAF Calviac 29.11 189 *e*P **P 23 56 22.1 -0.5**
CAF pmax pmax
comp=Z,73nm,1.8s
CAF Calviac 29.11 189 *e*P **P 23 56 22.1 -0.5**
comp=Z,36nm,1.8s
CAF Calviac 29.11 189 *e*P **P 23 56 22.1 -0.5**
comp=Z,73nm,1.8s
LFF La Frestale 29.17 191 *e*P **P 23 56 23.1 +0.1**
comp=Z,94nm,1.6s
LFF La Frestale 29.17 191 *e*P **P 23 56 23.1 +0.1**
LFF pmax pmax
comp=Z,94nm,1.6s
LFF La Frestale 29.17 191 *e*P **P 23 56 23.1 +0.1**
comp=Z,47nm,1.6s
LFF La Frestale 29.17 191 *e*P **P 23 56 23.1 +0.1**
comp=Z,94nm,1.6s
MBDF Montbardon 29.18 183 *e*P **P 23 56 24.1 +0.8**
comp=Z,39nm,1.0s
MBDF Montbardon 29.18 183 *e*P **P 23 56 24.1 +0.8**
MBDF pmax pmax
comp=Z,39nm,1.0s
MBDF Montbardon 29.18 183 *e*P **P 23 56 24.1 +0.8**
comp=Z,19nm,1.0s
MBDF Montbardon 29.18 183 *e*P **P 23 56 24.1 +0.8**
comp=Z,39nm,1.0s
MLR Muntele Rosu 29.48 155 P **P 23 56 28.0 +2.1**
comp=Z,0.6nm,0.9s,baz=126,slow=10,SNR=3.2
TOUF Mont Tournerai 29.88 182 *e*P **P 23 56 30.9 +1.3**
LASF Ste Croix 29.89 187 *e*P **P 23 56 30.2 +0.7**
comp=Z,60nm,1.2s
LASF Ste Croix 29.89 187 *e*P **P 23 56 30.2 +0.7**
comp=Z,30nm,1.2s
LASF Ste Croix 29.89 187 *e*P **P 23 56 30.2 +0.7**
comp=Z,60nm,1.3s
AUTN L'Aution 29.90 182 *e*P **P 23 56 30.6 +0.8**
SAOF Saorge 29.91 181 *e*P **P 23 56 30.4 +0.7**
SMRF Simiane la Rot 29.95 184 *e*P **P 23 56 30.0 0.0**
comp=Z,31nm,1.2s
SMRF Simiane la Rot 29.95 184 *e*P **P 23 56 30.0 0.0**
comp=Z,16nm,1.2s
SMRF Simiane la Rot 29.95 184 *e*P **P 23 56 30.0 0.0**
comp=Z,31nm,1.2s
MVIF Mont Vial 30.00 182 *e*P **P 23 56 31.8 +1.2**
SBF Sospel 30.03 182 *e*P **P 23 56 31.0 +0.2**
comp=Z,159nm,0.9s
SBF Sospel 30.03 182 *e*P **P 23 56 31.0 +0.2**
SBF pmax pmax
comp=Z,159nm,0.9s
SBF Sospel 30.03 182 *e*P **P 23 56 31.0 +0.2**
comp=Z,79nm,0.9s
SBF Sospel 30.03 182 *e*P **P 23 56 31.0 +0.2**
comp=Z,159nm,0.9s
TIXI Tiksi 30.07 33⇓*e*P **P 23 56 29.9 -0.8**
TIXI pmax pmax
comp=Z,13nm,1.6s
TIXI Tiksi 30.07 33 *e*P **P 23 56 29.9 -0.8**
comp=Z,13nm,1.6s
CALN Calern 30.15 182 *e*P **P 23 56 33.0 +1.1**
FRF La Foret Royal 30.34 183 *e*P **P 23 56 33.3 -0.2**
comp=Z,28nm,0.9s
FRF La Foret Royal 30.34 183 *e*P **P 23 56 33.3 -0.2**
FRF pmax pmax
comp=Z,28nm,0.9s
FRF La Foret Royal 30.34 183 *e*P **P 23 56 33.3 -0.2**
comp=Z,14nm,0.9s
FRF La Foret Royal 30.34 183 *e*P **P 23 56 33.3 -0.2**
comp=Z,28nm,0.9s
LMR La Mourre 30.57 183 *e*P **P 23 56 35.3 -0.2**
comp=Z,25nm,1.0s
LMR La Mourre 30.57 183 *e*P **P 23 56 35.3 -0.2**
LMR pmax pmax
comp=Z,25nm,1.0s
LMR La Mourre 30.57 183 *e*P **P 23 56 35.3 -0.2**
comp=Z,13nm,1.0s
LMR La Mourre 30.57 183 *e*P **P 23 56 35.3 -0.2**
comp=Z,25nm,1.0s
MTLF Montolieu 30.69 189 *e*P **P 23 56 36.9 +0.4**
comp=Z,16nm,1.0s
MTLF Montolieu 30.69 189 *e*P **P 23 56 36.9 +0.4**
MTLF pmax pmax
comp=Z,16nm,1.0s
MTLF Montolieu 30.69 189 *e*P **P 23 56 36.9 +0.4**
comp=Z,7.9nm,1.0s
MTLF Montolieu 30.69 189 *e*P **P 23 56 36.9 +0.4**
comp=Z,16nm,1.0s
EPF Esparros 31.09 192 *e*P **P 23 56 40.0 -0.1**
comp=Z,52nm,1.5s
EPF Esparros 31.09 192 *e*P **P 23 56 40.0 -0.1**
EPF pmax pmax
comp=Z,52nm,1.5s
EPF Esparros 31.09 192 *e*P **P 23 56 40.0 -0.1**
comp=Z,26nm,1.5s
EPF Esparros 31.09 192 *e*P **P 23 56 40.0 -0.1**
comp=Z,52nm,1.5s
SJPF Ste Jean 31.11 194 *e*P **P 23 56 39.3 -0.9**
comp=Z,16nm,1.0s
SJPF Ste Jean 31.11 194 *e*P **P 23 56 39.3 -0.9**
SJPF pmax pmax
comp=Z,17nm,1.0s
SJPF Ste Jean 31.11 194 *e*P **P 23 56 39.3 -0.9**
comp=Z,8.2nm,1.0s
SJPF Ste Jean 31.11 194 *e*P **P 23 56 39.3 -0.9**
comp=Z,16nm,1.0s
ETSF Etsaut 31.28 193 *e*P **P 23 56 42.7 +0.9**
comp=Z,46nm,1.5s
ETSF Etsaut 31.28 193 *e*P **P 23 56 42.7 +0.9**
ETSF pmax pmax
comp=Z,46nm,1.5s
ETSF Etsaut 31.28 193 *e*P **P 23 56 42.7 +0.9**
comp=Z,23nm,1.5s
ETSF Etsaut 31.28 193 *e*P **P 23 56 42.7 +0.9**
comp=Z,46nm,1.5s
AKTK Aktyubinsk 31.30 111 P **P 23 56 40.9 -0.9**
AKTO Aktyubinsk 31.30 111 P **P 23 56 40.9 -0.9**
comp=Z,5.0nm,0.9s,baz=322,slow=9.5,SNR=9.0
PGF Pioggiola 31.34 179 *e*P **P 23 56 42.3 -0.1**
comp=Z,78nm,1.6s
PGF Pioggiola 31.34 179 *e*P **P 23 56 42.3 -0.1**
PGF pmax pmax
comp=Z,78nm,1.6s
PGF Pioggiola 31.34 179 *e*P **P 23 56 42.3 -0.1**
comp=Z,39nm,1.6s
PGF Pioggiola 31.34 179 *e*P **P 23 56 42.3 -0.1**
comp=Z,78nm,1.6s
ANN Anapa 31.91 139 *e*P P 23 56 52.3 +5.1
ANN pmax pmax
comp=Z,109nm,1.6s
GOF Gofitskoye 32.76 132 *e*P **P 23 56 54.6 -0.1**
GOF Gofitskoye 32.76 132 *e*P **P 23 56 54.6 -0.1**
PBRG Braganca 32.88 201 *e*P **P 23 56 57.2 +1.4**
comp=Z,37nm,1.7s
ABKAR Akbulak array 32.89 109 *e*P **P 23 56 54.9 -0.8**
POLO Lamas de Olo 33.41 203 *e*P **P 23 57 01.4 +0.9**
comp=Z,21nm,1.8s
PVRL Vila Real 33.50 202 *e*P **P 23 57 02.4 +1.2**
comp=Z,70nm,1.8s
MVO Moncorvo 33.54 201 *e*P **P 23 57 02.1 +0.5**
comp=Z,45nm,1.7s
KIV Kislovodsk 33.74 133 *e*P **P 23 57 04.1 +0.8**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 33.74 133 *e*P **P 23 57 04.1 +0.8**
comp=Z,11nm,0.9s
KBZ Khabaz 34.00 133 P **P 23 57 04.5 -0.9**
comp=Z,3.1nm,0.9s,baz=271,slow=3.2,SNR=6.1
PVIS Viseu 34.07 203 *e*P **P 23 57 07.0 +0.8**
comp=Z,42nm,1.9s
NVS Novosibirsk 34.34 82 *e*P **P 23 57 09.0 +0.7**
NVS Novosibirsk 34.34 82 *e*P **P 23 57 09.0 +0.7**
MTE Manteigas 34.35 202 *e*P **P 23 57 09.6 +1.0**
comp=Z,68nm,1.6s
NCK Nalchik 34.37 132⇑*i*P **P 23 57 09.5 +0.8**
NCK Nalchik 34.37 132 *i* P **P 23 57 09.5 +0.8**
NEY Neytrino 34.42 133 *i* P **P 23 57 08.6 -0.8**
NEY Neytrino 34.42 133 *i* P **P 23 57 08.6 -0.8**
SCHQ Schefferville 34.52 279 P **P 23 57 09.1 -0.9**
comp=Z,5.0nm,1.1s,baz=36,slow=9.6,SNR=3.9
ESDC Sonseca Array 34.73 197 P **P 23 57 12.5 +0.5**
comp=Z,6.8nm,1.0s,baz=6.7,slow=9.0,SNR=25
PCBR Castelo Branco 34.90 202 *e*P **P 23 57 14.3 +1.0**
comp=Z,29nm,1.8s
TIP Timpagrande 34.94 169 *e*P **P 23 57 14.4 +0.7**
comp=Z,32nm,1.6s
ZEI Tsey 35.11 132 *e*P **P 23 57 15.1 -0.2**
ZEI *e* 23 58 32.2
ZEI pmax pmax
comp=Z,20nm,1.8s
PTOM Tomar 35.22 203 *e*P **P 23 57 17.5 +1.5**
comp=Z,62nm,1.6s
PMRV Marv??o 35.29 202 *e*P **P 23 57 17.9 +1.2**
comp=Z,56nm,1.2s
ZAA1 Zalesovo Array 35.56 81 *e*P **P 23 57 17.2 -1.6**
ZAA1 *e*PcP **PcP 23 59 46.5 -0.9**
ZALV Zalesovo Beam 35.56 81 P **P 23 57 17.2 -1.7**
comp=Z,4.5nm,0.8s,baz=331,slow=8.8,SNR=15
ZALV PcP **PcP 23 59 46.5 -0.9**
comp=Z,1.8nm,0.6s,baz=304,slow=4.2,SNR=4.7
PMTG Montargil 35.74 203 *e*P **P 23 57 21.2 +0.7**
comp=Z,43nm,1.4s
PESTR Estremoz 35.87 202 *e*P **P 23 57 22.6 +0.9**
comp=Z,46nm,1.0s
INK Inuvik 36.03 337 *e*P **P 23 57 22.2 -0.5**
INK Inuvik 36.03 337 *e*P **P 23 57 22.2 -0.5**
INK Inuvik 36.03 337 *e*P **P 23 57 22.1 -0.5**
BR101 Keskin Array S 36.20 146 *e*P **P 23 57 25.4 +0.7**
BRTR Keskin Array B 36.20 146*ce*P **P 23 57 25.3 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 36.20 146 P **P 23 57 25.4 +0.7**
comp=Z,3.1nm,0.8s,baz=347,slow=5.9,SNR=16
PBAR Barrancos 36.50 201 *e*P **P 23 57 27.9 +0.9**
comp=Z,69nm,1.8s
KURK Kurchatov 36.72 89 P **P 23 57 28.3 -0.5**
KURK Kurchatov 36.72 89 P **P 23 57 28.3 -0.5**
KURK Kurchatov 36.72 89 P **P 23 57 28.3 -0.5**
KURK PP **PnPn 23 58 46.0 -6.1**
KURBB Kurchatov Arra 36.77 89 P **P 23 57 28.3 -1.0**
comp=Z,5.1nm,0.9s,baz=333,slow=7.4,SNR=24
KURBB PP **PnPn 23 58 46.0 -6.8**
comp=Z,2.4nm,0.7s,baz=334,slow=11,SNR=4.6
PCVE Castro Verde 37.14 202 *e*P **P 23 57 33.5 +1.0**
comp=Z,14nm,1.8s
PVAQ Vaqueiros 37.33 202 *e*P **P 23 57 35.5 +1.4**
comp=Z,50nm,1.6s
PBDV Barranco-do-Ve 37.51 202 *e*P **P 23 57 37.0 +1.3**
comp=Z,88nm,1.7s
MORF Marmelete 37.53 203 *e*P **P 23 57 37.1 +1.3**
comp=Z,81nm,1.8s
BILL Bilibino 37.66 13⇑*i*P **P 23 57 35.9 -0.7**
BILL *e* 23 57 41.6
BILL *e* 23 59 52.1
BILL pmax pmax
comp=Z,12nm,1.3s
BILL Bilibino 37.66 13 *i* P **P 23 57 35.9 -0.7**
comp=Z,12nm,1.3s
BILL Bilibino 37.66 13 *e*PcP **PcP 23 59 52.1 -1.3**
BILL Bilibino 37.66 13 *e*P **P 23 57 36.0 -0.6**
comp=Z,15nm,0.8s
GNI Garni 37.82 132*ce*P **P 23 57 39.2 +0.8**
GNI pmax pmax

comp=Z,22nm,1.7s
GNI Garni 37.82 132 *e*P **P 23 57 39.2 +0.8**
comp=Z,22nm,1.7s
GNI Garni 37.82 132 *e*P **P 23 57 41.5 +3.1**
comp=Z,38nm,1.6s
GNI *e*PP **PnPn 23 59 08.3 +2.5**
FCC Fort Churchill 38.07 304 *e*P **P 23 57 39.3 -0.8**
FCC pmax pmax
comp=Z,6.0nm,0.7s
FCC Fort Churchill 38.07 304 *e*P **P 23 57 39.3 -0.8**
comp=Z,6.0nm,0.7s
FCC Fort Churchill 38.07 304 *e*P **P 23 57 39.3 -0.8**
comp=Z,6.0nm,0.7s
KEST Kesra 38.15 179 P **P 23 57 41.7 +0.5**
comp=Z,5.5nm,1.1s,baz=352,slow=7.9,SNR=5.3
KEST Kesra 38.15 179 *e*P **P 23 57 42.8 +1.6**
COLD Coldfoot 38.53 347 *e*P **P 23 57 44.4 +0.5**
comp=Z,26nm,1.2s
YKA Yellowknife Ar 38.84 322 P **P 23 57 45.8 -0.8**
YKA 23 59 56.6
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 38.84 322 P **P 23 57 45.8 -0.8**
comp=Z,1.6nm,0.6s,baz=18,slow=8.6,SNR=23
YKA PcP **PcP 23 59 56.6 -0.5**
comp=Z,2.4nm,0.8s,baz=12,slow=3.0,SNR=28
YKB5 Yellowknife Ar 38.84 322 *e*P **P 23 57 45.9 -0.7**
YKB5 *e*PcP **PcP 23 59 56.6 -0.5**
BOD Bodaibo 39.59 54 *e*P P 23 57 48.8 -4.0
BOD pmax pmax
comp=Z,9.0nm,1.7s
BOD pmax pmax
comp=Z,8.0nm,1.8s
IM04 Indian Mountai 39.99 349 *e*P P 23 58 01.7 +5.6
EGAK Eagle 40.23 340 *e*PcP **PcP 00 00 01.4 -0.1**
COLA College 40.70 345 *e*P P 23 58 09.0 +7.0
COLA pmax pmax
comp=Z,58nm,1.5s
COLA College 40.70 345 *e*P P 23 58 09.0 +7.0
comp=Z,58nm,1.5s
ILAR Eielson Array 40.73 344 P **P 23 58 02.9 +0.6**
comp=Z,2.2nm,0.8s,baz=0.8,slow=6.5,SNR=20
ILB Eielson Array 40.73 344 *e*P **P 23 58 02.9 +0.6**
TNA Tin City 40.87 358 *e*P P 23 58 10.4 +7.1
comp=Z,58nm,0.6s
MK32 Makanchi Array 41.30 88 *e*P **P 23 58 06.5 -0.7**
MK32 *e*PP **PP 23 59 39.3 -3.0**
MKAR Makanchi Array 41.30 88 *e*P **P 23 58 06.9 -0.3**
MKAR 23 59 39.3
MKAR Makanchi Array 41.30 88 P **P 23 58 06.5 -0.7**
comp=Z,6.1nm,1.1s,baz=340,slow=6.7,SNR=20
MKAR PP **PP 23 59 39.3 -3.0**
comp=Z,3.1nm,0.9s,baz=353,slow=8.6,SNR=4.6
MKAR Makanchi Array 41.30 88 *e*P **P 23 58 06.9 -0.3**
MKAR Makanchi Array 41.30 88 *e*P **P 23 58 06.8 -0.3**
MKAR PP **PP 23 59 39.3 -3.0**
KKAR Karatay Array 41.41 102 *e*P **P 23 58 08.1 0.0**
KKAR *e* 23 59 44.6
KKAR Karatay Array 41.41 102 *e*P **P 23 58 08.1 0.0**
KKAR Karatay Array 41.41 102 *e*P **P 23 58 08.1 0.0**
KKAR *e*PP **PP 23 59 44.6 +1.0**
SEY Seymchan 41.43 24 P **P 23 58 07.5 -0.5**
comp=Z,1.6nm,0.4s,baz=331,slow=4.4,SNR=9.2
DOT Dot Lake 41.60 342 *e*P **P 23 58 12.1 +2.6**
comp=Z,128nm,1.9s
MCK McKinley 41.91 345 *e*P P 23 58 18.7 +6.7
MCK pmax pmax
comp=Z,39nm,0.7s
MCK McKinley 41.91 345 *e*P P 23 58 18.6 +6.7
comp=Z,39nm,0.7s
MOY Mondy 41.98 68 *e*P **P 23 58 13.7 +0.9**
MOY Mondy 41.98 68 *e*P **P 23 58 13.7 +0.9**
KTH Kantishna Hill 42.22 346 *e*P **P 23 58 17.3 +2.7**
comp=Z,47nm,1.4s
USP Ospenovka 42.36 98 P **P 23 58 17.2 +1.2**
SNR=6.4
USP Ospenovka 42.36 98 *i* P **P 23 58 17.1 +1.2**
USP Ospenovka 42.36 98 *i* P **P 23 58 17.1 +1.2**
CAST Castle Rocks 42.43 347 *e*P P 23 58 23.2 +7.0
comp=Z,74nm,1.3s
EKS2 Erkin-Say 42.72 99 P **P 23 58 20.7 +1.8**
SNR=9.0
EKS2 Erkin-Say 42.72 99 *e*P **P 23 58 19.8 +0.9**
EKS2 *e* 00 00 03.3
EKS2 pmax pmax
comp=Z,11nm,1.1s
EKS2 Erkin-Say 42.72 99 *e*P **P 23 58 19.8 +0.9**
comp=Z,11nm,1.1s
EKS2 Erkin-Say 42.72 99 *e*P **P 23 58 19.8 +0.9**
comp=Z,11nm,1.1s
EKS2 *e*PP PP 00 00 03.3 +5.5
AAK Ala-Archa 42.94 98 *e*P **P 23 58 22.5 +1.7**
AAK *e* 00 00 09.6
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 42.94 98 *e*P **P 23 58 22.5 +1.7**
comp=Z,14nm,1.3s
AAK Ala-Archa 42.94 98 *e*P **P 23 58 22.5 +1.7**
comp=Z,14nm,1.3s
AAK *e*PcP **PcP 00 00 09.6 -1.4**
PPLA Purkeypile 42.96 347 *e*P P 23 58 27.3 +6.6
comp=Z,86nm,1.7s
TKM2 Tokmak 2 42.98 97 P P 23 58 27.8 +6.6
SNR=6.8
TKM2 Tokmak 2 42.98 97 *e*P **P 23 58 22.3 +1.1**
TKM2 pmax pmax
comp=Z,14nm,1.0s
TKM2 Tokmak 2 42.98 97 *e*P **P 23 58 22.3 +1.1**
comp=Z,14nm,1.0s
TKM2 Tokmak 2 42.98 97 *e*P **P 23 58 22.3 +1.1**
comp=Z,14nm,1.0s
GEYT Alibeck 43.00 118 P **P 23 58 21.6 +0.4**
comp=Z,5.3nm,0.6s,baz=308,slow=11,SNR=14
GEYT PP **PP 23 59 59.4 -1.4**
comp=Z,6.6nm,1.1s,baz=337,slow=1.9,SNR=3.6
KBK Karagaybulak 43.05 98 P P 23 58 29.0 +7.3
SNR=6.9
AML Almayashu 43.19 99 P **P 23 58 23.7 +0.7**
SNR=9.7
AML Almayashu 43.19 99 *i* P **P 23 58 23.7 +0.7**
AML Almayashu 43.19 99 *i* P **P 23 58 23.7 +0.7**
UCH Uchtor 43.33 99 P P 23 58 31.3 +7.1
SNR=6.6
FFC Flin Flon 43.55 308 P **P 23 58 24.6 -0.7**
comp=Z,127nm,1.6s,SNR=7.0
FFC Flin Flon 43.55 308 *e*P **P 23 58 24.4 -0.9**
FFC pmax pmax
comp=Z,82nm,1.6s
FFC Flin Flon 43.55 308 *e*P **P 23 58 24.4 -0.9**
comp=Z,82nm,1.6s
FFC Flin Flon 43.55 308 *e*P **P 23 58 24.4 -0.9**
comp=Z,82nm,1.6s
HYT Haines Junctio 43.73 337 *e*P P 23 58 33.6 +6.8
ZAK Zakamensk 43.75 67 *e*P **P 23 58 26.5 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.7s
ZAK Zakamensk 43.75 67 *e*P **P 23 58 26.5 -0.6**
comp=Z,4.0nm,1.7s
PKME Peaks-Kenny Pk 43.83 275 *e*P **P 23 58 28.9 +1.2**
comp=Z,109nm,2.0s
RAGM Ragged Mountai 44.87 341 *e*P P 23 58 43.2 +7.3
comp=Z,206nm,1.7s
SVW2 Sparrevohn 44.94 349 *e*P P 23 58 43.8 +7.3
comp=Z,61nm,1.2s
RSO Redoubt South 45.41 347 *e*P P 23 58 45.7 +5.3
FRNY Flat Rock 45.42 278 *e*PP PP 00 00 31.2 +4.7
WMQ Urumqi 45.54 85 *e*P **P 23 58 44.5 +3.0**
WMQ pP **pP 23 58 48.8 +2.0**
WMQ sP **sP 23 58 51.2 +2.3**
WMQ PP **PP 00 00 31.0 +3.2**
WMQ *e*S **S 00 05 25.0 +2.6**
WMQ PMZ
comp=Z,18nm,1.0s
WMQ LN
comp=Z,2μm,16.2s
WMQ LE
comp=Z,2μm,16.2s
WMQ LZ
comp=Z,1μm,24.2s
LONY Lake Ozonia 45.90 279 *e*P **P 23 58 43.8 -0.4**
comp=Z,48nm,1.6s
PTN Potsdam (NY) 46.05 279 *e*P **P 23 58 45.9 +0.5**
PTN pmax pmax
comp=Z,180nm,2.1s
PTN Potsdam (NY) 46.05 279 *e*P **P 23 58 45.9 +0.5**
comp=Z,180nm,2.1s
MDV Middlebury 46.08 278 *e*P P 23 58 52.2 +6.7
KSH Kashi 46.25 98 P P 23 58 50.3 +3.1
KSH sP sP 23 58 57.1 +2.5
KSH PP **PP 00 00 38.8 +3.3**
KSH PcS **PcS 00 04 18.8 +1.8**
KSH S **S 00 05 36.6 +3.8**
KSH sS sS 00 05 44.2 +2.6
KSH ScS **ScS 00 08 43.1 +1.8**
KSH SS **SS 00 08 55.2 -2.5**
KSH PMZ
comp=Z,4.0nm,0.7s
KSH PMZ
comp=Z,20μm,13.5s
KSH LZ
comp=Z,9μm,14.4s
ULM Lac du Bonnet 46.28 301 P **P 23 58 46.0 -1.1**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 46.28 301 P **P 23 58 46.0 -1.1**
comp=Z,2.3nm,0.7s,baz=18,slow=8.3,SNR=4.4
ULM Lac du Bonnet 46.28 301 P **P 23 58 46.0 -1.1**
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 46.28 301 *e*P **P 23 58 46.5 -0.6**
ACCN Adirondack Com 46.78 278 *e*P **P 23 58 51.6 +0.4**
SONA0 Songino Array 46.90 66 *e*P **P 23 58 51.8 -0.3**
SONA0 *e*PcP **PcP 00 00 24.5 0.0**
SONM Songino Array 46.90 66 P **P 23 58 51.8 -0.3**
comp=Z,3.4nm,0.9s,baz=330,slow=7.4,SNR=14
SONM PcP **PcP 00 00 24.5 0.0**
comp=Z,1.3nm,1.1s,baz=344,slow=3.6,SNR=3.5
ULN Ulaanbaatar 47.04 66 *e*P **P 23 58 54.0 +0.7**
ULN pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 47.04 66 *e*P **P 23 58 54.0 +0.7**
comp=Z,22nm,1.2s
ULN Ulaanbaatar 47.04 66 *e*P **P 23 58 54.0 +0.7**
comp=Z,22nm,1.2s
EDM Edmonton 47.33 316 *e*P **P 23 58 56.0 +0.7**
EDM Edmonton 47.33 316 *e*P **P 23 58 56.0 +0.7**
EDM Edmonton 47.33 316 *e*P **P 23 58 56.0 +0.7**
EYMN Ely 47.33 296 *e*P **P 23 58 55.2 -0.2**
comp=Z,25nm,1.3s
TRY Troy 47.39 277 *e*P P 23 59 03.8 +8.0
comp=Z,97nm,2.0s
A30A Hoffart Farm, 48.08 302 ⇓P **P 23 59 00.9 -0.3**
baz=48
A29A Manning Farm, 48.32 303 ⇑P **P 23 59 03.5 +0.4**
baz=48
B30A Myrvik Farm, E 48.55 302 ⇑P **P 23 59 04.6 -0.2**
baz=48
B29A Wagenman Farm, 48.77 303 ⇓P **P 23 59 07.7 +1.1**
baz=49
A26A Wade Farm, Ken 49.00 305 ⇓P **P 23 59 08.6 +0.4**
baz=49
B28A Dugan Ranch, T 49.03 303 ⇑P **P 23 59 09.3 +0.8**
baz=49
A25A Svangstu Ranch 49.20 306 ⇓P **P 23 59 09.8 0.0**
baz=49
C30A Mcd, Pekin 49.28 302 ⇑P **P 23 59 10.2 -0.2**
baz=49
MDND Maddock 49.41 303 ⇑P **P 23 59 11.2 -0.2**
baz=49
A24A Westby 49.42 307 ⇑P **P 23 59 11.9 +0.4**
baz=49
B25A Knox Farm, Ray 49.84 306 ⇑P **P 23 59 15.2 +0.5**
baz=50
DGMT Dagmar 49.89 307 ⇓P **P 23 59 16.1 +1.1**
baz=50
DGMT Dagmar 49.89 307 *e*P P 23 59 21.4 +6.3
comp=Z,69nm,1.5s
C27A Sayler Ranch, 49.98 304 ⇑P **P 23 59 16.2 +0.4**
baz=50
A21A Bergtoll Ranch 50.00 309 ⇑P **P 23 59 16.0 +0.1**
baz=50
C26A Wahner Farm, P 50.02 305 ⇓P **P 23 59 15.8 -0.3**
baz=50
B23A Brookton 50.07 307 ⇑P **P 23 59 18.2 +1.7**
baz=50,SNR=5.6
SPMN Marine on St. 50.20 296 ⇑P **P 23 59 17.3 -0.1**
baz=50
SPMN Marine on St. 50.20 296 *e*P P 23 59 23.7 +6.3
comp=Z,122nm,1.9s
D28A Regan 50.25 303 ⇑P **P 23 59 18.3 +0.4**
baz=50
A20A Cobblestone Ra 50.32 310 ⇑P **P 23 59 18.0 -0.4**
baz=50
A19A Klindworth Far 50.45 311 ⇑P **P 23 59 20.3 +1.0**
baz=50,SNR=16
C23A Lambert 50.74 307 ⇓P **P 23 59 22.6 +1.0**
baz=51,SNR=6.2
B20A Solberg Farm, 50.76 310 ⇑P **P 23 59 22.0 +0.3**
baz=51
C24A Savage 50.83 306 ⇑P **P 23 59 22.6 +0.4**
baz=51
D26A Manning 50.84 305 ⇓P **P 23 59 22.7 +0.4**
baz=51
E28A Huff 50.86 303 ⇑P **P 23 59 22.9 +0.4**
baz=51
D25A Fairfield 50.93 305 ⇑P **P 23 59 22.0 -1.0**
baz=51
B19A Brinkman Farms 50.95 310 ⇓P **P 23 59 23.1 +0.1**
baz=51
C22A Vida 50.95 308 ⇓P **P 23 59 24.1 +1.0**
baz=51
C21A Desert Coulee 51.14 309 ⇓P **P 23 59 25.1 +0.6**
baz=51
D24A Glendive 51.20 306 ⇓P **P 23 59 25.3 +0.4**
baz=51
D23A Lindsay 51.34 307 ⇓P **P 23 59 26.4 +0.3**
baz=51
F29A Eureka 51.35 302 ⇑P **P 23 59 27.9 +1.8**
baz=51
E26A Carlson Angus 51.38 304 ⇑P **P 23 59 26.7 +0.4**
baz=51
WALA Waterton Lakes 51.40 315 *e*P **P 23 59 26.8 +0.3**
comp=Z,67nm,1.5s
C20A Veseth Ranch, 51.45 309 ⇑P **P 23 59 27.2 +0.3**
baz=51,SNR=16
EGMT Eagleton 51.53 311 ⇑P **P 23 59 27.6 +0.1**
baz=51
F28A McLaughlin 51.57 303 ⇓P **P 23 59 27.6 -0.2**
baz=51
D22A Cohagen 51.58 308 ⇓P **P 23 59 28.2 +0.4**
baz=51,SNR=5.9
C19A Slack Wire Ran 51.65 310 ⇑P **P 23 59 28.7 +0.3**
baz=52,SNR=20
F27A Lemmon 51.84 304 ⇓P **P 23 59 29.9 +0.1**
baz=52,SNR=5.1
G30A Faulkton 51.85 301 ⇑P **P 23 59 29.8 0.0**
baz=52
F26A Lodgepole 52.01 304 ⇓P **P 23 59 30.8 -0.3**
baz=52
D20A Manuel Ranch, 52.06 309 ⇑P **P 23 59 31.8 +0.3**
baz=52,SNR=14
F25A Bowman 52.12 305 ⇓P **P 23 59 32.9 +1.0**
baz=52
D19A Cripps Ranch, 52.16 310 ⇑P **P 23 59 32.3 +0.2**
baz=52
E22A Miles City 52.20 307 ⇓P **P 23 59 32.2 -0.3**
baz=52
G27A Dupree 52.28 303 ⇓P **P 23 59 34.2 +1.1**
baz=52
G28A Parade 52.33 302 ⇑P **P 23 59 33.2 -0.2**
baz=52
F24A Ekalaka 52.42 306 ⇓P **P 23 59 34.5 +0.3**
baz=52
BLMT Blacktail Moun 52.49 315 *e*P P 23 59 40.8 +6.0
G26A Maurine 52.52 304 ⇑P **P 23 59 34.9 0.0**
baz=52
ECSD EROS Data Cent 52.55 298 ⇑P **P 23 59 34.9 -0.1**
baz=52,SNR=10
ECSD EROS Data Cent 52.55 298 *e*P **P 23 59 35.0 0.0**
comp=Z,142nm,2.1s
YBMT Yellow Bay 52.56 314 *e*P **P 23 59 37.7 +2.5**
H29A Onida 52.58 302 ⇓P **P 23 59 36.4 +1.1**
baz=52
E20A Meyer Farm, Mu 52.62 309 ⇓P **P 23 59 35.9 +0.3**
baz=52,SNR=6.0
JTMT Jette 52.72 315 *e*P **P 23 59 39.2 +2.8**
BSMT Bassoo Peak 52.72 315 *e*P **P 23 59 37.5 +0.9**
F23A Volborg 52.76 306 ⇑P **P 23 59 37.0 +0.4**
baz=53
NEW Newport 52.78 317 *e*P **P 23 59 39.8 +3.0**
NEW pmax pmax
comp=Z,111nm,2.3s
NEW Newport 52.78 317 *e*P **P 23 59 39.8 +3.0**
comp=Z,111nm,2.3s
NEW Newport 52.78 317 ⇓P **P 23 59 36.4 -0.4**
baz=53,SNR=5.1
NEW Newport 52.78 317 *e*P **P 23 59 39.8 +3.0**
comp=Z,111nm,2.3s
E19A Rath Farm, Rou 52.80 310 ⇓P **P 23 59 36.6 -0.4**
baz=53,SNR=6.6
F22A Rosebud 52.89 307 ⇑P **P 23 59 36.7 -1.0**
baz=53
SWMT Swartz Lake 52.89 314 *e*P **P 23 59 38.4 +0.7**
GTA Gaotai 52.99 76 *e*P **P 23 59 40.5 +2.0**
GTA pP **pP 23 59 44.4 +0.5**
GTA sP **sP 23 59 47.5 +1.5**
GTA PMZ
comp=Z,8.0nm,1.0s
H27A Howes 53.02 303 ⇓P **P 23 59 39.6 +1.1**
baz=53
F21A Absaloka Mine, 53.04 308 ⇓P **P 23 59 39.1 +0.3**
baz=53
SLMT Seeley Lake 53.05 314 *e*P **P 23 59 39.4 +0.5**
B08A Colville Reser 53.11 319 *e*P P 23 59 42.6 +3.4
comp=Z,94nm,2.1s
I29A Vivian Onida 53.18 301 ⇓P **P 23 59 40.4 +0.7**
baz=53
H26A Fairpoint 53.20 304 ⇓P **P 23 59 40.2 +0.3**
baz=53
SFIN Lafayette 53.24 288 ⇑P **P 23 59 41.5 +1.4**
baz=53
G23A Biddle 53.25 306 ⇑P **P 23 59 40.9 +0.6**
baz=53
CHMT Chamberlain Mo 53.31 313 *e*P **P 23 59 41.2 +0.3**
H25A Fruitdale 53.38 304 ⇑P **P 23 59 42.3 +1.0**
baz=53
I28A Midland 53.40 302 ⇑P **P 23 59 42.5 +1.1**
baz=53
F19A Roth Farm, Mol 53.41 309 ⇑P **P 23 59 42.5 +0.9**
baz=53,SNR=6.6
G22A Birney 53.43 307 ⇓P **P 23 59 42.0 +0.3**
baz=53
H24A Dirks Ranch, A 53.48 305 ⇑P **P 23 59 42.4 +0.3**
baz=53
MSO Missoula 53.53 314 ⇓P **P 23 59 42.6 +0.2**
baz=53,SNR=18
MSO Missoula 53.53 314 *e*P **P 23 59 43.0 +0.6**
comp=Z,88nm,1.5s
I27A Quinn 53.55 303 ⇓P **P 23 59 42.9 +0.4**
baz=53
G21A Lodge Grass 53.63 308 ⇓P **P 23 59 43.9 +0.8**
baz=54
J30A Dallas 53.64 300 ⇓P **P 23 59 43.6 +0.5**
baz=54
J29A Okreek 53.76 301 ⇑P **P 23 59 45.8 +1.8**
baz=54
I26A New Underwood 53.77 304 ⇓P **P 23 59 44.4 +0.3**
baz=54
H23A Clabaugh Cattl 53.85 306 ⇓P **P 23 59 45.8 +1.0**
baz=54
G20A Bridger 53.86 309 ⇑P **P 23 59 45.1 +0.3**
baz=54,SNR=18
J28A Allard Ranch, 53.96 302 ⇑P **P 23 59 45.9 +0.4**
baz=54
I25A Rochford 53.98 304 ⇓P **P 23 59 45.7 -0.2**
baz=54
H22A Clearmont 54.04 307 ⇑P **P 23 59 45.8 -0.4**
baz=54
RAYN Ar Rayn 54.08 137 *e*P **P 23 59 46.7 +0.1**
comp=Z,23nm,1.7s
H21A Big Horn, Sher 54.16 307 ⇓P **P 23 59 47.3 +0.3**
baz=54
RLMT Red Lodge 54.18 309 *e*P **P 23 59 48.4 +1.1**
comp=Z,39nm,1.5s
BOZ Bozeman (W) 54.18 312 *e*P P 23 59 52.9 +5.7
BOZ Bozeman (W) 54.18 312 *e*pP P 23 59 52.9 +5.7
LRM Limekiln Ridge 54.19 312 *e*P **P 23 59 48.1 +0.8**
J27A Elkhorn Farm, 54.31 303 ⇓P **P 23 59 48.3 +0.3**
baz=54
K29A Lazy Trails An 54.37 301 ⇓P **P 23 59 48.9 +0.4**
baz=54
J26A Sides Ranch, S 54.50 304 ⇑P **P 23 59 49.8 +0.4**
baz=54
H20A Greybull 54.51 308 ⇓P **P 23 59 49.8 +0.3**
baz=54
H19A Powell 54.55 309 ⇓P **P 23 59 50.5 +0.6**
baz=54
J25A Sunshine Ranch 54.60 304 ⇓P **P 23 59 50.5 +0.4**
baz=54
H18A Shoshone NF, C 54.69 310 ⇑P **P 23 59 51.1 +0.1**
baz=54,SNR=6.7
I22A 9 Mile Ranch, 54.73 307 ⇑P **P 23 59 52.2 +1.0**
baz=55
HHC Hu-ho-hao-te 54.74 65 *e*P **P 23 59 54.0 +2.8**
HHC PP **PP 00 01 57.8 +4.3**
HHC S **S 00 07 30.9 +0.3**
HHC sS **sS 00 07 38.5 -1.0**
HHC SS **SS 00 11 12.9 -0.1**
HHC LN
comp=Z,8μm,18.5s
HHC LE
comp=Z,3μm,18.0s
HHC LZ
comp=Z,3μm,17.3s
J24A Dixon Ranch, L 54.85 305 ⇓P **P 23 59 53.1 +1.0**
baz=55
L30A Spencer Herefo 54.99 300 ⇓P **P 23 59 52.7 -0.3**
baz=55
I21A Big Trails, Te 54.99 307 ⇑P **P 23 59 52.7 -0.4**
baz=55
HAWA Hanford 55.04 318 *e*P **P 23 59 54.3 +1.1**
comp=Z,82nm,1.8s
I20A Worland 55.05 308 ⇑P **P 23 59 53.7 +0.3**
baz=55
L29A Maesberg Ranch 55.07 301 ⇓P **P 23 59 53.5 -0.1**
baz=55
K26A Motz Farm, Whi 55.10 303 ⇓P **P 23 59 54.2 +0.4**
baz=55
H17A Grant Village 55.16 310 ⇓P **P 23 59 54.5 +0.1**
baz=55
H17A Grant Village 55.16 310 *e*P **P 23 59 56.8 +2.4**
comp=Z,46nm,1.6s
I19A Meeteetse 55.16 309 ⇓P **P 23 59 54.3 -0.1**
baz=55
J22A Midwest 55.19 306 ⇓P **P 23 59 54.3 -0.2**
baz=55,SNR=6.0
MCMT McKenzie Canyo 55.22 312 *e*P **P 23 59 56.0 +1.2**
K25A Mack Ranch, Ha 55.35 304 ⇑P **P 23 59 55.6 -0.1**
baz=55
MDJ Mudanjiang 55.36 48 P **P 23 59 54.6 -1.0**
M31A Lambtecht Ranc 55.38 299 ⇑P **P 23 59 56.0 +0.2**
baz=55
J21A Lysite 55.47 307 ⇑P **P 23 59 57.1 +0.5**
baz=55,SNR=5.5
FLWY Flagg Ranch 55.48 310 *e*P **P 23 59 57.8 +1.1**
comp=Z,173nm,2.3s
J20A Shoshoni 55.60 308 ⇓P **P 23 59 57.7 +0.1**
baz=55
I17A Pilgrim Ck. 55.61 310 ⇑P **P 23 59 57.0 -0.6**
baz=55
K23A Bowen Ranch, D 55.62 305 ⇑P **P 23 59 58.3 +0.7**
baz=56
M29A Burnside Ranch 55.70 301 ⇑P **P 23 59 57.9 -0.2**
baz=56
IMW Indian Meadow 55.71 310 *e*P **P 23 59 59.5 +1.1**
comp=Z,16nm,0.9s
N32A Stulken Farm, 55.76 298 ⇓P **P 23 59 59.1 +0.5**
baz=56
L25A Engebretsen Ra 55.81 304 ⇓P **P 23 59 58.9 0.0**
baz=56
N31A Bailey Ranch, 55.87 299 ⇑P **P 23 59 59.2 -0.1**
baz=56
J19A Crowheart 55.90 309 ⇓P **P 23 59 59.7 0.0**
baz=56
LOHW Long Hollow 55.91 310 *e*P **P 00 00 01.3 +1.5**
comp=Z,54nm,1.8s
K22A Casper 55.92 306 ⇓P **P 23 59 59.8 0.0**
baz=56
K22A Casper 55.92 306 *e*P **P 23 59 59.1 -0.8**
comp=Z,24nm,0.9s
FXWY Fox Creek 55.98 310 *e*P **P 00 00 01.2 +0.9**
comp=Z,54nm,1.8s
G08A Pilot Rock 55.99 317 *e*P P 00 00 04.2 +4.0
comp=Z,101nm,2.1s
M27A Reverse DX Ran 56.03 302 ⇑P **P 00 00 00.5 0.0**
baz=56
BMO Blue Mountains 56.10 316 *e*P **P 23 59 59.8 -1.1**
comp=Z,35nm,1.5s

REDW **Red Top Meadow** 56.20 310 *e*P P 00 00 05.1 +3.3
comp=Z,41nm,1.5s
SIUC **Southern Illin** 56.31 289 *e*P **P** **00 00 01.5 -0.9**
comp=Z,21nm,0.9s
G05D **Wamic, OR** 56.48 319 ⇑P **P** **00 00 03.9 +0.3**
baz=56
PD31 **Pinedale Array** 56.49 309 *e*P **P** **00 00 03.5 -0.4**
PDAR **Pinedale Array** 56.49 309 P **P** **00 00 03.5 -0.4**
comp=Z,3.5nm,1.1s,baz=20,slow=4.7,SNR=9.4
L22A **Ellis Ranch, M** 56.49 306 ⇓P **P** **00 00 04.2 +0.2**
baz=56,SNR=5.7
Q37A **Longview Farm,** 56.58 294 ⇑P **P** **00 00 04.7 +0.4**
baz=56
KMSC **Kings Mountain** 56.59 281 ⇑P **P** **00 00 04.8 +0.3**
baz=56
KMSC **Kings Mountain** 56.59 281 *e*P P 00 00 10.6 +6.1
comp=Z,80nm,2.0s
O31A **Wooden Ranch,** 56.59 299 ⇑P **P** **00 00 04.9 +0.4**
baz=56
N28A **Pribbeno Ranch** 56.62 301 ⇑P **P** **00 00 04.9 +0.2**
baz=56
M24A **Cheyenne** 56.66 304 ⇑P **P** **00 00 05.5 +0.4**
baz=56
O30A **MW Ranch, Wils** 56.75 300 ⇓P **P** **00 00 05.4 -0.1**
baz=57
N27A **Anderson Farm,** 56.75 302 ⇓P P 23 59 60.0 -5.7
baz=57
HLID **Hailey** 56.76 313 ⇓P **P** **00 00 05.4 -0.3**
baz=57,SNR=6.0
HLID **Hailey** 56.76 313 *e*P **P** **00 00 05.9 +0.2**
comp=Z,95nm,2.1s
TKL **Tuckaleechee C** 56.78 283 *e*P P 00 00 12.0 +6.2
TKL **Tuckaleechee C** 56.78 283 *e*P P 00 00 11.9 +6.2
M23A **Laramie** 56.87 305 ⇑P **P** **00 00 07.2 +0.6**
baz=57
P32A **Huiting Farm,** 56.92 298 ⇓P **P** **00 00 07.1 +0.3**
baz=57
O29A **4D Ranch, Culb** 56.98 300 ⇓P **P** **00 00 07.1 -0.2**
baz=57
M22A **Cedar Creek Ra** 57.13 306 ⇓P **P** **00 00 07.9 -0.6**
baz=57
LZH **Lanzhou** 57.20 74 *e*P **P** **00 00 11.7 +2.7**
LZH pP **pP** **00 00 16.0 +1.6**
LZH sP **sP** **00 00 19.7 +3.2**
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,98nm,4.5s
R37A **Teagarden Farm** 57.21 294 ⇑P **P** **00 00 08.9 +0.1**
baz=57
O28A **Krutsinger Ran** 57.21 301 ⇑P **P** **00 00 08.6 -0.3**
baz=57
I07A **Izee** 57.26 318 *e*P **P** **00 00 12.3 +3.0**
comp=Z,89nm,1.9s
Q33A **Connelly Farm,** 57.32 297 ⇓P **P** **00 00 09.7 +0.1**
baz=57
O27A **Beecher Island** 57.32 302 ⇓P **P** **00 00 09.5 -0.2**
baz=57
N23A **Red Feather La** 57.46 305 ⇓P **P** **00 00 11.1 +0.2**
baz=57,SNR=7.5
N23A **Red Feather La** 57.46 305 *e*P **P** **00 00 11.2 +0.3**
comp=Z,93nm,1.6s
P29A **Atwood** 57.51 300 ⇓P **P** **00 00 11.2 +0.2**
baz=57
N22A **Wattenberg Ran** 57.67 305 ⇑P **P** **00 00 12.5 +0.2**
baz=58,SNR=5.9
Q31A **Ellis** 57.70 299 ⇑P **P** **00 00 12.5 +0.2**
baz=58
Q30A **Quinter** 57.93 299 ⇑P **P** **00 00 14.1 +0.1**
baz=58
S36A **Lake Cedric, C** 57.96 295 ⇓P **P** **00 00 14.2 +0.1**
baz=58
R33A **Olander Ranch,** 58.01 297 ⇓P **P** **00 00 13.9 -0.6**
baz=58
N20A **Spence Gulch,** 58.05 307 ⇑P **P** **00 00 14.7 -0.3**
baz=58
O23A **Lake Granby, G** 58.11 305 ⇑P **P** **00 00 15.5 0.0**
baz=58
P26A **Davis Ranch, A** 58.13 302 ⇓P **P** **00 00 15.5 +0.1**
baz=58
Q29A **Oakley** 58.19 300 ⇑P **P** **00 00 15.8 0.0**
baz=58
Q28A **Sharon Springs** 58.24 301 ⇑P **P** **00 00 15.1 -1.1**
baz=58
J05D **Fort Rock, OR** 58.35 319 ⇑P **P** **00 00 16.8 -0.2**
baz=58
S34A **Willow Spring** 58.36 296 ⇓P **P** **00 00 16.5 -0.4**
baz=58
P25A **Willow Gulch B** 58.37 303 ⇓P **P** **00 00 17.1 -0.1**
baz=58
R31A **Burdett** 58.41 299 ⇓P **P** **00 00 17.3 0.0**
baz=58
ISCO **Idaho Springs** 58.43 304 *e*P P 00 00 22.9 +5.2
ISCO pmax pmax
comp=Z,34nm,1.6s
ISCO **Idaho Springs** 58.43 304 ⇑P **P** **00 00 17.1 -0.6**
baz=58
ISCO **Idaho Springs** 58.43 304 *e*P P 00 00 22.9 +5.2
comp=Z,34nm,1.6s
KSCO **Kaye Shedlock'** 58.48 302 ⇓P **P** **00 00 17.6 -0.2**
baz=58
KSCO **Kaye Shedlock'** 58.48 302 *e*P P 00 00 23.7 +5.8
comp=Z,75nm,1.5s
R30A **Dighton** 58.60 299 ⇓P **P** **00 00 18.1 -0.5**
baz=58
WVOR **Wild Horse Val** 58.68 316 *e*P **P** **00 00 17.3 -2.0**
WVOR pmax pmax
comp=Z,9.0nm,1.2s
WVOR **Wild Horse Val** 58.68 316 *e*P **P** **00 00 17.3 -2.0**
comp=Z,9.0nm,1.2s
WVOR **Wild Horse Val** 58.68 316 *e*P **P** **00 00 17.2 -2.0**
comp=Z,9.4nm,1.2s
O20A **White River Ci** 58.71 307 ⇓P **P** **00 00 19.8 +0.3**
baz=58,SNR=5.3
O20A **White River Ci** 58.71 307 *e*P **P** **00 00 20.4 +0.8**
comp=Z,179nm,1.9s
GOGA **Godfrey** 58.81 282 *e*P **P** **00 00 21.8 +1.7**
GOGA pmax pmax
comp=Z,30nm,1.4s
GOGA **Godfrey** 58.81 282 *e*P **P** **00 00 21.8 +1.7**
comp=Z,30nm,1.4s
GOGA **Godfrey** 58.81 282 *e*P **P** **00 00 21.8 +1.7**
comp=Z,30nm,1.4s
P23A **Jefferson** 58.89 304 ⇑P **P** **00 00 20.6 -0.4**
baz=59
P22A **Eagle** 58.89 305 ⇓P **P** **00 00 20.4 -0.4**
baz=59
DANN **Dangsing** 58.91 96 *e*P **P** **00 00 20.5 -0.7**
comp=Z,28nm,0.7s
PYUN **Piuthan** 58.93 96 *e*P **P** **00 00 19.7 -1.5**
comp=Z,82nm,0.7s
Q24A **Divide** 59.12 304 *e*P P 00 00 28.1 +5.6
comp=Z,40nm,1.5s
R27A **Eads** 59.21 301 ⇑P **P** **00 00 23.1 +0.2**
baz=59
T33A **Patterson Ranc** 59.23 297 ⇓P **P** **00 00 23.6 +0.6**
baz=59
SMCO **Snowmass** 59.34 305 *e*P P 00 00 31.0 +6.8
comp=Z,45nm,1.6s
R26A **Arlington** 59.35 302 ⇑P **P** **00 00 24.3 +0.4**
baz=59
S29A **Ulysses** 59.43 300 ⇓P **P** **00 00 24.1 -0.4**
baz=59
MOD **Modoc Plateau** 59.52 318 *e*P **P** **00 00 27.9 +2.8**
comp=Z,70nm,1.9s
ELK **Elko** 59.63 313 *e*P **P** **00 00 27.9 +1.9**
ELK pmax pmax
comp=Z,43nm,1.8s
ELK **Elko** 59.63 313 *e*P **P** **00 00 27.9 +1.9**
comp=Z,43nm,1.8s
ELK **Elko** 59.63 313 *e*P **P** **00 00 27.9 +1.9**
comp=Z,43nm,1.8s
S28A **Manter** 59.65 300 ⇓P **P** **00 00 25.7 -0.3**
baz=60
DUG **Dugway, Tooele** 59.65 311 *e*P P 00 00 29.7 +3.7
DUG pmax pmax
comp=Z,19nm,1.4s
DUG **Dugway, Tooele** 59.65 311 ⇓P **P** **00 00 25.7 -0.3**
baz=60
DUG **Dugway, Tooele** 59.65 311 *e*P P 00 00 29.7 +3.7
comp=Z,19nm,1.4s
U34A **Anderson Ranch** 59.67 296 ⇓P **P** **00 00 26.3 +0.3**
baz=60
U34A **Anderson Ranch** 59.67 296 *e*P P 00 00 31.9 +5.9
comp=Z,108nm,1.8s
NLU **North Lily Min** 59.73 310 *e*P P 00 00 33.5 +6.9
comp=Z,126nm,2.4s
KKN **Kakani** 59.86 94 *e*P **P** **00 00 27.6 -0.1**
GUN **Gumba** 59.92 94 *e*P **P** **00 00 27.6 -0.6**
comp=Z,50nm,1.0s
R23A **Moffat** 60.01 304 ⇓P **P** **00 00 29.0 +0.4**
baz=60
PKI **Pulchoki** 60.11 94 *e*P **P** **00 00 29.2 -0.3**
comp=Z,34nm,1.1s
V35A **Meyer Ranch, C** 60.13 295 ⇓P **P** **00 00 30.0 +0.8**
baz=60
T28A **Walsh** 60.15 300 ⇓P **P** **00 00 30.2 +0.8**
baz=60
TMUT **Trail Mountain** 60.17 309 *e*P P 00 00 36.8 +7.0
comp=Z,170nm,2.2s
S25A **Robets Cordova** 60.19 303 ⇑P **P** **00 00 29.5 -0.3**
baz=60
SRU **San Rafael Swe** 60.20 308 *e*P P 00 00 36.1 +6.3
SRU pmax pmax
comp=Z,163nm,2.7s
SRU **San Rafael Swe** 60.20 308 *e*P P 00 00 36.1 +6.3
comp=Z,163nm,2.7s
V34A **Guthrie** 60.23 296 ⇓P **P** **00 00 30.1 +0.2**
baz=60
JIRN **Jiri** 60.24 93 *e*P **P** **00 00 30.0 -0.5**
comp=Z,25nm,0.7s
T27A **Campo** 60.35 301 ⇓P **P** **00 00 31.3 +0.5**
baz=60
V33A **Lossen Ranch,** 60.44 297 ⇓P **P** **00 00 31.5 +0.2**
baz=60
MIAR **Mount Ida** 60.44 292 *e*P P 00 00 36.6 +5.3
MIAR pmax pmax
comp=Z,69nm,1.5s
MIAR **Mount Ida** 60.44 292 *e*P P 00 00 36.6 +5.3
comp=Z,69nm,1.5s
XAN **Xi'an** 60.48 70 P **P** **00 00 29.9 -1.8**
XAN pP **pP** **00 00 35.6 -1.5**
S22A **4UR Ranch, Cre** 60.67 305 ⇑P **P** **00 00 34.2 +1.0**
baz=60
S22A **4UR Ranch, Cre** 60.67 305 *e*P P 00 00 39.3 +6.1
comp=Z,124nm,2.2s
PV01 **Paradox Valley** 60.70 306 *e*P **P** **00 00 34.4 +1.1**
TOA0 **Torodi Ar. Sit** 60.76 188 *e*P **P** **00 00 33.6 0.0**
TOA0 *e*PcP **PcP** **00 01 16.8 -0.7**
TORD **Torodi Ar. Bea** 60.76 188 P **P** **00 00 33.6 0.0**
comp=Z,13nm,0.9s,baz=354,slow=7.1,SNR=41
TORD PcP **PcP** **00 01 16.8 -0.7**
comp=Z,4.2nm,1.0s,baz=337,slow=2.6,SNR=3.9
TAPN **Taplejung** 60.96 92 *e*P **P** **00 00 34.5 -0.8**
comp=Z,99nm,1.7s
U27A **Thompson Grove** 60.99 301 ⇓P **P** **00 00 35.5 +0.4**
baz=61
RAMN **Ramite** 61.03 93 *e*P **P** **00 00 34.6 -1.1**
comp=Z,102nm,1.5s
MVU **Marysvale** 61.15 310 *e*P P 00 00 43.9 +7.6
comp=Z,80nm,1.9s
ODAN **Odare** 61.33 93 *e*P **P** **00 00 37.2 -0.5**
comp=Z,50nm,0.8s
MVCO **Mesa Verde** 61.56 306 ⇑P **P** **00 00 40.4 +1.2**
baz=61,SNR=8.8
MVCO **Mesa Verde** 61.56 306 *e*P **P** **00 00 41.2 +2.1**
comp=Z,88nm,1.7s
WMOK **Wichita Mounta** 61.59 297 *e*P **P** **00 00 39.5 +0.3**
WMOK pmax pmax
comp=Z,14nm,1.0s
WMOK **Wichita Mounta** 61.59 297 *e*P **P** **00 00 39.5 +0.3**
comp=Z,14nm,1.0s
WMOK **Wichita Mounta** 61.59 297 *e*P **P** **00 00 39.5 +0.3**
comp=Z,14nm,1.0s
V26A **Tequesquite Ra** 61.81 301 ⇓P **P** **00 00 41.3 +0.5**
baz=62
V25A **Rancho No Teng** 61.97 302 ⇓P **P** **00 00 43.0 +1.1**
baz=62
X31A **McDonald Ranch** 61.99 298 ⇓P **P** **00 00 42.7 +0.8**
baz=62
R11A **Troy Canyon, C** 62.01 312 ⇓P **P** **00 00 42.5 +0.4**
baz=62,SNR=17
R11A **Troy Canyon, C** 62.01 312 *e*P **P** **00 00 43.1 +1.0**
comp=Z,25nm,1.4s
X32A **Elmer** 62.02 297 ⇑P **P** **00 00 42.6 +0.6**
baz=62
CD2 **Chengdu** 62.06 76 *e*P **P** **00 00 43.4 +1.0**
CD2 pP **pP** **00 00 48.0 +0.2**
CD2 sP **sP** **00 00 50.4 +0.5**
CD2 PcS **PcS** **00 05 25.8 -0.1**
CD2 S **S** **00 09 05.0 -1.1**
CD2 sS **sS** **00 09 12.2 -2.9**
CD2 ScS **SKKSac** **00 10 31.5 -1.7**
CD2 SS **SS** **00 13 08.4 +0.3**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.8s
Y33A **Hilltop Ranch,** 62.25 296 ⇑P **P** **00 00 43.9 +0.4**
baz=62
CCUT **Cedar City** 62.31 310 *e*P **P** **00 00 46.2 +2.0**
comp=Z,40nm,1.4s
Y32A **R-V Farms, Ver** 62.46 297 ⇑P **P** **00 00 45.9 +1.0**
baz=62
NV01 **Mina Array Sit** 62.48 315 *e*P **P** **00 00 44.5 -0.8**
NVAR **Mina Array Bea** 62.48 315 P **P** **00 00 44.5 -0.8**
comp=Z,3.7nm,0.9s,baz=30,slow=5.1,SNR=5.3
KNB **Kanab** 62.71 310 *e*P **P** **00 00 48.7 +1.9**
KNB pmax pmax
comp=Z,89nm,1.9s
KNB **Kanab** 62.71 310 *e*P **P** **00 00 48.7 +1.9**
comp=Z,89nm,1.9s
KNB **Kanab** 62.71 310 *e*P **P** **00 00 48.7 +1.9**
comp=Z,89nm,1.9s
U15A **North Rim** 63.16 309 ⇑P **P** **00 00 50.2 +0.2**
baz=63
ANMO **Albuquerque** 63.26 304 *e*P **P** **00 00 51.6 +1.1**
ANMO pmax pmax
comp=Z,74nm,2.1s
ANMO **Albuquerque** 63.26 304 *e*P **P** **00 00 51.6 +1.1**
comp=Z,74nm,2.1s
ANMO **Albuquerque** 63.26 304 *e*P **P** **00 00 51.6 +1.1**
comp=Z,74nm,2.1s
MSTX **Muleshoe** 63.31 300 ⇑P **P** **00 00 50.8 +0.1**
baz=63
TPNV **Topopah Spring** 63.50 313 *e*P **P** **00 00 50.5 -1.5**
TPNV **Topopah Spring** 63.50 313 *e*P **P** **00 00 50.5 -1.5**
TPNV **Topopah Spring** 63.50 313 *e*P **P** **00 00 50.5 -1.5**
MTUM **Tungsten Hills** 63.58 315 *e*P P 00 01 00.1 +7.5
133A **Hamilton Ranch** 63.65 296 ⇓P **P** **00 00 53.0 +0.1**
baz=64
SHPR **Sheep Range** 63.70 312 *e*P P 00 01 00.1 +6.7
Z29A **Hungry Hill Ra** 63.73 299 ⇑P **P** **00 00 53.7 +0.3**
baz=64
ABTX **Abilene, Hawle** 63.82 297 ⇓P **P** **00 00 54.7 +0.6**
baz=64
WUAZ **Wupatki** 63.83 308 ⇑P **P** **00 00 54.8 +0.5**
baz=64
WUAZ **Wupatki** 63.83 308 *e*P **P** **00 00 57.1 +2.9**
comp=Z,63nm,1.8s
LENM **Lemitar** 64.13 304 *e*P P 00 01 04.4 +8.2
232A **Coleman** 64.52 296 ⇑P **P** **00 00 59.5 +0.9**
baz=64
128A **Castleberry Fa** 64.53 299 ⇓P **P** **00 00 59.5 +0.8**
baz=64
MPMC **Manual Prospec** 64.61 313 ⇓P **P** **00 00 60.0 +0.6**
baz=64
231A **Bronte** 64.64 297 ⇓P **P** **00 01 00.3 +0.9**
baz=64
334A **Lometa** 64.69 295 ⇓P **P** **00 01 00.2 +0.4**
baz=65
W13A **Hualapai Mount** 64.78 310 ⇓P **P** **00 01 00.9 +0.3**
baz=65
MAJO **Matsushiro** 64.87 43 *e*P **P** **00 00 59.5 -1.3**
MAJO pmax pmax
comp=Z,158nm,2.6s
MAJO **Matsushiro** 64.87 43 *e*P **P** **00 00 59.5 -1.3**
comp=Z,158nm,2.6s
MAJO **Matsushiro** 64.87 43 *e*P **P** **00 00 59.5 -1.3**
comp=Z,158nm,2.6s
MJAR **Matsushiro Arr** 64.87 43 P **P** **00 00 59.5 -1.4**
comp=Z,0.6nm,0.3s,baz=356,slow=3.9,SNR=3.5
230A **Sterling City** 64.89 298 ⇑P **P** **00 01 01.7 +0.6**
baz=65
333A **Richland Sprin** 64.89 296 ⇑P **P** **00 01 01.6 +0.5**
baz=65
229A **Bryant Ranch,** 64.99 298 ⇑P **P** **00 01 02.5 +0.8**
baz=65
332A **Millersview** 65.03 296 ⇓P **P** **00 01 02.9 +0.9**
baz=65
WWPM **Walker Pass** 65.04 314 *e*P **P** **00 00 59.9 -2.2**
ISA **Isabella, Lake** 65.19 314 *e*P P 00 01 10.2 +7.2
ISA pmax pmax
comp=Z,45nm,1.5s
ISA **Isabella, Lake** 65.19 314 ⇓P **P** **00 01 02.5 -0.6**
baz=65
ISA **Isabella, Lake** 65.19 314 *e*P P 00 01 10.2 +7.2
comp=Z,45nm,1.5s
434A **Burnet** 65.20 295 ⇑P **P** **00 01 03.3 +0.3**
baz=65
GSC **Goldstone, Bar** 65.20 313 *e*P P 00 01 10.3 +7.2
GSC pmax pmax
comp=Z,31nm,1.5s
GSC **Goldstone, Bar** 65.20 313 ⇑P **P** **00 01 02.5 -0.6**
baz=65
GSC **Goldstone, Bar** 65.20 313 *e*P P 00 01 10.3 +7.2
comp=Z,31nm,1.5s
LRMC **Laurel Mtn Rad** 65.21 313 ⇑P **P** **00 01 03.1 -0.1**
baz=65
WHN **Wuhan** 65.21 66 P **P** **00 01 02.7 -0.4**
331A **San Angelo** 65.27 297 ⇓P **P** **00 01 03.7 +0.1**
baz=65
433A **Art** 65.46 296 ⇓P **P** **00 01 05.2 +0.4**
baz=65
GMRC **Granite Mounta** 65.47 312 ⇓P **P** **00 01 05.4 +0.6**
baz=65
329A **Wagon Wheel Ra** 65.49 298 ⇓P **P** **00 01 05.8 +0.8**
baz=65
432A **Menard** 65.52 296 ⇑P **P** **00 01 06.0 +0.8**
baz=65
PDMCI **Parker Dam,Lak** 65.61 310 ⇑P **P** **00 01 05.5 -0.1**
baz=65
SMMC **Simmler** 65.84 315 ⇓P **P** **00 01 07.0 -0.2**
baz=66
121A **Cookes Peak, D** 65.88 304 ⇓P **P** **00 01 07.8 +0.1**
baz=66
JCT **Junction City** 65.90 296 *e*P **P** **00 01 09.9 +2.3**
JCT pmax pmax
comp=Z,66nm,1.6s
JCT **Junction City** 65.90 296 *e*P **P** **00 01 09.9 +2.3**
comp=Z,66nm,1.6s
JCT **Junction City** 65.90 296 ⇑P **P** **00 01 08.2 +0.5**
baz=66
JCT **Junction City** 65.90 296 *e*P **P** **00 01 09.9 +2.3**
comp=Z,66nm,1.6s
431A **Sonora** 65.91 297 ⇑P **P** **00 01 08.6 +0.9**
baz=66
IRM **Iron Mountain** 65.95 311 ⇓P **P** **00 01 08.3 +0.3**
baz=66
430A **Baggett Ranch,** 65.97 298 ⇓P **P** **00 01 08.8 +0.7**
baz=66
534A **Blanco** 66.00 295 ⇑P **P** **00 01 08.5 +0.3**
baz=66
533A **Kerrville** 66.10 295 ⇓P **P** **00 01 09.1 +0.2**
baz=66
532A **Rocksprings** 66.27 296 ⇑P **P** **00 01 10.0 0.0**
baz=66
429A **Davenport Ranc** 66.29 298 ⇑P **P** **00 01 11.1 +1.0**
baz=66
BFSC **Mount Baldy Ra** 66.40 313 ⇑P **P** **00 01 11.0 +0.1**
baz=66
530A **J-C Ranch, Com** 66.60 297 ⇑P **P** **00 01 13.1 +0.9**
baz=66
CHNC **Chino** 66.64 313 *e*PKiKP **PKiKP** **00 07 43.2 +1.8**
633A **Saathoff Ranch** 66.72 295 ⇑P **P** **00 01 13.8 +1.0**
baz=67
632A **Uvalde** 66.83 296 ⇓P **P** **00 01 14.8 +1.2**
baz=67
529A **Stev Forest Ra** 66.85 298 ⇓P **P** **00 01 14.7 +1.0**
baz=67
GLA **Glamis** 66.95 310 *e*P P 00 01 22.6 +8.3
GLA pmax pmax
comp=Z,41nm,0.6s
GLA **Glamis** 66.95 310 *e*P P 00 01 22.6 +8.3
comp=Z,41nm,0.6s
GYA **Guiyang** 67.07 74 ⇑*i*P **P** **00 01 14.5 -0.7**
GYA PP **PP** **00 03 45.8 +3.2**
GYA ScP 00 05 46.2
GYA S **S** **00 10 07.4 -0.7**
GYA SKS **SKSac** **00 11 09.0 -2.4**
GYA SS **SS** **00 14 27.2 +0.9**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,140nm,4.9s
GYA LN
comp=Z,580nm,19.2s
GYA LE
comp=Z,540nm,20.4s
GYA LZ
comp=Z,560nm,18.8s
KMI **Kunming** 67.26 79 P **P** **00 01 19.5 +2.9**
KMI PMZ
comp=Z,12nm,1.4s
WESC **Westside Schoo** 67.43 311 *e*PKiKP PKiKP 00 07 47.9 +5.4
ERPC **Ernies Place** 67.43 311 *e*PKiKP **PKiKP** **00 07 47.4 +4.9**
DBIC **Dimbokro** 67.54 194 *e*P **P** **00 01 18.1 -0.1**
DBIC pmax pmax
comp=Z,41nm,1.6s
DBIC **Dimbokro** 67.54 194 P **P** **00 01 18.0 -0.1**
comp=Z,5.2nm,0.9s,baz=345,slow=5.3,SNR=4.9
DBIC **Dimbokro** 67.54 194 *e*P **P** **00 01 18.1 -0.1**
comp=Z,41nm,1.6s
DBIC **Dimbokro** 67.54 194 *e*P **P** **00 01 18.1 -0.1**
comp=Z,41nm,1.6s
YUH **Yuha Desert** 67.58 311 *e*PKiKP PKiKP 00 07 48.8 +6.1
TIC **Toumodi** 67.58 195 *e*P **P** **00 01 17.7 -0.7**
comp=Z,4.7nm,0.2s
KIC **Kosan Boka** 67.84 194 *e*P **P** **00 01 19.6 -0.4**
comp=Z,79nm,1.3s
LTX **Lajitas** 67.96 299 *e*P **P** **00 01 20.6 -0.2**
LTX **Lajitas** 67.96 299 *e*P **P** **00 01 20.6 -0.2**
LTX **Lajitas** 67.96 299 *e*P **P** **00 01 20.6 -0.2**
TXAR **Lajitas Array** 67.96 299 P **P** **00 01 20.6 -0.2**
comp=Z,2.8nm,1.1s,baz=42,slow=6.3,SNR=13
LIC **Lamto** 68.00 195 *e*P **P** **00 01 18.2 -2.8**
comp=Z,34nm,1.2s,baz=12
LIC **Lamto** 68.00 195 *e*P **P** **00 01 20.5 -0.5**
comp=Z,39nm,1.2s
LIC **Lamto** 68.00 195 *e*P **P** **00 01 18.2 -2.8**
comp=Z,17nm,1.2s,baz=12
LIC **Lamto** 68.00 195 *e*P **P** **00 01 18.2 -2.8**
comp=Z,34nm,1.2s
832A **Faith Ranch, C** 68.04 296 ⇓P **P** **00 01 22.1 +0.9**
baz=68
CRAI **Chiangrai** 71.25 82 P P 00 01 37.7 -3.4
comp=Z,540nm,4.1s
CHTO **Chiang Mai** 72.20 84 *e*P **P** **00 01 46.1 -0.7**
CHTO pmax pmax
comp=Z,36nm,1.6s
CHTO **Chiang Mai** 72.20 84 *e*P **P** **00 01 46.1 -0.7**
comp=Z,36nm,1.6s
CHTO **Chiang Mai** 72.20 84 *e*P **P** **00 01 46.1 -0.7**
comp=Z,36nm,1.6s
CHTO **Chiang Mai** 72.20 84 P **P** **00 01 46.2 -0.6**
comp=Z,1μm,1.9s
CMMT **Chiang Mai** 72.20 84 P **P** **00 01 46.2 -0.6**
comp=Z,220nm,1.5s
CM31 **Chiang Mai Arr** 72.54 84 *e*P **P** **00 01 47.5 -1.3**
CMAR **Chiang Mai Arr** 72.54 84 P **P** **00 01 47.5 -1.3**
comp=Z,0.8nm,0.3s,baz=335,slow=6.4,SNR=12
CBIJ **Chichi jima** 74.81 42 *e*P P 00 01 58.0 -4.0
comp=Z,63nm,0.9s
PBKT **Sadao Pong** 74.90 83 P **P** **00 02 02.6 0.0**
comp=Z,18μmcomp=Z,525nm,1.1s
UTHA **Uthaitani** 75.44 85 P **P** **00 02 06.5 +0.8**
SRDT **SRDT** 76.50 85 P P 00 02 17.6 +5.8
KMBO **Kilima Mbogo** 76.86 150 *ce*P **P** **00 02 16.1 +2.0**
KMBO **Kilima Mbogo** 76.86 150 P **P** **00 02 14.7 +0.5**
comp=Z,0.4nm,0.3s,baz=121,slow=7.8,SNR=3.3
KMBO **Kilima Mbogo** 76.86 150 *e*P **P** **00 02 16.1 +2.0**
SDV **Santo Domingo** 78.49 262 *e*P **P** **00 02 24.0 +0.8**
comp=Z,3.2nm,1.1s
ROSC **El Rosal** 83.36 264 P **P** **00 02 51.4 +1.9**
comp=Z,8.7nm,0.7s,baz=268,slow=16,SNR=4.7
OTAV **Otavalo** 88.92 267 *e*P **P** **00 03 18.7 +1.8**
comp=Z,28nm,1.4s
WRA **Warramunga Arr** 118.68 60 PKP **PKPdf** **00 09 07.5 -2.1**
comp=Z,0.6nm,0.9s,baz=324,slow=2.7,SNR=5.1
AS12 **Alice Springs** 122.15 62 *e*PKPdf **PKPdf** **00 09 14.3 -1.9**
AS12 *e*PKKPbc **PKKPab** **00 19 12.3 -0.5**
ASAR **Alice Springs** 122.15 62 PKP **PKPdf** **00 09 14.3 -1.9**
comp=Z,1.0nm,0.6s,baz=346,slow=2.0,SNR=14
ASAR PKKPab **PKKPab** **00 19 12.3 -0.5**
comp=Z,0.3nm,0.3s,baz=145,slow=4.6,SNR=4.9
PLCA **Paso Flores** 125.69 247 PKIKP **PKPdf** **00 09 23.0 +0.5**
PLCA **Paso Flores** 125.69 247 PKP **PKPdf** **00 09 22.9 +0.5**
comp=Z,2.6nm,0.9s,baz=41,slow=0.3,SNR=3.7
VNA1 **Neumayer--Stat** 144.62 190 P PKPbc 00 09 55.2 -0.1
VNA2 **Neumayer--Watz** 144.86 189 P **PKPab** **00 09 55.8 -0.3**
baz=354,slow=5.7
VNA3 **Neumayer Olymp** 145.28 190 P **PKPbc** **00 09 57.2 -0.4**

SNAA	**Sanae**	**145.43 186**	P	PKPdf	00 09 45.8	-12
MAW	**Mawson**	**145.47 147**	PKPbc	**PKPdf**	**00 09 57.6**	**-0.4**

comp=Z,8.0nm,0.9s,baz=332,slow=6.3,SNR=4.5

DJA 06 23:52:33.3±0.7, 2°N±4°×9°7E±°, h24km±13km, M3.5/4, MLv3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.82**	**345**	P	Pb	23 52 45.4	-3.6
TPTI				S	Sn	23 53 02.2	+1.3
SNSI	**Sinabang, Aceh**	**1.07**	**267**	P	Pb	23 52 54.7	+1.5
SNSI				S	Sb	23 53 05.3	-1.5
KCSI	**Kotacane, Aceh**	**1.12**	**19**	P	Pn	23 52 53.5	0.0
KCSI				S	Sn	23 53 07.4	-0.8
MNSI	**Mandailing Nat**	**2.73**	**127**	P	Pn	23 53 15.9	+0.2

*CSEM **06** 23:53:19.8, 37°65N×25°14W, h0km, ML1.9*

PDA 06 23:53:19.8±1.0, 37°65N×25°14W, h0km±10km, MD3.5, ML1.9, Error ellipse: s-maj=9.7km s-min=2.7km az=57.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.13**	**350**	*i* P	Pg	23 53 22.2	-0.2
BART				*e*S	Sg	23 53 24.6	+0.4
BART				A	A	23 53 25.4	
	401nm,0.2s						
GRON	**Grota Negra**	**0.33**	**291**	*e*P	Pg	23 53 24.0	-2.3
GRON				*e*S	Sg	23 53 27.9	-2.7
GRON				A	A	23 53 30.6	
	14nm,0.2s						
PDA	**Ponta Delgada**	**0.42**	**283**	*e*P	Pg	23 53 27.5	-0.4
PDA				*e*S	Sg	23 53 33.6	+0.1
PDA				A	A	23 53 35.2	
	52nm,0.2s						
PDA	**Ponta Delgada**	**0.42**	**283**	*e*P	Pg	23 53 27.5	-0.4
PDA				*e*S	Sg	23 53 33.6	+0.1
PSET	**Sete Cidades**	**0.49**	**291**	*e*P	Pg	23 53 28.3	-1.0
PSET				*e*S	Sg	23 53 35.5	-0.2
PSET				A	A	23 53 38.0	
	27nm,0.3s						
PSET	**Sete Cidades**	**0.49**	**291**	*e*P	Pg	23 53 28.3	-1.0
PSET				*e*S	Sg	23 53 35.5	-0.2
PSMN	**Pico do Norte,**	**0.65**	**175**	*e*P	Pg	23 53 31.3	-1.0
PSMN				*e*S	Sg	23 53 39.9	-0.8
PSMN				A	A	23 53 40.5	
	18nm,0.2s						
PSMN	**Pico do Norte,**	**0.65**	**175**	*e*P	Pg	23 53 31.3	-1.0
PSMN				*e*S	Sg	23 53 39.9	-0.8
PSMA	**Santa Maria**	**0.65**	**179**	*e*P	Pg	23 53 31.3	-1.0
PSMA				*e*S	Sg	23 53 39.9	-0.9
PSMA				A	A	23 53 41.3	
	20nm,0.5s						

*IDC **06** 23:55:46.5±1.5, 2°01N×96°38E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/40, mbtmp3.9/9, Error ellipse: s-maj=72.0km s-min=19.4km az=52.0*

*DJA **06** 23:55:51.4±0.8, 2°N±7°×9°7E±°, h10km, M4.1/5, MLv4.1/5*

ISC 06 23:55:51.7±0.9, 2°25N±0°09×96°53E±0°07, h28km, n20, σ1§12/16, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.25**	**308**	P	**Pn**	**23 55 59.3**	**-0.3**
SNSI				S	**Sn**	**23 56 06.9**	**+2.3**
TPTI		**1.20**	**33**	P	**Pn**	**23 56 12.8**	**+0.2**
KCSI	**Kotacane, Aceh**	**1.77**	**45**	P	**Pb**	**23 56 23.8**	**+0.2**
LHMI	**Lhok Sumawe**	**2.99**	**8**	P	**Pb**	**23 56 41.8**	**-2.5**
MNSI	**Mandailing Nat**	**3.38**	**115**	P	**Pn**	**23 56 42.9**	**+0.3**
MNSI				S	**Sn**	**23 57 22.3**	**+0.5**
H08S2	**Diego Garcia H**	**25.91**	**247**	T	T	00 27 49.7	
	baz=68,slow=75,SNR=55						
H08S3	**Diego Garcia H**	**25.92**	**248**	T	T	00 27 51.3	
	baz=68,slow=75,SNR=52						
H08S1	**Diego Carcia H**	**25.93**	**247**	T	T	00 27 52.1	
	baz=68,slow=75,SNR=60						
H01W3	**Cape Leeuwin H**	**40.47**	**157**	T	T	00 46 12.3	
	baz=333,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**40.48**	**157**	T	T	00 46 26.1	
	baz=333,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**40.48**	**157**	T	T	00 46 26.4	
	baz=333,slow=76,SNR=13						
WRA	**Warramunga Arr**	**43.16**	**123**	P	**P**	**00 03 49.2**	**-1.1**
	0.6nm,0.5s,baz=302,slow=9.0,SNR=7.9						
ASAR	**Alice Springs**	**44.56**	**128**	P	**P**	**00 04 00.3**	**-1.2**
	0.4nm,0.5s,baz=302,slow=7.7,SNR=5.9						
MKAR	**Makanchi Array**	**46.07**	**346**	P	**P**	**00 04 13.7**	**+0.6**
	2.3nm,0.6s,baz=160,slow=7.9,SNR=24						
SONM	**Songino Array**	**46.20**	**9**	P	**P**	**00 04 15.4**	**+1.1**
	0.5nm,0.5s,baz=190,slow=10.0,SNR=4.4						
GEYT	**Alibeck**	**49.98**	**320**	P	**P**	**00 04 43.4**	**-0.2**
	0.9nm,0.7s,baz=163,slow=10,SNR=3.6						
KURBB	**Kurchatov Arra**	**50.55**	**345**	P	**P**	**00 04 47.9**	**+0.3**
	0.6nm,0.2s,baz=170,slow=6.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**52.42**	**351**	P	**P**	**00 05 02.0**	**+0.5**
	4.5nm,0.5s,baz=180,slow=7.1,SNR=24						
FINES	**FINESS Array B**	**78.76**	**333**	P	**P**	**00 07 51.5**	**0.0**
	0.6nm,0.7s,baz=95,slow=6.9,SNR=3.7						
ARCES	**ARCESS Array B**	**81.33**	**340**	P	**P**	**00 08 05.3**	**+0.1**
	2.3nm,1.0s,baz=67,slow=3.2,SNR=4.8						

DJA 07 00:07:04.2±2.5, 2°N±10°×9°7E±1°6, h51km±42km, M3.5/4, MLv3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.48**	**319**	P	Pn	00 07 17.2	+1.9
TPTI		**1.33**	**24**	P	Pn	00 07 25.7	-0.7
TPTI				S	Sn	00 07 42.3	-0.7
KCSI	**Kotacane, Aceh**	**1.86**	**37**	P	Pn	00 07 33.3	-0.3
KCSI				S	Sn	00 07 58.0	+2.0
MNSI	**Mandailing Nat**	**3.19**	**113**	P	Pn	00 07 51.5	-0.4

*ISCJB **07** 00:08:52.0±1.1, 2°01N±0°06×96°40E±0°09, h28km, mb3.8/5, Error ellipse: s-maj=13.7km s-min=7.0km az=148.9*

*DJA **07** 00:08:52.3±0.9, 2°N±5°×9°7E±°, h10km, M3.7/4, mb3.5/1, MLv3.8/4*

*IDC **07** 00:08:53.5±2.0, 2°87N×97°59E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/35, mbtmp3.8/5, Error ellipse: s-maj=108.9km s-min=20.9km az=53.0*

ISC 07 00:08:51.9±1.3, 1°97N±0°08×96°61E±0°07, h28km, n15, σ2§05/10, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.52**	**328**	P	**Pb**	**00 09 01.2**	**-1.4**
SNSI				S	**Sb**	**00 09 07.5**	**-2.4**
TPTI		**1.41**	**24**	P	**Pb**	**00 09 17.6**	**0.0**
TPTI				S	**Sb**	**00 09 34.4**	**-0.7**
KCSI	**Kotacane, Aceh**	**1.94**	**37**	P	**Pb**	**00 09 25.7**	**-0.9**
MNSI	**Mandailing Nat**	**3.19**	**111**	P	**Pb**	**00 09 46.3**	**-1.6**
MNSI				S	**Sb**	**00 10 23.7**	**-2.7**
H08S2	**Diego Garcia H**	**25.88**	**248**	T	T	00 40 58.0	
	baz=68,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**25.88**	**248**	T	T	00 40 58.5	
	baz=68,slow=75,SNR=19						
H08S1	**Diego Carcia H**	**25.90**	**248**	T	T	00 40 59.3	
	baz=68,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**40.17**	**157**	T	T	00 59 23.0	
	baz=333,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**40.19**	**157**	T	T	00 59 28.7	
	baz=333,slow=76,SNR=6.3						
H01W1	**Cape Leeuwin H**	**40.19**	**157**	T	T	00 59 24.4	
	baz=333,slow=76,SNR=3.1						
WRA	**Warramunga Arr**	**42.94**	**122**	P	**P**	**00 16 51.9**	**+3.2**
	0.3nm,0.5s,baz=299,slow=8.5,SNR=5.8						
ASAR	**Alice Springs**	**44.33**	**127**	P	P	00 17 03.6	+3.7
	0.2nm,0.4s,baz=311,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**46.36**	**346**	P	**P**	**00 17 16.0**	**+0.3**
	0.6nm,0.4s,baz=160,slow=8.8,SNR=15						
GEYT	**Alibeck**	**50.25**	**320**	P	P	00 17 51.7	+5.9
	0.8nm,0.5s,baz=134,slow=8.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**52.72**	**351**	P	**P**	**00 18 04.3**	**+0.4**
	2.1nm,0.4s,baz=173,slow=7.1,SNR=10						

*IDC **07** 00:13:53.2±0.9, 1°92N×96°41E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=44.0km s-min=19.3km az=57.0*

*ISCJB **07** 00:13:56.1±0.7, 1°91N±0°06×96°56E±0°08, h28km, mb3.8/9, Error ellipse: s-maj=12.1km s-min=8.2km az=157.0*

*DJA **07** 00:13:58.8±0.7, 2°N±5°×9°7E±°, h10km, M4.3/6, MLv4.3/6*

ISC 07 00:13:57.8±0.8, 2°10N±0°08×96°62E±0°08, h28km, n25, σ1§10/20, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.42**	**316**	P	**Pn**	**00 14 08.4**	**+0.3**
SNSI				S	**Sn**	**00 14 16.9**	**+2.0**
TPTI		**1.28**	**26**	P	**Pb**	**00 14 20.7**	**-0.6**
TPTI				S	**Sb**	**00 14 38.0**	**+0.7**
KCSI	**Kotacane, Aceh**	**1.82**	**39**	P	**Pb**	**00 14 30.0**	**-0.5**
LHMI	**Lhok Sumawe**	**3.12**	**6**	P	**Pb**	**00 14 49.7**	**-3.0**
MNSI	**Mandailing Nat**	**3.23**	**114**	P	**Pn**	**00 14 47.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.41**	**8**	Pn	**P**	**00 17 48.2**	**-0.7**
	0.4nm,0.3s,baz=201,slow=12,SNR=6.6						
H08S2	**Diego Garcia H**	**25.95**	**248**	T	T	00 46 11.6	
	baz=68,slow=75,SNR=59						
H08S3	**Diego Garcia H**	**25.95**	**248**	T	T	00 46 12.0	
	baz=68,slow=75,SNR=42						
H08S1	**Diego Carcia H**	**25.96**	**248**	T	T	00 46 13.4	
	baz=68,slow=75,SNR=61						
H08N1	**Diego Carcia H**	**26.91**	**252**	T	T	00 47 06.1	
	baz=229,slow=77,SNR=25						
H08N2	**Diego Garcia H**	**26.91**	**252**	T	T	00 47 06.8	
	baz=229,slow=77,SNR=22						
H08N3	**Diego Garcia H**	**26.93**	**252**	T	T	00 47 06.7	
	baz=229,slow=77,SNR=19						
H01W3	**Cape Leeuwin H**	**40.30**	**158**	T	T	01 04 06.2	
	baz=333,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**40.31**	**158**	T	T	01 04 08.2	
	baz=333,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**40.31**	**157**	T	T	01 04 09.7	
	baz=333,slow=76,SNR=16						
WRA	**Warramunga Arr**	**43.00**	**122**	P	**P**	**00 21 54.9**	**-0.3**
	1.1nm,0.7s,baz=300,slow=9.1,SNR=6.8						
ASAR	**Alice Springs**	**44.40**	**127**	P	**P**	**00 22 06.8**	**+0.4**
	0.2nm,0.4s,baz=312,slow=8.5,SNR=3.2						
ASAR				PcP	**PP**	**00 23 49.1**	**-1.2**
	0.3nm,0.5s,baz=323,slow=2.9,SNR=3.4						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**00 22 21.2**	**+0.6**
	2.2nm,0.7s,baz=161,slow=7.8,SNR=23						
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**00 22 22.6**	**+1.1**
	0.4nm,0.5s,baz=190,slow=8.3,SNR=5.7						
SONM				PcP	**PcP**	**00 23 57.1**	**+0.7**
	0.2nm,0.6s,baz=200,slow=2.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**52.58**	**351**	P	**P**	**00 23 09.6**	**+0.7**
	2.8nm,0.5s,baz=178,slow=6.8,SNR=19						
BRTR	**Keskin Array B**	**68.08**	**312**	P	**P**	**00 24 54.7**	**-0.7**
	0.5nm,0.7s,baz=110,slow=8.4,SNR=4.0						
FINES	**FINESS Array B**	**78.94**	**333**	P	**P**	**00 25 59.0**	**+0.4**
	0.6nm,0.5s,baz=96,slow=5.7,SNR=7.2						
ARCES	**ARCESS Array B**	**81.50**	**340**	P	**P**	**00 26 12.6**	**+0.3**
	2.5nm,0.9s,baz=95,slow=5.4,SNR=6.8						
GERES	**GERESS Array B**	**83.76**	**319**	P	**P**	**00 26 23.9**	**-0.8**
	0.7nm,0.9s,baz=98,slow=2.8,SNR=5.7						
CFAA	**Coronel Fontan**	**147.36**	**204**	PKPbc	**PKPbc**	**00 33 39.3**	**-0.4**
	0.4nm,0.6s,baz=138,slow=1.9,SNR=3.5						

*IDC **07** 00:18:08.2±4.0, 1°63N×97°30E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/38, mbtmp3.7/4, Error ellipse: s-maj=155.4km s-min=27.2km az=57.0*

*DJA **07** 00:18:15.7±0.7, 2°N±4°×9°7E±°, h10km, M3.5/4, MLv3.5/4*

ISC 07 00:18:12.4±1.1, 1°63N±0°07×97°31E±0°07, h30km, n14, σ1§47/11, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.25**	**308**	P	**Pb**	**00 18 36.4**	**+1.0**
SNSI				S	**Sn**	**00 18 46.1**	**-3.6**
TPTI		**1.62**	**355**	P	**Pb**	**00 18 42.0**	**+0.3**
TPTI				S	**Sb**	**00 19 02.9**	**+1.2**
KCSI	**Kotacane, Aceh**	**1.93**	**14**	P	**Pb**	**00 18 45.7**	**-1.3**
KCSI				S	**Sn**	**00 19 06.7**	**+0.2**
MNSI	**Mandailing Nat**	**2.41**	**110**	P	**Pb**	**00 18 55.0**	**-0.2**
H08S2	**Diego Garcia H**	**26.42**	**249**	T	T	00 50 50.2	
	baz=70,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**26.42**	**249**	T	T	00 50 51.0	
	baz=70,slow=75,SNR=46						
H08S1	**Diego Carcia H**	**26.44**	**249**	T	T	00 50 52.1	
	baz=70,slow=75,SNR=56						
H08N1	**Diego Carcia H**	**27.43**	**253**	T	T	00 52 49.5	
	baz=96						
H08N2	**Diego Garcia H**	**27.43**	**253**	T	T	00 52 50.6	
	baz=96						
H08N3	**Diego Garcia H**	**27.45**	**253**	T	T	00 52 49.0	
	baz=96						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**00 26 02.9**	**+0.2**
	0.4nm,1.1s,baz=300,slow=8.8,SNR=2.4						
SONM	**Songino Array**	**46.69**	**8**	P	**P**	**00 26 38.9**	**+0.4**
	0.7nm,0.7s,baz=190,slow=8.3,SNR=7.8						
MKAR	**Makanchi Array**	**46.85**	**346**	P	**P**	**00 26 40.0**	**+0.3**
	1.1nm,0.5s,baz=161,slow=9.0,SNR=25						
ZALV	**Zalesovo Beam**	**53.15**	**351**	P	**P**	**00 27 27.4**	**0.0**
	0.7nm,0.4s,baz=166,slow=6.7,SNR=6.5						

NEIC 07 00:21:17.8, 32°02N×115°21W, h5km, ML3.5(PAS), 4C-4D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSC	**East Mesa**	**0.74**	**15**	⇑P	Pg	00 21 31.3	-0.7
SGL	**Mount Signal**	**0.76**	**325**	⇓P	Pg	00 21 32.0	-0.4
DREC	**Desert Rsrch C**	**0.81**	**346**	⇑P	Pg	00 21 33.1	-0.1
DREC				S	Sg	00 21 44.1	+0.4
ERPC	**Ernies Place**	**0.81**	**332**	⇑P	Pg	00 21 33.1	-0.3
COA	**Coachella**	**0.84**	**5**	⇓P	Pg	00 21 32.8	-1.2
WESC	**Westside Schoo**	**0.86**	**329**	⇓P	Pg	00 21 34.0	-0.2
WESC				S	Sg	00 21 45.0	-0.4
COK	**Cook Ranch**	**0.93**	**332**	⇑P	Pg	00 21 34.8	-0.9
CRR	**Carrizo Plain**	**1.07**	**324**	⇓P	Pg	00 21 37.3	-1.1
GLA	**Glamis**	**1.08**	**18**	*e*Pg	Pg	00 21 36.8	-1.8
GLA				*e*Sg	Sg	00 21 47.8	-4.8
PFO	**Pinyon Flats O**	**1.90**	**327**	*e*Pn	Pn	00 21 48.2	-2.8

*IDC **07** 00:33:02.4±3.9, 2°26N×96°70E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/36, mbtmp3.6/4, Error ellipse: s-maj=149.8km s-min=28.4km az=57.0*

*ISCJB **07** 00:33:03.3±1.1, 1°98N±0°07×96°35E±0°10, h28km, mb3.6/4, Error ellipse: s-maj=13.9km s-min=10.0km az=13.2*

*DJA **07** 00:33:06.8±1.3, 2°N±8°×9°6E±1°0, h34km±4km, M3.2/4, MLv3.2/4*

ISC 07 00:33:05.4±1.4, 2°09N±0°10×96°52E±0°08, h28km, n14, σ0§62/12, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.37**	**329**	P	**Pb**	**00 33 13.8**	**0.0**
SNSI				S	**Sn**	**00 33 20.7**	**-0.6**
TPTI		**1.34**	**30**	P	**Pb**	**00 33 30.4**	**+0.5**
TPTI				S	**Sb**	**00 33 46.7**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.89**	**41**	P	**Pb**	**00 33 38.2**	**-1.2**
KCSI				S	**Sb**	**00 34 03.1**	**+0.5**
LHMI	**Lhok Sumawe**	**3.15**	**8**	P	**Pn**	**00 33 52.7**	**-0.5**
LHMI				S	**Sn**	**00 34 30.7**	**+0.9**
H08S2	**Diego Garcia H**	**25.85**	**248**	T	T	01 05 16.8	
	baz=69,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**25.85**	**248**	T	T	01 05 17.2	
	baz=69,slow=75,SNR=42						
H08S1	**Diego Carcia H**	**25.86**	**248**	T	T	01 05 18.7	
	baz=69,slow=75,SNR=33						
H01W3	**Cape Leeuwin H**	**40.32**	**157**	T	T	01 23 32.0	
	baz=332						
H01W2	**Cape Leeuwin H**	**40.33**	**157**	T	T	01 23 33.2	
	baz=332						
H01W1	**Cape Leeuwin H**	**40.34**	**157**	T	T	01 23 32.0	
	baz=332						
WRA	**Warramunga Arr**	**43.08**	**122**	P	**P**	**00 41 03.9**	**+0.5**
	0.3nm,0.7s,baz=302,slow=9.1,SNR=5.5						
MKAR	**Makanchi Array**	**46.22**	**346**	P	**P**	**00 41 28.0**	**-0.1**
	0.4nm,0.4s,baz=156,slow=9.6,SNR=17						
SONM	**Songino Array**	**46.36**	**9**	P	**P**	**00 41 29.2**	**-0.1**
	0.2nm,0.6s,baz=185,slow=8.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**52.58**	**351**	P	**P**	**00 42 16.6**	**+0.1**
	1.5nm,0.4s,baz=171,slow=6.5,SNR=11						

IDC 07 00:35:30.7±8.6, 2°39N×96°91E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/34, mbtmp3.5/3, Error ellipse: s-maj=402.7km s-min=28.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.32**	**248**	T	T	01 07 37.3	
	baz=68,slow=75,SNR=9.2						
H08S3	**Diego Garcia H**	**26.32**	**248**	T	T	01 07 33.1	
	baz=68,slow=75,SNR=8.2						
H08S1	**Diego Carcia H**	**26.34**	**248**	T	T	01 07 35.5	
	baz=68,slow=75,SNR=7.0						
H01W3	**Cape Leeuwin H**	**40.45**	**158**	T	T	01 26 09.2	
	baz=332						
H01W2	**Cape Leeuwin H**	**40.47**	**158**	T	T	01 26 10.3	
	baz=332						
H01W1	**Cape Leeuwin H**	**40.47**	**158**	T	T	01 26 12.0	
	baz=332						
WRA	**Warramunga Arr**	**42.92**	**123**	P	P	00 43 31.4	-0.2
	0.1nm,0.5s,baz=301,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**46.02**	**346**	P	P	00 43 55.8	-0.2
	0.3nm,0.4s,baz=156,slow=9.3,SNR=11						
ZALV	**Zalesovo Beam**	**52.34**	**351**	P	P	00 44 44.2	0.0
	0.8nm,0.5s,baz=166,slow=6.7,SNR=5.7						

SKHL 07 00:37:59.6±0.4, 53°02N×142°90E, h10km, mb3.5/4, 1C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.53**	**2**	*e*Pg	Pn	00 38 13.0	-0.2
OKH				⇑*i*Sg	Sn	00 38 22.0	-0.2
OKH				A	A	00 38 22.9	
	2um,0.5s						
NKL	**Nikolayevsk**	**1.34**	**276**	*i* Pg	Pg	00 38 26.5	+1.1
NKL				AMB	AMB	00 38 27.7	
	13nm,0.3s						
NKL				*e*Sg	Sg	00 38 45.5	+2.7
NKL				A	A	00 38 53.0	
	240nm,0.5s						
TYV	**Tymovskoe**	**2.17**	**184**	*e*Pg	Pg	00 38 43.0	+1.9
TYV				AMB	AMB	00 38 47.5	
	11nm,0.8s						
TYV				*e*Sg	Sg	00 39 13.5	+4.3
TYV				A	A	00 39 22.5	
	31nm,0.8s						
GRNR	**Gornyy**	**4.60**	**243**	*e*Pg	Pg	00 39 30.4	+2.6
GRNR				AMB	AMB	00 39 31.5	
	10.0nm,0.7s						
GRNR				*e*Sg	Sg	00 40 34.0	+6.6
GRNR				A	A	00 40 34.4	
	13nm,0.4s						
EKMR	**Ekimchan**	**6.00**	**274**	*e*Pg	Pg	00 39 58.0	+3.4
EKMR				AMB	AMB	00 39 58.5	
	4.0nm,0.5s						
EKMR				*e*Sg	Sg	00 41 17.5	+5.2
EKMR				A	A	00 41 18.5	
	8.0nm,0.6s						
YASR	**Yasnyy**	**8.97**	**278**	*e*Sg	Sg	00 42 41.2	-6.2
YASR				A	A	00 42 55.6	
	5.0nm,0.7s						

*IDC **07** 00:42:58.8±9.2, 2°74N×97°33E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/32, mbtmp3.5/3, Error ellipse: s-maj=441.6km s-min=28.1km az=55.0*

*DJA **07** 00:42:59.2±0.6, 3°N±7°×9°6E±°, h10km, M3.6/4, MLv3.6/4*

ISC 07 00:43:01.3±1.6, 2°28N±0°07×96°9E±0°2, h33km, n9, σ1§20/7, mb3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.00**	**14**	P	Pn	00 43 13.4	-5.7
TPTI				S	**Sn**	**00 43 30.7**	**-1.4**
KCSI	**Kotacane, Aceh**	**1.49**	**34**	P	**Pb**	**00 43 29.1**	**+0.6**
KCSI				S	**Sb**	**00 43 47.1**	**+0.1**
MNSI	**Mandailing Nat**	**3.03**	**119**	P	**Pb**	**00 43 53.9**	**-0.7**
H01W3	**Cape Leeuwin H**	**40.34**	**158**	T	T	01 33 32.9	
	baz=333,slow=76,SNR=3.1						
H01W2	**Cape Leeuwin H**	**40.35**	**158**	T	T	01 33 33.9	
	baz=333,slow=76,SNR=4.3						
H01W1	**Cape Leeuwin H**	**40.35**	**158**	T	T	01 33 35.1	
	baz=333,slow=76,SNR=3.2						
WRA	**Warramunga Arr**	**42.83**	**123**	P	**P**	**00 50 58.2**	**+1.5**
	0.3nm,0.9s,baz=301,slow=9.0,SNR=3.4						
MKAR	**Makanchi Array**	**46.13**	**346**	P	**P**	**00 51 22.1**	**-0.5**
	0.3nm,0.4s,baz=156,slow=9.1,SNR=11						
ZALV	**Zalesovo Beam**	**52.46**	**351**	P	**P**	**00 52 10.1**	**-0.6**
	0.8nm,0.5s,baz=184,slow=6.9,SNR=6.1						

*KRNET **07** 01:14:34.7±0.1, 40°89N×74°88E, h2km, mb2.8*

*NNC **07** 01:14:37.3±1.1, 40°85N×74°83E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.6km s-min=4.3km az=122.0*

ISC 07 01:14:35.6±1.4, 40°90N±0°04×74°92E±0°03, h1km±12km, n37, σ1§02/48, 20C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.83**	**269**	*e*P	**Pg**	**01 14 49.8**	**-1.7**
	baz=269						
SALK				*e*S	**Sg**	**01 15 00.5**	**-1.8**
	baz=269						
NRN	**Naryn**	**0.98**	**57**	⇓*i*P	**Pg**	**01 14 53.9**	**-0.5**
	baz=57						
ARLS	**Aral**	**1.06**	**335**	⇓*i*P	**Pg**	**01 14 55.0**	**-0.9**
	baz=336						
ARLS				⇓*i*S	**Sg**	**01 15 09.3**	**-0.3**
	baz=336						
KZA	**Kyzart**	**1.20**	**12**	⇑P	**Pb**	**01 14 58.8**	**-0.7**
	SNR=87						
KZA	**Kyzart**	**1.20**	**12**	⇑*i*P	**Pb**	**01 14 58.8**	**-0.7**
	baz=13						
KZA				⇑*i*S	**Sb**	**01 15 15.8**	**+0.1**
	baz=13						
UCH	**Uchtor**	**1.36**	**347**	P	**Pn**	**01 15 01.5**	**-0.7**
	SNR=46						
UCH	**Uchtor**	**1.36**	**347**	⇑*i*P	**Pn**	**01 15 01.6**	**-0.7**
	baz=348						
SFK	**Sufi-Kurgan**	**1.40**	**231**	⇓P	**Pn**	**01 15 01.1**	**-1.4**
	11nm,0.4s						
SFK				⇓S	**Sn**	**01 15 20

TKM2				⇑*i*	S		**Sg**	**01 15 42.6**	**+0.1**
	baz=15								
KDJ	**Kajisay**	**2.10**	**53**	*e*P			**Pb**	**01 15 15.0**	**+0.4**
	baz=54								
KDJ				*e*S			**Sg**	**01 15 43.4**	**+0.4**
	baz=54								
CHMS	**Chumysh**	**2.10**	**357**	P			**Pb**	**01 15 14.9**	**+0.4**
	SNR=20								
USP	**Ospenovka**	**2.38**	**353**	P			**Pb**	**01 15 20.1**	**+0.7**
	SNR=60								
ARK	**Arkit**	**2.40**	**293**	*e*P			**Pb**	**01 15 21.0**	**+1.4**
	baz=293								
ARK				*e*S			**Sg**	**01 15 53.2**	**+0.6**
	baz=293								
MNAS	**Manas**	**2.40**	**312**	⇑Pn			**Pb**	**01 15 19.7**	**0.0**
	6.1nm,0.3s								
MNAS				⇑Lg			Lg	01 15 51.8	
	22nm,0.5s								
KNDC	**Almaty**	**2.77**	**33**	⇑Pn			**Pb**	**01 15 27.7**	**+1.6**
	32nm,0.8s								
KNDC				⇓Lg			Lg	01 16 05.5	
	97nm,0.6s								
BTK	**Batken**	**3.24**	**256**	*e*P			**Pg**	**01 15 38.0**	**+0.4**
	baz=256								
BTK				*e*S			**Sg**	**01 16 22.2**	**+2.6**
	baz=256								
KK31	**Karatay Array**	**3.95**	**305**	Pg			**Pb**	**01 15 46.8**	**+0.7**
	0.6nm,0.3s,baz=126,slow=16,SNR=23								
KK31				Lg			Lg	01 16 37.9	
	2.5nm,0.3s,baz=123,slow=30,SNR=11								
PDGK	**Podgornoye**	**4.18**	**53**	⇑Pg			**Pb**	**01 15 51.4**	**+1.6**
	6.9nm,0.7s								
PDGK				⇓Lg			Lg	01 16 47.9	
	26nm,0.7s								
DZET	**Dzherino**	**5.13**	**248**	⇓Pn			**Pn**	**01 15 53.3**	**-0.5**
	0.8nm,0.3s								
DZET				⇓Pg			**Pb**	**01 16 07.3**	**+1.0**
	1.2nm,0.3s								
DZET				⇓Sn			**Sn**	**01 16 56.0**	**+2.3**
	4.9nm,0.5s								
DZET				⇑Lg			Lg	01 17 20.3	
	15nm,0.8s								
OTUK	**Ortayu**	**7.57**	**347**	⇑Sn			Sn	01 17 59.6	+6.0
	0.7nm,0.5s								
OTUK				⇑Lg			Lg	01 18 36.1	
	10nm,0.9s								
MK31	**Makanchi Array**	**7.94**	**40**	⇑Lg			Lg	01 18 48.5	
	3.1nm,0.9s,baz=224,slow=27,SNR=4.3								
KURBB	**Kurchatov Arra**	**10.04**	**13**	⇑Lg			Lg	01 19 54.9	
	7.7nm,0.9s								
KURK	**Kurchatov**	**10.15**	**13**	⇑Lg			Lg	01 19 58.4	
	3.7nm,1.4s								

*IDC **07** 01:21:40.1±0.9, 37.17S×73.89W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/23, mbtmp4.1/7, ML3.6/2, Error ellipse: s-maj=30.1km s-min=17.6km az=79.0*
*ISCJB **07** 01:21:42.6±0.4, 37.16S±0.04×73.96W±0.06, h33km, mb4.2/19, Error ellipse: s-maj=6.4km s-min=5.2km az=5.8*
*GUC **07** 01:21:42.3±0.6, 37.17S×73.99W, h45km±2km, ML3.8*
*NEIC **07** 01:21:43.0±2.5, 37.16S×73.91W, h22km±16km, mb4.4/17, Error ellipse: s-maj=13.5km s-min=6.1km az=74.0*
ISC 07 01:21:44.8±0.5,**37.16S**±0.05×**73.90W**±0.08,**h35**km,**n52,** σ0**84**/62,**mb4.2**/19,**1C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.70**	**64**	⇓*i* P	**Pn**	**01 21 57.1**	**-1.2**
CCSP				*i* S	**Sn**	**01 22 08.3**	**+0.4**
CCSP				AML	AML	01 22 12.5	
	comp=N,7μm,0.3s						
AGCH	**Angol**	**1.16**	**125**	*e*P	**Pn**	**01 22 03.6**	**-0.9**
AGCH				*i* S	**Sn**	**01 22 19.5**	**+0.4**
COCH	**Cobquecura**	**1.36**	**41**	⇓*i* P	**Pn**	**01 22 06.0**	**-1.2**
COCH				*i* S	**Sn**	**01 22 23.8**	**-0.2**
LNCH	**Linares**	**2.27**	**56**	*e*P	**Pn**	**01 22 18.8**	**-0.9**
LNCH				*i* S	**Sn**	**01 22 46.6**	**+0.1**
VLCH	**Valdivia**	**2.70**	**169**	*i* S	**Sn**	**01 22 55.1**	**-2.0**
PLCA	**Paso Flores**	**4.42**	**145**	Pn	**Pn**	**01 22 49.2**	**-0.3**
	comp=N,2.1nm,0.3s,baz=326,slow=13,SNR=19						
PLCA				Lg	Lg	01 24 00.5	
	comp=N,3.6nm,0.3s,baz=307,slow=4.9,SNR=3.5						
PLCA	**Paso Flores**	**4.42**	**145**	*e*Pn	**Pn**	**01 22 49.0**	**-0.5**
PLCA				*e*Lg	Lg	01 23 55.8	
PEL	**Peldehue**	**4.79**	**34**	⇑*i* P	**Pn**	**01 22 53.7**	**-0.9**
ROCH	**El Roble**	**4.80**	**30**	⇓*i* P	**Pn**	**01 22 53.8**	**-1.0**
CFAA	**Coronel Fontan**	**7.25**	**42**	Pn	**Pn**	**01 23 27.1**	**-1.2**
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=8.4						
CFAA				Sn	**Sn**	**01 24 48.2**	**-1.1**
	comp=N,0.1nm,0.3s,baz=216,slow=13,SNR=3.5						
LCO	**Las Campanas**	**8.55**	**19**	*e*Pn	**Pn**	**01 23 45.0**	**-1.4**
	comp=N,9.5nm,0.6s						
TRQA	**Tornquist**	**9.50**	**99**	*e*Pn	**Pn**	**01 23 59.0**	**-0.2**
	comp=N,14nm,1.0s						
LVC	**Limon Verde**	**15.12**	**18**	*e*Pn	**Pn**	**01 25 15.3**	**-0.8**
	comp=N,6.6nm,0.7s						
LPAZ	**La Paz**	**21.40**	**15**	P	**P**	**01 26 31.5**	**+1.2**
	comp=N,8.0nm,0.8s,baz=180,slow=0.7,SNR=18						
LPAZ	**La Paz**	**21.40**	**15**	*e*P	**P**	**01 26 31.8**	**+1.6**
	comp=N,15nm,1.1s						
SIV	**San Ignacio**	**23.95**	**32**	P	**P**	**01 26 56.2**	**+0.3**
	comp=N,3.2nm,0.7s,baz=230,slow=12,SNR=10						
SAML	**Samuel**	**29.71**	**22**	*e*P	**P**	**01 27 48.1**	**+0.5**
	comp=N,6.3nm,1.3s						
OTAV	**Otavalo**	**37.44**	**352**	*e*P	**P**	**01 28 54.5**	**-0.8**
	comp=N,1.6nm,0.5s						
SDV	**Santo Domingo**	**45.90**	**4**	*e*P	**P**	**01 30 04.0**	**-0.2**
SNAA	**Sanae**	**49.27**	**157**	*e*P	**P**	**01 30 29.2**	**-0.5**
	comp=N,8.6nm,1.0s						
QSPA	**South Pole Qui**	**53.09**	**180**	P	**P**	**01 30 59.6**	**+1.1**
	comp=N,3.5nm,1.1s,baz=168,slow=0.8,SNR=5.1						
QSPA	**South Pole Qui**	**53.09**	**180**	*e*P	**P**	**01 30 58.6**	**+0.1**
	comp=N,8.3nm,1.1s						
HKT	**Hockley**	**69.85**	**340**	*e*P	**P**	**01 32 51.7**	**0.0**
	comp=N,9.4nm,1.3s						
GOGA	**Godfrey**	**70.77**	**352**	*e*P	**P**	**01 32 57.6**	**+0.3**
	comp=N,3.7nm,0.9s						
TXAR	**Lajitas Array**	**71.79**	**333**	P	**P**	**01 33 04.8**	**+1.1**
	comp=N,0.7nm,0.7s,baz=155,slow=8.5,SNR=11						
WVT	**Waverly**	**74.05**	**348**	*e*P	**P**	**01 33 17.1**	**+0.3**
	comp=N,2.3nm,0.9s						
MNTX	**Cornudas Mount**	**74.56**	**332**	*e*P	**P**	**01 33 18.6**	**-1.3**
	comp=N,2.5nm,1.2s						
WMOK	**Wichita Mounta**	**75.18**	**339**	*e*P	**P**	**01 33 23.7**	**+0.2**
	comp=N,1.1nm,0.9s						
DBIC	**Dimbokro**	**77.62**	**72**	P	**P**	**01 33 38.2**	**+0.4**
	comp=N,5.8nm,1.0s,baz=210,slow=7.4,SNR=5.3						
DBIC	**Dimbokro**	**77.62**	**72**	*e*P	**P**	**01 33 37.6**	**-0.2**
	comp=N,7.3nm,1.0s						
ANMO	**Albuquerque**	**77.86**	**333**	*e*P	**P**	**01 33 38.8**	**-0.1**
	comp=N,1.6nm,1.0s						
TSUM	**Tsumeb**	**79.80**	**106**	*e*P	**P**	**01 33 50.1**	**+0.1**
	comp=N,7.8nm,1.1s						
LBTB	**Lobatse**	**82.34**	**115**	*e*P	**P**	**01 34 03.5**	**+0.1**
	comp=N,10.0nm,1.1s						
DUG	**Dugway, Tooele**	**84.86**	**331**	*e*P	**P**	**01 34 16.1**	**+0.3**
	comp=N,4.7nm,1.3s						
TOA0	**Torodi Ar. Sit**	**86.69**	**71**	*e*P	**P**	**01 34 24.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**86.69**	**71**	P	**P**	**01 34 25.7**	**+0.4**
	comp=N,0.9nm,0.7s,baz=219,slow=5.0,SNR=11						
TAM	**Tamanrasset**	**95.53**	**66**	*e*P	**P**	**01 35 05.2**	**-1.3**
	comp=N,1.8nm,1.2s						
WRA	**Warramunga Arr**	**117.28**	**210**	PKP	**PKPdf**	**01 40 26.4**	**-0.5**
	comp=N,0.5nm,0.8s,baz=158,slow=1.7,SNR=4.3						
COEN	**Coen**	**118.34**	**222**	*e*PKPdf	**PKPdf**	**01 40 28.1**	**-1.0**
BUR08	**Bucovina Ar. S**	**121.90**	**52**	*e*PKPdf	**PKPdf**	**01 40 35.5**	**+0.6**
KAPI	**Kappang**	**136.16**	**200**	*e*PKPdf	**PKPdf**	**01 41 03.4**	**+0.4**
GEYT	**Alibeck**	**142.28**	**74**	PKP	**PKPdf**	**01 41 15.5**	**+2.1**
	comp=N,0.9nm,0.6s,baz=267,slow=2.6,SNR=3.4						
ABKAR	**Akbulak array**	**144.78**	**55**	*e*PKPdf	**PKPdf**	**01 41 17.4**	**0.0**
KULM	**Kulim**	**147.90**	**170**	*e*PKPdf	**PKPdf**	**01 41 23.6**	**-0.2**
KULM				*e*PKPbc	**PKPbc**	**01 41 27.1**	**+0.3**
KULM				*e*PKPab	**PKPab**	**01 41 30.0**	**+0.7**
BVAR	**Borovoye Array**	**150.59**	**46**	PKPbc	**PKPbc**	**01 41 33.4**	**+1.1**
	comp=N,1.5nm,0.8s,baz=270,slow=5.8,SNR=8.2						
KKAR	**Karatay Array**	**152.29**	**66**	*e*PKPbc	**PKPbc**	**01 41 36.9**	**+0.3**
TKM2	**Tokmak 2**	**156.03**	**67**	*e*PKPdf	**PKPdf**	**01 41 36.4**	**+1.1**
TKM2				*e*PKPbc	PKPbc	01 41 45.3	
TKM2				*e*PKPab	**PKPab**	**01 42 03.1**	**+0.3**
KURK	**Kurchatov**	**156.18**	**47**	*e*PKPdf	**PKPdf**	**01 41 34.7**	**-0.2**
ZAA0	**Zalesovo Array**	**157.69**	**34**	*e*PKPdf	**PKPdf**	**01 41 36.6**	**-0.2**
ZALV	**Zalesovo Beam**	**157.69**	**34**	PKP	**PKPdf**	**01 41 35.2**	**-1.6**
	comp=N,0.8nm,0.8s,baz=290,slow=4.4,SNR=3.7						
ZALV				PKPab	**PKPab**	**01 42 09.4**	**+0.1**
	comp=N,1.0nm,0.5s,baz=328,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**159.91**	**54**	PKP	**PKPdf**	**01 41 40.9**	**+1.1**
	comp=N,0.7nm,1.0s,baz=226,slow=3.2,SNR=3.7						
MKAR				PKPab	**PKPab**	**01 42 19.9**	**+0.5**
	comp=N,0.6nm,0.8s,baz=316,slow=3.3,SNR=6.5						
ULN	**Ulaanbaatar**	**169.27**	**357**	*e*PKPdf	**PKPdf**	**01 41 48.5**	**+0.4**

*IDC **07** 01:24:56.6±2.6, 2.01N×96.58E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/32, mbtmp3.7/5, Error ellipse: s-maj=107.5km s-min=27.4km az=56.0*
*ISCJB **07** 01:24:59.9±1.0, 2.02N±0.08×96.62E±0.08, h28km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=9.9km az=144.4*
*DJA **07** 01:25:00.0±1.6, 2°N±9°×9°6E±1°3, h56km±15km, M3.4/4, MLv3.4/4*
ISC 07 01:25:01.5±1.1,**2.12N**±0.08×**96.58E**±0.07,**h28**km,**n15,** σ0**89**/12,**mb3.8**/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.38**	**319**	P	**Pn**	**01 25 11.0**	**-0.2**
SNSI				S	**Sn**	**01 25 19.3**	**+1.6**
TPTI		**1.29**	**28**	P	**Pn**	**01 25 22.8**	**-0.8**
TPTI				S	**Sn**	**01 25 39.7**	**-0.3**
KCSI	**Kotacane, Aceh**	**1.84**	**40**	P	**Pn**	**01 25 31.7**	**+0.4**
KCSI				S	**Sb**	**01 25 58.0**	**+0.9**
MNSI	**Mandailing Nat**	**3.27**	**114**	P	**Pn**	**01 25 51.9**	**+0.9**
H08S2	**Diego Garcia H**	**25.91**	**248**	T	T	01 57 17.8	
	baz=69,slow=75,SNR=63						
H08S3	**Diego Garcia H**	**25.91**	**248**	T	T	01 57 15.7	
	baz=69,slow=75,SNR=54						
H08S1	**Diego Garcia H**	**25.93**	**248**	T	T	01 57 17.1	
	baz=69,slow=75,SNR=54						
H01W3	**Cape Leeuwin H**	**40.32**	**157**	T	T	02 15 35.5	
	baz=331,slow=74,SNR=3.0						
H01W2	**Cape Leeuwin H**	**40.34**	**157**	T	T	02 15 33.3	
	baz=331,slow=74,SNR=4.5						
H01W1	**Cape Leeuwin H**	**40.34**	**157**	T	T	02 15 29.0	
	baz=331						
WRA	**Warramunga Arr**	**43.05**	**122**	P	**P**	**01 32 57.9**	**-1.3**
	0.6nm,0.7s,baz=300,slow=9.3,SNR=7.1						
MKAR	**Makanchi Array**	**46.21**	**346**	P	**P**	**01 33 24.1**	**+0.1**
	0.5nm,0.4s,baz=163,slow=9.0,SNR=12						
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**01 33 25.2**	**+0.1**
	0.2nm,0.4s,baz=187,slow=9.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.56**	**351**	P	**P**	**01 34 12.3**	**-0.1**
	1.2nm,0.5s,baz=176,slow=7.0,SNR=7.1						
ARCES	**ARCESS Array B**	**81.47**	**340**	P	**P**	**01 37 15.9**	**+0.1**
	1.5nm,0.8s,baz=97,slow=7.4,SNR=2.9						

*IDC **07** 01:31:45.8±8.1, 2.27N×96.74E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/37, mbtmp3.4/3, Error ellipse: s-maj=374.6km s-min=29.5km az=55.0*
*DJA **07** 01:31:54.4±0.4, 3°N±5°×9°7E±°, h10km, M3.4/4, MLv3.4/4*
ISC 07 01:31:51.1±1.0,**2.43N**±0.06×**96.94E**±0.06,**h33**km,**n11,** σ0**39**/10,**mb3.4**/3,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.61**	**268**	P	**Pb**	**01 32 03.4**	**-0.1**
SNSI				S	**Sn**	**01 32 11.8**	**-0.4**
TPTI		**0.86**	**16**	P	**Pb**	**01 32 07.3**	**-0.4**
TPTI				S	**Sn**	**01 32 18.0**	**-0.4**
KCSI	**Kotacane, Aceh**	**1.37**	**37**	P	**Pb**	**01 32 16.4**	**+0.2**
KCSI				S	**Sb**	**01 32 33.1**	**-0.3**
TSI	**Tuntungan**	**1.94**	**57**	P	Pb	01 32 33.2	+7.3
MNSI	**Mandailing Nat**	**3.10**	**122**	P	**Pb**	**01 32 45.3**	**-0.3**
H08S2	**Diego Garcia H**	**26.36**	**247**	T	T	02 04 16.7	
	baz=69,slow=75,SNR=4.4						
H08S3	**Diego Garcia H**	**26.36**	**248**	T	T	02 04 20.6	
	baz=69,slow=75,SNR=4.9						
H08S1	**Diego Garcia H**	**26.38**	**248**	T	T	02 04 17.2	
	baz=69,slow=75,SNR=6.3						
WRA	**Warramunga Arr**	**42.91**	**123**	P	**P**	**01 39 47.2**	**+0.1**
	0.3nm,0.7s,baz=299,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**45.99**	**346**	P	**P**	**01 40 11.9**	**+0.6**
	0.2nm,0.4s,baz=156,slow=8.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.31**	**351**	P	**P**	**01 40 59.7**	**+0.3**
	0.5nm,0.3s,baz=169,slow=8.3,SNR=3.5						

*ISCJB **07** 01:35:05.8±0.3, 54.18N±0.02×160.54E±0.06, h96km±3km, mb3.7/11, Error ellipse: s-maj=7.0km s-min=2.5km az=29.2*
*KRSC **07** 01:35:05.2±0.4, 54.20N×160.51E, h89km±8km, ML4.0*
*MOS **07** 01:35:05.7±0.7, 54.20N×160.56E, h96km, mb3.9/4, Error ellipse: s-maj=23.2km s-min=7.9km az=70.7*
*IDC **07** 01:35:07.3±1.6, 54.47N×159.93E, h106km±19km, mb3.4/11, mb1 3.7/11, mb1mx3.4/28, mbtmp3.8/11, Error ellipse: s-maj=29.0km s-min=15.4km az=151.0*
ISC 07 01:35:06.4±0.7,**54.20N**±0.03×**160.50E**±0.04,**h89**km±6km,
n77,σ0**93**/106,**mb3.8**/11,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.64**	**255**	*i* P	**Pn**	**01 35 21.8**	**-0.5**
KII				*i* S	**Sn**	**01 35 34.4**	**-0.1**
MKZ	**Mys Kozlova**	**0.80**	**63**	PN	**Pn**	**01 35 24.4**	**+0.6**
MKZ				S	**Sn**	**01 35 38.0**	**+1.2**
MKZ	**Mys Kozlova**	**0.80**	**63**	*i* P	**Pn**	**01 35 24.3**	**+0.5**
MKZ				*e*S	**Sn**	**01 35 38.0**	**+1.2**
KZV	**Kizimen**	**0.92**	**353**	*i* P	**Pn**	**01 35 25.3**	**0.0**
KZV				S	**Sn**	**01 35 39.9**	**+0.5**
TUMR	**Tumrok**	**1.10**	**350**	*i* P	**Pn**	**01 35 27.5**	**+0.2**
TUMR				*e*S	**Sn**	**01 35 43.4**	**+0.4**
SPN	**Mys Shipunski**	**1.14**	**194**	PN	**Pn**	**01 35 27.6**	**-0.1**
SPN				S	**Sn**	**01 35 43.7**	**+0.1**
SPN	**Mys Shipunski**	**1.14**	**194**	*i* P	**Pn**	**01 35 27.6**	**-0.1**
SPN				*i* S	**Sn**	**01 35 43.7**	**+0.1**
NLC	**Nalytchevo**	**1.24**	**214**	PN	**Pn**	**01 35 28.8**	**0.0**
NLC				S	**Sn**	**01 35 46.0**	**+0.3**
NLC	**Nalytchevo**	**1.24**	**214**	*i* P	**Pn**	**01 35 28.8**	**0.0**
NLC				*i* S	**Sn**	**01 35 46.0**	**+0.3**
SDLR	**Sedlovina**	**1.33**	**227**	*e*P	**Pn**	**01 35 30.2**	**+0.1**
SDLR				*e*S	**Sn**	**01 35 48.2**	**+0.3**
KRER	**Koryakskii**	**1.37**	**230**	*i* P	**Pn**	**01 35 30.9**	**+0.2**
KRER				*e*S	**Sn**	**01 35 49.6**	**+0.6**
SMAR	**Somma**	**1.38**	**228**	*i* P	**Pn**	**01 35 30.8**	**0.0**
SMAR				*e*S	**Sn**	**01 35 49.4**	**+0.3**
KRX	**Arik**	**1.38**	**233**	*e*P	**Pn**	**01 35 30.8**	**0.0**
KRX				S	**Sn**	**01 35 49.5**	**+0.4**
AVH	**Avacha**	**1.41**	**229**	*i* P	**Pn**	**01 35 31.3**	**+0.3**
AVH				*e*S	**Sn**	**01 35 50.3**	**+0.8**
UGLR	**Uglovaya**	**1.41**	**226**	*i* P	**Pn**	**01 35 31.2**	**+0.2**
UGLR				*e*S	**Sn**	**01 35 50.1**	**+0.5**
KOK	**Koryaka**	**1.43**	**231**	*i* P	**Pn**	**01 35 31.5**	**+0.2**
KOK				*e*S	**Sn**	**01 35 50.7**	**+0.6**
KMNR	**Kamenistaya**	**1.56**	**355**	*i* P	**Pn**	**01 35 33.6**	**+0.6**
GNL	**Ganaly**	**1.59**	**252**	*i* P	**Pn**	**01 35 33.3**	**-0.1**
GNL				*e*S	**Sn**	**01 35 53.6**	**-0.2**
PET	**Petropavlovsk**	**1.61**	**224**	PN	**Pn**	**01 35 33.6**	**+0.1**
PET				S	**Sn**	**01 35 54.2**	**+0.2**
PET	**Petropavlovsk**	**1.61**	**224**	*i* P	**Pn**	**01 35 33.6**	**+0.1**
PET				*i* S	**Sn**	**01 35 54.2**	**+0.2**
BZMR	**Bezymyannaya**	**1.73**	**360**	P	**Pn**	**01 35 36.1**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.74**	**4**	*e*P	**Pn**	**01 35 36.3**	**+1.0**
BZWR	**Bezymyannyi-We**	**1.77**	**0**	*e*P	**Pn**	**01 35 36.6**	**+1.0**
KPT	**Kopyto**	**1.77**	**355**	*e*P	**Pn**	**01 35 36.1**	**+0.4**
ZLN	**Zelenaya**	**1.83**	**5**	P	**Pn**	**01 35 37.5**	**+1.1**
KOZ	**Kozyrevsk**	**1.89**	**349**	*e*P	**Pn**	**01 35 37.5**	**+0.4**
KOZR	**Kozyr**	**1.90**	**350**	PN	**Pn**	**01 35 37.5**	**+0.3**
PETK	**Petropavlovsk-**	**1.99**	**238**	PN	**Pn**	**01 35 38.3**	**-0.2**
PETK				S	**Sn**	**01 36 03.3**	**+0.4**
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				smax	smax		
	comp=N,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**1.99**	**238**	P	**Pn**	**01 35 38.3**	**-0.2**
	comp=N,13nm,0.3s,baz=64,slow=17,SNR=75						
PETK				S	**Sn**	**01 36 03.3**	**+0.4**
	comp=N,8.9nm,0.3s,baz=39,slow=18,SNR=4.1						
ESO	**Esso**	**2.01**	**330**	PN	**Pn**	**01 35 38.2**	**-0.5**
ESO				S	**Sn**	**01 36 02.5**	**-0.8**
ESO	**Esso**	**2.01**	**330**	*i* P	**Pn**	**01 35 38.2**	**-0.5**
ESO				*i* S	**Sn**	**01 36 02.5**	**-0.8**
KLY	**Klyuchi**	**2.12**	**2**	PN	**Pn**	**01 35 41.1**	**+1.1**
KLY				S	**Sn**	**01 36 07.4**	**+1.7**
KLY	**Klyuchi**	**2.12**	**2**	*e*P	**Pn**	**01 35 41.1**	**+1.1**
KLY				*e*S	**Sn**	**01 36 07.4**	**+1.7**
RUS	**Russkaya**	**2.13**	**215**	PN	**Pn**	**01 35 40.1**	**-0.2**
RUS				S	**Sn**	**01 36 05.9**	**-0.3**
RUS	**Russkaya**	**2.13**	**215**	*i* P	**Pn**	**01 35 40.1**	**-0.2**
RUS				*e*S	**Sn**	**01 36 05.9**	**-0.3**
SRDR	**Sredinnyy**	**2.17**	**348**	*e*P	**Pn**	**01 35 40.6**	**-0.2**
MTVR	**Mutnovka**	**2.21**	**220**	*i* P	**Pn**	**01 35 42.3**	**+0.8**
MTVR				*e*S	**Sn**	**01 36 09.6**	**+1.3**
APC	**Apacha**	**2.37**	**239**	*i* P	**Pn**	**01 35 43.8**	**+0.4**
APC				*e*S	**Sn**	**01 36 12.0**	**+0.3**
ASAK	**Asacha**	**2.40**	**222**	*i* P	**Pn**	**01 35 44.6**	**+0.7**
ASAK				*e*S	**Sn**	**01 36 13.4**	**+0.8**
BDR	**Baidarnaya**	**2.41**	**9**	*i* P	**Pn**	**01 35 45.0**	**+1.0**
BDR				*e*S	**Sn**	**01 36 14.3**	**+1.6**
KBTR	**Krutoberegovo**	**2.41**	**33**	PN	**Pn**	**01 35 44.3**	**+0.4**
KBTR				S	**Sn**	**01 36 12.9**	**+0.2**
KBTR	**Krutoberegovo**	**2.41**	**33**	*e*P	**Pn**	**01 35 44.3**	**+0.4**
KBTR				*e*S	**Sn**	**01 36 12.9**	**+0.2**
SMKR	**Semkarok**	**2.45**	**13**	*i* P	**Pn**	**01 35 45.4**	**+0.9**
SMKR				*e*S	**Sn**	**01 36 14.6**	**+0.9**
SRKR	**Sorokina**	**2.49**	**9**	*i* P	**Pn**	**01 35 45.9**	**+0.9**
SRKR				*e*S	**Sn**	**01 36 15.5**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.96**	**231**	P	**Pn**	**01 35 51.9**	**+0.5**
BKI	**Bering**	**3.33**	**70**	PN	**Pn**	**01 35 56.8**	**+0.5**
BKI				S	**Sn**	**01 36 33.3**	**-1.5**
BKI	**Bering**	**3.33**	**70**	*i* P	**Pn**	**01 35 56.7**	**+0.5**
BKI				*e*S	**Sn**	**01 36 33.3**	**-1.5**
PAU	**Pauzhetka**	**3.54**	**221**	PN	**Pn**	**01 36 01.9**	**+2.8**
PAU				S	**Sn**	**01 36 42.8**	**+3.0**
PAU	**Pauzhetka**	**3.54**	**221**	*e*P	**Pn**	**01 36 01.9**	**+2.8**
PAU				S	**Sn**	**01 36 42.8**	**+3.0**
SKR	**Severo-Kuril's**	**4.43**	**219**	*e*PN	Pn	01 36 18.4	+7.2
SKR				*e*S	**Sn**	**01 37 01.2**	**-0.2**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax	smax		
	comp=N,110nm,0.5s						
SKR				smax	smax		
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.43**	**219**	P	**Pn**	**01 36 12.3**	**+1.1**
OSSR	**Ossora**	**5.25**	**15**	P	**Pn**	**01 36 24.9**	**+2.6**
BILL	**Bilibino**	**14.15**	**9**	*e*P	Pn	01 38 15.2	-7.2
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ERM	**Erimo**	**16.76**	**230**	*i* P	**P**	**01 38 57.4**	**+1.2**
MJA0	**Matsu Arr-Jizo**	**23.42**	**230**	*e*P	P	01 40 12.9	+5.4
MJAR	**Matsushiro Arr**	**23.43**	**230**	P	**P**	**01 40 07.3**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MJAR	**Matsushiro Arr**	**23.43**	**230**	P	**P**	**01 40 07.3**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=20,slow=8.9,SNR=2.8						
ILAR	**Eielson Array**	**27.87**	**47**	P	**P**	**01 40 46.9**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**27.87**	**47**	P	**P**	**01 40 46.9**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=272,slow=8.6,SNR=17						
H11N2	**WAKE ISLAND Hy**	**34.76**	**169**	T	T	02 19 16.9	
	baz=355,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy**	**34.77**	**169**	T	T	02 19 19.7	
	baz=355,slow=76,SNR=60						
H11N1	**WAKE ISLAND Hy**	**34.77**	**169**	T	T	02 19 15.8	
	baz=355,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy**	**35.95**	**170**	T	T	02 20 25.9	
	baz=352,slow=74,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**35.96**	**170**	T	T	02 20 20.3	
	baz=352,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**35.97**	**170**	T	T	02 20 23.1	
	baz=352						
YKA	**Yellowknife Ar**	**42.19**	**44**	P	**P

KAPI	**Kappang**	**24.45**	182	*e*P		**P**	01 46 34.4	-0.1
	5.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**26.39**	19	P		**P**	01 46 52.5	+0.8
	1.9nm,0.6s,baz=195,slow=6.5,SNR=5.7							
LSA	**Lhasa**	**28.35**	296	*e*P		**P**	01 47 10.2	+0.1
	11nm,0.7s							
BATI	**Baumata**	**29.78**	174	P		**P**	01 47 22.0	-0.3
	15nm,0.4s,baz=79,slow=5.2,SNR=4.9							
ULN	**Ulaanbaatar**	**30.22**	342	*e*P		**P**	01 47 26.1	0.0
	5.0nm,1.0s							
SONM	**Songino Array**	**30.39**	341	P		**P**	01 47 27.5	0.0
	1.5nm,0.6s,baz=162,slow=9.7,SNR=14							
TAPN	**Taplejung**	**30.89**	291	*e*P		**P**	01 47 32.7	+0.3
ODAN	**Odare**	**31.11**	290	*e*P		**P**	01 47 34.3	-0.1
	21nm,0.9s							
RAMN	**Ramite**	**31.82**	290	*e*P		**P**	01 47 40.9	+0.3
	37nm,0.8s							
JIRN	**Jiri**	**32.27**	291	*e*P		**P**	01 47 44.9	+0.2
	18nm,0.7s							
GUN	**Gumba**	**32.57**	291	*e*P		**P**	01 47 47.4	+0.1
	37nm,0.9s							
PKI	**Pulchoki**	**32.95**	291	*e*P		**P**	01 47 50.1	-0.4
PKIN	**Phulchoki**	**32.96**	291	*e*P		**P**	01 47 50.6	0.0
KKN	**Kakani**	**33.08**	291	*e*P		**P**	01 47 51.2	-0.4
GKN	**Gorkha**	**33.67**	291	*e*P		**P**	01 47 56.1	-0.6
	24nm,0.9s							
DANN	**Dangsing**	**34.48**	292	*e*P		**P**	01 48 03.3	-0.6
	15nm,0.6s							
KOLN	**Koldanda**	**34.56**	291	*e*P		**P**	01 48 04.1	-0.4
	20nm,0.9s							
TLY	**Talaya**	**34.62**	342	P		**P**	01 48 04.7	+0.2
	1.1nm,0.4s,baz=66,slow=20,SNR=2.9							
PYUN	**Piuthan**	**35.13**	291	*e*P		**P**	01 48 09.2	-0.2
	50nm,0.7s							
PMG	**Port Moresby**	**39.06**	135	P		**P**	01 48 42.2	-0.3
	7.2nm,0.7s,baz=355,slow=19,SNR=3.2							
PMG	**Port Moresby**	**39.06**	135	*e*P		**P**	01 48 42.1	-0.4
	2.2nm,0.8s							
COEN	**Coen**	**40.18**	144	*e*P		**P**	01 48 50.8	-1.0
PALK	**Pallekele**	**40.39**	258	*e*P		**P**	01 48 52.7	-1.0
MK31	**Makanchi Array**	**41.24**	320	*e*P		**P**	01 49 01.0	+0.6
MK31				*e*pP		**pP**	01 49 10.1	+0.3
MKAR	**Makanchi Array**	**41.24**	320	P		**P**	01 49 01.0	+0.6
	4.2nm,0.7s,baz=116,slow=9.6,SNR=51							
MKAR				PcP		**PcP**	01 50 59.1	+0.2
	0.6nm,0.7s,baz=108,slow=4.7,SNR=4.2							
WRAB	**Tennant Creek**	**41.59**	160	*e*P		**P**	01 49 02.3	-1.2
	17nm,0.9s							
WRA	**Warramunga Arr**	**41.60**	160	P		**P**	01 49 02.4	-1.1
	9.3nm,0.7s,baz=334,slow=10,SNR=90							
WRA				PcP		**PcP**	01 51 00.6	+0.3
	0.4nm,0.4s,baz=348,slow=3.4,SNR=4.8							
H11S3	**WAKE ISLAND Hy**	**43.67**	83	T		T	02 34 47.8	
	baz=283							
H11N1	**WAKE ISLAND Hy**	**43.68**	82	T		T	02 35 08.2	
	baz=281							
H11S1	**WAKE ISLAND Hy**	**43.68**	83	T		T	02 34 48.4	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**43.69**	82	T		T	02 35 05.4	
	baz=281							
H11S2	**WAKE ISLAND Hy**	**43.69**	83	T		T	02 34 47.8	
	baz=283							
H11N3	**WAKE ISLAND Hy**	**43.70**	82	T		T	02 35 04.2	
	baz=281							
ZALV	**Zalesovo Beam**	**43.77**	330	P		**P**	01 49 20.5	-0.3
	4.4nm,0.7s,baz=116,slow=8.4,SNR=21							
PETK	**Petropavlovsk-**	**44.11**	32	P		**P**	01 49 24.5	+1.0
	2.5nm,0.8s,baz=205,slow=6.4,SNR=3.5							
TKM2	**Tokmak 2**	**44.14**	312	*e*P		**P**	01 49 24.5	+0.3
	3.9nm,0.8s							
TKM2				*e*pP		**pP**	01 49 34.5	+0.9
AAK	**Ala-Archa**	**44.84**	311	*e*P		P	01 49 34.2	+4.5
	1.7nm,0.7s							
AS31	**Alice Springs**	**44.97**	162	*e*P		**P**	01 49 30.5	-0.1
ASAR	**Alice Springs**	**44.97**	162	P		**P**	01 49 30.8	+0.1
	4.3nm,0.4s,baz=343,slow=6.9,SNR=92							
KURK	**Kurchatov**	**45.23**	323	*e*P		**P**	01 49 32.0	-0.5
	20nm,0.9s							
KURK				*e*pP		**pP**	01 49 41.9	0.0
EKS2	**Erkin-Say**	**45.35**	311	*e*P		**P**	01 49 34.1	+0.3
	1.6nm,0.6s							
KBL	**Kabul**	**47.61**	299	*e*P		**P**	01 49 51.2	-0.5
	6.4nm,0.8s							
KKAR	**Karatay Array**	**47.79**	311	*e*P		**P**	01 49 53.0	+0.3
	2.2nm,0.6s							
KKAR				*e*pP		**pP**	01 50 02.5	+0.3
SEY	**Seymchan**	**48.54**	19	P		**P**	01 49 59.3	+1.2
	4.8nm,0.7s,baz=242,slow=4.1,SNR=18							
BVAR	**Borovoye Array**	**50.83**	323	P		**P**	01 50 16.2	+0.4
	1.8nm,0.6s,baz=114,slow=10.0,SNR=14							
BVAR				PcP		**PcP**	01 51 31.7	-0.5
	1.7nm,0.6s,baz=112,slow=3.5,SNR=5.6							
BBOO	**Buckleboo**	**54.21**	164	*e*P		**P**	01 50 41.7	+0.7
ABKAR	**Akbulak array**	**56.19**	317	*e*P		**P**	01 50 55.1	0.0
BILL	**Bilibino**	**56.24**	19	*e*P		**P**	01 50 55.7	+0.5
	3.1nm,0.6s							
GEYT	**Allbeck**	**56.57**	303	P		**P**	01 50 59.2	+1.1
	2.0nm,0.9s,baz=72,slow=4.8,SNR=7.6							
GAMB	**Gambell**	**62.87**	28	*e*P		**P**	01 51 41.7	+0.9
	3.8nm,1.1s							
GAMB				*e*pP		**pP**	01 51 51.8	+1.2
KBZ	**Khabaz**	**67.82**	310	P		**P**	01 52 13.7	+0.4
	4.6nm,0.9s,baz=134,slow=5.0,SNR=9.1							
KIV	**Kislovodsk**	**67.94**	310	*e*P		**P**	01 52 14.3	0.0
	11nm,0.8s							
JOF	**Joensuu**	**72.35**	331	*e*p		**P**	01 52 40.6	-0.1
	2.0nm,0.5s							
MCK	**McKinley**	**72.93**	28	*e*P		**P**	01 52 44.4	+0.1
	4.2nm,0.8s							
ARCES	**ARCESS Array B**	**73.52**	339	P		**P**	01 52 47.7	+0.1
	1.3nm,0.8s,baz=79,slow=8.8,SNR=6.0							
ILAR	**Eielson Array**	**73.63**	26	P		**P**	01 52 47.7	-0.6
	0.8nm,0.5s,baz=270,slow=5.3,SNR=12							
KAF	**Kangasniemi**	**74.78**	331	*e*p		**P**	01 52 53.8	-1.3
	3.6nm,0.6s							
FINES	**FINESS Array B**	**75.04**	330	P		**P**	01 52 56.6	+0.1
	3.1nm,0.6s,baz=86,slow=6.5,SNR=20							
BR131	**Keskin Array S**	**75.33**	307	*e*P		**P**	01 52 58.5	-0.4
	0.9nm,0.7s							
BRTR	**Keskin Array B**	**75.33**	307	P		**P**	01 52 58.6	-0.2
	0.6nm,0.6s,baz=116,slow=2.9,SNR=4.6							
AKASG	**Malin Array Be**	**75.82**	319	P		**P**	01 53 00.5	-0.8
	4.2nm,0.7s,baz=62,slow=5.5,SNR=11							
NACGM	**Naroch**	**76.25**	324	*e*		**P**	01 53 01.0	-2.6
INK	**Inuvik**	**77.75**	21	*e*P		**P**	01 53 11.4	-0.3
	4.5nm,1.1s							
SUW	**Suwalki**	**78.51**	323	*e*P		**P**	01 53 15.3	-1.0
	32nm,1.1s							
BUR08	**Bucovina Ar. S**	**79.17**	317	*e*P		**P**	01 53 19.9	-0.4
KWP	**Kalwaria Pacla**	**80.14**	319	*e*P		**P**	01 53 25.1	-0.2
	19nm,1.1s							
KOLS	**Kolonicke sedl**	**80.64**	319	*e*P		**P**	01 53 28.1	+0.1
STHS	**Stebnicka Huta**	**81.11**	319	*e*P		**P**	01 53 30.8	+0.2
CRVS	**Cervenica-Dubn**	**81.15**	319	*e*P		**P**	01 53 31.6	+0.8
NB2	**NORSAR Subarra**	**81.93**	332	P		**P**	01 53 33.8	-0.9
	comp=Z,1.6nm,0.6s,baz=62,slow=5.3							
NOA	**NORSAR Array B**	**81.93**	332	P		**P**	01 53 34.1	-0.6
	comp=Z,3.6nm,0.8s,baz=65,slow=5.3,SNR=8.8							
RES	**Resolute Bay**	**83.30**	9	*e*P		**P**	01 53 41.6	+0.2
	comp=Z,2.7nm,0.9s							
RES				*e*pP		**pP**	01 53 50.8	-0.6
KMBO	**Kilima Mbogo**	**83.91**	267	P		**P**	01 53 47.0	+1.0
	comp=Z,0.4nm,0.3s,baz=63,slow=18,SNR=3.0							
BRG	**Berggiesshubel**	**84.91**	322	*e*P		**P**	01 53 50.5	+0.4
	comp=Z,4.3nm,0.8s							
BRG				*e*			01 54 00.3	
	comp=Z,4.6nm,0.9s							
CLL	**Collm**	**85.26**	323	*i* P		**P**	01 53 51.8	-0.1
	comp=Z,5.0nm,0.8s							
CLL				*i* pP		**pP**	01 54 02.1	+0.2
GERES	**GERESS Array B**	**85.91**	321	P		**P**	01 53 55.5	+0.2
	comp=Z,1.7nm,0.7s,baz=72,slow=5.7,SNR=14							
YKA	**Yellowknife Ar**	**87.48**	22	P		**P**	01 54 02.7	+0.2
	comp=Z,1.9nm,0.8s,baz=317,slow=4.8,SNR=32							
LPG	**La Plagne**	**91.66**	320	*e*P		**P**	01 54 23.3	+0.4
	comp=Z,8.2nm,0.8s							
LPG	**La Plagne**	**91.66**	320	*e*P		**P**	01 54 23.3	+0.4
	comp=Z,8.2nm,0.8s							
LPL	**La Plagne**	**91.66**	320	*e*P		**P**	01 54 23.2	+0.4
	comp=Z,5.5nm,0.6s							
LPL	**La Plagne**	**91.66**	320	*e*P		**P**	01 54 23.2	+0.4
	comp=Z,5.5nm,0.6s							
PGF	**Pioggiola**	**91.70**	316	*e*P		**P**	01 54 23.0	+0.1
	comp=Z,9.5nm,0.7s							
PGF	**Pioggiola**	**91.70**	316	*e*P		**P**	01 54 23.0	+0.1
	comp=Z,9.5nm,0.7s							
MBDF	**Montbardon**	**92.04**	319	*e*P		**P**	01 54 24.6	+0.1
MBDF	**Montbardon**	**92.04**	319	*e*P		**P**	01 54 24.6	+0.1
SBF	**Sospel**	**92.06**	318	*e*P		**P**	01 54 24.3	-0.2
	comp=Z,19nm,0.9s							
SBF	**Sospel**	**92.06**	318	*e*P		**P**	01 54 24.3	-0.2
	comp=Z,19nm,0.9s							
TXAR	**Lajitas Array**	**115.42**	42	PKP		**PKPdf**	01 59 57.9	+0.3
	comp=Z,0.2nm,0.6s,baz=146,slow=2.4,SNR=3.6							

ISCJB ***07*** *01:44:26.5±1.0, 19.6S±0.2×177.7W±0.2, h550km, mb3.6/5, Error ellipse: s-maj=28.8km s-min=18.1km az=150.5*
IDC ***07*** *01:44:28.8±2.9, 19.53S×177.64W, h563km±33km, mb3.1/5, mb1 3.4/6, mb1mx3.1/20, mbtmp4.1/6, Error ellipse: s-maj=29.8km s-min=17.1km az=163.0*

ISC 07 01:44:27.5±0.8, 19.5S±0.2×177.7W±0.2, h550km, n10, σ0.98/14, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.25**	193	P		P	**P**	01 48 15.5	-1.2
	0.9nm,0.3s,baz=47,slow=1.1,SNR=4.0								
CTA	**Charters Tower**	**33.93**	263	P		P	**P**	01 50 26.2	+0.6
	6.3nm,0.5s,baz=91,slow=9.8,SNR=9.1								
WRA	**Warramunga Arr**	**45.08**	261	P		P	**P**	01 51 55.2	+0.1
	2.2nm,0.7s,baz=96,slow=8.6,SNR=12								
WRA				PcP		**PcP**	**PcP**	01 53 24.2	+0.1
	0.3nm,0.4s,baz=99,slow=5.7,SNR=4.5								
ASAR	**Alice Springs**	**45.08**	256	P		P	**P**	01 51 55.8	+0.7
	5.6nm,0.8s,baz=86,slow=8.7,SNR=34								
ASAR				PcP		**PcP**	**PcP**	01 53 24.4	+0.2
	1.0nm,0.6s,baz=96,slow=4.4,SNR=4.4								
ASAR				S		**S**	**S**	01 57 53.7	-0.9
	0.6nm,0.8s,baz=94,slow=16,SNR=4.8								
TXAR	**Lajitas Array**	**86.23**	57	P		P	**P**	01 56 12.2	+0.7
	0.3nm,0.7s,baz=230,slow=5.9,SNR=5.0								
ILAR	**Eielson Array**	**87.26**	13	P		P	**P**	01 56 14.2	-1.1
	0.1nm,0.5s,baz=260,slow=4.5,SNR=2.9								
ARCES	**ARCESS Array B**	**127.99**	350	PKP		**PKPdf**	**PKPdf**	02 02 29.2	-1.3
	1.8nm,0.9s,baz=42,slow=2.0,SNR=6.7								
BRTR	**Keskin Array B**	**146.40**	314	PKPbc		**PKPdf**	**PKPdf**	02 03 06.8	+1.7
	0.7nm,0.5s,baz=144,slow=4.9,SNR=4.8								
GERES	**GERESS Array B**	**149.32**	345	PKPbc		**PKPbc**	**PKPbc**	02 03 14.0	-0.6
	0.7nm,0.6s,baz=27,slow=2.4,SNR=6.7								
TORD	**Torodi Ar. Bea**	**173.66**	174	PKP		**PKPdf**	**PKPdf**	02 03 34.9	+0.1
	0.5nm,1.0s,baz=194,slow=5.5,SNR=2.8								
TORD				PKPab		**PKPab**	**PKPab**	02 05 09.1	+0.8
	0.2nm,0.6s,baz=195,slow=4.4,SNR=3.6								

IDC 07 01:48:55.4±2.0, 5.68S×152.52E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=126.7km s-min=26.2km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.47**	235	Pn		Pn	Pn	01 50 32.5	+0.5
	1.5nm,0.3s,baz=56,slow=15,SNR=3.2								
PMG				Sn		Sn	Sn	01 51 42.1	-4.6
	2.3nm,0.3s,baz=12,slow=19,SNR=5.3								
WRA	**Warramunga Arr**	**22.66**	230	P		P	P	01 53 58.0	-0.5
	0.4nm,0.5s,baz=55,slow=10,SNR=4.8								
ASAR	**Alice Springs**	**25.32**	223	P		P	P	01 54 24.2	+0.2
	0.8nm,0.9s,baz=51,slow=10,SNR=5.7								
ILAR	**Eielson Array**	**83.07**	22	P		P	P	02 01 22.8	+0.2
	0.7nm,0.7s,baz=237,slow=6.3,SNR=6.4								
TORD	**Torodi Ar. Bea**	**150.30**	287	PKPbc		PKPbc	PKPbc	02 08 49.2	-0.5
	0.4nm,0.8s,baz=78,slow=3.3,SNR=2.5								

IDC 07 01:51:14.2±4.0, 2.20N×96.83E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/36, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx3.4/36, Error ellipse: s-maj=153.4km s-min=28.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.17**	248	T		T	T	02 23 39.2	
	baz=67								
H08S3	**Diego Garcia H**	**26.17**	248	T		T	T	02 23 34.2	
	baz=67								
H08S1	**Diego Carcia H**	**26.19**	248	T		T	T	02 23 37.1	
	baz=67								
TGY	**Tagaytay City**	**26.60**	62	LR		LR	LR	02 06 58.2	
	comp=Z,80nm,18.9s,baz=120,slow=36								
H01W3	**Cape Leeuwin H**	**40.30**	158	T		T	T	02 41 32.3	
	baz=330								
H01W2	**Cape Leeuwin H**	**40.31**	158	T		T	T	02 41 31.1	
	baz=330								
H01W1	**Cape Leeuwin H**	**40.32**	158	T		T	T	02 41 29.2	
	baz=330								
WRA	**Warramunga Arr**	**42.88**	123	P		P	P	01 59 14.6	-0.2
	0.4nm,0.8s,baz=302,slow=9.1,SNR=6.6								
MKAR	**Makanchi Array**	**46.19**	346	P		P	P	01 59 40.7	-0.2
	0.2nm,0.4s,baz=158,slow=9.0,SNR=6.7								
SONM	**Songino Array**	**46.21**	9	P		P	P	01 59 41.4	+0.3
	0.1nm,0.3s,baz=189,slow=9.5,SNR=2.8								
ZALV	**Zalesovo Beam**	**52.52**	351	P		P	P	02 00 28.6	-0.5
	0.7nm,0.4s,baz=171,slow=5.9,SNR=4.8								

CSEM ***07*** *01:51:23.2, 39.57N×29.60W, h10km, ML3.1*

PDA 07 01:51:23.2±1.2, 39.57N×29.60W, h10km, MD3.5, ML3.1, Error ellipse: s-maj=13.5km s-min=9.5km az=62.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.17**	143	*e*P		Pb		01 51 40.9	-4.7
PCED				*e*S		Sb		01 51 53.4	-7.4
PCED				A		A		01 51 56.2	
	104nm,0.4s								
PCED	**Cedros**	**1.17**	143	*e*P		Pb		01 51 40.9	-4.7
PCED				*e*S		Sb		01 51 53.4	-7.4
CALA	**Caldeira**	**1.21**	145	*e*S		Sb		01 51 55.1	-7.0
CALA	**Caldeira**	**1.21**	145	*e*S		Sb		01 51 55.1	-7.0
HOR	**Horta**	**1.29**	144	*e*P		Pn		01 51 42.4	-4.8
HOR				*e*S		Sb		01 51 57.4	-6.7
HOR	**Horta**	**1.29**	144	*e*P		Pn		01 51 42.4	-4.8
HOR				*e*S		Sb		01 51 57.4	-6.7
ROSA	**Rosais**	**1.35**	129	*e*S		Sb		01 51 58.7	-7.4
ROSA				A		A		01 52 00.7	
	38nm,0.4s								
ROSA	**Rosais**	**1.35**	129	*e*S		Sb		01 51 58.7	-7.4
PGRA	**Graciosa**	**1.36**	113	*e*S		Sb		01 51 58.8	-7.6
PGRA				A		A		01 52 00.5	
	79nm,0.4s								
PGRA	**Graciosa**	**1.36**	113	*e*S		Sb		01 51 58.8	-7.6
PCAN	**Candelaria**	**1.41**	142	*e*P		Pn		01 51 44.1	-4.8
PCAN				*i* S		Sn		01 52 00.2	-7.3
PCAN				A		A		01 52 01.7	
	160nm,0.3s								
PCAN	**Candelaria**	**1.41**	142	*e*P		Pn		01 51 44.1	-4.8
PCAN				*i* S		Sn		01 52 00.2	-7.3
PICO	**Pico**	**1.41**	139	*e*P		Pn		01 51 44.4	-4.6
PICO				*e*S		Sn		01 52 00.5	-7.1
PICO	**Pico**	**1.41**	139	*e*P		Pn		01 51 44.4	-4.6
PICO				*e*S		Sn		01 52 00.5	-7.1
PMAN	**Manadas**	**1.50**	128	*e*P		Pn		01 51 48.5	-1.7
TOPO	**Topo**	**1.63**	126	*e*P		Pg		01 51 54.7	+0.1

CSEM ***07*** *01:52:35.9, 39.51N×29.66W, h10km, ML3.6*

PDA 07 01:52:35.9±1.6, 39.51N×29.66W, h10km, MD3.4, ML3.6, Error ellipse: s-maj=14.3km s-min=7.3km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.16**	139	*e*P		Pb		01 52 53.0	-5.0
PCED				*e*S		Sb		01 53 06.2	-6.9
PCED				A		A		01 53 08.4	
	572nm,0.4s								
PCED	**Cedros**	**1.16**	139	*e*P		Pb		01 52 53.0	-5.0
PCED				*e*S		Sb		01 53 06.2	-6.9
CALA	**Caldeira**	**1.19**	141	*e*P		Pb		01 52 54.3	-4.4
CALA				*e*S		Sb		01 53 07.6	-6.7
CALA	**Caldeira**	**1.19**	141	*e*P		Pb		01 52 54.3	-4.4
CALA				*e*S		Sb		01 53 07.6	-6.7
H07S1	**FLORES T-PHASE**	**1.20**	264	*e*P		Pg		01 53 04.4	+5.3
HOR	**Horta**	**1.27**	140	*e*P		Pn		01 52 54.5	-5.2
HOR				*e*S		Sb		01 53 09.8	-6.5
HOR	**Horta**	**1.27**	140	*e*P		Pn		01 52 54.5	-5.2
HOR				*e*S		Sb		01 53 09.8	-6.5
ROSA	**Rosais**	**1.36**	125	*e*P		Pn		01 52 56.4	-4.6
ROSA				*e*S		Sb		01 53 11.8	-7.1
ROSA				A		A		01 53 16.9	
	221nm,0.5s								
ROSA	**Rosais**	**1.36**	125	*e*P		Pn		01 52 56.4	-4.6
ROSA				*e*S		Sb		01 53 11.8	-7.1
PGRA	**Graciosa**	**1.39**	110	*e*P		Pn		01 52 56.3	-5.1
PGRA				*e*S		Sb		01 53 11.6	-8.2
PGRA				A		A		01 53 12.1	
	170nm,0.4s								
PGRA	**Graciosa**	**1.39**	110	*e*P		Pn		01 52 56.3	-5.1
PGRA				*e*S		Sb		01 53 11.6	-8.2
PCAN	**Candelaria**	**1.39**	138	*e*P		Pn		01 52 56.3	-5.1
PCAN				*e*S		Sn		01 53 12.5	-7.4
PCAN				A		A		01 53 14.1	
	924nm,0.3s								
PCAN	**Candelaria**	**1.39**	138	*e*P		Pn		01 52 56.3	-5.1
PCAN				*e*S		Sn		01 53 12.5	-7.4
PICO	**Pico**	**1.40**	136	*e*P		Pn		01 52 56.7	-4.8
PICO				*e*S		Sn		01 53 12.3	-7.8
PICO	**Pico**	**1.40**	136	*e*P		Pn		01 52 56.7	-4.8
PICO				*e*S		Sn		01 53 12.3	-7.8
PMAN	**Manadas**	**1.51**	125	*e*P		Pn		01 52 58.8	-4.2
PMAN				*e*S		Sn		01 53 15.3	-7.4
PMAN				A		A		01 53 17.5	
	119nm,0.3s								
PMAN	**Manadas**	**1.51**	125	*e*P		Pn		01 52 58.8	-4.2
PMAN				*e*S		Sn		01 53 15.3	-7.4
TOPO	**Topo**	**1.64**	124	*e*P		Pn		01 53 00.1	-4.8
TOPO	**Topo**	**1.64**	124	*e*P		Pn		01 53 00.1	-4.8
ADH	**Angra Heroismo**	**2.07**	114	*e*P		Pn		01 53 06.2	-4.5
ADH				*e*S		Sn		01 53 31.3	-5.3
ADH				A		A		01 53 31.9	
	43nm,0.6s								
ADH	**Angra Heroismo**	**2.07**	114	*e*P		Pn		01 53 06.2	-4.5
ADH				*e*S		Sn		01 53 31.3	-5.3
PSET	**Sete Cidades**	**3.52**	117	*e*P		Pn		01 53 26.5	-4.1
PSET				*e*S		Sn		01 54 04.8	-7.5
PSET				A		A		01 54 07.8	
	35nm,0.4s								
PSET	**Sete Cidades**	**3.52**	117	*e*P		Pn		01 53 26.5	-4.1
PSET				*e*S		Sn		01 54 04.8	-7.5
PDA	**Ponta Delgada**	**3.59**	118	*e*P		Pn		01 53 27.8	-3.8
PDA				*e*S		Sn		01 54 06.8	-7.3
PDA				A		A		01 54 08.5	
	27nm,0.6s								
PDA	**Ponta Delgada**	**3.59**	118	*e*P		Pn		01 53 27.8	-3.8
PDA				*e*S		Sn		01 54 06.8	-7.3
GRON	**Grota Negra**	**3.67**	117	*e*P		Pn		01 53 30.5	-2.3
GRON				*e*S		Sn		01 54 14.2	-2.0
GRON				A		A		01 54 16.6	
	3.4nm,0.2s								
BART	**Pico Bartolome**	**3.92**	115	*e*P		Pn		01 53 32.2	-4.1
BART	**Pico Bartolome**	**3.92**	115	*e*P		Pn		01 53 32.2	-4.1
PSMA	**Santa Maria**	**4.36**	124	*e*P		Pn		01 53 37.6	-4.6
PSMA				*e*S		Sn		01 54 25.8	-7.3
PSMA				A		A		01 54 27.7	
	17nm,0.2s								
PSMN	**Pico do Norte,**	**4.40**	123	*e*P		Pn		01 53 38.2	-4.6
PSMN				*e*S		Sn		01 54 26.5	-7.6
PSMN				A		A		01 54 28.0	
	6.7nm,0.4s								
PSMN	**Pico do Norte,**	**4.40**	123	*e*P		Pn		01 53 38.2	-4.6
PSMN				*e*S		Sn		01 54 26.5	-7.6

TAP 07 01:52:53.0, 22.20N×120.87E, h11km, ML3.5, 4C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.16**	9	⇓*i*P		Pb		01 52 57.4	-0.7
	baz=3.0								
TAW				*i* S		Sg		01 53 00.3	+1.0
	baz=3.0								
EAST	**Anshuo**	**0.18**	354	⇑*i*P		Pg		01 52 57.9	+0.7
	baz=356								
HEN	**Hengchun**	**0.23**	212	⇓*i*P		Pb		01 52 58.5	-0.7
	baz=205								
HEN				*i* S		Sg		01 53 02.6	+1.6
	baz=205								
TWK1	**Hengchun**	**0.26**	193	⇓*i*P		Pg		01 52 59.0	+0.6
	baz=187								
TWK1				S		Sb		01 53 03.5	-0.7
	baz=187								
SCZT	**Fangliau**	**0.29**	307

SMLT	**Sun Moon Lake**	**1.68**	**1**	*e*P	Pb	01 53 24.5	+0.4
	baz=359							
SMLT				*e*S	Sg	01 53 48.4	+1.1
	baz=359							
ESL	**Shilin**	**1.69**	**18**	*e*P	Pb	01 53 23.8	-0.4
	baz=25							
TYC	**Yuchr**	**1.70**	**360**	*e*P	Pg	01 53 25.0	-0.6
	baz=357							
TYC				*e*S	Sg	01 53 48.4	+0.7
	baz=357							
WHF	**Hehuan Shan**	**1.97**	**11**	*e*P	Pb	01 53 28.8	-0.7
	baz=8.0							
WHF				*e*S	Sb	01 53 55.1	+0.5
	baz=8.0							
TWT	**Tachien**	**2.06**	**8**	*e*P	Pb	01 53 29.6	-1.2
	baz=17							
TWT				*e*S	Sb	01 53 57.9	+1.2
	baz=17							
TWQ1	**Liyutan**	**2.14**	**358**	*e*P	Pb	01 53 31.9	0.0
	baz=355							
NSTT	**Nanjuang**	**2.42**	**3**	*e*P	Pb	01 53 36.8	+0.1
	baz=346							
NSK	**Sanguang**	**2.51**	**10**	*e*P	Pb	01 53 36.6	-1.6
	baz=9.0							

IDC 07 01:54:21.6±7.0, 31°.07S×178°.41W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/26, mbtmp3.3/2, Error ellipse: s-maj=291.8km s-min=56.4km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.73**	**268**	P	P	02 02 19.7	-1.0
	0.3nm,0.9s,baz=107,slow=7.5,SNR=2.9						
WRA	**Warramunga Arr**	**43.78**	**273**	P	P	02 02 30.1	+0.8
	0.3nm,0.5s,baz=113,slow=7.7,SNR=7.3						
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc	PKPdf	02 14 00.6	-0.6
	0.6nm,0.6s,baz=46,slow=4.0,SNR=5.2						

*IDC **07** 01:59:53.5±8.5, 2°.16N×96°.74E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/38, mbtmp3.6/3, Error ellipse: s-maj=393.8km s-min=29.2km az=55.0*
*ISCJB **07** 01:59:56.2±1.0, 2°.2N±0°.1×96°.72E±0°.08, h28km, mb3.6/3, Error ellipse: s-maj=18.9km s-min=8.4km az=27.1*
*DJA **07** 01:59:58.2±0.6, 2°.N±5°×97°.7E±°, h10km, M3.3/4, MLv3.3/4*
ISC 07 01:59:57.2±1.1, 2°.2N±0°.1×96°.64E±0°.06, h28km, n13, σ1°89/9, mb3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.36**	**300**	P	**Pb**	**02 00 05.2**	**-0.2**
SNSI				S	**Sn**	**02 00 12.6**	**-0.1**
TPTI		**1.16**	**28**	P	**Pb**	**02 00 19.7**	**+1.1**
TPTI				S	**Sn**	**02 00 28.6**	**-3.9**
KCSI	**Kotacane, Aceh**	**1.71**	**41**	P	**Pb**	**02 00 29.5**	**+1.5**
MNSI	**Mandailing Nat**	**3.27**	**116**	P	**Pn**	**02 00 46.3**	**-0.3**
H08S2	**Diego Garcia H**	**26.01**	**248**	T	T	02 24 47.8	
	baz=68,slow=75,SNR=10						
H08S2				T	T	02 32 01.9	
	baz=71						
H08S3	**Diego Garcia H**	**26.01**	**248**	T	T	02 24 49.8	
	baz=68,slow=75,SNR=7.6						
H08S3				T	T	02 32 01.3	
	baz=71						
H08S1	**Diego Garcia H**	**26.03**	**248**	T	T	02 24 52.8	
	baz=68,slow=75,SNR=7.7						
H08S1				T	T	02 32 03.0	
	baz=71						
H01W3	**Cape Leeuwin H**	**40.40**	**158**	T	T	02 50 29.5	
	baz=333,slow=76,SNR=9.2						
H01W2	**Cape Leeuwin H**	**40.42**	**158**	T	T	02 50 28.3	
	baz=333,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**40.42**	**158**	T	T	02 50 27.2	
	baz=333,slow=76,SNR=11						
WRA	**Warramunga Arr**	**43.05**	**123**	P	**P**	**02 07 54.3**	**-0.7**
	0.4nm,0.9s,baz=299,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**46.11**	**346**	P	**P**	**02 08 20.1**	**+1.1**
	0.4nm,0.4s,baz=153,slow=8.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**52.46**	**351**	P	**P**	**02 09 08.5**	**+1.2**
	0.8nm,0.5s,baz=177,slow=5.9,SNR=4.4						

*ISCJB **07** 02:02:20.3±0.9, 1°.99N±0°.06×96°.58E±0°.07, h28km, mb3.8/5, Error ellipse: s-maj=10.5km s-min=7.7km az=150.2*
*DJA **07** 02:02:21.5±0.8, 2°.N±5°×97°.7E±1°.4, h10km±16km, M4.3/6, mb4.6/1, MLv4.1/6*
*IDC **07** 02:02:22.1±2.6, 2°.23N×96°.73E, h24km±5km, mb3.7/5, mb1 3.8/5, mb1mx3.4/42, mbtmp3.8/5, Error ellipse: s-maj=106.4km s-min=16.0km az=59.0*
ISC 07 02:02:22.0±0.9, 2°.12N±0°.07×96°.68E±0°.06, h28km, n16, σ1°12/17, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.45**	**309**	P	**Pb**	**02 02 31.0**	**-0.5**
SNSI				S	**Sb**	**02 02 38.5**	**+0.5**
TPTI		**1.24**	**24**	P	**Pn**	**02 02 43.3**	**-0.1**
TPTI				S	**Sb**	**02 03 02.7**	**+2.4**
KCSI	**Kotacane, Aceh**	**1.77**	**38**	P	**Pb**	**02 02 52.9**	**-0.9**
KCSI				S	**Sb**	**02 03 14.9**	**-0.7**
LHMI	**Lhok Sumawe**	**3.10**	**5**	P	**Pn**	**02 03 11.1**	**+2.1**
MNSI	**Mandailing Nat**	**3.19**	**114**	P	**Pn**	**02 03 11.4**	**+1.1**
MNSI				S	Sn	02 03 21.3	-26
H08S2	**Diego Garcia H**	**26.00**	**248**	T	T	02 34 47.5	
	baz=68,slow=75,SNR=73						
H08S3	**Diego Garcia H**	**26.00**	**248**	T	T	02 34 35.8	
	baz=68,slow=75,SNR=64						
H08S1	**Diego Garcia H**	**26.02**	**248**	T	T	02 34 37.0	
	baz=68,slow=75,SNR=61						
H01W3	**Cape Leeuwin H**	**40.29**	**158**	T	T	02 53 08.0	
	baz=330						
H01W2	**Cape Leeuwin H**	**40.30**	**158**	T	T	02 53 04.0	
	baz=330,slow=74						
H01W1	**Cape Leeuwin H**	**40.31**	**158**	T	T	02 53 16.7	
	baz=330,slow=74						
WRA	**Warramunga Arr**	**42.97**	**122**	P	**P**	**02 10 19.6**	**+0.5**
	0.4nm,0.6s,baz=303,slow=9.1,SNR=7.2						
WRA				pP	**pP**	**02 10 27.1**	**-0.4**
	1.0nm,0.6s,baz=303,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**44.37**	**128**	P	**P**	**02 10 31.1**	**+0.8**
	0.2nm,0.3s,baz=298,slow=8.0,SNR=3.7						
ASAR				pP	**pP**	**02 10 38.4**	**-0.3**
	0.6nm,0.5s,baz=298,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**02 10 44.1**	**-0.6**
	1.6nm,0.6s,baz=160,slow=7.7,SNR=16						
MKAR				pP	**pP**	**02 10 51.8**	**-1.4**
	0.7nm,0.4s,baz=158,slow=8.4,SNR=6.8						
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**02 10 45.6**	**+0.2**
	0.7nm,0.3s,baz=193,slow=9.4,SNR=8.3						
SONM				pP	**pP**	**02 10 52.9**	**-1.0**
	0.3nm,0.4s,baz=187,slow=8.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**52.57**	**351**	P	**P**	**02 11 32.8**	**-0.2**
	2.2nm,0.4s,baz=170,slow=7.4,SNR=13						

IDC 07 02:03:15.2±11.0, 3°.44N×97°.46E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.7/4, Error ellipse: s-maj=595.3km s-min=24.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.03**	**124**	P	P	02 11 16.9	-0.1
	0.5nm,0.6s,baz=306,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**44.56**	**129**	P	P	02 11 29.2	-0.1
	0.1nm,0.3s,baz=296,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**45.15**	**345**	P	P	02 11 33.5	-0.1
	1.1nm,0.7s,baz=154,slow=8.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**51.40**	**350**	P	P	02 12 21.6	-0.1
	1.4nm,0.5s,baz=174,slow=7.9,SNR=4.9						

IDC 07 02:05:19.4±12.0, 14°.44N×93°.57W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/29, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=235.3km s-min=124.1km az=7.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**17.52**	**329**	Pn	P	02 09 26.6	0.0
	0.0nm,0.3s,baz=144,slow=13,SNR=4.6						
NVAR	**Mina Array Bea**	**32.38**	**322**	P	P	02 11 50.9	-0.2
	0.4nm,0.6s,baz=121,slow=8.5,SNR=2.5						
YKA	**Yellowknife Ar**	**50.26**	**347**	P	P	02 14 17.2	0.0
	0.3nm,0.6s,baz=153,slow=7.2,SNR=4.0						

*IDC **07** 02:07:39.4±2.7, 13°.36S×166°.99E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/36, mbtmp4.1/7, Error ellipse: s-maj=95.1km s-min=29.9km az=138.0*
*ISCJB **07** 02:07:42.8±1.1, 13°.5S±0°.2×167°.0E±0°.2, h33km, mb4.0/10, Error ellipse: s-maj=32.2km s-min=17.9km az=38.0*
*NEIC **07** 02:07:47.6±8.3, 13°.38S×166°.96E, h60km±70km, mb4.1/4, Error ellipse: s-maj=34.7km s-min=24.7km az=78.0*
ISC 07 02:07:44.8±1.2, 13°.4S±0°.2×167°.0E±0°.2, h35km, n16, σ0°67/15, mb4.1/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.93**	**249**	P	Pn	02 12 27.3	-0.1
	8.4nm,0.9s,baz=78,slow=12,SNR=5.3						
CTAO	**Charters Tower**	**20.93**	**249**	*e*P	**P**	**02 12 24.3**	**-0.4**
	12nm,1.0s						
WRAB	**Tennant Creek**	**31.89**	**254**	*e*P	**P**	**02 14 07.6**	**+0.4**
	2.8nm,1.0s						
WRA	**Warramunga Arr**	**31.90**	**254**	P	**P**	**02 14 07.3**	**+0.1**
	1.0nm,0.9s,baz=85,slow=9.4,SNR=7.0						
AS31	**Alice Springs**	**32.91**	**247**	*e*P	**P**	**02 14 16.1**	**0.0**
ASAR	**Alice Springs**	**32.91**	**247**	P	**P**	**02 14 15.2**	**-0.9**
	1.1nm,0.6s,baz=70,slow=9.6,SNR=15						
VNDA	**Vanda**	**64.19**	**181**	*e*P	**P**	**02 18 15.6**	**0.0**
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**74.15**	**294**	P	**P**	**02 19 19.5**	**+1.1**
	1.1nm,0.3s,baz=134,slow=5.4,SNR=5.5						
ULN	**Ulaanbaatar**	**80.89**	**324**	*e*P	**P**	**02 19 55.1**	**-0.5**
	2.4nm,0.8s						
SONM	**Songino Array**	**81.25**	**324**	P	**P**	**02 19 57.1**	**-0.3**
	0.9nm,0.7s,baz=128,slow=5.7,SNR=6.4						
ILAR	**Eielson Array**	**85.34**	**18**	P	**P**	**02 20 18.2**	**+0.2**
	0.4nm,0.7s,baz=218,slow=5.6,SNR=4.4						
MK31	**Makanchi Array**	**96.04**	**317**	*e*P	**P**	**02 21 08.5**	**-0.2**
MKAR	**Makanchi Array**	**96.04**	**317**	P	**P**	**02 21 08.6**	**-0.1**
	1.4nm,0.7s,baz=113,slow=5.4,SNR=18						
ZALV	**Zalesovo Beam**	**96.15**	**324**	P	**P**	**02 21 07.5**	**-1.4**
	0.8nm,0.6s,baz=108,slow=4.7,SNR=4.6						
ARCES	**ARCESS Array B**	**118.89**	**346**	PKP	**PKPdf**	**02 26 29.4**	**+0.3**
	1.4nm,0.8s,baz=64,slow=2.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**165.67**	**271**	PKPab	**PKPab**	**02 28 46.5**	**+0.6**
	0.6nm,0.7s,baz=89,slow=4.9,SNR=6.9						

*MOS **07** 02:11:17.7±1.4, 50°.43N×156°.53E, h138km, mb4.3/1, Error ellipse: s-maj=35.4km s-min=10.8km az=74.0*
*KRSC **07** 02:11:21.9±2.4, 50°.60N×157°.25E, h111km±27km, ML4.2*
*SKHL **07** 02:11:22.0±0.6, 50°.35N×157°.55E, h90km, mb4.3/1, msh5.5/2*
*IDC **07** 02:11:25.0±4.5, 51°.02N×156°.19E, h153km±26km, mb2.9/4, mb1 3.1/5, mb1mx2.8/42, mbtmp3.3/5, Error ellipse: s-maj=58.8km s-min=23.0km az=163.0*
ISC 07 02:11:19.1±1.4, 50°.5N±0°.1×156°.9E±0°.1, h143km±7km, n38, σ1°92/56, mb3.2/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.55**	**290**	*e*PN	Pn	02 11 37.3	-2.5
SKR				*i* S	**Sn**	**02 11 50.8**	**-4.8**
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.3s						
SKR				smax	smax		
	comp=E,1μm,0.3s						
SKR	**Severo-Kuril's**	**0.55**	**290**	*i* P	**Pn**	**02 11 41.1**	**+1.3**
SKR				*i* S	**Sn**	**02 11 54.9**	**-0.7**
SKR	**Severo-Kuril's**	**0.55**	**290**	*e*P	**Pn**	**02 11 41.2**	**+1.4**
SKR				AMB	AMB	02 11 41.5	
	comp=E,274nm,0.7s						
SKR				*e*S	**Sn**	**02 11 55.1**	**-0.5**
SKR				A	A	02 11 55.5	
	comp=E,2μm,0.4s						
PAU	**Pauzhetka**	**0.98**	**356**	PN	**Pn**	**02 11 44.2**	**+1.4**
PAU				S	**Sn**	**02 12 00.7**	**-0.4**
PAU	**Pauzhetka**	**0.98**	**356**	*e*P	**Pn**	**02 11 44.2**	**+1.4**
PAU				*e*S	**Sn**	**02 12 00.7**	**-0.4**
PAU	**Pauzhetka**	**0.98**	**356**	*e*P	**Pn**	**02 11 44.3**	**+1.4**
PAU				*e*S	**Sn**	**02 12 01.4**	**+0.3**
PAU				A	A	02 12 03.6	
	comp=E,2μm,0.8s						
MIPR	**Malaya Ipel'ka**	**1.79**	**357**	*e*P	**Pn**	**02 11 52.0**	**+0.8**
MIPR				*e*S	**Sn**	**02 12 13.7**	**-2.2**
ASAK	**Asacha**	**1.99**	**17**	*i* P	**Pn**	**02 11 55.7**	**+2.1**
ASAK				*e*S	**Sn**	**02 12 19.7**	**-0.5**
MTVR	**Mutnovka**	**2.14**	**21**	*e*P	**Pn**	**02 11 57.7**	**+2.2**
MTVR				*e*S	**Sn**	**02 12 23.1**	**-0.5**
RUS	**Russkaya**	**2.18**	**26**	PN	**Pn**	**02 11 57.4**	**+1.6**
RUS				S	**Sn**	**02 12 22.7**	**-1.4**
RUS	**Russkaya**	**2.18**	**26**	*e*P	**Pn**	**02 11 57.4**	**+1.6**
RUS				*e*S	**Sn**	**02 12 22.7**	**-1.4**
APC	**Apacha**	**2.44**	**3**	*i* P	**Pn**	**02 11 59.7**	**+0.8**
PETK	**Petropavlovsk-**	**2.66**	**10**	PN	**Pn**	**02 12 03.2**	**+1.4**
PETK				S	**Sn**	**02 12 34.2**	**-0.6**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.66**	**10**	P	**Pn**	**02 12 03.2**	**+1.4**
	comp=N,2.3nm,0.3s,baz=172,slow=12,SNR=52						
PETK				S	**Sn**	**02 12 34.2**	**-0.6**
	comp=N,2.8nm,0.3s,baz=175,slow=21,SNR=8.0						
PET	**Petropavlovsk**	**2.75**	**22**	*e*PN	**Pn**	**02 12 04.5**	**+1.7**
PET				*e*S	**Sn**	**02 12 34.6**	**-2.1**
PET				pmax	pmax		
	comp=Z,18nm,0.5s						
PET				smax	smax		
	comp=N,141nm,0.4s						
PET				smax	smax		
	comp=E,72nm,0.6s						
PET	**Petropavlovsk**	**2.75**	**22**	P	**Pn**	**02 12 04.0**	**+1.2**
PET				S	**Sn**	**02 12 34.2**	**-2.5**
PET	**Petropavlovsk**	**2.75**	**22**	*e*P	**Pn**	**02 12 04.3**	**+1.5**
PET				*e*S	**Sn**	**02 12 36.2**	**-0.5**
UGLR	**Uglovaya**	**2.96**	**23**	*i* P	**Pn**	**02 12 08.4**	**+2.7**
AVH	**Avacha**	**2.99**	**21**	*e*P	**Pn**	**02 12 08.9**	**+2.9**
AVH				*e*S	**Sn**	**02 12 42.4**	**0.0**
KOK	**Koryaka**	**2.99**	**20**	*e*P	**Pn**	**02 12 09.0**	**+2.9**
SMAR	**Somma**	**3.00**	**22**	P	**Pn**	**02 12 08.5**	**+2.2**
KRER	**Koryakskii**	**3.03**	**21**	P	**Pn**	**02 12 09.3**	**+2.7**
SDLR	**Sedlovina**	**3.04**	**23**	*e*P	**Pn**	**02 12 08.8**	**+2.1**
KRX	**Arik**	**3.06**	**20**	*i* P	**Pn**	**02 12 09.3**	**+2.4**
NLC	**Nalytchevo**	**3.07**	**28**	*e*S	**Sn**	**02 12 40.5**	**-3.5**
SPN	**Mys Shipunski**	**3.24**	**35**	PN	**Pn**	**02 12 11.2**	**+2.1**
SPN				S	**Sn**	**02 12 46.0**	**-1.9**
SPN	**Mys Shipunski**	**3.24**	**35**	P	**Pn**	**02 12 11.2**	**+2.1**
SPN				*e*S	**Sn**	**02 12 46.0**	**-1.9**
GNL	**Ganaly**	**3.27**	**11**	*i* P	**Pn**	**02 12 11.2**	**+1.6**
GNL				S	**Sn**	**02 12 46.5**	**-2.2**
MKZ	**Mys Kozlova**	**5.01**	**34**	PN	**Pn**	**02 12 33.4**	**+1.0**
MKZ	**Mys Kozlova**	**5.01**	**34**	*e*P	**Pn**	**02 12 33.4**	**+1.0**
MKZ				*e*S	**Sn**	**02 13 25.4**	**-4.1**
TUMR	**Tumrok**	**5.18**	**21**	P	**Pn**	**02 12 37.6**	**+2.9**
KBTR	**Krutoberegovo**	**6.72**	**29**	PN	**Pn**	**02 12 56.3**	**+1.2**
KBTR	**Krutoberegovo**	**6.72**	**29**	*e*P	**Pn**	**02 12 56.3**	**+1.2**
BKI	**Bering**	**7.22**	**46**	*e*S	Sn	02 14 16.6	-5.9
SONM	**Songino Array**	**32.63**	**285**	P	**P**	**02 17 37.4**	**+0.2**
	comp=E,0.2nm,0.5s,baz=73,slow=9.2,SNR=3.0						
YKA	**Yellowknife Ar**	**46.41**	**40**	P	P	02 19 35.0	+4.3
	comp=E,0.1nm,0.7s,baz=299,slow=6.6,SNR=2.8						
MKAR	**Makanchi Array**	**47.52**	**296**	P	**P**	**02 19 39.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=66,slow=7.6,SNR=10						
ARCES	**ARCESS Array B**	**55.13**	**341**	P	**P**	**02 20 35.5**	**-0.3**
	comp=E,1.5nm,0.9s,baz=34,slow=10.0,SNR=4.9						

*PDG **07** 02:13:30.7±0.1, 41°.08N×20°.14E, h6km, ML3.0/10, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*TIR **07** 02:13:30.4±1.9, 41°.13N×20°.07E, h7km±999km, ML3.1*
*THE **07** 02:13:31.3, 41°.10N×20°.20E, h0km±3km, ML2.9/1, Error ellipse: s-maj=3.1km s-min=0.9km az=200.0*
*CSEM **07** 02:13:32.6±0.1, 41°.18N×20°.19E, h2km, ML2.7, Error ellipse: s-maj=4.1km s-min=2.2km az=57.0*
*SKO **07** 02:13:33.0, 41°.18N×20°.18E, h0km*
*BEO **07** 02:13:32.2±0.5, 41°.12N×20°.19E, h0km, ML2.7/1*
*ATH **07** 02:13:32.2, 41°.25N×20°.18E, h20km±1km, MD3.6/24*
ISC 07 02:13:32.6±1.0, 41°.17N±0°.02×20°.19E±0°.02, h9km±8km, n141, σ1°17/214, 12C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.30**	**306**	P	**Pg**	**02 13 38.3**	**-0.3**
TIR				S	**Sg**	**02 13 43.5**	**+0.9**
TIR	**Tirane**	**0.30**	**306**	*i* Pg	**Pg**	**02 13 38.4**	**-0.2**
TIR				*e*Sg	**Sg**	**02 13 43.3**	**+0.7**
TIR	**Tirane**	**0.30**	**306**	*i* Pg	**Pg**	**02 13 38.4**	**-0.2**
TIR				*e*Sg	**Sg**	**02 13 43.3**	**+0.7**
OHR	**Ohrid**	**0.47**	**97**	*i* Pg	**Pg**	**02 13 41.0**	**-0.8**
OHR				*i* Sg	**Sg**	**02 13 48.6**	**+0.7**
OHR	**Ohrid**	**0.47**	**97**	*i* Pg	**Pg**	**02 13 40.9**	**-0.8**
OHR				*i* Sg	**Sg**	**02 13 48.5**	**+0.7**
PHP	**Peshkopia**	**0.55**	**20**	*i* PG	**Pg**	**02 13 43.0**	**-0.3**
PHP				*i* SG	**Sg**	**02 13 51.0**	**+0.5**
PHP	**Peshkopia**	**0.55**	**20**	P	**Pg**	**02 13 42.8**	**-0.5**
PHP				S	**Sb**	**02 13 51.9**	**-0.6**
PHP	**Peshkopia**	**0.55**	**20**	*i* Pg	**Pg**	**02 13 43.0**	**-0.3**
	SNR=90						
PHP				*i* Sg	**Sg**	**02 13 51.0**	**+0.5**
	SNR=90						
PHP				S	**Sb**	**02 13 51.9**	**-0.6**
KBN	**Korca**	**0.71**	**140**	*i* PG	**Pg**	**02 13 46.0**	**-0.4**
KBN				*i* SG	**Sb**	**02 13 57.1**	**-0.1**
KBN	**Korca**	**0.71**	**140**	*i* Pg	**Pg**	**02 13 46.0**	**-0.4**
	SNR=90						
KBN				*i* Sg	**Sb**	**02 13 57.1**	**-0.1**
	SNR=90						
PUK	**Puka**	**0.90**	**346**	*i* PG	**Pg**	**02 13 48.6**	**-1.4**
PUK				*i* SG	**Sb**	**02 14 03.1**	**+0.5**
PUK	**Puka**	**0.90**	**346**	*i* Pg	**Pg**	**02 13 48.6**	**-1.4**
	SNR=90						
PUK				*i* Sg	**Sb**	**02 14 03.1**	**+0.5**
	SNR=90						
FNA	**Florina**	**0.98**	**113**	*i* PG	**Pg**	**02 13 51.4**	**-0.1**
FNA				*i* SG	**Sn**	**02 14 06.1**	**-0.6**
FNA	**Florina**	**0.98**	**113**	P	**Pg**	**02 13 49.1**	**-2.4**
FNA				S	**Sg**	**02 14 03.7**	**-0.5**
FNA	**Florina**	**0.98**	**113**	*e*PN	**Pg**	**02 13 51.6**	**+0.1**
FNA				*e*SN	**Sn**	**02 14 06.2**	**-0.6**
FNA	**Florina**	**0.98**	**113**	P	**Pg**	**02 13 49.1**	**-2.4**
FNA	**Florina**	**0.98**	**113**	*i* Pg	**Pg**	**02 13 51.4**	**-0.1**
	SNR=90						
FNA				S	**Sg**	**02 14 03.7**	**-0.5**
FNA				*i* Sg	**Sn**	**02 14 06.1**	**-0.6**
	SNR=90						
NEST	**Nestorio**	**1.00**	**139**	*e*PN	**Pb**	**02 13 52.2**	**0.0**
NEST				*e*SN	**Sn**	**02 14 06.7**	**-0.5**
NEST	**Nestorio**	**1.00**	**139**	*e*Pn	**Pb**	**02 13 52.2**	**0.0**
NEST				*e*Sn	**Sn**	**02 14 06.7**	**-0.5**
ULC	**Ulcinj**	**1.06**	**319**	*i* Pg	**Pg**	**02 13 51.1**	**-2.0**
ULC				*e*Sg	**Sn**	**02 14 08.5**	**-0.2**
ULC	**Ulcinj**	**1.06**	**319**	*i* Pg	**Pg**	**02 13 51.1**	**-2.0**
ULC				*e*Sg	**Sn**	**02 14 08.5**	**-0.2**
BCI	**Bajram Curri**	**1.20**	**356**	*i* PG	**Pb**	**02 13 54.9**	**-0.7**
BCI				*i* SG	**Sn**	**02 14 12.8**	**+0.7**
BCI	**Bajram Curri**	**1.20**	**356**	*i* Pg	**Pb**	**02 13 54.9**	**-0.7**
	SNR=90						
BCI				*i* Sg	**Sn**	**02 14 12.8**	**+0.7**
	SNR=90						
SKO	**Skopje**	**1.23**	**49**	*e*Pg	**Pn**	**02 13 55.3**	**-0.8**
SKO				*e*Sg	**Sn**	**02 14 12.9**	**-0.1**
SKO	**Skopje**	**1.23**	**49**	*e*Pg	**Pn**	**02 13 55.6**	**-0.5**
SKO				*e*Sg	**Sn**	**02 14 12.9**	**-0.1**
SKO	**Skopje**	**1.23**	**49**	*e*Pg	**Pn**	**02 13 55.6**	**-0.5**
SKO				*e*Sg	**Sn**	**02 14 12.8**	**-0.2**
DRME	**Dracevica, Mon**	**1.26**	**324**	*i* Pg	**Pn**	**02 13 55.2**	**-1.3**
DRME				*e*Sg	**Sn**	**02 14 15.7**	**+2.0**
DRME	**Dracevica, Mon**	**1.26**	**324**	*i* Pg	**Pn**	**02 13 55.2**	**-1.3**
DRME				*e*Sg	**Sn**	**02 14 15.7**	**+2.0**
SRN	**Sarande**	**1.30**	**186**	*i* PG	Pn	02 13 53.5	-3.5
SRN	**Sarande**	**1.30**	**186**	*i* Pg	Pn	02 13 53.5	-3.5
	SNR=90						
PVY	**Plav**	**1.43**	**353**	*i* Pg	**Pn**	**02 13 58.5**	**-0.5**
PVY				*e*Sg	**Sg**	**02 14 22.5**	**+3.7**
PVY	**Plav**	**1.43**	**353**	*i* Pg	**Pn**	**02 13 58.5**	**-0.5**
PVY				*e*Sg	**Sg**	**02 14 22.5**	**+3.7**
PDG	**Podgorica**	**1.44**	**331**	P	**Pn**	**02 13 57.8**	**-1.1**
PDG				S	**Sg**	**02 14 20.7**	**+1.8**
PDG	**Podgorica**	**1.44**	**331**	*e*Pg	**Pn**	**02 13 58.5**	**-0.4**
PDG				*e*Sg	**Sg**	**02 14 19.9**	**+1.0**
PDG	**Podgorica**	**1.44**	**331**	P	**Pn**	**02 13 57.8**	**-1.1**
PDG	**Podgorica**	**1.44**	**331**	*e*Pg	**Pn**	**02 13 58.5**	**-0.4**
PDG				*e*Sg	**Sg**	**02 14 19.9**	**+1.0**
PDG				S	**Sg**	**02 14 20.7**	**+1.8**
TTG	**Podgorica**	**1.44**	**331**	*i* Pg	**Pn**	**02 13 58.1**	**-0.8**
TTG				*e*Sg	**Sg**	**02 14 21.8**	**+2.9**
KZN	**Kozani**	**1.48**	**125**	*e*PN	**Pb**	**02 14 00.4**	**0.0**
KZN				*e*SN	**Sg**	**02 14 21.1**	**+0.8**
KZN	**Kozani**	**1.48**	**125**	*e*Pn	**Pb**	**02 14 00.4**	**0.0**
KZN				*e*Sn	**Sg**	**02 14 21.1**	**+0.8**
KEK	**Kerkira**	**1.49**	**192**	*e*PN	**Pg**	**02 14 01.5**	**+0.4**
KEK				*e*SN	**Sg**	**02 14 21.8**	**+1.4**
KEK	**Kerkira**	**1.49**	**192**	*e*

STON				Sn	**Sn**	02 14 43.7	-0.8		
STON	**Ston**	**2.52**	**313**	*e*Pn	**Pn**	02 14 15.4	+1.7		
STON				*e*Sn	**Sb**	02 14 46.8	-2.2		
STON	**Ston**	**2.52**	**313**	*e*Pn	**Pn**	02 14 15.4	+1.7		
STON				*e*Sn	**Sb**	02 14 46.8	-2.2		
EVR	**Evrytania**	**2.57**	**151**	*e*PN	**Pn**	02 14 15.8	+1.2		
EVR	**Evrytania**	**2.57**	**151**	*e*Pn	**Pn**	02 14 15.8	+1.2		
SRS	**Serrai**	**2.57**	**90**	*e*PB	**Pn**	02 14 15.7	+1.2		
SRS	**Serrai**	**2.57**	**90**	*e*Pb	**Pn**	02 14 15.7	+1.2		
MAKR	**Makrakomi, Fth**	**2.62**	**145**	*e*PB	**Pn**	02 14 17.3	+2.1		
MAKR	**Makrakomi, Fth**	**2.62**	**145**	*e*Pb	**Pn**	02 14 17.3	+2.1		
VTS	**Vitosha**	**2.67**	**57**	⇓*i*P	**Pn**	02 14 17.0	+1.1		
VTS	**Vitosha**	**2.67**	**57**	⇓*i*P	**Pn**	02 14 17.0	+1.1		
VTS				S	**Sb**	02 14 51.8	-1.7		
PDO	**Prodromos**	**2.68**	**163**	*e*PN	**Pn**	02 14 17.8	+1.8		
PDO	**Prodromos**	**2.68**	**163**	*e*Pn	**Pn**	02 14 17.8	+1.8		
MMB	**Musomiste**	**2.70**	**80**	⇓*i*P	**Pn**	02 14 16.9	+0.6		
MMB	**Musomiste**	**2.70**	**80**	⇓*i*P	**Pn**	02 14 16.9	+0.6		
AGG	**Agios Georgios**	**2.70**	**142**	*e*PN	**Pn**	02 14 18.0	+1.7		
AGG	**Agios Georgios**	**2.70**	**142**	*e*Pn	**Pn**	02 14 18.0	+1.7		
GRUS	**Gruza**	**2.74**	**8**	*e*Pn	**Pn**	02 14 17.3	+0.4		
GRUS				*e*Sn	**Sb**	02 14 53.1	-2.6		
GRUS	**Gruza**	**2.74**	**8**	*e*Pn	**Pn**	02 14 17.3	+0.4		
GRUS				*e*Sn	**Sb**	02 14 53.1	-2.6		
BBLS	**Lazići**	**2.75**	**348**	*e*Pn	**Pn**	02 14 18.9	+1.8		
BBLS	**Lazići**	**2.75**	**348**	*e*Pn	**Pn**	02 14 18.9	+1.8		
NVR	**Nevrokopi**	**2.78**	**85**	*e*PN	**Pn**	02 14 18.2	+0.8		
NVR	**Nevrokopi**	**2.78**	**85**	*e*Pn	**Pn**	02 14 18.2	+0.8		
ZAPS	**Zavoj**	**2.78**	**40**	⇑*i*Pn	**Pn**	02 14 19.1	+1.7		
ZAPS	**Zavoj**	**2.78**	**40**	⇑*i*Pn	**Pn**	02 14 19.1	+1.7		
DIVS	**Divibare**	**2.93**	**357**	*e*Pn	**Pn**	02 14 21.3	+1.8		
DIVS				*e*Sn	**Sn**	02 14 56.6	+1.7		
DIVS	**Divibare**	**2.93**	**357**	*e*Pn	**Pn**	02 14 21.3	+1.8		
DIVS				*e*Sn	**Sn**	02 14 56.6	+1.7		
VLS	**Valsamata**	**3.01**	**174**	*e*PN	**Pn**	02 14 19.9	-0.6		
VLS	**Valsamata**	**3.01**	**174**	*e*Pn	**Pn**	02 14 19.9	-0.6		
EFP	**Efpalio**	**3.04**	**154**	*e*PN	**Pn**	02 14 22.6	+1.6		
EFP	**Efpalio**	**3.04**	**154**	*e*Pn	**Pn**	02 14 22.6	+1.6		
KALE	**Kalithea**	**3.16**	**151**	*e*PB	**Pn**	02 14 25.4	+2.8		
KALE	**Kalithea**	**3.16**	**151**	*e*Pb	**Pn**	02 14 25.4	+2.8		
LKR	**Lokris**	**3.32**	**138**	*e*PN	**Pn**	02 14 25.6	+0.8		
LKR	**Lokris**	**3.32**	**138**	*e*Pn	**Pn**	02 14 25.6	+0.8		
GUR	**Goura**	**3.63**	**152**	*e*PN	**Pn**	02 14 31.7	+2.5		
GUR	**Goura**	**3.63**	**152**	*e*Pn	**Pn**	02 14 31.7	+2.5		
RDO	**Rodhopi**	**4.04**	**89**	*e*PN	**Pn**	02 14 35.9	+1.2		
RDO	**Rodhopi**	**4.04**	**89**	*e*Pn	**Pn**	02 14 35.9	+1.2		
BLY	**Banja Luka**	**4.20**	**329**	*e*PN	**Pn**	02 14 38.1	+1.2		
BLY	**Banja Luka**	**4.20**	**329**	*e*Pn	**Pn**	02 14 38.1	+1.2		
BZS	**Buzias**	**4.56**	**13**	*e*Pn	**Pn**	02 14 42.3	+0.4		
BZS				*e*Sn	**Sn**	02 15 35.4	+0.3		
BZS	**Buzias**	**4.56**	**13**	⇑*i*P	**Pn**	02 14 42.4	+0.5		
BZS	**Buzias**	**4.56**	**13**	⇑*i*P	**Pn**	02 14 42.4	+0.5		
BZS				S	**Sn**	02 15 34.8	-0.3		
BZS				*e*Sn	**Sn**	02 15 35.4	+0.3		
GZR	**Gura Zlata**	**4.62**	**23**	⇓*i*P	**Pn**	02 14 43.7	+0.9		
GZR	**Gura Zlata**	**4.62**	**23**	⇓*i*P	**Pn**	02 14 43.7	+0.9		
GZR				S	**Sn**	02 15 38.7	+2.1		
UDBI	**Udbina**	**4.67**	**317**	*e*Pn	**Pn**	02 14 44.5	+1.0		
UDBI				Sn	**Sn**	02 15 38.0	+0.2		
UDBI	**Udbina**	**4.67**	**317**	*e*Pn	**Pn**	02 14 44.4	+1.0		
PKSM	**Moragy**	**5.16**	**348**	⇓*i*P	**Pn**	02 14 49.7	-0.4		
PKSM	**Moragy**	**5.16**	**348**	⇓*i*P	**Pn**	02 14 49.7	-0.4		
PKSM				S	**Sn**	02 15 49.0	-0.8		
NVLJ	**Novalja**	**5.17**	**313**	*e*Pn	**Pn**	02 14 49.8	-0.5		
NVLJ	**Novalja**	**5.17**	**313**	*e*Pn	**Pn**	02 14 49.7	-0.5		
DRGR		**5.91**	**17**	S	**Sn**	02 16 09.7	+1.5		
DRGR		**5.91**	**17**	S	**Sn**	02 16 09.7	+1.5		
SOKA	**Soboth**	**6.64**	**328**	⇑*i*Pn	**Pn**	02 15 10.8	+0.3		
SOKA	**Soboth**	**6.64**	**328**	Pn	**Pn**	02 15 10.8	+0.3		
OBKA	**Obir**	**6.71**	**325**	⇑*i*Pn	**Pn**	02 15 12.1	+0.6		
OBKA	**Obir**	**6.71**	**325**	Pn	**Pn**	02 15 12.1	+0.6		
KECS	**Kecovo**	**7.32**	**2**	*e*PN	Pn	02 15 24.4	+4.7		
STHS	**Stebnicka Huta**	**8.28**	**5**	*e*Pn	**Pn**	02 15 34.7	+1.8		
STHS	**Stebnicka Huta**	**8.28**	**5**	*e*PN	**Pn**	02 15 34.7	+1.8		

MOS ***07*** *02:14:34.7±1.1,46.°02N×149.°09E,h196km,mb4.0/1,Error ellipse: s-maj=29.3km s-min=17.6km az=68.1*
JMA ***07*** *02:14:35.5±0.5,45.°31N×149.°51E,h168km,M3.4*
IDC ***07*** *02:14:36.5±2.8,46.°03N×149.°17E,h193km±26km, mb3.1/10,mb1 3.3/11,mb1mx3.1/40,mbtmp3.6/11,Error ellipse: s-maj=21.4km s-min=15.6km az=107.0*

ISC 07 02:14:31.1±0.8,45.°8N±0.1×149.°6E±0.1,h147km,n26, σ2°19/26,mb3.3/10,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**3.19**	**237**	*d*iPN	**Pn**	**02 15 23.6**	**+2.9**
YUK				*i* S	**Sn**	**02 16 03.1**	**+4.0**
YUK				pmax	pmax		
	comp=N,40nm,0.2s						
YUK				pmax	pmax		
	comp=E,47nm,0.2s						
YUK				pmax	pmax		
	comp=Z,309nm,0.2s						
YUK				smax	smax		
	comp=N,228nm,0.7s						
YUK				smax	smax		
	comp=E,126nm,0.4s						
NEM2	**Nemuro 2**	**3.68**	**230**	P	**Pn**	**02 15 27.9**	**+0.8**
NEM2				*e*S	**Sn**	**02 16 08.7**	**-1.8**
JRA	**Rausu**	**3.69**	**241**	P	**Pn**	**02 15 29.9**	**+2.7**
JTKR	**Abashiri--Toko**	**4.44**	**247**	P	**Pn**	**02 15 39.5**	**+2.5**
JAK	**Akkeshi**	**4.50**	**233**	P	**Pn**	**02 15 38.6**	**+0.8**
JAK				*e*S	**Sn**	**02 16 28.3**	**-1.3**
JOB	**Onbets**	**5.05**	**237**	*e*S	**Sn**	**02 16 41.8**	**-0.9**
JKK2	**Kamakawa 2**	**5.24**	**251**	P	**Pn**	**02 15 50.5**	**+2.9**
ASAJ	**Asahikawa**	**5.24**	**254**	PN	Pn	02 15 51.2	+3.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**5.24**	**254**	P	**Pn**	**02 15 50.8**	**+3.2**
ASAJ	**Asahikawa**	**5.24**	**254**	P	Pn	02 15 51.1	+3.5
	comp=Z,2.3nm,0.3s,baz=61,slow=14,SNR=14						
JCH	**Churui**	**5.50**	**237**	P	**Pn**	**02 15 51.5**	**+0.4**
JCH				*e*S	**Sn**	**02 16 50.5**	**-3.0**
JFR	**Furan**	**5.66**	**245**	P	**Pn**	**02 15 56.1**	**+2.9**
JEM	**Erimo**	**6.00**	**233**	P	**Pn**	**02 15 58.5**	**+0.8**
JBT2	**Biratori 2**	**6.01**	**242**	P	**Pn**	**02 15 59.5**	**+1.7**
JNBK	**Urakawa-nobuka**	**6.06**	**237**	*e*S	**Sn**	**02 17 03.4**	**-3.5**
INK	**Inuvik**	**43.74**	**32**	P	**P**	**02 22 22.2**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=302,slow=5.5,SNR=4.9						
MKAR	**Makanchi Array**	**45.18**	**297**	P	**P**	**02 22 31.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=70,slow=7.4,SNR=3.9						
MKAR				PcP	**PcP**	**02 24 10.4**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=65,slow=2.1,SNR=2.4						
YKA	**Yellowknife Ar**	**53.11**	**35**	P	**P**	**02 23 33.8**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=299,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**63.81**	**333**	P	P	02 24 44.8	-2.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**63.81**	**333**	P	P	02 24 44.8	-2.3
	comp=Z,0.9nm,0.5s,baz=36,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**66.90**	**196**	P	**P**	**02 25 07.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=12,slow=6.2,SNR=2.5						
NOA	**NORSAR Array B**	**68.28**	**340**	P	**P**	**02 25 13.8**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=30,slow=6.7,SNR=4.0						
ASAR	**Alice Springs**	**70.61**	**195**	P	**P**	**02 25 32.1**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=10,slow=5.8,SNR=3.4						
AKASG	**Malin Array Be**	**70.92**	**325**	P	P	02 25 29.9	-2.1
	comp=Z,0.4nm,0.4s,baz=35,slow=5.9,SNR=4.7						
GERES	**GERESS Array B**	**78.17**	**332**	P	**P**	**02 26 12.4**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=34,slow=6.0,SNR=6.4						
TXAR	**Lajitas Array**	**80.07**	**58**	P	**P**	**02 26 25.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=317,slow=6.2,SNR=3.3						

IDC 07 02:17:09.0±2.1,5.°08S×151.°44E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.5/39,mbtmp3.8/4,ML2.8/1,Error ellipse: s-maj=147.3km s-min=25.7km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.05**	**224**	Pn	Pn	02 18 41.8	+2.0
	1.5nm,0.3s,baz=38,slow=12,SNR=5.4						
PMG				Sn	Sn	02 19 47.7	-2.0
	1.1nm,0.3s,baz=34,slow=18,SNR=2.8						
WRA	**Warramunga Arr**	**22.26**	**227**	P	P	02 22 08.1	+0.3
	1.9nm,0.8s,baz=52,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**25.05**	**221**	P	P	02 22 34.3	-0.9
	2.3nm,0.8s,baz=55,slow=9.4,SNR=26						
ILAR	**Eielson Array**	**82.92**	**22**	P	P	02 29 36.0	+0.5
	0.4nm,0.7s,baz=253,slow=5.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**149.10**	**287**	PKPbc	PKPbc	02 36 59.6	-0.8
	0.4nm,0.7s,baz=84,slow=2.6,SNR=7.5						

IDC ***07*** *02:18:32.9±0.7,35.°54S×72.°62W,h0km,mb4.3/9, mb1 4.4/11,mb1mx4.2/30,mbtmp4.3/11,ML3.7/3,Error ellipse: s-maj=26.2km s-min=18.0km az=78.0*
NEIC ***07*** *02:18:36.6,35.°61S×72.°69W,h29km,mb4.5/22, ML4.7(GUC),After GUC.*
NEIC Felt [IV] at Chanco, Curanipe and Quivolgo; [III] at Constitucion and Pencahue; [II] at San Javier.
GUC ***07*** *02:18:36.6±0.7,35.°61S×72.°69W,h29km±6km,ML4.7*

ISC 07 02:18:34.7±3.0,35.°56S±0.°04×72.°78W±0.°05,h16km±19km, n72,σ0°91/78,mb4.5/27,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.95**	**80**	*e*P	**Pb**	**02 18 52.5**	**-0.3**
TALC				*e*S	**Sb**	**02 19 04.7**	**-0.4**
TALC	**Talca**	**0.95**	**80**	*e*P	**Pb**	**02 18 52.5**	**-0.3**
TALC				*e*S	**Sb**	**02 19 04.7**	**-0.4**
LNCH	**Linares**	**1.00**	**107**	*e*P	**Pb**	**02 18 53.8**	**+0.2**
LNCH				*e*S	**Sb**	**02 19 05.8**	**-0.8**
LNCH	**Linares**	**1.00**	**107**	*e*P	**Pb**	**02 18 53.8**	**+0.2**
LNCH				*e*S	**Sb**	**02 19 05.8**	**-0.8**
CCSP	**San Pedro de C**	**1.30**	**192**	*e*P	**Pb**	**02 18 58.9**	**+0.2**
CCSP				*e*S	**Sn**	**02 19 15.1**	**-0.1**
CCSP				AML	AML	02 19 20.2	
	comp=N,7μm,0.3s						
CCSP	**San Pedro de C**	**1.30**	**192**	*e*P	**Pb**	**02 18 58.9**	**+0.2**
CCSP				*e*S	**Sn**	**02 19 15.1**	**-0.1**
NICH	**Los Niches**	**1.39**	**67**	*e*P	**Pn**	**02 18 59.8**	**+0.4**
NICH				*e*S	**Sb**	**02 19 17.5**	**-0.2**
NICH	**Los Niches**	**1.39**	**67**	*e*P	**Pn**	**02 18 59.8**	**+0.4**
NICH				*e*S	**Sb**	**02 19 17.5**	**-0.2**
LNV	**Longovilo**	**1.96**	**36**	*e*P	**Pn**	**02 19 08.0**	**+0.8**
LNV	**Longovilo**	**1.96**	**36**	P	**Pn**	**02 19 08.0**	**+0.8**
TACH	**Talagante**	**2.44**	**39**	*e*P	**Pn**	**02 19 14.0**	**+0.2**
TACH	**Talagante**	**2.44**	**39**	P	**Pn**	**02 19 14.0**	**+0.2**
IHA	**Instituto Hidr**	**2.70**	**21**	*e*P	**Pn**	**02 19 16.9**	**-0.5**
IHA	**Instituto Hidr**	**2.70**	**21**	P	**Pn**	**02 19 16.9**	**-0.5**
YECH	**El Yeso**	**2.92**	**50**	*e*P	**Pn**	**02 19 22.9**	**+2.2**
YECH				AML	AML	02 20 09.1	
	comp=N,3μm,0.4s						
YECH	**El Yeso**	**2.92**	**50**	*e*P	**Pn**	**02 19 22.9**	**+2.2**
PEL	**Peldehue**	**2.97**	**36**	*e*P	**Pn**	**02 19 22.8**	**+1.6**
PEL				*e*S	**Sn**	**02 19 58.6**	**+2.0**
PEL				AML	AML	02 20 18.0	
	comp=E,5μm,0.6s						
PEL	**Peldehue**	**2.97**	**36**	*e*P	**Pn**	**02 19 22.8**	**+1.6**
PEL				*e*S	**Sn**	**02 19 58.6**	**+2.0**
ROCH	**El Roble**	**2.97**	**30**	*e*P	**Pn**	**02 19 22.0**	**+0.6**
ROCH				AML	AML	02 20 18.5	
	comp=E,3μm,0.5s						
ROCH	**El Roble**	**2.97**	**30**	P	**Pn**	**02 19 22.0**	**+0.6**
PLCA	**Paso Flores**	**5.45**	**162**	Pn	**Pn**	**02 19 57.1**	**+1.8**
	comp=E,0.9nm,0.3s,baz=343,slow=14,SNR=29						
PLCA				Lg	Lg	02 21 15.7	
	comp=E,1.0nm,0.3s,baz=24,slow=19,SNR=2.9						
PLCA	**Paso Flores**	**5.45**	**162**	*e*Pn	**Pn**	**02 19 56.5**	**+1.2**
	comp=E,27nm,0.4s						
PLCA				*e*Lg	Lg	02 21 18.3	
CFAA	**Coronel Fontan**	**5.47**	**45**	Pn	**Pn**	**02 19 56.0**	**+0.4**
	comp=E,0.3nm,0.3s,baz=216,slow=13,SNR=14						
CFAA				Lg	Lg	02 21 10.8	
	comp=E,1.2nm,0.3s,baz=264,slow=18,SNR=4.7						
LCO	**Las Campanas**	**6.77**	**16**	*e*Pn	**Pn**	**02 20 12.4**	**-1.1**
	comp=E,24nm,0.6s						
LCO				*e*Lg	Lg	02 22 03.5	
TRQA	**Tornquist**	**9.02**	**109**	*e*Pn	**Pn**	**02 20 42.9**	**-1.3**
	comp=E,9.0nm,0.6s						
TRQA				*e*Lg	Lg	02 23 14.9	
LVC	**Limon Verde**	**13.34**	**16**	*e*Pn	**Pn**	**02 21 43.4**	**-0.2**
LPAZ	**La Paz**	**19.64**	**13**	P	**Pn**	**02 23 04.9**	**+0.2**
	comp=E,0.3nm,0.3s,baz=183,slow=10,SNR=11						
LPAZ	**La Paz**	**19.64**	**13**	*e*P	**Pn**	**02 23 04.8**	**+0.2**
	comp=E,6.7nm,0.8s						
SIV	**San Ignacio**	**22.12**	**31**	P	**P**	**02 23 28.9**	**-0.6**
	comp=E,6.5nm,0.7s,baz=204,slow=9.5,SNR=13						
SAML	**Samuel**	**27.91**	**21**	*e*P	**P**	**02 24 22.8**	**-1.2**
	comp=E,3.7nm,1.0s						
SDV	**Santo Domingo**	**44.26**	**3**	*e*P	**P**	**02 26 43.4**	**-0.2**
	comp=E,5.5nm,0.9s						
SNAA	**Sanae**	**50.38**	**157**	*e*P	**P**	**02 27 31.0**	**+0.4**
	comp=E,4.1nm,0.8s						
OBIP	**Obispado Ponce**	**53.63**	**7**	*e*P	**P**	**02 27 54.1**	**-1.2**
QSPA	**South Pole Qui**	**54.68**	**180**	P	**P**	**02 28 04.0**	**+1.4**
	comp=E,4.2nm,0.8s,baz=133,slow=6.3,SNR=17						
QSPA	**South Pole Qui**	**54.68**	**180**	*e*P	**P**	**02 28 03.7**	**+1.1**
	comp=E,9.3nm,1.2s						
HKT	**Hockley**	**68.68**	**339**	*e*P	**P**	**02 29 35.9**	**-1.2**
	comp=E,5.7nm,1.0s						
GOGA	**Godfrey**	**69.34**	**350**	*e*P	**P**	**02 29 40.8**	**-0.4**
	comp=E,3.0nm,0.6s						
JCT	**Junction City**	**70.44**	**335**	*e*P	**P**	**02 29 48.5**	**+0.4**
	comp=E,5.2nm,1.1s						
TXAR	**Lajitas Array**	**70.81**	**332**	P	**P**	**02 29 51.6**	**+1.2**
	comp=E,1.3nm,0.5s,baz=159,slow=9.1,SNR=26						
ABTX	**Abilene, Hawle**	**72.36**	**336**	*e*P	**P**	**02 29 59.8**	**+0.2**
	comp=E,8.1nm,0.8s						
WVT	**Waverly**	**72.69**	**347**	*e*P	**P**	**02 30 01.0**	**-0.5**
	comp=E,8.0nm,0.7s						
MNTX	**Cornudas Mount**	**73.58**	**331**	*e*P	**P**	**02 30 06.4**	**-0.4**
	comp=E,1.2nm,0.8s						
WMOK	**Wichita Mounta**	**74.03**	**338**	*e*P	**P**	**02 30 09.3**	**-0.1**
	comp=E,1.2nm,0.8s						
TUL1	**Leonard**	**74.27**	**341**	*e*P	**P**	**02 30 10.4**	**-0.3**
	comp=E,6.0nm,0.6s						
WCI	**Wyandotte Cave**	**74.48**	**349**	*e*P	**P**	**02 30 10.8**	**-1.1**
	comp=E,3.5nm,0.5s						
DBIC	**Dimbokro**	**76.26**	**71**	P	**P**	**02 30 22.9**	**+0.1**
	comp=E,3.6nm,0.8s,baz=229,slow=3.6,SNR=4.7						
DBIC	**Dimbokro**	**76.26**	**71**	*e*P	**P**	**02 30 21.3**	**-1.5**
	comp=E,5.1nm,0.9s						
ANMO	**Albuquerque**	**76.87**	**332**	P	**P**	**02 30 27.5**	**+1.6**
	comp=E,2.3nm,1.0s,baz=172,slow=12,SNR=5.2						
ANMO	**Albuquerque**	**76.87**	**332**	*e*P	**P**	**02 30 26.8**	**+0.9**
	comp=E,1.6nm,1.0s						
CASY	**Casey**	**78.45**	**181**	*e*P	**P**	**02 30 34.6**	**+0.4**
	comp=E,4.9nm,0.8s						
SDCO	**Great Sand Dun**	**79.00**	**334**	*e*P	**P**	**02 30 39.1**	**+1.3**
	comp=E,1.6nm,0.6s						
MVCO	**Mesa Verde**	**79.64**	**332**	*e*P	**P**	**02 30 41.1**	**-0.2**
	comp=E,2.2nm,0.8s						
BOSA	**Boshof**	**79.89**	**118**	P	**P**	**02 30 42.7**	**-0.3**
	comp=E,6.4nm,0.8s,baz=224,slow=3.8,SNR=11						
BOSA	**Boshof**	**79.89**	**118**	*e*P	**P**	**02 30 42.5**	**-0.4**
	comp=E,6.2nm,0.8s						
ISCO	**Idaho Springs**	**80.87**	**335**	*e*P	**P**	**02 30 47.9**	**0.0**
	comp=E,1.1nm,0.6s						
DUG	**Dugway, Tooele**	**83.92**	**330**	*e*P	**P**	**02 31 03.6**	**-0.1**
	comp=E,3.6nm,1.1s						
NVAR	**Mina Array Bea**	**84.82**	**326**	P	**P**	**02 31 10.2**	**+1.8**
	comp=E,0.9nm,0.8s,baz=168,slow=5.1,SNR=5.5						
PDAR	**Pinedale Array**	**84.88**	**334**	P	**P**	**02 31 08.9**	**+0.3**
	comp=E,0.5nm,0.9s,baz=157,slow=4.9,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**85.32**	**70**	*e*P	**P**	**02 31 10.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**85.32**	**70**	P	**P**	**02 31 10.8**	**-0.4**
	comp=E,2.0nm,0.8s,baz=242,slow=4.0,SNR=11						
ULM	**Lac du Bonnet**	**87.85**	**345**	P	**P**	**02 31 22.7**	**0.0**
	comp=E,2.4nm,0.8s,baz=157,slow=4.5,SNR=8.0						
H11N3	**WAKE ISLAND Hyd**	**125.58**	**270**	T	T	04 55 40.3	
	baz=122,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hyd**	**125.59**	**270**	T	T	04 55 40.5	
	baz=122,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hyd**	**125.59**	**270**	T	T	04 55 41.1	
	baz=122,slow=76,SNR=9.8						
ABKAR	**Akbulak array**	**143.12**	**53**	*e*PKPdf	PKPbc	02 38 05.2	+1.0
BVAR	**Borovoye Array**	**148.83**	**44**	PKPbc	**PKPbc**	**02 38 21.3**	**+0.4**
	comp=E,0.7nm,0.4s,baz=264,slow=1.4,SNR=5.6						
TKM2	**Tokmak 2**	**154.54**	**64**	*e*PKPab	**PKPab**	**02 38 48.3**	**-0.9**
ZAA0	**Zalesovo Array**	**155.87**	**33**	*e*PKPab	**PKPab**	**02 38 54.4**	**+0.2**
ZALV	**Zalesovo Beam**	**155.87**	**33**	PKPab	**PKPab**	**02 38 54.6**	**+0.4**
	comp=E,1.4nm,0.9s,baz=284,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**158.24**	**51**	PKPab	**PKPab**	**02 39 04.6**	**-0.1**
	comp=E,0.4nm,0.8s,baz=268,slow=4.6,SNR=4.4						
ULN	**Ulaanbaatar**	**167.71**	**1**	*e*PKPab	**PKPab**	**02 39 47.1**	**+0.9**
SONM	**Songino Array**	**167.72**	**3**	PKPab	**PKPab**	**02 39 46.6**	**+0.4**
	comp=E,0.6nm,0.8s,baz=350,slow=4.4,SNR=5.1						

ISCJB ***07*** *02:29:45.4±1.2,35.°54S±0.°03×72.°83W±0.°06,h19km±8km, mb4.5/52,Error ellipse: s-maj=8.0km s-min=5.2km az=10.5*
GUC ***07*** *02:29:46.7±0.9,35.°53S×72.°81W,h31km±10km,ML4.9*
NEIC ***07*** *02:29:46.7,35.°53S×72.°81W,h31km,mb4.6/43, ML4.9(GUC),After GUC.*
NEIC Felt [IV] at Chanco and Constitucion; [III] at Cauquenes, Pencahue and San Javier.
IDC ***07*** *02:29:47.9±0.6,35.°56S×72.°77W,h27km±3km,mb4.3/13, mb1 4.4/15,mb1mx4.1/38,mbtmp4.4/15,ML4.2/2,Error ellipse: s-maj=20.5km s-min=13.5km az=78.0*
BJI ***07*** *02:29:48.8,35.°50S×72.°40W,h30km,mB5.4/3,Ms5.3/4, Ms7 5.1/4*

ISC 07 02:29:48.0±0.5,35.°59S±0.°04×72.°73W±0.°05,h29km±3km, h28km:pP-P,n304,σ0°84/331,mb4.6/52,99C-94D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.91**	**78**	*e*P	**Pn**	**02 30 03.5**	**-1.5**
TALC				*e*S	**Sn**	**02 30 16.6**	**-0.4**
TALC	**Talca**	**0.91**	**78**	*e*P	**Pn**	**02 30 03.5**	**-1.5**
TALC				*e*S	**Sn**	**02 30 16.6**	**-0.4**
LNCH	**Linares**	**0.95**	**106**	*e*P	**Pn**	**02 30 05.0**	**-0.4**
LNCH				*e*S	**Sn**	**02 30 19.0**	**+0.9**
LNCH	**Linares**	**0.95**	**106**	*e*P	**Pn**	**02 30 05.0**	**-0.4**
LNCH				*e*S	**Sn**	**02 30 19.0**	**+0.9**
CCSP	**San Pedro de C**	**1.29**	**194**	*e*P	**Pn**	**02 30 09.6**	**-0.5**
CCSP				*e*S	**Sn**	**02 30 27.7**	**+1.3**
CCSP				AML	AML	02 30 30.7	
	comp=E,30μm,0.4s						
CCSP	**San Pedro de C**	**1.29**	**194**	*e*P	**Pn**	**02 30 09.6**	**-0.5**
CCSP				*e*S	**Sn**	**02 30 27.7**	**+1.3**
NICH	**Los Niches**	**1.36**	**65**	*e*P	**Pn**	**02 30 11.1**	**+0.1**
NICH				*e*S	**Sb**	**02 30 29.5**	**-0.2**
NICH	**Los Niches**	**1.36**	**65**	*e*P	**Pn**	**02 30 11.1**	**+0.1**
NICH				*e*S	**Sb**	**02 30 29.5**	**-0.2**
IHA	**Instituto Hidr**	**2.71**	**20**	*e*P	**Pn**	**02 30 28.2**	**-1.5**
IHA	**Instituto Hidr**	**2.71**	**20**	P	**Pn**	**02 30 28.2**	**-1.5**
CLCH	**Cerro Calan**	**2.84**	**40**	*e*P	**Pn**	**02 30 31.1**	**-0.4**
CLCH				AML	AML	02 31 21.8	
	comp=N,5μm,0.4s						
CLCH	**Cerro Calan**	**2.84**	**40**	*e*P	**Pn**	**02 30 31.1**	**-0.4**
YECH	**El Yeso**	**2.91**	**49**	*e*P	**Pn**	**02 30 33.3**	**+0.7**
YECH				*e*S	**Sn**	**02 31 10.1**	**+3.4**
YECH				AML	AML	02 31 22.5	
	comp=N,3μm,0.1s						
YECH	**El Y

529A	Stev Forest Ra	71.02	333	⇓P	P	02 41 03.0	-0.2
	baz=71,SNR=11						
430A	Baggett Ranch,	71.26	334	⇓P	P	02 41 04.7	0.0
	baz=72,SNR=8.2						
332A	Millersview	71.29	336	⇓P	P	02 41 04.7	0.0
	baz=72						
234A	Clairette	71.34	337	⇑P	P	02 41 04.9	-0.1
	baz=72						
429A	Davenport Ranc	71.35	334	⇓P	P	02 41 05.1	-0.1
	baz=72,SNR=6.0						
331A	San Angelo	71.46	335	⇑P	P	02 41 05.7	-0.1
	baz=72,SNR=7.9						
SWET	Sewanee	71.51	349	*e*P	P	02 41 04.9	-1.1
	comp=E,9.6nm,0.8s						
233A	Rising Star	71.60	337	⇓P	P	02 41 06.2	-0.4
	baz=72,SNR=7.1						
TKL	Tuckaleechee C	71.63	351	P	P	02 41 05.6	-1.1
	comp=E,2.7nm,0.6s,baz=168,slow=9.3,SNR=4.6						
TKL				pP	pP	02 41 13.6	-2.1
	comp=E,3.9nm,0.7s,baz=180,slow=9.1,SNR=4.2						
232A	Coleman	71.72	336	⇑P	P	02 41 07.0	-0.4
	baz=72,SNR=8.4						
330A	Mertzon	71.80	335	⇑P	P	02 41 07.6	-0.3
	baz=72						
MAW	Mawson	71.82	164	P	P	02 41 08.0	+0.6
	comp=E,7.4nm,0.8s,baz=180,slow=4.0,SNR=5.9						
231A	Bronte	71.99	336	⇓P	P	02 41 08.4	-0.5
	baz=72,SNR=8.3						
133A	Hamilton Ranch	72.15	337	⇑P	P	02 41 09.5	-0.4
	baz=72						
329A	Wagon Wheel Ra	72.16	334	⇑P	P	02 41 09.6	-0.5
	baz=72,SNR=5.4						
230A	Sterling City	72.22	335	⇓P	P	02 41 10.1	-0.3
	baz=72						
ABTX	Abilene, Hawle	72.40	336	⇓P	P	02 41 11.2	-0.2
	baz=73						
ABTX	Abilene, Hawle	72.40	336	*e*P	P	02 41 11.6	+0.2
	comp=E,16nm,1.0s						
229A	Bryant Ranch,	72.54	334	⇓P	P	02 41 12.2	-0.1
	baz=73						
Z34A	Collier Ranch,	72.55	338	⇑P	P	02 41 12.2	0.0
	baz=73						
131A	Roby	72.69	336	⇓P	P	02 41 13.0	-0.2
	baz=73						
WVT	Waverly	72.73	347	*e*P	P	02 41 11.7	-1.5
	comp=E,9.3nm,0.7s						
Z33A	Whitaker Ranch	72.73	337	⇓P	P	02 41 13.2	-0.1
	baz=73						
130A	Snyder	72.81	335	⇑P	P	02 41 13.7	-0.2
	baz=73						
228A	UT Block 9, Go	72.95	334	⇑P	P	02 41 14.8	0.0
	baz=73						
Z32A	Haskell	72.97	337	⇑P	P	02 41 14.4	-0.4
	baz=73,SNR=5.9						
Y34A	Reagan Ranch,	73.04	338	⇑P	P	02 41 14.9	-0.2
	baz=73						
129A	Stewart Farms,	73.16	335	⇑P	P	02 41 15.6	-0.3
	baz=73						
Z31A	Sharp Cattle R	73.20	336	⇓P	P	02 41 15.7	-0.4
	baz=73,SNR=5.7						
Y33A	Hilltop Ranch,	73.35	338	⇑P	P	02 41 16.4	-0.6
	baz=74						
128A	Castleberry Fa	73.37	334	⇑P	P	02 41 16.7	-0.5
	baz=74,SNR=5.4						
Z30A	Sanderson Ranc	73.50	335	⇑P	P	02 41 17.1	-0.8
	baz=74,SNR=5.5						
Y32A	R-V Farms, Ver	73.61	337	⇓P	P	02 41 18.0	-0.5
	baz=74						
MNTX	Cornudas Mount	73.62	331	⇑P	P	02 41 17.8	-0.9
	baz=74,SNR=8.6						
MNTX	Cornudas Mount	73.62	331	*e*P	P	02 41 18.0	-0.7
	comp=E,4.0nm,0.8s						
X34A	Smith Ranch, M	73.66	339	⇑P	P	02 41 19.2	+0.3
	baz=74						
Z29A	Hungry Hill Ra	73.67	335	⇑P	P	02 41 18.1	-0.8
	baz=74,SNR=9.0						
Y31A	Rekieta Farm,	73.83	336	⇑P	P	02 41 19.6	-0.3
	baz=74,SNR=6.0						
Z28A	Tucker Farm, M	73.94	334	⇓P	P	02 41 20.1	-0.5
	baz=74						
X32A	Elmer	73.94	337	⇑P	P	02 41 20.2	-0.3
	baz=74						
Y30A	Stafford Cattl	73.96	336	⇓P	P	02 41 20.3	-0.3
	baz=74						
WMOK	Wichita Mounta	74.08	338	*e*P	P	02 41 20.2	-1.0
	comp=E,2.2nm,1.0s						
Y29A	Porterfield Fa	74.21	335	⇓P	P	02 41 21.6	-0.5
	baz=74,SNR=6.4						
TUL1	Leonard	74.31	341	⇑P	P	02 41 22.3	-0.2
	baz=75						
TUL1	Leonard	74.31	341	*e*P	P	02 41 22.1	-0.4
	comp=E,8.1nm,0.7s						
X31A	McDonald Ranch	74.35	337	⇑P	P	02 41 22.6	-0.3
	baz=75						
W33A	Caddo, Fort Co	74.37	338	⇑P	P	02 41 23.1	+0.2
	baz=75						
Y28A	McKinney Farm,	74.45	335	⇑P	P	02 41 23.4	-0.1
	baz=75						
V35A	Meyer Ranch, C	74.46	340	⇑P	P	02 41 23.3	-0.1
	baz=75						
WCI	Wyandotte Cave	74.52	349	*e*P	P	02 41 23.6	-0.1
SUR	Sutherland	74.56	119	*e*P	P	02 41 25.1	+0.5
	comp=E,50nm,2.2s						
W32A	Sentinel	74.58	338	⇑P	P	02 41 24.0	-0.1
	baz=75,SNR=9.1						
MSTX	Muleshoe	74.69	334	⇑P	P	02 41 24.8	-0.1
	baz=75,SNR=9.2						
MSTX	Muleshoe	74.69	334	*e*P	P	02 41 24.0	-0.9
	comp=E,9.9nm,0.8s						
X29A	Tulia	74.75	335	⇓P	P	02 41 25.3	0.0
	baz=75						
V33A	Lossen Ranch,	74.93	339	⇑P	P	02 41 26.3	+0.1
	baz=75						
121A	Cookes Peak, D	75.32	330	⇓P	P	02 41 29.3	+0.6
	baz=76,SNR=5.6						
W29A	Amarillo	75.35	336	⇑P	P	02 41 29.0	+0.3
	baz=76						
S36A	Lake Cedric, C	75.97	341	⇑P	P	02 41 31.7	-0.4
	baz=76						
ACSO	Alum Creek Sta	76.04	352	*e*P	P	02 41 31.8	-0.6
	comp=E,13nm,0.6s						
W26A	Owens Ranch, T	76.05	334	⇓P	P	02 41 33.2	+0.5
	baz=76						
T33A	Patterson Ranc	76.09	339	⇓P	P	02 41 33.1	+0.3
	baz=76						
V28A	Channing	76.11	336	⇑P	P	02 41 33.8	+0.8
	baz=76						
DBIC	Dimbokro	76.22	71	P	P	02 41 35.2	+1.2
	comp=E,3.7nm,1.0s,baz=171,slow=6.2,SNR=3.0						
DBIC	Dimbokro	76.22	71	*e*P	P	02 41 31.1	-3.0
	comp=E,20nm,1.5s						
W25A	X Bar L Ranch,	76.41	334	⇑P	P	02 41 34.7	-0.2
	baz=77						
LAZ	Ladron	76.70	331	*e*P	P	02 41 36.8	+0.3
	comp=E,1.4nm,0.9s						
ANMO	Albuquerque	76.91	332	P	P	02 41 38.5	+0.8
	comp=E,4.5nm,0.9s,baz=129,slow=6.5,SNR=15						
ANMO	Albuquerque	76.91	332	*e*P	P	02 41 37.9	+0.2
	comp=E,4.5nm,0.9s						
U27A	Thompson Grove	76.92	335	⇑P	P	02 41 38.1	+0.5
	baz=77						
S31A	Mullinville	76.96	338	⇓P	P	02 41 38.1	+0.3
	baz=77						
V25A	Rancho No Teng	77.03	334	⇑P	P	02 41 38.2	-0.1
	baz=77,SNR=6.9						
T29A	Hugoton	77.09	337	⇓P	P	02 41 38.8	+0.3
	baz=77						
R33A	Olander Ranch,	77.16	340	⇑P	P	02 41 39.2	+0.4
	baz=77						
U26A	Atchley Ranch,	77.22	335	⇓P	P	02 41 39.8	+0.4
	baz=78						
S30A	Montezuma	77.27	338	⇑P	P	02 41 39.8	+0.3
	baz=78						
T28A	Walsh	77.32	336	⇑P	P	02 41 40.1	+0.3
	baz=78						
U25A	Circle Dot Ran	77.45	334	⇑P	P	02 41 41.0	+0.3
	baz=78,SNR=5.8						
T27A	Campo	77.47	336	⇓P	P	02 41 41.2	+0.5
	baz=78						
R31A	Burdett	77.59	339	⇑P	P	02 41 41.0	-0.2
	baz=78						
S28A	Manter	77.68	337	⇓P	P	02 41 42.4	+0.5
	baz=78,SNR=5.5						
T26A	Comanche Natio	77.87	335	⇑P	P	02 41 43.3	+0.3
	baz=78,SNR=5.4						
X18A	Snowflake	77.94	329	⇓P	P	02 41 43.9	+0.4
	baz=78						
T25A	Trinidad	78.12	335	⇓P	P	02 41 44.7	+0.2
	baz=78,SNR=5.9						
T25A	Trinidad	78.12	335	*e*P	P	02 41 45.5	+1.1
	comp=E,9.6nm,0.9s						
S26A	Kim	78.23	336	⇓P	P	02 41 45.2	+0.2
	baz=78,SNR=7.4						
R28A	Tribune	78.34	337	⇓P	P	02 41 45.5	0.0
	baz=79						
T24B	San Luis	78.39	334	⇑P	P	02 41 46.3	+0.3
	baz=79						
Q30A	Quinter	78.43	338	⇓P	P	02 41 46.4	+0.4
	baz=79,SNR=5.6						
X16A	Lo Mia Camp, P	78.48	328	⇓P	P	02 41 47.1	+0.6
	baz=79						
Q29A	Oakley	78.58	338	⇑P	P	02 41 47.1	+0.3
	baz=79						
S25A	Robets Cordova	78.59	335	⇑P	P	02 41 47.3	+0.3
	baz=79						
R27A	Eads	78.61	336	⇓P	P	02 41 47.6	+0.6
	baz=79						
T23A	Casias Ranch,	78.61	333	⇓P	P	02 41 47.9	+0.7
	baz=79						
P31A	Stockton	78.69	339	⇓P	P	02 41 48.1	+0.8
	baz=79						
R26A	Arlington	78.83	336	⇑P	P	02 41 49.6	+1.3
	baz=79						
SDCO	Great Sand Dun	79.05	334	⇓P	P	02 41 50.4	+0.8
	baz=79,SNR=6.1						
SDCO	Great Sand Dun	79.05	334	*e*P	P	02 41 50.2	+0.6
P29A	Atwood	79.22	338	⇑P	P	02 41 51.0	+0.8
	baz=80						
TSUM	Tsumeb	79.32	106	*e*P	P	02 41 51.0	-0.5
	comp=E,3.5nm,0.9s						
R24A	Sanders Place,	79.34	335	⇓P	P	02 41 52.0	+0.8
	baz=80						
WUAZ	Wupatki	79.39	329	⇓P	P	02 41 52.3	+0.9
	baz=80						
WUAZ	Wupatki	79.39	329	*e*P	P	02 41 52.7	+1.3
	comp=E,3.8nm,0.7s						
WUAZ				*e*pP	pP	02 42 00.9	+0.4
Q26A	Hugo	79.42	336	⇓P	P	02 41 52.2	+0.7
	baz=80						
P28A	Saint Francis	79.45	338	⇓P	P	02 41 52.3	+0.8
	baz=80						
S22A	4UR Ranch, Cre	79.53	333	⇓P	P	02 41 53.4	+1.1
	baz=80						
R23A	Moffat	79.56	334	⇓P	P	02 41 52.9	+0.5
	baz=80						
MVCO	Mesa Verde	79.69	332	⇑P	P	02 41 53.5	+0.4
	baz=80						
MVCO	Mesa Verde	79.69	332	*e*P	P	02 41 54.0	+0.9
	comp=E,74nm,2.7s						
BOSA	Boshof	79.83	118	P	P	02 41 53.9	-0.3
	comp=E,6.6nm,0.9s,baz=236,slow=3.4,SNR=8.5						
BOSA	Boshof	79.83	118	*e*P	P	02 41 53.9	-0.3
	comp=E,9.4nm,0.9s						
P26A	Davis Ranch, A	79.94	336	⇑P	P	02 41 55.3	+1.0
	baz=80						
O28A	Krutsinger Ran	79.96	338	⇓P	P	02 41 54.9	+0.6
	baz=80						
Q24A	Divide	80.01	335	⇓P	P	02 41 55.2	+0.3
	baz=80						
P25A	Willow Gulch B	80.17	336	⇑P	P	02 41 56.6	+1.0
	baz=80,SNR=6.6						
U15A	North Rim	80.55	329	⇑P	P	02 41 58.9	+1.1
	baz=81						
SMCO	Snowmass	80.84	334	*e*P	P	02 42 00.7	+1.2
SMCO				*e*pP	pP	02 42 09.1	+0.5
ISCO	Idaho Springs	80.92	335	*e*P	P	02 41 59.2	-0.5
	comp=E,1.7nm,0.7s						
O23A	Lake Granby, G	81.39	335	⇑P	P	02 42 02.8	+0.6
	baz=82						
O22A	Kremmling	81.56	334	⇓P	P	02 42 03.6	+0.4
	baz=82						
GSC	Goldstone, Bar	81.63	325	⇓P	P	02 42 04.1	+0.8
	baz=82						
K30A	Basset	81.68	340	⇓P	P	02 42 04.0	+0.7
	baz=82,SNR=5.2						
ECSD	EROS Data Cent	81.89	343	⇑P	P	02 42 04.2	-0.2
	baz=82,SNR=15						
ECSD	EROS Data Cent	81.89	343	*e*P	P	02 42 03.8	-0.6
	comp=E,8.2nm,0.8s						
CCUT	Cedar City	81.96	328	*e*P	P	02 42 06.9	+1.7
	comp=E,6.1nm,1.0s						
CCUT				*e*pP	pP	02 42 15.3	+0.9
N23A	Red Feather La	82.01	335	⇓P	P	02 42 06.5	+1.1
	baz=82						
N22A	Wattenberg Ran	82.10	335	⇓P	P	02 42 06.9	+1.0
	baz=82						
SRU	San Rafael Swe	82.12	331	*e*P	P	02 42 07.0	+1.0
	comp=E,2.7nm,0.6s						
SRU				*e*pP	pP	02 42 15.4	+0.2
M24A	Cheyenne	82.15	336	⇓P	P	02 42 06.9	+0.8
	baz=82						
LBTB	Lobatse	82.15	115	*e*P	P	02 42 06.0	-0.5
	comp=E,11nm,1.3s						
O20A	White River Ci	82.15	333	⇓P	P	02 42 07.2	+1.1
	baz=82						
LRMC	Laurel Mtn Rad	82.19	324	⇓P	P	02 42 07.0	+0.7
	baz=82						
J29A	Okreek	82.55	340	⇓P	P	02 42 08.3	+0.4
	baz=83						
MPMC	Manual Prospec	82.57	325	⇓P	P	02 42 09.3	+0.9
	baz=83						
M22A	Cedar Creek Ra	82.69	335	⇓P	P	02 42 10.5	+1.6
	baz=83						
ISA	Isabella, Lake	82.71	324	⇓P	P	02 42 10.1	+1.1
	baz=83						
ISA	Isabella, Lake	82.71	324	*e*P	P	02 42 11.0	+2.0
	comp=E,5.0nm,1.0s						
DAC	Darwin (Calif)	82.79	325	*e*P	P	02 42 10.8	+1.3
	comp=E,3.5nm,0.9s						
J27A	Elkhorn Farm,	82.89	339	⇓P	P	02 42 10.3	+0.6
	baz=83						
L23A	Garrett	83.02	336	⇑P	P	02 42 10.5	-0.1
	baz=83						
J26A	Sides Ranch, S	83.26	338	⇓P	P	02 42 12.1	+0.5
	baz=84						
I28A	Midland	83.33	340	⇓P	P	02 42 12.7	+0.8
	baz=84						
K23A	Bowen Ranch, D	83.56	336	⇑P	P	02 42 14.0	+0.7
	baz=84						
R11A	Troy Canyon, C	83.58	327	⇓P	P	02 42 14.3	+0.8
	baz=84						
K22A	Casper	83.77	336	*e*P	P	02 42 15.4	+1.0
	comp=E,7.2nm,0.9s						
H28A	Mission Ridge	83.91	340	⇑P	P	02 42 14.9	0.0
	baz=84						
DUG	Dugway, Tooele	83.96	330	⇓P	P	02 42 15.8	+0.3
	baz=84						
DUG	Dugway, Tooele	83.96	330	*e*P	P	02 42 16.3	+0.9
	comp=E,6.8nm,1.2s						
K21A	Alcova	84.00	335	⇑P	P	02 42 16.0	+0.4
	baz=84						
TPH	Tonopah	84.09	326	*e*P	P	02 42 17.9	+1.7
	comp=E,6.1nm,1.1s						
I25A	Rochford	84.10	338	⇓P	P	02 42 17.2	+1.1
	baz=84						
G28A	Parade	84.25	340	⇑P	P	02 42 17.1	+0.5
	baz=84						
J22A	Midwest	84.43	336	⇑P	P	02 42 17.2	-0.5
	baz=85						
HWUT	Hardware Ranch	84.68	332	*e*P	P	02 42 18.8	-0.2
	comp=E,7.0nm,1.0s						
I22A	9 Mile Ranch,	84.86	336	⇑P	P	02 42 19.6	-0.3
	baz=85						
NVAR	Mina Array Bea	84.87	326	P	P	02 42 20.8	+0.6
	comp=E,2.5nm,0.8s,baz=156,slow=5.5,SNR=16						
NVAR				pP	pP	02 42 29.2	-0.2
	comp=E,1.2nm,0.8s,baz=152,slow=5.8,SNR=6.1						
J20A	Shoshoni	84.92	335	⇑P	P	02 42 20.8	+0.6
	baz=85						
G26A	Maurine	84.93	339	⇓P	P	02 42 19.9	-0.2
	baz=85						
PDAR	Pinedale Array	84.93	334	P	P	02 42 19.4	-1.0
	comp=E,125nm,1.3s,baz=155,slow=4.5,SNR=5.3						
PDAR				pP	pP	02 42 29.6	0.0
	comp=E,0.7nm,0.7s,baz=154,slow=5.0,SNR=4.4						
H24A	Dirks Ranch, A	85.01	338	⇑P	P	02 42 21.2	+0.7
	baz=85						
I21A	Big Trails, Te	85.06	336	⇓P	P	02 42 20.8	0.0
	baz=85						
J19A	Crowheart	85.18	334	⇑P	P	02 42 21.5	-0.1
	baz=85						
TORD	Torodi Ar. Bea	85.28	70	P	P	02 42 21.7	-0.8
	comp=E,1.2nm,0.9s,baz=248,slow=4.7,SNR=5.6						
TORD				pP	pP	02 42 32.3	+0.6
	comp=E,1.4nm,1.0s,baz=246,slow=3.5,SNR=4.2						
F27A	Lemmon	85.29	340	⇓P	P	02 42 21.8	0.0
	baz=86						
H22A	Clearmont	85.44	337	⇓P	P	02 42 22.9	+0.1
	baz=86						
F26A	Lodgepole	85.46	340	⇓P	P	02 42 23.0	+0.3
	baz=86						
I20A	Worland	85.46	335	⇑P	P	02 42 23.3	+0.5
	baz=86						
G23A	Biddle	85.68	338	⇓P	P	02 42 23.8	-0.1
	baz=86						
H21A	Big Horn, Sher	85.70	336	⇓P	P	02 42 23.6	-0.5
	baz=86						
F25A	Bowman	85.75	339	⇑P	P	02 42 23.9	-0.3
	baz=86						
I19A	Meeteetse	85.84	335	⇓P	P	02 42 24.4	-0.4
	baz=86						
H20A	Greybull	85.89	336	⇑P	P	02 42 25.0	0.0
	baz=86						
E26A	Carlson Angus	85.96	340	⇑P	P	02 42 25.1	0.0
	baz=86						
F24A	Ekalaka	85.97	338	⇑P	P	02 42 25.2	-0.1
	baz=86						
TPAW	Teton Pass	86.06	333	*e*P	P	02 42 26.9	+0.8
C30A	Mose, Pekin	86.07	343	⇑P	P	02 42 25.4	-0.2
	baz=86						
F23A	Volborg	86.15	338	⇓P	P	02 42 25.6	-0.6
	baz=86						
G21A	Lodge Grass	86.28	336	⇓P	P	02 42 26.5	-0.4
	baz=86						
I17A	Pilgrim Ck.	86.30	334	⇑P	P	02 42 26.7	-0.4
	baz=86						
H19A	Powell	86.39	335	⇓P	P	02 42 27.2	-0.3
	baz=87						
IMW	Indian Meadow	86.41	333	*e*P	P	02 42 28.0	+0.3
	comp=E,3.2nm,1.0s						
D26A	Manning	86.47	340	⇑P	P	02 42 27.5	-0.2
	baz=87						
F22A	Rosebud	86.47	337	⇓P	P	02 42 27.3	-0.4
	baz=87						
FLWY	Flagg Ranch	86.48	334	*e*P	P	02 42 28.5	+0.5
	comp=E,4.6nm,0.9s						
E24A	Baker	86.58	339	⇓P	P	02 42 28.9	+0.7
	baz=87						
G20A	Bridger	86.61	336	⇑P	P	02 42 28.5	0.0
	baz=87						
H18A	Shoshone NF, C	86.63	335	⇑P	P	02 42 28.5	-0.3
	baz=87						
B30A	Myrvik Farm, E	86.73	343	⇑P	P	02 42 28.8	0.0
	baz=87						
E23A	Ismay	86.82	338	⇑P	P	02 42 29.8	+0.4
	baz=87						
D25A	Fairfield	86.83	340	⇓P	P	02 42 30.0	+0.6
	baz=87						
C27A	Sayler Ranch,	86.84	341	⇓P	P	02 42 29.5	+0.1
	baz=87						
E22A	Miles City	86.96	338	⇑P	P	02 42 30.8	+0.7
	baz=87						
B29A	Wagenman Farm,	86.99	343	⇑P	P	02 42 30.3	+0.2
	baz=87						
D24A	Glendive	87.08	339	⇓P	P	02 42 30.3	-0.3
	baz=87						
A30A	Hoffart Farm,	87.19	343	⇑P	P	02 42 30.5	-0.5
	baz=88						
B28A	Dugan Ranch, T	87.23	342	⇑P	P	02 42 29.8	-1.4
	baz=88						
C25A	Freed Ranch, W	87.32	340	⇑P	P	02 42 31.8	+0.1
	baz=88						
A29A	Manning Farm,	87.39	343	⇑P	P	02 42 32.0	0.0
	baz=88						
D23A	Lindsay	87.40	338	⇓P	P	02 42 32.0	-0.2
	baz=88						
F19A	Roth Farm, Mol	87.41	336	⇑P	P	02 42 32.4	+0.1
	baz=88						
HLID	Hailey	87.45	331	⇓P	P	02 42 32.8	+0.1
	baz=88						
HLID	Hailey	87.45	331	*e*P	P	02 42 33.5	+0.8
	comp=E,2.1nm,0.8s						
C24A	Savage	87.49	339	⇑P	P	02 42 32.4	-0.2
	baz=88						
A28A	Rude Farm, Bot	87.63	342	⇑P	P	02 42 33.1	-0.1
	baz=88						
D22A	Cohagen	87.67	338	⇓P	P	02 42 33.4	-0.1
	baz=88						
E20A	Meyer Farm, Mu	87.71	336	⇑P	P	02 42 33.6	-0.1
	baz=88						
B25A	Knox Farm, Ray	87.80	340	⇑P	P	02 42 34.1	0.0
	baz=88						
ULM	Lac du Bonnet	87.89	345	P	P	02 42 33.4	-0.9
	comp=E,4.5nm,0.8s,baz=175,slow=2.6,SNR=15						
E19A	Rath Farm, Rou	87.89	336	⇑P	P	02 42 34.3	-0.3
	baz=88						
MCMT	McKenzie Canyo	87.92	333	*e*P	P	02 42 35.2	+0.2
	comp=E,1.3nm,0.8s						
C23A	Lambert	87.95	339	⇑P	P	02 42 34.6	-0.2
	baz=88						
A26A	Wade Farm, Ken	88.07	341	⇑P	P	02 42 35.5	+0.2
	baz=88						
D20A	Manuel Ranch,	88.23	337	⇓P	P	02 42 35.9	-0.3
	baz=88						
DGMT	Dagmar	88.27	340	⇑P	P	02 42 36.3	0.0
	baz=88						
DGMT	Dagmar	88.27	340	*e*P	P	02 42 36.6	+0.3
	comp=E,9.4nm,0.8s						
TAM	Tamanrasset	94.01	65	*e*P	P	02 43 03.9	+0.1
FCC	Fort Churchill	95.68	349	*e*P	P	02 43 09.5	-0.8
YKA	Yellowknife Ar	103.38	341	Pdiff	Pdif	02 43 43.8	-0.9
	comp=E,0.2nm,0.9s,baz=137,slow=4.9,SNR=3.2						
WRA	Warramunga Arr	119.10	209	PKP	PKPdf	02 48 32.9	-1.8
	comp=E,0.5nm,0.8s,baz=162,slow=1.7,SNR=4.2						
KWP	Kalwaria Pacla	119.37	48	*e*PKPdf	PKPdf	02 48 34.2	0.0
SUW	Suwalki	121.15	43	*e*PKPdf	PKPdf	02 48 36.7	-0.7
H11N3	WAKE ISLAND Hyl	125.62	270	T	T	05 06 51.4	
	baz=122,slow=76,SNR=13						
H11N1	WAKE ISLAND Hyl	125.64	270	T	T	05 06 52.5	
	baz=122,slow=76,SNR=21						
H11N2	WAKE ISLAND Hyl	125.64	270	T	T	05 06 52.0	
	baz=122,slow=76,SNR=15						
BILL	Bilibino	134.01	333	*e*PKPdf	PKPdf	02 49 01.5	0.0
PALK	Pallekele	142.75	133	*e*PKPdf	PKPdf	02 49 18.7	-0.5
AAK	Ala-Archa	153.73	65	*e*PKPbc	PKPbc	02 49 43.5	-0.7
AAK				*e*PKPab	PKPab	02 49 56.6	-0.6
TKM2	Tokmak 2	154.51	64	*e*PKPbc	PKPbc	02 49 45.7	-0.2
KSH	Kashi	154.94	72	*e*PKPbc	PKPdf	02 49 40.3	+2.2
KSH				sPKP		02 49 54.7	
KSH				PKS	PKSdf	02 53 12.9	+0.6
KSH				PPMZ			
	comp=E,220nm,9.0s						
KSH				LN			
	comp=E,65nm,6.4s						
KSH				LE			
	comp=E,110nm,5.1s						
KSH				LZ			
	comp=E,140nm,9.6s						
ZALV	Zalesovo Beam	155.87	34	PKP	PKPdf	02 49 40.0	+1.3
	comp=E,0.4nm,0.5s,baz=356,slow=2.0,SNR=2.7						
ZALV		

s-maj=176.8km s-min=27.1km az=64.0
*ISCJB **07** 02:39:26.9±0.6, 0°36S±0.07×125°13E±0.04, h52km, mb3.2/3, Error ellipse: s-maj=10.3km s-min=5.8km az=14.1*
*DJA **07** 02:39:26.9±1.8, 0°S±4″×12°5E±°, h21km±22km, M4.2/13, mb4.3/3, MLv4.2/13*

ISC 07 02:39:27.5±1.1, 0°34S±0.07×125°17E±0.05, h52km, n14, σ1°39/16, mb3.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.49**	**307**	P	**Pn**	**02 39 52.2**	**+0.3**
SANI	**Sanana**	**1.89**	**154**	P	**Pn**	**02 39 58.0**	**+0.7**
SANI				S	**Sn**	**02 40 22.0**	**+2.0**
LBMI	**Labuha**	**2.35**	**97**	P	**Pn**	**02 40 04.0**	**+0.3**
LBMI				S	**Sn**	**02 40 33.7**	**+2.3**
TNTI	**Ternate**	**2.46**	**63**	P	**Pn**	**02 40 05.4**	**+0.3**
LUWI	**Luwuk**	**2.50**	**254**	P	**Pn**	**02 40 06.6**	**+1.0**
MRSI	**Marisa**	**3.33**	**284**	P	**Pn**	**02 40 18.0**	**+1.0**
NLAI	**Namlea**	**3.47**	**146**	P	**Pn**	**02 40 19.2**	**+0.2**
APSI	**Ampana**	**3.56**	**261**	P	**Pn**	**02 40 22.1**	**+1.8**
MPSI	**Mapaga** 18nm,0.9s,0.1nm	**5.31**	**277**	P	**Pn**	**02 40 46.1**	**+1.8**
BNSI	**Bone** 27nm,1.0s,0.1nm	**6.47**	**231**	P	**Pn**	**02 40 58.9**	**-1.3**
SPSI	**Sidrap Palu**	**6.49**	**236**	P	**Pn**	**02 41 00.2**	**-0.2**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=334,slow=11,SNR=7.2	**21.46**	**156**	P	**P**	**02 44 10.4**	**-1.2**
ASAR	**Alice Springs** 0.5nm,0.6s,baz=331,slow=7.5,SNR=8.2	**24.69**	**161**	P	**P**	**02 44 43.5**	**-0.3**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=120,slow=8.3,SNR=4.3	**60.05**	**327**	P	**P**	**02 49 27.2**	**-1.9**

*IDC **07** 02:40:11.7±1.4, 48°.75S×164°.84E, h0km, mb4.1/3, mb1 4.4/3, mb1mx4.0/29, mbtmp4.1/3, MS4.2/1, Ms1 4.2/1, ms1mx3.2/32, Error ellipse: s-maj=142.0km s-min=38.3km az=31.0*
*ISCJB **07** 02:40:14.6±1.1, 48°.6S±0.1×164°.9E±0.1, h33km, mb4.0/3, MS4.2/1, Error ellipse: s-maj=20.3km s-min=8.4km az=148.9*

ISC 07 02:40:17.3±1.0, 48°.6S±0.1×164°.9E±0.1, h35km, n36, σ0°.95/29, mb3.8/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**2.70**	**27**	PN	**Pn**	**02 40 57.3**	**-0.9**
PYZ				SN	**Sn**	**02 41 29.8**	**+0.1**
APZ	**The Paps**	**2.73**	**51**	PN	**Pn**	**02 40 58.4**	**-0.2**
APZ				SN	**Sn**	**02 41 31.3**	**+0.9**
WHZ	**Wether Hill Ro**	**3.40**	**39**	PN	**Pn**	**02 41 07.6**	**-0.2**
WHZ				SN	**Sn**	**02 41 47.5**	**+0.6**
DCZ	**Deep Cove**	**3.47**	**27**	PN	**Pn**	**02 41 08.2**	**-0.5**
SYZ	**Scrubby Hill**	**3.53**	**56**	PN	**Pn**	**02 41 09.9**	**+0.3**
MLZ	**Mavora Lakes**	**3.94**	**36**	PN	**Pn**	**02 41 14.6**	**-0.6**
TUZ	**Tuapeka**	**4.16**	**53**	PN	**Pn**	**02 41 18.3**	**+0.1**
MSZ	**Milford Sound**	**4.43**	**29**	PN	**Pn**	**02 41 20.2**	**-1.8**
EAZ	**Earnscleugh**	**4.51**	**44**	PN	**Pn**	**02 41 23.0**	**-0.2**
JCZ	**Jackson Bay**	**5.24**	**32**	*e*PN	**Pn**	**02 41 34.7**	**+1.5**
ODZ	**Otahua Downs**	**5.30**	**50**	PN	**Pn**	**02 41 32.8**	**-1.1**
LBZ	**Lake Benmore**	**5.56**	**43**	PN	**Pn**	**02 41 35.6**	**-1.9**
FOZ	**Fox Glacier**	**6.02**	**35**	PN	**Pn**	**02 41 45.0**	**+1.2**
WVZ	**Waitaha Valley**	**6.85**	**39**	PN	**Pn**	**02 41 54.5**	**-0.7**
OXZ	**Oxford**	**7.24**	**46**	PN	**Pn**	**02 41 59.3**	**-1.3**
MQZ	**McQueen's Vall**	**7.26**	**51**	*e*PN	**Pn**	**02 41 59.6**	**-1.2**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=137,slow=8.4,SNR=15	**34.87**	**304**	P	**P**	**02 47 05.4**	**+0.1**
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=145,slow=9.5,SNR=8.8	**37.67**	**309**	P	**P**	**02 47 28.6**	**-0.6**
H01W1	**Cape Leeuwin H** baz=127,slow=75,SNR=5.3	**39.53**	**271**	T	T	03 29 39.8	
H01W2	**Cape Leeuwin H** baz=127,slow=75,SNR=6.3	**39.55**	**271**	T	T	03 29 36.1	
H01W3	**Cape Leeuwin H** baz=127,slow=75,SNR=6.7	**39.55**	**271**	T	T	03 29 33.3	
QSPA	**South Pole Qui** comp=Z,302nm,19.7s,baz=19,slow=32	**41.54**	**180**	LR	LR	03 02 04.4	
H08S2	**Diego Garcia H** baz=139,slow=76,SNR=82	**85.91**	**263**	T	T	04 27 21.0	
H08S1	**Diego Garcia H** baz=139,slow=76,SNR=59	**85.93**	**263**	T	T	04 27 22.3	
H08S3	**Diego Garcia H** baz=139,slow=76,SNR=89	**85.93**	**263**	T	T	04 27 22.4	
H08N1	**Diego Garcia H** baz=144,slow=76	**87.86**	**263**	T	T	04 29 52.2	
H08N3	**Diego Garcia H** baz=144,slow=76	**87.87**	**263**	T	T	04 29 57.4	
H08N2	**Diego Garcia H** baz=144,slow=76	**87.88**	**263**	T	T	04 29 52.3	
CMAR	**Chiang Mai Arr** 1.3nm,0.3s,baz=156,slow=4.7,SNR=4.4	**88.76**	**300**	P	**P**	**02 53 08.5**	**+1.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=148,slow=2.9,SNR=3.2	**118.98**	**309**	PKP	**PKPdf**	**02 59 00.1**	**-1.3**
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=259,slow=1.9,SNR=3.7	**127.69**	**35**	PKP	**PKPdf**	**02 59 17.6**	**+0.1**
TORD	**Torodi Ar. Bea** 0.1nm,0.5s,baz=151,slow=3.4,SNR=3.5	**142.02**	**207**	PKhKP	PKPpre	02 59 40.3	
TORD				PKP	**PKPdf**	**02 59 44.9**	**-0.9**
BRTR	**Keskin Array B** 1.8nm,0.9s,baz=126,slow=4.6,SNR=8.3	**144.45**	**274**	PKP	**PKPab**	**02 59 48.2**	**+0.4**
ARCES	**ARCESS Array B** 5.5nm,0.9s,baz=67,slow=2.3,SNR=7.7	**151.31**	**332**	PKPbc	**PKPbc**	**03 00 06.5**	**+0.8**
AKASG	**Malin Array Be** 0.9nm,0.5s,baz=88,slow=1.7,SNR=8.6	**151.53**	**291**	PKPbc	**PKPbc**	**03 00 06.9**	**+0.2**
FINES	**FINESS Array B** 0.7nm,0.7s,baz=116,slow=3.2,SNR=3.3	**153.62**	**315**	PKPbc	**PKPbc**	**03 00 11.3**	**+0.3**

*IDC **07** 02:46:28.2±3.2, 2°.03N×96°.74E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, ML4.7/1, Error ellipse: s-maj=115.1km s-min=26.7km az=59.0*
*ISCJB **07** 02:46:30.1±1.0, 1°.97N±0.07×96°.48E±0°.09, h28km, mb3.7/4, Error ellipse: s-maj=13.1km s-min=10.5km az=10.0*
*DJA **07** 02:46:30.8±1.8, 2°N±6″×9°6E±1°.8, h45km±25km, M3.7/5, mb4.1/1, MLv3.5/5*

ISC 07 02:46:32.3±1.1, 2°.11N±0°.08×96°.6E±0°.1, h28km, n15, σ0°.86/11, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.39**	**321**	P	**Pb**	**02 46 41.0**	**+0.1**
TPTI		**1.30**	**28**	P	**Pn**	**02 46 54.5**	**-0.1**
TPTI				S	**Sb**	**02 47 13.0**	**+0.6**
KCSI	**Kotacane, Aceh**	**1.85**	**40**	P	**Pn**	**02 47 02.6**	**+0.4**
KCSI				S	**Sb**	**02 47 28.0**	**-0.2**
MNSI	**Mandailing Nat**	**3.28**	**113**	P	**Pn**	**02 47 22.8**	**+0.9**
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=197,slow=11,SNR=8.5	**16.41**	**8**	Pn	**P**	**02 50 22.7**	**-0.7**
H08S2	**Diego Garcia H** baz=69,slow=75,SNR=231	**25.90**	**248**	T	T	03 18 46.2	
H08S3	**Diego Garcia H** baz=69,slow=75,SNR=163	**25.90**	**248**	T	T	03 18 46.4	
H08S1	**Diego Garcia H** baz=69,slow=75,SNR=158	**25.92**	**248**	T	T	03 18 47.4	
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=7.5	**40.32**	**157**	T	T	03 36 46.2	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=6.5	**40.33**	**157**	T	T	03 36 46.3	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=4.0	**40.33**	**157**	T	T	03 36 49.6	
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=301,slow=9.2,SNR=3.1	**43.05**	**122**	P	**P**	**02 54 28.7**	**-1.4**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=164,slow=7.1,SNR=11	**46.22**	**346**	P	**P**	**02 54 55.9**	**+1.0**
SONM	**Songino Array** 0.3nm,0.4s,baz=189,slow=8.5,SNR=3.9	**46.34**	**9**	P	**P**	**02 54 55.7**	**-0.3**
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=166,slow=8.0,SNR=5.8	**52.57**	**351**	P	**P**	**02 55 44.2**	**+0.9**

*IDC **07** 02:48:17.7±1.1, 3°.06S×139°.28E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/29, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=30.2km s-min=23.8km az=118.0*
*ISCJB **07** 02:48:21.8±0.8, 3°.1S±0.1×139°.4E±0°.1, h46km, mb3.6/4, Error ellipse: s-maj=20.3km s-min=10.2km az=142.7*

ISC 07 02:48:23.4±0.9, 3°.2S±0°.1×139°.4E±0°.1, h46km, n7, σ0°.70/8, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.43**	**64**	Pn	**Pn**	**02 48 47.0**	**0.0**
JAY	22nm,0.3s,baz=239,slow=10,SNR=53			Sn	**Sn**	**02 49 04.8**	**+0.2**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=18,slow=12,SNR=26	**17.41**	**196**	P	**Pn**	**02 52 22.7**	**-0.5**
ASAR	**Alice Springs** 2.2nm,0.8s,baz=23,slow=8.9,SNR=21	**21.08**	**194**	P	**P**	**02 53 04.8**	**+0.7**
SONM	**Songino Array** 0.3nm,0.8s,baz=145,slow=5.3,SNR=2.1	**58.42**	**334**	P	**P**	**02 58 15.3**	**+0.7**
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=119,slow=7.7,SNR=7.0	**70.57**	**322**	P	**P**	**02 59 33.7**	**-0.2**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=261,slow=4.0,SNR=4.9	**85.94**	**24**	P	**P**	**03 00 57.5**	**-0.9**
YKA	**Yellowknife Ar** 0.2nm,0.9s,baz=276,slow=5.5,SNR=2.6	**100.13**	**27**	P	**Pdif**	**03 02 04.6**	**+0.6**

*IDC **07** 02:58:56.6±1.2, 0°.21S×125°.31E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=132.5km s-min=20.9km az=67.0*
*ISCJB **07** 02:59:01.8±0.7, 0°.1S±0°.1×125°.40E±0°.07, h49km, mb3.5/4, Error ellipse: s-maj=16.5km s-min=7.2km az=27.6*
*DJA **07** 02:59:02.0±2.0, 0°N±10°×12°5E±°, h28km±27km, M4.3/9, mb4.5/1, MLv4.2/9*

ISC 07 02:59:03.2±1.0, 0°.1S±0°.1×125°.40E±0°.07, h49km, n12, σ1°21/13, mb3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.55**	**294**	P	**Pn**	**02 59 27.0**	**-1.4**
KMSI				S	**Sn**	**02 59 47.0**	**-0.4**
LBMI	**Labuha**	**2.18**	**106**	P	**Pn**	**02 59 36.8**	**-0.3**
GTOI	**Gorontalo**	**2.48**	**286**	P	**Pn**	**02 59 41.8**	**+0.6**
LUWI	**Luwuk**	**2.81**	**249**	P	**Pn**	**02 59 45.8**	**+0.2**
MRSI	**Marisa**	**3.50**	**279**	P	**Pn**	**02 59 54.6**	**-0.5**
NLAI	**Namlea**	**3.59**	**152**	P	**Pn**	**02 59 57.3**	**+0.8**
APSI	**Ampana**	**3.85**	**257**	P	**Pn**	**02 59 59.9**	**0.0**
MPSI	**Mapaga**	**5.51**	**274**	P	**Pn**	**03 00 24.0**	**+1.2**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=335,slow=11,SNR=16	**21.62**	**157**	P	**P**	**03 03 46.9**	**-2.5**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=338,slow=7.9,SNR=8.6	**24.89**	**161**	P	**P**	**03 04 20.7**	**-0.9**
SONM	**Songino Array** 0.5nm,0.7s,baz=156,slow=7.6,SNR=4.1	**50.48**	**343**	P	**P**	**03 07 57.9**	**+1.6**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=126,slow=7.7,SNR=14	**59.94**	**327**	P	**P**	**03 09 04.7**	**+0.2**

IDC 07 03:09:56.1±2.2, 2°.06N×126°.88E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=187.0km s-min=24.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=340,slow=11,SNR=9.6	**23.06**	**162**	P	P	03 15 01.5	-1.9
ASAR	**Alice Springs** 0.4nm,0.5s,baz=341,slow=8.3,SNR=8.2	**26.47**	**165**	P	P	03 15 36.9	+1.6
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=122,slow=7.2,SNR=7.2	**59.01**	**326**	P	P	03 19 57.6	-0.2

*IDC **07** 03:15:01.3±1.6, 37°.17S×73°.72W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/30, mbtmp3.7/5, ML2.9/2, Error ellipse: s-maj=37.2km s-min=19.7km az=69.0*
*ISCJB **07** 03:15:02.3±1.0, 37°.13S±0°.07×73°.6W±0°.2, h14km, mb3.7/4, Error ellipse: s-maj=22.1km s-min=9.3km az=15.1*

ISC 07 03:15:03.6±1.2, 37°.14S±0°.10×73°.7W±0°.2, h14km, n9, σ0°.84/10, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores** 0.3nm,0.3s,baz=324,slow=13,SNR=14	**4.35**	**147**	Pn	**Pn**	**03 16 09.9**	**+0.5**
PLCA				Lg	Lg	03 17 18.5	
CFAA	**Coronel Fontan** 3.1nm,0.3s,baz=253,slow=17,SNR=4.9	**7.13**	**41**	Pn	**Pn**	**03 16 46.9**	**-0.7**
CFAA	0.0nm,0.3s,baz=222,slow=13,SNR=8.2			Sn	**Sn**	**03 18 08.8**	**+0.3**
CFAA	0.1nm,0.3s,baz=257,slow=19,SNR=3.2			Lg	Lg	03 18 55.9	
LPAZ	**La Paz** 5.5nm,1.1s,baz=188,slow=11,SNR=8.0	**21.35**	**15**	P	**P**	**03 19 52.9**	**+1.8**
SIV	**San Ignacio** 2.4nm,0.8s,baz=218,slow=12,SNR=3.8	**23.85**	**31**	P	**P**	**03 20 16.8**	**+0.2**
VNA3	**Neumayer Olymp**	**47.00**	**157**	P	**P**	**03 23 33.6**	**-0.3**
VNA2	**Neumayer--Watz** baz=290,slow=7.1	**47.68**	**156**	P	**P**	**03 23 39.6**	**+0.4**
SNAA	**Sanae**	**49.22**	**157**	P	**P**	**03 23 50.6**	**-0.5**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=158,slow=7.4,SNR=3.0	**71.85**	**333**	P	**P**	**03 26 25.8**	**-0.2**
TORD	**Torodi Ar. Bea** 1.2nm,1.1s,baz=223,slow=3.9,SNR=3.7	**86.54**	**71**	P	**P**	**03 27 45.9**	**-0.6**

*IDC **07** 03:21:04.1±1.7, 35°.47S×72°.73W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.6/31, mbtmp3.6/6, ML3.5/3, Error ellipse: s-maj=42.1km s-min=29.2km az=89.0*
*ISCJB **07** 03:21:05.5±1.3, 35°.55S±0°.04×72°.85W±0°.06, h7km±10km, mb3.7/3, Error ellipse: s-maj=9.2km s-min=6.1km az=24.3*
*GUC **07** 03:21:06.2±0.5, 35°.55S×72°.77W, h13km±2km, ML4.2*

ISC 07 03:21:04.1±1.7, 35°.51S±0°.05×72°.76W±0°.07, h4km±12km, n17, σ0°.89/25, mb4.0/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.62**	**182**	*e*P	**Pb**	**03 21 17.8**	**+0.4**
COCH				*e*S	**Sb**	**03 21 26.3**	**-0.1**
TALC	**Talca**	**0.93**	**83**	*e*P	**Pn**	**03 21 23.6**	**-0.2**
TALC				*e*S	**Sn**	**03 21 37.5**	**0.0**
LNCH	**Linares**	**1.00**	**110**	*e*P	**Pn**	**03 21 24.9**	**0.0**
LNCH				*e*S	**Sn**	**03 21 38.9**	**-0.4**
NICH	**Los Niches**	**1.35**	**68**	*e*P	**Pg**	**03 21 30.7**	**+0.7**
NICH				*e*S	**Sn**	**03 21 49.5**	**+1.5**
CCSP	**San Pedro de C**	**1.36**	**192**	*e*P	**Pg**	**03 21 29.8**	**-0.3**
CCSP				*e*S	**Sn**	**03 21 47.9**	**-0.3**
CCSP	comp=E,4μm,0.5s			AML	AML	03 21 52.9	
LNV	**Longovilo**	**1.91**	**36**	*e*P	**Pb**	**03 21 39.9**	**+0.4**
CHCH	**Chadas Angostu**	**2.34**	**48**	*e*P	**Pb**	**03 21 47.1**	**+0.2**
SAN	**Santiago**	**2.69**	**41**	*e*P	**Pb**	**03 21 51.8**	**-0.9**
SAN				*e*S	**Sb**	**03 22 26.2**	**+0.1**
CLCH	**Cerro Calan**	**2.80**	**42**	*e*P	**Pb**	**03 21 53.1**	**-1.6**
CLCH				*e*S	**Sb**	**03 22 29.1**	**-0.2**
CLCH	comp=E,2μm,0.6s			AML	AML	03 22 39.8	
YECH	**El Yeso**	**2.88**	**51**	*e*P	**Pb**	**03 21 54.9**	**-1.2**
YECH				*e*S	**Sb**	**03 22 31.8**	**0.0**
PEL	**Peldehue**	**2.92**	**37**	*e*P	**Pb**	**03 21 54.8**	**-2.0**
PEL				*e*S	**Sb**	**03 22 31.9**	**-0.9**
CFAA	**Coronel Fontan** comp=E,0.3nm,0.3s,baz=222,slow=14,SNR=14	**5.43**	**45**	Pn	**Pn**	**03 22 27.1**	**+1.4**
CFAA				Lg	Lg	03 23 43.3	
PLCA	**Paso Flores** comp=E,0.4nm,0.3s,baz=115,slow=19,SNR=3.5	**5.49**	**162**	Pn	Pn	03 22 29.6	+2.9
PLCA	comp=E,0.4nm,0.3s,baz=339,slow=13,SNR=9.5			Lg	Lg	03 23 50.1	
LPAZ	**La Paz** comp=E,1.0nm,0.3s,baz=288,slow=20,SNR=3.0	**19.59**	**13**	P	**Pn**	**03 25 35.8**	**+0.7**
SIV	**San Ignacio** comp=E,0.2nm,0.3s,baz=197,slow=7.4,SNR=8.6	**22.07**	**31**	P	**P**	**03 25 59.7**	**-0.4**
TXAR	**Lajitas Array** comp=E,3.8nm,0.6s,baz=216,slow=8.4,SNR=8.7	**70.77**	**332**	P	**P**	**03 32 22.2**	**+0.6**
TORD	**Torodi Ar. Bea** comp=E,0.2nm,0.4s,baz=160,slow=8.4,SNR=7.3	**85.28**	**70**	P	**P**	**03 33 41.5**	**-0.9**
	comp=E,0.8nm,0.8s,baz=248,slow=4.5,SNR=6.0						

IDC 07 03:21:32.8±1.6, 5°.48N×126°.51E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.8/4, Error ellipse: s-maj=143.1km s-min=23.4km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=344,slow=10,SNR=12	**26.41**	**163**	P	P	03 27 10.8	-0.5
ASAR	**Alice Springs** 0.3nm,0.5s,baz=344,slow=7.8,SNR=6.0	**29.85**	**166**	P	P	03 27 42.6	+0.5
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=116,slow=6.4,SNR=8.4	**56.01**	**325**	P	P	03 31 12.9	-0.4
ARCES	**ARCESS Array B** 1.4nm,0.8s,baz=71,slow=5.8,SNR=1.6	**88.75**	**340**	P	P	03 34 28.7	+0.6

*CSEM **07** 03:28:25.8±0.1, 42°.79N×12°.97E, h15km, ML2.5/12, Error ellipse: s-maj=2.5km s-min=1.7km az=74.0*

ROM 07 03:28:25.6±0.1, 42°.79N×12°.96E, h8km±1km, Md2.4/21, Ml1.9/21, Error ellipse: s-maj=1.1km s-min=0.8km az=101.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia** 2μm,0.1s	**0.12**	**68**	Pg	Pg	03 28 29.2	+0.7
NRCA				Sg	Sg	03 28 31.3	+0.8
NRCA	**Norcia** 2μm,0.1s	**0.12**	**68**	Pg	Pg	03 28 29.2	+0.7
NRCA				Sg	Sg	03 28 31.3	+0.8
LNSS	**Leonessa** 505nm,0.1s	**0.19**	**162**	Pg	Pg	03 28 30.6	+0.8
LNSS				Sg	Sg	03 28 33.9	+1.3
LNSS	**Leonessa** 505nm,0.1s	**0.19**	**162**	Pg	Pg	03 28 30.6	+0.8
LNSS				Sg	Sg	03 28 33.9	+1.3
CESI	**CESI - Serrava** 83nm,0.4s	**0.22**	**350**	Pg	Pg	03 28 31.1	+0.9
CESI				Sg	Sg	03 28 34.7	+1.4
CESI	**CESI - Serrava** 83nm,0.4s	**0.22**	**350**	Pg	Pg	03 28 31.1	+0.9
CESI				Sg	Sg	03 28 34.7	+1.4
FDMO	**Fiordimonte** 437nm,0.2s	**0.27**	**21**	Pg	Pg	03 28 31.7	+0.7
FDMO				Sg	Sg	03 28 35.9	+1.3
FDMO	**Fiordimonte** 437nm,0.2s	**0.27**	**21**	Pg	Pg	03 28 31.7	+0.7
FDMO				Sg	Sg	03 28 35.9	+1.3
SMA1	**SAN MARTINO** 238nm,0.2s	**0.32**	**119**	Pg	Pg	03 28 32.8	+0.7
SMA1				Sg	Sb	03 28 38.1	-1.0
CESX	**Cesi** 108nm,0.4s	**0.33**	**238**	Pg	Pg	03 28 32.9	+0.7
CESX				Sg	Sb	03 28 38.3	-1.0
CESX	**Cesi** 108nm,0.4s	**0.33**	**238**	Pg	Pg	03 28 32.9	+0.7
CESX				Sg	Sb	03 28 38.3	-1.0
CAMP	**Campotosto** 48nm,0.6s	**0.42**	**127**	Pg	Pg	03 28 34.2	+0.3
CAMP				Sg	Sg	03 28 40.6	+1.0
CAMP	**Campotosto** 48nm,0.6s	**0.42**	**127**	Pg	Pg	03 28 34.2	+0.3
CAMP				Sg	Sg	03 28 40.6	+1.0
MNS	**Montasola** 95nm,0.3s	**0.45**	**207**	Pg	Pg	03 28 35.1	+0.6
MNS				Sg	Sb	03 28 42.2	-0.6
MNS	**Montasola** 95nm,0.3s	**0.45**	**207**	Pg	Pg	03 28 35.1	+0.6
MNS				Sg	Sb	03 28 42.2	-0.6
TERO	**Teramo** 66nm,0.2s	**0.50**	**109**	Pg	Pg	03 28 35.5	0.0
TERO				Sg	Sb	03 28 43.5	-0.8
TERO	**Teramo** 66nm,0.2s	**0.50**	**109**	Pg	Pg	03 28 35.5	0.0
TERO				Sg	Sb	03 28 43.5	-0.8
T0104	**Madonna delle**	**0.51**	**147**	Pg	Pg	03 28 35.8	+0.2
T0104				Sg	Sb	03 28 44.7	+0.2
FIAM	**Fiamignano** 42nm,0.4s	**0.53**	**167**	Pg	Pg	03 28 36.0	-0.1
FIAM				Sg	Sb	03 28 44.7	-0.5
FIAM	**Fiamignano** 42nm,0.4s	**0.53**	**167**	Pg	Pg	03 28 36.0	-0.1
FIAM				Sg	Sb	03 28 44.7	-0.5
AQU	**L'Aquila** 46nm,0.5s	**0.54**	**143**	Pg	Pg	03 28 36.5	+0.3
AQU				Sg	Sb	03 28 45.5	0.0
AQU	**L'Aquila** 46nm,0.5s	**0.54**	**143**	Pg	Pg	03 28 36.5	+0.3
AQU				Sg	Sb	03 28 45.5	0.0
MURB	**Monte Urbino** 108nm,0.3s	**0.57**	**326**	Pg	Pg	03 28 37.3	+0.5
MURB				Sg	Sb	03 28 45.7	-0.7
MURB	**Monte Urbino** 108nm,0.3s	**0.57**	**326**	Pg	Pg	03 28 37.3	+0.5
MURB				Sg	Sb	03 28 45.7	-0.7
T0106	**Roio Piano** 45nm,0.5s	**0.57**	**147**	Pg	Pg	03 28 37.0	+0.1
T0106				Sg	Sb	03 28 47.0	+0.5
CING	**Cingoli** 23nm,0.1s	**0.61**	**16**	Pg	Pg	03 28 37.8	+0.3
CING				Sg	Sb	03 28 47.6	+0.1
CING	**Cingoli** 23nm,0.1s	**0.61**	**16**	Pg	Pg	03 28 37.8	+0.3
CING				Sg	Sb	03 28 47.6	+0.1
MGAB	**Montegabbione** 37nm,0.6s	**0.64**	**282**	Pg	Pb	03 28 38.9	-0.1
MGAB	**Montegabbione** 37nm,0.6s	**0.64**	**282**	Pg	Pb	03 28 38.9	-0.1
FAGN	**Fagnano** 75nm,0.4s	**0.70**	**138**	Pg	Pb	03 28 39.8	-0.3
FAGN	**Fagnano** 75nm,0.4s	**0.70**	**138**	Pg	Pb	03 28 39.8	-0.3
ARVD	**Arcevia** 17nm,0.4s	**0.71**	**359**	Pg	Pg	03 28 39.4	0.0
ARVD	**Arcevia** 17nm,0.4s	**0.71**	**359**	Pg	Pg	03 28 39.4	0.0
VCEL	**Villa Celiera** 52nm,0.5s	**0.76**	**121**	Pg	Pg	03 28 40.6	+0.2
VCEL	**Villa Celiera** 52nm,0.5s	**0.76**	**121**	Pg	Pg	03 28 40.6	+0.2
GUMA	**Gualdo di Mace** 184nm,0.4s	**0.77**	**69**	Pg	Pg	03 28 34.1	-6.4
GUMA				Sg	Sg	03 28 40.6	-10
PIEI	**Pieia** 13nm,0.4s	**0.81**	**338**	Pg	Pg	03 28 41.3	0.0
PIEI	**Pieia** 13nm,0.4s	**0.81**	**338**	Pg	Pg	03 28 41.3	0.0
CERT	**Cerreto** 31nm,0.6s	**0.84**	**179**	Pg	Pg	03 28 41.4	-0.4
CERT	**Cerreto** 31nm,0.6s	**0.84**	**179**	Pg	Pg	03 28 41.4	-0.4
NVLJ	**Novalja**	**2.25**	**37**	*e*Pn	Pn	03 29 01.7	-1.4
NVLJ				Sn	Sn	03 29 31.9	+0.8
NVLJ	**Novalja**	**2.25**	**37**	*e*Pn	Pn	03 29 01.7	-1.4
NVLJ				Sn	Sn	03 29 31.8	+0.8

*IDC **07** 03:29:08.1±0.5, 17°.26S×172°.82W, h0km, mb4.3/15, mb1 4.6/15, mb1mx4.3/42, mbtmp4.3/15, Error ellipse: s-maj=22.8km s-min=12.6km az=118.0*
*NEIC **07** 03:29:09.9±0.6, 17°.18S×172°.76W, h10km, mb4.5/2, Error ellipse: s-maj=23.7km s-min=13.8km az=146.0*

**ISC 07 03:29:11.9±0.5, 17°.2S±0°.1×

1.4nm,1.0s,baz=202,slow=6.3,SNR=9.6
PDAR Pinedale Array 83.17 41 P P 03 41 36.2 -0.5
2.2nm,1.0s,baz=205,slow=4.2,SNR=11
ILAR Eielson Array 84.11 11 P P 03 41 39.2 -1.5
0.6nm,0.6s,baz=220,slow=4.2,SNR=8.9
SEY Seymchan 84.47 345 P P 03 41 41.6 -0.9
1.6nm,0.7s,baz=145,slow=5.6,SNR=6.5
PLCA Paso Flores 87.77 132 P P 03 42 00.2 +0.6
1.5nm,0.9s,baz=129,slow=13,SNR=4.4
INK Inuvik 89.88 14 P P 03 42 07.9 -0.7
1.1nm,0.9s,baz=230,slow=5.6,SNR=5.7
YKA Yellowknife Ar 91.50 23 P P 03 42 17.1 +0.8
0.7nm,0.8s,baz=238,slow=4.7,SNR=12
CMAR Chiang Mai Arr 93.85 288 P P 03 42 28.9 +0.7
2.1nm,0.8s,baz=104,slow=2.4,SNR=6.5
MKAR Makanchi Array 112.61 314 PKiKP **PKiKP 03 47 46.4 -0.3**
0.4nm,0.6s,baz=81,slow=1.9,SNR=6.1
BOSA Boshof 131.23 201 PKP **PKPdf 03 48 24.8 +1.5**
2.5nm,0.9s,baz=162,slow=3.2,SNR=3.5
KMBO Kilima Mbogo 145.32 241 PKPbc **PKPdf 03 48 51.2 +1.7**
7.9nm,1.0s,baz=150,slow=3.7,SNR=11
KMBO Kilima Mbogo 145.32 241 *e*PKPbc **PKPdf 03 48 50.9 +1.4**
KWP Kalwaria Pacla 145.38 342 *e*P **PKPdf 03 48 48.5 +0.3**
KWP Kalwaria Pacla 145.38 342 ⇓*i*P **PKPdf 03 48 48.5 +0.3**
KWP Kalwaria Pacla 145.38 342 *e*PKPbc **PKPdf 03 48 48.5 +0.3**
OJC Ojcow 145.60 346 *e*P **PKPab 03 48 49.4 +0.4**
MALT Malatya 145.65 314 ⇓*i*P **PKPab 03 48 51.4 +1.7**
CLL Collm 145.71 354 *e*PKPbc **PKPdf 03 48 49.0 +0.3**
comp=Z,14nm,1.3s
CLL *e* 03 48 57.0
BRG Berggiesshubel 146.03 352 *e*P **PKPab 03 48 52.4 +1.8**
comp=Z,6.8nm,1.2s
UPC Upice 146.09 350 *e*PKP **PKPab 03 48 51.3 +0.5**
UPC *ex* x 03 48 57.8
DPC Dobruska-Polom 146.19 350 *e*PKP **PKPbc 03 48 50.9 +0.3**
DPC *ex* x 03 48 57.8
NIE Niedzica 146.22 345 *e*P **PKPab 03 48 51.7 +0.3**
PVCC Panska Ves 146.28 352 *e*PKP **PKPab 03 48 52.0 +0.4**
BURAR Bucovina Array 146.32 338 ⇑*i*P **PKPab 03 48 54.5 +2.5**
OKC Ostrava-Krasne 146.33 347 *e*PKP **PKPbc 03 48 50.8 -0.2**
PRA Prague 146.75 352 *e*PKP **PKPab 03 48 54.9 +1.5**
TRPA Tarpa 146.77 341 ⇑*i*P **PKPab 03 48 55.1 +1.6**
PRU Pruhonice 146.81 351 *e*PKP **PKPab 03 48 53.6 0.0**
PRU *ex* x 03 49 00.0
KECS Kecovo 147.03 344 *e* **PKPbc 03 48 53.9 +0.8**
VRI Vrincioaia 147.20 335 ⇑*i*P **PKPab 03 48 56.7 +1.4**
TREC Trest 147.35 350 *e*PKP **PKPab 03 48 53.3 -0.6**
VYHS Vyhne 147.44 346 *e* **PKPab 03 48 55.9 -0.3**
TIRR Tirgusor 147.58 331 ⇓*i*P **PKPdf 03 48 48.5 -3.5**
KHC Kasperske Hory 147.78 352 *e*PKP **PKPbc 03 48 55.6 +0.4**
KHC *ep*PKP **pPKPdf 03 49 03.6 +4.1**
KHC Kasperske Hory 147.78 352 *e*PKPbc **PKPbc 03 48 55.5 +0.4**
MLR Muntele Rosu 147.82 335 ⇓*i*P **PKPab 03 48 58.2 +0.3**
BRTR Keskin Array B 148.01 320 PKPbc **PKPbc 03 48 56.5 +0.3**
comp=Z,2.9nm,0.7s,baz=48,slow=2.1,SNR=14
GERES GERESS Array B 148.05 352 PKPbc **PKPbc 03 48 55.8 -0.1**
comp=Z,2.1nm,0.9s,baz=25,slow=3.2,SNR=12
VOIR 148.22 336 ⇓*i*P **PKPbc 03 48 57.7 +1.2**
ARR Arges 148.44 336 ⇓*i*P **PKPbc 03 48 58.6 +1.5**
CONA Conrad Observa 148.60 349 ⇑*i*pPKPbc **PKPbc 03 48 59.1 +1.7**
comp=Z,9.4nm,0.9s
GZR Gura Zlata 149.10 339 ⇓*i*P **PKPab 03 49 01.7 -1.3**
BZS Buzias 149.29 340 ⇑*i*P **PKPbc 03 48 59.2 +0.1**
MOTA Moosalm 149.81 355 ⇑*i*pPKPbc **PKPbc 03 49 03.0 +2.4**
comp=Z,6.6nm,0.8s
SOKA Soboth 149.96 349 ⇑*i*pPKPbc **PKPbc 03 49 02.7 +1.9**
comp=Z,7.2nm,1.3s
DAVA Damuels 149.96 357 ⇑*i*pPKPbc **PKPbc 03 49 02.4 +1.4**
comp=Z,8.2nm,1.1s
FETA Feichten 150.17 355 ⇑*i*PKiKP **PKPbc 03 49 00.9 -0.5**
comp=Z,7.5nm,1.0s
ABTA Abfaltersbach 150.26 353 ⇑*i*PKPbc **PKPbc 03 49 00.5 -1.0**
comp=Z,10.0nm,0.9s
VTS Vitosha 151.33 335 ⇑*i*P **PKPbc 03 49 07.4 +3.1**
MMB Musomiste 151.94 333 ⇓*i*P **PKPbc 03 49 08.1 +2.5**
TORD Torodi Ar. Bea 173.21 126 PKP **PKPdf 03 49 17.5 -3.1**
comp=Z,0.7nm,0.9s,baz=222,slow=4.0,SNR=5.3
TORD PKPab **PKPab 03 50 47.6 -0.6**
comp=Z,0.6nm,0.6s,baz=253,slow=4.5,SNR=11

*CSEM **07** 03:30:17.4±0.3,50.˚39N×18.˚77E, h1km, Error ellipse: s-maj=8.1km s-min=2.8km az=11.0*
PRU 07 03:30:18.3,50.˚35N×18.˚78E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**113**	*e*Pg	Pg	03 30 20.9	-0.3
CHZP				eSg	Sg	03 30 22.9	-0.2
OKC	**Ostrava-Krasne**	**0.66**	**219**	*e*PG	Pg	03 30 30.3	-0.6
OKC				eSG	Sg	03 30 39.2	-0.2
	comp=Z,4.4nm,0.4s						
OKC	**Ostrava-Krasne**	**0.66**	**219**	Pg	Pg	03 30 30.3	-0.6
OKC				Sg	Sg	03 30 39.2	-0.2
	4.4nm,0.4s						
OJC	**Ojcow**	**0.67**	**101**	*e*Pg	Pg	03 30 31.5	+0.4
OJC				eSg	Sg	03 30 39.4	-0.4
OJC	**Ojcow**	**0.67**	**101**	eSg	Sg	03 30 39.4	-0.4
KRLC	**Kraliky**	**1.31**	**259**	*e*PG	Pg	03 30 42.5	-1.1
KRLC				eSG	Sg	03 31 00.8	+0.1
KRLC	**Kraliky**	**1.31**	**259**	Pg	Pg	03 30 42.5	-1.1
KRLC				Sg	Sg	03 31 00.8	+0.1
NIE	**Niedzica**	**1.36**	**133**	*e*Pg	Pg	03 30 44.3	-0.2
NIE				eSg	Sg	03 31 02.3	+0.1
NIE	**Niedzica**	**1.36**	**133**	*e*Pg	Pg	03 30 44.3	-0.2
NIE				eSg	Sg	03 31 02.3	+0.1
DPC	**Dobruska-Polom**	**1.57**	**271**	*e*PG	Pn	03 30 47.2	-0.4
DPC				eSG	Sg	03 31 09.2	+0.1
DPC	**Dobruska-Polom**	**1.57**	**271**	Pg	Pn	03 30 47.2	-0.4
DPC				Sg	Sg	03 31 09.2	+0.1
KHC	**Kasperske Hory**	**3.59**	**252**	*e*SG	Sg	03 32 12.3	-1.4
KHC	**Kasperske Hory**	**3.59**	**252**	Sg	Sg	03 32 12.3	-1.4

*NEIC **07** 03:31:54.8, 32.˚15N×115.˚29W, h10km, ML3.5(PAS), After PAS.*
*ISCJB **07** 03:31:55.4±0.4, 32.˚29N±0.˚02×115.˚24W±0.˚03, h20km±3km, Error ellipse: s-maj=4.4km s-min=3.5km az=179.4*
*ECX **07** 03:31:56.7±0.6, 32.˚27N×115.˚28W, h6km, MD3.5,ML3.7*
*MEX **07** 03:31:57.4±0.5, 32.˚27N×115.˚23W, h5km±12km, MD3.6*
ISC 07 03:31:55.7±0.9, 32.˚23N±0.˚02×115.˚33W±0.˚02, h10km±7km, n31, σ1°71/59, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**7**	*e*P	**Pg**	**03 31 59.5**	**-0.1**
CPBX				eS	**Sg**	**03 32 02.4**	**+0.1**
MBIG	**Mexicali**	**0.21**	**33**	*i*P	**Pg**	**03 32 00.1**	**+0.1**
MBIG				eS	**Sg**	**03 32 02.1**	**-0.8**
EMX	**El Mayor**	**0.26**	**163**	*e*P	**Pb**	**03 32 01.8**	**-0.6**
EMX				eS	**Sg**	**03 32 05.8**	**+1.5**
SGL	**Mount Signal**	**0.53**	**321**	⇓*i*P	**Pg**	**03 32 06.2**	**+0.2**
RDX	**Rancho Dawling**	**0.60**	**240**	⇑*e*P	**Pb**	**03 32 08.7**	**+0.3**
YUH	**Yuha Desert**	**0.65**	**310**	⇓*i*P	**Pg**	**03 32 08.2**	**-0.1**
COK	**Cook Ranch**	**0.70**	**331**	⇓*i*P	**Pg**	**03 32 09.0**	**-0.3**
RMX	**La Rumorosa**	**0.73**	**300**	*e*P	**Pg**	**03 32 09.9**	**0.0**
RMX				eS	**Sg**	**03 32 19.8**	**+0.3**
RMX				*e*		03 32 21.5	
RMX				AML	AML	03 32 21.5	
	comp=N,4μm,0.2s						
ECBX	**El Chinero**	**0.80**	**163**	*e*P	**Pg**	**03 32 10.9**	**-0.1**
ECBX				eS	**Sb**	**03 32 21.6**	**-0.8**
GLA	**Glamis**	**0.92**	**27**	*e*Pg	**Pg**	**03 32 11.8**	**-1.6**
GLA				eS	**Sg**	**03 32 22.8**	**-2.6**
ZAX	**El Zacaton**	**1.08**	**228**	*e*P	**Pn**	**03 32 16.6**	**-0.3**
ZAX				eS	**Sn**	**03 32 32.2**	**+0.3**
CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**03 32 17.0**	**-0.4**
CBX				*i*S	**Sg**	**03 32 33.0**	**+0.8**
CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**03 32 17.0**	**-0.4**
CBX				eS	**Sg**	**03 32 32.7**	**+0.5**
CBX				⇑*e*		03 32 33.8	
CBX				AML	AML	03 32 33.8	
	comp=E,2μm,0.7s						
CBX				⇑*e*		03 32 34.7	
CBX				AML	AML	03 32 34.7	
	comp=N,2μm,0.6s						
CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**03 32 17.0**	**-0.4**
CBX				*i*S	**Sg**	**03 32 33.0**	**+0.8**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**03 32 18.1**	**-0.6**
SPIG				eS	**Sg**	**03 32 33.6**	**-0.5**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**03 32 18.1**	**-0.6**
SPIG				eS	**Sg**	**03 32 33.6**	**-0.5**
SPX	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**03 32 18.1**	**-0.6**
SPX				eS	**Sn**	**03 32 35.2**	**+0.1**
SPX				⇓*e*		03 32 38.0	
SPX				AML	AML	03 32 38.0	
	comp=N,1μm,0.3s						
BAR	**Barrett**	**1.22**	**292**	*e*Pn	**Pn**	**03 32 17.7**	**-1.1**
BAR				eS	**Sb**	**03 32 34.2**	**-0.4**
ECNX	**Esteban Cantu**	**1.22**	**242**	*e*P	**Pn**	**03 32 18.8**	**-0.1**
ECNX				eS	**Sg**	**03 32 35.9**	**+0.9**
PBX	**Punta Banda**	**1.28**	**248**	*e*P	**Pn**	**03 32 19.7**	**+0.1**
PBX				eS	**Sg**	**03 32 38.1**	**+1.1**
PFO	**Pinyon Flats O**	**1.67**	**326**	*e*Pn	**Pn**	**03 32 22.8**	**-2.3**
PFO				eS	**Sn**	**03 32 42.2**	**-4.4**
214A	**Organ Pipe Nat**	**2.15**	**97**	*e*Pn	**Pn**	**03 32 29.4**	**-2.3**
214A				eS	**Sb**	**03 33 02.2**	**+0.6**
MWC	**Mount Wilson**	**3.03**	**312**	*e*Pn	**Pn**	**03 32 44.2**	**+0.4**
MWC				eS	**Sn**	**03 33 20.1**	**-0.2**
TUC	**Tucson**	**3.85**	**88**	*e*Pn	**Pn**	**03 32 53.8**	**-1.2**
TUC				eS	**Sb**	**03 33 53.9**	**+3.4**
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	**Pn**	**03 33 00.4**	**-0.4**
SHPR				eS	**Sg**	**03 34 15.3**	**+2.7**
ISA	**Isabella, Lake**	**4.30**	**323**	Pn	**Pn**	**03 33 02.7**	**+1.4**
ISA				*e*Pg	Pg	03 33 15.4	-2.8
ISA				eS	**Sg**	**03 34 09.8**	**-4.1**
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**	**03 33 05.7**	**-0.3**
WUAZ				*e*Pg	**Pg**	**03 33 23.1**	**-1.5**
WUAZ				eS	**Sb**	**03 34 18.7**	**+5.4**
CCUT	**Cedar City**	**5.55**	**16**	*e*Pn	**Pn**	**03 33 19.4**	**+0.9**
	comp=N,5.6nm,0.7s						
CCUT				*e*Pg	**Pg**	**03 33 40.7**	**-1.2**
CCUT				eS	**Sb**	**03 34 43.7**	**+4.4**
R11A	**Troy Canyon, C**	**6.11**	**358**	*e*Pn	Pn	03 33 23.0	-3.1
	comp=N,2.2nm,0.4s						
R11A				*e*Pg	**Pg**	**03 33 51.5**	**-1.2**
R11A				eS	**Sg**	**03 35 14.8**	**+3.1**
121A	**Cookes Peak, D**	**6.39**	**85**	*e*Pn	**Pn**	**03 33 28.8**	**-1.3**
	comp=N,5.3nm,0.3s						
121A				eS	**Sg**	**03 35 23.1**	**+2.3**

*IDC **07** 03:32:36.7±0.8, 2.˚36N×97.˚10E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/27, mbtmp4.3/17, ML4.7/1, MS4.2/1, Ms1 4.2/1, ms1mx3.2/36, Error ellipse: s-maj=28.8km s-min=16.7km az=45.0*
*BJI **07** 03:32:39.4, 2.˚30N×96.˚90E, h35km, mB5.1/10, mb4.7/17, Ms4.4/2, Ms7 4.4/2*
*DJA **07** 03:32:39.2±0.6, 2.˚N±3.˚×9.˚7E±.˚, h14km±7km, M4.6/9, mb4.4/1, mB5.2/1, MLv4.7/9, Mw(mB)4.6/1*
*ISCJB **07** 03:32:39.9±0.3, 2.˚26N±0.˚04×96.˚94E±0.˚04, h33km, mb4.4/47, MS4.2/1, Error ellipse: s-maj=6.1km s-min=5.1km az=36.2*
*MOS **07** 03:32:40.1±0.9, 2.˚41N×97.˚18E, h33km, mb4.6/18, Error ellipse: s-maj=16.0km s-min=6.5km az=109.3*
*NEIC **07** 03:32:42.1±0.4, 2.˚32N×96.˚98E, h35km, mb4.4/12, Error ellipse: s-maj=10.8km s-min=7.1km az=218.0*
ISC 07 03:32:41.9±0.5, 2.˚36N±0.˚05×97.˚05E±0.˚06, h33km, n133, σ1°22/129, mb4.4/47, 3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.73**	**274**	P	Pn	03 32 47.8	-8.1
TPTI		**0.90**	**8**	P	**Pn**	**03 32 58.6**	**+0.3**
TPTI				S	**Sb**	**03 33 11.2**	**+0.4**
KCSI	**Kotacane, Aceh**	**1.36**	**32**	P	**Pb**	**03 33 06.2**	**-0.6**
KCSI				S	**Sb**	**03 33 25.3**	**+1.4**
TSI	**Tuntungan**	**1.89**	**53**	P	**Pb**	**03 33 14.5**	**-1.3**
LHMI	**Lhok Sumawe**	**2.85**	**358**	P	**Pn**	**03 33 26.8**	**+1.7**
LHMI				S	**Sn**	**03 34 01.3**	**+3.0**
LHMI	**Lhok Sumawe**	**2.85**	**358**	*e*Pn	**Pn**	**03 33 26.8**	**+1.7**
LHMI				*e*S	**Sb**	**03 34 06.7**	**+0.1**
MNSI	**Mandailing Nat**	**2.97**	**122**	P	**Pn**	**03 33 28.6**	**+1.9**
IPM	**Ipoh**	**4.49**	**62**	*e*Pn	**Pn**	**03 33 49.7**	**+2.0**
KULM	**Kulim**	**4.62**	**51**	*e*Pn	**Pn**	**03 33 50.9**	**+1.4**
PDSI	**Padang**	**4.71**	**134**	P	**Pn**	**03 33 51.6**	**+0.8**
MYKOM	**Kota Tinggi**	**6.82**	**95**	*e*Pn	**Pn**	**03 34 21.8**	**+2.1**
SBUM	**Sibu**	**15.15**	**89**	*e*Pn	**P**	**03 36 17.6**	**-0.9**
	4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.10**	**6**	Pn	**Pn**	**03 36 26.8**	**+0.8**
	1.1nm,0.3s,baz=196,slow=12,SNR=14						
SLVN	**Son La**	**20.00**	**19**	*e*P	**P**	**03 37 11.4**	**-0.6**
	11nm,0.9s						
CHLP	**Challavanipeta**	**20.48**	**322**	*e*P	**P**	**03 37 18.1**	**+0.9**
SKHT	**Srikalahasti**	**20.54**	**304**	*e*P	**P**	**03 37 17.4**	**-0.3**
ADKI	**Addanki**	**21.51**	**310**	*e*P	**P**	**03 37 27.0**	**-1.2**
NJS	**Nagarjunasagar**	**22.44**	**310**	*e*P	**P**	**03 37 39.8**	**+1.5**
URV	**Uravakonda**	**23.19**	**304**	*e*P	**P**	**03 37 47.6**	**+1.5**
HYB	**Hyderabad**	**23.54**	**311**	*i*P	**P**	**03 37 51.0**	**+1.5**
HYB				*e*		03 38 04.0	
HYBB	**Hyderabad (bro**	**23.54**	**311**	*e*P	**P**	**03 37 47.9**	**-1.6**
SHL	**Shillong**	**23.60**	**348**	*e*P	**P**	**03 37 47.0**	**-3.2**
RPR	**Rampur**	**23.90**	**315**	*e*P	**P**	**03 37 51.0**	**-1.9**
ODAN	**Odare**	**26.06**	**340**	*e*P	**P**	**03 38 12.8**	**0.0**
	27nm,0.6s						
TAPN	**Taplejung**	**26.41**	**341**	*e*P	**P**	**03 38 16.4**	**+0.4**
	33nm,0.8s						
RAMN	**Ramite**	**26.42**	**339**	*e*P	**P**	**03 38 16.6**	**+0.6**
	20nm,0.8s						
H08S2	**Diego Garcia H**	**26.44**	**248**	T	T	04 05 15.9	
	baz=68,slow=76,SNR=291						
H08S3	**Diego Garcia H**	**26.44**	**248**	T	T	04 05 13.7	
	baz=68,slow=76,SNR=228						
H08S1	**Diego Carcia H**	**26.46**	**248**	T	T	04 05 14.8	
	baz=68,slow=76,SNR=267						
JIRN	**Jiri**	**27.22**	**339**	*e*P	**P**	**03 38 23.7**	**+0.4**
	36nm,0.9s						
GUN	**Gumba**	**27.56**	**338**	*e*P	**P**	**03 38 26.7**	**+0.3**
KKN	**Kakani**	**27.68**	**337**	*e*P	**P**	**03 38 27.5**	**+0.2**
GKN	**Gorkha**	**28.12**	**336**	*e*P	**P**	**03 38 31.5**	**+0.3**
KOLN	**Koldanda**	**28.35**	**334**	*e*P	**P**	**03 38 33.8**	**+0.5**
	18nm,0.7s						
DANN	**Dangsing**	**28.79**	**335**	*e*P	**P**	**03 38 37.6**	**+0.3**
	27nm,0.9s						
PYUN	**Piuthan**	**28.90**	**334**	*e*P	**P**	**03 38 39.0**	**+0.8**
	15nm,0.3s						
CD2	**Chengdu**	**29.09**	**12**	*e*P	P	03 38 43.0	+3.3
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	100nm,5.2s						
XAN	**Xi'an**	**33.41**	**18**	P	**P**	**03 39 16.2**	**-1.4**
XAN				PMZ			
	6.0nm,0.9s						
GTA	**Gaotai**	**36.96**	**4**	*e*P	**P**	**03 39 48.5**	**+0.2**
GTA				pP	**pP**	**03 39 58.1**	**+0.2**
GTA				sP	**sP**	**03 40 01.8**	**-0.1**
GTA				PMZ			
	10.0nm,0.8s						
H01W3	**Cape Leeuwin H**	**40.37**	**158**	T	T	04 23 13.6	
	baz=333,slow=76						
H01W2	**Cape Leeuwin H**	**40.38**	**158**	T	T	04 23 14.2	
	baz=333,slow=76						
H01W1	**Cape Leeuwin H**	**40.39**	**158**	T	T	04 23 24.1	
	baz=333,slow=76						
HHC	**Hu-ho-hao-te**	**40.49**	**17**	*e*P	**P**	**03 40 19.5**	**+1.6**
HHC				PMZ			
	17nm,1.0s						
HHC				PMZ			
	140nm,4.3s						
BJI	**Beijing**	**41.33**	**22**	P	**P**	**03 40 24.9**	**+0.4**
BJI				PMZ			
	27nm,0.6s						
WMQ	**Urumqi**	**42.11**	**350**	*e*P	**P**	**03 40 31.6**	**+0.6**
WMQ				pP	**pP**	**03 40 41.5**	**+0.7**
WMQ				PMZ			
	29nm,0.6s						
WMQ				PMZ			
	220nm,6.4s						
WRA	**Warramunga Arr**	**42.78**	**123**	P	**P**	**03 40 36.0**	**-0.8**
	3.6nm,0.5s,baz=302,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**42.78**	**123**	⇓*i*P	**P**	**03 40 36.6**	**-0.2**
WRAB	**Tennant Creek**	**42.78**	**123**	*e*P	**P**	**03 40 36.0**	**-0.8**
	6.9nm,0.6s						
WB2	**Warramunga Arr**	**42.79**	**123**	*e*P	**P**	**03 40 36.5**	**-0.4**
SFK	**Sufi-Kurgan**	**43.14**	**333**	P	**P**	**03 40 40.4**	**+0.7**
SFK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PDGK	**Podgornoye**	**43.69**	**341**	P	**P**	**03 40 43.7**	**0.0**
PDGK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ASAR	**Alice Springs**	**44.22**	**128**	P	**P**	**03 40 48.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=298,slow=7.7,SNR=9.1						
FORT	**Forrest**	**44.26**	**141**	*e*P	**P**	**03 40 49.7**	**+1.2**
	comp=Z,12nm,0.6s						
UCH	**Uchtor**	**44.53**	**336**	P	**P**	**03 40 51.7**	**+0.5**
	SNR=8.4						
UCH	**Uchtor**	**44.53**	**336**	*i*P	**P**	**03 40 51.6**	**+0.5**
TKM2	**Tokmak 2**	**44.69**	**338**	P	**P**	**03 40 52.7**	**+0.6**
	SNR=6.1						
TKM2	**Tokmak 2**	**44.69**	**338**	*e*P	**P**	**03 40 52.6**	**+0.6**
TKM2	**Tokmak 2**	**44.69**	**338**	*e*P	**P**	**03 40 52.7**	**+0.6**
	comp=Z,6.5nm,1.1s						
KBK	**Karagaybulak**	**44.72**	**337**	P	**P**	**03 40 53.9**	**+1.7**
	SNR=5.8						
KBK	**Karagaybulak**	**44.72**	**337**	*i*P	**P**	**03 40 53.9**	**+1.7**
AML	**Almayashu**	**44.79**	**335**	P	**P**	**03 40 54.0**	**+0.9**
	SNR=9.2						
AML	**Almayashu**	**44.79**	**335**	*i*P	**P**	**03 40 54.0**	**+0.9**
AAK	**Ala-Archa**	**44.88**	**336**	*e*P	**P**	**03 40 54.8**	**+1.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**44.88**	**336**	*e*P	**P**	**03 40 54.8**	**+1.3**
	comp=Z,3.9nm,0.9s						
KSAR	**Wonju Array Be**	**44.95**	**35**	P	**P**	**03 40 53.2**	**-0.8**
KSAR	**Wonju Array Be**	**44.95**	**35**	P	**P**	**03 40 53.2**	**-0.8**
KSRS	**Korea Array**	**44.99**	**35**	P	**P**	**03 40 53.2**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=231,slow=8.7,SNR=6.9						
EKS2	**Erkin-Say**	**45.20**	**336**	P	**P**	**03 40 57.2**	**+1.1**
	SNR=6.8						
EKS2	**Erkin-Say**	**45.20**	**336**	*e*P	**P**	**03 40 57.1**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	**Erkin-Say**	**45.20**	**336**	*e*P	**P**	**03 40 57.1**	**+1.1**
	comp=Z,4.4nm,0.8s						
USP	**Ospenovka**	**45.41**	**337**	P	**P**	**03 40 58.1**	**+0.5**
	SNR=12						
USP	**Ospenovka**	**45.41**	**337**	*i*P	**P**	**03 40 58.1**	**+0.5**
MNAS	**Manas**	**45.59**	**335**	P	**P**	**03 40 59.0**	**-0.1**
MNAS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**46.01**	**9**	P	**P**	**03 41 01.8**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=187,slow=8.8,SNR=14						
SONM				PcP	**PcP**	**03 42 39.0**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=190,slow=3.4,SNR=5.3						
MK31	**Makanchi Array**	**46.09**	**346**	*i*P	**P**	**03 41 02.0**	**-0.8**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**46.09**	**346**	*e*P	**P**	**03 41 02.7**	**-0.1**
MKAR	**Makanchi Array**	**46.09**	**346**	P	**P**	**03 41 02.6**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=161,slow=8.1,SNR=70						
MKAR	**Makanchi Array**	**46.09**	**346**	*e*P	**P**	**03 41 02.7**	**-0.1**
ULN	**Ulaanbaatar**	**46.15**	**9**	*e*P	**P**	**03 41 02.7**	**-0.7**
ULN	**Ulaanbaatar**	**46.15**	**9**	*e*P	**P**	**03 41 02.8**	**-0.7**
	comp=Z,3.9nm,1.1s						
KK31	**Karatay Array**	**46.96**	**333**	P	**P**	**03 41 10.1**	**+0.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**46.96**	**333**	*e*P	**P**	**03 41 10.1**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**46.96**	**333**	*e*P	**P**	**03 41 10.1**	**+0.4**
	comp=Z,0.8nm,0.5s						
CN2	**Changchun**	**48.34**	**27**	*e*P	**P**	**03 41 19.6**	**-0.8**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
TLY	**Talaya**	**49.46**	**5**	P	**P**	**03 41 29.3**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=90,slow=5.1,SNR=4.9						
GEYT	**Alibeck**	**50.23**	**320**	P	**P**	**03 41 36.5**	**+1.5**
	comp=Z,13nm,0.8s,baz=142,slow=5.6,SNR=21						
KURK	**Kurchatov**	**50.64**	**345**	*e*P	**P**	**03 41 37.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**50.64**	**345**	*e*P	**P**	**03 41 37.6**	**-0.2**
	comp=Z,6.7nm,0.9s						
MDJ	**Mudanjiang**	**50.93**	**30**	P	**P**	**03 41 42.0**	**+1.9**
MDJ				PMZ			
	comp=Z,4.0nm,0.5s						
MDJ				PMZ			
	comp=Z,150nm,4.9s						
MJAR	**Matsushiro Arr**	**50.94**	**43**	P	**P**	**03 41 39.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=242,slow=11,SNR=4.7						
MJAR				LR	LR	04 03 31.3	
	comp=Z,233nm,21.0s,baz=335,slow=36						
ZALV	**Zalesovo Beam**	**52.39**	**351**	P	**P**	**03 41 50.5**	**-0.3**
	comp=Z,15nm,0.9s,baz=174,slow=6.9,SNR=39						
NVS	**Novosibirsk**	**53.51**	**350**	*e*P	**P**	**03 41 56.2**	**-2.9**
RAYN	**Ar Rayn**	**54.09**	**297**	*e*P	**P**	**03 42 05.3**	**+1.3**
	comp=Z,3.5nm,1.1s						
BVA0	**Borovoye Array**	**55.11**	**341**	*i*P	**P**	**03 42 10.0**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AB31	**Akbulak array**	**56.43**	**332**	*i*P	**P**	**03 42 20.1**	**-0.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**56.43**	**332**	*e*P	**P**	**03

STHS					*e*			03 48 52.4	
BILL	**Bilibino**	**80.14**	**21**	*e*P	P	03 44 52.2	+3.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARCES	**ARCESS Array B**	**81.40**	**340**	P	**P**	**03 44 55.2**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=95,slow=4.8,SNR=24						
GERES	**GERESS Array B**	**83.85**	**319**	P	**P**	**03 45 08.4**	**0.0**
	comp=Z,0.8nm,0.8s,baz=59,slow=5.9,SNR=6.3						
CLL	**Collm**	**84.44**	**321**	*e*P	P	03 45 19.0	+7.8
CLL	**Collm**	**84.44**	**321**	e(pP)	P	03 45 19.0	+7.8
NB2	**NORSAR Subarra**	**85.92**	**331**	P	**P**	**03 45 18.4**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=94,slow=5.1						
NOA	**NORSAR Array B**	**85.92**	**331**	P	**P**	**03 45 18.7**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=93,slow=5.0,SNR=6.3						
ULM	**Lac du Bonnet**	**126.43**	**10**	PKP	**PKPdf**	**03 51 41.3**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=325,slow=5.4,SNR=5.0						
NVAR	**Mina Array Bea**	**127.93**	**35**	PKP	**PKPdf**	**03 51 46.0**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=276,slow=3.4,SNR=4.1						
PDAR	**Pinedale Array**	**129.06**	**25**	PKP	**PKPdf**	**03 51 47.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=4.6						
TXAR	**Lajitas Array**	**142.76**	**31**	PKP	**PKPdf**	**03 52 10.3**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=164,slow=0.9,SNR=11						

WEL 07 03:34:53.1±0.1, 40.55S×174.86E, h47km±2km, ML3.6/16, 4C-7D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.31**	**173**	⇑*i*P	Pn	03 35 01.4	-0.7
KIW				SN	Sn	03 35 08.0	-0.5
KIW				AML	AML	03 35 09.3	
MRZ	**Mangatainoka R**	**0.56**	**102**	⇓*i*P	Pn	03 35 04.7	-0.2
MRZ				SN	Sn	03 35 14.2	+0.7
MRZ				AML	AML	03 35 15.4	
CAW	**Cannon Point**	**0.58**	**164**	PN	Pn	03 35 04.8	-0.4
CAW				SN	Sn	03 35 14.4	+0.6
CAW				AML	AML	03 35 16.9	
HOWZ	**Holdsworth Sta**	**0.61**	**125**	⇑PN	Pn	03 35 05.0	-0.6
HOWZ				SN	Sn	03 35 15.0	+0.4
POWZ	**Post Office Ro**	**0.71**	**78**	PN	Pn	03 35 06.5	-0.3
POWZ				SN	Sn	03 35 16.3	-0.6
WEL	**Wellington**	**0.74**	**185**	PN	Pn	03 35 06.8	-0.6
WEL				SN	Sn	03 35 17.4	0.0
DUWZ	**D'Urville Isla**	**0.76**	**250**	⇓PN	Pn	03 35 05.8	-1.7
DUWZ				SN	Sn	03 35 17.0	-0.9
MTW	**Mount Morrison**	**0.78**	**141**	PN	Pn	03 35 07.1	-0.7
MTW				SN	Sn	03 35 18.3	-0.2
MTW				AML	AML	03 35 22.9	
TCW	**Tory Channel**	**0.80**	**214**	⇑PN	Pn	03 35 07.1	-0.9
TCW				AML	AML	03 35 20.2	
TCW				AML	AML	03 35 20.2	
WAZ	**Wanganui**	**0.80**	**7**	PN	Pn	03 35 07.5	-0.5
TIWZ	**Tintock**	**0.81**	**106**	PN	Pn	03 35 08.1	-0.2
TIWZ				AML	AML	03 35 24.0	
TIWZ				AML	AML	03 35 24.1	
PRWZ	**Pori Road**	**0.85**	**91**	PN	Pn	03 35 08.3	-0.4
PRWZ				SN	Sn	03 35 21.4	+1.3
BHW	**Baring Head**	**0.86**	**179**	PN	Pn	03 35 08.3	-0.5
BHW				SN	Sn	03 35 21.3	+1.0
BHW				AML	AML	03 35 24.8	
MSWZ	**Moikau Station**	**0.91**	**161**	PN	Pn	03 35 09.5	-0.1
MSWZ				AML	AML	03 35 27.0	
MSWZ				AML	AML	03 35 27.4	
PAWZ	**Paruwai Farm**	**0.94**	**153**	PN	Pn	03 35 10.0	+0.1
PAWZ				AML	AML	03 35 25.9	
PAWZ				AML	AML	03 35 25.9	
TMWZ	**Te Maipa**	**0.96**	**126**	PN	Pn	03 35 10.4	+0.1
TSZ	**Takapari Road**	**0.98**	**60**	⇓PN	Pn	03 35 09.8	-0.6
TSZ				AML	AML	03 35 26.7	
TSZ				AML	AML	03 35 27.4	
DVHZ	**Dannevirke**	**1.03**	**76**	PN	Pn	03 35 10.3	-0.9
TRWZ	**Traveller**	**1.05**	**144**	PN	Pn	03 35 11.6	+0.1
TRWZ				AML	AML	03 35 32.8	
TRWZ				AML	AML	03 35 33.6	
PLWZ	**Palliser**	**1.06**	**164**	PN	Pn	03 35 10.5	-1.1
BFZ	**Birch Farm**	**1.06**	**97**	PN	Pn	03 35 10.5	-1.1
TUWZ	**Tuamarina**	**1.12**	**218**	PN	Pn	03 35 11.8	-0.5
TUWZ				AML	AML	03 35 28.7	
TUWZ				AML	AML	03 35 31.1	
LREZ	**Lake Rotokare**	**1.14**	**342**	PN	Pn	03 35 12.2	-0.5
PNHZ	**Pukenui**	**1.21**	**59**	⇓PN	Pn	03 35 12.6	-1.0
MTVZ	**Mangateitei**	**1.25**	**22**	PN	Pn	03 35 14.5	+0.2
NNZ	**Nelson**	**1.30**	**239**	PN	Pn	03 35 13.9	-0.9
WPHZ	**Waipukurau**	**1.30**	**69**	PN	Pn	03 35 13.9	-0.9
PKVZ	**Pokaka**	**1.31**	**17**	PN	Pn	03 35 14.5	-0.6
PREZ	**Palmer Road**	**1.32**	**336**	PN	Pn	03 35 15.1	-0.1
MOVZ	**Moawhango**	**1.33**	**31**	PN	Pn	03 35 14.6	-0.8
WNVZ	**Wahianoa**	**1.35**	**25**	PN	Pn	03 35 15.5	-0.2
TRVZ	**Turoa**	**1.36**	**23**	PN	Pn	03 35 15.5	-0.4
NMEZ	**Namu Road**	**1.36**	**326**	PN	Pn	03 35 15.5	-0.1
BSWZ	**Blackbirch Sta**	**1.38**	**212**	PN	Pn	03 35 15.3	-0.6
BSWZ				AML	AML	03 35 38.7	
BSWZ				AML	AML	03 35 38.8	
DRZ	**Dome Shelter**	**1.38**	**23**	PN	Pn	03 35 16.4	+0.1
PRHZ	**Porangahau**	**1.39**	**79**	PN	Pn	03 35 16.5	-0.5
WHVZ	**Whangaehu Hut**	**1.39**	**24**	PN	Pn	03 35 16.1	-0.3
FWVZ	**Far West T-bar**	**1.40**	**23**	PN	Pn	03 35 16.2	-0.3
NEZ	**North Egmont**	**1.41**	**335**	⇓PN	Pn	03 35 16.2	-0.2
BHHZ	**Black Hill Sta**	**1.41**	**41**	PN	Pn	03 35 15.9	-0.5
KHEZ	**Kahui Hut**	**1.41**	**332**	⇓PN	Pn	03 35 16.3	-0.2
TUVZ	**Tukino**	**1.42**	**26**	PN	Pn	03 35 16.6	-0.1
VRZ	**Vera Road**	**1.43**	**357**	PN	Pn	03 35 15.9	-0.6
WPVZ	**Whakapapa**	**1.44**	**22**	PN	Pn	03 35 16.9	0.0
COVZ	**Chateau Observ**	**1.45**	**22**	PN	Pn	03 35 17.0	0.0
DREZ	**Durham Road**	**1.45**	**339**	PN	Pn	03 35 17.0	+0.1
KRHZ	**Kereru**	**1.47**	**53**	PN	Pn	03 35 16.0	-1.2
NWEZ	**Newall Road**	**1.48**	**329**	PN	Pn	03 35 17.0	-0.3
NGZ	**Ngauruhoe**	**1.49**	**23**	PN	Pn	03 35 17.6	0.0
PKE	**Pukeiti**	**1.51**	**333**	PN	Pn	03 35 17.6	-0.2
OTVZ	**Oturere**	**1.52**	**24**	⇓PN	Pn	03 35 18.0	0.0
MHEZ	**Mangahewa**	**1.53**	**344**	PN	Pn	03 35 18.4	+0.5
WTVZ	**West Tongariro**	**1.54**	**22**	PN	Pn	03 35 18.2	-0.1
TWVZ	**Taurewa**	**1.54**	**17**	PN	Pn	03 35 18.0	-0.3
PXZ	**Pawanui**	**1.62**	**72**	AML	AML	03 35 50.4	
PXZ				AML	AML	03 35 57.8	
KAHZ	**Kahuranaki**	**1.72**	**65**	PN	Pn	03 35 19.2	-1.4
QRZ	**Quartz Range**	**1.79**	**260**	PN	Pn	03 35 20.1	-1.4
MCHZ	**McNeill Hill**	**1.79**	**53**	PN	Pn	03 35 20.7	-0.9
BKZ	**Black Stump Fm**	**1.87**	**43**	PN	Pn	03 35 21.4	-1.3
BKZ				AML	AML	03 35 56.1	
BKZ				AML	AML	03 36 00.5	
THZ	**Tophouse**	**1.91**	**230**	PN	Pn	03 35 22.1	-1.1
HIZ	**Hauiti**	**2.03**	**360**	⇑PN	Pn	03 35 24.7	-0.1
KHZ	**Kahutara**	**2.11**	**208**	PN	Pn	03 35 24.6	-1.3
RIGZ	**Rimuhau**	**2.90**	**52**	PN	Pn	03 35 34.1	-2.7
LTZ	**Lake Taylor**	**2.96**	**220**	PN	Pn	03 35 35.4	-2.1
MWZ	**Matawai**	**3.03**	**44**	PN	Pn	03 35 35.6	-3.0
MWZ				AML	AML	03 36 28.1	
MQZ	**McQueen's Vall**	**3.56**	**207**	PN	Pn	03 35 41.8	-3.9

*ISCJB **07** 03:36:15.4±0.5, 32.°18N±0.°02×115.°19W±0.°03, h12km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=8.1*
*NEIC **07** 03:36:16.5, 32.°18N×115.°22W, h10km, ML3.5(PAS), After PAS.*
*ECX **07** 03:36:16.9±0.6, 32.°17N×115.°23W, h7km, MD3.5, ML3.7*
ISC 07 03:36:15.6±0.9, 32.°18N±0.°02×115.°22W±0.°02, h16km±7km, n25, σ1°22/45, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.19**	**185**	⇓*i*P	**Pg**	**03 36 20.0**	**-0.1**
EMX				*e*S	**Sg**	**03 36 23.1**	**-0.1**
CPBX	**Cerro Prieto**	**0.25**	**344**	*e*P	**Pb**	**03 36 21.9**	**+0.2**
CPBX				*e*S	**Sg**	**03 36 25.3**	**+0.4**
SGL	**Mount Signal**	**0.63**	**318**	⇑*i*P	**Pg**	**03 36 27.8**	**-0.3**
RDX	**Rancho Dawling**	**0.66**	**248**	*e*P	**Pb**	**03 36 29.1**	**+0.3**
RDX				*e*S	**Sg**	**03 36 37.4**	**+0.1**
YMD	**Yuma Desert**	**0.69**	**57**	⇑*i*P	**Pg**	**03 36 29.0**	**-0.1**
COA	**Coachella**	**0.69**	**7**	⇓*i*P	**Pg**	**03 36 29.2**	**+0.1**
ECBX	**El Chinero**	**0.72**	**168**	*e*P	**Pg**	**03 36 28.9**	**-0.7**
ECBX				*e*S	**Sg**	**03 36 39.1**	**-0.1**
COK	**Cook Ranch**	**0.79**	**328**	⇓*i*P	**Pg**	**03 36 31.1**	**+0.1**
RMX	**La Rumorosa**	**0.84**	**301**	*e*P	**Pg**	**03 36 31.7**	**-0.2**
RMX				*e*S	**Sg**	**03 36 42.8**	**-0.3**
GLA	**Glamis**	**0.93**	**21**	*e*Pg	**Pb**	**03 36 32.5**	**-0.9**
GLA				*e*S	**Sb**	**03 36 44.7**	**-0.9**
ZAX	**El Zacaton**	**1.11**	**234**	*e*P	**Pb**	**03 36 36.3**	**-0.1**
ZAX				*e*S	**Sb**	**03 36 51.1**	**+0.4**
SPIG	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pb**	**03 36 36.8**	**-0.4**
SPX	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pb**	**03 36 37.0**	**-0.2**
SPX				*e*S	**Sb**	**03 36 52.4**	**+0.5**
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**03 36 37.9**	**-0.3**
CBX				*e*S	**Sb**	**03 36 54.6**	**+0.6**
CBX				⇓*e*		03 36 56.5	
CBX				AML	AML	03 36 56.5	
	comp=N,2μm,0.4s						
ECNX	**Esteban Cantu**	**1.28**	**246**	*e*P	**Pn**	**03 36 38.6**	**-0.2**
ECNX				*e*S	**Sb**	**03 36 55.5**	**0.0**
BAR	**Barrett**	**1.32**	**293**	Pn	**Pb**	**03 36 40.5**	**+0.5**
BAR				*e*S	**Sb**	**03 36 56.9**	**+0.2**
PBX	**Punta Banda**	**1.35**	**252**	*e*P	**Pn**	**03 36 39.9**	**+0.2**
PFO	**Pinyon Flats O**	**1.76**	**324**	Pn	**Pn**	**03 36 46.9**	**+1.4**
PFO				*e*S	**Sn**	**03 37 08.9**	**+1.2**
214A	**Organ Pipe Nat**	**2.06**	**96**	Pn	**Pb**	**03 36 52.9**	**+0.3**
214A				*e*S	**Sg**	**03 37 20.7**	**-1.2**
LDFC	**Landfair**	**2.89**	**2**	Pn	**Pn**	**03 37 02.9**	**+1.8**
MWC	**Mount Wilson**	**3.13**	**311**	*e*Pn	**Pn**	**03 37 05.5**	**+1.2**
MWC				*e*Pg	**Pg**	**03 37 14.1**	**-1.5**
TUC	**Tucson**	**3.76**	**87**	*e*Pn	**Pn**	**03 37 13.8**	**+0.8**
TUC				*e*Pg	**Pg**	**03 37 27.3**	**-0.4**
TUC				*e*S	**Sg**	**03 38 13.4**	**-3.0**
ISA	**Isabella, Lake**	**4.40**	**323**	*e*Pn	**Pn**	**03 37 24.4**	**+2.7**
ISA				*e*Pg	**Pg**	**03 37 38.2**	**-1.7**
ISA				*e*S	**Sg**	**03 38 32.4**	**-4.6**
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn	**Pn**	**03 37 26.7**	**+1.9**
WUAZ				*e*S	**Sg**	**03 38 43.7**	**-0.2**
121A	**Cookes Peak, D**	**6.30**	**85**	*e*Pn	**Pn**	**03 37 48.7**	**+0.7**
121A				*e*S	**Sb**	**03 39 20.3**	**+0.1**

*ISCJB **07** 03:37:45.5±0.5, 32.°63N±0.°02×115.°69W±0.°03, h7km±4km, Error ellipse: s-maj=4.2km s-min=3.9km az=142.9*
*NEIC **07** 03:37:46.6, 32.°60N×115.°74W, h3km, ML3.6(PAS), After PAS.*
NEIC Felt at Mexicali. Also felt at El Centro, California.
*ECX **07** 03:37:47.3±0.6, 32.°64N×115.°75W, h3km, MD3.4, ML3.6*
ISC 07 03:37:46.1±0.9, 32.°60N±0.°02×115.°69W±0.°03, h9km±8km, n19, σ1°23/34, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**330**	⇓*i*P	**Pg**	**03 37 48.0**	**0.0**
YUH	**Yuha Desert**	**0.20**	**284**	⇑*i*P	**Pg**	**03 37 50.1**	**0.0**
COK	**Cook Ranch**	**0.25**	**353**	⇓*i*P	**Pg**	**03 37 51.4**	**+0.3**
RMX	**La Rumorosa**	**0.33**	**270**	*e*P	**Pg**	**03 37 52.5**	**0.0**
RMX				*e*S	**Sg**	**03 37 56.9**	**0.0**
RMX				AML	AML	03 37 57.8	
	comp=N,6μm,0.1s						
RMX				⇓*e*		03 37 57.8	
CPBX	**Cerro Prieto**	**0.38**	**119**	*e*P	**Pb**	**03 37 55.5**	**+0.6**
CPBX				*e*S	**Sb**	**03 38 01.7**	**+0.8**
CPBX				AML	AML	03 38 04.7	
	comp=N,19μm,0.1s						
CPBX				*e*		03 38 04.7	
RDX	**Rancho Dawling**	**0.70**	**198**	*e*P	**Pg**	**03 37 59.8**	**+0.2**
RDX				*e*S	**Sg**	**03 38 09.3**	**+0.4**
EMX	**El Mayor**	**0.72**	**148**	*e*P	**Pg**	**03 37 59.0**	**-0.9**
EMX				*e*S	**Sg**	**03 38 09.6**	**+0.2**
BAR	**Barrett**	**0.83**	**276**	*e*Pg	**Pg**	**03 38 01.4**	**-0.7**
BAR				*e*S	**Sg**	**03 38 11.5**	**-1.3**
GLA	**Glamis**	**0.86**	**58**	*e*Pg	**Pg**	**03 38 01.9**	**-0.6**
GLA				*e*S	**Sg**	**03 38 13.0**	**-0.7**
CBX	**Cerro Bola**	**0.87**	**251**	*e*P	**Pg**	**03 38 02.6**	**-0.2**
CBX				*e*S	**Sb**	**03 38 14.1**	**-1.1**
ZAX	**El Zacaton**	**1.19**	**205**	*e*P	**Pg**	**03 38 08.6**	**-0.3**
ZAX				*e*S	**Sb**	**03 38 24.6**	**+0.2**
ZAX				⇑*e*		03 38 27.3	
ZAX				AML	AML	03 38 27.3	
	comp=E,2μm,0.3s						
ZAX				AML	AML	03 38 27.3	
	comp=N,1μm,0.3s						
ZAX				⇑*e*		03 38 27.3	
PFO	**Pinyon Flats O**	**1.19**	**328**	*e*Pg	**Pg**	**03 38 07.8**	**-1.2**
PFO				*e*S	**Sg**	**03 38 20.7**	**-3.8**
ECNX	**Esteban Cantu**	**1.22**	**219**	*e*P	**Pg**	**03 38 08.9**	**-0.4**
ECNX				*e*S	**Sb**	**03 38 25.1**	**-0.1**
PBX	**Punta Banda**	**1.23**	**226**	*e*P	**Pg**	**03 38 08.9**	**-0.7**
PBX				*e*S	**Sb**	**03 38 25.3**	**-0.1**
ECBX	**El Chinero**	**1.25**	**154**	*e*P	**Pg**	**03 38 08.1**	**-1.9**
ECBX				*e*S	**Sg**	**03 38 25.8**	**-0.5**
MWC	**Mount Wilson**	**2.56**	**310**	*e*Pn	**Pn**	**03 38 28.7**	**+0.8**
MWC				*e*S	**Sb**	**03 39 03.4**	**-0.5**
OSI	**Osito Audit: C**	**3.23**	**309**	Pn	**Pn**	**03 38 38.9**	**+1.9**
OSI				*e*S	**Sb**	**03 39 24.1**	**+1.0**
DAC	**Darwin (Calif)**	**3.99**	**337**	Pn	**Pn**	**03 38 46.7**	**-0.9**
DAC				*e*S	**Sb**	**03 39 48.6**	**+3.4**
TPNV	**Topopah Spring**	**4.36**	**354**	Pn	**Pn**	**03 38 52.9**	**+0.2**

GUC 07 03:57:28.5±0.3, 35.°34S×72.°56W, h40km±1km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.76**	**95**	*i* P	Pn	03 57 43.5	+0.8
TALC				*i* S	Sn	03 57 54.9	+2.0
TALC				AML	AML	03 58 01.0	
	comp=E,9μm,0.0s						
COCH	**Cobquecura**	**0.82**	**193**	*i* P	Pn	03 57 44.3	+0.8
COCH				*i* S	Sn	03 57 56.4	+1.9
COCH				AML	AML	03 57 57.5	
	comp=N,967nm,0.4s						
LNCH	**Linares**	**0.93**	**124**	*i* P	Pn	03 57 46.2	+1.1
LNCH				*i* S	Sn	03 57 59.6	+2.3
LNCH				AML	AML	03 58 04.4	
	comp=E,2μm,0.3s						
NICH	**Los Niches**	**1.14**	**73**	*i* P	Pn	03 57 49.5	+1.6
NICH				*e*S	Sn	03 58 05.2	+2.9
NICH				AML	AML	03 58 09.0	
	comp=N,3μm,0.4s						
CCSP	**San Pedro de C**	**1.57**	**196**	*i* P	Pn	03 57 55.9	+2.0
CCSP				*i* S	Sn	03 58 16.6	+3.5
CCSP				AML	AML	03 58 23.3	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**2.56**	**41**	*i* P	Pn	03 58 10.0	+2.5
CLCH				*e*S	Sn	03 58 40.8	+3.3
CLCH				AML	AML	03 58 50.9	
	comp=E,392nm,0.5s						
PEL	**Peldehue**	**2.68**	**36**	*i* P	Pn	03 58 11.9	+2.7
PEL				*e*S	Sn	03 58 44.7	+4.2
PEL				AML	AML	03 58 56.4	
	comp=N,437nm,0.5s						

GUC 07 04:00:51.8±0.4, 35.°11S×72.°49W, h18km±4km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.76**	**113**	*i* P	Pg	04 01 07.0	+0.2
TALC				*e*S	Sg	04 01 17.5	+0.6
TALC				AML	AML	04 01 21.0	
	comp=N,10μm,0.0s						
LNCH	**Linares**	**1.04**	**136**	*i* P	Pg	04 01 12.0	0.0
LNCH				*i* S	Sg	04 01 26.4	+0.7
LNCH				AML	AML	04 01 26.6	
	comp=E,2μm,0.2s						
NICH	**Los Niches**	**1.04**	**85**	*i* P	Pn	04 01 11.5	-0.1
NICH				*i* S	Sg	04 01 26.4	+0.7
NICH				AML	AML	04 01 28.2	
	comp=N,3μm,0.2s						
COCH	**Cobquecura**	**1.05**	**193**	*i* P	Pn	04 01 11.7	+0.1
COCH				*i* S	Sg	04 01 26.4	+0.4
CLCH	**Cerro Calan**	**2.35**	**44**	*i* P	Pb	04 01 32.3	-1.5
CLCH				*i* S	Sb	04 02 03.1	+0.6
CLCH				AML	AML	04 02 10.9	
	comp=N,189nm,0.5s						

*IDC **07** 04:03:17.8±0.6, 17.°17S×172.°81W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/22, mbtmp4.2/12, Error ellipse: s-maj=26.6km s-min=18.1km az=128.0*
*ISCJB **07** 04:03:19.4±0.6, 17.°2S×172.°5W±0.°1, h17km, mb4.1/12, Error ellipse: s-maj=19.2km s-min=12.5km az=33.5*
*NEIC **07** 04:03:19.6±0.5, 17.°20S×172.°43W, h10km, mb4.4/1, Error ellipse: s-maj=17.5km s-min=13.0km az=140.0*

ISC 07 04:03:20.7±0.6, 17.°09S±0.°10×172.°5W±0.°1, h17km, n33, σ1°84/34, mb4.2/12, 6C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.23**	**12**	*e*Pn	Pn	04 04 05.6	-5.1
AFI				*e*S	**Sn**	**04 04 43.1**	**-5.7**
MSVF	**Nonsavu**	**9.08**	**265**	*e*Pn	**Pn**	**04 05 32.7**	**+1.5**
	88nm,1.1s						
URZ	**Urewera**	**22.99**	**201**	P	**P**	**04 08 23.0**	**-1.5**
	14nm,0.7s,baz=318,slow=3.8,SNR=7.1						
URZ				S	**S**	**04 12 28.0**	**-6.3**
	7.2nm,0.8s,baz=315,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**50.36**	**258**	P	P	04 12 12.4	-4.8
	1.8nm,0.6s,baz=93,slow=8.0,SNR=11						
WRA				PcP	**PcP**	**04 13 34.5**	**-1.3**
	1.0nm,0.9s,baz=89,slow=4.4,SNR=2.5						
ASAR	**Alice Springs**	**50.47**	**253**	P	P	04 12 13.7	-4.4
	8.6nm,0.9s,baz=85,slow=8.6,SNR=7.5						
QSPA	**South Pole Qui**	**72.97**	**180**	P	**P**	**04 14 48.6**	**-0.6**
	2.2nm,0.8s,baz=28,slow=1.2,SNR=18						
PETK	**Petropavlovsk-**	**74.50**	**342**	P	**P**	**04 14 58.0**	**-0.1**
	2.8nm,0.7s,baz=121,slow=6.9,SNR=3.8						
NVAR	**Mina Array Bea**	**74.98**	**41**	P	**P**	**04 15 02.4**	**+1.0**
	1.5nm,0.9s,baz=224,slow=7.6,SNR=7.2						
KSRS	**Korea Array**	**77.99**	**315**	P	**P**	**04 15 18.2**	**+0.1**
	1.4nm,0.7s,baz=131,slow=3.5,SNR=4.9						
KSAR	**Wonju Array Be**	**78.01**	**315**	P	**P**	**04 15 18.2**	**-0.1**
TXAR	**Lajitas Array**	**80.81**	**56**	P	**P**	**04 15 36.1**	**+2.2**
	0.7nm,0.9s,baz=231,slow=5.7,SNR=5.6						
PDAR	**Pinedale Array**	**82.92**	**41**	P	**P**	**04 15 45.5**	**+0.5**
	1.0nm,0.8s,baz=211,slow=3.8,SNR=8.9						
ILAR	**Eielson Array**	**83.92**	**11**	P	**P**	**04 15 48.6**	**-0.6**
	0.5nm,0.6s,baz=222,slow=5.4,SNR=8.1						
YKA	**Yellowknife Ar**	**91.28**	**23**	P	**P**	**04 16 26.5**	**+1.7**
	0.5nm,0.9s,baz=229,slow=4.6,SNR=6.7						
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P	**P**	**04 16 38.8**	**+0.3**
	0.9nm,0.3s,baz=101,slow=3.0,SNR=5.5						
KWP	**Kalwaria Pacla**	**145.29**	**343**	⇑*i*P	**PKPdf**	**04 22 59.2**	**+1.7**
KMBO	**Kilima Mbogo**	**145.57**	**241**	PKPbc	**PKPbc**	**04 22 59.5**	**0.0**
	2.8nm,0.7s,baz=72,slow=5.1,SNR=6.9						
KMBO	**Kilima Mbogo**	**145.57**	**241**	*e*PKPdf	**PKPdf**	**04 22 59.4**	**0.0**
KMBO				PKPbc	**PKPbc**	**04 22 59.5**	**0.0**
CLL	**Collm**	**145.58**	**354**	*e*PKPbc	**PKPab**	**04 23 00.0**	**+1.7**
CLL				*i*		04 23 09.0	
	comp=Z,14nm,1.4s						
MALT	**Malatya**	**145.69**	**314**	⇑*i*P	**PKPab**	**04 22 59.9**	**+0.6**
UPC	**Upice**	**145.97**	**350**	*e*PKP	**PKPab**	**04 23 00.5**	**+0.6**
UPC				*ex*	x	04 23 09.6	
DPC	**Dobruska-Polom**	**146.07**	**350**	*e*PKP	**PKPab**	**04 23 00.6**	**+0.3**
PVCC	**Panska Ves**	**146.16**	**352**	*e*PKP	**PKPab**	**04 23 01.3**	**+0.7**
TRPA	**Tarpa**	**146.69**	**342**	⇑*i*P	**PKPab**	**04 23 04.3**	**+1.7**
KHC	**Kasperske Hory**	**147.66**	**353**	*e*PKP	**PKPbc**	**04 23 05.0**	**+0.7**
KHC				*ex*	x	04 23 13.9	
KHC				*ex*	x	04 23 19.2	
MLR	**Muntele Rosu**	**147.77**	**335**	⇑*i*P	**PKPab**	**04 23 06.5**	**-0.7**
GERES	**GERESS Array B**	**147.93**	**352**	PKPbc	**PKPbc**	**04 23 04.8**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=352,slow=3.0,SNR=7.3						
BRTR	**Keskin Array B**	**148.03**	**320**	PKPbc	**PKPbc**	**04 23 05.9**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=71,slow=2.8,SNR=7.5						
VOIR		**148.16**	**336**	⇑*i*P	**PKPab**	**04 23 07.6**	**-1.1**
ARR	**Arges**	**148.38**	**337**	⇓*i*P	**PKPab**	**04 23 08.8**	**-0.7**
GZR	**Gura Zlata**	**149.03**	**339**	⇑*i*P	**PKPab**	**04 23 10.2**	**-1.9**
BZS	**Buzias**	**149.22**	**341**	⇓*i*P	**PKPbc**	**04 23 09.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**173.13**	**124**	PKPab	**PKPab**	**04 24 57.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=243,slow=2.6,SNR=5.2						

*IDC **07** 04:03:42.7±1.1, 1.°68N×96.°28E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/47, mbtmp3.9/11, ML4.7/1, Error ellipse: s-maj=48.2km s-min=20.5km az=51.0*
*ISCJB **07** 04:03:46.0±0.8, 1.°85N±0.°09×96.°60E±0.°06, h28km, mb3.9/11, Error ellipse: s-maj=13.7km s-min=8.4km az=158.5*
*NEIC **07** 04:03:48.6±0.6, 1.°84N×96

TORD	**Torodi Ar. Bea**	**75.33**	**28**	P		**P**	**04 23 24.7**	**+0.3**
	0.4nm,0.5s,baz=199,slow=6.3,SNR=16							
ASAR	**Alice Springs**	**96.10**	**162**	P		**P**	**04 25 07.6**	**-0.8**
	0.2nm,0.5s,baz=181,slow=3.9,SNR=4.1							
ARCES	**ARCESS Array B**	**133.41**	**22**	PKP		**PKPdf**	**04 30 54.1**	**-0.2**
	1.2nm,0.8s,baz=207,slow=2.4,SNR=5.4							
YKA	**Yellowknife Ar**	**138.61**	**315**	PKP		**PKPdf**	**04 31 04.8**	**+0.7**
	0.1nm,0.5s,baz=120,slow=2.5,SNR=4.2							
INK	**Inuvik**	**148.31**	**317**	PKPbc		**PKPbc**	**04 31 24.7**	**+0.1**
	0.2nm,0.3s,baz=163,slow=5.2,SNR=3.3							

IDC ***07*** *04:15:49.4±1.9, 7.°83S×158.°52E, h44km±9km, mb3.7/6, mb1 4.0/6, mb1mx3.7/39, mbtmp4.0/6, Error ellipse: s-maj=69.2km s-min=21.3km az=128.0*

ISCJB ***07*** *04:15:50.3±0.8, 7.°8S±0.°1×158.°3E±0.°1, h61km, mb3.8/6, Error ellipse: s-maj=20.4km s-min=17.0km az=43.4*

ISC 07 04:15:51.1±0.8, 7.°8S±0.°1×158.°3E±0.°1, h61km, n13, σ1§73/10, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.31**	**135**	*eP*	**Pn**	**04 16 27.0**	**+0.1**
HNR				eS	Sn	04 17 05.0	+11
WRA	**Warramunga Arr**	**26.14**	**240**	P	**P**	**04 21 21.6**	**+1.7**
	1.5nm,0.7s,baz=63,slow=9.2,SNR=19						
WRA				pP	**pP**	**04 21 33.4**	**-1.3**
	2.4nm,0.8s,baz=64,slow=9.4,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**27.42**	**18**	T	T	04 49 47.6	
	baz=198,slow=76,SNR=1794						
H11S2	**WAKE ISLAND Hy**	**27.42**	**18**	T	T	04 49 47.0	
	baz=198,slow=76,SNR=2748						
H11S1	**WAKE ISLAND Hy**	**27.43**	**18**	T	T	04 49 48.8	
	baz=198,slow=76,SNR=1972						
ASAR	**Alice Springs**	**28.19**	**233**	P	**P**	**04 21 39.4**	**+1.2**
	0.5nm,0.5s,baz=57,slow=10,SNR=6.6						
ASAR				pP	**pP**	**04 21 51.1**	**-2.1**
	0.3nm,0.6s,baz=64,slow=9.4,SNR=2.3						
H11N1	**WAKE ISLAND Hy**	**28.63**	**17**	T	T	04 51 12.3	
	baz=198,slow=76,SNR=172						
H11N3	**WAKE ISLAND Hy**	**28.64**	**17**	T	T	04 51 13.0	
	baz=198,slow=76,SNR=207						
H11N2	**WAKE ISLAND Hy**	**28.65**	**17**	T	T	04 51 13.7	
	baz=198,slow=76,SNR=136						
SONM	**Songino Array**	**71.80**	**326**	P	**P**	**04 27 08.5**	**+1.2**
	0.9nm,0.7s,baz=134,slow=4.2,SNR=5.7						
ILAR	**Eielson Array**	**82.95**	**21**	P	**P**	**04 28 08.8**	**-0.4**
	1.2nm,0.9s,baz=235,slow=5.5,SNR=10						
MKAR	**Makanchi Array**	**86.17**	**318**	P	**P**	**04 28 26.7**	**+0.9**
	0.5nm,0.6s,baz=93,slow=5.4,SNR=6.0						
MKAR				pP	**pP**	**04 28 40.1**	**-2.9**
	1.4nm,0.9s,baz=104,slow=5.5,SNR=6.3						
YKA	**Yellowknife Ar**	**95.53**	**28**	P	**P**	**04 29 09.3**	**+0.1**
	1.0nm,0.7s,baz=260,slow=4.6,SNR=15						

SZGRF ***07*** *04:22:06.6, 1.°54N×98.°74E, h33km, mb4.9, Northern Sumatera, Indonesia*

BJI ***07*** *04:22:09.3, 2.°15N×96.°92E, h34km, mB5.0/34, mb4.9/50, Ms4.6/33, Ms7 4.4/30*

ISCJB ***07*** *04:22:14.0±0.2, 2.°64N±0.°03×96.°90E±0.°02, h31km, mb4.9/123, MS4.4/6, Error ellipse: s-maj=4.3km s-min=2.6km az=33.1*

MOS ***07*** *04:22:14.3±0.9, 2.°80N×97.°19E, h33km, mb5.3/56, MS4.6/4, Error ellipse: s-maj=11.4km s-min=4.6km az=118.2*

NEIC ***07*** *04:22:15.9±0.2, 2.°63N×96.°93E, h35km, mb5.1/49, Error ellipse: s-maj=6.5km s-min=4.2km az=207.0*

KLM ***07*** *04:22:16.6, 2.°49N×96.°88E, h47km, mb4.9, ML4.7, MS6.0*

IDC ***07*** *04:22:17.5±4.3, 2.°72N×97.°10E, h49km±39km, mb4.5/21, mb1 4.6/23, mb1mx4.3/37, mbtmp4.8/23, ML4.5/2, MS4.1/4, Ms1 4.2/4, ms1mx3.5/46, Error ellipse: s-maj=18.9km s-min=13.5km az=44.0*

DJA ***07*** *04:22:17.8±0.3, 3.°N±2.°×9.°7E±.°, h25km±4km, M5.0/37, mb4.9/37, mB5.6/14, MLv5.0/16, Mw(mB)5.1/14*

ISC 07 04:22:16.0±0.4, 2.°70N±0.°04×96.°92E±0.°03, h34km±1km, h34km:pP-P, n444, σ1§31/467, mb5.0/122, MS4.4/6, 30C-32D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**0.62**	**25**	P	**Pb**	**04 22 29.3**	**+0.8**
TPTI				S	**Sn**	**04 22 37.8**	**+0.7**
SNSI	**Sinabang, Aceh**	**0.66**	**244**	P	**Pb**	**04 22 30.5**	**+1.3**
SNSI				S	**Sn**	**04 22 42.5**	**+4.4**
KCSI	**Kotacane, Aceh**	**1.18**	**46**	P	**Pb**	**04 22 37.9**	**0.0**
KCSI				S	**Sb**	**04 22 55.7**	**+2.7**
TSI	**Tuntungan**	**1.82**	**64**	P	**Pb**	**04 22 48.0**	**-0.8**
LHMI	**Lhok Sumawe**	**2.52**	**1**	P	**Pb**	**04 22 58.2**	**-2.3**
LHMI	**Lhok Sumawe**	**2.52**	**1**	*e*Pn	**Pn**	**04 22 53.2**	**-1.3**
MNSI	**Mandailing Nat**	**3.26**	**125**	P	**Pn**	**04 23 05.2**	**+0.4**
MNSI				S	Sn	04 23 16.6	-26
IPM	**Ipoh**	**4.46**	**66**	⇑P	**Pn**	**04 23 23.2**	**+1.9**
IPM	**Ipoh**	**4.46**	**66**	*e*Pn	**Pn**	**04 23 23.2**	**+1.9**
IPM				eS	**Sn**	**04 24 16.8**	**+4.7**
KULM	**Kulim**	**4.53**	**55**	⇑P	**Pn**	**04 23 24.5**	**+2.3**
KULM	**Kulim**	**4.53**	**55**	*e*Pn	**Pn**	**04 23 24.1**	**+1.9**
KULM				eS	Sn	04 24 19.9	+6.3
FRIM	**Kepong**	**4.73**	**83**	⇑P	**Pn**	**04 23 26.2**	**+1.2**
BKNI	**Bangkinang**	**4.74**	**120**	P	**Pn**	**04 23 26.5**	**+1.3**
BKNI	**Bangkinang**	**4.74**	**120**	*e*Pn	**Pn**	**04 23 25.0**	**-0.2**
PDSI	**Padang**	**5.04**	**135**	P	**Pn**	**04 23 31.0**	**+1.7**
CMBY	**CAMPBELL BAY**	**5.22**	**325**	*e*P	**Pn**	**04 23 30.9**	**-0.9**
CMBY				AMB	AMB	04 23 49.5	
	comp=Z,143nm,2.1s						
PKDT	**Phuket**	**5.35**	**15**	P	**Pn**	**04 23 36.3**	**+2.8**
SDSI	**Sungai Dareh**	**5.77**	**129**	P	**Pn**	**04 23 40.9**	**+1.6**
	comp=Z,51nm,1.4s,comp=Z,0.8nm						
RGRI	**Rengat**	**6.20**	**119**	P	**Pn**	**04 23 47.4**	**+2.2**
	comp=Z,115nm,0.4s,comp=Z,79µmcomp=Z,7.2nm						
KGM	**Kluang**	**6.43**	**96**	⇓P	**Pn**	**04 23 48.7**	**+0.4**
SURT	**Suratani**	**6.49**	**17**	P	**Pn**	**04 23 51.1**	**+1.9**
	comp=Z,52nm,0.8s,comp=Z,524nmcomp=Z,0.3nm						
KRJI	**Kerinci**	**6.57**	**136**	P	**Pn**	**04 23 52.6**	**+2.1**
	comp=Z,24nm,0.9s,comp=Z,2µmcomp=Z,0.2nm						
KTGM	**Kuala Trenggan**	**6.73**	**67**	⇑P	**Pn**	**04 23 54.3**	**+1.9**
MYKOM	**Kota Tinggi**	**6.98**	**97**	⇓P	**Pn**	**04 23 56.2**	**+0.3**
MYKOM	**Kota Tinggi**	**6.98**	**97**	*e*Pn	**Pn**	**04 23 57.1**	**+1.2**
MNAI	**Manna**	**9.25**	**139**	P	**Pn**	**04 24 26.7**	**-0.4**
	comp=Z,172nm,1.8s						
LHSI	**Lahat**	**9.25**	**134**	P	**Pn**	**04 24 28.6**	**+1.5**
	comp=Z,81nm,0.8s						
PBA	**Port Blair**	**9.82**	**335**	*e*P	Pn	04 24 35.8	+1.0
MDSI	**Maura Dua**	**10.17**	**135**	P	**Pn**	**04 24 38.9**	**-0.9**
	comp=Z,49nm,0.8s						
LWLI	**Liwa**	**10.47**	**137**	P	**Pn**	**04 24 46.7**	**+2.8**
	comp=Z,67nm,0.7s						
KASI	**Kota Agung**	**11.13**	**137**	P	**Pn**	**04 24 50.3**	**-2.6**
	comp=Z,31nm,1.2s						
DGPR	**DIGLIPUR**	**11.14**	**339**	*e*P	**Pn**	**04 24 52.4**	**-0.5**
DGPR				AMB	AMB	04 25 09.1	
	comp=Z,22nm,2.8s						
CHBT	**CHBT**	**11.34**	**28**	P	Pn	04 24 59.7	+4.0
	comp=Z,44nm,1.1s,comp=Z,4µm						
TPI	**Tanjungpandan**	**12.02**	**117**	P	**Pn**	**04 25 06.5**	**+1.5**
	comp=Z,23nm,1.0s,comp=Z,2µm						
UTHA	**Uthaitani**	**13.02**	**11**	P	**P**	**04 25 29.3**	**+0.6**
KSM	**Kuching**	**13.43**	**95**	⇑P	**Pn**	**04 25 24.7**	**+0.3**
KSM	**Kuching**	**13.43**	**95**	*e*Pn	**Pn**	**04 25 26.1**	**+1.7**
PBKT	**Sadao Pong**	**14.35**	**16**	P	**Pn**	**04 25 39.1**	**+2.2**
	comp=Z,35nm,0.7s,comp=Z,1µm						
DLV	**T Lat**	**14.69**	**51**	*e*Pn	**Pn**	**04 25 43.2**	**+1.5**
KHON	**Khomkaen**	**14.75**	**23**	P	**P**	**04 25 49.0**	**+1.1**
	comp=Z,18nm,0.9s						
STKI	**Sintang**	**14.78**	**100**	P	**P**	**04 25 48.3**	**0.0**
	comp=Z,47nm,1.0s,comp=Z,33µm						
UBPT	**Khong Chiam**	**15.08**	**33**	P	**P**	**04 25 51.7**	**+0.1**
	comp=Z,54nm,1.0s						
SBUM	**Sibu**	**15.29**	**91**	⇓P	**Pn**	**04 25 50.4**	**+1.0**
SBUM	**Sibu**	**15.29**	**91**	*e*Pn	**Pn**	**04 25 50.3**	**+0.8**
	comp=Z,28nm,1.1s						
UTTA	**Uttaradit**	**15.37**	**13**	P	**P**	**04 25 55.5**	**+0.7**
	comp=Z,12nm,0.8s,comp=Z,102nm						
CMAR	**Chiang Mai Arr**	**15.79**	**7**	P	**P**	**04 25 58.1**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=197,slow=11,SNR=125						
CMAR				LR	LR	04 32 32.1	
	comp=Z,666nm,19.6s,baz=190,slow=39						
LAMP	**Lampang**	**15.95**	**9**	P	**P**	**04 26 00.2**	**-1.1**
	comp=Z,14nm,1.0s,comp=Z,117nm						
CHTO	**Chiang Mai**	**16.14**	**7**	*e*P	**Pn**	**04 26 01.3**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,25nm,1.2s						
CHTO	**Chiang Mai**	**16.14**	**7**	*e*Pn	**Pn**	**04 26 01.2**	**+0.8**
	comp=Z,25nm,1.2s						
CHTO	**Chiang Mai**	**16.14**	**7**	P	**P**	**04 26 02.0**	**-1.4**
CMMT	**Chiang Mai**	**16.14**	**7**	P	**P**	**04 26 02.0**	**-1.4**
	comp=Z,25nm,1.2s						
BTM	**Bintulu**	**16.15**	**88**	⇑P	**Pn**	**04 26 01.4**	**+0.8**
PALK	**Pallekele**	**16.78**	**286**	*e*P	**Pn**	**04 26 07.1**	**-1.6**
PALK				pmax	pmax		
	comp=Z,12nm,1.0s						
PALK	**Pallekele**	**16.78**	**286**	P	**P**	**04 26 13.3**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=105,slow=13,SNR=5.7						
PALK	**Pallekele**	**16.78**	**286**	*e*Pn	**Pn**	**04 26 07.1**	**-1.6**
	comp=Z,12nm,1.0s						
BBKI	**Banjar Baru**	**18.93**	**109**	P	**Pn**	**04 26 36.4**	**+1.4**
	comp=Z,68nm,1.1s						
KKM	**Kota Kinabalu**	**19.52**	**80**	⇑P	**P**	**04 26 40.9**	**0.0**
KKM	**Kota Kinabalu**	**19.52**	**80**	*e*Pn	**P**	**04 26 40.8**	**0.0**
	comp=Z,32nm,0.9s						
SLVN	**Son La**	**19.73**	**20**	P	**P**	**04 26 43.1**	**0.0**
	comp=Z,25nm,0.5s						
VIS	**Vishakhapatnam**	**20.02**	**319**	*e*P	**P**	**04 26 46.6**	**+0.5**
KBKI	**Kotabaru**	**20.14**	**107**	P	Pn	04 27 05.7	+16
CHLP	**Challavanipeta**	**20.14**	**322**	*e*P	Pn	04 26 48.9	-0.5
CHLP				IAmb	IAmb	04 26 50.6	
	comp=Z,45nm,0.9s						
SKHT	**Srikalahasti**	**20.24**	**304**	*e*P	**P**	**04 26 49.0**	**+0.5**
KDM	**Kudat**	**20.28**	**77**	⇓P	**P**	**04 26 49.5**	**+0.6**
BKB	**Balikpapan**	**20.35**	**101**	P	**P**	**04 26 50.8**	**+1.0**
	comp=Z,217nm,1.0s,comp=Z,2µm						
SDKM	**Sandakan**	**20.43**	**81**	⇑P	**P**	**04 26 51.4**	**+0.7**
QIZ	**Qiongzhong**	**20.58**	**37**	P	**P**	**04 26 52.8**	**+0.6**
QIZ				PMZ			
	comp=Z,24nm,1.2s						
QIZ				LN			
	comp=Z,640nm,18.8s						
QIZ				LZ			
	comp=Z,940nm,18.8s						
TSM	**Tawau**	**20.97**	**85**	⇓P	**P**	**04 26 54.7**	**-1.8**
SRBI	**Singaraja**	**21.16**	**121**	P	P	04 27 09.5	+11
ADKI	**Addanki**	**21.20**	**309**	*e*P	**P**	**04 26 58.7**	**-0.2**
NJS	**Nagarjunasagar**	**22.13**	**310**	*e*P	**P**	**04 27 10.2**	**+1.3**
URV	**Uravakonda**	**22.89**	**303**	*i* P	**P**	**04 27 19.3**	**+2.2**
KMI	**Kunming**	**22.99**	**14**	P	**P**	**04 27 19.9**	**+1.7**
KMI				pP	**pP**	**04 27 31.3**	**+4.0**
KMI				sP	sP	04 27 36.7	+5.2
KMI				PMZ			
	comp=Z,190nm,5.7s						
KMI				LN			
	comp=Z,520nm,17.6s						
KMI				LE			
	comp=Z,290nm,13.6s						
KMI				LZ			
	comp=Z,950nm,24.6s						
MPSI	**Mapaga**	**23.09**	**95**	P	**P**	**04 27 17.9**	**-1.1**
	comp=Z,20nm,1.0s						
HYB	**Hyderabad**	**23.22**	**310**	*i* P	**P**	**04 27 22.0**	**+1.6**
HYB				*e*		04 27 34.0	
HYB	**Hyderabad**	**23.22**	**310**	*e*P	**P**	**04 27 19.0**	**-1.4**
HYBB	**Hyderabad (bro**	**23.22**	**310**	*e*P	**P**	**04 27 19.6**	**-0.9**
SHL	**Shillong**	**23.25**	**348**	*e*P	**P**	**04 27 21.4**	**+0.7**
SHL				*ex*	x	04 31 28.0	
BOK	**Bokaro**	**23.53**	**334**	*e*P	**P**	**04 27 23.4**	**+0.1**
BOK				AMB	AMB	04 27 26.5	
	comp=Z,58nm,0.4s						
RPR	**Rampur**	**23.57**	**314**	*e*P	**P**	**04 27 25.6**	**+1.9**
TTSI	**Tana Toraja**	**23.59**	**104**	P	**P**	**04 27 24.5**	**+0.5**
	comp=Z,41nm,1.1s,comp=Z,2µm						
SPSI	**Sidrap Palu**	**23.77**	**106**	P	**P**	**04 27 25.1**	**-0.6**
	comp=Z,17nm,0.9s						
KAPI	**Kappang**	**24.06**	**109**	*e*P	**P**	**04 27 27.4**	**-1.0**
	comp=Z,5.2nm,0.8s						
BNSI	**Bone**	**24.22**	**107**	P	**P**	**04 27 30.8**	**+0.9**
	comp=Z,50nm,1.3s						
BKSI	**Bulukumba**	**24.51**	**109**	P	**P**	**04 27 32.6**	**+0.1**
	comp=Z,66nm,0.8s,comp=Z,585nm						
APSI	**Ampana**	**24.98**	**98**	P	**P**	**04 27 37.5**	**+0.7**
	comp=Z,77nm,0.8s						
MRSI	**Marisa**	**25.11**	**95**	P	**P**	**04 27 36.6**	**-1.4**
	comp=Z,33nm,1.1s,comp=Z,894nm						
BSSI	**Bau Bau, Buton**	**25.12**	**111**	P	**P**	**04 27 37.7**	**-0.4**
	comp=Z,83nm,0.9s						
GYA	**Guiyang**	**25.41**	**21**	P	**P**	**04 27 42.8**	**+2.1**
GYA				pP	**pP**	**04 27 52.0**	**+1.6**
GYA				PP	**PnPn**	**04 28 23.2**	**+6.5**
GYA				S	**S**	**04 32 07.5**	**+2.0**
GYA				sS	**sS**	**04 32 24.8**	**+3.3**
GYA				SS	SnSn	04 33 11.9	+12
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,130nm,4.8s						
GYA				LN			
	comp=Z,490nm,17.5s						
GYA				LE			
	comp=Z,460nm,18.0s						
GYA				LZ			
	comp=Z,510nm,17.6s						
ODAN	**Odare**	**25.70**	**340**	*e*P	**P**	**04 27 43.7**	**+0.2**
	comp=Z,148nm,0.9s						
TAPN	**Taplejung**	**26.05**	**341**	*e*P	**P**	**04 27 46.9**	**+0.2**
	comp=Z,203nm,0.9s						
RAMN	**Ramite**	**26.07**	**339**	*e*P	**P**	**04 27 47.3**	**+0.5**
	comp=Z,111nm,1.0s						
LUWI	**Luwuk**	**26.11**	**98**	P	**P**	**04 27 46.5**	**-0.6**
LUWI	**Luwuk**	**26.11**	**98**	*e*P	**P**	**04 27 46.1**	**-1.0**
	comp=Z,63nm,1.0s						
H08S2	**Diego Garcia H**	**26.45**	**247**	T	T	04 54 47.2	
	baz=68,slow=75,SNR=714						
H08S3	**Diego Garcia H**	**26.45**	**247**	T	T	04 54 44.9	
	baz=68,slow=75,SNR=383						
H08S1	**Diego Carcia H**	**26.47**	**247**	T	T	04 54 48.9	
	baz=68,slow=75,SNR=429						
JIRN	**Jiri**	**26.86**	**339**	*e*P	**P**	**04 27 54.4**	**+0.3**
	comp=Z,143nm,0.9s						
PKI	**Pulchoki**	**27.07**	**337**	*e*P	**P**	**04 27 55.8**	**-0.2**
	comp=Z,55nm,1.0s						
PKIN	**Phulchoki**	**27.09**	**337**	*e*P	**P**	**04 27 55.9**	**-0.1**
GUN	**Gumba**	**27.20**	**338**	*e*P	**P**	**04 27 57.2**	**0.0**
	comp=Z,116nm,0.8s						
KKN	**Kakani**	**27.32**	**337**	*e*P	**P**	**04 27 57.9**	**-0.2**
	comp=Z,107nm,1.0s						
LSA	**Lhasa**	**27.41**	**349**	P	**P**	**04 27 59.0**	**-0.1**
LSA	**Lhasa**	**27.41**	**349**	*e*P	**P**	**04 27 59.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,16nm,0.9s						
LSA	**Lhasa**	**27.41**	**349**	*e*P	**P**	**04 27 59.7**	**+0.6**
	comp=Z,16nm,0.9s						
GKN	**Gorkha**	**27.77**	**336**	*e*P	**P**	**04 28 02.4**	**+0.4**
	comp=Z,124nm,1.0s						
BHPL	**Bhopal**	**27.82**	**319**	*e*P	**P**	**04 28 03.1**	**+0.7**
BHPL				AMB	AMB	04 28 20.3	
	comp=Z,13nm,0.5s						
KOLN	**Koldanda**	**28.00**	**334**	*e*P	**P**	**04 28 04.5**	**+0.4**
	comp=Z,75nm,0.8s						
DANN	**Dangsing**	**28.43**	**335**	*e*P	**P**	**04 28 08.1**	**0.0**
	comp=Z,100nm,1.0s						
PYUN	**Piuthan**	**28.55**	**334**	*e*P	**P**	**04 28 09.4**	**+0.4**
	comp=Z,70nm,0.8s						
CD2	**Chengdu**	**28.80**	**12**	*e*P	**P**	**04 28 11.6**	**+0.6**
CD2				pP	**pP**	**04 28 21.5**	**+0.7**
CD2				sP	**sP**	**04 28 25.7**	**+0.8**
CD2				PP	**PnPn**	**04 29 06.1**	**+3.3**
CD2				S	**S**	**04 32 59.3**	**+0.6**
CD2				sS	**sS**	**04 33 15.7**	**+0.9**
CD2				SS	**SnSn**	**04 34 29.6**	**+7.7**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
XAN	**Xi'an**	**33.13**	**18**	P	**P**	**04 28 47.5**	**-1.7**
XAN				pP	**pP**	**04 28 56.3**	**-2.7**
XAN				PMZ			
	comp=Z,5.0nm,1.2s						
XAN				LN			
	comp=Z,240nm,17.4s						
XAN				LE			
	comp=Z,63nm,17.4s						
XAN				LZ			
	comp=Z,150nm,18.5s						
LZH	**Lanzhou**	**33.84**	**10**	*e*P	**P**	**04 28 55.2**	**-0.3**
LZH				pP	**pP**	**04 29 04.0**	**-1.3**
LZH				sP	**sP**	**04 29 08.4**	**-1.0**
LZH				PMZ			
	comp=Z,24nm,1.0s						
LZH				PMZ			
	comp=Z,140nm,5.0s						
LZH				LN			
	comp=Z,450nm,18.1s						
LZH				LE			
	comp=Z,250nm,15.0s						
LZH				LZ			
	comp=Z,660nm,18.2s						
SMLA	**Simla**	**33.88**	**329**	*e*P	**P**	**04 28 56.0**	**+0.3**
SMLA				AMB	AMB	04 28 56.1	
	comp=Z,18nm,2.1s						
DHRM	**DHARAMSHALA**	**35.21**	**329**	*e*P	**P**	**04 29 08.0**	**+0.4**
DHRM				AMB	AMB	04 29 23.1	
	comp=Z,35nm,0.6s						
NJ2	**Nanjing**	**35.76**	**33**	*e*P	**P**	**04 29 13.1**	**+1.2**
NJ2				PMZ			
	comp=Z,60nm,0.9s						
GTA	**Gaotai**	**36.64**	**4**	⇓P	**P**	**04 29 19.2**	**-0.3**
GTA				pP	**pP**	**04 29 29.0**	**-0.4**
GTA				sP	**sP**	**04 29 33.0**	**-0.4**
GTA				PcP	**PcP**	**04 31 42.7**	**+0.6**
GTA				S	**S**	**04 35 00.2**	**-0.3**
GTA				sS	**sS**	**04 35 17.1**	**+0.3**
GTA				SS	**SnSn**	**04 37 29.2**	**-3.1**
GTA				PMZ			
	comp=Z,17nm,0.8s						
GTA				PMZ			
	comp=Z,220nm,5.9s						
GTA				LN			
	comp=Z,170nm,19.9s						
GTA				LE			
	comp=Z,250nm,20.0s						
GTA				LZ			
	comp=Z,560nm,19.0s						
HHC	**Hu-ho-hao-te**	**40.22**	**17**	*e*P	**P**	**04 29 52.4**	**+2.9**
HHC				PP	**PnPn**	**04 31 30.0**	**+3.8**
HHC				S	**S**	**04 35 58.9**	**+4.4**
HHC				sS	sS	04 36 16.3	+5.4
HHC				SS	**SS**	**04 38 53.8**	**+0.3**
HHC				PMZ			
	comp=Z,22nm,0.7s						
HHC				PMZ			
	comp=Z,180nm,4.9s						
HHC				LN			
	comp=Z,370nm,15.7s						
HHC				LE			
	comp=Z,340nm,15.1s						
HHC				LZ			
	comp=Z,310nm,14.8s						
H01W3	**Cape Leeuwin H**	**40.73**	**158**	T	T	05 13 22.4	
	baz=333,slow=74						
H01W2	**Cape Leeuwin H**	**40.74**	**158**	T	T	05 13 29.5	
	baz=333,slow=74						
H01W1	**Cape Leeuwin H**	**40.74**	**158**	T	T	05 13 27.5	
	baz=333						
BJT	**Baijiatuau**	**41.05**	**23**	*e*P	**P**	**04 29 56.7**	**+0.4**
BJT				pmax	pmax		
	comp=Z,21nm,0.4s						
BJT	**Baijiatuau**	**41.05**	**23**	*e*P	**P**	**04 29 56.7**	**+0.4**
	comp=Z,21nm,0.4s						
BJI	**Beijing**	**41.07**	**23**	P	**P**	**04 29 56.9**	**+0.5**
BJI				PMZ			
	comp=Z,34nm,0.7s						
KSH	**Kashi**	**41.30**	**335**	P	**P**	**04 29 57.4**	**-1.2**
KSH				sP	**sP**	**04 30 11.3**	**-1.3**
KSH				PP	**PP**	**04 31 35.6**	**+1.3**
KSH				PcS	**PcS**	**04 35 47.6**	**-0.4**
KSH				S	**S**	**04 36 07.4**	**-3.3**
KSH				sS	**sS**	**04 36 23.4**	**-3.7**
KSH				PMZ			
	comp=Z,8.0nm,0.6s						
KSH				PMZ			
	comp=Z,79nm,7.9s						
KSH				LN			
	comp=Z,110nm,5.8s						
KSH				LE			
	comp=Z,140nm,5.0s						
KSH				LZ			
	comp=Z,280nm,9.0s						
WMQ	**Urumqi**	**41.76**	**350**	*e*P	**P**	**04 30 03.0**	**+0.8**
WMQ				pP	**pP**	**04 30 13.0**	**+0.9**
WMQ				sP	**sP**	**04 30 17.0**	**+0.8**
WMQ				PP	**PnPn**	**04 31 43.0**	**-1.3**
WMQ				*e*S	**S**	**04 36 18.0**	**+0.7**
WMQ				PMZ			
	comp=Z,10.0nm,1.0s						
WMQ				PMZ			
	comp=Z,120nm,5.1s						
WMQ				LN			
	comp=Z,750nm,24.6s						
WMQ				LE			
	comp=Z,910nm,26.6s						
WMQ				LZ			
	comp=Z,1µm,28.8s						
SFK	**Sufi-Kurgan**	**42.78**	**333**	P	**P**	**04 30 11.5**	**+0.7**
SFK				pmax	pmax		
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**43.07**	**123**	P	**P**	**04 30 11.4**	**-1.7**
	comp=Z,23nm,0.8s,baz=302,slow=9.1,SNR=135						
WRA				PcP	**PcP**	**04 32 01.8**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=318,slow=3.6,SNR=3.8						
WRA				ScP	**ScP**	**04 35 50.6**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=305,slow=3.5,SNR=6.1						
WRAB	**Tennant Creek**	**43.08**	**123**	P	**P**	**04 30 11.9**	**-1.2**
	comp=Z,179nm,0.9s,SNR=23						
WRAB	**Tennant Creek**	**43.08**	**123**	⇓*i*P	**P**	**04 30 11.3**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,85nm,1.0s						
WRAB	**Tennant Creek**	**43.08**	**123**	*e*P	**P**	**04 30 11.5**	**-1.6**
	comp=Z,28nm,0.9s						
WB2	**Warramunga Arr**	**43.08**	**123**	*e*P	**P**	**04 30 11.4**	**-1.8**
PDGK	**Podgornoye**	**43.33**	**341**	P	**P**	**04 30 15.0**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,41nm,1.2s						
ULHL	**Ulahol**	**43.51**	**338**	P	**P**	**04 30 17.1**	**+0.4**

KSRS LR LR 04 50 24.0
comp=Z,231nm,20.2s,baz=215,slow=38
EKS2 Erkin-Say 44.84 336 P **P** **04 30 27.9 +0.7**
SNR=20
EKS2 Erkin-Say 44.84 336 *i* P **P** **04 30 27.8 +0.7**
EKS2 Erkin-Say 44.84 336 *e*P **P** **04 30 27.8 +0.6**
comp=Z,16nm,0.8s
EKS2 *e* 04 32 09.7
USP Ospenovka 45.06 337 P **P** **04 30 29.5 +0.7**
SNR=61
USP Ospenovka 45.06 337 *i* P **P** **04 30 29.4 +0.7**
MNAS Manas 45.23 334 P **P** **04 30 30.4 +0.1**
MNAS pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 45.70 9 P **P** **04 30 33.4 -0.5**
comp=Z,6.1nm,0.8s,baz=189,slow=8.9,SNR=40
SONM PcP **PcP** **04 32 11.8 +0.3**
comp=Z,6.1nm,0.9s,baz=187,slow=3.6,SNR=7.2
MK31 Makanchi Array 45.73 346 *i* P **P** **04 30 33.3 -0.7**
MK31 pmax pmax
comp=Z,57nm,1.0s
MKAR Makanchi Array 45.73 346 P **P** **04 30 34.0 0.0**
MKAR Makanchi Array 45.73 346 P **P** **04 30 34.0 0.0**
comp=Z,34nm,0.8s,baz=160,slow=8.2,SNR=202
IDAH Dahanechah 45.81 315 *e*P **P** **04 30 36.4 +1.2**
ULN Ulaanbaatar 45.84 10 *e*P **P** **04 30 34.4 -0.6**
ULN *e* 04 32 12.5
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 45.84 10 *e*P **P** **04 30 34.4 -0.6**
comp=Z,9.5nm,1.2s
ULN *e*PcP **PcP** **04 32 12.5 +0.5**
IKOO Kooshah 46.26 314 *e*P **P** **04 30 39.3 +0.6**
KK31 Karatay Array 46.60 333 *i* P **P** **04 30 41.1 +0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 46.60 333 *e*P **P** **04 30 41.2 +0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 46.60 333 *e*P **P** **04 30 41.2 +0.3**
comp=Z,3.1nm,0.6s
ITEG Tejag 46.69 314 *e*P **P** **04 30 43.1 +1.1**
IMYA Miami 47.69 319 *e*P **P** **04 30 49.5 -0.1**
ZAK Zakamensk 47.82 5 *e*P **P** **04 30 49.1 -1.3**
ZAK *e* 04 32 19.0
ZAK pmax pmax
comp=Z,6.0nm,1.7s
IMOG Moghan 48.05 318 *e*P **P** **04 30 53.8 +1.1**
CN2 Changchun 48.11 28 *e*P P 04 30 58.0 +5.4
CN2 pmax pmax
comp=Z,10.0nm,0.5s
IBAF Bafgh 48.38 311 *e*P **P** **04 30 55.4 +0.3**
IPAY Payeh 48.48 319 *e*P **P** **04 30 56.0 +0.1**
IAKL Akhelmad 48.72 319 *e*P **P** **04 30 58.6 +0.8**
MOY Mondy 48.92 3 *e*P **P** **04 30 58.8 0.0**
IKRD Kardeh 48.98 319 *e*P P 04 30 55.2 -4.5
TLY Talaya 49.14 6 *e*P **P** **04 31 01.0 +0.6**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY MLR MLR
comp=Z,504nm,20.0s
TLY Talaya 49.14 6 *e*P **P** **04 31 00.7 +0.3**
comp=Z,7.0nm,0.9s
ISFR Sfrayin 49.48 319 *e*P **P** **04 31 04.6 +1.0**
IPAR Pars 49.55 308 *e*P **P** **04 31 05.4 +1.1**
GEYT Alibeck 49.90 320 P **P** **04 31 07.4 +0.9**
comp=Z,47nm,0.9s,baz=142,slow=7.3,SNR=64
ISHV Shirvan 49.94 319 *e*P **P** **04 31 08.1 +1.1**
OTUK Ortayu 50.06 339 P **P** **04 31 07.3 -0.2**
OTUK pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 50.28 345 P **P** **04 31 08.7 -0.4**
KURK pmax pmax
comp=Z,19nm,1.0s
KURK Kurchatov 50.28 345 *e*P **P** **04 31 09.0 -0.1**
comp=Z,37nm,1.0s
MDJ Mudanjiang 50.71 30 P **P** **04 31 14.5 +2.1**
MDJ PMZ
comp=Z,3.0nm,0.6s
MDJ PMZ
comp=Z,63nm,3.8s
VLA Vladivostok 50.86 33 *e*P P 04 31 09.5 -4.1
VLA S **S** **04 38 22.2 -5.4**
VLA pmax pmax
comp=Z,16nm,0.7s
PMG Port Moresby 51.48 104⇓ *i*P **P** **04 31 17.8 -0.9**
PMG pmax pmax
comp=Z,66nm,1.0s
PMG Port Moresby 51.48 104 *e*P **P** **04 31 17.7 -0.9**
comp=Z,11nm,0.7s
USRK Ussuriysk Ar. 51.65 32 P **P** **04 31 18.7 -0.8**
comp=Z,6.9nm,0.9s,baz=232,slow=5.3,SNR=9.7
ZALV Zalesovo Beam 52.05 351 P **P** **04 31 22.0 -0.3**
ZALV Zalesovo Beam 52.05 351 P **P** **04 31 22.0 -0.3**
comp=Z,58nm,0.9s,baz=174,slow=6.0,SNR=162
NVS Novosibirsk 53.16 350⇑ *i*P **P** **04 31 28.2 -2.3**
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,25nm,1.0s
NVS pmax pmax
comp=N,17nm,1.2s
CTAO Charters Tower 53.42 117 *e*P **P** **04 31 32.1 -1.0**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
CTAO Charters Tower 53.42 117 *e*P **P** **04 31 32.1 -1.0**
comp=Z,10nm,0.8s
RAYN Ar Rayn 53.82 297 *e*P **P** **04 31 36.9 +1.0**
comp=Z,4.3nm,0.6s
BVAR Borovoye Array 54.76 341 LR LR 04 58 53.8
comp=Z,144nm,19.2s,baz=200,slow=40
AB31 Akbulak array 56.07 332 *i* P **P** **04 31 50.9 -0.8**
AB31 pmax pmax
comp=Z,27nm,1.0s
ABKAR Akbulak array 56.07 332 *e*P **P** **04 31 51.6 -0.2**
comp=Z,41nm,1.1s
HABR Khabarovsk 56.10 30 *e*P P 04 31 48.0 -3.9
HABR *e**PP pP 04 31 58.0 -4.2
HABR *e**SP sP 04 32 02.1 -4.1
HABR *e* 04 32 46.4
HABR *e* 04 33 52.7
HABR *e*PPP PPP 04 35 06.5
HABR *e*S **S** **04 39 33.6 -4.9**
HABR *e**SS sS 04 39 50.7 -4.7
HABR *e* 04 41 34.2
HABR *e*SS **SS** **04 43 21.0 -4.2**
HABR pmax pmax
comp=Z,32nm,1.4s
HABR MLR MLR
comp=Z,341nm,20.0s
BOD Bodaibo 56.60 11⇓ *i*P **P** **04 31 54.6 -0.7**
BOD pmax pmax
comp=Z,17nm,1.2s
YSS Yuzh-Sakhalins 59.28 35⇓ *i*P **P** **04 32 14.0 -0.3**
EIDS Eidsvold 59.39 122 P **P** **04 32 15.1 -0.4**
comp=Z,18nm,1.2s
KMBO Kilima Mbogo 59.77 267 *i* P P 04 32 23.6 +4.9
GNI Garni 60.03 316⇓ *i*P **P** **04 32 21.0 +1.1**
GNI pmax pmax
comp=Z,14nm,1.0s
SVE Sverdlovsk 61.20 338⇑ *e*P **P** **04 32 27.5 +0.2**
SVE pmax pmax
comp=Z,50nm,1.0s
ARU Arti 61.71 337 *d i*P **P** **04 32 30.6 -0.1**
ARU 04 34 46.5
ARU S **S** **04 40 53.0 +2.0**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 61.71 337 *e*P **P** **04 32 29.9 -0.8**
comp=Z,16nm,0.9s
ZEI Tsey 61.71 318 *e*P **P** **04 32 31.4 +0.1**
ZEI pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 62.77 319 P **P** **04 32 38.5 +0.4**
comp=Z,17nm,0.9s,baz=113,slow=5.9,SNR=29
KIV Kislovodsk 63.00 319 *e*P **P** **04 32 40.1 +0.3**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV Kislovodsk 63.00 319 *e*P **P** **04 32 40.2 +0.4**
comp=Z,28nm,0.8s
YAK Yakutsk 64.07 16 *e*P **P** **04 32 45.0 -1.3**
YAK *e* 04 33 17.1
YAK *e*PPP PPP 04 36 40.1
YAK *e*S **S** **04 41 17.3 -3.1**
YAK *e* 04 42 33.4
YAK pmax pmax
comp=Z,59nm,1.0s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,22nm,1.2s
YAK smax smax
comp=E,38nm,2.5s
YAK smax smax
comp=N,34nm,2.7s
YAK Yakutsk 64.07 16 P **P** **04 32 45.5 -0.8**
comp=N,14nm,0.4s,baz=25,slow=0.5,SNR=8.0
SOKR Solikamsk 64.61 339 *c i*P **P** **04 32 49.0 -0.9**
SOKR pmax pmax
comp=Z,50nm,1.2s
SOC Sochi 64.83 318 *c i*P **P** **04 32 50.5 -1.2**
SOC *e*S **S** **04 41 29.5 -1.0**
SOC *e*SS SS 04 45 50.4 +8.0
SOC pmax pmax
comp=Z,30nm,1.0s
VRHR Novokhopersk 66.74 326 *e*P **P** **04 33 01.7 -2.1**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.8s
BRTR Keskin Array B 67.91 312 *ce*P **P** **04 33 11.1 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 67.91 312 P **P** **04 33 11.2 -0.5**
comp=Z,3.0nm,0.8s,baz=127,slow=6.9,SNR=16
VORD Divnogorie 68.01 325 *e*P **P** **04 33 09.6 -2.3**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 68.19 325 *e*P **P** **04 33 10.5 -2.5**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.2s
PRGR Permogore 70.16 337 *e*P **P** **04 33 22.6 -2.4**
PRGR pmax pmax
comp=Z,123nm,1.4s
PETK Petropavlovsk- 70.65 34 P **P** **04 33 27.6 -0.6**
comp=Z,5.5nm,1.0s,baz=193,slow=4.6,SNR=4.1
MOS Moscow 70.91 329 *e*P **P** **04 33 28.6 -1.1**
MOS *e* 04 33 43.5
MOS pmax pmax
comp=Z,90nm,0.8s
OBN Obninsk 71.21 328⇑ *i*P **P** **04 33 31.5 0.0**
OBN *e* 04 33 43.5
OBN pmax pmax
comp=Z,49nm,1.2s
TIXI Tiksi 71.77 10⇑ *i*P **P** **04 33 33.1 -1.5**
TIXI pmax pmax
comp=Z,20nm,1.7s
TIXI Tiksi 71.77 10 *e*P **P** **04 33 33.3 -1.3**
comp=Z,16nm,1.3s
SEY Seymchan 72.50 23 P **P** **04 33 38.4 -0.7**
comp=Z,6.7nm,0.9s,baz=250,slow=12,SNR=26
AKASG Malin Array Be 73.91 322 *ce*P **P** **04 33 47.2 -0.5**
AKASG pmax pmax
comp=Z,16nm,0.9s
AKASG Malin Array Be 73.91 322 P **P** **04 33 47.1 -0.5**
comp=Z,9.1nm,0.8s,baz=89,slow=4.7,SNR=45
KIEV Kiev 73.92 322 *e*P **P** **04 33 47.2 -0.6**
KIEV pmax pmax
comp=Z,16nm,0.9s
KIEV Kiev 73.92 322 *e*P **P** **04 33 47.1 -0.6**
comp=Z,16nm,0.9s
VRI Vrincioaia 74.34 317⇓ *i*P **P** **04 33 51.6 +1.2**
VRI Vrincioaia 74.34 317⇓ *i*P **P** **04 33 51.6 +1.2**
PLOR Plostina 74.39 317⇓ P **P** **04 33 52.7 +2.0**
PLOR Plostina 74.39 317⇓ *i*P **P** **04 33 52.7 +2.0**
TMCR Tamitsa 74.44 337 *e*P **P** **04 33 50.3 -0.2**
TMCR *e* 04 34 02.8
TMCR *e* 04 36 39.0
TMCR pmax pmax
comp=Z,47nm,0.4s
TESR Tescani 74.53 318⇓ *i*P **P** **04 33 52.3 +0.8**
MLR Muntele Rosu 74.80 316⇑ P **P** **04 33 53.9 +0.7**
MLR Muntele Rosu 74.80 316⇑ *i*P **P** **04 33 53.9 +0.7**
BOSA Boshof 75.28 240 P **P** **04 33 57.0 +0.7**
comp=Z,2.3nm,0.9s,baz=67,slow=9.0,SNR=3.6
VOIR 75.40 316⇓ P **P** **04 33 56.3 -0.3**
VOIR 75.40 316⇓ *i*P **P** **04 33 56.3 -0.3**
ARR Arges 75.68 316⇓ *i*P **P** **04 33 58.4 +0.2**
BURAR Bucovina Array 75.72 318⇓ P **P** **04 33 59.9 +1.5**
BURAR Bucovina Array 75.72 318⇓ *i*P **P** **04 33 59.8 +1.4**
VTS Vitosha 76.21 313⇓ P **P** **04 34 01.6 +0.3**
VTS Vitosha 76.21 313⇓ *i*P **P** **04 34 01.6 +0.3**
NACGM Naroch 76.46 326 *e* P **P** **04 34 01.0 -1.3**
IDID Didziasalis 76.59 326 *e*P **P** **04 34 03.4 +0.4**
IDID AMB AMB 04 34 05.2
comp=Z,15nm,1.1s
JOF Joensuu 76.68 335 *e*P **P** **04 34 02.3 -1.1**
JOF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 76.68 335 *ep* **P** **04 34 02.3 -1.1**
comp=Z,8.7nm,0.8s
IIGN Ignalina 76.88 326 *e*P **P** **04 34 05.0 +0.3**
IIGN AMB AMB 04 34 06.8
comp=Z,17nm,1.0s
LVV L'vov 76.94 321 *e*P **P** **04 34 05.1 0.0**
ISAL Salakas 76.99 327 *e*P **P** **04 34 05.7 +0.4**
ISAL AMB AMB 04 34 07.3
comp=Z,13nm,1.1s
LVZ Lovozero 77.34 340 *ce*P **P** **04 34 07.3 +0.2**
LVZ pmax pmax
comp=Z,14nm,1.0s
LVZ Lovozero 77.34 340 *e*P **P** **04 34 06.6 -0.5**
comp=Z,9.6nm,0.7s
TRPA Tarpa 77.59 319⇓ *i*P **P** **04 34 10.0 +1.2**
KWP Kalwaria Pacla 77.75 320⇓ P **P** **04 34 10.7 +1.0**
KWP Kalwaria Pacla 77.75 320 *e*P **P** **04 34 10.4 +0.7**
KWP Kalwaria Pacla 77.75 320⇓ *i*P **P** **04 34 10.7 +1.0**
KWP Kalwaria Pacla 77.75 320 *e*P **P** **04 34 10.2 +0.5**
comp=Z,27nm,1.0s
BZS Buzias 77.81 316⇓ P **P** **04 34 10.8 +0.7**
BZS Buzias 77.81 316⇓ *i*P **P** **04 34 10.8 +0.7**
UZH Uzhgorod 77.84 319 *e*P **P** **04 34 08.8 -1.4**
UZH *e* 04 34 15.0
KOLS Kolonicke sedl 77.91 319 *e*P **P** **04 34 11.6 +1.0**
KOLS pmax pmax
comp=Z,17nm,1.0s
KOLS Kolonicke sedl 77.91 319 *e*P **P** **04 34 11.6 +1.0**
SUW Suwalki 78.30 325 *e*P **P** **04 34 12.5 -0.1**
SUW pmax pmax
comp=Z,80nm,1.0s
SUW Suwalki 78.30 325 *e*P **P** **04 34 12.3 -0.3**
SUW Suwalki 78.30 325 *e*P **P** **04 34 12.4 -0.1**
comp=Z,80nm,1.0s
CRVS Cervenica-Dubn 78.43 319 *e*P **P** **04 34 14.2 +0.7**
CRVS pmax pmax
comp=Z,19nm,1.7s
CRVS Cervenica-Dubn 78.43 319 *e*P **P** **04 34 14.1 +0.6**
FINES FINESS Array B 78.55 332 P **P** **04 34 13.8 -0.1**
comp=Z,11nm,0.8s,baz=104,slow=8.0,SNR=32
FINES LR LR 05 12 22.9
comp=Z,143nm,18.4s,baz=90,slow=38
KAF Kangasniemi 78.63 333 *e*P **P** **04 34 12.7 -1.6**
KAF pmax pmax
comp=Z,11nm,0.7s
KAF Kangasniemi 78.63 333 *ep* **P** **04 34 12.7 -1.6**
comp=Z,10nm,0.7s
STHS Stebnicka Huta 78.65 320 *e*P **P** **04 34 16.2 +1.5**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 78.65 320 *e*P **P** **04 34 16.2 +1.5**
KECS Kecovo 79.00 319 *e*P **P** **04 34 17.4 +0.8**
KECS pmax pmax
comp=Z,4.0nm,1.2s
KECS Kecovo 79.00 319 *e*P **P** **04 34 17.4 +0.8**
NIE Niedzica 79.25 320 *e*P **P** **04 34 19.6 +1.6**
NIE Niedzica 79.25 320 *e*P **P** **04 34 19.3 +1.3**
PSZ Piszkesteto 79.31 318⇑ P **P** **04 34 19.7 +1.3**
PSZ Piszkesteto 79.31 318⇑ *i*P **P** **04 34 19.7 +1.3**
PSZ Piszkesteto 79.31 318 *e*P **P** **04 34 19.0 +0.6**
comp=Z,12nm,0.9s
PSZ Piszkesteto 79.31 318⇓ *e*PKiKP **P** **04 34 19.2 +0.8**
OJC Ojcow 79.70 320 *e*P **P** **04 34 21.2 +0.8**
OJC Ojcow 79.70 320 *e*P **P** **04 34 20.7 +0.3**
BILL Bilibino 79.88 21 *e*P **P** **04 34 20.8 -0.2**
BILL *e* 04 34 26.5
BILL *e* 04 37 22.5
BILL pmax pmax
comp=Z,4.0nm,1.6s
BILL MLR MLR
comp=Z,393nm,19.0s
PKSM Moragy 79.95 316⇓ *e*PKiKP **P** **04 34 22.2 +0.4**
VYHS Vyhne 80.09 319 *e*P **P** **04 34 23.0 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 80.09 319 *e*P **P** **04 34 23.0 +0.4**
KEV Kevo 80.61 341 *e*P P 04 34 18.5 -6.3
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 80.61 341 *ep* P 04 34 18.5 -6.3
comp=Z,5.5nm,0.8s
OKC Ostrava-Krasne 80.70 320 *e*P **P** **04 34 26.2 +0.4**
OKC Ostrava-Krasne 80.70 320 *e*P **P** **04 34 26.2 +0.4**
ARCES ARCESS Array B 81.04 340 P **P** **04 34 27.5 +0.3**
comp=Z,9.0nm,0.9s,baz=95,slow=4.9,SNR=21
DPC Dobruska-Polom 81.93 320 *e*P **P** **04 34 33.2 +0.8**
DPC *e* 04 34 43.7
DPC *e* 04 34 49.1
DPC Dobruska-Polom 81.93 320 *e*P **P** **04 34 33.2 +0.8**
DPC *ep*P **pP** **04 34 43.7 +0.7**
DPC *es*P **sP** **04 34 49.1 +2.2**
KSP Ksiaz 82.00 321 *e*P **P** **04 34 33.1 +0.5**
CONA Conrad Observa 82.01 318⇓ *i*P **P** **04 34 33.8 +0.9**
comp=Z,4.3nm,1.0s
GROS Grobnik 82.14 316 *e*P **P** **04 34 34.1 +0.6**
UPC Upice 82.14 320 *e*P **P** **04 34 34.4 +1.0**
UPC *e* 04 34 41.9
UPC Upice 82.14 320 *e*P **P** **04 34 34.4 +1.0**
UPC *ep*P **pP** **04 34 41.9 -2.2**
ARSA Arzberg 82.18 317⇑ *i*P **P** **04 34 35.3 +1.6**
comp=Z,8.2nm,0.9s
BOJS Bojanci 82.24 315 *e*P **P** **04 34 34.4 +0.3**
PDKS Podkum 82.46 316 *e*P **P** **04 34 35.9 +0.7**
SOKA Soboth 82.48 317⇑ *i*P **P** **04 34 36.3 +0.9**
comp=Z,12nm,1.0s
BRG Berggiesshubel 83.48 321 *e*P **P** **04 34 41.6 +1.2**
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 83.48 321 *e*P **P** **04 34 41.6 +1.2**
BRG pmax pmax
comp=Z,6.0nm,1.1s
GERES GERESS Array B 83.51 319 P **P** **04 34 41.2 +0.5**
comp=Z,5.7nm,1.0s,baz=96,slow=6.0,SNR=28
KHC Kasperske Hory 83.61 319 *e*P **P** **04 34 41.4 +0.3**
KHC Kasperske Hory 83.61 319 *e*P **P** **04 34 41.4 +0.3**
CLL Collm 84.10 321 *e*P **P** **04 34 44.0 +0.5**
CLL *e* 04 35 03.0
CLL Collm 84.10 321 *e*P **P** **04 34 44.0 +0.5**
CLL *e* 04 35 03.0
CLL LmV 09 50 00.0
comp=Z,100nm,19.8s
ABTA Abfaltersbach 84.21 317⇑ *i*P **P** **04 34 44.0 -0.3**
comp=Z,6.8nm,1.1s
WTTA Wattenberg 84.83 317⇑ *i*P **P** **04 34 47.6 +0.1**
comp=Z,12nm,1.1s
GRF Grafenberg Arr 85.17 319 *e*P **P** **04 34 50.0 +1.0**
comp=Z,10.0nm,1.0s
RETA Reutte 85.43 317⇑ *i*P **P** **04 34 50.2 -0.2**
comp=Z,9.3nm,1.1s
NB2 NORSAR Subarra 85.57 331 P **P** **04 34 50.6 -0.1**
comp=Z,0.3nm,0.8s,baz=91,slow=6.2
NOA NORSAR Array B 85.57 331 P **P** **04 34 50.6 -0.1**
comp=Z,6.8nm,1.0s,baz=92,slow=5.2,SNR=9.1
DAVA Damuels 86.02 317⇑ *i*P **P** **04 34 53.7 +0.2**
comp=Z,11nm,0.9s
KEST Kesra 86.47 305 P **P** **04 34 56.0 +0.1**
comp=Z,1.5nm,0.9s,baz=352,slow=8.7,SNR=3.9
CDF Champ du Feu 87.77 318 *e*P **P** **04 35 01.8 0.0**
CDF Champ du Feu 87.77 318 *e*P **P** **04 35 01.8 0.0**
CDF Champ du Feu 87.77 318 *e*P **P** **04 35 01.8 0.0**
SBF Sospel 87.78 314 *e*P **P** **04 35 02.5 +0.5**
comp=Z,27nm,0.9s
SBF Sospel 87.78 314 *e*P **P** **04 35 02.5 +0.5**
SBF pmax pmax
comp=Z,27nm,0.9s
SBF Sospel 87.78 314 *e*P **P** **04 35 02.5 +0.5**
comp=Z,27nm,0.9s
GAMB Gambell 88.21 26 *e*P **P** **04 35 03.1 -0.4**
comp=Z,18nm,1.1s
LPG La Plagne 88.22 315 *e*P **P** **04 35 04.9 +0.6**
comp=Z,17nm,1.0s
LPG La Plagne 88.22 315 *e*P **P** **04 35 04.9 +0.6**
LPG pmax pmax
comp=Z,17nm,1.0s
LPG La Plagne 88.22 315 *e*P **P** **04 35 04.9 +0.6**
comp=Z,17nm,1.0s
LPL La Plagne 88.23 315 *e*P **P** **04 35 04.9 +0.6**
comp=Z,18nm,1.0s
LPL La Plagne 88.23 315 *e*P **P** **04 35 04.9 +0.6**
LPL pmax pmax
comp=Z,18nm,1.0s
LPL La Plagne 88.23 315 *e*P **P** **04 35 04.9 +0.6**
comp=Z,18nm,1.0s
MBDF Montbardon 88.23 315 *e*P **P** **04 35 05.0 +0.8**
comp=Z,5.5nm,0.8s
MBDF Montbardon 88.23 315 *e*P **P** **04 35 05.0 +0.8**
MBDF pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 88.23 315 *e*P **P** **04 35 05.0 +0.8**
comp=Z,5.5nm,0.8s
HAU Haudompre 88.40 318 *e*P **P** **04 35 05.0 +0.2**
comp=Z,15nm,1.0s
HAU Haudompre 88.40 318 *e*P **P** **04 35 05.0 +0.2**
HAU pmax pmax
comp=Z,15nm,1.0s
HAU Haudompre 88.40 318 *e*P **P** **04 35 05.0 +0.2**
comp=Z,15nm,1.0s
CABF La Chapelle 88.63 316 *e*P **P** **04 35 06.8 +0.8**
comp=Z,15nm,1.0s
CABF La Chapelle 88.63 316 *e*P **P** **04 35 06.8 +0.8**
CABF pmax pmax
comp=Z,15nm,1.0s
CABF La Chapelle 88.63 316 *e*P **P** **04 35 06.8 +0.8**
comp=Z,15nm,1.0s
SFTF Sexfontaines 89.27 318 *e*P **P** **04 35 09.5 +0.7**
SFTF Sexfontaines 89.27 318 *e*P **P** **04 35 09.5 +0.7**
GIVF Givet 89.30 320 *e*P **P** **04 35 08.8 -0.1**
GIVF Givet 89.30 320 *e*P **P** **04 35 08.8 -0.1**
GIVF Givet 89.30 320 *e*P **P** **04 35 08.8 -0.1**
BAIF Baives 89.70 320 *e*P **P** **04 35 11.9 +1.1**
comp=Z,23nm,1.0s
BAIF Baives 89.70 320 *e*P **P** **04 35 11.9 +1.1**
BAIF pmax pmax
comp=Z,23nm,1.0s
BAIF Baives 89.70 320 *e*P **P** **04 35 11.9 +1.1**
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 89.72 315 *e*P **P** **04 35 12.8 +1.8**
VIVF Saint-Julien-l 89.72 315 *e*P **P** **04 35 12.8 +1.8**
VIVF Saint-Julien-l 89.72 315 *e*P **P** **04 35 12.8 +1.8**
LOR Lormes 90.12 317 *e*P **P** **04 35 13.6 +0.7**
comp=Z,16nm,0.9s
LOR Lormes 90.12 317 *e*P **P** **04 35 13.6 +0.7**
LOR pmax pmax
comp=Z,16nm,0.9s
LOR Lormes 90.12 317 *e*P **P** **04 35 13.6 +0.7**
comp=Z,16nm,0.9s
SMF Signal de Mont 90.18 317 *e*P **P** **04 35 13.7 +0.6**
comp=Z,24nm,1.1s
SMF Signal de Mont 90.18 317 *e*P **P** **04 35 13.7 +0.6**
SMF pmax pmax
comp=Z,24nm,1.1s
SMF Signal de Mont 90.18 317 *e*P **P** **04 35 13.7 +0.6**
comp=Z,24nm,1.1s
AVF Avril sur Loir 90.50 317 *e*P **P** **04 35 15.3 +0.7**
comp=Z,34nm,1.3s
AVF Avril sur Loir 90.50 317 *e*P **P** **04 35 15.3 +0.7**
AVF pmax pmax
comp=Z,34nm,1.3s
AVF Avril sur Loir 90.50 317 *e*P **P** **04 35 15.3 +0.7**
comp=Z,34nm,1.3s
BGF Bois d'Agland 90.87 316 *e*P **P** **04 35 16.6 +0.3**
comp=Z,32nm,1.2s
BGF Bois d'Agland 90.87 316 *e*P **P** **04 35 16.6 +0.3**
BGF pmax pmax
comp=Z,32nm,1.2s
BGF Bois d'Agland 90.87 316 *e*P **P** **04 35 16.6 +0.3**
comp=Z,32nm,1.2s

CAF	Calvic	91.56	315	*e*P		P		04 35 19.9	+0.3
CAF	Calvic	91.56	315	*e*P		P		04 35 19.9	+0.3
CAF	Calvic	91.56	315	*e*P		P		04 35 19.9	+0.3
RJF	Les Rejaudoux	91.91	315	*e*P		P		04 35 21.5	+0.3
	comp=Z,20nm,1.2s								
RJF	Les Rejaudoux	91.91	315	*e*P		P		04 35 21.5	+0.3
RJF				pmax		pmax			
	comp=Z,20nm,1.2s								
RJF	Les Rejaudoux	91.91	315	*e*P		P		04 35 21.5	+0.3
	comp=Z,20nm,1.2s								
LDF	La Druitiere	92.66	319	*e*P		P		04 35 25.3	+0.7
	comp=Z,33nm,1.2s								
LDF	La Druitiere	92.66	319	*e*P		P		04 35 25.3	+0.7
LDF				pmax		pmax			
	comp=Z,33nm,1.2s								
LDF	La Druitiere	92.66	319	*e*P		P		04 35 25.3	+0.7
	comp=Z,33nm,1.2s								
MFF	Saint Martin d	92.92	317	*e*P		P		04 35 26.7	+0.9
	comp=Z,35nm,1.2s								
MFF	Saint Martin d	92.92	317	*e*P		P		04 35 26.7	+0.9
MFF				pmax		pmax			
	comp=Z,35nm,1.2s								
MFF	Saint Martin d	92.92	317	*e*P		P		04 35 26.7	+0.9
	comp=Z,35nm,1.2s								
EPF	Esparros	92.99	313	*e*P		P		04 35 26.5	+0.2
	comp=Z,12nm,1.1s								
EPF	Esparros	92.99	313	*e*P		P		04 35 26.5	+0.2
EPF				pmax		pmax			
	comp=Z,12nm,1.0s								
EPF	Esparros	92.99	313	*e*P		P		04 35 26.5	+0.2
	comp=Z,12nm,1.0s								
SJPF	Ste Jean	94.12	313	*e*P		P		04 35 32.5	+1.1
	comp=Z,34nm,1.2s								
SJPF	Ste Jean	94.12	313	*e*P		P		04 35 32.5	+1.1
SJPF				pmax		pmax			
	comp=Z,34nm,1.2s								
SJPF	Ste Jean	94.12	313	*e*P		P		04 35 32.5	+1.1
	comp=Z,34nm,1.2s								
TORD	Torodi Ar. Bea	94.48	283	P		P		04 35 34.1	+0.5
	comp=Z,1.1nm,0.9s,baz=87,slow=4.2,SNR=6.5								
EVO	Evora	99.96	310	⇑*i*P		Pdif		04 35 57.8	-0.1
	comp=Z,11nm,1.0s								
EVOP	Sao Brissos	100.04	310	⇑*i*P		Pdif		04 35 57.8	-0.5
EVOP				pmax		pmax			
	comp=Z,11nm,1.0s								
EVOP	Sao Brissos	100.04	310	⇑*i*P		Pdif		04 35 57.8	-0.5
	comp=Z,11nm,1.0s								
MSO	Missoula	123.69	25	P		PKPdf		04 41 08.8	-1.8
	baz=124								
A21A	Bergtoll Ranch	124.52	19	P		PKPdf		04 41 10.6	-1.5
	baz=124								
B20A	Solberg Farm,	124.63	20	P		PKPdf		04 41 11.2	-1.1
	baz=124								
A22A	Carney Farms,	124.83	18	P		PKPdf		04 41 12.1	-0.6
	baz=125								
C20A	Veseth Ranch,	125.26	20	P		PKPdf		04 41 13.2	-0.3
	baz=125								
HLID	Hailey	126.03	28	P		PKPdf		04 41 15.3	0.0
	baz=126								
ULM	Lac du Bonnet	126.12	10	PKP		PKPdf		04 41 13.6	-1.4
	comp=Z,1.4nm,0.6s,baz=342,slow=3.2,SNR=4.0								
E20A	Meyer Farm, Mu	126.25	21	P		PKPdf		04 41 14.7	-0.8
	baz=126								
D22A	Cohagen	126.37	19	P		PKPdf		04 41 15.9	+0.2
	baz=126								
H19A	Powell	127.47	23	P		PKPdf		04 41 18.3	+0.3
	baz=127								
NVAR	Mina Array Bea	127.73	35	PKP		PKPdf		04 41 19.5	+0.8
	comp=Z,0.5nm,0.4s,baz=2.6,slow=4.0,SNR=6.1								
I19A	Meeteetse	128.00	24	P		PKPdf		04 41 19.3	+0.3
	baz=128								
G23A	Biddle	128.34	20	P		PKPdf		04 41 19.2	-0.3
	baz=128								
PDAR	Pinedale Array	128.81	25	PKP		PKPdf		04 41 19.9	-0.8
	comp=Z,0.6nm,0.7s,baz=290,slow=2.7,SNR=4.6								
R11A	Troy Canyon, C	129.31	33	P		PKPdf		04 41 21.4	-0.3
	baz=129								
J22A	Midwest	129.50	22	P		PKPdf		04 41 21.1	-0.7
	baz=129								
MPMC	Manual Prospec	129.82	37	P		PKPdf		04 41 23.1	+0.3
	baz=130								
O20A	White River Ci	131.54	26	P		PKPdf		04 41 25.9	0.0
	baz=131								
O23A	Lake Granby, G	132.45	24	P		PKPdf		04 41 28.0	+0.3
	baz=132								
WUAZ	Wupatki	133.67	32	P		PKPdf		04 41 30.3	+0.3
	baz=134								
S26A	Kim	135.65	23	P		PKPdf		04 41 33.3	-0.3
	baz=136								
TRQA	Tornquist	139.85	206	PKPdf		PKPdf		04 41 40.2	-1.0
429A	Davenport Ranc	142.31	27	P		PKPdf		04 41 44.6	-1.3
	baz=142								
233A	Rising Star	142.35	22	P		PKPpre		04 41 41.4	
	baz=142								
430A	Baggett Ranch,	142.47	26	P		PKPdf		04 41 45.3	-0.9
	baz=142								
TXAR	Lajitas Array	142.54	30	PKhKP		PKPpre		04 41 39.2	
	comp=Z,0.4nm,0.8s,baz=304,slow=1.8,SNR=4.5								
333A	Richland Sprin	142.93	23	P		PKPpre		04 41 42.5	
	baz=143								
530A	J-C Ranch, Com	142.97	27	P		PKPpre		04 41 42.6	
	baz=143								
334A	Lometa	143.21	22	P		PKPab		04 41 42.4	-0.6
	baz=143								
531A	Rocksprings	143.31	26	P		PKPab		04 41 43.1	-0.4
	baz=143								
JCT	Junction City	143.35	25	*e*PKIKP		PKPbc		04 41 45.2	+0.4
JCT	Junction City	143.35	25	*e*PKPdf		PKPbc		04 41 45.2	+0.4
633A	Saathoff Ranch	144.50	25	P		PKPab		04 41 48.0	0.0
	baz=144								
732A	Laxson Ranch,	144.80	26	P		PKPbc		04 41 49.7	+0.5
	baz=145								
733A	Divot King Ran	145.10	25	P		PKPdf		04 41 50.6	-0.1
	baz=145								
832A	Faith Ranch, C	145.18	27	P		PKPab		04 41 50.7	+0.2
	baz=145								
734A	La Parita Cree	145.30	24	P		PKPdf		04 41 51.3	+0.2
	baz=145								
833A	Chaparral WMA,	145.40	26	P		PKPab		04 41 51.5	+0.2
	baz=145								
735A	Kenedy	145.59	23	P		PKPab		04 41 52.2	+0.2
	baz=146								
834A	Tilden	145.93	25	P		PKPab		04 41 53.4	+0.1
	baz=146								
TIGA	Tifton	146.05	1	P		PKPbc		04 41 53.0	-0.1
	baz=146								
TIGA	Tifton	146.05	1	*e*PKPbc		PKPbc		04 41 53.2	+0.1
933A	Laredo	146.07	26	P		PKPab		04 41 54.4	+0.6
	baz=146								
835A	Beeville	146.09	24	P		PKPab		04 41 54.3	+0.4
	baz=146								
CFAA	Coronel Fontan	148.02	204	PKPbc		PKPbc		04 41 58.2	-0.5
	comp=Z,1.1nm,0.9s,baz=149,slow=1.1,SNR=20								

*NEIC **07** 04:23:42.9, 31.85N×114.93W, h10km, mb3.9/7, ML4.4(PAS), After PAS.*
*MEX **07** 04:23:46.8, 32.12N×114.98W, h5km, MD4.0*
*ECX **07** 04:23:46.5±0.8, 32.06N×115.01W, h8km, ML4.4*
*IDC **07** 04:23:49.4±1.9, 32.22N×114.76W, h0km, mb3.4/5, mb1 3.6/10, mb1mx3.5/46, mbtmp3.4/10, ML3.3/5, MS4.0/3, Ms1 4.0/3, ms1mx3.7/17, Error ellipse: s-maj=37.0km s-min=12.1km az=45.0*

ISC 07 04:23:47.2±0.7, 32.02N±0.02×115.16W±0.02, h11km±5km, n99, σ1s67/110, mb3.6/7, 15C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
EMX	El Mayor	0.07	245	*e*P	Pg	04 23 49.4		-0.2
EMX				*e*S	Sg	04 23 54.1		+2.7
MBIG	Mexicali	0.39	356	*e*P	Pg	04 23 53.7		-1.2
MBIG				*e*S	Sg	04 23 57.6		-2.4
CPBX	Cerro Prieto	0.41	343	*e*P	Pg	04 23 54.2		-1.2
ECBX	El Chinero	0.55	170	*e*P	Pg	04 23 56.7		-1.3
ECBX				*e*S	Sg	04 24 05.2		-0.1
RDX	Rancho Dawling	0.67	262	*e*P	Pg	04 24 00.7		+0.5
RDX				*e*S	Sb	04 24 12.0		+1.6
YMD	Yuma Desert	0.75	44	⇑*i*P	Pg	04 23 58.2		-3.4
SGL	Mount Signal	0.79	323	⇑*i*P	Pg	04 24 01.3		-1.1
YUH	Yuha Desert	0.90	314	*e*P	Pg	04 24 03.2		-1.3
RMX	La Rumorosa	0.97	307	*e*P	Pg	04 24 04.7		-1.2
RMX				*e*S	Sg	04 24 19.2		+0.6
SPIG	San Pedro Mart	1.00	195	*e*P	Pg	04 24 05.3		-1.2
SPIG				*i* S	Sg	04 24 20.8		+1.1
SPIG	San Pedro Mart	1.00	195	*e*P	Pg	04 24 05.4		-1.2
SPIG	San Pedro Mart	1.00	195	*e*P	Pg	04 24 05.3		-1.2
SPIG				*e*S	Sb	04 24 21.9		+1.8
SPX	San Pedro Mart	1.00	195	*e*P	Pg	04 24 05.3		-1.3
SWSC	Sam W. Stewart	1.06	330	⇑P	Pg	04 24 05.8		-1.9
	baz=1.3							
GLA	Glamis	1.07	15	⇑P	Pg	04 24 04.1		-3.6
	baz=1.2							
GLA				⇓S	Sg	04 24 19.7		-2.0
	baz=1.2							
GLA	Glamis	1.07	15	*e*Pn	Pg	04 24 04.4		-3.4
GLA				*e*S	Sg	04 24 18.9		-2.7
ZAX	El Zacaton	1.07	242	*e*P	Pb	04 24 07.1		-0.6
ECNX	Esteban Cantu	1.27	254	*e*P	Pn	04 24 10.6		-0.4
CBX	Cerro Bola	1.31	283	*e*P	Pn	04 24 10.5		-0.9
CBX				*i* S	Sb	04 24 27.9		-0.7
CBX	Cerro Bola	1.31	283	*e*P	Pn	04 24 11.1		-0.4
CBX				⇓*e*		04 24 39.0		
CBX				AML	AML	04 24 39.0		
	comp=E,9μm,0.6s							
CBX	Cerro Bola	1.31	283	*e*P	Pn	04 24 11.0		-0.5
CBX				*e*S	Sn	04 24 29.9		+0.9
PBX	Punta Banda	1.36	259	*e*P	Pn	04 24 12.0		-0.1
MONP	Monument Peak,	1.37	310	⇓P	Pn	04 24 11.2		-1.3
	baz=1.6							
MONP				⇓S	Sg	04 24 33.0		+1.6
	baz=1.6							
113A	Mohawk Valley,	1.40	57	⇑P	Pn	04 24 08.2		-4.4
	baz=1.3							
BAR	Barrett	1.44	298	*e*Pn	Pn	04 24 12.2		-0.9
BAR				*e*S	Sg	04 24 35.0		+1.6
BC3	Big Chuckawall	1.65	352	⇑P	Pn	04 24 14.0		-2.2
	baz=1.9							
Y12C	Blythe	1.81	17	⇓P	Pn	04 24 15.4		-2.9
	baz=1.9							
109C	Camp Elliot, M	1.86	298	⇑P	Pn	04 24 18.0		-0.9
	baz=2.1							
109C				⇑S	Sb	04 24 44.0		-0.3
	baz=2.1							
PFO	Pinyon Flats O	1.92	326	Pn	Pn	04 24 19.5		-0.4
	comp=E,8.1nm,0.3s,baz=147,slow=12,SNR=28							
PFO				Lg	Lg	04 24 55.9		
	comp=E,39nm,0.3s,baz=237,slow=12,SNR=8.4							
PFO	Pinyon Flats O	1.92	326	⇓P	Pn	04 24 18.0		-1.9
	baz=2.2							
PFO	Pinyon Flats O	1.92	326	*e*Pn	Pn	04 24 18.5		-1.5
PFO				Lg	Lg	04 24 55.9		
214A	Organ Pipe Nat	2.00	91	⇑P	Pn	04 24 15.1		-5.8
	baz=1.8							
214A	Organ Pipe Nat	2.00	91	*e*Pn	Pn	04 24 16.1		-4.8
BELC	Belle Mtn. Jos	2.10	341	⇓P	Pn	04 24 21.2		-1.2
	baz=2.3							
IRM	Iron Mountain	2.13	0	⇓P	Pn	04 24 20.0		-2.8
	baz=2.3							
Z14A	Wintersburg	2.30	54	⇓P	Pn	04 24 20.7		-4.3
	baz=2.3							
MURC	Murrieta	2.33	313	⇑P	Pn	04 24 25.1		-0.3
	baz=2.6							
MURC				⇑Sb	Sg	04 25 03.1		+1.0
	baz=2.6							
PDMCI	Parker Dam,Lak	2.43	20	⇑P	Pn	04 24 23.9		-2.9
	baz=2.5							
Y14A	Wickenburg	2.64	43	⇓P	Pn	04 24 26.0		-3.7
	baz=2.6							
NEE2	Needles Airpor	2.78	9	⇑S	Sn	04 25 05.2		+0.1
	baz=2.9							
GMRC	Granite Mounta	2.78	352	⇓P	Pn	04 24 30.4		-1.5
	baz=3.0							
LDFC	Landfair	3.05	1	*e*Pn	Pn	04 24 35.3		-0.2
CIS	Catalina Islan	3.06	298	⇑P	Pn	04 24 35.0		-0.5
	baz=3.3							
CIS				⇑Sb	Sg	04 25 25.1		-0.4
	baz=3.3							
PASC	Pasadena Art C	3.32	311	*e*Pn	Pn	04 24 39.5		+0.4
PASC				*e*S	Sg	04 25 31.7		-2.2
GSC	Goldstone, Bar	3.55	338	*e*Pn	Pn	04 24 43.6		+1.3
GSC				*e*Pg	Pg	04 24 59.5		+4.3
TUC	Tucson	3.72	84	*e*Pn	Pn	04 24 42.3		-2.4
TUC				*e*Pg	Pg	04 24 56.4		-2.1
TUC				*e*S	Sg	04 25 49.6		+2.8
OSI	Osito Audit: C	3.95	312	*e*Pn	Pn	04 24 49.3		+1.5
OSI				*e*S	Sg	04 25 55.0		+1.1
SHPR	Sheep Range	4.47	0	*e*Pn	Pn	04 24 54.8		-0.3
SHPR				*e*S	Sg	04 26 23.5		+12
ISA	Isabella, Lake	4.56	324	*e*Pn	Pn	04 24 57.7		+1.5
ISA				*e*S	Sg	04 26 33.6		+20
DAC	Darwin (Calif)	4.70	335	*e*Pn	Pn	04 24 59.9		+1.6
DAC				*e*S	Sg	04 26 41.9		+23
WUAZ	Wupatki	4.70	41	*e*Pn	Pn	04 24 57.3		-0.9
WUAZ				*e*S	Sg	04 26 22.1		+3.9
HSIG		4.71	128	*i* P	Pn	04 24 55.3		-2.8
HSIG				*i* S	Sn	04 25 48.5		-4.2
HSIG		4.71	128	*e*P	Pn	04 24 51.4		-6.7
W18A	Petrified Fore	5.48	54	*e*Pn	Pn	04 25 07.5		-1.4
	comp=E,85nm,0.6s							
W18A				*e*S	Sg	04 26 48.1		+4.8
CCUT	Cedar City	5.71	15	*e*Pn	Pn	04 25 12.7		+0.5
	comp=E,36nm,0.5s							
CCUT				*e*S	Sg	04 26 53.1		+2.5
ARUT	Antelope Range	5.93	13	*e*Pn	Pn	04 25 16.0		+1.0
	comp=E,9.1nm,0.9s							
ARUT				*e*S	Sg	04 27 06.0		+8.6
121A	Cookes Peak, D	6.27	83	*e*Pn	Pn	04 25 17.2		-2.5
	comp=E,71nm,0.8s							
121A				*e*S	Sg	04 27 09.8		+1.4
TPH	Tonopah	6.27	345	*e*Pn	Pn	04 25 20.4		+0.6
	comp=E,55nm,1.0s							
TPH				*e*Sg	Sg	04 27 35.9		+27
R11A	Troy Canyon, C	6.32	357	*e*Pn	Pn	04 25 21.5		+1.0
	comp=E,30nm,1.0s							
R11A				*e*S	Sg	04 27 25.6		+15
NVAR	Mina Array Bea	6.89	339	Pn	Pn	04 25 30.4		+2.1
	comp=E,0.1nm,0.3s,baz=161,slow=11,SNR=2.6							
NVAR				Pg	Pg	04 25 59.6		+0.5
	comp=E,0.3nm,0.3s,baz=159,slow=15,SNR=9.2							
MVU	Marysvale	6.90	20	*e*Pn	Pn	04 25 30.9		+2.3
	comp=E,45nm,0.7s							
MVU				*e*S	Sg	04 27 32.4		+3.6
LAZ	Ladron	7.13	68	*e*Pn	Pn	04 25 32.3		+0.7
	comp=E,314nm,0.5s							
LAZ				*e*S	Sg	04 27 38.2		+2.1
LENM	Lemitar	7.20	71	*e*Pn	Pn	04 25 33.0		+0.5
	comp=E,16nm,0.9s							
LENM				*e*S	Sg	04 27 49.6		+11
MVCO	Mesa Verde	7.55	45	*e*Pn	Pn	04 25 38.7		+1.3
	comp=E,73nm,0.9s							
MVCO				*e*S	Sg	04 27 40.4		-9.0
ANMO	Albuquerque	7.84	66	Pn	Pn	04 25 40.5		-0.8
	comp=E,0.1nm,0.3s,baz=256,slow=12,SNR=4.8							
ANMO				Pg	Pg	04 26 12.8		-4.4
	comp=E,0.4nm,0.3s,baz=256,slow=12,SNR=9.1							
ANMO				Lg	Lg	04 27 52.4		
	baz=165,slow=20,SNR=2.4							
ANMO	Albuquerque	7.84	66	*e*Pn	Pn	04 25 41.2		-0.1
	comp=E,20nm,0.9s							
ANMO				Pg	Pg	04 26 12.8		-4.4
ANMO				Lg	Lg	04 27 52.4		
ANMO				*e*S	Sg	04 28 07.6		+9.0
SRU	San Rafael Swe	8.02	27	*e*Pn	Pn	04 25 46.5		+2.7
	comp=E,280nm,0.6s							
PV10	Paradox Valley	8.08	37	*e*Pn	Pn	04 25 46.1		+1.4
	comp=E,2μm,0.8s							
PV01	Paradox Valley	8.15	40	*e*Pn	Pn	04 25 48.0		+2.4
	comp=E,3μm,0.8s							
PV01				*e*S	Sg	04 28 00.1		-8.5
NLU	North Lily Min	8.30	17	*e*Pn	Pn	04 25 50.6		+2.9
	comp=E,7.6nm,1.2s							
MPU	Maple Canyon	8.47	19	*e*Pn	Pn	04 25 52.2		+2.1
	comp=E,7.8nm,0.9s							
ELK	Elko	8.71	360	Pn	Pn	04 25 58.5		+5.3
	comp=E,0.1nm,0.3s,baz=184,slow=17,SNR=3.9							
ELK				Pg	Pg	04 26 32.2		-1.6
	comp=E,0.2nm,0.3s,baz=186,slow=14,SNR=4.0							
ELK				Lg	Lg	04 28 26.0		
	comp=E,0.2nm,0.3s,baz=90,slow=20,SNR=3.4							
LPIG	La Paz	8.98	150	LR	LR	04 29 40.4		
	comp=E,882nm,18.1s,baz=321,slow=39							
TCUT	Toone Canyon	9.57	17	*e*Pn	Pn	04 26 07.6		+2.5
	comp=E,15nm,1.0s							
O20A	White River Ci	9.84	33	*e*Pn	Pn	04 26 08.9		+0.1
	comp=E,44nm,1.1s							
TXAR	Lajitas Array	10.25	102	Pn	Pn	04 26 14.2		-0.1
	comp=E,0.4nm,0.3s,baz=282,slow=14,SNR=25							
TXAR				Lg	Lg	04 29 13.2		
	comp=E,0.3nm,0.3s,baz=290,slow=29,SNR=4.8							
TXAR				LR	LR	04 30 14.3		
	comp=E,755nm,19.6s,baz=0.0,slow=39							
MSTX	Muleshoe	10.59	76	Pn	Pn	04 26 17.3		-1.6
	comp=E,18nm,1.1s							
MOD	Modoc Plateau	10.68	339	*e*Pn	Pn	04 26 21.9		+1.6
	comp=E,22nm,1.5s							
WVOR	Wild Horse Val	10.76	346	*e*Pn	Pn	04 26 23.6		+2.4
	comp=E,8.7nm,1.3s							
ISCO	Idaho Springs	10.96	42	*e*Pn	Pn	04 26 23.9		-0.3
	comp=E,9.8nm,1.1s							
HLID	Hailey	11.54	3	*e*Pn	Pn	04 26 35.2		+3.3
	comp=E,2.7nm,1.2s							
PDAR	Pinedale Array	11.61	21	Pn	Pn	04 26 35.4		+2.3
	comp=E,0.0nm,0.3s,baz=200,slow=14,SNR=3.6							
PDAR				Lg	Lg	04 29 53.5		
	comp=E,0.0nm,0.3s,baz=180,slow=32,SNR=2.6							
PDAR				LR	LR	04 31 13.0		
	comp=E,1μm,20.1s,baz=220,slow=39							
MCMT	McKenzie Canyo	12.91	7	*e*Pn	Pn	04 26 54.6		+3.8
	comp=E,4.3nm,1.2s							
WMOK	Wichita Mounta	13.96	74	*e*Pn	Pn	04 27 04.0		-0.9
	comp=E,4.6nm,0.6s							
SWMT	Swartz Lake	15.50	3	*e*Pn	P	04 27 28.7		-1.5
	comp=E,3.5nm,1.1s							
JTMT	Jette	15.72	2	Pn	P	04 27 31.4		-1.3
	comp=E,13nm,1.6s							
BSMT	Bassoo Peak	15.82	1	*e*Pn	Pn	04 27 31.4		+1.5
	comp=E,9.5nm,1.3s							
NEW	Newport	16.29	355	Pn	P	04 27 40.4		+1.5
	comp=E,0.1nm,0.3s,baz=170,slow=13,SNR=4.4							
NEW	Newport	16.29	355	*e*Pn	P	04 27 38.0		-0.9
	comp=E,11nm,1.3s							
EGMT	Eagleton	16.51	13	*e*Pn	P	04 27 41.1		-0.2
	comp=E,12nm,1.2s							
MIAR	Mount Ida	18.22	76	*e*Pn	Pn	04 27 59.5		-0.6
	comp=E,10.0nm,1.1s							
EDM	Edmonton	21.23	3	*e*P	P	04 28 33.2		+0.3
AGMN	Agassiz Nation	21.86	36	*e*P	P	04 28 40.4		+0.7
	comp=E,9.0nm,1.1s							
WVT	Waverly	22.98	72	*e*P	P	04 28 53.1		+1.3
	comp=E,9.2nm,1.0s							
ULM	Lac du Bonnet	23.18	33	P	P	04 28 55.2		+1.5
	comp=E,1.6nm,0.9s,baz=233,slow=10,SNR=2.6							
CMIG	Matias Romero	23.63	124	P	P	04 29 01.8		+3.5
	comp=E,2.1nm,1.0s,baz=311,slow=11,SNR=3.0							
YKA	Yellowknife Ar	30.49	1	P	P	04 30 01.9		+2.1
	comp=E,0.1nm,0.6s,baz=180,slow=8.6,SNR=5.6							
ILAR	Eielson Array	38.15	339	P	P	04 31 09.7		+3.5
	comp=E,1.1nm,1.0s,baz=156,slow=6.9,SNR=9.6							
RES	Resolute Bay	43.91	8	P	P	04 31 55.5		+2.1
	comp=E,0.5nm,0.9s,baz=208,slow=11,SNR=2.5							

*CSEM **07** 04:32:32.0, 47.54N×11.04E, h8km, ML1.3/7*

VIE 07 04:32:32.0±0.2, 47.54N×11.04E, h8km±1km, ML1.3/7, 5C-6D, Error ellipse: s-maj=2.2km s-min=0.9km az=9.0 7 km NW of Garmisch Partenkirchen, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RETA	Reutte	0.20	254	⇓*i*Pg	Pg	04 32 35.9		-0.2
	2.3nm,0.1s							
RETA				⇑*i*Sg	Sg	04 32 38.9		0.0
	12nm,0.1s							
RETA	Reutte	0.20	254	Pg	Pg	04 32 35.9		-0.3
	2.3nm,0.1s							
RETA				Sg	Sg	04 32 38.9		-0.1
	12nm,0.1s							
MOTA	Moosalm	0.20	168	⇓*i*Pg	Pg	04 32 36.3		0.0
	6.4nm,0.2s							
MOTA				⇑*i*Sg	Sg	04 32 39.3		0.0
	16nm,0.1s							
MOTA	Moosalm	0.20	168	Pg	Pg	04 32 36.3		-0.1
	6.4nm,0.2s							
MOTA				Sg	Sg	04 32 39.3		0.0
	16nm,0.1s							
SQTA	Sankt Quirin	0.34	160	⇓*i*Pg	Pg	04 32 39.0		0.0
SQTA	Sankt Quirin	0.34	160	Pg	Pg	04 32 39.0		+0.1
WATA	Walderalm	0.42	119	⇑*i*Pg	Pg	04 32 40.4		0.0
	1.1nm,0.1s							
WATA				⇓*i*Sg	Sg	04 32 46.5		+0.4
	2.5nm,0.1s							
WATA	Walderalm	0.42	119	Pg	Pg	04 32 40.4		0.0
	1.1nm,0.1s							
WATA				Sg	Sg	04 32 46.5		+0.4
	2.5nm,0.1s							
FETA	Feichten	0.56	202	⇓*i*Sg	Sg	04 32 51.1		+0.4
	2.3nm,0.2s							
FETA	Feichten	0.56	202	Sg	Sg	04 32 51.1		+0.4
	2.3nm,0.2s							
DAVA	Damuels	0.83	252	⇓*i*Sg	Sb	04 32 60.0		-0.4
	1.9nm,0.2s							
DAVA	Damuels	0.83	252	Sg	Sb	04 33 00.0		-0.4
	1.9nm,0.2s							
KBA	Koelnbreinsper	1.64	106	⇑*i*Pn	Pn	04 33 01.4		0.0
KBA				⇑*i*Sn	Sb	04 33 23.4		-0.3
KBA	Koelnbreinsper	1.64	106	Pn	Pn	04 33 01.4		0.0
KBA				Sn	Sb	04 33 23.4		-0.3

VNA2	Neumayer--Watz	47.53	156	P		P	04 52 21.9	-1.1
SNAA	Sanae	49.05	156	P		P	04 52 33.5	-1.3
SNAA	Sanae	49.05	156	*e*P		P	04 52 33.3	-1.4
	8.5nm,1.1s							
QSPA	South Pole Qui	52.42	180	P		P	04 52 58.5	-1.8
	6.6nm,1.0s,baz=153,slow=7.1,SNR=17							
QSPA	South Pole Qui	52.42	180	*e*P		P	04 52 58.5	-1.8
	6.2nm,1.0s							
TXAR	Lajitas Array	71.94	334	P		P	04 55 11.6	+0.2
	2.0nm,0.9s,baz=154,slow=8.8,SNR=17							
TUC	Tucson	77.28	330	*e*P		P	04 55 43.5	+1.2
	4.7nm,1.1s							
ANMO	Albuquerque	78.02	334	*e*P		P	04 55 47.4	+0.9
	8.8nm,1.5s							
DBIC	Dimbokro	78.76	72	P		P	04 55 53.3	+2.5
	2.2nm,0.6s,baz=211,slow=5.0,SNR=3.7							
T25A	Trinidad	79.34	337	*e*P		P	04 55 54.9	+1.2
	8.5nm,1.3s							
N23A	Red Feather La	83.25	337	*e*P		P	04 56 15.4	+1.0
	8.2nm,1.3s							
PHWY	Pilot Hill	83.48	337	*e*P		P	04 56 16.1	+0.5
	4.5nm,1.1s							
ECSD	EROS Data Cent	83.48	345	*e*P		P	04 56 15.3	+0.1
	8.0nm,1.0s							
R11A	Troy Canyon, C	84.46	329	*e*P		P	04 56 21.9	+1.3
	12nm,1.7s							
TPH	Tonopah	84.90	328	*e*P		P	04 56 22.8	-0.1
	9.6nm,1.5s							
DUG	Dugway, Tooele	84.97	332	*e*P		P	04 56 24.5	+1.4
K22A	Casper	85.03	337	*e*P		P	04 56 23.9	+0.6
	13nm,1.2s							
NVAR	Mina Array Bea	85.66	327	P		P	04 56 27.3	+0.6
	0.5nm,0.7s,baz=157,slow=4.9,SNR=4.1							
PDAR	Pinedale Array	86.10	335	P		P	04 56 28.4	-0.4
	1.1nm,0.8s,baz=163,slow=6.6,SNR=7.5							
LOHW	Long Hollow	87.20	335	*e*P		P	04 56 34.3	+0.2
	3.6nm,1.0s							
TPAW	Teton Pass	87.21	335	*e*P		P	04 56 34.5	+0.3
	3.4nm,0.9s							
FXWY	Fox Creek	87.37	335	*e*P		P	04 56 35.1	+0.2
	20nm,2.1s							
IMW	Indian Meadow	87.57	335	*e*P		P	04 56 36.3	+0.4
	5.0nm,1.1s							
FLWY	Flagg Ranch	87.65	335	*e*P		P	04 56 37.0	+0.7
	4.4nm,0.8s							
AGMN	Agassiz Nation	87.70	346	*e*P		P	04 56 35.4	-0.7
	4.7nm,0.8s							
TORD	Torodi Ar. Bea	87.84	72	P		P	04 56 37.0	-0.6
	1.5nm,1.1s,baz=250,slow=3.8,SNR=4.7							
HLID	Hailey	88.49	333	*e*P		P	04 56 41.2	+1.0
	18nm,1.8s							
MCMT	McKenzie Canyo	89.04	334	*e*P		P	04 56 43.1	+0.3
	3.5nm,1.6s							
ULM	Lac du Bonnet	89.58	347	P		P	04 56 43.9	-0.9
	2.5nm,0.8s,baz=164,slow=6.8,SNR=5.5							
ILAR	Eielson Array	116.45	333	PKP		PKPdf	05 02 29.0	-1.5
	0.3nm,0.9s,baz=164,slow=1.9,SNR=4.1							
AKTO	Aktyubinsk	144.67	54	PKP		PKPab	05 03 22.5	-0.2
	1.1nm,0.6s,baz=310,slow=5.7,SNR=3.9							
ABKAR	Akbulak array	145.97	56	*e*PKPdf		PKPdf	05 03 26.2	0.0
BVAR	Borovoye Array	151.76	46	PKPbc		PKPbc	05 03 41.8	0.0
	1.0nm,0.5s,baz=262,slow=2.9,SNR=7.2							
AAK	Ala-Archa	156.39	69	PKPab		PKPab	05 04 10.9	-0.2
	1.6nm,0.9s,baz=217,slow=5.1,SNR=3.7							
KSH	Kashi	157.42	77	*e*PKP		PKPdf	05 03 45.6	+1.7
KSH				pPKP		pPKPdf	05 03 56.5	+1.2
KSH				PKS		PKSdf	05 07 17.8	+0.1
KSH				SKS		SKSdf	05 10 45.9	-1.2
KSH				PPMZ				
	98nm,4.0s							
KSH				LN				
	91nm,4.8s							
KSH				LE				
	74nm,6.1s							
KSH				LZ				
	130nm,7.7s							
ZALV	Zalesovo Beam	158.79	34	PKPab		PKPab	05 04 21.5	+0.7
	1.5nm,0.6s,baz=306,slow=5.0,SNR=6.7							
WMQ	Urumqi	165.70	60	*e*PKP		PKPdf	05 03 53.1	+0.9
WMQ				pPKP		pPKPdf	05 04 04.0	+0.3
WMQ				LN				
	200nm,29.6s							
WMQ				LE				
	310nm,22.4s							
WMQ				LZ				
	270nm,24.8s							
CD2	Chengdu	173.05	172	PKP		PKPdf	05 03 56.0	-1.1
HHC	Hu-ho-hao-te	173.99	302	*e*PKP		PKPdf	05 03 56.9	-0.3
HHC				pPKP		pPKPdf	05 04 07.7	-1.0
HHC				sPKP			05 04 11.3	
HHC				PP		PP	05 09 24.0	+3.2
HHC				SKS		SKSdf	05 10 54.8	-2.8
HHC				SS		SS	05 30 37.0	-0.2
HHC				PPMZ				
	55nm,7.4s							
HHC				LN				
	120nm,16.0s							
HHC				LE				
	150nm,16.0s							
HHC				LZ				
	99nm,18.5s							

*ISCJB **07** 04:53:53.3±0.3,8.7°65S±0.7°04×118.7°39E±0.7°03,h156km±4km, mb4.0/16,Error ellipse: s-maj=7.4km s-min=4.3km az=20.0*
*IDC **07** 04:53:53.7±0.8,8.7°51S×118.7°32E,h140km±6km,mb3.8/16, mb1 3.9/17,mb1mx3.8/38,mbtmp4.2/17,Error ellipse: s-maj=19.2km s-min=10.8km az=71.0*
*NEIC **07** 04:53:53.8±0.7,8.7°60S×118.7°36E,h144km±6km,mb4.2/4, Error ellipse: s-maj=10.9km s-min=6.8km az=48.0*
*DJA **07** 04:53:56.0±0.2,9°S±2°×11°8E±°,h77km±6km,M4.7/31, mb4.8/14,mB5.2/8,MLv4.8/31,Mw(mB)4.5/8,Mwp6.6/1*
ISC 07 04:53:53.4±0.6,8°62S±0.05°×118.39E±0.04,h138km±5km, h138km:pP-P,n70,σ1§61/81,mb4.0/16,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	Waikabubak, Su	1.42	136	P	Pn	04 54 21.0	-0.2
WBSI				S	Sn	04 54 40.4	-2.1
WSI	Waingapu	2.15	119	P	Pn	04 54 31.7	+2.0
WSI				S	Sn	04 55 01.2	+3.6
BASI	Baing, Sumba	2.68	126	P	Pn	04 54 36.5	+0.3
DNP	Denpasar	3.14	269	P	Pn	04 54 44.1	+2.0
SRBI	Singaraja	3.19	279	P	Pn	04 54 42.8	+0.1
IGBI	Denpasar	3.21	266	P	Pn	04 54 43.7	+0.7
IGBI				S	Sn	04 55 21.2	-0.2
BSSI	Bau Bau, Buton	3.23	40	P	Pn	04 54 43.2	0.0
EDFI	Ende, Flores	3.27	93	P	Pn	04 54 44.5	+0.6
BKSI	Bulukumba	3.70	28	P	Pn	04 54 49.9	+0.5
KAPI	Kappang	3.83	21	*e*Pn	Pn	04 54 51.8	+0.7
KAPI				*e*S	Sn	04 55 31.1	-4.8
ABJI	Asem Bagus	4.19	281	P	Pn	04 54 57.7	+1.8
JAGI	Jajag, Banyuwa	4.19	272	P	Pn	04 54 54.6	-1.3
JAGI	Jajag, Banyuwa	4.19	272	*e*Pn	Pn	04 54 54.3	-1.6
JAGI				*e*S	Sn	04 55 42.7	-1.8
BNSI	Bone	4.53	22	P	Pn	04 55 02.8	+2.5
KMMI	Kalianget	4.65	289	P	Pn	04 55 04.2	+2.3
BLJI	Banyuglugur	4.82	280	P	Pn	04 55 05.9	+1.6
SPSI	Sidrap Palu	4.82	17	P	Pn	04 55 07.9	+3.6
GMJI	Gumukmas	4.90	274	P	Pn	04 55 03.9	-1.4
BATI	Baumata	5.44	107	P	Pn	04 55 12.7	+0.2
	295nm,0.6s,3µm1.2nm						
BATI	Baumata	5.44	107	P	Pn	04 55 12.8	+0.2
	94nm,0.3s,baz=311,slow=2.2,SNR=63						
BATI				S	Sn	04 56 12.4	-1.9
	65nm,0.3s,baz=198,slow=20,SNR=4.3						
TTSI	Tana Toraja	5.72	15	P	Pn	04 55 19.3	+3.1
	64nm,0.9s,0.3nm						
KBKI	Kotabaru	5.73	337	P	Pn	04 55 20.8	+4.4
	19nm,1.2s,2µm0.2nm						
SOEI	Soe	5.91	101	P	Pn	04 55 19.3	+0.3
	364nm,0.7s,3µm1.8nm						
SOEI	Soe	5.91	101	*e*Pn	Pn	04 55 19.0	0.0
	277nm,0.7s						
SOEI				*e*S	Sn	04 56 26.8	+1.0
GRJI	Gresik	6.09	286	P	Pn	04 55 24.0	+2.7
	82nm,1.0s,632nm0.2nm						
BBKI	Banjar Baru	6.22	325	P	Pn	04 55 26.0	+3.0
	137nm,1.0s,3µm0.6nm						
PWJI	Pagerwojo	6.54	275	P	Pn	04 55 30.9	+3.6
	52nm,0.7s,2µm0.6nm						
TBJI	Tambak Boyo	6.72	285	P	Pn	04 55 32.6	+2.9
	125nm,1.0s,0.4nm						

KSM	Kuching	12.86	321	*e*Pn		Pn	04 56 52.2	+1.0
	20nm,0.8s							
MDSI	Maura Dua	14.70	285	P		P	04 57 25.3	+8.1
KKM	Kota Kinabalu	14.73	351	*e*Pn		P	04 57 17.9	+0.4
	10nm,0.6s							
WRA	Warramunga Arr	19.10	128	P		P	04 58 06.1	+0.5
	1.3nm,0.3s,baz=302,slow=13,SNR=5.5							
WRA				S		S	05 01 29.8	-5.2
	0.6nm,0.3s,baz=304,slow=22,SNR=5.6							
WRA				ScP		ScP	05 05 47.0	-0.5
	baz=315,slow=2.3,SNR=4.9							
WRAB	Tennant Creek	19.11	128	P		P	04 58 06.3	+0.7
	7.7nm,0.7s							
WB2	Warramunga Arr	19.11	128	P		P	04 58 06.2	+0.5
ASAR	Alice Springs	21.09	137	P		P	04 58 27.9	+1.0
	4.9nm,0.5s,baz=320,slow=9.8,SNR=10							
ASAR				S		S	05 02 12.6	-1.3
	5.4nm,0.9s,baz=314,slow=18,SNR=13							
ASAR				ScP		ScP	05 05 51.8	-0.4
	1.3nm,0.6s,baz=318,slow=1.5,SNR=5.9							
NWAO	Narrogin (SRO)	24.21	182	P		P	04 58 58.0	+0.8
	14nm,0.7s,baz=4.8,slow=8.8,SNR=12							
CMAR	Chiang Mai Arr	33.05	325	P		P	05 00 16.1	+0.2
	0.7nm,0.3s,baz=148,slow=6.4,SNR=5.2							
KSAR	Wonju Array Be	46.67	10	P		P	05 02 09.2	+1.1
KSAR				pP		pP	05 02 40.2	+0.7
KSRS	Korea Array	46.69	10	P		P	05 02 09.2	+1.0
	1.4nm,0.6s,baz=198,slow=7.9,SNR=4.8							
KSRS				pP		pP	05 02 40.2	+0.6
	2.3nm,0.8s,baz=183,slow=8.5,SNR=2.5							
MJAR	Matsushiro Arr	48.63	21	P		P	05 02 22.5	-0.8
	1.0nm,0.4s,baz=200,slow=7.4,SNR=3.7							
USRK	Ussuriysk Ar.	54.00	12	P		P	05 03 02.8	-0.2
	4.1nm,0.7s,baz=197,slow=7.6,SNR=7.7							
USRK				pP		pP	05 03 34.6	-0.8
	1.7nm,0.6s,baz=181,slow=8.6,SNR=2.4							
SONM	Songino Array	57.20	350	P		P	05 03 25.5	-0.5
	2.0nm,0.7s,baz=168,slow=8.6,SNR=14							
SONM				pP		pP	05 03 58.9	+0.2
	1.4nm,0.7s,baz=174,slow=8.0,SNR=3.5							
MKAR	Makanchi Array	63.85	333	P		P	05 04 09.9	-1.2
	1.1nm,0.6s,baz=141,slow=7.7,SNR=7.3							
MKAR				pP		pP	05 04 43.5	-0.8
	1.4nm,0.7s,baz=142,slow=6.7,SNR=3.9							
KURBB	Kurchatov Arra	68.36	334	P		P	05 04 38.0	-1.7
	0.8nm,0.5s,baz=143,slow=5.7,SNR=9.5							
KURK	Kurchatov	68.39	334	P		P	05 04 38.0	-1.9
ZALV	Zalesovo Beam	68.47	339	P		P	05 04 38.4	-2.0
	3.0nm,0.7s,baz=146,slow=5.0,SNR=9.5							
PETK	Petropavlovsk-	69.97	24	P		P	05 04 50.1	+0.4
	4.6nm,0.7s,baz=190,slow=7.4,SNR=7.2							
VNDA	Vanda	72.45	171	P		P	05 05 06.1	+1.8
	1.9nm,0.6s,baz=315,slow=6.3,SNR=13							
VNDA	Vanda	72.45	171	*e*P		P	05 05 05.4	+1.1
	1.6nm,0.6s							
BVAR	Borovoye Array	73.68	332	P		P	05 05 10.5	-1.3
	0.7nm,0.6s,baz=141,slow=5.5,SNR=4.3							
AKTO	Aktyubinsk	78.57	325	P		P	05 05 37.6	-1.9
	1.0nm,0.8s,baz=69,slow=8.7,SNR=3.7							
KMBO	Kilima Mbogo	81.07	270	P		P	05 05 54.3	+0.2
	0.5nm,0.3s,baz=50,slow=8.3,SNR=4.0							
BOSA	Boshof	88.66	241	P		P	05 06 32.3	+0.6
	2.1nm,0.7s,baz=94,slow=5.5,SNR=4.0							
RES	Resolute Bay	111.30	9	Pdiff		Pdif	05 08 12.0	-0.5
	0.5nm,0.5s,baz=214,slow=3.6,SNR=4.9							
YKA	Yellowknife Ar	114.09	24	PKP		PKPdf	05 12 15.4	-0.4
	0.5nm,0.6s,baz=302,slow=1.9,SNR=17							
TORD	Torodi Ar. Bea	117.80	280	PKP		PKPdf	05 12 24.2	-0.2
	2.3nm,0.6s,baz=76,slow=1.8,SNR=32							
NVAR	Mina Array Bea	121.24	50	PKP		PKPdf	05 12 31.6	+0.9
	0.7nm,0.7s,baz=274,slow=2.6,SNR=6.8							
KIC	Kosan Boka	123.61	272	*e*PKIKP		PKPdf	05 12 35.7	+0.1
	6.3nm,0.7s							
DBIC	Dimbokro	123.76	272	PKP		PKPdf	05 12 35.8	-0.1
	3.9nm,0.8s,baz=68,slow=0.5,SNR=4.8							
LIC	Lamto	123.88	272	*e*PKIKP		PKPdf	05 12 36.2	+0.1
	11nm,0.8s							
TIC	Toumodi	123.92	272	*e*PKIKP		PKPdf	05 12 36.2	0.0
	1.6nm,0.2s							
FRB	Frobisher Bay	124.75	4	PKP		PKPdf	05 12 34.7	-1.6
	1.1nm,0.6s,baz=321,slow=6.5,SNR=6.1							
PDAR	Pinedale Array	126.05	43	PKP		PKPdf	05 12 38.9	-0.9
	0.3nm,0.7s,baz=288,slow=3.4,SNR=4.3							
SCHQ	Scheffervlle	133.72	4	PKP		PKPdf	05 12 53.6	-0.1
	1.4nm,0.6s,baz=329,slow=5.2,SNR=4.3							
TXAR	Lajitas Array	135.54	57	SKPbc		SKPbc	05 16 14.8	-1.7
	0.5nm,0.8s,baz=266,slow=3.4,SNR=5.4							
LRAL	Lakeview Retre	146.22	40	*e*PKPbc		PKPbc	05 13 17.6	-0.6
TKL	Tuckaleechee C	146.33	34	*e*PKPbc		PKPdf	05 13 17.7	+0.7
TIGA	Tifton	149.44	39	*e*PKPbc		PKPbc	05 13 26.9	+0.1
BDFB	Brasilia	152.39	209	PKPbc		PKPbc	05 13 35.5	+1.2
	3.0nm,0.7s,baz=98,slow=4.5,SNR=4.2							
LPAZ	La Paz	154.43	165	PKPbc		PKPbc	05 13 42.7	+3.4
	0.7nm,0.7s,baz=344,slow=3.5,SNR=4.6							

*ISCJB **07** 05:05:08.7±0.7,1°95N±0.6°×96°60E±0.7°07,h28km, mb4.0/10,MS3.5/1,Error ellipse: s-maj=10.2km s-min=8.6km az=12.6*
*IDC **07** 05:05:10.2±1.3,1°95N×96°59E,h25km±4km,mb3.9/9, mb1 4.0/10,mb1mx3.6/53,mbtmp4.1/10,ML4.5/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/29,Error ellipse: s-maj=47.5km s-min=14.2km az=57.0*
*DJA **07** 05:05:11.2±0.7,2°N±5°×9°7E±1°0,h20km±13km,M4.3/7, mb4.6/1,MLv4.1/7*
*NEIC **07** 05:05:12.3±0.7,2°08N×96°70E,h35km,mb4.0/1,Error ellipse: s-maj=14.9km s-min=11.9km az=218.0*
ISC 07 05:05:11.0±0.8,2°05N±0°07×96°70E±0°09,h28km,n25, σ0§72/26,mb4.0/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	0.52	314	P	Pb	05 05 22.1	+0.5
TPTI		1.30	22	P	Pn	05 05 33.1	-0.2
TPTI				S	Sb	05 05 50.6	-0.4
KCSI	Kotacane, Aceh	1.82	36	P	Pn	05 05 41.4	+1.0
KCSI				S	Sb	05 06 05.3	-0.6
MNSI	Mandailing Nat	3.13	113	P	Pn	05 05 59.4	+0.9
LHMI	Lhok Sumawe	3.17	4	P	Pn	05 06 00.2	+1.2
IPM	Ipoh	4.95	61	*e*Pn	Pn	05 06 24.9	+1.4
KULM	Kulim	5.09	51	*e*Pn	Pn	05 06 25.7	+0.2
	42nm,0.8s						
CMAR	Chiang Mai Arr	16.46	8	Pn	Pn	05 08 59.5	-0.5
	0.6nm,0.3s,baz=197,slow=11,SNR=24						
H08S2	Diego Garcia H	26.00	248	T	T	05 37 23.9	
	baz=69,slow=76,SNR=1249						
H08S3	Diego Garcia H	26.00	248	T	T	05 37 24.1	
	baz=69,slow=76,SNR=828						
H08S1	Diego Garcia H	26.01	248	T	T	05 37 25.2	
	baz=69,slow=76,SNR=1362						
H01W3	Cape Leeuwin H	40.21	158	T	T	05 55 26.6	
	baz=333,slow=76,SNR=20						
H01W2	Cape Leeuwin H	40.23	158	T	T	05 55 28.9	
	baz=333,slow=76,SNR=21						
H01W1	Cape Leeuwin H	40.23	158	T	T	05 55 35.9	
	baz=333,slow=76,SNR=17						
WRA	Warramunga Arr	42.91	122	P	P	05 13 07.4	-0.2
	2.5nm,0.6s,baz=300,slow=9.2,SNR=28						
WRA				pP	pP	05 13 15.2	-0.8
	1.3nm,0.6s,baz=301,slow=9.1,SNR=9.2						
ASAR	Alice Springs	44.30	127	P	P	05 13 18.8	0.0
	0.5nm,0.5s,baz=307,slow=6.7,SNR=6.9						
ASAR				pP	pP	05 13 25.8	-1.4
	0.2nm,0.3s,baz=306,slow=7.8,SNR=2.6						
KSAR	Wonju Array Be	45.42	35	P	P	05 13 27.9	+0.6
KSRS	Korea Array	45.45	35	P	P	05 13 28.0	+0.4
	1.3nm,0.6s,baz=235,slow=10,SNR=4.1						
KSRS				LR	LR	05 32 45.8	
	comp=Z,55nm,21.8s,baz=113,slow=36						
MKAR	Makanchi Array	46.31	346	P	P	05 13 34.7	+0.4
	2.9nm,0.7s,baz=163,slow=8.0,SNR=24						
MKAR				pP	pP	05 13 42.1	-0.6
	1.5nm,0.6s,baz=162,slow=7.3,SNR=7.3						
SONM	Songino Array	46.38	9	P	P	05 13 35.5	+0.6
	0.9nm,0.5s,baz=183,slow=9.5,SNR=8.8						
SONM				pP	pP	05 13 43.4	0.0
	1.0nm,0.4s,baz=192,slow=8.9,SNR=7.8						
ZALV	Zalesovo Beam	52.65	351	P	P	05 14 22.9	+0.4
	1.2nm,0.3s,baz=157,slow=7.7,SNR=8.7						
ZALV				pP	pP	05 14 30.2	-0.9
	1.8nm,0.5s,baz=152,slow=6.5,SNR=2.6						
BVAR	Borovoye Array	55.29	341	P	P	05 14 41.4	-0.5
	1.1nm,0.7s,baz=141,slow=7.4,SNR=4.7						
ABKAR	Akbulak array	56.54	332	*e*P	P	05 14 50.3	-0.5
	1.1nm,0.7s						
FINES	FINESS Array B	79.02	333	P	P	05 17 11.9	-0.3
	0.7nm,0.5s,baz=104,slow=8.0,SNR=5.5						
ARCES	ARCESS Array B	81.58	340	P	P	05 17 26.1	+0.2
	1.1nm,0.7s,baz=98,slow=5.2,SNR=12						

*BJI **07** 05:19:38.9,7°20S×130°80E,h78km,mB5.1/12,mb4.9/15, Ms5.0/1,Ms7 4.6/1*
*ISCJB **07** 05:19:40.1±0.3,7°33S±0°03×130°84E±0°03,h100km, mb4.4/20,Error ellipse: s-maj=5.0km s-min=3.9km az=151.2*
*NEIC **07** 05:19:40.8±0.6,7°19S×130°82E,h78km±7km,mb4.6/9, Error ellipse: s-maj=8.4km s-min=5.6km az=63.0*
*IDC **07** 05:19:43.1±2.6,7°04S×130°52E,h88km±23km,mb4.1/12, mb1 4.2/13,mb1mx4.1/20,mbtmp4.5/13,MS3.7/2, Ms1 3.7/2,ms1mx2.9/20,Error ellipse: s-maj=20.3km s-min=16.0km az=114.0*
*DJA **07** 05:19:44.1±0.2,7°S±2°×13°1E±°,h76km±7km,M5.2/31, mb5.3/31,mB5.6/22,MLv5.4/14,Mw(mB)5.2/22*
ISC 07 05:19:41.2±0.4,7°40S±0°05×130°85E±0°05,h100km,n82, σ1§69/80,mb4.4/20,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	0.73	142	P	Pn	05 20 05.3	+6.3
SAUI				S	Sn	05 20 19.2	+6.9
BNDI	Bandanaira	3.01	342	P	Pn	05 20 25.9	-1.2
MSAI	Masohi	4.46	335	P	Pn	05 20 45.2	-1.5
FAKI	Fak Fak	4.66	17	P	Pn	05 20 47.2	-2.3
FAKI	Fak Fak	4.66	17	*e*Pn	Pn	05 20 47.5	-2.0
FAKI				*e*Sn	Sn	05 21 33.2	-9.3
NLAI	Namlea	5.57	318	P	Pn	05 21 01.8	+0.1
	327nm,0.8s,5µm1.0nm						
RKPI	Ransiki, Papua	6.73	30	P	Pn	05 21 16.9	-0.6
	548nm,0.8s,35µm12nm						
SOEI	Soe	6.92	250	P	Pn	05 21 21.1	+1.0
	848nm,0.9s,10µm4.2nm						
SOEI	Soe	6.92	250	*e*Pn	Pn	05 21 20.6	+0.5
SOEI				*e*Sn	Sn	05 22 34.2	-3.3
SANI	Sanana	7.19	317	P	Pn	05 21 23.1	-0.7
	98nm,0.7s,2µm0.4nm						
LBMI	Labuha	7.50	333	P	Pn	05 21 25.8	-2.2
	360nm,0.5s,5µm1.8nm						
BATI	Baumata	7.63	248	P	Pn	05 21 30.7	+0.9
	396nm,0.6s,8µm2.0nm						
BATI	Baumata	7.63	248	P	Pn	05 21 31.1	+1.3
	237nm,0.3s,baz=114,slow=2.7,SNR=105						
BATI				S	Sn	05 22 51.5	-3.1
	133nm,0.3s,baz=61,slow=19,SNR=8.9						
TNTI	Ternate	8.83	337	P	Pn	05 21 42.4	-3.7
	317nm,0.7s,4µm						
TNTI	Ternate	8.83	337	*e*Pn	Pn	05 21 42.2	-3.9
EDFI	Ende, Flores	9.16	261	P	Pn	05 21 49.5	-1.3
	82nm,0.5s,2µm						
MMPI	Merauke	9.51	97	P	Pn	05 22 00.2	+4.9
	998nm,0.6s						
LUWI	Luwuk	10.23	308	P	Pn	05 22 05.2	0.0
	46nm,0.7s,3µm						
LUWI	Luwuk	10.23	308	*e*Pn	Pn	05 22 03.5	-1.7
BASI	Baing, Sumba	10.53	254	P	Pn	05 22 08.2	-1.0
	622nm,0.6s,9µm						
WSI	Waingapu	10.67	257	P	Pn	05 22 07.1	-4.1
	1µm,0.6s,17µm						
BKSI	Bulukumba	10.86	280	P	Pn	05 22 13.8	+0.1
	45nm,1.0s						
JAY	Jayapura	10.95	64	P	Pn	05 22 19.1	+4.1
	2.7nm,0.3s,baz=237,slow=12,SNR=9.4						
JAY				S	Sn	05 24 14.5	-1.1
	0.7nm,0.3s,baz=37,slow=18,SNR=3.9						
BNSI	Bone	11.09	285	P	Pn	05 22 18.9	+2.1
	30nm,1.0s						
GTOI	Gorontalo	11.17	315	P	Pn	05 22 20.8	+2.9
	36nm,0.9s,874nm						
KAPI	Kappang	11.28	281	*e*Pn	Pn	05 22 18.4	-1.0
SPSI	Sidrap Palu	11.54	287	P	Pn	05 22 26.4	+3.5
	28nm,1.0s						
WBSI	Waikabubak, Su	11.55	258	P	Pn	05 22 21.2	-1.8
	221nm,0.6s,4µm						
TTSI	Tana Toraja	11.80	291	P	Pn	05 22 38.3	+12
MRSI	Marisa	11.84	311	P	Pn	05 22 26.1	-0.8
	115nm,0.8s,796nm						
WRAB	Tennant Creek	12.91	165	*e*Pn	Pn	05 22 42.6	+1.5
WRAB				*e*Sn	Sn	05 25 03.3	+0.1
WRA	Warramunga Arr	12.92	165	P	Pn	05 22 42.8	+1.6
	13nm,0.3s,baz=349,slow=13,SNR=228						
WRA				S	Sn	05 25 00.5	-2.9
	9.6nm,0.3s,baz=342,slow=20,SNR=12						
WB2	Warramunga Arr	12.93	165	*e*Pn	Pn	05 22 42.7	+1.4
WB2				*e*Sn	Sn	05 25 02.1	-1.4
COEN	Coen	13.75	119	*e*Pn	P	05 22 55.3	-2.0
COEN				*e*Sn	Sn	05 25 21.2	-2.4
KBKI	Kotabaru	15.17	285

ZALV	**Zalesovo Beam**	**72.31**	**333**	P	**P**	**05 30 55.5**	**-0.3**
	2.3nm,0.6s,baz=122,slow=5.6,SNR=11						
KURBB	**Kurchatov Arra**	**73.29**	**328**	P	**P**	**05 31 02.4**	**+0.7**
	2.3nm,0.6s,baz=126,slow=4.9,SNR=28						
KURK	**Kurchatov**	**73.29**	**328**	*e*P	**P**	**05 31 01.4**	**-0.3**
KKAR	**Karatay Array**	**74.19**	**319**	*e*P	**P**	**05 31 07.8**	**+0.6**
BVAR	**Borovoye Array**	**78.85**	**328**	P	**P**	**05 31 33.2**	**0.0**
	1.0nm,0.6s,baz=109,slow=7.8,SNR=6.6						
TIXI	**Tiksi**	**78.89**	**359**	*e*P	**P**	**05 31 33.6**	**+0.5**
	3.0nm,0.5s						
ABKAR	**Akbulak array**	**83.34**	**321**	P	**P**	**05 31 58.4**	**+1.2**
ILAR	**Eielson Array**	**93.35**	**25**	P	**P**	**05 32 44.8**	**+0.1**
	0.4nm,0.6s,baz=261,slow=4.4,SNR=8.1						
KBZ	**Khabaz**	**93.58**	**313**	LR	LR	06 23 20.3	
	comp=Z,38nm,18.1s,baz=82,slow=41						
INK	**Inuvik**	**98.91**	**22**	P	Pdif	05 33 11.1	+1.2
	0.5nm,1.0s,baz=301,slow=2.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**129.71**	**281**	PKP	**PKPdf**	**05 38 42.2**	**+2.4**
	0.3nm,0.5s,baz=87,slow=1.5,SNR=3.9						
LPAZ	**La Paz**	**149.89**	**142**	PKPbc	**PKPab**	**05 39 26.8**	**-0.6**
	0.9nm,0.4s,baz=63,slow=2.3,SNR=11						

*ISCJB **07** 05:21:24.7±0.3,32.°71N±0.°02×115.°87W±0.°02,h10km±2km, mb3.3/4,Error ellipse: s-maj=2.8km s-min=2.3km az=21.3*
*IDC **07** 05:21:24.6±1.7,32.°76N×115.°91W,h0km,mb3.4/4, mb1 3.7/10,mb1mx3.6/30,mbtmp3.5/10,ML3.3/6,MS3.6/3, Ms1 3.6/3,ms1mx3.2/20,Error ellipse: s-maj=27.8km s-min=9.6km az=39.0*
*MEX **07** 05:21:24.6±0.6,32.°93N×115.°97W,h8km±19km,MD4.4*
*NEIC **07** 05:21:25.9,32.°73N×115.°91W,h0km,mb4.1/4, MD4.3(ECX),MD4.5(MEX),ML4.5(PAS),After PAS.*
NEIC Felt [III] at El Centro, Imperial and Ocotillo; [II] at Brawley, Chula Vista, Coronado, Escondido, Poway, San Diego and San Marcos. Also felt at Bonita, Borrego Springs, Campo, Carlsbad, Cathedral City, El Cajon, Encinitas, Heber, Holtville, Irvine, La Mesa, Laguna Beach, Lake Forest, Lakeside, National City, Palm Springs, Ramona, Rancho Mirage, San Ysidro, Santee, Spring Valley and Valley Center. Felt at Mexicali and Tijuana, Baja California.
*ECX **07** 05:21:25.9±0.6,32.°73N×115.°90W,h4km,ML4.4*

ISC 07 05:21:25.8±0.9,32.°71N±0.°02×115.°89W±0.°02,h9km±6km, n105,σ1$44/132,mb3.4/4,24C-21D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESC	**Westside Schoo**	**0.14**	**70**	⇑*i*P	**Pg**	**05 21 28.8**	**-0.1**
CRR	**Carrizo Plain**	**0.19**	**339**	⇓*i*P	**Pg**	**05 21 29.3**	**-0.4**
CRR	**Carrizo Plain**	**0.19**	**339**	⇓*i*P	**Pg**	**05 21 29.3**	**-0.4**
RMX	**La Rumorosa**	**0.19**	**236**	⇑*e*P	**Pg**	**05 21 29.8**	**0.0**
RMX				*e*S	**Sg**	**05 21 32.8**	**+0.2**
COK	**Cook Ranch**	**0.20**	**45**	⇑*i*P	**Pg**	**05 21 29.8**	**0.0**
SWSC	**Sam W. Stewart**	**0.24**	**19**	⇓P	**Pg**	**05 21 30.4**	**-0.3**
	baz=0.3						
SWSC				⇓S	**Sg**	**05 21 33.9**	**-0.1**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.24**	**19**	⇓*i*P	**Pg**	**05 21 30.3**	**-0.4**
SWSC				*i* S	**Sg**	**05 21 34.0**	**0.0**
ERRC	**Elmore Ranch**	**0.41**	**8**	⇓*i*P	**Pg**	**05 21 33.9**	**+0.1**
MONP	**Monument Peak,**	**0.48**	**292**	⇑P	**Pg**	**05 21 35.0**	**-0.2**
	baz=0.5						
MONP				⇑S	**Sg**	**05 21 41.3**	**-0.3**
	baz=0.5						
CPBX	**Cerro Prieto**	**0.57**	**120**	*e*P	**Pg**	**05 21 37.0**	**+0.1**
MBIG	**Mexicali**	**0.66**	**117**	*e*P	**Pg**	**05 21 38.7**	**+0.2**
MBIG				*i* S	**Sb**	**05 21 49.3**	**+0.7**
BAR	**Barrett**	**0.66**	**268**	*e*Pg	**Pg**	**05 21 38.0**	**-0.5**
BAR				*e*Sg	**Sg**	**05 21 46.5**	**-0.7**
CBX	**Cerro Bola**	**0.77**	**239**	*e*P	**Pg**	**05 21 38.4**	**-2.1**
CBX				*e*S	**Sg**	**05 21 50.9**	**+0.4**
CBX	**Cerro Bola**	**0.77**	**239**	*e*P	**Pg**	**05 21 39.8**	**-0.8**
CBX				*e*S	**Sg**	**05 21 50.5**	**0.0**
CBX				⇑*e*		05 22 10.1	
CBX				AML	AML	05 22 10.1	
	comp=N,23μm,0.6s						
CBX	**Cerro Bola**	**0.77**	**239**	*e*P	**Pg**	**05 21 38.4**	**-2.1**
CBX				*e*S	**Sg**	**05 21 50.9**	**+0.4**
RDX	**Rancho Dawling**	**0.78**	**183**	⇓*e*P	**Pg**	**05 21 40.1**	**-0.8**
RDX				*e*S	**Sg**	**05 21 50.8**	**-0.3**
EMX	**El Mayor**	**0.91**	**143**	⇓*e*P	**Pg**	**05 21 40.8**	**-2.3**
EMX				*e*S	**Sg**	**05 21 53.1**	**-1.9**
GLA	**Glamis**	**0.96**	**69**	⇓P	**Pg**	**05 21 42.7**	**-1.4**
	baz=1.0						
GLA				⇓S	**Sg**	**05 21 55.3**	**-1.4**
	baz=1.0						
GLA	**Glamis**	**0.96**	**69**	*e*Pg	**Pg**	**05 21 42.6**	**-1.6**
GLA				*e*Sg	**Sg**	**05 21 55.5**	**-1.2**
BC3	**Big Chuckawall**	**1.01**	**21**	⇑P	**Pg**	**05 21 43.8**	**-1.4**
	baz=1.0						
BC3				⇑Sb	**Sg**	**05 21 58.0**	**-0.4**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.01**	**332**	Pn	**Pg**	**05 21 43.7**	**-1.6**
	comp=N,229nm,0.3s,baz=145,slow=15,SNR=235						
PFO				Lg	Lg	05 21 57.0	
	comp=N,519nm,0.3s,baz=227,slow=19,SNR=26						
PFO	**Pinyon Flats O**	**1.01**	**332**	⇓P	**Pg**	**05 21 43.7**	**-1.6**
	baz=1.0						
PFO				⇑S	**Sg**	**05 21 57.4**	**-1.1**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.01**	**332**	*e*Pg	**Pg**	**05 21 43.6**	**-1.7**
PFO				Pn	**Pg**	**05 21 43.7**	**-1.6**
PFO				Lg	Lg	05 21 57.0	
PFO				*e*Sg	**Sg**	**05 21 57.3**	**-1.1**
109C	**Camp Elliot, M**	**1.04**	**280**	⇓P	**Pg**	**05 21 44.4**	**-1.4**
	baz=1.0						
109C				⇑S	**Sg**	**05 21 57.9**	**-1.3**
	baz=1.0						
BELC	**Belle Mtn. Jos**	**1.29**	**356**	⇓P	**Pn**	**05 21 47.7**	**-2.4**
	baz=1.3						
BELC				⇑S	**Sb**	**05 22 04.6**	**-2.4**
	baz=1.3						
MURC	**Murrieta**	**1.41**	**309**	⇓P	**Pn**	**05 21 49.4**	**-2.3**
	baz=1.4						
MURC				⇑Sb	**Sb**	**05 22 09.6**	**-0.9**
	baz=1.4						
ECBX	**El Chinero**	**1.43**	**150**	*e*P	**Pn**	**05 21 50.1**	**-1.7**
ECBX				*e*S	**Sb**	**05 22 09.7**	**-1.1**
Y12C	**Blythe**	**1.54**	**47**	⇓P	**Pn**	**05 21 51.1**	**-2.3**
	baz=1.6						
IRM	**Iron Mountain**	**1.57**	**23**	⇑P	**Pn**	**05 21 51.6**	**-2.3**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.70**	**168**	*e*P	**Pn**	**05 21 54.7**	**-1.2**
SPIG				*i* S	**Sn**	**05 22 18.3**	**+0.4**
SPIG	**San Pedro Mart**	**1.70**	**168**	*e*P	**Pn**	**05 21 54.7**	**-1.2**
SPIG				*i* S	**Sn**	**05 22 18.3**	**+0.4**
SPX	**San Pedro Mart**	**1.70**	**168**	*e*P	**Pn**	**05 21 55.5**	**-0.4**
SPX				AML	AML	05 22 38.0	
	comp=E,3μm,0.7s						
SPX				⇑*e*		05 22 38.0	
BBRC	**Big Bear Solar**	**1.77**	**331**	⇓P	**Pn**	**05 21 54.7**	**-2.1**
	baz=1.8						
113A	**Mohawk Valley,**	**1.79**	**88**	⇑P	**Pn**	**05 21 54.8**	**-2.0**
	baz=1.8						
113A				⇓S	**Sn**	**05 22 16.7**	**-3.0**
	baz=1.8						
BFSC	**Mount Baldy Ra**	**2.12**	**316**	⇑P	**Pn**	**05 21 59.5**	**-2.1**
	baz=2.1						
BFSC				⇑Sb	**Sb**	**05 22 30.4**	**-0.6**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.15**	**350**	⇓P	**Pn**	**05 21 59.7**	**-2.1**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.16**	**42**	⇓P	**Pn**	**05 22 00.3**	**-1.6**
	baz=2.2						
PDMCI				⇑Sb	**Sb**	**05 22 31.8**	**0.0**
	baz=2.2						
FMP	**Fort Macarthur**	**2.25**	**297**	⇑P	**Pn**	**05 22 01.5**	**-1.6**
	baz=2.2						
FMP				⇓Sb	**Sb**	**05 22 35.1**	**+0.6**
	baz=2.2						
SCI	**San Clemente I**	**2.25**	**278**	⇓S	**Sn**	**05 22 29.0**	**-2.2**
	baz=2.2						
MWC	**Mount Wilson**	**2.36**	**310**	*e*Pn	**Pn**	**05 22 05.3**	**+0.5**
PASC	**Pasadena Art C**	**2.41**	**308**	*e*Pn	**Pb**	**05 22 07.4**	**-1.9**
LDFC	**Landfair**	**2.45**	**15**	*e*Pn	**Pn**	**05 22 07.5**	**+1.5**
DECC	**Green Verdugo**	**2.55**	**308**	⇑Sb	**Sb**	**05 22 43.6**	**+0.4**
	baz=2.6						
Z14A	**Wintersburg**	**2.56**	**74**	⇑P	**Pn**	**05 22 05.5**	**-1.9**
	baz=2.6						
GSC	**Goldstone, Bar**	**2.69**	**344**	⇑P	**Pn**	**05 22 07.3**	**-2.0**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.69**	**344**	*e*Pn	**Pn**	**05 22 07.9**	**-1.5**
Y14A	**Wickenburg**	**2.71**	**62**	⇑P	**Pn**	**05 22 07.5**	**-2.0**
	baz=2.7						
214A	**Organ Pipe Nat**	**2.71**	**105**	*e*Pn	**Pn**	**05 22 07.6**	**-1.9**
EDW2	**Edwards Air Fo**	**2.78**	**322**	⇑Sb	**Sb**	**05 22 50.9**	**+1.1**
	baz=2.8						
OSI	**Osito Audit: C**	**3.03**	**310**	*e*Pn	**Pn**	**05 22 16.9**	**+3.0**
OSI				*e*Sn	**Sn**	**05 22 49.2**	**-1.2**
ISA	**Isabella, Lake**	**3.64**	**325**	*e*Pn	**Pn**	**05 22 21.1**	**-1.2**
DAC	**Darwin (Calif)**	**3.83**	**339**	*e*Pn	**Pn**	**05 22 23.8**	**-1.2**
SHPR	**Sheep Range**	**3.83**	**9**	*e*Pn	**Pn**	**05 22 24.8**	**-0.3**
TPNV	**Topopah Spring**	**4.24**	**356**	*e*Pn	**Pn**	**05 22 30.4**	**-0.2**
TUC	**Tucson**	**4.33**	**94**	*e*Pn	**Pn**	**05 22 29.1**	**-2.8**
WUAZ	**Wupatki**	**4.68**	**52**	*e*Pn	**Pn**	**05 22 36.8**	**+0.1**
MTUM	**Tungsten Hills**	**5.12**	**335**	*e*Pn	Pn	05 22 39.2	-3.6
MTUM				*e*Pb	Pg	05 23 00.3	-3.6
CCUT	**Cedar City**	**5.25**	**23**	*e*Pn	**Pn**	**05 22 45.9**	**+1.2**
TPH	**Tonopah**	**5.46**	**349**	*e*Pn	**Pn**	**05 22 48.3**	**+0.8**
R11A	**Troy Canyon, C**	**5.63**	**2**	*e*Pn	**Pn**	**05 22 51.8**	**+2.0**
W18A	**Petrified Fore**	**5.65**	**63**	*e*Pn	**Pn**	**05 22 51.0**	**+0.9**
NVAR	**Mina Array Bea**	**6.04**	**342**	Pn	**Pn**	**05 22 55.5**	**+0.1**
	comp=E,0.3nm,0.3s,baz=162,slow=15,SNR=7.7						
NVAR				Pg	Pb	05 23 15.2	+4.0
	comp=E,2.7nm,0.3s,baz=154,slow=17,SNR=24						
NVAR				Lg	Lg	05 24 36.3	
	comp=E,0.7nm,0.3s,baz=254,slow=30,SNR=3.3						
CMB	**Columbia Colle**	**6.46**	**327**	*e*Pn	**Pn**	**05 23 02.4**	**+1.4**
WAKR	**Walker**	**6.46**	**334**	*e*Pn	**Pn**	**05 23 03.4**	**+2.1**
MVU	**Marysvale**	**6.51**	**26**	*e*Pn	**Pn**	**05 23 05.0**	**+3.1**
121A	**Cookes Peak, D**	**6.84**	**89**	*e*Pn	**Pn**	**05 23 05.8**	**-0.7**
LAZ	**Ladron**	**7.50**	**75**	*e*Pn	**Pn**	**05 23 15.8**	**+0.4**
	comp=E,18nm,0.9s						
MVCO	**Mesa Verde**	**7.55**	**51**	*e*Pn	**Pn**	**05 23 18.6**	**+2.4**
LENM	**Lemitar**	**7.59**	**77**	*e*Pn	**Pn**	**05 23 16.9**	**+0.1**
SRU	**San Rafael Swe**	**7.73**	**33**	*e*Pn	**Pn**	**05 23 20.8**	**+2.2**
BMN	**Battle Mountai**	**7.78**	**352**	*e*Pg	**Pg**	**05 23 55.7**	**+1.0**
NLU	**North Lily Min**	**7.86**	**22**	*e*Pn	**Pn**	**05 23 20.6**	**+0.2**
DUG	**Dugway, Tooele**	**7.87**	**17**	*e*Pn	**Pn**	**05 23 20.3**	**-0.2**
ELK	**Elko**	**8.04**	**4**	Pn	**Pn**	**05 23 23.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=190,slow=13,SNR=2.4						
ELK				Pg	**Pg**	**05 23 59.0**	**-0.5**
	comp=E,0.6nm,0.3s,baz=179,slow=15,SNR=15						
ELK				Lg	Lg	05 25 40.9	
	comp=E,0.5nm,0.3s,baz=270,slow=20,SNR=5.4						
ELK				LR	LR	05 26 52.1	
	comp=E,638nm,18.6s,baz=181,slow=41						
PV01	**Paradox Valley**	**8.06**	**46**	*e*Pn	**Pn**	**05 23 25.1**	**+1.9**
	comp=E,245nm,0.4s						
ANMO	**Albuquerque**	**8.16**	**72**	Pn	**Pn**	**05 23 25.1**	**+0.6**
	comp=E,0.3nm,0.3s,baz=262,slow=12,SNR=26						
ANMO				Pg	**Pg**	**05 24 00.7**	**-1.2**
	comp=E,0.5nm,0.3s,baz=264,slow=14,SNR=7.9						
ANMO				Lg	Lg	05 25 46.1	
	comp=E,0.1nm,0.3s,baz=344,slow=19,SNR=3.5						
ANMO	**Albuquerque**	**8.16**	**72**	*e*Pn	**Pn**	**05 23 25.6**	**+1.0**
ANMO				Pg	**Pg**	**05 24 00.7**	**-1.2**
ANMO				Lg	Lg	05 25 46.1	
S22A	**4UR Ranch, Cre**	**8.95**	**53**	*e*Pn	**Pn**	**05 23 37.4**	**+1.8**
MNTX	**Cornudas Mount**	**8.96**	**94**	*e*Pn	**Pn**	**05 23 35.3**	**-0.1**
HVU	**Hansel Valley**	**9.39**	**14**	*e*Pn	**Pn**	**05 23 43.6**	**+2.3**
O20A	**White River Ci**	**9.63**	**38**	*e*Pn	**Pn**	**05 23 46.4**	**+1.6**
SMCO	**Snowmass**	**9.69**	**46**	*e*Pn	**Pn**	**05 23 47.6**	**+1.9**
SDCO	**Great Sand Dun**	**9.87**	**57**	*e*Pn	**Pn**	**05 23 49.2**	**+1.2**
LPIG	**La Paz**	**9.88**	**149**	LR	LR	05 27 23.1	
	comp=E,321nm,20.4s,baz=352,slow=36						
T25A	**Trinidad**	**10.41**	**62**	*e*Pn	Pn	05 23 59.5	+4.2
ISCO	**Idaho Springs**	**10.90**	**47**	*e*Pn	Pn	05 24 05.5	+3.3
TXAR	**Lajitas Array**	**11.01**	**105**	Pn	**Pn**	**05 24 04.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=288,slow=13,SNR=13						
TXAR				Lg	Lg	05 27 10.7	
	comp=E,0.0nm,0.3s,baz=288,slow=32,SNR=3.9						
MSTX	**Muleshoe**	**11.04**	**80**	*e*Pn	**Pn**	**05 24 06.2**	**+2.2**
PDAR	**Pinedale Array**	**11.22**	**25**	Pn	**Pn**	**05 24 08.5**	**+2.1**
	comp=E,0.0nm,0.3s,baz=202,slow=16,SNR=7.0						
PDAR				LR	LR	05 28 47.2	
	comp=E,174nm,18.2s,baz=204,slow=40						
LOHW	**Long Hollow**	**11.65**	**19**	*e*Pn	**Pn**	**05 24 14.4**	**+2.0**
CHMT	**Chamberlain Mo**	**14.33**	**7**	*e*Pn	**Pn**	**05 24 50.5**	**+1.5**
	comp=E,2.2nm,0.7s						
SLMT	**Seeley Lake**	**14.63**	**6**	*e*Pn	**Pn**	**05 24 52.8**	**-0.2**
SWMT	**Swartz Lake**	**14.85**	**5**	*e*Pn	**Pn**	**05 24 57.5**	**+1.5**
JTMT	**Jette**	**15.07**	**4**	*e*Pn	**P**	**05 25 02.8**	**-1.5**
BSMT	**Bassoo Peak**	**15.15**	**3**	*e*Pn	**Pn**	**05 25 00.8**	**+0.8**
NEW	**Newport**	**15.56**	**357**	Pn	**Pn**	**05 25 07.3**	**+2.0**
	comp=E,0.1nm,0.3s,baz=178,slow=15,SNR=11						
NEW	**Newport**	**15.56**	**357**	*e*Pn	**Pn**	**05 25 04.7**	**-0.6**
	comp=E,5.7nm,0.9s						
B06A	**Marblemount**	**16.34**	**347**	*e*Pn	**P**	**05 25 17.5**	**-0.7**
	comp=E,24nm,0.3s						
MIAR	**Mount Ida**	**18.67**	**78**	*e*Pn	**Pn**	**05 25 45.9**	**+1.4**
	comp=E,11nm,1.1s						
EDM	**Edmonton**	**20.58**	**4**	*e*P	**P**	**05 26 05.7**	**+0.8**
	comp=E,16nm,1.1s						
AGMN	**Agassiz Nation**	**21.68**	**38**	*e*P	**P**	**05 26 18.2**	**+1.5**
ULM	**Lac du Bonnet**	**22.94**	**34**	P	**P**	**05 26 30.4**	**+0.3**
	comp=E,3.2nm,1.0s,baz=232,slow=9.4,SNR=5.1						
YKA	**Yellowknife Ar**	**29.81**	**1**	P	**P**	**05 27 33.7**	**+1.0**
	comp=E,0.1nm,0.6s,baz=179,slow=9.2,SNR=4.6						
INK	**Inuvik**	**37.06**	**349**	P	**P**	**05 28 37.2**	**+1.5**
	comp=E,0.9nm,0.9s,baz=139,slow=8.8,SNR=3.8						
ILAR	**Eielson Array**	**37.28**	**339**	P	**P**	**05 28 39.3**	**+1.6**
	comp=E,0.4nm,0.8s,baz=146,slow=7.1,SNR=5.7						

NEIC 07 05:21:41.9,32.°71N×115.°90W,h6km,ML4.4(PAS),**1C-1D, After PAS.,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**202**	*e*P	Pg	05 21 43.5	+0.1
WESC	**Westside Schoo**	**0.15**	**69**	⇑*i*P	Pg	05 21 45.0	+0.1
SWSC	**Sam W. Stewart**	**0.25**	**20**	⇓*i*P	Pg	05 21 46.4	-0.4
SWSC				*e*S	Sg	05 21 50.2	+0.1
ERRC	**Elmore Ranch**	**0.41**	**8**	*e*P	Pg	05 21 50.1	+0.2
BAR	**Barrett**	**0.66**	**268**	*e*Sg	Sg	05 22 02.8	-0.4
GLA	**Glamis**	**0.96**	**69**	*e*Sg	Sg	05 22 10.4	-2.6
PFO	**Pinyon Flats O**	**1.02**	**333**	*e*Sg	Sg	05 22 13.2	-1.8
RWWY	**Rawlins**	**11.32**	**35**	*e*Pn	Pn	05 24 23.9	-0.7

*ISCJB **07** 05:25:31.1±0.3,32.°73N±0.°02×115.°91W±0.°02,h6km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=147.7*
*NEIC **07** 05:25:31.4,32.°71N×115.°91W,h0km,MD3.8(MEX), ML3.8(PAS),After PAS.*
*MEX **07** 05:25:31.9±0.5,32.°91N×115.°96W,h10km,MD3.5*
*ECX **07** 05:25:32.2±0.8,32.°72N×115.°89W,h3km,ML3.6*

ISC 07 05:25:31.4±0.8,32.72N±0.°02×115.°91W±0.°02,h13km±6km, n55,σ0$65/70,4C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.07**	**187**	⇑*i*P	**Pg**	**05 25 33.5**	**-0.5**
YUH	**Yuha Desert**	**0.07**	**187**	*e*Pg	**Pg**	**05 25 33.5**	**-0.5**
SGL	**Mount Signal**	**0.17**	**113**	⇓*i*P	**Pg**	**05 25 35.1**	**-0.3**
CRR	**Carrizo Plain**	**0.18**	**344**	⇓*i*P	**Pg**	**05 25 35.5**	**+0.1**
CRR	**Carrizo Plain**	**0.18**	**344**	*e*Pg	**Pg**	**05 25 35.5**	**+0.1**
RMX	**La Rumorosa**	**0.18**	**231**	⇑*i*P	**Pg**	**05 25 35.8**	**+0.1**
RMX				*e*S	**Sg**	**05 25 38.6**	**0.0**
COK	**Cook Ranch**	**0.20**	**50**	⇑*i*P	**Pg**	**05 25 36.0**	**+0.1**
ERPC	**Ernies Place**	**0.21**	**83**	*e*Pg	**Pg**	**05 25 36.4**	**+0.3**
SWSC	**Sam W. Stewart**	**0.24**	**24**	*e*Pg	**Pg**	**05 25 36.6**	**0.0**
CBKC	**Canebrake**	**0.34**	**303**	*e*Pg	**Pb**	**05 25 39.1**	**-0.2**
CLIC	**Calipatria**	**0.53**	**37**	*e*Pg	**Pb**	**05 25 42.5**	**-0.1**
BAR	**Barrett**	**0.64**	**267**	*e*Pg	**Pg**	**05 25 44.2**	**+0.3**
BAR				*e*Sg	**Sg**	**05 25 52.5**	**0.0**
MBIG	**Mexicali**	**0.68**	**117**	*e*P	**Pb**	**05 25 45.1**	**+0.1**
MBIG				*e*S	**Sb**	**05 25 56.1**	**+1.7**
COA	**Coachella**	**0.68**	**77**	*e*Pg	**Pg**	**05 25 44.8**	**+0.1**
BORC	**Borrego Spring**	**0.69**	**322**	*e*Pg	**Pg**	**05 25 45.0**	**0.0**
FRK	**Frink**	**0.72**	**19**	*e*Pg	**Pg**	**05 25 45.0**	**-0.4**
BATC	**Bat Cave Butte**	**0.74**	**5**	*e*Pg	**Pg**	**05 25 46.0**	**+0.1**
CBX	**Cerro Bola**	**0.75**	**238**	*i* P	**Pg**	**05 25 46.2**	**+0.2**
CBX				*e*S	**Sb**	**05 25 56.6**	**-0.1**
CBX	**Cerro Bola**	**0.75**	**238**	*i* P	**Pg**	**05 25 46.2**	**+0.2**
CBX				*e*S	**Sb**	**05 25 56.6**	**-0.1**
EMSC	**East Mesa**	**0.78**	**88**	*e*Pg	**Pg**	**05 25 46.5**	**0.0**
RDX	**Rancho Dawling**	**0.79**	**182**	⇓*e*P	**Pg**	**05 25 46.1**	**-0.6**
RDX				*e*S	**Sg**	**05 25 56.4**	**-0.6**
EML	**El Monte Cty P**	**0.81**	**283**	*e*Pg	**Pg**	**05 25 46.9**	**-0.2**
DPP	**Dos Picos Cty**	**0.91**	**288**	*e*Pg	**Pg**	**05 25 48.8**	**-0.2**
EMX	**El Mayor**	**0.92**	**142**	*e*P	**Pg**	**05 25 48.2**	**-1.0**
EMX				*e*S	**Sg**	**05 26 00.6**	**-0.7**
HWB	**Hans Werner Br**	**0.93**	**290**	*e*Pg	**Pg**	**05 25 49.3**	**-0.2**
CTCC	**Cactus City**	**0.94**	**356**	*e*Pg	**Pg**	**05 25 49.7**	**+0.1**
CTW	**Cottonwood Mou**	**0.96**	**2**	*e*Pg	**Pg**	**05 25 48.9**	**-1.0**
FRD	**Ford Ranch, An**	**0.97**	**323**	*e*Pg	**Pg**	**05 25 49.9**	**-0.3**
GLA	**Glamis**	**0.97**	**70**	*e*Pg	**Pg**	**05 25 48.8**	**-1.4**
GLA				*e*Sg	**Sg**	**05 26 01.9**	**-1.0**
PFO	**Pinyon Flats O**	**1.00**	**333**	*e*Pg	**Pg**	**05 25 49.4**	**-1.4**
HAY	**Hayfield**	**1.01**	**11**	*e*Pg	**Pg**	**05 25 50.7**	**-0.1**
CPE	**Camp Elliot**	**1.02**	**280**	*e*Pg	**Pg**	**05 25 50.6**	**-0.5**
PLM	**Palomar**	**1.02**	**309**	*e*Pn	**Pb**	**05 25 51.5**	**+0.4**
SNDA	**J Saunders Pla**	**1.02**	**325**	*e*Pg	**Pg**	**05 25 50.8**	**-0.3**
DNR	**Dunn Ranch,Anz**	**1.04**	**325**	*e*Pg	**Pg**	**05 25 51.1**	**-0.3**
CRY	**Cary Ranch**	**1.09**	**321**	*e*Pg	**Pg**	**05 25 50.9**	**-1.6**
PBX	**Punta Banda**	**1.19**	**216**	*e*P	**Pg**	**05 25 53.8**	**-0.6**
PBX				*e*S	**Sg**	**05 26 09.4**	**-0.5**
ECNX	**Esteban Cantu**	**1.21**	**209**	*e*P	**Pg**	**05 25 54.0**	**-0.7**
ECNX				*e*S	**Sg**	**05 26 09.6**	**-0.8**
ZAX	**El Zacaton**	**1.24**	**194**	*e*P	**Pg**	**05 25 54.5**	**-0.8**
ZAX				*e*S	**Sg**	**05 26 10.8**	**-0.6**
BACC	**Bachelor Mtn.**	**1.30**	**314**	*e*Pn	**Pn**	**05 25 55.5**	**+0.1**
BACC				*e*Sn	**Sb**	**05 26 13.2**	**+0.8**
DGR	**Domenigoni Val**	**1.31**	**316**	*e*Pn	**Pn**	**05 25 55.0**	**-0.5**
HMTC	**Hemet**	**1.35**	**318**	*e*Pn	**Pn**	**05 25 55.5**	**-0.5**
TPC	**Twentynine Pal**	**1.39**	**355**	*e*Pn	**Pn**	**05 25 55.6**	**-1.0**
ECBX	**El Chinero**	**1.44**	**149**	*e*P	**Pn**	**05 25 57.9**	**+0.7**
ECBX				*e*S	**Sb**	**05 26 17.1**	**+0.7**
BBSC	**Beaumont Base**	**1.50**	**324**	*e*Pn	**Pg**	**05 26 00.1**	**-0.1**
HDB	**Hidalgo Marine**	**1.71**	**350**	*e*Pn	**Pb**	**05 26 03.6**	**+0.8**
SPIG	**San Pedro Mart**	**1.71**	**167**	*e*P	**Pn**	**05 26 01.7**	**+0.5**
SPIG				*e*S	**Sb**	**05 26 25.3**	**+0.8**
SPIG	**San Pedro Mart**	**1.71**	**167**	*e*P	**Pn**	**05 26 01.7**	**+0.5**
SPIG				*e*S	**Sb**	**05 26 25.3**	**+0.8**
SPX	**San Pedro Mart**	**1.71**	**167**	⇑*e*		05 28 38.5	
SPX				AML	AML	05 28 38.5	
	comp=E,409nm,0.5s						
SPX				AML	AML	05 28 55.6	
	comp=N,408nm,0.5s						
SPX				⇓*e*		05 28 55.6	
BBRC	**Big Bear Solar**	**1.76**	**332**	*e*Pn	**Pb**	**05 26 04.4**	**+0.8**
SSK	**Sunset Peak**	**2.11**	**316**	*e*Pn	**Pb**	**05 26 10.2**	**+0.6**
EL2	**El Mirage 2**	**2.26**	**323**	*e*Pn	**Pg**	**05 26 13.9**	**-0.9**
MWC	**Mount Wilson**	**2.34**	**311**	*e*Pn	**Pb**	**05 26 13.3**	**-0.3**
MWC				*e*Sn	**Sb**	**05 26 42.4**	**-0.1**
PASC	**Pasadena Art C**	**2.39**	**308**	*e*

121A Cookes Peak, D 6.55 87 *e*Pn Pn 06 06 08.8 -1.0
7.2nm,0.6s

*IDC **07** 06:36:10.6±8.2, 1.°99N×96.°25E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=382.5km s-min=31.0km az=54.0*
*ISCJB **07** 06:36:13.7±1.1, 2.°09N±0.°08×96.°27E±0.°09, h28km, mb3.5/4, Error ellipse: s-maj=13.9km s-min=10.9km az=38.1*
*DJA **07** 06:36:16.9±1.0, 2.°N±5.°×9.°6E±3.°6, h15km±30km, M3.4/5, MLv3.4/5*

ISC 07 06:36:15.8±1.4,**2.°26N**±0.°09×**96.°37E**±0.°09,**h28**km,**n12**, σ1§**07**/11,**mb3.6**/4,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.16**	**344**	P	**Pn**	**06 36 22.9**	**+0.4**
TPTI		**1.28**	**39**	P	**Pn**	**06 36 38.7**	**+0.7**
TPTI				S	**Sb**	**06 36 56.5**	**+1.0**
KCSI	**Kotacane, Aceh**	**1.88**	**48**	P	**Pb**	**06 36 48.9**	**-0.7**
KCSI				S	**Sb**	**06 37 11.7**	**-1.0**
TSI	**Tuntungan**	**2.52**	**60**	P	**Pn**	**06 36 55.8**	**+0.9**
BKNI	**Bangkinang**	**5.05**	**112**	P	**Pn**	**06 37 31.0**	**+1.3**
H08S2	**Diego Garcia H**	**25.77**	**247**	T	T	07 08 25.0	
	baz=68,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**25.77**	**247**	T	T	07 08 21.4	
	baz=68,slow=76,SNR=37						
H08S1	**Diego Garcia H**	**25.79**	**247**	T	T	07 08 22.3	
	baz=68,slow=76,SNR=60						
WRA	**Warramunga Arr**	**43.30**	**122**	P	**P**	**06 44 14.0**	**-1.6**
	0.2nm,0.8s,baz=300,slow=9.1,SNR=1.8						
MKAR	**Makanchi Array**	**46.03**	**347**	P	**P**	**06 44 37.4**	**+0.4**
	0.4nm,0.5s,baz=159,slow=7.7,SNR=7.2						
KURBB	**Kurchatov Arra**	**50.51**	**345**	P	**P**	**06 45 11.9**	**+0.5**
	0.4nm,0.7s,baz=165,slow=7.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**52.40**	**351**	P	**P**	**06 45 26.4**	**+0.8**
	1.7nm,0.6s,baz=185,slow=8.2,SNR=7.0						

*ISCJB **07** 06:36:25.7±0.5, 32.°02N±0.°02×115.°02W±0.°02, h12km±3km, mb3.1/2, Error ellipse: s-maj=3.2km s-min=2.7km az=167.9*
*ECX **07** 06:36:27.3±0.5, 32.°05N×115.°07W, h10km, MD4.4, ML4.6*
*MEX **07** 06:36:28.3±0.9, 32.°01N×114.°97W, h10km±24km, MD3.9*
*IDC **07** 06:36:28.3±1.9, 32.°29N×114.°78W, h0km, mb3.3/2, mb1 3.7/8, mb1mx3.6/29, mbtmp3.4/8, ML3.8/5, Error ellipse: s-maj=32.1km s-min=11.8km az=48.0*
*NEIC **07** 06:36:28.0, 32.°03N×115.°14W, h8km, MD4.6(MEX), MD4.6(ECX), ML4.5(PAS), After ECX.*
NEIC Felt at Mexicali and Tijuana. Felt [IV] at San Luis Rio Colorado, Sonora. Felt [II] at Yuma, Arizona. Also felt at Somerton and Wellton, Arizona and at Alpine, Bonita, Boulevard, Carlsbad, Chula Vista, Claremont, Del Mar, El Centro, Encinitas, Irvine, La Mesa, Lakeside, Oceanside, San Diego, San Jacinto, Santa Ana and Santee, California.

ISC 07 06:36:26.3±1.0,**32.°01N**±0.°02×**115.°07W**±0.°03,**h8**km±7km, **n75**,σ1§**62**/100,**26C-22D**,**California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.15**	**262**	⇑*i*P	**Pg**	**06 36 29.1**	**-0.4**
EMX				*e*S	**Sg**	**06 36 31.7**	**0.0**
MBIG	**Mexicali**	**0.41**	**344**	*i* P	**Pb**	**06 36 35.9**	**+0.1**
MBIG				*e*S	**Sb**	**06 36 43.2**	**+1.0**
CPBX	**Cerro Prieto**	**0.45**	**334**	⇓*e*P	**Pb**	**06 36 36.5**	**0.0**
CPBX				*e*S	**Sb**	**06 36 42.5**	**-0.9**
ECBX	**El Chinero**	**0.54**	**179**	⇓*i*P	**Pg**	**06 36 36.1**	**-0.5**
ECBX				*e*S	**Sg**	**06 36 44.1**	**+0.4**
RDX	**Rancho Dawling**	**0.75**	**264**	⇑*i*P	**Pb**	**06 36 41.3**	**-0.4**
RDX				*e*S	**Sb**	**06 36 51.0**	**-1.1**
SPIG	**San Pedro Mart**	**1.02**	**200**	*i* P	**Pb**	**06 36 45.9**	**-0.4**
SPIG				*e*S	**Sb**	**06 36 59.6**	**-0.3**
SPIG	**San Pedro Mart**	**1.02**	**200**	*i* P	**Pb**	**06 36 45.9**	**-0.4**
SPIG				*e*S	**Sb**	**06 36 59.6**	**-0.3**
SPX	**San Pedro Mart**	**1.02**	**200**	⇓*e*P	**Pb**	**06 36 45.9**	**-0.4**
SPX				*e*S	**Sn**	**06 37 00.5**	**-1.2**
SPX				AML	AML	06 37 01.8	
	comp=E,13μm,0.3s						
SPX				⇓*e*		06 37 01.8	
SPX				AML	AML	06 37 02.2	
	comp=N,7μm,0.5s						
SPX				⇓*e*		06 37 02.2	
RMX	**La Rumorosa**	**1.04**	**305**	⇑*e*P	**Pb**	**06 36 45.0**	**-1.6**
RMX				*e*S	**Sg**	**06 36 58.9**	**-1.0**
GLA	**Glamis**	**1.06**	**11**	⇓P	**Pb**	**06 36 45.2**	**-1.7**
	baz=1.1						
GLA				⇑S	**Sb**	**06 36 58.9**	**-2.0**
	baz=1.1						
SWSC	**Sam W. Stewart**	**1.11**	**327**	⇓P	**Pb**	**06 36 46.1**	**-1.6**
	baz=1.1						
SWSC				⇑S	**Sb**	**06 37 01.0**	**-1.4**
	baz=1.1						
ZAX	**El Zacaton**	**1.14**	**245**	⇑*e*P	**Pb**	**06 36 47.4**	**-0.9**
113A	**Mohawk Valley,**	**1.33**	**55**	⇑P	**Pn**	**06 36 49.7**	**-1.5**
	baz=1.4						
113A				⇑S	**Sn**	**06 37 06.1**	**-2.9**
	baz=1.4						
ECNX	**Esteban Cantu**	**1.35**	**255**	⇑*e*P	**Pn**	**06 36 50.4**	**-1.1**
ECNX				*e*S	**Sg**	**06 37 09.3**	**-0.4**
CBX	**Cerro Bola**	**1.39**	**283**	*e*P	**Pn**	**06 36 50.7**	**-1.3**
CBX				*e*S	**Sb**	**06 37 08.5**	**-1.9**
CBX	**Cerro Bola**	**1.39**	**283**	⇑*e*P	**Pn**	**06 36 50.7**	**-1.3**
CBX				*e*S	**Sn**	**06 37 09.7**	**-0.9**
CBX				*e*		06 37 13.5	
	comp=N,13μm,0.4s						
CBX	**Cerro Bola**	**1.39**	**283**	*e*P	**Pn**	**06 36 50.7**	**-1.3**
CBX				*e*S	**Sb**	**06 37 08.5**	**-1.9**
PBX	**Punta Banda**	**1.44**	**260**	⇑*e*P	**Pn**	**06 36 51.6**	**-1.0**
MONP	**Monument Peak,**	**1.44**	**308**	⇑P	**Pn**	**06 36 51.0**	**-1.9**
	baz=1.4						
MONP				⇑Sb	**Sn**	**06 37 11.3**	**-0.7**
	baz=1.4						
BC3	**Big Chuckawall**	**1.67**	**349**	⇓P	**Pn**	**06 36 54.0**	**-2.0**
	baz=1.6						
BC3				⇑S	**Sn**	**06 37 14.0**	**-3.6**
	baz=1.6						
Y12C	**Blythe**	**1.79**	**15**	⇑P	**Pn**	**06 36 56.0**	**-1.5**
	baz=1.8						
Y12C				⇑S	**Sn**	**06 37 18.1**	**-2.3**
	baz=1.8						
214A	**Organ Pipe Nat**	**1.92**	**91**	⇓P	**Pn**	**06 36 57.4**	**-1.8**
	baz=2.0						
214A				⇓S	**Sn**	**06 37 20.9**	**-2.7**
	baz=2.0						
214A	**Organ Pipe Nat**	**1.92**	**91**	*e*Pn	**Pn**	**06 36 57.5**	**-1.8**
109C	**Camp Elliot, M**	**1.93**	**298**	⇓P	**Pn**	**06 36 58.3**	**-1.1**
	baz=1.9						
109C				⇑Sb	**Sb**	**06 37 26.0**	**0.0**
	baz=1.9						
PFO	**Pinyon Flats O**	**1.98**	**324**	Pn	**Pn**	**06 36 58.1**	**-2.0**
	comp=N,8.9nm,0.3s,baz=141,slow=14,SNR=20						
PFO				Lg	Lg	06 37 27.9	
	comp=N,212nm,0.3s,baz=86,slow=6.9,SNR=11						
PFO	**Pinyon Flats O**	**1.98**	**324**	⇓P	**Pn**	**06 36 58.1**	**-2.0**
	baz=1.9						
BELC	**Belle Mtn. Jos**	**2.13**	**339**	⇓P	**Pn**	**06 36 60.0**	**-2.3**
	baz=2.1						
IRM	**Iron Mountain**	**2.15**	**358**	⇓P	**Pn**	**06 37 00.8**	**-1.6**
	baz=2.1						
Z14A	**Wintersburg**	**2.24**	**52**	⇑P	**Pn**	**06 37 02.9**	**-0.8**
	baz=2.3						
Z14A				⇓S	**Sn**	**06 37 29.2**	**-2.3**
	baz=2.3						
MURC	**Murrieta**	**2.40**	**312**	⇑P	**Pn**	**06 37 04.2**	**-1.6**
	baz=2.3						
MURC				⇓Sb	**Sb**	**06 37 40.1**	**+0.7**
	baz=2.3						
PDMCI	**Parker Dam,Lak**	**2.41**	**19**	⇑P	**Pn**	**06 37 04.8**	**-1.2**
	baz=2.4						
PDMCI				⇑S	**Sn**	**06 37 32.4**	**-3.3**
	baz=2.4						
Y14A	**Wickenburg**	**2.59**	**41**	⇓P	**Pn**	**06 37 07.4**	**-1.1**
	baz=2.6						
NEE2	**Needles Airpor**	**2.78**	**8**	⇓P	**Pn**	**06 37 09.9**	**-1.1**
	baz=2.8						
GMRC	**Granite Mounta**	**2.81**	**350**	⇑P	**Pn**	**06 37 10.2**	**-1.4**
	baz=2.8						
SCI	**San Clemente I**	**3.10**	**289**	⇓Sb	**Sb**	**06 38 00.4**	**+0.9**
	baz=3.0						
BFSC	**Mount Baldy Ra**	**3.11**	**316**	⇑P	**Pn**	**06 37 14.6**	**-1.1**
	baz=3.1						
BFSC				⇑Sb	**Sb**	**06 38 01.2**	**+1.2**
	baz=3.1						
CIS	**Catalina Islan**	**3.14**	**297**	⇓P	**Pn**	**06 37 14.6**	**-1.4**
	baz=3.1						
CIS				⇓Sb	**Sb**	**06 38 01.9**	**+1.2**
	baz=3.1						
FMP	**Fort Macarthur**	**3.20**	**303**	⇓Sb	**Sb**	**06 38 03.4**	**+0.9**
	baz=3.1						
W13A	**Hualapai Mount**	**3.23**	**17**	⇑P	**Pn**	**06 37 16.5**	**-1.0**
	baz=3.2						
TUQ	**Turquoise Moun**	**3.49**	**348**	⇑P	**Pn**	**06 37 19.6**	**-1.3**
	baz=3.5						
GSC	**Goldstone, Bar**	**3.59**	**337**	*e*Pn	**Pn**	**06 37 22.6**	**+0.3**
TUC	**Tucson**	**3.64**	**84**	*e*P	**Pn**	**06 37 20.9**	**-2.1**
SHPR	**Sheep Range**	**4.49**	**359**	*e*Pn	**Pn**	**06 37 34.7**	**+0.1**
ISA	**Isabella, Lake**	**4.62**	**323**	*e*Pn	**Pn**	**06 37 38.3**	**+1.9**
WUAZ	**Wupatki**	**4.66**	**40**	*e*Pn	**Pn**	**06 37 38.0**	**+1.0**
W18A	**Petrified Fore**	**5.42**	**54**	*e*Pn	**Pn**	**06 37 48.7**	**+1.2**
ARUT	**Antelope Range**	**5.92**	**13**	*e*Pn	**Pn**	**06 37 55.2**	**+0.8**
121A	**Cookes Peak, D**	**6.19**	**83**	*e*Pn	**Pn**	**06 37 57.4**	**-0.7**
TPH	**Tonopah**	**6.30**	**344**	*e*Pn	**Pn**	**06 37 59.2**	**-0.5**
R11A	**Troy Canyon, C**	**6.34**	**356**	*e*Pn	**Pn**	**06 38 00.3**	**+0.2**
MVU	**Marysvale**	**6.89**	**19**	*e*Pn	**Pn**	**06 38 10.6**	**+2.9**
NVAR	**Mina Array Bea**	**6.93**	**338**	Pn	**Pn**	**06 38 08.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=156,slow=14,SNR=2.9						
NVAR				Pg	**Pg**	**06 38 41.0**	**+2.0**
	comp=N,0.8nm,0.3s,baz=163,slow=16,SNR=9.3						
LAZ	**Ladron**	**7.06**	**68**	*e*Pn	**Pn**	**06 38 11.1**	**+1.1**
LENM	**Lemitar**	**7.12**	**70**	*e*Pn	**Pn**	**06 38 11.4**	**+0.5**
MVCO	**Mesa Verde**	**7.50**	**44**	*e*Pn	**Pn**	**06 38 18.1**	**+2.0**
ANMO	**Albuquerque**	**7.77**	**66**	Pn	**Pn**	**06 38 18.4**	**-1.4**
	comp=N,0.5nm,0.3s,baz=250,slow=9.8,SNR=10						
ANMO				Lg	Lg	06 40 22.0	
	comp=N,0.4nm,0.3s,baz=226,slow=16,SNR=1.8						
TMUT	**Trail Mountain**	**7.92**	**22**	Pn	**Pn**	**06 38 24.5**	**+2.6**
SRU	**San Rafael Swe**	**7.99**	**26**	*e*Pn	**Pn**	**06 38 25.6**	**+2.8**
PV01	**Paradox Valley**	**8.10**	**39**	*e*Pn	**Pn**	**06 38 27.1**	**+2.7**
DUG	**Dugway, Tooele**	**8.37**	**12**	*e*Pn	**Pn**	**06 38 28.9**	**+0.9**
MPU	**Maple Canyon**	**8.46**	**18**	*e*Pn	**Pn**	**06 38 31.8**	**+2.6**
ELK	**Elko**	**8.72**	**359**	Pn	**Pn**	**06 38 33.7**	**+0.9**
	comp=N,0.5nm,0.3s,baz=182,slow=15,SNR=11						
ELK				Sn	**Sn**	**06 40 08.5**	**-2.9**
	comp=N,0.1nm,0.3s,baz=182,slow=18,SNR=2.4						
ELK				Lg	Lg	06 41 03.5	
	comp=N,0.2nm,0.3s,baz=202,slow=0.8,SNR=3.5						
CTU	**Camp Tracy**	**9.07**	**16**	*e*Pn	**Pn**	**06 38 40.4**	**+2.8**
TCUT	**Toone Canyon**	**9.55**	**17**	*e*Pn	Pn	06 38 47.8	+3.5
O20A	**White River Ci**	**9.81**	**32**	*e*Pn	Pn	06 38 51.4	+3.7
TXAR	**Lajitas Array**	**10.17**	**102**	Pn	**Pn**	**06 38 54.4**	**+1.7**
	comp=N,0.7nm,0.3s,baz=286,slow=13,SNR=39						
TXAR				Lg	Lg	06 41 48.5	
	comp=N,0.3nm,0.3s,baz=280,slow=20,SNR=4.7						
PDAR	**Pinedale Array**	**11.59**	**21**	Pn	**Pn**	**06 39 13.9**	**+1.7**
	comp=N,0.1nm,0.3s,baz=192,slow=11,SNR=8.2						
K22A	**Casper**	**12.60**	**30**	*e*Pn	**Pn**	**06 39 28.7**	**+2.7**
MCMT	**McKenzie Canyo**	**12.91**	**7**	*e*Pn	Pn	06 39 35.0	+4.7
HRY	**Holter Researc**	**14.89**	**9**	*e*Pn	**Pn**	**06 39 59.1**	**+1.9**
JTMT	**Jette**	**15.73**	**2**	*e*Pn	**P**	**06 40 10.7**	**-1.5**
NEW	**Newport**	**16.31**	**355**	Pn	**Pn**	**06 40 17.0**	**+1.5**
	comp=N,0.1nm,0.3s,baz=168,slow=11,SNR=4.1						
NEW	**Newport**	**16.31**	**355**	*e*Pn	**P**	**06 40 18.2**	**-0.4**
YKA	**Yellowknife Ar**	**30.50**	**0**	P	**P**	**06 42 40.6**	**+1.1**
	comp=N,0.1nm,0.6s,baz=180,slow=8.0,SNR=3.6						
ILAR	**Eielson Array**	**38.19**	**339**	P	**P**	**06 43 48.6**	**+2.7**
	comp=N,1.1nm,0.9s,baz=151,slow=7.7,SNR=10						

DJA 07 06:46:09.6±0.5,**3.°N**±7.°×**9.°7E**±.°,**h10**km,**M3.7**/6,**MLv3.7**/6, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.34**	**244**	P	Pg	06 46 15.7	-0.7
TPTI		**0.89**	**38**	P	Pg	06 46 24.4	-2.3
TPTI				S	Sg	06 46 36.9	-1.4
KCSI	**Kotacane, Aceh**	**1.49**	**50**	P	Pn	06 46 33.6	-2.9
KCSI				S	Sn	06 46 54.8	-1.2
TSI	**Tuntungan**	**2.15**	**64**	P	Pn	06 46 45.6	+0.1
TSI				S	Sb	06 47 14.8	-0.5
LHMI	**Lhok Sumawe**	**2.67**	**7**	P	Pb	06 46 55.9	-1.6

*ISCJB **07** 06:46:26.7±0.6, 20.°2S±0.°1×177.°9W±0.°1, h450km, mb3.7/11, Error ellipse: s-maj=20.0km s-min=11.7km az=147.5*
*IDC **07** 06:46:26.2±2.1, 20.°13S×177.°86W, h430km±21km, mb3.5/11, mb1 3.7/13, mb1mx3.6/32, mbtmp4.3/13, Error ellipse: s-maj=15.2km s-min=10.4km az=132.0*

ISC 07 06:46:27.7±0.7,**20.°1S**±0.°1×**177.°9W**±0.°1,**h450**km,**n15**, σ1§**14**/18,**mb3.8**/11,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.78**	**260**	P	**P**	**06 49 36.1**	**-0.6**
	1.4nm,0.3s,baz=72,slow=20,SNR=17						
URZ	**Urewera**	**18.61**	**193**	P	**P**	**06 50 13.8**	**-2.3**
	1.8nm,0.3s,baz=243,slow=2.1,SNR=12						
URZ				S	**S**	**06 53 23.9**	**+1.0**
	0.7nm,0.3s,baz=77,slow=20,SNR=12						
CTA	**Charters Tower**	**33.66**	**264**	P	**P**	**06 52 29.9**	**+0.1**
	8.6nm,0.4s,baz=91,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**44.74**	**256**	P	**P**	**06 53 59.5**	**-0.3**
	13nm,0.6s,baz=96,slow=8.3,SNR=149						
ASAR				S	**S**	**07 00 05.2**	**+2.1**
	0.3nm,0.7s,baz=85,slow=16,SNR=4.4						
WRA	**Warramunga Arr**	**44.79**	**262**	P	**P**	**06 53 59.7**	**-0.6**
	1.7nm,0.3s,baz=98,slow=8.6,SNR=66						
WRA				S	**S**	**07 00 04.4**	**+0.7**
	0.3nm,0.7s,baz=117,slow=14,SNR=2.6						
VNDA	**Vanda**	**58.31**	**185**	P	**P**	**06 55 38.8**	**+1.2**
	1.2nm,0.6s,baz=6.0,slow=5.9,SNR=6.4						
PETK	**Petropavlovsk-**	**75.93**	**345**	P	**P**	**06 57 27.6**	**+0.8**
	2.0nm,0.7s,baz=142,slow=5.4,SNR=3.8						
NVAR	**Mina Array Bea**	**80.65**	**43**	P	**P**	**06 57 53.1**	**+0.2**
	0.7nm,0.8s,baz=226,slow=8.6,SNR=3.7						
SEY	**Seymchan**	**86.03**	**347**	P	**P**	**06 58 18.4**	**-0.6**
	1.4nm,0.3s,baz=161,slow=6.0,SNR=8.9						
TXAR	**Lajitas Array**	**86.73**	**57**	P	**P**	**06 58 23.2**	**-0.1**
	0.4nm,0.8s,baz=205,slow=5.5,SNR=4.3						
ILAR	**Eielson Array**	**87.91**	**13**	P	**P**	**06 58 27.7**	**-0.2**
	0.9nm,0.6s,baz=224,slow=5.3,SNR=20						
PDAR	**Pinedale Array**	**88.59**	**43**	P	**P**	**06 58 32.3**	**+0.4**
	0.4nm,0.8s,baz=185,slow=4.5,SNR=3.5						
YKA	**Yellowknife Ar**	**96.10**	**25**	P	**P**	**06 59 06.0**	**+0.5**
	0.2nm,0.8s,baz=233,slow=4.6,SNR=5.0						
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc	**PKPab**	**07 05 18.9**	**-2.0**
	0.5nm,0.6s,baz=46,slow=4.2,SNR=2.5						
GERES	**GERESS Array B**	**149.86**	**345**	PKPbc	**PKPbc**	**07 05 26.8**	**+0.6**
	1.2nm,0.7s,baz=17,slow=1.4,SNR=7.3						

*ISCJB **07** 06:47:50.9±0.5, 44.°27N±0.°06×146.°87E±0.°07, h133km±4km, mb3.6/14, Error ellipse: s-maj=11.2km s-min=5.5km az=144.7*
*MOS **07** 06:47:50.7±1.9, 44.°38N×146.°81E, h138km, mb3.9/6, Error ellipse: s-maj=15.1km s-min=11.1km az=75.5*
*SKHL **07** 06:47:50.7±0.1, 44.°10N×147.°13E, h124km±3km, mb5.2/2, msh5.4/2*
SKHL Felt (III) at Malokurilskoe, (II) at Yuchno-Kurilsk.
*JMA **07** 06:47:52.9±0.3, 44.°27N×146.°80E, h119km±3km, M3.6*
*IDC **07** 06:47:53.7±1.6, 44.°52N×146.°56E, h146km±14km, mb3.4/13, mb1 3.5/18, mb1mx3.4/46, mbtmp3.8/18, Error ellipse: s-maj=20.2km s-min=13.1km az=156.0*

ISC 07 06:47:51.6±0.7,**44.°32N**±0.°06×**146.°85E**±0.°05,**h131**km±5km, **n61**,σ1§**22**/65,**mb3.7**/14,**3C-1D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.77**	**249**	*i*PN	**Pn**	**06 48 12.3**	**-0.2**
YUK				*i* S	**Sn**	**06 48 28.5**	**+0.2**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,305nm,0.1s						
YUK				pmax	pmax		
	comp=E,394nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**0.77**	**249**	*e*P	**Pn**	**06 48 12.3**	**-0.2**
YUK				AMB	AMB	06 48 12.8	
	comp=E,2μm,0.2s						
YUK				*e*S	**Sn**	**06 48 28.5**	**+0.2**
YUK				A	A	06 48 29.4	
	comp=E,1μm,0.6s						
YUK				A	A	06 48 29.4	
	comp=E,1μm,0.6s						
KUR	**Kuril'sk**	**1.17**	**38**	⇑*i*PN	**Pn**	**06 48 16.0**	**-0.1**
KUR				*i* S	**Sn**	**06 48 35.0**	**+0.2**
KUR				pmax	pmax		
	comp=N,162nm,0.3s						
KUR				pmax	pmax		
	comp=Z,178nm,0.3s						
KUR				pmax	pmax		
	comp=E,849nm,0.4s						
KUR				smax	smax		
	comp=N,190nm,0.2s						
KUR				smax	smax		
	comp=E,48nm,0.1s						
KUR	**Kuril'sk**	**1.17**	**38**	*e*P	**Pn**	**06 48 16.0**	**-0.1**
KUR				AMB	AMB	06 48 16.3	
	comp=E,178nm,0.3s						
KUR				*e*S	**Sn**	**06 48 35.0**	**+0.2**
KUR				A	A	06 48 40.8	
	comp=E,190nm,0.2s						
KUR				A	A	06 48 40.8	
	comp=E,480nm,0.2s						
NEM2	**Nemuro 2**	**1.25**	**220**	P	**Pn**	**06 48 16.7**	**-0.2**
NEM2				*e*S	**Sn**	**06 48 34.6**	**-1.6**
JRA	**Rausu**	**1.30**	**254**	P	**Pn**	**06 48 17.5**	**0.0**
JNK	**Nakash**	**1.71**	**245**	P	**Pn**	**06 48 22.4**	**+0.4**
JAK	**Akkeshi**	**2.05**	**231**	P	**Pn**	**06 48 26.3**	**+0.2**
JAK				*e*S	**Sn**	**06 48 51.9**	**-0.6**
JTKR	**Abashiri--Toko**	**2.15**	**262**	P	**Pn**	**06 48 27.5**	**+0.2**
JTKR				*e*S	**Sn**	**06 48 54.5**	**-0.2**
JAR	**Ashorobuto**	**2.45**	**246**	P	**Pn**	**06 48 32.2**	**+1.0**
JMP	**Maruseppu**	**2.53**	**264**	P	**Pn**	**06 48 32.4**	**+0.2**
JOB	**Onbets**	**2.61**	**238**	P	**Pn**	**06 48 34.0**	**+0.9**
JOB				*e*S	**Sn**	**06 49 04.7**	**-0.4**
HRK	**Horoka**	**2.82**	**254**	*e*P	**Pn**	**06 48 36.9**	**+1.0**
JKK2	**Kamakawa 2**	**2.99**	**263**	P	**Pn**	**06 48 38.9**	**+0.9**
JKK2				*e*S	**Sn**	**06 49 14.7**	**+0.8**
JCH	**Churui**	**3.06**	**237**	P	**Pn**	**06 48 39.1**	**+0.2**
JCH				*e*S	**Sn**	**06 49 14.6**	**-0.8**
ASAJ	**Asahikawa**	**3.06**	**268**	PN	**Pn**	**06 48 39.0**	**0.0**
ASAJ				S	**Sn**	**06 49 15.6**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**3.06**	**268**	P	**Pn**	**06 48 39.8**	**+0.8**
ASAJ	**Asahikawa**	**3.06**	**268**	P	**Pn**	**06 48 39.0**	**0.0**
	comp=N,9.4nm,0.3s,baz=111,slow=12,SNR=25						
ASAJ				S	**Sn**	**06 49 15.6**	**0.0**
	comp=N,2.1nm,0.3s,baz=46,slow=8.2,SNR=5.9						
JFR	**Furan**	**3.29**	**251**	P	**Pn**	**06 48 43.4**	**+1.4**
ERM	**Erimo**	**3.55**	**231**	⇑*i*PN	**Pn**	**06 48 47.0**	**+1.6**
ERM	**Erimo**	**3.55**	**231**	*e*P	**Pn**	**06 48 47.0**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.62**	**237**	P	**Pn**	**06 48 46.0**	**-0.3**
JWK2	**Keihoku**	**3.66**	**288**	P	**Pn**	**06 48 48.0**	**+1.2**
JHR	**Hokuryu**	**3.74**	**263**	P	**Pn**	**06 48 49.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**3.90**	**314**	*e*PN	**Pn**	**06 48 51.2**	**+1.3**
YSS	**Yuzh-Sakhalins**	**3.90**	**314**	*e*P	**Pn**	**06 48 51.2**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.66**	**275**	P	**Pn**	**06 50 19.7**	**-1.0**
	comp=N,0.3nm,0.3s,baz=86,slow=14,SNR=8.0						
PETK	**Petropavlovsk-**	**11.33**	**35**	P	**Pn**	**06 50 29.0**	**-0.5**
	comp=N,0.4nm,0.3s,baz=202,slow=11,SNR=6.4						
KSRS	**Korea Array**	**15.86**	**251**	P	**Pn**	**06 51 26.5**	**-0.9**
	comp=N,0.2nm,0.3s,baz=60,slow=12,SNR=4.0						
SEY	**Seymchan**	**18.92**	**8**	P	**P**	**06 51 59.5**	**-2.4**
	comp=N,0.3nm,0.3s,baz=177,slow=9.3,SNR=13						
SEY	**Seymchan**	**18.92**	**8**	*e*P	**Pn**	**06 52 04.4**	**+0.4**
SONM	**Songino Array**	**28.06**	**292**	*e*P	**P**	**06 53 32.1**	**+1.5**
SONM	**Songino Array**	**28.06**	**292**	P	**P**	**06 53 29.9**	**-0.8**
	comp=N,0.3nm,0.5s,baz=84,slow=8.4,SNR=4.1						
TIK	**Tiksi**	**28.75**	**348**	*e*P	P	06 53 39.9	+3.6
TIXI	**Tiksi**	**28.76**	**348**	⇓*i*P	P	06 53 39.9	+3.5
H11N2	**WAKE ISLAND Hy**	**29.67**	**139**	T	T	07 24 58.0	
	baz=330,slow=75,SNR=76						
H11N1	**WAKE ISLAND Hy**	**29.68**	**139**	T	T	07 24 58.1	
	baz=330,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy**	**29.69**	**139**	T	T	07 24 58.9	
	baz=330,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**30.64**	**141**	T	T	07 26 04.9	
	baz=332,slow=76,SNR=125						
H11S3	**WAKE ISLAND Hy**	**30.65**	**141**	T	T	07 26 03.5	
	baz=332,slow=76,SNR

GUC 07 07:10:32.3±0.5, 21°56S×68°74W, h114km±3km, ML3.8, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.52**	**243**	*i* P	Pn	07 10 50.5	+0.5
PB09				*i* S	Sn	07 11 04.1	+0.8
PB09				AML	AML	07 11 05.3	
	comp=N,7μm,0.3s						
PB01	**IPOC Station P**	**0.87**	**306** ⇑	*i* P	Pn	07 10 52.9	+0.2
PB01				*i* S	Sn	07 11 08.7	+0.6
PB01				AML	AML	07 11 09.4	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**0.99**	**225**	*i* P	Pn	07 11 00.3	+6.7
PB04				*i* S	Sn	07 11 21.7	+12
PB04				AML	AML	07 11 27.2	
	comp=N,767nm,0.2s						
PB07	**IPOC Station P**	**1.08**	**261**	*i* P	Pn	07 10 55.5	+0.6
PB07				*i* S	Sn	07 11 12.9	+1.0
PB07				AML	AML	07 11 14.2	
	comp=N,4μm,0.2s						
PATCX	**Punta Patache**	**1.51**	**299** ⇑	*i* P	Pn	07 11 00.6	+1.0
PATCX				*i* S	Sn	07 11 21.5	+1.2
PATCX				AML	AML	07 11 24.1	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**1.67**	**320** ⇑	*i* P	Pn	07 11 02.0	+0.4
HMBC				*i* S	Sn	07 11 25.0	+1.2
HMBC				AML	AML	07 11 28.3	
	comp=E,1μm,0.4s						
PSGC	**Pisagua**	**2.34**	**326**	*i* P	Pn	07 11 09.6	-0.4
PSGC				*i* S	Sn	07 11 39.6	+0.7
PSGC				AML	AML	07 11 39.9	
	comp=E,354nm,0.4s						
MNMC	**Minimini**	**2.55**	**342**	*i* P	Pn	07 11 13.3	+0.4
MNMC				*i* S	Sn	07 11 45.0	+1.0
MNMC				AML	AML	07 11 57.3	
	comp=E,494nm,0.2s						

*ISCJB **07** 07:29:59.3±0.7, 36°42N±0°05×111°56E±0°07, h10km, mb3.5/9, MS3.5/1, Error ellipse: s-maj=10.4km s-min=4.7km az=37.9*
*BJI **07** 07:30:01.0, 36°33N×111°69E, h4km, mB4.1/1, mb4.0/5, ML4.0/21, Ms3.7/5, Ms7 3.5/2*
*IDC **07** 07:30:02.4±0.8, 36°51N×111°03E, h0km, mb3.4/10, mb1 3.6/10, mb1mx3.5/39, mbtmp3.5/10, MS3.2/2, Ms1 3.3/2, ms1mx2.7/26, Error ellipse: s-maj=27.4km s-min=17.5km az=60.0*

ISC 07 07:30:01.7±0.7, 36°44N±0°04×111°60E±0°05, h10km, n22, σ1§86/28, mb3.6/9, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIY	**Taiyuan**	**1.43**	**27**	*e*Pg	**Pb**	**07 30 29.1**	**+0.6**
TIY				Sg	**Sb**	**07 30 47.5**	**+0.7**
TIY				SMN			
	1μm,0.6s						
TIY				SME			
	2μm,0.8s						
XAN	**Xi'an**	**3.25**	**223**	Pn	**Pn**	**07 30 51.1**	**-1.7**
XAN				Pg	**Pg**	**07 31 02.9**	**-1.1**
XAN				Sn	**Sn**	**07 31 27.4**	**-4.2**
XAN				Sg	**Sb**	**07 31 40.5**	**+1.2**
XAN				SMN			
	260nm,0.6s						
XAN				SME			
	50nm,0.5s						
BTO	**Baotou**	**4.34**	**344**	*e*Pg	Pn	07 30 59.4	-8.4
BTO				Sg	**Sn**	**07 31 57.5**	**-1.0**
BTO				smax	smax		
	comp=N,22nm,0.3s						
BTO				smax	smax		
	comp=E,35nm,0.7s						
HHC	**Hu-ho-hao-te**	**4.40**	**360**	*e*Pn	Pb	07 31 16.1	-3.1
HHC				Pg	**Pb**	**07 31 21.8**	**+2.6**
HHC				Sg	**Sg**	**07 32 21.8**	**-1.2**
HHC				smax	smax		
	comp=N,220nm,0.7s						
HHC				smax	smax		
	comp=E,400nm,0.6s						
HHC	**Hu-ho-hao-te**	**4.40**	**360**	Pg	**Pb**	**07 31 21.8**	**+2.6**
HHC				Sg	**Sg**	**07 32 21.8**	**-1.2**
HHC				SMN			
	comp=E,220nm,0.7s						
HHC				SME			
	comp=E,400nm,0.6s						
TIA	**Tai'an**	**4.46**	**91**	Pn	Pn	07 31 13.2	+3.8
TIA				Pg	**Pb**	**07 31 20.9**	**+0.7**
TIA				Sg	**Sb**	**07 32 13.6**	**-0.4**
TIA				SMN			
	comp=E,290nm,1.0s						
TIA				SME			
	comp=E,100nm,0.8s						
LZH	**Lanzhou**	**6.28**	**269**	*e*Pn	Pn	07 31 37.9	+3.3
LZH				Pg	Pg	07 31 58.5	-3.5
LZH				Sn	**Sn**	**07 32 45.5**	**-1.0**
LZH				Sg	Sb	07 33 15.2	+8.7
LZH				SMN			
	comp=E,360nm,0.6s						
LZH				SME			
	comp=E,300nm,0.5s						
LZH				LN			
	comp=E,600nm,4.6s						
LZH				LE			
	comp=E,360nm,4.4s						
LZH				LZ			
	comp=E,290nm,4.6s						
WHN	**Wuhan**	**6.32**	**158**	Pg	Pb	07 31 44.2	-7.5
WHN				Sg	**Sb**	**07 33 11.3**	**+4.0**
WHN				smax	smax		
	comp=N,400nm,1.1s						
WHN				smax	smax		
	comp=E,150nm,0.7s						
CD2	**Chengdu**	**8.55**	**232**	*e*P	**Pn**	**07 32 06.2**	**+0.5**
CD2				pP	pP	07 32 09.4	
CD2				sP		07 32 12.0	
CD2				PP	**PnPn**	**07 32 14.0**	**+0.8**
CD2				S	**Sn**	**07 33 44.2**	**+1.9**
CD2				sS	sS	07 33 48.6	
CD2				SS	**SnSn**	**07 33 57.0**	**+3.2**
CD2				PMZ			
	comp=E,10.0nm,0.5s						
GTA	**Gaotai**	**9.77**	**291**	*e*P	**Pn**	**07 32 22.6**	**+0.1**
GTA				pP		07 32 27.0	
GTA				sP		07 32 29.5	
GTA				S	**Sn**	**07 34 13.7**	**+1.4**
GTA				PMZ			
	comp=E,10.0nm,1.0s						
GTA				PMZ			
	comp=E,33nm,4.5s						
USRK	**Ussuriysk Ar.**	**17.34**	**57**	LR	LR	07 41 37.0	
	comp=E,37nm,19.4s,baz=250,slow=39						
CMAR	**Chiang Mai Arr**	**21.11**	**215**	P	**P**	**07 34 45.6**	**-0.9**
	comp=E,1.2nm,0.3s,baz=24,slow=9.2,SNR=6.1						
MKAR	**Makanchi Array**	**24.10**	**305**	P	**P**	**07 35 16.3**	**-1.2**
	comp=E,1.3nm,0.6s,baz=101,slow=12,SNR=24						
ZALV	**Zalesovo Beam**	**25.50**	**322**	P	**P**	**07 35 29.1**	**-1.0**
	comp=E,0.8nm,0.4s,baz=120,slow=8.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**27.58**	**311**	P	**P**	**07 35 47.6**	**-1.2**
	comp=E,0.3nm,0.6s,baz=112,slow=9.6,SNR=4.6						
BVAR	**Borovoye Array**	**33.10**	**313**	P	**P**	**07 36 37.0**	**-0.6**
	comp=E,0.3nm,0.4s,baz=84,slow=13,SNR=3.4						
BRTR	**Keskin Array B**	**59.59**	**299**	P	**P**	**07 40 04.3**	**-1.5**
	comp=E,0.3nm,0.4s,baz=98,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**60.06**	**155**	P	P	07 40 13.3	+4.3
	comp=E,0.2nm,0.8s,baz=341,slow=7.4,SNR=3.4						
ILAR	**Eielson Array**	**62.26**	**28**	P	P	07 40 27.5	+4.0
	comp=E,0.2nm,0.7s,baz=267,slow=5.7,SNR=3.0						
ASAR	**Alice Springs**	**63.39**	**157**	P	P	07 40 35.4	+4.0
	comp=E,0.2nm,0.5s,baz=350,slow=7.9,SNR=3.4						
NOA	**NORSAR Array B**	**63.52**	**328**	LR	LR	08 10 30.5	
	comp=E,35nm,19.8s,baz=355,slow=38						
YKA	**Yellowknife Ar**	**74.65**	**20**	P	**P**	**07 41 42.6**	**+1.8**
	comp=E,0.0nm,0.5s,baz=324,slow=4.8,SNR=3.0						

*IDC **07** 07:34:35.5±1.6, 1°98N×96°56E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/41, mbtmp4.0/11, ML4.4/1, Error ellipse: s-maj=55.2km s-min=18.6km az=56.0*
*ISCJB **07** 07:34:37.5±0.7, 1°95N±0°07×96°56E±0°08, h28km, mb4.0/11, Error ellipse: s-maj=11.9km s-min=8.6km az=30.1*
*DJA **07** 07:34:37.5±1.6, 2°N±7°×9°6E±1°4, h10km, M4.3/2, mb4.3/1, MLv4.3/2*
*NEIC **07** 07:34:41.5±3.8, 2°03N×96°66E, h41km±29km, mb4.0/1, Error ellipse: s-maj=38.4km s-min=10.5km az=56.0*

ISC 07 07:34:40.0±0.9, 2°15N±0°06×96°64E±0°09, h28km, n29, σ1§46/25, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.41**	**309**	P	Pb	07 34 40.7	-8.3
TPTI		**1.23**	**26**	P	**Pn**	**07 35 01.5**	**+0.1**
TPTI				S	**Sb**	**07 35 21.1**	**+3.0**
KCSI	**Kotacane, Aceh**	**1.77**	**39**	P	**Pb**	**07 35 11.1**	**-0.8**
KCSI				S	**Sb**	**07 35 33.8**	**+0.1**
TSI	**Tuntungan**	**2.34**	**55**	P	**Pn**	**07 35 15.4**	**-1.3**
LHMI	**Lhok Sumawe**	**3.08**	**6**	P	**Pb**	**07 35 33.4**	**-0.7**
LHMI				S	**Sn**	**07 35 58.3**	**-4.4**
MNSI	**Mandailing Nat**	**3.23**	**115**	P	**Pb**	**07 35 35.7**	**-1.0**
MNSI				S	Sn	07 35 56.5	-10
IPM	**Ipoh**	**4.95**	**62**	*e*Pn	**Pn**	**07 35 54.0**	**+1.4**
	12nm,0.4s						
KULM	**Kulim**	**5.07**	**52**	*e*Pn	**Pn**	**07 35 55.6**	**+1.3**
	49nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.37**	**8**	Pn	**P**	**07 38 31.0**	**+0.4**
	0.5nm,0.3s,baz=196,slow=11,SNR=20						
H08S2	**Diego Garcia H**	**25.98**	**248**	T	T	08 06 58.6	
	baz=69,slow=76,SNR=296						
H08S3	**Diego Garcia B**	**25.98**	**248**	T	T	08 07 02.7	
	baz=69,slow=76,SNR=240						
H08S1	**Diego Carcia H**	**26.00**	**248**	T	T	08 07 01.0	
	baz=69,slow=76,SNR=940						
H01W3	**Cape Leeuwin H**	**40.33**	**158**	T	T	08 24 59.5	
	baz=333,slow=76,SNR=8.6						
H01W2	**Cape Leeuwin H**	**40.34**	**158**	T	T	08 25 01.9	
	baz=333,slow=76,SNR=8.9						
H01W1	**Cape Leeuwin H**	**40.34**	**158**	T	T	08 24 59.5	
	baz=333,slow=76,SNR=10.0						
WRA	**Warramunga Arr**	**43.01**	**123**	P	**P**	**07 42 37.6**	**+0.2**
	1.1nm,0.6s,baz=301,slow=9.2,SNR=15						
WB2	**Warramunga Arr**	**43.02**	**122**	*e*P	**P**	**07 42 37.0**	**-0.5**
ASAR	**Alice Springs**	**44.41**	**128**	P	**P**	**07 42 47.9**	**-0.8**
	0.4nm,0.6s,baz=303,slow=8.4,SNR=6.5						
KSAR	**Wonju Array Be**	**45.37**	**35**	P	**P**	**07 42 56.6**	**+0.6**
KSRS	**Korea Array**	**45.40**	**35**	P	**P**	**07 42 56.6**	**+0.4**
	1.1nm,0.5s,baz=243,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**46.20**	**346**	P	**P**	**07 43 04.1**	**+1.6**
	3.9nm,0.7s,baz=161,slow=7.7,SNR=39						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**07 43 04.0**	**+0.6**
	0.9nm,0.4s,baz=186,slow=9.3,SNR=8.7						
KURBB	**Kurchatov Arra**	**50.68**	**345**	P	**P**	**07 43 38.1**	**+1.2**
	1.5nm,0.6s,baz=164,slow=6.9,SNR=18						
KURK	**Kurchatov**	**50.74**	**345**	P	**P**	**07 43 38.1**	**+0.8**
ZALV	**Zalesovo Beam**	**52.54**	**351**	P	**P**	**07 43 52.2**	**+1.4**
	4.1nm,0.5s,baz=178,slow=6.8,SNR=23						
BVAR	**Borovoye Array**	**55.18**	**341**	P	**P**	**07 44 10.8**	**+0.7**
	1.0nm,0.7s,baz=156,slow=8.1,SNR=6.6						
ABKAR	**Akbulak array**	**56.42**	**332**	P	**P**	**07 44 19.0**	**-0.1**
	1.6nm,0.9s						
SEY	**Seymchan**	**73.12**	**23**	P	**P**	**07 46 07.6**	**-0.1**
	0.8nm,0.6s,baz=237,slow=2.8,SNR=6.7						
ARCES	**ARCESS Array B**	**81.46**	**340**	P	**P**	**07 46 53.0**	**-1.3**
	2.5nm,0.9s,baz=100,slow=4.2,SNR=5.6						

IDC 07 07:46:58.5±3.2, 54°71N×86°53E, h0km, mb1 2.6/2, mb1mx2.6/42, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=27.1km s-min=15.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**234**	*i*		07 53 00.0	
	baz=52,slow=339,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.26**	**234**	Pg	Pg	07 47 22.0	-0.7
	0.6nm,0.3s,baz=52,slow=16,SNR=5.3						
ZALV				Lg	Lg	07 47 38.2	
	2.2nm,0.3s,baz=52,slow=27,SNR=14						
ZALV				Rg	Rg	07 47 48.6	
	2.1nm,0.4s,baz=50,slow=28,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.36**	**233**	Pn	Pn	07 48 35.2	+1.8
	0.0nm,0.3s,baz=50,slow=14,SNR=6.2						
MKAR	**Makanchi Array**	**8.37**	**200**	Pn	Pn	07 49 00.5	-0.6
	0.1nm,0.3s,baz=11,slow=15,SNR=2.7						
MKAR				Sn	Sn	07 50 36.7	+0.5
	0.1nm,0.3s,baz=26,slow=25,SNR=3.9						
MKAR				Lg	Lg	07 51 25.6	
	baz=28,slow=35,SNR=2.5						

*CSEM **07** 07:50:42.0±0.4, 38°82N×23°53E, h20km, MD2.5, Error ellipse: s-maj=16.1km s-min=10.3km az=20.0*

ATH 07 07:50:41.4, 38°84N×23°63E, h13km±4km, MD2.5/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.14**	**194**	*e*PG	Pg	07 50 45.0	+0.1
MRKA				*e*SG	Sg	07 50 47.5	+0.1
MRKA	**Markates**	**0.14**	**194**	*e*Pg	Pg	07 50 45.0	+0.1
MRKA				*e*Sg	Sg	07 50 47.5	+0.1
SMIA	**Simia**	**0.33**	**277**	*e*PB	Pg	07 50 48.1	-0.1
SMIA				*e*SB	Sg	07 50 53.2	+0.4
SMIA	**Simia**	**0.33**	**277**	*e*Pb	Pg	07 50 48.1	-0.1
SMIA				*e*Sb	Sg	07 50 53.2	+0.4
SKIA	**Skiathos**	**0.35**	**339**	*e*PB	Pb	07 50 49.7	+0.1
SKIA				*e*SB	Sg	07 50 54.1	+0.7
SKIA	**Skiathos**	**0.35**	**339**	*e*Pb	Pb	07 50 49.7	+0.1
SKIA				*e*Sb	Sg	07 50 54.1	+0.7
LKR	**Lokris**	**0.53**	**249**	*e*PG	Pg	07 50 51.4	-0.4
LKR	**Lokris**	**0.53**	**249**	*e*Pg	Pg	07 50 51.4	-0.4

*ISK **07** 07:51:09.4, 38°29N×26°05E, h13km, MD2.7*
*ISCJB **07** 07:51:10.4±0.6, 38°31N±0°03×26°06E±0°04, h11km±3km, Error ellipse: s-maj=6.0km s-min=4.2km az=161.5*
*CSEM **07** 07:51:10.2±0.2, 38°31N×26°02E, h12km, MD2.8, Error ellipse: s-maj=5.4km s-min=2.9km az=99.0*
*ATH **07** 07:51:10.0, 38°31N×26°06E, h13km±1km, MD2.8/5*
*DDA **07** 07:51:10.8, 38°39N×26°09E, h7km, MD2.7*

ISC 07 07:51:10.1±0.8, 38°31N±0°02×26°06E±0°03, h13km±5km, n34, σ0§43/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.07**	**356**	*e*PG	**Pg**	**07 51 13.0**	**+0.2**
CHOS				*e*SG	**Sg**	**07 51 14.6**	**-0.3**
CHOS	**Chios island**	**0.07**	**356**	*e*PG	**Pg**	**07 51 13.1**	**+0.2**
CHOS				*e*SG	**Sg**	**07 51 14.5**	**-0.4**
CHOS	**Chios island**	**0.07**	**356**	*e*Pg	**Pg**	**07 51 13.1**	**+0.2**
CHOS				*e*Sg	**Sg**	**07 51 14.6**	**-0.3**
ZEY	**˜zmir**	**0.35**	**102**	*i* P	**Pb**	**07 51 18.3**	**+0.1**
ZEY				*i* S	**Sb**	**07 51 23.4**	**-0.3**
URLA	**Izmir**	**0.42**	**83**	*i* S	**Sb**	**07 51 25.9**	**+0.2**
URLA	**Izmir**	**0.42**	**83**	*i* P	**Pg**	**07 51 18.9**	**+0.4**
URLA	**Izmir**	**0.42**	**83**	*i* P	**Pg**	**07 51 18.9**	**+0.4**
URLA				*i* S	**Sb**	**07 51 25.9**	**+0.2**
BLCB	**Balcova**	**0.77**	**84**	*e*PG	**Pg**	**07 51 25.0**	**-0.1**
BLCB				*e*SG	**Sb**	**07 51 36.4**	**+0.6**
BLCB	**Balcova**	**0.77**	**84**	*e*Pg	**Pg**	**07 51 25.0**	**-0.1**
SIGR	**SIGRI**	**0.91**	**350**	*e*PG	**Pg**	**07 51 27.8**	**+0.1**
SIGR				*e*SG	**Sn**	**07 51 40.9**	**-0.7**
SIGR	**SIGRI**	**0.91**	**350**	*e*PB	**Pg**	**07 51 27.4**	**-0.3**
SIGR				*e*SB	**Sb**	**07 51 40.0**	**+0.2**
SIGR	**SIGRI**	**0.91**	**350**	*e*Pb	**Pg**	**07 51 27.4**	**-0.3**
SIGR	**SIGRI**	**0.91**	**350**	*e*Pg	**Pg**	**07 51 27.8**	**+0.1**
SIGR				*e*Sb	**Sb**	**07 51 40.0**	**+0.2**
SIGR				*e*Sg	**Sn**	**07 51 40.9**	**-0.7**
PRK	**Paraskevi**	**0.95**	**10**	*e*PB	**Pb**	**07 51 28.3**	**0.0**
PRK				*e*SB	**Sb**	**07 51 40.9**	**+0.1**
PRK	**Paraskevi**	**0.95**	**10**	*e*Pb	**Pb**	**07 51 28.3**	**0.0**
PRK				*e*Sb	**Sb**	**07 51 40.9**	**+0.1**
IZM	**Izmir**	**0.95**	**84**	*e*PG	**Pb**	**07 51 28.4**	**0.0**
IZM	**Izmir**	**0.95**	**84**	*e*Pg	**Pb**	**07 51 28.4**	**0.0**
AYVA	**Ayvalik**	**1.11**	**26**	*i* P	Pb	07 51 26.7	-4.4
AYVA				*i* S	**Sb**	**07 51 44.9**	**-0.6**
AYVA	**Ayvalik**	**1.11**	**26**	*i* P	Pb	07 51 26.7	-4.4
AYVA				*i* S	**Sb**	**07 51 44.9**	**-0.6**
APE	**Apeiranthos**	**1.31**	**199**	*e*PN	**Pn**	**07 51 33.7**	**-0.4**
APE	**Apeiranthos**	**1.31**	**199**	*e*PB	**Pb**	**07 51 34.6**	**0.0**
APE				*e*SB	**Sg**	**07 51 53.0**	**+0.7**
APE	**Apeiranthos**	**1.31**	**199**	*e*Pn	**Pn**	**07 51 33.7**	**-0.4**
APE	**Apeiranthos**	**1.31**	**199**	*e*Pb	**Pb**	**07 51 34.6**	**0.0**
APE				*e*Sb	**Sg**	**07 51 53.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**104**	*e*PN	**Pn**	**07 51 36.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**104**	*e*Pn	**Pn**	**07 51 36.5**	**-0.1**
EZN	**Ezine**	**1.52**	**8**	*e*PN	**Pn**	**07 51 37.6**	**+0.6**
EZN	**Ezine**	**1.52**	**8**	*e*Pn	**Pn**	**07 51 37.6**	**+0.6**
BOZC	**Bozcaada**	**1.53**	**360**	*i* P	**Pb**	**07 51 38.2**	**0.0**
BOZC				*i* S	**Sg**	**07 51 58.6**	**-0.6**
BODT	**Bodrum**	**1.59**	**141**	*e*PN	**Pn**	**07 51 37.7**	**-0.3**
BODT	**Bodrum**	**1.59**	**141**	*e*Pn	**Pn**	**07 51 37.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.11**	**9**	*e*PN	**Pn**	**07 51 45.8**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.11**	**9**	*e*Pn	**Pn**	**07 51 45.8**	**+0.8**
ALN	**Alexandroupoli**	**2.58**	**360**	*e*PB	**Pn**	**07 51 52.3**	**+0.8**
ALN	**Alexandroupoli**	**2.58**	**360**	*e*Pb	**Pn**	**07 51 52.3**	**+0.8**

*IDC **07** 07:54:18.4±0.7, 2°24N×96°51E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.2/39, mbtmp4.3/19, ML4.5/2, MS3.9/10, Ms1 3.9/10, ms1mx3.5/41, Error ellipse: s-maj=22.8km s-min=15.2km az=47.0*
*BJI **07** 07:54:20.1, 1°96N×96°66E, h37km, mB5.0/32, mb4.8/40, Ms4.6/29, Ms7 4.3/26*
*ISCJB **07** 07:54:22.3±0.5, 2°24N±0°04×96°50E±0°03, h39km±4km, mb4.4/28, MS3.9/8, Error ellipse: s-maj=7.4km s-min=5.1km az=29.6*
*DJA **07** 07:54:23.2±0.5, 2°N±4°×9°6E±°, h23km±9km, M4.8/11, mb5.0/4, mB5.1/3, MLv4.7/11, Mw(mB)4.5/3*
*NEIC **07** 07:54:23.8±0.3, 2°28N×96°51E, h35km, mb4.6/14, Error ellipse: s-maj=7.0km s-min=4.6km az=212.0*
*KLM **07** 07:54:26.9, 2°36N×96°70E, h39km, mb4.6, ML4.4, MS5.1*

ISC 07 07:54:23.7±0.5, 2°26N±0°04×96°48E±0°04, h33km±1km, h34km:pP-P, n106, σ1§35/135, mb4.5/28, MS3.9/8, 7C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.21**	**314**	P	**Pb**	**07 54 29.5**	**-0.9**
SNSI				S	**Sb**	**07 54 35.4**	**+0.4**
TPTI		**1.21**	**35**	P	**Pn**	**07 54 43.3**	**-1.0**
TPTI				S	**Sn**	**07 54 58.5**	**-1.1**
KCSI	**Kotacane, Aceh**	**1.80**	**46**	P	**Pn**	**07 54 51.9**	**-0.5**
KCSI				S	**Sb**	**07 55 17.1**	**-1.1**
TSI	**Tuntungan**	**2.42**	**59**	P	**Pn**	**07 55 02.8**	**+1.9**
LHMI	**Lhok Sumawe**	**2.98**	**9**	P	**Pn**	**07 55 08.7**	**0.0**
LHMI	**Lhok Sumawe**	**2.98**	**9**	*e*Pn	**Pn**	**07 55 09.5**	**+0.8**
MNSI	**Mandailing Nat**	**3.42**	**115**	P	**Pn**	**07 55 14.8**	**0.0**
BKNI	**Bangkinang**	**4.95**	**113**	P	**Pn**	**07 55 37.6**	**+1.9**
BKNI	**Bangkinang**	**4.95**	**113**	*e*Pn	**Pn**	**07 55 35.8**	**0.0**
IPM	**Ipoh**	**5.04**	**64**	⇑P	**Pn**	**07 55 36.8**	**-0.2**
IPM	**Ipoh**	**5.04**	**64**	*e*Pn	**Pn**	**07 55 37.4**	**+0.3**
PDSI	**Padang**	**5.08**	**128**	P	**Pn**	**07 55 40.1**	**+2.6**
	68nm,0.8s,0.4nm						
KULM	**Kulim**	**5.13**	**54**	⇑P	**Pn**	**07 55 38.1**	**-0.2**
KULM	**Kulim**	**5.13**	**54**	*e*Pn	**Pn**	**07 55 37.6**	**-0.6**
FRIM	**Kepong**	**5.23**	**79**	⇓P	**Pn**	**07 55 39.6**	**0.0**
KGM	**Kluang**	**6.84**	**92**	⇓P	**Pn**	**07 56 01.7**	**0.0**
KTGM	**Kuala Trenggan**	**7.30**	**65**	⇑P	**Pn**	**07 56 07.8**	**-0.3**
MYKOM	**Kota Tinggi**	**7.38**	**94**	⇑P	**Pn**	**07 56 09.1**	**-0.1**
MYKOM	**Kota Tinggi**	**7.38**	**94**	*e*Pn	**Pn**	**07 56 09.5**	**+0.3**
CHBT	**CHBT**	**11.92**	**29**	P	**Pn**	**07 57 13.3**	**+1.9**
	63nm,0.9s,4μm						
UTHA	**Uthaitani**	**13.53**	**12**	P	**P**	**07 57 44.1**	**+2.0**
	3.7nm,1.0s,106nm						
KSM	**Kuching**	**13.84**	**93**	⇑P	**Pn**	**07 57 37.7**	**0.0**
KSM	**Kuching**	**13.84**	**93**	*e*Pn	**Pn**	**07 57 38.2**	**+0.5**
UMPA	**Umpang Tak**	**14.05**	**9**	P	P	07 57 53.9	+6.0
	8.5nm,0.6s						
LEM	**Lembang**	**14.32**	**129**	LR	LR	08 04 38.1	
	comp=Z,417nm,18.6s,baz=214,slow=43						
PBKT	**Sadao Pong**	**14.89**	**17**	P	**P**	**07 57 56.3**	**-0.9**
DLV	**T Lat**	**15.30**	**50**	*e*Pn	**Pn**	**07 57 57.5**	**-0.1**
	46nm,1.2s						
KHON	**Khomkaen**	**15.32**	**24**	P	**P**	**07 58 03.0**	**+1.0**
	15nm,0.8s,2μm						
UBPT	**Khong Chiam**	**15.68**	**34**	P	**P**	**07 58 05.7**	**-0.3**
	21nm,1.1s						
SBUM	**Sibu**	**15.73**	**89**	⇓P	**Pn**	**07 58 02.7**	**-0.2**
SBUM	**Sibu**	**15.73**	**89**	*e*Pn	**Pn**	**07 58 03.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.27**	**8**	Pn	**Pn**	**07 58 08.4**	**-1.5**
	0.6nm,0.3s,baz=197,slow=11,SNR=28						
CMAR				LR	LR	08 05 44.3	
	comp=Z,684nm,18.4s,baz=193,slow=42						
LAMP	**Lampang**	**16.45**	**11**	P	P	07 58 24.6	+10
	4.8nm,0.8s						
PALK	**Pallekele**	**16.49**	**288**	Pn	**Pn**	**07 58 13.2**	**+0.5**
	1.8nm,0.3s,baz=110,slow=11,SNR=14						
PALK				Sn	Sn	08 00 59.7	-15
	1.3nm,0.3s,baz=157,slow=4.1,SNR=5.2						
PALK	**Pallekele**	**16.49**	**288**	⇑P	**Pn**	**07 58 12.5**	**-0.2**
PALK	**Pallekele**	**16.49**	**288**	*e*Pn	**P**	**07 58 14.6**	**-0.5**
PALK				Sn	Sn	08 00 59.7	-15
BTM	**Bintulu**	**16.61**	**86**	⇓P	**Pn**	**07 58 12.9**	**-1.3**
CHTO	**Chiang Mai**	**16.63**	**8**	*e*Pn	**Pn**	**07 58 13.7**	**-0.7**
	8.3nm,1.0s						
CHLP	**Challavanipeta**	**20.22**	**324**	*e*P	**P**	**07 58 56.7**	**+0.7**
SLVN	**Son La**	**20.29**	**20**	*e*P	**P**	**07 58 56.4**	**-0.4**
	27nm,1.0s						
KDM	**Kudat**	**20.80**	**76**	⇓P	**P**	**07 59 02.7**	**+0.3**
SDKM	**Sandakan**	**20.93**	**80**	⇑P	**P**	**07 59 02.8**	**-1.1**
ADKI	**Addanki**	**21.14**	**311**	*e*P	**P**	**07 59 05.0**	**-0.9**
QIZ	**Qiongzhong**	**21.19**	**37**	P	**P**	**07 59 06.9**

100nm,11.3s
LZH Lanzhou 34.34 11 *e*P **P 08 01 07.6 0.0**
LZH sP **sP 08 01 20.0 -1.3**
LZH PMZ
48nm,1.3s
LZH PMZ
190nm,4.3s
NJ2 Nanjing 36.36 33 *e*P **P 08 01 25.1 +0.3**
NJ2 pP **pP 08 01 34.1 -0.4**
NJ2 sP **sP 08 01 37.1 -1.4**
NJ2 S **S 08 07 05.0 +1.1**
NJ2 sS **sS 08 07 19.5 -0.4**
NJ2 PMZ
100nm,0.8s
NJ2 PMZ
940nm,4.6s
NJ2 LN
730nm,22.4s
NJ2 LE
960nm,21.4s
NJ2 LZ
890nm,22.8s
GTA Gaotai 37.10 4 *e*P **P 08 01 30.7 -0.5**
GTA pP **pP 08 01 40.5 -0.4**
GTA sP **sP 08 01 44.3 -0.6**
GTA S **S 08 07 15.6 +0.3**
GTA sS **sS 08 07 31.5 +0.1**
GTA ScP **ScP 08 07 33.5 -2.5**
GTA SS **SnSn 08 09 46.5 -4.7**
GTA PMZ
17nm,0.9s
GTA PMZ
98nm,6.2s
GTA LN
170nm,15.7s
GTA LE
190nm,15.2s
GTA LZ
220nm,15.7s
H01W3 Cape Leeuwin H 40.49 157 T T 08 45 03.9
baz=333,slow=76,SNR=247
H01W2 Cape Leeuwin H 40.51 157 T T 08 45 03.9
baz=333,slow=76,SNR=297
H01W1 Cape Leeuwin H 40.51 157 T T 08 45 03.9
baz=333,slow=76,SNR=183
HHC Hu-ho-hao-te 40.76 18 *e*P **P 08 02 04.6 +2.8**
HHC PP **PnPn 08 03 42.8 +2.4**
HHC S **S 08 08 13.8 +3.4**
HHC sS **sS 08 08 30.1 +3.5**
HHC SS **SS 08 11 11.6 -0.5**
HHC PMZ
23nm,0.7s
HHC PMZ
75nm,7.4s
HHC LN
230nm,18.5s
HHC LE
330nm,16.0s
HHC LZ
110nm,18.5s
KSH Kashi 41.51 336 *e*P **P 08 02 06.8 -1.2**
KSH pP **pP 08 02 16.9 -1.0**
KSH PP **PP 08 03 45.9 +1.6**
KSH PcS **PcS 08 07 56.4 -0.2**
KSH S **S 08 08 18.2 -3.4**
KSH PMZ
110nm,5.7s
KSH LN
140nm,9.1s
KSH LE
150nm,8.4s
KSH LZ
180nm,7.9s
BJI Beijing 41.64 23 P **P 08 02 09.2 +0.4**
BJI PMZ
31nm,0.7s
BJI LN
230nm,18.1s
BJI LE
190nm,14.9s
BJI LZ
160nm,46.9s
WMQ Urumqi 42.11 351 *e*P **P 08 02 13.7 +0.9**
WMQ pP **pP 08 02 23.5 +0.9**
WMQ sP **sP 08 02 27.5 +0.9**
WMQ PP **PP 08 03 55.0 +4.3**
WMQ *e*S **S 08 08 31.0 +0.8**
WMQ PMZ
7.0nm,0.6s
WMQ PMZ
180nm,5.2s
WMQ LN
340nm,21.4s
WMQ LE
480nm,18.3s
WMQ LZ
460nm,27.0s
WRA Warramunga Arr 43.21 123 P **P 08 02 21.3 -0.7**
5.4nm,0.6s,baz=300,slow=9.2,SNR=60
WRA PcP **PcP 08 04 10.5 -0.6**
1.0nm,0.7s,baz=316,slow=2.6,SNR=4.6
WRAB Tennant Creek 43.21 122 *e*P **P 08 02 21.0 -1.0**
22nm,1.1s
WB2 Warramunga Arr 43.22 122 *e*P **P 08 02 21.4 -0.7**
FORT Forrest 44.55 140 *e*P **P 08 02 33.4 +0.9**
21nm,0.7s
TKM2 Tokmak 2 44.57 338 *e*P **P 08 02 32.6 -0.2**
2.6nm,0.4s
AS31 Alice Springs 44.61 127 *e*P **P 08 02 32.7 -0.5**
ASAR Alice Springs 44.61 127 P **P 08 02 32.6 -0.6**
2.4nm,0.6s,baz=299,slow=7.9,SNR=72
ASAR PcP **PcP 08 04 15.2 -0.7**
1.1nm,0.7s,baz=304,slow=3.1,SNR=6.0
ASAR LR LR 08 22 42.6
comp=Z,71nm,21.4s,baz=312,slow=38
AAK Ala-Archa 44.75 337 *e*P **P 08 02 33.8 -0.4**
3.9nm,0.4s
EKS2 Erkin-Say 45.05 336 *e*P **P 08 02 35.4 -1.2**
7.7nm,1.1s
KSAR Wonju Array Be 45.37 36 P **P 08 02 38.4 -0.6**
KSRS Korea Array 45.40 36 P **P 08 02 38.4 -0.8**
4.2nm,0.7s,baz=230,slow=9.4,SNR=12
KSRS LR LR 08 24 12.9
comp=Z,152nm,18.9s,baz=214,slow=40
MKAR Makanchi Array 46.05 346 P **P 08 02 44.2 0.0**
14nm,0.7s,baz=160,slow=7.7,SNR=120
SONM Songino Array 46.20 9 P **P 08 02 45.4 -0.1**
4.1nm,0.6s,baz=193,slow=9.0,SNR=26
SONM PcP **PcP 08 04 20.9 -0.1**
1.4nm,0.6s,baz=179,slow=5.1,SNR=3.9
ULN Ulaanbaatar 46.34 10 *e*P **P 08 02 45.9 -0.8**
10.0nm,1.1s
KKAR Karatay Array 46.79 334 *e*P **P 08 02 49.8 -0.3**
1.4nm,0.5s
CN2 Changchun 48.70 28 *e*P P 08 03 09.1 +4.2
TLY Talaya 49.61 6 P **P 08 03 12.5 +0.8**
1.8nm,0.4s,baz=227,slow=3.0,SNR=4.3
GEYT Alibeck 49.94 320 P **P 08 03 15.0 +0.4**
3.3nm,0.7s,baz=156,slow=11,SNR=6.5
GEYT LR LR 08 26 59.0
comp=Z,98nm,19.5s,baz=155,slow=39
KURBB Kurchatov Arra 50.53 345 P **P 08 03 18.8 +0.1**
3.9nm,0.7s,baz=166,slow=7.0,SNR=25
KURK Kurchatov 50.59 345 *e*P **P 08 03 18.5 -0.6**
7.1nm,0.8s
MJAR Matsushiro Arr 51.41 43 LR LR 08 27 33.5
comp=Z,67nm,19.0s,baz=255,slow=39
USRK Ussuriysk Ar. 52.25 32 P **P 08 03 31.3 -0.4**
3.1nm,0.8s,baz=251,slow=5.8,SNR=7.8
USRK LR LR 08 26 56.8
comp=Z,191nm,19.0s,baz=203,slow=38
ZALV Zalesovo Beam 52.40 351 P **P 08 03 32.5 -0.2**
11nm,0.8s,baz=176,slow=5.9,SNR=42
RAYN Ar Rayn 53.63 298 *e*P **P 08 03 42.8 +0.5**
5.2nm,0.8s
ABKAR Akbulak array 56.24 332 *e*P **P 08 04 00.2 -0.5**
KMBO Kilima Mbogo 59.31 267 P **P 08 04 23.9 +0.7**
0.8nm,0.4s,baz=121,slow=9.2,SNR=3.4
KBZ Khabaz 62.80 319 P **P 08 04 46.3 +0.2**
0.5nm,0.3s,baz=85,slow=7.4,SNR=4.8
BRTR Keskin Array B 67.87 312 P **P 08 05 19.0 -0.2**
0.4nm,0.5s,baz=142,slow=7.3,SNR=2.7
AKASG Malin Array Be 73.98 322 P **P 08 05 54.3 -1.6**
0.2nm,0.3s,baz=90,slow=5.2,SNR=4.3
KOLS Kolonicke sedl 77.95 320 *e*P **P 08 06 19.4 +0.9**
KOLS *e*PCP **pP 08 06 27.9 -1.1**
CRVS Cervenica-Dubn 78.47 319 *es*P sP 08 06 37.1 +1.3
STHS Stebnicka Huta 78.70 320 *e*PCP **PcP 08 06 30.5 -1.0**
FINES FINESS Array B 78.73 333 P **P 08 06 21.7 -0.8**
2.2nm,0.7s,baz=104,slow=8.0,SNR=6.8
FINES LR LR 08 46 07.0
comp=Z,106nm,18.2s,baz=50,slow=40
VYHS Vyhne 80.12 319 *e*pP pP 08 06 41.3 +0.3
ARCES ARCESS Array B 81.30 340 P **P 08 06 36.6 +0.2**
1.8nm,0.6s,baz=97,slow=4.0,SNR=13
DAVOX Davos/Dischmat 86.03 317 LR LR 08 48 56.3
comp=Z,22nm,21.9s,baz=77,slow=38
TORD Torodi Ar. Bea 94.15 283 P **P 08 07 40.5 +0.6**
0.4nm,1.1s,baz=104,slow=5.1,SNR=2.4
TXAR Lajitas Array 143.13 30 PKP PKPbc 08 13 52.5 +0.5
0.2nm,0.5s,baz=222,slow=2.3,SNR=3.9

IDC ***07*** *07:58:40.5±1.2, 34°.64S×71°.92W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/16, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=54.1km s-min=25.4km az=81.0*
ISCJB ***07*** *07:58:41.3±2.4, 34°.67S±0°.04×72°.1W±0°.1, h10km±15km, mb3.6/2, Error ellipse: s-maj=14.3km s-min=5.6km az=14.4*
GUC ***07*** *07:58:43.1±0.3, 34°.69S×72°.02W, h24km±9km, ML3.9*
ISC 07 07:58:41.1±2.0, 34°.66S±0°.04×72°.03W±0°.09, h5km±13km, n12, σ1§03/19, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**118**	*i*	P		**Pb**	**07 58 56.7**	**0.0**
NICH				*i*	S		**Sb**	**07 59 07.0**	**-0.1**
NICH					AML	AML		07 59 07.3	
	comp=N,9μm,0.2s								
TALC	**Talca**	**0.81**	**156**	*i*	P		**Pg**	**07 58 57.3**	**+0.6**
TALC				*i*	S		**Sb**	**07 59 08.0**	**-0.9**
TALC					AML	AML		07 59 21.0	
	comp=E,15μm,0.0s								
LNCH	**Linares**	**1.24**	**164**	*i*	P		**Pn**	**07 59 04.3**	**-0.9**
LNCH				*i*	S		**Sb**	**07 59 20.3**	**-1.1**
LNCH					AML	AML		07 59 25.7	
	comp=N,4μm,0.6s								
COCH	**Cobquecura**	**1.60**	**203**	*i*	P		**Pn**	**07 59 10.1**	**+0.1**
COCH				*i*	S		**Sn**	**07 59 30.5**	**-0.6**
COCH					AML	AML		07 59 36.4	
	comp=E,1μm,0.6s								
IHA	**Instituto Hidr**	**1.66**	**11**	*i*	P		**Pn**	**07 59 11.7**	**+0.8**
LACH	**Col Las Americ**	**1.73**	**46**	*i*	P		**Pb**	**07 59 13.1**	**-0.4**
LACH				*i*	S		**Sg**	**07 59 35.8**	**-0.9**
PEL	**Peldehue**	**1.88**	**37**	*i*	P		**Pb**	**07 59 15.4**	**-0.6**
PEL				*i*	S		**Sb**	**07 59 40.1**	**+0.3**
PEL					AML	AML		07 59 52.2	
	comp=E,3μm,0.5s								
PLCA	**Paso Flores**	**6.18**	**169**		Pn		**Pn**	**08 00 15.0**	**+1.9**
	comp=E,0.4nm,0.3s,baz=346,slow=10,SNR=11								
PLCA					Sn		**Sn**	**08 01 26.1**	**+1.8**
	comp=E,1.1nm,0.3s,baz=300,slow=12,SNR=4.2								
LPAZ	**La Paz**	**18.62**	**12**		P		**Pn**	**08 03 00.3**	**-0.1**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=4.5								
TXAR	**Lajitas Array**	**70.31**	**331**		P		**P**	**08 09 56.8**	**+0.9**
	comp=E,0.5nm,0.6s,baz=157,slow=8.5,SNR=7.9								
TORD	**Torodi Ar. Bea**	**84.43**	**70**		P		**P**	**08 11 14.6**	**-0.5**
	comp=E,0.5nm,0.9s,baz=238,slow=5.5,SNR=3.6								
WRA	**Warramunga Arr**	**120.19**	**209**		PKP		**PKPdf**	**08 17 32.4**	**-1.5**
	comp=E,0.1nm,0.4s,baz=161,slow=1.6,SNR=6.9								

CASC 07 08:04:41.2±2.0, 9°.21N×82°.63W, h20km±11km, MD3.5, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNI	**Changuinola**	**0.24**	**29**	⇑*i*	P		Pg	08 04 47.0	+0.1
CNI					*e*S		Sg	08 04 51.8	+1.0
BRU	**Baru**	**0.41**	**170**	⇓*i*	P		Pg	08 04 50.2	0.0
BRU					*e*S		Sb	08 04 57.1	+0.5
TBS2		**0.41**	**184**	*e*	P		Pg	08 04 49.8	-0.3
TBS2					*e*S		Sb	08 04 56.2	-0.1
BRU2	**Volcan**	**0.42**	**188**	*i*	P		Pb	08 04 50.5	+0.3
BRU2					*e*S		Sb	08 04 56.7	+0.4
ACR	**Cerro Adams**	**0.77**	**224**	*e*	P		Pb	08 04 56.1	+0.1
ACR					*e*S		Sn	08 05 08.5	+0.4
BUS	**Buena Vista**	**1.17**	**287**	⇑*e*	P		Pn	08 05 02.3	-0.7
BUS					*e*S		Sn	08 05 18.8	0.0
URSC	**Urasca**	**1.29**	**299**	*e*	P		Pn	08 05 03.9	-0.5
URSC					*e*S		Sn	08 05 21.1	-0.3
CGA2	**Cerro Gallo 2**	**1.98**	**294**	*e*	P		Pn	08 05 14.8	+1.0
CGA2					*e*S		Sn	08 05 39.0	+0.7

NNC 07 08:08:38.5±8.1, 39°.61N×73°.97E, h0km, mb2.5, mpv2.3, 5C-2D, Error ellipse: s-maj=182.4km s-min=41.2km az=46.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.54**	**318**	⇑	P		Pg	08 08 47.9	-1.3
	8.1nm,0.5s								
SFK				⇓	S		Sg	08 08 55.2	-1.2
	9.2nm,0.2s								
MNAS	**Manas**	**3.08**	**339**	⇑	Pn		Pn	08 09 31.2	+2.6
	0.4nm,0.4s								
MNAS				⇑	Lg		Lg	08 10 16.2	
	1.3nm,0.5s								
KK31	**Karatay Array**	**4.35**	**324**	⇓	Pn		Pn	08 09 46.8	+0.9
	0.1nm,0.2s,baz=134,slow=13								
KK31				⇑	Sn		Sn	08 10 41.7	+4.3
	0.2nm,0.3s								
KK31				⇑	Lg		Lg	08 10 58.1	
	0.6nm,0.5s,baz=126,slow=28								

IDC ***07*** *08:12:23.3±1.8, 1°.69N×96°.51E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/38, mbtmp3.8/8, Error ellipse: s-maj=77.8km s-min=20.1km az=57.0*
ISC 07 08:12:29.3±1.8, 1°.9N±0°.3×96°.8E±0°.4, h35km, n11, σ0§74/8, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.62**	**7**		Pn		**P**	**08 16 20.9**	**-0.9**
	baz=197,slow=11,SNR=9.8								
H08S2	**Diego Garcia H**	**26.00**	**248**		T		T	08 44 50.9	
	baz=69,slow=76,SNR=118								
H08S3	**Diego Garcia H**	**26.00**	**248**		T		T	08 44 51.1	
	baz=69,slow=76,SNR=61								
H08S1	**Diego Garcia H**	**26.01**	**248**		T		T	08 44 52.2	
	baz=69,slow=76,SNR=130								
WRA	**Warramunga Arr**	**42.76**	**122**		P		**P**	**08 20 24.0**	**+0.3**
	0.5nm,0.7s,baz=301,slow=9.2,SNR=6.4								
ASAR	**Alice Springs**	**44.14**	**127**		P		**P**	**08 20 34.5**	**-0.4**
	0.4nm,0.7s,baz=313,slow=8.3,SNR=5.7								
MKAR	**Makanchi Array**	**46.49**	**346**		P		**P**	**08 20 53.8**	**+0.7**
	1.1nm,0.7s,baz=164,slow=8.7,SNR=16								
SONM	**Songino Array**	**46.54**	**9**		P		**P**	**08 20 54.3**	**+0.8**
	0.7nm,0.4s,baz=194,slow=8.9,SNR=4.6								
KURBB	**Kurchatov Arra**	**50.97**	**345**		P		**P**	**08 21 26.7**	**-0.7**
	0.9nm,0.6s,baz=164,slow=7.1,SNR=9.0								
ZALV	**Zalesovo Beam**	**52.83**	**351**		P		**P**	**08 21 41.0**	**-0.1**
	1.6nm,0.4s,baz=181,slow=6.7,SNR=11								
FINES	**FINESS Array B**	**79.21**	**333**		P		**P**	**08 24 30.5**	**0.0**
	1.9nm,1.1s,baz=137,slow=7.5,SNR=2.5								

BJI ***07*** *08:16:54.5, 1°.76N×96°.48E, h24km, mB4.9/38, mb4.9/49, Ms4.5/38, Ms7 4.2/36*
IDC ***07*** *08:16:56.2±0.7, 2°.19N×96°.52E, h0km, mb4.5/22, mb1 4.6/24, mb1mx4.4/42, mbtmp4.5/24, ML4.6/2, MS3.9/8, Ms1 4.0/8, ms1mx3.5/42, Error ellipse: s-maj=22.5km s-min=12.9km az=43.0*
ISCJB ***07*** *08:16:59.6±0.6, 2°.13N±0°.03×96°.42E±0°.04, h37km±5km, mb4.6/57, MS4.1/7, Error ellipse: s-maj=7.2km s-min=4.9km az=144.4*
MOS ***07*** *08:16:59.6±0.9, 2°.24N×96°.53E, h33km, mb4.9/27, Error ellipse: s-maj=11.8km s-min=6.2km az=104.9*
DJA ***07*** *08:17:00.6±0.6, 2°.N±3°.×9°.E±°, h25km±9km, M5.0/6, mb5.2/6, mB5.4/5, MLv4.9/6, Mw(mB)4.8/5*
NEIC ***07*** *08:17:01.8±0.3, 2°.25N×96°.49E, h35km, mb4.8/20, Error ellipse: s-maj=7.8km s-min=4.9km az=216.0*
KLM ***07*** *08:17:04.9, 2°.13N×96°.76E, h20km, mb4.8, ML4.6, MS5.9*
ISC 07 08:16:59.7±0.5, 2°.13N±0°.05×96°.39E±0°.05, h22km±2km, h22km:pP-P, n183, σ1§61/200, mb4.6/56, MS4.1/7, 7C-7D,

Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.28**	**348**		P		**Pn**	**08 17 07.9**	**-0.7**
TPTI		**1.37**	**35**		P		**Pn**	**08 17 22.0**	**-1.6**
TPTI					S		**Sn**	**08 17 39.6**	**-1.5**
KCSI	**Kotacane, Aceh**	**1.96**	**45**		P		**Pn**	**08 17 30.9**	**-0.7**
KCSI					S		**Sn**	**08 17 55.3**	**-0.2**
TSI	**Tuntungan**	**2.57**	**58**		P		**Pn**	**08 17 40.2**	**+0.2**
LHMI	**Lhok Sumawe**	**3.13**	**10**		P		**Pn**	**08 17 47.5**	**-0.2**
LHMI	**Lhok Sumawe**	**3.13**	**10**	*e*	Pn		**Pn**	**08 17 47.5**	**-0.2**
MNSI	**Mandailing Nat**	**3.45**	**112**		P		**Pn**	**08 17 53.1**	**+0.9**
BKNI	**Bangkinang**	**4.98**	**111**		P		**Pn**	**08 18 15.5**	**+2.3**
BKNI	**Bangkinang**	**4.98**	**111**	*e*	Pn		**Pn**	**08 18 14.5**	**+1.2**
PDSI	**Padang**	**5.07**	**127**		P		**Pn**	**08 18 15.6**	**+1.1**
	104nm,0.6s,4μm								
IPM	**Ipoh**	**5.18**	**63**	⇓	P		**Pn**	**08 18 16.1**	**+0.1**
IPM	**Ipoh**	**5.18**	**63**	*e*	Pn		**Pn**	**08 18 15.8**	**-0.2**
KULM	**Kulim**	**5.29**	**53**	⇑	P		**Pn**	**08 18 17.0**	**-0.4**
KULM	**Kulim**	**5.29**	**53**	*e*	Pn		**Pn**	**08 18 16.9**	**-0.5**
FRIM	**Kepong**	**5.35**	**78**	⇓	P		**Pn**	**08 18 17.6**	**-0.7**
RGRI	**Rengat**	**6.43**	**112**		P		Pb	08 18 43.9	-7.1
KGM	**Kluang**	**6.93**	**91**	⇑	P		**Pn**	**08 18 40.9**	**+0.9**
SURT	**Suratani**	**7.20**	**19**		P		**Pn**	**08 18 42.8**	**-0.8**
	18nm,0.8s,250nm0.1nm								
KTGM	**Kuala Trenggan**	**7.44**	**65**	⇑	P		**Pn**	**08 18 46.1**	**-0.9**
MYKOM	**Kota Tinggi**	**7.46**	**92**	⇓	P		**Pn**	**08 18 48.3**	**+0.9**
MYKOM	**Kota Tinggi**	**7.46**	**92**	*e*	Pn		**Pn**	**08 18 47.5**	**+0.2**
DSRI	**Dabo**	**8.59**	**107**		P		Pn	08 19 07.9	+5.1
LHSI	**Lahat**	**9.27**	**130**		P		**Pn**	**08 19 13.5**	**+1.4**
	138nm,0.8s,3μm								
MDSI	**Maura Dua**	**10.19**	**130**		P		**Pn**	**08 19 24.9**	**+0.2**
	114nm,0.8s								
LWLI	**Liwa**	**10.45**	**133**		P		Pn	08 19 35.0	+6.6
KASI	**Kota Agung**	**11.11**	**133**		P		**Pn**	**08 19 36.5**	**-0.8**
CHBT	**CHBT**	**12.09**	**29**		P		**Pn**	**08 19 51.5**	**+0.8**
	93nm,0.9s								
UTHA	**Uthaitani**	**13.68**	**13**		P		**P**	**08 20 21.6**	**+0.5**
KSM	**Kuching**	**13.93**	**92**	*e*	Pn		**Pn**	**08 20 17.0**	**+1.1**
LEM	**Lembang**	**14.31**	**129**		LR		LR	08 26 34.0	
	comp=Z,156nm,20.9s,baz=264,slow=41								
PBKT	**Sadao Pong**	**15.04**	**17**		P		**Pn**	**08 20 32.8**	**+1.8**
	59nm,0.8s,854nm								
DLV	**T Lat**	**15.46**	**50**	*e*	Pn		**Pn**	**08 20 35.7**	**-1.0**
	55nm,1.2s								
KHON	**Khomkaen**	**15.48**	**24**		P		**P**	**08 20 40.0**	**-1.1**
	26nm,0.7s,1μm								
SBUM	**Sibu**	**15.82**	**89**	⇓	P		**Pn**	**08 20 41.7**	**+0.4**
SBUM	**Sibu**	**15.82**	**89**	*e*	Pn		**Pn**	**08 20 41.6**	**+0.3**
	18nm,1.0s								
UBPT	**Khong Chiam**	**15.84**	**34**		P		**P**	**08 20 43.7**	**-1.4**
	31nm,0.9s								
MHMT	**Maesarieng**	**16.02**	**5**		P		**P**	**08 20 46.1**	**-1.0**
	11nm,0.6s,528nm								
UTTA	**Uttaradit**	**16.05**	**15**		P		**P**	**08 20 46.2**	**-1.2**
	18nm,0.9s,137nm								
CMAR	**Chiang Mai Arr**	**16.42**	**9**		Pn		**Pn**	**08 20 48.8**	**-0.1**
	1.0nm,0.3s,baz=197,slow=11,SNR=56								
CMAR					LR		LR	08 28 22.6	
	comp=Z,600nm,18.5s,baz=193,slow=42								
PALK	**Pallekele**	**16.44**	**289**	*e*	P		**P**	**08 20 52.1**	**+0.2**
PALK	**Pallekele**	**16.44**	**289**		Pn		**P**	**08 20 51.9**	**0.0**
	1.9nm,0.3s,baz=102,slow=11,SNR=14								
PALK					Sn		Sn	08 23 37.9	-13
	1.5nm,0.3s,baz=191,slow=9.2,SNR=5.7								
PALK					LR		LR	08 26 35.5	
	comp=Z,900nm,19.4s,baz=115,slow=35								
LAMP	**Lampang**	**16.60**	**11**		P		**P**	**08 20 57.0**	**+3.5**
CHTO	**Chiang Mai**	**16.77**	**8**	*e*	P		**Pn**	**08 20 51.8**	**-1.6**
CHTO					pmax		pmax		
	comp=Z,9.0nm,0.8s								
CHTO	**Chiang Mai**	**16.77**	**8**	*e*	Pn		**Pn**	**08 20 51.8**	**-1.6**
	comp=Z,8.6nm,0.8s								
CHTO	**Chiang Mai**	**16.77**	**8**		P		**Pn**	**08 20 52.6**	**-0.7**
	comp=Z,58nm,0.8s								
CMMT	**Chiang Mai**	**16.77**	**8**		P		**Pn**	**08 20 53.8**	**+0.4**
	comp=Z,15nm,0.8s								
CMAI	**Chiengmai2**	**17.89**	**8**		P		**Pn**	**08 21 07.0**	**-0.4**
	comp=Z,10nm,0.9s,comp=Z,1μm								
KKM	**Kota Kinabalu**	**20.15**	**78**	*e*	Pn		**P**	**08 21 32.7**	**-0.1**
	comp=Z,34nm,0.8s								
CHLP	**Challavanipeta**	**20.27**	**324**	*e*	P		Pn	08 21 35.8	-0.2
SLVN	**Son La**	**20.45**	**20**	*e*	Pn		**P**	**08 21 34.9**	**-1.0**
	comp=Z,34nm,0.9s								
SDKM	**Sandakan**	**21.05**	**80**	⇓	P		**P**	**08 21 45.3**	**+2.8**
ADKI	**Addanki**	**21.15**	**311**	*e*	P		**P**	**08 21 43.3**	**-0.2**
ADKI				*e*				08 21 56.2	
QIZ	**Qiongzhong**	**21.35**	**37**		P		**P**	**08 21 47.5**	**+1.9**
QIZ					pP		**pP**	**08 21 49.7**	**-2.1**
QIZ					sP		**sP**	**08 21 51.4**	**-3.3**
QIZ					S		**S**	**08 25 44.7**	**+2.9**
QIZ					PMZ				
	comp=Z,9.0nm,1.4s								
QIZ					LN				
	comp=Z,710nm,15.0s								
QIZ					LZ				
	comp=Z,1μm,13.2s								
URV	**Uravakonda**	**22.77**	**305**	*e*	P		**P**	**08 22 00.7**	**-0.2**
URV				*e*	pP		**pP**	**08 22 10.3**	**+3.2**
HYB	**Hyderabad**	**23.19**	**312**	*i*	P		P	08 22 12.0	+6.8
KMI	**Kunming**	**23.67**	**14**		P		**P**	**08 22 10.2**	**+0.2**
KMI					pP		**pP**	**08 22 18.3**	**+1.7**
KMI					sP		**sP**	**08 22 22.7**	**+3.3**
KMI					PP		**PnPn**	**08 22 44.4**	**+6.7**
KMI					PMZ				
	comp=Z,26nm,0.9s								
KMI					PMZ				
	comp=Z,120nm,5.8s								
KMI					LN				
	comp=Z,470nm,15.7s								
KMI					LE				
	comp=Z,360nm,16.8s								
KMI					LZ				
	comp=Z,490nm,17.3s								
KAPI	**Kappang**	**24.40**	**107**	*e*	P		**P**	**08 22 17.1**	**+0.3**
	comp=Z,6.4nm,1.1s								
H08S2	**Diego Garcia H**	**25.74**	**248**		T		T	08 49 09.0	
	baz=68,slow=75,SNR=278								
H08S3	**Diego Garcia H**	**25.74**	**248**		T		T	08 49 35.8	
	baz=68,slow=75,SNR=302								
H08S1	**Diego Garcia H**	**25.76**	**248**		T		T	08 49 14.2	
	baz=68,slow=75,SNR=314								
GYA	**Guiyang**	**26.13**	**21**		P		**P**	**08 22 32.8**	**+0.4**
GYA					PP		**PnPn**	**08 23 17.0**	**+5.8**
GYA					S		**S**	**08 27 01.4**	**-1.6**
GYA					SS		**SnSn**	**08 28 10.2**	**+7.9**
GYA					PMZ				
	comp=Z,10.0nm,0.8s								
GYA					PMZ				
	comp=Z,120nm,4.8s								
GYA					LN				
	comp=Z,520nm,17.4s								
GYA					LE				
	comp=Z,490nm,18.1s								
GYA					LZ				
	comp=Z,500nm,17.8s								
LSA	**Lhasa**	**27.87**	**350**		P		**P**	**08 22 48.7**	**+0.2**
LSA					PMZ				
	comp=Z,30nm,0.9s								
LSA	**Lhasa**	**27.87**	**350**	*e*	P		**P**	**08 22 48.7**	**+0.2**
LSA					pmax		pmax		
	comp=Z,22nm,0.8s								
LSA	**Lhasa**	**27.87**	**350**	*e*	P		**P**	**08 22 48.7**	**+0.2**
	comp=Z,22nm,0.8s								
CD2	**Chengdu**	**29.46**	**13**	*e*	P		**P**	**08 23 00.8**	**-1.4**
CD2					pP		**pP**	**08 23 06.6**	**-2.2**
CD2					sP		**sP**	**08 23 09.6**	**-2.0**
CD2					PP		**PnPn**	**08 23 56.8**	**+0.1**
CD2					S		**S**	**08 27 53.2**	**-2.2**
CD2					SS		**SnSn**	**08 29 26.3**	**+2.8**
CD2					PMZ				
	comp=Z,40nm,0.5s								
CD2					PMZ				
	comp=Z,360nm,5.8s								
CD2					LN				
	comp=Z,770nm,12.2s								
CD2					LZ				
	comp=Z,480nm,11.2s								
BATI	**Baumata**	**29.79**	**115**		P		**P**	**08 23 03.0**	**-2.2**
	comp=Z,24nm,0.4s,baz=37,slow=12,SNR=3.9								
BATI					LR		LR	08 36 59.5	
	comp=Z,443nm,21.2s,baz=267,slow=40								
SOEI	**Soe**	**30.17**	**113**	*e*	P		**P**	**08 23 09.2**	**+0.4**
	comp=Z,44nm,1.1s								
WHN	**Wuhan**	**32.99**	**29**		P		**P**	**08 23 31.1**	**-2.0**

WHN				S	S	08 28 54.7	+4.3		
WHN				LZ					
	comp=Z,1μm,15.0s								
XAN	Xi'an	33.84	19	P	P	08 23 38.7	-1.9		
XAN				pP	pP	08 23 46.1	-1.2		
XAN				PMZ					
	comp=Z,9.0nm,0.7s								
XAN				PMZ					
	comp=Z,40nm,6.8s								
XAN				LN					
	comp=Z,180nm,16.4s								
XAN				LZ					
	comp=Z,100nm,14.4s								
LZH	Lanzhou	34.49	11	*e*P	P	08 23 45.8	-0.5		
LZH				pP	pP	08 23 53.5	+0.4		
LZH				sP	sP	08 23 57.9	+2.1		
LZH				PMZ					
	comp=Z,35nm,1.0s								
LZH				PMZ					
	comp=Z,160nm,5.3s								
LZH				LN					
	comp=Z,170nm,13.5s								
LZH				LE					
	comp=Z,420nm,14.4s								
LZH				LZ					
	comp=Z,360nm,15.0s								
NJ2	Nanjing	36.52	33	*e*P	P	08 24 04.4	+0.8		
NJ2				S	S	08 29 47.0	+2.2		
NJ2				sS	sS	08 29 53.0	-2.9		
NJ2				PMZ					
	comp=Z,50nm,0.8s								
NJ2				PMZ					
	comp=Z,360nm,5.9s								
NJ2				LN					
	comp=Z,570nm,25.1s								
NJ2				LE					
	comp=Z,1μm,24.1s								
NJ2				LZ					
	comp=Z,1μm,23.9s								
GTA	Gaotai	37.24	4	*e*P	P	08 24 09.0	-0.9		
GTA				pP	pP	08 24 14.4	-2.2		
GTA				sP	sP	08 24 17.7	-1.6		
GTA				S	S	08 29 55.7	-0.2		
GTA				SS	SnSn	08 32 28.9	-3.2		
GTA				PMZ					
	comp=Z,28nm,1.0s								
GTA				PMZ					
	comp=Z,140nm,7.6s								
GTA				LN					
	comp=Z,120nm,17.1s								
GTA				LE					
	comp=Z,140nm,17.1s								
GTA				LZ					
	comp=Z,220nm,17.6s								
H01W3	Cape Leeuwin H	40.41	157	T	T	09 08 01.3			
	baz=333,slow=76,SNR=93								
H01W2	Cape Leeuwin H	40.42	157	T	T	09 07 59.7			
	baz=333,slow=76,SNR=110								
H01W1	Cape Leeuwin H	40.42	157	T	T	09 08 02.9			
	baz=333,slow=76,SNR=121								
HHC	Hu-ho-hao-te	40.91	18	*e*P	P	08 24 43.1	+2.5		
HHC				PP	PnPn	08 26 21.2	+1.7		
HHC				S	S	08 30 54.2	+3.0		
HHC				sS	sS	08 31 04.0	+1.6		
HHC				SS	SS	08 33 51.8	-1.5		
HHC				PMZ					
	comp=Z,29nm,0.6s								
HHC				PMZ					
	comp=Z,94nm,6.2s								
HHC				LN					
	comp=Z,170nm,17.3s								
HHC				LE					
	comp=Z,300nm,18.5s								
HHC				LZ					
	comp=Z,170nm,18.5s								
KSH	Kashi	41.60	336	P	P	08 24 45.1	-1.1		
KSH				sP	sP	08 24 53.9	-1.9		
KSH				PP	PP	08 26 23.6	+1.0		
KSH				PcS	PcS	08 30 34.4	-0.2		
KSH				S	S	08 30 57.2	-4.2		
KSH				PMZ					
	comp=Z,130nm,6.8s								
KSH				LN					
	comp=Z,150nm,8.6s								
KSH				LE					
	comp=Z,140nm,6.3s								
KSH				LZ					
	comp=Z,160nm,8.6s								
BJT	Baijiatuau	41.77	23	*e*P	P	08 24 47.1	-0.4		
BJT				pmax	pmax				
	comp=Z,50nm,0.7s								
BJT	Baijiatuau	41.77	23	*e*P	P	08 24 47.1	-0.4		
	comp=Z,50nm,0.7s								
BJI	Beijing	41.80	23	P	P	08 24 47.7	+0.1		
BJI				PMZ					
	comp=Z,70nm,0.7s								
BJI				LN					
	comp=Z,220nm,13.2s								
BJI				LE					
	comp=Z,150nm,19.0s								
BJI				LZ					
	comp=Z,110nm,17.5s								
WMQ	Urumqi	42.23	351	*e*P	P	08 24 51.8	+0.6		
WMQ				pP	pP	08 24 58.0	-0.1		
WMQ				sP	sP	08 25 01.0	+0.2		
WMQ				PP	PP	08 26 33.0	+3.7		
WMQ				*e*S	S	08 31 10.0	-0.5		
WMQ				PMZ					
	comp=Z,11nm,0.8s								
WMQ				PMZ					
	comp=Z,150nm,4.4s								
WMQ				LN					
	comp=Z,250nm,21.3s								
WMQ				LE					
	comp=Z,430nm,24.0s								
WMQ				LZ					
	comp=Z,270nm,30.5s								
WRA	Warramunga Arr	43.21	122	P	P	08 24 59.5	0.0		
	comp=Z,7.5nm,0.6s,baz=300,slow=9.2,SNR=87								
WRA				PcP	PcP	08 26 48.0	-0.9		
	comp=Z,2.0nm,0.8s,baz=313,slow=2.4,SNR=4.9								
WRAB	Tennant Creek	43.22	122	*c i*P	P	08 24 59.4	-0.2		
WRAB				pmax	pmax				
	comp=Z,60nm,1.2s								
WRAB	Tennant Creek	43.22	122	*e*P	P	08 24 59.8	+0.2		
	comp=Z,44nm,1.5s								
WB2	Warramunga Arr	43.22	122	*e*P	P	08 24 59.7	+0.1		
UCH	Uchtor	44.48	337	P	P	08 25 10.9	+1.0		
	SNR=8.5								
FORT	Forrest	44.50	140	*e*P	P	08 25 12.1	+2.4		
	comp=Z,33nm,0.7s								
ASAR	Alice Springs	44.60	127	P	P	08 25 11.1	+0.4		
	comp=Z,3.9nm,0.6s,baz=299,slow=7.9,SNR=95								
ASAR				PcP	PcP	08 26 53.1	-0.4		
	comp=Z,1.7nm,0.7s,baz=304,slow=3.0,SNR=6.5								
ASAR				LR	LR	08 45 10.3			
	comp=Z,106nm,20.7s,baz=312,slow=38								
TKM2	Tokmak 2	44.66	338	P	P	08 25 12.1	+1.1		
	SNR=6.7								
TKM2	Tokmak 2	44.66	338	*i* P	P	08 25 11.0	-0.1		
TKM2				pmax	pmax				
	comp=Z,10.0nm,1.3s								
TKM2	Tokmak 2	44.66	338	*e*P	P	08 25 11.3	+0.2		
	comp=Z,12nm,1.4s								
KBK	Karagaybulak	44.68	337	P	P	08 25 11.4	+0.2		
	SNR=7.4								
KBK	Karagaybulak	44.68	337	*i* P	P	08 25 11.4	+0.2		
AML	Almayashu	44.73	336	P	P	08 25 12.7	+0.8		
	SNR=10								
AML	Almayashu	44.73	336	*i* P	P	08 25 12.7	+0.8		
AAK	Ala-Archa	44.83	337	*e*P	P	08 25 13.7	+1.3		
AAK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
AAK	Ala-Archa	44.83	337	*e*P	P	08 25 13.7	+1.3		
	comp=Z,5.3nm,0.9s								
USP	Ospenovka	45.37	338	P	P	08 25 17.3	+0.8		
	SNR=7.9								
USP	Ospenovka	45.37	338	*i* P	P	08 25 17.3	+0.8		
KSAR	Wonju Array Be	45.53	36	P	P	08 25 16.7	-1.1		
KSAR	Wonju Array Be	45.53	36	P	P	08 25 16.7	-1.1		
KSRS	Korea Array	45.56	36	P	P	08 25 16.7	-1.3		
	comp=Z,6.9nm,0.7s,baz=229,slow=9.0,SNR=22								
KSRS				LR	LR	08 46 50.8			
	comp=Z,184nm,18.1s,baz=212,slow=40								
MK31	Makanchi Array	46.15	347	*i* P	P	08 25 22.1	-0.5		
MK31				pmax	pmax				
	comp=Z,23nm,0.7s								
MKAR	Makanchi Array	46.15	347	*e*P	P	08 25 22.6	0.0		
MKAR	Makanchi Array	46.15	347	P	P	08 25 22.4	-0.2		
	comp=Z,26nm,0.8s,baz=160,slow=7.6,SNR=178								
MKAR	Makanchi Array	46.15	347	*e*P	P	08 25 22.6	0.0		
SONM	Songino Array	46.35	9	P	P	08 25 23.7	-0.5		
	comp=Z,7.1nm,0.7s,baz=192,slow=8.6,SNR=36								
SONM				PcP	PcP	08 26 59.7	+0.5		
	comp=Z,2.3nm,0.6s,baz=191,slow=3.5,SNR=4.2								
ULN	Ulaanbaatar	46.48	10	*e*P	P	08 25 24.6	-0.8		
ULN				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ULN	Ulaanbaatar	46.48	10	*e*P	P	08 25 24.6	-0.8		
	comp=Z,10nm,0.8s								
KK31	Karatay Array	46.87	334	P	P	08 25 28.8	+0.5		
KK31				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KKAR	Karatay Array	46.87	334	*e*P	P	08 25 28.9	+0.6		
KKAR	Karatay Array	46.87	334	*e*P	P	08 25 28.9	+0.6		
ZAK	Zakamensk	48.43	6	*e*P	P	08 25 39.1	-1.3		
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.1s								
TLY	Talaya	49.75	6	*e*P	P	08 25 51.3	+0.9		
TLY				pmax	pmax				
	comp=Z,11nm,1.0s								
TLY				MLR	MLR				
	comp=Z,224nm,22.0s								
TLY	Talaya	49.75	6	*e*P	P	08 25 50.1	-0.3		
	comp=Z,7.9nm,0.7s								
GEYT	Ailbeck	49.99	320	P	P	08 25 54.0	+1.6		
	comp=Z,5.5nm,0.6s,baz=147,slow=8.3,SNR=9.2								
KURBB	Kurchatov Arra	50.63	345	P	P	08 25 57.0	0.0		
	comp=Z,7.7nm,0.7s,baz=166,slow=7.0,SNR=55								
KURK	Kurchatov	50.69	345	P	P	08 25 57.3	-0.2		
KURK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
KURK	Kurchatov	50.69	345	*e*P	P	08 25 57.5	+0.1		
MJAR	Matsushiro Arr	51.56	43	P	P	08 26 03.3	-1.1		
	comp=Z,2.1nm,0.9s,baz=217,slow=7.8,SNR=4.4								
MJAR				LR	LR	08 50 11.2			
	comp=Z,78nm,18.7s,baz=250,slow=39								
PMG	Port Moresby	51.86	104	⇑*i*P	P	08 26 06.4	-0.4		
PMG				pmax	pmax				
	comp=Z,11nm,0.7s								
PMG	Port Moresby	51.86	104	*e*P	P	08 26 06.7	-0.1		
	comp=Z,4.0nm,0.7s								
USRK	Ussuriysk Ar.	52.41	32	P	P	08 26 10.4	-0.1		
	comp=Z,3.5nm,0.6s,baz=233,slow=4.1,SNR=11								
ZALV	Zalesovo Beam	52.52	351	P	P	08 26 10.9	-0.2		
	comp=Z,18nm,0.8s,baz=176,slow=5.9,SNR=79								
NVS	Novosibirsk	53.63	351	*e*P	P	08 26 16.9	-2.3		
NVS				pmax	pmax				
	comp=Z,15nm,1.0s								
NVS				pmax	pmax				
	comp=N,6.0nm,0.8s								
NVS				pmax	pmax				
	comp=E,6.0nm,0.8s								
CTA	Charters Tower	53.64	117	P	P	08 26 19.1	-0.8		
	comp=E,6.0nm,0.8s,baz=304,slow=8.8,SNR=6.1								
BVA0	Borovoye Array	55.11	341	*i* P	P	08 26 29.4	-0.7		
BVA0				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KLR	Kul'dur	55.80	27	*e*P	P	08 26 31.0	-4.1		
AB31	Akbulak array	56.32	332	*i* P	P	08 26 38.9	+0.1		
AB31				pmax	pmax				
	comp=Z,1.0nm,0.2s								
ABKAR	Akbulak array	56.32	332	*e*P	P	08 26 38.2	-0.6		
BOD	Bodaibo	57.26	11	*e*P	P	08 26 43.6	-1.7		
BOD				pmax	pmax				
	comp=Z,7.0nm,1.1s								
AKTO	Aktyubinsk	58.04	332	P	P	08 26 50.6	-0.4		
AKTO				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ASAJ	Asahikawa	58.42	38	P	P	08 26 52.6	-1.1		
	comp=Z,7.2nm,0.7s,baz=107,slow=4.2,SNR=7.2								
KMBO	Kilima Mbogo	59.21	267	LR	LR	08 50 21.4			
	comp=Z,130nm,18.9s,baz=90,slow=34								
YSS	Yuzh-Sakhalins	60.05	35	⇓*i*P	P	08 27 05.0	0.0		
YSS				*e*		08 27 13.2			
ARU	Arti	62.02	337	*d i*P	P	08 27 18.0	-0.2		
ARU				S	S	08 35 42.3	+0.9		
ARU				SS	SS	08 39 41.6	-2.6		
ARU				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ARU	Arti	62.02	337	*e*P	P	08 27 17.6	-0.5		
	comp=Z,8.2nm,0.9s								
KBZ	Khabaz	62.84	319	P	P	08 27 24.7	+0.8		
	comp=Z,2.3nm,0.7s,baz=108,slow=4.9,SNR=6.3								
KIV	Kislovodsk	63.08	319	*e*P	P	08 27 24.6	-1.0		
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
YAK	Yakutsk	64.76	17	*e*P	P	08 27 34.2	-2.0		
YAK				*e*		08 27 41.9			
YAK				*e*		08 27 47.7			
YAK				pmax	pmax				
	comp=E,4.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.0s								
YAK				pmax	pmax				
	comp=Z,15nm,0.8s								
BRTR	Keskin Array B	67.89	312	P	P	08 27 55.9	-1.1		
	comp=Z,0.9nm,0.7s,baz=120,slow=7.4,SNR=4.0								
PRGR	Permogore	70.47	337	*e*P	P	08 28 11.0	-1.2		
PRGR				pmax	pmax				
	comp=Z,16nm,0.7s								
MOS	Moscow	71.12	329	*e*P	P	08 28 14.6	-1.7		
OBN	Obninsk	71.41	328	*e*P	P	08 28 18.4	+0.4		
OBN				*e*		08 28 36.4			
OBN				pmax	pmax				
	comp=Z,13nm,1.5s								
PETK	Petropavlovsk-	71.42	34	P	P	08 28 17.3	-0.9		
	comp=Z,4.2nm,0.7s,baz=198,slow=7.2,SNR=6.6								
TIXI	Tiksi	72.42	10	⇑*i*P	P	08 28 22.7	-1.1		
TIXI				pmax	pmax				
	comp=Z,6.0nm,1.5s								
TIXI	Tiksi	72.42	10	*e*P	P	08 28 22.1	-1.8		
	comp=Z,6.7nm,1.1s								
SEY	Seymchan	73.23	23	*i* P	P	08 28 28.8	0.0		
AKASG	Malin Array Be	74.03	322	P	P	08 28 33.2	-0.6		
	comp=Z,1.9nm,0.6s,baz=87,slow=5.2,SNR=9.1								
NACGM	Naroch	76.63	326	*e*	P	08 28 46.0	-2.6		
JOF	Joensuu	76.97	335	*e*P	P	08 28 50.2	-0.1		
JOF				pmax	pmax				
	comp=Z,2.0nm,0.7s								
JOF	Joensuu	76.97	335	*ep*	P	08 28 50.2	-0.1		
	comp=Z,2.2nm,0.7s								
APA	Apatity	77.98	340	⇑*i*P	pP	08 29 05.6	+2.4		
APA				MLR	MLR				
	comp=Z,400nm,17.0s								
KOLS	Kolonicke sedl	77.99	320	*e*P	pP	08 29 04.8	+1.1		
KOLS				pmax	pmax				
	comp=Z,9.0nm,1.5s								
KOLS	Kolonicke sedl	77.99	320	*e*PCP	pP	08 29 04.8	+1.1		
CRVS	Cervenica-Dubn	78.51	319	*e*P	pP	08 29 09.1	+2.6		
CRVS				pmax	pmax				
	comp=Z,26nm,2.1s								
CRVS	Cervenica-Dubn	78.51	319	*e*PCP	pP	08 29 09.1	+2.6		
STHS	Stebnicka Huta	78.74	320	*e*P	pP	08 29 11.4	+3.6		
STHS	Stebnicka Huta	78.74	320	*ep*P	pP	08 29 11.4	+3.6		
FINES	FINESS Array B	78.81	333	P	P	08 29 00.3	-0.3		
	comp=Z,4.5nm,0.7s,baz=103,slow=8.2,SNR=17								
KAF	Kangasniemi	78.89	333	*e*P	P	08 29 00.7	-0.4		
KAF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KAF	Kangasniemi	78.89	333	*ep*	P	08 29 00.7	-0.4		
	comp=Z,3.4nm,0.6s								
KECS	Kecovo	79.08	319	*e*P	pP	08 29 10.5	+0.8		
KECS				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KECS	Kecovo	79.08	319	*e*PCP	pP	08 29 10.5	+0.8		
VYHS	Vyhne	80.16	319	*e*P	pP	08 29 15.7	+0.1		
VYHS	Vyhne	80.16	319	*e*PCP	pP	08 29 15.7	+0.1		
BILL	Bilibino	80.59	21	*e*P	P	08 29 09.6	-0.6		
BILL				*e*		08 29 16.9			
BILL				*e*		08 32 11.9			
BILL				pmax	pmax				
	comp=Z,3.0nm,2.0s								
KEV	Kevo	80.96	341	*e*P	P	08 29 02.9	-9.2		
KEV				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KEV	Kevo	80.96	341	*ep*	P	08 29 02.9	-9.2		
	comp=Z,3.7nm,0.8s								
ARCES	ARCESS Array B	81.39	340	P	P	08 29 14.4	-0.1		
	comp=Z,4.9nm,0.8s,baz=96,slow=4.8,SNR=23								
GERES	GERESS Array B	83.58	319	P	P	08 29 27.2	+0.8		
	comp=Z,0.3nm,0.3s,baz=108,slow=4.3,SNR=4.8								
KHC	Kasperske Hory	83.69	319	*e*P	P	08 29 27.5	+0.6		
KHC				pmax	pmax				
	comp=Z,3.0nm,0.5s								
KHC	Kasperske Hory	83.69	319	*e*P	P	08 29 27.5	+0.6		
	comp=Z,3.1nm,0.5s								
GAMB	Gambell	88.95	26	*e*P	P	08 29 52.6	+0.2		
	comp=Z,13nm,1.5s								
TORD	Torodi Ar. Bea	94.09	283	P	P	08 30 18.9	+1.6		
	comp=Z,0.5nm,1.0s,baz=46,slow=4.2,SNR=2.5								
IM04	Indian Mountai	96.03	23	*e*P	P	08 30 25.2	+0.1		
ILAR	Eielson Array	99.17	23	P	Pdif	08 30 37.5	-1.7		
	comp=Z,0.2nm,0.6s,baz=297,slow=4.6,SNR=3.3								
H09W1	TRISTAN DA CUN	106.18	232	T	T	10 31 47.8			
	SNR=13								
ULM	Lac du Bonnet	126.77	10	PKP	PKPdf	08 36 01.4	-0.3		
	comp=Z,1.1nm,0.6s,baz=341,slow=9.8,SNR=3.9								
NVAR	Mina Array Bea	128.50	35	PKP	PKPdf	08 36 04.7	-1.0		
	comp=Z,0.3nm,0.6s,baz=258,slow=1.7,SNR=3.4								
TXAR	Lajitas Array	143.29	30	PKP	PKPbc	08 36 30.6	+0.4		
	comp=Z,0.4nm,0.6s,baz=217,slow=0.7,SNR=6.3								
JCT	Junction City	144.08	24	*e*PKIKP	PKPbc	08 36 32.7	+0.3		
JCT	Junction City	144.08	24	*e*PKPdf	PKPbc	08 36 32.7	+0.3		

*IDC **07** 08:22:48.8±1.5, 1.88N×96.47E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/40, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=66.6km s-min=19.2km az=56.0*
*ISCJB **07** 08:22:52.6±1.1, 1.9N±0.2×96.6E±0.3, h35km, mb3.9/9, Error ellipse: s-maj=40.9km s-min=15.6km az=151.2*

ISC 07 08:22:54.4±1.5, 1.9N±0.2×96.6E±0.3, h35km, n16, σ0:48/10, mb3.9/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.58	8	Pn	Pn	08 26 44.8	+0.5
	0.3nm,0.3s,baz=198,slow=12,SNR=9.8						
H08S2	Diego Garcia H	25.85	248	T	T	08 55 10.5	
	baz=69,slow=75,SNR=97						
H08S3	Diego Garcia H	25.85	248	T	T	08 55 10.7	
	baz=69,slow=75,SNR=105						
H08S1	Diego Carcia H	25.87	248	T	T	08 55 11.9	
	baz=69,slow=75,SNR=92						
H01W3	Cape Leeuwin H	40.16	157	T	T	09 13 16.5	
	baz=332						
H01W2	Cape Leeuwin H	40.17	157	T	T	09 13 10.8	
	baz=332						
H01W1	Cape Leeuwin H	40.18	157	T	T	09 13 16.1	
	baz=332						
WRA	Warramunga Arr	42.95	122	P	P	08 30 50.1	-0.3
	0.8nm,0.6s,baz=300,slow=9.2,SNR=11						
ASAR	Alice Springs	44.33	127	P	P	08 31 01.9	+0.4
	0.9nm,0.9s,baz=299,slow=8.1,SNR=6.3						
MKAR	Makanchi Array	46.38	346	P	P	08 31 17.4	0.0
	2.3nm,0.6s,baz=159,slow=7.9,SNR=25						
SONM	Songino Array	46.50	9	P	P	08 31 17.9	-0.4
	1.4nm,0.7s,baz=189,slow=8.3,SNR=6.0						
KURBB	Kurchatov Arra	50.86	345	P	P	08 31 51.9	+0.3
	0.8nm,0.6s,baz=167,slow=7.0,SNR=8.6						
ZALV	Zalesovo Beam	52.74	351	P	P	08 32 05.6	0.0
	2.6nm,0.5s,baz=178,slow=6.8,SNR=12						
FINES	FINESS Array B	79.06	333	P	P	08 34 54.6	-0.3
	0.4nm,0.6s,baz=100,slow=7.2,SNR=3.3						
ARCES	ARCESS Array B	81.64	340	P	P	08 35 08.0	-0.6
	2.2nm,0.9s,baz=102,slow=1.7,SNR=5.4						
NOA	NORSAR Array B	86.06	331	P	P	08 35 32.0	+0.6
	0.7nm,0.9s,baz=147,slow=5.8,SNR=3.3						

*CSEM **07** 08:36:13.8±0.1, 44.48N×6.97E, h10km, ML2.4/13, Error ellipse: s-maj=1.3km s-min=0.9km az=61.0*
*LDG **07** 08:36:14.4±0.1, 44.48N×6.96E, h2km, Md2.3/3, Ml2.5/8, Error ellipse: s-maj=1.7km s-min=0.9km az=63.0*
*GEN **07** 08:36:14.2, 44.47N×6.99E, h9km, ML1.8*
*STR **07** 08:36:14.1±0.3, 44.49N×6.98E, h5km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **07** 08:36:14.3±0.3, 44.49N×7.02E, h10km±1km, Md2.1/6, Ml1.8/4, Error ellipse: s-maj=3.5km s-min=1.6km az=61.0*

ISC 07 08:36:14.0±0.9, 44.48N±0.02×6.97E±0.02, h11km±5km, n49, σ0:50/99, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PZZ	Stroppo	0.11	73	Pg	Pg	08 36 17.0	+0.1
PZZ				Sg	Sg	08 36 18.8	-0.2
PZZ	Stroppo	0.11	73	P	Pg	08 36 17.0	+0.1
PZZ				S	Sg	08 36 18.8	-0.2
SURF	Saint Ours	0.12	272	Pg	Pg	08 36 17.0	-0.1
SURF				Sg	Sg	08 36 19.1	-0.2
SURF	Saint Ours	0.12	272	Pg	Pg	08 36 17.0	-0.1
SURF				Sg	Sg	08 36 19.1	-0.2
DOI	San Damiano	0.20	82	Pg	Pg	08 36 18.4	+0.1
DOI				Sg	Sg	08 36 21.3	+0.1
	201nm,0.2s						
DOI	San Damiano	0.20	82	Pg	Pg	08 36 18.4	+0.1
DOI				Sg	Sg	08 36 21.3	+0.1
	201nm,0.2s						
MBDF	Montbardon	0.29	330	*e*Pg	Pg	08 36 20.0	0.0
MBDF				*e*Sg	Sg	08 36 24.2	+0.3
	62nm,0.2s						
MBDF	Montbardon	0.29	330	*e*Pg	Pg	08 36 20.0	0.0
MBDF				*e*Sg	Sg	08 36 24.2	+0.3
	31nm,0.2s						
STV	Sant Anna di V	0.34	132	Pg	Pg	08 36 21.0	+0.1
STV				Sg	Sg	08 36 25.8	+0.3
	85nm,0.2s						
STV	Sant Anna di V	0.34	132	P	Pg	08 36 20.9	+0.1
STV				S	Sg	08 36 25.4	-0.1
STV				Sg	Sg	08 36 25.8	+0.3
	85nm,0.2s						
ENR	Entracque	0.41	128	P	Pg	08 36 22.0	-0.1
ENR				S	Sg	08 36 27.2	-0.3
BHB	Bricherasio	0.42	29	Pg	Pg	08 36 22.4	+0.1
BHB				Sg	Sg	08 36 28.0	+0.1
	56nm,0.2s						
BHB	Bricherasio	0.42	29	P	Pg	08 36 22.2	-0.1
BHB				S	Sg	08 36 27.7	-0.2
BHB				Sg	Sg	08 36 28.0	+0.1
	56nm,0.2s						
RRL	Rocca Remolon	0.46	344	P	Pg	08 36 23.2	0.0
RRL				S	Sg	08 36 29.8	+0.5
TOUF	Mont Tournerai	0.50	157	Pg	Pg	08 36 23.9	0.0
TOUF	Mont Tournerai	0.50	157	Pg	Pg	08 36 23.9	0.0
AUTN	L'Aution	0.58	146	Pg	Pg	08 36 25.1	-0.3
AUTN				Sg	Sg	08 36 33.2	+0.1
AUTN	L'Aution	0.58	146	Pg	Pg	08 36 25.1	-0.3
AUTN				Sg	Sg	08 36 33.2	+0.1
MVIF	Mont Vial	0.59	167	Pg	Pg	08 36 26.2	+0.6
MVIF

9.8nm,0.2s
ORIF Oris-en-Rattie 0.90 300 *e*Pg **Pg 08 36 31.0 -0.3**
ORIF *e*Sg **Sg 08 36 41.7 -1.3**
4.9nm,0.2s
FRF La Foret Royal 0.94 195 *e*Pg **Pg 08 36 32.1 -0.1**
FRF *e*Sg **Sg 08 36 43.9 -0.6**
21nm,0.2s
FRF La Foret Royal 0.94 195 *e*Pg **Pg 08 36 32.1 -0.1**
FRF *e*Sg **Sg 08 36 43.9 -0.6**
10nm,0.2s
QLNO Quiliano 1.00 98 Pg **Pg 08 36 32.8 -0.4**
QLNO Sg **Sg 08 36 45.7 -0.4**
QLNO Quiliano 1.00 98 Pg **Pg 08 36 32.8 -0.4**
QLNO Sg **Sg 08 36 45.7 -0.4**
LPG La Plagne 1.03 351 *e*Pg **Pg 08 36 34.2 +0.3**
LPG *e*Sg **Sg 08 36 47.7 +0.3**
12nm,0.4s
LPG La Plagne 1.03 351 *e*Pg **Pg 08 36 34.2 +0.3**
LPG *e*Sg **Sg 08 36 47.7 +0.3**
6.2nm,0.4s
LPL La Plagne 1.05 351 *e*Pg **Pg 08 36 34.0 -0.3**
LPL *e*Sg **Sg 08 36 48.2 +0.1**
11nm,0.4s
LPL La Plagne 1.05 351 *e*Pg **Pg 08 36 34.0 -0.3**
LPL *e*Sg **Sg 08 36 48.2 +0.1**
5.3nm,0.4s
SMRF Simiane la Rot 1.12 244 *e*Pg **Pb 08 36 35.4 -0.1**
SMRF *e*Sg **Sg 08 36 49.3 -0.9**
18nm,0.4s
SMRF Simiane la Rot 1.12 244 *e*Pg **Pb 08 36 35.4 -0.1**
SMRF *e*Sg **Sg 08 36 49.3 -0.9**
9.0nm,0.4s
LMR La Mourre 1.19 197 *e*Pg **Pb 08 36 36.6 0.0**
LMR *e*Sg **Sb 08 36 51.4 -0.6**
12nm,0.2s
LMR La Mourre 1.19 197 *e*Pg **Pb 08 36 36.6 0.0**
LMR *e*Sg **Sb 08 36 51.4 -0.6**
6.2nm,0.2s
VIVF Saint-Julien-l 1.69 284 *e*Pg **Pg 08 36 46.1 -0.2**
VIVF *e*Sg **Sb 08 37 07.5 +1.2**
8.9nm,0.4s
VIVF Saint-Julien-l 1.69 284 *e*Pg **Pg 08 36 46.1 -0.2**
VIVF *e*Sg **Sb 08 37 07.5 +1.2**
4.4nm,0.4s

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*ISCJB **07** 08:41:06.6±0.3,32°.25N±0°.02×115°.24W±0°.03,h22km±3km, Error ellipse: s-maj=4.3km s-min=3.5km az=9.2*
*NEIC **07** 08:41:06.5,32°.19N×115°.28W,h20km,ML3.6(PAS),After PAS.*
*MEX **07** 08:41:07.9±0.7,32°.34N×115°.10W,h31km±6km,MD3.8*
*ECX **07** 08:41:08.0±0.7,32°.25N×115°.29W,h6km,MD3.5,ML3.7*

ISC 07 08:41:06.5±0.9,32°.23N±0°.02×115°.28W±0°.03,h15km±7km, n33,σ0°63/48,3C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**353**	⇓*e*P	**Pg**	**08 41 10.9**	**-0.1**
CPBX				*e*S	**Sb**	**08 41 14.5**	**-0.6**
MBIG	**Mexicali**	**0.19**	**21**	*e*P	**Pb**	**08 41 11.5**	**-0.2**
MBIG				*e*S	**Sb**	**08 41 15.9**	**+0.8**
EMX	**El Mayor**	**0.24**	**173**	⇓*e*P	**Pg**	**08 41 11.7**	**-0.1**
EMX				*e*S	**Sg**	**08 41 15.5**	**+0.1**
SGL	**Mount Signal**	**0.56**	**318**	⇓*i*P	**Pg**	**08 41 17.4**	**-0.2**
RDX	**Rancho Dawling**	**0.64**	**242**	*e*P	**Pg**	**08 41 19.1**	**0.0**
RDX				*e*S	**Sb**	**08 41 28.0**	**-0.3**
COA	**Coachella**	**0.64**	**12**	⇓*i*P	**Pb**	**08 41 19.2**	**-0.2**
YMD	**Yuma Desert**	**0.70**	**62**	⇑*i*P	**Pg**	**08 41 19.8**	**-0.3**
COK	**Cook Ranch**	**0.72**	**329**	⇓*i*P	**Pb**	**08 41 20.7**	**-0.1**
RMX	**La Rumorosa**	**0.77**	**299**	*e*P	**Pg**	**08 41 21.0**	**-0.6**
RMX				*e*S	**Sg**	**08 41 31.3**	**-0.5**
RMX				⇑*e*		08 41 34.1	
RMX				AML	AML	08 41 34.1	
	comp=N,4μm,0.7s						
ECBX	**El Chinero**	**0.78**	**166**	*e*P	**Pg**	**08 41 21.3**	**-0.4**
ECBX				*e*S	**Sg**	**08 41 32.3**	**+0.3**
CRR	**Carrizo Plain**	**0.88**	**318**	⇓*i*P	**Pg**	**08 41 23.1**	**-0.4**
ZAX	**El Zacaton**	**1.11**	**230**	*e*P	**Pb**	**08 41 27.5**	**+0.1**
ZAX				*e*S	**Sn**	**08 41 42.8**	**+0.1**
CBX	**Cerro Bola**	**1.18**	**274**	*i*P	**Pn**	**08 41 28.5**	**-0.1**
CBX				*i*S	**Sb**	**08 41 43.8**	**0.0**
CBX	**Cerro Bola**	**1.18**	**274**	*e*P	**Pn**	**08 41 28.4**	**-0.2**
CBX				*e*S	**Sb**	**08 41 43.9**	**+0.1**
CBX				⇑*e*		08 41 45.9	
CBX				AML	AML	08 41 45.9	
	comp=N,2μm,0.6s						
CBX	**Cerro Bola**	**1.18**	**274**	*i*P	**Pn**	**08 41 28.5**	**-0.1**
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	**Pn**	**08 41 28.6**	**-0.3**
SPIG				*e*S	**Sb**	**08 41 44.7**	**+0.3**
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	**Pn**	**08 41 28.7**	**-0.3**
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	**Pn**	**08 41 28.6**	**-0.3**
SPIG				*e*S	**Sb**	**08 41 44.7**	**+0.3**
SPX	**San Pedro Mart**	**1.19**	**188**	*e*P	**Pn**	**08 41 28.6**	**-0.3**
SPX				*e*S	**Sg**	**08 41 45.8**	**+0.7**
SPX				AML	AML	08 41 48.5	
	comp=E,1μm,0.3s						
SPX				⇓*e*		08 41 48.5	
ECNX	**Esteban Cantu**	**1.26**	**243**	*e*P	**Pb**	**08 41 30.1**	**+0.1**
ECNX				*e*S	**Sg**	**08 41 46.9**	**-0.3**
BAR	**Barrett**	**1.26**	**291**	*e*Pn	**Pn**	**08 41 29.1**	**-0.6**
PBX	**Punta Banda**	**1.32**	**249**	*e*P	**Pn**	**08 41 30.7**	**+0.3**
PBX				*e*S	**Sn**	**08 41 48.2**	**+0.3**
PFO	**Pinyon Flats O**	**1.69**	**325**	*e*Pn	**Pn**	**08 41 34.1**	**-1.6**
PFO				*e*Sn	**Sn**	**08 41 56.6**	**-0.6**
214A	**Organ Pipe Nat**	**2.11**	**97**	*e*Pn	**Pn**	**08 41 40.3**	**-1.1**
LDFC	**Landfair**	**2.84**	**3**	*e*Pn	**Pn**	**08 41 52.1**	**+0.6**
MWC	**Mount Wilson**	**3.06**	**311**	Pn	**Pn**	**08 41 55.3**	**+0.8**
PASC	**Pasadena Art C**	**3.11**	**309**	Pn	**Pn**	**08 41 56.9**	**+1.9**
OSI	**Ooito Audit: C**	**3.73**	**310**	Pn	**Pn**	**08 42 03.7**	**0.0**
TUC	**Tucson**	**3.81**	**88**	*e*Pn	**Pn**	**08 42 05.7**	**-1.1**
SHPR	**Sheep Range**	**4.26**	**1**	*e*Pn	**Pn**	**08 42 12.1**	**+1.0**
WUAZ	**Wupatki**	**4.61**	**44**	*e*Pn	**Pn**	**08 42 17.2**	**+1.3**
W18A	**Petrified Fore**	**5.44**	**57**	*e*Pn	**Pn**	**08 42 28.5**	**+1.2**
	comp=E,9.9nm,0.5s						
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn	**Pn**	**08 42 39.7**	**0.0**
	comp=E,8.3nm,0.5s						

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*NIED **07** 08:41:00,24°.30N×125°.20E,h11km,Mw3.9 Best double couple: M0 7.09000×10^14 NP1:φs282.00000°,δ38.00000°, λ-142.00000°. NP2:φs161.00000°,δ68.00000°, λ-58.00000°.*
*ISCJB **07** 08:41:15.7±0.9,24°.30N±0°.08×125°.23E±0°.06,h46km±8km, mb3.5/7,Error ellipse: s-maj=14.3km s-min=6.7km az=152.8*
*JMA **07** 08:41:15.7±0.2,24°.27N×125°.22E,h37km,M4.1*
*IDC **07** 08:41:16.6±0.9,24°.06N×124°.78E,h29km±5km,mb3.4/7, mb1 3.6/8,mb1mx3.3/42,mbtmp3.6/8,ML3.5/1,Error ellipse: s-maj=40.3km s-min=15.5km az=66.0*

ISC 07 08:41:16.4±0.8,24°.28N±0°.07×125°.18E±0°.05,h28km±5km, n21,σ1°14/31,mb3.6/7,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.52**	**23**	P	**Pb**	**08 41 26.5**	**-0.6**
JOGS				S	**Sb**	**08 41 34.7**	**+0.3**
JMJ	**Miyako jima 2**	**0.55**	**11**	P	**Pb**	**08 41 26.8**	**-0.7**
JMJ				S	**Sb**	**08 41 35.1**	**0.0**
JIRB	**Irabujima**	**0.55**	**359**	P	**Pb**	**08 41 26.8**	**-0.8**
JIRB				S	**Sb**	**08 41 34.9**	**-0.3**
JTJ	**Tarama**	**0.57**	**310**	P	**Pb**	**08 41 27.6**	**-0.3**
JTJ				S	**Sb**	**08 41 35.8**	**+0.1**
JIKM	**Ikemajima**	**0.65**	**5**	P	**Pb**	**08 41 28.3**	**-0.9**
JIKM				S	**Sb**	**08 41 38.0**	**+0.1**
JISG	**Ishigakijimahi**	**0.85**	**292**	P	**Pn**	**08 41 31.8**	**-0.7**
JISG				*e*S	**Sn**	**08 41 43.9**	**-0.1**
JIJ	**Ishigaki jima**	**0.95**	**276**	P	**Pb**	**08 41 33.9**	**-0.4**
JIJ				S	**Sb**	**08 41 47.8**	**+1.3**
HATJ	**Hateruma jima**	**1.28**	**260**	P	**Pn**	**08 41 38.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.33**	**273**	P	**Pn**	**08 41 39.5**	**+0.5**
YOJ	**Yonaguni jima**	**1.99**	**276**	P	**Pn**	**08 41 47.6**	**-0.5**
JKE	**Kume jima 2**	**2.51**	**35**	P	**Pn**	**08 41 55.0**	**-0.2**
MJAR	**Matsushiro Arr**	**16.58**	**39**	Pn	**P**	**08 45 12.3**	**+3.1**
	0.2nm,0.3s,baz=207,slow=8.4,SNR=3.8						
MKAR	**Makanchi Array**	**40.85**	**314**	P	**P**	**08 48 55.5**	**-0.2**
	0.4nm,0.4s,baz=102,slow=9.1,SNR=13						
MKAR				pP	**pP**	**08 49 04.3**	**+0.2**
	1.4nm,0.7s,baz=102,slow=11,SNR=9.3						
KURBB	**Kurchatov Arra**	**44.42**	**319**	P	**P**	**08 49 23.8**	**-0.8**
	0.2nm,0.3s,baz=107,slow=8.8,SNR=4.2						
KURBB				pP	**pP**	**08 49 32.5**	**-0.6**
	1.3nm,0.7s,baz=109,slow=8.2,SNR=7.2						
WRA	**Warramunga Arr**	**44.85**	**168**	P	**P**	**08 49 27.1**	**-1.2**
	0.5nm,0.4s,baz=348,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**48.40**	**169**	P	**P**	**08 49 55.5**	**-0.6**
	0.3nm,0.4s,baz=355,slow=7.3,SNR=7.8						
ASAR				pP	**pP**	**08 50 03.1**	**-1.5**
	0.3nm,0.6s,baz=353,slow=14,SNR=3.3						
BVAR	**Borovoye Array**	**49.94**	**320**	P	**P**	**08 50 06.8**	**-0.8**
	0.3nm,0.4s,baz=90,slow=10,SNR=2.1						
BVAR				pP	**pP**	**08 50 15.7**	**-0.4**
	0.3nm,0.4s,baz=109,slow=8.0,SNR=2.9						
ILAR	**Eielson Array**	**67.45**	**28**	pP	pP	08 52 20.7	+2.6
	0.4nm,0.9s,baz=256,slow=6.0,SNR=2.2						
FINES	**FINESS Array B**	**73.19**	**330**	P	**P**	**08 52 42.8**	**-1.5**
	0.8nm,0.7s,baz=54,slow=7.1,SNR=2.6						
NOA	**NORSAR Array B**	**79.82**	**333**	pP	pP	08 53 29.6	-1.4
	0.9nm,0.7s,baz=52,slow=5.7,SNR=2.4						
YKA	**Yellowknife Ar**	**81.44**	**24**	P	**P**	**08 53 32.9**	**+2.4**
	0.3nm,0.7s,baz=306,slow=5.3,SNR=6.5						
YKA				pP	**pP**	**08 53 42.0**	**+2.5**
	0.5nm,0.8s,baz=307,slow=4.9,SNR=7.7						

IDC 07 08:55:16.4±1.8,29°.28N×103°.51E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.2/43,mbtmp3.4/3,Error ellipse: s-maj=545.6km s-min=28.0km az=54.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.06**	**322**	P	P	09 00 33.4	0.0
	0.6nm,0.8s,baz=137,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**57.26**	**145**	P	P	09 05 06.6	+0.6
	0.5nm,0.7s,baz=333,slow=8.1,SNR=8.9						
ASAR	**Alice Springs**	**60.22**	**148**	P	P	09 05 25.6	-0.9
	0.2nm,0.4s,baz=328,slow=7.0,SNR=4.8						

IDC 07 09:05:34.8±2.9,28°.38N×52°.27E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.4/35,mbtmp3.7/5,MS2.9/1,Ms1 2.9/1, ms1mx2.4/43,Error ellipse: s-maj=75.7km s-min=33.0km az=143.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**28.29**	**328**	LR	LR	09 24 46.4	
	comp=Z,24nm,20.2s,baz=355,slow=41						
ZALV	**Zalesovo Beam**	**34.87**	**34**	P	P	09 12 27.6	0.0
	0.6nm,0.5s,baz=235,slow=10.0,SNR=2.7						
FINES	**FINESS Array B**	**37.38**	**340**	P	P	09 12 49.2	+0.2
	0.5nm,0.4s,baz=147,slow=7.9,SNR=4.1						
ARCES	**ARCESS Array B**	**44.00**	**347**	P	P	09 13 43.2	-0.3
	1.6nm,0.8s,baz=144,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**49.31**	**263**	P	P	09 14 25.8	-0.1
	0.3nm,0.5s,baz=63,slow=8.2,SNR=5.5						
YKA	**Yellowknife Ar**	**88.83**	**354**	P	P	09 18 30.2	-0.2
	0.2nm,0.6s,baz=8.6,slow=5.6,SNR=7.8						

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*NEIC **07** 09:07:47.1,16°.60N×100°.37W,h2km,MD4.6(MEX),After MEX.*

MEX 07 09:07:47.1±0.6,16°.60N×100°.37W,h2km±5km,MD4.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.46**	**12**	*e*P	Pg	09 07 55.2	-0.7
CAIG				*e*S	Sg	09 08 02.5	+0.6
CAIG	**El Cayaco**	**0.46**	**12**	*e*P	Pb	09 07 55.2	-2.7
CAIG				*e*S1	Sb	09 08 02.5	-2.7
ACX	**Acapulco**	**0.56**	**61**	*e*P	Pg	09 07 56.9	-1.0
ACX				*e*S	Sg	09 08 03.5	-1.7
ACX	**Acapulco**	**0.56**	**61**	*e*P1	Pb	09 07 56.9	-2.8
ACX				*e*S3	Sb	09 08 03.5	-4.6
ZIIG	**Zihuatanejo**	**1.45**	**314**	*e*P	Pn	09 08 10.6	-3.8
ZIIG				*i*S	Sb	09 08 28.7	-5.1
ZIIG	**Zihuatanejo**	**1.45**	**314**	*e*P3	Pn	09 08 10.6	-3.8
ZIIG				*i*S3	Sn	09 08 28.7	-5.3
MEIG	**Mezcala**	**1.50**	**28**	*e*P	Pn	09 08 12.0	-3.3
MEIG	**Mezcala**	**1.50**	**28**	*e*P2	Pn	09 08 12.0	-3.3
ARIG	**Puente Sto Nin**	**1.67**	**1**	*e*P2	Pn	09 08 14.2	-3.3
ARIG				*e*S4	Sn	09 08 34.5	-5.1
PLIG	**Platanillo**	**1.97**	**25**	*e*P	Pn	09 08 18.6	-3.0
PLIG				*i*S	Sn	09 08 42.0	-5.0
PLIG	**Platanillo**	**1.97**	**25**	*e*P2	Pn	09 08 18.6	-3.0
PLIG				*i*S3	Sn	09 08 42.0	-5.0
TLIG	**Tlapa**	**1.97**	**61**	*e*P2	Pn	09 08 18.5	-3.3
TLIG				*e*S3	Sn	09 08 42.1	-5.0
PNIG	**Pinotepa**	**2.16**	**95**	*i*P	Pn	09 08 22.2	-2.0
PNIG				*i*S	Sn	09 08 46.6	-5.0
PNIG	**Pinotepa**	**2.16**	**95**	*i*P4	Pn	09 08 22.2	-2.0
PNIG				*i*S3	Sn	09 08 46.6	-5.0
YAIG	**Yautepec**	**2.57**	**29**	*e*P	Pn	09 08 27.3	-2.7
YAIG	**Yautepec**	**2.57**	**29**	*e*P3		09 08 27.3	
MMIG	**Aquila**	**3.30**	**301**	*i*P	Pn	09 08 38.1	-1.8
MMIG				*i*S	Sn	09 09 16.3	-3.4
MMIG	**Aquila**	**3.30**	**301**	*i*P4	Pn	09 08 38.1	-1.8
MMIG				*i*S3	Sn	09 09 16.3	-3.4
VHO	**Vista Hermosa**	**3.51**	**82**	*e*P	Pn	09 08 35.9	-7.2
VHO	**Vista Hermosa**	**3.51**	**82**	*e*P4	Pn	09 08 35.9	-7.2

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*ISCJB **07** 09:17:59.3±0.4,19°.84S±0°.03×69°.00W±0°.04,h90km±3km, mb4.7/86,Error ellipse: s-maj=6.2km s-min=4.4km az=155.0*
*GUC **07** 09:18:01.3±0.5,20°.01S×69°.31W,h111km±4km,ML5.4*
*NEIC **07** 09:18:02.3±0.2,19°.97S×69°.05W,mb4.8/61,Error ellipse: s-maj=6.1km s-min=3.9km az=82.0*
NEIC Felt [III] at Iquique and [II] at Alto Hospicio, Camina and Huara. Also felt at Calama.
*IDC **07** 09:18:02.6±0.5,19°.86S×69°.00W,h107km±3km,mb4.3/22, mb1 4.5/24,mb1mx4.3/39,mbtmp4.7/24,MS3.7/4, Ms1 3.7/4,ms1mx3.3/23,Error ellipse: s-maj=13.2km s-min=10.6km az=60.0*
*BJI **07** 09:18:04.3,19°.90S×68°.80W,h104km,mB5.3/7*

ISC 07 09:18:02.1±0.3,19°.99S±0°.03×69°.28W±0°.05,h106km±2km, h106km:pP-P,n445,σ1°09/516,mb4.7/87,141C-140D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.64**	**243**	⇑*e*P	**Pn**	**09 18 19.6**	**-0.1**
HMBC				*e*S	**Sn**	**09 18 33.2**	**+0.2**
HMBC				AML	AML	09 18 35.1	
	comp=E,289μm,0.6s						
HMBC	**Humberstone**	**0.64**	**243**	⇑*e*P	**Pn**	**09 18 19.6**	**-0.1**
HMBC				*e*S	**Sn**	**09 18 33.2**	**+0.2**
PSGC	**Pisagua**	**0.89**	**296**	⇑*e*P	**Pn**	**09 18 21.9**	**-0.1**
PSGC				*e*S	**Sn**	**09 18 37.3**	**+0.3**
PSGC				AML	AML	09 18 38.0	
	comp=N,54μm,0.3s						
PSGC	**Pisagua**	**0.89**	**296**	⇑*e*P	**Pn**	**09 18 21.9**	**-0.1**
PSGC				*e*S	**Sn**	**09 18 37.3**	**+0.3**
MNMC	**Minimini**	**0.91**	**341**	⇑*e*P	**Pn**	**09 18 22.6**	**+0.2**
MNMC				*e*S	**Sn**	**09 18 38.5**	**+0.9**
MNMC				AML	AML	09 18 39.9	
	comp=E,585μm,0.7s						
MNMC	**Minimini**	**0.91**	**341**	⇑*e*P	**Pn**	**09 18 22.6**	**+0.2**
MNMC				*e*S	**Sn**	**09 18 38.5**	**+0.9**
PB01	**IPOC Station P**	**1.07**	**191**	⇓*e*P	**Pn**	**09 18 23.7**	**-0.1**
PB01				*e*S	**Sn**	**09 18 40.4**	**+0.2**
PB01				AML	AML	09 18 42.1	
	comp=E,66μm,0.8s						
PB01	**IPOC Station P**	**1.07**	**191**	⇓*e*P	**Pn**	**09 18 23.7**	**-0.1**
PB01				*e*S	**Sn**	**09 18 40.4**	**+0.2**
PATCX	**Punta Patache**	**1.17**	**225**	⇑*e*P	**Pn**	**09 18 24.5**	**-0.4**
PATCX				*e*S	**Sn**	**09 18 42.3**	**+0.2**
PB07	**IPOC Station P**	**1.82**	**198**	*e*P	**Pn**	**09 18 32.5**	**-0.4**
PB07				*e*S	**Sn**	**09 18 56.1**	**-0.1**
PB07				AML	AML	09 19 04.0	
	comp=E,20μm,0.5s						
PB07	**IPOC Station P**	**1.82**	**198**	*e*P	**Pn**	**09 18 32.5**	**-0.4**
PB07				*e*S	**Sn**	**09 18 56.1**	**-0.1**
PB04	**IPOC Station P**	**2.27**	**185**	⇓*e*P	**Pn**	**09 18 40.4**	**+1.9**
PB04				*e*S	**Sn**	**09 19 09.3**	**+3.1**
PB04				AML	AML	09 19 39.8	
	comp=N,6μm,1.3s						
PB04	**IPOC Station P**	**2.27**	**185**	P	**Pn**	**09 18 40.4**	**+1.9**
PB04				S	**Sn**	**09 19 09.3**	**+3.1**
LVC	**Limon Verde**	**2.63**	**173**	*e*Pn	**Pn**	**09 18 43.8**	**+0.3**
LVC				*e*Sn	Sn	09 19 07.8	-7.2
PB06	**IPOC Station P**	**2.72**	**186**	⇓*e*P	**Pn**	**09 18 43.7**	**-0.7**
PB06				*e*S	**Sn**	**09 19 14.9**	**-2.1**
PB06				AML	AML	09 19 23.2	
	comp=N,6μm,0.4s						
PB06	**IPOC Station P**	**2.72**	**186**	P	**Pn**	**09 18 43.7**	**-0.7**
PB06				S	**Sn**	**09 19 14.9**	**-2.1**
CEN1	**Los Morros**	**3.49**	**194**	*e*P	**Pn**	**09 18 56.9**	**+2.2**
CEN1	**Los Morros**	**3.49**	**194**	P	**Pn**	**09 18 56.9**	**+2.2**
PB10	**IPOC Station P**	**3.70**	**198**	⇓*e*P	**Pn**	**09 18 55.6**	**-1.8**
PB10				AML	AML	09 19 56.8	
	comp=E,7μm,0.4s						
ANCH	**Antofagasta**	**3.82**	**196**	*e*P	Pn	09 18 52.9	-6.1
ANCH	**Antofagasta**	**3.82**	**196**	P	Pn	09 18 52.9	-6.1
LPAZ	**La Paz**	**3.84**	**17**	P	**Pn**	**09 19 01.9**	**+2.0**
	comp=E,34nm,0.3s,baz=198,slow=9.2,SNR=908						
LPAZ				S	**Sn**	**09 19 45.8**	**+1.3**
	comp=E,20nm,0.3s,baz=220,slow=16,SNR=3.9						
LPAZ	**La Paz**	**3.84**	**17**	*e*Pn	**Pn**	**09 19 01.5**	**+1.6**
LPAZ				S	**Sn**	**09 19 45.8**	**+1.3**
ARE	**Arequipa**	**4.09**	**329**	⇑*i*P	**Pn**	**09 19 01.8**	**-1.2**
ARE				*e*S	**Sn**	**09 19 48.0**	**-2.1**
CPCH	**Copiapo**	**7.40**	**187**	*e*P	Pn	09 19 43.7	-3.8
CPCH	**Copiapo**	**7.40**	**187**	P	Pn	09 19 43.7	-3.8
SIV	**San Ignacio**	**8.76**	**64**	P	Pn	09 20 02.2	-3.8
	comp=E,25nm,0.3s,baz=263,slow=11,SNR=484						
SIV				S	Sn	09 21 34.4	-8.8
	comp=E,1.7nm,0.3s,baz=335,slow=23,SNR=3.0						
LCO	**Las Campanas**	**9.07**	**188**	*e*P	Pn	09 20 05.2	-5.3
LCO	**Las Campanas**	**9.07**	**188**	P	Pn	09 20 05.2	-5.3
NNA	**Nana**	**10.78**	**316**	P	**Pn**	**09 20 31.3**	**-2.2**
	comp=E,4.5nm,0.3s,baz=209,slow=6.3,SNR=9.6						
NNA				S	**Sn**	**09 22 27.2**	**-5.0**
	comp=E,3.0nm,0.3s,baz=226,slow=17,SNR=3.1						
CMCH	**Combarbala**	**11.24**	**188**	*e*P	Pn	09 20 33.3	-6.4
CMCH	**Combarbala**	**11.24**	**188**	P	Pn	09 20 33.3	-6.4
CFAA	**Coronel Fontan**	**11.60**	**176**	P	Pn	09 20 39.9	-4.6
	comp=E,0.3nm,0.3s,baz=350,slow=12,SNR=20						
CFAA				S	Sn	09 22 39.5	-13
	comp=E,0.3nm,0.3s,baz=229,slow=20,SNR=4.0						
SAML	**Samuel**	**12.46**	**29**	*e*Pn	Pn	09 20 51.1	-4.8
ROCH	**El Roble**	**13.02**	**186**	*e*P	**Pn**	**09 21 03.4**	**0.0**
ROCH	**El Roble**	**13.02**	**186**	P	**Pn**	**09 21 03.4**	**0.0**
CLCH	**Cerro Calan**	**13.40**	**185**	*e*P	**Pn**	**09 21 08.4**	**+0.3**
ATAH	**Atahualpa**	**15.54**	**324**	P	**P**	**09 21 38.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=99,slow=13,SNR=3.2						
TRQA	**Tornquist**	**19.09**	**162**	*e*Pn	**P**	**09 22 15.7**	**-0.7**
	comp=E,50nm,0.9s						
BDFB	**Brasilia**	**20.69**	**81**	P	**P**	**09 22 31.4**	**-2.7**
	comp=E,84nm,0.6s,baz=256,slow=11,SNR=51						
BDFB				LR	LR	09 31 47.5	
	comp=E,325nm,18.3s,baz=238,slow=40						
PLCA	**Paso Flores**	**20.70**	**183**	P	**P**	**09 22 34.6**	**+0.6**
	comp=E,63nm,0.7s,baz=12,slow=12,SNR=23						
PLCA	**Paso Flores**	**20.70**	**183**	*e*P	**P**	**09 22 34.3**	**+0.3**
	comp=E,114nm,1.1s						
PTGA	**Pitinga**	**21.20**	**27**	P	**P**	**09 22 36.2**	**-3.2**
	comp=E,10nm,0.2s,baz=85,slow=22,SNR=26						
PTGA	**Pitinga**	**21.20**	**27**	P	**P**	**09 22 36.2**	**-3.2**
	comp=E,5.7nm,1.2s						
OTAV	**Otavalo**	**22.02**	**335**	*e*P	**P**	**09 22 53.3**	**+4.7**
	comp=E,22nm,0.9s						
ROSC	**El Rosal**	**25.19**	**348**	LR	LR	09 33 07.9	
	comp=E,87nm,18.3s,baz=202,slow=36						
USHA	**Ushuaia**	**34.79**	**179**	P	**P**	**09 24 43.5**	**+1.2**
	comp=E,12nm,0.9s,baz=297,slow=5.7,SNR=3.5						
RCBR	**Ruachuelo**	**35.35**	**71**	*e*P	**P**	**09 24 45.1**	**-2.6**
	comp=E,53nm,0.6s						
CELP	**Cerrillos**	**37.92**	**4**	*e*P	**P**	**09 25 07.8**	**-1.6**
GOGA	**Godfrey**	**54.80**	**345**	*e*P	**P**	**09 27 20.6**	**-0.5**
	comp=E,13nm,1.0s						
GOGA				*e*pP	**pP**	**09 27 46.6**	**-0.1**
LRAL	**Lakeview Retre**	**55.38**	**342**	*e*P	**P**	**09 27 24.0**	**-1.3**
	comp=E,6.7nm,0.7s						
LRAL				*e*pP	**pP**	**09 27 50.3**	**-0.6**
933A	**Laredo**	**55.52**	**327**	⇓P	**P**	**09 27 27.5**	**+1.1**
	baz=56						
834A	**Tilden**	**55.58**	**328**	⇓P	**P**	**09 27 28.3**	**+1.5**
	baz=56						
735A	**Kenedy**	**55.83**	**330**	⇓P	**P**	**09 27 30.1**	**+1.5**
	baz=56						
636A	**Smothers Creek**	**56.01**	**331**	⇑P	**P**	**09 27 31.7**	**+1.8**
	baz=56						
KMSC	**Kings Mountain**	**56.01**	**348**	⇓P	**P**	**09 27 30.4**	**+0.6**
	baz=56						
833A	**Chaparral WMA,**	**56.16**	**328**	⇑P	**P**	**09 27 31.2**	**+0.2**
	baz=56,SNR=5.5						
734A	**La Parita Cree**	**56.19**	**329**	⇑P	**P**	**09 27 32.1**	**+1.0**
	baz=56						
635A	**Leesville**	**56.26**	**330**	⇑P	**P**	**09 27 32.5**	**+0.8**
	baz=57						
832A	**Faith Ranch, C**	**56.43**	**327**	⇓P	**P**	**09 27 33.9**	**+1.0

TXAR **Lajitas Array** 59.20 325 P P 09 27 52.7 +0.3
comp=E,1.2nm,0.8s,baz=145,slow=7.9,SNR=14
TXAR pP pP 09 28 18.4 +0.1
comp=E,1.6nm,1.0s,baz=134,slow=7.2,SNR=5.3
232A **Coleman** 59.23 330 ⇓P P 09 27 52.8 +0.3
baz=60,SNR=5.8
429A **Davenport Ranc** 59.30 327 ⇑P P 09 27 53.4 +0.4
baz=60,SNR=7.9
Z35A **Perchaven, San** 59.37 333 ⇑P P 09 27 53.5 +0.2
baz=60
133A **Hamilton Ranch** 59.49 331 ⇓P P 09 27 54.5 +0.3
baz=60
330A **Mertzon** 59.57 328 ⇑P P 09 27 55.1 +0.3
baz=60
231A **Bronte** 59.59 329 ⇑P P 09 27 55.3 +0.4
baz=60
Z34A **Collier Ranch,** 59.69 332 ⇑P P 09 27 56.1 +0.5
baz=60
ABTX **Abilene, Hawle** 59.84 330 ⇑P P 09 27 56.8 +0.1
baz=60
ABTX **Abilene, Hawle** 59.84 330 *e*P P 09 27 56.7 +0.1
comp=E,12nm,0.8s
ABTX *e*pP pP 09 28 22.6 0.0
PBMO **Poplar Bluff** 59.89 340 *e*P P 09 27 56.2 -0.6
comp=E,14nm,0.7s
230A **Sterling City** 59.93 329 ⇓P P 09 27 58.2 +0.9
baz=60
Z33A **Whitaker Ranch** 59.99 332 ⇑P P 09 27 58.1 +0.4
baz=60
329A **Wagon Wheel Ra** 60.04 328 ⇑P P 09 27 58.3 +0.3
baz=60
Y34A **Reagan Ranch,** 60.12 333 ⇑P P 09 27 59.0 +0.5
baz=60
131A **Roby** 60.23 330 ⇑P P 09 27 59.9 +0.5
baz=61
Z32A **Haskell** 60.33 331 ⇓P P 09 28 00.4 +0.4
baz=61
229A **Bryant Ranch,** 60.34 328 ⇓P P 09 28 00.3 +0.1
baz=61
130A **Snyder** 60.44 329 ⇓P P 09 28 01.1 +0.3
baz=61
Y33A **Hilltop Ranch,** 60.54 332 ⇓P P 09 28 01.7 +0.3
baz=61
Z31A **Sharp Cattle R** 60.65 330 ⇑P P 09 28 02.7 +0.5
baz=61
X34A **Smith Ranch, M** 60.70 333 ⇓P P 09 28 02.5 0.0
baz=61
228A **UT Block 9, Go** 60.85 328 ⇓P P 09 28 03.7 +0.1
baz=61
Y32A **R-V Farms, Ver** 60.90 331 ⇑P P 09 28 04.1 +0.3
baz=61
129A **Stewart Farms,** 60.91 329 ⇓P P 09 28 04.6 +0.6
baz=61,SNR=5.6
X33A **Lawton** 60.94 333 ⇑P P 09 28 04.0 -0.1
baz=61
TUL1 **Leonard** 61.01 336 ⇓P P 09 28 04.7 +0.3
baz=61
TUL1 **Leonard** 61.01 336 *e*P P 09 28 04.8 +0.3
comp=E,14nm,0.9s
TUL1 *e*pP pP 09 28 30.1 -0.4
Z30A **Sanderson Ranc** 61.09 330 ⇓P P 09 28 05.3 +0.1
baz=61,SNR=5.7
Y31A **Rekieta Farm,** 61.24 331 ⇑P P 09 28 06.8 +0.7
baz=62
ACSO **Alum Creek Sta** 61.26 348 *e*P P 09 28 05.7 -0.4
comp=E,11nm,0.9s
Z29A **Hungry Hill Ra** 61.34 329 ⇓P P 09 28 07.1 +0.2
baz=62
W33A **Caddo, Fort Co** 61.45 333 ⇓P P 09 28 08.0 +0.5
baz=62,SNR=5.7
VNA3 **Neumayer Olymp** 61.61 162 P P 09 28 09.1 +1.0
V34A **Guthrie** 61.63 334 ⇓P P 09 28 09.2 +0.5
baz=62
X31A **McDonald Ranch** 61.67 331 ⇑P P 09 28 09.3 +0.3
baz=62,SNR=6.3
Z28A **Tucker Farm, M** 61.69 329 ⇓P P 09 28 09.5 +0.2
baz=62
W32A **Sentinel** 61.76 332 ⇓P P 09 28 09.7 +0.1
baz=62,SNR=8.7
Y29A **Porterfield Fa** 61.81 330 ⇑P P 09 28 10.3 +0.2
baz=62
X30A **Coker Ranch, T** 61.92 331 ⇓P P 09 28 11.1 +0.4
baz=62
V33A **Lossen Ranch,** 61.94 333 ⇓P P 09 28 11.3 +0.5
baz=62
MNTX **Cornudas Mount** 61.97 325 ⇓P P 09 28 11.2 +0.1
baz=62,SNR=5.9
Y28A **McKinney Farm,** 62.13 329 ⇓P P 09 28 12.3 +0.1
baz=62
U34A **Anderson Ranch** 62.16 334 ⇑P P 09 28 12.3 +0.1
baz=62
V32A **Arapaho** 62.17 333 ⇑P P 09 28 12.3 -0.1
baz=62
VNA2 **Neumayer--Watz** 62.18 161 P P 09 28 12.9 +0.9
BBTS **Babate** 62.25 61 P P 09 28 12.2 -1.0
comp=E,33nm,0.6s,baz=207,slow=1.3,SNR=6.5
X29A **Tulia** 62.31 330 ⇓P P 09 28 13.5 +0.1
baz=63
SFIN **Lafayette** 62.31 345 ⇓P P 09 28 12.2 -0.9
baz=63
U33A **Lingo Farm, Me** 62.39 334 ⇑P P 09 28 13.8 0.0
baz=63
MSTX **Muleshoe** 62.43 329 ⇑P P 09 28 14.4 +0.2
baz=63,SNR=6.3
MSTX **Muleshoe** 62.43 329 *e*P P 09 28 14.4 +0.2
comp=E,17nm,1.0s
MSTX *e*pP pP 09 28 35.0 -5.4
S36A **Lake Cedric, C** 62.52 337 ⇑P P 09 28 14.6 0.0
baz=63,SNR=12
V31A **Spring Creek L** 62.57 332 ⇓P P 09 28 15.5 +0.5
baz=63
ERPA **Erie** 62.58 351 *e*P P 09 28 15.1 +0.2
comp=E,21nm,0.8s
AMTX **Amarillo** 62.66 330 ⇓P P 09 28 16.9 +1.2
baz=63
S35A **Otter Creek Ra** 62.76 336 ⇑P P 09 28 16.3 +0.1
baz=63,SNR=6.9
R37A **Teagarden Farm** 62.77 338 ⇓P P 09 28 16.0 -0.2
baz=63,SNR=6.1
W29A **Amarillo** 62.84 330 ⇑P P 09 28 17.3 +0.5
baz=63
V30A **Spur Ranch, Mi** 62.93 332 ⇓P P 09 28 18.3 +0.8
baz=63
Q37A **Longview Farm,** 63.13 338 ⇑P P 09 28 18.8 +0.2
baz=64
T32A **Huddler Ranch,** 63.36 334 ⇑P P 09 28 21.4 +1.1
baz=64
V28A **Channing** 63.62 330 ⇓P P 09 28 22.9 +0.8
baz=64
MDV **Middlebury** 63.77 357 *e*P P 09 28 24.7 +2.0
MDV *e*pP pP 09 28 52.1 +3.2
NCB **Newcomb** 63.81 356 *e*P P 09 28 18.6 -4.4
comp=E,76nm,0.6s
SNAA **Sanae** 63.81 161 P P 09 28 23.5 +0.7
SNAA **Sanae** 63.81 161 P P 09 28 23.5 +0.7
comp=E,4.5nm,0.9s,baz=286,slow=8.9,SNR=24
SNAA **Sanae** 63.81 161 *e*P P 09 28 23.6 +0.8
comp=E,13nm,0.9s
V27A **Dan Oppiter Fa** 63.91 330 ⇓P P 09 28 25.0 +1.1
baz=64
W25A **X Bar L Ranch,** 64.26 328 ⇑P P 09 28 26.4 0.0
baz=65
R32A **Long Quarter,** 64.34 335 ⇑P P 09 28 26.8 +0.2
baz=65,SNR=5.3
V26A **Tequesquite Ra** 64.40 329 ⇓P P 09 28 28.0 +0.8
baz=65
R31A **Burdett** 64.56 334 ⇑P P 09 28 29.3 +1.2
baz=65
V25A **Rancho No Teng** 64.83 329 ⇑P P 09 28 30.6 +0.5
baz=65,SNR=5.1
U26A **Atchley Ranch,** 64.86 330 ⇑P P 09 28 30.7 +0.5
baz=65,SNR=8.8
R30A **Dighton** 64.87 333 ⇓P P 09 28 30.8 +0.7
baz=65
T27A **Campo** 64.92 331 ⇓P P 09 28 31.4 +0.8
baz=65
S28A **Manter** 64.99 332 ⇓P P 09 28 31.6 +0.7
baz=65
ANMO **Albuquerque** 65.05 327 *e*P P 09 28 29.3 -2.3
comp=E,4.6nm,0.9s
ANMO *e*pP pP 09 28 58.2 +0.4
Q31A **Ellis** 65.11 334 ⇑P P 09 28 31.9 +0.2
baz=66
U25A **Circle Dot Ran** 65.18 329 ⇓P P 09 28 33.0 +0.7
baz=66,SNR=9.5
P32A **Huiting Farm,** 65.33 335 ⇓P P 09 28 33.2 +0.2
baz=66
T26A **Comanche Natio** 65.42 330 ⇓P P 09 28 34.8 +1.0
baz=66
Q30A **Quinter** 65.43 334 ⇑P P 09 28 34.9 +1.2
baz=66
V23A **Ortiz Mt. (NFS** 65.54 328 ⇓P P 09 28 35.1 +0.5
baz=66
P31A **Stockton** 65.55 335 ⇓P P 09 28 34.9 +0.5
baz=66
Q29A **Oakley** 65.67 333 ⇓P P 09 28 35.6 +0.3
baz=66
S26A **Kim** 65.73 331 ⇓P P 09 28 36.6 +0.9
baz=66,SNR=10
O32A **Brockman Farm,** 65.75 336 ⇓P P 09 28 36.2 +0.5
baz=66
T25A **Trinidad** 65.78 330 ⇑P P 09 28 37.1 +0.9
baz=66
T25A **Trinidad** 65.78 330 *e*P P 09 28 37.3 +1.1
comp=E,5.1nm,0.8s
T25A *e*pP pP 09 29 02.8 +0.3
R27A **Eads** 65.96 332 ⇑P P 09 28 38.5 +1.3
baz=66
T24B **San Luis** 66.18 329 ⇓P P 09 28 39.7 +0.8
baz=66
S25A **Robets Cordova** 66.21 330 ⇑P P 09 28 39.6 +0.7
baz=67,SNR=5.1
T23A **Casias Ranch,** 66.48 329 ⇓P P 09 28 41.9 +1.1
baz=67
KSCO **Kaye Shedlock'** 66.48 332 ⇓P P 09 28 41.8 +1.2
baz=67
KSCO **Kaye Shedlock'** 66.48 332 *e*P P 09 28 41.7 +1.1
comp=E,27nm,1.3s
KSCO *e*pP pP 09 29 07.6 +0.6
S24A **Houchin Ranch,** 66.56 329 ⇓P P 09 28 42.3 +1.1
baz=67
BGNE **Belgrade** 66.70 337 ⇑P P 09 28 42.4 +0.7
baz=67
BGNE **Belgrade** 66.70 337 *e*P P 09 28 42.2 +0.5
comp=E,49nm,0.9s
SDCO **Great Sand Dun** 66.78 329 ⇑P P 09 28 43.6 +1.0
baz=67,SNR=10
SDCO **Great Sand Dun** 66.78 329 *e*P P 09 28 43.6 +1.0
comp=E,8.5nm,0.8s
SDCO *e*pP pP 09 29 09.8 +0.7
P27A **Ficken Ranch,** 66.91 333 ⇑P P 09 28 44.3 +1.0
baz=67
R24A **Sanders Place,** 66.98 330 ⇑P P 09 28 45.0 +1.2
baz=67
R23A **Moffat** 67.29 329 ⇑P P 09 28 47.2 +1.3
baz=68
O27A **Beecher Island** 67.39 333 ⇓P P 09 28 47.3 +1.0
baz=68
P25A **Willow Gulch B** 67.58 331 ⇓P P 09 28 48.6 +1.1
baz=68
Q24A **Divide** 67.59 330 ⇑P P 09 28 48.3 +0.5
baz=68,SNR=5.4
Q24A **Divide** 67.59 330 *e*P P 09 28 49.0 +1.2
comp=E,11nm,1.0s
Q24A *e*pP pP 09 29 15.2 +1.0
L31A **Butterfield Fa** 67.62 337 ⇑P P 09 28 48.0 +0.4
baz=68,SNR=6.4
O26A **Horse Wrangler** 67.80 332 ⇓P P 09 28 49.8 +1.0
baz=68
P24A **Kohler Place,** 67.92 331 ⇑P P 09 28 51.2 +1.6
baz=68
ECSD **EROS Data Cent** 68.19 339 ⇑P P 09 28 51.1 0.0
baz=68,SNR=6.5
ECSD **EROS Data Cent** 68.19 339 *e*P P 09 28 51.0 -0.1
comp=E,44nm,2.0s
ECSD *e*pP pP 09 29 18.2 +0.7
LIC **Lamto** 68.31 75 ⇑*i*P P 09 28 50.3 -2.2
comp=E,76nm,1.3s,baz=250
LIC **Lamto** 68.31 75 *e*P P 09 28 50.2 -2.2
comp=E,75nm,1.3s
LIC **Lamto** 68.31 75 ⇑*i*P P 09 28 50.3 -2.2
comp=E,76nm,1.3s
K30A **Basset** 68.34 336 ⇓P P 09 28 52.5 +0.4
baz=69,SNR=5.7
SPMN **Marine on St.** 68.35 342 ⇓P P 09 28 51.6 -0.4
baz=69
SPMN **Marine on St.** 68.35 342 *e*P P 09 28 51.6 -0.4
comp=E,10nm,0.8s
SPMN *e*pP pP 09 29 18.0 -0.5
ISCO **Idaho Springs** 68.47 331 ⇓P P 09 28 54.1 +0.8
baz=69,SNR=6.2
ISCO **Idaho Springs** 68.47 331 *e*P P 09 28 54.5 +1.2
comp=E,6.3nm,1.0s
ISCO *e*pP pP 09 29 20.8 +1.0
O24A **Longmont** 68.48 331 ⇑P P 09 28 54.0 +0.8
baz=69
TIC **Toumodi** 68.49 74 *e*P P 09 28 51.6 -2.0
comp=E,9.7nm,0.2s
SMCO **Snowmass** 68.62 329 *e*P P 09 28 55.9 +1.6
comp=E,7.9nm,0.8s
SMCO *e*pP pP 09 29 21.8 +1.0
KIC **Kosan Boka** 68.62 75 *e*P P 09 28 52.4 -2.0
comp=E,66nm,0.8s
DBIC **Dimbokro** 68.64 74 P P 09 28 52.6 -1.9
comp=E,34nm,0.8s,baz=221,slow=6.1,SNR=33
DBIC pP pP 09 29 20.9 -0.1
comp=E,18nm,0.8s,baz=213,slow=7.0,SNR=3.6
DBIC LR LR 09 57 05.3
comp=E,66nm,21.2s,baz=230,slow=34
DBIC **Dimbokro** 68.64 74 P P 09 28 52.6 -1.9
comp=E,28nm,1.1s
DBIC *e*pP pP 09 29 20.9 -0.1
K29A **Lazy Trails An** 68.68 336 ⇓P P 09 28 55.0 +0.8
baz=69
P22A **Eagle** 68.84 330 ⇓P P 09 28 56.6 +1.1
baz=69
J30A **Dallas** 68.85 337 ⇑P P 09 28 56.0 +0.8
baz=69
O23A **Lake Granby, G** 68.94 331 ⇓P P 09 28 57.2 +1.0
baz=69,SNR=8.4
N24A **Carr** 68.97 332 ⇑P P 09 28 57.6 +1.4
baz=69
K28A **Ten Mile Ranch** 69.05 335 ⇓P P 09 28 57.9 +1.4
baz=69
O22A **Kremmling** 69.19 330 ⇑P P 09 28 58.4 +0.7
baz=70,SNR=10
J29A **Okreek** 69.24 336 ⇓P P 09 28 58.4 +0.8
baz=70,SNR=9.5
K27A **Fluecklinger Fa** 69.39 335 ⇓P P 09 28 59.7 +1.1
baz=70
M24A **Cheyenne** 69.46 332 ⇓P P 09 29 00.2 +1.0
baz=70,SNR=9.4
N23A **Red Feather La** 69.50 331 ⇓P P 09 29 00.4 +0.8
baz=70,SNR=5.8
N23A **Red Feather La** 69.50 331 *e*P P 09 29 00.8 +1.3
comp=E,8.5nm,1.0s
N23A *e*pP pP 09 29 26.7 +0.6
J28A **Allard Ranch,** 69.60 336 ⇓P P 09 29 00.6 +0.8
baz=70,SNR=12
L25A **Engebretsen Ra** 69.65 333 ⇑P P 09 29 02.0 +1.7
baz=70
N22A **Wattenberg Ran** 69.66 331 ⇑P P 09 29 01.6 +1.1
baz=70,SNR=6.5
I29A **Vivian Onida** 69.75 337 ⇑P P 09 29 01.2 +0.4
baz=70
J27A **Elkhorn Farm,** 69.76 335 ⇑P P 09 29 02.0 +1.1
baz=70,SNR=17
M23A **Laramie** 69.86 332 ⇑P P 09 29 02.8 +1.1
baz=70
O20A **White River Ci** 69.98 329 ⇓P P 09 29 03.6 +1.2
baz=70
O20A **White River Ci** 69.98 329 *e*P P 09 29 03.4 +1.0
comp=E,7.6nm,1.0s
I28A **Midland** 70.06 336 ⇓P P 09 29 03.2 +0.5
baz=70
QSPA **South Pole Qui** 70.19 180 *e*P P 09 29 04.6 +1.2
comp=E,43nm,1.3s
M22A **Cedar Creek Ra** 70.20 331 ⇓P P 09 29 05.0 +1.2
baz=70
L23A **Garrett** 70.37 332 ⇑P P 09 29 05.4 +0.6
baz=71
I27A **Quinn** 70.46 336 ⇓P P 09 29 06.0 +0.9
baz=71,SNR=6.6
K24A **Anderson Ranch** 70.47 333 ⇓P P 09 29 06.4 +1.1
baz=71
N20A **Spence Gulch,** 70.53 330 ⇑P P 09 29 07.8 +2.0
baz=71
J25A **Sunshine Ranch** 70.60 334 ⇓P P 09 29 07.4 +1.3
baz=71
TUQ **Turquoise Moun** 70.67 321 ⇓P P 09 29 07.2 +0.5
baz=71
K23A **Bowen Ranch, D** 70.85 332 ⇓P P 09 29 08.8 +1.2
baz=71
G28A **Parade** 70.88 337 ⇓P P 09 29 08.6 +1.0
baz=71
H27A **Howes** 70.94 336 ⇑P P 09 29 08.2 +0.2
baz=71,SNR=8.6
I25A **Rochford** 71.09 334 ⇑P P 09 29 10.3 +1.2
baz=71,SNR=18
K22A **Casper** 71.16 332 ⇓P P 09 29 10.6 +1.0
baz=72
K22A **Casper** 71.16 332 *e*P P 09 29 10.8 +1.3
comp=E,5.9nm,0.9s
K22A *e*pP pP 09 29 37.2 +1.0
H26A **Fairpoint** 71.20 335 ⇓P P 09 29 10.6 +1.0
baz=72
RSSD **Black Hills** 71.30 334 *e*P P 09 29 11.4 +1.0
comp=E,5.5nm,0.9s
I24A **Kuemmerle Ranc** 71.32 334 ⇑P P 09 29 11.6 +1.2
baz=72
K21A **Alcova** 71.47 331 ⇑P P 09 29 12.6 +1.1
baz=72,SNR=12
F28A **McLaughlin** 71.50 337 ⇓P P 09 29 12.1 +0.8
baz=72,SNR=5.1
G27A **Dupree** 71.52 336 ⇑P P 09 29 12.0 +0.5
baz=72,SNR=5.9
H25A **Fruitdale** 71.53 335 ⇓P P 09 29 12.5 +0.9
baz=72
G26A **Maurine** 71.70 336 ⇓P P 09 29 12.7 +0.1
baz=72,SNR=9.5
J22A **Midwest** 71.75 332 ⇑P P 09 29 14.1 +1.0
baz=72,SNR=6.4
NLU **North Lily Min** 71.76 327 *e*P P 09 29 15.2 +2.0
comp=E,8.5nm,1.0s
OSI **Osito Audit: C** 71.81 319 ⇑P P 09 29 13.2 -0.2
baz=72
D30A **Buchanan** 71.88 339 ⇓P P 09 29 14.0 +0.5
baz=72,SNR=6.1
F27A **Lemmon** 71.97 337 ⇓P P 09 29 14.8 +0.6
baz=72
H24A **Dirks Ranch, A** 72.02 334 ⇑P P 09 29 15.3 +0.7
baz=72,SNR=5.9
AGMN **Agassiz Nation** 72.02 342 ⇑P P 09 29 14.6 +0.2
baz=72,SNR=6.9
AGMN **Agassiz Nation** 72.02 342 *e*P P 09 29 14.0 -0.4
comp=E,8.0nm,0.9s
E28A **Huff** 72.08 338 ⇑P P 09 29 15.1 +0.3
baz=72
I22A **9 Mile Ranch,** 72.14 333 ⇑P P 09 29 15.6 +0.3
baz=72,SNR=6.7
F26A **Lodgepole** 72.20 336 ⇓P P 09 29 16.1 +0.6
baz=72,SNR=15
E27A **Carson** 72.27 337 ⇓P P 09 29 16.4 +0.5
baz=73,SNR=5.3
C30A **Mose, Pekin** 72.31 340 ⇑P P 09 29 16.2 +0.1
baz=73,SNR=10.0
DUG **Dugway, Tooele** 72.32 326 ⇓P P 09 29 17.6 +1.1
baz=73,SNR=5.4
DUG **Dugway, Tooele** 72.32 326 *e*P P 09 29 18.0 +1.5
comp=E,8.7nm,1.1s
I21A **Big Trails, Te** 72.42 332 ⇓P P 09 29 17.9 +0.8
baz=73,SNR=11
G24A **Alzada** 72.44 335 ⇓P P 09 29 18.0 +1.0
baz=73,SNR=7.8
F25A **Bowman** 72.56 336 ⇓P P 09 29 18.2 +0.5
baz=73
D28A **Regan** 72.57 338 ⇑P P 09 29 18.8 +1.1
baz=73
PDAR **Pinedale Array** 72.64 330 P P 09 29 18.7 +0.3
comp=E,1.3nm,0.8s,baz=142,slow=5.1,SNR=8.2
PDAR pP pP 09 29 47.2 +2.0
comp=E,1.7nm,0.7s,baz=130,slow=7.4,SNR=5.5
E26A **Carlson Angus** 72.64 337 ⇑P P 09 29 18.6 +0.5
baz=73
G23A **Biddle** 72.73 334 ⇑P P 09 29 19.6 +0.9
baz=73
J19A **Crowheart** 72.79 331 ⇓P P 09 29 19.7 +0.4
baz=73,SNR=7.8
MDND **Maddock** 72.81 339 ⇓P P 09 29 19.5 +0.5
baz=73,SNR=7.2
MDND **Maddock** 72.81 339 *e*P P 09 29 19.7 +0.7
comp=E,185nm,0.9s
F24A **Ekalaka** 72.88 335 ⇑P P 09 29 19.8 +0.2
baz=73,SNR=15
I20A **Worland** 72.90 332 ⇑P P 09 29 20.7 +0.8
baz=73
B30A **Myrvik Farm, E** 72.92 340 ⇓P P 09 29 19.9 +0.2
baz=73,SNR=11
H21A **Big Horn, Sher** 72.97 333 ⇑P P 09 29 20.5 +0.3
baz=73
E25A **Miller Ranch,** 73.02 336 ⇑P P 09 29 20.9 +0.5
baz=73,SNR=5.4
SMMC **Simmler** 73.06 319 ⇑P P 09 29 21.9 +1.0
baz=73
D26A **Manning** 73.10 337 ⇓P P 09 29 21.4 +0.6
baz=73
G22A **Birney** 73.12 334 ⇓P P 09 29 21.7 +0.6
baz=74
F23A **Volborg** 73.16 334 ⇑P P 09 29 21.8 +0.5
baz=74,SNR=9.2
TPH **Tonopah** 73.23 322 *e*P P 09 29 21.2 -0.8
comp=E,9.4nm,0.8s
B29A **Wagenman Farm,** 73.26 340 ⇓P P 09 29 22.2 +0.5
baz=74,SNR=14
H20A **Greybull** 73.27 332 ⇓P P 09 29 22.7 +0.7
baz=74
A30A **Hoffart Farm,** 73.34 340 ⇑P P 09 29 22.1 0.0
baz=74,SNR=7.3
C27A **Sayler Ranch,** 73.34 338 ⇑P P 09 29 23.0 +0.7
baz=74
I19A **Meeteetse** 73.36 331 ⇑P P 09 29 23.6 +1.0
baz=74
E24A **Baker** 73.42 336 ⇓P P 09 29 23.1 +0.4
baz=74,SNR=7.6
G21A **Lodge Grass** 73.51 333 ⇓P P 09 29 24.3 +1.0
baz=74
D25A **Fairfield** 73.53 337 ⇑P P 09 29 24.5 +1.1
baz=74,SNR=5.4
F22A **Rosebud** 73.56 334 ⇓P P 09 29 23.7 +0.1
baz=74
B28A **Dugan Ranch, T** 73.58 339 ⇓P P 09 29 24.2 +0.6
baz=74,SNR=8.2
A29A **Manning Farm,** 73.62 340 ⇓P P 09 29 24.1 +0.3
baz=74,SNR=21
C26A **Wahner Farm, P** 73.65 338 ⇓P P 09 29 24.6 +0.6
baz=74
REDW **Red Top Meadow** 73.70 330 *e*P P 09 29 25.8 +1.1
comp=E,5.9nm,1.0s
E23A **Ismay** 73.76 335 ⇑P P 09 29 25.5 +0.8
baz=74
LOHW **Long Hollow** 73.78 330 *e*P P 09 29 26.5 +1.3
comp=E,7.5nm,1.4s
LOHW *e*pP pP 09 29 52.6 +0.7
ULM **Lac du Bonnet** 73.78 343 P P 09 29 24.1 -0.5
comp=E,5.2nm,0.6s,baz=150,slow=5.7,SNR=16
ULM **Lac du Bonnet** 73.78 343 *e*P P 09 29 24.2 -0.5
comp=E,5.2nm,0.6s
ULM *e*pP pP 09 29 50.7 -0.8
TPAW **Teton Pass** 73.85 330 *e*P P 09 29 27.0 +1.4
comp=E,4.6nm,0.9s
TPAW *e*pP pP 09 29 53.6 +1.1
H19A **Powell** 73.85 332 ⇓P P 09 29 26.3 +0.9
baz=74
D24A **Glendive** 73.88 336 ⇓P P 09 29 26.5 +1.1
baz=74
G20A **Bridger** 73.94 332 ⇓P P 09 29 26.6 +0.7
baz=74
A28A **Rude Farm, Bot** 73.95 339 ⇓P P 09 29 26.1 +0.3
baz=74
C25A **Freed Ranch, W** 73.98 337 ⇑P P 09 29 27.2 +1.2
baz=74
ELK **Elko** 73.99 325 P P 09 29 27.1 +0.6
comp=E,2.8nm,0.9s,baz=136,slow=3.3,SNR=5.4
FXWY **Fox Creek** 74.00 330 *e*P P 09 29 27.3 +0.9
comp=E,13nm,1.7s
I17A **Pilgrim Ck.** 74.00 330 ⇑P P 09 29 27.7 +1.3
baz=74,SNR=9.7
IMW **Indian Meadow** 74.15 330 *e*P P 09 29 28.6 +1.3
comp=E,13nm,1.3s
H18A **Shoshone NF, C** 74.16 331 ⇑P P 09 29 28.3 +0.9
baz=74,SNR=13
FLWY **Flagg Ranch** 74.18 330 *e*P P 09 29 29.0 +1.6
comp=E,17nm,1.1s
FLWY *e*pP pP 09 29 55.3 +1.0
D23A **Lindsay** 74.27 335 ⇑P P 09 29 28.7 +1.0
baz=75,SNR=8.1
H17A **Grant Village** 74.36 331 ⇑P P 09 29 29.8 +1.3
baz=75
F20A **Billings** 74.37 333 ⇓P P 09 29 29.6 +1.2
baz=75
B25A **Knox Farm, Ray** 74.41 337 ⇑P P 09 29 29.7 +1.2
baz=75
E21A **Keefer Ranch,** 74.51 334 ⇑P P 09 29 30.3 +1.2
baz=75

A26A	**Wade Farm, Ken**	**74.54**	**338**	⇓P		**P**	**09 29 30.3**	**+1.1**
	baz=75								
SCHQ	**Schefferville**	**74.55**	**1**	P		**P**	**09 29 28.6**	**-0.5**
	comp=E,2.2nm,0.7s,baz=204,slow=7.9,SNR=6.1								
SCHQ					pP	**pP**	**09 29 56.3**	**+0.3**
	comp=E,6.3nm,0.9s,baz=163,slow=4.2,SNR=5.9								
D22A	**Cohagen**	**74.64**	**335**	⇑P		**P**	**09 29 31.0**	**+1.2**
	baz=75,SNR=9.9								
F19A	**Roth Farm, Mol**	**74.76**	**332**	⇑P		**P**	**09 29 31.4**	**+0.8**
	baz=75,SNR=9.7								
C23A	**Lambert**	**74.78**	**336**	⇑P		**P**	**09 29 31.7**	**+1.1**
	baz=75								
WAKR	**Walker**	**74.81**	**321**	*e*P		**P**	**09 29 33.5**	**+2.3**
D21A	**La Casta Ranch**	**74.90**	**334**	⇑P		**P**	**09 29 32.7**	**+1.3**
	baz=75								
E20A	**Meyer Farm, Mu**	**74.92**	**333**	⇑P		**P**	**09 29 32.3**	**+0.9**
	baz=75,SNR=6.6								
A25A	**Svangstu Ranch**	**74.95**	**338**	⇓P		**P**	**09 29 32.5**	**+1.0**
	baz=75								
DGMT	**Dagmar**	**74.96**	**337**	⇑P		**P**	**09 29 32.4**	**+0.9**
	baz=75								
DGMT	**Dagmar**	**74.96**	**337**	*e*P		**P**	**09 29 33.0**	**+1.4**
	comp=E,18nm,0.9s								
C22A	**Vida**	**75.00**	**335**	⇑P		**P**	**09 29 32.6**	**+0.7**
	baz=75,SNR=6.2								
E19A	**Rath Farm, Rou**	**75.17**	**333**	⇓P		**P**	**09 29 33.9**	**+1.0**
	baz=76,SNR=20								
B23A	**Brockton**	**75.25**	**336**	⇓P		**P**	**09 29 34.3**	**+1.0**
	baz=76,SNR=6.4								
A24A	**Westby**	**75.26**	**337**	⇓P		**P**	**09 29 34.3**	**+1.0**
	baz=76,SNR=5.5								
D20A	**Manuel Ranch,**	**75.39**	**334**	⇑P		**P**	**09 29 34.9**	**+0.7**
	baz=76,SNR=8.0								
C21A	**Desert Coulee**	**75.55**	**335**	⇓P		**P**	**09 29 36.0**	**+1.0**
	baz=76								
HLID	**Hailey**	**75.59**	**328**	⇓P		**P**	**09 29 37.3**	**+1.7**
	baz=76,SNR=13								
HLID	**Hailey**	**75.59**	**328**	*e*P		**P**	**09 29 37.6**	**+2.1**
	comp=E,8.6nm,1.0s								
HLID					*e*pP	**pP**	**09 30 03.1**	**+0.6**
MCMT	**McKenzie Canyo**	**75.75**	**330**	*e*P		**P**	**09 29 38.0**	**+1.5**
	comp=E,3.8nm,1.1s								
D19A	**Cripps Ranch,**	**75.76**	**333**	⇓P		**P**	**09 29 37.0**	**+0.7**
	baz=76,SNR=7.4								
C20A	**Veseth Ranch,**	**75.83**	**334**	⇑P		**P**	**09 29 37.2**	**+0.6**
	baz=76								
B21A	**Ellsworth Farm**	**76.00**	**335**	⇓P		**P**	**09 29 38.6**	**+1.0**
	baz=76								
DLMT	**Dillon**	**76.03**	**330**	*e*P		**P**	**09 29 39.7**	**+1.8**
	comp=E,10nm,1.4s								
A22A	**Carney Farms,**	**76.03**	**336**	⇑P		**P**	**09 29 38.6**	**+0.8**
	baz=76,SNR=13								
MFID	**Camas Ranch**	**76.20**	**327**	*e*P		**P**	**09 29 40.5**	**+1.6**
	comp=E,12nm,1.1s								
MFID					*e*pP	**pP**	**09 30 07.2**	**+1.3**
C19A	**Slack Wire Ran**	**76.28**	**334**	⇑P		**P**	**09 29 39.8**	**+0.6**
	baz=77,SNR=6.0								
B20A	**Solberg Farm,**	**76.41**	**335**	⇑P		**P**	**09 29 40.4**	**+0.5**
	baz=77,SNR=6.1								
A21A	**Bergtoll Ranch**	**76.42**	**336**	⇓P		**P**	**09 29 40.7**	**+0.7**
	baz=77								
HRY	**Holter Researc**	**76.70**	**331**	*e*P		**P**	**09 29 43.4**	**+1.7**
HRY					*e*pP	**pP**	**09 30 10.2**	**+1.5**
A20A	**Cobblestone Ra**	**76.73**	**335**	⇓P		**P**	**09 29 42.4**	**+0.7**
	baz=77,SNR=7.7								
EGMT	**Eagleton**	**76.80**	**333**	⇑P		**P**	**09 29 42.5**	**+0.3**
	baz=77,SNR=5.4								
EGMT	**Eagleton**	**76.80**	**333**	*e*P		**P**	**09 29 42.8**	**+0.6**
	comp=E,7.9nm,0.9s								
B19A	**Brinkman Farms**	**76.80**	**334**	⇓P		**P**	**09 29 42.8**	**+0.7**
	baz=77,SNR=8.8								
A19A	**Klindworth Far**	**77.09**	**335**	⇑P		**P**	**09 29 44.1**	**+0.3**
	baz=77,SNR=5.7								
TORD	**Torodi Ar. Bea**	**77.18**	**71**	P		**P**	**09 29 42.8**	**-2.1**
	comp=E,8.0nm,0.3s,baz=253,slow=5.5,SNR=148								
TORD					pP	**pP**	**09 30 11.4**	**-0.5**
	comp=E,13nm,0.8s,baz=249,slow=5.3,SNR=4.9								
TORD					LR	LR	10 02 27.7		
	comp=E,56nm,21.5s,baz=275,slow=35								
MOD	**Modoc Plateau**	**77.56**	**324**	*e*P		**P**	**09 29 48.4**	**+1.8**
	comp=E,31nm,1.9s								
MOD					*e*pP	**pP**	**09 30 15.1**	**+1.4**
MSO	**Missoula**	**77.75**	**330**	⇑P		**P**	**09 29 48.9**	**+1.4**
	baz=78								
MSO	**Missoula**	**77.75**	**330**	*e*P		**P**	**09 29 49.2**	**+1.7**
	comp=E,16nm,1.7s								
SLMT	**Seeley Lake**	**77.85**	**331**	*e*P		**P**	**09 29 49.6**	**+1.5**
VNDA	**Vanda**	**78.27**	**190**	P		**P**	**09 29 51.7**	**+1.8**
	comp=E,4.1nm,0.9s,baz=140,slow=3.9,SNR=15								
SWMT	**Swartz Lake**	**78.28**	**331**	*e*P		**P**	**09 29 52.0**	**+1.6**
SWMT					*e*pP	**pP**	**09 30 20.8**	**+3.2**
N02D	**Trinity Center**	**78.33**	**322**	⇓P		**P**	**09 29 51.5**	**+0.7**
	baz=79								
M04C	**Macdoel**	**78.35**	**323**	⇑P		**P**	**09 29 52.2**	**+1.3**
	baz=79								
K05A	**Summer Lake**	**78.43**	**324**	*e*P		**P**	**09 29 53.8**	**+2.3**
	comp=E,70nm,1.8s								
I07A	**Izee**	**78.58**	**326**	*e*P		**P**	**09 29 54.2**	**+2.0**
	comp=E,140nm,2.8s								
I07A					*e*pP	**pP**	**09 30 20.9**	**+1.6**
YBH	**Yreka Blue Hor**	**78.81**	**322**	P		**P**	**09 29 53.8**	**+0.3**
	comp=E,2.4nm,0.8s,baz=79,slow=7.4,SNR=5.9								
BSMT	**Bassoo Peak**	**78.89**	**331**	*e*P		**P**	**09 29 55.5**	**+1.7**
J05D	**Fort Rock, OR**	**78.99**	**324**	⇓P		**P**	**09 29 55.9**	**+1.5**
	baz=79								
G08A	**Pilot Rock**	**79.12**	**327**	*e*P		**P**	**09 29 56.7**	**+1.6**
	comp=E,75nm,3.0s								
WALA	**Waterton Lakes**	**79.38**	**332**	*e*P		**P**	**09 29 57.6**	**+1.2**
J04D	**Umpqua Nationa**	**79.44**	**324**	⇓P		**P**	**09 29 58.3**	**+1.3**
	baz=80								
FFC	**Flin Flon**	**79.50**	**341**	*e*P		**P**	**09 29 56.9**	**+0.1**
	comp=E,5.8nm,1.0s								
FFC					*e*pP	**pP**	**09 30 24.2**	**+0.2**
L02D	**Cave Junction,**	**79.60**	**322**	⇑P		**P**	**09 29 59.0**	**+1.4**
	baz=80								
I05D	**Terrebonne, OR**	**79.73**	**325**	⇑P		**P**	**09 29 60.0**	**+1.6**
	baz=80								
I04A	**Tendick Farm,**	**79.97**	**324**	⇑P		**P**	**09 30 01.2**	**+1.6**
	baz=80								
HAWA	**Hanford**	**80.16**	**327**	*e*P		**P**	**09 30 02.4**	**+1.8**
	comp=E,25nm,1.5s								
HAWA					*e*pP	**pP**	**09 30 29.4**	**+1.6**
NEW	**Newport**	**80.28**	**330**	P		**P**	**09 30 01.2**	**+0.1**
	comp=E,1.4nm,0.8s,baz=148,slow=9.5,SNR=3.2								
NEW	**Newport**	**80.28**	**330**	⇓P		**P**	**09 30 02.7**	**+1.5**
	baz=81								
D08A	**Wollman Farm,**	**80.31**	**328**	*e*P		**P**	**09 30 03.2**	**+1.9**
	comp=E,8.5nm,1.1s								
G05D	**Wamic, OR**	**80.32**	**326**	⇑P		**P**	**09 30 03.0**	**+1.6**
	baz=81								
I03D	**Drain, OR**	**80.43**	**323**	⇓P		**P**	**09 30 03.3**	**+1.3**
	baz=81								
C09A	**Chrisman Ranch**	**80.50**	**329**	*e*P		**P**	**09 30 04.0**	**+1.7**
	comp=E,11nm,0.9s								
C09A					*e*pP	**pP**	**09 30 32.2**	**+2.6**
TSUM	**Tsumeb**	**80.81**	**107**	P		**P**	**09 30 04.6**	**-0.3**
	comp=E,7.4nm,0.8s,baz=232,slow=5.3,SNR=9.2								
TSUM	**Tsumeb**	**80.81**	**107**	*e*P		**P**	**09 30 04.5**	**-0.3**
	comp=E,14nm,0.7s								
LTY	**Liberty**	**81.32**	**327**	*e*P		**P**	**09 30 08.3**	**+1.5**
	comp=E,18nm,1.2s								
G03D	**McMinnville, O**	**81.34**	**325**	⇓P		**P**	**09 30 08.5**	**+1.6**
	baz=82								
B08A	**Colville Reser**	**81.40**	**329**	*e*P		**P**	**09 30 08.2**	**+1.0**
	comp=E,7.7nm,1.2s								
B06A	**Marblemount**	**82.57**	**328**	*e*P		**P**	**09 30 14.0**	**+0.8**
	comp=E,25nm,1.1s								
A05A	**Maple Falls**	**83.19**	**328**	*e*P		**P**	**09 30 17.3**	**+1.0**
	comp=E,19nm,1.0s								
TAM	**Tamanrasset**	**84.45**	**63**	*e*P		**P**	**09 30 22.4**	**-1.2**
	comp=E,6.9nm,1.2s								
TAM					*e*pP	**pP**	**09 30 50.5**	**-0.6**
BOSA	**Boshof**	**84.46**	**118**	P		**P**	**09 30 23.0**	**-0.6**
	comp=E,4.2nm,0.6s,baz=277,slow=2.9,SNR=8.2								
ESDC	**Sonseca Array**	**85.00**	**45**	P		**P**	**09 30 25.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=241,slow=5.6,SNR=7.0								
LBTB	**Lobatse**	**85.96**	**115**	*e*P		**P**	**09 30 30.3**	**-0.9**
	comp=E,134nm,2.5s								
SJPF	**Ste Jean**	**88.51**	**43**	*e*P		**P**	**09 30 43.7**	**+0.9**
SJPF	**Ste Jean**	**88.51**	**43**	*e*P		**P**	**09 30 43.7**	**+0.9**
YKA	**Yellowknife Ar**	**89.66**	**341**	P		**P**	**09 30 47.9**	**+0.2**
	comp=E,14nm,0.8s,baz=134,slow=4.7,SNR=299								
YKA					pP	**pP**	**09 31 15.4**	**+0.1**
	comp=E,4.1nm,0.7s,baz=136,slow=4.7,SNR=5.2								
MFF	**Saint Martin d**	**90.87**	**40**	*e*P		**P**	**09 30 54.0**	**+0.3**
	comp=E,12nm,0.8s								
MFF	**Saint Martin d**	**90.87**	**40**	*e*P		**P**	**09 30 54.0**	**+0.3**
	comp=E,12nm,0.8s								
TCF	**Toulx Ste Croi**	**92.16**	**41**	*e*P		**P**	**09 30 59.6**	**-0.2**
TCF	**Toulx Ste Croi**	**92.16**	**41**	*e*P		**P**	**09 30 59.6**	**-0.2**
DLBC	**Dease Lake**	**92.71**	**333**	P		**P**	**09 31 03.0**	**+1.0**
	comp=E,4.8nm,1.0s,baz=86,slow=7.5,SNR=4.8								
AVF	**Avril sur Loir**	**93.09**	**41**	*e*P		**P**	**09 31 03.8**	**-0.2**
	comp=E,13nm,0.9s								
AVF	**Avril sur Loir**	**93.09**	**41**	*e*P		**P**	**09 31 03.8**	**-0.2**
	comp=E,13nm,0.9s								
SSF	**Saint Saulge**	**93.31**	**41**	*e*P		**P**	**09 31 04.7**	**-0.3**
SSF	**Saint Saulge**	**93.31**	**41**	*e*P		**P**	**09 31 04.7**	**-0.3**
LOR	**Lormes**	**93.61**	**41**	*e*P		**P**	**09 31 06.2**	**-0.2**
	comp=E,8.7nm,0.6s								
LOR	**Lormes**	**93.61**	**41**	*e*P		**P**	**09 31 06.2**	**-0.2**
	comp=E,8.7nm,0.6s								
INK	**Inuvik**	**99.41**	**340**	P		**Pdif**	**09 31 32.4**	**+0.3**
	comp=E,0.9nm,0.8s,baz=106,slow=4.8,SNR=5.6								
SEY	**Seymchan**	**128.58**	**337**	PKP		**PKPdf**	**09 36 56.9**	**+0.7**
	comp=E,3.5nm,0.8s,baz=107,slow=2.6,SNR=17								
AKTO	**Aktyubinsk**	**128.73**	**41**	PKP		**PKPdf**	**09 36 57.4**	**+0.5**
ASAR	**Alice Springs**	**131.08**	**209**	PKP		**PKPdf**	**09 37 02.2**	**-0.1**
	comp=E,2.4nm,0.6s,baz=126,slow=1.7,SNR=34								
ASAR					SKPbc	**SKPbc**	**09 40 17.2**	**-0.2**
	comp=E,1.5nm,0.9s,baz=138,slow=4.1,SNR=8.2								
WB2	**Warramunga Arr**	**134.06**	**212**	*e*PKPdf		**PKPdf**	**09 37 08.5**	**+0.5**
WB2				*ep*PKPdf		**pPKPdf**	**09 37 37.2**	**+0.3**
WB2				*es*PKPdf		**sPKPdf**	**09 37 48.3**	**+0.5**
WRA	**Warramunga Arr**	**134.06**	**212**	PKP		**PKPdf**	**09 37 08.1**	**+0.1**
	comp=E,1.7nm,0.4s,baz=146,slow=1.7,SNR=28								
WRA					pPKP	**pPKPdf**	**09 37 36.6**	**-0.4**
	comp=E,1.6nm,0.7s,baz=161,slow=1.7,SNR=4.5								
WRA					SKPbc	**SKPbc**	**09 40 27.5**	**-0.3**
	comp=E,3.6nm,1.0s,baz=145,slow=2.9,SNR=12								
ZALV	**Zalesovo Beam**	**140.73**	**24**	PKP		**PKPdf**	**09 37 18.9**	**-0.3**
	comp=E,3.2nm,0.8s,baz=313,slow=3.3,SNR=9.8								
ASAJ	**Asahikawa**	**144.19**	**319**	PKP		**PKPdf**	**09 37 25.3**	**-0.3**
	comp=E,9.2nm,0.8s,baz=228,slow=11,SNR=4.4								
KSH	**Kashi**	**144.40**	**49**	*e*PKP		**PKPdf**	**09 37 27.6**	**+1.3**
KSH				pPKP		**pPKPdf**	**09 37 53.8**	**-1.5**
KSH				PP		PP	09 40 49.4	+6.5
KSH				PKS		**PKSdf**	**09 41 01.7**	**-0.3**
KSH				SKS		**SKSdf**	**09 44 25.1**	**-1.2**
KSH				PPMZ					
	comp=E,58nm,4.5s								
KSH				LN					
	comp=E,68nm,4.8s								
KSH				LE					
	comp=E,67nm,4.3s								
KSH				LZ					
	comp=E,270nm,6.0s								
MKAR	**Makanchi Array**	**144.60**	**34**	PKP		**PKPab**	**09 37 25.1**	**0.0**
	comp=E,2.5nm,0.8s,baz=308,slow=3.1,SNR=15								
MKAR				pPKP		**pPKPdf**	**09 37 55.2**	**0.0**
	comp=E,1.4nm,0.6s,baz=328,slow=3.3,SNR=4.0								
WMQ	**Urumqi**	**149.43**	**34**	*e*PKPbc		**PKPdf**	**09 37 35.3**	**+0.8**
WMQ				PKPab		**PKPab**	**09 37 47.2**	**+3.1**
WMQ				sPKP			09 38 11.0		
WMQ				*e*PP		**PP**	**09 41 14.0**	**+2.2**
WMQ				PPMZ					
	comp=E,180nm,5.4s								
HYB	**Hyderabad**	**149.44**	**89**	*i* PKP		**PKPbc**	**09 37 40.0**	**+0.2**
HYB				*e*			09 38 08.0		
HYB				*e*			09 38 21.0		
USRK	**Ussuriysk Ar.**	**150.05**	**328**	PKPbc		**PKPbc**	**09 37 41.4**	**+0.9**
	comp=E,12nm,0.9s,baz=2.6,slow=1.1,SNR=34								
USRK				pPKPbc		**pPKPbc**	**09 38 09.6**	**+0.4**
	comp=E,6.4nm,0.8s,baz=31,slow=1.0,SNR=7.1								
MJAR	**Matsushiro Arr**	**150.85**	**310**	PKPbc		**PKPbc**	**09 37 43.1**	**+0.4**
	comp=E,8.3nm,0.9s,baz=101,slow=1.3,SNR=17								
MJAR				PKPab		**PKPab**	**09 37 50.5**	**+0.3**
	comp=E,2.2nm,0.8s,baz=69,slow=7.0,SNR=4.6								
MJAR				pPKPbc		**pPKPbc**	**09 38 11.3**	**-0.1**
	comp=E,4.9nm,0.7s,baz=106,slow=1.2,SNR=5.6								
MAT	**Matsuhiro**	**150.85**	**310**	PKP		**PKPbc**	**09 37 43.0**	**+0.3**
SONM	**Songino Array**	**152.00**	**6**	PKP		**PKPdf**	**09 37 38.3**	**-0.2**
	comp=E,1.0nm,0.8s,baz=181,slow=1.2,SNR=5.9								
SONM				PKPbc		**PKiKP**	**09 37 45.5**	**+0.1**
	comp=E,3.2nm,0.4s,baz=297,slow=1.3,SNR=24								
SONM				PKPab		**PKPab**	**09 37 54.6**	**-0.1**
	comp=E,1.6nm,0.6s,baz=332,slow=2.7,SNR=4.0								
KSRS	**Korea Array**	**157.04**	**323**	PKP		**PKPdf**	**09 37 45.5**	**-0.1**
	comp=E,1.2nm,0.7s,baz=309,slow=0.8,SNR=6.0								
KSRS				PKPab		**PKPab**	**09 38 16.8**	**+0.5**
	comp=E,3.1nm,0.9s,baz=52,slow=4.1,SNR=5.4								
KSAR	**Wonju Array Be**	**157.07**	**323**	PKP		**PKPdf**	**09 37 45.5**	**-0.2**
KSAR				PKPab		**PKPab**	**09 38 16.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**159.20**	**358**	*e*PKP		**PKPdf**	**09 37 48.2**	**-0.1**
HHC				pPKP		**pPKPdf**	**09 38 15.0**	**-2.3**
HHC				sPKP			09 38 25.7		
HHC				PP		**PP**	**09 42 09.0**	**+3.1**
HHC				SKS		**SKSdf**	**09 44 42.2**	**-2.1**
HHC				SS		**SS**	**10 02 03.1**	**+1.5**
HHC				PPMZ					
	comp=E,62nm,7.4s								
CD2	**Chengdu**	**167.44**	**29**	PKP		**PKPdf**	**09 37 55.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**168.77**	**96**	PKP		**PKPdf**	**09 37 58.8**	**+1.4**
	comp=E,0.9nm,0.4s,baz=318,slow=1.2,SNR=4.7								
CMAR				PKPab		**PKPab**	**09 39 06.6**	**-1.9**
	comp=E,0.6nm,0.3s,baz=252,slow=5.3,SNR=4.4								

*LDG **07** 09:22:30.5±0.2,39.˚29N×73.˚28E,h10km,Mb4.8/14, Ms2.9/2,Error ellipse: s-maj=7.6km s-min=4.8km az=169.0*
*IDC **07** 09:22:31.1±0.5,39.˚42N×73.˚36E,h0km,mb4.3/26, mb1 4.4/33,mb1mx4.3/48,mbtmp4.2/33,ML3.7/7,MS3.5/15, Ms1 3.5/15,ms1mx3.2/47,Error ellipse: s-maj=11.4km s-min=9.3km az=162.0*
*ISCJB **07** 09:22:31.2±0.2,39.˚35N±0.˚02×73.˚34E±0.˚03,h10km, mb4.4/66,MS3.4/12,Error ellipse: s-maj=3.1km s-min=2.4km az=146.2*
*KRNET **07** 09:22:32.9±0.1,39.˚62N×73.˚26E,h5km,mb4.5*
*SZGRF **07** 09:22:32.6,39.˚87N×74.˚79E,h33km,mb4.6,Southern Xinjiang, China*
*NNC **07** 09:22:33.0±1.1,39.˚54N×73.˚43E,h0km,mb4.7,mpv4.5, Error ellipse: s-maj=11.1km s-min=4.5km az=116.0*
*MOS **07** 09:22:34.7±0.9,39.˚37N×73.˚34E,h33km,mb4.7/17,Error ellipse: s-maj=6.3km s-min=4.3km az=96.5*
*BJI **07** 09:22:35.7,39.˚45N×73.˚18E,h45km,mB4.5/14,mb4.5/27, ML4.2/5,Ms4.1/12,Ms7 3.8/12*
*NEIC **07** 09:22:38.2±0.5,39.˚51N×73.˚34E,h49km±4km,mb4.5/14, Error ellipse: s-maj=5.1km s-min=3.8km az=172.0*

ISC 07 09:22:32.5±1.0,39.˚54N±0.˚03×73.˚30E±0.˚02,h5km±6km, n292,σ1°64/303,mb4.5/66,MS3.5/12,65C-25D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.50**	**18**	⇑P		**Pg**	**09 22 41.7**	**-0.5**
	686nm,0.4s							
SFK				⇑S		**Sg**	**09 22 49.5**	**+0.9**
	2μm,0.3s							
SFK	**Sufi-Kurgan**	**0.50**	**18**	PG		**Pg**	**09 22 41.6**	**-0.5**
SFK				pmax		pmax		
	comp=Z,724nm,0.4s							
CHVK	**Chauvay**	**1.02**	**306**	*i* P		**Pg**	**09 22 52.1**	**0.0**
	baz=303							
CHVK				*e*S		**Sg**	**09 23 05.0**	**-0.4**
	baz=303							
DRK	**Karamyk**	**1.16**	**268**	⇓*i*P		**Pg**	**09 22 55.1**	**+0.3**
	baz=263							
SALK	**Salom-Alik**	**1.40**	**16**	*i* P		**Pn**	**09 22 57.9**	**-0.9**
	baz=18							
SALK				*e*S		**Sb**	**09 23 15.9**	**-1.5**
	baz=18							
BTK	**Batken**	**1.98**	**286**	*e*P		**Pn**	**09 23 08.0**	**+1.3**
	baz=284							
BTK				*e*S		**Sg**	**09 23 35.9**	**-0.2**
	baz=284							
KSH	**Kashi**	**2.07**	**90**	⇓*i*P		Pn	09 23 04.8	-3.1
KSH				S		**Sn**	**09 23 31.7**	**-2.4**
KSH				SMN				
	comp=Z,7μm,1.0s							
KSH				SME				
	comp=Z,4μm,0.5s							
ARLS	**Aral**	**2.45**	**18**	⇓*i*P		**Pb**	**09 23 15.7**	**-1.4**
	baz=20							
ARLS				⇓*i*S		**Sb**	**09 23 48.0**	**+0.4**
	baz=20							
ARK	**Arkit**	**2.48**	**336**	*e*P		**Pb**	**09 23 16.5**	**-1.0**
	baz=336							
ARK				*e*S		**Sg**	**09 23 51.7**	**-0.3**
	baz=336							
AML	**Almayashu**	**2.61**	**6**	P		**Pb**	**09 23 18.4**	**-1.5**
	SNR=395							
AML	**Almayashu**	**2.61**	**6**	*i* PN		**Pb**	**09 23 18.4**	**-1.5**
AML	**Almayashu**	**2.61**	**6**	⇑*i*P		**Pb**	**09 23 18.4**	**-1.5**
	baz=7.0							
AML				⇑*i*S		**Sg**	**09 23 55.3**	**-1.0**
	baz=7.0							
NRN	**Naryn**	**2.80**	**47**	*e*P		**Pn**	**09 23 20.8**	**+2.6**
	baz=48							
NRN				*e*S		**Sb**	**09 23 59.2**	**+1.4**
	baz=48							
UCH	**Uchtor**	**2.84**	**19**	P		**Pb**	**09 23 22.2**	**-1.8**
	SNR=109							
UCH	**Uchtor**	**2.84**	**19**	*i* PN		**Pb**	**09 23 22.1**	**-1.8**
UCH	**Uchtor**	**2.84**	**19**	⇑*i*P		**Pb**	**09 23 22.0**	**-1.9**
	baz=20							
UCH				⇑*i*S		**Sb**	**09 24 00.7**	**+1.5**
	baz=20							
KZA	**Kyzart**	**2.94**	**30**	P		**Pb**	**09 23 24.0**	**-1.6**
	SNR=50							
KZA	**Kyzart**	**2.94**	**30**	*i* PN		**Pb**	**09 23 23.9**	**-1.6**
KZA	**Kyzart**	**2.94**	**30**	⇑*i*P		**Pn**	**09 23 22.8**	**+2.6**
	baz=31							
KZA				⇑*i*S		**Sg**	**09 24 04.8**	**-2.1**
	baz=31							
MNAS	**Manas**	**3.01**	**349**	⇓Pn		**Pn**	**09 23 23.3**	**+2.4**
	comp=Z,84nm,0.4s							
MNAS				⇓Lg		Lg	09 24 08.1	
	comp=Z,1μm,1.3s							
MNAS	**Manas**	**3.01**	**349**	PN		**Pn**	**09 23 23.3**	**+2.4**
MNAS							09 24 08.1	
MNAS				pmax		pmax		
	comp=Z,84nm,0.4s							
MNAS				smax		smax		
	comp=N,1μm,1.3s							
EKS2	**Erkin-Say**	**3.14**	**6**	P		**Pb**	**09 23 26.6**	**-2.2**
	SNR=25							
EKS2	**Erkin-Say**	**3.14**	**6**	*i* PN		**Pb**	**09 23 26.6**	**-2.2**
EKS2	**Erkin-Say**	**3.14**	**6**	⇑*i*P		**Pb**	**09 23 26.1**	**-2.8**
	baz=7.0							
EKS2				⇑*i*S		**Sb**	**09 24 08.4**	**+0.9**
	baz=7.0							
EKS2	**Erkin-Say**	**3.14**	**6**	*e*Pn		**Pb**	**09 23 26.6**	**-2.2**
EKS2				*e*Sn		**Sb**	**09 24 07.5**	**-0.1**
AAK	**Ala-Archa**	**3.22**	**16**	⇓Pn		**Pb**	**09 23 27.6**	**-2.6**
	comp=N,376nm,0.9s							
AAK				⇑Lg		Lg	09 24 10.4	
	comp=N,797nm,1.1s							
AAK	**Ala-Archa**	**3.22**	**16**	P		**Pb**	**09 23 27.6**	**-2.6**
	SNR=168							
AAK	**Ala-Archa**	**3.22**	**16**	*c* PN		**Pb**	**09 23 27.9**	**-2.3**
AAK					pmax	pmax		
	comp=Z,783nm,0.8s							
AAK	**Ala-Archa**	**3.22**	**16**	Pn		**Pb**	**09 23 27.7**	**-2.5**
	comp=Z,24nm,0.3s,baz=179,slow=7.1,SNR=288							
AAK				Lg		Lg	09 24 10.7	
	comp=Z,28nm,0.3s,baz=347,slow=16,SNR=12							
AAK				LR		LR	09 24 51.1	
	comp=Z,619nm,18.6s,baz=200,slow=42							
AAK	**Ala-Archa**	**3.22**	**16**	⇓*i*P		**Pb**	**09 23 27.6**	**-2.6**
	baz=17							
AAK				⇓*i*S		**Sb**	**09 24 10.5**	**+0.7**
	baz=17							
AAK	**Ala-Archa**	**3.22**	**16**	*e*Pn		**Pb**	**09 23 27.4**	**-2.8**
AAK				*e*Sn		**Sb**	**09 24 08.4**	**-1.5**
AAK				Lg		Lg	09 24 10.7	
KBK	**Karagaybulak**	**3.35**	**21**	P		**Pb**	**09 23 29.6**	**-2.9**
	SNR=51							
KBK	**Karagaybulak**	**3.35**	**21**	*i* PN		**Pb**	**09 23 29.6**	**-2.9**
KBK	**Karagaybulak**	**3.35**	**21**	⇑*i*P		**Pb**	**09 23 29.6**	**-2.9**
	baz=22							
KBK				⇑*i*S		**Sb**	**09 24 15.6**	**+1.9**
	baz=22							
FRU	**Bishkek**	**3.44**	**16**	*e*PN		Pn	09 23 30.0

CHCP	**Chirah Chowk**	**5.87**	**180**	⇓P		Pn		09 24 03.7	+3.6	
PDGK	**Podgornoye**	**5.99**	**49**	⇑Pn		**Pn**		**09 24 04.3**	**+2.5**	
	comp=E,15nm,0.7s									
PDGK				⇑Pg		Pb		09 24 22.2	+4.8	
	comp=E,32nm,0.8s									
PDGK				⇓Lg		Lg		09 25 41.5		
	comp=E,176nm,1.1s									
PDGK	**Podgornoye**	**5.99**	**49**	PN		**Pn**		**09 24 04.2**	**+2.5**	
PDGK								09 24 22.1		
PDGK								09 25 41.4		
PDGK				pmax		pmax				
	comp=Z,15nm,0.7s									
PDGK				pmax		pmax				
	comp=Z,32nm,0.8s									
PDGK				smax		smax				
	comp=N,170nm,1.1s									
KBL	**Kabul**	**6.04**	**216**	*e*PN		**Pn**		**09 24 04.5**	**+1.9**	
KBL				*e*				09 25 17.6		
KBL	**Kabul**	**6.04**	**216**	*e*Pn		**Pn**		**09 24 04.5**	**+1.9**	
KBL				*e*Sn		**Sn**		**09 25 17.6**	**+5.4**	
THW	**Thamme Wali**	**6.85**	**191**	⇑P		**Pn**		**09 24 16.5**	**+3.0**	
DLH	**Dalhousie**	**7.31**	**162**	*e*P		**Pn**		**09 24 22.0**	**+2.0**	
DLH				*ex*		x		09 25 48.0		
SARP	**Sargodha**	**7.62**	**184**	⇓P		**Pn**		**09 24 26.5**	**+2.4**	
DHRM	**DHARAMSHALA**	**7.67**	**161**	*e*P		**Pn**		**09 24 27.1**	**+2.1**	
DHRM				*e*S		**Sn**		**09 25 51.5**	**-0.9**	
DHRM				AML		AML		09 27 05.5		
	comp=E,109nm,0.9s									
DHRM				AML		AML		09 27 06.1		
	comp=N,102nm,0.5s									
BHK	**Bhakra**	**8.49**	**162**	*ex*		Sn		09 26 19.0	+6.7	
SDNR	**Sundarnagar**	**8.56**	**158**	*e*P		**Pn**		**09 24 38.0**	**+1.0**	
SDNR				*e*S		**Sn**		**09 26 11.0**	**-3.0**	
SMLA	**Simla**	**8.96**	**158**	*i* P		**Pn**		**09 24 44.3**	**+1.7**	
SMLA				*i* S		**Sn**		**09 26 20.5**	**-3.4**	
MK31	**Makanchi Array**	**9.78**	**39**	Pn		Pn		09 24 58.2	+4.5	
	comp=N,3.5nm,0.6s,baz=211,slow=12,SNR=24									
MK31				⇓Lg		Lg		09 27 42.3		
	comp=N,2.7nm,0.6s									
MKAR	**Makanchi Array**	**9.78**	**39**	Pn		**Pn**		**09 24 55.9**	**+2.2**	
	comp=N,0.1nm,0.3s,baz=214,slow=13,SNR=15									
MKAR				Lg		Lg		09 27 44.1		
	comp=N,0.3nm,0.3s,baz=211,slow=27,SNR=4.3									
NDI	**New Delhi**	**11.30**	**162**	*e*P		**Pn**		**09 25 14.0**	**-0.6**	
NDI				*e*S		Sn		09 27 13.0	-8.3	
LGTI	**Lohaghat**	**11.57**	**148**	*e*P		**Pn**		**09 25 19.2**	**+0.9**	
LGTI				*ex*		x		09 27 26.2		
WMQ	**Urumqi**	**11.58**	**64**	P		**Pn**		**09 25 20.3**	**+1.9**	
WMQ				pP				09 25 26.5		
WMQ				*e*S		**Sn**		**09 27 28.5**	**+0.3**	
WMQ				SS		**SnSn**		**09 27 43.0**	**+3.1**	
WMQ				PMZ						
	comp=N,13nm,0.8s									
WMQ				LN						
	comp=N,820nm,7.2s									
WMQ				LE						
	comp=N,860nm,10.5s									
WMQ				LZ						
	comp=N,1µm,10.4s									
KHET	**Khetri**	**11.62**	**169**	*e*P		**Pn**		**09 25 16.9**	**-2.0**	
KHET				*e*S		Sn		09 27 18.4	-11	
KHET				AML		AML		09 27 29.8		
	comp=E,158nm,0.4s									
KHET				AML		AML		09 27 31.4		
	comp=N,146nm,0.1s									
KUDL	**Kundal**	**11.67**	**166**	*e*P		**Pn**		**09 25 18.8**	**-0.8**	
KUDL				*e*S		Sn		09 27 19.5	-11	
KURBB	**Kurchatov Arra**	**11.68**	**17**	⇑Pn		**Pn**		**09 25 19.5**	**-0.2**	
	comp=N,4.7nm,1.0s									
KURBB				⇓Lg		Lg		09 28 41.6		
	comp=N,103nm,1.8s									
KURBB	**Kurchatov Arra**	**11.68**	**17**	Pn		**Pn**		**09 25 19.2**	**-0.5**	
	comp=N,0.1nm,0.3s,baz=212,slow=12,SNR=12									
KURBB				Lg		Lg		09 28 38.8		
	comp=N,0.1nm,0.3s,baz=203,slow=30,SNR=8.7									
SONA	**Sohna**	**11.69**	**163**	*e*P		**Pn**		**09 25 18.7**	**-1.2**	
SONA				*e*S		Sn		09 27 20.2	-11	
SONA				AML		AML		09 27 34.9		
	comp=E,65nm,0.8s									
SONA				AML		AML		09 27 36.3		
	comp=N,33nm,0.8s									
KURK	**Kurchatov**	**11.79**	**17**	⇑Pn		**Pn**		**09 25 18.3**	**-2.8**	
	comp=N,4.2nm,1.1s									
KURK				⇑Lg		Lg		09 28 44.3		
	comp=N,24nm,1.3s									
KURK	**Kurchatov**	**11.79**	**17**	*e*P		**Pn**		**09 25 24.0**	**+2.9**	
KURK	**Kurchatov**	**11.79**	**17**	*e*Pn		**Pn**		**09 25 24.0**	**+2.9**	
KURK				Lg		Lg		09 28 38.8		
GEYT	**Alibeck**	**11.97**	**267**	Pn		**Pn**		**09 25 22.1**	**-1.6**	
	comp=N,2.7nm,0.3s,baz=78,slow=6.8,SNR=15									
GEYT				Sn		**Sn**		**09 27 35.9**	**-1.7**	
	comp=N,2.9nm,0.3s,baz=126,slow=15,SNR=4.4									
GEYT				LR		LR		09 30 39.8		
	comp=N,200nm,19.0s,baz=115,slow=41									
AGRA	**Agra**	**12.87**	**161**	*e*P		**Pn**		**09 25 34.2**	**-1.8**	
AGRA				*e*S		Sn		09 27 49.7	-10	
AGRA				AML		AML		09 28 06.4		
	comp=E,115nm,0.6s									
AGRA				AML		AML		09 28 07.3		
	comp=N,78nm,0.9s									
AJM	**Ajmer**	**13.07**	**175**	*e*P		**Pn**		**09 25 37.0**	**-1.8**	
AJM				*e*S		Sn		09 27 52.0	-13	
AB31	**Akbulak array**	**13.60**	**320**	⇑Pn		**Pn**		**09 25 44.3**	**-1.7**	
	comp=N,2.3nm,0.5s									
AB31				⇑Sn		**Sn**		**09 28 13.9**	**-3.5**	
	comp=N,3.5nm,0.5s,baz=125,slow=25,SNR=7.9									
AB31	**Akbulak array**	**13.60**	**320**	P		**Pn**		**09 25 44.2**	**-1.7**	
AB31				pmax		pmax				
	comp=Z,4.0nm,0.7s									
ABKAR	**Akbulak array**	**13.60**	**320**	*e*Pn		**Pn**		**09 25 44.4**	**-1.6**	
ABKAR				*e*Sn		Sn		09 28 09.9	-7.4	
BVA0	**Borovoye Array**	**13.64**	**353**	Pn		**Pn**		**09 25 45.3**	**-1.1**	
	comp=Z,16nm,1.2s,baz=166,slow=13,SNR=36									
BVA0				⇑Sn		Sn		09 28 23.5	+5.3	
	comp=Z,1.3nm,0.6s,baz=179,slow=24,SNR=3.8									
BVA0				⇓Lg		Lg		09 29 42.0		
	comp=Z,41nm,1.5s,baz=176,slow=30,SNR=4.4									
BVAR	**Borovoye Array**	**13.64**	**353**	Pn		**Pn**		**09 25 45.4**	**-1.0**	
	comp=Z,0.8nm,0.3s,baz=167,slow=14,SNR=28									
BVAR				Lg		Lg		09 29 40.8		
	comp=Z,0.3nm,0.3s,baz=157,slow=29,SNR=6.1									
PYUN	**Piuthan**	**13.95**	**142**	*e*P		Pn		09 25 47.3	-3.7	
	comp=Z,124nm,0.4s									
DANN	**Dangsing**	**14.12**	**139**	*e*P		Pn		09 25 49.8	-3.7	
	comp=Z,57nm,0.7s									
KOLN	**Koldanda**	**14.52**	**141**	*e*P		Pn		09 25 54.6	-4.2	
	comp=Z,38nm,0.6s									
GKN	**Gorkha**	**14.86**	**137**	*e*P		Pn		09 25 58.6	-4.7	
AKTO	**Aktyubinsk**	**15.32**	**320**	⇑Pn		**Pn**		**09 26 06.2**	**-3.0**	
	comp=Z,35nm,1.0s									
AKTO				⇑Sn		**Sn**		**09 28 59.4**	**+0.3**	
	comp=Z,14nm,1.1s									
AKTO	**Aktyubinsk**	**15.32**	**320**	Pn		**Pn**		**09 26 07.9**	**-1.3**	
	comp=Z,0.7nm,0.3s,baz=136,slow=14,SNR=16									
AKTO				Sn		**Sn**		**09 28 54.0**	**-5.2**	
	comp=Z,0.3nm,0.3s,baz=151,slow=19,SNR=2.5									
KKN	**Kakani**	**15.37**	**136**	*e*P		Pn		09 26 05.2	-5.0	
	comp=Z,19nm,0.5s									
PKIN	**Phulchoki**	**15.60**	**136**	*e*P		Pn		09 26 08.5	-4.8	
	comp=Z,19nm,0.6s									
GUN	**Gumba**	**15.60**	**134**	*e*P		**Pn**		**09 26 09.6**	**-3.8**	
	comp=Z,16nm,0.4s									
PKI	**Pulchoki**	**15.61**	**136**	*e*P		Pn		09 26 09.4	-4.1	
JIRN	**Jiri**	**15.97**	**134**	*e*P		Pn		09 26 13.9	-4.3	
	comp=Z,29nm,0.4s									
ZALV	**Zalesovo Beam**	**16.40**	**25**	Pn		**Pn**		**09 26 23.6**	**+0.4**	
	comp=Z,0.5nm,0.3s,baz=217,slow=12,SNR=16									
ZALV				Lg		Lg		09 31 15.3		
	comp=Z,0.2nm,0.3s,baz=201,slow=24,SNR=3.6									
ZALV				LR		LR		09 32 05.6		
	comp=Z,42nm,19.6s,baz=252,slow=35									
NVS	**Novosibirsk**	**16.70**	**20**	*e*P		**Pn**		**09 26 24.7**	**-2.3**	
NVS				pmax		pmax				
	comp=Z,37nm,1.3s									
NVS				pmax		pmax				
	comp=N,35nm,1.5s									
RAMN	**Ramite**	**16.75**	**135**	*e*P		Pn		09 26 22.9	-5.1	
	comp=N,67nm,0.9s									
TAPN	**Taplejung**	**17.07**	**131**	*e*P		Pn		09 26 27.8	-4.4	
	comp=N,17nm,0.5s									
LSA	**Lhasa**	**17.64**	**118**	*e*P		**P**		**09 26 42.0**	**+1.5**	
LSA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
LSA	**Lhasa**	**17.64**	**118**	*e*P		**P**		**09 26 42.0**	**+1.5**	
	comp=Z,9.2nm,0.8s									
ARU	**Arti**	**19.50**	**335**	*d i*P		**Pn**		**09 27 03.3**	**+1.9**	
ARU						S		**S**	**09 30 44.1**	**+3.4**
ARU						pmax		pmax		
	comp=Z,18nm,1.2s									
ARU	**Arti**	**19.50**	**335**	*e*Pn		**Pn**		**09 27 01.7**	**+0.3**	
	comp=Z,9.7nm,0.8s									
MAK	**Makhachkala**	**19.67**	**288**	*e*P		P		09 26 55.3	-6.8	
MAK						MLR		MLR		
	comp=Z,364nm,13.0s									
GTA	**Gaotai**	**20.45**	**82**	*e*P		Pn		09 27 12.4	-0.6	
GTA						pP		pP	09 27 24.4	+12
GTA						S		**S**	**09 30 58.9**	**-1.3**
GTA						PMZ				
	comp=Z,10.0nm,0.8s									
GTA						PMZ				
	comp=Z,70nm,5.2s									
GTA						LN				
	comp=Z,120nm,11.9s									
GTA						LE				
	comp=Z,170nm,14.3s									
GTA						LZ				
	comp=Z,140nm,11.9s									
GNI	**Garni**	**21.90**	**281**	⇑*i*P		**P**		**09 27 28.8**	**+2.3**	
GNI						pmax		pmax		
	comp=Z,28nm,1.2s									
GNI	**Garni**	**21.90**	**281**	P		**P**		**09 27 26.8**	**+0.3**	
GNI						LR		LR	09 38 51.1	
	comp=Z,27nm,18.8s,baz=34,slow=45									
ZEI	**Tsey**	**22.32**	**288**	*e*P		**P**		**09 27 30.9**	**-0.1**	
ZEI						pmax		pmax		
	comp=Z,5.0nm,0.6s									
HYB	**Hyderabad**	**22.51**	**167**	*i* P		**P**		**09 27 31.0**	**-2.0**	
SOKR	**Solikamsk**	**22.63**	**338**	*d i*P		**P**		**09 27 36.9**	**+3.0**	
SOKR						pmax		pmax		
	comp=Z,20nm,0.9s									
MOY	**Mondy**	**22.70**	**49**	*e*P		**P**		**09 27 36.1**	**+1.1**	
KBZ	**Khabaz**	**23.04**	**290**	P		**P**		**09 27 38.4**	**0.0**	
	comp=Z,3.0nm,0.9s,baz=141,slow=6.5,SNR=3.1									
KBZ						LR		LR	09 38 37.9	
	comp=Z,99nm,18.7s,baz=73,slow=42									
NEY	**Neytrino**	**23.17**	**289**	*e*P		**P**		**09 27 41.7**	**+1.7**	
KIV	**Kislovodsk**	**23.19**	**291**	*e*P		**P**		**09 27 41.9**	**+1.8**	
KIV						pmax		pmax		
	comp=Z,21nm,0.8s									
ZAK	**Zakamensk**	**23.67**	**53**	⇑*i*P		**P**		**09 27 45.7**	**+0.9**	
ZAK				*e*					09 31 49.1	
ZAK						pmax		pmax		
	comp=Z,6.0nm,1.8s									
SONM	**Songino Array**	**25.18**	**60**	P		**P**		**09 27 58.1**	**-0.7**	
	comp=Z,5.2nm,1.0s,baz=260,slow=9.3,SNR=24									
ULN	**Ulaanbaatar**	**25.62**	**60**	*e*P		**P**		**09 28 03.3**	**+0.5**	
ULN						pmax		pmax		
	comp=Z,31nm,2.0s									
ULN	**Ulaanbaatar**	**25.62**	**60**	*e*P		**P**		**09 28 03.3**	**+0.5**	
	comp=Z,31nm,2.0s									
CD2	**Chengdu**	**26.23**	**100**	*e*P		**P**		**09 28 09.9**	**+1.5**	
CD2						PMZ				
	comp=Z,10.0nm,0.5s									
CD2						PMZ				
	comp=Z,100nm,5.4s									
PRGR	**Permogore**	**27.86**	**332**	P		**P**		**09 28 21.6**	**-1.0**	
PRGR						pmax		pmax		
	comp=Z,12nm,0.9s									
RAYN	**Ar Rayn**	**28.42**	**244**	*e*P		**P**		**09 28 28.5**	**+0.4**	
	comp=Z,2.8nm,0.9s									
KMI	**Kunming**	**28.58**	**111**	P		P		09 28 33.9	+4.2	
KMI						PMZ				
	comp=Z,12nm,1.0s									
OBN	**Obninsk**	**28.95**	**315**	⇑P		**P**		**09 28 33.2**	**+0.8**	
OBN						pmax		pmax		
	comp=Z,11nm,1.1s									
OBN						MLR		MLR		
	comp=Z,155nm,17.0s									
OBN	**Obninsk**	**28.95**	**315**	LR		LR		09 41 02.9		
	comp=Z,167nm,18.6s,baz=92,slow=38									
HHC	**Hu-ho-hao-te**	**29.11**	**75**	*e*P		**P**		**09 28 35.1**	**+1.0**	
HHC						PP		**PnPn**	**09 29 31.1**	**+5.0**
HHC						S		**S**	**09 33 21.2**	**-5.3**
HHC						SS		**SnSn**	**09 34 54.4**	**+4.5**
HHC						PMZ				
	comp=Z,33nm,0.7s									
HHC						PMZ				
	comp=Z,110nm,7.4s									
HHC						LN				
	comp=Z,95nm,16.0s									
HHC						LE				
	comp=Z,210nm,16.0s									
HHC						LZ				
	comp=Z,83nm,16.0s									
BRTR	**Keskin Array B**	**30.38**	**283**	P		**P**		**09 28 46.5**	**+1.1**	
	comp=Z,6.8nm,0.9s,baz=88,slow=7.8,SNR=23									
BRTR						LR		LR	09 42 45.7	
	comp=Z,31nm,19.0s,baz=74,slow=40									
CMAR	**Chiang Mai Arr**	**30.54**	**126**	P		**P**		**09 28 45.0**	**-1.9**	
	comp=Z,0.6nm,0.3s,baz=319,slow=7.3,SNR=3.1									
CMAR						LR		LR	09 42 43.1	
	comp=Z,99nm,19.2s,baz=332,slow=40									
BOD	**Bodaibo**	**31.86**	**41**	*e*P		**P**		**09 28 55.5**	**-2.6**	
BOD						pmax		pmax		
	comp=Z,6.0nm,1.1s									
AKASG	**Malin Array Be**	**32.58**	**305**	P		**P**		**09 29 04.3**	**-0.2**	
	comp=Z,4.0nm,0.5s,baz=79,slow=7.3,SNR=28									
AKASG						LR		LR	09 44 55.1	
	comp=Z,70nm,18.8s,baz=90,slow=41									
KIEV	**Kiev**	**32.59**	**305**	⇑*i*P		**P**		**09 29 05.1**	**+0.5**	
KIEV	**Kiev**	**32.59**	**305**	*e*P		**P**		**09 29 04.2**	**-0.4**	
	comp=Z,8.1nm,0.6s									
JOF	**Joensuu**	**34.23**	**327**	*e*P		**P**		**09 29 19.4**	**+0.7**	
JOF						pmax		pmax		
	comp=Z,1.0nm,0.5s									
JOF	**Joensuu**	**34.23**	**327**	*ep*		**P**		**09 29 19.4**	**+0.7**	
	comp=Z,1.3nm,0.5s									
TESR	**Tescani**	**34.40**	**297**	⇑*i*P		**P**		**09 29 21.8**	**+1.4**	
VRI	**Vrincioaia**	**34.41**	**296**	⇓P		**P**		**09 29 22.7**	**+2.1**	
VRI	**Vrincioaia**	**34.41**	**296**	*i*P		**P**		**09 29 22.7**	**+2.1**	
NACGM	**Naroch**	**34.42**	**312**	*e*		**P**		**09 29 18.0**	**-2.5**	
PLOR	**Plostina**	**34.47**	**296**	⇑P		**P**		**09 29 23.3**	**+2.2**	
PLOR	**Plostina**	**34.47**	**296**	⇑*i*P		**P**		**09 29 23.3**	**+2.2**	
MLR	**Muntele Rosu**	**35.00**	**296**	⇑P		**P**		**09 29 28.4**	**+2.6**	
MLR	**Muntele Rosu**	**35.00**	**296**	⇑*i*P		**P**		**09 29 28.4**	**+2.6**	
BURAR	**Bucovina Array**	**35.27**	**299**	⇑P		**P**		**09 29 29.2**	**+1.1**	
BURAR	**Bucovina Array**	**35.27**	**299**	⇑*i*P		**P**		**09 29 29.2**	**+1.1**	
VOIR		**35.63**	**296**	⇑P		**P**		**09 29 32.5**	**+1.3**	
VOIR		**35.63**	**296**	⇑*i*P		**P**		**09 29 32.5**	**+1.3**	
ARR	**Arges**	**35.93**	**296**	⇑*i*P		**P**		**09 29 35.6**	**+1.9**	
FINES	**FINESS Array B**	**36.06**	**323**	P		**P**		**09 29 34.8**	**+0.3**	
	comp=Z,2.5nm,0.3s,baz=119,slow=9.4,SNR=46									
FINES						LR		LR	09 45 13.1	
	comp=Z,89nm,21.7s,baz=52,slow=38									
KWP	**Kalwaria Pacla**	**36.78**	**303**	⇑P		**P**		**09 29 42.3**	**+1.4**	
KWP	**Kalwaria Pacla**	**36.78**	**303**	*e*P		**P**		**09 29 42.1**	**+1.2**	
KWP	**Kalwaria Pacla**	**36.78**	**303**	⇑*i*P		**P**		**09 29 42.3**	**+1.4**	
KWP	**Kalwaria Pacla**	**36.78**	**303**	*e*P		**P**		**09 29 42.1**	**+1.2**	
	comp=Z,7.3nm,0.7s									
TRPA	**Tarpa**	**37.02**	**300**	⇑*i*P		**P**		**09 29 44.5**	**+1.6**	
KOLS	**Kolonicke sedl**	**37.12**	**302**	*e*P		**P**		**09 29 44.7**	**+0.9**	
KOLS						pmax		pmax		
	comp=Z,5.0nm,1.3s									
KOLS	**Kolonicke sedl**	**37.12**	**302**	*e*P		**P**		**09 29 44.6**	**+0.8**	
GZR	**Gura Zlata**	**37.22**	**296**	⇑P		**P**		**09 29 46.1**	**+1.4**	
GZR	**Gura Zlata**	**37.22**	**296**	⇑*i*P		**P**		**09 29 46.1**	**+1.4**	
NJ2	**Nanjing**	**37.38**	**87**	*e*P		**P**		**09 29 46.7**	**+0.6**	
CRVS	**Cervenica-Dubn**	**37.66**	**302**	*e*P		**P**		**09 29 47.9**	**-0.4**	
CRVS	**Cervenica-Dubn**	**37.66**	**302**	*e*P		**P**		**09 29 47.9**	**-0.4**	
STHS	**Stebnicka Huta**	**37.75**	**303**	*e*P		**P**		**09 29 49.4**	**+0.3**	
STHS	**Stebnicka Huta**	**37.75**	**303**	*e*P		**P**		**09 29 49.4**	**+0.3**	
BZS	**Buzias**	**37.99**	**297**	⇑P		**P**		**09 29 52.9**	**+1.8**	
BZS	**Buzias**	**37.99**	**297**	⇑*i*P		**P**		**09 29 52.9**	**+1.8**	
IDI	**Anoyia**	**38.32**	**279**	P		**P**		**09 29 56.0**	**+1.8**	
	comp=Z,8.5nm,0.8s,baz=342,slow=6.4,SNR=3.4									
OJC	**Ojcow**	**38.61**	**304**	*e*P		**P**		**09 29 56.9**	**+0.6**	
ARCES	**ARCESS Array B**	**39.08**	**336**	P		**P**		**09 30 00.6**	**+0.6**	
	comp=Z,3.9nm,0.6s,baz=107,slow=8.5,SNR=31									
ARCES						LR		LR	09 45 44.6	
	comp=Z,68nm,21.6s,baz=52,slow=36									
VYHS	**Vyhne**	**39.43**	**302**	*e*P		**P**		**09 30 03.9**	**+0.7**	
VYHS						pmax		pmax		
	comp=Z,3.0nm,1.2s									
VYHS	**Vyhne**	**39.43**	**302**	*e*P		**P**		**09 30 03.9**	**+0.7**	
YAK	**Yakutsk**	**40.45**	**37**	*e*P		**P**		**09 30 09.4**	**-2.0**	
YAK						pmax		pmax		
	comp=Z,13nm,1.1s									
YAK						pmax		pmax		
	comp=E,9.0nm,1.3s									
VRAC	**Vranov**	**40.78**	**303**	LR		LR		09 48 19.9		
	comp=E,59nm,18.1s,baz=85,slow=38									
CONA	**Conrad Observa**	**41.48**	**301**	P		**P**		**09 30 21.5**	**+1.1**	
	comp=E,12nm,1.3s									
HFS	**Hagfors**	**41.86**	**320**	LR		LR		09 47 56.0		
	comp=E,106nm,19.9s,baz=88,slow=36									
KSAR	**Wonju Array Be**	**42.23**	**75**	P		**P**		**09 30 26.4**	**0.0**	
KSAR	**Wonju Array Be**	**42.23**	**75**	P		**P**		**09 30 26.4**	**0.0**	
KSRS	**Korea Array**	**42.25**	**75**	P		**P**		**09 30 26.4**	**-0.2**	
KSRS						pmax		pmax		
	comp=Z,1.0nm,0.6s									
KSRS	**Korea Array**	**42.25**	**75**	P		**P**		**09 30 26.4**	**-0.2**	
	comp=Z,1.4nm,0.6s,baz=281,slow=8.8,SNR=5.5									
TIXI	**Tiksi**	**42.28**	**23**	⇑*i*P		**P**		**09 30 26.3**	**-0.1**	
TIXI						pmax		pmax		
	comp=Z,5.0nm,0.8s									
TIXI	**Tiksi**	**42.28**	**23**	*e*P		**P**		**09 30 25.9**	**-0.5**	
	comp=Z,2.6nm,0.5s									
VISS	**Visnje**	**42.60**	**298**	*e*P		**P**		**09 30 30.0**	**+0.6**	
GERES	**GERESS Array B**	**42.73**	**303**	P		**P**		**09 30 31.0**	**+0.5**	
	comp=Z,2.2nm,0.8s,baz=64,slow=6.2,SNR=12									
GERES						LR		LR	09 52 26.4	
	comp=Z,82nm,18.4s,baz=80,slow=42									
KHC	**Kasperske Hory**	**42.76**	**303**	*e*P		**P**		**09 30 30.5**	**-0.2**	
KHC						pmax		pmax		
	comp=Z,4.0nm,1.0s									
KHC	**Kasperske Hory**	**42.76**	**303**	*e*P		**P**		**09 30 30.5**	**-0.2**	
	comp=Z,4.0nm,1.0s									
CRNS	**Crni Vrh**	**42.93**	**299**	*e*P		**P**		**09 30 32.5**	**+0.4**	
NB2	**NORSAR Subarra**	**43.11**	**321**	P		**P**		**09 30 32.9**	**-0.4**	
	comp=Z,3.5nm,0.6s,baz=92,slow=8.6									
NOA	**NORSAR Array B**	**43.11**	**321**	P		**P**		**09 30 33.0**	**-0.4**	
NOA	**NORSAR Array B**	**43.11**	**321**	P		**P**		**09 30 33.0**	**-0.4**	
	comp=Z,20nm,1.3s,baz=91,slow=8.0,SNR=7.0									
NOA						LR		LR	09 49 20.2	
	comp=Z,120nm,20.8s,baz=80,slow=37									
USRK	**Ussuriysk Ar.**	**43.15**	**64**	P		**P**		**09 30 33.6**	**-0.3**	
	comp=Z,0.6nm,0.4s,baz=282,slow=8.1,SNR=3.4									
KBA	**Koelnbreinsper**	**43.33**	**300**	⇑*i*P		**P**		**09 30 36.3**	**+0.9**	
	comp=Z,1.8nm,0.6s									
GRF	**Grafenberg Arr**	**44.17**	**305**	*e*P		**P**		**09 30 43.4**	**+1.4**	
	comp=Z,10.0nm,1.2s									
MOTA	**Moosalm**	**44.75**	**301**	⇑*i*P		**P**		**09 30 47.2**	**+0.3**	
	comp=Z,5.9nm,0.9s									
DAVA	**Damuels**	**45.57**	**302**	⇑*i*P		**P**		**09 30 54.0**	**+0.6**	
	comp=Z,6.2nm,0.6s									
BFO	**Black Forest**	**46.33**	**303**	*i* P		**P**		**09 31 00.7**	**+1.5**	
CDF	**Champ du Feu**	**46.99**	**304**	*e*P		**P**		**09 31 04.4**	**0.0**	
CDF	**Champ du Feu**	**46.99**	**304**	*e*P		**P**		**09 31 04.4**	**0.0**	
CDF	**Champ du Feu**	**46.99**	**304**	*e*P		**P**		**09 31 04.4**	**0.0**	
HINF	**Hinteralfeld**	**47.42**	**303**	*e*P		**P**		**09 31 07.7**	**0.0**	
HINF	**Hinteralfeld**	**47.42**	**303**	*e*P		**P**		**09 31 07.7**	**0.0**	
HINF	**Hinteralfeld**	**47.42**	**303**	*e*P		**P**		**09 31 07.7**	**0.0**	
PGF	**Pioggiola**	**47.55**	**296**	*e*P		**P**		**09 31 08.9**	**0.0**	
	comp=Z,25nm,0.9s									
PGF	**Pioggiola**	**47.55**	**296**	*e*P		**P**		**09 31 08.9**	**0.0**	
PGF						pmax		pmax		
	comp=Z,25nm,0.9s									
PGF	**Pioggiola**	**47.55**	**296**	*e*P		**P**		**09 31 08.9**	**0.0**	
	comp=Z,25nm,0.9s			

	comp=Z,8.3nm,1.0s								
SUMG	**Summit**	**58.79**	**341**	*i* P		**P**	**09 32 31.7**	**+0.2**
	comp=Z,6.5nm,0.9s								
TORD	**Torodi Ar. Bea**	**67.60**	**269**	P		**P**	**09 33 29.1**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=52,slow=5.4,SNR=17								
INK	**Inuvik**	**70.61**	**10**	P		**P**	**09 33 48.4**	**+0.2**
	comp=Z,4.4nm,0.4s,baz=348,slow=5.3,SNR=47								
COLA	**College**	**71.05**	**17**	*e*P		**P**	**09 33 50.8**	**-0.1**
COLA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
COLA	**College**	**71.05**	**17**	*e*P		**P**	**09 33 50.8**	**-0.1**
	comp=Z,6.8nm,1.0s								
ILAR	**Eielson Array**	**71.36**	**17**	P		**P**	**09 33 51.8**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=325,slow=4.0,SNR=21								
KTH	**Kantishna Hill**	**71.41**	**19**	*e*P		**P**	**09 33 52.4**	**-0.9**
	comp=Z,6.0nm,1.1s								
DBIC	**Dimbokro**	**76.66**	**268**	P		**P**	**09 34 23.4**	**-1.2**
	comp=Z,4.4nm,1.0s,baz=84,slow=2.7,SNR=3.2								
LIC	**Lamto**	**77.07**	**267**	*e*P		**P**	**09 34 25.9**	**-1.1**
	comp=Z,12nm,1.0s								
LIC	**Lamto**	**77.07**	**267**	*e*P		**P**	**09 34 25.9**	**-1.1**
	comp=Z,12nm,1.0s								
YKA	**Yellowknife Ar**	**78.12**	**4**	P		**P**	**09 34 31.9**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=349,slow=5.8,SNR=57								
SCHQ	**Schefferville**	**79.99**	**338**	P		**P**	**09 34 42.1**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=61,slow=9.2,SNR=6.1								
FCC	**Fort Churchill**	**81.50**	**353**	*e*P		**P**	**09 34 50.4**	**0.0**
FCC	**Fort Churchill**	**81.50**	**353**	*e*P		**P**	**09 34 50.4**	**0.0**
WRA	**Warramunga Arr**	**82.11**	**124**	P		**P**	**09 34 53.4**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=326,slow=4.9,SNR=26								
ASAR	**Alice Springs**	**84.55**	**127**	P		**P**	**09 35 05.5**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=322,slow=5.1,SNR=9.3								
ULM	**Lac du Bonnet**	**90.08**	**353**	P		**P**	**09 35 32.3**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=66,slow=3.7,SNR=3.9								
NEW	**Newport**	**92.09**	**7**	P		**P**	**09 35 42.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=326,slow=2.1,SNR=4.4								
BSMT	**Basseo Peak**	**92.69**	**5**	*e*P		**P**	**09 35 45.9**	**+0.2**
	comp=Z,11nm,1.3s								
SLMT	**Seeley Lake**	**93.39**	**5**	*e*P		**P**	**09 35 48.6**	**-0.2**
	comp=Z,4.4nm,0.9s								

*ISCJB **07** 09:25:49.8±0.5, 32.˚76N±0.˚02×115.˚87W±0.˚03, h4km±4km, Error ellipse: s-maj=3.9km s-min=3.1km az=6.2*
*NEIC **07** 09:25:51.0, 32.˚71N×115.˚90W, h1km, ML3.6(PAS), After PAS.*
*MEX **07** 09:25:50.6±1.4, 33.˚08N×115.˚94W, h16km±44km, MD3.5*
*ECX **07** 09:25:52.7±1.0, 32.˚70N×115.˚92W, h2km, MD3.5, ML3.7*

ISC 07 09:25:50.9±1.0, 32.72N±0.˚02×115.88W±0.˚02, h10km±10km, n28, σ0.75/49, 2C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.21**	**236**	⇑*i*P	**Pg**	**09 25 55.8**	**+0.5**
RMX				*e*S	**Sg**	**09 25 58.8**	**+0.5**
CPBX	**Cerro Prieto**	**0.57**	**122**	*e*P	**Pb**	**09 26 02.8**	**-0.1**
CPBX				*e*S	**Sb**	**09 26 11.6**	**+0.6**
MBIG	**Mexicali**	**0.65**	**118**	*e*P	**Pb**	**09 26 04.5**	**+0.2**
MBIG				*i* S	**Sb**	**09 26 15.2**	**+1.8**
CBX	**Cerro Bola**	**0.78**	**239**	*i* P	**Pg**	**09 26 06.1**	**+0.2**
CBX				*i* S	**Sg**	**09 26 16.5**	**+0.4**
CBX	**Cerro Bola**	**0.78**	**239**	⇑*e*P	**Pg**	**09 26 06.2**	**+0.2**
CBX				*e*S	**Sg**	**09 26 15.4**	**-0.7**
CBX	**Cerro Bola**	**0.78**	**239**	*i* P	**Pg**	**09 26 06.1**	**+0.2**
RDX	**Rancho Dawling**	**0.79**	**184**	*e*P	**Pg**	**09 26 06.0**	**-0.1**
RDX				*e*S	**Sg**	**09 26 16.2**	**-0.4**
EMX	**El Mayor**	**0.91**	**143**	*e*P	**Pg**	**09 26 06.8**	**-1.5**
EMX				*e*S	**Sg**	**09 26 19.1**	**-1.0**
GLA	**Glamis**	**0.94**	**69**	*e*Pg	**Pg**	**09 26 08.3**	**-0.7**
GLA				*e*Sg	**Sg**	**09 26 21.3**	**0.0**
PFO	**Pinyon Flats O**	**1.01**	**331**	*e*Pg	**Pg**	**09 26 09.4**	**-0.9**
PFO				*e*Sg	**Sg**	**09 26 22.7**	**-0.9**
PBX	**Punta Banda**	**1.21**	**217**	*e*P	**Pg**	**09 26 13.7**	**-0.5**
PBX				*e*S	**Sg**	**09 26 29.5**	**-0.4**
ECNX	**Esteban Cantu**	**1.22**	**210**	*e*P	**Pb**	**09 26 13.8**	**-0.3**
ECNX				*e*S	**Sg**	**09 26 29.9**	**-0.4**
ZAX	**El Zacaton**	**1.25**	**196**	*e*P	**Pn**	**09 26 14.4**	**0.0**
ZAX				*e*S	**Sg**	**09 26 30.8**	**-0.3**
ZAX				⇓*e*		09 26 33.9	
ZAX				AML	AML	09 26 33.9	
	comp=N,2μm,0.6s						
ECBX	**El Chinero**	**1.43**	**150**	*e*P	**Pn**	**09 26 15.1**	**-1.7**
ECBX				*e*S	**Sb**	**09 26 34.7**	**-1.1**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**09 26 22.6**	**0.0**
SPIG				*e*S	**Sg**	**09 26 46.6**	**+0.9**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**09 26 22.5**	**0.0**
SPIG				*e*S	**Sb**	**09 26 45.1**	**+1.1**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**09 26 22.6**	**0.0**
SPIG				*e*S	**Sg**	**09 26 46.6**	**+0.9**
SPX	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**09 26 22.9**	**+0.4**
SPX				*e*S	**Sb**	**09 26 45.4**	**+1.2**
SPX				AML	AML	09 26 48.9	
	comp=E,401nm,0.5s						
SPX				⇓*e*		09 26 48.9	
MWC	**Mount Wilson**	**2.36**	**310**	*e*Pn	**Pb**	**09 26 33.5**	**-0.1**
MWC				*e*Sn	**Sb**	**09 27 03.2**	**+0.3**
PASC	**Pasadena Art C**	**2.41**	**308**	*e*Pn	**Pb**	**09 26 34.1**	**-0.3**
PASC				*e*Sn	**Sb**	**09 27 04.5**	**+0.3**
GSC	**Goldstone, Bar**	**2.69**	**344**	*e*Pn	**Pn**	**09 26 33.5**	**-0.7**
GSC				*e*Sg	**Sg**	**09 27 17.4**	**+0.2**
214A	**Organ Pipe Nat**	**2.70**	**106**	*e*Pn	**Pn**	**09 26 34.8**	**+0.4**
ISA	**Isabella, Lake**	**3.64**	**324**	*e*Pn	**Pn**	**09 26 47.2**	**-0.2**
SHPR	**Sheep Range**	**3.82**	**9**	*e*Pn	**Pn**	**09 26 49.8**	**-0.1**
SHPR				*e*Sg	**Sg**	**09 27 54.3**	**+0.6**
TUC	**Tucson**	**4.32**	**94**	*e*Pn	**Pn**	**09 26 56.1**	**-0.5**
WUAZ	**Wupatki**	**4.66**	**52**	*e*Pn	**Pn**	**09 27 02.5**	**+1.0**
121A	**Cookes Peak, D**	**6.83**	**89**	*e*Pn	**Pn**	**09 27 31.5**	**+0.2**
	comp=E,9.5nm,0.5s						
PV01	**Paradox Valley**	**8.04**	**46**	*e*Pn	**Pn**	**09 27 49.7**	**+1.7**
	comp=E,283nm,0.6s						

*ISCJB **07** 09:27:34.7±0.5, 32.˚78N±0.˚03×115.˚88W±0.˚03, h12km±5km, Error ellipse: s-maj=5.1km s-min=3.8km az=159.3*
*NEIC **07** 09:27:35.5, 32.˚69N×115.˚88W, h10km, ML3.8(PAS), After PAS.*
*MEX **07** 09:27:36.3±1.1, 32.˚99N×115.˚98W, h16km±27km, MD3.5*
*ECX **07** 09:27:37.1±0.8, 32.˚70N×115.˚92W, h3km, MD3.6, ML3.7*

ISC 07 09:27:35.2±1.0, 32.72N±0.˚03×115.86W±0.˚03, h9km±10km, n21, σ1.900/40, 2C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.22**	**238**	⇑*e*P	**Pg**	**09 27 40.0**	**+0.3**
RMX				*e*S	**Sg**	**09 27 43.2**	**+0.5**
CPBX	**Cerro Prieto**	**0.56**	**122**	*e*P	**Pb**	**09 27 47.3**	**+0.2**
CPBX				*e*S	**Sb**	**09 27 56.6**	**+1.5**
MBIG	**Mexicali**	**0.64**	**119**	*i* P	**Pb**	**09 27 49.6**	**+1.1**
MBIG				*i* S	**Sb**	**09 28 00.2**	**+2.7**
BAR	**Barrett**	**0.69**	**267**	*e*Pg	**Pg**	**09 27 48.2**	**-0.3**
BAR				*e*Sg	**Sg**	**09 27 57.4**	**0.0**
CBX	**Cerro Bola**	**0.79**	**240**	*i* P	**Pg**	**09 27 50.3**	**-0.1**
CBX				*i* S	**Sg**	**09 28 00.3**	**-0.4**
CBX	**Cerro Bola**	**0.79**	**240**	*e*P	**Pg**	**09 27 50.3**	**-0.1**
CBX				*e*S	**Sg**	**09 28 00.9**	**+0.2**
RDX	**Rancho Dawling**	**0.79**	**185**	*e*P	**Pg**	**09 27 50.2**	**-0.2**
RDX				*e*S	**Sg**	**09 28 00.9**	**+0.2**
EMX	**El Mayor**	**0.90**	**144**	*e*P	**Pg**	**09 27 50.1**	**-2.3**
EMX				*e*S	**Sg**	**09 28 03.0**	**-1.0**
GLA	**Glamis**	**0.93**	**69**	*e*Pg	**Pg**	**09 27 52.5**	**-0.5**
GLA				*e*Sg	**Sg**	**09 28 05.8**	**+0.6**
PFO	**Pinyon Flats O**	**1.02**	**331**	*e*Pg	**Pg**	**09 27 53.9**	**-0.9**
PFO				*e*Sg	**Sg**	**09 28 07.6**	**-0.5**
PBX	**Punta Banda**	**1.22**	**217**	*e*P	**Pg**	**09 27 57.9**	**-0.7**
PBX				*e*S	**Sg**	**09 28 14.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.23**	**211**	*e*P	**Pg**	**09 27 58.1**	**-0.7**
ECNX				*e*S	**Sg**	**09 28 13.7**	**-1.1**
ZAX	**El Zacaton**	**1.25**	**196**	*e*P	**Pg**	**09 27 58.8**	**-0.3**
ZAX				*e*S	**Sg**	**09 28 14.9**	**-0.5**
ZAX				AML	AML	09 28 18.1	
	comp=N,2μm,0.5s						
ZAX				⇑*e*		09 28 18.1	
ECBX	**El Chinero**	**1.42**	**151**	*e*P	**Pn**	**09 27 59.5**	**-1.6**
ECBX				*e*S	**Sg**	**09 28 19.0**	**-1.8**
SPIG	**San Pedro Mart**	**1.70**	**169**	*i* P	**Pb**	**09 28 07.0**	**+0.2**
SPIG				*i* S	**Sg**	**09 28 29.7**	**-0.2**
SPIG	**San Pedro Mart**	**1.70**	**169**	*e*P	**Pn**	**09 28 06.4**	**+1.1**
SPIG				*e*S	**Sb**	**09 28 29.1**	**+0.7**
SPX	**San Pedro Mart**	**1.70**	**168**	*e*P	**Pn**	**09 28 06.5**	**+1.1**
SPX				*e*S	**Sb**	**09 28 29.4**	**+1.0**
SPX				⇓*e*		09 28 33.5	
SPX				AML	AML	09 28 33.5	
	comp=E,466nm,0.6s						
MWC	**Mount Wilson**	**2.37**	**310**	*e*Pn	**Pb**	**09 28 17.7**	**-0.5**
MWC				*e*Sn	**Sb**	**09 28 47.5**	**-0.2**
W18A	**Petrified Fore**	**5.63**	**63**	*e*Pn	**Pn**	**09 29 00.5**	**+1.3**
121A	**Cookes Peak, D**	**6.81**	**89**	*e*Pn	**Pn**	**09 29 15.9**	**+0.4**
121A				*e*Sn	**Sn**	**09 30 31.9**	**-1.4**
SRU	**San Rafael Swe**	**7.71**	**33**	*e*Pn	**Pn**	**09 29 28.1**	**+0.3**

*IDC **07** 09:48:05.2±1.3, 34.˚94S×72.˚92W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.7/21, mbtmp3.6/5, ML3.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=37.4km s-min=25.5km az=109.0*
*GUC **07** 09:48:06.4±0.5, 34.˚83S×72.˚87W, h17km±3km, ML4.2*

ISC 07 09:48:05.8±2.2, 34.92S±0.˚04×72.80W±0.˚07, h1km±14km, n18, σ1.920/24, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.07**	**117**	*i* P	**Pn**	**09 48 27.5**	**-0.4**
TALC				*i* S	**Sn**	**09 48 43.1**	**-0.3**
TALC				AML	AML	09 48 47.0	
	comp=N,38μm,0.0s						
COCH	**Cobquecura**	**1.21**	**180**	*i* P	**Pb**	**09 48 29.4**	**-0.2**
COCH				*i* S	**Sn**	**09 48 46.6**	**-0.3**
COCH				AML	AML	09 48 53.5	
	comp=E,2μm,0.5s						
NICH	**Los Niches**	**1.29**	**94**	*i* P	**Pg**	**09 48 30.5**	**0.0**
NICH				*i* S	**Sb**	**09 48 48.3**	**+0.4**
NICH				AML	AML	09 48 51.6	
	comp=E,9μm,0.5s						
LNCH	**Linares**	**1.35**	**134**	*i* P	**Pn**	**09 48 31.8**	**0.0**
LNCH				*i* S	**Sn**	**09 48 51.0**	**+0.7**
LNCH				AML	AML	09 48 57.2	
	comp=E,10μm,0.4s						
LNV	**Longovilo**	**1.49**	**50**	*i* P	**Pn**	**09 48 32.1**	**-1.7**
CCSP	**San Pedro de C**	**1.94**	**187**	*i* P	**Pn**	**09 48 40.8**	**+0.8**
CHCH	**Chadas Angostu**	**2.02**	**62**	*i* P	**Pn**	**09 48 41.3**	**+0.1**
CHCH				*e*S	**Sb**	**09 49 08.8**	**-0.4**
CLCH	**Cerro Calan**	**2.41**	**52**	*i* P	**Pn**	**09 48 47.3**	**+0.9**
CLCH				*i* S	**Sb**	**09 49 18.6**	**-1.7**
CLCH				AML	AML	09 49 33.6	
	comp=N,1μm,0.8s						
PEL	**Peldehue**	**2.49**	**45**	*i* P	**Pn**	**09 48 47.7**	**+0.2**
PEL				*i* S	**Sn**	**09 49 19.4**	**+0.8**
PEL				AML	AML	09 49 26.3	
	comp=N,1μm,0.4s						
CFAA	**Coronel Fontan**	**5.05**	**50**	Pn	**Pn**	**09 49 22.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=223,slow=12,SNR=12						
CFAA				Sn	**Sn**	**09 50 25.1**	**+3.3**
	comp=N,0.2nm,0.3s,baz=338,slow=18,SNR=4.0						
CFAA				LR	LR	09 51 28.5	
	comp=N,23nm,19.4s,baz=284,slow=40						
PLCA	**Paso Flores**	**6.07**	**164**	Pn	**Pn**	**09 49 38.5**	**+1.7**
	comp=N,1.0nm,0.3s,baz=340,slow=8.9,SNR=24						
PLCA				Lg	Lg	09 51 15.5	
	comp=N,0.7nm,0.3s,baz=252,slow=19,SNR=3.0						
LPAZ	**La Paz**	**19.02**	**14**	P	**Pn**	**09 52 31.0**	**+0.6**
	comp=N,0.1nm,0.3s,baz=164,slow=4.5,SNR=6.4						
SIV	**San Ignacio**	**21.58**	**32**	P	**P**	**09 52 58.7**	**+1.6**
	comp=N,2.0nm,0.9s,baz=221,slow=11,SNR=3.4						
NNA	**Nana**	**23.12**	**350**	LR	LR	09 59 44.9	
	comp=N,61nm,20.3s,baz=138,slow=30						
TXAR	**Lajitas Array**	**70.23**	**332**	P	**P**	**09 59 20.1**	**-0.5**
	comp=N,0.2nm,0.5s,baz=157,slow=8.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.11**	**70**	P	**P**	**10 00 42.9**	**-1.0**
	comp=N,0.7nm,0.7s,baz=241,slow=4.1,SNR=4.6						
SCHQ	**Schefferville**	**89.53**	**3**	LR	LR	10 41 21.7	
	comp=N,99nm,21.9s,baz=310,slow=36						
WRA	**Warramunga Arr**	**119.66**	**210**	PKP	**PKPdf**	**10 06 56.9**	**-1.3**
	comp=N,0.2nm,0.9s,baz=155,slow=1.4,SNR=4.2						

*IDC **07** 09:49:20.7±0.9, 19.˚44N×120.˚15E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, Error ellipse: s-maj=76.6km s-min=18.2km az=68.0*
*ISCJB **07** 09:49:22.5±0.9, 19.˚4N±0.˚2×120.˚0E±0.˚5, h23km, mb3.5/6, Error ellipse: s-maj=72.4km s-min=17.4km az=157.4*

ISC 07 09:49:24.3±1.1, 19.5N±0.˚2×120.2E±0.˚5, h23km, n6, σ1.939/6, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.45**	**341**	P	**P**	**09 55 35.2**	**-0.1**
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**41.24**	**320**	P	**P**	**09 57 08.5**	**+1.0**
	0.5nm,0.7s,baz=116,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**41.53**	**160**	P	**P**	**09 57 09.4**	**-0.8**
	1.1nm,0.6s,baz=342,slow=9.0,SNR=21						
ZALV	**Zalesovo Beam**	**43.80**	**330**	P	**P**	**09 57 26.4**	**-1.8**
	0.4nm,0.4s,baz=97,slow=7.4,SNR=2.4						
ASAR	**Alice Springs**	**44.90**	**162**	P	**P**	**09 57 37.7**	**+0.4**
	1.6nm,0.5s,baz=340,slow=7.0,SNR=50						
YKA	**Yellowknife Ar**	**87.65**	**22**	P	**P**	**10 02 11.5**	**+0.9**
	0.1nm,0.6s,baz=308,slow=4.1,SNR=3.1						

WEL 07 10:02:05.6±0.6, 46.23S×166.00E, h27km±2km, ML3.9/12, 1C-4D, Error ellipse: s-maj=5.3km s-min=3.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.48**	**83**	⇑P*	Pb	10 02 15.5	0.0
PYZ				S*	Sb	10 02 22.1	-0.2
DCZ	**Deep Cove**	**1.10**	**48**	⇓PN	Pn	10 02 24.5	-0.7
DCZ				SN	Sn	10 02 39.3	-0.2
DCZ				AML	AML	10 02 45.5	
DCZ				AML	AML	10 02 45.5	
WHZ	**Wether Hill Ro**	**1.40**	**77**	PN	Pn	10 02 29.3	0.0
WHZ				SN	Sn	10 02 46.7	-0.2
WHZ				AML	AML	10 02 47.0	
APZ	**The Paps**	**1.50**	**115**	⇓PN	Pn	10 02 30.4	-0.5
APZ				SN	Sn	10 02 47.7	-1.9
APZ				AML	AML	10 02 47.9	
MLZ	**Mavora Lakes**	**1.76**	**61**	PN	Pn	10 02 33.5	-0.8
MLZ				SN	Sn	10 02 53.8	-2.0
MLZ				AML	AML	10 03 07.3	
MSZ	**Milford Sound**	**2.06**	**42**	PN	Pn	10 02 39.8	+1.3
MSZ				AML	AML	10 03 18.3	
MSZ				AML	AML	10 03 23.8	
SYZ	**Scrubby Hill**	**2.20**	**99**	PN	Pn	10 02 40.7	+0.5
SYZ				AML	AML	10 03 09.1	
SYZ				AML	AML	10 03 09.1	
SYZ				AML	AML	10 03 16.9	
SYZ				AML	AML	10 03 16.9	
EAZ	**Earnscleugh**	**2.52**	**68**	PN	Pn	10 02 45.6	+0.8
EAZ				AML	AML	10 03 21.1	
EAZ				AML	AML	10 03 21.5	
EAZ				AML	AML	10 03 21.5	
WKZ	**Wanaka**	**2.54**	**58**	PN	Pn	10 02 46.4	+1.3
WKZ				AML	AML	10 03 25.6	
WKZ				AML	AML	10 03 29.2	
TUZ	**Tuapeka**	**2.54**	**85**	⇓PN	Pn	10 02 46.0	+0.9
JCZ	**Jackson Bay**	**2.91**	**43**	AML	AML	10 03 43.5	
JCZ				AML	AML	10 03 44.0	
ODZ	**Otahua Downs**	**3.47**	**72**	⇓PN	Pn	10 02 57.6	-0.2
LBZ	**Lake Benmore**	**3.48**	**60**	PN	Pn	10 02 59.0	+1.0
LBZ				AML	AML	10 03 56.4	
LBZ				AML	AML	10 03 59.0	
FOZ	**Fox Glacier**	**3.73**	**46**	AML	AML	10 04 26.1	
RPZ	**Rata Peaks**	**4.38**	**57**	PN	Pn	10 03 10.4	+0.1
RPZ				AML	AML	10 04 33.1	
WVZ	**Waitaha Valley**	**4.62**	**49**	PN	Pn	10 03 14.5	+1.0
OXZ	**Oxford**	**5.19**	**58**	PN	Pn	10 03 21.5	+0.1

*SZGRF **07** 10:04:35.4, 52.˚24N×170.˚91W, h33km, mb5.0, Fox Islands, Aleutian Islands, United States*
*BJI **07** 10:04:36.6, 52.˚62N×173.˚12W, h83km, mB5.1/44, mb5.0/60, Ms4.6/36, Ms7 4.4/29*
*NEIC **07** 10:04:38.0±0.1, 52.˚17N×173.˚53W, mb5.2/184, ML5.1(AEIC), Error ellipse: s-maj=4.9km s-min=2.2km az=169.0*
NEIC Felt on Atka.
*GCMT **07** 10:04:38.0±0.4, 52.˚15N×173.˚58W, h78km±5km, MW5.2/65, Moment Tensor Solution. s16,c16; s65,c94; Duration: 1±0 Moment tensor: Scale 10^16Nm; Mw1.63±.71; Mθθ2.20±.58; Mϕϕ-3.83±.47; Mrθ-5.79±.27; Mrϕ-4.68±.29; Mϕr-1.13±.32; Best double couple: Ms8.23100×10^16 NP1:ϕs250.00000°, δ82.00000°, λ133.00000°. NP2: ϕs348.00000°, δ43.00000°, λ12.00000°. Principal axes: T 8.3410, Plg38.0000°, Azm197.0000°; N -0.2200, Plg42.0000°, Azm62.0000°; P -8.1210, Plg25.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **07** 10:04:38.7±0.3, 52.˚18N±0.˚02×173.˚48W±0.˚02, h88km±2km, mb5.1/304 Error ellipse: s-maj=4.1km s-min=1.7km az=177.2*
*IDC **07** 10:04:38.0±0.4, 52.˚24N×173.˚46W, h66km±2km, mb4.6/40, mb1 4.7/42, mb1mx4.6/55, mbtmp4.9/42, MS3.9/32, Ms1 3.9/32, ms1mx3.9/38, Error ellipse: s-maj=10.4km s-min=6.7km az=166.0*
*MOS **07** 10:04:39.2±0.9, 52.˚25N×173.˚49W, h92km, mb5.1/92, Error ellipse: s-maj=6.6km s-min=4.5km az=94.9*

ISC 07 10:04:38.8±0.3, 52.14N±0.˚04×173.˚46W±0.˚03, h75km±1km, h75km:pP-P, n1119, σ0.993/1245, mb5.2/304, 220C-243D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.60**	**267**	P	**Pn**	**10 05 05.6**	**+0.3**
GSCK	**Great Sitkin C**	**1.67**	**267**	P	**Pn**	**10 05 06.6**	**+0.4**
ETKA	**Kagalaska Isla**	**1.84**	**262**	P	**Pn**	**10 05 08.9**	**+0.5**
ADAG	**Mount Adagdak**	**1.94**	**266**	P	**Pn**	**10 05 10.8**	**+1.0**
ADK	**Adak**	**2.01**	**264**	P	**Pn**	**10 05 11.5**	**+0.9**
ADK				S	**Sn**	**10 05 36.7**	**+1.8**
ADK	**Adak**	**2.01**	**264**	P	**Pn**	**10 05 11.5**	**+0.9**
ADK				S	**Sn**	**10 05 36.7**	**+1.8**
KIRH	**Kanaga Island**	**2.26**	**265**	P	**Pn**	**10 05 15.1**	**+1.1**
KIKV	**Kanaga Island**	**2.31**	**265**	P	**Pn**	**10 05 15.4**	**+0.8**
TAFL	**Tanaga Flats**	**2.77**	**264**	P	**Pn**	**10 05 21.9**	**+1.0**
TASE	**Tanaga Southea**	**2.84**	**266**	P	**Pn**	**10 05 22.7**	**+0.7**
TANO	**Tanaga North**	**2.89**	**267**	P	**Pn**	**10 05 23.5**	**+1.0**
NIKH	**Nikolski High**	**2.93**	**72**	P	**Pn**	**10 05 23.1**	**0.0**
NIKH				S	**Sn**	**10 05 58.6**	**+1.4**
GAEA	**Gareloi East**	**3.29**	**266**	P	**Pn**	**10 05 28.7**	**+0.7**
GALAA	**Gareloi Lava P**	**3.31**	**265**	P	**Pn**	**10 05 29.2**	**+1.0**
OKFG	**Magazine Ridge**	**3.60**	**67**	P	**Pn**	**10 05 33.0**	**+0.8**
OKFG				S	**Sn**	**10 06 15.2**	**+1.7**
MCIR	**Makushin Cirqu**	**4.36**	**63**	P	**Pn**	**10 05 43.8**	**+1.2**
MSW	**Makushin Switc**	**4.41**	**64**	P	**Pn**	**10 05 44.2**	**+1.0**
UNV	**Unalaska Valle**	**4.54**	**65**	P	**Pn**	**10 05 45.9**	**+1.0**
UNV				S	**Sn**	**10 06 38.6**	**+2.3**
AKRB	**Akutan Reef Bi**	**4.88**	**63**	P	**Pn**	**10 05 51.2**	**+1.6**
ZRO	**Akutan Zero**	**4.91**	**64**	P	**Pn**	**10 05 51.6**	**+1.5**
AKGG	**Akutan Green G**	**4.94**	**62**	P	**Pn**	**10 05 51.6**	**+1.2**
SPIA	**Saint Paul Isl**	**5.38**	**19**	P	**Pn**	**10 05 58.0**	**+1.6**
SPIA				S	**Sn**	**10 06 59.9**	**+3.0**
WESE	**West Dahl East**	**5.81**	**63**	P	**Pn**	**10 06 03.6**	**+1.3**
SSLW	**Shishaldin Wes**	**6.17**	**61**	P	**Pn**	**10 06 08.9**	**+1.7**
SSLN	**Shishaldin Nor**	**6.25**	**61**	P	**Pn**	**10 06 09.6**	**+1.3**
FALS	**False Pass**	**6.58**	**62**	P	**Pn**	**10 06 14.0**	**+1.2**
DT1	**Dutton Round H**	**7.28**	**62**	P	**Pn**	**10 06 22.8**	**+0.4**
SMY	**Shemya**	**7.63**	**279**	P	**Pn**	**10 06 27.4**	**+0.3**
SMY	**Shemya**	**7.63**	**279**	P	**Pn**	**10 06 27.4**	**+0.3**
SDPT	**Sand Point**	**8.34**	**62**	P	**Pn**	**10 06 36.3**	**-0.4**
GAMB	**Gambell**	**11.71**	**4**	*e*Pn	**Pn**	**10 07 25.4**	**+2.9**
SII	**Sitkinak Islan**	**12.07**	**61**	*e*Pn	**Pn**	**10 07 29.9**	**+2.2**
OHAK	**Old Harbor**	**12.71**	**58**	*e*Pn	**Pn**	**10 07 36.0**	**-0.3**
KDAK	**Kodiak Island**	**13.23**	**57**	Pn	**Pn**	**10 07 43.0**	**-0.2**
	676nm,0.4s,SNR=5.4						
KDAK	**Kodiak Island**	**13.23**	**57**	*e*P	**Pn**	**10 07 42.1**	**-1.1**
KDAK	**Kodiak Island**	**13.23**	**57**	*e*Pn	**Pn**	**10 07 42.1**	**-1.1**
SVW2	**Sparrevohn**	**13.27**	**41**	*e*Pn	**Pn**	**10 07 47.0**	**+3.2**
TNA	**Tin City**	**13.75**	**10**	*e*Pn	**Pn**	**10 07 53.0**	**+3.0**
RSO	**Redoubt South**	**14.14**	**46**	*e*Pn	**Pn**	**10 07 57.6**	**+2.2**
SPU	**Mount Spurr**	**14.78**	**44**	*e*P	**P**	**10 08 07.5**	**-0.1**
SEW	**Seward**	**15.51**	**50**	*e*Pn	**Pn**	**10 08 11.6**	**-1.1**
PPLA	**Purkeypile**	**15.61**	**38**	*

KUR S **S** **10 14 31.0 -1.5**
YUK Yuzh-Kuril'sk 28.04 270 *e*P **P** **10 10 23.1 +0.5**
YSS Yuzh-Sakhalins 28.54 277 *e*P **P** **10 10 28.0 +1.0**
YSS Yuzh-Sakhalins 28.54 277 *e*P **P** **10 10 26.1 -0.9**
comp=Z,35nm,0.7s
ASAJ Asahikawa 30.01 272 P **P** **10 10 41.0 +0.9**
ASAJ 10 17 15.7
ASAJ pmax pmax
comp=Z,27nm,0.6s
ASAJ pmax pmax
comp=N,5.0nm,0.7s
ASAJ MLR MLR
comp=Z,143nm,21.0s
ASAJ Asahikawa 30.01 272 P **P** **10 10 41.0 +0.9**
comp=Z,27nm,0.6s,baz=54,slow=5.8,SNR=40
ASAJ ScP **ScP** **10 17 15.7 +0.2**
comp=Z,5.4nm,0.7s,baz=236,slow=27,SNR=4.0
ASAJ LR LR 10 22 24.1
comp=Z,143nm,21.0s,baz=164,slow=36
ASAJ Asahikawa 30.01 272 *e*P **P** **10 10 40.7 +0.6**
comp=Z,16nm,0.8s
ASAJ ScP **ScP** **10 17 15.7 +0.2**
ERM Erimo 30.80 268 P **P** **10 10 48.6 +1.5**
comp=Z,1μm,0.6s,SNR=25
ERM Erimo 30.80 268 *c i*P **P** **10 10 47.7 +0.6**
ERM pmax pmax
comp=Z,165nm,0.9s
ERM Erimo 30.80 268 *e*P **P** **10 10 47.8 +0.7**
comp=Z,63nm,0.6s
YAK Yakutsk 31.42 311 *e*P **P** **10 10 53.4 +1.1**
YAK *e**PP pP 10 11 15.8 +5.8
YAK *e* 10 11 57.3
YAK *e* 10 13 42.8
YAK *e*S **S** **10 15 52.3 -1.8**
YAK *e**SS **sS** **10 16 24.8 +0.2**
YAK *e* 10 21 14.3
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=E,34nm,1.1s
YAK pmax pmax
comp=Z,32nm,1.0s
YAK smax smax
comp=N,20nm,2.3s
YAK smax smax
comp=E,24nm,2.0s
YAK Yakutsk 31.42 311 P **P** **10 10 50.7 -1.6**
comp=E,18nm,0.4s,baz=220,slow=0.5,SNR=2.8
YAK PcP **PcP** **10 13 43.2 -0.6**
comp=E,24nm,0.4s,baz=224,slow=1.0,SNR=7.8
YAK ScP **ScP** **10 17 18.9 -1.0**
comp=E,31nm,0.7s,baz=255,slow=0.8,SNR=10
TIXI Tiksi 31.64 329 ⇓ *i*P **P** **10 10 55.3 +1.2**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 31.64 329 *e*P **P** **10 10 53.2 -0.9**
comp=Z,13nm,1.0s
TIXI *e*PcP **PcP** **10 13 43.5 -0.7**
NLWA Neilton Lookou 31.87 78 *e*P **P** **10 10 58.4 +1.9**
YKA Yellowknife Ar 32.28 48 P **P** **10 10 59.1 -0.7**
comp=Z,3.7nm,0.6s,baz=279,slow=9.1,SNR=54
YKA pP **pP** **10 11 15.3 -2.3**
comp=Z,5.3nm,0.7s,baz=270,slow=7.9,SNR=13
YKA PcP **PcP** **10 13 47.1 +1.0**
comp=Z,3.2nm,0.6s,baz=282,slow=3.1,SNR=12
YKA ScP **ScP** **10 17 22.3 -0.5**
comp=Z,3.4nm,0.5s,baz=283,slow=3.4,SNR=30
YKA P3KPbc 10 42 23.4
comp=Z,0.4nm,0.7s,baz=93,slow=4.9,SNR=8.5
HABR Khabarovsk 32.52 284 *e*P **P** **10 11 01.5 -0.6**
HABR *e**PP **pP** **10 11 24.0 +4.1**
HABR *e**SP sP 10 11 36.0 +7.4
HABR *e* 10 12 12.8
HABR *e* 10 13 45.4
HABR *e*S **S** **10 16 10.4 -1.1**
HABR *e**SS sS 10 16 50.0 +7.9
HABR *e* 10 21 20.0
HABR pmax pmax
comp=Z,32nm,1.5s
F04D Rainier, OR 33.01 80 ⇓P **P** **10 11 07.9 +1.5**
baz=33
G03D McMinnville, O 33.29 82 ⇓P **P** **10 11 10.0 +1.1**
baz=33
NLW Nelson Butte 33.67 75 P **P** **10 11 13.9 +1.6**
TWW Teanaway 33.80 77 P **P** **10 11 15.3 +2.0**
NAC Naches 34.01 78 P **P** **10 11 16.9 +1.7**
I03D Drain, OR 34.02 84 ⇓P **P** **10 11 16.6 +1.4**
baz=34
WTV Waterville 34.08 76 P **P** **10 11 17.0 +1.2**
EBG Ellensburg 34.09 77 P **P** **10 11 17.7 +1.8**
KLR Kul'dur 34.14 287 *e*P P 10 11 07.8 -8.4
B08A Colville Reser 34.14 74 P **P** **10 11 17.4 +1.1**
SAW Saint Andrews 34.41 75 P **P** **10 11 19.6 +1.0**
G05D Wamic, OR 34.46 80 ⇓P **P** **10 11 20.3 +1.3**
baz=34,SNR=7.2
I04A Tendick Farm, 34.55 83 ⇑P **P** **10 11 21.4 +1.5**
baz=34,SNR=8.9
L02D Cave Junction, 34.71 87 ⇓P **P** **10 11 22.3 +1.1**
baz=35
GBB Gable Butte 34.80 77 P **P** **10 11 23.3 +1.5**
HUMO Hull Mountain 34.86 85 *e*P **P** **10 11 24.0 +1.5**
comp=Z,11nm,1.0s
I05D Terrebonne, OR 34.91 82 ⇑P **P** **10 11 24.2 +1.2**
baz=35,SNR=11
HAWA Hanford 34.96 78 *e*P **P** **10 11 24.4 +1.0**
comp=Z,57nm,0.7s
WRD Warden 34.99 77 P **P** **10 11 24.1 +0.5**
J04D Umpqua Nationa 35.03 84 ⇑P **P** **10 11 25.6 +1.4**
baz=35,SNR=7.0
KHMM Horse Mountain 35.37 88 *e*P **P** **10 11 29.4 +2.3**
comp=Z,12nm,0.7s
KHMM *e*PcP **PcP** **10 13 57.1 +1.6**
NEW Newport 35.49 73 *e*P **P** **10 11 28.7 +0.8**
NEW *e* 10 13 56.9
NEW pmax pmax
comp=Z,66nm,0.7s
NEW Newport 35.49 73 ⇑P **P** **10 11 28.9 +0.9**
baz=35,SNR=45
NEW Newport 35.49 73 *e*P **P** **10 11 28.7 +0.8**
comp=Z,66nm,0.7s
NEW *e*PcP **PcP** **10 13 56.9 +1.3**
YBH Yreka Blue Hor 35.50 86 *e*P **P** **10 11 30.0 +1.9**
YBH pmax pmax
comp=Z,19nm,0.9s
YBH Yreka Blue Hor 35.50 86 *e*P **P** **10 11 30.0 +1.9**
comp=Z,19nm,0.9s
EDM Edmonton 35.52 64 *e*P **P** **10 11 28.7 +0.6**
EDM pmax pmax
comp=Z,104nm,0.5s
EDM Edmonton 35.52 64 *e*P **P** **10 11 28.7 +0.6**
comp=Z,104nm,0.5s
J05D Fort Rock, OR 35.54 83 ⇓P **P** **10 11 30.1 +1.6**
baz=36,SNR=16
K04D Chiloquin, OR 35.59 85 ⇓P **P** **10 11 30.6 +1.7**
baz=36,SNR=5.2
M02C Callahan 35.61 87 ⇓P **P** **10 11 30.6 +1.6**
baz=36,SNR=5.7
H11N2 WAKE ISLAND Hy 35.80 213 T T 10 49 35.3
baz=21,slow=76
H11N3 WAKE ISLAND Hy 35.81 213 T T 10 49 36.0
baz=21,slow=76,SNR=9177
H11N1 WAKE ISLAND Hy 35.82 213 T T 10 49 35.7
baz=21,slow=76,SNR=6773
N02D Trinity Center 35.94 88 ⇑P **P** **10 11 33.6 +1.8**
baz=36,SNR=9.0
M04C Macdoel 36.01 86 ⇑P **P** **10 11 33.9 +1.4**
baz=36,SNR=13
KCPM Cahto Peak 36.16 90 *e*P **P** **10 11 35.6 +1.7**
WDC Whiskeytown Da 36.27 88 *e*P **P** **10 11 35.9 +1.3**
WDC pmax pmax
comp=Z,17nm,0.8s
WDC Whiskeytown Da 36.27 88 *e*P **P** **10 11 35.9 +1.3**
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 36.46 280 P **P** **10 11 35.9 -0.3**
comp=Z,4.6nm,0.5s,baz=54,slow=9.0,SNR=15
USRK PcP **PcP** **10 13 59.4 +0.9**
comp=Z,16nm,0.7s,baz=46,slow=2.7,SNR=13
USRK ScP **ScP** **10 17 38.6 +0.5**
comp=Z,3.9nm,0.7s,baz=78,slow=4.7,SNR=9.1
USRK LR LR 10 26 17.6
comp=Z,204nm,21.3s,baz=48,slow=36
MOD Modoc Plateau 36.88 84 *e*P **P** **10 11 41.1 +1.1**
comp=Z,12nm,0.6s
MOD *e*PcP **PcP** **10 14 01.0 +0.9**
WALA Waterton Lakes 37.00 70 *e*P **P** **10 11 40.6 -0.3**
comp=Z,18nm,0.8s
H11S1 WAKE ISLAND Hy 37.01 212 P **P** **10 11 41.6 +0.8**
baz=49,slow=3.0,SNR=10
H11S1 T T 10 50 48.7
baz=20,slow=76,SNR=4788
H11S2 WAKE ISLAND Hy 37.02 212 P **P** **10 11 41.6 +0.7**
baz=49,slow=3.0,SNR=4.3
H11S2 T T 10 50 52.7
baz=20,slow=76,SNR=4365
H11S3 WAKE ISLAND Hy 37.02 212 P **P** **10 11 41.6 +0.7**
baz=49,slow=3.0,SNR=3.1
H11S3 T T 10 50 50.1
baz=20,slow=76,SNR=1535
BSMT Bassoo Peak 37.07 73 *e*P **P** **10 11 42.3 +0.7**
comp=Z,40nm,0.7s
MJAR Matsushiro Arr 37.17 265 P **P** **10 11 43.0 +0.7**
comp=Z,55nm,0.8s,baz=52,slow=7.3,SNR=135
MJAR pP **pP** **10 11 58.5 -1.8**
comp=Z,17nm,0.9s,baz=52,slow=6.3,SNR=4.4
MJAR PcP **PcP** **10 14 01.6 +0.8**
comp=Z,7.4nm,0.9s,baz=64,slow=1.8,SNR=5.6
MJAR ScP **ScP** **10 17 40.8 -0.1**
comp=Z,3.2nm,0.9s,baz=50,slow=3.0,SNR=5.2
MJAR LR LR 10 25 01.1
comp=Z,96nm,21.9s,baz=30,slow=33
MAJO Matsushiro 37.17 265 *e*P **P** **10 11 42.9 +0.6**
MAJO *e* 10 14 01.5
MAJO pmax pmax
comp=Z,164nm,0.9s
MAJO Matsushiro 37.17 265 *e*P **P** **10 11 42.9 +0.6**
comp=Z,164nm,0.9s
MAJO *e*PcP **PcP** **10 14 01.5 +0.7**
MAT Matsushiro 37.17 265 P **P** **10 11 43.0 +0.7**
MAT S **S** **10 17 23.6 +0.3**
BLMT Blacktail Moun 37.24 72 *e*P **P** **10 11 43.9 +0.9**
comp=Z,53nm,0.7s
JTMT Jette 37.42 73 *e*P **P** **10 11 45.3 +0.9**
comp=Z,16nm,0.6s
YBMT Yellow Bay 37.52 72 *e*P **P** **10 11 46.3 +1.0**
comp=Z,17nm,0.6s
WVOR Wild Horse Val 37.60 83 *e*P **P** **10 11 47.1 +1.1**
WVOR *e* 10 14 02.8
WVOR pmax pmax
comp=Z,30nm,0.9s
WVOR Wild Horse Val 37.60 83 *e*P **P** **10 11 47.1 +1.1**
comp=Z,30nm,0.9s
WVOR *e*PcP **PcP** **10 14 02.8 +0.7**
RES Resolute Bay 37.66 25 *e*P **P** **10 11 45.2 -0.7**
RES *e* 10 14 01.5
RES pmax pmax
comp=Z,6.0nm,0.7s
RES Resolute Bay 37.66 25 LR LR 10 30 24.5
comp=Z,190nm,19.7s,baz=256,slow=41
RES Resolute Bay 37.66 25 *e*P **P** **10 11 45.2 -0.7**
comp=Z,6.0nm,0.7s
RES *e*PcP **PcP** **10 14 01.5 -0.1**
MDJ Mudanjiang 37.69 282 P **P** **10 11 47.5 +0.9**
MDJ pP **pP** **10 12 06.5 +1.9**
MDJ sP **sP** **10 12 16.1 +2.7**
MDJ PP **PP** **10 13 14.4 +0.7**
MDJ PcP **PcP** **10 14 01.6 -0.6**
MDJ S **S** **10 17 30.5 -0.5**
MDJ sS **sS** **10 18 02.5 +0.6**
MDJ ScS **ScS** **10 21 51.2 -0.2**
MDJ PMZ
comp=Z,7.0nm,0.9s
MDJ PMZ
comp=Z,130nm,6.3s
MDJ LN
comp=Z,120nm,18.7s
MDJ LE
comp=Z,210nm,19.8s
MDJ LZ
comp=Z,290nm,20.4s
SWMT Swartz Lake 37.70 73 *e*P **P** **10 11 47.1 +0.3**
comp=Z,9.7nm,0.7s
MSO Missoula 38.08 74 ⇑P **P** **10 11 50.6 +0.6**
baz=38,SNR=26
SLMT Seeley Lake 38.13 73 *e*P **P** **10 11 50.9 +0.4**
comp=Z,25nm,0.6s
SLMT *e*PcP **PcP** **10 14 04.2 +0.4**
CHMT Chamberlain Mo 38.44 73 *e*P **P** **10 11 53.4 +0.3**
comp=Z,14nm,0.6s
MFID Camas Ranch 38.76 79 *e*P **P** **10 11 56.3 +0.5**
comp=Z,11nm,0.7s
CMB Columbia Colle 39.14 90 *e*P **P** **10 12 00.0 +1.1**
CMB *e* 10 14 07.5
CMB pmax pmax
comp=Z,19nm,1.1s
CMB Columbia Colle 39.14 90 *e*P **P** **10 12 00.0 +1.1**
comp=Z,19nm,1.1s
CMB *e*PcP **PcP** **10 14 07.5 +0.5**
HRY Holter Researc 39.38 73 *e*P **P** **10 12 01.4 +0.5**
comp=Z,26nm,0.7s
WAKR Walker 39.44 88 *e*P **P** **10 12 02.9 +1.4**
comp=Z,21nm,0.7s
WAKR *e*PcP **PcP** **10 14 09.3 +1.2**
LRM Limekiln Ridge 39.48 74 *e*P **P** **10 12 02.4 +0.5**
comp=Z,90nm,0.7s
HLID Hailey 39.54 78 ⇑P **P** **10 12 03.2 +0.9**
baz=39,SNR=43
HLID Hailey 39.54 78 *e*P **P** **10 12 02.9 +0.7**
comp=Z,17nm,0.8s
BMN Battle Mountai 39.63 84 P **P** **10 12 00.8 -2.3**
BMN pmax pmax
comp=Z,14nm,0.9s
BMN Battle Mountai 39.63 84 P **P** **10 12 00.8 -2.3**
comp=Z,14nm,0.9s
MCMT McKenzie Canyo 39.78 76 *e*P **P** **10 12 05.2 +0.9**
comp=Z,28nm,0.5s
MCMT *e*PcP **PcP** **10 14 11.5 +2.3**
EGMT Eagleton 39.92 70 ⇑P **P** **10 12 05.9 +0.6**
baz=40,SNR=32
EGMT Eagleton 39.92 70 *e*P **P** **10 12 05.6 +0.4**
comp=Z,28nm,0.6s
EGMT *e*PcP **PcP** **10 14 10.7 +1.4**
A19A Klindworth Far 40.04 68 ⇑P **P** **10 12 06.8 +0.5**
baz=40,SNR=30
BOD Bodaibo 40.16 308 *e*P **P** **10 12 05.2 -1.8**
BOD *e* 10 12 23.7
BOD pmax pmax
comp=Z,16nm,1.1s
B19A Brinkman Farms 40.17 69 ⇑P **P** **10 12 07.8 +0.5**
baz=40,SNR=28
NVAR Mina Array Bea 40.18 88 P **P** **10 12 08.8 +1.1**
comp=Z,16nm,0.8s,baz=293,slow=8.0,SNR=132
NVAR pP **pP** **10 12 24.4 -1.5**
comp=Z,13nm,0.8s,baz=297,slow=7.6,SNR=10
NVAR PcP **PcP** **10 14 11.8 +1.3**
comp=Z,5.2nm,0.6s,baz=272,slow=3.9,SNR=6.7
NVAR ScP **ScP** **10 17 53.0 +0.4**
comp=Z,2.0nm,0.7s,baz=293,slow=3.7,SNR=6.6
MLAC Mammoth, Mammo 40.35 89 ⇑P **P** **10 12 09.6 +0.4**
baz=40
C19A Slack Wire Ran 40.48 70 ⇑P **P** **10 12 11.0 +1.1**
baz=40,SNR=42
A20A Cobblestone Ra 40.53 68 ⇓P **P** **10 12 10.5 +0.2**
baz=40,SNR=29
QLMT Earthquake Lak 40.62 75 *e*P **P** **10 12 11.8 +0.5**
comp=Z,2.2nm,0.7s
CN2 Changchun 40.63 283 *e*P **P** **10 12 12.0 +0.9**
CN2 *e*S **S** **10 18 14.2 -0.9**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,13.0s
CN2 LE
comp=Z,200nm,13.0s
CN2 LZ
comp=Z,200nm,15.0s
B20A Solberg Farm, 40.70 68 ⇓P **P** **10 12 12.1 +0.4**
baz=41,SNR=10
D19A Cripps Ranch, 40.87 70 ⇓P **P** **10 12 14.1 +1.0**
baz=41,SNR=23
RCTC Rector, Farmer 40.95 91 ⇑P **P** **10 12 15.0 +1.2**
baz=41,SNR=9.9
FFC Flin Flon 40.97 57 *e*P **P** **10 12 12.9 -0.9**
FFC pmax pmax
comp=Z,31nm,0.8s
FFC Flin Flon 40.97 57 *e*P **P** **10 12 12.9 -0.9**
comp=Z,31nm,0.8s
A21A Bergtoll Ranch 41.05 67 ⇑P **P** **10 12 15.0 +0.5**
baz=41
HIA Hailar 41.05 294 *e*P **P** **10 12 12.9 -1.6**
HIA pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 41.05 294 *e*P **P** **10 12 12.9 -1.6**
comp=Z,13nm,0.7s
TPH Tonopah 41.07 87 *e*P **P** **10 12 15.8 +0.8**
TPH pmax pmax
comp=Z,24nm,1.1s
TPH Tonopah 41.07 87 *e*P **P** **10 12 15.8 +0.8**
comp=Z,24nm,1.1s
C20A Veseth Ranch, 41.09 69 ⇑P **P** **10 12 15.7 +0.9**
baz=41,SNR=19
TIN Tinemaha, Big 41.09 89 ⇑P **P** **10 12 15.6 +0.5**
baz=41
SMMC Simmler 41.13 93 ⇓P **P** **10 12 15.9 +0.6**
baz=41
YNR Norris Junctio 41.13 75 *e*P **P** **10 12 17.1 +1.6**
comp=Z,50nm,0.8s
YFT Old Faithful 41.19 75 *e*P **P** **10 12 17.9 +2.0**
comp=Z,30nm,0.7s
ALE Alert 41.27 11 P **P** **10 12 15.9 0.0**
comp=Z,92nm,0.8s,SNR=11
B21A Ellsworth Farm 41.28 68 ⇓P **P** **10 12 17.1 +0.6**
baz=41
E19A Rath Farm, Rou 41.30 71 ⇑P **P** **10 12 17.5 +0.8**
baz=41,SNR=18
D20A Manuel Ranch, 41.34 70 ⇓P **P** **10 12 17.6 +0.6**
baz=41,SNR=14
VES Vestal, Richgr 41.34 91 ⇑P **P** **10 12 17.9 +0.9**
baz=41,SNR=18
H17A Grant Village 41.37 75 ⇓P **P** **10 12 19.4 +1.9**
baz=41,SNR=44
H17A Grant Village 41.37 75 *e*P **P** **10 12 18.8 +1.3**
comp=Z,33nm,0.7s
CBIJ Chichi jima 41.44 250 P **P** **10 12 18.1 +0.3**
JCJ Chichijima 41.44 250 P **P** **10 12 18.1 +0.2**
comp=Z,130nm,0.6s,baz=260,slow=20,SNR=6.0
F19A Roth Farm, Mol 41.53 72 ⇑P **P** **10 12 19.2 +0.6**
baz=41,SNR=14
HVU Hansel Valley 41.55 80 *e*P **P** **10 12 19.7 +0.9**
HVU *e* 10 14 16.1
HVU pmax pmax
comp=Z,26nm,0.8s
HVU Hansel Valley 41.55 80 *e*P **P** **10 12 19.7 +0.9**
comp=Z,26nm,0.8s
HVU *e*PcP **PcP** **10 14 16.1 +1.4**
C21A Desert Coulee 41.55 69 ⇓P **P** **10 12 19.1 +0.5**
baz=41,SNR=12
A22A Carney Farms, 41.62 66 ⇓P **P** **10 12 19.4 +0.2**
baz=42,SNR=14
I17A Pilgrim Ck. 41.64 75 ⇓P **P** **10 12 21.0 +1.3**
baz=42,SNR=13
GRAC Grapevine Rang 41.66 88 ⇓P **P** **10 12 20.7 +1.0**
baz=42,SNR=7.8
E20A Meyer Farm, Mu 41.66 71 ⇑P **P** **10 12 20.2 +0.6**
baz=42,SNR=8.1
RLMT Red Lodge 41.74 73 *e*P **P** **10 12 21.5 +1.0**
comp=Z,58nm,0.7s
H18A Shoshone NF, C 41.76 74 ⇑P **P** **10 12 21.1 +0.5**
baz=42,SNR=22
ISA Isabella, Lake 41.84 91 *e*P **P** **10 12 21.4 +0.2**
ISA pmax pmax
comp=Z,17nm,1.0s
ISA Isabella, Lake 41.84 91 ⇓P **P** **10 12 21.3 +0.1**
baz=42,SNR=19
ISA Isabella, Lake 41.84 91 *e*P **P** **10 12 21.4 +0.2**
comp=Z,17nm,1.0s
SBC Santa Barbara 41.88 93 ⇓P **P** **10 12 21.8 +0.4**
baz=42
BGU Big Grassy Mou 41.90 81 *e*P **P** **10 12 22.4 +0.7**
comp=Z,19nm,0.9s
BGU *e*PcP **PcP** **10 14 17.0 +1.0**
R11A Troy Canyon, C 41.90 86 ⇑P **P** **10 12 22.4 +0.6**
baz=42,SNR=39
R11A Troy Canyon, C 41.90 86 *e*P **P** **10 12 22.2 +0.4**
comp=Z,18nm,0.9s
R11A *e*PcP **PcP** **10 14 17.1 +1.1**
B22A Reddig Ranch S 41.93 67 ⇑P **P** **10 12 22.2 +0.5**
baz=42,SNR=6.0
ARVC Arvin 41.97 92 ⇓P **P** **10 12 22.5 +0.4**
baz=42
DAC Darwin (Calif) 41.98 89 *e*P **P** **10 12 23.1 +0.6**
DAC *e* 10 14 17.1
DAC pmax pmax
comp=Z,23nm,0.9s
DAC Darwin (Calif) 41.98 89 *e*P **P** **10 12 23.1 +0.6**
comp=Z,23nm,0.9s
DAC *e*PcP **PcP** **10 14 17.1 +0.7**
D21A La Casta Ranch 42.01 69 ⇓P **P** **10 12 22.4 0.0**
baz=42
F20A Billings 42.03 72 ⇓P **P** **10 12 23.2 +0.6**
baz=42,SNR=7.0
H19A Powell 42.16 74 ⇓P **P** **10 12 24.9 +1.2**
baz=42,SNR=47
MPMC Manual Prospec 42.19 90 ⇑P **P** **10 12 25.1 +1.0**
baz=42,SNR=22
A23A Redstone 42.22 66 ⇑P **P** **10 12 24.2 +0.1**
baz=42
E21A Keefer Ranch, 42.25 70 ⇓P **P** **10 12 24.8 +0.5**
baz=42
C22A Vida 42.29 68 ⇓P **P** **10 12 24.9 +0.2**
baz=42,SNR=9.9
FURC Furnace Creek, 42.31 89 ⇓P **P** **10 12 25.8 +1.0**
baz=42,SNR=31
G20A Bridger 42.31 72 ⇓P **P** **10 12 25.0 0.0**
baz=42,SNR=40
OSI Osito Audit: C 42.37 92 ⇓P **P** **10 12 26.4 +0.9**
baz=42
OSI Osito Audit: C 42.37 92 *e*P **P** **10 12 26.6 +1.1**
comp=Z,37nm,0.9s
TPNV Topopah Spring 42.38 88 ⇓P **P** **10 12 26.9 +1.2**
baz=42,SNR=54
B23A Brockton 42.41 67 ⇑P **P** **10 12 26.4 +0.7**
baz=42,SNR=25
D22A Cohagen 42.44 69 ⇓P **P** **10 12 26.8 +1.0**
baz=42,SNR=29
LRMC Laurel Mtn Rad 42.44 90 ⇑P **P** **10 12 26.6 +0.5**
baz=42,SNR=14
DUG Dugway, Tooele 42.47 81 *e*P **P** **10 12 27.0 +0.7**
DUG *e* 10 14 18.8
DUG pmax pmax
comp=Z,70nm,1.1s
DUG Dugway, Tooele 42.47 81 ⇓P **P** **10 12 27.3 +1.0**
baz=42,SNR=45
DUG Dugway, Tooele 42.47 81 *e*P **P** **10 12 27.0 +0.7**
comp=Z,70nm,1.1s
DUG *e*PcP **PcP** **10 14 18.8 +1.0**
DUG *e*ScP **ScP** **10 18 02.3 +0.7**
I19A Meeteetse 42.52 74 ⇑P **P** **10 12 27.3 +0.6**
baz=42,SNR=15
F21A Absaloka Mine, 42.62 71 ⇓P **P** **10 12 28.1 +0.7**
baz=42,SNR=5.8
EDW2 Edwards Air Fo 42.65 91 ⇑P **P** **10 12 28.2 +0.5**
baz=43,SNR=12
C23A Lambert 42.66 68 ⇑P **P** **10 12 28.3 +0.7**
baz=42,SNR=27
A24A Westby 42.73 66 ⇑P **P** **10 12 28.7 +0.5**
baz=43,SNR=19
TCUT Toone Canyon 42.77 79 *e*P **P** **10 12 29.7 +0.8**
comp=Z,30nm,0.8s
CTU Camp Tracy 42.81 80 *e*P **P** **10 12 29.7 +0.5**
comp=Z,25nm,0.8s
H20A Greybull 42.85 73 ⇓P **P** **10 12 29.5 +0.2**
baz=43,SNR=6.6
DECC Green Verdugo 42.86 92 ⇓P **P** **10 12 29.9 +0.5**
baz=43
DGMT Dagmar 42.86 66 ⇑P **P** **10 12 29.5 +0.3**
baz=43
DGMT Dagmar 42.86 66 P **P** **10 12 29.6 +0.3**
comp=Z,16nm,0.7s
SNY Shenyang 42.89 282 ⇓P **P** **10 12 31.4 +1.9**
SNY PMZ
comp=Z,12nm,0.7s
G21A Lodge Grass 42.90 72 ⇓P **P** **10 12 30.1 +0.4**
baz=43,SNR=8.9
BW06 Boulder Array 42.91 76 *e*P **P** **10 12 30.5 +0.5**
comp=Z,58nm,0.8s
PDAR Pinedale Array 42.91 76 P **P** **10 12 30.7 +0.7**
comp=Z,48nm,0.8s,baz=304,slow=3.8,SNR=340
PDAR pP **pP** **10 12 46.4 -1.9**
comp=Z,52nm,0.7s,baz=305,slow=4.7,SNR=16
PDAR ScP **ScP** **10 18 03.8 +0.3**
comp=Z,2.6nm,1.0s,baz=252,slow=1.8,SNR=4.8
PDAR LR LR 10 27 49.2
comp=Z,78nm,19.9s,baz=311,slow=32
KSRS Korea Array 42.92 274 P **P** **10 12 30.9 +1.1**

KSRS 10 14 20.1
KSRS pmax pmax
comp=Z,11nm,0.7s
KSRS pmax pmax
comp=Z,10.0nm,0.8s
KSRS pmax pmax
comp=N,9.0nm,0.9s
KSRS Korea Array 42.92 274 P **P 10 12 30.9 +1.1**
comp=N,11nm,0.7s,baz=57,slow=7.8,SNR=35
KSRS PcP **PcP 10 14 20.1 +0.9**
comp=N,10nm,0.8s,baz=57,slow=3.5,SNR=11
KSRS ScP **ScP 10 18 04.3 +1.1**
comp=N,8.7nm,0.9s,baz=50,slow=4.6,SNR=16
KSRS LR LR 10 29 38.8
comp=N,82nm,21.2s,baz=55,slow=35
J19A Crowheart 42.92 75 ⇓P **P 10 12 30.7 +0.7**
baz=43,SNR=30
KSAR Wonju Array Be 42.95 274 P **P 10 12 30.9 +0.8**
KSAR 10 14 20.1
KSAR Wonju Array Be 42.95 274 P **P 10 12 30.9 +0.8**
KSAR PcP **PcP 10 14 20.1 +0.8**
KSAR ScP **ScP 10 18 04.3 +0.9**
E22A Miles City 42.96 70 ⇓P **P 10 12 30.6 +0.5**
baz=43,SNR=11
D23A Lindsay 42.98 68 ⇓P **P 10 12 31.0 +0.7**
baz=43,SNR=7.4
FCC Fort Churchill 43.00 49 *e*P **P 10 12 29.0 -1.2**
FCC pmax pmax
comp=Z,25nm,1.0s
FCC Fort Churchill 43.00 49 *e*P **P 10 12 28.9 -1.2**
comp=Z,25nm,1.0s
SHOC Shoshone, Teco 43.03 89 ⇑P **P 10 12 31.7 +0.9**
baz=43,SNR=5.7
MWC Mount Wilson 43.04 92 *e*P **P 10 12 31.8 +0.7**
MWC pmax pmax
comp=Z,62nm,1.1s
MWC Mount Wilson 43.04 92 *e*P **P 10 12 31.8 +0.7**
comp=Z,62nm,1.1s
NLU North Lily Min 43.06 81 *e*P **P 10 12 31.8 +0.6**
comp=Z,18nm,0.8s
I20A Worland 43.08 74 ⇓P **P 10 12 31.7 +0.5**
baz=43,SNR=9.1
GSC Goldstone, Bar 43.10 90 *e*P **P 10 12 32.1 +0.7**
GSC pmax pmax
comp=Z,62nm,0.7s
GSC Goldstone, Bar 43.10 90 ⇓P **P 10 12 32.4 +1.0**
baz=43,SNR=55
GSC Goldstone, Bar 43.10 90 *e*P **P 10 12 32.1 +0.7**
comp=Z,62nm,0.7s
F22A Rosebud 43.14 71 ⇓P **P 10 12 32.2 +0.6**
baz=43,SNR=7.3
A25A Svangstu Ranch 43.22 65 ⇑P **P 10 12 32.7 +0.6**
baz=43,SNR=33
C24A Savage 43.24 67 ⇓P **P 10 12 33.1 +0.8**
baz=43
RRX Edison Barstow 43.26 91 ⇑P **P 10 12 33.2 +0.6**
baz=43
BFSC Mount Baldy Ra 43.28 92 ⇑P **P 10 12 33.9 +0.9**
baz=43,SNR=22
DAU Daniels Canyon 43.28 80 *e*P **P 10 12 34.4 +1.3**
DAU pmax pmax
comp=Z,4.0nm,1.0s
DAU Daniels Canyon 43.28 80 *e*P **P 10 12 34.4 +1.3**
comp=Z,4.4nm,1.0s
MPU Maple Canyon 43.30 81 *e*P **P 10 12 33.5 +0.4**
comp=Z,24nm,0.8s
E23A Ismay 43.30 69 ⇑P **P 10 12 33.7 +0.8**
baz=43,SNR=8.0
H21A Big Horn, Sher 43.33 72 ⇑P **P 10 12 33.6 +0.4**
baz=43,SNR=19
SHPR Sheep Range 43.33 87 *e*P **P 10 12 33.9 +0.6**
comp=Z,12nm,1.0s
CIS Catalina Islan 43.38 93 ⇓P **P 10 12 34.2 +0.6**
baz=43
G22A Birney 43.44 71 ⇓P **P 10 12 34.1 0.0**
baz=43,SNR=7.6
J20A Shoshoni 43.45 75 ⇓P **P 10 12 35.1 +0.9**
baz=43,SNR=10
D24A Glendive 43.52 68 ⇓P **P 10 12 35.4 +0.8**
baz=43,SNR=29
B25A Knox Farm, Ray 43.55 66 ⇓P **P 10 12 35.1 +0.3**
baz=43,SNR=12
TUQ Turquoise Moun 43.56 89 ⇑P **P 10 12 35.8 +0.6**
baz=44
ARUT Antelope Range 43.57 85 *e*P **P 10 12 36.0 +0.7**
ARUT pmax pmax
comp=Z,3.0nm,0.8s
ARUT Antelope Range 43.57 85 *e*P **P 10 12 36.0 +0.7**
comp=Z,2.9nm,0.8s
I21A Big Trails, Te 43.65 74 ⇓P **P 10 12 36.2 +0.4**
baz=44,SNR=22
F23A Volborg 43.67 70 ⇑P **P 10 12 36.3 +0.4**
baz=44,SNR=34
HEC Hector,Ludlow 43.71 90 ⇓P **P 10 12 37.0 +0.7**
baz=44,SNR=33
BBRC Big Bear Solar 43.72 91 ⇓P **P 10 12 37.0 +0.4**
baz=44
H22A Clearmont 43.76 72 ⇑P **P 10 12 37.0 +0.4**
baz=44,SNR=6.2
CCUT Cedar City 43.77 85 *e*P **P 10 12 37.7 +0.7**
comp=Z,9.7nm,0.7s
C25A Freed Ranch, W 43.80 67 ⇓P **P 10 12 37.5 +0.7**
baz=44,SNR=5.5
J21A Lysite 43.83 74 ⇓P **P 10 12 37.5 +0.2**
baz=44,SNR=7.4
E24A Baker 43.84 69 ⇑P **P 10 12 38.0 +0.8**
baz=44,SNR=9.9
A26A Wade Farm, Ken 43.84 65 ⇓P **P 10 12 37.7 +0.6**
baz=44,SNR=8.1
MVU Marysvale 43.88 83 *e*P **P 10 12 38.8 +1.0**
comp=Z,24nm,1.0s
JNU Nakatsue 43.94 267 P **P 10 12 39.0 +0.9**
comp=Z,158nm,0.9s,baz=50,slow=5.7,SNR=40
JNU pP **pP 10 12 54.6 -2.0**
comp=Z,61nm,0.8s,baz=280,slow=5.2,SNR=5.0
G23A Biddle 43.97 71 ⇓P **P 10 12 38.4 0.0**
baz=44,SNR=14
MURC Murrieta 43.99 92 ⇓P **P 10 12 39.1 +0.6**
baz=44,SNR=9.2
TMUT Trail Mountain 43.99 81 *e*P **P 10 12 39.5 +0.7**
comp=Z,19nm,0.5s
B26A Jensen Ranch, 44.01 65 ⇑P **P 10 12 40.1 +1.6**
baz=44,SNR=6.0
D25A Fairfield 44.07 67 ⇓P **P 10 12 39.1 +0.1**
baz=44
I22A 9 Mile Ranch, 44.08 73 ⇑P **P 10 12 40.0 +0.8**
baz=44,SNR=23
GMRC Granite Mounta 44.15 90 ⇓P **P 10 12 40.9 +1.0**
baz=44,SNR=33
F24A Ekalaka 44.16 70 ⇑P **P 10 12 40.2 +0.4**
baz=44,SNR=18
A27A Ledoux Ranch, 44.25 64 ⇑P **P 10 12 41.0 +0.6**
baz=44,SNR=6.0
LDFC Landfair 44.29 89 *e*P **P 10 12 41.5 +0.5**
comp=Z,54nm,0.7s
H23A Clabaugh Cattl 44.33 72 ⇑P **P 10 12 41.2 0.0**
baz=44
J22A Midwest 44.37 74 ⇑P **P 10 12 42.3 +0.7**
baz=44,SNR=35
K21A Alcova 44.37 75 ⇑P **P 10 12 41.6 -0.1**
baz=44,SNR=38
E25A Miller Ranch, 44.39 68 ⇓P **P 10 12 41.8 +0.2**
baz=44,SNR=9.9
C26A Wahner Farm, P 44.39 66 ⇑P **P 10 12 41.8 +0.2**
baz=44,SNR=13
PFO Pinyon Flats O 44.44 92 P **P 10 12 41.6 -0.6**
comp=Z,329nm,0.4s,SNR=20
PFO Pinyon Flats O 44.44 92 LR LR 10 29 11.6
comp=Z,180nm,19.6s,baz=302,slow=33
PFO Pinyon Flats O 44.44 92 ⇑P **P 10 12 41.8 -0.5**
baz=44,SNR=25
BELC Belle Mtn. Jos 44.46 91 ⇑P **P 10 12 42.7 +0.3**
baz=44,SNR=7.3
G24A Alzada 44.47 70 ⇑P **P 10 12 41.9 -0.3**
baz=44,SNR=20
SRU San Rafael Swe 44.53 81 *e*P **P 10 12 43.6 +0.7**
SRU pmax pmax
comp=Z,47nm,0.8s
SRU San Rafael Swe 44.53 81 *e*P **P 10 12 43.6 +0.7**
comp=Z,47nm,0.8s
109C Camp Elliot, M 44.53 93 ⇑P **P 10 12 42.2 -0.6**
baz=44,SNR=21
B27A Peters Farms, 44.54 65 ⇑P **P 10 12 42.9 +0.2**
baz=44,SNR=11
F25A Bowman 44.68 69 ⇓P **P 10 12 44.5 +0.5**
baz=44,SNR=7.7
H24A Dirks Ranch, A 44.72 71 ⇓P **P 10 12 44.1 -0.2**
baz=45,SNR=9.2
K22A Casper 44.79 74 ⇓P **P 10 12 44.9 0.0**
baz=45,SNR=18
K22A Casper 44.79 74 *e*P **P 10 12 45.1 +0.2**
comp=Z,35nm,0.8s
C27A Sayler Ranch, 44.79 66 ⇑P **P 10 12 44.4 -0.3**
baz=45
NEE2 Needles Airpor 44.80 89 ⇓P **P 10 12 44.9 -0.1**
baz=45
A28A Rude Farm, Bot 44.82 64 ⇑P **P 10 12 45.2 +0.3**
baz=45,SNR=28
N20A Spence Gulch, 44.84 78 ⇓P **P 10 12 45.5 +0.1**
baz=45
IRM Iron Mountain 44.88 90 ⇑P **P 10 12 46.4 +0.8**
baz=45,SNR=8.1
J23A Dilts Ranch, B 44.92 73 ⇓P **P 10 12 46.0 +0.1**
baz=45
E26A Carlson Angus 44.94 68 ⇓P **P 10 12 46.4 +0.4**
baz=45,SNR=17
B28A Dugan Ranch, T 45.02 64 ⇓P **P 10 12 46.8 +0.3**
baz=45,SNR=30
W13A Hualapai Mount 45.03 88 ⇑P **P 10 12 47.6 +0.5**
baz=45,SNR=30
D27A Center 45.11 66 ⇓P **P 10 12 47.1 -0.2**
baz=45
G25A Newell 45.12 70 ⇑P **P 10 12 47.4 -0.1**
baz=45
U15A North Rim 45.15 85 ⇓P **P 10 12 49.3 +1.3**
baz=45,SNR=57
F26A Lodgepole 45.17 69 ⇑P **P 10 12 48.3 +0.4**
baz=45,SNR=6.6
I24A Kuemmerle Ranc 45.19 72 ⇓P **P 10 12 47.7 -0.4**
baz=45
L22A Ellis Ranch, M 45.21 75 ⇓P **P 10 12 49.0 +0.7**
baz=45,SNR=12
K23A Bowen Ranch, D 45.26 74 ⇓P **P 10 12 48.9 +0.2**
baz=45,SNR=11
O20A White River Ci 45.28 78 ⇑P **P 10 12 49.3 +0.3**
baz=45,SNR=68
O20A White River Ci 45.28 78 *e*P **P 10 12 49.2 +0.3**
comp=Z,176nm,1.2s
H25A Fruitdale 45.35 70 ⇑P **P 10 12 49.3 +0.1**
baz=45,SNR=23
A29A Manning Farm, 45.38 63 ⇓P **P 10 12 49.7 +0.3**
baz=45,SNR=28
RSSD Black Hills 45.38 71 *e*P **P 10 12 49.7 0.0**
RSSD *e* 10 14 30.7
RSSD pmax pmax
comp=Z,12nm,0.6s
RSSD Black Hills 45.38 71 *e*P **P 10 12 49.7 0.0**
comp=Z,12nm,0.6s
RSSD *e* 10 14 30.7
PDMCI Parker Dam,Lak 45.41 89 ⇑P **P 10 12 50.3 +0.5**
baz=45,SNR=16
C28A Hausauer Farms 45.41 65 ⇓P **P 10 12 50.3 +0.7**
baz=45
E27A Carson 45.48 67 ⇑P **P 10 12 50.4 +0.2**
baz=45,SNR=13
J24A Dixon Ranch, L 45.48 73 ⇑P **P 10 12 50.4 0.0**
baz=45,SNR=7.5
M22A Cedar Creek Ra 45.49 76 ⇑P **P 10 12 50.9 +0.3**
baz=45,SNR=28
F27A Lemmon 45.53 68 ⇓P **P 10 12 51.0 +0.3**
baz=45,SNR=19
G26A Maurine 45.54 69 ⇑P **P 10 12 50.9 +0.2**
baz=45,SNR=25
Y12C Blythe 45.54 90 ⇑P **P 10 12 51.3 +0.6**
baz=46,SNR=16
B29A Wagenman Farm, 45.57 64 ⇑P **P 10 12 50.9 +0.1**
baz=45,SNR=5.9
L23A Garrett 45.59 75 ⇓P **P 10 12 51.4 0.0**
baz=46,SNR=54
D28A Regan 45.60 66 ⇑P **P 10 12 51.5 +0.3**
baz=45,SNR=16
I25A Rochford 45.62 71 ⇑P **P 10 12 51.3 -0.2**
baz=46,SNR=7.7
K24A Anderson Ranch 45.76 73 ⇓P **P 10 12 52.4 -0.1**
baz=46
MDND Maddock 45.77 65 ⇓P **P 10 12 52.8 +0.3**
baz=46,SNR=15
MDND Maddock 45.77 65 *e*P **P 10 12 52.9 +0.4**
comp=Z,186nm,1.2s
H26A Fairpoint 45.83 70 ⇑P **P 10 12 53.1 +0.1**
baz=46,SNR=7.3
G27A Duree 45.87 69 ⇓P **P 10 12 53.2 -0.1**
baz=46,SNR=11
A30A Hoffart Farm, 45.88 63 ⇓P **P 10 12 53.5 +0.2**
baz=46,SNR=33
E28A Huff 45.89 67 ⇓P **P 10 12 53.7 +0.3**
baz=46
N22A Wattenberg Ran 45.94 77 ⇓P **P 10 12 54.7 +0.5**
baz=46,SNR=55
J25A Sunshine Ranch 45.95 72 ⇓P **P 10 12 53.7 -0.4**
baz=46,SNR=11
M23A Laramie 45.97 75 ⇓P **P 10 12 54.4 0.0**
baz=46,SNR=15
I26A New Underwood 46.12 71 ⇓P **P 10 12 55.3 -0.1**
baz=46,SNR=8.1
B30A Myrvik Farm, E 46.14 63 ⇓P **P 10 12 55.5 +0.2**
baz=46,SNR=38
N23A Red Feather La 46.19 76 ⇓P **P 10 12 56.7 +0.5**
baz=46,SNR=23
H27A Howes 46.22 70 ⇑P **P 10 12 55.9 -0.2**
baz=46
D29A Pettibone, Tap 46.23 65 ⇑P **P 10 12 56.4 +0.3**
baz=46
F28A McLaughlin 46.24 67 ⇓P **P 10 12 56.4 +0.2**
baz=46,SNR=16
O22A Kremmling 46.28 77 ⇓P **P 10 12 57.3 +0.3**
baz=46,SNR=17
WUAZ Wupatki 46.30 86 ⇑P **P 10 12 57.8 +0.8**
baz=46,SNR=22
WUAZ Wupatki 46.30 86 *e*P **P 10 12 57.9 +0.8**
comp=Z,40nm,0.9s
PV01 Paradox Valley 46.33 81 *e*P **P 10 12 57.4 +0.2**
comp=Z,4μm,0.8s
Y14A Wickenburg 46.35 88 ⇑P **P 10 12 57.6 +0.3**
baz=46,SNR=15
K25A Mack Ranch, Ha 46.38 73 ⇓P **P 10 12 57.2 -0.3**
baz=46
J26A Sids Ranch, S 46.42 72 ⇓P **P 10 12 57.8 0.0**
baz=46
ULM Lac du Bonnet 46.46 60 P **P 10 12 57.2 -0.6**
comp=Z,13nm,0.6s,baz=308,slow=7.9,SNR=21
ULM pP **pP 10 13 13.6 -2.8**
comp=Z,12nm,0.4s,baz=290,slow=10.0,SNR=14
ULM ScP **ScP 10 18 17.4 -0.2**
comp=Z,4.4nm,0.8s,baz=278,slow=5.5,SNR=5.9
ULM LR LR 10 31 22.3
comp=Z,139nm,21.6s,baz=358,slow=35
C30A Mose, Pekin 46.48 64 ⇓P **P 10 12 58.2 +0.2**
baz=46,SNR=6.4
E29A Napoleon 46.48 66 ⇓P **P 10 12 58.4 +0.3**
baz=46
P22A Eagle 46.51 78 ⇓P **P 10 12 58.9 +0.3**
baz=46,SNR=16
M24A Cheyenne 46.51 75 ⇑P **P 10 12 58.7 +0.2**
baz=46,SNR=6.9
I27A Quinn 46.57 70 ⇑P **P 10 12 59.1 +0.3**
baz=46
L25A Engebretsen Ra 46.60 73 ⇓P **P 10 12 59.8 +0.6**
baz=46
G28A Parade 46.63 68 ⇑P **P 10 12 59.6 +0.3**
baz=46
O23A Lake Granby, G 46.63 77 ⇓P **P 10 13 00.6 +1.0**
baz=46,SNR=61
D30A Buchanan 46.67 65 ⇑P **P 10 12 59.3 -0.2**
baz=46,SNR=19
K26A Motz Farm, Whi 46.73 72 ⇑P **P 10 13 00.1 -0.1**
baz=47
Z14A Wintersburg 46.77 89 ⇑P **P 10 13 00.8 +0.3**
baz=47,SNR=6.3
F29A Eureka 46.81 67 ⇓P **P 10 13 00.7 +0.1**
baz=47
H28A Mission Ridge 46.81 69 ⇑P **P 10 13 01.0 +0.3**
baz=47
N24A Carr 46.87 75 ⇓P **P 10 13 01.7 +0.3**
baz=47
E30A Jud 46.93 66 ⇑P **P 10 13 01.5 -0.1**
baz=47
MVCO Mesa Verde 46.97 82 ⇓P **P 10 13 02.6 +0.4**
baz=47,SNR=15
MVCO Mesa Verde 46.97 82 *e*P **P 10 13 02.4 +0.2**
comp=Z,38nm,1.1s
M25A Palm-Egli Farm 46.99 74 ⇓P **P 10 13 02.8 +0.6**
baz=47,SNR=11
X16A Lo Mia Camp, P 46.99 87 ⇑P **P 10 13 03.3 +0.9**
baz=47,SNR=21
ISCO Idaho Springs 47.07 77 *e*P **P 10 13 03.8 +0.7**
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 47.07 77 ⇑P **P 10 13 03.3 +0.2**
baz=47,SNR=22
ISCO Idaho Springs 47.07 77 *e*P **P 10 13 03.8 +0.7**
comp=Z,9.3nm,0.8s
J27A Elkhorn Farm, 47.09 71 ⇑P **P 10 13 03.3 +0.4**
baz=47,SNR=11
I28A Midland 47.12 70 ⇓P **P 10 13 03.3 +0.2**
baz=47,SNR=22
G29A Hoven 47.13 68 ⇓P **P 10 13 02.4 -0.7**
baz=47
O24A Longmont 47.19 76 ⇓P **P 10 13 04.2 +0.4**
baz=47,SNR=5.6
L26A Underwood Farm 47.19 73 ⇓P **P 10 13 03.1 -0.7**
baz=47
P23A Jefferson 47.20 78 ⇑P **P 10 13 05.3 +1.2**
baz=47,SNR=15
K27A Flueckinger Fa 47.28 72 ⇑P **P 10 13 04.1 -0.4**
baz=47
H29A Onida 47.30 68 ⇑P **P 10 13 04.4 0.0**
baz=47
J28A Allard Ranch, 47.43 70 ⇑P **P 10 13 06.0 +0.4**
baz=47,SNR=20
M26A McRoberts Ranc 47.51 74 ⇑P **P 10 13 06.9 +0.6**
baz=47
W18A Petrified Fore 47.57 85 ⇑P **P 10 13 07.4 +0.5**
baz=48
W18A Petrified Fore 47.57 85 *e*P **P 10 13 07.8 +0.9**
comp=Z,31nm,1.2s
AGMN Agassiz Nation 47.58 62 ⇓P **P 10 13 06.2 -0.3**
baz=47,SNR=30
AGMN Agassiz Nation 47.58 62 *e*P **P 10 13 05.8 -0.8**
comp=Z,38nm,0.8s
I29A Vivian Onida 47.61 69 ⇓P **P 10 13 06.9 +0.1**
baz=48,SNR=9.3
G30A Faulkton 47.61 67 ⇑P **P 10 13 06.3 -0.5**
baz=47
S22A 4UR Ranch, Cre 47.64 80 ⇑P **P 10 13 08.3 +0.8**
baz=48,SNR=18
P24A Kohler Place, 47.67 77 ⇑P **P 10 13 08.0 +0.3**
baz=48
O25A Wiggins 47.77 76 ⇓P **P 10 13 08.8 +0.5**
baz=48,SNR=6.0
K28A Ten Mile Ranch 47.78 71 ⇑P **P 10 13 08.5 +0.2**
baz=48,SNR=7.7
214A Organ Pipe Nat 47.81 90 ⇓P **P 10 13 08.9 +0.3**
baz=48,SNR=7.5
X18A Snowflake 47.83 86 ⇑P **P 10 13 09.7 +0.8**
baz=48,SNR=18
N26A Koester Ranch, 47.85 74 ⇑P **P 10 13 09.2 +0.3**
baz=48
Q24A Divide 47.87 78 ⇑P **P 10 13 09.8 +0.5**
baz=48,SNR=19
M27A Reverse DX Ran 47.91 73 ⇓P **P 10 13 09.6 +0.3**
baz=48,SNR=5.3
R23A Moffat 47.96 79 ⇓P **P 10 13 10.7 +0.8**
baz=48,SNR=25
J29A Okreek 47.97 70 ⇓P **P 10 13 09.9 +0.2**
baz=48,SNR=30
P25A Willow Gulch B 48.12 76 ⇓P **P 10 13 12.0 +1.0**
baz=48,SNR=33
BRSD Miller 48.13 68 ⇑P **P 10 13 10.8 -0.1**
baz=48,SNR=7.9
BRSD Miller 48.13 68 *e*P **P 10 13 10.5 -0.3**
comp=Z,44nm,0.8s
BRSD *e*ScP **ScP 10 18 25.6 +0.8**
S23A Nye Farm, Mont 48.16 79 ⇓P **P 10 13 12.3 +0.8**
baz=48
O26A Horse Wrangler 48.17 75 ⇓P **P 10 13 12.0 +0.6**
baz=48,SNR=6.2
I30A Oacoma 48.18 69 ⇓P **P 10 13 11.1 -0.2**
baz=48
N27A Anderson Farm, 48.27 74 ⇑P **P 10 13 12.4 +0.3**
baz=48
K29A Lazy Trails An 48.37 71 ⇑P **P 10 13 13.1 +0.3**
baz=48,SNR=7.5
R24A Sanders Place, 48.37 78 ⇓P **P 10 13 13.4 +0.3**
baz=48,SNR=19
TLY Talaya 48.41 304 *e*P **P 10 13 13.0 0.0**
TLY *e* 10 15 07.1
TLY *e*SS SS 10 22 47.7 -50
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY MLR MLR
comp=Z,179nm,22.0s
TLY Talaya 48.41 304 P **P 10 13 13.7 +0.7**
comp=Z,7.3nm,0.8s,baz=36,slow=6.3,SNR=5.1
TLY PcP **PcP 10 14 38.8 +0.6**
comp=Z,5.6nm,0.6s,baz=329,slow=2.5,SNR=4.0
TLY ScP **ScP 10 18 25.6 -0.2**
comp=Z,1.6nm,0.4s,baz=328,slow=1.6,SNR=4.8
TLY Talaya 48.41 304 *e*P **P 10 13 13.2 +0.2**
comp=Z,11nm,0.8s
TLY *e*PcP **PcP 10 14 37.6 -0.5**
TLY PcP **PcP 10 14 38.8 +0.6**
TLY ScP **ScP 10 18 25.6 -0.2**
BJI Beijing 48.42 285 P **P 10 13 14.1 +1.0**
BJI S **S 10 20 09.0 +1.0**
BJI PMZ
comp=Z,11nm,0.7s
BJI LN
comp=Z,240nm,22.8s
BJI LE
comp=Z,170nm,21.8s
SDCO Great Sand Dun 48.44 79 ⇑P **P 10 13 14.3 +0.6**
baz=48,SNR=40
Q25A Bedland, Calha 48.45 77 ⇓P **P 10 13 14.1 +0.4**
baz=48,SNR=13
OGNE Ogallala 48.49 74 ⇑P **P 10 13 13.9 +0.2**
baz=48
OGNE Ogallala 48.49 74 *e*P **P 10 13 15.0 +1.2**
comp=Z,20nm,0.7s
J30A Dallas 48.50 69 ⇑P **P 10 13 13.9 +0.2**
baz=48,SNR=5.7
T23A Casias Ranch, 48.58 80 ⇓P **P 10 13 15.4 +0.7**
baz=48,SNR=15
P26A Davis Ranch, A 48.58 76 ⇓P **P 10 13 15.4 +0.9**
baz=48,SNR=27
M28A Bar X Bar Ranc 48.59 73 ⇑P **P 10 13 15.0 +0.4**
baz=48,SNR=5.5
S24A Houchin Ranch, 48.68 79 ⇓P **P 10 13 16.4 +0.9**
baz=49,SNR=18
O27A Beecher Island 48.70 75 ⇓P **P 10 13 16.1 +0.7**
baz=49,SNR=6.2
L29A Maesberg Ranch 48.70 71 ⇑P **P 10 13 15.3 -0.1**
baz=49
TUC Tucson 48.82 88 *e*P **P 10 13 16.8 +0.4**
TUC pmax pmax
comp=Z,22nm,0.8s
TUC Tucson 48.82 88 *e*P **P 10 13 16.8 +0.4**
comp=Z,22nm,0.8s
K30A Basset 48.83 70 ⇑P **P 10 13 16.7 +0.4**
baz=49,SNR=13
ULN Ulaanbaatar 48.85 298 *e*P **P 10 13 15.8 -0.7**
ULN *e* 10 14 39.9
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 48.85 298 *e*P **P 10 13 15.8 -0.7**
comp=Z,6.9nm,0.8s
ULN *e*PcP **PcP 10 14 39.9 -0.1**
Q26A Hugo 48.88 77 ⇑P **P 10 13 17.1 +0.3**
baz=49
R25A Fountain Ranch 48.92 78 ⇑P **P 10 13 18.0 +0.8**
baz=49,SNR=10
N28A Pribbeno Ranch 48.94 73 ⇑P **P 10 13 17.1 -0.1**
baz=49
T24B San Luis 48.96 80 ⇓P **P 10 13 18.8 +1.1**
baz=49,SNR=32
M29A Burnside Ranch 48.97 72 ⇓P **P 10 13 17.6 +0.2**
baz=49,SNR=5.2
P27A Ficken Ranch, 49.04 75 ⇓P **P 10 13 18.2 +0.2**
baz=49
S25A Robets Cordova 49.14 78 ⇑P **P 10 13 19.8 +0.9**
baz=49,SNR=48
KBS Kingsbay 49.15 359 *e*P **P 10 13 18.6 +0.4**
KBS pmax pmax
comp=Z,9.0nm,0.8s
KBS Kingsbay 49.15 359 *e*P **P 10 13 18.6 +0.4**
comp=Z,8.6nm,0.8s
O28A Krutsinger Ran 49.16 74 ⇓P **P 10 13 19.1 +0.2**
baz=49
L30A Spencer Herefo 49.22 71 ⇓P **P 10 13 19.3 +0.1**
baz=49,SNR=6.8
SONM Songino Array 49.23 299 P **P 10 13 18.7 -0.7**
comp=Z,8.5nm,0.8s,baz=50,slow=7.4,SNR=33
SONM PcP **PcP 10 14 41.3 -0.1**
comp=Z,12nm,0.8s,baz=59,slow=2.4,SNR=10

SONM ScP **ScP** **10 18 29.3 -0.2**
comp=Z,18nm,0.8s,baz=46,slow=3.7,SNR=40
SONM LR LR 10 34 35.1
comp=Z,297nm,21.3s,baz=38,slow=36
R26A Arlington 49.32 77 ⇑P **P** **10 13 20.8 +0.6**
baz=49,SNR=13
V23A Ortiz Mt. (NFS 49.33 82 ⇑P **P** **10 13 21.7 +1.3**
baz=49,SNR=22
KSCO Kaye Shedlock' 49.36 76 ⇓P **P** **10 13 21.3 +0.8**
baz=49,SNR=11
KSCO Kaye Shedlock' 49.36 76 *e*P **P** **10 13 21.6 +1.1**
comp=Z,76nm,1.0s
ZAK Zakamensk 49.36 303 ⇓*i*P **P** **10 13 19.7 -0.6**
ZAK *e* 10 14 42.3
ZAK pmax pmax
comp=Z,9.0nm,1.3s
N29A Votaw Ranch, W 49.40 73 ⇑P **P** **10 13 20.6 -0.1**
baz=49
T25A Trinidad 49.49 79 ⇓P **P** **10 13 22.9 +1.2**
baz=49,SNR=72
P28A Saint Francis 49.52 75 ⇓P **P** **10 13 22.1 +0.4**
baz=49,SNR=9.2
L31A Butterfield Fa 49.59 70 ⇓P **P** **10 13 22.3 +0.2**
baz=49
ANMO Albuquerque 49.70 83 *d i*P **P** **10 13 23.2 0.0**
ANMO pmax pmax
comp=Z,74nm,1.7s
ANMO Albuquerque 49.70 83 ScP **ScP** **10 18 32.0 +0.2**
comp=Z,1.5nm,1.0s,baz=254,slow=4.8,SNR=4.7
ANMO LR LR 10 30 37.3
comp=Z,112nm,21.3s,baz=308,slow=31
ANMO Albuquerque 49.70 83 *e*P **P** **10 13 23.2 0.0**
comp=Z,39nm,1.5s
ANMO ScP **ScP** **10 18 32.0 +0.2**
R27A Eads 49.72 77 ⇓P **P** **10 13 23.8 +0.6**
baz=50,SNR=19
O29A 4D Ranch, Culb 49.73 74 ⇑P **P** **10 13 23.8 +0.6**
baz=50,SNR=7.6
S26A Kim 49.75 78 ⇓P **P** **10 13 23.9 +0.4**
baz=50,SNR=44
MOY Mondy 49.76 306 *e*P **P** **10 13 23.7 +0.3**
Q28A Sharon Springs 49.80 75 ⇑P **P** **10 13 24.0 +0.2**
baz=50
ECSD EROS Data Cent 49.90 67 ⇓P **P** **10 13 23.9 -0.4**
baz=50,SNR=14
ECSD EROS Data Cent 49.90 67 *e*P **P** **10 13 23.4 -0.9**
comp=Z,21nm,0.7s
T26A Comanche Natio 49.97 78 ⇓P **P** **10 13 24.9 -0.2**
baz=50,SNR=31
U25A Circle Dot Ran 49.98 80 ⇑P **P** **10 13 26.0 +0.6**
baz=50,SNR=51
P29A Atwood 49.99 74 ⇓P **P** **10 13 25.9 +0.7**
baz=50,SNR=12
Y22D IRIS PASSCAL I 50.00 84 ⇑P **P** **10 13 25.8 +0.4**
baz=50
O30A MW Ranch, Wils 50.14 73 ⇓P **P** **10 13 26.7 +0.5**
baz=50
EYMN Ely 50.14 60 *e*P **P** **10 13 24.9 -1.2**
comp=Z,28nm,0.8s
V25A Rancho No Teng 50.23 80 ⇑P **P** **10 13 27.8 +0.7**
baz=50,SNR=21
R28A Tribune 50.28 76 ⇑P **P** **10 13 27.6 +0.2**
baz=50
DAG Danmarks Havn 50.36 7 *i* P **P** **10 13 26.4 -1.0**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 50.36 7 *i* P **P** **10 13 26.4 -1.0**
comp=Z,6.6nm,0.9s
U26A Atchley Ranch, 50.39 79 ⇑P **P** **10 13 29.0 +0.6**
baz=50,SNR=54
319A Douglas 50.39 88 ⇓P **P** **10 13 29.2 +0.8**
baz=50,SNR=8.6
Q29A Oakley 50.42 75 ⇑P **P** **10 13 28.9 +0.5**
baz=50,SNR=9.2
P30A Selden 50.43 74 ⇓P **P** **10 13 28.9 +0.3**
baz=50,SNR=8.7
BGNE Belgrade 50.47 71 ⇓P **P** **10 13 28.7 0.0**
baz=50
BGNE Belgrade 50.47 71 *e*P **P** **10 13 25.9 -2.9**
comp=Z,64nm,0.8s
121A Cookes Peak, D 50.51 86 ⇓P **P** **10 13 30.3 +0.9**
baz=50,SNR=22
121A Cookes Peak, D 50.51 86 *e*P **P** **10 13 30.0 +0.7**
comp=Z,20nm,0.8s
T27A Campo 50.56 78 ⇑P **P** **10 13 29.8 +0.2**
baz=50
O31A Woolen Ranch, 50.58 73 ⇓P **P** **10 13 29.7 +0.1**
baz=50
FRB Frobisher Bay 50.59 34 ScP **ScP** **10 18 34.5 -0.4**
comp=Z,3.2nm,0.8s,baz=308,slow=2.3,SNR=4.4
R29A Marienthal 50.62 75 ⇑P **P** **10 13 30.5 +0.5**
baz=50
HHC Hu-ho-hao-te 50.63 289 *e*P **P** **10 13 32.5 +2.4**
HHC PP **PP** **10 15 30.2 +3.9**
HHC S **S** **10 20 39.4 +0.3**
HHC sS **sS** **10 21 12.0 +0.9**
HHC SS **SS** **10 24 11.4 -2.2**
HHC PMZ
comp=Z,10.0nm,0.9s
HHC PMZ
comp=Z,61nm,6.2s
HHC LN
comp=Z,280nm,18.5s
HHC LE
comp=Z,250nm,19.7s
S28A Manter 50.71 77 ⇓P **P** **10 13 31.4 +0.7**
baz=51,SNR=25
W25A X Bar L Ranch, 50.73 81 ⇓P **P** **10 13 31.8 +0.9**
baz=51,SNR=49
V26A Tequesquite Ra 50.76 80 ⇓P **P** **10 13 31.3 +0.2**
baz=51,SNR=52
N32A Stulken Farm, 50.80 71 ⇓P **P** **10 13 30.9 -0.3**
baz=51
Q30A Quinter 50.81 74 ⇑P **P** **10 13 32.0 +0.6**
baz=51,SNR=8.6
T28A Walsh 50.89 77 ⇑P **P** **10 13 32.5 +0.5**
baz=51,SNR=14
U27A Thompson Grove 50.92 79 ⇓P **P** **10 13 32.7 +0.3**
baz=51,SNR=37
P31A Stockton 50.96 73 ⇓P **P** **10 13 32.2 -0.3**
baz=51
SPMN Marine on St. 51.11 64 ⇓P **P** **10 13 33.1 -0.3**
baz=51
SPMN Marine on St. 51.11 64 *e*P **P** **10 13 33.2 -0.2**
comp=Z,42nm,1.0s
O32A Brockman Farm, 51.13 72 ⇑P **P** **10 13 33.6 -0.1**
baz=51
S29A Ulysses 51.16 76 ⇓P **P** **10 13 34.5 +0.5**
baz=51
R30A Dighton 51.23 75 ⇑P **P** **10 13 35.0 +0.5**
baz=51,SNR=25
W26A Owens Ranch, T 51.24 81 ⇑P **P** **10 13 35.2 +0.5**
baz=51,SNR=10.0
Q31A Ellis 51.28 74 ⇓P **P** **10 13 35.3 +0.4**
baz=51,SNR=12
U28A Mallet 51.31 78 ⇓P **P** **10 13 35.5 +0.2**
baz=51
P32A Huiting Farm, 51.35 73 ⇑P **P** **10 13 35.4 0.0**
baz=51,SNR=6.8
V27A Dan Oppiter Fa 51.36 79 ⇓P **P** **10 13 35.6 0.0**
baz=51,SNR=10.0
T29A Hugoton 51.36 77 ⇑P **P** **10 13 35.5 0.0**
baz=51
S30A Montezuma 51.54 76 ⇓P **P** **10 13 37.2 +0.4**
baz=51,SNR=7.7
R31A Burdett 51.67 75 ⇓P **P** **10 13 37.9 +0.1**
baz=52,SNR=22
SUMG Summit 51.71 16 *e*P **P** **10 13 37.8 -0.3**
SUMG *e* 10 14 50.1
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 51.71 16 *e*P **P** **10 13 37.8 -0.3**
comp=Z,21nm,0.8s
SUMG *e*PcP **PcP** **10 14 50.1 -0.3**
SUMG Summit 51.71 16 *i* P **P** **10 13 39.0 +1.0**
comp=Z,23nm,0.9s
V28A Channing 51.73 79 ⇓P **P** **10 13 38.6 +0.2**
baz=52,SNR=9.9
Q32A Meitler Ranch, 51.79 73 ⇑P **P** **10 13 38.8 +0.1**
baz=52,SNR=14
U29A Oasis Ranch, S 51.84 77 ⇑P **P** **10 13 39.2 0.0**
baz=52
TARA Tarawa 51.88 197 *e*P **P** **10 13 40.3 +0.8**
comp=Z,88nm,0.9s
T30A Plains 51.89 76 ⇓P **P** **10 13 39.4 -0.1**
baz=52
P33A Williams Farm, 52.01 72 ⇑P **P** **10 13 39.6 -0.6**
baz=52
R32A Long Quarter, 52.07 74 ⇓P **P** **10 13 40.8 0.0**
baz=52,SNR=14
W28A Vega 52.07 79 ⇓P **P** **10 13 40.7 -0.2**
baz=52
NJ2 Nanjing 52.08 275 *e*P **P** **10 13 40.8 0.0**
NJ2 PMZ
comp=Z,60nm,0.7s
V29A Stinnett 52.08 78 ⇓P **P** **10 13 40.8 -0.1**
baz=52
S31A Mullinville 52.14 75 ⇑P **P** **10 13 40.7 -0.6**
baz=52
U30A WK&E Inc. Balk 52.16 77 ⇑P **P** **10 13 41.8 +0.3**
baz=52,SNR=26
Q33A Connelly Farm, 52.21 73 ⇓P **P** **10 13 41.7 -0.1**
baz=52,SNR=19
T31A Randall Ranch, 52.37 76 ⇑P **P** **10 13 43.0 0.0**
baz=52,SNR=13
S32A Newby Ranch, P 52.41 75 ⇓P **P** **10 13 43.2 -0.1**
baz=52,SNR=5.4
MNTX Cornudas Mount 52.56 85 ⇑P **P** **10 13 45.3 +0.9**
baz=52,SNR=49
R33A Olander Ranch, 52.57 74 ⇑P **P** **10 13 43.6 -0.9**
baz=52
X28A Dimmitt 52.58 80 ⇑P **P** **10 13 44.6 -0.1**
baz=52,SNR=9.0
MSTX Muleshoe 52.60 81 ⇓P **P** **10 13 45.0 +0.2**
baz=52,SNR=24
MSTX Muleshoe 52.60 81 *e*P **P** **10 13 44.8 0.0**
comp=Z,76nm,1.3s
AMTX Amarillo 52.64 79 ⇓P **P** **10 13 44.8 -0.3**
baz=52
AMTX Amarillo 52.64 79 *e*P **P** **10 13 45.6 +0.4**
comp=Z,29nm,0.7s
AMTX *e*ScP **ScP** **10 18 44.9 +0.5**
V30A Spur Ranch, Mi 52.65 78 ⇑P **P** **10 13 45.0 -0.1**
baz=52,SNR=6.7
U31A Nip Bar Ranch 52.75 77 ⇓P **P** **10 13 45.7 -0.1**
baz=53
T32A Huddler Ranch, 52.76 75 ⇑P **P** **10 13 45.8 -0.1**
baz=53,SNR=11
KSU1 Kansas State U 52.86 72 *e*P **P** **10 13 46.6 +0.1**
comp=Z,30nm,0.6s
X29A Tulia 52.93 80 ⇓P **P** **10 13 47.3 0.0**
baz=53,SNR=8.2
Y28A McKinney Farm, 52.96 81 ⇑P **P** **10 13 47.3 -0.2**
baz=53,SNR=14
SCIA State Center 52.99 67 *e*P **P** **10 13 47.8 +0.3**
comp=Z,16nm,0.5s
S33A Kaszmaul Farm, 53.04 74 ⇓P **P** **10 13 47.2 -0.7**
baz=53
W30A Crocket Farms 53.11 78 ⇓P **P** **10 13 48.8 +0.3**
baz=53,SNR=5.9
V31A Spring Creek L 53.15 77 ⇓P **P** **10 13 49.1 +0.3**
baz=53,SNR=12
T33A Patterson Ranc 53.23 75 ⇑P **P** **10 13 48.4 -0.9**
baz=53
U32A Winter Ranch, 53.25 76 ⇑P **P** **10 13 49.5 +0.1**
baz=53,SNR=6.2
Z28A Tucker Farm, M 53.30 81 ⇓P **P** **10 13 49.7 -0.3**
baz=53,SNR=14
Y29A Porterfield Fa 53.34 80 ⇓P **P** **10 13 50.6 +0.3**
baz=53,SNR=12
X30A Coker Ranch, T 53.43 79 ⇑P **P** **10 13 51.1 +0.2**
baz=53,SNR=11
W31A Holland Ranch, 53.49 78 ⇓P **P** **10 13 51.2 -0.1**
baz=53,SNR=12
S34A Willow Spring 53.49 74 ⇑P **P** **10 13 50.4 -0.8**
baz=53
SFJD Kangerlussuaq 53.64 24 *e*P **P** **10 13 51.9 0.0**
SFJD *e* 10 14 56.8
SFJD pmax pmax
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 53.64 24 LR LR 10 38 58.2
comp=Z,162nm,21.3s,baz=322,slow=38
SFJD Kangerlussuaq 53.64 24 *e*P **P** **10 13 51.9 0.0**
comp=Z,14nm,0.8s
SFJD *e*PcP **PcP** **10 14 56.8 -0.4**
SFJD Kangerlussuaq 53.64 24 *i* P **P** **10 13 54.5 +2.7**
comp=Z,14nm,0.8s
V32A Arapaho 53.67 77 ⇓P **P** **10 13 52.3 -0.3**
baz=54
128A Castleberry Fa 53.70 82 ⇓P **P** **10 13 52.9 0.0**
baz=54,SNR=27
Z29A Hungry Hill Ra 53.73 81 ⇑P **P** **10 13 53.3 +0.2**
baz=54,SNR=28
U33A Lingo Farm, Me 53.74 75 ⇑P **P** **10 13 52.9 -0.2**
baz=54,SNR=11
Y30A Stafford Cattl 53.80 80 ⇓P **P** **10 13 53.7 +0.1**
baz=54,SNR=15
X31A McDonald Ranch 53.84 78 ⇑P **P** **10 13 54.1 +0.2**
baz=54,SNR=20
W32A Sentinel 53.95 77 ⇑P **P** **10 13 55.0 +0.3**
baz=54,SNR=15
S35A Otter Creek Ra 53.97 73 ⇑P **P** **10 13 54.4 -0.3**
baz=54,SNR=10
228A UT Block 9, Go 53.98 82 ⇑P **P** **10 13 54.7 -0.3**
baz=54,SNR=5.6
JFWS Jewell Farm 54.00 64 *e*P **P** **10 13 54.4 -0.4**
JFWS pmax pmax
comp=Z,26nm,0.6s
JFWS Jewell Farm 54.00 64 *e*P **P** **10 13 54.4 -0.4**
comp=Z,26nm,0.6s
V33A Losen Ranch, 54.05 76 ⇓P **P** **10 13 55.1 -0.3**
baz=54,SNR=11
Z30A Sanderson Ranc 54.07 80 ⇑P **P** **10 13 55.3 -0.3**
baz=54,SNR=21
129A Stewart Farms, 54.07 81 ⇑P **P** **10 13 55.4 -0.1**
baz=54,SNR=5.3
U34A Anderson Ranch 54.09 75 ⇓P **P** **10 13 55.5 -0.1**
baz=54,SNR=24
U34A Anderson Ranch 54.09 75 *e*P **P** **10 13 55.6 +0.1**
comp=Z,57nm,0.6s
Y31A Rekieta Farm, 54.13 79 ⇓P **P** **10 13 55.7 -0.3**
baz=54
Q37A Longview Farm, 54.27 71 ⇑P **P** **10 13 55.9 -1.0**
baz=54
S36A Lake Cedric, C 54.37 73 ⇓P **P** **10 13 57.2 -0.5**
baz=54,SNR=8.2
W33A Caddo, Fort Co 54.40 77 ⇑P **P** **10 13 58.1 +0.2**
baz=54,SNR=6.2
X32A Elmer 54.41 78 ⇓P **P** **10 13 58.2 +0.2**
baz=54,SNR=19
R37A Teagarden Farm 54.42 71 ⇓P **P** **10 13 56.4 -1.6**
baz=54,SNR=8.7
WMOK Wichita Mounta 54.49 77 *e*P **P** **10 13 58.6 0.0**
WMOK pmax pmax
comp=Z,37nm,0.8s
WMOK Wichita Mounta 54.49 77 *e*P **P** **10 13 58.5 0.0**
comp=Z,37nm,0.8s
V34A Guthrie 54.50 76 ⇑P **P** **10 13 58.4 -0.1**
baz=54,SNR=18
V34A Guthrie 54.50 76 *e*P **P** **10 13 58.5 -0.1**
comp=Z,36nm,0.7s
229A Bryant Ranch, 54.56 82 ⇑P **P** **10 13 58.7 -0.5**
baz=54
Y32A R-V Farms, Ver 54.60 78 ⇓P **P** **10 13 59.6 +0.3**
baz=54,SNR=35
130A Snyder 54.64 81 ⇑P **P** **10 13 59.6 -0.1**
baz=54,SNR=7.8
Z31A Sharp Cattle R 54.64 80 ⇓P **P** **10 13 59.7 0.0**
baz=54,SNR=12
W34A Bridge Creek, 54.76 76 ⇓P **P** **10 14 00.4 0.0**
baz=55
W34A Bridge Creek, 54.76 76 *e*P **P** **10 14 00.9 +0.4**
comp=Z,25nm,0.7s
329A Wagon Wheel Ra 54.79 83 ⇓P **P** **10 14 00.8 0.0**
baz=55,SNR=11
X33A Lawton 54.80 77 ⇑P **P** **10 14 00.6 -0.1**
baz=55,SNR=12
131A Roby 54.94 80 ⇓P **P** **10 14 02.1 +0.3**
baz=55,SNR=8.9
V35A Meyer Ranch, C 54.96 75 ⇑P **P** **10 14 01.3 -0.5**
baz=55
LPIG La Paz 54.96 95 P **P** **10 14 02.5 +0.5**
comp=Z,13nm,0.3s,baz=73,slow=14
230A Sterling City 55.04 82 ⇓P **P** **10 14 02.8 +0.1**
baz=55,SNR=14
Z32A Haskell 55.05 79 ⇓P **P** **10 14 02.8 +0.1**
baz=55,SNR=34
Y33A Hilltop Ranch, 55.09 78 ⇓P **P** **10 14 03.0 +0.1**
baz=55,SNR=17
X34A Smith Ranch, M 55.16 77 ⇓P **P** **10 14 03.9 +0.6**
baz=55,SNR=7.1
TXAR Lajitas Array 55.27 86 P **P** **10 14 04.4 +0.1**
comp=Z,20nm,0.7s,baz=297,slow=5.3,SNR=267
TXAR ScP **ScP** **10 18 56.0 +0.1**
comp=Z,1.8nm,0.8s,baz=280,slow=2.4,SNR=5.7
TXAR LR LR 10 35 07.5
comp=Z,90nm,21.1s,baz=0.0,slow=33
TXAR PKP2bc 10 44 24.4
comp=Z,0.4nm,0.9s,baz=134,slow=5.1,SNR=3.6
330A Mertzon 55.34 82 ⇓P **P** **10 14 04.4 -0.3**
baz=55,SNR=13
ABTX Abilene, Hawle 55.42 80 ⇑P **P** **10 14 05.5 +0.1**
baz=55,SNR=18
ABTX Abilene, Hawle 55.42 80 *e*P **P** **10 14 05.4 +0.1**
comp=Z,29nm,0.8s
ABTX *e*ScP **ScP** **10 18 57.0 +0.4**
429A Davenport Ranc 55.45 83 ⇑P **P** **10 14 05.2 -0.3**
baz=55,SNR=21
TUL1 Leonard 55.48 74 ⇑P **P** **10 14 05.3 -0.3**
baz=55,SNR=11
TUL1 Leonard 55.48 74 *e*P **P** **10 14 05.6 0.0**
comp=Z,21nm,0.8s
231A Bronte 55.49 81 ⇓P **P** **10 14 05.4 -0.5**
baz=55
Z33A Whitaker Ranch 55.50 79 ⇓P **P** **10 14 06.0 +0.1**
baz=55,SNR=17
529A Stev Forest Ra 55.60 84 ⇓P **P** **10 14 06.7 +0.1**
baz=56,SNR=19
Y34A Reagan Ranch, 55.64 77 ⇑P **P** **10 14 07.3 +0.5**
baz=56,SNR=29
430A Baggett Ranch, 55.74 83 ⇑P **P** **10 14 07.3 -0.3**
baz=56
ZALV Zalesovo Beam 55.86 316 P **P** **10 14 07.2 -0.8**
comp=Z,1.9nm,0.7s,baz=38,slow=7.5,SNR=7.8
ZALV PcP **PcP** **10 15 05.7 -0.3**
comp=Z,5.5nm,0.7s,baz=34,slow=4.6,SNR=8.7
ZALV ScP **ScP** **10 18 56.8 -1.2**
comp=Z,1.4nm,0.6s,baz=36,slow=3.7,SNR=4.0
ZALV LR LR 10 39 02.0
comp=Z,118nm,21.3s,baz=70,slow=37
331A San Angelo 55.87 82 ⇓P **P** **10 14 08.2 -0.3**
baz=56,SNR=14
133A Hamilton Ranch 55.88 79 ⇓P **P** **10 14 08.9 +0.4**
baz=56,SNR=28
WHN Wuhan 55.88 277 P **P** **10 14 09.0 +0.4**
NVS Novosibirsk 55.92 317 ⇓*i*P **P** **10 14 06.3 -2.1**
NVS *e* 10 14 27.8
NVS *i* 10 15 03.3
NVS pmax pmax
comp=Z,9.0nm,0.9s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.0s
232A Coleman 55.94 80 ⇓P **P** **10 14 09.1 +0.1**
baz=56,SNR=16
Z34A Collier Ranch, 55.95 78 ⇑P **P** **10 14 09.1 0.0**
baz=56,SNR=6.8
NACB Ninganchiao 56.01 266 *e*P **P** **10 14 09.1 -0.4**
comp=E,50nm,0.9s
530A J-C Ranch, Com 56.12 83 ⇑P **P** **10 14 10.8 +0.5**
baz=56,SNR=43
431A Sonora 56.19 82 ⇑P **P** **10 14 10.7 -0.2**
baz=56,SNR=42
233A Rising Star 56.30 80 ⇓P **P** **10 14 12.0 +0.4**
baz=56,SNR=25
Z35A Perchaven, San 56.38 78 ⇓P **P** **10 14 11.6 -0.5**
baz=56
134A White-Moore Ra 56.41 79 ⇓P **P** **10 14 12.7 +0.4**
baz=56,SNR=22
432A Menard 56.55 81 ⇓P **P** **10 14 13.0 -0.4**
baz=56,SNR=7.9
531A Rocksprings 56.60 83 ⇓P **P** **10 14 13.4 -0.3**
baz=56,SNR=13
SSLB Suanglung 56.69 266 *e*P **P** **10 14 14.4 0.0**
comp=E,140nm,0.8s
333A Richland Sprin 56.73 80 ⇓P **P** **10 14 14.4 -0.2**
baz=57,SNR=31
XAN Xi'an 56.73 284 P **P** **10 14 15.0 +0.4**
XAN pP **pP** **10 14 33.1 -0.7**
XAN sP **sP** **10 14 45.0 +2.8**
XAN PcP **PcP** **10 15 09.4 -0.4**
XAN PMZ
comp=E,4.0nm,0.8s
XAN PMZ
comp=E,40nm,5.9s
XAN LN
comp=E,170nm,23.6s
YULB Yu-li 56.77 266 *e*P **P** **10 14 13.9 -1.1**
comp=E,48nm,0.8s
234A Clairette 56.77 79 ⇓P **P** **10 14 14.7 -0.2**
baz=57
135A Vickery Place, 56.82 78 ⇓P **P** **10 14 15.4 +0.2**
baz=57,SNR=7.4
JCT Junction City 56.83 82 *e*P **P** **10 14 14.7 -0.6**
JCT *e* 10 15 10.9
JCT pmax pmax
comp=Z,28nm,0.8s
JCT Junction City 56.83 82 ⇑P **P** **10 14 14.8 -0.6**
baz=57,SNR=11
JCT Junction City 56.83 82 *e*P **P** **10 14 14.7 -0.6**
comp=Z,28nm,0.8s
JCT *e*PcP **PcP** **10 15 10.9 +0.6**
532A Rocksprings 57.01 82 ⇑P **P** **10 14 16.1 -0.6**
baz=57,SNR=11
433A Art 57.07 81 ⇓P **P** **10 14 16.7 -0.3**
baz=57,SNR=25
631A Perdido Creek 57.11 83 ⇓P **P** **10 14 16.4 -1.0**
baz=57,SNR=16
334A Lometa 57.18 80 ⇓P **P** **10 14 17.9 +0.1**
baz=57,SNR=60
WHTX Lake Whitney, 57.19 79 ⇑P **P** **10 14 18.0 +0.2**
baz=57,SNR=21
WHTX Lake Whitney, 57.19 79 *e*P **P** **10 14 18.1 +0.3**
comp=Z,44nm,0.7s
TPUB Ta-pu 57.25 266 *e*P **P** **10 14 18.2 -0.1**
comp=Z,56nm,0.8s
SCHQ Schefferville 57.30 41 P **P** **10 14 17.4 -0.9**
comp=Z,5.5nm,0.7s,baz=342,slow=8.4,SNR=15
SCHQ pP **pP** **10 14 35.2 -2.3**
comp=Z,14nm,0.8s,baz=318,slow=8.0,SNR=12
SFIN Lafayette 57.45 65 ⇑P **P** **10 14 18.7 -0.8**
baz=57
SFIN Lafayette 57.45 65 *e*P **P** **10 14 19.1 -0.4**
comp=Z,77nm,0.9s
KEV Kevo 57.50 352 *e*P **P** **10 14 19.4 0.0**
KEV pmax pmax
comp=Z,9.0nm,0.5s
KEV Kevo 57.50 352 *e*p **P** **10 14 19.4 0.0**
comp=Z,8.5nm,0.5s
434A Burnet 57.53 80 ⇓P **P** **10 14 20.3 +0.1**
baz=57,SNR=50
632A Uvalde 57.53 83 ⇑P **P** **10 14 19.5 -0.7**
baz=57,SNR=5.7
533A Kerrville 57.58 82 ⇑P **P** **10 14 20.1 -0.5**
baz=58,SNR=6.0
335A Moody 57.71 79 ⇓P **P** **10 14 21.6 +0.1**
baz=58,SNR=8.0
MIAR Mount Ida 57.73 74 *e*P **P** **10 14 21.5 -0.1**
MIAR pmax pmax
comp=Z,48nm,0.9s
MIAR Mount Ida 57.73 74 *e*P **P** **10 14 21.5 -0.1**
comp=Z,48nm,0.9s
ARCES ARCESS Array B 57.84 352 P **P** **10 14 21.6 -0.2**
comp=Z,5.1nm,0.5s,baz=26,slow=7.3,SNR=42
ARCES pP **pP** **10 14 38.5 -2.6**
comp=Z,12nm,0.8s,baz=13,slow=6.9,SNR=6.8
ARCES PcP **PcP** **10 15 12.9 -0.6**
comp=Z,17nm,0.7s,baz=22,slow=4.3,SNR=10
ARCES LR LR 10 39 03.8
comp=Z,237nm,21.9s,baz=358,slow=36
633A Saathoff Ranch 57.93 82 ⇓P **P** **10 14 22.5 -0.6**
baz=58
534A Blanco 57.96 81 ⇑P **P** **10 14 22.7 -0.5**
baz=58,SNR=12
435B Jarrell 57.96 80 ⇓P **P** **10 14 23.2 0.0**
baz=58,SNR=6.5
732A Laxson Ranch, 57.97 83 ⇓P **P** **10 14 23.0 -0.3**
baz=58,SNR=16
336A Riesel 57.98 79 ⇓P **P** **10 14 23.6 +0.2**
baz=58,SNR=20
OLIL Olney 58.01 67 *e*P **P** **10 14 23.0 -0.5**
comp=Z,76nm,1.0s
SIUC Southern Illin 58.08 68 *e*P **P** **10 14 23.4 -0.6**
comp=Z,14nm,0.4s
138A Matatall Enter 58.15 77 ⇓P **P** **10 14 24.8 +0.3**
baz=58,SNR=9.4
237A Washetta, Mont 58.18 78 ⇑P **P** **10 14 24.2 -0.5**
baz=58
832A Faith Ranch, C 58.28 84 ⇓P **P** **10 14 25.7 +0.2**
baz=58,SNR=24
UALR University of 58.30 73 *e*P **P** **10 14 25.2 -0.3**
comp=Z,15nm,0.8s
LZH Lanzhou 58.31 289 *e*P **P** **10 14 26.4 +0.6**

LZH pP **pP** **10 14 46.3 +1.2**
LZH sP **sP** **10 14 53.1 -0.4**
LZH PcP **PcP** **10 15 16.8 +0.7**
LZH ScP **ScP** **10 19 11.0 +1.6**
LZH PcS **PcS** **10 19 19.1 +1.2**
LZH PMZ
comp=Z,38nm,1.0s
LZH PMZ
comp=Z,190nm,4.1s
LZH LN
comp=Z,1µm,14.8s
LZH LE
comp=Z,1µm,13.6s
LZH LZ
comp=Z,1µm,15.5s
GTA **Gaotai** **58.31 295** ⇑P **P** **10 14 25.4 -0.4**
GTA pP **pP** **10 14 45.7 +0.7**
GTA sP **sP** **10 14 53.6 +0.2**
GTA ScP **ScP** **10 19 09.1 -0.2**
GTA S **S** **10 22 20.2 -2.1**
GTA sS **sS** **10 22 52.7 -2.3**
GTA ScS **ScS** **10 24 05.3 -3.1**
GTA SS **SS** **10 26 14.1 -0.6**
GTA PMZ
comp=Z,13nm,0.9s
GTA PMZ
comp=Z,180nm,6.2s
GTA LN
comp=Z,200nm,22.3s
GTA LE
comp=Z,200nm,21.9s
GTA LZ
comp=Z,230nm,20.9s
733A **Divot King Ran** **58.39 83** ⇓P **P** **10 14 26.6 +0.3**
baz=58,SNR=12
LVZ **Lovozero** **58.45 348** ⇑*i*P **P** **10 14 26.9 +0.7**
LVZ pmax pmax
comp=Z,11nm,1.0s
LVZ **Lovozero** **58.45 348** *e*P **P** **10 14 25.3 -0.9**
comp=Z,40nm,0.8s
436A **Wall Ranch, Ga** **58.45 79** ⇓P **P** **10 14 26.4 -0.3**
baz=58
535A **Dale** **58.51 81** ⇑P **P** **10 14 27.2 +0.1**
baz=58,SNR=7.2
H06E1 **SOCORRO T-PHAS** **58.58 100** T T 11 17 46.0
SNR=22
238A **Jacksonville** **58.59 77** ⇑P **P** **10 14 27.3 -0.3**
baz=58
BLO **Bloomington** **58.60 65** *e*P **P** **10 14 28.5 +0.9**
BLO pmax pmax
comp=Z,21nm,0.8s
BLO **Bloomington** **58.60 65** *e*P **P** **10 14 28.5 +0.9**
comp=Z,21nm,0.8s
833A **Chaparral WMA,** **58.61 83** ⇓P **P** **10 14 27.8 0.0**
baz=58,SNR=17
734A **La Parita Cree** **58.75 82** ⇓P **P** **10 14 29.0 +0.3**
baz=59,SNR=16
536A **Bastrop** **58.78 80** ⇓P **P** **10 14 29.0 0.0**
baz=59
USIN **University of** **58.79 67** *e*P **P** **10 14 28.5 -0.4**
comp=Z,36nm,0.5s
437A **Phantom Ranch,** **58.81 79** ⇓P **P** **10 14 29.7 +0.6**
baz=59
635A **Leesville** **58.84 81** ⇓P **P** **10 14 29.7 +0.3**
baz=59,SNR=17
239A **Gary** **58.97 77** ⇑P **P** **10 14 30.2 -0.1**
baz=59
933A **Laredo** **59.20 84** ⇑P **P** **10 14 32.2 +0.3**
baz=59,SNR=6.8
735A **Kenedy** **59.20 82** ⇓P **P** **10 14 32.3 +0.4**
baz=59
636A **Smothers Creek** **59.21 81** ⇑P **P** **10 14 32.5 +0.5**
baz=59,SNR=5.8
537A **Green Hill Far** **59.23 80** ⇑P **P** **10 14 32.7 +0.6**
baz=59
WCI **Wyandotte Cave** **59.38 66** *e*P **P** **10 14 32.6 -0.5**
WCI pmax pmax
comp=Z,18nm,0.8s
WCI **Wyandotte Cave** **59.38 66** *e*P **P** **10 14 32.5 -0.5**
comp=Z,18nm,0.8s
835A **Beeville** **59.59 82** ⇑P **P** **10 14 36.2 +1.6**
baz=60,SNR=6.8
HKT **Hockley** **59.62 79** *e*P **P** **10 14 35.0 +0.4**
HKT pmax pmax
comp=Z,12nm,0.9s
HKT **Hockley** **59.62 79** *e*P **P** **10 14 35.0 +0.4**
comp=Z,12nm,0.9s
934A **Benavides** **59.67 83** ⇓P **P** **10 14 35.8 +0.7**
baz=60
340A **Bronson** **59.74 77** ⇑P **P** **10 14 35.9 +0.3**
baz=60
ACSO **Alum Creek Sta** **59.82 62** *e*P **P** **10 14 35.7 -0.3**
comp=Z,12nm,0.9s
034A **Hebbronville** **59.95 84** ⇓P **P** **10 14 37.6 +0.5**
baz=60
WVT **Waverly** **59.98 69** *e*P **P** **10 14 36.8 -0.4**
WVT pmax pmax
comp=Z,26nm,1.1s
WVT **Waverly** **59.98 69** *e*P **P** **10 14 36.8 -0.4**
comp=Z,26nm,1.1s
ERPA **Erie** **60.10 59** *e*P **P** **10 14 37.7 -0.2**
comp=Z,26nm,0.9s
OXF **Oxford** **60.20 71** *e*P **P** **10 14 38.5 -0.2**
OXF pmax pmax
comp=Z,66nm,0.8s
OXF **Oxford** **60.20 71** *e*P **P** **10 14 38.5 -0.2**
comp=Z,66nm,0.8s
ALLY **Alegheny Colle** **60.35 59** *e*P **P** **10 14 39.5 -0.1**
comp=Z,89nm,0.8s
035A **Encino** **60.40 83** ⇓P **P** **10 14 40.9 +0.8**
baz=60
035Z **Hargill** **60.77 84** ⇓P **P** **10 14 43.0 +0.4**
baz=61
KURK **Kurchatov** **60.83 316** P **P** **10 14 42.9 +0.2**
comp=Z,131nm,0.6s,SNR=9.4
KURK **Kurchatov** **60.83 316** *e*P **P** **10 14 42.0 -0.7**
KURK pmax pmax
comp=Z,27nm,0.8s
KURK **Kurchatov** **60.83 316** *e*P **P** **10 14 42.0 -0.7**
comp=Z,27nm,0.8s
LONY **Lake Ozonia** **61.10 54** *e*P **P** **10 14 43.2 -1.4**
comp=Z,16nm,0.9s
BORG **Borgarnes** **61.47 13** P **P** **10 14 45.6 -1.2**
comp=Z,15nm,0.9s,baz=323,slow=10,SNR=2.8
SOKR **Solikamsk** **61.47 334** *e*P P 10 14 43.0 -3.8
SOKR pmax pmax
comp=Z,10.0nm,1.2s
WMQ **Urumqi** **61.65 306** ⇑*i*P **P** **10 14 48.8 +0.3**
WMQ pP **pP** **10 15 07.0 -0.9**
WMQ sP **sP** **10 15 14.0 -2.3**
WMQ PcP **PcP** **10 15 29.5 +0.2**
WMQ PP **PP** **10 17 07.0 +2.5**
WMQ *e*S **S** **10 23 04.0 -0.9**
WMQ PMZ
comp=Z,18nm,0.7s
WMQ PMZ
comp=Z,190nm,7.0s
WMQ LN
comp=Z,650nm,16.0s
WMQ LE
comp=Z,530nm,15.4s
WMQ LZ
comp=Z,910nm,24.5s
SZP **Santa** **61.68 262** *e*P **P** **10 14 49.7 +0.8**
comp=Z,251nm,1.1s
CD2 **Chengdu** **62.02 285** *e*P **P** **10 14 51.8 +0.7**
CD2 pP **pP** **10 15 13.2 +2.7**
CD2 sP **sP** **10 15 22.8 +3.9**
CD2 PP **PP** **10 17 11.1 +3.1**
CD2 PcS **PcS** **10 19 33.3 -1.0**
CD2 S **S** **10 23 07.2 -2.7**
CD2 sS **sS** **10 23 44.2 +1.3**
CD2 ScS **SKKSac** **10 24 31.8 -4.3**
CD2 SS **SS** **10 27 12.3 -0.7**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
CD2 LN
comp=Z,240nm,11.6s
CD2 LZ
comp=Z,340nm,12.1s
MK31 **Makanchi Array** **62.09 311** *i*P **P** **10 14 50.1 -1.3**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MKAR **Makanchi Array** **62.09 311** P **P** **10 14 50.4 -0.9**
comp=Z,12nm,0.8s,baz=54,slow=6.2,SNR=55
MKAR LR LR 10 42 16.7
comp=Z,89nm,20.5s,baz=32,slow=36
SSPA **Standing Stone** **62.27 59** *e*P **P** **10 14 52.4 -0.2**
comp=Z,24nm,0.8s
BVA0 **Borovoye Array** **62.38 322** *i*P **P** **10 14 52.7 -0.4**
BVA0 pmax pmax
comp=Z,19nm,0.8s
BVAR **Borovoye Array** **62.38 322** P **P** **10 14 53.3 +0.2**
comp=Z,14nm,0.5s,baz=54,slow=7.5,SNR=74
BVAR pP **pP** **10 15 10.0 -2.5**
comp=Z,14nm,0.7s,baz=52,slow=7.7,SNR=6.3
BVAR LR LR 10 43 56.3
comp=Z,202nm,21.6s,baz=33,slow=38
PRGR **Permogore** **62.39 340** *e*P **P** **10 14 51.3 -1.7**
PRGR *e* 10 15 30.4
PRGR pmax pmax
comp=Z,12nm,0.6s
BRVK **Borovoye** **62.40 322** P **P** **10 14 53.5 +0.3**
comp=Z,140nm,0.8s,SNR=7.3
ACCN **Adirondack Com** **62.45 54** *e*P **P** **10 14 53.1 -0.6**
comp=Z,9.4nm,0.7s
TKL **Tuckaleechee C** **62.63 66** P **P** **10 14 54.5 -0.6**
comp=Z,7.0nm,0.7s,baz=166,slow=0.8
LRAL **Lakeview Retre** **62.66 71** *e*P **P** **10 14 53.9 -1.4**
comp=Z,15nm,0.8s
PKME **Peaks-Kenny Pk** **63.19 50** P **P** **10 14 58.2 -0.4**
comp=Z,7.7nm,0.8s
BLA **Blacksburg** **63.38 63** *e*P **P** **10 15 00.1 +0.1**
BLA pmax pmax
comp=Z,35nm,0.8s
BLA **Blacksburg** **63.38 63** *e*P **P** **10 15 00.1 +0.1**
comp=Z,35nm,0.8s
GYA **Guiyang** **63.51 280** ⇑*i*P **P** **10 15 03.0 +1.9**
GYA pP **pP** **10 15 24.8 +4.2**
GYA PP **PP** **10 17 25.4 +4.1**
GYA ScP 10 19 32.3
GYA S **S** **10 23 28.6 0.0**
GYA SKS **SKKSac** **10 24 45.8 -1.8**
GYA SS **SS** **10 27 37.2 +0.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,540nm,19.8s
GYA LE
comp=Z,510nm,20.2s
GYA LZ
comp=Z,520nm,19.0s
VWCC **Virginia Weste** **63.59 63** P **P** **10 15 04.0 +2.5**
ARU **Arti** **63.63 331** *c i*P **P** **10 15 01.2 -0.1**
ARU 10 17 17.5
ARU S **S** **10 23 28.8 -0.3**
ARU pmax pmax
comp=Z,18nm,0.8s
JOF **Joensuu** **63.63 348** *e*P **P** **10 15 01.0 -0.2**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF **Joensuu** **63.63 348** *e*p **P** **10 15 01.0 -0.2**
comp=Z,5.1nm,0.5s
SDMD **Soldier's Deli** **63.71 59** *e*P **P** **10 15 02.1 0.0**
comp=Z,56nm,0.8s
BRNJ **Basking Ridge** **63.97 57** *e*P **P** **10 15 04.8 +1.1**
comp=Z,139nm,0.7s
CBN **Corbin Frederi** **64.31 60** *e*P **P** **10 15 05.4 -0.6**
comp=Z,28nm,0.6s
KMSC **Kings Mountain** **64.37 65** ⇑P **P** **10 15 06.5 -0.1**
baz=64,SNR=8.5
KMSC **Kings Mountain** **64.37 65** *e*P **P** **10 15 06.4 -0.1**
comp=Z,49nm,1.0s
JSRW **J. Sargeant Re** **64.41 61** *e*P **P** **10 15 06.6 -0.1**
GOGA **Godfrey** **64.43 68** *e*P **P** **10 15 06.1 -0.8**
GOGA pmax pmax
comp=Z,51nm,1.0s
GOGA **Godfrey** **64.43 68** *e*P **P** **10 15 06.1 -0.8**
comp=Z,51nm,1.0s
KAF **Kangasniemi** **65.02 350** *e*P **P** **10 15 08.0 -2.3**
KAF pmax pmax
comp=Z,8.0nm,0.5s
KAF **Kangasniemi** **65.02 350** *e*p **P** **10 15 08.0 -2.3**
comp=Z,7.9nm,0.5s
OTUK **Ortayu** **65.36 318** P **P** **10 15 12.2 -0.6**
OTUK pmax pmax
comp=Z,13nm,0.8s
FINES **FINESS Array B** **65.69 350** P **P** **10 15 13.6 -1.0**
comp=Z,3.2nm,0.5s,baz=23,slow=6.2,SNR=20
FINES LR LR 10 47 40.0
comp=Z,131nm,18.4s,baz=16,slow=39
PDGK **Podgornoye** **66.01 310** P **P** **10 15 16.4 -0.6**
PDGK pmax pmax
comp=Z,19nm,0.7s
KMI **Kunming** **66.87 281** P **P** **10 15 23.7 +0.7**
KMI pP **pP** **10 15 39.9 -2.8**
KMI PMZ
comp=Z,32nm,1.1s
KMI PMZ
comp=Z,170nm,5.1s
KMI LN
comp=Z,190nm,22.8s
KMI LE
comp=Z,190nm,19.4s
KMI LZ
comp=Z,200nm,30.1s
GENI **Genyem** **67.08 232** P **P** **10 15 25.0 +0.9**
comp=Z,64nm,0.8s
QIZ **Qiongzhong** **67.08 272** *e*P **P** **10 15 24.4 +0.3**
comp=Z,144nm,1.4s
NB2 **NORSAR Subarra** **67.11 358** P **P** **10 15 22.8 -0.9**
comp=Z,5.2nm,0.8s,baz=3.7,slow=6.5
NOA **NORSAR Array B** **67.11 358** P **P** **10 15 23.2 -0.5**
comp=Z,3.8nm,0.7s,baz=2.9,slow=6.4,SNR=16
NOA pP **pP** **10 15 42.3 -1.1**
comp=Z,7.2nm,0.8s,baz=1.5,slow=6.4,SNR=8.1
NOA LR LR 10 43 29.3
comp=Z,55nm,21.1s,baz=0.0,slow=35
TAOE **Nuku Hiva Isla** **67.14 144** *e*T T 11 28 20.6
comp=Z,100nm,0.2s
HFS **Hagfors** **67.93 356** LR LR 10 43 27.0
comp=Z,77nm,20.9s,baz=6.0,slow=34
TKM2 **Tokmak 2** **68.13 312** P **P** **10 15 30.6 -0.2**
SNR=18
TKM2 **Tokmak 2** **68.13 312** *i*P **P** **10 15 30.5 -0.2**
USP **Ospenovka** **68.35 313** P **P** **10 15 32.0 +0.1**
SNR=30
USP **Ospenovka** **68.35 313** *i*P **P** **10 15 32.0 +0.1**
CHMS **Chumysh** **68.45 313** P **P** **10 15 32.5 0.0**
SNR=8.9
CHMS **Chumysh** **68.45 313** *i*P **P** **10 15 32.5 0.0**
KBK **Karagaybulak** **68.63 313** P **P** **10 15 34.0 +0.2**
SNR=12
KBK **Karagaybulak** **68.63 313** *i*P **P** **10 15 34.0 +0.2**
FRU **Bishkek** **68.64 313** *e*P **P** **10 15 32.0 -1.7**
AAK **Ala-Archa** **68.85 313** P **P** **10 15 35.3 +0.1**
comp=Z,217nm,0.6s,SNR=32
AAK **Ala-Archa** **68.85 313** P **P** **10 15 35.2 +0.1**
SNR=28
AAK **Ala-Archa** **68.85 313** ⇓*i*P **P** **10 15 35.1 -0.1**
AAK pmax pmax
comp=Z,45nm,0.7s
AAK **Ala-Archa** **68.85 313** LR LR 10 47 15.4
comp=Z,130nm,21.7s,baz=16,slow=37
AAK **Ala-Archa** **68.85 313** *e*P **P** **10 15 34.8 -0.3**
comp=Z,25nm,0.8s
AKTO **Aktyubinsk** **68.90 328** P **P** **10 15 34.8 -0.3**
AKTO pmax pmax
comp=Z,28nm,0.8s
AKTO **Aktyubinsk** **68.90 328** LR LR 10 50 09.2
comp=Z,133nm,19.3s,slow=40
KZA **Kyzart** **68.95 312** P **P** **10 15 36.4 +0.3**
SNR=6.2
KZA **Kyzart** **68.95 312** *i*P **P** **10 15 36.3 +0.3**
SLVN **Son La** **68.99 278** *e*P **P** **10 15 36.2 0.0**
comp=Z,26nm,0.9s
EKS2 **Erkin-Say** **69.15 313** P **P** **10 15 37.3 +0.3**
SNR=36
EKS2 **Erkin-Say** **69.15 313** *i*P **P** **10 15 37.2 +0.3**
EKS2 **Erkin-Say** **69.15 313** *e*P **P** **10 15 37.1 +0.2**
comp=Z,26nm,0.7s
UCH **Uchtor** **69.17 313** P **P** **10 15 37.6 +0.1**
SNR=10
UCH **Uchtor** **69.17 313** *i*P **P** **10 15 37.6 +0.1**
AB31 **Akbulak array** **69.25 326** *i*P **P** **10 15 36.6 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR **Akbulak array** **69.25 326** *e*P **P** **10 15 37.2 -0.1**
comp=Z,7.7nm,0.6s
AML **Almayashu** **69.61 313** P **P** **10 15 40.5 +0.3**
SNR=32
AML **Almayashu** **69.61 313** *i*P **P** **10 15 40.5 +0.3**
CMIG **Matias Romero** **69.71 88** P **P** **10 15 40.3 -0.3**
comp=Z,15nm,1.0s,baz=325,slow=7.3,SNR=13
MNAS **Manas** **69.86 314** P **P** **10 15 41.1 -0.3**
MNAS pmax pmax
comp=Z,15nm,0.7s
MSVF **Nonsavu** **69.97 189** *e*P **P** **10 15 42.6 +0.6**
MSVF pmax pmax
comp=Z,51nm,1.2s
MSVF **Nonsavu** **69.97 189** *e*P **P** **10 15 42.5 +0.6**
comp=Z,51nm,1.2s
PMG **Port Moresby** **69.99 222** *e*P **P** **10 15 41.9 -0.3**
PMG pmax pmax
comp=Z,11nm,1.0s
PMG **Port Moresby** **69.99 222** *e*P **P** **10 15 41.9 -0.3**
comp=Z,11nm,1.0s
KK31 **Karatay Array** **70.24 316** *i*P **P** **10 15 42.9 -0.6**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR **Karatay Array** **70.24 316** *e*P **P** **10 15 42.9 -0.6**
KKAR pmax pmax
comp=Z,8.0nm,0.5s
KKAR **Karatay Array** **70.24 316** *e*P **P** **10 15 42.9 -0.6**
comp=Z,8.1nm,0.5s
OBN **Obninsk** **70.24 342** ⇑*e*P **P** **10 15 42.5 -0.7**
OBN *e* 10 16 01.5
OBN *e**PP **PcP** **10 16 06.8 +2.2**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN **Obninsk** **70.24 342** LR LR 10 50 54.2
comp=Z,161nm,20.8s,baz=84,slow=40
LSA **Lhasa** **70.25 293** P **P** **10 15 45.0 +0.7**
LSA PMZ
comp=Z,30nm,0.9s
LSA **Lhasa** **70.25 293** *e*P **P** **10 15 45.6 +1.3**
LSA pmax pmax
comp=Z,32nm,0.7s
LSA **Lhasa** **70.25 293** *e*P **P** **10 15 45.6 +1.3**
comp=Z,32nm,0.7s
PMOR **Pomariorio Ree** **70.45 154** *e*P **P** **10 15 44.9 0.0**
comp=Z,334nm,1.5s
PMOR **Pomariorio Ree** **70.45 154** *e*T T 11 32 27.1
comp=Z,36nm,0.2s
KSH **Kashi** **70.63 310** P **P** **10 15 49.2 +3.1**
KSH pP **PcP** **10 16 09.1 +2.4**
KSH PP PP 10 18 28.7 +5.9
KSH S **S** **10 24 53.3 -0.7**
KSH ScS **SKSac** **10 25 41.3 0.0**
KSH SS **SS** **10 29 28.7 +2.7**
KSH PMZ
comp=Z,30nm,0.9s
KSH LN
comp=Z,150nm,6.0s
KSH LE
comp=Z,160nm,5.0s
KSH LZ
comp=Z,230nm,13.0s
VAH **Vaihoa** **70.75 154** *e*P **P** **10 15 46.5 -0.2**
comp=Z,178nm,1.0s
FAKI **Fak Fak** **71.37 239** *e*P **P** **10 15 50.5 -0.1**
comp=Z,44nm,0.8s
FAKI *e*PcP **PcP** **10 16 08.2 -1.7**
SFK **Sufi-Kurgan** **71.39 312** P **P** **10 15 50.0 -0.8**
SFK pmax pmax
comp=Z,19nm,1.3s
CRAI **Chiangrai** **71.98 280** P **P** **10 15 51.4 -2.9**
comp=Z,52nm,0.9s
LBMI **Labuha** **72.04 244** P P 10 15 58.0 +3.3
comp=Z,44nm,1.1s
PPT **Papeete** **72.47 156** LR LR 10 40 21.1
comp=Z,272nm,20.2s,baz=329,slow=30
PPT2 **Papeete2** **72.49 156** *e*S **S** **10 25 11.9 -3.5**
comp=Z,98nm,31.2s
PPT2 **Papeete2** **72.49 156** *e*LR LR 10 38 00.4
comp=Z,555nm,29.2s,baz=342
PPT2 **Papeete2** **72.49 156** *e*T T 11 34 59.6
comp=Z,21nm,0.4s
TIAR **Tiarei** **72.51 156** *e*P **P** **10 15 57.2 -0.1**
comp=Z,17nm,0.8s
TIAR **Tiarei** **72.51 156** *e*T T 11 35 01.5
comp=Z,7.2nm,0.3s
PAE **Paea** **72.56 156** *e*T T 11 35 04.5
comp=Z,6.1nm,0.3s
EKA **Eskdalemuir Ar** **72.59 6** P **P** **10 15 55.6 -1.8**
comp=Z,2.0nm,0.6s,baz=7.6,slow=5.9,SNR=6.1
UBPT **Khong Chiam** **72.63 273** P **P** **10 15 58.5 +0.3**
comp=Z,107nm,1.1s,comp=Z,3µm
TVO **Taravao** **72.75 156** *e*P **P** **10 15 58.6 -0.2**
comp=Z,11nm,0.7s
TVO **Taravao** **72.75 156** *e*T T 11 35 19.5
comp=Z,1.3nm,0.3s
VRHR **Novokhopersk** **72.95 338** *e*P **P** **10 15 57.5 -2.1**
VRHR pmax pmax
comp=N,70nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.8s
SHL **Shillong** **72.97 290** *e*P **P** **10 16 00.0 -0.4**
CMAI **Chiengmai2** **73.01 281** P **P** **10 16 01.0 +0.4**
comp=E,44nm,1.1s
DLV **T Lat** **73.33 268** *e*P **P** **10 16 02.4 -0.2**
comp=E,186nm,1.6s
VSR **Storozhevoye** **73.39 339** *e*P **P** **10 16 00.6 -1.6**
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,30nm,1.1s
KHON **Khomkaen** **73.44 275** P **P** **10 16 03.4 +0.4**
comp=N,93nm,0.9s,comp=N,2µm
VORD **Divnogorie** **73.60 339** *e*P **P** **10 16 02.0 -1.4**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
TSM **Tawau** **73.61 256** ⇑P **P** **10 16 02.5 -1.5**
LAMP **Lampang** **73.73 279** P **P** **10 16 05.1 +0.4**
comp=E,12nm,1.0s,comp=E,112nm
UTTA **Uttaradit** **73.76 278** P **P** **10 16 04.8 0.0**
comp=E,44nm,0.8s,comp=E,305nm
CHTO **Chiang Mai** **73.92 280** *e*P **P** **10 16 05.6 -0.2**
CHTO pmax pmax
comp=Z,56nm,1.5s
CHTO **Chiang Mai** **73.92 280** *e*P **P** **10 16 05.6 -0.2**
comp=Z,56nm,1.5s
CHTO **Chiang Mai** **73.92 280** P **P** **10 16 05.7 -0.1**
comp=Z,148nm,1.1s,comp=Z,2µm
TAPN **Taplejung** **73.99 294** *e*P **P** **10 16 06.4 -0.1**
comp=Z,88nm,0.8s
SANI **Sanana** **74.05 245** P **P** **10 16 06.1 -0.4**
comp=Z,53nm,0.8s,comp=Z,474nm
CMAR **Chiang Mai Arr** **74.19 280** P **P** **10 16 07.8 +0.4**
comp=Z,34nm,0.8s,baz=26,slow=6.9,SNR=137
CMAR LR LR 10 50 54.6
comp=Z,27nm,19.7s,baz=125,slow=37
MRSI **Marisa** **74.28 250** P **P** **10 16 08.4 +0.5**
comp=Z,50nm,1.0s,comp=Z,565nm
PBKT **Sadao Pong** **74.40 277** P **P** **10 16 08.6 0.0**
comp=Z,68nm,0.9s,comp=Z,648nm
DZET **Dzherino** **74.48 314** P **P** **10 16 08.1 -0.8**
DZET pmax pmax
comp=Z,24nm,0.8s
ODAN **Odare** **74.55 294** *e*P **P** **10 16 09.4 -0.3**
GUN **Gumba** **74.58 296** *e*P **P** **10 16 10.0 0.0**
comp=Z,90nm,0.7s
JIRN **Jiri** **74.61 295** *e*P **P** **10 16 10.3 +0.2**
comp=Z,117nm,0.8s
RAMN **Ramite** **74.92 294** *e*P **P** **10 16 11.5 -0.3**
comp=Z,155nm,0.9s
KKN **Kakani** **75.01 296** *e*P **P** **10 16 12.1 -0.2**
comp=Z,24nm,0.6s
MHMT **Maesarieng** **75.02 280** P **P** **10 16 12.6 +0.4**
comp=Z,60nm,0.9s
LUWI **Luwuk** **75.04 248** P **P** **10 16 11.5 -0.8**
comp=Z,134nm,1.0s,comp=Z,1µm
LUWI **Luwuk** **75.04 248** *e*P **P** **10 16 11.2 -1.1**
comp=Z,88nm,0.8s
PKI **Pulchoki** **75.11 296** *e*P **P** **10 16 12.6 -0.4**
comp=Z,94nm,1.1s
PKIN **Phulchoki** **75.11 296** *e*P **P** **10 16 12.6 -0.3**
comp=Z,30nm,0.9s

GKN Gorkha 75.20 297 *e*P P 10 16 13.0 -0.3
comp=Z,71nm,0.6s
DANN Dangsing 75.41 297 *e*P P 10 16 14.7 0.0
comp=Z,147nm,0.8s
MPSI Mapaga 75.58 251 P P 10 16 15.5 +0.1
comp=Z,46nm,1.0s,comp=Z,502nm
AKASG Malin Array Be 75.75 345 P P 10 16 14.7 -1.1
comp=Z,2.4nm,0.3s,baz=16,slow=6.1,SNR=20
AKASG LR LR 10 54 30.1
comp=Z,118nm,20.4s,baz=10.0,slow=40
KIEV Kiev 75.75 345⇑ *e*P P 10 16 14.7 -1.2
KIEV Kiev 75.75 345 *e*P P 10 16 14.2 -1.6
comp=Z,4.4nm,0.4s
KOLN Koldanda 75.95 297 *e*P P 10 16 17.3 -0.4
comp=Z,26nm,0.6s
DZM Mont Dzumac 75.96 199 *e*LR LR 10 39 38.0
comp=Z,482nm,33.3s
DZM Mont Dzumac 75.96 199 *e*P P 10 16 17.9 +0.6
comp=Z,85nm,1.1s
PYUN Piuthan 76.03 298 *e*P P 10 16 17.8 -0.3
comp=Z,93nm,0.5s
CHBT CHBT 76.50 273 P P 10 16 21.2 +0.6
comp=Z,62nm,1.1s
PCI Palu 76.62 251 P P 10 16 21.9 +0.6
comp=Z,62nm,1.1s
CLL Collm 76.78 356 *i* P P 10 16 21.1 -0.6
CLL *i* *PP **pP** 10 16 39.9 -1.8
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 76.78 356 *i* P P 10 16 21.1 -0.6
comp=Z,16nm,1.3s
CLL *i* pP **pP** 10 16 39.9 -1.8
KSP Ksiaz 77.06 354⇓ *e*P P 10 16 22.7 -0.6
SRDT SRDT 77.24 277 P P 10 16 25.1 +0.3
comp=Z,330nm,1.1s
OJC Ojcow 77.39 351 *e*P P 10 16 24.0 -1.2
MEM Membach 77.62 0 P P 10 16 25.8 -0.6
KWP Kalwaria Pacla 77.67 349 *e*P P 10 16 26.5 -0.2
KWP Kalwaria Pacla 77.67 349 *e*P P 10 16 26.4 -0.2
KWP Kalwaria Pacla 77.67 349 *i*P P 10 16 26.6 -0.2
KWP Kalwaria Pacla 77.67 349 *e*P P 10 16 25.9 -0.8
comp=Z,13nm,0.6s
BCLA Clavier 77.81 1 P P 10 16 25.5 -1.9
KBL Kabul 77.90 312 *e*P P 10 16 27.4 -1.1
KBL pmax pmax
comp=Z,11nm,0.6s
KBL Kabul 77.90 312 *e*P P 10 16 27.4 -1.1
comp=Z,10nm,0.6s
STHS Stebnicka Huta 78.05 350 *e*P P 10 16 29.0 +0.2
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 78.05 350 *e*P P 10 16 29.0 +0.2
TBI Tubuai 78.05 158 *e*S S 10 26 12.6 -4.0
comp=Z,120nm,42.8s
TBI Tubuai 78.05 158 *e*LR LR 10 40 35.7
comp=Z,444nm,26.8s,baz=337
TBI Tubuai 78.05 158 *e*T T 11 41 56.0
comp=Z,56nm,0.2s
GIVF Givet 78.12 1 *e*P P 10 16 28.0 -1.2
GIVF Givet 78.12 1 *e*P P 10 16 28.0 -1.2
GIVF Givet 78.12 1 *e*P P 10 16 28.0 -1.2
BAIF Baives 78.16 2 *e*P P 10 16 28.9 -0.5
comp=Z,13nm,0.8s
BAIF Baives 78.16 2 *e*P P 10 16 28.9 -0.5
BAIF pmax pmax
comp=Z,13nm,0.8s
BAIF Baives 78.16 2 *e*P P 10 16 28.9 -0.5
comp=Z,13nm,0.8s
TTSI Tana Toraja 78.36 249 P P 10 16 31.5 +0.5
comp=Z,42nm,1.0s
KOLS Kolonicke sedl 78.41 349 *e*P P 10 16 30.6 -0.2
KOLS pmax pmax
comp=Z,13nm,1.5s
KOLS Kolonicke sedl 78.41 349 *e*P P 10 16 30.6 -0.2
GRF Grafenberg Arr 78.46 357 *e*P P 10 16 31.2 +0.1
comp=Z,15nm,0.9s
SBUM Sibu 78.47 259 ⇑P P 10 16 32.6 +1.0
CRVS Cervenica-Dubn 78.53 350 *e*P P 10 16 31.2 -0.3
CRVS pmax pmax
comp=Z,21nm,2.1s
CRVS Cervenica-Dubn 78.53 350 *e*P P 10 16 31.1 -0.4
VRAC Vranov 78.56 353 ⇑ *i*P P 10 16 32.1 +0.4
VRAC Vranov 78.56 353 P P 10 16 31.7 0.0
comp=Z,11nm,0.7s,baz=72,slow=3.2
UZH Uzhgorod 78.71 349 *e*P P 10 16 31.2 -1.2
UZH *e* 10 16 36.6
KHC Kasperske Hory 78.93 355 *e*P P 10 16 33.0 -0.7
KHC *e* 10 16 44.5
KHC Kasperske Hory 78.93 355 *e*P P 10 16 33.0 -0.7
KHC *e*PCP **PcP** 10 16 44.5 +2.4
KHC Kasperske Hory 78.93 355 *e*P P 10 16 33.1 -0.7
comp=Z,46nm,1.6s
KECS Kecovo 79.05 351 *e*P P 10 16 33.8 -0.5
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 79.05 351 *e*P P 10 16 33.8 -0.5
SPSI Sidrap Palu 79.14 249 P P 10 16 36.6 +1.4
comp=Z,18nm,0.9s
TRPA Tarpa 79.17 349 ⇑ *i*P P 10 16 35.0 0.0
VYHS Vyhne 79.19 352 *e*P P 10 16 35.0 -0.1
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 79.19 352 *e*P P 10 16 35.0 -0.1
GERES GERESS Array B 79.20 355 P P 10 16 35.1 -0.2
comp=Z,4.3nm,0.7s,baz=18,slow=4.6,SNR=30
BNSI Bone 79.30 248 P P 10 16 38.1 +2.0
comp=Z,23nm,1.1s
KIV Kislovodsk 79.32 334 *e*P P 10 16 35.2 -0.8
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,108nm,18.0s
BURAR Bucovina Array 79.34 347 ⇑ *i*P P 10 16 35.5 -0.6
KBZ Khabaz 79.47 334 P P 10 16 36.6 -0.1
comp=Z,7.0nm,0.8s,baz=40,slow=2.3,SNR=14
KBZ LR LR 10 55 54.2
comp=Z,160nm,21.9s,baz=7.5,slow=39
GRR Gorron 79.65 5 *e*P P 10 16 36.8 -0.8
GRR Gorron 79.65 5 *e*P P 10 16 36.8 -0.8
GRR Gorron 79.65 5 *e*P P 10 16 36.8 -0.8
GEYT Alibeck 79.67 321 P P 10 16 37.9 -0.1
comp=Z,10nm,1.0s,baz=353,slow=6.4,SNR=10
GEYT LR LR 10 55 42.1
comp=Z,103nm,18.6s,baz=15,slow=38
PAGF Fort de Pagny 79.68 1 *e*P P 10 16 37.7 0.0
comp=Z,9.4nm,0.8s
PAGF Fort de Pagny 79.68 1 *e*P P 10 16 37.7 0.0
comp=Z,9.4nm,0.8s
MEZF Maizieres J'vi 79.73 1 *e*P P 10 16 37.5 -0.5
MEZF Maizieres J'vi 79.73 1 *e*P P 10 16 37.5 -0.5
CDF Champ du Feu 79.82 360 *e*P P 10 16 38.1 -0.5
comp=Z,11nm,0.6s
CDF Champ du Feu 79.82 360 *e*P P 10 16 38.1 -0.5
CDF pmax pmax
comp=Z,11nm,0.6s
CDF Champ du Feu 79.82 360 *e*P P 10 16 38.1 -0.5
comp=Z,11nm,0.6s
BFO Black Forest 79.89 359 *i*P P 10 16 38.9 0.0
CONA Conrad Observa 79.99 354 *i*P P 10 16 39.7 +0.2
comp=Z,11nm,0.7s,SNR=7.1
ECH Echery 80.02 360 *e*P P 10 16 39.1 -0.5
ECH pmax pmax
comp=Z,14nm,0.9s
ECH Echery 80.02 360 *e*P P 10 16 39.1 -0.5
comp=Z,14nm,0.9s
SFTF Sexfontaines 80.02 1 *e*P P 10 16 39.1 -0.5
comp=Z,27nm,0.7s
SFTF Sexfontaines 80.02 1 *e*P P 10 16 39.1 -0.5
comp=Z,27nm,0.7s
CTAO Charters Tower 80.04 218 *e*P P 10 16 39.8 -0.1
CTAO pmax pmax
comp=Z,36nm,1.1s
CTAO Charters Tower 80.04 218 *e*P P 10 16 39.8 -0.1
comp=Z,36nm,1.1s
BKSI Bulukumba 80.04 248 P P 10 16 40.3 +0.2
comp=Z,46nm,0.9s,comp=Z,706nm
ZEI Tsey 80.07 333 *e*P P 10 16 36.9 -3.3
ZEI pmax pmax
comp=Z,9.0nm,0.6s
HAU Haudompre 80.23 0 *e*P P 10 16 40.1 -0.7
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,120nm,21.8s
HAU Haudompre 80.23 0 *e*P P 10 16 40.1 -0.7
HAU pmax pmax
comp=Z,17nm,0.8s
HAU Haudompre 80.23 0 *e*P P 10 16 40.1 -0.7
comp=Z,17nm,0.8s
KSM Kuching 80.40 260 P P 10 16 42.7 +0.6
comp=Z,70nm,1.2s
HINF Hinteralfeld 80.42 360 *e*P P 10 16 41.0 -0.8
comp=Z,11nm,0.7s
HINF Hinteralfeld 80.42 360 *e*P P 10 16 41.0 -0.8
HINF pmax pmax
comp=Z,11nm,0.7s
HINF Hinteralfeld 80.42 360 *e*P P 10 16 41.0 -0.8
comp=Z,11nm,0.7s
DRGR 80.47 349 ⇓ *i*P P 10 16 41.8 -0.3
ARSA Arzberg 80.69 354 ⇑ *i*P P 10 16 43.7 +0.5
comp=Z,7.8nm,0.8s
STKI Sintang 80.81 258 P P 10 16 48.8 +4.5
comp=Z,35nm,0.5s,comp=Z,15µm
MOTA Moosalm 80.81 357 ⇑ *i*P P 10 16 44.0 -0.1
comp=Z,7.5nm,1.0s
VRI Vrincioaia 80.84 346 ⇑ *i*P P 10 16 42.1 -1.9
WTTA Wattenberg 80.88 356 ⇓ *i*P P 10 16 44.4 0.0
comp=Z,9.3nm,0.7s
LOR Lormes 80.94 2 *e*P P 10 16 43.8 -0.8
comp=Z,12nm,0.7s
LOR *e*R
comp=Z,121nm,22.2s
LOR Lormes 80.94 2 *e*P P 10 16 43.8 -0.8
LOR pmax pmax
comp=Z,12nm,0.7s
LOR Lormes 80.94 2 *e*P P 10 16 43.8 -0.8
comp=Z,12nm,0.7s
KBA Koelnbreinsper 80.99 355 *i*P P 10 16 45.3 +0.3
comp=Z,24nm,0.7s,SNR=17
JTS JuntasAbangare 81.05 85 P P 10 16 46.0 +0.4
JTS JuntasAbangare 81.05 85 P P 10 16 46.0 +0.4
comp=Z,4.6nm,0.9s,baz=344,slow=20,SNR=2.7
SSF Saint Saulge 81.14 2 *e*P P 10 16 45.0 -0.6
comp=Z,11nm,0.6s
SSF Saint Saulge 81.14 2 *e*P P 10 16 45.0 -0.6
SSF pmax pmax
comp=Z,11nm,0.6s
SSF Saint Saulge 81.14 2 *e*P P 10 16 45.0 -0.6
comp=Z,11nm,0.6s
FETA Feichten 81.15 357 ⇑ *i*P P 10 16 46.2 +0.3
comp=Z,11nm,0.9s,SNR=5.9
TLCR 81.17 344 ⇓ *i*P P 10 16 46.2 +0.5
CFR Carcaliu 81.29 345 ⇑ *i*P P 10 16 45.9 -0.5
SOKA Soboth 81.29 354 *i*P P 10 16 46.5 0.0
comp=Z,13nm,0.8s,SNR=10
MLR Muntele Rosu 81.32 346 ⇑ *i*P P 10 16 47.6 +0.8
PERS Pernice 81.33 354 *i*P P 10 16 46.5 -0.2
SOEI Soe 81.37 242 *e*P P 10 16 46.6 -0.7
comp=Z,34nm,0.8s
AVF Avril sur Loir 81.41 2 *e*P P 10 16 46.4 -0.6
comp=Z,12nm,0.8s
AVF Avril sur Loir 81.41 2 *e*P P 10 16 46.4 -0.6
AVF pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 81.41 2 *e*P P 10 16 46.4 -0.6
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 81.41 358 P P 10 16 47.4 +0.1
comp=Z,8.1nm,0.6s,baz=352,slow=14
MFF Saint Martin d 81.47 5 *e*P P 10 16 46.8 -0.5
MFF Saint Martin d 81.47 5 *e*P P 10 16 46.8 -0.5
MFF Saint Martin d 81.47 5 *e*P P 10 16 46.8 -0.5
OBKA Obir 81.49 354 ⇑ *i*P P 10 16 47.5 0.0
comp=Z,7.3nm,0.7s
VOIR 81.50 347 ⇑ *i*P P 10 16 47.8 +0.2
SURT Suratani 81.62 274 P P 10 16 49.2 +0.6
comp=Z,89nm,0.9s,comp=Z,792nm
CABF La Chapelle 81.62 0 *e*P P 10 16 48.1 -0.2
comp=Z,36nm,1.0s
CABF La Chapelle 81.62 0 *e*P P 10 16 48.1 -0.2
CABF pmax pmax
comp=Z,36nm,1.0s
CABF La Chapelle 81.62 0 *e*P P 10 16 48.1 -0.2
comp=Z,36nm,1.0s
ARR Arges 81.63 347 ⇑ *i*P P 10 16 48.6 +0.3
TUE Stuetta 81.73 358 *e*P P 10 16 49.2 +0.1
comp=Z,19nm,1.1s
BZS Buzias 81.76 349 ⇓ *i*P P 10 16 48.4 -0.5
GZR Gura Zlata 81.84 349 ⇑ *i*P P 10 16 49.1 -0.3
TCF Toulx Ste Croi 81.88 3 *e*P P 10 16 48.8 -0.8
TCF Toulx Ste Croi 81.88 3 *e*P P 10 16 48.8 -0.8
TCF Toulx Ste Croi 81.88 3 *e*P P 10 16 48.8 -0.8
TLB Topalu 81.88 345 ⇑ *i*P P 10 16 49.8 +0.3
TIRR Tirgusor 81.94 344 ⇓ *i*P P 10 16 50.2 +0.4
RKT Rikitea 82.15 145 *e*LR LR 10 42 30.9
comp=Z,596nm,33.2s,baz=336
RKT Rikitea 82.15 145 *e*T T 11 47 05.3
comp=Z,8.1nm,0.3s
LPL La Plagne 82.72 360 *e*P P 10 16 54.5 +0.3
LPL La Plagne 82.72 360 *e*P P 10 16 54.5 +0.3
LPL La Plagne 82.72 360 *e*P P 10 16 54.5 +0.3
PKDT Phuket 82.73 273 P P 10 16 55.2 +0.8
comp=Z,133nm,0.9s
LPG La Plagne 82.74 360 *e*P P 10 16 54.8 +0.4
LPG La Plagne 82.74 360 *e*P P 10 16 54.8 +0.4
LPG La Plagne 82.74 360 *e*P P 10 16 54.8 +0.4
RJF Les Rejaudoux 82.84 4 *e*P P 10 16 54.1 -0.4
RJF *e*R
comp=Z,152nm,22.0s
RJF Les Rejaudoux 82.84 4 *e*P P 10 16 54.1 -0.4
RJF Les Rejaudoux 82.84 4 *e*P P 10 16 54.1 -0.4
CHLP Challavanipeta 82.99 291 *e*P P 10 16 55.5 -0.2
LFF La Frestale 83.17 4 *e*P P 10 16 55.9 -0.3
LFF La Frestale 83.17 4 *e*P P 10 16 55.9 -0.3
LFF La Frestale 83.17 4 *e*P P 10 16 55.9 -0.3
BNI Bardonecchia 83.19 360 *e*P P 10 16 57.4 +0.9
BNI pmax pmax
comp=Z,23nm,1.1s
BNI Bardonecchia 83.19 360 *e*P P 10 16 57.4 +0.9
comp=Z,23nm,1.1s
EIDS Eidsvold 83.19 212 *e*P P 10 16 56.5 +0.1
comp=Z,26nm,0.9s
EIDS *e*PcP **PcP** 10 17 00.8 +0.1
EIDS *e*pP pP 10 17 22.1 +5.4
ORIF Oris-en-Rattie 83.32 0 *e*P P 10 16 57.1 0.0
ORIF *e*R
comp=Z,68nm,19.0s
ORIF Oris-en-Rattie 83.32 0 *e*P P 10 16 57.1 0.0
ORIF Oris-en-Rattie 83.32 0 *e*P P 10 16 57.1 0.0
KULM Kulim 83.33 270 *e*P P 10 16 57.9 +0.4
comp=Z,48nm,0.8s
KULM *e*PcP **PcP** 10 17 01.0 -0.8
VIVF Saint-Julien-l 83.37 1 *e*P P 10 16 57.1 -0.2
comp=Z,8.2nm,0.7s
VIVF Saint-Julien-l 83.37 1 *e*P P 10 16 57.1 -0.2
VIVF pmax pmax
comp=Z,8.0nm,0.7s
VIVF Saint-Julien-l 83.37 1 *e*P P 10 16 57.1 -0.2
comp=Z,8.2nm,0.7s
MBDF Montbardon 83.51 360 *e*P P 10 16 58.5 +0.3
comp=Z,25nm,0.9s
MBDF Montbardon 83.51 360 *e*P P 10 16 58.5 +0.3
MBDF pmax pmax
comp=Z,25nm,0.9s
MBDF Montbardon 83.51 360 *e*P P 10 16 58.5 +0.3
comp=Z,25nm,0.9s
IPM Ipoh 83.73 269 *e*P P 10 16 59.8 +0.2
comp=Z,56nm,0.8s
IPM *e*PcP **PcP** 10 17 03.1 -0.4
SMRF Simiane la Rot 84.26 1 *e*P P 10 17 02.4 +0.5
comp=Z,76nm,1.3s
SMRF Simiane la Rot 84.26 1 *e*P P 10 17 02.4 +0.5
comp=Z,76nm,1.3s
SBF Sospel 84.37 359 *e*P P 10 17 01.9 -0.6
comp=Z,57nm,0.8s
SBF Sospel 84.37 359 *e*P P 10 17 01.9 -0.6
SBF pmax pmax
comp=Z,57nm,0.8s
SBF Sospel 84.37 359 *e*P P 10 17 01.9 -0.6
comp=Z,57nm,0.8s
VTS Vitosha 84.55 348 ⇑ *i*P P 10 17 02.9 -0.6
FRF La Foret Royal 84.68 360 *e*P P 10 17 03.5 -0.4
comp=Z,15nm,0.6s
FRF La Foret Royal 84.68 360 *e*P P 10 17 03.5 -0.4
FRF pmax pmax
comp=Z,15nm,0.6s
FRF La Foret Royal 84.68 360 *e*P P 10 17 03.5 -0.4
comp=Z,15nm,0.6s
MTLF Montolieu 84.82 3 *e*P P 10 17 04.4 -0.3
MTLF Montolieu 84.82 3 *e*P P 10 17 04.4 -0.3
MTLF Montolieu 84.82 3 *e*P P 10 17 04.4 -0.3
LMR La Mourre 84.90 0 *e*P P 10 17 04.8 -0.3
comp=Z,37nm,1.0s
LMR La Mourre 84.90 0 *e*P P 10 17 04.8 -0.3
LMR pmax pmax
comp=Z,37nm,1.0s
LMR La Mourre 84.90 0 *e*P P 10 17 04.8 -0.3
comp=Z,37nm,1.0s
WRAB Tennant Creek 84.92 228 P P 10 17 04.2 -1.1
comp=Z,101nm,1.1s,SNR=9.9
WRAB Tennant Creek 84.92 228 *c* *i*P P 10 17 04.4 -0.9
WRAB pmax pmax
comp=Z,54nm,1.2s
WRAB Tennant Creek 84.92 228 *e*P P 10 17 04.5 -0.9
comp=Z,34nm,1.2s
WB2 Warramunga Arr 84.93 228 *e*P P 10 17 04.5 -0.8
WRA Warramunga Arr 84.93 228 P P 10 17 04.6 -0.8
comp=Z,7.2nm,0.7s,baz=32,slow=5.7,SNR=60
WRA pP **pP** 10 17 22.3 -3.5
comp=Z,11nm,0.6s,baz=32,slow=5.7,SNR=11
WRA PKKP **PKKPdf** 10 35 04.3 -0.1
comp=Z,0.3nm,0.7s,baz=312,slow=1.7,SNR=4.6
WRA LR LR 10 52 04.0
comp=Z,53nm,20.4s,baz=20,slow=34
EPF Esparros 85.05 5 *e*P P 10 17 05.6 -0.3
EPF Esparros 85.05 5 *e*P P 10 17 05.6 -0.3
EPF Esparros 85.05 5 *e*P P 10 17 05.6 -0.3
ETSF Etsaut 85.14 5 *e*P P 10 17 06.2 -0.2
comp=Z,12nm,0.7s
ETSF Etsaut 85.14 5 *e*P P 10 17 06.2 -0.2
ETSF pmax pmax
comp=Z,12nm,0.7s
ETSF Etsaut 85.14 5 *e*P P 10 17 06.2 -0.2
comp=Z,12nm,0.7s
KDZ Kurdzhali 85.16 346 ⇑ *i*P P 10 17 06.8 +0.4
RPR Rampur 85.41 295 *e*P P 10 17 07.7 -0.3
DSRI Dabo 85.43 263 P P 10 17 10.1 +2.0
comp=Z,137nm,1.2s,comp=Z,4µm
MMB Musomiste 85.46 347 ⇓ *i*P P 10 17 08.5 +0.6
BRTR Keskin Array B 85.51 339 P P 10 17 08.4 0.0
comp=Z,6.7nm,0.9s,baz=35,slow=2.3,SNR=22
BRTR pP **pP** 10 17 26.4 -2.4
comp=Z,2.2nm,0.8s,baz=31,slow=1.4,SNR=3.5
BRTR LR LR 10 59 12.7
comp=Z,63nm,21.8s,baz=37,slow=38
CRPR Cabo Rojo, PR 85.59 66 *e*P P 10 17 08.2 -0.6
PGF Pioggiola 85.66 358 *e*P P 10 17 07.7 -1.3
comp=Z,26nm,0.7s
PGF Pioggiola 85.66 358 *e*P P 10 17 07.7 -1.3
PGF pmax pmax
comp=Z,26nm,0.7s
PGF Pioggiola 85.66 358 *e*P P 10 17 07.7 -1.3
comp=Z,26nm,0.7s
MALT Malatya 85.72 335 ⇑ *i*P P 10 17 08.2 -1.2
KCSI Kotacane, Aceh 86.49 271 P P 10 17 13.8 +0.5
comp=Z,30nm,1.1s,comp=Z,482nm
BKNI Bangkinang 86.97 267 P P 10 17 17.2 +1.5
comp=Z,192nm,1.0s,comp=Z,6µm
BKNI Bangkinang 86.97 267 *e*P P 10 17 15.7 0.0
comp=Z,130nm,0.8s
HYBB Hyderabad (bro 86.98 295 *e*P P 10 17 14.7 -1.1
HYB Hyderabad 86.98 295 *i*P P 10 17 13.5 -2.3
NJS Nagarjunasagar 87.25 293 *e*P P 10 17 15.7 -1.4
ADKI Addanki 87.45 293 *e*P P 10 17 17.7 -0.2
MNSI Mandailing Nat 87.50 268 P P 10 17 17.8 -0.4
comp=Z,39nm,0.9s
ARMA Armidale 87.72 210 *e*P P 10 17 19.9 +1.0
comp=Z,84nm,1.5s
SDSI Sungai Dareh 87.72 266 P P 10 17 22.7 +3.5
comp=Z,93nm,1.6s,comp=Z,14µm
ESDC Sonseca Array 88.10 8 P P 10 17 19.5 -1.3
comp=Z,2.4nm,0.7s,baz=354,slow=4.5,SNR=12
ESDC LR LR 10 57 58.1
comp=Z,11nm,18.6s,baz=185,slow=36
SNSI Sinabang, Aceh 88.25 272 P P 10 17 25.6 +3.8
comp=Z,247nm,1.1s,comp=Z,12µm
PDSI Padang 88.30 266 P P 10 17 21.8 -0.2
comp=Z,41nm,1.0s,comp=Z,9µm
AS31 Alice Springs 88.36 227 *e*P P 10 17 22.1 +0.1
ASAR Alice Springs 88.36 227 P P 10 17 22.1 0.0
comp=Z,20nm,0.8s,baz=30,slow=5.2,SNR=223
ASAR pP **pP** 10 17 39.6 -3.0
comp=Z,22nm,0.7s,baz=22,slow=4.9,SNR=12
ASAR PKKPbc **PKKPbc** 10 35 04.8 +1.5
comp=Z,0.4nm,0.7s,baz=193,slow=1.5,SNR=5.8
ASAR LR LR 10 53 03.1
comp=Z,73nm,19.6s,baz=10,slow=33
SKHT Srikalahasti 89.28 292 *e*P P 10 17 26.2 -0.4
URV Uravakonda 89.70 294 *e*P P 10 17 27.8 -0.8
SDV Santo Domingo 90.82 74 *e*P P 10 17 34.8 +0.7
comp=Z,14nm,0.8s
OTAV Otavalo 92.90 86 *e*P P 10 17 44.6 +0.6
comp=Z,9.6nm,0.9s
PALK Pallekele 93.89 287 *i*P P 10 17 48.3 +0.2
PALK Pallekele 93.89 287 *e*P P 10 17 47.8 -0.3
comp=Z,27nm,1.1s
TORD Torodi Ar. Bea 114.85 5 PKP PKPdf 10 23 10.2 -0.6
comp=Z,3.4nm,0.7s,baz=344,slow=2.5,SNR=25
TORD SKP 10 26 38.5
comp=Z,0.7nm,0.7s,baz=346,slow=2.4,SNR=4.9
TORD PKKPbc **PKKPbc** 10 33 43.9 -1.7
comp=Z,1.9nm,0.9s,baz=144,slow=2.1,SNR=10
TORD PKKP **PKKPdf** 10 34 06.6 -1.2
comp=Z,1.6nm,0.8s,baz=175,slow=3.7,SNR=4.4
DBIC Dimbokro 120.61 13 PKP **PKPdf** 10 23 21.1 -0.9
comp=Z,2.7nm,0.4s,baz=7.5,slow=3.0,SNR=10
DBIC PKKPbc **PKKPbc** 10 33 25.5 +0.4
comp=Z,3.9nm,0.8s,baz=230,slow=4.4,SNR=5.8
TIC Toumodi 120.61 13 *e*PKIKP **PKPdf** 10 23 21.4 -0.6
comp=Z,11nm,0.2s
KIC Kosan Boka 120.93 13 *e*PKIKP **PKPdf** 10 23 22.0 -0.6
comp=Z,23nm,1.1s
LIC Lamto 121.03 13 *e*PKIKP **PKPdf** 10 23 22.2 -0.6
comp=Z,15nm,0.6s
KMBO Kilima Mbogo 123.03 322 *e*PKIKP **PKPdf** 10 23 27.4 +0.4
KMBO Kilima Mbogo 123.03 322 PKP **PKPdf** 10 23 27.9 +0.9
comp=Z,9.0nm,0.9s,baz=334,slow=2.0,SNR=18
KMBO Kilima Mbogo 123.03 322 *e*PKPdf **PKPdf** 10 23 27.4 +0.4
KMBO PKP **PKPdf** 10 23 27.9 +0.9
BDFB Brasilia 123.73 71 PKP **PKPdf** 10 23 27.8 -0.1
comp=Z,2.1nm,0.5s,baz=160,slow=11,SNR=3.2
VNDA Vanda 130.31 187 SKPbc **SKPbc** 10 26 55.0 +0.2
comp=Z,10nm,0.9s,baz=344,slow=4.2,SNR=25
TRQA Tornquist 131.42 102 *e*PKPdf **PKPdf** 10 23 41.3 -0.6
OPO Ambohidratompo 133.85 301 PKP **PKPdf** 10 23 47.9 +0.7
comp=Z,3.7nm,0.8s,baz=72,slow=4.5,SNR=3.3
OPO SKPbc **SKPbc** 10 27 09.5 +0.2
comp=Z,29nm,1.2s,baz=31,slow=4.0,SNR=12
LSZ Lusaka 139.38 327 PKhKP PKPpre 10 23 53.3
comp=Z,3.0nm,0.6s,baz=80,slow=7.8,SNR=2.6
LSZ SKPbc **SKPbc** 10 27 26.2 +0.2
comp=Z,10.0nm,0.9s,baz=36,slow=6.4,SNR=7.0
QSPA South Pole Qui 141.90 180 *e*PKPdf PKPdf 10 23 54.4 -5.9
PMSA Palmer Station 143.07 138 PKhKP PKPpre 10 23 58.3
comp=Z,20nm,0.8s,baz=184,slow=0.9,SNR=3.6
TSUM Tsumeb 146.00 341 PKPbc **PKPdf** 10 24 09.5 +0.4
comp=Z,20nm,0.7s,baz=0.5,slow=6.0,SNR=27
TSUM SKPbc **SKiKP** 10 27 43.2 +0.6
comp=Z,8.3nm,0.8s,baz=335,slow=3.5,SNR=6.0
TSUM Tsumeb 146.00 341 *e*PKPbc **PKPbc** 10 24 09.7 -0.2
TSUM *e*PKPab **PKPab** 10 24 10.8 +0.2
TSUM SKPbc **SKiKP** 10 27 43.2 +0.6
MAW Mawson 149.13 218 PKPbc **PKPbc** 10 24 17.3 +0.4
comp=Z,26nm,0.8s,baz=100,slow=3.3,SNR=16
LBTB Lobatse 149.28 325 *e*PKHKP PKPpre 10 24 15.0
LBTB 10 24 19.1
LBTB 10 27 49.7
LBTB Lobatse 149.28 325 PKPbc **PKPbc** 10 24 19.1 +0.4
comp=Z,48nm,0.7s,baz=28,slow=1.3,SNR=31
LBTB SKPbc 10 27 49.7
baz=56,slow=7.0
LBTB Lobatse 149.28 325 *e*PKPdf **PKPdf** 10 24 15.0 +0.6
LBTB *e*PKPbc **PKPbc** 10 24 18.9 +0.2
LBTB PKPbc **PKPbc** 10 24 19.1 +0.4
LBTB *e*PKPab **PKPab** 10 24 23.3 -0.1
LBTB SKPbc 10 27 49.7
BOSA Boshof 152.67 322 *e*PKIKP **PKPdf** 10 24 19.6 +0.1
BOSA Boshof 152.67 322 PKPbc **PKPbc** 10 24 26.7 +0.1
comp=Z,38nm,0.6s,baz=34,slow=2.0,SNR=20
BOSA Boshof 152.67 322 *e*PKPdf **PKPdf** 10 24 19.6 +0.1
BOSA *e*PKPbc **PKPbc** 10 24 26.7 +0.1
VNA3 Neumayer Olymp 159.49 165 P PKPdf 10 24 43.4 +16
SNAA Sanae 159.96 171 P PKPab 10 25 00.8 -6.8
VNA2 Neumayer--Watz 160.12 167 P **PKPab** 10 25 07.4 -0.8
baz=245,slow=1.9
VNA1 Neumayer--Stat 160.24 165 P **PKPab** 10 25 07.9 -0.8

*IDC **07** 10:15:09.2±1.3,37°.88N×20°.93E,h0km,mb3.4/8, mb1 3.5/8,mb1mx3.3/55,mbtmp3.4/8,Error ellipse: s-maj=30.5km s-min=24.6km az=146.0*
*ISCJB **07** 10:15:10.7±0.5,37°.79N±0°.02×21°.15E±0°.03,h7km±3km, mb3.3/8,Error ellipse: s-maj=4.0km s-min=3.0km az=154.9*
*THE **07** 10:15:11.6,37°.83N×21°.14E,h21km±1km,ML3.6/8,Error ellipse: s-maj=1.7km s-min=0.9km az=31.0*
*ATH **07** 10:15:11.1,37°.85N±21°.18E,h7km±1km,MD3.3/38,ML3.3*
*CSEM **07** 10:15:11.5±0.2,37°.82N×21°.22E,h2km,ML3.6,Error ellipse: s-maj=4.9km s-min=3.6km az=63.0*

ISC 07 10:15:12.0±0.8,37°.81N±0°.02×21°.16E±0°.02,h19km±2km, n115,σ1§22/155,mb3.4/8,1D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.11**	**10**	P	**Pg**	**10 15 15.4**	**-0.4**
VTN				S	**Sg**	**10 15 19.3**	**+0.9**
VTN	**Vitineika**	**0.11**	**10**	P	**Pg**	**10 15 15.4**	**-0.4**
VTN				S	**Sg**	**10 15 18.5**	**+0.1**
RLS	**Riolos of Patr**	**0.34**	**44**	P	**Pg**	**10 15 18.2**	**-1.1**
RLS				S	**Sb**	**10 15 24.7**	**0.0**
RLS	**Riolos of Patr**	**0.34**	**44**	*e*PB	**Pg**	**10 15 18.0**	**-1.3**
RLS	**Riolos of Patr**	**0.34**	**44**	*e*Pb	**Pg**	**10 15 18.0**	**-1.3**
KFL	**Anninata**	**0.42**	**315**	P	**Pg**	**10 15 19.6**	**-1.1**
DRO	**Drossia**	**0.46**	**72**	P	**Pg**	**10 15 20.1**	**-1.3**
DRO				S	**Sb**	**10 15 28.0**	**0.0**
DRO	**Drossia**	**0.46**	**72**	P	**Pg**	**10 15 20.0**	**-1.3**
DRO				S	**Sg**	**10 15 27.0**	**-0.6**
AMT	**Artemida-Makis**	**0.52**	**123**	P	**Pg**	**10 15 21.0**	**-1.4**
AMT				S	**Sb**	**10 15 30.8**	**+1.2**
AMT	**Artemida-Makis**	**0.52**	**123**	*e*PB	**Pg**	**10 15 21.4**	**-1.0**
AMT	**Artemida-Makis**	**0.52**	**123**	P	**Pg**	**10 15 21.0**	**-1.4**
AMT	**Artemida-Makis**	**0.52**	**123**	*e*Pb	**Pg**	**10 15 21.4**	**-1.0**
AMT				S	**Sg**	**10 15 29.2**	**-0.2**
SFD	**Strofades**	**0.57**	**192**	*e*PG	**Pg**	**10 15 22.6**	**-0.8**
SFD				*e*SB	**Sb**	**10 15 31.6**	**+0.6**
SFD	**Strofades**	**0.57**	**192**	*e*Pg	**Pg**	**10 15 22.6**	**-0.8**
SFD				*e*Sb	**Sb**	**10 15 31.6**	**+0.6**
VLS	**Valsamata**	**0.58**	**309**	P	**Pg**	**10 15 22.1**	**-1.5**
VLS				S	**Sg**	**10 15 30.9**	**-0.6**
VLS	**Valsamata**	**0.58**	**309**	*e*PG	**Pg**	**10 15 21.9**	**-1.7**
VLS	**Valsamata**	**0.58**	**309**	P	**Pg**	**10 15 22.1**	**-1.5**
VLS				S	**Sg**	**10 15 30.5**	**-1.0**
PDO	**Prodromos**	**0.79**	**1**	P	**Pb**	**10 15 25.8**	**-1.3**
PDO				S	**Sg**	**10 15 38.2**	**+0.3**
PDO	**Prodromos**	**0.79**	**1**	*e*PB	**Pb**	**10 15 25.9**	**-1.2**
PDO	**Prodromos**	**0.79**	**1**	P	**Pb**	**10 15 25.8**	**-1.3**
PDO				S	**Sb**	**10 15 36.8**	**-0.6**
KLV	**Kalavryta, Ach**	**0.81**	**73**	P	**Pb**	**10 15 25.8**	**-1.8**
KLV				S	**Sg**	**10 15 38.8**	**0.0**
KLV	**Kalavryta, Ach**	**0.81**	**73**	*e*PG	**Pb**	**10 15 25.9**	**-1.7**
KLV	**Kalavryta, Ach**	**0.81**	**73**	*e*Pg	**Pb**	**10 15 25.9**	**-1.7**
KLV				S	**Sg**	**10 15 38.8**	**0.0**
EFP	**Efpalio**	**0.85**	**43**	P	**Pb**	**10 15 27.0**	**-1.2**
EFP				S	**Sg**	**10 15 39.8**	**-0.1**
EFP	**Efpalio**	**0.85**	**43**	*e*PB	**Pb**	**10 15 26.8**	**-1.4**
EFP				*e*SB	**Sb**	**10 15 38.1**	**-1.1**
EFP	**Efpalio**	**0.85**	**43**	*e*Pb	**Pb**	**10 15 26.8**	**-1.4**
EFP				*e*Sb	**Sb**	**10 15 38.1**	**-1.1**
EFP				S	**Sg**	**10 15 39.7**	**-0.1**
PVO	**Paravola**	**0.85**	**19**	P	**Pb**	**10 15 27.4**	**-0.8**
PVO				S	**Sn**	**10 15 41.2**	**+0.2**
PVO	**Paravola**	**0.85**	**19**	P	**Pb**	**10 15 27.1**	**-1.1**
PVO				S	**Sg**	**10 15 39.8**	**-0.2**
ITM	**Ithomi**	**0.88**	**136**	P	**Pb**	**10 15 27.3**	**-1.3**
ITM				S	**Sn**	**10 15 42.0**	**+0.4**
ITM	**Ithomi**	**0.88**	**136**	*e*PG	**Pb**	**10 15 27.5**	**-1.1**
ITM	**Ithomi**	**0.88**	**136**	*e*Pg	**Pb**	**10 15 27.5**	**-1.1**
GUR	**Goura**	**0.94**	**82**	P	**Pb**	**10 15 27.9**	**-1.9**
GUR				S	**Sn**	**10 15 44.1**	**+0.7**
GUR	**Goura**	**0.94**	**82**	*e*PG	**Pb**	**10 15 28.2**	**-1.6**
GUR				*e*SB	**Sb**	**10 15 41.7**	**-0.3**
GUR	**Goura**	**0.94**	**82**	*e*Pg	**Pb**	**10 15 28.2**	**-1.6**
GUR				*e*Sb	**Sb**	**10 15 41.7**	**-0.3**
GUR				S	**Sg**	**10 15 42.9**	**+0.1**
KALE	**Kalithea**	**0.96**	**53**	P	**Pb**	**10 15 28.6**	**-1.6**
KALE				S	**Sb**	**10 15 42.8**	**+0.2**
KALE	**Kalithea**	**0.96**	**53**	*e*PB	**Pb**	**10 15 28.6**	**-1.6**
KALE				*e*SB	**Sb**	**10 15 41.7**	**-0.9**
KALE	**Kalithea**	**0.96**	**53**	P	**Pb**	**10 15 28.6**	**-1.6**
KALE				*e*Sb	**Sb**	**10 15 41.7**	**-0.9**
KALE				S	**Sg**	**10 15 42.5**	**-1.0**
PYL	**PYLOS**	**1.02**	**153**	P	**Pb**	**10 15 29.6**	**-1.6**
PYL				S	**Sn**	**10 15 45.9**	**+0.6**
PYL	**PYLOS**	**1.02**	**153**	*e*PB	**Pb**	**10 15 29.7**	**-1.5**
PYL				*e*SB	**Sn**	**10 15 45.5**	**+0.2**
PYL	**PYLOS**	**1.02**	**153**	P	**Pb**	**10 15 29.6**	**-1.6**
PYL				S	**Sb**	**10 15 44.3**	**+0.1**
PYL				*e*Sb	**Sn**	**10 15 45.5**	**+0.2**
LKD2	**Lefkada island**	**1.05**	**338**	P	**Pb**	**10 15 30.2**	**-1.5**
LKD2				S	**Sg**	**10 15 47.3**	**+1.2**
LKD2	**Lefkada island**	**1.05**	**338**	*e*PB	**Pb**	**10 15 30.4**	**-1.3**
LKD2	**Lefkada island**	**1.05**	**338**	P	**Pb**	**10 15 30.2**	**-1.5**
LKD2				S	**Sg**	**10 15 47.5**	**+1.2**
VLX	**Vlachokerasia**	**1.06**	**114**	*e*PB	**Pb**	**10 15 30.4**	**-1.5**
VLX				*e*SB	**Sb**	**10 15 45.5**	**+0.1**
VLX	**Vlachokerasia**	**1.06**	**114**	*e*Pb	**Pb**	**10 15 30.4**	**-1.5**
VLX				*e*Sb	**Sb**	**10 15 45.5**	**+0.1**
EVR	**Evrytania**	**1.21**	**25**	P	**Pn**	**10 15 33.1**	**-1.0**
EVR				S	**Sg**	**10 15 52.7**	**+1.2**
EVR	**Evrytania**	**1.21**	**25**	*e*PB	**Pn**	**10 15 33.2**	**-0.9**
EVR	**Evrytania**	**1.21**	**25**	P	**Pn**	**10 15 33.1**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.42**	**32**	*e*PB	**Pb**	**10 15 37.4**	**-0.5**
MAKR				*e*SB	**Sb**	**10 15 56.5**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.42**	**32**	*e*Pb	**Pb**	**10 15 37.4**	**-0.5**
MAKR				*e*Sb	**Sb**	**10 15 56.5**	**+0.8**
LTK	**Loutraki**	**1.44**	**81**	*e*PG	**Pn**	**10 15 37.7**	**+0.5**
LTK	**Loutraki**	**1.44**	**81**	*e*Pg	**Pn**	**10 15 37.7**	**+0.5**
AXAR	**Agios Charalam**	**1.52**	**51**	*e*PB	**Pb**	**10 15 39.1**	**-0.4**
AXAR	**Agios Charalam**	**1.52**	**51**	*e*Pb	**Pb**	**10 15 39.1**	**-0.4**
AGG	**Agios Georgios**	**1.52**	**37**	*e*PB	**Pb**	**10 15 39.2**	**-0.4**
AGG	**Agios Georgios**	**1.52**	**37**	*e*Pb	**Pb**	**10 15 39.2**	**-0.4**
LKR	**Lokris**	**1.67**	**59**	*e*PB	**Pb**	**10 15 42.3**	**+0.1**
LKR	**Lokris**	**1.67**	**59**	*e*Pb	**Pb**	**10 15 42.3**	**+0.1**
VLI	**Veliai**	**1.79**	**127**	*e*PN	**Pg**	**10 15 45.3**	**-1.1**
VLI	**Veliai**	**1.79**	**127**	*e*Pn	**Pg**	**10 15 45.3**	**-1.1**
IGT	**Igoumenitsa**	**1.84**	**340**	*e*PN	**Pb**	**10 15 45.4**	**+0.4**
IGT	**Igoumenitsa**	**1.84**	**340**	*e*Pn	**Pb**	**10 15 45.4**	**+0.4**
NAIG	**Nisos Aigina**	**1.84**	**91**	*e*PG	**Pb**	**10 15 45.4**	**+0.3**
NAIG	**Nisos Aigina**	**1.84**	**91**	*e*Pg	**Pb**	**10 15 45.4**	**+0.3**
JAN	**Janina**	**1.86**	**353**	*e*PN	**Pn**	**10 15 44.0**	**+1.1**
JAN	**Janina**	**1.86**	**353**	*e*Pn	**Pn**	**10 15 44.0**	**+1.1**
ATH	**Athens Observa**	**2.03**	**85**	*e*PN	**Pb**	**10 15 46.7**	**-1.5**
ATH	**Athens Observa**	**2.03**	**85**	*e*PG	**Pb**	**10 15 48.0**	**-0.2**
ATH	**Athens Observa**	**2.03**	**85**	*e*Pn	**Pb**	**10 15 46.7**	**-1.5**
ATH	**Athens Observa**	**2.03**	**85**	*e*Pg	**Pb**	**10 15 48.0**	**-0.2**
MRKA	**Markates**	**2.11**	**64**	*e*PB	**Pn**	**10 15 47.0**	**+0.7**
MRKA	**Markates**	**2.11**	**64**	*e*Pb	**Pn**	**10 15 47.0**	**+0.7**
KYTH	**Kithira**	**2.14**	**135**	*e*PN	**Pb**	**10 15 49.8**	**-0.4**
KYTH	**Kithira**	**2.14**	**135**	*e*Pn	**Pb**	**10 15 49.8**	**-0.4**
KEK	**Kerkira**	**2.18**	**331**	*e*PN	**Pb**	**10 15 49.4**	**-1.4**
KEK	**Kerkira**	**2.18**	**331**	*e*Pn	**Pb**	**10 15 49.4**	**-1.4**
NEO	**Neokhori**	**2.20**	**47**	*e*PN	**Pb**	**10 15 50.3**	**-0.9**
NEO	**Neokhori**	**2.20**	**47**	*e*Pn	**Pb**	**10 15 50.3**	**-0.9**
XOR	**Xorichti**	**2.22**	**45**	*e*PN	**Pb**	**10 15 50.4**	**-1.2**
XOR	**Xorichti**	**2.22**	**45**	*e*Pn	**Pb**	**10 15 50.4**	**-1.2**
LIT	**Litokhoron**	**2.51**	**24**	*e*PN	**Pb**	**10 15 54.7**	**-1.8**
LIT	**Litokhoron**	**2.51**	**24**	*e*Pn	**Pb**	**10 15 54.7**	**-1.8**
AOS	**Alonnisos**	**2.53**	**57**	*e*PN	**Pn**	**10 15 54.1**	**+2.0**
AOS	**Alonnisos**	**2.53**	**57**	*e*Pn	**Pn**	**10 15 54.1**	**+2.0**
KZN	**Kozani**	**2.54**	**11**	*e*PN	**Pn**	**10 15 54.0**	**+1.7**
KZN	**Kozani**	**2.54**	**11**	*e*Pn	**Pn**	**10 15 54.0**	**+1.7**
NEST	**Nestorio**	**2.60**	**358**	*e*PB	**Pn**	**10 15 54.7**	**+1.5**
NEST	**Nestorio**	**2.60**	**358**	*e*Pb	**Pn**	**10 15 54.7**	**+1.5**
PAIG	**Paliouri**	**2.88**	**42**	*e*PN	**Pn**	**10 15 59.7**	**+2.7**
PAIG	**Paliouri**	**2.88**	**42**	*e*Pn	**Pn**	**10 15 59.7**	**+2.7**
FNA	**Florina**	**2.97**	**3**	*e*PB	**Pn**	**10 16 00.0**	**+1.8**
FNA	**Florina**	**2.97**	**3**	*e*Pb	**Pn**	**10 16 00.0**	**+1.8**
HORT	**Hortiatis**	**3.16**	**28**	*e*PN	**Pn**	**10 16 01.8**	**+0.9**
HORT	**Hortiatis**	**3.16**	**28**	*e*Pn	**Pn**	**10 16 01.8**	**+0.9**
KARN	**Karanos**	**3.27**	**137**	*e*PN	**Pn**	**10 16 03.7**	**+1.4**
KARN	**Karanos**	**3.27**	**137**	*e*Pn	**Pn**	**10 16 03.7**	**+1.4**
VAM	**Vamos**	**3.42**	**134**	*e*PN	**Pn**	**10 16 04.2**	**-0.2**
VAM	**Vamos**	**3.42**	**134**	*e*Pn	**Pn**	**10 16 04.2**	**-0.2**
SOH	**Sokhos**	**3.45**	**29**	*e*PN	**Pn**	**10 16 06.2**	**+1.4**
SOH	**Sokhos**	**3.45**	**29**	*e*Pn	**Pn**	**10 16 06.2**	**+1.4**
KNT	**Kendrikon**	**3.60**	**21**	*e*PN	**Pn**	**10 16 08.8**	**+1.9**
KNT	**Kendrikon**	**3.60**	**21**	*e*Pn	**Pn**	**10 16 08.8**	**+1.9**
VAY	**Valandovo**	**3.67**	**17**	*e*PN	**Pn**	**10 16 10.6**	**+2.8**
VAY	**Valandovo**	**3.67**	**17**	*e*Pn	**Pn**	**10 16 10.5**	**+2.8**
CHOS	**Chios island**	**3.90**	**80**	*e*PN	**Pn**	**10 16 13.2**	**+2.2**
CHOS	**Chios island**	**3.90**	**80**	*e*Pn	**Pn**	**10 16 13.2**	**+2.2**
JMB	**Yambol**	**6.23**	**40**	*i*P	Pg	10 17 07.6	-3.7
HFS	**Hagfors**	**22.84**	**350**	P	**P**	**10 20 12.7**	**-1.2**
	0.7nm,0.5s,baz=163,slow=10,SNR=2.9						
FINES	**FINESS Array B**	**23.86**	**6**	P	**P**	**10 20 23.0**	**-0.9**
	0.6nm,0.5s,baz=185,slow=11,SNR=4.0						
EKA	**Eskdalemuir Ar**	**24.02**	**325**	P	**P**	**10 20 24.8**	**-0.7**
	0.3nm,0.4s,baz=122,slow=9.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**30.07**	**220**	P	**P**	**10 21 19.4**	**-0.8**
	0.4nm,0.6s,baz=36,slow=9.4,SNR=4.2						
BVAR	**Borovoye Array**	**36.97**	**50**	P	**P**	**10 22 21.9**	**+2.0**
	0.3nm,0.4s,baz=248,slow=9.5,SNR=2.5						
MKAR	**Makanchi Array**	**45.06**	**58**	P	**P**	**10 23 28.5**	**+1.8**
	0.3nm,0.4s,baz=276,slow=7.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**45.56**	**48**	P	**P**	**10 23 29.3**	**-1.1**
	0.5nm,0.5s,baz=289,slow=9.0,SNR=2.5						
YKA	**Yellowknife Ar**	**73.91**	**340**	P	**P**	**10 26 44.9**	**-0.5**
	0.1nm,0.6s,baz=40,slow=7.0,SNR=3.0						

*IDC **07** 10:15:46.0±1.4,15°.76N×95°.40W,h0km,mb3.7/10, mb1 4.0/11,mb1mx3.8/47,mbtmp3.8/11,ML3.8/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/28,Error ellipse: s-maj=25.9km s-min=18.8km az=129.0*
*ISCJB **07** 10:15:50.3±0.6,15°.81N±0°.06×95°.52W±0°.03,h41km±6km, mb3.7/10,MS3.7/1,Error ellipse: s-maj=9.4km s-min=4.1km az=5.3*
*NEIC **07** 10:15:52.4,15°.76N×95°.51W,h41km,mb4.0/2, MD4.5(MEX),After MEX.*
NEIC Felt at Huatulco.
*MEX **07** 10:15:52.4±0.4,15°.76N×95°.51W,h41km±10km,MD4.5*

ISC 07 10:15:50.9±1.1,15°.79N±0°.06×95°.49W±0°.03,h31km±10km, n42,σ1§18/61,mb3.7/10,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.59**	**268**	*e*P	**Pb**	**10 16 02.4**	**-0.5**
HUIG				*i* S	**Sb**	**10 16 10.9**	**-0.2**
HUIG	**Huatulco**	**0.59**	**268**	*e*P	**Pb**	**10 16 02.4**	**-0.5**
HUIG				*i* S	**Sb**	**10 16 10.9**	**-0.2**
CMIG	**Matias Romero**	**1.42**	**24**	Pg	**Pn**	**10 16 13.1**	**-1.6**
	320nm,0.3s,baz=199,slow=13,SNR=1918						
CMIG				Lg	Lg	10 16 30.7	
	1μm,0.3s,baz=303,slow=22,SNR=100						
CMIG				LR	LR	10 17 00.1	
	comp=Z,967nm,20.9s,baz=154,slow=53						
OXX	**Oaxaca**	**1.75**	**318**	*e*P	**Pn**	**10 16 19.6**	**+0.2**
OXX	**Oaxaca**	**1.75**	**318**	*e*P	**Pn**	**10 16 19.6**	**+0.2**
VHO	**Vista Hermosa**	**1.75**	**317**	*e*P	**Pn**	**10 16 19.1**	**-0.2**
VHO				*i* S	**Sn**	**10 16 39.6**	**-1.1**
VHO	**Vista Hermosa**	**1.75**	**317**	*e*P	**Pn**	**10 16 19.1**	**-0.2**
VHO				*i* S	**Sn**	**10 16 39.6**	**-1.1**
PCIG		**2.19**	**92**	*i* P	**Pn**	**10 16 25.0**	**-0.2**
PCIG				*i* S	**Sn**	**10 16 50.6**	**-0.7**
PCIG		**2.19**	**92**	*i* P	**Pn**	**10 16 25.0**	**-0.2**
PCIG				*i* S	**Sn**	**10 16 50.6**	**-0.7**
TUIG	**Tuzandepetl**	**2.46**	**24**	*e*P	**Pn**	**10 16 29.5**	**+0.6**
TUIG				*i* S	**Sn**	**10 16 57.2**	**-0.7**
TUIG	**Tuzandepetl**	**2.46**	**24**	*e*P	**Pn**	**10 16 29.5**	**+0.6**
TUIG				*i* S	**Sn**	**10 16 57.2**	**-0.7**
TGIG		**2.48**	**66**	*e*P	**Pn**	**10 16 29.4**	**+0.2**
TGIG				*i* S	**Sn**	**10 16 57.8**	**-0.7**
TGIG		**2.48**	**66**	*e*P	**Pn**	**10 16 29.4**	**+0.2**
TGIG				*i* S	**Sn**	**10 16 57.8**	**-0.7**
PNIG	**Pinotepa**	**2.60**	**284**	*e*P	**Pn**	**10 16 30.6**	**-0.4**
PNIG				*i* S	**Sn**	**10 16 59.5**	**-2.1**
PNIG	**Pinotepa**	**2.60**	**284**	*e*P	**Pn**	**10 16 30.6**	**-0.4**
PNIG				*i* S	**Sn**	**10 16 59.5**	**-2.1**
CCIG	**Comitan**	**3.26**	**81**	*e*P	**Pn**	**10 16 40.9**	**+0.8**
CCIG	**Comitan**	**3.26**	**81**	*e*P	**Pn**	**10 16 40.9**	**+0.8**
TLIG	**Tlapa**	**3.44**	**301**	*e*P	**Pn**	**10 16 43.2**	**+0.7**
ACX	**Acapulco**	**4.33**	**285**	*e*P	**Pn**	**10 16 54.6**	**-0.1**
ACX	**Acapulco**	**4.33**	**285**	*e*P	**Pn**	**10 16 54.6**	**-0.1**
YAIG	**Yautepec**	**4.58**	**312**	*e*P	**Pn**	**10 16 59.5**	**+1.2**
YAIG				*e*S	**Sn**	**10 17 49.7**	**-0.9**
YAIG	**Yautepec**	**4.58**	**312**	*e*P	**Pn**	**10 16 59.5**	**+1.2**
YAIG				*e*S	**Sn**	**10 17 49.7**	**-0.9**
PLIG	**Platanillo**	**4.63**	**305**	*e*P	**Pn**	**10 16 58.4**	**-0.4**
PLIG				*i* S	**Sn**	**10 17 51.4**	**-0.3**
PLIG	**Platanillo**	**4.63**	**305**	*e*P	**Pn**	**10 16 58.4**	**-0.4**
PLIG				*i* S	**Sn**	**10 17 51.4**	**-0.3**
CAIG	**El Cayaco**	**4.75**	**286**	*e*P	**Pn**	**10 17 00.8**	**+0.3**
CAIG				*i* S	**Sn**	**10 17 54.4**	**-0.2**
CAIG	**El Cayaco**	**4.75**	**286**	*e*P	**Pn**	**10 17 00.8**	**+0.3**
CAIG				*i* S	**Sn**	**10 17 54.4**	**-0.2**
APG	**El Apazote**	**4.91**	**98**	Pn	**Pn**	**10 17 00.1**	**-2.8**
	3.6nm,0.3s,baz=308,slow=12,SNR=7.7						
APG				Sn	**Sn**	**10 17 53.8**	**-5.1**
	17nm,0.3s,baz=342,slow=17,SNR=5.9						
APG				LR	LR	10 18 15.2	
	comp=Z,110nm,18.6s,baz=301,slow=31						
ARIG	**Puente Sto Nin**	**5.27**	**299**	*e*P	**Pn**	**10 17 08.8**	**+1.2**
ARIG				*e*S	**Sn**	**10 18 06.9**	**-0.4**
JTS	**JuntasAbangare**	**11.63**	**117**	Pn	**Pn**	**10 18 37.3**	**+2.4**
	0.3nm,0.3s,baz=359,slow=16,SNR=2.3						
WHTX	**Lake Whitney,**	**16.23**	**354**	*e*Pn	**Pn**	**10 19 37.8**	**+1.1**
	15nm,0.6s						
WMOK	**Wichita Mounta**	**19.10**	**352**	*e*P	**Pn**	**10 20 13.1**	**+0.8**
	4.7nm,0.8s						
WMOK				*e*Sn	Sn	10 23 34.4	-11
ANMO	**Albuquerque**	**21.47**	**335**	P	**P**	**10 20 37.7**	**+0.6**
	1.4nm,0.7s,baz=146,slow=13,SNR=4.1						
TKL	**Tuckaleechee C**	**22.39**	**26**	P	**P**	**10 20 46.1**	**-0.7**
	1.4nm,0.5s,baz=201,slow=17,SNR=2.3						
PDAR	**Pinedale Array**	**29.47**	**339**	P	**P**	**10 21 51.9**	**-0.5**
	0.4nm,0.8s,baz=123,slow=6.6,SNR=3.4						
NVAR	**Mina Array Bea**	**30.19**	**323**	P	**P**	**10 22 00.9**	**+2.1**
	1.3nm,0.7s,baz=135,slow=9.0,SNR=10						
YBH	**Yreka Blue Hor**	**34.90**	**323**	LR	LR	10 38 30.8	
	comp=Z,118nm,18.2s,baz=234,slow=39						
YKA	**Yellowknife Ar**	**48.56**	**348**	P	**P**	**10 24 29.9**	**-1.2**
	0.5nm,0.6s,baz=155,slow=7.4,SNR=8.8						
INK	**Inuvik**	**57.80**	**344**	P	**P**	**10 25 38.6**	**-0.3**
	2.0nm,0.6s,baz=130,slow=7.5,SNR=19						
RES	**Resolute Bay**	**58.90**	**0**	P	**P**	**10 25 45.6**	**-0.9**
	0.3nm,0.7s,baz=186,slow=9.2,SNR=3.1						
ILAR	**Eielson Array**	**59.88**	**337**	P	**P**	**10 25 53.8**	**+0.2**
	1.0nm,0.8s,baz=153,slow=4.8,SNR=11						
EKA	**Eskdalemuir Ar**	**78.49**	**36**	P	**P**	**10 27 50.2**	**+1.2**
	0.5nm,0.5s,baz=279,slow=5.7,SNR=3.9						
SEY	**Seymchan**	**85.72**	**335**	P	**P**	**10 28 25.9**	**-0.8**
	0.5nm,0.3s,baz=121,slow=8.3,SNR=4.4						

GUC 07 10:21:48.0±0.5,34°.83S×72°.53W,h13km±5km,ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.93**	**128**	*i* P	Pg	10 22 05.8	-0.1
TALC				*i* S	Sn	10 22 19.1	-0.8
TALC				AML	AML	10 22 28.4	
	comp=E,4μm,0.4s						
NICH	**Los Niches**	**1.08**	**99**	*i* P	Pb	10 22 08.6	+0.1
NICH				*i* S	Sn	10 22 24.5	+0.7
NICH				AML	AML	10 22 30.1	
	comp=E,3μm,0.6s						
LNCH	**Linares**	**1.27**	**143**	*i* P	Pb	10 22 11.6	-0.1
LNCH				*i* S	Sg	10 22 29.6	+0.7
LNCH				AML	AML	10 22 35.3	
	comp=E,2μm,0.5s						
LNV	**Longovilo**	**1.27**	**47**	*e*P	Pn	10 22 11.0	-0.5
LNV				*i* S	Sg	10 22 29.7	+0.6
CHCH	**Chadas Angostu**	**1.79**	**61**	*e*P	Pb	10 22 19.8	-1.0
CLCH	**Cerro Calan**	**2.19**	**50**	*e*P	Pb	10 22 26.0	-1.5
CLCH				*e*S	Sb	10 22 55.2	+0.6
CLCH				AML	AML	10 23 04.9	
	comp=N,568nm,0.8s						
PEL	**Peldehue**	**2.28**	**43**	*e*P	Pn	10 22 26.7	+1.3
PEL				*e*S	Sb	10 22 57.7	+0.5

IDC 07 10:22:24.6±2.7,3°.94N×126°.57E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.0/46,mbtmp3.2/3,Error ellipse: s-maj=249.4km s-min=25.9km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	10 27 49.1	-0.6
	0.3nm,0.6s,baz=343,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**28.36**	**166**	P	P	10 28 21.1	+0.6
	0.1nm,0.8s,baz=336,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	10 32 14.2	-0.1
	0.2nm,0.4s,baz=123,slow=7.9,SNR=6.9						

IGQ 07 10:25:32±0.7,0°.30N×80°.08W,h3km±59km,Mb4.1,11D, Error ellipse: s-maj=5.4km s-min=1.6km az=24.3,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAG1	**Magdalena**	**0.48**	**141**	⇓P	Pb	10 25 43.2	0.0
JAMA	**Jama**	**0.48**	**141**	⇓P	Pg	10 25 42.4	-0.8
PECV	**Mancha de Ca P**	**1.07**	**179**	P	Pb	10 25 53.5	+0.2
PINO	**Pino**	**1.54**	**107**	⇓P	Pn	10 26 00.7	-0.4
TERV	**Terraza Guagua**	**1.54**	**108**	P	Pn	10 26 00.9	-0.3
GGP	**Refugio Guagua**	**1.55**	**108**	⇓P	Pn	10 26 01.0	-0.4
JUA2	**San Juan 2**	**1.56**	**109**	⇓P	Pn	10 26 00.2	-1.1
OTAV	**Otavalo**	**1.62**	**92**	⇓S	Sn	10 26 23.6	-0.4
OTAV	**Otavalo**	**1.62**	**92**	⇓P	Pn	10 26 01.1	-1.1
PAST	**Pastocalle**	**1.74**	**125**	P	Pn	10 26 04.0	+0.2
LITE	**Lita**	**1.78**	**74**	⇓S	Sn	10 26 27.6	+0.4
LITE	**Lita**	**1.78**	**74**	⇓P	Pn	10 26 04.7	+0.7
CAMI	**Rancho Maria**	**1.85**	**122**	P	Pn	10 26 05.0	-0.2
ISPT	**Isla de la Pla**	**1.85**	**213**	S	Sn	10 26 27.7	-0.8
ISPT	**Isla de la Pla**	**1.85**	**213**	P	Pn	10 26 04.6	0.0
NAS2	**Nasa**	**1.86**	**120**	P	Pb	10 26 06.8	-0.6
BREF	**Cotopaxi Volca**	**1.90**	**121**	⇓P	Pn	10 26 06.8	+0.6
BMOR	**Cotopaxi Volca**	**1.91**	**122**	⇓P	Pn	10 26 06.9	+0.6
VC1	**Cotopaxi 1**	**1.92**	**119**	P	Pn	10 26 06.3	0.0
MOV1	**Cotopaxi Vol s**	**1.92**	**122**	P	Pn	10 26 06.1	-0.4
BTAM	**Cotopaxi Volca**	**1.94**	**120**	⇓P	Pn	10 26 07.5	+0.9
TAMB	**Tambo**	**1.97**	**120**	P	Pn	10 26 07.3	+0.2
COV1	**Cotopaxi Volc**	**1.98**	**119**	P	Pn	10 26 06.8	-0.5
ANTI	**Antisana**	**2.05**	**111**	P	Pn	10 26 08.5	+0.2
ANGU	**Angureal**	**2.08**	**97**	P	Pb	10 26 11.5	+0.2
CAYR	**Refugio Cayamb**	**2.09**	**98**	P	Pb	10 26 10.2	-1.2
CAYA	**Cayambe**	**2.10**	**96**	S	Sb	10 26 39.0	+0.6
CAYA	**Cay

AKAS				*i* S		**Sn**	**10 35 52.5**	**-1.0**
GOLH	**Golhisar**	**4.08**	**46**	*i* P		**Pn**	**10 35 22.0**	**+1.5**
GOLH				*i* S		**Sn**	**10 36 07.3**	**0.0**
GOLH	**Golhisar**	**4.08**	**46**	*i* P		**Pn**	**10 35 22.0**	**+1.5**
GOLH				*i* S		**Sn**	**10 36 07.3**	**0.0**
KORT	**Korkueli**	**4.43**	**54**	*i* P		**Pn**	**10 35 27.9**	**+2.5**
KORT				*i* S		**Sn**	**10 36 16.3**	**+0.3**
KORT	**Korkueli**	**4.43**	**54**	*i* P		**Pn**	**10 35 27.9**	**+2.5**
KORT				*i* S		**Sn**	**10 36 16.3**	**+0.3**
GULE	**Gulek**	**7.75**	**66**	*i* P		**Pn**	**10 36 12.8**	**+1.8**
GULE				*i* S		**Sn**	**10 37 34.7**	**-3.0**
GULE	**Gulek**	**7.75**	**66**	*i* P		**Pn**	**10 36 12.8**	**+1.8**
GULE				*i* S		**Sn**	**10 37 34.7**	**-3.0**
MMAI	**Mount Meron Ar**	**8.04**	**98**	Pn		**Pn**	**10 36 11.9**	**-3.1**
	1.6nm,0.3s,baz=290,slow=9.0,SNR=3.2							
AKASG	**Malin Array Be**	**16.43**	**7**	Pn		**Pn**	**10 38 08.4**	**0.0**
	0.5nm,0.3s,baz=195,slow=11,SNR=4.4							
GERES	**GERESS Array B**	**17.00**	**331**	P		**P**	**10 38 17.3**	**0.0**
	0.1nm,0.3s,baz=138,slow=12,SNR=2.5							
HFS	**Hagfors**	**26.91**	**346**	P		**P**	**10 39 57.1**	**-1.1**
	0.4nm,0.4s,baz=129,slow=11,SNR=5.7							
FINES	**FINESS Array B**	**27.02**	**0**	P		**P**	**10 39 57.4**	**-1.8**
	0.6nm,0.4s,baz=160,slow=13,SNR=5.0							
TORD	**Torodi Ar. Bea**	**30.51**	**232**	P		**P**	**10 40 31.4**	**+0.7**
	0.6nm,0.5s,baz=31,slow=9.1,SNR=13							
ARCES	**ARCESS Array B**	**35.15**	**360**	P		**P**	**10 41 09.1**	**-1.5**
	1.1nm,0.8s,baz=182,slow=9.0,SNR=5.6							
KURBB	**Kurchatov Arra**	**41.11**	**50**	P		**P**	**10 42 01.9**	**+0.9**
	0.8nm,0.2s,baz=280,slow=9.9,SNR=3.6							
MKAR	**Makanchi Array**	**43.67**	**56**	P		**P**	**10 42 22.9**	**+0.9**
	0.4nm,0.7s,baz=270,slow=6.3,SNR=4.9							
SCHQ	**Schefferville**	**64.13**	**320**	P		**P**	**10 44 51.7**	**+0.4**
	1.0nm,0.4s,baz=61,slow=3.8,SNR=7.9							
YKA	**Yellowknife Ar**	**78.32**	**342**	P		**P**	**10 46 16.8**	**-0.1**
	0.1nm,0.6s,baz=283,slow=17,SNR=4.3							

IDC 07 10:39:11.8±3.1, 54°23N×87°53E, h0km, mb1 3.3/2, mb1mx3.0/30, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=27.9km s-min=18.1km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**261**	*i*		10 48 30.0	
	baz=82,slow=342,SNR=9.5						
ZALV	**Zalesovo Beam**	**1.62**	**261**	Pg	Pn	10 39 39.6	-2.0
	3.9nm,0.3s,baz=75,slow=16,SNR=57						
ZALV				Lg	Lg	10 40 04.6	
	1.5nm,0.3s,baz=79,slow=24,SNR=8.9						
ZALV				Rg	Rg	10 40 18.3	
	3.5nm,0.6s,baz=140,slow=32,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn	Pn	10 40 50.0	+0.2
	0.2nm,0.3s,baz=58,slow=14,SNR=6.5						
KURBB				Lg	Lg	10 42 39.6	
	0.0nm,0.3s,baz=61,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**8.15**	**206**	Pn	Pn	10 41 13.0	+1.5
	0.1nm,0.3s,baz=27,slow=14,SNR=12						
MKAR				Lg	Lg	10 43 31.6	
	0.0nm,0.3s,baz=27,slow=29,SNR=7.3						

IDC 07 10:42:06.1±2.9, 54°36N×86°79E, h0km, mb1 3.3/2, mb1mx3.0/43, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=25.0km s-min=15.7km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**251**	*i*		10 50 20.0	
	baz=70,slow=333,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.23**	**251**	Pg	Pg	10 42 28.3	-1.5
	2.3nm,0.3s,baz=68,slow=16,SNR=10.0						
ZALV				Lg	Lg	10 42 46.1	
	2.1nm,0.3s,baz=74,slow=22,SNR=5.0						
ZALV				Rg	Rg	10 43 07.5	
	6.8nm,0.8s,baz=53,slow=24,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.28**	**237**	Pn	Pn	10 43 41.0	+1.1
	0.2nm,0.3s,baz=53,slow=14,SNR=6.2						
KURBB				Lg	Lg	10 45 25.8	
	0.1nm,0.3s,baz=57,slow=34,SNR=3.1						
MKAR	**Makanchi Array**	**8.10**	**202**	Pn	Pn	10 44 06.1	+1.1
	0.3nm,0.3s,baz=20,slow=12,SNR=12						
MKAR				Sn	Sn	10 45 36.8	-0.5
	0.2nm,0.3s,baz=21,slow=27,SNR=6.2						
MKAR				Lg	Lg	10 46 23.4	
	0.0nm,0.3s,baz=22,slow=31,SNR=2.8						

IDC 07 10:44:39.4±4.0, 1°80N×97°08E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/34, mbtmp3.4/4, Error ellipse: s-maj=162.0km s-min=24.6km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.26**	**249**	T	T	11 17 05.1	
	baz=70,slow=75,SNR=148						
H08S3	**Diego Garcia H**	**26.26**	**249**	T	T	11 17 13.8	
	baz=70,slow=75,SNR=82						
H08S1	**Diego Carcia H**	**26.27**	**249**	T	T	11 17 13.9	
	baz=70,slow=75,SNR=160						
H01W3	**Cape Leeuwin H**	**39.84**	**158**	T	T	11 34 33.8	
	baz=334,slow=76,SNR=3.9						
H01W2	**Cape Leeuwin H**	**39.85**	**158**	T	T	11 34 43.5	
	baz=334,slow=76,SNR=3.6						
H01W1	**Cape Leeuwin H**	**39.86**	**158**	T	T	11 34 39.2	
	baz=334,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**42.45**	**122**	P	P	10 52 36.3	-0.3
	0.4nm,0.9s,baz=300,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**43.85**	**128**	P	P	10 52 47.9	0.0
	0.2nm,0.6s,baz=302,slow=7.8,SNR=4.1						
SONM	**Songino Array**	**46.56**	**9**	P	P	10 53 09.4	+0.2
	0.5nm,0.7s,baz=189,slow=8.6,SNR=4.6						
MKAR	**Makanchi Array**	**46.64**	**346**	P	P	10 53 09.2	-0.4
	0.7nm,0.7s,baz=153,slow=6.7,SNR=9.3						

*ISCJB **07** 11:04:13.4±0.5, 32°34N±0.03×115°40W±0.04, h12km±4km, mb3.5/3, Error ellipse: s-maj=5.6km s-min=4.1km az=154.6*
*NEIC **07** 11:04:13.2, 32°26N×115°43W, h5km, MD4.2(MEX), ML3.8(PAS), After PAS.*
*IDC **07** 11:04:14.4±3.3, 32°19N×115°29W, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML2.9/3, Error ellipse: s-maj=64.2km s-min=14.7km az=40.0*
*ECX **07** 11:04:14.7±0.7, 32°34N×115°38W, h4km, ML4.0*
*MEX **07** 11:04:15.4±0.5, 32°42N×115°25W, h23km±6km, MD4.2*

ISC 07 11:04:13.6±1.0, 32°31N±0.02×115°42W±0.02, h5km±9km, n33, σ1s06/41, mb3.6/3, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**43**	⇑*eP*	**Pg**	**11 04 16.8**	**+0.2**
CPBX				*eS*	**Sg**	**11 04 18.4**	**-0.2**
MBIG	**Mexicali**	**0.21**	**63**	*eP*	**Pg**	**11 04 18.6**	**+0.8**
MBIG				*eS*	**Sg**	**11 04 20.6**	**0.0**
EMX	**El Mayor**	**0.35**	**154**	*eP*	**Pg**	**11 04 21.1**	**+0.7**
EMX				*eS*	**Sg**	**11 04 26.7**	**+1.6**
SGL	**Mount Signal**	**0.42**	**323**	⇓*iP*	**Pg**	**11 04 21.9**	**+0.1**
YUH	**Yuha Desert**	**0.54**	**309**	⇑*iP*	**Pg**	**11 04 23.9**	**-0.1**
COK	**Cook Ranch**	**0.60**	**335**	*eP*	**Pg**	**11 04 25.4**	**+0.3**
CRR	**Carrizo Plain**	**0.74**	**321**	⇑*iP*	**Pg**	**11 04 27.7**	**-0.1**
YMD	**Yuma Desert**	**0.78**	**71**	⇓*iP*	**Pg**	**11 04 28.1**	**-0.5**
ECBX	**El Chinero**	**0.89**	**159**	⇓*eP*	**Pg**	**11 04 30.4**	**-0.3**
ECBX				*eS*	**Sg**	**11 04 42.7**	**+0.4**
GLA	**Glamis**	**0.90**	**34**	*ePg*	**Pg**	**11 04 29.5**	**-1.3**
CBX	**Cerro Bola**	**1.05**	**271**	*iP*	**Pg**	**11 04 33.6**	**-0.2**
CBX				*eS*	**Sg**	**11 04 48.6**	**+1.1**
CBX	**Cerro Bola**	**1.05**	**271**	⇑*eP*	**Pg**	**11 04 33.6**	**-0.2**
CBX				*eS*	**Sg**	**11 04 48.7**	**+1.2**
CBX				AML	AML	11 04 53.1	
	comp=N,4μm,0.5s						
CBX				⇑*e*		11 04 53.1	
CBX	**Cerro Bola**	**1.05**	**271**	*iP*	**Pg**	**11 04 33.6**	**-0.2**
CBX				*eS*	**Sg**	**11 04 48.6**	**+1.1**
BAR	**Barrett**	**1.12**	**290**	*ePn*	**Pb**	**11 04 34.2**	**-1.3**
BAR				*eSn*	**Sg**	**11 04 48.7**	**-1.0**
SPIG	**San Pedro Mart**	**1.26**	**182**	*eP*	**Pn**	**11 04 37.0**	**-1.2**
SPIG				*iS*	**Sb**	**11 04 53.4**	**-1.4**
SPIG	**San Pedro Mart**	**1.26**	**182**	*eP*	**Pn**	**11 04 37.0**	**-1.2**
SPIG	**San Pedro Mart**	**1.26**	**182**	*eP*	**Pn**	**11 04 37.0**	**-1.2**
SPIG				*iS*	**Sb**	**11 04 53.4**	**-1.4**
SPX	**San Pedro Mart**	**1.26**	**182**	*eP*	**Pn**	**11 04 37.0**	**-1.3**
SPX				⇓*e*		11 04 57.2	
SPX				AML	AML	11 04 57.2	
	comp=N,2μm,0.3s						
PFO	**Pinyon Flats O**	**1.56**	**326**	Pn	Pn	11 04 39.1	-3.1
	baz=136,slow=13						
PFO				Lg	Lg	11 04 58.2	
	baz=238,slow=9.5						
214A	**Organ Pipe Nat**	**2.24**	**98**	*ePn*	**Pn**	**11 04 48.8**	**-2.7**
MWC	**Mount Wilson**	**2.92**	**312**	*ePn*	**Pb**	**11 05 05.3**	**-1.0**
MWC				*eSn*	**Sb**	**11 05 42.1**	**-0.2**
PASC	**Pasadena Art C**	**2.97**	**309**	*ePn*	**Pn**	**11 05 02.6**	**+1.1**
GSC	**Goldstone, Bar**	**3.20**	**339**	*ePn*	**Pn**	**11 05 02.7**	**-2.0**
OSI	**Osito Audit: C**	**3.59**	**311**	Pn	**Pn**	**11 05 10.6**	**+0.5**
TUC	**Tucson**	**3.93**	**89**	*eP*	Pb	11 05 19.7	-3.7
WUAZ	**Wupatki**	**4.64**	**45**	*ePn*	**Pn**	**11 05 24.9**	**+0.3**
NVAR	**Mina Array Bea**	**6.54**	**340**	Pn	Pn	11 05 55.9	+5.2
	comp=N,0.1nm,0.3s,baz=159,slow=13,SNR=3.5						
NVAR				Pg	**Pg**	**11 06 18.7**	**-0.2**
	comp=N,0.3nm,0.3s,baz=170,slow=17,SNR=9.3						
ANMO	**Albuquerque**	**7.92**	**68**	Pn	**Pn**	**11 06 10.0**	**+0.3**
	comp=N,0.1nm,0.3s,baz=270,slow=14,SNR=6.6						
TXAR	**Lajitas Array**	**10.53**	**103**	Pn	**Pn**	**11 06 46.6**	**+1.2**
	comp=N,0.8nm,0.3s,baz=284,slow=13,SNR=39						
NEW	**Newport**	**15.99**	**356**	Pn	**P**	**11 08 03.6**	**+0.7**
	comp=N,0.0nm,0.3s,baz=162,slow=16,SNR=3.6						
ULM	**Lac du Bonnet**	**23.05**	**33**	P	**P**	**11 09 21.0**	**+1.2**
	comp=N,1.7nm,0.9s,baz=226,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**37.80**	**339**	P	**P**	**11 11 32.1**	**+1.4**
	comp=N,0.7nm,0.9s,baz=153,slow=7.7,SNR=7.4						
SCHQ	**Schefferville**	**40.72**	**42**	P	P	11 11 56.7	+1.5
	comp=N,1.7nm,0.9s,baz=249,slow=14,SNR=3.2						

*ISCJB **07** 11:13:43.5±1.3, 36°42S±0.05×73°55W±0.07, h5km±7km, mb4.0/8, MS3.1/2, Error ellipse: s-maj=10.7km s-min=7.4km az=135.1*
*IDC **07** 11:13:44.0±0.8, 36°48S×73°30W, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/25, mbtmp3.9/9, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/24, Error ellipse: s-maj=29.8km s-min=21.1km az=109.0*
*GUC **07** 11:13:46.9±0.3, 36°48S×73°27W, h15km±2km, ML4.4*
*NEIC **07** 11:13:49.0±0.6, 36°43S×73°24W, h35km, mb4.6/1, Error ellipse: s-maj=23.6km s-min=13.0km az=112.0*

ISC 07 11:13:45.4±2.2, 36°38S±0.07×73°4W±0.1, h9km±13km, n21, σ1s13/27, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.51**	**154**	*i* P	**Pg**	**11 13 55.3**	**-0.1**
CCSP				*i* S	**Sg**	**11 14 01.5**	**-0.6**
CCSP				AML	AML	11 14 02.7	
	comp=E,31μm,0.5s						
COCH	**Cobquecura**	**0.55**	**63**	*i* P	**Pb**	**11 13 57.7**	**+0.6**
COCH				*i* S	**Sb**	**11 14 05.6**	**+0.6**
COCH				AML	AML	11 14 08.1	
	comp=E,31μm,0.2s						
LNCH	**Linares**	**1.54**	**70**	*i* P	**Pb**	**11 14 13.5**	**-0.6**
LNCH				*i* S	**Sg**	**11 14 34.8**	**-0.3**
LNCH				AML	AML	11 14 40.8	
	comp=N,10μm,0.6s						
TALC	**Talca**	**1.73**	**56**	*i* P	**Pb**	**11 14 17.6**	**+0.3**
TALC				*i* S	**Sg**	**11 14 40.9**	**-0.2**
TALC				AML	AML	11 14 44.6	
	comp=N,9μm,0.5s						
NICH	**Los Niches**	**2.23**	**53**	*i* P	**Pb**	**11 14 25.3**	**-0.6**
NICH				*i* S	**Sb**	**11 14 54.8**	**+1.2**
NICH				AML	AML	11 15 06.0	
	comp=E,9μm,0.6s						
CFAA	**Coronel Fontan**	**6.40**	**43**	Pn	**Pn**	**11 15 20.3**	**+0.4**
	comp=E,0.4nm,0.3s,baz=50,slow=3.2,SNR=28						
CFAA				Sn	**Sn**	**11 16 32.6**	**-0.5**
	comp=E,0.7nm,0.3s,baz=20,slow=14,SNR=4.1						
LCO	**Las Campanas**	**7.69**	**18**	*ePn*	**Pn**	**11 15 37.3**	**-0.5**
	comp=E,14nm,0.6s						
LCO				*eSn*	**Sn**	**11 17 01.4**	**-3.8**
LPAZ	**La Paz**	**20.55**	**15**	P	**P**	**11 18 26.2**	**+1.3**
	comp=E,1.8nm,0.8s,baz=164,slow=6.7,SNR=5.3						
SIV	**San Ignacio**	**23.08**	**32**	P	**P**	**11 18 51.9**	**+0.6**
	comp=E,1.4nm,0.6s,baz=229,slow=12,SNR=6.5						
SIV				LR	LR	11 29 34.4	
	comp=E,67nm,21.4s,baz=359,slow=41						
NNA	**Nana**	**24.49**	**352**	LR	LR	11 26 50.5	
	comp=E,68nm,18.5s,baz=186,slow=32						
QSPA	**South Pole Qui**	**53.86**	**180**	P	**P**	**11 23 08.5**	**0.0**
	comp=E,2.1nm,0.8s,baz=173,slow=1.4,SNR=10						
TXAR	**Lajitas Array**	**71.30**	**332**	P	**P**	**11 25 06.0**	**+0.8**
	comp=E,1.5nm,0.7s,baz=151,slow=8.6,SNR=14						
SWET	**Sewanee**	**72.19**	**349**	*eP*	**P**	**11 25 10.7**	**+0.3**
	comp=E,4.1nm,0.6s						
DBIC	**Dimbokro**	**76.99**	**72**	P	**P**	**11 25 39.4**	**+0.7**
	comp=E,1.0nm,0.5s,baz=229,slow=3.3,SNR=3.9						
NVAR	**Mina Array Bea**	**85.22**	**326**	P	**P**	**11 26 23.9**	**+1.6**
	comp=E,1.1nm,0.7s,baz=158,slow=5.8,SNR=10						
PDAR	**Pinedale Array**	**85.40**	**334**	P	**P**	**11 26 23.6**	**+0.5**
	comp=E,1.6nm,1.1s,baz=131,slow=7.5,SNR=7.0						
TORD	**Torodi Ar. Bea**	**86.05**	**71**	P	**P**	**11 26 26.1**	**-0.6**
	comp=E,0.6nm,0.8s,baz=207,slow=4.4,SNR=3.7						
WRA	**Warramunga Arr**	**118.15**	**210**	PKP	**PKPdf**	**11 32 31.3**	**-2.0**
	comp=E,0.2nm,0.6s,baz=156,slow=1.7,SNR=3.9						
ABKAR	**Akbulak array**	**144.00**	**54**	*ePKPdf*	PKPbc	11 33 18.1	-0.5
ZALV	**Zalesovo Beam**	**156.82**	**34**	PKP	**PKPdf**	**11 33 39.9**	**-0.5**
	comp=E,0.2nm,0.3s,baz=336,slow=1.7,SNR=4.1						
MKAR	**Makanchi Array**	**159.13**	**53**	PKP	**PKPdf**	**11 33 42.7**	**-0.8**
	comp=E,0.4nm,0.8s,baz=292,slow=3.3,SNR=4.3						
MKAR				PKPab	**PKPab**	**11 34 20.2**	**-0.2**
	comp=E,0.4nm,0.7s,baz=319,slow=4.2,SNR=4.6						

IDC 07 11:16:48.3±1.9, 6°87S×129°20E, h0km, mb4.4/1, mb1 4.3/3, mb1mx3.6/25, mbtmp4.1/3, ML3.9/2, Error ellipse: s-maj=109.4km s-min=30.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.92**	**159**	Pn	Pn	11 20 05.7	-1.3
	0.6nm,0.3s,baz=338,slow=13,SNR=30						
WRA				Sn	Sn	11 22 27.4	-15
	0.6nm,0.3s,baz=338,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**17.30**	**165**	P	P	11 20 52.4	-0.6
	0.6nm,0.3s,baz=345,slow=11,SNR=64						
ASAR				S	Sn	11 23 54.7	-10
	0.1nm,0.3s,baz=325,slow=16,SNR=5.0						
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	11 27 47.4	0.0
	2.2nm,0.5s,baz=118,slow=8.2,SNR=37						

*CSEM **07** 11:24:28.7±0.7, 59°44N×26°95E, h2km, ML1.4, Error ellipse: s-maj=12.7km s-min=8.3km az=145.0, Mining explosion.*

HEL 07 11:24:26.9±0.3, 59°31N×27°12E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.25**	**10**	*eP*	Pg	11 24 49.7	-1.1
VJF				*eSB*	Sg	11 25 06.5	-0.5
VJF				MSG		11 25 06.6	
	comp=Z,3.3nm,0.1s						
VJF	**Virojoki**	**1.25**	**10**	P	Pg	11 24 49.6	-1.2
VJF				Sb	Sg	11 25 06.4	-0.6
PVF	**Pernaja**	**1.39**	**333**	*eP*	Pn	11 24 52.4	-1.0
PVF				*eS*	Sg	11 25 10.1	-1.4
PVF				MSG		11 25 10.2	
	comp=Z,0.9nm,0.1s						
PVF	**Pernaja**	**1.39**	**333**	P	Pn	11 24 52.4	-1.1
PVF				S	Sg	11 25 10.0	-1.5
SRPE	**Suurupi**	**1.41**	**277**	*eP*	Pn	11 24 52.6	-1.1
SRPE				*eSN*	Sn	11 25 14.8	+1.8
SRPE	**Suurupi**	**1.41**	**277**	P	Pn	11 24 52.6	-1.2
MEF	**Metsahovi**	**1.65**	**305**	*ePG*	Pn	11 24 57.2	+0.1
MEF				*eS*	Sn	11 25 18.2	-0.7
MEF				MSG		11 25 18.4	
	comp=Z,2.9nm,0.2s						
MEF	**Metsahovi**	**1.65**	**305**	Pg	Pn	11 24 57.1	0.0
MEF				S	Sn	11 25 18.2	-0.7
FIA0	**FINESS Array S**	**2.20**	**347**	*eP*	Pn	11 25 04.8	+0.1
FIA0				*ePB*	Pb	11 25 06.1	-1.4
FIA0				*eSB*	Sb	11 25 34.1	-1.2
FIA0				*eSG*	Sg	11 25 35.3	-2.3
FIA0				MSG		11 25 35.6	
	comp=Z,1.0nm,0.1s						
FIA0	**FINESS Array S**	**2.20**	**347**	P	Pn	11 25 04.7	+0.1
KAF	**Kangasniemi**	**2.84**	**352**	*eSG*	Sb	11 25 54.4	+0.7
KAF				MSG		11 25 55.5	
	comp=Z,2.3nm,0.3s						
KAF	**Kangasniemi**	**2.84**	**352**	Sg	Sb	11 25 54.3	+0.7
SLIT	**Slitere, Latvi**	**3.05**	**238**	*eSB*	Sb	11 25 59.1	-0.5
KEF	**Keuruu**	**3.07**	**340**	*eP*	Pn	11 25 17.8	+1.2
KEF				*eSG*	Sb	11 26 02.0	+1.7
KEF				MSG		11 26 02.0	
	comp=Z,2.0nm,0.2s						
KEF	**Keuruu**	**3.07**	**340**	P	Pn	11 25 17.8	+1.2
KEF				Sg	Sb	11 26 01.9	+1.6
RAF	**Rauma**	**3.18**	**305**	*eP*	Pn	11 25 19.5	+1.5
RAF	**Rauma**	**3.18**	**305**	P	Pn	11 25 19.5	+1.4
AAL	**Aland**	**3.71**	**287**	*eSG*	Sb	11 26 21.6	+3.0
AAL	**Aland**	**3.71**	**287**	Sg	Sb	11 26 21.6	+3.0
JOF	**Joensuu**	**4.15**	**28**	*eP*	Pn	11 25 32.2	+0.8
JOF	**Joensuu**	**4.15**	**28**	P	Pn	11 25 32.2	+0.8

*KOLA **07** 11:25:10.6, 68°09N×33°23E, h0km*
*CSEM **07** 11:25:12.3±0.6, 68°06N×32°93E, h2km, ML1.9, Error ellipse: s-maj=12.0km s-min=7.5km az=91.0, Mining explosion.*
*UPP **07** 11:25:14.5, 67°90N×32°57E, h0km, ML0.9, Suspected Mining explosion.*

HEL 07 11:25:11.1±0.2, 68°16N×33°20E, h0km, ML1.9, ML0.9(UPP), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.56**	**188**	P	Pg	11 25 19.6	-2.2
APA0				S	Sg	11 25 26.1	-2.9
APA	**Apatity**	**0.60**	**173**	P	Pg	11 25 20.1	-2.4
APA				S	Sg	11 25 27.1	-3.1
VRF	**Varrio**	**1.42**	**255**	*eP*	Pn	11 25 36.8	-1.3
VRF				*eS*	Sg	11 25 55.0	-1.7
VRF	**Varrio**	**1.42**	**255**	P	Pn	11 25 36.8	-1.3
VRF				S	Sg	11 25 54.9	-1.8
KU6	**Riekki**	**2.50**	**213**	*eP*	Pn	11 25 53.0	0.0
KU6				*eSB*	Sb	11 26 26.4	-1.8
KU6	**Riekki**	**2.50**	**213**	P	Pn	11 25 53.0	0.0
KU6				Sb	Sb	11 26 26.4	-1.8
SGF	**Sodankyl**	**2.64**	**257**	*eP*	Pn	11 25 54.6	-0.2
SGF				*eSG*	Sb	11 26 31.6	-0.4
SGF	**Sodankyl**	**2.64**	**257**	P	Pn	11 25 54.6	-0.2
SGF				Sg	Sb	11 26 31.6	-0.4
KEV	**Kevo**	**2.75**	**309**	*eP*	Pn	11 25 57.3	+0.9
KEV				*eSG*	Sb	11 26 35.3	0.0
KEV				MSG		11 26 39.8	
	comp=Z,5.7nm,0.2s						
KEV	**Kevo**	**2.75**	**309**	P	Pn	11 25 57.2	+0.8
MSF	**Maaselka**	**2.78**	**218**	*ePG*	Pb	11 26 01.1	-0.6
MSF				*eSB*	Sb	11 26 34.6	-1.7
MSF	**Maaselka**	**2.78**	**218**	Pg	Pb	11 26 01.1	-0.6
MSF				Sb	Sb	11 26 34.6	-1.7
ARE0	**ARCESS Array S**	**3.12**	**300**	*eP*	Pn	11 26 01.5	+0.1
ARE0	**ARCESS Array S**	**3.12**	**300**	P	Pn	11 26 01.5	+0.1
RNF	**Rovaniemi**	**3.18**	**244**	*eS*	Sn	11 26 41.8	+0.8
HEF	**Hetta**	**3.56**	**278**	*eS*	Sn	11 26 48.9	-1.3
HEF				*eSG*	Sb	11 27 01.1	+2.5
HEF				MSG		11 27 07.5	
	comp=Z,1.7nm,0.2s						
HEF	**Hetta**	**3.56**	**278**	S	Sn	11 26 48.8	-1.4
PAJU	**Pajala**	**4.03**	**258**	*eP*	Pn	11 26 13.5	-0.5
PAJU	**Pajala**	**4.03**	**258**	P	Pn	11 26 13.5	-0.5
LANU	**Lannavaara**	**4.20**	**274**	*eP*	Pn	11 26 15.6	-0.8
LANU	**Lannavaara**	**4.20**	**274**	P	Pn	11 26 15.6	-0.8
LANU				S	Sn	11 27 05.2	-0.9
MASU	**Masugnsbyn**	**4.31**	**266**	*eP*	Pn	11 26 16.5	-1.3
MASU	**Masugnsbyn**	**4.31**	**266**	P	Pn	11 26 16.5	-1.3
ERTU	**Ertsjaerv**	**4.55**	**254**	*eS*	Sn	11 27 12.8	-1.8
ERTU	**Ertsjaerv**	**4.55**	**254**	S	Sn	11 27 12.8	-1.9
ERTU	**Ertsjaerv**	**4.55**	**254**	P	Pn	11 26 18.5	-2.6
KIF	**Kilpisjarvi**	**4.63**	**286**	*eSG*	Sb	11 27 33.3	+4.1
KIF				MSG		11 27 36.6	
	comp=Z,1.5nm,0.2s						
KUA	**Kurravaara**	**4.83**	**274**	*eP*	Pn	11 26 25.1	+0.2
KUA	**Kurravaara**	**4.83**	**274**	P	Pn	11 26 25.1	+0.1
SJUU	**Sjulsmark**	**5.29**	**245**	*eP*	Pn	11 26 30.5	-0.8
SJUU	**Sjulsmark**	**5.29**	**245**	P	Pn	11 26 30.4	-0.9
NIKU	**Nikkaluokta**	**5.33**	**273**	*eP*	Pn	11 26 32.4	+0.5
NIKU	**Nikkaluokta**	**5.33**	**273**	P	Pn	11 26 32.3	+0.5
SALU	**Saltoluokta**	**5.63**	**269**	*eP*	Pn	11 26 36.4	+0.3

1.1nm,0.6s,baz=97,slow=8.5,SNR=23
WRA LR LR 12 16 17.3
comp=Z,46nm,19.9s,baz=110,slow=35
TGY Tagaytay City 71.05 294 LR LR 12 30 32.1
comp=Z,6.2nm,19.5s,slow=35
NVAR Mina Array Bea 79.61 42 P P 12 01 11.1 -0.8
0.2nm,0.7s,baz=250,slow=6.6,SNR=1.5
AKASG Malin Array Be 143.99 333 PKP PKPdf 12 08 39.1 -0.7
1.1nm,0.7s,baz=42,slow=4.0,SNR=7.6
BRTR Keskin Array B 148.36 314 PKPbc PKPbc 12 08 52.4 +1.2
0.6nm,0.7s,baz=93,slow=2.9,SNR=3.8

CASC 07 12:01:46.6±2.8, 13°.81N×91°.17W, h25km±14km, MD3.6, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.68**	**318**	⇑*e*P	**Pb**	12 01 57.7	-2.2
NBG	**Las Nubes**	**1.11**	**46**	*e*P	**Pb**	12 02 07.9	+0.4
NBG				*e*S	Sb	12 02 23.9	+1.9
RBDL	**Robledal**	**1.47**	**78**	*e*P	**Pn**	12 02 12.2	+0.5
RTR	**El Retiro**	**1.48**	**86**	*e*P	**Pb**	12 02 13.1	-0.6
SBLS	**San Blas**	**1.50**	**89**	*e*P	**Pn**	12 02 12.6	+0.3
SNJE	**San Jose**	**1.52**	**87**	*e*P	**Pn**	12 02 12.8	+0.3
SNJE				*e*S	Sn	12 02 30.8	-0.8
LFRS	**El Faro**	**2.05**	**95**	*e*P	**Pn**	12 02 20.6	+0.9

CSEM 07 12:20:37.6, 45°.98N×15°.45E, h0km, ML0.6, 6C, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESS	**Cesta pri Krsk**	**0.01**	**126**	⇑*i*Pg	Pg	12 20 37.4	-0.4
CESS				*i* Sg	Sg	12 20 37.8	-0.2
	comp=Z,3μm,0.2s						
CESS	**Cesta pri Krsk**	**0.01**	**126**	⇑*i*Pg	Pg	12 20 37.4	-0.5
CESS				*i* Sg	Sg	12 20 37.8	-0.2
	comp=Z,3μm,0.2s						
LEGS	**Legarje**	**0.10**	**251**	*i* Pg	Pg	12 20 39.9	+0.4
LEGS	**Legarje**	**0.10**	**251**	*i* Pg	Pg	12 20 39.9	+0.4
GOLS	**Golise**	**0.12**	**76**	⇑*i*Pg	Pg	12 20 39.9	-0.2
GOLS				*i* Sg	Sg	12 20 42.4	+0.6
	comp=Z,15nm,0.2s						
GOLS	**Golise**	**0.12**	**76**	⇑*i*Pg	Pg	12 20 39.9	-0.2
GOLS				*i* Sg	Sg	12 20 42.4	+0.6
	comp=Z,15nm,0.2s						
CRES	**Cresnjev**	**0.15**	**178**	⇑*i*Pg	Pg	12 20 40.2	-0.4
CRES				*i* Sg	Sg	12 20 43.0	+0.4
	comp=Z,12nm,0.2s						
CRES	**Cresnjev**	**0.15**	**178**	⇑*i*Pg	Pg	12 20 40.2	-0.4
CRES				*i* Sg	Sg	12 20 43.0	+0.4
	comp=Z,12nm,0.2s						

GUC 07 12:29:06.9±0.5, 21°.88S×67°.94W, h262km±7km, ML3.9, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.21**	**273**	*i* P	Pn	12 29 45.8	+1.2
PB09				⇑*i*P	Pn	12 29 45.8	+1.2
PB09				*i* S	S	12 30 16.1	+1.8
PB09				AML	AML	12 30 16.7	
	comp=N,296nm,0.5s						
PB01	**IPOC Station P**	**1.66**	**300**	*i* P	Pn	12 29 49.6	+1.9
PB01				*i* S	S	12 30 21.2	+1.3
PB01				AML	AML	12 30 22.2	
	comp=N,288nm,0.2s						
PB07	**IPOC Station P**	**1.81**	**274**	*i* P	Pn	12 29 50.8	+1.8
PB07				*i* S	S	12 30 23.8	+1.6
PB07				AML	AML	12 30 25.6	
	comp=E,276nm,0.4s						
PATCX	**Punta Patache**	**2.31**	**297**	*i* P	Pn	12 29 55.6	+2.3
PATCX				*i* S	S	12 30 32.0	+1.9
PATCX				AML	AML	12 30 35.2	
	comp=E,202nm,0.4s						
HMBC	**Humberstone**	**2.41**	**311**	*i* P	Pn	12 29 56.4	+2.0
HMBC				*i* S	S	12 30 33.8	+1.8
HMBC				AML	AML	12 30 38.1	
	comp=E,123nm,0.6s						
PB11	**IPOC Station P**	**2.64**	**322**	*i* P	Pn	12 29 59.0	+2.2
PB11				*i* S	S	12 30 37.9	+1.7
PB11				AML	AML	12 30 39.5	
	comp=N,465nm,0.2s						
MNMC	**Minimini**	**3.14**	**330**	*i* P	Pn	12 30 04.5	+2.5
MNMC				*i* S	S	12 30 48.0	+2.2
MNMC				AML	AML	12 30 53.1	
	comp=N,180nm,0.2s						

*CSEM **07** 12:29:45.5, 64°.76N×17°.73E, h0km, ML0.9, Mining explosion.*
UPP 07 12:29:45.5, 64°.76N×17°.73E, h0km, ML0.9, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVAU	**Svanoeiden**	**0.84**	**108**	P	Pg	12 30 01.1	-0.5
BREU	**Bredtraesk**	**0.95**	**157**	P	Pg	12 30 03.4	-0.3
LILU	**Lilltraesk**	**1.04**	**59**	P	Pg	12 30 05.1	-0.4
SOLU	**Sollefteaa**	**1.53**	**188**	P	Pn	12 30 13.8	-0.3
HUSU	**Husum**	**1.57**	**155**	P	Pn	12 30 14.4	-0.1
BURU	**Burvik**	**1.58**	**95**	P	Pn	12 30 15.1	+0.4
NOD	**Norderasen**	**1.83**	**225**	P	Pn	12 30 18.3	+0.1

*ISCJB **07** 12:43:01.9±0.4, 32°.25N±0°.02×115°.29W±0°.03, h12km±3km, Error ellipse: s-maj=4.1km s-min=3.5km az=12.1*
*NEIC **07** 12:43:02.8, 32°.24N×115°.33W, h12km, MD4.5(MEX), ML3.8(PAS), After PAS.*
*ECX **07** 12:43:03.6±0.6, 32°.26N×115°.34W, h3km, MD3.7, ML3.9*
*MEX **07** 12:43:04.5±0.3, 32°.27N×115°.31W, h5km±8km, MD4.0*
ISC 07 12:43:01.9±0.9, 32°.23N±0°.02×115°.33W±0°.03, h13km±7km, n31, σ0°.73/45, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**6**	*e*P	**Pg**	**12 43 06.6**	**+0.3**
CPBX				*e*S	**Sg**	**12 43 09.3**	**+0.1**
MBIG	**Mexicali**	**0.21**	**31**	*e*P	**Pb**	**12 43 07.7**	**+0.1**
MBIG				*e*S	**Sg**	**12 43 09.9**	**+0.2**
EMX	**El Mayor**	**0.25**	**163**	⇓*e*P	**Pg**	**12 43 06.8**	**-0.3**
EMX				*e*S	**Sg**	**12 43 10.8**	**+0.1**
SGL	**Mount Signal**	**0.54**	**321**	⇑*i*P	**Pg**	**12 43 12.7**	**+0.2**
RDX	**Rancho Dawling**	**0.60**	**240**	⇑*e*P	**Pb**	**12 43 14.8**	**+0.5**
RDX				*e*S	**Sb**	**12 43 23.1**	**+0.3**
YUH	**Yuha Desert**	**0.66**	**310**	⇑*i*P	**Pg**	**12 43 14.6**	**-0.1**
COA	**Coachella**	**0.66**	**15**	⇓*i*P	**Pg**	**12 43 14.9**	**+0.3**
COK	**Cook Ranch**	**0.71**	**331**	⇑*i*P	**Pg**	**12 43 15.8**	**+0.2**
YMD	**Yuma Desert**	**0.74**	**64**	⇑*i*P	**Pg**	**12 43 16.4**	**+0.3**
RMX	**La Rumorosa**	**0.74**	**301**	⇑*e*P	**Pg**	**12 43 16.2**	**0.0**
RMX				*e*S	**Sg**	**12 43 25.8**	**-0.2**
RMX				⇑*e*		12 43 27.0	
RMX				AML	AML	12 43 27.0	
	comp=N,4μm,0.2s						
ECBX	**El Chinero**	**0.79**	**163**	*e*P	**Pg**	**12 43 15.9**	**-1.2**
ECBX				*e*S	**Sg**	**12 43 26.9**	**-0.7**
CRR	**Carrizo Plain**	**0.85**	**321**	⇑*i*P	**Pg**	**12 43 17.8**	**-0.5**
GLA	**Glamis**	**0.92**	**27**	*e*Pg	**Pb**	**12 43 18.7**	**-1.1**
CAX	**El Zacaton**	**1.07**	**229**	*e*P	**Pg**	**12 43 23.2**	**+0.6**
ZAX				*e*S	**Sn**	**12 43 37.7**	**+0.2**
ZAX				⇑*e*		12 43 41.1	
ZAX				AML	AML	12 43 41.1	
	comp=N,6μm,0.5s						
CBX	**Cerro Bola**	**1.14**	**275**	*e*P	**Pb**	**12 43 23.4**	**0.0**
CBX	**Cerro Bola**	**1.14**	**275**	*e*P	**Pb**	**12 43 23.4**	**0.0**
CBX				*e*S	**Sn**	**12 43 38.8**	**-0.2**
CBX				⇓*e*		12 43 44.4	
CBX				AML	AML	12 43 44.4	
	comp=E,2μm,0.5s						
CBX	**Cerro Bola**	**1.14**	**275**	*e*P	**Pb**	**12 43 23.4**	**0.0**
SPIG	**San Pedro Mart**	**1.18**	**186**	*i* P	**Pg**	**12 43 24.8**	**+0.1**
SPIG				*e*S	**Sg**	**12 43 40.6**	**+0.5**
SPIG	**San Pedro Mart**	**1.18**	**186**	⇓*e*P	**Pg**	**12 43 24.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.18**	**186**	*i* P	**Pg**	**12 43 24.8**	**+0.1**
SPIG				*e*S	**Sg**	**12 43 40.6**	**+0.5**
SPX	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pg**	**12 43 24.8**	**0.0**
ECNX	**Esteban Cantu**	**1.22**	**243**	*e*P	**Pb**	**12 43 24.8**	**-0.1**
ECNX				*e*S	**Sg**	**12 43 42.1**	**+0.8**
BAR	**Barrett**	**1.22**	**292**	*e*Pg	**Pn**	**12 43 24.2**	**-0.4**
BAR				*e*Sg	**Sb**	**12 43 40.2**	**-0.4**
PBX	**Punta Banda**	**1.28**	**248**	*e*P	**Pb**	**12 43 26.0**	**+0.2**
PBX				*e*S	**Sg**	**12 43 43.7**	**+0.4**
PFO	**Pinyon Flats O**	**1.67**	**326**	*e*Pn	**Pn**	**12 43 29.5**	**-1.4**
PFO				*e*Sn	**Sb**	**12 43 53.2**	**-0.4**
214A	**Organ Pipe Nat**	**2.15**	**97**	*e*Pn	**Pn**	**12 43 36.0**	**-1.4**
LDFC	**Landfair**	**2.85**	**4**	*e*Pn	**Pn**	**12 43 45.1**	**-2.0**
OSI	**Osito Audit: C**	**3.71**	**311**	Pn	**Pb**	**12 44 07.3**	**+0.1**
TUC	**Tucson**	**3.85**	**88**	*e*Pn	Pn	12 44 04.6	+3.8
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**	**12 44 13.9**	**+2.0**
WUAZ				*e*Sn	**Sn**	**12 45 07.2**	**+1.6**
121A	**Cookes Peak, D**	**6.39**	**85**	*e*Pn	**Pn**	**12 44 36.6**	**+0.8**
	comp=E,6.1nm,0.3s						

*KRSC **07** 12:52:50.8±0.8, 55°.63N×161°.60E, h105km±12km, ML4.9, FELT [IV] at Nikolskoe; [III-IV] at GMS Kronoki.*
*MOS **07** 12:52:51.6±0.9, 55°.71N×161°.32E, h112km, mb4.8/28, Error ellipse: s-maj=8.6km s-min=4.7km az=86.7*
*ISCJB **07** 12:52:52.3±0.1, 55°.71N±0°.02×161°.30E±0°.03, h115km±1km, mb4.5/87, Error ellipse: s-maj=3.7km s-min=2.4km az=38.6*
*IDC **07** 12:52:53.5±0.4, 55°.75N×161°.22E, h112km±3km, mb4.0/32, mb1 4.2/35, mb1mx4.2/37, mbtmp4.4/35, MS3.2/6, Ms1 3.2/6, ms1mx2.8/47, Error ellipse: s-maj=10.3km s-min=6.7km az=138.0*
*BJI **07** 12:52:53.2, 55°.96N×160°.86E, h110km, mB4.7/17, mb4.6/24*
*NEIC **07** 12:52:53.4±0.2, 55°.75N×161°.22E, mb4.6/32, Error ellipse: s-maj=4.9km s-min=3.3km az=157.0*
ISC 07 12:52:53.0±0.3, 55°.66N±0°.03×161°.47E±0°.03, h111km±2km, h110km; pP-P, n477, σ1°.29/572, mb4.5/88, 82C-89D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.52**	**314**	*i* P	**Pn**	**12 53 09.8**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**0.52**	**303**	*i* P	**Pn**	**12 53 09.7**	**-0.5**
LGNR	**Loginova**	**0.61**	**314**	*i* P	**Pn**	**12 53 10.8**	**-0.3**
CIRR	**Tsirk**	**0.61**	**318**	*e*P	**Pn**	**12 53 10.2**	**-0.7**
BZMR	**Bezymyannaya**	**0.62**	**297**	*e*P	**Pn**	**12 53 10.0**	**-1.0**
BZMR				*e*S	**Sn**	**12 53 23.1**	**-1.4**
BZWR	**Bezymyannyi-We**	**0.63**	**299**	*i* P	**Pn**	**12 53 10.5**	**-0.6**
BZWR				*e*S	**Sn**	**12 53 23.7**	**-1.0**
KIRR	**Kirishev**	**0.70**	**295**	*e*P	**Pn**	**12 53 10.6**	**-1.0**
KIRR				*e*S	**Sn**	**12 53 23.7**	**-2.0**
KMNR	**Kamenistaya**	**0.70**	**278**	*i* P	**Pn**	**12 53 11.1**	**-0.5**
KRSR	**Krestovskiy**	**0.75**	**318**	*i* P	**Pn**	**12 53 11.2**	**-0.8**
KRSR				*i* S	**Sn**	**12 53 24.9**	**-1.5**
KPT	**Kopyto**	**0.77**	**294**	*i* P	**Pn**	**12 53 11.4**	**-0.7**
KPT				*i* S	**Sn**	**12 53 25.0**	**-1.6**
KLY	**Klyuchi**	**0.80**	**325**	PN	**Pn**	**12 53 11.0**	**-1.3**
KLY				S	**Sn**	**12 53 24.1**	**-2.7**
KLY	**Klyuchi**	**0.80**	**325**	*i* P	**Pn**	**12 53 11.0**	**-1.3**
KLY				*e*S	**Sn**	**12 53 24.1**	**-2.7**
KLY				*i* S	**Sn**	**12 53 24.8**	**-2.0**
TUMR	**Tumrok**	**0.84**	**244**	*i* P	**Pn**	**12 53 12.7**	**-0.2**
TUMR				*e*S	**Sn**	**12 53 26.7**	**-1.1**
KZV	**Kizimen**	**0.87**	**231**	*i* P	**Pn**	**12 53 12.5**	**-0.6**
KBG	**Krutoberegovo**	**0.91**	**49**	PN	**Pn**	**12 53 12.0**	**-1.3**
KBG				S	**Sn**	**12 53 26.6**	**-2.1**
KBG	**Krutoberegovo**	**0.91**	**49**	*i* P	**Pn**	**12 53 12.0**	**-1.3**
KBG				*i* S	**Sn**	**12 53 26.6**	**-2.1**
BDR	**Baidarnaya**	**0.92**	**351**	*i* P	**Pn**	**12 53 13.0**	**-0.5**
BDR				*e*S	**Sn**	**12 53 28.1**	**-1.0**
SMKR	**Semkarok**	**0.92**	**360**	*i* P	**Pn**	**12 53 12.9**	**-0.7**
SMKR				*e*S	**Sn**	**12 53 27.7**	**-1.4**
KBTR	**Krutoberegovo**	**0.94**	**54**	*i* P	**Pn**	**12 53 12.3**	**-1.3**
KOZR	**Kozyr**	**0.98**	**295**	PN	**Pn**	**12 53 14.1**	**+0.1**
KOZR				S	**Sn**	**12 53 30.1**	**+0.2**
KOZ	**Kozyrevsk**	**0.98**	**294**	*i* P	**Pn**	**12 53 14.1**	**0.0**
KOZ				*e*S	**Sn**	**12 53 30.1**	**0.0**
SRKR	**Sorokina**	**1.01**	**350**	*i* P	**Pn**	**12 53 13.9**	**-0.5**
SRKR				*e*S	**Sn**	**12 53 28.5**	**-2.1**
MKZ	**Mys Kozlova**	**1.12**	**172**	PN	**Pn**	**12 53 14.0**	**-1.5**
MKZ				S	**Sn**	**12 53 30.1**	**-2.4**
MKZ	**Mys Kozlova**	**1.12**	**172**	*i* P	**Pn**	**12 53 14.0**	**-1.5**
MKZ				*e*S	**Sn**	**12 53 30.0**	**-2.4**
SRDR	**Sredinnyy**	**1.18**	**304**	*i* P	**Pn**	**12 53 16.0**	**-0.3**
SRDR				*e*S	**Sn**	**12 53 32.8**	**-1.1**
ESO	**Esso**	**1.59**	**281**	PN	**Pn**	**12 53 20.8**	**-0.1**
ESO				S	**Sn**	**12 53 41.6**	**-0.5**
ESO	**Esso**	**1.59**	**281**	*i* P	**Pn**	**12 53 20.8**	**-0.1**
ESO				*i* S	**Sn**	**12 53 41.6**	**-0.5**
KII	**Karymskiy**	**2.01**	**216**	*i* P	**Pn**	**12 53 26.4**	**+0.2**
KII				*e*S	**Sn**	**12 53 51.6**	**+0.1**
BKI	**Bering**	**2.61**	**98**	PN	**Pn**	**12 53 32.5**	**-1.2**
BKI				S	**Sn**	**12 54 01.6**	**-3.5**
BKI	**Bering**	**2.61**	**98**	*i* P	**Pn**	**12 53 32.5**	**-1.2**
BKI				*i* S	**Sn**	**12 54 01.6**	**-3.5**
SPN	**Mys Shipunski**	**2.71**	**199**	PN	**Pn**	**12 53 33.5**	**-1.6**
SPN				S	**Sn**	**12 54 03.7**	**-3.8**
SPN	**Mys Shipunski**	**2.71**	**199**	*i* P	**Pn**	**12 53 33.5**	**-1.6**
SPN				*i* S	**Sn**	**12 54 03.7**	**-3.8**
NLC	**Nalytchevo**	**2.79**	**207**	PN	**Pn**	**12 53 35.7**	**-0.5**
NLC				S	**Sn**	**12 54 07.4**	**-2.0**
NLC	**Nalytchevo**	**2.79**	**207**	*e*P	**Pn**	**12 53 35.7**	**-0.5**
NLC				*e*S	**Sn**	**12 54 07.4**	**-2.0**
SDLR	**Sedlovina**	**2.83**	**213**	*i* P	**Pn**	**12 53 37.0**	**+0.2**
SDLR				*e*S	**Sn**	**12 54 09.6**	**-0.9**
KRX	**Arik**	**2.83**	**217**	*i* P	**Pn**	**12 53 37.8**	**+0.9**
KRX				S	**Sn**	**12 54 10.7**	**0.0**
GNL	**Ganaly**	**2.84**	**228**	*i* P	**Pn**	**12 53 37.7**	**+0.7**
KRER	**Koryakskii**	**2.85**	**215**	*i* P	**Pn**	**12 53 37.7**	**+0.5**
KRER				S	**Sn**	**12 54 11.0**	**-0.1**
SMAR	**Somma**	**2.87**	**214**	*i* P	**Pn**	**12 53 37.8**	**+0.4**
SMAR				S	**Sn**	**12 54 10.6**	**-1.0**
AVH	**Avacha**	**2.88**	**215**	*i* P	**Pn**	**12 53 38.5**	**+1.0**
AVH				*e*S	**Sn**	**12 54 12.2**	**+0.4**
KOK	**Koryaka**	**2.90**	**216**	*i* P	**Pn**	**12 53 38.4**	**+0.7**
UGLR	**Uglovaya**	**2.91**	**213**	*i* P	**Pn**	**12 53 38.3**	**+0.5**
PET	**Petropavlovsk**	**3.12**	**213**	*i* PN	**Pn**	**12 53 40.7**	**+0.2**
PET				*e*S	**Sn**	**12 54 16.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,1μm,2.4s						
PET				pmax	pmax		
	comp=Z,300nm,3.0s						
PET				pmax	pmax		
	comp=Z,309nm,0.5s						
PET				smax	smax		
	comp=E,1μm,2.2s						
PET				smax	smax		
	comp=N,959nm,0.6s						
PET				smax	smax		
	comp=E,724nm,0.5s						
PET	**Petropavlovsk**	**3.12**	**213**	*e*P	**Pn**	**12 53 41.3**	**+0.8**
PET				*e*S	**Sn**	**12 54 11.9**	**-0.2**
PET	**Petropavlovsk**	**3.12**	**213**	*e*Pn	**Pn**	**12 53 41.2**	**+0.7**
PETK	**Petropavlovsk-**	**3.38**	**222**	P	**Pn**	**12 53 44.4**	**+0.4**
	comp=E,18nm,0.3s,baz=70,slow=14,SNR=307						
PETK				S	**Sn**	**12 54 23.9**	**+0.5**
	comp=E,15nm,0.3s,baz=93,slow=19,SNR=4.1						
PALN	**Palana**	**3.53**	**347**	*e*P	**Pn**	**12 53 45.6**	**-0.3**
RUS	**Russkaya**	**3.68**	**210**	PN	**Pn**	**12 53 46.9**	**-1.0**
RUS				S	**Sn**	**12 54 26.9**	**-3.6**
RUS	**Russkaya**	**3.68**	**210**	*i* P	**Pn**	**12 53 46.9**	**-1.0**
RUS				*e*S	**Sn**	**12 54 26.9**	**-3.6**
OSSR	**Ossora**	**3.70**	**13**	*i* P	**Pn**	**12 53 47.7**	**-0.5**
OSSR				*e*S	**Sn**	**12 54 28.0**	**-2.9**
MTVR	**Mutnovka**	**3.73**	**213**	*i* P	**Pn**	**12 53 49.4**	**+0.6**
MTVR				*e*S	**Sn**	**12 54 31.0**	**-1.0**
APC	**Apacha**	**3.73**	**224**	*i* P	**Pn**	**12 53 49.6**	**+0.9**
ASAK	**Asacha**	**3.90**	**214**	*i* P	**Pn**	**12 53 51.5**	**+0.4**
MIPR	**Malaya Ipel'ka**	**4.39**	**221**	*e*P	**Pn**	**12 53 58.3**	**+0.8**
PAU	**Pauzhetka**	**5.04**	**215**	PN	**Pn**	**12 54 06.5**	**+0.3**
PAU	**Pauzhetka**	**5.04**	**215**	*e*P	**Pn**	**12 54 06.5**	**+0.3**
TILK	**Tilichiki**	**5.40**	**25**	*i* P	**Pn**	**12 54 12.1**	**+1.1**
TILK				*e*S	**Sn**	**12 55 09.9**	**-2.0**
SKR	**Severo-Kuril's**	**5.94**	**215**	*e*PN	Pn	12 54 13.6	-4.8
SKR				*e*S	**Sn**	**12 55 22.9**	**-2.1**
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,90nm,0.5s						
SKR				smax	smax		
	comp=E,50nm,0.5s						
SKR	**Severo-Kuril's**	**5.94**	**215**	*i* P	**Pn**	**12 54 18.0**	**-0.4**
SEY	**Seymchan**	**8.64**	**331**	P	**Pn**	**12 54 55.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=138,slow=11,SNR=12						
BILL	**Bilibino**	**12.62**	**8**	⇑*e*PN	**Pn**	**12 55 51.0**	**+2.8**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BILL	**Bilibino**	**12.62**	**8**	*e*Pn	**Pn**	**12 55 49.9**	**+1.7**
UGL	**Uglegorsk**	**13.54**	**249**	PN	**Pn**	**12 55 59.8**	**-0.5**
YSS	**Yuzh-Sakhalins**	**14.55**	**241**	⇑*e*P	**P**	**12 56 18.9**	**+2.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**14.55**	**241**	*e*Pn	**P**	**12 56 15.4**	**-1.3**
GAMB	**Gambell**	**15.67**	**48**	*e*Pn	**Pn**	**12 56 28.0**	**+0.8**
	comp=Z,10.0nm,0.5s						
ASAJ	**Asahikawa**	**16.71**	**234**	P	**P**	**12 56 41.3**	**+0.7**
	comp=Z,2.2nm,0.3s,baz=69,slow=7.3,SNR=26						
ASAJ				LR	LR	13 02 29.6	
	comp=Z,53nm,19.3s,baz=8.0,slow=35						
YAK	**Yakutsk**	**17.50**	**304**	*e*P	**P**	**12 56 49.1**	**-0.1**
YAK				*e*S	**Sn**	**13 00 01.2**	**-3.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				smax	smax		
	comp=N,44nm,2.9s						
YAK				smax	smax		
	comp=E,31nm,3.0s						
YAK	**Yakutsk**	**17.50**	**304**	P	**Pn**	**12 56 49.7**	**0.0**
	comp=E,0.0nm,0.3s,baz=276,slow=2.8,SNR=6.1						
YAK	**Yakutsk**	**17.50**	**304**	*e*Pn	**Pn**	**12 56 49.5**	**-0.2**
	comp=E,18nm,0.7s						
HABR	**Khabarovsk**	**17.69**	**257**	P	**P**	**12 56 50.5**	**-0.8**
HABR				S	**Sn**	**13 00 06.9**	**-2.2**
HABR				pmax	pmax		
	comp=Z,30nm,1.6s						
TNA	**Tin City**	**17.79**	**44**	*e*Pn	**Pn**	**12 56 53.8**	**+0.6**
	comp=Z,11nm,1.2s						
KLR	**Kul'dur**	**19.12**	**263**	*e*P	**P**	**12 57 07.2**	**+0.2**
CLNS	**Chul'man**	**20.21**	**289**	*e*P	**P**	**12 57 18.8**	**+0.1**
CLNS				pmax	pmax		
	comp=Z,15nm,1.1s						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,1.1s						
TIXI	**Tiksi**	**21.14**	**332**	⇓*i*P	**P**	**12 57 29.6**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,32nm,0.9s						
TIXI	**Tiksi**	**21.14**	**332**	*e*P	**P**	**12 57 29.2**	**+0.8**
	comp=Z,28nm,0.8s						
USRK	**Ussuriysk Ar.**	**21.99**	**251**	pP	pP	12 58 01.1	+2.3
	comp=Z,3.6nm,0.9s,baz=56,slow=11,SNR=4.4						
IM04	**Indian Mountai**	**23.58**	**46**	*e*P	**P**	**12 57 53.3**	**+0.1**
PPLA	**Purkeypile**	**24.27**	**54**	*e*P	**P**	**12 58 00.1**	**+0.6**
	comp=Z,27nm,1.4s						
RSO	**Redoubt South**	**24.28**	**60**	*e*P	**P**	**12 58 03.0**	**+3.3**
SPU	**Mount Spurr**	**24.51**	**58**	*e*P	**P**	**12 58 02.9**	**+1.2**
MAJO	**Matsushiro**	**24.81**	**229**	*e*P	**P**	**12 58 04.3**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,164nm,2.3s						
MAJO	**Matsushiro**	**24.81**	**229**	*e*P	**P**	**12 58 04.2**	**-0.2**
	comp=Z,164nm,2.3s						
MJAR	**Matsushiro Arr**	**24.81**	**229**	P	**P**	**12 58 04.8**	**+0.3**
	comp=Z,7.9nm,0.8s,baz=32,slow=8.0,SNR=20						
MJAR				LR	LR	13 08 36.3	
	comp=Z,40nm,20.9s,baz=45,slow=38						
KDAK	**Kodiak Island**	**24.93**	**66**	*i* P	**P**	**12 58 07.5**	**+2.2**
TRF	**Thorofare Moun**	**25.09**	**52**	*e*P	**P**	**12 58 07.7**	**+0.8**
	comp=Z,15nm,1.0s						
COLD	**Coldfoot**	**25.09**	**43**	*e*P	**P**	**12 58 06.7**	**-0.1**
	comp=Z,5.5nm,0.9s						
COLD				*e*PcP	**PcP**	**13 01 38.8**	**+1.0**
BOD	**Bodaibo**	**25.70**	**295**	*e*P	**P**	**12 58 10.4**	**-2.0**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COLA	**College**	**26.05**	**49**	*e*P	**P**	**12 58 16.4**	**+1.0**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
COLA	**College**	**26.05**	**49**	*e*P	**P**	**12 58 16.4**	**+1.0**
	comp=Z,5.5nm,0.8s						
ILAR	**Eielson Array**	**26.47**	**49**	P	**P**	**12 58 19.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=263,slow=8.7,SNR=37						
ILAR				PcP	**PcP**	**13 01 40.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=270,slow=3.4,SNR=8.9						
ILAR				LR	LR	13 09 22.1	
	comp=Z,37nm,18.8s,baz=56,slow=37						
RAGM	**Ragged Mountai**	**28.22**	**58**	*e*pP	pP	12 59 07.4	+8.1
KSRS	**Korea Array**	**28.98**	**245**	P	**P**	**12 58 41.7**	**-0.1**
KSRS						13 01 48.7	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS	**Korea Array**	**28.98**	**245**	P	**P**	**12 58 41.7**	**-0.1**
	comp=Z,0

WMQ pP **pP** **13 01 38.0 +0.1**
WMQ sP **sP** **13 01 50.0 -0.4**
WMQ *e*S **S** **13 07 53.0 -1.4**
WMQ PMZ
comp=E,31nm,0.7s
WMQ PMZ
comp=E,200nm,5.2s
CD2 Chengdu 47.05 263 *e*P **P** **13 01 13.2 0.0**
CD2 pP **pP** **13 01 39.3 +0.2**
CD2 sP **sP** **13 01 52.3 +0.7**
CD2 PP **PP** **13 03 04.7 0.0**
CD2 PcS **PcS** **13 06 38.6 -0.3**
CD2 S **S** **13 07 54.1 -2.5**
CD2 sS **sS** **13 08 39.8 -1.4**
CD2 ScS **ScS** **13 10 53.5 -2.5**
CD2 SS SS 13 11 15.4 -9.2
CD2 PMZ
comp=E,10.0nm,0.5s
CD2 PMZ
comp=E,120nm,5.8s
KURK Kurchatov 47.09 301 *e*P **P** **13 01 11.5 -1.7**
KURK Kurchatov 47.09 301 *e*P **P** **13 01 11.5 -1.7**
MKAR Makanchi Array 47.80 294 *e*P **P** **13 01 17.4 -1.4**
MKAR Makanchi Array 47.80 294 P **P** **13 01 17.2 -1.5**
comp=E,4.5nm,0.6s,baz=56,slow=6.9,SNR=48
G05D Wamic, OR 47.80 68 ⇑P **P** **13 01 20.4 +1.6**
baz=48
NEW Newport 47.96 63 P **P** **13 01 19.4 -0.7**
comp=E,1.9nm,0.7s,baz=296,slow=7.9,SNR=4.8
NEW Newport 47.96 63 ⇓P **P** **13 01 20.4 +0.3**
baz=48
J04D Umpqua Nationa 48.72 71 ⇑P **P** **13 01 28.1 +2.0**
baz=49
J05D Fort Rock, OR 49.16 70 ⇓P **P** **13 01 31.3 +1.9**
baz=49
BSMT Bassoo Peak 49.41 62 *e*P **P** **13 01 32.7 +1.4**
YBH Yreka Blue Hor 49.43 73 P **P** **13 01 32.8 +1.3**
comp=E,2.5nm,0.7s,baz=1.1,slow=2.3,SNR=7.6
JTMT Jette 49.73 62 *e*P **P** **13 01 35.0 +1.3**
M04C Macdoel 49.87 72 ⇓P **P** **13 01 36.6 +1.8**
baz=50
N02D Trinity Center 49.96 74 ⇑P **P** **13 01 37.9 +2.4**
baz=50
SWMT Swartz Lake 50.03 62 *e*P **P** **13 01 36.5 +0.5**
SLMT Seeley Lake 50.47 62 *e*P **P** **13 01 40.5 +1.2**
MOD Modoc Plateau 50.61 71 *e*P **P** **13 01 42.3 +1.9**
comp=E,3.9nm,0.8s
KEV Kevo 50.63 341 *e*P **P** **13 01 37.9 -2.1**
KEV Kevo 50.63 341 *e*p **P** **13 01 37.9 -2.1**
comp=E,0.4nm,0.4s
FFC Flin Flon 50.68 48 *e*P **P** **13 01 41.3 +0.8**
FFC Flin Flon 50.68 48 *e*P **P** **13 01 41.3 +0.8**
FCC Fort Churchill 50.98 41 *e*P **P** **13 01 43.0 +0.3**
FCC Fort Churchill 50.98 41 *e*P **P** **13 01 43.0 +0.3**
ARCES ARCESS Array B 51.09 342 P **P** **13 01 42.3 -1.2**
comp=E,2.6nm,0.7s,baz=30,slow=7.6,SNR=5.7
ARCES pP **pP** **13 02 11.0 +1.3**
comp=E,1.7nm,0.7s,baz=8.0,slow=9.1,SNR=1.1
ARCES PcP **PcP** **13 02 56.5 -1.0**
comp=E,2.8nm,0.9s,baz=339,slow=4.8,SNR=3.8
WVOR Wild Horse Val 51.13 69 *e*P **P** **13 01 45.5 +1.2**
WVOR pmax pmax
comp=Z,75nm,3.0s
WVOR Wild Horse Val 51.13 69 *e*P **P** **13 01 45.5 +1.2**
comp=Z,75nm,3.0s
SUMG Summit 51.30 8 *e*P **P** **13 01 45.3 -0.2**
SUMG *e**PP **pP** **13 02 11.1 -0.6**
SUMG pmax pmax
comp=Z,26nm,1.1s
SUMG Summit 51.30 8 *e*P **P** **13 01 45.3 -0.2**
comp=Z,26nm,1.1s
SUMG *e*pP **pP** **13 02 11.1 -0.6**
A19A Klindworth Far 51.63 57 ⇓P **P** **13 01 48.6 +0.8**
baz=52
EGMT Eagleton 51.77 59 ⇓P **P** **13 01 50.0 +1.1**
baz=52
B19A Brinkman Farms 51.86 58 ⇑P **P** **13 01 50.6 +1.1**
baz=52
MFID Camas Ranch 51.92 67 *e*P **P** **13 01 51.6 +1.4**
comp=Z,31nm,2.5s
A20A Cobblestone Ra 52.05 57 ⇑P **P** **13 01 52.1 +1.1**
baz=52,SNR=8.5
ARU Arti 52.06 317 *c i*P **P** **13 01 49.4 -1.4**
ARU S **S** **13 09 04.4 -1.3**
ARU SS **SS** **13 12 46.6 +3.2**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 52.06 317 *e*P **P** **13 01 49.1 -1.7**
comp=Z,11nm,0.6s
C19A Slack Wire Ran 52.31 59 ⇓P **P** **13 01 54.1 +1.2**
baz=52,SNR=7.3
B20A Solberg Farm, 52.31 57 ⇓P **P** **13 01 53.8 +0.9**
baz=52
A21A Bergtoll Ranch 52.45 56 ⇓P **P** **13 01 54.9 +1.1**
baz=52
MCMT McKenzie Canyo 52.46 63 *e*P **P** **13 01 54.7 +0.4**
comp=Z,1.7nm,1.0s
HLID Hailey 52.55 66 ⇓P **P** **13 01 56.3 +1.5**
baz=52
HLID Hailey 52.55 66 *e*P **P** **13 01 56.3 +1.5**
comp=Z,22nm,2.3s
PRGR Permogore 52.70 327 P **P** **13 01 53.8 -1.6**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
D19A Cripps Ranch, 52.79 59 ⇑P **P** **13 01 57.5 +1.0**
baz=53
C20A Veseth Ranch, 52.83 58 ⇓P **P** **13 01 57.8 +1.1**
baz=53,SNR=10
A22A Carney Farms, 52.92 56 ⇑P **P** **13 01 58.4 +1.1**
baz=53
D20A Manuel Ranch, 53.20 59 ⇑P **P** **13 02 01.1 +1.7**
baz=53
E19A Rath Farm, Rou 53.33 60 ⇓P **P** **13 02 01.9 +1.4**
baz=53
WAKR Walker 53.49 73 *e*P **P** **13 02 04.2 +2.4**
E20A Meyer Farm, Mu 53.62 59 ⇓P **P** **13 02 03.9 +1.3**
baz=54
F19A Roth Farm, Mol 53.69 60 ⇑P **P** **13 02 04.5 +1.5**
baz=54
B23A Brockton 53.72 55 ⇓P **P** **13 02 04.2 +1.0**
baz=54
YFT Old Faithful 53.74 63 *e*P P 13 02 07.0 +3.4
comp=Z,7.4nm,0.9s
D21A La Casta Ranch 53.77 58 ⇑P **P** **13 02 04.7 +1.1**
baz=54
C22A Vida 53.82 57 ⇓P **P** **13 02 05.0 +1.1**
baz=54
A24A Westby 53.85 55 ⇑P **P** **13 02 05.0 +0.8**
baz=54
TKM2 Tokmak 2 53.91 295 *e*P **P** **13 02 04.7 -0.2**
TKM2 *e**PP **pP** **13 02 32.2 +0.8**
TKM2 Tokmak 2 53.91 295 *e*P **P** **13 02 04.7 -0.2**
TKM2 *e*pP **pP** **13 02 32.2 +0.8**
H17A Grant Village 53.91 62 ⇑P **P** **13 02 07.5 +2.6**
baz=54,SNR=5.5
H17A Grant Village 53.91 62 *e*P **P** **13 02 07.8 +2.9**
FLWY Flagg Ranch 54.08 63 *e*P **P** **13 02 08.5 +2.5**
comp=Z,4.2nm,0.8s
IMW Indian Meadow 54.09 63 *e*P **P** **13 02 08.4 +2.2**
D22A Cohagen 54.10 57 ⇑P **P** **13 02 07.2 +1.2**
baz=54,SNR=5.8
C23A Lambert 54.11 56 ⇓P **P** **13 02 07.3 +1.3**
baz=54,SNR=6.4
F20A Billings 54.12 60 ⇑P **P** **13 02 07.5 +1.3**
baz=54
NVAR Mina Array Bea 54.16 73 P **P** **13 02 08.7 +1.9**
comp=Z,3.4nm,0.6s,baz=307,slow=7.8,SNR=31
NVAR pP **pP** **13 02 35.9 +2.7**
comp=Z,5.8nm,0.8s,baz=306,slow=7.7,SNR=11
FXWY Fox Creek 54.23 63 *e*P **P** **13 02 08.9 +1.7**
comp=Z,3.6nm,0.8s
A25A Svangstu Ranch 54.25 54 ⇓P **P** **13 02 08.0 +0.9**
baz=54,SNR=5.9
I17A Pilgrim Ck. 54.26 63 ⇓P **P** **13 02 09.5 +2.2**
baz=54
TPAW Teton Pass 54.37 63 *e*P **P** **13 02 10.6 +2.3**
LOHW Long Hollow 54.46 63 *e*P **P** **13 02 10.9 +2.1**
G20A Bridger 54.50 60 ⇑P **P** **13 02 10.1 +1.1**
baz=54,SNR=8.1
REDW Red Top Meadow 54.52 64 *e*P **P** **13 02 11.4 +2.2**
AAK Ala-Archa 54.68 295 ⇑*i*P **P** **13 02 11.3 +0.9**
AAK pmax pmax
comp=Z,25nm,1.2s
AAK Ala-Archa 54.68 295 *e*P **P** **13 02 09.5 -0.9**
comp=Z,8.2nm,1.0s
B25A Knox Farm, Ray 54.71 55 ⇑P **P** **13 02 11.7 +1.3**
baz=54
E22A Miles City 54.72 58 ⇑P **P** **13 02 11.8 +1.3**
baz=55
A26A Wade Farm, Ken 54.77 53 ⇑P **P** **13 02 11.8 +1.1**
baz=55
TPH Tonopah 55.00 72 *e*P **P** **13 02 14.6 +1.8**
TPH *e**PP **pP** **13 02 39.6 +0.2**
TPH pmax pmax
comp=Z,6.0nm,0.8s
TPH Tonopah 55.00 72 *e*P **P** **13 02 14.6 +1.8**
comp=Z,6.3nm,0.8s
TPH *e*pP **pP** **13 02 39.6 +0.2**
EKS2 Erkin-Say 55.03 296 *e*P **P** **13 02 12.2 -0.7**
EKS2 *e**PP **pP** **13 02 39.3 -0.1**
EKS2 Erkin-Say 55.03 296 *e*P **P** **13 02 12.2 -0.7**
EKS2 *e*pP **pP** **13 02 39.3 -0.1**
J19A Crowheart 55.49 62 ⇓P **P** **13 02 18.1 +1.9**
baz=55
H21A Big Horn, Sher 55.50 60 ⇑P **P** **13 02 17.8 +1.6**
baz=55
F23A Volborg 55.50 58 ⇓P **P** **13 02 17.5 +1.4**
baz=55
C26A Wahner Farm, P 55.53 54 ⇓P **P** **13 02 17.8 +1.6**
baz=55
A28A Rude Farm, Bot 55.56 52 ⇑P **P** **13 02 17.5 +1.0**
baz=55,SNR=5.8
JOF Joensuu 55.57 335 *e*P **P** **13 02 14.5 -1.7**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 55.57 335 *ep* **P** **13 02 14.5 -1.7**
comp=Z,2.7nm,0.5s
PDAR Pinedale Array 55.60 63 P **P** **13 02 18.4 +1.3**
comp=Z,4.3nm,0.9s,baz=332,slow=2.7,SNR=24
PDAR pP **pP** **13 02 44.4 +0.7**
comp=Z,2.4nm,0.8s,baz=346,slow=3.3,SNR=5.4
VES Vestal, Richgr 55.62 75 ⇑P **P** **13 02 18.3 +1.3**
baz=56
R11A Troy Canyon, C 55.68 71 ⇓P **P** **13 02 19.5 +1.9**
baz=56
DUG Dugway, Tooele 55.80 67 *e*P **P** **13 02 20.4 +2.0**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 55.80 67 ⇑P **P** **13 02 20.2 +1.9**
baz=56,SNR=6.2
DUG Dugway, Tooele 55.80 67 *e*P **P** **13 02 20.4 +2.0**
comp=Z,6.2nm,1.0s
B28A Dugan Ranch, T 55.86 53 ⇓P **P** **13 02 19.7 +1.2**
baz=56
J20A Shoshoni 55.91 62 ⇑P **P** **13 02 20.9 +1.7**
baz=56
I21A Big Trails, Te 55.97 61 ⇑P **P** **13 02 21.1 +1.5**
baz=56
A29A Manning Farm, 56.02 52 ⇑P **P** **13 02 20.9 +1.3**
baz=56
KSH Kashi 56.18 292 P P 13 02 25.3 +4.2
KSH pP pP 13 02 51.2 +3.4
KSH PP PP 13 04 33.1 +6.1
KSH PcS **PcS** **13 07 20.2 +1.9**
KSH S **S** **13 10 03.2 +1.5**
KSH sS sS 13 10 49.9 +2.3
KSH ScS **ScS** **13 11 59.3 +0.1**
KSH PMZ
comp=Z,50nm,4.7s
KSH LN
comp=Z,98nm,7.1s
KSH LE
comp=Z,110nm,6.3s
KSH LZ
comp=Z,170nm,6.2s
F25A Bowman 56.28 57 ⇑P **P** **13 02 22.9 +1.2**
baz=56
B29A Wagenman Farm, 56.30 52 ⇑P **P** **13 02 23.0 +1.3**
baz=56
I22A 9 Mile Ranch, 56.31 60 ⇓P **P** **13 02 23.5 +1.5**
baz=56
D27A Center 56.32 55 ⇓P **P** **13 02 23.0 +1.2**
baz=56
MPMC Manual Prospec 56.33 74 ⇓P **P** **13 02 24.3 +2.0**
baz=56
TPNV Topopah Spring 56.35 72 ⇑P **P** **13 02 24.5 +2.1**
baz=56
KKAR Karatay Array 56.35 298 *e*P **P** **13 02 21.3 -0.8**
KKAR Karatay Array 56.35 298 *e*P **P** **13 02 21.3 -0.8**
C28A Hausauer Farms 56.39 53 ⇑P **P** **13 02 23.9 +1.6**
baz=56
A30A Hoffart Farm, 56.42 51 ⇓P **P** **13 02 23.6 +1.1**
baz=56
ULM Lac du Bonnet 56.49 49 P **P** **13 02 23.6 +0.7**
comp=Z,3.8nm,0.5s,baz=325,slow=7.4,SNR=14
H24A Dirk Ranch, A 56.63 58 ⇑P **P** **13 02 25.1 +0.9**
baz=56
MDND Maddock 56.65 53 ⇓P **P** **13 02 25.4 +1.2**
baz=56
J22A Midwest 56.67 61 ⇑P **P** **13 02 26.1 +1.5**
baz=56,SNR=5.1
D28A Regan 56.69 54 ⇓P **P** **13 02 26.0 +1.5**
baz=56
F26A Lodgepole 56.71 56 ⇑P **P** **13 02 25.9 +1.2**
baz=56
ABKAR Akbulak array 56.75 310 *e*P **P** **13 02 23.8 -1.0**
B30A Myrvik Farm, E 56.77 52 ⇑P **P** **13 02 26.3 +1.3**
baz=57
E27A Carson 56.80 55 ⇓P **P** **13 02 26.9 +1.6**
baz=57
K21A Alcova 56.86 62 ⇓P **P** **13 02 27.2 +1.2**
baz=57
EDW2 Edwards Air Fo 56.93 75 ⇓P **P** **13 02 28.4 +2.0**
baz=57
F27A Lemmon 57.00 56 ⇓P **P** **13 02 27.7 +1.0**
baz=57
G26A Maurine 57.16 57 ⇓P **P** **13 02 29.1 +1.3**
baz=57
K22A Casper 57.21 61 ⇓P **P** **13 02 30.0 +1.6**
baz=57
D29A Pettibone, Tap 57.24 53 ⇓P **P** **13 02 29.8 +1.5**
baz=57
C30A Mose, Pekin 57.26 52 ⇓P **P** **13 02 29.6 +1.1**
baz=57
GSC Goldstone, Bar 57.27 74 ⇓P **P** **13 02 30.2 +1.4**
baz=57
RSSD Black Hills 57.34 59 *e*P **P** **13 02 30.6 +1.2**
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 57.34 59 *e*P **P** **13 02 30.6 +1.2**
comp=Z,5.6nm,0.9s
KAF Kangasniemi 57.44 337 *e*P **P** **13 02 27.9 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 57.44 337 *ep* **P** **13 02 27.9 -1.5**
comp=Z,1.9nm,0.5s
I25A Rochford 57.56 58 ⇑P **P** **13 02 32.1 +1.2**
baz=57
D30A Buchanan 57.58 53 ⇓P **P** **13 02 31.7 +1.0**
baz=57
J24A Dixon Ranch, L 57.62 60 ⇓P **P** **13 02 32.8 +1.5**
baz=58
N20A Spence Gulch, 57.68 64 ⇓P **P** **13 02 33.5 +1.7**
baz=58
L22A Ellis Ranch, M 57.71 62 ⇑P **P** **13 02 33.6 +1.6**
baz=58,SNR=5.0
SRU San Rafael Swe 57.79 67 *e*P **P** **13 02 34.6 +2.1**
SRU pmax pmax
comp=Z,12nm,1.2s
SRU San Rafael Swe 57.79 67 *e*P **P** **13 02 34.6 +2.1**
comp=Z,12nm,1.2s
CIS Catalina Islan 57.80 77 ⇑P **P** **13 02 34.0 +1.5**
baz=58
H27A Howes 57.90 57 ⇓P **P** **13 02 34.5 +1.5**
baz=58
AGMN Agassiz Nation 57.97 50 ⇑P **P** **13 02 34.3 +0.9**
baz=58
AGMN Agassiz Nation 57.97 50 *e*P **P** **13 02 34.2 +0.9**
comp=Z,5.8nm,0.8s
J25A Sunshine Ranch 58.00 59 ⇓P **P** **13 02 35.5 +1.7**
baz=58
L23A Garrett 58.01 61 ⇓P **P** **13 02 34.9 +0.8**
baz=58,SNR=8.2
FINES FINESS Array B 58.08 337 P **P** **13 02 33.5 -0.4**
comp=Z,3.4nm,0.6s,baz=36,slow=8.4,SNR=20
M22A Cedar Creek Ra 58.10 62 ⇑P **P** **13 02 35.8 +1.1**
baz=58
O20A White River Ci 58.21 64 ⇑P **P** **13 02 37.3 +1.8**
baz=58
O20A White River Ci 58.21 64 *e*P **P** **13 02 36.9 +1.5**
comp=Z,8.0nm,0.8s
I27A Quinn 58.33 57 ⇓P **P** **13 02 37.6 +1.5**
baz=58
J26A Sides Ranch, S 58.41 59 ⇓P **P** **13 02 37.9 +1.3**
baz=58
N22A Wattenberg Ran 58.62 63 ⇑P **P** **13 02 40.1 +1.8**
baz=58,SNR=5.1
I28A Midland 58.80 57 ⇓P **P** **13 02 39.9 +0.6**
baz=59
N23A Red Feather La 58.80 62 ⇓P **P** **13 02 41.1 +1.5**
baz=59
N23A Red Feather La 58.80 62 *e*P **P** **13 02 41.5 +1.8**
U15A North Rim 58.86 70 ⇓P **P** **13 02 42.5 +2.4**
baz=59
G30A Faulkton 58.90 55 ⇑P **P** **13 02 41.3 +1.4**
baz=59
M24A Cheyenne 58.93 61 ⇑P **P** **13 02 42.2 +1.7**
baz=59
W13A Hualapai Mount 59.00 72 ⇑P **P** **13 02 42.7 +1.7**
baz=59
J28A Allard Ranch, 59.20 57 ⇓P **P** **13 02 43.6 +1.5**
baz=59
O23A Lake Granby, G 59.33 63 ⇑P **P** **13 02 45.0 +1.6**
baz=59
P22A Eagle 59.37 64 ⇓P **P** **13 02 45.4 +1.9**
baz=59
CMAR Chiang Mai Arr 59.51 258 P **P** **13 02 45.3 +0.9**
comp=Z,0.8nm,0.5s,baz=21,slow=7.3,SNR=5.4
CMAR PcP **PcP** **13 03 30.9 +0.1**
comp=Z,1.3nm,0.5s,baz=13,slow=3.5,SNR=6.6
SMCO Snowmass 59.57 64 *e*P **P** **13 02 45.9 +0.8**
J29A Okreek 59.65 57 ⇑P **P** **13 02 46.4 +1.3**
baz=60
ISCO Idaho Springs 59.79 63 *e*P **P** **13 02 48.5 +2.0**
ISCO pmax pmax
comp=Z,6.0nm,1.2s
ISCO Idaho Springs 59.79 63 ⇑P **P** **13 02 47.8 +1.3**
baz=60,SNR=5.8
ISCO Idaho Springs 59.79 63 *e*P **P** **13 02 48.5 +2.0**
comp=Z,5.9nm,1.2s
P23A Jefferson 60.00 63 ⇑P **P** **13 02 50.1 +2.1**
baz=60
WUAZ Wupatki 60.03 70 ⇓P **P** **13 02 50.3 +2.3**
baz=60
WUAZ Wupatki 60.03 70 *e*P **P** **13 02 50.4 +2.3**
comp=Z,7.0nm,1.1s
MVCO Mesa Verde 60.27 67 ⇓P **P** **13 02 51.4 +1.7**
baz=60
N27A Anderson Farm, 60.56 60 ⇓P **P** **13 02 51.1 -0.4**
baz=60
Q24A Divide 60.66 63 ⇓P **P** **13 02 54.0 +1.6**
baz=60
S22A 4UR Ranch, Cre 60.73 65 ⇑P **P** **13 02 54.9 +2.0**
baz=61
S22A 4UR Ranch, Cre 60.73 65 *e*P **P** **13 02 55.2 +2.3**
OBN Obninsk 60.78 327 *e*P **P** **13 02 52.1 -0.5**
OBN *e**PP **pP** **13 03 18.4 -1.2**
OBN *e* 13 03 35.4
OBN *e* 13 05 15.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
X16A Lo Mia Camp, P 60.83 71 ⇑P **P** **13 02 56.3 +2.8**
baz=61
R23A Moffat 60.90 64 ⇑P **P** **13 02 56.0 +2.0**
baz=61
M29A Burnside Ranch 60.97 58 ⇑P **P** **13 02 56.1 +1.9**
baz=61
P26A Davis Ranch, A 61.11 62 ⇑P **P** **13 02 57.0 +1.7**
baz=61
ECSD EROS Data Cent 61.13 54 ⇓P **P** **13 02 55.9 +0.7**
baz=61
ECSD EROS Data Cent 61.13 54 *e*P **P** **13 02 55.9 +0.7**
comp=Z,12nm,1.4s
NB2 NORSAR Subarra 61.29 344 P **P** **13 02 55.2 -0.8**
comp=Z,8.4nm,0.8s,baz=20,slow=6.9
NOA NORSAR Array B 61.29 344 P **P** **13 02 55.5 -0.5**
comp=Z,5.4nm,0.7s,baz=18,slow=6.9,SNR=23
NOA pP **pP** **13 03 22.5 -0.6**
comp=Z,3.0nm,0.7s,baz=19,slow=6.9,SNR=4.9
SDCO Great Sand Dun 61.41 64 *e*P **P** **13 02 59.5 +2.0**
Q26A Hugo 61.51 62 ⇑P **P** **13 02 59.9 +1.9**
baz=61
X18A Snowflake 61.54 70 ⇓P **P** **13 03 00.9 +2.6**
baz=61
S24A Houchin Ranch, 61.64 64 ⇑P **P** **13 03 00.8 +1.7**
baz=62
S25A Robets Cordova 62.02 64 ⇓P **P** **13 03 02.7 +1.3**
baz=62
R26A Arlington 62.02 63 ⇓P **P** **13 03 02.9 +1.4**
baz=62
T25A Trinidad 62.43 64 ⇑P **P** **13 03 06.2 +2.0**
baz=62
S26A Kim 62.54 63 ⇑P **P** **13 03 06.6 +1.7**
baz=62
V23A Ortiz Mt. (NFS 62.59 66 ⇓P **P** **13 03 07.5 +2.2**
baz=62
T26A Comanche Natio 62.82 63 ⇑P **P** **13 03 07.9 +1.1**
baz=63
SCHQ Schefferville 63.00 29 P **P** **13 03 07.0 -0.5**
comp=Z,5.5nm,0.7s,baz=354,slow=6.3,SNR=15
SCHQ pP **pP** **13 03 33.8 -0.9**
comp=Z,3.5nm,0.7s,baz=340,slow=8.1,SNR=4.2
U25A Circle Dot Ran 63.00 65 ⇓P **P** **13 03 09.7 +1.7**
baz=63
V25A Rancho No Teng 63.33 65 ⇓P **P** **13 03 11.4 +1.3**
baz=63
T28A Walsh 63.61 62 ⇓P **P** **13 03 12.5 +0.6**
baz=64
V26A Tequesquite Ra 63.79 65 ⇓P **P** **13 03 14.1 +0.9**
baz=64
U27A Thompson Grove 63.79 63 ⇓P **P** **13 03 13.7 +0.6**
baz=64
W25A X Bar L Ranch, 63.89 65 ⇓P **P** **13 03 15.3 +1.5**
baz=64
121A Cookes Peak, D 64.23 70 ⇓P **P** **13 03 17.4 +1.3**
baz=64
Q33A Connelly Farm, 64.25 58 ⇑P **P** **13 03 16.2 +0.3**
baz=64
PMG Port Moresby 65.92 195 ⇓*i*P **P** **13 03 27.5 +0.7**
PMG pmax pmax
comp=Z,21nm,1.2s
PMG Port Moresby 65.92 195 P **P** **13 03 27.6 +0.7**
comp=Z,14nm,0.7s,baz=11,slow=10,SNR=5.8
MNTX Cornudas Mount 66.15 69 ⇓P **P** **13 03 30.0 +1.7**
baz=66
MNTX Cornudas Mount 66.15 69 *e*P **P** **13 03 29.8 +1.5**
comp=Z,4.8nm,0.9s
GDL2 Guadalupe Moun 66.29 67 *e*P **P** **13 03 28.6 -0.8**
GEYT Alibeck 66.37 303 P **P** **13 03 28.8 -0.9**
comp=Z,3.9nm,0.6s,baz=38,slow=5.4,SNR=6.5
W32A Sentinel 66.61 62 ⇓P **P** **13 03 32.6 +1.4**
baz=66
X31A McDonald Ranch 66.63 63 ⇓P **P** **13 03 32.5 +1.2**
baz=66
AKASG Malin Array Be 66.82 329 P **P** **13 03 30.5 -1.8**
comp=Z,0.8nm,0.4s,baz=27,slow=7.0,SNR=4.4
AKASG pP **pP** **13 03 59.0 -0.7**
comp=Z,0.3nm,0.4s,baz=33,slow=7.4,SNR=2.9
Z29A Hungry Hill Ra 66.84 65 ⇓P **P** **13 03 34.0 +1.3**
baz=67
128A Castleberry Fa 66.94 66 ⇑P **P** **13 03 34.3 +0.9**
baz=67
Z30A Sanderson Ranc 67.11 64 ⇓P **P** **13 03 35.0 +0.5**
baz=67
WMOK Wichita Mounta 67.15 62 *e*P **P** **13 03 35.3 +0.7**
WMOK *e**PP **pP** **13 04 02.7 +0.6**
WMOK Wichita Mounta 67.15 62 *e*P **P** **13 03 35.3 +0.7**
WMOK *e*pP **pP** **13 04 02.7 +0.6**
Y32A R-V Farms, Ver 67.40 63 ⇑P **P** **13 03 36.7 +0.5**
baz=67
Z31A Sharp Cattle R 67.59 64 ⇓P **P** **13 03 38.0 +0.5**
baz=68
TUL1 Leonard 67.68 59 ⇑P **P** **13 03 38.3 +0.4**
baz=68
Z32A Haskell 67.93 63 ⇑P **P** **13 03 40.0 +0.4**
baz=68
329A Wagon Wheel Ra 68.10 66 ⇓P **P** **13 03 41.8 +1.1**
baz=68
KBZ Khabaz 68.22 317 P **P** **13 03 39.9 -1.2**
comp=Z,3.8nm,1.0s,baz=287,slow=5.3,SNR=5.0
Y34A Reagan Ranch, 68.28 62 ⇑P **P** **13 03 42.4 +0.7**
baz=68
ABTX Abilene, Hawle 68.39 64 ⇓P **P** **13 03 43.2 +0.7**
baz=68
330A Mertzon 68.58 66 ⇓P **P** **13 03 44.6 +1.0**
baz=68
429A Davenport Ranc 68.83 67 ⇓P **P** **13 03 45.8 +0.6**
baz=69
TXAR Lajitas Array 68.92 69 P **P** **13 03 47.1 +1.2**
comp=Z,6.5nm,0.8s,baz=303,slow=4.6,SNR=21
TXAR pP **pP** **13 04 13.3 -0.2**

comp=Z,1.1nm,0.9s,baz=269,slow=4.6,SNR=3.0
232A Coleman 68.98 64 ⇓P **P 13 03 46.9 +0.8**
baz=69
430A Baggett Ranch, 69.04 66 ⇓P **P 13 03 47.1 +0.5**
baz=69
331A San Angelo 69.04 65 ⇓P **P 13 03 47.1 +0.6**
baz=69
529A Stev Forest Ra 69.05 67 ⇓P **P 13 03 48.0 +1.4**
baz=69
332A Millersview 69.33 65 ⇑P **P 13 03 49.3 +1.0**
baz=69
431A Sonora 69.45 66 ⇑P **P 13 03 49.8 +0.8**
baz=69
530A J-C Ranch, Com 69.49 67 ⇑P **P 13 03 49.9 +0.5**
baz=69
333A Richland Sprin 69.77 64 ⇓P **P 13 03 51.5 +0.6**
baz=70
MIAR Mount Ida 69.86 58 *e*P **P 13 03 52.2 +0.8**
MIAR Mount Ida 69.86 58 *e*P **P 13 03 52.2 +0.8**
531A Rocksprings 69.89 66 ⇓P **P 13 03 52.5 +0.7**
baz=70
JCT Junction City 70.02 65 *e*P **P 13 03 53.4 +0.8**
JCT Junction City 70.02 65 ⇑P **P 13 03 53.4 +0.8**
baz=70
JCT Junction City 70.02 65 *e*P **P 13 03 53.4 +0.8**
334A Lometa 70.14 64 ⇑P **P 13 03 53.8 +0.6**
baz=70
STHS Stebnicka Huta 70.15 334 *e*P **P 13 03 54.0 +1.0**
STHS Stebnicka Huta 70.15 334 *e*P **P 13 03 54.0 +1.0**
433A Art 70.17 65 ⇑P **P 13 03 54.1 +0.6**
baz=70
CLL Collm 70.23 340 *i* P **P 13 03 52.4 -1.0**
CLL *e**PP **pP 13 04 23.0 +1.9**
CLL Collm 70.23 340 *i* P **P 13 03 52.4 -1.0**
CLL *e*(pP) **pP 13 04 23.0 +1.9**
532A Rocksprings 70.25 66 ⇑P **P 13 03 54.6 +0.6**
baz=70
KOLS Kolonicke sedl 70.33 333 *e*P **P 13 03 53.5 -0.6**
KOLS Kolonicke sedl 70.33 333 *e*P **P 13 03 53.5 -0.6**
DPC Dobruska-Polom 70.44 337 *e*P **P 13 03 55.5 +0.7**
DPC Dobruska-Polom 70.44 337 *e*P **P 13 03 55.5 +0.7**
434A Burnet 70.54 64 ⇓P **P 13 03 56.2 +0.5**
baz=70
335A Moody 70.59 63 ⇑P **P 13 03 56.8 +0.8**
baz=70
533A Kerrville 70.74 65 ⇑P **P 13 03 57.9 +0.9**
baz=71
632A Uvalde 70.81 66 ⇓P **P 13 03 58.0 +0.7**
baz=71
DSB Dublin 70.99 352 *e*P **P 13 03 55.4 -2.6**
COEN Coen 71.05 199 *e*P **P 13 03 59.8 +1.1**
534A Blanco 71.07 65 ⇓P **P 13 03 59.7 +0.8**
baz=71
KECS Kecovo 71.20 334 *e*P **P 13 03 58.7 -0.7**
KECS Kecovo 71.20 334 *e*P **P 13 03 58.7 -0.7**
WVT Waverly 71.24 53 *e*P **P 13 04 00.5 +0.7**
WVT Waverly 71.24 53 *e*P **P 13 04 00.5 +0.7**
732A Laxson Ranch, 71.34 66 ⇑P **P 13 04 01.8 +1.3**
baz=71
VYHS Vyhne 71.60 335 *e*P **P 13 04 01.5 -0.3**
VYHS Vyhne 71.60 335 *e*P **P 13 04 01.5 -0.3**
KSPA Keystone Colle 71.67 42 *e*P P 13 04 08.9 +6.5
GRF Grafenberg Arr 72.12 340 *e*P **P 13 04 05.0 +0.1**
comp=Z,8.0nm,1.0s
MEM Memba Ch 72.14 344 P **P 13 04 04.9 -0.1**
comp=Z,7.5nm,1.3s
KHC Kasperske Hory 72.18 338 *e*P **P 13 04 05.0 -0.3**
KHC Kasperske Hory 72.18 338 *e*P **P 13 04 05.0 -0.3**
GERES GERESS Array B 72.43 338 P **P 13 04 06.5 -0.3**
comp=Z,1.9nm,0.7s,baz=20,slow=4.3,SNR=13
GERES pP **pP 13 04 33.8 -0.9**
comp=Z,1.2nm,0.8s,baz=53,slow=5.2,SNR=2.2
GERES LR LR 13 39 24.5
comp=Z,18nm,20.1s,baz=46,slow=39
GIVF Givet 72.82 345 *e*P **P 13 04 09.3 +0.3**
GIVF Givet 72.82 345 *e*P **P 13 04 09.3 +0.3**
GIVF Givet 72.82 345 *e*P **P 13 04 09.3 +0.3**
TKL Tuckaleechee C 73.44 50 LR LR 13 38 13.3
comp=Z,23nm,18.8s,baz=330,slow=37
CDF Champ du Feu 74.06 342 *e*P **P 13 04 16.1 -0.3**
comp=Z,7.5nm,0.7s
CDF Champ du Feu 74.06 342 *e*P **P 13 04 16.1 -0.3**
CDF pmax pmax
comp=Z,8.0nm,0.7s
CDF Champ du Feu 74.06 342 *e*P **P 13 04 16.1 -0.3**
comp=Z,7.5nm,0.7s
KBA Koelnbreinsper 74.18 338 ⇑*i*P **P 13 04 18.0 +0.8**
comp=Z,13nm,1.2s
PAGF Fort de Pagny 74.18 344 *e*P **P 13 04 17.0 0.0**
comp=Z,4.9nm,0.7s
PAGF Fort de Pagny 74.18 344 *e*P **P 13 04 17.0 0.0**
comp=Z,4.9nm,0.7s
LRAL Lakeview Retre 74.19 54 *e*P **P 13 04 17.0 -0.3**
comp=Z,3.9nm,0.5s
GROS Grobnik 74.29 336 *i* P **P 13 04 17.8 0.0**
MEZF Maizieres J'vi 74.34 344 *e*P **P 13 04 17.8 -0.1**
MEZF Maizieres J'vi 74.34 344 *e*P **P 13 04 17.8 -0.1**
HAU Haudompre 74.61 343 *e*P **P 13 04 19.0 -0.5**
comp=Z,5.9nm,0.5s
HAU Haudompre 74.61 343 *e*P **P 13 04 19.0 -0.5**
HAU pmax pmax
comp=Z,6.0nm,0.5s
HAU Haudompre 74.61 343 *e*P **P 13 04 19.0 -0.5**
comp=Z,5.9nm,0.5s
SFTF Sexfontaines 74.63 344 *e*P **P 13 04 19.2 -0.4**
comp=Z,18nm,0.5s
SFTF Sexfontaines 74.63 344 *e*P **P 13 04 19.2 -0.4**
comp=Z,18nm,0.5s
ABTA Abfaltersbach 74.67 338 ⇑*i*P **P 13 04 20.1 +0.1**
comp=Z,6.1nm,0.8s
FETA Feichten 74.77 340 ⇑*i*P **P 13 04 20.6 0.0**
comp=Z,9.1nm,0.9s
FLN La Foliniere 74.85 348 *e*P **P 13 04 19.9 -1.0**
FLN La Foliniere 74.85 348 *e*P **P 13 04 19.9 -1.0**
FLN La Foliniere 74.85 348 *e*P **P 13 04 19.9 -1.0**
BRTR Keskin Array B 75.14 321 P **P 13 04 22.4 -0.5**
comp=Z,1.5nm,0.6s,baz=62,slow=3.6,SNR=6.1
GRR Gorron 75.27 348 *e*P **P 13 04 22.6 -0.6**
comp=Z,30nm,1.0s
GRR Gorron 75.27 348 *e*P **P 13 04 22.6 -0.6**
GRR pmax pmax
comp=Z,31nm,1.0s
GRR Gorron 75.27 348 *e*P **P 13 04 22.6 -0.6**
comp=Z,30nm,1.0s
ROSF Rostrenen 75.58 350 *e*P **P 13 04 24.6 -0.5**
ROSF Rostrenen 75.58 350 *e*P **P 13 04 24.6 -0.5**
ROSF Rostrenen 75.58 350 *e*P **P 13 04 24.6 -0.5**
LOR Lormes 75.73 344 *e*P **P 13 04 25.3 -0.6**
comp=Z,8.2nm,0.7s
LOR Lormes 75.73 344 *e*P **P 13 04 25.3 -0.6**
LOR pmax pmax
comp=Z,8.0nm,0.7s
LOR Lormes 75.73 344 *e*P **P 13 04 25.3 -0.6**
comp=Z,8.2nm,0.7s
SSF Saint Saulge 75.98 345 *e*P **P 13 04 26.1 -1.3**
comp=Z,7.9nm,0.8s
SSF Saint Saulge 75.98 345 *e*P **P 13 04 26.1 -1.3**
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF Saint Saulge 75.98 345 *e*P **P 13 04 26.1 -1.3**
comp=Z,7.9nm,0.8s
CABF La Chapelle 76.01 343 *e*P **P 13 04 27.5 -0.1**
comp=Z,7.2nm,0.7s
CABF La Chapelle 76.01 343 *e*P **P 13 04 27.5 -0.1**
CABF pmax pmax
comp=Z,7.0nm,0.7s
CABF La Chapelle 76.01 343 *e*P **P 13 04 27.5 -0.1**
comp=Z,7.2nm,0.7s
AVF Avril sur Loir 76.27 345 *e*P **P 13 04 28.5 -0.5**
comp=Z,16nm,1.1s
AVF Avril sur Loir 76.27 345 *e*P **P 13 04 28.5 -0.5**
AVF pmax pmax
comp=Z,16nm,1.1s
AVF Avril sur Loir 76.27 345 *e*P **P 13 04 28.5 -0.5**
comp=Z,16nm,1.1s
CTA Charters Tower 76.55 195 P **P 13 04 31.2 +0.5**
comp=Z,16nm,0.8s,baz=360,slow=7.4,SNR=17
MFF Saint Martin d 76.94 347 *e*P **P 13 04 33.2 +0.5**
MFF Saint Martin d 76.94 347 *e*P **P 13 04 33.2 +0.5**
MFF Saint Martin d 76.94 347 *e*P **P 13 04 33.2 +0.5**
LPL La Plagne 76.96 342 *e*P **P 13 04 33.8 +0.6**
LPL La Plagne 76.96 342 *e*P **P 13 04 33.8 +0.6**
LPL La Plagne 76.96 342 *e*P **P 13 04 33.8 +0.6**
LPG La Plagne 76.98 342 *e*P **P 13 04 34.0 +0.6**
comp=Z,23nm,1.0s
LPG La Plagne 76.98 342 *e*P **P 13 04 34.0 +0.6**
LPG pmax pmax
comp=Z,23nm,1.0s
LPG La Plagne 76.98 342 *e*P **P 13 04 34.0 +0.6**
comp=Z,23nm,1.0s
ORIF Oris-en-Rattie 77.69 343 *e*P **P 13 04 37.6 +0.5**
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 77.69 343 *e*P **P 13 04 37.6 +0.5**
ORIF pmax pmax
comp=Z,13nm,0.8s
ORIF Oris-en-Rattie 77.69 343 *e*P **P 13 04 37.6 +0.5**
comp=Z,13nm,0.8s
MBDF Montbardon 77.72 342 *e*P **P 13 04 37.6 +0.3**
MBDF Montbardon 77.72 342 *e*P **P 13 04 37.6 +0.3**
MBDF Montbardon 77.72 342 *e*P **P 13 04 37.6 +0.3**
VIVF Saint-Julien-l 77.95 343 *e*P **P 13 04 38.6 +0.1**
VIVF Saint-Julien-l 77.95 343 *e*P **P 13 04 38.6 +0.1**
VIVF Saint-Julien-l 77.95 343 *e*P **P 13 04 38.6 +0.1**
RJF Les Rejaudoux 77.99 346 *e*P **P 13 04 38.4 -0.2**
RJF Les Rejaudoux 77.99 346 *e*P **P 13 04 38.4 -0.2**
RJF Les Rejaudoux 77.99 346 *e*P **P 13 04 38.4 -0.2**
LFF La Frestale 78.45 346 *e*P **P 13 04 41.4 +0.2**
LFF La Frestale 78.45 346 *e*P **P 13 04 41.4 +0.2**
LFF La Frestale 78.45 346 *e*P **P 13 04 41.4 +0.2**
WRAB Tennant Creek 78.74 206 *e*P **P 13 04 43.1 +0.2**
WRAB pmax pmax
comp=Z,27nm,1.3s
WRAB Tennant Creek 78.74 206 *e*P **P 13 04 43.0 +0.2**
comp=Z,9.8nm,1.0s
WB2 Warramunga Arr 78.75 206 *e*P **P 13 04 42.7 -0.3**
WRA Warramunga Arr 78.75 206 P **P 13 04 43.1 +0.1**
comp=Z,5.9nm,0.9s,baz=6.1,slow=6.0,SNR=60
PGF Pioggiola 79.41 340 *e*P **P 13 04 46.3 -0.3**
comp=Z,20nm,0.8s
PGF Pioggiola 79.41 340 *e*P **P 13 04 46.3 -0.3**
PGF pmax pmax
comp=Z,20nm,0.8s
PGF Pioggiola 79.41 340 *e*P **P 13 04 46.3 -0.3**
comp=Z,20nm,0.8s
MTLF Montolieu 79.81 345 *e*P **P 13 04 49.0 +0.4**
MTLF Montolieu 79.81 345 *e*P **P 13 04 49.0 +0.4**
MTLF Montolieu 79.81 345 *e*P **P 13 04 49.0 +0.4**
EPF Esparros 80.38 346 *e*P **P 13 04 52.3 +0.5**
EPF Esparros 80.38 346 *e*P **P 13 04 52.3 +0.5**
EPF Esparros 80.38 346 *e*P **P 13 04 52.3 +0.5**
IDI Anoyia 82.12 325 LR LR 13 46 16.5
comp=Z,11nm,18.2s,baz=266,slow=39
AS31 Alice Springs 82.43 205 *e*P **P 13 05 03.1 +0.5**
AS31 *e*PcP **PcP 13 05 08.3 +0.9**
AS31 *e*pP **pP 13 05 30.6 -0.5**
ASAR Alice Springs 82.43 205 P **P 13 05 03.2 +0.6**
comp=Z,7.8nm,0.8s,baz=14,slow=5.5,SNR=149
ASAR pP **pP 13 05 30.2 -0.9**
comp=Z,2.1nm,0.7s,baz=16,slow=4.7,SNR=4.4
PVRL Vila Real 82.99 352 *e*P **P 13 05 06.0 +0.5**
ESDC Sonseca Array 84.22 349 P **P 13 05 11.9 +0.1**
comp=Z,2.4nm,0.7s,baz=0.4,slow=4.7,SNR=14
PCAS Casmilo, Conde 84.27 352 *e*P **P 13 05 12.3 +0.3**
comp=Z,40nm,2.0s
PCBR Castelo Branco 84.40 351 *e*P **P 13 05 12.8 +0.2**
comp=Z,25nm,2.0s
PMTG Montargil 85.23 352 *e*P **P 13 05 16.8 0.0**
comp=Z,26nm,1.4s
TORD Torodi Ar. Bea 109.37 339 PKiKP **PKiKP 13 11 09.0 -1.2**
comp=Z,0.5nm,1.0s,baz=353,slow=1.7,SNR=5.4
LPAZ La Paz 125.62 64 PKP **PKPdf 13 11 41.6 -0.2**
comp=Z,0.4nm,0.5s,baz=339,slow=7.0,SNR=4.2
VNDA Vanda 132.92 180 PKP **PKPdf 13 11 54.1 +1.0**
comp=Z,1.2nm,0.6s,baz=330,slow=3.3,SNR=9.6
QSPA South Pole Qui 145.41 180 *e*PKPbc **PKPdf 13 12 15.8 -0.4**

IDC 07 13:04:33.0±3.7, 5°82S×150°43E, h0km, mb2.9/2, mb1 3.3/3, mb1mx3.1/28, mbtmp3.1/3, ML2.3/1, Error ellipse: s-maj=150.5km s-min=42.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.81**	**222**	Pn	Pn	13 05 48.1	+1.3
	0.8nm,0.3s,baz=39,slow=6.5,SNR=4.1						
PMG				Sn	Sn	13 06 38.1	-5.2
	1.3nm,0.3s,baz=309,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**21.02**	**227**	P	P	13 09 17.9	-0.6
	0.4nm,0.7s,baz=53,slow=11,SNR=5.0						
WRA				S	Sn	13 13 19.3	+0.1
	0.1nm,0.7s,baz=67,slow=44,SNR=0.8						
ASAR	**Alice Springs**	**23.83**	**220**	P	P	13 09 47.7	-0.3
	0.3nm,0.7s,baz=56,slow=8.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.34**	**286**	PKPbc	PKPbc	13 24 21.8	-0.6
	0.1nm,0.4s,baz=124,slow=2.0,SNR=2.3						

*ISCJB **07** 13:08:08.5±0.7, 22°.6S±0°.1×176°.1W±0°.1, h71km, mb3.8/9, Error ellipse: s-maj=23.5km s-min=13.7km az=138.2*
*IDC **07** 13:08:11.2±0.7, 22°.30S×176°.18W, h78km±5km, mb3.7/9, mb1 4.0/9, mb1mx3.8/27, mbtmp4.0/9, Error ellipse: s-maj=31.5km s-min=14.9km az=157.0*
ISC 07 13:08:10.3±0.6, 22°.5S±0°.2×176°.1W±0°.1, h71km, n14, σ2s07/22, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.16**	**268**	P	P	13 12 02.5	+7.3
	0.2nm,0.3s,baz=107,slow=18,SNR=2.9						
URZ	**Urewera**	**16.74**	**199**	P	**Pn**	**13 11 57.8**	**-2.4**
	0.7nm,0.3s,baz=17,slow=11,SNR=6.2						
URZ				S	Sn	13 14 49.7	-16
	1.1nm,0.3s,baz=148,slow=22,SNR=7.8						
CTA	**Charters Tower**	**35.09**	**267**	P	**P**	**13 14 58.1**	**+1.1**
	2.6nm,0.4s,baz=98,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**45.81**	**258**	P	**P**	**13 16 25.9**	**+0.5**
	1.1nm,0.6s,baz=91,slow=7.4,SNR=40						
ASAR				PcP	**PcP**	**13 18 02.3**	**+0.4**
	0.2nm,0.5s,baz=112,slow=4.2,SNR=3.2						
ASAR				ScP	**ScP**	**13 21 55.5**	**+6.7**
	0.5nm,1.0s,baz=102,slow=4.1,SNR=4.2						
ASAR				S	**S**	**13 23 01.2**	**-3.1**
	0.2nm,0.7s,baz=99,slow=15,SNR=4.4						
WRA	**Warramunga Arr**	**46.10**	**264**	P	**P**	**13 16 27.9**	**+0.2**
	1.1nm,0.5s,baz=95,slow=8.4,SNR=48						
VNDA	**Vanda**	**56.07**	**186**	P	**P**	**13 17 43.4**	**+1.8**
	0.7nm,0.7s,baz=10,slow=5.2,SNR=3.9						
NVAR	**Mina Array Bea**	**81.30**	**42**	P	**P**	**13 20 19.6**	**+0.4**
	0.9nm,0.8s,baz=230,slow=10,SNR=5.9						
NVAR				pP	**pP**	**13 20 40.7**	**+2.2**
	0.3nm,0.6s,baz=222,slow=12,SNR=2.6						
TXAR	**Lajitas Array**	**86.68**	**57**	P	**P**	**13 20 45.5**	**-1.1**
	1.8nm,0.9s,baz=251,slow=2.8,SNR=6.5						
PDAR	**Pinedale Array**	**89.23**	**43**	P	**P**	**13 20 56.7**	**-2.0**
	0.4nm,0.3s,baz=195,slow=9.9,SNR=4.1						
PDAR				pP	**pP**	**13 21 19.4**	**+1.1**
	0.3nm,0.5s,baz=183,slow=5.0,SNR=2.0						
ILAR	**Eielson Array**	**89.90**	**12**	P	**P**	**13 21 00.1**	**-0.8**
	0.2nm,0.4s,baz=211,slow=4.9,SNR=3.4						
ILAR				pP	**pP**	**13 21 20.3**	**-0.2**
	0.4nm,0.6s,baz=216,slow=6.1,SNR=2.8						
YKA	**Yellowknife Ar**	**97.61**	**24**	P	**P**	**13 21 36.2**	**-0.2**
	0.1nm,0.7s,baz=221,slow=6.5,SNR=3.8						
YKA				pP	**pP**	**13 21 55.5**	**-0.5**
	0.2nm,0.7s,baz=244,slow=4.2,SNR=3.7						
AKASG	**Malin Array Be**	**145.62**	**331**	PKPbc	**PKPdf**	**13 27 40.0**	**-0.3**
	0.6nm,0.3s,baz=40,slow=3.8,SNR=8.0						
AKASG				pPKPbc	pPKPbc	13 28 00.7	-0.1
	1.8nm,0.4s,baz=42,slow=4.1,SNR=7.2						
BRTR	**Keskin Array B**	**149.49**	**311**	PKPbc	**PKPbc**	**13 27 51.1**	**-0.8**
	1.0nm,0.6s,baz=154,slow=5.0,SNR=4.2						
BRTR				pPKPbc	**pPKPbc**	**13 28 13.2**	**+1.1**
	0.7nm,0.6s,baz=126,slow=7.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**170.45**	**167**	PKP	**PKPdf**	**13 28 09.3**	**-1.6**
	0.2nm,0.6s,baz=245,slow=2.7,SNR=3.0						
TORD				PKPab	**PKPab**	**13 29 28.3**	**+0.5**
	0.8nm,0.9s,baz=178,slow=3.2,SNR=4.0						

*IDC **07** 13:24:54.8±3.2, 2°.13N×96°.44E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/26, mbtmp3.4/5, ML4.2/1, Error ellipse: s-maj=133.0km s-min=23.6km az=59.0*
*ISCJB **07** 13:25:00.3±0.7, 2°.30N±0°.06×96°.79E±0°.05, h28km, mb3.4/4, Error ellipse: s-maj=9.0km s-min=6.8km az=162.1*
*DJA **07** 13:25:01.2±0.6, 2°.N±5°×9°.7E±°, h15km±11km, M3.7/8, MLv3.7/8*
ISC 07 13:25:00.8±0.9, 2°.38N±0°.07×96°.76E±0°.06, h28km, n14, σ1s22/14, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.44**	**274**	P	**Pb**	**13 25 10.4**	**+0.3**
SNSI				S	**Sn**	**13 25 18.1**	**-0.1**
TPTI		**0.97**	**26**	P	**Pn**	**13 25 18.5**	**0.0**
TPTI				S	**Sn**	**13 25 30.3**	**-1.1**
KCSI	**Kotacane, Aceh**	**1.52**	**42**	P	**Pn**	**13 25 27.6**	**+1.5**
KCSI				S	**Sb**	**13 25 47.5**	**+0.4**
TSI	**Tuntungan**	**2.12**	**58**	P	**Pn**	**13 25 36.2**	**+1.9**
LHMI	**Lhok Sumawe**	**2.83**	**4**	P	**Pn**	**13 25 46.4**	**+2.2**
MNSI	**Mandailing Nat**	**3.23**	**119**	P	**Pn**	**13 25 51.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**16.12**	**7**	Pn	**P**	**13 28 48.5**	**-0.2**
	0.3nm,0.3s,baz=191,slow=9.9,SNR=4.5						
H08S2	**Diego Garcia H**	**26.18**	**247**	T	T	13 57 26.2	
	baz=68,slow=75,SNR=35						
H08S3	**Diego Garcia H**	**26.18**	**247**	T	T	13 57 26.0	
	baz=68,slow=75,SNR=26						
H08S1	**Diego Carcia H**	**26.20**	**247**	T	T	13 57 26.4	
	baz=68,slow=75,SNR=29						
WRA	**Warramunga Arr**	**43.03**	**123**	P	**P**	**13 32 57.5**	**-0.9**
	0.4nm,0.5s,baz=302,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**44.46**	**128**	P	**P**	**13 33 08.9**	**-0.9**
	0.2nm,0.7s,baz=300,slow=7.9,SNR=8.5						
MKAR	**Makanchi Array**	**46.00**	**346**	P	**P**	**13 33 21.2**	**-0.5**
	0.2nm,0.3s,baz=144,slow=6.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.33**	**351**	P	**P**	**13 34 09.0**	**-0.9**
	0.5nm,0.5s,baz=160,slow=4.6,SNR=1.7						

GUC 07 13:32:31.5±0.4, 35°.59S×72°.78W, h36km±5km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.54**	**181**	*i* P	Pn	13 32 42.4	-0.3
COCH				*e*S	Sn	13 32 50.3	-0.3
COCH				AML	AML	13 32 50.8	
	comp=E,6μm,0.3s						
TALC	**Talca**	**0.96**	**79**	*i* P	Pn	13 32 49.4	+1.0
TALC				*i* S	Sn	13 33 03.1	+2.4
TALC				AML	AML	13 33 04.1	
	comp=E,5μm,0.1s						
LNCH	**Linares**	**0.99**	**105**	*i* P	Pn	13 32 50.3	+1.4
LNCH				*i* S	Sn	13 33 04.3	+2.6
LNCH				AML	AML	13 33 06.3	
	comp=N,5μm,0.4s						
NICH	**Los Niches**	**1.40**	**66**	*i* S	Sn	13 33 15.5	+3.8
NICH				AML	AML	13 33 22.2	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**2.87**	**41**	*e*P	Pn	13 33 17.6	+2.7
CLCH				*e*S	Sn	13 33 53.0	+4.8

*IDC **07** 13:37:20.1±1.1, 36°.74S×73°.45W, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.8/28, mbtmp3.8/8, ML3.6/2, MS3.2/4, Ms1 3.1/4, ms1mx2.9/18, Error ellipse: s-maj=34.2km s-min=17.3km az=83.0*
*ISCJB **07** 13:37:21.6±0.8, 36°.73S±0°.05×73°.66W±0°.08, h27km, mb4.0/6, MS3.5/2, Error ellipse: s-maj=9.2km s-min=6.6km az=174.1*
*GUC **07** 13:37:22.9±0.6, 36°.78S×73°.55W, h35km±4km, ML4.2*
*NEIC **07** 13:37:24.2±3.7, 36°.66S×73°.40W, h30km±25km, mb4.1/2, Error ellipse: s-maj=23.6km s-min=9.5km az=85.0*
ISC 07 13:37:23.7±0.9, 36°.75S±0°.05×73°.40W±0°.10, h27km, n22, σ1s02/21, mb4.1/6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.26**	**112**	⇑*i*P	**Pn**	**13 37 31.4**	**-0.3**
CCSP				*i* S	**Sn**	**13 37 38.0**	**+1.2**
CCSP				AML	AML	13 37 39.5	
	comp=E,37μm,0.5s						
COCH	**Cobquecura**	**0.79**	**39**	*e*P	**Pn**	**13 37 39.3**	**+0.2**
COCH				*i* S	**Sn**	**13 37 51.5**	**+1.5**
AGCH	**Angol**	**1.20**	**152**	*e*P	**Pn**	**13 37 44.4**	**-0.3**
AGCH				*e*S	**Sb**	**13 38 00.8**	**-0.1**
LNCH	**Linares**	**1.71**	**59**	⇑*i*P	**Pb**	**13 37 53.3**	**-1.1**
TALC	**Talca**	**1.97**	**47**	*e*P	**Pn**	**13 37 57.0**	**+1.8**
PLCA	**Paso Flores**	**4.56**	**152**	Pn	**Pn**	**13 38 32.2**	**+1.3**
	comp=E,1.5nm,0.3s,baz=323,slow=10,SNR=20						
PLCA				Lg	Lg	13 39 45.5	
	comp=E,4.2nm,0.3s,baz=20,slow=7.2,SNR=3.8						
PLCA				LR	LR	13 40 10.9	
	comp=E,108nm,20.2s,baz=270,slow=37						
CFAA	**Coronel Fontan**	**6.68**	**41**	Pn	**Pn**	**13 39 00.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=210,slow=9.8,SNR=5.4						
CFAA				Lg	Lg	13 40 39.2	
	comp=E,0.2nm,0.3s,baz=113,slow=20,SNR=4.2						
CFAA				LR	LR	13 41 48.4	
	comp=E,47nm,18.8s,baz=222,slow=40						
LCO	**Las Campanas**	**8.04**	**17**	*e*Pn	**Pn**	**13 39 17.5**	**-1.4**
TRQA	**Tornquist**	**9.19**	**102**	*e*Pn	**Pn**	**13 39 34.2**	**-0.3**
LPAZ	**La Paz**	**20.91**	**14**	P	Pn	13 42 06.3	-1.2
	comp=E,1.6nm,0.8s,baz=182,slow=9.4,SNR=5.9						
LPAZ	**La Paz**	**20.91**	**14**	*e*Pn	Pn	13 42 06.3	-1.2
	comp=E,2.9nm,0.8s						
SIV	**San Ignacio**	**23.39**	**31**	P	**P**	**13 42 29.9**	**-0.6**
	comp=E,1.9nm,0.8s,baz=216,slow=11,SNR=4.0						
SIV				LR	LR	13 53 18.3	
	comp=E,111nm,18.9s,baz=182,slow=41						
BDFB	**Brasilia**	**30.83**	**54**	LR	LR	13 57 20.9	
	comp=E,150nm,20.6s,baz=230,slow=39						
PTGA	**Pitinga**	**37.94**	**22**	P	**P**	**13 44 37.1**	**-1.9**
	comp=E,2.0nm,0.3s						
QSPA	**South Pole Qui**	**53.49**	**180**	P	**P**	**13 46 42.1**	**+0.6**
	comp=E,3.4nm,0.9s,baz=166,slow=2.1,SNR=16						
TXAR	**Lajitas Array**	**71.61**	**332**	P	**P**	**13 48 43.3**	**+0.6**
	comp=E,0.8nm,0.8s,baz=160,slow=11,SNR=2.5						
DBIC	**Dimbokro**	**77.11**	**72**	P	**P**	**13 49 16.2**	**+1.2**
	comp=E,1.9nm,0.6s,baz=194,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**86.18**	**71**	P	**P**	**13 50 03.0**	**+0.2**
	comp=E,0.6nm,0.7s,baz=234,slow=3.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.18**	**71**	P	**P**	**13 50 03.0**	**+0.2**
ABKAR	**Akbulak array**	**144.22**	**55**	*e*PKP	PKPbc	13 56 55.0	+0.2
ZALV	**Zalesovo Beam**	**157.13**	**34**	PKP	**PKPdf**	**13 57 15.8**	**-0.4**
	comp=E,0.4nm,0.5s,baz=305,slow=5.1,SNR=3.6						
MKAR	**Makanchi Array**	**159.35**	**53**	PKPab	**PKPab**	**13 57 56.9**	**0.0**
	comp=E,0.5nm,0.8s,baz=328,slow=5.1,SNR=4.8						

*ISCJB **07** 13:41:04.9±0.6, 50°.04N±0°.03×78°.62E±0°.08, h8km, Error ellipse: s-maj=7.7km s-min=3.8km az=165.3*
*NNC **07** 13:41:04.2±1.1, 50°.01N×78°.59E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=18.3km s-min=5.2km az=80.0*
*IDC **07** 13:41:05.8±0.7, 50°.05N×78°.78E, h0km, mb1 3.2/4, mb1mx3.0/47, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=10.1km s-min=5.6km az=63.0*
ISC 07 13:41:06.1±0.8, 50°.05N±0°.05×78°.64E±0°.06, h8km, n11, σ1s69/18, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.58**	**353**	⇑P	**Pg**	**13 41 16.8**	**-0.6**
	30nm,0.3s,baz=165,slow=18						
KURBB				⇑S	**Sg**	**13 41 25.2**	**+0.2**
	80nm,0.6s						
KURBB	**Kurchatov Arra**	**0.58**	**353**	Pg	**Pg**	**13 41 16.7**	**-0.7**
	5.4nm,0.3s,baz=166,slow=19,SNR=216						
KURBB				Lg	Lg	13 41 26.2	
	4.0nm,0.3s,baz=168,slow=31,SNR=41						
KURK	**Kurchatov**	**0.67**	**359**	⇑P	**Pg**	**13 41 17.9**	**-1.1**
	7.8nm,0.3s						
KURK				⇑S	**Sg

ZALV			Sn	**Sn**	**13 43 32.3**	**+1.6**	
	0.4nm,0.3s,baz=209,slow=44,SNR=2.4						
ZALV			Lg	Lg	13 43 54.4		
	0.7nm,0.3s,baz=251,slow=22,SNR=5.7						
BVA0	**Borovoye Array**	**5.95 303**	⇓Pn	Pn	13 42 30.6	-3.9	
	1.8nm,1.0s,baz=97,slow=12,SNR=6.8						
BVA0			⇑Sn	**Sn**	**13 43 40.2**	**-2.5**	
	2.1nm,0.8s,baz=115,slow=22,SNR=3.9						
BVA0			⇑Lg	Lg	13 44 17.6		
	2.5nm,0.8s,baz=124,slow=30,SNR=4.6						
BVAR	**Borovoye Array**	**5.95 303**	Pn	**Pn**	**13 42 35.1**	**+0.6**	
	0.3nm,0.3s,baz=105,slow=16,SNR=6.3						
BVAR			Sn	**Sn**	**13 43 45.0**	**+2.3**	
	0.6nm,0.3s,baz=112,slow=22,SNR=6.3						
BVAR			Lg	Lg	13 44 18.2		
	0.3nm,0.3s,baz=123,slow=26,SNR=3.4						
PDGK	**Podgornoye**	**6.75 175**	⇑Sn	**Sn**	**13 44 04.0**	**+1.7**	
	0.7nm,0.4s						
PDGK			⇓Lg	Lg	13 44 36.6		
	3.9nm,0.7s						
AAK	**Ala-Archa**	**7.95 203**	Pn	**Pn**	**13 43 03.2**	**+1.1**	
	0.5nm,0.3s,baz=135,slow=20,SNR=8.7						
AAK			Lg	Lg	13 45 17.4		
	0.1nm,0.3s,baz=50,slow=17,SNR=1.9						

IDC 07 13:45:28.3±3.4, 5°92S×152°76E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, ML2.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/12, Error ellipse: s-maj=129.8km s-min=48.5km az=128.0, New Britain region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.54 238**	Pn	Pn	13 47 06.7	+0.8
	0.5nm,0.3s,baz=45,slow=13,SNR=2.9					
PMG			Sn	Sn	13 48 13.7	-7.6
	0.9nm,0.3s,baz=339,slow=20,SNR=2.4					
DZM	**Mont Dzumac**	**20.80 142**	LR	LR	13 57 15.6	
	comp=Z,40nm,19.8s,baz=96,slow=34					
WRA	**Warramunga Arr**	**22.69 230**	P	P	13 50 30.9	-0.8
	0.3nm,0.6s,baz=56,slow=10,SNR=6.6					
ASAR	**Alice Springs**	**25.31 224**	P	P	13 50 57.1	+0.2
	0.8nm,0.7s,baz=59,slow=9.1,SNR=15					
ASAR			LR	LR	13 59 52.7	
	comp=Z,45nm,20.6s,baz=336,slow=34					
JCJ	**Chichijima**	**34.38 343**	LR	LR	14 02 43.6	
	comp=Z,215nm,21.9s,baz=162,slow=30					
TORD	**Torodi Ar. Bea**	**150.60 286**	PKPbc	PKPbc	14 05 23.2	-0.2
	0.3nm,0.8s,baz=63,slow=3.5,SNR=1.8					

IDC 07 13:51:58.2±2.9, 53°37N×87°20E, h0km, mb1 2.6/1, mb1mx2.6/29, mbtmp2.6/1, ML2.5/1, Error ellipse: s-maj=27.4km s-min=15.3km az=71.0, Southwestern Siberia

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.53 293**	*i*		14 02 12.1	
	baz=109,slow=338,SNR=11					
ZALV	**Zalesovo Beam**	**1.53 293**	Pn	Pn	13 52 25.6	-1.2
	0.4nm,0.3s,baz=108,slow=15,SNR=4.0					
ZALV			Lg	Lg	13 52 47.3	
	0.8nm,0.3s,baz=114,slow=27,SNR=8.5					
MKAR	**Makanchi Array**	**7.30 208**	Pn	Pn	13 53 48.0	+1.9
	0.1nm,0.3s,baz=28,slow=14,SNR=5.3					
MKAR			Lg	Lg	13 55 46.0	
	0.0nm,0.3s,baz=47,slow=28,SNR=2.5					

*IDC **07** 14:02:24.0±4.2, 53°.45N×165°.01W, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/28, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=95.3km s-min=27.3km az=160.0*

*NEIC **07** 14:02:34.4, 53°.77N×164°.87W, h25km, ML3.4(AEIC), After AEIC.*

ISC 07 14:02:27.5±1.2, 53°43N±0°.08×164°55W±0°.05, h27km, n30, σ1°65/27, Unimak Island region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.98 317**	P	**Pb**	**14 02 47.3**	**+1.4**
AKSA			S	**Sb**	**14 02 56.3**	**-2.2**
WESE	**West Dahl East**	**1.05 359**	P	**Pb**	**14 02 49.1**	**+2.0**
ZRO	**Akutan Zero**	**1.08 309**	P	**Pb**	**14 02 48.5**	**+1.1**
HSB	**Akutan Spr's B**	**1.11 314**	P	**Pn**	**14 02 48.5**	**+1.3**
AKRB	**Akutan Reef Bi**	**1.15 309**	P	**Pn**	**14 02 49.1**	**+1.4**
AKGG	**Akutan Green G**	**1.15 313**	P	**Pn**	**14 02 49.1**	**+1.3**
AKGG			S	**Sn**	**14 02 59.8**	**-3.0**
UNV	**Unalaska Valle**	**1.24 291**	P	**Pb**	**14 02 51.6**	**+1.5**
UNV			S	**Sn**	**14 03 04.1**	**-0.6**
MREP	**Makushin Rep't**	**1.36 287**	P	**Pb**	**14 02 54.5**	**+2.2**
SSLW	**Shishaldin Wes**	**1.37 10**	P	**Pb**	**14 02 53.1**	**+0.6**
MSW	**Makushin Switc**	**1.42 291**	P	**Pn**	**14 02 53.7**	**+2.2**
SSLN	**Shishaldin Nor**	**1.43 13**	P	**Pb**	**14 02 54.4**	**+1.0**
MGOD	**Makushin Gods**	**1.43 286**	P	**Pb**	**14 02 55.1**	**+1.5**
FALS	**False Pass**	**1.58 25**	P	**Pb**	**14 02 57.8**	**+1.7**
FALS			S	**Sb**	**14 03 15.3**	**-0.3**
OKFG	**Magazine Ridge**	**2.01 271**	P	**Pb**	**14 03 04.2**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**2.09 270**	P	**Pb**	**14 03 06.0**	**+1.3**
DT1	**Dutton Round H**	**2.15 37**	P	**Pb**	**14 03 06.7**	**+1.1**
DTNA	**Dutton South F**	**2.19 37**	P	**Pb**	**14 03 07.3**	**+0.9**
NIKH	**Nikolski High**	**2.63 262**	P	**Pb**	**14 03 13.6**	**-0.2**
SDPT	**Sand Point**	**3.06 49**	P	**Pb**	**14 03 21.0**	**-0.3**
ILAR	**Eielson Array**	**14.48 31**	Pn	**Pn**	**14 05 50.6**	**+0.3**
	0.1nm,0.3s,baz=230,slow=12,SNR=4.9					
INK	**Inuvik**	**20.87 33**	P	**P**	**14 07 04.8**	**-2.1**
	0.5nm,0.4s,baz=249,slow=8.0,SNR=7.9					
PETK	**Petropavlovsk-**	**22.41 285**	P	**P**	**14 07 21.2**	**-2.5**
	0.9nm,0.6s,baz=88,slow=14,SNR=10.0					
YKA	**Yellowknife Ar**	**27.33 51**	P	**P**	**14 08 11.8**	**+2.1**
	0.1nm,0.3s,baz=275,slow=7.0,SNR=4.8					
NVAR	**Mina Array Bea**	**34.82 97**	pP	pP	14 09 41.6	+18
	0.2nm,0.5s,baz=320,slow=9.5,SNR=3.6					
H11N2	**WAKE ISLAND Hy**	**40.18 224**	T	T	14 53 10.4	
	baz=25,slow=76,SNR=8.6					
H11N3	**WAKE ISLAND Hy**	**40.18 224**	T	T	14 53 11.3	
	baz=25,slow=76,SNR=9.9					
H11N1	**WAKE ISLAND Hy**	**40.20 224**	T	T	14 53 11.3	
	baz=25,slow=76,SNR=8.0					
H11S1	**WAKE ISLAND Hy**	**41.35 224**	T	T	14 54 38.7	
	baz=25,slow=76,SNR=14					
H11S2	**WAKE ISLAND Hy**	**41.37 224**	T	T	14 54 24.9	
	baz=25,slow=76,SNR=18					
H11S3	**WAKE ISLAND Hy**	**41.37 224**	T	T	14 54 39.3	
	baz=25,slow=76,SNR=11					

JMA 07 14:09:15.1, 33°.65N×135°.64E, h36km, M1.2, Near south coast of western Honshu

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
JWZ	**Kozaga**	**0.14 152**	P	Pn	14 09 21.3	-4.5
JWZ			S	Sn	14 09 25.8	-10
JWM	**Minabe**	**0.31 310**	P	Pn	14 09 22.9	-0.3
JWM			S	Sn	14 09 28.4	-1.6
JWY	**Kouya**	**0.57 356**	P	Pn	14 09 26.7	-0.2
JWY			S	Sn	14 09 34.6	-0.5
JKN2	**Miekihoku**	**0.79 42**	P	Pn	14 09 29.7	0.0
JKN2			S	Sn	14 09 40.4	+0.1

*IDC **07** 14:17:28.8±1.8, 1°.96N×95°.91E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/36, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=88.3km s-min=20.7km az=54.0*

*DJA **07** 14:17:30.7±1.1, 2°N±7°×9°6E±1°.0, h60km±7km, M3.6/7, mb3.9/1, mB4.7/1, MLv3.5/7, Mw(mB)3.9/1*

*ISCJB **07** 14:17:31.4±0.9, 2°.04N±0°.07×96°.37E±0°.08, h28km, mb3.7/6, Error ellipse: s-maj=12.7km s-min=9.8km az=31.0*

ISC 07 14:17:33.7±1.1, 2°15N±0°.08×96°47E±0°.08, h28km, n21, σ1°62/14, mb3.9/6, Northern Sumatera

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.30 331**	P	**Pn**	**14 17 42.3**	**+0.1**
SNSI			S	**Sn**	**14 17 51.4**	**+3.7**
TPTI		**1.31 33**	P	**Pn**	**14 17 55.0**	**-1.2**
TPTI			S	**Sb**	**14 18 15.2**	**+1.0**
KCSI	**Kotacane, Aceh**	**1.89 44**	P	**Pn**	**14 18 04.1**	**0.0**
KCSI			S	**Sn**	**14 18 28.9**	**+1.9**
LHMI	**Lhok Sumawe**	**3.10 9**	P	**Pn**	**14 18 18.1**	**-2.7**
MNSI	**Mandailing Nat**	**3.39 113**	P	**Pn**	**14 18 25.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.39 8**	Pn	**P**	**14 21 23.6**	**-0.9**
	0.3nm,0.3s,baz=188,slow=12,SNR=4.2					
H08S2	**Diego Garcia H**	**25.82 248**	T	T	14 49 50.3	
	baz=68,slow=75,SNR=162					
H08S3	**Diego Garcia H**	**25.82 248**	T	T	14 49 50.4	
	baz=68,slow=75,SNR=133					
H08S1	**Diego Garcia H**	**25.84 248**	T	T	14 49 48.9	
	baz=68,slow=75,SNR=213					
H08N1	**Diego Garcia H**	**26.78 251**	T	T	14 51 47.6	
	baz=98,slow=74,SNR=5.1					
H08N2	**Diego Garcia H**	**26.79 252**	T	T	14 51 48.6	
	baz=98					
H08N3	**Diego Garcia H**	**26.80 251**	T	T	14 51 48.5	
	baz=98,slow=74,SNR=5.6					
H01W3	**Cape Leeuwin H**	**40.39 157**	T	T	15 07 44.8	
	baz=333,slow=76,SNR=6.2					
H01W2	**Cape Leeuwin H**	**40.41 157**	T	T	15 07 44.9	
	baz=333,slow=76,SNR=7.1					
H01W1	**Cape Leeuwin H**	**40.41 157**	T	T	15 07 44.9	
	baz=333,slow=76,SNR=5.2					
WRA	**Warramunga Arr**	**43.15 122**	P	P	14 25 36.4	+4.1
	0.2nm,0.8s,baz=302,slow=9.2,SNR=3.1					
ASAR	**Alice Springs**	**44.55 127**	P	**P**	**14 25 43.5**	**0.0**
	0.2nm,0.8s,baz=297,slow=7.0,SNR=3.2					
MKAR	**Makanchi Array**	**46.15 347**	P	**P**	**14 25 55.6**	**-0.2**
	0.7nm,0.4s,baz=147,slow=9.5,SNR=13					
ZALV	**Zalesovo Beam**	**52.52 351**	P	**P**	**14 26 43.8**	**-0.4**
	1.2nm,0.3s,baz=173,slow=6.5,SNR=5.4					
FINES	**FINESS Array B**	**78.83 333**	P	**P**	**14 29 33.2**	**-0.7**
	1.3nm,1.0s,baz=115,slow=9.3,SNR=2.6					
ARCES	**ARCESS Array B**	**81.40 340**	P	**P**	**14 29 47.4**	**-0.3**
	2.1nm,0.9s,baz=72,slow=2.9,SNR=3.9					

*BJI **07** 14:32:58.0, 4°.12S×142°.51E, h33km, mB5.8/57, mb5.4/82, Ms5.6/88, Ms7 5.5/80*

*IDC **07** 14:32:58.6±0.4, 3°.82S×141°.98E, h0km, mb5.2/32, mb1 5.3/33, mb1mx5.3/33, mbtmp5.2/33, ML5.4/2, MS5.5/19, Ms1 5.5/19, ms1mx5.3/29, Error ellipse: s-maj=12.9km s-min=8.9km az=86.0*

*NEIC **07** 14:33:01.9±0.1, 3°.76S×141°.94E, h23km, mb6.0/96, ME6.4, MS5.7/153, MW5.9, MW5.9, Error ellipse: s-maj=4.3km s-min=3.6km az=66.0, Moment Tensor Solution. s42 Moment tensor: Scale 10^17 Nm; Mrr=1.55; Mθθ=-7.11; Mφφ=8.66; Mrθ=3.22; Mθφ=3.29; Mφr=-1.76; Best double couple: M=9.40000×10^17 NP1:φs=234.00000°, δ=69.00000°, λ=-13.00000°. NP2:φs=329.00000°, δ=77.00000°, λ=-158.00000°. Principal axes: T 9.4400, Plg6.0000°, Azm100.0000°; N -0.0800, Plg64.0000°, Azm357.0000°; P -9.3500, Plg24.0000°, Azm192.0000°; Broadband fault plane solution: P waves. NP1:φs=333.00000°, δ=81.00000°, λ=-160.00000°. NP2:φs=240.00000°, δ=70.00000°, λ=-10.00000°. Principal axes: T Plg7.0000°, Azm105.0000°; N Plg0.0000°, Azm0.0000°; P Plg21.0000°, Azm198.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Kiunga. Felt [III] at Jayapura and Sentani, Indonesia.

*ISCJB **07** 14:33:01.2±0.7, 3°.78S±0°.02×141°.99E±0°.02, h25km±4km, mb5.8/212, MS5.7/187 Error ellipse: s-maj=3.9km s-min=2.9km az=35.7*

*MOS **07** 14:33:02.4±0.8, 3°.72S×141°.92E, h33km, mb6.1/48, MS5.5/31, Error ellipse: s-maj=9.0km s-min=4.8km az=112.4*

*GCMT **07** 14:33:03.5±0.1, 3°.67S×141°.95E, h27km, MW6.0/134, Moment Tensor Solution. s120,c250; s134,c335; Duration: 24 Moment tensor: Scale 10^18 Nm; Mrr=0.18±.01; Mθθ=0.75±.01; Mφφ=0.92±.01; Mrθ=0.62±.02; Mθφ=0.41±.01; Mφr=0.36±.02; Best double couple: M=1.17000×10^18 NP1:φs=331.00000°, δ=77.00000°, λ=-147.00000°. NP2:φs=233.00000°, δ=58.00000°, λ=-16.00000°. Principal axes: T 1.0650, Plg12.0000°, Azm99.0000°; N 0.2090, Plg55.0000°, Azm351.0000°; P -1.2740, Plg32.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*DJA **07** 14:33:05.3±0.7, 4°S±3°×14°2E±°, h28km±6km, M6.2/115, mb6.0/115, mB6.5/108, MLv6.7/5, Mw(mB)6.2/108, Mwp6.1/28*

*NEIC **07** 14:33:23.3±0.0, 3°.18S×141°.88E, h29km, Moment Tensor Solution. s100 Moment tensor: Scale 10^18 Nm; Mrr=0.45; Mθθ=0.59; Mφφ=1.04; Mrθ=0.20; Mθφ=0.34; Mφr=0.13; Best double couple: M=0.96000×10^18 NP1:φs=332.00000°, δ=70.00000°, λ=-152.00000°. NP2:φs=232.00000°, δ=65.00000°, λ=-21.00000°. Principal axes: T 1.1100, Plg3.0000°, Azm100.0000°; N -0.3200, Plg56.0000°, Azm5.0000°; P -0.8000, Plg32.0000°, Azm193.0000°;*

ISC 07 14:33:03.8±0.2, 3°.82S±0°.03×141°.98E±0°.03, h34km, h34km:pP-P,n1023,σ1°70/975, mb5.9/216, MS5.7/191, 41C-20D, New Guinea

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.82 316**	P	**Pn**	**14 33 31.5**	**-1.3**
JAY			S	**Sb**	**14 33 58.8**	**-0.1**
JAY	**Jayapura**	**1.82 316**	Pn	**Pn**	**14 33 30.8**	**-2.0**
	694nm,0.3s,baz=175,slow=8.2,SNR=1014					
JAY			Sn	**Sn**	**14 33 54.7**	**0.0**
	3µm,0.3s,baz=8.4,slow=14,SNR=10					
JAY			LR	LR	14 34 16.0	
	comp=Z,183µm,19.7s,baz=114,slow=43					
GENI	**Genyem**	**2.18 304**	P	**Pn**	**14 33 37.1**	**-0.6**
GENI			S	**Sn**	**14 34 05.2**	**+1.6**
SMPI	**Sarmi**	**3.73 299**	P	**Pn**	**14 34 00.3**	**+1.2**
MMPI	**Merauke**	**4.88 199**	P	**Pn**	**14 34 17.7**	**+2.9**
SRPI	**Serui, Papua**	**6.05 289**	P	**Pn**	**14 34 31.8**	**+0.8**
	9µm,1.0s,77µm129µm43nm					
PMG	**Port Moresby**	**7.57 137**	⇓*i*P	**Pn**	**14 34 55.0**	**+3.2**
PMG			pmax	pmax		
	comp=Z,1µm,1.7s					
PMG	**Port Moresby**	**7.57 137**	Pn	**Pn**	**14 34 54.4**	**+2.6**
	comp=Z,13nm,0.3s,baz=336,slow=8.4,SNR=75					
PMG			Sn	**Sn**	**14 36 16.8**	**+0.3**
	comp=Z,35nm,0.3s,baz=321,slow=18,SNR=1.1					
PMG	**Port Moresby**	**7.57 137**	*e*P	**Pn**	**14 34 53.3**	**+1.5**
	comp=Z,584nm,0.9s					
PMG			Sn	**Sn**	**14 36 16.8**	**+0.3**
RKPI	**Ransiki, Papua**	**8.12 286**	P	**Pn**	**14 35 00.4**	**+1.0**
	comp=Z,2µm,1.4s,comp=Z,22µm					
FAKI	**Fak Fak**	**9.75 275**	P	**Pn**	**14 35 22.9**	**+1.1**
	comp=Z,1µm,1.2s,comp=Z,13µmcomp=Z,127µm					
FAKI	**Fak Fak**	**9.75 275**	*e*P	**Pn**	**14 35 20.9**	**-1.0**
	comp=Z,1µm,1.0s					
COEN	**Coen**	**10.14 173**	*e*P	**Pn**	**14 35 30.0**	**+2.8**
	comp=Z,4µm,1.3s					
SAUI	**Saumlaki**	**11.39 248**	P	**Pn**	**14 35 45.6**	**+1.3**
BNDI	**Bandnaira**	**12.06 266**	P	**Pn**	**14 35 54.1**	**+0.7**
	comp=Z,2µm,1.5s,comp=Z,56µmcomp=Z,112µm					
MSAI	**Masohi**	**13.03 272**	P	**Pn**	**14 36 07.3**	**+0.6**
	comp=Z,130nm,1.0s,comp=Z,2µmcomp=Z,18µm					
I39PW	**PALAU INFRASON**	**13.50 327**	*i*		15 55 00.0	
	baz=148,slow=313,SNR=0.8					
LBMI	**Labuha**	**14.80 282**	P	**Pn**	**14 36 30.5**	**-0.4**
	comp=Z,2µm,1.7s,comp=Z,29µmcomp=Z,46µm					
NLAI	**Namlea**	**14.86 272**	P	**Pn**	**14 36 32.2**	**+0.6**
	comp=Z,455nm,1.5s,comp=Z,8µmcomp=Z,52µm					
TNTI	**Ternate**	**15.30 287**	P	**Pn**	**14 36 37.7**	**+0.3**
	comp=Z,1µm,1.3s,comp=Z,27µmcomp=Z,52µm					
TNTI	**Ternate**	**15.30 287**	*e*P	**Pn**	**14 36 37.3**	**-0.2**
	comp=Z,4µm,1.5s					
SANI	**Sanana**	**16.06 276**	P	**Pn**	**14 36 45.7**	**-1.6**
	comp=Z,581nm,1.5s,comp=Z,9µmcomp=Z,47µm					
CTA	**Charters Tower**	**16.70 166**	Pn	**P**	**14 36 57.6**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=341,slow=14,SNR=88					
CTA			Lg	Lg	14 41 52.0	
	comp=Z,1.6nm,0.3s,baz=74,slow=24,SNR=5.6					
CTA			LR	LR	14 43 33.0	
	comp=Z,17µm,19.9s,baz=355,slow=38					
CTAO	**Charters Tower**	**16.70 166**	*e*P	**P**	**14 36 57.5**	**+0.1**
CTAO			pmax	pmax		
	comp=Z,2µm,1.5s					
CTAO	**Charters Tower**	**16.70 166**	*e*P	**P**	**14 36 57.5**	**+0.1**
	comp=Z,2µm,1.5s					
GUMO	**Guam**	**17.54 9**	*e*P	**P**	**14 37 08.5**	**+1.8**
GUMO			pmax	pmax		
	comp=Z,329nm,1.7s					
GUMO	**Guam**	**17.54 9**	*e*P	**P**	**14 37 08.5**	**+1.8**
	comp=Z,329nm,1.7s					

WRAB	**Tennant Creek**	**17.65 204**	Pn	**Pn**	**14 37 05.6**	**-1.7**
	comp=Z,6µm,0.7s					
WRAB	**Tennant Creek**	**17.65 204**	*d*P	**Pn**	**14 37 06.4**	**-0.9**
WRAB			pmax	pmax		
	comp=Z,3µm,1.7s					
WRAB	**Tennant Creek**	**17.65 204**	*e*P	**Pn**	**14 37 05.3**	**-2.0**
	comp=Z,3µm,1.4s					
WB2	**Warramunga Arr**	**17.66 204**	*e*P	**Pn**	**14 37 05.3**	**-2.1**
WRA	**Warramunga Arr**	**17.67 204**	Pn	**Pn**	**14 37 05.2**	**-2.3**
	comp=Z,6.4nm,0.3s,baz=26,slow=6.7,SNR=150					
WRA			Sn	**Sn**	**14 40 21.4**	**-2.1**
	comp=Z,8.0nm,0.3s,baz=39,slow=23,SNR=2.6					
WRA			Lg	Lg	14 42 23.1	
	comp=Z,4.5nm,0.3s,baz=28,slow=24,SNR=7.2					
WRA			LR	LR	14 44 22.9	
	comp=Z,68µm,18.4s,baz=20,slow=39					
WRA			P3KP		15 12 37.8	
	comp=Z,0.0nm,0.3s,baz=272,slow=2.0,SNR=5.1					
SGSI	**Sangihe**	**18.05 294**	P	**P**	**14 37 13.3**	**+0.9**
	comp=Z,727nm,0.7s,comp=Z,13µm					
KMSI	**Cibinong**	**18.51 283**	P	**P**	**14 37 16.2**	**-1.2**
	comp=Z,5µm,1.2s,comp=Z,41µmcomp=Z,36µm					
SOEI	**Soe**	**18.54 251**	P	**Pn**	**14 37 18.4**	**+0.1**
	comp=Z,3µm,1.2s,comp=Z,44µmcomp=Z,56µm					
SOEI	**Soe**	**18.54 251**	*e*P	**P**	**14 37 17.9**	**0.0**
	comp=Z,4µm,1.1s					
MATI	**Mati**	**18.99 304**	*e*P	**P**	**14 37 22.5**	**-0.2**
BATI	**Baumata**	**19.24 250**	P	**Pn**	**14 37 27.0**	**+0.3**
	comp=Z,1µm,1.6s,comp=Z,19µm					
BATI	**Baumata**	**19.24 250**	P	**Pn**	**14 37 26.6**	**-0.1**
	comp=Z,78nm,0.3s,baz=119,slow=2.5,SNR=117					
BATI			S	**Sn**	**14 40 57.0**	**-4.5**
	comp=Z,27nm,0.3s,baz=156,slow=23,SNR=2.8					
KDI	**Kendari**	**19.31 269**	P	**Pn**	**14 37 28.3**	**+0.8**
	comp=Z,8.4nm,0.7s					
LUWI	**Luwuk**	**19.38 278**	P	**Pn**	**14 37 27.9**	**-0.4**
	comp=Z,1µm,1.5s,comp=Z,35µmcomp=Z,51µm					
LUWI	**Luwuk**	**19.38 278**	*e*P	**P**	**14 37 27.5**	**+0.5**
	comp=Z,3µm,1.3s					
BIPH	**Bislig**	**19.62 307**	⇓*e*P	**P**	**14 37 29.5**	**-0.1**
DAV	**Davao City (W)**	**19.62 303**	P	**Pn**	**14 37 31.3**	**+0.1**
	SNR=27					
DAV	**Davao City (W)**	**19.62 303**	⇑*e*P	**P**	**14 37 28.4**	**-1.2**
DAV	**Davao City (W)**	**19.62 303**	P	**P**	**14 37 28.9**	**-0.7**
	comp=Z,1µm,1.1s					
MRSI	**Marisa**	**20.47 282**	P	**P**	**14 37 38.6**	**-0.3**
	comp=Z,986nm,1.0s,comp=Z,12µm					
BUKP	**Musuan**	**20.49 305**	*e*P	**P**	**14 37 39.3**	**+0.1**
APSI	**Ampana**	**20.51 278**	P	Pn	14 37 40.9	-0.8
	comp=Z,2µm,1.1s,comp=Z,31µmcomp=Z,34µm					
BUTP	**Butuan**	**20.67 308**	*e*P	**P**	**14 37 41.2**	**+0.1**
EDFI	**Ende, Flores**	**20.74 255**	P	**P**	**14 37 41.4**	**-0.6**
	comp=Z,781nm,1.3s,comp=Z,9µm					
CGP	**Cagayan de Oro**	**21.11 305**	⇓*e*P	**P**	**14 37 47.5**	**+1.7**
AS31	**Alice Springs**	**21.21 201**	*e*P	**P**	**14 37 46.8**	**0.0**
ASAR	**Alice Springs**	**21.21 201**	P	**P**	**14 37 46.5**	**-0.3**
	comp=Z,416nm,1.1s,baz=28,slow=8.4,SNR=245					
ASAR			S	**S**	**14 41 43.4**	**+2.3**
	comp=Z,87nm,1.1s,baz=22,slow=14,SNR=3.7					
ASAR			Lg	Lg	14 44 10.4	
	comp=Z,128nm,0.9s,baz=11,slow=28,SNR=4.0					
ASAR			LR	LR	14 46 36.1	
	comp=Z,46µm,20.8s,baz=22,slow=38					
ASAR			PKKPab		15 07 10.9	
	comp=Z,0.5nm,0.8s,baz=356,slow=1.8,SNR=5.3					
ASAR			P3KPbc		15 11 45.3	
	comp=Z,0.3nm,0.7s,baz=201,slow=5.0,SNR=4.6					
ASAR			P3KP		15 12 21.8	
	comp=Z,0.8nm,1.0s,baz=294,slow=0.2,SNR=4.0					
SCPH	**Surigao**	**21.27 310**	*e*P	**P**	**14 37 47.1**	**-0.5**
BSSI	**Bau Bau, Buton**	**21.52 263**	P	**P**	**14 37 53.0**	**+2.7**
	comp=Z,3µm,1.2s,comp=Z,41µm					
TOLI	**Toli-Toli**	**21.73 283**	*e*P	**P**	**14 37 51.2**	**-1.3**
	comp=Z,3µm,1.3s					
BNSI	**Bone**	**21.82 268**	P	**P**	**14 37 55.6**	**+2.2**
	comp=Z,1µm,1.1s,comp=Z,16µmcomp=Z,29µm					
BKSI	**Bulukumba**	**21.83 265**	P	**P**	**14 37 55.5**	**+1.9**
	comp=Z,1µm,1.2s,comp=Z,11µm					
PAGZ	**Pagadian**	**21.88 302**	*e*P	**P**	**14 37 54.5**	**+0.5**
MSLP	**Maasin**	**21.98 309**	*e*P	**P**	**14 37 54.2**	**-0.9**
TTSI	**Tana Toraja**	**22.13 271**	P	**P**	**14 37 59.6**	**+2.8**
	comp=Z,1µm,1.5s,comp=Z,15µmcomp=Z,22µm					
SPSI	**Sidrap Palu**	**22.16 269**	P	**P**	**14 37 59.5**	**+2.4**
	comp=Z,968nm,1.7s,comp=Z,16µmcomp=Z,21µm					
BASI	**Baing, Sumba**	**22.16 252**	P	**P**	**14 37 57.2**	**+0.1**
	comp=Z,5µm,1.2s,comp=Z,60µm					
KAPI	**Kappang**	**22.19 266**	P	**P**	**14 38 01.3**	**+3.9**
	comp=Z,2µm,1.2s,SNR=21					
KAPI	**Kappang**	**22.19 266**	P	**P**	**14 37 59.7**	**+2.3**
	SNR=42					
KAPI	**Kappang**	**22.19 266**	*e*P	**P**	**14 37 58.9**	**+1.5**
	comp=Z,1µm,1.4s					
KAPI			LR	LR		
	comp=Z,19µm,21.0s					
WSI	**Waingapu**	**22.29 254**	P	**P**	**14 37 58.0**	**-0.5**
	comp=Z,3µm,1.1s,comp=Z,35µm					
DCPH	**Dipolog City**	**22.29 304**	*e*P	**P**	**14 38 01.9**	**+3.4**
PCI	**Palu**	**22.31 277**	P	**P**	**14 38 00.7**	**+2.0**
	comp=Z,2µm,1.1s,comp=Z,24µm					
MPSI	**Mapaga**	**22.45 280**	P	**P**	**14 38 01.7**	**+1.5**
PLP	**Palo**	**22.53 312**	⇑*e*P	**P**	**14 37 58.9**	**-2.2**
IPIL	**Ipil**	**22.54 301**	*e*P	**P**	**14 38 01.0**	**-0.2**
OCLP	**Ormoc**	**22.74 311**	*e*P	**P**	**14 38 03.0**	**-0.2**
EIDS	**Eidsvold**	**23.14 159**	*e*P	**P**	**14 38 08.2**	**+0.9**
	comp=Z,101nm,1.1s

comp=Z,107nm,1.6s,comp=Z,18µm
JCJ Chichijima 30.74 0 LR LR 14 50 41.6
comp=Z,6µm,21.7s,baz=151,slow=35
PCJI Pacitan 30.93 260 P P 14 39 21.7 +3.8
comp=Z,152nm,1.6s,comp=Z,3µm
WOJI Wonogiri, Jawa 31.14 261 P **P** **14 39 21.6 +1.9**
comp=Z,173nm,1.3s,comp=Z,4µm
TARA Tarawa 31.36 81 PFAKE
TARA LR LR
comp=Z,2µm,19.0s
CAN Canberra 32.01 169 *e*P **P** **14 39 28.6 +1.4**
CAN pmax pmax
comp=Z,462nm,1.4s
CAN MLR MLR
comp=Z,21µm,19.0s
CAN Canberra 32.01 169 *e*P **P** **14 39 28.6 +1.4**
comp=Z,462nm,1.4s
CAN LR LR
comp=Z,21µm,19.0s
KSM Kuching 32.08 279 ⇑P **P** **14 39 28.4 +0.3**
KSM Kuching 32.08 279 *e*P **P** **14 39 26.9 -1.2**
comp=Z,206nm,1.2s
KSM LR LR
comp=Z,6µm,22.0s
H11S3 WAKE ISLAND Hy 32.93 47 T T 15 13 34.3
baz=230,slow=75,SNR=132
H11S2 WAKE ISLAND Hy 32.94 47 T T 15 13 35.0
baz=230,slow=75,SNR=124
H11S1 WAKE ISLAND Hy 32.95 47 T T 15 13 35.4
baz=230,slow=75,SNR=147
KPJI Karang Pucung 33.06 262 P **P** **14 39 36.0 -0.7**
comp=Z,124nm,0.9s,comp=Z,3µm
JOW Kunigami 33.23 337 LR LR 14 50 23.9
comp=Z,940nm,21.4s,baz=144,slow=32
WAKE Wake Island 33.42 46 PFAKE
WAKE LR LR
comp=Z,10µm,20.0s
CMJI Cimerak 33.58 262 P **P** **14 39 42.1 +1.0**
comp=Z,157nm,1.5s
H11N1 WAKE ISLAND Hy 33.87 45 T T 15 14 59.1
baz=230,slow=76,SNR=27
H11N2 WAKE ISLAND Hy 33.88 45 T T 15 14 59.8
baz=230,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 33.88 45 T T 15 14 58.5
baz=230,slow=76,SNR=16
TPUB Ta-pu 34.06 323 *e*P **P** **14 39 46.1 +0.9**
comp=Z,268nm,1.5s
NACB Ninganchiao 34.18 326 *e*P **P** **14 39 45.2 -0.9**
comp=Z,582nm,1.4s
CISI Cisompet, Garu 34.18 262 P **P** **14 39 48.8 +2.3**
comp=Z,318nm,1.1s,comp=Z,6µm
CISI Cisompet, Garu 34.18 262 *e*P **P** **14 39 43.3 -3.2**
comp=Z,334nm,1.0s
SSLB Suanglung 34.25 324 *e*P **P** **14 39 46.4 -0.5**
comp=Z,40nm,0.8s
TPI Tanjungpandan 34.28 271 P **P** **14 39 47.2 -0.1**
comp=Z,212nm,1.0s,comp=Z,2µm
LEM Lembang 34.33 264 P **P** **14 39 46.6 -1.3**
comp=Z,48nm,0.8s,baz=351,slow=8.7,SNR=2.2
YHNB Yeheng 34.69 326 *e*P **P** **14 39 53.0 +2.3**
comp=Z,146nm,0.9s
YHNB LR LR
comp=Z,8µm,21.0s
CNJI Cibinong 34.84 263 P **P** **14 39 54.5 +2.4**
comp=Z,490nm,1.2s,comp=Z,5µm
TATO Taipei 34.87 326 PFAKE
TATO LR LR
comp=Z,8µm,20.0s
CBJI Citeko 35.07 264 P **P** **14 39 56.8 +2.7**
comp=Z,354nm,1.1s
CGJI Cibinong 36.23 264 P **P** **14 40 07.1 +3.0**
comp=Z,160nm,1.8s,comp=Z,2µm
QZH Quanzhou 36.52 323 ⇑*i*P **P** **14 40 09.0 +2.7**
QZH S **S** **14 45 47.0 +0.4**
QZH PMZ
comp=Z,180nm,0.8s
QZH LN
comp=Z,5µm,12.0s
QZH LE
comp=Z,4µm,7.7s
QZH LZ
comp=Z,8µm,18.5s
XMIS Christmas Isla 36.62 258 *e*P **P** **14 40 09.3 +1.9**
comp=Z,66nm,0.6s
DLV T Lat 36.80 296 *e*P **P** **14 40 07.8 -1.3**
comp=Z,144nm,1.4s
KASI Kota Agung 37.39 266 P **P** **14 40 11.2 -2.7**
comp=Z,231nm,1.0s,comp=Z,2µm
DSRI Dabo 37.51 274 P **P** **14 40 15.2 +0.2**
comp=Z,246nm,1.4s,comp=Z,6µmcomp=Z,108µm
MDSI Maura Dua 37.70 268 P **P** **14 40 15.3 -1.3**
comp=Z,224nm,1.4s,comp=Z,3µm
TPRI Tanjung Pinang 37.72 276 P **P** **14 40 19.4 +2.7**
comp=Z,148nm,1.1s,comp=Z,29µm
LWLI Liwa 37.82 267 P **P** **14 40 17.4 -0.3**
comp=Z,292nm,1.3s,comp=Z,6µm
MSVF Nonsavu 37.94 114 *e*P **P** **14 40 18.5 -0.1**
MSVF pmax pmax
comp=Z,59nm,0.8s
MSVF MLR MLR
comp=Z,8µm,19.0s
MSVF Nonsavu 37.94 114 *e*P **P** **14 40 18.5 -0.1**
comp=Z,59nm,0.8s
MSVF LR LR
comp=Z,8µm,19.0s
JNU Nakatsue 38.22 345 P **P** **14 40 21.4 +0.8**
comp=Z,15nm,0.8s,baz=118,slow=3.3,SNR=6.0
JMBI JAMBI 38.35 272 P **P** **14 40 24.8 +2.8**
comp=Z,486nm,1.2s,comp=Z,9µm
LHSI Lahat 38.36 269 P **P** **14 40 22.6 +0.4**
comp=Z,253nm,1.3s,comp=Z,5µm
MYKOM Kota Tinggi 38.51 278 ⇑P **P** **14 40 23.6 +0.2**
GZH Guangzhou 38.68 315 P **P** **14 40 26.6 +2.0**
GZH PP **PnPn** **14 42 02.6 +6.7**
GZH PcP **PcP** **14 42 35.2 -1.1**
GZH S **S** **14 46 22.2 +2.8**
GZH LN
comp=Z,9µm,18.4s
GZH LE
comp=Z,9µm,18.4s
QIZ Qiongzhong 38.93 307 P **P** **14 40 27.3 +0.5**
QIZ pP **pP** **14 40 35.9 -0.8**
QIZ sP **sP** **14 40 40.0 -0.8**
QIZ S **S** **14 46 23.6 +0.2**
QIZ PMZ
comp=Z,38nm,1.5s
QIZ LN
comp=Z,5µm,22.9s
QIZ LZ
comp=Z,6µm,25.8s
QIZ Qiongzhong 38.93 307 *e*P **P** **14 40 26.0 -0.8**
comp=Z,152nm,1.2s
QIZ LR LR
comp=Z,6µm,21.0s
KGM Kluang 39.07 278 ⇑P **P** **14 40 27.5 -0.6**
TAU Tasmania Unive 39.21 174 P **P** **14 40 30.3 +1.5**
comp=Z,2µm,1.3s,SNR=17
TAU Tasmania Unive 39.21 174 *e*P **P** **14 40 30.8 +2.0**
TAU pmax pmax
comp=Z,826nm,1.5s
TAU MLR MLR
comp=Z,19µm,19.0s
TAU Tasmania Unive 39.21 174 *e*P **P** **14 40 30.8 +2.0**
comp=Z,826nm,1.5s
TAU LR LR
comp=Z,19µm,19.0s
KTGM Kuala Trenggan 39.85 283 ⇑P **P** **14 40 34.0 -0.6**
SSE Sheshan 39.99 332 P **P** **14 40 35.4 0.0**
SSE sP **sP** **14 40 48.5 -0.9**
SSE S **S** **14 46 37.6 -1.3**
SSE sS **sS** **14 46 53.8 -1.3**
SSE SS **SS** **14 49 35.1 -1.7**
SSE PMZ
comp=Z,69nm,0.9s
SSE PMZ
comp=Z,410nm,3.1s
SSE LN
comp=Z,4µm,21.4s
SSE LE
comp=Z,2µm,21.8s
SSE LZ
comp=Z,5µm,24.2s
H01W1 Cape Leeuwin H 40.26 216 P **P** **14 40 39.3 +1.9**
baz=62,slow=7.9,SNR=12
H01W3 Cape Leeuwin H 40.26 216 P **P** **14 40 39.5 +2.0**
baz=62,slow=7.9,SNR=14
H01W2 Cape Leeuwin H 40.27 216 P **P** **14 40 40.0 +2.4**
baz=62,slow=7.9,SNR=16
MJAR Matsushiro Arr 40.31 355 P **P** **14 40 36.1 -2.0**
comp=Z,11nm,0.8s,baz=177,slow=8.4,SNR=23
MJAR LR LR 14 56 38.5
comp=Z,5µm,18.5s,baz=175,slow=35
MAJO Matsushiro 40.31 355 *e*P **P** **14 40 36.9 -1.2**
MAJO pmax pmax
comp=Z,444nm,1.8s
MAJO MLR MLR
comp=Z,6µm,19.0s
MAJO Matsushiro 40.31 355 *e*P **P** **14 40 36.9 -1.2**
comp=Z,444nm,1.8s
MAJO LR LR
comp=Z,6µm,19.0s
MAT Matsushiro 40.31 355 P **P** **14 40 35.8 -2.3**
MAT S **S** **14 46 44.8 +1.2**
SDSI Sungai Dareh 40.61 273 P **P** **14 40 44.0 +3.1**
comp=Z,180nm,1.2s,comp=Z,17µm
UBPT Khong Chiam 40.83 299 P **P** **14 40 43.1 +0.5**
comp=Z,135nm,1.5s,comp=Z,3µm
KSJDO Jindo 40.85 340 P pP 14 40 53.2 +0.8
SNR=5.2
KSJDO Jindo 40.85 340 P pP 14 40 53.2 +0.8
SNR=5.2
KSHAN Haenam 40.85 340 P pP 14 40 51.4 -1.0
SNR=7.7
KSHAN Haenam 40.85 340 P pP 14 40 51.4 -1.0
SNR=7.7
FRIM Kepong 40.93 279 ⇑P **P** **14 40 43.1 -0.4**
KSMOK Mokpo 40.98 341 P pP 14 40 53.5 0.0
SNR=8.3
KSMOK Mokpo 40.98 341 P pP 14 40 53.5 0.0
SNR=8.3
BKNI Bangkinang 41.11 275 P **P** **14 40 45.0 -0.1**
comp=Z,347nm,1.2s,comp=Z,5µm
BKNI Bangkinang 41.11 275 *e*P **P** **14 40 43.2 -1.8**
comp=Z,543nm,1.1s
PDSI Padang 41.57 273 P **P** **14 40 47.1 -1.8**
comp=Z,89nm,1.5s,comp=Z,2µm
IPM Ipoh 41.74 281 *e*P **P** **14 40 49.6 -0.6**
comp=Z,122nm,1.2s
NJ2 Nanjing 41.90 330 *e*P **P** **14 40 51.1 -0.1**
NJ2 pP **pP** **14 41 00.1 -1.1**
NJ2 sP **sP** **14 41 02.6 -2.6**
NJ2 S **S** **14 47 09.5 +2.1**
NJ2 sS **sS** **14 47 23.5 -0.2**
NJ2 SS **SS** **14 50 17.0 +2.1**
NJ2 PMZ
comp=Z,170nm,1.2s
NJ2 PMZ
comp=Z,2µm,6.0s
NJ2 LN
comp=Z,7µm,25.8s
NJ2 LE
comp=Z,10µm,29.2s
NJ2 LZ
comp=Z,11µm,22.0s
KSGUS GUNSAN 42.13 342 P pP 14 41 04.2 +1.3
SNR=6.5
KSGUS GUNSAN 42.13 342 P pP 14 41 04.2 +1.3
SNR=6.5
KULM Kulim 42.26 282 *e*P **P** **14 40 52.5 -1.9**
comp=Z,133nm,1.3s
KULM LR LR
comp=Z,3µm,22.0s
KSTBA Taebaek 42.51 345 P pP 14 41 07.9 +1.8
SNR=5.6
KSTBA Taebaek 42.51 345 P pP 14 41 07.9 +1.8
SNR=5.6
MNSI Mandailing Nat 42.62 275 P **P** **14 40 56.6 -0.8**
comp=Z,76nm,1.4s,comp=Z,9µm
CHBT CHBT 42.69 293 P **P** **14 40 57.2 -0.7**
comp=Z,177nm,1.1s,comp=Z,4µm
OUZ Omahuta 42.80 141 PN **P** **14 41 00.8 +2.3**
OUZ Omahuta 42.80 141 *e*P **P** **14 41 00.5 +2.0**
comp=Z,377nm,1.1s
KSSES Seosan 42.92 342 P pP 14 41 10.6 +1.3
SNR=7.9
KSWJU Wonju 43.01 344 P pP 14 41 12.2 +2.0
SNR=5.1
KSAR Wonju Array Be 43.10 344 P **P** **14 41 01.1 +0.2**
KSAR Wonju Array Be 43.10 344 P **P** **14 41 01.1 +0.2**
KSRS Korea Array 43.10 344 P **P** **14 41 01.1 +0.2**
comp=Z,7.7nm,0.8s,baz=164,slow=7.7,SNR=20
KSDGY Daegwallycong 43.11 345 P pP 14 41 11.6 +0.5
SNR=5.6
WHN Wuhan 43.18 324 P P 14 40 56.4 -5.2
WHN sP sP 14 41 13.8 -1.8
WHN S **S** **14 47 26.0 -0.2**
KSSWO Suwon 43.20 342 P pP 14 41 13.5 +1.8
SNR=5.6
KSJMJ Jumunjin 43.27 345 P pP 14 41 11.7 -0.5
SNR=6.1
KSSEO Seoul 43.42 343 P pP 14 41 13.8 +0.4
SNR=5.1
INCN Inchon 43.50 342 P pP 14 41 15.1 +0.9
SNR=8.9
INCN Inchon 43.50 342 *e*P **P** **14 41 04.0 -0.1**
comp=Z,482nm,1.3s
INCN *e*pP **pP** **14 41 14.8 +0.7**
INCN LR LR
comp=Z,7µm,21.0s
KSIJA INJE 43.54 344 P pP 14 41 16.6 +2.2
SNR=6.7
KHON Khomkaen 43.58 298 P P 14 41 08.6 +3.5
comp=Z,42nm,1.2s,comp=Z,665nm
KSDDC Dongducheon 43.76 343 P pP 14 41 17.6 +1.4
SNR=6.0
KSGAH Ganghwa 43.77 342 P pP 14 41 16.5 +0.3
SNR=10
KSCWO Cheorwon 43.80 343 P pP 14 41 18.3 +1.8
SNR=8.6
KSMUS Musan 43.84 343 P pP 14 41 17.5 +0.7
SNR=7.7
TSI Tuntungan 43.99 279 P **P** **14 41 11.1 +2.7**
comp=Z,170nm,1.2s,comp=Z,40µm
KSBAR Backryngdo 44.57 340 P pP 14 41 24.2 +1.6
SNR=6.2
KCSI Kotacane, Aceh 44.77 279 P **P** **14 41 12.7 -2.0**
comp=Z,102nm,1.1s,comp=Z,52µmcomp=Z,16µm
SURT Suratani 44.88 287 P **P** **14 41 16.7 +1.2**
comp=Z,18nm,1.9s,comp=Z,605nm
SLVN Son La 44.90 305 *e*P **P** **14 41 14.7 -1.0**
comp=Z,74nm,1.3s
PKDT Phuket 45.06 285 P **P** **14 41 18.5 +1.5**
comp=Z,80nm,1.2s,comp=Z,2µm
PBKT Sadao Pong 45.30 298 P **P** **14 41 20.6 +1.8**
comp=Z,49nm,1.2s,comp=Z,922nm
TPTI 45.31 278 P **P** **14 41 20.8 +1.8**
COCO West Island 45.41 257 P **P** **14 41 20.3 +0.6**
COCO pmax pmax
comp=Z,209nm,0.9s
COCO West Island 45.41 257 P **P** **14 41 20.2 +0.6**
comp=Z,209nm,0.9s
GYA Guiyang 45.53 313 ⇑*i*P **P** **14 41 20.9 +0.2**
GYA pP **pP** **14 41 32.0 +1.3**
GYA sP **sP** **14 41 38.6 +3.9**
GYA PP **PP** **14 43 08.9 +1.2**
GYA ScP **ScP** **14 46 48.4 -1.3**
GYA S **S** **14 48 01.2 +0.4**
GYA sS **sS** **14 48 17.8 +0.6**
GYA SS **ScS** **14 51 16.4 +1.3**
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,230nm,8.2s
GYA LN
comp=Z,3µm,19.7s
GYA LE
comp=Z,2µm,20.0s
GYA LZ
comp=Z,2µm,19.5s
ERM Erimo 45.63 1 ⇑*e*P **P** **14 41 23.5 +2.5**
ERM pmax pmax
comp=Z,16nm,0.9s
ERM Erimo 45.63 1 PFAKE 14 41 30.0 +9.0
ERM LR LR
comp=Z,2µm,20.0s
RAO Raoul Island 45.64 128 PFAKE 14 41 30.0 +8.6
RAO LR LR
comp=Z,9µm,21.0s
LHMI Lhok Sumawe 45.87 281 P **P** **14 41 26.2 +2.8**
comp=Z,282nm,1.5s,comp=Z,12µm
QRZ Quartz Range 45.96 148 *e*PN **P** **14 41 25.0 +1.3**
ENH Enshi 45.98 320 *e*P **P** **14 41 23.8 -0.3**
comp=Z,59nm,1.0s
ENH LR LR
comp=Z,3µm,21.0s
SNSI Sinabang, Aceh 46.04 277 P **P** **14 41 26.6 +1.8**
TIA Tai'an 46.11 332 ⇑P **P** **14 41 24.7 -0.3**
TIA S **S** **14 48 07.8 -0.8**
TIA SS **SS** **14 51 34.8 +0.5**
TIA PMZ
comp=Z,40nm,1.4s
TIA PMZ
comp=Z,1µm,4.2s
TIA LN
comp=Z,3µm,21.0s
TIA LE
comp=Z,2µm,20.2s
TIA LZ
comp=Z,4µm,24.0s
UTTA Uttaradit 46.13 299 P **P** **14 41 26.2 +0.8**
comp=Z,20nm,1.1s,comp=Z,234nm
SRDT SRDT 46.16 294 P **P** **14 41 26.2 +0.5**
comp=Z,215nm,1.3s,comp=Z,11µm
DL2 Dalian 46.49 338 ⇑P P 14 41 37.0 +9.2
DL2 S S 14 48 25.4 +12
JCZ Jackson Bay 46.53 153 *e*PN **P** **14 41 29.7 +1.4**
TRVZ Turoa 46.62 144 PN **P** **14 41 31.3 +2.1**
AFI Afiamalu 46.70 105 P **P** **14 41 31.4 +1.4**
AFI MLR MLR
comp=Z,6µm,20.0s
AFI Afiamalu 46.70 105 P **P** **14 41 31.4 +1.4**
AFI LR LR
comp=Z,6µm,20.0s
THZ Tophouse 46.82 148 *e*PN **P** **14 41 31.2 +0.7**
URZ Urewera 46.90 142 P **P** **14 41 32.3 +1.1**
comp=Z,46nm,0.7s,baz=255,slow=5.9,SNR=24
URZ Urewera 46.90 142 *e*P **P** **14 41 32.1 +0.9**
comp=Z,139nm,1.1s
HAZ Te Kaha 47.02 141 PN **P** **14 41 33.3 +1.2**
BKZ Black Stump Fm 47.09 143 PN **P** **14 41 33.6 +0.8**
MWZ Matawai 47.21 141 PN **P** **14 41 34.6 +1.0**
LAMP Lampang 47.25 299 P **P** **14 41 35.3 +1.2**
comp=Z,18nm,1.5s,comp=Z,259nm
RPZ Rata Peaks 47.32 151 PN **P** **14 41 35.3 +0.9**
RPZ Rata Peaks 47.32 151 *e*P **P** **14 41 35.1 +0.8**
comp=Z,210nm,1.0s
CRAI Chiangrai 47.32 302 P **P** **14 41 31.7 -3.0**
TSZ Takapari Road 47.35 144 *e*PN **P** **14 41 35.4 +0.7**
LBZ Lake Benmore 47.42 153 PN **P** **14 41 35.6 +0.5**
WMGZ Waiomatatini S 47.46 140 *e*PN **P** **14 41 36.0 +0.6**
SNZO South Karori 47.48 146 *e*P **P** **14 41 35.4 -0.1**
comp=Z,441nm,1.1s
SNZO LR LR
comp=Z,8µm,20.0s
PUZ Puketiti 47.51 141 PN **P** **14 41 36.5 +0.6**
MRZ Mangatainoka R 47.53 145 PN **P** **14 41 36.0 -0.1**
VLA Vladivostok 47.61 350 ⇑*i*P **P** **14 41 36.8 +0.3**
VLA *e* 14 43 05.4
VLA 14 43 28.3
VLA *e*S **S** **14 48 29.1 -0.6**
VLA pmax pmax
comp=Z,367nm,1.8s
KHZ Kahutara 47.62 148 *e*P **P** **14 41 36.8 +0.2**
comp=Z,94nm,1.0s
WHZ Wether Hill Ro 47.63 156 *e*P **P** **14 41 37.6 +0.9**
comp=Z,113nm,1.0s
ASAJ Asahikawa 47.73 1 P **P** **14 41 37.5 0.0**
comp=Z,35nm,0.8s,baz=239,slow=12,SNR=21
ASAJ LR LR 14 58 31.6
comp=Z,3µm,21.2s,baz=180,slow=32
ASAJ Asahikawa 47.73 1 *e*P **P** **14 41 37.8 +0.4**
KMI Kunming 47.73 309 P **P** **14 41 38.9 +0.8**
KMI pP **pP** **14 41 49.0 +0.9**
KMI sP **sP** **14 41 53.4 +1.3**
KMI PP **PP** **14 43 31.0 +0.9**
KMI S **S** **14 48 32.5 -0.1**
KMI sS **sS** **14 48 48.7 -0.4**
KMI PMZ
comp=Z,50nm,0.9s
KMI PMZ
comp=Z,270nm,4.3s
KMI LN
comp=Z,2µm,19.8s
KMI LE
comp=Z,3µm,23.0s
KMI LZ
comp=Z,6µm,24.6s
YUK Yuzh-Kuril'sk 47.77 4*c i*P **P** **14 41 37.3 -0.4**
YUK *i* 14 43 28.0
YUK *i*S S 14 48 39.5 +7.5
YUK *i*SSS SSS 14 53 11.4
YUK pmax pmax
comp=N,461nm,1.4s
YUK pmax pmax
comp=E,395nm,1.4s
YUK pmax pmax
comp=Z,870nm,1.4s
YUK pmax pmax
comp=Z,1µm,1.4s
CMAR Chiang Mai Arr 47.82 299 P **P** **14 41 38.9 +0.3**
comp=Z,13nm,0.8s,baz=121,slow=6.2,SNR=86
CMAR PKPPKP P'P'df 15 12 43.0 -8.9
comp=Z,0.8nm,0.9s,baz=282,slow=3.8,SNR=5.7
CMAR PKP2bc 15 13 10.4
comp=Z,1.6nm,1.0s,baz=298,slow=3.9,SNR=3.5
CMMT Chiang Mai 47.96 300 P **P** **14 41 39.5 -0.2**
comp=Z,84nm,1.4s,comp=Z,2µm
CHTO Chiang Mai 47.96 300 *e*P **P** **14 41 39.8 +0.1**
CHTO pmax pmax
comp=Z,96nm,1.3s
CHTO MLR MLR
comp=Z,3µm,20.0s
CHTO Chiang Mai 47.96 300 P **P** **14 41 39.8 +0.1**
SNR=43
CHTO Chiang Mai 47.96 300 *e*P **P** **14 41 39.8 +0.1**
comp=Z,96nm,1.3s
CHTO LR LR
comp=Z,3µm,20.0s
CHTO Chiang Mai 47.96 300 P **P** **14 41 39.9 +0.2**
comp=Z,222nm,1.3s,comp=Z,5µm
CMAI Chiengmai2 48.33 301 P **P** **14 41 43.0 +0.3**
comp=Z,42nm,1.7s,comp=Z,2µm
SNY Shenyang 48.42 342 ⇓P P 14 41 52.3 +9.5
SNY PP PcP 14 43 16.4 +7.6
SNY S **S** **14 48 47.1 +5.8**
SNY Shenyang 48.42 342 SS SS 14 52 11.5 -0.1
MHMT Maesarieng 48.60 298 P **P** **14 41 45.1 +0.5**
comp=Z,42nm,1.1s,comp=Z,615nm
USRK Ussuriysk Ar. 48.64 350 P **P** **14 41 44.7 +0.2**
comp=Z,22nm,0.7s,baz=174,slow=7.7,SNR=36
USRK LR LR 14 59 03.7
comp=Z,6µm,21.8s,baz=170,slow=32
XAN Xi'an 48.89 323 P **P** **14 41 46.5 -0.1**
XAN pP **pP** **14 41 58.2 +1.5**
XAN sP **sP** **14 42 04.0 +3.3**
XAN S **S** **14 48 46.9 -1.4**
XAN ScS **ScS** **14 51 30.9 -5.9**
XAN PMZ
comp=Z,34nm,1.3s
XAN PMZ
comp=Z,130nm,3.4s
XAN LN
comp=Z,2µm,24.6s
XAN LZ
comp=Z,1µm,17.4s
KUR Kuril'sk 49.12 6*d i*P P 14 41 53.8 +5.7
KUR *i*S S 14 49 01.4 +10
KUR MLR MLR
comp=Z,1µm,14.0s
MDJ Mudanjiang 49.48 348 P **P** **14 41 50.8 -0.1**
MDJ pP **pP** **14 41 59.8 -1.2**
MDJ sP **sP** **14 42 03.7 -1.3**
MDJ PP **PP** **14 43 43.5 -2.0**
MDJ S **S** **14 48 55.3 -0.9**
MDJ ScS **ScS** **14 51 39.0 -1.2**
MDJ SS **SS** **14 52 28.4 -0.2**
MDJ PMZ
comp=Z,9.0nm,0.8s
MDJ PMZ
comp=Z,1µm,7.8s
MDJ LN
comp=Z,4µm,21.9s
MDJ LE
comp=Z,3µm,24.3s
MDJ LZ
comp=Z,7µm,21.2s
MDJ Mudanjiang 49.48 348 *e*P **P** **14 41 49.4 -1.5**
comp=Z,50nm,1.0s
MDJ LR LR

comp=Z,5µm,20.0s
TIY Taiyuan 49.60 329 *e*P P 14 41 55.4 +3.3
TIY pP pP 14 42 04.5 +2.3
TIY sP sP 14 42 08.9 +2.8
TIY PP **PP** **14 43 49.8 +3.0**
TIY S **S** **14 48 57.3 -0.9**
TIY PMZ
comp=Z,730nm,6.5s
TIY LN
comp=Z,4µm,17.6s
TIY LE
comp=Z,1µm,12.2s
TIY LZ
comp=Z,6µm,19.8s
BJT Baijiatuau 49.65 334 *e*P **P** **14 41 52.6 +0.3**
BJT pmax pmax
comp=Z,353nm,1.4s
BJT MLR MLR
comp=Z,6µm,20.0s
BJT Baijiatuau 49.65 334 *e*P **P** **14 41 52.6 +0.3**
comp=Z,353nm,1.4s
BJT LR LR
comp=Z,6µm,20.0s
BJI Beijing 49.67 334 P **P** **14 41 52.4 0.0**
BJI sP **sP** **14 42 02.7 -3.8**
BJI S **S** **14 48 59.9 +1.0**
BJI sS **sS** **14 49 16.6 +1.1**
BJI PMZ
comp=Z,42nm,1.7s
BJI PMZ
comp=Z,1µm,5.6s
BJI LN
comp=Z,5µm,23.4s
BJI LE
comp=Z,3µm,21.6s
BJI LZ
comp=Z,5µm,22.2s
CN2 Changchun 49.69 344 *e*P **P** **14 41 52.4 -0.1**
CN2 *e*pP **pP** **14 42 02.3 -0.3**
CN2 PcP **PcP** **14 43 13.3 -0.1**
CN2 *e*S **S** **14 48 57.8 -1.3**
CN2 PMZ
comp=Z,20nm,0.7s
CN2 PMZ
comp=Z,1µm,7.0s
CN2 LN
comp=Z,2µm,20.0s
CN2 LE
comp=Z,3µm,20.0s
CN2 LZ
comp=Z,2µm,19.0s
CD2 Chengdu 50.21 316 ⇑P **P** **14 41 57.6 +0.8**
CD2 pP **pP** **14 42 07.9 +1.0**
CD2 sP **sP** **14 42 12.1 +1.2**
CD2 PcP **PcP** **14 43 16.3 +0.6**
CD2 PP **PP** **14 43 54.0 +1.6**
CD2 PcS **PcS** **14 47 12.0 -0.9**
CD2 S **S** **14 49 06.4 -0.6**
CD2 sS **sS** **14 49 23.7 +0.1**
CD2 SS **SS** **14 52 37.0 -3.9**
CD2 PMZ
comp=Z,170nm,0.8s
CD2 PMZ
comp=Z,1µm,5.0s
CD2 LN
comp=Z,3µm,18.1s
CD2 LE
comp=Z,4µm,18.1s
CD2 LZ
comp=Z,2µm,18.1s
YSS Yuzh-Sakhalins 50.56 1⇑ *e*P **P** **14 41 58.4 -0.7**
YSS *e* 14 42 07.0
YSS *e*S **S** **14 49 06.0 -5.1**
YSS *e* 14 49 24.0
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=N,2µm,18.0s
YSS pmax pmax
comp=N,1µm,17.0s
YSS Yuzh-Sakhalins 50.56 1 *e*P **P** **14 41 58.4 -0.7**
comp=N,147nm,1.0s
YSS LR LR
comp=Z,2µm,21.0s
PBA Port Blair 51.32 288 *e*P P 14 42 03.4 -1.9
MCQ Macquarie Isla 52.38 168 P **P** **14 42 13.1 +0.6**
MCQ Macquarie Isla 52.38 168 P **P** **14 42 13.1 +0.6**
comp=Z,11µm,1.3s
HABR Khabarovsk 52.43 354*ce*P **P** **14 42 12.4 -0.6**
HABR *e**PP **pP** **14 42 25.7 +2.6**
HABR *e* 14 43 21.9
HABR *e* 14 44 11.2
HABR PPP PPP 14 45 15.2
HABR *e*S **S** **14 49 36.0 -0.8**
HABR *e* 14 51 57.2
HABR *e*SS **SS** **14 53 15.3 0.0**
HABR pmax pmax
comp=Z,43nm,1.5s
HABR pmax pmax
comp=Z,963nm,4.4s
HABR MLR MLR
comp=Z,2µm,18.0s
HHC Hu-ho-hao-te 52.44 331 *e*P **P** **14 42 14.2 +0.8**
HHC pP **pP** **14 42 22.5 -1.0**
HHC PP **PP** **14 44 14.6 +2.1**
HHC S **S** **14 49 38.0 +0.5**
HHC sS **sS** **14 49 54.0 -0.2**
HHC PMZ
comp=Z,30nm,1.4s
HHC PMZ
comp=Z,940nm,4.6s
HHC LN
comp=Z,3µm,19.6s
HHC LE
comp=Z,2µm,20.9s
HHC LZ
comp=Z,4µm,19.8s
BTO Baotou 53.01 330 *e*P **P** **14 42 17.0 -0.6**
LZH Lanzhou 53.35 321 *e*P **P** **14 42 21.5 +1.2**
LZH pP **pP** **14 42 30.7 +0.2**
LZH sP **sP** **14 42 33.5 -0.9**
LZH *e*S **S** **14 49 51.3 +1.1**
LZH sS **sS** **14 50 09.3 +2.4**
LZH SS **SKiKP** **14 53 33.2 -1.7**
LZH PMZ
comp=Z,150nm,1.1s
LZH PMZ
comp=Z,460nm,4.2s
LZH LN
comp=Z,1µm,12.4s
LZH LE
comp=Z,2µm,15.8s
LZH LZ
comp=Z,4µm,17.7s
KLR Kul'dur 53.58 352 *e*P P 14 42 17.5 -4.0
KLR *e* 14 42 27.2
KLR *e*S S 14 50 02.5 +10
IMP Imphal 54.63 304 *ex* **P** **14 42 31.0 +1.2**
IMP *ex* x 14 43 43.0
SKR Severo-Kuril's 55.64 11 *e*P **P** **14 42 36.0 -0.4**
SKR *e* 14 44 45.0
SKR *e*S **S** **14 50 25.0 +4.9**
SKR pmax pmax
comp=Z,640nm,1.4s
SKR pmax pmax
comp=Z,3µm,8.0s
SKR pmax pmax
comp=E,2µm,10.0s
SKR smax smax
comp=N,3µm,10.0s
SKR smax smax
comp=E,3µm,10.0s
SKR MLR MLR
comp=N,3µm,18.0s
SKR MLR MLR
comp=E,2µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s
HIA Hailar 56.29 343 *e*P **P** **14 42 40.3 -0.8**
HIA pmax pmax
comp=Z,95nm,1.3s
HIA MLR MLR
comp=Z,6µm,22.0s
HIA Hailar 56.29 343 *e*P **P** **14 42 40.3 -0.8**
comp=Z,95nm,1.3s
HIA LR LR
comp=Z,6µm,22.0s
SHL Shillong 56.65 304 *e*P **P** **14 42 44.0 -0.3**
SHL *ex* x 14 42 55.0
SHL *e*S **S** **14 50 34.0 -0.8**
GTA Gaotai 57.92 322 ⇑P **P** **14 42 54.0 +1.0**
GTA pP **pP** **14 43 04.2 +0.9**
GTA sP **sP** **14 43 08.2 +1.0**
GTA S **S** **14 50 51.8 +0.8**
GTA sS **sS** **14 51 08.2 +0.3**
GTA SS **SS** **14 54 45.3 +2.8**
GTA PMZ
comp=Z,90nm,1.2s
GTA PMZ
comp=Z,370nm,4.3s
GTA LN
comp=Z,1µm,17.1s
GTA LE
comp=Z,2µm,20.4s
GTA LZ
comp=Z,2µm,18.5s
PETK Petropavlovsk- 58.25 11 P **P** **14 42 55.0 +0.1**
comp=Z,18nm,0.8s,baz=185,slow=7.6,SNR=20
PETK LR LR 15 04 51.1
comp=Z,3µm,21.6s,baz=201,slow=33
PET Petropavlovsk 58.36 12 *e*P P 14 43 02.2 +6.6
PET *e*PPP PPP 14 46 27.7
PET *e*S **S** **14 51 00.6 +4.7**
PET pmax pmax
comp=Z,2µm,5.8s
PET pmax pmax
comp=Z,2µm,14.2s
PET pmax pmax
comp=Z,36nm,0.9s
PET pmax pmax
comp=Z,700nm,14.4s
PET pmax pmax
comp=Z,400nm,17.6s
PET Petropavlovsk 58.36 12 *e*P **P** **14 42 56.4 +0.8**
comp=Z,276nm,1.8s
PET LR LR
comp=Z,2µm,21.0s
LSA Lhasa 58.95 308 P **P** **14 43 02.2 +1.4**
LSA pP **pP** **14 43 12.4 +1.3**
LSA sP **sP** **14 43 17.6 +2.6**
LSA PcP **PcP** **14 43 48.6 -1.2**
LSA S **S** **14 51 01.0 -4.5**
LSA sS **sS** **14 51 27.2 +4.8**
LSA ScS **ScS** **14 52 49.7 +0.6**
LSA SS **SS** **14 55 03.5 +3.8**
LSA PMZ
comp=Z,30nm,1.4s
LSA PMZ
comp=Z,250nm,7.2s
LSA LN
comp=Z,2µm,47.2s
LSA LE
comp=Z,1µm,36.5s
LSA LZ
comp=Z,3µm,25.7s
LSA Lhasa 58.95 308 *e*P **P** **14 43 01.1 +0.3**
LSA pmax pmax
comp=Z,425nm,1.6s
LSA MLR MLR
comp=Z,2µm,21.0s
LSA Lhasa 58.95 308 *e*P **P** **14 43 01.1 +0.3**
comp=Z,426nm,1.6s
LSA LR LR
comp=Z,2µm,21.0s
ULN Ulaanbaatar 59.87 334 *e*P **P** **14 43 06.9 +0.4**
ULN pmax pmax
comp=Z,81nm,1.2s
ULN MLR MLR
comp=Z,5µm,20.0s
ULN Ulaanbaatar 59.87 334 P **P** **14 43 07.6 +1.2**
SNR=56
ULN Ulaanbaatar 59.87 334 *e*P **P** **14 43 06.9 +0.4**
comp=Z,82nm,1.2s
ULN LR LR
comp=Z,5µm,20.0s
BWNR Bhubaneshwar 60.09 296 *ex* P 14 43 14.0 +5.8
SONM Songino Array 60.15 333 P **P** **14 43 09.0 +0.7**
comp=Z,6.6nm,0.8s,baz=155,slow=6.0,SNR=31
SONM LR LR 15 08 08.7
comp=Z,6µm,21.9s,baz=142,slow=35
SONM PKP2ab 15 12 53.0
comp=Z,5.9nm,1.2s,baz=232,slow=1.7,SNR=9.7
CIT Chita 60.65 340 *e*P **P** **14 43 12.5 +1.0**
CIT *e* 14 43 22.4
CIT *e* 14 45 22.9
CIT pmax pmax
comp=Z,450nm,2.3s
TAPN Taplejung 60.79 304 *e*P **P** **14 43 13.9 +0.6**
XMAS Kiritimati 60.83 86 PFAKE 14 43 20.0 +6.6
XMAS LR LR
comp=Z,6µm,21.0s
ODAN Odare 60.87 304 *e*P **P** **14 43 14.3 +0.5**
BOK Bokaro 61.10 300 *e*P **P** **14 43 14.1 -1.0**
CHLP Challavanipeta 61.18 293 *e*P **P** **14 43 16.4 +0.7**
CHLP IAmb IAmb 14 43 18.5
comp=Z,83nm,1.2s
CHLP *e*pP **pP** **14 43 24.9 -1.1**
CHLP *e*sP **sP** **14 43 30.9 +1.0**
CHLP *e*S **S** **14 51 33.0 -0.5**
CHLP *e*SS **SS** **14 55 32.7 -1.5**
CHLP IAMs_20 IAMs_20 15 10 16.0
comp=Z,3µm,24.4s
RAMN Ramite 61.56 303 *e*P **P** **14 43 19.2 +0.7**
VIS Vishakhapatnam 61.65 292 *e*P **P** **14 43 19.6 +0.7**
CLNS Chul'man 62.04 349 *e*P **P** **14 43 21.1 +0.3**
CLNS *e**PP pP 14 43 38.0 +6.9
CLNS *e* 14 44 01.2
CLNS *e* 14 45 39.7
CLNS *e*PPP PPP 14 47 04.0
CLNS *e*S **S** **14 51 44.0 +0.9**
CLNS pmax pmax
comp=Z,61nm,1.0s
CLNS pmax pmax
comp=N,45nm,1.1s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=Z,12nm,1.2s
CLNS pmax pmax
comp=N,28nm,1.3s
CLNS smax smax
comp=E,920nm,14.4s
CLNS smax smax
comp=N,399nm,10.8s
PALK Pallekele 62.13 280 P **P** **14 43 22.2 -0.1**
comp=N,201nm,1.1s,SNR=6.0
PALK Pallekele 62.13 280 *e*P **P** **14 43 21.5 -0.8**
PALK pmax pmax
comp=Z,45nm,0.9s
PALK Pallekele 62.13 280 P **P** **14 43 22.1 -0.1**
comp=Z,38nm,0.9s,baz=107,slow=6.5,SNR=12
PALK Pallekele 62.13 280 ⇑*i*P **P** **14 43 21.9 -0.4**
SNR=8.5
PALK Pallekele 62.13 280 P **P** **14 43 23.1 +0.8**
SNR=8.9
PALK Pallekele 62.13 280 *e*P **P** **14 43 21.5 -0.8**
comp=Z,45nm,0.9s
JIRN Jiri 62.16 304 *e*P **P** **14 43 23.2 +0.6**
GUN Gumba 62.50 304 *e*P **P** **14 43 25.5 +0.6**
comp=Z,4µm,2.1s
DRV Dumont d'Urvil 62.74 181 P P 14 43 02.0 -23
DRV PP **PP** **14 45 46.0 +2.5**
DRV S S 14 51 24.0 -28
DRV L L 14 58 00.0
DRV R 15 03 00.0
PKI Pulchoki 62.77 304 *e*P **P** **14 43 26.8 +0.1**
comp=Z,959nm,1.6s
PKIN Phulchoki 62.78 304 *e*P **P** **14 43 27.0 +0.3**
KKN Kakani 62.96 304 *e*P **P** **14 43 28.3 +0.5**
comp=Z,306nm,0.9s
ZAK Zakamensk 63.40 333⇑*i*P **P** **14 43 30.7 +0.6**
ZAK pmax pmax
comp=Z,102nm,1.3s
GKN Gorkha 63.56 304 *e*P **P** **14 43 32.3 +0.6**
comp=Z,321nm,1.0s
KIP Kipapa 63.86 64 *e*P **P** **14 43 33.1 -0.4**
KIP pmax pmax
comp=Z,175nm,1.3s
KIP MLR MLR
comp=Z,3µm,21.0s
KIP Kipapa 63.86 64 *e*P **P** **14 43 33.1 -0.4**
comp=Z,175nm,1.3s
KIP LR LR
comp=Z,3µm,21.0s
SKHT Srikalahasti 64.18 287 *e*P **P** **14 43 35.4 -0.3**
SKHT IAmb IAmb 14 43 38.0
comp=Z,54nm,1.1s
SKHT *e*pP **pP** **14 43 44.8 -1.3**
SKHT *e*sP **sP** **14 43 50.3 +0.3**
SKHT *e*PP **PP** **14 45 56.2 -1.0**
SKHT *e*S **S** **14 52 10.2 -0.9**
TLY Talaya 64.18 335 P **P** **14 43 36.2 +1.1**
comp=Z,147nm,1.4s,SNR=9.5
TLY Talaya 64.18 335 *e*P **P** **14 43 35.4 +0.3**
TLY *e* 14 43 44.5
TLY *e* 14 46 04.0
TLY *e*S **S** **14 52 11.5 +1.4**
TLY *e* 14 53 26.3
TLY pmax pmax
comp=Z,48nm,1.6s
TLY MLR MLR
comp=Z,5µm,19.0s
TLY Talaya 64.18 335 P **P** **14 43 36.1 +0.9**
comp=Z,18nm,1.0s,baz=172,slow=4.7,SNR=18
TLY Talaya 64.18 335 P **P** **14 43 36.8 +1.7**
SNR=37
TLY Talaya 64.18 335 *e*P **P** **14 43 36.2 +1.1**
TLY LR LR
comp=Z,6µm,21.0s
IRK Irkutsk 64.33 335 *e*P **P** **14 43 36.6 +0.5**
IRK pmax pmax
comp=Z,244nm,2.3s
KOLN Koldanda 64.35 303 *e*P **P** **14 43 37.5 +0.6**
ADKI Addanki 64.36 289 *e*P **P** **14 43 36.6 -0.3**
ADKI IAmb IAmb 14 43 37.9
comp=Z,156nm,1.8s
ADKI *e*pP **pP** **14 43 46.1 -1.1**
ADKI *e*sP **sP** **14 43 52.7 +1.6**
ADKI *e*PP **PP** **14 45 59.1 +0.4**
ADKI *e*S **S** **14 52 12.2 -1.1**
ADKI *e* 14 53 53.9
ADKI *e*SS **SS** **14 56 20.3 -3.5**
ADKI IAMs_20 IAMs_20 15 12 50.4
comp=Z,2µm,25.6s
DANN Dangsing 64.41 304 *e*P **P** **14 43 37.7 +0.3**
comp=Z,512nm,1.3s
PYUN Piuthan 64.97 303 *e*P **P** **14 43 41.4 +0.4**
comp=Z,258nm,0.5s
NJS Nagarjunasagar 65.13 290 *e*P **P** **14 43 41.4 -0.5**
NJS IAmb IAmb 14 43 42.4
comp=Z,188nm,2.0s
NJS *e*pP **pP** **14 43 50.6 -1.7**
NJS *e*sP **sP** **14 43 57.2 +1.0**
NJS *e*S **S** **14 52 21.5 -1.3**
MOY Mondy 65.34 333 *e*P **P** **14 43 44.0 +1.2**
MOY pmax pmax
comp=Z,351nm,2.9s
BOD Bodaibo 65.44 344 *e*P **P** **14 43 43.0 -0.1**
BOD pmax pmax
comp=Z,71nm,1.4s
RPR Rampur 65.65 293 *e*P **P** **14 43 44.8 -0.5**
RPR IAmb IAmb 14 43 46.0
comp=Z,289nm,2.0s
RPR *e*pP **pP** **14 43 54.2 -1.5**
RPR *e*sP **sP** **14 44 00.7 +1.1**
RPR *e*S **S** **14 52 29.2 0.0**
POHA Pohakuloa 65.68 66 P **P** **14 43 46.5 +0.7**
comp=Z,138nm,1.1s
POHA LR LR
comp=Z,8µm,19.0s
TRD Trivandrum 65.98 281 *e*P **P** **14 43 45.2 -2.2**
TRD *ex* x 14 52 35.9
HYB Hyderabad 66.01 291 *i*P **P** **14 43 46.0 -1.7**
HYB *e* 14 43 56.0
HYB *e*PcP **PcP** **14 44 16.0 -2.2**
HYB *e*S **S** **14 52 32.0 -1.8**
HYB *e*ScS **SKSac** **14 53 40.0 -1.8**
HYB *e*PKPPKP P'P'df 15 12 33.0 +8.0
HYB Hyderabad 66.01 291 *e*P **P** **14 43 46.6 -1.1**
HYBB Hyderabad (bro 66.02 291 *e*P **P** **14 43 46.9 -0.8**
HYBB IAmb IAmb 14 43 47.9
comp=Z,159nm,1.9s
HYBB *e*pP **pP** **14 43 56.1 -2.0**
HYBB *e*sP **sP** **14 44 03.0 +0.9**
HYBB *e*PcP **PcP** **14 44 16.3 -1.9**
HYBB *e*S **S** **14 52 31.8 -2.0**
HYBB IAMs_20 IAMs_20 15 13 47.1
comp=Z,2µm,21.7s
CASY Casey 66.11 193 *e*P **P** **14 43 47.3 0.0**
comp=Z,136nm,1.0s
CASY LR LR
comp=Z,5µm,19.0s
YAK Yakutsk 66.35 354 *e*P **P** **14 43 48.9 +0.1**
YAK *e**PP **pP** **14 43 58.4 -0.9**
YAK *e* 14 44 16.7
YAK *e* 14 46 15.1
YAK *e*S **S** **14 52 35.3 -0.8**
YAK *e**SS **sS** **14 52 51.3 -2.0**
YAK *e* 14 53 40.4
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=Z,237nm,2.8s
YAK pmax pmax
comp=E,161nm,2.5s
YAK pmax pmax
comp=N,161nm,2.3s
YAK smax smax
comp=E,226nm,3.8s
YAK smax smax
comp=N,232nm,3.5s
YAK Yakutsk 66.35 354 P **P** **14 43 49.3 +0.5**
comp=N,20nm,0.7s,baz=153,slow=1.5,SNR=20
YAK Yakutsk 66.35 354 *e*P **P** **14 43 49.0 +0.1**
comp=N,262nm,1.1s
YAK LR LR
comp=Z,3µm,21.0s
NGP Nagpur 66.41 295 *e*P **P** **14 43 50.1 -0.1**
NGP AMB AMB 14 44 05.6
comp=Z,401nm,0.9s
NGP *e*S **S** **14 52 38.0 -0.4**
URV Uravakonda 66.74 288 *e*P **P** **14 43 51.4 -1.0**
URV *e*pP **pP** **14 44 00.6 -2.2**
URV *e*sP **sP** **14 44 07.3 +0.6**
URV *e*S **S** **14 52 40.8 -1.8**
SEY Seymchan 67.04 5 P **P** **14 43 53.6 +0.3**
comp=Z,8.7nm,0.7s,baz=181,slow=5.3,SNR=51
AIS Amsterdam Isla 67.55 231 P P 14 43 35.0 -22
AIS S S 14 52 36.0 -16
AIS SS **SS** **14 57 08.0 -4.7**
AIS L L 15 02 00.0
AIS R 15 06 00.0
LGTI Lohaghat 67.68 304 *ex* P 14 44 03.2 +5.2
WMQ Urumqi 67.92 321⇓*i*P **P** **14 44 00.6 +1.2**
WMQ pP **pP** **14 44 11.1 +1.3**
WMQ sP **sP** **14 44 14.0 +0.3**
WMQ PcP **PcP** **14 44 26.8 +1.2**
WMQ PP **PP** **14 46 32.0 +2.5**
WMQ ScP 14 48 28.2
WMQ S **S** **14 52 55.0 -1.0**
WMQ sS **sS** **14 53 11.4 -1.7**
WMQ ScS **SKiKP** **14 53 53.0 -0.5**
WMQ SS **SS** **14 57 18.0 -0.4**
WMQ PMZ
comp=Z,150nm,1.0s
WMQ PMZ
comp=Z,1µm,4.8s
WMQ LN
comp=Z,4µm,18.7s
WMQ LE
comp=Z,3µm,21.6s
WMQ LZ
comp=Z,3µm,21.4s
AKL Akola 68.15 294 *e*P **P** **14 44 00.6 -0.7**
PPT Papeete 68.31 107 P **P** **14 44 02.4 +0.1**
comp=Z,18nm,0.8s,baz=265,slow=1.5,SNR=1.9
PPT LR LR 15 11 14.3
comp=Z,2µm,19.3s,baz=268,slow=34
PPT2 Papeete2 68.31 107 *e*P **P** **14 44 03.7 +1.3**
comp=Z,109nm,1.1s

PPT2 eS S 14 52 59.7 -1.9
comp=Z,4µm,29.2s
PPT2 eLQ LQ 15 01 47.3
comp=Z,7µm,32.0s
PPT2 eLR LR 15 04 45.9
comp=Z,6µm,28.8s
PAE Paea 68.32 107 eP P 14 44 03.8 +1.6
comp=Z,17nm,1.0s
BHPL Bhopal 68.38 297 eP P 14 44 00.3 -2.4
HVS Khovu-Aksy 68.47 330⇑ iP P 14 44 04.6 +1.9
HVS pmax pmax
comp=Z,563nm,1.1s
TIAR Tiarei 68.53 107 eP P 14 44 05.2 +1.5
comp=Z,40nm,1.0s
TVO Taravao 68.63 107 eP P 14 44 06.0 +1.7
comp=Z,48nm,1.2s
TBI Tubuai 68.82 113 eP P 14 44 06.7 +1.4
comp=Z,506nm,1.4s
TBI eS S 14 53 05.5 -1.8
comp=Z,1µm,27.5s
TBI eLQ LQ 15 02 02.1
comp=Z,6µm,40.2s
TBI eLR LR 15 04 57.0
comp=Z,4µm,24.2s
H08S2 Diego Garcia H 69.18 263 P P 14 44 10.1 +2.7
baz=94,slow=76,SNR=7.1
H08S3 Diego Garcia H 69.19 263 P P 14 44 12.5 +5.0
baz=94,slow=76,SNR=6.0
H08S1 Diego Garcia H 69.20 263 P P 14 44 08.2 +0.6
baz=94,slow=76,SNR=5.6
DGAR Diego Garcia 69.23 264 PFAKE 14 44 20.0 +12
DGAR LR LR
comp=Z,3µm,19.0s
PMOR Pomariorio Ree 69.83 104 eP P 14 44 13.2 +1.5
comp=Z,297nm,1.3s
NDI New Delhi 69.99 302 eP P 14 44 11.0 -1.5
NDI eS S 14 53 19.0 -1.9
GOA Goa 70.09 288 eP P 14 44 12.1 -1.2
VAH Vaihoa 70.10 105 eP P 14 44 14.5 +1.2
comp=Z,127nm,1.2s
POO Poona 70.62 291 eP P 14 44 15.1 -1.4
POO ⇓ iP P 14 44 16.0 -0.6
comp=Z,180nm,1.0s
H08N1 Diego Carcia H 70.68 265 P P 14 44 16.9 +0.3
baz=159,slow=1.6,SNR=19
H08N2 Diego Garcia H 70.70 265 P P 14 44 18.1 +1.4
baz=159,slow=1.6,SNR=20
H08N3 Diego Garcia H 70.70 265 P P 14 44 20.8 +4.1
baz=159,slow=1.6,SNR=25
SMLA Simla 70.72 305 i P P 14 44 17.3 +0.4
MIR Mirnyy 71.16 199 eP P 14 44 27.0 +8.2
MIR e 14 47 00.0
BHK Bhakra 71.42 305 eP P 14 44 21.0 -0.2
UNV Unalaska Valle 71.67 29 eP P 14 44 22.2 +0.1
comp=Z,128nm,1.2s
DHRM DHARAMSHALA 71.75 306 eP P 14 44 22.7 -0.7
MK31 Makanchi Array 72.67 322 i P P 14 44 28.8 +0.5
MK31 pmax pmax
comp=Z,338nm,1.2s
MKAR Makanchi Array 72.67 322 P P 14 44 28.8 +0.5
comp=Z,76nm,0.7s,baz=99,slow=7.2,SNR=250
MKAR PKPPKP **P'P'df** 15 12 09.3 -2.2
comp=Z,1.1nm,1.2s,baz=324,slow=6.0,SNR=3.5
PDGK Podgornoye 73.08 317 P P 14 44 31.2 +0.5
PDGK pmax pmax
comp=Z,231nm,1.3s
BILL Bilibino 73.70 9⇑ iP P 14 44 34.6 +0.7
BILL e 14 44 49.1
BILL e 14 47 19.8
BILL MLR MLR
comp=Z,1µm,22.0s
BILL Bilibino 73.70 9 eP P 14 44 33.6 -0.3
comp=Z,46nm,1.0s
BILL LR LR
comp=Z,2µm,22.0s
KSH Kashi 74.22 313 P P 14 44 39.6 +1.8
KSH sP **sP** 14 44 54.0 +1.8
KSH PP **PP** 14 47 26.6 +2.7
KSH S **S** 14 54 09.1 -0.3
KSH sS **sS** 14 54 26.2 -0.5
KSH ScS **SKKSac** 14 54 43.5 0.0
KSH PMZ
comp=Z,100nm,1.2s
KSH LN
comp=Z,330nm,9.6s
KSH LE
comp=Z,3µm,22.0s
KSH LZ
comp=Z,3µm,20.4s
VNDA Vanda 74.41 176 eP P 14 44 37.7 -0.3
VNDA pmax pmax
comp=Z,219nm,1.6s
VNDA Vanda 74.41 176 P P 14 44 38.1 +0.2
comp=Z,17nm,0.8s,baz=326,slow=6.2,SNR=72
VNDA LR LR 15 17 14.9
comp=Z,11µm,18.9s,baz=352,slow=36
VNDA Vanda 74.41 176 eP P 14 44 37.7 -0.3
comp=Z,219nm,1.6s
ZALV Zalesovo Beam 74.55 329 P P 14 44 38.9 -0.2
comp=Z,18nm,0.7s,baz=114,slow=6.0,SNR=44
ZALV PKPPKP **P'P'df** 15 12 10.3 +2.7
comp=Z,0.5nm,0.6s,baz=289,slow=4.5,SNR=4.5
SBA Scott Base 75.13 175 eP P 14 44 43.1 +1.0
SBA pmax pmax
comp=Z,206nm,1.6s
SBA MLR MLR
comp=Z,4µm,20.0s
SBA Scott Base 75.13 175 eP P 14 44 43.1 +1.0
comp=Z,206nm,1.6s
SBA LR LR
comp=Z,4µm,20.0s
PAF Port-aux-Franc 75.27 220 P P 14 44 24.0 -19
PAF L L 15 04 00.0
PAF R 15 09 00.0
PAF Port-aux-Franc 75.27 220 PFAKE 14 44 50.0 +6.6
PAF LR LR
comp=Z,5µm,21.0s
BHJ Bhuj 75.36 295 eP P 14 44 45.1 +0.6
BHJ AMB AMB 14 45 02.8
comp=Z,253nm,1.9s
KZA Kyzart 75.56 315 P P 14 44 47.4 +1.6
SNR=161
TKM2 Tokmak 2 75.60 316 P P 14 44 46.2 +0.5
SNR=74
TKM2 Tokmak 2 75.60 316 P P 14 44 45.3 -0.4
TKM2 pmax pmax
comp=Z,188nm,1.2s
TKM2 Tokmak 2 75.60 316 eP P 14 44 46.3 +0.5
comp=Z,173nm,1.1s
TKM2 LR LR
comp=Z,2µm,20.0s
GAMB Gambell 75.71 19 eP P 14 44 45.8 +0.1
comp=Z,381nm,1.9s
NVS Novosibirsk 75.79 329⇓ iP P 14 44 45.1 -1.2
NVS e 14 47 38.3
NVS i S S 14 54 25.3 -0.6
NVS i PS PnS 14 55 05.9 +0.2
NVS pmax pmax
comp=Z,356nm,2.0s
NVS pmax pmax
comp=N,85nm,1.8s
NVS pmax pmax
comp=E,152nm,1.8s
NVS pmax pmax
comp=N,76nm,2.2s
NVS pmax pmax
comp=Z,103nm,2.2s
NVS pmax pmax
comp=E,117nm,3.0s
NVS smax smax
comp=N,311nm,4.7s
NVS smax smax
comp=E,258nm,3.1s
TIXI Tiksi 75.82 356⇑ iP P 14 44 45.5 -0.6
TIXI pmax pmax
comp=Z,24nm,2.5s
TIXI Tiksi 75.82 356 eP P 14 44 45.5 -0.6
comp=Z,57nm,1.2s
TIXI LR LR
comp=Z,2µm,20.0s
KBK Karagaybulak 75.96 316 P P 14 44 48.6 +0.8
SNR=46
UCH Uchtor 76.13 315 P P 14 44 50.3 +1.2
SNR=90
SFK Sufi-Kurgan 76.19 313 P P 14 44 49.4 +0.2
SFK pmax pmax
comp=Z,195nm,1.1s
CHMS Chumysh 76.21 316 P P 14 44 49.5 +0.5
SNR=46
FRU Bishkek 76.25 316 eP P 14 44 50.0 +0.8
FRU i 14 45 00.0
FRU e 14 54 32.0
FRU pmax pmax
comp=Z,440nm,2.0s
AAK Ala-Archa 76.27 315 P P 14 44 50.6 +1.1
comp=Z,283nm,1.2s,SNR=33
AAK Ala-Archa 76.27 315 P P 14 44 50.4 +0.9
SNR=34
AAK Ala-Archa 76.27 315 d iP P 14 44 50.3 +0.8
AAK pmax pmax
comp=Z,150nm,1.2s
AAK Ala-Archa 76.27 315 P P 14 44 50.1 +0.6
comp=Z,46nm,1.1s,baz=99,slow=5.2,SNR=58
AAK Ala-Archa 76.27 315 P P 14 44 50.6 +1.1
SNR=102
AAK Ala-Archa 76.27 315 eP P 14 44 49.9 +0.3
comp=Z,174nm,1.3s
AAK LR LR
comp=Z,2µm,20.0s
USP Ospenovka 76.47 316 P P 14 44 51.2 +0.7
SNR=96
KURK Kurchatov 76.51 324 P P 14 44 50.9 +0.5
comp=Z,269nm,0.8s,SNR=61
KURK Kurchatov 76.51 324 P P 14 44 49.0 -1.4
KURK pmax pmax
comp=Z,125nm,1.2s
KURK Kurchatov 76.51 324 P P 14 44 51.0 +0.6
SNR=111
KURK Kurchatov 76.51 324 eP P 14 44 50.4 0.0
comp=Z,169nm,1.0s
KURK LR LR
comp=Z,3µm,22.0s
KURBB Kurchatov Arra 76.52 324 P P 14 44 50.7 +0.1
comp=Z,85nm,1.1s,baz=115,slow=4.8,SNR=118
AML Almayashu 76.68 315 P P 14 44 53.1 +1.0
SNR=88
EKS2 Erkin-Say 76.78 315 P P 14 44 53.4 +1.0
SNR=71
EKS2 Erkin-Say 76.78 315 eP P 14 44 53.1 +0.7
EKS2 pmax pmax
comp=Z,171nm,1.1s
EKS2 MLR MLR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 76.78 315 eP P 14 44 53.1 +0.7
comp=Z,171nm,1.1s
EKS2 LR LR
comp=Z,2µm,21.0s
MNAS Manas 77.63 315 P P 14 44 57.6 +0.4
MNAS pmax pmax
comp=Z,364nm,1.3s
TNA Tin City 78.11 19 eP P 14 44 58.9 -0.2
comp=Z,171nm,1.3s
KBL Kabul 78.21 306 eP P 14 44 59.3 -1.4
KBL pmax pmax
comp=Z,101nm,1.1s
KBL Kabul 78.21 306 eP P 14 44 59.2 -1.4
comp=Z,101nm,1.1s
KK31 Karatay Array 79.21 315 i P P 14 45 06.0 +0.3
KK31 pmax pmax
comp=Z,309nm,1.3s
KKAR Karatay Array 79.21 315 eP P 14 45 05.8 +0.1
KKAR e*PP pP 14 45 16.0 -0.3
KKAR pmax pmax
comp=Z,135nm,1.1s
KKAR Karatay Array 79.21 315 eP P 14 45 05.8 +0.1
comp=Z,135nm,1.1s
KKAR epP pP 14 45 16.0 -0.3
DZET Dzherino 79.36 310 P P 14 45 06.1 -0.6
DZET pmax pmax
comp=Z,250nm,1.1s
OTUK Ortayu 79.47 320 P P 14 44 57.1 +0.1
OTUK pmax pmax
comp=Z,271nm,1.3s
KDAK Kodiak Island 80.43 30 P P 14 45 12.9 +1.0
comp=Z,8µm,1.3s,SNR=11
KDAK Kodiak Island 80.43 30 c eP P 14 45 14.0 +2.1
KDAK Kodiak Island 80.43 30 PFAKE 14 45 20.0 +8.1
KDAK LR LR
comp=Z,5µm,21.0s
RSO Redoubt South 81.41 27 eP P 14 45 17.1 -0.3
comp=Z,325nm,1.2s
RSO epP pP 14 45 26.9 -1.1
BVA0 Borovoye Array 82.09 325 i P P 14 45 20.8 -0.1
BVA0 pmax pmax
comp=Z,166nm,1.1s
BVAR Borovoye Array 82.09 325 P P 14 45 21.0 +0.1
comp=Z,67nm,0.6s,baz=114,slow=7.3,SNR=128
RKT Rikitea 82.13 113 eS S 14 55 31.9 -2.8
comp=Z,1µm,29.0s
RKT Rikitea 82.13 113 eLQ LQ 15 07 36.2
comp=Z,2µm,37.2s
RKT eLR LR 15 11 06.6
comp=Z,3µm,27.5s
BRVK Borovoye 82.16 325 P P 14 45 21.0 -0.3
comp=Z,579nm,0.8s,SNR=49
MAW Mason 82.33 202 P P 14 45 22.3 +0.5
comp=Z,74nm,1.0s,baz=91,slow=6.0,SNR=24
MAW LR LR 15 19 23.8
comp=Z,3µm,19.4s,baz=72,slow=34
PPLA Purkeypile 82.64 25 eP P 14 45 22.9 -0.9
comp=Z,385nm,1.6s
SEW Seward 82.81 28 eP P 14 45 22.8 -1.6
comp=Z,368nm,1.3s
SEW epP pP 14 45 34.8 -0.2
RC01 Rabbit Creek A 83.02 27 eP P 14 45 24.5 -1.0
comp=Z,475nm,1.4s
KTH Kantishna Hill 83.42 25 eP P 14 45 26.3 -1.3
comp=Z,365nm,1.3s
TRF Thorofare Moun 83.64 25 eP P 14 45 27.2 -1.8
comp=Z,53nm,0.9s
MCK McKinley 84.31 25 eP P 14 45 31.0 -1.2
MCK pmax pmax
comp=Z,467nm,1.3s
MCK McKinley 84.31 25 eP P 14 45 31.0 -1.2
comp=Z,467nm,1.3s
DIV Divide 84.86 28 eP P 14 45 34.9 -0.1
comp=Z,399nm,1.2s
DIV epP pP 14 45 44.5 -1.2
WBK Wadi Bani Khal 85.01 293 P P 14 45 36.9 +0.3
SNR=32
COLD Coldfoot 85.09 21 eP P 14 45 36.7 +0.8
comp=Z,548nm,1.3s
COLA College 85.15 24 eP P 14 45 34.8 -1.5
COLA pmax pmax
comp=Z,160nm,1.1s
COLA MLR MLR
comp=Z,2µm,22.0s
COLA College 85.15 24 eP P 14 45 34.8 -1.5
comp=Z,160nm,1.1s
COLA LR LR
comp=Z,2µm,22.0s
BMRM Bremner River 85.35 28 eP P 14 45 36.7 -0.8
comp=Z,420nm,1.4s
IDAH Dahanechah 85.42 303 eP P 14 45 38.7 -0.1
ILAR Eielson Array 85.50 24 P P 14 45 36.5 -1.6
comp=Z,38nm,0.7s,baz=259,slow=4.3,SNR=222
ILAR PKKPab PKKPbc 15 04 30.5 +46
comp=Z,0.6nm,0.7s,baz=260,slow=0.7,SNR=4.4
ILAR PKPPKP **P'P'df** 15 11 51.0 +3.6
comp=Z,0.5nm,1.0s,baz=46,slow=2.6,SNR=4.2
ILAR LR LR 15 20 20.4
comp=Z,2µm,20.6s,baz=237,slow=33
PAX Paxson 85.54 26 eP P 14 45 37.4 -1.1
PAX pmax pmax
comp=Z,284nm,1.6s
PAX Paxson 85.54 26 eP P 14 45 37.4 -1.1
comp=Z,284nm,1.6s
IMYA Miami 85.71 307 eP P 14 45 40.2 +0.2
JMDO Jabal Madar 85.78 293 P P 14 45 39.6 -0.9
SNR=17
SMDO Samad 85.90 293 P P 14 45 41.0 -0.1
SNR=22
IKOO Kooshah 86.11 303 eP P 14 45 41.9 -0.2
QSPA South Pole Qui 86.13 180 eP P 14 45 40.2 -1.2
comp=Z,283nm,1.2s
MSEY Mahe Island 86.21 266 P P 14 45 42.3 -0.5
MSEY MLR MLR
comp=Z,2µm,22.0s
MSEY Mahe Island 86.21 266 P P 14 45 42.3 -0.5
MSEY LR LR
comp=Z,2µm,22.0s
ISRO Mashad 86.21 307 eP P 14 45 42.1 -0.3
IMOG Moghan 86.29 306 eP P 14 45 42.9 -0.1
ITEG Tejag 86.38 303 eP P 14 45 43.5 +0.2
PTCN Pitcairn Islan 86.53 115 PFAKE 14 45 50.0 +5.9
PTCN LR LR
comp=Z,3µm,19.0s
IPAY Payeh 86.61 307 eP P 14 45 44.1 -0.4
HOQ Hoqain 86.63 294 P P 14 45 44.5 0.0
SNR=21
BSY Bisya 86.65 293 P P 14 45 44.5 -0.3
SNR=11
IAKL Akhelmad 86.82 307 eP P 14 45 45.3 -0.3
IKRD Kardeh 87.03 307 eP P 14 45 43.1 -3.5
ARQ Araqi 87.33 293 P P 14 45 47.8 -0.2
SNR=8.9
CRZF Crozet Islands 87.34 224 P P 14 45 30.0 -18
CRZF Crozet Islands 87.34 224 S S 14 55 48.0 -38
CRZF L L 15 08 00.0
CRZF R 15 14 00.0
ISFR Sfrayin 87.48 307 eP P 14 45 48.6 -0.1
GEYT Alibeck 87.48 308 P P 14 45 47.9 -0.6
comp=Z,16nm,0.7s,baz=153,slow=1.7,SNR=25
GEYT LR LR 15 28 08.6
comp=Z,2µm,20.3s,baz=100,slow=38
ABKAR Akbulak array 87.67 320 eP P 14 45 47.7 -1.4
comp=Z,93nm,1.0s
ABKAR epP pP 14 45 58.9 -0.8
ISHV Shirvan 87.77 308 eP P 14 45 49.7 -0.3
BANOM Banah 87.77 296 ⇓ iP P 14 45 49.1 -0.9
SNR=12
BANOM Banah 87.77 296 P P 14 45 50.3 +0.2
SNR=12
HATD Hatta, Dubai 87.82 295 i P P 14 45 50.4 +0.1
SNR=9.0
EGAK Eagle 87.86 25 eP P 14 45 49.1 -0.5
comp=Z,275nm,1.3s
EGAK LR LR
comp=Z,2µm,19.0s
ASHO Ashiyiah 87.87 295 ⇓ iP P 14 45 49.4 -1.2
FAQ Al Faqa, Dubai 88.30 295⇑ iP P 14 45 51.3 -1.3
SNR=8.8
SVE Sverdlovsk 88.44 327 ⇓ iP P 14 45 51.7 -0.8
SVE e 14 49 22.9
SVE eS SKSac 14 56 16.8 -2.1
SVE pmax pmax
comp=Z,125nm,1.7s
SVE MLR MLR
comp=Z,1µm,19.0s
ASUD Al Ashush, Dub 88.53 295⇑ iP P 14 45 52.8 -0.8
SNR=8.1
HYT Haines Junctio 88.70 29 eP P 14 45 54.0 +0.2
comp=Z,250nm,1.3s
HYT epP pP 14 46 04.0 -0.5
RBK Rabkut 89.01 288 P P 14 45 55.5 -0.6
SNR=27
AKTO Aktyubinsk 89.07 321 P P 14 45 53.3 -2.3
AKTO pmax pmax
comp=Z,121nm,1.3s
AKTO Aktyubinsk 89.07 321 P P 14 45 54.4 -1.3
comp=Z,5.2nm,0.5s,baz=84,slow=6.5,SNR=26
ARU Arti 89.51 327 P P 14 45 56.7 -0.9
comp=Z,162nm,1.0s,SNR=5.3
ARU Arti 89.51 327 c iP P 14 45 57.0 -0.6
ARU 14 49 29.6
ARU S SKSac 14 56 22.7 -2.6
ARU SP SPn 14 57 44.6 -5.4
ARU PS PS 14 57 55.5 +0.3
ARU pmax pmax
comp=Z,53nm,1.5s
ARU MLR MLR
comp=Z,2µm,23.0s
ARU Arti 89.51 327 PFAKE 14 46 10.0 +12
ARU LR LR
comp=Z,2µm,20.0s
ABTO Aybut 89.87 287 P P 14 45 59.6 -0.5
SNR=19
H02N1 VAN INLET T-PH 90.33 37 P P 14 46 01.8 +0.3
SNR=2.9
H02S1 DAWSON INLET T 90.36 37 P P 14 46 00.3 -1.3
SNR=4.3
IANJ Anjilo 90.61 305 eP P 14 46 02.4 -1.1
IGLO Ghaloghah 90.76 306 eP P 14 46 02.8 -1.3
WRAK Wrangell Islan 90.76 34 eP P 14 46 03.8 +0.4
comp=Z,186nm,1.2s
WRAK LR LR
comp=Z,3µm,20.0s
SOKR Solikamsk 90.83 330 eP P 14 46 02.5 -1.0
SOKR S SKSac 14 56 35.2 +2.5
SOKR SS SS 15 03 00.0 -0.6
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,3µm,20.0s
ISRV Sarvestan 90.86 299 eP P 14 46 03.7 -1.2
SYO Syowa Base 90.88 201⇑ eP P 14 46 04.0 +0.3
SYO Syowa Base 90.88 201⇑ ePcP PcP 14 46 05.4 +0.7
IPAR Pars 90.95 300 eP P 14 46 04.2 -1.0
ILAS Lasjerd 91.39 305 eP P 14 46 05.8 -1.4
INK Inuvik 91.49 22 P P 14 46 06.1 -0.3
comp=Z,7.3nm,0.9s,baz=248,slow=5.7,SNR=16
INK LR LR 15 23 20.0
comp=Z,3µm,21.1s,baz=240,slow=33
IPRN Peran 91.94 306 eP P 14 46 19.9 +10
IKAZ Kazeroun 91.99 300 eP P 14 46 08.3 -1.9
IDMV Damavand 92.15 305 eP P 14 46 09.2 -1.5
DLBC Dease Lake 92.18 32 LR LR 15 21 45.1
comp=Z,3µm,19.9s,baz=277,slow=32
DLBC Dease Lake 92.18 32 eP P 14 46 10.4 +0.3
comp=Z,120nm,1.4s
DLBC epP pP 14 46 20.1 -0.7
IVRN Varamin 92.37 305 eP P 14 46 10.6 -0.9
IKLH Kolahrood 92.41 303 eP P 14 46 11.0 -0.9
BBB Bella Bella 92.94 38 LR LR 15 20 40.7
comp=Z,3µm,20.3s,baz=273,slow=31
IPIR Pirpir 92.95 302 eP P 14 46 11.5 -3.0
ABPO Ambohimpanom 93.25 251 PFAKE 14 46 30.0 +14
ABPO LR LR
comp=Z,2µm,19.0s
OPO Ambohidratompo 93.33 251 P P 14 46 15.9 -0.5
comp=Z,2.5nm,0.8s,baz=69,slow=14,SNR=2.6
IRAZ Razeghan 93.86 305 eP P 14 46 17.1 -1.4
NLWA Neilton Lookou 95.61 43 PFAKE 14 46 40.0 +14
NLWA LR LR
comp=Z,2µm,19.0s
KHMM Horse Mountain 95.73 49 eP P 14 46 27.6 +0.8
comp=Z,43nm,1.4s
I03D Drain, OR 96.00 47 P P 14 46 28.2 +0.4
baz=96
HDW Hoodsport 96.16 43 P P 14 46 29.5 +0.9
IHRS Heris 96.22 308 eP P 14 46 27.1 -2.2
HUMO Hull Mountain 96.30 48 eP P 14 46 29.1 -0.1
comp=Z,54nm,1.1s
HUMO epP pP 14 46 39.8 -0.2
PRGR Permogore 96.37 331 eP P 14 46 23.4 -5.6
PRGR pmax pmax
comp=Z,101nm,1.9s
M02C Callahan 96.39 49 P P 14 46 30.0 +0.2
baz=96
YBH Yreka Blue Hor 96.50 49 eP P 14 46 29.5 -0.7
YBH e*PP pP 14 46 40.6 -0.4
YBH pmax pmax
comp=Z,70nm,1.4s
YBH Yreka Blue Hor 96.50 49 LR LR 15 24 17.2
comp=Z,4µm,19.3s,baz=312,slow=32
YBH Yreka Blue Hor 96.50 49 eP P 14 46 29.5 -0.7
comp=Z,70nm,1.4s
YBH epP pP 14 46 40.6 -0.4
N02D Trinity Center 96.51 49 P P 14 46 30.5 +0.2
baz=96
LAMM Antelope Mount 96.56 49 P P 14 46 31.9 +1.2
WDC Whiskeytown Da 96.64 50 P P 14 46 29.9 -0.9
WDC e*PP pP 14 46 41.8 +0.3
WDC pmax pmax
comp=Z,85nm,1.6s
WDC Whiskeytown Da 96.64 50 P P 14 46 29.9 -0.9
comp=Z,85nm,1.6s
WDC epP pP 14 46 41.8 +0.3
FL2 Flat Top 2 96.67 44 P P 14 46 31.2 +0.2
ERK Elk Rock 96.68 44 P P 14 46 33.4 +2.4
I04A Tendick Farm, 96.68 47 P P 14 46 31.5 +0.5
baz=97
TDL Tradedollar La 96.76 44 P P 14 46 32.2 +0.8
J04D Umpqua Nationa 96.91 47 P P 14 46 32.5 +0.2
baz=97
M04C Macdoel 97.14 49 P P 14 46 33.2 -0.1
baz=97
I05D Terrebonne, OR 97.44 46 P Pdif 14 46 34.7 +0.2

baz=98
RAYN Ar Rayn 97.44 293 *e*P **P** **14 46 33.3 -1.6**
comp=Z,17nm,1.1s
RAYN *e*pP **pP** **14 46 43.8 -1.8**
DGRG David-gareji 97.47 311 P **P** **14 46 32.8 -1.7**
J05D Fort Rock, OR 97.55 47 P Pdif 14 46 35.4 +0.3
baz=98
SEAG Tbilisi Sea 97.88 311 P Pdif 14 46 44.9 +8.4
TBLG Delisi 97.93 311 P Pdif 14 46 44.4 +7.7
GNI Garni 97.98 310 P Pdif 14 46 47.6 +10
SNR=6.6
GNI Garni 97.98 310 PFAKE 14 46 50.0 +13
GNI LR LR
comp=Z,901nm,22.0s
GUDG Gudauri 98.10 312 P Pdif 14 46 46.7 +9.0
MOD Modoc Plateau 98.29 48 *e*P **P** **14 46 37.3 -1.1**
comp=Z,71nm,1.3s
ZEI Tsey 98.51 313 *e*P **P** **14 46 36.7 -2.8**
ZEI pmax pmax
comp=Z,64nm,1.3s
HAWA Hanford 98.62 44 PFAKE 14 46 50.0 +10
HAWA LR LR
comp=Z,2µm,20.0s
NVL N'lazarevskaya 98.67 195 *e*P Pdif 14 46 41.7 +2.4
NVL *e*S **SKSac** **14 57 09.3 -5.3**
NVL *e* 15 04 49.5
NVL pmax pmax
comp=Z,31nm,1.1s
ONI Oni 98.85 312 P Pdif 14 46 48.5 +7.7
AKH Akhalkalaki 98.88 311 P Pdif 14 46 50.9 +10
GOF Gofitskoye 99.01 315 *e*P **Pdif** **14 46 50.6 +9.3**
KBZ Khabaz 99.19 314 P **Pdif** **14 46 40.5 -1.6**
comp=Z,2.0nm,0.8s,baz=303,slow=3.7,SNR=5.6
KIV Kislovodsk 99.33 314 *e*P **Pdif** **14 46 42.3 -0.7**
KIV *e* 14 50 46.3
KIV *e* 14 57 16.2
KIV *e*SS SS 15 05 01.4 -1.2
KIV pmax pmax
comp=Z,165nm,7.2s
KIV pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 99.33 314 PFAKE 14 46 50.0 +7.0
KIV LR LR
comp=Z,2µm,22.0s
VRHR Novokhopersk 99.47 321 *e*P **Pdif** **14 46 41.8 -1.4**
VRHR *e**PP **pP** **14 46 50.0 -4.0**
VRHR pmax pmax
comp=Z,20nm,1.5s
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,50nm,1.8s
VRHR MLR MLR
comp=Z,1µm,20.0s
VRHR MLR MLR
comp=N,310nm,19.0s
VRHR MLR MLR
comp=E,2µm,22.0s
TMCR Tamitsa 99.49 334 *e*P **Pdif** **14 46 40.9 -2.1**
TMCR pmax pmax
comp=Z,46nm,1.3s
WVOR Wild Horse Val 99.50 48 *e*P **Pdif** **14 46 42.9 -0.9**
WVOR pmax pmax
comp=Z,79nm,1.4s
WVOR MLR MLR
comp=Z,3µm,20.0s
WVOR Wild Horse Val 99.50 48 *e*P **Pdif** **14 46 42.9 -0.9**
comp=Z,79nm,1.4s
WVOR LR LR
comp=Z,3µm,20.0s
YKA Yellowknife Ar 99.57 27 P **Pdif** **14 46 42.7 -0.7**
comp=Z,3.9nm,0.8s,baz=281,slow=4.7,SNR=32
YKA PP **PP** **14 50 43.9 -3.4**
comp=Z,1.7nm,1.0s,baz=277,slow=7.2,SNR=4.7
YKA PKKPbc **PKKPbc** **15 03 06.2 -1.8**
comp=Z,0.7nm,0.6s,baz=101,slow=2.7,SNR=7.6
YKA PKKP **PKKPdf** **15 03 12.8 +0.8**
comp=Z,0.9nm,0.6s,baz=97,slow=2.8,SNR=11
YKA PKKPab 15 03 35.9
comp=Z,0.7nm,0.8s,baz=101,slow=4.8,SNR=4.5
CHVG Ch'k'valeri 99.85 313 P **Pdif** **14 46 54.8 +10**
NVAR Mina Array Bea 99.98 52 P **Pdif** **14 46 45.7 -0.5**
comp=Z,1.3nm,0.5s,baz=261,slow=6.6,SNR=12
NVAR PP **PP** **14 50 48.6 -2.9**
comp=Z,1.3nm,1.0s,baz=306,slow=6.6,SNR=3.3
NVAR PKKPab PKKPdf 15 03 38.6 +28
comp=Z,1.4nm,1.0s,baz=96,slow=5.5,SNR=3.8
NEW Newport 100.10 42 PFAKE 14 47 00.0 +14
NEW LR LR
comp=Z,2µm,20.0s
BMO Blue Mountains 100.29 45 PFAKE 14 47 00.0 +13
BMO LR LR
comp=Z,2µm,19.0s
EDW2 Edwards Air Fo 100.41 55 P **Pdif** **14 46 46.7 -1.2**
baz=100
APA Apatity 100.55 338⇑ *i*P Pdif 14 46 58.0 +10
APA *i* 14 57 24.0
APA *i*S **Sdif** **14 58 25.0 +3.2**
APA *i*PS **PS** **14 59 50.0 -5.7**
APA *i*SS SS 15 05 28.0 +10
APA MLR MLR
comp=Z,2µm,23.0s
KBS Kingsbay 100.90 351 PFAKE 14 47 00.0 +11
KBS LR LR
comp=Z,2µm,20.0s
VSR Storozhevoye 100.99 321 *e*P **Pdif** **14 46 48.8 -1.2**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.6s
MOS Moscow 101.22 326 *i*P **Pdif** **14 46 58.3 +7.4**
MOS *e* 14 51 07.6
MOS pmax pmax
comp=Z,80nm,1.4s
SNAA Sanae 101.25 191 Pg PP 14 51 07.6 +8.0
SNAA Sanae 101.25 191 P **Pdif** **14 46 48.8 -2.2**
MFID Camas Ranch 101.48 47 *e*Pdif **Pdif** **14 46 51.7 -0.9**
comp=Z,94nm,1.7s
MFID *e*pP pP 14 47 03.4 -0.1
SOC Sochi 101.50 314 *e*P **Pdif** **14 46 49.9 -2.6**
SOC *e* 14 51 01.2
SOC *e* 14 57 24.9
SOC *e*SS SS 15 05 41.2 +8.6
SOC pmax pmax
comp=Z,36nm,0.9s
PFO Pinyon Flats O 101.74 57 PFAKE 14 47 00.0 +6.0
PFO LR LR
comp=Z,4µm,21.0s
EDM Edmonton 101.83 36 *e*P **Pdif** **14 46 53.5 -0.2**
EDM pmax pmax
comp=Z,53nm,1.6s
EDM Edmonton 101.83 36 *e*Pdif **Pdif** **14 46 53.5 -0.2**
comp=Z,53nm,1.6s
OBN Obninsk 101.92 326 *e*P **Pdif** **14 46 52.3 -1.7**
OBN *e* 14 51 06.1
OBN pmax pmax
comp=Z,16nm,1.5s
OBN MLR MLR
comp=Z,3µm,23.0s
OBN Obninsk 101.92 326 P **Pdif** **14 46 52.5 -1.5**
comp=Z,13nm,0.5s,baz=268,slow=9.7,SNR=4.1
OBN PP **PP** **14 51 06.4 +1.1**
comp=Z,12nm,0.4s,baz=88,slow=20,SNR=3.2
OBN Obninsk 101.92 326 P **Pdif** **14 46 52.5 -1.5**
OBN PP **PP** **14 51 06.4 +1.1**
OBN LR LR
comp=Z,3µm,21.0s
KEV Kevo 102.05 341 *e*P **Pdif** **14 46 49.0 -5.3**
KEV pmax pmax
comp=Z,4.0nm,1.0s
KEV Kevo 102.05 341 *e*p **Pdif** **14 46 49.0 -5.3**
comp=Z,4.1nm,1.0s
KEV Kevo 102.05 341 PFAKE 14 47 00.0 +5.7
KEV LR LR
comp=Z,2µm,20.0s
RES Resolute Bay 102.05 13 PKKP 15 03 12.9
comp=Z,27nm,1.1s,baz=145,slow=1.7,SNR=5.7
HLID Hailey 102.48 46 *e*PKPdf **Pdif** **14 46 57.6 +0.4**
comp=Z,34nm,1.6s
HLID LR LR
comp=Z,2µm,20.0s
ARCES ARCESS Array B 102.62 341 P **Pdif** **14 46 55.8 -1.1**
comp=Z,2.8nm,0.7s,baz=59,slow=3.3,SNR=8.1
VNA2 Neumayer--Watz 102.69 190 Pg **PP** **14 51 08.2 -2.1**
VNA2 Neumayer--Watz 102.69 190 P **Pdif** **14 46 58.4 +1.2**
JOF Joensuu 102.71 334 *e*P **Pdif** **14 46 55.6 -1.8**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 102.71 334 *e*p **Pdif** **14 46 55.6 -1.8**
comp=Z,2.0nm,0.7s
VNA3 Neumayer Olymp 102.79 189 Pg **PP** **14 51 10.2 -0.9**
VNA3 Neumayer Olymp 102.79 189 P **Pdif** **14 46 57.7 0.0**
VNA1 Neumayer--Stat 103.08 190 Pg **PP** **14 51 12.2 -1.0**
VNA1 Neumayer--Stat 103.08 190 P **Pdif** **14 47 03.6 +4.7**
HVU Hansel Valley 103.90 48 *e*P **Pdif** **14 47 02.6 -0.8**
HVU pmax pmax
comp=Z,45nm,1.6s
HVU Hansel Valley 103.90 48 *e*Pdif **Pdif** **14 47 02.6 -0.8**
comp=Z,45nm,1.6s
DUG Dugway, Tooele 104.07 50 PFAKE 14 47 10.0 +5.8
DUG LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 104.17 44 PFAKE 14 47 10.0 +5.5
BOZ LR LR
comp=Z,1µm,20.0s
QLMT Earthquake Lak 104.44 45 Pdif **Pdif** **14 47 05.5 -0.3**
comp=Z,1.7nm,1.3s
KMBO Kilima Mbogo 104.61 268 PP PP 14 51 40.1 +13
comp=Z,0.5nm,0.3s,baz=97,slow=8.1,SNR=4.3
KMBO Kilima Mbogo 104.61 268 PP PP 14 51 40.1 +13
KMBO LR LR
comp=Z,1µm,21.0s
ASF Jabal al Asfar 104.79 302 PP PP 14 51 40.5 +13
comp=Z,3.3nm,0.8s,baz=101,slow=3.4,SNR=5.0
EGMT Eagleton 105.02 41 PFAKE 14 47 20.0 +12
EGMT LR LR
comp=Z,2µm,22.0s
H17A Grant Village 105.11 45 PKiKP **PKiKP** **14 51 20.4 -2.9**
KAF Kangasniemi 105.17 334 *e*P **Pdif** **14 47 06.3 -2.0**
KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 105.17 334 *e*p **Pdif** **14 47 06.3 -2.0**
comp=Z,2.0nm,0.7s
DAU Daniels Canyon 105.22 49 PKiKP **PKiKP** **14 51 20.4 -3.3**
FINES FINESS Array B 105.52 333 Pdiff **Pdif** **14 47 08.8 -1.1**
comp=Z,2.1nm,0.7s,baz=86,slow=5.9,SNR=6.9
FINES PP **PP** **14 51 30.1 -1.7**
comp=Z,3.2nm,0.8s,baz=79,slow=9.9,SNR=4.4
WUAZ Wupatki 105.76 54 PFAKE 14 51 30.0
WUAZ LR LR
comp=Z,5µm,20.0s
RLMT Red Lodge 105.90 44 PFAKE 14 51 30.0
RLMT LR LR
comp=Z,782nm,20.0s
SRU San Rafael Swe 105.97 51 *e*PKiKP **PKiKP** **14 51 25.4 +0.4**
BW06 Boulder Array 106.11 47 PFAKE 14 51 30.0
BW06 LR LR
comp=Z,3µm,20.0s
PDAR Pinedale Array 106.11 47 Pdiff **Pdif** **14 47 13.9 +0.6**
comp=Z,0.9nm,0.7s,baz=208,slow=2.9,SNR=4.0
PDAR PP **PP** **14 51 35.5 -1.7**
comp=Z,1.3nm,0.7s,baz=221,slow=1.9,SNR=4.2
DAG Danmarks Havn 106.33 355 *i* P **PP** **14 51 41.6 +4.2**
BRTR Keskin Array B 106.51 310 Pdiff **Pdif** **14 47 13.3 -1.8**
comp=Z,0.9nm,0.7s,baz=132,slow=2.1,SNR=3.3
BRTR PP 14 51 51.2 +11
comp=Z,4.3nm,1.1s,baz=89,slow=5.9,SNR=2.6
TUC Tucson 106.60 58 PFAKE 14 51 40.0
TUC LR LR
comp=Z,2µm,20.0s
MICGM Minsk 106.94 326⇑ *e*P **Pdif** **14 47 25.0 +8.6**
MNK Minsk 106.97 326⇑ *e*P **Pdif** **14 47 25.0 +8.5**
MNK pmax pmax
comp=Z,80nm,1.5s
MNK MLR MLR
comp=Z,4µm,18.0s
ANTO Ankara 107.13 310 PFAKE 14 51 40.0
ANTO LR LR
comp=Z,1µm,22.0s
AKASG Malin Array Be 107.25 322 Pdiff **Pdif** **14 47 16.3 -1.5**
comp=Z,0.2nm,0.3s,baz=62,slow=3.5,SNR=10
AKASG PP **PP** **14 51 44.3 -0.6**
comp=Z,0.4nm,0.4s,baz=60,slow=5.2,SNR=5.4
KIEV Kiev 107.26 322 PFAKE 14 51 40.0
KIEV LR LR
comp=Z,2µm,21.0s
NACGM Naroch 107.42 327 *e* **Pdif** **14 47 26.0 +7.5**
CSS Prodhromos 107.44 305 PFAKE 14 51 40.0
CSS LR LR
comp=Z,268nm,21.0s
PV01 Paradox Valley 107.63 51 *e*Pdif **Pdif** **14 47 21.4 +1.2**
comp=Z,836nm,1.3s
LAO LASA Array 107.65 42 PFAKE 14 51 40.0
LAO LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 107.83 52 PFAKE 14 51 40.0
MVCO LR LR
comp=Z,4µm,21.0s
FFC Flin Flon 107.95 33 PFAKE 14 51 40.0
FFC LR LR
comp=Z,3µm,22.0s
KIS Kishinev 108.47 318 *e*P **Pdif** **14 47 21.0 -2.4**
KIS *e*PS **PS** **15 01 18.0 -1.3**
KIS *e*PPS PPS 15 02 16.0
KIS Kishinev 108.47 318 *e*P **Pdif** **14 47 21.0 -2.4**
KIS Kishinev 108.47 318 *e*PP PP 14 52 06.0 +12
KIS Kishinev 108.47 318 *e*PKS 14 55 12.0
KIS *e*SKKS SKKSac 14 58 47.0 -8.4
DGMT Dagmar 108.53 40 PFAKE 14 51 40.0
DGMT LR LR
comp=Z,3µm,22.0s
PMSA Palmer Station 108.93 169 PFAKE 14 51 40.0
PMSA LR LR
comp=Z,4µm,20.0s
ISP Isparta 109.23 309 PFAKE 14 51 40.0
ISP LR LR
comp=Z,1µm,22.0s
ISCO Idaho Springs 109.59 49 PFAKE 14 51 40.0
ISCO LR LR
comp=Z,3µm,20.0s
SUW Suwalki 109.70 327 *e*Pdiff **Pdif** **14 47 38.1 +9.4**
SUW LMZ LR 15 39 24.6
ANMO Albuquerque 109.82 54 PKKP **PKKPdf** **15 02 53.6 +0.8**
comp=Z,1.6nm,0.6s,baz=178,slow=13,SNR=3.6
ANMO Albuquerque 109.82 54 PKPdf **PKiKP** **14 51 32.6 +0.2**
ANMO *e*PP PP 14 52 10.0 +5.4
ANMO PKKP **PKKPdf** **15 02 53.6 +0.8**
ANMO LR LR
comp=Z,4µm,22.0s
FCC Fort Churchill 110.30 27 *e*PKiKP **PKiKP** **14 51 34.1 +2.0**
BOSA Boshof 111.28 237 PKKPab PKKPab 15 02 38.5 -2.6
comp=Z,7.5nm,1.1s,baz=265,slow=9.8,SNR=3.6
SUMG Summit 111.33 0 *i* P **PP** **14 52 14.0 -0.2**
KWP Kalwaria Pacla 111.56 322 *e*P pPdif **14 47 47.1 -0.8**
KWP Kalwaria Pacla 111.56 322 *e*Pdiff **pPdif** **14 47 47.1 -0.8**
KWP *e*PKiKP PKiKP 14 51 45.7 +11
KWP LMZ LR 15 42 25.6
KWP Kalwaria Pacla 111.56 322 PFAKE 14 51 40.0
KWP LR LR
comp=Z,3µm,21.0s
LSZ Lusaka 111.78 252 PP PP 14 52 28.2 +9.2
comp=Z,5.2nm,0.9s,baz=66,slow=13,SNR=4.8
LBTB Lobatse 111.98 241 PKKPab PKKPab 15 02 37.8 -0.2
comp=Z,5.2nm,1.0s,baz=328,slow=3.3,SNR=4.5
OGNE Ogallala 111.99 47 PFAKE 14 51 50.0
OGNE LR LR
comp=Z,3µm,20.0s
NOA NORSAR Array B 112.02 337 PKiKP **PKiKP** **14 51 39.1 +3.6**
comp=Z,0.4nm,0.6s,baz=103,slow=1.9,SNR=2.8
NOA PKKPab **PKKPab** **15 02 34.8 -2.0**
comp=Z,0.9nm,0.8s,baz=47,slow=3.1,SNR=3.3
NOA PKKP **PKKPdf** **15 02 50.9 +2.0**
comp=Z,2.5nm,1.0s,baz=237,slow=4.5,SNR=3.7
KOLS Kolonicke sedl 112.08 322 *e*P **Pdif** **14 47 41.1 +1.7**
KOLS *e* 14 52 24.5
KOLS Kolonicke sedl 112.08 322 PDIF **Pdif** **14 47 41.1 +1.7**
KOLS *e* 14 51 12.9
KOLS Kolonicke sedl 112.08 322 *e*PKP PKiKP 14 51 47.5 +12
KOLS *e* 14 52 24.5
UZH Uzhgorod 112.17 322 *e*P **Pdif** **14 47 38.8 -1.0**
UZH MLR MLR
comp=N,1µm,22.0s
UZH MLR MLR
comp=E,500nm,22.0s
UZH MLR MLR
comp=Z,500nm,22.0s
STHS Stebnicka Huta 112.53 323 *e*PKiKP **PKiKP** **14 51 34.1 -2.7**
STHS Stebnicka Huta 112.53 323 *e* **PKiKP** **14 51 34.1 -2.7**
CRVS Cervenica-Dubn 112.59 322 *e*P **Pdif** **14 47 43.7 +2.0**
CRVS Cervenica-Dubn 112.59 322 PDIF **Pdif** **14 47 43.7 +2.0**
CRVS *e* 14 51 31.6
TXAR Lajitas Array 113.06 60 PKiKP **PKiKP** **14 51 42.8 +4.3**
comp=Z,0.6nm,0.8s,baz=192,slow=1.7,SNR=3.9
TXAR PP PP 14 52 33.5 +5.6
comp=Z,3.4nm,1.0s,baz=298,slow=2.7,SNR=4.7
TXAR PKKP **PKKPdf** **15 02 44.7 -1.7**
comp=Z,2.8nm,1.0s,baz=126,slow=6.4,SNR=8.3
ULM Lac du Bonnet 113.06 36 PKiKP **PKiKP** **14 51 37.2 -0.5**
comp=Z,1.4nm,0.7s,baz=315,slow=5.7,SNR=3.2
ULM PP PP 14 52 33.1 +6.2
comp=Z,2.3nm,0.6s,baz=289,slow=6.7,SNR=7.6
OJC Ojcow 113.09 324 *e*Pdiff **pPdif** **14 47 54.4 -0.2**
OJC *e*PKiKP PKiKP 14 51 47.1 +9.3
OJC LMZ LR 15 43 55.7
NIE Niedzica 113.09 323 *e*Pdiff **pPdif** **14 47 54.4 -0.3**
NIE *e*PKiKP PKiKP 14 51 49.6 +12
NIE LMZ LR 15 43 56.4
KECS Kecovo 113.34 322 *e*P **Pdif** **14 47 50.4 +5.4**
KECS Kecovo 113.34 322 *e* **Pdif** **14 47 50.4 +5.4**
KONO Kongsberg 113.49 336 PFAKE 14 51 50.0
KONO LR LR
comp=Z,3µm,21.0s
SANT Santorini 113.49 308 PFAKE 14 51 50.0
SANT LR LR
comp=Z,500nm,20.0s
SUR Sutherland 113.68 232 PFAKE 14 51 50.0
SUR LR LR
comp=Z,3µm,20.0s
AGMN Agassiz Nation 113.83 38 PFAKE 14 51 50.0
AGMN LR LR
comp=Z,4µm,21.0s
PSZ Piszkesteto 113.92 321 PFAKE 14 51 50.0
PSZ LR LR
comp=Z,3µm,22.0s
OKC Ostrava-Krasne 114.21 324 *e*pPKP **pPKiKP** **14 51 51.0 0.0**
OKC *e*XS 15 00 29.7
OKC *e*SP **SP** **15 02 07.0 -1.4**
OKC AMS AMS 15 44 10.0
comp=Z,2µm,19.9s
VYHS Vyhne 114.35 322 *e*P **Pdif** **14 47 50.0 +0.5**
VYHS *e* 14 52 41.4
VYHS Vyhne 114.35 322 PDIF **Pdif** **14 47 50.0 +0.5**
VYHS *e* 14 51 50.2
VYHS *e* 14 52 41.4
KSP Ksiaz 114.85 325 *i* PKiKP PKPdf 14 51 51.2 +10
KSP *e*SP SP 15 02 13.5 -0.7
KSP MLR MLR
comp=Z,15µm,24.9s
KSP Ksiaz 114.85 325 *e*Pdiff **pPdif** **14 48 03.1 +0.7**
KSP *e*PKiKP PKPdf 14 51 52.2 +11
KSP LMZ LR 15 43 04.6
430A Baggett Ranch, 114.88 58 P PKPdf 14 51 51.8 +10
baz=115
KRLC Kraliky 114.91 325 *e*PKiKP pPKiKP 14 51 52.0 -0.4
KRLC Kraliky 114.91 325 *e*pP **pPdif** **14 48 02.8 0.0**
KRLC *e*PKP **PKiKP** **14 51 40.9 -0.4**
KRLC *e*pPKP pPKiKP 14 51 51.5 -0.9
530A J-C Ranch, Com 114.92 59 P PKPdf 14 51 52.1 +10
baz=115
O32A Brockman Farm, 114.93 47 P PKPdf 14 51 51.7 +10
baz=115
ECSD EROS Data Cent 115.00 43 P PKPdf 14 51 51.1 +9.4
baz=115
ECSD EROS Data Cent 115.00 43 *e*PKiKP PKPdf 14 51 42.0 +0.3
ECSD LR LR
comp=Z,2µm,21.0s
DPC Dobruska-Polom 115.05 325 *e*PKiKP pPKiKP 14 51 52.3 -0.3
DPC Dobruska-Polom 115.05 325 *e*PDIFF **Pdif** **14 47 53.0 +0.3**
DPC *e*pP **pPdif** **14 48 03.7 +0.3**
DPC *e*PKP **PKPdf** **14 51 42.3 +0.7**
DPC *e*pPKP **pPKiKP** **14 51 52.3 -0.3**
DPC *ex* x 14 52 52.8
DPC *e*SDIF 15 00 25.6
DPC *e*SP **SP** **15 02 12.6 -3.5**
DPC AMS AMS 15 43 20.0
UPC Upice 115.16 325 *e*pP **pPdif** **14 48 04.5 +0.7**
UPC *e*pPKP pPKiKP 14 51 52.6 -0.2
531A Rocksprings 115.58 58 P PKPdf 14 51 52.8 +10
baz=116
631A Perdido Creek 115.70 59 P PKPdf 14 51 53.4 +10
baz=116
T33A Patterson Ranc 115.86 50 P PKPdf 14 51 53.3 +10
baz=116
PVCC Panska Ves 115.97 326 *e*PKiKP pPKiKP 14 51 53.8 -0.5
PVCC Panska Ves 115.97 326 *e*pP **pPdif** **14 48 07.9 +0.5**
PVCC *e*PKP **PKiKP** **14 51 42.8 -0.5**
PVCC *e*pPKP pPKiKP 14 51 53.3 -1.0
PVCC AMS AMS 15 42 50.0
comp=Z,2µm,20.0s
TREC Trest 116.01 324 *ex* x 14 53 00.5
TREC *e*SP SP 15 02 21.6 -3.3
TREC AMS AMS 15 42 50.0
comp=Z,3µm,21.7s
WMOK Wichita Mounta 116.04 53 PFAKE 14 51 50.0 +6.0
WMOK LR LR
comp=Z,3µm,22.0s
GOPC GO Pecny, Ondr 116.13 325 *e*pPKP pPKPdf 14 51 54.4 -0.3
BRG Berggiesshubel 116.15 326 PDIFF Pdif 14 48 08.1 +11
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 116.15 326 *e*PKP **PKPdf** **14 51 47.5 +3.9**
comp=Z,6.7nm,1.0s
BRG *e* 14 51 54.0
comp=Z,26nm,1.2s
BRG *e*PP **PP** **14 52 50.5 +1.9**
comp=Z,17nm,1.2s
BRG SDIFF 15 00 52.0
BRG *e*PKKP **PKKPdf** **15 02 37.0 -3.8**
comp=Z,3.7nm,1.1s
BRG SS SS 15 09 01.0 +12
BRG Berggiesshubel 116.15 326 *e*PKiKP **PKPdf** **14 51 47.5 +3.9**
BRG *e* 14 51 54.0
BRG *e* 14 52 50.5
BRG SS SS 15 09 01.0 +12
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=N,2µm,20.6s
BRG MLR MLR
comp=E,2µm,24.4s
BRG MLR MLR
comp=Z,3µm,22.1s
BRG Berggiesshubel 116.15 326 *e*PKP PKPdf 14 51 54.1 +10
JCT Junction City 116.16 58 *e*PKiKP **PKPdf** **14 51 44.3 0.0**
JCT MLR MLR
comp=Z,2µm,21.0s
JCT Junction City 116.16 58 *e*PKPdf **PKPdf** **14 51 44.3 0.0**
JCT LR LR
comp=Z,2µm,21.0s
PRU Pruhonice 116.24 325 *e*PKiKP pPKPdf 14 51 54.1 -0.8
PRU Pruhonice 116.24 325 *e*pP **pPdif** **14 48 08.7 +0.1**
PRU *e*pPKP pPKPdf 14 51 54.2 -0.7
PRU *ex* x 14 53 01.2
PRU *e*SDIF 15 00 41.0
PRU *e*SP **SP** **15 02 26.2 -0.6**
PRU AMS AMS 15 44 00.0
comp=Z,3µm,19.3s
PRA Prague 116.26 325 *e*pPKP pPKPdf 14 51 54.1 -0.8
PRA *ex* x 14 53 01.4
SFJD Kangerlussuaq 116.34 5 PFAKE 14 51 50.0 +6.5
SFJD LR LR
comp=Z,1µm,21.0s
632A Uvalde 116.36 59 P PKPdf 14 51 54.9 +10
baz=116
832A Faith Ranch, C 116.43 60 P PKPdf 14 51 54.8 +10
baz=116
133A Hamilton Ranch 116.44 55 P PKPdf 14 51 55.2 +10
baz=116
CLL Collm 116.45 327 *e*P **pPdif** **14 48 09.0 -0.5**
CLL MLR MLR
comp=Z,3µm,18.9s
CLL Collm 116.45 327 *e*PKP pPKPdf 14 51 54.4 -0.8
CLL Collm 116.45 327 *e*pPdif **pPdif** **14 48 09.0 -0.5**
CLL *e*(PKiKP) 14 51 47.0
CLL ⇓*i*pPKiKP pPKiKP 14 51 54.6 -0.6
comp=Z,30nm,1.5s
CLL *e*PP **PP** **14 52 50.0 -0.7**
CLL *e*SKKSac SKKSac 14 59 48.0 -1.6
CLL *e*Sdif **Sdif** **15 00 36.0 +0.8**
CLL *e*pPKKPbc 15 02 23.0
CLL *e*PS **PS** **15 02 31.0 -2.7**
CLL *e*PKKPdf PKKPdf 15 02 35.0 -5.3
CLL *e*sPPS 15 04 01.0
CLL *e*SS SS 15 09 07.0 +14

CLL *e* 15 11 24.0
CLL *e*(SSS) 15 12 42.0
CLL Lm MLR 15 46 00.0
comp=N,2µm,18.8s
CLL Lm MLR 15 46 00.0
comp=E,1µm,20.0s
CLL Lm MLR 15 46 00.0
comp=Z,3µm,18.9s
BSEG Bad Segeberg 116.46 330 *e*PKP PKPdf 14 51 55.0 +11
KSU1 Kansas State U 116.51 48 PFAKE 14 51 50.0 +5.3
KSU1 LR LR
comp=Z,3µm,20.0s
EYMN Ely 116.64 37 PFAKE 14 51 50.0 +5.3
EYMN LR LR
comp=Z,4µm,22.0s
433A Art 116.70 57 P PKPdf 14 51 54.8 +9.5
baz=117
KOGS Kog 116.79 321 *e*Pdiff Pdif 14 48 11.3 +11
KOGS *e*PKPdf PKiKP 14 51 55.2 +10
ARSA Arzberg 116.90 322 ⇑*i*PKPdf PKPdf 14 51 55.0 -1.2
comp=Z,10nm,1.2s
933A Laredo 117.16 61 P PKPdf 14 51 55.8 +10
baz=117
KHC Kasperske Hory 117.19 325 *e*PKIKP PKPdf 14 51 55.3 -1.5
KHC Kasperske Hory 117.19 325 *e*PDIFF **Pdif 14 48 01.8 -0.4**
KHC *e*pP 14 48 12.7
KHC *e*PKP **PKPdf 14 51 45.6 -0.2**
KHC *ep*PKP **pPKPdf 14 51 54.3 -2.5**
KHC *e*SDIF 15 00 48.5
KHC *e*SP **SP 15 02 29.4 -6.2**
KHC *ex* x 15 06 01.5
KHC AMS AMS 15 44 40.0
comp=Z,3µm,20.1s
TANN Tannenbergstha 117.20 326 *e*PKP PKPdf 14 51 55.7 +10
234A Clairette 117.22 56 P PKPdf 14 51 56.2 +10
baz=117
GEC2 GERESS Array S 117.26 324 *e*PKP PKPdf 14 51 56.0 +10
GERES GERESS Array B 117.26 324 PKP **PKPdf 14 51 45.3 -0.6**
comp=Z,0.6nm,0.6s,baz=97,slow=5.0,SNR=4.3
GERES PKKPbc **PKKPab 15 02 15.2 +1.4**
comp=Z,0.5nm,0.6s,baz=228,slow=2.5,SNR=2.8
NRDL Niedersach Rie 117.36 329 *e*PKP PKPdf 14 51 56.1 +10
434A Burnet 117.38 57 P PKPdf 14 51 55.5 +8.9
baz=117
SOKA Soboth 117.45 322 ⇑*i*PKPdf pPKPdf 14 51 55.9 -1.5
comp=Z,23nm,1.5s,SNR=6.9
MOX Moxa 117.55 327 *e*PKP PKPdf 14 51 56.8 +10
R36A Gordon, Harris 117.57 48 P PKPdf 14 51 55.8 +9.0
baz=118
CLZ Clausthal 117.58 328 *e*PKP PKPdf 14 51 57.1 +11
WET Wettzell 117.59 325 *e*PKP PKPdf 14 51 56.8 +10
OBKA Obir 117.82 322 ⇓*i*pPKPdf pPKPdf 14 51 56.8 -1.3
comp=Z,16nm,1.6s
SCIA State Center 117.99 44 PFAKE 14 52 00.0 +13
SCIA LR LR
comp=Z,2µm,22.0s
LJU Ljubljana 118.04 321 *e*PKPdf PKPdf 14 51 57.2 +10
GRF Grafenberg Arr 118.25 326 *e*PKP PKPdf 14 51 57.8 +10
GRF *e*PKKP **PKKPab 15 02 13.1 +3.8**
GRF *e*L L 15 43 13.9
comp=Z,2µm,21.8s
KBA Koelnbreinsper 118.30 323 ⇑*i*pPKPdf pPKPdf 14 51 57.8 -1.4
comp=Z,19nm,1.4s,SNR=5.5
MYKA Terra Mystica 118.33 322 ⇑*i*pPKiKP pPKPdf 14 51 58.2 -0.9
comp=Z,7.0nm,0.9s
UBBA Unterbreizbach 118.33 328 *e*PKP PKPdf 14 51 58.1 +10
KVTX Kingsville 118.37 61 PFAKE 14 52 00.0 +11
KVTX LR LR
comp=Z,2µm,21.0s
IBBN Ibbenburen 118.66 330 *e*PKP PKPdf 14 51 59.1 +11
COWI Conover 118.91 38 PFAKE 14 52 00.0 +11
COWI LR LR
comp=Z,4µm,22.0s
ABTA Abfaltersbach 118.96 323 ⇑*i*pPKPdf pPKPdf 14 51 58.7 -1.7
comp=Z,31nm,1.4s,SNR=6.5
WTTA Wattenberg 119.24 323 ⇑*i*pPKiKP pPKPdf 14 51 59.8 -1.1
comp=Z,62nm,1.3s,SNR=9.3
TIP Timpagrande 119.27 313 PFAKE 14 52 00.0 +10
TIP LR LR
comp=Z,733nm,22.0s
BUG Bochum--Univer 119.41 329 *e*PKP PKPdf 14 52 00.2 +10
MOTA Moosalm 119.51 324 ⇓*i*pPKiKP pPKPdf 14 52 00.5 -1.0
comp=Z,21nm,1.0s,SNR=5.5
JFWS Jewell Farm 119.60 42 *e*PKIKP **PKPdf 14 51 49.8 -0.7**
JFWS MLR MLR
comp=Z,2µm,19.0s
JFWS Jewell Farm 119.60 42 *e*PKPdf **PKPdf 14 51 49.8 -0.7**
JFWS LR LR
comp=Z,2µm,19.0s
CUC Castrocucco 119.65 314 PFAKE 14 52 00.0 +9.2
CUC LR LR
comp=Z,586nm,20.0s
STU Stuttgart 119.87 326 *e*PKIKP **PKPdf 14 51 50.0 -0.9**
STU Stuttgart 119.87 326 *e*PKP PKPdf 14 52 00.7 +10
STU Stuttgart 119.87 326 *e*PKPdf **PKPdf 14 51 50.0 -0.9**
FETA Feichten 119.89 324 ⇓*i*pPKiKP pPKPdf 14 52 01.4 -0.8
comp=Z,30nm,1.2s,SNR=7.2
NATX Nacogdoches 120.14 55 PFAKE 14 52 00.0 +8.1
NATX LR LR
comp=Z,3µm,21.0s
MIAR Mount Ida 120.22 52 *e*PKIKP **PKPdf 14 51 52.9 +0.9**
MIAR MLR MLR
comp=Z,5µm,21.0s
MIAR Mount Ida 120.22 52 *e*PKPdf **PKPdf 14 51 52.9 +0.9**
MIAR LR LR
comp=Z,5µm,21.0s
CEL Celeste 120.23 313 PFAKE 14 52 00.0 +8.0
CEL LR LR
comp=Z,1µm,22.0s
DAVA Damuels 120.26 324 ⇑*i*pPKiKP pPKPdf 14 52 01.7 -1.2
comp=Z,22nm,1.0s
AQU L'Aquila 120.37 318 PFAKE 14 52 00.0 +7.9
AQU LR LR
comp=Z,2µm,21.0s
MEM Membach 120.54 329 APKP pPKPdf 14 52 02.7 -0.4
BFO Black Forest 120.59 326 *e*PKP PKPdf 14 52 01.8 +9.5
BFO Black Forest 120.59 326 PFAKE 14 52 00.0 +7.7
BFO LR LR
comp=Z,2µm,20.0s
TSUM Tsumeb 120.73 245 PKP **PKPdf 14 51 52.2 -1.4**
comp=Z,3.9nm,1.0s,baz=146,slow=3.6,SNR=2.2
TUE Stuetta 120.99 324 PFAKE 14 52 00.0 +6.6
TUE LR LR
comp=Z,3µm,22.0s
BCLA Clavier 121.01 329 APKP pPKPdf 14 52 03.7 -0.4
WLF Walferdange 121.02 328 APKP pPKPdf 14 52 04.7 +0.6
WLF Walferdange 121.02 328 *e*PKP pPKPdf 14 52 03.9 -0.2
WLF Walferdange 121.02 328 PFAKE 14 52 00.0 +7.0
WLF LR LR
comp=Z,2µm,20.0s
UALR University of 121.11 51 *e*PKPdf **PKPdf 14 51 53.8 +0.2**
CDF Champ du Feu 121.13 326 *e*PKIKP **PKPdf 14 51 51.6 -1.8**
comp=Z,44nm,1.3s
CDF Champ du Feu 121.13 326 *e*PKIKP **PKPdf 14 51 51.6 -1.8**
CDF Champ du Feu 121.13 326 *e*PKPdf **PKPdf 14 51 51.6 -1.8**
UCC Uccle 121.26 330 APKP pPKPdf 14 52 04.5 0.0
ECH Echery 121.31 326 PFAKE 14 52 00.0 +6.3
ECH LR LR
comp=Z,2µm,21.0s
GIVF Givet 121.45 329 *e*PKIKP **PKPdf 14 51 52.9 -1.0**
comp=Z,136nm,1.3s
GIVF Givet 121.45 329 *e*PKIKP **PKPdf 14 51 52.9 -1.0**
GIVF Givet 121.45 329 *e*PKPdf **PKPdf 14 51 52.9 -1.0**
SNF Seneffe 121.48 330 APKP pPKPdf 14 52 04.7 -0.2
ESK Eskdalemuir 121.51 337 PFAKE 14 52 00.0 +6.2
ESK LR LR
comp=Z,4µm,21.0s
VLC Villacollemand 121.51 321 PFAKE 14 52 00.0 +5.8
VLC LR LR
comp=Z,2µm,20.0s
DOU Dourbes 121.57 329 APKP pPKPdf 14 52 04.8 -0.3
HINF Hinteralfeld 121.70 326 *e*PKIKP **PKPdf 14 51 52.8 -1.7**
comp=Z,84nm,1.2s
HINF Hinteralfeld 121.70 326 *e*PKIKP **PKPdf 14 51 52.8 -1.7**
HINF Hinteralfeld 121.70 326 *e*PKPdf **PKPdf 14 51 52.8 -1.7**
BAIF Baives 121.79 329 *e*PKIKP **PKPdf 14 51 53.4 -1.1**
comp=Z,74nm,1.3s
BAIF Baives 121.79 329 *e*PKIKP **PKPdf 14 51 53.4 -1.1**
BAIF Baives 121.79 329 *e*PKPdf **PKPdf 14 51 53.4 -1.1**
HAU Haudompre 121.87 326 *e*PKIKP **PKPdf 14 51 53.3 -1.5**
comp=Z,122nm,1.3s
HAU *e*R
comp=Z,1µm,20.0s
HAU Haudompre 121.87 326 *e*PKIKP **PKPdf 14 51 53.3 -1.5**
HAU Haudompre 121.87 326 *e*PKPdf **PKPdf 14 51 53.3 -1.5**

PAGF Fort de Pagny 121.90 327 *e*PKIKP **PKPdf 14 51 53.6 -1.2**
comp=Z,8.1nm,1.0s
PAGF Fort de Pagny 121.90 327 *e*PKPdf **PKPdf 14 51 53.6 -1.2**
HOPE Hope Point 122.09 181 PFAKE 14 52 00.0 +5.1
HOPE LR LR
comp=Z,10µm,20.0s
EFI East Falkland 122.13 165 PFAKE 14 52 00.0 +4.9
EFI LR LR
comp=Z,4µm,21.0s
MEZF Maizieres J'vi 122.29 327 *e*PKIKP **PKPdf 14 51 54.5 -1.0**
comp=Z,174nm,1.5s
MEZF Maizieres J'vi 122.29 327 *e*PKPdf **PKPdf 14 51 54.5 -1.0**
CLTB Caltabellotta 122.45 313 PFAKE 14 52 10.0 +14
CLTB LR LR
comp=Z,658nm,21.0s
SFTF Sexfontaines 122.47 327 *e*PKIKP **PKPdf 14 51 54.6 -1.3**
SFTF Sexfontaines 122.47 327 *e*PKPdf **PKPdf 14 51 54.6 -1.3**
CABF La Chapelle 122.81 325 *e*PKIKP **PKPdf 14 51 55.7 -1.0**
comp=Z,117nm,1.2s
CABF La Chapelle 122.81 325 *e*PKIKP **PKPdf 14 51 55.7 -1.0**
CABF La Chapelle 122.81 325 *e*PKPdf **PKPdf 14 51 55.7 -1.0**
OLIL Olney 122.83 46 *e*PKPdf **PKPdf 14 51 55.7 -1.1**
LPG La Plagne 123.04 324 *e*PKIKP **PKPdf 14 51 56.2 -1.3**
comp=Z,38nm,1.1s
LPG La Plagne 123.04 324 *e*PKIKP **PKPdf 14 51 56.2 -1.3**
LPG La Plagne 123.04 324 *e*PKPdf **PKPdf 14 51 56.2 -1.3**
LPL La Plagne 123.04 324 *e*PKIKP **PKPdf 14 51 56.1 -1.3**
comp=Z,81nm,1.3s
LPL La Plagne 123.04 324 *e*PKIKP **PKPdf 14 51 56.1 -1.3**
LPL La Plagne 123.04 324 *e*PKPdf **PKPdf 14 51 56.1 -1.3**
PGF Pioggiola 123.18 320 *e*PKIKP **PKPdf 14 51 56.1 -1.5**
comp=Z,116nm,1.2s
PGF Pioggiola 123.18 320 *e*PKIKP **PKPdf 14 51 56.1 -1.5**
PGF Pioggiola 123.18 320 *e*PKPdf **PKPdf 14 51 56.1 -1.5**
BNI Bardonecchia 123.33 323 PFAKE 14 52 10.0 +12
BNI LR LR
comp=Z,4µm,21.0s
MBDF Montbardon 123.45 323 *e*PKIKP **PKPdf 14 51 56.9 -1.2**
MBDF Montbardon 123.45 323 *e*PKIKP **PKPdf 14 51 56.9 -1.2**
MBDF Montbardon 123.45 323 *e*PKPdf **PKPdf 14 51 56.9 -1.2**
SBF Sospel 123.50 322 *e*PKIKP **PKPdf 14 51 56.5 -1.6**
comp=Z,182nm,1.3s
SBF Sospel 123.50 322 *e*PKIKP **PKPdf 14 51 56.5 -1.6**
SBF Sospel 123.50 322 *e*PKPdf **PKPdf 14 51 56.5 -1.6**
LOR Lormes 123.67 327 *e*PKIKP **PKPdf 14 51 57.1 -1.1**
comp=Z,125nm,1.4s
LOR *e*R
comp=Z,3µm,20.5s
LOR Lormes 123.67 327 *e*PKIKP **PKPdf 14 51 57.1 -1.1**
LOR Lormes 123.67 327 *e*PKPdf **PKPdf 14 51 57.1 -1.1**
BLO Bloomington 123.75 44 *e*PKIKP **PKPdf 14 51 57.7 -0.9**
BLO Bloomington 123.75 44 *e*PKPdf **PKPdf 14 51 57.7 -0.9**
ORIF Oris-en-Rattie 123.88 324 *e*PKIKP **PKPdf 14 51 57.4 -1.4**
comp=Z,71nm,1.4s
ORIF *e*R
comp=Z,4µm,22.5s
ORIF Oris-en-Rattie 123.88 324 *e*PKIKP **PKPdf 14 51 57.4 -1.4**
ORIF Oris-en-Rattie 123.88 324 *e*PKPdf **PKPdf 14 51 57.4 -1.4**
SSF Saint Saulge 123.99 327 *e*PKIKP **PKPdf 14 51 57.7 -1.1**
comp=Z,119nm,1.2s
SSF Saint Saulge 123.99 327 *e*PKIKP **PKPdf 14 51 57.7 -1.1**
SSF Saint Saulge 123.99 327 *e*PKPdf **PKPdf 14 51 57.7 -1.1**
SCHQ Schefferville 124.05 20 PKP **PKPdf 14 51 57.7 -1.1**
comp=Z,2.8nm,0.8s,baz=352,slow=6.7,SNR=3.5
SCHQ PP **PP 14 53 46.8 +4.4**
comp=Z,4.0nm,0.9s,baz=302,slow=9.3,SNR=2.0
SCHQ SKKPbc SKKPbc 15 05 36.9 +2.2
comp=Z,2.7nm,1.0s,baz=90,slow=7.1,SNR=3.0
WVT Waverly 124.07 48 *e*PKIKP **PKPdf 14 51 58.2 -1.1**
WVT Waverly 124.07 48 *e*PKPdf **PKPdf 14 51 58.2 -1.1**
FRF La Foret Royal 124.15 322 *e*PKIKP **PKPdf 14 51 57.9 -1.3**
comp=Z,146nm,1.4s
FRF La Foret Royal 124.15 322 *e*PKIKP **PKPdf 14 51 57.9 -1.3**
FRF La Foret Royal 124.15 322 *e*PKPdf **PKPdf 14 51 57.9 -1.3**
AAM Ann Arbor 124.20 40 PFAKE 14 52 10.0 +11
AAM LR LR
comp=Z,3µm,21.0s
AVF Avril sur Loir 124.23 327 *e*PKIKP **PKPdf 14 51 57.8 -1.5**
comp=Z,41nm,1.2s
AVF Avril sur Loir 124.23 327 *e*PKIKP **PKPdf 14 51 57.8 -1.5**
AVF Avril sur Loir 124.23 327 *e*PKPdf **PKPdf 14 51 57.8 -1.5**
WCI Wyandotte Cave 124.33 45 PKIKP **PKPdf 14 51 58.7 -1.1**
WCI *e* 14 52 09.0
WCI Wyandotte Cave 124.33 45 PKPdf **PKPdf 14 51 58.7 -1.1**
WCI *ep*PKPdf **pPKPdf 14 52 09.0 -1.8**
HYF Humbligny 124.33 327 *e*PKIKP **PKPdf 14 51 58.8 -0.7**
HYF Humbligny 124.33 327 *e*PKPdf **PKPdf 14 51 58.8 -0.7**
LMR La Mourre 124.35 322 *e*PKIKP **PKPdf 14 51 58.4 -1.2**
comp=Z,142nm,1.3s
LMR La Mourre 124.35 322 *e*PKIKP **PKPdf 14 51 58.4 -1.2**
LMR La Mourre 124.35 322 *e*PKPdf **PKPdf 14 51 58.4 -1.2**
VSL Villasalto 124.37 316 PFAKE 14 52 10.0 +10
VSL LR LR
comp=Z,880nm,22.0s
SSB Saint Sauveur 124.45 325 *e*PKIKP **PKPdf 14 51 58.8 -1.0**
SSB *e* 14 52 10.4
SSB MLR MLR
comp=Z,1µm,20.0s
SSB Saint Sauveur 124.45 325 *e*PKPdf **PKPdf 14 51 58.8 -1.0**
SSB *ep*PKPdf **pPKPdf 14 52 10.4 -0.5**
SSB LR LR
comp=Z,1µm,20.0s
SMRF Simiane la Rot 124.58 323 *e*PKIKP **PKPdf 14 51 59.2 -0.9**
comp=Z,270nm,1.5s
SMRF Simiane la Rot 124.58 323 *e*PKPdf **PKPdf 14 51 59.2 -0.9**
VIVF Saint-Julien-l 124.62 324 *e*PKIKP **PKPdf 14 51 58.9 -1.3**
comp=Z,118nm,1.3s
VIVF Saint-Julien-l 124.62 324 *e*PKIKP **PKPdf 14 51 58.9 -1.3**
VIVF Saint-Julien-l 124.62 324 *e*PKPdf **PKPdf 14 51 58.9 -1.3**
BGF Bois d'Agland 124.65 327 *e*PKIKP **PKPdf 14 51 59.1 -1.0**
comp=Z,107nm,1.1s
BGF Bois d'Agland 124.65 327 *e*PKIKP **PKPdf 14 51 59.1 -1.0**
BGF Bois d'Agland 124.65 327 *e*PKPdf **PKPdf 14 51 59.1 -1.0**
LDF La Druitiere 124.91 330 *e*PKIKP **PKPdf 14 51 59.1 -1.4**
comp=Z,96nm,1.2s
LDF La Druitiere 124.91 330 *e*PKIKP **PKPdf 14 51 59.1 -1.4**
LDF La Druitiere 124.91 330 *e*PKPdf **PKPdf 14 51 59.1 -1.4**
FLN La Foliniere 124.97 331 *e*PKIKP **PKPdf 14 51 59.2 -1.4**
comp=Z,204nm,1.5s
FLN *e*R
comp=Z,2µm,19.8s
FLN La Foliniere 124.97 331 *e*PKIKP **PKPdf 14 51 59.2 -1.4**
FLN La Foliniere 124.97 331 *e*PKPdf **PKPdf 14 51 59.2 -1.4**
TCF Toulx Ste Croi 125.17 327 *e*PKIKP **PKPdf 14 52 00.1 -1.1**
comp=Z,216nm,1.3s
TCF Toulx Ste Croi 125.17 327 *e*PKIKP **PKPdf 14 52 00.1 -1.1**
TCF Toulx Ste Croi 125.17 327 *e*PKPdf **PKPdf 14 52 00.1 -1.1**
GRR Gorron 125.41 330 *e*PKIKP **PKPdf 14 52 00.3 -1.2**
comp=Z,216nm,1.5s
GRR Gorron 125.41 330 *e*PKIKP **PKPdf 14 52 00.3 -1.2**
GRR Gorron 125.41 330 *e*PKPdf **PKPdf 14 52 00.3 -1.2**
LASF Ste Croix 125.55 324 *e*PKIKP **PKPdf 14 52 00.9 -1.0**
comp=Z,98nm,1.3s
LASF Ste Croix 125.55 324 *e*PKPdf **PKPdf 14 52 00.9 -1.0**
ACSO Alum Creek Sta 125.67 42 PFAKE 14 52 10.0 +7.7
ACSO LR LR
comp=Z,3µm,21.0s
LRAL Lakeview Retre 125.88 51 *e*PKPdf **PKPdf 14 52 01.6 -1.2**
LRAL *ep*PKPdf **pPKPdf 14 52 12.0 -2.0**
CAF Calviac 126.08 326 *e*PKIKP **PKPdf 14 52 02.2 -0.8**
comp=Z,140nm,1.4s
CAF Calviac 126.08 326 *e*PKIKP **PKPdf 14 52 02.2 -0.8**
CAF Calviac 126.08 326 *e*PKPdf **PKPdf 14 52 02.2 -0.8**
RJF Les Rejaudoux 126.16 326 *e*PKIKP **PKPdf 14 52 02.1 -1.0**
comp=Z,121nm,1.4s
RJF *e*R
comp=Z,2µm,21.8s
RJF Les Rejaudoux 126.16 326 *e*PKIKP **PKPdf 14 52 02.1 -1.0**
RJF Les Rejaudoux 126.16 326 *e*PKPdf **PKPdf 14 52 02.1 -1.0**
MFF Saint Martin d 126.23 328 *e*PKIKP **PKPdf 14 52 01.9 -1.2**
comp=Z,101nm,1.2s
MFF Saint Martin d 126.23 328 *e*PKIKP **PKPdf 14 52 01.9 -1.2**
MFF Saint Martin d 126.23 328 *e*PKPdf **PKPdf 14 52 01.9 -1.2**
SGMF Saint Gilles 126.33 331 *e*PKIKP **PKPdf 14 52 01.9 -1.4**
comp=Z,257nm,1.6s
SGMF Saint Gilles 126.33 331 *e*PKIKP **PKPdf 14 52 01.9 -1.4**
SGMF Saint Gilles 126.33 331 *e*PKPdf **PKPdf 14 52 01.9 -1.4**
BRAL Brewton 126.56 54 PFAKE 14 52 10.0 +5.8
BRAL LR LR
comp=Z,2µm,20.0s
ERPA Erie 126.60 38 PFAKE 14 52 10.0 +6.0
ERPA LR LR
comp=Z,3µm,21.0s
PLCA Paso Flores 126.60 149 *e*PKIKP **PKPdf 14 52 05.5 +1.3**

PLCA Paso Flores 126.60 149 PKP **PKPdf 14 52 05.8 +1.6**
comp=Z,1.8nm,0.6s,baz=192,slow=4.6,SNR=5.1
PLCA SKKPbc SKKPbc 15 05 25.7 +0.7
comp=Z,3.3nm,1.1s,baz=54,slow=4.1,SNR=3.2
PLCA Paso Flores 126.60 149 *e*PKPdf **PKPdf 14 52 05.5 +1.3**
PLCA PKP **PKPdf 14 52 05.8 +1.6**
PLCA SKKPbc SKKPbc 15 05 25.7 +0.7
ROSF Rostrenen 126.61 332 *e*PKIKP **PKPdf 14 52 02.4 -1.4**
ROSF Rostrenen 126.61 332 *e*PKIKP **PKPdf 14 52 02.4 -1.4**
ROSF Rostrenen 126.61 332 *e*PKPdf **PKPdf 14 52 02.4 -1.4**
LFF La Frestale 126.81 326 *e*PKIKP **PKPdf 14 52 03.4 -0.9**
comp=Z,195nm,1.4s
LFF La Frestale 126.81 326 *e*PKIKP **PKPdf 14 52 03.4 -0.9**
LFF La Frestale 126.81 326 *e*PKPdf **PKPdf 14 52 03.4 -0.9**
MTLF Montolieu 126.94 324 *e*PKIKP **PKPdf 14 52 03.4 -1.2**
comp=Z,94nm,1.4s
MTLF Montolieu 126.94 324 *e*PKIKP **PKPdf 14 52 03.4 -1.2**
MTLF Montolieu 126.94 324 *e*PKPdf **PKPdf 14 52 03.4 -1.2**
TKL Tuckaleechee C 127.26 47 *e*PKIKP **PKPdf 14 52 03.8 -1.7**
TKL Tuckaleechee C 127.26 47 *e*PKPdf **PKPdf 14 52 03.8 -1.7**
PAYG Puerto Ayora 127.58 94 PFAKE 14 52 20.0 +13
PAYG LR LR
comp=Z,2µm,19.0s
EPF Esparros 128.22 325 *e*PKIKP **PKPdf 14 52 06.1 -1.0**
comp=Z,81nm,1.3s
EPF Esparros 128.22 325 *e*PKIKP **PKPdf 14 52 06.1 -1.0**
EPF Esparros 128.22 325 *e*PKPdf **PKPdf 14 52 06.1 -1.0**
LONY Lake Ozonia 128.22 33 *e*PKPdf **PKPdf 14 52 06.7 -0.3**
LONY *ep*PKPdf **pPKPdf 14 52 16.7 -1.4**
LONY LR LR
comp=Z,3µm,22.0s
GOGA Godfrey 128.45 50 PFAKE 14 52 20.0 +12
GOGA LR LR
comp=Z,3µm,21.0s
SSPA Standing Stone 128.74 39 *e*PKPdf **PKPdf 14 52 06.9 -1.2**
ETSF Etsaut 128.82 325 *e*PKIKP **PKPdf 14 52 08.0 -0.3**
comp=Z,101nm,1.2s
ETSF Etsaut 128.82 325 *e*PKIKP **PKPdf 14 52 08.0 -0.3**
ETSF Etsaut 128.82 325 *e*PKPdf **PKPdf 14 52 08.0 -0.3**
NCB Newcomb 128.84 33 PFAKE 14 52 20.0 +12
NCB LR LR
comp=Z,2µm,20.0s
BLA Blacksburg 128.92 44 PFAKE 14 52 20.0 +11
BLA LR LR
comp=Z,3µm,21.0s
SJPF Ste Jean 129.06 326 *e*PKIKP **PKPdf 14 52 08.1 -0.6**
comp=Z,82nm,1.3s
SJPF Ste Jean 129.06 326 *e*PKIKP **PKPdf 14 52 08.1 -0.6**
SJPF Ste Jean 129.06 326 *e*PKPdf **PKPdf 14 52 08.1 -0.6**
MDV Middlebury 129.39 33 *e*PKPdf **PKPdf 14 52 07.8 -1.4**
MDV *ep*PKPdf **pPKPdf 14 52 19.7 -0.6**
CBN Corbin Frederi 130.44 41 PFAKE 14 52 20.0 +8.6
CBN LR LR
comp=Z,3µm,21.0s
PKME Peaks-Kenny Pk 130.48 29 PFAKE 14 52 20.0 +8.7
PKME LR LR
comp=Z,3µm,22.0s
NHSC New Hope 131.06 48 PFAKE 14 52 20.0 +7.3
NHSC LR LR
comp=Z,2µm,19.0s
CNNC Cliffs of the 131.68 45 PFAKE 14 52 20.0 +6.2
CNNC LR LR
comp=Z,3µm,22.0s
TRQA Tornquist 132.78 154 PFAKE 14 52 30.0 +14
TRQA LR LR
comp=Z,3µm,21.0s
ESDC Sonseca Array 132.85 324 PKP **PKPdf 14 52 16.0 0.0**
comp=Z,0.3nm,0.3s,baz=354,slow=5.0,SNR=3.9
ESDC PP **PP 14 54 44.5 +3.8**
comp=Z,1.3nm,0.7s,baz=58,slow=6.7,SNR=5.3
PAB San Pablo 133.16 324 PFAKE 14 52 30.0 +13
PAB LR LR
comp=Z,2µm,22.0s
MVO Moncorvo 133.57 328 *e*PKPdf **PKPdf 14 52 15.3 -2.0**
MVO *i* P PKiKP 14 52 27.2 +8.6
MVO Moncorvo 133.57 328 *e*SS SS 15 12 58.2 +30
MVO Moncorvo 133.57 328 *e*LQ LQ 15 29 03.7
MVO *e*LR LR 15 38 14.7
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 133.64 329 *i* P PKPdf 14 52 28.4 +11
PGAV Gavieira, Arco 133.64 329 *e*PP PP 14 54 58.7 +13
PGAV Gavieira, Arco 133.64 329 *e*SS SS 15 12 41.4 +12
PGAV Gavieira, Arco 133.64 329 *e*LQ LQ 15 26 16.9
PGAV *e*LR LR 15 36 11.2
comp=Z,1µm,20.0s
POLO Lamas de Olo 133.82 328 *i* P PKPdf 14 52 29.0 +11
TAM Tamanrasset 133.86 298 *e*PKIKP **PKPdf 14 52 18.5 0.0**
TAM MLR MLR
comp=Z,1µm,22.0s
TAM Tamanrasset 133.86 298 *e*PKPdf **PKPdf 14 52 18.5 0.0**
TAM LR LR
comp=Z,1µm,22.0s
MTE Manteigas 134.38 327 *i* P PKPdf 14 52 31.1 +12
MTE Manteigas 134.38 327 *e*PP PP 14 54 55.6 +5.3
MTE Manteigas 134.38 327 *e*SS SS 15 13 09.3 +31
MTE Manteigas 134.38 327 *e*LQ LQ 15 29 38.0
MTE *e*LR LR 15 38 57.7
comp=Z,3µm,22.0s
MTE Manteigas 134.38 327 PFAKE 14 52 30.0 +11
MTE LR LR
comp=Z,3µm,21.0s
LCO Las Campanas 134.72 138 PKPdf **PKPdf 14 52 19.0 -1.1**
LCO LR LR
comp=Z,2µm,19.0s
PCBR Castelo Branco 134.74 327 *i* P PKPdf 14 52 31.1 +12
PMRV Marv??o 134.98 326 *e*PKPdf **PKPdf 14 52 18.5 -1.5**
PMRV *i* P PKiKP 14 52 31.5 +10
PMRV Marv??o 134.98 326 *e*PP PP 14 55 04.6 +11
PMRV Marv??o 134.98 326 *e*SS SS 15 12 50.2 +4.9
PMRV Marv??o 134.98 326 *e*LQ LQ 15 28 53.7
PMRV Marv??o 134.98 326 *e*LR LR 15 39 16.0
comp=Z,3µm,20.0s
PTOM Tomar 135.41 327 *i* P PKPdf 14 52 33.0 +12
PESTR Estremoz 135.48 326 *i* P PKPdf 14 52 32.1 +11
PBAR Barrancos 135.64 325 *i* P PKPdf 14 52 32.9 +12
PMTG Montargil 135.69 326 *i* P PKPdf 14 52 33.1 +12
EVO Evora 135.95 326 *e*PKIKP **PKPdf 14 52 21.1 -0.7**
comp=Z,119nm,1.3s
EVO *e*R
comp=Z,3µm,21.8s
EVOP Sao Brissos 136.02 326 *e*PKIKP **PKPdf 14 52 21.1 -0.8**
EVOP Sao Brissos 136.02 326 *e*PKPdf **PKPdf 14 52 21.1 -0.8**
PNCL Nicolau / Gran 136.53 326 *i* P PKPdf 14 52 34.0 +11
MESJ Messejana 136.55 325 *e*PKPdf **PKPdf 14 52 21.1 -1.8**
MESJ *i* P PKiKP 14 52 34.1 +9.5
PVAQ Vaqueiros 136.56 324 *e*PP PP 14 55 16.0 +12
PVAQ Vaqueiros 136.56 324 *e*SS SS 15 13 10.8 +6.6
PVAQ Vaqueiros 136.56 324 *e*LQ LQ 15 30 29.5
PVAQ *e*LR LR 15 39 00.7
comp=Z,2µm,22.0s
PCVE Castro Verde 136.59 325 *e*PKPdf **PKPdf 14 52 22.7 -0.3**
PCVE *i* P PKiKP 14 52 35.0 +10
MORF Marmelete 137.16 325 *e*PKPdf **PKPdf 14 52 24.3 +0.2**
BCIP Isla Barro Col 138.14 81 PFAKE 14 52 40.0 +14
BCIP LR LR
comp=Z,2µm,20.0s
RTC Rabat Centre 138.27 320 PFAKE 14 52 40.0 +14
RTC LR LR
comp=Z,966nm,21.0s
NNA Nana 138.33 113 PFAKE 14 52 40.0 +13
NNA LR LR
comp=Z,1µm,20.0s
MTDJ Mount Denham 138.79 67 PFAKE 14 52 40.0 +12
MTDJ LR LR
comp=Z,1µm,22.0s
OTAV Otavalo 139.45 94 PKPdf **PKPdf 14 52 28.6 -0.9**
OTAV LR LR
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 139.69 286 PKhKP PKPpre 14 52 20.4
comp=Z,0.5nm,0.6s,baz=66,slow=3.5,SNR=3.0
TORD PKP **PKPdf 14 52 29.0 -0.3**
comp=Z,2.9nm,0.8s,baz=80,slow=3.1,SNR=6.0
TORD PP **PP 14 55 28.9 +3.9**
comp=Z,5.6nm,1.1s,baz=52,slow=2.3,SNR=3.5
LVC Limon Verde 139.99 132 PFAKE 14 52 40.0 +10
LVC LR LR
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 140.47 63 PFAKE 14 52 40.0 +9.4
GTBY LR LR
comp=Z,1µm,20.0s
BBSR BB Station 142.17 38 PFAKE 14 52 40.0 +6.7
BBSR LR LR
comp=Z,3µm,20.0s
SHEL Horse Pasture 142.50 238 PFAKE 14 52 40.0 +5.6

SHEL					LR	LR			
	comp=Z,2μm,20.0s								
GRTK	**Grand Turk**	**143.36**	**58**		PFAKE			14 52 50.0	+14
GRTK					LR	LR			
	comp=Z,1μm,19.0s								
ROSC	**El Rosal**	**143.79**	**87**		PKP	PKPbc		14 52 35.4	+0.6
	comp=Z,10nm,0.5s,baz=92,slow=4.0,SNR=8.7								
LPAZ	**La Paz**	**144.15**	**125**		PKP	PKPbc		14 52 36.2	+0.1
	comp=Z,3.1nm,0.4s,baz=248,slow=1.0,SNR=21								
SDDR	**Presa de Saban**	**144.19**	**62**	*e*PKPdf		PKPbc		14 52 35.3	-0.2
SDDR					LR	LR			
	comp=Z,2μm,21.0s								
BART	**Pico Bartolome**	**144.22**	**342**	*e*PKP		**PKPdf**		**14 52 37.6**	**+0.7**
PMPS	**Porto Santo**	**144.54**	**328**	*e*PKPdf		**PKPab**		**14 52 35.4**	**-0.5**
PMPS				*i* P		PKiKP		14 52 46.6	+5.5
PSMN	**Pico do Norte,**	**144.90**	**342**	*e*PKP		**PKPdf**		**14 52 37.9**	**-0.1**
PSMA	**Santa Maria**	**144.93**	**342**	*e*PKP		PKPbc		14 52 37.3	+0.1
PMAR	**Madeira**	**145.11**	**328**	*e*PKPdf		**PKPdf**		**14 52 38.8**	**+0.1**
PMAR				*i* P		PKiKP		14 52 49.8	+7.2
PMOZ	**Porto Moniz, M**	**145.18**	**328**	*i* P		**PKPdf**		**14 52 39.6**	**+0.9**
PMOZ	**Porto Moniz, M**	**145.18**	**328**	*e*PP		PP		14 56 01.3	+4.6
PMOZ	**Porto Moniz, M**	**145.18**	**328**	*e*SS		SS		15 14 57.3	+12
PMOZ	**Porto Moniz, M**	**145.18**	**328**	*e*LR		LR		15 42 09.0	
	comp=Z,1μm,18.0s								
KIC	**Kosan Boka**	**146.76**	**276**	*e*PKP1		**PKPdf**		**14 52 42.0**	**+0.2**
	comp=Z,210nm,1.0s								
DBIC	**Dimbokro**	**146.85**	**276**	*e*PKP2		**PKPdf**		**14 52 41.9**	**0.0**
DBIC	**Dimbokro**	**146.85**	**276**	PKPbc		**PKPdf**		**14 52 42.7**	**+0.8**
	comp=Z,14nm,0.7s,baz=85,slow=3.6,SNR=21								
DBIC	**Dimbokro**	**146.85**	**276**	*e*PKPdf		**PKPdf**		**14 52 41.9**	**0.0**
DBIC				PKPbc		**PKPbc**		**14 52 42.7**	**+0.8**
TIC	**Toumodi**	**147.02**	**276**	*e*PKP1		**PKPdf**		**14 52 42.7**	**+0.5**
	comp=Z,128nm,0.9s								
LIC	**Lamto**	**147.05**	**276**	*e*PKIKP		**PKPdf**		**14 52 41.8**	**-0.5**
	comp=Z,199nm,1.0s								
LIC				*e*R					
	comp=Z,3μm,22.2s								
LIC	**Lamto**	**147.05**	**276**	*e*PKP1		**PKPdf**		**14 52 42.8**	**+0.5**
	comp=Z,446nm,1.3s								
LIC	**Lamto**	**147.05**	**276**	*e*PKPdf		**PKPdf**		**14 52 41.8**	**-0.5**
SDV	**Santo Domingo**	**147.22**	**80**	*e*PKPbc		**PKPbc**		**14 52 44.0**	**-1.0**
SDV				LR		LR			
	comp=Z,3μm,22.0s								
LSP	**Las Mesas**	**148.18**	**61**	*e*PKPbc		**PKPbc**		**14 52 47.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**148.23**	**61**	*e*PKPdf		**PKPdf**		**14 52 44.8**	**+0.8**
LRS	**Lares**	**148.35**	**61**	*e*PKPdf		**PKPdf**		**14 52 43.4**	**-0.9**
OBIP	**Obispado Ponce**	**148.66**	**61**	*e*PKPbc		**PKPbc**		**14 52 47.1**	**-1.4**
CELP	**Cerrillos**	**148.67**	**61**	PKPbc		**PKPbc**		**14 52 47.2**	**-1.4**
ICMP	**Isla Caja de M**	**148.79**	**61**	*e*PKPbc		**PKPbc**		**14 52 48.2**	**-0.6**
MTP	**Monte Pirata**	**149.55**	**60**	*e*PKPab		**PKPab**		**14 52 54.8**	**-1.0**
SIV	**San Ignacio**	**149.88**	**131**	PKPbc		**PKPbc**		**14 52 50.6**	**-1.1**
	comp=Z,11nm,1.0s,baz=220,slow=3.6,SNR=13								
STVI	**Saint Thomas**	**149.96**	**59**	*e*PKPbc		**PKPbc**		**14 52 51.3**	**-0.5**
SAML	**Samuel**	**151.89**	**117**	*e*PKPdf		**PKPdf**		**14 52 49.1**	**-0.9**
SAML				LR		LR			
	comp=Z,2μm,22.0s								
ANWB	**Willy Bob**	**152.96**	**58**	PFAKE				14 53 00.0	+1.3
ANWB				LR		LR			
	comp=Z,1μm,22.0s								
ASCN	**Ascension**	**153.66**	**244**	PFAKE				14 53 00.0	-0.4
ASCN				LR		LR			
	comp=Z,2μm,19.0s								
FDF	**Fort de France**	**154.77**	**63**	PFAKE				14 53 00.0	-2.7
FDF				LR		LR			
	comp=Z,2μm,20.0s								
GRGR	**Grenville**	**155.21**	**69**	PFAKE				14 53 00.0	+5.3
GRGR				LR		LR			
	comp=Z,1μm,21.0s								
BBGH	**Gun Hill**	**156.80**	**65**	PFAKE				14 53 10.0	+13
BBGH				LR		LR			
	comp=Z,3μm,20.0s								
PTGA	**Pitinga**	**157.61**	**101**	PKP		**PKPdf**		**14 52 59.0**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=114,slow=7.5,SNR=4.1								
PTGA				PKPbc		PKPbc		14 53 10.8	
	comp=Z,6.1nm,0.9s,baz=161,slow=2.1,SNR=5.8								
PTGA				PKPab		**PKPab**		**14 53 31.1**	**+1.0**
	comp=Z,9.5nm,0.9s,baz=265,slow=4.3,SNR=5.0								
PTGA	**Pitinga**	**157.61**	**101**	PKPdf		**PKPdf**		**14 52 57.0**	**-0.9**
PTGA				PKP		**PKPdf**		**14 52 59.0**	**+1.1**
PTGA				PKPbc		PKPbc		14 53 10.8	
PTGA				PKPab		**PKPab**		**14 53 31.1**	**+1.0**
PTGA				LR		LR			
	comp=Z,2μm,20.0s								
BDFB	**Brasilia**	**158.28**	**153**	PKP		**PKPdf**		**14 52 57.2**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=19,slow=4.0,SNR=2.4								
BDFB				PKPbc		PKPbc		14 53 13.9	
	comp=Z,13nm,1.0s,baz=223,slow=4.7,SNR=6.1								
SACV	**Santiago Islan**	**161.99**	**309**	PFAKE				14 53 10.0	+7.2
SACV				LR		LR			
	comp=Z,2μm,21.0s								
RCBR	**Riachuelo**	**170.18**	**192**	PKPab		**PKPab**		**14 54 25.0**	**+0.2**
	comp=Z,15nm,1.0s,baz=180,slow=6.8,SNR=9.7								
RCBR				PP		PP		14 58 07.6	-5.7
	comp=Z,10nm,1.1s,baz=142,slow=5.6,SNR=3.1								
RCBR	**Riachuelo**	**170.18**	**192**	PKPab		**PKPab**		**14 54 25.0**	**+0.2**
RCBR				PP		PP		14 58 07.6	-5.7
RCBR				LR		LR			
	comp=Z,3μm,20.0s								

*ISCJB **07** 14:41:20.1±0.6,2°.32N±0°.08×96°.94E±0°.08, h33km, mb4.4/20, Error ellipse: s-maj=13.3km s-min=8.8km az=44.5*
*NEIC **07** 14:41:24.2±1.0,2°.34N×97°.00E, h54km±9km, mb4.5/2, Error ellipse: s-maj=10.3km s-min=6.8km az=52.0*
*IDC **07** 14:41:25.1±5.7,2°.38N×97°.01E, h59km±53km, mb4.2/18, mb1 4.2/20, mb1mx4.0/35, mbtmp4.5/20, ML4.6/2, Error ellipse: s-maj=29.9km s-min=13.9km az=46.0*

ISC 07 14:41:21.9±0.8, 2°.34N±0°.10×96°.9E±0°.1, h33km, n34, σ0$81/29, mb4.4/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.62**	**63**	*e*P		**Pn**	**14 42 31.0**	**+1.4**
KULM	**Kulim**	**4.74**	**52**	*e*P		**Pn**	**14 42 32.6**	**+1.5**
MNAI	**Manna**	**8.99**	**138**	*e*P		**Pn**	**14 43 30.0**	**+0.5**
DLV	**T Lat**	**14.92**	**50**	*e*P		**P**	**14 44 55.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.14**	**7**	P		**P**	**14 45 08.7**	**-0.8**
	1.0nm,0.3s,baz=199,slow=12,SNR=10							
PALK	**Pallekele**	**16.88**	**287**	P		**P**	**14 45 18.0**	**+0.3**
	1.2nm,0.3s,baz=110,slow=13,SNR=2.8							
SLVN	**Son La**	**20.07**	**19**	*e*P		**P**	**14 45 52.6**	**-0.1**
H08S2	**Diego Garcia H**	**26.30**	**248**	T		T	15 13 48.0	
	baz=66,slow=75,SNR=890							
H08S3	**Diego Garcia H**	**26.31**	**248**	T		T	15 13 47.1	
	baz=66,slow=75,SNR=512							
H08S1	**Diego Carcia H**	**26.32**	**248**	T		T	15 13 48.4	
	baz=66,slow=75,SNR=977							
BATI	**Baumata**	**29.41**	**116**	P		**P**	**14 47 22.7**	**+0.1**
	21nm,0.5s,baz=310,slow=7.9,SNR=4.6							
H01W3	**Cape Leeuwin H**	**40.40**	**158**	T		T	15 31 47.3	
	baz=331,slow=74,SNR=11							
H01W2	**Cape Leeuwin H**	**40.42**	**158**	T		T	15 31 50.0	
	baz=331,slow=74,SNR=11							
H01W1	**Cape Leeuwin H**	**40.42**	**158**	T		T	15 31 50.9	
	baz=331							
WRA	**Warramunga Arr**	**42.88**	**123**	P		**P**	**14 49 17.5**	**-0.2**
	7.4nm,0.9s,baz=302,slow=9.2,SNR=4.9							
JNU	**Nakatsue**	**44.15**	**42**	P		**P**	**14 49 27.4**	**-0.3**
	5.1nm,0.8s,baz=224,slow=8.6,SNR=2.5							
ASAR	**Alice Springs**	**44.31**	**128**	P		**P**	**14 49 29.0**	**-0.1**
	5.5nm,0.9s,baz=301,slow=7.3,SNR=3.3							
AAK	**Ala-Archa**	**44.85**	**336**	P		**P**	**14 49 34.8**	**+1.6**
	4.7nm,0.8s,baz=140,slow=7.9,SNR=3.8							
KSAR	**Wonju Array Be**	**45.05**	**35**	P		**P**	**14 49 33.8**	**-0.9**
KSRS	**Korea Array**	**45.08**	**35**	P		**P**	**14 49 33.8**	**-1.2**
	1.6nm,0.5s,baz=232,slow=7.4,SNR=7.4							
SONM	**Songino Array**	**46.05**	**9**	P		**P**	**14 49 42.2**	**-0.5**
	2.0nm,0.3s,baz=191,slow=9.5,SNR=13							
SONM				PcP		**PcP**	**14 51 18.5**	**-0.2**
	0.4nm,0.4s,baz=215,slow=3.5,SNR=2.8							
MKAR	**Makanchi Array**	**46.07**	**346**	P		**P**	**14 49 43.0**	**+0.3**
	2.7nm,0.4s,baz=155,slow=8.2,SNR=29							
ULN	**Ulaanbaatar**	**46.19**	**9**	*e*P		**P**	**14 49 42.2**	**-1.6**
	1.9nm,0.6s							
TLY	**Talaya**	**49.49**	**6**	P		**P**	**14 50 09.6**	**+0.5**
	3.4nm,0.7s,baz=246,slow=4.5,SNR=5.1							
KURBB	**Kurchatov Arra**	**50.56**	**345**			**P**	**14 50 17.7**	**+0.5**
	2.0nm,0.5s,baz=162,slow=6.9,SNR=4.1							
KURK	**Kurchatov**	**50.62**	**345**	*e*P		**P**	**14 50 18.2**	**+0.5**
	18nm,1.2s							
MJAR	**Matsushiro Arr**	**51.05**	**43**	P		**P**	**14 50 21.2**	**0.0**
	2.1nm,0.9s,baz=197,slow=6.5,SNR=4.1							
PMG	**Port Moresby**	**51.40**	**104**	P		**P**	**14 50 23.8**	**-0.4**
	15nm,0.7s,baz=302,slow=9.0,SNR=7.5							
USRK	**Ussuriysk Ar.**	**51.95**	**32**	P		**P**	**14 50 27.2**	**-0.6**
	1.3nm,0.4s,baz=238,slow=7.7,SNR=4.3							
ZALV	**Zalesovo Beam**	**52.39**	**351**	P		**P**	**14 50 30.7**	**-0.2**
	7.9nm,0.5s,baz=175,slow=7.2,SNR=27							
BVAR	**Borovoye Array**	**55.09**	**341**	P		**P**	**14 50 49.2**	**-1.4**
	1.5nm,0.5s,baz=143,slow=9.8,SNR=5.0							
AKTO	**Aktyubinsk**	**58.10**	**332**	P		**P**	**14 51 12.6**	**+0.5**
	2.3nm,0.4s,baz=102,slow=6.5,SNR=12							
FINES	**FINESS Array B**	**78.86**	**332**	P		**P**	**14 53 21.8**	**+0.2**
	1.2nm,0.5s,baz=113,slow=6.9,SNR=5.1							
ARCES	**ARCESS Array B**	**81.37**	**340**	P		**P**	**14 53 35.3**	**+0.3**
	0.7nm,0.4s,baz=101,slow=5.1,SNR=7.5							

VIE 07 14:45:39.8±0.3, 46°.61N×11°.36E, h4km±6km, ML1.1/3, 2C, Error ellipse: s-maj=2.4km s-min=0.9km az=83.0 4 km S of Sarentino, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.60**	**314**	↑*i* P		Pg	14 45 51.6	0.0
FETA				↑*i* Sg		Sg	14 46 00.0	+0.4
	0.4nm,0.1s							

IDC 07 14:51:10.6±4.8, 22°.37N×143°.10E, h189km±46km, mb3.1/8, mb1 3.2/10, mb1mx3.1/27, mbtmp3.6/10, Error ellipse: s-maj=31.4km s-min=14.1km az=93.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.78**	**350**	S		Sn	14 53 09.3	-8.6
	29nm,0.3s,baz=297,slow=23,SNR=2.5							
MJAR	**Matsushiro Arr**	**14.74**	**344**	P		Pn	14 54 28.1	-2.0
	0.3nm,0.3s,baz=171,slow=8.6,SNR=4.2							
KSRS	**Korea Array**	**19.93**	**322**	P		P	14 55 29.8	+1.9
	0.4nm,0.3s,baz=147,slow=9.2,SNR=9.1							
ASAJ	**Asahikawa**	**21.69**	**359**	P		P	14 55 46.7	+0.2
	3.5nm,0.8s,baz=159,slow=8.6,SNR=5.9							
WRA	**Warramunga Arr**	**42.92**	**192**	P		P	14 58 50.6	-0.3
	0.9nm,0.8s,baz=7.4,slow=8.0,SNR=16							
ASAR	**Alice Springs**	**46.63**	**192**	P		P	14 59 19.9	-0.2
	0.4nm,0.7s,baz=12,slow=7.0,SNR=5.8							
ZALV	**Zalesovo Beam**	**53.64**	**321**	P		P	15 00 11.4	-1.0
	0.5nm,0.3s,baz=110,slow=11,SNR=2.9							
MKAR	**Makanchi Array**	**54.19**	**312**	P		P	15 00 16.0	-0.5
	0.2nm,0.4s,baz=88,slow=9.1,SNR=3.3							
MKAR				PcP		PcP	15 01 18.0	-0.6
	0.1nm,0.3s,baz=78,slow=6.5,SNR=2.9							
ILAR	**Eielson Array**	**61.48**	**27**	P		P	15 01 06.0	-0.8
	0.2nm,0.6s,baz=260,slow=4.8,SNR=5.1							
YKA	**Yellowknife Ar**	**75.90**	**28**	P		P	15 02 36.3	+0.4
	0.4nm,0.4s,baz=292,slow=5.9,SNR=6.4							
FINES	**FINESS Array B**	**82.54**	**334**	P		P	15 03 12.0	+0.1
	0.6nm,0.5s,baz=65,slow=6.6,SNR=5.2							
LPAZ	**La Paz**	**149.95**	**84**	PKPbc		PKPbc	15 10 40.8	+0.7
	0.6nm,0.4s,baz=201,slow=5.2,SNR=4.7							

NNC 07 14:54:14.7±4.2, 38°.02N×71°.90E, h0km, mb3.7, mpv3.2, 7C-3D, Error ellipse: s-maj=40.0km s-min=12.6km az=157.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.35**	**32**	↑P		Pn	14 54 54.5	-0.4
	7.5nm,0.3s							
SFK				↑S		Sb	14 55 28.2	+0.1
	7.8nm,0.2s							
DZET	**Dzherino**	**2.54**	**289**	↑P		Pn	14 54 56.9	-0.4
	1.0nm,0.2s							
DZET				↑S		Sb	14 55 31.3	-1.9
	18nm,0.5s							
MNAS	**Manas**	**4.49**	**6**	↑P		Pn	14 55 22.8	-1.4
	3.1nm,0.5s							
MNAS				↓S		Sn	14 56 17.3	+0.1
	5.1nm,0.5s							
AAK	**Ala-Archa**	**5.02**	**22**	↑P		Pn	14 55 28.5	-3.0
	6.3nm,1.1s							
AAK				↑S		Sn	14 56 29.0	-1.4
	4.1nm,0.8s							
KK31	**Karatay Array**	**5.19**	**349**	↓P		Pn	14 55 31.9	-1.8
	0.5nm,0.3s,baz=156,slow=10,SNR=18							
KK31				↓S		Sn	14 56 33.3	-0.9
	1.5nm,0.3s,baz=166,slow=22,SNR=16							

WEL 07 14:54:31.4±0.2, 44°.87S×170°.94E, h12km, ML3.6/11, 4C-2D, Error ellipse: s-maj=2.3km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ODZ	**Otahua Downs**	**0.28**	**230**	↓P*		Pg	14 54 37.3	+0.1
ODZ				S*		Sg	14 54 41.0	+0.1
LBZ	**Lake Benmore**	**0.72**	**311**	↑P*		Pg	14 54 44.3	-1.2
LBZ				S*		Sg	14 54 53.7	-1.3
LBZ				AML		AML	14 54 57.2	
LBZ				AML		AML	14 54 57.2	
LBZ				AML		AML	14 54 57.3	
HHSZ	**Highcliff Hill**	**1.04**	**193**	P*		Pb	14 54 51.2	-0.3
HHSZ				S*		Sb	14 55 04.4	-0.8
RPZ	**Rata Peaks**	**1.16**	**4**	P*		Pb	14 54 52.1	-1.3
RPZ				S*		Sb	14 55 07.8	-0.6
RPZ				AML		AML	14 55 10.3	
EAZ	**Earnscleugh**	**1.21**	**252**	↓P*		Pn	14 54 53.4	-0.8
EAZ				S*		Sb	14 55 07.7	-2.3
EAZ				AML		AML	14 55 10.4	
EAZ				AML		AML	14 55 11.0	
EAZ				AML		AML	14 55 11.0	
WKZ	**Wanaka**	**1.37**	**271**	PN		Pn	14 54 56.0	-0.4
WKZ				SN		Sn	14 55 13.7	-0.8
WKZ				AML		AML	14 55 15.5	
WKZ				AML		AML	14 55 17.3	
WKZ				AML		AML	14 55 17.3	
TUZ	**Tuapeka**	**1.43**	**220**	PN		Pn	14 54 56.3	-0.8
TUZ				SN		Sn	14 55 14.7	-1.0
FOZ	**Fox Glacier**	**1.58**	**325**	PN		Pn	14 54 59.1	-0.2
FOZ				SN		Sn	14 55 17.7	-2.0
FOZ				AML		AML	14 55 23.7	
FOZ				AML		AML	14 55 23.7	
FOZ				AML		AML	14 55 27.0	
MQZ	**McQueen's Vall**	**1.69**	**47**	↑PN		Pn	14 54 59.6	-1.1
OXZ	**Oxford**	**1.73**	**28**	↑PN		Pn	14 54 59.9	-1.5
JCZ	**Jackson Bay**	**1.75**	**296**	PN		Pn	14 55 01.6	-0.1
JCZ				AML		AML	14 55 32.0	
JCZ				AML		AML	14 55 33.8	
WVZ	**Waitaha Valley**	**1.80**	**355**	PN		Pn	14 55 02.1	-0.1
WVZ				AML		AML	14 55 33.9	
MLZ	**Mavora Lakes**	**2.02**	**255**	PN		Pn	14 55 05.9	+0.5
MLZ				AML		AML	14 55 39.7	
MLZ				AML		AML	14 55 39.8	
SYZ	**Scrubby Hill**	**2.09**	**216**	PN		Pn	14 55 05.8	-0.5
SYZ				AML		AML	14 55 46.4	
SYZ				AML		AML	14 55 46.4	
SYZ				AML		AML	14 55 46.6	
MSZ	**Milford Sound**	**2.15**	**274**	↑PN		Pn	14 55 07.0	-0.1
MSZ				AML		AML	14 55 41.3	
MSZ				AML		AML	14 55 43.7	
MSZ				AML		AML	14 55 44.0	
LTZ	**Lake Taylor**	**2.30**	**25**	PN		Pn	14 55 06.9	-2.2
WHZ	**Wether Hill Ro**	**2.35**	**243**	PN		Pn	14 55 08.5	-1.3
DCZ	**Deep Cove**	**2.75**	**256**	PN		Pn	14 55 14.7	-0.5
DCZ				AML		AML	14 56 02.7	
DCZ				AML		AML	14 56 03.6	
DCZ				AML		AML	14 56 03.6	
DCZ				AML		AML	14 56 05.6	
APZ	**The Paps**	**2.85**	**225**	PN		Pn	14 55 16.7	0.0
KHZ	**Kahutara**	**3.09**	**39**	PN		Pn	14 55 18.9	-1.1
DSZ	**Denniston Nort**	**3.18**	**12**	PN		Pn	14 55 20.0	-1.4
THZ	**Tophouse**	**3.42**	**25**	PN		Pn	14 55 23.4	-1.2
QRZ	**Quartz Range**	**4.21**	**17**	PN		Pn	14 55 34.5	-0.8
CAW	**Cannon Point**	**4.83**	**40**	PN		Pn	14 55 42.3	-1.6
MRZ	**Mangatainoka R**	**5.42**	**41**	PN		Pn	14 55 50.2	-1.8

*ISCJB **07** 15:04:41.2±0.8, 32°.65N±0°.07×115°.84W±0°.04, h12km, mb2.9/1, Error ellipse: s-maj=10.8km s-min=4.7km az=178.2*
*NEIC **07** 15:04:42.9, 32°.69N×115°.86W, h2km, ML3.5(PAS), After PAS.*
NEIC Felt at San Diego. Also felt at Yuma, Arizona.

*IDC **07** 15:04:43.0±2.5, 32°.69N×116°.05W, h0km, mb3.0/1, mb1 3.3/3, mb1mx3.0/36, mbtmp2.8/3, ML3.0/2, MS3.4/1, Ms1 3.4/1, ms1mx3.0/10, Error ellipse: s-maj=54.2km s-min=11.9km az=48.0*

ISC 07 15:04:41.9±1.1, 32°.63N±0°.07×115°.82W±0°.03, h12km, n20, σ1$16/19, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.72**	**274**	*e*Pg		**Pg**	**15 04 55.9**	**-0.1**
BAR				*e*Sg		**Sg**	**15 05 04.7**	**-0.8**
GLA	**Glamis**	**0.93**	**63**	*e*Pg		**Pg**	**15 04 59.7**	**-0.3**
GLA				*e*Sg		**Sg**	**15 05 12.5**	**+0.3**
PFO	**Pinyon Flats O**	**1.12**	**331**	Pn		**Pb**	**15 05 01.5**	**-1.8**
	51nm,0.3s,baz=155,slow=15,SNR=88							
PFO				Lg		Lg	15 05 15.4	
	baz=77,slow=18							
MWC	**Mount Wilson**	**2.46**	**311**	*e*Pg		**Pb**	**15 05 25.7**	**-0.5**
MWC				*e*Sg		**Sb**	**15 05 56.1**	**-0.5**
PASC	**Pasadena Art C**	**2.51**	**308**	*e*Pg		**Pb**	**15 05 27.6**	**+0.7**
LDFC	**Landfair**	**2.52**	**13**	Pn		**Pb**	**15 05 25.1**	**-2.0**
214A	**Organ Pipe Nat**	**2.63**	**104**	*e*Pn		**Pn**	**15 05 24.0**	**-0.3**
OSI	**Osito Audit: C**	**3.13**	**310**	*e*Pg		**Pb**	**15 05 37.5**	**-0.2**
SHPR	**Sheep Range**	**3.91**	**8**	Pn		**Pn**	**15 05 42.5**	**+0.5**
DAC	**Darwin (Calif)**	**3.93**	**339**	*e*Pn		**Pn**	**15 05 43.2**	**+1.0**
TUC	**Tucson**	**4.26**	**93**	*e*Pn		**Pn**	**15 05 47.7**	**+0.9**
CCUT	**Cedar City**	**5.31**	**22**	*e*Pn		**Pn**	**15 06 02.4**	**+1.1**
ARUT	**Antelope Range**	**5.50**	**20**	Pn		**Pn**	**15 06 05.4**	**+1.5**
W18A	**Petrified Fore**	**5.63**	**62**	*e*Pn		**Pn**	**15 06 08.0**	**+2.3**
R11A	**Troy Canyon, C**	**5.71**	**2**	*e*Pg		**Pg**	**15 06 31.7**	**+0.4**
	1.8nm,0.6s							
NVAR	**Mina Array Bea**	**6.13**	**341**	Pn		Pn	15 06 15.6	+3.0
	0.1nm,0.3s,baz=163,slow=13,SNR=2.3							
NVAR					Pg	Pg	15 06 34.4	-5.0
	0.3nm,0.3s,baz=158,slow=17,SNR=8.3							
121A	**Cookes Peak, D**	**6.78**	**89**	*e*Pn		**Pn**	**15 06 22.6**	**+1.2**
	7.4nm,0.3s							
ELK	**Elko**	**8.12**	**3**	LR		LR	15 09 08.2	
	comp=Z,253nm,20.6s,baz=180,slow=33							
TXAR	**Lajitas Array**	**10.93**	**104**	Pn		Pn	15 07 25.2	+6.9
	0.1nm,0.3s,baz=286,slow=13,SNR=3.8							
ILAR	**Eielson Array**	**37.38**	**339**	P		P	15 11 58.0	+3.7
	0.1nm,0.5s,baz=128,slow=7.5,SNR=3.7							

*NEIC **07** 15:06:11.3, 16°.74N×100°.12W, h5km, MD4.0(MEX), After MEX.*

MEX 07 15:06:11.1±0.5, 16°.74N×100°.12W, h3km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.28**	**62**	*i* P		Pg	15 06 15.4	-1.1
ACX				*i* S		Sg	15 06 18.8	-1.4
ACX	**Acapulco**	**0.28**	**62**	*i* P		Pg	15 06 15.4	-1.1
ACX				*i* S		Sg	15 06 18.8	-1.4
CAIG	**El Cayaco**	**0.34**	**335**	*e*P		Pg	15 06 17.7	0.0
CAIG				*i* S		Sg	15 06 21.9	-0.2
CAIG	**El Cayaco**	**0.34**	**335**	*e*P		Pg	15 06 17.7	0.0
CAIG				*i* S		Sg	15 06 21.9	-0.2
MEIG	**Mezcala**	**1.27**	**22**	*e*P		Pg	15 06 32.0	-3.6
MEIG	**Mezcala**	**1.27**	**22**	*e*P		Pg	15 06 32.0	-3.6
ARIG	**Puente Sto Nin**	**1.55**	**352**	*e*P		Pn	15 06 36.7	-2.9
ARIG				*e*S		Sn	15 06 55.5	-4.9
TLIG	**Tlapa**	**1.69**	**61**	*e*P		Pn	15 06 37.6	-4.2
TLIG				*e*S		Sn	15 06 59.1	-5.0
PLIG	**Platanillo**	**1.75**	**20**	*e*P		Pn	15 06 39.4	-3.1
PLIG				*i* S		Sn	15 07 00.5	-4.9
PLIG	**Platanillo**	**1.75**	**20**	*e*P		Pn	15 06 39.4	-3.1
PLIG				*i* S		Sn	15 07 00.5	-4.9
PNIG	**Pinotepa**	**1.94**	**100**	*i* P		Pn	15 06 40.8	-4.2
PNIG				*e*S		Sn	15 07 05.8	-4.1
PNIG	**Pinotepa**	**1.94**	**100**	*i* P		Pn	15 06 40.8	-4.2
PNIG				*e*S		Sn	15 07 05.8	-4.1
YAIG	**Yautepec**	**2.34**	**25**	*e*P		Pn	15 06

0.5nm,0.7s,baz=164,slow=7.5,SNR=5.3
ZALV Zalesovo Beam 52.06 352 P **P** **15 24 35.7 +0.1**
0.7nm,0.5s,baz=164,slow=6.4,SNR=3.8

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*IDC **07** 15:17:47.5±3.5, 1.°95N×96.°16E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/38, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=135.4km s-min=28.0km az=58.0*
*DJA **07** 15:17:52.6±0.9, 2.°N±7.°×9.°7E±.°, h10km, M3.6/4, mb3.9/2, MLv3.5/4*
ISC 07 15:17:52.8±1.6, **2.°2N**±0.°1×**96.°4E**±0.°2, **h28**km, **n14, σ0°76**/10, **mb3.6**/3, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.26**	**345**	P	**Pb**	**15 17 59.8**	**+0.3**
SNSI				S	**Sn**	**15 18 06.0**	**+0.2**
TPTI		**1.35**	**36**	P	**Pn**	**15 18 15.5**	**-0.3**
TPTI				S	Sn	15 18 18.8	-14
KCSI	**Kotacane, Aceh**	**1.93**	**45**	P	**Pn**	**15 18 25.1**	**+1.2**
KCSI				S	Sn	15 18 35.1	-12
MNSI	**Mandailing Nat**	**3.46**	**113**	P	**Pn**	**15 18 45.9**	**+1.0**
MNSI				S	**Sn**	**15 19 24.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.39**	**9**	Pn	**P**	**15 21 42.9**	**-0.8**
	0.1nm,0.3s,baz=195,slow=12,SNR=5.1						
H08S2	**Diego Garcia H**	**25.76**	**248**	T	T	15 50 03.7	
	baz=68,slow=75,SNR=42						
H08S3	**Diego Garcia H**	**25.76**	**248**	T	T	15 49 57.5	
	baz=68,slow=75,SNR=43						
H08S1	**Diego Carcia H**	**25.77**	**248**	T	T	15 50 05.0	
	baz=68,slow=75,SNR=36						
H01W3	**Cape Leeuwin H**	**40.44**	**157**	T	T	16 08 21.9	
	baz=331,slow=74,SNR=3.9						
H01W2	**Cape Leeuwin H**	**40.45**	**157**	T	T	16 08 26.2	
	baz=331,slow=74,SNR=4.4						
H01W1	**Cape Leeuwin H**	**40.45**	**157**	T	T	16 08 26.8	
	baz=331						
WRA	**Warramunga Arr**	**43.23**	**122**	P	**P**	**15 25 51.5**	**-0.5**
	0.2nm,0.6s,baz=301,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**46.12**	**347**	P	**P**	**15 26 14.9**	**+0.2**
	0.5nm,0.7s,baz=163,slow=7.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**52.49**	**351**	P	**P**	**15 27 03.0**	**-0.2**
	1.0nm,0.6s,baz=155,slow=6.6,SNR=5.3						

IDC 07 15:27:49.7±1.8, **3.°76S×142.°81E, h0km, mb3.3**/3, **mb1 3.5**/4, **mb1mx3.3**/32, **mbtmp3.3**/4, **ML3.1**/1, **Error ellipse: s-maj=78.5km s-min=27.6km az=104.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.08**	**207**	P	Pn	15 32 01.2	-1.4
	0.1nm,0.3s,baz=30,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**21.58**	**203**	P	P	15 32 42.0	+0.8
	0.3nm,0.7s,baz=33,slow=11,SNR=12						
MKAR	**Makanchi Array**	**73.14**	**321**	P	P	15 39 22.3	0.0
	0.7nm,0.8s,baz=106,slow=7.7,SNR=7.6						
ILAR	**Eielson Array**	**85.11**	**24**	P	P	15 40 27.3	0.0
	0.2nm,0.6s,baz=252,slow=5.2,SNR=5.0						

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*MEX **07** 15:31:06.5±0.4, 32.°41N×114.°95W, h32km±4km, MD3.9*
*ISCJB **07** 15:31:07.2±0.7, 32.°26N±0.°04×115.°23W±0.°06, h22km±6km, Error ellipse: s-maj=8.0km s-min=7.1km az=18.9*
*NEIC **07** 15:31:07.8, 32.°27N×115.°24W, h6km, ML3.1(PAS), After PAS.*
ISC 07 15:31:06.9±1.1, **32.°24N**±0.°04×**115.°31W**±0.°04, **h13**km±10km, **n13, σ0°99**/19, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**30**	*i* P	**Pg**	**15 31 11.5**	**+0.3**
MBIG				*i* S	**Sb**	**15 31 15.9**	**-0.1**
GLA	**Glamis**	**0.91**	**27**	*e*Pg	**Pg**	**15 31 22.6**	**-1.9**
CBX	**Cerro Bola**	**1.15**	**274**	*e*P	**Pn**	**15 31 28.8**	**+0.1**
CBX				*i* S	**Sn**	**15 31 44.9**	**+0.6**
CBX	**Cerro Bola**	**1.15**	**274**	*e*P	**Pn**	**15 31 28.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.20**	**186**	*e*P	**Pn**	**15 31 28.6**	**-1.0**
SPIG				*i* S	**Sg**	**15 31 45.8**	**+0.3**
SPIG	**San Pedro Mart**	**1.20**	**186**	*e*P	**Pn**	**15 31 28.6**	**-1.0**
SPIG				*e*S	**Sg**	**15 31 45.6**	**+0.1**
BAR	**Barrett**	**1.23**	**291**	*e*Pn	**Pb**	**15 31 29.9**	**-0.1**
BAR				*e*Sg	**Sb**	**15 31 45.6**	**-0.1**
PFO	**Pinyon Flats O**	**1.67**	**325**	*e*Pn	**Pn**	**15 31 34.1**	**-1.8**
PFO				*e*Sn	**Sb**	**15 31 58.7**	**+0.1**
214A	**Organ Pipe Nat**	**2.14**	**97**	Pg	**Pg**	**15 31 45.4**	**-0.1**
MWC	**Mount Wilson**	**3.04**	**311**	*e*Pn	**Pn**	**15 31 56.8**	**+2.0**
TUC	**Tucson**	**3.84**	**88**	*e*Pg	**Pg**	**15 32 21.2**	**+0.8**
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	**Pn**	**15 32 11.9**	**+0.3**
W18A	**Petrified Fore**	**5.47**	**57**	*e*Pn	**Pn**	**15 32 28.7**	**+0.5**

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*IDC **07** 15:31:09.9±3.2, 1.°95N×96.°80E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.2/45, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=116.2km s-min=27.1km az=60.0*
*DJA **07** 15:31:18.0±0.5, 3.°N±10.°×9.°7E±.°, h13km, M3.0/4, MLv3.0/4*
ISC 07 15:31:15.8±1.2, **2.°3N**±0.°1×**96.°91E**±0.°08, **h33**km, **n11, σ2°04**/11, **mb3.5**/4, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.59**	**278**	P	**Pn**	**15 31 27.0**	**-0.8**
SNSI				S	**Sb**	**15 31 34.6**	**-1.4**
TPTI		**0.96**	**16**	P	**Pn**	**15 31 31.4**	**-1.6**
TPTI				S	**Sn**	**15 31 42.2**	**-3.4**
KCSI	**Kotacane, Aceh**	**1.46**	**36**	P	**Pb**	**15 31 43.0**	**+0.5**
KCSI				S	**Sb**	**15 32 00.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.15**	**7**	Pn	**P**	**15 35 05.6**	**+2.2**
	0.1nm,0.3s,baz=198,slow=12,SNR=8.5						
H08S2	**Diego Garcia H**	**26.30**	**248**	T	T	16 03 28.9	
	baz=69,slow=75,SNR=67						
H08S3	**Diego Garcia H**	**26.30**	**248**	T	T	16 03 29.5	
	baz=69,slow=75,SNR=67						
H08S1	**Diego Carcia H**	**26.32**	**248**	T	T	16 03 30.1	
	baz=69,slow=75,SNR=66						
WRA	**Warramunga Arr**	**42.88**	**123**	P	**P**	**15 39 09.6**	**-1.9**
	0.3nm,0.8s,baz=301,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**46.07**	**9**	P	**P**	**15 39 37.8**	**+1.1**
	0.3nm,0.4s,baz=187,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**46.08**	**346**	P	**P**	**15 39 38.5**	**+1.8**
	0.3nm,0.5s,baz=155,slow=8.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**52.41**	**351**	P	**P**	**15 40 26.7**	**+1.9**
	0.8nm,0.6s,baz=175,slow=7.0,SNR=4.9						

JMA 07 15:31:37.8±0.1, **43.°70N×141.°66E, h4**km±2km, **M0.7, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.06**	**48**	P	Pg	15 31 39.2	0.0
JHR				*e*S	Sg	15 31 41.0	+0.8
JAB	**Ashibetsu**	**0.45**	**115**	P	Pg	15 31 46.6	+0.1
JAB				*e*S	Sg	15 31 53.8	+1.4

NNC 07 15:33:28.6±4.8, **36.°92N×70.°94E, h0km, mb3.7, mpv3.2, 5C-4D, Error ellipse: s-maj=38.8km s-min=16.7km az=174.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.52**	**319**	⇑P	Pn	15 34 11.1	+0.1
	0.8nm,0.2s						
DZET				⇓S	Sn	15 34 44.4	+1.8
	40nm,0.4s						
SFK	**Sufi-Kurgan**	**3.69**	**32**	⇑P	Pn	15 34 27.2	0.0
	2.1nm,0.3s						
SFK				⇑S	Sn	15 35 14.6	+3.0
	2.3nm,0.2s						
MNAS	**Manas**	**5.69**	**12**	⇑P	Pn	15 34 53.9	-0.7
	0.9nm,0.4s						
MNAS				⇓S	Sn	15 36 01.2	+0.4
	1.7nm,0.4s						
KK31	**Karatay Array**	**6.19**	**357**	P	Pn	15 35 00.5	-0.7
	2.0nm,0.4s,baz=179,slow=12,SNR=32						
KK31				⇓S	Sn	15 36 10.4	-2.3
	0.8nm,0.4s,baz=187,slow=21						
AAK	**Ala-Archa**	**6.33**	**24**	⇓P	Pn	15 35 00.9	-2.5
	1.1nm,0.3s						
AAK				⇑S	Sn	15 36 16.4	-0.2
	2.4nm,0.7s						

IDC 07 15:42:04.5±521.0, **48.°72N×44.°05E, h0km, Error ellipse: s-maj=181.8km s-min=156.1km az=32.0, Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**9.02**	**335**	*i*		16 37 10.0	
	baz=149,slow=319,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**9.25**	**74**	*i*		16 37 50.0	
	baz=265,slow=335,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**25.73**	**63**	*i*		18 21 10.0	
	baz=274,slow=336,SNR=1.0						

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*IDC **07** 15:42:33.7±1.7, 9.°95S×118.°79E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.7/22, mbtmp3.7/8, ML3.5/3, Error ellipse: s-maj=78.2km s-min=20.4km az=43.0*
*ISCJB **07** 15:42:36.6±0.8, 10.°30S±0.°06×118.°65E±0.°07, h33km, mb3.8/5, Error ellipse: s-maj=10.7km s-min=7.2km az=137.8*
*DJA **07** 15:42:41.9±0.3, 10.°S±4.°×11.°9E±.°, h10km, M4.3/18, mb4.4/4, MLv4.2/11, MLv4.3/18*
ISC 07 15:42:37.4±1.1, **10.°21S**±0.°09×**118.°75E**±0.°07, **h33**km, **n25, σ2°00**/19, **mb4.1**/5, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.85**	**49**	P	**Pn**	**15 42 52.2**	**-0.8**
WBSI				S	**Sn**	**15 43 01.4**	**-2.9**
WSI	**Waingapu**	**1.62**	**71**	P	**Pb**	**15 43 06.2**	**-0.4**
WSI				S	**Sb**	**15 43 27.1**	**+0.4**
BASI	**Baing, Sumba**	**1.80**	**91**	P	**Pb**	**15 43 11.3**	**+1.5**
BASI				S	**Sb**	**15 43 34.8**	**+2.8**
EDFI	**Ende, Flores**	**3.24**	**64**	P	**Pn**	**15 43 28.5**	**+2.4**
DNP	**Denpasar**	**3.81**	**293**	P	Pb	15 43 40.9	-3.0
IGBI	**Denpasar**	**3.81**	**291**	P	Pb	15 43 41.1	-2.9
SRBI	**Singaraja**	**4.08**	**301**	P	Pn	15 43 42.0	+4.6
BSSI	**Bau Bau, Buton**	**4.39**	**23**	P	**Pn**	**15 43 43.9**	**+2.1**
BATI	**Baumata**	**4.84**	**90**	P	Pn	15 43 52.3	+4.3
BATI	**Baumata**	**4.84**	**90**	Pn	**Pn**	**15 43 49.0**	**+1.1**
	5.7nm,0.3s,baz=342,slow=13,SNR=12						
BATI				Sn	**Sn**	**15 44 41.4**	**-1.6**
	3.5nm,0.3s,baz=229,slow=1.9,SNR=1.5						
BKSI	**Bulukumba**	**5.04**	**16**	P	**Pn**	**15 43 52.9**	**+2.2**
SOEI	**Soe**	**5.46**	**86**	P	Pn	15 44 00.4	+3.9
	32nm,0.8s,0.2nm0.2nm						
GMJI	**Gumukmas**	**5.58**	**290**	P	Pn	15 44 05.6	+7.5
	35nm,1.3s,0.1nm0.1nm						
BNSI	**Bone**	**5.92**	**13**	P	Pn	15 44 05.6	+2.8
	33nm,0.8s,0.1nm0.1nm						
SPSI	**Sidrap Palu**	**6.28**	**9**	P	Pn	15 44 11.7	+3.9
WRA	**Warramunga Arr**	**17.88**	**125**	P	**Pn**	**15 46 43.9**	**+0.1**
	0.1nm,0.3s,baz=300,slow=13,SNR=8.6						
WRA				S	Sn	15 49 52.7	-10
	0.0nm,0.3s,baz=300,slow=16,SNR=1.3						
ASAR	**Alice Springs**	**19.71**	**135**	P	**Pn**	**15 47 07.1**	**+1.3**
	0.2nm,0.3s,baz=325,slow=13,SNR=13						
ASAR				S	**S**	**15 50 40.5**	**-4.3**
	baz=302,slow=21,SNR=2.2						
CMAR	**Chiang Mai Arr**	**34.54**	**325**	P	**P**	**15 49 23.2**	**+0.1**
	0.3nm,0.5s,baz=153,slow=6.9,SNR=5.9						
H08S2	**Diego Garcia H**	**45.74**	**269**	T	T	16 40 05.5	
	baz=96,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**45.75**	**269**	T	T	16 40 05.8	
	baz=96,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**45.76**	**269**	T	T	16 40 06.8	
	baz=96,slow=76,SNR=19						
SONM	**Songino Array**	**58.81**	**350**	P	**P**	**15 52 31.3**	**-1.4**
	0.8nm,0.5s,baz=178,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**65.41**	**333**	P	**P**	**15 53 17.6**	**+0.8**
	0.9nm,0.6s,baz=154,slow=6.9,SNR=14						
KURBB	**Kurchatov Arra**	**69.93**	**334**	P	**P**	**15 53 45.8**	**+0.6**
	0.5nm,0.8s,baz=146,slow=5.3,SNR=7.7						
ZALV	**Zalesovo Beam**	**70.07**	**339**	P	**P**	**15 53 44.3**	**-1.7**
	1.4nm,0.6s,baz=152,slow=6.4,SNR=2.2						

IDC 07 15:47:44.1±18.0, **1.°50N×96.°35E, h0km, mb3.6**/2, **mb1 3.5**/3, **mb1mx3.2**/44, **mbtmp3.4**/3, **ML3.3**/1, **Error ellipse: s-maj=469.2km s-min=128.9km az=125.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.04**	**8**	Pn	Pn	15 51 44.1	+0.1
	0.0nm,0.3s,baz=192,slow=12,SNR=2.9						
H08S2	**Diego Garcia H**	**25.48**	**249**	T	T	16 19 51.8	
	baz=68,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**25.48**	**249**	T	T	16 19 50.8	
	baz=68,slow=75,SNR=24						
H08S1	**Diego Carcia H**	**25.49**	**249**	T	T	16 19 51.7	
	baz=68,slow=75,SNR=29						
MKAR	**Makanchi Array**	**46.75**	**347**	P	P	15 56 14.3	-0.9
	0.4nm,0.7s,baz=159,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.13**	**352**	P	P	15 57 04.1	+0.6
	0.7nm,0.4s,baz=168,slow=6.6,SNR=4.2						

JMA 07 15:48:11.3±0.1, **36.°66N×138.°24E, h9**km±1km, **M0.1, 1C, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.12**	**193**	⇑P	Pg	15 48 14.1	0.0
MAT				S	Sg	15 48 16.1	0.0
MAT	**Matsushiro**	**0.12**	**193**	P	Pg	15 48 14.1	0.0
MAT				S	Sg	15 48 16.1	0.0
JNG	**Nsakai**	**0.28**	**204**	P	Pg	15 48 16.7	-0.3
JNG				S	Sg	15 48 20.8	0.0

NEIC 07 15:52:49.0, 32.°17N×115.°29W, h7km, ML3.5(PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**0.96**	**24**	*e*Pg	Pg	15 53 05.9	-1.8
GLA				*e*Sg	Sg	15 53 17.1	-3.2
BAR	**Barrett**	**1.27**	**294**	*e*P	Pn	15 53 11.5	-1.8
BAR				*e*S	Sb	15 53 27.8	-2.2
PFO	**Pinyon Flats O**	**1.74**	**326**	*e*Pn	Pn	15 53 16.9	-2.9
214A	**Organ Pipe Nat**	**2.12**	**95**	*e*Pn	Pn	15 53 23.0	-1.8
214A				*e*Pg	Pg	15 53 28.9	-0.7
LDFC	**Landfair**	**2.91**	**3**	*e*Pg	Pb	15 53 41.5	+0.2
MWC	**Mount Wilson**	**3.10**	**312**	*e*Pg	Pb	15 53 44.3	-0.3
MWC				*e*Sg	Sb	15 54 23.1	+0.3
PASC	**Pasadena Art C**	**3.14**	**310**	Pg	Pb	15 53 42.7	-2.5
PASC				*e*Sg	Sb	15 54 23.0	-0.8
GSC	**Goldstone, Bar**	**3.37**	**338**	Pn	Pn	15 53 42.4	+0.2
GSC				*e*Pg	Pg	15 53 53.9	+0.2
TUC	**Tucson**	**3.82**	**87**	*e*Pn	Pn	15 53 47.2	-1.2
SHPR	**Sheep Range**	**4.33**	**1**	*e*Pn	Pn	15 53 54.9	-0.6
SHPR				*e*Pg	Pg	15 54 10.6	-1.6
SHPR				Sg	Sg	15 55 08.3	-0.1
ISA	**Isabella, Lake**	**4.38**	**324**	*e*Pg	Pg	15 54 11.1	-1.9
ISA				*e*Sg	Sb	15 55 03.3	+3.9
DAC	**Darwin (Calif)**	**4.52**	**336**	*e*Pn	Pn	15 53 59.4	+1.2
WUAZ	**Wupatki**	**4.67**	**43**	*e*Pn	Pn	15 54 01.6	+1.5
W18A	**Petrified Fore**	**5.49**	**56**	*e*Pn	Pn	15 54 11.8	+0.4
CCUT	**Cedar City**	**5.60**	**16**	Pn	Pn	15 54 12.7	-0.3
CCUT				*e*Pg	Pg	15 54 33.9	-2.7
R11A	**Troy Canyon, C**	**6.17**	**358**	*e*Pg	Pg	15 54 47.2	-0.3
	1.5nm,0.6s						

IDC 07 16:01:02.1±3.2, **1.°97N×96.°36E, h0km, mb3.6**/3, **mb1 3.5**/4, **mb1mx3.3**/37, **mbtmp3.4**/4, **ML3.4**/1, **Error ellipse: s-maj=140.6km s-min=27.1km az=60.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.58**	**9**	Pn	Pn	16 04 56.2	+0.1
	0.1nm,0.3s,baz=198,slow=11,SNR=3.7						
H08S2	**Diego Garcia H**	**25.66**	**248**	T	T	16 33 18.3	
	baz=68,slow=76,SNR=48						
H08S3	**Diego Garcia H**	**25.66**	**248**	T	T	16 33 18.4	
	baz=68,slow=76,SNR=38						
H08S1	**Diego Carcia H**	**25.67**	**248**	T	T	16 33 19.5	
	baz=68,slow=76,SNR=52						
ASAR	**Alice Springs**	**44.53**	**127**	P	P	16 09 15.8	-0.1
	0.1nm,0.4s,baz=302,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**46.30**	**347**	P	P	16 09 29.8	+0.2
	0.3nm,0.4s,baz=159,slow=8.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**52.67**	**351**	P	P	16 10 17.6	-0.4
	1.4nm,0.4s,baz=171,slow=7.1,SNR=7.9						

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*ISCJB **07** 16:02:30.6±0.5, 22.°34N±0.°04×143.°8E±0.°1, h53km, mb4.0/15, Error ellipse: s-maj=14.0km s-min=5.1km az=171.0*
*NEIC **07** 16:02:36.6±0.3, 22.°42N×143.°78E, mb4.3/1, Error ellipse: s-maj=17.1km s-min=6.1km az=85.0*
*IDC **07** 16:02:36.7±0.9, 22.°41N×143.°75E, h96km±8km, mb3.8/14, mb1 3.9/16, mb1mx3.7/36, mbtmp4.1/16, Error ellipse: s-maj=23.1km s-min=11.0km az=88.0*
*JMA **07** 16:02:38.5±0.3, 23.°38N×144.°75E, h0km, M5.4*
ISC 07 16:02:32.3±0.6, **22.°36N**±0.°07×**143.°8E**±0.°2, **h53**km, **n45, σ1°14**/39, **mb4.0**/15, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.51**	**341**	P	Pn	16 03 43.0	+4.9
JHHJ				*e*S	**Sn**	**16 04 30.3**	**+1.1**
CBIJ	**Chichi jima**	**4.95**	**343**	P	Pn	16 03 48.0	+3.9
CBIJ				S	**Sn**	**16 04 40.7**	**+0.7**
CBIJ	**Chichi jima**	**4.95**	**343**	*e*Pn	Pn	16 03 49.4	+5.4
CBIJ				S	**Sn**	**16 04 40.8**	**+0.9**
JCJ	**Chichijima**	**4.95**	**343**	P	Pn	16 03 49.4	+5.3
	65nm,0.3s,baz=270,slow=20,SNR=19						
JCJ				S	**Sn**	**16 04 40.8**	**+0.9**
	baz=287,slow=20						
JYT	**Yasato**	**14.18**	**348**	S	Sn	16 08 20.7	-5.2
JRY	**Ryogami san**	**14.27**	**344**	P	**Pn**	**16 05 52.3**	**+0.8**
JHO	**Hitachi**	**14.48**	**349**	P	**Pn**	**16 05 56.1**	**+1.9**
MJAR	**Matsushiro Arr**	**14.95**	**342**	P	**Pn**	**16 06 01.9**	**+1.5**
	0.3nm,0.3s,baz=170,slow=11,SNR=4.4						
MAJO	**Matsushiro**	**14.95**	**342**	Pn	**Pn**	**16 06 02.3**	**+1.9**
KSRS	**Korea Array**	**20.36**	**321**	P	Pn	16 07 09.3	+2.5
	2.6nm,0.6s,baz=147,slow=8.8,SNR=19						
KSAR	**Wonju Array Be**	**20.37**	**321**	P	Pn	16 07 09.3	+2.3
ASAJ	**Asahikawa**	**21.72**	**358**	*e*P	**P**	**16 07 17.1**	**-1.9**
H11S3	**WAKE ISLAND Hy**	**21.76**	**96**	T	T	16 30 50.6	
	baz=284,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**21.77**	**96**	T	T	16 30 51.3	
	baz=284,slow=75,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**21.78**	**96**	T	T	16 30 52.0	
	baz=284,slow=75,SNR=4.7						
USRK	**Ussuriysk Ar.**	**23.87**	**339**	P	**P**	**16 07 41.9**	**+1.1**
	3.6nm,0.7s,baz=152,slow=7.4,SNR=9.4						
PMG	**Port Moresby**	**31.74**	**174**	P	**P**	**16 08 52.0**	**+0.6**
	9.3nm,0.8s,baz=45,slow=4.3,SNR=5.8						
COEN	**Coen**	**36.10**	**181**	*e*P	**P**	**16 09 30.1**	**+0.8**
SONM	**Songino Array**	**39.22**	**320**	P	**P**	**16 09 55.0**	**-0.5**
	0.9nm,0.5s,baz=135,slow=3.6,SNR=3.5						
SEY	**Seymchan**	**40.96**	**6**	P	**P**	**16 10 10.5**	**+0.9**
	2.2nm,0.5s,baz=212,slow=15,SNR=24						
CTA	**Charters Tower**	**42.26**	**177**	P	**P**	**16 10 21.8**	**+1.1**
	8.5nm,0.6s,baz=2.0,slow=11,SNR=14						
WRAB	**Tennant Creek**	**43.04**	**193**	*e*P	**P**	**16 10 27.2**	**+0.2**
	4.8nm,0.9s						
WB2	**Warramunga Arr**	**43.05**	**193**	*e*P	**P**	**16 10 27.0**	**-0.1**
WRA	**Warramunga Arr**	**43.05**	**193**	P	**P**	**16 10 27.1**	**0.0**
	1.2nm,0.3s,baz=13,slow=8.8,SNR=46						
AS31	**Alice Springs**	**46.76**	**193**	*e*P	**P**	**16 10 57.5**	**+0.9**
ASAR	**Alice Springs**	**46.76**	**193**	P	**P**	**16 10 56.5**	**0.0**
	0.8nm,0.4s,baz=16,slow=9.5,SNR=28						
TAPN	**Taplejung**	**50.81**	**288**	*e*P	**P**	**16 11 27.5**	**-0.6**
	4.3nm,0.4s						
ODAN	**Odare**	**51.16**	**287**	*e*P	**P**	**16 11 29.9**	**-0.7**
	4.8nm,0.4s						
RAMN	**Ramite**	**51.84**	**287**	*e*P	**P**	**16 11 35.7**	**-0.1**
	4.6nm,0.4s						
JIRN	**Jiri**	**52.11**	**288**	*e*P	**P**	**16 11 37.5**	**-0.4**
	8.8nm,0.5s						
GUN	**Gumba**	**52.35**	**289**	*e*P	**P**	**16 11 39.0**	**-0.6**
	6.0nm,0.5s						
PKI	**Pulchoki**	**52.81**	**288**	*e*P	**P**	**16 11 41.9**	**-1.1**
	3.3nm,0.4s						
GKN	**Gorkha**	**53.42**	**289**	*e*P	**P**	**16 11 46.7**	**-0.6**
	3.8nm,0.3s						
ZALV	**Zalesovo Beam**	**54.07**	**321**	P	**P**	**16 11 50.1**	**-1.3**
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.9						
ZALV				pP	pP	16 12 13.9	+8.1
	0.5nm,0.6s,baz=120,slow=5.3,SNR=2.0						
DANN	**Dangsing**	**54.14**	**290**	*e*P	**P**	**16 11 52.4**	**-0.3**
	25nm,0.5s						
KOLN	**Koldanda**	**54.36**	**289**	*e*P	**P**	**16 11 54.1**	**-0.2**
	2.4nm,0.3s						
MKAR	**Makanchi Array**	**54.69**	**312**	P	**P**	**16 11 55.4**	**-0.7**
	0.6nm,0.5s,baz=86,slow=9.4,SNR=9.2						
MKAR				pP	pP	16 12 18.2	+7.7
	1.2nm,0.7s,baz=95,slow=9.5,SNR=8.2						
PYUN	**Piuthan**	**54.85**	**289**	*e*P	**P**	**16 11 57.0**	**-0.8**
	21nm,0.5s						
ILAR	**Eielson Array**	**61.18**	**27**	P	**P**	**16 12 39.9**	**-1.4**
	0.8nm,0.6s,baz=254,slow=5.7,SNR=9.3						
INK	**Inuvik**	**66.72**	**24**	P	**P**	**16 13 17.1**	**-0.5**
	1.1nm,0.5s,baz=288,slow=7.7,SNR=7.3						
YKA	**Yellowknife Ar**	**75.59**	**28**	P	**P**	**16 14 10.6**	**-0.6**
	0.8nm,0.5s,baz=293,slow=5.9,SNR=15						
NVAR	**Mina Array Bea**	**82.27**	**52**	P	**P**	**16 14 48.2**	**-0.4**
	0.9nm,0.6s,baz=273,slow=6.9,SNR=9.6						
FINES	**FINESS Array B**	**82.84**	**335**	P	**P**	**16 14 48.3**	**-2.5**
	0.3nm,0.3s,baz=68,slow=4.1,SNR=7.8					

PMR Palmer 0.31 92 P Pn 16 19 22.4 -0.1
FIB Fire Island 0.48 204 P Pn 16 19 25.9 +1.4
FIB Fire Island 0.48 204 P Pn 16 19 25.9 +1.4
SUA Susitna One 0.49 254 P Pn 16 19 25.7 +0.9
SUA S Sn 16 19 34.4 +1.9
SKT Skwentna 0.92 295 P Pn 16 19 31.5 +1.0
SKT S Sn 16 19 44.7 +2.1
STLK Strandline Lak 0.99 265 P Pn 16 19 33.1 +1.6
SLKM Skilak Lake 1.12 191 P Pn 16 19 34.0 +0.7
SLKM Skilak Lake 1.12 191 P Pn 16 19 34.0 +0.7
SCM Sheep Creek Mo 1.19 78 P Pn 16 19 34.4 +0.2
SCM S Sn 16 19 50.1 +0.9
SCM Sheep Creek Mo 1.19 78 P Pn 16 19 34.4 +0.2
SCM S Sn 16 19 50.0 +0.9
CKN Chakachatna No 1.22 253 P Pn 16 19 36.7 +2.0
SPBG Spurr Blockage 1.30 256 P Pn 16 19 37.5 +1.8
CKL Chakachamna La 1.30 253 P Pn 16 19 37.6 +1.8
BGL Barrier Glacie 1.30 256 P Pn 16 19 37.7 +1.8
GLI Glacier Island 1.48 118 P Pn 16 19 38.6 +0.4
SEW Seward 1.51 174 P Pn 16 19 38.8 +0.3
SEW S Sn 16 19 58.9 +1.8
JPK Jack Peak 1.62 108 P Pn 16 19 40.9 +0.7
VMT TAPS Tl Valdez 1.72 106 P Pn 16 19 42.3 +0.8
VLZ Valdez 1.72 104 P Pn 16 19 41.9 +0.5
VLZ S Sn 16 20 02.6 +0.5
PPLA Purkeypile 1.72 320 P Pn 16 19 43.6 +2.0
DFR Drift River 1.74 236 P Pn 16 19 43.7 +1.9
RDN Redoubt North 1.82 234 P Pn 16 19 45.1 +2.1
KLU Klutina 1.85 92 P Pn 16 19 43.8 +0.6
RSO Redoubt South 1.85 233 eP Pn 16 19 45.1 +1.7
DHY Denali Highway 1.85 36 P Pn 16 19 44.8 +1.4
DHY S Sn 16 19 58.7 +1.8
NCT North Crescent 1.86 237 P Pn 16 19 45.5 +2.0
RND Reindeer 1.86 13 P Pn 16 19 45.2 +1.7
RND Reindeer 1.86 13 P Pn 16 19 45.2 +1.7
RDWB Redoubt West 1.87 235 P Pn 16 19 45.5 +1.9
TRF Thorofare Moun 1.87 353 P Pn 16 19 45.5 +1.8
BRLK Bradley Lake 1.93 197 P Pn 16 19 45.3 +1.0
DIV Divide 1.98 102 P Pn 16 19 45.4 +0.3
KTH Kantishna Hill 2.03 345 P Pn 16 19 47.9 +2.1
PS11 TAPS Pump St11 2.09 75 P Pn 16 19 48.4 +1.8
CAST Castle Rocks 2.12 331 P Pn 16 19 49.0 +2.1
CNPM China Poot 2.21 200 P Pn 16 19 49.1 +1.0
EYAK Cordova Ski Ar 2.22 117 P Pn 16 19 48.5 +0.2
ILS Iliamna Low So 2.31 226 P Pn 16 19 51.9 +2.3
HARP HAARP 2.32 68 P Pn 16 19 51.4 +1.6
BMRM Bremner River 2.57 102 P Pn 16 19 53.0 -0.2
BWN Browne 2.58 3 P Pn 16 19 55.1 +1.9
OPT Oil Point 2.59 223 P Pn 16 19 55.9 +2.4
PS10 TAPS Pump St10 2.60 44 P Pn 16 19 56.2 +2.6
GOAT Goat Mountain 2.66 110 P Pn 16 19 54.6 +0.3
RAGM Ragged Mountai 2.77 114 P Pn 16 19 55.6 -0.2
DDM Donnelly Dome 2.84 38 P Pn 16 20 00.1 +3.3
SVW2 Sparrevohn 2.84 262 P Pn 16 19 58.5 +1.6
GLB Gilahina Butte 2.86 91 P Pn 16 19 57.5 +0.4
AUP Augustine Pinn 2.88 220 P Pn 16 19 59.7 +2.2
AUP Augustine Pinn 2.88 220 P Pn 16 19 59.7 +2.2
AUH Augustine H 2.89 221 P Pn 16 19 59.5 +1.9
AUI Augustine Isla 2.91 220 P Pn 16 20 00.8 +3.1
WRH Wood River Hil 2.98 14 P Pn 16 19 60.0 +1.2
VRDI Verde Repeater 3.06 94 P Pn 16 19 59.8 -0.2
HDA Harding Lake 3.09 23 P Pn 16 20 02.0 +1.8
MENT Mentasta 3.13 62 ePn Pn 16 20 01.9 +1.0
NICHA Nichawak Mount 3.15 113 P Pn 16 20 00.7 -0.4
CCB Clear Creek Bu 3.18 15 P Pn 16 20 02.6 +1.1
BERG Berg Lake 3.19 110 P Pn 16 20 01.4 -0.2
TT01 Tatalina 3.20 297 P Pn 16 20 03.4 +1.6
MCARA McCarthy VSAT 3.24 91 P Pn 16 20 03.7 +1.4
SUCK Suckling Hills 3.31 115 P Pn 16 20 03.0 -0.3
KHIT Khitrov Hills 3.38 107 P Pn 16 20 04.2 -0.1
COLA College 3.40 14 P Pn 16 20 05.8 +1.4
COLA College 3.40 14 P Pn 16 20 05.8 +1.4
I53US FAIRBANKS INFR 3.40 14 *i* 16 39 50.0
baz=195,slow=330,SNR=1.0
IL1 Eielson Array 3.44 21 P Pn 16 20 06.5 +1.5
ILAR Eielson Array 3.44 21 P Pn 16 20 06.0 +1.0
7.7nm,0.3s,baz=200,slow=14,SNR=169
ILAR S Sn 16 20 49.9 +5.5
64nm,0.3s,baz=209,slow=22,SNR=10
ILB Eielson Array 3.44 21 P Pn 16 20 06.5 +1.4
MDM Murphy Dome 3.44 11 P Pn 16 20 06.3 +1.3
MLY Manley 3.47 353 P Pn 16 20 06.7 +1.2
PTPK Patty Peak 3.54 94 P Pn 16 20 07.2 +0.6
GLM Gilmore Dome 3.56 17 P Pn 16 20 09.5 +2.7
SCRK Sand Creek 3.57 46 P Pn 16 20 07.7 +0.8
BALM Baldy 3.62 96 P Pn 16 20 07.8 +0.1
BALM Baldy 3.62 96 P Pn 16 20 07.8 +0.1
KIAG Kiagna River 3.64 98 P Pn 16 20 07.8 -0.2
KULT Kultieth River 3.70 108 P Pn 16 20 09.9 +1.2
BARK Barkley Ridge 3.74 106 P Pn 16 20 09.5 +0.2
ISLE Juniper Island 3.74 102 P Pn 16 20 10.1 +0.7
BAGL Bagley Icefiel 3.90 103 P Pn 16 20 11.6 +0.4
BARN Barnard Glacie 3.95 94 P Pn 16 20 12.6 +0.4
GRNC Granite Creek 3.98 99 P Pn 16 20 12.7 +0.1
BCA3 Beaver Creek A 4.00 65 P Pn 16 20 14.0 +1.2
MESA MESA 4.08 107 P Pn 16 20 14.2 +0.2
KOAK Kodiak Island 4.09 202 *i* P Pn 16 20 14.0 +0.1
KDAK Kodiak Island 4.09 202 P Pn 16 20 14.7 +0.7
KAKN Katmai Knife C 4.25 221 P Pn 16 20 18.3 +2.1
KVTA Katmai Vly 10 4.26 223 P Pn 16 20 18.7 +2.4
PS06 TAPS Pump Stn6 4.27 0 P Pn 16 20 17.9 +1.5
RKAV Rock Avalanche 4.31 104 P Pn 16 20 18.7 +1.5
KCE Katmai Mt Cerb 4.33 221 P Pn 16 20 20.4 +3.1
KABR Katmai Barrier 4.36 219 P Pn 16 20 19.4 +1.7
TABL Table Mountain 4.36 102 P Pn 16 20 18.6 +0.8
KELA Mount Kelaz 4.36 226 P Pn 16 20 19.5 +1.7
CHX Chaix Hills 4.51 106 P Pn 16 20 21.2 +1.5
GCSA Galena City Sc 4.51 318 P Pn 16 20 20.2 +0.5
SAMH Samovar Hills 4.64 105 P Pn 16 20 22.9 +1.3
IM3 Indian Mountai 4.74 340 P Pn 16 20 24.1 +1.3
OHAK Old Harbor 4.75 204 P Pn 16 20 23.1 +0.2
EGAK Eagle 5.03 47 P Pn 16 20 27.9 +1.0
PLK1 Peulik 1 5.15 225 P Pn 16 20 30.5 +2.1
PLK4 Peulik 4 5.20 223 P Pn 16 20 32.0 +2.7
PS05 TAPS Pump Stn5 5.25 356 P Pn 16 20 32.0 +2.2
DAWY Dawson 5.36 58 P Pn 16 20 32.5 +1.1
COLD Coldfoot 5.65 358 P Pn 16 20 36.9 +1.6
HYT Haines Junctio 5.98 92 P Pn 16 20 40.3 +0.3
BM3 Burnt Mountain 6.25 19 P Pn 16 20 45.5 +2.0
WHY Whitehorse 7.27 91 P Pn 16 20 58.5 +0.9
TNA Tin City 9.00 304 ePn Pn 16 21 23.1 +1.9
219nm,0.6s
INK Inuvik 9.60 39 P Pn 16 21 33.5 +4.1
0.9nm,0.3s,baz=242,slow=15,SNR=26
INK S Sn 16 23 16.3 +0.6
2.9nm,0.3s,baz=251,slow=13,SNR=7.2
INK Lg Lg 16 24 12.3
1.0nm,0.3s,baz=321,slow=21,SNR=4.3
INK LR LR 16 25 21.8
comp=Z,212nm,19.9s,baz=128,slow=38
GAMB Gambell 10.29 292 ePn Pn 16 21 40.8 +1.9
555nm,0.7s
DLBC Dease Lake 10.37 99 P Pn 16 21 39.8 -0.2
0.4nm,0.3s,baz=279,slow=9.1,SNR=11
DLBC Lg Lg 16 24 37.6
0.4nm,0.3s,baz=219,slow=19,SNR=2.9
DLBC LR LR 16 25 41.9
comp=Z,768nm,21.3s,baz=331,slow=37
DLBC Dease Lake 10.37 99 ePn Pn 16 21 39.3 -0.7
DLBC Lg Lg 16 24 37.6
BBB Bella Bella 15.06 119 P Pn 16 22 43.1 -0.4
0.6nm,0.3s,baz=308,slow=12,SNR=3.1
YKA Yellowknife Ar 16.39 71 P Pn 16 22 59.3 -1.3
0.3nm,0.3s,baz=283,slow=10,SNR=40
YKA PcP PcP 16 27 50.2 -0.5
0.1nm,0.3s,baz=263,slow=1.1,SNR=6.3
YKA ScP ScP 16 31 21.2 -0.3
0.0nm,0.3s,baz=288,slow=2.2,SNR=5.3
BILL Bilibino 19.39 308 ⇓eP P 16 23 35.8 -0.1
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 19.39 308 eP P 16 23 34.9 -1.0
comp=Z,22nm,1.1s
NLWA Neilton Lookou 20.50 122 eP Pn 16 23 49.6 -1.1
EDM Edmonton 21.07 97 eP P 16 23 54.6 +0.3
EDM Edmonton 21.07 97 eP P 16 23 54.6 +0.3
FMW Mount Fremont 21.77 120 P P 16 24 04.2 +2.2
ETW Entiat 21.81 116 P P 16 24 04.3 +1.9
TDL Tradedollar La 22.02 121 P P 16 24 06.6 +2.0
NAC Naches 22.29 119 P P 16 24 09.4 +2.0
G03D McMinnville, O 22.53 125 ⇑P P 16 24 11.6 +1.7
baz=22
NEW Newport 22.71 111 eP P 16 24 13.2 +1.3
NEW pmax pmax
comp=Z,17nm,1.0s
NEW Newport 22.71 111 P P 16 24 13.2 +1.3
comp=Z,15nm,0.9s,baz=320,slow=8.1,SNR=15
NEW Newport 22.71 111 ⇑P P 16 24 13.4 +1.4
baz=23
NEW Newport 22.71 111 eP P 16 24 13.2 +1.3
comp=Z,17nm,1.0s
RES Resolute Bay 23.10 34 P P 16 24 15.7 +0.1
comp=Z,1.4nm,0.6s,baz=258,slow=11,SNR=7.6
VFP Flag Point 23.16 122 P P 16 24 18.5 +1.9
VGB Gordon Butte 23.28 120 P P 16 24 19.9 +2.2
VGB Gordon Butte 23.28 120 P P 16 24 19.9 +2.2
G05D Wamic, OR 23.28 122 ⇑P P 16 24 19.4 +1.7
baz=23
I03D Drain, OR 23.77 127 ⇓P P 16 24 24.2 +1.9
baz=24
I05D Terrebonne, OR 24.02 123 ⇑P P 16 24 26.2 +1.6
baz=24
I04A Tendick Farm, 24.05 125 ⇑P P 16 24 26.4 +1.5
baz=24
BLMT Blacktail Moun 24.15 108 eP P 16 24 26.7 +0.8
comp=Z,14nm,0.8s
JTMT Jette 24.38 108 eP P 16 24 29.0 +1.0
comp=Z,5.9nm,0.9s
YBMT Yellow Bay 24.41 108 eP P 16 24 29.3 +1.0
comp=Z,10nm,0.9s
J04D Umpqua Nationa 24.63 126 ⇓P P 16 24 32.7 +2.2
baz=25,SNR=18
SWMT Swartz Lake 24.68 108 eP P 16 24 31.4 +0.6
comp=Z,16nm,1.3s
HUMO Hull Mountain 24.85 128 eP P 16 24 34.6 +2.4
comp=Z,23nm,0.9s
J05D Fort Rock, OR 24.94 124 ⇑P P 16 24 35.4 +2.2
baz=25,SNR=16
L02D Cave Junction, 24.99 129 ⇓P P 16 24 35.5 +2.0
baz=25
SLMT Seeley Lake 25.11 108 P P 16 24 35.4 +0.7
comp=Z,17nm,1.3s
MSO Missoula 25.22 109 ⇓P P 16 24 36.0 +0.4
baz=25,SNR=5.6
BMO Blue Mountains 25.27 117 eP P 16 24 36.9 +0.8
comp=Z,6.9nm,0.7s
K04D Chiloquin, OR 25.30 126 ⇓P P 16 24 38.0 +1.7
baz=25
CHMT Chamberlain Mo 25.47 108 eP P 16 24 38.3 +0.3
comp=Z,6.0nm,1.0s
FFC Flin Flon 25.61 84 eP P 16 24 37.4 -1.6
FFC pmax pmax
comp=Z,13nm,1.1s
FFC Flin Flon 25.61 84 eP P 16 24 37.4 -1.6
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 25.70 128 eP P 16 24 42.2 +2.3
YBH pmax pmax
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 25.70 128 P P 16 24 41.9 +1.9
comp=Z,14nm,0.9s,baz=355,slow=6.1,SNR=29
YBH Yreka Blue Hor 25.70 128 eP P 16 24 42.2 +2.3
comp=Z,16nm,1.0s
M02C Callahan 25.94 129 ⇑P P 16 24 44.8 +2.7
baz=26,SNR=6.3
M04C Macdoel 25.98 127 ⇓P P 16 24 44.0 +1.5
baz=26
A19A Kildworth Far 26.09 100 ⇑P P 16 24 44.1 +0.6
baz=26,SNR=7.1
SEY Seymchan 26.18 299 P P 16 24 42.7 -1.3
comp=Z,4.4nm,0.7s,baz=78,slow=7.0,SNR=25
EGMT Eagleton 26.26 103 ⇑P P 16 24 45.8 +0.8
baz=26,SNR=14
EGMT Eagleton 26.26 103 eP P 16 24 45.5 +0.5
comp=Z,53nm,0.9s
B19A Brinkman Farms 26.33 101 ⇑P P 16 24 46.5 +0.9
baz=26,SNR=8.3
N02D Trinity Center 26.35 129 ⇑P P 16 24 48.7 +2.8
baz=26,SNR=15
MOD Modoc Plateau 26.48 125 eP P 16 24 48.3 +1.2
comp=Z,13nm,1.0s
LRM Limekiln Ridge 26.66 109 eP P 16 24 48.8 0.0
comp=Z,198nm,1.4s
WVOR Wild Horse Val 26.70 122 eP P 16 24 50.2 +1.2
WVOR pmax pmax
comp=Z,15nm,1.0s
WVOR Wild Horse Val 26.70 122 eP P 16 24 50.1 +1.2
comp=Z,15nm,1.0s
WDC Whiskeytown Da 26.76 129 eP P 16 24 51.7 +2.2
WDC pmax pmax
comp=Z,10.0nm,0.8s
WDC Whiskeytown Da 26.76 129 eP P 16 24 51.7 +2.2
comp=Z,10nm,0.8s
B20A Solberg Farm, 26.78 100 ⇑P P 16 24 50.4 +0.8
baz=27
C19A Slack Wire Ran 26.80 102 ⇓P P 16 24 50.5 +0.7
baz=27
A21A Bergtoll Ranch 26.91 98 ⇓P P 16 24 51.5 +0.8
baz=27
MFID Camas Ranch 27.06 117 eP P 16 24 53.3 +1.0
comp=Z,29nm,1.1s
FCC Fort Churchill 27.12 71 eP P 16 24 52.7 +0.2
FCC pmax pmax
comp=Z,19nm,0.7s
FCC Fort Churchill 27.12 71 eP P 16 24 52.7 +0.2
comp=Z,19nm,0.7s
MCMT McKenzie Canyo 27.24 111 eP P 16 24 54.8 +0.7
comp=Z,2.8nm,1.0s
B21A Ellsworth Farm 27.26 99 ⇓P P 16 24 54.3 +0.4
baz=27
D19A Cripps Ranch, 27.29 103 ⇓P P 16 24 54.8 +0.5
baz=27
C20A Veseth Ranch, 27.30 101 ⇓P P 16 24 55.0 +0.7
baz=27
A22A Carney Farms, 27.38 97 ⇓P P 16 24 56.2 +1.1
baz=27,SNR=9.3
HLID Hailey 27.55 115 ⇓P P 16 24 57.5 +0.7
baz=28,SNR=18
HLID Hailey 27.55 115 eP P 16 24 57.5 +0.7
comp=Z,7.8nm,0.8s
C21A Desert Coulee 27.65 100 ⇑P P 16 24 58.1 +0.6
baz=28
D20A Manuel Ranch, 27.69 102 ⇓P P 16 24 59.1 +1.3
baz=28,SNR=14
E19A Rath Farm, Rou 27.85 104 ⇓P P 16 25 00.1 +0.8
baz=28
QLMT Earthquake Lak 27.88 109 eP P 16 25 00.3 +0.6
comp=Z,0.8nm,0.8s
E20A Meyer Farm, Mu 28.13 103 ⇑P P 16 25 02.2 +0.4
baz=28
B23A Brockton 28.19 97 ⇑P P 16 25 03.2 +1.0
baz=28,SNR=6.9
F19A Roth Farm, Mol 28.23 105 ⇓P P 16 25 03.8 +1.0
baz=28,SNR=12
D21A La Casta Ranch 28.25 101 ⇑P P 16 25 03.3 +0.5
baz=28
C22A Vida 28.28 99 ⇓P P 16 25 03.8 +0.7
baz=28
A24A Westby 28.34 95 ⇓P P 16 25 04.1 +0.6
baz=28,SNR=5.3
DGMT Dagmar 28.56 96 ⇑P P 16 25 06.3 +0.7
baz=28
DGMT Dagmar 28.56 96 eP P 16 25 06.5 +0.9
comp=Z,10nm,0.9s
C23A Lambert 28.57 98 ⇑P P 16 25 06.3 +0.7
baz=28,SNR=9.4
D22A Cohagen 28.57 100 ⇑P P 16 25 06.6 +1.0
baz=28
H17A Grant Village 28.60 109 ⇓P P 16 25 08.4 +2.2
baz=28
RLMT Red Lodge 28.64 106 eP P 16 25 08.0 +1.6
comp=Z,39nm,1.0s
F20A Billings 28.64 104 ⇓P P 16 25 07.4 +1.0
baz=28
A25A Svangstu Ranch 28.75 95 ⇑P P 16 25 07.9 +0.7
baz=29,SNR=10
H18A Shoshone NF, C 28.80 107 ⇓P P 16 25 09.0 +1.1
baz=29,SNR=5.7
PETK Petropavlovsk- 28.83 277 P P 16 25 07.6 -0.2
comp=Z,3.3nm,0.8s,baz=89,slow=13,SNR=5.3
PETK LR LR 16 37 33.3
comp=Z,84nm,18.3s,baz=50,slow=38
I17A Pilgrim Ck. 28.97 109 ⇑P P 16 25 11.3 +1.9
baz=29,SNR=7.8
D23A Lindsay 29.01 99 ⇑P P 16 25 10.9 +1.3
baz=29,SNR=5.6
G20A Bridger 29.05 105 ⇑P P 16 25 11.1 +1.1
baz=29,SNR=13
C24A Savage 29.12 98 ⇑P P 16 25 11.6 +1.1
baz=29
E22A Miles City 29.20 101 ⇑P P 16 25 12.3 +1.1
baz=29,SNR=8.7
A26A Wade Farm, Ken 29.30 94 ⇑P P 16 25 12.7 +0.7
baz=29,SNR=7.4
D24A Glendive 29.47 98 ⇑P P 16 25 15.3 +1.7
baz=29,SNR=9.5
ELK Elko 29.51 119 P P 16 25 15.7 +1.5
comp=Z,10.0nm,0.8s,baz=348,slow=6.7,SNR=38
G21A Lodge Grass 29.51 104 ⇑P P 16 25 15.3 +1.2
baz=29
F22A Rosebud 29.54 102 ⇓P P 16 25 15.3 +1.0
baz=29
HVU Hansel Valley 29.70 115 eP P 16 25 17.6 +1.7
HVU pmax pmax
comp=Z,20nm,0.7s
HVU Hansel Valley 29.70 115 eP P 16 25 17.6 +1.7
comp=Z,20nm,0.7s
H20A Greybull 29.71 106 ⇓P P 16 25 16.5 +0.7
baz=30
WAKR Walker 29.74 127 eP P 16 25 18.0 +1.8
comp=Z,14nm,1.1s
E24A Baker 29.88 99 ⇓P P 16 25 18.6 +1.3
baz=30,SNR=5.3
D25A Fairfield 29.92 97 ⇑P P 16 25 19.1 +1.5
baz=30,SNR=7.6
F23A Volborg 29.98 101 ⇓P P 16 25 19.3 +1.1
baz=30,SNR=6.7
B27A Peters Farms, 30.01 94 ⇑P P 16 25 19.1 +0.8
baz=30
C26A Wahner Farm, P 30.02 95 ⇑P P 16 25 19.4 +0.9
baz=30,SNR=5.0
H21A Big Horn, Sher 30.04 105 ⇓P P 16 25 19.6 +0.9
baz=30
A28A Rude Farm, Bot 30.13 92 ⇑P P 16 25 19.9 +0.5
baz=30
J19A Crowheart 30.17 109 ⇑P P 16 25 20.9 +0.9
baz=30
NVAR Mina Array Bea 30.24 126 P P 16 25 22.1 +1.4
comp=Z,11nm,0.8s,baz=309,slow=9.0,SNR=60
NVAR PcP PcP 16 28 20.9 +0.4
comp=Z,1.6nm,0.7s,baz=304,slow=1.5,SNR=5.9
BGU Big Grassy Mou 30.29 116 eP P 16 25 22.5 +1.4
comp=Z,2.2nm,0.6s
BW06 Boulder Array 30.34 110 eP P 16 25 22.7 +1.2
comp=Z,7.5nm,0.9s
PDAR Pinedale Array 30.34 110 P P 16 25 22.6 +1.1
comp=Z,4.6nm,0.6s,baz=312,slow=4.4,SNR=44
PDAR PcP PcP 16 28 20.2 -0.4
comp=Z,1.2nm,0.8s,baz=172,slow=1.8,SNR=3.5
PDAR pPcP 16 28 35.3
comp=Z,1.0nm,0.7s,baz=218,slow=1.0,SNR=3.9
F24A Ekalaka 30.34 100 ⇑P P 16 25 22.7 +1.3
baz=30,SNR=6.2
E25A Miller Ranch, 30.35 98 ⇑P P 16 25 22.7 +1.3
baz=30,SNR=6.3
G23A Biddle 30.38 102 ⇑P P 16 25 22.7 +1.0
baz=30
C27A Sayler Ranch, 30.38 95 ⇑P P 16 25 22.0 +0.4
baz=30
B28A Dugan Ranch, T 30.41 93 ⇓P P 16 25 22.9 +1.0
baz=30
D26A Manning 30.42 97 ⇑P P 16 25 23.3 +1.3
baz=30
I21A Big Trails, Te 30.55 106 ⇓P P 16 25 24.3 +1.0
baz=30,SNR=10
A29A Manning Farm, 30.62 91 ⇑P P 16 25 24.4 +0.7
baz=30,SNR=13
G24A Alzada 30.74 101 ⇑P P 16 25 25.4 +0.6
baz=31
E26A Carlson Angus 30.82 97 ⇓P P 16 25 26.4 +0.9
baz=31,SNR=6.3
TCUT Toone Canyon 30.84 114 eP P 16 25 27.7 +1.7
comp=Z,26nm,0.8s
J21A Lysite 30.84 107 ⇓P P 16 25 27.4 +1.4
baz=31,SNR=16
I22A 9 Mile Ranch, 30.86 105 ⇑P P 16 25 27.8 +1.7
baz=31,SNR=20
B29A Wagenman Farm, 30.88 92 ⇑P P 16 25 26.9 +0.9
baz=31
C28A Hausauer Farms 30.91 94 ⇓P P 16 25 27.3 +1.0
baz=31
TPH Tonopah 30.97 124 eP P 16 25 28.5 +1.4
TPH pmax pmax
comp=Z,19nm,1.0s
TPH Tonopah 30.97 124 eP P 16 25 28.5 +1.4
comp=Z,19nm,1.0s
DUG Dugway, Tooele 30.99 117 eP P 16 25 28.2 +1.0
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway, Tooele 30.99 117 ⇑P P 16 25 28.5 +1.2
baz=31,SNR=8.1
DUG Dugway, Tooele 30.99 117 eP P 16 25 28.2 +1.0
comp=Z,8.7nm,0.8s
CTU Camp Tracy 31.04 115 eP P 16 25 28.9 +1.2
comp=Z,28nm,1.0s
A30A Hoffart Farm, 31.05 90 ⇓P P 16 25 28.2 +0.7
baz=31
H24A Dirks Ranch, A 31.11 102 ⇓P P 16 25 29.1 +0.9
baz=31,SNR=9.0
TIXI Tiksi 31.15 323 ⇓*i*P P 16 25 27.8 -0.3
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 31.15 323 eP P 16 25 26.9 -1.2
comp=Z,3.2nm,0.8s
F26A Lodgepole 31.17 98 ⇓P P 16 25 30.1 +1.4
baz=31
MDND Maddock 31.19 93 ⇓P P 16 25 30.0 +1.2
baz=31,SNR=5.2
D28A Regan 31.20 95 ⇑P P 16 25 30.0 +1.1
baz=31
J22A Midwest 31.23 105 ⇓P P 16 25 30.9 +1.6
baz=31,SNR=8.6
E27A Carson 31.27 97 ⇓P P 16 25 30.8 +1.3
baz=31
G25A Newell 31.31 100 ⇓P P 16 25 30.9 +1.1
baz=31
ULM Lac du Bonnet 31.32 86 P P 16 25 30.3 +0.5
comp=Z,20nm,0.7s,baz=312,slow=8.4,SNR=34
B30A Myrvik Farm, E 31.38 91 ⇑P P 16 25 31.4 +1.0
baz=31,SNR=7.3
R11A Troy Canyon, C 31.39 122 ⇑P P 16 25 32.3 +1.5
baz=31,SNR=9.7
F27A Lemmon 31.46 98 ⇑P P 16 25 32.1 +0.9
baz=31
DAU Daniels Canyon 31.48 114 eP P 16 25 33.6 +1.8
DAU Daniels Canyon 31.48 114 eP P 16 25 33.6 +1.8
comp=Z,0.4nm,0.8s
K21A Alcova 31.49 107 ⇓P P 16 25 32.6 +0.9
baz=31,SNR=5.1
E28A Huff 31.58 96 ⇑P P 16 25 33.7 +1.5
baz=31,SNR=6.1
G26A Maurine 31.62 99 ⇑P P 16 25 33.6 +1.0
baz=32
H25A Fruitdale 31.65 101 ⇓P P 16 25 34.2 +1.3
baz=32
RCTC Rector, Farmer 31.74 129 ⇑P P 16 25 35.5 +1.8
baz=32
I24A Kuemmerle Ranc 31.75 103 ⇑P P 16 25 35.1 +1.3
baz=32,SNR=6.8
D29A Pettibone, Tap 31.75 94 ⇑P P 16 25 34.8 +1.1
baz=32,SNR=7.4
K22A Casper 31.81 106 ⇓P P 16 25 35.2 +0.8
baz=32
RSSD Black Hills 31.82 102 eP P 16 25 35.5 +0.9
RSSD pmax pmax
comp=Z,8.0nm,0.6s
RSSD Black Hills 31.82 102 eP P 16 25 35.5 +0.9
comp=Z,7.9nm,0.6s
C30A Mose, Pekin 31.83 92 ⇓P P 16 25 35.1 +0.7
baz=32
G27A Dupree 31.87 98 ⇑P P 16 25 35.5 +0.7
baz=32
I25A Rochford 32.04 102 ⇑P P 16 25 37.8 +1.3
baz=32
F28A McLaughlin 32.06 97 ⇓P P 16 25 37.8 +1.4
baz=32,SNR=14
D30A Buchanan 32.12 93 ⇓P P 16 25 37.5 +0.6
baz=32
J24A Dixon Ranch, L 32.14 104 ⇓P P 16 25 38.1 +0.8
baz=32
K23A Bowen Ranch, D 32.14 105 ⇓P P 16 25 38.2 +0.9
baz=32
TPNV Topopah Spring 32.33 124 ⇓P P 16 25 40.8 +1.8
baz=32
L22A Ellis Ranch, M 32.34 107 ⇑P P 16 25 40.9 +1.8
baz=32,SNR=8.2
SMMC Simmler 32.35 131 ⇓P P 16 25 41.5 +2.4
baz=32

H27A **Howes** 32.36 99 ⇓P P 16 25 40.0 +0.9
baz=32,SNR=5.6
I26A **New Underwood** 32.44 101 ⇓P P 16 25 41.4 +1.5
baz=32
N20A **Spence Gulch,** 32.46 110 ⇓P P 16 25 42.1 +1.8
baz=32,SNR=45
E30A **Jud** 32.48 94 ⇑P P 16 25 41.5 +1.3
baz=32
J25A **Sunshine Ranch** 32.49 103 ⇓P P 16 25 41.5 +1.2
baz=32,SNR=6.6
FURC **Furnace Creek,** 32.51 125 ⇑P P 16 25 42.1 +1.7
baz=32
F29A **Eureka** 32.53 96 ⇑P P 16 25 41.6 +1.0
baz=32
G28A **Parade** 32.58 98 ⇑P P 16 25 41.9 +0.9
baz=32
ISA **Isabella, Lake** 32.60 128 ⇓P P 16 25 42.9 +1.5
baz=32
L23A **Garrett** 32.60 106 ⇓P P 16 25 42.7 +1.2
baz=32,SNR=8.6
MPMC **Manual Prospec** 32.62 127 ⇓P P 16 25 43.4 +1.7
baz=33
MVU **Marysvale** 32.66 118 *e*P P 16 25 44.0 +2.0
comp=Z,28nm,1.3s
AGMN **Agassiz Nation** 32.66 89 ⇑P P 16 25 42.3 +0.7
baz=32,SNR=6.1
AGMN **Agassiz Nation** 32.66 89 *e*P P 16 25 42.4 +0.8
comp=Z,31nm,0.7s
M22A **Cedar Creek Ra** 32.76 108 ⇓P P 16 25 43.8 +1.0
baz=33
I27A **Quinn** 32.79 100 ⇑P P 16 25 43.9 +1.0
baz=33
KULLO **Kullorsuaq** 32.80 30 *i* P P
KULLO pmax pmax
comp=Z,8.0nm,0.7s 16 25 54.9 +12
KULLO **Kullorsuaq** 32.80 30 *i* P P
comp=Z,8.0nm,0.7s 16 25 54.9 +12
H28A **Mission Ridge** 32.83 98 ⇓P P 16 25 44.4 +1.3
baz=33
SRU **San Rafael Swe** 32.88 115 *e*P P
SRU pmax pmax
comp=Z,43nm,0.8s
SRU **San Rafael Swe** 32.88 115 *e*P P 16 25 45.5 +1.7
comp=Z,43nm,0.8s
J26A **Sides Ranch, S** 32.89 102 ⇓P P 16 25 45.1 +1.3
baz=33,SNR=5.8
O20A **White River Ci** 33.04 111 ⇓P P 16 25 46.1 +0.9
baz=33,SNR=7.7
O20A **White River Ci** 33.04 111 *e*P P 16 25 46.3 +1.0
comp=Z,20nm,1.0s
LRMC **Laurel Mtn Rad** 33.06 127 ⇑P P 16 25 46.7 +1.3
baz=33
K25A **Mack Ranch, Ha** 33.06 104 ⇓P P 16 25 46.1 +0.8
baz=33
M23A **Laramie** 33.11 107 ⇑P P 16 25 46.5 +0.6
baz=33
H29A **Onida** 33.24 98 ⇓P P 16 25 47.7 +0.9
baz=33,SNR=7.5
I28A **Midland** 33.26 99 ⇑P P 16 25 47.8 +0.8
baz=33
N22A **Wattenberg Ran** 33.30 108 ⇑P P 16 25 48.6 +1.0
baz=33,SNR=8.8
K26A **Motz Farm, Whi** 33.31 103 ⇓P P 16 25 48.7 +1.1
baz=33
G30A **Faulkton** 33.38 96 ⇑P P 16 25 48.8 +0.9
baz=33
J27A **Elkhorn Farm,** 33.44 101 ⇓P P 16 25 49.6 +1.0
baz=33
OSI **Osito Audit: C** 33.44 129 ⇓P P 16 25 50.1 +1.5
baz=33
N23A **Red Feather La** 33.46 108 ⇓P P 16 25 49.7 +0.7
baz=33
EDW2 **Edwards Air Fo** 33.48 128 ⇑P P 16 25 50.5 +1.5
baz=33
M24A **Cheyenne** 33.52 106 ⇑P P 16 25 50.8 +1.4
baz=33,SNR=5.1
GSC **Goldstone, Bar** 33.55 126 ⇓P P 16 25 51.3 +1.7
baz=34
I29A **Vivian Onida** 33.66 98 ⇓P P 16 25 51.1 +0.8
baz=34
J28A **Allard Ranch,** 33.67 100 ⇓P P 16 25 51.2 +0.6
baz=34
K27A **Fleckinger Fa** 33.75 102 ⇑P P 16 25 51.9 +0.6
baz=34
O22A **Kremmling** 33.78 109 ⇓P P 16 25 52.5 +0.7
baz=34
O23A **Lake Granby, G** 34.02 109 ⇓P P 16 25 55.4 +1.5
baz=34,SNR=10
J29A **Okreek** 34.11 99 ⇓P P 16 25 55.2 +0.9
baz=34
P22A **Eagle** 34.14 110 ⇓P P 16 25 55.9 +1.0
baz=34
I30A **Oacoma** 34.15 98 ⇓P P 16 25 55.8 +1.1
baz=34
BFSC **Mount Baldy Ra** 34.17 128 ⇑P P 16 25 56.9 +1.8
baz=34
U15A **North Rim** 34.38 120 ⇓P P 16 25 58.3 +1.2
baz=34
GMRC **Granite Mounta** 34.46 125 ⇓P P 16 25 59.1 +1.6
baz=34
ISCO **Idaho Springs** 34.49 109 ⇑P P 16 25 58.6 +0.6
baz=34
PV01 **Paradox Valley** 34.54 114 *e*P P 16 25 59.5 +1.2
comp=Z,3µm,0.7s
P23A **Jefferson** 34.73 109 ⇓P P 16 26 01.6 +1.5
baz=35
W13A **Hualapai Mount** 34.88 123 ⇓P P 16 26 03.4 +2.2
baz=35
SCI **San Clemente I** 34.97 131 ⇑P P 16 26 03.4 +1.6
baz=35
EYMN **Ely** 34.99 86 *e*P P 16 26 02.3 +0.4
comp=Z,38nm,0.9s
L29A **Maesberg Ranch** 35.07 101 ⇓P P 16 26 04.4 +1.7
baz=35
M28A **Bar X Bar Ranc** 35.17 102 ⇑P P 16 26 04.2 +0.6
baz=35
O26A **Horse Wrangler** 35.19 106 ⇓P P 16 26 04.7 +0.9
baz=35
OGNE **Ogallala** 35.22 104 ⇓P P 16 26 04.3 +0.3
baz=35
MVCO **Mesa Verde** 35.34 114 ⇑P P 16 26 06.2 +1.0
baz=35,SNR=6.6
MVCO **Mesa Verde** 35.34 114 *e*P P 16 26 05.7 +0.4
comp=Z,11nm,0.7s
Q24A **Divide** 35.38 109 ⇓P P 16 26 06.4 +0.8
baz=35
P25A **Willow Gulch B** 35.38 107 ⇓P P 16 26 06.6 +1.1
baz=35
M29A **Burnside Ranch** 35.45 102 ⇓P P 16 26 06.6 +0.6
baz=35
PDMCI **Parker Dam,Lak** 35.48 124 ⇑P P 16 26 07.7 +1.6
baz=35
WUAZ **Wupatki** 35.55 119 ⇑P P 16 26 08.6 +1.6
baz=36
ECSD **EROS Data Cent** 35.62 95 ⇑P P 16 26 07.5 +0.2
baz=36,SNR=10
ECSD **EROS Data Cent** 35.62 95 *e*P P 16 26 07.3 -0.1
comp=Z,19nm,1.1s
S22A **4UR Ranch, Cre** 35.62 112 ⇓P P 16 26 09.4 +1.6
baz=36,SNR=12
R23A **Moffat** 35.70 110 ⇑P P 16 26 09.6 +1.2
baz=36
YAK **Yakutsk** 35.75 307 *c i* P P 16 26 07.2 -1.0
YAK *e**PP pP 16 26 27.7 +7.9
YAK *e* 16 27 33.1
YAK *e*S S 16 31 38.3 -3.5
YAK *e*SS SnSn 16 34 06.3 +0.2
YAK *e* 16 36 16.5
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,53nm,3.0s
YAK pmax pmax
comp=N,42nm,2.7s
YAK pmax pmax
comp=E,31nm,3.0s
YAK smax smax
comp=N,27nm,2.8s
YAK smax smax
comp=E,43nm,2.8s
L31A **Butterfield Fa** 35.76 99 ⇑P P 16 26 10.1 +1.6
baz=36
Y12C **Blythe** 35.81 125 ⇑P P 16 26 11.1 +2.1
baz=36

MONP **Monument Peak,** 35.84 128 ⇑P P 16 26 11.3 +1.8
baz=36
R24A **Sanders Place,** 35.99 110 ⇑P P 16 26 12.2 +1.4
baz=36
SDCO **Great Sand Dun** 36.22 111 ⇓P P 16 26 14.1 +1.3
baz=36,SNR=8.9
S24A **Houchin Ranch,** 36.43 110 ⇑P P 16 26 16.2 +1.5
baz=36,SNR=7.5
R25A **Fountain Ranch** 36.44 109 ⇓P P 16 26 15.8 +1.3
baz=36
P28A **Saint Francis** 36.44 105 ⇓P P 16 26 15.7 +1.3
baz=36
X16A **Lo Mia Camp, P** 36.47 120 ⇓P P 16 26 16.6 +1.7
baz=36
KSCO **Kaye Shedlock'** 36.49 106 ⇓P P 16 26 16.3 +1.4
baz=36
W18A **Petrified Fore** 36.58 118 ⇑P P 16 26 17.9 +2.2
baz=36
S25A **Robets Cordova** 36.77 109 ⇑P P 16 26 18.7 +1.3
baz=37,SNR=11
Z14A **Wintersburg** 36.77 123 ⇑P P 16 26 18.3 +1.1
baz=37
T24B **San Luis** 36.84 111 ⇑P P 16 26 19.9 +1.8
baz=37,SNR=6.1
X18A **Snowflake** 36.99 119 ⇑P P 16 26 20.6 +1.3
baz=37
R27A **Eads** 37.00 107 ⇓P P 16 26 20.1 +0.8
baz=37
S26A **Kim** 37.23 108 ⇓P P 16 26 22.0 +0.7
baz=37,SNR=6.7
Q29A **Oakley** 37.35 105 ⇓P P 16 26 22.5 +0.3
baz=37
T26A **Comanche Natio** 37.55 109 ⇓P P 16 26 24.4 +0.4
baz=37,SNR=5.1
V23A **Ortiz Mt. (NFS** 37.58 113 ⇑P P 16 26 26.0 +1.7
baz=38
P31A **Stockton** 37.59 102 ⇑P P 16 26 24.9 +0.8
baz=38
R29A **Marienthal** 37.65 105 ⇓P P 16 26 26.0 +1.3
baz=38
U25A **Circle Dot Ran** 37.82 111 ⇓P P 16 26 27.7 +1.4
baz=38,SNR=21
P32A **Huiting Farm,** 37.87 101 ⇑P P 16 26 27.4 +0.9
baz=38
S28A **Manter** 37.98 107 ⇑P P 16 26 28.6 +1.1
baz=38
Q31A **Ellis** 37.99 103 ⇑P P 16 26 28.5 +0.9
baz=38
T27A **Campo** 38.03 108 ⇓P P 16 26 29.1 +1.1
baz=38
U26A **Atchley Ranch,** 38.12 110 ⇑P P 16 26 30.3 +1.4
baz=38
ANMO **Albuquerque** 38.13 114 *ce*P P 16 26 30.5 +1.5
ANMO pmax pmax
comp=Z,35nm,1.5s
R30A **Dighton** 38.16 104 ⇓P P 16 26 30.3 +1.3
baz=38
V25A **Rancho No Teng** 38.19 111 ⇓P P 16 26 30.9 +1.4
baz=38,SNR=7.3
SUMG **Summit** 38.26 27 *i* P P
SUMG pmax pmax 16 26 43.0 +13
comp=Z,14nm,0.8s
SUMG **Summit** 38.26 27 *i* P P 16 26 43.0 +13
comp=Z,14nm,0.8s
DAG **Danmarks Havn** 38.53 16 *i* P P
DAG pmax pmax 16 26 43.3 +12
comp=Z,8.0nm,0.9s
DAG **Danmarks Havn** 38.53 16 *i* P P 16 26 43.3 +12
comp=Z,8.9nm,0.9s
V26A **Tequesquite Ra** 38.60 110 ⇑P P 16 26 34.3 +1.5
baz=38,SNR=11
Q33A **Connelly Farm,** 38.73 101 ⇑P P 16 26 34.5 +0.8
baz=39
R32A **Long Quarter,** 38.78 103 ⇑P P 16 26 35.2 +1.0
baz=39
W25A **X Bar L Ranch,** 38.78 112 ⇑P P 16 26 35.6 +1.3
baz=39,SNR=6.8
SFJD **Kangerlussuaq** 38.94 38 *i* P P
SFJD pmax pmax
comp=Z,9.0nm,0.8s
SFJD **Kangerlussuaq** 38.94 38 *i* P P 16 26 36.9 +1.8
comp=Z,9.1nm,0.8s
W26A **Owens Ranch, T** 39.20 111 ⇑P P 16 26 39.5 +1.6
baz=39
R33A **Olander Ranch,** 39.21 102 ⇓P P 16 26 38.8 +1.0
baz=39
T31A **Randall Ranch,** 39.40 105 ⇓P P 16 26 40.0 +0.6
baz=39
U30A **WK&E Inc. Balk** 39.41 106 ⇓P P 16 26 40.0 +0.5
baz=39
T32A **Huddler Ranch,** 39.68 104 ⇓P P 16 26 42.5 +0.8
baz=40
319A **Douglas** 40.00 120 ⇓P P 16 26 45.7 +1.2
baz=40
YSS **Yuzh-Sakhalins** 40.06 281 *e*P P 16 26 44.6 -0.1
T33A **Patterson Ranc** 40.08 103 ⇑P P 16 26 45.1 +0.1
baz=40
R36A **Gordon, Harris** 40.36 100 ⇑P P 16 26 47.4 +0.1
baz=40
X28A **Dimmitt** 40.38 110 ⇓P P 16 26 48.8 +1.1
baz=40
V31A **Spring Creek L** 40.41 106 ⇑P P 16 26 48.9 +1.1
baz=40
S35A **Otter Creek Ra** 40.49 101 ⇓P P 16 26 49.0 +0.7
baz=40
MSTX **Muleshoe** 40.58 111 ⇑P P 16 26 50.3 +1.0
baz=40,SNR=7.7
MSTX **Muleshoe** 40.58 111 *e*P P 16 26 50.4 +1.0
comp=Z,35nm,1.0s
X29A **Tulia** 40.66 109 ⇓P P 16 26 51.2 +1.3
baz=41
S36A **Lake Cedric, C** 40.80 100 ⇑P P 16 26 50.8 -0.1
baz=41
V32A **Arapaho** 40.82 105 ⇓P P 16 26 50.5 -0.6
baz=41
U34A **Anderson Ranch** 40.93 103 ⇓P P 16 26 52.1 +0.1
baz=41
CLNS **Chul'man** 40.96 303 *e*P P 16 26 51.5 -0.6
CLNS pmax pmax
comp=Z,25nm,1.2s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.8s
X30A **Coker Ranch, T** 41.04 108 ⇓P P 16 26 53.6 +0.7
baz=41
V33A **Lossen Ranch,** 41.09 105 ⇑P P 16 26 53.9 +0.6
baz=41
W32A **Sentinel** 41.22 106 ⇑P P 16 26 54.9 +0.5
baz=41
X31A **McDonald Ranch** 41.29 107 ⇓P P 16 26 55.7 +0.7
baz=41
MNTX **Cornudas Mount** 41.37 116 ⇑P P 16 26 57.0 +1.3
baz=41,SNR=7.0
SCHQ **Schefferville** 41.37 60 P P 16 26 54.6 -0.9
comp=N,4.9nm,0.8s,baz=316,slow=7.0,SNR=11
Z29A **Hungry Hill Ra** 41.66 110 ⇑P P 16 26 58.9 +0.8
baz=42,SNR=7.2
Y31A **Rekieta Farm,** 41.72 108 ⇓P P 16 26 59.0 +0.4
baz=42
V35A **Meyer Ranch, C** 41.81 103 ⇓P P 16 26 59.4 +0.2
baz=42
128A **Castleberry Fa** 41.85 112 ⇑P P 16 27 00.0 +0.4
baz=42
Z30A **Sanderson Ranc** 41.90 110 ⇑P P 16 27 00.7 +0.7
baz=42
Y32A **R-V Farms, Ver** 42.06 107 ⇑P P 16 27 02.0 +0.7
baz=42
TUL1 **Leonard** 42.17 102 ⇓P P 16 27 02.6 +0.5
baz=42
228A **UT Block 9, Go** 42.23 112 ⇓P P 16 27 03.5 +0.8
baz=42
ASAJ **Asahikawa** 42.24 278 P P 16 27 03.1 +0.4
comp=N,4.1nm,0.9s,baz=63,slow=16,SNR=3.6
Z31A **Sharp Cattle R** 42.31 109 ⇑P P 16 27 03.7 +0.3
baz=42
Z32A **Haskell** 42.62 108 ⇑P P 16 27 06.2 +0.3
baz=42
229A **Bryant Ranch,** 42.70 111 ⇑P P 16 27 07.4 +0.8
baz=43
SFIN **Lafayette** 42.74 90 ⇓P P 16 27 07.0 +0.3
baz=43
131A **Roby** 42.74 109 ⇑P P 16 27 07.5 +0.6
baz=43
Y34A **Reagan Ranch,** 42.87 106 ⇑P P 16 27 08.3 +0.4
baz=43
Z33A **Whitaker Ranch** 42.97 107 ⇓P P 16 27 09.1 +0.5
baz=43

329A **Wagon Wheel Ra** 43.04 112 ⇑P P 16 27 10.5 +1.2
baz=43
230A **Sterling City** 43.08 111 ⇓P P 16 27 10.7 +1.0
baz=43
ABTX **Abilene, Hawle** 43.12 109 ⇑P P 16 27 10.7 +0.7
baz=43
330A **Mertzon** 43.46 111 ⇑P P 16 27 13.2 +0.4
baz=43,SNR=6.2
133A **Hamilton Ranch** 43.47 108 ⇑P P 16 27 13.0 +0.3
baz=43
OLIL **Olney** 43.55 92 *e*P P 16 27 13.0 -0.2
comp=N,14nm,0.2s
Z35A **Perchaven, San** 43.62 106 ⇑P P 16 27 14.5 +0.6
baz=44
232A **Coleman** 43.74 109 ⇑P P 16 27 15.4 +0.5
baz=44,SNR=8.2
429A **Davenport Ranc** 43.81 113 ⇓P P 16 27 15.9 +0.3
baz=44,SNR=8.8
134A **White-Moore Ra** 43.88 107 ⇓P P 16 27 16.6 +0.6
baz=44
430A **Baggett Ranch,** 43.97 112 ⇓P P 16 27 17.1 +0.3
baz=44,SNR=5.8
233A **Rising Star** 43.97 108 ⇓P P 16 27 17.1 +0.3
baz=44
529A **Stev Forest Ra** 44.10 113 ⇓P P 16 27 18.6 +0.7
baz=44
332A **Millersview** 44.13 110 ⇓P P 16 27 18.4 +0.4
baz=44
TXAR **Lajitas Array** 44.15 115 P P 16 27 19.2 +0.9
comp=N,3.3nm,0.7s,baz=325,slow=6.3,SNR=29
TXAR PcP PcP 16 29 02.5 -0.1
comp=N,0.6nm,0.7s,baz=349,slow=0.9,SNR=3.4
234A **Clairette** 44.33 108 ⇑P P 16 27 20.0 +0.4
baz=44
MIAR **Mount Ida** 44.33 101 *e*P P 16 27 19.3 -0.3
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR **Mount Ida** 44.33 101 *e*P P 16 27 19.2 -0.3
comp=Z,10nm,0.9s
431A **Sonora** 44.33 111 ⇓P P 16 27 20.4 +0.7
baz=44,SNR=9.9
BOD **Bodaibo** 44.42 311 *e*P P 16 27 18.4 -1.6
BOD pmax pmax
comp=Z,13nm,1.0s
530A **J-C Ranch, Com** 44.47 112 ⇓P P 16 27 21.1 +0.3
baz=44,SNR=6.3
333A **Richland Sprin** 44.52 109 ⇓P P 16 27 21.3 +0.1
baz=44,SNR=6.9
531A **Rocksprings** 44.80 111 ⇑P P 16 27 23.9 +0.4
baz=45
334A **Lometa** 44.85 108 ⇑P P 16 27 24.2 +0.4
baz=45
JCT **Junction City** 44.87 110 *e*P P 16 27 24.4 +0.5
JCT pmax pmax
comp=Z,17nm,0.8s
JCT **Junction City** 44.87 110 ⇓P P 16 27 24.6 +0.7
baz=45,SNR=5.8
JCT **Junction City** 44.87 110 *e*P P 16 27 24.4 +0.5
comp=Z,18nm,0.8s
433A **Art** 44.95 110 ⇑P P 16 27 24.5 -0.1
baz=45
532A **Rocksprings** 45.12 111 ⇑P P 16 27 26.5 +0.5
baz=45,SNR=7.9
434A **Burnet** 45.27 109 ⇑P P 16 27 27.3 +0.1
baz=45
631A **Perdido Creek** 45.43 112 ⇓P P 16 27 29.1 +0.6
baz=45,SNR=5.2
533A **Kerrville** 45.56 110 ⇑P P 16 27 30.0 +0.5
baz=46
632A **Uvalde** 45.70 111 ⇓P P 16 27 30.9 +0.4
baz=46
534A **Blanco** 45.85 109 ⇓P P 16 27 31.8 0.0
baz=46
732A **Laxson Ranch,** 46.29 112 ⇓P P 16 27 35.8 +0.7
baz=46
733A **Divot King Ran** 46.60 111 ⇑P P 16 27 38.5 +0.9
baz=46
438A **Sam Houston St** 46.60 106 ⇑P P 16 27 38.3 +0.8
baz=46
832A **Faith Ranch, C** 46.67 112 ⇑P P 16 27 39.1 +0.9
baz=47
833A **Chaparral WMA,** 46.90 112 ⇓P P 16 27 40.6 +0.7
baz=47
636A **Smothers Creek** 46.95 108 ⇑P P 16 27 41.9 +1.6
baz=47,SNR=5.6
USRK **Ussuriysk Ar.** 47.13 286 P P 16 27 39.8 -1.8
comp=Z,2.1nm,0.6s,baz=48,slow=2.1,SNR=6.4
USRK LR LR 16 49 52.7
comp=Z,164nm,18.9s,baz=1.9,slow=39
835A **Beeville** 47.62 110 ⇓P P 16 27 47.6 +2.0
baz=48
MDJ **Mudanjiang** 47.91 288 P P 16 27 47.1 -0.5
MDJ pP pP 16 27 56.0 -3.5
MDJ sP sP 16 27 59.9 -4.6
MDJ S S 16 34 34.9 -6.7
MDJ SS SS 16 38 06.1 -4.0
MDJ PMZ
comp=Z,12nm,1.1s
MDJ PMZ
comp=Z,120nm,5.8s
MDJ LN
comp=Z,110nm,21.9s
MDJ LE
comp=Z,160nm,22.3s
MDJ LZ
comp=Z,150nm,22.8s
TKL **Tuckaleechee C** 48.08 91 *e*P P 16 27 48.9 -0.1
TKL **Tuckaleechee C** 48.08 91 *e*P P 16 27 48.9 -0.1
BLA **Blacksburg** 48.43 87 P P 16 27 51.6 -0.2
BLA pmax pmax
comp=Z,10.0nm,0.8s
BLA **Blacksburg** 48.43 87 P P 16 27 51.6 -0.2
comp=Z,10nm,0.8s
HIA **Hailar** 48.62 299 *e*P P 16 27 51.9 -1.2
HIA pmax pmax
comp=Z,22nm,0.8s
HIA **Hailar** 48.62 299 *e*P P 16 27 51.9 -1.2
comp=Z,22nm,0.8s
LRAL **Lakeview Retre** 48.68 96 *e*P P 16 27 53.2 -0.4
comp=Z,3.2nm,0.6s
KEV **Kevo** 48.91 1 *e*P P 16 27 59.8 +4.9
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV **Kevo** 48.91 1 *e*p P 16 27 59.8 +4.9
comp=Z,4.6nm,0.7s
ARCES **ARCESS Array B** 49.11 2 P P 16 27 55.5 -1.0
comp=Z,4.6nm,0.9s,baz=12,slow=7.8,SNR=5.0
JSRW **J. Sargeant Re** 49.26 84 *e*P P 16 27 58.4 +0.3
MJAR **Matsushiro Arr** 50.24 275 P P 16 28 05.3 -0.3
comp=Z,5.4nm,1.0s,baz=7.5,slow=7.2,SNR=14
CN2 **Changchun** 50.41 291 *e*P P 16 28 06.6 -0.1
CN2 *es*P sP 16 28 20.4 -3.3
CN2 PMZ
comp=Z,70nm,0.8s
CN2 PMZ
comp=Z,200nm,5.0s
TLY **Talaya** 52.96 312 *e*P P 16 28 26.2 +0.5
TLY **Talaya** 52.96 312 LR LR 16 53 38.3
comp=Z,168nm,18.8s,baz=346,slow=39
ZAK **Zakamensk** 54.16 311 *e*P P 16 28 29.7 -4.9
ZAK pmax pmax
comp=Z,1.0nm,1.2s
KSRS **Korea Array** 54.35 284 P P 16 28 36.5 +0.5
comp=Z,11nm,0.8s,baz=28,slow=6.8,SNR=44
KSAR **Wonju Array Be** 54.38 284 P P 16 28 36.5 +0.3
KSAR **Wonju Array Be** 54.38 284 P P 16 28 36.5 +0.3
ULN **Ulaanbaatar** 54.83 307 *e*P P 16 28 39.8 +0.2
ULN *e**PP pP 16 28 52.5 +0.8
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN **Ulaanbaatar** 54.83 307 *e*P P 16 28 39.8 +0.2
comp=Z,7.7nm,0.8s
ULN *ep*P pP 16 28 52.5 +0.8
SONM **Songino Array** 55.11 307 P P 16 28 41.4 -0.2
comp=Z,5.3nm,0.7s,baz=37,slow=5.5,SNR=15
JOF **Joensuu** 55.79 359 *e*P P 16 28 44.6 -1.4
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF **Joensuu** 55.79 359 *ep* P 16 28 44.6 -1.4
comp=Z,1.6nm,0.7s
JNU **Nakatsue** 56.51 279 LR LR 16 54 35.3
comp=Z,35nm,19.0s,slow=38
PRGR **Permogore** 56.52 351 *e*P P 16 28 50.4 -0.8
PRGR *e**PP pP 16 29 01.8 -1.6
PRGR pmax pmax
comp=Z,12nm,0.7s
KAF **Kangasniemi** 56.57 2 *e*P P 16 28 59.7 +8.1

KAF pmax pmax
comp=Z,2.0nm,0.7s
KAF Kangasniemi 56.57 2 *ep* P 16 28 59.7 +8.1
comp=Z,1.8nm,0.7s
NVS Novosibirsk 56.63 326 *eP* **P 16 28 49.8 -2.3**
NB2 NORSAR Subarra 56.82 11 P **P 16 28 53.8 +0.4**
comp=Z,3.7nm,0.9s,baz=350,slow=7.4
NOA NORSAR Array B 56.82 11 P **P 16 28 52.6 -0.8**
comp=Z,1.1nm,0.8s,baz=350,slow=6.9,SNR=4.6
ZALV Zalesovo Beam 56.99 325 P **P 16 28 53.8 -0.9**
comp=Z,2.2nm,0.4s,baz=32,slow=6.8,SNR=18
FINES FINESS Array B 57.24 2 P **P 16 28 55.6 -0.7**
comp=Z,1.4nm,0.7s,baz=354,slow=3.8,SNR=6.8
FINES pP **pP 16 29 08.0 -0.5**
comp=Z,4.9nm,0.8s,baz=0.0,slow=8.4,SNR=11
SOKR Solikamsk 57.40 344 *eP* **P 16 28 55.4 -2.0**
SOKR pmax pmax
comp=Z,6.0nm,0.6s
HHC Hu-ho-hao-te 58.83 299 *eP* **P 16 29 09.7 +1.8**
HHC PP **PP 16 31 21.3 +3.5**
HHC S **S 16 37 08.7 -1.4**
HHC sS **sS 16 37 30.2 -0.2**
HHC SS **SS 16 41 03.5 +0.4**
HHC PMZ
comp=Z,22nm,0.9s
HHC PMZ
comp=Z,210nm,6.8s
HHC LN
comp=Z,92nm,17.3s
HHC LE
comp=Z,120nm,16.9s
HHC LZ
comp=Z,130nm,19.7s
ARU Arti 60.23 342 *c i* P **P 16 29 16.4 -0.7**
ARU 16 31 25.9
ARU S **S 16 37 28.3 +0.9**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 60.23 342 *eP* **P 16 29 16.4 -0.7**
comp=Z,11nm,0.8s
ESK Eskdalemuir 60.49 21 *eP* **P 16 29 19.0 +0.1**
ESK *e**PP **pP 16 29 31.9 +0.7**
ESK Eskdalemuir 60.49 21 *eP* **P 16 29 19.0 +0.1**
ESK *ep*P **pP 16 29 31.9 +0.7**
KURK Kurchatov 61.56 327 *i* P **P 16 29 25.8 -0.5**
OBN Obninsk 63.52 356 *eP* **P 16 29 39.3 +0.1**
OBN *e**PP **pP 16 29 51.7 +0.1**
OBN *e* 16 30 11.4
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,274nm,18.0s
MKAR Makanchi Array 64.14 323 P **P 16 29 42.0 -1.5**
comp=Z,2.4nm,0.8s,baz=38,slow=6.3,SNR=26
MKAR PP **PP 16 32 02.0 -2.3**
comp=Z,1.3nm,0.7s,baz=39,slow=7.8,SNR=3.5
GTA Gaotai 64.77 307 *eP* **P 16 29 47.9 0.0**
GTA pP pP 16 29 55.2 -5.1
GTA S **S 16 38 25.6 +0.3**
GTA SS **SS 16 42 38.8 +2.7**
GTA PMZ
comp=Z,8.0nm,1.0s
GTA PMZ
comp=Z,120nm,5.9s
GTA LN
comp=Z,160nm,20.9s
GTA LE
comp=Z,100nm,17.6s
GTA LZ
comp=Z,230nm,17.1s
WMQ Urumqi 65.17 318 *eP* **P 16 29 51.2 +0.8**
WMQ pP **pP 16 30 04.0 +1.2**
WMQ sP **sP 16 30 09.5 +1.9**
WMQ PcP **PcP 16 30 24.0 +1.4**
WMQ PP **PP 16 32 16.5 +3.0**
WMQ *eS* **S 16 38 29.0 -0.9**
WMQ ScS **SKSac 16 39 39.0 -2.5**
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,93nm,4.8s
WMQ LN
comp=Z,390nm,26.5s
WMQ LE
comp=Z,420nm,21.7s
WMQ LZ
comp=Z,310nm,24.2s
LZH Lanzhou 66.06 302 *eP* **P 16 29 56.5 +0.2**
LZH pP **pP 16 30 07.5 -1.2**
LZH sP **sP 16 30 13.5 -0.1**
LZH PMZ
comp=Z,25nm,1.1s
LZH PMZ
comp=Z,140nm,4.5s
AKTO Aktyubinsk 66.12 341 P **P 16 29 55.8 -0.5**
comp=Z,3.6nm,0.5s,baz=33,slow=7.3,SNR=20
CLL Collm 66.60 12 *eP* **P 16 30 00.0 +0.7**
BAIF Baives 66.75 18 *eP* **P 16 30 00.2 -0.1**
comp=Z,12nm,0.9s
BAIF Baives 66.75 18 *eP* **P 16 30 00.2 -0.1**
BAIF pmax pmax
comp=Z,12nm,0.9s
BAIF Baives 66.75 18 *eP* **P 16 30 00.2 -0.1**
comp=Z,12nm,0.9s
ABKAR Akbulak array 66.95 339 *eP* **P 16 30 01.1 -0.5**
comp=Z,3.6nm,0.6s
BRG Berggiesshubel 67.12 11 *eP* P 16 29 57.9 -4.7
comp=Z,2.5nm,1.0s
BRG *e* 16 30 04.2
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 67.12 11 *eP* P 16 29 57.9 -4.7
BRG pmax pmax
comp=Z,3.0nm,1.0s
FLN La Foliniere 67.26 21 *eP* **P 16 30 03.1 -0.4**
FLN *ep*P **pP 16 30 16.5 +0.5**
FLN La Foliniere 67.26 21 *eP* **P 16 30 03.1 -0.4**
FLN *e**PP **pP 16 30 16.5 +0.5**
FLN La Foliniere 67.26 21 *eP* **P 16 30 03.1 -0.4**
FLN *ep*P **pP 16 30 16.5 +0.5**
VRHR Novokhopersk 67.28 352 *eP* P 16 29 59.5 -4.1
VRHR pmax pmax
comp=Z,7.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 67.30 354 *eP* **P 16 30 02.5 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
LDF La Druitiere 67.48 21 *eP* **P 16 30 04.5 -0.5**
comp=E,13nm,0.9s
LDF *ep*P **pP 16 30 18.0 +0.6**
LDF La Druitiere 67.48 21 *eP* **P 16 30 04.5 -0.5**
LDF *e**PP **pP 16 30 18.0 +0.6**
LDF pmax pmax
comp=Z,13nm,0.9s
LDF La Druitiere 67.48 21 *eP* **P 16 30 04.5 -0.5**
comp=Z,13nm,0.9s
LDF *ep*P **pP 16 30 18.0 +0.6**
GRR Gorron 67.55 22 *eP* **P 16 30 05.3 -0.1**
GRR *ep*P **pP 16 30 18.6 +0.8**
GRR Gorron 67.55 22 *eP* **P 16 30 05.3 -0.1**
GRR *e**PP **pP 16 30 18.6 +0.8**
GRR Gorron 67.55 22 *eP* **P 16 30 05.3 -0.1**
GRR *ep*P **pP 16 30 18.6 +0.8**
AKASG Malin Array Be 68.04 1 P **P 16 30 07.9 -0.6**
comp=Z,2.3nm,0.4s,baz=2.8,slow=6.3,SNR=17
AKASG pP **pP 16 30 20.3 -0.6**
comp=Z,8.0nm,0.7s,baz=358,slow=6.1,SNR=7.6
KIEV Kiev 68.05 1 *eP* **P 16 30 07.8 -0.7**
KIEV *e**PP **pP 16 30 20.2 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 68.05 1 *eP* **P 16 30 07.8 -0.7**
comp=Z,3.0nm,0.7s
KIEV *ep*P **pP 16 30 20.2 -0.7**
MEZF Maizieres J'vi 68.40 18 *eP* **P 16 30 10.6 -0.1**
MEZF Maizieres J'vi 68.40 18 *eP* **P 16 30 10.6 -0.1**
PAGF Fort de Pagny 68.44 17 *eP* **P 16 30 11.2 +0.2**
comp=Z,4.0nm,0.8s
PAGF Fort de Pagny 68.44 17 *eP* **P 16 30 11.2 +0.2**
comp=Z,4.0nm,0.8s
CDF Champ du Feu 68.80 16 *eP* **P 16 30 13.2 -0.1**
CDF Champ du Feu 68.80 16 *eP* **P 16 30 13.2 -0.1**
CDF Champ du Feu 68.80 16 *eP* **P 16 30 13.2 -0.1**
KHC Kasperske Hory 68.81 12 *eP* **P 16 30 14.5 +1.1**
KHC Kasperske Hory 68.81 12 *eP* **P 16 30 14.5 +1.1**
KHC Kasperske Hory 68.81 12 *eP* **P 16 30 13.4 0.0**
comp=Z,1.4nm,0.6s
VRAC Vranov 68.90 10 *i* P **P 16 30 13.9 0.0**
HAU Haudompre 69.07 17 *eP* **P 16 30 14.6 -0.3**
HAU Haudompre 69.07 17 *eP* **P 16 30 14.6 -0.3**
HAU Haudompre 69.07 17 *eP* **P 16 30 14.6 -0.3**
STHS Stebnicka Huta 69.10 6 *eP* **P 16 30 16.0 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 69.10 6 *eP* **P 16 30 16.0 +0.9**
GERES GERESS Array B 69.11 12 P **P 16 30 15.3 +0.1**
comp=Z,0.6nm,0.5s,baz=351,slow=6.8,SNR=5.8
HINF Hinteralfeld 69.32 17 *eP* **P 16 30 16.0 -0.5**
comp=Z,4.9nm,0.7s
HINF Hinteralfeld 69.32 17 *eP* **P 16 30 16.0 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.7s
HINF Hinteralfeld 69.32 17 *eP* **P 16 30 16.0 -0.5**
comp=Z,4.9nm,0.7s
MFF Saint Martin d 69.40 22 *eP* **P 16 30 17.1 +0.1**
MFF *ep*P **pP 16 30 30.4 +0.9**
MFF Saint Martin d 69.40 22 *eP* **P 16 30 17.1 +0.1**
MFF *e**PP **pP 16 30 30.4 +0.9**
MFF Saint Martin d 69.40 22 *eP* **P 16 30 17.1 +0.1**
MFF *ep*P **pP 16 30 30.4 +0.9**
LOR Lormes 69.42 19 *eP* **P 16 30 16.9 -0.2**
comp=Z,11nm,0.9s
LOR *ep*P **pP 16 30 30.3 +0.7**
LOR Lormes 69.42 19 *eP* **P 16 30 16.9 -0.2**
LOR *e**PP **pP 16 30 30.3 +0.7**
LOR pmax pmax
comp=Z,11nm,0.9s
LOR Lormes 69.42 19 *eP* **P 16 30 16.9 -0.2**
comp=Z,11nm,0.9s
LOR *ep*P **pP 16 30 30.3 +0.7**
TKM2 Tokmak 2 69.56 326 *eP* **P 16 30 17.7 -0.6**
TKM2 pmax pmax
comp=Z,8.0nm,1.1s
TKM2 Tokmak 2 69.56 326 *eP* **P 16 30 17.7 -0.6**
comp=Z,7.7nm,1.1s
SSF Saint Saulge 69.57 19 *eP* **P 16 30 17.9 -0.1**
comp=Z,8.4nm,0.7s
SSF *ep*P **pP 16 30 31.3 +0.8**
SSF Saint Saulge 69.57 19 *eP* **P 16 30 17.9 -0.1**
SSF *e**PP **pP 16 30 31.3 +0.8**
SSF pmax pmax
comp=Z,8.0nm,0.7s
SSF Saint Saulge 69.57 19 *eP* **P 16 30 17.9 -0.1**
comp=Z,8.4nm,0.7s
SSF *ep*P **pP 16 30 31.3 +0.8**
CRVS Cervenica-Dubn 69.62 6 *eP* **P 16 30 20.9 +2.5**
CRVS Cervenica-Dubn 69.62 6 *eP* **P 16 30 20.8 +2.5**
KOLS Kolonicke sedl 69.63 6 *eP* P 16 30 21.8 +3.4
KOLS pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 69.63 6 *eP* P 16 30 21.8 +3.4
AVF Avril sur Loir 69.81 19 *eP* **P 16 30 19.2 -0.3**
comp=Z,7.3nm,0.8s
AVF *ep*P **pP 16 30 32.5 +0.5**
AVF Avril sur Loir 69.81 19 *eP* **P 16 30 19.2 -0.3**
AVF *e**PP **pP 16 30 32.5 +0.5**
AVF pmax pmax
comp=Z,7.0nm,0.8s
AVF Avril sur Loir 69.81 19 *eP* **P 16 30 19.2 -0.3**
comp=Z,7.3nm,0.8s
AVF *ep*P **pP 16 30 32.5 +0.5**
VYHS Vyhne 69.87 8 *eP* **P 16 30 20.4 +0.5**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 69.87 8 *eP* **P 16 30 20.3 +0.4**
BGF Bois d'Agland 69.95 20 *eP* **P 16 30 20.1 -0.3**
BGF *ep*P **pP 16 30 33.5 +0.6**
BGF Bois d'Agland 69.95 20 *eP* **P 16 30 20.1 -0.3**
BGF *e**PP **pP 16 30 33.5 +0.6**
BGF Bois d'Agland 69.95 20 *eP* **P 16 30 20.1 -0.3**
BGF *ep*P **pP 16 30 33.5 +0.6**
KECS Kecovo 69.99 7 *eP* **P 16 30 21.2 +0.6**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 69.99 7 *eP* **P 16 30 21.2 +0.6**
SMF Signal de Mont 70.03 19 *eP* **P 16 30 20.3 -0.6**
SMF *ep*P **pP 16 30 33.8 +0.4**
SMF Signal de Mont 70.03 19 *eP* **P 16 30 20.3 -0.6**
SMF *e**PP **pP 16 30 33.8 +0.4**
SMF Signal de Mont 70.03 19 *eP* **P 16 30 20.3 -0.6**
SMF *ep*P **pP 16 30 33.8 +0.4**
AAK Ala-Archa 70.12 327 *deP* **P 16 30 21.6 -0.1**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 70.12 327 *eP* **P 16 30 21.1 -0.6**
comp=Z,5.2nm,1.0s
CONA Conrad Observa 70.21 10 *i* *eP* **P 16 30 22.4 +0.4**
comp=Z,6.6nm,1.0s
EKS2 Erkin-Say 70.28 327 *eP* **P 16 30 22.3 -0.3**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 70.28 327 *eP* **P 16 30 22.3 -0.3**
comp=Z,6.5nm,0.8s
CABF La Chapelle 70.40 17 *eP* **P 16 30 23.2 0.0**
comp=Z,13nm,0.7s
CABF *ep*P **pP 16 30 36.6 +0.9**
CABF La Chapelle 70.40 17 *eP* **P 16 30 23.2 0.0**
CABF *e**PP **pP 16 30 36.6 +0.9**
CABF pmax pmax
comp=Z,13nm,0.7s
CABF La Chapelle 70.40 17 *eP* **P 16 30 23.2 0.0**
comp=Z,13nm,0.7s
CABF *ep*P **pP 16 30 36.6 +0.9**
TRPA Tarpa 70.44 5 *i* *eP* **P 16 30 23.8 +0.5**
PSZ Piszkesteto 70.52 7 *i* *eP* **P 16 30 23.5 -0.4**
CD2 Chengdu 70.58 299 *eP* **P 16 30 24.0 -0.5**
CD2 pP **pP 16 30 37.0 -0.1**
CD2 sP **sP 16 30 43.0 +1.1**
CD2 PP **PP 16 33 02.0 +1.3**
CD2 S **S 16 39 31.5 -3.4**
CD2 sS **sS 16 39 53.5 -2.2**
CD2 SKS **SKSac 16 40 17.3 -5.5**
CD2 SS **SS 16 44 04.2 -1.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,100nm,5.4s
KKAR Karatay Array 70.68 330 *eP* **P 16 30 24.2 -0.7**
KKAR Karatay Array 70.68 330 *eP* **P 16 30 24.2 -0.7**
BURAR Bucovina Array 71.06 4 *i* *eP* **P 16 30 27.2 -0.1**
LFF La Frestale 71.17 22 *eP* **P 16 30 27.9 +0.1**
LFF *ep*P **pP 16 30 41.3 +1.0**
LFF La Frestale 71.17 22 *eP* **P 16 30 27.9 +0.1**
LFF *e**PP **pP 16 30 41.3 +1.0**
LFF La Frestale 71.17 22 *eP* **P 16 30 27.9 +0.1**
LFF *ep*P **pP 16 30 41.3 +1.0**
CAF Calviac 71.41 21 *eP* **P 16 30 29.1 -0.2**
CAF *ep*P **pP 16 30 42.5 +0.6**
CAF Calviac 71.41 21 *eP* **P 16 30 29.1 -0.2**
CAF *e**PP **pP 16 30 42.5 +0.6**
CAF Calviac 71.41 21 *eP* **P 16 30 29.1 -0.2**
CAF *ep*P **pP 16 30 42.5 +0.6**
LPL La Plagne 71.56 17 *eP* **P 16 30 30.5 0.0**
LPL La Plagne 71.56 17 *eP* **P 16 30 30.5 0.0**
LPL La Plagne 71.56 17 *eP* **P 16 30 30.5 0.0**
LPG La Plagne 71.58 17 *eP* **P 16 30 30.3 -0.4**
LPG *ep*P **pP 16 30 44.9 +1.7**
LPG La Plagne 71.58 17 *eP* **P 16 30 30.3 -0.4**
LPG *e**PP **pP 16 30 44.9 +1.7**
LPG La Plagne 71.58 17 *eP* **P 16 30 30.3 -0.4**
LPG *ep*P **pP 16 30 44.9 +1.7**
VIVF Saint-Julien-l 71.90 19 *eP* **P 16 30 32.2 -0.1**
comp=Z,6.0nm,0.6s
VIVF *ep*P **pP 16 30 45.7 +0.9**
VIVF Saint-Julien-l 71.90 19 *eP* **P 16 30 32.2 -0.1**
VIVF *e**PP **pP 16 30 45.7 +0.9**
VIVF pmax pmax
comp=Z,6.0nm,0.6s
VIVF Saint-Julien-l 71.90 19 *eP* **P 16 30 32.2 -0.1**
comp=Z,6.0nm,0.6s
VIVF *ep*P **pP 16 30 45.7 +0.9**
ORIF Oris-en-Rattie 72.02 18 *eP* **P 16 30 33.2 +0.1**
ORIF Oris-en-Rattie 72.02 18 *eP* **P 16 30 33.2 +0.1**
PKSM Moragy 72.13 8 *i* *eP* **P 16 30 33.8 +0.2**
MBDF Montbardon 72.34 17 *eP* **P 16 30 35.6 +0.6**
comp=Z,9.0nm,0.8s
MBDF Montbardon 72.34 17 *eP* **P 16 30 35.6 +0.6**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
MBDF Montbardon 72.34 17 *eP* **P 16 30 35.6 +0.6**
comp=Z,9.0nm,0.8s
KSH Kashi 72.63 325 P **P 16 30 39.4 +2.6**
KSH pP **pP 16 30 49.8 +0.4**
KSH PP **PP 16 33 22.4 +4.4**
KSH S **S 16 39 59.2 +0.8**
KSH ScS **ScS 16 40 40.3 -0.1**
KSH PMZ
comp=Z,110nm,3.9s
KSH LN
comp=Z,120nm,5.3s
KSH LE
comp=Z,96nm,7.9s
KSH LZ
comp=Z,220nm,9.7s
VRI Vrincioaia 72.85 3 *i* *eP* **P 16 30 37.7 -0.2**
SMRF Simiane la Rot 72.90 18 *eP* **P 16 30 38.9 +0.7**
SMRF *ep*P **pP 16 30 52.4 +1.6**
SMRF Simiane la Rot 72.90 18 *eP* **P 16 30 38.9 +0.7**
SMRF *ep*P **pP 16 30 52.4 +1.6**
ETSF Etsaut 72.91 23 *eP* **P 16 30 38.9 +0.6**
ETSF *ep*P **pP 16 30 52.3 +1.4**
ETSF Etsaut 72.91 23 *eP* **P 16 30 38.9 +0.6**
ETSF *e**PP **pP 16 30 52.3 +1.4**
ETSF Etsaut 72.91 23 *eP* **P 16 30 38.9 +0.6**
ETSF *ep*P **pP 16 30 52.3 +1.4**
BZS Buzias 72.91 6 *i* *eP* **P 16 30 38.1 -0.1**
EPF Esparros 72.94 22 *eP* **P 16 30 38.8 +0.2**
EPF Esparros 72.94 22 *eP* **P 16 30 38.8 +0.2**
EPF Esparros 72.94 22 *eP* **P 16 30 38.8 +0.2**
MTLF Montolieu 72.98 21 *eP* **P 16 30 38.7 0.0**
MTLF *ep*P **pP 16 30 52.2 +1.0**
MTLF Montolieu 72.98 21 *eP* **P 16 30 38.7 0.0**
MTLF *e**PP **pP 16 30 52.2 +1.0**
MTLF Montolieu 72.98 21 *eP* **P 16 30 38.7 0.0**
MTLF *ep*P **pP 16 30 52.2 +1.0**
SBF Sospel 73.28 17 *eP* **P 16 30 40.4 -0.1**
comp=Z,21nm,0.7s
SBF *ep*P **pP 16 30 53.9 +0.8**
SBF Sospel 73.28 17 *eP* **P 16 30 40.4 -0.1**
SBF *e**PP **pP 16 30 53.9 +0.8**
SBF pmax pmax
comp=Z,21nm,0.7s
SBF Sospel 73.28 17 *eP* **P 16 30 40.4 -0.1**
comp=Z,21nm,0.7s
SBF *ep*P **pP 16 30 53.9 +0.8**
FRF La Foret Royal 73.46 18 *eP* **P 16 30 41.4 -0.1**
FRF La Foret Royal 73.46 18 *eP* **P 16 30 41.4 -0.1**
FRF La Foret Royal 73.46 18 *eP* **P 16 30 41.4 -0.1**
CFR Carcaliu 73.56 2 *i* *eP* **P 16 30 41.9 -0.1**
LMR La Mourre 73.67 18 *eP* **P 16 30 42.9 +0.2**
LMR La Mourre 73.67 18 *eP* **P 16 30 42.9 +0.2**
LMR La Mourre 73.67 18 *eP* **P 16 30 42.9 +0.2**
KIV Kislovodsk 74.31 351 *eP* **P 16 30 47.2 +0.6**
KIV pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 74.52 351 P **P 16 30 47.8 +0.2**
comp=Z,7.5nm,0.9s,baz=338,slow=4.1,SNR=14
PGF Pioggiola 74.78 16 *eP* **P 16 30 49.2 -0.2**
PGF Pioggiola 74.78 16 *eP* **P 16 30 49.2 -0.2**
PGF Pioggiola 74.78 16 *eP* **P 16 30 49.2 -0.2**
ESDC Sonseca Array 75.33 27 P **P 16 30 52.6 +0.2**
comp=Z,1.4nm,0.7s,baz=341,slow=5.3,SNR=6.5
ESDC pP **PcP 16 31 06.0 +0.4**
comp=Z,2.5nm,0.7s,baz=344,slow=5.7,SNR=6.0
LSA Lhasa 76.66 309 *eP* **P 16 31 01.6 +0.9**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 76.66 309 *eP* **P 16 31 01.6 +0.9**
comp=Z,5.3nm,0.7s
GEYT Alibeck 78.26 338 P **P 16 31 09.3 +0.3**
comp=Z,2.0nm,0.7s,baz=333,slow=12,SNR=3.8
SLVN Son La 78.91 294 *eP* **P 16 31 12.2 -0.7**
comp=Z,4.5nm,1.0s
BRTR Keskin Array B 78.98 357 P **P 16 31 13.1 -0.1**
comp=Z,2.1nm,0.8s,baz=12,slow=3.5,SNR=11
TAPN Taplejung 80.05 310 *eP* **P 16 31 19.4 +0.1**
JIRN Jiri 80.31 312 *eP* **P 16 31 21.0 +0.2**
DANN Dangsing 80.53 314 *eP* **P 16 31 21.5 -0.4**
comp=Z,22nm,0.7s
GKN Gorkha 80.55 313 *eP* **P 16 31 21.7 -0.1**
comp=Z,23nm,0.9s
PKIN Phulchoki 80.67 312 *eP* **P 16 31 22.5 -0.1**
comp=Z,5.8nm,0.6s
PKI Pulchoki 80.67 312 *eP* **P 16 31 22.3 -0.4**
comp=Z,5.9nm,0.5s
RAMN Ramite 80.82 311 *eP* **P 16 31 23.0 -0.3**
comp=Z,17nm,0.7s
PYUN Piuthan 81.03 315 *eP* **P 16 31 24.7 +0.3**
comp=Z,39nm,0.6s
KOLN Koldanda 81.12 314 *eP* **P 16 31 24.7 -0.2**
CMAR Chiang Mai Arr 83.59 297 P **P 16 31 36.8 -0.8**
comp=Z,2.4nm,0.9s,baz=7.6,slow=5.6,SNR=18
CMAR pP **pP 16 31 50.6 +0.2**
comp=Z,3.5nm,0.8s,baz=7.7,slow=5.9,SNR=13
PTGA Pitinga 90.54 91 *eP* **P 16 32 10.9 -0.5**
comp=Z,18nm,0.7s
BOSA Boshof 146.84 8 PKPbc **PKPbc 16 38 50.9 -0.3**
comp=Z,5.5nm,0.9s,baz=337,slow=2.8,SNR=4.0
BOSA pPKPbc pPKPbc 16 39 04.7 +0.3
comp=Z,11nm,0.7s,baz=14,slow=2.6,SNR=7.0
VNA3 Neumayer Olymp 161.76 138 P **PKPab 16 39 53.6 -0.7**
VNA2 Neumayer--Watz 162.55 138 P **PKPab 16 39 57.2 -0.6**
baz=301,slow=6.9

NEIC 07 16:22:35.2, 32.22N×115.36W, h12km, ML3.5 (PAS), **After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flats O**	**1.66**	**327**	*e*Pn	Pn	16 23 02.0	-2.3
214A	**Organ Pipe Nat**	**2.18**	**96**	*e*Pn	Pn	16 23 09.9	-1.4
LDFC	**Landfair**	**2.86**	**4**	*e*Pn	Pn	16 23 21.9	+1.1
LDFC				*e*Pg	Pg	16 23 31.6	+1.4
MWC	**Mount Wilson**	**3.02**	**312**	*e*Pn	Pn	16 23 22.0	-1.0
MWC				*e*Pg	Pb	16 23 29.3	+0.2
MWC				*e*Sg	Sb	16 24 07.4	+1.4
PASC	**Pasadena Art C**	**3.06**	**310**	*e*Pg	Pb	16 23 31.7	+2.0
TUC	**Tucson**	**3.88**	**87**	*e*Pn	Pn	16 23 34.4	-0.3
TUC				*e*Pb	Pb	16 23 43.5	-0.1
TUC				*e*Pg	Pg	16 23 48.9	-0.7
TUC				*e*Sg	Sg	16 24 36.5	-3.6
SHPR	**Sheep Range**	**4.28**	**2**	*e*Pn	Pn	16 23 38.5	-1.9
SHPR				*e*Pg	Pg	16 23 57.5	0.0
SHPR				*e*Sg	Sg	16 24 49.3	-3.8
ISA	**Isabella, Lake**	**4.30**	**324**	*e*Pg	Pg	16 23 55.9	-1.8
ISA				*e*Sg	Sb	16 24 46.7	+4.0
DAC	**Darwin (Calif)**	**4.45**	**336**	*e*Pg	Pg	16 23 59.3	-1.4
WUAZ	**Wupatki**	**4.67**	**44**	Pn	Pn	16 23 45.4	-0.4
W18A	**Petrified Fore**	**5.51**	**57**	*e*Pn	Pn	16 23 58.0	+0.8
CCUT	**Cedar City**	**5.57**	**17**	*e*Pn	Pn	16 23 55.1	-3.0
	4.4nm,0.8s						
R11A	**Troy Canyon, C**	**6.12**	**358**	*e*Pn	Pn	16 24 04.4	-1.2
	1.4nm,0.6s						
R11A				Pg	Pg	16 24 32.9	+0.3
121A	**Cookes Peak, D**	**6.42**	**85**	*e*Pn	Pn	16 24 09.8	+0.1
	10nm,0.3s						

GUC ***07*** *16:25:31.4±0.8, 34.67S×71.92W, h12km±6km, ML4.9*
ISCJB ***07*** *16:25:32.6±0.6, 34.77S±0.03×71.8W±0.1, h62km±5km, mb4.5/20, Error ellipse: s-maj=14.0km s-min=4.6km az=9.3*
IDC ***07*** *16:25:32.9±0.7, 34.71S×71.78W, h45km±5km, mb4.1/11, mb1 4.3/14, mb1mx4.2/24, mbtmp4.4/14, ML4.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.7/15, Error ellipse: s-maj=22.7km s-min=14.1km az=79.0*
NEIC ***07*** *16:25:32.2±0.3, 34.70S×71.90W, mb4.7/9, Error ellipse: s-maj=9.0km s-min=4.9km az=92.0*
NEIC Felt [IV] at Cauquenes, Chanco, Constitucion, Curico, Licanten, Linares, Longavi, Pichilemu, San Clemente, San Fernando and Talca; [III] at Rancagua and Romeral.
ISC 07 16:25:32.5±0.7, 34.75S±0.03×71.86W±0.07, h47km±6km,

n78,σ1°20/88, mb4.6/20, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.58**	**116**	⇓*iP*	**Pn**	**16 25 44.3**	**-0.3**
NICH				*i* S	**Sn**	**16 25 53.2**	**-0.1**
NICH	**Los Niches**	**0.58**	**116**	⇓*iP*	**Pn**	**16 25 44.3**	**-0.3**
NICH				*i* S	**Sn**	**16 25 53.2**	**-0.1**
TALC	**Talca**	**0.67**	**164**	⇑*iP*	**Pn**	**16 25 46.2**	**+0.4**
TALC				*i* S	**Sn**	**16 25 56.1**	**+0.7**
TALC	**Talca**	**0.67**	**164**	⇑*iP*	**Pn**	**16 25 46.2**	**+0.4**
TALC				*i* S	**Sn**	**16 25 56.1**	**+0.7**
LNCH	**Linares**	**1.12**	**169**	⇑*iP*	**Pn**	**16 25 52.5**	**+0.7**
LNCH				*i* S	**Sn**	**16 26 08.7**	**+2.7**
LNCH	**Linares**	**1.12**	**169**	⇑*iP*	**Pn**	**16 25 52.5**	**+0.7**
LNCH				*i* S	**Sn**	**16 26 08.7**	**+2.7**
RCDM	**Rinconada Maip**	**1.53**	**35**	*eP*	**Pn**	**16 25 57.2**	**-0.3**
RCDM	**Rinconada Maip**	**1.53**	**35**	*eP*	**Pn**	**16 25 57.2**	**-0.3**
LACH	**Col Las Americ**	**1.70**	**41**	*eP*	**Pn**	**16 26 00.1**	**+0.3**
LACH				*eS*	**Sn**	**16 26 22.4**	**+2.0**
LACH	**Col Las Americ**	**1.70**	**41**	*eP*	**Pn**	**16 26 00.1**	**+0.3**
LACH				*eS*	**Sn**	**16 26 22.4**	**+2.0**
CLCH	**Cerro Calan**	**1.74**	**40**	⇓*iP*	**Pn**	**16 26 00.7**	**+0.3**
CLCH				*i* S	**Sn**	**16 26 23.6**	**+2.1**
CLCH				AML	AML	16 26 27.0	
	comp=N,22μm,0.4s						
CLCH				AML	AML	16 26 27.5	
	comp=N,25μm,0.5s						
YECH	**El Yeso**	**1.83**	**54**	*iP*	**Pn**	**16 26 01.8**	**0.0**
YECH				*i* S	**Sn**	**16 26 27.5**	**+3.6**
YECH				AML	AML	16 26 31.1	
	comp=N,15μm,0.4s						
YECH	**El Yeso**	**1.83**	**54**	P	**Pn**	**16 26 01.8**	**0.0**
YECH				S	**Sn**	**16 26 27.5**	**+3.6**
PEL	**Peldehue**	**1.88**	**32**	⇓*iP*	**Pn**	**16 26 02.6**	**+0.4**
PEL				*i* S	**Sn**	**16 26 26.9**	**+2.1**
PEL				AML	AML	16 26 30.7	
	comp=E,21μm,0.6s						
PEL	**Peldehue**	**1.88**	**32**	⇓*iP*	**Pn**	**16 26 02.6**	**+0.4**
PEL				*i* S	**Sn**	**16 26 26.9**	**+2.1**
ROCH	**El Roble**	**1.91**	**22**	⇑*iP*	**Pn**	**16 26 03.1**	**+0.3**
ROCH				*i* S	**Sn**	**16 26 28.6**	**+2.8**
ROCH				AML	AML	16 26 33.5	
	comp=N,20μm,0.5s						
ROCH	**El Roble**	**1.91**	**22**	⇑*iP*	**Pn**	**16 26 03.1**	**+0.3**
ROCH				S	**Sn**	**16 26 28.6**	**+2.8**
FCH	**Farellones**	**1.93**	**43**	AML	AML	16 26 41.2	
	comp=N,19μm,0.4s						
CFAA	**Coronel Fontan**	**4.37**	**45**	P	**Pn**	**16 26 37.4**	**+1.0**
	comp=N,3.1nm,0.3s,baz=208,slow=10,SNR=102						
CFAA				S	Sn	16 27 33.8	+7.7
	comp=N,2.9nm,0.3s,baz=91,slow=2.1,SNR=3.6						
CFAA				LR	LR	16 28 28.9	
	comp=N,86nm,18.3s,baz=328,slow=41						
LCO	**Las Campanas**	**5.81**	**10**	*ePn*	**Pn**	**16 26 55.0**	**-1.4**
	comp=N,86nm,0.4s						
PLCA	**Paso Flores**	**6.06**	**171**	*ePn*	**Pn**	**16 27 02.3**	**+2.6**
	comp=N,4.7nm,0.3s,baz=270,slow=20,SNR=42						
PLCA				Lg	Lg	16 28 42.9	
	comp=N,3.3nm,0.3s,baz=270,slow=24,SNR=5.6						
PLCA	**Paso Flores**	**6.06**	**171**	*ePn*	**Pn**	**16 27 02.0**	**+2.3**
	comp=N,2.3nm,1.3s						
PLCA				Lg	Lg	16 28 42.9	
TRQA	**Tornquist**	**8.62**	**115**	*ePn*	**Pn**	**16 27 35.2**	**+0.5**
	comp=N,26nm,0.6s						
LVC	**Limon Verde**	**12.37**	**13**	P	Pn	16 28 18.7	-7.5
LPAZ	**La Paz**	**18.69**	**11**	P	**Pn**	**16 29 48.8**	**+0.5**
	comp=N,1.6nm,0.3s,baz=180,slow=8.4,SNR=33						
EFI	**East Falkland**	**19.62**	**154**	*eP*	**P**	**16 29 56.4**	**-0.6**
USHA	**Ushuaia**	**20.22**	**174**	P	Pn	16 30 05.4	-0.3
	comp=N,16nm,1.1s,baz=326,slow=12,SNR=3.1						
SIV	**San Ignacio**	**21.04**	**30**	P	**P**	**16 30 11.3**	**-1.3**
	comp=N,24nm,0.9s,baz=222,slow=10,SNR=43						
SAML	**Samuel**	**26.89**	**19**	*eP*	**P**	**16 31 07.9**	**-1.2**
	comp=N,3.8nm,0.6s						
PTGA	**Pitinga**	**35.62**	**21**	*eP*	**P**	**16 32 24.9**	**-1.1**
SDV	**Santo Domingo**	**43.41**	**2**	*eP*	**P**	**16 33 29.8**	**-1.2**
	comp=N,5.6nm,0.8s						
VNA3	**Neumayer Olymp**	**48.61**	**158**	P	**P**	**16 34 12.9**	**+1.8**
VNA2	**Neumayer--Watz**	**49.27**	**157**	P	**P**	**16 34 17.1**	**+0.9**
	baz=287,slow=8.7						
SNAA	**Sanae**	**50.84**	**158**	P	**P**	**16 34 29.1**	**+1.0**
SNAA	**Sanae**	**50.84**	**158**	P	**P**	**16 34 28.7**	**+0.6**
	comp=N,0.8nm,0.6s,baz=222,slow=2.6,SNR=42						
VNDA	**Vanda**	**63.40**	**191**	pP	pP	16 36 10.8	+0.9
	comp=N,0.8nm,0.8s,baz=119,slow=4.3,SNR=2.7						
TXAR	**Lajitas Array**	**70.46**	**331**	P	**P**	**16 36 43.2**	**+1.1**
	comp=N,0.9nm,0.5s,baz=159,slow=8.9,SNR=23						
TXAR				pP	**pP**	**16 36 55.4**	**-0.2**
	comp=N,1.9nm,0.6s,baz=156,slow=8.7,SNR=12						
WVT	**Waverly**	**72.07**	**346**	*eP*	**P**	**16 36 51.6**	**0.0**
	comp=N,22nm,0.8s						
MAW	**Mawson**	**72.42**	**163**	P	**P**	**16 36 53.5**	**+0.1**
	comp=N,5.2nm,0.7s,baz=217,slow=5.1,SNR=3.7						
LIC	**Lamto**	**74.88**	**71**	*eP*	**P**	**16 37 08.2**	**-0.5**
	comp=N,14nm,0.7s						
TIC	**Toumodi**	**75.14**	**71**	*eP*	**P**	**16 37 09.7**	**-0.5**
	comp=N,4.0nm,0.2s						
KIC	**Kosan Boka**	**75.18**	**71**	*eP*	**P**	**16 37 10.1**	**-0.3**
	comp=N,23nm,0.8s						
DBIC	**Dimbokro**	**75.28**	**71**	P	**P**	**16 37 10.8**	**-0.2**
	comp=N,8.2nm,0.7s,baz=210,slow=6.6,SNR=14						
DBIC	**Dimbokro**	**75.28**	**71**	*eP*	**P**	**16 37 09.9**	**-1.1**
	comp=N,8.6nm,0.8s						
TSUM	**Tsumeb**	**78.87**	**106**	*eP*	**P**	**16 37 31.5**	**+0.2**
	comp=N,3.0nm,0.8s						
BOSA	**Boshof**	**79.59**	**117**	P	**P**	**16 37 35.3**	**+0.1**
	comp=N,8.3nm,0.6s,baz=256,slow=3.4,SNR=25						
BOSA	**Boshof**	**79.59**	**117**	*eP*	**P**	**16 37 34.8**	**-0.4**
	comp=N,9.5nm,0.7s						
ECSD	**EROS Data Cent**	**81.31**	**342**	*eP*	**P**	**16 37 42.2**	**-1.4**
	comp=N,7.4nm,0.8s						
LBTB	**Lobatse**	**81.86**	**115**	*eP*	**P**	**16 37 47.2**	**-0.1**
	comp=N,8.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**16 37 59.2**	**-0.7**
	comp=N,6.1nm,0.9s,baz=262,slow=4.2,SNR=25						
PDAR	**Pinedale Array**	**84.50**	**333**	P	**P**	**16 38 00.9**	**+0.5**
	comp=N,0.9nm,0.7s,baz=149,slow=5.2,SNR=9.6						
PDAR				pP	**pP**	**16 38 13.6**	**-0.6**
	comp=N,0.7nm,0.8s,baz=193,slow=4.6,SNR=3.6						
NVAR	**Mina Array Bea**	**84.58**	**325**	P	**P**	**16 38 02.4**	**+1.4**
	comp=N,0.9nm,0.7s,baz=158,slow=6.6,SNR=6.3						
RLMT	**Red Lodge**	**86.42**	**334**	*eP*	**P**	**16 38 10.6**	**+0.6**
	comp=N,2.3nm,0.4s						
ULM	**Lac du Bonnet**	**87.26**	**345**	P	**P**	**16 38 13.2**	**-0.4**
	comp=N,1.6nm,0.6s,baz=145,slow=5.5,SNR=4.0						
ASAR	**Alice Springs**	**116.97**	**207**	PKP	**PKPdf**	**16 44 11.8**	**-0.8**
	comp=N,0.2nm,0.5s,baz=127,slow=1.7,SNR=5.7						
ASAR				PKKPbc	**PKKPbc**	**16 54 37.5**	**+0.1**
	comp=N,0.3nm,0.5s,baz=338,slow=3.3,SNR=11						
WRA	**Warramunga Arr**	**120.18**	**209**	PKP	**PKPdf**	**16 44 18.3**	**-0.6**
	comp=N,0.6nm,0.5s,baz=159,slow=1.7,SNR=18						
WRA				PKKPbc	**PKKPbc**	**16 54 25.7**	**-0.1**
	comp=N,0.2nm,0.6s,baz=344,slow=4.2,SNR=3.7						
H11S2	**WAKE ISLAND Hyd**	**25.90**	**268**	T	T	19 02 58.5	
	baz=119,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hyd**	**25.91**	**269**	T	T	19 02 54.4	
	baz=119,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hyd**	**25.92**	**268**	T	T	19 02 56.5	
	baz=119,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hyd**	**26.33**	**270**	T	T	19 03 26.5	
	baz=115,slow=78,SNR=12						
H11N1	**WAKE ISLAND Hyd**	**26.35**	**270**	T	T	19 03 27.8	
	baz=115,slow=78,SNR=22						
H11N2	**WAKE ISLAND Hyd**	**26.35**	**270**	T	T	19 03 27.7	
	baz=115,slow=78,SNR=8.3						
ABKAR	**Akbulak array**	**142.03**	**53**	*ePKPpre*	PKPpre	16 44 53.3	
SKHT	**Srikalahasti**	**146.89**	**122**	*ePKPbc*	**PKPbc**	**16 45 09.8**	**-0.5**
BVAR	**Borovoye Array**	**147.72**	**44**	PKPbc	**PKPbc**	**16 45 12.2**	**+0.6**
	comp=N,2.1nm,0.6s,baz=288,slow=2.9,SNR=20						
BVAR				pPKPbc	**pPKPbc**	**16 45 25.1**	**-0.6**
	comp=N,1.7nm,0.6s,baz=297,slow=4.0,SNR=8.1						
HYB	**Hyderabad**	**148.48**	**116**	*i* PKP	**PKPbc**	**16 45 15.0**	**+0.4**
HYBB	**Hyderabad (bro**	**148.48**	**116**	*ePKPbc*	**PKPbc**	**16 45 14.2**	**-0.4**
ADKI	**Addanki**	**148.50**	**120**	*ePKPbc*	**PKPbc**	**16 45 14.2**	**-0.4**
YAK	**Yakutsk**	**149.48**	**340**	*ePKPbc*	**PKPbc**	**16 45 15.3**	**-0.4**
KKAR	**Karatay Array**	**149.77**	**63**	*ePKPbc*	**PKPbc**	**16 45 16.6**	**-0.5**
RPR	**Rampur**	**149.92**	**114**	*ePKPbc*	**PKPbc**	**16 45 17.8**	**-0.4**
EKS2	**Erkin-Say**	**152.19**	**63**	*ePKPbc*	**PKPbc**	**16 45 23.5**	**+0.5**
AAK	**Ala-Archa**	**152.72**	**63**	PKPbc	**PKPbc**	**16 45 24.9**	**+0.7**
	comp=N,4.2nm,0.7s,baz=216,slow=3.1,SNR=19						
AAK	**Ala-Archa**	**152.72**	**63**	*ePKPbc*	**PKPbc**	**16 45 24.6**	**+0.4**
KURBB	**Kurchatov Arra**	**153.31**	**44**	PKPbc	**PKPbc**	**16 45 25.0**	**0.0**
	comp=N,0.9nm,0.5s,baz=302,slow=3.1,SNR=15						
KURK	**Kurchatov**	**153.32**	**44**	PKPbc	**PKPbc**	**16 45 25.0**	**0.0**
ZALV	**Zalesovo Beam**	**154.78**	**33**	PKP	**PKPdf**	**16 45 19.4**	**+0.1**
	comp=N,0.4nm,0.6s,baz=290,slow=2.0,SNR=2.4						
ZALV				PKPbc	**PKPbc**	**16 45 27.6**	**-0.4**
	comp=N,1.0nm,0.6s,baz=256,slow=4.4,SNR=5.1						
MKAR	**Makanchi Array**	**157.14**	**50**	PKPab	**PKPab**	**16 45 53.2**	**-0.4**
	comp=N,1.4nm,0.8s,baz=305,slow=4.3,SNR=11						

IDC ***07*** *16:32:11.6±2.4,2°.08N×96°.48E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.5/35, mbtmp3.6/7, ML3.6/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/33, Error ellipse: s-maj=111.5km s-min=18.9km az=56.0*

DJA ***07*** *16:32:14.7±2.3,2°.N±.9°×9°.6E±2°.4, h35km±8km, M3.6/6, mb3.9/2, mB5.0/1, MLv3.4/6, Mw(mB)4.4/1*

ISC 07 16:32:16.7±1.0, 2°.2N±0°.1×96°.61E±0°.06, h28km, n20, σ0°96/13, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.35**	**305**	P	**Pb**	**16 32 24.3**	**-0.3**
SNSI				S	**Sn**	**16 32 31.5**	**-0.4**
TPTI		**1.19**	**29**	P	**Pb**	**16 32 38.7**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.75**	**42**	P	**Pb**	**16 32 48.4**	**+0.3**
TSI	**Tuntungan**	**2.34**	**57**	P	**Pb**	**16 32 56.3**	**-1.8**
MNSI	**Mandailing Nat**	**3.28**	**115**	P	**Pn**	**16 33 08.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**16.31**	**8**	Pn	**Pn**	**16 36 04.8**	**+0.9**
	0.1nm,0.3s,baz=200,slow=12,SNR=5.3						
PALK	**Pallekele**	**16.63**	**288**	LR	LR	16 41 58.3	
	comp=Z,231nm,18.7s,baz=309,slow=36						
H08S2	**Diego Garcia H**	**25.97**	**248**	T	T	17 04 27.5	
	baz=68,slow=76,SNR=209						
H08S3	**Diego Garcia H**	**25.98**	**248**	T	T	17 04 24.7	
	baz=68,slow=76,SNR=171						
H08S1	**Diego Carcia H**	**25.99**	**248**	T	T	17 04 32.1	
	baz=68,slow=76,SNR=181						
H01W3	**Cape Leeuwin H**	**40.39**	**158**	T	T	17 22 41.6	
	baz=333,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**40.41**	**158**	T	T	17 22 42.6	
	baz=333,slow=76,SNR=9.1						
H01W1	**Cape Leeuwin H**	**40.41**	**158**	T	T	17 22 37.9	
	baz=333,slow=76,SNR=7.4						
WRA	**Warramunga Arr**	**43.07**	**123**	P	**P**	**16 40 13.5**	**-1.0**
	0.3nm,0.5s,baz=302,slow=9.0,SNR=8.6						
ASAR	**Alice Springs**	**44.47**	**128**	P	**P**	**16 40 25.3**	**-0.5**
	0.3nm,0.5s,baz=300,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**46.13**	**346**	P	**P**	**16 40 38.6**	**0.0**
	0.5nm,0.4s,baz=159,slow=9.2,SNR=17						
JCJ	**Chichijima**	**50.14**	**56**	LR	LR	17 02 41.1	
	comp=Z,65nm,19.2s,baz=232,slow=36						
KURBB	**Kurchatov Arra**	**50.61**	**345**	P	**P**	**16 41 12.9**	**-0.1**
	0.6nm,0.7s,baz=163,slow=7.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**52.48**	**351**	P	**P**	**16 41 26.9**	**-0.1**
	2.2nm,0.4s,baz=175,slow=6.8,SNR=13						
BVAR	**Borovoye Array**	**55.11**	**341**	P	**P**	**16 41 45.6**	**-0.7**
	0.3nm,0.4s,baz=152,slow=7.5,SNR=3.4						

CASC 07 16:37:40.8±0.9, 13°.48N×91°.17W, h5km±6km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.95**	**332**	*eP*	Pg	16 37 58.5	-0.5
NBG	**Las Nubes**	**1.36**	**36**	*eP*	Pn	16 38 06.3	-0.6
SBLS	**San Blas**	**1.55**	**76**	*eP*	Pn	16 38 08.7	-0.7
SNJE	**San Jose**	**1.57**	**76**	*eP*	Pn	16 38 08.8	-0.9
RBDL	**Robledal**	**1.57**	**66**	*eP*	Pn	16 38 08.6	-1.1
RBDL				*eS*	Sn	16 38 30.8	+0.2
BOQS	**Boqueron**	**1.86**	**82**	*eP*	Pn	16 38 13.7	0.0
BOQS				*eS*	Sn	16 38 38.5	+0.8
LFRS	**El Faro**	**2.06**	**86**	*eP*	Pn	16 38 15.9	-0.3
LFRS				*eS*	Sn	16 38 43.2	+0.7
MRL	**Marmol**	**2.13**	**42**	*eS*	Sb	16 38 46.5	-0.7

ISCJB ***07*** *16:38:36.2±0.6, 32°.67N±0°.03×115°.76W±0°.03, h7km±6km, Error ellipse: s-maj=5.3km s-min=3.9km az=22.8*

NEIC ***07*** *16:38:37.0, 32°.57N×115°.75W, h1km, MD4.0(MEX), ML3.7(PAS), After PAS.*

NEIC Felt at Yuma, Arizona and at Calexico and San Diego, California.

MEX ***07*** *16:38:37.8±0.4, 32°.73N×115°.74W, h5km, MD3.9*

ISC 07 16:38:36.9±1.2, 32°.62N±0°.03×115°.74W±0°.03, h8km±11km, n20, σ1°29/36, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.51**	**115**	*eP*	**Pb**	**16 38 47.8**	**-0.2**
MBIG				*eS*	**Sb**	**16 38 56.3**	**+0.8**
BAR	**Barrett**	**0.79**	**274**	*ePg*	**Pg**	**16 38 52.4**	**+0.4**
BAR				*eSg*	**Sg**	**16 39 02.8**	**+0.5**
CBX	**Cerro Bola**	**0.84**	**249**	*eP*	**Pg**	**16 38 53.4**	**+0.4**
CBX				*eS*	**Sg**	**16 39 04.5**	**+0.6**
CBX	**Cerro Bola**	**0.84**	**249**	*eP*	**Pg**	**16 38 53.4**	**+0.4**
CBX				*eS*	**Sg**	**16 39 04.5**	**+0.6**
GLA	**Glamis**	**0.88**	**61**	*ePg*	**Pg**	**16 38 53.5**	**-0.4**
GLA				*eSg*	**Sg**	**16 39 05.3**	**0.0**
PFO	**Pinyon Flats O**	**1.15**	**329**	*ePg*	**Pg**	**16 38 57.9**	**-1.1**
PFO				*eSg*	**Sg**	**16 39 12.8**	**-1.2**
SPIG	**San Pedro Mart**	**1.59**	**171**	*eP*	**Pn**	**16 39 04.9**	**-0.7**
SPIG				*eS*	**Sn**	**16 39 25.5**	**-0.9**
SPIG	**San Pedro Mart**	**1.59**	**171**	*eP*	**Pn**	**16 39 04.9**	**-0.7**
SPIG				*eS*	**Sn**	**16 39 25.6**	**-0.9**
MWC	**Mount Wilson**	**2.51**	**310**	*ePn*	**Pn**	**16 39 18.3**	**+0.2**
MWC				*ePg*	**Pb**	**16 39 22.9**	**+0.6**
MWC				*eSg*	**Sg**	**16 39 55.4**	**-2.1**
PASC	**Pasadena Art C**	**2.56**	**308**	*ePn*	**Pn**	**16 39 19.9**	**+1.3**
214A	**Organ Pipe Nat**	**2.57**	**104**	*ePn*	**Pn**	**16 39 17.7**	**-1.1**
GSC	**Goldstone, Bar**	**2.81**	**342**	Pn	**Pn**	**16 39 22.1**	**-0.1**
GSC				*ePg*	**Pg**	**16 39 30.4**	**-0.5**
GSC				*eSg*	**Sg**	**16 40 08.5**	**+1.2**
OSI	**Osito Audit: C**	**3.18**	**309**	*ePg*	**Pb**	**16 39 35.3**	**+1.6**
ISA	**Isabella, Lake**	**3.78**	**324**	*ePn*	**Pn**	**16 39 36.4**	**+0.8**
ISA				*ePg*	**Pg**	**16 39 46.7**	**-2.6**
ISA				*eSg*	**Sg**	**16 40 35.0**	**-3.4**
SHPR	**Sheep Range**	**3.90**	**7**	*ePn*	**Pn**	**16 39 37.6**	**+0.4**
SHPR				*ePg*	**Pg**	**16 39 53.7**	**+2.0**
DAC	**Darwin (Calif)**	**3.95**	**338**	*ePn*	**Pn**	**16 39 37.6**	**-0.3**
DAC				*eSg*	**Sg**	**16 40 41.8**	**-2.0**
WUAZ	**Wupatki**	**4.63**	**50**	*ePn*	**Pn**	**16 39 48.7**	**+1.4**
CCUT	**Cedar City**	**5.29**	**21**	*ePn*	**Pn**	**16 39 57.9**	**+1.5**
W18A	**Petrified Fore**	**5.58**	**62**	Pn	**Pn**	**16 40 01.7**	**+1.4**
121A	**Cookes Peak, D**	**6.72**	**89**	*ePn*	**Pn**	**16 40 16.1**	**+0.2**

ISCJB ***07*** *16:51:04.7±0.3, 65°.02N±0°.04×170°.24W±0°.06, h11km, mb3.9/17, MS3.7/1, Error ellipse: s-maj=5.5km s-min=3.5km az=161.2*

IDC ***07*** *16:51:05.2±0.9, 64°.85N×170°.40W, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/34, mbtmp3.8/15, ML3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/41, Error ellipse: s-maj=30.8km s-min=15.2km az=8.0*

NEIC ***07*** *16:51:06.8±0.3, 65°.04N×170°.31W, h10km, mb4.2/3, ML4.2(AEIC), Error ellipse: s-maj=7.8km s-min=4.4km az=187.0*

ISC 07 16:51:07.0±0.5, 65°.07N±0°.06×170°.32W±0°.05, h11km, n47, σ1°20/52, mb4.0/17, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**1.12**	**63**	*ePg*	**Pb**	**16 51 27.4**	**-0.9**
TNA				*eSg*	**Sb**	**16 51 40.7**	**-2.1**
TNA				S	**Sg**	**16 51 41.2**	**-1.7**
GAMB	**Gambell**	**1.43**	**205**	*ePg*	**Pn**	**16 51 30.8**	**-2.1**
GAMB				*eSg*	**Sn**	**16 51 50.0**	**-1.6**
GAMB				S	**Sb**	**16 51 51.1**	**-0.8**
GCSA	**Galena City Sc**	**5.73**	**87**	P	**Pn**	**16 52 30.6**	**-1.3**
GCSA				S	**Sn**	**16 53 40.0**	**+2.5**
TT01	**Tatalina**	**6.65**	**103**	P	**Pn**	**16 52 44.4**	**-0.1**
IM3	**Indian Mountai**	**6.94**	**75**	P	**Pn**	**16 52 46.9**	**-1.6**
SVW2	**Sparrevohn**	**7.78**	**114**	P	**Pn**	**16 53 00.2**	**+0.2**
CHUM	**Lake Minchumin**	**7.86**	**91**	P	**Pn**	**16 53 01.1**	**0.0**
SPIA	**Saint Paul Isl**	**7.92**	**180**	P	**Pn**	**16 53 01.7**	**-0.2**
PPLA	**Purkeypile**	**8.26**	**97**	P	**Pn**	**16 53 06.7**	**0.0**
MLY	**Manley**	**8.27**	**81**	P	**Pn**	**16 53 05.4**	**-1.3**
COLD	**Coldfoot**	**8.42**	**66**	P	**Pn**	**16 53 07.2**	**-1.6**
KTH	**Kantishna Hill**	**8.55**	**91**	P	**Pn**	**16 53 10.9**	**+0.2**
TRF	**Thorofare Moun**	**8.86**	**91**	P	**Pn**	**16 53 14.7**	**-0.2**
BGL	**Barrier Glacie**	**8.95**	**107**	P	**Pn**	**16 53 16.7**	**+0.6**
SPBG	**Spurr Blockage**	**8.96**	**107**	P	**Pn**	**16 53 17.1**	**+0.9**
STLK	**Strandline Lak**	**9.05**	**105**	P	**Pn**	**16 53 18.4**	**+1.0**
RSO	**Redoubt South**	**9.27**	**112**	*ePn*	**Pn**	**16 53 20.4**	**-0.1**
	45nm,0.8s						
MCK	**McKinley**	**9.34**	**89**	*ePn*	**Pn**	**16 53 20.7**	**-0.7**
	7.2nm,0.3s						
COLA	**College**	**9.51**	**81**	Pn	**Pn**	**16 53 22.8**	**-0.8**
KELA	**Mount Kelaz**	**9.57**	**127**	P	**Pn**	**16 53 24.6**	**0.0**
BILL	**Bilibino**	**9.76**	**298**	*ePn*	**Pn**	**16 53 26.6**	**-0.5**
ILAR	**Eielson Array**	**9.93**	**81**	Pn	**Pn**	**16 53 28.4**	**-1.1**
	0.6nm,0.3s,baz=279,slow=14,SNR=20						
ILAR				Sn	Sn	16 55 14.4	-6.3
	0.6nm,0.3s,baz=284,slow=22,SNR=9.5						
ILAR				Lg	Lg	16 56 17.2	
	baz=281,slow=28,SNR=3.0						
RC01	**Rabbit Creek A**	**10.13**	**104**	*ePn*	**Pn**	**16 53 34.1**	**+1.9**
PAX	**Paxson**	**11.07**	**90**	*ePn*	**Pn**	**16 53 47.1**	**+2.0**
	2.3nm,0.4s						
EGAK	**Eagle**	**12.32**	**78**	*ePn*	**Pn**	**16 54 01.9**	**-0.1**
	6.3nm,1.0s						
DAWY	**Dawson**	**13.26**	**80**	*ePn*	**Pn**	**16 54 14.0**	**-0.9**
INK	**Inuvik**	**14.76**	**61**	Pn	**Pn**	**16 54 34.9**	**-0.4**
	0.2nm,0.3s,baz=274,slow=6.5,SNR=8.0						
SEY	**Seymchan**	**16.33**	**280**	Pn	**P**	**16 54 57.9**	**-1.0**
	0.1nm,0.3s,baz=62,slow=16,SNR=5.8						
SEY				Lg	Lg	16 59 47.4	
	0.1nm,0.3s,baz=233,slow=20,SNR=2.8						
PETK	**Petropavlovsk-**	**20.06**	**249**	P	**P**	**16 55 39.9**	**+0.1**
	0.1nm,0.3s,baz=77,slow=14,SNR=4.9						
TIXI	**Tiksi**	**22.40**	**313**	*eP*	**P**	**16 56 04.5**	**-0.4**
	2.9nm,0.7s						
YKA	**Yellowknife Ar**	**24.07**	**70**	P	**P**	**16 56 21.6**	**-0.2**
	1.2nm,0.7s,baz=300,slow=8.8,SNR=15						
YKA				PcP	**PcP**	**17 00 02.0**	**-0.7**
	0.5nm,0.7s,baz=311,slow=2.3,SNR=6.8						
YAK	**Yakutsk**	**26.02**	**291**	P	**P**	**16 56 39.2**	**-0.3**
	4.1nm,0.6s,baz=71,slow=1.7,SNR=4.7						
NVAR	**Mina Array Bea**	**40.05**	**106**	P	**P**	**16 58 42.5**	**+0.4**
	0.5nm,0.7s,baz=299,slow=8.0,SNR=3.9						
PDAR	**Pinedale Array**	**40.07**	**93**	P	**P**	**16 58 42.2**	**-0.1**
	0.3nm,0.6s,baz=331,slow=3.2,SNR=2.8						
SONM	**Songino Array**	**45.36**	**290**	P	**P**	**16 59 24.7**	**-0.2**
	1.1nm,0.5s,baz=46,slow=8.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**48.22**	**310**	P	**P**	**16 59 46.8**	**-0.3**
	1.0nm,0.6s,baz=42,slow=7.0,SNR=7.2						
KURK	**Kurchatov**	**52.96**	**312**	*eP*	**P**	**17 00 23.8**	**+1.0**
	7.5nm,1.4s						
KURBB	**Kurchatov Arra**	**53.07**	**312**	P	**P**	**17 00 23.6**	**-0.1**
	1.7nm,0.9s,baz=30,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**53.20**	**350**	P	**P**	**17 00 23.1**	**-1.4**
	2.4nm,0.9s,baz=32,slow=6.6,SNR=3.0						
NOA	**NORSAR Array B**	**54.19**	**359**	P	**P**	**17 00 34.2**	**+2.4**
	0.8nm,0.8s,baz=359,slow=7.2,SNR=3.1						
MKAR	**Makanchi Array**	**55.17**	**307**	P	**P**	**17 00 40.2**	**+1.1**
	0.4nm,0.7s,baz=54,slow=6.2,SNR=5.3	

EMX	**El Mayor**	**0.23**	**162**	ǁ	*e*P		**Pg**	17 01 52.4	**-0.5**
EMX					*e*S		**Sg**	**17 01 56.3**	**+0.3**
MBIG	**Mexicali**	**0.23**	**27**		*e*P		**Pg**	**17 01 53.6**	**+0.6**
MBIG					*i* S		**Sg**	**17 01 55.6**	**-0.6**
SGL	**Mount Signal**	**0.56**	**323**	⇑	*i*P		**Pg**	**17 01 59.5**	**+0.3**
RDX	**Rancho Dawling**	**0.59**	**243**	⇑	*e*P		**Pb**	**17 02 01.1**	**+0.3**
RDX					*e*S		**Sb**	**17 02 09.6**	**+0.4**
YUH	**Yuha Desert**	**0.67**	**311**	⇑	*i*P		**Pg**	**17 02 01.4**	**+0.1**
COA	**Coachella**	**0.68**	**14**	ǁ	*i*P		**Pg**	**17 02 01.1**	**-0.3**
COK	**Cook Ranch**	**0.73**	**332**	⇑	*i*P		**Pg**	**17 02 02.5**	**+0.1**
RMX	**La Rumorosa**	**0.75**	**302**	⇑	*e*P		**Pg**	**17 02 03.0**	**+0.2**
RMX					*e*S		**Sg**	**17 02 13.3**	**+0.6**
RMX					AML		AML	17 02 15.2	
	comp=N,4μm,0.2s								
RMX					*e*			17 02 15.2	
ECBX	**El Chinero**	**0.77**	**162**	ǁ	*e*P		**Pg**	**17 02 01.6**	**-1.3**
ECBX					*e*S		**Sg**	**17 02 12.6**	**-0.4**
CRR	**Carrizo Plain**	**0.87**	**321**	ǁ	*i*P		**Pg**	**17 02 04.6**	**-0.5**
GLA	**Glamis**	**0.94**	**26**		*e*Pg		**Pg**	**17 02 04.5**	**-1.9**
ZAX	**El Zacaton**	**1.06**	**230**	ǁ	*e*P		**Pb**	**17 02 09.3**	**+0.6**
CBX	**Cerro Bola**	**1.14**	**276**		*e*P		**Pg**	**17 02 10.3**	**+0.1**
CBX					*e*S		**Sg**	**17 02 25.4**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**276**	ǁ	*e*P		**Pg**	**17 02 10.0**	**-0.2**
CBX					*e*S		**Sg**	**17 02 25.4**	**+0.3**
CBX					AML		AML	17 02 27.4	
	comp=N,2μm,0.5s								
CBX				ǁ	*e*			17 02 27.4	
CBX	**Cerro Bola**	**1.14**	**276**		*e*P		**Pg**	**17 02 10.3**	**+0.1**
CBX					*e*S		**Sg**	**17 02 25.4**	**+0.3**
SPIG	**San Pedro Mart**	**1.16**	**186**		*e*P		**Pg**	**17 02 10.2**	**-0.4**
SPIG					*i* S		**Sb**	**17 02 26.9**	**+1.2**
SPIG	**San Pedro Mart**	**1.16**	**186**		*e*P		**Pg**	**17 02 10.2**	**-0.4**
SPIG					*e*S		**Sb**	**17 02 26.7**	**+1.1**
SPIG					*e*S		**Sn**	**17 02 27.3**	**+0.5**
ECNX	**Esteban Cantu**	**1.21**	**244**	ǁ	*e*P		**Pg**	**17 02 11.6**	**0.0**
BAR	**Barrett**	**1.24**	**293**		*e*Pg		**Pg**	**17 02 10.6**	**-1.4**
BAR					*e*Sg		**Sg**	**17 02 27.0**	**-1.1**
PBX	**Punta Banda**	**1.28**	**249**	ǁ	*e*P		**Pg**	**17 02 12.5**	**-0.3**
PFO	**Pinyon Flats O**	**1.69**	**326**		*e*Pn		**Pn**	**17 02 16.3**	**-1.6**
214A	**Organ Pipe Nat**	**2.15**	**96**		*e*Pn		Pn	17 02 21.8	-2.2
MWC	**Mount Wilson**	**3.05**	**312**		*e*Pn		**Pb**	**17 02 42.0**	**-0.7**
GSC	**Goldstone, Bar**	**3.33**	**339**		*e*Pg		**Pg**	**17 02 52.3**	**+0.3**
OSI	**Osito Audit: C**	**3.73**	**311**		Pn		Pn	17 02 49.5	+3.8
TUC	**Tucson**	**3.84**	**87**		Pn		**Pn**	**17 02 48.2**	**+0.8**
TUC					*e*Pg		**Pg**	**17 03 01.6**	**-0.3**
SHPR	**Sheep Range**	**4.29**	**2**		*e*Pg		**Pg**	**17 03 11.7**	**+1.2**
ISA	**Isabella, Lake**	**4.33**	**324**		*e*Pg		**Pg**	**17 03 09.3**	**-1.9**
WUAZ	**Wupatki**	**4.66**	**44**		Pn		**Pn**	**17 02 58.8**	**+0.1**
CCUT	**Cedar City**	**5.57**	**16**		*e*Pg		Pg	17 03 31.5	-3.4
	comp=N,9.5nm,0.8s								
121A	**Cookes Peak, D**	**6.38**	**85**		*e*Pn		**Pn**	**17 03 21.5**	**-0.9**
	comp=N,4.9nm,0.3s								
MVU	**Marysvale**	**6.78**	**21**		Pn		Pn	17 03 33.6	+5.7
MVU					*e*Pg		**Pg**	**17 03 58.5**	**+0.4**
SRU	**San Rafael Swe**	**7.92**	**28**		*e*Pg		Pg	17 04 16.5	-3.3
	comp=N,3.8nm,0.8s								

*ISCJB **07** 17:12:57.9±0.6,24˚12S±0˚.04×68˚.80W±0˚.06, h98km, mb3.9/6, Error ellipse: s-maj=8.5km s-min=6.1km az=162.9*
*GUC **07** 17:13:00.7±0.4,23˚.85S×68˚.79W, h108km±4km, ML4.2*
*IDC **07** 17:13:00.8±1.1,23˚.93S×68˚.62W, h100km±8km, mb3.9/6, mb1 3.8/9,mb1mx3.4/36, mbtmp4.1/9, Error ellipse: s-maj=31.7km s-min=20.3km az=92.0*

ISC 07 17:12:59.5±0.7,**24˚08S**±0˚.06×**68˚87W**±0˚.07,**h98**km,**n16,** σ1**9****05**/23,**mb3.9**/6,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.32**	**28**	*e*P		**Pn**	**17 13 23.7**	**-0.1**
SPCH				*e*S		**Sn**	**17 13 40.9**	**-1.1**
SPCH				AML		AML	17 13 42.1	
	comp=N,8μm,0.6s							
CEN1	**Los Morros**	**1.40**	**299**	*e*P		**Pn**	**17 13 23.9**	**-0.7**
CEN1				*e*S		**Sn**	**17 13 44.3**	**+0.8**
CEN1				AML		AML	17 13 49.8	
	comp=N,3μm,0.6s							
ANCH	**Antofagasta**	**1.47**	**285**	*e*P		**Pn**	**17 13 23.6**	**-1.6**
ANCH				*e*S		**Sn**	**17 13 44.1**	**-0.6**
ANCH				AML		AML	17 13 48.3	
	comp=E,5μm,0.3s							
MACH	**Maria Elena**	**2.05**	**336**	*e*P		**Pn**	**17 13 33.1**	**+0.2**
MACH				*e*S		**Sn**	**17 13 57.8**	**-0.5**
CFAA	**Coronel Fontan**	**7.52**	**176**	P		**Pn**	**17 14 47.7**	**+1.2**
	comp=E,0.4nm,0.3s,baz=353,slow=8.3,SNR=31							
CFAA				S		**Sn**	**17 16 08.1**	**-2.0**
	comp=E,0.1nm,0.3s,baz=264,slow=18,SNR=3.9							
LPAZ	**La Paz**	**7.78**	**5**	P		**Pn**	**17 14 49.8**	**-0.9**
	comp=E,0.5nm,0.3s,baz=186,slow=2.5,SNR=25							
SIV	**San Ignacio**	**10.88**	**44**	P		Pn	17 15 28.5	-3.8
	comp=E,2.8nm,0.3s,baz=271,slow=9.6,SNR=23							
SIV				S		Sn	17 17 19.4	-13
	comp=E,0.3nm,0.3s,baz=137,slow=19,SNR=2.8							
PTGA	**Pitinga**	**24.76**	**22**	P		**P**	**17 18 10.7**	**-1.4**
	comp=E,2.0nm,0.4s,baz=204,slow=12,SNR=6.4							
DBIC	**Dimbokro**	**69.45**	**72**	P		**P**	**17 23 57.1**	**-0.5**
	comp=E,2.9nm,0.7s,baz=198,slow=6.4,SNR=4.6							
ULM	**Lac du Bonnet**	**77.78**	**343**	P		**P**	**17 24 45.6**	**0.0**
	comp=E,1.0nm,0.8s,baz=148,slow=3.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**78.19**	**70**	P		**P**	**17 24 48.3**	**-0.4**
	comp=E,4.7nm,0.6s,baz=257,slow=5.2,SNR=43							
TORD				pP		**pP**	**17 25 14.7**	**+0.6**
	comp=E,0.8nm,0.6s,baz=251,slow=5.4,SNR=2.1							
BOSA	**Boshof**	**82.21**	**118**	P		**P**	**17 25 10.9**	**+0.6**
	comp=E,1.2nm,0.6s,baz=236,slow=7.3,SNR=4.1							
YKA	**Yellowknife Ar**	**93.62**	**341**	P		**P**	**17 26 04.7**	**+0.5**
	comp=E,0.2nm,0.6s,baz=137,slow=5.5,SNR=5.3							
WRA	**Warramunga Arr**	**130.75**	**209**	PKP		**PKPdf**	**17 32 01.4**	**+1.4**
	comp=E,0.3nm,0.9s,baz=152,slow=1.6,SNR=5.8							
WRA				pPKP		**pPKPdf**	**17 32 29.0**	**+2.0**
	comp=E,0.3nm,0.9s,baz=150,slow=1.6,SNR=1.9							
ZALV	**Zalesovo Beam**	**144.25**	**27**	PKP		**PKPdf**	**17 32 23.2**	**-0.4**
	comp=E,0.9nm,0.5s,baz=316,slow=4.1,SNR=6.9							
ZALV				pPKP		**pPKPdf**	**17 32 51.0**	**+0.4**
	comp=E,0.4nm,0.4s,baz=315,slow=7.5,SNR=2.4							
MKAR	**Makanchi Array**	**147.66**	**38**	PKPbc		**PKPbc**	**17 32 33.5**	**+0.9**
	comp=E,0.8nm,0.6s,baz=302,slow=3.1,SNR=10							

*IDC **07** 17:13:18.1±0.9,3˚49S×135˚.51E, h0km, mb4.0/5, mb1 4.2/8,mb1mx3.9/24, mbtmp4.2/8, ML4.2/3, Error ellipse: s-maj=29.9km s-min=21.9km az=76.0*
*ISCJB **07** 17:13:19.8±0.4,3˚.78S±0˚.04×135˚.53E±0˚.03, h22km, mb3.9/4, Error ellipse: s-maj=5.8km s-min=4.2km az=170.7*
*DJA **07** 17:13:22.9±0.9,4˚S±3˚×13˚6E±˚, h15km±7km, M4.5/12, mb4.6/12,mB5.0/7, MLv4.5/12,Mw(mB)4.3/7*
*NEIC **07** 17:13:24.0±0.9,3˚.56S×135˚.49E, h44km±11km, mb4.2/1, Error ellipse: s-maj=11.8km s-min=8.8km az=198.0*
NEIC Felt [III] at Nabire.

ISC 07 17:13:21.7±0.7,**3˚70S**±0˚.06×**135˚54E**±0˚.05,**h22**km,**n31,** σ1**9****96**/36,**mb4.0**/4,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.95**	**21**	P		**Pn**	**17 13 52.1**	**-1.4**
SRPI				S		**Sn**	**17 14 18.2**	**+0.8**
RKPI	**Ransiki, Papua**	**2.57**	**328**	P		**Pn**	**17 14 01.4**	**-0.6**
RKPI				S		**Sn**	**17 14 32.6**	**+0.1**
FAKI	**Fak Fak**	**3.37**	**283**	P		**Pn**	**17 14 14.3**	**+1.2**
FAKI				S		**Sn**	**17 14 55.1**	**+2.6**
FAKI	**Fak Fak**	**3.37**	**283**	*e*P		**Pn**	**17 14 13.8**	**+0.7**
SMPI	**Sarmi**	**3.60**	**62**	P		**Pn**	**17 14 17.8**	**+1.7**
SMPI				S		**Sn**	**17 15 00.9**	**+2.9**
GENI	**Genyem**	**4.75**	**77**	P		**Pn**	**17 14 34.1**	**+2.0**
JAY	**Jayapura**	**5.29**	**77**	P		**Pn**	**17 14 41.5**	**+2.0**
	21nm,0.5s,0.1nm							
JAY	**Jayapura**	**5.29**	**77**	Pn		**Pn**	**17 14 40.3**	**+0.8**
	3.7nm,0.3s,baz=226,slow=12,SNR=12							
JAY				Sn		**Sn**	**17 15 39.8**	**-0.2**
	1.4nm,0.3s,baz=107,slow=17,SNR=2.0							
BNDI	**Bandanaira**	**5.68**	**262**	P		**Pn**	**17 14 47.1**	**+2.4**
	146nm,1.0s,2μm1.3nm							
BNDI				S		**Sn**	**17 15 53.9**	**+4.6**
	146nm,1.0s,2μm1.3nm							
SAUI	**Saumlaki**	**5.99**	**225**	P		Pn	17 14 52.6	+3.6
	67nm,1.0s,2μm0.3nm							
MSAI	**Masohi**	**6.61**	**273**	P		**Pn**	**17 14 59.4**	**+1.9**
	12nm,0.6s,178nm0.1nm							
MSAI				S		**Sn**	**17 16 12.3**	**+0.1**
	12nm,0.6s,178nm0.1nm							
NLAI	**Namlea**	**8.43**	**273**	P		**Pn**	**17 15 24.4**	**+1.8**
	21nm,0.6s,502nm							
LBMI	**Labuha**	**8.59**	**291**	P		**Pn**	**17 15 26.1**	**+1.4**
	29nm,0.7s							
SANI	**Sanana**	**9.68**	**280**	P		**Pn**	**17 15 39.4**	**-0.3**
	20nm,0.7s							
PMG	**Port Moresby**	**12.86**	**117**	Pn		Pn	17 16 26.5	+3.3
	0.6nm,0.3s,baz=308,slow=12,SNR=6.5							
BATI	**Baumata**	**13.44**	**241**	P		**Pn**	**17 16 31.9**	**+0.7**
	19nm,0.9s							
BATI	**Baumata**	**13.44**	**241**	Pn		**Pn**	**17 16 31.6**	**+0.4**
	6.4nm,0.3s,baz=68,slow=5.3,SNR=16							
BATI				Sn		**Sn**	**17 18 56.0**	**-4.0**
	0.6nm,0.3s,baz=162,slow=20,SNR=2.5							
APSI	**Ampana**	**14.15**	**281**	P		**Pn**	**17 16 42.5**	**+1.6**
WRAB	**Tennant Creek**	**16.17**	**184**	*e*P		**Pn**	**17 17 04.7**	**-3.0**
	14nm,0.6s							
WB2	**Warramunga Arr**	**16.18**	**184**	*e*P		**Pn**	**17 17 04.5**	**-3.4**
WRA	**Warramunga Arr**	**16.18**	**184**	Pn		**Pn**	**17 17 04.3**	**-3.6**
	0.6nm,0.3s,baz=5.6,slow=13,SNR=37							
WRA				Sn		Sn	17 19 55.8	-11
	0.8nm,0.3s,baz=7.1,slow=22,SNR=6.5							
WRA				Lg		Lg	17 21 51.2	
	baz=4.1,slow=27,SNR=3.3							
CTA	**Charters Tower**	**19.35**	**148**	P		**Pn**	**17 17 47.6**	**+0.6**
	0.3nm,0.3s,baz=340,slow=12,SNR=3.2							
CTAO	**Charters Tower**	**19.35**	**148**	*e*P		**Pn**	**17 17 47.2**	**+0.2**
ASAR	**Alice Springs**	**19.91**	**184**	P		**Pn**	**17 17 53.9**	**+0.2**
	19nm,0.7s,baz=9.2,slow=11,SNR=253							
ASAR				S		S	17 21 24.8	-10
	1.4nm,0.7s,baz=4.4,slow=28,SNR=5.9							
ASAR				Lg		Lg	17 23 54.4	
	1.9nm,0.8s,baz=15,slow=30,SNR=3.5							
ASAJ	**Asahikawa**	**48.02**	**7**	P		**P**	**17 21 57.9**	**-1.2**
	4.5nm,0.8s,baz=207,slow=14,SNR=6.1							
MKAR	**Makanchi Array**	**68.68**	**324**	P		**P**	**17 24 23.2**	**-0.3**
	0.5nm,0.6s,baz=109,slow=7.7,SNR=5.1							
ZALV	**Zalesovo Beam**	**71.23**	**331**	P		**P**	**17 24 37.5**	**-1.5**
	0.5nm,0.6s,baz=101,slow=7.5,SNR=2.9							
ILAR	**Eielson Array**	**88.05**	**25**	P		P	17 26 07.4	-2.7
	0.4nm,0.4s,baz=258,slow=4.4,SNR=8.3							
ARCES	**ARCESS Array B**	**100.39**	**340**	P		**Pdif**	**17 27 05.1**	**-1.4**
	2.3nm,0.8s,baz=92,slow=5.4,SNR=6.2							
BRTR	**Keskin Array B**	**101.51**	**310**	P		**Pdif**	**17 27 13.1**	**+0.7**
	0.5nm,0.6s,baz=123,slow=5.3,SNR=3.0							
LPAZ	**La Paz**	**149.31**	**131**	PKPbc		**PKPbc**	**17 33 10.6**	**0.0**
	0.9nm,0.7s,baz=321,slow=2.3,SNR=3.5							

*IDC **07** 17:29:01.6±1.1,25˚.40N×126˚.23E, h0km, mb3.7/8, mb1 3.8/8,mb1mx3.6/27, mbtmp3.8/8, ML2.0/1, Error ellipse: s-maj=25.4km s-min=23.5km az=145.0*
*JMA **07** 17:29:06.6±0.1,25˚.40N×126˚.47E, h15km, M3.4*
*ISCJB **07** 17:29:07.9±0.5,25˚.45N±0˚.08×126˚.41E±0˚.08, h62km±5km, mb3.6/8, Error ellipse: s-maj=17.7km s-min=4.2km az=139.5*

ISC 07 17:29:09.2±1.0,**25˚51N**±0˚.09×**126˚34E**±0˚.08,**h55**km±10km, **n25,** σ1**9****09**/32,**mb3.7**/8,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.91**	**26**	P		**Pn**	**17 29 24.6**	**-1.2**
JKE				*e*S		**Sn**	**17 29 37.4**	**-0.7**
JOGS	**Gusukube**	**1.13**	**229**	P		**Pn**	**17 29 28.1**	**-0.6**
JOGS				S		**Sn**	**17 29 44.2**	**+0.9**
JIKM	**Ikemajima**	**1.15**	**240**	P		**Pn**	**17 29 28.4**	**-0.6**
JIKM				S		**Sn**	**17 29 45.6**	**+1.8**
JMJ	**Miyako jima 2**	**1.17**	**234**	P		**Pn**	**17 29 28.9**	**-0.5**
JMJ				S		**Sn**	**17 29 46.2**	**+1.8**
JIRB	**Irabujima**	**1.26**	**238**	P		**Pn**	**17 29 29.5**	**-1.0**
JIRB				*e*S		**Sn**	**17 29 47.4**	**+1.0**
JAGN	**Aguni-jima**	**1.35**	**37**	P		**Pn**	**17 29 31.3**	**-0.4**
JAGN				S		**Sn**	**17 29 50.0**	**+1.5**
JJT2	**Tamagusuku 2**	**1.42**	**63**	P		**Pn**	**17 29 31.5**	**-1.1**
JTJ	**Tarama**	**1.72**	**240**	P		**Pn**	**17 29 35.9**	**-0.8**
JTJ				*e*S		**Sn**	**17 29 57.3**	**-0.3**
JNTH	**Nagotoyohara**	**1.82**	**56**	P		**Pn**	**17 29 36.6**	**-1.5**
JISG	**Ishigakijimahi**	**2.06**	**244**	P		**Pn**	**17 29 40.1**	**-1.2**
JIH	**Iheya**	**2.11**	**43**	P		**Pn**	**17 29 42.0**	**0.0**
JOW	**Kunigami**	**2.18**	**52**	P		**Pn**	**17 29 44.0**	**+1.0**
JOW	**Kunigami**	**2.18**	**52**	Pn		**Pn**	**17 29 42.6**	**-0.4**
	0.6nm,0.3s,baz=239,slow=18,SNR=6.5							
JOW				Sn		**Sn**	**17 30 11.3**	**+2.4**
	baz=127,slow=19							
JIJ	**Ishigaki jima**	**2.30**	**241**	P		**Pn**	**17 29 43.5**	**-1.1**
IRIF	**Iriomote-Funau**	**2.64**	**244**	P		**Pn**	**17 29 49.0**	**-0.3**
JAM	**Amami Oshima**	**4.10**	**44**	P		**Pn**	**17 30 07.5**	**-1.9**
JMZ	**Minamidaito 2**	**4.41**	**85**	*e*S		Sn	17 30 52.5	-11
ASAJ	**Asahikawa**	**22.79**	**31**	P		**P**	**17 34 07.2**	**+0.1**
	6.8nm,1.2s,baz=190,slow=6.1,SNR=4.6							
MKAR	**Makanchi Array**	**40.76**	**313**	P		**P**	**17 36 45.1**	**+0.3**
	0.8nm,0.4s,baz=99,slow=9.4,SNR=21							
ZALV	**Zalesovo Beam**	**41.81**	**324**	P		**P**	**17 36 53.2**	**-0.1**
	0.5nm,0.5s,baz=105,slow=10.0,SNR=3.7							
WRA	**Warramunga Arr**	**45.84**	**169**	P		**P**	**17 37 24.9**	**-1.0**
	0.2nm,0.7s,baz=349,slow=8.9,SNR=3.8							
FINES	**FINESS Array B**	**72.65**	**330**	P		**P**	**17 40 31.1**	**+0.5**
	0.5nm,0.5s,baz=33,slow=4.4,SNR=8.2							
AKASG	**Malin Array Be**	**74.97**	**319**	P		**P**	**17 40 44.5**	**+0.1**
	0.4nm,0.4s,baz=66,slow=5.9,SNR=3.2							
NOA	**NORSAR Array B**	**79.20**	**333**	P		**P**	**17 41 07.8**	**-0.3**
	0.7nm,0.8s,baz=52,slow=5.7,SNR=3.4							
YKA	**Yellowknife Ar**	**79.89**	**24**	P		**P**	**17 41 12.1**	**+0.4**
	0.5nm,0.8s,baz=299,slow=5.7,SNR=5.7							

*BJI **07** 17:40:59.4,0˚.31N×96˚.91E, h29km, mB4.9/14, mb4.7/24, Ms4.6/4, Ms7 4.2/2*
*IDC **07** 17:41:01.8±0.9,0˚.90N×96˚.71E, h0km, mb4.2/13, mb1 4.3/14,mb1mx4.1/38,mbtmp4.2/14, ML4.3/1, Error ellipse: s-maj=31.7km s-min=17.2km az=46.0*
*KLM **07** 17:41:01.1,0˚.98N×96˚.55E, h10km, mb4.5, ML4.2, MS5.1*
*ISCJB **07** 17:41:04.1±0.4,0˚.92N±0˚.04×96˚.84E±0˚.04, h25km, mb4.3/22, Error ellipse: s-maj=7.3km s-min=4.3km az=135.0*
*DJA **07** 17:41:05.3±2.3,1˚N±4˚×9˚7E±˚, h31km±33km, M4.5/11, mb4.9/7,mB5.0/4, MLv4.4/11, Mw(mB)4.3/4*
*NEIC **07** 17:41:07.3±0.4,0˚.98N×96˚.86E, h35km, mb4.4/11, Error ellipse: s-maj=9.0km s-min=6.4km az=224.0*

ISC 07 17:41:06.0±0.7,**0˚93N**±0˚.07×**96˚78E**±0˚.07,**h25**km,**n89,** σ1**9****11**/90,**mb4.4**/22,**9C-1D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.54**	**343**	P		**Pn**	**17 41 30.0**	**-1.8**
SNSI				S		**Sn**	**17 41 49.6**	**-1.4**
TPTI		**2.35**	**10**	P		Pn	17 41 40.7	-2.3
KCSI	**Kotacane, Aceh**	**2.76**	**21**	P		**Pn**	**17 41 47.3**	**-1.4**
KCSI				S		**Sn**	**17 42 22.4**	**+1.1**
MNSI	**Mandailing Nat**	**2.81**	**93**	P		**Pn**	**17 41 49.4**	**+0.1**
TSI	**Tuntungan**	**3.12**	**35**	P		**Pn**	**17 41 53.6**	**0.0**
LHMI	**Lhok Sumawe**	**4.27**	**2**	P		**Pn**	**17 42 08.7**	**-0.8**
BKNI	**Bangkinang**	**4.30**	**98**	P		**Pn**	**17 42 10.6**	**+0.6**
BKNI	**Bangkinang**	**4.30**	**98**	*e*Pn		**Pn**	**17 42 10.2**	**+0.2**
FRIM	**Kepong**	**5.36**	**65**	⇑P		**Pn**	**17 42 24.2**	**-0.2**
IPM	**Ipoh**	**5.52**	**50**	⇑P		**Pn**	**17 42 26.0**	**-0.6**
IPM	**Ipoh**	**5.52**	**50**	*e*Pn		**Pn**	**17 42 25.0**	**-1.7**
	34nm,0.6s							
KULM	**Kulim**	**5.81**	**42**	ǁP		**Pn**	**17 42 29.8**	**-0.8**
KULM	**Kulim**	**5.81**	**42**	*e*Pn		**Pn**	**17 42 29.2**	**-1.4**
	88nm,1.1s							
KGM	**Kluang**	**6.63**	**81**	⇑P		**Pn**	**17 42 42.0**	**0.0**
KTGM	**Kuala Trenggan**	**7.71**	**55**	⇑P		**Pn**	**17 42 56.0**	**-0.7**
MNAI	**Manna**	**8.11**	**130**	P		**Pn**	**17 43 02.4**	**+0.1**
	161nm,1.0s							
LHSI	**Lahat**	**8.23**	**125**	P		**Pn**	**17 43 04.5**	**+0.5**
	78nm,0.8s,755nm							
MDSI	**Maura Dua**	**9.15**	**126**	P		**Pn**	**17 43 15.7**	**-0.8**
	52nm,0.8s							
LWLI	**Liwa**	**9.37**	**129**	P		**Pn**	**17 43 20.0**	**+0.3**
KSM	**Kuching**	**13.54**	**88**	⇑P		**Pn**	**17 44 16.2**	**-0.4**
SBUM	**Sibu**	**15.51**	**84**	⇑P		**Pn**	**17 44 42.7**	**-0.5**
DLV	**T Lat**	**15.96**	**46**	*e*Pn		**Pn**	**17 44 49.1**	**-0.1**
	18nm,0.9s							
BTM	**Bintulu**	**16.45**	**82**	⇑P		**Pn**	**17 44 53.2**	**-2.2**
CMAR	**Chiang Mai Arr**	**17.55**	**7**	P		**Pn**	**17 45 07.5**	**-1.6**
	0.4nm,0.3s,baz=197,slow=12,SNR=20							
CHTO	**Chiang Mai**	**17.90**	**7**	*e*P		**Pn**	**17 45 13.6**	**+0.1**
	3.5nm,0.9s							
KDM	**Kudat**	**20.87**	**73**	⇑P		**P**	**17 45 44.9**	**-1.5**
SDKM	**Sandakan**	**20.91**	**77**	⇑P		**P**	**17 45 47.0**	**0.0**
SLVN	**Son La**	**21.44**	**18**	*e*P		**P**	**17 45 51.8**	**-0.8**
	37nm,0.8s							
KMI	**Kunming**	**24.73**	**13**	P		**P**	**17 46 27.9**	**+2.1**
KMI				pP		pP	17 46 40.0	+6.7
KMI				PMZ				
	16nm,1.0s							
SHL	**Shillong**	**24.94**	**349**	*e*P		**P**	**17 46 29.0**	**+1.3**
H08S2	**Diego Garcia H**	**25.67**	**250**	T		T	18 13 18.2	
	baz=70,slow=74,SNR=791							
H08S3	**Diego Garcia H**	**25.68**	**250**	T		T	18 13 16.4	
	baz=70,slow=74,SNR=580							
H08S1	**Diego Garcia H**	**25.69**	**250**	T		T	18 13 18.5	
	baz=70,slow=74,SNR=966							
ODAN	**Odare**	**27.31**	**341**	*e*P		**P**	**17 46 50.0**	**+0.9**
	21nm,0.7s							
ODAN	**Odare**	**27.31**	**341**	*e*P		**P**	**17 46 50.1**	**+0.9**
	21nm,0.7s							
RAMN	**Ramite**	**27.66**	**340**	*e*P		**P**	**17 46 53.8**	**+1.5**
	37nm,0.9s							
RAMN	**Ramite**	**27.66**	**340**	*e*P		**P**	**17 46 53.9**	**+1.6**
	37nm,0.9s							
TAPN	**Taplejung**	**27.67**	**342**	*e*P		**P**	**17 46 53.7**	**+1.3**
	31nm,0.9s							
TAPN	**Taplejung**	**27.67**	**342**	*e*P		**P**	**17 46 53.8**	**+1.3**
	31nm,0.9s							
JIRN	**Jiri**	**28.45**	**340**	*e*P		**P**	**17 47 00.7**	**+1.2**
	36nm,0.9s							
JIRN	**Jiri**	**28.45**	**340**	*e*P		**P**	**17 47 00.7**	**+1.2**
	36nm,0.9s							
PKI	**Pulchoki**	**28.64**	**339**	*e*P		**P**	**17 47 01.8**	**+0.6**
	38nm,1.1s							
PKI	**Pulchoki**	**28.64**	**339**	*e*P		**P**	**17 47 01.9**	**+0.7**
	38nm,1.1s							
PKIN	**Phulchoki**	**28.65**	**339**	*e*P		**P**	**17 47 01.8**	**+0.6**
	10nm,0.7s							
PKIN	**Phulchoki**	**28.65**	**339**	*e*P		**P**	**17 47 01.9**	**+0.7**
GUN	**Gumba**	**28.79**	**340**	*e*P		**P**	**17 47 03.0**	**+0.5**
	34nm,0.7s							
GUN	**Gumba**	**28.79**	**340**	*e*P		**P**	**17 47 03.5**	**+1.0**
	34nm,0.7s							
KKN	**Kakani**	**28.89**	**339**	*e*P		**P**	**17 47 03.7**	**+0.5**
	11nm,0.5s							
KKN	**Kakani**	**28.89**	**339**	*e*P		**P**	**17 47 04.0**	**+0.8**
LSA	**Lhasa**	**29.11**	**350**	*e*P		**P**	**17 47 05.7**	**+0.2**
	9.2nm,0.7s							
GKN	**Gorkha**	**29.32**	**338**	*e*P		**P**	**17 47 07.6**	**+0.6**
	11nm,0.5s							
GKN	**Gorkha**	**29.32**	**338**	*e*P		**P**	**17 47 08.0**	**+1.0**
	11nm,0.5s							
KOLN	**Koldanda**	**29.52**	**336**	*e*P		**P**	**17 47 09.7**	**+0.8**
	11nm,0.6s							
KOLN	**Koldanda**	**29.52**	**336**	*e*P		**P**	**17 47 10.0**	**+1.1**
	11nm,0.6s							
DANN	**Dangsing**	**29.97**	**337**	*e*P		**P**	**17 47 13.7**	**+0.

PETK	**Petropavlovsk-**	**72.89**	**346**	P		**P**	**17 53 05.2**	**+0.2**
	3.5nm,0.8s,baz=139,slow=9.1,SNR=8.6							
NVAR	**Mina Array Bea**	**79.51**	**44**	P		**P**	**17 53 42.2**	**0.0**
	0.7nm,0.6s,baz=221,slow=9.3,SNR=6.6							
ILAR	**Eielson Array**	**85.45**	**13**	P		**P**	**17 54 10.2**	**-1.1**
	0.9nm,0.4s,baz=224,slow=5.3,SNR=17							
CMAR	**Chiang Mai Arr**	**87.96**	**290**	P		**P**	**17 54 26.1**	**+1.9**
	0.9nm,0.9s,baz=110,slow=3.1,SNR=7.6							
YKA	**Yellowknife Ar**	**94.09**	**25**	P		**P**	**17 54 50.4**	**-1.0**
	0.5nm,0.6s,baz=246,slow=4.5,SNR=9.8							
FINES	**FINESS Array B**	**132.38**	**344**	PKP		**PKPdf**	**18 00 43.7**	**+0.2**
	0.5nm,0.5s,baz=117,slow=0.6,SNR=4.4							
BRTR	**Keskin Array B**	**143.80**	**315**	PKP		PKPbc	18 01 04.2	-0.2
	1.8nm,0.9s,baz=321,slow=0.9,SNR=7.2							
CLL	**Collm**	**144.69**	**347**	↑*i*PKP		**PKPab**	**18 01 06.8**	**-0.3**
	comp=Z,11nm,1.1s							
BRG	**Berggiesshubel**	**144.88**	**345**	*e*P		**PKPab**	**18 01 07.5**	**-0.4**
	comp=Z,4.1nm,0.8s							
GERES	**GERESS Array B**	**146.81**	**344**	PKPbc		**PKPbc**	**18 01 12.7**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=21,slow=3.2,SNR=14							
CONA	**Conrad Observa**	**147.03**	**341**	↑*i*PKPbc		**PKPbc**	**18 01 14.1**	**+0.7**
	comp=Z,3.5nm,0.6s							
KBA	**Koelnbreinsper**	**148.53**	**343**	↑*i*PKPdf		**PKPbc**	**18 01 16.3**	**-1.1**
	comp=Z,2.1nm,0.5s							
WTTA	**Wattenberg**	**148.79**	**346**	↑*i*PKPbc		**PKPbc**	**18 01 18.0**	**0.0**
	comp=Z,7.2nm,0.8s							
ABTA	**Abfaltersbach**	**149.06**	**344**	↑*i*PKPdf		**PKPbc**	**18 01 18.0**	**-0.6**
	comp=Z,4.0nm,0.6s							

GUC 07 17:46:49.6±0.7, 34.62S×71.86W, h15km±5km, MD3.7, ML3.4,4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.64**	**127**	↓*i*P	Pg	17 47 01.7	-0.6
NICH				*i* S	Sg	17 47 10.8	-0.1
LNV	**Longovilo**	**0.76**	**29**	↑*i*P	Pg	17 47 02.8	-1.6
TALC	**Talca**	**0.80**	**167**	↑*i*P	Pg	17 47 04.1	-1.0
TALC				*i* S	Sg	17 47 15.2	-0.5
CHCH	**Chadas Angostu**	**1.21**	**56**	↓*i*P	Pn	17 47 10.4	-1.6
LNCH	**Linares**	**1.24**	**170**	*e*P	Pb	17 47 13.1	+0.3
LNCH				*i* S	Sg	17 47 29.6	-0.2
CLCH	**Cerro Calan**	**1.64**	**42**	*e*P	Pn	17 47 17.8	-0.3
CLCH				*i* S	Sn	17 47 38.9	0.0
CLCH				AML	AML	17 47 43.6	
	comp=N,852nm,0.5s						
PEL	**Peldehue**	**1.77**	**34**	↑*i*P	Pn	17 47 20.1	+0.3
PEL				*i* S	Sn	17 47 42.5	+0.5
PEL				AML	AML	17 47 48.0	
	comp=N,845nm,0.5s						
ROCH	**El Roble**	**1.79**	**23**	↑*i*P	Pn	17 47 20.5	+0.2
ROCH				*e*S	Sn	17 47 43.6	+0.6
FCH	**Farellones**	**1.83**	**46**	AML	AML	17 47 47.1	
	comp=N,356nm,0.5s						

*ISCJB **07** 17:50:35.7±0.6, 36.97S±0.06×73.64W±0.08, h14km, mb4.3/10, MS3.3/1, Error ellipse: s-maj=11.0km s-min=5.5km az=38.4*
*IDC **07** 17:50:36.0±1.0, 37.03S×73.15W, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/31, mbtmp4.0/8, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.9/17, Error ellipse: s-maj=40.2km s-min=19.4km az=100.0*
*NEIC **07** 17:50:39.3, 37.13S×73.25W, h19km, mb4.5/2, ML4.9(GUC), After GUC.*
NEIC Felt [IV] at Parral; [III] at Concepcion and Longavi; [II] at Cauquenes and Linares.
*GUC **07** 17:50:39.3±0.6, 37.13S×73.25W, h19km±3km, ML4.9*
ISC 07 17:50:37.7±0.7, 37.00S±0.07×73.51W±0.08, h14km, n38, σ1§20/42, mb4.3/10, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.36**	**65**	↓*i*P	**Pb**	**17 50 46.3**	**+0.4**
CCSP				*e*S	**Sg**	**17 50 50.6**	**+0.7**
CCSP				AML	AML	17 50 51.8	
	comp=E,227µm,0.5s						
CCSP	**San Pedro de C**	**0.36**	**65**	↓*i*P	**Pb**	**17 50 46.3**	**+0.4**
CCSP				*e*S	**Sg**	**17 50 50.6**	**+0.7**
LNCH	**Linares**	**1.92**	**54**	*e*P	**Pn**	**17 51 10.5**	**+0.5**
LNCH				*i* S	**Sn**	**17 51 33.8**	**-0.2**
LNCH	**Linares**	**1.92**	**54**	*e*P	**Pn**	**17 51 10.5**	**+0.5**
LNCH				*i* S	**Sn**	**17 51 33.8**	**-0.2**
TALC	**Talca**	**2.20**	**44**	*e*P	**Pn**	**17 51 14.1**	**+0.2**
TALC				*e*S	**Sn**	**17 51 41.6**	**+0.7**
TALC	**Talca**	**2.20**	**44**	*e*P	**Pn**	**17 51 14.1**	**+0.2**
TALC				*e*S	**Sn**	**17 51 41.6**	**+0.7**
NICH	**Los Niches**	**2.72**	**44**	↑*i*P	**Pn**	**17 51 22.6**	**+1.7**
NICH				*i* S	**Sn**	**17 51 55.5**	**+1.8**
NICH	**Los Niches**	**2.72**	**44**	↑*i*P	**Pn**	**17 51 22.6**	**+1.7**
NICH				*i* S	**Sn**	**17 51 55.5**	**+1.8**
VLCH	**Valdivia**	**2.81**	**176**	*i* P	**Pn**	**17 51 22.2**	**-0.1**
VLCH	**Valdivia**	**2.81**	**176**	*i* P	**Pn**	**17 51 22.2**	**-0.1**
CFAA	**Coronel Fontan**	**6.93**	**41**	Pn	**Pn**	**17 52 17.4**	**-1.5**
	comp=E,0.9nm,0.3s,baz=195,slow=9.4,SNR=32						
CFAA				Sn	**Sn**	**17 53 34.0**	**-3.5**
	comp=E,0.8nm,0.3s,baz=288,slow=20,SNR=1.9						
CFAA				LR	LR	17 54 57.1	
	comp=E,48nm,20.3s,baz=222,slow=39						
LCO	**Las Campanas**	**8.31**	**17**	*e*P	**Pn**	**17 52 36.9**	**-1.1**
	comp=E,33nm,0.6s						
TRQA	**Tornquist**	**9.22**	**100**	*e*P	**Pn**	**17 52 49.9**	**-0.4**
	comp=E,25nm,0.6s						
LVC	**Limon Verde**	**14.88**	**17**	*e*P	**Pn**	**17 54 06.5**	**-1.4**
	comp=E,5.9nm,0.6s						
LPAZ	**La Paz**	**21.17**	**14**	P	**P**	**17 55 24.8**	**+1.5**
	comp=E,3.5nm,0.6s,baz=184,slow=6.4,SNR=19						
LPAZ	**La Paz**	**21.17**	**14**	*e*P	**P**	**17 55 24.6**	**+1.3**
	comp=E,8.5nm,0.8s						
SIV	**San Ignacio**	**23.65**	**31**	P	**P**	**17 55 47.5**	**-1.3**
	comp=E,2.1nm,0.5s,baz=206,slow=14,SNR=6.4						
BDFB	**Brasilia**	**31.05**	**54**	LR	LR	18 08 47.3	
	comp=E,69nm,19.5s,baz=210,slow=35						
VNA3	**Neumayer Olymp**	**47.07**	**157**	P	**P**	**17 59 10.6**	**+2.1**
VNA2	**Neumayer--Watz**	**47.74**	**156**	P	**P**	**17 59 15.0**	**+1.2**
	baz=280,slow=9.1						
SNAA	**Sanae**	**49.29**	**157**	P	**P**	**17 59 25.9**	**+0.1**
SNAA	**Sanae**	**49.29**	**157**	P	**P**	**17 59 25.9**	**+0.1**
	comp=E,0.9nm,0.9s,baz=284,slow=8.3,SNR=5.8						
QSPA	**South Pole Qui**	**53.24**	**180**	P	**P**	**17 59 56.4**	**+0.8**
	comp=E,2.1nm,0.5s,baz=322,slow=1.7,SNR=18						
QSPA	**South Pole Qui**	**53.24**	**180**	*e*P	**P**	**17 59 56.2**	**+0.6**
	comp=E,22nm,1.8s						
SBA	**Scott Base**	**59.90**	**192**	*e*P	**P**	**18 00 42.3**	**-0.3**
TXAR	**Lajitas Array**	**71.79**	**333**	P	**P**	**18 02 01.6**	**+1.8**
	comp=E,0.6nm,0.7s,baz=153,slow=10,SNR=4.7						
LIC	**Lamto**	**76.86**	**72**	*e*P	**P**	**18 02 28.4**	**-1.2**
	comp=E,22nm,0.8s						
TIC	**Toumodi**	**77.13**	**71**	*e*P	**P**	**18 02 30.1**	**-1.1**
	comp=E,42nm,0.2s						
KIC	**Kosan Boka**	**77.16**	**72**	*e*P	**P**	**18 02 30.3**	**-1.0**
	comp=E,16nm,0.8s						
DBIC	**Dimbokro**	**77.27**	**72**	P	**P**	**18 02 30.8**	**-1.2**
	comp=E,3.4nm,0.7s,baz=199,slow=10,SNR=5.8						
BOSA	**Boshof**	**79.74**	**118**	*e*P	P	18 02 52.6	+7.0
TORD	**Torodi Ar. Bea**	**86.35**	**71**	P	**P**	**18 03 18.6**	**-1.1**
	comp=E,0.8nm,1.1s,baz=268,slow=6.6,SNR=3.1						
WRA	**Warramunga Arr**	**117.57**	**210**	PKP	**PKPdf**	**18 09 22.9**	**-0.9**
	comp=E,0.2nm,0.7s,baz=178,slow=1.7,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**124.49**	**268**	T	T	20 26 40.6	
	baz=120,slow=74						
H11S1	**WAKE ISLAND Hy**	**124.50**	**268**	T	T	20 26 43.4	
	baz=120						
H11S3	**WAKE ISLAND Hy**	**124.51**	**268**	T	T	20 26 40.6	
	baz=120,slow=74						
ABKAR	**Akbulak array**	**144.44**	**55**	*e*PKPpre	PKPpre	18 10 10.3	
MKAR	**Makanchi Array**	**159.57**	**54**	PKP	**PKPdf**	**18 10 35.5**	**-0.1**
	comp=E,0.3nm,0.8s,baz=276,slow=2.8,SNR=3.0						
MKAR				PKPab	**PKPab**	**18 11 12.8**	**-1.1**
	comp=E,0.7nm,0.9s,baz=285,slow=4.8,SNR=5.0						

*IDC **07** 18:08:00.5±1.6, 0.72S×121.56E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/27, mbtmp3.5/4, Error ellipse: s-maj=166.4km s-min=21.2km az=56.0*
*DJA **07** 18:08:04.9±0.2, 1.1S×12.1E±, h10km, M4.0/19, mb4.1/5, mB4.8/1, MLv4.0/19, Mw(mB)4.0/1*
*ISCJB **07** 18:08:05.5±0.5, 1.09S±0.05×120.91E±0.05, h33km, mb3.4/4, Error ellipse: s-maj=7.9km s-min=5.5km az=139.4*
ISC 07 18:08:07.2±0.9, 1.06S±0.05×120.93E±0.05, h35km, n19, σ1§86/23, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.74**	**78**	P	**Pn**	**18 08 19.2**	**-2.0**
PCI	**Palu**	**1.10**	**278**	P	**Pn**	**18 08 23.9**	**-2.3**
MPSI	**Mapaga**	**1.73**	**323**	P	**Pn**	**18 08 34.5**	**-0.3**
MRSI	**Marisa**	**1.83**	**34**	P	**Pn**	**18 08 36.3**	**0.0**
MRSI				S	**Sn**	**18 09 01.4**	**+3.1**
LUWI	**Luwuk**	**1.85**	**89**	P	**Pn**	**18 08 36.1**	**-0.3**
LUWI				S	**Sn**	**18 09 01.9**	**+3.4**
TTSI	**Tana Toraja**	**2.26**	**209**	P	**Pn**	**18 08 41.9**	**-0.2**
TTSI				S	**Sn**	**18 09 12.5**	**+3.7**
GTOI	**Gorontalo**	**2.68**	**51**	P	**Pn**	**18 08 48.2**	**+0.3**
SPSI	**Sidrap Palu**	**3.11**	**202**	P	**Pn**	**18 08 53.5**	**-0.3**
SPSI				S	**Sn**	**18 09 31.8**	**+2.1**
BNSI	**Bone**	**3.42**	**194**	P	**Pn**	**18 08 58.6**	**+0.6**
KMSI	**Cibinong**	**3.46**	**62**	P	**Pn**	**18 08 59.8**	**+1.2**
BKSI	**Bulukumba**	**4.31**	**191**	P	**Pn**	**18 09 09.1**	**-1.2**
SANI	**Sanana**	**5.16**	**101**	P	**Pn**	**18 09 19.7**	**-2.3**
	8.4nm,0.9s,0.1nm						
KBKI	**Kotabaru**	**5.25**	**245**	P	**Pn**	**18 09 23.2**	**-0.1**
	8.9nm,0.8s,0.1nm						
BBKI	**Banjar Baru**	**6.53**	**248**	P	**Pn**	**18 09 40.8**	**-0.1**
	18nm,0.9s,0.1nm						
MSAI	**Masohi**	**8.31**	**106**	P	**Pn**	**18 10 05.7**	**+0.3**
WRA	**Warramunga Arr**	**22.90**	**146**	P	**P**	**18 13 05.6**	**-2.6**
	1.0nm,0.9s,baz=332,slow=9.7,SNR=8.6						
ASAR	**Alice Springs**	**25.76**	**152**	P	**P**	**18 13 32.4**	**-2.4**
	0.4nm,0.6s,baz=332,slow=9.7,SNR=10						
CMAR	**Chiang Mai Arr**	**29.04**	**313**	P	**P**	**18 14 04.2**	**-0.1**
	0.4nm,0.3s,baz=143,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**58.45**	**330**	P	**P**	**18 17 59.4**	**-0.3**
	0.4nm,0.7s,baz=144,slow=7.0,SNR=4.2						

*IDC **07** 18:14:45.0±3.9, 1.76N×96.31E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.2/50, mbtmp3.3/3, Error ellipse: s-maj=140.6km s-min=31.4km az=60.0*
*ISCJB **07** 18:14:50.3±1.3, 2.02N±0.09×96.79E±0.07, h28km, mb3.2/2, Error ellipse: s-maj=13.4km s-min=9.4km az=3.8*
*DJA **07** 18:14:56.1±1.3, 3˚N±29˚×9˚7E±4˚0, h27km±36km, M2.6/3, MLv2.6/3*
ISC 07 18:14:51.1±1.4, 2.1N±0.1×96.76E±0.08, h28km, n9, σ1§08/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.53**	**305**	P	**Pn**	**18 15 03.9**	**+1.2**
SNSI				S	**Sn**	**18 15 09.9**	**-0.8**
TPTI		**1.22**	**20**	P	**Pb**	**18 15 13.4**	**-0.2**
TPTI				S	**Sn**	**18 15 26.3**	**-1.6**
KCSI	**Kotacane, Aceh**	**1.73**	**36**	P	**Pb**	**18 15 22.1**	**-0.2**
KCSI				S	**Sn**	**18 15 42.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**16.39**	**7**	Pn	**P**	**18 18 42.2**	**+0.2**
	baz=196,slow=12,SNR=5.2						
H08S2	**Diego Garcia H**	**26.07**	**248**	T	T	18 47 07.2	
	baz=69,slow=75,SNR=93						
H08S3	**Diego Garcia H**	**26.08**	**248**	T	T	18 47 10.3	
	baz=69,slow=75,SNR=91						
H08S1	**Diego Carcia H**	**26.09**	**248**	T	T	18 47 08.6	
	baz=69,slow=75,SNR=88						
WRA	**Warramunga Arr**	**42.89**	**123**	P	**P**	**18 22 47.1**	**-0.5**
	0.3nm,0.9s,baz=299,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**18 23 13.8**	**-0.3**
	0.2nm,0.5s,baz=155,slow=6.9,SNR=3.9						

*IDC **07** 18:22:35.6±1.7, 0.56S×133.44E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.5/39, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=75.8km s-min=20.8km az=79.0*
*ISCJB **07** 18:22:39.4±0.7, 0.52S±0.08×133.12E±0.06, h28km, mb3.8/4, Error ellipse: s-maj=11.9km s-min=7.5km az=19.9*
*DJA **07** 18:22:41.1±0.6, 1˚S±8˚×13˚3E±˚, h10km, M4.1/10, mb4.4/6, mB4.8/2, MLv4.0/8, MLv4.1/10, Mw(mB)4.0/2*
ISC 07 18:22:41.0±1.1, 0.6S±0.1×133.17E±0.08, h28km, n16, σ1§10/14, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.36**	**132**	P	**Pn**	**18 23 04.4**	**+0.3**
RKPI				S	**Sb**	**18 23 22.6**	**-0.2**
FAKI	**Fak Fak**	**2.48**	**202**	P	**Pn**	**18 23 20.0**	**+0.4**
MSAI	**Masohi**	**5.04**	**237**	P	**Pn**	**18 23 54.8**	**+0.1**
BNDI	**Bandanaira**	**5.08**	**220**	P	**Pn**	**18 23 56.4**	**+1.1**
	83nm,0.7s,0.5nm						
LBMI	**Labuha**	**5.67**	**270**	P	**Pn**	**18 24 04.7**	**+1.4**
	13nm,1.3s,0.1nm						
SMPI	**Sarmi**	**5.71**	**104**	P	**Pn**	**18 24 05.9**	**+1.9**
	16nm,1.9s,0.1nm0.1nm						
NLAI	**Namlea**	**6.61**	**246**	P	**Pn**	**18 24 17.7**	**+1.4**
BATI	**Baumata**	**13.44**	**224**	Pn	**Pn**	**18 25 50.4**	**+0.4**
	0.5nm,0.3s,baz=64,slow=6.2,SNR=4.3						
WRA	**Warramunga Arr**	**19.26**	**177**	P	**P**	**18 27 01.9**	**-1.6**
	0.2nm,0.3s,baz=357,slow=11,SNR=15						
WRA				S	Sn	18 30 25.9	-14
	0.1nm,0.3s,baz=0.8,slow=24,SNR=3.9						
ASAR	**Alice Springs**	**22.95**	**178**	P	**P**	**18 27 42.2**	**-1.0**
	1.2nm,0.4s,baz=358,slow=11,SNR=27						
H11N1	**WAKE ISLAND Hy**	**38.73**	**57**	T	T	19 11 08.3	
	baz=243,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**38.75**	**57**	T	T	19 11 10.1	
	baz=243,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**38.75**	**57**	T	T	19 11 09.7	
	baz=243,slow=75,SNR=12						
MKAR	**Makanchi Array**	**64.78**	**324**	P	**P**	**18 33 17.2**	**0.0**
	1.0nm,0.6s,baz=114,slow=7.8,SNR=16						
KURBB	**Kurchatov Arra**	**68.86**	**326**	P	**P**	**18 33 43.0**	**+0.1**
	1.2nm,0.7s,baz=122,slow=5.7,SNR=12						
BVAR	**Borovoye Array**	**74.45**	**326**	P	**P**	**18 34 15.8**	**-0.8**
	0.7nm,0.8s,baz=97,slow=7.4,SNR=5.2						

IDC 07 18:33:10.9±3.3, 6.05S×128.83E, h314km±29km, mb2.9/2, mb1 3.3/5, mb1mx3.0/30, mbtmp4.0/5, Error ellipse: s-maj=56.9km s-min=18.9km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.58**	**231**	P	Pn	18 34 46.5	-1.1
	20nm,0.3s,baz=74,slow=4.5,SNR=54						
BATI				S	S	18 36 00.8	-5.0
	7.1nm,0.3s,baz=69,slow=20,SNR=8.0						
WRA	**Warramunga Arr**	**14.81**	**159**	P	P	18 36 25.5	+0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=43						
WRA				S	S	18 39 01.3	-5.4
	0.1nm,0.3s,baz=334,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**18.19**	**165**	P	P	18 37 02.4	+0.5
	0.6nm,0.3s,baz=346,slow=12,SNR=84						
ASAR				S	S	18 40 11.6	-2.0
	0.1nm,0.3s,baz=345,slow=19,SNR=15						
ASAR				ScP	ScP	18 44 23.1	-1.6
	0.0nm,0.3s,baz=356,slow=2.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**38.23**	**310**	P	P	18 40 01.9	+0.2
	0.2nm,0.4s,baz=132,slow=6.6,SNR=6.9						
MKAR	**Makanchi Array**	**66.80**	**327**	P	P	18 43 29.4	0.0
	0.2nm,0.4s,baz=146,slow=8.2,SNR=9.5						

MEX 07 19:01:29.2±0.6, 20.55N×99.11W, h5km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**0.25**	**164**	*e*P	Pg	19 01 33.8	-0.7
DEIG				*i* S	Sg	19 01 37.1	-1.0
ZUVM	**ZUMPANGO**	**0.72**	**178**	*e*P	Pg	19 01 41.8	-1.6
ZUVM				*i* S	Sg	19 01 52.4	-0.6
PTVM	**Pico Tres Padr**	**0.95**	**180**	*e*P	Pg	19 01 46.8	-1.0
PTVM				*e*S	Sg	19 01 59.6	-0.7
IIO	**Organos**	**1.02**	**159**	*e*P	Pg	19 01 47.2	-2.0
IIO				*e*S	Sg	19 02 00.4	-2.4
YAIG	**Yautepec**	**1.68**	**179**	*e*P	Pn	19 01 56.6	-2.8
ARIG	**Puente Sto Nin**	**2.54**	**208**	*i* P	Pn	19 02 07.1	-4.1
ARIG				*i* S	Sn	19 02 39.1	-3.4

*IDC **07** 19:04:31.8±1.9, 10.41N×126.41E, h0km, mb3.2/5, mb1 3.3/5, mb1mx3.2/46, mbtmp3.2/5, Error ellipse: s-maj=91.9km s-min=21.3km az=61.0*
*ISCJB **07** 19:04:36.0±0.9, 10.31N±0.07×126.35E±0.08, h44km, mb3.2/5, Error ellipse: s-maj=11.6km s-min=9.6km az=145.2*
ISC 07 19:04:38.4±1.3, 10.31N±0.08×126.2E±0.1, h44km, n16, σ1§06/12, mb3.1/5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.89**	**234**	↑*i*P	**Pn**	**19 04 55.1**	**+0.6**
SCPH				*i* S	**Sn**	**19 05 06.5**	**+0.2**
MSLP	**Maasin**	**1.35**	**263**	*e*P	**Pn**	**19 05 01.2**	**+0.5**
MSLP				*e*S	**Sn**	**19 05 15.0**	**-2.5**
BUTP	**Butuan**	**1.46**	**204**	*e*P	Pn	19 04 57.8	-4.5
PLP	**Palo**	**1.48**	**305**	↑*e*P	**Pn**	**19 05 02.3**	**-0.3**
PLP				*e*S	**Sn**	**19 05 21.4**	**+0.6**
GUIM	**Jordan**	**3.58**	**275**	*e*P	**Pn**	**19 05 32.9**	**+1.4**
PAGZ	**Pagadian**	**3.72**	**229**	*e*P	Pn	19 05 39.6	+6.2
PVCP	**Virac**	**3.84**	**328**	*e*P	Pn	19 05 38.6	+3.7
IPIL	**Ipil**	**4.39**	**235**	*e*P	Pn	19 05 33.1	-9.4
CMAR	**Chiang Mai Arr**	**27.60**	**290**	P	**P**	**19 10 22.5**	**+0.6**
	0.4nm,0.8s,baz=103,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**31.11**	**165**	P	**P**	**19 10 52.8**	**-0.1**
	0.2nm,0.9s,baz=340,slow=7.3,SNR=2.6						
ASAR	**Alice Springs**	**34.60**	**168**	P	**P**	**19 11 22.8**	**-0.5**
	0.1nm,0.7s,baz=350,slow=7.0,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**40.29**	**72**	T	T	19 55 29.7	
	baz=260,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.30**	**72**	T	T	19 55 33.9	
	baz=260						
H11N3	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	19 55 30.9	
	baz=260,slow=74						
MKAR	**Makanchi Array**	**51.96**	**323**	P	**P**	**19 13 43.0**	**-0.2**
	0.4nm,0.8s,baz=118,slow=8.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**56.01**	**325**	P	**P**	**19 14 12.1**	**-0.4**
	0.3nm,0.5s,baz=124,slow=7.1,SNR=5.0						

*IDC **07** 19:07:24.8±2.0, 10.42N×126.28E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/46, mbtmp3.3/4, Error ellipse: s-maj=91.2km s-min=26.2km az=63.0*
*ISCJB **07** 19:07:28.4±1.1, 10.47N±0.08×126.45E±0.08, h44km, mb3.3/4, Error ellipse: s-maj=12.5km s-min=10.0km az=144.6*
*MAN **07** 19:07:29, 10.46N×126.36E, h46km, mb4.8, ML3.7, MS3.7*
ISC 07 19:07:30.9±1.4, 10.39N±0.07×126.3E±0.1, h44km, n15, σ1§49/15, mb3.3/4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.01**	**233**	↓*i*P	**Pn**	**19 07 47.4**	**-1.2**
SCPH				*i* S	**Sn**	**19 07 58.6**	**-3.0**
MSLP	**Maasin**	**1.45**	**260**	*e*P	**Pn**	**19 07 53.6**	**-1.0**
MSLP				*e*S	**Sn**	**19 08 14.1**	**+1.7**
PLP	**Palo**	**1.51**	**301**	↑*e*P	**Pn**	**19 07 55.0**	**-0.5**
PLP				*i* S	**Sn**	**19 08 14.6**	**+0.5**
BUTP	**Butuan**	**1.56**	**206**	*e*P	**Pn**	**19 07 56.8**	**+0.6**
OCLP	**Ormoc**	**1.79**	**292**	*e*P	**Pn**	**19 08 00.4**	**+1.1**
GUIM	**Jordan**	**3.66**	**274**	*e*P	**Pn**	**19 08 25.7**	**+0.7**
PAGZ	**Pagadian**	**3.84**	**229**	*e*P	**Pn**	**19 08 29.9**	**+2.4**
IPIL	**Ipil**	**4.50**	**235**	*e*P	**Pn**	**19 08 38.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**27.66**	**290**	P	**P**	**19 13 14.1**	**-0.8**
	0.6nm,1.0s,baz=83,slow=6.2,SNR=4.3						
ASAR	**Alice Springs**	**34.65**	**168**	P	**P**	**19 14 16.4**	**+0.1**
	0.1nm,0.4s,baz=349,slow=7.2,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**40.19**	**72**	T	T	19 58 22.2	
	baz=264,slow=74,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**40.19**	**72**	T	T	19 58 24.7	
	baz=264,slow=74,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**40.20**	**72**	T	T	19 58 23.5	
	baz=264,slow=74,SNR=10						
MKAR	**Makanchi Array**	**51.95**	**323**	P	**P**	**19 16 35.7**	**+0.2**
	0.3nm,0.8s,baz=112,slow=7.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**55.99**	**325**	P	**P**	**19 17 04.3**	**-0.6**
	0.4nm,0.7s,baz=125,slow=6.9,SNR=5.9						

*ISCJB **07** 19:13:15.6±0.4, 59.77N±0.03×153.55W±0.06, h134km±3km, mb3.7/1, Error ellipse: s-maj=5.6km s-min=4.5km az=35.7*
*NEIC **07** 19:13:17.7, 59.75N×153.52W, h124km, MG3.0(AEIC), After AEIC.*
*IDC **07** 19:13:20.1±8.9, 60.19N×153.60W, h136km±71km, mb3.4/1, mb1 3.2/4, mb1mx2.8/55, mbtmp3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/27, Error ellipse: s-maj=73.5km s-min=36.3km az=23.0*
ISC 07 19:13:16.2±1.1, 59.79N±0.05×153.55W±0.05, h128km±7km, n98, σ1§87/104, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.21**	**129**	P	**Pn**	**19 13 34.3**	**+0.4**
ILS	**Iliamna Low So**	**0.30**	**55**	P	**Pn**	**19 13 34.5**	**+0.2**
ILW	**Iliamna West**	**0.35**

MLY	Manley	5.42	13	P	Pn	19 14 35.4	+0.6
MCARA	McCarthy VSAT	5.43	68	P	Pn	19 14 35.7	+0.8
KULT	Kultieth River	5.46	80	P	Pn	19 14 36.1	+0.8
CCB	Clear Creek Bu	5.57	26	P	Pn	19 14 36.4	-0.4
BARK	Barkley Ridge	5.57	79	P	Pn	19 14 37.2	+0.3
HDA	Harding Lake	5.58	31	P	Pn	19 14 36.9	+0.1
ISLE	Juniper Island	5.66	77	P	Pn	19 14 38.4	+0.3
PTPK	Patty Peak	5.66	71	P	Pn	19 14 39.2	+1.0
KIAG	Kiagna River	5.67	74	P	Pn	19 14 39.1	+0.8
PS08	TAPS Pump Stn8	5.72	31	P	Pn	19 14 38.7	0.0
MDM	Murphy Dome	5.75	23	P	Pn	19 14 39.2	0.0
COLA	College	5.75	25	P	Pn	19 14 39.2	0.0
BAGL	Bagley Icefiel	5.77	78	P	Pn	19 14 40.4	+1.0
MESA	MESA	5.84	81	P	Pn	19 14 41.0	+0.4
IL1	Eielson Array	5.89	29	P	Pn	19 14 40.8	-0.3
ILAR	Eielson Array	5.89	29	P	Pn	19 14 40.8	-0.2
	1.9nm,0.3s,baz=217,slow=13,SNR=130						
ILAR				S	Sn	19 15 43.0	-4.3
	1.4nm,0.3s,baz=214,slow=19,SNR=14						
ILB	Eielson Array	5.89	29	P	Pn	19 14 40.8	-0.2
GRNC	Granite Creek	5.95	76	P	Pn	19 14 42.6	+0.5
BARN	Barnard Glacie	6.03	73	P	Pn	19 14 44.0	+0.9
RKAV	Rock Avalanche	6.14	80	P	Pn	19 14 46.0	+1.4
SCRK	Sand Creek	6.17	43	P	Pn	19 14 45.9	+0.9
IM3	Indian Mountai	6.22	359	P	Pn	19 14 46.5	+1.0
TABL	Table Mountain	6.24	79	P	Pn	19 14 47.0	+1.0
CHX	Chaix Hills	6.26	82	P	Pn	19 14 47.1	+1.0
COLD	Coldfoot	7.62	10	P	Pn	19 15 03.0	-0.6
HYT	Haines Junctio	8.04	76	ePn	Pn	19 15 11.3	+1.3
BM3	Burnt Mountain	8.63	24	P	Pn	19 15 17.4	-0.5
INK	Inuvik	12.18	37	P	Pn	19 16 06.6	+1.5
	0.1nm,0.3s,baz=258,slow=9.3,SNR=3.0						
YKA	Yellowknife Ar	18.80	65	P	Pn	19 17 26.8	-0.4
	0.1nm,0.3s,baz=279,slow=12,SNR=3.2						
PFO	Pinyon Flats O	35.72	120	LR	LR	19 33 11.8	
	comp=Z,16nm,20.7s,baz=102,slow=33						
ZALV	Zalesovo Beam	57.38	323	P	P	19 22 51.0	+0.5
	0.6nm,0.5s,baz=36,slow=7.6,SNR=3.3						

*ATH **07** 19:32:37.3,38°.09N×22°.73E,h16km±1km, MD3.0/24, ML1.8*
*THE **07** 19:32:37.1,38°.13N×22°.72E,h12km±4km, ML1.8/6, Error ellipse: s-maj=4.3km s-min=0.5km az=148.0*
CSEM 07 19:32:36.8±0.1,38°.10N×22°.76E,h15km, MD3.0, Error ellipse: s-maj=3.4km s-min=3.0km az=147.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTK	Loutraki	0.18	114	P	Pb	19 32 41.8	-0.1
LTK				S	Sb	19 32 45.5	+0.2
LTK	Loutraki	0.18	114	ePB	Pb	19 32 41.7	-0.2
LTK				eSB	Sb	19 32 45.3	0.0
LTK	Loutraki	0.18	114	P	Sb	19 32 41.3	-0.1
LTK				S	Sb	19 32 45.5	+0.2
GUR	Goura	0.36	244	P	Pg	19 32 44.4	0.0
GUR				S	Sg	19 32 49.3	-0.3
GUR	Goura	0.36	244	ePB	Pg	19 32 44.5	+0.1
GUR				eSB	Sg	19 32 49.5	-0.1
GUR	Goura	0.36	244	P	Pg	19 32 44.4	0.0
GUR				eSb	Sg	19 32 49.5	-0.1
KLV	Kalavryta, Ach	0.48	264	P	Pg	19 32 46.3	-0.2
KLV				S	Sg	19 32 52.9	-0.2
KLV	Kalavryta, Ach	0.48	264	ePB	Pg	19 32 46.2	-0.3
KLV				eSB	Sg	19 32 53.3	+0.2
KLV	Kalavryta, Ach	0.48	264	P	Pg	19 32 46.3	-0.2
KLV				S	Sg	19 32 52.9	-0.2
KLV				eSb	Sb	19 32 53.3	-0.7
KALE	Kalithea	0.57	301	P	Pg	19 32 47.1	-1.0
KALE				S	Sg	19 32 55.0	-0.8
KALE	Kalithea	0.57	301	ePN	Pg	19 32 47.5	-0.6
KALE	Kalithea	0.57	301	P	Pg	19 32 47.1	-1.0
KALE	Kalithea	0.57	301	ePn	Pg	19 32 47.5	-0.6
KALE				S	Sg	19 32 55.0	-0.8
LKR	Lokris	0.58	19	P	Pg	19 32 47.4	-0.9
LKR				S	Sg	19 32 55.9	-0.3
LKR	Lokris	0.58	19	ePN	Pg	19 32 47.3	-1.0
LKR				eSN	Sb	19 32 56.9	0.0
LKR	Lokris	0.58	19	P	Pg	19 32 47.4	-0.9
LKR				S	Sg	19 32 55.9	-0.3
LKR				eSn	Sb	19 32 56.9	0.0
NAIG	Nisos Aigina	0.67	120	ePB	Pg	19 32 49.6	-0.3
NAIG	Nisos Aigina	0.67	120	ePb	Pg	19 32 49.6	-0.3
AXAR	Agios Charalam	0.67	354	P	Pg	19 32 49.0	-1.0
AXAR				S	Sg	19 32 58.9	-0.1
AXAR	Agios Charalam	0.67	354	ePB	Pg	19 32 49.1	-0.9
AXAR				eSN	Sb	19 32 59.8	+0.3
AXAR	Agios Charalam	0.67	354	ePb	Pg	19 32 49.1	-0.9
AXAR				S	Sg	19 32 58.9	-0.1
AXAR				eSn	Sb	19 32 59.8	+0.3
EFP	Efpalio	0.75	296	ePN	Pn	19 32 52.3	-0.5
EFP	Efpalio	0.75	296	ePn	Pn	19 32 52.3	-0.5
ATH	Athens Observa	0.77	99	ePN	Pg	19 32 52.5	-0.6
ATH				eSN	Sn	19 33 03.6	-0.8
ATH	Athens Observa	0.77	99	ePn	Pg	19 32 52.5	-0.6
ATH				eSn	Sn	19 33 03.6	-0.8
VLX	Vlachokerasia	0.79	202	ePN	Pb	19 32 52.6	+0.3
VLX				eSN	Sb	19 33 02.8	-0.1
VLX	Vlachokerasia	0.79	202	ePn	Pb	19 32 52.6	+0.3
VLX				eSn	Sb	19 33 02.8	-0.1
SMIA	Simia	0.86	24	ePN	Pn	19 32 54.3	-0.1
SMIA				eSN	Sn	19 33 06.1	-0.6
SMIA	Simia	0.86	24	ePn	Pn	19 32 54.3	-0.1
SMIA				eSn	Sn	19 33 06.1	-0.6
PTL	Penteli	0.88	93	ePN	Pn	19 32 54.3	-0.3
PTL				eSN	Sn	19 33 06.4	-0.8
PTL	Penteli	0.88	93	ePn	Pn	19 32 54.3	-0.3
PTL				eSn	Sn	19 33 06.4	-0.8
MRKA	Markates	0.89	47	ePN	Pn	19 32 54.8	-0.1
MRKA				eSN	Sn	19 33 07.5	-0.1
MRKA	Markates	0.89	47	ePn	Pn	19 32 54.8	-0.1
MRKA				eSn	Sn	19 33 07.5	-0.1
AGG	Agios Georgios	0.98	340	ePN	Pg	19 32 55.9	0.0
AGG	Agios Georgios	0.98	340	ePn	Pg	19 32 55.9	0.0
AMT	Artemida-Makis	1.00	236	ePN	Pn	19 32 56.4	0.0
AMT	Artemida-Makis	1.00	236	ePn	Pn	19 32 56.4	0.0
RLS	Riolos of Patr	1.02	268	ePN	Pg	19 32 56.5	0.0
RLS	Riolos of Patr	1.02	268	ePn	Pg	19 32 56.5	0.0
MAKR	Makrakomi, Fth	1.04	332	ePN	Pn	19 32 56.9	0.0
MAKR	Makrakomi, Fth	1.04	332	ePn	Pn	19 32 56.9	0.0
EVR	Evrytania	1.10	318	ePN	Pg	19 32 58.5	+0.2
EVR				eSN	Sg	19 33 12.9	0.0
EVR	Evrytania	1.10	318	ePn	Pg	19 32 58.5	+0.2
EVR				eSn	Sg	19 33 12.9	0.0
ITM	Ithomi	1.13	216	ePN	Pg	19 32 59.0	+0.4
ITM	Ithomi	1.13	216	ePn	Pg	19 32 59.0	+0.4
SKIA	Skiathos	1.20	27	ePB	Pn	19 32 59.2	+0.1
SKIA	Skiathos	1.20	27	ePb	Pn	19 32 59.2	+0.1
NEO	Neokhori	1.26	17	ePN	Pg	19 33 01.3	+0.1
NEO	Neokhori	1.26	17	ePn	Pg	19 33 01.3	+0.1
XOR	Xorichti	1.31	15	ePN	Pg	19 33 02.1	-0.1
XOR	Xorichti	1.31	15	ePn	Pg	19 33 02.1	-0.1
PDO	Prodromos	1.33	293	ePN	Pg	19 33 02.6	+0.1
PDO	Prodromos	1.33	293	ePn	Pg	19 33 02.6	+0.1
VLI	Veliai	1.38	174	ePN	Pg	19 33 03.1	-0.4
VLI	Veliai	1.38	174	ePn	Pg	19 33 03.1	-0.4
THL	Klokotos Trika	1.57	339	ePN	Pg	19 33 07.3	+0.2
KYTH	Kithira	1.83	173	ePB	Pb	19 33 09.3	-0.7

*NEIC **07** 19:34:07.6, 15°.73N×95°.56W, h51km, MD4.0(MEX), After MEX.*
NEIC Felt at Huatulco.
MEX 07 19:34:08.0±0.5, 15°.78N×95°.52W, h39km±15km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.57	269	*i* P	Pn	19 34 17.7	-2.0
HUIG				eS	Sn	19 34 26.0	-1.9
HUIG	Huatulco	0.57	269	*i* P	Pn	19 34 17.7	-2.0
HUIG				eS	Sn	19 34 26.0	-1.9
VHO	Vista Hermosa	1.74	318	eP	Pn	19 34 34.4	-1.6
VHO				eS	Sn	19 34 54.1	-3.0
VHO	Vista Hermosa	1.74	318	eP	Pn	19 34 34.4	-1.6
VHO				eS	Sn	19 34 54.1	-3.0
PCIG		2.22	92	eP	Pn	19 34 40.4	-1.8
PCIG				*i* S	Sn	19 35 06.7	-1.7
PCIG		2.22	92	eP	Pn	19 34 40.4	-1.8
PCIG				*i* S	Sn	19 35 06.7	-1.7
TGIG		2.51	66	eP	Pn	19 34 45.5	-0.9
TGIG				*i* S	Sn	19 35 14.2	-1.6
TGIG		2.51	66	eP	Pn	19 34 46.2	-0.2
TGIG				eS	Sn	19 35 15.4	-0.4
PNIG	Pinotepa	2.58	284	eP	Pn	19 34 45.7	-1.6
PNIG				*i* S	Sn	19 35 15.8	-1.7
PNIG	Pinotepa	2.58	284	eP	Pn	19 34 45.7	-1.6
PNIG				eS	Sn	19 35 14.6	-2.9
TPIG	Tehuac#an	3.16	326	*i* P	Pn	19 34 53.8	-1.7
TPIG				*i* S	Sn	19 35 31.2	-1.0
TPIG	Tehuac#an	3.16	326	*i* P	Pn	19 34 53.8	-1.7
TPIG				*i* S	Sn	19 35 31.2	-1.0
TLIG	Tlapa	3.42	302	*i* P	Pn	19 34 57.9	-1.1
TLIG				*i* S	Sn	19 35 36.2	-2.1

*IDC **07** 19:45:00.7±1.4, 0°.86N×96°.71E, h0km, mb4.2/9, mb1 4.2/10, mb1mx3.9/31, mbtmp4.1/10, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/36, Error ellipse: s-maj=47.0km s-min=18.8km az=57.0*
*ISCJB **07** 19:45:04.5±0.6, 0°.96N±0°.07×96°.92E±0°.08, h33km, mb4.2/13, MS2.9/1, Error ellipse: s-maj=13.3km s-min=7.3km az=144.3*
*DJA **07** 19:45:04.5±1.0, 1°.N±5°×9°.7E±1°.0, h65km±27km, M4.2/10, mb4.5/5, mB4.7/1, MLv4.1/10, Mw(mB)3.9/1*
*NEIC **07** 19:45:06.2±0.7, 0°.95N×96°.88E, h35km, mb4.2/4, Error ellipse: s-maj=16.9km s-min=11.4km az=66.0*
ISC 07 19:45:06.4±1.0, 1°.0N±0°.1×96°.8E±0°.1, h35km, n43, σ1§01/36, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	1.50	341	P	Pn	19 45 29.3	-1.6
TPTI		2.29	9	P	Pn	19 45 40.3	-1.5
KCSI	Kotacane, Aceh	2.70	21	P	Pn	19 45 46.4	-1.0
MNSI	Mandailing Nat	2.77	94	P	Pn	19 45 49.7	+1.4
TSI	Tuntungan	3.05	35	P	Pn	19 45 51.8	-0.4
LHMI	Lhok Sumawe	4.22	2	P	Pn	19 46 06.9	-1.4
KULM	Kulim	5.74	42	eP	Pn	19 46 28.0	-1.2
	32nm,0.8s						
MNAI	Manna	8.11	131	P	Pn	19 47 01.1	-0.7
	173nm,1.2s						
MDSI	Maura Dua	9.14	126	P	Pn	19 47 15.2	-0.7
CMAR	Chiang Mai Arr	17.49	7	P	Pn	19 49 07.7	-0.1
	0.2nm,0.3s,baz=198,slow=12,SNR=12						
SLVN	Son La	21.38	18	eP	P	19 49 51.2	+0.1
	20nm,0.8s						
H08S2	Diego Garcia H	25.73	250	T	T	20 17 15.7	
	baz=70,slow=75,SNR=140						
H08S3	Diego Garcia H	25.73	250	T	T	20 17 15.7	
	baz=70,slow=75,SNR=42						
H08S1	Diego Garcia H	25.75	250	T	T	20 17 17.0	
	baz=70,slow=75,SNR=146						
ODAN	Odare	27.28	341	eP	P	19 50 49.4	+1.4
	16nm,0.9s						
RAMN	Ramite	27.62	340	eP	P	19 50 53.1	+2.0
	37nm,1.2s						
TAPN	Taplejung	27.64	342	eP	P	19 50 53.1	+1.8
JIRN	Jiri	28.42	340	eP	P	19 50 59.6	+1.3
	22nm,0.9s						
PKI	Phulchoki	28.61	338	eP	P	19 51 00.8	+0.8
	20nm,1.1s						
PKIN	Phulchoki	28.62	338	eP	P	19 51 01.0	+1.0
	5.8nm,0.7s						
GUN	Gumba	28.75	340	eP	P	19 51 02.6	+1.3
	17nm,0.6s						
KKN	Kakani	28.86	338	eP	P	19 51 03.0	+0.9
LSA	Lhasa	29.07	350	eP	P	19 51 05.3	+1.1
	7.0nm,0.8s						
GKN	Gorkha	29.29	338	eP	P	19 51 06.9	+1.1
	5.0nm,0.5s						
KOLN	Koldanda	29.50	336	eP	P	19 51 08.2	+0.5
	8.5nm,0.8s						
DANN	Dangsing	29.94	336	eP	P	19 51 12.1	+0.3
	12nm,0.9s						
PYUN	Piuthan	30.04	335	eP	P	19 51 11.9	-0.6
	13nm,0.4s						
H01W3	Cape Leeuwin H	39.19	157	T	T	20 34 03.2	
	baz=333,slow=76,SNR=30						
H01W2	Cape Leeuwin H	39.20	157	T	T	20 34 01.1	
	baz=333,slow=76,SNR=30						
H01W1	Cape Leeuwin H	39.21	157	T	T	20 34 03.0	
	baz=333,slow=76,SNR=28						
WRA	Warramunga Arr	42.25	122	P	P	19 52 56.1	-0.6
	2.7nm,0.7s,baz=300,slow=9.0,SNR=27						
ASAR	Alice Springs	43.57	127	P	P	19 53 07.2	-0.2
	0.7nm,0.6s,baz=301,slow=7.9,SNR=15						
KSAR	Wonju Array Be	46.22	35	P	P	19 53 28.4	+0.3
KSRS	Korea Array	46.24	35	P	P	19 53 28.4	+0.1
	2.3nm,0.8s,baz=226,slow=9.6,SNR=7.3						
KSRS					LR	20 15 22.1	
	comp=Z,14nm,20.4s,baz=232,slow=39						
MKAR	Makanchi Array	47.36	346	P	P	19 53 37.6	+0.6
	2.8nm,0.7s,baz=161,slow=9.0,SNR=45						
SONM	Songino Array	47.40	9	P	P	19 53 37.8	+0.4
	1.2nm,0.4s,baz=181,slow=8.5,SNR=4.2						
USRK	Ussuriysk Ar.	53.15	31	P	P	19 54 21.6	+0.7
	4.5nm,0.9s,baz=239,slow=6.0,SNR=7.8						
ZALV	Zalesovo Beam	53.71	351	P	P	19 54 25.2	+0.4
	2.0nm,0.4s,baz=178,slow=5.8,SNR=26						
ABKAR	Akbulak array	57.53	332	eP	P	19 54 51.9	-0.4
	1.3nm,0.7s						
TIXI	Tiksi	73.47	10	eP	P	19 56 33.9	-1.0
	0.9nm,0.5s						
FINES	FINESS Array B	80.01	333	P	P	19 57 11.8	-0.2
	2.0nm,1.0s,baz=104,slow=3.4,SNR=2.8						
ARCES	ARCESS Array B	82.61	340	P	P	19 57 26.0	+0.3
	2.7nm,0.9s,baz=91,slow=5.1,SNR=5.4						
TXAR	Lajitas Array	144.05	31	PKP	PKPab	20 04 37.4	+0.6
	0.3nm,0.7s,baz=226,slow=3.6,SNR=3.7						

*IDC **07** 19:50:12.1±1.2, 37°.96S×73°.75W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/28, mbtmp3.7/7, ML3.3/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/23, Error ellipse: s-maj=33.5km s-min=16.5km az=67.0*
*NEIC **07** 19:50:37.8, 35°.07S×72°.29W, h26km, ML3.4(GUC), After GUC.*
NEIC Felt [III] at Pencahue.
*GUC **07** 19:50:37.8±0.4, 35°.07S×72°.29W, h26km±7km, ML3.4*
ISC 07 19:50:22.1±2.1, 35°.7S±0°.2×73°.6W±0°.1, h35km, n22, σ0§96/15, mb3.9/3, Ms3.5/3, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	Linares	1.63	96	*i* P	Pn	19 50 55.1	+6.7
LNCH				*i* S	Sn	19 51 07.7	-0.4
LNCH	Linares	1.63	96	*i* P	Pn	19 50 55.1	+6.7
LNCH				*i* S	Sn	19 51 07.7	-0.4
TALC	Talca	1.63	80	*i* P	Pn	19 50 49.8	+1.5
TALC				*i* S	Sn	19 50 58.8	-9.3
TALC				AML	AML	19 50 59.0	
	comp=E,6μm,0.1s						
TALC	Talca	1.63	80	*i* P	Pn	19 50 49.8	+1.5
TALC				*i* S	Sn	19 50 58.8	-9.3
NICH	Los Niches	2.06	71	*i* P	Pn	19 50 53.7	-0.6
NICH				*i* S	Sn	19 51 05.6	-13
NICH				AML	AML	19 51 07.2	
	comp=N,1μm,0.4s						
NICH	Los Niches	2.06	71	*i* P	Pn	19 50 53.7	-0.6
NICH				*i* S	Sn	19 51 05.6	-13
LNV	Longovilo	2.50	47	eP	Pn	19 51 00.3	0.0
LNV	Longovilo	2.50	47	eP	Pn	19 51 00.3	0.0
CHCH	Chadas Angostu	3.00	55	eP	Pn	19 51 07.7	+0.5
CHCH	Chadas Angostu	3.00	55	eP	Pn	19 51 07.7	+0.5
RCDM	Rinconada Maip	3.19	47	eP	Pn	19 51 11.0	+1.1
RCDM	Rinconada Maip	3.19	47	eP	Pn	19 51 11.0	+1.1
CFAA	Coronel Fontan	6.06	49	Pn	Pn	19 52 06.0	+17
	comp=N,0.1nm,0.3s,baz=219,slow=6.5,SNR=3.6						
CFAA				Sn	Sn	19 53 48.6	+51
	comp=N,0.1nm,0.3s,baz=184,slow=19,SNR=2.1						
USHA	Ushuaia	19.46	171	LR	LR	20 02 02.4	
	comp=N,320nm,18.8s,baz=328,slow=41						
LPAZ	La Paz	19.94	16	P	Pn	19 55 11.6	+18
	comp=N,1.9nm,0.8s,baz=180,slow=10,SNR=2.3						
SIV	San Ignacio	22.59	33	LR	LR	20 07 23.5	
	comp=N,162nm,18.1s,baz=202,slow=42						
JTS	JuntasAbangare	46.99	345	LR	LR	20 16 20.7	
	comp=N,29nm,18.3s,baz=160,slow=32						
TXAR	Lajitas Array	70.62	332	P	P	20 01 41.1	+7.1
	comp=N,0.3nm,0.6s,baz=152,slow=8.1,SNR=4.1						
DBIC	Dimbokro	76.93	72	P	P	20 02 11.2	-0.1
	comp=N,3.4nm,0.9s,baz=261,slow=13,SNR=3.7						
TORD	Torodi Ar. Bea	85.99	71	P	P	20 02 58.0	-1.2
	comp=N,0.4nm,0.5s,baz=230,slow=3.6,SNR=4.3						
DZM	Mont Dzumac	99.20	235	LR	LR	20 37 50.0	
	comp=N,44nm,19.0s,baz=11,slow=29						
MKAR	Makanchi Array	158.84	51	PKPab	PKPab	20 10 53.0	+1.1
	comp=N,0.2nm,0.5s,baz=284,slow=5.8,SNR=3.8						

*DJA **07** 19:57:57.0±1.1, 2°.S±13°×9°.8E±1°.1, h329km±22km, M4.1/6, mb3.9/2, MLv4.3/6*
*IDC **07** 19:58:16.6±3.5, 1°.15S×99°.48E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/28, mbtmp3.5/5, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=155.6km s-min=21.2km az=57.0*
ISC 07 19:58:19.8±1.5, 0°.9S±0°.2×100°.0E±0°.1, h10km, n17, σ1§51/9, mb3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDSI	Sungai Dareh	1.46	90	P	Sn	19 59 03.2	-2.1
BKNI	Bangkinang	1.65	40	P	Sn	19 59 03.4	-6.7
BKNI				S	Sg	19 59 57.3	+44
MNSI	Mandailing Nat	1.77	347	P	Pg	19 58 54.7	+1.0
JMBI	JAMBI	3.73	101	P	Pb	19 59 27.3	+1.4
	53nm,0.8s,0.5nm						
JMBI				S	Sg	20 00 39.1	+19
	53nm,0.8s,0.5nm						
CMAR	Chiang Mai Arr	19.30	357	P	P	20 02 45.3	+0.2
	0.2nm,0.3s,baz=185,slow=9.1,SNR=4.7						
CMAR				LR	LR	20 10 24.9	
	comp=Z,35nm,18.7s,baz=144,slow=37						
BATI	Baumata	25.29	112	LR	LR	20 15 41.5	
	comp=Z,116nm,18.2s,baz=292,slow=41						
H08S2	Diego Garcia H	28.18	256	T	T	20 31 58.6	
	baz=77,slow=75,SNR=57						
H08S3	Diego Garcia H	28.19	256	T	T	20 31 56.5	
	baz=77,slow=75,SNR=61						
H08S1	Diego Carcia H	28.20	256	T	T	20 32 00.2	
	baz=77,slow=75,SNR=58						
H01W3	Cape Leeuwin H	36.27	160	T	T	20 43 14.9	
	baz=334						
H01W2	Cape Leeuwin H	36.28	160	T	T	20 43 15.4	
	baz=334						
H01W1	Cape Leeuwin H	36.28	160	T	T	20 43 18.3	
	baz=334						
WRA	Warramunga Arr	38.56	122	P	P	20 05 43.9	+0.8
	1.2nm,0.5s,baz=302,slow=9.2,SNR=21						
ASAR	Alice Springs	39.90	127	P	P	20 05 55.0	+0.7
	0.4nm,0.8s,baz=299,slow=7.7,SNR=7.4						
MKAR	Makanchi Array	50.01	344	P	P	20 07 13.2	-1.2
	0.2nm,0.4s,baz=168,slow=8.5,SNR=4.2						
ZALV	Zalesovo Beam	56.13	349	P	P	20 07 58.6	-0.7
	0.5nm,0.6s,baz=132,slow=4.3,SNR=2.3						
TXAR	Lajitas Array	143.87	36	PKP	PKPdf	20 17 54.6	-1.7
	0.3nm,0.7s,baz=202,slow=1.9,SNR=2.3						

*ISCJB **07** 20:11:09.0±0.4, 32°.75N±0°.02×115°.75W±0°.03, h13km±4km, Error ellipse: s-maj=4.3km s-min=3.7km az=20.6*
*MEX **07** 20:11:09.8±0.9, 32°.98N×115°.76W, h20km±76km, MD3.6*
*NEIC **07** 20:11:10.3, 32°.65N×115°.78W, h3km, ML3.9(PAS), After PAS.*
*ECX **07** 20:11:11.2±0.6, 32°.67N×115°.78W, h2km, MD3.8, ML3.9*
ISC 07 20:11:09.4±0.9, 32°.68N±0°.02×115°.72W±0°.03, h16km±6km, n38, σ1§01/52, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	Mount Signal	0.03	186	*i*P	Pg	20 11 11.9	-0.3
COK	Cook Ranch	0.17	359	*i*P	Pg	20 11 14.7	+0.5
YUH	Yuha Desert	0.17	260	⇑*i*P	Pg	20 11 13.4	-0.3
RMX	La Rumorosa	0.31	256	⇑eP	Pg	20 11 16.0	0.0
RMX				eS	Sg	20 11 20.4	-0.1
CPBX	Cerro Prieto	0.44	126	eP	Pn	20 11 20.0	-1.0
CPBX				eS	Sn	20 11 27.4	-1.3
MBIG	Mexicali	0.52	121	eP	Pb	20 11 21.2	+1.1
MBIG				*i* S	Sn	20 11 31.1	+0.5
COA	Coachella	0.54	70	⇑*i*P	Pn	20 11 21.9	-0.5
RDX	Rancho Dawling	0.77	194	‖eP	Pg	20 11 24.4	0.0
RDX				eS	Sb	20 11 35.1	+0.3
EMX	El Mayor	0.80	149	eP	Pg	20 11 23.6	-1.3
EMX				eS	Sg	20 11 34.9	-0.6
GLA	Glamis	0.84	63	ePg	Pg	20 11 26.0	+0.2
CBX	Cerro Bola	0.88	246	*i* P	Pb	20 11 26.3	0.0
CBX				*i* S	Sb	20 11 37.5	-0.4
CBX	Cerro Bola	0.88	246	⇑eP	Pb	20 11 26.3	0.0
CBX				eS	Sb	20 11 37.4	-0.4
CBX				AML	AML	20 11 43.4	
	comp=E,3μm,0.7s						
CBX				*e*		20 11 43.4	
CBX	Cerro Bola	0.88	246	*i* P	Pb	20 11 26.3	0.0
CBX				*i* S	Sb	20 11 37.5	-0.4
PFO	Pinyon Flats O	1.11	327	ePg	Pb	20 11 29.5	-0.9
PFO				eSg	Sb	20 11 43.6	-1.2
ZAX	El Zacaton	1.25	202	eP	Pb	20 11 33.2	+0.5
ZAX				eS	Sn	20 11 49.6	+0.7
ZAX				AML	AML	20 11 50.6	
	comp=N,3μm,0.3s						
ZAX				*e*		20 11 50.6	
ZAX				⇑*e*		20 11 51.4	
ZAX				AML	AML	20

PEL *i* S Sn 20 14 12.6 +1.6
PEL AML AML 20 14 23.0
comp=E,1µm,0.3s

IDC 07 20:14:50.5±3.5, 37°67'S×73°90'W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/27, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=104.6km s-min=22.6km az=65.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.02**	**141**	Pn	Pn	20 15 55.1	+1.7
	0.5nm,0.3s,baz=325,slow=14,SNR=4.4						
PLCA				Lg	Lg	20 16 58.0	
	1.3nm,0.3s,baz=26,slow=19,SNR=3.4						
LPAZ	**La Paz**	**21.90**	**15**	P	P	20 19 46.8	+0.8
	0.8nm,0.7s,baz=186,slow=9.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**86.86**	**71**	P	P	20 27 36.4	-0.9
	0.3nm,0.7s,baz=213,slow=5.0,SNR=2.9						
BVAR	**Borovoye Array**	**150.95**	**47**	PKPbc	PKPbc	20 34 44.3	-0.3
	0.7nm,0.7s,baz=267,slow=2.9,SNR=5.2						

DJA 07 20:16:57.6±0.4, 1°S±2°×12°1'E±°, h20km±6km, M3.5/13, MLv3.5/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.78**	**76**	P	Pb	20 17 11.5	-1.0
APSI				S	Sb	20 17 23.2	+0.5
PCI	**Palu**	**1.07**	**280**	P	Pb	20 17 17.3	-0.2
PCI				S	Sb	20 17 30.6	-0.5
MPSI	**Mapaga**	**1.74**	**325**	P	Pn	20 17 26.1	-0.6
LUWI	**Luwuk**	**1.88**	**88**	P	Pn	20 17 28.7	+0.1
LUWI				S	Sb	20 17 54.0	-0.4
MRSI	**Marisa**	**1.89**	**34**	P	Pn	20 17 28.2	-0.5
MRSI				S	Sn	20 17 53.1	+1.2
TTSI	**Tana Toraja**	**2.21**	**209**	P	Pn	20 17 33.4	+0.2
TTSI				S	Sn	20 17 59.3	-0.6
GTOI	**Gorontalo**	**2.73**	**51**	P	Pn	20 17 39.7	-0.7
SPSI	**Sidrap Palu**	**3.06**	**201**	P	Pn	20 17 45.3	+0.5
BNSI	**Bone**	**3.37**	**193**	P	Pn	20 17 49.7	+0.6
KMSI	**Cibinong**	**3.51**	**62**	P	Pn	20 17 51.5	+0.4
KMSI				S	Sn	20 18 33.3	+1.3
BKSI	**Bulukumba**	**4.26**	**190**	P	Pn	20 18 01.7	+0.3

IDC 07 20:21:05.0±0.9, 2°.02N×96°.77E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.0/49, mbtmp4.2/17, ML4.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/46, Error ellipse: s-maj=32.5km s-min=16.7km az=47.0
ISCJB 07 20:21:07.2±0.5, 1°.96N±0°.05×96°.69E±0°.05, h28km, mb4.1/21, MS3.3/3, Error ellipse: s-maj=7.2km s-min=6.6km az=20.1
DJA 07 20:21:09.8±0.7, 2°.7N×4°×9°.7E±°, h15km±14km, M3.9/2, MLv3.9/2
NEIC 07 20:21:11.5±1.1, 2°.11N×96°.89E, h46km±9km, mb4.0/6, Error ellipse: s-maj=11.5km s-min=7.0km az=217.0
KLM 07 20:21:15.9, 2°.29N×97°.06E, h71km, mb4.0, ML3.8, MS5.0
ISC 07 20:21:09.5±0.7, 2°.10N±0°.06×96°.74E±0°.06, h28km, n56, σ1s90°/50, mb4.2/21, MS3.2/3, 2C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.52**	**307**	P	**Pn**	**20 21 21.6**	**+0.5**
TPTI		**1.24**	**21**	P	**Pn**	**20 21 30.8**	**-0.2**
TPTI				S	**Sb**	**20 21 47.9**	**0.0**
KCSI	**Kotacane, Aceh**	**1.75**	**36**	P	**Pn**	**20 21 39.0**	**+0.9**
KCSI				S	**Sb**	**20 22 02.7**	**0.0**
TSI	**Tuntungan**	**2.30**	**53**	P	**Pn**	**20 21 47.4**	**+1.8**
MNSI	**Mandailing Nat**	**3.12**	**114**	P	**Pn**	**20 21 57.3**	**+0.4**
LHMI	**Lhok Sumawe**	**3.12**	**4**	P	**Pn**	**20 21 58.2**	**+1.9**
LHMI	**Lhok Sumawe**	**3.12**	**4**	*e*Pn	**Pn**	**20 21 58.2**	**+1.3**
BKNI	**Bangkinang**	**4.64**	**112**	P	Pb	20 22 45.4	+15
IPM	**Ipoh**	**4.89**	**61**	⇓P	**Pn**	**20 22 22.4**	**+1.1**
IPM	**Ipoh**	**4.89**	**61**	*e*Pn	**Pn**	**20 22 21.9**	**+0.6**
FRIM	**Kepong**	**5.01**	**77**	⇓P	**Pn**	**20 22 25.9**	**+2.9**
KULM	**Kulim**	**5.03**	**51**	⇓P	**Pn**	**20 22 23.8**	**+0.6**
KULM	**Kulim**	**5.03**	**51**	*e*Pn	**Pn**	**20 22 23.4**	**+0.2**
KGM	**Kluang**	**6.58**	**91**	⇑P	**Pn**	**20 22 45.3**	**+0.8**
MYKOM	**Kota Tinggi**	**7.11**	**92**	⇑P	**Pn**	**20 22 53.1**	**+1.3**
SURT	**Suratani**	**7.12**	**17**	P	**Pn**	**20 22 52.0**	**+0.1**
	9.3nm,0.7s,0.0nm						
KTGM	**Kuala Trenggan**	**7.14**	**63**	⇓P	**Pn**	**20 22 52.8**	**+0.5**
PBKT	**Sadao Pong**	**14.97**	**16**	P	**P**	**20 24 44.1**	**-0.5**
	6.8nm,0.7s						
UTTA	**Uttaradit**	**16.00**	**13**	P	**P**	**20 24 56.5**	**+0.5**
	4.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.40**	**7**	Pn	**Pn**	**20 24 57.5**	**-0.5**
	0.4nm,0.3s,baz=198,slow=11,SNR=63						
CMAR				LR	LR	20 31 42.2	
	comp=Z,77nm,18.2s,baz=196,slow=39						
CHTO	**Chiang Mai**	**16.75**	**7**	*e*Pn	**Pn**	**20 25 01.1**	**-1.3**
	4.3nm,0.8s						
CHTO	**Chiang Mai**	**16.75**	**7**	P	**P**	**20 25 04.4**	**0.0**
	27nm,0.8s						
CMMT	**Chiang Mai**	**16.75**	**7**	P	**P**	**20 25 04.3**	**-0.1**
	14nm,0.8s						
PALK	**Pallekele**	**16.79**	**288**	Pn	**P**	**20 25 05.4**	**+0.5**
	0.8nm,0.3s,baz=105,slow=13,SNR=4.1						
CRAI	**Chiangrai**	**18.37**	**11**	P	**P**	**20 25 19.4**	**-2.9**
H08S2	**Diego Garcia H**	**26.05**	**248**	T	T	20 53 30.0	
	baz=69,slow=75,SNR=5237						
H08S3	**Diego Garcia H**	**26.05**	**248**	T	T	20 53 30.2	
	baz=69,slow=75,SNR=3708						
H08S1	**Diego Garcia H**	**26.07**	**248**	T	T	20 53 31.4	
	baz=69,slow=75,SNR=4901						
LSA	**Lhasa**	**27.96**	**350**	*e*Pn	**P**	**20 26 58.8**	**+0.4**
	5.7nm,0.9s						
H01W3	**Cape Leeuwin H**	**40.24**	**158**	T	T	21 11 31.7	
	baz=333,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**40.26**	**158**	T	T	21 11 32.7	
	baz=333,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**40.26**	**158**	T	T	21 11 32.8	
	baz=333,slow=76,SNR=27						
WRA	**Warramunga Arr**	**42.90**	**123**	P	**P**	**20 29 04.8**	**-1.2**
	1.6nm,0.7s,baz=300,slow=9.2,SNR=22						
WRAB	**Tennant Creek**	**42.90**	**122**	*e*P	**P**	**20 29 03.8**	**-2.3**
ASAR	**Alice Springs**	**44.30**	**128**	P	**P**	**20 29 16.6**	**-0.8**
	1.8nm,0.7s,baz=300,slow=8.0,SNR=23						
KSAR	**Wonju Array Be**	**45.35**	**35**	P	**P**	**20 29 25.0**	**-0.4**
KSRS	**Korea Array**	**45.38**	**35**	P	**P**	**20 29 25.0**	**-0.6**
	3.1nm,0.8s,baz=226,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**46.27**	**346**	P	**P**	**20 29 32.8**	**+0.3**
	6.0nm,0.8s,baz=160,slow=7.9,SNR=70						
MKAR				LR	LR	20 52 42.7	
	comp=Z,25nm,19.9s,baz=172,slow=41						
SONM	**Songino Array**	**46.32**	**9**	P	**P**	**20 29 33.9**	**+0.8**
	3.9nm,0.8s,baz=190,slow=9.4,SNR=6.4						
ULN	**Ulaanbaatar**	**46.46**	**10**	*e*P	**P**	**20 29 33.7**	**-0.5**
	1.8nm,1.0s						
KKAR	**Karatay Array**	**47.05**	**334**	*e*P	**P**	**20 29 39.5**	**+0.7**
	0.9nm,0.6s						
GEYT	**Alibeck**	**50.24**	**320**	P	**P**	**20 30 04.2**	**+0.8**
	1.9nm,0.9s,baz=169,slow=8.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**50.75**	**345**	P	**P**	**20 30 07.3**	**+0.3**
	2.2nm,0.7s,baz=178,slow=6.2,SNR=21						
KURK	**Kurchatov**	**50.81**	**345**	P	**P**	**20 30 07.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**52.25**	**32**	P	**P**	**20 30 18.5**	**+0.2**
	1.1nm,0.5s,baz=235,slow=5.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**52.61**	**351**	P	**P**	**20 30 20.9**	**+0.1**
	6.0nm,0.6s,baz=180,slow=5.7,SNR=42						
ZALV				LR	LR	20 54 53.3	
	comp=Z,18nm,21.7s,baz=248,slow=38						
BVAR	**Borovoye Array**	**55.26**	**341**	P	**P**	**20 30 40.1**	**-0.1**
	1.5nm,0.7s,baz=148,slow=8.2,SNR=13						
ABKAR	**Akbulak array**	**56.51**	**332**	*e*P	**P**	**20 30 49.4**	**+0.2**
	2.4nm,0.8s						
AKTO	**Aktyubinsk**	**58.23**	**332**	P	**P**	**20 31 01.4**	**0.0**
	1.9nm,0.8s,baz=135,slow=12,SNR=8.0						
BRTR	**Keskin Array B**	**68.17**	**312**	P	**P**	**20 32 08.1**	**+0.4**
	0.4nm,0.7s,baz=101,slow=6.0,SNR=2.7						
TIXI	**Tiksi**	**72.39**	**10**	*e*P	**P**	**20 32 31.5**	**-1.2**
	1.2nm,0.5s						
LBTB	**Lobatse**	**73.87**	**243**	LR	LR	20 59 33.0	
	comp=Z,40nm,19.7s,baz=106,slow=31						
FINES	**FINESS Array B**	**79.00**	**332**	P	**P**	**20 33 10.4**	**-0.2**
	1.2nm,0.7s,baz=66,slow=4.6,SNR=5.5						
ARCES	**ARCESS Array B**	**81.54**	**340**	P	**P**	**20 33 24.4**	**+0.1**
	1.8nm,0.8s,baz=70,slow=7.9,SNR=6.9						
GERES	**GERESS Array B**	**83.84**	**319**	P	**P**	**20 33 37.3**	**+0.5**
	0.3nm,0.6s,baz=117,slow=5.0,SNR=5.3						
DAVOX	**Davos/Dischmat**	**86.33**	**317**	P	**P**	**20 33 50.0**	**+0.6**
	2.4nm,0.8s,baz=160,slow=23,SNR=3.9						

ISCJB 07 20:32:40.4±0.6, 27°.17S±0°.04×179°.15E±0°.05, h497km±7km, mb4.4/37, Error ellipse: s-maj=7.3km s-min=5.8km az=26.6
NEIC 07 20:32:40.8±0.2, 27°.10S×179°.26E, mb4.8/24, Error ellipse: s-maj=7.7km s-min=5.9km az=106.0
IDC 07 20:32:40.7±1.1, 27°.02S×179°.22E, h495km±11km, mb3.9/18, mb1 4.1/19, mb1mx3.9/35, mbtmp4.7/19, Error ellipse: s-maj=13.5km s-min=11.2km az=71.0
BJI 07 20:32:40.9, 26°.51S×179°.27E, h492km, mB5.1/18, mb4.5/22
ISC 07 20:32:41.0±0.4, 27°.12S±0°.05×179°.24E±0°.06, h497km±3km, h497km:pP-P, n212, σ1s40/267, mb4.5/37, 17C-7D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.29**	**131**	P	**P**	**20 33 55.0**	**+1.3**
	155nm,0.3s,baz=250,slow=22,SNR=5.9						
RAO				S	**S**	**20 34 55.6**	**+2.7**
	74nm,0.3s,baz=49,slow=19,SNR=2.8						
MSVF	**Nonsavu**	**9.40**	**353**	P	**P**	**20 34 51.0**	**-1.2**
	297nm,0.8s,SNR=8.2						
MSVF	**Nonsavu**	**9.40**	**353**	*e*P	**P**	**20 34 50.6**	**-1.6**
OUZ	**Omahuta**	**9.41**	**209**	PN	P	20 34 55.7	+3.7
OUZ	**Omahuta**	**9.41**	**209**	*e*P	P	20 34 55.3	+3.4
	274nm,0.9s						
WCZ	**Waipu Caves**	**9.74**	**204**	PN	P	20 34 59.1	+3.8
HAZ	**Te Kaha**	**10.68**	**186**	PN	**P**	**20 35 05.0**	**-0.3**
HAZ				SN	**S**	**20 37 01.3**	**-3.0**
WMGZ	**Waiomatatini S**	**10.70**	**184**	PN	**P**	**20 35 05.9**	**+0.4**
WMGZ				SN	**S**	**20 37 04.9**	**+0.4**
PUZ	**Puketiti**	**10.96**	**184**	PN	**P**	**20 35 07.9**	**-0.4**
PUZ				SN	**S**	**20 37 07.5**	**-2.2**
TWGZ	**Tauwhareparae**	**11.08**	**185**	PN	**P**	**20 35 09.6**	**0.0**
TWGZ				SN	**S**	**20 37 10.2**	**-1.9**
URZ	**Urewera**	**11.26**	**189**	P	**P**	**20 35 10.8**	**-0.7**
	44nm,0.3s,baz=6.8,slow=2.2,SNR=156						
URZ				S	**S**	**20 37 12.4**	**-3.0**
	2.0nm,0.3s,baz=270,slow=20,SNR=6.2						
URZ	**Urewera**	**11.26**	**189**	PN	**P**	**20 35 10.7**	**-0.7**
URZ				*e*SN	**S**	**20 37 11.9**	**-3.5**
MWZ	**Matawai**	**11.28**	**187**	PN	**P**	**20 35 11.1**	**-0.7**
MWZ				*e*SN	**S**	**20 37 12.2**	**-3.8**
RIGZ	**Rimuhau**	**11.62**	**186**	PN	**P**	**20 35 15.2**	**-0.2**
KNZ	**Kokohu**	**11.94**	**186**	PN	**P**	**20 35 18.0**	**-0.7**
HIZ	**Hauiti**	**11.95**	**197**	PN	**P**	**20 35 21.3**	**+2.5**
BKZ	**Black Stump Fm**	**12.24**	**190**	PN	**P**	**20 35 20.8**	**-1.1**
BKZ	**Black Stump Fm**	**12.24**	**190**	*e*P	**P**	**20 35 21.1**	**-0.9**
WHVZ	**Whangaehu Hut**	**12.51**	**193**	PN	**P**	**20 35 24.1**	**-0.9**
WHVZ				SN	**S**	**20 37 40.7**	**+0.4**
WNVZ	**Wahianoa**	**12.55**	**193**	PN	**P**	**20 35 24.6**	**-0.8**
BHHZ	**Black Hill Sta**	**12.62**	**191**	PN	**P**	**20 35 24.3**	**-1.7**
DZM	**Mont Dzumac**	**12.68**	**291**	P	**P**	**20 35 28.8**	**+1.9**
	0.7nm,0.3s,baz=119,slow=14,SNR=6.7						
PXZ	**Pawanui**	**13.03**	**188**	PN	**P**	**20 35 29.0**	**-1.3**
PXZ				SN	**S**	**20 37 46.5**	**-3.4**
TSZ	**Takapari Road**	**13.19**	**191**	PN	**P**	**20 35 30.2**	**-1.9**
DVHZ	**Dannevirke**	**13.39**	**190**	PN	**P**	**20 35 32.4**	**-1.8**
BFZ	**Birch Farm**	**13.76**	**190**	PN	**P**	**20 35 35.6**	**-2.3**
BFZ	**Birch Farm**	**13.76**	**190**	*e*P	**P**	**20 35 37.2**	**-0.7**
MRZ	**Mangatainoka R**	**13.85**	**192**	PN	**P**	**20 35 36.7**	**-2.2**
KIW	**Kapiti Island**	**14.17**	**194**	PN	**P**	**20 35 40.9**	**-1.5**
CAW	**Cannon Point**	**14.38**	**193**	PN	**P**	**20 35 43.8**	**-0.7**
SNZO	**South Karori**	**14.64**	**194**	*e*P	**P**	**20 35 45.9**	**-1.4**
QRZ	**Quartz Range**	**14.76**	**200**	PN	**P**	**20 35 49.3**	**+0.8**
PLWZ	**Palliser**	**14.79**	**192**	*e*PN	**P**	**20 35 47.1**	**-1.8**
NNZ	**Nelson**	**14.87**	**197**	PN	**P**	**20 35 48.4**	**-1.3**
TUWZ	**Tuamarina**	**14.93**	**196**	PN	**P**	**20 35 48.6**	**-1.6**
THZ	**Tophouse**	**15.51**	**198**	PN	**P**	**20 35 55.8**	**-0.6**
AFI	**Afiamalu**	**15.59**	**34**	*e*P	**P**	**20 35 53.1**	**-4.5**
	27nm,0.7s						
DSZ	**Denniston Nort**	**15.82**	**201**	PN	**P**	**20 35 59.2**	**-0.4**
KHZ	**Kahutara**	**15.96**	**196**	PN	**P**	**20 35 59.7**	**-1.4**
KHZ	**Kahutara**	**15.96**	**196**	*e*P	**P**	**20 35 59.2**	**-1.8**
	306nm,0.6s						
LTZ	**Lake Taylor**	**16.63**	**198**	PN	**P**	**20 36 05.7**	**-2.4**
WVZ	**Waitaha Valley**	**17.36**	**201**	PN	**P**	**20 36 14.4**	**-0.9**
MQZ	**McQueen's Vall**	**17.39**	**196**	PN	**P**	**20 36 14.6**	**-1.0**
RPZ	**Rata Peaks**	**17.84**	**200**	PN	**P**	**20 36 18.8**	**-1.0**
RPZ	**Rata Peaks**	**17.84**	**200**	*e*P	**P**	**20 36 18.6**	**-1.2**
	252nm,0.7s						
FOZ	**Fox Glacier**	**18.14**	**203**	PN	**P**	**20 36 20.9**	**-1.7**
JCZ	**Jackson Bay**	**18.92**	**204**	PN	**P**	**20 36 29.5**	**-0.4**
ODZ	**Otahua Downs**	**19.17**	**199**	PN	**P**	**20 36 31.7**	**-0.2**
ODZ	**Otahua Downs**	**19.17**	**199**	*e*P	**P**	**20 36 32.2**	**+0.2**
	38nm,0.6s						
DCZ	**Deep Cove**	**20.71**	**205**	*e*P	**P**	**20 36 46.8**	**+0.9**
	0.8s						
WHZ	**Wether Hill Ro**	**20.78**	**203**	*e*P	**P**	**20 36 46.3**	**-0.4**
	62nm,0.6s						
ARMA	**Armidale**	**24.40**	**256**	*e*P	**P**	**20 37 21.8**	**+2.3**
	13nm,0.8s						
EIDS	**Eidsvold**	**25.30**	**268**	*e*P	**P**	**20 37 28.3**	**+1.0**
	33nm,0.8s						
CTA	**Charters Tower**	**30.96**	**276**	P	**P**	**20 38 16.6**	**-0.4**
	18nm,0.3s,baz=97,slow=10,SNR=73						
CTA				ScP	**ScP**	**20 43 53.9**	**+0.1**
	4.1nm,1.0s,baz=72,slow=9.6,SNR=3.5						
CTAO	**Charters Tower**	**30.96**	**276**	*e*P	**P**	**20 38 16.4**	**-0.6**
COEN	**Coen**	**36.08**	**284**	*e*P	**P**	**20 39 00.9**	**+0.6**
	35nm,1.5s						
BBOO	**Buckleboo**	**37.64**	**251**	*e*P	**P**	**20 39 12.6**	**-0.4**
AS31	**Alice Springs**	**40.94**	**264**	*e*P	**P**	**20 39 39.7**	**-0.1**
ASAR	**Alice Springs**	**40.94**	**264**	P	**P**	**20 39 39.8**	**0.0**
	36nm,0.8s,baz=112,slow=8.2,SNR=263						
ASAR				pP	**pP**	**20 41 11.0**	**+0.9**
	2.5nm,0.9s,baz=89,slow=7.6,SNR=2.9						
ASAR				ScP	**ScP**	**20 44 30.7**	**0.0**
	2.7nm,0.8s,baz=110,slow=3.8,SNR=9.8						
ASAR				S	**S**	**20 45 13.3**	**-2.1**
	2.0nm,1.0s,baz=97,slow=16,SNR=4.1						
WB2	**Warramunga Arr**	**41.60**	**270**	*e*P	**P**	**20 39 44.5**	**-0.5**
WRAB	**Tennant Creek**	**41.60**	**270**	P	**P**	**20 39 44.0**	**-1.1**
	342nm,0.7s,SNR=72						
WRAB	**Tennant Creek**	**41.60**	**270**	*e*P	**P**	**20 39 44.4**	**-0.7**
	47nm,0.8s						
WRA	**Warramunga Arr**	**41.61**	**270**	P	**P**	**20 39 44.6**	**-0.5**
	33nm,0.7s,baz=103,slow=8.7,SNR=427						
WRA				ScP	**ScP**	**20 44 33.7**	**+0.4**
	4.4nm,0.9s,baz=106,slow=4.1,SNR=11						
WRA				S	**S**	**20 45 22.9**	**-2.4**
	3.9nm,1.0s,baz=113,slow=13,SNR=9.9						
FORT	**Forrest**	**44.62**	**253**	*e*P	**P**	**20 40 07.6**	**-0.9**
	106nm,0.8s						
VNDA	**Vanda**	**51.13**	**185**	P	**P**	**20 40 57.3**	**+0.7**
	2.0nm,0.7s,baz=354,slow=6.9,SNR=12						
VNDA				PcP	**PcP**	**20 42 04.4**	**+0.7**
	1.7nm,0.8s,baz=315,slow=5.4,SNR=4.5						
VNDA				ScP	**ScP**	**20 45 11.8**	**-0.4**
	2.7nm,0.9s,baz=331,slow=4.4,SNR=6.0						
SBA	**Scott Base**	**51.14**	**183**	*e*P	**P**	**20 40 58.7**	**+2.0**
	16nm,1.0s						
SOEI	**Soe**	**54.51**	**278**	*e*P	**P**	**20 41 22.9**	**+1.0**
	35nm,0.9s						
CASY	**Casey**	**56.94**	**207**	*e*P	**P**	**20 41 37.4**	**-0.4**
	19nm,0.8s						
QSPA	**South Pole Qui**	**62.98**	**180**	P	**P**	**20 42 19.3**	**+1.0**
	12nm,0.6s,baz=337,slow=0.5,SNR=86						
QSPA	**South Pole Qui**	**62.98**	**180**	*e*P	**P**	**20 42 19.2**	**+1.0**
	9.0nm,0.7s						
MJAR	**Matsushiro Arr**	**74.17**	**327**	P	**P**	**20 43 24.7**	**-1.6**
	1.8nm,0.7s,baz=164,slow=7.2,SNR=6.1						
MAW	**Mawson**	**74.51**	**201**	P	**P**	**20 43 28.0**	**+0.2**
	6.1nm,0.9s,baz=137,slow=8.6,SNR=6.3						
ASAJ	**Asahikawa**	**78.43**	**334**	P	**P**	**20 43 50.5**	**+1.0**
	6.5nm,0.8s,baz=113,slow=7.0,SNR=6.1						
SYO	**Syowa Base**	**79.74**	**194**	*e*PcP	**PcP**	**20 44 03.0**	**+0.9**
KSRS	**Korea Array**	**80.28**	**321**	P	**P**	**20 43 59.7**	**+0.2**
	1.6nm,0.9s,baz=140,slow=5.9,SNR=5.4						
KSAR	**Wonju Array Be**	**80.30**	**321**	P	**P**	**20 43 59.7**	**+0.1**
QIZ	**Qiongzhong**	**81.39**	**296**	P	**P**	**20 44 05.7**	**0.0**
QIZ				pP	**pP**	**20 45 53.6**	**-0.5**
QIZ				sP	**sP**	**20 46 44.7**	**-0.4**
QIZ				S	**SKSac**	**20 53 39.0**	**+1.3**
QIZ				PMZ			
	23nm,2.5s						
SNAA	**Sanae**	**81.47**	**179**	*e*P	**P**	**20 44 05.4**	**0.0**
	12nm,1.0s						
PETK	**Petropavlovsk-**	**82.06**	**347**	P	**P**	**20 44 08.2**	**-0.2**
	6.2nm,0.6s,baz=143,slow=8.7,SNR=11						
NJ2	**Nanjing**	**82.27**	**312**	*e*P	**P**	**20 44 10.4**	**+0.5**
NJ2				PMZ			
	10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**83.10**	**328**	P	**P**	**20 44 13.9**	**+0.1**
	3.9nm,0.7s,baz=128,slow=2.7,SNR=13						
MDJ	**Mudanjiang**	**84.56**	**327**	P	**P**	**20 44 22.8**	**+1.7**
MDJ				PMZ			
	6.0nm,0.8s						
MDJ				PMZ			
	60nm,4.6s						
MONP	**Monument Peak,**	**85.43**	**50**	P	**P**	**20 44 26.8**	**+0.9**
	baz=86						
VES	**Vestal, Richgr**	**85.45**	**46**	P	**P**	**20 44 25.8**	**+0.2**
	baz=86						
EDW2	**Edwards Air Fo**	**85.57**	**47**	P	**P**	**20 44 26.9**	**+0.5**
	baz=86						
ISA	**Isabella, Lake**	**85.73**	**46**	P	**P**	**20 44 27.8**	**+0.6**
	baz=86						
SWSC	**Sam W. Stewart**	**85.88**	**50**	P	**P**	**20 44 28.9**	**+1.1**
	baz=86						
CN2	**Changchun**	**86.07**	**324**	*e*P	**P**	**20 44 28.4**	**0.0**
CN2				*e*pP	**pP**	**20 46 18.2**	**-0.1**
CN2				PMZ			
	10.0nm,0.8s						
CN2				PMZ			
	200nm,4.0s						
LRMC	**Laurel Mtn Rad**	**86.13**	**47**	P	**P**	**20 44 29.8**	**+0.7**
	baz=86						
BELC	**Belle Mtn. Jos**	**86.37**	**49**	P	**P**	**20 44 31.4**	**+1.1**
	baz=86						
N02D	**Trinity Center**	**86.51**	**40**	P	**P**	**20 44 32.0**	**+1.3**
	baz=87						
PLCA	**Paso Flores**	**86.52**	**134**	P	**P**	**20 44 31.9**	**+1.0**
	14nm,0.9s,baz=234,slow=4.7,SNR=17						
GSC	**Goldstone, Bar**	**86.60**	**47**	P	**P**	**20 44 31.8**	**+0.6**
	baz=87						
MPMC	**Manual Prospec**	**86.61**	**46**	P	**P**	**20 44 31.7**	**+0.2**
	baz=87						
HEC	**Hector,Ludlow**	**86.64**	**48**	P	**P**	**20 44 31.9**	**+0.4**
	baz=87						
M02C	**Callahan**	**86.69**	**40**	P	**P**	**20 44 32.5**	**+0.9**
	baz=87						
L02D	**Cave Junction,**	**86.78**	**39**	P	**P**	**20 44 33.1**	**+1.3**
	baz=87						
GRAC	**Grapevine Rang**	**87.25**	**46**	P	**P**	**20 44 35.0**	**+0.7**
	baz=87						
M04C	**Macdoel**	**87.53**	**40**	P	**P**	**20 44 36.5**	**+1.0**
	baz=88						
NVAR	**Mina Array Bea**	**87.53**	**44**	P	**P**	**20 44 36.0**	**+0.3**
	5.6nm,0.8s,baz=224,slow=8.1,SNR=37						
NVAR				pP	**pP**	**20 46 29.4**	**+3.3**
	1.2nm,0.9s,baz=223,slow=9.6,SNR=5.6						
GYA	**Guiyang**	**87.80**	**301**	P	**P**	**20 44 37.8**	**+0.6**
GYA				pP	**pP**	**20 46 28.9**	**+1.3**
GYA				sP	**sP**	**20 47 18.0**	**-0.2**
GYA				PP	**PP**	**20 48 15.4**	**+3.1**
GYA				SKS	**SKSac**	**20 54 18.2**	**+0.3**
GYA				S	**S**	**20 54 38.8**	**+0.8**
GYA				PMZ			
	30nm,1.0s						
GYA				PMZ			
	140nm,5.7s						
I03D	**Drain, OR**	**87.93**	**38**	P	**P**	**20 44 37.9**	**+0.7**
	baz=88						
TPNV	**Topopah Spring**	**87.94**	**46**	P	**P**	**20 44 38.2**	**+0.6**
	baz=88						
TPH	**Tonopah**	**87.99**	**45**	*e*P	**P**	**20 44 38.3**	**+0.4**
	16nm,1.1s						
Z14A	**Wintersburg**	**88.08**	**51**	P	**P**	**20 44 39.3**	**+1.2**
	baz=88						
K04D	**Chiloquin, OR**	**88.12**	**39**	P	**P**	**20 44 39.0**	**+0.7**
	baz=88						
J04D	**Umpqua Nationa**	**88.32**	**39**	P	**P**	**20 44 40.0**	**+0.7**
	baz=88						
MOD	**Modoc Plateau**	**88.49**	**41**	*e*P	**P**	**20 44 40.8**	**+0.7**
	36nm,1.3s						
I04A	**Tendick Farm,**	**88.51**	**38**	P	**P**	**20 44 40.3**	**+0.3**
	baz=89						
J05D	**Fort Rock, OR**	**88.83**	**39**	P	**P**	**20 44 42.3**	**+0.7**
	baz=89						
R11A	**Troy Canyon, C**	**89.19**	**46**	P	**P**	**20 44 43.8**	**+0.3**
	baz=89						
319A	**Douglas**	**89.58**	**54**	P	**P**	**20 44 46.7**	**+1.4**
	baz=90						
WVOR	**Wild Horse Val

0.9nm,0.6s,baz=135,slow=0.2,SNR=10
MKAR PKKPbc **PKKPbc** **21 01 06.7 -0.5**
1.3nm,0.8s,baz=280,slow=4.2,SNR=15
ZALV Zalesovo Beam 113.97 320 PKiKP **PKiKP** **20 50 20.8 -1.8**
0.7nm,0.6s,baz=162,slow=3.1,SNR=4.6
KSH Kashi 116.46 303 PKP **PKPdf** **20 50 31.2 +3.1**
KSH sPKP 20 53 11.3
KSH PKS **PKSdf** **20 54 06.5 +1.7**
KSH SKS **SKSdf** **20 56 57.3 +4.5**
KSH PPMZ
130nm,3.3s
KURK Kurchatov 117.03 315 PKP **PKPdf** **20 50 27.1 -1.4**
KURK *e*PKPdf **PKPdf** **20 50 27.2 -1.4**
KURBB Kurchatov Arra 117.07 315 PKP **PKPdf** **20 50 27.1 -1.5**
2.2nm,0.7s,baz=106,slow=2.0,SNR=23
AAK Ala-Archa 118.25 306 PKKPbc PKKPbc 21 00 51.8 -0.1
1.0nm,0.5s,baz=240,slow=9.4,SNR=5.3
BVAR Borovoye Array 122.36 317 PKP **PKPdf** **20 50 37.8 -1.1**
5.5nm,0.7s,baz=96,slow=1.5,SNR=28
SCHQ Schefferville 125.38 40 PKP **PKPdf** **20 50 43.1 -1.4**
4.0nm,0.6s,baz=254,slow=6.9,SNR=7.9
ARU Arti 129.02 322 *e*PKPdf **PKPdf** **20 50 51.4 0.0**
LSZ Lusaka 129.35 217 PKP **PKPdf** **20 50 53.0 -0.5**
2.1nm,0.7s,baz=54,slow=8.7,SNR=4.6
GEYT Alibeck 129.93 298 PKP **PKPdf** **20 50 53.6 -0.2**
3.4nm,0.7s,baz=236,slow=1.1,SNR=9.3
GEYT SKPab SKPab 20 53 30.9 +0.9
18nm,1.0s,baz=253,slow=1.5,SNR=24
AKTO Aktyubinsk 130.09 314 PKP **PKPdf** **20 50 53.1 -0.6**
3.5nm,0.8s,baz=82,slow=2.1,SNR=6.0
AKTO SKPbc **SKPab** **20 53 30.4 +0.3**
3.4nm,1.0s,baz=70,slow=7.2,SNR=6.3
KMBO Kilima Mbogo 133.89 239 SKPbc **SKPbc** **20 53 45.5 +0.8**
5.4nm,0.9s,baz=99,slow=6.1,SNR=5.3
ARCES ARCESS Array B 134.87 347 PKhKP PKPpre 20 50 55.2
2.8nm,0.8s,baz=104,slow=1.9,SNR=10
ARCES PKP **PKPdf** **20 51 01.0 -1.1**
2.6nm,0.6s,baz=69,slow=2.9,SNR=13
KAF Kangasniemi 140.65 340 *e*pkp PKPpre 20 51 04.8
FINES FINESS Array B 141.24 340 PKhKP PKPpre 20 51 06.8
3.5nm,0.6s,baz=85,slow=4.0,SNR=15
NB2 NORSAR Subarra 145.13 350 PKP **PKPdf** **20 51 20.3 -0.6**
comp=Z,3.7nm,0.6s,baz=16,slow=3.2
NB2 NORSAR Subarra 145.13 350 PKP pPKiKP 20 53 24.2 +1.5
comp=Z,4.9nm,1.4s,baz=16,slow=3.2
NOA NORSAR Array B 145.13 350 PKPbc **PKPdf** **20 51 20.2 -0.6**
comp=Z,9.2nm,0.7s,baz=20,slow=2.5,SNR=44
NOA pPKPbc pPKPbc 20 53 18.0 +0.1
comp=Z,0.1nm,0.5s,baz=119,slow=21,SNR=2.0
MALT Malatya 145.42 299⇑*i*P **PKPbc** **20 51 23.8 +0.5**
IDID Didziasalis 145.48 332 *e*P **PKPdf** **20 51 22.1 +0.6**
IDID AMB AMB 20 51 23.3
comp=Z,9.4nm,0.8s
ISAL Salakas 145.56 333 *e*P **PKPdf** **20 51 22.3 +0.6**
ISAL AMB AMB 20 51 23.6
comp=Z,12nm,0.9s
IIGN Ignalina 145.67 333 *e*P **PKPbc** **20 51 22.7 -0.6**
IIGN AMB AMB 20 51 23.9
comp=Z,15nm,0.9s
NACGM Naroch 145.75 332 *e* **PKPdf** **20 51 20.0 -2.0**
KONO Kongsberg 146.70 350 *e*PKPbc **PKPbc** **20 51 25.0 -1.1**
AKASG Malin Array Be 147.23 324 PKP **PKPdf** **20 51 23.1 -1.5**
comp=Z,18nm,0.8s,baz=45,slow=3.7,SNR=19
AKASG PKPbc **PKPbc** **20 51 26.5 -1.2**
comp=Z,19nm,0.7s,baz=42,slow=3.4,SNR=52
AKASG pPKPbc **pPKPbc** **20 53 21.6 -2.5**
comp=Z,0.6nm,0.5s,baz=47,slow=3.8,SNR=2.1
KIEV Kiev 147.24 324 *e*PKPbc **PKPbc** **20 51 26.7 -1.1**
SUW Suwalki 147.86 333 *e*PKP **PKPbc** **20 51 28.7 -0.6**
BRTR Keskin Array B 148.85 305 PKPbc **PKPbc** **20 51 31.6 -0.8**
comp=Z,5.9nm,0.9s,baz=137,slow=4.2,SNR=16
BRTR pPKPbc **pPKPbc** **20 53 27.7 -1.6**
comp=Z,1.4nm,1.0s,baz=101,slow=3.9,SNR=3.7
ANTO Ankara 149.45 303⇓*i*P **PKPbc** **20 51 33.6 -0.2**
ANTO Ankara 149.45 303 *e*PKPbc **PKPbc** **20 51 33.5 -0.3**
TLCR 150.31 315⇑*i*P **PKPbc** **20 51 35.1 -0.4**
BEL Belsk 150.45 332 *e*PKP **PKPbc** **20 51 35.8 +0.2**
GKP Gorka Klasztor 150.65 338 *e*PKP **PKPbc** **20 51 35.9 -0.1**
CFR Carcaliu 150.74 316⇑*i*P **PKPbc** **20 51 36.5 0.0**
TESR Tescani 150.97 319⇓*i*P **PKPbc** **20 51 36.6 -0.4**
TLB Topalu 151.08 315⇑*i*P **PKPbc** **20 51 37.3 0.0**
BURAR Bucovina Array 151.16 322⇑*i*P **PKPbc** **20 51 38.0 +0.5**
KWP Kalwaria Pacla 151.17 328 *e*PKP **PKPbc** **20 51 37.3 -0.1**
KWP Kalwaria Pacla 151.17 328⇓*i*P **PKPbc** **20 51 37.6 +0.2**
KWP Kalwaria Pacla 151.17 328 *e*PKPbc **PKPbc** **20 51 36.8 -0.6**
VRI Vrincioaia 151.26 318⇑*i*P **PKPbc** **20 51 37.1 -0.6**
KOLS Kolonicke sedl 151.85 327 *e*PKP **PKPdf** **20 51 31.9 -0.1**
KOLS *e* 20 51 39.4
STHS Stebnicka Huta 152.01 329 *e*PKP **PKPbc** **20 51 38.8 -0.5**
STHS *e* 20 51 51.4
OJC Ojcow 152.08 331 *e*PKP **PKPbc** **20 51 39.5 +0.1**
TRPA Tarpa 152.25 325⇑*i*P **PKPbc** **20 51 39.4 -0.4**
CRVS Cervenica-Dubn 152.27 328 *e*PKP **PKPbc** **20 51 40.0 +0.2**
CRVS *e* 20 51 52.2
NIE Niedzica 152.44 330 *e*PKP **PKPbc** **20 51 40.7 +0.5**
NIE *e* 20 51 53.0
VOIR 152.49 318⇑*i*P **PKPbc** **20 51 42.5 +2.0**
ARR Arges 152.77 319⇓*i*P **PKPbc** **20 51 40.5 -0.6**
KSP Ksiaz 152.98 336 *e*PKP **PKPbc** **20 51 41.5 +0.2**
KSP *e* 20 51 55.2
DRGR 153.02 323⇓*i*P **PKPbc** **20 51 41.5 -0.1**
KECS Kecovo 153.02 328 *e*PKP **PKPbc** **20 51 54.7 -0.7**
OKC Ostrava-Krasne 153.06 332⇑*e*PKP **PKPbc** **20 51 41.5 0.0**
OKC *e*PKPAB **PKPab** **20 51 55.0 -0.4**
UPC Upice 153.36 336⇑*e*PKP **PKPbc** **20 51 42.7 +0.5**
UPC *e*PKPAB **PKPab** **20 51 56.6 -0.1**
DPC Dobruska-Polom 153.37 335 *e*PKPDF **PKPdf** **20 51 34.1 -0.1**
DPC ⇑*e*PKP **PKPbc** **20 51 41.8 -0.4**
DPC *e*PKPAB **PKPab** **20 51 56.9 +0.1**
DPC *ep*PKP **pPKPdf** **20 53 39.6 +6.9**
DPC *ex* x 20 53 46.7
KRLC Kraliky 153.42 334 *e*PKPDF **PKPdf** **20 51 33.8 -0.5**
KRLC ⇑*e*PKP **PKPbc** **20 51 42.2 -0.2**
KRLC *e*PKPAB **PKPab** **20 51 56.2 -0.8**
CLL Collm 153.68 340⇓*i*PKPbc **PKPbc** **20 51 42.2 -0.6**
comp=Z,8.0nm,0.9s
CLL ⇑*i*PKPab **PKPab** **20 51 57.5 -0.5**
comp=Z,10.0nm,0.8s
CLL *ep*PKPab **pPKPab** **20 53 46.0 -4.5**
BRG Berggiesshubel 153.77 339 *i* PKP **PKPbc** **20 51 42.6 -0.4**
comp=Z,8.0nm,1.2s
BRG *e* 20 51 58.0
comp=Z,12nm,1.3s
VYHS Vyhne 153.78 330 *e*PKP **PKPbc** **20 51 42.8 -0.3**
VYHS *e* 20 51 58.3
PVCC Panska Ves 153.85 337 *e*PKPAB **PKPab** **20 51 59.0 +0.2**
PRU Pruhonice 154.32 337⇑*e*PKP **PKPbc** **20 51 44.0 -0.2**
PRU *e*PKPAB **PKPab** **20 52 00.6 -0.2**
MMB Musomiste 155.27 312⇓*i*P **PKPbc** **20 52 05.2 -0.1**
KHC Kasperske Hory 155.38 337 *e*PKPDF **PKPdf** **20 51 35.9 -1.1**
KHC *ex* x 20 51 44.2
KHC *e*PKPAB **PKPab** **20 52 05.0 -0.5**
KHC *ep*PKP **pPKPdf** **20 53 41.2 +5.6**
KHC *ex* x 20 53 50.1
GERES GERESS Array B 155.58 336 PKP **PKPdf** **20 51 35.1 -2.3**
comp=Z,0.3nm,0.7s,baz=48,slow=4.4,SNR=3.8
GERES PKPbc PKPbc 20 51 46.4
comp=Z,0.8nm,0.7s,baz=80,slow=1.6,SNR=5.2
GERES PKPab **PKPab** **20 52 05.9 -0.5**
comp=Z,1.7nm,0.7s,baz=28,slow=6.0,SNR=13
GRF Grafenberg Arr 155.64 341 *e*PKP **PKPab** **20 52 06.2 -0.3**
ABTA Abfaltersbach 157.78 335⇑*i*PKPab **PKPab** **20 52 14.7 -1.3**
comp=Z,6.8nm,1.2s
DAVA Damuels 158.20 340⇑*i*PKPab **PKPab** **20 52 17.6 -0.2**
comp=Z,7.9nm,0.8s
DBIC Dimbokro 159.29 168 PKP **PKPdf** **20 51 41.8 -1.1**
comp=Z,2.2nm,0.7s,baz=246,slow=6.1,SNR=3.5
TORD Torodi Ar. Bea 165.91 190 PKP **PKPdf** **20 51 48.1 -1.0**
comp=Z,3.2nm,1.0s,baz=302,slow=0.9,SNR=16
TORD PKPab **PKPab** **20 52 52.0 -0.2**
comp=Z,2.7nm,0.8s,baz=174,slow=3.8,SNR=11
ESDC Sonseca Array 167.19 11 PKPab **PKPab** **20 52 56.5 -1.0**
comp=Z,1.4nm,0.8s,baz=334,slow=3.6,SNR=6.0

NNC 07 20:35:10.9±6.5, 37.15N×71.39E, h0km, mb3.6, mpv3.2, 4C-5D, Error ellipse: s-maj=54.8km s-min=21.2km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.61**	**310**	⇑P	Pn	20 35 54.3	-0.2
	24nm,0.3s						
DZET				⇓S	Sb	20 36 29.4	-2.2
	54nm,0.3s						
SFK	**Sufi-Kurgan**	**3.31**	**29**	⇑P	Pn	20 36 04.9	+0.6
	1.2nm,0.3s						
SFK				⇓S	Sb	20 36 48.9	-2.9
	9.7nm,0.3s						
MNAS	**Manas**	**5.40**	**9**	⇓P	Pn	20 36 31.2	-1.7
	1.3nm,0.5s						
MNAS				⇓S	Sn	20 37 33.6	-2.4
	3.1nm,0.6s						
AAK	**Ala-Archa**	**5.97**	**23**	⇑P	Pn	20 36 36.9	-4.0
	1.3nm,0.8s						
AAK				⇓S	Sn	20 37 49.7	-0.5
	5.0nm,0.6s						
KK31	**Karatay Array**	**5.98**	**354**	P	Pn	20 36 38.2	-2.5
	0.6nm,0.3s,baz=176,slow=12,SNR=68						
KK31				⇑S	Sn	20 37 47.3	-2.7
	2.7nm,0.4s,baz=186,slow=24,SNR=18						

*NEIC **07** 20:37:35.4, 32.10N×115.30W, h11km, ML3.6(PAS), After PAS.*
*ISCJB **07** 20:37:36.7±0.6, 32.27N±0.04×115.26W±0.06, h17km, Error ellipse: s-maj=7.5km s-min=5.4km az=37.5*
*MEX **07** 20:37:39.2±0.5, 32.31N×115.18W, h18km±12km, MD4.1*
ISC 07 20:37:36.4±0.9, 32.19N±0.03×115.23W±0.04, h17km, n18, σ1s25/20, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.22**	**8**	*i* P	**Pg**	**20 37 42.0**	**+0.5**
MBIG				*e*S	**Sg**	**20 37 44.0**	**-0.9**
GLA	**Glamis**	**0.92**	**22**	*e*Pg	**Pb**	**20 37 53.0**	**-1.1**
SPIG	**San Pedro Mart**	**1.16**	**190**	*e*P	**Pg**	**20 37 59.0**	**0.0**
SPIG				*e*S	**Sg**	**20 38 15.1**	**+1.0**
SPIG	**San Pedro Mart**	**1.16**	**190**	*e*P	**Pg**	**20 37 59.0**	**0.0**
SPIG				*e*S	**Sg**	**20 38 15.1**	**+1.0**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pb**	**20 37 58.7**	**-0.4**
CBX				*e*S	**Sb**	**20 38 13.3**	**-1.3**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pb**	**20 37 58.7**	**-0.4**
CBX				*e*S	**Sb**	**20 38 13.3**	**-1.3**
PFO	**Pinyon Flats O**	**1.75**	**324**	*e*Pn	**Pn**	**20 38 04.4**	**-1.7**
LDFC	**Landfair**	**2.88**	**2**	Pg	**Pg**	**20 38 33.7**	**+2.0**
PASC	**Pasadena Art C**	**3.17**	**309**	*e*Pg	**Pb**	**20 38 33.6**	**+1.3**
GSC	**Goldstone, Bar**	**3.37**	**338**	*e*Pg	**Pg**	**20 38 40.9**	**-0.1**
TUC	**Tucson**	**3.77**	**87**	*e*Pg	**Pg**	**20 38 46.9**	**-1.8**
OSI	**Osito Audit: C**	**3.79**	**311**	*e*Pg	**Pb**	**20 38 44.2**	**+1.3**
ISA	**Isabella, Lake**	**4.39**	**323**	*e*Pg	Pg	20 38 57.3	-3.2
DAC	**Darwin (Calif)**	**4.52**	**335**	*e*Pg	Pg	20 38 59.7	-3.3
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn	**Pn**	**20 38 45.5**	**-0.1**
W18A	**Petrified Fore**	**5.43**	**56**	*e*Pn	**Pn**	**20 38 58.9**	**+2.1**
121A	**Cookes Peak, D**	**6.31**	**85**	*e*Pn	**Pn**	**20 39 09.8**	**+0.9**
	6.9nm,0.3s						
MVCO	**Mesa Verde**	**7.47**	**46**	*e*Pn	Pn	20 39 29.1	+4.3
	6.8nm,0.5s						

*IDC **07** 20:46:59.3±3.8, 38.03N×73.13E, h78km±35km, mb3.3/3, mb1 3.5/8, mb1mx3.1/48, mbtmp3.7/8, Error ellipse: s-maj=37.1km s-min=24.0km az=175.0*
*ISCJB **07** 20:47:00.5±0.3, 38.19N±0.02×73.22E±0.06, h127km, mb3.5/3, Error ellipse: s-maj=6.6km s-min=3.3km az=168.4*
*NNC **07** 20:47:05.9±1.6, 38.58N×72.84E, h126km±11km, mb2.9, mpv3.8, Error ellipse: s-maj=14.7km s-min=6.3km az=145.0*
*BJI **07** 20:47:06.1, 38.34N×73.37E, h127km, mb3.6/1*
ISC 07 20:47:01.0±0.7, 38.20N±0.04×73.23E±0.06, h127km, n51, σ2s17/55, mb3.5/3, 9C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.83**	**7**	⇑P	**Pn**	**20 47 33.8**	**+0.9**
	19nm,0.2s						
SFK				⇑S	**Sn**	**20 47 56.1**	**-1.3**
	96nm,0.2s						
KSH	**Kashi**	**2.52**	**58**	P	**Pn**	**20 47 39.3**	**-2.0**
KSH				S	Sn	20 48 03.7	-8.7
KSH				SMN			
	4µm,0.5s						
KSH				SME			
	2µm,0.5s						
DZET	**Dzherino**	**3.51**	**281**	⇑P	**Pn**	**20 47 54.0**	**-0.3**
	28nm,0.4s						
DZET				⇑S	**Sn**	**20 48 32.1**	**-3.3**
	91nm,0.3s						
AML	**Almayashu**	**3.94**	**5**	P	**Pn**	**20 48 01.2**	**+1.0**
	SNR=64						
UCH	**Uchtor**	**4.14**	**13**	P	**Pn**	**20 48 04.4**	**+1.4**
	SNR=48						
KZA	**Kyzart**	**4.17**	**21**	P	**Pn**	**20 48 04.9**	**+1.6**
	SNR=22						
MNAS	**Manas**	**4.32**	**353**	⇑P	**Pn**	**20 48 05.7**	**+0.6**
	17nm,0.7s						
MNAS				⇓S	**Sn**	**20 48 50.0**	**-4.8**
	41nm,0.6s						
EKS2	**Erkin-Say**	**4.48**	**5**	P	**Pn**	**20 48 08.7**	**+1.5**
	SNR=25						
CEP	**Cherat**	**4.49**	**194**	P	Pn	20 48 12.4	+5.0
CEP				S	**Sn**	**20 49 00.0**	**+1.0**
CHCP	**Chirah Chowk**	**4.53**	**180**	P	Pn	20 48 13.3	+5.5
AAK	**Ala-Archa**	**4.54**	**12**	⇓P	**Pn**	**20 48 09.9**	**+2.0**
	8.8nm,0.5s						
AAK				⇑S	**Sn**	**20 48 58.7**	**-1.2**
	83nm,1.2s						
AAK	**Ala-Archa**	**4.54**	**12**	P	**Pn**	**20 48 10.0**	**+2.0**
	SNR=18						
AAK	**Ala-Archa**	**4.54**	**12**	P	**Pn**	**20 48 09.5**	**+1.6**
	4.8nm,0.3s,baz=167,slow=6.5,SNR=93						
AAK				S	**Sn**	**20 48 58.5**	**-1.5**
	4.3nm,0.3s,baz=358,slow=18,SNR=17						
KBK	**Karagaybulak**	**4.64**	**16**	P	**Pn**	**20 48 12.3**	**+2.9**
	SNR=13						
ULHL	**Ulahol**	**4.66**	**29**	P	**Pn**	**20 48 12.1**	**+2.6**
	SNR=5.6						
CHMS	**Chumysh**	**4.93**	**13**	P	**Pn**	**20 48 15.2**	**+2.0**
	SNR=7.2						
TKM2	**Tokmak 2**	**5.05**	**20**	⇓P	**Pn**	**20 48 16.4**	**+1.5**
	3.1nm,0.7s						
TKM2				⇑S	**Sn**	**20 49 10.2**	**-2.1**
	6.5nm,0.6s						
USP	**Ospenovka**	**5.16**	**10**	P	**Pn**	**20 48 17.9**	**+1.8**
	SNR=6.8						
KK31	**Karatay Array**	**5.32**	**338**	⇓P	**Pn**	**20 48 18.4**	**+0.1**
	6.4nm,0.3s,baz=148,slow=11,SNR=272						
KK31				⇓S	**Sn**	**20 49 14.0**	**-4.5**
	16nm,0.5s,baz=145,slow=21,SNR=9.5						
THW	**Thamme Wali**	**5.53**	**193**	P	Pn	20 48 24.8	+3.6
DLH	**Dalhousie**	**6.07**	**158**	*e*P	**Pn**	**20 48 31.0**	**+2.4**
DLH				*ex*	x	20 49 39.0	
DHRM	**DHARAMSHALA**	**6.44**	**156**	*e*P	Pn	20 48 36.8	+3.1
DHRM				*e*S	**Sn**	**20 49 43.7**	**-2.4**
DHRM				AML	AML	20 49 55.9	
	comp=E,134nm,0.4s						
DHRM				AML	AML	20 49 57.8	
	comp=N,92nm,0.2s						
SMLA	**Simla**	**7.76**	**154**	*i* P	**Pn**	**20 48 53.6**	**+2.4**
SMLA				*i* S	**Sn**	**20 50 14.3**	**-3.2**
SMLA				*i* S	**Sn**	**20 50 15.4**	**-2.1**
SMLA				AML	AML	20 50 21.0	
	comp=N,98nm,0.3s						
SMLA				AML	AML	20 50 22.3	
	comp=E,108nm,0.9s						
KHET	**Khetri**	**10.32**	**167**	*e*S	**Sn**	**20 51 14.5**	**-5.1**
KHET				AML	AML	20 51 20.5	
	comp=E,118nm,0.2s						
KHET				AML	AML	20 51 22.5	
	comp=N,86nm,0.1s						
KUDL	**Kundal**	**10.39**	**164**	*e*P	**Pn**	**20 49 27.7**	**+1.1**
KUDL				*e*S	**Sn**	**20 51 15.6**	**-5.6**
KUDL				AML	AML	20 51 23.1	
	comp=E,10.0nm,0.4s						
KUDL				AML	AML	20 51 30.2	
	comp=N,7.1nm,0.7s						
SONA	**Sohna**	**10.43**	**161**	*e*P	**Pn**	**20 49 29.4**	**+2.3**
SONA				*e*S	Sn	20 51 15.4	-6.8
SONA				AML	AML	20 51 24.6	
	comp=N,16nm,0.4s						
SONA				AML	AML	20 51 27.4	
	comp=E,24nm,0.3s						
MKAR	**Makanchi Array**	**10.88**	**35**	P	**Pn**	**20 49 34.3**	**+1.3**
	comp=E,0.1nm,0.3s,baz=201,slow=16,SNR=4.7						
AGRA	**Agra**	**11.63**	**159**	*e*P	**Pn**	**20 49 45.6**	**+2.5**
GEYT	**Alibeck**	**11.92**	**273**	P	Pn	20 49 44.9	-2.0
	comp=E,1.0nm,0.3s,baz=96,slow=8.9,SNR=15						
GEYT				S	Sn	20 51 47.2	-11
	comp=E,0.3nm,0.3s,baz=94,slow=22,SNR=3.4						
PYUN	**Piuthan**	**12.96**	**138**	*e*P	**Pn**	**20 49 59.5**	**-1.2**
	comp=E,149nm,0.4s						
KURBB	**Kurchatov Arra**	**12.98**	**15**	P	**Pn**	**20 49 59.2**	**-1.4**
	comp=E,0.0nm,0.3s,baz=210,slow=13,SNR=3.0						
DANN	**Dangsing**	**13.18**	**135**	*e*P	**Pn**	**20 50 02.6**	**-1.0**
KOLN	**Koldanda**	**13.55**	**137**	*e*P	**Pn**	**20 50 06.5**	**-1.8**
	comp=E,8.0nm,0.3s						
GKN	**Gorkha**	**13.94**	**133**	*e*P	**Pn**	**20 50 12.4**	**-0.9**
	comp=E,8.0nm,0.3s						
KKN	**Kakani**	**14.47**	**132**	*e*P	**Pn**	**20 50 18.9**	**-1.2**
	comp=E,8.7nm,0.5s						
AB31	**Akbulak array**	**14.62**	**323**	P	**Pn**	**20 50 19.9**	**-1.5**
	comp=E,1.0nm,0.5s,baz=137,slow=12,SNR=24						
AB31				S	Sn	20 52 52.3	-11
	comp=E,1.9nm,0.6s,baz=134,slow=26,SNR=7.3						
PKIN	**Phulchoki**	**14.70**	**133**	*e*P	**Pn**	**20 50 21.7**	**-1.3**
	comp=E,5.6nm,0.5s						
PKI	**Pulchoki**	**14.71**	**132**	*e*P	**Pn**	**20 50 23.0**	**-0.2**
	comp=E,5.2nm,0.5s						
GUN	**Gumba**	**14.74**	**130**	*e*P	**Pn**	**20 50 23.4**	**-0.2**
	comp=E,9.9nm,0.5s						
BVAR	**Borovoye Array**	**14.96**	**353**	P	**Pn**	**20 50 25.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=163,slow=14,SNR=8.0						
JIRN	**Jiri**	**15.11**	**130**	*e*P	**Pn**	**20 50 28.5**	**+0.3**
	comp=E,12nm,0.4s						
RAMN	**Ramite**	**15.88**	**131**	*e*P	**Pn**	**20 50 37.2**	**-0.5**
	comp=E,6.5nm,0.4s						
TAPN	**Taplejung**	**16.27**	**127**	*e*P	**P**	**20 50 43.0**	**-0.1**
	comp=E,7.3nm,0.5s						
AKTO	**Aktyubinsk**	**16.34**	**323**	⇑P	**Pn**	**20 50 43.7**	**+0.8**
	comp=E,3.1nm,0.9s						
AKTO				⇑S	Sn	20 53 33.9	-11
	comp=E,2.9nm,1.6s						
AKTO	**Aktyubinsk**	**16.34**	**323**	P	**Pn**	**20 50 42.9**	**+0.1**
	comp=E,0.3nm,0.3s,baz=123,slow=14,SNR=4.1						
ODAN	**Odare**	**16.42**	**129**	*e*P	**Pn**	**20 50 44.3**	**0.0**
	comp=E,6.2nm,0.4s						
ZALV	**Zalesovo Beam**	**17.65**	**23**	P	**Pn**	**20 50 59.9**	**+1.2**
	comp=E,0.6nm,0.3s,baz=212,slow=11,SNR=18						
GTA	**Gaotai**	**20.73**	**78**	*e*P	Pn	20 51 41.5	+6.2
GTA				PMZ			
	comp=E,3.0nm,1.1s						
FINES	**FINESS Array B**	**37.11**	**324**	P	P	20 54 03.3	+4.6
	comp=E,1.0nm,0.7s,baz=80,slow=8.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**67.53**	**269**	P	**P**	**20 57 47.0**	**+3.2**
	comp=E,0.4nm,0.5s,baz=44,slow=5.8,SNR=6.9						
WRA	**Warramunga Arr**	**81.41**	**124**	P	P	20 59 07.8	+3.9
	comp=E,0.2nm,0.6s,baz=323,slow=4.9,SNR=3.0						

RSPR 07 20:49:02.2, 19.05N×68.84W, h40km±10km, MD3.6/9, 6C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.57**	**243**	⇓*i*P	Pn	20 49 12.8	-1.3
DR12				*e*S	Sn	20 49 22.8	+0.3
PCDR	**Punta Cana, DR**	**0.69**	**141**⇑	*e*P	Pn	20 49 12.9	-2.6
PCDR	**Punta Cana, DR**	**0.69**	**141**	*e*S	Sn	20 49 22.8	-2.2
IDE	**Isla Desecheo**	**1.45**	**117**⇓	*e*P	Pn	20 49 22.9	-3.1
IDE	**Isla Desecheo**	**1.45**	**117**	*e*S	Sn	20 49 42.8	-1.1
AGPR	**Aguadilla, PR**	**1.74**	**109**⇑	*e*P	Pn	20 49 30.3	+0.4
AGPR	**Aguadilla, PR**	**1.74**	**109**	*e*S	Sn	20 49 50.4	-0.4
LSP	**Las Mesas**	**1.88**	**117**⇓	*e*P	Pn	20 49 31.1	-0.8
CRPR	**Cabo Rojo, PR**	**1.94**	**122**⇓	*e*P	Pn	20 49 33.0	+0.3
LRS	**Lares**	**2.04**	**111**⇑	*e*P	Pn	20 49 33.7	-0.4
AOPR	**Arecibo Observ**	**2.10**	**109**⇑	*e*P	Pn	20 49 34.7	-0.2
AOPR	**Arecibo Observ**	**2.10**	**109**	*e*S	Sn	20 50 00.3	+0.6
OBIP	**Obispado Ponce**	**2.34**	**115**⇑	*e*P	Pn	20 49 38.8	+0.6
CELP	**Cerrillos**	**2.35**	**114**⇑	*e*P	Pn	20 49 38.8	+0.5
SJG	**San Juan**	**2.72**	**110**⇓	*e*P	Pn	20 49 44.0	+0.7

*NEIC **07** 20:50:02.0, 18.15N×97.23W, h76km, MD4.1(MEX), After MEX.*
MEX 07 20:50:02.0±0.6, 18.15N×97.23W, h76km±4km, MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.30**	**335**	*i* P	Pn	20 50 12.8	-1.2
TPIG				*i* S	Sn	20 50 21.0	-1.9
TPIG	**Tehuac#an**	**0.30**	**335**	*i* P	Pn	20 50 12.8	-1.2
TPIG				*i* S	Sn	20 50 21.0	-1.9
VHO	**Vista Hermosa**	**1.17**	**156**	*e*P	Pn	20 50 22.1	-1.1
VHO				*i* S	Sn	20 50 37.1	-1.9
VHO	**Vista Hermosa**	**1.17**	**156**	*e*P	Pn	20 50 22.1	-1.1
VHO				*i* S	Sn	20 50 37.1	-1.9
TLIG	**Tlapa**	**1.40**	**246**	*e*P	Pn	20 50 24.9	-1.2
TLIG				*i* S	Sn	20 50 41.9	-2.3
LVIG	**Laguna Verde**	**1.75**	**26**	*i* P	Pn	20 50 28.6	-1.8
LVIG	**Laguna Verde**	**1.75**	**26**	*i* P	Pn	20 50 28.6	-1.8
YAIG	**Yautepec**	**1.89**	**292**	*i* P	Pn	20 50 31.0	-1.5
YAIG				*i* S	Sn	20 50 54.5	-1.2
YAIG	**Yautepec**	**1.89**	**292**	*i* P	Pn	20 50 31.0	-1.5
YAIG				*i* S	Sn	20 50 54.5	-1.2
PNIG	**Pinotepa**	**1.94**	**206**	*i* P	Pn	20 50 30.9	-2.2
PNIG				*i* S	Sn	20 50 55.0	-1.7
PNIG	**Pinotepa**	**1.94**	**206**	*i* P	Pn	20 50 30.9	-2.2
PNIG				*i* S	Sn	20 50 55.0	-1.7
MEIG	**Mezcala**	**2.29**	**265**	*e*P	Pn	20 50 36.7	-1.1
MEIG				*i* S	Sn	20 51 02.8	-2.3
MEIG	**Mezcala**	**2.29**	**265**	*e*P	Pn	20 50 36.7	-1.1
MEIG				*i* S	Sn	20 51 02.8	-2.3
HUIG	**Huatulco**	**2.60**	**155**	*i* P	Pn	20 50 41.1	-0.8
HUIG				*i* S	Sn	20 51 10.5

CBX	Cerro Bola	1.16 276	eP		Pn	21 01 05.7	-0.1
CBX	Cerro Bola	1.16 276	eP		Pn	21 01 05.7	-0.1
CBX			eS		Sn	21 01 21.7	+0.2
CBX			⇑e			21 01 23.4	
CBX			AML		AML	21 01 23.4	
	comp=E,9μm,0.6s						
CBX			⇑e			21 01 23.8	
CBX			AML		AML	21 01 23.8	
	comp=N,8μm,0.7s						
CBX	Cerro Bola	1.16 276	eP		Pn	21 01 05.7	-0.1
ECNX	Esteban Cantu	1.23 244	eP		Pg	21 01 07.4	0.0
ECNX			eS		Sn	21 01 24.4	+1.2
FRK	Frink	1.23 347	eP	g	Pn	21 01 04.7	-1.9
BAR	Barrett	1.26 293	eP		Pn	21 00 57.9	-9.1
BAR			eS		Sb	21 01 07.1	-16
PBX	Punta Banda	1.29 250	eP		Pg	21 01 08.4	-0.2
PBX			eS		Sg	21 01 25.9	+0.5
LTC	Little Chuckwa	1.30 8	ePn		Pn	21 01 02.6	-4.9
EML	El Monte Cty P	1.48 298	ePn		Pn	21 01 00.9	-9.0
EML			eP	g	Pg	21 01 11.7	-0.4
CTW	Cottonwood Mou	1.55 342	ePn		Pg	21 01 15.3	+1.8
DPP	Dos Picos Cty	1.60 300	ePn		Pn	21 01 02.9	-8.8
DPP			eP	g	Pg	21 01 13.8	-0.6
HWB	Hans Werner Br	1.63 301	ePn		Pn	21 01 03.3	-8.7
HWB			eSn		Sg	21 01 34.7	-1.3
CPE	Camp Elliot	1.67 295	ePn		Pn	21 01 04.6	-8.1
CPE			eP	g	Pb	21 01 14.6	+0.3
FRD	Ford Ranch, An	1.69 320	ePn		Pn	21 01 12.3	-0.8
PFO	Pinyon Flats O	1.71 326	eP		Pn	21 01 04.8	-8.5
PFO			eP	n	Pb	21 01 12.4	-2.6
PFO			eSn		Sn	21 01 32.5	-2.6
SNDA	J Saunders Pla	1.74 321	ePn		Pn	21 01 13.4	-0.4
PLM	Palomar	1.75 312	ePn		Pn	21 01 05.7	-8.1
PLM			eP	g	Pb	21 01 13.6	-2.1
DNR	Dunn Ranch,Anz	1.77 321	ePn		Pn	21 01 13.7	-0.3
CRY	Cary Ranch	1.82 319	ePn		Pn	21 01 07.1	-7.7
CRY			eP	g	Pg	21 01 18.4	-0.2
BACC	Bachelor Mtn.	2.03 314	ePn		Pn	21 01 10.3	-7.4
DGR	Domenigoni Val	2.04 316	ePn		Pn	21 01 10.6	-7.1
DGR			eP	g	Pg	21 01 22.1	-0.7
DGR			eSn		Sb	21 01 47.0	+1.1
HMTC	Hemet	2.08 317	ePn		Pn	21 01 11.3	-6.9
HMTC			eP	g	Pb	21 01 18.2	-3.0
GMRC	Granite Mounta	2.59 353	ePn		Pb	21 01 30.1	+0.1
LDFC	Landfair	2.88 3	ePn		Pn	21 01 26.8	-2.5
LDFC			eSn		Sb	21 02 08.0	-2.1
MWC	Mount Wilson	3.07 312	ePn		Pn	21 01 25.3	-6.8
MWC			eSn		Sn	21 02 12.0	+3.3
PASC	Pasadena Art C	3.12 310	ePn		Pn	21 01 28.0	-4.5
PASC			eSn		Sn	21 02 12.6	+2.9
GSC	Goldstone, Bar	3.34 338	ePn		Pn	21 01 30.5	-5.1
GSC			eSn		Sn	21 02 15.2	-0.1
OSI	Osito Audit: C	3.74 311	ePn		Pn	21 01 37.8	-3.4
TUC	Tucson	3.83 87	ePn		Pn	21 01 42.6	+0.2
TUC			eSn		Sb	21 02 39.1	+1.7
WSHM	Spangler Hills	3.85 332	ePn		Pn	21 01 39.8	-2.9
TJR	Tejon Ranch	4.03 315	ePn		Pn	21 01 38.5	-6.5
SHPR	Sheep Range	4.30 1	ePn		Pn	21 01 46.0	-2.9
SHPR			eLg		Lg	21 03 01.1	
ISA	Isabella, Lake	4.35 323	ePn		Pn	21 01 50.1	+0.6
ISA			eLg		Lg	21 03 00.3	
BAKC	Calstate	4.46 316	ePn		Pn	21 01 46.2	-4.8
DAC	Darwin (Calif)	4.49 336	ePn		Pn	21 01 45.9	-5.7
WUAZ	Wupatki	4.65 44	ePn		Pn	21 01 55.0	+1.3
WUAZ			eSn		Sn	21 02 49.2	+1.6
FIGC	Figueroa Mtn.	4.66 304	ePn		Pn	21 01 49.5	-4.3
TPNV	Topopah Spring	4.80 351	ePn		Pn	21 01 56.2	+0.4
KNB	Kanab	5.22 22	ePn		Pn	21 02 03.6	+2.0
KNB			eLg		Lg	21 03 41.9	
W18A	Petrified Fore	5.48 56	ePn		Pn	21 02 06.8	+1.7
	comp=N,69nm,0.6s						
W18A			eLg		Lg	21 03 51.7	
CCUT	Cedar City	5.57 16	ePn		Pn	21 02 05.1	-1.4
	comp=N,37nm,0.7s						
R11A	Troy Canyon, C	6.14 358	ePn		Pn	21 02 13.0	-1.3
R11A			eP	g	Pg	21 02 39.3	-1.9
121A	Cookes Peak, D	6.37 85	ePn		Pn	21 02 18.2	+0.8
	comp=N,76nm,0.3s						
MVU	Marysvale	6.78 21	ePn		Pn	21 02 20.9	-2.1
MVU			eP	g	Pg	21 02 52.9	-0.5
MVCO	Mesa Verde	7.50 46	ePn		Pn	21 02 34.0	+1.0
BNM	Barren Site	7.53 73	ePn		Pn	21 02 35.0	+1.7
PV05	Paradox Valley	7.76 39	ePn		Pn	21 02 42.8	+6.4
ANMO	Albuquerque	7.87 67	ePn		Pn	21 02 40.3	+2.3
PV10	Paradox Valley	8.01 38	ePn		Pn	21 02 44.3	+4.4
PV09	Paradox Valley	8.05 37	ePn		Pn	21 02 44.6	+4.0
NSHM	Saint Helena R	8.68 319	ePn		Pn	21 02 49.6	+0.6
S22A	4UR Ranch, Cre	8.88 49	ePn		Pn	21 02 55.1	+3.1
SMCO	Snowmass	9.71 42	ePn		Pn	21 03 07.4	+4.0
WMOK	Wichita Mounta	14.02 75	ePn		Pn	21 04 02.0	0.0
NEW	Newport	16.11 356	ePn		P	21 04 35.1	+2.1
PIER	Pier 30 Seattl	16.28 343	ePn		Pn	21 04 30.9	-0.9

BJI ***07*** *21:05:26.8,5˚.30N×123˚.90E,h478km,mB4.6/19,mb4.3/27*
KLM ***07*** *21:05:27.3,5˚.27N×123˚.97E,h500km,mb4.9,MS5.8*
ISCJB ***07*** *21:05:27.6±0.2,5˚.25N±0˚.03×123˚.87E±0˚.04,h496km±3km, mb4.1/49, Error ellipse: s-maj=5.5km s-min=4.3km az=164.3*
DJA ***07*** *21:05:27.8±0.4,5˚N±4˚×12˚4E±˚,h476km±4km,M4.5/31, mb4.8/31,mB5.0/22,MLv5.3/13,Mw(mB)4.3/22,Mwp5.9/2*
NEIC ***07*** *21:05:28.1±0.5,5˚.31N×123˚.89E,h489km±7km,mb4.5/19, Error ellipse: s-maj=9.4km s-min=6.9km az=53.0*
IDC ***07*** *21:05:29.3±1.0,5˚.20N×123˚.88E,h506km±10km,mb3.6/29, mb1 3.8/31,mb1mx3.6/46,mbtmp4.5/31, Error ellipse: s-maj=12.7km s-min=6.6km az=76.0*

ISC 07 21:05:27.7±0.4,5˚22N±0˚.04×123˚90E±0˚.06,h486km±3km, n141,σ1°66/185,mb4.2/47,4C-9D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GSPH	General Santos	1.35	51	eP	P	P	21 06 31.0	+2.1
GSPH				eS	S		21 07 25.4	+6.9
SGSI	Sangihe	2.23	133	P	P	P	21 06 33.2	+0.4
SGSI				S	S		21 07 25.5	0.0
DAV	Davao City (W)	2.48	42	eP	P	P	21 06 33.5	-0.7
DCPH	Dipolog City	3.38	351	eP	P	P	21 06 42.1	+1.8
BIPH	Bislig	3.83	40	⇓i P	P	P	21 06 45.3	+1.5
BIPH				i S	S		21 07 47.5	+1.8
GTOI	Gorontalo	4.64	191	P	P	P	21 06 51.1	+0.4
MRSI	Marisa	5.10	203	P	P	P	21 06 56.8	+1.9
	143nm,0.7s,1μm0.5nm							
MRSI				S	S		21 08 07.6	+1.6
	143nm,0.7s,1μm0.5nm							
TOLI	Toli-Toli	5.12	217	eP	P	P	21 06 56.2	+1.2
	342nm,0.7s							
TOLI				eS	S		21 08 09.1	+2.8
TNTI	Ternate	5.62	142	P	P	P	21 07 01.1	+1.3
	142nm,0.7s,3μm3.9nm							
TNTI				S	S		21 08 15.1	+0.2
	142nm,0.7s,3μm3.9nm							
TNTI	Ternate	5.62	142	eP	P	P	21 07 01.2	+1.5
TNTI				eS	S		21 08 03.4	-11
TSM	Tawau	6.08	262	⇓P	P	P	21 07 05.2	+0.9
MPSI	Mapaga	6.28	220	P	P	P	21 07 07.4	+1.1
	138nm,1.0s,2μm0.5nm							
LUWI	Luwuk	6.32	190	P	P	P	21 07 06.0	-0.7
	176nm,0.5s,3μm1.3nm							
LUWI				S	S		21 08 26.4	-1.1
	176nm,0.5s,3μm1.3nm							
LUWI	Luwuk	6.32	190	eP	P	P	21 07 06.0	-0.7
LUWI				eS	S		21 08 26.8	-0.7
APSI	Ampana	6.49	200	P	P	P	21 07 09.2	+0.8
	505nm,0.5s,5μm2.1nm							
SDKM	Sandakan	6.69	274	⇓P	P	P	21 07 11.0	+0.7
LBMI	Labuha	6.84	148	P	P	P	21 07 13.1	+1.2
	69nm,0.5s,1μm2.7nm							
LBMI				S	S		21 08 37.7	+0.5
	69nm,0.5s,1μm2.7nm							
KDM	Kudat	7.22	284	⇓P	P	P	21 07 14.9	-0.8
PCI	Palu	7.31	214	P	P	P	21 07 17.1	+0.4
	452nm,1.0s,4μm1.6nm							
SANI	Sanana	7.52	164	P	P	P	21 07 18.0	-0.8
	100nm,0.8s,2μm1.1nm							
SANI				S	S		21 08 44.1	-5.8
	100nm,0.8s,2μm1.1nm							
KKM	Kota Kinabalu	7.69	276	⇓P	P	P	21 07 21.4	+0.7
KKM	Kota Kinabalu	7.69	276	eP	P	P	21 07 21.0	+0.3
SGKI	Sangatta, Kali	8.49	228	P	P	P	21 07 24.3	-4.7
NLAI	Namlea	8.99	159	P	P	P	21 07 37.3	+3.0
	30nm,0.8s,478nm							
TTSI	Tana Toraja	9.17	206	P	P	P	21 07 37.5	+1.4
	95nm,0.7s,1μm14μm							
TGY	Tagaytay City	9.29	342	P	P	P	21 07 38.8	+1.3
	baz=180,slow=4.6,SNR=5.7							
BKB	Balikpapan	9.51	228	P	P	P	21 07 40.5	+0.7
	476nm,0.8s,5μm							
SPSI	Sidrap Palu	10.01	204	P	P	P	21 07 46.6	+1.4
	122nm,0.8s,910nm							
BNSI	Bone	10.28	202	P	P	P	21 07 50.3	+2.3
	74nm,1.0s							
BTM	Bintulu	10.97	260	⇓P	P	P	21 07 54.8	-0.6
KAPI	Kappang	10.98	202	eP	P		21 07 59.0	+3.6
KAPI				eS	S		21 10 00.7	+3.6
BNDI	Bandanaira	11.39	148	P	P		21 08 03.1	+3.2
	118nm,0.8s							
KBKI	Kotabaru	11.46	223	P	P		21 08 03.0	+2.4
	20nm,0.9s							
FAKI	Fak Fak	11.62	134	eP	P		21 08 05.4	+3.1
SBUM	Sibu	11.97	257	⇓P	P		21 08 08.4	+2.2
SBUM	Sibu	11.97	257	eP	P		21 08 08.0	+1.9
STKI	Sintang	13.42	248	P	P		21 08 27.7	+6.2
EDFI	Ende, Flores	14.05	189	P	P		21 08 31.4	+3.1
	58nm,0.6s,764nm							
KSM	Kuching	14.06	255	⇓P	P		21 08 28.8	+0.4
KSM	Kuching	14.06	255	eP	P		21 08 28.6	+0.2
SOEI	Soe	14.88	179	P	P		21 08 37.8	+0.7
	55nm,0.6s							
SOEI	Soe	14.88	179	eP	P		21 08 38.1	+1.0
BATI	Baumata	15.33	181	P	P		21 08 42.3	+0.6
	176nm,0.6s,2μm							
BATI	Baumata	15.33	181	P	P		21 08 43.0	+1.3
	38nm,0.3s,baz=341,slow=0.8,SNR=52							
SMPI	Sarmi	16.44	115	P	P		21 08 55.4	+2.0
	69nm,0.8s,2μm							
DLV	T Lat	16.63	295	eP	P		21 08 55.3	-0.3
	22nm,0.8s							
GENI	Genyem	18.01	115	P	P		21 09 12.1	+3.1
	133nm,0.8s,2μm							
TPUB	Ta-pu	18.25	350	eP	P		21 09 10.1	-1.0
	713nm,2.9s							
JAY	Jayapura	18.46	114	P	P		21 09 14.1	+0.8
	4.3nm,0.3s,baz=233,slow=10,SNR=12							
LEM	Lembang	20.18	234	P	P		21 09 30.2	+1.2
	15nm,0.6s,baz=140,slow=20,SNR=3.8							
MYKOM	Kota Tinggi	20.30	261	⇓P	P		21 09 30.1	+0.2
KTGM	Kuala Trenggan	20.68	271	⇑P	P		21 09 34.3	+0.9
KGM	Kluang	20.78	262	⇑P	P		21 09 33.9	-0.5
IPM	Ipoh	22.80	269	eP	P		21 09 52.3	-0.3
	6.5nm,0.6s							
KULM	Kulim	23.15	271	eP	P		21 09 55.2	-0.5
	19nm,1.3s							
PBKT	Sadao Pong	25.14	298	P	P		21 10 13.9	+0.5
	9.8nm,0.7s							
SURT	Suratani	25.18	280	P	P		21 10 14.3	+0.5
	6.3nm,0.7s							
UTTA	Uttaradit	26.00	301	P	P		21 10 22.4	+1.4
	1.8nm,1.0s							
KCSI	Kotacane, Aceh	26.10	267	P	P		21 10 20.8	-1.2
GYA	Guiyang	26.78	324	eP	P		21 10 28.9	+1.0
GYA				sP	sP		21 12 47.2	-0.1
GYA				PcP	PcP		21 13 37.8	+2.3
GYA				S	S		21 14 31.0	+1.8
GYA				ScP	ScP		21 16 31.5	+2.1
GYA				ScS	ScS		21 20 21.0	-0.3
GYA				PMZ				
	10.0nm,0.8s							
LHMI	Lhok Sumawe	26.84	271	eP	P		21 10 29.2	+0.8
	45nm,1.0s							
COEN	Coen	27.00	135	eP	P		21 10 29.5	-0.3
	80nm,2.3s							
WRAB	Tennant Creek	27.03	158	eP	P		21 10 30.6	+0.6
	14nm,0.4s							
WRA	Warramunga Arr	27.03	158	P	P		21 10 30.5	+0.4
	12nm,0.5s,baz=334,slow=10.0,SNR=247							
WRA				S	S		21 14 29.6	-3.4
	3.1nm,0.8s,baz=340,slow=16,SNR=8.0							
WRA				ScP	ScP		21 16 28.3	-1.8
	1.7nm,0.4s,baz=341,slow=2.9,SNR=12							
WB2	Warramunga Arr	27.04	158	eP	P		21 10 30.2	+0.1
WB2				eS	S		21 14 30.0	-3.1
CRAI	Chiangrai	27.31	305	P	P		21 10 30.0	-2.5
CMAR	Chiang Mai Arr	27.69	300	P	P		21 10 36.4	+0.5
	3.9nm,0.8s,baz=115,slow=7.2,SNR=36							
CMAR				PcP	PcP		21 13 38.2	+0.5
	1.1nm,0.6s,baz=105,slow=0.5,SNR=8.7							
CMAR				ScP	ScP		21 16 31.6	-0.5
	4.5nm,0.9s,baz=150,slow=1.8,SNR=34							
CHTO	Chiang Mai	27.84	301	eP	P		21 10 37.1	-0.1
	7.2nm,0.6s							
KMI	Kunming	28.35	316	P	P		21 10 43.5	+1.7
KMI				PMZ				
	15nm,0.6s							
AS31	Alice Springs	30.33	162	eP	P		21 10 59.6	+0.7
ASAR	Alice Springs	30.33	162	P	P		21 11 00.1	+1.2
	23nm,0.5s,baz=340,slow=7.1,SNR=478							
ASAR				PcP	PcP		21 13 44.5	0.0
	1.2nm,0.6s,baz=346,slow=3.0,SNR=5.1							
ASAR				S	S		21 15 23.3	-1.0
	3.5nm,0.7s,baz=354,slow=24,SNR=20							
ASAR				ScP	ScP		21 16 39.1	-1.5
	2.6nm,0.5s,baz=347,slow=3.2,SNR=17							
CD2	Chengdu	31.81	326	eP	P		21 11 11.9	+0.4
CD2				pP	pP		21 12 35.7	-0.3
CD2				PP	PP		21 12 41.6	-6.4
CD2				sP	sP		21 13 31.1	-1.2
CD2				S	S		21 15 48.7	+1.8
CD2				PcS	PcS		21 17 33.3	-0.6
CD2				sS	sS		21 18 20.6	-2.8
CD2				SS	SS		21 18 30.2	-19
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.2s							
KSRS	Korea Array	32.29	6	P	P		21 11 16.6	+1.2
	1.9nm,0.6s,baz=182,slow=9.8,SNR=7.4							
KSRS				ScP	ScP		21 16 46.4	-0.5
	1.6nm,0.6s,baz=203,slow=2.3,SNR=9.3							
MAJO	Matsushiro	33.83	21	eP	P		21 11 27.9	-0.7
	13nm,0.8s							
MAT	Matsushiro	33.83	21	P	P		21 11 27.9	-0.7
MJAR	Matsushiro Arr	33.83	21	P	P		21 11 28.3	-0.3
	12nm,0.7s,baz=191,slow=10,SNR=31							
MJAR				ScP	ScP		21 16 51.9	-0.5
	3.4nm,1.1s,baz=211,slow=6.3,SNR=4.4							
BJI	Beijing	35.36	350	P	P		21 11 43.4	+2.1
BJI				PMZ				
	9.0nm,0.4s							
FORT	Forrest	36.02	174	eP	P		21 11 48.2	+1.3
	87nm,0.6s							
HHC	Hu-ho-hao-te	37.16	344	eP	P		21 11 57.5	+1.0
HHC				PP	PP		21 13 38.0	+2.1
HHC				S	S		21 17 10.7	+3.0
HHC				sS	sS		21 19 46.2	-1.0
HHC				SS	SS		21 20 11.8	-6.3
HHC				PMZ				
	7.0nm,0.9s							
HHC				PMZ				
	74nm,8.6s							
NWAO	Narrogin (SRO)	38.46	189	P	P		21 12 08.0	+0.9
	42nm,0.6s,baz=26,slow=8.3,SNR=60							
LSA	Lhasa	39.34	312	eP	P		21 12 16.4	+1.5
	6.1nm,0.6s							
LSA				ePcP	PcP		21 14 12.1	+0.5
USRK	Ussuriysk Ar.	39.47	9	P	P		21 12 15.7	+0.6
	2.0nm,0.4s,baz=193,slow=8.2,SNR=12							
BBOO	Buckleboo	39.55	164	eP	P		21 12 17.2	+1.3
	1.3nm,0.8s							
GTA	Gaotai	40.40	331	eP	P		21 12 23.7	+0.8
GTA				pP	pP		21 13 53.1	+1.6
GTA				sP	sP		21 14 45.8	-1.0
GTA				PMZ				
	4.0nm,0.9s							
ERM	Erimo	40.46	22	eP	P		21 12 23.5	+0.4
	149nm,1.7s							
TAPN	Taplejung	40.87	307	eP	P		21 12 27.0	0.0
	13nm,0.3s							
ODAN	Odare	40.91	306	eP	P		21 12 27.2	-0.1
	18nm,0.5s							
RAMN	Ramite	41.59	305	eP	P		21 12 32.5	-0.2
	15nm,0.5s							
ASAJ	Asahikawa	42.09	20	P	P		21 12 37.2	+1.2
	18nm,0.6s,baz=232,slow=9.7,SNR=28							
ASAJ	Asahikawa	42.09	20	eP	P		21 12 36.7	+0.7
	8.2nm,0.6s							
JIRN	Jiri	42.22	306	eP	P		21 12 37.7	-0.1
	22nm,0.4s							
GUN	Gumba	42.57	306	eP	P		21 12 40.5	-0.1
	29nm,0.4s							
PKI	Pulchoki	42.81	306	eP	P		21 12 41.9	-0.5
	5.0nm,0.3s							
PKI	Pulchoki	42.81	306	eP	ScP		21 17 25.9	-1.6
	25nm,0.7s							
PKIN	Phulchoki	42.82	306	eP	P		21 12 41.7	-0.8
	5.5nm,0.3s							
PKIN	Phulchoki	42.82	306	eP	ScP		21 17 25.8	-1.7
	18nm,0.7s							
KKN	Kakani	43.00	306	eP	P		21 12 43.4	-0.4
	8.2nm,0.3s							
KKN	Kakani	43.00	306	eP	ScP		21 17 26.6	-1.5
	21nm,0.7s							
GKN	Gorkha	43.61	306	eP	P		21 12 48.0	-0.5
	9.8nm,0.4s							
GKN	Gorkha	43.61	306	eP	ScP		21 17 28.4	-2.1
	17nm,0.8s							
KOLN	Koldanda	44.36	305	eP	P		21 12 54.4	0.0
	29nm,0.4s							
KOLN	Koldanda	44.36	305	eP	ScP		21 17 31.5	-2.2
	9.4nm,0.7s							
DANN	Dangsing	44.46	306	eP	P		21 12 55.0	-0.3
	40nm,0.6s							
DANN	Dangsing	44.46	306	eP	ScP		21 17 31.9	-2.3
	16nm,0.8s							
PYUN	Piuthan	44.98	305	eP	P		21 12 59.3	+0.1
	42nm,0.5s							
PYUN	Piuthan	44.98	305	eP	ScP		21 17 34.1	-2.2
	27nm,0.8s							
SONM	Songino Array	45.03	343	P	P		21 12 59.7	+0.5
	2.0nm,0.9s,baz=142,slow=7.3,SNR=2.7							
SONM				ScP	ScP		21 17 33.4	-2.5
	2.1nm,0.6s,baz=146,slow=2.9,SNR=5.4							
TLY	Talaya	49.27	343	P	P		21 13 31.8	+0.8
	2.8nm,0.7s,baz=277,slow=2.7,SNR=5.1							
WMQ	Urumqi	49.91	326	⇑P	P		21 13 36.9	+1.0
WMQ				PcP	PcP		21 14 49.5	+1.9
WMQ				pP	pP		21 15 08.0	-1.6
WMQ				sP	sP		21 16 01.5	-1.9
WMQ				eS	S		21 20 10.5	+1.2
WMQ				PMZ				
	7.0nm,0.6s							
WMQ				PMZ				
	95nm,5.1s							
MKAR	Makanchi Array	54.74	326	P	P		21 14 10.7	+0.1
	7.1nm,0.5s,baz=122,slow=7.9,SNR=200							
MKAR				PcP	PcP		21 15 05.2	-0.8
	2.8nm,0.5s,baz=112,slow=3.8,SNR=17							
MKAR				ScP	ScP		21 18 15.2	-2.4
	1.1nm,0.6s,baz=118,slow=5.2,SNR=7.0							
KSH	Kashi	55.00	316	eP	P		21 14 16.1	+3.4
KSH				pP	pP		21 15 52.6	+3.6
KSH				eScP	ScP		21 18 22.9	+3.9
KSH				PcS	PcS		21 19 09.8	+1.8
KSH				S	S		21 21 22.4	+4.7
KSH				sS	sS		21 24 11.4	+1.0
KSH				PMZ				
	86nm,4.2s							
PETK	Petropavlovsk-	55.18	24	P	P		21 14 14.6	+1.1
	4.6nm,0.7s,baz=208,slow=6.0,SNR=4.6							
AAK	Ala-Archa	57.37	318	P	P		21 14 30.1	+1.0
	1.5nm,0.5s,baz=138,slow=9.1,SNR=6.5							
AAK				PcP	PcP		21 15 15.9	-0.7
	1.6nm,0.4s,baz=123,slow=2.1,SNR=4.1							
ZALV	Zalesovo Beam	58.00	334	P	P		21 14 32.4	-0.6
	1.2nm,0.6s,baz=111,slow=8.1,SNR=7.9							
KBL	Kabul	58.38	308	eP	P		21 14 35.0	-1.2
	6.5nm,0.6s							
KURK	Kurchatov	58.98	328	eP	P		21 14 39.3	-0.4
	17nm,0.6s							
KKAR	Karatay Array	60.23	317	eP	P		21 14 48.2	0.0
	2.9nm,0.7s							
GEYT	Alibeck	67.77	309	P	P		21 15 36.4	-0.1
	1.8nm,0.7s,baz=48,slow=2.2,SNR=5.7							
GEYT				PcP	PcP		21 15 59.0	-0.1
	1.6nm,0.6s,baz=193,slow=4.4,SNR=4.3							
ABKAR	Akbulak array	69.22	321	eP	P		21 15 43.8	-1.2
	1.7nm,0.6s							
RAYN	Ar Rayn	77.30	293	eP	P		21 16 31.1	-1.0
	4.5nm,1.1s							
OPO	Ambohidratompo	79.13	250	P	P		21 16 41.2	-0.9
	2.5nm,0.5s,baz=63,slow=6.8,SNR=3.1							
ASF	Jabal al Asfar	84.72	302	P	P		21 17 10.2	-0.1
	3.4nm,0.7s,baz=80,slow=4.3,SNR=5.2							
ILAR	Eielson Array	84.98	25	P	P		21 17 09.8	-0.9
	0.7nm,0.6s,baz=242,slow=5.4,SNR=16							
VNDA	Vanda	85.26	172	P	P		21 17 12.4	+0.5
	2.0nm,0.6s,baz=318,slow=6.9,SNR=8.6							
MMAI	Mount Meron Ar	85.93	303	P	P		21 17 16.1	-0.1
	5.9nm,1.1s,baz=79,slow=10,SNR=5.3							
JOF	Joensuu	86.57	333	ep	P		21 17 16.1	-2.3
	4.5nm,0.5s							
KMBO	Kilima Mbogo	86.76	269	P	P		21 17 20.3	-0.4
	0.8nm,0.5s,baz=38,slow=7.2,SNR=6.2							
BRTR	Keskin Array B	86.90	309	P	P		21 17 19.1	-1.7
	1.9nm,0.8s,baz=121,slow=5.5,SNR=12							
ARCES	ARCESS Array B	88.08	340	P	P		21 17 24.3	-1.1
	3.6nm,0.8s,baz=76,slow=5.1,SNR=9.6							
AKASG	Malin Array Be	88.96	321	P	P		21 17 27.8	-2.1
	0.7nm,0.4s,baz=69,slow=4.5,SNR=5.7							
KAF	Kangasniemi	88.97	332	ep	P		21 17 27.0	-2.7
	2.4nm,0.6s							
FINES	FINESS Array B	89.19	332	P	P		21 17 29.1	-1.

GTOI	**Gorontalo**	**4.76**	**230**	P		**Pn**	**21 18 41.2**	**+1.0**
MRSI	**Marisa**	**5.72**	**236**	P		**Pn**	**21 18 55.2**	**+2.0**
	18nm,1.0s,340nm0.1nm							
MRSI				S		**Sn**	**21 19 57.5**	**-0.1**
	18nm,1.0s,340nm0.1nm							
LUWI	**Luwuk**	**6.12**	**220**	P		**Pn**	**21 18 59.4**	**+0.6**
	28nm,1.0s,1µm0.1nm							
APSI	**Ampana**	**6.80**	**228**	P		Pn	21 19 12.5	+4.4
NLAI	**Namlea**	**6.91**	**176**	P		**Pn**	**21 19 10.8**	**+1.2**
	11nm,1.1s,0.1nm							
MPSI	**Mapaga**	**7.55**	**244**	P		**Pn**	**21 19 18.3**	**-0.2**
WRA	**Warramunga Arr**	**24.67**	**163**	P		**P**	**21 22 45.7**	**-1.3**
	0.6nm,0.4s,baz=343,slow=9.9,SNR=17							
ASAR	**Alice Springs**	**28.10**	**166**	P		**P**	**21 23 17.8**	**0.0**
	0.2nm,0.4s,baz=344,slow=7.8,SNR=5.2							
MKAR	**Makanchi Array**	**57.55**	**325**	P		**P**	**21 27 15.4**	**+0.3**
	0.3nm,0.5s,baz=122,slow=7.6,SNR=9.2							

DJA 07 21:21:18.9±0.4,10°S±4°×11°9E±°, h10km, M3.5/7, MLv3.5/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.21**	**98**	P	Pg	21 21 22.8	-0.6
WBSI				S	Sg	21 21 27.1	+0.7
WSI	**Waingapu**	**1.10**	**93**	P	Pb	21 21 38.2	-1.9
WSI				S	Sb	21 21 54.9	+0.3
BASI	**Baing, Sumba**	**1.50**	**114**	P	Pn	21 21 45.6	-0.4
BASI				S	Sb	21 22 06.0	-0.1
EDFI	**Ende, Flores**	**2.62**	**71**	P	Pn	21 22 00.0	-1.5
EDFI				S	Sn	21 22 33.5	0.0
IGBI	**Denpasar**	**4.06**	**281**	P	Pn	21 22 20.2	-0.9
BKSI	**Bulukumba**	**4.36**	**12**	P	Pn	21 22 25.1	-0.2

*NEIC **07** 21:49:06.2,34°.36S×71°.99W,h12km,ML3.0(GUC),After GUC.*
NEIC Felt [IV] at Marchigue and Pichilemu.

GUC 07 21:49:06.2±0.5,34°.36S×71°.99W,h12km±11km, ML3.0,3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.63**	**50**	*e*P	Pg	21 49 17.8	-0.7
LNV	**Longovilo**	**0.63**	**50**	*e*P	Pg	21 49 17.8	-0.7
NICH	**Los Niches**	**0.90**	**136**	*i* S	Sg	21 49 34.9	-0.4
CHCH	**Chadas Angostu**	**1.19**	**69**	*e*P	Pn	21 49 27.4	-1.3
CHCH				*i* S	Sb	21 49 43.2	-0.9
CHCH	**Chadas Angostu**	**1.19**	**69**	*e*P	Pn	21 49 27.4	-1.3
CHCH				*i* S	Sb	21 49 43.2	-0.9
CLCH	**Cerro Calan**	**1.54**	**52**	*e*P	Pn	21 49 33.4	-0.2
CLCH				*e*S	Sn	21 49 53.3	-0.3
CLCH				AML	AML	21 50 02.7	
	comp=E,329nm,0.4s						
ROCH	**El Roble**	**1.61**	**31**	↑*i*P	Pn	21 49 33.4	-1.3
ROCH				*i* S	Sn	21 49 54.8	-0.7
ROCH				AML	AML	21 50 02.2	
	comp=N,315nm,0.4s						
ROCH	**El Roble**	**1.61**	**31**	↑*i*P	Pn	21 49 33.4	-1.3
ROCH				*i* S	Sn	21 49 54.8	-0.7
PEL	**Peldehue**	**1.63**	**42**	↑*i*P	Pb	21 49 36.2	0.0
PEL				AML	AML	21 50 01.5	
	comp=N,458nm,0.4s						
PEL	**Peldehue**	**1.63**	**42**	P	Pb	21 49 36.2	0.0
FCH	**Farellones**	**1.75**	**54**	AML	AML	21 50 03.9	
	comp=E,175nm,0.3s						
LCO	**Las Campanas**	**5.45**	**12**	*e*Pn	Pn	21 50 26.5	-1.0
LCO				*e*Sn	Sn	21 51 29.0	-1.3
PLCA	**Paso Flores**	**6.46**	**170**	*e*Pn	Pn	21 50 41.4	+0.2
OTAV	**Otavalo**	**34.95**	**349**	*e*P	P	21 55 56.4	-2.2
	comp=E,6.2nm,0.9s						

*NEIC **07** 21:51:04.5,32°.04N×115°.14W,h10km,ML3.5(PAS),After PAS.*
*MEX **07** 21:51:07.8±0.6,32°.19N×115°.24W,h10km,MD4.1*

ISC 07 21:51:03.6±1.8,32°.10N±0°.04×115°.24W±0°.04,h1km±14km, n13,σ1§14/23,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.31**	**7**	*i* P	**Pb**	**21 51 12.7**	**+0.7**
MBIG				*i* S	**Sg**	**21 51 14.9**	**+1.3**
GLA	**Glamis**	**1.01**	**20**	*e*P	**Pg**	**21 51 22.8**	**-0.3**
GLA				*e*S	**Sg**	**21 51 35.2**	**-1.0**
SPIG	**San Pedro Mart**	**1.07**	**190**	*e*P	**Pn**	**21 51 26.2**	**+0.2**
SPIG				*i* S	**Sn**	**21 51 41.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.07**	**190**	*e*P	**Pn**	**21 51 26.2**	**+0.2**
SPIG				*i* S	**Sn**	**21 51 42.7**	**+1.0**
CBX	**Cerro Bola**	**1.23**	**280**	*e*P	**Pn**	**21 51 27.0**	**-1.1**
CBX				*i* S	**Sb**	**21 51 42.0**	**-2.1**
CBX	**Cerro Bola**	**1.23**	**280**	*e*P	**Pn**	**21 51 27.0**	**-1.1**
BAR	**Barrett**	**1.34**	**296**	*e*P	**Pn**	**21 51 29.7**	**+0.1**
BAR				*e*S	**Sn**	**21 51 47.8**	**-0.3**
PFO	**Pinyon Flats O**	**1.82**	**326**	*e*Pn	**Pn**	**21 51 34.3**	**-1.9**
PFO				*e*Sn	**Sb**	**21 52 02.0**	**+0.8**
214A	**Organ Pipe Nat**	**2.07**	**93**	*e*Pn	**Pn**	**21 51 38.1**	**-1.4**
214A				*e*Sn	**Sb**	**21 52 08.0**	**-0.2**
MWC	**Mount Wilson**	**3.17**	**313**	*e*Pn	**Pn**	**21 51 54.8**	**-0.1**
MWC				*e*Sn	**Sn**	**21 52 35.1**	**+1.5**
ISA	**Isabella, Lake**	**4.46**	**324**	*e*Pn	**Pn**	**21 52 14.0**	**+1.5**
CCUT	**Cedar City**	**5.65**	**15**	*e*Pn	**Pn**	**21 52 30.2**	**+1.2**
	4.0nm,0.8s						
CCUT				*e*Sn	**Sn**	**21 53 33.6**	**-1.2**
121A	**Cookes Peak, D**	**6.33**	**84**	*e*Pn	**Pn**	**21 52 38.3**	**+0.1**
	6.3nm,0.3s						

*IDC **07** 21:58:56.4±2.2, 1°.90N×96°.44E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/38, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=93.5km s-min=21.1km az=58.0*
*ISCJB **07** 21:58:59.3±0.7, 1°.99N±0°.05×96°.68E±0°.06, h28km, mb3.8/6, Error ellipse: s-maj=9.0km s-min=5.3km az=144.4*
*DJA **07** 21:58:59.5±0.7,2°.1N±3°×9°.6E±°, h54km±7km, M4.0/10, mb4.2/5, mB5.5/2, MLv3.8/10, Mw(mB)4.9/2*

ISC 07 21:59:00.9±0.9,2°.08N±0°.07×96°.64E±0°.08,h28km, n19, σ1§00/21, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.46**	**316**	P	**Pb**	**21 59 10.5**	**-0.1**
SNSI				S	**Sn**	**21 59 18.8**	**-0.1**
TPTI		**1.29**	**25**	P	**Pn**	**21 59 22.6**	**-0.6**
TPTI				S	**Sn**	**21 59 39.8**	**+0.2**
KCSI	**Kotacane, Aceh**	**1.83**	**38**	P	**Pn**	**21 59 29.8**	**-0.7**
KCSI				S	**Sn**	**21 59 53.3**	**+0.5**
TSI	**Tuntungan**	**2.39**	**54**	P	**Pn**	**21 59 37.4**	**-0.8**
LHMI	**Lhok Sumawe**	**3.15**	**6**	P	**Pn**	**21 59 46.6**	**-2.1**
LHMI				S	**Sn**	**22 00 23.4**	**-1.9**
MNSI	**Mandailing Nat**	**3.20**	**113**	P	**Pn**	**21 59 50.6**	**+1.2**
MNSI				S	**Sn**	**22 00 25.6**	**-1.1**
SDSI	**Sungai Dareh**	**5.64**	**122**	P	**Pn**	**22 00 21.4**	**-1.6**
	29nm,0.7s,8µm0.2nm						
MDSI	**Maura Dua**	**9.96**	**131**	P	**Pn**	**22 01 22.3**	**0.0**
	6.6nm,2.5s,916nm						
LWLI	**Liwa**	**10.23**	**134**	P	**Pn**	**22 01 25.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.43**	**8**	Pn	**P**	**22 02 52.2**	**0.0**
	0.1nm,0.3s,baz=197,slow=12,SNR=20						
H08S2	**Diego Garcia H**	**25.95**	**248**	T	T	22 31 18.5	
	baz=69,slow=75,SNR=493						
H08S3	**Diego Garcia H**	**25.96**	**248**	T	T	22 31 21.9	
	baz=69,slow=75,SNR=260						
H08S1	**Diego Garcia H**	**25.97**	**248**	T	T	22 31 20.1	
	baz=69,slow=75,SNR=359						
WRA	**Warramunga Arr**	**42.97**	**122**	P	**P**	**22 06 57.9**	**-0.1**
	0.7nm,0.6s,baz=301,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**44.37**	**127**	P	**P**	**22 07 09.8**	**+0.5**
	0.2nm,0.6s,baz=297,slow=7.7,SNR=2.8						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**22 07 24.7**	**+0.8**
	1.6nm,0.7s,baz=158,slow=8.9,SNR=20						
SONM	**Songino Array**	**46.36**	**9**	P	**P**	**22 07 25.5**	**+0.7**
	0.6nm,0.4s,baz=196,slow=8.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**52.61**	**351**	P	**P**	**22 08 12.4**	**+0.3**
	1.7nm,0.5s,baz=179,slow=8.1,SNR=12						
ARCES	**ARCESS Array B**	**81.53**	**340**	P	**P**	**22 11 16.1**	**+0.5**
	2.0nm,0.8s,baz=95,slow=9.1,SNR=4.9						

*ISCJB **07** 22:09:42.8±0.2,45°.13N±0°.02×106°.93W±0°.02,h0km, Error ellipse: s-maj=2.2km s-min=2.1km az=176.0*

*IDC **07** 22:09:42.8±1.2,44°.69N×106°.45W,h0km,mb1 3.7/2, mb1mx3.0/36,mbtmp3.5/2,ML3.1/2,Error ellipse: s-maj=55.7km s-min=8.7km az=140.0*
*NEIC **07** 22:09:44.4±0.9,45°.14N×106°.85W,h0km,ML2.5, Error ellipse: s-maj=14.9km s-min=12.0km az=163.0,Suspected Mining explosion.*
NEIC 40 km [25 miles] NNE of Sheridan.

ISC 07 22:09:42.2±0.7,45°.13N±0°.02×106°.91W±0°.02,h0km,n53, σ1§09/76,31C-21D,Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
G21A	**Lodge Grass**	**0.23**	**295**	↑P	**Pg**	**22 09 47.4**	**+0.7**
	baz=0.3,SNR=143						
G22A	**Birney**	**0.45**	**78**	↓P	**Pb**	**22 09 52.1**	**-0.9**
	baz=0.4,SNR=13						
G22A				↓S	**Sg**	**22 09 57.9**	**+1.4**
	baz=0.4						
H21A	**Big Horn, Sher**	**0.51**	**191**	↑P	**Pg**	**22 09 52.8**	**+1.0**
	baz=0.5,SNR=25						
H21A				↓S	**Sg**	**22 10 00.1**	**+1.6**
	baz=0.5						
H22A	**Clearmont**	**0.66**	**143**	↑P	**Pb**	**22 09 56.1**	**-0.6**
	baz=0.6,SNR=42						
H22A				↑S	**Sb**	**22 10 05.3**	**-1.1**
	baz=0.6						
F21A	**Absaloka Mine,**	**0.71**	**348**	↑P	**Pg**	**22 09 56.4**	**+0.5**
	baz=0.7,SNR=12						
F21A				↓S	**Sg**	**22 10 05.9**	**+0.8**
	baz=0.7						
F22A	**Rosebud**	**0.80**	**35**	↓P	**Pb**	**22 09 58.6**	**-0.4**
	baz=0.8,SNR=7.1						
G20A	**Bridger**	**0.93**	**276**	↑P	**Pg**	**22 09 59.5**	**-0.5**
	baz=1.0,SNR=142						
G20A				↓S	**Sg**	**22 10 12.2**	**+0.2**
	baz=1.0						
H20A	**Greybull**	**1.01**	**231**	↓P	**Pg**	**22 10 01.2**	**-0.2**
	baz=1.0,SNR=22						
H20A				↑S	**Sg**	**22 10 14.2**	**-0.3**
	baz=1.0						
G23A	**Biddle**	**1.08**	**85**	↑P	**Pn**	**22 10 04.0**	**-0.7**
	baz=1.0,SNR=31						
G23A				↓S	**Sn**	**22 10 19.3**	**-1.1**
	baz=1.0						
F20A	**Billings**	**1.10**	**308**	↑P	**Pg**	**22 10 03.0**	**-0.3**
	baz=1.1,SNR=24						
F20A				↓S	**Sg**	**22 10 18.1**	**+0.5**
	baz=1.1						
H23A	**Clabaugh Cattl**	**1.21**	**117**	↓S	**Sn**	**22 10 23.8**	**+0.1**
	baz=1.2						
F23A	**Volborg**	**1.21**	**60**	↑P	**Pg**	**22 10 05.7**	**+0.3**
	baz=1.2,SNR=22						
F23A				↑S	**Sb**	**22 10 22.8**	**+0.4**
	baz=1.2						
I22A	**9 Mile Ranch,**	**1.27**	**166**	↑P	**Pn**	**22 10 07.0**	**-0.3**
	baz=1.3,SNR=21						
I22A				↑S	**Sn**	**22 10 24.9**	**-0.3**
	baz=1.3						
I21A	**Big Trails, Te**	**1.34**	**192**	↑P	**Pg**	**22 10 07.3**	**-0.6**
	baz=1.4,SNR=78						
I21A				↑S	**Sb**	**22 10 26.0**	**-0.1**
	baz=1.4						
E21A	**Keefer Ranch,**	**1.42**	**355**	↓S	**Sn**	**22 10 29.2**	**+0.4**
	baz=1.4						
I20A	**Worland**	**1.47**	**217**	↓P	**Pn**	**22 10 09.8**	**-0.2**
	baz=1.5,SNR=63						
I20A				↑S	**Sb**	**22 10 29.8**	**+0.2**
	baz=1.5						
E22A	**Miles City**	**1.47**	**27**	↓P	**Pn**	**22 10 10.0**	**-0.1**
	baz=1.4,SNR=35						
E22A				↑S	**Sn**	**22 10 30.9**	**+0.9**
	baz=1.4						
H19A	**Powell**	**1.54**	**254**	↑P	**Pn**	**22 10 11.1**	**0.0**
	baz=1.6,SNR=18						
H19A				↓S	**Sn**	**22 10 31.7**	**-0.2**
	baz=1.6						
F19A	**Roth Farm, Mol**	**1.61**	**298**	↑P	**Pn**	**22 10 11.9**	**0.0**
	baz=1.6,SNR=17						
F19A				↑S	**Sn**	**22 10 33.0**	**-0.4**
	baz=1.6						
E20A	**Meyer Farm, Mu**	**1.62**	**329**	↓P	**Pn**	**22 10 12.0**	**-0.1**
	baz=1.6,SNR=18						
E20A				↑S	**Sn**	**22 10 34.2**	**+0.4**
	baz=1.6						
LAO	**LASA Array**	**1.63**	**17**	*e*Pn	**Pn**	**22 10 12.9**	**+0.6**
RLMT	**Red Lodge**	**1.67**	**271**	*e*Pn	**Pn**	**22 10 12.9**	**0.0**
RLMT				*e*Sn	**Sg**	**22 10 37.3**	**+1.4**
H24A	**Dirks Ranch, A**	**1.72**	**102**	↑P	**Pb**	**22 10 14.2**	**-0.4**
	baz=1.7,SNR=34						
J22A	**Midwest**	**1.74**	**170**	↑P	**Pb**	**22 10 14.3**	**-0.8**
	baz=1.7,SNR=23						
E23A	**Ismay**	**1.77**	**39**	↑P	**Pb**	**22 10 15.0**	**-0.6**
	baz=1.7,SNR=8.5						
G24A	**Alzada**	**1.77**	**83**	↓P	**Pb**	**22 10 15.2**	**-0.4**
	baz=1.7,SNR=6.4						
J21A	**Lysite**	**1.82**	**192**	↓P	**Pn**	**22 10 15.4**	**+0.5**
	baz=1.8,SNR=13						
I19A	**Meeteetse**	**1.85**	**235**	↑P	**Pn**	**22 10 15.4**	**+0.1**
	baz=1.9,SNR=12						
E19A	**Rath Farm, Rou**	**1.87**	**316**	↑P	**Pn**	**22 10 15.8**	**+0.2**
	baz=1.9,SNR=7.4						
F24A	**Ekalaka**	**1.88**	**67**	↓P	**Pb**	**22 10 16.6**	**-0.8**
	baz=1.8						
D21A	**La Casta Ranch**	**1.94**	**358**	↑P	**Pn**	**22 10 17.5**	**+1.0**
	baz=1.9						
J20A	**Shoshoni**	**1.96**	**206**	↑P	**Pb**	**22 10 17.9**	**-1.0**
	baz=2.0,SNR=10						
J23A	**Dilts Ranch, B**	**1.98**	**150**	↓P	**Pb**	**22 10 18.4**	**-0.8**
	baz=2.0,SNR=18						
H18A	**Shoshone NF, C**	**2.01**	**258**	↑P	**Pn**	**22 10 17.6**	**0.0**
	baz=2.0,SNR=38						
I24A	**Kuemmerle Ranc**	**2.07**	**127**	P	**Pn**	**22 10 19.0**	**+0.7**
	baz=2.0,SNR=17						
D22A	**Cohagen**	**2.09**	**14**	↓P	**Pn**	**22 10 19.5**	**+1.1**
	baz=2.1,SNR=8.1						
D20A	**Manuel Ranch,**	**2.14**	**337**	↑P	**Pn**	**22 10 19.7**	**+0.4**
	baz=2.1						
RSSD	**Black Hills**	**2.28**	**115**	*e*Pn	**Pb**	**22 10 23.0**	**-1.4**
RSSD				*e*Sn	**Sb**	**22 10 51.9**	**-1.3**
E24A	**Baker**	**2.32**	**51**	↓P	**Pn**	**22 10 22.5**	**+0.9**
	baz=2.3,SNR=5.7						
K22A	**Casper**	**2.49**	**173**	*e*Pn	**Pb**	**22 10 26.3**	**-1.6**
K22A				*e*Sn	**Sn**	**22 10 55.7**	**+0.4**
D24A	**Glendive**	**2.68**	**41**	↑P	**Pn**	**22 10 27.8**	**+1.2**
	baz=2.6,SNR=5.4						
YNR	**Norris Junctio**	**2.71**	**263**	*e*Pn	**Pb**	**22 10 30.4**	**-1.3**
YNR				*e*Sn	**Sb**	**22 11 05.1**	**-0.4**
H17A	**Grant Village**	**2.71**	**256**	*e*Pn	**Pb**	**22 10 30.4**	**-0.4**
H17A				*e*Sn	**Sn**	**22 11 03.7**	**+0.8**
YFT	**Old Faithful**	**2.88**	**258**	*e*Pn	**Pb**	**22 10 33.7**	**-0.8**
BW06	**Boulder Array**	**3.04**	**220**	*e*Pn	**Pn**	**22 10 34.5**	**+2.7**
BW06				*e*Sn	**Sn**	**22 11 10.5**	**+1.6**
PDAR	**Pinedale Array**	**3.04**	**220**	Pn	**Pb**	**22 10 35.1**	**-2.2**
	1.9nm,0.3s,baz=55,slow=17,SNR=65						
PDAR				Lg	Lg	22 11 14.2	
	3.5nm,0.3s,baz=54,slow=33,SNR=23						
EGMT	**Eagleton**	**3.50**	**327**	*e*Pn	**Pb**	**22 10 43.0**	**-2.0**
EGMT				*e*Sn	**Sb**	**22 11 25.5**	**-2.6**
DGMT	**Dagmar**	**3.83**	**28**	*e*Pn	Pb	22 10 46.9	-3.7
LRM	**Limekiln Ridge**	**3.96**	**282**	*e*Pn	**Pn**	**22 10 44.8**	**+0.3**
MCMT	**McKenzie Canyo**	**4.23**	**268**	*e*Pn	**Pn**	**22 10 50.4**	**+2.3**
MCMT				*e*Sn	**Sn**	**22 11 47.3**	**-1.9**
CHMT	**Chamberlain Mo**	**4.77**	**294**	*e*Pn	**Pn**	**22 10 55.9**	**+0.5**
CHMT				Sn	**Sn**	**22 11 54.3**	**+2.8**
I10CA	**LAC DU BONNET**	**8.92**	**51**	*i*		23 06 10.0	
	baz=235,slow=326,SNR=1.5						
ULM	**Lac du Bonnet**	**9.03**	**51**	Pn	**Pn**	**22 11 52.3**	**-1.5**
	0.5nm,0.3s,baz=235,slow=11,SNR=6.4						
ULM				Lg	Lg	22 14 23.4	
	0.2nm,0.3s,baz=129,slow=15,SNR=2.7						

*IDC **07** 22:22:35.3±1.6,6°.49S×130°.36E, h0km, mb3.8/3, mb1 4.2/6, mb1mx3.9/29, mbtmp4.1/6, ML4.2/3, Error ellipse: s-maj=53.1km s-min=26.7km az=75.0*
*ISCJB **07** 22:22:45.8±0.6, 7°.17S±0°.04×130°.30E±0°.07, h100km, mb3.7/3, Error ellipse: s-maj=10.1km s-min=5.4km az=173.5*
*DJA **07** 22:22:48.4±0.4, 7°.5S±3°×13°.0E±°, h169km±7km, M4.5/14, mb4.4/7, mB5.1/4, MLv4.5/14, Mw(mB)4.5/4*

ISC 07 22:22:45.5±0.8,7°.30S±0°.05×130°.31E±0°.08,h100km,n18, σ1§90/20,mb3.7/3,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.79**	**352**	P	**Pn**	**22 23 29.0**	**+0.6**
BNDI				S	**Sn**	**22 24 02.7**	**+1.3**
MSAI	**Masohi**	**4.16**	**341**	P	**Pn**	**22 23 47.5**	**+0.7**
MSAI				S	**Sn**	**22 24 34.4**	**0.0**
FAKI	**Fak Fak**	**4.76**	**24**	P	**Pn**	**22 23 54.7**	**-0.3**
NLAI	**Namlea**	**5.14**	**321**	P	**Pn**	**22 24 01.3**	**+1.2**
SOEI	**Soe**	**6.45**	**247**	P	**Pn**	**22 24 19.5**	**+1.5**
	48nm,1.0s,0.4nm						
SANI	**Sanana**	**6.76**	**320**	P	**Pn**	**22 24 23.4**	**+1.3**
	16nm,1.2s,0.1nm						
RKPI	**Ransiki, Papua**	**6.92**	**34**	P	**Pn**	**22 24 25.1**	**+0.7**
	79nm,0.6s,27µm1.6nm						
RKPI				S	**Sn**	**22 25 38.7**	**-3.0**
	79nm,0.6s,27µm1.6nm						
BATI	**Baumata**	**7.17**	**246**	P	**Pn**	**22 24 29.0**	**+1.2**
BATI	**Baumata**	**7.17**	**246**	Pn	**Pn**	**22 24 28.9**	**+1.2**
	11nm,0.3s,baz=61,slow=2.2,SNR=8.5						
BATI				Sn	**Sn**	**22 25 45.1**	**-2.7**
	14nm,0.3s,baz=117,slow=22,SNR=11						
LBMI	**Labuha**	**7.18**	**337**	P	**Pn**	**22 24 26.8**	**-1.1**
	97nm,1.0s,2µm0.4nm						
GENI	**Genyem**	**10.88**	**65**	P	Pn	22 25 09.8	-8.4
JAY	**Jayapura**	**11.40**	**66**	P	Pn	22 25 19.0	-6.2
WRA	**Warramunga Arr**	**13.17**	**163**	Pn	**P**	**22 25 53.8**	**-1.2**
	0.8nm,0.3s,baz=339,slow=13,SNR=74						
WRA				Sn	**Sn**	**22 28 17.4**	**+3.9**
	3.5nm,0.3s,baz=326,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.64**	**168**	P	P	22 26 39.8	+6.3
	0.5nm,0.3s,baz=349,slow=12,SNR=28						
ASAR				S	**S**	**22 29 39.1**	**-3.2**
	0.3nm,0.3s,baz=343,slow=18,SNR=5.0						
CMAR	**Chiang Mai Arr**	**40.15**	**310**	P	P	22 30 07.9	-4.2
	0.7nm,0.3s,baz=138,slow=7.7,SNR=7.5						
MKAR	**Makanchi Array**	**68.64**	**327**	P	**P**	**22 33 36.8**	**-1.2**
	0.6nm,0.6s,baz=117,slow=7.6,SNR=10.0						
ZALV	**Zalesovo Beam**	**71.98**	**334**	P	**P**	**22 33 58.4**	**+0.2**
	0.3nm,0.4s,baz=130,slow=5.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**129.16**	**281**	PKP	**PKPdf**	**22 41 45.1**	**+2.1**
	0.1nm,0.3s,baz=90,slow=2.5,SNR=6.2						

IDC 07 22:35:56.1±1.9,4°.96N×123°.52E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.4/38,mbtmp3.7/3,Error ellipse: s-maj=200.3km s-min=25.1km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.93**	**157**	P	P	22 41 38.5	-0.9
	0.3nm,0.4s,baz=335,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**30.20**	**161**	P	P	22 42 09.4	+0.9
	1.5nm,0.6s,baz=340,slow=6.8,SNR=28						
MKAR	**Makanchi Array**	**54.75**	**326**	P	P	22 45 27.5	-0.1
	0.3nm,0.4s,baz=115,slow=7.6,SNR=7.5						

*ISCJB **07** 22:40:28.3±0.4,35°.92N±0°.02×120°.53W±0°.03,h6km±3km, mb3.5/4,MS3.3/3,Error ellipse: s-maj=4.5km s-min=2.4km az=145.0*
*IDC **07** 22:40:28.4±1.4,35°.80N×120°.49W,h0km,mb3.4/3, mb1 3.7/9,mb1mx3.5/45,mbtmp3.4/9,ML3.4/6,MS3.2/10, Ms1 3.2/10,ms1mx2.9/25,Error ellipse: s-maj=17.2km s-min=9.2km az=70.0*
*NEIC **07** 22:40:29.9,35°.94N×120°.49W,h10km,mb4.1/1, ML4.3(PAS),MW4.0(BRK),After NCEDC.*
NEIC Felt [III] at San Miguel and [II] at Atascadero, Cambria, Coalinga, Creston, Los Osos, Morro Bay, Paso Robles, San Luis Obispo, Shandon and Templeton. Also felt at Arroyo Grande, Avenal, Beverly Hills, Bradley, Castroville, Cayucos, Delano, Fresno, Hanford, Kerman, King City, Lemoore, Lockwood, Los Angeles, Morgan Hill, Mountain View, Oak Park, Palmdale, Pismo Beach, San Ardo, San Mateo, Santa Barbara, Santa Margarita, Seaside and Visalia.

ISC 07 22:40:29.1±1.2,35°.95N±0°.02×120°.52W±0°.03,h1km±9km, n136,σ1§35/146,mb3.8/4,MS3.3/3,15C-22D,Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTRM	**Twissleman Ran**	**0.38**	**139**	*e*Pg	**Pg**	**22 40 37.6**	**+1.2**
LRV	**Little Rabbit**	**0.63**	**320**	*e*Pg	**Pg**	**22 40 42.7**	**+1.5**
DPD	**Davis Peak**	**0.74**	**197**	*e*Pg	**Pb**	**22 40 44.7**	**-0.2**
SMMC	**Simmler**	**0.76**	**146**	↑P	**Pg**	**22 40 44.5**	**+0.8**
	baz=0.7,SNR=734						
SMMC				↓S	**Sg**	**22 40 54.8**	**+1.3**
	baz=0.7						
CARC	**Carrizo Plain**	**0.84**	**139**	*e*Pg	**Pg**	**22 40 45.9**	**+0.8**
CRGC	**Crocker Grade**	**0.95**	**137**	*e*Pg	**Pg**	**22 40 48.0**	**+0.6**
RCTC	**Rector, Farmer**	**1.09**	**70**	↓P	**Pb**	**22 40 48.9**	**-1.9**
	baz=1.1,SNR=79						
RCTC				↑S	**Sg**	**22 41 04.7**	**+0.4**
	baz=1.1						
SAO	**San Andreas Ge**	**1.11**	**318**	*e*Pg	**Pb**	**22 40 49.9**	**-1.3**
SAO				*e*Sg	**Sb**	**22 41 03.8**	**-2.4**
VES	**Vestal, Richgr**	**1.17**	**95**	↓P	**Pb**	**22 40 50.0**	**-2.1**
	baz=1.1,SNR=93						
VES				↓S	**Sb**	**22 41 06.4**	**-1.3**
	baz=1.1						
FIGC	**Figueroa Mtn.**	**1.29**	**160**	*e*Pg	**Pn**	**22 40 53.1**	**-1.3**
MARC	**Maricopa**	**1.34**	**134**	*e*Pn	**Pn**	**22 40

MPMC	**Manual Prospec**	**2.46**	**86**	⇓P		**Pn**	**22 41 09.7**	**-0.8**
	baz=2.4								
LRRC	**Littlerock Res**	**2.48**	**124**	*e*Pn		Pn	22 41 06.5	-4.2
WSHM	**Spangler Hills**	**2.48**	**97**	*e*Pn		**Pn**	**22 41 09.7**	**-1.0**
DJJ	**Donna J Jenkin**	**2.49**	**137**	*e*Pn		**Pn**	**22 41 10.1**	**-0.8**
CCCA	**Chr Cany lake**	**2.60**	**98**	*e*Pn		**Pn**	**22 41 11.5**	**-0.8**
PASC	**Pasadena Art C**	**2.60**	**132**	*e*Pn		**Pn**	**22 41 11.2**	**-1.2**
PASC				*e*Sn		**Sn**	**22 41 42.1**	**-2.5**
HOLC	**Holcomb Ridge**	**2.64**	**123**	*e*Pn		**Pn**	**22 41 11.7**	**-1.3**
MWC	**Mount Wilson**	**2.65**	**130**	*e*Pn		**Pn**	**22 41 11.8**	**-1.3**
MWC				*e*Sn		**Sn**	**22 41 44.7**	**-1.3**
WAKR	**Walker**	**2.70**	**18**	*e*Pn		**Pn**	**22 41 14.9**	**+1.0**
WAKR				*e*Sn		**Sn**	**22 41 48.1**	**+0.9**
GRAC	**Grapevine Rang**	**2.75**	**67**	⇑Sb		**Sg**	**22 41 55.4**	**-2.0**
	baz=2.7								
EL2	**El Mirage 2**	**2.81**	**119**	*e*Pn		**Pn**	**22 41 12.9**	**-2.4**
BLKC	**Black Mountain**	**2.82**	**107**	*e*Pn		**Pn**	**22 41 14.8**	**-0.6**
FMP	**Fort Macarthur**	**2.88**	**140**	⇓S		**Sn**	**22 41 50.7**	**-0.8**
	baz=2.9								
SSK	**Sunset Peak**	**2.89**	**126**	*e*Pn		**Pn**	**22 41 16.4**	**0.0**
BFSC	**Mount Baldy Ra**	**2.90**	**125**	⇑P		**Pn**	**22 41 15.1**	**-1.4**
	baz=2.9,SNR=61								
BFSC				⇑S		**Sn**	**22 41 51.3**	**-0.7**
	baz=2.9								
MCCM	**Marconi Confer**	**2.90**	**320**	*e*Pn		**Pn**	**22 41 14.9**	**-1.5**
MCCM				*e*Sn		**Sn**	**22 41 50.8**	**-1.1**
FLSC	**Flash Two Peak**	**3.00**	**108**	*e*Pn		**Pn**	**22 41 17.2**	**-0.7**
NV01	**Mina Array Sit**	**3.04**	**35**	*e*Pn		**Pn**	**22 41 19.2**	**+0.5**
NV01				*e*Pg		**Pg**	**22 41 26.5**	**-1.0**
NV01				*e*Sn		**Sg**	**22 42 08.8**	**+1.8**
NVAR	**Mina Array Bea**	**3.04**	**35**	Pn		**Pn**	**22 41 19.2**	**+0.5**
	2.9nm,0.3s,baz=217,slow=15,SNR=48								
NVAR				Pg		**Pg**	**22 41 26.5**	**-1.0**
	36nm,0.3s,baz=225,slow=20,SNR=78								
NVAR				Lg		Lg	22 42 08.8		
	23nm,0.3s,baz=174,slow=16,SNR=6.5								
RRX	**Edison Barstow**	**3.06**	**109**	⇑Sb		**Sb**	**22 42 03.9**	**+1.6**
	baz=3.0								
CIS	**Catalina Islan**	**3.07**	**145**	⇓P		**Pn**	**22 41 17.2**	**-1.7**
	baz=3.1								
GSC	**Goldstone, Bar**	**3.09**	**101**	P		**Pn**	**22 41 17.8**	**-1.4**
	baz=3.1,SNR=51								
GSC				⇓S		**Sn**	**22 41 56.4**	**-0.4**
	baz=3.1								
GSC	**Goldstone, Bar**	**3.09**	**101**	*e*Pn		**Pn**	**22 41 17.6**	**-1.5**
GSC				*e*Sn		**Sn**	**22 41 54.8**	**-1.9**
SCI	**San Clemente I**	**3.38**	**151**	⇓P		**Pn**	**22 41 21.9**	**-1.1**
	baz=3.4								
SCI				⇑S		**Sn**	**22 42 03.4**	**-0.2**
	baz=3.4								
TPH	**Tonopah**	**3.39**	**50**	*e*Pn		**Pn**	**22 41 23.8**	**+0.5**
TPH				*e*Pg		**Pb**	**22 41 32.1**	**+2.1**
TPH				*e*Sg		**Sg**	**22 42 18.1**	**+0.2**
BBRC	**Big Bear Solar**	**3.39**	**119**	⇓S		**Sn**	**22 42 03.5**	**-0.9**
	baz=3.4								
TPNV	**Topopah Spring**	**3.58**	**72**	⇓P		**Pn**	**22 41 25.9**	**-0.1**
	baz=3.6								
TPNV	**Topopah Spring**	**3.58**	**72**	*e*Pn		**Pn**	**22 41 26.2**	**+0.2**
TPNV				*e*Sg		**Sg**	**22 42 21.7**	**-2.5**
MURC	**Murrieta**	**3.59**	**130**	⇑P		**Pn**	**22 41 24.9**	**-1.1**
	baz=3.6								
HEC	**Hector,Ludlow**	**3.59**	**107**	⇑P		**Pn**	**22 41 24.4**	**-1.7**
	baz=3.6								
HEC				⇓S		**Sn**	**22 42 08.4**	**-0.8**
	baz=3.6								
HEC	**Hector,Ludlow**	**3.59**	**107**	*e*Pn		**Pn**	**22 41 25.0**	**-1.1**
HOPS	**Hopland Field**	**3.66**	**327**	*e*Pn		**Pn**	**22 41 25.8**	**-1.1**
DGR	**Domenigoni Val**	**3.68**	**127**	*e*Pn		**Pn**	**22 41 26.9**	**-0.3**
BACC	**Bachelor Mtn.**	**3.69**	**128**	*e*Pn		**Pn**	**22 41 26.9**	**-0.4**
TUQ	**Turquoise Moun**	**3.77**	**96**	⇑P		**Pn**	**22 41 27.4**	**-1.2**
	baz=3.7								
TUQ				⇑S		**Sn**	**22 42 13.2**	**-0.4**
	baz=3.7								
TUQ	**Turquoise Moun**	**3.77**	**96**	*e*Pn		**Pn**	**22 41 27.8**	**-0.7**
PFO	**Pinyon Flats O**	**4.07**	**124**	Pn		**Pn**	**22 41 32.1**	**-0.6**
	5.9nm,0.3s,baz=303,slow=15,SNR=12								
PFO				Sn		**Sn**	**22 42 19.8**	**-1.3**
	10nm,0.3s,baz=329,slow=12,SNR=12								
PFO				Lg		Lg	22 42 32.9		
	8.4nm,0.3s,baz=359,slow=17,SNR=3.5								
PFO				LR		LR	22 43 13.3		
	comp=Z,178nm,21.5s,baz=317,slow=41								
PFO	**Pinyon Flats O**	**4.07**	**124**	⇓P		**Pn**	**22 41 31.5**	**-1.2**
	baz=4.0								
PFO				⇓S		**Sn**	**22 42 20.1**	**-1.0**
	baz=4.0								
TPC	**Twentynine Pal**	**4.10**	**115**	*e*Pn		**Pn**	**22 41 32.3**	**-0.7**
GMRC	**Granite Mounta**	**4.13**	**105**	⇓P		**Pn**	**22 41 32.1**	**-1.5**
	baz=4.1								
GMRC				⇑S		**Sn**	**22 42 21.1**	**-1.5**
	baz=4.1								
109C	**Camp Elliot, M**	**4.15**	**136**	⇑P		**Pn**	**22 41 32.3**	**-1.3**
	baz=4.1								
SHPR	**Sheep Range**	**4.37**	**81**	*e*Pn		**Pn**	**22 41 36.8**	**0.0**
SHPR				*e*Sn		**Sn**	**22 42 31.5**	**+3.1**
LDFC	**Landfair**	**4.49**	**100**	*e*Pn		Pn	22 41 30.3	-8.2
BAR	**Barrett**	**4.55**	**135**	*e*Pn		**Pn**	**22 41 38.3**	**-0.9**
R11A	**Troy Canyon, C**	**4.61**	**57**	*e*Pn		**Pn**	**22 41 39.9**	**-0.3**
R11A				*e*Sg		**Sg**	**22 42 55.1**	**-2.2**
CBKC	**Canebrake**	**4.65**	**130**	*e*Pn		**Pn**	**22 41 38.5**	**-2.1**
YUH	**Yuha Desert**	**5.03**	**130**	*e*Pg		**Pg**	**22 42 07.2**	**+1.8**
YUH				*e*Sg		**Sb**	**22 43 03.2**	**+4.4**
ERPC	**Ernies Place**	**5.13**	**127**	*e*Pg		**Pg**	**22 42 08.1**	**+0.7**
BMN	**Battle Mountai**	**5.18**	**29**	*e*Pg		**Pg**	**22 42 06.1**	**-2.2**
MOD	**Modoc Plateau**	**5.95**	**2**	*e*Pn		**Pn**	**22 41 57.7**	**-0.8**
	18nm,0.8s								
YBH	**Yreka Blue Hor**	**6.03**	**344**	Pn		**Pn**	**22 42 01.4**	**+1.9**
	0.1nm,0.3s,baz=138,slow=6.6,SNR=2.5								
YBH				Lg		Lg	22 43 37.5		
	0.1nm,0.3s,baz=270,slow=20,SNR=2.4								
YBH				LR		LR	22 44 25.6		
	comp=Z,128nm,19.9s,baz=164,slow=38								
KNB	**Kanab**	**6.29**	**78**	*e*Pn		**Pn**	**22 42 04.8**	**+1.6**
ELK	**Elko**	**6.34**	**39**	Pn		**Pn**	**22 42 06.0**	**+2.1**
	0.4nm,0.3s,baz=182,slow=6.5,SNR=7.3								
ELK				Lg		Lg	22 43 49.4		
	2.2nm,0.3s,baz=0.8,slow=8.8,SNR=3.6								
WVOR	**Wild Horse Val**	**6.64**	**12**	*e*Pn		**Pn**	**22 42 07.0**	**-0.9**
K05A	**Summer Lake**	**6.78**	**358**	*e*Pn		Pn	22 42 16.8	+6.9
MVU	**Marysvale**	**7.10**	**66**	*e*Pg		Pb	22 42 39.1	+5.7
WUAZ	**Wupatki**	**7.45**	**91**	*e*Pg		Pb	22 42 45.5	+6.3
TMUT	**Trail Mountain**	**8.11**	**63**	*e*Pn		Pn	22 42 36.7	+8.4
H04A	**Detroit Lake**	**8.82**	**352**	*e*Pn		Pn	22 42 45.2	+7.4
PV10	**Paradox Valley**	**9.48**	**72**	*e*Pn		Pn	22 42 50.5	+3.5
PD31	**Pinedale Array**	**10.87**	**48**	*e*Pn		Pn	22 43 09.2	+3.1
PDAR	**Pinedale Array**	**10.87**	**48**	Pn		Pn	22 43 09.2	+3.1
	0.0nm,0.3s,baz=240,slow=14,SNR=2.1								
SMCO	**Snowmass**	**11.22**	**69**	*e*Pn		Pn	22 43 15.7	+4.6
ANMO	**Albuquerque**	**11.51**	**91**	LR		LR	22 47 42.2		
	comp=Z,108nm,21.1s,baz=268,slow=38								
NEW	**Newport**	**12.56**	**10**	LR		LR	22 49 11.6		
	comp=Z,82nm,19.3s,baz=199,slow=41								
KSCO	**Kaye Shedlock'**	**14.53**	**73**	*e*Pn		Pn	22 43 45.8	-10
LPIG	**La Paz**	**14.73**	**140**	LR		LR	22 49 08.8		
	comp=Z,144nm,20.7s,baz=4,slow=36								
LTX	**Lajitas**	**15.64**	**110**	*e*Pn		**P**	**22 44 12.9**	**-2.2**
TXAR	**Lajitas Array**	**15.64**	**110**	Pn		**P**	**22 44 13.0**	**-2.2**
	0.1nm,0.3s,baz=300,slow=10.0,SNR=7.9								
TXAR				LR		LR	22 50 39.6		
	comp=Z,56nm,18.9s,baz=0.0,slow=39								
BBB	**Bella Bella**	**17.11**	**344**	LR		LR	22 52 17.7		
	comp=Z,40nm,18.3s,baz=162,slow=41								
MIAR	**Mount Ida**	**22.03**	**86**	*e*P		**P**	**22 45 25.0**	**0.0**
	9.8nm,1.3s								
ULM	**Lac du Bonnet**	**22.84**	**44**	P		**P**	**22 45 33.9**	**+0.3**
	4.3nm,0.6s,baz=244,slow=9.1,SNR=11								
DLBC	**Dease Lake**	**23.37**	**347**	LR		LR	22 55 39.1		
	comp=Z,97nm,18.8s,baz=166,slow=39								
YKA	**Yellowknife Ar**	**26.83**	**6**	P		**P**	**22 46 12.7**	**+1.9**
	0.1nm,0.7s,baz=207,slow=8.8,SNR=3.4								
YKB5	**Yellowknife Ar**	**26.83**	**6**	*e*P		**P**	**22 46 12.7**	**+1.9**
ILAR	**Eielson Array**	**32.90**	**339**	P		**P**	**22 47 06.6**	**+2.1**
	0.4nm,0.7s,baz=160,slow=8.2,SNR=4.4								
ILB	**Eielson Array**	**32.90**	**339**	*e*P		**P**	**22 47 06.6**	**+2.1**
INK	**Inuvik**	**33.23**	**351**	LR		LR	23 00 11.6		
	comp=Z,57nm,21.2s,baz=148,slow=35								
RES	**Resolute Bay**	**40.73**	**10**	LR		LR	23 05 36.0		
	comp=Z,58nm,20.9s,baz=293,slow=37								
H11N3	**WAKE ISLAND Hy**	**64.85**	**277**	T		T	00 00 36.9		
	baz=58,slow=75,SNR=82								
H11N2	**WAKE ISLAND Hy**	**64.86**	**277**	T		T	00 00 37.1		
	baz=58,slow=75,SNR=68								
H11N1	**WAKE ISLAND Hy**	**64.87**	**277**	T		T	00 00 38.2		
	baz=58,slow=75,SNR=85								
H11S1	**WAKE ISLAND Hy**	**65.65**	**276**	T		T	00 02 02.7		
	baz=58,slow=75,SNR=26								
H11S2	**WAKE ISLAND Hy**	**65.66**	**276**	T		T	00 01 55.7		
	baz=58,slow=75,SNR=19								
H11S3	**WAKE ISLAND Hy**	**65.67**	**276**	T		T	00 02 02.7		
	baz=58,slow=75,SNR=18								

IDC 07 22:53:25.4±3.1, 6°98S×128°94E, h0km, mb3.1/1, mb1 3.3/3, mb1mx3.2/31, mbtmp3.1/3, ML3.3/2, Error ellipse: s-maj=305.7km s-min=33.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**158**	Pn		Pn	Pn	22 56 42.8	-1.3
	0.2nm,0.3s,baz=334,slow=13,SNR=12								
WRA				Sn		Sn	Sn	22 59 05.3	-14
	0.4nm,0.3s,baz=335,slow=22,SNR=11								
ASAR	**Alice Springs**	**17.27**	**164**	P		P	P	22 57 29.2	-0.5
	0.1nm,0.3s,baz=349,slow=9.6,SNR=6.3								
MKAR	**Makanchi Array**	**67.63**	**327**	P		P	P	23 04 24.2	0.0
	0.1nm,0.5s,baz=120,slow=8.1,SNR=2.2								

IDC 07 22:54:43.5±1.0, 0°.81S×123°.89E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/34, mbtmp3.9/5, Error ellipse: s-maj=146.7km s-min=19.5km az=65.0
ISCJB 07 22:54:50.0±0.5, 0°.27S×125°.18E±0°.04, h53km, mb3.9/5, Error ellipse: s-maj=7.9km s-min=5.3km az=15.4
DJA 07 22:54:50.0±1.7, 0°.3S×123°.5E±°, h17km±21km, M4.4/3, mb4.9/1, mB5.0/1, MLv4.1/3, Mw(mB)4.3/1

ISC 07 22:54:51.1±0.8, 0°.23S×125°.20E±0°.04, h53km, n21, σ1°47/24, mb4.0/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.46**	**303**	P		P	**Pn**	**22 55 14.5**	**-0.6**
KMSI				S		S	**Sn**	**22 55 33.5**	**+0.4**
SANI	**Sanana**	**1.97**	**156**	P		P	**Pn**	**22 55 20.9**	**-1.2**
LBMI	**Labuha**	**2.33**	**100**	P		P	**Pn**	**22 55 28.2**	**+1.1**
LBMI				S		S	**Sn**	**22 55 56.8**	**+2.2**
GTOI	**Gorontalo**	**2.35**	**291**	P		P	**Pn**	**22 55 29.7**	**+2.4**
TNTI	**Ternate**	**2.38**	**65**	P		P	**Pn**	**22 55 28.0**	**+0.3**
LUWI	**Luwuk**	**2.56**	**252**	P		P	**Pn**	**22 55 32.2**	**+2.1**
MRSI	**Marisa**	**3.33**	**282**	P		P	**Pn**	**22 55 38.2**	**-2.6**
NLAI	**Namlea**	**3.54**	**148**	P		P	**Pn**	**22 55 43.8**	**+0.2**
APSI	**Ampana**	**3.62**	**259**	P		P	**Pn**	**22 55 44.7**	**+0.1**
SGSI	**Sangihe**	**3.90**	**5**	P		P	**Pn**	**22 55 48.9**	**+0.3**
KDI	**Kendari**	**4.51**	**215**	P		P	**Pn**	**22 55 59.2**	**+2.3**
MPSI	**Mapaga**	**5.33**	**276**	P		P	**Pn**	**22 56 09.4**	**+1.2**
PCI	**Palu**	**5.41**	**263**	P		P	**Pn**	**22 56 10.7**	**+1.5**
TTSI	**Tana Toraja**	**6.06**	**242**	P		P	**Pn**	**22 56 18.9**	**+0.7**
BNSI	**Bone**	**6.56**	**231**	P		P	**Pn**	**22 56 24.1**	**-1.0**
SPSI	**Sidrap Palu**	**6.57**	**236**	P		P	**Pn**	**22 56 25.1**	**-0.1**
WRA	**Warramunga Arr**	**21.54**	**156**	P		P		**22 59 34.8**	**-1.3**
	1.4nm,0.5s,baz=330,slow=11,SNR=12								
ASAR	**Alice Springs**	**24.78**	**161**	P		P		**23 00 06.5**	**-1.6**
	1.3nm,0.5s,baz=338,slow=9.2,SNR=18								
ASAR				PcP		PcP		23 03 44.3	+0.5
	0.3nm,0.4s,baz=351,slow=2.0,SNR=5.3								
SONM	**Songino Array**	**50.59**	**344**	P		P		**23 03 45.7**	**+1.0**
	1.0nm,0.7s,baz=164,slow=12,SNR=3.2								
MKAR	**Makanchi Array**	**59.98**	**327**	P		P		**23 04 50.2**	**-1.9**
	1.4nm,0.4s,baz=121,slow=8.8,SNR=43								
ZALV	**Zalesovo Beam**	**63.45**	**335**	P		P		**23 05 14.6**	**-0.7**
	0.6nm,0.5s,baz=103,slow=6.4,SNR=4.0								

IDC 07 23:03:04.5±2.3, 6°83S×145°40E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.3/27, mbtmp3.3/4, ML2.7/2, Error ellipse: s-maj=54.3km s-min=34.0km az=75.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.10**	**146**	Pn		Pn	Pn	23 03 54.8	+0.1
	2.0nm,0.3s,baz=311,slow=9.6,SNR=2.3								
PMG				Sn		Sn	Sn	23 04 27.2	-5.3
	12nm,0.3s,baz=142,slow=21,SNR=6.8								
WRA	**Warramunga Arr**	**16.89**	**218**	Pn		Pn	Pn	23 07 02.8	+0.2
	0.1nm,0.3s,baz=40,slow=11,SNR=4.3								
WRA				Sn		Sn	Sn	23 09 57.5	-14
	0.1nm,0.3s,baz=40,slow=22,SNR=3.8								
ASAR	**Alice Springs**	**20.06**	**212**	P		P	P	23 07 39.4	-0.2
	0.6nm,0.7s,baz=43,slow=9.1,SNR=7.9								
MKAR	**Makanchi Array**	**77.13**	**321**	P		P	P	23 15 00.1	0.0
	0.3nm,0.8s,baz=99,slow=7.4,SNR=2.8								

GUC 07 23:06:09.1±0.5, 34°.96S×72°.35W, h27km±6km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.73**	**127**	*e*P		P	Pb	23 06 22.7	-0.6
TALC				*e*S		S	Sb	23 06 32.8	-0.2
NICH	**Los Niches**	**0.92**	**93**	*e*P		P	Pn	23 06 26.1	-0.2
NICH				*e*S		S	Sb	23 06 38.2	-0.2
COCH	**Cobquecura**	**1.23**	**197**	*e*P		P	Pn	23 06 30.4	-0.1
COCH				*e*S		S	Sb	23 06 46.7	-0.3
RCDM	**Rinconada Maip**	**1.94**	**42**	AML		AML		23 07 12.7	
	comp=E,947nm,0.8s								
CLCH	**Cerro Calan**	**2.16**	**45**	*e*P		P	Pn	23 06 45.5	+2.0
CLCH				*e*S		S	Sb	23 07 13.4	-0.8
CLCH				AML		AML		23 07 17.8	
	comp=N,2μm,0.5s								
PEL	**Peldehue**	**2.27**	**38**	*e*P		P	Pn	23 06 46.8	+1.8
PEL				*e*S		S	Sb	23 07 15.6	-1.8
PEL				AML		AML		23 07 19.7	
	comp=N,2μm,0.6s								

CASC 07 23:11:03.2±2.8, 13°.66N×91°.30W, h21km±41km, MD3.8, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.73**	**333**	*i*P		P	Pb	23 11 14.4	-2.8
NBG	**Las Nubes**	**1.30**	**45**	*e*P		P	Pb	23 11 27.8	+0.4
NBG				*e*S		S	Sb	23 11 50.1	+6.2
RBDL	**Robledal**	**1.63**	**74**	*i*P		P	Pn	23 11 31.1	+0.2
RBDL				*e*S		S	Sb	23 11 53.3	+0.3
SBLS	**San Blas**	**1.64**	**84**	⇓*i*P		P	Pn	23 11 31.1	0.0
SNJE	**San Jose**	**1.66**	**83**	*e*P		P	Pn	23 11 31.2	-0.1
BOQS	**Boqueron**	**1.96**	**88**	*e*P		P	Pn	23 11 36.4	+0.9
BOQS				*e*S		S	Sn	23 11 59.0	-0.8
MRL	**Marmol**	**2.09**	**48**	*e*P		P	Pb	23 11 39.0	-1.7
LFRS	**El Faro**	**2.17**	**91**	*e*P		P	Pn	23 11 38.8	+0.5

NEIC 07 23:17:36.9, 18°.11N×65°.39W, h18km, MD2.6(RSPR), After RSPR.

RSPR 07 23:17:36.9, 18°.11N×65°.39W, h18km±1km, MD2.6/3, 16C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.15**	**264**	⇑*e*P		P	Pb	23 17 41.0	-0.2
MTP	**Monte Pirata**	**0.15**	**264**	⇑*e*P		P	Pb	23 17 41.0	-0.2
MTP				*e*S		S	Sg	23 17 44.2	+0.2
MTP	**Monte Pirata**	**0.15**	**264**	⇑*e*P		P	Pb	23 17 41.0	-0.2
MTP				*e*S		S	Sg	23 17 44.2	+0.2
MTP	**Monte Pirata**	**0.15**	**264**	⇑*e*P		P	Pb	23 17 41.0	-0.1
MTP	**Monte Pirata**	**0.15**	**264**	*e*S		S	Sg	23 17 44.2	+0.2
HUMP	**Col San Antoni**	**0.43**	**274**	⇑*e*P		P	Pg	23 17 45.1	-0.7
HUMP	**Col San Antoni**	**0.43**	**274**	⇑*e*P		P	Pg	23 17 45.1	-0.7
HUMP				*e*S		S	Sg	23 17 51.7	-0.1
HUMP	**Col San Antoni**	**0.43**	**274**	⇑*e*P		P	Pg	23 17 45.1	-0.7
HUMP				*e*S		S	Sg	23 17 51.7	-0.1
HUMP	**Col San Antoni**	**0.43**	**274**	⇑*e*P		P	Pg	23 17 45.1	-0.7
HUMP	**Col San Antoni**	**0.43**	**274**	*e*S		S	Sg	23 17 51.5	-0.2
STVI	**Saint Thomas**	**0.48**	**60**	⇑*e*P		P	Pg	23 17 46.1	-0.6
STVI	**Saint Thomas**	**0.48**	**60**	⇑*e*P		P	Pg	23 17 46.1	-0.6
STVI				*e*S		S	Sg	23 17 52.8	-0.4
STVI	**Saint Thomas**	**0.48**	**60**	⇑*e*P		P	Pg	23 17 46.1	-0.6
STVI				*e*S		S	Sg	23 17 52.8	-0.4
STVI	**Saint Thomas**	**0.48**	**60**	⇑*e*P		P	Pg	23 17 46.1	-0.6
STVI	**Saint Thomas**	**0.48**	**60**	*e*S		S	Sg	23 17 53.1	-0.1
CDVI	**St. Croix**	**0.70**	**121**	⇑*e*P		P	Pb	23 17 48.0	-2.5
CDVI	**St. Croix**	**0.70**	**121**	⇑*e*P		P	Pb	23 17 48.0	-2.5
CDVI				*e*S		S	Sb	23 17 58.3	-1.5
CDVI	**St. Croix**	**0.70**	**121**	⇑*e*P		P	Pb	23 17 48.0	-2.5
CDVI				*e*S		S	Sb	23 17 58.3	-1.5

ISCJB 07 23:30:13.7±0.3, 4°.00N±0°.03×126°.78E±0°.04, h45km, mb4.5/35, MS3.4/15, Error ellipse: s-maj=5.7km s-min=3.7km az=178.8
IDC 07 23:30:17.1±2.4, 3°.86N×126°.71E, h65km±20km, mb4.0/21, mb1 4.1/22, mb1mx4.0/38, mbtmp4.3/22, MS3.4/16, Ms1 3.4/16, ms1mx3.3/34, Error ellipse: s-maj=23.6km s-min=9.3km az=78.0
DJA 07 23:30:17.4±0.8, 4°N±3°×12°7E±°, h12km±7km, M5.0/21, mb4.8/21, mB5.6/7, Mw(mB)5.1/7
NEIC 07 23:30:20.0±1.2, 3°.85N×126°.78E, h90km±12km, mb4.7/9, Error ellipse: s-maj=11.7km s-min=6.6km az=52.0

ISC 07 23:30:15.6±0.4, 3°.97N±0°.05×126°72E±0°.05, h45km, n109, σ1°79/99, mb4.4/35, MS3.5/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.22**	**257**	P		P	**Pn**	**23 30 34.7**	**-1.5**
SGSI				S		S	**Sn**	**23 30 49.3**	**-2.2**
TNTI	**Ternate**	**3.24**	**168**	P		P	**Pn**	**23 31 04.2**	**+0.2**
TNTI				S		S	**Sn**	**23 31 40.9**	**-0.5**
TNTI	**Ternate**	**3.24**	**168**	*e*Pn		P	**Pn**	**23 31 03.8**	**-0.2**
TNTI				*e*Sn		S	**Sn**	**23 31 40.6**	**-0.8**
KMSI	**Cibinong**	**4.34**	**219**	P		P	**Pn**	**23 31 19.8**	**+0.7**
KMSI				S		S	**Sn**	**23 32 09.8**	**+1.3**
LBMI	**Labuha**	**4.64**	**170**	P		P	**Pn**	**23 31 23.9**	**+0.6**
LBMI				S		S	**Sn**	**23 32 18.3**	**+2.4**
GTOI	**Gorontalo**	**4.97**	**228**	P		P	**Pn**	**23 31 27.8**	**+0.1**
MRSI	**Marisa**	**5.90**	**234**	P		P	**Pn**	**23 31 42.4**	**+1.9**
MRSI				S		S	**Sn**	**23 32 41.7**	**-5.2**
SANI	**Sanana**	**6.02**	**187**	P		P	Pn	23 31 39.0	-3.2
LUWI	**Luwuk**	**6.35**	**218**	P		P	**Pn**	**23 31 49.5**	**+2.8**
LUWI	**Luwuk**	**6.35**	**218**	*e*Pn		Pn	Pn	23 31 50.0	+3.3
APSI	**Ampana**	**7.01**	**226**	P		P	**Pn**	**23 31 58.9**	**+3.2**
NLAI	**Namlea**	**7.17**	**177**	P		P	**Pn**	**23 31 56.3**	**-1.6**
MPSI	**Mapaga**	**7.71**	**242**	P		P	**Pn**	**23 32 05.2**	**-0.1**
PCI	**Palu**	**8.41**	**235**	P		P	Pn	23 32 30.3	+15
FAKI	**Fak Fak**	**8.80**	**141**	P		P	**Pn**	**23 32 21.5**	**+1.2**
FAKI	**Fak Fak**	**8.80**	**141**	*e*Pn		P	**Pn**	**23 32 21.8**	**+1.5**
TTSI	**Tana Toraja**	**9.80**	**225**	P		P	**Pn**	**23 32 36.2**	**+2.2**
SPSI	**Sidrap Palu**	**10.50**	**221**	P		P	**Pn**	**23 32 45.9**	**+2.3**
BNSI	**Bone**	**10.62**	**219**	P		P	**Pn**	**23 32 47.2**	**+2.0**
KAPI	**Kappang**	**11.32**	**218**	*e*Pn		Pn	Pn	23 33 00.3	+5.5
BKSI	**Bulukumba**	**11.34**	**216**	P		P	**Pn**	**23 32 57.7**	**+2.6**
SOEI	**Soe**	**13.85**	**190**	P		P	**Pn**	**23 33 31.1**	**+1.6**
	36nm,0.9s								
SOEI	**Soe**	**13.85**	**190**	*e*Pn		**P**		**23 33 38.3**	**+1.5**
BBKI	**Banjar Baru**	**13.98**	**238**	P		P		**23 33 36.8**	**-1.2**
	100nm,1.5s,3μm								
BATI	**Baumata**	**14.41**	**192**	P		**Pn**		**23 33 38

ZAA1	Zalesovo Array	60.37	333	*e*P	P	23 40 18.3	-1.8
KURK	Kurchatov	61.53	327	*e*P	P	23 40 29.1	+1.2
	5.6nm,0.6s						
SEY	Seymchan	61.80	13	P	P	23 40 30.7	+1.2
	1.1nm,0.4s,baz=252,slow=7.2,SNR=4.2						
SEY				LR	LR	00 06 56.0	
	comp=Z,33nm,19.4s,baz=248,slow=36						
KHZ	Kahutara	62.66	143	*e*P	P	23 40 35.4	-0.2
	181nm,0.3s						
KKAR	Karatay Array	63.05	317	*e*P	P	23 40 39.1	+0.8
BILL	Bilibino	69.33	15	*e*P	P	23 41 20.0	+1.9
	83nm,3.0s						
GEYT	Alibeck	70.73	309	P	P	23 41 27.6	+0.2
	1.3nm,0.7s,baz=143,slow=5.2,SNR=5.3						
ABKAR	Akbulak array	71.96	321	*e*P	P	23 41 33.3	-1.1
VNDA	Vanda	83.67	173	P	P	23 42 38.3	-0.7
	1.1nm,0.6s,baz=319,slow=7.1,SNR=18						
COLD	Coldfoot	83.68	23	*e*P	P	23 42 42.9	+3.6
	5.2nm,1.0s						
ILAR	Eielson Array	84.89	25	P	P	23 42 46.0	+0.5
	0.5nm,0.8s,baz=242,slow=4.4,SNR=6.2						
ILAR				LR	LR	00 33 10.4	
	comp=Z,5.0nm,18.0s,baz=210,slow=44						
ILB	Eielson Array	84.89	25	*e*P	P	23 42 46.0	+0.5
PPT	Papeete	85.20	108	LR	LR	00 14 50.2	
	comp=Z,22nm,21.7s,baz=10,slow=31						
KMBO	Kilima Mbogo	89.54	269	P	P	23 43 08.3	-1.1
	0.5nm,0.3s,baz=333,slow=4.4,SNR=3.3						
BR101	Keskin Array S	89.86	310	*e*P	P	23 43 09.6	-0.6
BRTR	Keskin Array B	89.86	310	P	P	23 43 09.6	-0.6
	0.8nm,0.8s,baz=116,slow=3.4,SNR=3.8						
ARA0	ARCESS Array S	90.22	340	*e*P	P	23 43 09.9	-1.1
ARCES	ARCESS Array B	90.22	340	P	P	23 43 09.9	-1.1
	2.7nm,0.8s,baz=84,slow=5.6,SNR=10.0						
FIA0	FINESS Array S	91.61	332	*e*P	P	23 43 15.9	-1.7
FINES	FINESS Array B	91.61	332	P	P	23 43 15.9	-1.7
	0.6nm,0.5s,baz=45,slow=5.7,SNR=7.1						
FINES				LR	LR	00 31 23.7	
	comp=Z,16nm,19.0s,baz=45,slow=40						
AKASG	Malin Array Be	91.70	321	P	P	23 43 16.2	-2.1
	0.6nm,0.6s,baz=66,slow=4.9,SNR=5.3						
AKBB	Malin Array Si	91.70	321	*e*P	P	23 43 16.2	-2.1
NB2	NORSAR Subarra	98.57	334	P	P	23 43 48.2	-1.3
	comp=Z,1.7nm,1.0s,baz=66,slow=4.6						
NB200	NORSAR Array S	98.57	334	*e*P	P	23 43 48.8	-0.7
NOA	NORSAR Array B	98.57	334	P	P	23 43 48.8	-0.7
	comp=Z,0.5nm,0.7s,baz=68,slow=4.7,SNR=2.9						
NOA				LR	LR	00 34 33.7	
	comp=Z,35nm,18.3s,baz=25,slow=39						
YKA	Yellowknife Ar	99.29	24	P	Pdif	23 43 52.6	0.0
	comp=Z,0.3nm,0.8s,baz=295,slow=3.7,SNR=3.0						
YKB5	Yellowknife Ar	99.29	24	*e*P	Pdif	23 43 52.6	0.0
GERES	GERESS Array B	101.89	322	PP	PP	23 48 17.2	+1.5
	comp=Z,0.3nm,0.6s,baz=69,slow=4.4,SNR=3.6						
TORD	Torodi Ar. Bea	122.83	288	PKP	PKPdf	23 49 07.1	-0.7
	comp=Z,0.3nm,0.7s,baz=91,slow=1.3,SNR=4.3						

IDC 07 23:50:50.8±8.2, 6.96S×118.67E, h248$^{km}_{\pm71}$, mb3.1/2, mb1 3.4/4, mb1mx3.0/34, mbtmp3.8/4, Error ellipse: s-maj=231.8km s-min=25.0km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	5.90	124	P	Pn	23 52 18.3	+0.5
	4.9nm,0.3s,baz=282,slow=5.2,SNR=3.2						
BATI				S		23 53 14.3	-13
	22nm,0.3s,baz=126,slow=22,SNR=5.3						
WRA	Warramunga Arr	19.95	132	P	P	23 55 03.9	-0.7
	0.5nm,0.3s,baz=304,slow=13,SNR=24						
WRA				S	S	23 58 39.2	+3.9
	0.2nm,0.3s,baz=310,slow=24,SNR=5.6						
ASAR	Alice Springs	22.14	140	P	P	23 55 27.0	+0.6
	1.8nm,0.3s,baz=312,slow=8.5,SNR=29						
MKAR	Makanchi Array	62.50	333	P	P	00 00 48.1	-0.1
	0.5nm,1.1s,baz=122,slow=5.2,SNR=1.6						

JMA 07 23:52:38.6±0.2, 37.83N×142.18E, h34$^{km}_{\pm2}$, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.90	314	P	Pn	23 52 55.2	+0.3
JIO				S	Sn	23 53 06.8	+0.1
JMM	Marumori	1.10	272	P	Pn	23 52 58.0	+0.4
JMM				*e*S	Sn	23 53 11.5	-0.1
JFK	Kawauchi	1.14	246	P	Pn	23 52 58.2	+0.1
JFK				*e*S	Sn	23 53 12.1	-0.5
JOU	Okura	1.31	295	P	Pb	23 53 01.8	-0.9
JOU				*e*S	Sb	23 53 18.5	-0.8
JMK	Ichinoseki	1.35	326	P	Pn	23 53 02.1	+1.1
JMK				*e*S	Sn	23 53 18.6	+0.8
JFT	Otama	1.50	259	P	Pn	23 53 04.4	+1.3
JFT				S	Sb	23 53 23.4	-1.1
JYS	Shirataka	1.71	284	P	Pb	23 53 08.3	-1.2
JYS				S	Sb	23 53 30.0	-0.8
JOM	Ohasama	1.78	337	P	Pn	23 53 08.3	+1.3
JYK	Kaneyama	1.80	308	P	Pn	23 53 08.6	+1.4
JRG	Rokugo	1.98	323	P	Pn	23 53 11.7	+2.0
JRG				*e*S	Sb	23 53 36.2	-2.1
JFY	Yanaizu	2.01	259	P	Pn	23 53 12.0	+1.8

IDC 07 23:54:25.7±2.0, 46.85N×153.26E, h0^{km}, mb3.5/4, mb1 3.6/5, mb1mx3.3/40, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=55.9km s-min=34.2km az=99.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	Asahikawa	7.97	254	Pn	Pn	23 56 24.9	+2.0
	0.4nm,0.3s,baz=70,slow=15,SNR=2.1						
MKAR	Makanchi Array	46.98	297	P	P	00 02 56.8	-1.5
	0.2nm,0.5s,baz=66,slow=7.8,SNR=5.4						
FINES	FINESS Array B	63.99	335	P	P	00 05 00.7	+0.3
	0.6nm,0.4s,baz=45,slow=8.4,SNR=9.3						
NOA	NORSAR Array B	68.17	341	P	P	00 05 27.8	+0.5
	0.5nm,0.6s,baz=26,slow=6.5,SNR=4.5						
ASAR	Alice Springs	72.33	199	P	P	00 05 52.9	-0.2
	0.2nm,0.5s,baz=14,slow=4.1,SNR=1.9						

IDC 08 00:23:59.9±1.5, 1.71N×124.34E, h0^{km}, mb3.1/3, mb1 3.3/3, mb1mx3.1/36, mbtmp3.2/3, MS2.5/1, Ms1 2.5/1, ms1mx2.3/10, Error ellipse: s-maj=150.0km s-min=26.9km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	Tagaytay City	12.76	345	LR	LR	00 31 25.2	
	comp=Z,24nm,20.2s,baz=300,slow=35						
WRA	Warramunga Arr	25.65	156	P	P	00 29 13.2	0.0
	0.1nm,0.4s,baz=336,slow=10,SNR=6.1						
SONM	Songino Array	48.50	344	P	P	00 32 45.6	+0.9
	0.4nm,0.8s,baz=146,slow=8.0,SNR=2.9						
MKAR	Makanchi Array	57.89	327	P	P	00 33 52.6	-1.1
	0.1nm,0.3s,baz=123,slow=8.0,SNR=4.9						

*IDC **08** 00:25:17.3±1.6, 37.01S×73.97W, h0^{km}, mb3.8/6, mb1 3.9/8, mb1mx3.6/31, mbtmp3.7/8, ML3.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/18, Error ellipse: s-maj=35.4km s-min=20.3km az=71.0*

*ISCJB **08** 00:25:21.2±1.1, 37.05S±0.09×73.7W±0.2, h33^{km}, mb3.8/6, MS3.0/1, Error ellipse: s-maj=21.6km s-min=11.5km az=18.6*

ISC 08 00:25:22.5±1.3, 37.1S±0.1×73.9W±0.2, h35^{km}, n10, σ0.980/10, mb3.8/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	4.49	146	Pn	Pn	00 26 28.0	0.0
	0.2nm,0.3s,baz=316,slow=8.8,SNR=9.0						
PLCA				Lg	Lg	00 27 43.6	
	1.0nm,0.3s,baz=45,slow=20,SNR=1.7						
CFAA	Coronel Fontan	7.17	42	Pn	Pn	00 27 04.8	-0.2
	0.1nm,0.3s,baz=213,slow=14,SNR=5.7						
CFAA				Sn	Sn	00 28 25.6	+0.4
	0.1nm,0.3s,baz=299,slow=19,SNR=2.5						
CFAA				Lg	Lg	00 28 54.6	
	0.1nm,0.3s,baz=297,slow=15,SNR=4.5						
CFAA				LR	LR	00 30 07.3	
	comp=Z,35nm,18.1s,baz=223,slow=40						
USHA	Ushuaia	18.15	170	LR	LR	00 35 58.9	
	comp=Z,218nm,19.7s,baz=286,slow=35						
LPAZ	La Paz	21.32	15	P	P	00 30 07.8	+0.8
	2.0nm,0.6s,baz=237,slow=2.5,SNR=8.5						
SIV	San Ignacio	23.87	32	P	P	00 30 31.4	-1.4
	1.6nm,0.8s,baz=214,slow=11,SNR=3.4						
SIV				LR	LR	00 40 40.3	
	comp=Z,52nm,21.9s,baz=203,slow=39						
BDFB	Brasilia	31.33	54	P	P	00 31 39.0	-0.7
	1.6nm,0.6s,baz=194,slow=13,SNR=3.4						
DBIC	Dimbokro	77.57	72	P	P	00 37 16.2	+1.1
	1.4nm,0.6s,baz=121,slow=9.4,SNR=4.2						
NVAR	Mina Array Bea	85.58	327	P	P	00 37 56.9	-0.3
	0.3nm,0.5s,baz=158,slow=17,SNR=7.7						
TORD	Torodi Ar. Bea	86.65	71	P	P	00 38 02.8	+0.1
	0.3nm,0.6s,baz=209,slow=6.1,SNR=5.1						
MKAR	Makanchi Array	159.85	54	PKPab	PKPab	00 45 56.9	+0.2
	0.1nm,0.6s,baz=329,slow=1.4,SNR=4.0						

*IDC **08** 00:25:36.9±1.9, 31.94N×115.31W, h0^{km}, mb3.2/1, mb1 3.7/7, mb1mx3.4/43, mbtmp3.3/7, ML3.2/5, MS3.2/6, Ms1 3.2/6, ms1mx3.0/13, Error ellipse: s-maj=27.8km s-min=11.9km az=45.0*

*ISCJB **08** 00:25:37.6±0.3, 32.23N±0.02×115.26W±0.02, h24$^{km}_{\pm2}$, mb3.2/1, mb1mx3.1/31, Error ellipse: s-maj=3.0km s-min=2.6km az=18.1*

*ECX **08** 00:25:38.8±0.7, 32.24N×115.26W, h5^{km}, MD4.1, ML4.3*

*NEIC **08** 00:25:38.0, 32.24N×115.26W, h5^{km}, MD4.5(MEX), ML4.2(PAS), ML4.3(ECX), After ECX.*

NEIC Felt [III] at Mexicali. Felt at Yuma, Arizona. Felt [II] at Chula Vista, California. Also felt at Apple Valley, Calexico, Cathedral City, Dana Point, Hesperia, Orange, San Clemente, San Diego and Santee.

*MEX **08** 00:25:39.5±0.7, 32.24N×115.19W, h10$^{km}_{\pm}$11^{km}, MD4.0*

ISC 08 00:25:38.0±0.8, 32.21N±0.02×115.28W±0.02, h14$^{km}_{\pm}$5^{km}, n128, σ1.5$^{s}_{6}$/153, 26C-28D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.21	355	⇓*e*P	Pg	00 25 42.6	0.0
CPBX				*e*S	Sg	00 25 45.4	-0.4
CPBX	Cerro Prieto	0.21	355	⇓*e*P	Pg	00 25 42.6	0.0
CPBX				*e*S	Sg	00 25 45.4	-0.4
MBIG	Mexicali	0.21	20	*e*P	Pb	00 25 42.9	-0.6
MBIG				*i* S	Sg	00 25 45.1	-0.7
EMX	El Mayor	0.23	171	⇓*e*P	Pb	00 25 43.5	-0.3
EMX				*e*S	Sg	00 25 47.4	+1.1
EMX	El Mayor	0.23	171	*e*P	Pb	00 25 43.5	-0.3
EMX				*e*S	Sg	00 25 47.4	+1.1
SGL	Mount Signal	0.57	319	⇑*e*P	Pg	00 25 49.0	-0.3
SGL	Mount Signal	0.57	319	*e*P	Pg	00 25 49.0	-0.3
EMSC	East Mesa	0.58	25	*e*Pg	Pg	00 25 49.1	-0.3
DREC	Desert Rsrch C	0.61	347	*e*Pg	Pg	00 25 49.9	0.0
ERPC	Ernies Place	0.62	329	*e*Pg	Pg	00 25 50.1	-0.1
RDX	Rancho Dawling	0.63	243	⇑*e*P	Pb	00 25 50.8	-0.1
RDX				*e*S	Sb	00 25 59.5	-0.1
RDX	Rancho Dawling	0.63	243	*e*P	Pb	00 25 50.8	-0.1
RDX				*e*S	Sb	00 25 59.5	-0.1
COA	Coachella	0.66	12	⇓*e*P	Pg	00 25 50.2	-0.8
COA	Coachella	0.66	12	*e*P	Pg	00 25 50.2	-0.8
YUH	Yuha Desert	0.69	309	⇑*e*P	Pg	00 25 50.8	-0.7
YUH	Yuha Desert	0.69	309	*e*P	Pg	00 25 50.8	-0.7
YMD	Yuma Desert	0.71	61	⇑*e*P	Pg	00 25 50.9	-0.9
YMD	Yuma Desert	0.71	61	*e*P	Pg	00 25 50.9	-0.9
COK	Cook Ranch	0.74	329	*e*P	Pg	00 25 51.6	-0.7
COK	Cook Ranch	0.74	329	*e*P	Pg	00 25 51.6	-0.7
ECBX	El Chinero	0.76	165	⇓*e*P	Pg	00 25 52.2	-0.6
ECBX				*e*S	Sb	00 26 03.2	-0.1
RMX	La Rumorosa	0.78	300	⇑*e*P	Pg	00 25 52.6	-0.6
RMX				*e*S	Sg	00 26 02.8	-0.6
RMX	La Rumorosa	0.78	300	*e*P	Pg	00 25 52.6	-0.6
RMX				*e*S	Sg	00 26 02.8	-0.6
RUN	Ruthven	0.80	19	⇓*e*P	Pg	00 25 51.8	-1.7
RUN	Ruthven	0.80	19	*e*P	Pg	00 25 51.8	-1.7
SWSC	Sam W. Stewart	0.85	329	⇓P	Pg	00 25 52.8	-1.6
	baz=0.8						
SWSC				⇓S	Sg	00 26 04.5	-1.0
	baz=0.8						
SWSC	Sam W. Stewart	0.85	329	*e*Pg	Pg	00 25 52.9	-1.6
CRR	Carrizo Plain	0.89	319	⇑*e*P	Pg	00 25 53.6	-1.6
CRR	Carrizo Plain	0.89	319	*e*P	Pg	00 25 53.6	-1.6
CLIC	Calipatria	0.95	347	*e*Pn	Pg	00 25 54.3	-2.0
ERRC	Elmore Ranch	1.01	333	*e*Pn	Pg	00 25 55.6	-1.9
CBKC	Canebrake	1.07	310	*e*Pn	Pb	00 25 57.9	-0.4
ZAX	El Zacaton	1.09	231	⇑*e*P	Pb	00 25 58.3	-0.5
SPIG	San Pedro Mart	1.17	188	*i* P	Pb	00 25 59.4	-0.8
SPIG				*i* S	Sb	00 26 13.0	-1.8
SPIG	San Pedro Mart	1.17	188	*e*P	Pb	00 25 59.4	-0.8
SPX	San Pedro Mart	1.17	188	⇓*e*P	Pb	00 25 59.4	-0.8
SPX				⇑*e*		00 26 18.1	
	comp=Z,4μm,0.6s						
SPX				⇑*e*		00 26 19.5	
	comp=N,4μm,0.3s						
SPX	San Pedro Mart	1.17	188	*e*P	Pb	00 25 59.4	-0.8
MONP	Monument Peak,	1.18	305	⇑P	Pb	00 25 58.2	-2.0
	baz=1.2						
MONP				⇑S	Sb	00 26 13.6	-1.8
	baz=1.2						
CBX	Cerro Bola	1.18	275	*e*P	Pb	00 25 59.1	-1.1
CBX				*e*S	Sb	00 26 15.1	-0.2
CBX	Cerro Bola	1.18	275	⇑*e*P	Pb	00 25 59.1	-1.1
CBX				*e*S	Sn	00 26 15.9	-0.2
CBX				⇑*e*		00 26 21.2	
	comp=E,14μm,0.7s						
CBX				*e*		00 26 23.7	
	comp=N,8μm,0.8s						
CBX	Cerro Bola	1.18	275	*e*P	Pb	00 25 59.1	-1.1
CBX				*e*S	Sn	00 26 15.9	-0.2
FRK	Frink	1.22	346	*e*Pn	Pn	00 25 57.6	-3.0
ECNX	Esteban Cantu	1.25	244	⇑*e*P	Pn	00 26 00.7	-0.4
BAR	Barrett	1.27	292	*e*Pn	Pn	00 26 01.1	-0.1
BAR				*e*Sn	Sb	00 26 17.2	-0.5
PBX	Punta Banda	1.31	249	⇑*e*P	Pn	00 26 01.6	-0.4
PBX	Punta Banda	1.31	249	*e*P	Pn	00 26 01.6	-0.4
113A	Mohawk Valley,	1.40	66	⇑P	Pn	00 26 01.1	-1.9
	baz=1.4						
113A				⇑S	Sn	00 26 18.1	-3.1
	baz=1.4						
BC3	Big Chuckawall	1.45	354	⇑P	Pn	00 26 01.5	-2.4
	baz=1.4						
BC3				⇓S	Sn	00 26 19.5	-3.2
	baz=1.4						
EML	El Monte Cty P	1.48	298	*e*Pn	Pn	00 26 02.8	-1.4
EML				*e*ScS	ScS	00 41 15.0	+4.8
HAY	Hayfield	1.53	347	*e*Pn	Pn	00 26 01.4	-3.4
DPP	Dos Picos Cty	1.61	300	*e*Pn	Pn	00 26 04.9	-1.1
HWB	Hans Werner Br	1.63	300	*e*Pn	Pn	00 26 05.3	-1.0
BLYC	Blythe	1.66	22	*e*Pn	Pb	00 26 08.8	+0.4
Y12C	Blythe	1.66	22	⇓P	Pn	00 26 04.6	-2.1
	baz=1.6						
Y12C				⇑S	Sn	00 26 24.4	-3.4
	baz=1.6						
109C	Camp Elliot, M	1.68	294	⇑P	Pn	00 26 05.8	-1.2
	baz=1.7						
CPE	Camp Elliot	1.68	294	*e*Pn	Pn	00 26 06.0	-1.0
FRD	Ford Ranch, An	1.69	319	*e*Pn	Pn	00 26 05.5	-1.8
PFO	Pinyon Flats O	1.71	325	Pn	Pn	00 26 05.5	-1.9
	comp=N,18nm,0.3s,baz=149,slow=12,SNR=32						
PFO				Lg	Lg	00 26 30.5	
	comp=N,134nm,0.3s,baz=241,slow=19,SNR=18						
PFO	Pinyon Flats O	1.71	325	⇑P	Pn	00 26 05.3	-2.1
	baz=1.7						
PFO				⇓S	Sn	00 26 25.7	-3.5
	baz=1.7						
SNDA	J Saunders Pla	1.74	320	*e*Pn	Pn	00 26 06.4	-1.5
PLM	Palomar	1.75	311	*e*Pn	Pn	00 26 06.5	-1.6
DNR	Dunn Ranch,Anz	1.76	320	*e*Pn	Pn	00 26 06.8	-1.4
CRY	Cary Ranch	1.82	318	*e*Pn	Pn	00 26 07.5	-1.5
IRM	Iron Mountain	1.94	3	⇓P	Pn	00 26 08.5	-2.2
	baz=1.9						
DGR	Domenigoni Val	2.04	315	*e*Pn	Pb	00 26 15.9	+1.0
HMTC	Hemet	2.08	316	*e*Pn	Pb	00 26 16.3	+0.8
214A	Organ Pipe Nat	2.11	96	⇓P	Pn	00 26 10.9	-2.0
	baz=2.1						
214A				⇓Sb	Sb	00 26 42.6	+0.5
	baz=2.1						
214A	Organ Pipe Nat	2.11	96	*e*Pn	Pn	00 26 10.6	-2.3
MURC	Murrieta	2.13	311	⇓P	Pn	00 26 11.3	-1.8
	baz=2.1						
MURC				⇓Sb	Sb	00 26 43.8	+1.2
	baz=2.1						
Z14A	Wintersburg	2.28	59	⇓P	Pn	00 26 13.7	-1.4
	baz=2.2						
Z14A				⇓Sb	Sb	00 26 47.2	+0.3
	baz=2.2						
DANC	Danby, Needles	2.42	358	*e*Pn	Pn	00 26 18.8	+1.7
BBRC	Big Bear Solar	2.46	327	⇓Pb	Pb	00 26 20.8	-1.4
	baz=2.5						
BBRC				⇓Sb	Sb	00 26 53.9	+1.5
	baz=2.5						
Y14A	Wickenburg	2.57	47	⇑P	Pn	00 26 17.7	-1.6
	baz=2.5						
Y14A				⇓Sb	Sb	00 26 56.7	+1.2
	baz=2.5						
GMRC	Granite Mounta	2.58	353	⇑P	Pn	00 26 17.5	-2.0
	baz=2.6						
NEE2	Needles Airpor	2.61	12	⇑Pb	Pb	00 26 24.0	-0.5
	baz=2.6						
HEC	Hector,Ludlow	2.75	342	⇓Pb	Pb	00 26 25.7	-1.3
	baz=2.7						
BFSC	Mount Baldy Ra	2.84	316	⇑Pb	Pb	00 26 28.4	-0.1
	baz=2.8						
SSK	Sunset Peak	2.84	315	*e*Pn	Pb	00 26 29.2	+0.6
SCI	San Clemente I	2.86	286	⇑P	Pn	00 26 21.3	-1.8
	baz=2.9						
LDFC	Landfair	2.86	3	*e*Pn	Pn	00 26 24.4	+1.1
LDFC				*e*Sn	Sn	00 26 58.8	+1.1
CIS	Catalina Islan	2.89	295	⇓P	Pn	00 26 22.3	-1.2
	baz=2.9						
FMP	Fort Macarthur	2.94	301	⇓Pb	Pb	00 26 29.3	-0.9
	baz=2.9						
MWC	Mount Wilson	3.07	312	*e*Pn	Pn	00 26 24.2	-2.0
MWC				*e*Sn	Sb	00 27 06.9	-3.0
W13A	Hualapai Mount	3.10	22	⇓P	Pn	00 26 26.2	-0.5
	baz=3.1						
PASC	Pasadena Art C	3.12	310	*e*Pn	Pn	00 26 25.9	-0.9
PASC				*e*Sn	Sn	00 27 05.0	+1.1
TUQ	Turquoise Moun	3.26	351	⇓P	Pn	00 26 26.9	-1.9
	baz=3.2						
GSC	Goldstone, Bar	3.33	338	*e*Pn	Pn	00 26 29.4	-0.4
GSC				*e*Sn	Sn	00 27 10.4	+1.2
IR2C	Iron Canyon	3.40	311	*e*Pn	Pn	00 26 33.5	+2.9
OSI	Osito Audit: C	3.75	311	*e*Pn	Pn	00 26 33.4	-2.0
OSI				*e*Sn	Sn	00 27 23.4	+4.1
TUC	Tucson	3.81	87	*e*P	Pn	00 26 34.6	-1.7
X16A	Lo Mia Camp, P	3.90	55	⇓P	Pn	00 26 36.9	-0.7
	baz=3.9						
WORM	Onyx Ranch	4.26	325	*e*Pn	Pn	00 26 41.2	-1.2
SHPR	Sheep Range	4.28	1	*e*Pn	Pn	00 26 40.6	-2.3
SHPR				*e*Sn	Sn	00 27 33.1	+0.3
ISA	Isabella, Lake	4.35	323	*e*Pn	Pn	00 26 45.0	+1.3
ISA				*e*Sn	Sn	00 27 30.7	-3.5
WASM	Alta Sierra Ca	4.45	323	*e*Pn	Pn	00 26 44.3	-0.9
WASM				*e*Sg	Sb	00 27 53.6	+4.0
DAC	Darwin (Calif)	4.48	335	*e*Pn	Pn	00 26 47.6	+1.9
WUAZ	Wupatki	4.63	44	*e*Pn	Pn	00 26 44.8	-2.9
WUAZ				*e*Sn	Sn	00 27 41.5	+0.3
TPNV	Topopah Spring	4.79	351	*e*Pn	Pn	00 26 54.5	+4.6
TPNV				*e*Sn	Sn	00 27 45.1	-0.2
KNB	Kanab	5.20	22	*e*Pn	Pn	00 26 56.6	+1.0
W18A	Petrified Fore	5.46	56	*e*Pn	Pn	00 26 59.7	+0.7
CCUT	Cedar City	5.55	16	*e*Pn	Pn	00 26 56.5	-3.9
R11A	Troy Canyon, C	6.13	358	*e*Pn	Pn	00 27 07.8	-0.4
R11A				*e*Sn	Sn	00 28 19.7	+1.5
121A	Cookes Peak, D	6.35	85	*e*Pn	Pn	00 27 10.0	-1.3
NV01	Mina Array Sit	6.68	339	*e*Pn	Pn	00 27 21.0	+5.1
NV01				*e*Pg	Pg	00 27 46.3	+0.5
NVAR	Mina Array Bea	6.68	339	Pn	Pn	00 27 21.0	+5.1
	comp=N,0.1nm,0.3s,baz=159,slow=16,SNR=2.7						
NVAR				Pg	Pg	00 27 46.3	+0.5
	comp=N,0.3nm,0.3s,baz=162,slow=17,SNR=17						
MVU	Marysvale	6.76	21	*e*Pn	Pn	00 27 13.9	-3.1
LAZ	Ladron	7.16	70	*e*Pn	Pn	00 27 20.7	-1.7
	comp=N,3.6nm,0.6s						
MVCO	Mesa Verde	7.49	46	*e*Pn	Pn	00 27 29.1	+2.1
BNM	Barren Site	7.51	73	*e*Pn	Pn	00 27 27.5	+0.3
BNM				*e*Lg	Lg	00 29 38.0	
ANMO	Albuquerque	7.85	67	Pn	Pn	00 27 32.8	+0.9
	comp=N,0.2nm,0.3s,baz=270,slow=12,SNR=6.4						
PV10	Paradox Valley	7.99	38	*e*Pn	Pn	00 27 37.2	+3.3
PV09	Paradox Valley	8.03	37	*e*Pn	Pn	00 27 38.5	+4.0
ELK	Elko	8.52	0	Pn	Pn	00 27 46.7	+5.6
	comp=N,0.1nm,0.3s,baz=198,slow=14,SNR=3.6						
ELK				Lg	Lg	00 30 11.9	
	comp=N,0.1nm,0.3s,baz=181,slow=6.5,SNR=3.4						
ELK				LR	LR	00 31 09.8	
	comp=N,149nm,18.2s,baz=180,slow=38						
S22A	4UR Ranch, Cre	8.86	49	*e*Pn	Pn	00 27 48.3	+2.4
LPIG	La Paz	9.19	150	LR	LR	00 31 10.1	
	comp=N,122nm,20

R11A					*e*Pg		**Pg**	01 13 00.1	**-1.6**
R11A					*e*S		Sb	01 14 14.1	+8.2
121A	**Cookes Peak, D**	**6.38**	**85**	*e*Pn			**Pn**	**01 12 37.9**	**-1.0**
	7.0nm,0.3s								
121A					*e*S		**Sg**	**01 14 31.5**	**+2.6**
MVCO	**Mesa Verde**	**7.53**	**46**	*e*Pn			**Pn**	**01 12 55.3**	**+0.6**
	4.2nm,0.6s								
PV01	**Paradox Valley**	**8.11**	**41**	Pn			**Pn**	**01 13 03.6**	**+0.9**

IDC ***08*** *02:04:55.9±1.3, 45°.62N×140°.60E, h0km, mb3.3/5, mb1 3.3/6, mb1mx3.2/35, mbtmp3.3/6, ML2.9/1, Error ellipse: s-maj=41.1km s-min=23.3km az=23.0*

ISCJB ***08*** *02:05:01.4±0.5, 43°.29N±0°.07×141°.09E±0°.07, h177km±5km, mb3.2/5, Error ellipse: s-maj=12.5km s-min=7.8km az=153.6*

JMA ***08*** *02:05:02.5±0.1, 43°.33N×141°.03E, h168km±1km, M2.6*

ISC 08 02:05:02.3±0.8, 43°.28N±0°.07×141°.09E±0°.06, h173km±7km, n22, σ0§67/31, mb3.0/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.46**	**280**	P	**Pn**	**02 05 25.6**	**-0.5**
JEW	**Eniwo**	**0.51**	**149**	P	**Pn**	**02 05 26.5**	**+0.1**
JHR	**Hokuryu**	**0.66**	**44**	P	**Pn**	**02 05 27.1**	**+0.1**
JHR				*e*S	**Sn**	**02 05 46.1**	**0.0**
JNB	**Noboribetsu**	**0.81**	**183**	P	**Pn**	**02 05 28.0**	**0.0**
JAB	**Ashibetsu**	**0.86**	**74**	P	**Pn**	**02 05 28.5**	**+0.2**
JAB				*e*S	**Sn**	**02 05 48.9**	**+0.7**
JSH	**Shimam**	**0.99**	**231**	P	**Pn**	**02 05 29.4**	**+0.1**
JBT2	**Biratori 2**	**1.06**	**118**	P	**Pn**	**02 05 29.9**	**+0.1**
JBT2				*e*S	**Sn**	**02 05 51.0**	**+0.2**
JFR	**Furan**	**1.10**	**95**	P	**Pn**	**02 05 30.1**	**0.0**
JFR				*e*S	**Sn**	**02 05 51.6**	**0.0**
JKK2	**Kamakawa 2**	**1.34**	**63**	P	**Pn**	**02 05 32.2**	**0.0**
JKK2				*e*S	**Sn**	**02 05 54.8**	**-0.5**
ASAJ	**Asahikawa**	**1.38**	**52**	Pn	**Pn**	**02 05 32.1**	**-0.4**
	2.6nm,0.3s,baz=243,slow=14,SNR=4.1						
JKB	**Kayabe**	**1.39**	**182**	P	**Pn**	**02 05 32.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.58**	**129**	P	**Pn**	**02 05 34.7**	**+0.3**
JNBK				*e*S	**Sn**	**02 06 00.3**	**+1.1**
JOSM	**Okushiri--Mats**	**1.69**	**226**	P	**Pn**	**02 05 35.5**	**0.0**
JOSM				*e*S	**Sn**	**02 06 00.6**	**-0.5**
JCH	**Churui**	**1.79**	**111**	P	**Pn**	**02 05 35.6**	**-1.1**
JCH				*e*S	**Sn**	**02 06 00.8**	**-2.4**
JAR	**Ashorobuto**	**1.96**	**88**	P	**Pn**	**02 05 38.7**	**+0.3**
JAR				*e*S	**Sn**	**02 06 06.9**	**+0.6**
JSE	**Soyaes**	**2.00**	**32**	P	**Pn**	**02 05 38.7**	**-0.1**
JTKR	**Abashiri--Toko**	**2.16**	**70**	P	**Pn**	**02 05 40.9**	**+0.3**
SONM	**Songino Array**	**24.59**	**293**	P	**P**	**02 10 05.7**	**-0.7**
	0.1nm,0.4s,baz=91,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**40.86**	**296**	P	**P**	**02 12 28.0**	**+0.9**
	0.2nm,0.5s,baz=89,slow=8.6,SNR=2.6						
KURBB	**Kurchatov Array**	**42.19**	**303**	P	**P**	**02 12 38.4**	**+0.6**
	1.1nm,0.5s,baz=75,slow=8.7,SNR=7.0						
YKA	**Yellowknife Ar**	**58.59**	**32**	P	**P**	**02 14 40.6**	**+0.2**
	0.1nm,0.5s,baz=308,slow=6.6,SNR=2.6						
FINES	**FINESS Array B**	**63.21**	**331**	P	**P**	**02 15 11.2**	**-0.5**
	0.6nm,0.5s,baz=64,slow=8.7,SNR=6.5						

IDC ***08*** *02:08:25.2±0.6, 33°.27S×72°.02W, h0km, mb4.3/9, mb1 4.4/12, mb1mx4.2/25, mbtmp4.3/12, ML4.3/3, MS4.0/8, Ms1 3.9/8, ms1mx3.7/27, Error ellipse: s-maj=20.2km s-min=16.4km az=117.0*

ISCJB ***08*** *02:08:27.0±1.2, 33°.22S±0°.03×72°.31W±0°.05, h22km±8km, mb4.4/21, MS4.3/7, Error ellipse: s-maj=7.0km s-min=5.0km az=164.0*

GUC ***08*** *02:08:27.7±0.5, 33°.29S×72°.27W, h29km±3km, ML4.4*

NEIC ***08*** *02:08:29.7±1.4, 33°.25S×72°.09W, h28km±9km, mb4.6/14, ML4.4(GUC), Error ellipse: s-maj=9.6km s-min=5.6km az=77.0*

NEIC Felt [II] at Navidad, San Antonio, Santiago, Santo Domingo and Valparaiso.

BJI ***08*** *02:08:29.9, 33°.20S×71°.90W, h35km, mB4.9/2, Ms5.2/2, Ms7 4.8/2*

ISC 08 02:08:30.0±0.8, 33°.25S±0°.04×72°.13W±0°.05, h33km±3km, n85, σ1§18/104, mb4.5/21, MS4.1/7, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.47**	**62**	*i* P	**Pb**	**02 08 38.9**	**-1.3**
IHA				*i* S	**Sn**	**02 08 47.5**	**-0.1**
IHA	**Instituto Hidr**	**0.47**	**62**	*i* P	**Pb**	**02 08 38.9**	**-1.3**
IHA				*i* S	**Sn**	**02 08 47.5**	**-0.1**
RCDM	**Rinconada Maip**	**1.14**	**102**	⇑*i* P	**Pn**	**02 08 49.1**	**-0.6**
RCDM				AML	AML	02 09 05.1	
	comp=N,8μm,0.6s						
RCDM	**Rinconada Maip**	**1.14**	**102**	⇑*i* P	**Pn**	**02 08 49.1**	**-0.6**
PEL	**Peldehue**	**1.22**	**85**	*e*P	**Pn**	**02 08 51.3**	**+0.4**
PEL				*i* S	**Sb**	**02 09 08.3**	**+0.3**
PEL				AML	AML	02 09 17.6	
	comp=N,17μm,0.7s						
PEL	**Peldehue**	**1.22**	**85**	*e*P	**Pn**	**02 08 51.3**	**+0.4**
PEL				*i* S	**Sb**	**02 09 08.3**	**+0.3**
CLCH	**Cerro Calan**	**1.34**	**97**	AML	AML	02 09 20.9	
	comp=N,13μm,0.8s						
LACH	**Col Las Americ**	**1.36**	**99**	*i* P	**Pn**	**02 08 53.0**	**+0.3**
LACH				*i* S	**Sb**	**02 09 11.9**	**-0.1**
LACH				AML	AML	02 09 19.4	
	comp=N,6μm,0.6s						
LACH	**Col Las Americ**	**1.36**	**99**	*i* P	**Pn**	**02 08 53.0**	**+0.3**
LACH				*i* S	**Sb**	**02 09 11.9**	**-0.1**
FSR	**Penalolen**	**1.36**	**100**	*i* P	**Pb**	**02 08 54.7**	**-0.3**
FSR				*i* S	**Sb**	**02 09 14.1**	**+1.9**
FSR	**Penalolen**	**1.36**	**100**	*i* P	**Pb**	**02 08 54.7**	**-0.3**
FSR				*i* S	**Sb**	**02 09 14.1**	**+1.9**
YECH	**El Yeso**	**1.76**	**104**	*i* P	**Pn**	**02 08 59.8**	**+1.2**
YECH				*i* S	**Sb**	**02 09 24.0**	**+0.1**
YECH				AML	AML	02 09 32.0	
	comp=N,8μm,0.6s						
YECH	**El Yeso**	**1.76**	**104**	*i* P	**Pn**	**02 08 59.8**	**+1.2**
YECH				*i* S	**Sb**	**02 09 24.0**	**+0.1**
NICH	**Los Niches**	**1.90**	**157**	*i* P	**Pn**	**02 08 59.8**	**-0.4**
NICH				*i* S	**Sn**	**02 09 23.9**	**+0.9**
NICH	**Los Niches**	**1.90**	**157**	*i* P	**Pn**	**02 08 59.8**	**-0.4**
NICH				*i* S	**Sn**	**02 09 23.9**	**+0.9**
TALC	**Talca**	**2.18**	**169**	*i* P	**Pn**	**02 09 03.0**	**-1.0**
TALC				*i* S	**Sn**	**02 09 30.0**	**+0.1**
TALC	**Talca**	**2.18**	**169**	*i* P	**Pn**	**02 09 03.0**	**-1.0**
TALC				*i* S	**Sn**	**02 09 30.0**	**+0.1**
CFAA	**Coronel Fontan**	**3.68**	**65**	Pn	**Pn**	**02 09 24.1**	**-0.6**
	comp=N,0.7nm,0.3s,baz=240,slow=12,SNR=33						
CFAA				LR	LR	02 10 20.9	
	comp=N,43nm,19.3s,baz=267,slow=32						
CFAA				Lg	Lg	02 10 22.6	
	comp=N,3.8nm,0.3s,baz=156,slow=19,SNR=4.7						
LCO	**Las Campanas**	**4.40**	**17**	*e*Pn	**Pn**	**02 09 33.6**	**-1.2**
LCO				*e*S	**Sn**	**02 10 24.2**	**-0.8**
PLCA	**Paso Flores**	**7.58**	**171**	Pn	**Pn**	**02 10 17.7**	**-0.5**
	comp=N,0.7nm,0.3s,baz=330,slow=12,SNR=2.9						
PLCA				LR	LR	02 13 40.7	
	comp=N,368nm,20.2s,baz=350,slow=42						
PLCA	**Paso Flores**	**7.58**	**171**	*e*Pn	**Pn**	**02 10 17.8**	**-0.3**
TRQA	**Tornquist**	**9.55**	**123**	*e*Pn	**Pn**	**02 10 45.0**	**-0.3**
TRQA				*e*S	Sn	02 13 07.0	+36
LVC	**Limon Verde**	**10.97**	**16**	*e*Pn	Pn	02 11 00.4	-4.6
LVC				*e*S	**Sn**	**02 13 06.8**	**+0.1**
LPAZ	**La Paz**	**17.27**	**13**	P	**Pn**	**02 12 29.4**	**+0.1**
	comp=N,0.7nm,0.3s,baz=191,slow=6.0,SNR=43						
LPAZ	**La Paz**	**17.27**	**13**	*e*Pn	**Pn**	**02 12 29.4**	**+0.1**
	comp=N,18nm,0.8s						
SIV	**San Ignacio**	**19.88**	**33**	P	**P**	**02 12 57.9**	**-0.8**
	comp=N,0.7nm,0.3s,baz=235,slow=12,SNR=19						
SIV				LR	LR	02 22 05.2	
	comp=N,690nm,18.3s,baz=232,slow=41						
EFI	**East Falkland**	**21.07**	**155**	*e*P	**P**	**02 13 10.4**	**-0.8**
	comp=N,68nm,1.0s						
SAML	**Samuel**	**25.56**	**21**	*e*P	**P**	**02 13 55.9**	**-0.1**
	comp=N,11nm,1.2s						
BDFB	**Brasilia**	**27.99**	**57**	P	**P**	**02 14 16.9**	**-1.2**
	comp=N,3.6nm,0.6s,baz=214,slow=11,SNR=5.9						
BDFB				LR	LR	02 26 32.9	
	comp=N,726nm,18.9s,baz=224,slow=39						
SDV	**Santo Domingo**	**41.93**	**2**	*e*P	**P**	**02 16 17.5**	**-0.4**
	comp=N,5.4nm,0.8s						
VNA3	**Neumayer Olymp**	**50.08**	**158**	P	**P**	**02 17 22.3**	**+0.9**
VNA2	**Neumayer--Watz**	**50.73**	**157**	P	**P**	**02 17 27.2**	**+0.9**
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**02 17 40.9**	**+2.8**
SNAA	**Sanae**	**52.31**	**158**	P	**P**	**02 17 38.7**	**+0.6**
	comp=N,1.7nm,0.7s,baz=278,slow=7.4,SNR=10						
QSPA	**South Pole Qui**	**56.98**	**180**	P	**P**	**02 18 13.2**	**+1.1**
	comp=N,5.2nm,0.7s,baz=139,slow=1.8						
VNDA	**Vanda**	**64.82**	**191**	LR	LR	02 43 15.5	
	comp=N,80nm,19.7s,baz=166,slow=32						
SYO	**Syowa Base**	**66.59**	**159**	⇓*e*P	**P**	**02 19 13.9**	**-2.6**
TBI	**Tubuai**	**67.42**	**256**	*e*LR	LR	02 39 55.8	
	comp=N,163nm,27.8s						
TXAR	**Lajitas Array**	**69.04**	**331**	P	**P**	**02 19 33.3**	**+0.7**
	comp=N,1.8nm,0.8s,baz=134,slow=7.2,SNR=6.8						
PPT2	**Papeete2**	**70.26**	**262**	*e*S	S	02 28 57.7	+7.3
	comp=N,51nm,23.5s						
PPT2	**Papeete2**	**70.26**	**262**	*e*LR	LR	02 41 05.9	
	comp=N,94nm,26.8s						
ABTX	**Abilene, Hawle**	**70.47**	**336**	*e*P	**P**	**02 19 41.3**	**+0.1**
	comp=N,9.3nm,0.8s						
WVT	**Waverly**	**70.56**	**347**	*e*P	**P**	**02 19 41.4**	**-0.2**
	comp=N,6.9nm,0.6s						
MNTX	**Cornudas Mount**	**71.82**	**331**	*e*P	**P**	**02 19 49.6**	**+0.3**
	comp=N,4.9nm,0.8s						
WMOK	**Wichita Mounta**	**72.11**	**337**	*e*P	**P**	**02 19 52.0**	**+0.9**
	comp=N,3.3nm,0.9s						
MSTX	**Muleshoe**	**72.80**	**334**	*e*P	**P**	**02 19 55.6**	**+0.3**
	comp=N,14nm,0.8s						
AMTX	**Amarillo**	**73.22**	**335**	*e*P	**P**	**02 19 58.3**	**+0.5**
	comp=N,5.0nm,0.6s						
MAW	**Mawson**	**73.92**	**164**	LR	LR	02 54 28.9	
	comp=N,138nm,18.5s,baz=240,slow=37						
DBIC	**Dimbokro**	**75.02**	**72**	P	**P**	**02 20 07.0**	**-1.5**
	comp=N,3.0nm,0.7s,baz=200,slow=6.6,SNR=6.1						
DBIC				LR	LR	02 51 36.5	
	comp=N,64nm,18.8s,baz=197,slow=35						
DBIC	**Dimbokro**	**75.02**	**72**	*e*P	**P**	**02 20 08.5**	**-0.1**
	comp=N,2.8nm,0.6s						
T25A	**Trinidad**	**76.23**	**334**	*e*P	**P**	**02 20 17.0**	**+1.8**
PFO	**Pinyon Flats O**	**78.48**	**323**	LR	LR	02 48 52.3	
	comp=N,2μm,19.9s,baz=200,slow=31						
SMCO	**Snowmass**	**78.98**	**333**	*e*P	**P**	**02 20 33.8**	**+3.0**
ECSD	**EROS Data Cent**	**79.81**	**342**	*e*P	**P**	**02 20 34.8**	**+0.1**
	comp=N,8.2nm,0.8s						
PHWY	**Pilot Hill**	**80.29**	**335**	*e*P	**P**	**02 20 40.0**	**+2.3**
BOSA	**Boshof**	**80.49**	**118**	P	**P**	**02 20 38.3**	**-0.8**
	comp=N,4.9nm,0.9s,baz=249,slow=4.2,SNR=5.7						
BOSA				LR	LR	02 54 56.4	
	comp=N,54nm,18.4s,baz=180,slow=35						
LBTB	**Lobatse**	**82.69**	**115**	*e*P	**P**	**02 20 51.0**	**+0.2**
	comp=N,5.4nm,0.8s						
PDAR	**Pinedale Array**	**83.06**	**333**	P	**P**	**02 20 54.5**	**+2.2**
	comp=N,0.3nm,0.6s,baz=114,slow=9.0,SNR=2.8						
NVAR	**Mina Array Bea**	**83.22**	**325**	P	**P**	**02 20 54.5**	**+1.3**
	comp=N,0.6nm,0.7s,baz=151,slow=6.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**84.03**	**70**	P	**P**	**02 20 57.8**	**+0.2**
	comp=N,5.4nm,0.8s,baz=277,slow=3.7,SNR=31						
TORD				LR	LR	02 55 45.9	
	comp=N,88nm,21.6s,baz=230,slow=34						
MCMT	**McKenzie Canyo**	**86.07**	**332**	*e*P	**P**	**02 21 08.9**	**+1.5**
	comp=N,1.2nm,0.8s						
DZM	**Mont Dzumac**	**101.62**	**234**	*e*LR	LR	02 55 39.4	
	comp=N,94nm,23.4s						
WRA	**Warramunga Arr**	**121.38**	**209**	PKP	**PKPdf**	**02 27 19.6**	**-0.8**
	comp=N,0.5nm,0.6s,baz=155,slow=1.9,SNR=6.8						
H11S2	**WAKE ISLAND Hyd**	**125.70**	**270**	T	T	04 45 39.6	
	baz=115,slow=74,SNR=21						
H11S1	**WAKE ISLAND Hyd**	**125.71**	**270**	T	T	04 45 39.6	
	SNR=25						
H11S3	**WAKE ISLAND Hyd**	**125.72**	**270**	T	T	04 45 39.6	
	baz=94,slow=74,SNR=16						
BVAR	**Borovoye Array**	**146.78**	**42**	PKPbc	**PKPbc**	**02 28 07.4**	**-0.8**
	comp=N,1.0nm,0.6s,baz=297,slow=3.4,SNR=8.7						
SKHT	**Srikalahasti**	**147.86**	**120**	*e*PKPbc	**PKPbc**	**02 28 11.3**	**-0.9**
KKAR	**Karatay Array**	**149.25**	**60**	*e*PKPbc	**PKPbc**	**02 28 15.4**	**+0.3**
HYB	**Hyderabad**	**149.31**	**114**	*i* PKP	**PKPbc**	**02 28 15.0**	**-1.0**
HYBB	**Hyderabad (bro**	**149.31**	**114**	*e*PKPbc	**PKPbc**	**02 28 16.0**	**0.0**
NJS	**Nagarjunasagar**	**149.36**	**116**	*e*PKPbc	**PKPbc**	**02 28 15.8**	**-0.2**
AAK	**Ala-Archa**	**152.22**	**61**	*e*PKPbc	**PKPbc**	**02 28 23.3**	**+1.0**
KURBB	**Kurchatov Array**	**152.38**	**42**	PKPbc	**PKPbc**	**02 28 21.4**	**-0.8**
	comp=N,1.5nm,0.6s,baz=300,slow=3.2,SNR=6.3						
KURBB				PKPab	**PKPab**	**02 28 31.9**	**-0.5**
	comp=N,3.4nm,1.0s,baz=300,slow=3.1,SNR=6.8						
KURK	**Kurchatov**	**152.38**	**42**	PKPbc	**PKPbc**	**02 28 21.4**	**-0.8**
KURK				PKPab	**PKPab**	**02 28 31.9**	**-0.5**
ZALV	**Zalesovo Beam**	**153.63**	**31**	PKPbc	**PKPbc**	**02 28 24.6**	**-0.2**
	comp=N,1.9nm,0.8s,baz=298,slow=3.2,SNR=7.6						
KSH	**Kashi**	**153.66**	**67**	*e*PKPbc	**PKPdf**	**02 28 16.9**	**-0.8**
KSH				pPKP	**pPKPdf**	**02 28 27.9**	**-0.7**
KSH				PKS	**PKSdf**	**02 31 50.1**	**-2.0**
KSH				PP	**PP**	**02 32 11.3**	**-1.8**
KSH				SKS	**SKSdf**	**02 35 19.1**	**-3.2**
KSH				PPMZ			
	comp=N,92nm,4.3s						
KSH				LN			
	comp=N,110nm,6.8s						
KSH				LE			
	comp=N,73nm,4.7s						
KSH				LZ			
	comp=N,130nm,9.4s						
MKAR	**Makanchi Array**	**156.33**	**48**	PKPab	**PKPab**	**02 28 48.9**	**-0.4**
	comp=N,1.1nm,0.6s,baz=276,slow=3.1,SNR=14						
WMQ	**Urumqi**	**161.06**	**50**	*e*PKP	**PKPdf**	**02 28 27.0**	**+0.2**
WMQ				pPKP	**pPKPdf**	**02 28 38.0**	**+0.3**
WMQ				sPKP		02 28 42.0	
SONM	**Songino Array**	**165.39**	**4**	PKPab	**PKPab**	**02 29 29.7**	**+0.8**
	comp=N,1.1nm,1.0s,baz=320,slow=3.6,SNR=5.9						
NJ2	**Nanjing**	**170.66**	**266**	*e*PKP	**PKPdf**	**02 28 36.6**	**+1.8**
GTA	**Gaotai**	**171.06**	**44**	*e*PKP	**PKPdf**	**02 28 35.2**	**+0.2**
GTA				pPKP	**pPKPdf**	**02 28 46.2**	**+0.3**
GTA				sPKP		02 28 49.5	
GTA				PKPab	**PKPab**	**02 29 56.1**	**+1.8**
HHC	**Hu-ho-hao-te**	**171.86**	**340**	*e*PKP	**PKPdf**	**02 28 36.0**	**+0.7**
HHC				PKS	**PKSdf**	**02 32 07.0**	**-0.6**
HHC				PP	**PP**	**02 33 52.6**	**+4.5**
HHC				SKS	**SKSdf**	**02 35 34.1**	**-2.1**
HHC				SKKS	**SKKSac**	**02 40 34.5**	**+1.6**
HHC				SS	**SS**	**02 54 55.1**	**+1.4**
HHC				PPMZ			
	comp=N,27nm,5.0s						
HHC				LN			
	comp=N,94nm,20.6s						
HHC				LE			
	comp=N,130nm,20.4s						
HHC				LZ			
	comp=N,68nm,20.0s						
LZH	**Lanzhou**	**175.64**	**48**	*e*PKP	**PKPdf**	**02 28 37.5**	**+0.6**
LZH				pPKP	**pPKPdf**	**02 28 48.8**	**+1.0**
LZH				sPKP		02 28 52.7	
CD2	**Chengdu**	**175.81**	**123**	PKP	**PKPdf**	**02 28 37.0**	**+0.1**

IDC ***08*** *02:11:20.0±0.8, 9°.41N×126°.41E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.6/36, mbtmp3.6/10, ML5.0/1, Error ellipse: s-maj=50.6km s-min=16.8km az=74.0*

MAN ***08*** *02:11:38, 9°.19N×125°.52E, h16km, mb4.4, ML3.3, MS3.2*

ISC 08 02:11:21.6±0.8, 9°.47N±0°.05×126°.42E±0°.09, h10km, n22, σ1§04/18, mb3.7/10, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.93**	**238**	*e*P	Pn	02 11 45.2	+4.5
BUTP				*e*S	**Sn**	**02 11 54.2**	**0.0**
SCPH	**Surigao**	**0.97**	**289**	*e*P	Pn	02 11 46.4	+5.2
SCPH				*e*S	Sn	02 12 01.0	+6.0
BIPH	**Bislig**	**1.28**	**182**	*e*P	**Pg**	**02 11 46.7**	**+0.5**
BIPH				*e*S	**Sn**	**02 12 02.4**	**-0.4**
MSLP	**Maasin**	**1.67**	**293**	*e*P	Pg	02 11 58.4	+4.7
BUKP	**Musuan**	**2.07**	**220**	*e*P	**Pg**	**02 12 02.4**	**+1.0**
PLP	**Palo**	**2.20**	**320**	⇓*e*P	**Pg**	**02 12 03.4**	**-0.4**
PLP				*e*S	**Sg**	**02 12 34.6**	**+2.2**
MATI	**Mati**	**2.51**	**184**	*e*P	Pg	02 12 17.0	+7.2
RCP	**Roxas**	**4.17**	**300**	⇑*e*P	**Pb**	**02 12 32.8**	**-2.2**
BATI	**Baumata**	**19.74**	**188**	P	**Pn**	**02 15 52.5**	**-0.7**
	4.6nm,0.3s,baz=22,slow=5.4,SNR=4.9						
WRA	**Warramunga Arr**	**30.25**	**165**	P	**P**	**02 17 31.7**	**-1.2**
	0.4nm,0.7s,baz=346,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**33.74**	**168**	P	**P**	**02 18 02.7**	**-0.8**
	0.3nm,0.7s,baz=353,slow=6.5,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**40.01**	**73**	T	T	03 01 57.6	
	baz=271,slow=74,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**40.03**	**73**	T	T	03 01 58.4	
	baz=271,slow=74,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**40.03**	**73**	T	T	03 02 02.4	
	baz=271						
SONM	**Songino Array**	**41.81**	**340**	P	**P**	**02 19 12.8**	**+1.2**
	0.3nm,0.4s,baz=159,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**52.75**	**323**	P	**P**	**02 20 36.8**	**0.0**
	0.6nm,0.7s,baz=130,slow=8.1,SNR=7.1						
ZALV	**Zalesovo Beam**	**55.39**	**332**	P	**P**	**02 20 55.9**	**-0.1**
	0.4nm,0.4s,baz=106,slow=9.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**56.81**	**326**	P	**P**	**02 21 06.0**	**-0.1**
	0.5nm,0.5s,baz=131,slow=6.4,SNR=4.9						
BVAR	**Borovoye Array**	**62.40**	**326**	P	**P**	**02 21 44.8**	**+0.1**
	0.5nm,0.7s,baz=141,slow=9.6,SNR=3.9						
ILAR	**Eielson Array**	**80.09**	**26**	P	**P**	**02 23 31.9**	**+0.3**
	0.2nm,0.7s,baz=222,slow=4.8,SNR=4.3						
FINES	**FINESS Array B**	**86.66**	**332**	P	**P**	**02 24 05.6**	**+0.3**
	0.8nm,0.7s,baz=90,slow=5.7,SNR=5.7						
YKA	**Yellowknife Ar**	**94.42**	**24**	P	**P**	**02 24 42.4**	**+0.7**
	0.2nm,0.6s,baz=299,slow=4.6,SNR=7.4						

IDC ***08*** *02:18:50.2±2.3, 8°.45S×116°.64E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.5/32, mbtmp3.8/3, ML4.1/1, Error ellipse: s-maj=115.5km s-min=34.9km az=29.0*

ISCJB ***08*** *02:18:51.2±1.0, 8°.6S±0°.2×116°.71E±0°.05, h10km, mb3.6/1, Error ellipse: s-maj=31.5km s-min=5.9km az=5.8*

DJA ***08*** *02:18:56.2±0.7, 8°.S±11°×11°.7E±°, h32km±7km, M3.9/2, MLv3.9/2*

ISC 08 02:18:51.7±1.2, 8°.5S±0°.2×116°.63E±0°.06, h10km, n10, σ0§56/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.35**	**136**	P	Pn	02 19 08.4	+5.5
DNP	**Denpasar**	**1.42**	**262**	P	**Pg**	**02 19 18.7**	**-0.3**
DNP				S	**Sg**	**02 19 38.2**	**+0.7**
SRBI	**Singaraja**	**1.46**	**286**	P	**Pg**	**02 19 19.5**	**-0.3**
IGBI	**Denpasar**	**1.51**	**257**	P	**Pg**	**02 19 20.2**	**-0.5**
IGBI				S	**Sb**	**02 19 38.6**	**-0.5**
WBSI	**Waikabubak, Su**	**2.96**	**113**	P	**Pn**	**02 19 39.3**	**+0.5**
GMJI	**Gumukmas**	**3.16**	**274**	P	**Pn**	**02 19 42.3**	**+0.7**
BATI	**Baumata**	**7.14**	**104**	Pn	**Pn**	**02 20 36.0**	**-0.5**
	3.0nm,0.3s,baz=301,slow=5.9,SNR=2.5						
WRA	**Warramunga Arr**	**20.57**	**125**	P	Pn	02 23 30.7	-2.5
	1.0nm,0.6s,baz=300,slow=12,SNR=18						
ASAR	**Alice Springs**	**22.39**	**134**	P	**P**	**02 23 50.9**	**+0.3**
	1.3nm,0.5s,baz=308,slow=9.8,SNR=21						
TORD	**Torodi Ar. Bea**	**116.07**	**280**	PKP	**PKPdf**	**02 37 36.1**	**0.0**
	0.3nm,0.8s,baz=75,slow=2.4,SNR=3.6						

IDC 08 02:38:57.8±8.2, 17°.22S×172°.70W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/45, mbtmp3.6/3, Error ellipse: s-maj=374.9km s-min=34.9km az=141.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.11**	**258**	P	P	02 47 56.0	+0.8
	0.1nm,0.3s,baz=95,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**50.21**	**253**	P	P	02 47 55.2	-0.8
	0.9nm,0.6s,baz=82,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**84.09**	**11**	P	P	02 51 30.4	+0.3
	0.3nm,0.5s,baz=220,slow=5.3,SNR=7.7						
BRTR	**Keskin Array B**	**147.98**	**320**	PKPbc	PKPbc	02 58 44.4	-1.3
	0.7nm,0.6s,baz=58,slow=2.0,SNR=3.6						

IDC ***08*** *02:41:15.9±1.5, 37°.56S×73°.92W, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.5/35, mbtmp3.6/6, ML3.1/2, MS2.8/3, Ms1 2.8/3, ms1mx2.7/28, Error ellipse: s-maj=38.3km s-min=18.0km az=86.0*

ISCJB ***08*** *02:41:19.9±1.3, 37°.58S±0°.09×73°.6W±0°.2, h33km, mb3.7/4, MS3.4/1, Error ellipse: s-maj=28.5km s-min=10.4km az=15.9*

ISC 08 02:41:21.2±1.5, 37°.6S±0°.1×73°.7W±0°.2, h35km, n9, σ1§03/9, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.00**	**143**	Pn	**Pn**	**02 42 20.3**	**+0.2**
	0.3nm,0.3s,baz=315,slow=8.8,SNR=20						
PLCA				Lg	L

PFO Lg Lg 02 48 30.3
comp=N,708nm,0.3s,baz=252,slow=20,SNR=39
PFO Pinyon Flats O 1.10 327 ⇑P **Pg 02 48 16.2 -2.0**
baz=1.1
PFO ⇓S **Sg 02 48 31.0 -1.6**
baz=1.1
PFO Pinyon Flats O 1.10 327 *e*Pg **Pg 02 48 16.2 -2.0**
PFO *e*S **Sg 02 48 29.8 -2.8**
PFO Lg Lg 02 48 30.3
109C Camp Elliot, M 1.17 280 ⇓P **Pg 02 48 17.2 -2.3**
baz=1.2
109C ⇓S **Sg 02 48 32.8 -1.8**
baz=1.2
ZAX El Zacaton 1.25 201 ⇓*e*P **Pn 02 48 19.6 -1.3**
ZAX *e*S **Sg 02 48 35.9 -1.5**
ECNX Esteban Cantu 1.25 216 ⇓*e*P **Pn 02 48 20.0 -1.0**
ECNX *e*S **Sg 02 48 36.4 -1.0**
PBX Punta Banda 1.25 222 ⇓*e*P **Pn 02 48 19.9 -1.0**
PBX *e*S **Sg 02 48 36.2 -1.3**
BELC Belle Mtn. Jos 1.33 351 ⇑P **Pn 02 48 19.7 -2.4**
baz=1.4
BELC ⇓S **Sb 02 48 37.0 -2.6**
baz=1.4
ECBX El Chinero 1.34 154 ⇑*e*P **Pn 02 48 21.7 -0.4**
ECBX *e*S **Sb 02 48 39.3 -0.5**
ECBX ⇑*e* 02 48 44.1
comp=E,12μm,0.9s
Y12C Blythe 1.48 44 ⇓P **Pn 02 48 21.8 -2.2**
baz=1.5
MURC Murrieta 1.53 307 ⇑P **Pn 02 48 22.5 -2.2**
baz=1.5
MURC ⇓Sb **Sn 02 48 44.1 -0.6**
baz=1.5
IRM Iron Mountain 1.55 18 ⇑P **Pn 02 48 23.3 -1.8**
baz=1.6
IRM ⇓S **Sn 02 48 43.5 -1.9**
baz=1.6
SPIG San Pedro Mart 1.65 172 *e*P **Pn 02 48 25.4 -1.3**
SPIG *i*S **Sn 02 48 46.0 -2.2**
SPIG San Pedro Mart 1.65 172 *e*P **Pn 02 48 25.4 -1.3**
SPIG *e*S **Sn 02 48 46.1 -2.0**
SPX San Pedro Mart 1.65 172 *e*P **Pn 02 48 26.2 -0.4**
113A Mohawk Valley, 1.67 87 ⇓P **Pn 02 48 24.6 -2.0**
baz=1.7
113A ⇓S **Sn 02 48 45.5 -2.7**
baz=1.7
BBRC Big Bear Solar 1.86 328 ⇓P **Pn 02 48 27.9 -1.5**
baz=1.9
BBRC ⇓S **Sn 02 48 51.0 -2.2**
baz=1.9
GMRC Granite Mounta 2.09 2 ⇑P **Pn 02 48 30.7 -1.9**
baz=2.1
PDMCI Parker Dam,Lak 2.10 39 ⇓P **Pn 02 48 30.8 -1.7**
baz=2.1
HEC Hector,Ludlow 2.20 347 ⇑P **Pn 02 48 32.0 -1.9**
baz=2.2
BFSC Mount Baldy Ra 2.23 315 ⇑P **Pn 02 48 32.5 -1.9**
baz=2.2
LDFC Landfair 2.45 12 *e*Pn **Pn 02 48 36.9 -0.5**
LDFC *e*Pg **Pg 02 48 43.1 -0.9**
LDFC *e*S **Sg 02 49 16.8 +1.1**
Z14A Wintersburg 2.45 73 ⇓P **Pn 02 48 35.2 -2.1**
baz=2.5
MWC Mount Wilson 2.47 309 *e*Pn **Pn 02 48 37.9 +0.1**
MWC *e*S **Sb 02 49 11.9 -0.6**
PASC Pasadena Art C 2.52 307 *e*Pn **Pn 02 48 39.4 +1.0**
PASC *e*Pg **Pb 02 48 41.9 -0.8**
PASC *e*S **Sb 02 49 13.4 -0.4**
214A Organ Pipe Nat 2.59 106 ⇑P **Pn 02 48 36.8 -2.4**
baz=2.6
214A Organ Pipe Nat 2.59 106 *e*Pn **Pn 02 48 36.9 -2.4**
Y14A Wickenburg 2.61 61 ⇓P **Pn 02 48 37.8 -1.9**
baz=2.6
GSC Goldstone, Bar 2.76 342 *e*Pn **Pn 02 48 40.0 -1.7**
GSC *e*Pg **Pb 02 48 47.3 +0.6**
GSC *e*S **Sg 02 49 24.7 -1.0**
OSI Osito Audit: C 3.14 309 *e*Pn **Pn 02 48 47.2 +0.3**
OSI *e*Pg **Pb 02 48 52.3 -1.0**
OSI *e*S **Sb 02 49 33.3 +1.5**
ISA Isabella, Lake 3.73 323 *e*Pn **Pn 02 48 53.6 -1.5**
ISA *e*Pg **Pg 02 49 06.2 -2.5**
ISA *e*S **Sb 02 49 52.3 +3.5**
DAC Darwin (Calif) 3.90 337 *e*Pn **Pn 02 48 56.0 -1.4**
DAC *e*Pg **Pb 02 49 08.7 +2.5**
DAC *e*S **Sg 02 49 58.3 -4.0**
TUC Tucson 4.21 94 *e*Pn **Pn 02 48 59.2 -2.4**
TUC *e*Pg **Pg 02 49 15.1 -2.7**
TUC *e*S **Sg 02 50 07.9 -4.3**
WUAZ Wupatki 4.60 51 *e*Pn **Pn 02 49 07.1 0.0**
WUAZ *e*Pg **Pg 02 49 25.1 -0.1**
WUAZ *e*S **Sg 02 50 28.4 +3.6**
CCUT Cedar City 5.23 21 *e*Pn **Pn 02 49 16.6 +0.8**
CCUT *e*Pg Pg 02 49 33.9 -3.5
CCUT *e*S **Sg** 02 50 51.5 +6.3
ARUT Antelope Range 5.43 20 *e*Pn **Pn 02 49 19.0 +0.5**
ARUT *e*Pg **Pg 02 49 41.4 +0.3**
ARUT *e*S **Sg 02 50 50.9 -0.7**
TPH Tonopah 5.51 348 *e*Pn **Pn 02 49 20.2 +0.6**
TPH *e*Pg Pg 02 49 38.4 -4.4
TPH *e*Sg **Sg 02 50 51.7 -2.5**
W18A Petrified Fore 5.55 62 *e*Pn **Pn 02 49 20.0 -0.2**
W18A *e*Pg Pg 02 49 40.2 -3.3
W18A *e*Sg **Sg 02 50 55.8 +0.3**
R11A Troy Canyon, C 5.66 1 *e*Pn **Pn 02 49 21.0 -0.5**
R11A *e*Pg **Pg 02 49 44.0 -1.4**
R11A *e*Sg **Sg 02 50 58.7 0.0**
NVAR Mina Array Bea 6.10 341 Pn **Pn 02 49 26.8 -1.0**
comp=E,0.4nm,0.3s,baz=163,slow=14,SNR=11
NVAR Pg Pg 02 49 50.0 -4.0
comp=E,1.1nm,0.3s,baz=158,slow=18,SNR=15
MVU Marysvale 6.48 25 *e*Pn **Pn 02 49 34.7 +1.7**
MVU *e*Pg **Pg 02 50 00.3 -0.9**
MVU *e*S **Sg 02 51 27.7 +2.5**
WAKR Walker 6.54 334 *e*Pn **Pn 02 49 36.4 +2.6**
WAKR *e*Pg Pg 02 49 58.5 -3.9
WAKR *e*Sg **Sg 02 51 28.6 +1.5**
CMB Columbia Colle 6.55 326 *e*Pn **Pn 02 49 34.6 +0.9**
CMB *e*Pg **Pb 02 49 53.9 +2.6**
CMB *e*S Sg 02 51 19.7 -7.6
121A Cookes Peak, D 6.72 89 *e*Pn **Pn 02 49 35.4 -0.8**
121A *e*Sg **Sg 02 51 32.3 -0.5**
LAZ Ladron 7.39 74 *e*Pn **Pn 02 49 45.6 +0.2**
LAZ *e*S **Sg 02 51 55.9 +1.6**
MVCO Mesa Verde 7.47 51 *e*Pn **Pn 02 49 47.8 +1.2**
MVCO *e*Pg **Pg 02 50 12.2 -1.0**
MVCO *e*Sg **Sg 02 51 48.2 -9.6**
LENM Lemitar 7.48 76 *e*Pn **Pn 02 49 46.6 0.0**
TMUT Trail Mountain 7.55 28 *e*Pn Pn 02 49 43.9 -3.8
TMUT *e*Pg **Pg 02 50 20.0 -1.7**
TMUT *e*S **Sg 02 51 58.6 -1.0**
SRU San Rafael Swe 7.68 32 *e*Pn **Pn 02 49 50.7 +1.2**
SRU *e*Sg **Sg 02 51 59.3 -4.4**
BMN Battle Mountai 7.82 352 Pn Pn 02 49 55.1 +3.7
BMN *e*Pg **Pg 02 50 27.0 +0.1**
BMN *e*Sg **Sg 02 52 05.4 -2.9**
NLU North Lily Min 7.84 21 *e*Pn **Pn 02 49 51.5 0.0**
NLU *e*S Sg 02 52 16.2 +7.5
DUG Dugway, Tooele 7.86 17 *e*Pn **Pn 02 49 52.0 +0.1**
DUG *e*Pg **Pg 02 50 26.7 -0.9**
DUG *e*S Sg 02 52 16.7 +7.3
PV10 Paradox Valley 7.88 42 *e*Pn **Pn 02 49 54.1 +1.9**
PV01 Paradox Valley 7.99 45 *e*Pn **Pn 02 49 55.5 +1.8**
PV01 *e*Pg **Pg 02 50 27.4 -2.8**
PV01 *e*S **Sg 02 52 08.8 -4.8**
ANMO Albuquerque 8.05 71 Pn **Pn 02 49 52.7 -1.8**
comp=E,0.4nm,0.3s,baz=257,slow=12,SNR=29
ANMO LR LR 02 53 07.7
comp=E,491nm,19.2s,baz=260,slow=40
ANMO Albuquerque 8.05 71 *e*Pn **Pn 02 49 55.3 +0.8**
ANMO *e*S **Sg 02 52 12.6 -3.0**
ELK Elko 8.06 3 Pn **Pn 02 49 52.0 -2.6**
comp=E,0.1nm,0.3s,baz=108,slow=20,SNR=2.4
ELK Lg Lg 02 52 12.2
comp=E,0.2nm,0.3s,baz=184,slow=5.3,SNR=3.2
ELK LR LR 02 53 17.1
comp=E,552nm,19.0s,baz=179,slow=41
BGU Big Grassy Mou 8.51 14 *e*Pn **Pn 02 50 00.6 -0.2**
BGU *e*Pg **Pg 02 50 40.6 +0.6**
BGU *e*S **Sg 02 52 29.5 -0.6**
TCUT Toone Canyon 9.10 21 *e*Pn **Pn 02 50 11.0 +2.1**
HVU Hansel Valley 9.38 14 *e*Pn **Pn 02 50 13.8 +1.1**
HWUT Hardware Ranch 9.51 19 *e*Pn **Pn 02 50 16.4 +1.9**
O20A White River Ci 9.58 37 *e*Pn **Pn 02 50 16.6 +1.1**

LPIG La Paz 9.80 149 LR LR 02 53 55.0
comp=E,212nm,22.0s,baz=350,slow=36
YBH Yreka Blue Hor 10.60 330 LR LR 02 55 05.8
comp=E,324nm,19.4s,baz=218,slow=41
ISCO Idaho Springs 10.83 46 *e*Pn **Pn 02 50 35.4 +2.8**
TXAR Lajitas Array 10.89 105 Pn **Pn 02 50 33.2 -0.1**
comp=E,0.3nm,0.3s,baz=279,slow=11,SNR=6.5
TXAR Lg Lg 02 53 46.1
comp=E,0.1nm,0.3s,baz=268,slow=27,SNR=5.3
TXAR LR LR 02 55 08.3
comp=E,244nm,19.8s,baz=0.0,slow=40
HLID Hailey 10.91 5 *e*Pn Pn 02 50 37.6 +4.0
MSTX Muleshoe 10.93 80 *e*Pn **Pn 02 50 35.3 +1.4**
PDAR Pinedale Array 11.19 24 Pn Pn 02 50 38.1 +0.6
comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=7.2
AMTX Amarillo 11.91 76 *e*Pn Pn 02 50 51.0 +3.8
MCMT McKenzie Canyo 12.33 10 *e*Pn Pn 02 50 59.1 +5.9
WMOK Wichita Mounta 14.27 77 *e*Pn **Pn 02 51 18.8 -0.7**
CHMT Chamberlain Mo 14.34 7 *e*Pn P 02 51 24.2 -3.6
RSSD Black Hills 14.63 35 *e*Pn **Pn 02 51 25.4 +0.8**
SLMT Seeley Lake 14.64 6 *e*Pn **Pn 02 51 25.6 +1.0**
JTMT Jette 15.09 4 *e*Pn **Pn 02 51 32.3 +1.7**
comp=E,8.0nm,0.9s
BSMT Bassoo Peak 15.17 2 *e*Pn **P 02 51 34.9 -2.1**
comp=E,7.0nm,1.0s
NEW Newport 15.60 357 Pn **P 02 51 39.9 -1.6**
comp=E,0.1nm,0.3s,baz=173,slow=10,SNR=17
NEW LR LR 02 57 45.8
comp=E,173nm,19.1s,baz=188,slow=38
NEW Newport 15.60 357 *e*Pn **Pn 02 51 39.0 +1.8**
comp=E,12nm,0.9s
LAO LASA Array 15.77 25 *e*Pn **Pn 02 51 40.4 +0.9**
comp=E,15nm,1.1s
WALA Waterton Lakes 16.42 4 *e*Pn **P 02 51 51.2 +0.6**
comp=E,24nm,1.4s
ECSD EROS Data Cent 18.60 48 *e*Pn **P 02 52 14.7 -0.1**
comp=E,4.4nm,1.0s
EDM Edmonton 20.60 4 *e*P **P 02 52 37.0 +0.5**
comp=E,26nm,1.2s
AGMN Agassiz Nation 21.63 38 *e*P **P 02 52 48.6 +1.1**
comp=E,19nm,1.2s
ULM Lac du Bonnet 22.89 34 P **P 02 53 00.8 -0.3**
comp=E,6.6nm,1.1s,baz=236,slow=7.1,SNR=8.9
TKL Tuckaleechee C 26.56 75 LR LR 03 04 58.2
comp=E,160nm,18.0s,baz=293,slow=39
ACSO Alum Creek Sta 27.29 65 *e*P **P 02 53 43.3 +1.2**
comp=E,24nm,1.0s
DLBC Dease Lake 27.51 344 P **P 02 53 45.5 +1.7**
comp=E,3.1nm,0.9s,baz=224,slow=2.9,SNR=4.2
DLBC LR LR 03 05 30.3
comp=E,215nm,21.6s,baz=142,slow=38
APG El Apazote 28.94 121 LR LR 03 05 03.5
comp=E,159nm,19.5s,baz=283,slow=36
YKA Yellowknife Ar 29.84 1 P **P 02 54 05.5 +1.1**
comp=E,0.1nm,0.7s,baz=194,slow=8.9,SNR=3.9
INK Inuvik 37.11 349 P **P 02 55 08.5 +0.9**
comp=E,2.1nm,1.0s,baz=164,slow=8.3,SNR=5.1
ILAR Eielson Array 37.35 339 P **P 02 55 10.8 +1.1**
comp=E,0.6nm,0.8s,baz=150,slow=7.7,SNR=9.1
ILAR LR LR 03 10 49.3
comp=E,61nm,19.8s,baz=170,slow=37
KEST Kesra 94.70 42 LR LR 03 41 46.7
comp=E,13nm,19.4s,baz=285,slow=34
HHC Hu-ho-hao-te 94.80 326 *e*P **P 03 01 19.4 -0.2**
HHC PP **PP 03 05 09.5 +2.3**
HHC S **S 03 12 30.0 -3.6**
HHC SS **SS 03 18 56.0 -0.1**
HHC LN
comp=E,120nm,18.8s
HHC LE
comp=E,83nm,18.2s
HHC LZ
comp=E,77nm,19.0s
NJ2 Nanjing 97.53 316 *e*P **P 03 01 30.9 -1.1**
WMQ Urumqi 100.91 343 *e*P **Pdif 03 01 49.0 +2.0**
WMQ pP pP 03 01 54.0 +4.1
WMQ PMZ
comp=E,4.0nm,0.5s
GTA Gaotai 101.05 333 *e*P **Pdif 03 01 44.5 -3.3**
GTA pP pP 03 01 48.6 -2.1
GTA sP 03 01 51.6
LZH Lanzhou 102.20 328 *e*P **Pdif 03 01 52.3 -0.7**
LZH pP 03 01 57.5
LZH sP 03 01 59.4
LZH ePP **PP 03 06 05.5 +1.6**
LZH LN
comp=E,170nm,17.6s
LZH LE
comp=E,150nm,18.0s
LZH LZ
comp=E,200nm,19.7s
CD2 Chengdu 106.53 325 Pdif **Pdif 03 02 12.0 -0.2**
KSH Kashi 107.35 351 *e*Pdif **Pdif 03 02 23.5 +7.7**
KSH PP PP 03 06 58.4 +17
KSH Kashi 107.35 351 SKS **SKSdf 03 13 38.3 +1.5**
KSH Kashi 107.35 351 SS SS 03 22 13.5 +24
KSH AMB AMB
comp=Z,51nm,4.5s
KSH LR LR
comp=N,64nm,4.6s
KSH LR LR
comp=E,79nm,5.6s
KSH LR LR
comp=Z,180nm,7.6s

*ISK **08** 02:51:19.5, 35.74N×30.68E, h11km, MD3.6*
*ISCJB **08** 02:51:20.0±0.7, 35.73N±0.06×30.73E±0.05, h10km, Error ellipse: s-maj=9.1km s-min=4.5km az=21.3*
*CSEM **08** 02:51:20.7±0.2, 35.77N×30.69E, h10km, MD3.4, Error ellipse: s-maj=7.2km s-min=3.4km az=17.0*
*DDA **08** 02:51:27.6, 36.02N×30.04E, h27km, MD3.4*
ISC 08 02:51:20.0±1.2, 35.73N±0.05×30.65E±0.04, h10km, n51,
σ1⚘01/60, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.99**	**301**	*e*P	**Pn**	**02 51 41.2**	**+1.1**
AKAS				*e*S	**Sn**	**02 51 56.4**	**+2.2**
AKAS	**Kas**	**0.99**	**301**	*e*P	**Pn**	**02 51 41.2**	**+1.1**
AKAS				*e*S	**Sn**	**02 51 56.4**	**+2.2**
ANTB	**Antalya**	**1.17**	**360**	*e*Pn	**Pg**	**02 51 42.3**	**-0.2**
ANTB				*e*Sn	**Sn**	**02 51 58.8**	**+0.3**
ANTB	**Antalya**	**1.17**	**360**	*e*Pn	**Pg**	**02 51 42.3**	**-0.2**
ANTB				*e*Sn	**Sn**	**02 51 58.8**	**+0.3**
ELL	**Elmali**	**1.19**	**330**	*e*PN	**Pg**	**02 51 42.6**	**-0.2**
ELL	**Elmali**	**1.19**	**330**	*e*Pn	**Pg**	**02 51 42.6**	**-0.2**
KORT	**Korkueli**	**1.30**	**349**	*e*P	**Pn**	**02 51 42.9**	**-1.4**
KORT	**Korkueli**	**1.30**	**349**	*e*P	**Pn**	**02 51 42.9**	**-1.4**
KORT				*e*S	**Sg**	**02 52 05.1**	**+3.4**
FETY	**Fethiye**	**1.56**	**306**	*e*PN	**Pn**	**02 51 48.0**	**+0.2**
FETY	**Fethiye**	**1.56**	**306**	*e*Pn	**Pn**	**02 51 48.0**	**+0.2**
BCK	**Bucak**	**1.73**	**358**	*e*PN	**Pn**	**02 51 50.1**	**-0.2**
BCK	**Bucak**	**1.73**	**358**	*e*Pn	**Pn**	**02 51 50.1**	**-0.2**
GOLH	**Golhisar**	**1.75**	**330**	*e*P	**Pb**	**02 51 51.7**	**-0.5**
GOLH	**Golhisar**	**1.75**	**330**	*e*P	**Pb**	**02 51 51.7**	**-0.5**
GOLH				*e*S	**Sg**	**02 52 15.3**	**-0.9**
LEF	**Lefka**	**1.92**	**108**	*e*PN	**Pn**	**02 51 52.9**	**+0.1**
LEF	**Lefka**	**1.92**	**108**	*e*Pn	**Pn**	**02 51 52.9**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.95**	**305**	*e*PN	**Pn**	**02 51 53.6**	**+0.5**
DALY	**Dalyan (Mu˘la**	**1.95**	**305**	*e*Pn	**Pn**	**02 51 53.6**	**+0.5**
TURN	**Turunc**	**2.01**	**305**	*e*S	**Sn**	**02 52 19.4**	**+0.1**
TURN	**Turunc**	**2.01**	**305**	*e*P	**Pg**	**02 51 57.6**	**-1.1**
TURN				*e*S	**Sn**	**02 52 19.4**	**+0.1**
ISP	**Isparta**	**2.10**	**357**	*e*PN	**Pn**	**02 51 55.3**	**0.0**
ISP	**Isparta**	**2.10**	**357**	*e*Pn	**Pn**	**02 51 55.3**	**0.0**
CSS	**Prodhromos**	**2.32**	**108**	*e*PN	**Pn**	**02 51 57.9**	**-0.3**
CSS	**Prodhromos**	**2.32**	**108**	*e*Pn	**Pn**	**02 51 57.9**	**-0.3**
DNZL	**Cakiroluk**	**2.35**	**327**	*e*P	**Pn**	**02 51 59.9**	**+1.1**
DNZL	**Cakiroluk**	**2.35**	**327**	*e*P	**Pn**	**02 51 59.9**	**+1.1**
DNZL				*e*S	**Sb**	**02 52 31.9**	**+0.3**
YER	**Yerkesik**	**2.37**	**307**	*e*PN	**Pn**	**02 51 59.5**	**+0.4**
YER	**Yerkesik**	**2.37**	**307**	*e*Pn	**Pn**	**02 51 59.5**	**+0.4**
LFK	**Lefkose**	**2.39**	**100**	*e*PN	**Pn**	**02 52 00.3**	**+1.0**
LFK	**Lefkose**	**2.39**	**100**	*e*Pn	**Pn**	**02 52 00.3**	**+1.0**
KONT	**Konya--Tatoy**	**2.60**	**31**	*e*PN	**Pn**	**02 52 02.2**	**0.0**
KONT	**Konya--Tatoy**	**2.60**	**31**	*e*Pn	**Pn**	**02 52 02.2**	**0.0**
KHL	**Karahalli**	**2.75**	**341**	*e*PN	**Pn**	**02 52 04.2**	**0.0**
KHL	**Karahalli**	**2.75**	**341**	*e*Pn	**Pn**	**02 52 04.2**	**0.0**
LADK	**Ladik-KONYA**	**2.83**	**29**	*e*PN	**Pn**	**02 52 05.4**	**+0.1**
LADK	**Ladik-KONYA**	**2.83**	**29**	*e*Pn	**Pn**	**02 52 05.4**	**+0.1**
BDRM	**Kayabasi**	**2.91**	**298**	*e*P	**Pn**	**02 52 07.2**	**+0.8**
BDRM	**Kayabasi**	**2.91**	**298**	*e*P	**Pn**	**02 52 07.2**	**+0.8**
BDRM				*e*S	**Sn**	**02 52 37.8**	**-3.7**
AYDN	**Tasoluk**	**2.95**	**312**	*e*P	**Pb**	**02 52 10.9**	**-1.8**
BODT	**Bodrum**	**3.01**	**297**	*e*PN	**Pn**	**02 52 08.5**	**+0.7**
BODT	**Bodrum**	**3.01**	**297**	*e*Pn	**Pn**	**02 52 08.5**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.13**	**316**	*e*PN	**Pn**	**02 52 10.4**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.13**	**316**	*e*Pn	**Pn**	**02 52 10.4**	**+0.8**
MERS	**Mersin**	**3.33**	**69**	*e*PN	**Pn**	**02 52 12.6**	**+0.4**
MERS	**Mersin**	**3.33**	**69**	*e*Pn	**Pn**	**02 52 12.6**	**+0.4**
SULT	**Sultanhani-AKS**	**3.37**	**42**	*e*PN	**Pn**	**02 52 13.1**	**+0.3**
SULT	**Sultanhani-AKS**	**3.37**	**42**	*e*Pn	**Pn**	**02 52 13.1**	**+0.3**
KARA	**Karaisali**	**3.86**	**65**	*e*PN	**Pn**	**02 52 20.2**	**+0.7**
KARA	**Karaisali**	**3.86**	**65**	*e*Pn	**Pn**	**02 52 20.2**	**+0.7**
NIG	**Nigde**	**3.96**	**52**	*e*PN	**Pn**	**02 52 21.5**	**+0.4**
NIG	**Nigde**	**3.96**	**52**	*e*Pn	**Pn**	**02 52 21.5**	**+0.4**

*IDC **08** 02:59:50.6±1.2, 2.37N×97.13E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/40, mbtmp4.0/11, MS3.3/3, Ms1 3.4/3, ms1mx2.8/34, Error ellipse: s-maj=53.3km s-min=19.1km az=52.0*
*ISCJB **08** 02:59:54.0±0.6, 2.30N±0.05×97.03E±0.06, h33km, mb4.0/12, MS3.5/1, Error ellipse: s-maj=8.7km s-min=7.5km az=19.6*
*NEIC **08** 02:59:55.6±0.5, 2.28N×97.05E, h35km, mb4.1/2, Error ellipse: s-maj=11.4km s-min=8.2km az=52.0*
*DJA **08** 02:59:56.2±0.7, 3˚N±4˚×97˚E±˚, h66km±9km, M4.0/7, ML4.0/7*
ISC 08 02:59:56.2±0.7, 2.41N±0.06×97.14E±0.04, h33km, n28,
σ1⚘02/25, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.81**	**270**	P	**Pb**	**03 00 12.9**	**+1.0**
SNSI				S	**Sn**	**03 00 22.6**	**+0.4**
TPTI		**0.84**	**3**	P	**Pb**	**03 00 12.5**	**0.0**
TPTI				S	**Sn**	**03 00 23.4**	**+0.3**
KCSI	**Kotacane, Aceh**	**1.27**	**30**	P	**Pb**	**03 00 19.6**	**-0.1**
KCSI				S	**Sb**	**03 00 35.1**	**-0.7**
TSI	**Tuntungan**	**1.79**	**53**	P	**Pb**	**03 00 28.2**	**-0.2**
LHMI	**Lhok Sumawe**	**2.81**	**356**	P	Pn	03 00 35.3	-3.5
LHMI	**Lhok Sumawe**	**2.81**	**356**	Pn	**Pn**	**03 00 40.6**	**+1.8**
MNSI	**Mandailing Nat**	**2.92**	**123**	P	Pn	03 00 42.7	+2.3
MNSI				S	**Sb**	**03 01 23.0**	**0.0**
IPM	**Ipoh**	**4.39**	**62**	*e*Pn	**Pn**	**03 01 02.6**	**+1.9**
IPM				*e*S	**Sn**	**03 01 53.4**	**+2.6**
BKNI	**Bangkinang**	**4.42**	**118**	*e*Pn	Pb	03 01 07.7	-5.5
KULM	**Kulim**	**4.52**	**51**	*e*Pn	**Pn**	**03 01 04.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**16.05**	**6**	Pn	**Pn**	**03 03 39.9**	**+0.4**
	baz=198,slow=11,SNR=5.2						
CMAR				LR	LR	03 10 16.4	
	comp=Z,92nm,18.1s,baz=174,slow=39						
PALK	**Pallekele**	**17.07**	**287**	LR	LR	03 09 46.1	
	comp=Z,77nm,21.9s,baz=135,slow=35						
H08S2	**Diego Garcia H**	**26.54**	**248**	T	T	03 32 49.4	
	baz=69,slow=75,SNR=61						
H08S3	**Diego Garcia H**	**26.54**	**248**	T	T	03 32 47.9	
	baz=69,slow=75,SNR=121						
H08S1	**Diego Carcia H**	**26.55**	**248**	T	T	03 32 50.5	
	baz=69,slow=75,SNR=52						
WRA	**Warramunga Arr**	**42.73**	**123**	P	**P**	**03 07 49.8**	**-0.9**
	0.6nm,0.5s,baz=302,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**42.74**	**123**	*e*P	**P**	**03 07 49.8**	**-1.0**
	1.0nm,0.5s						
ASAR	**Alice Springs**	**44.18**	**128**	P	**P**	**03 08 01.6**	**-0.8**
	0.3nm,0.4s,baz=304,slow=7.4,SNR=4.3						
SONM	**Songino Array**	**45.95**	**9**	P	**P**	**03 08 15.4**	**-0.8**
	1.3nm,0.5s,baz=191,slow=9.6,SNR=9.4						
MKAR	**Makanchi Array**	**46.06**	**346**	P	**P**	**03 08 16.7**	**-0.2**
	2.8nm,0.7s,baz=159,slow=8.0,SNR=40						
GEYT	**Alibeck**	**50.25**	**320**	P	**P**	**03 08 49.5**	**0.0**
	3.6nm,0.7s,baz=137,slow=7.3,SNR=7.1						
ZALV	**Zalesovo Beam**	**52.36**	**351**	P	**P**	**03 09 04.2**	**-0.7**
	6.2nm,0.6s,baz=176,slow=7.3,SNR=31						
OPO	**Ambohidratompo**	**53.37**	**245**	LR	LR	03 26 24.5	
	comp=Z,39nm,20.3s,baz=165,slow=30						
ABKAR	**Akbulak array**	**56.42**	**332**	*e*P	**P**	**03 09 34.4**	**-0.1**
	2.3nm,0.7s						
AKASG	**Malin Array Be**	**74.27**	**322**	P	**P**	**03 11 29.8**	**-0.3**
	0.1nm,0.3s,baz=95,slow=4.5,SNR=5.1						
FINES	**FINESS Array B**	**78.90**	**332**	P	**P**	**03 11 55.6**	**-0.5**
	0.8nm,0.5s,baz=103,slow=6.1,SNR=4.2						
ARCES	**ARCESS Array B**	**81.38**	**340**	P	**P**	**03 12 09.6**	**+0.2**
	3.5nm,1.1s,baz=97,slow=4.7,SNR=12						
NOA	**NORSAR Array B**	**85.92**	**331**	P	**P**	**03 12 32.2**	**-0.7**
	0.6nm,0.7s,baz=136,slow=2.5,SNR=3.4						

IDC 08 03:12:23.9±5.7, 5.12S×132.91E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.3/34, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=352.4km s-min=32.9km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.80**	**175**	Pn	Pn	03 15 53.0	-1.7
	0.2nm,0.3s,baz=356,slow=13,SNR=12						
WRA				Sn	Sn	03 18 29.8	-10
	0.2nm,0.3s,baz=4.4,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**18.46**	**177**	P	P	03 16 42.1	+0.6
	0.1nm,0.3s,baz=343,slow=8.3,SNR=7.1						
MKAR	**Makanchi Array**	**68.30**	**325**	P	P	03 23 26.9	0.0
	0.1nm,0.3s,baz=111,slow=7.9,SNR=3.7						

*NEIC **08** 03:22:32.3, 32˚.71N×115˚.89W, h0km, MD3.7(ECX), ML3.6(PAS), After PAS.*
*ECX **08** 03:22:33.0±0.7, 32˚.72N×115˚.88W, h3km, MD3.5, ML3.7*
ISC 08 03:22:32.3±0.9, 32.70N±0.02×115.87W±0.02, h14km±7km, n29, σ1⚘57/53, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COK	**Cook Ranch**	**0.20**	**38**	⇑*i*P	**Pg**	**03 22 36.8**	**-0.1**
RMX	**La Rumorosa**	**0.20**	**242**	⇑*e*P	**Pg**	**03 22 36.8**	**-0.2**
RMX				*e*S	**Sg**	**03 22 40.0**	**-0.1**
CPBX	**Cerro Prieto**	**0.55**	**120**	*e*P	**Pg**	**03 22 43.6**	**+0.4**
BAR	**Barrett**	**0.68**	**269**	*e*Pg	**Pg**	**03 22 45.3**	**-0.3**
BAR				*e*S	**Sg**	**03 22 54.0**	**-0.5**
RDX	**Rancho Dawling**	**0.77**	**185**	*e*P	**Pg**	**03 22 46.9**	**-0.4**
CBX	**Cerro Bola**	**0.77**	**241**	⇑*e*P	**Pg**	**03 22 47.3**	**-0.1**
CBX				*e*S	**Sb**	**03 22 57.9**	**0.0**
CBX				⇓*e*		03 23 05.2	
	comp=N,5μm,0.7s						
CBX				⇓*e*		03 23 05.9	
	comp=E,4μm,0.9s						
EMX	**El Mayor**	**0.88**	**143**	⇓*e*P	**Pg**	**03 22 48.9**	**-0.6**
EMX				*e*S	**Sg**	**03 23 01.2**	**+0.2**
PFO	**Pinyon Flats O**	**1.03**	**332**	*e*Pg	**Pg**	**03 22 51.5**	**-0.8**
PFO				*e*S	**Sg**	**03 23 05.4**	**-0.5**
PBX	**Punta Banda**	**1.20**	**218**	*e*P	**Pb**	**03 22 54.7**	**0.0**
ECNX	**Esteban Cantu**	**1.21**	**211**	*e*P	**Pn**	**03 22 54.8**	**0.0**
ZAX	**El Zacaton**	**1.23**	**196**	*e*P	**Pn**	**03 22 55.2**	**+0.1**
ECBX	**El Chinero**	**1.41**	**150**	*e*P	**Pn**	**03 22 57.5**	**+0.1**
ECBX				*e*S	**Sn**	**03 23 16.8**	**+1.1**
SPX	**San Pedro Mart**	**1.68**	**168**	*e*P	**Pn**	**03 23 02.3**	**+0.7**
SPX				AML	AML	03 23 34.5	
	comp=E

TUC				*e*S		**Sn**	**03 24 25.5**	**-2.2**
WUAZ	**Wupatki**	**4.67**	**52**	*e*Pn		**Pn**	**03 23 43.8**	**+1.2**
WUAZ				*e*S		**Sg**	**03 24 58.4**	**-4.0**
ARUT	**Antelope Range**	**5.46**	**21**	*e*Pn		**Pn**	**03 23 54.9**	**+1.6**
	comp=E,0.9nm,0.6s							
ARUT				*e*Pg		**Pg**	**03 24 16.9**	**+0.1**
ARUT				*e*S		**Sg**	**03 25 26.3**	**-1.2**
R11A	**Troy Canyon, C**	**5.64**	**2**	Pn		**Pn**	**03 23 58.4**	**+2.5**
	comp=E,1.9nm,0.6s							
R11A				*e*Pg		**Pg**	**03 24 19.6**	**-0.9**
R11A				*e*S		Sg	03 25 26.6	-6.9
WAKR	**Walker**	**6.48**	**334**	Pn		**Pn**	**03 24 09.2**	**+1.7**
	comp=E,2.9nm,0.8s							
WAKR				*e*Pg		Pb	03 24 30.6	+5.6
WAKR				*e*S		Sb	03 25 50.1	+7.7
121A	**Cookes Peak, D**	**6.82**	**89**	*e*Pn		**Pn**	**03 24 12.6**	**+0.5**
	comp=E,4.5nm,0.4s							
MVCO	**Mesa Verde**	**7.54**	**51**	*e*Pn		**Pn**	**03 24 25.1**	**+3.0**
MVCO				*e*S		**Sg**	**03 26 32.1**	**-2.3**

*KRNET **08** 03:25:14.4±0.1, 40.°93N×74.°87E, h2km, mb3.7*
*NNC **08** 03:25:17.1±1.4, 40.°85N×74.°87E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=17.5km s-min=6.2km az=125.0*
ISC 08 03:25:14.9±1.3, 40°93N±0°03×74°92E±0°03, h4km±12km, n39, σ1s16/57, 28C-13B, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.83**	**267**	*i* P	**Pg**	**03 25 28.9**	**-2.0**
	baz=266						
SALK				*e*S	**Sg**	**03 25 40.0**	**-1.7**
	baz=266						
NRN	**Naryn**	**0.96**	**58**	⇓*i*P	**Pg**	**03 25 32.8**	**-0.6**
	baz=59						
NRN				⇓*e*S	**Sg**	**03 25 47.3**	**+1.4**
	baz=59						
ARLS	**Aral**	**1.03**	**335**	⇓*i*P	**Pg**	**03 25 34.1**	**-0.7**
	baz=336						
ARLS				⇓*e*S	**Sg**	**03 25 47.3**	**-0.9**
	baz=336						
KZA	**Kyzart**	**1.18**	**12**	P	**Pg**	**03 25 37.8**	**+0.2**
	SNR=81						
KZA	**Kyzart**	**1.18**	**12**	⇑*i*P	**Pb**	**03 25 37.9**	**-0.2**
	baz=14						
KZA				⇑*i*S	**Sb**	**03 25 54.1**	**+0.2**
	baz=14						
UCH	**Uchtor**	**1.33**	**347**	P	**Pg**	**03 25 40.5**	**-0.1**
	SNR=85						
UCH	**Uchtor**	**1.33**	**347**	⇑*i*P	**Pg**	**03 25 40.5**	**-0.1**
	baz=348						
UCH				⇑*i*S	**Sn**	**03 25 59.6**	**+0.3**
	baz=348						
SFK	**Sufi-Kurgan**	**1.41**	**230**	⇑P	**Pn**	**03 25 40.4**	**-1.3**
	7.3nm,0.2s						
SFK				⇓S	**Sn**	**03 26 00.9**	**0.0**
	35nm,0.3s						
AML	**Almayashu**	**1.51**	**323**	P	**Pg**	**03 25 43.5**	**-0.4**
	SNR=48						
AML	**Almayashu**	**1.51**	**323**	⇓*i*P	**Pb**	**03 25 43.4**	**-0.5**
	baz=324						
AML				⇓*i*S	**Sg**	**03 26 03.4**	**-0.2**
	baz=324						
ULHL	**Ulahol**	**1.65**	**37**	P	**Pg**	**03 25 46.5**	**-0.1**
	SNR=58						
ULHL	**Ulahol**	**1.65**	**37**	⇑*i*P	**Pg**	**03 25 46.5**	**-0.1**
	baz=38						
ULHL				⇑*i*S	**Sg**	**03 26 08.6**	**+0.6**
	baz=38						
KBK	**Karagaybulak**	**1.73**	**1**	P	**Pg**	**03 25 47.9**	**-0.2**
	SNR=54						
KBK	**Karagaybulak**	**1.73**	**1**	⇑*i*P	**Pg**	**03 25 48.1**	**0.0**
	baz=2.0						
KBK				⇑*i*S	**Sg**	**03 26 11.4**	**+0.9**
	baz=2.0						
AAK	**Ala-Archa**	**1.73**	**350**	⇓P	**Pg**	**03 25 47.9**	**-0.3**
	36nm,0.3s						
AAK				S	**Sg**	**03 26 14.7**	**+4.0**
AAK	**Ala-Archa**	**1.73**	**350**	P	**Pg**	**03 25 47.9**	**-0.3**
	SNR=99						
AAK	**Ala-Archa**	**1.73**	**350**	⇑*i*P	**Pg**	**03 25 48.0**	**-0.2**
	baz=351						
AAK				⇑*i*S	**Sg**	**03 26 11.8**	**+1.1**
	baz=351						
BOOM	**Boomskoye usch**	**1.74**	**26**	*e*P	**Pb**	**03 25 47.0**	**-0.6**
	baz=27						
BOOM				*e*S	**Sb**	**03 26 10.4**	**+0.5**
	baz=27						
FRU	**Bishkek**	**1.92**	**353**	*e*P	**Pg**	**03 25 51.0**	**-0.7**
	baz=354						
EKS2	**Erkin-Say**	**1.93**	**334**	P	**Pg**	**03 25 51.4**	**-0.6**
	SNR=12						
TKM2	**Tokmak 2**	**2.06**	**14**	⇑Pn	**Pg**	**03 25 53.8**	**-0.6**
	17nm,0.3s						
TKM2				⇓Sn	**Sg**	**03 26 21.1**	**0.0**
	92nm,0.5s						
TKM2	**Tokmak 2**	**2.06**	**14**	P	**Pg**	**03 25 53.7**	**-0.6**
	SNR=61						
TKM2	**Tokmak 2**	**2.06**	**14**	⇑*i*P	**Pg**	**03 25 53.8**	**-0.6**
	baz=15						
TKM2				⇑*i*S	**Sg**	**03 26 21.0**	**0.0**
	baz=15						
CHMS	**Chumysh**	**2.08**	**357**	P	**Pg**	**03 25 54.0**	**-0.8**
	SNR=31						
CHMS	**Chumysh**	**2.08**	**357**	⇑*i*P	**Pg**	**03 25 53.9**	**-0.8**
	baz=358						
CHMS				⇑*i*S	**Sg**	**03 26 20.8**	**-0.8**
	baz=358						
KDJ	**Kajisay**	**2.08**	**54**	*e*P	**Pb**	**03 25 53.0**	**-0.4**
	baz=55						
KDJ				*e*S	**Sb**	**03 26 20.8**	**+1.1**
	baz=55						
CHVK	**Chauvay**	**2.21**	**250**	*e*P	**Pg**	**03 25 56.6**	**-0.6**
	baz=250						
CHVK				*e*S	**Sg**	**03 26 26.3**	**+0.5**
	baz=250						
USP	**Ospenovka**	**2.36**	**353**	P	**Pg**	**03 25 58.6**	**-1.5**
	SNR=96						
USP	**Ospenovka**	**2.36**	**353**	⇑*i*P	**Pb**	**03 25 58.3**	**+0.2**
	baz=353						
USP				⇑*i*S	**Sb**	**03 26 28.6**	**+1.0**
	baz=353						
MNAS	**Manas**	**2.39**	**312**	⇑Pn	**Pg**	**03 25 58.9**	**-1.7**
	21nm,0.4s						
MNAS				⇓Sn	**Sg**	**03 26 31.3**	**-0.3**
	21nm,0.3s						
ARK	**Arkit**	**2.39**	**292**	*e*P	**Pg**	**03 26 01.2**	**+0.5**
	baz=293						
ARK				*e*S	**Sg**	**03 26 33.5**	**+1.9**
	baz=293						
KNDC	**Almaty**	**2.75**	**33**	⇑Pn	**Pg**	**03 26 07.4**	**-0.3**
KNDC				⇓Sn	**Sg**	**03 26 44.6**	**+1.3**
BTK	**Batken**	**3.24**	**256**	*e*P	**Pg**	**03 26 18.5**	**+1.4**
	baz=256						
BTK				*e*S	**Sg**	**03 27 03.2**	**+4.1**
	baz=256						
KK31	**Karatay Array**	**3.94**	**305**	⇓Pg	**Pb**	**03 26 26.0**	**+1.0**
	3.2nm,0.2s,baz=127,slow=15,SNR=34						
KK31				⇓Lg	Lg	03 27 18.1	
	7.0nm,0.3s,baz=125,slow=29,SNR=14						
PDGK	**Podgornoye**	**4.16**	**53**	⇑Pn	Pn	03 26 22.8	+3.6
	1.0nm,0.5s						
PDGK				⇑Pg	**Pg**	**03 26 33.4**	**-1.2**
	5.1nm,0.6s						
PDGK				⇑Lg	Lg	03 27 27.4	
	30nm,0.7s						
DZET	**Dzherino**	**5.14**	**248**	Pn	Pn	03 26 37.7	+4.8
	4.5nm,0.5s						
DZET				⇑Lg	Lg	03 28 02.4	
	15nm,0.6s						
MK31	**Makanchi Array**	**7.92**	**40**	⇑Pn	Pn	03 27 18.0	+7.0
	0.2nm,0.4s,baz=221,slow=14,SNR=5.8						
MK31				⇑Lg	Lg	03 29 27.3	
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**10.02**	**13**	⇑Lg	Lg	03 30 32.8	
	3.3nm,0.7s						
KURK	**Kurchatov**	**10.12**	**14**	⇑Lg	Lg	03 30 37.3	
	2.3nm,0.7s						

*ECX **08** 03:27:53.9±0.7, 32.°43N×115.°55W, h4km, ML4.1*
*NEIC **08** 03:27:53.5, 32.°46N×115.°51W, h12km, MD4.2(ECX), ML3.9(PAS), After ECX.*
ISC 08 03:27:52.8±0.9, 32°43N±0°02×115°52W±0°02, h16km±7km, n33, σ1s71/61, 10C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**93**	⇑*e*P	**Pg**	**03 27 57.5**	**+0.3**
CPBX	**Cerro Prieto**	**0.18**	**93**	⇑*e*P	**Pg**	**03 27 57.5**	**+0.3**
YUH	**Yuha Desert**	**0.41**	**303**	⇑*i*P	**Pg**	**03 28 00.4**	**-0.6**
COK	**Cook Ranch**	**0.46**	**337**	⇓*i*P	**Pg**	**03 28 02.1**	**+0.2**
EMX	**El Mayor**	**0.50**	**152**	⇓*e*P	**Pg**	**03 28 01.5**	**-1.2**
EMX				*e*S	**Sg**	**03 28 08.7**	**-0.6**
RMX	**La Rumorosa**	**0.51**	**290**	⇑*e*P	**Pg**	**03 28 02.2**	**-0.7**
RMX				*e*S	**Sg**	**03 28 09.9**	**+0.2**
RMX	**La Rumorosa**	**0.51**	**290**	⇑*e*P	**Pg**	**03 28 02.2**	**-0.7**
RMX				*e*S	**Sg**	**03 28 09.9**	**+0.2**
COA	**Coachella**	**0.55**	**37**	⇑*i*P	**Pb**	**03 28 04.3**	**+0.3**
CRR	**Carrizo Plain**	**0.59**	**320**	⇓*i*P	**Pg**	**03 28 04.1**	**-0.4**
RDX	**Rancho Dawling**	**0.61**	**216**	⇑*e*P	**Pg**	**03 28 04.4**	**-0.5**
RDX				*e*S	**Sg**	**03 28 13.5**	**+0.4**
CBX	**Cerro Bola**	**0.98**	**264**	⇑*e*P	**Pb**	**03 28 10.9**	**-0.5**
CBX				*e*S	**Sg**	**03 28 23.6**	**-1.0**
CBX				⇑*e*		03 28 28.1	
	comp=N,10μm,0.5s						
CBX				*e*		03 28 29.6	
	comp=E,8μm,0.6s						
BAR	**Barrett**	**1.01**	**285**	*e*Pg	**Pb**	**03 28 11.2**	**-0.6**
BAR				*e*S	**Sg**	**03 28 24.6**	**-0.9**
ECBX	**El Chinero**	**1.03**	**157**	⇓*e*P	**Pb**	**03 28 11.0**	**-1.3**
ECBX				*e*S	**Sb**	**03 28 25.4**	**-0.2**
ZAX	**El Zacaton**	**1.11**	**215**	⇑*e*P	**Pb**	**03 28 13.5**	**-0.2**
ECNX	**Esteban Cantu**	**1.20**	**230**	*e*P	**Pn**	**03 28 14.9**	**-0.1**
PBX	**Punta Banda**	**1.23**	**237**	*e*P	**Pn**	**03 28 15.4**	**0.0**
SPX	**San Pedro Mart**	**1.38**	**178**	⇓*e*P	**Pn**	**03 28 17.4**	**-0.2**
SPX				*e*S	**Sn**	**03 28 37.1**	**+1.3**
SPX				*e*		03 28 40.7	
SPX				AML	AML	03 28 40.7	
	comp=E,1μm,0.5s						
PFO	**Pinyon Flats O**	**1.42**	**326**	*e*Pn	**Pn**	**03 28 16.8**	**-1.2**
PFO				*e*S	**Sn**	**03 28 35.0**	**-1.5**
214A	**Organ Pipe Nat**	**2.34**	**101**	*e*Pn	**Pn**	**03 28 29.6**	**-1.0**
214A				*e*Pg	**Pg**	**03 28 38.3**	**+0.6**
214A				*e*S	**Sg**	**03 29 09.5**	**+1.4**
LDFC	**Landfair**	**2.67**	**7**	*e*Pn	**Pn**	**03 28 36.1**	**+0.9**
PASC	**Pasadena Art C**	**2.83**	**309**	*e*Pn	**Pn**	**03 28 38.3**	**+1.0**
PASC				*e*Pg	**Pb**	**03 28 43.8**	**+0.8**
PASC				*e*S	**Sb**	**03 29 17.5**	**+0.1**
GSC	**Goldstone, Bar**	**3.06**	**340**	*e*Pn	**Pn**	**03 28 41.1**	**+0.5**
GSC				*e*Pg	**Pb**	**03 28 47.8**	**+0.9**
GSC				*e*S	**Sb**	**03 29 24.8**	**+0.8**
OSI	**Osito Audit: C**	**3.45**	**310**	Pn	**Pn**	**03 28 46.9**	**+0.9**
OSI				*e*Pg	**Pb**	**03 28 56.1**	**+2.6**
OSI				*e*S	**Sg**	**03 29 40.4**	**-3.3**
TUC	**Tucson**	**4.01**	**90**	*e*Pn	**Pn**	**03 28 54.0**	**+0.4**
TUC				*e*S	**Sg**	**03 29 59.9**	**-1.6**
ISA	**Isabella, Lake**	**4.05**	**324**	*e*Pn	**Pn**	**03 28 55.2**	**+1.0**
ISA				*e*Pg	**Pb**	**03 29 06.8**	**+3.0**
ISA				*e*S	**Sb**	**03 29 57.2**	**+4.5**
SHPR	**Sheep Range**	**4.08**	**4**	*e*Pn	**Pn**	**03 28 54.3**	**-0.3**
SHPR				*e*Pg	**Pg**	**03 29 12.1**	**+1.2**
SHPR				*e*S	**Sg**	**03 30 01.5**	**-2.3**
DAC	**Darwin (Calif)**	**4.21**	**336**	*e*Pn	**Pn**	**03 28 57.6**	**+1.1**
DAC				*e*Pg	**Pg**	**03 29 11.2**	**-2.1**
DAC				*e*S	**Sg**	**03 30 04.4**	**-3.4**
WUAZ	**Wupatki**	**4.62**	**47**	Pn	**Pn**	**03 29 03.6**	**+1.5**
WUAZ				*e*S	**Sg**	**03 30 15.7**	**-5.4**
CCUT	**Cedar City**	**5.41**	**18**	*e*Pn	**Pn**	**03 29 13.1**	**+0.1**
	comp=E,9.9nm,0.8s						
CCUT				*e*S	**Sg**	**03 30 43.3**	**-3.1**
W18A	**Petrified Fore**	**5.51**	**59**	*e*Pn	**Pn**	**03 29 14.3**	**-0.1**
	comp=E,17nm,0.5s						
ARUT	**Antelope Range**	**5.61**	**17**	*e*Pn	**Pn**	**03 29 15.3**	**-0.4**
	comp=E,1.4nm,0.6s						
ARUT				*e*S	**Sg**	**03 30 51.3**	**-1.6**
121A	**Cookes Peak, D**	**6.54**	**87**	*e*Pn	**Pn**	**03 29 29.2**	**+0.8**
121A				*e*S	**Sg**	**03 31 25.9**	**+3.4**
MVCO	**Mesa Verde**	**7.49**	**48**	*e*Pn	Pn	03 29 45.6	+4.0
MVCO				*e*S	**Sg**	**03 31 49.1**	**-3.9**

*IDC **08** 03:29:14.6±2.6, 1.°93N×96.°60E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/36, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=109.2km s-min=20.2km az=59.0*
*ISCJB **08** 03:29:17.3±0.9, 1.°91N±0.°07×96.°78E±0.°07, h28km, mb3.5/5, MS3.0/1, Error ellipse: s-maj=10.2km s-min=8.8km az=141.6*
*DJA **08** 03:29:20.4±0.9, 2.°1N±6.°9×97.°7E±.°, h10km, M3.2/4, MLv3.2/4*
ISC 08 03:29:19.3±1.2, 2°07N±0°09×96°81E±0°08, h28km, n14, σ0s65/13, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.59**	**305**	P	**Pn**	**03 29 31.4**	**-0.5**
SNSI				S	**Sn**	**03 29 40.4**	**-0.2**
TPTI		**1.24**	**17**	P	**Pn**	**03 29 40.7**	**-0.2**
TPTI				S	**Sb**	**03 29 58.7**	**+0.9**
KCSI	**Kotacane, Aceh**	**1.74**	**34**	P	**Pb**	**03 29 49.2**	**-1.4**
KCSI				S	**Sb**	**03 30 12.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.43**	**7**	Pn	**Pn**	**03 33 08.5**	**+0.5**
	baz=200,slow=12,SNR=8.4						
H08S2	**Diego Garcia H**	**26.11**	**248**	T	T	04 01 38.4	
	baz=69,slow=76,SNR=78						
H08S3	**Diego Garcia H**	**26.11**	**248**	T	T	04 01 38.6	
	baz=69,slow=76,SNR=77						
H08S1	**Diego Carcia H**	**26.12**	**248**	T	T	04 01 39.8	
	baz=69,slow=76,SNR=89						
TGY	**Tagaytay City**	**26.67**	**62**	LR	LR	03 44 32.0	
	comp=Z,40nm,20.9s,baz=301,slow=34						
WRA	**Warramunga Arr**	**42.82**	**123**	P	**P**	**03 37 15.2**	**-0.1**
	0.4nm,0.9s,baz=302,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**44.23**	**128**	P	**P**	**03 37 26.7**	**+0.2**
	0.3nm,0.7s,baz=303,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**46.31**	**346**	P	**P**	**03 37 42.9**	**+0.2**
	0.9nm,0.7s,baz=160,slow=7.5,SNR=11						
SONM	**Songino Array**	**46.34**	**9**	P	**P**	**03 37 43.9**	**+0.9**
	0.5nm,0.8s,baz=189,slow=8.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**50.80**	**345**	P	**P**	**03 38 17.0**	**-0.1**
	baz=162,slow=7.4						
ZALV	**Zalesovo Beam**	**52.65**	**351**	P	**P**	**03 38 31.0**	**+0.2**
	0.6nm,0.4s,baz=191,slow=7.1,SNR=3.8						

DJA 08 03:38:21.1±2.2, 0°S±11°×12°6E±°, h52km±91km, M3.6/4, MLv3.6/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.94**	**166**	P	Pn	03 38 51.6	-0.1
SANI				S	Sn	03 39 14.9	-0.1
GTOI	**Gorontalo**	**2.63**	**287**	P	Pn	03 39 03.3	+2.2
LUWI	**Luwuk**	**2.89**	**252**	P	Pn	03 39 04.6	0.0
LUWI				S	Sn	03 39 39.6	+1.4
APSI	**Ampana**	**3.94**	**259**	P	Pn	03 39 18.9	-0.2

WEL 08 03:52:37.2±0.3, 36.°53S×176.°67E, h216km±5km, ML3.6/11, 3C-1D, Error ellipse: s-maj=5.6km s-min=5.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.51**	**144**	PN	Pn	03 53 12.7	+0.3
HAZ				SN	S	03 53 40.1	+0.2
MXZ	**Matakaoa Point**	**1.67**	**129**	PN	Pn	03 53 14.1	+0.3
MXZ				SN	S	03 53 42.1	-0.1
URZ	**Urewera**	**1.76**	**169**	PN	Pn	03 53 14.6	0.0
URZ				SN	S	03 53 44.5	+0.8
WMGZ	**Waiomatatini S**	**1.90**	**133**	PN	Pn	03 53 16.0	+0.1
WMGZ				SN	S	03 53 46.0	+0.1
MWZ	**Matawai**	**1.93**	**159**	PN	Pn	03 53 16.2	0.0
MWZ				SN	S	03 53 46.9	+0.3
TWGZ	**Tauwhareparae**	**1.95**	**148**	PN	Pn	03 53 16.8	+0.3
TWGZ				SN	S	03 53 47.3	+0.3
PUZ	**Puketiti**	**2.00**	**141**	PN	Pn	03 53 16.5	-0.4
PUZ				SN	S	03 53 45.9	-1.8
CNGZ	**Carnagh Statio**	**2.31**	**148**	PN	Pn	03 53 19.6	-0.4
SNGZ	**Shannon Statio**	**2.31**	**167**	PN	Pn	03 53 19.8	-0.4
RIGZ	**Rimuhau**	**2.34**	**159**	PN	Pn	03 53 20.0	-0.4
RAHZ	**Arahi**	**2.41**	**172**	PN	Pn	03 53 20.7	-0.5
WHHZ	**Waihua**	**2.58**	**170**	PN	Pn	03 53 22.2	-0.8
KNZ	**Kokohu**	**2.61**	**163**	PN	Pn	03 53 21.7	-1.5
BKZ	**Black Stump Fm**	**2.64**	**183**	PN	Pn	03 53 21.4	-2.2
ARHZ	**Aropaoanui**	**2.74**	**175**	⇓PN	Pn	03 53 23.8	-0.9
MHGZ	**Mahia Peninsul**	**2.80**	**160**	PN	Pn	03 53 24.0	-1.4
TUVZ	**Tukino**	**2.85**	**196**	PN	Pn	03 53 25.8	-0.3
FWVZ	**Far West T-bar**	**2.86**	**198**	⇑PN	Pn	03 53 26.2	-0.2
WHVZ	**Whangaehu Hut**	**2.88**	**197**	⇑PN	Pn	03 53 26.3	-0.3
TRVZ	**Turoa**	**2.90**	**197**	PN	Pn	03 53 26.5	-0.4
MCHZ	**McNeill Hill**	**2.91**	**180**	PN	Pn	03 53 25.7	-1.0
WNVZ	**Wahianoa**	**2.92**	**197**	PN	Pn	03 53 26.4	-0.6
BHHZ	**Black Hill Sta**	**2.99**	**189**	PN	Pn	03 53 25.7	-2.0
MTVZ	**Mangateitei**	**3.00**	**198**	PN	Pn	03 53 27.3	-0.5
KRHZ	**Kereru**	**3.12**	**184**	⇑PN	Pn	03 53 27.1	-1.9
KAHZ	**Kahuranaki**	**3.27**	**177**	PN	Pn	03 53 28.7	-2.1
PNHZ	**Pukenui**	**3.40**	**186**	PN	Pn	03 53 29.8	-2.6
PXZ	**Pawanui**	**3.50**	**178**	PN	Pn	03 53 30.6	-2.8
TSZ	**Takapari Road**	**3.57**	**189**	PN	Pn	03 53 31.6	-2.7
PRHZ	**Porangahau**	**3.73**	**180**	PN	Pn	03 53 33.1	-3.2
BFZ	**Birch Farm**	**4.16**	**184**	PN	Pn	03 53 37.7	-3.7
MRZ	**Mangatainoka R**	**4.21**	**191**	PN	Pn	03 53 38.5	-3.6
HOWZ	**Holdsworth Sta**	**4.46**	**191**	PN	Pn	03 53 41.1	-4.0
HOWZ				SN	S	03 54 32.5	-6.2
KIW	**Kapiti Island**	**4.54**	**197**	PN	Pn	03 53 42.5	-3.7
KIW				SN	S	03 54 34.5	-6.0
TCW	**Tory Channel**	**5.04**	**201**	PN	Pn	03 53 48.6	-3.7
TCW				SN	S	03 54 46.6	-5.1
PLWZ	**Palliser**	**5.15**	**192**	PN	Pn	03 53 49.0	-4.9
PLWZ				SN	S	03 54 46.8	-7.7
TUWZ	**Tuamarina**	**5.33**	**203**	PN	Pn	03 53 52.0	-4.2
NNZ	**Nelson**	**5.34**	**208**	PN	Pn	03 53 52.6	-3.6
QRZ	**Quartz Range**	**5.38**	**216**	PN	Pn	03 53 53.0	-3.7
THZ	**Tophouse**	**5.99**	**208**	PN	Pn	03 54 00.4	-4.2

*ISCJB **08** 04:02:08.1±0.4, 32.°11N±0.°03×115.°05W±0.°03, h10km, mb3.3/3, MS3.3/5, Error ellipse: s-maj=4.7km s-min=4.0km az=18.1*
*NEIC **08** 04:02:09.6, 32.°12N×115.°04W, h7km, ML3.8(PAS), After PAS.*
*MEX **08** 04:02:10.1±1.3, 32.°16N×115.°03W, h10km, MD4.0*
*IDC **08** 04:02:11.3±2.1, 32.°12N×114.°78W, h0km, mb3.6/3, mb1 3.7/9, mb1mx3.4/39, mbtmp3.4/9, ML3.2/5, MS3.2/12, Ms1 3.2/12, ms1mx3.0/37, Error ellipse: s-maj=36.6km s-min=11.4km az=39.0*
ISC 08 04:02:09.5±0.7, 32°01N±0°03×115°11W±0°03, h10km, n43, σ2s07/66, mb3.4/3, MS3.2/5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.41**	**350**	*e*P	**Pg**	**04 02 16.6**	**-0.9**
MBIG				*e*S	**Sg**	**04 02 18.9**	**-4.0**
SPIG	**San Pedro Mart**	**1.00**	**198**	*e*P	**Pg**	**04 02 28.4**	**-0.5**
SPIG				*e*S	**Sn**	**04 02 43.6**	**-0.7**
SPIG	**San Pedro Mart**	**1.00**	**198**	*e*P	**Pg**	**04 02 28.4**	**-0.5**
SPIG				*e*S	**Sn**	**04 02 43.6**	**-0.7**
CBX	**Cerro Bola**	**1.35**	**283**	*e*P	**Pn**	**04 02 33.0**	**-1.6**
CBX				*e*S	**Sb**	**04 02 49.3**	**-3.1**
CBX	**Cerro Bola**	**1.35**	**283**	*e*P	**Pn**	**04 02 33.0**	**-1.6**
CBX				*e*S	**Sb**	**04 02 49.3**	**-3.1**
BAR	**Barrett**	**1.48**	**297**	*e*Pn	**Pn**	**04 02 34.6**	**-1.7**
BAR				*e*S	**Sn**	**04 02 55.0**	**-0.7**
214A	**Organ Pipe Nat**	**1.96**	**91**	*e*Pn	**Pn**	**04 02 41.9**	**-0.9**
214A				*e*S	**Sg**	**04 03 11.1**	**-1.3**
PFO	**Pinyon Flats O**	**1.96**	**325**	Pn	Pn	04 02 39.5	-3.4
	8.3nm,0.3s,baz=137,slow=11,SNR=14						
PFO				Lg	Lg	04 03 01.1	
	31nm,0.3s,baz=133,slow=12,SNR=13						
PFO				LR	LR	04 03 15.8	
	comp=Z,166nm,18.1s,baz=135,slow=32						
LDFC	**Landfair**	**3.06**	**0**	*e*Pn	**Pn**	**04 02 56.3**	**-1.8**
LDFC				*e*Pg	**Pb**	**04 03 04.9**	**+0.7**
LDFC				*e*S	**Sg**	**04 03 51.4**	**+3.5**
MWC	**Mount Wilson**	**3.32**	**313**	*e*Pn	**Pn**	**04 03 01.1**	**-0.6**
MWC				*e*Pg	**Pb**	**04 03 08.7**	**+0.2**
MWC				*e*S	**Sb**	**04 03 50.6**	**+1.6**
PASC	**Pasadena Art C**	**3.36**	**311**	*e*Pn	**Pn**	**04 03 03.0**	**+0.8**
PASC				*e*S	**Sb**	**04 03 51.4**	**+1.1**
GSC	**Goldstone, Bar**	**3.58**	**337**	*e*Pn	**Pn**	**04 03 05.6**	**+0.5**
GSC				*e*S	**Sg**	**04 04 02.6**	**-1.9**
TUC	**Tucson**	**3.68**	**84**	*e*Pn	**Pn**	**04 03 05.5**	**-1.0**
TUC				*e*Pg	**Pg**	**04 03 17.4**	**-2.7**
TUC				*e*S	**Sg**	**04 04 05.3**	**-2.5**
OSI	**Osito Audit: C**	**3.99**	**312**	*e*Pn	**Pn**	**04 03 09.8**	**-1.0**
OSI				*e*Pg	**Pb**	**04 03 20.1**	**+0.2**
OSI				*e*S	**Sb**	**04 04 09.4**	**+1.2**
SHPR	**Sheep Range**	**4.49**	**359**	*e*Pn	**Pn**	**04 03 15.9**	**-1.8**
SHPR				*e*S	**Sn**	**04 04 05.9**	**-4.2**
WUAZ	**Wupatki**	**4.68**	**41**	*e*Pn	**Pn**	**04 03 19.1**	**-1.3**
WUAZ				*e*S	**Sb**	**04 04 29.3**	**+1.0**
DAC	**Darwin (Calif)**	**4.73**	**335**	*e*Pn	**Pn**	**04 03 19.6**	**-1.5**
DAC				*e*Pg	**Pg**	**04 03 38.1**	**-2.0**
DAC				*e*S	**Sg**	**04 04 39.0**	**-2.4**
W18A	**Petrified Fore**	**5.46**	**54**	*e*Pn

TKL	**Tuckaleechee C**	**26.23**	**73**	LR	LR	04 18 54.7	
	comp=Z,79nm,19.5s,baz=328,slow=39						
DLBC	**Dease Lake**	**28.31**	**343**	P	**P**	**04 08 05.8**	**+2.6**
	2.0nm,0.8s,baz=192,slow=9.3,SNR=3.3						
DLBC				LR	LR	04 19 07.5	
	comp=Z,62nm,18.4s,baz=148,slow=36						
YKA	**Yellowknife Ar**	**30.50**	**0**	P	**P**	**04 08 25.1**	**+2.7**
	0.1nm,0.6s,baz=179,slow=8.6,SNR=4.1						
ILAR	**Eielson Array**	**38.18**	**339**	P	**P**	**04 09 31.2**	**+2.3**
	0.6nm,0.8s,baz=152,slow=8.3,SNR=9.0						
CFAA	**Coronel Fontan**	**77.26**	**140**	LR	LR	04 45 10.3	
	comp=Z,9.9nm,18.3s,slow=33						
MDT	**Midelt**	**88.05**	**52**	LR	LR	04 53 58.1	
	comp=Z,27nm,19.3s,slow=35						

*IDC **08** 04:08:42.4±1.5,2˙.49N×128˙.29E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/29,mbtmp3.4/4,MS2.5/1,Ms1 2.5/1, ms1mx2.2/22,Error ellipse: s-maj=122.1km s-min=21.1km az=71.0*

*ISCJB **08** 04:08:44.9±1.4,2˙.8N±0˙.2×129˙.1E±0˙.4,h35km,mb3.4/4, MS2.5/1,Error ellipse: s-maj=61.8km s-min=14.0km az=152.4*

ISC 08 04:08:46.8±1.7,2˙.7N±0˙.3×129˙.0E±0˙.6,h35km,n12, σ0.553/11,mb3.4/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**167**	P		**P**		**04 13 49.2**	**-0.4**
	0.6nm,0.3s,baz=346,slow=11,SNR=17								
ASAR	**Alice Springs**	**26.62**	**170**	P		**P**		**04 14 22.6**	**+0.5**
	0.4nm,0.5s,baz=351,slow=7.9,SNR=6.3								
MJAR	**Matsushiro Arr**	**34.75**	**13**	LR		LR		04 29 20.8	
	comp=Z,8.3nm,20.6s,baz=30,slow=35								
ODAN	**Odare**	**46.53**	**305**	*eP*		**P**		**04 17 11.3**	**-0.2**
	5.1nm,0.5s								
RAMN	**Ramite**	**47.21**	**305**	*eP*		**P**		**04 17 17.4**	**+0.5**
	8.4nm,0.6s								
JIRN	**Jiri**	**47.83**	**306**	*eP*		**P**		**04 17 21.9**	**+0.1**
	4.0nm,0.4s								
GUN	**Gumba**	**48.18**	**306**	*eP*		**P**		**04 17 24.7**	**+0.2**
	9.0nm,0.5s								
SONM	**Songino Array**	**49.04**	**340**	P		**P**		**04 17 31.0**	**+0.5**
	0.2nm,0.6s,baz=152,slow=9.8,SNR=2.8								
KOLN	**Koldanda**	**49.99**	**305**	*eP*		**P**		**04 17 38.5**	**+0.3**
	9.0nm,0.5s								
DANN	**Dangsing**	**50.08**	**305**	*eP*		**P**		**04 17 39.1**	**+0.2**
	12nm,0.5s								
PYUN	**Piuthan**	**50.62**	**305**	*eP*		**P**		**04 17 43.3**	**+0.4**
	20nm,0.5s								
MKAR	**Makanchi Array**	**59.72**	**325**	P		**P**		**04 18 47.1**	**-1.0**
	0.2nm,0.4s,baz=112,slow=7.9,SNR=5.6								

GUC 08 04:17:02.2±0.5,35˙.39S×72˙.48W,h23km±3km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.69**	**91**	*i* P		Pb		04 17 16.0	+0.4
TALC				*i* S		Sn		04 17 26.1	-0.6
TALC				AML		AML		04 17 27.3	
	comp=N,10μm,0.2s								
COCH	**Cobquecura**	**0.78**	**199**	*i* P		Pb		04 17 17.2	+0.2
COCH				*i* S		Sn		04 17 28.8	+0.1
LNCH	**Linares**	**0.85**	**123**	*i* P		Pn		04 17 19.2	+0.4
LNCH				*i* S		Sn		04 17 31.2	+0.6
LNCH				AML		AML		04 17 31.7	
	comp=E,7μm,0.3s								
NICH	**Los Niches**	**1.10**	**70**	*i* P		Pb		04 17 22.5	0.0
NICH				*i* S		Sn		04 17 38.0	+1.3
NICH				AML		AML		04 17 41.4	
	comp=N,3μm,0.3s								
CLCH	**Cerro Calan**	**2.56**	**39**	*i* P		Pb		04 17 45.3	-2.2
CLCH				*i* S		Sb		04 18 18.3	-0.4
CLCH				AML		AML		04 18 29.4	
	comp=N,349nm,0.6s								
PEL	**Peldehue**	**2.69**	**34**	*i* P		Pn		04 17 46.8	+2.5
PEL				*e*S		Sb		04 18 19.9	-2.5

*ISCJB **08** 04:26:04.1±2.1,27˙.86S±0˙.04×175˙.91W±0˙.06, h23km±15km,mb4.8/59,MS3.9/12,Error ellipse: s-maj=10.1km s-min=4.6km az=29.1*

*BJI **08** 04:26:07.5,27˙.40S×175˙.83W,h37km,mB5.4/16, mb5.3/17,Ms5.2/11,Ms7 4.8/11*

*IDC **08** 04:26:09.9±0.7,27˙.97S×175˙.84W,h65km±5km,mb4.1/15, mb1 4.3/16,mb1mx4.2/33,mbtmp4.4/16,MS3.8/14, Ms1 3.8/14,ms1mx3.7/23,Error ellipse: s-maj=19.0km s-min=14.8km az=145.0*

*GCMT **08** 04:26:10.4±0.3,27˙.36S×175˙.70W,h33km±1km,MW5.0/72, Moment Tensor Solution. s30,c33; s72,c98; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.19±.18; Mθθ-0.83±.14; Mφφ 1.01±.14; Mrθ 1.84±.19; Mθφ-3.19±.10; Mφr-0.32±.16; Best double couple: M◎3.81000×10^16^ NP1:φ◎279.00000°,δ89.00000°,λ-151.00000°. NP2: φ◎188.00000°,δ61.00000°,λ-1.00000°. Principal axes: T 3.8950, Plg19.0000°, Azm49.0000°; N -0.1740, Plg61.0000°, Azm281.0000°; P -3.7240, Plg21.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 04:26:10.4±1.0,27˙.67S×175˙.95W,h59km±9km,mb5.0/47 Error ellipse: s-maj=9.2km s-min=7.0km az=130.0*

ISC 08 04:26:08.9±0.4,27˙.81S±0˙.05×175˙.95W±0˙.07,h49km±2km, h50km:pP-P,n247,σ1§44/262,mb4.9/59,MS3.9/13,3C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.25**	**230**	P		**Pn**		**04 26 45.3**	**+1.6**
	1μm,0.3s,baz=85,slow=2.1,SNR=36								
RAO				S		Sn		04 27 19.3	+9.1
	3μm,0.3s,baz=190,slow=24,SNR=12								
RAO				LR		LR		04 27 47.3	
	comp=Z,2μm,22.0s,baz=66,slow=44								
RAO	**Raoul Island**	**2.25**	**230**	*e*Pn		Pn		04 26 47.7	+4.0
RAO				*e*S		Sn		04 27 20.8	+11
WMGZ	**Waiomatatini S**	**11.05**	**204**	PN		**Pn**		**04 28 43.4**	**-0.9**
WMGZ				SN		**Sn**		**04 30 48.0**	**+1.6**
HAZ	**Te Kaha**	**11.23**	**206**	PN		Pn		04 28 43.6	-3.1
HAZ				SN		**Sn**		**04 30 52.1**	**+1.3**
PUZ	**Puketiti**	**11.33**	**204**	PN		Pn		04 28 43.3	-4.8
PUZ				SN		**Sn**		**04 30 51.7**	**-1.6**
MSVF	**Nonsavu**	**11.45**	**330**	Pn		**Pn**		**04 28 47.6**	**-2.3**
	484nm,1.0s,SNR=6.2								
MSVF	**Nonsavu**	**11.45**	**330**	*e*Pn		**Pn**		**04 28 47.0**	**-2.9**
TWGZ	**Tauwhareparae**	**11.53**	**205**	SN		**Sn**		**04 30 58.6**	**+0.5**
OUZ	**Omahuta**	**11.58**	**228**	*e*Pn		Pn		04 28 55.7	+4.2
MWZ	**Matawai**	**11.84**	**206**	PN		Pn		04 28 49.8	-5.2
URZ	**Urewera**	**11.94**	**207**	P		Pn		04 28 51.5	-4.9
	1.8nm,0.3s,baz=338,slow=2.8,SNR=8.9								
URZ				S		**Sn**		**04 31 07.6**	**-0.4**
	13nm,0.3s,baz=67,slow=23,SNR=14								
URZ	**Urewera**	**11.94**	**207**	*e*Pn		Pn		04 29 00.2	+3.8
URZ				*e*S		**Sn**		**04 31 05.6**	**-2.4**
RIGZ	**Rimuhau**	**12.07**	**204**	PN		**Pn**		**04 28 59.7**	**+1.5**
RIGZ				SN		**Sn**		**04 31 11.9**	**+0.5**
SNGZ	**Shannon Statio**	**12.29**	**205**	PN		Pn		04 28 58.0	-3.3
BKZ	**Black Stump Fm**	**12.96**	**207**	*e*Pn		**Pn**		**04 29 09.2**	**-1.2**
BKZ				*e*Sn		**Sn**		**04 31 28.5**	**-4.6**
AFI	**Afiamalu**	**14.36**	**17**	*e*Pn		Pn		04 29 19.0	-11
AFI				*e*S		Sn		04 31 39.9	-28
BFZ	**Birch Farm**	**14.36**	**205**	*e*Pn		Pn		04 29 26.5	-2.9
BFZ				*e*Sn		**Sn**		**04 32 03.8**	**-3.4**
MRZ	**Mangatainoka R**	**14.60**	**206**	*e*SN		Sn		04 32 04.0	-9.0
SNZO	**South Karori**	**15.50**	**207**	*e*Pn		**Pn**		**04 29 46.0**	**+1.8**
	95nm,1.2s								
SNZO				*e*S		Sn		04 32 24.1	-11
CTZ	**Chatham Island**	**15.90**	**182**	PN		**Pn**		**04 29 49.9**	**+0.6**
TUWZ	**Tuamarina**	**15.92**	**209**	PN		**Pn**		**04 29 46.5**	**-3.0**
QRZ	**Quartz Range**	**16.08**	**213**	PN		**Pn**		**04 29 51.7**	**+0.1**
RAR	**Rarotonga**	**16.11**	**70**	*e*Pn		Pn		04 29 42.1	-10
THZ	**Tophouse**	**16.64**	**210**	*e*PN		**Pn**		**04 29 56.6**	**-2.2**
KHZ	**Kahutara**	**16.90**	**208**	*e*Pn		**Pn**		**04 30 01.6**	**-0.4**
	100nm,0.8s								
DZM	**Mont Dzumac**	**16.95**	**286**	*e*P		P		04 30 12.5	+8.3
	90nm,1.3s								
DZM				*e*LR		LR		04 33 50.6	
	814nm,25.6s								
DZM	**Mont Dzumac**	**16.95**	**286**	P		**P**		**04 30 06.0**	**+1.9**
	0.2nm,0.3s,baz=108,slow=16,SNR=2.6								
DZM				LR		LR		04 34 32.1	
	comp=Z,452nm,20.6s,baz=23,slow=29								
DZM	**Mont Dzumac**	**16.95**	**286**	Pn		**P**		**04 30 04.6**	**+0.5**
	31nm,0.9s								
RPZ	**Rata Peaks**	**19.02**	**210**	*e*P		**P**		**04 30 26.6**	**-0.1**
	100nm,1.6s								
ODZ	**Otahua Downs**	**20.26**	**208**	*e*P		Pn		04 30 43.0	+0.5
TBI	**Tubuai**	**24.28**	**85**	*e*LQ		LQ		04 35 54.0	
	2μm,29.5s								
TBI				*e*LR		LR		04 36 54.3	
	317nm,30.0s								
TBI	**Tubuai**	**24.28**	**85**	*e*T		T		04 54 31.4	
	36nm,0.3s								
PAE	**Paea**	**26.28**	**73**	*e*T		T		04 56 48.8	
	20nm,0.3s								
PPT2	**Papeete2**	**26.32**	**73**	*e*LQ		LQ		04 36 40.7	
	1μm,24.8s								
PPT2				*e*LR		LR		04 38 03.8	
	784nm,27.0s,baz=242								
PPT2	**Papeete2**	**26.32**	**73**	*e*T		T		04 56 52.3	
	25nm,0.4s								
PPT	**Papeete**	**26.33**	**73**	LR		LR		04 40 19.1	
	comp=Z,141nm,20.3s,baz=254,slow=32								
TVO	**Taravao**	**26.50**	**74**	*e*T		T		04 57 06.1	
	4.0nm,0.3s								
MEH	**Mehetia**	**27.47**	**75**	*e*T		T		04 58 19.7	
	13nm,0.3s								
VAH	**Vaihoa**	**29.08**	**70**	*e*T		T		05 00 16.7	
	45nm,0.2s								
EIDS	**Eidsvold**	**29.54**	**267**	*e*P		**P**		**04 32 11.3**	**+2.3**
XMAS	**Kiritimati**	**34.61**	**34**	*e*P		**P**		**04 32 51.6**	**-1.8**
	52nm,0.9s								
CTA	**Charters Tower**	**35.28**	**274**	P		**P**		**04 32 59.5**	**+0.2**
	1.6nm,0.3s,baz=100,slow=12,SNR=3.8								
CTAO	**Charters Tower**	**35.28**	**274**	*e*P		**P**		**04 33 01.9**	**+2.7**
RKT	**Rikitea**	**37.17**	**92**	*e*LR		LR		04 42 55.4	
	202nm,28.2s								
RKT	**Rikitea**	**37.17**	**92**	*e*T		T		05 10 45.3	
	3.6nm,0.3s								
ASAR	**Alice Springs**	**45.12**	**263**	P		**P**		**04 34 19.5**	**-1.2**
	0.7nm,0.6s,baz=102,slow=7.7,SNR=8.3								
WB2	**Warramunga Arr**	**45.87**	**269**	*e*P		**P**		**04 34 27.2**	**+0.5**
WRAB	**Tennant Creek**	**45.87**	**269**	*e*P		**P**		**04 34 26.2**	**-0.5**
	2.6nm,0.8s								
WRA	**Warramunga Arr**	**45.88**	**269**	P		**P**		**04 34 26.2**	**-0.5**
	1.9nm,0.6s,baz=108,slow=6.2,SNR=10								
SBA	**Scott Base**	**50.75**	**185**	*e*P		P		04 35 09.8	+6.3
	23nm,0.9s								
VNDA	**Vanda**	**50.85**	**186**	P		**P**		**04 35 02.7**	**-1.5**
	0.1nm,0.3s,baz=12,slow=3.2,SNR=2.1								
VNDA				LR		LR		04 53 28.5	
	comp=Z,83nm,20.4s,baz=4.5,slow=32								
VNDA	**Vanda**	**50.85**	**186**	*e*P		P		04 35 09.4	+5.2
	7.2nm,0.8s								
CASY	**Casey**	**58.26**	**207**	*e*P		P		04 36 01.7	+3.7
	22nm,0.9s								
MAW	**Mawson**	**75.35**	**200**	P		**P**		**04 37 44.6**	**-2.1**
	4.2nm,0.8s,baz=164,slow=10,SNR=2.2								
MAW				LR		LR		05 09 42.3	
	comp=Z,62nm,20.8s,baz=80,slow=35								
MJAR	**Matsushiro Arr**	**77.18**	**324**	P		**P**		**04 37 56.4**	**-1.1**
	0.8nm,0.3s,baz=116,slow=38,SNR=3.1								
MJAR				LR		LR		05 08 59.2	
	comp=Z,40nm,20.7s,baz=125,slow=33								
SYO	**Syowa Base**	**80.03**	**192**	*e*P		**P**		**04 38 13.6**	**+0.8**
SYO	**Syowa Base**	**80.03**	**192**	*e*sP		sP		04 38 30.1	-2.3
SNAA	**Sanae**	**80.68**	**178**	P		**P**		**04 38 15.0**	**-1.4**
VNA3	**Neumayer Olymp**	**80.75**	**176**	P		**P**		**04 38 18.9**	**+2.2**
VNA3	**Neumayer Olymp**	**80.75**	**176**	PcP		**PcP**		**04 38 26.2**	**+2.9**
VNA3	**Neumayer Olymp**	**80.75**	**176**	PKiKP		**PKiKP**		**04 43 45.2**	**+1.8**
ASAJ	**Asahikawa**	**81.01**	**331**	P		**P**		**04 38 18.8**	**+0.5**
	6.8nm,0.9s,baz=221,slow=5.4,SNR=5.1								
ASAJ				LR		LR		05 14 17.7	
	comp=Z,100nm,18.4s,baz=140,slow=36								
VNA2	**Neumayer--Watz**	**81.21**	**176**	P		**P**		**04 38 21.7**	**+2.6**
	baz=172,slow=2.6								
VNA2	**Neumayer--Watz**	**81.21**	**176**	PcP		**PcP**		**04 38 28.6**	**+3.4**
VNA2	**Neumayer--Watz**	**81.21**	**176**	PKiKP		**PKiKP**		**04 43 43.8**	**-0.4**
VNA1	**Neumayer--Stat**	**81.43**	**176**	P		P		04 38 24.3	+4.1
VNA1	**Neumayer--Stat**	**81.43**	**176**	PcP		**PcP**		**04 38 29.5**	**+3.3**
ARVC	**Arvin**	**82.62**	**44**	P		**P**		**04 38 26.8**	**-0.2**
	baz=83								
BFSC	**Mount Baldy Ra**	**82.77**	**45**	P		**P**		**04 38 27.5**	**-0.4**
	baz=83								
VES	**Vestal, Richgr**	**82.94**	**43**	P		**P**		**04 38 28.5**	**-0.1**
	baz=83								
PLCA	**Paso Flores**	**82.94**	**132**	P		**P**		**04 38 27.6**	**-1.3**
	1.8nm,0.7s,baz=227,slow=3.2,SNR=3.7								
PLCA				LR		LR		05 08 26.1	
	comp=Z,76nm,20.4s,baz=270,slow=31								
EDW2	**Edwards Air Fo**	**82.98**	**45**	P		**P**		**04 38 29.1**	**+0.2**
	baz=83								
PFO	**Pinyon Flats O**	**83.13**	**46**	P		**P**		**04 38 30.0**	**+0.1**
	baz=83								
ISA	**Isabella, Lake**	**83.19**	**44**	P		**P**		**04 38 29.7**	**-0.3**
	baz=83								
LRMC	**Laurel Mtn Rad**	**83.56**	**44**	P		**P**		**04 38 32.1**	**+0.1**
	baz=84								
KSRS	**Korea Array**	**83.58**	**318**	P		**P**		**04 38 32.5**	**+0.6**
	0.5nm,0.3s,baz=138,slow=5.1,SNR=2.6								
KSRS				LR		LR		05 08 17.3	
	comp=Z,22nm,22.0s,baz=185,slow=30								
KSAR	**Wonju Array Be**	**83.59**	**318**	P		**P**		**04 38 32.5**	**+0.5**
CMB	**Columbia Colle**	**83.64**	**41**	*e*P		**P**		**04 38 32.3**	**+0.1**
	10nm,1.1s								
BELC	**Belle Mtn. Jos**	**83.67**	**46**	P		**P**		**04 38 32.9**	**+0.2**
	baz=84								
PETK	**Petropavlovsk-**	**83.78**	**344**	P		**P**		**04 38 32.4**	**-0.1**
	6.8nm,0.8s,baz=134,slow=7.0,SNR=4.9								
PETK				LR		LR		05 09 24.7	
	comp=Z,87nm,21.1s,baz=150,slow=31								
BC3	**Big Chuckawall**	**83.81**	**47**	P		**P**		**04 38 33.5**	**+0.2**
	baz=84								
HEC	**Hector,Ludlow**	**83.99**	**46**	P		**P**		**04 38 34.3**	**+0.2**
	baz=84								
GSC	**Goldstone, Bar**	**83.99**	**45**	P		**P**		**04 38 34.3**	**+0.1**
	baz=84								
GSC	**Goldstone, Bar**	**83.99**	**45**	*e*P		**P**		**04 38 34.1**	**0.0**
	12nm,1.1s								
MPMC	**Manual Prospec**	**84.06**	**44**	P		**P**		**04 38 34.7**	**+0.1**
	baz=84								
WDC	**Whiskeytown Da**	**84.17**	**38**	*e*P		**P**		**04 38 34.5**	**-0.3**
	14nm,1.0s								
MTUM	**Tungsten Hills**	**84.25**	**42**	*e*P		**P**		**04 38 36.1**	**+0.5**
IRM	**Iron Mountain**	**84.32**	**47**	P		**P**		**04 38 36.1**	**+0.3**
	baz=84								
N02D	**Trinity Center**	**84.36**	**38**	P		**P**		**04 38 35.9**	**0.0**
	baz=84								
GMRC	**Granite Mounta**	**84.38**	**46**	P		**P**		**04 38 36.1**	**-0.1**
	baz=84								
WAKR	**Walker**	**84.50**	**41**	*e*P		**P**		**04 38 36.8**	**0.0**
M02C	**Callahan**	**84.57**	**37**	P		**P**		**04 38 37.7**	**+0.8**
	baz=85								
SHOC	**Shoshone, Teco**	**84.70**	**45**	P		**P**		**04 38 37.7**	**0.0**
	baz=85								
FURC	**Furnace Creek,**	**84.71**	**44**	P		**P**		**04 38 37.7**	**+0.1**
	baz=85								
GRAC	**Grapevine Rang**	**84.74**	**43**	P		**P**		**04 38 36.6**	**+0.7**
	baz=85								
YBH	**Yreka Blue Hor**	**84.89**	**37**	*e*P		**P**		**04 38 39.0**	**+0.4**
	45nm,1.9s								
NVAR	**Mina Array Bea**	**85.12**	**42**	P		**P**		**04 38 39.0**	**-0.9**
	6.6nm,0.8s,baz=222,slow=8.5,SNR=48								
NVAR						pP		**04 38 57.0**	**+2.8**
	3.6nm,0.8s,baz=222,slow=8.2,SNR=5.7								
Z14A	**Wintersburg**	**85.27**	**48**	P		**P**		**04 38 40.9**	**+0.4**
	baz=85								
HUMO	**Hull Mountain**	**85.37**	**36**	*e*P		**P**		**04 38 41.5**	**+0.6**
	10nm,1.1s								
TPNV	**Topopah Spring**	**85.39**	**44**	P		**P**		**04 38 41.4**	**+0.1**
	baz=85								
TPNV	**Topopah Spring**	**85.39**	**44**	*e*P		**P**		**04 38 41.8**	**+0.5**
	7.5nm,0.9s								
QIZ	**Qiongzhong**	**85.55**	**294**	P		**P**		**04 38 42.4**	**+0.2**
QIZ				pP		**pP**		**04 38 56.0**	**-0.5**
QIZ				sP		**sP**		**04 39 00.3**	**-1.6**
QIZ				PP		**PP**		**04 42 02.0**	**+0.4**
QIZ				S		**SKKSac**		**04 49 11.8**	**+1.1**
QIZ				PMZ					
	24nm,1.7s								
QIZ				PMZ					
	130nm,4.7s								
Y14A	**Wickenburg**	**85.58**	**48**	P		**P**		**04 38 42.5**	**+0.3**
	baz=86								
W13A	**Hualapai Mount**	**85.72**	**47**	P		**P**		**04 38 43.1**	**+0.1**
	baz=86								
SHPR	**Sheep Range**	**85.79**	**45**	*e*P		**P**		**04 38 44.0**	**+0.7**
I03D	**Drain, OR**	**85.94**	**35**	P		**P**		**04 38 44.5**	**+0.9**
	baz=86								
NJ2	**Nanjing**	**85.96**	**309**	*e*P		**P**		**04 38 42.8**	**-1.2**
NJ2					PMZ				
	20nm,0.5s								
USRK	**Ussuriysk Ar.**	**86.03**	**325**	P		**P**		**04 38 45.0**	**+1.0**
	1.4nm,0.7s,baz=137,slow=3.9,SNR=5.9								
USRK					pP	**pP**		**04 39 02.5**	**+4.2**
	7.1nm,0.9s,baz=127,slow=3.5,SNR=8.8								
TUC	**Tucson**	**86.09**	**50**	*e*P		**P**		**04 38 45.4**	**+0.6**
	13nm,0.9s								
MOD	**Modoc Plateau**	**86.31**	**38**	*e*P		**P**		**04 38 45.6**	**-0.1**
	21nm,1.7s								
K05A	**Summer Lake**	**86.55**	**37**	*e*P		**P**		**04 38 47.2**	**+0.3**
	50nm,1.8s								
319A	**Douglas**	**86.58**	**52**	P		**P**		**04 38 48.0**	**+0.7**
	baz=87								
R11A	**Troy Canyon, C**	**86.69**	**43**	P		**P**		**04 38 47.2**	**-0.5**
	baz=87								
J05D	**Fort Rock, OR**	**86.75**	**37**	P		**P**		**04 38 47.9**	**+0.1**
	baz=87								
X16A	**Lo Mia Camp, P**	**86.90**	**48**	P		**P**		**04 38 48.7**	**-0.1**
	baz=87								
MDJ	**Mudanjiang**	**87.54**	**324**	P		**P**		**04 38 52.7**	**+1.3**
MDJ					PMZ				
	6.0nm,1.0s								
MDJ					PMZ				
	61nm,6.1s								
U15A	**North Rim**	**87.56**	**46**	P		**P**		**04 38 52.6**	**+0.5**
	baz=88								
CCUT	**Cedar City**	**87.56**	**45**	*e*P		**P**		**04 38 52.4**	**+0.5**
	8.2nm,1.2s								
WUAZ	**Wupatki**	**87.60**	**48**	P		**P**		**04 38 52.6**	**+0.5**
	baz=88								
WUAZ	**Wupatki**	**87.60**	**48**	*e*P		**P**		**04 38 52.6**	**+0.5**
	10nm,1.2s								
MVU	**Maryvale**	**88.86**	**45**	*e*P		**P**		**04 38 58.4**	**+0.3**
	5.7nm,1.3s								
G08A	**Pilot Rock**	**89.31**	**36**	*e*P		**P**		**04 38 60.0**	**0.0**
	11nm,1.2s								
TXAR	**Lajitas Array**	**89.47**	**56**	P		**P**		**04 39 00.1**	**-1.0**
	3.1nm,1.0s,baz=210,slow=7.2,SNR=16								
TXAR					pP	**pP**		**04 39 19.2**	**+3.9**
	1.0nm,0.8s,baz=220,slow=9.1,SNR=3.7								
TXAR					LR	LR		05 12 34.2	
	comp=Z,63nm,19.7s,baz=0.0,slow=31								
MNTX	**Cornudas Mount**	**89.51**	**54**	P		**P**		**04 39 01.0**	**-0.1**
	baz=90								
MNTX	**Cornudas Mount**	**89.51**	**54**	*e*P		**P**		**04 39 01.2**	**+0.2**
	33nm,2.0s								
DUG	**Dugway, Tooele**	**89.53**	**43**	P		**P**		**04 39 01.2**	**+0.2**
	baz=90								
HAWA	**Hanford**	**89.76**	**35**	*e*P		**P**		**04 39 02.0**	**+0.2**
	16nm,1.3s								
LAZ	**Ladron**	**89.78**	**50**	*e*P		**P**		**04 39 02.6**	**+0.1**
	3.9nm,1.2s								
TMUT	**Trail Mountain**	**89.97**	**45**	*e*P		**P**		**04 39 04.1**	**+0.7**
	9.6nm,1.0s								
D08A	**Wollman Farm,**	**90.52**	**35**	*e*P		**P**		**04 39 05.2**	**-0.1**
	14nm,0.9s								
ANMO	**Albuquerque**	**90.55**	**50**	*e*P		**P**		**04 39 06.1**	**0.0**
	7.1nm,1.1s								
E09A	**Wood Farm, Sta**	**90.55**	**36**	*e*P		**P**		**04 39 05.3**	**-0.2**
	16nm,1.1s								
HLID	**Hailey**	**90.67**	**40**	P		**P**		**04 39 06.5**	**+0.1**
	baz=91								
HLID	**Hailey**	**90.67**	**40**	*e*P		**P**		**04 39 06.5**	**+0.1**
	3.6nm,1.1s								
F10A	**Beach Ranch, E**	**90.68**	**37**	*e*P		**P**		**04 39 05.2**	**-1.1**
	7.7nm,0.8s								
PV01	**Paradox Valley**	**90.95**	**47**	*e*P		**P**		**04 39 07.1**	**-0.8**
	333nm,1.0s								
V23A	**Ortiz Mt. (NFS**	**91.18**	**50**	P		**P**		**04 39 08.7**	**-0.3**
	baz=91								
GAMB	**Gambell**	**91.33**	**2**	*e*P		**P**		**04 39 08.6**	**0.0**
	7.4nm,1.0s								
C09A	**Chrisman Ranch**	**91.34**	**35**	*e*P		**P**		**04 39 08.8**	**-0.4**
	6.8nm,0.9s								
429A	**Davenport Ranc**	**91.46**	**56**	P		**P**		**04 39 09.7**	**-0.5**
	baz=92								
228A	**UT Block 9, Go**	**91.73**	**54**	P		**P**		**04 39 10.9**	**-0.6**
	baz=92								
631A	**Perdido Creek**	**91.81**	**58**	P		**P**		**04 39 11.1**	**-0.7**
	baz=92								
329A	**Wagon Wheel Ra**	**91.84**	**55**	P		**P**		**04 39 11.9**	**-0.1**
	baz=92								
**

3.0nm,0.8s
Z30A Sanderson Ranc 93.39 54 P **P** 04 39 18.0 -1.1
baz=93
O22A Kremmling 93.40 46 P **P** 04 39 18.5 -0.7
baz=93
S25A Robets Cordova 93.41 49 P **P** 04 39 18.7 -0.5
baz=93
332A Millersview 93.43 56 P **P** 04 39 18.4 -0.8
baz=94
V27A Dan Oppiter Fa 93.48 51 P **P** 04 39 18.8 -0.7
baz=94
LKWY Lake 93.58 41 *eP* **P** 04 39 20.3 +0.4
1.6nm,0.8s
X29A Tulia 93.58 53 P **P** 04 39 19.0 -1.0
baz=94
433A Art 93.60 57 P **P** 04 39 19.0 -1.0
baz=94
J19A Crowheart 93.61 42 P **P** 04 39 19.3 -0.7
baz=94
MCK McKinley 93.69 12 *eP* **P** 04 39 18.5 -1.1
4.1nm,1.1s
R25A Fountain Ranch 93.77 49 P **P** 04 39 19.8 -1.0
baz=94
SEY Seymchan 93.88 346 P **P** 04 39 20.1 -0.4
2.4nm,0.6s,baz=147,slow=4.4,SNR=9.5
333A Richland Sprin 93.96 57 P **P** 04 39 21.4 -0.3
baz=94
M22A Cedar Creek Ra 94.06 45 P **P** 04 39 22.1 -0.1
baz=94
I19A Meeteetse 94.09 42 P **P** 04 39 22.0 -0.2
baz=94
J20A Shoshoni 94.24 43 P **P** 04 39 22.4 -0.4
baz=94
CMAR Chiang Mai Arr 94.26 288 LR LR 05 20 12.4
comp=Z,19nm,21.8s,baz=185,slow=34
KMI Kunming 94.28 296 P **P** 04 39 22.6 -1.0
KMI PMZ
6.0nm,1.2s
O24A Longmont 94.32 47 P **P** 04 39 23.9 +0.6
baz=94
K21A Alcova 94.34 44 P **P** 04 39 23.3 -0.1
baz=94
Y31A Rekieta Farm, 94.36 54 P **P** 04 39 22.7 -0.7
baz=94
I20A Worland 94.55 42 P **P** 04 39 23.4 -0.8
baz=95
Z32A Haskell 94.59 55 P **P** 04 39 23.0 -1.5
baz=95
J21A Lysite 94.62 43 P **P** 04 39 24.4 -0.3
baz=95
K22A Casper 94.79 44 P **P** 04 39 25.3 -0.1
baz=95
N24A Carr 94.82 46 P **P** 04 39 25.3 -0.3
baz=95
H20A Greybull 94.94 42 P **P** 04 39 24.9 -1.1
baz=95
Y32A R-V Farms, Ver 94.97 54 P **P** 04 39 25.6 -0.7
baz=95
I21A Big Trails, Te 94.98 43 P **P** 04 39 25.3 -0.9
baz=95
ILAR Eielson Array 95.02 12 P **P** 04 39 24.2 -1.5
1.0nm,0.7s,baz=219,slow=5.4,SNR=18
ILAR LR LR 05 26 59.5
comp=Z,30nm,18.1s,baz=192,slow=38
J22A Midwest 95.24 43 P **P** 04 39 26.9 -0.5
baz=95
X32A Elmer 95.29 54 P **P** 04 39 27.2 -0.5
baz=95
436A Wall Ranch, Ga 95.32 58 P **P** 04 39 26.8 -1.1
baz=95
K23A Bowen Ranch, D 95.41 44 P **P** 04 39 28.1 -0.2
baz=95
I22A 9 Mile Ranch, 95.51 43 P **P** 04 39 28.0 -0.6
baz=96
HHC Hu-ho-hao-te 95.75 313 *eP* **P** 04 39 31.6 +1.8
HHC PP **PP** 04 43 26.1 +3.8
HHC S **S** 04 50 42.6 -1.0
HHC sS **sS** 04 51 05.6 -2.3
HHC SS **SS** 04 57 17.0 +2.4
HHC PMZ
13nm,1.2s
HHC PMZ
49nm,5.2s
HHC LN
100nm,19.2s
HHC LE
140nm,18.6s
HHC LZ
100nm,19.6s
I23A Meade Ranch, G 96.16 43 P **P** 04 39 31.0 -0.6
baz=96
CD2 Chengdu 96.25 302 *eP* **P** 04 39 33.1 +0.9
CD2 pP **pP** 04 39 45.9 -0.7
CD2 sP **sP** 04 39 50.8 -1.2
CD2 PP **PP** 04 43 29.2 +2.9
CD2 SKS **SKSac** 04 50 04.9 0.0
CD2 S **S** 04 50 46.2 -2.1
CD2 sS **sS** 04 51 07.9 -4.7
CD2 SS **SS** 04 57 23.1 +1.1
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.6s
CD2 LN
240nm,18.6s
CD2 LZ
270nm,23.5s
RSSD Black Hills 97.11 44 *eP* **P** 04 39 35.4 -0.7
5.9nm,0.9s
H24A Dirks Ranch, A 97.13 43 P **P** 04 39 34.9 -1.1
baz=97
F23A Volborg 97.15 42 P **P** 04 39 35.6 -0.4
baz=97
I25A Rochford 97.25 44 P **P** 04 39 36.2 -0.4
baz=97
LZH Lanzhou 98.63 306 *eP* Pdif 04 39 45.4 +2.4
LZH pP pP 04 39 57.5 +0.1
LZH sP sP 04 40 03.3 +0.6
LZH *ePP* **PP** 04 43 48.5 +3.8
LZH SKS **SKSac** 04 50 18.2 +1.0
LZH *eS* **S** 04 51 07.0 -1.6
LZH sS sS 04 51 28.5 -4.5
LZH PMZ
16nm,1.6s
LZH PMZ
100nm,7.2s
LZH LN
280nm,18.0s
LZH LE
260nm,17.5s
LZH LZ
510nm,19.7s
YKA Yellowknife Ar 102.34 25 P **Pdif** 04 39 57.4 -1.2
0.2nm,0.8s,baz=236,slow=4.4,SNR=3.4
GTA Gaotai 102.97 308 *eP* **Pdif** 04 40 00.1 -2.1
GTA pP 04 40 13.6
GTA sP 04 40 18.9
GTA PMZ
4.0nm,0.8s
WMQ Urumqi 113.03 309 *ePKP* **PKiKP** 04 44 41.6 +0.9
WMQ sPKP 04 44 56.0
WMQ *ePP* **PP** 04 45 35.0 +4.3
WMQ PKS **PKSdf** 04 48 17.0 -0.3
WMQ SKKS 04 52 24.0
WMQ SS **SS** 05 01 12.0 +0.5
WMQ PPMZ
140nm,5.3s
WMQ LN
190nm,28.2s
WMQ LZ
140nm,23.8s
ZALV Zalesovo Beam 117.28 319 PKP **PKPdf** 04 44 47.8 -0.6
1.5nm,0.7s,baz=174,slow=1.2,SNR=6.2
ZALV pPKP **pPKPdf** 04 45 05.8 +2.5
1.1nm,0.7s,baz=184,slow=0.6,SNR=3.3
MKAR Makanchi Array 117.47 311 PKP **PKPdf** 04 44 48.0 -1.1
1.5nm,0.8s,baz=50,slow=2.3,SNR=14
MKAR pPKP **pPKPdf** 04 45 07.0 +3.2
1.7nm,0.9s,baz=58,slow=1.6,SNR=4.2
OPO Ambohidratompo117.79 227 PKP **PKPdf** 04 44 49.4 -1.3
6.2nm,0.3s,baz=91,slow=2.2,SNR=6.7
KSH Kashi 120.44 301 *ePKP* **PKPdf** 04 44 56.7 +1.6
KSH sPKP 04 45 11.1
KSH PP **PP** 04 46 26.3 +3.6
KSH PKS **PKSdf** 04 48 31.8 -0.1
KSH SKS **SKSdf** 04 52 03.3 0.0
KSH SKKS **SKKSac** 04 53 15.1 -2.9
KSH SS **SS** 05 02 48.6 +0.1
KSH PPMZ
120nm,5.3s
KSH LN
350nm,8.7s
KSH LE
300nm,5.7s
KSH LZ
190nm,6.4s
KURK Kurchatov 120.53 315 PKP **PKPdf** 04 44 54.6 -0.1
KURBB Kurchatov Arra 120.58 315 PKP **PKPdf** 04 44 54.6 -0.2
1.4nm,0.8s,baz=92,slow=2.8,SNR=19
BVAR Borovoye Array 125.77 317 PKP **PKPdf** 04 45 04.9 +0.1
1.5nm,0.6s,baz=90,slow=3.0,SNR=9.3
HATD Hatta, Dubai 133.50 279 ⇑*P* **SKKSac** 04 54 35.1 -5.7
BANOM Banah 133.64 280 ⇓*iP* **SKKSac** 04 54 37.6 -4.0
SNR=9.6
ARCES ARCESS Array B 136.41 349 PKP **PKPdf** 04 45 24.4 0.0
1.6nm,0.7s,baz=330,slow=4.6,SNR=3.9
ARCES pPKP **pPKPdf** 04 45 41.5 +2.2
2.0nm,0.6s,baz=286,slow=0.9,SNR=2.3
JOF Joensuu 140.62 341 *ep* **PKPdf** 04 45 31.5 -0.8
KAF Kangasniemi 142.66 343 *ep* **PKPdf** 04 45 32.0 -3.9
FINES FINESS Array B 143.28 342 PKP PKPab 04 45 33.3 +0.4
2.1nm,0.7s,baz=64,slow=4.4,SNR=8.9
NB2 NORSAR Subarra146.42 354 PKP **PKPdf** 04 45 43.1 +0.5
comp=Z,0.8nm,0.8s,baz=17,slow=3.7
NOA NORSAR Array B 146.42 354 PKPbc **PKPbc** 04 45 43.4 -0.6
comp=Z,6.1nm,0.8s,baz=14,slow=2.5,SNR=26
AKASG Malin Array Be 150.22 327 PKPbc **PKPbc** 04 45 54.0 -0.2
comp=Z,7.3nm,0.9s,baz=42,slow=2.8,SNR=25
KIEV Kiev 150.23 327 *e*PKPdf **PKPdf** 04 45 48.8 -0.2
KIEV *e*PKPbc **PKPbc** 04 45 53.4 -0.8
BRTR Keskin Array B 152.81 304 PKPbc **PKPbc** 04 46 00.7 -0.1
comp=Z,2.6nm,1.0s,baz=119,slow=3.3,SNR=6.6
CLL Collm 155.57 346 ⇓*i*PKPab **PKPab** 04 46 22.0 -0.9
comp=Z,6.0nm,0.9s
CLL *e*pPKPab **pPKPab** 04 46 38.0 +0.7
CLL Lm MLR 05 51 00.0
comp=Z,100nm,20.0s
BRG Berggiesshubel 155.77 345 *e* **PKPab** 04 46 23.4 -0.4
comp=Z,3.4nm,0.8s
GERES GERESS Array B 157.71 343 PKPab **PKPab** 04 46 31.6 -0.7
comp=Z,0.4nm,0.5s,baz=39,slow=5.1,SNR=4.0
TORD Torodi Ar. Bea 165.25 171 PKP **PKPdf** 04 46 05.5 -3.0
comp=Z,0.8nm,1.0s,baz=180,slow=2.9,SNR=2.8
ESDC Sonseca Array 166.42 27 PKPab **PKPab** 04 47 10.2 -0.5
comp=Z,1.1nm,0.6s,baz=318,slow=4.3,SNR=7.5

*ISCJB **08** 04:38:49.2±1.6,35°.38S±0°.05×73°.29W±0°.07,h20km±11km, mb4.2/13,MS4.0/2,Error ellipse: s-maj=10.9km s-min=7.4km az=40.6*
*GUC **08** 04:38:49.4±0.5,35°.39S×73°.33W,h43km±4km,ML4.5*
*IDC **08** 04:38:49.2±0.9,35°.50S×72°.79W,h0km,mb4.1/10, mb1 4.1/13,mb1mx4.0/35,mbtmp4.0/13,ML3.8/3,MS4.0/2, Ms1 4.0/2,ms1mx3.2/18,Error ellipse: s-maj=22.8km s-min=15.4km az=96.0*
ISC 08 04:38:50.3±2.3,35°.49S±0°.05×73°.16W±0°.09,h16km±13km, n25,σ0s94/31,mb4.2/13,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.71**	**155**	*i*	P		**Pn**	**04 39 05.3**	**-0.4**
COCH				*e*	S		**Sn**	**04 39 16.6**	**+0.4**
COCH					AML		AML	04 39 18.5	
	comp=E,8μm,0.3s								
TALC	**Talca**	**1.25**	**86**	*i*	P		**Pb**	**04 39 13.2**	**-0.3**
TALC				*i*	S		**Sg**	**04 39 31.5**	**+0.9**
LNCH	**Linares**	**1.32**	**106**	⇑*i*	P		**Pg**	**04 39 15.1**	**-0.6**
LNCH				*i*	S		**Sg**	**04 39 34.5**	**+1.6**
LNCH					AML		AML	04 39 37.1	
	comp=N,11μm,0.5s								
CCSP	**San Pedro de C**	**1.36**	**178**	*i*	P		**Pn**	**04 39 14.6**	**0.0**
CCSP				*e*	S		**Sb**	**04 39 29.9**	**-2.5**
CCSP					AML		AML	04 39 42.0	
	comp=E,7μm,0.3s								
NICH	**Los Niches**	**1.65**	**74**	*i*	P		**Pn**	**04 39 19.0**	**+0.4**
NICH				*i*	S		**Sb**	**04 39 41.1**	**+0.3**
NICH					AML		AML	04 39 52.6	
	comp=E,16μm,0.5s								
CLCH	**Cerro Calan**	**3.00**	**47**	*i*	P		**Pn**	**04 39 37.1**	**-0.2**
CLCH				*e*	S		**Sn**	**04 40 12.1**	**-1.0**
CLCH					AML		AML	04 40 30.1	
	comp=N,2μm,0.7s								
PEL	**Peldehue**	**3.10**	**42**	*i*	P		**Pn**	**04 39 38.0**	**-0.7**
PEL				*i*	S		**Sn**	**04 40 14.8**	**-0.7**
PEL					AML		AML	04 40 35.0	
	comp=E,2μm,0.4s								
PLCA	**Paso Flores**	**5.63**	**159**		Pn		**Pn**	**04 40 14.1**	**+0.7**
	comp=E,0.7nm,0.3s,baz=329,slow=9.7,SNR=19								
PLCA					Lg		Lg	04 41 44.8	
	comp=E,1.9nm,0.3s,baz=263,slow=22,SNR=3.7								
CFAA	**Coronel Fontan**	**5.64**	**48**		Pn		**Pn**	**04 40 12.9**	**-0.7**
	comp=E,0.8nm,0.3s,baz=184,slow=7.1,SNR=37								
CFAA					Sn		**Sn**	**04 41 18.2**	**+0.1**
	comp=E,0.6nm,0.3s,baz=231,slow=16,SNR=4.2								
CFAA					Lg		Lg	04 41 39.9	
	comp=E,0.5nm,0.3s,baz=103,slow=19,SNR=5.9								
LPAZ	**La Paz**	**19.64**	**14**		P		**Pn**	**04 43 20.1**	**-0.3**
	comp=E,0.3nm,0.3s,baz=179,slow=11,SNR=16								
SIV	**San Ignacio**	**22.22**	**32**		P		**P**	**04 43 45.7**	**-0.6**
	comp=E,2.6nm,0.6s,baz=214,slow=9.7,SNR=9.3								
SIV					LR		LR	04 54 07.0	
	comp=E,260nm,19.0s,baz=280,slow=42								
BDFB	**Brasilia**	**29.93**	**55**		P		**P**	**04 44 56.4**	**-1.4**
	comp=E,1.6nm,0.6s,baz=220,slow=12,SNR=3.2								
RCBR	**Riachuelo**	**45.21**	**58**		P		**P**	**04 47 06.4**	**-0.5**
	comp=E,1.3nm,0.5s,baz=230,slow=8.5,SNR=4.1								
APG	**El Apazote**	**52.83**	**339**		P		**P**	**04 48 06.7**	**+1.4**
	comp=E,1.8nm,0.7s,baz=49,slow=17,SNR=4.2								
QSPA	**South Pole Qui**	**54.75**	**180**		P		**P**	**04 48 19.6**	**+0.8**
	comp=E,1.8nm,0.8s,baz=149,slow=3.1,SNR=4.2								
TXAR	**Lajitas Array**	**70.59**	**332**		P		P	04 50 08.4	+3.6
	comp=E,0.2nm,0.4s,baz=179,slow=9.9,SNR=2.8								
LIC	**Lamto**	**76.11**	**72**	*e*	PKP2		**P**	**04 50 38.7**	**+1.0**
	comp=E,5.4nm,0.2s								
TIC	**Toumodi**	**76.38**	**72**	*e*	PKP2		**P**	**04 50 39.6**	**+0.4**
	comp=E,2.1nm,0.2s								
KIC	**Kosan Boka**	**76.42**	**72**	*e*	PKP2		**P**	**04 50 39.9**	**+0.5**
	comp=E,7.0nm,0.6s								
DBIC	**Dimbokro**	**76.52**	**72**		P		**P**	**04 50 40.8**	**+0.8**
	comp=E,1.5nm,0.5s,baz=209,slow=7.8,SNR=4.5								
BOSA	**Boshof**	**80.19**	**118**		P		**P**	**04 50 59.9**	**-0.4**
	comp=E,2.1nm,0.6s,baz=228,slow=2.2,SNR=5.6								
TORD	**Torodi Ar. Bea**	**85.58**	**71**		P		**P**	**04 51 27.6**	**-0.6**
	comp=E,1.1nm,0.9s,baz=276,slow=3.3,SNR=6.0								
ULM	**Lac du Bonnet**	**87.70**	**346**		P		**P**	**04 51 38.7**	**+1.1**
	comp=E,0.7nm,0.4s,baz=174,slow=9.2,SNR=2.2								
SCHQ	**Schefferville**	**90.12**	**4**		LR		LR	05 32 04.7	
	comp=E,107nm,20.6s,baz=114,slow=36								
BVAR	**Borovoye Array**	**148.99**	**44**		PKPbc		**PKPbc**	**04 58 38.0**	**+1.1**
	comp=E,1.5nm,0.5s,baz=294,slow=1.5,SNR=8.3								

*IDC **08** 04:39:35.9±0.8,13°.38N×92°.67E,h0km,mb3.8/12, mb1 4.0/13,mb1mx3.7/50,mbtmp3.8/13,ML4.0/1,MS3.1/3, Ms1 3.1/3,ms1mx2.6/42,Error ellipse: s-maj=32.9km s-min=16.7km az=56.0*
*ISCJB **08** 04:39:38.6±0.7,13°.55N±0°.09×92°.76E±0°.09,h29km, mb3.8/12,MS3.1/2,Error ellipse: s-maj=16.1km s-min=9.4km az=44.2*
ISC 08 04:39:40.8±0.9,13°.6N±0°.1×92°.7E±0°.1,h29km,n30, σ1s14/27,mb3.8/12,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.74**	**50**		Pn		**Pn**	**04 41 31.2**	**-0.3**
	0.5nm,0.3s,baz=239,slow=16,SNR=5.5								
CMAR					LR		LR	04 45 19.8	
	comp=Z,75nm,18.1s,baz=238,slow=44								
BWNR	**Bhubaneshwar**	**9.37**	**316**	*eP*			Pn	04 41 58.0	+4.1
BWNR				*eS*			**Sn**	**04 43 35.0**	**-3.4**
VIS	**Vishakhapatnam**	**9.90**	**296**	*i*	P		**Pn**	**04 42 02.3**	**+1.1**
VIS				*i*	S		Sn	04 43 43.0	-8.4
VIS				*i*	S		Sn	04 43 43.9	-7.5
VIS				*ex*			x	04 43 46.9	
	comp=E,42nm,0.2s								
VIS				*ex*			x	04 43 49.7	
	comp=N,99nm,0.2s								
ODAN	**Odare**	**14.11**	**340**	*eP*			**Pn**	**04 42 58.6**	**-0.4**
	comp=N,13nm,0.3s								
TAPN	**Taplejung**	**14.47**	**342**	*eP*			**Pn**	**04 43 03.7**	**-0.2**
	comp=N,12nm,0.3s								
RAMN	**Ramite**	**14.47**	**338**	*eP*			**Pn**	**04 43 03.5**	**-0.4**
	comp=N,17nm,0.3s								
JIRN	**Jiri**	**15.27**	**338**	*eP*			**Pn**	**04 43 13.8**	**-0.9**
	comp=N,14nm,0.3s								
PKI	**Pulchoki**	**15.49**	**335**	*eP*			**Pn**	**04 43 16.6**	**-1.0**
	comp=N,8.7nm,0.3s								
GUN	**Gumba**	**15.61**	**337**	*eP*			**Pn**	**04 43 17.9**	**-1.2**
	comp=N,6.0nm,0.2s								
GKN	**Gorkha**	**16.19**	**334**	*eP*			**Pn**	**04 43 26.4**	**-0.1**
	comp=N,19nm,0.3s								
KOLN	**Koldanda**	**16.47**	**330**	*eP*			**Pn**	**04 43 30.9**	**+0.9**
	comp=N,8.1nm,0.3s								
DANN	**Dangsing**	**16.88**	**332**	*eP*			**Pn**	**04 43 35.8**	**+0.5**
	comp=N,15nm,0.5s								
PYUN	**Piuthan**	**17.04**	**330**	*eP*			**P**	**04 43 38.2**	**-0.6**
	comp=N,28nm,0.3s								
H08S3	**Diego Garcia H**	**29.08**	**225**	T			T	05 15 34.5	
	baz=43,slow=76,SNR=24								
H08S2	**Diego Garcia H**	**29.09**	**225**	T			T	05 15 47.4	
	baz=43,slow=76,SNR=21								
H08S1	**Diego Carcia H**	**29.10**	**225**	T			T	05 15 38.5	
	baz=43,slow=76,SNR=14								
AAK	**Ala-Archa**	**32.95**	**335**	LR			LR	05 01 09.8	
	comp=N,40nm,19.8s,baz=94,slow=39								
MKAR	**Makanchi Array**	**34.24**	**347**	P			**P**	**04 46 24.4**	**+0.3**
	comp=N,0.5nm,0.7s,baz=174,slow=7.7,SNR=3.5								
MKAR				LR			LR	05 03 58.2	
	comp=N,29nm,18.2s,baz=164,slow=42								
SONM	**Songino Array**	**36.02**	**16**	P			**P**	**04 46 40.1**	**+0.6**
	comp=N,0.1nm,0.4s,baz=216,slow=7.1,SNR=2.0								
KURBB	**Kurchatov Arra**	**38.70**	**346**	P			**P**	**04 47 03.9**	**+1.9**
	comp=N,0.5nm,0.2s,baz=159,slow=8.0,SNR=3.3								
ZALV	**Zalesovo Beam**	**40.75**	**353**	P			**P**	**04 47 19.9**	**+0.9**
	comp=N,0.9nm,0.5s,baz=190,slow=7.5,SNR=4.0								
WRA	**Warramunga Arr**	**52.82**	**128**	P			**P**	**04 48 52.4**	**-1.5**
	comp=N,2.5nm,0.5s,baz=304,slow=10,SNR=97								
WRA				PcP			**PcP**	**04 50 02.7**	**-0.4**
	comp=N,0.6nm,0.4s,baz=320,slow=3.1,SNR=8.6								
ASAR	**Alice Springs**	**54.73**	**132**	P			**P**	**04 49 06.7**	**-1.3**
	comp=N,1.9nm,0.5s,baz=308,slow=6.7,SNR=29								
FINES	**FINESS Array B**	**67.04**	**331**	P			**P**	**04 50 32.4**	**+1.4**
	comp=N,0.4nm,0.5s,baz=116,slow=12,SNR=2.3								
ARCES	**ARCESS Array B**	**69.45**	**340**	P			**P**	**04 50 47.1**	**+1.1**
	comp=N,2.5nm,1.0s,baz=104,slow=4.0,SNR=4.1								
GERES	**GERESS Array B**	**72.66**	**317**	P			**P**	**04 51 06.7**	**+0.7**
	comp=N,0.4nm,0.5s,baz=87,slow=6.8,SNR=3.5								
NB2	**NORSAR Subarra**	**74.09**	**330**	P			**P**	**04 51 14.1**	**0.0**
	comp=Z,1.9nm,0.9s,baz=89,slow=5.6								
NOA	**NORSAR Array B**	**74.09**	**330**	P			**P**	**04 51 14.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=90,slow=5.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**87.91**	**283**	P			**P**	**04 52 27.8**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=96,slow=2.0,SNR=2.8								
ILAR	**Eielson Array**	**90.02**	**22**	P			**P**	**04 52 37.8**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=308,slow=4.4,SNR=4.8								

*MEX **08** 04:46:13.9±0.9,32°.16N×115°.04W,h10km,MD3.7*
*NEIC **08** 04:46:13.9,32°.10N×115°.10W,h18km,MD3.8(ECX), ML3.5(PAS),After ECX.*
*ECX **08** 04:46:13.6±0.6,32°.10N×115°.09W,h8km,MD3.6,ML3.8*
ISC 08 04:46:11.5±1.0,32°.07N±0°.02×115°.13W±0°.02,h6km±8km, n32,σ1s46/57,8C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.13**	**230**	⇑*eP*			**Pg**	**04 46 13.8**	**-0.4**
EMX				*eS*			**Sg**	**04 46 16.7**	**+0.7**
MBIG	**Mexicali**	**0.34**	**350**	*eP*			**Pb**	**04 46 19.9**	**0.0**
MBIG				*eS*			**Sg**	**04 46 22.1**	**-0.1**
CPBX	**Cerro Prieto**	**0.38**	**336**	⇑*eP*			**Pb**	**04 46 20.8**	**+0.3**
ECBX	**El Chinero**	**0.60**	**174**	⇓*eP*			**Pg**	**04 46 22.1**	**-0.9**
ECBX				*eS*			**Sg**	**04 46 31.0**	**+0.1**
RDX	**Rancho Dawling**	**0.71**	**258**	⇑*eP*			**Pb**	**04 46 27.1**	**+0.8**
RDX				*eS*			**Sb**	**04 46 37.3**	**+0.9**
RMX	**La Rumorosa**	**0.96**	**303**	⇑*eP*			**Pg**	**04 46 30.5**	**+0.5**
RMX				*eS*			**Sb**	**04 46 44.4**	**+0.7**
SPIG	**San Pedro Mart**	**1.06**	**196**	*eP*			**Pb**	**04 46 32.8**	**+0.4**
SPIG				*eS*			**Sb**	**04 46 47.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.06**	**196**	*eP*			**Pb**	**04 46 32.8**	**+0.4**
SPIG				*eS*			**Sb**	**04 46 47.0**	**+0.2**
SPX	**San Pedro Mart**	**1.06**	**196**	⇓*eP*			**Pb**	**04 46 32.9**	**+0.4**
SPX				*eS*			**Sn**	**04 46 47.6**	**-0.9**
SPX				⇓*e*				04 46 50.4	
SPX					AML		AML	04 46 50.4	
	comp=N,1μm,0.4s								
ZAX	**El Zacaton**	**1.12**	**241**	⇑*eP*			**Pn**	**04 46 33.9**	**+0.1**
ECNX	**Esteban Cantu**	**1.32**	**252**	⇓*eP*			**Pb**	**04 46 37.0**	**+0.3**
CBX	**Cerro Bola**	**1.33**	**281**	*eP*			**Pn**	**04 46 36.5**	**-0.1**
CBX				*eS*			**Sb**	**04 46 53.6**	**-0.5**
CBX	**Cerro Bola**	**1.33**	**281**	⇑*eP*			**Pn**	**04 46 36.5**	**-0.1**
CBX				*eS*			**Sg**	**04 46 54.9**	**+0.7**
CBX				⇑*e*				04 46 56.6	
	comp=N,2μm,0.5s								
CBX				⇑*e*				04 47 06.3	
	comp=E,2μm,0.7s								
CBX	**Cerro Bola**	**1.33**	**281**	*eP*			**Pn**	**04 46 36.5**	**-0.1**
CBX				*eS*			**Sb**	**04 46 53.6**	**-0.5**
PBX	**Punta Banda**	**1.40**	**257**	⇓*eP*			**Pb**	**04 46 38.0**	**0.0**
BAR	**Barrett**	**1.44**	**295**	*ePn*			**Pn**	**04 46 38.1**	**0.0**
BAR				*eS*			**Sb**	**04 46 57.6**	**+0.3**
PFO	**Pinyon Flats O**	**1.90**	**324**	*ePn*			**Pn**	**04 46 43.2**	**-1.3**
PFO				*eS*			**Sn**	**04 47 06.1**	**-2.7**
214A	**Organ Pipe Nat**	**1.97**	**93**	*ePn*			**Pn**	**04 46 43.6**	**-1.7**
MWC	**Mount Wilson**	**3.26**	**312**	*ePn*			**Pn**	**04 47 03.5**	**+0.2**
MWC				*ePg*			**Pb**	**04 47 11.8**	**+1.9**
MWC				*eS*			**Sn**	**04 47 45.2**	**+2.7**
TUC	**Tucson**	**3.69**	**85**	*ePn*			**Pn**	**04 47 07.6**	**-1.5**
TUC				*ePg*			**Pg**	**04 47 23.3**	**+1.2**
TUC				*eS*			**Sb**	**04 48 02.9**	**+0.8**
SHPR	**Sheep Range**	**4.42**	**360**	*ePn*			**Pn**	**04 47 19.9**	**+0.7**
SHPR				*eS*			**Sg**	**04 48 32.2**	**-1.3**
ISA	**Isabella, Lake**	**4.54**	**323**	*ePn*			**Pn**	**04 47 22.3**	**+1.6**
ISA				*ePg*			**Pg**	**04 47 37.0**	**-1.4**
ISA				*eS*			**Sg**	**04 48 34.0**	**-3.2**
WUAZ	**Wupatki**	**4.64**	**41**	*ePn*			**Pn**	**04 47 22.7**	**+0.5**
DAC	**Darwin (Calif)**	**4.67**	**335**	*ePn*			**Pn**	**04 47 23.4**	**+0.8**
W18A	**Petrified Fore**	**5.43**	**55**	*ePn*			**Pn**	**04 47 33.9**	**+0.8**
	comp=E,11nm,0.5s								
W18A				*eS*			**Sn**	**04 48 34.6**	**-1.3**
CCUT	**Cedar City**	**5.65**	**14**	*ePn*			**Pn**	**04 47 37.3**	**+1.1**
	comp=E,19nm,1.0s								
CCUT				*ePg*			**Pg**	**04 48 02.8**	**+3.0**
CCUT				*eS*			**Sg**	**04 49 09.1**	**-3.9**
ARUT	**Antelope Range**	**5.87**	**13**	*ePn*			**Pn**	**04 47 39.7**	**+0.6**
	comp=E,1.1nm,0.5s								
ARUT				*ePg*			**Pg**	**04 48 03.0**	**-0.9**
ARUT				*eS*			**Sg**	**04 49 15.8**	**-4.1**
121A	**Cookes Peak, D**	**6.23**	**84**	*ePn*			**Pn**	**04 47 43.5**	**-0.6**
	comp=E,7.6nm,0.5s								
121A				*eS*			**Sb**	**04 49 18.5**	**+3.1**
R11A	**Troy Canyon, C**	**6.27**	**357**	*ePn*			**Pn**	**04 47 45.6**	**+1.0**
	comp=E,3.2nm,0.6s								
MVU	**Marysvale**	**6.84**	**20**	*ePn*			**Pn**	**04 47 54.3**	**+1.8**
	comp=E,14nm,1.0s								
MVCO	**Mesa Verde**	**7.49**	**45**	*ePn*			**Pn**	**04 48 02.5**	**+1.1**
	comp=E,6.9nm,0.7s								
MVCO				*eS*			Sg	04 50 03.7	-8.2
SRU	**San Rafael Swe**	**7.96**	**27**	Pn			Pn	04 48 11.8	+4.0
	comp=E,9.1nm,0.7s								

NNC 08 04:48:38.1±1.3,41°.33N×68°.71E,h0km,mb3.7,mpv3.4, 10C-6D,Error ellipse: s-maj=12.0km s-min=9.5km az=96.0,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**2.22**	**36**	⇑Pg			Pg	04 49 20.1	-0.7
	4.5nm,0.3s,baz=217,slow=17,SNR=162								
KK31				⇓Lg			Lg	04 49 50.0	
	43nm,0.3s,baz=221,slow=30,SNR=9.9								
DZET	**Dzherino**	**2.52**	**178**	⇓Pg			Pb	04 49 25.0	+0.7
	5.2nm,0.3s								
DZET			

	4.1nm,0.4s							
AAK				⇑Lg	Lg	04 50 59.2		
	6.5nm,0.6s							
TKM2	**Tokmak 2**	**5.37**	**70**	⇑Pg	Pb	04 50 17.0	+4.0	
	2.9nm,0.6s							
TKM2				⇑Lg	Lg	04 51 25.0		
	10.0nm,0.5s							
AB31	**Akbulak array**	**10.04**	**325**	⇓P	Pn	04 51 05.9	+2.4	
	0.5nm,0.5s,baz=140,slow=12							
AB31				⇑S	Sn	04 52 54.5	-2.3	
	1.5nm,0.4s,baz=163,slow=22							
AKTO	**Aktyubinsk**	**11.75**	**324**	⇓P	Pn	04 51 30.2	+3.2	
	0.3nm,0.4s							
AKTO				⇓S	Sn	04 53 35.0	-3.8	
	1.5nm,0.8s							

IDC ***08*** *04:49:17.3±1.8,2˝.25N×97˚.29E,h0km,mb4.5/19, mb1 4.5/20,mb1mx4.3/48,mbtmp4.5/20,ML4.5/1,MS3.7/6, Ms1 3.7/6,ms1mx3.2/37,Error ellipse: s-maj=42.7km s-min=25.7km az=171.0*

MOS ***08*** *04:49:20.2±0.9,2˝.26N×97˚.40E,h33km,mb4.9/14,Error ellipse: s-maj=21.7km s-min=7.3km az=104.7*

ISCJB ***08*** *04:49:21.0±0.4,2˝.23N±0˝.05×97˚.03E±0˝.03,h33km, mb4.5/35,MS3.7/4,Error ellipse: s-maj=6.8km s-min=4.5km az=2.1*

BJI ***08*** *04:49:21.6,2˝.29N×97˚.00E,h41km,mB5.0/15,mb4.8/22, Ms4.6/9,Ms7 4.0/10*

NEIC ***08*** *04:49:24.1±0.5,2˝.43N×97˚.05E,h35km,mb4.4/11,Error ellipse: s-maj=11.1km s-min=6.1km az=199.0*

DJA ***08*** *04:49:25.4±0.6,2˝N±4˝×9˚7E±˚,h19km±10km,M4.6/7, MLv4.6/7*

KLM ***08*** *04:49:26.8,2˝.45N×97˚.16E,h59km,mb4.5,ML4.3,MS5.6*

ISC 08 04:49:23.7±0.5,2˝.40N±0˝.04×97˚.18E±0˝.04,h33km, h33km:pP-P,n125,σ1§57/151,mb4.6/35,MS3.8/4,10C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.85**	**271**	P	**Pb**	**04 49 40.8**	**+0.7**
SNSI				S	**Sb**	**04 49 55.2**	**+3.9**
TPTI		**0.86**	**360**	P	**Pb**	**04 49 40.1**	**-0.1**
TPTI				S	**Sb**	**04 49 52.5**	**+1.1**
KCSI	**Kotacane, Aceh**	**1.26**	**28**	P	**Pb**	**04 49 47.1**	**+0.1**
KCSI				S	**Sb**	**04 50 03.8**	**+0.8**
TSI	**Tuntungan**	**1.76**	**52**	P	**Pb**	**04 49 55.4**	**-0.1**
LHMI	**Lhok Sumawe**	**2.82**	**355**	P	**Pn**	**04 50 08.4**	**+1.9**
LHMI	**Lhok Sumawe**	**2.82**	**355**	*e*Pn	**Pn**	**04 50 08.3**	**+1.8**
MNSI	**Mandailing Nat**	**2.88**	**124**	P	**Pn**	**04 50 09.9**	**+2.6**
IPM	**Ipoh**	**4.36**	**62**	⇑P	**Pn**	**04 50 30.7**	**+3.0**
IPM	**Ipoh**	**4.36**	**62**	*e*Pn	**Pn**	**04 50 29.9**	**+2.2**
IPM				*e*S	Sn	04 51 24.7	+7.2
BKNI	**Bangkinang**	**4.37**	**118**	*e*Pn	Pn	04 50 31.5	+3.6
BKNI				*e*S	**Sb**	**04 51 30.7**	**-1.5**
KULM	**Kulim**	**4.50**	**50**	⇑P	**Pn**	**04 50 31.7**	**+2.1**
KULM	**Kulim**	**4.50**	**50**	*e*Pn	**Pn**	**04 50 31.5**	**+1.9**
KULM				*e*S	**Sn**	**04 51 23.8**	**+3.0**
FRIM	**Kepong**	**4.52**	**79**	⇓P	**Pn**	**04 50 32.1**	**+2.2**
PKDT	**Phuket**	**5.58**	**12**	P	Pn	04 50 48.6	+4.2
	59nm,0.6s,0.7nm						
KGM	**Kluang**	**6.15**	**93**	⇓P	**Pn**	**04 50 54.3**	**+2.1**
KTGM	**Kuala Trenggan**	**6.61**	**64**	⇓P	**Pn**	**04 51 01.2**	**+2.5**
MYKOM	**Kota Tinggi**	**6.69**	**95**	⇑P	**Pn**	**04 51 01.7**	**+2.0**
MYKOM	**Kota Tinggi**	**6.69**	**95**	*e*Pn	**Pn**	**04 51 01.5**	**+1.7**
SURT	**Suratani**	**6.71**	**14**	P	Pn	04 51 03.5	+3.5
	14nm,0.8s,273nm0.1nm						
CHBT	**CHBT**	**11.48**	**26**	P	Pn	04 52 21.7	+16
PBKT	**Sadao Pong**	**14.57**	**15**	P	**P**	**04 52 52.9**	**-0.8**
	27nm,0.7s						
DLV	**T Lat**	**14.68**	**49**	*e*Pn	**Pn**	**04 52 52.2**	**+2.8**
SBUM	**Sibu**	**15.03**	**89**	*e*Pn	**Pn**	**04 52 55.8**	**+2.0**
	5.2nm,1.0s						
SUKH	**Sukhothai**	**15.18**	**9**	P	**P**	**04 53 01.6**	**+1.1**
	3.0nm,0.7s						
UTTA	**Uttaradit**	**15.61**	**12**	P	**P**	**04 53 05.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.05**	**6**	Pn	**Pn**	**04 53 07.2**	**0.0**
	0.6nm,0.3s,baz=198,slow=11,SNR=20						
CMAR				LR	LR	04 59 53.4	
	comp=Z,242nm,18.0s,baz=192,slow=39						
PALK	**Pallekele**	**17.11**	**287**	LR	LR	04 59 32.4	
	comp=Z,170nm,18.2s,baz=110,slow=36						
KKM	**Kota Kinabalu**	**19.32**	**79**	*e*P	**P**	**04 53 47.7**	**+1.3**
	5.7nm,0.4s						
SLVN	**Son La**	**19.93**	**19**	*e*P	**P**	**04 53 52.6**	**-0.4**
	16nm,0.8s						
SDKM	**Sandakan**	**20.22**	**80**	⇓P	**P**	**04 53 57.2**	**+1.0**
QIZ	**Qiongzhong**	**20.66**	**36**	P	Pn	04 54 03.0	-0.3
QIZ				S	Sn	04 57 53.6	-2.1
TSM	**Tawau**	**20.74**	**84**	⇑P	**P**	**04 54 02.3**	**+0.5**
KMI	**Kunming**	**23.22**	**13**	P	**P**	**04 54 28.7**	**+0.4**
KMI				*s*P	**sP**	**04 54 45.7**	**+4.2**
KMI				PMZ			
	10.0nm,0.9s						
KMI				LN			
	170nm,17.4s						
KMI				LE			
	180nm,15.4s						
KMI				LZ			
	210nm,18.6s						
SHL	**Shillong**	**23.59**	**348**	*e*P	**P**	**04 54 30.0**	**-1.9**
HYB	**Hyderabad**	**23.61**	**310**	*i* P	**P**	**04 54 34.0**	**+2.0**
ODAN	**Odare**	**26.07**	**340**	*e*P	**P**	**04 54 54.6**	**-0.1**
	15nm,0.4s						
TAPN	**Taplejung**	**26.42**	**341**	*e*P	**P**	**04 54 57.9**	**0.0**
	13nm,0.4s						
RAMN	**Ramite**	**26.44**	**338**	*e*P	**P**	**04 54 58.1**	**+0.1**
	22nm,0.6s						
H08S2	**Diego Garcia H**	**26.57**	**248**	T	T	05 22 30.9	
	baz=70,slow=75,SNR=119						
H08S3	**Diego Garcia H**	**26.58**	**248**	T	T	05 22 20.5	
	baz=70,slow=75,SNR=140						
H08S1	**Diego Garcia H**	**26.59**	**248**	T	T	05 22 27.0	
	baz=70,slow=75,SNR=130						
JIRN	**Jiri**	**27.23**	**338**	*e*P	**P**	**04 55 05.4**	**+0.1**
	36nm,0.8s						
PKI	**Pulchoki**	**27.45**	**337**	*e*P	**P**	**04 55 07.6**	**+0.4**
	7.8nm,0.5s						
PKIN	**Phulchoki**	**27.46**	**337**	*e*P	**P**	**04 55 07.6**	**+0.4**
	4.9nm,0.4s						
GUN	**Gumba**	**27.57**	**338**	*e*P	**P**	**04 55 08.4**	**+0.1**
	39nm,0.4s						
KKN	**Kakani**	**27.70**	**337**	*e*P	**P**	**04 55 09.4**	**+0.1**
	16nm,0.6s						
GKN	**Gorkha**	**28.14**	**336**	*e*P	**P**	**04 55 13.1**	**-0.1**
	9.2nm,0.3s						
KOLN	**Koldanda**	**28.38**	**334**	*e*P	**P**	**04 55 15.9**	**+0.6**
	26nm,0.8s						
DANN	**Dangsing**	**28.81**	**335**	*e*P	**P**	**04 55 19.4**	**+0.1**
	9.9nm,0.4s						
PYUN	**Piuthan**	**28.93**	**333**	*e*P	**P**	**04 55 20.5**	**+0.2**
	26nm,0.3s						
CD2	**Chengdu**	**29.03**	**12**	*e*P	**P**	**04 55 20.6**	**-0.3**
CD2				pP	**pP**	**04 55 30.5**	**0.0**
CD2				sP	**sP**	**04 55 34.7**	**+0.2**
CD2				S	**S**	**05 00 08.7**	**-1.6**
CD2				sS	**sS**	**05 00 25.2**	**-0.8**
CD2				SS	**SnSn**	**05 01 39.5**	**+4.0**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	100nm,5.6s						
XAN	**Xi'an**	**33.34**	**18**	P	**P**	**04 55 56.4**	**-2.4**
XAN				pP	**pP**	**04 56 06.4**	**-2.0**
XAN				PMZ			
	3.0nm,0.7s						
LZH	**Lanzhou**	**34.09**	**10**	*e*P	**P**	**04 56 07.2**	**+1.8**
LZH				pP	**pP**	**04 56 17.5**	**+2.5**
LZH				sP	**sP**	**04 56 21.6**	**+2.6**
LZH				PP	**PP**	**04 57 23.5**	**+0.5**
LZH				PcP	**PcP**	**04 58 41.7**	**-0.9**
LZH				PMZ			
	21nm,1.2s						
LZH				PMZ			
	73nm,5.4s						
LZH				LN			
	350nm,12.9s						
LZH				LE			
	370nm,13.0s						
LZH				LZ			
	460nm,17.0s						
NJ2	**Nanjing**	**35.87**	**32**	*e*P	**P**	**04 56 20.1**	**-0.5**
NJ2				PMZ			
	20nm,0.5s						
GTA	**Gaotai**	**36.92**	**3**	*e*P	**P**	**04 56 29.3**	**-0.4**
GTA				pP	**pP**	**04 56 39.7**	**+0.3**
GTA				sP	**sP**	**04 56 43.9**	**+0.6**
GTA				PMZ			
	7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.42**	**17**	*e*P	**P**	**04 57 01.4**	**+2.3**
HHC				PP	**PnPn**	**04 58 39.0**	**+2.5**
HHC				S	**S**	**05 03 07.9**	**+2.4**
HHC				sS	**sS**	**05 03 24.2**	**+2.7**
HHC				SS	**SS**	**05 06 02.9**	**-2.6**
HHC				ScS	**ScS**	**05 07 02.5**	**-0.4**
HHC				PMZ			
	20nm,1.2s						
HHC				PMZ			
	73nm,5.4s						
HHC				LN			
	72nm,14.7s						
HHC				LE			
	160nm,14.3s						
HHC				LZ			
	93nm,14.1s						
KSH	**Kashi**	**41.68**	**335**	*e*P	**P**	**04 57 08.3**	**-1.2**
KSH				pP	**pP**	**04 57 18.0**	**-1.2**
KSH				PP	**PP**	**04 58 46.9**	**+0.7**
KSH				S	**S**	**05 03 19.5**	**-4.7**
KSH				SS	SS	05 06 18.7	-12
KSH				ScS	**ScS**	**05 07 07.7**	**-2.9**
KSH				PMZ			
	65nm,8.0s						
KSH				LN			
	370nm,8.8s						
KSH				LE			
	230nm,7.5s						
KSH				LZ			
	190nm,8.0s						
WMQ	**Urumqi**	**42.10**	**350**	⇑*i* P	**P**	**04 57 13.5**	**+0.8**
WMQ				pP	**pP**	**04 57 22.8**	**+0.3**
WMQ				sP	**sP**	**04 57 27.0**	**+0.5**
WMQ				PP	**PP**	**04 58 54.0**	**+3.4**
WMQ				*e*S	**S**	**05 03 30.0**	**-0.2**
WMQ				SS	**SS**	**05 06 32.0**	**-6.6**
WMQ				PMZ			
	9.0nm,1.1s						
WMQ				PMZ			
	110nm,5.1s						
WMQ				LN			
	170nm,22.6s						
WMQ				LZ			
	160nm,24.2s						
UCH	**Uchtor**	**44.55**	**336**	P	**P**	**04 57 33.6**	**+0.5**
	SNR=8.3						
UCH	**Uchtor**	**44.55**	**336**	*i* P	**P**	**04 57 33.6**	**+0.5**
TKM2	**Tokmak 2**	**44.71**	**337**	P	**P**	**04 57 34.4**	**+0.4**
	SNR=8.3						
TKM2	**Tokmak 2**	**44.71**	**337**	*e*P	**P**	**04 57 34.0**	**0.0**
TKM2				pmax	pmax		
	comp=Z,18nm,1.4s						
TKM2	**Tokmak 2**	**44.71**	**337**	*e*P	**P**	**04 57 34.0**	**0.0**
	comp=Z,18nm,1.4s						
KBK	**Karagaybulak**	**44.74**	**337**	P	**P**	**04 57 35.2**	**+1.1**
	SNR=9.9						
KBK	**Karagaybulak**	**44.74**	**337**	*i* P	**P**	**04 57 35.3**	**+1.1**
AML	**Almayashu**	**44.81**	**335**	P	**P**	**04 57 35.6**	**+0.6**
	SNR=8.6						
AML	**Almayashu**	**44.81**	**335**	*i* P	**P**	**04 57 35.7**	**+0.6**
KSAR	**Wonju Array Be**	**44.85**	**35**	P	**P**	**04 57 34.0**	**-1.0**
KSAR	**Wonju Array Be**	**44.85**	**35**	P	**P**	**04 57 34.0**	**-1.0**
KSRS	**Korea Array**	**44.88**	**35**	P	**P**	**04 57 34.0**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=235,slow=7.8,SNR=11						
KSRS				LR	LR	05 17 11.1	
	comp=Z,68nm,20.2s,baz=166,slow=37						
AAK	**Ala-Archa**	**44.90**	**336**	⇓*i* P	**P**	**04 57 37.0**	**+1.5**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s						
AAK	**Ala-Archa**	**44.90**	**336**	P	**P**	**04 57 36.5**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=50,slow=3.5,SNR=7.5						
AAK	**Ala-Archa**	**44.90**	**336**	*e*P	**P**	**04 57 36.0**	**+0.6**
	comp=Z,6.4nm,1.1s						
EKS2	**Erkin-Say**	**45.22**	**336**	P	**P**	**04 57 38.8**	**+0.9**
	SNR=5.7						
EKS2	**Erkin-Say**	**45.22**	**336**	*i* P	**P**	**04 57 38.8**	**+0.9**
EKS2	**Erkin-Say**	**45.22**	**336**	*e*P	**P**	**04 57 38.0**	**+0.1**
	comp=Z,5.2nm,0.6s						
USP	**Ospenovka**	**45.43**	**337**	P	**P**	**04 57 39.9**	**+0.4**
	SNR=10						
USP	**Ospenovka**	**45.43**	**337**	*i* P	**P**	**04 57 39.9**	**+0.4**
SONM	**Songino Array**	**45.96**	**9**	P	**P**	**04 57 43.1**	**-0.7**
	comp=Z,4.6nm,0.5s,baz=189,slow=9.3,SNR=45						
SONM				PcP	**PcP**	**04 59 19.3**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=197,slow=3.7,SNR=7.5						
SONM				LR	LR	05 19 30.5	
	comp=Z,147nm,19.2s,baz=104,slow=39						
MKAR	**Makanchi Array**	**46.08**	**346**	*e*P	**P**	**04 57 44.1**	**-0.5**
MKAR	**Makanchi Array**	**46.08**	**346**	P	**P**	**04 57 43.9**	**-0.7**
	comp=Z,9.7nm,0.7s,baz=160,slow=7.8,SNR=104						
MKAR	**Makanchi Array**	**46.08**	**346**	*e*P	**P**	**04 57 44.1**	**-0.5**
ULN	**Ulaanbaatar**	**46.09**	**9**	*e*P	**P**	**04 57 44.0**	**-0.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**46.09**	**9**	*e*P	**P**	**04 57 44.0**	**-0.8**
	comp=Z,4.3nm,0.9s						
KKAR	**Karatay Array**	**46.98**	**333**	*e*P	**P**	**04 57 51.3**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**46.98**	**333**	*e*P	**P**	**04 57 51.3**	**-0.4**
	comp=Z,0.8nm,0.4s						
TLY	**Talaya**	**49.41**	**5**	*e*P	**P**	**04 58 10.8**	**+0.5**
GEYT	**Alibeck**	**50.29**	**320**	P	**P**	**04 58 18.3**	**+1.0**
	comp=Z,12nm,0.8s,baz=146,slow=8.2,SNR=13						
GEYT				LR	LR	05 21 08.0	
	comp=Z,22nm,21.3s,baz=240,slow=38						
KURBB	**Kurchatov Arra**	**50.58**	**345**	P	**P**	**04 58 18.9**	**-0.3**
	comp=Z,3.3nm,0.4s,baz=163,slow=7.1,SNR=13						
KURK	**Kurchatov**	**50.64**	**345**	*e*P	**P**	**04 58 19.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,14nm,1.0s						
KURK	**Kurchatov**	**50.64**	**345**	*e*P	**P**	**04 58 19.3**	**-0.3**
	comp=Z,14nm,1.0s						
USRK	**Ussuriysk Ar.**	**51.76**	**32**	P	**P**	**04 58 27.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=240,slow=5.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**52.38**	**351**	P	**P**	**04 58 32.1**	**-0.4**
	comp=Z,23nm,0.6s,baz=174,slow=7.0,SNR=97						
NVS	**Novosibirsk**	**53.50**	**350**	⇑*i* P	**P**	**04 58 39.7**	**-1.1**
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,11nm,0.9s						
BVAR	**Borovoye Array**	**55.12**	**341**	P	**P**	**04 58 51.9**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=141,slow=9.4,SNR=4.8						
ABKAR	**Akbulak array**	**56.46**	**332**	*e*P	**P**	**04 59 01.9**	**-0.4**
	comp=Z,5.3nm,0.6s						
BOD	**Bodaibo**	**56.84**	**11**	*e*P	**P**	**04 59 04.0**	**-0.9**
AKTO	**Aktyubinsk**	**58.17**	**332**	P	**P**	**04 59 13.7**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=135,slow=7.2,SNR=12						
ARU	**Arti**	**62.08**	**337**	*c i*P	**P**	**04 59 40.1**	**-1.0**
ARU				S	**S**	**05 08 03.5**	**-0.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBZ	**Khabaz**	**63.16**	**319**	P	**P**	**04 59 48.3**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=122,slow=9.5,SNR=2.8						
YAK	**Yakutsk**	**64.28**	**16**	*e*P	**P**	**04 59 53.5**	**-2.0**
YAK				pmax	pmax		
	comp=Z,28nm,1.2s						
BRTR	**Keskin Array B**	**68.30**	**312**	P	**P**	**05 00 21.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=138,slow=7.8,SNR=3.0						
PRGR	**Permogore**	**70.54**	**337**	*e*P	**P**	**05 00 33.0**	**-2.1**
PRGR				*e**SP	**sP**	**05 00 47.4**	**-1.8**
PRGR						05 00 54.8	
PRGR				pmax	pmax		
	comp=Z,18nm,1.0s						
OBN	**Obninsk**	**71.60**	**328**	‖*e*P	**P**	**05 00 41.5**	**-0.1**
OBN				*e*S	S	05 10 05.6	+7.0
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TIXI	**Tiksi**	**72.02**	**10**	⇑*i* P	**P**	**05 00 42.3**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**72.02**	**10**	*e*P	**P**	**05 00 42.1**	**-1.8**
	comp=Z,2.0nm,0.5s						
SEY	**Seymchan**	**72.67**	**23**	P	**P**	**05 00 46.9**	**-1.1**
	comp=Z,7.3nm,0.8s,baz=222,slow=5.6,SNR=16						
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**	**05 00 57.0**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=92,slow=4.7,SNR=15						
KIEV	**Kiev**	**74.31**	**322**	‖*e*P	**P**	**05 00 57.8**	**-0.1**
JOF	**Joensuu**	**77.06**	**335**	*e*P	**P**	**05 01 12.2**	**-1.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JOF	**Joensuu**	**77.06**	**335**	*e*p	**P**	**05 01 12.2**	**-1.1**
	comp=Z,1.9nm,0.6s						
KOLS	**Kolonicke sedl**	**78.30**	**319**	*e*P	**P**	**05 01 22.0**	**+1.4**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	**Kolonicke sedl**	**78.30**	**319**	*e*P	**P**	**05 01 22.0**	**+1.4**
FINES	**FINESS Array B**	**78.93**	**332**	P	**P**	**05 01 23.6**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=115,slow=6.5,SNR=16						
KAF	**Kangasniemi**	**79.01**	**333**	*e*P	**P**	**05 01 23.1**	**-1.1**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	**Kangasniemi**	**79.01**	**333**	*e*p	**P**	**05 01 23.1**	**-1.1**
	comp=Z,4.4nm,0.6s						
BILL	**Bilibino**	**80.06**	**21**	⇑*e*P	**P**	**05 01 32.0**	**+2.2**
BILL				*e*		05 04 27.0	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ARCES	**ARCESS Array B**	**81.41**	**340**	P	**P**	**05 01 37.1**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=96,slow=4.5,SNR=39						
ARCES				LR	LR	05 40 30.5	
	comp=Z,108nm,21.3s,baz=44,slow=38						
GERES	**GERESS Array B**	**83.91**	**319**	P	**P**	**05 01 51.0**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=108,slow=8.6,SNR=7.4						
SPITS	**Spitsbergen Ar**	**85.78**	**348**	P	**P**	**05 01 58.6**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=76,slow=7.0,SNR=6.9						
NB2	**NORSAR Subarra**	**85.96**	**331**	P	**P**	**05 02 00.1**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=97,slow=4.6						
NOA	**NORSAR Array B**	**85.96**	**331**	P	**P**	**05 02 00.2**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=93,slow=5.0,SNR=14						
PDAR	**Pinedale Array**	**128.97**	**25**	PKP	**PKPdf**	**05 08 28.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=156,slow=2.0,SNR=4.6						
SHPR	**Sheep Range**	**130.96**	**35**	*e*PKPdf	**PKPdf**	**05 08 33.1**	**+0.4**
TXAR	**Lajitas Array**	**142.66**	**31**	PKP	**PKPdf**	**05 08 51.2**	**-3.2**
	comp=Z,0.3nm,0.5s,baz=40,slow=2.1,SNR=4.6						

IDC 08 04:51:04.8±1.5,19˚.48N×145˚.54E,h223km±7km,mb3.2/7, mb1 3.3/10,mb1mx3.1/48,mbtmp3.9/10,Error ellipse: s-maj=36.5km s-min=17.6km az=17.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.18**	**338**	P	Pn	04 53 01.7	+1.4
	7.5nm,0.3s,baz=256,slow=19,SNR=2.9						
JOW	**Kunigami**	**17.48**	**298**	P	Pn	04 54 55.0	-0.5
	baz=61,slow=10						
MJAR	**Matsushiro Arr**	**18.18**	**341**	P	Pn	04 55 02.6	-1.1
	0.6nm,0.3s,baz=179,slow=13,SNR=3.5						
KSRS	**Korea Array**	**23.61**	**323**	P	P	04 55 55.5	0.0
	0.5nm,0.3s,baz=152,slow=8.9,SNR=4.1						
KSRS				pP	pP	04 56 38.2	+2.0
	1.0nm,0.4s,baz=146,slow=7.9,SNR=2.3						
MKAR	**Makanchi Array**	**57.82**	**314**	P	P	05 00 31.8	-1.2
	0.4nm,0.5s,baz=94,slow=8.7,SNR=2.9						
MKAR				pP	pP	05 01 23.9	+0.8
	0.2nm,0.6s,baz=92,slow=4.6,SNR=2.0						
KURBB	**Kurchatov Arra**	**60.64**	**318**	P	P	05 00 51.3	-0.9
	0.7nm,0.2s,baz=95,slow=7.4,SNR=3.2						
KURBB				pP	pP	05 01 42.5	-0.2
	1.8nm,1.0s,baz=92,slow=7.4,SNR=2.6						
ILAR	**Eielson Array**	**63.01**	**26**	P	P	05 01 07.5	-0.2
	0.3nm,0.7s,baz=245,slow=4.6,SNR=4.5						
BVAR	**Borovoye Array**	**65.78**	**320**	P	P	05 01 25.0	-0.9
	0.9nm,0.5s,baz=69,slow=8.1,SNR=4.2						
BVAR				pP	pP	05 02 16.7	-0.6
	1.4nm,0.7s,baz=68,slow=9.8,SNR=2.3						
YKA	**Yellowknife Ar**	**77.37**	**28**	P	P	05 02 34.5	-0.2
	0.3nm,0.5s,baz=289,slow=5.5,SNR=11						
YKA				pP	pP	05 03 25.8	-1.9
	0.2nm,0.6s,baz=288,slow=5.3,SNR=2.1						
NVAR	**Mina Array Bea**	**82.77**	**52**	P	P	05 03 04.3	-0.1
	0.9nm,0.6s,baz=273,slow=5.9,SNR=9.4						
LPAZ	**La Paz**	**147.82**	**90**	PKPbc	PKPbc	05 10 26.1	+1.2
	0.8nm,0.5s,baz=194,slow=1.5,SNR=8.2						

IDC ***08*** *04:51:08.8±0.8,9˚.07S×124˚.17E,h0km,mb4.6/15, mb1 4.6/17,mb1mx4.4/38,mbtmp4.6/17,ML4.9/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/29,Error ellipse: s-maj=27.3km s-min=10.4km az=102.0*

MOS ***08*** *04:51:12.9±0.6,9˚.25S×124˚.14E,h48km,mb5.0/11,Error ellipse: s-maj=23.1km s-min=8.6km az=116.2*

BJI ***08*** *04:51:15.6,10˚.09S×123˚.69E,h88km,mB5.0/14,mb4.8/22, Ms4.7/10,Ms7 4.3/8*

ISCJB ***08*** *04:51:17.3±0.4,9˚.63S±0˝.04×123˚.88E±0˝.04,h100km±3km, mb4.5/29,Error ellipse: s-maj=6.7km s-min=4.8km az=43.6*

NEIC ***08*** *04:51:18.3±0.5,9˚.55S×124˚.02E,h90km±5km,mb4.7/12, Error ellipse: s-maj=10.3km s-min=6.2km az=55.0*

DJA ***08*** *04:51:19.8±0.3,10˚S±3˚×12˚4E±˚,h69km±5km,M4.8/22, mb5.0/22,mB5.3/13,MLv5.0/19,Mw(mB)4.7/13*

ISC 08 04:51:18.4±0.4,9.77S±0˚.05×123˚.89E±0˚.05,h99km±3km, n109,σ1§84/136,mb4.6/29,5C-2D,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.37**	**88**	P	**Pn**	**04 51 32.7**	**-0.7**
SOEI				S	**Sn**	**04 51 45.3**	**+0.7**
SOEI	**Soe**	**0.37**	**88**	*e*Pn	**Pn**	**04 51 33.3**	**-0.1**
SOEI				*e*S	**Sn**	**04 51 43.9**	**-0.7**
BATI	**Baumata**	**0.49**	**207**	P	**Pn**	**04 51 36.1**	**+2.0**
BATI				S	Sn	04 51 52.3	+6.6
BATI	**Baumata**	**0.49**	**207**	Pg	**Pn**	**04 51 34.2**	**+0.2**
	1µm,0.3s,baz=24,slow=4.3,SNR=282						
BATI				Lg	Lg	04 51 49.9	
	1µ

WB2	**Warramunga Arr**	**14.29**	**136**	*e*Pn		**Pn**	04 54 36.4	**+0.1**
WB2				*e*S		**Sn**	**04 57 08.4**	**-5.4**
SBUM	**Sibu**	**16.81**	**316**	*e*P		**P**	**04 55 09.1**	**+0.7**
	comp=Z,9.1nm,0.7s							
ASAR	**Alice Springs**	**16.81**	**147**	P		**P**	**04 55 10.5**	**+2.1**
	comp=Z,8.2nm,0.3s,baz=317,slow=12,SNR=290							
ASAR				S		**Sn**	**04 58 11.8**	**-2.7**
	comp=Z,2.8nm,0.3s,baz=316,slow=22,SNR=25							
ASAR				LR		LR	05 02 32.6	
	comp=Z,106nm,20.8s,baz=96,slow=40							
KKM	**Kota Kinabalu**	**17.47**	**334**	*e*Pn		**Pn**	**04 55 15.9**	**-0.1**
KSM	**Kuching**	**17.54**	**309**	*e*Pn		**P**	**04 55 16.5**	**+0.1**
GENI	**Genyem**	**17.67**	**67**	P		**Pn**	**04 55 20.4**	**+2.0**
	comp=Z,146nm,0.4s,comp=Z,3µm							
CGJI	**Cibinong**	**18.28**	**278**	P		**Pn**	**04 55 25.4**	**-0.3**
	comp=Z,49nm,0.5s,comp=Z,1µm							
KASI	**Kota Agung**	**19.68**	**281**	P		**P**	**04 55 40.1**	**+0.3**
FORT	**Forrest**	**21.26**	**170**	*e*P		**P**	**04 56 00.2**	**+3.4**
	comp=Z,24nm,0.8s							
FORT				*e*S		Sn	04 59 57.5	-3.7
NWAO	**Narrogin (SRO)**	**23.85**	**194**	P		P	04 56 28.9	+6.3
	comp=Z,4.6nm,0.5s,baz=10,slow=7.9,SNR=6.4							
CTA	**Charters Tower**	**23.89**	**118**	LR		LR	05 06 45.9	
	comp=Z,166nm,18.4s,baz=74,slow=39							
CMAR	**Chiang Mai Arr**	**37.32**	**319**	P		**P**	**04 58 21.4**	**0.0**
	comp=Z,3.0nm,0.8s,baz=146,slow=6.8,SNR=13							
NJ2	**Nanjing**	**41.86**	**354**	*e*P		**P**	**04 58 57.2**	**-1.6**
NJ2				PMZ				
	comp=Z,20nm,0.6s							
CD2	**Chengdu**	**44.82**	**335**	*e*P		**P**	**04 59 25.3**	**+2.6**
CD2				pP		**pP**	**04 59 47.3**	**+1.3**
CD2				sP		**sP**	**04 59 58.3**	**+1.1**
CD2				PP		**PP**	**05 01 12.4**	**+3.0**
CD2				PcS		**PcS**	**05 04 58.6**	**+1.7**
CD2				S		**S**	**05 05 54.9**	**+2.0**
CD2				sS		**sS**	**05 06 33.4**	**+0.4**
CD2				SS		**ScS**	**05 09 09.1**	**-1.4**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,100nm,5.8s							
XAN	**Xi'an**	**45.83**	**343**	P		**P**	**04 59 28.3**	**-2.3**
XAN				PMZ				
	comp=Z,3.0nm,0.8s							
MJAR	**Matsushiro Arr**	**47.99**	**16**	P		**P**	**04 59 44.9**	**-2.5**
	comp=Z,1.9nm,0.6s,baz=186,slow=11,SNR=3.9							
LZH	**Lanzhou**	**49.37**	**339**	*e*P		**P**	**05 00 00.5**	**+2.4**
LZH				pP		**pP**	**05 00 22.7**	**+0.9**
LZH				sP		**sP**	**05 00 33.9**	**+1.0**
LZH				*e*PP		**PP**	**05 01 56.8**	**+3.6**
LZH				PMZ				
	comp=Z,22nm,1.4s							
LZH				PMZ				
	comp=Z,76nm,6.0s							
LZH				LN				
	comp=Z,280nm,15.0s							
LZH				LE				
	comp=Z,280nm,14.5s							
LZH				LZ				
	comp=Z,370nm,18.3s							
TRD	**Trivandrum**	**50.13**	**290**	⇑*ex*		P	05 00 15.9	+12
LSA	**Lhasa**	**50.34**	**322**	*e*P		**P**	**05 00 05.4**	**-0.6**
LSA				pmax	pmax			
	comp=Z,12nm,0.6s							
LSA	**Lhasa**	**50.34**	**322**	*e*P		**P**	**05 00 05.4**	**-0.6**
	comp=Z,12nm,0.6s							
ODAN	**Odare**	**50.80**	**317**	*e*P		**P**	**05 00 08.4**	**-0.8**
	comp=Z,20nm,0.6s							
RAMN	**Ramite**	**51.39**	**316**	*e*P		**P**	**05 00 13.1**	**-0.5**
	comp=Z,32nm,0.5s							
HHC	**Hu-ho-hao-te**	**51.63**	**348**	*e*P		**P**	**05 00 17.5**	**+2.5**
HHC				PP		**PP**	**05 02 17.2**	**+3.6**
HHC				S		**S**	**05 07 29.3**	**+0.6**
HHC				ScS		**ScS**	**05 09 54.8**	**-0.9**
HHC				SS		**SS**	**05 11 04.6**	**-1.9**
HHC				PMZ				
	comp=Z,16nm,1.3s							
HHC				PMZ				
	comp=Z,120nm,5.6s							
HHC				LN				
	comp=Z,72nm,16.1s							
HHC				LE				
	comp=Z,98nm,15.3s							
HHC				LZ				
	comp=Z,87nm,15.9s							
JIRN	**Jiri**	**52.13**	**317**	*e*P		**P**	**05 00 18.1**	**-1.1**
	comp=Z,27nm,0.6s							
GUN	**Gumba**	**52.50**	**317**	*e*P		**P**	**05 00 21.3**	**-0.7**
	comp=Z,47nm,0.7s							
PKI	**Pulchoki**	**52.60**	**316**	*e*P		**P**	**05 00 21.7**	**-1.0**
	comp=Z,16nm,0.5s							
PKIN	**Phulchoki**	**52.61**	**316**	*e*P		**P**	**05 00 22.0**	**-0.7**
	comp=Z,9.2nm,0.4s							
GKN	**Gorkha**	**53.40**	**316**	*e*P		**P**	**05 00 27.6**	**-0.8**
	comp=Z,13nm,0.3s							
GTA	**Gaotai**	**53.80**	**337**	*e*P		**P**	**05 00 30.8**	**-0.2**
GTA				pP		**pP**	**05 00 54.6**	**-0.4**
GTA				sP		**sP**	**05 01 02.8**	**-3.3**
GTA				PMZ				
	comp=Z,5.0nm,0.9s							
KOLN	**Koldanda**	**53.98**	**315**	*e*P		**P**	**05 00 31.7**	**-0.9**
	comp=Z,18nm,0.6s							
USRK	**Ussuriysk Ar.**	**54.21**	**7**	P		**P**	**05 00 32.2**	**-1.5**
	comp=Z,2.7nm,0.5s,baz=196,slow=6.8,SNR=8.9							
DANN	**Dangsing**	**54.22**	**316**	*e*P		**P**	**05 00 33.8**	**-0.7**
	comp=Z,38nm,0.5s							
MDJ	**Mudanjiang**	**54.37**	**5**	P		P	05 00 41.2	+6.3
MDJ				PMZ				
	comp=Z,4.0nm,0.9s							
MDJ				PMZ				
	comp=Z,88nm,5.8s							
PYUN	**Piuthan**	**54.60**	**315**	*e*P		**P**	**05 00 36.6**	**-0.6**
	comp=Z,70nm,0.5s							
ASAJ	**Asahikawa**	**56.25**	**16**	P		**P**	**05 00 46.0**	**-2.4**
	comp=Z,6.2nm,0.3s,baz=249,slow=13,SNR=5.0							
ASAJ				LR		LR	05 22 48.3	
	comp=Z,48nm,21.6s,baz=48,slow=34							
YSS	**Yuzh-Sakhalins**	**58.92**	**15**	*e*P		**P**	**05 01 06.8**	**-0.3**
ULN	**Ulaanbaatar**	**59.29**	**347**	*e*P		**P**	**05 01 12.3**	**+2.5**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ULN	**Ulaanbaatar**	**59.29**	**347**	*e*P		**P**	**05 01 12.3**	**+2.5**
	comp=Z,6.4nm,0.9s							
SONM	**Songino Array**	**59.41**	**346**	P		**P**	**05 01 09.7**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=157,slow=7.8,SNR=7.7							
ZAK	**Zakamensk**	**62.54**	**345**	*e*P		P	05 01 27.0	-4.7
WMQ	**Urumqi**	**62.65**	**331**	*e*P		**P**	**05 01 33.2**	**+0.7**
WMQ				pP		**pP**	**05 01 57.8**	**+0.6**
WMQ				sP		**sP**	**05 02 08.5**	**+0.5**
WMQ				PP		**PP**	**05 03 53.5**	**+1.9**
WMQ				*e*S		**S**	**05 09 49.5**	**-3.7**
WMQ				PMZ				
	comp=Z,5.0nm,0.4s							
WMQ				PMZ				
	comp=Z,110nm,5.2s							
WMQ				LN				
	comp=Z,230nm,17.9s							
WMQ				LZ				
	comp=Z,180nm,27.6s							
TLY	**Talaya**	**63.65**	**346**	*e*P		**P**	**05 01 39.1**	**+0.2**
KSH	**Kashi**	**66.16**	**321**	P		**P**	**05 01 55.7**	**+0.1**
KSH				pP		**pP**	**05 02 20.6**	**+0.1**
KSH				PP		**PP**	**05 04 25.1**	**+2.5**
KSH				S		**S**	**05 10 33.4**	**-3.4**
KSH				sS		**sS**	**05 11 15.2**	**-4.1**
KSH				ScS		**SKSac**	**05 11 39.0**	**-3.8**
KSH				PMZ				
	comp=Z,8.0nm,0.6s							
KSH				PMZ				
	comp=Z,91nm,3.6s							
KSH				LN				
	comp=Z,180nm,7.3s							
KSH				LE				
	comp=Z,140nm,7.4s							
KSH				LZ				
	comp=Z,140nm,7.8s							
MKAR	**Makanchi Array**	**67.42**	**330**	*e*P		**P**	**05 02 03.6**	**+0.2**
MKAR	**Makanchi Array**	**67.42**	**330**	P		**P**	**05 02 03.5**	**+0.1**
	comp=Z,11nm,0.5s,baz=134,slow=7.5,SNR=100							
MKAR	**Makanchi Array**	**67.42**	**330**	*e*P		**P**	**05 02 03.6**	**+0.2**
BOD	**Bodaibo**	**67.83**	**354**	*e*P		**P**	**05 02 04.5**	**-1.1**
KBL	**Kabul**	**68.08**	**313**	*e*P		**P**	**05 02 09.6**	**+1.6**
KBL				pmax	pmax			
	comp=Z,13nm,0.8s							
KBL	**Kabul**	**68.08**	**313**	*e*P		**P**	**05 02 09.6**	**+1.6**
	comp=Z,13nm,0.8s							
TKM2	**Tokmak 2**	**68.45**	**324**	*e*P		**P**	**05 02 10.5**	**+0.4**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.6s							
TKM2	**Tokmak 2**	**68.45**	**324**	*e*P		**P**	**05 02 10.5**	**+0.4**
	comp=Z,4.8nm,0.6s							
AAK	**Ala-Archa**	**68.92**	**323**	⇑*i*P		**P**	**05 02 13.9**	**+0.9**
AAK				pmax	pmax			
	comp=Z,12nm,0.8s							
AAK	**Ala-Archa**	**68.92**	**323**	P		**P**	**05 02 13.5**	**+0.5**
	comp=Z,7.3nm,0.5s,baz=126,slow=6.2,SNR=27							
AAK	**Ala-Archa**	**68.92**	**323**	*e*P		**P**	**05 02 13.5**	**+0.5**
	comp=Z,8.6nm,0.6s							
EKS2	**Erkin-Say**	**69.36**	**323**	*e*P		**P**	**05 02 16.4**	**+0.7**
EKS2				pmax	pmax			
	comp=Z,9.0nm,1.3s							
EKS2	**Erkin-Say**	**69.36**	**323**	*e*P		**P**	**05 02 16.4**	**+0.7**
	comp=Z,9.2nm,1.3s							
ZALV	**Zalesovo Beam**	**71.56**	**337**	P		**P**	**05 02 27.8**	**-0.8**
	comp=Z,6.4nm,0.4s,baz=133,slow=5.2,SNR=20							
KKAR	**Karatay Array**	**71.59**	**322**	*e*P		**P**	**05 02 29.5**	**+0.4**
KKAR	**Karatay Array**	**71.59**	**322**	*e*P		**P**	**05 02 29.4**	**+0.4**
YAK	**Yakutsk**	**71.72**	**3**	*e*P		**P**	**05 02 28.7**	**-0.6**
YAK				pmax	pmax			
	comp=Z,14nm,0.8s							
KURBB	**Kurchatov Arra**	**71.87**	**332**	P		**P**	**05 02 30.0**	**-0.5**
	comp=Z,7.0nm,0.7s,baz=144,slow=5.3,SNR=32							
KURK	**Kurchatov**	**71.89**	**332**	*e*P		**P**	**05 02 29.9**	**-0.7**
KURK				pmax	pmax			
	comp=Z,11nm,0.5s							
KURK	**Kurchatov**	**71.89**	**332**	*e*P		**P**	**05 02 29.9**	**-0.7**
	comp=Z,11nm,0.5s							
SEY	**Seymchan**	**75.73**	**13**	P		**P**	**05 02 52.5**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=196,slow=5.0,SNR=9.2							
BVAR	**Borovoye Array**	**77.30**	**330**	P		**P**	**05 03 02.2**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=111,slow=8.1,SNR=5.1							
GEYT	**Alibeck**	**77.49**	**312**	P		**P**	**05 03 05.5**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=133,slow=6.3,SNR=2.1							
ABKAR	**Akbulak array**	**81.01**	**323**	*e*P		**P**	**05 03 22.3**	**+0.1**
	comp=Z,0.7nm,0.5s							
TIXI	**Tiksi**	**81.31**	**2**	⇑*i*P		**P**	**05 03 23.7**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TIXI	**Tiksi**	**81.31**	**2**	*e*P		**P**	**05 03 22.9**	**-0.3**
	comp=Z,59nm,2.7s							
AKTO	**Aktyubinsk**	**82.64**	**324**	P		**P**	**05 03 31.0**	**+0.2**
AKTO	**Aktyubinsk**	**82.64**	**324**	P		**P**	**05 03 30.9**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=123,slow=5.3,SNR=12							
AKTO				LR		LR	05 43 48.9	
	comp=Z,30nm,18.3s,baz=75,slow=38							
BILL	**Bilibino**	**83.24**	**15**	⇑*e*P		**P**	**05 03 31.7**	**-1.8**
BILL				pmax	pmax			
	comp=Z,9.0nm,2.5s							
BILL				MLR		MLR		
	comp=Z,388nm,22.0s							
RAYN	**Ar Rayn**	**83.38**	**295**	*e*P		**P**	**05 03 37.2**	**+2.0**
	comp=Z,5.4nm,0.9s							
ARU	**Arti**	**84.93**	**330**	*c i*P		**P**	**05 03 42.2**	**0.0**
ARU				*PP		pP	05 03 59.2	-8.9
ARU				S		**S**	**05 14 00.1**	**-2.6**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KBZ	**Khabaz**	**90.24**	**314**	LR		LR	05 51 43.0	
	comp=Z,33nm,20.8s,baz=16,slow=40							
BRTR	**Keskin Array B**	**96.35**	**309**	P		**P**	**05 04 37.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=50,slow=12,SNR=3.4							
OBN	**Obninsk**	**96.40**	**325**	⇓*e*P		**P**	**05 04 35.9**	**-0.2**
OBN				*e*			05 08 26.8	
OBN				*e*SS		SS	05 22 35.7	+12
OBN				pmax	pmax			
	comp=Z,9.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**123.35**	**279**	PKP		**PKPdf**	**05 10 07.6**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=66,slow=1.7,SNR=7.7							

*IDC **08** 05:07:48.1±9.0, 3°.58N×97°.36E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/33, mbtmp3.2/3, Error ellipse: s-maj=437.9km s-min=28.0km az=56.0*

*DJA **08** 05:07:49.7±0.9, 2°N±6°×9°7E±°, h10km, M3.5/4, MLv3.5/4*

ISC 08 05:07:49.6±1.3, 2.8N±0.1×96.3E±0.4, h37km, n9, σ0.81/5, mb3.1/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.42**	**178**	P	**Pn**	**05 07 59.6**	**+0.6**
SNSI				S	**Sn**	**05 08 04.9**	**-0.9**
TPTI		**0.96**	**64**	P	Pn	05 08 14.7	+8.1
TPTI				S	Sn	05 08 29.8	+11
KCSI	**Kotacane, Aceh**	**1.61**	**65**	P	Pn	05 08 21.3	+5.8
H08S2	**Diego Garcia H**	**25.94**	**246**	T	T	05 40 08.5	
	baz=68,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**25.95**	**246**	T	T	05 40 06.5	
	baz=68,slow=76,SNR=42						
H08S1	**Diego Carcia H**	**25.96**	**246**	T	T	05 40 07.8	
	baz=68,slow=76,SNR=75						
WRA	**Warramunga Arr**	**43.66**	**123**	P	**P**	**05 15 51.0**	**0.0**
	0.2nm,0.6s,baz=303,slow=9.0,SNR=3.2						
MKAR	**Makanchi Array**	**45.45**	**346**	P	**P**	**05 16 05.0**	**0.0**
	0.1nm,0.6s,baz=164,slow=8.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**51.82**	**351**	P	**P**	**05 16 53.6**	**-0.1**
	0.3nm,0.3s,baz=164,slow=7.5,SNR=2.6						

NNC 08 05:14:36.1±6.9, 36.96N×71.37E, h0km, mb3.7, mpv3.3, 5C-3D, Error ellipse: s-maj=57.2km s-min=23.8km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.73**	**313**	⇑Pn	Pn	05 15 20.8	-0.5
	10nm,0.3s						
DZET				⇓Sn	Sn	05 15 57.3	+2.2
	61nm,0.4s						
SFK	**Sufi-Kurgan**	**3.47**	**28**	⇑Pn	Pn	05 15 32.0	+0.2
	1.5nm,0.2s						
SFK				⇑Sn	Sn	05 16 17.4	+3.6
	5.3nm,0.3s						
MNAS	**Manas**	**5.58**	**9**	⇓Pn	Pn	05 15 58.4	-2.3
	1.3nm,0.4s						
MNAS				⇑Sn	Sn	05 17 04.6	-1.2
	2.7nm,0.5s						
KK31	**Karatay Array**	**6.17**	**354**	⇑Pn	Pn	05 16 05.8	-2.7
	0.4nm,0.3s,baz=179,slow=13,SNR=5.5						
KK31				⇓Sn	Sn	05 17 16.0	-3.8
	1.1nm,0.4s,baz=173,slow=22,SNR=9.8						

*NIED **08** 05:15:00, 40°.10N×142°.50E, h107km, Mw4.2 Best double couple: M0 2.24000×10^15 NP1:φs321.00000°, δ44.00000°, λ-39.00000°. NP2:φs81.00000°, δ64.00000°, λ-127.00000°.*

*ISCJB **08** 05:15:36.6±0.6, 40°.14N±0°.03×142°.56E±0°.08, h78km±4km, mb3.9/13, Error ellipse: s-maj=9.9km s-min=4.8km az=17.8*

*IDC **08** 05:15:36.8±2.2, 40°.08N×142°.66E, h68km±18km, mb3.6/13, mb1 3.7/17, mb1mx3.6/38, mbtmp3.9/17, Error ellipse: s-maj=20.0km s-min=12.9km az=125.0*

*JMA **08** 05:15:38.1±0.1, 40°.15N×142°.51E, h70km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs183.00000°, δ63.00000°, λ-110.00000°. NP2: φs42.00000°, δ34.00000°, λ-56.00000°. Principal axes: T Plg15.0000°, Azm288.0000°; N Plg18.0000°, Azm193.0000°; P Plg66.0000°, Azm56.0000°;*

JMA Felt I J1.

ISC 08 05:15:37.5±1.0, 40.14N±0.04×142.57E±0.07, h71km±9km, n36, σ0.91/44, mb3.9/13, 4C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.58**	**249**	⇓P	**Pn**	**05 15 51.5**	**+0.4**
JTH				S	**Sn**	**05 16 01.3**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.81**	**226**	⇓P	**Pn**	**05 15 53.9**	**+0.2**
MIYJ				*e*S	**Sn**	**05 16 05.3**	**-0.3**
JANG	**Nango**	**0.84**	**286**	⇑P	**Pn**	**05 15 54.2**	**+0.2**
JANG				*e*S	**Sn**	**05 16 06.1**	**-0.2**
JKZ	**Kuzumaki**	**0.96**	**261**	⇓P	**Pn**	**05 15 55.9**	**+0.3**
JKZ				S	**Sn**	**05 16 09.0**	**-0.1**
JOM	**Ohasama**	**1.19**	**236**	⇓P	**Pn**	**05 15 58.5**	**+0.1**
JOM				S	**Sn**	**05 16 13.9**	**-0.1**
JTM	**Tenmabayashi**	**1.31**	**300**	⇑P	**Pn**	**05 16 00.0**	**0.0**
JTM				S	**Sn**	**05 16 16.1**	**-0.8**
JAH	**Hinai**	**1.48**	**272**	⇑P	**Pn**	**05 16 02.3**	**+0.1**
JAH				S	**Sn**	**05 16 21.0**	**+0.2**
JMK	**Ichinoseki**	**1.58**	**222**	⇓P	**Pn**	**05 16 03.6**	**+0.1**
JMK				S	**Sn**	**05 16 22.7**	**-0.5**
JRG	**Rokugo**	**1.67**	**244**	P	**Pn**	**05 16 04.9**	**+0.3**
JRG				S	**Sn**	**05 16 25.4**	**+0.2**
JOT	**Ohata**	**1.69**	**318**	⇑P	**Pn**	**05 16 04.9**	**-0.1**
JOT				S	**Sn**	**05 16 24.5**	**-1.3**
JEM	**Erimo**	**1.92**	**13**	P	**Pn**	**05 16 08.8**	**+0.7**
JEM				*e*S	**Sn**	**05 16 31.8**	**+0.5**
JIO	**Ouri**	**1.93**	**210**	⇓P	**Pn**	**05 16 08.0**	**-0.2**
JIO				S	**Sn**	**05 16 30.3**	**-1.3**
ASAJ	**Asahikawa**	**3.97**	**0**	P	**Pn**	**05 16 36.1**	**+0.2**
	7.3nm,0.3s,baz=228,slow=7.5,SNR=13						
ASAJ				S	**Sn**	**05 17 22.2**	**+1.0**
	4.8nm,0.3s,baz=47,slow=22,SNR=5.8						
MJAR	**Matsushiro Arr**	**4.96**	**225**	P	**Pn**	**05 16 49.3**	**-0.2**
	1.0nm,0.3s,baz=29,slow=13,SNR=13						
MAT	**Matsushiro**	**4.97**	**225**	P	**Pn**	**05 16 50.2**	**+0.7**
MAT				*e*S	**Sn**	**05 17 49.4**	**+3.8**
USRK	**Ussuriysk Ar.**	**8.84**	**301**	P	**Pn**	**05 17 42.9**	**+0.5**
	0.6nm,0.3s,baz=110,slow=14,SNR=13						
KSRS	**Korea Array**	**11.74**	**261**	P	**Pn**	**05 18 22.9**	**+0.9**
	0.3nm,0.3s,baz=70,slow=14,SNR=2.9						
SEY	**Seymchan**	**23.57**	**11**	P	**P**	**05 20 41.2**	**-0.1**
	0.9nm,0.2s,baz=201,slow=9.8,SNR=8.7						
SONM	**Songino Array**	**26.94**	**299**	P	**P**	**05 21 11.7**	**-0.4**
	0.8nm,0.5s,baz=100,slow=9.0,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**29.13**	**127**	T	T	05 52 22.4	
	baz=318,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**29.14**	**127**	T	T	05 52 23.5	
	baz=318,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**29.15**	**127**	T	T	05 52 23.0	
	baz=318,slow=75,SNR=88						
H11S1	**WAKE ISLAND Hy**	**29.95**	**129**	T	T	05 53 28.9	
	baz=319,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.95**	**129**	T	T	05 53 25.2	
	baz=319,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**29.97**	**129**	T	T	05 53 25.9	
	baz=319,slow=76,SNR=23						
ZALV	**Zalesovo Beam**	**40.55**	**310**	P	**P**	**05 23 10.6**	**+1.1**
	1.2nm,0.3s,baz=97,slow=6.8,SNR=7.4						
MKAR	**Makanchi Array**	**43.30**	**300**	P	**P**	**05 23 31.8**	**-0.3**
	1.7nm,0.8s,baz=64,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**44.86**	**306**	P	**P**	**05 23 45.4**	**+1.0**
	9.2nm,0.6s,baz=81,slow=8.7,SNR=52						
ILAR	**Eielson Array**	**46.40**	**34**	P	**P**	**05 23 56.5**	**+0.2**
	1.2nm,0.6s,baz=263,slow=6.0,SNR=26						
BVAR	**Borovoye Array**	**49.19**	**311**	P	**P**	**05 24 19.8**	**+1.6**
	0.9nm,0.4s,baz=69,slow=8.3,SNR=5.5						
AAK	**Ala-Archa**	**49.86**	**296**	P	**P**	**05 24 24.1**	**+0.5**
	0.8nm,0.3s,baz=160,slow=15,SNR=2.3						
INK	**Inuvik**	**51.22**	**28**	P	**P**	**05 24 33.6**	**+0.4**
	1.5nm,0.6s,baz=296,slow=6.7,SNR=14						
WRA	**Warramunga Arr**	**60.26**	**189**	P	**P**	**05 25 37.1**	**-1.3**
	0.1nm,0.4s,baz=6.5,slow=6.9,SNR=5.9						
YKA	**Yellowknife Ar**	**60.68**	**31**	P	**P**	**05 25 40.3**	**-0.4**
	0.5nm,0.6s,baz=300,slow=6.4,SNR=16						
FINES	**FINESS Array B**	**66.49**	**332**	P	**P**	**05 26 18.6**	**-0.5**
	0.4nm,0.5s,baz=51,slow=11,SNR=3.3						
NOA	**NORSAR Array B**	**71.67**	**337**	P	**P**	**05 26 49.7**	**-1.5**
	0.4nm,0.6s,baz=52,slow=11,SNR=3.4						

MEX 08 05:25:31.4±0.8, 16.77N×95.31W, h113km±12km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.25**	**218**	*i* P	Pn	05 25 54.4	-1.2
HUIG				*i* S2	Sn	05 26 11.8	-2.1
VHO	**Vista Hermosa**	**1.39**	**283**	*e*P	Pn	05 25 56.3	-1.1
VHO				*i* S1	Sn	05 26 15.4	-1.7
TGIG		**2.10**	**89**	*i* P1	Pn	05 26 03.8	-2.1
TGIG				*i* S3	Sn	05 26 29.9	-2.4
PCIG		**2.27**	**117**	*e*P1	Pn	05 26 07.4	-0.5
PCIG				*e*S2	Sn	05 26 33.9	-2.1
TPIG	**Tehuac#an**	**2.55**	**310**	*i* P2	Pn	05 26 10.4	-1.5
TPIG				*i* S3	Sn	05 26 41.3	-1.6
PNIG	**Pinotepa**	**2.72**	**263**	*i* P	Pn	05 26 12.0	-1.9
PNIG				*i* S2	Sn	05 26 45.8	-0.8
CCIG	**Comitan**	**3.08**	**99**	*e*P1	Pn	05 26 18.4	-0.5
CCIG				*e*S1	Sn	05 26 53.8	-1.6
TLIG	**Tlapa**	**3.21**	**285**	*e*P2	Pn	05 26 19.6	-0.8
TLIG				*e*S3	Sn	05 26 56.9	-1.4

*ISCJB **08** 05:30:18.2±0.7, 32°.24N±0°.04×115°.27W±0°.05, h22km±6km, Error ellipse: s-maj=7.5km s-min=7.3km az=143.3*

*MEX **08** 05:30:19.9±0.6, 32°.23N×115°.15W, h12km, MD3.8*

*NEIC **08** 05:30:20.6, 32°.33N×115°.30W, h8km, ML3.4(PAS), After PAS.*

ISC 08 05:30:18.5±1.0, 32°.21N±0°.05×115°.37W±0°.03, h15km±9km, n11, σ1.908/19, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.25**	**35**	*i* P	**Pg**	**05 30 23.9**	**+0.1**
MBIG				*i* S	**Sg**	**05 30 25.9**	**-1.6**
CBX	**Cerro Bola**	**1.10**	**276**	*e*P	**Pg**	**05 30 40.3**	**+0.4**
CBX				*i* S	**Sg**	**05 30 55.5**	**+1.2**
CBX	**Cerro Bola**	**1.10**	**276**	*e*P	**Pg**	**05 30 40.3**	**+0.4**
CBX				*i* S	**Sg**	**05 30

AAA	**Alma-Ata**	**2.54**	**323**	*i*	PN	**Pn**	**05**	**31**	**39.9 +2.4**
AAA				*i*	S	**Sb**	**05**	**32**	**13.8 +0.6**
AAA					pmax	pmax			
	comp=Z,3μm,0.3s								
AAA					smax	smax			
	comp=E,18μm,0.8s								
BOOM	**Boomskoye usch**	**2.62**	**299**	⇓	*i*P	**Pn**	**05**	**31**	**40.4 +1.6**
	baz=295								
BOOM				⇓	*e*S	**Sb**	**05**	**32**	**18.7 +3.0**
	baz=295								
KSH	**Kashi**	**2.93**	**234**		Pn	**Pg**	**05**	**31**	**52.4 -0.1**
KSH					Sn	**Sg**	**05**	**32**	**34.7 +4.2**
KSH					SMN				
	comp=E,2μm,0.7s								
KSH					SME				
	comp=E,2μm,0.7s								
KZA	**Kyzart**	**2.96**	**287**		P	**Pn**	**05**	**31**	**46.6 +3.0**
	SNR=115								
KZA	**Kyzart**	**2.96**	**287**	*i*	PN	**Pn**	**05**	**31**	**46.6 +3.0**
TKM2	**Tokmak 2**	**3.06**	**304**	⇑	Pn	**Pn**	**05**	**31**	**46.8 +2.1**
	comp=E,244nm,0.4s								
TKM2				⇑	Lg	Lg	05	32	29.5
	comp=E,975nm,0.5s								
TKM2	**Tokmak 2**	**3.06**	**304**		P	**Pn**	**05**	**31**	**45.9 +1.1**
	SNR=862								
TKM2	**Tokmak 2**	**3.06**	**304**	*i*	PN	**Pn**	**05**	**31**	**46.8 +2.1**
TKM2					pmax	pmax			
	comp=Z,244nm,0.4s								
TKM2	**Tokmak 2**	**3.06**	**304**	*e*	Pn	**Pn**	**05**	**31**	**46.0 +1.2**
TKM2				*e*	Sn	**Sn**	**05**	**32**	**21.4 0.0**
KBK	**Karagaybulak**	**3.36**	**296**		P	**Pn**	**05**	**31**	**51.2 +2.3**
	SNR=248								
KBK	**Karagaybulak**	**3.36**	**296**	*i*	PN	**Pn**	**05**	**31**	**51.2 +2.3**
UCH	**Uchtor**	**3.53**	**287**		P	**Pn**	**05**	**31**	**53.5 +2.1**
	SNR=19								
UCH	**Uchtor**	**3.53**	**287**	*i*	PN	**Pn**	**05**	**31**	**53.5 +2.1**
ARLS	**Aral**	**3.60**	**281**	⇓	*i*P	**Pn**	**05**	**31**	**53.0 +0.9**
	baz=279								
CHMS	**Chumysh**	**3.64**	**300**		P	**Pn**	**05**	**31**	**54.2 +1.7**
	SNR=53								
CHMS	**Chumysh**	**3.64**	**300**	*i*	PN	**Pn**	**05**	**31**	**54.2 +1.7**
FRU	**Bishkek**	**3.65**	**297**	*e*	PN	Pn	05	31	57.0 +4.2
FRU				*i*			05	32	06.0
FRU				*i*	S	**Sb**	**05**	**32**	**43.5 -1.7**
FRU				*i*	S	**Sg**	**05**	**32**	**51.0 -2.8**
FRU					pmax	pmax			
	comp=Z,850nm,1.6s								
FRU					smax	smax			
	comp=E,2μm,1.6s								
FRU	**Bishkek**	**3.65**	**297**	*e*	P	Pn	05	31	57.0 +4.2
	baz=294								
AAK	**Ala-Archa**	**3.66**	**293**	⇑	Pn	**Pn**	**05**	**31**	**55.4 +2.3**
	comp=E,324nm,0.8s								
AAK				⇑	Lg	Lg	05	32	49.9
	comp=E,664nm,0.8s								
AAK	**Ala-Archa**	**3.66**	**293**		P	**Pn**	**05**	**31**	**55.1 +2.0**
	SNR=49								
AAK	**Ala-Archa**	**3.66**	**293**	*d*	PN	**Pn**	**05**	**31**	**55.3 +2.3**
AAK					pmax	pmax			
	comp=Z,24nm,0.7s								
AAK	**Ala-Archa**	**3.66**	**293**		Pn	**Pn**	**05**	**31**	**54.7 +1.7**
	comp=Z,6.3nm,0.3s,baz=101,slow=8.2,SNR=82								
AAK					Pg	**Pb**	**05**	**32**	**00.0 -1.1**
	comp=Z,31nm,0.3s,baz=121,slow=13,SNR=120								
AAK					Lg	Lg	05	32	49.7
	comp=Z,60nm,0.3s,baz=313,slow=20,SNR=10								
AAK					LR	LR	05	33	31.7
	comp=Z,384nm,19.9s,baz=60,slow=44								
AAK	**Ala-Archa**	**3.66**	**293**		Pn	**Pn**	**05**	**31**	**54.7 +1.7**
AAK					Sn	**Sn**	**05**	**32**	**39.1 +2.9**
AAK					Lg	Lg	05	32	49.7
USP	**Ospenovka**	**3.92**	**302**		P	**Pn**	**05**	**31**	**58.1 +1.6**
	SNR=28								
USP	**Ospenovka**	**3.92**	**302**	*i*	PN	**Pn**	**05**	**31**	**58.1 +1.6**
SALK	**Salom-Alik**	**3.97**	**266**	*e*	P	**Pb**	**05**	**32**	**04.9 -1.5**
	baz=266								
AML	**Almayashu**	**4.10**	**284**		P	**Pn**	**05**	**32**	**01.3 +2.0**
	SNR=9.9								
AML	**Almayashu**	**4.10**	**284**	*i*	PN	**Pn**	**05**	**32**	**01.3 +2.0**
EKS2	**Erkin-Say**	**4.17**	**291**		P	**Pn**	**05**	**32**	**02.8 +2.8**
	SNR=11								
EKS2	**Erkin-Say**	**4.17**	**291**	*i*	PN	**Pn**	**05**	**32**	**02.8 +2.8**
EKS2	**Erkin-Say**	**4.17**	**291**	*e*	Pn	**Pn**	**05**	**32**	**02.9 +2.8**
SFK	**Sufi-Kurgan**	**4.40**	**255**	⇑	Pn	**Pn**	**05**	**32**	**05.7 +2.4**
	comp=Z,5.5nm,0.5s								
SFK				⇑	Pg	**Pb**	**05**	**32**	**15.3 +1.4**
	comp=Z,80nm,0.6s								
SFK				⇑	Lg	Lg	05	33	17.5
	comp=Z,826nm,1.1s								
SFK	**Sufi-Kurgan**	**4.40**	**255**		PN	**Pn**	**05**	**32**	**05.6 +2.4**
SFK							05	33	17.4
SFK					pmax	pmax			
	comp=Z,6.0nm,0.6s								
SFK					smax	smax			
	comp=N,957nm,1.2s								
MNAS	**Manas**	**5.04**	**286**	⇓	Pn	**Pn**	**05**	**32**	**13.9 +1.9**
	comp=N,5.9nm,0.6s								
MNAS				⇑	Pg	**Pb**	**05**	**32**	**25.2 +0.7**
	comp=N,110nm,0.6s								
MNAS				⇑	Lg	Lg	05	33	31.4
	comp=N,349nm,0.8s								
MNAS	**Manas**	**5.04**	**286**		PN	**Pn**	**05**	**32**	**13.8 +1.9**
MNAS							05	33	31.4
MNAS					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MNAS					smax	smax			
	comp=N,550nm,1.2s								
MK31	**Makanchi Array**	**6.00**	**22**	⇑	Pn	**Pn**	**05**	**32**	**26.4 +1.3**
	comp=N,4.5nm,0.4s,baz=203,slow=12,SNR=339								
MK31				⇑	Lg	Lg	05	34	00.7
	comp=N,42nm,0.6s								
MK31	**Makanchi Array**	**6.00**	**22**		PN	**Pn**	**05**	**32**	**26.3 +1.3**
MK31					pmax	pmax			
	comp=Z,9.0nm,0.5s								
MKAR	**Makanchi Array**	**6.00**	**22**		Pn	**Pn**	**05**	**32**	**26.0 +1.0**
	comp=Z,4.6nm,0.3s,baz=203,slow=12,SNR=165								
MKAR					Sn	**Sn**	**05**	**33**	**36.7 +3.1**
	comp=Z,4.8nm,0.3s,baz=193,slow=18,SNR=2.9								
MKAR					Lg	Lg	05	34	04.8
	comp=Z,10nm,0.3s,baz=206,slow=22,SNR=3.7								
MKAR					LR	LR	05	34	52.6
	comp=Z,118nm,21.6s,baz=233,slow=39								
KK31	**Karatay Array**	**6.60**	**289**		Pn	**Pn**	**05**	**32**	**36.0 +2.7**
	comp=Z,0.5nm,0.4s,baz=129,slow=12,SNR=7.8								
KK31					Pg	Pb	05	32	54.6 +3.4
	comp=Z,63nm,0.7s,baz=93,slow=15,SNR=48								
KK31				⇓	Lg	Lg	05	34	20.1
	comp=Z,68nm,0.6s,baz=100,slow=26,SNR=5.3								
KK31	**Karatay Array**	**6.60**	**289**	*e*	PN	**Pn**	**05**	**32**	**36.0 +2.7**
KK31					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**6.60**	**289**	*e*	Pn	Pn	05	32	36.7 +3.4
KKAR	**Karatay Array**	**6.60**	**289**	*e*	Pn	Pn	05	32	36.7 +3.4
WMQ	**Urumqi**	**6.88**	**65**	*e*	Pn	**Pn**	**05**	**32**	**37.8 +0.7**
WMQ					Sn	**Sn**	**05**	**33**	**54.6 -0.7**
WMQ					SMN				
	comp=Z,210nm,0.8s								
WMQ					SME				
	comp=Z,160nm,1.0s								
WMQ					LZ				
	comp=Z,570nm,7.7s								
OTUK	**Ortayu**	**8.45**	**328**	⇑	Pn	**Pn**	**05**	**32**	**59.3 +0.6**
	comp=Z,7.0nm,0.6s								
OTUK				⇑	Lg	Lg	05	35	18.9
	comp=Z,221nm,1.0s								
OTUK	**Ortayu**	**8.45**	**328**		P	**Pn**	**05**	**32**	**59.2 +0.6**
OTUK					pmax	pmax			
	comp=Z,17nm,0.6s								
CHCP	**Chirah Chowk**	**8.88**	**213**		P	Pn	05	33	07.8 +3.3
DLH	**Dalhousie**	**9.05**	**197**	*e*	P	**Pn**	**05**	**33**	**08.0 +0.9**
DLH				*ex*		x	05	34	46.0
DHRM	**DHARAMSHALA**	**9.26**	**195**	*e*	P	**Pn**	**05**	**33**	**12.1 +2.1**
DHRM				*ex*		x	05	34	51.8
DHRM					AML	AML	05	35	06.6
	comp=E,241nm,0.8s								
DHRM					AML	AML	05	35	08.5
	comp=N,163nm,0.6s								
CEP	**Cherat**	**9.34**	**220**		P	Pn	05	33	14.1 +3.1
CEP					S	**Sn**	**05**	**34**	**57.0 +1.0**
KURBB	**Kurchatov Arra**	**9.37**	**358**	⇑	Pn	**Pn**	**05**	**33**	**11.6 +0.5**
	comp=N,4.9nm,0.6s								
KURBB				⇑	Lg	Lg	05	35	50.2
	comp=N,276nm,1.1s								
KURBB	**Kurchatov Arra**	**9.37**	**358**		Pn	**Pn**	**05**	**33**	**12.4 +1.3**
	comp=N,0.2nm,0.3s,baz=189,slow=12,SNR=33								
KURBB					Sn	**Sn**	**05**	**34**	**56.6 +0.4**
	comp=N,0.3nm,0.3s,baz=185,slow=28,SNR=4.4								
KURBB					Lg	Lg	05	35	52.0
	comp=N,1.0nm,0.3s,baz=180,slow=29,SNR=11								
KURK	**Kurchatov**	**9.46**	**358**	⇓	Pn	**Pn**	**05**	**33**	**13.0 +0.7**
	comp=N,2.3nm,0.6s								
KURK				⇓	Lg	Lg	05	35	49.8
	comp=N,127nm,1.3s								
KURK	**Kurchatov**	**9.46**	**358**		P	**Pn**	**05**	**33**	**13.0 +0.7**
KURK					pmax	pmax			
	comp=Z,7.0nm,0.8s								
KURK	**Kurchatov**	**9.46**	**358**	*e*	Pn	**Pn**	**05**	**33**	**13.4 +1.0**
KURK					Sn	**Sn**	**05**	**34**	**56.6 -1.8**
KURK				*e*	Sn	Sn	05	34	57.5 -1.1
KURK					Lg	Lg	05	35	52.0
SMLA	**Simla**	**10.23**	**189**	*i*	P	**Pn**	**05**	**33**	**24.7 +1.7**
SMLA				*i*	S	**Sn**	**05**	**35**	**12.8 -4.8**
SMLA				*i*	S	**Sn**	**05**	**35**	**13.4 -4.2**
SMLA					AML	AML	05	35	20.7
	comp=N,192nm,0.5s								
SMLA					AML	AML	05	35	22.3
	comp=E,152nm,0.8s								
THW	**Thamme Wali**	**10.27**	**217**		P	**Pn**	**05**	**33**	**24.9 +1.3**
KBL	**Kabul**	**10.37**	**233**	*e*	P	**Pn**	**05**	**33**	**27.0 +1.9**
KBL	**Kabul**	**10.37**	**233**	*e*	Pn	**Pn**	**05**	**33**	**27.0 +1.9**
SARP	**Sargodha**	**10.64**	**211**		P	**Pn**	**05**	**33**	**29.8 +1.2**
NDI	**New Delhi**	**12.64**	**187**	*e*	P	**Pn**	**05**	**33**	**55.5 -0.6**
NDI				*e*	S	Sn	05	36	07.0 -10
BVA0	**Borovoye Array**	**13.14**	**336**		P	**Pn**	**05**	**34**	**01.7 -1.2**
	comp=E,17nm,0.8s,baz=141,slow=15,SNR=28								
BVA0	**Borovoye Array**	**13.14**	**336**		P	**Pn**			
BVA0					pmax	pmax			
	comp=Z,17nm,0.9s								
BVAR	**Borovoye Array**	**13.14**	**336**		Pn	**Pn**	**05**	**34**	**01.3 -1.5**
	comp=Z,0.5nm,0.3s,baz=150,slow=15,SNR=20								
BVAR					Lg	Lg	05	37	50.8
	comp=Z,0.9nm,0.3s,baz=157,slow=24,SNR=5.3								
BVAR					LR	LR	05	38	44.1
	comp=Z,148nm,18.4s,baz=134,slow=36								
KUDL	**Kundal**	**13.26**	**190**	*e*	P	**Pn**	**05**	**34**	**04.7 +0.3**
KUDL				*ex*		x	05	36	11.9
ZALV	**Zalesovo Beam**	**13.27**	**15**		Pn	**Pn**	**05**	**34**	**04.0 -0.4**
	comp=Z,0.4nm,0.3s,baz=196,slow=12,SNR=8.9								
ZALV					Sn	**Sn**	**05**	**36**	**36.1 +4.4**
	comp=Z,0.9nm,0.3s,baz=211,slow=30,SNR=4.3								
ZALV					Lg	Lg	05	37	59.4
	comp=Z,0.3nm,0.3s,baz=213,slow=29,SNR=2.9								
KHET	**Khetri**	**13.43**	**192**	*e*	P	**Pn**	**05**	**34**	**06.8 0.0**
KHET				*ex*		x	05	36	19.2
DANN	**Dangsing**	**13.45**	**162**	*e*	P	**Pn**	**05**	**34**	**06.2 -1.1**
	comp=Z,23nm,0.6s								
PYUN	**Piuthan**	**13.53**	**165**	*e*	P	**Pn**	**05**	**34**	**06.7 -1.6**
	comp=Z,67nm,0.4s								
NVS	**Novosibirsk**	**13.87**	**10**	⇑	*i*P	**Pn**	**05**	**34**	**13.6 +1.0**
NVS				*e*			05	36	45.2
KOLN	**Koldanda**	**13.97**	**163**	*e*	P	**Pn**	**05**	**34**	**12.2 -2.2**
	comp=Z,9.7nm,0.4s								
GKN	**Gorkha**	**14.00**	**159**	*e*	P	**Pn**	**05**	**34**	**14.5 -0.3**
	comp=Z,11nm,0.3s								
GUN	**Gumba**	**14.45**	**155**	*e*	P	**Pn**	**05**	**34**	**21.1 0.0**
	comp=Z,41nm,0.5s								
PKIN	**Phulchoki**	**14.62**	**157**	*e*	P	**Pn**	**05**	**34**	**23.1 -0.2**
	comp=Z,14nm,0.5s								
PKI	**Pulchoki**	**14.63**	**157**	*e*	P	**Pn**	**05**	**34**	**23.4 -0.1**
	comp=Z,18nm,0.6s								
JIRN	**Jiri**	**14.79**	**154**	*e*	P	**Pn**	**05**	**34**	**25.9 +0.2**
	comp=Z,44nm,0.6s								
AJM	**Ajmer**	**15.19**	**195**	*e*	P	Pn	05	34	23.0 -7.8
AJM				*e*	S	Sn	05	37	11.0 -8.0
RAMN	**Ramite**	**15.58**	**154**	*e*	P	**Pn**	**05**	**34**	**35.0 -1.1**
	comp=Z,53nm,0.8s								
TAPN	**Taplejung**	**15.60**	**150**	*e*	P	**Pn**	**05**	**34**	**36.1 -0.4**
AB31	**Akbulak array**	**15.62**	**307**	⇓	P	**Pn**	**05**	**34**	**35.5 -0.7**
	comp=Z,2.9nm,0.6s,baz=117,slow=11,SNR=50								
AB31	**Akbulak array**	**15.62**	**307**	*i*	P	**Pn**	**05**	**34**	**35.0 -1.2**
AB31					pmax	pmax			
	comp=Z,3.0nm,0.6s								
ABKAR	**Akbulak array**	**15.62**	**307**	*e*	Pn	**Pn**	**05**	**34**	**35.1 -1.1**
ODAN	**Odare**	**15.93**	**152**	*e*	P	**Pn**	**05**	**34**	**40.2 -0.4**
	comp=Z,51nm,1.0s								
GTA	**Gaotai**	**15.94**	**90**	*e*	P	**Pn**	**05**	**34**	**39.3 -1.3**
GTA					pP	**P**	**05**	**34**	**42.7 -1.5**
GTA					sP	**sP**	**05**	**34**	**45.8 -3.4**
GTA					S	**Sn**	**05**	**37**	**39.0 +1.7**
GTA					sS	**S**	**05**	**37**	**45.4 -6.0**
GTA					SS	**SnSn**	**05**	**37**	**57.5 +7.5**
GTA					PMZ				
	comp=Z,4.0nm,0.8s								
GTA					PMZ				
	comp=Z,79nm,4.7s								
GTA					LN				
	comp=Z,230nm,10.9s								
GTA					LE				
	comp=Z,200nm,9.7s								
GTA					LZ				
	comp=Z,240nm,10.9s								
GEYT	**Alibeck**	**16.47**	**265**		Pn	**Pn**	**05**	**34**	**43.9 -3.4**
	baz=91,slow=12,SNR=2.3								
AKTO	**Aktyubinsk**	**17.23**	**309**	⇓	P	**P**	**05**	**34**	**58.0 -0.3**
	comp=Z,5.6nm,0.8s								
AKTO	**Aktyubinsk**	**17.23**	**309**		P	**Pn**	**05**	**34**	**56.0 -0.8**
	comp=Z,0.3nm,0.3s,baz=104,slow=13,SNR=8.2								
BHPL	**Bhopal**	**18.02**	**185**	*e*	P	**P**	**05**	**35**	**07.5 +0.2**
BHPL				*ex*		x	05	38	10.7
MOY	**Mondy**	**18.28**	**48**	*e*	P	**Pn**	**05**	**35**	**09.2 -0.6**
SHL	**Shillong**	**18.94**	**142**	*e*	P	**Pn**	**05**	**35**	**20.0 +2.0**
ZAK	**Zakamensk**	**19.12**	**53**	*e*	P	**P**	**05**	**35**	**18.9 -0.3**
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
TLY	**Talaya**	**19.79**	**50**		P	**Pn**	**05**	**35**	**29.4 +1.5**
	comp=Z,0.0nm,0.3s,baz=259,slow=6.5,SNR=5.3								
LZH	**Lanzhou**	**20.01**	**97**	*e*	P	**Pn**	**05**	**35**	**32.0 +1.2**
LZH					PP	PnPn	05	35	52.3 +7.4
LZH					sS	Sn	05	39	25.2 +9.4
LZH				*e*	SS	**SnSn**	**05**	**39**	**39.1 +9.1**
LZH					PMZ				
	comp=Z,42nm,1.1s								
LZH					PMZ				
	comp=Z,250nm,6.0s								
LZH					LN				
	comp=Z,750nm,12.0s								
LZH					LE				
	comp=Z,610nm,12.5s								
LZH					LZ				
	comp=Z,970nm,14.6s								
ARU	**Arti**	**20.18**	**326**	*d*	*i*P	**P**	**05**	**35**	**31.4 +0.8**
ARU							05	35	48.5
ARU					PPP	PPP	05	35	57.0
ARU					S	**S**	**05**	**39**	**17.6 +0.9**
ARU					SS	**SnSn**	**05**	**39**	**36.7 +3.0**
ARU					pmax	pmax			
	comp=Z,16nm,1.2s								
ARU	**Arti**	**20.18**	**326**	*e*	P	Pn	05	35	31.8 -0.7
	comp=Z,16nm,1.0s								
SONM	**Songino Array**	**20.50**	**62**		P	Pn	05	35	35.6 -0.9
	comp=Z,7.8nm,0.7s,baz=262,slow=11,SNR=36								
ULN	**Ulaanbaatar**	**20.94**	**62**	*e*	P	**P**	**05**	**35**	**39.8 +0.7**
ULN					pmax	pmax			
	comp=Z,9.0nm,0.9s								
ULN	**Ulaanbaatar**	**20.94**	**62**	*e*	P	**P**	**05**	**35**	**39.8 +0.7**
	comp=Z,8.9nm,0.9s								
CD2	**Chengdu**	**22.41**	**110**	*e*	P	**P**	**05**	**35**	**56.6 +1.7**
CD2					pP	pP	05	36	08.3 +10
CD2					sP	sP	05	36	14.2 +14
CD2					PP	PnPn	05	36	25.3 +7.5
CD2					S	**S**	**05**	**39**	**54.6 -6.3**
CD2					sS	Sn	05	40	14.0 +0.5
CD2					SS	**SnSn**	**05**	**40**	**37.8 +8.8**
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,140nm,5.4s								
CD2	**Chengdu**	**22.41**	**110**	*e*	P	**P**	**05**	**35**	**55.3 +0.4**
CD2					pP	**pP**	**05**	**35**	**59.5 +1.1**
CD2					sP	**sP**	**05**	**36**	**02.3 +2.3**
CD2					PP	**PnPn**	**05**	**36**	**22.7 +4.9**
CD2					S	**S**	**05**	**39**	**56.8 -4.1**
CD2					sS	**sS**	**05**	**40**	**03.0 -3.7**
CD2					SS	**SnSn**	**05**	**40**	**37.5 +8.5**
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					PMZ				
	comp=Z,100nm,5.6s								
HYB	**Hyderabad**	**23.77**	**181**	*i*	P	**P**	**05**	**36**	**11.5 +2.7**
HHC	**Hu-ho-hao-te**	**24.45**	**80**	*e*	P	**P**	**05**	**36**	**16.2 +1.1**
HHC					PP	PnPn	05	36	52.8 +7.2
HHC					S	**S**	**05**	**40**	**30.0 -4.9**
HHC					SS	**SnSn**	**05**	**41**	**26.2 +7.5**
HHC					ScS	**ScS**	**05**	**47**	**15.6 -4.1**
HHC					PMZ				
	comp=Z,21nm,1.2s								
HHC					PMZ				
	comp=Z,93nm,5.2s								
HHC					LN				
	comp=Z,130nm,12.7s								
HHC					LE				
	comp=Z,210nm,13.3s								
HHC					LZ				
	comp=Z,140nm,10.6s								
XAN	**Xi'an**	**24.64**	**97**		P	P	05	36	24.0 +7.1
XAN					pP	pP	05	36	34.9 +14
XAN					pmax	pmax			
	comp=Z,2.0nm,1.4s								
KMI	**Kunming**	**25.42**	**122**		P	**P**	**05**	**36**	**27.6 +3.5**
KMI					PMZ				
	comp=Z,17nm,1.0s								
GNI	**Garni**	**25.94**	**279**		LR	LR	05	47	36.5
	comp=Z,50nm,19.6s,baz=98,slow=39								
KIV	**Kislovodsk**	**26.76**	**288**	*e*	P	**P**	**05**	**36**	**38.4 +2.4**
KIV					pmax	pmax			
	comp=Z,7.0nm,0.9s								
VRHR	**Novokhopersk**	**27.45**	**304**	*e*	P	**P**	**05**	**36**	**41.2 -0.7**
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
VRHR					pmax	pmax			
	comp=N,4.0nm,0.5s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.7s								
BOD	**Bodaibo**	**27.66**	**41**	*e*	P	**P**	**05**	**36**	**42.9 -0.9**
BJI	**Beijing**	**28.06**	**80**	*e*	P	**P**	**05**	**36**	**47.7 +0.2**
BJI					S	**S**	**05**	**41**	**29.9 -2.0**
BJI					PMZ				
	comp=E,12nm,0.6s								
BJI					PMZ				
	comp=E,100nm,4.6s								
BJI					LN				
	comp=E,150nm,26.4s								
BJI					LE				
	comp=E,150nm,25.2s								
CMAR	**Chiang Mai Arr**	**28.40**	**137**		P	**P**	**05**	**36**	**51.2 +0.5**
	comp=E,1.1nm,0.6s,baz=318,slow=10,SNR=8.7								
CMAR					LR	LR	05	50	05.5
	comp=E,37nm,21.2s,baz=5.0,slow=41								
VORD	**Divnogorie**	**28.90**	**303**	*e*	P	**P**	**05**	**36**	**55.0 +0.1**
VORD					pmax	pmax			
	comp=E,20nm,0.8s								
VORD					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=N,20nm,0.6s								
VSR	**Storozhevoye**	**29.00**	**304**	*e*	P	**P**	**05**	**36**	**55.6 -0.2**
VSR					pmax	pmax			
	comp=Z,10.0nm,0.5s								
VSR					pmax	pmax			
	comp=N,6.0nm,0.4s								
VSR					pmax	pmax			
	comp=E,10.0nm,0.8s								
WHN	**Wuhan**	**30.34**	**99**		P	P	05	37	12.5 +4.6
OBN	**Obninsk**	**31.00**	**311**	⇓	*e*P	**P**	**05**	**37**	**13.3 -0.1**
OBN					*e*		05	38	16.4
OBN					*e*S	**S**	**05**	**42**	**19.2 +1.5**
OBN					*e*SS	**SnSn**	**05**	**43**	**58.5 +0.6**
OBN					pmax	pmax			
	comp=Z,22nm,1.6s								
NJ2	**Nanjing**	**32.99**	**93**	*e*	P	**P**	**05**	**37**	**31.2 0.0**
NJ2					PMZ				
	comp=Z,40nm,0.9s								
RAYN	**Ar Rayn**	**33.13**	**248**	*e*	P	**P**	**05**	**37**	**32.0 -0.5**
	comp=Z,6.0nm,1.4s								
PALK	**Pallekele**	**33.88**	**177**	*i*	P	P	05	37	42.9 +3.8
PALK	**Pallekele**	**33.88**	**177**		LR	LR	05	50	03.5
	comp=Z,82nm,21.4s,baz=1.2,slow=34								
BRTR	**Keskin Array B**	**34.27**	**283**		P	**P**	**05**	**37**	**42.0 -0.4**
	comp=Z,3.5nm,0.7s,baz=97,slow=8.8,SNR=17								
QIZ	**Qiongzhong**	**34.35**	**121**		P	**P**	**05**	**37**	**44.2 +1.0**
QIZ					PP	**PP**	**05**	**39**	**02.7 +1.7**
QIZ					S	**S**	**05**	**43**	**09.3 -1.3**
AKASG	**Malin Array Be**	**35.28**	**303**		P	**P**	**05**	**37**	**50.0 -0.8**
	comp=Z,3.1nm,0.5s,baz=70,slow=9.6,SNR=19								
JOF	**Joensuu**	**35.29**	**324**	*e*	P	**P**	**05**	**37**	**50.5 -0.3**
JOF					pmax	pmax			
	comp=Z,5.0nm,0.5s								
JOF	**Joensuu**	**35.29**	**324**	*ep*		**P**	**05**	**37**	**50.5 -0.3**
	comp=Z,4.5nm,0.5s								
KIEV	**Kiev**	**35.29**	**303**	*e*	P	**P**	**05**	**37**	**50.7 -0.2**
KIEV					pmax	pmax			
	comp=Z,9.0nm,0.8s								
KIEV	**Kiev**	**35.29**	**303**	*e*	P	**P**	**05**	**37**	**50.7 -0.2**
	comp=Z,9.0nm,0.8s								

TREC	**Trest**	**44.24**	**303**	*eP*	P	05 38 59.0	-6.5	
CONA	**Conrad Observa**	**44.36**	**301**	⇑*iP*	P	**05 39 07.2**	**+0.7**	
	comp=Z,6.8nm,1.0s							
SPITS	**Spitsbergen Ar**	**44.42**	**345**	P	P	**05 39 06.1**	**-0.4**	
	comp=Z,5.6nm,0.9s,baz=236,slow=22,SNR=5.6							
PVCC	**Panska Ves**	**44.51**	**305**	*eP*	P	**05 39 08.7**	**+1.1**	
PVCC	**Panska Ves**	**44.51**	**305**	*eP*	P	**05 39 08.7**	**+1.1**	
NB2	**NORSAR Subarra**	**44.57**	**320**	P	P	**05 39 07.1**	**-0.8**	
	comp=Z,11nm,0.8s,baz=86,slow=8.6							
NOA	**NORSAR Array B**	**44.57**	**320**	P	P	**05 39 06.7**	**-1.2**	
	comp=Z,7.6nm,0.7s,baz=85,slow=7.9,SNR=44							
NOA				LR	LR	05 58 21.5		
	comp=Z,44nm,20.9s,baz=75,slow=37							
PRU	**Pruhonice**	**44.66**	**304**	*eP*	P	**05 39 09.5**	**+0.7**	
PRU	**Pruhonice**	**44.66**	**304**	*eP*	P	**05 39 09.5**	**+0.7**	
BRG	**Berggiesshubel**	**44.81**	**305**	*eP*	P	**05 39 09.6**	**-0.4**	
	comp=Z,6.2nm,1.0s							
BRG	**Berggiesshubel**	**44.81**	**305**	*eP*	P	**05 39 09.6**	**-0.4**	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SOKA	**Soboth**	**45.26**	**299**	⇑*iP*	P	**05 39 12.8**	**-0.9**	
	comp=Z,8.4nm,1.3s							
CLL	**Collm**	**45.28**	**306**	⇓*iP*	P	**05 39 13.1**	**-0.6**	
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	**45.28**	**306**	⇓*iP*	P	**05 39 13.1**	**-0.6**	
	comp=Z,10.0nm,0.9s							
KHC	**Kasperske Hory**	**45.49**	**303**	*eP*	P	**05 39 14.9**	**-0.5**	
KHC	**Kasperske Hory**	**45.49**	**303**	*eP*	P	**05 39 14.9**	**-0.5**	
KHC				*ex*	x	05 39 19.8		
GERES	**GERESS Array B**	**45.49**	**303**	P	P	**05 39 15.3**	**-0.2**	
	comp=Z,2.2nm,0.7s,baz=71,slow=8.6,SNR=16							
ASAJ	**Asahikawa**	**45.76**	**64**	LR	LR	05 59 26.8		
	comp=Z,38nm,21.3s,baz=130,slow=37							
GRF	**Grafenberg Arr**	**46.81**	**304**	*eP*	P	**05 39 27.0**	**+1.2**	
	comp=Z,9.0nm,0.9s							
SEY	**Seymchan**	**46.91**	**37**	P	P	**05 39 27.2**	**+1.0**	
	comp=Z,0.5nm,0.3s,baz=289,slow=20,SNR=4.4							
FETA	**Feichten**	**47.95**	**301**	⇑*iP*	P	**05 39 35.3**	**+0.4**	
	comp=Z,2.0nm,0.6s							
DAVA	**Damuels**	**48.41**	**302**	⇑*iP*	P	**05 39 37.0**	**-1.4**	
	comp=Z,2.8nm,0.6s							
BFO	**Black Forest**	**49.05**	**303**	*ceP*	P	**05 39 44.4**	**+1.3**	
HINF	**Hinteralfeld**	**50.15**	**303**	*eP*	P	**05 39 51.5**	**-0.1**	
	comp=Z,5.6nm,0.4s							
HINF	**Hinteralfeld**	**50.15**	**303**	*eP*	P	**05 39 51.5**	**-0.1**	
HINF				pmax	pmax			
	comp=Z,6.0nm,0.4s							
HINF	**Hinteralfeld**	**50.15**	**303**	*eP*	P	**05 39 51.5**	**-0.1**	
	comp=Z,5.6nm,0.4s							
HAU	**Haudompre**	**50.40**	**304**	*eP*	P	**05 39 52.6**	**-0.8**	
HAU	**Haudompre**	**50.40**	**304**	*eP*	P	**05 39 52.6**	**-0.8**	
HAU	**Haudompre**	**50.40**	**304**	*eP*	P	**05 39 52.6**	**-0.8**	
GIVF	**Givet**	**50.61**	**307**	*eP*	P	**05 39 54.0**	**-0.9**	
GIVF	**Givet**	**50.61**	**307**	*eP*	P	**05 39 54.0**	**-0.9**	
GIVF	**Givet**	**50.61**	**307**	*eP*	P	**05 39 54.0**	**-0.9**	
LPG	**La Plagne**	**51.08**	**301**	*eP*	P	**05 39 59.0**	**+0.1**	
	comp=Z,5.0nm,0.6s							
LPG	**La Plagne**	**51.08**	**301**	*eP*	P	**05 39 59.0**	**+0.1**	
LPG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
LPG	**La Plagne**	**51.08**	**301**	*eP*	P	**05 39 59.0**	**+0.1**	
	comp=Z,5.0nm,0.6s							
LPL	**La Plagne**	**51.08**	**301**	*eP*	P	**05 39 59.1**	**+0.3**	
	comp=Z,8.6nm,0.6s							
LPL	**La Plagne**	**51.08**	**301**	*eP*	P	**05 39 59.1**	**+0.3**	
LPL				pmax	pmax			
	comp=Z,9.0nm,0.6s							
LPL	**La Plagne**	**51.08**	**301**	*eP*	P	**05 39 59.1**	**+0.3**	
	comp=Z,8.6nm,0.6s							
MBDF	**Montbardon**	**51.36**	**300**	*eP*	P	**05 40 00.2**	**-0.7**	
MBDF	**Montbardon**	**51.36**	**300**	*eP*	P	**05 40 00.2**	**-0.7**	
MBDF	**Montbardon**	**51.36**	**300**	*eP*	P	**05 40 00.2**	**-0.7**	
BILL	**Bilibino**	**51.50**	**29**	⇑*eP*	P	**05 40 01.5**	**+0.2**	
BILL				*e*		05 42 05.8		
BILL				*eS*	S	05 47 38.9	+18	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,406nm,23.0s							
ORIF	**Oris-en-Rattie**	**51.87**	**300**	*eP*	P	**05 40 04.0**	**-0.6**	
	comp=Z,19nm,1.0s							
ORIF	**Oris-en-Rattie**	**51.87**	**300**	*eP*	P	**05 40 04.0**	**-0.6**	
ORIF				pmax	pmax			
	comp=Z,19nm,1.0s							
ORIF	**Oris-en-Rattie**	**51.87**	**300**	*eP*	P	**05 40 04.0**	**-0.6**	
	comp=Z,19nm,1.0s							
FRF	**La Foret Royal**	**51.91**	**298**	*eP*	P	**05 40 03.9**	**-0.9**	
FRF	**La Foret Royal**	**51.91**	**298**	*eP*	P	**05 40 03.9**	**-0.9**	
FRF	**La Foret Royal**	**51.91**	**298**	*eP*	P	**05 40 03.9**	**-0.9**	
DAG	**Danmarks Havn**	**51.97**	**343**	*i* P	P	**05 40 04.6**	**-0.1**	
DAG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DAG	**Danmarks Havn**	**51.97**	**343**	*i* P	P	**05 40 04.6**	**-0.1**	
	comp=Z,5.9nm,0.9s							
LMR	**La Mourre**	**52.10**	**298**	*eP*	P	**05 40 05.9**	**-0.3**	
LMR	**La Mourre**	**52.10**	**298**	*eP*	P	**05 40 05.9**	**-0.3**	
LMR	**La Mourre**	**52.10**	**298**	*eP*	P	**05 40 05.9**	**-0.3**	
LOR	**Lormes**	**52.24**	**304**	*eP*	P	**05 40 06.6**	**-0.6**	
LOR	**Lormes**	**52.24**	**304**	*eP*	P	**05 40 06.6**	**-0.6**	
LOR	**Lormes**	**52.24**	**304**	*eP*	P	**05 40 06.6**	**-0.6**	
SMF	**Signal de Mont**	**52.49**	**303**	*eP*	P	**05 40 08.6**	**-0.5**	
SMF	**Signal de Mont**	**52.49**	**303**	*eP*	P	**05 40 08.6**	**-0.5**	
SMF	**Signal de Mont**	**52.49**	**303**	*eP*	P	**05 40 08.6**	**-0.5**	
SSF	**Saint Saulge**	**52.54**	**303**	*eP*	P	**05 40 09.0**	**-0.4**	
	comp=Z,5.2nm,0.6s							
SSF	**Saint Saulge**	**52.54**	**303**	*eP*	P	**05 40 09.0**	**-0.4**	
SSF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SSF	**Saint Saulge**	**52.54**	**303**	*eP*	P	**05 40 09.0**	**-0.4**	
	comp=Z,5.2nm,0.6s							
VIVF	**Saint-Julien-l**	**52.68**	**301**	*eP*	P	**05 40 10.3**	**-0.2**	
VIVF	**Saint-Julien-l**	**52.68**	**301**	*eP*	P	**05 40 10.3**	**-0.2**	
VIVF	**Saint-Julien-l**	**52.68**	**301**	*eP*	P	**05 40 10.3**	**-0.2**	
AVF	**Avril sur Loir**	**52.75**	**303**	*eP*	P	**05 40 10.6**	**-0.3**	
	comp=Z,22nm,0.9s							
AVF	**Avril sur Loir**	**52.75**	**303**	*eP*	P	**05 40 10.6**	**-0.3**	
AVF				pmax	pmax			
	comp=Z,22nm,0.9s							
AVF	**Avril sur Loir**	**52.75**	**303**	*eP*	P	**05 40 10.6**	**-0.3**	
	comp=Z,22nm,0.9s							
BGF	**Bois d'Agland**	**53.16**	**303**	*eP*	P	**05 40 13.6**	**-0.4**	
BGF	**Bois d'Agland**	**53.16**	**303**	*eP*	P	**05 40 13.6**	**-0.4**	
BGF	**Bois d'Agland**	**53.16**	**303**	*eP*	P	**05 40 13.6**	**-0.4**	
LASF	**Ste Croix**	**53.54**	**300**	*eP*	P	**05 40 16.1**	**-0.7**	
LASF	**Ste Croix**	**53.54**	**300**	*eP*	P	**05 40 16.1**	**-0.7**	
TCF	**Toulx Ste Croi**	**53.67**	**303**	*eP*	P	**05 40 17.6**	**-0.2**	
TCF	**Toulx Ste Croi**	**53.67**	**303**	*eP*	P	**05 40 17.6**	**-0.2**	
TCF	**Toulx Ste Croi**	**53.67**	**303**	*eP*	P	**05 40 17.6**	**-0.2**	
LDF	**La Druitiere**	**54.17**	**306**	*eP*	P	**05 40 20.8**	**-0.6**	
	comp=Z,7.4nm,0.6s							
LDF	**La Druitiere**	**54.17**	**306**	*eP*	P	**05 40 20.8**	**-0.6**	
LDF				pmax	pmax			
	comp=Z,7.0nm,0.6s							
LDF	**La Druitiere**	**54.17**	**306**	*eP*	P	**05 40 20.8**	**-0.6**	
	comp=Z,7.4nm,0.6s							
FLN	**La Foliniere**	**54.32**	**307**	*eP*	P	**05 40 22.2**	**-0.2**	
FLN	**La Foliniere**	**54.32**	**307**	*eP*	P	**05 40 22.2**	**-0.2**	
FLN	**La Foliniere**	**54.32**	**307**	*eP*	P	**05 40 22.2**	**-0.2**	
CAF	**Calviac**	**54.34**	**302**	*eP*	P	**05 40 22.8**	**+0.1**	
CAF	**Calviac**	**54.34**	**302**	*eP*	P	**05 40 22.8**	**+0.1**	
CAF	**Calviac**	**54.34**	**302**	*eP*	P	**05 40 22.8**	**+0.1**	
RJF	**Les Rejaudoux**	**54.52**	**302**	*eP*	P	**05 40 23.5**	**-0.5**	
	comp=Z,7.3nm,0.6s							
RJF	**Les Rejaudoux**	**54.52**	**302**	*eP*	P	**05 40 23.5**	**-0.5**	
RJF				pmax	pmax			
	comp=Z,7.0nm,0.6s							
RJF	**Les Rejaudoux**	**54.52**	**302**	*eP*	P	**05 40 23.5**	**-0.5**	
	comp=Z,7.3nm,0.6s							
GRR	**Gorron**	**54.70**	**306**	*eP*	P	**05 40 24.6**	**-0.6**	
GRR	**Gorron**	**54.70**	**306**	*eP*	P	**05 40 24.6**	**-0.6**	
GRR	**Gorron**	**54.70**	**306**	*eP*	P	**05 40 24.6**	**-0.6**	
MFF	**Saint Martin d**	**55.02**	**304**	*eP*	P	**05 40 27.0**	**-0.6**	
MFF	**Saint Martin d**	**55.02**	**304**	*eP*	P	**05 40 27.0**	**-0.6**	
MFF	**Saint Martin d**	**55.02**	**304**	*eP*	P	**05 40 27.0**	**-0.6**	
LFF	**La Frestale**	**55.18**	**302**	*eP*	P	**05 40 28.2**	**-0.5**	
LFF	**La Frestale**	**55.18**	**302**	*eP*	P	**05 40 28.2**	**-0.5**	
LFF	**La Frestale**	**55.18**	**302**	*eP*	P	**05 40 28.2**	**-0.5**	
ROSF	**Rostrenen**	**56.18**	**307**	*eP*	P	**05 40 35.4**	**-0.5**	
ROSF	**Rostrenen**	**56.18**	**307**	*eP*	P	**05 40 35.4**	**-0.5**	
ROSF	**Rostrenen**	**56.18**	**307**	*eP*	P	**05 40 35.4**	**-0.5**	
ETSF	**Etsaut**	**56.94**	**300**	*eP*	P	**05 40 41.4**	**-0.1**	
	comp=Z,15nm,1.0s							
ETSF	**Etsaut**	**56.94**	**300**	*eP*	P	**05 40 41.4**	**-0.1**	
ETSF				pmax	pmax			
	comp=Z,15nm,1.0s							
ETSF	**Etsaut**	**56.94**	**300**	*eP*	P	**05 40 41.4**	**-0.1**	
	comp=Z,15nm,1.0s							
SUMG	**Summit**	**58.56**	**342**	*i* P	P	**05 40 53.0**	**+0.2**	
SUMG				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SUMG	**Summit**	**58.56**	**342**	*i* P	P	**05 40 53.0**	**+0.2**	
	comp=Z,2.7nm,1.0s							
ESDC	**Sonseca Array**	**60.75**	**299**	P	P	**05 41 06.4**	**-1.6**	
	comp=Z,0.4nm,0.4s,baz=52,slow=6.6,SNR=3.0							
COLD	**Coldfoot**	**65.56**	**19**	*eP*	P	**05 41 39.5**	**+0.1**	
	comp=Z,4.5nm,0.8s							
INK	**Inuvik**	**68.05**	**12**	P	P	**05 41 54.2**	**-1.0**	
	comp=Z,0.9nm,0.5s,baz=341,slow=5.2,SNR=12							
ILAR	**Eielson Array**	**68.35**	**19**	P	P	**05 41 56.6**	**-0.6**	
	comp=Z,0.5nm,0.6s,baz=172,slow=16,SNR=5.7							
TORD	**Torodi Ar. Bea**	**71.99**	**272**	P	P	**05 42 17.6**	**-2.6**	
	comp=Z,3.0nm,0.6s,baz=49,slow=5.3,SNR=44							
KDAK	**Kodiak Island**	**72.29**	**26**	*ceP*	P	**05 42 22.9**	**+1.6**	
YKA	**Yellowknife Ar**	**76.01**	**6**	P	P	**05 42 41.9**	**-1.1**	
	comp=Z,1.2nm,0.5s,baz=344,slow=5.7,SNR=46							
WRA	**Warramunga Arr**	**79.57**	**128**	P	P	**05 43 02.5**	**-0.8**	
	comp=Z,6.4nm,0.9s,baz=328,slow=5.2,SNR=29							
WRAB	**Tennant Creek**	**79.57**	**128**	⇓*eP*	P	**05 43 04.2**	**+0.8**	
WRAB				pmax	pmax			
	comp=Z,25nm,1.6s							
WRAB	**Tennant Creek**	**79.57**	**128**	*eP*	P	**05 43 03.6**	**+0.2**	
	comp=Z,8.7nm,1.1s							
WB2	**Warramunga Arr**	**79.58**	**128**	*eP*	P	**05 43 03.5**	**+0.1**	
ASAR	**Alice Springs**	**82.20**	**131**	P	P	**05 43 16.8**	**-0.7**	
	comp=Z,5.0nm,0.7s,baz=324,slow=5.5,SNR=67							
FFC	**Flin Flon**	**84.38**	**1**	*eP*	P	**05 43 27.0**	**-1.2**	
FFC				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FFC	**Flin Flon**	**84.38**	**1**	*eP*	P	**05 43 27.0**	**-1.2**	
	comp=Z,2.4nm,0.8s							
BSMT	**Bassoo Peak**	**90.42**	**9**	*eP*	P	**05 43 57.5**	**-0.4**	
	comp=Z,7.6nm,1.3s							
JTMT	**Jette**	**90.58**	**9**	*eP*	P	**05 43 58.1**	**-0.5**	
PDAR	**Pinedale Array**	**95.99**	**6**	P	P	**05 44 22.1**	**-1.5**	
	comp=Z,0.3nm,0.6s,baz=352,slow=3.0,SNR=3.6							

KRNET 08 05:40:37.2±0.1, 41°.76N×79°.19E, h2km, mb3.5, 8C-2D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.54**	**285**	*eP*	Pn	05 41 05.6	-0.4
	baz=284						
ULHL	**Ulahol**	**2.25**	**283**	⇑*iP*	Pb	05 41 18.7	-0.2
	baz=283						
ULHL				⇑*iS*	Sg	05 41 49.4	-0.6
	baz=283						
NRN	**Naryn**	**2.41**	**263**	*eP*	Pb	05 41 20.0	-1.8
	baz=263						
NRN				*eS*	Sb	05 41 53.4	+1.0
	baz=263						
BOOM	**Boomskoye usch**	**2.52**	**288**	*eP*	Pb	05 41 23.5	0.0
	baz=288						
BOOM				⇓*iS*	Sg	05 42 01.4	+2.6
	baz=288						
TKM2	**Tokmak 2**	**2.90**	**295**	⇑*iP*	Pb	05 41 30.9	+0.9
	baz=295						
TKM2				⇑*iS*	Sg	05 42 11.5	+0.4
	baz=295						
KZA	**Kyzart**	**2.96**	**277**	⇑*iP*	Pb	05 41 29.9	-1.3
	baz=277						
KZA				⇑*iS*	Sb	05 42 10.6	+2.4
	baz=277						
UCH	**Uchtor**	**3.52**	**279**	⇑*iP*	Pb	05 41 40.4	-0.4
	baz=279						
UCH				⇑*iS*	Sg	05 42 28.0	-3.2
	baz=279						
ARLS	**Aral**	**3.64**	**273**	⇓*iP*	Pb	05 41 42.2	-0.3
	baz=273						

KRNET 08 05:46:20.0±0.1, 41°.63N×79°.59E, h16km, mb4.0
NNC 08 05:46:24.8±4.5, 41°.30N×79°.35E, h0km, mb3.5, mpv3.1,
Error ellipse: s-maj=36.2km s-min=17.2km az=153.0
ISC 08 05:46:19.1±2.2, 41°.6N±0°.1×79°.63E±0°.08, h15km, n22,
σ1§98/30, 17C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.72**	**357**	⇑Pn	Pg	05 47 00.7	+8.5
	14nm,0.4s						
PDGK				⇑Sn	Sg	05 47 27.8	+13
	38nm,0.5s						
KNDC	**Almaty**	**2.54**	**310**	⇓Pn	**Pb**	**05 47 06.0**	**+1.6**
KNDC				⇓Sn	**Sg**	**05 47 40.1**	**-0.7**
ULHL	**Ulahol**	**2.60**	**285**	P	**Pn**	**05 47 02.9**	**+2.0**
	SNR=9.2						
ULHL	**Ulahol**	**2.60**	**285**	⇑*iP*	**Pn**	**05 47 02.9**	**+2.0**
	baz=285						
ULHL				⇑*iS*	**Sn**	**05 47 33.4**	**+1.0**
	baz=285						
NRN	**Naryn**	**2.73**	**267**	*eP*	**Pn**	**05 47 04.8**	**+2.1**
	baz=267						
NRN				*eS*	**Sn**	**05 47 38.6**	**+3.0**
	baz=267						
BOOM	**Boomskoye usch**	**2.88**	**289**	⇓*iP*	**Pb**	**05 47 08.2**	**-2.1**
	baz=289						
BOOM				⇓*eS*	**Sb**	**05 47 43.0**	**-2.5**
	baz=289						
TKM2	**Tokmak 2**	**3.27**	**295**	⇓Pn	**Pb**	**05 47 15.3**	**-1.6**
	7.3nm,0.5s						
TKM2				⇑Sn	**Sb**	**05 47 56.3**	**-0.2**
	30nm,0.6s						
TKM2	**Tokmak 2**	**3.27**	**295**	P	**Pb**	**05 47 15.4**	**-1.5**
	SNR=14						
TKM2	**Tokmak 2**	**3.27**	**295**	⇑*iP*	**Pb**	**05 47 15.3**	**-1.6**
	baz=295						
TKM2				⇑*iS*	**Sb**	**05 47 56.5**	**0.0**
	baz=295						
KZA	**Kyzart**	**3.30**	**280**	P	Pn	05 47 14.4	+3.8
	SNR=17						
KZA	**Kyzart**	**3.30**	**280**	⇑*iP*	**Pn**	**05 47 12.7**	**+2.0**
	baz=279						
KZA				⇑*iS*	**Sb**	**05 47 54.4**	**-3.4**
	baz=279						
KBK	**Karagaybulak**	**3.63**	**288**	P	**Pb**	**05 47 21.4**	**-1.7**
	SNR=8.8						
UCH	**Uchtor**	**3.87**	**281**	P	**Pb**	**05 47 25.7**	**-1.6**
	SNR=22						
UCH	**Uchtor**	**3.87**	**281**	⇑*iP*	**Pb**	**05 47 25.1**	**-2.1**
	baz=281						
UCH				⇑*iS*	**Sb**	**05 48 13.3**	**-0.7**
	baz=281						
CHMS	**Chumysh**	**3.87**	**293**	⇑*iP*	**Pb**	**05 47 24.9**	**-2.2**
	baz=292						
CHMS				⇑*iS*	**Sb**	**05 48 13.4**	**-0.4**
	baz=292						
AAK	**Ala-Archa**	**3.95**	**287**	⇑Pn	Pb	05 47 25.6	-2.9
	3.3nm,0.5s						
AAK				⇓Sn	**Sb**	**05 48 16.7**	**+0.4**
	8.6nm,0.5s						
AAK	**Ala-Archa**	**3.95**	**287**	P	**Pb**	**05 47 26.2**	**-2.3**
	SNR=6.7						
AAK	**Ala-Archa**	**3.95**	**287**	⇑*iP*	**Pb**	**05 47 26.0**	**-2.6**
	baz=286						
AAK				⇑*iS*	**Sb**	**05 48 15.6**	**-0.6**
	baz=286						
ARLS	**Aral**	**3.98**	**275**	*i* P	Pb	05 47 25.8	-3.2
	baz=275						
ARLS				⇓*iS*	**Sb**	**05 48 13.4**	**-3.6**
	baz=275						
AML	**Almayashu**	**4.46**	**279**	P	**Pb**	**05 47 36.4**	**-1.0**
	SNR=6.5						
EKS2	**Erkin-Say**	**4.48**	**286**	P	**Pb**	**05 47 36.9**	**-0.6**
	SNR=8.4						
MK31	**Makanchi Array**	**5.52**	**19**	⇓Pn	**Pb**	**05 47 53.1**	**-2.1**
	0.1nm,0.2s,baz=201,slow=14,SNR=6.7						
MK31				⇑Lg	Lg	05 49 31.8	
	1.1nm,0.6s,baz=207,slow=24,SNR=3.7						

LDG 08 06:05:20.2±0.2, 41°.14N×79°.03E, h10km, Mb4.5/6, Ms2.6/2,
Error ellipse: s-maj=7.4km s-min=6.4km az=138.0
IDC 08 06:05:21.2±0.6, 41°.13N×79°.10E, h0km, mb4.1/17,
mb1 4.2/24, mb1mx4.1/41, mbtmp4.0/24, ML3.4/7, MS3.1/10,
Ms1 3.1/10, ms1mx2.9/45, Error ellipse: s-maj=12.7km
s-min=11.3km az=48.0
ISCJB 08 06:05:22.1±0.2, 41°.24N±0°.03×79°.06E±0°.03, h13km,
mb4.3/30, MS3.0/6, Error ellipse: s-maj=4.2km
s-min=3.7km az=16.6
BJI 08 06:05:22.7, 41°.28N×78°.99E, h4km, mB4.4/7, mb4.2/11,
ML4.2/9, Ms3.9/9, Ms7 3.6/6
KRNET 08 06:05:24.0±0.1, 41°.35N×78°.91E, h2km, mb4.8
MOS 08 06:05:24.4±1.2, 41°.19N×79°.14E, h33km, mb4.7/13, Error
ellipse: s-maj=8.0km s-min=4.9km az=124.0
NNC 08 06:05:27.0±1.8, 41°.42N×78°.79E, h0km, mb4.6, mpv4.4,
Error ellipse: s-maj=17.4km s-min=7.3km az=138.0
NEIC 08 06:05:27.0±1.0, 41°.26N×79°.07E, h38km±8km, mb4.2/4,
Error ellipse: s-maj=11.7km s-min=6.0km az=178.0
ISC 08 06:05:24.2±0.4, 41°.36N±0°.04×78°.89E±0°.03, h13km, n162,
σ1§56/157, mb4.3/31, MS2.9/6, 19C-19D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.50**	**302**	⇑*iP*	**Pn**	**06 05 50.0**	**-0.9**
	baz=301						
KDJ				⇑*eS*	**Sg**	**06 06 12.5**	**+0.1**
	baz=301						
PDGK	**Podgornoye**	**2.02**	**12**	⇓P	**Pb**	**06 06 01.5**	**+0.7**
	388nm,0.4s						
PDGK				⇓S	**Sg**	**06 06 29.0**	**-0.1**
	1μm,0.7s						
PDGK	**Podgornoye**	**2.02**	**12**	PN	**Pb**	**06 06 01.4**	**+0.7**
PDGK				S	**Sg**	**06 06 28.8**	**-0.3**
PDGK				pmax	pmax		
	comp=Z,389nm,0.4s						
PDGK				smax	smax		
	comp=N,2μm,0.8s						
ULHL	**Ulahol**	**2.17**	**295**	P	**Pb**	**06 06 04.1**	**+0.6**
	SNR=81						
ULHL	**Ulahol**	**2.17**	**295**	*i* PN	**Pb**	**06 06 04.1**	**+0.6**
ULHL	**Ulahol**	**2.17**	**295**	⇑*iP*	**Pb**	**06 06 03.3**	**-0.2**
	baz=295						
NRN	**Naryn**	**2.18**	**273**	*eP*	**Pb**	**06 06 04.6**	**+1.0**
	baz=273						
KNDC	**Almaty**	**2.35**	**323**	⇑Pn	**Pb**	**06 06 06.9**	**+0.5**
KNDC				⇓Lg	Lg	06 06 40.0	
AAA	**Alma-Ata**	**2.40**	**324**	*i* PN	**Pb**	**06 06 07.4**	**+0.2**
AAA				*i* S	**Sg**	**06 06 40.6**	**-0.6**
AAA				pmax	pmax		
	comp=Z,2μm,0.4s						
AAA				smax	smax		
	comp=E,16μm,1.0s						
BOOM	**Boomskoye usch**	**2.48**	**298**	⇓*iP*	**Pb**	**06 06 09.0**	**+0.3**
	baz=298						
BOOM				⇓*eS*	**Sg**	**06 06 43.0**	**-0.8**
	baz=298						
KZA	**Kyzart**	**2.82**	**286**	P	**Pb**	**06 06 12.9**	**-1.8**
	SNR=110						
KZA	**Kyzart**	**2.82**	**286**	*i* PN	**Pb**	**06 06 12.9**	**-1.8**
KSH	**Kashi**	**2.89**	**231**	Pg	Pg	06 06 24.2	+4.7
KSH				Sn	Sg	06 07 09.1	+12
KSH				SMN			
	comp=E,1μm,1.0s						
KSH				SME			
	comp=E,2μm,0.9s						
TKM2	**Tokmak 2**	**2.91**	**304**	⇑Pn	**Pb**	**06 06 14.7**	**-1.3**
	comp=E,87nm,0.3s						
TKM2				⇑Lg	Lg	06 06 56.2	
	comp=E,459nm,0.5s						
TKM2	**Tokmak 2**	**2.91**	**304**	P	**Pb**	**06 06 14.1**	**-1.9**
	SNR=349						
TKM2	**Tokmak 2**	**2.91**	**304**	*e*PN	**Pb**	**06 06 14.4**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,99nm,0.4s						
TKM2	**Tokmak 2**	**2.91**	**304**	*e*Pn	**Pb**	**06 06 14.2**	**-1.9**
TKM2				*e*Sn	**Sg**	**06 06 57.6**	**+0.1**
KBK	**Karagaybulak**	**3.21**	**295**	P	**Pb**	**06 06 19.2**	**-2.0**
	SNR=172						
KBK	**Karagaybulak**	**3.21**	**295**	*i* PN	**Pb**	**06 06 19.2**	**-2.0**
UCH	**Uchtor**	**3.39**	**286**	P	**Pn**	**06 06 20.1**	**+2.9**
	SNR=29						
UCH	**Uchtor**	**3.39**	**286**	*i* PN	**Pn**	**06 06 20.0**	**+2.9**
ARLS	**Aral**	**3.46**	**280**	⇓*iP*	Pn	06 06 21.2	+3.2
	baz=280						
CHMS	**Chumysh**	**3.49**	**299**	P	**Pb**	**06 06 25.1**	**-0.8**
	SNR=35						
CHMS	**Chumysh**	**3.49**	**299**	*i* PN	**Pb**	**06 06 25.0**	**-0.8**
FRU	**Bishkek**	**3.51**	**296**	*e*PN	**Pb**	**06 06 24.0**	**-2.1**
FRU				*e*		06 06 34.0	
FRU				*eS*	**Sg**	**06 07 14.0**	**-2.8**
FRU				pmax	pmax		
	comp=Z,500nm,1.8s						
FRU				smax	smax		
	comp=N,1μm,1.8s						
FRU	**Bishkek**	**3.51**	**296**	*e*P	**Pb**	**06 06 24.0**	**-2.1**
	baz=296						
AAK	**Ala-Archa**	**3.52**	**

WMQ Sn **Sn** **06 08 26.2 +1.6**
WMQ SMN
comp=Z,190nm,0.7s
WMQ SME
comp=Z,150nm,0.8s
DZET **Dzherino** **8.12 255** ⇑Pn **Pn** **06 07 22.5 +0.5**
comp=Z,4.2nm,0.4s
DZET ⇑Lg Lg 06 09 49.7
comp=Z,47nm,0.9s
OTUK **Ortayu** **8.31 328** ⇓Pn **Pn** **06 07 22.5 -1.9**
comp=Z,14nm,1.2s
OTUK ⇑Lg Lg 06 09 44.6
comp=Z,128nm,1.1s
CHCP **Chirah Chowk** **8.89 212** P **Pn** **06 07 35.0 +2.7**
KURBB **Kurchatov Arra** **9.27 359** ⇓Lg Lg 06 10 18.4
comp=Z,93nm,0.9s
KURBB **Kurchatov Arra** **9.27 359** Pn **Pn** **06 07 39.8 +2.3**
comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=15
KURBB Lg Lg 06 10 16.5
comp=Z,0.5nm,0.3s,baz=194,slow=34,SNR=13
CEP **Cherat** **9.34 219** P Pn 06 07 42.0 +3.4
CEP S Sn 06 09 30.0 +6.5
KURK **Kurchatov** **9.36 359** ⇑Lg Lg 06 10 20.0
comp=Z,87nm,1.3s
KURK **Kurchatov** **9.36 359** *e*P **Pn** **06 07 40.7 +2.0**
KURK **Kurchatov** **9.36 359** *e*Pn **Pn** **06 07 40.7 +2.0**
KURK Lg Lg 06 10 16.5
SARP **Sargodha** **10.65 210** P **Pn** **06 07 58.0 +1.5**
BVA0 **Borovoye Array** **13.02 337** Pn **Pn** **06 08 28.6 -0.1**
comp=Z,11nm,1.1s,baz=155,slow=15,SNR=5.4
BVA0 ⇓Lg Lg 06 12 13.6
comp=Z,1.5nm,1.0s,baz=149,slow=27,SNR=4.2
BVAR **Borovoye Array** **13.02 337** Pn **Pn** **06 08 30.5 +1.8**
comp=Z,0.5nm,0.3s,baz=150,slow=15,SNR=12
BVAR Sn **Sn** **06 10 50.8 -2.4**
comp=Z,0.2nm,0.3s,baz=156,slow=19,SNR=2.2
BVAR Lg Lg 06 12 13.2
comp=Z,0.3nm,0.3s,baz=169,slow=27,SNR=6.8
BVAR LR LR 06 13 11.7
comp=Z,90nm,18.5s,baz=145,slow=35
ZALV **Zalesovo Beam** **13.21 15** *e*P Pn 06 08 34.5 +3.2
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV **Zalesovo Beam** **13.21 15** Pn **Pn** **06 08 31.1 -0.3**
comp=Z,0.6nm,0.3s,baz=191,slow=9.6,SNR=7.9
ZALV Sn **Sn** **06 10 56.0 -2.0**
comp=Z,0.3nm,0.3s,baz=202,slow=19,SNR=4.2
ZALV Lg Lg 06 12 25.7
baz=205,slow=26,SNR=2.4
ZALV LR LR 06 13 59.5
comp=Z,63nm,20.8s,baz=66,slow=39
DANN **Dangsing** **13.57 161** *e*P Pn 06 08 32.1 -4.6
comp=Z,11nm,0.5s
PYUN **Piuthan** **13.64 164** *e*P Pn 06 08 32.3 -5.3
comp=Z,41nm,0.4s
NVS **Novosibirsk** **13.80 11**⇑ *i*P **Pn** **06 08 39.5 +0.2**
NVS *i* 06 11 09.7
KOLN **Koldanda** **14.09 163** *e*P Pn 06 08 38.4 -5.3
comp=Z,6.5nm,0.4s
GUN **Gumba** **14.59 155** *e*P **Pn** **06 08 47.5 -3.1**
comp=Z,51nm,0.9s
PKIN **Phulchoki** **14.75 157** *e*P **Pn** **06 08 50.1 -2.6**
comp=Z,17nm,0.6s
PKI **Pulchoki** **14.76 157** *e*P Pn 06 08 49.5 -3.4
comp=Z,29nm,0.9s
JIRN **Jiri** **14.92 154** *e*P **Pn** **06 08 52.8 -2.3**
comp=Z,23nm,0.5s
AB31 **Akbulak array** **15.47 307** ⇓Pn **Pn** **06 09 00.6 -1.3**
comp=Z,1.2nm,0.6s,baz=112,slow=13,SNR=28
AB31 **Akbulak array** **15.47 307** *e*P **Pn** **06 09 03.5 +1.6**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR **Akbulak array** **15.47 307** *e*Pn **Pn** **06 09 03.3 +1.4**
comp=Z,1.7nm,0.5s
RAMN **Ramite** **15.71 154** *e*P **Pn** **06 09 03.4 -2.1**
comp=Z,41nm,0.8s
GTA **Gaotai** **16.06 90** *e*P **P** **06 09 13.0 -0.2**
GTA pP **pP** **06 09 17.5 +0.6**
GTA sP **sP** **06 09 20.1 +1.6**
GTA S **Sn** **06 12 13.2 +5.4**
GTA sS **S** **06 12 19.1 -2.3**
GTA SS SnSn 06 12 30.8 +10
GTA PMZ
comp=Z,14nm,0.9s
GTA PMZ
comp=Z,98nm,6.2s
GTA LN
comp=Z,140nm,9.3s
GTA LE
comp=Z,150nm,11.4s
GTA LZ
comp=Z,120nm,9.7s
ODAN **Odare** **16.07 152** *e*P **Pn** **06 09 09.7 -0.3**
comp=Z,52nm,1.1s
GEYT **Alibeck** **16.36 265** Pn **Pn** **06 09 12.7 -0.8**
comp=Z,0.5nm,0.3s,baz=76,slow=18,SNR=2.1
AKTO **Aktyubinsk** **17.09 309** ⇑Pn **Pn** **06 09 23.0 +0.4**
comp=Z,3.3nm,1.1s
AKTO **Aktyubinsk** **17.09 309** Pn **P** **06 09 24.5 +0.2**
comp=Z,0.1nm,0.3s,baz=113,slow=15,SNR=6.3
AKTO Lg Lg 06 14 28.1
comp=Z,0.0nm,0.3s,baz=212,slow=19,SNR=2.8
AKTO LR LR 06 16 16.2
comp=Z,82nm,18.4s,baz=123,slow=38
MOY **Mondy** **18.31 48** *e*P P 06 09 43.1 +5.2
ZAK **Zakamensk** **19.16 54** *e*P P 06 09 42.0 -5.3
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY **Talaya** **19.82 50** P **P** **06 09 52.9 -1.6**
comp=Z,0.0nm,0.3s,baz=248,slow=11,SNR=2.1
TLY LR LR 06 17 52.6
comp=Z,55nm,18.2s,baz=266,slow=38
ARU **Arti** **20.04 326** *d* *i*P Pn 06 09 57.9 -0.5
ARU 06 10 14.3
ARU S Sn 06 13 43.2 -0.3
ARU SS **SnSn** **06 13 57.8 0.0**
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU **Arti** **20.04 326** P **P** **06 09 56.6 -0.1**
comp=Z,16nm,1.0s
SONM **Songino Array** **20.56 62** P **P** **06 10 02.9 +0.3**
comp=Z,3.2nm,0.6s,baz=269,slow=11,SNR=17
SONM LR LR 06 17 51.9
comp=Z,34nm,21.8s,baz=234,slow=37
ULN **Ulaanbaatar** **21.00 62** *e*P **P** **06 10 08.3 +0.9**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN **Ulaanbaatar** **21.00 62** *e*P **P** **06 10 08.3 +0.9**
comp=Z,8.6nm,0.9s
HHC **Hu-ho-hao-te** **24.55 80** *e*P **P** **06 10 41.8 -1.9**
HHC pP pP 06 10 54.5 +6.9
HHC PP **PnPn** **06 11 16.3 +1.6**
HHC PMZ
comp=Z,20nm,1.0s
HHC LN
comp=Z,130nm,12.3s
HHC LE
comp=Z,110nm,11.3s
HHC LZ
comp=Z,100nm,11.3s
GNI **Garni** **25.80 279** LR LR 06 21 34.8
comp=Z,50nm,20.4s,baz=56,slow=38
KIV **Kislovodsk** **26.62 288** *e*P **P** **06 11 01.7 -0.7**
KIV pmax pmax
comp=Z,5.0nm,0.9s
BOD **Bodaibo** **27.67 42** *e*P **P** **06 11 12.2 +0.6**
CMAR **Chiang Mai Arr** **28.55 137** P **P** **06 11 17.1 -2.6**
comp=Z,0.6nm,0.3s,baz=312,slow=11,SNR=2.1
CMAR LR LR 06 24 07.7
comp=Z,24nm,18.1s,baz=144,slow=40
OBN **Obninsk** **30.85 311**⇑ *e*P **P** **06 11 40.4 +0.7**
OBN *i* 06 12 37.9
OBN *e*S **S** **06 16 37.8 -5.1**
OBN pmax pmax
comp=Z,8.0nm,0.4s
BRTR **Keskin Array B** **34.13 283** P **P** **06 12 10.8 +1.8**
comp=Z,3.1nm,0.6s,baz=94,slow=8.8,SNR=11
AKASG **Malin Array Be** **35.13 303** P **P** **06 12 17.8 +0.6**
comp=Z,1.4nm,0.5s,baz=69,slow=9.8,SNR=7.6
AKASG LR LR 06 29 21.4
comp=Z,36nm,19.1s,baz=340,slow=41
JOF **Joensuu** **35.15 324** *e*P **P** **06 12 18.7 +1.5**
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF **Joensuu** **35.15 324** *e*p **P** **06 12 18.7 +1.5**
comp=Z,3.4nm,0.6s

FINES **FINESS Array B** **37.26 321** P **P** **06 12 36.6 +1.4**
comp=Z,3.5nm,0.6s,baz=108,slow=10,SNR=16
FINES LR LR 06 28 25.2
comp=Z,64nm,18.4s,baz=121,slow=37
KSAR **Wonju Array Be** **37.66 79** P **P** **06 12 37.6 -1.4**
KSAR **Wonju Array Be** **37.66 79** P **P** **06 12 37.6 -1.4**
KSRS **Korea Array** **37.69 79** P **P** **06 12 37.6 -1.6**
KSRS pmax pmax
comp=Z,1.0nm,0.4s
KSRS **Korea Array** **37.69 79** P **P** **06 12 37.6 -1.6**
comp=Z,0.6nm,0.4s,baz=291,slow=8.1,SNR=3.2
KEV **Kevo** **38.85 334** *e*P **P** **06 12 48.6 +0.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV **Kevo** **38.85 334** *e*p **P** **06 12 48.6 +0.1**
comp=Z,0.6nm,0.4s
TIXI **Tiksi** **38.95 23** *e*P **P** **06 12 47.9 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI **Tiksi** **38.95 23** *e*P **P** **06 12 49.5 +0.1**
comp=Z,5.9nm,0.8s
ARCES **ARCESS Array B** **39.28 334** *e*P **P** **06 12 53.2 +1.1**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES **ARCESS Array B** **39.28 334** P **P** **06 12 53.3 +1.1**
comp=Z,3.5nm,0.6s,baz=96,slow=9.9,SNR=22
CRVS **Cervenica-Dubn** **40.36 301** *e*P **P** **06 13 03.6 +2.2**
CRVS **Cervenica-Dubn** **40.36 301** *e*P **P** **06 13 03.6 +2.2**
KECS **Kecovo** **41.08 300** *e*P **P** **06 13 07.3 -0.1**
KECS **Kecovo** **41.08 300** *e*P **P** **06 13 07.3 -0.1**
NB2 **NORSAR Subarra** **44.42 320** P **P** **06 13 35.1 +0.7**
comp=Z,4.7nm,0.7s,baz=85,slow=7.9
NOA **NORSAR Array B** **44.42 320** P **P** **06 13 35.4 +1.0**
comp=Z,3.6nm,0.6s,baz=85,slow=7.9,SNR=22
NOA LR LR 06 34 25.6
comp=Z,12nm,19.1s,baz=280,slow=39
CLL **Collm** **45.13 306**⇓ *i*P **P** **06 13 41.6 +1.5**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL **Collm** **45.13 306**⇓ *i*P **P** **06 13 41.6 +1.5**
comp=Z,6.0nm,1.0s
CLL *i* Pmax 06 13 45.6
comp=Z,9.0nm,1.1s
GERES **GERESS Array B** **45.34 303** P **P** **06 13 42.1 +0.1**
comp=Z,1.1nm,0.5s,baz=79,slow=6.9,SNR=9.1
GRF **Grafenberg Arr** **46.66 304** *e*P P 06 13 58.3 +6.1
comp=Z,7.0nm,1.0s
SEY **Seymchan** **46.91 37** P **P** **06 13 54.1 +0.2**
comp=Z,0.8nm,0.7s,baz=274,slow=9.4,SNR=3.9
HINF **Hinteralfeld** **50.00 303** *e*P **P** **06 14 19.0 +0.9**
comp=Z,9.8nm,0.6s
HINF **Hinteralfeld** **50.00 303** *e*P **P** **06 14 19.0 +0.9**
HINF pmax pmax
comp=Z,10.0nm,0.6s
HINF **Hinteralfeld** **50.00 303** *e*P **P** **06 14 19.0 +0.9**
comp=Z,9.8nm,0.6s
LPG **La Plagne** **50.93 300** *e*P **P** **06 14 26.5 +1.1**
LPG **La Plagne** **50.93 300** *e*P **P** **06 14 26.5 +1.1**
LPG **La Plagne** **50.93 300** *e*P **P** **06 14 26.5 +1.1**
LPL **La Plagne** **50.93 300** *e*P **P** **06 14 26.5 +1.1**
comp=Z,4.0nm,0.5s
LPL **La Plagne** **50.93 300** *e*P **P** **06 14 26.5 +1.1**
LPL pmax pmax
comp=Z,4.0nm,0.4s
LPL **La Plagne** **50.93 300** *e*P **P** **06 14 26.5 +1.1**
comp=Z,4.0nm,0.4s
BILL **Bilibino** **51.48 29**⇑ *i*P **P** **06 14 29.1 +0.3**
BILL *e* 06 16 24.3
BILL pmax pmax
comp=Z,12nm,2.5s
ORIF **Oris-en-Rattie** **51.72 300** *e*P **P** **06 14 31.3 +0.2**
comp=Z,6.7nm,0.5s
ORIF **Oris-en-Rattie** **51.72 300** *e*P **P** **06 14 31.3 +0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.5s
ORIF **Oris-en-Rattie** **51.72 300** *e*P **P** **06 14 31.3 +0.2**
comp=Z,6.7nm,0.5s
DAG **Danmarks Havn** **51.85 343** *e*P **P** **06 14 32.0 +0.5**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG **Danmarks Havn** **51.85 343** *i* P **P** **06 14 32.0 +0.5**
comp=Z,7.6nm,0.9s
LOR **Lormes** **52.09 304** *e*P **P** **06 14 34.1 +0.4**
LOR **Lormes** **52.09 304** *e*P **P** **06 14 34.1 +0.4**
LOR **Lormes** **52.09 304** *e*P **P** **06 14 34.1 +0.4**
SSF **Saint Saulge** **52.39 303** *e*P **P** **06 14 36.4 +0.4**
SSF **Saint Saulge** **52.39 303** *e*P **P** **06 14 36.4 +0.4**
SSF **Saint Saulge** **52.39 303** *e*P **P** **06 14 36.4 +0.4**
VIVF **Saint-Julien-l** **52.53 300** *e*P **P** **06 14 37.8 +0.7**
VIVF **Saint-Julien-l** **52.53 300** *e*P **P** **06 14 37.8 +0.7**
VIVF **Saint-Julien-l** **52.53 300** *e*P **P** **06 14 37.8 +0.7**
AVF **Avril sur Loir** **52.60 303** *e*P **P** **06 14 38.1 +0.6**
comp=Z,20nm,0.8s
AVF **Avril sur Loir** **52.60 303** *e*P **P** **06 14 38.1 +0.6**
AVF pmax pmax
comp=Z,20nm,0.8s
AVF **Avril sur Loir** **52.60 303** *e*P **P** **06 14 38.1 +0.6**
comp=Z,20nm,0.8s
LDF **La Druitiere** **54.02 306** *e*P **P** **06 14 48.2 +0.3**
LDF **La Druitiere** **54.02 306** *e*P **P** **06 14 48.2 +0.3**
LDF **La Druitiere** **54.02 306** *e*P **P** **06 14 48.2 +0.3**
GRR **Gorron** **54.55 306** *e*P **P** **06 14 52.2 +0.4**
GRR **Gorron** **54.55 306** *e*P **P** **06 14 52.2 +0.4**
GRR **Gorron** **54.55 306** *e*P **P** **06 14 52.2 +0.4**
ESDC **Sonseca Array** **60.60 298** P **P** **06 15 37.2 +2.6**
comp=Z,0.2nm,0.3s,baz=51,slow=6.8,SNR=4.3
ILAR **Eielson Array** **68.30 19** *e*P **P** **06 16 23.4 -1.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR **Eielson Array** **68.30 19** P **P** **06 16 23.5 -1.0**
comp=Z,0.8nm,0.9s,baz=315,slow=4.9,SNR=8.4
TORD **Torodi Ar. Bea** **71.86 272** P **P** **06 16 46.1 -1.0**
comp=Z,3.6nm,0.8s,baz=45,slow=5.2,SNR=20
YKA **Yellowknife Ar** **75.93 6** P **P** **06 17 09.9 -0.2**
comp=Z,1.4nm,0.8s,baz=343,slow=5.7,SNR=31
WRAB **Tennant Creek** **79.72 128** *e*P **P** **06 17 29.5 -2.3**
WRAB pmax pmax
comp=Z,12nm,1.2s
WRA **Warramunga Arr** **79.72 128** P P 06 17 27.8 -4.0
comp=Z,1.9nm,0.7s,baz=328,slow=5.2,SNR=13
ASAR **Alice Springs** **82.35 131** P **P** **06 17 44.8 -1.1**
comp=Z,2.4nm,0.7s,baz=324,slow=5.7,SNR=16
PDAR **Pinedale Array** **95.91 6** P **P** **06 18 50.0 -0.9**
comp=Z,0.2nm,0.6s,baz=336,slow=6.3,SNR=2.8

IDC ***08*** *06:05:40.9± 1.2, 54.91N× 161.51E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/29, mbtmp3.7/6, ML2.8/1, Error ellipse: s-maj=102.0km s-min=20.6km az=144.0*
MOS ***08*** *06:05:44.5± 1.2, 54.99N× 161.27E, h46km, mb3.9/1, Error ellipse: s-maj=28.0km s-min=13.4km az=83.4*
KRSC ***08*** *06:05:47.2± 0.6, 54.74N× 160.81E, h100km± 9km, ML3.7*
ISCJB ***08*** *06:05:48.5± 0.3, 54.75N± 0.02× 160.79E± 0.07, h100km± 4km, mb3.6/5, Error ellipse: s-maj=7.2km s-min=2.8km az=22.5*

ISC 08 06:05:49.3±0.8, 54.75N±0.03× 160.81E±0.04, h96km±6km, n49, σ0=84/68, mb3.5/5, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.47**	**321**	*e*P	**Pn**	**06 06 04.5**	**-0.1**
KZV				*e*S	**Sn**	**06 06 15.8**	**-0.3**
MKZ	**Mys Kozlova**	**0.57**	**109**	*i* P	**Pn**	**06 06 05.5**	**+0.4**
MKZ				*e*S	**Sn**	**06 06 18.0**	**+1.0**
TUMR	**Tumrok**	**0.66**	**325**	*i* P	**Pn**	**06 06 06.0**	**-0.1**
TUMR				*e*S	**Sn**	**06 06 18.5**	**-0.2**
KMNR	**Kamenistaya**	**1.06**	**342**	*e*P	**Pn**	**06 06 10.2**	**0.0**
KMNR				*e*S	**Sn**	**06 06 25.6**	**-0.4**
KII	**Karymskiy**	**1.07**	**229**	*e*P	**Pn**	**06 06 10.0**	**-0.2**
KII				*e*S	**Sn**	**06 06 25.5**	**-0.4**
KOZ	**Kozyrevsk**	**1.42**	**338**	*e*P	**Pn**	**06 06 13.6**	**-0.7**
KOZ				*e*S	**Sn**	**06 06 31.9**	**-1.4**
KLY	**Klyuchi**	**1.57**	**357**	*e*P	**Pn**	**06 06 16.5**	**+0.3**
KLY				*e*S	**Sn**	**06 06 37.1**	**+0.5**
ESO	**Esso**	**1.69**	**315**	*i* P	**Pn**	**06 06 16.8**	**-0.9**
ESO				*e*S	**Sn**	**06 06 37.9**	**-1.4**
SRDR	**Sredinnyy**	**1.69**	**339**	*e*P	**Pn**	**06 06 17.0**	**-0.8**
SRDR				*e*S	**Sn**	**06 06 37.3**	**-2.1**
SPN	**Mys Shipunski**	**1.71**	**196**	*e*P	**Pn**	**06 06 17.0**	**-1.0**
SPN				*e*S	**Sn**	**06 06 38.0**	**-1.8**
NLC	**Nalytchevo**	**1.80**	**209**	*e*P	**Pn**	**06 06 18.8**	**-0.2**
NLC				*e*S	**Sn**	**06 06 41.3**	**-0.4**

BDR **Baidarnaya** **1.84 7** *e*P **Pn** **06 06 20.2 +0.5**
BDR *e*S **Sn** **06 06 43.6 +0.8**
SDLR **Sedlovina** **1.86 218** *i* P **Pn** **06 06 20.1 +0.1**
SDLR *e*S **Sn** **06 06 42.9 -0.4**
KBTR **Krutoberegovo** **1.86 37** *e*P **Pn** **06 06 20.1 +0.3**
KBTR *e*S **Sn** **06 06 43.3 +0.2**
SMKR **Semkarok** **1.88 11** *e*P **Pn** **06 06 20.3 +0.1**
SMKR *e*S **Sn** **06 06 43.4 -0.3**
KRX **Arik** **1.88 223** *e*P **Pn** **06 06 20.8 +0.5**
KRX *e*S **Sn** **06 06 44.4 +0.5**
KRER **Koryakskii** **1.89 221** *e*P **Pn** **06 06 20.9 +0.5**
KRER *e*S **Sn** **06 06 44.6 +0.5**
SMAR **Somma** **1.90 219** *i* P **Pn** **06 06 20.8 +0.2**
SMAR *e*S **Sn** **06 06 44.4 0.0**
AVH **Avacha** **1.92 220** *e*P **Pn** **06 06 21.1 +0.4**
AVH *e*S **Sn** **06 06 44.8 +0.1**
SRKR **Sorokina** **1.92 6** *e*P **Pn** **06 06 21.3 +0.6**
SRKR *e*S **Sn** **06 06 45.1 +0.4**
UGLR **Uglovaya** **1.93 218** *i* P **Pn** **06 06 21.2 +0.3**
UGLR *e*S **Sn** **06 06 44.8 -0.2**
KOK **Koryaka** **1.94 222** *e*P **Pn** **06 06 21.5 +0.5**
GNL **Ganaly** **1.98 239** *e*P **Pn** **06 06 21.4 -0.2**
PET **Petropavlovsk** **2.15 217** *e*PN **Pn** **06 06 23.6 +0.1**
PET *e*S **Sn** **06 06 49.7 0.0**
PET pmax pmax
comp=Z,74nm,0.6s
PET smax smax
comp=E,128nm,0.5s
PET smax smax
comp=N,170nm,0.5s
PET **Petropavlovsk** **2.15 217** *e*P **Pn** **06 06 23.6 +0.1**
PET *e*S **Sn** **06 06 49.5 -0.2**
PETK **Petropavlovsk-** **2.46 230** PN **Pn** **06 06 27.8 0.0**
PETK 06 06 58.3
PETK pmax pmax
comp=Z,6.0nm,0.3s
PETK smax smax
comp=N,2.0nm,0.3s
PETK **Petropavlovsk-** **2.46 230** Pn **Pn** **06 06 27.8 0.0**
comp=N,6.3nm,0.3s,baz=68,slow=16,SNR=46
PETK Sn **Sn** **06 06 58.3 +1.0**
comp=N,1.9nm,0.3s,baz=262,slow=22,SNR=5.9
RUS **Russkaya** **2.69 211** *i* P **Pn** **06 06 30.1 -0.6**
RUS *e*S **Sn** **06 07 00.8 -1.8**
MTVR **Mutnovka** **2.75 216** *e*P **Pn** **06 06 32.1 +0.4**
MTVR *e*S **Sn** **06 07 03.5 -0.9**
APC **Apacha** **2.83 231** *e*P **Pn** **06 06 32.3 -0.3**
BKI **Bering** **3.01 79** *e*P **Pn** **06 06 34.9 -0.1**
BKI *e*S **Sn** **06 07 07.1 -3.1**
MIPR **Malaya Ipel'ka** **3.46 226** P **Pn** **06 06 41.5 +0.4**
PAU **Pauzhetka** **4.07 218** P **Pn** **06 06 50.5 +1.2**
OSSR **Ossora** **4.68 14** P **Pn** **06 06 58.9 +1.4**
SKR **Severo-Kuril's** **4.97 217** P **Pn** **06 07 01.2 -0.2**
SEY **Seymchan** **9.29 335** *e*PN **Pn** 06 07 56.1 -4.0
BILL **Bilibino** **13.59 9**⇓ *e*PN Pn 06 08 51.1 -6.5
BILL pmax pmax
comp=Z,7.0nm,2.5s
TIXI **Tiksi** **21.77 333** *e*P **P** **06 10 34.5 +1.8**
ILAR **Eielson Array** **27.37 48** P **P** **06 11 23.9 -1.1**
comp=Z,0.4nm,0.6s,baz=258,slow=7.0,SNR=6.2
JNU **Nakatsue** **30.14 236** P P 06 11 56.4 +6.4
comp=Z,3.3nm,0.5s,baz=56,slow=3.6,SNR=2.4
H11N2 **WAKE ISLAND Hy** **35.26 170** T T 06 50 05.2
baz=355,slow=76,SNR=12
H11N3 **WAKE ISLAND Hy** **35.28 170** T T 06 50 08.4
baz=355,slow=76,SNR=12
H11N1 **WAKE ISLAND Hy** **35.28 170** T T 06 50 08.7
baz=355,slow=76,SNR=16
YKA **Yellowknife Ar** **41.67 44** *e*P **P** **06 13 27.0 -0.7**
YKA **Yellowknife Ar** **41.67 44** P **P** **06 13 27.0 -0.7**
comp=Z,0.4nm,0.6s,baz=300,slow=7.8,SNR=9.4
KURK **Kurchatov** **47.23 301** *e*P P 06 14 16.5 +4.3
AAK **Ala-Archa** **54.74 296** *e*P P 06 15 13.0 +4.3
NVAR **Mina Array Bea** **54.80 72** P **P** **06 15 10.2 +1.0**
comp=Z,0.4nm,0.6s,baz=296,slow=6.3,SNR=4.8
TXAR **Lajitas Array** **69.61 68** P **P** **06 16 48.2 +0.1**
comp=Z,0.4nm,0.6s,baz=286,slow=3.4,SNR=3.6

WEL 08 06:22:12.0±0.4, 40.37S×173.41E, h195km±3km, ML3.7/11, 9C-6D, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.59**	**138**	⇑PN	Pn	06 22 38.9	+0.1
DUWZ				SN	Sn	06 22 58.6	-1.1
QRZ	**Quartz Range**	**0.81**	**235**	⇓PN	Pn	06 22 39.7	-0.2
NNZ	**Nelson**	**0.85**	**181**	⇑PN	Pn	06 22 40.0	-0.1
TCW	**Tory Channel**	**1.07**	**142**	PN	Pn	06 22 42.0	+0.3
TCW				SN	Sn	06 23 03.1	-1.6
TCW				AML	AML	06 23 04.8	
TUWZ	**Tuamarina**	**1.14**	**159**	PN	Pn	06 22 42.1	0.0
TUWZ				AML	AML	06 22 42.9	
TUWZ				AML	AML	06 22 43.1	
NWEZ	**Newall Road**	**1.15**	**18**	PN	Pn	06 22 42.1	-0.2
KHEZ	**Kahui Hut**	**1.17**	**24**	PN	Pn	06 22 42.3	-0.2
PREZ	**Palmer Road**	**1.18**	**30**	PN	Pn	06 22 42.4	-0.1
LREZ	**Lake Rotokare**	**1.19**	**41**	PN	Pn	06 22 42.5	0.0
KIW	**Kapiti Island**	**1.25**	**114**	PN	Pn	06 22 43.1	+0.1
KIW				AML	AML	06 23 06.1	
KIW				AML	AML	06 23 06.3	
PKE	**Pukeiti**	**1.25**	**21**	PN	Pn	06 22 42.8	-0.4
WAZ	**Wanganui**	**1.36**	**64**	PN	Pn	06 22 44.5	+0.5
WEL	**Wellington**	**1.38**	**132**	PN	Pn	06 22 44.2	+0.1
BSWZ	**Blackbirch Sta**	**1.39**	**165**	PN	Pn	06 22 44.3	+0.1
THZ	**Tophouse**	**1.45**	**195**	PN	Pn	06 22 44.4	-0.4
CAW	**Cannon Point**	**1.46**	**121**	⇑PN	Pn	06 22 44.9	+0.1
CAW				AML	AML	06 23 09.7	
CAW				AML	AML	06 23 10.1	
CMWZ	**Cape Campbell**	**1.51**	**156**	PN	Pn	06 22 45.0	-0.2
BHW	**Baring Head**	**1.52**	**134**	⇑PN	Pn	06 22 45.1	-0.2
BHW				SN	Sn	06 23 08.9	-2.4
BHW				AML	AML	06 23 09.9	
VRZ	**Vera Road**	**1.62**	**40**	PN	Pn	06 22 45.5	-0.8
MRZ	**Mangatainoka R**	**1.68**	**101**	PN	Pn	06 22 46.8	0.0
MRZ				AML	AML	06 23 12.9	
MRZ				AML	AML	06 23 15.5	
HOWZ	**Holdsworth Sta**	**1.69**	**109**	⇓PN	Pn	06 22 47.0	+0.1
MSWZ	**Moikau Station**	**1.75**	**127**	PN	Pn	06 22 47.3	-0.2
MSWZ				AML	AML	06 23 14.2	
MSWZ				AML	AML	06 23 15.2	
MTW	**Mount Morrison**	**1.78**	**117**	PN	Pn	06 22 47.6	-0.1
MTW				AML	AML	06 23 15.0	
MTW				AML	AML	06 23 16.0	
POWZ	**Post Office Ro**	**1.80**	**92**	PN	Pn	06 22 48.0	0.0
DSZ	**Denniston Nort**	**1.84**	**221**	PN	Pn	06 22 47.4	-1.0
PAWZ	**Paruwai Farm**	**1.84**	**124**	PN	Pn	06 22 48.2	-0.1
PKVZ	**Pokaka**	**1.84**	**55**	PN	Pn	06 22 48.0	-0.6
PLWZ	**Palliser**	**1.84**	**131**	⇑PN	Pn	06 22 48.2	-0.3
TIWZ	**Tintock**	**1.93**	**103**	PN	Pn	06 22 49.4	0.0
TIWZ				AML	AML	06 23 18.1	
TIWZ				AML	AML	06 23 18.7	
TRVZ	**Turoa**	**1.96**	**58**	⇓PN	Pn	06 22 49.1	-0.9
PRWZ	**Pori Road**	**1.96**	**96**	PN	Pn	06 22 50.0	+0.3
TSZ	**Takapari Road**	**1.98**	**82**	PN	Pn	06 22 49.5	-0.4
TSZ				AML	AML	06 23 19.0	
TSZ				AML	AML	06 23 20.1	
WNVZ	**Wahianoa**	**1.98**	**59**	PN	Pn	06 22 49.4	-0.7
DRZ	**Dome Shelter**	**1.99**	**57**	PN	Pn	06 22 50.0	-0.4
FWVZ	**Far West T-bar**	**1.99**	**57**	⇓PN	Pn	06 22 49.4	-0.9
WHVZ	**Whangaehu Hut**	**2.00**	**58**	PN	Pn	06 22 49.6	-0.7
TRWZ	**Traveller**	**2.01**	**122**	PN	Pn	06 22 50.1	-0.1
TRWZ				AML	AML	06 23 18.5	
WPVZ	**Whakapapa**	**2.02**	**56**	PN	Pn	06 22 49.5	-0.9
COVZ	**Chateau Observ**	**2.02**	**55**	⇑PN	Pn	06 22 49.6	-0.8
TMWZ	**Te Maipa**	**2.03**	**112**	PN	Pn	06 22 50.8	+0.5
TWVZ	**Taurewa**	**2.03**	**51**	⇓PN	Pn	06 22 49.5	-1.1
MOVZ	**Moawhango**	**2.04**	**63**	PN	Pn	06 22 49.7	-1.0
TUVZ	**Tukino**	**2.05**	**58**	PN	Pn	06 22 50.2	-0.6
NGZ	**Ngauruhoe**	**2.07**	**56**	⇑PN	Pn	06 22 50.2	-0.8
WTVZ	**West Tongariro**	**2.10**	**54**	PN	Pn	06 22 50.5	-0.8
DVHZ	**Dannevirke**	**2.11**	**89**	PN	Pn	06 22 50.9	-0.3
OTVZ	**Oturere**	**2.12**	**56**	PN	Pn	06 22 50.8	-0.7
KRVZ	**Karewarewa**	**2.14**	**54**	PN	Pn	06 22 50.8	-0.9
HIZ	**Hauiti**	**2.16**	**32**	⇓PN	Pn	06 22 50.7	-1.1
BFZ	**Birch Farm**	**2.19**	**99**	PN	Pn	06 22 52.0	0.0
PNHZ	**Pukenui**	**2.19**	**79**	PN	Pn	06 22 51.7	-0.5
BHHZ	**Black Hill Sta**	**2.22**	**68**	⇑PN	Pn	06 22 51.4	-1.1
KATZ	**Kakaramea**	**2.25**	**53**	PN	Pn	06 22 52.2	-0.7
WPHZ	**Waipukurau**	**2.34**	**84**	PN	Pn	06 22 53.5	-0.2

KRHZ	**Kereru**	**2.39**	**73**	PN	Pn	06 22 53.5	-0.8
PRHZ	**Porangahau**	**2.47**	**89**	PN	Pn	06 22 55.2	0.0
LTZ	**Lake Taylor**	**2.56**	**199**	PN	Pn	06 22 54.9	-1.3
BKZ	**Black Stump Fm**	**2.66**	**64**	PN	Pn	06 22 56.2	-1.3
PXZ	**Pawanui**	**2.67**	**84**	PN	Pn	06 22 57.0	-0.4
MCHZ	**McNeill Hill**	**2.69**	**71**	PN	Pn	06 22 57.3	-0.4
KAHZ	**Kahuranaki**	**2.72**	**79**	PN	Pn	06 22 58.0	-0.1
ARHZ	**Aropaoanui**	**2.98**	**69**	PN	Pn	06 23 00.7	-0.3
OXZ	**Oxford**	**3.13**	**199**	PN	Pn	06 23 01.0	-1.8
WHHZ	**Waihua**	**3.22**	**68**	PN	Pn	06 23 03.5	-0.5
WVZ	**Waitaha Valley**	**3.37**	**216**	⇑PN	Pn	06 23 04.0	-1.6
MQZ	**McQueen's Vall**	**3.38**	**189**	PN	Pn	06 23 03.4	-2.5
SNGZ	**Shannon Statio**	**3.43**	**64**	PN	Pn	06 23 05.4	-1.1
KNZ	**Kokohu**	**3.56**	**69**	PN	Pn	06 23 06.7	-1.3
URZ	**Urewera**	**3.56**	**55**	PN	Pn	06 23 06.1	-1.9
PRGZ	**Paritu Road**	**3.74**	**69**	PN	Pn	06 23 09.2	-1.2
RIGZ	**Rimuhau**	**3.75**	**65**	PN	Pn	06 23 09.0	-1.5
MWZ	**Matawai**	**3.78**	**59**	PN	Pn	06 23 08.9	-2.0
FOZ	**Fox Glacier**	**4.23**	**220**	PN	Pn	06 23 12.9	-3.4
HAZ	**Te Kaha**	**4.29**	**54**	PN	Pn	06 23 14.5	-2.7
PUZ	**Puketiti**	**4.41**	**60**	PN	Pn	06 23 16.3	-2.4
WMGZ	**Waiomatatini S**	**4.65**	**58**	PN	Pn	06 23 19.3	-2.5
LBZ	**Lake Benmore**	**4.67**	**210**	PN	Pn	06 23 19.6	-2.4
JCZ	**Jackson Bay**	**5.06**	**221**	PN	Pn	06 23 24.5	-2.6
ODZ	**Otahua Downs**	**5.10**	**203**	PN	Pn	06 23 25.8	-1.6
WHZ	**Wether Hill Ro**	**6.81**	**214**	PN	Pn	06 23 46.6	-3.0

*ISCJB **08** 06:29:18.9±0.4,52°.80N±0°.08×35°.14W±0°.08, h13km, mb3.9/21, MS3.2/20, Error ellipse: s-maj=12.0km s-min=6.5km az=172.4*

*IDC **08** 06:29:18.7±0.6,52°.77N×35°.14W, h0km, mb3.8/20, mb1 4.0/23, mb1mx3.9/37, mbtmp3.8/23, ML3.4/3, MS3.3/22, Ms1 3.3/22, ms1mx3.2/43, Error ellipse: s-maj=18.4km s-min=12.3km az=179.0*

*NEIC **08** 06:29:20.1±0.3,52°.77N×35°.15W, h10km, mb4.6/1, Error ellipse: s-maj=9.5km s-min=6.0km az=187.0*

*OTT **08** 06:29:26.3±0.7,52°.86N×35°.54W, h18km, ML4.8/3, Atlantic Ocean. 1323km northeast from Bonavista, Nl*

ISC 08 06:29:20.7±0.5,**52°.8N**±0°.1×**35°.14W**±0°.06,**h13**km,**n41**, σ0**°75**/34,**mb3.9**/21,**MS3.3**/20,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJNN	**Saint John's**	**12.38**	**252**	PN	**Pn**	**06 32 17.2**	**+0.8**
SJNN				SN	Sn	06 34 23.6	-10
SJNN				Trac		06 34 29.9	
	comp=Z,16nm,0.6s						
DRLN	**Deer Lake**	**14.49**	**265**	PN	**Pn**	**06 32 45.0**	**-0.4**
DRLN				SN	Sn	06 35 13.7	-12
DRLN				Trac		06 35 22.3	
	comp=Z,158nm,2.9s						
SFJD	**Kangerlussuaq**	**16.13**	**338**	Pn	**Pn**	**06 33 06.6**	**-0.2**
	0.1nm,0.3s,baz=147,slow=8.4,SNR=4.0						
SFJD				LR	LR	06 38 04.6	
	comp=Z,70nm,20.7s,baz=136,slow=32						
GBN	**Guysborough**	**18.71**	**257**	PN	**Pn**	**06 33 41.3**	**+2.3**
GBN				SN	Sn	06 36 52.6	-15
GBN				SN	S	06 36 54.9	-16
GBN				Trac		06 37 03.5	
	comp=Z,83nm,1.8s						
SCHQ	**Schefferville**	**18.74**	**289**	PN	**P**	**06 33 39.0**	**0.0**
SCHQ				Trac		06 36 56.9	
	comp=Z,22nm,1.4s						
SCHQ	**Schefferville**	**18.74**	**289**	P	**P**	**06 33 37.7**	**-1.3**
	0.2nm,0.3s,baz=83,slow=14,SNR=6.7						
SCHQ				LR	LR	06 39 51.8	
	comp=Z,91nm,21.0s,baz=132,slow=34						
EKA	**Eskdalemuir Ar**	**18.85**	**70**	P	**P**	**06 33 39.9**	**-0.3**
	baz=272,slow=9.7,SNR=7.8						
FRB	**Frobisher Bay**	**20.43**	**315**	P	Pn	06 33 58.4	-1.0
	3.1nm,0.8s,baz=102,slow=11,SNR=6.7						
FRB				LR	LR	06 39 54.8	
	comp=Z,76nm,20.9s,baz=173,slow=31						
LMN	**Caledonia Moun**	**20.44**	**262**	PN	**P**	**06 33 57.1**	**-0.5**
ESDC	**Sonseca Array**	**25.02**	**109**	P	**P**	**06 34 43.9**	**-0.4**
	0.4nm,0.5s,baz=301,slow=9.9,SNR=4.6						
ESDC				LR	LR	06 42 43.4	
	comp=Z,93nm,18.9s,baz=320,slow=32						
NOA	**NORSAR Array B**	**26.09**	**53**	P	**P**	**06 34 53.1**	**-0.7**
	0.6nm,0.9s,baz=272,slow=8.5,SNR=2.7						
NOA				LR	LR	06 43 28.2	
	comp=Z,40nm,18.9s,baz=270,slow=32						
HFS	**Hagfors**	**27.39**	**55**	LR	LR	06 43 55.0	
	comp=Z,89nm,18.7s,baz=261,slow=32						
CLL	**Collm**	**29.21**	**73**	*e*P	**P**	**06 35 21.0**	**-0.7**
DAVOX	**Davos/Dischmat**	**29.29**	**84**	LR	LR	06 45 30.3	
	comp=Z,40nm,21.8s,baz=285,slow=33						
MDT	**Midelt**	**29.66**	**120**	LR	LR	06 45 17.1	
	comp=Z,27nm,18.9s,baz=294,slow=32						
SADO	**Sadowa**	**29.68**	**272**	LR	LR	06 46 08.3	
	comp=Z,90nm,21.9s,baz=54,slow=34						
GERES	**GERESS Array B**	**30.63**	**77**	P	**P**	**06 35 34.3**	**-0.1**
	0.4nm,0.5s,baz=272,slow=13,SNR=3.2						
GERES				LR	LR	06 46 15.3	
	comp=Z,41nm,19.2s,baz=304,slow=33						
ARCES	**ARCESS Array B**	**31.95**	**35**	P	**P**	**06 35 46.0**	**+0.2**
	2.7nm,0.9s,baz=281,slow=14,SNR=2.7						
RES	**Resolute Bay**	**32.08**	**334**	P	**P**	**06 35 46.9**	**+0.1**
	2.1nm,0.9s,baz=97,slow=9.1,SNR=9.1						
VRAC	**Vranov**	**32.13**	**75**	LR	LR	06 48 02.9	
	comp=Z,69nm,18.9s,baz=281,slow=35						
FINES	**FINESS Array B**	**33.14**	**50**	P	**P**	**06 35 57.2**	**+1.0**
	1.1nm,0.8s,baz=246,slow=10,SNR=3.3						
FINES				LR	LR	06 47 28.5	
	comp=Z,76nm,21.2s,baz=280,slow=33						
ULM	**Lac du Bonnet**	**36.89**	**291**	P	**P**	**06 36 27.7**	**-0.9**
	1.7nm,0.8s,baz=63,slow=2.3,SNR=3.3						
ULM				LR	LR	06 50 04.4	
	comp=Z,45nm,20.1s,baz=83,slow=34						
AKASG	**Malin Array Be**	**38.72**	**66**	P	**P**	**06 36 43.9**	**-0.2**
	0.9nm,0.8s,baz=302,slow=8.0,SNR=2.5						
AKASG				LR	LR	06 52 32.0	
	comp=Z,34nm,18.1s,baz=110,slow=36						
MLR	**Muntele Rosu**	**39.53**	**75**	LR	LR	06 54 43.6	
	comp=Z,12nm,18.1s,baz=330,slow=39						
OBN	**Obninsk**	**40.55**	**57**	LR	LR	06 52 28.8	
	comp=Z,60nm,19.3s,baz=270,slow=34						
YKA	**Yellowknife Ar**	**40.94**	**316**	P	**P**	**06 37 02.7**	**+0.3**
	1.4nm,1.0s,baz=62,slow=8.8,SNR=12						
YKA				PcP	**PcP**	**06 39 01.5**	**-0.9**
	0.4nm,0.9s,baz=58,slow=3.8,SNR=6.9						
BRTR	**Keskin Array B**	**47.52**	**77**	P	**P**	**06 37 56.9**	**+1.3**
	1.8nm,1.0s,baz=300,slow=3.2,SNR=3.4						
BRTR				LR	LR	06 59 13.5	
	comp=Z,27nm,18.3s,baz=253,slow=38						
PDAR	**Pinedale Array**	**48.87**	**290**	P	**P**	**06 38 06.5**	**+0.4**
	0.5nm,0.6s,baz=64,slow=10,SNR=5.2						
PDAR				LR	LR	06 57 21.9	
	comp=Z,56nm,19.4s,baz=75,slow=34						
TORD	**Torodi Ar. Bea**	**49.24**	**130**	P	**P**	**06 38 08.4**	**-0.5**
	0.7nm,0.9s,baz=343,slow=7.7,SNR=4.5						
TORD				LR	LR	06 57 06.3	
	comp=Z,42nm,18.9s,baz=295,slow=34						
ILAR	**Eielson Array**	**51.57**	**329**	P	**P**	**06 38 26.7**	**+0.8**
	0.9nm,0.9s,baz=46,slow=4.3,SNR=7.3						
ILAR				PcP	**PcP**	**06 39 39.4**	**-0.3**
	0.7nm,0.8s,baz=20,slow=2.9,SNR=5.1						
DBIC	**Dimbokro**	**52.24**	**141**	LR	LR	06 58 22.8	
	comp=Z,21nm,19.4s,baz=333,slow=33						
TXAR	**Lajitas Array**	**54.45**	**273**	P	**P**	**06 38 47.8**	**+0.1**
	0.1nm,0.3s,baz=68,slow=9.8,SNR=2.5						
TXAR				LR	LR	07 02 41.7	
	comp=Z,26nm,18.4s,baz=0.0,slow=37						
ROSC	**El Rosal**	**57.61**	**228**	P	**P**	**06 39 11.7**	**+0.9**
	9.9nm,0.6s,baz=101,slow=6.4,SNR=17						
BVAR	**Borovoye Array**	**57.65**	**44**	P	**P**	**06 39 10.6**	**+0.4**
	1.4nm,0.8s,baz=305,slow=5.2,SNR=11						
GEYT	**Alibeck**	**62.67**	**63**	P	**P**	**06 39 45.1**	**+0.2**
	2.1nm,0.7s,baz=276,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**67.34**	**41**	P	**P**	**06 40 15.0**	**-0.1**
	1.1nm,0.9s,baz=316,slow=6.0,SNR=6.2						
MKAR				LR	LR	07 09 27.0	
	comp=Z,18nm,19.2s,baz=350,slow=36						
LPAZ	**La Paz**	**74.48**	**213**	P	**P**	**06 40 58.6**	**-0.7**
	1.3nm,0.9s,baz=43,slow=6.6,SNR=4.1						
SONM	**Songino Array**	**74.52**	**26**	P	**P**	**06 40 59.1**	**+0.3**
	2.9nm,0.9s,baz=331,slow=5.8,SNR=15						
ULN	**Ulaanbaatar**	**74.66**	**25**	*e*P	**P**	**06 40 59.1**	**-0.5**
	7.1nm,1.3s						
WRA	**Warramunga Arr**	**146.20**	**18**	PKPbc	**PKPbc**	**06 49 00.2**	**-0.5**
	3.6nm,0.9s,baz=338,slow=3.0,SNR=16						
ASAR	**Alice Springs**	**149.73**	**20**	PKPbc	**PKPbc**	**06 49 09.2**	**-0.9**
	2.1nm,0.8s,baz=356,slow=1.9,SNR=18						

*DDA **08** 06:31:23.4,36°.81N×27°.47E, h24km, MD3.3*
*ATH **08** 06:31:24.3,36°.85N×27°.55E, h27km, MD3.2/8*
*ISCJB **08** 06:31:24.5±0.5,36°.83N±0°.02×27°.54E±0°.03, h9km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=4.4*
*ISK **08** 06:31:24.6,36°.88N×27°.55E, h8km, MD2.9*
*CSEM **08** 06:31:25.3±0.1,36°.88N×27°.53E, h10km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.8km az=139.0*
*THE **08** 06:31:25.1,36°.85N×27°.53E, h2km±3km, ML3.5/2, Error ellipse: s-maj=3.0km s-min=0.9km az=53.0*
*HLW **08** 06:31:31.9,36°.57N×28°.22E, h13km±21km, Ml3.0*

ISC 08 06:31:25.2±0.9,**36°.85N**±0°.02×**27°.52E**±0°.02,**h12**km±7km, **n115**, σ0**°69**/138,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.22**	**344**	*i* P	**Pg**	**06 31 29.8**	**-0.3**
BDRM				*i* S	**Sg**	**06 31 33.7**	**+0.3**
BDRM	**Kayabasi**	**0.22**	**344**	*i* P	**Pg**	**06 31 29.8**	**-0.3**
BDRM				*i* S	**Sg**	**06 31 33.7**	**+0.3**
BODT	**Bodrum**	**0.27**	**322**	*e*PG	**Pg**	**06 31 29.8**	**-1.1**
BODT				*e*SG	**Sg**	**06 31 34.8**	**+0.1**
BODT	**Bodrum**	**0.27**	**322**	*e*Pg	**Pg**	**06 31 29.8**	**-1.1**
BODT				*e*Sg	**Sg**	**06 31 34.8**	**+0.1**
NIS1	**Nisyros Isl.**	**0.37**	**228**	P	**Pg**	**06 31 32.8**	**+0.2**
NIS1				S	**Sg**	**06 31 38.5**	**+0.9**
NIS1	**Nisyros Isl.**	**0.37**	**228**	*e*PG	**Pg**	**06 31 32.5**	**-0.1**
NIS1				*e*SG	**Sb**	**06 31 39.6**	**+0.2**
NIS1	**Nisyros Isl.**	**0.37**	**228**	*e*PB	**Pg**	**06 31 32.9**	**+0.3**
NIS1				*e*SB	**Sb**	**06 31 39.1**	**-0.3**
NIS1	**Nisyros Isl.**	**0.37**	**228**	*e*Pg	**Pg**	**06 31 32.5**	**-0.1**
NIS1	**Nisyros Isl.**	**0.37**	**228**	*e*Pb	**Pg**	**06 31 32.9**	**+0.3**
NIS1				S	**Sg**	**06 31 38.5**	**+0.9**
NIS1				*e*Sb	**Sb**	**06 31 39.1**	**-0.3**
NIS1				*e*Sg	**Sb**	**06 31 39.6**	**+0.2**
YER	**Yerkesik**	**0.67**	**65**	*e*PG	**Pg**	**06 31 37.5**	**-0.8**
YER	**Yerkesik**	**0.67**	**65**	*e*Pg	**Pg**	**06 31 37.5**	**-0.8**
ARG	**Arkhangelos**	**0.80**	**142**	P	**Pg**	**06 31 40.0**	**-0.7**
ARG				S	**Sn**	**06 31 52.8**	**-1.2**
ARG	**Arkhangelos**	**0.80**	**142**	*e*PN	**Pg**	**06 31 39.8**	**-0.9**
ARG	**Arkhangelos**	**0.80**	**142**	P	**Pg**	**06 31 40.0**	**-0.7**
ARG				S	**Sn**	**06 31 52.8**	**-1.2**
AYDN	**Tasoluk**	**0.86**	**19**	*i* P	**Pb**	**06 31 42.5**	**+0.4**
AYDN				*i* S	**Sb**	**06 31 54.5**	**+0.9**
AYDN	**Tasoluk**	**0.86**	**19**	*i* P	**Pb**	**06 31 42.5**	**+0.4**
AYDN				*i* S	**Sb**	**06 31 54.5**	**+0.9**
TURN	**Turunc**	**0.87**	**88**	*i* P	Pg	06 31 36.0	-6.0
TURN				*i* S	Sg	06 31 44.4	-9.0
DALY	**Dalyan (Mu˘la**	**0.91**	**92**	*e*PG	**Pg**	**06 31 42.0**	**-0.8**
DALY	**Dalyan (Mu˘la**	**0.91**	**92**	*e*Pg	**Pg**	**06 31 42.0**	**-0.8**
SMG	**Samos**	**1.02**	**328**	P	**Pb**	**06 31 43.8**	**-0.9**
SMG				S	**Sn**	**06 31 59.2**	**-0.2**
SMG	**Samos**	**1.02**	**328**	*e*PN	**Pb**	**06 31 44.3**	**-0.4**
SMG				*e*SN	**Sn**	**06 31 59.3**	**-0.2**
SMG	**Samos**	**1.02**	**328**	P	**Pb**	**06 31 43.8**	**-0.9**
SMG	**Samos**	**1.02**	**328**	*e*Pn	**Pb**	**06 31 44.3**	**-0.4**
SMG				*e*Sn	**Sn**	**06 31 59.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**15**	*e*PN	**Pb**	**06 31 46.1**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**15**	*e*Pn	**Pb**	**06 31 46.1**	**-0.7**
FETY	**Fethiye**	**1.27**	**99**	*e*PN	**Pn**	**06 31 48.8**	**0.0**
FETY	**Fethiye**	**1.27**	**99**	*e*Pn	**Pn**	**06 31 48.8**	**0.0**
KARP	**Karpathos**	**1.33**	**193**	P	**Pn**	**06 31 48.8**	**-0.8**
KARP				S	**Sg**	**06 32 07.8**	**-0.3**
KARP	**Karpathos**	**1.33**	**193**	*e*PN	**Pn**	**06 31 48.8**	**-0.8**
KARP	**Karpathos**	**1.33**	**193**	P	**Pn**	**06 31 48.8**	**-0.8**
KARP				S	**Sg**	**06 32 07.8**	**-0.3**
DNZL	**Cakiroluk**	**1.48**	**55**	*i* P	**Pb**	**06 31 52.3**	**-0.4**
DNZL	**Cakiroluk**	**1.48**	**55**	*i* P	**Pb**	**06 31 52.3**	**-0.4**
DNZL				*i* S	**Sg**	**06 32 13.1**	**+0.2**
DENT	**Denizli**	**1.51**	**53**	*e*PN	**Pn**	**06 31 51.6**	**-0.4**
DENT	**Denizli**	**1.51**	**53**	*e*Pn	**Pn**	**06 31 51.6**	**-0.4**
IZM	**Izmir**	**1.56**	**353**	*e*PN	**Pn**	**06 31 53.1**	**+0.3**
IZM	**Izmir**	**1.56**	**353**	*e*Pn	**Pn**	**06 31 53.1**	**+0.3**
BLCB	**Balcova**	**1.58**	**346**	*e*PN	**Pn**	**06 31 52.7**	**-0.3**
BLCB	**Balcova**	**1.58**	**346**	*e*Pn	**Pn**	**06 31 52.7**	**-0.3**
ZEY	**˙zmir**	**1.61**	**330**	*i* P	**Pn**	**06 31 52.7**	**-0.6**
ZEY				*i* S	**Sg**	**06 32 18.0**	**+1.1**
APE	**Apeiranthos**	**1.61**	**278**	P	**Pn**	**06 31 53.0**	**-0.4**
APE	**Apeiranthos**	**1.61**	**278**	*e*PN	**Pn**	**06 31 52.9**	**-0.6**
APE	**Apeiranthos**	**1.61**	**278**	*e*PN	**Pn**	**06 31 53.0**	**-0.4**
APE	**Apeiranthos**	**1.61**	**278**	P	**Pn**	**06 31 53.0**	**-0.4**
GOLH	**Golhisar**	**1.68**	**76**	*i* P	**Pb**	**06 31 56.5**	**+0.4**
GOLH	**Golhisar**	**1.68**	**76**	*i* P	**Pb**	**06 31 56.5**	**+0.4**
GOLH				*i* S	**Sg**	**06 32 20.4**	**+1.2**
THR1	**Thera Island**	**1.73**	**255**	*e*PN	**Pb**	**06 31 56.9**	**+0.1**
THR1	**Thera Island**	**1.73**	**255**	*e*Pn	**Pb**	**06 31 56.9**	**+0.1**
SANT	**Santorini**	**1.73**	**255**	*e*PN	**Pb**	**06 31 56.2**	**-0.7**
SANT	**Santorini**	**1.73**	**255**	*e*Pn	**Pb**	**06 31 56.2**	**-0.7**
AKAS	**Kas**	**1.79**	**110**	*i* P	**Pg**	**06 31 59.1**	**-0.4**
AKAS				*i* S	**Sg**	**06 32 25.5**	**+2.8**
THR5	**Thira Island,**	**1.80**	**257**	*e*PN	**Pb**	**06 31 58.1**	**0.0**
THR5	**Thira Island,**	**1.80**	**257**	*e*Pn	**Pb**	**06 31 58.1**	**0.0**
MANT	**Manisa**	**1.83**	**26**	*i* P	**Pn**	**06 31 56.2**	**-0.5**
MANT	**Manisa**	**1.83**	**26**	*i* P	**Pn**	**06 31 56.2**	**-0.5**
MANT				*i* S	**Sg**	**06 32 24.0**	**-0.3**
KULA	**Kula-Manisa**	**1.89**	**28**	P	**Pn**	**06 31 57.0**	**-0.4**
KULA	**Kula-Manisa**	**1.89**	**28**	*e*PN	**Pn**	**06 31 57.4**	**0.0**
KULA	**Kula-Manisa**	**1.89**	**28**	P	**Pn**	**06 31 57.0**	**-0.4**
KULA	**Kula-Manisa**	**1.89**	**28**	*e*Pn	**Pn**	**06 31 57.4**	**0.0**
CHOS	**Chios island**	**1.93**	**323**	P	**Pn**	**06 31 57.5**	**-0.3**
CHOS	**Chios island**	**1.93**	**323**	*e*PN	**Pn**	**06 31 59.2**	**+1.4**
CHOS	**Chios island**	**1.93**	**323**	*e*PB	**Pn**	**06 31 57.9**	**+0.1**
CHOS	**Chios island**	**1.93**	**323**	P	**Pn**	**06 31 57.5**	**-0.3**
CHOS	**Chios island**	**1.93**	**323**	*e*Pb	**Pn**	**06 31 57.9**	**+0.1**
CHOS	**Chios island**	**1.93**	**323**	*e*Pn	**Pn**	**06 31 59.2**	**+1.4**
ZKR	**Zakros**	**2.03**	**212**	P	**Pn**	**06 32 00.3**	**+1.1**
ZKR	**Zakros**	**2.03**	**212**	P	**Pn**	**06 32 00.3**	**+1.1**
AKHS	**Akhisar**	**2.04**	**6**	*i* P	**Pn**	**06 31 59.0**	**-0.4**
AKHS	**Akhisar**	**2.04**	**6**	*i* P	**Pn**	**06 31 59.0**	**-0.4**
AKHS				*i* S	**Sg**	**06 32 32.4**	**+1.6**
AKS	**Akhisar**	**2.04**	**6**	*e*PN	**Pn**	**06 31 59.5**	**+0.2**
AKS	**Akhisar**	**2.04**	**6**	*e*Pn	**Pn**	**06 31 59.5**	**+0.2**
KHL	**Karahalli**	**2.17**	**47**	*e*PN	**Pn**	**06 32 01.3**	**+0.2**
KHL	**Karahalli**	**2.17**	**47**	*e*Pn	**Pn**	**06 32 01.3**	**+0.2**
LAST	**Lasithi**	**2.36**	**225**	*e*PN	**Pn**	**06 32 04.2**	**+0.4**
LAST	**Lasithi**	**2.36**	**225**	*e*Pn	**Pn**	**06 32 04.2**	**+0.4**
ANTB	**Antalya**	**2.51**	**88**	*e*PN	**Pn**	**06 32 06.5**	**+0.7**
ANTB	**Antalya**	**2.51**	**88**	*e*Pn	**Pn**	**06 32 06.5**	**+0.7**
BCK	**Bucak**	**2.53**	**75**	*e*PN	**Pn**	**06 32 06.4**	**+0.3**
BCK	**Bucak**	**2.53**	**75**	*e*Pn	**Pn**	**06 32 06.4**	**+0.3**
ISP	**Isparta**	**2.58**	**67**	*e*PN	**Pn**	**06 32 08.1**	**+1.2**
ISP	**Isparta**	**2.58**	**67**	*e*Pn	**Pn**	**06 32 08.1**	**+1.2**
PRK	**Paraskevi**	**2.59**	**338**	*e*PN	**Pn**	**06 32 06.8**	**0.0**
PRK	**Paraskevi**	**2.59**	**338**	*e*Pn	**Pn**	**06 32 06.8**	**0.0**
SIGR	**SIGRI**	**2.70**	**331**	P	**Pn**	**06 32 08.3**	**-0.1**
SIGR	**SIGRI**	**2.70**	**331**	*e*PN	**Pn**	**06 32 08.2**	**-0.2**
SIGR	**SIGRI**	**2.70**	**331**	*e*PN	**Pn**	**06 32 08.4**	**0.0**
SIGR	**SIGRI**	**2.70**	**331**	*e*Pn	**Pn**	**06 32 08.4**	**0.0**
BALB	**Balikesir**	**2.80**	**6**	*e*PN	**Pn**	**06 32 10.4**	**+0.6**
BALB	**Balikesir**	**2.80**	**6**	*e*Pn	**Pn**	**06 32 10.4**	**+0.6**
SIVA	**Sivas**	**2.86**	**231**	*e*PN	**Pn**	**06 32 11.4**	**+0.8**
SIVA	**Sivas**	**2.86**	**231**	*e*Pn	**Pn**	**06 32 11.4**	**+0.8**
KARN	**Karanos**	**3.25**	**245**	*e*PN	**Pn**	**06 32 16.5**	**+0.4**
KARN	**Karanos**	**3.25**	**245**	*e*Pn	**Pn**	**06 32 16.5**	**+0.4**
LIA	**Limnos Island**	**3.56**	**330**	*e*PN	**Pn**	**06 32 20.6**	**+0.5**
LIA	**Limnos Island**	**3.56**	**330**	*e*PN	**Pn**	**06 32 20.6**	**+0.5**
LIA	**Limnos Island**	**3.56**	**330**	*e*Pn	**Pn**	**06 32 20.6**	**+0.5**
MRKA	**Markates**	**3.63**	**302**	*e*PN	**Pn**	**06 32 21.9**	**+0.8**
MRKA	**Markates**	**3.63**	**302**	*e*Pn	**Pn**	**06 32 21.9**	**+0.8**
VLI	**Veliai**	**3.68**	**269**	*e*PN	**Pn**	**06 32 21.9**	**0.0**
VLI	**Veliai**	**3.68**	**269**	*e*Pn	**Pn**	**06 32 21.9**	**0.0**
SMTH	**Samothraki Isl**	**3.94**	**337**	*e*PN	**Pn**	**06 32 25.4**	**0.0**
SMTH	**Samothraki Isl**	**3.94**	**337**	*e*Pn	**Pn**	**06 32 25.4**	**0.0**
SKIA	**Skiathos**	**3.95**	**307**	*e*PN	**Pn**	**06 32 26.5**	**+0.9**
SKIA	**Skiathos**	**3.95**	**307**	*e*Pn	**Pn**	**06 32 26.5**	**+0.9**
GUR	**Goura**	**4.26**	**286**	*e*PN	**Pn**	**06 32 30.5**	**+0.5**
GUR	**Goura**	**4.26**	**286**	*e*Pn	**Pn**	**06 32 30.5**	**+0.5**
KALE	**Kalithea**	**4.54**	**291**	*e*PN	**Pn**	**06 32 35.3**	**+1.5**
KALE	**Kalithea**	**4.54**	**291**	*e*Pn	**Pn**	**06 32 35.3**	**+1.5**
HMYD	**Mayadein** baz=161	**7.55**	**158**	P	**Pn**	**06 33 16.1**	**+1.0**
HNAT	**Natroun** baz=163	**7.65**	**159**	P	**Pn**	**06 33 16.8**	**+0.4**
AMAG	**Maghara** baz=143	**7.79**	**141**	P	**Pn**	**06 33 17.1**	**-1.3**
RSH		**7.81**	**137**	P	**Pn**	**06 33 17.7**	**-0.9**
	baz=139						
GLL	**Jalalah** baz=156	**8.05**	**153**	P	**Pn**	**06 33 21.7**	**-0.3**
SUZ	baz=148	**8.28**	**146**	P	**Pn**	**06 33 25.0**	**-0.1**
HNKL	**Nakhl** baz=142	**8.76**	**140**	P	**Pn**	**06 33 30.9**	**-0.8**
HNKL	baz=142			S	Sn	06 35 01.4	-8.9
STHS	**Stebnicka Huta**	**13.36**	**342**	*e*PN	Pn	06 34 25.8	-8.8

*ISCJB **08** 06:42:20.3±0.8, 10°.8S±0°.1×161°.4E±0°.1, h10km, mb3.6/6, MS3.4/3, Error ellipse: s-maj=20.4km s-min=9.7km az=140.0*

*IDC **08** 06:42:20.2±1.1, 10°.65S×161°.37E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.8/25, mbtmp3.7/7, ML3.3/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/28, Error ellipse: s-maj=39.6km s-min=26.1km az=139.0*

ISC 08 06:42:21.9±0.9,**10°.6S**±0°.1×**161°.3E**±0°.1,**h10**km,**n16**, σ0**°67**/9,**mb3.6**/6,**MS3.2**/3,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.81**	**311**	LR	LR	06 43 36.3	
	comp=Z,86nm,19.1s,baz=174,slow=41						
HNR	**Honiara**	**1.81**	**311**	*e*P	**Pb**	**06 42 55.0**	**-0.1**
HNR				*e*S	**Sg**	**06 43 20.0**	**-0.1**
DZM	**Mont Dzumac**	**12.39**	**157**	Pn	**Pn**	**06 45 18.6**	**+0.1**
	0.2nm,0.3s,baz=300,slow=20,SNR=4.8						
DZM				Sn	Sn	06 47 23.4	-13
	0.1nm,0.3s,baz=294,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**27.60**	**247**	P	**P**	**06 48 10.1**	**+0.5**
	1.2nm,0.8s,baz=75,slow=9.9,SNR=9.4						
WRA				LR	LR	06 59 02.4	
	comp=Z,66nm,18.5s,baz=85,slow=36						
ASAR	**Alice Springs**	**29.17**	**240**	P	**P**	**06 48 23.1**	**-0.6**
	0.2nm,0.4s,baz=63,slow=8.5,SNR=4.5						
ASAR				LR	LR	06 58 07.7	
	comp=Z,55nm,18.8s,baz=57,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.41**	**10**	T	T	07 19 14.1	
	baz=189,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**29.42**	**10**	T	T	07 19 13.2	
	baz=189,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**29.43**	**10**	T	T	07 19 16.8	
	baz=189,slow=76,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**30.64**	**10**	T	T	07 20 46.6	
	baz=187						
H11N3	**WAKE ISLAND Hy**	**30.65**	**10**	T	T	07 20

comp=E,5.2nm,0.6s,baz=136,slow=4.3,SNR=40
VNDA Vanda 60.10 192 P P 07 18 44.1 +1.3
comp=E,1.8nm,1.1s,baz=165,slow=5.8,SNR=3.8
PPT Papeete 67.69 265 LR LR 07 41 41.4
comp=E,67nm,19.0s,baz=102,slow=29
833A Chaparral WMA, 69.61 337 ⇑P P 07 19 45.8 +0.7
baz=70
636A Smothers Creek 70.00 339 ⇑P P 07 19 48.3 +0.9
baz=70
732A Laxson Ranch, 70.17 336 ⇑P P 07 19 48.4 -0.1
baz=70
537A Green Hill Far 70.36 340 ⇓P P 07 19 49.6 -0.1
baz=71
633A Saathoff Ranch 70.60 337 ⇓P P 07 19 51.5 +0.3
baz=71
533A Kerrville 71.13 338 ⇓P P 07 19 54.7 +0.3
baz=71
LRAL Lakeview Retre 71.26 349 eP P 07 19 55.1 +0.1
comp=E,7.3nm,0.9s
LRAL epP pP 07 20 04.2 -0.7
532A Rocksprings 71.44 337 ⇓P P 07 19 56.9 +0.6
baz=72
434A Burnet 71.60 339 ⇓P P 07 19 57.2 0.0
baz=72
531A Rocksprings 71.68 337 ⇓P P 07 19 58.1 +0.3
baz=72
336A Riesel 71.74 340 ⇓P P 07 19 58.3 +0.3
baz=72
JCT Junction City 71.74 337 ⇓P P 07 19 58.3 +0.2
baz=72
JCT Junction City 71.74 337 eP P 07 19 57.7 -0.4
comp=E,9.0nm,1.0s
JCT epP pP 07 20 07.9 -0.2
433A Art 71.78 338 ⇓P P 07 19 58.4 +0.1
baz=72
530A J-C Ranch, Com 71.92 336 ⇑P P 07 19 60.0 +0.8
baz=72
TXAR Lajitas Array 71.96 334 P P 07 19 59.6 +0.1
comp=E,1.7nm,0.6s,baz=149,slow=8.8,SNR=13
334A Lometa 72.08 339 ⇓P P 07 20 00.0 -0.1
baz=72,SNR=5.2
432A Menard 72.11 337 ⇓P P 07 19 59.7 -0.6
baz=72
431A Sonora 72.18 337 ⇑P P 07 20 01.0 +0.3
baz=72
529A Stev Forest Ra 72.19 335 ⇓P P 07 20 01.2 +0.3
baz=72
333A Richland Sprin 72.28 338 ⇑P P 07 20 01.1 -0.3
baz=73,SNR=5.4
430A Baggett Ranch, 72.48 336 ⇑P P 07 20 02.7 +0.1
baz=73
429A Davenport Ranc 72.54 336 ⇑P P 07 20 03.5 +0.6
baz=73
332A Millersview 72.56 338 ⇑P P 07 20 03.2 +0.1
baz=73
234A Clairette 72.68 339 ⇓P P 07 20 03.6 0.0
baz=73
KMSC Kings Mountain 72.69 354 ⇓P P 07 20 03.4 -0.2
baz=73
331A San Angelo 72.70 337 ⇑P P 07 20 03.6 -0.2
baz=73
232A Coleman 73.01 338 ⇓P P 07 20 05.4 -0.2
baz=73
330A Mertzon 73.03 336 ⇑P P 07 20 06.0 +0.2
baz=73
SWET Sewanee 73.25 350 eP P 07 20 06.8 -0.2
comp=E,16nm,0.6s
SWET epP pP 07 20 16.2 -0.7
231A Bronte 73.25 337 ⇓P P 07 20 06.9 -0.2
baz=74
329A Wagon Wheel Ra 73.36 336 ⇓P P 07 20 07.2 -0.6
baz=74
133A Hamilton Ranch 73.47 339 ⇑P P 07 20 07.2 -1.1
baz=74
Z35A Perchaven, San 73.69 340 ⇑P P 07 20 09.6 0.0
baz=74
ABTX Abilene, Hawle 73.69 338 ⇑P P 07 20 09.1 -0.5
baz=74
ABTX Abilene, Hawle 73.69 338 eP P 07 20 09.8 +0.1
comp=E,6.0nm,0.9s
229A Bryant Ranch, 73.75 336 ⇑P P 07 20 10.3 +0.2
baz=74
Z34A Collier Ranch, 73.91 340 ⇓P P 07 20 10.9 0.0
baz=74
131A Roby 73.96 338 ⇓P P 07 20 11.8 +0.5
baz=74
228A UT Block 9, Go 74.14 336 ⇑P P 07 20 11.5 -0.9
baz=74
Z32A Haskell 74.28 339 ⇓P P 07 20 12.8 -0.3
baz=75,SNR=8.2
129A Stewart Farms, 74.38 336 ⇓P P 07 20 13.3 -0.4
baz=75
WVT Waverly 74.42 349 eP P 07 20 13.2 -0.5
comp=E,4.6nm,0.8s
WVT epP pP 07 20 22.5 -1.2
Z31A Sharp Cattle R 74.49 338 ⇑P P 07 20 14.0 -0.3
baz=75
128A Castleberry Fa 74.57 336 ⇑P P 07 20 14.7 -0.1
baz=75
Y33A Hilltop Ranch, 74.70 340 ⇑P P 07 20 15.4 -0.1
baz=75
MNTX Cornudas Mount 74.72 333 ⇑P P 07 20 15.0 -0.6
baz=75
MNTX Cornudas Mount 74.72 333 eP P 07 20 15.0 -0.6
comp=E,2.5nm,1.0s
Z30A Sanderson Ranc 74.76 337 ⇑P P 07 20 15.6 -0.3
baz=75
Z29A Hungry Hill Ra 74.91 337 ⇓P P 07 20 16.5 -0.3
baz=75
Y32A R-V Farms, Ver 74.93 339 ⇑P P 07 20 16.9 +0.1
baz=75
X34A Smith Ranch, M 75.04 340 ⇓P P 07 20 17.7 +0.3
baz=75
Y31A Rekieta Farm, 75.12 338 ⇓P P 07 20 18.3 +0.4
baz=75
Y29A Porterfield Fa 75.46 337 ⇑P P 07 20 19.8 -0.1
baz=76
X31A McDonald Ranch 75.67 339 ⇓P P 07 20 21.0 0.0
baz=76
Y28A McKinney Farm, 75.68 337 ⇓P P 07 20 21.3 +0.1
baz=76
W33A Caddo, Fort Co 75.73 340 ⇑P P 07 20 21.7 +0.3
baz=76
X30A Coker Ranch, T 75.76 338 ⇓P P 07 20 22.1 +0.5
baz=76
TUL1 Leonard 75.77 342 ⇑P P 07 20 21.0 -0.5
baz=76
TUL1 Leonard 75.77 342 eP P 07 20 20.8 -0.8
comp=E,16nm,0.8s
V35A Meyer Ranch, C 75.89 342 ⇑P P 07 20 21.5 -0.8
baz=76
MSTX Muleshoe 75.91 336 ⇑P P 07 20 22.4 -0.1
baz=76
W32A Sentinel 75.92 339 ⇓P P 07 20 22.4 -0.1
baz=76
X29A Tulia 76.01 337 ⇑P P 07 20 22.6 -0.5
baz=76
V34A Guthrie 76.13 341 ⇓P P 07 20 23.4 -0.2
baz=76
V33A Lossen Ranch, 76.31 340 ⇑P P 07 20 25.1 +0.4
baz=77
AMTX Amarillo 76.41 337 ⇓P P 07 20 25.5 +0.1
baz=77
AMTX Amarillo 76.41 337 eP P 07 20 25.4 0.0
comp=E,13nm,1.1s
AMTX epP pP 07 20 34.9 -0.4
V32A Arapaho 76.42 340 ⇓P P 07 20 25.7 +0.4
baz=77
W29A Amarillo 76.62 338 ⇑P P 07 20 26.9 +0.4
baz=77
V31A Spring Creek L 76.70 339 ⇓P P 07 20 27.6 +0.7
baz=77
U34A Anderson Ranch 76.70 341 ⇓P P 07 20 26.9 +0.1
baz=77
U33A Lingo Farm, Me 76.85 341 ⇑P P 07 20 27.5 -0.1
baz=77,SNR=6.3
U32A Winter Ranch, 77.03 340 ⇑P P 07 20 29.0 +0.3
baz=77
W26A Owens Ranch, T 77.25 336 ⇑P P 07 20 30.1 -0.1
baz=78
V28A Channing 77.38 337 ⇓P P 07 20 31.4 +0.6
baz=78
S36A Lake Cedric, C 77.45 343 ⇓P P 07 20 30.5 -0.5
baz=78,SNR=6.4
T33A Patterson Ranc 77.49 341 ⇑P P 07 20 31.9 +0.6
baz=78
S35A Otter Creek Ra 77.58 343 ⇓P P 07 20 31.9 +0.1
baz=78

U30A WK&E Inc. Balk 77.63 339 ⇓P P 07 20 32.5 +0.3
baz=78
R37A Teagarden Farm 77.84 344 ⇓P P 07 20 32.2 -1.0
baz=78,SNR=7.4
ACSO Alum Creek Sta 77.88 353 eP P 07 20 33.0 -0.3
comp=E,14nm,0.8s
ACSO epP PcP 07 20 42.0 -1.1
V26A Tequesquite Ra 77.91 336 ⇓P P 07 20 33.7 -0.1
LIC Lamto 77.93 72 eP P 07 20 35.1 +0.8
comp=E,28nm,0.8s
ANMO Albuquerque 78.03 334 eP P 07 20 35.5 +0.9
comp=E,5.3nm,1.0s
ANMO epP pP 07 20 45.0 +0.4
U27A Thompson Grove 78.18 337 ⇓P P 07 20 35.7 +0.5
baz=78
TIC Toumodi 78.21 72 eP P 07 20 36.5 +0.7
comp=E,6.5nm,0.2s
V25A Rancho No Teng 78.22 336 ⇑P P 07 20 36.1 +0.5
baz=78
KIC Kosan Boka 78.23 72 eP P 07 20 36.8 +0.8
comp=E,25nm,0.8s
S32A Newby Ranch, P 78.26 341 ⇑P P 07 20 36.1 +0.5
baz=79
Q37A Longview Farm, 78.30 344 ⇑P P 07 20 35.4 -0.3
baz=79
S31A Mullinville 78.33 340 ⇑P P 07 20 36.0 0.0
baz=79
DBIC Dimbokro 78.35 72 P P 07 20 37.5 +0.9
comp=E,2.5nm,0.6s,baz=217,slow=5.8,SNR=6.9
DBIC pP pP 07 20 46.9 +0.3
comp=E,9.2nm,0.7s,baz=201,slow=4.0,SNR=11
DBIC LR LR 07 53 02.7
comp=E,23nm,18.7s,baz=180,slow=34
T29A Hugoton 78.40 339 ⇑P P 07 20 37.2 +0.8
baz=79
R33A Olander Ranch, 78.58 341 ⇓P P 07 20 37.3 0.0
baz=79
T28A Walsh 78.61 338 ⇓P P 07 20 37.7 +0.1
baz=79,SNR=8.3
S30A Montezuma 78.62 339 ⇓P P 07 20 38.3 +0.7
baz=79
V23A Ortiz Mt. (NFS 78.66 334 ⇑P P 07 20 38.3 +0.3
baz=79
U25A Circle Dot Ran 78.66 336 ⇑P P 07 20 39.4 +1.4
baz=79
T27A Campo 78.74 337 ⇓P P 07 20 39.0 +0.7
baz=79
S29A Ulysses 78.78 339 ⇓P P 07 20 39.5 +0.9
baz=79
R32A Long Quarter, 78.88 341 ⇓P P 07 20 39.5 +0.6
baz=79
R31A Burdett 78.97 340 ⇓P P 07 20 40.0 +0.5
baz=79
S28A Manter 78.98 338 ⇑P P 07 20 40.2 +0.6
baz=79
T26A Comanche Natio 79.11 337 ⇓P P 07 20 41.2 +0.7
baz=79,SNR=5.4
R30A Dighton 79.17 340 ⇓P P 07 20 41.2 +0.6
baz=80
Q33A Connelly Farm, 79.20 342 ⇑P P 07 20 41.3 +0.6
baz=80
T25A Trinidad 79.34 336 ⇓P P 07 20 43.1 +1.3
baz=80,SNR=8.2
T25A Trinidad 79.34 336 eP P 07 20 43.0 +1.3
comp=E,9.2nm,0.9s
Q32A Meitler Ranch, 79.38 341 ⇓P P 07 20 42.0 +0.4
baz=80
W18A Petrified Fore 79.39 331 ⇓P P 07 20 42.6 +0.6
baz=80
X16A Lo Mia Camp, P 79.44 330 ⇑P P 07 20 43.8 +1.4
baz=80
S26A Kim 79.48 337 ⇑P P 07 20 42.8 +0.4
baz=80,SNR=7.3
R29A Marienthal 79.54 339 ⇑P P 07 20 43.4 +0.8
baz=80
T24B San Luis 79.58 335 ⇓P P 07 20 44.5 +1.3
baz=80
Q31A Ellis 79.61 341 ⇑P P 07 20 43.5 +0.5
baz=80
R28A Tribune 79.65 339 ⇑P P 07 20 43.6 +0.3
baz=80,SNR=5.5
Y14A Wickenburg 79.66 328 ⇑P P 07 20 43.8 +0.4
baz=80
S25A Robets Cordova 79.82 336 ⇓P P 07 20 44.7 +0.4
baz=80
R27A Eads 79.89 338 ⇑P P 07 20 44.9 +0.3
baz=80,SNR=8.4
S24A Houchin Ranch, 80.06 336 ⇓P P 07 20 46.5 +0.8
baz=80,SNR=5.3
P31A Stockton 80.09 341 ⇓P P 07 20 46.1 +0.6
baz=80
R26A Arlington 80.10 337 ⇑P P 07 20 46.5 +0.8
baz=80,SNR=5.8
BOSA Boshof 80.23 119 P P 07 20 47.5 +0.6
comp=E,3.7nm,0.9s,baz=246,slow=7.5,SNR=4.1
BOSA LR LR 07 57 54.0
comp=E,23nm,18.0s,baz=184,slow=37
SDCO Great Sand Dun 80.24 336 ⇑P P 07 20 46.9 +0.2
baz=80
SDCO Great Sand Dun 80.24 336 eP P 07 20 47.5 +0.8
Q28A Sharon Springs 80.33 339 ⇓P P 07 20 47.7 +0.8
baz=81
P30A Selden 80.34 340 ⇓P P 07 20 48.0 +1.1
baz=81
KSCO Kaye Shedlock' 80.51 338 ⇑P P 07 20 48.8 +0.8
baz=81
R24A Sanders Place, 80.56 336 ⇑P P 07 20 48.9 +0.6
baz=81,SNR=9.4
P29A Atwood 80.58 340 ⇑P P 07 20 48.8 +0.6
baz=81
S22A 4UR Ranch, Cre 80.69 335 ⇓P P 07 20 49.1 0.0
baz=81,SNR=5.8
S22A 4UR Ranch, Cre 80.69 335 eP P 07 20 49.1 0.0
comp=E,26nm,2.1s
R23A Moffat 80.75 336 ⇑P P 07 20 49.9 +0.4
baz=81
P28A Saint Francis 80.78 339 ⇓P P 07 20 50.1 +0.8
baz=81
MVCO Mesa Verde 80.79 333 ⇓P P 07 20 50.3 +0.7
baz=81
O30A MW Ranch, Wils 80.88 341 ⇑P P 07 20 50.1 +0.3
baz=81
Q25A Bedland, Calha 80.91 337 ⇑P P 07 20 51.0 +0.8
baz=81
P26A Davis Ranch, A 81.23 338 ⇑P P 07 20 52.5 +0.7
baz=82
Q24A Divide 81.24 336 ⇓P P 07 20 52.7 +0.6
baz=82
O28A Krutsinger Ran 81.30 339 ⇓P P 07 20 53.2 +1.2
baz=82
P25A Willow Gulch B 81.44 337 ⇓P P 07 20 53.9 +1.0
baz=82
U15A North Rim 81.53 330 ⇓P P 07 20 54.7 +1.1
baz=82,SNR=7.2
PV01 Paradox Valley 81.64 334 eP P 07 20 55.0 +0.9
comp=E,290nm,0.9s
PV01 epP pP 07 21 04.2 +0.1
GSC Goldstone, Bar 82.45 326 ⇑P P 07 20 59.9 +1.6
baz=83
L31A Butterfield Fa 82.45 342 ⇓P P 07 20 59.9 +1.9
baz=83
L30A Spencer Herefo 82.46 341 ⇑P P 07 21 00.2 +2.1
baz=83
O23A Lake Granby, G 82.62 336 ⇑P P 07 21 00.2 +0.9
baz=83
SHPR Sheep Range 82.76 328 eP P 07 21 01.5 +1.6
O22A Kremmling 82.78 336 ⇓P P 07 21 01.1 +1.0
baz=83
K30A Basset 83.11 342 ⇑P P 07 21 02.7 +1.3
baz=83
M25A Palm-Egli Farm 83.17 338 ⇑P P 07 21 02.9 +1.0
baz=84
ECSD EROS Data Cent 83.42 344 ⇑P P 07 21 03.5 +0.6
baz=84
M24A Cheyenne 83.43 338 ⇓P P 07 21 04.1 +0.8
baz=84
FURC Furnace Creek, 83.45 327 ⇓P P 07 21 04.6 +1.3
baz=84
ISA Isabella, Lake 83.49 325 ⇑P P 07 21 05.3 +1.7
baz=84
ISA Isabella, Lake 83.49 325 eP P 07 21 05.2 +1.6
comp=E,4.1nm,0.8s
DAC Darwin (Calif) 83.61 326 eP P 07 21 00.0 -4.4
comp=E,10nm,1.1s
TMUT Trail Mountain 83.62 332 eP P 07 21 03.9 -0.6
comp=E,7.6nm,0.9s
TMUT epP pP 07 21 14.9 +0.3

M23A Laramie 83.70 337 ⇓P P 07 21 05.4 +0.6
baz=84
J29A Okreek 83.98 341 ⇓P P 07 21 06.6 +0.8
baz=84
I30A Oacoma 84.23 342 ⇓P P 07 21 07.3 +0.2
baz=85
J27A Elkhorn Farm, 84.27 340 ⇓P P 07 21 08.8 +1.4
baz=85
R11A Troy Canyon, C 84.51 329 ⇑P P 07 21 09.9 +1.1
baz=85
J26A Sides Ranch, S 84.62 340 ⇑P P 07 21 10.5 +1.4
baz=85
J25A Sunshine Ranch 84.89 339 ⇑P P 07 21 11.9 +1.3
baz=85
TPH Tonopah 84.96 328 P P 07 21 11.3 +0.2
comp=E,4.2nm,0.6s
DUG Dugway, Tooele 85.00 332 ⇓P P 07 21 12.4 +1.1
baz=85
DUG Dugway, Tooele 85.00 332 eP P 07 21 12.2 +0.9
comp=E,5.3nm,0.9s
K22A Casper 85.03 337 ⇑P P 07 21 12.2 +0.8
baz=85
K21A Alcova 85.24 336 ⇑P P 07 21 13.0 +0.5
baz=86
H28A Mission Ridge 85.34 341 ⇓P P 07 21 13.3 +0.6
baz=86
I25A Rochford 85.45 339 ⇓P P 07 21 14.1 +0.6
baz=86
J22A Midwest 85.70 337 ⇑P P 07 21 15.9 +1.2
baz=86
NVAR Mina Array Bea 85.72 327 P P 07 21 15.9 +1.0
comp=E,1.3nm,0.8s,baz=133,slow=10.0,SNR=7.8
PDAR Pinedale Array 86.11 335 P P 07 21 16.6 -0.3
comp=E,2.8nm,0.9s,baz=154,slow=4.7,SNR=8.1
PDAR pP pP 07 21 26.7 -0.2
comp=E,1.2nm,0.6s,baz=72,slow=1.9,SNR=3.5
J20A Shoshoni 86.15 336 ⇑P P 07 21 18.1 +1.2
baz=86
J19A Crowheart 86.39 336 ⇓P P 07 21 18.7 +0.6
baz=87
ELK Elko 86.41 330 eP P 07 21 19.2 +0.9
comp=E,2.8nm,0.8s
ELK epP pP 07 21 28.4 -0.1
I20A Worland 86.70 336 ⇑P P 07 21 20.3 +0.7
baz=87
TORD Torodi Ar. Bea 87.43 71 P P 07 21 23.1 -0.5
comp=E,1.9nm,1.0s,baz=224,slow=3.2,SNR=7.5
TORD pP pP 07 21 33.0 -0.7
comp=E,3.4nm,1.0s,baz=226,slow=3.9,SNR=8.5
TORD LR LR 07 58 14.4
comp=E,19nm,19.2s,baz=120,slow=34
I17A Pilgrim Ck. 87.47 335 ⇓P P 07 21 24.3 +0.9
baz=88
C30A Mose, Pekin 87.60 344 ⇑P P 07 21 24.4 +0.8
baz=88
FLWY Flagg Ranch 87.66 335 eP P 07 21 24.9 +0.5
comp=E,11nm,0.7s
H18A Shoshone NF, C 87.84 336 ⇓P P 07 21 26.1 +0.9
baz=88
H17A Grant Village 87.89 335 ⇑P P 07 21 26.8 +1.3
baz=88
B30A Myrvik Farm, E 88.27 344 ⇑P P 07 21 27.4 +0.5
baz=89
C27A Sayler Ranch, 88.30 342 ⇑P P 07 21 27.6 +0.6
baz=89
HLID Hailey 88.52 332 ⇑P P 07 21 29.3 +1.0
baz=89
B28A Dugan Ranch, T 88.72 343 ⇑P P 07 21 29.7 +0.7
baz=89
A30A Hoffart Farm, 88.73 345 ⇓P P 07 21 29.1 +0.1
baz=89
A29A Manning Farm, 88.92 344 ⇓P P 07 21 30.1 +0.2
baz=89
ULM Lac du Bonnet 89.50 347 P P 07 21 32.5 -0.1
comp=E,3.6nm,0.7s,baz=166,slow=4.2,SNR=2.1
ILAR Eielson Array 116.47 333 PKP PKPdf 07 27 18.6 0.0
comp=E,0.5nm,0.8s,baz=166,slow=2.5,SNR=4.8
WRA Warramunga Arr 116.54 211 PKP PKPdf 07 27 19.1 -1.3
comp=E,0.5nm,0.6s,baz=157,slow=1.6,SNR=11
WRA pPKP pPKPdf 07 27 29.2 -1.5
comp=E,0.3nm,0.8s,baz=162,slow=1.7,SNR=1.9
KTH Kantishna Hill 117.35 331 ePKPdf PKPdf 07 27 21.8 +1.3
PPLA Purkeypile 117.53 330 ePKPdf PKPdf 07 27 21.4 +0.5
SEY Seymchan 142.03 327 PKP PKPdf 07 28 06.7 -0.3
comp=E,1.3nm,0.7s,baz=66,slow=6.0,SNR=5.7
GEYT Alibeck 143.00 75 PKhKP PKPpre 07 28 06.5
comp=E,1.7nm,0.5s,baz=308,slow=7.1,SNR=3.8
TIXI Tiksi 143.85 348 ePKPdf PKPab 07 28 06.1 -0.9
ABKAR Akbulak array 145.56 56 ePKPdf PKPbc 07 28 13.9 +0.2
HYB Hyderabad 149.03 123 i PKP PKPbc 07 28 24.0 -0.4
ASAJ Asahikawa 151.28 295 PKPbc PKPbc 07 28 28.7 -0.3
comp=E,13nm,1.1s,baz=200,slow=3.8,SNR=4.2
KKAR Karatay Array 153.04 67 ePKPbc PKPbc 07 28 33.0 -0.1
KURK Kurchatov 156.96 47 ePKPdf PKPdf 07 28 31.2 +0.5
KSH Kashi 157.01 76 ePKP PKPdf 07 28 29.9 -1.5
KSH sPKP 07 28 44.5
KSH PKS PKSdf 07 32 03.0 -2.3
KSH PP PP 07 32 39.0 -2.1
KSH SKS SKSdf 07 35 31.5 -3.6
KSH SKKS SKKSac 07 39 22.0 -5.6
KSH PPMZ
comp=E,84nm,6.5s
KSH LN
comp=E,160nm,6.9s
KSH LE
comp=E,130nm,5.9s
KSH LZ
comp=E,120nm,6.1s
ZALV Zalesovo Beam 158.44 34 PKPab PKPab 07 29 08.1 +0.8
comp=E,1.7nm,0.6s,baz=308,slow=4.9,SNR=5.1
ZALV pPKPab pPKPab 07 29 17.0 -0.5
comp=E,2.7nm,0.8s,baz=316,slow=6.2,SNR=3.9
MKAR Makanchi Array 160.70 54 PKP PKPdf 07 28 35.0 -0.4
comp=E,0.9nm,0.9s,baz=343,slow=1.3,SNR=4.9
MKAR PKPab PKPab 07 29 18.0 +0.5
comp=E,0.5nm,0.7s,baz=281,slow=3.2,SNR=3.7
MKAR pPKPab pPKPab 07 29 25.8 -1.9
comp=E,0.5nm,0.6s,baz=327,slow=3.3,SNR=3.0
NJ2 Nanjing 167.58 247 ePKP PKPdf 07 28 41.3 -0.7
SONM Songino Array 169.79 356 PKPab PKPab 07 29 58.0 +0.5
comp=E,0.9nm,0.8s,baz=344,slow=4.4,SNR=6.2
SONM pPKPab pPKPab 07 30 07.4 -0.2
comp=E,1.1nm,0.8s,baz=352,slow=5.7,SNR=7.5
CD2 Chengdu 173.15 169 PKP PKPdf 07 28 45.3 +0.1
HHC Hu-ho-hao-te 174.21 305 ePKP PKPdf 07 28 45.9 +0.5
HHC PKS PKSdf 07 32 16.7 -0.9
HHC PP PP 07 34 13.0 +3.1
HHC SKS SKSdf 07 35 43.8 -2.3
HHC SKKS SKKSac 07 40 53.9 +0.2
HHC PPMZ
comp=E,25nm,5.2s
HHC LN
comp=E,130nm,18.0s
HHC LE
comp=E,310nm,20.0s
HHC LZ
comp=E,55nm,19.2s
GTA Gaotai 175.33 66 ePKP PKPdf 07 28 46.5 +0.7
GTA pPKP pPKPdf 07 28 57.0 +0.7
GTA sPKP 07 29 00.7
GTA PKPab PKPab 07 30 24.7 +2.2
LZH Lanzhou 178.03 142 ePKP PKPdf 07 28 46.4 -0.1
LZH pPKP pPKPdf 07 28 57.5 +0.6
LZH sPKP 07 29 01.5
LZH LN
comp=E,170nm,18.3s
LZH LE
comp=E,180nm,18.7s
LZH LZ
comp=E,220nm,20.3s

*IDC **08** 07:14:10.8±0.5, 70°.85N×132°.41W, h0km, mb4.3/24, mb1 4.4/27, mb1mx4.3/40, mbtmp4.3/27, ML4.5/4, MS3.4/16, Ms1 3.4/16, ms1mx3.2/47, Error ellipse: s-maj=15.4km s-min=10.8km az=69.0*
*BJI **08** 07:14:12.1, 70°.80N×133°.00W, h36km, mB5.0/10, mb4.8/10, Ms4.9/6, Ms7 4.5/6*
*ISCJB **08** 07:14:13.3±0.1, 70°.76N±0°.02×133°.08W±0°.06, h36km, mb4.5/97, MS3.3/14, Error ellipse: s-maj=3.0km s-min=2.8km az=171.7*
*NEIC **08** 07:14:14.2, 70°.83N×132°.60W, h35km, mb4.6/72, MW4.4(OTT), After OTT.*
*PGC **08** 07:14:14.2±1.9, 70°.83N×132°.60W, h35km, ML4.1/1,*

Mw4.4, 283km Nne of Inuvik, Nt Beaufort Sea
ISC 08 07:14:15.5±0.3, 70°78N±0'02×132°80W±0'03, h35km±1km, h35km:pP-P,n435,σ0994/425, mb4.6/98, MS3.3/14, 127C-115D, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.50**	**186**	⇑Pn	**Pn**	**07 14 51.9**	**-1.7**
INK				⇑Sn	**Sn**	**07 15 19.8**	**-3.0**
INK	**Inuvik**	**2.50**	**186**	Pn	**Pn**	**07 14 52.5**	**-1.1**
	34nm,0.3s,baz=2.6,slow=17,SNR=1834						
INK				Sn	**Sn**	**07 15 20.4**	**-2.4**
	baz=114,slow=18						
DHRN	**Dharma Camp**	**6.09**	**122**	⇓Pn	**Pn**	**07 15 41.1**	**-1.7**
DHRN				⇓Sn	Sn	07 16 43.7	-7.5
EGAK	**Eagle**	**6.81**	**212**	*e*Pn	Pn	07 15 49.8	-2.9
EGAK				*e*Sn	**Sn**	**07 17 05.8**	**-3.0**
COLD	**Coldfoot**	**7.18**	**249**	*e*Pn	**Pn**	**07 15 56.2**	**-1.6**
COLD				*e*Sn	Sn	07 17 12.0	-6.0
DAWY	**Dawson**	**7.20**	**204**	⇓Pn	Pn	07 15 55.4	-2.8
DAWY				⇑Sn	Sn	07 17 12.0	-6.7
DAWY	**Dawson**	**7.20**	**204**	*e*Pn	Pn	07 15 55.4	-2.8
ILAR	**Eielson Array**	**8.04**	**228**	Pn	Pn	07 16 07.1	-2.4
	2.5nm,0.3s,baz=32,slow=13,SNR=88						
ILAR				Sn	Sn	07 17 34.0	-5.1
	6.0nm,0.3s,baz=29,slow=26,SNR=9.2						
COLA	**College**	**8.20**	**231**	*e*Pn	Pn	07 16 09.6	-2.1
COLA				*e*Sn	Sn	07 17 38.6	-4.3
ROMN	**Roman Lake**	**8.58**	**132**	⇑Pn	Pn	07 16 14.0	-3.0
ROMN				⇓Sn	Sn	07 17 43.6	-8.9
ROMN	**Roman Lake**	**8.58**	**132**	⇑Pn	Pn	07 16 14.0	-3.0
ROMN				Sn	Sn	07 17 43.6	-8.9
GALN	**Gameti Lake**	**8.92**	**131**	⇓Pn	Pn	07 16 18.6	-3.1
GALN				⇓Sn	Sn	07 17 58.6	-10
MENT	**Mentasta**	**8.95**	**214**	*e*Pn	Pn	07 16 19.2	-3.0
CTLN	**Castor Lake**	**9.00**	**127**	⇑Pn	Pn	07 16 19.0	-3.8
CTLN				⇑Sn	Sn	07 17 52.5	-10
IM04	**Indian Mountai**	**9.08**	**248**	*e*Pn	Pn	07 16 22.0	-1.9
PAX	**Paxson**	**9.27**	**218**	*e*Pn	**Pn**	**07 16 25.1**	**-1.4**
PAX				*e*Sn	**Sn**	**07 18 06.9**	**-2.4**
MCK	**McKinley**	**9.40**	**229**	*e*Pn	**Pn**	**07 16 26.4**	**-1.8**
MCK				*e*Sn	Sn	07 18 06.9	-5.7
TRF	**Thorofare Moun**	**9.98**	**231**	*e*Pn	**Pn**	**07 16 34.5**	**-1.8**
TRF				*e*Sn	Sn	07 18 20.5	-6.4
KTH	**Kantishna Hill**	**10.06**	**233**	*e*Pn	Pn	07 16 35.4	-1.9
HYT	**Haines Junctio**	**10.18**	**193**	⇑Pn	Pn	07 16 36.2	-2.8
HYT	**Haines Junctio**	**10.18**	**193**	*e*Pn	Pn	07 16 36.8	-2.2
HYT				*e*Sn	Sn	07 18 26.1	-5.8
WHY	**Whitehorse**	**10.20**	**186**	⇓Pn	Pn	07 16 37.3	-2.0
WHY				⇓Sn	Sn	07 18 22.4	-10
CAST	**Castle Rocks**	**10.48**	**235**	*e*Pn	Pn	07 16 41.0	-2.0
YKB0	**Yellowknife Ar**	**10.86**	**130**	⇓Pn	Pn	07 16 44.6	-3.6
YKR1	**Yellowknife Ar**	**10.87**	**131**	⇑Pn	Pn	07 16 44.7	-3.6
YKB9	**Yellowknife Ar**	**10.88**	**130**	⇑Pn	Pn	07 16 44.5	-4.0
YKR2	**Yellowknife Ar**	**10.88**	**131**	⇑Pn	Pn	07 16 44.6	-3.9
YKW3	**Yellowknife Ar**	**10.90**	**130**	⇑Pn	Pn	07 16 45.0	-3.7
YKW3				⇓Sn	Sn	07 18 36.0	-13
YKB8	**Yellowknife Ar**	**10.90**	**130**	⇓Pn	Pn	07 16 45.2	-3.5
YKR4	**Yellowknife Ar**	**10.91**	**131**	⇑Pn	Pn	07 16 45.1	-3.8
YKB7	**Yellowknife Ar**	**10.92**	**130**	⇓Pn	Pn	07 16 45.3	-3.7
YKR5	**Yellowknife Ar**	**10.92**	**131**	⇑Pn	Pn	07 16 45.3	-3.7
PPLA	**Purkeypile**	**10.93**	**233**	*e*Pn	Pn	07 16 47.0	-2.2
PPLA				*e*Sn	**Sn**	**07 18 50.1**	**-0.1**
YKR6	**Yellowknife Ar**	**10.93**	**130**	⇑Pn	Pn	07 16 45.7	-3.5
YKB6	**Yellowknife Ar**	**10.94**	**130**	⇓Pn	Pn	07 16 45.5	-3.7
BMRM	**Bremner River**	**10.94**	**212**	*e*Pn	**Pn**	**07 16 48.7**	**-0.6**
BMRM				*e*Sn	**Sn**	**07 18 51.6**	**+1.2**
YKR7	**Yellowknife Ar**	**10.95**	**130**	⇑Pn	Pn	07 16 45.7	-3.7
YKA	**Yellowknife Ar**	**10.96**	**130**	Pn	Pn	07 16 46.0	-3.4
	14nm,0.3s,baz=329,slow=12,SNR=700						
YKA				Sn	Sn	07 18 36.3	-14
	12nm,0.3s,baz=323,slow=23,SNR=13						
YKR8	**Yellowknife Ar**	**10.96**	**130**	⇓Pn	Pn	07 16 45.8	-3.7
YKR9	**Yellowknife Ar**	**10.97**	**130**	⇑Pn	Pn	07 16 46.1	-3.5
YKB4	**Yellowknife Ar**	**10.98**	**130**	⇑Pn	Pn	07 16 46.0	-3.7
YKB3	**Yellowknife Ar**	**10.99**	**130**	⇓Pn	Pn	07 16 46.3	-3.7
DIV	**Divide**	**11.00**	**215**	*e*Pn	**Pn**	**07 16 50.1**	**-0.1**
DIV				*e*Sn	**Sn**	**07 18 49.8**	**-2.1**
YKB2	**Yellowknife Ar**	**11.02**	**130**	⇑Pn	Pn	07 16 46.6	-3.7
YKB1	**Yellowknife Ar**	**11.03**	**131**	⇑Pn	Pn	07 16 46.8	-3.7
SKAG	**Skagway**	**11.42**	**187**	*e*Pn	**Pn**	**07 16 54.7**	**-1.1**
RAGM	**Ragged Mountai**	**11.50**	**211**	*e*Pn	**Pn**	**07 16 56.8**	**-0.2**
RES	**Resolute Bay**	**11.74**	**53**	⇑Pn	Pn	07 16 54.9	-5.2
RES				⇑Sn	Sn	07 18 56.0	-13
RES	**Resolute Bay**	**11.74**	**53**	Pn	Pn	07 16 55.4	-4.7
	1.7nm,0.3s,baz=247,slow=11,SNR=75						
RES				Sn	Sn	07 18 56.6	-13
	8.1nm,0.3s,baz=299,slow=23,SNR=11						
RC01	**Rabbit Creek A**	**11.87**	**223**	*e*Pn	**Pn**	**07 17 03.2**	**+1.3**
RC01				*e*Sn	**Sn**	**07 19 14.8**	**+1.8**
DLBC	**Dease Lake**	**12.45**	**173**	⇓Pn	Pn	07 17 07.9	-2.1
DLBC	**Dease Lake**	**12.45**	**173**	Pn	**Pn**	**07 17 08.1**	**-1.9**
	2.9nm,0.3s,baz=13,slow=9.1,SNR=51						
DLBC				LR	LR	07 23 04.7	
	comp=Z,303nm,18.3s,baz=51,slow=43						
FNBB	**Fort Nelson**	**12.62**	**156**	⇑Pn	Pn	07 17 08.2	-4.0
FNBB				⇓Sn	Sn	07 19 17.7	-14
SNLN	**Sandy Lake, NW**	**12.62**	**117**	⇓Pn	Pn	07 17 07.3	-4.8
SNLN				⇓Sn	Sn	07 19 18.2	-13
RSO	**Redoubt South**	**13.14**	**228**	*e*Pn	**Pn**	**07 17 17.9**	**-1.5**
TNA	**Tin City**	**13.90**	**265**	*e*Pn	Pn	07 17 27.0	-2.6
HILA	**High Level**	**13.93**	**144**	⇓Pn	Pn	07 17 23.8	-6.3
HILA				⇑Sn	Sn	07 19 48.1	-15
EUNU	**Eureka**	**14.32**	**31**	⇓Pn	Pn	07 17 29.9	-5.5
EUNU				⇑Sn	Sn	07 20 00.3	-12
STLN	**Stellar Camp,**	**14.45**	**84**	⇑Pn	Pn	07 17 30.3	-6.8
STLN				⇑Sn	Sn	07 19 57.4	-18
BULN	**Bullion Camp,**	**14.91**	**88**	⇑Pn	Pn	07 17 36.4	-6.9
BULN				⇓Sn	Sn	07 20 10.9	-16
KDAK	**Kodiak Island**	**15.49**	**223**	*e*Pn	**Pn**	**07 17 50.9**	**0.0**
GAMB	**Gambell**	**16.29**	**264**	*e*Pn	**Pn**	**07 17 59.2**	**-2.0**
	7.2nm,0.8s						
BBB	**Bella Bella**	**18.79**	**171**	LR	LR	07 26 56.4	
	comp=Z,149nm,21.6s,baz=20,slow=41						
EDM	**Edmonton**	**19.66**	**143**	*e*P	**P**	**07 18 38.9**	**-2.1**
	23nm,0.6s						
BILL	**Bilibino**	**20.80**	**292**	*e*P	**P**	**07 18 53.9**	**+0.7**
	30nm,1.4s						
FFC	**Flin Flon**	**21.00**	**124**	*e*P	**P**	**07 18 53.5**	**-2.0**
	25nm,0.7s						
KULLO	**Kullorsuaq**	**21.37**	**45**	*i* P	**P**	**07 18 58.6**	**-0.7**
	15nm,0.7s						
NEW	**Newport**	**23.79**	**153**	P	**P**	**07 19 25.6**	**+1.0**
	4.6nm,0.8s,baz=355,slow=11,SNR=14						
NEW				LR	LR	07 29 46.4	
	comp=Z,57nm,21.8s,baz=353,slow=39						
NEW	**Newport**	**23.79**	**153**	⇑P	**P**	**07 19 24.4**	**-0.1**
	baz=24						
NEW	**Newport**	**23.79**	**153**	*e*P	**P**	**07 19 26.4**	**+1.8**
C09A	**Chrisman Ranch**	**24.08**	**156**	*e*P	**P**	**07 19 28.4**	**+1.2**
	146nm,3.0s						
BSMT	**Bassoo Peak**	**24.56**	**150**	*e*P	**P**	**07 19 32.2**	**+0.4**
FRB	**Frobisher Bay**	**24.62**	**74**	P	**P**	**07 19 29.8**	**-2.1**
	12nm,0.6s,baz=315,slow=9.6,SNR=50						
FRB				LR	LR	07 30 25.8	
	comp=Z,95nm,18.5s,baz=0.0,slow=40						
A19A	**Klindworth Far**	**24.67**	**140**	⇑P	**P**	**07 19 32.4**	**-0.3**
	baz=25,SNR=10						
YBMT	**Yellow Bay**	**24.68**	**149**	*e*P	**P**	**07 19 32.9**	**+0.1**
JTMT	**Jette**	**24.74**	**149**	*e*P	**P**	**07 19 33.0**	**-0.5**
A20A	**Cobblestone Ra**	**24.90**	**139**	⇑P	**P**	**07 19 34.6**	**-0.1**
	baz=25,SNR=14						
A21A	**Bergtoll Ranch**	**25.01**	**137**	⇑P	**P**	**07 19 35.8**	**0.0**
	baz=25,SNR=25						
SWMT	**Swartz Lake**	**25.02**	**149**	*e*P	**P**	**07 19 36.3**	**+0.4**
A22A	**Carney Farms,**	**25.24**	**136**	⇑P	**P**	**07 19 37.9**	**0.0**
	baz=25,SNR=24						
EGMT	**Eagleton**	**25.32**	**142**	⇓P	**P**	**07 19 38.5**	**-0.2**
	baz=25,SNR=5.7						
SLMT	**Seeley Lake**	**25.37**	**148**	*e*P	**P**	**07 19 39.4**	**+0.3**
MSO	**Missoula**	**25.69**	**149**	⇑P	**P**	**07 19 41.4**	**-0.6**
	baz=26,SNR=8.7						
MSO	**Missoula**	**25.69**	**149**	*e*P	**P**	**07 19 41.6**	**-0.4**
	8.1nm,0.8s						
CHMT	**Chamberlain Mo**	**25.73**	**148**	*e*P	**P**	**07 19 42.8**	**+0.4**
C19A	**Slack Wire Ran**	**25.74**	**141**	⇑P	**P**	**07 19 42.4**	**0.0**
	baz=26,SNR=20						
A24A	**Westby**	**25.76**	**133**	⇑P	**P**	**07 19 42.6**	**+0.1**
	baz=26,SNR=11						
B23A	**Brockton**	**25.95**	**135**	⇑P	**P**	**07 19 45.3**	**+1.0**
	baz=26,SNR=22						
C20A	**Veseth Ranch,**	**25.98**	**140**	⇓P	**P**	**07 19 44.3**	**-0.2**
	baz=26,SNR=7.5						
C21A	**Desert Coulee**	**26.07**	**138**	⇓P	**P**	**07 19 45.6**	**+0.3**
	baz=26,SNR=11						
DGMT	**Dagmar**	**26.14**	**134**	⇓P	**P**	**07 19 46.0**	**+0.1**
	baz=26,SNR=14						
DGMT	**Dagmar**	**26.14**	**134**	*e*P	**P**	**07 19 46.0**	**+0.1**
	36nm,0.8s						
HRY	**Holter Researc**	**26.18**	**146**	*e*P	**P**	**07 19 46.8**	**+0.4**
A26A	**Wade Farm, Ken**	**26.27**	**130**	⇑P	**P**	**07 19 46.6**	**-0.6**
	baz=26						
D19A	**Cripps Ranch,**	**26.32**	**141**	⇑P	**P**	**07 19 47.5**	**-0.2**
	baz=26,SNR=18						
C22A	**Vida**	**26.42**	**137**	⇑P	**P**	**07 19 48.0**	**-0.5**
	baz=26,SNR=7.6						
C23A	**Lambert**	**26.53**	**136**	⇑P	**P**	**07 19 50.0**	**+0.5**
	baz=26,SNR=9.7						
D20A	**Manuel Ranch,**	**26.55**	**140**	⇓P	**P**	**07 19 49.3**	**-0.4**
	baz=26,SNR=8.4						
B25A	**Knox Farm, Ray**	**26.57**	**132**	⇓P	**P**	**07 19 49.2**	**-0.7**
	baz=26						
ULM	**Lac du Bonnet**	**26.70**	**121**	P	**P**	**07 19 49.9**	**-1.0**
	16nm,0.6s,baz=331,slow=9.6,SNR=27						
ULM				LR	LR	07 30 37.5	
	comp=Z,152nm,19.6s,baz=308,slow=37						
ULM	**Lac du Bonnet**	**26.70**	**121**	*e*P	**P**	**07 19 49.9**	**-1.0**
	23nm,0.9s						
A28A	**Rude Farm, Bot**	**26.71**	**128**	⇑P	**P**	**07 19 51.1**	**-0.1**
	baz=27						
D21A	**La Casta Ranch**	**26.82**	**139**	⇑P	**P**	**07 19 51.8**	**-0.3**
	baz=27,SNR=5.9						
SUMG	**Summit**	**26.85**	**42**	*e*P	**P**	**07 19 52.4**	**-0.2**
	10nm,0.8s						
SUMG	**Summit**	**26.85**	**42**	*i* P	**P**	**07 19 52.6**	**0.0**
	9.2nm,0.9s						
SUMG				*e*		07 20 07.4	
D22A	**Cohagen**	**26.92**	**138**	⇑P	**P**	**07 19 52.9**	**-0.1**
	baz=27,SNR=10						
LRM	**Limekiln Ridge**	**26.92**	**148**	*e*P	**P**	**07 19 54.1**	**+0.8**
A29A	**Manning Farm,**	**26.97**	**126**	⇓P	**P**	**07 19 53.4**	**0.0**
	baz=27,SNR=5.9						
E19A	**Rath Farm, Rou**	**27.01**	**142**	⇓P	**P**	**07 19 53.5**	**-0.4**
	baz=27						
BMO	**Blue Mountains**	**27.10**	**155**	*e*P	**P**	**07 19 55.6**	**+0.9**
	5.2nm,0.8s						
E20A	**Meyer Farm, Mu**	**27.11**	**141**	⇑P	**P**	**07 19 54.6**	**-0.2**
	baz=27						
B28A	**Dugan Ranch, T**	**27.11**	**128**	⇓P	**P**	**07 19 53.5**	**-1.2**
	baz=27						
D23A	**Lindsay**	**27.11**	**136**	⇓P	**P**	**07 19 54.7**	**-0.1**
	baz=27,SNR=5.4						
A30A	**Hoffart Farm,**	**27.21**	**125**	⇑P	**P**	**07 19 55.0**	**-0.5**
	baz=27						
C26A	**Wahner Farm, P**	**27.25**	**131**	⇓P	**P**	**07 19 55.4**	**-0.6**
	baz=27						
LAO	**LASA Array**	**27.34**	**138**	*e*P	**P**	**07 19 57.2**	**+0.4**
	16nm,1.0s						
B29A	**Waggoman Farm,**	**27.36**	**127**	⇓P	**P**	**07 19 56.3**	**-0.7**
	baz=27						
D24A	**Glendive**	**27.37**	**135**	⇑P	**P**	**07 19 56.6**	**-0.5**
	baz=27						
DAG	**Danmarks Havn**	**27.50**	**27**	*i* P	**P**	**07 19 57.6**	**-0.2**
	2.6nm,0.9s						
DAG				*i*		07 20 10.3	
C27A	**Sayler Ranch,**	**27.50**	**131**	⇓P	**P**	**07 19 57.9**	**-0.3**
	baz=27						
F19A	**Roth Farm, Mol**	**27.56**	**142**	⇑P	**P**	**07 19 58.6**	**-0.2**
	baz=28,SNR=8.2						
I07A	**Izee**	**27.58**	**159**	*e*P	**P**	**07 20 01.4**	**+2.4**
	9.6nm,1.0s						
D25A	**Fairfield**	**27.58**	**133**	⇓P	**P**	**07 19 58.9**	**0.0**
	baz=28						
E22A	**Miles City**	**27.64**	**138**	⇓P	**P**	**07 19 59.7**	**+0.3**
	baz=28						
B30A	**Myrvik Farm, E**	**27.65**	**126**	⇑P	**P**	**07 19 59.2**	**-0.3**
	baz=28						
SFJD	**Kangerlussuaq**	**27.70**	**57**	P	**P**	**07 19 58.9**	**-0.9**
	8.5nm,0.7s,baz=317,slow=9.2,SNR=6.8						
SFJD				LR	LR	07 31 14.9	
	comp=Z,48nm,18.4s,baz=314,slow=37						
E23A	**Ismay**	**27.73**	**137**	⇑P	**P**	**07 20 00.4**	**+0.1**
	baz=28						
D26A	**Manning**	**27.91**	**132**	⇑P	**P**	**07 20 02.4**	**+0.6**
	baz=28						
F22A	**Rosebud**	**28.20**	**139**	⇓P	**P**	**07 20 04.3**	**-0.1**
	baz=28						
YMR	**Madison River**	**28.31**	**146**	*e*P	**P**	**07 20 06.6**	**+0.9**
	10nm,0.6s						
G20A	**Bridger**	**28.32**	**142**	⇑P	**P**	**07 20 05.5**	**-0.1**
	baz=28						
YNR	**Norris Junctio**	**28.32**	**146**	*e*P	P	07 20 08.5	+2.8
	6.2nm,0.8s						
E26A	**Carlson Angus**	**28.42**	**133**	⇑P	**P**	**07 20 06.7**	**+0.3**
	baz=28						
F23A	**Vostyg**	**28.44**	**137**	⇓P	**P**	**07 20 06.4**	**-0.3**
	baz=28,SNR=6.6						
AGMN	**Agassiz Nation**	**28.46**	**123**	⇑P	**P**	**07 20 06.0**	**-0.8**
	baz=28,SNR=5.8						
AGMN	**Agassiz Nation**	**28.46**	**123**	*e*P	**P**	**07 20 05.5**	**-1.2**
	7.6nm,0.6s						
SEY	**Seymchan**	**28.51**	**292**	P	**P**	**07 20 08.2**	**+1.3**
	0.8nm,0.2s,baz=67,slow=23,SNR=6.1						
H18A	**Shoshone NF, C**	**28.55**	**144**	⇑P	**P**	**07 20 08.1**	**+0.3**
	baz=28						
H17A	**Grant Village**	**28.64**	**146**	*e*P	**P**	**07 20 08.9**	**+0.2**
	2.9nm,0.9s						
H19A	**Powell**	**28.69**	**143**	⇓P	**P**	**07 20 09.2**	**+0.3**
	baz=29,SNR=5.0						
MFID	**Camas Ranch**	**28.72**	**154**	*e*P	**P**	**07 20 09.5**	**+0.3**
	5.8nm,0.8s						
HLID	**Hailey**	**28.79**	**152**	⇓P	**P**	**07 20 08.9**	**-1.0**
	baz=29						
HLID	**Hailey**	**28.79**	**152**	*e*P	**P**	**07 20 10.4**	**+0.5**
	41nm,2.7s						
G23A	**Biddle**	**28.94**	**138**	⇑P	**P**	**07 20 10.2**	**-0.8**
	baz=29						
F26A	**Lodgepole**	**28.95**	**134**	⇓P	**P**	**07 20 12.0**	**+0.8**
	baz=29						
G24A	**Alzada**	**29.04**	**136**	⇑P	**P**	**07 20 12.1**	**+0.1**
	baz=29						
IMW	**Indian Meadow**	**29.06**	**146**	*e*P	**P**	**07 20 14.0**	**+1.6**
	5.1nm,0.9s						
F27A	**Lemon**	**29.09**	**133**	⇓P	**P**	**07 20 12.2**	**-0.2**
	baz=29,SNR=5.6						
I17A	**Pilgrim Ck.**	**29.10**	**146**	⇑P	**P**	**07 20 13.4**	**+0.6**
	baz=29						
H21A	**Big Horn, Sher**	**29.13**	**140**	⇓P	**P**	**07 20 12.8**	**-0.1**
	baz=29						
FXWY	**Fox Creek**	**29.29**	**147**	*e*P	**P**	**07 20 16.4**	**+2.0**
	36nm,2.8s						
LOHW	**Long Hollow**	**29.39**	**146**	*e*P	**P**	**07 20 17.0**	**+1.7**
	31nm,2.3s						
F28A	**McLaughlin**	**29.41**	**131**	⇓P	**P**	**07 20 15.4**	**+0.2**
	baz=29						
TPAW	**Teton Pass**	**29.45**	**147**	*e*P	**P**	**07 20 17.9**	**+2.0**
	3.4nm,0.8s						
G26A	**Maurine**	**29.50**	**134**	⇑P	**P**	**07 20 16.7**	**+0.8**
	baz=29						
I20A	**Worland**	**29.55**	**142**	⇑P	**P**	**07 20 16.3**	**-0.2**
	baz=30						
H24A	**Dirks Ranch, A**	**29.56**	**137**	⇑P	**P**	**07 20 16.4**	**-0.2**
	baz=30						
G27A	**Dupree**	**29.58**	**133**	⇓P	**P**	**07 20 16.5**	**-0.2**
	baz=30,SNR=7.6						
REDW	**Red Top Meadow**	**29.59**	**146**	*e*P	**P**	**07 20 18.9**	**+1.8**
	4.7nm,0.9s						
I21A	**Big Trails, Te**	**29.85**	**141**	⇓P	**P**	**07 20 18.5**	**-0.8**
	baz=30						
I22A	**9 Mile Ranch,**	**29.95**	**140**	⇑P	**P**	**07 20 20.1**	**0.0**
	baz=30						
J19A	**Crowheart**	**30.02**	**144**	⇓P	**P**	**07 20 20.0**	**-0.8**
	baz=30						
EYMN	**Ely**	**30.03**	**118**	*e*P	**P**	**07 20 19.6**	**-1.0**
	41nm,1.3s						
H26A	**Fairpoint**	**30.09**	**135**	⇑P	**P**	**07 20 21.6**	**+0.4**
	baz=30						
J20A	**Shoshoni**	**30.13**	**143**	⇓P	**P**	**07 20 23.0**	**+1.3**
	baz=30						
H27A	**Howes**	**30.24**	**134**	⇑P	**P**	**07 20 23.4**	**+0.8**
	baz=30						
RSSD	**Black Hills**	**30.27**	**137**	*e*P	**P**	**07 20 23.7**	**+0.7**
	9.4nm,1.2s						
BW06	**Boulder Array**	**30.41**	**145**	*e*P	**P**	**07 20 25.1**	**+0.8**
	2.8nm,0.7s						
PDAR	**Pinedale Array**	**30.41**	**145**	P	**P**	**07 20 25.1**	**+0.8**
	2.0nm,0.7s,baz=11,slow=5.9,SNR=19						
PDAR				LR	LR	07 33 49.4	
	comp=Z,67nm,18.5s,baz=349,slow=39						
H28A	**Mission Ridge**	**30.46**	**132**	⇓P	**P**	**07 20 24.9**	**+0.4**
	baz=30						
G30A	**Faulkton**	**30.50**	**129**	⇑P	**P**	**07 20 25.3**	**+0.4**
	baz=30						
I27A	**Quinn**	**30.78**	**134**	⇓P	**P**	**07 20 27.2**	**-0.1**
	baz=31,SNR=5.1						
K21A	**Alcova**	**30.99**	**142**	⇓P	**P**	**07 20 29.6**	**+0.2**
	baz=31						
I28A	**Midland**	**31.06**	**133**	⇓P	**P**	**07 20 30.0**	**+0.3**
	baz=31						
K22A	**Casper**	**31.13**	**141**	⇓P	**P**	**07 20 30.0**	**-0.5**
	baz=31,SNR=6.0						
K22A	**Casper**	**31.13**	**141**	*e*P	**P**	**07 20 30.6**	**+0.1**
	14nm,1.0s						
K23A	**Bowen Ranch, D**	**31.22**	**140**	⇑P	**P**	**07 20 30.8**	**-0.5**
	baz=31						
I29A	**Vivian Onida**	**31.25**	**132**	⇑P	**P**	**07 20 31.2**	**-0.2**
	baz=31,SNR=7.8						
J27A	**Elkhorn Farm,**	**31.56**	**134**	⇑P	**P**	**07 20 34.5**	**+0.2**
	baz=32,SNR=5.4						
I30A	**Oacoma**	**31.57**	**131**	⇑P	**P**	**07 20 33.9**	**-0.3**
	baz=31						
J28A	**Allard Ranch,**	**31.58**	**133**	⇓P	**P**	**07 20 34.0**	**-0.4**
	baz=32						
L22A	**Ellis Ranch, M**	**31.74**	**141**	⇓P	**P**	**07 20 36.1**	**+0.2**
	baz=32						
K26A	**Motz Farm, Whi**	**31.81**	**136**	⇑P	**P**	**07 20 36.7**	**+0.2**
	baz=32						
L23A	**Garrett**	**31.81**	**140**	⇓P	**P**	**07 20 36.1**	**-0.6**
	baz=32						
J29A	**Okreek**	**31.82**	**132**	⇑P	**P**	**07 20 36.5**	**0.0**
	baz=32						
K27A	**Flueckinger Fa**	**32.03**	**135**	⇑P	**P**	**07 20 38.6**	**+0.2**
	baz=32						
SCHQ	**Schefferville**	**32.04**	**85**	P	**P**	**07 20 36.1**	**-2.1**
	6.4nm,0.8s,baz=305,slow=7.0,SNR=11						
SCHQ	**Schefferville**	**32.04**	**85**	*e*P	**P**	**07 20 36.5**	**-1.7**
L24A	**Wheatland**	**32.05**	**139**	⇓P	**P**	**07 20 38.5**	**-0.1**
	baz=32						
J30A	**Dallas**	**32.10**	**131**	⇑P	**P**	**07 20 39.4**	**+0.4**
	baz=32						
SPMN	**Marine on St.**	**32.13**	**121**	⇑P	**P**	**07 20 38.7**	**-0.4**
	baz=32,SNR=7.7						
SPMN	**Marine on St.**	**32.13**	**121**	*e*P	**P**	**07 20 38.7**	**-0.4**
	16nm,0.5s						
K28A	**Ten Mile Ranch**	**32.22**	**134**	⇓P	**P**	**07 20 40.3**	**+0.2**
	baz=32						
M22A	**Cedar Creek Ra**	**32.31**	**142**	⇑P	**P**	**07 20 41.1**	**+0.1**
	baz=32						
DAU	**Daniels Canyon**	**32.38**	**148**	*e*P	**P**	**07 20 43.3**	**+1.5**
ECSD	**EROS Data Cent**	**32.46**	**127**	⇓P	**P**	**07 20 41.6**	**-0.5**
	baz=32,SNR=7.5						
ECSD	**EROS Data Cent**	**32.46**	**127**	*e*P	**P**	**07 20 41.8**	**-0.3**
	15nm,0.8s						
N20A	**Spence Gulch,**	**32.52**	**144**	⇓P	**P**	**07 20 43.3**	**+0.4**
	baz=32						
K30A	**Basset**	**32.69**	**132**	⇓P	**P**	**07 20 44.7**	**+0.6**
	baz=33						
MPU	**Maple Canyon**	**32.70**	**149**	*e*P	**P**	**07 20 45.8**	**+1.3**
	7.4nm,0.7s						
MPU				*e*pP	**pP**	**07 20 56.0**	**+1.6**
N23A	**Red Feather La**	**32.93**	**141**	⇑P	**P**	**07 20 46.6**	**+0.1**
	baz=33						
N23A	**Red Feather La**	**32.93**	**141**	*e*P	**P**	**07 20 46.9**	**+0.4**
	6.2nm,0.9s						
L29A	**Maesberg Ranch**	**33.05**	**133**	⇑P	**P**	**07 20 47.9**	**+0.6**
	baz=33						
O20A	**White River Ci**	**33.20**	**144**	⇓P	**P**	**07 20 49.3**	**+0.5**
	baz=33						
O20A	**White River Ci**	**33.20**	**144**	*e*P	**P**	**07 20 49.8**	**+1.0**
	7.2nm,0.7s						
O20A				*e*pP	**pP**	**07 21 00.5**	**+1.7**
**NV

W18A	**Petrified Fore**	**37.80**	**148**	*ep*P	pP	07 21 40.9	+2.5
T30A	**Plains**	**37.80**	**136**	⇓P	**P**	**07 21 28.2**	**+0.1**
	baz=38						
V23A	**Ortiz Mt. (NFS**	**37.85**	**144**	⇑P	**P**	**07 21 30.0**	**+1.2**
	baz=38						
U27A	**Thompson Grove**	**37.90**	**139**	⇑P	**P**	**07 21 29.6**	**+0.6**
	baz=38						
T31A	**Randall Ranch,**	**37.96**	**135**	⇑P	**P**	**07 21 29.4**	**0.0**
	baz=38						
S34A	**Willow Spring**	**38.01**	**131**	⇑P	**P**	**07 21 29.5**	**-0.3**
	baz=38						
R37A	**Teagarden Farm**	**38.01**	**128**	⇑P	**P**	**07 21 29.3**	**-0.5**
	baz=38						
T32A	**Huddler Ranch,**	**38.06**	**134**	⇓P	**P**	**07 21 30.2**	**0.0**
	baz=38						
V25A	**Rancho No Teng**	**38.08**	**142**	⇓P	**P**	**07 21 31.4**	**+0.8**
	baz=38						
S35A	**Otter Creek Ra**	**38.22**	**130**	⇓P	**P**	**07 21 31.4**	**-0.2**
	baz=38						
LONY	**Lake Ozonia**	**38.27**	**101**	*e*P	**P**	**07 21 30.7**	**-1.2**
	16nm,1.0s						
V26A	**Tequesquite Ra**	**38.29**	**140**	⇑P	**P**	**07 21 32.7**	**+0.4**
	baz=38						
T33A	**Patterson Ranc**	**38.32**	**133**	⇓P	**P**	**07 21 32.8**	**+0.4**
	baz=38						
X18A	**Snowflake**	**38.34**	**149**	⇑P	**P**	**07 21 33.4**	**+0.5**
	baz=38						
BC3	**Big Chuckawall**	**38.36**	**156**	⇑P	**P**	**07 21 34.3**	**+1.4**
	baz=38						
S36A	**Lake Cedric, C**	**38.37**	**129**	⇓P	**P**	**07 21 32.6**	**-0.2**
	baz=38						
ANMO	**Albuquerque**	**38.57**	**144**	*e*P	**P**	**07 21 35.5**	**+0.7**
	4.5nm,0.9s						
ANMO				*ep*P	**pP**	**07 21 47.1**	**+2.2**
V28A	**Channing**	**38.67**	**139**	⇓P	**P**	**07 21 35.5**	**0.0**
	baz=39						
V29A	**Stinnett**	**38.71**	**138**	⇑P	**P**	**07 21 35.7**	**-0.1**
	baz=39						
U32A	**Winter Ranch,**	**38.80**	**134**	⇑P	**P**	**07 21 36.8**	**+0.2**
	baz=39						
SLM	**Saint Louis**	**38.95**	**123**	*e*P	**P**	**07 21 36.7**	**-0.9**
	20nm,0.6s						
U33A	**Lingo Farm, Me**	**38.97**	**133**	⇓P	**P**	**07 21 37.6**	**-0.2**
	baz=39						
W26A	**Owens Ranch, T**	**38.98**	**141**	⇓P	**P**	**07 21 38.3**	**+0.2**
	baz=39						
V30A	**Spur Ranch, Mi**	**39.00**	**137**	⇓P	**P**	**07 21 38.0**	**-0.2**
	baz=39						
U34A	**Anderson Ranch**	**39.10**	**132**	⇑P	**P**	**07 21 38.9**	**-0.1**
	baz=39						
U34A	**Anderson Ranch**	**39.10**	**132**	*e*P	**P**	**07 21 38.9**	**-0.1**
	14nm,0.6s						
U34A				*ep*P	**pP**	**07 21 49.6**	**+0.5**
ALLY	**Alegheny Colle**	**39.17**	**109**	*e*P	**P**	**07 21 38.9**	**-0.6**
	33nm,0.7s						
ARCES	**ARCESS Array B**	**39.19**	**12**	P	**P**	**07 21 38.7**	**-0.6**
	1.5nm,0.8s,baz=345,slow=8.8,SNR=6.5						
ARCES				PcP	**PcP**	**07 23 47.8**	**0.0**
	1.5nm,0.7s,baz=358,slow=4.8,SNR=4.6						
V31A	**Spring Creek L**	**39.19**	**136**	⇓P	**P**	**07 21 40.1**	**+0.3**
	baz=39						
V32A	**Arapaho**	**39.42**	**135**	⇑P	**P**	**07 21 42.1**	**+0.4**
	baz=39						
OLIL	**Olney**	**39.46**	**120**	*e*P	**P**	**07 21 40.3**	**-1.6**
	16nm,0.7s						
OLIL				*ep*P	**pP**	**07 21 51.3**	**-0.8**
V33A	**Lossen Ranch,**	**39.51**	**134**	⇓P	**P**	**07 21 42.0**	**-0.4**
	baz=39						
BLO	**Bloomington**	**39.51**	**118**	*e*P	**P**	**07 21 41.1**	**-1.3**
	12nm,0.8s						
AMTX	**Amarillo**	**39.62**	**138**	⇑P	**P**	**07 21 43.0**	**-0.4**
	baz=40						
V34A	**Guthrie**	**39.68**	**133**	⇑P	**P**	**07 21 43.4**	**-0.3**
	baz=40						
V34A	**Guthrie**	**39.68**	**133**	*e*P	**P**	**07 21 43.5**	**-0.3**
	13nm,0.8s						
W31A	**Holland Ranch,**	**39.72**	**136**	⇑P	**P**	**07 21 44.0**	**-0.3**
	baz=40						
X28A	**Dimmitt**	**39.86**	**139**	⇑P	**P**	**07 21 46.1**	**+0.7**
	baz=40						
V35A	**Meyer Ranch, C**	**39.91**	**132**	⇑P	**P**	**07 21 45.3**	**-0.5**
	baz=40						
W32A	**Sentinel**	**39.95**	**135**	⇑P	**P**	**07 21 46.2**	**+0.1**
	baz=40						
BINY	**Binghamton**	**39.99**	**105**	*e*P	**P**	**07 21 45.3**	**-1.0**
	9.6nm,0.8s						
BINY				*ep*P	**pP**	**07 21 56.1**	**-0.4**
TUL1	**Leonard**	**40.03**	**131**	⇑P	**P**	**07 21 46.6**	**-0.1**
	baz=40						
X29A	**Tulia**	**40.04**	**138**	⇑P	**P**	**07 21 46.8**	**-0.1**
	baz=40						
SIUC	**Southern Illin**	**40.09**	**122**	*e*P	**P**	**07 21 45.9**	**-1.2**
	12nm,0.6s						
W33A	**Caddo, Fort Co**	**40.10**	**134**	⇓P	**P**	**07 21 47.5**	**+0.1**
	baz=40						
W34A	**Bridge Creek,**	**40.19**	**133**	⇑P	**P**	**07 21 48.4**	**+0.4**
	baz=40						
X31A	**McDonald Ranch**	**40.25**	**136**	⇑P	**P**	**07 21 49.1**	**+0.5**
	baz=40						
MSTX	**Muleshoe**	**40.27**	**140**	⇓P	**P**	**07 21 49.0**	**+0.2**
	baz=40						
WMOK	**Wichita Mounta**	**40.42**	**135**	*e*P	**P**	**07 21 50.1**	**+0.1**
	3.1nm,0.9s						
WCI	**Wyandotte Cave**	**40.45**	**118**	*e*P	**P**	**07 21 48.2**	**-2.0**
	9.4nm,0.7s						
X32A	**Elmer**	**40.61**	**135**	⇑P	**P**	**07 21 51.3**	**-0.2**
	baz=40						
X33A	**Lawton**	**40.68**	**134**	⇑P	**P**	**07 21 52.0**	**-0.1**
	baz=41						
SSPA	**Standing Stone**	**40.80**	**108**	*e*P	**P**	**07 21 51.6**	**-1.4**
	8.5nm,0.7s						
Y32A	**R-V Farms, Ver**	**40.97**	**136**	⇑P	**P**	**07 21 54.8**	**+0.3**
	baz=41						
Z28A	**Tucker Farm, M**	**41.01**	**140**	⇓P	**P**	**07 21 55.6**	**+0.7**
	baz=41						
Y33A	**Hilltop Ranch,**	**41.16**	**135**	⇓P	**P**	**07 21 56.4**	**+0.4**
	baz=41						
Z29A	**Hungry Hill Ra**	**41.18**	**139**	⇑P	**P**	**07 21 56.6**	**+0.3**
	baz=41						
Y34A	**Reagan Ranch,**	**41.41**	**134**	⇑P	**P**	**07 21 58.2**	**+0.1**
	baz=41						
Z32A	**Haskell**	**41.63**	**136**	⇓P	**P**	**07 21 60.0**	**0.0**
	baz=42						
129A	**Stewart Farms,**	**41.75**	**139**	⇑P	**P**	**07 22 00.8**	**-0.1**
	baz=42						
Z33A	**Whitaker Ranch**	**41.82**	**135**	⇑P	**P**	**07 22 01.7**	**+0.3**
	baz=42						
MVL	**Millersville**	**41.87**	**106**	*e*P	**P**	**07 22 00.3**	**-1.4**
	12nm,0.8s						
MIAR	**Mount Ida**	**41.90**	**129**	*e*P	**P**	**07 22 01.8**	**-0.2**
	10nm,0.8s						
MIAR				*ep*P	**pP**	**07 22 12.1**	**-0.2**
MNTX	**Cornudas Mount**	**41.93**	**144**	⇑P	**P**	**07 22 03.7**	**+1.3**
	baz=42						
MNTX	**Cornudas Mount**	**41.93**	**144**	*e*P	**P**	**07 22 03.2**	**+0.8**
	11nm,1.7s						
MNTX				*ep*P	**pP**	**07 22 12.6**	**0.0**
WVT	**Waverly**	**41.96**	**121**	*e*P	**P**	**07 22 01.1**	**-1.5**
	6.8nm,0.7s						
WVT				*ep*P	**pP**	**07 22 09.2**	**-3.6**
UALR	**University of**	**42.00**	**127**	*e*P	**P**	**07 22 02.0**	**-0.9**
	17nm,0.8s						
UALR				*ep*P	**pP**	**07 22 13.1**	**0.0**
228A	**UT Block 9, Go**	**42.09**	**140**	⇓P	**P**	**07 22 03.8**	**0.0**
	baz=42						
Z35A	**Perchaven, San**	**42.13**	**133**	⇓P	**P**	**07 22 04.2**	**+0.2**
	baz=42						
ABTX	**Abilene, Hawle**	**42.25**	**137**	⇓P	**P**	**07 22 05.0**	**0.0**
	baz=42						
133A	**Hamilton Ranch**	**42.43**	**136**	⇓P	**P**	**07 22 06.4**	**-0.1**
	baz=42						
134A	**White-Moore Ra**	**42.66**	**135**	⇓P	**P**	**07 22 08.0**	**-0.3**
	baz=43						
231A	**Bronte**	**42.76**	**138**	⇑P	**P**	**07 22 09.0**	**-0.2**
	baz=43						
329A	**Wagon Wheel Ra**	**42.83**	**140**	⇓P	**P**	**07 22 09.5**	**-0.2**
	baz=43						
232A	**Coleman**	**42.96**	**137**	⇓P	**P**	**07 22 10.8**	**0.0**
	baz=43						
233A	**Rising Star**	**43.00**	**136**	⇓P	**P**	**07 22 10.9**	**-0.2**
	baz=43						
OXF	**Oxford**	**43.04**	**124**	*e*P	**P**	**07 22 10.1**	**-1.2**
	17nm,0.5s						
OXF				*ep*P	**pP**	**07 22 20.7**	**-0.8**
330A	**Mertzon**	**43.08**	**139**	⇑P	**P**	**07 22 11.6**	**-0.2**
	baz=43						
234A	**Clairette**	**43.19**	**135**	⇑P	**P**	**07 22 12.4**	**-0.2**
	baz=43						
137A	**Heron Place, G**	**43.20**	**132**	⇓P	**P**	**07 22 12.5**	**-0.2**
	baz=43						
WHTX	**Lake Whitney,**	**43.37**	**134**	⇑P	**P**	**07 22 14.1**	**+0.1**
	baz=43						
332A	**Millersview**	**43.42**	**137**	⇓P	**P**	**07 22 14.8**	**+0.3**
	baz=43						
333A	**Richland Sprin**	**43.65**	**136**	⇑P	**P**	**07 22 16.6**	**+0.3**
	baz=44						
334A	**Lometa**	**43.81**	**135**	⇓P	**P**	**07 22 17.6**	**0.0**
	baz=44						
431A	**Sonora**	**43.90**	**139**	⇓P	**P**	**07 22 19.2**	**+0.8**
	baz=44						
238A	**Jacksonville**	**43.92**	**132**	⇑P	**P**	**07 22 18.4**	**0.0**
	baz=44						
336A	**Riesel**	**44.09**	**134**	⇓P	**P**	**07 22 20.0**	**+0.2**
	baz=44						
530A	**J-C Ranch, Com**	**44.26**	**140**	⇑P	**P**	**07 22 21.9**	**+0.7**
	baz=44						
JCT	**Junction City**	**44.28**	**138**	⇓P	**P**	**07 22 21.8**	**+0.4**
	baz=44						
434A	**Burnet**	**44.30**	**136**	⇑P	**P**	**07 22 21.6**	**+0.1**
	baz=44						
337A	**Centerville**	**44.39**	**133**	⇑P	**P**	**07 22 22.8**	**+0.6**
	baz=44						
531A	**Rocksprings**	**44.42**	**139**	⇑P	**P**	**07 22 22.9**	**+0.4**
	baz=44						
TXAR	**Lajitas Array**	**44.56**	**143**	P	**P**	**07 22 24.0**	**+0.3**
	1.3nm,0.8s,baz=359,slow=6.0,SNR=6.6						
532A	**Rocksprings**	**44.59**	**138**	⇑P	**P**	**07 22 24.4**	**+0.4**
	baz=44						
LRAL	**Lakeview Retre**	**45.10**	**122**	*e*P	**P**	**07 22 26.1**	**-1.7**
	3.6nm,0.5s						
632A	**Uvalde**	**45.22**	**138**	⇑P	**P**	**07 22 29.5**	**+0.6**
	baz=45						
633A	**Saathoff Ranch**	**45.40**	**137**	⇓P	**P**	**07 22 30.9**	**+0.6**
	baz=45						
537A	**Green Hill Far**	**45.47**	**134**	⇓P	**P**	**07 22 31.4**	**+0.6**
	baz=45						
JSC	**Jenkinsville**	**45.61**	**115**	*e*P	**P**	**07 22 30.1**	**-1.7**
GOGA	**Godfrey**	**45.76**	**118**	*e*P	**P**	**07 22 31.7**	**-1.4**
	14nm,0.8s						
GOGA				*ep*P	**pP**	**07 22 42.0**	**-1.4**
636A	**Smothers Creek**	**45.87**	**135**	⇓P	**P**	**07 22 34.7**	**+0.8**
	baz=46						
732A	**Laxson Ranch,**	**45.93**	**138**	⇓P	**P**	**07 22 34.8**	**+0.4**
	baz=46						
NB2	**NORSAR Subarra**	**46.06**	**23**	P	**P**	**07 22 34.6**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=345,slow=7.9						
NOA	**NORSAR Array B**	**46.06**	**23**	P	**P**	**07 22 34.8**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=345,slow=7.9,SNR=16						
NOA				LR	LR	07 43 13.9	
	comp=Z,23nm,18.9s,baz=330,slow=38						
733A	**Divot King Ran**	**46.09**	**138**	⇑P	**P**	**07 22 36.1**	**+0.4**
	baz=46						
JOF	**Josuu**	**46.12**	**10**	*ep*	**P**	**07 22 34.8**	**-0.7**
	comp=Z,1.4nm,0.5s						
734A	**La Parita Cree**	**46.13**	**137**	⇑P	**P**	**07 22 36.6**	**+0.5**
	baz=46						
832A	**Faith Ranch, C**	**46.35**	**139**	⇑P	**P**	**07 22 38.2**	**+0.4**
	baz=46						
KAF	**Kangasniemi**	**46.58**	**13**	*ep*	**P**	**07 22 38.6**	**-0.6**
	comp=Z,0.7nm,0.3s						
933A	**Laredo**	**47.16**	**138**	⇑P	**P**	**07 22 44.9**	**+0.8**
	baz=47						
FINES	**FINESS Array B**	**47.23**	**14**	P	**P**	**07 22 43.6**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=359,slow=7.2,SNR=19						
FINES				LR	LR	07 47 37.4	
	comp=Z,34nm,18.1s,baz=352,slow=43						
ASAJ	**Asahikawa**	**47.39**	**283**	LR	LR	07 46 43.0	
	comp=Z,35nm,18.6s,baz=44,slow=41						
TIGA	**Tifton**	**47.57**	**119**	⇑P	**P**	**07 22 46.2**	**-1.0**
	baz=47						
MDJ	**Mudanjiang**	**51.01**	**294**	P	**P**	**07 23 11.9**	**-1.5**
MDJ				PMZ			
	comp=Z,8.0nm,1.1s						
MDJ				PMZ			
	comp=Z,66nm,5.8s						
ZALV	**Zalesovo Beam**	**52.70**	**333**	P	**P**	**07 23 25.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=3.4,slow=7.4,SNR=5.0						
SONM	**Songino Array**	**54.34**	**315**	P	**P**	**07 23 39.8**	**+1.7**
	comp=Z,2.3nm,1.0s,baz=21,slow=5.8,SNR=9.8						
BAIF	**Baives**	**55.57**	**32**	*e*P	**P**	**07 23 47.0**	**+0.2**
BAIF	**Baives**	**55.57**	**32**	*e*P	**P**	**07 23 47.0**	**+0.2**
GIVF	**Givet**	**55.64**	**32**	*e*P	**P**	**07 23 47.3**	**0.0**
GIVF	**Givet**	**55.64**	**32**	*e*P	**P**	**07 23 47.3**	**0.0**
MJAR	**Matsushiro Arr**	**55.66**	**283**	LR	LR	07 52 04.1	
	comp=Z,24nm,18.5s,baz=220,slow=41						
CLL	**Collm**	**55.76**	**25**	*e*P	**P**	**07 23 48.0**	**-0.1**
GRR	**Gorron**	**56.23**	**37**	*e*P	**P**	**07 23 51.7**	**+0.2**
GRR	**Gorron**	**56.23**	**37**	*e*P	**P**	**07 23 51.7**	**+0.2**
KURK	**Kurchatov**	**56.72**	**337**	*e*P	**P**	**07 23 55.5**	**+0.6**
	comp=Z,5.4nm,0.7s						
KURK				*ep*P	**pP**	**07 24 05.6**	**+0.1**
DPC	**Dobruska-Polom**	**57.15**	**23**	*e*P	**P**	**07 23 58.8**	**+0.7**
CDF	**Champ du Feu**	**57.69**	**30**	*e*P	**P**	**07 24 02.3**	**+0.3**
CDF	**Champ du Feu**	**57.69**	**30**	*e*P	**P**	**07 24 02.3**	**+0.3**
HAU	**Haudompre**	**57.93**	**31**	*e*P	**P**	**07 24 03.6**	**0.0**
	comp=Z,6.8nm,0.6s						
HAU				*e*R			
	comp=Z,59nm,18.8s						
HAU	**Haudompre**	**57.93**	**31**	*e*P	**P**	**07 24 03.6**	**0.0**
	comp=Z,6.8nm,0.6s						
MFF	**Saint Martin d**	**58.08**	**37**	*e*P	**P**	**07 24 04.6**	**0.0**
MFF	**Saint Martin d**	**58.08**	**37**	*e*P	**P**	**07 24 04.6**	**0.0**
AKASG	**Malin Array Be**	**58.13**	**13**	P	**P**	**07 24 04.7**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=353,slow=7.0,SNR=19						
KIEV	**Kiev**	**58.14**	**13**	*e*P	**P**	**07 24 04.8**	**-0.2**
LOR	**Lormes**	**58.20**	**33**	⇑*i*P	**P**	**07 24 05.5**	**0.0**
	comp=Z,10nm,0.7s						
LOR				*e*R			
	comp=Z,53nm,20.5s						
LOR	**Lormes**	**58.20**	**33**	⇑*i*P	**P**	**07 24 05.5**	**0.0**
	comp=Z,10nm,0.7s						
GERES	**GERESS Array B**	**58.27**	**25**	P	**P**	**07 24 06.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=332,slow=4.8,SNR=5.7						
GERES				LR	LR	07 50 15.1	
	comp=Z,27nm,18.8s,baz=336,slow=37						
SSF	**Saint Saulge**	**58.34**	**34**	⇑*i*P	**P**	**07 24 06.4**	**0.0**
SSF	**Saint Saulge**	**58.34**	**34**	⇑*i*P	**P**	**07 24 06.4**	**0.0**
AVF	**Avril sur Loir**	**58.57**	**34**	⇑*i*P	**P**	**07 24 07.8**	**-0.2**
	comp=Z,6.6nm,0.7s						
AVF	**Avril sur Loir**	**58.57**	**34**	⇑*i*P	**P**	**07 24 07.8**	**-0.2**
	comp=Z,6.6nm,0.6s						
BGF	**Bois d'Agland**	**58.70**	**34**	*e*P	**P**	**07 24 08.8**	**-0.2**
	comp=Z,10nm,0.5s						
BGF	**Bois d'Agland**	**58.70**	**34**	*e*P	**P**	**07 24 08.8**	**-0.2**
	comp=Z,10nm,0.5s						
SMF	**Signal de Mont**	**58.80**	**34**	*e*P	**P**	**07 24 08.7**	**-1.0**
SMF	**Signal de Mont**	**58.80**	**34**	*e*P	**P**	**07 24 08.7**	**-1.0**
TCF	**Toulx Ste Croi**	**58.84**	**35**	⇑*i*P	**P**	**07 24 09.6**	**-0.4**
TCF	**Toulx Ste Croi**	**58.84**	**35**	⇑*i*P	**P**	**07 24 09.6**	**-0.4**
CABF	**La Chapelle**	**59.23**	**32**	*e*P	**P**	**07 24 12.4**	**-0.4**
	comp=Z,11nm,0.8s						
CABF	**La Chapelle**	**59.23**	**32**	*e*P	**P**	**07 24 12.4**	**-0.4**
	comp=Z,11nm,0.8s						
HHC	**Hu-ho-hao-te**	**59.59**	**308**	*e*P	**P**	**07 24 15.9**	**+0.5**
HHC				PP	**PP**	**07 26 28.7**	**+2.1**
HHC				S	**S**	**07 32 20.2**	**-2.5**
HHC				sS	**sS**	**07 32 37.5**	**-2.6**
HHC				SS	**SS**	**07 36 16.5**	**-1.1**
HHC				PMZ			
	comp=Z,18nm,1.3s						
HHC				PMZ			
	comp=Z,99nm,5.2s						
HHC				LN			
	comp=Z,69nm,15.5s						
HHC				LE			
	comp=Z,200nm,14.7s						
HHC				LZ			
	comp=Z,82nm,15.3s						
RJF	**Les Rejaudoux**	**59.65**	**36**	*e*P	**P**	**07 24 15.6**	**0.0**
RJF				*e*R			
	comp=Z,74nm,22.8s						
RJF	**Les Rejaudoux**	**59.65**	**36**	*e*P	**P**	**07 24 15.6**	**0.0**
ABKAR	**Akbulak array**	**59.92**	**350**	*e*P	**P**	**07 24 17.4**	**+0.1**
	comp=Z,1.3nm,0.5s						
ABKAR				*ep*P	**pP**	**07 24 25.8**	**-2.0**
MKAR	**Makanchi Array**	**60.04**	**333**	P	**P**	**07 24 18.2**	**0.0**
	comp=Z,0.4nm,0.5s,baz=38,slow=7.6,SNR=7.3						
MKAR				LR	LR	07 55 24.8	
	comp=Z,30nm,18.3s,baz=21,slow=41						
LPL	**La Plagne**	**60.41**	**32**	*e*P	**P**	**07 24 21.2**	**+0.2**
	comp=Z,5.9nm,0.7s						
LPL	**La Plagne**	**60.41**	**32**	*e*P	**P**	**07 24 21.2**	**+0.2**
	comp=Z,5.9nm,0.7s						
ORIF	**Oris-en-Rattie**	**60.84**	**32**	⇑*i*P	**P**	**07 24 24.7**	**+0.9**
ORIF				*e*R			
	comp=Z,44nm,17.2s						
ORIF	**Oris-en-Rattie**	**60.84**	**32**	⇑*i*P	**P**	**07 24 24.7**	**+0.9**
MBDF	**Montbardon**	**61.18**	**32**	*e*P	**P**	**07 24 26.0**	**-0.2**
	comp=Z,15nm,0.9s						
MBDF	**Montbardon**	**61.18**	**32**	*e*P	**P**	**07 24 26.0**	**-0.2**
	comp=Z,15nm,0.9s						
WMQ	**Urumqi**	**62.04**	**328**	*e*P	P	07 24 35.9	+4.0
WMQ				pP	pP	07 24 46.3	+3.8
WMQ				sP	sP	07 24 50.0	+3.4
WMQ				PMZ			
	comp=Z,5.0nm,0.6s						
WMQ				PMZ			
	comp=Z,140nm,6.0s						
WMQ				LZ			
	comp=Z,140nm,22.6s						
GTA	**Gaotai**	**63.84**	**317**	*e*P	**P**	**07 24 45.6**	**+1.6**
GTA				pP	**pP**	**07 24 55.6**	**+1.0**
GTA				sP	**sP**	**07 24 59.7**	**+1.0**
GTA				PMZ			
	comp=Z,5.0nm,0.6s						
ESDC	**Sonseca Array**	**63.91**	**42**	P	**P**	**07 24 44.7**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=344,slow=6.4,SNR=20						
EVOP	**Sao Brissos**	**64.05**	**46**	⇑*i*P	**P**	**07 24 44.8**	**-0.4**
	comp=Z,29nm,0.9s						
EVO	**Evora**	**64.07**	**46**	⇑*i*P	**P**	**07 24 44.8**	**-0.6**
	comp=Z,29nm,0.9s						
KKAR	**Karatay Array**	**65.18**	**341**	*e*P	**P**	**07 24 53.6**	**+1.0**
KKAR				*ep*P	**pP**	**07 25 03.8**	**+0.5**
KBZ	**Khabaz**	**65.76**	**3**	P	**P**	**07 24 57.3**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=358,slow=4.8,SNR=7.5						
KBZ				LR	LR	07 59 46.9	
	comp=Z,27nm,18.5s,baz=10,slow=42						
NJ2	**Nanjing**	**65.81**	**298**	*e*P	**P**	**07 24 55.7**	**-1.0**
NJ2				PMZ			
	comp=Z,30nm,1.0s						
LZH	**Lanzhou**	**66.05**	**312**	*e*P	**P**	**07 24 58.6**	**+0.1**
LZH				pP	**pP**	**07 25 10.2**	**+1.1**
LZH				sP	**sP**	**07 25 14.0**	**+0.8**
LZH				*e*PP	**PP**	**07 27 25.7**	**+2.2**
LZH				PMZ			
	comp=Z,23nm,1.5s						
LZH				PMZ			
	comp=Z,79nm,7.2s						
LZH				LN			
	comp=Z,230nm,15.2s						
LZH				LE			
	comp=Z,250nm,15.6s						
LZH				LZ			
	comp=Z,300nm,19.1s						
KSH	**Kashi**	**68.07**	**336**	*e*P	P	07 25 16.5	+5.3
KSH				pP	pP	07 25 26.5	+4.6
KSH				PP	PP	07 27 50.4	+9.5
KSH				PcS		07 29 45.0	
KSH				S	S	07 34 15.3	+7.3
KSH				sS	sS	07 34 32.5	+6.9
KSH				ScS	**ScS**	**07 35 10.2**	**+3.0**
KSH				PMZ			
	comp=Z,53nm,5.0s						
KSH				LN			
	comp=Z,260nm,7.6s						
KSH				LE			
	comp=Z,92nm,4.9s						
KSH				LZ			
	comp=Z,170nm,6.4s						
GNI	**Garni**	**69.36**	**2**	LR	LR	08 00 29.4	
	comp=Z,23nm,19.4s,baz=90,slow=40						
BRTR	**Keskin Array B**	**69.37**	**11**	P	**P**	**07 25 19.4**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=8.4,slow=5.1,SNR=12						
KEST	**Kesra**	**70.37**	**32**	P	**P**	**07 25 26.1**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=332,slow=0.3,SNR=7.9						
CD2	**Chengdu**	**71.00**	**311**	*e*P	**P**	**07 25 29.3**	**0.0**
CD2				pP	**pP**	**07 25 40.4**	**+0.4**
CD2				sP	**sP**	**07 25 44.8**	**+0.7**
CD2				PP	**PP**	**07 28 08.3**	**+1.9**
CD2				S	**S**	**07 34 39.8**	**-2.7**
CD2				sS	**sS**	**07 34 58.3**	**-2.0**
CD2				SKS	**SKSac**	**07 35 24.1**	**-4.8**
CD2				SS	**SS**	**07 39 14.1**	**-0.9**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,100nm,5.8s						
ROSC	**El Rosal**	**75.41**	**119**	P	**P**	**07 25 55.6**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=87,slow=13,SNR=6.3						
DANN	**Dangsing**	**77.80**	**328**	*e*P	**P**	**07 26 09.8**	**+0.7**
	comp=Z,16nm,0.9s						
GUN	**Gumba**	**77.84**	**326**	*e*P	**P**	**07 26 10.5**	**+1.1**
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**78.03**	**325**	*e*P	**P**	**07 26 11.7**	**+1.2**
PYUN	**Piuthan**	**78.18**	**328**	*e*P	**P**	**07 26 11.6**	**+0.5**
	comp=Z,19nm,0.5s						
KOLN	**Koldanda**	**78.39**	**328**	*e*P	**P**	**07 26 12.8**	**+0.5**
	comp=Z,6.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**84.13**	**311**	P	**P**	**07 26 43.0**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=352,slow=5.8,SNR=7.8						
TORD	**Torodi Ar. Bea**	**90.73**	**44**	P	**P**	**07 27 13.5**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=346,slow=5.0,SNR=6.3						
SYO	**Syowa Base**	**176.83**	**59**	⇓*e*P	**PKPab**	**07 36 06.4**	**+3.3**

*IDC **08** 07:25:59.4±1.3,1.°88N×96.°49E,h0km,mb4.0/9, mb1 4.1/10,mb1mx3.9/26,mbtmp4.0/10,ML4.5/1, Error ellipse: s-maj=46.1km s-min=19.2km az=54.0*

*ISCJB **08** 07:26:03.0±0.6,1.°96N±0.°06×96.°62E±0.°07,h28km, mb4.

0.6nm,0.5s,baz=100,slow=7.2,SNR=3.0
ARCES ARCESS Array B 81.47 340 P P 07 38 19.2 -0.2
1.6nm,0.8s,baz=88,slow=6.4,SNR=7.2

IDC 08 07:28:31.5±3.4, 0.96N×97.28E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.5/34, mbtmp3.5/5, Error ellipse: s-maj=124.2km s-min=26.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.47**	**5**	Pn	Pn	07 32 35.0	-1.8
	baz=196,slow=11,SNR=4.8						
H08S2	**Diego Garcia H**	**26.16**	**251**	T	T	08 01 04.5	
	baz=69,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**26.16**	**251**	T	T	08 00 56.9	
	baz=69,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**26.18**	**251**	T	T	08 01 03.9	
	baz=69,slow=76,SNR=19						
WRA	**Warramunga Arr**	**41.84**	**122**	P	P	07 36 23.3	-0.3
	0.2nm,0.8s,baz=310,slow=6.7,SNR=3.2						
SONM	**Songino Array**	**47.36**	**8**	P	P	07 37 08.2	+0.7
	0.2nm,0.3s,baz=185,slow=10.0,SNR=3.3						
MKAR	**Makanchi Array**	**47.50**	**346**	P	P	07 37 08.0	-0.5
	0.6nm,0.6s,baz=163,slow=7.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**53.81**	**351**	P	P	07 37 55.8	-0.1
	0.6nm,0.4s,baz=167,slow=8.2,SNR=3.1						

*ISCJB **08** 07:34:23.3±0.8, 22.4°46S±0.0°06×68.2°6W±0.0°09, h98km±12km, mb3.2/2, Error ellipse: s-maj=14.6km s-min=8.9km az=25.4*
*IDC **08** 07:34:24.9±2.3, 22.6°7S×68.1°10W, h96km±21km, mb3.2/2, mb1 3.4/4, mb1mx3.1/27, mbtmp3.5/4, Error ellipse: s-maj=39.8km s-min=17.6km az=105.0*
*GUC **08** 07:34:25.6±0.5, 22.4°41S×68.2°0W, h125km±3km, ML3.8*
ISC 08 07:34:23.8±0.9, 22.51S±0.06×68.30W±0.09, h98km±12km, n16, σ1.966/23, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**1.12**	**282**	*i* P	Pn	07 34 52.8	+7.3
PB04				*i* S	Sn	07 35 12.7	+11
PB04				AML	AML	07 35 18.4	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**1.12**	**309**	*i* P	**Pn**	**07 34 46.9**	**+1.2**
PB09				*i* S	**Sn**	**07 35 02.6**	**+0.6**
PB09				AML	AML	07 35 05.1	
	comp=E,4μm,0.5s						
PB06	**IPOC Station P**	**1.19**	**260**	↑*i* P	**Pn**	**07 34 47.5**	**+1.1**
PB06				*i* S	**Sn**	**07 35 04.1**	**+0.7**
PB06				AML	AML	07 35 06.2	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**1.66**	**298**	*i* P	**Pn**	**07 34 52.4**	**+0.2**
PB07				*i* S	**Sn**	**07 35 11.9**	**-1.8**
PB07				AML	AML	07 35 12.6	
	comp=E,2μm,0.5s						
PB01	**IPOC Station P**	**1.83**	**323**	*i* P	**Pn**	**07 34 54.6**	**+0.4**
PB01				*i* S	**Sn**	**07 35 16.9**	**-0.4**
PB01				AML	AML	07 35 18.6	
	comp=E,668nm,0.3s						
CEN1	**Los Morros**	**1.96**	**243**	*e*P	**Pn**	**07 34 59.0**	**+3.1**
PB10	**IPOC Station P**	**2.30**	**244**	*i* P	**Pn**	**07 35 00.5**	**+0.2**
PB10				*i* S	**Sn**	**07 35 26.4**	**-1.7**
PB10				AML	AML	07 35 40.4	
	comp=N,997nm,0.4s						
PATCX	**Punta Patache**	**2.41**	**314**	*i* P	**Pn**	**07 35 01.1**	**-0.6**
PATCX				*i* S	**Sn**	**07 35 28.4**	**-2.3**
PATCX				AML	AML	07 35 34.9	
	comp=E,990nm,0.3s						
HMBC	**Humberstone**	**2.67**	**326**	*e*P	**Pn**	**07 35 04.6**	**-0.7**
HMBC				*e*S	**Sn**	**07 35 35.4**	**-1.6**
HMBC				AML	AML	07 35 40.8	
	comp=E,300nm,0.3s						
MNMC	**Minimini**	**3.57**	**340**	*i* P	**Pn**	**07 35 18.4**	**+0.9**
LPAZ	**La Paz**	**6.19**	**2**	P	Pn	07 35 57.3	+3.9
	comp=E,0.4nm,0.3s,baz=183,slow=5.5,SNR=11						
CFAA	**Coronel Fontan**	**9.06**	**180**	P	**Pn**	**07 36 31.9**	**+0.1**
	comp=E,0.0nm,0.3s,baz=0.1,slow=6.6,SNR=7.6						
CFAA				S	**Sn**	**07 38 07.7**	**-4.3**
	comp=E,0.0nm,0.3s,baz=210,slow=14,SNR=2.1						
SIV	**San Ignacio**	**9.42**	**48**	P	**Pn**	**07 36 37.4**	**+0.7**
	comp=E,1.0nm,0.3s,baz=242,slow=11,SNR=13						
SIV				S	**Sn**	**07 38 19.6**	**-1.2**
	comp=E,0.1nm,0.3s,baz=307,slow=20,SNR=3.2						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**07 46 08.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=259,slow=5.3,SNR=5.0						
YKA	**Yellowknife Ar**	**92.32**	**340**	P	**P**	**07 47 23.3**	**+0.7**
	comp=E,0.1nm,0.5s,baz=136,slow=4.1,SNR=7.1						
MKAR	**Makanchi Array**	**146.11**	**37**	PKPbc	**PKPab**	**07 53 54.2**	**+0.9**
	comp=E,0.2nm,0.7s,baz=347,slow=5.9,SNR=3.8						

*BJI **08** 08:03:00.4, 35.2°10S×72.2°20W, h35km, mB5.1/3, Ms5.2/4, Ms7 4.8/5*
*ISCJB **08** 08:03:01.4±0.6, 35.2°13S±0.0°03×72.2°21W±0.0°05, h45km±6km, mb4.7/62, MS3.6/9, Error ellipse: s-maj=7.5km s-min=5.1km az=6.9*
*NEIC **08** 08:03:01.0, 35.2°16S×72.2°32W, h14km, mb4.7/43, ML5.0(GUC), After GUC.*
NEIC Felt [IV] at Constitucion, Molina, Navidad and Pencahue; [III] at Curico, Linares, Paredones and San Fernando; [II] at Talca. Also felt at Santiago.
*IDC **08** 08:03:01.2±0.5, 35.2°13S×72.2°22W, h31km±3km, mb4.3/18, mb1 4.4/22, mb1mx4.3/26, mbtmp4.5/22, ML4.7/3, MS3.7/11, Ms1 3.7/11, ms1mx3.5/27, Error ellipse: s-maj=18.9km s-min=10.9km az=82.0*
*GUC **08** 08:03:01.0±0.4, 35.2°16S×72.2°32W, h14km±3km, ML5.0*
ISC 08 08:03:01.2±0.5, 35.14S±0.03×72.25W±0.04, h33km±2km, h33km:pP-P, n387, σ0.990/409, mb4.6/62, MS3.5/9, 121C-156D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.57**	**118**	*i* P	**Pb**	**08 03 12.2**	**-0.7**
TALC				*i* S	**Sb**	**08 03 21.1**	**+0.1**
TALC	**Talca**	**0.57**	**118**	*i* P	**Pb**	**08 03 12.2**	**-0.7**
TALC				*i* S	**Sb**	**08 03 21.1**	**+0.1**
NICH	**Los Niches**	**0.85**	**81**	↑*i* P	**Pn**	**08 03 17.2**	**+0.3**
NICH				*i* S	**Sb**	**08 03 29.7**	**+1.0**
NICH	**Los Niches**	**0.85**	**81**	↑*i* P	**Pn**	**08 03 17.2**	**+0.3**
NICH				*i* S	**Sb**	**08 03 29.7**	**+1.0**
LNCH	**Linares**	**0.89**	**143**	↑*i* P	**Pn**	**08 03 17.2**	**-0.2**
LNCH				*i* S	**Sn**	**08 03 29.4**	**+0.3**
LNCH	**Linares**	**0.89**	**143**	↑*i* P	**Pn**	**08 03 17.2**	**-0.2**
LNCH				*i* S	**Sn**	**08 03 29.4**	**+0.3**
CCSP	**San Pedro de C**	**1.84**	**202**	*i* P	**Pn**	**08 03 31.4**	**+0.9**
CCSP				*i* S	**Sn**	**08 03 54.1**	**+1.5**
CCSP				AML	AML	08 04 00.0	
	comp=E,13μm,0.5s						
CCSP	**San Pedro de C**	**1.84**	**202**	*i* P	**Pn**	**08 03 31.4**	**+0.9**
CCSP				*i* S	**Sn**	**08 03 54.1**	**+1.5**
LACH	**Col Las Americ**	**2.20**	**41**	*i* P	**Pb**	**08 03 38.7**	**-1.8**
LACH				*i* S	**Sb**	**08 04 07.7**	**+0.3**
LACH				AML	AML	08 04 10.5	
	comp=N,6μm,0.5s						
LACH	**Col Las Americ**	**2.20**	**41**	*i* P	**Pb**	**08 03 38.7**	**-1.8**
LACH				*i* S	**Sb**	**08 04 07.7**	**+0.3**
CLCH	**Cerro Calan**	**2.24**	**40**	AML	AML	08 04 12.0	
	comp=N,16μm,0.6s						
CLCH				AML	AML	08 04 12.7	
	comp=N,18μm,0.4s						
YECH	**El Yeso**	**2.32**	**51**	AML	AML	08 04 18.6	
	comp=N,7μm,0.4s						
PEL	**Peldehue**	**2.37**	**34**	AML	AML	08 04 19.9	
	comp=E,14μm,0.6s						
CFAA	**Coronel Fontan**	**4.87**	**45**	Pn	**Pn**	**08 04 13.7**	**+1.5**
	comp=E,1.0nm,0.3s,baz=212,slow=12,SNR=44						
CFAA				Sn	**Sn**	**08 05 10.8**	**+3.4**
	comp=E,2.7nm,0.3s,baz=235,slow=17,SNR=3.1						
CFAA				LR	LR	08 06 12.9	
	comp=E,70nm,19.8s,baz=214,slow=40						
PLCA	**Paso Flores**	**5.75**	**167**	Pn	**Pn**	**08 04 25.8**	**+1.5**
	comp=E,8.3nm,0.3s,baz=338,slow=12,SNR=226						
PLCA				Lg	Lg	08 05 57.9	
	comp=E,3.6nm,0.3s,baz=256,slow=20,SNR=6.3						
PLCA				LR	LR	08 06 44.7	
	comp=E,934nm,20.0s,baz=312,slow=39						
LCO	**Las Campanas**	**6.25**	**13**	*e*Pn	**Pn**	**08 04 30.9**	**-0.5**
LCO				*e*Sn	**Sn**	**08 05 41.5**	**-0.2**
TRQA	**Tornquist**	**8.76**	**112**	*e*Pn	**Pn**	**08 05 07.8**	**+2.2**

TRQA				Sn	**Sn**	**08 06 45.9**	**+2.7**
LVC	**Limon Verde**	**12.81**	**14**	*e*Pn	**Pn**	**08 06 04.4**	**+3.1**
LVC				*e*Sn	**Sn**	**08 08 19.5**	**-3.5**
LPAZ	**La Paz**	**19.13**	**12**	P	**Pn**	**08 07 24.1**	**+0.8**
	comp=E,1.1nm,0.3s,baz=171,slow=4.4,SNR=76						
LPAZ	**La Paz**	**19.13**	**12**	*e*P	**Pn**	**08 07 24.0**	**+0.8**
	comp=E,11nm,0.6s						
USHA	**Ushuaia**	**19.87**	**173**	P	**Pn**	**08 07 30.6**	**-0.6**
	comp=E,0.5nm,0.3s,baz=286,slow=8.4,SNR=4.6						
USHA				LR	LR	08 16 14.4	
	comp=E,163nm,20.6s,baz=333,slow=40						
SIV	**San Ignacio**	**21.54**	**31**	P	**P**	**08 07 47.0**	**-0.7**
	comp=E,23nm,0.7s,baz=211,slow=8.9,SNR=63						
SIV				LR	LR	08 18 00.4	
	comp=E,149nm,20.5s,baz=270,slow=42						
NNA	**Nana**	**23.42**	**349**	P	**P**	**08 08 07.0**	**-0.5**
	comp=E,10nm,0.7s,baz=203,slow=11,SNR=5.0						
NNA				LR	LR	08 15 28.8	
	comp=E,129nm,19.6s,baz=193,slow=32						
ATAH	**Atahualpa**	**28.43**	**347**	P	**P**	**08 08 52.7**	**-0.7**
	comp=E,3.1nm,0.5s,baz=128,slow=4.8,SNR=2.7						
ATAH				LR	LR	08 18 32.0	
	comp=E,112nm,19.4s,baz=210,slow=33						
BDFB	**Brasilia**	**29.13**	**54**	P	**P**	**08 08 58.7**	**-0.6**
	comp=E,1.8nm,0.4s,baz=225,slow=11,SNR=2.7						
BDFB				LR	LR	08 21 55.4	
	comp=E,185nm,18.6s,baz=228,slow=39						
OTAV	**Otavalo**	**35.66**	**349**	*e*P	**P**	**08 09 58.6**	**+1.7**
	comp=E,28nm,1.6s						
PTGA	**Pitinga**	**36.10**	**21**	P	**P**	**08 09 59.3**	**-0.7**
	comp=E,8.4nm,0.7s,baz=201,slow=9.6,SNR=17						
PTGA	**Pitinga**	**36.10**	**21**	*e*P	**P**	**08 09 59.7**	**-0.4**
ROSC	**El Rosal**	**39.83**	**357**	P	**P**	**08 10 33.2**	**+1.2**
	comp=E,11nm,0.5s,baz=117,slow=4.1,SNR=13						
ROSC				LR	LR	08 26 49.0	
	comp=E,74nm,19.5s,baz=166,slow=36						
ROSC	**El Rosal**	**39.83**	**357**	*e*P	**P**	**08 10 35.1**	**+3.2**
SDV	**Santo Domingo**	**43.81**	**2**	*e*P	**P**	**08 11 03.2**	**-1.1**
	comp=E,9.1nm,1.0s						
BCIP	**Isla Barro Col**	**44.64**	**349**	*e*P	**P**	**08 11 11.4**	**+0.7**
	comp=E,9.2nm,0.5s						
PCRV	**Puerto La Cruz**	**45.64**	**11**	LR	LR	08 33 17.1	
	comp=E,65nm,21.2s,slow=40						
JTS	**JuntasAbangare**	**46.75**	**343**	P	**P**	**08 11 28.6**	**+1.2**
	comp=E,2.8nm,0.6s,baz=306,slow=17,SNR=4.2						
VNA3	**Neumayer Olymp**	**48.38**	**157**	P	**P**	**08 11 39.6**	**+0.1**
VNA2	**Neumayer--Watz**	**49.04**	**157**	P	**P**	**08 11 44.9**	**+0.3**
	baz=297,slow=8.6						
SNAA	**Sanae**	**50.60**	**157**	P	**P**	**08 11 56.8**	**+0.3**
	comp=E,2.1nm,0.9s,baz=261,slow=13,SNR=7.5						
QSPA	**South Pole Qui**	**55.10**	**180**	P	**P**	**08 12 30.9**	**+1.0**
	comp=E,1.8nm,0.5s,baz=156,slow=0.5,SNR=17						
QSPA				pP	**pP**	**08 12 39.4**	**-0.5**
	comp=E,8.3nm,0.8s,baz=194,slow=3.2,SNR=13						
TBI	**Tubuai**	**66.89**	**257**	*e*LR	LR	08 34 01.6	
	comp=E,86nm,28.5s						
735A	**Kenedy**	**68.06**	**336**	↑P	**P**	**08 13 58.8**	**+1.4**
	baz=68						
833A	**Chaparral WMA,**	**68.12**	**334**	↑P	**P**	**08 13 58.8**	**+1.0**
	baz=68						
832A	**Faith Ranch, C**	**68.30**	**334**	⇓P	**P**	**08 13 59.7**	**+0.8**
	baz=69						
636A	**Smothers Creek**	**68.40**	**337**	↑P	**P**	**08 14 00.8**	**+1.3**
	baz=69						
733A	**Divot King Ran**	**68.45**	**335**	⇓P	**P**	**08 14 00.5**	**+0.6**
	baz=69						
MEH	**Mehetia**	**68.53**	**263**	*e*T	T	09 28 21.9	
	comp=E,19nm,0.3s						
732A	**Laxson Ranch,**	**68.70**	**334**	↑P	**P**	**08 14 02.0**	**+0.6**
	baz=69,SNR=11						
535A	**Dale**	**69.07**	**337**	⇓P	**P**	**08 14 04.3**	**+0.7**
	baz=69						
632A	**Uvalde**	**69.34**	**334**	⇓P	**P**	**08 14 05.9**	**+0.4**
	baz=70,SNR=5.6						
TVO	**Taravao**	**69.54**	**262**	*e*T	T	09 29 37.8	
	comp=E,0.9nm,0.3s						
631A	**Perdido Creek**	**69.54**	**334**	↑P	**P**	**08 14 07.1**	**+0.4**
	baz=70						
533A	**Kerrville**	**69.60**	**335**	↑P	**P**	**08 14 07.3**	**+0.3**
	baz=70						
TIAR	**Tiarei**	**69.73**	**262**	*e*T	T	09 29 52.3	
	comp=E,4.2nm,0.2s						
337A	**Centerville**	**69.74**	**339**	↑P	**P**	**08 14 09.3**	**+1.5**
	baz=70						
PPT2	**Papeete2**	**69.90**	**262**	*e*LR	LR	08 35 32.9	
	comp=E,66nm,23.2s						
532A	**Rocksprings**	**69.95**	**335**	↑P	**P**	**08 14 09.6**	**+0.4**
	baz=70,SNR=9.7						
434A	**Burnet**	**70.02**	**336**	↑P	**P**	**08 14 10.2**	**+0.6**
	baz=70						
336A	**Riesel**	**70.10**	**338**	↑P	**P**	**08 14 10.8**	**+0.8**
	baz=70						
238A	**Jacksonville**	**70.16**	**339**	⇓P	**P**	**08 14 10.7**	**+0.4**
	baz=70						
531A	**Rocksprings**	**70.21**	**334**	⇓P	**P**	**08 14 11.2**	**+0.4**
	baz=70,SNR=5.3						
JCT	**Junction City**	**70.23**	**335**	⇓P	**P**	**08 14 11.4**	**+0.5**
	baz=71						
JCT	**Junction City**	**70.23**	**335**	*e*P	**P**	**08 14 11.5**	**+0.5**
	comp=E,11nm,0.9s						
433A	**Art**	**70.24**	**336**	⇓P	**P**	**08 14 11.2**	**+0.2**
	baz=71,SNR=7.0						
KMSC	**Kings Mountain**	**70.43**	**352**	↑P	**P**	**08 14 12.1**	**+0.2**
	baz=71						
530A	**J-C Ranch, Com**	**70.48**	**333**	⇓P	**P**	**08 14 13.1**	**+0.6**
	baz=71,SNR=9.1						
334A	**Lometa**	**70.49**	**337**	⇓P	**P**	**08 14 12.7**	**+0.3**
	baz=71						
432A	**Menard**	**70.59**	**335**	↑P	**P**	**08 14 13.2**	**+0.1**
	baz=71						
TXAR	**Lajitas Array**	**70.64**	**331**	P	**P**	**08 14 14.0**	**+0.5**
	comp=E,3.0nm,0.6s,baz=154,slow=8.5,SNR=23						
TXAR				pP	**pP**	**08 14 24.1**	**+0.3**
	comp=E,1.9nm,0.7s,baz=158,slow=9.7,SNR=7.5						
TXAR				LR	LR	08 40 38.8	
	comp=E,89nm,18.7s,baz=0.0,slow=32						
431A	**Sonora**	**70.70**	**334**	↑P	**P**	**08 14 13.8**	**0.0**
	baz=71						
333A	**Richland Sprin**	**70.73**	**336**	⇓P	**P**	**08 14 13.9**	**0.0**
	baz=71						
529A	**Stev Forest Ra**	**70.79**	**333**	↑P	**P**	**08 14 14.6**	**+0.2**
	baz=71,SNR=9.3						
430A	**Baggett Ranch,**	**71.02**	**334**	⇓P	**P**	**08 14 16.0**	**+0.3**
	baz=71,SNR=6.7						
332A	**Millersview**	**71.04**	**335**	⇓P	**P**	**08 14 16.2**	**+0.4**
	baz=71						
429A	**Davenport Ranc**	**71.12**	**333**	↑P	**P**	**08 14 16.6**	**+0.2**
	baz=71,SNR=6.3						
331A	**San Angelo**	**71.21**	**335**	⇓P	**P**	**08 14 16.9**	**+0.1**
	baz=72,SNR=7.9						
233A	**Rising Star**	**71.34**	**336**	⇓P	**P**	**08 14 18.1**	**+0.5**
	baz=72						
232A	**Coleman**	**71.47**	**336**	↑P	**P**	**08 14 18.6**	**+0.2**
	baz=72						
330A	**Mertzon**	**71.56**	**334**	⇓P	**P**	**08 14 19.2**	**+0.2**
	baz=72						
134A	**White-Moore Ra**	**71.58**	**337**	⇓P	**P**	**08 14 19.0**	**-0.1**
	baz=72						
231A	**Bronte**	**71.74**	**335**	⇓P	**P**	**08 14 19.9**	**-0.2**
	baz=72,SNR=5.2						
133A	**Hamilton Ranch**	**71.89**	**337**	↑P	**P**	**08 14 21.2**	**+0.3**
	baz=72						
329A	**Wagon Wheel Ra**	**71.92**	**334**	⇓P	**P**	**08 14 21.1**	**-0.1**
	baz=72,SNR=5.4						
230A	**Sterling City**	**71.97**	**334**	⇓P	**P**	**08 14 21.7**	**+0.2**
	baz=72						
Z35A	**Perchaven, San**	**72.03**	**338**	↑P	**P**	**08 14 21.9**	**+0.2**
	baz=72						
ABTX	**Abilene, Hawle**	**72.14**	**336**	⇓P	**P**	**08 14 22.2**	**-0.2**
	baz=72,SNR=5.6						
ABTX	**Abilene, Hawle**	**72.14**	**336**	*e*P	**P**	**08 14 22.8**	**+0.4**
	comp=E,8.4nm,0.9s						
MAW	**Mawson**	**72.14**	**163**	P	**P**	**08 14 21.8**	**-0.2**
	comp=E,7.7nm,0.9s,baz=248,slow=11,SNR=3.2						
MAW				pP	**pP**	**08 14 32.1**	**-0.2**
	comp=E,7.5nm,0.8s,baz=246,slow=8.4,SNR=3.0						
MAW				LR	LR	08 46 12.5	
	comp=E,115nm,18.1s,baz=241,slow=36						
Z34A	**Collier Ranch,**	**72.27**	**338**	⇓P	**P**	**08 14 23.2**	**+0.1**
	baz=73						
229A	**Bryant Ranch,**	**72.30**	**334**	⇓P	**P**	**08 14 24.1**	**+0.7**
	baz=73						
WVT	**Waverly**	**72.37**	**347**	*e*P	**P**	**08 14 23.1**	**-0.5**
	comp=E,16nm,0.7s						
Z33A	**Whitaker Ranch**	**72.46**	**337**	↑P	**P**	**08 14 24.7**	**+0.4**
	baz=73						
130A	**Snyder**	**72.57**	**335**	↑P	**P**	**08 14 25.1**	**+0.1**
	baz=73						

Z32A	**Haskell**	**72.71**	**336**	⇓P	**P**	**08 14 25.9**	**+0.2**
	baz=73						
228A	**UT Block 9, Go**	**72.72**	**333**	⇓P	**P**	**08 14 25.9**	**0.0**
	baz=73						
Y34A	**Reagan Ranch,**	**72.76**	**338**	⇓P	**P**	**08 14 25.9**	**-0.1**
	baz=73						
129A	**Stewart Farms,**	**72.92**	**334**	↑P	**P**	**08 14 26.9**	**-0.2**
	baz=73						
Z31A	**Sharp Cattle R**	**72.94**	**336**	↑P	**P**	**08 14 27.1**	**-0.1**
	baz=73						
Y33A	**Hilltop Ranch,**	**73.08**	**337**	⇓P	**P**	**08 14 27.9**	**0.0**
	baz=73						
128A	**Castleberry Fa**	**73.13**	**334**	⇓P	**P**	**08 14 28.1**	**-0.2**
	baz=73						
Z30A	**Sanderson Ranc**	**73.25**	**335**	↑P	**P**	**08 14 29.1**	**+0.1**
	baz=74						
Y32A	**R-V Farms, Ver**	**73.34**	**337**	⇓P	**P**	**08 14 29.7**	**+0.2**
	baz=74						
X34A	**Smith Ranch, M**	**73.38**	**338**	⇓P	**P**	**08 14 29.8**	**+0.1**
	baz=74						
MNTX	**Cornudas Mount**	**73.41**	**331**	⇓P	**P**	**08 14 29.5**	**-0.5**
	baz=74						
MNTX	**Cornudas Mount**	**73.41**	**331**	*e*P	**P**	**08 14 28.9**	**-1.1**
	comp=E,5.6nm,0.8s						
Z29A	**Hungry Hill Ra**	**73.43**	**335**	↑P	**P**	**08 14 29.7**	**-0.5**
	baz=74						
X33A	**Lawton**	**73.53**	**338**	⇓P	**P**	**08 14 30.4**	**-0.2**
	baz=74						
Y31A	**Rekieta Farm,**	**73.57**	**336**	↑P	**P**	**08 14 31.0**	**+0.2**
	baz=74						
X32A	**Elmer**	**73.67**	**337**	⇓P	**P**	**08 14 31.5**	**+0.1**
	baz=74						
Z28A	**Tucker Farm, M**	**73.69**	**334**	↑P	**P**	**08 14 31.7**	**0.0**
	baz=74						
Y30A	**Stafford Cattl**	**73.71**	**335**	⇓P	**P**	**08 14 31.8**	**+0.1**
	baz=74						
WMOK	**Wichita Mounta**	**73.80**	**337**	*e*P	**P**	**08 14 32.1**	**-0.1**
	comp=E,6.0nm,1.4s						
W34A	**Bridge Creek,**	**73.95**	**338**	↑P	**P**	**08 14 33.3**	**+0.2**
	baz=74						
Y29A	**Porterfield Fa**	**73.96**	**335**	↑P	**P**	**08 14 33.4**	**+0.2**
	baz=74						
TUL1	**Leonard**	**74.01**	**340**	↑P	**P**	**08 14 33.2**	**-0.2**
	baz=74						
W33A	**Caddo, Fort Co**	**74.09**	**338**	⇓P	**P**	**08 14 34.3**	**+0.5**
	baz=74						
X31A	**McDonald Ranch**	**74.09**	**336**	⇓P	**P**	**08 14 34.2**	**+0.3**
	baz=74						
V35A	**Meyer Ranch, C**	**74.17**	**339**	⇓P	**P**	**08 14 34.1**	**-0.2**
	baz=74						
SIUC	**Southern Illin**	**74.17**	**346**	*e*P	**P**	**08 14 34.0**	**-0.3**
	comp=E,9.4nm,0.8s						
Y28A	**McKinney Farm,**	**74.20**	**334**	⇓P	**P**	**08 14 34.8**	**+0.1**
	baz=74						
W32A	**Sentinel**	**74.31**	**337**	↑P	**P**	**08 14 35.1**	**-0.1**
	baz=75,SNR=8.2						
MSTX	**Muleshoe**	**74.45**	**334**	↑P	**P**	**08 14 36.2**	**+0.1**
	baz=75						
MSTX	**Muleshoe**	**74.45**	**334**	*e*P	**P**	**08 14 36.3**	**+0.2**
	comp=E,5.6nm,0.6s						
W31A	**Holland Ranch,**	**74.59**	**337**	⇓P	**P**	**08 14 37.1**	**+0.3**
	baz=75						
V33A	**Lossen Ranch,**	**74.65**	**338**	↑P	**P**	**08 14 37.2**	**+0.1**
	baz=75						
319A	**Douglas**	**74.76**	**328**	⇓P	**P**	**08 14 39.2**	**+1.2**
	baz=75						
V32A	**Arapaho**	**74.79**	**338**	⇓P	**P**	**08 14 38.9**	**+0.9**
	baz=75						
AMTX	**Amarillo**	**74.89**	**335**	⇓P	**P**	**08 14 39.3**	**+0.7**
	baz=75						
U34A	**Anderson Ranch**	**75.00**	**339**	↑P	**P**	**08 14 40.1**	**+1.0**
	baz=75						
V31A	**Spring Creek L**	**75.09**	**337**	↑P	**P**	**08 14 40.6**	**+0.9**
	baz=75						
121A	**Cookes Peak, D**	**75.12**	**329**	⇓P	**P**	**08 14 41.2**	**+1.0**
	baz=75						
121A	**Cookes Peak, D**	**75.12**	**329**	*e*P	**P**	**08 14 41.7**	**+1.5**
	comp=E,3.3nm,0.7s						
LIC	**Lamto**	**75.30**	**71**	*e*P	**P**	**08 14 41.0**	**-0.4**
	comp=E,27nm,1.2s						
TIC	**Toumodi**	**75.57**	**71**	*e*P	**P**	**08 14 42.6**	**-0.3**
	comp=E,5.9nm,0.2s						
KIC	**Kosan Boka**	**75.61**	**71**	*e*P	**P**	**08 14 42.8**	**-0.4**
	comp=E,19nm,0.9s						
ACSO	**Alum Creek Sta**	**75.65**	**352**	*e*P	**P**	**08 14 42.2**	**-0.5**
	comp=E,22nm,0.7s						
DBIC	**Dimbokro**	**75.71**	**71**	P	**P**	**08 14 43.8**	**+0.1**
	comp=E,4.1nm,0.6s,baz=207,slow=5.8,SNR=11						
DBIC				pP	**pP**	**08 14 53.7**	**-0.4**
	comp=E,5.1nm,0.7s,baz=173,slow=5.5,SNR=5.0						
DBIC				LR	LR	08 45 02.3	
	comp=E,27nm,19.5s,baz=172,slow=33						
W26A	**Owens Ranch, T**	**75.81**	**334**	↑P	**P**	**08 14 44.4**	**+0.5**
	baz=76						
S35A	**Otter Creek Ra**	**75.82**	**341**	⇓P	**P**	**08 14 44.2**	**+0.4**
	baz=76						
V28A	**Channing**	**75.86**	**335**	⇓P	**P**	**08 14 44.9**	**+0.7**
	baz=76						
U30A	**WK&E Inc. Balk**	**76.05**	**337**	⇓P	**P**	**08 14 45.6**	**+0.4**
	baz=76						
T32A

baz=78
P32A **Huiting Farm,** 78.27 340 ⇑P P 08 14 58.1 +0.6
baz=79
X16A **Lo Mia Camp, P** 78.30 328 ⇓P P 08 14 58.9 +0.9
baz=79,SNR=7.1
Q29A **Oakley** 78.31 337 ⇑P P 08 14 58.0 +0.2
baz=79
R27A **Eads** 78.35 336 ⇑P P 08 14 58.3 +0.2
baz=79,SNR=5.6
S25A **Robets Cordova** 78.35 334 ⇓P P 08 14 59.4 +1.2
baz=79
T23A **Casias Ranch,** 78.38 333 ⇓P P 08 14 59.2 +0.7
baz=79
P31A **Stockton** 78.40 339 ⇓P P 08 14 59.4 +1.1
baz=79
R26A **Arlington** 78.58 335 ⇓P P 08 15 00.4 +1.0
baz=79
Y14A **Wickenburg** 78.59 326 ⇓P P 08 15 00.4 +0.9
baz=79
S24A **Houchin Ranch,** 78.61 334 ⇑P P 08 15 00.5 +0.6
baz=79,SNR=5.3
Q28A **Sharon Springs** 78.73 337 ⇑P P 08 15 00.9 +0.7
baz=79
SDCO **Great Sand Dun** 78.81 334 ⇓P P 08 15 01.3 +0.4
baz=79
SDCO **Great Sand Dun** 78.81 334 *e*P P 08 15 01.6 +0.7
comp=E,2.3nm,0.8s
P29A **Atwood** 78.94 338 ⇓P P 08 15 02.3 +1.0
baz=79
KSCO **Kaye Shedlock'** 78.95 336 ⇑P P 08 15 02.6 +1.2
baz=79
R24A **Sanders Place,** 79.10 334 ⇓P P 08 15 03.3 +0.9
baz=79,SNR=8.7
Q26A **Hugo** 79.17 336 ⇓P P 08 15 03.5 +0.9
baz=80
P28A **Saint Francis** 79.17 337 ⇑P P 08 15 03.7 +1.1
baz=80
WUAZ **Wupatki** 79.20 328 ⇓P P 08 15 04.2 +1.3
baz=80
WUAZ **Wupatki** 79.20 328 *e*P P 08 15 04.3 +1.4
comp=E,6.3nm,1.0s
S22A **4UR Ranch, Cre** 79.30 333 ⇓P P 08 15 04.6 +1.0
baz=80
R23A **Moffat** 79.32 334 ⇓P P 08 15 04.6 +0.9
baz=80
MVCO **Mesa Verde** 79.47 331 ⇑P P 08 15 05.2 +0.8
baz=80
MVCO **Mesa Verde** 79.47 331 *e*P P 08 15 05.5 +1.1
P26A **Davis Ranch, A** 79.68 336 ⇓P P 08 15 06.3 +0.9
baz=80
BOSA **Boshof** 79.70 118 P P 08 15 05.8 -0.2
comp=E,7.5nm,0.7s,baz=248,slow=3.2,SNR=14
BOSA pP pP 08 15 16.2 -0.3
comp=E,12nm,0.8s,baz=226,slow=4.6,SNR=10
BOSA **Boshof** 79.70 118 *e*P P 08 15 06.2 +0.2
BOSA pP pP 08 15 16.2 -0.3
Q24A **Divide** 79.76 335 ⇓P P 08 15 06.7 +0.6
baz=80
W13A **Hualapai Mount** 79.96 326 ⇓P P 08 15 08.4 +1.3
baz=80
O27A **Beecher Island** 79.97 337 ⇓P P 08 15 08.0 +1.1
baz=80
M31A **Lambtecht Ranc** 79.97 340 ⇑P P 08 15 07.5 +0.7
baz=80
U15A **North Rim** 80.37 328 ⇓P P 08 15 10.3 +0.9
baz=81,SNR=7.6
SMCO **Snowmass** 80.61 333 *e*P P 08 15 12.1 +1.3
comp=E,5.4nm,0.9s
ISCO **Idaho Springs** 80.67 335 ⇓P P 08 15 11.5 +0.5
baz=81
ISCO **Idaho Springs** 80.67 335 *e*P P 08 15 12.0 +1.0
comp=E,3.7nm,0.9s
L31A **Butterfield Fa** 80.70 340 ⇑P P 08 15 11.5 +0.7
baz=81,SNR=6.7
O23A **Lake Granby, G** 81.14 335 ⇓P P 08 15 14.5 +1.0
baz=82
O22A **Kremmling** 81.32 334 ⇑P P 08 15 15.2 +0.7
baz=82
K30A **Basset** 81.38 340 ⇓P P 08 15 14.9 +0.6
baz=82,SNR=6.1
GSC **Goldstone, Bar** 81.48 325 ⇓P P 08 15 16.2 +1.1
baz=82
ECSD **EROS Data Cent** 81.57 342 ⇓P P 08 15 15.2 -0.1
baz=82,SNR=13
ECSD **EROS Data Cent** 81.57 342 *e*P P 08 15 15.1 -0.2
comp=E,12nm,0.9s
M25A **Palm-Egli Farm** 81.60 336 ⇓P P 08 15 16.3 +0.6
baz=82
K29A **Lazy Trails An** 81.66 340 ⇓P P 08 15 16.5 +0.7
baz=82
SHPR **Sheep Range** 81.70 326 *e*P P 08 15 17.4 +1.1
comp=E,8.0nm,1.4s
EDW2 **Edwards Air Fo** 81.71 323 ⇓P P 08 15 16.8 +0.5
baz=82
N23A **Red Feather La** 81.76 335 ⇓P P 08 15 17.4 +0.7
baz=82
CCUT **Cedar City** 81.77 328 *e*P P 08 15 18.7 +1.9
comp=E,5.3nm,1.0s
N22A **Wattenberg Ran** 81.86 334 ⇓P P 08 15 17.9 +0.7
baz=82
M24A **Cheyenne** 81.89 336 ⇓P P 08 15 17.8 +0.6
baz=82
SRU **San Rafael Swe** 81.91 331 *e*P P 08 15 18.2 +0.7
comp=E,4.2nm,0.9s
O20A **White River Ci** 81.92 333 ⇓P P 08 15 17.9 +0.5
baz=82
K28A **Ten Mile Ranch** 81.92 339 ⇑P P 08 15 18.5 +1.3
baz=82
J30A **Dallas** 81.95 340 ⇓P P 08 15 17.8 +0.5
baz=82
PHWY **Pilot Hill** 81.95 335 *e*P P 08 15 18.4 +0.7
comp=E,5.5nm,1.0s
ARUT **Antelope Range** 82.00 328 *e*P P 08 15 19.6 +1.7
comp=E,0.4nm,1.1s
LRMC **Laurel Mtn Rad** 82.05 324 ⇑P P 08 15 18.7 +0.6
baz=82
MVU **Marysvale** 82.09 329 *e*P P 08 15 19.1 +0.7
comp=E,4.2nm,1.1s
K27A **Fleckinger Fa** 82.17 338 ⇓P P 08 15 19.3 +0.7
baz=82
M23A **Laramie** 82.19 335 ⇑P P 08 15 19.7 +0.9
baz=82
SBC **Santa Barbara** 82.22 322 ⇑P P 08 15 19.3 +0.4
baz=82
J29A **Okreek** 82.25 340 ⇓P P 08 15 19.1 +0.2
baz=83,SNR=8.4
MPMC **Manual Prospec** 82.42 325 ⇓P P 08 15 21.0 +0.8
baz=83
M22A **Cedar Creek Ra** 82.44 335 ⇓P P 08 15 21.8 +1.6
baz=83
FURC **Furnace Creek,** 82.46 325 ⇑P P 08 15 21.2 +1.2
baz=83
I30A **Oacoma** 82.47 341 ⇑P P 08 15 20.6 +0.6
baz=83
J28A **Allard Ranch,** 82.53 339 ⇑P P 08 15 21.3 +0.9
baz=83
N20A **Spence Gulch,** 82.54 333 ⇓P P 08 15 21.0 +0.3
baz=83
TPNV **Topopah Spring** 82.56 326 ⇓P P 08 15 21.3 +0.4
baz=83
ISA **Isabella, Lake** 82.58 324 ⇑P P 08 15 21.8 +1.0
baz=83
J27A **Elkhorn Farm,** 82.61 339 ⇑P P 08 15 21.8 +1.0
baz=83
L23A **Garrett** 82.76 336 ⇓P P 08 15 22.2 +0.4
baz=83
I29A **Vivian Onida** 82.82 340 ⇑P P 08 15 22.3 +0.5
baz=83
J26A **Sides Ranch, S** 82.98 338 ⇓P P 08 15 23.9 +1.1
baz=83
VES **Vestal, Richgr** 83.02 323 ⇑P P 08 15 23.6 +0.6
baz=83
I28A **Midland** 83.04 339 ⇓P P 08 15 23.2 +0.2
baz=83,SNR=5.8
J25A **Sunshine Ranch** 83.28 337 ⇑P P 08 15 24.4 +0.1
baz=84,SNR=5.1
K23A **Bowen Ranch, D** 83.30 336 ⇓P P 08 15 25.4 +0.8
baz=84
H29A **Onida** 83.35 340 ⇓P P 08 15 24.4 -0.1
baz=84
I27A **Quinn** 83.36 339 ⇓P P 08 15 25.1 +0.4
baz=84
R11A **Troy Canyon, C** 83.41 327 ⇓P P 08 15 26.1 +0.8
baz=84
J24A **Dixon Ranch, L** 83.50 337 ⇓P P 08 15 26.4 +0.9
baz=84
K22A **Casper** 83.52 335 ⇑P P 08 15 26.4 +0.8
baz=84
K22A **Casper** 83.52 335 *e*P P 08 15 26.6 +0.9
comp=E,7.3nm,1.0s
G30A **Faulkton** 83.53 341 ⇑P P 08 15 26.3 +0.9
baz=84
H28A **Mission Ridge** 83.62 340 ⇓P P 08 15 26.5 +0.6
baz=84
K21A **Alcova** 83.75 335 ⇑P P 08 15 27.0 +0.1
baz=84,SNR=6.4
DUG **Dugway, Tooele** 83.76 330 ⇑P P 08 15 27.5 +0.6
baz=84,SNR=6.6
DUG **Dugway, Tooele** 83.76 330 *e*P P 08 15 28.1 +1.1
comp=E,12nm,1.4s
G29A **Hoven** 83.79 341 ⇑P P 08 15 27.4 +0.6
baz=84
I25A **Rochford** 83.83 338 ⇓P P 08 15 27.3 +0.1
baz=84,SNR=5.2
H27A **Howes** 83.89 339 ⇑P P 08 15 27.4 0.0
baz=84,SNR=5.4
G28A **Parade** 83.96 340 ⇓P P 08 15 27.7 +0.1
baz=84,SNR=5.2
I24A **Kuemmerle Ranc** 83.97 337 ⇓P P 08 15 28.0 +0.1
baz=84
RSSD **Black Hills** 84.01 338 *e*P P 08 15 28.6 +0.4
comp=E,3.2nm,0.8s
F30A **Leola** 84.15 342 ⇑P P 08 15 28.7 +0.1
baz=84
J22A **Midwest** 84.17 336 ⇓P P 08 15 28.7 -0.3
baz=84
H25A **Fruitdale** 84.33 338 ⇑P P 08 15 30.5 +0.8
baz=85
F29A **Eureka** 84.36 341 ⇓P P 08 15 29.9 +0.2
baz=85
J21A **Lysite** 84.45 335 ⇓P P 08 15 30.8 +0.4
baz=85
G27A **Dupree** 84.52 339 ⇓P P 08 15 30.8 +0.3
baz=85
I22A **9 Mile Ranch,** 84.60 336 ⇑P P 08 15 31.2 +0.1
baz=85
F28A **McLaughlin** 84.64 340 ⇑P P 08 15 31.3 +0.2
baz=85
G26A **Maurine** 84.64 339 ⇑P P 08 15 31.2 0.0
baz=85
J20A **Shoshoni** 84.68 335 ⇓P P 08 15 32.2 +0.7
baz=85,SNR=12
PDAR **Pinedale Array** 84.69 333 P P 08 15 31.1 -0.6
comp=E,1.1nm,0.7s,baz=132,slow=5.4,SNR=11
NVAR **Mina Array Bea** 84.72 325 P P 08 15 32.3 +0.3
comp=E,1.6nm,0.8s,baz=152,slow=5.8,SNR=12
H24A **Dirks Ranch, A** 84.74 338 ⇓P P 08 15 31.6 -0.1
baz=85
E30A **Jud** 84.74 342 ⇑P P 08 15 31.8 +0.2
baz=85
TORD **Torodi Ar. Bea** 84.76 70 P P 08 15 31.9 -0.5
comp=E,1.7nm,0.8s,baz=270,slow=4.2,SNR=9.2
TORD pP pP 08 15 42.5 -0.5
comp=E,5.3nm,0.8s,baz=257,slow=3.9,SNR=20
G25A **Newell** 84.79 338 ⇓P P 08 15 32.3 +0.4
baz=85
I21A **Big Trails, Te** 84.80 335 ⇑P P 08 15 32.1 -0.1
baz=85,SNR=5.8
J19A **Crowheart** 84.94 334 ⇓P P 08 15 33.0 +0.1
baz=85,SNR=6.6
F27A **Lemmon** 85.00 340 ⇓P P 08 15 32.7 -0.2
baz=85,SNR=6.0
HVU **Hansel Valley** 85.08 331 *e*P P 08 15 33.5 -0.1
comp=E,64μm,0.8s
F26A **Lodgepole** 85.17 339 ⇑P P 08 15 33.8 0.0
baz=86
H22A **Clearmont** 85.18 336 ⇓P P 08 15 33.7 -0.3
baz=86
I20A **Worland** 85.21 335 ⇓P P 08 15 34.2 +0.1
baz=86,SNR=9.6
G24A **Alzada** 85.22 338 ⇓P P 08 15 34.0 -0.1
baz=86
D30A **Buchanan** 85.26 342 ⇑P P 08 15 34.2 0.0
baz=86
E28A **Huff** 85.28 341 ⇑P P 08 15 34.5 +0.2
baz=86
E27A **Carson** 85.38 340 ⇑P P 08 15 35.0 +0.2
baz=86
G23A **Biddle** 85.41 337 ⇓P P 08 15 34.9 -0.2
baz=86
H21A **Big Horn, Sher** 85.44 336 ⇑P P 08 15 35.0 -0.3
baz=86
F25A **Bowman** 85.47 339 ⇑P P 08 15 35.8 +0.5
baz=86
I19A **Meeteetse** 85.59 334 ⇓P P 08 15 36.4 +0.2
baz=86
H20A **Greybull** 85.64 335 ⇑P P 08 15 35.9 -0.4
baz=86,SNR=5.4
E26A **Carson Angus** 85.67 340 ⇓P P 08 15 36.4 +0.1
baz=86
REDW **Red Top Meadow** 85.69 333 *e*P P 08 15 35.8 -0.8
comp=E,5.0nm,1.1s
F24A **Ekalaka** 85.69 338 ⇑P P 08 15 36.8 +0.3
baz=86
AGMN **Agassiz Nation** 85.70 344 ⇓P P 08 15 36.2 -0.1
baz=86
AGMN **Agassiz Nation** 85.70 344 *e*P P 08 15 35.6 -0.7
comp=E,4.8nm,0.6s
G22A **Birney** 85.72 337 ⇓P P 08 15 36.2 -0.4
baz=86
C30A **Mose, Pekin** 85.75 343 ⇓P P 08 15 36.2 -0.4
baz=86,SNR=5.3
LOHW **Long Hollow** 85.81 333 *e*P P 08 15 37.6 +0.3
comp=E,2.4nm,0.9s
TPAW **Teton Pass** 85.83 333 *e*P P 08 15 37.9 +0.4
comp=E,4.0nm,0.9s
F23A **Volborg** 85.88 337 ⇑P P 08 15 36.9 -0.4
baz=86,SNR=6.5
G21A **Lodge Grass** 86.02 336 ⇑P P 08 15 38.4 +0.2
baz=86
I17A **Pilgrim Ck.** 86.06 333 ⇓P P 08 15 38.8 +0.3
baz=86,SNR=6.5
H19A **Powell** 86.14 335 ⇑P P 08 15 38.4 -0.3
baz=86,SNR=6.7
MDND **Maddock** 86.17 342 ⇑P P 08 15 39.1 +0.5
baz=86
D26A **Manning** 86.17 340 ⇓P P 08 15 38.9 +0.2
baz=86
IMW **Indian Meadow** 86.18 333 *e*P P 08 15 39.6 +0.5
comp=E,7.9nm,1.1s
F22A **Rosebud** 86.20 337 ⇑P P 08 15 39.5 +0.6
baz=86
C28A **Hausauer Farms** 86.24 341 ⇓P P 08 15 39.6 +0.6
baz=87
FLWY **Flagg Ranch** 86.25 333 *e*P P 08 15 40.2 +0.8
comp=E,6.2nm,0.8s
E24A **Baker** 86.29 338 ⇓P P 08 15 39.8 +0.5
baz=87
G20A **Bridger** 86.36 335 ⇓P P 08 15 39.1 -0.7
baz=87,SNR=7.0
H18A **Shoshone NF, C** 86.39 334 ⇑P P 08 15 39.9 -0.2
baz=87,SNR=12
B30A **Myrvik Farm, E** 86.41 343 ⇓P P 08 15 39.6 -0.3
baz=87,SNR=9.4
D25A **Bairfield** 86.54 339 ⇑P P 08 15 40.8 +0.2
baz=87,SNR=6.1
C27A **Sayler Ranch,** 86.54 341 ⇓P P 08 15 40.6 +0.1
baz=87
E23A **Ismay** 86.54 338 ⇓P P 08 15 40.4 -0.1
baz=87
B29A **Wagenman Farm,** 86.67 342 ⇓P P 08 15 41.4 +0.2
baz=87
E22A **Miles City** 86.69 337 ⇓P P 08 15 41.5 +0.2
baz=87
D24A **Glendive** 86.80 339 ⇓P P 08 15 41.9 +0.1
baz=87
C26A **Wahner Farm, P** 86.80 340 ⇑P P 08 15 42.2 +0.4
baz=87
F20A **Billings** 86.84 336 ⇑P P 08 15 42.1 0.0
baz=87
YMR **Madison River** 86.85 333 *e*P P 08 15 43.5 +1.1
comp=E,8.5nm,0.9s
A30A **Hoffart Farm,** 86.86 343 ⇑P P 08 15 42.1 +0.1
baz=87
B28A **Dugan Ranch, T** 86.92 342 ⇓P P 08 15 41.9 -0.4
baz=87,SNR=5.3
C25A **Freed Ranch, W** 87.03 340 ⇓P P 08 15 43.3 +0.4
baz=87
A29A **Manning Farm,** 87.07 343 ⇓P P 08 15 42.9 -0.2
baz=87,SNR=6.6
D23A **Lindsay** 87.12 338 ⇑P P 08 15 43.6 +0.2
baz=88,SNR=9.2
F19A **Roth Farm, Mol** 87.16 335 ⇓P P 08 15 43.6 -0.1
baz=88
C24A **Savage** 87.20 339 ⇑P P 08 15 44.0 +0.2
baz=88,SNR=7.1
HLID **Hailey** 87.24 331 ⇑P P 08 15 44.4 +0.2
baz=88
HLID **Hailey** 87.24 331 *e*P P 08 15 45.3 +1.1
comp=E,3.3nm,0.8s
A28A **Rude Farm, Bot** 87.31 342 ⇑P P 08 15 44.8 +0.5
baz=88
D22A **Cohagen** 87.39 338 ⇓P P 08 15 44.6 -0.1
baz=88,SNR=5.8
E20A **Meyer Farm, Mu** 87.45 336 ⇓P P 08 15 44.9 -0.1
baz=88,SNR=6.8
B25A **Knox Farm, Ray** 87.51 340 ⇑P P 08 15 45.4 +0.2
baz=88
ULM **Lac du Bonnet** 87.55 345 P P 08 15 44.8 -0.5
comp=E,4.7nm,0.8s,baz=177,slow=5.6,SNR=9.9
D21A **La Casta Ranch** 87.58 337 ⇓P P 08 15 45.6 0.0
baz=88
E19A **Rath Farm, Rou** 87.64 336 ⇓P P 08 15 45.4 -0.5
baz=88,SNR=7.0
C23A **Lambert** 87.67 338 ⇑P P 08 15 45.8 -0.2
baz=88,SNR=8.4
MCMT **McKenzie Canyo** 87.69 332 *e*P P 08 15 47.6 +1.2
comp=E,4.0nm,1.3s
A26A **Wade Farm, Ken** 87.77 341 ⇓P P 08 15 46.2 -0.2
baz=88,SNR=5.2
C22A **Vida** 87.83 338 ⇑P P 08 15 46.9 +0.1
baz=88
D20A **Manuel Ranch,** 87.97 336 ⇓P P 08 15 47.6 +0.1
baz=88
DGMT **Dagmar** 87.98 339 ⇓P P 08 15 47.4 0.0
baz=88,SNR=7.4
WVOR **Wild Horse Val** 88.09 328 *e*P P 08 15 49.2 +1.0
comp=E,16nm,1.6s
A25A **Svangstu Ranch** 88.10 340 ⇓P P 08 15 48.4 +0.4
baz=88
B23A **Brockton** 88.21 339 ⇑P P 08 15 49.0 +0.4
baz=89
D19A **Cripps Ranch,** 88.28 336 ⇓P P 08 15 48.9 0.0
baz=89
C21A **Desert Coulee** 88.28 337 ⇑P P 08 15 48.5 -0.5
baz=89,SNR=6.0
MOD **Modoc Plateau** 88.41 326 *e*P P 08 15 51.0 +1.2
comp=E,5.8nm,0.7s
C20A **Veseth Ranch,** 88.47 337 ⇑P P 08 15 49.6 -0.2
baz=89
A22A **Carney Farms,** 88.95 339 ⇓P P 08 15 52.2 +0.2
baz=89
M04C **Macdoel** 89.02 325 ⇓P P 08 15 53.0 +0.4
baz=89
B20A **Solberg Farm,** 89.12 337 ⇓P P 08 15 52.9 0.0
baz=90
YBH **Yreka Blue Hor** 89.39 325 P P 08 15 53.8 -0.5
comp=E,4.3nm,1.1s,baz=139,slow=9.3,SNR=3.9
B19A **Brinkman Farms** 89.43 337 ⇑P P 08 15 54.4 +0.1
baz=90
A20A **Cobblestone Ra** 89.47 337 ⇓P P 08 15 54.5 0.0
baz=90
A19A **Klindworth Far** 89.78 337 ⇓P P 08 15 55.7 -0.3
baz=90
YKA **Yellowknife Ar** 103.07 341 Pdiff Pdif 08 16 55.0 -0.9
comp=E,0.4nm,0.8s,baz=141,slow=4.4,SNR=9.4
YKA **Yellowknife Ar** 103.07 341 Pdif Pdif 08 16 55.0 -0.9
WRA **Warramunga Arr** 119.69 209 PKP PKPdf 08 21 47.0 -1.3
comp=E,0.1nm,0.6s,baz=163,slow=1.7,SNR=4.2
WRA pPKP pPKPdf 08 21 57.7 -1.5
comp=E,0.4nm,0.6s,baz=150,slow=1.6,SNR=2.8
H11N3 **WAKE ISLAND Hyl** 26.01 270 T T 10 40 38.9
baz=115,slow=78,SNR=7.2
H11N1 **WAKE ISLAND Hyl** 26.03 270 T T 10 40 32.6
baz=115,slow=78,SNR=12
H11N2 **WAKE ISLAND Hyl** 26.03 270 T T 10 40 45.4
baz=115,slow=78,SNR=13
ABKAR **Akbulak array** 142.51 53 *e*PKPdf PKPdf 08 22 36.8 +6.6
HYB **Hyderabad** 148.60 117 *i* PKP PKPbc 08 22 44.5 -0.8
EKS2 **Erkin-Say** 152.65 64 *e*PKPbc PKPbc 08 22 54.6 +0.2
EKS2 *e*PKPab PKPab 08 23 06.6 +1.5
AAK **Ala-Archa** 153.18 64 *e*PKPdf PKPdf 08 22 50.2 +2.0
AAK *e*PKPbc PKiKP 08 22 55.9 +0.2
AAK *e*PKPab PKPab 08 23 07.9 +0.5
KSH **Kashi** 154.43 71 *e*PKPbc PKPdf 08 22 46.5 -3.4
KSH sPKP 08 23 00.9
KSH PKS PKSdf 08 26 19.6 -4.6
KSH SKS SKSdf 08 29 48.9 -5.3
KSH PPMZ
comp=E,97nm,4.1s
KSH LN
comp=E,280nm,8.3s
KSH LE
comp=E,190nm,7.0s
KSH LZ
comp=E,160nm,7.8s
ZALV **Zalesovo Beam** 155.27 33 PKP PKPdf 08 22 50.0 -0.4
comp=E,0.5nm,0.5s,baz=248,slow=7.2,SNR=3.1
ZALV PKPab PKPab 08 23 15.9 +0.3
comp=E,3.2nm,0.9s,baz=301,slow=6.4,SNR=6.2
MKAR **Makanchi Array** 157.63 51 PKP PKPdf 08 22 53.3 -0.5
comp=E,0.1nm,0.3s,baz=264,slow=1.4,SNR=2.6
MKAR PKPab PKPab 08 23 26.0 -0.1
comp=E,0.6nm,0.7s,baz=297,slow=3.3,SNR=5.0
WMQ **Urumqi** 162.29 55 *e*PKP PKPdf 08 22 59.6 +0.4
WMQ pPKP pPKPdf 08 23 10.0 -0.1
WMQ sPKP 08 23 14.0
WMQ LZ
comp=E,140nm,19.8s
SONM **Songino Array** 167.27 4 PKPab PKPab 08 24 08.9 +0.6
comp=E,1.3nm,0.8s,baz=322,slow=4.4,SNR=8.2
NJ2 **Nanjing** 170.24 255 *e*PKP PKPdf 08 23 05.1 -0.6
HHC **Hu-ho-hao-te** 173.55 333 *e*PKP PKPdf 08 23 07.7 +0.6
HHC PP PP 08 28 31.6 +3.8
HHC SKS SKSdf 08 30 05.6 -2.2
HHC SS SS 08 49 41.6 0.0
HHC PPMZ
comp=E,14nm,5.5s
HHC LN
comp=E,140nm,18.8s
HHC LE
comp=E,230nm,19.4s
HHC LZ
comp=E,58nm,18.0s
CD2 **Chengdu** 174.62 140 PKP PKPdf 08 23 07.7 0.0
LZH **Lanzhou** 176.68 72 *e*PKP PKPdf 08 23 07.8 -0.4
LZH pPKP pPKPdf 08 23 19.0 -0.2
LZH sPKP 08 23 23.1
LZH LN
comp=E,140nm,18.1s
LZH LE
comp=E,150nm,18.0s
LZH LZ
comp=E,190nm,20.2s

IDC 08 08:16:18.3±12.0, 19°59S×179°77W, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=370.7km s-min=67.5km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.08**	**261**	P	P	P	08 24 20.3	-0.2
	0.1nm,0.3s,baz=96,slow=8.3,SNR=7.4							
ASAR	**Alice Springs**	**43.11**	**256**	P	P	P	08 24 20.6	-0.1
	0.5nm,0.8s,baz=96,slow=8.9,SNR=4.5							
SONM	**Songino Array**	**93.98**	**320**	P	P	P	08 29 38.2	-0.1
	0.5nm,0.9s,baz=116,slow=6.6,SNR=3.3							

IDC 08 08:26:32.0±1.2, 12°59N×87°00W, h0km, mb3.5/7, mb1 3.9/9, mb1mx3.6/39, mbtmp3.6/9, ML3.4/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/25, Error ellipse: s-maj=45.8km s-min=14.1km az=47.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.04**	**138**	Pn	Pn	Pn	08 27 22.3	+1.0
	5.4nm,0.3s,baz=314,slow=18,SNR=43							
JTS				Lg	Lg	Lg	08 28 07.5	
	8.1nm,0.3s,baz=294,slow=22,SNR=8.3							
JTS				LR	LR	LR	08 28 42.2	
	comp=Z,153nm,20.1s,baz=125,slow=43							
APG	**El Apazote**	**4.14**	**306**	Pn	Pn	Pn	08 27 37.4	+0.6
	1.7nm,0.3s,baz=107,slow=8.3,SNR=18							
APG				Lg	Lg	Lg	08 28 43.3	
	1.3nm,0.3s,baz=20,slow=21,SNR=3.6							
SJG	**San Juan**	**20.83**	**72**	LR	LR	LR	08 39 53.6	
	comp=Z,113nm,19.7s,baz=270,slow=38							
ATAH	**Atahualpa**	**21.38**	**156**	LR	LR	LR	08 38 42.5	
	comp=Z,82nm,21.7s,baz=338,slow=34							
TXAR	**Lajitas Array**	**22.75**	**320**	P	P	P	08 31 34.7	-1.4

0.7nm,0.9s,baz=130,slow=11,SNR=3.4
TKL Tuckaleechee C 23.16 7 P P 08 31 40.1 0.0
4.0nm,0.9s,baz=203,slow=7.7,SNR=3.2
LPIG La Paz 24.87 301 LR LR 08 40 38.3
comp=Z,59nm,18.3s,baz=141,slow=34
PTGA Pitinga 29.91 114 LR LR 08 46 20.3
comp=Z,55nm,21.6s,baz=182,slow=40
PDAR Pinedale Array 35.87 331 P P 08 33 35.3 +1.4
0.7nm,1.0s,baz=134,slow=10,SNR=3.4
NVAR Mina Array Bea 37.89 318 P P 08 33 50.8 -0.5
0.4nm,0.8s,baz=114,slow=8.1,SNR=3.6
YKA Yellowknife Ar 53.60 344 P P 08 35 53.5 -1.2
0.8nm,1.0s,baz=137,slow=7.4,SNR=10
INK Inuvik 63.21 342 P P 08 37 02.5 +0.8
1.1nm,1.0s,baz=111,slow=8.6,SNR=3.4
ILAR Eielson Array 66.08 336 P P 08 37 20.7 +0.1
0.6nm,1.0s,baz=108,slow=5.1,SNR=4.2
ASAR Alice Springs 139.73 248 PKP PKPdf 08 46 02.6 -0.2
0.3nm,0.7s,baz=84,slow=1.8,SNR=5.1
WRA Warramunga Arr 139.73 254 PKP PKPdf 08 46 02.1 -0.8
0.6nm,0.7s,baz=90,slow=1.9,SNR=9.6

*IDC **08** 08:43:05.6±2.6, 1.°86N×96.°72E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/44, mbtmp3.7/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/40, Error ellipse: s-maj=106.3km s-min=19.9km az=59.0*
*ISCJB **08** 08:43:08.6±0.9, 1.°91N±0.°07×96.°86E±0.°08, h28km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=12.5km s-min=8.7km az=136.2*
*DJA **08** 08:43:12.3±0.6, 2.°N±4.°×9.°7E±.°, h10km, M4.1/6, MLv4.1/6*
ISC 08 08:43:10.1±1.0, **1.°99N**±0.°08×**96.°91E**±0.°07, **h28**km**, n16, σ1९04/14, mb3.8/6, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.72**	**305**	P	**Pb**	**08 43 23.5**	**-0.6**
SNSI				S	**Sb**	**08 43 32.0**	**-1.7**
TPTI		**1.29**	**12**	P	**Pn**	**08 43 32.2**	**-0.1**
TPTI				S	**Sn**	**08 43 48.4**	**-0.2**
KCSI	**Kotacane, Aceh**	**1.75**	**29**	P	**Pb**	**08 43 40.6**	**-0.9**
MNSI	**Mandailing Nat**	**2.92**	**114**	P	**Pb**	**08 44 00.5**	**-1.0**
LHMI	**Lhok Sumawe**	**3.22**	**1**	P	**Pn**	**08 44 01.2**	**+2.4**
CMAR	**Chiang Mai Arr**	**16.49**	**7**	Pn	**P**	**08 47 01.5**	**-0.5**
	baz=198,slow=12,SNR=15						
H08S2	**Diego Garcia H**	**26.18**	**248**	T	T	09 15 32.8	
	baz=72						
H08S3	**Diego Garcia H**	**26.18**	**248**	T	T	09 15 40.8	
	baz=72						
H08S1	**Diego Carcia H**	**26.19**	**248**	T	T	09 15 41.9	
	baz=72						
WRA	**Warramunga Arr**	**42.70**	**123**	P	**P**	**08 51 05.7**	**+0.7**
	0.3nm,0.9s,baz=304,slow=9.0,SNR=3.2						
ASAR	**Alice Springs**	**44.10**	**128**	P	**P**	**08 51 16.1**	**-0.2**
	0.2nm,0.8s,baz=297,slow=8.2,SNR=2.7						
KSRS	**Korea Array**	**45.37**	**35**	LR	LR	09 13 48.7	
	comp=Z,52nm,18.4s,baz=204,slow=40						
SONM	**Songino Array**	**46.40**	**9**	P	**P**	**08 51 34.5**	**+0.3**
	0.8nm,0.7s,baz=195,slow=8.1,SNR=6.4						
MKAR	**Makanchi Array**	**46.41**	**346**	P	**P**	**08 51 34.5**	**+0.2**
	1.7nm,0.7s,baz=184,slow=8.1,SNR=11						
KURBB	**Kurchatov Arra**	**50.90**	**345**	P	**P**	**08 52 09.2**	**+0.6**
	0.9nm,0.7s,baz=165,slow=7.1,SNR=6.1						
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**08 52 22.6**	**+0.2**
	2.3nm,0.8s,baz=180,slow=5.8,SNR=8.0						

*IDC **08** 08:44:10.7±1.4, 2.°06N×96.°56E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/29, mbtmp4.2/12, ML4.6/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/44, Error ellipse: s-maj=52.7km s-min=17.5km az=55.0*
*ISCJB **08** 08:44:12.8±0.6, 2.°01N±0.°05×96.°54E±0.°05, h28km, mb4.1/13, MS2.8/2, Error ellipse: s-maj=7.5km s-min=7.3km az=169.0*
*DJA **08** 08:44:15.2±0.8, 2.°N±4.°×9.°7E±.°, h10km, M4.3/3, MLv4.3/3*
*NEIC **08** 08:44:16.2±0.5, 2.°12N×96.°66E, h35km, mb4.0/2, Error ellipse: s-maj=11.7km s-min=7.5km az=54.0*
ISC 08 08:44:15.3±0.9, **2.°09N**±0.°08×**96.°61E**±0.°07, **h28**km**, n32, σ0९84/27, mb4.2/13, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.42**	**319**	P	**Pn**	**08 44 26.2**	**+0.7**
TPTI		**1.30**	**26**	P	**Pn**	**08 44 37.4**	**-0.1**
TPTI				S	**Sb**	**08 44 55.1**	**-0.2**
KCSI	**Kotacane, Aceh**	**1.84**	**39**	P	**Pn**	**08 44 46.5**	**+1.5**
KCSI				S	**Sb**	**08 45 09.5**	**-1.4**
LHMI	**Lhok Sumawe**	**3.14**	**6**	*e*Pn	**Pn**	**08 45 01.6**	**-1.3**
MNSI	**Mandailing Nat**	**3.24**	**113**	S	**Sn**	**08 45 41.9**	**0.0**
IPM	**Ipoh**	**5.01**	**62**	*e*Pn	**Pn**	**08 45 29.3**	**+0.6**
KULM	**Kulim**	**5.14**	**52**	*e*Pn	**Pn**	**08 45 29.6**	**-0.8**
	73nm,0.6s						
KULM				*e*Sn	**Sn**	**08 46 30.8**	**+2.0**
CMAR	**Chiang Mai Arr**	**16.43**	**8**	Pn	**Pn**	**08 48 04.3**	**+0.3**
	0.8nm,0.3s,baz=198,slow=11,SNR=19						
CMAR				LR	LR	08 54 37.2	
	comp=Z,152nm,19.6s,baz=213,slow=38						
PALK	**Pallekele**	**16.66**	**289**	LR	LR	08 53 33.7	
	comp=Z,320nm,21.3s,baz=118,slow=34						
H08S2	**Diego Garcia H**	**25.93**	**248**	T	T	09 16 32.7	
	baz=68,slow=76,SNR=458						
H08S3	**Diego Garcia H**	**25.93**	**248**	T	T	09 16 34.2	
	baz=68,slow=76,SNR=290						
H08S1	**Diego Garcia H**	**25.95**	**248**	T	T	09 16 40.1	
	baz=68,slow=76,SNR=704						
TGY	**Tagaytay City**	**26.84**	**62**	LR	LR	09 00 40.4	
	comp=Z,8.5nm,20.1s,baz=121,slow=37						
H01W3	**Cape Leeuwin H**	**40.29**	**157**	T	T	09 34 36.5	
	baz=334,slow=74						
H01W2	**Cape Leeuwin H**	**40.30**	**157**	T	T	09 34 36.4	
	baz=334						
H01W1	**Cape Leeuwin H**	**40.30**	**157**	T	T	09 34 40.3	
	baz=334,slow=74						
WRA	**Warramunga Arr**	**43.01**	**122**	P	**P**	**08 52 12.1**	**-0.6**
	3.1nm,0.6s,baz=300,slow=9.4,SNR=25						
WRA				LR	LR	09 12 12.9	
	comp=Z,38nm,19.5s,baz=300,slow=39						
WRAB	**Tennant Creek**	**43.01**	**122**	*e*P	**P**	**08 52 12.3**	**-0.4**
	2.7nm,0.5s						
WB2	**Warramunga Arr**	**43.02**	**122**	*e*P	**P**	**08 52 12.3**	**-0.5**
ASAR	**Alice Springs**	**44.40**	**127**	P	**P**	**08 52 23.9**	**+0.1**
	1.5nm,0.9s,baz=301,slow=8.2,SNR=15						
AAK	**Ala-Archa**	**44.95**	**337**	P	**P**	**08 52 28.3**	**+0.2**
	0.6nm,0.4s,baz=159,slow=8.6,SNR=2.6						
KSAR	**Wonju Array Be**	**45.43**	**35**	P	**P**	**08 52 31.5**	**-0.3**
KSRS	**Korea Array**	**45.47**	**35**	P	**P**	**08 52 31.5**	**-0.5**
	2.1nm,0.7s,baz=227,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**46.24**	**346**	P	**P**	**08 52 38.2**	**+0.1**
	4.8nm,0.7s,baz=160,slow=7.8,SNR=21						
SONM	**Songino Array**	**46.35**	**9**	P	**P**	**08 52 39.1**	**+0.1**
	2.7nm,0.8s,baz=187,slow=9.3,SNR=15						
KURBB	**Kurchatov Arra**	**50.73**	**345**	P	**P**	**08 53 12.9**	**+0.4**
	1.9nm,0.7s,baz=166,slow=6.9,SNR=19						
KURK	**Kurchatov**	**50.79**	**345**	*e*P	**P**	**08 53 13.2**	**+0.3**
ZALV	**Zalesovo Beam**	**52.59**	**351**	P	**P**	**08 53 24.8**	**-1.6**
	5.8nm,0.6s,baz=182,slow=8.4,SNR=16						
BVAR	**Borovoye Array**	**55.22**	**341**	P	**P**	**08 53 45.3**	**-0.3**
	1.4nm,0.7s,baz=120,slow=8.7,SNR=5.8						
ABKAR	**Akbulak array**	**56.46**	**332**	*e*P	**P**	**08 53 55.2**	**+0.6**
	0.2nm,0.3s						
FINES	**FINESS Array B**	**78.94**	**333**	P	**P**	**08 56 15.3**	**-0.7**
	1.0nm,0.8s,baz=139,slow=8.7,SNR=3.2						
ARCES	**ARCESS Array B**	**81.50**	**340**	P	**P**	**08 56 30.3**	**+0.5**
	2.0nm,0.9s,baz=99,slow=5.6,SNR=3.7						

*IDC **08** 08:45:07.6±1.0, 32.°64N×105.°05E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/46, mbtmp3.6/10, ML3.6/1, Error ellipse: s-maj=28.1km s-min=18.2km az=54.0*
*ISCJB **08** 08:45:08.0±0.9, 32.°6N±0.°1×105.°1E±0.°1, h15km, mb3.6/8, Error ellipse: s-maj=20.0km s-min=14.4km az=135.7*
ISC 08 08:45:10.0±1.3, **32.°6N**±0.°2×**105.°1E**±0.°2, **h15**km**, n10, σ0९43/10, mb3.7/8, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**15.21**	**3**	Pn	**Pn**	**08 48 44.2**	**0.0**
	baz=185,slow=7.1,SNR=3.2						
KSRS	**Korea Array**	**19.30**	**69**	P	**P**	**08 49 34.2**	**-0.2**
	0.2nm,0.3s,baz=257,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**22.40**	**316**	P	**P**	**08 50 08.4**	**+0.5**
	0.6nm,0.6s,baz=113,slow=12,SNR=9.3						
USRK	**Ussuriysk Ar.**	**23.93**	**53**	P	**P**	**08 50 23.1**	**-0.3**
	1.7nm,0.6s,baz=254,slow=10,SNR=4.6						
ZALV	**Zalesovo Beam**	**25.72**	**332**	P	**P**	**08 50 39.6**	**0.0**
	1.3nm,0.6s,baz=149,slow=9.4,SNR=6.8						
KURBB	**Kurchatov Arra**	**26.54**	**320**	P	**P**	**08 50 46.3**	**-0.7**
	1.0nm,0.7s,baz=122,slow=11,SNR=2.7						
PETK	**Petropavlovsk-**	**42.52**	**45**	P	**P**	**08 53 05.2**	**+0.5**
	1.3nm,0.4s,baz=269,slow=5.8,SNR=2.0						
WRA	**Warramunga Arr**	**59.31**	**148**	P	**P**	**08 55 11.2**	**-0.2**
	0.5nm,0.7s,baz=339,slow=7.2,SNR=4.4						
ASAR	**Alice Springs**	**62.40**	**150**	P	**P**	**08 55 32.7**	**+0.3**
	0.4nm,1.0s,baz=335,slow=6.4,SNR=3.2						
YKA	**Yellowknife Ar**	**79.98**	**18**	P	**P**	**08 57 18.0**	**-0.2**
	0.3nm,0.6s,baz=331,slow=5.5,SNR=11						

MEX 08 08:48:18.9±0.3, **15.°67N**×**95.°31W**, **h20**km±17km**, MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.77**	**277**	*i* P	Pb	08 48 31.3	-2.4
HUIG				*i* S	Sb	08 48 40.9	-2.9
VHO	**Vista Hermosa**	**1.95**	**316**	*e*P	Pn	08 48 48.6	-2.6
VHO				*e*S	Sn	08 49 10.8	-4.5
PCIG		**2.02**	**89**	*e*P	Pn	08 48 49.3	-2.5
PCIG				*e*S	Sn	08 49 12.4	-4.0
PNIG	**Pinotepa**	**2.80**	**285**	*e*P	Pn	08 48 59.9	-2.7
PNIG				*e*S	Sn	08 49 32.4	-3.5
TLIG	**Tlapa**	**3.64**	**302**	*e*P	Pn	08 49 12.7	-1.7
TLIG				*i* S	Sn	08 49 53.7	-3.2

*IDC **08** 08:53:51.9±3.9, 5.°37S×147.°11E, h160km±32km, mb3.1/4, mb1 3.4/5, mb1mx3.1/30, mbtmp3.7/5, Error ellipse: s-maj=69.0km s-min=15.5km az=111.0*
*ISCJB **08** 08:53:54.4±1.8, 5.°4S±0.°2×147.°0E±0.°5, h195km, mb3.3/4, Error ellipse: s-maj=73.9km s-min=20.1km az=21.5*
ISC 08 08:53:55.5±1.9, **5.°4S**±0.°3×**147.°2E**±0.°5, **h195**km**, n6, σ1९55/7, mb3.4/4, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.13**	**220**	P	**P**	**08 58 02.6**	**-1.5**
	0.6nm,0.3s,baz=46,slow=11,SNR=42						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**08 58 35.3**	**-1.3**
	1.5nm,0.7s,baz=48,slow=8.2,SNR=16						
ASAR				S	**S**	**09 02 29.1**	**+2.3**
	0.6nm,1.0s,baz=32,slow=23,SNR=5.3						
MKAR	**Makanchi Array**	**77.13**	**320**	P	**P**	**09 05 28.0**	**+0.4**
	0.2nm,0.7s,baz=116,slow=3.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**78.58**	**328**	P	**P**	**09 05 34.8**	**-0.5**
	0.4nm,0.3s,baz=110,slow=8.0,SNR=2.3						
ILAR	**Eielson Array**	**84.83**	**23**	P	**P**	**09 06 08.2**	**+0.4**
	0.3nm,0.7s,baz=247,slow=5.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**145.10**	**285**	PKPbc	**PKPab**	**09 13 11.2**	**+0.3**
	0.3nm,0.6s,baz=65,slow=3.2,SNR=5.5						

*IDC **08** 08:57:01.7±1.2, 34.°69S×72.°02W, h0km, mb3.8/6, mb1 3.9/9, mb1mx3.8/19, mbtmp3.7/9, ML3.6/3, Error ellipse: s-maj=38.0km s-min=20.1km az=84.0*
*GUC **08** 08:57:08.3±0.5, 34.°73S×71.°83W, h45km±3km, ML4.0*
ISC 08 08:57:06.1±1.4, **34.°67S**±0.°04×**71.°90W**±0.°08, **h28**km±11km**, n17, σ0९99/24, mb3.8/5, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.64**	**121**	⇓*i* P	**Pn**	**08 57 19.9**	**+0.6**
NICH				*i* S	**Sn**	**08 57 28.7**	**+0.1**
NICH				AML	AML	08 57 28.9	
	comp=N,13μm,0.3s						
TALC	**Talca**	**0.76**	**163**	*i* P	**Pn**	**08 57 21.9**	**+1.0**
TALC				*i* S	**Sn**	**08 57 31.7**	**+0.3**
TALC				AML	AML	08 57 34.0	
	comp=E,36μm,0.0s						
LNCH	**Linares**	**1.20**	**168**	*i* P	**Pb**	**08 57 28.1**	**-0.1**
LNCH				*i* S	**Sb**	**08 57 43.7**	**+0.4**
LNCH				AML	AML	08 57 44.5	
	comp=N,4μm,0.2s						
COCH	**Cobquecura**	**1.63**	**206**	*i* P	**Pb**	**08 57 34.7**	**-0.7**
SJCH	**San Jose de Ma**	**1.64**	**52**	*e*P	**Pb**	**08 57 34.8**	**-0.9**
LACH	**Col Las Americ**	**1.66**	**43**	*i* P	**Pb**	**08 57 35.7**	**-0.3**
LACH				*i* S	**Sb**	**08 57 57.4**	**+0.7**
LACH				AML	AML	08 58 03.7	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**1.70**	**42**	*i* P	**Pb**	**08 57 37.2**	**+0.5**
CLCH				*i* S	**Sb**	**08 57 59.0**	**+1.2**
CLCH				AML	AML	08 58 05.1	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.83**	**34**	*i* P	**Pb**	**08 57 38.8**	**-0.1**
PEL				*i* S	**Sb**	**08 58 02.0**	**+0.7**
PEL				AML	AML	08 58 07.1	
	comp=N,3μm,0.5s						
CFAA	**Coronel Fontan**	**4.33**	**46**	Pn	**Pn**	**08 58 11.0**	**+0.9**
	comp=N,0.4nm,0.3s,baz=209,slow=11,SNR=58						
CFAA				Sn	**Sb**	**08 59 10.1**	**-3.3**
	comp=N,0.6nm,0.3s,baz=326,slow=15,SNR=8.7						
PLCA	**Paso Flores**	**6.15**	**170**	Pn	**Pn**	**08 58 34.6**	**-0.4**
	comp=N,0.9nm,0.3s,baz=336,slow=12,SNR=28						
PLCA				Lg	Lg	09 00 18.3	
	comp=N,0.5nm,0.3s,baz=284,slow=12,SNR=4.4						
LPAZ	**La Paz**	**18.61**	**11**	P	**Pn**	**09 01 22.7**	**+0.3**
	comp=N,0.1nm,0.3s,baz=193,slow=3.4,SNR=2.8						
SIV	**San Ignacio**	**20.99**	**30**	P	**P**	**09 01 47.4**	**+0.1**
	comp=N,2.8nm,1.0s,baz=217,slow=5.1,SNR=3.6						
ATAH	**Atahualpa**	**28.05**	**346**	P	**P**	**09 02 56.5**	**+0.9**
	comp=N,2.8nm,0.5s,baz=150,slow=16,SNR=2.1						
TXAR	**Lajitas Array**	**70.37**	**331**	P	**P**	**09 08 17.6**	**+0.1**
	comp=N,0.2nm,0.5s,baz=144,slow=6.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**09 09 35.4**	**-0.5**
	comp=N,0.5nm,0.8s,baz=258,slow=4.2,SNR=3.3						
PDAR	**Pinedale Array**	**84.41**	**333**	P	**P**	**09 09 35.6**	**-0.3**
	comp=N,0.2nm,0.5s,baz=123,slow=4.4,SNR=2.6						
ULM	**Lac du Bonnet**	**87.17**	**345**	P	**P**	**09 09 48.5**	**-0.6**
	comp=N,1.0nm,0.5s,baz=185,slow=11,SNR=2.5						

*BJI **08** 08:58:11.7, 6.°08S×104.°97E, h211km, mB4.8/29, mb4.7/37*
*ISCJB **08** 08:58:18.7±0.2, 5.°15S±0.°03×104.°96E±0.°02, h202km±1km, mb4.6/81, Error ellipse: s-maj=5.0km s-min=2.6km az=36.0*
*MOS **08** 08:58:19.7±1.2, 4.°81S×105.°18E, h202km, mb4.7/29, Error ellipse: s-maj=10.9km s-min=5.9km az=118.5*
*IDC **08** 08:58:20.1±0.6, 4.°93S×105.°10E, h196km±4km, mb4.3/36, mb1 4.4/38, mb1mx4.4/39, mbtmp4.8/38, Error ellipse: s-maj=9.0km s-min=6.2km az=55.0*
*DJA **08** 08:58:20.1±0.2, 5.°S±2.°×10.°5E±.°, h189km±2km, M4.8/63, mB5.3/43, mb5.2/63, MLv5.2/37, Mw(mB)4.7/43*
*KLM **08** 08:58:20.8, 5.°08S×105.°07E, h200km, mb5.0, ML5.3, MS5.8*
*NEIC **08** 08:58:20.2±0.5, 5.°02S×105.°06E, h199km±4km, mb4.7/23, Error ellipse: s-maj=7.3km s-min=4.5km az=224.0*
ISC 08 08:58:20.8±0.3, **5.°12S**±0.°03×**105.°02E**±0.°04, **h207**km±2km**, h208**km**:pP-P, n808, σ1९22/896, mb4.6/81, 219C-202D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLI	**Kotabumi**	**0.30**	**327**	P	**Pn**	**08 58 46.3**	**-2.0**
BLSI	**Bandar Lampung**	**0.33**	**138**	P	**Pn**	**08 58 46.2**	**-2.1**
BLSI				S	S	08 59 03.3	-6.5
KLSI		**0.51**	**326**	P	**Pn**	**08 58 46.3**	**-2.6**
KLSI				S	**S**	**08 59 07.3**	**-3.5**
KASI	**Kota Agung**	**0.66**	**232**	P	**Pn**	**08 58 47.2**	**-2.3**
KASI				S	**S**	**08 59 06.9**	**-4.8**
LWLI	**Liwa**	**0.96**	**276**	P	**Pn**	**08 58 49.7**	**-1.6**
MDSI	**Maura Dua**	**1.05**	**307**	P	**Pn**	**08 58 50.0**	**-1.7**
MDSI				S	**S**	**08 59 10.7**	**-4.8**
SBJI	**Serang**	**1.49**	**132**	P	**Pn**	**08 58 53.2**	**-1.9**
CGJI	**Cibinong**	**1.63**	**156**	P	**Pn**	**08 58 53.4**	**-3.0**
CGJI				S	**S**	**08 59 19.8**	**-4.0**
TNG	**Tangerang**	**1.93**	**123**	P	**Pn**	**08 58 57.5**	**-1.7**
TNG				P	**Pn**	**08 58 57.7**	**-1.5**
LHSI	**Lahat**	**1.97**	**311**	P	**Pn**	**08 58 59.3**	**-0.3**
MNAI	**Manna**	**2.19**	**290**	P	**Pn**	**08 59 01.3**	**-0.6**
MNAI				S	**S**	**08 59 30.0**	**-3.4**
MNAI	**Manna**	**2.19**	**290**	*e*Pn	**Pn**	**08 59 01.6**	**-0.3**
MNAI				*e*S	**S**	**08 59 29.9**	**-3.4**
SKJI	**Sukabumi**	**2.42**	**141**	P	**Pn**	**08 59 01.9**	**-2.4**
SKJI				S	**S**	**08 59 35.0**	**-2.8**
CNJI	**Cibinong**	**3.02**	**136**	P	Pn	08 59 07.9	-3.2
CNJI				S	**S**	**08 59 46.6**	**-3.4**
LEM	**Lembang**	**3.09**	**123**	P	**Pn**	**08 59 11.7**	**-0.5**
	106nm,0.3s,baz=332,slow=6.1,SNR=102						
LEM				S	**S**	**08 59 51.1**	**-0.6**
	22nm,0.3s,baz=218,slow=19,SNR=2.5						
TPI	**Tanjungpandan**	**3.52**	**48**	P	**Pn**	**08 59 16.2**	**-0.9**
TPI				S	**S**	**08 59 59.0**	**-1.7**
CISI	**Cisompet, Garu**	**3.69**	**131**	P	**Pn**	**08 59 16.8**	**-2.3**
CISI				S	**S**	**09 00 00.2**	**-4.2**
CISI	**Cisompet, Garu**	**3.69**	**131**	*e*Pn	**Pn**	**08 59 16.0**	**-3.2**
CISI				*e*S	**S**	**09 00 01.1**	**-3.3**
JMBI	**JAMBI**	**3.73**	**338**	P	**Pn**	**08 59 19.8**	**+0.2**
CMJI	**Cimerak**	**4.31**	**128**	P	**Pn**	**08 59 23.9**	**-2.9**
KPJI	**Karang Pucung**	**4.47**	**120**	P	**Pn**	**08 59 27.8**	**-0.9**
XMIS	**Christmas Isla**	**5.37**	**173**	*e*Pn	Pn	08 59 35.2	-4.9
	615nm,0.3s						
XMIS				*e*S	S	09 00 34.9	-7.7
SDSI	**Sungai Dareh**	**5.49**	**319**	P	**Pn**	**08 59 40.5**	**-1.2**
	880nm,0.8s,9μm2.9nm						
TPRI	**Tanjung Pinang**	**6.02**	**355**	P	**Pn**	**08 59 48.6**	**+0.1**
	454nm,0.9s,1.8nm						
UGM	**Wanagama**	**6.13**	**117**	P	**Pn**	**08 59 48.3**	**-1.7**
	801nm,0.9s,9μm2.9nm						
UGM	**Wanagama**	**6.13**	**117**	*e*Pn	**Pn**	**08 59 48.3**	**-1.7**
WOJI	**Wonogiri, Jawa**	**6.46**	**115**	P	**Pn**	**08 59 52.7**	**-1.4**
	498nm,0.8s,6μm1.6nm						
BKNI	**Bangkinang**	**6.71**	**324**	P	**Pn**	**08 59 56.7**	**-0.8**
	2μm,0.8s,13μm5.7nm						
BKNI	**Bangkinang**	**6.71**	**324**	*e*Pn	**Pn**	**08 59 56.9**	**-0.6**
PCJI	**Pacitan**	**6.84**	**117**	P	**Pn**	**08 59 56.6**	**-2.4**
	477nm,0.6s,8μm1.8nm						
MYKOM	**Kota Tinggi**	**6.96**	**350**	⇑P	**Pn**	**09 00 00.6**	**-0.1**
MYKOM	**Kota Tinggi**	**6.96**	**350**	*e*Pn	**Pn**	**09 00 00.4**	**-0.3**
TBJI	**Tambak Boyo**	**7.00**	**104**	P	**Pn**	**09 00 00.7**	**-0.4**
	361nm,0.9s,4μm1.1nm						
KGM	**Kluang**	**7.29**	**346**	⇓P	**Pn**	**09 00 04.9**	**0.0**
PWJI	**Pagerwojo**	**7.33**	**114**	P	**Pn**	**09 00 04.0**	**-1.4**
	254nm,0.7s,4μm0.8nm						
GRJI	**Gresik**	**7.63**	**104**	P	**Pn**	**09 00 10.0**	**+0.7**
	266nm,0.8s,2μm0.8nm						
MNSI	**Mandailing Nat**	**8.00**	**317**	P	**Pn**	**09 00 11.6**	**-2.6**
	855nm,0.7s,10μm3.3nm						
STKI	**Sintang**	**8.25**	**52**	P	**Pn**	**09 00 18.8**	**+1.4**
	92nm,1.8s						
KSM	**Kuching**	**8.41**	**39**	*e*Pn	**Pn**	**09 00 19.8**	**+0.3**
BLJI	**Banyuglugur**	**8.91**	**107**	P	**Pn**	**09 00 27.0**	**+1.0**
	470nm,0.6s,5μm						
GMJI	**Gumukmas**	**8.93**	**111**	P	**Pn**	**09 00 26.3**	**0.0**
	144nm,0.5s,2μm						
FRIM	**Kepong**	**8.97**	**338**	⇑P	**Pn**	**09 00 26.8**	**+0.1**
KMMI	**Kalianget**	**9.10**	**103**	P	**Pn**	**09 00 29.0**	**+0.6**
	205nm,1.1s,3μm						
ABJI	**Asem Bagus**	**9.53**	**107**	P	**Pn**	**09 00 35.1**	**+1.1**
	2μm,0.7s,18μm						
JAGI	**Jajag, Banyuwa**	**9.66**	**111**	*e*Pn	**Pn**	**09 00 33.5**	**-2.2**
	559nm,0.6s						
JAGI				*e*S	**S**	**09 02 23.4**	**-0.6**
BBKI	**Banjar Baru**	**9.93**	**81**	P	**P**	**09 00 44.8**	**-2.0**
IPM	**Ipoh**	**10.34**	**337**	⇓P	**Pn**	**09 00 44.9**	**+0.5**
IPM	**Ipoh**	**10.34**	**337**	*e*Pn	**Pn**	**09 00 44.7**	**+0.3**
SBUM	**Sibu**	**10.40**	**44**	*e*Pn	**Pn**	**09 00 47.2**	**+1.9**
SRBI	**Singaraja**	**10.54**	**107**	P	**Pn**	**09 00 46.5**	**-0.6**
	192nm,0.8s,2μm						
MTKI	**Muara Teweh, K**	**10.70**	**68**	P	P	09 00 59.5	+3.9
IGBI	**Denpasar**	**10.70**	**111**	P	**Pn**	**09 00 49.9**	**+0.8**
	150nm,0.6s,4μm						
COCO	**West Island**	**10.71**	**228**	*e*P	**Pn**	**09 00 48.3**	**-0.9**
COCO	**West Island**	**10.71**	**228**	*e*Pn	**Pn**	**09 00 48.3**	**-0.9**
DNP	**Denpasar**	**10.71**	**110**	P	**Pn**	**09 00 50.2**	**+1.0**
	472nm,0.5s						
KULM	**Kulim**	**11.22**	**337**	*e*Pn	**Pn**	**09 00 53.6**	**-2.1**
KCSI	**Kotacane, Aceh**	**11.23**	**320**	P	Pn	09 00 51.2	-4.7
TPTI		**11.43**	**317**	P	Pn	09 00 54.7	-3.7
	146nm,0.7s,30μm						
SNSI	**Sinabang, Aceh**	**11.46**	**311**	P	**Pn**	**09 00 56.6**	**-2.2**
	759nm,0.7s,6μm						
LHMI	**Lhok Sumawe**	**13.06**	**322**	P	Pn	09 01 15.5	-3.5
LHMI	**Lhok Sumawe**	**13.06**	**322**	*e*Pn	Pn	09 01 14.7	-4.3
LHMI				*e*S	**S**	**09 03 41.5**	**-2.6**
PKDT	**Phuket**	**14.54**	**333**	P	**Pn**	**09 01 34.4**	**-2.9**
	38nm,0.7s,3μm						
KAPI	**K

GYA sP **sP** **09 05 33.4 +4.2**
GYA PP **PP** **09 05 38.0 -0.5**
GYA PcP **PcP** **09 07 11.2 -0.1**
GYA S **S** **09 09 17.6 +2.2**
GYA sS **ScP** **09 10 34.3 -0.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.7s
WRA **Warramunga Arr** **32.10 120** P **P** **09 04 28.4 -0.4**
comp=Z,12nm,0.6s,baz=294,slow=9.6,SNR=111
WRA PcP **PcP** **09 07 13.7 +0.5**
comp=Z,8.5nm,0.5s,baz=300,slow=2.0,SNR=16
WRA S **S** **09 09 22.2 -3.7**
comp=Z,7.9nm,0.8s,baz=295,slow=16,SNR=19
WRAB **Tennant Creek** **32.11 120** P **P** **09 04 28.3 -0.6**
comp=Z,203nm,0.5s,SNR=50
WRAB **Tennant Creek** **32.11 120** *e*P **P** **09 04 28.7 -0.2**
WRAB *e* 09 07 14.0
WRAB pmax pmax
comp=Z,19nm,0.7s
WRAB **Tennant Creek** **32.11 120** *e*P **P** **09 04 28.6 -0.2**
comp=Z,19nm,0.7s
WRAB *e*PcP **PcP** **09 07 14.0 +0.9**
WB2 **Warramunga Arr** **32.12 120** *e*P **P** **09 04 28.6 -0.4**
WB2 *e*PcP **PcP** **09 07 13.9 +0.8**
AS31 **Alice Springs** **33.38 126** *e*P **P** **09 04 40.3 +0.4**
AS31 *e*PcP **PcP** **09 07 17.7 +1.0**
ASAR **Alice Springs** **33.38 126** P **P** **09 04 40.3 +0.4**
comp=Z,24nm,0.5s,baz=299,slow=8.3,SNR=472
ASAR PcP **PcP** **09 07 17.6 +0.9**
comp=Z,15nm,0.7s,baz=306,slow=2.3,SNR=35
ASAR S **S** **09 09 43.0 -2.6**
comp=Z,14nm,0.8s,baz=295,slow=15,SNR=32
ASAR ScP **ScP** **09 10 42.4 +0.9**
comp=Z,4.1nm,0.7s,baz=286,slow=2.9,SNR=5.5
ASAR PKiKP **PKiKP** **09 14 41.0 -0.9**
comp=Z,0.5nm,0.5s,baz=330,slow=0.6,SNR=6.2
JAY **Jayapura** **35.69 87** P **P** **09 05 01.6 +1.7**
comp=Z,119nm,0.7s,comp=Z,14μm
JAY **Jayapura** **35.69 87** P **P** **09 04 58.3 -1.6**
comp=Z,42nm,0.8s,baz=184,slow=12,SNR=9.4
CD2 **Chengdu** **35.84 358** *e*P **P** **09 05 02.4 +1.5**
CD2 pP **pP** **09 05 46.6 +2.7**
CD2 sP **sP** **09 06 10.7 +3.1**
CD2 S **S** **09 10 24.8 +1.7**
CD2 sS **sS** **09 11 42.4 +3.0**
CD2 SS **SS** **09 13 02.9 -6.1**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.6s
ODAN **Odare** **36.08 333** *e*P **P** **09 05 02.2 -1.0**
comp=Z,11nm,0.4s
ODAN **Odare** **36.08 333** *e*P **PcP** **09 07 25.3 +0.6**
comp=Z,39nm,0.6s
ODAN **Odare** **36.08 333** *e*P **ScP** **09 10 51.7 +0.3**
comp=Z,39nm,0.6s
TAPN **Taplejung** **36.36 333** *e*P **P** **09 05 05.0 -0.6**
comp=Z,20nm,0.6s
TAPN **Taplejung** **36.36 333** *e*P **PcP** **09 07 26.1 +0.5**
comp=Z,13nm,0.4s
TAPN **Taplejung** **36.36 333** *e*P **ScP** **09 10 52.9 +0.4**
comp=Z,26nm,0.8s
RAMN **Ramite** **36.52 332** *e*P **P** **09 05 05.9 -1.1**
comp=Z,7.7nm,0.3s
RAMN **Ramite** **36.52 332** *e*P **PcP** **09 07 26.5 +0.5**
comp=Z,36nm,0.6s
RAMN **Ramite** **36.52 332** *e*P **ScP** **09 10 53.6 +0.6**
comp=Z,53nm,0.6s
LSA **Lhasa** **37.09 340** *e*P **P** **09 05 12.3 +0.4**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA **Lhasa** **37.09 340** *e*P **P** **09 05 12.3 +0.4**
comp=Z,8.7nm,0.6s
JIRN **Jiri** **37.32 332** *e*P **P** **09 05 12.0 -1.8**
JIRN **Jiri** **37.32 332** *e*P **PcP** **09 07 29.4 +0.8**
comp=Z,23nm,0.7s
JIRN **Jiri** **37.32 332** *e*P **ScP** **09 10 56.5 +0.4**
comp=Z,58nm,0.6s
PKI **Pulchoki** **37.62 331** *e*P **P** **09 05 14.5 -1.7**
PKI **Pulchoki** **37.62 331** *e*P **PcP** **09 07 30.0 +0.5**
comp=Z,42nm,1.1s
PKI **Pulchoki** **37.62 331** *e*P **ScP** **09 10 57.2 0.0**
comp=Z,29nm,0.7s
PKIN **Phulchoki** **37.63 331** *e*P **ScP** **09 10 56.8 -0.4**
comp=Z,19nm,0.9s
GUN **Gumba** **37.67 332** *e*P **P** **09 05 15.6 -1.1**
comp=Z,16nm,0.3s
GUN **Gumba** **37.67 332** *e*P **PcP** **09 07 30.5 +0.8**
comp=Z,46nm,0.4s
GUN **Gumba** **37.67 332** *e*P **ScP** **09 10 57.8 +0.3**
comp=Z,56nm,0.7s
KKN **Kakani** **37.86 331** *e*P **P** **09 05 17.0 -1.2**
comp=Z,14nm,0.5s
KKN **Kakani** **37.86 331** *e*P **PcP** **09 07 30.8 +0.7**
comp=Z,28nm,0.5s
KKN **Kakani** **37.86 331** *e*P **ScP** **09 10 58.5 +0.5**
comp=Z,36nm,0.6s
GKN **Gorkha** **38.35 330** *e*P **P** **09 05 20.6 -1.6**
comp=Z,13nm,0.3s
GKN **Gorkha** **38.35 330** *e*P **PcP** **09 07 31.7 +0.2**
comp=Z,18nm,0.5s
GKN **Gorkha** **38.35 330** *e*P **ScP** **09 10 59.6 -0.2**
comp=Z,70nm,0.7s
COEN **Coen** **38.59 106** *e*P **P** **09 05 22.8 -1.4**
comp=Z,7.1nm,1.0s
COEN *e*PcP **PcP** **09 07 33.2 +0.8**
KOLN **Koldanda** **38.69 329** *e*P **P** **09 05 23.0 -2.0**
comp=Z,41nm,0.6s
KOLN **Koldanda** **38.69 329** *e*P **PcP** **09 07 33.0 +0.3**
comp=Z,33nm,0.6s
KOLN **Koldanda** **38.69 329** *e*P **ScP** **09 11 00.8 -0.3**
comp=Z,63nm,0.7s
JOW **Kunigami** **38.93 34** P **P** **09 05 23.9 -2.8**
comp=Z,1.3nm,0.9s,baz=187,slow=8.1,SNR=2.2
DANN **Dangsing** **39.08 330** *e*P **P** **09 05 27.0 -1.4**
comp=Z,31nm,0.6s
DANN **Dangsing** **39.08 330** *e*P **PcP** **09 07 34.2 +0.2**
comp=Z,66nm,0.8s
DANN **Dangsing** **39.08 330** *e*P **ScP** **09 11 02.4 -0.3**
comp=Z,105nm,0.7s
XAN **Xi'an** **39.12 5** P **P** **09 05 27.8 -0.5**
XAN PMZ
comp=Z,3.0nm,0.7s
NJ2 **Nanjing** **39.24 19** *e*P **P** **09 05 28.7 -0.6**
NJ2 PMZ
comp=Z,40nm,0.7s
PYUN **Piuthan** **39.27 328** *e*P **P** **09 05 26.9 -3.0**
comp=Z,54nm,0.5s
PYUN **Piuthan** **39.27 328** *e*P **PcP** **09 07 34.5 0.0**
comp=Z,96nm,0.6s
PYUN **Piuthan** **39.27 328** *e*P **ScP** **09 11 02.9 -0.5**
comp=Z,148nm,0.5s
BBOO **Buckleboo** **39.96 137** *e*P **P** **09 05 35.8 +0.5**
comp=Z,0.8nm,0.6s
BBOO *e*S **S** **09 11 25.6 +0.6**
LZH **Lanzhou** **41.00 359** ⇑P **P** **09 05 45.8 +1.9**
LZH sP **sP** **09 06 53.6 +2.2**
LZH PP **PnPn** **09 07 27.1 -2.5**
LZH S **S** **09 11 44.1 +3.6**
LZH sS **sS** **09 13 01.0 +2.9**
LZH SS **SS** **09 14 51.0 -0.7**
LZH PMZ
comp=Z,45nm,1.1s
LZH PMZ
comp=Z,150nm,5.0s
PMG **Port Moresby** **41.99 98***d* *i*P **P** **09 05 51.7 -0.4**
PMG pmax pmax
comp=Z,123nm,1.4s
PMG **Port Moresby** **41.99 98** *e*P **P** **09 05 50.8 -1.3**
PMG *e*PcP **PcP** **09 07 44.9 +1.5**
CTA **Charters Tower** **42.75 114** P **P** **09 05 58.7 +0.6**
comp=Z,28nm,0.8s,baz=287,slow=9.0,SNR=20
CTA PcP **PcP** **09 07 46.7 +0.9**
comp=Z,5.9nm,0.4s,baz=257,slow=3.2,SNR=8.6
CTAO **Charters Tower** **42.75 114** *e*P **P** **09 05 58.3 +0.1**
CTAO *e* 09 07 46.6
CTAO pmax pmax
comp=Z,40nm,0.9s
CTAO **Charters Tower** **42.75 114** *e*P **P** **09 05 58.3 +0.1**
comp=Z,40nm,0.9s
CTAO *e*PcP **PcP** **09 07 46.6 +0.7**
GTA **Gaotai** **44.57 354** *e*P **P** **09 06 13.2 +0.8**
GTA pP **pP** **09 06 58.5 +1.4**
GTA sP **sP** **09 07 21.0 +0.6**
GTA PcP **PcP** **09 07 52.2 +0.5**
GTA ScP **ScP** **09 11 23.8 -0.4**
GTA S **S** **09 12 32.7 +0.4**
GTA PMZ
comp=Z,9.0nm,0.8s
GTA PMZ
comp=Z,89nm,7.6s
JNU **Nakatsue** **45.25 31** P **P** **09 06 17.5 -0.3**
comp=Z,6.9nm,0.5s,baz=334,slow=2.5,SNR=7.5
JNU **Nakatsue** **45.25 31** *e*P **P** **09 06 17.8 0.0**
BJI **Beijing** **46.09 12** P **P** **09 06 25.2 +1.0**
BJI S **S** **09 12 56.1 +2.2**
BJI PMZ
comp=Z,20nm,0.6s
BJI PMZ
comp=Z,98nm,5.6s
BJI LN
comp=Z,98nm,26.0s
BJI LE
comp=Z,130nm,25.6s
BJI LZ
comp=Z,15nm,31.3s
HHC **Hu-ho-hao-te** **46.13 7** *e*P **P** **09 06 26.8 +2.1**
HHC PP **PP** **09 08 18.3 +2.0**
HHC S **S** **09 12 57.1 +2.4**
HHC sS **sS** **09 14 15.7 +2.0**
HHC ScS **ScS** **09 15 57.4 -0.7**
HHC SS **SS** **09 16 20.8 -2.2**
HHC PMZ
comp=Z,19nm,1.2s
HHC PMZ
comp=Z,100nm,5.4s
KSAR **Wonju Array Be** **47.40 25** P **P** **09 06 34.6 +0.2**
KSAR 09 08 01.2
KSAR **Wonju Array Be** **47.40 25** P **P** **09 06 34.5 +0.2**
KSAR PcP **PcP** **09 08 01.2 -0.3**
KSRS **Korea Array** **47.43 25** P **P** **09 06 34.5 0.0**
comp=Z,9.7nm,0.9s,baz=216,slow=7.6,SNR=24
KSRS PcP **PcP** **09 08 01.2 -0.4**
comp=Z,1.8nm,0.8s,baz=212,slow=2.0,SNR=4.3
EIDS **Eidsvold** **48.47 120** *e*P **P** **09 06 43.0 +0.1**
comp=Z,18nm,0.7s
ARMA **Armidale** **50.52 126** *e*P **P** **09 07 01.3 +2.9**
WMQ **Urumqi** **51.16 344** P **P** **09 07 02.2 -0.6**
WMQ pP **pP** **09 07 48.2 -0.5**
WMQ PcP **PcP** **09 08 16.0 +0.7**
WMQ ScP **ScP** **09 11 51.0 -0.9**
WMQ *e*S **S** **09 14 02.0 -2.8**
WMQ PMZ
comp=Z,12nm,0.8s
WMQ PMZ
comp=Z,150nm,5.4s
MAJO **Matsushiro** **51.77 34** *e*P **P** **09 07 05.4 -2.1**
MAJO pmax pmax
comp=Z,13nm,0.6s
MAJO **Matsushiro** **51.77 34** *e*P **P** **09 07 05.3 -2.1**
comp=Z,13nm,0.6s
MAT **Matsushiro** **51.77 34** P **P** **09 07 05.6 -1.8**
MJAR **Matsushiro Arr** **51.77 34** P **P** **09 07 05.7 -1.7**
comp=Z,13nm,0.6s,baz=206,slow=8.4,SNR=48
MJAR PcP **PcP** **09 08 17.8 +0.1**
comp=Z,2.7nm,0.7s,baz=194,slow=3.8,SNR=4.5
KSH **Kashi** **51.87 331** *e*P **P** **09 07 09.4 +1.1**
KSH sP **sP** **09 08 18.1 +0.9**
KSH PP **PP** **09 09 10.8 +2.3**
KSH S **S** **09 14 13.9 -0.9**
KSH sS **sS** **09 15 34.3 -1.0**
KSH PMZ
comp=Z,130nm,5.3s
KSH LN
comp=Z,650nm,10.1s
KSH LE
comp=Z,260nm,7.6s
KSH LZ
comp=Z,160nm,7.8s
CN2 **Changchun** **52.07 19** *e*P **P** **09 07 08.9 -0.5**
CN2 PMZ
comp=Z,30nm,1.3s
SONM **Songino Array** **52.74 1** P **P** **09 07 14.8 +0.3**
comp=Z,9.5nm,0.7s,baz=178,slow=9.3,SNR=40
SONM PcP **PcP** **09 08 21.0 -0.2**
comp=Z,7.0nm,0.4s,baz=180,slow=4.2,SNR=34
SONM ScP **ScP** **09 11 57.3 -1.5**
comp=Z,4.3nm,0.8s,baz=174,slow=3.5,SNR=15
ULN **Ulaanbaatar** **52.79 2** *e*P **P** **09 07 15.1 +0.3**
ULN *e* 09 08 21.2
ULN **Ulaanbaatar** **52.79 2** *e*P **P** **09 07 15.1 +0.3**
ULN *e*PcP **PcP** **09 08 21.2 -0.2**
PDGK **Podgornoye** **53.47 337** P **P** **09 07 18.9 -0.8**
PDGK pmax pmax
comp=Z,8.0nm,0.6s
MDJ **Mudanjiang** **54.20 21** P **P** **09 07 25.1 +0.1**
MDJ PMZ
comp=Z,17nm,0.7s
MDJ PMZ
comp=Z,39nm,6.3s
TKM2 **Tokmak 2** **54.75 334** *i* P **P** **09 07 28.0 -1.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.4s
TKM2 **Tokmak 2** **54.75 334** *e*P **P** **09 07 28.1 -1.2**
comp=Z,7.8nm,0.5s
USRK **Ussuriysk Ar.** **54.76 24** P **P** **09 07 29.4 +0.3**
comp=Z,49nm,0.7s,baz=213,slow=6.3,SNR=104
AAK **Ala-Archa** **55.01 333** P **P** **09 07 32.1 +1.0**
comp=Z,1.2nm,0.5s,baz=162,slow=6.4
AAK PcP **PcP** **09 08 30.8 +0.7**
comp=Z,9.5nm,0.7s,baz=134,slow=3.1,SNR=14
AAK ScP **ScP** **09 12 08.6 -0.3**
comp=Z,3.6nm,0.7s,baz=158,slow=4.7,SNR=9.3
EKS2 **Erkin-Say** **55.37 332** *e*P **P** **09 07 32.9 -0.7**
EKS2 pmax pmax
comp=Z,3.0nm,0.6s
EKS2 **Erkin-Say** **55.37 332** *e*P **P** **09 07 32.9 -0.7**
comp=Z,3.0nm,0.6s
MK31 **Makanchi Array** **55.47 341** P **P** **09 07 32.7 -1.4**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MKAR **Makanchi Array** **55.47 341** *ce*P **P** **09 07 32.7 -1.4**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR **Makanchi Array** **55.47 341** P **P** **09 07 33.1 -1.0**
comp=Z,9.2nm,0.6s,baz=143,slow=7.8,SNR=134
MKAR ScP **ScP** **09 12 10.0 -0.7**
comp=Z,0.8nm,0.7s,baz=150,slow=6.1,SNR=3.6
TLY **Talaya** **56.59 359** *e*P **P** **09 07 42.5 +0.6**
TLY pmax pmax
comp=Z,12nm,1.1s
TLY **Talaya** **56.59 359** P **P** **09 07 42.4 +0.6**
comp=Z,3.2nm,0.4s,baz=180,slow=9.1,SNR=14
TLY **Talaya** **56.59 359** *e*P **P** **09 07 42.2 +0.3**
comp=Z,8.7nm,0.8s
OPO **Ambohidratompo** **57.92 251** P **P** **09 07 54.9 +2.8**
comp=Z,2.3nm,0.7s,baz=335,slow=6.2,SNR=3.7
HABR **Khabarovsk** **59.49 23***de*P 09 07 58.1 -3.9
HABR 09 08 44.1
HABR *e**SP sP 09 09 06.2 -5.7
HABR *e*S **S** **09 15 51.2 -3.6**
HABR *e* 09 17 28.2
HABR *e*SS **SS** **09 19 50.4 -3.5**
HABR pmax pmax
comp=N,6.0nm,1.4s
HABR pmax pmax
comp=E,17nm,1.4s
HABR pmax pmax
comp=Z,8.0nm,1.4s
HABR MLR MLR
comp=Z,44nm,17.0s
ASAJ **Asahikawa** **59.53 31** P **P** **09 08 01.9 -0.5**
comp=Z,30nm,0.6s,baz=233,slow=6.7,SNR=44
ASAJ **Asahikawa** **59.53 31** P **P** **09 08 01.9 -0.5**
ASAJ *e*P **P** **09 08 02.2 -0.2**
KURBB **Kurchatov Arra** **60.03 341** P **P** **09 08 04.6 -1.1**
comp=Z,7.8nm,0.6s,baz=157,slow=6.2,SNR=76
KURBB PcP **PcP** **09 08 49.0 -0.4**
comp=Z,3.4nm,0.5s,baz=152,slow=3.5,SNR=13
KURBB ScP **ScP** **09 12 29.9 -0.7**
comp=Z,0.8nm,0.5s,baz=158,slow=4.3,SNR=5.0
KURK **Kurchatov** **60.08 341** P **P** **09 08 04.2 -1.8**
comp=Z,56nm,0.6s,SNR=11
KURK **Kurchatov** **60.08 341** *e*P **P** **09 08 04.8 -1.2**
KURK 09 08 49.1
KURK **Kurchatov** **60.08 341** *e*P **P** **09 08 04.8 -1.2**
KURK PcP **PcP** **09 08 49.0 -0.6**
KURK ScP **ScP** **09 12 29.9 -1.0**
GEYT **Alibeck** **61.06 319** P **P** **09 08 12.3 -0.7**
comp=Z,2.1nm,0.4s,baz=116,slow=3.4,SNR=4.8
ZALV **Zalesovo Beam** **61.24 347** P **P** **09 08 12.3 -1.5**
comp=Z,15nm,0.5s,baz=160,slow=5.3,SNR=70
YSS **Yuzh-Sakhalins** **61.64 28** ⇑*i*P **P** **09 08 15.9 -0.7**
YSS pmax pmax
comp=Z,70nm,0.8s
YSS **Yuzh-Sakhalins** **61.64 28** *e*P **P** **09 08 16.4 -0.1**
comp=Z,99nm,1.0s
DZM **Mont Dzumac** **61.64 112** P **P** **09 08 18.2 +1.0**
comp=Z,5.7nm,0.6s,baz=291,slow=13,SNR=9.1
NVS **Novosibirsk** **62.44 346** *i* P P 09 08 17.9 -3.8
BOD **Bodaibo** **63.15 5** *e*P **P** **09 08 25.4 -1.0**
BOD pmax pmax
comp=Z,14nm,0.8s
BVA0 **Borovoye Array** **64.89 338** *i* P **P** **09 08 36.0 -1.8**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BVAR **Borovoye Array** **64.89 338** P **P** **09 08 36.3 -1.5**
comp=Z,6.1nm,0.5s,baz=146,slow=9.2,SNR=38
BVAR PcP **PcP** **09 09 09.0 -0.2**
comp=Z,3.3nm,0.6s,baz=133,slow=6.3,SNR=6.6
AB31 **Akbulak array** **66.80 330** *i* P **P** **09 08 48.5 -1.6**
AB31 pmax pmax
comp=Z,17nm,0.7s
ABKAR **Akbulak array** **66.80 330** *e*P **P** **09 08 48.7 -1.4**
comp=Z,8.5nm,0.5s
KMBO **Kilima Mbogo** **67.76 271** *ce*P **P** **09 08 58.7 +1.6**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO **Kilima Mbogo** **67.76 271** P **P** **09 08 57.8 +0.6**
comp=Z,2.2nm,0.7s,baz=68,slow=7.6,SNR=5.8
AKTO **Aktyubinsk** **68.52 330** P **P** **09 08 59.0 -1.8**
comp=Z,2.2nm,0.5s,baz=139,slow=5.0,SNR=3.1
AKTO PcP **PcP** **09 09 24.5 0.0**
comp=Z,5.7nm,0.4s,baz=116,slow=7.0,SNR=7.3
MAW **Mawson** **68.60 196** P **P** **09 09 03.7 +2.7**
comp=Z,6.6nm,0.5s,baz=48,slow=5.2,SNR=11
RPZ **Rata Peaks** **69.24 135** *e*P **P** **09 09 06.0 +0.5**
comp=Z,18nm,0.6s
YAK **Yakutsk** **69.60 12** *e*P **P** **09 09 05.6 -1.5**
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,13nm,0.9s
YAK **Yakutsk** **69.60 12** *e*P **P** **09 09 06.2 -1.0**
comp=N,24nm,0.7s
ARU **Arti** **72.09 335***c* *i*P **P** **09 09 21.2 -1.1**
ARU 09 12 02.5
ARU S **S** **09 18 27.7 +0.7**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU **Arti** **72.09 335** *e*P **P** **09 09 21.5 -0.8**
comp=Z,9.7nm,0.9s
ZEI **Tsey** **72.89 318** *e*P **P** **09 09 26.8 -0.8**
ZEI pmax pmax
comp=Z,15nm,0.6s
PETK **Petropavlovsk-** **72.94 30** P **P** **09 09 26.1 -1.3**
comp=Z,8.5nm,0.8s,baz=212,slow=6.7,SNR=9.5
KBZ **Khabaz** **73.94 318** P **P** **09 09 33.6 +0.2**
comp=Z,12nm,0.9s,baz=98,slow=4.9,SNR=17
KIV **Kislovodsk** **74.17 318** *e*P **P** **09 09 35.5 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
SYO **Syowa Base** **76.59 200** ⇑*e*P **P** **09 09 49.2 +1.2**
SEY **Seymchan** **76.71 20** *i* P **P** **09 09 48.8 0.0**
VRHR **Novokhopersk** **77.73 325** *e*P **P** **09 09 53.6 -1.1**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VNDA **Vanda** **78.17 169** *e*P **P** **09 09 58.4 +1.7**
VNDA **Vanda** **78.17 169** P **P** **09 09 58.3 +1.6**
comp=E,5.9nm,0.5s,baz=317,slow=6.5,SNR=59
TIXI **Tiksi** **78.20 8** *e*P **P** **09 09 54.9 -1.9**
TIXI pmax pmax
comp=Z,5.0nm,0.5s
TIXI **Tiksi** **78.20 8** *e*P **P** **09 09 54.9 -1.9**
comp=Z,4.6nm,0.5s
BOSA **Boshof** **78.59 242** P **P** **09 10 01.7 +1.5**
comp=Z,7.5nm,0.6s,baz=69,slow=6.2,SNR=21
BOSA pP **pP** **09 10 47.6 -2.4**
comp=Z,3.4nm,0.8s,baz=135,slow=2.6,SNR=2.9
BRTR **Keskin Array B** **79.11 312** P **P** **09 10 02.0 -0.7**
comp=Z,6.5nm,0.8s,baz=137,slow=7.4,SNR=32
BRTR pP **pP** **09 10 48.9 -3.8**
comp=Z,1.8nm,0.8s,baz=125,slow=6.4,SNR=2.9
VSR **Storozhevoye** **79.20 324** *e*P **P** **09 10 01.6 -1.1**
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.6s
SBA **Scott Base** **79.25 169** *e*P **P** **09 10 05.0 +2.4**
SBA pmax pmax
comp=Z,6.0nm,0.7s
SBA **Scott Base** **79.25 169** *e*P **P** **09 10 05.0 +2.4**
comp=Z,6.3nm,0.7s
PRGR **Permogore** **80.54 335** *e*P **P** **09 10 07.6 -2.1**
PRGR pmax pmax
comp=Z,14nm,0.6s
OBN **Obninsk** **82.09 327** ⇓*e*P **P** **09 10 17.4 -0.5**
OBN *e**PP **pP** **09 11 05.9 -2.3**
OBN pmax pmax
comp=Z,28nm,0.9s
OBN **Obninsk** **82.09 327** P **P** **09 10 17.3 -0.6**
comp=Z,14nm,0.4s
BILL **Bilibino** **84.37 19** ⇑*i*P **P** **09 10 28.0 -1.4**
BILL *e**PP pP 09 11 13.9 -6.0
BILL *e* 09 13 44.6
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL **Bilibino** **84.37 19** *e*P **P** **09 10 28.4 -0.9**
comp=Z,3.9nm,0.7s
LAST **Lasithi** **84.41 306** *e*P **P** **09 10 31.2 +0.8**
JMB **Yambol** **84.94 313** ⇑P P 09 10 39.4 +6.6
JMB **Yambol** **84.94 313** ⇑*i*P P 09 10 39.4 +6.6
AKASG **Malin Array Be** **85.01 322** P **P** **09 10 32.1 -0.8**
comp=Z,8.8nm,0.6s,baz=84,slow=4.8,SNR=36
KIEV **Kiev** **85.02 322** *e*P **P** **09 10 32.4 -0.5**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV **Kiev** **85.02 322** *e*P **P** **09 10 32.4 -0.5**
comp=Z,11nm,0.8s
VAM **Vamos** **85.49 306** *e*P **P** **09 10 35.6 -0.1**
VRI **Vrincioaia** **85.54 317** ⇑P **P** **09 10 36.9 +1.2**
VRI **Vrincioaia** **85.54 317** ⇑*i*P **P** **09 10 36.9 +1.2**
PLOR **Plostina** **85.59 317** ⇑P **P** **09 10 36.5 +0.5**
PLOR **Plostina** **85.59 317** ⇑*i*P **P** **09 10 36.5 +0.5**
KARN **Karanos** **85.71 306** *e*P **P** **09 10 37.2 +0.4**
TESR **Tescani** **85.72 317** ⇑*i*P **P** **09 10 37.3 +0.7**
MLR **Muntele Rosu** **86.00 316** ⇑P **P** **09 10 39.1 +0.9**
MLR **Muntele Rosu** **86.00 316** ⇑*i*P **P** **09 10 39.0 +0.9**
ANKY **Antikythira Is** **86.28 306** *e*P **P** **09 10 40.8 +1.2**
DOPR **Dopca** **86.47 317** ⇑*i*P **P** **09 10 40.8 +0.5**
VOIR **86.61 316** ⇑P **P** **09 10 40.8 -0.2**
VOIR **86.61 316** ⇑*i*P **P** **09 10 40.8 -0.2**
ARR **Arges** **86.88 316** ⇑*i*P **P** **09 10 42.7 +0.4**
BURAR **Bucovina Array** **86.90 318** ⇓P **P** **09 10 43.8 +1.4**
BURAR **Bucovina Array** **86.90 318** ⇓*i*P **P** **09 10 43.8 +1.4**
MPEP **Malo Peshtene** **87.16 314** *i* P **P** **09 10 44.0 +0.3**
HORT **Hortiatis** **87.18 311** *e*P **P** **09 10 42.6 -1.3**
JOF **Joensuu** **87.19 334** *e*P **P** **09 10 42.6 -0.7**
JOF pmax pmax
comp=Z,9.0nm,0.7s
JOF **Joensuu** **87.19 334** *ep* **P** **09 10 42.6 -0.7**
comp=Z,9.1nm,0.7s
KKB **Krupnik** **87.40 312** *i* P **P** **09 10 44.5 -0.3**
VTS **Vitosha** **87.42 313** ⇑P **P** **09 10 45.4 +0.3**
VTS **Vitosha** **87.42 313** ⇑*i*P **P** **09 10 45.4 +0.3**
VTS **Vitosha** **87.42 313** *i* P **P** **09 10 45.0 -0.1**
NACGM **Naroch** **87.43 326** *e* P 09 10 41.0 -3.6
LOT **Lotru** **87.50 316** ⇑*i*P **P** **09 10 45.6 +0.3**
KLV **Kalavryta, Ach** **87.52 308** *e*P **P** **09 10 45.6 0.0**
LIT **Litokhoron** **87.57 310** *e*P **P** **09 10 44.7 -1.0**
GRG **Griva** **87.76 311** *e*P **P** **09 10 45.9 -0.7**
GZR **Gura Zlata** **88.18 316** ⇑P **P** **09 10 48.9 +0.4**
GZR **Gura Zlata** **88.18 316** ⇑*i*P **P** **09 10 48.9 +0.4**
DSL **Palaion Diasel** **88.49 309** *e*P **P** **09 10 51.3 +1.2**
LKD2 **Lefkada island** **88.79 309** *e*P **P** **09 10 51.8 +0.3**
KWP **Kalwaria Pacla** **88.89 320** ⇑P **P** **09 10 50.7 -1.0**

KWP Kalwaria Pacla 88.89 320 eP P 09 10 52.1 +0.4
KWP Kalwaria Pacla 88.89 320⇑iP P 09 10 50.7 -1.0
KWP Kalwaria Pacla 88.89 320 eP P 09 10 50.3 -1.4
comp=Z,8.4nm,0.5s
BZS Buzias 89.02 316 ⇑P P 09 10 53.3 +1.0
BZS Buzias 89.02 316⇑iP P 09 10 53.3 +1.0
KOLS Kolonicke sedl 89.07 319 eP P 09 10 53.5 +1.0
KOLS pmax pmax
comp=Z,22nm,1.1s
KOLS Kolonicke sedl 89.07 319 eP P 09 10 53.5 +1.0
FINES FINESS Array B 89.19 332 P P 09 10 52.5 -0.3
comp=Z,6.8nm,0.6s,baz=118,slow=5.4,SNR=41
FINES pP pP 09 11 41.0 -2.8
comp=Z,1.7nm,0.7s,baz=134,slow=6.0,SNR=2.3
FINES PKiKP PKiKP 09 15 49.1 -1.0
comp=Z,0.9nm,0.5s,baz=128,slow=3.1,SNR=4.6
KAF Kangasniemi 89.23 333 eP P 09 10 51.9 -1.0
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 89.23 333 ep P 09 10 51.9 -1.0
comp=Z,9.2nm,0.6s
SUW Suwalki 89.32 324 eP P 09 10 53.2 -0.3
CRVS Cervenica-Dubn 89.59 319 eP P 09 10 55.0 0.0
CRVS Cervenica-Dubn 89.59 319 eP P 09 10 55.0 0.0
STHS Stebnicka Huta 89.81 320 eP P 09 10 56.5 +0.5
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 89.81 320 eP P 09 10 56.5 +0.5
KECS Kecovo 90.17 319 eP P 09 10 58.2 +0.5
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 90.17 319 eP P 09 10 58.2 +0.5
PSZ Piszkesteto 90.50 318 ⇑P P 09 10 59.3 0.0
PSZ Piszkesteto 90.50 318⇑iP P 09 10 59.3 0.0
SNAA Sanae 90.72 198 P P 09 10 58.9 -1.0
ARCES ARCESS Array B 91.10 340 P P 09 11 00.3 -1.2
comp=Z,4.3nm,0.9s,baz=105,slow=5.3,SNR=15
PKSM Moragy 91.15 316 ⇓P P 09 11 02.2 0.0
PKSM Moragy 91.15 316⇓iP P 09 11 02.2 0.0
VYHS Vyhne 91.27 318 eP P 09 11 03.4 +0.6
VYHS Vyhne 91.27 318 eP P 09 11 03.4 +0.6
VNA2 Neumayer--Watz 92.36 198 P P 09 11 10.5 +3.1
DPC Dobruska-Polom 93.07 320 eP P 09 11 11.3 +0.2
GERES GERESS Array B 94.69 318 P P 09 11 17.3 -1.3
comp=Z,1.0nm,0.6s,baz=86,slow=4.1,SNR=8.3
NOA NORSAR Array B 96.29 331 P P 09 11 24.6 -0.9
comp=Z,0.8nm,0.7s,baz=90,slow=4.4,SNR=3.1
ILAR Eielson Array 102.28 25 P Pdif 09 11 50.6 -1.5
comp=Z,0.2nm,0.7s,baz=275,slow=3.3,SNR=2.9
ILAR PKiKP PKiKP 09 16 12.1 -0.8
comp=Z,0.6nm,0.5s,baz=282,slow=3.1,SNR=11
ILAR PKKPbc PKKPbc 09 27 54.5 -2.1
comp=Z,0.5nm,0.6s,baz=134,slow=2.4,SNR=7.3
ILAR PKKP PKKPdf 09 28 02.4 -0.5
comp=Z,0.1nm,0.5s,baz=135,slow=0.6,SNR=2.8
TORD Torodi Ar. Bea 104.10 282 PKiKP PKiKP 09 16 17.6 0.0
comp=Z,0.4nm,0.4s,baz=61,slow=1.5,SNR=13
TORD PKKPbc PKKPbc 09 27 48.9 -0.5
comp=Z,0.4nm,0.5s,baz=292,slow=3.4,SNR=7.8
INK Inuvik 105.99 19 PKKPbc PKKPbc 09 27 43.5 -1.9
comp=Z,0.5nm,0.4s,baz=160,slow=3.1,SNR=5.3
INK PKKPab PKKPab 09 28 01.1 +1.0
comp=Z,0.7nm,0.7s,baz=122,slow=1.8,SNR=3.5
DBIC Dimbokro 110.28 275 PKiKP PKiKP 09 16 29.4 +0.2
comp=Z,1.2nm,0.4s,baz=141,slow=2.3,SNR=3.7
YKA Yellowknife Ar 115.77 19 PKP PKPdf 09 16 37.5 -0.7
comp=Z,2.6nm,0.7s,baz=315,slow=2.7,SNR=86
YKA SKP 09 19 54.0
comp=Z,0.5nm,0.8s,baz=322,slow=2.0,SNR=7.3
YKA PKKPbc PKKPbc 09 27 11.6 -1.9
comp=Z,0.4nm,0.5s,baz=129,slow=3.6,SNR=16
YKA PKKPab PKKPab 09 27 17.4 +0.7
comp=Z,0.7nm,0.7s,baz=125,slow=4.4,SNR=13
G03D McMinnville, O 122.09 39 ⇓PKiKP PKiKP 09 16 51.4 +0.3
baz=122
TWW Teanaway 122.55 36 P PKPdf 09 16 52.9 +1.0
EDM Edmonton 122.71 26 ePKIKP PKPdf 09 16 51.9 -0.1
EDM Edmonton 122.71 26 ePKPdf PKPdf 09 16 51.9 -0.1
I03D Drain, OR 122.75 40 ⇓PKiKP PKiKP 09 16 52.9 +0.5
baz=123
WTV Waterville 122.77 35 P PKPdf 09 16 52.5 +0.2
NAC Naches 122.79 36 P PKPdf 09 16 53.2 +0.9
EBG Ellensburg 122.85 36 P PKPdf 09 16 53.4 +0.9
SAW Saint Andrews 123.08 34 P PKPdf 09 16 53.2 +0.3
G05D Wamic, OR 123.27 38 ⇓PKiKP PKiKP 09 16 53.9 +0.4
baz=123
L02D Cave Junction, 123.28 42 ⇓PKiKP PKiKP 09 16 54.0 +0.3
baz=123
I04A Tendick Farm, 123.30 40 ⇑PKiKP PKiKP 09 16 54.0 +0.3
baz=123
HUMO Hull Mountain 123.51 41 ePKPdf PKPdf 09 16 55.0 +1.2
I05D Terrebonne, OR 123.71 39 ⇓PKiKP PKiKP 09 16 55.4 +0.9
baz=124
WRD Warden 123.73 35 P PKPdf 09 16 54.9 +0.9
OT3 Othello 3 123.75 35 P PKPdf 09 16 55.2 +1.1
J04D Umpqua Nationa 123.76 40 ⇓PKiKP PKiKP 09 16 55.4 +0.6
baz=124
KHMM Horse Mountain 123.76 43 ePKPdf PKPdf 09 16 56.0 +1.4
H2OWA Water 123.79 36 P PKPdf 09 16 55.4 +1.2
NEW Newport 124.02 33 ePKIKP PKPdf 09 16 55.0 +0.4
NEW Newport 124.02 33 ⇑PKiKP PKiKP 09 16 55.3 +0.4
baz=124
NEW Newport 124.02 33 ePKPdf PKPdf 09 16 55.0 +0.4
M02C Callahan 124.13 42 ⇑PKiKP PKiKP 09 16 56.2 +0.8
baz=124
J05D Fort Rock, OR 124.30 40 ⇑PKiKP PKiKP 09 16 56.4 +0.6
baz=124
N02D Trinity Center 124.42 43 ⇑PKiKP PKiKP 09 16 56.7 +0.8
baz=124
FCC Fort Churchill 124.48 12 ePKIKP PKPdf 09 16 54.5 -0.6
FCC Fort Churchill 124.48 12 ePKPdf PKPdf 09 16 54.5 -0.6
M04C Macdoel 124.63 42 ⇓PKiKP PKiKP 09 16 56.9 +0.4
baz=124
BSMT Bassoo Peak 125.51 32 P PKPdf 09 16 57.9 +0.2
MOD Modoc Plateau 125.58 41 ePKPdf PKPdf 09 16 59.0 +1.1
JTMT Jette 125.84 32 ePKPdf PKPdf 09 16 58.5 +0.2
FFC Flin Flon 125.94 19 ePKIKP PKPdf 09 16 58.0 0.0
FFC Flin Flon 125.94 19 ePKPdf PKPdf 09 16 58.0 0.0
SWMT Swartz Lake 126.14 32 ePKPdf PKPdf 09 16 58.8 0.0
WVOR Wild Horse Val 126.38 39 ePKIKP PKPdf 09 17 00.4 +0.9
WVOR Wild Horse Val 126.38 39 ePKPdf PKPdf 09 17 00.4 +0.9
SLMT Seeley Lake 126.58 32 ePKPdf PKPdf 09 16 60.0 +0.2
MSO Missoula 126.60 33 ⇓PKiKP PKPdf 09 16 59.8 +0.1
baz=126
CHMT Chamberlain Mo 126.91 32 ePKPdf PKPdf 09 17 00.5 0.0
MFID Camas Ranch 127.57 37 ePKPdf PKPdf 09 17 03.0 +1.3
A19A Klindworth Far 127.79 28 ⇑PKiKP PKiKP 09 17 02.3 -0.1
baz=128
EGMT Eagleton 127.94 29 ⇓PKiKP PKiKP 09 17 02.7 -0.1
baz=128
B19A Brinkman Farms 128.03 28 ⇓PKiKP PKiKP 09 17 02.8 -0.2
baz=128
A20A Cobblestone Ra 128.20 27 ⇓PKiKP PKiKP 09 17 03.1 -0.2
baz=128
HLID Hailey 128.32 36 ⇓PKiKP PKiKP 09 17 04.1 +0.3
baz=128
HLID Hailey 128.32 36 ePKPdf PKPdf 09 17 05.0 +1.8
MCMT McKenzie Canyo 128.45 34 ePKPdf PKPdf 09 17 04.5 +1.1
B20A Solberg Farm, 128.47 28 ⇓PKiKP PKiKP 09 17 03.9 0.0
baz=126
C19A Slack Wire Ran 128.49 29 ⇑PKiKP PKiKP 09 17 04.1 +0.2
baz=128
A21A Bergtoll Ranch 128.56 26 ⇓PKiKP PKiKP 09 17 03.9 -0.1
baz=128
BOZ Bozeman (W) 128.59 32 ePKIKP PKPdf 09 17 04.5 +0.9
BOZ Bozeman (W) 128.59 32 ePKPdf PKPdf 09 17 04.5 +0.9
NVAR Mina Array Bea 128.61 44 PKP PKPdf 09 17 05.3 +1.4
comp=Z,4.9nm,0.6s,baz=304,slow=2.4,SNR=42
NVAR SKPbc SKiKP 09 20 04.8 -16
comp=Z,2.4nm,0.6s,baz=285,slow=3.5,SNR=20
D19A Cripps Ranch, 128.97 29 ⇓PKiKP PKiKP 09 17 05.0 +0.1
baz=129
C20A Veseth Ranch, 129.00 28 ⇑PKiKP PKiKP 09 17 05.0 +0.1
baz=129
A22A Carney Farms, 129.01 26 ⇑PKiKP PKiKP 09 17 05.0 +0.1
baz=129
QLMT Earthquake Lak 129.22 33 ePKPdf PKPdf 09 17 06.4 +1.5
VES Vestal, Richgr 129.26 47 ⇓PKiKP PKiKP 09 17 05.7 0.0
baz=129
C21A Desert Coulee 129.34 28 ⇑PKiKP PKiKP 09 17 05.6 0.0
baz=129
D20A Manuel Ranch, 129.38 29 ⇓PKiKP PKiKP 09 17 05.7 0.0
baz=129
B22A Reddig Ranch S 129.49 26 ⇓PKiKP PKiKP 09 17 05.6 -0.2
baz=129
E19A Rath Farm, Rou 129.51 30 ⇑PKiKP PKiKP 09 17 05.7 -0.3
baz=129
YMR Madison River 129.58 33 ePKPdf PKPdf 09 17 07.3 +1.7
ARVC Arvin 129.76 48 ⇑PKiKP PKiKP 09 17 07.1 +0.4
baz=130
ISA Isabella, Lake 129.78 47 ⇓PKiKP PKiKP 09 17 06.9 0.0
baz=130
B23A Brockton 129.81 26 ⇓PKiKP PKiKP 09 17 06.5 0.0
baz=130
F19A Roth Farm, Mol 129.85 31 ⇑PKiKP PKiKP 09 17 06.7 0.0
baz=130
A24A Westby 129.87 25 ⇓PKiKP PKiKP 09 17 06.7 +0.1
baz=130
D21A La Casta Ranch 129.94 28 ⇑PKiKP PKiKP 09 17 06.9 0.0
baz=130
GRAC Grapevine Rang 129.94 45 ⇑PKiKP PKiKP 09 17 07.6 +0.5
baz=130
C22A Vida 129.96 27 ⇓PKiKP PKiKP 09 17 07.0 +0.2
baz=130
SCHQ Schefferville 130.00 354 PKP PKPdf 09 17 06.4 +0.6
comp=Z,8.4nm,0.5s,baz=4.7,slow=2.1,SNR=50
SCHQ SKPbc SKPbc 09 20 08.0 -0.9
comp=Z,2.9nm,0.4s,baz=11,slow=2.8,SNR=12
DGMT Dagmar 130.14 25 ⇓PKiKP PKiKP 09 17 07.2 +0.1
baz=130
C23A Lambert 130.22 26 ⇑PKiKP PKiKP 09 17 07.6 +0.3
baz=130
A25A Svangstu Ranch 130.23 24 ⇓PKiKP PKiKP 09 17 07.6 +0.3
baz=130
D22A Cohagen 130.26 28 ⇑PKiKP PKiKP 09 17 07.6 +0.1
baz=130
I17A Pilgrim Ck. 130.28 33 ⇓PKiKP PKiKP 09 17 07.9 +0.1
baz=130
E21A Keefer Ranch, 130.28 29 ⇑PKiKP PKiKP 09 17 07.5 0.0
baz=130
MPMC Manual Prospec 130.31 46 ⇑PKiKP PKiKP 09 17 08.3 +0.2
baz=130
HVU Hansel Valley 130.35 37 ePKIKP PKPdf 09 17 08.2 +1.1
HVU Hansel Valley 130.35 37 ePKPdf PKPdf 09 17 08.2 +1.1
LRMC Laurel Mtn Rad 130.43 47 ⇑PKiKP PKiKP 09 17 08.5 +0.3
baz=130
EDW2 Edwards Air Fo 130.49 48 ⇑PKiKP PKiKP 09 17 08.7 +0.4
baz=130
R11A Troy Canyon, C 130.49 42 ⇑PKiKP PKiKP 09 17 08.8 +0.5
baz=130
FURC Furnace Creek, 130.56 45 ⇓PKiKP PKiKP 09 17 08.6 +0.4
baz=130
LAO LASA Array 130.58 28 ePKPdf PKPdf 09 17 08.6 +1.3
H19A Powell 130.64 32 ⇓PKiKP PKiKP 09 17 08.7 +0.3
baz=130
G20A Bridger 130.66 31 ⇓PKiKP PKiKP 09 17 08.1 -0.3
baz=130
D23A Lindsay 130.69 27 ⇓PKiKP PKiKP 09 17 08.5 +0.2
baz=130
A26A Wade Farm, Ken 130.69 23 ⇑PKiKP PKiKP 09 17 08.4 +0.2
baz=130
BGU Big Grassy Mou 130.71 38 ePKPdf PKPdf 09 17 09.2 +1.5
B25A Knox Farm, Ray 130.73 25 ⇑PKiKP PKiKP 09 17 08.7 +0.4
baz=130
TPNV Topopah Spring 130.75 44 ⇑PKiKP PKiKP 09 17 08.6 -0.3
baz=131
C24A Savage 130.77 26 ⇑PKiKP PKiKP 09 17 08.7 +0.2
baz=130
F21A Absaloka Mine, 130.78 29 ⇓PKiKP PKiKP 09 17 08.6 0.0
baz=131
E22A Miles City 130.89 28 ⇓PKiKP PKiKP 09 17 08.7 -0.1
baz=131
B26A Jensen Ranch, 131.03 24 ⇓PKiKP PKiKP 09 17 09.0 +0.1
baz=131
I19A Meeteetse 131.06 32 ⇓PKiKP PKiKP 09 17 09.2 -0.1
baz=131
D24A Glendive 131.12 26 ⇓PKiKP PKiKP 09 17 09.6 +0.4
baz=131
C25A Freed Ranch, W 131.13 25 ⇑PKiKP PKiKP 09 17 09.8 +0.7
baz=131
E23A Ismay 131.15 28 ⇓PKiKP PKiKP 09 17 09.9 +0.6
baz=131
GSC Goldstone, Bar 131.15 46 ePKIKP PKPdf 09 17 10.2 +1.5
GSC Goldstone, Bar 131.15 46 ⇑PKiKP PKPdf 09 17 10.1 +1.5
baz=131
GSC Goldstone, Bar 131.15 46 ePKPdf PKPdf 09 17 10.2 +1.5
G21A Lodge Grass 131.16 30 ⇓PKiKP PKiKP 09 17 09.8 +0.4
baz=131
F22A Rosebud 131.23 29 ⇓PKiKP PKiKP 09 17 09.8 +0.3
baz=131
DUG Dugway, Tooele 131.27 39 ePKIKP PKPdf 09 17 08.8 -0.1
DUG Dugway, Tooele 131.27 39 ⇓PKiKP PKiKP 09 17 10.0 +0.2
baz=131
DUG Dugway, Tooele 131.27 39 ePKPdf PKPdf 09 17 08.8 -0.1
H20A Greybull 131.28 31 ⇓PKiKP PKiKP 09 17 09.5 -0.1
baz=131
A28A Rude Farm, Bot 131.36 22 ⇑PKiKP PKiKP 09 17 09.6 0.0
baz=131
C26A Wahner Farm, P 131.52 24 ⇓PKiKP PKiKP 09 17 10.3 +0.4
baz=131
D25A Fairfield 131.54 26 ⇓PKiKP PKiKP 09 17 10.4 +0.3
baz=131
J19A Crowheart 131.54 33 ⇑PKiKP PKiKP 09 17 10.0 -0.3
baz=131
E24A Baker 131.56 27 ⇓PKiKP PKiKP 09 17 10.3 +0.2
baz=131
TCUT Toone Canyon 131.57 37 ePKPdf PKPdf 09 17 11.3 +1.7
I20A Worland 131.58 32 ⇑PKiKP PKiKP 09 17 10.1 -0.2
baz=131
BW06 Boulder Array 131.60 34 ePKPdf PKPdf 09 17 09.7 +0.1
PDAR Pinedale Array 131.60 34 PKP PKPdf 09 17 09.6 0.0
comp=Z,2.5nm,0.5s,baz=163,slow=1.9,SNR=26
PDAR SKPbc SKPbc 09 20 14.3 -1.2
comp=Z,1.2nm,0.5s,baz=329,slow=1.1,SNR=6.0
G22A Birney 131.62 29 ⇑PKiKP PKiKP 09 17 10.1 -0.2
baz=131
CTU Camp Tracy 131.62 38 ePKPdf PKPdf 09 17 10.3 +0.7
H21A Big Horn, Sher 131.67 30 ⇑PKiKP PKiKP 09 17 10.2 -0.2
baz=132
F23A Volborg 131.68 28 ⇓PKiKP PKiKP 09 17 09.9 -0.5
baz=132
B28A Dugan Ranch, T 131.70 22 ⇑PKiKP PKiKP 09 17 10.4 +0.1
baz=132
ULM Lac du Bonnet 131.71 18 PKP PKPdf 09 17 08.5 -0.6
comp=Z,8.2nm,0.6s,baz=322,slow=4.5,SNR=14
ULM SKPbc SKPbc 09 20 14.1 -1.3
comp=Z,2.7nm,0.3s,baz=350,slow=5.0,SNR=13
A29A Manning Farm, 131.73 21 ⇓PKiKP PKiKP 09 17 09.9 -0.4
baz=132
C27A Sayler Ranch, 131.85 24 ⇓PKiKP PKiKP 09 17 10.6 -0.1
baz=132
E25A Miller Ranch, 132.00 26 ⇓PKiKP PKiKP 09 17 11.0 0.0
baz=132
J20A Shoshoni 132.01 32 ⇑PKiKP PKPdf 09 17 10.6 +0.5
baz=132
D26A Manning 132.01 25 ⇑PKiKP PKiKP 09 17 10.7 -0.2
baz=132
F24A Ekalaka 132.03 28 ⇓PKiKP PKPdf 09 17 10.5 +0.5
baz=132
H22A Clearmont 132.04 30 ⇓PKiKP PKPdf 09 17 10.6 +0.4
baz=132
A30A Hoffart Farm, 132.05 21 ⇑PKiKP PKPdf 09 17 10.3 +0.4
baz=132
B29A Wagenman Farm, 132.07 22 ⇑PKiKP PKiKP 09 17 10.6 -0.4
baz=132
G23A Biddle 132.07 29 ⇑PKiKP PKPdf 09 17 10.6 +0.5
baz=132
DAU Daniels Canyon 132.09 38 ePKIKP PKPdf 09 17 12.7 +2.1
DAU Daniels Canyon 132.09 38 ePKPdf PKPdf 09 17 12.7 +2.1
MPU Maple Canyon 132.10 38 ePKPdf PKPdf 09 17 12.8 +2.3
I21A Big Trails, Te 132.11 31 ⇑PKiKP PKPdf 09 17 10.8 +0.5
baz=132
GMRC Granite Mounta 132.23 46 ⇓PKiKP PKiKP 09 17 11.9 0.0
baz=132
C28A Hausauer Farms 132.29 23 ⇓PKiKP PKiKP 09 17 11.4 -0.1
baz=132
D27A Center 132.33 24 ⇓PKiKP PKiKP 09 17 11.6 0.0
baz=132
J21A Lysite 132.35 32 ⇓PKiKP PKiKP 09 17 11.7 -0.3
baz=132
F25A Bowman 132.42 27 ⇑PKiKP PKiKP 09 17 12.0 +0.1
baz=132
G24A Alzada 132.44 28 ⇑PKiKP PKiKP 09 17 11.4 -0.5
baz=132
E26A Carlson Angus 132.44 26 ⇓PKiKP PKiKP 09 17 11.5 -0.3
baz=132
B30A Myrvik Farm, E 132.45 21 ⇓PKiKP PKPdf 09 17 11.2 +0.5
baz=132
I22A 9 Mile Ranch, 132.47 31 ⇑PKiKP PKPdf 09 17 11.4 +0.4
baz=132
MDND Maddock 132.49 22 ⇑PKiKP PKPdf 09 17 11.2 +0.5
baz=132
MVU Marysvale 132.62 40 ePKPdf PKPdf 09 17 13.3 +1.7
D28A Regan 132.65 24 ⇑PKiKP PKPdf 09 17 11.5 +0.5
baz=132
TMUT Trail Mountain 132.79 39 ePKPdf PKPdf 09 17 13.3 +1.3
H24A Dirks Ranch, A 132.80 29 ⇓PKiKP PKPdf 09 17 11.6 +0.1
baz=133
J22A Midwest 132.81 31 ⇑PKiKP PKPdf 09 17 11.9 +0.2
baz=133
F26A Lodgepole 132.83 26 ⇑PKiKP PKPdf 09 17 12.0 +0.5
baz=133
E27A Carson 132.85 25 ⇓PKiKP PKiKP 09 17 12.3 -0.4
baz=133
K21A Alcova 132.95 33 ⇑PKiKP PKPdf 09 17 12.4 +0.4
baz=133
G25A Newell 133.00 27 ⇑PKiKP PKPdf 09 17 12.2 +0.4
baz=133
C30A Mose, Pekin 133.03 22 ⇑PKiKP PKiKP 09 17 12.5 -0.5
baz=133
E28A Huff 133.10 24 ⇓PKiKP PKPdf 09 17 12.4 +0.4
baz=133
F27A Lemmon 133.10 26 ⇓PKiKP PKPdf 09 17 12.4 +0.4
baz=133
D29A Pettibone, Tap 133.14 23 ⇑PKiKP PKPdf 09 17 12.5 +0.5
baz=133
G26A Maurine 133.29 27 ⇓PKiKP PKPdf 09 17 12.6 +0.2
baz=133
K22A Casper 133.32 32 ⇓PKiKP PKPdf 09 17 13.0 +0.3
baz=133
K22A Casper 133.32 32 ePKPdf PKPdf 09 17 12.3 -0.4
SRU San Rafael Swe 133.33 38 ePKIKP PKPdf 09 17 13.8 +0.9
SRU San Rafael Swe 133.33 38 ePKPdf PKPdf 09 17 13.8 +0.9
SRU eSKPbc SKPbc 09 20 21.6 -0.1
W13A Hualapai Mount 133.34 45 ⇑PKiKP PKiKP 09 17 14.1 -0.2
baz=133
H25A Fruitdale 133.35 28 ⇓PKiKP PKPdf 09 17 13.0 +0.5
baz=133
D30A Buchanan 133.42 22 ⇑PKiKP PKPdf 09 17 12.5 0.0
baz=133
I24A Kuemmerle Ranc 133.42 30 ⇑PKiKP PKPdf 09 17 12.5 -0.3
baz=133
AGMN Agassiz Nation 133.42 19 ⇑PKiKP PKPdf 09 17 12.7 +0.3
baz=133
RSSD Black Hills 133.52 29 ePKIKP PKPdf 09 17 12.6 -0.5
RSSD Black Hills 133.52 29 ePKPdf PKPdf 09 17 12.6 -0.5
G27A Dupree 133.52 26 ⇑PKiKP PKPdf 09 17 13.2 +0.4
baz=133
E29A Napoleon 133.53 23 ⇑PKiKP PKPdf 09 17 13.2 +0.4
baz=133
Y12C Blythe 133.55 47 ⇑PKiKP PKiKP 09 17 14.1 -0.3
baz=133
PDMCI Parker Dam,Lak 133.56 46 ⇑PKiKP PKiKP 09 17 14.1 -0.3
baz=133
N20A Spence Gulch, 133.59 35 ⇓PKiKP PKiKP 09 17 14.2 -0.4
baz=133
F28A McLaughlin 133.64 25 ⇓PKiKP PKPdf 09 17 13.1 +0.2
baz=133
K23A Bowen Ranch, D 133.72 31 ⇓PKiKP PKPdf 09 17 13.2 -0.2
baz=134
U15A North Rim 133.73 43 ⇓PKiKP PKiKP 09 17 15.4 +0.3
baz=134
H26A Fairpoint 133.74 27 ⇓PKiKP PKPdf 09 17 13.5 +0.2
baz=134
I25A Rochford 133.74 29 ⇑PKiKP PKPdf 09 17 13.8 +0.4
baz=134
J24A Dixon Ranch, L 133.79 30 ⇑PKiKP PKPdf 09 17 14.1 +0.6
baz=134
L22A Ellis Ranch, M 133.80 33 ⇑PKiKP PKPdf 09 17 14.1 +0.4
baz=134
E30A Jud 133.87 23 ⇓PKiKP PKiKP 09 17 14.1 -0.7
baz=134
H27A Howes 134.04 27 ⇑PKiKP PKPdf 09 17 14.4 +0.6
baz=134
F29A Eureka 134.05 24 ⇓PKiKP PKPdf 09 17 13.9 +0.2
baz=134
O20A White River Ci 134.06 36 ⇑PKiKP PKiKP 09 17 15.0 -0.5
baz=134
O20A White River Ci 134.06 36 ePKPdf PKiKP 09 17 15.0 -0.5
O20A eSKPbc SKPbc 09 20 24.4 +0.4
L23A Garrett 134.13 32 ⇓PKiKP PKPdf 09 17 14.1 -0.2
baz=134
I26A New Underwood 134.14 28 ⇓PKiKP PKPdf 09 17 14.5 +0.4
baz=134
M22A Cedar Creek Ra 134.15 33 ⇑PKiKP PKPdf 09 17 14.7 +0.4
baz=134
J25A Sunshine Ranch 134.17 29 ⇑PKiKP PKPdf 09 17 14.2 0.0
baz=134
PLCA Paso Flores 134.19 185 PKP PKPdf 09 17 15.6 +1.3
comp=Z,1.8nm,0.5s,baz=177,slow=3.0,SNR=13
PLCA SKPbc SKPbc 09 20 25.4 +1.1
comp=Z,3.4nm,0.9s,baz=183,slow=3.2,SNR=6.6
G28A Parade 134.20 26 ⇓PKiKP PKPdf 09 17 14.2 +0.1
baz=134
F30A Leola 134.37 23 ⇑PKiKP PKPdf 09 17 14.8 +0.4
baz=134
H28A Mission Ridge 134.47 26 ⇓PKiKP PKPdf 09 17 15.0 +0.3
baz=134
I27A Quinn 134.49 27 ⇓PKiKP PKPdf 09 17 14.9 +0.2
baz=134
G29A Hoven 134.53 25 ⇑PKiKP PKPdf 09 17 14.9 +0.2
baz=134
M23A Laramie 134.57 33 ⇓PKiKP PKPdf 09 17 15.7 +0.5
baz=134
J26A Sides Ranch, S 134.58 29 ⇓PKiKP PKPdf 09 17 15.3 +0.4
baz=134
L24A Wheatland 134.59 31 ⇑PKiKP PKPdf 09 17 15.6 +0.5
baz=134
N22A Wattenberg Ran 134.63 34 ⇑PKiKP PKPdf 09 17 15.9 +0.6
baz=134
K25A Mack Ranch, Ha 134.71 30 ⇓PKiKP PKPdf 09 17 15.7 +0.4
baz=134
N23A Red Feather La 134.85 33 ⇓PKiKP PKPdf 09 17 15.8 +0.1
baz=135
WUAZ Wupatki 134.86 43 ⇓PKiKP PKPdf 09 17 16.4 +0.6
baz=135
WUAZ Wupatki 134.86 43 ePKPdf PKPdf 09 17 17.3 +1.5
H29A Onida 134.86 25 ⇓PKiKP PKPdf 09 17 15.9 +0.6
baz=135
G30A Faulkton 134.90 24 ⇑PKiKP PKPdf 09 17 15.7 +0.4
baz=135
I28A Midland 134.94 27 ⇑PKiKP PKPdf 09 17 16.1 +0.6
baz=135
K26A Motz Farm, Whi 134.99 30 ⇑PKiKP PKPdf 09 17 16.2 +0.5
baz=135
O22A Kremmling 135.02 35 ⇑PKiKP PKPdf 09 17 16.7 +0.6
baz=135
M24A Cheyenne 135.05 32 ⇓PKiKP PKPdf 09 17 16.3 +0.3
baz=135
J27A Elkhorn Farm, 135.14 28 ⇑PKiKP PKPdf 09 17 16.6 +0.6
baz=135
PV01 Paradox Valley 135.14 38 ePKPdf PKPdf 09 17 18.4 +2.1
P22A Eagle 135.28 35 ⇓PKiKP PKPdf 09 17 17.2 +0.7
baz=135
I29A Vivian Onida 135.31 26 ⇓PKiKP PKPdf 09 17 16.6 +0.4
baz=135
O23A Lake Granby, G 135.34 34 ⇑PKiKP PKPdf 09 17 17.2 +0.5
baz=135
J28A Allard Ranch, 135.36 27 ⇓PKiKP PKPdf 09 17 17.0 +0.6
baz=135
X16A Lo Mia Camp, P 135.41 44 ⇓PKiKP PKiKP 09 17 18.1 -0.3
baz=135
K27A Flueckinger Fa 135.45 29 ⇑PKiKP PKPdf 09 17 17.1 +0.6
baz=135
N24A Carr 135.47 33 ⇓PKiKP PKPdf 09 17 17.3 +0.6
baz=135
M25A Palm-Egli Farm 135.48 31 ⇑PKiKP PKPdf 09 17 16.8 +0.1
baz=135
BRSD Miller 135.54 25 ⇑PKiKP PKPdf 09 17 17.3 +0.7
baz=135
BRSD Miller 135.54 25 ePKPdf PKPdf 09 17 16.6 0.0
MVCO Mesa Verde 135.75 39 ⇓PKiKP PKiKP 09 17 18.4 -0.8
baz=136
MVCO Mesa Verde 135.75 39 ePKPdf PKPdf 09 17 18.2 +0.7
I30A Oacoma 135.77 25 ⇓PKiKP PKPdf 09 17 17.6 +0.6
baz=136
J29A Okreek 135.78 27 ⇑PKiKP PKPdf 09 17 17.6 +0.5
baz=136
ISCO Idaho Springs 135.79 34 ⇑PKiKP PKPdf 09 17 17.9 +0.3
baz=136
K28A Ten Mile Ranch 135.85 28 ⇑PKiKP PKPdf 09 17 17.9 +0.6
baz=136
M26A McRoberts Ranc 135.92 31 ⇓PKiKP PKPdf 09 17 17.9 +0.4
baz=136
P23A Jefferson 135.95 35 ⇓PKiKP PKPdf 09 17 18.7 +0.8
baz=136
W18A Petrified Fore 136.19 42 ⇑PKiKP PKPdf 09 17 19.1 +0.8
baz=136
W18A Petrified Fore 136.19 42 ePKPdf PKPdf 09 17 20.0 +1.7
J30A Dallas 136.22 26 ⇑PKiKP PKPdf 09 17 18.7 +0.8
baz=136

| | | |

comp=Z,1.7nm,0.5s,baz=204,slow=1.4,SNR=6.8

*IDC **08** 09:09:55.4±2.6,53˚.66N×88˚.17E,h0km,mb1 3.3/4, mb1mx3.1/32,mbtmp3.3/4,ML2.8/4,Error ellipse: s-maj=22.1km s-min=14.3km az=60.0*
*NNC **08** 09:09:57.5±6.0,53˚.47N×88˚.05E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=47.7km s-min=34.0km az=22.0*
ISC 08 09:09:59.5±3.9,53.8N±0.1×88.1E±0.2,h35km,n8, σ0s77/13,2C-7D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**277**	*i*		09 23 07.4	
	baz=94,slow=342,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.95**	**277**	Pn	**Pn**	**09 10 30.1**	**+0.1**
	3.7nm,0.3s,baz=101,slow=12,SNR=24						
ZALV				Lg	Lg	09 10 57.5	
	18nm,0.3s,baz=97,slow=34,SNR=25						
KURK	**Kurchatov**	**6.56**	**246**	⇑Pn	**Pn**	**09 11 32.0**	**-1.4**
	2.0nm,0.9s						
KURK				⇓Sn	**Sn**	**09 12 48.2**	**+1.2**
	1.2nm,0.8s						
KURK				⇓Lg	Lg	09 13 24.0	
	2.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.66**	**246**	⇑Pn	**Pn**	**09 11 34.7**	**-0.1**
	2.9nm,0.3s						
KURBB				⇓Sn	**Sn**	**09 12 48.5**	**-0.9**
	6.9nm,0.7s						
KURBB				⇓Lg	Lg	09 13 26.0	
	6.7nm,0.6s						
KURBB	**Kurchatov Arra**	**6.66**	**246**	Pn	**Pn**	**09 11 34.7**	**-0.1**
	0.3nm,0.3s,baz=61,slow=14,SNR=15						
KURBB				Sn	**Sn**	**09 12 49.0**	**-0.4**
	0.0nm,0.3s,baz=58,slow=29,SNR=3.1						
KURBB				Lg	Lg	09 13 25.8	
	0.1nm,0.3s,baz=59,slow=32,SNR=4.4						
MK31	**Makanchi Array**	**7.89**	**210**	⇓Pn	**Pn**	**09 11 52.2**	**+0.6**
	1.0nm,0.7s,baz=30,slow=13,SNR=12						
MK31				⇓Sn	**Sn**	**09 13 19.4**	**-0.3**
	0.6nm,0.6s,baz=31,slow=26,SNR=5.8						
MK31				⇓Lg	Lg	09 14 03.9	
	4.2nm,1.0s,baz=29,slow=30						
MKAR	**Makanchi Array**	**7.89**	**210**	Pn	**Pn**	**09 11 51.7**	**0.0**
	0.2nm,0.3s,baz=26,slow=14,SNR=8.4						
MKAR				Sn	**Sn**	**09 13 20.2**	**+0.6**
	0.4nm,0.3s,baz=32,slow=27,SNR=7.0						
MKAR				Lg	Lg	09 14 03.7	
	0.2nm,0.3s,baz=28,slow=31,SNR=6.4						
BVAR	**Borovoye Array**	**10.60**	**273**	Pn	**Pn**	**09 12 28.3**	**-0.5**
	0.2nm,0.3s,baz=73,slow=15,SNR=2.5						
BVAR				Sn	**Sn**	**09 14 26.8**	**+0.7**
	0.6nm,0.3s,baz=77,slow=24,SNR=7.9						

*CSEM **08** 09:11:27.9±0.3,50˚.26N×19˚.00E,h1km,Error ellipse: s-maj=7.6km s-min=3.6km az=6.0*
PRU 08 09:11:28.6,50˚.25N×19˚.01E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.04**	**344**	*e*Pg	Pg	09 11 32.3	+2.8
CHZP				*e*Sg	Sg	09 11 33.4	+3.3
OJC	**Ojcow**	**0.51**	**93**	*e*Pg	Pg	09 11 37.7	-0.7
OJC				*e*Sg	Sg	09 11 44.0	-1.0
OJC	**Ojcow**	**0.51**	**93**	*e*Pg	Pg	09 11 37.7	-0.7
OJC				*e*Sg	Sg	09 11 44.0	-1.0
OKC	**Ostrava-Krasne**	**0.69**	**234**	*e*PG	Pg	09 11 41.1	-0.8
OKC				*e*SG	Sg	09 11 50.6	-0.3
	comp=Z,5.9nm,0.3s						
OKC	**Ostrava-Krasne**	**0.69**	**234**	Pg	Pg	09 11 41.1	-0.8
OKC				Sg	Sg	09 11 50.6	-0.3
	5.9nm,0.3s						
LANS	**Liptovska Anna**	**1.14**	**165**	*e*Pg	Pg	09 11 50.4	-0.1
LANS				*e*Sg	Sg	09 12 05.1	-0.3
KRLC	**Kraliky**	**1.44**	**264**	*e*PG	Pn	09 11 55.2	-0.9
KRLC				*e*SG	Sb	09 12 15.4	0.0
KRLC	**Kraliky**	**1.44**	**264**	Pg	Pn	09 11 55.2	-0.9
KRLC				Sg	Sb	09 12 15.4	0.0
STHS	**Stebnicka Huta**	**1.67**	**119**	*e*Pn	Pn	09 11 59.6	+0.5
STHS				*e*Sn	Sn	09 12 19.7	-1.6
STHS	**Stebnicka Huta**	**1.67**	**119**	*e*PN	Pn	09 11 59.6	+0.5
STHS				*e*SN	Sn	09 12 19.7	-1.6
DPC	**Dobruska-Polom**	**1.73**	**274**	*e*PG	Pn	09 12 00.3	+0.3
DPC				*e*SG	Sg	09 12 24.2	0.0
DPC	**Dobruska-Polom**	**1.73**	**274**	Pg	Pn	09 12 00.3	+0.3
DPC				Sg	Sg	09 12 24.2	0.0
VYHS	**Vyhne**	**1.76**	**184**	*e*Pn	Pn	09 11 59.2	-1.2
VYHS				*e*Sn	Sn	09 12 21.0	-2.5
VYHS	**Vyhne**	**1.76**	**184**	*e*PN	Pn	09 11 59.2	-1.2
VYHS				*e*SN	Sn	09 12 21.0	-2.5

*KRNET **08** 09:21:00.9±0.1,41˚.27N×78˚.86E,h2km,mb4.1*
*IDC **08** 09:21:01.2±1.2,41˚.25N×79˚.00E,h0km,mb3.2/3, mb1 3.4/6,mb1mx3.1/51,mbtmp3.2/6,ML3.2/3,Error ellipse: s-maj=20.6km s-min=15.6km az=36.0*
*NNC **08** 09:21:05.6±3.4,41˚.36N×79˚.29E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=27.6km s-min=13.3km az=144.0*
ISC 08 09:21:02.4±1.9,41˚.35N±0˚.06×78˚.98E±0˚.05,h2km±12km, n32,σ1s60/38,9C-13D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.55**	**301**	*e*P	**Pn**	**09 21 29.7**	**-1.6**
	baz=305						
KDJ				*e*S	**Sn**	**09 21 51.0**	**-1.2**
	baz=305						
PDGK	**Podgornoye**	**2.02**	**11**	⇓Pn	**Pb**	**09 21 39.8**	**+0.1**
	32nm,0.4s						
PDGK				⇓Sn	**Sg**	**09 22 07.3**	**+0.2**
	52nm,0.4s						
ULHL	**Ulahol**	**2.23**	**295**	P	**Pb**	**09 21 42.6**	**-1.1**
	SNR=136						
ULHL	**Ulahol**	**2.23**	**295**	⇑*i*P	**Pb**	**09 21 42.5**	**-1.1**
	baz=297						
ULHL				⇑*i*S	**Sb**	**09 22 12.8**	**+1.0**
	baz=297						
NRN	**Naryn**	**2.24**	**273**	*e*P	**Pb**	**09 21 44.0**	**+0.2**
	baz=275						
KNDC	**Almaty**	**2.39**	**322**	⇑Pn	**Pb**	**09 21 46.0**	**-0.2**
KNDC				⇓Sn	**Sg**	**09 22 20.6**	**+1.4**
BOOM	**Boomskoye usch**	**2.54**	**298**	⇓*i*P	**Pb**	**09 21 47.8**	**-1.0**
	baz=300						
BOOM				⇓*e*S	**Sb**	**09 22 22.6**	**+2.1**
	baz=300						
KZA	**Kyzart**	**2.88**	**286**	P	**Pb**	**09 21 53.3**	**-1.5**
	SNR=32						
TKM2	**Tokmak 2**	**2.96**	**303**	⇓Pn	**Pn**	**09 21 53.4**	**+2.7**
	12nm,0.3s						
TKM2				⇑Sn	**Sg**	**09 22 36.6**	**-1.0**
	53nm,0.5s						
TKM2	**Tokmak 2**	**2.96**	**303**	P	**Pb**	**09 21 55.4**	**-0.7**
	SNR=18						
KBK	**Karagaybulak**	**3.27**	**295**	P	**Pb**	**09 22 01.1**	**-0.2**
	SNR=17						
UCH	**Uchtor**	**3.45**	**286**	P	**Pb**	**09 22 05.7**	**+1.2**
	SNR=61						
ARLS	**Aral**	**3.53**	**280**	*i* P	**Pb**	**09 22 05.2**	**-0.4**
	baz=281						
ARLS				*e*S	**Sg**	**09 22 54.2**	**-1.4**
	baz=281						
FRU	**Bishkek**	**3.57**	**296**	*e*P	**Pb**	**09 22 04.0**	**-2.2**
	baz=298						
AAK	**Ala-Archa**	**3.58**	**293**	⇑Pn	**Pn**	**09 22 01.0**	**+1.9**
	14nm,0.7s						
AAK				⇑Sn	**Sb**	**09 22 53.7**	**+3.3**
	11nm,0.6s						
AAK	**Ala-Archa**	**3.58**	**293**	P	**Pb**	**09 22 06.3**	**-0.2**
	SNR=16						
AAK	**Ala-Archa**	**3.58**	**293**	Pn	**Pn**	**09 22 01.5**	**+2.4**
	2.2nm,0.3s,baz=107,slow=7.5,SNR=37						
AAK				Lg	Lg	09 22 54.6	
	3.2nm,0.3s,baz=240,slow=5.3,SNR=7.3						
SALK	**Salom-Alik**	**3.92**	**265**	*e*P	**Pg**	**09 22 17.3**	**-0.2**
	baz=266						
SALK				*e*S	**Sg**	**09 23 10.1**	**+1.7**
	baz=266						
AML	**Almayashu**	**4.03**	**283**	P	**Pb**	**09 22 15.5**	**+1.2**
	SNR=49						
EKS2	**Erkin-Say**	**4.09**	**290**	P	**Pb**	**09 22 17.1**	**+1.9**
	SNR=18						
SFK	**Sufi-Kurgan**	**4.37**	**254**	⇑Pn	**Pb**	**09 22 21.0**	**+1.0**
	3.2nm,0.4s						
SFK				⇓Lg	Lg	09 23 29.6	
	22nm,0.8s						
MNAS	**Manas**	**4.96**	**285**	⇓Pn	**Pb**	**09 22 30.2**	**+0.2**
	7.4nm,0.6s						
MNAS				⇓Lg	Lg	09 23 46.2	
	7.3nm,0.7s						
MK31	**Makanchi Array**	**5.95**	**23**	⇓Pn	**Pn**	**09 22 34.6**	**+3.2**
	0.4nm,0.4s,baz=211,slow=12,SNR=6.9						
MK31				⇑Lg	Lg	09 24 09.8	
	2.5nm,0.5s,baz=206,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**5.95**	**23**	Pn	**Pn**	**09 22 33.4**	**+1.9**
	0.6nm,0.3s,baz=201,slow=13,SNR=24						
MKAR				Lg	Lg	09 24 09.2	
	1.4nm,0.3s,baz=206,slow=26,SNR=3.9						
KK31	**Karatay Array**	**6.52**	**288**	⇓Pg	**Pg**	**09 23 05.4**	**-1.9**
	2.1nm,0.6s,baz=109,slow=16,SNR=4.0						
KK31				⇓Lg	Lg	09 24 33.3	
	2.1nm,0.5s,baz=93,slow=27,SNR=4.5						
KURBB	**Kurchatov Arra**	**9.28**	**358**	⇑Lg	Lg	09 25 58.9	
	6.6nm,0.8s						
KURBB	**Kurchatov Arra**	**9.28**	**358**	Lg	Lg	09 25 53.2	
	0.1nm,0.3s,baz=193,slow=34,SNR=5.9						
KURK	**Kurchatov**	**9.37**	**359**	⇓Lg	Lg	09 25 58.7	
	7.9nm,1.2s						
BVAR	**Borovoye Array**	**13.05**	**336**	Pn	**Pn**	**09 24 07.9**	**-0.8**
	0.1nm,0.3s,baz=148,slow=12,SNR=2.4						
SONM	**Songino Array**	**20.51**	**62**	P	**P**	**09 25 41.3**	**-0.6**
	0.3nm,0.7s,baz=266,slow=9.2,SNR=3.0						
WRA	**Warramunga Arr**	**79.66**	**128**	P	**P**	**09 33 10.0**	**-1.6**
	0.2nm,0.7s,baz=328,slow=4.9,SNR=3.6						
ASAR	**Alice Springs**	**82.30**	**131**	P	**P**	**09 33 24.2**	**-1.4**
	0.4nm,0.8s,baz=328,slow=5.2,SNR=4.9						

MEX 08 09:23:04.2±0.5,32˚.30N×115˚.06W,h25km±9km,MD4.0, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.16**	**312**	*i* P	Pb	09 23 08.0	-1.4
MBIG				*e*S	Sb	09 23 11.5	-1.3
SPIG	**San Pedro Mart**	**1.30**	**196**	*e*P	Pn	09 23 24.9	-2.3
SPIG				*e*S	Sn	09 23 39.9	-4.3
CBX	**Cerro Bola**	**1.36**	**271**	*e*P	Pn	09 23 25.0	-2.8
CBX				*e*S	Sn	09 23 41.1	-4.1

*IDC **08** 09:25:09.7±1.5,37˚.08N×49˚.98E,h0km,mb3.6/9, mb1 3.7/12,mb1mx3.6/51,mbtmp3.7/12,ML3.9/3,MS3.2/2, Ms1 3.2/2,ms1mx2.3/39,Error ellipse: s-maj=34.2km s-min=18.6km az=169.0*
*THR **08** 09:25:11.8±1.1,37˚.16N×50˚.21E,h16km±9km,ML3.7*
*CSEM **08** 09:25:12.0±0.1,37˚.13N×50˚.19E,h2km,ML3.7,Error ellipse: s-maj=5.0km s-min=2.6km az=54.0*
*TEH **08** 09:25:13.9,37˚.04N×50˚.15E,h10km,ML4.0*
*AZER **08** 09:25:14.3±0.1,37˚.35N×49˚.79E,h10km,Error ellipse: s-maj=9.4km s-min=5.9km az=231.0*
*NNC **08** 09:25:20.0±4.4,37˚.84N×50˚.97E,h0km,mb4.1,Error ellipse: s-maj=78.7km s-min=26.3km az=90.0*
ISC 08 09:25:13.5±0.6,37˚.14N±0˚.03×50˚.20E±0˚.03,h22km±5km, n91,σ1s44/123,mb3.8/9,21C-8D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNJK	**Zanjan**	**1.30**	**250**	*e*Pg	**Pb**	**09 25 36.4**	**-0.9**
ZNJK	**Zanjan**	**1.30**	**250**	*e*Pg	**Pb**	**09 25 36.4**	**-0.9**
CHTH	**Charan**	**1.44**	**148**	*e*Pg	**Pn**	**09 25 39.1**	**+0.7**
CHTH				*e*Sg	**Sb**	**09 25 58.3**	**+0.7**
CHTH	**Charan**	**1.44**	**148**	*e*Pg	**Pn**	**09 25 39.1**	**+0.7**
CHTH				*e*Sg	**Sb**	**09 25 58.3**	**+0.7**
IMHD	**Mahdasht**	**1.50**	**165**	*e*Pn	**Pn**	**09 25 39.8**	**+0.7**
IMHD				*e*Sg	**Sn**	**09 25 58.5**	**+0.5**
IMHD				*e*		09 26 00.8	
	comp=Z,35μm,0.1s						
IMHD	**Mahdasht**	**1.50**	**165**	*e*Pn	**Pn**	**09 25 39.8**	**+0.7**
IMHD				*e*Sg	**Sn**	**09 25 58.5**	**+0.5**
IRAZ	**Razeghan**	**1.74**	**187**	*e*Pn	**Pn**	**09 25 42.5**	**-0.1**
IRAZ				*e*Sg	**Sn**	**09 26 04.3**	**+0.1**
IRAZ				*e*		09 26 05.8	
	comp=Z,52μm,0.2s						
IRAZ	**Razeghan**	**1.74**	**187**	*e*Pn	**Pn**	**09 25 42.5**	**-0.1**
IRAZ				*e*Sg	**Sn**	**09 26 04.3**	**+0.1**
IR3	**Iran Long-Peri**	**1.79**	**158**	*e*Pn	**Pn**	**09 25 43.7**	**+0.6**
IR3				*e*Sg	**Sb**	**09 26 07.2**	**-0.3**
IR3	**Iran Long-Peri**	**1.79**	**158**	*e*Pn	**Pn**	**09 25 43.7**	**+0.6**
IR3				*e*Sg	**Sb**	**09 26 07.2**	**-0.3**
LKRN	**Lenkeran, Azer**	**1.93**	**325**	⇑P	**Pn**	**09 25 45.2**	**+0.2**
	SNR=8.8						
LKRN				⇓S	**Sn**	**09 26 07.5**	**-1.1**
LKRN	**Lenkeran, Azer**	**1.93**	**325**	P	**Pn**	**09 25 45.2**	**+0.2**
	SNR=8.8						
LKRN				S	**Sn**	**09 26 07.5**	**-1.1**
IPRN	**Peran**	**1.94**	**117**	*e*Pn	**Pn**	**09 25 45.6**	**+0.4**
IPRN				*e*		09 26 21.3	
	comp=Z,20μm,0.1s						
DAMV	**Damavand**	**2.07**	**136**	*e*Pg	**Pn**	**09 25 49.3**	**+2.1**
DAMV				AML	AML	09 26 29.6	
	comp=N,324nm,0.6s						
LRK	**Lerik**	**2.10**	**316**	⇑P	**Pn**	**09 25 48.0**	**+0.4**
	SNR=13						
LRK				⇑S	**Sn**	**09 26 12.0**	**-1.1**
LRK	**Lerik**	**2.10**	**316**	P	**Pn**	**09 25 48.0**	**+0.4**
	SNR=13						
LRK				S	**Sn**	**09 26 12.0**	**-1.1**
ISRB	**Sarab**	**2.13**	**290**	*e*Pn	**Pb**	**09 25 49.1**	**-2.3**
ISRB				*e*Sg	**Sb**	**09 26 20.8**	**+3.3**
ISRB				*e*		09 26 22.7	
	comp=Z,17μm,0.1s						
ISRB	**Sarab**	**2.13**	**290**	*e*Pn	**Pb**	**09 25 49.1**	**-2.3**
ISRB				*e*Sg	**Sb**	**09 26 20.8**	**+3.3**
IDMV	**Damavand**	**2.15**	**136**	*e*Pn	**Pb**	**09 25 50.5**	**-1.3**
IDMV				*e*		09 26 36.5	
	comp=Z,4μm,0.2s						
IDMV	**Damavand**	**2.15**	**136**	*e*Pn	**Pb**	**09 25 50.5**	**-1.3**
IALA	**Alasht**	**2.35**	**116**	*e*Pn	**Pn**	**09 25 51.9**	**+0.9**
IALA				*e*		09 26 31.4	
	comp=Z,8μm,0.1s						
IALA	**Alasht**	**2.35**	**116**	*e*Pn	**Pn**	**09 25 51.9**	**+0.9**
IVRN	**Varamin**	**2.47**	**149**	*e*Pn	**Pn**	**09 25 54.1**	**+1.6**
IVRN				*e*		09 26 41.1	
	comp=Z,5μm,0.2s						
IVRN	**Varamin**	**2.47**	**149**	*e*Pn	**Pn**	**09 25 54.1**	**+1.6**
GRMI	**Germi**	**2.47**	**313**	*e*Pn	**Pn**	**09 25 53.6**	**+1.0**
GRMI	**Germi**	**2.47**	**313**	*e*Pn	**Pn**	**09 25 53.6**	**+1.0**
GLBA	**Clilabad**	**2.54**	**326**	P	**Pn**	**09 25 53.8**	**+0.4**
	SNR=21						
GLBA				P	**Pn**	**09 25 53.9**	**+0.6**
	SNR=4.5						
GLBA				⇑S	**Sn**	**09 26 23.5**	**-0.1**
GLBA	**Clilabad**	**2.54**	**326**	P	**Pn**	**09 25 53.9**	**+0.6**
	SNR=4.5						
GLBA				S	**Sn**	**09 26 23.5**	**-0.1**
IFIR	**Firoozkooh**	**2.54**	**125**	*e*Pn	**Pn**	**09 25 55.4**	**+1.7**
IFIR				*e*		09 26 47.5	
	comp=Z,3μm,0.2s						
IFIR	**Firoozkooh**	**2.54**	**125**	*e*Pn	**Pn**	**09 25 55.4**	**+1.7**
IBST	**Bostanabad**	**2.69**	**283**	*e*Pn	**Pn**	**09 25 56.0**	**+0.3**
IBST				*e*Sg	**Sb**	**09 26 37.2**	**+3.5**
IBST				*e*		09 26 41.6	
	comp=Z,8μm,0.2s						
IBST	**Bostanabad**	**2.69**	**283**	*e*Pn	**Pn**	**09 25 56.0**	**+0.3**
IBST				*e*Sg	**Sb**	**09 26 37.2**	**+3.5**
IHRS	**Heris**	**2.77**	**296**	*e*Pn	**Pn**	**09 25 58.5**	**+1.8**
IHRS				*e*		09 26 47.0	
	comp=Z,4μm,0.2s						
IHRS	**Heris**	**2.77**	**296**	*e*Pn	**Pn**	**09 25 58.5**	**+1.8**
GHVR	**GHOM**	**2.80**	**161**	*e*Pn	**Pn**	**09 25 58.4**	**+1.4**
GHVR				AML	AML	09 26 50.8	
	comp=E,344nm,0.5s						
GHVR				AML	AML	09 26 51.8	
	comp=N,409nm,0.6s						
GHVR	**GHOM**	**2.80**	**161**	*e*Pn	**Pn**	**09 25 58.4**	**+1.4**
	comp=N,409nm,0.6s						
IKIA	**Kiasar**	**2.95**	**107**	*e*Pn	**Pn**	**09 26 00.6**	**+1.4**
IKIA				*e*		09 26 22.7	
	comp=Z,2μm,0.2s						
IKIA	**Kiasar**	**2.95**	**107**	*e*Pn	**Pn**	**09 26 00.6**	**+1.4**
ALIB	**Äli-Bayra**	**2.97**	**342**	⇑P	**Pn**	**09 26 02.1**	**+2.9**
	SNR=6.7						
ALIB				⇓S	**Sb**	**09 26 39.4**	**-2.1**
ALIB	**Äli-Bayra**	**2.97**	**342**	P	**Pn**	**09 26 02.1**	**+2.9**
	SNR=6.7						
ALIB				S	**Sb**	**09 26 39.4**	**-2.1**
IGLO	**Ghaloghah**	**2.98**	**101**	*e*Pn	**Pn**	**09 26 01.1**	**+1.4**
IGLO				*e*		09 27 02.1	
	comp=Z,7μm,0.3s						
SNGE	**Sanandaj**	**3.08**	**229**	*e*Pn	**Pn**	**09 26 02.0**	**+1.0**
SNGE	**Sanandaj**	**3.08**	**229**	*e*Pn	**Pn**	**09 26 02.0**	**+1.0**
IANJ	**Anjilo**	**3.43**	**118**	*e*Pn	**Pn**	**09 26 07.2**	**+1.3**
IANJ				*e*		09 27 09.1	
	comp=Z,955nm,0.3s						
IANJ	**Anjilo**	**3.43**	**118**	*e*Pn	**Pn**	**09 26 07.2**	**+1.3**
KDMR	**Kurdemir**	**3.60**	**335**	⇑S	**Sn**	**09 26 51.5**	**+1.8**
KDMR	**Kurdemir**	**3.60**	**335**	S	**Sn**	**09 26 51.5**	**+1.8**
ATGJ	**Altiaghaj**	**3.85**	**346**	⇑P	**Pn**	**09 26 13.3**	**+1.9**
ATGJ				⇑S	**Sn**	**09 26 57.7**	**+1.7**
ATGJ	**Altiaghaj**	**3.85**	**346**	P	**Pn**	**09 26 13.3**	**+1.9**
ATGJ				S	**Sn**	**09 26 57.7**	**+1.7**
PQL	**Pirkuli**	**3.86**	**342**	⇑P	**Pn**	**09 26 13.0**	**+1.4**
	SNR=5.5						
PQL				⇑S	**Sn**	**09 26 58.6**	**+2.3**
PQL	**Pirkuli**	**3.86**	**342**	P	**Pn**	**09 26 13.0**	**+1.4**
	SNR=5.5						
PQL				S	**Sn**	**09 26 58.6**	**+2.3**
IMRD	**Marand**	**3.89**	**295**	*e*Pn	**Pn**	**09 26 13.8**	**+1.8**
IMRD				*e*		09 27 21.2	
	comp=Z,4μm,0.4s						
IMRD	**Marand**	**3.89**	**295**	*e*Pn	**Pn**	**09 26 13.8**	**+1.8**
BRDA	**Brd**	**3.92**	**324**	⇑P	**Pn**	**09 26 13.7**	**+1.4**
BRDA				⇓S	**Sn**	**09 26 58.9**	**+1.4**
BRDA	**Brd**	**3.92**	**324**	P	**Pn**	**09 26 13.7**	**+1.4**
BRDA				S	**Sn**	**09 26 58.9**	**+1.4**
IDHR	**Dehrash**	**3.93**	**233**	*e*Pn	**Pn**	**09 26 14.9**	**+2.2**
IDHR				*e*		09 27 23.7	
	comp=N,2μm,0.3s						
IDHR	**Dehrash**	**3.93**	**233**	*e*Pn	**Pn**	**09 26 14.9**	**+2.2**
IKLH	**Kolahrood**	**3.97**	**163**	*e*Pn	**Pn**	**09 26 14.4**	**+1.1**
IKLH				*e*		09 27 25.0	
	comp=N,2μm,0.3s						
IKLH	**Kolahrood**	**3.97**	**163**	*e*Pn	**Pn**	**09 26 14.4**	**+1.1**
IML	**Ismayilli**	**3.98**	**337**	P	**Pn**	**09 26 14.0**	**+0.9**
	SNR=2.8						
IML				⇑S	**Sn**	**09 26 59.5**	**+0.4**
IML	**Ismayilli**	**3.98**	**337**	P	**Pn**	**09 26 14.0**	**+0.9**
	SNR=2.8						
IML				S	**Sn**	**09 26 59.5**	**+0.4**
QUBA	**Quba, Azerbaij**	**4.42**	**343**	P	**Pn**	**09 26 20.8**	**+1.6**
	SNR=4.8						
QUBA				⇓S	**Sn**	**09 27 10.6**	**+0.6**
QUBA	**Quba, Azerbaij**	**4.42**	**343**	P	**Pn**	**09 26 20.8**	**+1.6**
	SNR=4.8						
QUBA				S	**Sn**	**09 27 10.6**	**+0.6**
GANJ	**Ganja**	**4.63**	**320**	⇓P	**Pn**	**09 26 23.3**	**+1.2**
GANJ				⇓S	**Sn**	**09 27 13.2**	**-2.0**
GANJ	**Ganja**	**4.63**	**320**	P	**Pn**	**09 26 23.3**	**+1.2**
GANJ				S	**Sn**	**09 27 13.2**	**-2.0**
SEKA	**Sheki**	**4.69**	**331**	P	**Pn**	**09 26 23.6**	**+0.6**
	SNR=17						
SEKA				⇓S	**Sn**	**09 27 16.5**	**-0.2**
SEKA	**Sheki**	**4.69**	**331**	P	**Pn**	**09 26 23.6**	**+0.6**
	SNR=17						
SEKA				S	**Sn**	**09 27 16.5**	**-0.2**
GNI	**Garni**	**5.22**	**307**	Pn	Pn	09 26 36.0	+5.6
	comp=N,0.5nm,0.3s,baz=165,slow=16,SNR=2.4						
ZKTA	**Zakatala**	**5.28**	**329**	P	**Pn**	**09 26 32.7**	**+1.6**
	SNR=6.1						
ZKTA				⇑S	**Sn**	**09 27 31.3**	**0.0**
QZX	**Qazax, Azerbai**	**5.42**	**318**	⇑P	**Pn**	**09 26 30.9**	**-2.1**
QZX				⇑S	**Sn**	**09 27 34.1**	**-0.7**
GEYT	**Alibeck**	**6.34**	**80**	Pn	**Pn**	**09 26 46.0**	**+0.4**
	comp=N,2.8nm,0.3s,baz=285,slow=16,SNR=8.6						
GEYT				Sn	Sn	09 27 53.0	-4.5
	comp=N,2.4nm,0.3s,baz=296,slow=14,SNR=3.3						
AB31	**Akbulak array**	**14.03**	**27**	⇑Pn	Pn	09 28 27.4	-3.3
	comp=N,1.7nm,0.5s,baz=209,slow=13,SNR=35						
AB31				⇑Sn	Sn	09 30 54.4	-11
	comp=N,0.9nm,0.3s,baz=219,slow=27,SNR=6.9						
AKTO	**Aktyubinsk**	**14.43**	**20**	⇑Pn	Pn	09 28 33.1	-3.2
	comp=N,3.9nm,0.5s						
AKTO				⇑Sn	Sn	09 31 06.1	-9.5
	comp=N,4.4nm,0.7s						
AKTO	**Aktyubinsk**	**14.43**	**20**	Pn	Pn	09 28 33.0	-3.3
	comp=N,0.8nm,0.3s,baz=209,slow=12,SNR=24						
AKTO				LR	LR	09 36 31.3	
	comp=N,57nm,19.1s,baz=181,slow=47						
KK31	**Karatay Array**	**16.63**	**63**	⇑Pn	**Pn**	**09 29 05.1**	**0.0**
	comp=N,4.3nm,0.9s,baz=262,slow=8.8,SNR=24						
KK31	**Karatay Array**	**16.63**	**63**	Pn	**Pn**	**09 29 05.1**	**0.0**
	comp=N,4.3nm,0.9s,SNR=24						
AAK	**Ala-Archa**	**19.41**	**66**	P	**Pn**	**09 29 39.8**	**+0.4**
	comp=N,0.2nm,0.3s,baz=281,slow=9.0,SNR=4.4						
AKASG	**Malin Array Be**	**20.21**	**319**	P	**P**	**09 29 44.1**	**-2.5**
	comp=N,0.4nm,0.4s,baz=125,slow=11,SNR=5.8						
BVA0	**Bovoye Array**	**21.23**	**35**	⇑P	**P**	**09 29 58.5**	**+0.8**
	comp=N,7.6nm,0.7s,baz=224,slow=8.3,SNR=6.8						
BVA0	**Borovoye Array**	**21.23**	**35**	P	**P**	**09 29 58.5**	**+0.8**
	comp=N

2.0nm,1.1s,baz=215,slow=1.8,SNR=7.7
ILAR Eielson Array 152.75 308 PKPbc PKPbc 09 56 02.4 -0.9
1.7nm,0.9s,baz=116,slow=2.1,SNR=16

*ISCJB **08** 09:36:57.0±0.2,36°.89N±0°.01×104°.91W±0°.01,h10km, mb3.3/3,MS2.8/1,Error ellipse: s-maj=1.8km s-min=1.4km az=142.1*
*IDC **08** 09:36:56.3±1.0,36°.92N×104°.95W,h0km,mb3.5/3, mb1 3.7/8,mb1mx3.5/31,mbtmp3.4/8,ML3.0/5,MS2.9/4, Ms1 2.9/4,ms1mx2.5/33,Error ellipse: s-maj=21.2km s-min=10.0km az=88.0*
*NEIC **08** 09:36:57.4±0.3,36°.92N×104°.84W,h5km,ML3.5, Error ellipse: s-maj=4.2km s-min=3.5km az=217.0*
NEIC Felt [II] at Trinidad, Colorado.

ISC 08 09:36:56.7±0.5,36°.90N±0°.01×104°.86W±0°.01,h10km, n145,σ1§78/202,mb3.3/3,63C-70D,New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.43**	**57**	⇓P		**Pg**	**09 37 04.8**	**-0.4**
	baz=0.4,SNR=1000							
T25A				⇑S		**Sg**	**09 37 11.0**	**+0.1**
	baz=0.4							
T25A	**Trinidad**	**0.43**	**57**	*i* P		**Pg**	**09 37 04.8**	**-0.4**
T25A				*i* S		**Sg**	**09 37 10.9**	**+0.1**
T24B	**San Luis**	**0.45**	**291**	⇓P		**Pg**	**09 37 05.2**	**-0.4**
	baz=0.5,SNR=1000							
T24B				⇑S		**Sg**	**09 37 11.0**	**-0.5**
	baz=0.5							
U24A	**Moreno Valley**	**0.60**	**214**	P		**Pg**	**09 37 07.5**	**-0.8**
	baz=0.6,SNR=846							
U24A				⇑S		**Sg**	**09 37 15.1**	**-1.2**
	baz=0.6							
U24A	**Moreno Valley**	**0.60**	**214**	*i* P		**Pg**	**09 37 07.5**	**-0.8**
U25A	**Circle Dot Ran**	**0.62**	**144**	⇑P		**Pg**	**09 37 08.1**	**-0.7**
	baz=0.6							
U25A				⇓S		**Sg**	**09 37 15.9**	**-1.0**
	baz=0.6							
U25A	**Circle Dot Ran**	**0.62**	**144**	*i* P		**Pg**	**09 37 08.0**	**-0.7**
S24A	**Houchin Ranch,**	**0.79**	**339**	⇑P		**Pg**	**09 37 11.6**	**-0.4**
	baz=0.8,SNR=105							
S24A				⇓S		**Sg**	**09 37 21.9**	**-0.4**
	baz=0.8							
S24A	**Houchin Ranch,**	**0.79**	**339**	*i* P		**Pg**	**09 37 11.6**	**-0.4**
S25A	**Robets Cordova**	**0.83**	**24**	⇑P		**Pg**	**09 37 12.2**	**-0.5**
	baz=0.8,SNR=1000							
S25A				⇑S		**Sg**	**09 37 22.8**	**-0.7**
	baz=0.8							
S25A	**Robets Cordova**	**0.83**	**24**	*i* P		**Pg**	**09 37 12.0**	**-0.6**
T23A	**Casias Ranch,**	**0.95**	**278**	P		**Pg**	**09 37 14.4**	**-0.7**
	baz=1.0,SNR=269							
T23A				⇑S		**Sg**	**09 37 26.2**	**-1.3**
	baz=1.0							
T23A	**Casias Ranch,**	**0.95**	**278**	*i* P		**Pg**	**09 37 14.1**	**-0.9**
SDCO	**Great Sand Dun**	**0.98**	**329**	⇑P		**Pg**	**09 37 14.7**	**-1.0**
	baz=1.0,SNR=612							
SDCO				⇑S		**Sg**	**09 37 27.6**	**-0.8**
	baz=1.0							
SDCO	**Great Sand Dun**	**0.98**	**329**	*e*Pg		**Pg**	**09 37 14.6**	**-1.0**
SDCO				*e*Sg		**Sg**	**09 37 27.2**	**-1.3**
U26A	**Atchley Ranch,**	**1.03**	**119**	⇓P		**Pg**	**09 37 15.7**	**-0.9**
	baz=1.0							
U26A				⇑S		**Sg**	**09 37 28.8**	**-1.1**
	baz=1.0							
U26A	**Atchley Ranch,**	**1.03**	**119**	*i* P		**Pg**	**09 37 15.7**	**-0.9**
T26A	**Comanche Natio**	**1.05**	**75**	⇓P		**Pg**	**09 37 16.4**	**-0.5**
	baz=1.0,SNR=1000							
T26A				⇓S		**Sg**	**09 37 29.9**	**-0.6**
	baz=1.0							
V25A	**Rancho No Teng**	**1.08**	**170**	⇑P		**Pg**	**09 37 16.4**	**-1.0**
	baz=1.1							
V25A				⇓S		**Sg**	**09 37 30.3**	**-1.3**
	baz=1.1							
S23A	**Nye Farm, Mont**	**1.21**	**312**	⇑P		**Pg**	**09 37 19.7**	**-0.3**
	baz=1.2,SNR=100							
S23A				⇓S		**Sg**	**09 37 35.7**	**-0.1**
	baz=1.2							
S23A	**Nye Farm, Mont**	**1.21**	**312**	*i* P		**Pg**	**09 37 19.6**	**-0.3**
S26A	**Kim**	**1.32**	**57**	⇓P		**Pb**	**09 37 21.2**	**-0.4**
	baz=1.3,SNR=1000							
S26A				⇓S		**Sn**	**09 37 38.5**	**-0.5**
	baz=1.3							
S26A	**Kim**	**1.32**	**57**	*i* P		**Pb**	**09 37 21.2**	**-0.4**
R25A	**Fountain Ranch**	**1.32**	**20**	⇓P		**Pb**	**09 37 21.3**	**-0.4**
	baz=1.3,SNR=330							
R25A				⇓S		**Sn**	**09 37 38.6**	**-0.5**
	baz=1.3							
R24A	**Sanders Place,**	**1.34**	**352**	⇑P		**Pb**	**09 37 21.5**	**-0.5**
	baz=1.3,SNR=240							
R24A				⇓S		**Sb**	**09 37 39.0**	**-0.3**
	baz=1.3							
V26A	**Tequesquite Ra**	**1.40**	**142**	⇑P		**Pb**	**09 37 22.1**	**-0.9**
	baz=1.4							
V26A				⇑S		**Sn**	**09 37 40.2**	**-0.8**
	baz=1.4							
V26A	**Tequesquite Ra**	**1.40**	**142**	*i* P		**Pb**	**09 37 22.3**	**-0.8**
R23A	**Moffat**	**1.50**	**329**	⇑P		**Pb**	**09 37 24.4**	**-0.4**
	baz=1.5,SNR=1000							
R23A				⇓S		**Sg**	**09 37 44.5**	**-0.4**
	baz=1.5							
V23A	**Ortiz Mt. (NFS**	**1.57**	**223**	⇓P		**Pb**	**09 37 25.6**	**-0.4**
	baz=1.6,SNR=52							
V23A	**Ortiz Mt. (NFS**	**1.57**	**223**	*i* P		**Pb**	**09 37 25.8**	**-0.2**
U27A	**Thompson Grove**	**1.71**	**106**	⇓Pb		**Pb**	**09 37 28.2**	**0.0**
	baz=1.7,SNR=884							
U27A				⇓Sb		**Sg**	**09 37 51.1**	**-0.5**
	baz=1.7							
U27A	**Thompson Grove**	**1.71**	**106**	*i* P		**Pb**	**09 37 28.2**	**0.0**
T27A	**Campo**	**1.72**	**84**	⇓Pb		**Pg**	**09 37 28.6**	**-1.0**
	baz=1.7,SNR=597							
T27A				⇑Sb		**Sg**	**09 37 51.5**	**-0.5**
	baz=1.7							
T27A	**Campo**	**1.72**	**84**	*i* P		**Pb**	**09 37 28.4**	**0.0**
S27A	**Las Animas**	**1.75**	**63**	⇑Pb		**Pb**	**09 37 28.9**	**0.0**
	baz=1.7,SNR=182							
S27A				⇓Sb		**Sg**	**09 37 52.1**	**-0.8**
	baz=1.7							
S22A	**4UR Ranch, Cre**	**1.78**	**299**	⇑Pb		**Pb**	**09 37 29.5**	**-0.1**
	baz=1.8,SNR=149							
R26A	**Arlington**	**1.79**	**38**	⇑Pb		**Pb**	**09 37 29.6**	**0.0**
	baz=1.8,SNR=1000							
R26A				⇓Sb		**Sg**	**09 37 53.7**	**-0.5**
	baz=1.8							
V27A	**Dan Oppiter Fa**	**2.00**	**124**	⇑Pb		**Pb**	**09 37 32.4**	**-0.7**
	baz=2.0,SNR=78							
V27A				⇓Sb		**Sg**	**09 37 59.7**	**-1.1**
	baz=2.0							
V27A	**Dan Oppiter Fa**	**2.00**	**124**	*i* P		**Pb**	**09 37 32.8**	**-0.3**
W26A	**Owens Ranch, T**	**2.02**	**154**	⇓Pb		**Pb**	**09 37 33.1**	**-0.4**
	baz=2.0,SNR=122							
W26A				⇓Sb		**Sg**	**09 37 59.6**	**-1.9**
	baz=2.0							
Q25A	**Bedland, Calha**	**2.06**	**13**	⇓Pb		**Pb**	**09 37 34.7**	**+0.3**
	baz=2.1							
Q25A				⇑Sb		**Sg**	**09 38 02.3**	**-0.8**
	baz=2.1							
Q24A	**Divide**	**2.07**	**354**	⇓Pb		**Pb**	**09 37 34.4**	**-0.1**
	baz=2.1							
Q24A				⇓Sb		**Sb**	**09 38 01.5**	**+1.1**
	baz=2.1							
Q23A	**Hartsel**	**2.14**	**339**	⇑Pb		**Pb**	**09 37 35.5**	**-0.3**
	baz=2.2							
Q23A				⇓Sb		**Sg**	**09 38 04.2**	**-1.3**
	baz=2.2							
R27A	**Eads**	**2.14**	**49**	P		**Pb**	**09 37 34.2**	**-1.4**
	baz=2.1,SNR=446							
R27A				⇓Sb		**Sg**	**09 38 03.6**	**-1.9**
	baz=2.1							
U28A	**Mallet**	**2.18**	**103**	⇑Pb		**Pb**	**09 37 36.3**	**0.0**
	baz=2.2							
U28A				⇑Sb		**Sg**	**09 38 04.9**	**-1.9**
	baz=2.2							
U28A	**Mallet**	**2.18**	**103**	*i* P		**Pb**	**09 37 36.3**	**0.0**
T28A	**Walsh**	**2.21**	**84**	⇑P		**Pb**	**09 37 35.4**	**-1.4**
	baz=2.2,SNR=492							
T28A				⇓Sb		**Sb**	**09 38 05.5**	**+1.3**
	baz=2.2							
T28A	**Walsh**	**2.21**	**84**	*i* P		**Pb**	**09 37 35.9**	**-0.9**
Q26A	**Hugo**	**2.28**	**27**	⇓Pb		**Pb**	**09 37 38.2**	**+0.2**
	baz=2.3							
Q26A				⇑Sb		**Sb**	**09 38 07.7**	**+1.5**
	baz=2.3							
ANMO	**Albuquerque**	**2.34**	**214**	Pn		**Pb**	**09 37 37.5**	**-1.7**
	2.9nm,0.3s,baz=33,slow=9.5,SNR=46							
ANMO				Lg		Lg	09 38 09.0	
	3.4nm,0.3s,baz=115,slow=16,SNR=3.9							
ANMO				LR		LR	09 38 34.2	
	comp=Z,126nm,19.5s,baz=23,slow=42							
ANMO	**Albuquerque**	**2.34**	**214**	*e*Pn		**Pb**	**09 37 37.3**	**-1.8**
ANMO				*e*Sn		**Sb**	**09 38 07.0**	**-1.2**
ANMO				Lg		Lg	09 38 09.0	
V28A	**Channing**	**2.42**	**118**	⇓P		**Pb**	**09 37 38.4**	**-1.9**
	baz=2.4							
V28A				⇓Sb		**Sg**	**09 38 12.4**	**-2.0**
	baz=2.4							
V28A	**Channing**	**2.42**	**118**	*i* P		**Pb**	**09 37 40.2**	**-0.1**
S28A	**Manter**	**2.46**	**73**	⇑P		**Pb**	**09 37 38.9**	**-2.2**
	baz=2.5,SNR=168							
S28A				⇓Sb		**Sg**	**09 38 13.2**	**-2.5**
	baz=2.5							
P23A	**Jefferson**	**2.58**	**343**	⇑Sb		**Sg**	**09 38 18.6**	**-1.2**
	baz=2.6							
P24A	**Kohler Place,**	**2.61**	**359**	⇑Pb		**Pb**	**09 37 42.5**	**-1.1**
	baz=2.6							
P24A				⇑Sb		**Sg**	**09 38 18.5**	**-2.0**
	baz=2.6							
P25A	**Willow Gulch B**	**2.66**	**12**	⇓Pb		**Pb**	**09 37 43.1**	**-1.4**
	baz=2.7							
P25A				⇓Sb		**Sg**	**09 38 20.3**	**-1.8**
	baz=2.7							
W28A	**Vega**	**2.71**	**127**	⇓Pb		**Pb**	**09 37 44.4**	**-0.9**
	baz=2.7							
W28A				⇓Sb		**Sb**	**09 38 20.2**	**+1.7**
	baz=2.7							
KSCO	**Kaye Shedlock'**	**2.75**	**39**	⇑P		**Pb**	**09 37 43.3**	**-2.7**
	baz=2.7							
KSCO				⇓Sb		**Sb**	**09 38 21.7**	**+2.0**
	baz=2.7							
KSCO	**Kaye Shedlock'**	**2.75**	**39**	*e*Pn		**Pb**	**09 37 43.8**	**-2.2**
KSCO				*e*Sn		**Sb**	**09 38 21.2**	**+1.6**
R28A	**Tribune**	**2.81**	**58**	⇓P		**Pn**	**09 37 43.3**	**+1.5**
	baz=2.8,SNR=34							
R28A				⇓Sb		**Sb**	**09 38 23.7**	**+2.0**
	baz=2.8							
T29A	**Hugoton**	**2.86**	**84**	⇓P		**Pn**	**09 37 44.4**	**+1.9**
	baz=2.9,SNR=11							
T29A				⇓Sb		**Sg**	**09 38 25.6**	**-3.1**
	baz=2.9							
V29A	**Stinnett**	**2.88**	**110**	⇑Pb		**Pb**	**09 37 47.8**	**-0.5**
	baz=2.9							
V29A				⇓Sb		**Sb**	**09 38 25.6**	**+2.0**
	baz=2.9							
P26A	**Davis Ranch, A**	**2.91**	**24**	⇑P		**Pb**	**09 37 46.4**	**-2.3**
	baz=2.9							
P26A				⇓Sb		**Sg**	**09 38 27.1**	**-3.0**
	baz=2.9							
U29A	**Oasis Ranch, S**	**2.92**	**98**	⇑P		**Pn**	**09 37 44.9**	**+1.7**
	baz=2.9							
U29A				⇑Sb		**Sb**	**09 38 27.1**	**+2.4**
	baz=2.9							
MVCO	**Mesa Verde**	**2.93**	**277**	⇑P		**Pn**	**09 37 45.6**	**+2.1**
	baz=2.9							
MVCO				⇓Sb		**Sb**	**09 38 27.3**	**+2.3**
	baz=2.9							
MVCO	**Mesa Verde**	**2.93**	**277**	*e*Pn		Pb	09 37 45.7	-3.4
ISCO	**Idaho Springs**	**2.95**	**349**	⇑P		**Pb**	**09 37 46.4**	**-3.1**
	baz=3.0							
ISCO				⇓Sb		**Sb**	**09 38 28.0**	**+2.2**
	baz=3.0							
ISCO	**Idaho Springs**	**2.95**	**349**	*e*Pn		**Pb**	**09 37 46.8**	**-2.8**
ISCO				*e*Sn		**Sb**	**09 38 26.5**	**+0.7**
S29A	**Ulysses**	**3.07**	**75**	⇓P		**Pn**	**09 37 47.2**	**+1.9**
	baz=3.1,SNR=7.7							
S29A				⇑Sb		**Sb**	**09 38 31.5**	**+2.6**
	baz=3.1							
LAZ	**Ladron**	**3.11**	**217**	*e*Pn		**Pn**	**09 37 48.1**	**+2.1**
W29A	**Amarillo**	**3.15**	**123**	⇓Sb		**Sb**	**09 38 33.7**	**+2.3**
	baz=3.1							
PV01	**Paradox Valley**	**3.20**	**294**	*e*Pn		**Pn**	**09 37 49.5**	**+2.3**
PV01				*e*Sn		**Sg**	**09 38 36.4**	**-2.9**
P27A	**Ficken Ranch,**	**3.20**	**33**	⇑Sb		**Sb**	**09 38 34.7**	**+2.0**
	baz=3.2							
O24A	**Longmont**	**3.22**	**357**	⇑P		Pn	09 37 50.0	+2.6
	baz=3.2							
O24A				⇑Sb		**Sg**	**09 38 36.5**	**-3.5**
	baz=3.2							
X28A	**Dimmitt**	**3.22**	**137**	⇑Sb		**Sb**	**09 38 35.6**	**+2.3**
	baz=3.2							
Q28A	**Sharon Springs**	**3.22**	**47**	⇓P		**Pn**	**09 37 49.0**	**+1.6**
	baz=3.2,SNR=8.8							
Q28A				⇑Sb		**Sb**	**09 38 35.2**	**+1.9**
	baz=3.2							
O25A	**Wiggins**	**3.26**	**10**	⇓P		Pb	09 37 50.7	-3.9
	baz=3.3							
O25A				⇑Sb		**Sb**	**09 38 37.0**	**+2.6**
	baz=3.3							
AMTX	**Amarillo**	**3.27**	**127**	⇑Sb		**Sb**	**09 38 37.3**	**+2.4**
	baz=3.3							
AMTX	**Amarillo**	**3.27**	**127**	*e*Pn		**Pn**	**09 37 49.8**	**+1.6**
AMTX				*e*Sn		**Sn**	**09 38 28.8**	**+1.6**
Y22D	**IRIS PASSCAL I**	**3.29**	**211**	⇑Sb		**Sg**	**09 38 38.4**	**-3.9**
	baz=3.3							
R29A	**Marienthal**	**3.32**	**62**	⇓P		**Pn**	**09 37 50.3**	**+1.6**
	baz=3.3,SNR=8.9							
R29A				⇑Sb		**Sb**	**09 38 38.7**	**+2.5**
	baz=3.3							
MSTX	**Muleshoe**	**3.39**	**149**	⇑Sb		**Sb**	**09 38 40.9**	**+2.7**
	baz=3.4							
MSTX	**Muleshoe**	**3.39**	**149**	Pn		**Pn**	**09 37 51.4**	**+1.7**
MSTX				*e*Sg		**Sg**	**09 38 42.2**	**-3.2**
U30A	**WK&E Inc. Balk**	**3.40**	**95**	⇓Sb		**Sg**	**09 38 42.1**	**-3.8**
	baz=3.4							
O23A	**Lake Granby, G**	**3.40**	**346**	⇑P		Pn	09 37 52.7	+2.6
	baz=3.4							
T30A	**Plains**	**3.47**	**86**	⇑P		**Pn**	**09 37 52.7**	**+1.9**
	baz=3.5,SNR=11							
O22A	**Kremmling**	**3.51**	**338**	⇓P		**Pn**	**09 37 53.7**	**+2.1**
	baz=3.5							
O26A	**Horse Wrangler**	**3.55**	**20**	⇑Sb		**Sg**	**09 38 46.3**	**-4.2**
	baz=3.6							
V30A	**Spur Ranch, Mi**	**3.55**	**107**	⇓Sb		**Sb**	**09 38 46.1**	**+3.2**
	baz=3.5							
X29A	**Tulia**	**3.55**	**133**	⇑Sb		**Sb**	**09 38 45.4**	**+2.5**
	baz=3.5							
P28A	**Saint Francis**	**3.62**	**42**	⇓P		**Pn**	**09 37 54.7**	**+1.9**
	baz=3.6,SNR=46							
P28A				⇑Sb		**Sb**	**09 38 46.6**	**+1.9**
	baz=3.6							
Q29A	**Oakley**	**3.65**	**56**	⇑P		**Pn**	**09 37 54.8**	**+1.5**
	baz=3.7,SNR=31							
Q29A				⇑Sb		**Sb**	**09 38 48.2**	**+2.5**
	baz=3.7							
Y28A	**McKinney Farm,**	**3.67**	**144**	⇓Sb		**Sb**	**09 38 48.7**	**+2.4**
	baz=3.7							
O27A	**Beecher Island**	**3.77**	**29**	⇓Sb		**Sb**	**09 38 51.7**	**+2.4**
	baz=3.8							
R30A	**Dighton**	**3.89**	**68**	⇑P		**Pn**	**09 37 57.9**	**+1.3**
	baz=3.9,SNR=13							
O28A	**Krsinger Ran**	**4.03**	**36**	⇑P		**Pn**	**09 38 00.2**	**+1.8**
	baz=4.0							
U31A	**Nine Bar Ranch**	**4.06**	**96**	⇓P		**Pn**	**09 38 00.9**	**+1.9**
	baz=4.0							
P29A	**Atwood**	**4.10**	**48**	⇑P		**Pn**	**09 38 01.0**	**+1.5**
	baz=4.1,SNR=17							
O20A	**White River Ci**	**4.18**	**322**	*e*Pn		Pn	09 38 03.8	+3.2
Q30A	**Quinter**	**4.21**	**59**	⇑P		**Pn**	**09 38 02.4**	**+1.5**
	baz=4.2,SNR=11							
R31A	**Burdett**	**4.45**	**70**	⇓P		**Pn**	**09 38 05.6**	**+1.3**
	baz=4.4,SNR=19							
P30A	**Selden**	**4.49**	**53**	⇓P		**Pn**	**09 38 06.4**	**+1.6**
	baz=4.5,SNR=32							
O29A	**4D Ranch, Culb**	**4.53**	**43**	⇑P		**Pn**	**09 38 07.3**	**+2.0**
	baz=4.5,SNR=13							
N28A	**Pribbeno Ranch**	**4.58**	**33**	⇓P		**Pn**	**09 38 07.8**	**+1.7**
	baz=4.6,SNR=10.0							
OGNE	**Ogallala**	**4.60**	**28**	*e*Pn		**Pn**	**09 38 07.9**	**+1.6**
Q31A	**Ellis**	**4.80**	**62**	⇓P		**Pn**	**09 38 10.1**	**+1.1**
	baz=4.8,SNR=10							
121A	**Cookes Peak, D**	**4.98**	**210**	*e*Pn		**Pn**	**09 38 13.6**	**+1.9**
SRU	**San Rafael Swe**	**4.99**	**298**	*e*Pn		**Pn**	**09 38 13.4**	**+1.6**
P31A	**Stockton**	**5.04**	**57**	⇓P		**Pn**	**09 38 13.6**	**+1.2**
	baz=5.0,SNR=12							
N29A	**Votaw Ranch, W**	**5.12**	**39**	⇓P		**Pn**	**09 38 14.9**	**+1.5**
	baz=5.1,SNR=18							
M28A	**Bar X Bar Ranc**	**5.24**	**30**	⇓P		**Pn**	**09 38 17.0**	**+1.9**
	baz=5.2,SNR=8.7							
WMOK	**Wichita Mounta**	**5.39**	**112**	*e*Pn		**Pn**	**09 38 18.4**	**+1.3**
Q32A	**Meitler Ranch,**	**5.40**	**65**	⇓P		**Pn**	**09 38 18.0**	**+0.8**
	baz=5.4,SNR=8.9							
O31A	**Woolen Ranch,**	**5.42**	**52**	⇓P		**Pn**	**09 38 18.4**	**+0.9**
	baz=5.4,SNR=6.3							
WUAZ	**Wupatki**	**5.45**	**257**	*e*Pn		Pn	09 38 21.0	+2.9
M29A	**Burnside Ranch**	**5.57**	**34**	⇓P		**Pn**	**09 38 21.1**	**+1.4**
	baz=5.6,SNR=9.8							
K22A	**Casper**	**5.88**	**348**	Pn		**Pn**	**09 38 26.3**	**+2.3**
K22A				*e*Pg		Pg	09 38 44.4	-4.9
K22A				*e*Sg		**Sg**	**09 40 02.5**	**-3.0**
U34A	**Anderson Ranch**	**5.91**	**92**	*e*Pn		**Pn**	**09 38 25.8**	**+1.6**
K26A	**Motz Farm, Whi**	**5.93**	**12**	⇓P		**Pn**	**09 38 26.1**	**+1.5**
	baz=5.9,SNR=6.2							
V34A	**Guthrie**	**6.02**	**98**	*e*Pn		**Pn**	**09 38 26.9**	**+1.2**
MVU	**Marysvale**	**6.04**	**288**	*e*Pn		**Pn**	**09 38 27.9**	**+1.5**
MVU				*e*Pg		Pg	09 38 49.0	-3.4
MVU				*e*Sg		**Sg**	**09 40 07.3**	**-3.4**
ABTX	**Abilene, Hawle**	**6.05**	**133**	*e*Pn		**Pn**	**09 38 28.1**	**+1.8**
ABTX				*e*Pg		Pg	09 38 47.5	-5.1
ABTX				*e*Sg		**Sg**	**09 40 06.4**	**-4.6**
KSU1	**Kansas State U**	**6.87**	**69**	*e*Pg		Pg	09 39 04.6	-3.7
KSU1				*e*Sg		**Sg**	**09 40 33.0**	**-4.3**
BW06	**Boulder Array**	**6.88**	**330**	*e*Pn		**Pn**	**09 38 39.1**	**+1.3**
BW06				*e*Pg		**Pg**	**09 39 05.3**	**-3.1**
PDAR	**Pinedale Array**	**6.88**	**330**	Pn		**Pn**	**09 38 40.1**	**+2.3**
	0.2nm,0.3s,baz=134,slow=15,SNR=8.3							
PDAR				Pg		**Pg**	**09 39 05.3**	**-3.1**
	0.3nm,0.3s,baz=143,slow=15,SNR=17							
PDAR				Lg		Lg	09 40 32.9	
	0.4nm,0.3s,baz=144,slow=29,SNR=4.8							
BGNE	**Belgrade**	**6.88**	**47**	*e*Pn		**Pn**	**09 38 38.1**	**+0.5**
ARUT	**Antelope Range**	**6.89**	**280**	*e*Pg		Pg	09 39 04.9	-3.7
RSSD	**Black Hills**	**7.24**	**5**	*e*Pn		**Pn**	**09 38 43.1**	**+0.4**
RSSD				*e*Pg		**Pg**	**09 39 12.6**	**-2.6**
TUL1	**Leonard**	**7.38**	**95**	*e*Pn		**Pn**	**09 38 45.2**	**+0.8**
TUL1				*e*Pg		Pg	09 39 12.4	-5.5
TUL1				*e*Sg		**Sg**	**09 40 48.4**	**-5.0**
TXAR	**Lajitas Array**	**7.62**	**172**	Pn		**Pn**	**09 38 50.0**	**+2.2**
	0.0nm,0.3s,baz=0.5,slow=11,SNR=2.3							
TXAR				Pg		Pg	09 39 18.1	-4.4
	0.4nm,0.3s,baz=4.5,slow=13,SNR=14							
TXAR				Lg		Lg	09 40 55.9	
	0.7nm,0.3s,baz=0.0,slow=33,SNR=6.5							
JCT	**Junction City**	**7.67**	**145**	Pn		Pb	09 38 58.4	-11
JCT				*e*Pg		Pg	09 39 19.0	-4.4
JCT				*e*Sg		**Sg**	**09 40 57.5**	**-5.2**
WHTX	**Lake Whitney,**	**7.83**	**127**	*e*Pg		**Pg**	**09 39 23.9**	**-2.7**
WHTX				*e*Sg		**Sg**	**09 41 06.5**	**-1.6**
R37A	**Teagarden Farm**	**8.08**	**77**	⇑P		**Pn**	**09 38 54.6**	**+0.5**
	baz=8.1,SNR=7.0							
BRSD	**Miller**	**8.76**	**29**	*e*Pn		**Pn**	**09 39 03.7**	**+0.3**
BRSD				Sn		**Sn**	**09 40 41.9**	**-0.3**
ECSD	**EROS Data Cent**	**9.28**	**40**	*e*Pn		**Pn**	**09 39 10.9**	**+0.4**
MIAR	**Mount Ida**	**9.47**	**101**	*e*Pn		**Pn**	**09 39 13.5**	**+0.3**
PFO	**Pinyon Flats O**	**10.04**	**254**	LR		LR	09 43 49.0	
	comp=Z,44nm,18.2s,baz=48,slow=41							
NVAR	**Mina Array Bea**	**10.77**	**282**	Pg		Pn	09 40 15.9	+45
	0.1nm,0.3s,baz=100,slow=19,SNR=5.3							
ULM	**Lac du Bonnet**	**14.83**	**23**	Pn		**Pn**	**09 40 25.5**	**-0.8**
	0.1nm,0.3s,baz=214,slow=15,SNR=2.5							
ULM				Lg		Lg	09 44 38.3	
	0.4nm,0.3s,baz=134,slow=14,SNR=6.1							
TKL	**Tuckaleechee C**	**17.05**	**88**	P		**Pn**	**09 40 55.2**	**0.0**
	0.3nm,0.3s,baz=184,slow=3.2,SNR=5.1							
TKL				Lg		Lg	09 45 51.1	
	0.2nm,0.3s,baz=13,slow=17,SNR=3.9							
TKL				LR		LR	09 47 32.5	
	comp=Z,61nm,18.7s,baz=71,slow=37							
SADO	**Sadowa**	**20.92**	**60**	LR		LR	09 50 02.4	
	comp=Z,45nm,21.3s,baz=120,slow=38							
YKA	**Yellowknife Ar**	**26.32**	**350**	P		**P**	**09 42 33.4**	**+1.1**
	0.3nm,0.8s,baz=160,slow=9.0,SNR=6.8							
ILAR	**Eielson Array**	**37.31**	**332**	P		**P**	**09 44 10.8**	**+2.2**
	0.5nm,0.3s,baz=133,slow=7.3,SNR=6.2							
MKAR	**Makanchi Array**	**96.43**	**355**	P		**P**	**09 50 25.6**	**-0.4**
	0.3nm,0.8s,baz=359,slow=5.0,SNR=3.6							

*IDC **08** 09:54:26.3±2.4,2°.03N×96°.51E,h0km,mb3.6/5,mb1 3.8/6, mb1mx3.5/40,mbtmp3.6/6,ML4.4/1,MS3.3/3,Ms1 3.3/3, ms1mx2.7/34,Error ellipse: s-maj=113.3km s-min=21.3km az=57.0*
*ISCJB **08** 09:54:30.4±0.9,2°.28N±0°.07×96°.7E±0

comp=E,6.0nm,0.6s,baz=220,slow=9.2,SNR=20
SIV LR LR 10 14 44.2
PTGA Pitinga 36.14 21 LR LR 10 24 21.2
comp=E,68nm,20.2s,baz=192,slow=40
RCBR Riachuelo 44.52 58 LR LR 10 26 57.5
comp=E,74nm,20.5s,baz=207,slow=36
SNAA Sanae 50.68 157 P **P** **10 09 14.4 -1.6**
comp=E,0.8nm,1.0s,baz=330,slow=20,SNR=2.3
QSPA South Pole Qui 55.12 180 P **P** **10 09 47.4 -1.5**
comp=E,2.2nm,0.9s,baz=160,slow=1.6,SNR=5.3
TXAR Lajitas Array 70.55 331 P **P** **10 11 32.9 +1.2**
comp=E,0.9nm,0.6s,baz=160,slow=9.0,SNR=8.7
DBIC Dimbokro 75.86 71 P **P** **10 12 03.4 0.0**
comp=E,1.9nm,0.6s,baz=197,slow=8.9,SNR=3.6
BOSA Boshof 79.85 118 P **P** **10 12 26.5 +0.9**
comp=E,3.5nm,1.0s,baz=220,slow=4.1,SNR=4.3
PDAR Pinedale Array 84.61 333 P **P** **10 12 50.8 +0.8**
comp=E,0.3nm,0.6s,baz=146,slow=5.5,SNR=3.3
NVAR Mina Array Bea 84.61 326 P **P** **10 12 50.8 +0.7**
comp=E,0.4nm,0.7s,baz=158,slow=7.6,SNR=3.5
TORD Torodi Ar. Bea 84.91 70 P **P** **10 12 53.0 +1.1**
comp=E,1.0nm,0.7s,baz=251,slow=3.9,SNR=5.7
MKAR Makanchi Array 157.75 51 PKPab **PKPab** **10 20 44.5 -0.8**
comp=E,0.3nm,0.8s,baz=284,slow=5.8,SNR=4.1

IDC 08 10:11:56.9±3.7, 54°39N×86°94E, h0km, mb1 2.6/1, mb1mx2.6/32, mbtmp2.6/1, ML2.7/1, Error ellipse: s-maj=32.4km s-min=20.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**251**	*i*		10 20 30.0	
	baz=71,slow=337,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.32**	**251**	Pg	Pg	10 12 21.0	-1.2
	1.2nm,0.3s,baz=68,slow=16,SNR=13						
ZALV				Lg	Lg	10 12 39.4	
	1.0nm,0.3s,baz=70,slow=27,SNR=4.2						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	10 13 57.9	+1.4
	0.1nm,0.3s,baz=24,slow=13,SNR=5.5						

IDC 08 10:26:27.4±2.5, 54°15N×86°33E, h0km, mb1 3.1/2, mb1mx2.9/33, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=19.6km s-min=11.4km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**258**	*i*		10 32 50.0	
	baz=76,slow=335,SNR=2.6						
ZALV	**Zalesovo Beam**	**0.91**	**258**	Pg	Pg	10 26 43.4	-1.5
	1.5nm,0.3s,baz=75,slow=17,SNR=18						
ZALV				Lg	Lg	10 26 58.0	
	5.6nm,0.3s,baz=79,slow=30,SNR=46						
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn	Pn	10 27 57.7	+1.2
	0.1nm,0.3s,baz=51,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	10 28 23.1	+1.0
	0.2nm,0.3s,baz=21,slow=13,SNR=9.4						
MKAR				Lg	Lg	10 30 36.3	
	0.0nm,0.3s,baz=23,slow=27,SNR=5.6						

*ISCJB **08** 10:42:41.9±0.5, 29°97S±0.03×71°76W±0.07, h35km, mb4.1/12, MS3.7/6, Error ellipse: s-maj=8.2km s-min=4.0km az=3.3*
*GUC **08** 10:42:44.3±0.4, 29°98S×71°38W, h39km±2km, ML4.8*
*IDC **08** 10:42:45.0±0.7, 30°01S×71°48W, h44km±5km, mb3.8/10, mb1 4.0/14, mb1mx3.9/21, mbtmp4.0/14, ML4.0/4, MS3.6/10, Ms1 3.6/10, ms1mx3.4/27, Error ellipse: s-maj=23.1km s-min=15.0km az=75.0*
*NEIC **08** 10:42:44.3, 29°98S×71°38W, h39km, mb4.7/2, After GUC.*
NEIC Felt [III] at La Higuera and [II] at Andacollo, Coquimbo, La Serena and Vicuna.

ISC 08 10:42:44.0±0.5, 29°96S±0.03×71°63W±0.09, h35km, n50, σ1§14/55, mb4.3/12, MS3.7/6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.24**	**41**	⇓*eP*	**Pn**	**10 43 05.2**	**+0.1**
LCO				*eS*	**Sn**	**10 43 20.7**	**0.0**
LCO				AML	AML	10 43 22.3	
	comp=E,25μm,0.6s						
LCO	**Las Campanas**	**1.24**	**41**	⇓*eP*	**Pn**	**10 43 05.2**	**+0.1**
LCO				*eS*	**Sn**	**10 43 20.7**	**0.0**
CMCH	**Combarbala**	**1.33**	**156**	⇑*eP*	**Pn**	**10 43 06.3**	**+0.2**
CMCH				*eS*	**Sn**	**10 43 23.0**	**+0.3**
CMCH				AML	AML	10 43 26.5	
	comp=E,40μm,0.6s						
CMCH				AML	AML	10 43 32.3	
	comp=E,46μm,0.7s						
CMCH	**Combarbala**	**1.33**	**156**	⇑*eP*	**Pn**	**10 43 06.3**	**+0.2**
CMCH				*eS*	**Sn**	**10 43 23.0**	**+0.3**
VACH	**Vallenar**	**1.57**	**29**	*eP*	**Pn**	**10 43 09.9**	**+0.5**
VACH				*eS*	**Sn**	**10 43 29.4**	**+0.9**
VACH	**Vallenar**	**1.57**	**29**	*eP*	**Pn**	**10 43 09.9**	**+0.5**
VACH				*eS*	**Sn**	**10 43 29.4**	**+0.9**
CPCH	**Copiapo**	**2.82**	**24**	*eP*	**Pn**	**10 43 26.2**	**-0.4**
CPCH				*eS*	**Sn**	**10 44 00.1**	**+0.7**
CPCH	**Copiapo**	**2.82**	**24**	P	**Pn**	**10 43 26.2**	**-0.4**
CPCH				*eS*	**Sn**	**10 44 00.1**	**+0.7**
PEL	**Peldehue**	**3.28**	**166**	*eP*	**Pn**	**10 43 33.2**	**+0.3**
PEL				*eS*	**Sn**	**10 44 10.8**	**+0.1**
PEL	**Peldehue**	**3.28**	**166**	*eP*	**Pn**	**10 43 33.2**	**+0.3**
PEL				*eS*	**Sn**	**10 44 10.8**	**+0.1**
CFAA	**Coronel Fontan**	**3.35**	**120**	P	**Pn**	**10 43 34.8**	**+0.9**
	comp=Z,4.1nm,0.3s,baz=311,slow=13,SNR=157						
CFAA				S	**Sn**	**10 44 16.2**	**+3.8**
	comp=Z,24nm,0.3s,baz=234,slow=19,SNR=10.0						
CLCH	**Cerro Calan**	**3.55**	**165**	*eP*	**Pn**	**10 43 37.3**	**+0.6**
CLCH				*eS*	**Sn**	**10 44 19.9**	**+2.4**
CEN1	**Los Morros**	**6.66**	**11**	*eP*	Pn	10 44 14.7	-4.9
CEN1	**Los Morros**	**6.66**	**11**	P	Pn	10 44 14.7	-4.9
LVC	**Limon Verde**	**7.71**	**19**	*e*Pn	**Pn**	**10 44 34.0**	**0.0**
	comp=Z,44nm,0.7s						
PLCA	**Paso Flores**	**10.79**	**176**	P	**Pn**	**10 45 14.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=353,slow=11,SNR=8.4						
PLCA				LR	LR	10 49 20.4	
	comp=Z,403nm,18.9s,baz=27,slow=37						
TRQA	**Tornquist**	**11.37**	**138**	*e*Pn	**Pn**	**10 45 23.1**	**-0.7**
	comp=Z,61nm,0.9s						
LPAZ	**La Paz**	**13.98**	**14**	P	**Pn**	**10 46 00.3**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=195,slow=5.8,SNR=17						
LPAZ				LR	LR	10 51 42.1	
	comp=Z,172nm,19.9s,baz=188,slow=38						
SIV	**San Ignacio**	**16.94**	**37**	P	**Pn**	**10 46 36.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=232,slow=10,SNR=11						
SIV				LR	LR	10 54 22.9	
	comp=Z,200nm,19.8s,baz=206,slow=41						
NNA	**Nana**	**18.53**	**344**	LR	LR	10 52 36.6	
	comp=Z,120nm,19.5s,baz=174,slow=32						
USHA	**Ushuaia**	**24.97**	**176**	P	**P**	**10 48 03.3**	**-0.7**
	comp=Z,23nm,0.7s,baz=337,slow=7.9,SNR=13						
USHA				LR	LR	10 58 14.6	
	comp=Z,225nm,20.4s,baz=320,slow=37						
BDFB	**Brasilia**	**25.94**	**62**	LR	LR	10 59 38.9	
	comp=Z,165nm,18.4s,baz=234,slow=39						
VNA3	**Neumayer Olymp**	**52.98**	**159**	P	**P**	**10 51 56.6**	**-0.1**
VNA2	**Neumayer--Watz**	**53.61**	**158**	P	**P**	**10 52 01.0**	**-0.3**
	baz=290,slow=8.5						
SNAA	**Sanae**	**55.20**	**159**	P	**P**	**10 52 12.3**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=283,slow=9.0,SNR=36						
QSPA	**South Pole Qui**	**60.27**	**180**	*eP*	**P**	**10 52 47.8**	**-0.9**
	comp=Z,9.1nm,1.3s						
TXAR	**Lajitas Array**	**66.41**	**330**	P	**P**	**10 53 30.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=151,slow=8.2,SNR=3.2						
TXAR				pP	**pP**	**10 53 43.5**	**+3.1**
	comp=Z,1.0nm,0.8s,baz=134,slow=7.2,SNR=7.6						
TXAR				LR	LR	11 18 31.6	
	comp=Z,29nm,19.7s,baz=0.0,slow=32						
VNDA	**Vanda**	**68.13**	**191**	P	**P**	**10 53 40.5**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=128,slow=6.9,SNR=3.5						
DBIC	**Dimbokro**	**73.58**	**72**	P	**P**	**10 54 13.2**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=220,slow=7.9,SNR=2.5						
O20A	**White River Ci**	**77.58**	**332**	*eP*	**P**	**10 54 37.6**	**+1.1**
	comp=Z,6.7nm,0.9s						
PDAR	**Pinedale Array**	**80.33**	**333**	P	**P**	**10 54 51.9**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=120,slow=6.4,SNR=2.6						
PDAR				LR	LR	11 27 28.8	
	comp=Z,32nm,19.3s,baz=196,slow=33						
NVAR	**Mina Array Bea**	**80.79**	**325**	P	**P**	**10 54 55.3**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=148,slow=5.2,SNR=2.4						
NVAR				pP	**pP**	**10 55 08.2**	**+3.0**
	comp=Z,0.7nm,0.8s,baz=142,slow=5.1,SNR=4.3						
BOSA	**Boshof**	**81.65**	**118**	P	**P**	**10 54 57.9**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=218,slow=2.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**82.51**	**70**	P	**P**	**10 55 02.5**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=267,slow=4.8,SNR=12						
TORD				pP	**pP**	**10 55 14.7**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=264,slow=4.8,SNR=4.9						
NEW	**Newport**	**87.89**	**332**	LR	LR	11 31 18.1	
	comp=Z,34nm,19.6s,baz=145,slow=33						
BBB	**Bella Bella**	**95.54**	**329**	LR	LR	11 36 04.8	
	comp=Z,28nm,18.3s,baz=212,slow=34						
YKA	**Yellowknife Ar**	**98.35**	**341**	P	**P**	**10 56 16.8**	**-0.7**
	comp=Z,0.1nm,0.8s,baz=141,slow=4.2,SNR=3.0						
ASAR	**Alice Springs**	**121.31**	**208**	PKP	**PKPdf**	**11 01 32.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=130,slow=1.6,SNR=11						
WRA	**Warramunga Arr**	**124.44**	**210**	PKP	**PKPdf**	**11 01 38.9**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=162,slow=1.7,SNR=30						
H11S2	**WAKE ISLAND Hyd**	**26.09**	**272**	T	T	13 20 36.9	
	baz=115,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hyd**	**26.10**	**272**	T	T	13 20 40.4	
	baz=115,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hyd**	**26.11**	**272**	T	T	13 20 38.2	
	baz=115,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hyd**	**26.40**	**273**	T	T	13 21 04.9	
	baz=112,slow=74,SNR=4.5						
H11N1	**WAKE ISLAND Hyd**	**26.41**	**273**	T	T	13 21 02.5	
	baz=112						
H11N2	**WAKE ISLAND Hyd**	**26.41**	**273**	T	T	13 21 05.6	
	baz=112,slow=74,SNR=7.6						
KURBB	**Kurchatov Arra**	**149.60**	**39**	PKPbc	**PKPbc**	**11 02 29.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=311,slow=2.9,SNR=5.5						
KURK	**Kurchatov**	**149.60**	**39**	PKPbc	**PKPbc**	**11 02 29.1**	**-0.3**
AAK	**Ala-Archa**	**150.11**	**56**	PKPbc	**PKPbc**	**11 02 30.8**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=207,slow=2.3,SNR=8.7						
AAK				pPKPbc	**pPKPbc**	**11 02 44.7**	**+2.1**
	comp=Z,2.1nm,0.7s,baz=159,slow=17,SNR=3.2						
ZALV	**Zalesovo Beam**	**150.57**	**29**	PKPbc	**PKPbc**	**11 02 31.4**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=320,slow=3.1,SNR=16						
MKAR	**Makanchi Array**	**153.71**	**43**	PKPbc	**PKPbc**	**11 02 40.3**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=211,slow=2.5,SNR=2.0						
MKAR				PKPab	**PKPab**	**11 02 51.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=298,slow=3.1,SNR=2.3						

*NEIC **08** 10:44:42.1, 41°39S×172°84E, h110km, MG4.0(WEL), After WEL.*

WEL 08 10:44:41.5±0.2, 41°37S×172°86E, h116km±2km, ML4.0/17, 9C-16D, Error ellipse: s-maj=2.1km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.40**	**175**	⇓P	Pn	10 44 58.2	-0.2
THZ				SN	Sn	10 45 09.9	-1.3
THZ	**Tophouse**	**0.40**	**175**	Pn	Pn	10 44 58.2	-0.2
THZ				Sn	Sn	10 45 09.9	-1.3
NNZ	**Nelson**	**0.42**	**69**	⇑P	Pn	10 44 58.5	+0.1
NNZ				SN	Sn	10 45 10.4	-0.8
NNZ	**Nelson**	**0.42**	**69**	Pn	Pn	10 44 58.5	+0.1
NNZ				Sn	Sn	10 45 10.4	-0.8
QRZ	**Quartz Range**	**0.60**	**335**	PN	Pn	10 44 59.8	+0.2
QRZ				SN	Sn	10 45 11.3	-1.8
QRZ	**Quartz Range**	**0.60**	**335**	Pn	Pn	10 44 59.8	+0.2
QRZ				Sn	Sn	10 45 11.3	-1.8
TUWZ	**Tuamarina**	**0.82**	**95**	⇑PN	Pn	10 45 01.6	+0.2
TUWZ				SN	Sn	10 45 16.0	-0.4
TUWZ				AML	AML	10 45 17.3	
TUWZ	**Tuamarina**	**0.82**	**95**	Pn	Pn	10 45 01.6	+0.2
BSWZ	**Blackbirch Sta**	**0.84**	**115**	⇑PN	Pn	10 45 01.6	+0.1
BSWZ				SN	Sn	10 45 16.8	0.0
BSWZ				AML	AML	10 45 19.3	
BSWZ	**Blackbirch Sta**	**0.84**	**115**	Pn	Pn	10 45 01.6	+0.1
DSZ	**Denniston Nort**	**0.88**	**244**	⇓PN	Pn	10 45 01.4	-0.5
DSZ	**Denniston Nort**	**0.88**	**244**	Pn	Pn	10 45 01.4	-0.5
DUWZ	**D'Urville Isla**	**0.98**	**55**	⇓PN	Pn	10 45 04.0	+1.0
DUWZ				SN	Sn	10 45 19.7	+0.5
DUWZ	**D'Urville Isla**	**0.98**	**55**	Pn	Pn	10 45 04.0	+1.0
TCW	**Tory Channel**	**1.08**	**82**	PN	Pn	10 45 04.5	+0.6
TCW				AML	AML	10 45 21.4	
TCW				AML	AML	10 45 21.7	
TCW	**Tory Channel**	**1.08**	**82**	Pn	Pn	10 45 04.5	+0.6
CMWZ	**Cape Campbell**	**1.09**	**111**	PN	Pn	10 45 04.2	+0.2
CMWZ				AML	AML	10 45 26.0	
CMWZ				AML	AML	10 45 27.5	
CMWZ	**Cape Campbell**	**1.09**	**111**	Pn	Pn	10 45 04.2	+0.2
KHZ	**Kahutara**	**1.17**	**154**	⇑PN	Pn	10 45 04.8	0.0
KHZ				AML	AML	10 45 21.1	
KHZ				AML	AML	10 45 21.9	
KHZ	**Kahutara**	**1.17**	**154**	Pn	Pn	10 45 04.8	0.0
WEL	**Wellington**	**1.44**	**87**	PN	Pn	10 45 07.8	-0.1
WEL				AML	AML	10 45 28.0	
WEL				AML	AML	10 45 28.4	
WEL	**Wellington**	**1.44**	**87**	Pn	Pn	10 45 07.8	-0.1
LTZ	**Lake Taylor**	**1.48**	**197**	⇓PN	Pn	10 45 08.5	-0.1
LTZ	**Lake Taylor**	**1.48**	**197**	Pn	Pn	10 45 08.3	-0.1
BHW	**Baring Head**	**1.52**	**92**	PN	Pn	10 45 08.2	-0.5
BHW				AML	AML	10 45 28.6	
BHW				AML	AML	10 45 29.2	
BHW	**Baring Head**	**1.52**	**92**	Pn	Pn	10 45 08.2	-0.5
KIW	**Kapiti Island**	**1.63**	**73**	⇓PN	Pn	10 45 10.4	+0.2
KIW				AML	AML	10 45 32.9	
KIW				AML	AML	10 45 33.9	
KIW	**Kapiti Island**	**1.63**	**73**	Pn	Pn	10 45 10.4	+0.2
CAW	**Cannon Point**	**1.69**	**82**	PN	Pn	10 45 10.4	-0.4
CAW				AML	AML	10 45 33.7	
CAW				AML	AML	10 45 33.7	
CAW	**Cannon Point**	**1.69**	**82**	Pn	Pn	10 45 10.4	-0.4
MSWZ	**Moikau Station**	**1.80**	**92**	PN	Pn	10 45 11.4	-0.9
MSWZ				AML	AML	10 45 35.1	
MSWZ				AML	AML	10 45 35.2	
MSWZ	**Moikau Station**	**1.80**	**92**	Pn	Pn	10 45 11.4	-0.9
PLWZ	**Palliser**	**1.81**	**97**	PN	Pn	10 45 11.5	-1.0
PLWZ	**Palliser**	**1.81**	**97**	Pn	Pn	10 45 11.5	-1.0
PAWZ	**Paruwai Farm**	**1.93**	**91**	PN	Pn	10 45 12.8	-1.0
PAWZ				AML	AML	10 45 38.3	
PAWZ				AML	AML	10 45 38.4	
PAWZ	**Paruwai Farm**	**1.93**	**91**	Pn	Pn	10 45 12.8	-1.0
MTW	**Mount Morrison**	**2.01**	**85**	PN	Pn	10 45 13.8	-0.9
MTW				AML	AML	10 45 39.3	
MTW				AML	AML	10 45 39.7	
MTW	**Mount Morrison**	**2.01**	**85**	Pn	Pn	10 45 13.8	-0.9
OXZ	**Oxford**	**2.05**	**197**	⇓PN	Pn	10 45 14.1	-1.1
HOWZ	**Holdsworth Sta**	**2.06**	**78**	PN	Pn	10 45 14.7	-0.8
HOWZ	**Holdsworth Sta**	**2.06**	**78**	Pn	Pn	10 45 14.7	-0.8
NMEZ	**Namu Road**	**2.10**	**22**	⇓PN	Pn	10 45 17.9	+1.8
TRWZ	**Traveller**	**2.13**	**92**	AML	AML	10 45 41.9	
TRWZ				AML	AML	10 45 42.8	
TRWZ	**Traveller**	**2.13**	**92**	Pn	Pn	10 45 15.6	-0.8
MRZ	**Mangatainoka R**	**2.18**	**72**	⇓PN	Pn	10 45 16.2	-0.7
MRZ				AML	AML	10 45 44.0	
MRZ				AML	AML	10 45 44.8	
MRZ	**Mangatainoka R**	**2.18**	**72**	Pn	Pn	10 45 16.2	-0.7
CRLZ	**Canterbury Las**	**2.21**	**184**	PN	Pn	10 45 16.4	-0.9
CRLZ	**Canterbury Las**	**2.21**	**184**	Pn	Pn	10 45 16.4	-0.9
NWEZ	**Newall Road**	**2.23**	**21**	PN	Pn	10 45 19.3	+1.7
NWEZ	**Newall Road**	**2.23**	**21**	Pn	Pn	10 45 19.3	+1.7
LREZ	**Lake Rotokare**	**2.24**	**32**	⇑PN	Pn	10 45 20.0	+2.2
KHEZ	**Kahui Hut**	**2.25**	**24**	PN	Pn	10 45 19.5	+1.5
PREZ	**Palmer Road**	**2.26**	**27**	PN	Pn	10 45 19.8	+1.7
WAZ	**Wanganui**	**2.29**	**46**	⇓PN	Pn	10 45 19.9	+1.5
WAZ	**Wanganui**	**2.29**	**46**	Pn	Pn	10 45 19.9	+1.5
NEZ	**North Egmont**	**2.30**	**25**	PN	Pn	10 45 19.8	+1.2
NEZ	**North Egmont**	**2.30**	**25**	Pn	Pn	10 45 19.8	+1.2
TMWZ	**Te Maipa**	**2.30**	**84**	Pn	Pn	10 45 17.6	-1.0
WVZ	**Waitaha Valley**	**2.32**	**222**	⇓PN	Pn	10 45 18.1	-0.7
WVZ	**Waitaha Valley**	**2.32**	**222**	Pn	Pn	10 45 18.1	-0.7
PKEZ	**Pukeiti**	**2.34**	**22**	PN	Pn	10 45 20.5	+1.5
PKE	**Pukeiti**	**2.34**	**22**	Pn	Pn	10 45 20.6	+1.5
MQZ	**McQueen's Vall**	**2.34**	**184**	⇓PN	Pn	10 45 17.6	-1.4
MQZ	**McQueen's Vall**	**2.34**	**184**	Pn	Pn	10 45 17.6	-1.4
TIWZ	**Tintock**	**2.37**	**77**	⇓PN	Pn	10 45 18.3	-1.1
TIWZ				AML	AML	10 45 48.3	
TIWZ				AML	AML	10 45 48.6	
TIWZ	**Tintock**	**2.37**	**77**	Pn	Pn	10 45 18.3	-1.1
DREZ	**Durham Road**	**2.41**	**26**	⇑PN	Pn	10 45 21.3	+1.4
DREZ	**Durham Road**	**2.41**	**26**	Pn	Pn	10 45 21.3	+1.4
POWZ	**Post Office Ro**	**2.41**	**67**	PN	Pn	10 45 19.1	-0.9
POWZ	**Post Office Ro**	**2.41**	**67**	Pn	Pn	10 45 19.1	-0.9
PRWZ	**Pori Road**	**2.50**	**72**	PN	Pn	10 45 20.3	-0.7
MHEZ	**Mangahewa**	**2.55**	**27**	PN	Pn	10 45 23.3	+1.6
MHEZ	**Mangahewa**	**2.55**	**27**	Pn	Pn	10 45 23.3	+1.6
BFZ	**Birch Farm**	**2.66**	**76**	PN	Pn	10 45 21.8	-1.3
BFZ	**Birch Farm**	**2.66**	**76**	Pn	Pn	10 45 21.8	-1.3
VRZ	**Vera Road**	**2.67**	**34**	⇓PN	Pn	10 45 24.9	+1.6
VRZ	**Vera Road**	**2.67**	**34**	Pn	Pn	10 45 24.9	+1.6
RPZ	**Rata Peaks**	**2.70**	**209**	PN	Pn	10 45 22.2	-1.4
RPZ	**Rata Peaks**	**2.70**	**209**	Pn	Pn	10 45 22.2	-1.4
TSZ	**Takapari Road**	**2.70**	**62**	PN	Pn	10 45 22.6	-1.1
TSZ				AML	AML	10 45 57.4	
TSZ	**Takapari Road**	**2.70**	**62**	Pn	Pn	10 45 22.6	-1.1
DVHZ	**Dannevirke**	**2.73**	**68**	PN	Pn	10 45 22.7	-1.4
DVHZ	**Dannevirke**	**2.73**	**68**	Pn	Pn	10 45 22.7	-1.4
MTVZ	**Mangateitei**	**2.81**	**46**	PN	Pn	10 45 26.4	+1.1
MTVZ	**Mangateitei**	**2.81**	**46**	Pn	Pn	10 45 26.4	+1.1
PKVZ	**Pokaka**	**2.82**	**43**	PN	Pn	10 45 26.1	+0.8
PKVZ	**Pokaka**	**2.82**	**43**	Pn	Pn	10 45 26.1	+0.8
ANWZ	**Angora Road**	**2.89**	**73**	PN	Pn	10 45 25.1	-1.0
TRVZ	**Turoa**	**2.92**	**46**	⇓PN	Pn	10 45 27.3	+0.4
TRVZ	**Turoa**	**2.92**	**46**	Pn	Pn	10 45 27.3	+0.4
WNVZ	**Wahianoa**	**2.92**	**47**	PN	Pn	10 45 27.2	+0.3
WNVZ	**Wahianoa**	**2.92**	**47**	Pn	Pn	10 45 27.2	+0.3
PNHZ	**Pukenui**	**2.93**	**61**	PN	Pn	10 45 25.5	-1.2
PNHZ	**Pukenui**	**2.93**	**61**	Pn	Pn	10 45 25.6	-1.2
DRZ	**Dome Shelter**	**2.94**	**46**	PN	Pn	10 45 29.1	+1.9
DRZ	**Dome Shelter**	**2.94**	**46**	Pn	Pn	10 45 29.1	+1.9
FWVZ	**Far West T-bar**	**2.95**	**45**	⇓PN	Pn	10 45 27.5	+0.3
FWVZ	**Far West T-bar**	**2.95**	**45**	Pn	Pn	10 45 27.6	+0.3
WHVZ	**Whangaehu Hut**	**2.95**	**46**	⇑PN	Pn	10 45 27.7	+0.4
MOVZ	**Moawhango**	**2.96**	**49**	PN	Pn	10 45 26.8	-0.3
MOVZ	**Moawhango**	**2.96**	**49**	Pn	Pn	10 45 26.8	-0.3
WPVZ	**Whakapapa**	**2.98**	**44**	PN	Pn	10 45 28.0	+0.4
WPVZ	**Whakapapa**	**2.98**	**44**	Pn	Pn	10 45 28.0	+0.4
TUVZ	**Tukino**	**3.00**	**46**	PN	Pn	10 45 28.4	+0.7
TUVZ	**Tukino**	**3.00**	**46**	Pn	Pn	10 45 28.4	+0.7
WPHZ	**Waipukurau**	**3.02**	**66**	PN	Pn	10 45 26.6	-1.3
WPHZ	**Waipukurau**	**3.02**	**66**	Pn	Pn	10 45 26.6	-1.3
TWVZ	**Taurewa**	**3.03**	**42**	PN	Pn	10 45 28.5	+0.4
TWVZ	**Taurewa**	**3.03**	**42**	Pn	Pn	10 45 28.5	+0.4
NGZ	**Ngauruhoe**	**3.04**	**45**	PN	Pn	10 45 29.7	+1.4
NGZ	**Ngauruhoe**	**3.04**	**45**	Pn	Pn	10 45 29.7	+1.4
PRHZ	**Porangahau**	**3.07**	**70**	PN	Pn	10 45 27.5	-1.0
PRHZ	**Porangahau**	**3.07**	**70**	Pn	Pn	10 45 27.5	-1.0
WTVZ	**West Tongariro**	**3.07**	**44**	PN	Pn	10 45 29.0	+0.3
WTVZ	**West Tongariro**	**3.07**	**44**	Pn	Pn	10 45 29.0	+0.3
OTVZ	**Oturere**	**3.08**	**45**	PN	Pn	10 45 29.2	+0.4
OTVZ	**Oturere**	**3.08**	**45**	Pn	Pn	10 45 29.2	+0.4
BHHZ	**Black Hill Sta**	**3.09**	**54**	⇑PN	Pn	10 45 28.3	-0.5
BHHZ	**Black Hill Sta**	**3.09**	**54**	Pn	Pn	10 45 28.3	-0.5
KRVZ	**Karewarewa**	**3.12**	**44**	PN	Pn	10 45 29.7	+0.4
KRVZ	**Karewarewa**	**3.12**	**44**	Pn	Pn	10 45 29.7	+0.4
KRHZ	**Kereru**	**3.19**	**58**	PN	Pn	10 45 29.0	-1.1
FOZ	**Fox Glacier**	**3.21**	**226**	⇓PN	Pn	10 45 28.2	-2.1
FOZ	**Fox Glacier**	**3.21**	**226**	Pn	Pn	10 45 28.2	-2.1
KATZ	**Kakaramea**	**3.23**	**43**	PN	Pn	10 45 31.8	+0.9
KATZ	**Kakaramea**	**3.23**	**43**	Pn	Pn	10 45 31.8	+0.9
HIZ	**Hauiti**	**3.24**	**29**	PN	Pn	10 45 31.4	+0.6
HIZ	**Hauiti**	**3.24**	**29**	Pn	Pn	10 45 31.4	+0.6
PXZ	**Pawanui**	**3.33**	**68**

MYKOM **Kota Tinggi** 6.82 89 *e*Pn Pn **10 49 35.4 +0.6**
KTGM Kuala Trenggan 7.11 59 ⇓P Pn **10 49 39.3 +0.5**
SURT Suratani 7.47 14 P Pn **10 49 44.0 +0.2**
comp=Z,12nm,0.8s,comp=Z,0.1nm
LHSI Lahat 8.47 130 P Pb 10 50 14.0 -8.2
MDSI Maura Dua 9.39 130 P Pn **10 50 11.7 +1.6**
comp=Z,23nm,0.8s,comp=Z,1µm
PBA Port Blair 10.81 337 *e*P Pn 10 50 25.8 -3.8
PBA AMB AMB 10 50 36.7
comp=Z,16nm,1.6s
KSM Kuching 13.28 91 ⇓P Pn **10 51 04.0 +0.6**
KSM Kuching 13.28 91 *e*Pn Pn **10 51 05.3 +1.9**
STKI Sintang 14.54 96 P P **10 51 28.1 +1.2**
SBUM Sibu 15.21 87 ⇑P Pn **10 51 31.0 +1.5**
SBUM Sibu 15.21 87 *e*Pn Pn **10 51 29.3 -0.2**
comp=Z,13nm,1.0s
DLV T Lat 15.29 48 *e*Pn Pn **10 51 30.6 -0.2**
comp=Z,15nm,0.9s
PBKT Sadao Pong 15.33 14 P Pn **10 51 33.3 +2.2**
comp=Z,27nm,0.8s
UBPT Khong Chiam 15.90 31 P P **10 51 41.6 -0.5**
comp=Z,54nm,1.1s
SUKH Sukhothai 15.94 9 P P **10 51 44.1 +1.6**
comp=Z,6.9nm,0.9s,comp=Z,61nm
BTM Bintulu 16.12 84 ⇑P Pn **10 51 42.7 +1.3**
LOEI Loei 16.30 15 P P **10 51 45.2 -1.3**
comp=Z,11nm,0.7s
UTTA Uttaradit 16.37 12 P P **10 51 47.5 +0.3**
comp=Z,3.0nm,0.9s
MHMT Maesarieng 16.45 3 P P 10 51 53.3 +5.2
comp=Z,7.1nm,1.0s,comp=Z,245nm
CMAR Chiang Mai Arr 16.81 6 Pn Pn **10 51 49.7 -0.4**
comp=Z,0.6nm,0.3s,baz=194,slow=12,SNR=16
CMAR LR LR 10 58 56.5
comp=Z,332nm,20.0s,baz=189,slow=39
LAMP Lampang 16.96 9 P P **10 51 53.3 -0.5**
comp=Z,6.5nm,0.9s
CMMT Chiang Mai 17.16 6 P Pn **10 51 54.5 -0.1**
comp=Z,11nm,1.0s
CHTO Chiang Mai 17.16 6 *e*P Pn **10 51 53.6 -1.0**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 17.16 6 *e*Pn Pn **10 51 53.6 -1.0**
comp=Z,5.8nm,0.7s
CHTO Chiang Mai 17.16 6 P Pn **10 51 54.6 0.0**
comp=Z,38nm,1.2s
PALK Pallekele 17.20 289 LR LR 10 58 35.3
comp=Z,636nm,18.7s,baz=109,slow=37
CMAI Chiengmai2 18.28 6 P P **10 52 09.1 +0.6**
comp=Z,7.4nm,1.0s,comp=Z,889nm
CRAI Chiangrai 18.76 10 P P **10 52 11.9 -1.7**
comp=Z,5.8nm,0.9s,comp=Z,2µm
KKM Kota Kinabalu 19.63 77 ⇑P Pn **10 52 25.3 +0.4**
SDKM Sandakan 20.51 78 ⇑P P **10 52 33.1 +0.2**
SLVN Son La 20.68 18 *e*P P **10 52 34.6 0.0**
comp=Z,29nm,1.2s
VIS Vishakhapatnam 20.89 321 *e*P P **10 52 35.1 -1.7**
QIZ Qiongzhong 21.36 35 P P **10 52 42.3 +0.4**
QIZ pP **pP** **10 52 47.7 -1.0**
QIZ sP **sP** **10 52 51.1 -0.8**
QIZ S S **10 56 37.4 -0.6**
QIZ PMZ
comp=Z,18nm,2.2s
QIZ LN
comp=Z,310nm,15.5s
QIZ LZ
comp=Z,300nm,14.3s
KMI Kunming 23.98 13 P P **10 53 10.8 +1.6**
KMI pP **pP** **10 53 17.7 +1.2**
KMI sP **sP** **10 53 19.8 +0.2**
KMI S S **10 57 23.6 -1.4**
KMI PMZ
comp=Z,20nm,0.9s
KMI PMZ
comp=Z,110nm,4.1s
KMI LN
comp=Z,550nm,16.3s
KMI LE
comp=Z,380nm,13.1s
KMI LZ
comp=Z,580nm,15.2s
HYB Hyderabad 23.98 312 *i*P P **10 53 10.5 +1.4**
HYB Hyderabad 23.98 312 *e*P P **10 53 10.1 +1.0**
SHL Shillong 24.29 349 ⇓ *i*P P **10 53 12.0 -0.1**
comp=Z,8.0nm,1.0s
SHL AMB AMB 10 53 13.8
comp=Z,42nm,0.8s
SHL *ex* x 10 57 25.0
BOK Bokaro 24.52 335 *e*P P **10 53 14.1 +0.1**
BOK AMB AMB 10 53 16.5
comp=Z,25nm,1.8s
H08S2 Diego Garcia H 26.16 249 T T 11 20 31.0
baz=70,slow=75,SNR=6712
H08S3 Diego Garcia H 26.16 249 T T 11 20 31.2
baz=70,slow=75,SNR=5169
H08S1 Diego Garcia H 26.17 249 T T 11 20 32.3
baz=70,slow=75,SNR=4697
ODAN Odare 26.72 341 *e*P P **10 53 35.6 +1.5**
comp=Z,72nm,1.0s
TAPN Taplejung 27.07 342 *e*P P **10 53 38.5 +1.1**
comp=Z,52nm,1.1s
RAMN Ramite 27.08 339 *e*P P **10 53 39.3 +2.0**
comp=Z,46nm,0.9s
H08N1 Diego Carcia H 27.15 253 T T 11 22 38.5
baz=146,slow=74,SNR=46
H08N2 Diego Garcia H 27.16 253 T T 11 22 38.5
baz=146,slow=74,SNR=45
H08N3 Diego Garcia H 27.18 253 T T 11 22 37.4
baz=146,slow=74,SNR=32
JIRN Jiri 27.87 339 *e*P P **10 53 46.4 +1.8**
comp=Z,50nm,0.8s
PKI Pulchoki 28.08 338 *e*P P **10 53 48.3 +1.9**
comp=Z,23nm,1.0s
PKIN Phulchoki 28.09 338 *e*P P **10 53 48.4 +2.0**
comp=Z,11nm,0.6s
POO Poona 28.25 308 *e*P P **10 53 47.2 -0.5**
POO *ex* x 10 55 32.0
KKN Kakani 28.32 338 *e*P P **10 53 49.9 +1.4**
BHPL Bhopal 28.68 320 *e*P P **10 53 52.2 +0.7**
GKN Gorkha 28.76 337 *e*P P **10 53 53.8 +1.5**
KOLN Koldanda 28.98 335 *e*P P **10 53 56.2 +1.9**
comp=Z,20nm,0.7s
DANN Dangsing 29.42 336 *e*P P **10 53 59.9 +1.6**
comp=Z,9.1nm,0.4s
PYUN Piuthan 29.53 334 *e*P P **10 54 00.9 +1.7**
comp=Z,22nm,0.4s
CD2 Chengdu 29.80 12 *e*P P **10 54 01.5 +0.2**
CD2 pP **pP** **10 54 07.5 -1.1**
CD2 sP **sP** **10 54 10.6 -1.1**
CD2 PP **PnPn** **10 54 58.4 +0.9**
CD2 S S **10 58 55.3 -1.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,140nm,5.6s
CD2 LN
comp=Z,390nm,18.6s
CD2 LE
comp=Z,510nm,16.6s
CD2 LZ
comp=Z,450nm,16.6s
ENH Enshi 30.83 21 *e*P P **10 54 09.5 -1.0**
comp=Z,32nm,1.0s
XAN Xi'an 34.09 18 P P **10 54 38.1 -0.9**
XAN pP **pP** **10 54 47.7 +1.3**
XAN PMZ
comp=Z,9.0nm,1.0s
XAN PMZ
comp=Z,20nm,5.4s
XAN LN
comp=Z,260nm,14.3s
XAN LE
comp=Z,76nm,16.4s
XAN LZ
comp=Z,170nm,14.3s
SMLA Simla 34.82 329 *e*P P **10 54 45.4 +0.1**
SMLA AMB AMB 10 54 48.8
comp=Z,9.8nm,1.5s
LZH Lanzhou 34.85 10 *e*P P **10 54 46.3 +0.7**
LZH pP **pP** **10 54 52.2 -0.8**
LZH sP **sP** **10 54 55.1 -1.0**
LZH PP **PP** **10 56 03.8 -1.1**
LZH PcP **PcP** **10 57 19.5 +1.0**
LZH PMZ
comp=Z,17nm,1.2s
LZH PMZ
comp=Z,85nm,4.8s
LZH LN
comp=Z,400nm,12.7s
LZH LE
comp=Z,410nm,13.0s
LZH LZ
comp=Z,600nm,16.5s
DHRM DHARAMSHALA 36.16 329 *e*P P **10 54 58.1 +1.0**
DHRM AMB AMB 10 55 18.8
comp=Z,19nm,0.5s
NJ2 Nanjing 36.58 32 *e*P P **10 54 58.9 -1.5**
NJ2 S S **11 00 42.0 +0.3**
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 LN
comp=Z,660nm,13.8s
NJ2 LE
comp=Z,930nm,13.5s
NJ2 LZ
comp=Z,910nm,14.1s
GTA Gaotai 37.67 4 *e*P P **10 55 10.6 +0.9**
GTA pP **pP** **10 55 16.5 -0.7**
GTA sP **sP** **10 55 19.4 -0.8**
GTA S S **11 00 59.7 +1.2**
GTA PMZ
comp=Z,10.0nm,1.0s
GTA PMZ
comp=Z,58nm,4.0s
GTA LN
comp=Z,140nm,16.2s
GTA LE
comp=Z,280nm,16.6s
GTA LZ
comp=Z,160nm,14.3s
H01W3 Cape Leeuwin H 39.72 158 T T 11 37 42.3
baz=334,slow=76,SNR=14
H01W2 Cape Leeuwin H 39.73 158 T T 11 37 42.9
baz=334,slow=76,SNR=15
H01W1 Cape Leeuwin H 39.74 158 T T 11 37 40.9
baz=334,slow=76,SNR=18
HHC Hu-ho-hao-te 41.18 17 *e*P P 10 55 42.2 +3.2
HHC PP **PnPn** **10 57 20.6 +1.7**
HHC S S **11 01 54.0 +2.9**
HHC SS SS **11 04 51.9 -2.8**
HHC PMZ
comp=Z,14nm,1.1s
HHC PMZ
comp=Z,110nm,5.1s
HHC LN
comp=Z,150nm,15.1s
HHC LE
comp=Z,250nm,15.3s
HHC LZ
comp=Z,55nm,15.7s
BJT Baijiatuau 41.97 22 *e*P P **10 55 45.2 -0.1**
BJT pmax pmax
comp=Z,28nm,0.6s
BJT Baijiatuau 41.97 22 *e*P P **10 55 45.2 -0.1**
comp=Z,28nm,0.6s
BJI Beijing 41.99 22 P P **10 55 46.9 +1.4**
BJI PMZ
comp=Z,37nm,0.8s
BJI PMZ
comp=Z,110nm,3.7s
BJI LN
comp=Z,170nm,14.8s
BJI LE
comp=Z,170nm,11.1s
BJI LZ
comp=Z,66nm,20.6s
KSH Kashi 42.29 336 P P **10 55 47.9 -0.2**
KSH pP **pP** **10 55 53.9 -1.7**
KSH S S **11 02 04.1 -3.6**
KSH PMZ
comp=Z,95nm,4.0s
KSH LN
comp=Z,260nm,8.0s
KSH LE
comp=Z,200nm,6.9s
KSH LZ
comp=Z,210nm,5.8s
WRA Warramunga Arr 42.42 122 P P **10 55 47.8 -1.5**
comp=Z,1.2nm,0.4s,baz=301,slow=9.1,SNR=12
WRA LR LR 11 13 09.3
comp=Z,91nm,21.3s,baz=110,slow=36
WRAB Tennant Creek 42.42 122 *e*P P **10 55 47.2 -2.2**
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 42.42 122 *e*P P **10 55 47.2 -2.2**
comp=Z,3.5nm,0.6s
WMQ Urumqi 42.81 350 *e*P P **10 55 53.7 +1.6**
WMQ pP **pP** **10 56 00.0 +0.4**
WMQ sP **sP** **10 56 02.7 +0.1**
WMQ PP **PP** **10 57 35.0 +3.2**
WMQ *e*S S **11 02 15.0 0.0**
WMQ PMZ
comp=Z,9.0nm,1.0s
WMQ PMZ
comp=Z,140nm,4.6s
WMQ LN
comp=Z,250nm,20.0s
WMQ LE
comp=Z,330nm,26.4s
WMQ LZ
comp=Z,220nm,16.8s
SFK Sufi-Kurgan 43.76 334 P P **10 56 01.4 +1.2**
SFK pmax pmax
comp=Z,13nm,1.0s
ASAR Alice Springs 43.80 127 P P **10 55 59.4 -1.1**
comp=Z,0.9nm,0.6s,baz=300,slow=6.5,SNR=12
ASAR PcP **PcP** **10 57 46.9 0.0**
comp=Z,0.7nm,0.8s,baz=316,slow=3.9,SNR=3.6
ASAR S S **11 02 25.5 -4.6**
comp=Z,0.5nm,1.1s,baz=303,slow=14,SNR=5.0
PDGK Podgornoye 44.35 342 P P **10 56 06.0 +1.5**
PDGK pmax pmax
comp=Z,23nm,1.1s
JNU Nakatsue 44.59 42 *e*P P **10 56 06.6 -0.1**
comp=Z,8.7nm,0.9s
UCH Uchtor 45.17 336 P P **10 56 13.2 +1.6**
SNR=16
UCH Uchtor 45.17 336 *i*P P **10 56 13.2 +1.6**
TKM2 Tokmak 2 45.34 338 P P **10 56 14.3 +1.6**
SNR=5.2
TKM2 Tokmak 2 45.34 338 *i*P P **10 56 14.2 +1.6**
TKM2 Tokmak 2 45.34 338 *e*P P **10 56 14.5 +1.8**
comp=Z,9.5nm,1.0s
KBK Karagaybulak 45.36 337 P P **10 56 15.4 +2.6**
SNR=9.6
KBK Karagaybulak 45.36 337 *i*P P **10 56 15.4 +2.6**
AML Almayashu 45.43 336 P P **10 56 15.4 +1.8**
SNR=10
AML Almayashu 45.43 336 *i*P P **10 56 15.4 +1.8**
AAK Ala-Archa 45.52 337 *e*P P **10 56 16.4 +2.3**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 45.52 337 P P **10 56 15.0 +0.9**
comp=Z,2.9nm,0.8s,baz=170,slow=17,SNR=4.8
AAK LR LR 11 18 40.2
comp=Z,49nm,18.7s,baz=138,slow=40
AAK Ala-Archa 45.52 337 *e*P P **10 56 16.3 +2.2**
comp=Z,28nm,1.9s
KSAR Wonju Array Be 45.55 35 P P **10 56 14.0 -0.2**
KSAR Wonju Array Be 45.55 35 P P **10 56 13.9 -0.2**
KSRS Korea Array 45.58 35 P P **10 56 13.9 -0.4**
comp=Z,10nm,0.9s,baz=222,slow=9.4,SNR=30
KSRS LR LR 11 15 45.4
comp=Z,86nm,20.4s,baz=219,slow=37
EKS2 Erkin-Say 45.83 336 P P **10 56 18.5 +2.0**
SNR=7.4
EKS2 Erkin-Say 45.83 336 *e*P P **10 56 18.5 +2.0**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 45.83 336 *e*P P **10 56 18.5 +2.0**
comp=Z,5.5nm,0.8s
USP Ospenovka 46.06 337 P P **10 56 19.7 +1.5**
SNR=10.0
USP Ospenovka 46.06 337 *i*P P **10 56 19.6 +1.5**
MNAS Manas 46.22 335 P P **10 56 20.6 +1.1**
MNAS pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 46.72 9 P P **10 56 24.0 +0.6**
comp=Z,14nm,0.9s,baz=189,slow=8.4,SNR=76
SONM PcP **PcP** **10 57 55.4 -1.2**
comp=Z,1.2nm,0.8s,baz=186,slow=4.7,SNR=2.9
MK31 Makanchi Array 46.77 346 *i*P P **10 56 24.1 +0.5**
MK31 pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 46.77 346 *e*P P **10 56 24.7 +1.1**
MKAR Makanchi Array 46.77 346 P P **10 56 24.6 +0.9**
comp=Z,18nm,0.7s,baz=161,slow=8.5,SNR=187
MKAR LR LR 11 19 22.5
comp=Z,65nm,21.4s,baz=156,slow=40
ULN Ulaanbaatar 46.85 9 *e*P P **10 56 25.0 +0.6**
ULN pmax pmax
comp=Z,12nm,1.0s
ULN Ulaanbaatar 46.85 9 *e*P P **10 56 25.0 +0.6**
comp=Z,12nm,1.0s
KKAR Karatay Array 47.58 334 *e*P P **10 56 31.8 +1.8**
KKAR Karatay Array 47.58 334 *e*P P **10 56 31.8 +1.8**
TLY Talaya 50.17 5 *e*P P **10 56 50.8 +1.1**
TLY *e*S S 11 03 50.2 -10
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,151nm,16.0s
TLY Talaya 50.17 5 P P **10 56 50.4 +0.7**
comp=Z,7.6nm,0.9s,baz=195,slow=12,SNR=5.8
TLY Talaya 50.17 5 *e*P P **10 56 50.7 +1.0**
comp=Z,7.0nm,0.8s
GEYT Alibeck 50.76 320 P P **10 56 55.2 +0.7**
comp=Z,2.3nm,0.4s,baz=163,slow=6.9,SNR=2.6
KURBB **Kurchatov Arra** 51.26 345 P P **10 56 58.5 +0.6**
comp=Z,2.9nm,0.5s,baz=163,slow=6.7,SNR=30
KURK Kurchatov 51.32 345 *e*P P **10 56 59.0 +0.6**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 51.32 345 *e*P P **10 56 59.0 +0.6**
comp=Z,12nm,1.0s
MJAR Matsushiro Arr 51.48 43 P P **10 56 59.8 -0.1**
comp=Z,1.2nm,0.4s,baz=207,slow=6.8,SNR=6.8
USRK Ussuriysk Ar. 52.48 31 P P **10 57 07.5 +0.4**
comp=Z,16nm,0.9s,baz=222,slow=4.9,SNR=18
USRK LR LR 11 22 29.6
comp=Z,209nm,18.4s,baz=187,slow=40
ZALV Zalesovo Beam 53.09 351 P P **10 57 12.2 +0.7**
comp=Z,11nm,0.5s,baz=173,slow=7.1,SNR=58
NVS Novosibirsk 54.21 350 *e*P P **10 57 18.6 -1.1**
NVS pmax pmax
comp=Z,15nm,1.3s
NVS pmax pmax
comp=N,11nm,1.4s
RAYN Ar Rayn 54.39 298 *e*P P **10 57 23.4 +1.7**
comp=N,5.1nm,0.8s
BVAR Borovoye Array 55.77 341 P P **10 57 31.1 0.0**
comp=N,3.5nm,0.6s,baz=148,slow=8.7,SNR=18
BVAR LR LR 11 24 27.5
comp=N,61nm,18.4s,baz=158,slow=39
KLR Kul'dur 55.94 27 *e*P P 10 57 28.6 -3.7
HABR Khabarovsk 56.95 29 *e*P P **10 57 37.3 -2.2**
HABR *e**PP **pP** **10 57 47.4 +0.2**
HABR *e**SP **sP** **10 57 51.4 +1.2**
HABR 10 58 31.8
HABR *e*S S **11 05 29.7 -2.5**
HABR *e*S S 11 05 42.5 +10
HABR *e* 11 07 24.1
HABR *e*SS SS **11 09 20.0 -1.0**
HABR pmax pmax
comp=Z,17nm,1.8s
HABR MLR MLR
comp=Z,134nm,21.0s
AB31 Akbulak array 57.04 332 *i*P P **10 57 40.0 -0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 57.04 332 *e*P P **10 57 40.3 +0.2**
BOD Bodaibo 57.60 11 *e*P P **10 57 44.1 +0.2**
BOD pmax pmax
comp=Z,7.0nm,1.3s
ASAJ Asahikawa 58.41 37 P P **10 57 50.1 +0.2**
comp=Z,3.7nm,0.7s,baz=266,slow=13,SNR=6.7
AKTO Aktyubinsk 58.76 332 P P **10 57 51.3 -0.9**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
AKTO Aktyubinsk 58.76 332 P P **10 57 52.0 -0.2**
comp=Z,2.5nm,0.8s,baz=123,slow=5.4,SNR=13
EIDS Eidsvold 58.76 121 *e*P P **10 57 51.8 -0.9**
comp=Z,4.1nm,0.9s
YSS Yuzh-Sakhalins 60.08 34 ⇑ *e*P P **10 57 59.2 -2.1**
YSS *e* 10 58 09.9
YSS pmax pmax
comp=Z,30nm,1.0s
ZEI Tsey 62.55 318 *e*P P **10 58 18.6 +0.1**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 62.71 337 *d i*P P **10 58 19.1 +0.2**
ARU S S **11 06 46.8 +0.8**
ARU SS SS **11 10 49.7 -1.3**
ARU pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 63.62 319 P P **10 58 25.2 -0.1**
comp=Z,2.8nm,0.8s,baz=147,slow=6.7,SNR=4.8
KIV Kislovodsk 63.86 319 *e*P P **10 58 27.6 +0.6**
KIV pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 65.04 16 *e*P P **10 58 32.3 -1.9**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK Yakutsk 65.04 16 *e*P P **10 58 33.9 -0.3**
comp=N,43nm,1.1s
BRTR Keskin Array B 68.68 312 P P **10 58 57.5 -0.5**
comp=N,1.6nm,0.7s,baz=138,slow=8.0,SNR=6.7
PRGR Permogore 71.16 337 P P **10 59 11.3 -1.3**
PETK Petropavlovsk- 71.46 34 P P **10 59 14.8 +0.2**
comp=N,3.0nm,0.8s,baz=235,slow=5.1,SNR=2.8
PETK LR LR 11 30 48.0
comp=N,19nm,21.4s,baz=135,slow=36
OBN Obninsk 72.15 328 ⇑ *i*P P **10 59 18.3 -0.4**
OBN *e* 11 01 55.1
OBN pmax pmax
comp=Z,7.0nm,0.4s
TIXI Tiksi 72.78 10 *e*P P **10 59 21.3 -0.9**
TIXI pmax pmax
comp=Z,8.0nm,1.1s
TIXI Tiksi 72.78 10 *e*P P **10 59 21.3 -0.9**
comp=Z,7.5nm,1.1s
SEY Seymchan 73.42 23 *i*P P **10 59 26.3 +0.2**
AKASG **Malin Array Be** 74.80 322 P P **10 59 33.8 -0.6**
comp=Z,1.3nm,0.5s,baz=86,slow=5.1,SNR=8.8
KIEV Kiev 74.81 322 *e*P P **10 59 33.9 -0.6**
KIEV Kiev 74.81 322 *e*P P **10 59 36.7 +2.2**
JOF Joensuu 77.67 335 *e*P P **10 59 50.3 -0.2**
JOF pmax pmax
comp=Z,1.0nm,0.6s
JOF Joensuu 77.67 335 *e*p P **10 59 50.3 -0.2**
comp=Z,1.3nm,0.6s
KOLS Kolonicke sedl 78.77 320 *e*P P **10 59 58.5 +1.6**
KOLS *e* 11 00 07.3
KOLS Kolonicke sedl 78.77 320 *e*P P **10 59 58.5 +1.6**
KOLS *e*pP **PcP** **11 00 07.3 +1.6**
CRVS Cervenica-Dubn 79.29 319 *e*pP pP 11 00 11.1 +3.4
STHS Stebnicka Huta 79.52 320 *e*P P **11 00 02.4 +1.4**
STHS Stebnicka Huta 79.52 320 *e*P P **11 00 02.4 +1.4**
FINES FINESS Array B 79.52 332 P P **11 00 00.5 -0.3**
comp=Z,1.5nm,0.4s,baz=118,slow=7.0,SNR=17
KAF Kangasniemi 79.61 333 *e*P P **11 00 00.4 -0.8**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 79.61 333 *e*p P **11 00 00.4 -0.8**
comp=Z,2.9nm,0.5s
BILL Bilibino 80.81 21 *e*P P **11 00 08.0 +0.4**
KEV Kevo 81.62 341 *e*P P 11 00 08.4 -3.4
KEV Kevo 81.62 341 *e*p P 11 00 08.4 -3.4
comp=Z,0.4nm,0.3s
ARCES ARCESS Array B 82.06 340 P P **11 00 14.6 +0.4**
comp=Z,3.5nm,0.9s,baz=97,slow=6.2,SNR=14
ARCES LR LR 11 41 23.9
comp=Z,30nm,20.1s,baz=111,slow=39
DPC Dobruska-Polom 82.80 320 *e*pP pP 11 00 28.1 +1.6
GEC2 GERESS Array S 84.36 319 *e*P P 11 00 32.7 +6.0
GERES GERESS Array B 84.36 319 P P **11 00 27.0 +0.4**
GERES GERESS Array B 84.36 319 P P **11 00 27.0 +0.4**
comp=Z,0.5nm,0.3s,baz=111,slow=7.3,SNR=6.0
KHC Kasperske Hory 84.47 319 *e*P P **11 00 24.9 -2.1**
KHC Kasperske Hory 84.47 319 *e*P P **11 00 24.9 -2.1**
HFS Hagfors 85.25 330 P P **11 00 30.5 -0.2**
comp=Z,0.6nm,0.4s,baz=120,slow=5.3,SNR=6.3
GRFO Grafenberg 86.03 320 P P **11 00 34.9 +0.1**

GRFO				pmax	pmax			
	comp=Z,9.0nm,0.6s							
GRFO	**Grafenberg**	**86.03**	**320**	P	**P**	**11 00 34.9**	**+0.1**	
	comp=Z,9.2nm,0.6s							
NB2	**NORSAR Subarra**	**86.53**	**331**	P	**P**	**11 00 36.8**	**-0.3**	
	comp=Z,2.1nm,0.8s,baz=92,slow=5.3							
NOA	**NORSAR Array B**	**86.53**	**331**	P	**P**	**11 00 37.1**	**0.0**	
	comp=Z,1.1nm,0.9s,baz=104,slow=5.5,SNR=3.2							
TXAR	**Lajitas Array**	**143.38**	**31**	PKP	PKPbc	11 07 26.5	-0.1	
	comp=Z,0.2nm,0.5s,baz=143,slow=0.6,SNR=5.6							

*ISCJB **08** 10:57:46.4±0.7,51.7°N±0.1°×75.8°E±0.1°,h10km,Error ellipse: s-maj=18.1km s-min=5.4km az=32.2*
*IDC **08** 10:57:46.4±1.1,51.76°N×75.77°E,h0km,mb1 2.6/4, mb1mx2.6/32,mbtmp2.6/4,ML2.1/4,Error ellipse: s-maj=24.5km s-min=8.8km az=32.0*
*NNC **08** 10:57:47.2±2.3,51.92°N×75.80°E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=38.3km s-min=14.1km az=27.0*

ISC 08 10:57:46.4±1.0,51.7°N±0.1°×75.67°E±0.1°,h10km,n9, σ2s05/13,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.11**	**120**	⇑Pn	**Pb**	**10 58 22.8**	**-1.8**
	7.4nm,0.6s,baz=304,slow=17						
KURBB				⇓Sn	**Sg**	**10 58 53.6**	**-0.4**
	59nm,1.0s,baz=310,slow=27						
KURBB	**Kurchatov Arra**	**2.11**	**120**	Pn	**Pn**	**10 58 21.7**	**0.0**
	0.4nm,0.3s,baz=305,slow=19,SNR=15						
KURBB				Lg	Lg	10 58 52.4	
	0.7nm,0.3s,baz=305,slow=32,SNR=11						
KURK	**Kurchatov**	**2.11**	**117**	⇑Pn	**Pn**	**10 58 22.5**	**+0.8**
	1.8nm,0.5s						
KURK				⇑Sn	**Sg**	**10 58 53.6**	**-0.5**
	18nm,0.8s						
BVA0	**Borovoye Array**	**3.49**	**294**	⇓Sn	**Sb**	**10 59 27.5**	**-3.2**
	4.9nm,0.5s,baz=112,slow=26,SNR=5.6						
BVAR	**Borovoye Array**	**3.49**	**294**	Pn	**Pn**	**10 58 41.8**	**+1.0**
	0.2nm,0.3s,baz=112,slow=13,SNR=2.6						
BVAR				Sn	**Sn**	**10 59 24.5**	**+2.4**
	0.9nm,0.3s,baz=108,slow=25,SNR=5.7						
I46RU	**ZALESOVO INFRA**	**5.98**	**64**	*i*		11 35 12.5	
	baz=249,slow=335,SNR=1.0						
ZALV	**Zalesovo Beam**	**5.98**	**64**	Pn	**Pn**	**10 59 15.7**	**+0.9**
	0.2nm,0.3s,baz=249,slow=11,SNR=3.5						
MK31	**Makanchi Array**	**6.56**	**136**	⇑Pn	**Pn**	**10 59 20.6**	**-2.2**
	1.1nm,0.6s,baz=168,slow=8.0,SNR=4.8						
MK31				⇓Sn	**Sn**	**11 00 41.0**	**+3.4**
	0.9nm,0.7s,baz=328,slow=22,SNR=5.6						
MK31				⇑Lg	Lg	11 01 17.1	
	5.3nm,0.8s,baz=333,slow=30,SNR=4.8						
MKAR	**Makanchi Array**	**6.56**	**136**	Pn	**Pn**	**10 59 24.1**	**+1.3**
	0.1nm,0.3s,baz=318,slow=9.3,SNR=3.3						
MKAR				Sn	**Sn**	**11 00 39.0**	**+1.3**
	0.1nm,0.3s,baz=319,slow=25,SNR=6.1						
MKAR				Lg	Lg	11 01 10.3	
	0.4nm,0.3s,baz=321,slow=30,SNR=8.9						

*CSEM **08** 11:18:04.8±0.4,38.91°N×28.00°E,h24km±2km,MD2.4, Error ellipse: s-maj=8.9km s-min=4.1km az=3.0*
*DDA **08** 11:18:06.8,38.76°N×27.97°E,h7km,MD2.6*

ISK 08 11:18:05.6,38.81°N×28.00°E,h16km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.16**	**295**	*i* P	Pb	11 18 10.4	+0.1
AKHS				*i* S	Sb	11 18 13.7	+0.2
AKHS	**Akhisar**	**0.16**	**295**	*i* P	Pb	11 18 10.4	+0.1
AKHS				*i* S	Sb	11 18 13.7	+0.2
AKS	**Akhisar**	**0.16**	**295**	*e*PG	Pg	11 18 10.1	+0.2
AKS				*e*SG	Sb	11 18 13.3	-0.2
AKS	**Akhisar**	**0.16**	**295**	*e*Pg	Pb	11 18 10.1	-0.2
AKS				*e*Sg	Sb	11 18 13.3	-0.2
KULA	**Kula-Manisa**	**0.59**	**119**	*e*PG	Pb	11 18 17.7	0.0
KULA				*e*SG	Sb	11 18 26.5	+0.5
KULA	**Kula-Manisa**	**0.59**	**119**	*e*Pg	Pb	11 18 17.7	0.0
KULA				*e*Sg	Sb	11 18 26.5	+0.5
AYDB	**Zeytinkoy-Aydi**	**0.86**	**186**	*e*PG	Pg	11 18 22.7	+0.1
AYDB				*e*SG	Sn	11 18 35.3	-0.4
AYDB	**Zeytinkoy-Aydi**	**0.86**	**186**	*e*Pg	Pg	11 18 22.7	+0.1
AYDB				*e*Sg	Sn	11 18 35.3	-0.4

CSEM 08 11:19:33.4,42.54N×1.23W,h0km,ML1.8,Mining explosion.,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNAR	**Nardues-Alduna**	**0.14**	**312**	Pg	Pg	11 19 35.6	-0.6
	SNR=7.9						
YNAR				Lg	Lg	11 19 37.4	
	154nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.29**	**317**	Pg	Pg	11 19 38.9	-0.2
	SNR=7.9						
IUNC				Lg	Lg	11 19 43.2	
	75nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.30**	**359**	Pg	Pg	11 19 38.9	-0.4
	SNR=7.9						
IELO				Lg	Lg	11 19 42.8	
	26nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**0.30**	**359**	Pg	Pg	11 19 39.0	-0.3
	SNR=7.9						
IELO				Lg	Lg	11 19 44.6	
	45nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.35**	**311**	Pg	Pg	11 19 40.0	-0.1
	15nm,0.3s,SNR=5.9						
EARA				Lg	Lg	11 19 44.7	
	19nm,0.1s,SNR=8.6						
EARA	**Aranguren**	**0.35**	**311**	Pg	Pg	11 19 39.8	-0.3
	SNR=7.9						
EARA				Lg	Lg	11 19 46.9	
	24nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**0.47**	**330**	Pg	Pg	11 19 42.0	-0.5
	SNR=7.9						
IUSE				Lg	Lg	11 19 48.6	
	8.3nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.66**	**340**	Pg	Pg	11 19 45.0	-1.1
	SNR=7.9						
ELIZ				Lg	Lg	11 19 54.4	
	3.5nm,0.2s,SNR=7.9						
ATE	**Arette**	**0.67**	**35**	Pg	Pg	11 19 47.0	+0.7
	SNR=7.9						
ATE				Lg	Lg	11 19 56.8	
	SNR=7.9						
EALK	**Alkurruntz**	**0.71**	**343**	Pg	Pg	11 19 46.9	0.0
	SNR=7.9						
EALK				Lg	Lg	11 19 56.1	
	2.2nm,0.2s,SNR=7.9						

IDC 08 11:48:53.7±1.5,12.75N×87.14W,h0km,mb3.5/3, mb1 3.9/4,mb1mx3.5/22,mbtmp3.4/4,ML2.4/2,Error ellipse: s-maj=73.0km s-min=14.9km az=45.0,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.25**	**138**	Pn	Pn	11 49 45.5	-0.6
	0.6nm,0.3s,baz=322,slow=19,SNR=2.7						
JTS				Lg	Lg	11 50 37.6	
	1.8nm,0.3s,baz=12,slow=20,SNR=6.5						
APG	**El Apazote**	**3.93**	**305**	Pn	Pn	11 49 54.6	-1.1
	0.2nm,0.3s,baz=126,slow=19,SNR=2.9						
APG				Lg	Lg	11 50 58.4	
	0.3nm,0.3s,baz=11,slow=8.4,SNR=4.4						
TXAR	**Lajitas Array**	**22.54**	**320**	P	P	11 53 56.4	+0.8
	3.7nm,0.8s,baz=137,slow=10,SNR=36						
PDAR	**Pinedale Array**	**35.66**	**331**	P	P	11 55 54.0	+0.1
	0.3nm,0.5s,baz=123,slow=9.8,SNR=3.7						
YKA	**Yellowknife Ar**	**53.41**	**345**	P	P	11 58 14.5	-0.5
	0.3nm,0.8s,baz=135,slow=8.1,SNR=7.0						

WEL 08 11:49:35.8±0.2,37.07S×177.22E,h12km,ML3.5/7,3C-1D, Error ellipse: s-maj=2.2km s-min=1.4km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.46**	**183**	⇑P*	Pg	11 49 44.0	-0.8
WIZ				S*	Sg	11 49 49.6	-1.3
MYRZ	**Mayor Island**	**0.81**	**255**	P*	Pg	11 49 50.8	-0.7
MYRZ				S*	Sg	11 50 01.5	-0.8
HAZ	**Te Kaha**	**0.81**	**147**	⇑P*	Pg	11 49 49.8	-1.8
HAZ				S*	Sg	11 50 00.4	-1.9
OPRZ	**Ohinepanea**	**0.94**	**214**	P*	Pg	11 49 52.1	-1.8
OPRZ				S*	Sg	11 50 04.0	-2.1
MXZ	**Matakaoa Point**	**0.99**	**120**	⇑P*	Pb	11 49 52.8	-2.1
MXZ				S*	Sg	11 50 04.7	-3.2
MXZ				AML	AML	11 50 10.5	
MXZ				AML	AML	11 50 18.4	
MXZ				AML	AML	11 50 23.1	
TGRZ	**Tauranga**	**1.01**	**229**	P*	Pb	11 49 53.3	-2.0
TGRZ				AML	AML	11 50 09.5	
TGRZ				AML	AML	11 50 14.0	
MARZ	**Manawahe**	**1.01**	**205**	P*	Pb	11 49 53.2	-2.1
URZ	**Urewera**	**1.19**	**184**	⇓P*	Pn	11 49 55.9	-2.4
URZ				AML	AML	11 50 15.5	
URZ				AML	AML	11 50 18.3	
WMGZ	**Waiomatatini S**	**1.21**	**128**	P*	Pn	11 49 57.6	-0.9
KARZ	**Kaharoa**	**1.23**	**219**	P*	Pn	11 49 57.1	-1.8
KUZ	**Kuaotunu**	**1.25**	**285**	P*	Pn	11 49 56.9	-2.1
KUZ				AML	AML	11 50 15.5	
KUZ				AML	AML	11 50 15.5	
KUZ				AML	AML	11 50 15.9	
KUZ				AML	AML	11 50 15.9	
TWGZ	**Tauwhareparae**	**1.26**	**152**	P*	Pn	11 49 58.6	-0.7
MWZ	**Matawai**	**1.28**	**169**	P*	Pn	11 49 57.3	-2.3
MWZ				AML	AML	11 50 19.7	
MWZ				AML	AML	11 50 22.4	
PUZ	**Puketiti**	**1.29**	**141**	PN	Pn	11 49 59.4	-0.4
PUZ				AML	AML	11 50 22.4	
PUZ				AML	AML	11 50 27.9	
TKGZ	**Te Karaka**	**1.45**	**160**	PN	Pn	11 50 01.2	-0.7
TOZ	**Tahuroa Road**	**1.52**	**244**	P*	Pn	11 50 00.9	-1.9
CNGZ	**Carnagh Statio**	**1.61**	**151**	PN	Pn	11 50 04.1	0.0
MKAZ	**Moumakai**	**1.64**	**268**	PN	Pn	11 50 02.9	-1.6
MKAZ				AML	AML	11 50 33.5	
MKAZ				AML	AML	11 50 34.4	
RIGZ	**Rimuhau**	**1.69**	**165**	PN	Pn	11 50 05.3	+0.1
ETAZ	**East Tamaki Re**	**1.84**	**273**	PN	Pn	11 50 06.5	-0.7
KBAZ	**Karaka Road Bo**	**1.87**	**269**	PN	Pn	11 50 06.9	-0.6
ABAZ	**Army Bay**	**1.97**	**283**	PN	Pn	11 50 08.4	-0.6
BKZ	**Black Stump Fm**	**2.17**	**195**	P*	Pn	11 50 11.1	-0.7
HIZ	**Hauiti**	**2.36**	**232**	PN	Pn	11 50 13.2	-1.3

KRSC 08 11:58:56.4±2.0,50.05N×158.76E,h50km±46km,ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.81**	**292**	P	Pn	11 59 26.2	+1.2
SKR				S	Sn	11 59 46.8	+0.1
PAU	**Pauzhetka**	**1.88**	**320**	S	Sn	11 59 51.5	+2.8
RUS	**Russkaya**	**2.40**	**356**	P	Pn	11 59 36.0	+2.9
RUS				S	Sn	12 00 03.9	+2.7
MTVR	**Mutnovka**	**2.47**	**352**	P	Pn	11 59 37.4	+3.1
MTVR				S	Sn	12 00 06.6	+3.3
MIPR	**Malaya Ipel'ka**	**2.56**	**331**	P	Pn	11 59 39.2	+3.8
PET	**Petropavlovsk**	**2.98**	**359**	P	Pn	11 59 44.4	+3.3
PET				S	Sn	12 00 18.8	+3.2
APC	**Apacha**	**3.05**	**342**	P	Pn	11 59 45.5	+3.4
UGLR	**Uglovaya**	**3.17**	**1**	P	Pn	11 59 47.4	+3.6
SMAR	**Somma**	**3.22**	**0**	P	Pn	11 59 48.7	+4.0
AVH	**Avacha**	**3.22**	**360**	P	Pn	11 59 48.3	+3.7
SDLR	**Sedlovina**	**3.24**	**1**	P	Pn	11 59 47.4	+2.6
KOK	**Koryaka**	**3.25**	**359**	P	Pn	11 59 48.8	+3.8
KRER	**Koryakskii**	**3.26**	**360**	P	Pn	11 59 48.6	+3.3
KRX	**Arik**	**3.32**	**359**	P	Pn	11 59 49.0	+3.0
GNL	**Ganaly**	**3.69**	**352**	P	Pn	11 59 55.7	+4.7
MKZ	**Mys Kozlova**	**4.87**	**21**	P	Pn	12 00 09.9	+2.9
TUMR	**Tumrok**	**5.31**	**9**	P	Pn	12 00 18.7	+5.4
KBTR	**Krutoberegovo**	**6.64**	**20**	P	Pn	12 00 34.6	+3.4

GUC 08 12:17:59.6±0.4,35.21S×72.89W,h31km±5km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.92**	**175**	*i* P	Pb	12 18 17.1	0.0
COCH				*i* S	Sb	12 18 30.0	+1.0
TALC	**Talca**	**1.04**	**101**	*i* P	Pb	12 18 19.1	0.0
TALC				*i* S	Sb	12 18 33.8	+1.3
TALC				AML	AML	12 18 34.9	
	comp=E,6μm,0.5s						
LNCH	**Linares**	**1.23**	**121**	*i* P	Pb	12 18 22.0	-0.2
LNCH				*i* S	Sb	12 18 39.1	+1.4
LNCH				AML	AML	12 18 41.1	
	comp=N,3μm,0.4s						
NICH	**Los Niches**	**1.38**	**82**	*i* P	Pb	12 18 24.4	-0.4
NICH				*i* S	Sb	12 18 42.9	+0.9
NICH				AML	AML	12 18 49.1	
	comp=E,2μm,0.3s						

*IDC **08** 12:26:48.0±3.3,20.64S×178.56W,h565km±36km,mb3.0/8, mb1 3.3/8,mb1mx3.1/19,mbtmp3.9/8,Error ellipse: s-maj=48.7km s-min=14.2km az=156.0*
*ISCJB **08** 12:26:49.1±1.8,20.6S±0.8×178.7W±0.4,h587km,mb3.5/8, Error ellipse: s-maj=109.6km s-min=14.0km az=157.5*

ISC 08 12:26:49.6±1.0,20.7S±0.3×178.6W±0.2,h587km,n13, σ0s99/16,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.96**	**265**	P	**P**	**12 32 37.0**	**-0.4**
	1.8nm,0.6s,baz=97,slow=19,SNR=3.1						
ASAR	**Alice Springs**	**43.98**	**257**	P	**P**	**12 34 06.0**	**-0.3**
	1.3nm,0.5s,baz=90,slow=8.3,SNR=55						
ASAR				PcP	**PcP**	**12 35 39.1**	**+0.3**
	0.4nm,0.5s,baz=102,slow=3.9,SNR=7.2						
ASAR				S	**S**	**12 39 58.4**	**+1.8**
	0.5nm,0.8s,baz=90,slow=15,SNR=4.9						
WRA	**Warramunga Arr**	**44.06**	**262**	P	**P**	**12 34 06.3**	**-0.6**
	0.6nm,0.3s,baz=96,slow=7.1,SNR=84						
WRA				PcP	**PcP**	**12 35 40.0**	**+0.8**
	0.5nm,1.0s,baz=91,slow=3.1,SNR=3.3						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**12 38 07.6**	**+0.7**
	0.4nm,0.6s,baz=224,slow=9.5,SNR=3.8						
ELK	**Elko**	**84.75**	**43**	P	**P**	**12 38 24.1**	**+1.0**
	0.4nm,0.5s,baz=270,slow=20,SNR=2.9						
TXAR	**Lajitas Array**	**87.58**	**58**	P	**P**	**12 38 37.1**	**+0.5**
	0.4nm,0.8s,baz=219,slow=7.0,SNR=3.5						
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**12 38 40.2**	**-0.1**
	0.3nm,0.6s,baz=223,slow=6.4,SNR=10						
PDAR	**Pinedale Array**	**89.44**	**43**	P	**P**	**12 38 45.5**	**+0.5**
	0.6nm,0.7s,baz=225,slow=2.4,SNR=5.1						
ARCES	**ARCESS Array B**	**128.98**	**349**	PKP	**PKPdf**	**12 44 50.0**	**-0.7**
	2.0nm,0.8s,baz=43,slow=2.3,SNR=4.7						
AKASG	**Malin Array Be**	**142.90**	**331**	PKP	**PKPdf**	**12 45 14.7**	**-2.3**
	0.3nm,0.4s,baz=43,slow=4.3,SNR=9.3						
BRTR	**Keskin Array B**	**146.56**	**312**	PKPbc	**PKPbc**	**12 45 26.0**	**-0.4**
	0.4nm,0.4s,baz=126,slow=3.5,SNR=2.7						
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc	**PKPbc**	**12 45 35.8**	**+0.7**
	0.3nm,0.4s,baz=344,slow=3.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**172.53**	**182**	PKPab	**PKPab**	**12 47 21.7**	**-0.2**
	0.2nm,0.9s,baz=172,slow=1.3,SNR=2.7						

*ISCJB **08** 12:29:50.4±0.4,48.57N±0.10°×151.7E±0.1°,h250km, mb2.9/7,Error ellipse: s-maj=18.1km s-min=4.6km az=135.7*
*MOS **08** 12:29:50.4±0.8,48.52N×151.90E,h257km,mb4.2/1,Error ellipse: s-maj=33.1km s-min=8.1km az=61.4*

*KRSC **08** 12:29:50.8±4.0,48.16N×153.25E,h328km±30km,ML4.0*
*IDC **08** 12:29:52.2±2.1,48.61N×151.80E,h258km±22km,mb2.8/7, mb1 3.0/11,mb1mx2.9/30,mbtmp3.5/11,Error ellipse: s-maj=26.1km s-min=13.6km az=126.0*

ISC 08 12:29:51.3±0.7,48.5N±0.1°×151.9E±0.1,h250km,n44, σ1s36/45,mb3.1/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.49**	**50**	*e*P	**Pn**	**12 30 50.9**	**+1.9**
SKR				*e*S	**S**	**12 31 37.3**	**+2.4**
PAU	**Pauzhetka**	**4.32**	**45**	PN	**Pn**	**12 30 59.9**	**+1.1**
PAU				S	**S**	**12 31 52.9**	**+0.5**
PAU	**Pauzhetka**	**4.32**	**45**	*e*P	**Pn**	**12 30 59.9**	**+1.1**
PAU				S	**S**	**12 31 52.9**	**+0.5**
MIPR	**Malaya Ipel'ka**	**4.87**	**38**	P	**Pn**	**12 31 06.7**	**+1.3**
APC	**Apacha**	**5.52**	**35**	*e*P	**Pn**	**12 31 14.6**	**+1.3**
MTVR	**Mutnovka**	**5.63**	**43**	P	**Pn**	**12 31 16.7**	**+1.8**
MTVR				S	**S**	**12 32 18.9**	**-2.7**
RUS	**Russkaya**	**5.75**	**45**	PN	**Pn**	**12 31 16.6**	**+0.4**
RUS	**Russkaya**	**5.75**	**45**	*e*P	**Pn**	**12 31 16.6**	**+0.4**
PETK	**Petropavlovsk-**	**5.88**	**36**	P	**Pn**	**12 31 18.5**	**+0.8**
	0.3nm,0.3s,baz=212,slow=12,SNR=4.1						
PET	**Petropavlovsk**	**6.21**	**41**	PN	**Pn**	**12 31 22.7**	**+0.8**
PET	**Petropavlovsk**	**6.21**	**41**	P	**Pn**	**12 31 22.7**	**+0.8**
KOK	**Koryaka**	**6.39**	**39**	*e*P	**Pn**	**12 31 26.1**	**+1.8**
UGLR	**Uglovaya**	**6.41**	**40**	P	**Pn**	**12 31 22.8**	**-1.8**
AVH	**Avacha**	**6.42**	**40**	*e*P	**Pn**	**12 31 26.6**	**+2.0**
GNL	**Ganaly**	**6.42**	**34**	*e*P	**Pn**	**12 31 25.7**	**+1.1**
SMAR	**Somma**	**6.44**	**40**	P	**Pn**	**12 31 23.1**	**-1.9**
KRX	**Arik**	**6.45**	**39**	*e*P	**Pn**	**12 31 25.8**	**+0.8**
KRER	**Koryakskii**	**6.45**	**40**	*e*P	**Pn**	**12 31 26.9**	**+1.8**
SDLR	**Sedlovina**	**6.49**	**40**	P	**Pn**	**12 31 22.9**	**-2.6**
NLC	**Nalytchevo**	**6.62**	**43**	P	Pn	12 31 23.7	-3.3
SPN	**Mys Shipunski**	**6.88**	**45**	PN	**Pn**	**12 31 30.3**	**0.0**
SPN	**Mys Shipunski**	**6.88**	**45**	P	**Pn**	**12 31 30.3**	**0.0**
ASAJ	**Asahikawa**	**7.81**	**239**	PN	**Pn**	**12 31 42.9**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.81**	**239**	P	**Pn**	**12 31 42.9**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=72,slow=20,SNR=5.9						
TUMR	**Tumrok**	**8.46**	**34**	P	**Pn**	**12 31 51.1**	**+0.7**
MKZ	**Mys Kozlova**	**8.59**	**42**	PN	**Pn**	**12 31 50.2**	**-1.7**
MKZ	**Mys Kozlova**	**8.59**	**42**	*e*P	**Pn**	**12 31 50.2**	**-1.7**
ERM	**Erimo**	**8.96**	**227**	*e*PN	**Pn**	**12 31 55.2**	**-1.5**
KBTR	**Krutoberegovo**	**10.17**	**37**	PN	**Pn**	**12 32 11.2**	**-0.6**
KBTR	**Krutoberegovo**	**10.17**	**37**	*e*P	**Pn**	**12 32 11.1**	**-0.7**
SEY	**Seymchan**	**14.44**	**1**	P	**Pn**	**12 33 03.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=202,slow=18,SNR=3.6						
MJA0	**Matsu Arr-Jizo**	**15.61**	**225**	*e*P	**P**	**12 33 18.6**	**+0.7**
MAJO	**Matsushiro**	**15.63**	**225**	*e*P	**P**	**12 33 18.6**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.63**	**225**	P	**P**	**12 33 17.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=17,slow=12,SNR=9.6						
YAK	**Yakutsk**	**18.39**	**326**	*e*P	Pn	12 34 04.8	+14
ULN	**Ulaanbaatar**	**29.58**	**286**	*e*P	P	12 35 47.4	+14
INK	**Inuvik**	**40.60**	**33**	P	**P**	**12 37 06.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=294,slow=6.1,SNR=6.6						
ZALV	**Zalesovo Beam**	**40.92**	**304**	P	**P**	**12 37 09.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=28,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**45.42**	**295**	P	**P**	**12 37 42.8**	**-2.4**
	comp=Z,0.2nm,0.7s,baz=68,slow=9.5,SNR=2.8						
YKA	**Yellowknife Ar**	**49.99**	**37**	P	**P**	**12 38 20.2**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=297,slow=6.4,SNR=3.6						
WRA	**Warramunga Arr**	**69.94**	**198**	*e*P	**P**	**12 40 35.9**	**+0.4**
WRA	**Warramunga Arr**	**69.94**	**198**	P	**P**	**12 40 35.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=18,slow=6.6,SNR=7.1						
ASAR	**Alice Springs**	**73.65**	**197**	P	**P**	**12 40 58.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=7.7,slow=5.5,SNR=18						
TXAR	**Lajitas Array**	**77.32**	**60**	P	**P**	**12 41 16.9**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=251,slow=2.8,SNR=2.4						

*LDG **08** 12:35:43.5±0.1,43.61°N×13.18E,h10km,Ml2.8/14,Error ellipse: s-maj=2.8km s-min=1.9km az=51.0*
*ROM **08** 12:35:43.8±0.2,43.61°N×13.20E,h15km±4km,Ml3.0/25, Error ellipse: s-maj=2.2km s-min=1.5km az=8.0*
*CSEM **08** 12:35:43.3±0.1,43.58N×13.18E,h19km,ML3.6/12,Error ellipse: s-maj=3.2km s-min=2.4km az=92.0*
*PRU **08** 12:35:44.0,43.68N×13.51E,h4km*
*VIE **08** 12:35:44.2±0.2,43.71N×13.30E,h10km,mb2.6/8,ML2.9/9, Error ellipse: s-maj=2.6km s-min=1.5km az=87.0 71 km ESE of San Marino*

ISC 08 12:35:43.3±0.9,43.57N±0.02×13.16E±0.02,h18km±2km, n93,σ1s50/149,7C-17D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENI	**Senigallia**	**0.14**	**22**	⇓*i*Pg	**Pb**	**12 35 47.2**	**+1.0**
SENI				Sg	**Sg**	**12 35 50.2**	**-0.1**
	2μm,0.3s						
SENI	**Senigallia**	**0.14**	**22**	⇓*i*Pg	**Pb**	**12 35 47.2**	**+1.0**
SENI				Sg	**Sg**	**12 35 50.2**	**-0.1**
	2μm,0.3s						
ARVD	**Arcevia**	**0.17**	**245**	⇓*i*Pg	**Pg**	**12 35 48.5**	**+0.6**
ARVD				Sg	**Sg**	**12 35 52.5**	**+1.4**
	2μm,0.3s						
ARVD	**Arcevia**	**0.17**	**245**	⇓*i*Pg	**Pg**	**12 35 48.5**	**+0.6**
ARVD				Sg	**Sg**	**12 35 52.5**	**+1.4**
	2μm,0.3s						
CING	**Cingoli**	**0.20**	**172**	Pg	**Pg**	**12 35 48.9**	**+0.6**
CING				Sg	**Sg**	**12 35 53.2**	**+1.5**
	4μm,0.2s						
CING	**Cingoli**	**0.20**	**172**	Pg	**Pg**	**12 35 48.9**	**+0.6**
CING				Sg	**Sg**	**12 35 53.2**	**+1.5**
	4μm,0.2s						
FSSB	**Fossombrone**	**0.30**	**294**	⇓*i*Pg	**Pg**	**12 35 50.2**	**+0.3**
FSSB				Sg	**Sb**	**12 35 55.9**	**+1.2**
	4μm,0.4s						
FSSB	**Fossombrone**	**0.30**	**294**	⇓*i*Pg	**Pg**	**12 35 50.2**	**+0.3**
FSSB				Sg	**Sb**	**12 35 55.9**	**+1.2**
	4μm,0.4s				

	188nm,0.8s							
CAFI	**Castiglion Fio**	**0.90**	**255**	Pg	**Pn**	**12 36 02.3**	**+1.2**
	239nm,0.8s							
CAFI	**Castiglion Fio**	**0.90**	**255**	Pg	**Pn**	**12 36 02.3**	**+1.2**
	239nm,0.8s							
LNSS	**Leonessa**	**0.97**	**185**	Pg	**Pn**	**12 36 02.4**	**+0.3**
	377nm,0.3s							
LNSS	**Leonessa**	**0.97**	**185**	Pg	**Pn**	**12 36 02.4**	**+0.3**
	377nm,0.3s							
TERO	**Teramo**	**1.00**	**161**	Pg	**Pn**	**12 36 02.9**	**+0.4**
	424nm,0.5s							
TERO	**Teramo**	**1.00**	**161**	Pg	**Pn**	**12 36 02.9**	**+0.4**
	424nm,0.5s							
SFI	**Santa Sofia**	**1.01**	**290**	Pg	**Pg**	**12 36 03.5**	**+0.6**
	112nm,0.7s							
SFI	**Santa Sofia**	**1.01**	**290**	Pg	**Pg**	**12 36 03.5**	**+0.6**
	112nm,0.7s							
MGAB	**Montegabbione**	**1.01**	**230**	Pg	**Pg**	**12 36 03.7**	**+0.8**
	752nm,0.6s							
MGAB	**Montegabbione**	**1.01**	**230**	Pg	**Pg**	**12 36 03.7**	**+0.8**
	752nm,0.6s							
CESX	**Cesi**	**1.05**	**204**	Pg	**Pg**	**12 36 03.7**	**0.0**
	444nm,0.5s							
CESX	**Cesi**	**1.05**	**204**	Pg	**Pg**	**12 36 03.7**	**0.0**
	444nm,0.5s							
SACS	**San Casciano d**	**1.17**	**232**	Pg	**Pg**	**12 36 06.2**	**+0.3**
	279nm,1.1s							
MNS	**Montasola**	**1.24**	**197**	Pg	**Pg**	**12 36 07.5**	**+0.3**
	242nm,0.7s							
MNS	**Montasola**	**1.24**	**197**	Pg	**Pg**	**12 36 07.5**	**+0.3**
	242nm,0.7s							
T0106	**Roio Piano**	**1.27**	**172**	Pg	**Pg**	**12 36 08.3**	**+0.3**
	253nm,0.9s							
FIAM	**Fiamignano**	**1.30**	**181**	Pg	**Pb**	**12 36 08.2**	**+0.9**
	195nm,0.8s							
FIAM	**Fiamignano**	**1.30**	**181**	Pg	**Pb**	**12 36 08.2**	**+0.9**
	195nm,0.8s							
FAGN	**Fagnano**	**1.34**	**166**	Pg	**Pb**	**12 36 08.7**	**+0.8**
	290nm,0.5s							
FAGN	**Fagnano**	**1.34**	**166**	Pg	**Pb**	**12 36 08.7**	**+0.8**
	290nm,0.5s							
SKDS	**Skadanscina**	**2.07**	**17**	*i* Pn	**Pn**	**12 36 17.2**	**+0.1**
SKDS				*e*Sn	**Sn**	**12 36 42.9**	**+0.5**
	comp=E,69nm,0.5s							
SKDS	**Skadanscina**	**2.07**	**17**	*i* Pn	**Pn**	**12 36 17.2**	**+0.1**
SKDS				*e*Sn	**Sn**	**12 36 42.9**	**+0.5**
	comp=E,69nm,0.5s							
OBKA	**Obir**	**3.10**	**18**	⇓*i*Pn	**Pn**	**12 36 31.3**	**0.0**
OBKA				⇑*i*Sn	**Sn**	**12 37 07.3**	**-0.6**
OBKA				⇑*i*Sg	**Sg**	**12 37 21.5**	**-1.3**
	comp=Z,34nm,0.4s							
OBKA	**Obir**	**3.10**	**18**	Pn	**Pn**	**12 36 31.3**	**0.0**
OBKA				Sn	**Sn**	**12 37 07.3**	**-0.6**
OBKA				Sg	**Sg**	**12 37 21.5**	**-1.3**
	comp=Z,34nm,0.4s							
ABTA	**Abfaltersbach**	**3.21**	**352**	⇓*i*Pn	**Pn**	**12 36 33.5**	**+0.7**
ABTA				⇑*i*Sn	**Sn**	**12 37 10.9**	**+0.3**
ABTA	**Abfaltersbach**	**3.21**	**352**	Pn	**Pn**	**12 36 33.5**	**+0.7**
ABTA				Sn	**Sn**	**12 37 10.9**	**+0.3**
PGF	**Pioggiola**	**3.22**	**253**	*e*Pn	**Pn**	**12 36 32.6**	**-0.3**
PGF				*e*Sn	**Sn**	**12 37 09.0**	**-1.8**
	comp=Z,8.3nm,0.4s							
PGF	**Pioggiola**	**3.22**	**253**	*e*Pn	**Pn**	**12 36 32.6**	**-0.3**
PGF				*e*Sn	**Sn**	**12 37 09.0**	**-1.8**
	comp=Z,4.2nm,0.4s							
KBA	**Koelnbreinsper**	**3.51**	**2**	⇓*i*Pn	**Pn**	**12 36 37.1**	**0.0**
KBA				⇑*i*Sn	**Sn**	**12 37 17.9**	**-0.2**
KBA				⇓*i*Sg	**Sg**	**12 37 35.3**	**-0.7**
	comp=Z,11nm,0.4s							
KBA	**Koelnbreinsper**	**3.51**	**2**	Pn	**Pn**	**12 36 37.1**	**0.0**
KBA				Sn	**Sn**	**12 37 17.9**	**-0.2**
KBA				Sg	**Sg**	**12 37 35.3**	**-0.7**
	comp=Z,11nm,0.4s							
WTTA	**Wattenberg**	**3.84**	**344**	⇓*i*Pn	**Pn**	**12 36 42.7**	**+1.0**
WTTA	**Wattenberg**	**3.84**	**344**	Pn	**Pn**	**12 36 42.7**	**+1.0**
FETA	**Feichten**	**3.85**	**334**	⇑*i*Pn	**Pn**	**12 36 42.8**	**+1.1**
FETA				⇑*i*Sn	**Sn**	**12 37 28.3**	**+1.8**
FETA				⇑*i*Sg	**Sg**	**12 37 49.1**	**+2.2**
	comp=Z,5.0nm,0.6s							
FETA	**Feichten**	**3.85**	**334**	Pn	**Pn**	**12 36 42.8**	**+1.1**
FETA				Sn	**Sn**	**12 37 28.3**	**+1.8**
FETA				Sg	**Sg**	**12 37 49.1**	**+2.2**
	comp=Z,5.0nm,0.6s							
WATA	**Walderalm**	**3.92**	**344**	⇓*i*Pn	**Pn**	**12 36 43.8**	**+1.1**
WATA				⇓*i*Sn	**Sn**	**12 37 30.1**	**+1.7**
WATA	**Walderalm**	**3.92**	**344**	Pn	**Pn**	**12 36 43.8**	**+1.1**
WATA				Sn	**Sn**	**12 37 30.1**	**+1.7**
SBF	**Sospel**	**4.16**	**276**	*e*Pn	**Pn**	**12 36 45.3**	**-0.6**
SBF				*e*Sn	**Sn**	**12 37 31.1**	**-2.9**
	comp=Z,2.0nm,0.3s							
SBF	**Sospel**	**4.16**	**276**	*e*Pn	**Pn**	**12 36 45.3**	**-0.6**
SBF				*e*Sn	**Sn**	**12 37 31.1**	**-2.9**
	comp=Z,1.0nm,0.3s							
FRF	**La Foret Royal**	**4.73**	**272**	*e*Pn	**Pn**	**12 36 53.1**	**-0.6**
FRF				*e*Sn	**Sn**	**12 37 44.8**	**-3.3**
	comp=Z,2.4nm,0.3s							
FRF	**La Foret Royal**	**4.73**	**272**	*e*Pn	**Pn**	**12 36 53.1**	**-0.6**
FRF				*e*Sn	**Sn**	**12 37 44.8**	**-3.3**
	comp=Z,1.2nm,0.3s							
MBDF	**Montbardon**	**4.74**	**286**	*e*Pn	**Pn**	**12 36 53.2**	**-0.7**
MBDF				*e*Sn	**Sn**	**12 37 44.8**	**-3.6**
	comp=Z,4.9nm,0.7s							
MBDF	**Montbardon**	**4.74**	**286**	*e*Pn	**Pn**	**12 36 53.2**	**-0.7**
MBDF				*e*Sn	**Sn**	**12 37 44.8**	**-3.6**
	comp=Z,2.5nm,0.7s							
LMR	**La Mourre**	**4.85**	**269**	*e*Pn	**Pn**	**12 36 54.6**	**-0.6**
LMR				*e*Sn	**Sn**	**12 37 47.7**	**-3.2**
	comp=Z,2.4nm,0.3s							
LMR	**La Mourre**	**4.85**	**269**	*e*Pn	**Pn**	**12 36 54.6**	**-0.6**
LMR				*e*Sn	**Sn**	**12 37 47.7**	**-3.2**
	comp=Z,1.2nm,0.3s							
LPG	**La Plagne**	**4.97**	**295**	*e*Pn	**Pn**	**12 36 56.2**	**-1.0**
LPG				*e*Sn	**Sn**	**12 37 50.7**	**-3.6**
	comp=Z,2.6nm,0.3s							
LPG	**La Plagne**	**4.97**	**295**	*e*Pn	**Pn**	**12 36 56.2**	**-1.0**
LPG				*e*Sn	**Sn**	**12 37 50.7**	**-3.6**
	comp=Z,1.3nm,0.3s							
LPL	**La Plagne**	**4.99**	**295**	*e*Pn	**Pn**	**12 36 56.6**	**-0.8**
LPL				*e*Sn	**Sn**	**12 37 50.9**	**-3.8**
	comp=Z,4.2nm,0.5s							
LPL	**La Plagne**	**4.99**	**295**	*e*Pn	**Pn**	**12 36 56.6**	**-0.8**
LPL				*e*Sn	**Sn**	**12 37 50.9**	**-3.8**
	comp=Z,2.1nm,0.5s							
ORIF	**Oris-en-Rattie**	**5.40**	**287**	*e*Pn	**Pn**	**12 37 02.1**	**-0.8**
ORIF				*e*Sn	**Sn**	**12 38 00.6**	**-4.0**
	comp=Z,3.7nm,0.5s							
ORIF	**Oris-en-Rattie**	**5.40**	**287**	*e*Pn	**Pn**	**12 37 02.1**	**-0.8**
SMRF	**Simiane la Rot**	**5.51**	**277**	*e*Pn	**Pn**	**12 37 03.4**	**-1.0**
SMRF				*e*Sn	**Sn**	**12 38 03.3**	**-3.9**
	comp=Z,0.5nm,0.3s							
SMRF	**Simiane la Rot**	**5.51**	**277**	*e*Pn	**Pn**	**12 37 03.4**	**-1.0**
KHC	**Kasperske Hory**	**5.57**	**3**	*e*PN	**Pn**	**12 37 05.1**	**-0.1**
KHC				*ex*	x	12 37 13.5	
KHC				*ex*	x	12 38 05.4	
KHC				*e*SN	Sn	12 38 17.0	+8.3
KHC	**Kasperske Hory**	**5.57**	**3**	Pn	**Pn**	**12 37 05.1**	**-0.1**
CABF	**La Chapelle**	**5.86**	**304**	*e*Pn	**Pn**	**12 37 08.2**	**-1.0**
CABF				*e*Sn	**Sn**	**12 38 11.3**	**-4.5**
	comp=Z,0.8nm,0.2s							
CABF	**La Chapelle**	**5.86**	**304**	*e*Pn	**Pn**	**12 37 08.2**	**-1.0**
HINF	**Hinteralfeld**	**6.12**	**316**	*e*Pn	**Pn**	**12 37 11.7**	**-1.1**
HINF				*e*Sn	**Sn**	**12 38 17.7**	**-4.7**
	comp=Z,6.2nm,0.4s							
HINF	**Hinteralfeld**	**6.12**	**316**	*e*Pn	**Pn**	**12 37 11.7**	**-1.1**
VIVF	**Saint-Julien-l**	**6.23**	**285**	*e*Pn	**Pn**	**12 37 13.3**	**-1.0**
VIVF				*e*Sn	Sn	12 38 20.5	-4.6
	comp=Z,1.8nm,0.4s							
VIVF	**Saint-Julien-l**	**6.23**	**285**	*e*Pn	**Pn**	**12 37 13.3**	**-1.0**
CDF	**Champ du Feu**	**6.34**	**322**	*e*Pn	**Pn**	**12 37 14.7**	**-1.1**
CDF	**Champ du Feu**	**6.34**	**322**	*e*Pn	**Pn**	**12 37 14.7**	**-1.1**
HAU	**Haudompre**	**6.50**	**315**	*e*Pn	**Pn**	**12 37 16.9**	**-1.1**
HAU	**Haudompre**	**6.50**	**315**	*e*Pn	**Pn**	**12 37 16.9**	**-1.1**

*MEX **08** 12:38:43.3±1.1,33.°01N×115.°85W,h18km±31km,MD3.6*
*ISCJB **08** 12:38:44.1±0.5,32.°63N±0.°03×115.°85W±0.°03,h7km±4km, Error ellipse: s-maj=5.0km s-min=3.5km az=29.6*
*ECX **08** 12:38:44.9±0.6,32.°68N×115.°86W,h4km,MD3.5,ML3.7*
*NEIC **08** 12:38:45.0,32.°63N×115.°86W,h2km,MD3.3(ECX), ML3.7(PAS),After ECX.*
NEIC Felt at Boulevard, Chula Vista, El Cajon, El Centro, Lakeside and San Diego, California.
ISC 08 12:38:44.0±0.9,**32.°66N**±0.°03×**115.°86W**±0.°02,**h14**km±7km,

n26,σ1**§20/40,5C-2D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SGL	**Mount Signal**	**0.12**	**93**	⇑*i*P	**Pg**		**12 38 47.0**	**-0.3**
RMX	**La Rumorosa**	**0.19**	**254**	⇑*e*P	**Pg**		**12 38 48.9**	**+0.4**
RMX				*e*S	**Sg**		**12 38 52.1**	**+0.7**
COK	**Cook Ranch**	**0.23**	**31**	⇑*i*P	**Pg**		**12 38 48.7**	**-0.2**
CRR	**Carrizo Plain**	**0.25**	**339**	⇓*i*P	**Pg**		**12 38 49.0**	**-0.3**
CPBX	**Cerro Prieto**	**0.53**	**116**	*e*P	**Pg**		**12 38 54.8**	**+0.4**
MBIG	**Mexicali**	**0.61**	**114**	*e*P	**Pg**		**12 38 55.9**	**-0.1**
MBIG				*i* S	**Sb**		**12 39 06.1**	**+1.1**
BAR	**Barrett**	**0.68**	**272**	*e*Pg	**Pg**		**12 38 57.3**	**0.0**
BAR				*e*Sg	**Sg**		**12 39 06.1**	**-0.3**
RDX	**Rancho Dawling**	**0.73**	**185**	⇓*e*P	**Pg**		**12 38 58.0**	**-0.2**
CBX	**Cerro Bola**	**0.76**	**243**	*i* P	**Pg**		**12 38 59.0**	**+0.3**
CBX				*i* S	**Sb**		**12 39 09.5**	**+0.2**
CBX	**Cerro Bola**	**0.76**	**243**	⇑*e*P	**Pg**		**12 38 59.1**	**+0.3**
CBX				*e*S	**Sb**		**12 39 09.4**	**+0.1**
CBX	**Cerro Bola**	**0.76**	**243**	*i* P	**Pg**		**12 38 59.0**	**+0.3**
CBX				*i* S	**Sb**		**12 39 09.5**	**+0.2**
EMX	**El Mayor**	**0.85**	**141**	*e*P	**Pb**		**12 38 58.6**	**-2.0**
EMX				*e*S	**Sb**		**12 39 10.4**	**-1.4**
PFO	**Pinyon Flats O**	**1.07**	**333**	*e*Pg	**Pb**		**12 39 02.4**	**-2.1**
PFO				*e*Sg	**Sb**		**12 39 16.6**	**-1.9**
ECNX	**Esteban Cantu**	**1.17**	**212**	*e*P	**Pn**		**12 39 05.8**	**-0.4**
ZAX	**El Zacaton**	**1.19**	**197**	*e*P	**Pn**		**12 39 06.3**	**-0.1**
ZAX				*e*S	**Sb**		**12 39 22.0**	**+0.3**
ZAX				⇑*e*			12 39 25.6	
ZAX				AML	AML		12 39 25.6	
	comp=E,1μm,0.4s							
ECBX	**El Chinero**	**1.37**	**149**	*e*P	**Pn**		**12 39 07.4**	**-1.3**
ECBX				*e*S	**Sn**		**12 39 25.9**	**-0.7**
SPIG	**San Pedro Mart**	**1.64**	**168**	*e*P	**Pn**		**12 39 14.0**	**+1.2**
SPIG				*i* S	**Sg**		**12 39 37.3**	**+0.4**
SPIG	**San Pedro Mart**	**1.64**	**168**	*e*P	**Pb**		**12 39 14.7**	**+0.4**
SPIG				*i* S	**Sb**		**12 39 36.0**	**+1.1**
MWC	**Mount Wilson**	**2.41**	**311**	*e*Pn	**Pb**		**12 39 26.7**	**-0.6**
MWC				*e*Sn	**Sb**		**12 39 56.0**	**-1.0**
PASC	**Pasadena Art C**	**2.46**	**309**	*e*Pn	**Pn**		**12 39 24.8**	**+1.1**
PASC				*e*Sn	**Sb**		**12 39 56.9**	**-1.4**
214A	**Organ Pipe Nat**	**2.68**	**104**	*e*Pn	**Pn**		**12 39 27.5**	**+0.7**
GSC	**Goldstone, Bar**	**2.75**	**344**	*e*Pn	**Pn**		**12 39 30.6**	**+2.7**
OSI	**Osito Audit: C**	**3.08**	**310**	*e*Pn	**Pn**		**12 39 34.8**	**+2.4**
TUC	**Tucson**	**4.31**	**93**	Pn	**Pn**		**12 39 50.9**	**+1.7**
WUAZ	**Wupatki**	**4.69**	**51**	*e*Pn	**Pn**		**12 39 57.6**	**+3.0**
121A	**Cookes Peak, D**	**6.82**	**89**	*e*Pn	**Pn**		**12 40 23.1**	**-0.7**
	comp=E,4.8nm,0.3s							

*NNC **08** 12:52:05.8±7.9,53.°45N×87.°90E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=61.7km s-min=44.6km az=23.0*
*IDC **08** 12:52:13.3±2.5,53.°57N×87.°06E,h0km,mb1 3.0/2, mb1mx2.9/35,mbtmp3.0/2,ML2.6/2,Error ellipse: s-maj=23.3km s-min=13.3km az=77.0*
ISC 08 12:52:12.8±4.1,**53.°8N**±0.°1×**87.°5E**±0.°2,**h35**km,**n7,**σ1**§50/9, 6C-3D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**277**	*i*			13 01 38.5	
	baz=104,slow=338,SNR=1.8							
ZALV	**Zalesovo Beam**	**1.61**	**277**	Pg	**Pn**		**12 52 38.1**	**-0.5**
	1.6nm,0.3s,baz=106,slow=18,SNR=22							
ZALV				Lg	Lg		12 52 57.0	
	0.6nm,0.3s,baz=108,slow=27,SNR=9.5							
KURK	**Kurchatov**	**6.27**	**244**	⇑Pn	**Pn**		**12 53 42.9**	**+0.3**
	0.5nm,0.6s							
KURK				⇑Sn	**Sn**		**12 54 54.6**	**+1.7**
	0.2nm,0.3s							
KURK				⇓Lg	Lg		12 55 26.3	
	1.6nm,0.6s							
KURBB	**Kurchatov Arra**	**6.37**	**244**	⇑Pn	**Pn**		**12 53 44.0**	**0.0**
	1.5nm,0.6s							
KURBB				⇑Sn	**Sn**		**12 54 55.1**	**-0.3**
	1.1nm,0.7s							
KURBB				⇓Lg	Lg		12 55 27.6	
	2.5nm,0.9s							
KURBB	**Kurchatov Arra**	**6.37**	**244**	Pn	**Pn**		**12 53 44.6**	**+0.6**
	0.2nm,0.3s,baz=60,slow=14,SNR=12							
KURBB				Lg	Lg		12 55 25.5	
	0.0nm,0.3s,baz=62,slow=32,SNR=5.4							
MK31	**Makanchi Array**	**7.75**	**208**	⇑Pn	Pn		12 53 51.1	-12
	1.8nm,1.3s,baz=27,slow=14,SNR=4.3							
MK31				⇑Sn	**Sn**		**12 55 28.3**	**-1.3**
	0.2nm,0.5s,baz=26,slow=26,SNR=2.6							
MK31				⇓Lg	Lg		12 56 09.0	
	1.0nm,0.8s,baz=26,slow=26,SNR=2.5							
MKAR	**Makanchi Array**	**7.75**	**208**	Pn	**Pn**		**12 54 04.5**	**+1.5**
	0.1nm,0.3s,baz=26,slow=14,SNR=6.1							
MKAR				Sn	**Sn**		**12 55 27.1**	**-2.4**
	0.1nm,0.3s,baz=26,slow=25,SNR=5.5							
MKAR				Lg	Lg		12 56 10.2	
	0.0nm,0.3s,baz=24,slow=32,SNR=6.0							

*IDC **08** 13:21:24.0±3.2,27.°69N×126.°20E,h0km,mb3.2/4, mb1 3.3/4,mb1mx3.2/34,mbtmp3.2/4,Error ellipse: s-maj=204.8km s-min=22.2km az=64.0*
*ISCJB **08** 13:21:45.1±0.7,27.°85N±0.°08×126.°45E±0.°09, h214km±8km,mb2.9/4, Error ellipse: s-maj=16.7km s-min=6.9km az=138.3*
*JMA **08** 13:21:49.2±0.3,27.°87N×126.°62E,h194km,M3.1*
ISC 08 13:21:45.7±1.0,**27.°90N**±0.°10×**126.°42E**±0.°09, **h211**km±11km,**n18,**σ1**§43/28,mb3.0/4,Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JAGN	**Aguni-jima**	**1.50**	**151**	P	**Pn**		**13 22 21.7**	**+1.3**
JAGN				*e*S	**S**		**13 22 47.5**	**+0.4**
JKE	**Kume jima 2**	**1.60**	**168**	P	**Pn**		**13 22 22.6**	**+1.3**
JKE				*e*S	**S**		**13 22 49.1**	**+0.3**
JIH	**Iheya**	**1.62**	**122**	P	**Pn**		**13 22 22.6**	**+1.2**
JIH				*e*S	**S**		**13 22 47.8**	**-1.1**
JOW	**Kunigami**	**1.96**	**123**	P	**Pn**		**13 22 25.5**	**+0.8**
JOW				*e*S	**S**		**13 22 52.9**	**-1.7**
JOKE	**Okinoerabujima**	**1.98**	**105**	P	**Pn**		**13 22 25.5**	**+0.7**
JOKE				*e*S	**S**		**13 22 53.3**	**-1.6**
JNTH	**Nagotoyohara**	**1.98**	**134**	P	**Pn**		**13 22 26.0**	**+1.1**
JNTH				*e*S	**S**		**13 22 53.1**	**-1.9**
JJT2	**Tamagusuku 2**	**2.12**	**146**	P	**Pn**		**13 22 27.9**	**+1.7**
JJT2				*e*S	**S**		**13 22 57.1**	**-0.4**
JTK	**Tokunoshima**	**2.24**	**92**	P	**Pn**		**13 22 28.0**	**+0.5**
JTK				*e*S	**S**		**13 22 57.5**	**-2.2**
JAMN	**Amaminishikomi**	**2.45**	**81**	P	**Pn**		**13 22 30.2**	**+0.5**
JAMN				*e*S	**S**		**13 23 02.8**	**-0.9**
JAM	**Amami Oshima**	**2.85**	**79**	P	**Pn**		**13 22 35.6**	**+1.4**
JAM				*e*S	**S**		**13 23 10.1**	**-1.6**
JTJ	**Tarama**	**3.60**	**206**	*e*S	**S**		**13 23 26.1**	**-1.5**
JISG	**Ishigakijimahi**	**3.81**	**210**	*e*S	**S**		**13 23 30.7**	**-1.5**
JIJ	**Ishigaki jima**	**4.08**	**211**	*e*S	**S**		**13 23 34.8**	**-3.4**
JMZ	**Minamidaito 2**	**4.76**	**115**	P	**Pn**		**13 22 58.2**	**+0.8**
SONM	**Songino Array**	**25.28**	**327**	P	**P**		**13 26 52.9**	**+0.2**
	0.3nm,0.4s,baz=134,slow=11,SNR=2.4							
MKAR	**Makanchi Array**	**39.22**	**311**	P	**P**		**13 28 53.6**	**+0.1**
	0.2nm,0.4s,baz=103,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**48.18**	**170**	P	**P**		**13 30 04.5**	**-0.4**
	0.3nm,0.9s,baz=352,slow=8.3,SNR=3.0							
ASAR	**Alice Springs**	**51.77**	**171**	P	**P**		**13 30 32.5**	**+0.5**
	0.2nm,0.6s,baz=359,slow=14,SNR=6.5							

*IDC **08** 13:30:59.0±1.4,4.°67S×145.°78E,h0km,mb3.9/6, mb1 4.1/9,mb1mx3.8/33,mbtmp4.0/9,ML4.1/3,MS3.2/3, Ms1 3.2/3,ms1mx2.7/25,Error ellipse: s-maj=38.1km s-min=21.6km az=108.0*
*ISCJB **08** 13:31:02.6±1.0,4.°73S±0.°09×145.°7E±0.°2,h35km,mb3.9/6, MS3.4/2,Error ellipse: s-maj=22.0km s-min=13.2km az=175.8*
ISC 08 13:31:04.4±1.2,**4.°7S**±0.°1×**145.°7E**±0.°2,**h35**km,**n15,** σ0**§73/9,mb3.8/6,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JAY	**Jayapura**	**5.44**	**294**	Pn	**Pn**		**13 32 22.3**	**-0.7**
	2.0nm,0.3s,baz=155,slow=7.9,SNR=8.9							
JAY				Sn	Sn		13 33 34.0	+10
	0.5nm,0.3s,baz=30,slow=20,SNR=3.1							
HNR	**Honiara**	**14.90**	**109**	LR	LR		13 40 09.1	
	comp=Z,33nm,20.4s,baz=126,slow=37							

CTA	**Charters Tower**	**15.28**	**178**	Pn	**Pn**		**13 34 36.9**	**-0.7**
	0.2nm,0.3s,baz=10,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**18.73**	**215**	P	**P**		**13 35 20.2**	**-0.1**
	2.1nm,0.3s,baz=38,slow=11,SNR=141							
ASAR	**Alice Springs**	**21.99**	**210**	P	**P**		**13 35 55.9**	**+0.2**
	4.9nm,0.8s,baz=39,slow=9.3,SNR=50							
BATI	**Baumata**	**22.50**	**255**	P	**P**		**13 36 02.4**	**+1.2**
	17nm,0.6s,baz=0.0,slow=0.0,SNR=3.2							
H11S3	**WAKE ISLAND Hy**	**31.00**	**41**	T	T		14 10 09.3	
	baz=222,slow=74,SNR=7.2							
H11S2	**WAKE ISLAND Hy**	**31.01**	**41**	T	T		14 10 12.9	
	baz=222,slow=74,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**31.02**	**41**	T	T		14 10 10.6	
	baz=222,slow=74,SNR=4.8							
KSRS	**Korea Array**	**45.11**	**340**	LR	LR		13 55 55.8	
	comp=Z,12nm,20.5s,baz=212,slow=33							
SONM	**Songino Array**	**52.67**	**321**	P	**P**		**13 41 26.0**	**+0.3**
	0.4nm,0.9s,baz=197,slow=4.6,SNR=3.7							
MKAR	**Makanchi Array**	**75.69**	**321**	P	**P**		**13 42 46.5**	**+0.2**
	0.7nm,0.7s,baz=98,slow=8.7,SNR=8.6							
ZALV	**Zalesovo Beam**	**77.25**	**328**	P	**P**		**13 42 54.2**	**-0.7**
	0.7nm,0.6s,baz=121,slow=5.6,SNR=3.4							
MAW	**Mawson**	**82.91**	**203**	LR	LR		14 17 29.1	
	comp=Z,66nm,19.6s,baz=243,slow=34							
ILAR	**Eielson Array**	**84.84**	**23**	P	**P**		**13 43 35.4**	**+0.3**
	0.5nm,0.7s,baz=235,slow=5.4,SNR=7.4							

*ISCJB **08** 13:55:21.4±0.6,5.°75N±0.°05×126.°84E±0.°09,h50km, mb3.8/9,MS2.9/1,Error ellipse: s-maj=13.1km s-min=6.6km az=171.9*
*IDC **08** 13:55:25.2±6.2,5.°65N×126.°49E,h65km±55km,mb3.6/9, mb1 3.8/9,mb1mx3.6/35,mbtmp3.9/9,ML5.3/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/27,Error ellipse: s-maj=63.8km s-min=15.2km az=71.0*
*MAN **08** 13:55:34,5.°86N×126.°18E,h15km,mb4.9,ML3.8,MS3.8*
*DJA **08** 13:55:45.6±0.5,4.°N±5.°×12.°6E±.°,h59km±9km,M4.4/12, mb4.5/5,mB4.9/4,MLv4.4/12,Mw(mB)4.2/4*
ISC 08 13:55:23.4±0.7,**5.°72N**±0.°08×**126.°9E**±0.°1,**h50**km,**n37,** σ1**§36/31,mb3.9/9,2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MATI	**Mati**	**1.36**	**334**	*e*P	**Pn**		13 55 53.6	+7.6
GSPH	**General Santos**	**1.94**	**281**	⇓*e*P	**Pn**		**13 55 53.0**	**-1.0**
SGSI	**Sangihe**	**2.42**	**213**	P	**Pn**		**13 56 01.2**	**+0.7**
SGSI				S	Sn		13 56 15.6	-13
BIPH	**Bislig**	**2.50**	**348**	*e*P	Pn		13 56 14.6	+13
BIPH				*e*S	Sn		13 56 43.7	+13
BUKP	**Musuan**	**2.79**	**320**	*e*P	Pn		13 56 11.5	+5.9
BUKP				*e*S	**Sn**		**13 56 41.5**	**+3.4**
BUTP	**Butuan**	**3.45**	**339**	*e*P	Pn		13 56 20.4	+5.7
CGP	**Cagayan de Oro**	**3.46**	**322**	⇓*e*P	Pn		13 56 24.2	+9.4
CGP				*e*S	Sn		13 57 05.0	+10
PAGZ	**Pagadian**	**4.05**	**302**	*e*P	Pn		13 56 28.6	+5.7
TNTI	**Ternate**	**4.94**	**174**	P	Pn		13 56 39.7	+4.6
KMSI	**Cibinong**	**5.87**	**209**	P	Pn		**13 56 48.1**	**+0.3**
LBMI	**Labuha**	**6.35**	**174**	P	Pn		13 56 58.9	+4.5
GTOI	**Gorontalo**	**6.35**	**217**	P	**Pn**		**13 56 54.4**	**0.0**
MRSI	**Marisa**	**7.16**	**224**	P	**Pn**		**13 57 05.4**	**-0.2**
	84nm,0.8s,874nm0.3nm							
SANI	**Sanana**	**7.77**	**186**	P	**Pn**		**13 57 13.6**	**-0.3**
	20nm,0.8s,1μm0.1nm							
APSI	**Ampana**	**8.40**	**218**	P	**Pn**		**13 57 23.8**	**+1.3**
	44nm,0.6s,644nm0.2nm							
NLAI	**Namlea**	**

COCH	**Cobquecura**	**0.83**	**8**	*eP*	**Pn**	**14 18 25.2**	**-1.1**
COCH				*eS*	**Sn**	**14 18 42.5**	**+5.1**
AGCH	**Angol**	**0.87**	**168**	*eP*	Pn	14 18 23.7	-3.1
AGCH				*eS*	**Sn**	**14 18 41.8**	**+3.6**
LNCH	**Linares**	**1.54**	**44**	*eP*	Pn	14 18 39.5	+3.5
LNCH				*eS*	Sn	14 19 07.2	+12
PLCA	**Paso Flores**	**4.20**	**155**	Pn	**Pn**	**14 19 10.6**	**-2.0**
	comp=E,0.4nm,0.3s,baz=318,slow=14,SNR=16						
PLCA				Lg	Lg	14 20 21.5	
	comp=E,3.2nm,0.3s,baz=271,slow=9.0,SNR=4.7						
CFAA	**Coronel Fontan**	**6.60**	**37**	Pn	**Pn**	**14 19 44.5**	**-1.2**
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=3.1						
CFAA				Sn	Sn	14 21 07.3	+7.6
	comp=E,0.3nm,0.3s,baz=323,slow=20,SNR=4.1						
CFAA				LR	LR	14 22 07.3	
	comp=E,14nm,21.6s,baz=225,slow=38						
TRQA	**Tornquist**	**8.77**	**100**	*ePn*	**Pn**	**14 20 17.0**	**+1.6**
	comp=E,13nm,0.9s						
USHA	**Ushuaia**	**18.14**	**172**	P	**Pn**	**14 22 19.4**	**-0.5**
	comp=E,0.3nm,0.3s,baz=322,slow=11,SNR=4.5						
LPAZ	**La Paz**	**21.02**	**13**	P	**P**	**14 22 51.7**	**-0.7**
	comp=E,3.7nm,1.0s,baz=154,slow=9.3,SNR=6.9						
LPAZ	**La Paz**	**21.02**	**13**	*eP*	**P**	**14 22 50.9**	**-1.6**
	comp=E,6.7nm,1.0s						
SIV	**San Ignacio**	**23.38**	**30**	P	**P**	**14 23 15.5**	**-1.3**
	comp=E,2.6nm,1.0s,baz=221,slow=13,SNR=4.1						
BDFB	**Brasilia**	**30.65**	**53**	LR	LR	14 38 15.7	
	comp=E,283nm,18.0s,baz=222,slow=40						
RPN	**Rapa Nui**	**32.22**	**277**	LR	LR	14 32 57.0	
	comp=E,74nm,19.6s,baz=110,slow=27						
TXAR	**Lajitas Array**	**71.98**	**332**	P	**P**	**14 29 32.1**	**+1.0**
	comp=E,0.5nm,0.9s,baz=152,slow=5.9,SNR=3.4						
LIC	**Lamto**	**76.40**	**71**	*eP*	**P**	**14 29 56.1**	**-1.1**
	comp=E,24nm,1.3s						
TIC	**Toumodi**	**76.67**	**71**	*eP*	**P**	**14 29 56.5**	**-2.3**
	comp=E,6.0nm,0.2s						
KIC	**Kosan Boka**	**76.70**	**71**	*eP*	**P**	**14 29 57.7**	**-1.2**
	comp=E,18nm,1.0s						
DBIC	**Dimbokro**	**76.81**	**71**	P	**P**	**14 29 59.5**	**0.0**
	comp=E,2.5nm,0.9s,baz=222,slow=13,SNR=2.8						
TORD	**Torodi Ar. Bea**	**85.89**	**70**	P	**P**	**14 30 45.6**	**-1.9**
	comp=E,0.9nm,0.8s,baz=233,slow=6.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**157.08**	**35**	PKP	**PKPdf**	**14 38 04.8**	**+2.5**
	comp=E,1.1nm,0.8s,baz=112,slow=1.6,SNR=3.8						
MKAR	**Makanchi Array**	**159.17**	**54**	PKP	**PKPdf**	**14 38 07.4**	**+2.3**
	comp=E,0.7nm,1.0s,baz=311,slow=4.0,SNR=5.0						
MKAR				PKPab	**PKPab**	**14 38 39.9**	**-2.4**
	comp=E,0.5nm,0.9s,baz=284,slow=5.8,SNR=3.7						

*IGIL **08** 14:51:12.3, 35.92N×7.63W, h16km, ML2.4*
*INMG **08** 14:51:13.6±1.1, 35.91N×7.60W, h31km, ML2.6, Error ellipse: s-maj=4.1km s-min=2.2km az=37.0*
*MDD **08** 14:51:13.2±1.1, 35.96N×7.56W, h26km±21km, mbLg2.7/27, Error ellipse: s-maj=20.6km s-min=4.8km az=24.0, PRXIMO*
*CSEM **08** 14:51:14.0±0.3, 36.15N×7.44W, h20km, ML3.5/15, Error ellipse: s-maj=5.4km s-min=2.6km az=26.0*

ISC 08 14:51:10.8±1.7, 36.04N±0.06×7.49W±0.03, h15km±11km, n103, σ1§28/201, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.25**	**344**		*eP*	**Pg**		**14 51 34.8**	**-0.2**
PBDV					*eS*	**Sn**		**14 51 50.8**	**+0.5**
PBDV					A	A		14 51 54.8	
	30nm,0.3s								
PBDV	**Barranco-do-Ve**	**1.25**	**344**	P		**Pg**		**14 51 34.8**	**-0.2**
PBDV				S		**Sn**		**14 51 50.8**	**+0.5**
	30nm,0.3s								
PBDV	**Barranco-do-Ve**	**1.25**	**344**	*eP*		**Pg**		**14 51 34.8**	**-0.2**
PBDV				*eS*		**Sn**		**14 51 50.8**	**+0.5**
	30nm,0.3s								
PVAQ	**Vaqueiros**	**1.37**	**352**	*eP*		**Pg**		**14 51 36.6**	**-0.7**
PVAQ				*eS*		**Sn**		**14 51 53.9**	**+0.6**
PVAQ				A		A		14 51 55.8	
	71nm,0.3s								
PVAQ	**Vaqueiros**	**1.37**	**352**	⇓P		**Pg**		**14 51 36.6**	**-0.7**
PVAQ				S		**Sn**		**14 51 53.9**	**+0.6**
	71nm,0.3s								
EGRO	**El Granado**	**1.49**	**0**	⇓P		**Pg**		**14 51 38.6**	**-0.8**
	12nm,0.1s,SNR=18								
EGRO				S		**Sb**		**14 51 57.0**	**+0.1**
	64nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**1.49**	**0**	P		**Pg**		**14 51 38.7**	**-0.8**
	12nm,0.1s,SNR=18								
EGRO				S		**Sb**		**14 51 57.0**	**+0.1**
	64nm,0.1s,SNR=7.9								
ESPR	**Espera**	**1.55**	**57**	P		**Pb**		**14 51 39.5**	**+0.2**
	5.3nm,0.2s,SNR=7.9								
ESPR				S		**Sb**		**14 51 59.3**	**+0.6**
	35nm,0.3s,SNR=7.9								
ESPR	**Espera**	**1.55**	**57**	P		**Pb**		**14 51 39.5**	**+0.2**
	5.3nm,0.2s,SNR=7.9								
ESPR				S		**Sb**		**14 51 59.3**	**+0.6**
	35nm,0.3s,SNR=7.9								
MORF	**Marmelete**	**1.57**	**324**	*eP*		**Pn**		**14 51 38.3**	**+0.1**
MORF				*eS*		**Sn**		**14 51 57.6**	**-0.6**
MORF				AML		AML		14 51 59.3	
	comp=N,30nm,0.3s								
MORF	**Marmelete**	**1.57**	**324**	*eP*		**Pn**		**14 51 38.3**	**+0.1**
MORF				*eS*		**Sn**		**14 51 57.9**	**-0.3**
MORF				A		A		14 51 59.5	
	comp=N,36nm,0.2s								
MORF	**Marmelete**	**1.57**	**324**	P		**Pn**		**14 51 38.3**	**+0.1**
MORF				S		**Sn**		**14 51 57.6**	**-0.6**
	comp=N,30nm,0.3s								
MORF	**Marmelete**	**1.57**	**324**	*eP*		**Pn**		**14 51 38.3**	**+0.1**
MORF				*eS*		**Sn**		**14 51 57.9**	**-0.3**
	comp=N,36nm,0.2s								
PCVE	**Castro Verde**	**1.65**	**345**	*eP*		**Pb**		**14 51 40.5**	**-0.4**
PCVE				*eS*		**Sn**		**14 52 00.2**	**+0.1**
PCVE				A		A		14 52 01.9	
	comp=N,2.3nm,0.3s								
PCVE	**Castro Verde**	**1.65**	**345**	P		**Pb**		**14 51 40.5**	**-0.4**
PCVE				S		**Sn**		**14 52 00.2**	**+0.1**
	comp=N,2.3nm,0.3s								
PCVE	**Castro Verde**	**1.65**	**345**	*eP*		**Pb**		**14 51 40.5**	**-0.4**
PCVE				*eS*		**Sn**		**14 52 00.2**	**+0.1**
	comp=N,2.3nm,0.3s								
EJIF	**Jimena Fronter**	**1.68**	**75**	P		**Pb**		**14 51 41.4**	**-0.1**
	comp=N,1.9nm,0.2s,SNR=7.9								
EJIF				S		**Sb**		**14 52 03.1**	**+0.7**
	comp=N,3.6nm,0.3s,SNR=7.9								
EJIF	**Jimena Fronter**	**1.68**	**75**	P		**Pb**		**14 51 41.4**	**-0.1**
	comp=N,1.9nm,0.2s,SNR=7.9								
EJIF				S		**Sb**		**14 52 03.1**	**+0.7**
	comp=N,3.6nm,0.3s,SNR=7.9								
PTEO	**Sao Teotonio**	**1.80**	**327**	*ePn*		**Pn**		**14 51 41.7**	**+0.5**
PTEO				*eSn*		**Sn**		**14 52 03.6**	**-0.2**
PTEO				A		A		14 52 13.1	
	comp=N,14nm,0.3s								
PTEO	**Sao Teotonio**	**1.80**	**327**	Pn		**Pn**		**14 51 41.7**	**+0.5**
PTEO				Sn		**Sn**		**14 52 03.6**	**-0.2**
	comp=N,6.8nm,0.3s								
PTEO	**Sao Teotonio**	**1.80**	**327**	*ePn*		**Pn**		**14 51 41.7**	**+0.5**
PTEO				*eSn*		**Sn**		**14 52 03.6**	**-0.2**
	comp=N,14nm,0.3s								
EMIN	**Mina Concepcio**	**1.84**	**21**	P		**Pb**		**14 51 43.3**	**-0.9**
	comp=N,0.5nm,0.1s,SNR=7.9								
EMIN				S		**Sn**		**14 52 05.5**	**+0.6**
	comp=N,15nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**1.84**	**21**	P		**Pb**		**14 51 43.3**	**-0.9**
	comp=N,0.5nm,0.1s,SNR=7.9								
EMIN				S		**Sn**		**14 52 05.5**	**+0.6**
	comp=N,15nm,0.1s,SNR=7.9								
MESJ	**Messejana**	**1.89**	**342**	*eP*		**Pn**		**14 51 43.5**	**+1.1**
MESJ				*eS*		**Sn**		**14 52 06.0**	**0.0**
MESJ				AML		AML		14 52 07.8	
	comp=N,30nm,0.3s								
MESJ	**Messejana**	**1.89**	**342**	*ePn*		**Pn**		**14 51 43.6**	**+1.1**
MESJ				*eSn*		**Sn**		**14 52 05.8**	**-0.2**
MESJ				A		A		14 52 07.8	
	comp=N,19nm,0.3s								
MESJ	**Messejana**	**1.89**	**342**	Pn		**Pn**		**14 51 43.6**	**+1.1**
MESJ				Sn		**Sn**		**14 52 05.8**	**-0.2**
	comp=N,19nm,0.3s								
MESJ	**Messejana**	**1.89**	**342**	*ePn*		**Pn**		**14 51 43.6**	**+1.1**
MESJ				*eSn*		**Sn**		**14 52 05.8**	**-0.2**
	comp=N,19nm,0.3s								
PBAR	**Barrancos**	**2.16**	**9**	*ePn*		**Pn**		**14 51 48.0**	**+1.8**
PBAR				*eSn*		**Sn**		**14 52 13.7**	**+1.0**
PBAR				A		A		14 52 20.5	
	comp=N,31nm,0.2s								
PBAR	**Barrancos**	**2.16**	**9**	Pn		**Pn**		**14 51 48.0**	**+1.8**
PBAR				Sn		**Sn**		**14 52 13.7**	**+1.0**
	comp=N,31nm,0.2s								
PNCL	**Nicolau / Gran**	**2.23**	**338**	*ePn*		**Pn**		**14 51 47.9**	**+0.8**
PNCL				*eSn*		**Sn**		**14 52 13.7**	**-0.7**
PNCL				A		A		14 52 16.4	
	comp=N,13nm,0.1s								
PNCL	**Nicolau / Gran**	**2.23**	**338**	*ePn*		**Pn**		**14 51 47.9**	**+0.8**
PNCL				*eSn*		**Sn**		**14 52 13.7**	**-0.7**
	comp=N,13nm,0.1s								
EMIJ	**Mijas**	**2.26**	**76**	P		**Pn**		**14 51 48.8**	**+1.2**
	comp=N,2.2nm,0.2s,SNR=7.9								
EMIJ				S		**Sn**		**14 52 15.1**	**0.0**
	comp=N,5.3nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**2.26**	**76**	P		**Pn**		**14 51 48.8**	**+1.2**
	comp=N,2.2nm,0.2s,SNR=7.9								
EMIJ				S		**Sn**		**14 52 15.1**	**0.0**
	comp=N,5.3nm,0.3s,SNR=7.9								
EVO	**Evora**	**2.52**	**351**	*ePn*		**Pn**		**14 51 52.6**	**+1.4**
EVO				*eSn*		**Sn**		**14 52 22.1**	**+0.5**
EVO				A		A		14 52 25.8	
	comp=N,16nm,0.1s								
EVO	**Evora**	**2.52**	**351**	Pn		**Pn**		**14 51 52.6**	**+1.4**
EVO				Sn		**Sn**		**14 52 22.1**	**+0.5**
	comp=N,16nm,0.1s								
EVO	**Evora**	**2.52**	**351**	*ePn*		**Pn**		**14 51 52.6**	**+1.4**
EVO				*eSn*		**Sn**		**14 52 22.1**	**+0.5**
	comp=N,16nm,0.1s								
ECAB	**El Cabril**	**2.62**	**39**	P		**Pn**		**14 51 53.9**	**+1.3**
	comp=N,0.8nm,0.2s,SNR=7.9								
ECAB				S		**Sn**		**14 52 23.6**	**-0.5**
	comp=N,8.6nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**2.62**	**39**	P		**Pn**		**14 51 53.9**	**+1.3**
	comp=N,0.8nm,0.2s,SNR=7.9								
ECAB				S		**Sn**		**14 52 23.6**	**-0.5**
	comp=N,8.6nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**2.74**	**8**	P		**Pn**		**14 51 55.7**	**+1.5**
	comp=N,2.5nm,0.1s,SNR=7.9								
EBAD				S		**Sn**		**14 52 26.7**	**-0.2**
	comp=N,13nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**2.74**	**8**	P		**Pn**		**14 51 55.7**	**+1.5**
	comp=N,2.5nm,0.1s,SNR=7.9								
EBAD				S		**Sn**		**14 52 26.7**	**-0.2**
	comp=N,13nm,0.2s,SNR=7.9								
PESTR	**Estremoz**	**2.82**	**358**	*ePn*		**Pn**		**14 51 56.7**	**+1.4**
PESTR				*eSn*		**Sn**		**14 52 29.4**	**+0.3**
PESTR				A		A		14 52 31.2	
	comp=N,8.7nm,0.1s								
PESTR	**Estremoz**	**2.82**	**358**	*ePn*		**Pn**		**14 51 56.7**	**+1.4**
PESTR				*eSn*		**Sn**		**14 52 29.4**	**+0.3**
	comp=N,8.7nm,0.1s								
PMTG	**Montargil**	**3.08**	**349**	*ePn*		**Pn**		**14 52 00.1**	**+1.3**
PMTG				*eSn*		**Sn**		**14 52 35.3**	**-0.1**
PMTG				A		A		14 52 38.3	
	comp=N,11nm,0.2s								
PMTG	**Montargil**	**3.08**	**349**	*ePn*		**Pn**		**14 52 00.1**	**+1.3**
PMTG				*eSn*		**Sn**		**14 52 35.3**	**-0.1**
	comp=N,11nm,0.2s								
EADA	**Adamuz**	**3.15**	**47**	P		**Pn**		**14 52 01.7**	**+1.8**
	comp=N,1.3nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**14 52 35.7**	**-1.5**
	comp=N,5.7nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**3.15**	**47**	P		**Pn**		**14 52 01.7**	**+1.8**
	comp=N,1.3nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**14 52 35.7**	**-1.5**
	comp=N,5.7nm,0.2s,SNR=7.9								
PMAFR	**Mafra**	**3.24**	**334**	P		**Pn**		**14 52 02.2**	**+1.1**
	comp=N,9.5nm,0.1s,SNR=7.9								
PMAFR				S		**Sn**		**14 52 38.9**	**-0.5**
	comp=N,22nm,0.2s,SNR=7.9								
PMAFR	**Mafra**	**3.24**	**334**	P		**Pn**		**14 52 02.2**	**+1.1**
	comp=N,9.5nm,0.1s,SNR=7.9								
PMAFR				S		**Sn**		**14 52 38.9**	**-0.5**
	comp=N,22nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**3.26**	**75**	P		**Pn**		**14 52 02.1**	**+0.7**
	comp=N,1.9nm,0.3s,SNR=7.9								
EGUA				S		**Sn**		**14 52 39.7**	**-0.2**
	comp=N,2.3nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**3.26**	**75**	P		**Pn**		**14 52 02.1**	**+0.7**
	comp=N,1.9nm,0.3s,SNR=7.9								
EGUA				S		**Sn**		**14 52 39.7**	**-0.2**
	comp=N,2.3nm,0.3s,SNR=7.9								
PMRV	**Marv??o**	**3.38**	**1**	*ePn*		**Pn**		**14 52 04.5**	**+1.5**
PMRV				*eSn*		**Sn**		**14 52 42.6**	**-0.3**
PMRV				A		A		14 52 45.0	
	comp=N,10nm,0.1s								
PMRV	**Marv??o**	**3.38**	**1**	Pn		**Pn**		**14 52 04.5**	**+1.5**
PMRV				Sn		**Sn**		**14 52 42.6**	**-0.3**
	comp=N,10nm,0.1s								
PMRV	**Marv??o**	**3.38**	**1**	*ePn*		**Pn**		**14 52 04.5**	**+1.5**
PMRV				*eSn*		**Sn**		**14 52 42.6**	**-0.3**
	comp=N,10nm,0.1s								
EQUE	**Quentar**	**3.46**	**69**	P		**Pn**		**14 52 06.0**	**+1.8**
	comp=N,1.6nm,0.1s,SNR=7.9								
EQUE				S		**Sn**		**14 52 45.7**	**+0.8**
	comp=N,1.4nm,0.1s,SNR=7.9								
EQUE	**Quentar**	**3.46**	**69**	P		**Pn**		**14 52 06.0**	**+1.8**
	comp=N,1.6nm,0.1s,SNR=7.9								
EQUE				S		**Sn**		**14 52 45.7**	**+0.8**
	comp=N,1.4nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**3.64**	**53**	P		**Pn**		**14 52 07.9**	**+1.3**
	comp=N,3.8nm,0.1s,SNR=7.9								
EBAN				S		**Sn**		**14 52 47.8**	**-1.5**
	comp=N,10nm,0.4s,SNR=7.9								
EBAN	**Banos Encina**	**3.64**	**53**	P		**Pn**		**14 52 07.9**	**+1.3**
	comp=N,3.8nm,0.1s,SNR=7.9								
EBAN				S		**Sn**		**14 52 47.8**	**-1.5**
	comp=N,10nm,0.4s,SNR=7.9								
PTOM	**Tomar**	**3.64**	**349**	*ePn*		**Pn**		**14 52 08.1**	**+1.5**
PTOM				*eSn*		**Sn**		**14 52 49.3**	**0.0**
PTOM				A		A		14 52 50.1	
	comp=N,13nm,0.2s								
PTOM	**Tomar**	**3.64**	**349**	Pn		**Pn**		**14 52 08.1**	**+1.5**
PTOM				Sn		**Sn**		**14 52 49.3**	**0.0**
	comp=N,6.3nm,0.2s								
PTOM	**Tomar**	**3.64**	**349**	*ePn*		**Pn**		**14 52 08.1**	**+1.5**
PTOM				*eSn*		**Sn**		**14 52 49.3**	**0.0**
	comp=N,13nm,0.2s								
PCBR	**Castelo Branco**	**3.79**	**0**	*ePn*		**Pn**		**14 52 10.2**	**+1.5**
PCBR				*eSn*		**Sn**		**14 52 52.6**	**-0.4**
PCBR				A		A		14 52 55.0	
	comp=N,12nm,0.3s								
PCBR	**Castelo Branco**	**3.79**	**0**	Pn		**Pn**		**14 52 10.2**	**+1.5**
PCBR				Sn		**Sn**		**14 52 52.6**	**-0.4**
	comp=N,6.2nm,0.3s								
PCBR	**Castelo Branco**	**3.79**	**0**	*ePn*		**Pn**		**14 52 10.2**	**+1.5**
PCBR				*eSn*		**Sn**		**14 52 52.6**	**-0.4**
	comp=N,12nm,0.3s								
EQES	**Quesada**	**3.95**	**62**	P		**Pn**		**14 52 12.7**	**+1.7**
	comp=N,1.4nm,0.2s,SNR=7.9								
EQES				S		**Sn**		**14 52 56.4**	**-0.7**
	comp=N,1.8nm,0.2s,SNR=7.9								
EQES	**Quesada**	**3.95**	**62**	P		**Pn**		**14 52 12.6**	**+1.7**
	comp=N,1.4nm,0.2s,SNR=7.9								
EQES				S		**Sn**		**14 52 56.4**	**-0.7**
	comp=N,1.8nm,0.2s,SNR=7.9								
PCAS	**Casmilo, Conde**	**4.08**	**349**	*ePn*		**Pn**		**14 52 14.3**	**+1.6**
PCAS	**Casmilo, Conde**	**4.08**	**349**	*ePn*		**Pn**		**14 52 14.3**	**+1.6**
EPLA	**Plasencia**	**4.17**	**15**	P		**Pn**		**14 52 16.1**	**+2.2**
	comp=N,1.3nm,0.2s,SNR=7.9								
EPLA				S		**Sn**		**14 53 01.7**	**-0.6**
	comp=N,3.5nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**4.17**	**15**	P		**Pn**		**14 52 16.1**	**+2.2**
	comp=N,1.3nm,0.2s,SNR=7.9								
EPLA				S		**Sn**		**14 53 01.7**	**-0.6**
	comp=N,3.5nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**4.29**	**34**	P		**Pn**		**14 52 17.7**	**+2.1**
	comp=N,3.6nm,0.1s,SNR=7.9								
PAB				S		**Sn**		**14 53 03.6**	**-1.8**
	comp=N,13nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**4.29**	**34**	P		**Pn**		**14 52 17.7**	**+2.1**
	comp=N,3.6nm,0.1s,SNR=7.9								
PAB				S		**Sn**		**14 53 03.6**	**-1.8**
	comp=N,13nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**4.30**	**64**	P		**Pn**		**14 52 17.3**	**+1.5**
	comp=N,1.8nm,0.1s,SNR=7.9								
EHUE				S		**Sn**		**14 53 04.9**	**-0.8**
	comp=N,0.8nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**4.30**	**64**	P		**Pn**		**14 52 17.3**	**+1.5**
	comp=N,1.8nm,0.1s,SNR=7.9								
EHUE				S		**Sn**		**14 53 04.9**	**-0.8**
	comp=N,0.8nm,0.2s,SNR=7.9								
MTE	**Manteigas**	**4.35**	**359**	*ePn*		**Pn**		**14 52 17.8**	**+1.4**
MTE				*eSn*		**Sn**		**14 53 06.0**	**-0.9**
MTE				A		A		14 53 08.8	
	comp=N,7.7nm,0.3s								
MTE	**Manteigas**	**4.35**	**359**	Pn		**Pn**		**14 52 17.8**	**+1.4**
MTE				Sn		**Sn**		**14 53 06.0**	**-0.9**
	comp=N,3.8nm,0.3s								
MTE	**Manteigas**	**4.35**	**359**	*ePn*		**Pn**		**14 52 17.8**	**+1.4**
MTE				*eSn*		**Sn**		**14 53 06.0**	**-0.9**
	comp=N,7.7nm,0.3s								
SESP	**Santiago Espad**	**4.46**	**61**	P		**Pn**		**14 52 19.4**	**+1.4**
	comp=N,2.5nm,0.2s,SNR=7.9								
SESP				S		**Sn**		**14 53 08.4**	**-1.4**
	comp=N,3.7nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**4.46**	**61**	P		**Pn**		**14 52 19.4**	**+1.4**
	comp=N,2.5nm,0.2s,SNR=7.9								
SESP				S		**Sn**		**14 53 08.4**	**-1.4**
	comp=N,3.7nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**4.58**	**37**	P		**Pn**		**14 52 22.3**	**+2.8**
	comp=N,1.5nm,0.1s,baz=218,slow=14,SNR=7.9								
ESDC				S		**Sn**		**14 53 10.5**	**-1.9**
	comp=N,1.0nm,0.3s,baz=218,slow=24,SNR=7.9								
ESDC	**Sonseca Array**	**4.58**	**37**	P		**Pn**		**14 52 22.3**	**+2.8**
	comp=N,1.5nm,0.1s,SNR=7.9								
ESDC				S		**Sn**		**14 53 10.5**	**-1.9**
	comp=N,1.0nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**5.13**	**4**	*ePn*		**Pn**		**14 52 28.5**	**+1.4**
MVO				*eSn*		**Sn**		**14 53 24.1**	**-1.9**
MVO				A		A		14 53 27.6	
	comp=N,8.7nm,0.2s								
MVO	**Moncorvo**	**5.13**	**4**	P		**Pn**		**14 52 28.5**	**+1.4**
	comp=N,3.9nm,0.2s,SNR=7.9								
MVO				S		**Sn**		**14 53 24.6**	**-1.4**
	comp=N,15nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**5.13**	**4**	P		**Pn**		**14 52 28.5**	**+1.4**
	comp=N,3.9nm,0.2s,SNR=7.9								
MVO				*eSn*		**Sn**		**14 53 24.1**	**-1.9**
	comp=N,8.7nm,0.2s								
MVO				S		**Sn**		**14 53 24.6**	**-1.4**
	comp=N,15nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**5.29**	**29**	P		**Pn**		**14 52 30.5**	**+1.1**
	comp=N,1.1nm,0.3s,SNR=7.9								
GUD				S		**Sn**		**14 53 28.6**	**-1.5**
	comp=N,2.2nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**5.29**	**29**	P		**Pn**		**14 52 30.5**	**+1.1**
	comp=N,1.1nm,0.3s,SNR=7.9								
GUD				S		**Sn**		**14 53 28.6**	**-1.5**
	comp=N,2.2nm,0.2s,SNR=7.9								
POLO	**Lamas de Olo**	**5.33**	**358**	*ePn*		**Pn**		**14 52 31.0**	**+1.1**
POLO				*eSn*		**Sn**		**14 53 30.2**	**-0.8**
POLO				A		A		14 53 32.1	
	comp=N,5.1nm,0.3s								
POLO	**Lamas de Olo**	**5.33**	**358**	*ePn*		**Pn**		**14 52 31.0**	**+1.1**
POLO				*eSn*		**Sn**		**14 53 30.2**	**-0.8**
	comp=N,5.1nm,0.3s								
ETOB	**Tobarra**	**5.40**	**59**	⇑P		**Pn**		**14 52 31.7**	**+0.9**
	comp=N,5.1nm,0.2s,SNR=18								
ETOB				S		**Sn**		**14 53 30.2**	**-2.5**
	comp=N,3.4nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**5.40**	**59**	P		**Pn**		**14 52 31.7**	**+0.9**
	comp=N,5.1nm,0.2s,SNR=18								
ETOB				S		**Sn**		**14 53 30.2**	**-2.5**
	comp=N,3.4nm,0.2s,SNR=7.9								
PBRG	**Braganca**	**5.79**	**6**	*eSn*		**Sn**		**14 53 40.1**	**-2.1**
PBRG				A		A		14 53 42.1	
	comp=N,4.8nm,0.2s								
PBRG	**Braganca**	**5.79**	**6**	Sn		**Sn**		**14 53 40.1**	**-2.1**
	comp=N,2.4nm,0.2s								
PBRG	**Braganca**	**5.79**	**6**	*eSn*		**Sn**		**14 53 40.1**	**-2.1**
	comp=N,4.8nm,0.2s								
ELOB	**Lobios**	**5.83**	**356**	P		**Pn**		**14 52 38.0**	**+1.2**
	comp=N,0.8nm,0.1s,SNR=7.9								
ELOB				S		**Sn**		**14 53 41.4**	**-2.

BVAR	**Borovoye Array**	**150.12**	**47**	PKPbc	**PKPbc**		**15 12 19.4**	**+2.1**
	0.9nm,0.7s,baz=309,slow=4.6,SNR=4.9							

*NAO **08** 14:56:47.6±1.6, 67.°54N×34.°00E, ML2.7*
*HEL **08** 14:56:48.3±0.6, 67.°61N×34.°01E, h0km, ML2.1, Explosion*
*CSEM **08** 14:56:48.8±0.8, 67.°50N×33.°69E, h2km, ML2.7, Error ellipse: s-maj=15.7km s-min=7.8km az=96.0, Mining explosion.*
*KOLA **08** 14:56:49.4, 67.°65N×33.°88E, h0km*
ISC 08 14:56:47.4±1.8, **67.°67N**±0.°05×**33.°99E**±0.°09, **h0km**, **n33**, **s0°91/51**, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.24**	**247**	P	**Pg**	**14 56 53.0**	**+1.0**
APA				S	**Sg**	**14 56 55.6**	**+0.4**
APA0	**Apatity Array**	**0.39**	**262**	Pg	**Pg**	**14 56 55.3**	**+0.5**
	baz=100,slow=16						
APA0				Lg	Lg	14 57 00.3	
	baz=97,slow=37						
APA0				Rg	Rg	14 57 02.9	
	baz=87,slow=37						
APA0	**Apatity Array**	**0.39**	**262**	Pg	**Pg**	**14 56 55.3**	**+0.5**
	baz=100,slow=16						
APA0				Lg	Lg	14 57 00.3	
	baz=97,slow=37						
APA0				Rg	Rg	14 57 02.9	
	baz=87,slow=37						
APA0	**Apatity Array**	**0.39**	**262**	Pg	**Pg**	**14 56 55.3**	**+0.5**
	SNR=390						
APA0				Lg	Lg	14 57 00.3	
APA0	**Apatity Array**	**0.39**	**262**	P	**Pg**	**14 56 55.5**	**+0.7**
APA0				S	**Sg**	**14 57 00.0**	**+0.2**
VRF	**Varrio**	**1.67**	**275**	PG	**Pn**	**14 57 18.2**	**+0.2**
	baz=90						
VRF				SN	**Sn**	**14 57 39.5**	**-0.5**
VRF				MSG		14 57 39.5	
	comp=Z,24nm,0.2s						
VRF	**Varrio**	**1.67**	**275**	Pg	**Pn**	**14 57 18.1**	**+0.2**
VRF				Sn	**Sn**	**14 57 39.5**	**-0.5**
KU6	**Riekki**	**2.31**	**226**	PG	**Pn**	**14 57 28.2**	**+1.5**
	baz=44						
KU6				SG	**Sb**	**14 57 58.3**	**-0.6**
KU6	**Riekki**	**2.31**	**226**	Pg	**Pn**	**14 57 28.1**	**+1.5**
KU6				Sg	**Sb**	**14 57 58.3**	**-0.6**
MSF	**Maaselka**	**2.64**	**230**	PG	**Pb**	**14 57 34.5**	**-0.9**
MSF				SG	**Sb**	**14 58 08.2**	**-0.1**
MSF				MSG		14 58 08.2	
	comp=Z,5.3nm,0.2s						
MSF	**Maaselka**	**2.64**	**230**	Pg	**Pb**	**14 57 34.5**	**-0.9**
MSF				Sg	**Sb**	**14 58 08.2**	**-0.1**
SGF	**Sodankyl**	**2.87**	**269**	PN	**Pn**	**14 57 35.0**	**+0.7**
SGF				SG	**Sb**	**14 58 15.6**	**+0.5**
SGF				MSG		14 58 15.6	
	comp=Z,9.0nm,0.2s						
SGF	**Sodankyl**	**2.87**	**269**	Pn	**Pn**	**14 57 35.0**	**+0.7**
SGF				Sg	**Sb**	**14 58 15.6**	**+0.5**
RNF	**Rovaniemi**	**3.29**	**255**	PN	**Pn**	**14 57 40.8**	**+0.6**
RNF				SN	**Sn**	**14 58 21.2**	**+1.4**
RNF				MSG		14 58 21.2	
	comp=Z,6.2nm,0.2s						
RNF	**Rovaniemi**	**3.29**	**255**	Pn	**Pn**	**14 57 40.7**	**+0.6**
RNF				Sn	**Sn**	**14 58 21.2**	**+1.4**
KEV	**Kevo**	**3.30**	**313**	PN	**Pn**	**14 57 41.9**	**+1.7**
KEV				SN	**Sn**	**14 58 20.9**	**+0.8**
KEV				MSG		14 58 20.9	
	comp=Z,4.2nm,0.2s						
KEV	**Kevo**	**3.30**	**313**	Pn	**Pn**	**14 57 41.9**	**+1.7**
KEV				Sn	**Sn**	**14 58 20.8**	**+0.8**
ARA0	**ARCESS Array S**	**3.63**	**305**	Pn	**Pn**	**14 57 45.8**	**+1.0**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**14 58 27.8**	**-0.5**
	baz=123,slow=22						
ARA0				Lg	Lg	14 58 42.3	
	baz=124,slow=28						
ARA0	**ARCESS Array S**	**3.63**	**305**	Pn	**Pn**	**14 57 45.8**	**+1.0**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**14 58 27.8**	**-0.6**
	baz=123,slow=22						
ARA0				Lg	Lg	14 58 42.3	
	baz=124,slow=28						
ARA0	**ARCESS Array S**	**3.63**	**305**	Pn	**Pn**	**14 57 45.8**	**+1.0**
	SNR=213						
ARA0				Sn	**Sn**	**14 58 27.8**	**-0.5**
	SNR=0.5						
HEF	**Hetta**	**3.95**	**286**	PN	**Pn**	**14 57 50.1**	**+0.9**
	baz=97						
HEF				SN	**Sn**	**14 58 36.5**	**+0.3**
HEF				MSG		14 58 36.5	
	comp=Z,2.9nm,0.2s						
HEF	**Hetta**	**3.95**	**286**	Pn	**Pn**	**14 57 50.1**	**+0.9**
HEF				Sn	**Sn**	**14 58 36.5**	**+0.3**
OUL	**Oulu**	**4.16**	**235**	PB	**Pb**	**14 57 59.1**	**-2.2**
	baz=48						
OUL	**Oulu**	**4.16**	**235**	Pb	**Pb**	**14 57 59.1**	**-2.2**
LANU	**Lannavaara**	**4.56**	**280**	PN	**Pn**	**14 57 57.2**	**-0.3**
LANU	**Lannavaara**	**4.56**	**280**	Pn	**Pn**	**14 57 57.2**	**-0.3**
ERTU	**Ertsjaerv**	**4.74**	**262**	PN	**Pn**	**14 58 00.1**	**+0.1**
ERTU				SN	**Sn**	**14 58 55.6**	**0.0**
ERTU	**Ertsjaerv**	**4.74**	**262**	Pn	**Pn**	**14 58 00.1**	**+0.1**
ERTU				Sn	**Sn**	**14 58 55.6**	**0.0**
FIA0	**FINESS Array S**	**7.11**	**212**	Lg	Lg	15 00 22.6	
	baz=45,slow=22						
FIA0	**FINESS Array S**	**7.11**	**212**	Lg	Lg	15 00 22.6	
	baz=45,slow=22						
FIA0	**FINESS Array S**	**7.11**	**212**	Lg	Lg	15 00 22.6	
SPA0	**Spitsbergen Ar**	**11.67**	**342**	Pn	**Pn**	**14 59 34.0**	**-0.9**
	baz=140,slow=18						
SPA0	**Spitsbergen Ar**	**11.67**	**342**	Pn	**Pn**	**14 59 34.0**	**-0.9**
	baz=140,slow=18						

*IDC **08** 14:57:48.1±0.5, 18.°11S×168.°35E, h0km, mb4.7/23, mb1 4.8/24, mb1mx4.7/33, mbtmp4.7/24, ML4.8/1, MS4.6/25, Ms1 4.6/25, ms1mx4.4/36, Error ellipse: s-maj=17.8km s-min=13.2km az=101.0*
*MOS **08** 14:57:51.4±1.2, 18.°15S×168.°30E, h33km, mb5.1/20, MS4.8/4, Error ellipse: s-maj=12.1km s-min=10.7km az=98.6*
*ISCJB **08** 14:57:51.2±0.2, 18.°12S±0.°04×168.°27E±0.°06, h32km, mb4.9/54, MS4.7/33, Error ellipse: s-maj=8.1km s-min=5.3km az=178.1*
*NEIC **08** 14:57:53.0±0.2, 18.°15S×168.°29E, h35km, mb5.2/26, Error ellipse: s-maj=8.0km s-min=6.6km az=100.0*
NEIC Felt [IV] at Port-Vila. Also felt at Lakatoro.
*GCMT **08** 14:57:53.0±0.2, 18.°23S×168.°21E, h40km±1km, MW5.2/89, Moment Tensor Solution. s64,c106; s89,c153; Duration: 1!0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08±.02; $M_{\theta\theta}$0.53±.02; $M_{\phi\phi}$-0.44±.02; $M_{r\theta}$-0.66±.03; $M_{\theta\phi}$0.28±.01; $M_{\phi r}$0.22±.02; Best double couple: M_o0.89100×10^{17} NP1:ϕ_s115.00000°, δ87.00000°, λ-52.00000°. NP2:ϕ_s208.00000°, δ38.00000°, λ-175.00000°. Principal axes: T 0.9620, Plg31.0000°, Azm174.0000°; N -0.1430, Plg38.0000°, Azm292.0000°; P -0.8200, Plg36.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **08** 14:58:01.4, 18.°10S×168.°20E, h115km, mB5.0/17, mb4.7/29*
ISC 08 14:57:52.7±0.3, **18.°08S**±0.°05×**168.°18E**±0.°08, **h32km**, **n209**, **s1°82/180**, **mb5.0/53**, **MS4.8/33**, **11C-2D**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.29**	**202**	*e*Pn	**Pn**	**14 58 55.8**	**-0.1**
	153nm,0.2s						
DZM				*e*Sn	**Sn**	**14 59 39.8**	**-5.1**
	1μm,0.3s						
DZM				*e*LR	LR	14 59 49.2	
	26μm,24.6s						
DZM	**Mont Dzumac**	**4.29**	**202**	Pn	**Pn**	**14 58 55.1**	**-0.8**
	50nm,0.3s,baz=201,slow=16,SNR=85						
DZM				Sn	**Sn**	**14 59 41.0**	**-4.0**
	56nm,0.3s,baz=81,slow=18,SNR=3.4						
DZM				LR	LR	14 59 44.8	
	comp=Z,2μm,20.5s,baz=1.0,slow=27						
DZM	**Mont Dzumac**	**4.29**	**202**	*e*Pn	**Pn**	**14 58 54.8**	**-1.1**
DZM				*e*Sn	**Sn**	**14 59 45.6**	**+0.7**
HNR	**Honiara**	**11.73**	**316**	LR	LR	15 05 30.2	
	comp=Z,2μm,18.1s,baz=146,slow=39						

OUZ	**Omahuta**	**17.74**	**165**	*e*Pn	**Pn**	**15 01 56.6**	**-0.6**
TARA	**Tarawa**	**19.87**	**14**	*e*P	**P**	**15 02 20.8**	**-0.6**
	356nm,1.2s						
CTA	**Charters Tower**	**20.81**	**261**	P	Pn	15 02 35.0	+0.8
CTA	**Charters Tower**	**20.81**	**261**	P	Pn	15 02 35.0	+0.7
	22nm,0.8s,baz=95,slow=11,SNR=24						
CTA				LR	LR	15 09 60.0	
	comp=Z,3μm,19.1s,baz=84,slow=35						
URZ	**Urewera**	**21.57**	**161**	P	**P**	**15 02 40.1**	**+0.5**
	36nm,0.8s,baz=337,slow=5.3,SNR=15						
URZ				LR	LR	15 09 38.8	
	comp=Z,3μm,21.0s,baz=353,slow=33						
PMG	**Port Moresby**	**22.14**	**290**	*c i*P	**P**	**15 02 49.0**	**+3.1**
PMG				pmax	pmax		
	comp=Z,33nm,1.2s						
PMG	**Port Moresby**	**22.14**	**290**	P	P	15 02 50.9	+4.9
	comp=Z,21nm,0.8s,baz=122,slow=6.8,SNR=9.9						
PMG				LR	LR	15 09 48.4	
	comp=Z,1μm,19.2s,baz=82,slow=32						
PMG	**Port Moresby**	**22.14**	**290**	P	**P**	**15 02 46.1**	**+0.1**
	comp=Z,11nm,0.9s						
THZ	**Tophouse**	**23.95**	**171**	PN	**P**	**15 03 04.5**	**+0.3**
CAN	**Canberra**	**24.18**	**221**	*e*P	**P**	**15 03 07.3**	**+0.9**
CAN				pmax	pmax		
	comp=Z,59nm,1.0s						
CAN	**Canberra**	**24.18**	**221**	*e*P	**P**	**15 03 07.3**	**+0.9**
	comp=Z,58nm,1.0s						
COEN	**Coen**	**24.37**	**276**	*e*P	**P**	**15 03 09.2**	**+1.0**
	comp=Z,58nm,1.4s						
KHZ	**Kahutara**	**24.69**	**170**	*e*P	**P**	**15 03 08.7**	**-2.1**
	comp=Z,82nm,1.0s						
LTZ	**Lake Taylor**	**24.87**	**173**	*e*PN	**P**	**15 03 12.9**	**+0.4**
OXZ	**Oxford**	**25.38**	**173**	*e*PN	**P**	**15 03 17.0**	**0.0**
FOZ	**Fox Glacier**	**25.44**	**177**	*e*PN	**P**	**15 03 18.2**	**+0.7**
RPZ	**Rata Peaks**	**25.67**	**175**	*e*P	**P**	**15 03 16.3**	**-3.4**
	comp=Z,106nm,1.0s						
ODZ	**Otahua Downs**	**26.96**	**176**	*e*P	**P**	**15 03 30.5**	**-0.8**
	comp=Z,47nm,1.1s						
WB2	**Warramunga Arr**	**32.00**	**261**	*e*P	**P**	**15 04 14.7**	**-1.8**
WRAB	**Tennant Creek**	**32.01**	**261**	*e*P	**P**	**15 04 16.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**32.01**	**261**	*e*P	**P**	**15 04 16.2**	**-0.1**
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**32.02**	**261**	*i* P	**P**	**15 04 16.2**	**-0.3**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**32.02**	**261**	P	**P**	**15 04 16.3**	**-0.2**
	comp=Z,4.8nm,1.1s,baz=84,slow=7.0,SNR=24						
WRA				LR	LR	15 16 09.1	
	comp=Z,2μm,20.7s,baz=90,slow=34						
AS31	**Alice Springs**	**32.45**	**254**	*e*P	**P**	**15 04 20.6**	**+0.3**
ASAR	**Alice Springs**	**32.45**	**254**	P	**P**	**15 04 20.6**	**+0.3**
	comp=Z,11nm,0.5s,baz=82,slow=8.5,SNR=162						
ASAR				LR	LR	15 17 01.8	
	comp=Z,3μm,20.5s,baz=86,slow=35						
SMPI	**Sarmi**	**33.03**	**296**	P	**P**	**15 04 28.1**	**+2.7**
	comp=Z,47nm,0.9s,comp=Z,2μm						
TBI	**Tubuai**	**39.87**	**105**	*e*S	S	15 11 33.9	+7.4
	comp=Z,131nm,28.2s						
TBI				*e*LQ	LQ	15 14 36.0	
	comp=Z,3μm,27.2s						
TBI				*e*LR	LR	15 16 14.9	
	comp=Z,522nm,29.5s						
PPT2	**Papeete2**	**40.16**	**96**	*e*S	**S**	**15 11 35.7**	**+4.6**
	comp=Z,184nm,24.8s						
PPT2				*e*LQ	LQ	15 14 46.1	
	comp=Z,3μm,27.2s						
PPT2				*e*LR	LR	15 16 27.0	
	comp=Z,1μm,26.0s						
PPT	**Papeete**	**40.16**	**96**	LR	LR	15 18 19.0	
	comp=Z,369nm,21.4s,baz=258,slow=31						
SOEI	**Soe**	**43.33**	**275**	*e*P	**P**	**15 05 53.5**	**+1.2**
	comp=Z,35nm,0.8s						
BATI	**Baumata**	**43.78**	**274**	P	**P**	**15 05 58.3**	**+2.5**
	comp=Z,54nm,0.9s,baz=270,slow=5.0,SNR=7.3						
BATI				LR	LR	15 24 18.6	
	comp=Z,449nm,18.6s,baz=135,slow=36						
LUWI	**Luwuk**	**47.68**	**286**	P	**P**	**15 06 25.7**	**-0.8**
	comp=Z,104nm,1.1s						
NWAO	**Narrogin (SRO)**	**47.86**	**242**	P	**P**	**15 06 28.5**	**+0.7**
	comp=Z,14nm,0.7s,baz=89,slow=6.8,SNR=15						
KAPI	**Kappang**	**49.03**	**279**	*e*P	**P**	**15 06 39.0**	**+1.9**
	comp=Z,76nm,1.4s						
DRV	**Dumont d'Urvil**	**51.90**	**194**	S	**S**	**15 14 19.0**	**+0.6**
DRV				L	L	15 19 00.0	
DRV				R		15 22 00.0	
RKT	**Rikitea**	**53.18**	**106**	*e*S	S	15 14 44.4	+7.3
	comp=Z,472nm,29.5s						
VNDA	**Vanda**	**59.55**	**182**	P	**P**	**15 07 52.3**	**-0.4**
	comp=Z,5.2nm,1.1s,baz=357,slow=7.4,SNR=11						
VNDA				LR	LR	15 30 04.1	
	comp=Z,626nm,21.9s,baz=16,slow=32						
SBA	**Scott Base**	**59.81**	**180**	*e*P	**P**	**15 07 53.2**	**-1.2**
SBA				pmax	pmax		
	comp=Z,64nm,1.3s						
SBA	**Scott Base**	**59.81**	**180**	*e*P	**P**	**15 07 53.2**	**-1.2**
	comp=Z,64nm,1.3s						
KSM	**Kuhing**	**60.14**	**283**	*e*P	**P**	**15 07 59.0**	**+1.3**
	comp=Z,30nm,0.8s						
MJAR	**Matsushiro Arr**	**61.26**	**333**	P	**P**	**15 08 05.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=169,slow=7.6,SNR=5.8						
MJAR				LR	LR	15 37 14.5	
	comp=Z,102nm,18.2s,baz=145,slow=39						
MAJO	**Matsushiro**	**61.27**	**333**	*e*P	**P**	**15 08 07.2**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,26nm,1.2s						
MAT	**Matsushiro**	**61.27**	**333**	P	**P**	**15 08 03.7**	**-1.2**
JNU	**Nakatsue**	**62.14**	**325**	LR	LR	15 32 36.5	
	comp=Z,236nm,21.2s,baz=127,slow=34						
YHNB	**Yeheng**	**62.33**	**312**	P	**P**	**15 08 12.8**	**+0.4**
KUR	**Kuril'sk**	**65.66**	**344**	P	P	15 08 27.2	-6.6
KUR				*i*		15 11 03.1	
KUR				*i* PPP	PPP	15 12 43.0	
KUR				pmax	pmax		
	comp=Z,206nm,2.2s						
KUR				pmax	pmax		
	comp=N,48nm,1.1s						
KUR				pmax	pmax		
	comp=E,40nm,1.1s						
KUR				MLR	MLR		
	comp=N,519nm,16.0s						
KUR				MLR	MLR		
	comp=Z,628nm,16.0s						
ASAJ	**Asahikawa**	**66.17**	**340**	P	**P**	**15 08 39.5**	**+2.4**
	comp=Z,4.8nm,0.8s,baz=196,slow=5.1,SNR=6.0						
ASAJ				LR	LR	15 33 26.5	
	comp=Z,1μm,21.2s,baz=178,slow=32						
SSE	**Sheshan**	**66.54**	**317**	P	**P**	**15 08 40.7**	**+1.0**
SSE				S	**S**	**15 17 23.2**	**-5.4**
SSE				PMZ			
	comp=Z,32nm,0.8s						
SSE				PMZ			
	comp=Z,120nm,4.0s						
SSE				LN			
	comp=Z,150nm,18.4s						
SSE				LE			
	comp=Z,180nm,18.4s						
SSE				LZ			
	comp=Z,320nm,22.6s						
KSRS	**Korea Array**	**66.99**	**326**	P	**P**	**15 08 44.2**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=123,slow=8.7,SNR=8.4						
KSRS				LR	LR	15 35 08.6	
	comp=Z,124nm,21.4s,baz=142,slow=33						
KSAR	**Wonju Array Be**	**67.00**	**326**	P	**P**	**15 08 44.3**	**+1.8**
KSAR	**Wonju Array Be**	**67.00**	**326**	P	**P**	**15 08 44.2**	**+1.8**
YSS	**Yuzh-Sakhalins**	**68.67**	**342**	*e*P	P	15 08 48.0	-4.8
YSS				*e*		15 09 02.5	
YSS				MLR	MLR		
	comp=Z,900nm,19.0s						
IPM	**Ipoh**	**69.86**	**282**	*e*P	**P**	**15 09 01.1**	**+0.1**
	comp=Z,12nm,0.8s						
MNSI	**Mandailing Nat**	**69.95**	**278**	P	P	15 09 07.1	+5.6
	comp=Z,34nm,0.8s,comp=Z,2μm						
USRK	**Ussuriysk Ar.**	**70.25**	**333**	P	**P**	**15 09 04.3**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=135,slow=5.3,SNR=10.0						
USRK				LR	LR	15 37 51.4	
	comp=Z,328nm,20.0s,baz=130,slow=34						
PET	**Petropavlovsk**	**71.29**	**354**	*e*P	**P**	**15 09 07.5**	**-1.2**
PET				*e*'PP	PcP	15 09 33.7	+5.3
PET				*e*S	**S**	**15 18 18.4**	**-5.5**
PET				pmax	pmax		
	comp=Z,400nm,5.4s						
PETK	**Petropavlovsk-**	**71.47**	**353**	P	**P**	**15 09 11.2**	**+1.3**
	comp=Z,5.8nm,0.7s,baz=143,slow=8.4,SNR=5.2						
PETK				LR	LR	15 36 53.9	
	comp=Z,606nm,20.4s,baz=168,slow=33						

QSPA	**South Pole Qui**	**71.97**	**180**	P	**P**	**15 09 13.4**	**+0.4**
	comp=Z,13nm,0.9s,baz=17,slow=3.1,SNR=24						
QSPA	**South Pole Qui**	**71.97**	**180**	*e*P	**P**	**15 09 13.1**	**0.0**
	comp=Z,50nm,0.9s						
HABR	**Khabarovsk**	**72.55**	**338**	*e*P	**P**	**15 09 16.3**	**-0.1**
HABR				*e*		15 09 32.7	
HABR				*e*		15 11 58.3	
HABR				*e*PPP	PPP	15 13 42.9	
HABR				*e*S	**S**	**15 18 33.6**	**-5.0**
HABR				*e*		15 19 13.9	
HABR				*e*'SS	**SKSac**	**15 19 17.3**	**-1.5**
HABR				*e*SS	**SS**	**15 23 15.1**	**-3.5**
HABR				*e*SSS	SSS	15 26 35.7	
HABR				pmax	pmax		
	comp=Z,27nm,2.2s						
HABR				MLR	MLR		
	comp=Z,224nm,21.0s						
CN2	**Changchun**	**72.95**	**329**	*e*P	**P**	**15 09 20.0**	**+1.1**
CN2				PMZ			
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**74.41**	**336**	*e*P	P	15 09 24.2	-3.2
XAN	**Xi'an**	**76.59**	**313**	P	P	15 09 51.0	+11
XAN				pP	PcP	15 10 00.7	+8.9
XAN				S	**S**	**15 19 22.8**	**-1.8**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,33nm,6.3s						
XAN				LR	LR		
	comp=N,140nm,22.5s						
XAN				LR	LR		
	comp=Z,96nm,19.4s						
KMI	**Kunming**	**76.81**	**302**	P	P	15 09 47.5	+5.5
KMI				PMZ			
	comp=Z,8.0nm,0.7s						
KMI				LN			
	comp=Z,100nm,20.4s						
KMI				LE			
	comp=Z,140nm,21.4s						
KMI				LZ			
	comp=Z,170nm,17.5s						
CMAR	**Chiang Mai Arr**	**77.11**	**294**	P	**P**	**15 09 46.4**	**+2.8**
	comp=Z,2.7nm,0.9s,baz=125,slow=4.3,SNR=17						
HHC	**Hu-ho-hao-te**	**78.69**	**320**	*e*P	**P**	**15 09 54.6**	**+2.6**
HHC				pP	pP	15 10 23.6	+22
HHC				sP	sP	15 10 41.0	+35
HHC				S	S	15 19 38.6	-8.6
HHC				SS	**SS**	**15 24 52.6**	**+0.3**
HHC				PMZ			
	comp=Z,19nm,0.9s						
HHC				PMZ			
	comp=Z,110nm,4.2s						
HHC				LN			
	comp=Z,140nm,17.3s						
HHC				LE			
	comp=Z,170nm,14.8s						
HHC				LZ			
	comp=Z,190nm,16.0s						
MAW	**Mawson**	**79.12**	**202**	P	**P**	**15 09 55.5**	**+1.7**
	comp=Z,26nm,0.9s,baz=96,slow=7.5,SNR=9.0						
MAW				LR	LR	15 40 16.6	
	comp=Z,803nm,21.0s,baz=71,slow=32						
LZH	**Lanzhou**	**81.21**	**312**	*e*P	P	15 10 11.7	+5.9
LZH				PMZ			
	comp=Z,21nm,1.3s						
LZH				PMZ			
	comp=Z,75nm,6.5s						
LZH				LN			
	comp=Z,230nm,14.0s						
LZH				LE			
	comp=Z,250nm,13.8s						
LZH				LZ			
	comp=Z,290nm,17.9s						
SEY	**Seymchan**	**81.70**	**353**	P	**P**	**15 10 07.9**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=158,slow=7.5,SNR=16						
GAMB	**Gambell**	**83.08**	**9**	*e*P	**P**	**15 10 13.9**	**-0.8**
	comp=Z,6.5nm,1.0s						
IMP	**Imphal**	**83.90**	**298**	*e*P	P	15 10 27.0	+7.0
RSO	**Redoubt South**	**84.38**	**18**	*e*P	**P**	**15 10 20.8**	**-0.9**
	comp=Z,51nm,1.0s						
TNA	**Tin City**	**85.34**	**10**	*e*P	**P**	**15 10 26.1**	**0.0**
	comp=Z,21nm,1.4s						
ULN	**Ulaanbaatar**	**85.34**	**324**	*e*P	**P**	**15 10 28.0**	**+1.2**
ULN				pmax	pmax		
	comp=Z,61nm,1.4s						
ULN	**Ulaanbaatar**	**85.34**	**324**	*e*P	**P**	**15 10 28.0**	**+1.2**
	comp=Z,62nm,1.4s						
YAK	**Yakutsk**	**85.47**	**343**	*e*P	**P**	**15 10 26.4**	**-0.4**
YAK				pmax	pmax		
	comp=N,8.0nm,1.7s						
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK	**Yakutsk**	**85.47**	**343**	P	**P**	**15 10 27.3**	**+0.5**
	comp=Z,17nm,0.7s,baz=15,slow=0.7,SNR=10						
YAK	**Yakutsk**	**85.47**	**343**	*e*P	**P**	**15 10 26.4**	**-0.4**
	comp=Z,33nm,0.8s						
GTA	**Gaotai**	**85.60**	**314**	⇑P	**P**	**15 10 30.4**	**+2.1**
GTA				PMZ			
	comp=Z,9.0nm,1.1s						
GTA				PMZ			
	comp=Z,130nm,5.7s						
GTA				LN			
	comp=Z,160nm,20.4s						
GTA				LE			
	comp=Z,180nm,20.4s						
GTA				LZ			
	comp=Z,260nm,20.9s						
SONM	**Songino Array**	**85.69**	**323**	P	**P**	**15 10 29.7**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=90,slow=3.2,SNR=22						
SONM				LR	LR	15 46 29.1	
	comp=Z,169nm,21.9s,baz=116,slow=34						
SYO	**Syowa Base**	**85.76**	**196**	⇓*e*P	**P**	**15 10 27.6**	**-0.8**
BILL	**Bilibino**	**85.88**	**359**	⇓*e*P	**P**	**15 10 28.5**	**-0.3**
BILL				*e*		15 13 50.3	
BILL				*i* S	SKSac	15 20 42.4	-9.3
BILL				pmax	pmax		
	comp=Z,16nm,1.2s						
BILL	**Bilibino**	**85.88**	**359**	*e*P	**P**	**15 10 28.6**	**-0.3**
	comp=Z,51nm,1.3s						
SHL	**Shillong**	**85.92**	**298**	*e*P	**P**	**15 10 32.0**	**+1.8**
CMB	**Columbia Colle**	**87.14**	**49**	*e*P	**P**	**15 10 35.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMB	**Columbia Colle**	**87.14**	**49**	*e*P	**P**	**15 10 35.8**	**0.0**
	comp=Z,6.3nm,0.9s						
YBH	**Yreka Blue Hor**	**87.18**	**44**	LR	LR	15 43 14.3	
	comp=Z,859nm,19.8s,baz=267,slow=31						
TRF	**Thorofare Moun**	**87.46**	**17**	*e*P	**P**	**15 10 36.1**	**-0.8**
	comp=Z,5.2nm,0.8s						
BOD	**Bodaibo**	**87.86**	**334**	*e*P	**P**	**15 10 38.8**	**+0.2**
WAKR	**Walker**	**88.02**	**48**	*e*P	**P**	**15 10 40.3**	**+0.2**
	comp=Z,13nm,1.2s						
ZAK	**Zakamensk**	**88.77**	**325**	*e*P	**P**	**15 10 43.5**	**+0.2**
ZAK				pmax	pmax		
	comp=

VNA2	Neumayer--Watz	91.17	181	P	P	15 10 54.1	-0.1	
ELK	Elko	91.89	48	LR	LR	15 44 16.1		
	comp=Z,336nm,20.1s,baz=179,slow=30							
TIXI	Tiksi	93.41	348	*e*P	P	15 11 04.2	0.0	
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TIXI	Tiksi	93.41	348	*e*P	P	15 11 04.2	0.0	
	comp=Z,2.5nm,0.8s							
NEW	Newport	93.54	40	LR	LR	15 44 54.6		
	comp=Z,169nm,21.8s,baz=256,slow=30							
PDAR	Pinedale Array	96.57	47	P	P	15 11 20.2	+0.5	
	comp=Z,0.4nm,0.5s,baz=195,slow=2.9,SNR=3.6							
PDAR				LR	LR	15 49 28.9		
	comp=Z,294nm,19.6s,baz=242,slow=32							
TXAR	Lajitas Array	97.10	62	P	Pdif	15 11 23.3	+1.0	
	comp=Z,0.6nm,0.8s,baz=233,slow=6.1,SNR=4.1							
TXAR				LR	LR	15 48 12.7		
	comp=Z,321nm,19.6s,baz=0.0,slow=31							
PLCA	Paso Flores	100.06	139	LR	LR	15 47 16.8		
	comp=Z,117nm,21.2s,baz=256,slow=30							
YKA	Yellowknife Ar	100.11	27	P	Pdif	15 11 35.3	+0.6	
	comp=Z,0.3nm,0.6s,baz=255,slow=4.7,SNR=6.7							
MKAR	Makanchi Array	100.21	316	*i* P	Pdif	15 11 37.5	+1.8	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	Makanchi Array	100.21	316	P	Pdif	15 11 36.7	+1.0	
	comp=Z,1.0nm,0.5s,baz=89,slow=6.5,SNR=18							
MKAR				PKKPbc	PKKPbc	15 27 51.4	-3.1	
	comp=Z,0.3nm,0.6s,baz=260,slow=3.8,SNR=3.1							
ZALV	Zalesovo Beam	100.59	323	P	Pdif	15 11 37.5	+0.4	
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=2.8							
BVAR	Borovoye Array	108.89	321	PKiKP	PKiKP	15 16 19.2	+0.5	
	comp=Z,0.3nm,0.4s,baz=101,slow=2.9,SNR=4.3							
ARU	Arti	115.71	324	*i* PKiKP	PKPdf	15 16 31.2	-0.3	
ARU						15 17 38.1		
ARU						15 23 12.0		
ARU	Arti	115.71	324	*e*PKPdf	PKPdf	15 16 31.3	-0.2	
AKTO	Aktyubinsk	116.54	318	PKP	PKPdf	15 16 33.1	-0.2	
	comp=Z,0.8nm,0.5s,baz=94,slow=8.4,SNR=4.4							
GEYT	Alibeck	116.54	304	PKP	PKPdf	15 16 34.0	+0.2	
	comp=Z,0.6nm,0.3s,baz=140,slow=5.6,SNR=4.2							
SPITS	Spitsbergen Ar	118.34	354	PKP	PKPdf	15 16 35.2	-0.9	
	comp=Z,10nm,1.1s,baz=106,slow=4.7,SNR=6.4							
KEV	Kevo	123.17	345	*e*PKiKP	PKPdf	15 16 40.0	-5.5	
KEV	Kevo	123.17	345	*e*pkp	PKPdf	15 16 40.0	-5.5	
ARCES	ARCESS Array B	123.70	345	PKP	PKPdf	15 16 46.4	-0.2	
	comp=Z,2.9nm,0.6s,baz=66,slow=1.2,SNR=33							
JOF	Joensuu	126.30	337	*e*PKiKP	PKPdf	15 16 49.3	-2.4	
JOF	Joensuu	126.30	337	*e*pkp	PKPdf	15 16 49.3	-2.4	
VRHR	Novokhopersk	126.63	321	*e*PKiKP	PKPdf	15 16 47.6	-5.0	
VRHR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
VRHR				pmax	pmax			
	comp=N,20nm,1.4s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.6s							
KIV	Kislovodsk	127.75	312	*i* PKiKP	PKPdf	15 16 51.3	-3.9	
KIV				*e*PS	PS	15 29 01.6	-2.3	
KIV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
OBN	Obninsk	127.98	327⇑	*e*PKiKP	PKPdf	15 16 54.5	-0.6	
OBN				*e*		15 18 57.0		
OBN				*e*SS	SS	15 36 10.0	+1.0	
OBN				pmax	pmax			
	comp=Z,11nm,0.7s							
VSR	Storozhevoye	128.05	322	*e*PKiKP	PKPdf	15 16 50.4	-5.0	
VSR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
VSR				pmax	pmax			
	comp=N,10.0nm,1.5s							
VSR				pmax	pmax			
	comp=E,4.0nm,0.7s							
VORD	Divnogorie	128.06	321	*e*PKiKP	PKPdf	15 16 50.8	-4.6	
VORD				pmax	pmax			
	comp=Z,3.0nm,0.8s							
VORD				pmax	pmax			
	comp=N,8.0nm,0.4s							
VORD				pmax	pmax			
	comp=E,30nm,0.6s							
KAF	Kangasniemi	128.61	338	*e*PKiKP	PKPdf	15 16 54.5	-1.6	
KAF	Kangasniemi	128.61	338	*e*pkp	PKPdf	15 16 54.5	-1.6	
FINES	FINESS Array B	129.14	338	*ce*PKiKP	PKPdf	15 16 58.0	+0.9	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	FINESS Array B	129.14	338	PKP	PKPdf	15 16 57.9	+0.7	
	comp=Z,0.8nm,0.5s,baz=14,slow=4.0,SNR=9.5							
AKASG	Malin Array Be	133.97	325	*ce*PKiKP	PKPdf	15 17 09.1	+2.5	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	Malin Array Be	133.97	325	PKP	PKPdf	15 17 07.7	+1.1	
	comp=Z,1.2nm,0.5s,baz=51,slow=2.2,SNR=5.9							
KIEV	Kiev	133.98	325	*e*PKiKP	PKPdf	15 17 06.3	-0.3	
NB2	NORSAR Subarra	134.07	345	PKPdf	PKPdf	15 17 07.4	+0.8	
	comp=Z,1.2nm,0.8s,baz=31,slow=1.9							
NOA	NORSAR Array B	134.07	345	PKP	PKPdf	15 17 07.4	+0.8	
	comp=Z,0.7nm,0.6s,baz=32,slow=2.0,SNR=6.6							
BRTR	Keskin Array B	135.31	309	*ce*PKiKP	pPKPdf	15 17 21.8	+1.6	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR	Keskin Array B	135.31	309	PKP	PKPdf	15 17 09.8	+0.1	
	comp=Z,0.6nm,0.5s,baz=138,slow=6.5,SNR=3.5							
KOLS	Kolonicke sedl	138.71	326	*e*PKiKP	PKPdf	15 17 17.7	+2.2	
KOLS	Kolonicke sedl	138.71	326	*e*PKP	PKPdf	15 17 17.7	+2.2	
STHS	Stebnicka Huta	138.96	327	*e*PKiKP	PKPdf	15 17 16.0	0.0	
STHS	Stebnicka Huta	138.96	327	*e*PKP	PKPdf	15 17 16.0	0.0	
CRVS	Cervenica-Dubn	139.16	326	*e*PKP	pPKPdf	15 17 30.9	+4.0	
OKC	Ostrava-Krasne	140.23	330	AMS	AMS	16 16 50.0		
	comp=Z,400nm,23.2s							
KRLC	Kraliky	140.71	331	*e*PKiKP	PKPdf	15 17 22.7	+3.5	
KRLC				*e*		15 17 29.2		
KRLC	Kraliky	140.71	331	*e*PKP	PKPdf	15 17 22.7	+3.5	
KRLC				*ep*PKP	pPKPdf	15 17 29.2	-0.5	
DPC	Dobruska-Polom	140.73	331	*e*PKiKP	PKPdf	15 17 21.9	+2.7	
DPC				*e*		15 17 27.2		
DPC	Dobruska-Polom	140.73	331	*e*PKP	PKPdf	15 17 21.9	+2.7	
DPC				*ex*	x	15 17 27.2		
DPC				AMS	AMS	16 19 30.0		
PVCC	Panska Ves	141.38	333	AMS	AMS	16 17 00.0		
	comp=Z,500nm,25.7s							
BRG	Berggiesshubel	141.39	334	*e*PKP	PKPdf	15 17 24.6	+4.3	
	comp=Z,3.2nm,0.7s							
BRG	Berggiesshubel	141.39	334	*e*PKiKP	PKPdf	15 17 24.6	+4.3	
BRG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CLL	Collm	141.45	335	*e*PKiKP	pPKPdf	15 17 31.0	+0.1	
CLL				MLR	MLR			
	comp=Z,200nm,21.5s							
CLL	Collm	141.45	335	*e*PKiKP	PKiKP	15 17 23.0	-0.1	
CLL				*ep*PKPdf	pPKPdf	15 17 31.0	+0.1	
CLL				*e*SS	SS	15 38 47.0	-3.4	
CLL				*e*SSS	SSS	15 44 06.0		
CLL				*e*SSSS		15 47 42.0		
CLL				Lm	MLR	16 20 00.0		
	comp=Z,200nm,21.5s							
PRU	Pruhonice	141.79	332	AMS	AMS	16 17 20.0		
	comp=Z,400nm,17.1s							
TREC	Trest	141.86	331	AMS	AMS	16 16 30.0		
	comp=Z,500nm,21.5s							
EKA	Eskdalemuir Ar	142.23	352	PKhKP	PKPpre	15 17 18.4		
	comp=Z,0.3nm,0.3s,baz=354,slow=3.8,SNR=3.4							
NKC	Novy Kostel	142.50	334	*e*PKiKP	PKPdf	15 17 25.5	+3.2	
NKC	Novy Kostel	142.50	334	*e*PKP	PKPdf	15 17 25.5	+3.2	
KHC	Kasperske Hory	142.84	332	*e*PKiKP	PKPdf	15 17 22.5	-0.5	
KHC				*e*		15 17 30.9		
KHC				MLR	MLR			
	comp=Z,500nm,23.5s							
KHC	Kasperske Hory	142.84	332	*e*PKP	PKPdf	15 17 22.5	-0.5	
KHC				*ex*	x	15 17 28.6		
KHC				*ex*	x	15 17 30.9		
KHC				AMS	AMS	16 20 00.0		
	comp=Z,500nm,23.5s							
GERES	GERESS Array B	143.00	332	PKhKP	PKPpre	15 17 20.5		
	comp=Z,1.2nm,0.5s,baz=26,slow=3.7,SNR=14							
GRF	Grafenberg Arr	143.42	335	*e*PKP	PKPdf	15 17 28.9	+4.9	
PERS	Pernice	143.89	328	*i* PKPdf	PKPbc	15 17 23.2	+0.5	
PERS				*e*PP	PP	15 20 07.7	-30	
SOKA	Soboth	143.90	328	*i* PKPdf	PKPbc	15 17 23.3	+0.5	
	comp=Z,12nm,1.3s,SNR=5.5							
OBKA	Obir	144.26	328⇑	*i* PKPdf	PKPbc	15 17 24.4	+0.5	
	comp=Z,7.1nm,0.8s							
KBA	Koelnbreinsper	144.45	330⇑	*i* PKPdf	PKPbc	15 17 24.5	-0.1	
	comp=Z,17nm,0.7s,SNR=7.1							
MEM	Membach	144.56	340	PKP	PKPbc	15 17 25.0	+0.4	
MEM				PP	PP	15 20 08.8	-33	
DSL	Palaion Diasel	144.58	313	*e*P	PKPab	15 17 24.9	0.0	
BOJS	Bojanci	144.58	326	*i* PKPdf	PKPbc	15 17 25.4	+0.6	
BOJS				*i*		15 17 33.3		
BOJS				*i* PP	PP	15 20 09.1	-33	
LJU	Ljubljana	144.59	328	*i* PKPdf	PKPbc	15 17 25.2	+0.4	
LJU				*i*		15 17 33.2		
LJU				*e*PP	PP	15 20 08.8	-33	
VISS	Visnje	144.60	327	*i* PKPdf	PKPbc	15 17 25.4	+0.5	
VISS				*e*		15 17 35.4		
VISS				*i* PP	PP	15 20 08.8	-33	
GORS	Gorjuse	144.67	329	*e*PKPdf	PKPbc	15 17 25.4	+0.1	
PDO	Prodromos	144.76	312	*e*P	PKPbc	15 17 25.8	+0.2	
IGT	Igoumenitsa	144.92	314	*e*P	PKPbc	15 17 26.3	+0.2	
JAVS	Javornik	144.93	328	*i* PKPdf	PKPab	15 17 26.1	0.0	
JAVS				*i*		15 17 33.9		
JAVS				*e*PP	PP	15 20 09.6	-35	
BCLA	Clavier	144.95	341	PKP	PKPab	15 17 25.2	-0.5	
BCLA				PP	PP	15 20 10.3	-34	
WATA	Walderalm	145.07	332⇑	*i* PKPdf	PKPab	15 17 26.8	+0.2	
	comp=Z,16nm,0.8s							
ABTA	Abfaltersbach	145.08	330	*i* PKPdf	PKPbc	15 17 26.5	0.0	
	comp=Z,71nm,1.1s,SNR=17							
WTTA	Wattenberg	145.10	332⇓	*i* PKPdf	PKPdf	15 17 27.0	-0.2	
	comp=Z,38nm,1.1s							
SNF	Seneffe	145.18	342	PKP	PKPdf	15 17 26.8	-0.1	
SNF				PP	PP	15 20 10.6	-35	
MOTA	Moosalm	145.28	332⇑	*i* PKPdf	PKPbc	15 17 27.0	-0.2	
	comp=Z,45nm,0.9s,SNR=11							
RETA	Reutte	145.32	333	*i* PKPab	PKPdf	15 17 27.6	+0.2	
	comp=Z,30nm,1.0s,SNR=6.9							
WLF	Walferdange	145.32	339	PKP	PKPdf	15 17 28.4	+1.1	
WLF				PP	PP	15 20 12.0	-34	
VLS	Valsamata	145.36	312	*e*P	PKPab	15 17 28.3	+0.5	
DOU	Dourbes	145.45	341	PKP	PKPab	15 17 27.6	0.0	
DOU				PP	PP	15 20 11.6	-35	
BFO	Black Forest	145.66	336	*e*PKP2	PKPbc	15 17 28.3	+0.1	
BFO	Black Forest	145.66	336	*e*PKPdf	PKPbc	15 17 28.3	+0.1	
FETA	Feichten	145.69	332	*i* PKPab	PKPab	15 17 29.4	+0.6	
	comp=Z,51nm,0.9s,SNR=7.4							
DAVA	Damuels	145.86	333	*i* PKPab	PKPab	15 17 29.8	+0.3	
	comp=Z,32nm,1.1s,SNR=7.0							
DAVOX	Davos/Dischmat	146.25	333	PKPbc	PKPab	15 17 30.8	-0.3	
	comp=Z,13nm,0.6s,baz=299,slow=1.4,SNR=19							
RCBR	Riachuelo	146.40	133	*e*PKPdf	PKPdf	15 17 30.1	-0.1	
MSKU	Masuku	148.19	235	PKPbc	PKPbc	15 17 36.4	-0.1	
	comp=Z,8.1nm,0.6s,baz=192,slow=1.9,SNR=5.5							
BNI	Bardonecchia	148.98	334	*e*PKP2	PKPbc	15 17 38.4	+0.6	
BNI	Bardonecchia	148.98	334	*e*PKPbc	PKPbc	15 17 38.4	+0.6	
SSB	Saint Sauveur	149.64	337	*e*PKP2	PKPbc	15 17 39.7	+0.5	
SSB	Saint Sauveur	149.64	337	*e*PKPbc	PKPbc	15 17 39.7	+0.5	
TORD	Torodi Ar. Bea	166.09	251	PKP	PKPdf	15 17 55.0	-0.5	
	comp=Z,1.3nm,0.8s,baz=28,slow=0.6,SNR=7.1							
TORD				PKPab	PKPab	15 18 56.5	+0.5	
	comp=Z,1.7nm,0.9s,baz=95,slow=2.7,SNR=3.9							
KIC	Kosan Boka	166.46	212	*e*P	PKPab	15 19 04.6	+7.2	
	comp=Z,59nm,1.7s							
LIC	Lamto	166.48	210	*e*P	PKPab	15 19 07.4	+10	
	comp=Z,36nm,1.3s							
TIC	Toumodi	166.84	211	*e*P	PKPab	15 19 07.4	+8.3	
	comp=Z,5.5nm,0.2s							

*ISCJB **08** 15:00:35.4±0.3, 18°.16S±0°.05×168°.18E±0°.07, h35km, mb4.7/35, Error ellipse: s-maj=10.3km s-min=6.6km az=16.3*

*IDC **08** 15:00:36.0±1.9, 18°.17S×168°.32E, h26km±11km, mb4.5/22, mb1 4.6/23, mb1mx4.6/34, mbtmp4.7/23, ML5.0/1, Error ellipse: s-maj=18.6km s-min=12.7km az=100.0*

*NEIC **08** 15:00:37.9±1.9, 18°.15S×168°.26E, h44km±16km, mb4.9/16, Error ellipse: s-maj=11.0km s-min=9.1km az=56.0*

NEIC Felt at Port-Vila.

ISC 08 15:00:36.7±0.4, 18°.16S±0°.07×168°.3E±0°.1, h35km, n102, σ1°.91/99, mb4.8/34, 7C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.26	204	Pn		Pn	Pn	15 01 39.4	+0.2
	88nm,0.3s,baz=48,slow=18,SNR=12								
DZM				Sn		Sn	Sn	15 02 26.8	-1.0
	173nm,0.3s,baz=103,slow=22,SNR=9.6								
EIDS	Eidsvold	17.51	243	*e*Pn		P	P	15 04 40.4	+1.3
	27nm,1.0s								
CTA	Charters Tower	20.91	261	P		Pn		15 05 17.9	-1.1
	21nm,0.9s,baz=83,slow=14,SNR=6.0								
CTAO	Charters Tower	20.91	261	*e*P		Pn		15 05 17.4	-1.6
	26nm,0.9s								
URZ	Urewera	21.46	161	P		P	P	15 05 23.1	+1.0
	29nm,0.8s,baz=325,slow=8.2,SNR=6.6								
PMG	Port Moresby	22.27	290	*e*P		P	P	15 05 29.9	-1.1
	3.1nm,0.7s								
WRAB	Tennant Creek	32.10	261	*e*P		P	P	15 06 59.2	-1.7
	9.6nm,1.0s								
WRA	Warramunga Arr	32.11	261	P		P	P	15 07 00.4	-0.5
	3.8nm,0.9s,baz=89,slow=8.7,SNR=4.8								
AS31	Alice Springs	32.53	254	*e*P		P	P	15 07 04.2	-0.5
AS31				*e*				15 07 15.9	
ASAR	Alice Springs	32.53	254	P		P	P	15 07 04.3	-0.3
	12nm,0.8s,baz=81,slow=8.5,SNR=9.0								
ASAR				ScP		ScP	ScP	15 13 33.1	+0.8
	0.9nm,0.9s,baz=94,slow=2.9,SNR=4.6								
ASAR				PKiKP		PKiKP	PKiKP	15 17 16.6	-1.8
	0.2nm,0.5s,baz=97,slow=1.4,SNR=5.5								
NWAO	Narrogin (SRO)	47.91	242	P		P	P	15 09 12.0	+0.2
	22nm,0.7s,baz=93,slow=7.1,SNR=8.8								
KKM	Kota Kinabalu	56.71	290	*e*P		P	P	15 10 18.1	+0.6
VNDA	Vanda	59.48	182	P		P	P	15 10 36.1	+0.4
	3.7nm,1.0s,baz=15,slow=11,SNR=3.1								
SBA	Scott Base	59.73	180	*e*P		P	P	15 10 38.6	+1.2
	38nm,1.2s								
KSM	Kuching	60.26	283	*e*P		P	P	15 10 42.4	+0.3
	20nm,0.6s								
CASY	Casey	60.76	203	*e*P		P	P	15 10 42.0	-2.7
	38nm,1.4s								
MJAR	Matsushiro Arr	61.38	333	P		P	P	15 10 48.7	-0.6
	1.1nm,0.5s,baz=161,slow=6.1,SNR=4.7								
MAJO	Matsushiro	61.38	333	*e*P		P	P	15 10 48.0	-1.3
	9.9nm,0.9s								
ASAJ	Asahikawa	66.28	340	P		P	P	15 11 22.1	+0.7
	14nm,0.9s,baz=209,slow=4.0,SNR=6.7								
KSRS	Korea Array	67.11	326	P		P	P	15 11 28.4	+1.6
	1.4nm,0.5s,baz=149,slow=5.8,SNR=5.6								
KSAR	Wonju Array Be	67.12	326	P		P	P	15 11 28.4	+1.5
YSS	Yuzh-Sakhalins	68.77	342	*e*P		P	P	15 11 36.4	-0.6
	18nm,1.1s								
USRK	Ussuriysk Ar.	70.37	333	P		P	P	15 11 47.7	+0.7
	4.8nm,0.6s,baz=128,slow=4.6,SNR=12								
PETK	Petropavlovsk-	71.56	353	P		P	P	15 11 55.2	+1.3
	10nm,0.6s,baz=151,slow=9.5,SNR=10								
MDJ	Mudanjiang	71.75	332	*e*P		P	P	15 11 54.2	-1.1
	15nm,1.1s								
QSPA	South Pole Qui	71.89	180	P		P	P	15 11 56.3	+0.2
	16nm,0.9s,baz=2.4,slow=0.3,SNR=11								
CMAR	Chiang Mai Arr	77.24	294	P		P	P	15 12 29.5	+1.7
	1.0nm,0.5s,baz=139,slow=4.8,SNR=5.7								
CHTO	Chiang Mai	77.38	295	*e*P		P	P	15 12 29.2	+0.6
	5.0nm,0.9s								
MAW	Mawson	79.09	202	P		P	P	15 12 38.8	+1.6
	23nm,0.9s,baz=136,slow=5.4,SNR=7.2								
HIA	Hailar	79.73	330	*e*P		P	P	15 12 40.5	-0.4
SEY	Seymchan	81.79	353	P		P	P	15 12 51.5	0.0
	5.8nm,0.8s,baz=154,slow=8.8,SNR=11								
ULN	Ulaanbaatar	85.47	324	*e*P		P	P	15 13 10.6	-0.4
	4.0nm,0.6s								
YAK	Yakutsk	85.58	343	P		P	P	15 13 11.1	+0.1
	26nm,0.7s,baz=248,slow=0.8,SNR=7.8								
YAK	Yakutsk	85.58	343	*e*P		P	P	15 13 10.7	-0.3
	25nm,0.7s								
SONM	Songino Array	85.82	323	P		P	P	15 13 13.2	+0.5
	3.9nm,0.6s,baz=120,slow=3.6,SNR=21								
BILL	Bilibino	85.96	359	*e*P		P	P	15 13 12.2	-0.5
CMB	Columbia Colle	87.11	49	*e*P		P	P	15 13 18.1	-1.1
	11nm,0.8s								
ISA	Isabella, Lake	87.51	51	*e*P		P	P	15 13 21.5	+0.4
	8.9nm,0.8s								
NVAR	Mina Array Bea	88.77	49	P		P	P	15 13 27.8	+0.5
	4.0nm,0.7s,baz=225,slow=8.0,SNR=16								
TPH	Tonopah	89.40	50	P		P	P	15 13 29.4	-0.9
	3.7nm,0.6s								
ILAR	Eielson Array	89.48	18	P		P	P	15 13 28.3	-1.4
	1.2nm,0.6s,baz=234,slow=4.6,SNR=11								
SNAA	Sanae	90.19	183	P		P	P	15 13 33.1	-0.1
SNAA	Sanae	90.19	183	P		P	P	15 13 32.5	-0.7
	2.3nm,0.8s,baz=212,slow=10,SNR=10								
VNA3	Neumayer Olymp	90.82	181	P		P	P	15 13 35.9	-0.2
VNA2	Neumayer--Watz	91.10	181	P		P	P	15 13 37.5	+0.1
CCUT	Cedar City	92.03	51	*e*P		P	P	15 13 45.0	+2.5
	1.9nm,0.8s								
PDAR	Pinedale Array	96.55	47	P		P	P	15 14 04.0	+0.8
	0.4nm,0.6s,baz=216,slow=4.7,SNR=4.2								
TXAR	Lajitas Array	97.05	62	P		Pdif		15 14 06.7	+1.0
	0.5nm,0.7s,baz=218,slow=4.7,SNR=5.4								
YKA	Yellowknife Ar	100.13	27	P		Pdif	P	15 14 18.7	+0.3
	0.6nm,0.6s,baz=254,slow=4.6,SNR=9.5								
MKAR	Makanchi Array	100.34	316	P		Pdif	P	15 14 21.6	+1.8
	1.3nm,0.5s,baz=90,slow=6.3,SNR=20								
MKAR				PKiKP		PKiKP	P	15 18 46.9	+0.1
	0.2nm,0.5s,baz=190,slow=0.9,SNR=5.0								
ZALV	Zalesovo Beam	100.72	323	P		Pdif	P	15 14 20.9	-0.3
	0.8nm,0.6s,baz=149,slow=3.4,SNR=3.8								
BVAR	Borovoye Array	109.01	321	PKiKP		PKiKP	P	15 19 01.4	-1.1
	0.6nm,0.4s,baz=106,slow=1.9,SNR=7.0								
ARU	Arti	115.84	324	*e*P		PKPdf	P	15 19 15.2	-0.1
AKTO	Aktyubinsk	116.57	318	PKP		PKPdf	P	15 19 17.4	+0.3
	1.6nm,0.5s,baz=123,slow=6.3,SNR=8.0								
SPITS	Spitsbergen Ar	118.43	354	PKP		PKPdf	P	15 19 19.6	-0.2
	3.6nm,0.5s,baz=74,slow=6.2,SNR=16								
KEV	Kevo	123.27	345	*e*pkp		PKiKP	P	15 19 29.0	-0.5
ARCES	ARCESS Array B	123.80	345	PKP		PKPdf	P	15 19 30.4	+0.1
	4.6nm,0.4s,baz=70,slow=1.6,SNR=49								
JOF	Joensuu	126.41	337	*e*pkp		PKiKP	P	15 19 35.3	-0.6
	3.0nm,0.5s								
KAF	Kangasniemi	128.73	338	*e*pkp		PKPdf	P	15 19 39.2	-0.7
FINES	FINESS Array B	129.25	338	PKP		PKPdf	P	15 19 41.4	+0.5
	1.7nm,0.4s,baz=41,slow=1.8,SNR=19								
FINES				SKPbc		SKPbc		15 23 00.0	+0.3
	2.8nm,0.7s,baz=128,slow=5.6,SNR=11								
AKASG	Malin Array Be	134.09	325	PKP		PKPdf	P	15 19 51.1	+0.7
	1.5nm,0.5s,baz=46,slow=2.8,SNR=5.6								
AKASG				SKPbc		SKPab	P	15 23 18.6	-1.3
	1.4nm,0.5s,baz=46,slow=3.9,SNR=7.0								
NB2	NORSAR Subarra	134.17	345	PKPdf		PKPdf	P	15 19 50.6	+0.3
	comp=Z,1.0nm,0.6s,baz=31,slow=1.9								
NOA	NORSAR Array B	134.17	345	PKP		PKPdf	P	15 19 51.4	+1.1
	comp=Z,1.4nm,0.5s,baz=31,slow=2.0,SNR=8.9								
NOA				SKP				15 23 23.0	
	comp=Z,0.9nm,0.8s,baz=35,slow=4.5,SNR=3.7								
BRTR	Keskin Array B	135.44	309	PKP		PKPdf	P	15 19 53.0	-0.5
	comp=Z,0.9nm,0.6s,baz=8.9,slow=1.0,SNR=4.3								
DPC	Dobruska-Polom	140.85	332	*e*PKP		PKPdf	P	15 20 06.3	+3.4
CLL	Collm	141.56	335	*i* PKiKP		PKiKP	P	15 20 07.7	+0.8
	comp=Z,4.0nm,0.5s								
EKA	Eskdalemuir Ar	142.32	352	PKhKP		PKPpre		15 20 01.9	
	comp=Z,0.7nm,0.4s,baz=353,slow=2.8,SNR=7.8								
KHC	Kasperske Hory	142.96	332	*e*PKP		PKPdf	P	15 20 04.1	-2.7
KHC				*ex*		x		15 20 09.7	
GERES	GERESS Array B	143.12	332	PKP		PKPdf	P	15 20 05.1	-2.0
	comp=Z,1.5nm,0.4s,baz=41,slow=2.3,SNR=14								
GERES				SKPbc		SKiKP	P	15 23 44.0	0.0
	comp=Z,0.6nm,0.7s,baz=270,slow=1.0,SNR=4.3								
MOA	Molln	143.58	330⇑	*i* PKPdf		PKPdf	P	15 20 06.7	-1.2
	comp=Z,5.4nm,1.0s								
VAM	Vamos	143.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.19**	**317**	Pn	**Pn**	**15 23 35.2**	**-1.0**
	26nm,0.3s,baz=183,slow=3.1,SNR=69						
ATAH				Sn	**Sn**	**15 24 03.1**	**-0.6**
	35nm,0.3s,baz=14,slow=17,SNR=5.7						
ATAH				LR	LR	15 24 33.6	
	comp=Z,455nm,20.6s,baz=155,slow=43						
NNA	**Nana**	**3.22**	**179**	Pn	Pn	15 23 53.8	+3.6
	10nm,0.3s,baz=344,slow=12,SNR=19						
NNA				Lg	Lg	15 24 43.2	
	72nm,0.3s,baz=202,slow=6.7,SNR=7.4						
NNA				LR	LR	15 25 29.8	
	comp=Z,308nm,21.2s,baz=344,slow=46						
NNA	**Nana**	**3.22**	**179**	*e*Pn	**Pn**	**15 23 49.0**	**-1.2**
NNA				*e*Pb	**Pb**	**15 23 54.8**	**-2.0**
NNA				*e*Pg	**Pg**	**15 23 59.1**	**-2.2**
NNA				*e*S	**Sn**	**15 24 31.8**	**+3.1**
NNA				*e*Sg	**Sg**	**15 24 43.0**	**-0.1**
NNA				Lg	Lg	15 24 43.2	
OTAV	**Otavalo**	**9.06**	**350**	*e*Pn	**Pn**	**15 25 09.9**	**-0.9**
	6.9nm,0.8s						
LPAZ	**La Paz**	**11.36**	**132**	Pn	**Pn**	**15 25 44.1**	**+1.7**
	0.1nm,0.3s,baz=308,slow=12,SNR=3.1						
LPAZ	**La Paz**	**11.36**	**132**	*e*Pn	Pn	15 25 34.9	-7.6
	4.8nm,0.9s						
SAML	**Samuel**	**13.54**	**92**	*e*Pn	Pn	15 26 06.7	-5.0
SAML				*e*Sn	Sn	15 28 22.7	-20
SIV	**San Ignacio**	**17.03**	**117**	Pn	**Pn**	**15 26 56.8**	**-1.1**
	0.4nm,0.3s,baz=306,slow=14,SNR=14						
PTGA	**Pitinga**	**18.63**	**66**	P	**Pn**	**15 27 16.2**	**-1.4**
	0.4nm,0.3s,baz=262,slow=12,SNR=6.9						
CFAA	**Coronel Fontan**	**24.13**	**162**	P	**P**	**15 28 16.4**	**+0.7**
	0.4nm,0.4s,baz=332,slow=8.8,SNR=5.7						
PLCA	**Paso Flores**	**32.35**	**171**	P	**P**	**15 29 29.6**	**+0.5**
	1.6nm,0.7s,baz=353,slow=7.7,SNR=4.7						
RCBR	**Riachuelo**	**40.74**	**89**	P	**P**	**15 30 39.2**	**-1.8**
	6.6nm,1.0s,baz=208,slow=7.7,SNR=5.1						
TXAR	**Lajitas Array**	**45.82**	**327**	P	**P**	**15 31 23.3**	**+1.5**
	0.8nm,0.8s,baz=155,slow=9.8,SNR=7.2						
TXAR				PcP	**PcP**	**15 32 59.7**	**+0.3**
	0.4nm,0.8s,baz=134,slow=3.9,SNR=3.5						
ELK	**Elko**	**60.61**	**327**	P	**P**	**15 33 09.8**	**-0.9**
	1.2nm,0.9s,baz=216,slow=3.9,SNR=5.2						
NVAR	**Mina Array Bea**	**60.74**	**323**	P	**P**	**15 33 13.2**	**+1.4**
	1.3nm,0.8s,baz=136,slow=6.0,SNR=8.0						
ULM	**Lac du Bonnet**	**61.03**	**346**	P	**P**	**15 33 12.5**	**-0.7**
	3.7nm,0.8s,baz=159,slow=7.7,SNR=6.7						
MFID	**Camas Ranch**	**62.82**	**329**	P	**P**	**15 33 23.7**	**-1.8**
	6.9nm,0.9s						
SCHQ	**Schefferville**	**63.90**	**6**	LR	LR	16 03 39.6	
	comp=Z,595nm,21.0s,baz=285,slow=38						
DBIC	**Dimbokro**	**73.41**	**80**	P	**P**	**15 34 32.7**	**+0.2**
	3.6nm,0.9s,baz=195,slow=6.1,SNR=2.8						
YKA	**Yellowknife Ar**	**76.75**	**343**	P	**P**	**15 34 51.5**	**+0.8**
	0.4nm,0.6s,baz=141,slow=6.1,SNR=14						
TORD	**Torodi Ar. Bea**	**80.99**	**75**	P	**P**	**15 35 16.2**	**+1.2**
	1.1nm,0.7s,baz=289,slow=5.8,SNR=7.6						
BORG	**Borgarnes**	**84.06**	**21**	LR	LR	16 10 43.3	
	comp=Z,192nm,22.0s,slow=34						
SUMG	**Summit**	**84.88**	**11**	*e*Pn	**P**	**15 35 32.3**	**-2.2**
	5.3nm,0.7s						
SUMG	**Summit**	**84.88**	**11**	*i* P	**P**	**15 35 35.7**	**+1.2**
	4.6nm,0.8s						
INK	**Inuvik**	**86.45**	**342**	P	**P**	**15 35 43.2**	**+1.4**
	1.5nm,0.9s,baz=97,slow=6.5,SNR=5.7						
ILAR	**Eielson Array**	**89.52**	**336**	P	**P**	**15 35 57.8**	**+1.2**
	0.8nm,1.0s,baz=78,slow=5.0,SNR=6.0						
NOA	**NORSAR Array B**	**96.66**	**29**	LR	LR	16 16 07.8	
	comp=Z,111nm,22.0s,baz=30,slow=33						
WRA	**Warramunga Arr**	**138.08**	**227**	PKP	**PKPdf**	**15 42 27.6**	**+2.0**
	0.5nm,0.6s,baz=134,slow=1.8,SNR=8.0						
MKAR	**Makanchi Array**	**138.12**	**21**	PKP	**PKPdf**	**15 42 26.2**	**+1.3**
	0.2nm,0.6s,baz=335,slow=1.5,SNR=4.2						

MEX 08 15:35:01.9±0.8, 32°.49N×115°.18W, h25km±7km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.09**	**189**	*i* P	Pb	15 35 05.9	-0.6
MBIG				*e*S	Sb	15 35 08.3	-1.2
CBX	**Cerro Bola**	**1.27**	**262**	*e*P	Pn	15 35 21.6	-2.6
CBX				*i* S	Sn	15 35 36.1	-4.4
SPIG	**San Pedro Mart**	**1.46**	**190**	*e*P	Pn	15 35 24.5	-2.7
SPIG				*i* S	Sn	15 35 41.8	-4.1

IDC 08 15:37:40.0±7.7, 6°.38S×148°.90E, h74km±59km, mb3.1/1, mb1 3.5/3, mb1mx3.1/30, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=122.2km s-min=54.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.47**	**210**	P	Pn	15 38 31.8	+0.2
	19nm,0.3s,baz=15,slow=7.8,SNR=50						
PMG				S	Sn	15 39 12.2	+0.7
	4.3nm,0.3s,baz=168,slow=19,SNR=7.4						
WRA	**Warramunga Arr**	**19.54**	**225**	P	P	15 42 01.2	-0.5
	0.2nm,0.3s,baz=51,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.44**	**218**	P	P	15 42 33.0	+0.1
	0.8nm,0.6s,baz=51,slow=9.9,SNR=13						
TORD	**Torodi Ar. Bea**	**147.01**	**284**	PKPbc	PKPbc	15 57 14.6	-0.7
	0.2nm,0.4s,baz=75,slow=1.6,SNR=3.7						

*ISCJB **08** 15:44:57.9±0.4, 32°.64N±0°.02×115°.72W±0°.02, h14km±3km, mb3.2/1, Error ellipse: s-maj=2.8km s-min=2.6km az=16.3*
*NEIC **08** 15:44:59.6, 32°.59N×115°.78W, h0km, MD4.1(ECX), ML4.5(PAS), After ECX.*
NEIC Felt [II] at Mexicali. Also felt at Ensenada and Tijuana. Felt [IV] at El Centro and [II] at Carlsbad, Chula Vista, Coronado, La Jolla, Lakeside, Long Beach, Newport Beach, San Diego and Santee, California. Felt widely in southern California along the Baja California-California border and in the San Diego area. Also felt at Yuma, Arizona.
*ECX **08** 15:44:59.5±0.6, 32°.62N×115°.77W, h3km, MD4.1, ML4.3*
*IDC **08** 15:45:02.8±2.2, 33°.17N×115°.04W, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.2/47, mbtmp3.1/4, ML3.5/3, Error ellipse: s-maj=41.1km s-min=14.0km az=44.0*

ISC 08 15:44:58.3±0.9, 32°.61N±0°.02×115°.75W±0°.02, h15km±7km, n74, σ1§16/89, 18C-27D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.15**	**284**	⇓*i*P	**Pg**	**15 45 01.9**	**-0.3**
COK	**Cook Ranch**	**0.24**	**5**	⇓*i*P	**Pb**	**15 45 04.1**	**-0.2**
RMX	**La Rumorosa**	**0.28**	**268**	⇑*i*P	**Pg**	**15 45 04.4**	**+0.1**
RMX				*e*S	**Sg**	**15 45 08.3**	**-0.1**
SWSC	**Sam W. Stewart**	**0.33**	**353**	⇓P	**Pg**	**15 45 05.4**	**+0.3**
	baz=0.4						
SWSC				⇑S	**Sg**	**15 45 10.2**	**+0.3**
	baz=0.4						
CRR	**Carrizo Plain**	**0.33**	**326**	⇓*i*P	**Pg**	**15 45 05.3**	**+0.2**
CPBX	**Cerro Prieto**	**0.42**	**117**	*e*P	**Pb**	**15 45 07.6**	**+0.2**
CPBX				*e*S	**Sb**	**15 45 13.9**	**+0.3**
MONP	**Monument Peak,**	**0.63**	**296**	⇓P	**Pg**	**15 45 10.7**	**0.0**
	baz=0.6						
MONP				⇓S	**Sg**	**15 45 18.7**	**-0.4**
	baz=0.6						
RDX	**Rancho Dawling**	**0.70**	**194**	⇓*e*P	**Pg**	**15 45 11.8**	**-0.2**
EMX	**El Mayor**	**0.76**	**145**	⇓*e*P	**Pb**	**15 45 12.0**	**-1.1**
EMX				*e*S	**Sg**	**15 45 22.6**	**-0.4**
BAR	**Barrett**	**0.78**	**275**	*e*Pg	**Pb**	**15 45 13.1**	**-0.5**
BAR				*e*Sg	**Sb**	**15 45 23.1**	**-1.0**
CBX	**Cerro Bola**	**0.83**	**249**	⇑*e*P	**Pb**	**15 45 14.4**	**-0.1**
CBX				*e*S	**Sb**	**15 45 25.4**	**0.0**
CBX				⇓*e*		15 45 30.5	
CBX				AML	AML	15 45 30.5	
	comp=E,15μm,0.5s						
BC3	**Big Chuckawall**	**1.07**	**13**	⇑P	**Pb**	**15 45 17.7**	**-0.9**
	baz=1.1						
BC3				⇑S	**Sb**	**15 45 31.2**	**-1.3**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.16**	**329**	⇓P	**Pn**	**15 45 18.8**	**-1.3**
	baz=1.2						
PFO				⇑S	**Sb**	**15 45 33.4**	**-1.6**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.16**	**329**	*e*Pg	**Pn**	**15 45 18.6**	**-1.5**
PFO				*e*Sg	**Sb**	**15 45 33.5**	**-1.6**
109C	**Camp Elliot, M**	**1.18**	**284**	⇓P	**Pn**	**15 45 19.9**	**-0.3**
	baz=1.2						
109C				⇓S	**Sb**	**15 45 34.7**	**-0.7**
	baz=1.2						
ZAX	**El Zacaton**	**1.18**	**202**	⇓*e*P	**Pb**	**15 45 20.5**	**+0.1**
ZAX				*e*S	**Sn**	**15 45 36.1**	**-0.1**
ECNX	**Esteban Cantu**	**1.19**	**217**	⇑*e*P	**Pb**	**15 45 20.6**	**0.0**
ECNX				*e*S	**Sn**	**15 45 36.5**	**-0.1**
PBX	**Punta Banda**	**1.20**	**224**	⇑*e*P	**Pb**	**15 45 20.7**	**0.0**
PBX				*e*S	**Sn**	**15 45 36.5**	**0.0**
ECBX	**El Chinero**	**1.28**	**152**	*e*P	**Pb**	**15 45 20.7**	**-0.9**
ECBX				*e*S	**Sb**	**15 45 38.2**	**-0.1**
BELC	**Belle Mtn. Jos**	**1.40**	**352**	⇑P	**Pn**	**15 45 22.5**	**-1.0**
	baz=1.4						
Y12C	**Blythe**	**1.53**	**42**	⇑P	**Pn**	**15 45 24.3**	**-0.8**
	baz=1.6						
Y12C				⇓S	**Sn**	**15 45 44.1**	**-0.7**
	baz=1.6						
MURC	**Murrieta**	**1.57**	**309**	⇓P	**Pn**	**15 45 24.9**	**-0.7**
	baz=1.6						
MURC				⇓S	**Sn**	**15 45 44.6**	**-1.1**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.58**	**171**	*e*P	**Pn**	**15 45 26.1**	**0.0**
IRM	**Iron Mountain**	**1.62**	**18**	⇓P	**Pn**	**15 45 25.8**	**-0.6**
	baz=1.7						
IRM				⇓S	**Sn**	**15 45 46.0**	**-1.1**
	baz=1.7						
113A	**Mohawk Valley,**	**1.68**	**84**	⇑P	**Pn**	**15 45 26.5**	**-0.6**
	baz=1.7						
113A				⇑S	**Sn**	**15 45 47.1**	**-1.3**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.92**	**330**	⇑P	**Pn**	**15 45 30.3**	**-0.3**
	baz=1.9						
PDMCI	**Parker Dam,Lak**	**2.16**	**38**	⇑P	**Pn**	**15 45 33.4**	**-0.3**
	baz=2.2						
GMRC	**Granite Mounta**	**2.17**	**2**	⇓P	**Pn**	**15 45 33.4**	**-0.6**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.27**	**348**	⇓P	**Pn**	**15 45 34.6**	**-0.6**
	baz=2.3						
BFSC	**Mount Baldy Ra**	**2.28**	**316**	⇓P	**Pn**	**15 45 35.3**	**-0.2**
	baz=2.3						
BFSC				⇓Sb	**Sb**	**15 46 07.8**	**+0.6**
	baz=2.3						
NEE2	**Needles Airpor**	**2.35**	**23**	⇓P	**Pn**	**15 45 36.4**	**0.0**
	baz=2.4						
CIS	**Catalina Islan**	**2.37**	**290**	⇓P	**Pn**	**15 45 36.5**	**-0.1**
	baz=2.4						
SCI	**San Clemente I**	**2.38**	**280**	⇑P	**Pn**	**15 45 36.6**	**-0.3**
	baz=2.4						
FMP	**Fort Macarthur**	**2.40**	**298**	⇑Sb	**Sb**	**15 46 11.7**	**+1.1**
	baz=2.4						
Z14A	**Wintersburg**	**2.47**	**72**	⇓P	**Pn**	**15 45 37.5**	**-0.6**
	baz=2.5						
MWC	**Mount Wilson**	**2.51**	**310**	*e*Pn	**Pn**	**15 45 40.5**	**+1.8**
MWC				*e*Sg	**Sb**	**15 46 15.5**	**+1.5**
LDFC	**Landfair**	**2.52**	**12**	*e*Pn	**Pn**	**15 45 40.9**	**+2.1**
PASC	**Pasadena Art C**	**2.56**	**308**	*e*Pn	**Pn**	**15 45 39.0**	**-0.3**
214A	**Organ Pipe Nat**	**2.57**	**104**	⇓P	**Pn**	**15 45 38.4**	**-1.1**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.57**	**104**	*e*Pn	**Pn**	**15 45 38.2**	**-1.3**
DECC	**Green Verdugo**	**2.71**	**308**	⇑Sb	**Sb**	**15 46 20.9**	**+1.4**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.82**	**342**	*e*Pn	**Pn**	**15 45 42.4**	**-0.6**
OSI	**Osito Audit: C**	**3.19**	**310**	*e*Pn	**Pn**	**15 45 50.4**	**+2.5**
MPMC	**Manual Prospec**	**3.73**	**338**	⇓P	**Pn**	**15 45 55.1**	**-0.4**
	baz=3.7						
ISA	**Isabella, Lake**	**3.79**	**324**	*e*Pn	**Pn**	**15 45 56.2**	**0.0**
SHPR	**Sheep Range**	**3.92**	**7**	*e*Pn	**Pn**	**15 45 58.9**	**+0.9**
DAC	**Darwin (Calif)**	**3.96**	**338**	*e*Pn	**Pn**	**15 45 58.0**	**-0.8**
X16A	**Lo Mia Camp, P**	**4.03**	**62**	⇓P	**Pn**	**15 45 59.9**	**+0.3**
	baz=4.0						
TUC	**Tucson**	**4.21**	**93**	*e*Pn	**Pn**	**15 46 00.2**	**-1.7**
WUAZ	**Wupatki**	**4.65**	**50**	*e*Pn	**Pn**	**15 46 09.3**	**+1.2**
CCUT	**Cedar City**	**5.30**	**21**	*e*Pn	**Pn**	**15 46 19.0**	**+1.9**
	comp=E,21nm,0.7s						
ARUT	**Antelope Range**	**5.50**	**19**	*e*Pn	**Pn**	**15 46 21.3**	**+1.5**
	comp=E,4.2nm,0.5s						
TPH	**Tonopah**	**5.58**	**348**	Pn	Pn	15 46 25.4	+4.4
	comp=E,20nm,0.7s						
W18A	**Petrified Fore**	**5.59**	**62**	*e*Pn	**Pn**	**15 46 22.8**	**+1.7**
	comp=E,65nm,0.5s						
R11A	**Troy Canyon, C**	**5.73**	**1**	*e*Pn	**Pn**	**15 46 24.0**	**+1.0**
	comp=E,15nm,0.6s						
NVAR	**Mina Array Bea**	**6.17**	**341**	Pn	**Pn**	**15 46 30.7**	**+1.6**
	comp=E,0.3nm,0.3s,baz=166,slow=14,SNR=7.4						
MVU	**Marysvale**	**6.55**	**25**	*e*Pn	Pn	15 46 39.3	+5.0
	comp=E,30nm,0.8s						
CMB	**Columbia Colle**	**6.61**	**326**	Pn	Pn	15 46 38.6	+3.7
	comp=E,8.7nm,0.7s						
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn	**Pn**	**15 46 37.1**	**+0.4**
	comp=E,48nm,0.6s						
LAZ	**Ladron**	**7.41**	**74**	Pn	**Pn**	**15 46 48.8**	**+0.7**
LENM	**Lemitar**	**7.50**	**76**	*e*Pn	**Pn**	**15 46 48.4**	**+1.1**
	comp=E,12nm,0.3s						
MVCO	**Mesa Verde**	**7.52**	**50**	*e*Pn	**Pn**	**15 46 50.3**	**+2.7**
	comp=E,33nm,0.6s						
TMUT	**Trail Mountain**	**7.62**	**28**	*e*Pn	Pn	15 46 53.3	+4.3
	comp=E,16nm,0.7s						
SRU	**San Rafael Swe**	**7.75**	**32**	*e*Pn	**Pn**	**15 46 53.5**	**+2.8**
	comp=E,40nm,0.7s						
PV10	**Paradox Valley**	**7.94**	**42**	*e*Pn	**Pn**	**15 46 56.0**	**+2.6**
	comp=E,1μm,0.8s						
PV01	**Paradox Valley**	**8.04**	**45**	*e*Pn	**Pn**	**15 46 55.1**	**+0.3**
	comp=E,373nm,0.4s						
ANMO	**Albuquerque**	**8.08**	**71**	Pn	**Pn**	**15 46 57.4**	**+2.1**
	comp=E,0.4nm,0.3s,baz=268,slow=12,SNR=7.7						
ANMO	**Albuquerque**	**8.08**	**71**	*e*Pn	**Pn**	**15 46 57.2**	**+2.0**
	comp=E,6.5nm,0.7s						
GDL2	**Guadalupe Moun**	**9.63**	**89**	*e*Pn	**Pn**	**15 47 18.7**	**+2.1**
O20A	**White River Ci**	**9.64**	**37**	*e*Pn	**Pn**	**15 47 19.6**	**+2.9**
	comp=E,16nm,0.8s						
TXAR	**Lajitas Array**	**10.87**	**104**	Pn	**Pn**	**15 47 35.3**	**+1.8**
	comp=E,0.3nm,0.3s,baz=287,slow=14,SNR=14						
TXAR				Lg	Lg	15 50 41.5	
	comp=E,0.0nm,0.3s,baz=294,slow=24,SNR=3.6						
MSTX	**Muleshoe**	**10.95**	**79**	*e*Pn	Pn	15 47 39.1	+4.6
	comp=E,28nm,0.9s						
PDAR	**Pinedale Array**	**11.26**	**24**	Pn	**Pn**	**15 47 38.5**	**-0.3**
	comp=E,0.0nm,0.3s,baz=182,slow=8.1,SNR=2.4						
ILAR	**Eielson Array**	**37.42**	**339**	P	P	15 52 16.5	+6.0
	comp=E,0.3nm,0.8s,baz=150,slow=8.8,SNR=4.4						

*ISCJB **08** 16:06:02.6±0.5, 10°.62N±0°.04×62°.52W±0°.03, h68km±7km, Error ellipse: s-maj=7.2km s-min=3.8km az=157.1*
*FUNV **08** 16:06:04.2, 10°.56N×62°.43W, h58km, MW3.2*
*TRN **08** 16:06:05.7, 10°.65N×62°.40W, h59km, MD3.5*

ISC 08 16:06:03.0±1.2, 10°.57N±0°.05×62°.52W±0°.03, h68km±9km, n17, σ1§35/33, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**76**	⇑*i*P	**Pn**	**16 06 13.7**	**-0.3**
GUIV				*e*S	**Sn**	**16 06 20.6**	**-1.5**
GUNV	**Guanoco**	**0.58**	**226**	*e*P	**Pn**	**16 06 17.5**	**+0.9**
GUNV				*e*S	**Sn**	**16 06 27.4**	**+0.9**
CRUV	**Carupano**	**0.71**	**278**	⇓*i*P	**Pn**	**16 06 18.0**	**+0.1**
CRUV				*e*S	**Sn**	**16 06 29.0**	**-0.1**
TCE	**Chacachacare**	**0.76**	**81**	*e*P	**Pn**	**16 06 19.9**	**+1.3**
TCE				*e*S	**Sn**	**16 06 29.2**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.08**	**104**	*e*P	**Pn**	**16 06 24.0**	**+1.5**
TPP				*e*S	**Sn**	**16 06 37.0**	**+0.1**
TRN	**Trinidad (W)**	**1.10**	**86**	*e*P	**Pn**	**16 06 23.3**	**+0.6**
TRN				*e*S	**Sn**	**16 06 36.2**	**-1.1**
TBH	**Brigand Hill**	**1.43**	**93**	*e*P	**Pn**	**16 06 27.9**	**+0.8**
TBH				*e*S	**Sn**	**16 06 45.4**	**+0.3**
ORIV	**Oritupano**	**1.73**	**211**	*e*P	**Pn**	**16 06 32.1**	**+1.1**
ORIV				*e*S	**Sn**	**16 06 53.2**	**+0.9**
GRW	**Mount Saint Ca**	**1.79**	**28**	*e*P	**Pn**	**16 06 33.0**	**+1.1**
GRW				*e*S	**Sn**	**16 06 52.2**	**-1.5**
TOSP	**Speyside**	**2.08**	**69**	*e*P	**Pn**	**16 06 36.1**	**+0.5**
TOSP				*e*S	**Sn**	**16 06 59.3**	**-1.2**
RIOV	**Rio Grande**	**2.58**	**164**	*e*P	**Pn**	**16 06 41.6**	**-1.0**
SVB	**Belmont**	**2.95**	**25**	*e*P	**Pn**	**16 06 49.1**	**+1.5**
SVB				*e*S	**Sn**	**16 07 21.1**	**-0.9**
CUPV	**Cœpira**	**3.26**	**261**	*e*P	**Pn**	**16 06 53.5**	**+1.7**
CUPV				*e*S	**Sn**	**16 07 29.6**	**+0.1**
MCLT	**Moule a Chique**	**3.48**	**26**	*e*P	**Pn**	**16 06 56.1**	**+1.3**
MCLT				*e*S	**Sn**	**16 07 33.7**	**-1.1**
BIRV	**Birongo**	**3.69**	**269**	*e*P	**Pn**	**16 06 59.5**	**+1.8**
BIRV				*e*S	**Sn**	**16 07 39.7**	**-0.3**
TURV	**Turiamo**	**5.24**	**269**	*e*P	**Pn**	**16 07 19.7**	**+0.9**
TURV				*e*S	**Sn**	**16 08 15.7**	**-2.2**
BAUV	**El Baul**	**5.68**	**254**	*e*P	**Pn**	**16 07 24.9**	**0.0**
BAUV				*e*S	**Sn**	**16 08 24.9**	**-4.0**

TAP 08 16:18:28.8, 24°.64N×121°.72E, h22km±1km, ML2.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.10**	**329**	P	Pb	16 18 33.1	+0.1
	baz=335						
TWE				*e*S	Sb	16 18 36.9	+1.0
	baz=335						
TWC	**Suao**	**0.12**	**104**	P	Pb	16 18 33.5	-0.4
	baz=103						
TWC				S	Sb	16 18 37.3	-0.1
	baz=103						
ENTT	**Nioudou**	**0.14**	**270**	*e*P	Pb	16 18 33.2	-0.8
	baz=269						
ENA	**Nanau**	**0.21**	**175**	*e*P	Pb	16 18 34.9	+0.5
	baz=173						
NSK	**Sanguang**	**0.33**	**276**	*e*P	Pb	16 18 37.1	+0.9
	baz=276						
NSK				*e*S	Sb	16 18 42.0	+0.8
	baz=276						
NNS	**Nan Shan**	**0.38**	**238**	*e*P	Pn	16 18 38.1	-1.0
	baz=237						
TWD	**Chiawan**	**0.57**	**192**	*e*P	Pb	16 18 40.8	+0.6
	baz=190						
TWD				*e*S	Sn	16 18 49.0	-1.2
	baz=190						
WHF	**Hehuan Shan**	**0.65**	**220**	*e*P	Pb	16 18 42.4	+0.4
	baz=219						
WHF				*e*S	Sb	16 18 51.2	+0.3
	baz=219						

*BJI **08** 16:44:22.7, 32°.20N×115°.30W, h6km, mB5.6/19, mb5.2/18, Ms5.3/16, Ms7 5.0/17*
*ISCJB **08** 16:44:25.5±0.1, 32°.23N±0°.01×115°.25W±0°.01, h10km, mb5.0/154, MS5.1/48, Error ellipse: s-maj=1.7km s-min=1.1km az=24.5*
*ECX **08** 16:44:26.6±0.6, 32°.23N×115°.28W, h6km, MD5.2, ML5.4*
*IDC **08** 16:44:26.0±0.5, 32°.32N×115°.15W, h0km, mb4.6/21, mb1 4.8/27, mb1mx4.7/36, mbtmp4.7/27, ML4.2/6, MS4.9/33, Ms1 4.9/33, ms1mx4.8/39, Error ellipse: s-maj=14.5km s-min=8.2km az=57.0*
*GCMT **08** 16:44:26.7±0.1, 32°.25N×115°.26W, h12km, MW5.4/115, Moment Tensor Solution. s84,c137; s115,c218; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-0.14±.02; Mθθ-1.25±.02; Mϕϕ1.39±.02; Mrθ-0.16±.04; Mθϕ-0.49±.02; Mϕr-0.29±.04; Best double couple: M0 1.44600×10^17 NP1:ϕ§s35.00000°, δ§89.00000°, λ-13.00000°. NP2:ϕ§s125.00000°, δ77.00000°, λ-179.00000°. Principal axes: T 1.5180, Plg9.0000°, Azm81.0000°; N -0.1420, Plg77.0000°, Azm212.0000°; P -1.3750, Plg10.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 16:44:26.7, 32°.23N×115°.28W, h6km, mb5.2/84, MD5.4(MEX), MD5.5(ECX), MW5.3(PAS), After ECX.*
NEIC Felt [IV] at Mexicali and [III] at Ensenada, Rosarito and Tijuana. Felt in much of northern Baja California and [IV] at San Luis Rio Colorado, Sonora. Felt [IV] at El Centro and [III] at Boulevard, Calexico, Campo, Chula Vista, Garden Grove, Holtville, Imperial, Irvine, Julian, Laguna Woods, Lakeside, Los Angeles, National City, Ontario, Ramona, San Diego, Spring Valley and Winterhaven, California. Also felt [III] at Somerton, Wellton and Yuma, Arizona. Felt in much of southern California and southwestern Arizona.
*MOS **08** 16:44:27.1±1.1, 32°.40N×115°.26W, h10km, mb5.5/64, MS5.2/20, Error ellipse: s-maj=5.8km s-min=3.4km az=86.8*
*MEX **08** 16:44:28.2±0.3, 32°.33N×115°.23W, h10km±7km, MD5.4*
*SZGRF **08** 16:44:36.8, 32°.44N×114°.06W, h33km, mb4.9, Western Arizona-Sonora border region*

ISC 08 16:44:26.5±0.5, 32°.22N±0°.02×115°.30W±0°.02, h7km±2km, n1100, σ1§56/1079, mb5.2/155, MS5.1/49, 241C-248D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.20**	**358**	*e*P	**Pg**	**16 44 30.1**	**-0.4**
CPBX				*e*S	**Sg**	**16 44 33.2**	**0.0**
CPBX	**Cerro Prieto**	**0.20**	**358**	*e*P	**Pg**	**16 44 30.2**	**-0.4**
CPBX				*i* S	**Sg**	**16 44 31.2**	**-2.1**
MBIG	**Mexicali**	**0.20**	**24**	*i* P	**Pg**	**16 44 30.3**	**-0.3**
MBIG				*e*S	**Sg**	**16 44 31.6**	**-1.9**
EMX	**El Mayor**	**0.24**	**169**	*e*P	**Pg**	**16 44 28.8**	**-2.5**
EMX				*e*S	**Sg**	**16 44 32.0**	**-2.4**
SGL	**Mount Signal**	**0.56**	**320**	⇑*e*P	**Pg**	**16 44 36.5**	**-0.9**
EMSC	**East Mesa**	**0.58**	**27**	*e*Pg	**Pg**	**16 44 36.9**	**-0.8**
ERPC	**Ernies Place**	**0.61**	**329**	*e*Pg	**Pg**	**16 44 37.9**	**-0.4**
RDX	**Rancho Dawling**	**0.62**	**242**	⇑*e*P	**Pg**	**16 44 37.8**	**-0.8**
WESC	**Westside Schoo**	**0.65**	**326**	*e*Pg	**Pg**	**16 44 38.5**	**-0

baz=1.7
CPE Camp Elliot 1.67 294 *e*Pn **Pn** 16 44 54.5 -1.7
FRD Ford Ranch, An 1.68 319 *e*Pn **Pn** 16 44 53.4 -3.1
PFO Pinyon Flats O 1.69 325 *e*P Pn 16 44 53.1 -3.5
PFO *e* 16 45 15.7
PFO Pinyon Flats O 1.69 325 Pn Pn 16 44 53.2 -3.5
baz=133,slow=14
PFO LR LR 16 45 18.6
comp=N,16µm,18.2s,baz=130,slow=31
PFO Pinyon Flats O 1.69 325 ⇓P Pn 16 44 53.2 -3.5
baz=1.7
PFO Pinyon Flats O 1.69 325 *e*Pn **Pn** 16 44 53.1 -3.5
PFO *e*Pg **Pg** **16 44 59.1 +0.1**
PFO *e*Sn **Sn** **16 45 15.7 -3.0**
SNDA J Saunders Pla 1.73 321 *e*Pn **Pn** **16 44 54.1 -3.1**
PLM Palomar 1.74 311 *e*P **Pn** **16 44 54.6 -2.7**
PLM Palomar 1.74 311 *e*Pn **Pn** **16 44 54.6 -2.7**
DNR Dunn Ranch,Anz 1.75 320 *e*Pn **Pn** **16 44 54.6 -2.8**
CRY Cary Ranch 1.81 318 *e*Pn **Pn** **16 44 55.3 -2.9**
BELC Belle Mtn. Jos 1.87 342 ⇓P Pn 16 44 55.8 -3.3
baz=1.9
BELC Belle Mtn. Jos 1.87 342 *e*Pn **Pn** **16 44 56.0 -3.1**
IRM Iron Mountain 1.94 4 ⇓P **Pn** **16 44 56.8 -3.1**
baz=1.9
TPC Twentynine Pal 1.98 342 *e*Pn **Pn** **16 44 57.5 -3.1**
BACC Bachelor Mtn. 2.02 314 *e*Pn **Pn** **16 44 58.5 -2.6**
DGR Domenigoni Val 2.03 315 *e*Pn **Pn** **16 44 58.5 -2.7**
MURC Murrieta 2.11 311 ⇑P **Pn** **16 44 59.7 -2.6**
baz=2.1
MURC ⇓Sb **Sb** **16 45 31.3 -0.3**
baz=2.1
214A Organ Pipe Nat 2.13 96 ⇓P Pn 16 44 58.9 -3.6
baz=2.1
214A ⇑Sb **Sb** **16 45 31.7 -0.3**
baz=2.1
214A Organ Pipe Nat 2.13 96 *e*Pn Pn 16 44 58.3 -4.2
214A *e*Pg **Pg** **16 45 06.2 -1.1**
Z14A Wintersburg 2.28 59 ⇑P **Pn** **16 45 02.0 -2.7**
baz=2.3
PDMCI Parker Dam,Lak 2.29 25 ⇑P **Pn** **16 45 02.0 -2.7**
baz=2.3
PDMCI ⇓Sb **Sb** **16 45 35.5 -1.2**
baz=2.3
DANC Danby, Needles 2.41 358 *e*Pn **Pn** **16 45 04.0 -2.4**
BBRC Big Bear Solar 2.45 327 ⇓P **Pn** **16 45 04.9 -2.2**
baz=2.5
BBRC Big Bear Solar 2.45 327 *e*Pn **Pn** **16 45 05.4 -1.8**
RVR Riverside 2.48 316 *e*P **Pn** **16 45 05.4 -2.0**
RVR Riverside 2.48 316 *e*Pn **Pn** **16 45 05.4 -2.0**
GMRC Granite Mounta 2.57 353 ⇑P **Pn** **16 45 06.1 -2.6**
baz=2.6
GMRC Granite Mounta 2.57 353 *e*Pn **Pn** **16 45 06.2 -2.6**
Y14A Wickenburg 2.58 48 ⇑P **Pn** **16 45 06.4 -2.3**
baz=2.6
NEE2 Needles Airpor 2.60 12 ⇓P **Pn** **16 45 06.6 -2.4**
baz=2.6
HEC Hector,Ludlow 2.74 342 ⇑P **Pn** **16 45 08.4 -2.6**
baz=2.7
BFSC Mount Baldy Ra 2.82 316 ⇓P **Pn** **16 45 10.0 -2.2**
baz=2.8
BFSC ⇑Sb **Sb** **16 45 52.3 +0.1**
baz=2.8
BFSC Mount Baldy Ra 2.82 316 *e*Pn **Pb** **16 45 17.5 +0.1**
SSK Sunset Peak 2.82 315 *e*Pn **Pn** **16 45 10.6 -1.6**
SSK *e*Pg **Pb** **16 45 17.8 +0.4**
SCI San Clemente I 2.85 286 ⇑P **Pn** **16 45 10.1 -2.2**
baz=2.9
SCI ⇑Sb **Sb** **16 45 52.6 -0.1**
baz=2.9
LDFC Landfair 2.85 3 *e*Pn **Pn** **16 45 11.2 -1.4**
LDFC *e*Pg **Pg** **16 45 20.5 -0.7**
CIS Catalina Islan 2.87 295 ⇓P **Pn** **16 45 10.4 -2.3**
baz=2.9
CIS ⇓Sb **Sb** **16 45 53.1 -0.4**
baz=2.9
FMP Fort Macarthur 2.93 301 ⇑P **Pn** **16 45 11.1 -2.3**
baz=2.9
FMP ⇓Sb **Sb** **16 45 54.9 -0.1**
baz=2.9
EL2 El Mirage 2 2.97 321 *e*Pn **Pn** **16 45 14.5 +0.3**
GVRC Garvey Reservo 2.99 308 *e*Pn **Pb** **16 45 21.1 +1.0**
DSCC Desert Studies 2.99 347 *e*Pn **Pn** **16 45 11.8 -2.5**
RRX Edison Barstow 3.01 332 ⇑P **Pn** **16 45 12.3 -2.4**
baz=3.0
MWC Mount Wilson 3.06 312 *e*P **Pn** **16 45 13.1 -2.4**
MWC *e* 16 45 53.7
MWC Mount Wilson 3.06 312 *e*Pn **Pn** **16 45 13.1 -2.4**
MWC *e*Sn **Sn** **16 45 53.7 +1.3**
W13A Hualapai Mount 3.10 22 ⇑P **Pn** **16 45 13.3 -2.8**
baz=3.1
W13A ⇑Sb **Sb** **16 45 58.7 -1.6**
baz=3.1
PASC Pasadena Art C 3.11 310 *e*Pn **Pn** **16 45 14.1 -1.9**
PASC *e*Pg **Pb** **16 45 21.3 -0.8**
PASC *e*Sg **Sb** **16 46 00.3 +0.1**
DECC Green Verdugo 3.25 309 ⇓P **Pn** **16 45 15.7 -2.2**
baz=3.3
DECC ⇑Sb **Sb** **16 46 04.7 +0.3**
baz=3.3
TUQ Turquoise Moun 3.25 351 ⇑P **Pn** **16 45 15.4 -2.6**
baz=3.3
BLKC Black Mountain 3.28 331 *e*Pn **Pn** **16 45 16.8 -1.5**
GSC Goldstone, Bar 3.32 338 *e*P **Pn** **16 45 16.2 -2.8**
GSC Goldstone, Bar 3.32 338 ⇑P **Pn** **16 45 16.6 -2.4**
baz=3.3
GSC Goldstone, Bar 3.32 338 *e*Pn **Pn** **16 45 16.2 -2.8**
GSC *e*Pb Pb 16 45 22.5 -3.3
GSC *e*Pg **Pg** **16 45 27.8 -2.4**
EDW2 Edwards Air Fo 3.48 320 ⇑P **Pn** **16 45 19.4 -1.7**
baz=3.5
OSI Osito Audit: C 3.73 311 ⇑P **Pn** **16 45 22.7 -1.9**
baz=3.7
OSI ⇓Sb **Sb** **16 46 18.1 -0.1**
baz=3.7
OSI Osito Audit: C 3.73 311 *e*Pn **Pn** **16 45 23.2 -1.4**
SHOC Shoshone, Teco 3.76 348 ⇑P **Pn** **16 45 22.2 -2.8**
baz=3.8
LRMC Laurel Mtn Rad 3.81 329 ⇑P **Pn** **16 45 23.3 -2.4**
baz=3.8
TUC Tucson 3.82 87 *e*P Pn 16 45 22.2 -3.7
TUC *e*S **Sn** **16 46 06.8 -4.3**
TUC Tucson 3.82 87 *e*Pn Pn 16 45 22.2 -3.7
TUC *e*Pb Pb 16 45 30.7 -3.7
TUC *e*Pg Pg 16 45 36.1 -3.7
TUC *e*S **Sn** **16 46 06.8 -4.3**
TUC *e*Sg **Sg** **16 46 30.0 +0.6**
WSHM Spangler Hills 3.83 332 *e*Pn **Pn** **16 45 24.8 -1.2**
X16A Lo Mia Camp, P 3.90 55 ⇓P **Pn** **16 45 25.5 -1.5**
baz=3.9
BSC Santa Cruz Isl 4.05 297 ⇑P **Pn** **16 45 27.2 -1.7**
baz=4.1
ARVC Arvin 4.13 315 ⇓P **Pn** **16 45 28.4 -1.7**
baz=4.1
WWPM Walker Pass 4.20 327 *e*Pn **Pn** **16 45 32.9 +1.7**
WWPM *e*Pg **Pb** **16 45 43.8 +2.9**
WWPM *e*Lg Lg 16 46 40.2
MPMC Manual Prospec 4.24 335 ⇑P **Pn** **16 45 29.5 -2.2**
baz=4.2
SHPR Sheep Range 4.28 1 *e*Pn **Pn** **16 45 30.6 -1.6**
SHPR *e*Sg **Sb** **16 46 36.9 +2.8**
SBC Santa Barbara 4.31 302 ⇓P **Pn** **16 45 30.2 -2.3**
baz=4.3
ISA Isabella, Lake 4.33 323 *e*P **Pn** **16 45 30.6 -2.2**
ISA Isabella, Lake 4.33 323 ⇑P **Pn** **16 45 30.6 -2.2**
baz=4.3
ISA Isabella, Lake 4.33 323 *e*Pn **Pn** **16 45 30.6 -2.2**
ISA *e*Sg **Sg** **16 46 41.0 -4.7**
FURC Furnace Creek, 4.43 343 ⇑P **Pn** **16 45 32.2 -2.0**
baz=4.4
DAC Darwin (Calif) 4.47 335 *e*P **Pn** **16 45 32.9 -2.0**
DAC Darwin (Calif) 4.47 335 *e*Pn **Pn** **16 45 32.9 -2.0**
WUAZ Wupatki 4.63 44 ⇓P **Pn** **16 45 36.1 -0.9**
baz=4.6
WUAZ Wupatki 4.63 44 *e*Pn **Pn** **16 45 36.5 -0.5**
TPNV Topopah Spring 4.78 351 *e*P **Pn** **16 45 38.1 -1.1**
TPNV Topopah Spring 4.78 351 ⇑P **Pn** **16 45 38.0 -1.1**
baz=4.8
TPNV Topopah Spring 4.78 351 *e*Pn **Pn** **16 45 38.1 -1.1**
VES Vestal, Richgr 4.79 320 ⇓P **Pn** **16 45 37.0 -2.1**
baz=4.8
U15A North Rim 4.88 30 ⇓P **Pn** **16 45 39.4 -1.2**
baz=4.9
HSIG 4.92 129 *i* P **Pn** **16 45 40.5 -0.4**
HSIG *i* S **Sn** **16 46 36.5 -1.6**
HSIG 4.92 129 *i* P **Pn** **16 45 40.5 -0.4**
HSIG *e*S **Sn** **16 46 33.7 -4.4**
SMMC Simmler 4.98 309 ⇓P **Pn** **16 45 39.9 -1.9**
baz=5.0
X18A Snowflake 5.03 61 ⇓P **Pn** **16 45 41.2 -1.4**
baz=5.0
ICU Indian Springs 5.05 13 *e*Pn **Pn** **16 45 42.7 -0.1**
GRAC Grapevine Rang 5.07 341 ⇑P **Pn** **16 45 41.7 -1.2**
baz=5.1
319A Douglas 5.19 98 ⇑P **Pn** **16 45 42.5 -2.2**
baz=5.2
KNB Kanab 5.20 22 *e*P **Pn** **16 45 44.6 -0.3**
KNB Kanab 5.20 22 *e*Pn **Pn** **16 45 44.6 -0.3**
RCTC Rector, Farmer 5.22 322 ⇓P **Pn** **16 45 44.0 -1.0**
baz=5.2
PTRM Twissleman Ran 5.33 311 *e*Pn **Pn** **16 45 49.7 +3.1**
EKU East Kanab 5.36 25 *e*Pn **Pn** **16 45 46.6 -0.6**
TIN Tinemaha, Big 5.39 334 ⇑P **Pn** **16 45 46.4 -1.1**
baz=5.4
W18A Petrified Fore 5.46 57 ⇓P **Pn** **16 45 47.8 -0.7**
baz=5.4
W18A Petrified Fore 5.46 57 *e*Pn **Pn** **16 45 47.7 -0.8**
W18A *e*Sg **Sg** **16 47 25.1 +3.1**
CCUT Cedar City 5.55 16 *e*Pn **Pn** **16 45 49.0 -0.8**
SRIG Santa Rosalia 5.56 151 *i* P **Pn** **16 45 50.2 +0.6**
SRIG *i* S **Sn** **16 46 53.3 -0.5**
SRIG Santa Rosalia 5.56 151 *i* P **Pn** **16 45 50.2 +0.6**
SRIG *e*S **Sn** **16 46 55.4 +1.5**
BHU Blowhard Mount 5.72 20 *e*Pn **Pn** **16 45 52.6 +0.3**
ARUT Antelope Range 5.76 15 *e*P **Pn** **16 45 51.8 -0.8**
ARUT Antelope Range 5.76 15 *e*Pn **Pn** **16 45 51.8 -0.8**
ARUT *e*Sg **Sg** **16 47 32.5 +1.0**
TPH Tonopah 6.05 345 *e*P **Pn** **16 45 55.6 -1.0**
TPH Tonopah 6.05 345 *e*Pn **Pn** **16 45 55.6 -1.0**
TPH *e*Pg **Pg** **16 46 21.6 -0.8**
R11A Troy Canyon, C 6.12 358 ⇓P **Pn** **16 45 56.6 -0.9**
baz=6.1
R11A Troy Canyon, C 6.12 358 *e*Pn **Pn** **16 45 56.7 -0.8**
R11A *e*Pg **Pg** **16 46 23.5 -0.3**
MLAC Mammoth, Mammo 6.13 333 ⇓P **Pn** **16 45 58.5 +0.8**
baz=6.1
DWU Dry Willow Pea 6.17 17 *e*Pn **Pn** **16 45 58.0 -0.2**
BTU Barney Top 6.20 26 *e*Pn **Pn** **16 45 59.3 +0.6**
121A Cookes Peak, D 6.36 85 ⇑P **Pn** **16 45 58.9 -2.0**
baz=6.3
121A Cookes Peak, D 6.36 85 *e*Pn **Pn** **16 45 58.0 -2.9**
comp=N,382nm,0.7s
121A *e*Sg Sb 16 47 42.0 +7.9
NVAR Mina Array Bea 6.66 339 Pn **Pn** **16 46 05.2 +0.2**
comp=N,0.6nm,0.3s,baz=166,slow=13,SNR=38
NVAR Lg Lg 16 48 01.1
baz=190,slow=14,SNR=2.3
MVU Marysvale 6.76 21 *e*Pn **Pn** **16 46 07.4 +1.1**
MSU Marysvale 6.77 21 *e*P **Pn** **16 46 06.7 +0.1**
MSU Marysvale 6.77 21 *e*Pn **Pn** **16 46 06.7 +0.1**
MMU Miners Mountai 6.80 28 *e*Pn **Pn** **16 46 07.5 +0.5**
SAO San Andreas Ge 6.80 313 *e*P **Pn** **16 46 04.7 -2.1**
SAO San Andreas Ge 6.80 313 *e*Pn **Pn** **16 46 04.7 -2.1**
WAKR Walker 7.12 333 *e*Pn Pn 16 46 14.5 +3.2
CMB Columbia Colle 7.14 326 *e*P **Pn** **16 46 11.1 -0.4**
CMB Columbia Colle 7.14 326 *e*Pn **Pn** **16 46 11.1 -0.4**
LAZ Ladron 7.17 70 *e*Pn **Pn** **16 46 11.0 -0.9**
LENM Lemitar 7.24 72 *e*Pn **Pn** **16 46 11.7 -1.2**
Y22D IRIS PASSCAL I 7.26 73 ⇓P **Pn** **16 46 12.7 -0.5**
baz=7.2
MVCO Mesa Verde 7.49 46 ⇓P **Pn** **16 46 17.0 +0.6**
baz=7.5
MVCO Mesa Verde 7.49 46 *e*Pn **Pn** **16 46 16.2 -0.1**
MVCO *e*Sg **Sg** **16 48 23.3 -3.6**
BNM Barren Site 7.52 73 *e*Pn **Pn** **16 46 15.8 -0.9**
PV05 Paradox Valley 7.74 39 *e*Pn Pn 16 46 23.7 +3.9
TMUT Trail Mountain 7.80 24 *e*Pn **Pn** **16 46 21.8 +1.1**
ANMO Albuquerque 7.86 67 *ce*P **Pn** **16 46 21.4 -0.1**
ANMO pmax pmax
comp=Z,240nm,1.0s
ANMO Albuquerque 7.86 67 Pn **Pn** **16 46 20.8 -0.7**
comp=Z,2.1nm,0.3s,baz=247,slow=12,SNR=47
ANMO Lg Lg 16 48 27.4
baz=3.8,slow=15,SNR=2.2
ANMO LR LR 16 49 47.8
comp=Z,17µm,18.6s,baz=253,slow=42
ANMO Albuquerque 7.86 67 *e*Pn **Pn** **16 46 20.5 -1.0**
ANMO *e*Lg Lg 16 48 30.8
SRU San Rafael Swe 7.89 28 *e*P **Pn** **16 46 22.5 +0.6**
SRU San Rafael Swe 7.89 28 *e*Pn **Pn** **16 46 22.5 +0.6**
PV10 Paradox Valley 7.99 38 *e*Pn **Pn** **16 46 24.1 +0.8**
comp=Z,16µm,0.8s
PV09 Paradox Valley 8.03 37 *e*Pn **Pn** **16 46 25.6 +1.6**
PV01 Paradox Valley 8.07 41 *e*Pn Pn 16 46 16.9 -7.5
NLU North Lily Min 8.15 18 Pn Pn 16 46 18.5 -6.9
DUG Dugway, Tooele 8.21 13 *e*P Pn 16 46 29.6 +3.5
DUG Dugway, Tooele 8.21 13 ⇑P **Pn** **16 46 28.0 +1.9**
baz=8.2
DUG Dugway, Tooele 8.21 13 *e*Pn Pn 16 46 29.6 +3.5
MPU Maple Canyon 8.32 20 *e*Pn **Pn** **16 46 27.4 -0.4**
BMN Battle Mountai 8.34 350 *e*P **Pn** **16 46 28.3 +0.3**
BMN Battle Mountai 8.34 350 *e*Pn **Pn** **16 46 28.3 +0.3**
MNTX Cornudas Mount 8.44 91 ⇓P **Pn** **16 46 27.6 -1.7**
baz=8.4
ELK Elko 8.51 0 *e*P **Pn** **16 46 30.5 +0.1**
ELK Elko 8.51 0 Pn **Pn** **16 46 30.4 0.0**
comp=Z,2.1nm,0.3s,baz=180,slow=8.1,SNR=36
ELK Lg Lg 16 48 48.5
comp=Z,0.6nm,0.3s,baz=180,slow=3.4,SNR=2.1
ELK LR LR 16 50 08.3
comp=Z,13µm,19.6s,baz=179,slow=41
DAU Daniels Canyon 8.80 21 *e*P **Pn** **16 46 36.4 +2.0**
DAU Daniels Canyon 8.80 21 *e*Pn **Pn** **16 46 36.4 +2.0**
S22A 4UR Ranch, Cre 8.87 49 ⇓P **Pn** **16 46 35.4 +0.1**
baz=8.8
S22A 4UR Ranch, Cre 8.87 49 *e*Pn **Pn** **16 46 35.8 +0.4**
BGU Big Grassy Mou 8.88 11 *e*Pn **Pn** **16 46 36.8 +1.4**
BGU *e*Lg Lg 16 49 14.7
CTU Camp Tracy 8.92 18 *e*Pn **Pn** **16 46 37.0 +1.0**
SAIU Southern Antel 8.97 15 *e*Pn **Pn** **16 46 39.3 +2.7**
T23A Casias Ranch, 9.01 55 ⇑P **Pn** **16 46 38.1 +0.8**
baz=9.0
LPIG La Paz 9.21 150 Pn Pn 16 46 43.2 +3.4
comp=Z,11nm,0.3s,baz=138,slow=5.3,SNR=20
GDL2 Guadalupe Moun 9.26 87 *e*Pn **Pn** **16 46 40.0 -0.6**
comp=Z,104nm,1.1s
GDL2 *e*Sn **Sn** **16 48 24.0 -1.2**
U24A Moreno Valley 9.28 61 ⇓P **Pn** **16 46 42.2 +1.2**
baz=9.2
S23A Nye Farm, Mont 9.38 52 ⇑P **Pn** **16 46 44.6 +2.2**
baz=9.4
TCUT Toone Canyon 9.41 18 *e*Pn **Pn** **16 46 44.2 +1.5**
T24B San Luis 9.49 57 ⇑P **Pn** **16 46 45.7 +1.9**
baz=9.5
V25A Rancho No Teng 9.57 65 ⇓P **Pn** **16 46 45.9 +1.0**
baz=9.5
CLNB Carlsbad 9.67 87 Pn **Pn** **16 46 46.4 +0.2**
comp=Z,4.0nm,0.6s
SMCO Snowmass 9.69 42 *e*Pn **Pn** **16 46 48.6 +1.9**
SLBS Sierra La Lagu 9.73 150 *i* P **Pn** **16 46 47.3 +0.3**
O20A White River Ci 9.74 34 ⇓P **Pn** **16 46 48.9 +1.7**
baz=9.7
O20A White River Ci 9.74 34 *e*Pn Pn 16 46 42.7 -4.4
O20A *e*Lg Lg 16 49 37.3
SDCO Great Sand Dun 9.74 53 ⇓P **Pn** **16 46 47.4 0.0**
baz=9.7
HVU Hansel Valley 9.75 11 *e*P **Pn** **16 46 48.5 +1.2**
HVU Hansel Valley 9.75 11 *e*Pn **Pn** **16 46 48.5 +1.2**
R23A Moffat 9.77 50 ⇑P **Pn** **16 46 48.2 +0.5**
baz=9.7
HWUT Hardware Ranch 9.83 17 *e*Pn **Pn** **16 46 51.0 +2.6**
S24A Houchin Ranch, 9.88 54 ⇓P **Pn** **16 46 50.3 +0.9**
baz=9.9
U25A Circle Dot Ran 9.92 62 ⇑P **Pn** **16 46 51.9 +2.2**
baz=9.9
W26A Owens Ranch, T 10.03 70 ⇓P **Pn** **16 46 52.2 +1.1**
baz=10.0
KIPM Iron Peak 10.06 321 Pn Pn 16 46 48.1 -3.4
P22A Eagle 10.10 41 ⇓P **Pn** **16 46 53.2 +1.0**
baz=10
WDC Whiskeytown Da 10.18 327 P **Pn** **16 46 54.5 +1.5**
WDC Whiskeytown Da 10.18 327 Pn **Pn** **16 46 54.5 +1.5**
Q23A Hartsel 10.19 46 ⇓P **Pn** **16 46 53.8 +0.3**
baz=10
V26A Tequesquite Ra 10.20 66 ⇓P **Pn** **16 46 53.6 +0.1**
baz=10
T25A Trinidad 10.22 58 ⇑P **Pn** **16 46 55.4 +1.6**
baz=10
T25A Trinidad 10.22 58 *e*Pn **Pn** **16 46 56.7 +2.9**
R24A Sanders Place, 10.26 51 ⇑P **Pn** **16 46 55.0 +0.6**
baz=10
N20A Spence Gulch, 10.29 31 ⇑P **Pn** **16 46 56.2 +1.4**
baz=10
TXAR Lajitas Array 10.41 103 Pn **Pn** **16 46 56.3 0.0**
comp=Z,9.4nm,0.3s,baz=284,slow=13,SNR=185
TXAR Lg Lg 16 49 45.7
comp=Z,0.5nm,0.3s,baz=286,slow=34,SNR=3.2
TXAR LR LR 16 51 21.6
comp=Z,11µm,19.0s,baz=0.0,slow=40
U26A Atchley Ranch, 10.42 63 ⇓P **Pn** **16 46 57.6 +1.0**
baz=10
S25A Robets Cordova 10.43 56 ⇓P **Pn** **16 46 59.4 +2.7**
baz=10
MOD Modoc Plateau 10.46 339 *e*Pn Pn 16 47 00.3 +3.3
KMRM Mail Ridge 10.48 322 *e*Pn Pn 16 47 02.7 +5.4
P23A Jefferson 10.48 44 ⇓P **Pn** **16 46 58.8 +1.3**
baz=10
WVOR Wild Horse Val 10.54 346 *e*P **Pn** **16 47 00.0 +2.0**
WVOR Wild Horse Val 10.54 346 *e*Pn **Pn** **16 47 00.0 +2.0**
N02D Trinity Center 10.57 328 ⇑P **Pn** **16 47 01.5 +3.0**
baz=11
O22A Kremmling 10.61 39 ⇓P **Pn** **16 47 00.4 +1.1**
baz=11
MSTX Muleshoe 10.65 77 ⇑P **Pn** **16 47 02.1 +2.5**
baz=11
MSTX Muleshoe 10.65 77 *e*Pn **Pn** **16 46 59.7 +0.1**
Q24A Divide 10.65 48 ⇑P **Pn** **16 47 01.0 +1.2**
baz=11
Q24A Divide 10.65 48 *e*Pn **Pn** **16 47 00.6 +0.8**
228A UT Block 9, Go 10.77 87 ⇑P **Pn** **16 47 02.1 +0.9**
baz=11
R25A Fountain Ranch 10.77 54 ⇑P **Pn** **16 47 02.9 +1.5**
baz=11
T26A Comanche Natio 10.82 60 ⇓P **Pn** **16 47 04.2 +2.2**
baz=11
128A Castleberry Fa 10.84 84 ⇑P **Pn** **16 47 02.5 +0.3**
baz=11
M04C Macdoel 10.88 333 ⇓P Pn 16 47 06.6 +3.8
baz=11
ISCO Idaho Springs 10.89 43 *e*P **Pn** **16 47 04.3 +1.2**
ISCO Idaho Springs 10.89 43 ⇑P **Pn** **16 47 03.4 +0.3**
baz=11
ISCO Idaho Springs 10.89 43 *e*Pn **Pn** **16 47 04.3 +1.2**
Z28A Tucker Farm, M 10.92 81 ⇑P **Pn** **16 47 04.5 +1.1**
baz=11
V27A Dan Oppiter Fa 10.93 68 ⇑P **Pn** **16 47 04.5 +1.0**
baz=11
M02C Callahan 10.97 329 ⇓P Pn 16 47 07.2 +3.3
baz=11
KHMM Horse Mountain 10.98 324 Pn **Pn** **16 47 03.4 -0.7**
O23A Lake Granby, G 10.99 41 ⇓P **Pn** **16 47 05.5 +1.0**
baz=11
AHID Auburn Hatcher 11.04 16 *e*Pn **Pn** **16 47 06.9 +1.9**
Y28A McKinney Farm, 11.08 78 ⇓P **Pn** **16 47 07.2 +1.8**
baz=11
S26A Kim 11.10 58 ⇑P **Pn** **16 47 07.6 +1.8**
baz=11
N22A Wattenberg Ran 11.13 37 ⇑P **Pn** **16 47 07.0 +0.8**
baz=11
P24A Kohler Place, 11.13 46 ⇓P **Pn** **16 47 09.0 +2.7**
baz=11
U27A Thompson Grove 11.13 64 ⇓P **Pn** **16 47 09.1 +2.9**
baz=11
MFID Camas Ranch 11.18 358 *e*Pn **Pn** **16 47 09.1 +2.2**
YBH Yreka Blue Hor 11.19 330 *e*P **Pn** **16 47 09.9 +3.0**
YBH Yreka Blue Hor 11.19 330 Pn **Pn** **16 47 09.2 +2.2**
comp=Z,0.8nm,0.3s,baz=153,slow=11,SNR=50
YBH LR LR 16 51 45.6
comp=Z,6µm,20.4s,baz=246,slow=39
YBH Yreka Blue Hor 11.19 330 *e*Pn **Pn** **16 47 09.9 +3.0**
YBH *e*Lg Lg 16 50 29.0
X28A Dimmitt 11.19 75 ⇑P **Pn** **16 47 09.5 +2.4**
baz=11
Q25A Bedland, Calha 11.20 50 ⇑P **Pn** **16 47 08.0 +0.8**
baz=11
W28A Vega 11.31 71 ⇓P **Pn** **16 47 09.5 +0.9**
baz=11
HLID Hailey 11.35 3 ⇓P **Pn** **16 47 11.6 +2.4**
baz=11
HLID Hailey 11.35 3 *e*Pn **Pn** **16 47 11.9 +2.7**
329A Wagon Wheel Ra 11.35 90 ⇓P **Pn** **16 47 10.8 +1.6**
baz=11
129A Stewart Farms, 11.36 84 ⇑P **Pn** **16 47 11.1 +1.8**
baz=11
K05A Summer Lake 11.39 339 *e*Pn Pn 16 47 15.7 +5.9
529A Stev Forest Ra 11.39 97 ⇑P **Pn** **16 47 11.7 +2.0**
baz=11
V28A Channing 11.41 68 ⇓P **Pn** **16 47 12.4 +2.4**
baz=11
O24A Longmont 11.41 43 ⇑P **Pn** **16 47 12.2 +2.1**
baz=11
R26A Arlington 11.42 55 ⇑P **Pn** **16 47 12.7 +2.5**
baz=11
T27A Campo 11.43 62 ⇓P **Pn** **16 47 11.9 +1.7**
baz=11
229A Bryant Ranch, 11.44 88 ⇓P **Pn** **16 47 12.3 +1.8**
baz=11
RWWY Rawlins 11.45 32 *e*Pn Pn 16 47 04.6 -6.0
N23A Red Feather La 11.46 38 ⇓P **Pn** **16 47 12.9 +2.0**
baz=11
N23A Red Feather La 11.46 38 *e*Pn Pn 16 47 14.1 +3.3
BW06 Boulder Array 11.47 22 *e*Pn **Pn** **16 47 11.5 +0.6**
PDAR Pinedale Array 11.47 22 Pn **Pn** **16 47 11.8 +0.9**
comp=Z,0.2nm,0.3s,baz=231,slow=9.4,SNR=27
PDAR Lg Lg 16 50 31.7
comp=Z,0.1nm,0.3s,baz=190,slow=19,SNR=2.8
PDAR LR LR 16 52 34.7
comp=Z,1µm,19.1s,baz=214,slow=43
Z29A Hungry Hill Ra 11.49 81 ⇑P **Pn** **16 47 12.6 +1.4**
baz=12
M22A Cedar Creek Ra 11.51 35 ⇑P **Pn** **16 47 14.0 +2.5**
baz=12
S27A Las Animas 11.54 58 ⇓P **Pn** **16 47 13.0 +1.2**
baz=12
Y29A Porterfield Fa 11.55 78 ⇓P **Pn** **16 47 13.3 +1.3**
baz=12
429A Davenport Ranc 11.56 94 ⇓P **Pn** **16 47 14.3 +2.3**
baz=12
U28A Mallet 11.58 65 ⇑P **Pn** **16 47 13.1 +0.8**
baz=12
K04D Chiloquin, OR 11.58 336 ⇑P **Pn** **16 47 14.9 +2.5**
baz=12
X29A Tulia 11.59 75 ⇓P **Pn** **16 47 12.8 +0.3**
baz=12
P25A Willow Gulch B 11.59 48 ⇑P **Pn** **16 47 12.4 -0.1**
baz=12
REDW Red Top Meadow 11.66 16 *e*Pn **Pn** **16 47 16.6 +3.0**
AMTX Amarillo 11.67 73 ⇑P **Pn** **16 47 14.6 +1.1**
baz=12
AMTX Amarillo 11.67 73 *e*Pn **Pn** **16 47 13.3 -0.2**
Q26A Hugo 11.69 52 ⇑P **Pn** **16 47 15.6 +1.8**
baz=12
W29A Amarillo 11.73 72 ⇑P **Pn** **16 47 15.4 +1.0**
baz=12
TPAW Teton Pass 11.76 16 *e*Pn Pn 16 47 18.1 +3.2
SNOW Snow King Moun 11.78 16 *e*Pn Pn 16 47 19.0 +3.8
R27A Eads 11.87 56 ⇑P **Pn** **16 47 17.0 +0.7**
baz=12
FXWY Fox Creek 11.88 15 *e*Pn Pn 16 47 19.8 +3.2
T28A Walsh 11.90 62 ⇑P **Pn** **16 47 17.9 +1.2**
baz=12
LOHW Long Hollow 11.96 17 *e*Pn Pn 16 47 20.8 +3.2
O25A Wiggins 11.97 46 ⇑P **Pn** **16 47 20.8 +3.0**
baz=12
Z30A Sanderson Ranc 11.98 81 ⇓P **Pn** **16 47 20.0 +2.3**
baz=12
N24A Carr 11.99 41 ⇑P **Pn** **16 47 20.1 +2.1**
baz=12
M23A Laramie 11.99 37 ⇑P Pn 16 47 21.5 +3.5
baz=12
V29A Stinnett 11.99 69 ⇓P **Pn** **16 47 19.8 +1.9**
baz=12
J05D Fort Rock, OR 12.00 339 ⇓P Pn 16 47 21.3 +3.2
baz=12
PHWY Pilot Hill 12.01 38 *e*Pn Pn 16 47 22.7 +4.4
HUMO Hull Mountain 12.02 332 *e*Pn Pn 16 47 21.6 +3.3
230A Sterling City 12.04 88 ⇑P **Pn** **16 47 20.5 +1.8**
baz=12
330A Mertzon 12.04 90 ⇓P **Pn** **16 47 19.6 +0.9**
baz=12
L22A Ellis Ranch, M 12.07 33 ⇑P **Pn** **16 47 21.3 +2.1**
baz=12
J19A Crowheart 12.08 22 ⇑P **Pn** **16 47 21.4 +2.3**
baz=12
430A Baggett Ranch, 12.09 93 ⇑P **Pn** **16 47 21.2 +1.9**
baz=12
130A Snyder 12.12 84 ⇓P **Pn** **16 47 20.8 +1.1**

| | | |

NEW Newport 16.09 356 P Pn 16 48 11.7 -1.4
NEW pmax pmax
comp=Z,395nm,1.3s
NEW Newport 16.09 356 Pn Pn 16 48 14.6 +1.4
comp=Z,0.5nm,0.3s,baz=176,slow=13,SNR=52
NEW LR LR 16 54 50.2
comp=Z,8µm,18.2s,baz=183,slow=39
NEW Newport 16.09 356 ⇓P Pn 16 48 11.7 -1.4
baz=16
NEW Newport 16.09 356 Pn Pn 16 48 11.7 -1.4
comp=Z,395nm,1.3s
N32A Stulken Farm, 16.09 53 ⇓P Pn 16 48 11.5 -1.8
baz=16
H27A Howes 16.12 36 ⇓P Pn 16 48 12.8 -0.9
baz=16
D21A La Casta Ranch 16.13 21 ⇑P Pn 16 48 13.3 -0.4
baz=16
I28A Midland 16.16 39 ⇑P Pn 16 48 12.7 -1.4
baz=16
E23A Ismay 16.20 25 ⇑P Pn 16 48 13.2 -1.3
baz=16
C19A Slack Wire Ran 16.21 15 ⇓P Pn 16 48 13.9 -0.9
baz=16
K30A Basset 16.22 46 ⇑P Pn 16 48 13.0 -1.9
baz=16
J29A Okreek 16.24 42 ⇓P Pn 16 48 14.2 -0.9
baz=16
EGMT Eagleton 16.34 13 ⇓P Pn 16 48 15.8 -0.6
baz=16
EGMT Eagleton 16.34 13 eP P 16 48 18.9 -0.5
comp=Z,232nm,1.3s
G26A Maurine 16.36 33 ⇓P Pn 16 48 16.5 -0.2
baz=16
537A Green Hill Far 16.39 92 ⇑P Pn 16 48 15.9 -1.2
baz=16
437A Phantom Ranch, 16.40 90 ⇓P Pn 16 48 15.2 -1.9
baz=16
B08A Colville Reser 16.41 350 ePn P 16 48 19.4 -0.7
comp=Z,146nm,1.3s
L31A Butterfield Fa 16.43 48 ⇓P Pn 16 48 17.2 -0.3
baz=16
C20A Veseth Ranch, 16.44 18 ⇓P Pn 16 48 17.0 -0.7
baz=16
F25A Bowman 16.46 30 ⇓P Pn 16 48 18.2 +0.2
baz=16
D22A Cohagen 16.46 22 ⇑P Pn 16 48 17.9 0.0
baz=16
S35A Otter Creek Ra 16.48 65 ⇓P Pn 16 48 16.8 -1.4
baz=16
BGNE Belgrade 16.49 51 ⇓P Pn 16 48 17.2 -1.1
baz=16
BGNE Belgrade 16.49 51 eP P 16 48 19.6 -1.4
comp=Z,200nm,1.3s
NLWA Neilton Lookou 16.50 339 P P 16 48 20.3 -0.8
comp=Z,384nm,1.5s
137A Heron Place, G 16.51 83 ⇓P Pn 16 48 16.8 -1.8
baz=16
237A Washetta, Mont 16.52 86 ⇑P Pn 16 48 16.9 -1.8
baz=16
337A Centerville 16.54 88 ⇓P Pn 16 48 17.6 -1.3
baz=16
TUL1 Leonard 16.57 72 ⇓P Pn 16 48 17.3 -2.1
baz=16
TUL1 Leonard 16.57 72 eP Pn 16 48 19.9 +0.6
comp=Z,210nm,1.0s
E24A Baker 16.62 27 ⇓P Pn 16 48 20.4 +0.4
baz=17
I29A Vivian Onida 16.64 41 ⇑P Pn 16 48 19.3 -0.9
baz=17
KSU1 Kansas State U 16.65 60 ⇓P Pn 16 48 19.1 -1.3
baz=17
KSU1 Kansas State U 16.65 60 eP Pn 16 48 20.8 +0.4
comp=Z,98nm,1.0s
J30A Dallas 16.67 44 ⇑P Pn 16 48 18.9 -1.7
baz=17
H28A Mission Ridge 16.69 38 ⇑P Pn 16 48 19.7 -1.1
baz=17
G27A Dupree 16.74 34 ⇑P Pn 16 48 19.9 -1.6
baz=17
F26A Lodgepole 16.75 32 ⇑P Pn 16 48 20.0 -1.6
baz=17
C21A Desert Coulee 16.79 19 ⇓P Pn 16 48 20.9 -1.2
baz=17
D23A Lindsay 16.81 24 ⇓P Pn 16 48 20.7 -1.7
baz=17
HKT Hockley 16.83 93 eP P 16 48 24.6 -0.1
HKT pmax pmax
comp=Z,349nm,1.5s
HKT Hockley 16.83 93 eP P 16 48 24.6 -0.1
comp=Z,350nm,1.5s
WALA Waterton Lakes 16.85 3 eP P 16 48 25.1 0.0
comp=Z,14µm,1.6s
B19A Brinkman Farms 16.91 15 ⇓P Pn 16 48 22.6 -1.1
baz=17
B06A Marblemount 16.94 346 ePn P 16 48 27.4 +1.5
comp=Z,380nm,1.7s
E25A Miller Ranch, 16.94 29 ⇓P Pn 16 48 23.7 -0.4
baz=17
438A Sam Houston St 16.97 90 ⇓P Pn 16 48 22.7 -1.8
baz=17
338A Crockett 17.02 88 ⇑P Pn 16 48 23.5 -1.5
baz=17
G28A Parade 17.02 37 ⇑P Pn 16 48 23.2 -1.8
baz=17
S36A Lake Cedric, C 17.05 66 ⇓P Pn 16 48 22.8 -2.6
baz=17
F27A Lemmon 17.06 33 ⇑P Pn 16 48 24.9 -0.6
baz=17
538A Harpers Horsep 17.06 91 ⇓P Pn 16 48 21.7 -3.8
baz=17
138A Matatall Enter 17.07 83 ⇓P Pn 16 48 24.8 -0.9
baz=17
I30A Oacoma 17.07 42 ⇑P Pn 16 48 24.2 -1.4
baz=17
D24A Glendive 17.08 26 ⇓P Pn 16 48 24.5 -1.2
baz=17
C22A Vida 17.08 22 ⇓P Pn 16 48 23.9 -1.9
baz=17
H29A Onida 17.09 39 ⇑P Pn 16 48 23.7 -2.1
baz=17
238A Jacksonville 17.10 85 ⇓P Pn 16 48 24.9 -1.1
baz=17
B20A Solberg Farm, 17.11 17 ⇑P Pn 16 48 24.1 -2.1
baz=17
738A Farr-Stevens R 17.26 96 ⇓P Pn 16 48 25.7 -2.4
baz=17
E26A Carlson Angus 17.32 31 ⇓P Pn 16 48 27.4 -1.3
baz=17
B21A Ellsworth Farm 17.36 19 ⇑P Pn 16 48 27.5 -1.7
baz=17
C23A Lambert 17.36 23 ⇓P Pn 16 48 27.3 -1.9
baz=17
C24A Savage 17.39 25 ⇓P Pn 16 48 28.4 -1.2
baz=17
A19A Klindworth Far 17.41 15 ⇓P Pn 16 48 28.7 -1.1
baz=17
D25A Fairfield 17.50 28 ⇓P Pn 16 48 30.2 -0.8
baz=18
NATX Nacogdoches 17.51 86 eP P 16 48 32.9 +0.5
comp=Z,949nm,1.4s
A05A Maple Falls 17.52 345 ePn P 16 48 34.4 +2.1
comp=Z,793nm,2.5s
PGC Sidney 17.53 342 P P 16 48 32.7 +0.3
comp=Z,6µm,1.3s
B22A Reddig Ranch S 17.54 21 ⇑P Pn 16 48 30.1 -1.4
baz=18
A20A Cobblestone Ra 17.54 16 ⇑P Pn 16 48 30.5 -1.1
baz=18
G29A Hoven 17.61 38 ⇓P Pn 16 48 31.4 -1.0
baz=18
F28A McLaughlin 17.62 35 ⇓P Pn 16 48 30.9 -1.6
baz=18
239A Gary 17.64 85 ⇓P Pn 16 48 31.7 -1.1
baz=18
339A Huntington 17.66 87 ⇑P Pn 16 48 31.9 -1.1
baz=18
BRSD Miller 17.66 42 ⇓P Pn 16 48 32.2 -0.7
baz=18
BRSD Miller 17.66 42 Pn Pn 16 48 32.0 -1.0
comp=Z,73nm,1.0s
E27A Carson 17.69 33 ⇓P Pn 16 48 31.5 -1.8
baz=18
D26A Manning 17.77 30 ⇑P Pn 16 48 33.9 -0.4
baz=18
R37A Teagarden Farm 17.77 64 ⇑P Pn 16 48 33.2 -1.2
baz=18
A21A Bergtoll Ranch 17.90 18 ⇑P Pn 16 48 36.1 +0.2
baz=18

C25A Freed Ranch, W 17.98 27 ⇓P Pn 16 48 36.8 -0.1
baz=18
G30A Faulkton 17.99 40 ⇓P Pn 16 48 36.8 -0.3
baz=18
B23A Brockton 18.00 23 ⇑P Pn 16 48 37.1 -0.1
baz=18
F29A Eureka 18.10 37 ⇑P Pn 16 48 37.5 -0.9
baz=18
A22A Carney Farms, 18.18 20 ⇑P Pn 16 48 38.6 -0.8
baz=18
Q37A Longview Farm, 18.20 63 ⇓P Pn 16 48 38.0 -1.7
baz=18
E28A Huff 18.20 34 ⇑P Pn 16 48 39.2 -0.4
baz=18
340A Bronson 18.21 87 ⇓P Pn 16 48 39.2 -0.6
baz=18
D27A Center 18.22 31 ⇓P Pn 16 48 38.5 -1.3
baz=18
DGMT Dagmar 18.27 24 ⇓P Pn 16 48 40.2 -0.3
baz=18
DGMT Dagmar 18.27 24 eP P 16 48 41.4 +0.7
comp=Z,110nm,1.1s
MIAR Mount Ida 18.29 77 eP Pn 16 48 40.7 -0.1
MIAR pmax pmax
comp=Z,162nm,1.1s
MIAR Mount Ida 18.29 77 eP Pn 16 48 40.7 -0.1
comp=Z,162nm,1.1s
A23A Redstone 18.47 22 ⇑P P 16 48 42.5 -0.4
baz=18
B25A Knox Farm, Ray 18.48 26 ⇓P Pn 16 48 43.0 0.0
baz=18
F30A Leola 18.52 38 ⇓P P 16 48 42.4 -1.0
baz=18
C26A Wahner Farm, P 18.54 29 ⇑P P 16 48 42.9 -0.7
baz=18
ECSD EROS Data Cent 18.64 47 ⇑P P 16 48 43.1 -1.6
baz=19
ECSD EROS Data Cent 18.64 47 eP P 16 48 43.2 -1.6
comp=Z,45nm,1.0s
C27A Sayler Ranch, 18.70 30 ⇑P P 16 48 44.9 -0.4
baz=19
E29A Napoleon 18.70 35 ⇑P P 16 48 44.4 -1.0
baz=19
D28A Regan 18.71 33 ⇓P P 16 48 45.5 0.0
baz=19
A24A Westby 18.73 24 ⇓P P 16 48 45.8 +0.1
baz=19
B26A Jensen Ranch, 18.92 28 ⇓P Pn 16 48 48.5 +0.1
baz=19
E30A Jud 19.02 37 ⇑P P 16 48 48.6 -0.3
baz=19
A25A Svangstu Ranch 19.05 25 ⇓P P 16 48 48.6 -0.6
baz=19
D29A Pettibone, Tap 19.07 34 ⇓P Pn 16 48 50.2 0.0
baz=19
C28A Hausauer Farms 19.18 32 ⇑P P 16 48 50.7 0.0
baz=19
UALR University of 19.31 76 eP P 16 48 47.9 -4.2
comp=Z,536nm,2.5s
B27A Peters Farms, 19.34 29 ⇓P P 16 48 51.7 -0.7
baz=19
A26A Wade Farm, Ken 19.42 27 ⇑P Pn 16 48 53.8 -0.6
baz=19
D30A Buchanan 19.51 36 ⇓P P 16 48 54.5 +0.2
baz=20
MDND Maddock 19.64 33 ⇑P P 16 48 56.1 +0.5
baz=20
MDND Maddock 19.64 33 P P 16 48 54.0 -1.7
comp=Z,137nm,1.3s
B28A Dugan Ranch, T 19.75 31 ⇑P P 16 48 57.1 +0.3
baz=20
SCIA State Center 20.05 55 P P 16 49 00.6 +0.4
comp=Z,104nm,1.1s
C30A Mose, Pekin 20.06 35 ⇓P P 16 48 59.1 -1.2
baz=20
A28A Rude Farm, Bot 20.14 30 ⇓P P 16 49 00.2 -0.9
baz=20
B29A Wagenman Farm, 20.20 32 ⇓P P 16 49 00.4 -1.4
baz=20
A29A Manning Farm, 20.60 31 ⇑P P 16 49 06.1 0.0
baz=21
B30A Myrvik Farm, E 20.66 33 ⇑P P 16 49 06.3 -0.5
baz=21
VBMS Vicksburg 20.96 83 eP Pn 16 49 12.4 -0.2
comp=Z,579nm,1.0s
A30A Hoffart Farm, 21.03 32 ⇑P P 16 49 09.8 -1.0
baz=21
SLM Saint Louis 21.37 66 eP P 16 49 14.5 0.0
SLM pmax pmax
comp=Z,320nm,1.3s
SLM Saint Louis 21.37 66 eP P 16 49 14.4 0.0
comp=Z,320nm,1.3s
OXF Oxford 21.73 77 eP P 16 49 15.5 -2.9
OXF pmax pmax
comp=Z,212nm,1.0s
OXF Oxford 21.73 77 eP P 16 49 15.5 -2.9
comp=Z,212nm,1.0s
SPMN Marine on St. 21.74 47 ⇑P P 16 49 17.9 -0.6
baz=22
SPMN Marine on St. 21.74 47 eP P 16 49 20.1 +1.6
comp=Z,131nm,1.5s
AGMN Agassiz Nation 21.76 37 ⇑P P 16 49 17.5 -1.2
baz=22
AGMN Agassiz Nation 21.76 37 eP P 16 49 17.7 -1.0
comp=Z,95nm,1.1s
HALT Halls 21.79 73 eP P 16 49 18.3 -0.8
GLAT Glass 21.85 72 P P 16 49 15.1 -4.6
SIUC Southern Illin 22.03 68 eP P 16 49 21.9 +0.3
comp=Z,168nm,1.1s
BBB Bella Bella 22.03 339 LR LR 16 58 28.9
comp=Z,8µm,18.9s,baz=163,slow=38
JFWS Jewell Farm 22.46 54 eP P 16 49 25.0 -1.2
JFWS pmax pmax
comp=Z,68nm,1.0s
JFWS Jewell Farm 22.46 54 eP P 16 49 25.0 -1.2
comp=Z,68nm,1.0s
WVT Waverly 23.02 73 eP P 16 49 32.6 +0.4
WVT pmax pmax
comp=Z,95nm,1.1s
WVT Waverly 23.02 73 eP P 16 49 32.6 +0.4
comp=Z,95nm,1.1s
WVT eScP ScP 16 56 34.4 -26
OLIL Olney 23.03 66 eP P 16 49 30.3 -1.9
comp=Z,87nm,0.9s
ULM Lac du Bonnet 23.07 33 eP P 16 49 32.6 +0.1
ULM pmax pmax
comp=Z,46nm,1.3s
ULM Lac du Bonnet 23.07 33 P P 16 49 31.4 -1.1
comp=Z,11nm,0.9s,baz=219,slow=9.6,SNR=13
ULM Lg Lg 16 56 32.3
comp=Z,5.3nm,1.1s,baz=141,slow=14,SNR=5.0
ULM LR LR 16 58 44.1
comp=Z,3µm,19.8s,baz=228,slow=37
ULM Lac du Bonnet 23.07 33 eP P 16 49 32.6 +0.1
comp=Z,46nm,1.3s
ULM Lg Lg 16 56 32.3
USIN University of 23.28 68 eP P 16 49 36.6 +1.9
comp=Z,105nm,0.9s
LRAL Lakeview Retre 23.82 80 eP P 16 49 39.7 -0.5
comp=Z,145nm,1.3s
CMIG Matias Romero 23.83 124 P P 16 49 39.2 -1.2
comp=Z,23nm,1.1s,baz=292,slow=9.8,SNR=12
EYMN Ely 23.91 42 eP P 16 49 44.9 +4.0
comp=Z,43nm,1.3s
BRAL Brewton 24.05 85 eP P 16 49 44.0 +1.6
comp=Z,651nm,1.3s
SFIN Lafayette 24.07 62 ⇑P P 16 49 41.5 -0.9
baz=24
SFIN Lafayette 24.07 62 eP P 16 49 41.5 -0.9
comp=Z,84nm,1.2s
BLO Bloomington 24.31 65 eP P 16 49 46.0 +1.3
BLO pmax pmax
comp=Z,53nm,1.0s
BLO Bloomington 24.31 65 eP P 16 49 46.0 +1.3
comp=Z,53nm,1.0s
WCI Wyandotte Cave 24.38 68 eP P 16 49 44.9 -0.5
WCI pmax pmax
comp=Z,33nm,1.0s
WCI Wyandotte Cave 24.38 68 eP P 16 49 44.9 -0.5
comp=Z,33nm,1.0s
FFC Flin Flon 24.40 19 P P 16 49 45.7 +0.4
comp=Z,259nm,1.6s,SNR=14
FFC Flin Flon 24.40 19 eP P 16 49 44.7 -0.7
FFC pmax pmax
comp=Z,161nm,1.6s
FFC Flin Flon 24.40 19 eP P 16 49 44.7 -0.7
comp=Z,161nm,1.6s
TKL Tuckaleechee C 26.32 74 eP P 16 50 03.2 +0.3

TKL Tuckaleechee C 26.32 74 P P 16 50 03.3 +0.4
comp=Z,8.7nm,0.9s,baz=245,slow=6.4,SNR=7.8
TKL LR LR 17 00 38.8
comp=Z,6µm,20.5s,baz=272,slow=37
GOGA Godfrey 26.73 79 eP P 16 50 06.7 +0.1
GOGA pmax pmax
comp=Z,40nm,1.0s
GOGA Godfrey 26.73 79 eP P 16 50 06.7 +0.1
comp=Z,40nm,1.0s
TIGA Tifton 26.90 83 ⇓P P 16 50 07.3 -0.9
baz=27
WRAK Wrangell Islan 26.94 339 eP P 16 50 02.2 -6.1
comp=Z,100nm,1.4s
ACSO Alum Creek Sta 27.15 64 eP P 16 50 10.4 0.0
comp=Z,56nm,0.9s
DLBC Dease Lake 28.06 343 P P 16 50 20.1 +1.7
comp=Z,18nm,0.9s,baz=168,slow=8.6,SNR=28
DLBC LR LR 17 02 58.5
comp=Z,5µm,20.6s,baz=161,slow=40
KMSC Kings Mountain 28.33 75 ⇑P P 16 50 19.7 -1.4
baz=28
KMSC Kings Mountain 28.33 75 eP P 16 50 21.3 +0.3
comp=Z,38nm,1.1s
APG El Apazote 28.37 121 P P 16 50 17.7 -4.1
comp=Z,5.1nm,0.9s,baz=291,slow=7.8,SNR=8.0
APG LR LR 17 01 07.0
comp=Z,9µm,19.3s,baz=299,slow=35
ALLY Alegheny Colle 29.46 61 eP P 16 50 31.0 0.0
comp=Z,58nm,1.1s
FCC Fort Churchill 30.16 22 eP P 16 50 37.4 +0.5
FCC Fort Churchill 30.16 22 eP P 16 50 37.4 +0.5
comp=Z,1µm,1.4s
YKA Yellowknife Ar 30.29 1 P P 16 50 38.5 +0.4
comp=Z,2.9nm,1.0s,baz=183,slow=8.6,SNR=28
SKAG Skagway 30.36 340 P P 16 50 34.1 -4.6
SSPA Standing Stone 31.06 64 eP P 16 50 43.0 -2.1
comp=Z,205nm,2.5s
HYT Haines Junctio 32.11 340 eP P 16 50 56.0 +1.8
BINY Binghamton 32.60 61 eP P 16 50 58.3 -0.4
comp=Z,56nm,1.3s
LONY Lake Ozonia 33.88 57 eP P 16 51 09.7 -0.1
comp=Z,19nm,1.1s
RAGM Ragged Mountai 34.17 334 eP P 16 51 15.4 +3.2
comp=Z,56nm,1.2s
ACCN Adirondack Com 34.40 59 eP P 16 51 14.1 -0.3
comp=Z,21nm,0.9s
BMRM Bremner River 34.54 335 eP P 16 51 17.6 +2.2
comp=Z,59nm,1.4s
DIV Divide 35.07 335 eP P 16 51 21.9 +2.0
comp=Z,33nm,1.4s
DAWY Dawson 35.23 342 eP P 16 51 23.1 +1.8
SEW Seward 35.84 331 eP P 16 51 28.6 +2.1
comp=Z,59nm,1.2s
PAX Paxson 36.22 337 eP P 16 51 32.1 +2.3
PAX pmax pmax
comp=Z,22nm,1.4s
PAX Paxson 36.22 337 eP P 16 51 32.1 +2.3
comp=Z,22nm,1.4s
EGAK Eagle 36.27 342 eP P 16 51 32.1 +2.0
comp=Z,70nm,1.3s
RC01 Rabbit Creek A 36.54 333 eP P 16 51 33.2 +0.7
comp=Z,53nm,1.2s
WVL Waterville 37.37 57 eP P 16 51 42.1 +2.4
comp=Z,25nm,1.0s
RSO Redoubt South 37.41 330 eP P 16 51 41.8 +1.7
INK Inuvik 37.64 349 eP P 16 51 43.1 +1.4
INK Inuvik 37.64 349 eP P 16 51 43.1 +1.4
MCK McKinley 37.89 336 eP P 16 51 46.1 +2.1
MCK pmax pmax
comp=Z,94nm,1.4s
MCK McKinley 37.89 336 eP P 16 51 46.0 +2.1
comp=Z,94nm,1.4s
ILAR Eielson Array 37.92 339 P P 16 51 45.8 +1.6
comp=Z,11nm,0.7s,baz=152,slow=7.4,SNR=118
ILAR LR LR 17 07 25.3
comp=Z,3µm,19.0s,baz=154,slow=36
TRF Thorofare Moun 38.18 335 eP P 16 51 48.4 +1.8
comp=Z,137nm,1.3s
COLA College 38.29 338 cP P 16 51 49.4 +2.1
COLA pmax pmax
comp=Z,93nm,1.0s
COLA College 38.29 338 eP P 16 51 49.2 +2.0
comp=Z,76nm,1.4s
KTH Kantishna Hill 38.47 335 eP P 16 51 50.0 +1.2
PPLA Purkeypile 38.54 334 eP P 16 51 50.9 +1.3
comp=Z,175nm,1.3s
CAST Castle Rocks 38.81 335 eP P 16 51 53.8 +2.1
comp=Z,39nm,1.2s
SVW2 Sparrevohn 38.93 330 eP P 16 51 54.1 +1.4
EMMW East Machias 38.95 57 eP P 16 51 55.7 +2.6
comp=Z,25nm,0.6s
COLD Coldfoot 40.59 340 eP P 16 52 08.6 +2.1
comp=Z,31nm,1.2s
SCHQ Schefferville 40.71 42 P P 16 52 07.3 -0.4
comp=Z,12nm,1.1s,baz=256,slow=8.2,SNR=6.3
SCHQ LR LR 17 08 55.1
comp=Z,2µm,18.2s,baz=260,slow=36
SCHQ Schefferville 40.71 42 eP P 16 52 08.3 +0.7
IM04 Indian Mountai 40.91 337 eP P 16 52 10.3 +1.2
RES Resolute Bay 43.73 8 eP P 16 52 32.5 +0.6
RES Resolute Bay 43.73 8 eP P 16 52 32.5 +0.6
TNA Tin City 45.85 333 eP P 16 52 49.1 +0.2
MTP Monte Pirata 46.78 95 eP P 16 52 59.1 +2.3
GAMB Gambell 46.86 330 eP P 16 52 57.7 +0.8
ROSC El Rosal 46.97 117 P P 16 53 02.1 +3.3
comp=Z,4.4nm,0.4s,baz=313,slow=2.5,SNR=11
ROSC LR LR 17 14 40.1
comp=Z,1µm,19.2s,baz=350,slow=39
ROSC El Rosal 46.97 117 eP P 16 53 03.5 +4.6
OTAV Otavalo 47.12 125 eP P 16 53 02.1 +2.0
SDV Santo Domingo 47.38 109 eP P 16 53 01.8 0.0
KULLO Kullorsuaq 50.86 17 iP P 16 53 28.8 +1.3
KULLO pmax pmax
comp=Z,31nm,1.1s
KULLO MLR MLR
comp=Z,2µm,19.0s
KULLO Kullorsuaq 50.86 17 iP P 16 53 28.8 +1.3
comp=Z,31nm,1.0s
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 50.92 27 iP P 16 53 30.7 +2.7
SFJD pmax pmax
comp=Z,9.0nm,1.1s
SFJD MLR MLR
comp=Z,3µm,16.0s
SFJD Kangerlussuaq 50.92 27 eP P 16 53 31.6 +3.6
SFJD Kangerlussuaq 50.92 27 iP P 16 53 30.7 +2.7
comp=Z,8.8nm,1.0s
comp=Z,3µm,16.0s
ALE Alert 53.62 7 P P 16 53 48.9 +1.0
comp=Z,80nm,1.2s,SNR=6.4
SUMG Summit 55.66 21 eP P 16 54 03.9 +0.6
SUMG pmax pmax
comp=Z,66nm,1.1s
SUMG Summit 55.66 21 eP P 16 54 03.9 +0.6
comp=Z,66nm,1.1s
SUMG Summit 55.66 21 iP P 16 54 04.1 +0.8
comp=Z,32nm,1.1s
comp=Z,3µm,15.0s
BILL Bilibino 56.25 334 cP P 16 54 09.1 +2.0
BILL e 16 56 17.4
BILL iS S 17 01 58.5 +1.7
BILL pmax pmax
comp=Z,54nm,1.7s
BILL MLR MLR
comp=Z,1µm,21.0s
BILL Bilibino 56.25 334 eP P 16 54 08.0 +0.9
comp=Z,49nm,1.4s
RKT Rikitea 58.16 201 eS S 17 02 22.5 -0.3
comp=Z,578nm,25.8s
RKT eLQ LQ 17 08 52.4
comp=Z,1µm,32.8s
RKT eLR LR 17 11 23.2
comp=Z,996nm,27.0s
PPT Papeete 59.41 219 LR LR 17 15 15.3
comp=Z,594nm,18.2s,baz=30,slow=31
PPT2 Papeete2 59.42 219 eS S 17 02 36.1 -3.5
comp=Z,566nm,26.5s
PPT2 eLQ LQ 17 09 23.1
comp=Z,1µm,25.2s
PPT2 eLR LR 17 11 53.0
comp=Z,913nm,25.2s
DAG Danmarks Havn 60.41 15 iP P 16 54 35.8 -0.2
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG MLR MLR
comp=Z,2µm,14.0s
DAG Danmarks Havn 60.41 15 iP P 16 54 35.8 -0.2

comp=Z,9.9nm,0.9s
comp=Z,2µm,14.0s
PTGA Pitinga 61.61 111 P **P 16 54 45.6 +0.4**
comp=Z,14nm,1.0s,baz=319,slow=6.2,SNR=9.4
PTGA Pitinga 61.61 111 *e*P **P 16 54 45.0 -0.1**
PET Petropavlovsk 62.73 317 *e*P **P 16 54 54.3 +2.2**
PET *e*S **S 17 03 18.6 -2.3**
PET pmax pmax
comp=Z,29nm,1.2s
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,500nm,13.0s
BORG Borgarnes 62.99 29 *i* P P 16 54 59.3 +5.7
PETK Petropavlovsk- 63.25 318 P **P 16 54 56.3 +0.7**
comp=Z,27nm,1.1s,baz=93,slow=7.4,SNR=9.2
TBI Tubuai 64.19 215 *e*S **S 17 03 36.4 -3.2**
comp=Z,357nm,27.0s
TBI *e*LQ LQ 17 11 22.8
comp=Z,2µm,33.2s
TBI *e*LR LR 17 14 03.0
comp=Z,569nm,28.8s
LPAZ La Paz 66.08 130 P **P 16 55 15.3 +0.2**
comp=Z,1.4nm,0.9s,baz=325,slow=9.6,SNR=4.8
LPAZ LR LR 17 21 28.5
comp=Z,906nm,20.5s,baz=326,slow=34
TIXI Tiksi 67.28 342 *c i*P **P 16 55 21.9 +0.6**
TIXI pmax pmax
comp=Z,24nm,1.2s
TIXI Tiksi 67.28 342 *e*P **P 16 55 21.5 +0.2**
comp=Z,22nm,1.2s
LVC Limon Verde 70.28 135 *e*P **P 16 55 41.7 +0.7**
comp=Z,22nm,1.4s
SIV San Ignacio 70.65 124 P **P 16 55 40.8 -2.3**
comp=Z,6.7nm,1.0s,baz=305,slow=7.7,SNR=8.7
YAK Yakutsk 72.61 333 *e*P **P 16 55 54.4 +0.2**
YAK *e**PP pP 16 56 01.9 +5.3
YAK *e* 16 56 08.6
YAK *e* 16 58 37.0
YAK *e*S **S 17 05 16.9 -2.2**
YAK *e* 17 05 59.0
YAK *e*SS **SS 17 09 55.6 -1.5**
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,162nm,6.2s
YAK pmax pmax
comp=N,131nm,6.1s
YAK pmax pmax
comp=E,142nm,4.8s
YAK smax smax
comp=E,128nm,5.0s
YAK smax smax
comp=N,155nm,5.4s
YAK MLR MLR
comp=N,607nm,20.0s
YAK MLR MLR
comp=E,533nm,17.0s
YAK MLR MLR
comp=Z,928nm,18.0s
YAK Yakutsk 72.61 333 *e*P **P 16 55 53.2 -1.1**
comp=Z,36nm,1.2s
YSS Yuzh-Sakhalins 74.55 316 *e*P **P 16 56 06.0 +0.1**
YSS Yuzh-Sakhalins 74.55 316 *e*P **P 16 56 06.9 +1.0**
comp=Z,47nm,1.2s
ARCES ARCESS Array B 74.59 13 P **P 16 56 05.0 -0.8**
ARCES ARCESS Array B 74.59 13 P **P 16 56 05.0 -0.8**
comp=Z,14nm,1.0s,baz=328,slow=5.7,SNR=12
ARCES LR LR 17 31 16.1
comp=Z,1µm,18.2s,baz=332,slow=38
KEV Kevo 74.69 13 *e*P **P 16 56 04.7 -1.6**
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 74.69 13 *e*p **P 16 56 04.7 -1.6**
comp=Z,5.7nm,0.8s
NB2 NORSAR Subarra 77.40 24 P **P 16 56 22.5 +0.5**
comp=Z,17nm,1.1s,baz=314,slow=5.6
NB2 NORSAR Subarra 77.40 24 P **P 16 56 22.5 +0.5**
baz=314,slow=5.6
NOA NORSAR Array B 77.40 24 P **P 16 56 22.8 +0.8**
comp=Z,9.7nm,1.0s,baz=317,slow=5.7,SNR=12
NOA LR LR 17 30 06.3
comp=Z,673nm,20.2s,baz=325,slow=36
CFAA Coronel Fontan 77.53 140 P **P 16 56 23.3 +0.3**
comp=Z,0.5nm,0.7s,baz=305,slow=5.8,SNR=10.0
LVZ Lovozero 77.67 11 *e*P **P 16 56 23.4 0.0**
LVZ pmax pmax
comp=Z,50nm,1.0s
LVZ Lovozero 77.67 11 *e*P **P 16 56 23.4 0.0**
comp=Z,50nm,1.0s
APA Apatity 77.76 12⇑ *i*P P 16 56 28.4 +4.6
APA MLR MLR
comp=Z,2µm,19.0s
KONO Kongsberg 77.83 25 *e*P **P 16 56 25.0 +0.6**
KONO pmax pmax
comp=Z,33nm,1.3s
KONO Kongsberg 77.83 25 *e*P **P 16 56 25.0 +0.6**
comp=Z,33nm,1.3s
HABR Khabarovsk 78.09 320 *ce*P **P 16 56 27.6 +1.6**
HABR *e* 16 56 36.9
HABR *e* 16 59 24.1
HABR PPP PPP 17 01 12.0
HABR *e*S **S 17 06 19.9 -0.5**
HABR *e**SS **SKSac 17 06 37.4 -3.2**
HABR *e* 17 06 44.3
HABR *e*SS **SS 17 11 22.7 +1.8**
HABR *e*SSS SSS 17 14 47.8
HABR pmax pmax
comp=Z,66nm,2.0s
HABR pmax pmax
comp=E,75nm,2.0s
HABR pmax pmax
comp=N,42nm,2.0s
HABR MLR MLR
comp=Z,181nm,18.0s
ROSF Rostrenen 79.45 39 *e*P **P 16 56 33.9 +0.4**
ROSF Rostrenen 79.45 39 *e*P **P 16 56 33.9 +0.4**
ROSF Rostrenen 79.45 39 *e*P **P 16 56 33.9 +0.4**
QUIF Quistinic 79.76 39 *e*P **P 16 56 35.7 +0.5**
comp=Z,47nm,1.0s
QUIF Quistinic 79.76 39 *e*P **P 16 56 35.7 +0.5**
QUIF pmax pmax
comp=Z,47nm,1.0s
QUIF Quistinic 79.76 39 *e*P **P 16 56 35.7 +0.5**
comp=Z,47nm,1.0s
SGMF Saint Gilles 79.88 39 *e*P **P 16 56 36.2 +0.4**
comp=Z,32nm,1.2s
SGMF Saint Gilles 79.88 39 *e*P **P 16 56 36.2 +0.4**
SGMF pmax pmax
comp=Z,32nm,1.2s
SGMF Saint Gilles 79.88 39 *e*P **P 16 56 36.2 +0.4**
comp=Z,32nm,1.2s
MUD Monsted U'grnd 79.92 28 *i* P P 16 56 39.1 +3.2
MUD pmax pmax
comp=Z,16nm,0.9s
MUD MLR MLR
comp=Z,1µm,15.0s
MUD Monsted U'grnd 79.92 28 *i* P P 16 56 39.1 +3.2
comp=Z,16nm,0.9s
comp=Z,1µm,14.0s
BDFB Brasilia 80.03 116 LR LR 17 37 42.7
comp=Z,563nm,18.4s,baz=304,slow=40
PGAV Gavieira, Arco 80.31 46 *e*LR LR 17 23 38.3
comp=Z,704nm,18.0s
FLN La Foliniere 80.65 37 *e*P **P 16 56 40.8 +0.8**
comp=Z,29nm,0.9s
FLN *e*R
comp=Z,2µm,18.8s
FLN La Foliniere 80.65 37 *e*P **P 16 56 40.8 +0.8**
FLN pmax pmax
comp=Z,29nm,0.9s
FLN La Foliniere 80.65 37 *e*P **P 16 56 40.8 +0.8**
comp=Z,29nm,0.9s
GRR Gorron 80.69 38 *e*P **P 16 56 41.0 +0.8**
comp=Z,25nm,0.9s
GRR Gorron 80.69 38 *e*P **P 16 56 41.0 +0.8**
GRR pmax pmax
comp=Z,25nm,0.9s
GRR Gorron 80.69 38 *e*P **P 16 56 41.0 +0.8**
comp=Z,25nm,0.9s
POLO Lamas de Olo 80.94 47 *e*P **P 16 56 44.5 +2.7**
comp=Z,17nm,1.6s
LDF La Druitiere 80.94 37 *e*P **P 16 56 42.2 +0.6**
comp=Z,24nm,0.9s
LDF La Druitiere 80.94 37 *e*P **P 16 56 42.2 +0.6**
LDF pmax pmax
comp=Z,24nm,0.9s
LDF La Druitiere 80.94 37 *e*P **P 16 56 42.2 +0.6**
comp=Z,24nm,0.9s
KAF Kangasniemi 81.03 17 *e*P **P 16 56 41.2 -0.5**
KAF pmax pmax
comp=Z,8.0nm,0.9s
KAF Kangasniemi 81.03 17 *ep* **P 16 56 41.2 -0.5**
comp=Z,8.0nm,0.9s
PVRL Vila Real 81.04 47 *e*P P 16 56 45.6 +3.3
comp=Z,24nm,1.3s
BOD Bodaibo 81.23 336 *e*P **P 16 56 42.5 -0.4**
BOD pmax pmax
comp=Z,14nm,1.5s
PVIS Viseu 81.25 47 *e*P P 16 56 46.8 +3.4
comp=Z,32nm,1.3s
JOF Joensuu 81.50 15 *e*P **P 16 56 43.9 -0.3**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 81.50 15 *ep* **P 16 56 43.9 -0.3**
comp=Z,3.9nm,0.6s
MVO Moncorvo 81.53 46 *e*P P 16 56 50.6 +5.7
comp=Z,38nm,1.5s
MVO Moncorvo 81.53 46 *e*LR LR 17 23 44.2
comp=Z,1µm,18.0s
FINES FINESS Array B 81.54 18 P **P 16 56 45.2 +0.7**
comp=Z,10nm,0.9s,baz=7.6,slow=5.8,SNR=18
FINES LR LR 17 32 23.1
comp=Z,772nm,18.2s,baz=328,slow=35
MTE Manteigas 81.65 47 *e*P P 16 56 50.9 +5.3
comp=Z,43nm,1.2s
MTE Manteigas 81.65 47 *e*LR LR 17 23 42.4
comp=Z,1µm,18.0s
MTE Manteigas 81.65 47 *e*P **P 16 56 46.4 +0.8**
comp=Z,31nm,1.1s
PMTG Montargil 81.99 49 *e*P P 16 56 51.3 +4.0
comp=Z,28nm,1.2s
PCBR Castelo Branco 82.02 48 *e*P **P 16 56 48.0 +0.6**
comp=Z,25nm,1.6s
BAIF Baives 82.15 34 *e*P **P 16 56 48.7 +0.8**
comp=Z,40nm,1.2s
BAIF Baives 82.15 34 *e*P **P 16 56 48.7 +0.8**
BAIF pmax pmax
comp=Z,40nm,1.2s
BAIF Baives 82.15 34 *e*P **P 16 56 48.7 +0.8**
comp=Z,40nm,1.2s
MFF Saint Martin d 82.19 39 *e*P **P 16 56 48.9 +0.7**
comp=Z,50nm,1.1s
MFF Saint Martin d 82.19 39 *e*P **P 16 56 48.9 +0.7**
MFF pmax pmax
comp=Z,50nm,1.1s
MFF Saint Martin d 82.19 39 *e*P **P 16 56 48.9 +0.7**
comp=Z,50nm,1.1s
DOU Dourbes 82.31 34 P **P 16 56 49.6 +0.9**
comp=Z,8.4nm,1.7s
PMRV Marv??o 82.31 48 *e*P **P 16 56 52.1 +3.1**
comp=Z,23nm,1.6s
PMRV Marv??o 82.31 48 *e*LR LR 17 23 54.7
comp=Z,1µm,20.0s
PNCL Nicolau / Gran 82.34 50 *e*P P 16 56 52.4 +3.2
comp=Z,43nm,1.9s
USRK Ussuriysk Ar. 82.34 318 P **P 16 56 49.2 +0.2**
comp=Z,11nm,1.1s,baz=43,slow=6.5,SNR=8.7
USRK LR LR 17 31 42.2
comp=Z,138nm,19.5s,baz=36,slow=34
EVOP Sao Brissos 82.36 49 *e*P **P 16 56 50.5 +1.2**
EVOP pmax pmax
comp=Z,46nm,1.1s
EVOP Sao Brissos 82.36 49 *e*P **P 16 56 50.5 +1.2**
comp=Z,46nm,1.1s
GIVF Givet 82.41 34 *e*P **P 16 56 50.3 +1.0**
comp=Z,20nm,0.8s
GIVF Givet 82.41 34 *e*P **P 16 56 50.3 +1.0**
GIVF pmax pmax
comp=Z,20nm,0.8s
GIVF Givet 82.41 34 *e*P **P 16 56 50.3 +1.0**
comp=Z,20nm,0.8s
BCLA Clavier 82.42 34 P **P 16 56 50.2 +0.9**
comp=Z,9.3nm,1.5s
EVO Evora 82.43 49 *e*P **P 16 56 50.5 +0.9**
comp=Z,46nm,1.1s
EVO *e*R
comp=Z,2µm,19.8s
EVO Evora 82.43 49 *e*P P 16 56 53.8 +4.2
comp=Z,29nm,2.2s
PESTR Estremoz 82.51 49 *e*P P 16 56 53.5 +3.4
comp=Z,21nm,1.8s
PTEO Sao Teotonio 82.54 50 *e*P P 16 56 54.5 +4.3
MESJ Messejana 82.70 50 *e*P P 16 56 55.3 +4.3
comp=Z,34nm,1.6s
MJAR Matsushiro Arr 83.06 309 P **P 16 56 53.0 0.0**
comp=Z,9.9nm,1.2s,baz=40,slow=3.7,SNR=16
MJAR LR LR 17 26 57.6
comp=Z,333nm,21.4s,baz=80,slow=31
MAJO Matsushiro 83.06 309 *c i*P **P 16 56 55.3 +2.3**
MAT Matsushiro 83.06 309 P **P 16 56 53.0 0.0**
MAT S S 17 07 25.0 +12
PVAQ Vaqueiros 83.28 50 *e*LR LR 17 24 31.6
comp=Z,2µm,20.0s
MDJ Mudanjiang 83.42 319 P **P 16 56 52.4 -2.3**
MDJ pP **pP 16 56 56.0 -1.1**
MDJ sP **sP 16 56 57.6 -0.3**
MDJ S **SKKSac 17 07 20.3 -1.7**
MDJ sS **ScS 17 07 29.6 -0.3**
MDJ PMZ
comp=Z,14nm,1.3s
MDJ PMZ
comp=Z,110nm,6.9s
MDJ LN
comp=Z,310nm,20.6s
MDJ LE
comp=Z,160nm,20.6s
MDJ LZ
comp=Z,390nm,28.0s
PLCA Paso Flores 83.54 147 P **P 16 56 57.3 +2.2**
comp=Z,3.4nm,0.9s,baz=351,slow=12,SNR=4.0
PLCA LR LR 17 26 22.7
comp=Z,666nm,21.7s,baz=309,slow=30
MEZF Maizieres J'vi 83.60 35 *e*P **P 16 56 56.4 +0.9**
comp=Z,54nm,1.2s
MEZF Maizieres J'vi 83.60 35 *e*P **P 16 56 56.4 +0.9**
comp=Z,54nm,1.2s
TCF Toulx Ste Croi 83.64 38 *e*P **P 16 56 56.3 +0.5**
comp=Z,43nm,1.4s
TCF Toulx Ste Croi 83.64 38 *e*P **P 16 56 56.3 +0.5**
TCF pmax pmax
comp=Z,43nm,1.4s
TCF Toulx Ste Croi 83.64 38 *e*P **P 16 56 56.3 +0.5**
comp=Z,43nm,1.4s
LFF La Frestale 83.72 40 *e*P **P 16 56 57.2 +1.0**
comp=Z,48nm,1.1s
LFF La Frestale 83.72 40 *e*P **P 16 56 57.2 +1.0**
LFF pmax pmax
comp=Z,48nm,1.1s
LFF La Frestale 83.72 40 *e*P **P 16 56 57.2 +1.0**
comp=Z,48nm,1.1s
SJPF Ste Jean 83.79 42 *e*P **P 16 56 57.5 +0.9**
comp=Z,46nm,1.3s
SJPF Ste Jean 83.79 42 *e*P **P 16 56 57.5 +0.9**
SJPF pmax pmax
comp=Z,46nm,1.3s
SJPF Ste Jean 83.79 42 *e*P **P 16 56 57.5 +0.9**
comp=Z,46nm,1.3s
BGF Bois d'Agland 83.79 38 *e*P **P 16 56 57.2 +0.7**
comp=Z,74nm,1.3s
BGF Bois d'Agland 83.79 38 *e*P **P 16 56 57.2 +0.7**
BGF pmax pmax
comp=Z,74nm,1.3s
BGF Bois d'Agland 83.79 38 *e*P **P 16 56 57.2 +0.7**
comp=Z,74nm,1.3s
SSF Saint Saulge 83.80 37 *e*P **P 16 56 57.4 +0.9**
comp=Z,57nm,1.2s
SSF Saint Saulge 83.80 37 *e*P **P 16 56 57.4 +0.9**
SSF pmax pmax
comp=Z,57nm,1.2s
SSF Saint Saulge 83.80 37 *e*P **P 16 56 57.4 +0.9**
comp=Z,57nm,1.2s
SFTF Sexfontaines 83.80 36 *e*P **P 16 56 57.3 +0.8**
comp=Z,36nm,1.0s
SFTF Sexfontaines 83.80 36 *e*P **P 16 56 57.3 +0.8**
comp=Z,36nm,1.0s
LOR Lormes 83.84 37 *e*P **P 16 56 57.7 +0.9**
comp=Z,58nm,1.1s
LOR *e*R
comp=Z,2µm,17.5s
LOR Lormes 83.84 37 *e*P **P 16 56 57.7 +0.9**
LOR pmax pmax
comp=Z,58nm,1.1s
LOR Lormes 83.84 37 *e*P **P 16 56 57.7 +0.9**
comp=Z,58nm,1.1s
PAGF Fort de Pagny 83.89 35 *e*P **P 16 56 58.2 +1.2**
comp=Z,13nm,1.1s
PAGF Fort de Pagny 83.89 35 *e*P **P 16 56 58.2 +1.2**
comp=Z,13nm,1.1s
AVF Avril sur Loir 83.90 37 *e*P **P 16 56 57.5 +0.5**
comp=Z,45nm,1.3s
AVF Avril sur Loir 83.90 37 *e*P **P 16 56 57.5 +0.5**
AVF pmax pmax
comp=Z,45nm,1.3s
AVF Avril sur Loir 83.90 37 *e*P **P 16 56 57.5 +0.5**
comp=Z,45nm,1.3s
RJF Les Rejaudoux 83.91 39 *e*P **P 16 56 57.9 +0.7**
comp=Z,63nm,1.2s
RJF *e*R
comp=Z,2µm,18.8s
RJF Les Rejaudoux 83.91 39 *e*P **P 16 56 57.9 +0.7**
RJF pmax pmax
comp=Z,63nm,1.2s
RJF Les Rejaudoux 83.91 39 *e*P **P 16 56 57.9 +0.7**
comp=Z,63nm,1.2s
PAB San Pablo 84.14 47 P **P 16 56 57.1 -1.4**
PAB pmax pmax
comp=Z,26nm,1.5s
PAB San Pablo 84.14 47 P **P 16 56 57.1 -1.4**
comp=Z,26nm,1.5s
SMF Signal de Mont 84.25 37 *e*P **P 16 56 59.2 +0.3**
comp=Z,55nm,1.1s
SMF Signal de Mont 84.25 37 *e*P **P 16 56 59.2 +0.3**
SMF pmax pmax
comp=Z,55nm,1.1s
SMF Signal de Mont 84.25 37 *e*P **P 16 56 59.2 +0.3**
comp=Z,55nm,1.1s
ESDC Sonseca Array 84.29 46 P **P 16 56 59.2 -0.1**
comp=Z,1.0nm,0.4s,baz=301,slow=6.2,SNR=15
ESDC LR LR 17 32 40.0
comp=Z,725nm,18.7s,baz=305,slow=34
ETSF Etsaut 84.30 42 *e*P **P 16 57 00.6 +1.3**
comp=Z,55nm,1.2s
ETSF Etsaut 84.30 42 *e*P **P 16 57 00.6 +1.3**
ETSF pmax pmax
comp=Z,55nm,1.2s
ETSF Etsaut 84.30 42 *e*P **P 16 57 00.6 +1.3**
comp=Z,55nm,1.2s
CAF Calviac 84.45 39 *e*P **P 16 57 00.4 +0.4**
comp=Z,60nm,1.2s
CAF Calviac 84.45 39 *e*P **P 16 57 00.4 +0.4**
CAF pmax pmax
comp=Z,60nm,1.2s
CAF Calviac 84.45 39 *e*P **P 16 57 00.4 +0.4**
comp=Z,60nm,1.2s
HAU Haudompre 84.58 35 *e*P **P 16 57 01.2 +0.7**
comp=Z,58nm,1.1s
HAU *e*R
comp=Z,2µm,17.5s
HAU Haudompre 84.58 35 *e*P **P 16 57 01.2 +0.7**
HAU pmax pmax
comp=Z,58nm,1.1s
HAU Haudompre 84.58 35 *e*P **P 16 57 01.2 +0.7**
comp=Z,58nm,1.1s
EPF Esparros 84.73 42 *e*P **P 16 57 02.0 +0.6**
comp=Z,39nm,1.4s
EPF Esparros 84.73 42 *e*P **P 16 57 02.0 +0.6**
EPF pmax pmax
comp=Z,39nm,1.4s
EPF Esparros 84.73 42 *e*P **P 16 57 02.0 +0.6**
comp=Z,39nm,1.4s
CDF Champ du Feu 84.74 34 *e*P **P 16 57 02.1 +0.7**
comp=Z,38nm,1.1s
CDF Champ du Feu 84.74 34 *e*P **P 16 57 02.1 +0.7**
CDF pmax pmax
comp=Z,38nm,1.1s
CDF Champ du Feu 84.74 34 *e*P **P 16 57 02.1 +0.7**
comp=Z,38nm,1.1s
ECH Echery 84.82 35 *e*P **P 16 57 01.3 -0.4**
ECH pmax pmax
comp=Z,12nm,1.1s
ECH Echery 84.82 35 *e*P **P 16 57 01.3 -0.4**
comp=Z,12nm,1.1s
HINF Hinteralfeld 84.95 35 *e*P **P 16 57 03.0 +0.6**
comp=Z,47nm,1.2s
HINF Hinteralfeld 84.95 35 *e*P **P 16 57 03.0 +0.6**
HINF pmax pmax
comp=Z,47nm,1.2s
HINF Hinteralfeld 84.95 35 *e*P **P 16 57 03.0 +0.6**
comp=Z,47nm,1.2s
PRGR Permogore 85.20 9 *e*P **P 16 57 03.7 +0.4**
PRGR pmax pmax
comp=Z,34nm,1.0s
CLL Collm 85.22 30 *e*P **P 16 57 04.0 +0.4**
CLL *i* 16 57 07.7
CLL *e*S **SKKSac 17 07 35.0 -0.2**
CLL MLR MLR
comp=Z,1µm,18.3s
CLL Collm 85.22 30 *e*P **P 16 57 04.0 +0.4**
CLL *i* (sP) **sP 16 57 07.7 +0.8**
comp=Z,12nm,1.4s
CLL *e*S **SKKSac 17 07 35.0 -0.2**
CLL *e*PS **PnS 17 08 25.0 -3.3**
CLL *e*SS **SS 17 13 05.0 -1.6**
CLL *e*SSS SSS 17 16 36.0
CLL LmH 17 32 00.0
comp=N,2µm,20.8s
CLL LmH 17 32 00.0
comp=E,1µm,20.1s
CLL LmV 17 33 00.0
comp=Z,1µm,18.3s
BFO Black Forest 85.30 34 *ce*P P 16 57 08.3 +4.2
BFO Black Forest 85.30 34 *e*P **P 16 57 04.5 +0.3**
comp=Z,13nm,1.1s
CABF La Chapelle 85.41 36 *e*P **P 16 57 05.6 +0.8**
comp=Z,20nm,1.0s
CABF La Chapelle 85.41 36 *e*P **P 16 57 05.6 +0.8**
CABF pmax pmax
comp=Z,20nm,1.0s
CABF La Chapelle 85.41 36 *e*P **P 16 57 05.6 +0.8**
comp=Z,20nm,1.0s
MTLF Montolieu 85.57 40 *e*P **P 16 57 06.3 +0.7**
comp=Z,47nm,1.4s
MTLF Montolieu 85.57 40 *e*P **P 16 57 06.3 +0.7**
MTLF pmax pmax
comp=Z,47nm,1.4s
MTLF Montolieu 85.57 40 *e*P **P 16 57 06.3 +0.7**
comp=Z,47nm,1.4s
JCJ Chichijima 85.61 299 LR LR 17 34 43.9
comp=Z,165nm,18.9s,baz=111,slow=35
GRF Grafenberg Arr 85.64 32 *e*P **P 16 57 07.3 +1.5**
comp=Z,7.0nm,0.9s
VIVF Saint-Julien-l 85.88 38 *e*P **P 16 57 07.9 +0.8**
VIVF Saint-Julien-l 85.88 38 *e*P **P 16 57 07.9 +0.8**
VIVF Saint-Julien-l 85.88 38 *e*P **P 16 57 07.9 +0.8**
BRG Berggiesshubel 85.94 29 *e*P **P 16 57 08.0 +0.8**
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 85.94 29 S **S 17 07 45.0 +3.9**
comp=N,883nm,17.4s
comp=E,921nm,17.5s
comp=Z,1µm,18.0s
BRG Berggiesshubel 85.94 29 *e*P **P 16 57 08.0 +0.8**
BRG S **S 17 07 45.0 +3.9**
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG MLR MLR
comp=N,883nm,17.4s
BRG MLR MLR
comp=E,921nm,17.5s
BRG MLR MLR
comp=Z,1µm,18.0s
LASF Ste Croix 85.97 39 *e*P **P 16 57 08.5 +0.9**
comp=Z,41nm,1.2s
LASF Ste Croix 85.97 39 *e*P **P 16 57 08.5 +0.9**
comp=Z,41nm,1.2s
PVCC Panska Ves 86.46 29 *e*P **P 16 57 12.9 +3.1**
PVCC *e* 17 07 45.3
PVCC MLR MLR
comp=Z,900nm,17.7s
PVCC Panska Ves 86.46 29 *e*P **P 16 57 12.9 +3.1**
PVCC *e*S **S 17 07 45.3 -0.9**
PVCC AMS AMS 17 36 40.0
comp=Z,900nm,17.7s
ORIF Oris-en-Rattie 86.47 38 *e*P **P 16 57 10.5 +0.4**
comp=Z,32nm,1.2s
ORIF *e*R
comp=Z,2µm,17.0s

ORIF	**Oris-en-Rattie**	**86.47**	**38**	*eP*	**P**	**16 57 10.5**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,33nm,1.2s						
ORIF	**Oris-en-Rattie**	**86.47**	**38**	*eP*	**P**	**16 57 10.5**	**+0.4**
	comp=Z,32nm,1.2s						
LPL	**La Plagne**	**86.49**	**37**	*eP*	**P**	**16 57 11.1**	**+0.8**
	comp=Z,13nm,0.9s						
LPL	**La Plagne**	**86.49**	**37**	*eP*	**P**	**16 57 11.1**	**+0.8**
LPL				pmax	pmax		
	comp=Z,13nm,0.9s						
LPL	**La Plagne**	**86.49**	**37**	*eP*	**P**	**16 57 11.1**	**+0.8**
	comp=Z,13nm,0.9s						
LPG	**La Plagne**	**86.51**	**37**	*eP*	**P**	**16 57 11.5**	**+1.0**
	comp=Z,14nm,1.1s						
LPG	**La Plagne**	**86.51**	**37**	*eP*	**P**	**16 57 11.5**	**+1.0**
LPG				pmax	pmax		
	comp=Z,15nm,1.1s						
LPG	**La Plagne**	**86.51**	**37**	*eP*	**P**	**16 57 11.5**	**+1.0**
	comp=Z,14nm,1.1s						
PRA	**Prague**	**86.75**	**30**	*eS*	**S**	**17 07 52.5**	**+3.5**
DAVA	**Damuels**	**86.78**	**34⇓**	*i*PcP	**P**	**16 57 12.4**	**+0.8**
	comp=Z,4.7nm,0.8s						
PRU	**Pruhonice**	**86.86**	**30**	*eP*	**P**	**16 57 14.4**	**+2.6**
PRU				*e*		17 07 47.0	
PRU				MLR	MLR		
	comp=Z,900nm,18.3s						
PRU	**Pruhonice**	**86.86**	**30**	*eP*	**P**	**16 57 14.4**	**+2.6**
PRU				*ex*	x	16 57 25.3	
PRU				*ex*	x	17 07 47.0	
PRU				AMS	AMS	17 34 20.0	
	comp=Z,900nm,18.3s						
SUW	**Suwalki**	**86.92**	**23**	P	**P**	**16 57 12.1**	**+0.2**
SUW	**Suwalki**	**86.92**	**23**	P	**P**	**16 57 12.1**	**+0.2**
SMRF	**Simiane la Rot**	**86.95**	**38**	*eP*	**P**	**16 57 13.5**	**+1.1**
SMRF	**Simiane la Rot**	**86.95**	**38**	*eP*	**P**	**16 57 13.5**	**+1.1**
RETA	**Reutte**	**87.05**	**33⇓**	*i*pP	pP	16 57 14.9	-0.4
	comp=Z,15nm,1.4s						
MBDF	**Montbardon**	**87.06**	**37**	*eP*	**P**	**16 57 13.4**	**+0.3**
	comp=Z,20nm,1.1s						
MBDF	**Montbardon**	**87.06**	**37**	*eP*	**P**	**16 57 13.4**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,20nm,1.1s						
MBDF	**Montbardon**	**87.06**	**37**	*eP*	**P**	**16 57 13.4**	**+0.3**
	comp=Z,20nm,1.1s						
UPC	**Upice**	**87.07**	**29**	*eP*	**P**	**16 57 15.3**	**+2.5**
UPC	**Upice**	**87.07**	**29**	*eP*	**P**	**16 57 15.3**	**+2.5**
UPC				*ex*	x	16 57 26.3	
KHC	**Kasperske Hory**	**87.09**	**31**	*eP*	**P**	**16 57 14.2**	**+1.2**
KHC				*e*		17 07 54.0	
KHC				MLR	MLR		
	comp=Z,1μm,17.9s						
KHC	**Kasperske Hory**	**87.09**	**31**	*eP*	**P**	**16 57 14.2**	**+1.2**
KHC				*eS*	**S**	**17 07 54.0**	**+1.5**
KHC				AMS	AMS	17 37 20.0	
	comp=Z,1μm,17.9s						
DPC	**Dobruska-Polom**	**87.32**	**29**	*eP*	**P**	**16 57 16.5**	**+2.4**
DPC				*e*		16 57 25.7	
DPC				*e*		17 07 57.5	
DPC	**Dobruska-Polom**	**87.32**	**29**	*eP*	**P**	**16 57 16.5**	**+2.4**
DPC				*ex*	x	16 57 25.7	
DPC				*eS*	**S**	**17 07 57.5**	**+2.9**
DPC				AMS	AMS	17 35 40.0	
GERES	**GERESS Array B**	**87.36**	**31**	P	**P**	**16 57 14.8**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=336,slow=2.9,SNR=10						
GERES				LR	LR	17 37 14.3	
	comp=Z,969nm,18.8s,baz=323,slow=36						
FETA	**Feichten**	**87.37**	**34⇑**	*i*pP	pP	16 57 16.1	-0.9
	comp=Z,17nm,1.0s						
KRLC	**Kraliky**	**87.72**	**29**	*eP*	P	16 57 19.3	+3.3
KRLC	**Kraliky**	**87.72**	**29**	*eP*	P	16 57 19.3	+3.3
KRLC				*ex*	x	16 57 30.6	
TREC	**Trest**	**87.79**	**30**	*eP*	**P**	**16 57 19.0**	**+2.7**
TREC				*e*		17 08 00.2	
TREC				MLR	MLR		
	comp=Z,1μm,18.1s						
TREC	**Trest**	**87.79**	**30**	*eP*	**P**	**16 57 19.0**	**+2.7**
TREC				*eS*	**S**	**17 08 00.2**	**+1.1**
TREC				AMS	AMS	17 41 30.0	
	comp=Z,1μm,18.1s						
FRF	**La Foret Royal**	**87.80**	**38**	*eP*	**P**	**16 57 16.4**	**-0.1**
	comp=Z,109nm,1.4s						
FRF	**La Foret Royal**	**87.80**	**38**	*eP*	**P**	**16 57 16.4**	**-0.1**
FRF				pmax	pmax		
	comp=Z,109nm,1.4s						
FRF	**La Foret Royal**	**87.80**	**38**	*eP*	**P**	**16 57 16.4**	**-0.1**
	comp=Z,109nm,1.4s						
LMR	**La Mourre**	**87.89**	**38**	*eP*	**P**	**16 57 16.8**	**-0.1**
	comp=Z,122nm,1.6s						
LMR	**La Mourre**	**87.89**	**38**	*eP*	**P**	**16 57 16.8**	**-0.1**
LMR				pmax	pmax		
	comp=Z,122nm,1.6s						
LMR	**La Mourre**	**87.89**	**38**	*eP*	**P**	**16 57 16.8**	**-0.1**
	comp=Z,122nm,1.6s						
SBF	**Sospel**	**88.00**	**38**	*eP*	**P**	**16 57 18.2**	**+0.7**
	comp=Z,56nm,1.1s						
SBF	**Sospel**	**88.00**	**38**	*eP*	**P**	**16 57 18.2**	**+0.7**
SBF				pmax	pmax		
	comp=Z,57nm,1.1s						
SBF	**Sospel**	**88.00**	**38**	*eP*	**P**	**16 57 18.2**	**+0.7**
	comp=Z,56nm,1.1s						
SOKR	**Solikamsk**	**88.29**	**4**	*eP*	**P**	**16 57 21.2**	**+2.8**
SOKR				pmax	pmax		
	comp=Z,20nm,1.8s						
SOKR				MLR	MLR		
	comp=Z,940nm,17.0s						
OKC	**Ostrava-Krasne**	**88.45**	**28**	*eP*	**P**	**16 57 21.4**	**+2.0**
OKC				MLR	MLR		
	comp=Z,1μm,17.2s						
OKC	**Ostrava-Krasne**	**88.45**	**28**	*eP*	**P**	**16 57 21.4**	**+2.0**
OKC				AMS	AMS	17 39 10.0	
	comp=Z,1μm,17.2s						
KSRS	**Korea Array**	**89.00**	**315**	P	P	16 57 25.6	+3.3
	comp=Z,3.1nm,1.0s,baz=52,slow=4.9,SNR=5.7						
KSAR	**Wonju Array Be**	**89.03**	**315**	P	P	16 57 25.6	+3.2
KSAR	**Wonju Array Be**	**89.03**	**315**	P	P	16 57 25.6	+3.2
MOS	**Moscow**	**89.38**	**15**	*eP*	P	16 57 29.2	+5.6
MOS				MLR	MLR		
	comp=Z,1μm,19.0s						
OBN	**Obninsk**	**89.72**	**16⇑**	*eP*	**P**	**16 57 26.3**	**+1.1**
OBN				*e*		17 01 01.2	
OBN				*i* S	**SKSac**	**17 07 54.6**	**-1.4**
OBN				*i* SS	**SS**	**17 14 18.1**	**+6.2**
OBN				pmax	pmax		
	comp=Z,14nm,1.2s						
OBN				MLR	MLR		
	comp=Z,821nm,18.0s						
TLY	**Talaya**	**89.73**	**337**	*eP*	**P**	**16 57 24.4**	**-1.0**
TLY				*eS*	**SKSac**	**17 07 53.7**	**-2.7**
TLY				pmax	pmax		
	comp=Z,16nm,1.4s						
VYHS	**Vyhne**	**89.79**	**29**	*eP*	P	16 57 28.9	+3.1
VYHS	**Vyhne**	**89.79**	**29**	*eP*	P	16 57 28.9	+3.1
JNU	**Nakatsue**	**89.93**	**310**	LR	LR	17 33 32.5	
	comp=Z,169nm,19.7s,slow=33						
STHS	**Stebnicka Huta**	**90.00**	**27**	*eP*	**P**	**16 57 27.6**	**+0.9**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
STHS	**Stebnicka Huta**	**90.00**	**27**	*e*	**P**	**16 57 27.6**	**+0.9**
KWP	**Kalwaria Pacla**	**90.37**	**26**	*eP*	P	16 57 32.0	+3.6
KWP				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KWP	**Kalwaria Pacla**	**90.37**	**26**	*eP*	P	16 57 32.0	+3.6
	comp=Z,9.7nm,0.9s						
HNR	**Heniara**	**90.57**	**259**	LR	LR	17 30 14.1	
	comp=Z,861nm,20.7s,baz=60,slow=30						
MOY	**Mondy**	**90.59**	**338**	*eP*	P	16 57 33.8	+4.2
KOLS	**Kolonicke sedl**	**90.78**	**26**	*eP*	P	16 57 33.8	+3.4
KOLS	**Kolonicke sedl**	**90.78**	**26**	*eP*	P	16 57 33.8	+3.4
ZAK	**Zakamensk**	**90.95**	**336**	*eP*	**P**	**16 57 32.6**	**+1.3**
ZAK				*e*		17 01 03.9	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
ARU	**Arti**	**91.55**	**3**	*c i*P	P	16 57 37.3	+3.6
ARU						17 01 16.9	
ARU				S	**SKSac**	**17 08 07.3**	**+0.7**
ARU				SP	**SPn**	**17 09 49.8**	**+7.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.5s						
AKASG	**Malin Array Be**	**91.69**	**22**	*ce*P	**P**	**16 57 37.2**	**+2.7**
AKASG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKASG	**Malin Array Be**	**91.69**	**22**	P	**P**	**16 57 33.5**	**-1.0**
	comp=Z,5.1nm,1.0s,baz=321,slow=4.1,SNR=20						
AKASG				LR	LR	17 38 25.9	
	comp=Z,1μm,19.9s,baz=310,slow=35						
KIEV	**Kiev**	**91.69**	**22**	*eP*	**P**	**16 57 34.1**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIEV	**Kiev**	**91.69**	**22**	*eP*	**P**	**16 57 34.1**	**-0.4**
	comp=Z,9.0nm,1.1s						
ULN	**Ulaanbaatar**	**91.69**	**333**	*eP*	**P**	**16 57 37.6**	**+2.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
NVS	**Novosibirsk**	**91.84**	**349**	*eP*	**P**	**16 57 34.8**	**-0.3**
NVS				*e*		17 01 11.7	
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	**91.97**	**333**	P	**P**	**16 57 37.1**	**+1.0**
	comp=Z,2.2nm,1.1s,baz=26,slow=3.0,SNR=10						
SONM				LR	LR	17 38 20.8	
	comp=Z,573nm,21.3s,baz=26,slow=35						
DZM	**Mont Dzumac**	**92.19**	**245**	*e*LR	LR	17 27 10.4	
	comp=Z,785nm,26.1s						
ZALV	**Zalesovo Beam**	**92.43**	**348**	P	**P**	**16 57 38.1**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=347,slow=3.3,SNR=9.5						
ZALV				LR	LR	17 41 38.5	
	comp=Z,234nm,21.8s,baz=68,slow=37						
BJI	**Beijing**	**93.75**	**323**	P	**P**	**16 57 41.7**	**-2.5**
BJI				S	**S**	**17 08 49.8**	**-4.1**
BJI				SS	**SS**	**17 15 08.2**	**-2.5**
BJI				PMZ			
	comp=Z,13nm,0.5s						
BJI				PMZ			
	comp=Z,110nm,4.7s						
BJI				LN			
	comp=Z,270nm,22.9s						
BJI				LE			
	comp=Z,300nm,19.3s						
BJI				LZ			
	comp=Z,330nm,28.4s						
KEST	**Kesra**	**94.79**	**42**	LR	LR	17 40 24.1	
	comp=Z,271nm,20.1s,baz=300,slow=36						
HHC	**Hu-ho-hao-te**	**95.39**	**326**	*eP*	**P**	**16 57 54.1**	**+2.2**
HHC				SKS	**SKSac**	**17 08 27.4**	**-1.1**
HHC				S	**S**	**17 09 08.1**	**-0.5**
HHC				PMZ			
	comp=Z,17nm,0.9s						
HHC				LN			
	comp=Z,430nm,16.3s						
HHC				LE			
	comp=Z,520nm,15.3s						
HHC				LZ			
	comp=Z,530nm,20.8s						
NJ2	**Nanjing**	**98.12**	**316**	*eP*	**P**	**16 58 02.1**	**-2.2**
NJ2				PMZ			
	comp=Z,20nm,1.0s						
ANN	**Anapa**	**99.42**	**19**	P	**Pdif**	**16 58 09.9**	**+0.1**
ANN				pmax	pmax		
	comp=Z,125nm,2.4s						
ANN				MLR	MLR		
	comp=Z,1μm,16.0s						
MKAR	**Makanchi Array**	**99.77**	**348**	LR	LR	17 50 46.5	
	comp=Z,415nm,18.3s,baz=353,slow=40						
KIV	**Kislovodsk**	**101.57**	**16**	*eP*	**Pdif**	**16 58 20.0**	**+0.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,829nm,20.0s						
LZH	**Lanzhou**	**102.79**	**328**	*eP*	**Pdif**	**16 58 22.3**	**-2.9**
LZH				pP		16 58 25.6	
LZH				*eP*	**PP**	**17 02 37.5**	**-0.5**
LZH				SKS		17 09 00.0	
LZH				*eS*	SKKSac	17 09 59.2	+14
LZH				*eS*	**SS**	**17 17 12.5**	**-5.4**
LZH				PMZ			
	comp=Z,17nm,1.6s						
LZH				PMZ			
	comp=Z,120nm,9.2s						
LZH				LN			
	comp=Z,490nm,18.0s						
LZH				LE			
	comp=Z,680nm,17.8s						
LZH				LZ			
	comp=Z,830nm,19.5s						
TORD	**Torodi Ar. Bea**	**104.76**	**64**	PKKP	**PKKPbc**	**17 14 21.5**	**+4.7**
	comp=Z,1.3nm,1.1s,baz=119,slow=4.1,SNR=3.9						
KSH	**Kashi**	**107.86**	**351**	*e*Pdif	**Pdif**	**16 58 54.2**	**+6.5**
KSH				PP	PP	17 03 30.8	+16
KSH	**Kashi**	**107.86**	**351**	SKS	**SKSdf**	**17 10 08.8**	**+1.2**
KSH	**Kashi**	**107.86**	**351**	SS	SS	17 18 46.0	+19
KSH				AMB	AMB		
	comp=Z,81nm,5.4s						
KSH				LR	LR		
	comp=N,190nm,7.4s						
KSH				LR	LR		
	comp=E,300nm,10.5s						
KSH				LR	LR		
	comp=Z,390nm,20.9s						
GYA	**Guiyang**	**109.26**	**321**	*e*Pdif	**Pdif**	**16 58 51.8**	**-2.3**
GYA				PKP	**PKiKP**	**17 02 55.0**	**-3.0**
GYA				PP	**PP**	**17 03 27.4**	**+1.4**
GYA				PKS	PKSdf	17 06 31.0	-3.8
GYA				SS	SS	17 18 42.3	-4.3
GYA				PPMZ			
	comp=Z,140nm,7.8s						
GYA				LN			
	comp=Z,140nm,21.7s						
GYA				LE			
	comp=Z,120nm,22.0s						
GYA				LZ			
	comp=Z,150nm,23.5s						
KMI	**Kunming**	**112.40**	**323**	PKP	**PKiKP**	**17 03 02.5**	**-1.6**
KMI				LN			
	comp=Z,240nm,15.6s						
KMI				LE			
	comp=Z,370nm,17.0s						
KMI				LZ			
	comp=Z,380nm,15.2s						
QIZ	**Qiongzhong**	**113.18**	**313**	Pdif	**Pdif**	**16 59 09.0**	**-2.5**
QIZ				PP	**PP**	**17 03 51.1**	**-3.2**
QIZ				S	**Sdif**	**17 11 33.8**	**-4.5**
QIZ				LZ			
	comp=Z,320nm,22.6s						
WRAB	**Tennant Creek**	**117.21**	**263**	*c i*PKIKP	**PKPdf**	**17 03 13.4**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,18nm,1.7s						
WRA	**Warramunga Arr**	**117.22**	**263**	PKP	**PKPdf**	**17 03 12.5**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=50,slow=1.7,SNR=16						
ASAR	**Alice Springs**	**119.19**	**259**	PKP	**PKPdf**	**17 03 16.8**	**0.0**
	comp=Z,2.9nm,0.9s,baz=80,slow=2.2,SNR=16						
CMAR	**Chiang Mai Arr**	**119.88**	**322**	PKP	**PKPdf**	**17 03 19.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=355,slow=2.3,SNR=7.1						
LSZ	**Lusaka**	**142.79**	**72**	*e*PKIKP	**PKPdf**	**17 03 58.2**	**-3.2**
LSZ	**Lusaka**	**142.79**	**72**	*e*PKPdf	**PKPdf**	**17 03 58.2**	**-3.2**
MAW	**Mawson**	**144.56**	**179**	PKP	**PKPab**	**17 04 00.7**	**-0.6**
	comp=Z,14nm,0.8s,baz=270,slow=5.1,SNR=7.5						
LBTB	**Lobatse**	**145.07**	**88**	*e*PKP2	**PKPbc**	**17 04 04.4**	**-0.2**
LBTB	**Lobatse**	**145.07**	**88**	*e*PKPdf	**PKPbc**	**17 04 04.4**	**-0.2**
BOSA	**Boshof**	**145.92**	**94**	*e*PKP2	**PKPab**	**17 04 07.8**	**0.0**
BOSA	**Boshof**	**145.92**	**94**	PKPbc	**PKPab**	**17 04 08.3**	**+0.6**
	comp=Z,12nm,0.9s,baz=296,slow=2.6,SNR=16						
BOSA	**Boshof**	**145.92**	**94**	*e*PKPdf	**PKPab**	**17 04 07.8**	**0.0**

*ISCJB **08** 16:54:33.5±0.5,32.71N±0.04×115.84W±0.03,h25km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=178.4*
*NEIC **08** 16:54:33.9,32.66N×115.84W,h6km,ML3.4(PAS), After PAS.*
NEIC Felt at El Centro.
*ECX **08** 16:54:34.6±0.4,32.69N×115.86W,h3km,ML3.5*

ISC 08 16:54:32.8±1.1,32.72N±0.03×115.85W±0.03, h15km±11km,n18,σ0°50/24,6C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COK	**Cook Ranch**	**0.17**	**39**	**⇑***i*P	**Pb**	**16 54 38.5**	**+0.8**
COK	**Cook Ranch**	**0.17**	**39**	**⇑**P	**Pb**	**16 54 38.5**	**+0.8**
CPBX	**Cerro Prieto**	**0.55**	**123**	*e*P	**Pb**	**16 54 44.8**	**+0.6**
CPBX				*e*S	**Sb**	**16 54 51.9**	**0.0**
COA	**Coachella**	**0.63**	**76**	**⇑***i*P	**Pb**	**16 54 46.0**	**+0.5**
COA	**Coachella**	**0.63**	**76**	**⇑**P	**Pb**	**16 54 46.0**	**+0.5**
BAR	**Barrett**	**0.69**	**267**	*e*Pg	**Pb**	**16 54 47.0**	**+0.3**
BAR				*e*Sg	**Sg**	**16 54 56.0**	**+0.5**
EMSC	**East Mesa**	**0.73**	**88**	**⇑**P	**Pb**	**16 54 47.6**	**+0.3**
RDX	**Rancho Dawling**	**0.79**	**186**	*e*P	**Pg**	**16 54 48.1**	**-0.1**
RDX				**⇑***e*		16 54 58.8	
	comp=N,2μm,0.4s						
CBX	**Cerro Bola**	**0.80**	**240**	*e*P	**Pb**	**16 54 48.8**	**+0.3**
CBX				*e*S	**Sg**	**16 54 59.3**	**+0.5**
GLA	**Glamis**	**0.93**	**69**	*e*Pg	**Pg**	**16 54 50.3**	**-0.5**
GLA				*e*Sg	**Sg**	**16 55 02.8**	**-0.1**
PFO	**Pinyon Flats O**	**1.02**	**331**	*e*Pg	**Pn**	**16 54 53.0**	**+0.2**
PFO				*e*Sg	**Sb**	**16 55 05.8**	**+0.2**
PBX	**Punta Banda**	**1.22**	**218**	*e*P	**Pn**	**16 54 55.3**	**-0.1**
ECNX	**Esteban Cantu**	**1.23**	**211**	*e*P	**Pn**	**16 54 55.6**	**-0.1**
ZAX	**El Zacaton**	**1.25**	**197**	*e*P	**Pn**	**16 54 56.0**	**+0.1**
ZAX				*e*		16 55 14.2	
ZAX				AML	AML	16 55 14.2	
	comp=N,689nm,0.3s						
ZAX				AML	AML	16 55 16.7	
	comp=E,913nm,0.8s						
ZAX				**⇓***e*		16 55 16.7	
ECBX	**El Chinero**	**1.42**	**151**	*e*P	**Pn**	**16 54 57.4**	**-0.6**
ECBX				*e*S	**Sn**	**16 55 16.0**	**-0.5**
SPX	**San Pedro Mart**	**1.70**	**169**	AML	AML	16 56 07.9	
	comp=E,299nm,0.2s						
SPX				**⇓***e*		16 56 07.9	
DAC	**Darwin (Calif)**	**3.83**	**338**	*e*Pg	**Pg**	**16 55 45.4**	**-0.9**
DAC				*e*Sg	**Sg**	**16 56 35.4**	**-0.5**
TUC	**Tucson**	**4.30**	**94**	Pn	**Pn**	**16 55 38.3**	**+0.4**

DJA 08 17:23:42.9±0.3,0°S±5.5×12°5E±°,h10km,M3.5/9,MLv3.5/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.41**	**299**	P	Pn	17 24 07.0	-1.7
KMSI				S	Sn	17 24 24.9	-2.5
SANI	**Sanana**	**2.07**	**158**	P	Pn	17 24 14.3	-3.5
TNTI	**Ternate**	**2.32**	**68**	P	Pn	17 24 22.8	+1.6
GTOI	**Gorontalo**	**2.33**	**289**	P	Pn	17 24 23.1	+1.8
LBMI	**Labuha**	**2.34**	**103**	P	Pn	17 24 22.1	+0.6
LUWI	**Luwuk**	**2.62**	**249**	P	Pn	17 24 25.2	-0.1
LUWI				S	Sb	17 25 00.5	-1.7
MRSI	**Marisa**	**3.33**	**280**	P	Pn	17 24 35.1	0.0
APSI	**Ampana**	**3.66**	**257**	P	Pn	17 24 40.4	+0.8

*ISCJB **08** 17:24:33.4±0.4,34.51N±0.04×140.19E±0.05,h83km±3km, mb3.6/14,Error ellipse: s-maj=6.5km s-min=6.0km az=32.8*
*JMA **08** 17:24:33.5±0.2,34.50N×140.21E,h77km±2km,M3.4 Broadband fault plane solution: P waves. NP1: ϕs340.00000°,δ80.00000°,λ-39.00000°. NP2:ϕs78.00000°, δ52.00000°,λ-167.00000°. Principal axes: T Plg18.0000°, Azm35.0000°; N Plg50.0000°, Azm148.0000°; P Plg34.0000°, Azm292.0000°;*
JMA Felt I J1.
*IDC **08** 17:24:35.8±2.3,34.49N×140.10E,h91km±19km,mb3.5/14, mb1 3.7/16,mb1mx3.6/46,mbtmp3.8/16 Error ellipse: s-maj=20.8km s-min=14.9km az=95.0*

ISC 08 17:24:34.3±0.8,34.51N±0.04×140.19E±0.04,h75km±6km, n37,σ0°82/43,mb3.8/14,4C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.39**	**42**	**⇓**P	**Pn**	**17 24 46.2**	**-0.2**
BSO3				*e*S	**Sn**	**17 24 55.1**	**-0.2**
BSO4	**Boso 4**	**0.49**	**14**	**⇑**P	**Pn**	**17 24 47.5**	**+0.1**
BSO4				S	**Sn**	**17 24 59.0**	**+1.9**
TATJ	**Tateyama 2**	**0.58**	**335**	**⇑**P	**Pn**	**17 24 48.6**	**+0.3**
TATJ				*e*S	**Sn**	**17 24 59.9**	**+1.2**
KTR	**Katsuura**	**0.65**	**9**	P	**Pn**	**17 24 48.7**	**-0.3**
KTR				*e*S	**Sn**	**17 25 00.1**	**+0.2**
JIM2	**Oshima 3**	**0.66**	**289**	**⇑**P	**Pn**	**17 24 48.7**	**-0.5**
JIM2				*e*S	**Sn**	**17 24 59.6**	**-0.6**
BSO1	**Boso 1**	**0.67**	**77**	**⇓**P	**Pn**	**17 24 48.5**	**-0.1**
JMY	**Miyakejima3**	**0.71**	**232**	**⇑**P	**Pn**	**17 24 49.6**	**-0.1**
I30JP	**ISUMI INFRASON**	**0.80**	**7**	P	**Pn**	**17 24 51.1**	**+0.4**
I30JP				S	**Sn**	**17 25 04.2**	**+1.3**
JKO	**Kozu shima**	**0.93**	**250**	P	**Pn**	**17 24 52.2**	**0.0**
JKO				S	**Sn**	**17 25 06.6**	**+1.1**
KTJJ	**Kamata 2**	**1.01**	**294**	**⇓**P	**Pn**	**17 24 52.8**	**-0.4**
KTJJ				S	**Sn**	**17 25 06.7**	**-0.7**
JIZS	**Izushimoda**	**1.10**	**281**	P	**Pn**	**17 24 54.2**	**-0.1**
JIZS				*e*S	**Sn**	**17 25 09.6**	**+0.3**
JOD2	**Odawara 2**	**1.18**	**310**	**⇓**P	**Pn**	**17 24 54.7**	**-0.6**
JOD2				S	**Sn**	**17 25 10.5**	**-0.5**
JHJ2	**Mitsune**	**1.43**	**193**	P	**Pn**	**17 24 58.7**	**+0.2**
JHJ2				*e*S	**Sn**	**17 25 17.6**	**+0.9**
MJAR	**Matsushiro Arr**	**2.59**	**322**	P	**Pn**	**17 25 14.6**	**+0.6**
	38nm,0.3s,baz=135,slow=6.3,SNR=352						
MJAR				S	**Sn**	**17 25 45.7**	**+1.2**
	30nm,0.3s,baz=127,slow=12,SNR=16						
MAT	**Matsushiro**	**2.59**	**322**	P	**Pn**	**17 25 15.0**	**+0.9**
MAT				S	**Sn**	**17 25 44.5**	**-0.1**
JNU	**Nakatsue**	**7.87**	**262**	P	**Pn**	**17 26 28.2**	**+2.2**
	2.7nm,0.3s,baz=53,slow=3.7,SNR=32						
ASAJ	**Asahikawa**	**9.77**	**10**	P	Pn	17 26 47.5	-4.3
	1.1nm,0.3s,baz=207,slow=15,SNR=15						
H11N2	**WAKE ISLAND Hy 27.85**	**115**		T	T	17 59 20.7	
	baz=309,slow=74,SNR=30						
H11N1	**WAKE ISLAND Hy 27.86**	**115**		T	T	17 59 31.1	
	baz=85,slow=74,SNR=28						
H11N3	**WAKE ISLAND Hy 27.87**	**115**		T	T	18 00 11.4	
	SNR=26						
H11S3	**WAKE ISLAND Hy 28.46**	**117**		T	T	18 00 56.5	
	baz=310,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy 28.46**	**117**		T	T	18 00 56.5	
	baz=310,slow=76,SNR=11						
SONM	**Songino Array**	**28.46**	**308**	P	**P**	**17 30 22.8**	**+0.6**
	0.1nm,0.4s,baz=108,slow=9.3,SNR=4.4						
H11S2	**WAKE ISLAND Hy 28.47**	**117**		T	T	18 00 56.0	
	baz=310,slow=76,SNR=9.2						
ZALV	**Zalesovo Beam**	**42.92**	**314**	P	**P**	**17 32 25.6**	**+0.3**
	0.6nm,0.4s,baz=93,slow=6.5,SNR=5.7						
MKAR	**Makanchi Array**	**44.66**	**304**	P	**P**	**17 32 39.0**	**-0.3**
	2.0nm,0.6s,baz=83,slow=9.7,SNR=35						
ILAR	**Eielson Array**	**52.16**	**31**	P	**P**	**17 33 36.7**	**0.0**
	0.8nm,0.8s,baz=268,slow=6.7,SNR=8.9						
WRA	**Warramunga Arr**	**54.44**	**187**	P	**P**	**17 33 52.6**	**-1.2**
	1.4nm,0.4s,baz=2.2,slow=7

0.4nm,0.4s,baz=162,slow=8.6,SNR=6.8
ZALV Zalesovo Beam 52.53 351 P **P** 17 34 09.6 **+0.4**
0.9nm,0.5s,baz=178,slow=5.8,SNR=5.8

IDC 08 17:28:31.1±8.0, 7°42S×129°47E, h109km±85km, mb3.4/1, mb1 3.3/4, mb1mx3.1/29, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=72.8km s-min=27.4km az=28.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.37**	**244**	P			Pn	17 30 04.1	+1.5
	7.7nm,0.3s,baz=88,slow=5.1,SNR=19								
BATI				S			Sn	17 31 13.5	-0.6
	4.2nm,0.3s,baz=32,slow=20,SNR=8.1								
WRA	**Warramunga Arr**	**13.32**	**160**	P			Pn	17 31 34.1	-1.9
	0.2nm,0.3s,baz=343,slow=13,SNR=18								
WRA				S			Sn	17 33 58.6	-4.1
	0.7nm,0.3s,baz=332,slow=22,SNR=9.0								
ASAR	**Alice Springs**	**16.71**	**166**	P			P	17 32 20.6	+1.3
	0.2nm,0.3s,baz=340,slow=9.4,SNR=14								
ASAR				S			Sn	17 35 21.7	-2.9
	0.2nm,0.3s,baz=353,slow=26,SNR=6.5								
MKAR	**Makanchi Array**	**68.29**	**327**	P			P	17 39 20.4	-0.1
	0.3nm,0.3s,baz=116,slow=8.2,SNR=13								

*ISCJB **08** 17:29:28.0±0.6, 32°.60N±0°.05×115°.64W±0°.04, h14km, Error ellipse: s-maj=7.7km s-min=4.5km az=8.0*
*NEIC **08** 17:29:28.3, 32°.43N×115°.57W, h14km, MD3.5(MEX), ML3.3(PAS), After PAS.*
NEIC Felt at El Centro, California and at Yuma, Arizona.
*MEX **08** 17:29:29.5±0.8, 32°.73N×115°.51W, h16km±18km, MD3.4*
ISC 08 17:29:27.8±0.9, 32°.59N±0°.05×115°.66W±0°.03, h14km, n12, σ1s00/17, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.34**	**120**	*e*P			**Pb**	**17 29 35.6**	**-0.1**
MBIG	**Mexicali**	**0.43**	**115**	*i* P			**Pb**	**17 29 36.5**	**-0.6**
MBIG				*i* S			**Sb**	**17 29 42.8**	**-0.7**
GLA	**Glamis**	**0.84**	**56**	*e*Pg			**Pg**	**17 29 44.0**	**0.0**
BAR	**Barrett**	**0.86**	**276**	*e*Pg			**Pb**	**17 29 43.2**	**-1.4**
BAR				*e*Sg			**Sb**	**17 29 57.1**	**+1.0**
CBX	**Cerro Bola**	**0.90**	**252**	*i* P			**Pg**	**17 29 46.0**	**+0.8**
CBX				*i* S			**Sg**	**17 29 58.2**	**+1.2**
PFO	**Pinyon Flats O**	**1.22**	**327**	*e*Pn			**Pn**	**17 29 51.0**	**+0.5**
SPIG	**San Pedro Mart**	**1.55**	**174**	*e*P			**Pb**	**17 29 55.7**	**-0.8**
SPIG				*e*S			**Sn**	**17 30 14.3**	**-1.0**
SPIG	**San Pedro Mart**	**1.55**	**174**	*e*P			**Pb**	**17 29 55.7**	**-0.8**
SPIG				*e*S			**Sn**	**17 30 14.3**	**-1.0**
214A	**Organ Pipe Nat**	**2.49**	**104**	*e*Pn			**Pn**	**17 30 08.6**	**+0.6**
MWC	**Mount Wilson**	**2.59**	**310**	*e*Pn			**Pg**	**17 30 17.0**	**-0.5**
ISA	**Isabella, Lake**	**3.85**	**323**	*e*Pg			**Pg**	**17 30 41.0**	**-0.7**
WUAZ	**Wupatki**	**4.60**	**49**	*e*Pn			**Pn**	**17 30 38.9**	**+1.8**

IDC 08 17:38:52.1±3.1, 6°23S×151°60E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/27, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=125.9km s-min=42.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.42**	**234**	Pn			Pn	17 40 16.2	+1.9
	2.2nm,0.3s,baz=50,slow=9.1,SNR=12								
PMG				Sn			Sn	17 41 13.6	-3.9
	1.1nm,0.3s,baz=205,slow=17,SNR=2.7								
WRA	**Warramunga Arr**	**21.62**	**229**	P			P	17 43 44.3	+0.3
	0.3nm,0.5s,baz=54,slow=10,SNR=3.7								
ASAR	**Alice Springs**	**24.30**	**223**	P			P	17 44 10.8	-0.7
	0.9nm,0.8s,baz=56,slow=9.8,SNR=12								
TORD	**Torodi Ar. Bea**	**149.57**	**285**	PKPbc			PKPbc	17 58 44.1	-0.6
	0.6nm,0.6s,baz=76,slow=3.3,SNR=4.4								

GUC 08 17:40:36.3±0.5, 34°33S×72°42W, h29km±4km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.91**	**66**	*e*P			Pn	17 40 52.3	-0.8
NICH	**Los Niches**	**1.19**	**125**	*e*P			Pn	17 40 56.5	-0.5
NICH				*e*S			Sn	17 41 11.9	-0.3
TALC	**Talca**	**1.25**	**149**	*e*P			Pn	17 40 57.8	0.0
TALC				*e*S			Sn	17 41 13.3	-0.3
CLCH	**Cerro Calan**	**1.82**	**60**	*e*P			Pn	17 41 06.3	+0.6
CLCH				*e*S			Sn	17 41 29.3	+1.4
CLCH				AML			AML	17 41 37.1	
	comp=E,606nm,0.4s								
PEL	**Peldehue**	**1.86**	**51**	*e*P			Pn	17 41 06.9	+0.6
PEL				*e*S			Sn	17 41 30.7	+1.7
PEL				AML			AML	17 41 40.0	
	comp=N,904nm,0.5s								
FCH	**Farellones**	**2.03**	**61**	*e*P			Pb	17 41 22.8	+10
FCH				*e*S			Sb	17 41 45.7	+7.5
FCH				AML			AML	17 41 53.0	
	comp=N,678nm,0.4s								

*IPEC **08** 17:46:15.3±0.2, 50°.27N×18°.83E, h1km±2km, ML2.2/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*PRU **08** 17:46:16.4, 50°.24N×18°.72E, h0km*
*VIE **08** 17:46:17.6±0.9, 49°.69N×18°.89E, h0km, mb1.9/2, ML2.5/3, Error ellipse: s-maj=5.9km s-min=4.2km az=128.0 49 km ESE of Ostrava Suspected Mining induced.*
CSEM 08 17:46:15.2±0.3, 50°.28N×18°.71E, h2km, ML2.9/11, 2C, Error ellipse: s-maj=7.0km s-min=2.8km az=12.0, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.18**	**87**	*e*Pg			Pg	17 46 18.0	-0.8
CHZP				*e*Sg			Sg	17 46 19.8	-1.4
OKC	**Ostrava-Krasne**	**0.57**	**219**	*e*PG			Pg	17 46 26.8	+0.6
OKC				*e*SG			Sg	17 46 35.0	+1.4
	comp=Z,21nm,0.3s								
OKC	**Ostrava-Krasne**	**0.57**	**219**	Pg			Pg	17 46 26.8	+0.6
OKC				Sg			Sg	17 46 35.0	+1.4
	21nm,0.3s								
OJC	**Ojcow**	**0.70**	**95**	*e*Pg			Pg	17 46 27.5	-1.3
OJC				*e*Sg			Sg	17 46 36.1	-1.8
OJC	**Ojcow**	**0.70**	**95**	*e*Pg			Pg	17 46 27.5	-1.3
OJC				*e*Sg			Sg	17 46 36.1	-1.8
MORC	**Moravsky Berou**	**0.90**	**236**	*e*Pg			Pb	17 46 33.7	0.0
	baz=59								
MORC				*e*Sg			Sg	17 46 45.3	+0.9
	24nm,0.2s,baz=59								
LANS	**Liptovska Anna**	**1.24**	**156**	*e*Pg			Pg	17 46 38.5	-0.5
LANS				*e*Sg			Sg	17 46 55.3	+0.2
KRLC	**Kraliky**	**1.25**	**261**	*e*PG			Pg	17 46 39.3	0.0
KRLC				*e*SG			Sn	17 46 57.0	-0.3
KRLC	**Kraliky**	**1.25**	**261**	Pg			Pg	17 46 39.3	0.0
KRLC				Sg			Sn	17 46 57.0	-0.3
NIE	**Niedzica**	**1.35**	**129**	*e*Pg			Pn	17 46 39.9	-1.3
NIE				*e*Sg			Sg	17 46 57.9	-0.9
NIE	**Niedzica**	**1.35**	**129**	*e*Pg			Pn	17 46 39.9	-1.3
NIE				*e*Sg			Sg	17 46 57.9	-0.9
DPC	**Dobruska-Polom**	**1.53**	**273**	*e*PG			Pb	17 46 44.4	+0.1
DPC				*e*SG			Sg	17 47 06.2	+1.7
DPC	**Dobruska-Polom**	**1.53**	**273**	Pg			Pb	17 46 44.4	+0.1
DPC				Sg			Sg	17 47 06.2	+1.7
KSP	**Ksiaz**	**1.64**	**291**	*e*Pg			Pg	17 46 48.1	+1.5
KSP				*e*Sg			Sg	17 47 11.5	+3.6
KSP	**Ksiaz**	**1.64**	**291**	⇑ *i* Pg			Pg	17 46 48.0	+1.4
KSP				*e*Sg			Sg	17 47 10.7	+2.8
VRAC	**Vranov**	**1.68**	**235**	*e*Pn			Pb	17 46 46.6	-0.3
VRAC				*e*Sg			Sg	17 47 09.8	+0.5
	28nm,0.6s,baz=56								
UPC	**Upice**	**1.74**	**278**	*e*PG			Pb	17 46 47.7	-0.2
UPC				*e*SG			Sg	17 47 12.5	+1.4
	comp=Z,3.6nm,0.3s								
UPC	**Upice**	**1.74**	**278**	Pg			Pb	17 46 47.7	-0.2
UPC				Sg			Sg	17 47 12.5	+1.4
	3.6nm,0.3s								
VYHS	**Vyhne**	**1.79**	**177**	*e*Pn			Pn	17 46 46.7	-0.5
VYHS	**Vyhne**	**1.79**	**177**	*e*PN			Pn	17 46 46.7	-0.5
VYHS				*e*SN			Sn	17 47 10.8	+0.3
STHS	**Stebnicka Huta**	**1.86**	**117**	*e*Pn			Pn	17 46 48.7	+0.6
STHS				*e*Sn			Sb	17 47 14.2	+0.6
STHS	**Stebnicka Huta**	**1.86**	**117**	*e*PN			Pn	17 46 48.7	+0.6
STHS				*e*SN			Sb	17 47 14.2	+0.6
KRUC	**Moravsky**	**1.94**	**232**	*e*Pn			Pb	17 46 50.2	-1.0
	baz=52								
KRUC				*e*Sg			Sg	17 47 17.6	+0.2
	12nm,0.5s,baz=52								
KECS	**Kecovo**	**2.14**	**146**	*e*Pn			Pb	17 46 53.5	-1.3
KECS				*e*Sn			Sn	17 47 17.6	-1.6
KECS	**Kecovo**	**2.14**	**146**	*e*PN			Pb	17 46 53.5	-1.3
KECS				*e*SN			Sn	17 47 17.6	-1.6
CRVS	**Cervenica-Dubn**	**2.26**	**127**	*e*Pn			Pb	17 46 56.0	-0.8
CRVS				*e*Sn			Sn	17 47 23.0	+0.8
CRVS	**Cervenica-Dubn**	**2.26**	**127**	*e*PN			Pb	17 46 56.0	-0.8
CRVS				*e*SN			Sn	17 47 23.0	+0.8
TREC	**Trest**	**2.31**	**246**	*e*PG			Pb	17 46 58.0	+0.4
TREC				*e*SG			Sg	17 47 29.4	0.0
	comp=Z,6.8nm,0.2s								
TREC	**Trest**	**2.31**	**246**	Pg			Pb	17 46 58.0	+0.4
TREC				Sg			Sg	17 47 29.4	0.0
	6.8nm,0.2s								
GOPC	**GO Pecny, Ondr**	**2.55**	**263**	*e*PG			Pg	17 47 03.1	-1.0
GOPC				*e*SG			Sg	17 47 36.5	-0.7
GOPC	**GO Pecny, Ondr**	**2.55**	**263**	Pg			Pg	17 47 03.1	-1.0
GOPC				Sg			Sg	17 47 36.5	-0.7
PVCC	**Panska Ves**	**2.66**	**277**	*e*PG			Pg	17 47 05.7	-0.5
PVCC				*e*SG			Sg	17 47 41.2	+0.6
	comp=Z,7.5nm,0.2s								
PVCC	**Panska Ves**	**2.66**	**277**	Pg			Pg	17 47 05.7	-0.5
PVCC				Sg			Sg	17 47 41.2	+0.6
	7.5nm,0.2s								
KOLS	**Kolonicke sedl**	**2.69**	**119**	*e*Sn			Sn	17 47 33.1	+0.6
KOLS	**Kolonicke sedl**	**2.69**	**119**	*e*			Pb	17 47 03.8	-0.2
KOLS	**Kolonicke sedl**	**2.69**	**119**	*e*SN			Sn	17 47 33.1	+0.6
PRU	**Pruhonice**	**2.69**	**265**	*e*PG			Pg	17 47 06.4	-0.5
PRU				*e*SG			Sg	17 47 41.2	-0.6
	comp=Z,4.5nm,0.4s								
PRU	**Pruhonice**	**2.69**	**265**	Pg			Pg	17 47 06.4	-0.5
PRU				Sg			Sg	17 47 41.2	-0.6
	4.5nm,0.4s								
PRA	**Prague**	**2.75**	**267**	*e*SG			Sg	17 47 44.1	+0.4
PRA	**Prague**	**2.75**	**267**	Sg			Sg	17 47 44.1	+0.4
BRG	**Berggiesshubel**	**3.09**	**283**	PG			Pg	17 47 13.0	-1.5
BRG				SG			Sg	17 47 56.2	+1.6
	4.5nm,0.6s								
KHC	**Kasperske Hory**	**3.52**	**253**	*e*PN			Pn	17 47 11.3	+0.3
KHC				*e*PG			Pg	17 47 20.9	-1.9
KHC				*e*SN			Sn	17 47 52.3	-0.9
KHC				*e*SG			Sg	17 48 08.3	-0.1
	comp=Z,8.2nm,0.5s								
KHC	**Kasperske Hory**	**3.52**	**253**	Pn			Pn	17 47 11.3	+0.3
CLL	**Collm**	**3.76**	**288**	*e*Pg			Pg	17 47 30.0	+2.7
CLL				*e*Sg			Sg	17 48 20.0	+4.0
	comp=Z,7.0nm,1.1s								
MOA	**Molln**	**3.80**	**232**	⇑ *i* Sg			Sg	17 48 15.6	-1.7
	comp=Z,6.7nm,0.6s								
MOA	**Molln**	**3.80**	**232**	Sg			Sg	17 48 15.6	-1.8
	comp=Z,6.7nm,0.6s								
NKC	**Novy Kostel**	**4.01**	**272**	*e*SG			Sg	17 48 23.2	-1.1
	comp=Z,2.2nm,0.4s								
NKC	**Novy Kostel**	**4.01**	**272**	Sg			Sg	17 48 23.2	-1.1
	comp=Z,2.2nm,0.4s								

GUC 08 17:49:40.7±0.4, 34°25S×70°91W, h92km±3km, ML3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.77**	**7**	*e*P			Pn	17 49 56.5	-1.7
RCDM				*e*S			Sn	17 50 10.1	-1.0
RCDM				AML			AML	17 50 11.2	
	comp=E,5μm,0.4s								
SJCH	**San Jose de Ma**	**0.77**	**37**	*e*P			Pn	17 49 56.1	-2.1
SJCH				*e*S			Sn	17 50 09.2	-2.0
SJCH				AML			AML	17 50 10.9	
	comp=E,2μm,0.7s								
NICH	**Los Niches**	**0.79**	**199**	*e*P			Pn	17 49 58.0	-0.4
NICH				*e*S			Sn	17 50 11.2	-0.3
FSR	**Penalolen**	**0.83**	**23**	*e*P			Pn	17 49 58.8	-0.1
FSR				*e*S			Sn	17 50 13.2	+0.8
LACH	**Col Las Americ**	**0.86**	**22**	*e*P			Pn	17 49 57.7	-1.4
LACH				*e*S			Sn	17 50 12.3	-0.6
LACH				AML			AML	17 50 12.8	
	comp=N,983nm,0.4s								
YECH	**El Yeso**	**0.90**	**50**	*e*P			Pn	17 49 58.2	-1.7
YECH				*e*S			Sn	17 50 13.6	-0.7
YECH				AML			AML	17 50 14.6	
	comp=N,2μm,0.3s								
CLCH	**Cerro Calan**	**0.91**	**20**	*e*P			Pn	17 49 59.0	-0.6
CLCH				*e*P			Pn	17 49 59.5	-0.1
CLCH				*e*S			Sn	17 50 13.4	-0.4
CLCH				*e*S			Sn	17 50 13.5	-0.4
CLCH				AML			AML	17 50 14.4	
	comp=N,2μm,0.2s								
CLCH				AML			AML	17 50 15.7	
	comp=N,3μm,0.6s								
PEL	**Peldehue**	**1.12**	**10**	*e*P			Pn	17 50 01.7	-0.3
PEL				*e*S			Sn	17 50 17.9	-0.2
TALC	**Talca**	**1.29**	**207**	*e*P			Pn	17 50 03.6	-0.3
TALC				*e*S			Sn	17 50 20.9	-0.5

*DDA **08** 17:50:45.1, 38°.45N×25°.55E, h7km, MD2.8*
*ATH **08** 17:50:46.4, 38°.53N×25°.59E, h10km, MD3.0/5*
*THE **08** 17:50:47.3, 38°.54N×25°.67E, h1km±3km, ML2.1/3, Error ellipse: s-maj=4.6km s-min=0.9km az=251.0*
*CSEM **08** 17:50:47.0±0.2, 38°.55N×25°.68E, h10km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.3km az=55.0*
*ISK **08** 17:50:48.4, 38°.63N×25°.92E, h9km, MD2.7*
ISC 08 17:50:48.2±1.1, 38°.58N±0°.03×25°.76E±0°.05, h11km±8km, n31, σ0s67/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.30**	**130**	P			**Pg**	**17 50 54.0**	**-0.3**
CHOS				S			**Sg**	**17 50 59.2**	**+0.7**
CHOS	**Chios island**	**0.30**	**130**	*e*PG			**Pg**	**17 50 53.7**	**-0.7**
CHOS				*e*SG			**Sg**	**17 50 58.8**	**+0.3**
CHOS	**Chios island**	**0.30**	**130**	*e*PB			**Pg**	**17 50 54.1**	**-0.3**
CHOS				*e*SB			**Sg**	**17 50 59.5**	**+1.0**
CHOS	**Chios island**	**0.30**	**130**	*e*Pg			**Pg**	**17 50 53.7**	**-0.7**
CHOS	**Chios island**	**0.30**	**130**	*e*Pb			**Pg**	**17 50 54.1**	**-0.3**
CHOS				*e*Sg			**Sg**	**17 50 58.8**	**+0.3**
CHOS				*e*Sb			**Sg**	**17 50 59.5**	**+1.0**
SIGR	**SIGRI**	**0.63**	**7**	P			**Pg**	**17 51 00.1**	**-0.4**
SIGR				S			**Sb**	**17 51 10.4**	**+0.3**
SIGR	**SIGRI**	**0.63**	**7**	*e*PG			**Pg**	**17 50 59.6**	**-0.9**
SIGR				*e*SG			**Sg**	**17 51 09.5**	**+0.7**
SIGR	**SIGRI**	**0.63**	**7**	*e*PB			**Pg**	**17 51 00.1**	**-0.4**
SIGR				*e*SB			**Sb**	**17 51 10.6**	**+0.5**
SIGR	**SIGRI**	**0.63**	**7**	*e*Pg			**Pg**	**17 50 59.6**	**-0.9**
SIGR	**SIGRI**	**0.63**	**7**	P			**Pg**	**17 51 00.1**	**-0.4**
SIGR				*e*Sg			**Sg**	**17 51 09.5**	**+0.7**
SIGR				S			**Sb**	**17 51 10.4**	**+0.3**
SIGR				*e*Sb			**Sb**	**17 51 10.6**	**+0.5**
ZEY	**˜zmir**	**0.68**	**120**	*i* P			**Pg**	**17 51 00.8**	**-0.5**
ZEY				*i* S			**Sg**	**17 51 10.7**	**+0.5**
PRK	**Paraskevi**	**0.77**	**31**	P			**Pg**	**17 51 03.1**	**0.0**
PRK				S			**Sn**	**17 51 16.6**	**0.0**
PRK	**Paraskevi**	**0.77**	**31**	*e*PB			**Pg**	**17 51 02.7**	**-0.4**
PRK				*e*SB			**Sb**	**17 51 15.8**	**+1.7**
PRK	**Paraskevi**	**0.77**	**31**	*e*Pb			**Pg**	**17 51 02.7**	**-0.4**
PRK	**Paraskevi**	**0.77**	**31**	P			**Pg**	**17 51 03.1**	**0.0**
PRK				*e*Sb			**Sb**	**17 51 15.8**	**+1.7**
PRK				S			**Sn**	**17 51 16.6**	**0.0**
BLCB	**Balcova**	**1.02**	**101**	*e*PG			**Pg**	**17 51 06.6**	**-1.3**
BLCB	**Balcova**	**1.02**	**101**	*e*Pg			**Pg**	**17 51 06.6**	**-1.3**
SMG	**Samos**	**1.22**	**135**	P			**Pb**	**17 51 27.7**	**-0.7**
SMG				S			**Sn**	**17 51 27.7**	**+0.1**
SMG	**Samos**	**1.22**	**135**	*e*PB			**Pb**	**17 51 10.5**	**-0.7**
SMG				*e*SB			**Sn**	**17 51 28.1**	**+0.5**
SMG	**Samos**	**1.22**	**135**	P			**Pb**	**17 51 10.6**	**-0.7**
SMG				S			**Sn**	**17 51 27.7**	**+0.1**
SMG				*e*Sb			**Sn**	**17 51 28.1**	**+0.5**
EZN	**Ezine**	**1.32**	**19**	*e*PN			**Pn**	**17 51 12.2**	**-0.3**
EZN	**Ezine**	**1.32**	**19**	*e*Pn			**Pn**	**17 51 12.2**	**-0.3**
LIA	**Limnos Island**	**1.39**	**341**	P			**Pb**	**17 51 13.6**	**-0.5**
LIA	**Limnos Island**	**1.39**	**341**	*e*PB			**Pn**	**17 51 13.2**	**-0.3**
LIA				*e*SB			**Sn**	**17 51 31.2**	**-0.6**
LIA	**Limnos Island**	**1.39**	**341**	*e*Pb			**Pn**	**17 51 13.2**	**-0.3**
LIA	**Limnos Island**	**1.39**	**341**	P			**Pb**	**17 51 13.6**	**-0.5**
LIA				*e*Sb			**Sn**	**17 51 31.2**	**-0.6**
APE	**Apeiranthos**	**1.52**	**187**	*e*PN			**Pg**	**17 51 17.7**	**+0.2**
BALY	**Balya**	**1.85**	**51**	*i* P			**Pn**	**17 51 19.5**	**-0.4**
BALY	**Balya**	**1.85**	**51**	*i* P			**Pn**	**17 51 19.5**	**-0.4**
BALY				*i* S			**Sg**	**17 51 48.7**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.89**	**17**	*e*PN			**Pn**	**17 51 20.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.89**	**17**	*e*Pn			**Pn**	**17 51 20.7**	**+0.3**

*ATH **08** 17:51:29.9, 38°.18N×20°.77E, h19km±2km, MD3.0/14*
*THE **08** 17:51:30.1, 38°.15N×20°.78E, h15km±1km, ML1.8/3, Error ellipse: s-maj=1.5km s-min=0.8km az=237.0*
CSEM 08 17:51:29.8±0.4, 38°.14N×20°.79E, h12km, ML1.8, Error ellipse: s-maj=7.7km s-min=6.1km az=47.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.03**	**178**	P			Pg	17 51 32.6	+0.6
KFL				S			Sg	17 51 34.4	+0.8
KFL	**Anninata**	**0.03**	**178**	P			Pg	17 51 32.6	+0.6
KFL				S			Sg	17 51 34.4	+0.8
VLS	**Valsamata**	**0.16**	**283**	P			Pb	17 51 34.2	-0.6
VLS				S			Sg	17 51 37.9	+1.7
VLS	**Valsamata**	**0.16**	**283**	*e*PB			Pb	17 51 34.2	-0.6
VLS				*e*SB			Sg	17 51 38.0	+1.8
VLS	**Valsamata**	**0.16**	**283**	P			Pb	17 51 34.2	-0.6
VLS				S			Sg	17 51 37.9	+1.7
VTN	**Vitineika**	**0.39**	**125**	P			Pb	17 51 38.1	-0.5
VTN				S			Sb	17 51 44.9	+0.4
VTN	**Vitineika**	**0.39**	**125**	P			Pb	17 51 38.1	-0.5
VTN				S			Sb	17 51 44.9	+0.4
RLS	**Riolos of Patr**	**0.54**	**99**	P			Pg	17 51 40.1	-0.3
RLS				S			Sb	17 51 48.8	-0.2
RLS	**Riolos of Patr**	**0.54**	**99**	*e*PN			Pg	17 51 40.1	-0.3
RLS	**Riolos of Patr**	**0.54**	**99**	P			Pg	17 51 40.1	-0.3
RLS				S			Sb	17 51 48.8	-0.2
RLS	**Riolos of Patr**	**0.54**	**99**	*e*Pn			Pg	17 51 40.1	-0.3
PDO	**Prodromos**	**0.55**	**34**	P			Pg	17 51 40.4	-0.2
PDO				S			Sb	17 51 49.1	-0.3
PDO	**Prodromos**	**0.55**	**34**	*e*PN			Pg	17 51 40.5	-0.1
PDO	**Prodromos**	**0.55**	**34**	P			Pg	17 51 40.4	-0.2
PDO				S			Sb	17 51 49.1	-0.3
PDO	**Prodromos**	**0.55**	**34**	*e*Pn			Pg	17 51 40.5	-0.1
PVO	**Paravola**	**0.75**	**51**	P			Pg	17 51 44.4	0.0
PVO				S			Sb	17 51 55.9	+0.9
PVO	**Paravola**	**0.75**	**51**	P			Pg	17 51 44.4	0.0
PVO				S			Sb	17 51 55.9	+0.9
DRO	**Drossia**	**0.75**	**104**	P			Pg	17 51 44.0	-0.5
DRO				S			Sb	17 51 55.4	+0.2
DRO	**Drossia**	**0.75**	**104**	*e*PN			Pg	17 51 44.4	-0.1
DRO				*e*SN			Sb	17 51 55.3	+0.1
DRO	**Drossia**	**0.75**	**104**	P			Pg	17 51 44.0	-0.5
DRO	**Drossia**	**0.75**	**104**	*e*Pn			Pg	17 51 44.4	-0.1
DRO				*e*Sn			Sb	17 51 55.3	+0.1
EFP	**Efpalio**	**0.93**	**72**	P			Pg	17 51 46.8	-0.9
EFP				S			Sn	17 52 01.1	-0.7
EFP	**Efpalio**	**0.93**	**72**	*e*PB			Pg	17 51 47.0	-0.7
EFP				*e*SN			Sn	17 52 01.2	-0.6
EFP	**Efpalio**	**0.93**	**72**	P			Pg	17 51 46.8	-0.9
EFP				*e*Sn			Sn	17 52 01.2	-0.6
EFP	**Efpalio**	**0.93**	**72**	*e*Pb			Pg	17 51 47.0	-0.7
AMT	**Artemida-Makis**	**0.95**	**130**	*e*PN			Pg	17 51 48.2	0.0
AMT				*e*SN			Sn	17 52 02.8	+0.3
AMT	**Artemida-Makis**	**0.95**	**130**	*e*Pn			Pg	17 51 48.2	0.0
AMT				*e*Sn			Sn	17 52 02.8	+0.3
DSL	**Palaion Diasel**	**1.02**	**14**	P			Pb	17 51 48.3	-1.2
DSL	**Palaion Diasel**	**1.02**	**14**	*e*PN			Pb	17 51 48.4	-1.1
DSL	**Palaion Diasel**	**1.02**	**14**	P			Pb	17 51 48.3	-1.2
KLV	**Kalavryta, Ach**	**1.08**	**95**	P			Pb	17 51 49.3	-1.2
KLV				S			Sn	17 52 06.6	+0.8
KLV	**Kalavryta, Ach**	**1.08**	**95**	*e*PB			Pb	17 51 49.2	-1.3
KLV				*e*SN			Sn	17 52 06.5	+0.7
KLV	**Kalavryta, Ach**	**1.08**	**95**	P			Pb	17 51 49.3	-1.2
KLV				S			Sn	17 52 06.6	+0.8
KLV	**Kalavryta, Ach**	**1.08**	**95**	*e*Sn			Sn	17 52 06.5	+0.7
KALE	**Kalithea**	**1.09**	**76

APLL eS Sn 18 06 07.2 -1.7
ACHE Chepes 3.63 126 eP Pn 18 05 32.1 -0.8
ASAL Salagasta 3.66 163 eP Pn 18 05 33.2 0.0
CYA Choya 3.83 81 eP Pn 18 05 34.0 -1.4
CYA IAML 18 06 17.2
comp=Z,619nm,0.6s
ARCO CERRO ARCO 3.88 165 eP Pn 18 05 36.2 +0.1
ARCO eS Sn 18 06 18.7 -2.4
ARCO AML AML 18 06 25.6
comp=Z,1μm,0.5s
ACAN Cantantal 4.05 142 eP Pn 18 05 37.8 -0.5
ACAN eS Sn 18 06 23.0 -2.1
AAGR Agrelo 4.13 165 eP Pn 18 05 39.1 -0.4
AHML Horco Molle 4.80 63 IAML 18 06 42.9
comp=Z,124nm,0.6s
CHCH Chadas Angostu 4.86 185 *i* P Pn 18 05 46.5 -2.6
CHCH *i* S Sn 18 06 41.5 -2.8
SLA San Lorenzo 5.98 44 eP Pn 18 06 04.0 -0.4
LVC Limon Verde 6.53 10 ePn Pn 18 06 08.9 -3.1
TRQA Tornquist 11.22 145 eP Pn 18 07 11.1 -3.8
comp=Z,21nm,0.8s
PLCA Paso Flores 11.63 182 P Pn 18 07 17.5 -2.8
comp=Z,0.7nm,0.3s,baz=355,slow=12,SNR=24
PLCA LR LR 18 11 53.3
comp=Z,176nm,20.9s,baz=60,slow=37
LPAZ La Paz 12.87 9 P Pn 18 07 33.4 -3.8
comp=Z,0.9nm,0.3s,baz=180,slow=6.8,SNR=65
LPAZ La Paz 12.87 9 ePn **Pn 18 07 34.3 -2.9**
SIV San Ignacio 15.46 34 P Pn 18 08 07.4 -2.3
comp=Z,1.1nm,0.3s,baz=230,slow=12,SNR=9.9
USHA Ushuaia 25.76 178 P **P 18 09 57.4 +0.3**
comp=Z,23nm,0.8s,baz=351,slow=8.6,SNR=12
SDV Santo Domingo 37.75 359 eP **P 18 11 41.7 -0.8**
comp=Z,8.9nm,1.0s
SNAA Sanae 55.54 159 P **P 18 14 00.6 +0.2**
comp=Z,1.5nm,0.8s,baz=277,slow=8.5,SNR=7.4
SNAA pP **pP 18 14 31.4 +2.3**
comp=Z,0.9nm,0.7s,baz=268,slow=11,SNR=2.4
QSPA South Pole Qui 61.14 180 P **P 18 14 40.1 +0.7**
comp=Z,5.5nm,0.8s,baz=192,slow=0.8,SNR=32
QSPA pP **pP 18 15 10.6 +1.9**
comp=Z,5.0nm,0.9s,baz=132,slow=3.2,SNR=5.3
933A Laredo 62.92 331 P **P 18 14 53.1 +1.6**
baz=63
834A Tilden 63.07 332 P **P 18 14 54.6 +2.1**
baz=64
833A Chaparral WMA, 63.59 331 P **P 18 14 57.4 +1.4**
baz=64
636A Smothers Creek 63.67 334 P **P 18 14 58.3 +1.9**
baz=64
832A Faith Ranch, C 63.81 331 P **P 18 14 58.6 +1.3**
baz=64
732A Laxson Ranch, 64.19 331 P **P 18 15 01.1 +1.3**
baz=65
633A Saathoff Ranch 64.50 332 P **P 18 15 03.6 +1.7**
baz=65
632A Uvalde 64.79 332 P **P 18 15 05.3 +1.5**
baz=65
434A Burnet 65.33 333 P **P 18 15 08.2 +0.9**
baz=66
532A Rocksprings 65.39 332 P **P 18 15 08.9 +1.3**
baz=66
433A Art 65.61 333 P **P 18 15 09.8 +0.8**
baz=66
SWET Sewanee 65.68 346 eP **P 18 15 09.5 +0.1**
531A Rocksprings 65.69 331 P **P 18 15 11.1 +1.5**
baz=66
334A Lometa 65.78 334 P **P 18 15 10.9 +0.7**
baz=66
432A Menard 66.00 332 P **P 18 15 12.4 +0.8**
baz=66
530A J-C Ranch, Com 66.01 331 P **P 18 15 13.1 +1.4**
baz=66
333A Richland Sprin 66.07 333 P **P 18 15 12.9 +0.9**
baz=66
431A Sonora 66.16 331 P **P 18 15 13.1 +0.5**
baz=67
234A Clairette 66.34 334 P **P 18 15 14.5 +0.9**
baz=67
TXAR Lajitas Array 66.35 328 P **P 18 15 14.9 +1.0**
comp=Z,1.7nm,0.7s,baz=150,slow=8.4,SNR=21
TXAR pP **pP 18 15 44.2 +0.6**
comp=Z,0.5nm,0.6s,baz=146,slow=9.1,SNR=3.4
529A Stev Forest Ra 66.37 330 P **P 18 15 15.3 +1.2**
baz=67
332A Millersview 66.42 333 P **P 18 15 15.1 +0.8**
baz=67
430A Baggett Ranch, 66.52 331 P **P 18 15 16.0 +1.1**
baz=67
331A San Angelo 66.63 332 P **P 18 15 16.5 +0.9**
baz=67
233A Rising Star 66.65 334 P **P 18 15 16.4 +0.7**
baz=67
429A Davenport Ranc 66.66 330 P **P 18 15 16.9 +1.1**
baz=67
232A Coleman 66.83 333 P **P 18 15 17.5 +0.7**
baz=67
WVT Waverly 66.98 344 eP **P 18 15 17.5 -0.2**
comp=Z,11nm,0.8s
330A Mertzon 67.03 331 P **P 18 15 18.8 +0.7**
baz=68
Z35A Perchaven, San 67.20 336 P **P 18 15 19.8 +0.7**
baz=68
ABTX Abilene, Hawle 67.47 333 eP **P 18 15 21.7 +0.8**
comp=Z,8.9nm,0.8s
Z34A Collier Ranch, 67.48 335 P **P 18 15 21.5 +0.6**
baz=68
Z33A Whitaker Ranch 67.72 334 P **P 18 15 23.0 +0.6**
baz=68
131A Roby 67.81 333 P **P 18 15 23.7 +0.6**
baz=68
130A Snyder 67.98 332 P **P 18 15 24.3 +0.2**
baz=68
Z32A Haskell 68.01 334 P **P 18 15 24.9 +0.7**
baz=68
228A UT Block 9, Go 68.25 331 P **P 18 15 26.6 +0.8**
baz=69
Z31A Sharp Cattle R 68.28 333 P **P 18 15 26.7 +0.7**
baz=69
Y33A Hilltop Ranch, 68.31 335 P **P 18 15 26.9 +0.9**
baz=69
Z30A Sanderson Ranc 68.65 332 P **P 18 15 28.6 +0.3**
baz=69
Y31A Rekieta Farm, 68.89 333 P **P 18 15 30.0 +0.2**
baz=69
TUL1 Leonard 69.03 338 P **P 18 15 30.8 +0.3**
baz=70
MNTX Cornudas Mount 69.13 328 P **P 18 15 31.4 +0.1**
baz=70
V35A Meyer Ranch, C 69.25 337 P **P 18 15 31.8 0.0**
baz=70
W32A Sentinel 69.53 335 P **P 18 15 34.1 +0.5**
baz=70
V34A Guthrie 69.55 336 P **P 18 15 33.7 0.0**
baz=70
MSTX Muleshoe 69.92 331 P **P 18 15 37.0 +0.9**
baz=70
MSTX Muleshoe 69.92 331 eP **P 18 15 37.0 +0.9**
comp=Z,11nm,0.8s
AMTX Amarillo 70.26 333 P **P 18 15 39.6 +1.4**
baz=71
S35A Otter Creek Ra 70.81 338 P **P 18 15 41.9 +0.6**
baz=71
121A Cookes Peak, D 70.95 327 P **P 18 15 44.3 +1.7**
baz=71
V28A Channing 71.24 333 P **P 18 15 45.4 +1.3**
baz=72
T32A Huddler Ranch, 71.25 336 P **P 18 15 45.3 +1.3**
baz=72
W26A Owens Ranch, T 71.30 331 P **P 18 15 45.5 +1.0**
baz=72
T31A Randall Ranch, 71.45 335 P **P 18 15 46.5 +1.3**
baz=72
U28A Mallet 71.78 333 P **P 18 15 48.8 +1.5**
baz=72
V26A Tequesquite Ra 71.91 332 P **P 18 15 49.1 +1.0**
baz=72
DBIC Dimbokro 72.05 71 P **P 18 15 49.2 -0.1**
comp=Z,1.5nm,0.4s,baz=215,slow=8.3,SNR=4.7
V25A Rancho No Teng 72.30 331 P **P 18 15 51.5 +0.9**
baz=73
U26A Atchley Ranch, 72.41 332 P **P 18 15 52.5 +1.3**
baz=73
R31A Burdett 72.45 336 P **P 18 15 52.6 +1.4**
baz=73
Q33A Connelly Farm, 72.51 338 P **P 18 15 52.5 +1.0**
baz=73
T27A Campo 72.57 333 P **P 18 15 53.3 +1.3**
baz=73
U25A Circle Dot Ran 72.69 332 P **P 18 15 54.1 +1.2**
baz=73
S28A Manter 72.71 334 P **P 18 15 54.2 +1.4**
baz=73
R30A Dighton 72.72 336 P **P 18 15 53.9 +1.1**
baz=73
214A Organ Pipe Nat 73.02 323 P **P 18 15 56.7 +1.9**
baz=74
S27A Las Animas 73.18 333 P **P 18 15 56.8 +1.1**
baz=74
Q30A Quinter 73.31 336 P **P 18 15 57.6 +1.3**
baz=74
T25A Trinidad 73.32 332 P **P 18 15 58.4 +1.8**
baz=74
T25A Trinidad 73.32 332 eP **P 18 15 58.5 +1.9**
comp=Z,5.4nm,0.8s
S26A Kim 73.35 333 P **P 18 15 58.2 +1.5**
baz=74
P31A Stockton 73.50 337 P **P 18 15 58.5 +1.1**
baz=74
R27A Eads 73.67 334 P **P 18 15 59.7 +1.2**
baz=74
S25A Robets Cordova 73.78 332 P **P 18 16 00.6 +1.4**
baz=74
O32A Brockman Farm, 73.79 338 P **P 18 15 60.0 +0.9**
baz=74
R26A Arlington 73.93 333 P **P 18 16 00.5 +0.5**
baz=74
S24A Houchin Ranch, 74.08 332 P **P 18 16 02.8 +1.6**
baz=74
X16A Lo Mia Camp, P 74.27 325 P **P 18 16 04.1 +2.0**
baz=75
SDCO Great Sand Dun 74.29 332 P **P 18 16 03.4 +1.1**
baz=75
R24A Sanders Place, 74.54 332 P **P 18 16 05.5 +1.9**
baz=75
R23A Moffat 74.80 332 P **P 18 16 06.7 +1.4**
baz=75
S22A 4UR Ranch, Cre 74.85 331 P **P 18 16 07.2 +1.6**
baz=75
M31A Lambtecht Ranc 75.00 338 P **P 18 16 07.1 +1.1**
baz=76
WUAZ Wupatki 75.11 326 P **P 18 16 08.4 +1.4**
baz=76
WUAZ Wupatki 75.11 326 eP **P 18 16 08.8 +1.8**
comp=Z,7.7nm,1.0s
MVCO Mesa Verde 75.14 329 P **P 18 16 08.6 +1.4**
baz=76
MVCO Mesa Verde 75.14 329 eP **P 18 16 09.0 +1.8**
comp=Z,5.8nm,0.8s
Q24A Divide 75.18 332 P **P 18 16 08.8 +1.4**
baz=76
P25A Willow Gulch B 75.26 333 P **P 18 16 09.4 +1.7**
baz=76
CRR Carrizo Plain 75.44 321 eP **P 18 16 08.7 0.0**
BC3 Big Chuckawall 75.74 322 P **P 18 16 12.5 +1.9**
baz=76
IRM Iron Mountain 75.97 323 P **P 18 16 13.2 +1.5**
baz=76
W13A Hualapai Mount 76.03 324 P **P 18 16 13.8 +1.5**
baz=76
ISCO Ido Springs 76.08 333 P **P 18 16 14.3 +1.7**
baz=76
SMCO Snowmass 76.11 331 eP **P 18 16 14.8 +1.9**
U15A North Rim 76.28 326 P **P 18 16 15.8 +2.1**
baz=77
P22A Eagle 76.38 332 P **P 18 16 16.1 +1.9**
baz=77
ECSD EROS Data Cent 76.43 341 eP **P 18 16 14.3 +0.2**
comp=Z,4.1nm,0.7s
PV09 Paradox Valley 76.48 329 eP **P 18 16 16.8 +1.9**
O23A Lake Granby, G 76.55 333 P **P 18 16 17.1 +1.9**
baz=77
GMRC Granite Mounta 76.71 323 P **P 18 16 17.8 +1.8**
baz=77
O22A Kremmling 76.77 332 P **P 18 16 17.8 +1.4**
baz=77
KNB Kanab 77.01 326 eP **P 18 16 20.1 +2.4**
HEC Hector,Ludlow 77.11 322 P **P 18 16 20.4 +2.2**
baz=78
N22A Wattenberg Ran 77.27 333 P **P 18 16 20.6 +1.4**
baz=78
O20A White River Ci 77.45 331 P **P 18 16 21.8 +1.7**
baz=78
O20A White River Ci 77.45 331 eP **P 18 16 21.6 +1.5**
M23A Laramie 77.55 333 P **P 18 16 22.1 +1.5**
baz=78
J28A Allard Ranch, 77.61 337 P **P 18 16 22.4 +1.7**
baz=78
SRU San Rafael Swe 77.61 329 eP **P 18 16 22.6 +1.6**
CCUT Cedar City 77.69 326 eP **P 18 16 24.2 +2.6**
GSC Goldstone, Bar 77.72 322 P **P 18 16 23.4 +1.9**
baz=78
MVU Marysvale 77.90 327 eP **P 18 16 24.8 +2.1**
ARUT Antelope Range 77.92 326 eP **P 18 16 21.2 -1.5**
EDW2 Edwards Air Fo 78.04 321 P **P 18 16 24.9 +1.6**
baz=78
N20A Spence Gulch, 78.04 331 P **P 18 16 25.0 +1.6**
baz=78
K23A Bowen Ranch, D 78.61 334 P **P 18 16 28.3 +1.9**
baz=79
TPNV Topopah Spring 78.68 324 P **P 18 16 28.8 +2.0**
baz=79
TPNV Topopah Spring 78.68 324 eP **P 18 16 28.9 +2.0**
J24A Dixon Ranch, L 78.74 335 P **P 18 16 29.0 +1.9**
baz=79
K22A Casper 78.86 333 P **P 18 16 29.5 +1.7**
baz=79
ISA Isabella, Lake 78.89 322 P **P 18 16 29.8 +1.9**
baz=79
ISA Isabella, Lake 78.89 322 eP **P 18 16 30.0 +2.0**
K21A Alcova 79.14 333 P **P 18 16 30.7 +1.4**
baz=80
R11A Troy Canyon, C 79.42 325 P **P 18 16 32.7 +1.7**
baz=80
R11A Troy Canyon, C 79.42 325 eP **P 18 16 32.7 +1.7**
DUG Dugway, Tooele 79.53 328 P **P 18 16 32.8 +1.3**
baz=80
DUG Dugway, Tooele 79.53 328 eP **P 18 16 33.2 +1.7**
I22A 9 Mile Ranch, 79.90 334 P **P 18 16 34.2 +0.9**
baz=80
H24A Dirks Ranch, A 79.92 336 P **P 18 16 34.0 +0.6**
baz=80
F27A Lemmon 80.03 338 P **P 18 16 34.5 +0.6**
baz=80
TPH Tonopah 80.03 324 eP **P 18 16 36.2 +1.9**
J20A Shoshoni 80.07 333 P **P 18 16 35.9 +1.6**
baz=80
HWUT Hardware Ranch 80.10 330 eP **P 18 16 35.5 +1.0**
I21A Big Trails, Te 80.14 334 P **P 18 16 35.2 +0.5**
baz=81
PDAR Pinedale Array 80.18 332 P **P 18 16 35.5 +0.4**
comp=Z,2.4nm,0.8s,baz=132,slow=6.2,SNR=15
J19A Crowheart 80.39 332 P **P 18 16 37.4 +1.3**
baz=81
C30A Mose, Pekin 80.59 341 P **P 18 16 37.3 +0.5**
baz=81
I20A Worland 80.59 333 P **P 18 16 38.0 +1.0**
baz=81
G23A Biddle 80.61 336 P **P 18 16 37.6 +0.5**
baz=81
H21A Big Horn, Sher 80.74 334 P **P 18 16 38.1 +0.3**
baz=81
D28A Regan 80.75 339 P **P 18 16 38.6 +1.0**
baz=81
HVU Hansel Valley 80.78 329 eP **P 18 16 39.2 +1.0**
NVAR Mina Array Bea 80.86 324 P **P 18 16 40.3 +1.5**
comp=Z,2.3nm,0.8s,baz=159,slow=5.4,SNR=14
TORD Torodi Ar. Bea 80.97 70 P **P 18 16 39.0 -0.5**
comp=Z,4.8nm,0.7s,baz=260,slow=4.9,SNR=30
TORD pP **pP 18 17 12.6 +2.3**
comp=Z,2.9nm,0.7s,baz=264,slow=5.0,SNR=5.4
H20A Greybull 80.99 334 P **P 18 16 39.7 +0.6**
baz=81
I19A Meeteetse 81.00 333 P **P 18 16 40.2 +0.8**
baz=82
MDND Maddock 81.04 340 P **P 18 16 39.8 +0.6**
baz=82
MDND Maddock 81.04 340 eP **P 18 16 40.2 +1.0**
ELK Elko 81.10 327 eP **P 18 16 41.3 +1.3**
B30A Myrvik Farm, E 81.22 341 P **P 18 16 41.0 +0.9**
baz=82
G21A Lodge Grass 81.31 334 P **P 18 16 41.5 +0.7**
baz=82
F22A Rosebud 81.42 335 P **P 18 16 41.9 +0.5**
baz=82
FXWY Fox Creek 81.51 331 eP **P 18 16 43.2 +1.1**
B29A Wagenman Farm, 81.53 341 P **P 18 16 42.3 +0.5**
baz=82
I17A Pilgrim Ck. 81.56 332 P **P 18 16 43.6 +1.3**
baz=82
D25A Fairfield 81.59 338 P **P 18 16 43.6 +1.4**
baz=82
G20A Bridger 81.69 334 P **P 18 16 43.3 +0.4**
baz=82
FLWY Flagg Ranch 81.74 332 eP **P 18 16 44.6 +1.3**
H18A Shoshone NF, C 81.81 333 P **P 18 16 44.3 +0.7**
baz=82
B28A Dugan Ranch, T 81.81 340 P **P 18 16 44.1 +0.9**
baz=82
D24A Glendive 81.89 337 P **P 18 16 44.7 +1.0**
baz=82
A29A Manning Farm, 81.91 341 P **P 18 16 43.9 +0.1**
baz=82
RLMT Red Lodge 82.02 333 eP **P 18 16 45.6 +1.0**
ULM Lac du Bonnet 82.23 344 P **P 18 16 44.7 -0.7**
comp=Z,3.7nm,1.0s,baz=171,slow=6.6,SNR=5.3
C24A Savage 82.29 337 P **P 18 16 47.0 +1.2**
baz=83
D22A Cohagen 82.57 336 P **P 18 16 48.6 +1.4**
baz=83
E20A Meyer Farm, Mu 82.73 335 P **P 18 16 49.0 +0.9**
baz=83
HLID Hailey 82.92 329 P **P 18 16 50.8 +1.4**
baz=83
HLID Hailey 82.92 329 eP **P 18 16 51.1 +1.7**
E19A Rath Farm, Rou 82.94 334 P **P 18 16 50.0 +0.7**
baz=83
D20A Manuel Ranch, 83.23 335 P **P 18 16 51.1 +0.4**
baz=84
MCMT McKenzie Canyo 83.25 331 eP **P 18 16 52.8 +1.7**
SCHQ Schefferville 83.62 2 P **P 18 16 51.1 -1.3**
comp=Z,3.0nm,0.8s,baz=195,slow=12,SNR=3.1
A22A Carney Farms, 84.05 337 P **P 18 16 55.5 +0.7**
baz=84
C19A Slack Wire Ran 84.10 335 P **P 18 16 55.7 +0.6**
baz=85
YBH Yreka Blue Hor 85.58 323 P **P 18 17 02.3 -0.4**
comp=Z,2.3nm,0.8s,baz=45,slow=1.4,SNR=5.1
YKA Yellowknife Ar 97.96 341 P **P 18 17 59.4 -0.3**
comp=Z,0.6nm,0.7s,baz=140,slow=4.4,SNR=17
ASAR Alice Springs 122.69 206 PKP **PKPdf 18 23 19.4 -0.8**
comp=Z,0.3nm,0.7s,baz=156,slow=2.6,SNR=6.0
WRA Warramunga Arr 125.85 209 PKP **PKPdf 18 23 25.9 -0.4**
comp=Z,1.3nm,0.6s,baz=158,slow=1.7,SNR=34
SEY Seymchan 136.50 333 PKP **PKPdf 18 23 45.6 +0.7**
comp=Z,1.0nm,0.6s,baz=88,slow=8.7,SNR=8.5
YAK Yakutsk 144.57 344 PKP PKPbc 18 23 58.7 +0.2
comp=Z,24nm,0.6s,baz=160,slow=0.4,SNR=23
ZALV Zalesovo Beam 149.17 29 PKP **PKPdf 18 24 08.0 +0.6**
comp=Z,12nm,0.6s,baz=303,slow=3.5,SNR=47
ZALV PKPbc **PKPbc 18 24 12.1 +0.3**
comp=Z,12nm,0.6s,baz=306,slow=3.6,SNR=49
MKAR Makanchi Array 152.17 43 PKPbc **PKPbc 18 24 19.1 0.0**
comp=Z,2.8nm,0.5s,baz=284,slow=3.7,SNR=10

*ISCJB **08** 18:11:20.4±0.9, 49.°7S±0.°1×129.°6E±0.°8, h10km, mb3.7/5, MS3.8/1, Error ellipse: s-maj=73.8km s-min=16.5km az=178.3*
*IDC **08** 18:11:20.8±1.1, 49.°69S×129.°24E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/20, mbtmp3.8/5, MS3.9/1, Ms1 3.9/1, ms1mx3.1/14, Error ellipse: s-maj=74.7km s-min=20.2km az=88.0*
ISC 08 18:11:22.4±1.0, 49.°7S±0.°1×129.°4E±0.°6, h10km, n9, σ1§47/6, mb3.9/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**18.55**	**317**	T		T	T	18 32 55.5	
	baz=152,slow=74,SNR=29								
H01W2	**Cape Leeuwin H**	**18.56**	**317**	T		T	T	18 33 08.9	
	baz=152,slow=74,SNR=31								
H01W3	**Cape Leeuwin H**	**18.57**	**317**	T		T	T	18 32 45.1	
	baz=152,slow=74,SNR=36								
ASAR	**Alice Springs**	**26.22**	**9**	P		**P**	**P**	**18 16 57.2**	**-0.2**
	1.3nm,0.6s,baz=189,slow=9.3,SNR=14								
WRA	**Warramunga Arr**	**29.95**	**9**	P		**P**	**P**	**18 17 29.7**	**-1.0**
	0.2nm,0.5s,baz=192,slow=11,SNR=4.2								
VNDA	**Vanda**	**30.52**	**167**	P		**P**	**P**	**18 17 36.4**	**+1.2**
	1.5nm,0.9s,baz=303,slow=9.3,SNR=6.2								
VNDA					LR	LR	LR	18 29 09.8	
	comp=Z,206nm,19.1s,baz=325,slow=35								
QSPA	**South Pole Qui**	**40.42**	**180**	P		**P**	**P**	**18 18 58.8**	**-1.6**
	3.2nm,1.0s,baz=300,slow=3.2,SNR=4.4								
CMAR	**Chiang Mai Arr**	**73.03**	**330**	P		**P**	**P**	**18 22 53.0**	**+0.7**
	0.9nm,0.7s,baz=182,slow=5.3,SNR=7.6								
YKA	**Yellowknife Ar**	**143.68**	**45**	PKP		**PKPdf**	**PKPdf**	**18 30 57.1**	**+0.9**
	1.0nm,0.7s,baz=272,slow=3.5,SNR=25								

*IDC **08** 18:21:28.4±2.6, 41.°43N×78.°75E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/33, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=43.3km s-min=20.7km az=140.0*
*NNC **08** 18:21:32.8±2.3, 41.°55N×78.°84E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=21.7km s-min=11.7km az=148.0*
ISC 08 18:21:28.6±1.7, 41.°3N±0.°1×78.°85E±0.°08, h13km, n23, σ1§57/21, 9C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.10**	**13**	⇑Pn		**Pb**	**Pb**	**18 22 05.5**	**-1.1**
	38nm,0.6s								
PDGK				⇓Lg		Lg	Lg	18 22 33.6	
	102nm,0.6s								
ULHL	**Ulahol**	**2.18**	**297**	P		**Pb**	**Pb**	**18 22 08.0**	**0.0**
	SNR=123								
KNDC	**Almaty**	**2.39**	**325**	⇑Pn		**Pb**	**Pb**	**18 22 11.8**	**+0.3**
	49nm,0.5s								
KNDC				⇑Lg		Lg	Lg	18 22 44.4	
	196nm,0.6s								
KZA	**Kyzart**	**2.81**	**288**	P		**Pb**	**Pb**	**18 22 18.4**	**-0.6**
	SNR=36								
TKM2	**Tokmak 2**	**2.93**	**305**	⇑Pg		**Pb**	**Pb**	**18 22 19.0**	**-1.8**
	4.9nm,0.3s								
TKM2				⇓Lg		Lg	Lg	18 23 01.1	
	95nm,0.6s								
TKM2	**Tokmak 2**	**2.93**	**305**	P		**Pb**	**Pb**	**18 22 21.0**	**+0.3**
	SNR=16								
KBK	**Karagaybulak**	**3.22**	**297**	P		**Pg**	**Pg**	**18 22 27.9**	**-2.4**
	SNR=17								
UCH	**Uchtor**	**3.38**	**288**	P		**Pg**	**Pg**	**18 22 31.3**	**-2.1**
	SNR=8.2								
CHMS	**Chumysh**	**3.50**	**301**	P		**Pg**	**Pg**	**18 22 33.2**	**-2.4**
	SNR=10								
AAK	**Ala-Archa**	**3.52**	**294**	⇓Pn		**Pb**	**Pb**	**18 22 29.3**	**-1.6**
	5.3nm,0.4s								
AAK				Lg		Lg	Lg	18 23 22.1	
	17nm,0.7s								
AML	**Almayashu**	**3.95**	**284**	P		**Pb**	**Pb**	**18 22 41.0**	**+2.6**
	SNR=12								
EKS2	**Erkin-Say**	**4.03**	**292**	P		**Pb**	**Pb**	**18 22 40.3**	**+0.9**
	SNR=6.9								
SFK	**Sufi-Kurgan**	**4.26**	**255**	⇓Pn		**Pb**	**Pb**	**18 22 42.2**	**-1.3**
	2.4nm,0.5s								
SFK				⇑Lg		Lg	Lg	18 23 51.0	
	11nm,0.7s								
MNAS	**Manas**	**4.89**	**286**	⇑Pg		**Pb**	**Pb**	**18 22 56.6**	**+2.4**
	4.8nm,0.6s								
MNAS				⇓Lg		Lg	Lg	18 24 06.9	
	7.0nm,0.7s								
MK31	**Makanchi Array**	**6.05**	**23**	Pn		**Pn**	**Pn**	**18 22 58.4**	**+0.7**
	0.3nm,0.3s,baz=199,slow=13,SNR=35								
MK31				⇓Sn		Sn	Sn	18 24 07.2	+0.4
	1.0nm,0.5s,baz=103,slow=43,SNR=4.5								
MKAR	**Makanchi Array**	**6.05**	**23**	Pn		**Pn**	**Pn**	**18 22 58.8**	**+1.0**
	0.7nm,0.3s,baz=209,slow=14,SNR=14								
MKAR					Sn	Sn	Sn	18 24 07.5	+0.7
	0.5nm,0.3s,baz=200,slow=20,SNR=3.0								
MKAR					Lg	Lg	Lg	18 24 37.0	
	0.7nm,0.3s,baz=208,slow=28,SNR=4.4								
KK31	**Karatay Array**	**6.46**	**289**	Pg		Pg	Pg	18 23 26.5	-5.7
	1.8nm,0.5s,baz=106,slow=16,SNR=25								
KK31					Lg	Lg	Lg	18 24 54.1	
	2.7nm,0.5s,baz=96,slow=27,SNR=6.7								
OTUK	**Ortayu**	**8.37**	**329**	⇑Pn		**Pn**	**Pn**	**18 23 31.3**	**+1.8**
	0.6nm,0.6s								
OTUK				⇑Lg		Lg	Lg	18 25 47.5	
	3.1nm,0.7s								
KURBB	**Kurchatov Arra**	**9.35**	**359**	⇓Lg		Lg	Lg	18 26 19.5	
	4.6nm,0.7s								
KURK	**Kurchatov**	**9.44**	**359**	⇑Lg		Lg	Lg	18 26 19.4	

4.5nm,1.1s
SONM Songino Array 20.63 62 P Pn 18 26 09.8 -0.3
0.7nm,1.0s,baz=259,slow=9.6,SNR=4.6
AKASG Malin Array Be 35.15 303 P **P** **18 28 22.3 +0.6**
0.2nm,0.4s,baz=67,slow=8.8,SNR=4.4
ARCES ARCESS Array B 39.34 334 P **P** **18 28 57.5 +0.4**
3.8nm,1.1s,baz=102,slow=7.7,SNR=4.5

IDC ***08*** *18:28:38.9±1.1, 8˚.48S×117˚.99E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML4.1/1, MS3.2/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=70.5km s-min=20.9km az=61.0*
ISCJB ***08*** *18:28:54.3±0.4, 8˚.64S±0˚.06×118˚.37E±0˚.04, h152km, mb3.4/4, Error ellipse: s-maj=8.2km s-min=4.7km az=18.3*
DJA ***08*** *18:28:56.6±0.5, 9˚S±3˚×117˚8E±˚, h107km±7km, M4.3/14, mb4.6/3, mB4.8/1, MLv4.2/14, Mw(mB)4.1/1*
ISC 08 18:28:55.0±0.8, **8˚.69S**±0˚.06×**118˚.37E**±0˚.05, **h152**km, **n17,** σ1§**41**/22, **mb3.3/4, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.38**	**133**	P			**Pn**	**18 29 22.2**	**-1.4**
WBSI				S			**Sn**	**18 29 42.8**	**-2.7**
WSI	**Waingapu**	**2.14**	**117**	P			**Pn**	**18 29 31.5**	**-0.4**
WSI				S			**Sn**	**18 30 02.0**	**+1.7**
BASI	**Baing, Sumba**	**2.66**	**125**	P			**Pn**	**18 29 36.9**	**-1.3**
SRBI	**Singaraja**	**3.18**	**281**	P			**Pn**	**18 29 45.0**	**+0.2**
SRBI				S			**Sn**	**18 30 22.7**	**-0.6**
IGBI	**Denpasar**	**3.19**	**267**	P			**Pn**	**18 29 45.1**	**+0.2**
IGBI				S			**Sn**	**18 30 22.9**	**-0.5**
EDFI	**Ende, Flores**	**3.29**	**91**	P			**Pn**	**18 29 46.5**	**+0.3**
BKSI	**Bulukumba**	**3.77**	**28**	P			**Pn**	**18 29 51.9**	**-0.5**
BKSI				S			**Sn**	**18 30 36.1**	**-0.9**
BLJI	**Banyuglugur**	**4.82**	**281**	P			**Pn**	**18 30 07.3**	**+1.2**
BATI	**Baumata**	**5.44**	**107**	P			**Pn**	**18 30 14.5**	**+0.1**
	71nm,0.5s,1μm,0.3nm								
SOEI	**Soe**	**5.92**	**101**	P			**Pn**	**18 30 20.8**	**-0.1**
	64nm,0.7s,0.3nm								
BBKI	**Banjar Baru**	**6.27**	**326**	P			**Pn**	**18 30 26.0**	**+0.6**
WRA	**Warramunga Arr**	**19.07**	**128**	P			**P**	**18 33 07.4**	**+1.4**
	0.6nm,0.3s,baz=302,slow=12,SNR=43								
WRA				S			**S**	**18 36 31.8**	**-2.7**
	0.2nm,0.3s,baz=304,slow=23,SNR=4.7								
ASAR	**Alice Springs**	**21.05**	**137**	P			**P**	**18 33 29.6**	**+2.4**
	2.1nm,0.5s,baz=309,slow=9.3,SNR=53								
ASAR				S			**S**	**18 37 15.2**	**+2.2**
	0.5nm,0.8s,baz=318,slow=18,SNR=4.0								
CMAR	**Chiang Mai Arr**	**33.09**	**325**	LR			LR	18 48 25.0	
	comp=Z,40nm,20.8s,baz=180,slow=36								
SONM	**Songino Array**	**57.27**	**350**	P			**P**	**18 38 26.3**	**-0.5**
	0.2nm,0.5s,baz=168,slow=10,SNR=2.7								
MKAR	**Makanchi Array**	**63.90**	**333**	P			**P**	**18 39 11.4**	**-0.2**
	0.3nm,0.7s,baz=156,slow=6.4,SNR=3.0								
VNDA	**Vanda**	**72.39**	**171**	P			P	18 40 08.0	+4.0
	0.7nm,1.0s,baz=322,slow=5.5,SNR=4.7								

CRAAG ***08*** *18:35:21.0, 36˚.45N×2˚.36E, Ml3.0*
ISCJB ***08*** *18:35:24.1±0.5, 36˚.59N±0˚.03×2˚.30E±0˚.04, h18km, Error ellipse: s-maj=4.5km s-min=4.1km az=153.5*
CSEM ***08*** *18:35:24.6±0.2, 36˚.44N×2˚.34E, h20km, ML3.0, Error ellipse: s-maj=5.2km s-min=4.2km az=170.0*
MDD ***08*** *18:35:24.2±0.4, 36˚.50N×2˚.30E, h0km, mb4.0/8, Error ellipse: s-maj=5.9km s-min=4.5km az=7.0, PRXIMO*
ISC 08 18:35:23.8±0.8, **36˚.48N**±0˚.04×**2˚.35E**±0˚.03, **h18**km, **n56,** σ1§**35**/75, **1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.56**	**120**	P			**Pg**	**18 35 35.2**	**+0.1**
EMHD	**Djebel Mahouad**	**0.56**	**120**	P			**Pg**	**18 35 35.2**	**+0.1**
EMHD	**Djebel Mahouad**	**0.56**	**120**	P			**Pg**	**18 35 35.2**	**+0.1**
ABA	**Alger-Bouzarea**	**0.64**	**60**	P			**Pb**	**18 35 36.5**	**0.0**
ABA	**Alger-Bouzarea**	**0.64**	**60**	P			**Pb**	**18 35 36.5**	**0.0**
ABA	**Alger-Bouzarea**	**0.64**	**60**	P			**Pb**	**18 35 36.5**	**0.0**
EBNR	**Beni Rached**	**0.69**	**254**	P			**Pb**	**18 35 37.3**	**0.0**
EBNR	**Beni Rached**	**0.69**	**254**	P			**Pb**	**18 35 37.3**	**0.0**
ECHA	**Ech Chlef**	**0.86**	**248**	P			Pn	18 35 46.0	+5.0
ADJB	**Djebel Djouab**	**0.94**	**110**	P			**Pb**	**18 35 42.0**	**+0.4**
ADJB	**Djebel Djouab**	**0.94**	**110**	P			**Pb**	**18 35 42.0**	**+0.4**
ADJB	**Djebel Djouab**	**0.94**	**110**	P			**Pb**	**18 35 42.0**	**+0.4**
ABMS	**Boumerdes**	**0.95**	**73**	P			**Pb**	**18 35 42.3**	**+0.5**
ABMS	**Boumerdes**	**0.95**	**73**	P			**Pb**	**18 35 42.3**	**+0.5**
ABMS	**Boumerdes**	**0.95**	**73**	P			**Pb**	**18 35 42.3**	**+0.5**
EANR	**'Ain N'Sour**	**1.14**	**243**	P			**Pn**	**18 35 45.3**	**+0.4**
EANR	**'Ain N'Sour**	**1.14**	**243**	P			**Pn**	**18 35 45.3**	**+0.4**
EANR	**'Ain N'Sour**	**1.14**	**243**	P			**Pn**	**18 35 45.3**	**+0.4**
AKET	**Djebel Ketaf**	**1.31**	**109**	P			Pn	18 35 32.5	-15
ETRT	**Tiaret**	**1.38**	**218**	P			**Pn**	**18 35 48.9**	**+0.6**
ETRT	**Tiaret**	**1.38**	**218**	P			**Pn**	**18 35 48.9**	**+0.6**
ETRT	**Tiaret**	**1.38**	**218**	P			**Pn**	**18 35 48.9**	**+0.6**
OKGL	**Djebel Kef Gue**	**1.45**	**253**	P			**Pn**	**18 35 48.9**	**-0.3**
	29nm,0.2s,SNR=7.9								
OKGL				S			**Sb**	**18 36 09.0**	**+0.7**
	101nm,0.2s,SNR=7.9								
OKGL	**Djebel Kef Gue**	**1.45**	**253**	P			**Pn**	**18 35 48.9**	**-0.3**
	29nm,0.2s,SNR=7.9								
OKGL				S			**Sb**	**18 36 09.0**	**+0.7**
	101nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**2.66**	**343**	⇑P			**Pn**	**18 36 06.7**	**+0.8**
	12nm,0.1s,SNR=18								
EIBI				S			**Sn**	**18 36 36.3**	**-1.4**
	21nm,0.3s,SNR=6.3								
EIBI	**Ibiza**	**2.66**	**343**	P			**Pn**	**18 36 06.7**	**+0.8**
	12nm,0.1s,SNR=18								
EIBI				S			**Sn**	**18 36 36.3**	**-1.4**
	21nm,0.3s,SNR=6.3								
EBEN	**Beniarda**	**3.02**	**318**	P			**Pn**	**18 36 11.4**	**+0.6**
	0.4nm,0.3s,SNR=7.5								
EBEN				S			**Sn**	**18 36 45.2**	**-1.3**
	1.4nm,0.2s,SNR=7.9								
EBEN	**Beniarda**	**3.02**	**318**	P			**Pn**	**18 36 11.4**	**+0.6**
	0.4nm,0.3s,SNR=7.5								
EBEN				S			**Sn**	**18 36 45.2**	**-1.3**
	1.4nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.30**	**6**	P			**Pn**	**18 36 14.9**	**+0.2**
	4.0nm,0.2s,SNR=13								
ETOS				S			**Sn**	**18 36 50.2**	**-3.3**
	2.3nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.30**	**6**	P			**Pn**	**18 36 14.9**	**+0.2**
	4.0nm,0.2s,SNR=13								
ETOS				S			**Sn**	**18 36 50.2**	**-3.3**
	2.3nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**3.77**	**306**	P			**Pn**	**18 36 22.3**	**+1.1**
	0.8nm,0.1s,SNR=7.9								
ETOB				S			**Sn**	**18 37 05.7**	**+0.5**
	1.7nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**3.77**	**306**	P			**Pn**	**18 36 22.3**	**+1.1**
	0.8nm,0.1s,SNR=7.9								
ETOB				S			**Sn**	**18 37 05.7**	**+0.5**
	1.7nm,0.2s,SNR=7.9								
EBER	**Berja**	**4.23**	**277**	P			**Pn**	**18 36 27.3**	**-0.2**
	0.7nm,0.1s,SNR=7.9								
EBER				S			**Sn**	**18 37 14.3**	**-2.3**
	4.0nm,0.5s,SNR=7.9								
EBER	**Berja**	**4.23**	**277**	P			**Pn**	**18 36 27.3**	**-0.2**
	0.7nm,0.1s,SNR=7.9								
EBER				S			**Sn**	**18 37 14.3**	**-2.3**
	4.0nm,0.5s,SNR=7.9								
SESP	**Santiago Espad**	**4.23**	**294**	P			**Pn**	**18 36 28.9**	**+1.3**
	1.1nm,0.2s,SNR=7.9								
SESP				S			**Sn**	**18 37 15.7**	**-0.8**
	3.7nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**4.23**	**294**	P			**Pn**	**18 36 28.9**	**+1.3**
	1.1nm,0.2s,SNR=7.9								
SESP				S			**Sn**	**18 37 15.7**	**-0.8**
	3.7nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**4.46**	**331**	P			**Pn**	**18 36 31.9**	**+1.1**
	1.9nm,0.2s,SNR=20								
EMOS				S			**Sn**	**18 37 20.2**	**-2.1**
	1.3nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**4.46**	**331**	P			**Pn**	**18 36 31.9**	**+1.1**
	1.9nm,0.2s,SNR=20								
EMOS				S			**Sn**	**18 37 20.2**	**-2.1**
	1.3nm,0.2s,SNR=7.9								
EQES	**Quesada**	**4.53**	**289**	P			**Pn**	**18 36 34.0**	**+2.4**
	0.9nm,0.2s,SNR=7.9								
EQES				S			**Sn**	**18 37 22.3**	**-1.4**
	1.0nm,0.3s,SNR=7.9								
EQES	**Quesada**	**4.53**	**289**	P			**Pn**	**18 36 34.0**	**+2.4**
	0.9nm,0.2s,SNR=7.9								
EQES				S			**Sn**	**18 37 22.3**	**-1.4**
	1.0nm,0.3s,SNR=7.9								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERTA	**Horta de San J**	**4.74**	**341**	P			**Pn**	**18 36 35.6**	**+1.2**
	1.7nm,0.3s,SNR=7.9								
ERTA	**Horta de San J**	**4.74**	**341**	P			**Pn**	**18 36 35.6**	**+1.2**
	1.7nm,0.3s,SNR=7.9								
EPOB	**Poblet**	**4.96**	**349**	P			**Pn**	**18 36 39.1**	**+1.6**
	1.2nm,0.2s,SNR=7.9								
EPOB	**Poblet**	**4.96**	**349**	P			**Pn**	**18 36 39.1**	**+1.6**
	1.2nm,0.2s,SNR=7.9								
CFON	**Fontmartina**	**5.28**	**1**	P			**Pn**	**18 36 43.1**	**+1.3**
	0.8nm,0.1s,SNR=7.9								
CFON				S			**Sn**	**18 37 39.8**	**-2.4**
	2.9nm,0.2s,SNR=7.9								
CFON	**Fontmartina**	**5.28**	**1**	P			**Pn**	**18 36 43.1**	**+1.3**
	0.8nm,0.1s,SNR=7.9								
CFON				S			**Sn**	**18 37 39.8**	**-2.4**
	2.9nm,0.2s,SNR=7.9								
EMIR	**Miracle**	**5.46**	**354**	P			**Pn**	**18 36 46.2**	**+1.8**
	1.0nm,0.1s,SNR=7.9								
EMIR				S			**Sn**	**18 37 45.1**	**-1.7**
	2.3nm,0.3s,SNR=7.9								
EMIR	**Miracle**	**5.46**	**354**	P			**Pn**	**18 36 46.2**	**+1.8**
	1.0nm,0.1s,SNR=7.9								
CSOR	**Sort**	**5.96**	**351**	P			**Pn**	**18 36 52.9**	**+1.6**
	0.9nm,0.2s,SNR=7.9								
CSOR	**Sort**	**5.96**	**351**	P			**Pn**	**18 36 52.9**	**+1.6**
	0.9nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**5.97**	**4**	P			**Pn**	**18 36 52.7**	**+1.3**
	0.6nm,0.1s,SNR=7.9								
EJON	**La Jonquera**	**5.97**	**4**	P			**Pn**	**18 36 52.7**	**+1.3**
	0.6nm,0.1s,SNR=7.9								
CLLI	**Llivia**	**6.00**	**357**	P			**Pn**	**18 36 53.9**	**+2.1**
	0.4nm,0.2s,SNR=7.9								
CLLI	**Llivia**	**6.00**	**357**	P			**Pn**	**18 36 53.9**	**+2.1**
	0.4nm,0.2s,SNR=7.9								
SJAF	**Saint Jean de**	**6.01**	**4**	P			**Pn**	**18 36 52.9**	**+1.0**
	4.7nm,0.4s,SNR=7.9								
SJAF	**Saint Jean de**	**6.01**	**4**	P			**Pn**	**18 36 52.9**	**+1.0**
	4.7nm,0.4s,SNR=7.9								

NIED ***08*** *18:41:00, 42˚.90N×144˚.80E, h59km, Mw4.8 Best double couple: M0 1.78000×10^16 NP1:φs245.00000°, δ27.00000°, λ128.00000°. NP2:φs24.00000°, δ69.00000°, λ73.00000°.*
BJI ***08*** *18:41:45.5, 42˚.98N×144˚.91E, h56km, mB5.0/32, mb5.1/55, Ms4.2/24, Ms7 4.0/27*
ISCJB ***08*** *18:41:49.0±0.2, 42˚.98N±0˚.02×144˚.59E±0˚.02, h64km±2km, mb5.0/232, Error ellipse: s-maj=4.1km s-min=2.2km az=158.8*
GCMT ***08*** *18:41:48.7±0.4, 42˚.88N×144˚.74E, h71km±2km, MW4.9/65, Moment Tensor Solution. s23,c27; s65,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mr 1.80±.13; Mθθ-0.59±.11; Mφφ-1.22±.11; Mrθ 0.07±.07; Mrφ-1.51±.09; Mθφ 1.06±.07; Best double couple: M0 2.41200×10^16 NP1:φs20.00000°, δ59.00000°, λ66.00000°. NP2: φs241.00000°, δ38.00000°, λ124.00000°. Principal axes: T 2.2020, Plg67.0000°, Azm245.0000°; N 0.4120, Plg20.0000°, Azm33.0000°; P -2.6210, Plg11.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***08*** *18:41:48.7±0.1, 43˚.00N×144˚.61E, mb5.1/106, MW4.8(NIED) Error ellipse: s-maj=4.4km s-min=2.7km az=142.0*
NEIC Felt [III] at Shakotan and [II] at Yuzhno-Kuril'sk, Kuril Islands. Recorded [4 JMA] in eastern Hokkaido, [3 JMA] in southeastern Hokkaido and [2 JMA] in central and southern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
MOS ***08*** *18:41:48.1±0.9, 42˚.93N×144˚.62E, h61km, mb5.3/79, Error ellipse: s-maj=6.5km s-min=3.9km az=108.9*
MOS Felt (III) at Malokuril'skoye; (II) at Yuzhno-Kuril'sk.
IDC ***08*** *18:41:48.8±0.5, 42˚.98N×144˚.62E, h51km±4km, mb4.6/29, mb1 4.7/33, mb1mx4.7/40, mbtmp4.8/33, MS3.9/20, Ms1 3.9/20, ms1mx3.7/36, Error ellipse: s-maj=12.4km s-min=9.4km az=135.0*
SKHL ***08*** *18:41:49.5±0.6, 42˚.91N×144˚.64E, h75km±3km, mb5.4/2*
JMA ***08*** *18:41:49.3±0.1, 42˚.92N×144˚.72E, h57km±1km, M4.8 Broadband fault plane solution: P waves. NP1: φs14.00000°, δ67.00000°, λ65.00000°. NP2:φs244.00000°, δ34.00000°, λ135.00000°. Principal axes: T Plg60.0000°, Azm247.0000°; N Plg23.0000°, Azm24.0000°; P Plg18.0000°, Azm122.0000°;*
JMA Felt IV J1.
SZGRF ***08*** *18:41:54.4, 43˚.96N×144˚.75E, h62km, mb5.1, Hokkaido, Japan, region*
ISC 08 18:41:48.9±0.3, **42˚.98N**±0˚.03×**144˚.67E**±0˚.03, **h54**km±2km, **h54**km:**pP-P, n913,** σ1§**02**/983, **mb5.0**/232, **MS4.1**/22, **259C-170D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.03**	**40**	⇑P			**Pn**	**18 41 58.0**	**+0.9**
JAK				*e*S			**Sn**	**18 42 04.4**	**+1.5**
JNK	**Nakash**	**0.61**	**3**	⇓P			**Pn**	**18 42 02.6**	**+0.8**
JNK				*e*S			**Sn**	**18 42 12.3**	**+1.3**
JOB	**Onbets**	**0.62**	**263**	⇓P			**Pn**	**18 42 02.9**	**+1.0**
JOB				*e*S			**Sn**	**18 42 12.9**	**+1.7**
JAR	**Ashorobuto**	**0.73**	**296**	⇓P			**Pn**	**18 42 04.7**	**+1.4**
JAR				*e*S			**Sn**	**18 42 15.8**	**+2.0**
NEM2	**Nemuro 2**	**0.87**	**63**	⇑P			**Pn**	**18 42 04.9**	**-0.2**
NEM2				*e*S			**Sn**	**18 42 16.0**	**-0.9**
JRA	**Rausu**	**1.01**	**19**	⇑P			**Pn**	**18 42 08.3**	**+1.4**
JRA				*e*S			**Sn**	**18 42 22.0**	**+1.8**
JCH	**Churui**	**1.03**	**250**	⇓P			**Pn**	**18 42 07.6**	**+0.4**
JCH				*e*S			**Sn**	**18 42 21.3**	**+0.7**
JTKR	**Abashiri--Toko**	**1.14**	**331**	P			**Pn**	**18 42 10.7**	**+2.1**
JTKR				*e*S			**Sn**	**18 42 26.7**	**+3.5**
HRK	**Horoka**	**1.23**	**294**	*e*P			**Pn**	**18 42 11.6**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**1.36**	**39**	*c i*PN			**Pn**	**18 42 12.8**	**+1.2**
YUK				*i* S			**Sn**	**18 42 29.8**	**+1.2**
YUK				pmax	pmax				
	comp=Z,5μm,0.5s								
YUK				pmax	pmax				
	comp=N,367nm,0.2s								
YUK				pmax	pmax				
	comp=E,549nm,0.4s								
YUK				smax	smax				
	comp=N,29μm,0.3s								
YUK				smax	smax				
	comp=E,35μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**1.36**	**39**	*e*P			**Pn**	**18 42 12.8**	**+1.2**
YUK				AMB	AMB		18 42 13.2		
	comp=E,5μm,0.5s								
YUK				*e*S			**Sn**	**18 42 29.8**	**+1.2**
YUK				A	A		18 42 31.0		
	comp=E,29μm,0.3s								
YUK				A	A		18 42 31.0		
	comp=E,35μm,0.3s								
JMP	**Maruseppu**	**1.41**	**318**	⇓P			**Pn**	**18 42 14.1**	**+1.9**
JEM	**Erimo**	**1.48**	**230**	⇑P			**Pn**	**18 42 13.5**	**+0.3**
ERM	**Erimo**	**1.48**	**230**	*d i*PN			**Pn**	**18 42 13.6**	**+0.4**
ERM				pmax	pmax				
	comp=Z,1μm,0.5s								
ERM	**Erimo**	**1.48**	**230**	*e*P			**Pn**	**18 42 13.6**	**+0.4**
ERM	**Erimo**	**1.48**	**230**	*e*Pn			**Pn**	**18 42 13.5**	**+0.3**
SHO	**Shikotan**	**1.81**	**60**	*e*P			**Pn**	**18 42 18.6**	**+1.0**
SHO				*e*S			**Sn**	**18 42 38.6**	**-0.8**
ASAJ	**Asahikawa**	**1.89**	**308**	P			**Pn**	**18 42 21.3**	**+2.5**
	comp=Z,926nm,0.3s,baz=163,slow=8.5,SNR=5362								
ASAJ				S			Sn	18 42 48.3	+6.8
	comp=Z,421nm,0.3s,baz=23,slow=30,SNR=8.4								
ASAJ				LR	LR		18 43 16.5		
	comp=Z,4μm,21.9s,baz=105,slow=47								
KUR	**Kuril'sk**	**3.22**	**44**	*c i*PN			**Pn**	**18 42 38.9**	**+1.9**
KUR				*i* S			**Sn**	**18 43 16.4**	**+2.4**
KUR				pmax	pmax				
	comp=N,206nm,0.5s								
KUR				pmax	pmax				
	comp=Z,216nm,0.5s								
KUR				pmax	pmax				
	comp=E,888nm,1.0s								
KUR				smax	smax				
	comp=N,3μm,0.7s								
KUR				smax	smax				
	comp=E,2μm,0.7s								
KUR	**Kuril'sk**	**3.22**	**44**	*e*P			**Pn**	**18 42 38.9**	**+1.9**
KUR				AMB	AMB		18 42 47.6		
	comp=E,216nm,0.5s								
KUR				*e*S			**Sn**	**18 43 16.4**	**+2.4**
KUR				A	A		18 43 26.6		
	comp=E,3μm,0.7s								
KUR				A	A		18 43 26.6		
	comp=E,2μm,0.7s								
YSS	**Yuzh-Sakhalins**	**4.20**	**342**	*c i*PN			**Pn**	**18 42 51.9**	**+1.5**
YSS				*e*S			**Sn**	**18 43 40.0**	**+1.8**
YSS				pmax	pmax				
	comp=Z,230nm,0.8s								
YSS				smax	smax				
	comp=E,200nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.20**	**342**	*e*P			**Pn**	**18 42 51.9**	**+1.5**
YSS				*e*S			**Sn**	**18 43 40.0**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.20**	**342**	*e*Pn			**Pn**	**18 42 51.8**	**+1.5**
MAJO	**Matsushiro**	**8.13**	**220**	*c i*PN			**Pn**	**18 43 44.2**	**-0.1**
MAJO	**Matsushiro**	**8.13**	**220**	*e*P			**Pn**	**18 43 44.2**	**-0.1**
MAJO	**Matsushiro**	**8.13**	**220**	*e*Pn			**Pn**	**18 43 43.9**	**-0.4**
	comp=E,132nm,0.5s								
MAT	**Matsushiro**	**8.13**	**220**	P			**Pn**	**18 43 44.0**	**-0.3**
MAT				S			**Sn**	**18 45 13.3**	**-1.4**
MJAR	**Matsushiro Arr**	**8.13**	**220**	P			**Pn**	**18 43 44.2**	**0.0**
	comp=E,14nm,0.3s,baz=28,slow=13,SNR=225								
MJAR				LR			LR	18 47 39.5	
	comp=E,585nm,19.7s,baz=40,slow=43								
HABR	**Khabarovsk**	**8.69**	**313**	*de*PN			Pn	18 43 55.4	+3.6
HABR				*e*S			**Sn**	**18 45 31.9**	**+3.7**
HABR				pmax	pmax				
	comp=Z,222nm,1.1s								
USRK	**Ussuriysk Ar.**	**9.29**	**282**	P			**Pn**	**18 44 02.1**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=89,slow=14,SNR=73								
USRK				LR			LR	18 47 34.3	
	comp=Z,494nm,20.5s,baz=65,slow=37								
VLA	**Vladivostok**	**9.37**	**275**	⇑P			**Pn**	**18 44 03.4**	**+2.3**
VLA				*e*S			**Sn**	**18 45 48.7**	**+3.7**
VLA	**Vladivostok**	**9.37**	**275**	*e*P			**Pn**	**18 44 00.1**	**-1.0**
KLR	**Kul'dur**	**10.93**	**309**	*e*PN			**Pn**	**18 44 22.3**	**-0.2**
KLR				*e*				18 46 35.5	
KLR				pmax	pmax				
	comp=E,150nm,1.2s								
KLR				pmax	pmax				
	comp=Z,100nm,1.2s								
MDJ	**Mudanjiang**	**11.03**	**284**	*e*Pn			**Pn**	**18 44 26.8**	**+3.0**
	comp=Z,53nm,0.9s								
PETK	**Petropavlovsk-**	**13.34**	**36**	P			**Pn**	**18 44 55.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=201,slow=16,SNR=4.2								
PETK				LR			LR	18 51 06.2	
	comp=Z,99nm,19.8s,baz=216,slow=42								
KSRS	**Korea Array**	**13.93**	**252**	P			**Pn**	**18 45 02.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=61,slow=12,SNR=46								
KSRS				LR			LR	18 50 01.1	
	comp=Z,298nm,20.1s,baz=78,slow=35								
KSRS				PcP			**PcP**	**18 50 22.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=89,slow=0.8,SNR=8.5								
KSAR	**Wonju Array Be**	**13.96**	**252**	P			**Pn**	**18 45 02.7**	**-1.2**
KSAR	**Wonju Array Be**	**13.96**	**252**	P			**Pn**	**18 45 02.7**	**-1.2**
KSAR				PcP			**PcP**	**18 50 22.6**	**+1.1**
CN2	**Changchun**	**14.01**	**280**	*e*P			**Pn**	**18 45 04.5**	**0.0**
CN2				*e*S			**Sn**	**18 47 33.6**	**-4.7**
CN2				PMZ					
	comp=Z,20nm,1.1s								
CN2				PMZ					
	comp=Z,200nm,4.0s								
CN2				LN					
	comp=Z,500nm,18.0s								
CN2				LE					
	comp=Z,300nm,18.0s								
CN2				LZ					
	comp=Z,300nm,12.0s								
JNU	**Nakatsue**	**14.64**	**232**	P			**Pn**	**18 45 10.7**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=28,slow=4.8,SNR=5.9								
SNY	**Shenyang**	**15.63**	**273**	⇑P			**Pn**	**18 45 26.0**	**+0.5**
SNY				PMZ					
	comp=Z,23nm,1.1s								
SNY				LN					
	comp=Z,250nm,11.7s								
SNY				LE					
	comp=Z,260nm,19.2s								
SNY				LZ					
	comp=Z,340nm,25.8s								
HIA	**Hailar**	**18.35**	**299**	*e*P			**P**	**18 45 58.1**	**-0.7**
HIA				pmax	pmax				
	comp=Z,33nm,0.9s								
HIA	**Hailar**	**18.35**	**299**	*e*P			**P**	**18 45 58.1**	**-0.7**
	comp=Z,33nm,0.9s								
SEY	**Seymchan**	**20.49**	**10**	P			**P**	**18 46 20.4**	**-1.6**
	comp=Z,4.8nm,0.5s,baz=195,slow=8.3,SNR=21								
JOW	**Kunigami**	**20.92**	**225**	P			**P**	**18 46 26.4**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=25,slow=14								
YAK	**Yakutsk**	**21.05**	**340**	*e*P			**P**	**18 46 25.8**	**-2.2**
YAK				*e*				18 46 45.0	
YAK				*e*S			**S**	**18 50 13.6

comp=Z,305nm,16.0s
BILL Bilibino 27.62 17 *e*P P **18 47 28.2 -2.7**
comp=Z,2.6nm,0.4s
TLY Talaya 28.81 302 *e*P P **18 47 40.7 -1.0**
TLY *e*S **S** **18 52 22.3 -5.2**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,386nm,21.0s
TLY Talaya 28.81 302 P P **18 47 42.3 +0.7**
comp=Z,2.4nm,0.5s,baz=39,slow=6.5,SNR=2.3
TLY Talaya 28.81 302 *e*P P **18 47 42.1 +0.4**
ZAK Zakamensk 29.04 299 *e*P P **18 47 44.1 +0.3**
ZAK *e* 18 50 51.0
ZAK pmax pmax
comp=Z,9.0nm,1.1s
XAN Xi'an 29.19 264 P P **18 47 45.6 +0.4**
XAN pP **pP** **18 48 03.4 +4.5**
XAN PMZ
comp=Z,8.0nm,0.8s
XAN PMZ
comp=Z,40nm,6.8s
H11N2 WAKE ISLAND Hy 29.78 134 T T 19 18 56.8
baz=327,slow=75,SNR=4167
TIXI Tiksi 29.78 350 *e*P P **18 47 48.8 -1.1**
H11N1 WAKE ISLAND Hy 29.79 134 T T 19 19 04.3
baz=327,slow=75,SNR=4780
H11N3 WAKE ISLAND Hy 29.80 134 T T 19 18 57.8
baz=327,slow=75,SNR=301
MOY Mondy 30.46 302 *e*P P **18 47 57.1 +0.7**
H11S1 WAKE ISLAND Hy 30.69 136 T T 19 20 11.9
baz=328,slow=76,SNR=6393
H11S3 WAKE ISLAND Hy 30.70 136 T T 19 20 05.4
baz=328,slow=76,SNR=6242
H11S2 WAKE ISLAND Hy 30.71 136 T T 19 20 10.6
baz=328,slow=76,SNR=6282
ENH Enshi 30.73 257 *e*P P **18 47 58.9 +0.1**
comp=Z,13nm,0.7s
LZH Lanzhou 31.99 272 ⇑P P **18 48 11.2 +1.1**
LZH pP **pP** **18 48 24.7 +0.9**
LZH sP **sP** **18 48 30.8 +0.6**
LZH PMZ
comp=Z,75nm,1.3s
LZH PMZ
comp=Z,190nm,6.0s
LZH LN
comp=Z,340nm,12.5s
LZH LE
comp=Z,440nm,13.0s
LZH LZ
comp=Z,680nm,16.5s
SZP Santa 32.63 227 *e*P P **18 48 17.4 +1.8**
comp=Z,47nm,0.3s
GTA Gaotai 33.64 279 *e*P P **18 48 25.0 +0.6**
GTA PcP **PcP** **18 51 04.6 +1.2**
GTA S **S** **18 53 46.3 +2.9**
GTA ScP **ScP** **18 54 44.4 +1.2**
GTA PcS **PcS** **18 54 49.8 +0.4**
GTA SS **SnSn** **18 55 52.2 +1.3**
GTA ScS **ScS** **18 58 45.5 +0.7**
GTA PMZ
comp=Z,19nm,0.9s
GTA PMZ
comp=Z,78nm,4.7s
GTA LN
comp=Z,120nm,16.2s
GTA LE
comp=Z,140nm,16.1s
GTA LZ
comp=Z,240nm,18.1s
TNA Tin City 34.48 33 *e*P P **18 48 30.7 -0.5**
comp=Z,9.9nm,0.9s
GYA Guiyang 34.98 254⇑ *i*P P **18 48 36.1 0.0**
GYA PMZ
comp=Z,20nm,0.8s
QIZ Qiongzhong 37.81 242 P P **18 48 58.2 -1.9**
QIZ sP **sP** **18 49 20.9 +0.5**
QIZ S **S** **18 54 45.3 -2.0**
QIZ sS **sS** **18 55 11.5 +0.7**
QIZ PMZ
comp=Z,8.0nm,1.4s
KMI Kunming 38.58 256 P P **18 49 07.6 +0.7**
KMI pP **pP** **18 49 22.0 +1.1**
KMI sP **sP** **18 49 27.2 0.0**
KMI PMZ
comp=Z,44nm,0.9s
KMI LN
comp=Z,130nm,22.9s
KMI LE
comp=Z,130nm,20.1s
KMI LZ
comp=Z,150nm,25.3s
ZALV Zalesovo Beam 40.03 307 P P **18 49 18.2 0.0**
comp=Z,5.3nm,0.4s,baz=92,slow=8.2,SNR=28
ZALV PcP **PcP** **18 51 22.5 +0.3**
comp=Z,20nm,0.7s,baz=81,slow=3.0,SNR=20
ZALV LR LR 19 07 15.1
comp=Z,256nm,18.5s,baz=70,slow=38
SLVN Son La 40.19 251 *e*P P **18 49 20.7 +0.6**
comp=Z,14nm,0.9s
WMQ Urumqi 40.70 291 P P **18 49 24.2 +0.1**
WMQ pP **pP** **18 49 36.5 -1.7**
WMQ sP **sP** **18 49 42.5 -2.0**
WMQ PP **PnPn** **18 51 05.0 +2.1**
WMQ S S 18 55 38.5 +8.1
WMQ ScS **ScS** **18 59 21.0 -3.2**
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,110nm,5.8s
WMQ LN
comp=Z,430nm,15.0s
WMQ LE
comp=Z,430nm,16.0s
WMQ LZ
comp=Z,580nm,17.0s
NVS Novosibirsk 40.80 309 *e*P P **18 49 22.8 -1.8**
NVS *e* 18 51 23.5
NVS *e*S **S** **18 55 26.1 -5.2**
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS smax smax
comp=E,23nm,2.4s
PPLA Purkeypile 40.91 39 *e*P P **18 49 27.2 +1.6**
comp=E,79nm,1.6s
KDAK Kodiak Island 41.09 46*c e*P P **18 49 28.0 +1.0**
KDAK Kodiak Island 41.09 46 *e*P P **18 49 28.0 +1.0**
KDAK Kodiak Island 41.09 46 *e*P P **18 49 27.8 +0.8**
comp=E,78nm,1.2s
KTH Kantishna Hill 41.47 38 *e*P P **18 49 31.0 +0.8**
comp=E,29nm,1.0s
TRF Thorofare Moun 41.76 38 *e*P P **18 49 33.1 +0.5**
comp=E,8.6nm,0.9s
COLD Coldfoot 41.77 32 *e*P P **18 49 32.7 +0.3**
comp=E,3.3nm,0.4s
MCK McKinley 42.35 37 *e*P P **18 49 37.7 +0.5**
MCK pmax pmax
comp=Z,15nm,1.1s
MCK McKinley 42.35 37 *e*P P **18 49 37.7 +0.5**
comp=Z,15nm,1.1s
COLA College 42.75 36*c i*P P **18 49 41.5 +1.1**
COLA pmax pmax
comp=Z,114nm,1.0s
COLA College 42.75 36 *e*P P **18 49 41.5 +1.1**
COLA College 42.75 36 *e*P P **18 49 41.6 +1.1**
comp=E,28nm,0.8s
ILAR Eielson Array 43.17 36 P P **18 49 44.0 +0.1**
comp=Z,8.9nm,0.7s,baz=266,slow=6.2,SNR=82
ILAR pP **pP** **18 49 57.4 -0.7**
comp=Z,8.4nm,0.8s,baz=262,slow=5.5,SNR=8.9
ILAR LR LR 19 09 51.0
comp=Z,38nm,18.4s,baz=282,slow=39
MK31 Makanchi Array 43.34 298 P P **18 49 45.5 0.0**
MK31 pmax pmax
comp=Z,20nm,0.5s
MKAR Makanchi Array 43.34 298 *i*P P **18 49 45.7 +0.2**
MKAR pmax pmax
comp=Z,29nm,0.7s
MKAR Makanchi Array 43.34 298 P P **18 49 45.7 +0.2**
comp=Z,28nm,0.8s,baz=81,slow=9.4,SNR=278
MKAR PcP **PcP** **18 51 32.4 -0.9**
comp=Z,4.6nm,0.7s,baz=43,slow=3.3,SNR=4.5
MKAR Makanchi Array 43.34 298 *e*P P **18 49 45.6 +0.1**
UBPT Khong Chiam 43.39 243 P P **18 49 48.4 +2.3**
comp=Z,24nm,1.1s
CRAI Chiangrai 43.39 253 P P **18 49 44.0 -2.2**
comp=Z,169nm,0.9s,comp=Z,11μm
PAX Paxson 43.97 38 *e*P P **18 49 51.2 +0.8**
PAX pmax pmax
comp=Z,4.0nm,0.7s
PAX Paxson 43.97 38 *e*P P **18 49 51.2 +0.8**
comp=Z,3.7nm,0.7s
DLV T Lat 44.00 236 *e*P P **18 49 52.8 +1.5**
comp=Z,38nm,0.8s
KHON Khomkaen 44.38 246 P P **18 49 55.1 +1.0**
comp=Z,20nm,0.8s,comp=Z,787nm
LSA Lhasa 44.40 271 P P **18 49 55.6 +0.8**
LSA PMZ
comp=Z,20nm,0.9s
LSA Lhasa 44.40 271 *e*P P **18 49 55.4 +0.6**
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 44.40 271 *e*P P **18 49 55.4 +0.6**
comp=Z,17nm,0.8s
KURK Kurchatov 44.46 304 *e*P P **18 49 54.0 -0.4**
KURK pmax pmax
comp=Z,28nm,0.8s
KURK Kurchatov 44.46 304 *e*P P **18 49 54.3 -0.1**
KURK Kurchatov 44.46 304 P P **18 49 54.7 +0.3**
SNR=7.2
KURK Kurchatov 44.46 304 *e*P P **18 49 54.0 -0.4**
comp=Z,28nm,0.8s
DOT Dot Lake 44.52 37 *e*P P **18 49 54.6 -0.1**
comp=Z,5.0nm,0.6s
CMAI Chiengmai2 44.52 254 P P **18 49 56.7 +1.3**
comp=Z,33nm,0.7s,comp=Z,2μm
LOEI Loei 44.61 249 P P **18 49 54.0 -2.0**
comp=Z,28nm,0.8s
BMRM Bremner River 44.67 41 *e*P P **18 49 56.8 +0.8**
comp=Z,16nm,0.9s
UTTA Uttaradit 44.94 250 P P **18 49 59.4 +0.9**
comp=Z,9.4nm,0.8s,comp=Z,71nm
LAMP Lampang 45.05 252 P P **18 50 00.4 +1.0**
comp=Z,16nm,0.7s,comp=Z,137nm
TSM Tawau 45.27 219⇑P P **18 50 02.9 +1.7**
CMMT Chiang Mai 45.33 252 P P **18 50 02.2 +0.5**
comp=Z,46nm,0.9s,comp=Z,491nm
CHTO Chiang Mai 45.33 252 *e*P P **18 50 02.4 +0.7**
CHTO pmax pmax
comp=Z,20nm,0.7s
CHTO Chiang Mai 45.33 252 P P **18 50 02.9 +1.2**
SNR=10
CHTO Chiang Mai 45.33 252 *e*P P **18 50 02.4 +0.7**
comp=Z,20nm,0.7s
CHTO Chiang Mai 45.33 252 P P **18 50 02.3 +0.6**
comp=Z,157nm,1.1s
JAY Jayapura 45.42 186 P P **18 50 02.9 +0.4**
comp=Z,7.5nm,0.8s,baz=292,slow=3.8,SNR=4.6
PBKT Sadao Pong 45.47 248 P P **18 50 03.4 +0.7**
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 45.57 252 P P **18 50 04.6 +1.0**
comp=Z,9.0nm,0.7s,baz=44,slow=7.0,SNR=105
CMAR PcP **PcP** **18 51 42.5 +1.1**
comp=Z,3.2nm,0.7s,baz=354,slow=1.0,SNR=8.9
CMAR LR LR 19 10 37.3
comp=Z,113nm,19.8s,baz=88,slow=38
EGAK Eagle 45.61 35 *e*P P **18 50 03.4 0.0**
comp=Z,24nm,1.2s
SUKH Sukhothai 45.76 251 P P **18 50 06.0 +1.0**
comp=Z,8.9nm,0.8s,comp=Z,86nm
SHL Shillong 46.18 266 *e*P P **18 50 09.0 +0.5**
MHMT Maesarieng 46.47 253 P P **18 50 11.8 +1.2**
comp=Z,20nm,0.8s,comp=Z,228nm
FAKI Fak Fak 47.04 197 P P **18 50 14.6 -0.5**
comp=Z,36nm,1.1s
UTHA Uthaitani 47.22 249 P P **18 50 18.1 +1.6**
comp=Z,4.5nm,0.7s
INK Inuvik 47.98 30 P P **18 50 22.3 +0.6**
comp=Z,11nm,0.7s,baz=296,slow=7.5,SNR=49
INK LR LR 19 12 14.9
comp=Z,75nm,19.1s,baz=277,slow=38
TAPN Taplejung 48.22 270 *e*P P **18 50 25.0 +0.5**
comp=Z,36nm,0.7s
BVA0 Borovoye Array 48.59 309 P P **18 50 26.8 +0.1**
BVA0 pmax pmax
comp=Z,8.0nm,0.3s
ODAN Odare 48.73 270 *e*P P **18 50 28.9 +0.5**
comp=Z,22nm,0.5s
PHET Kaeng Krachan 48.97 246 P P **18 50 32.0 +2.0**
comp=Z,98nm,0.8s,comp=Z,780nm
OTUK Ortayu 49.15 303 P P **18 50 31.1 0.0**
OTUK pmax pmax
comp=Z,30nm,0.7s
JIRN Jiri 49.16 272 *e*P P **18 50 32.0 +0.2**
comp=Z,25nm,0.4s
TKM2 Tokmak 2 49.20 295 P P **18 50 32.6 +0.7**
SNR=18
TKM2 Tokmak 2 49.20 295 *i*P P **18 50 32.5 +0.7**
TKM2 Tokmak 2 49.20 295 *e*P P **18 50 32.2 +0.4**
comp=Z,37nm,0.7s
GUN Gumba 49.25 272 *e*P P **18 50 32.7 +0.2**
comp=Z,87nm,0.5s
RAMN Ramite 49.26 271 *e*P P **18 50 32.3 -0.2**
comp=Z,57nm,0.6s
SBUM Sibu 49.64 225⇓P P **18 50 36.4 +1.3**
KBK Karagaybulak 49.75 295 P P **18 50 36.5 +0.6**
SNR=24
KBK Karagaybulak 49.75 295 *i*P P **18 50 36.5 +0.6**
KBK Karagaybulak 49.75 295 *e*P P **18 50 36.5 +0.6**
KKN Kakani 49.76 273 *e*P P **18 50 36.3 +0.1**
comp=Z,55nm,0.8s
USP Ospenovka 49.78 296 P P **18 50 36.4 +0.4**
SNR=12
USP Ospenovka 49.78 296 *i*P P **18 50 36.4 +0.4**
PKI Pulchoki 49.78 272 *e*P P **18 50 36.4 -0.1**
comp=Z,28nm,0.6s
PKIN Phulchoki 49.79 272 *e*P P **18 50 36.3 -0.2**
comp=Z,35nm,0.7s
KZA Kyzart 49.80 294 P P **18 50 37.9 +1.3**
SNR=5.7
KZA Kyzart 49.80 294 *i*P P **18 50 37.9 +1.3**
KZA Kyzart 49.80 294 *e*P P **18 50 37.9 +1.3**
AAK Ala-Archa 50.06 295 P P **18 50 38.5 +0.3**
SNR=8.6
AAK Ala-Archa 50.06 295*c i*P P **18 50 38.3 0.0**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 50.06 295 *e*P P **18 50 38.3 0.0**
AAK Ala-Archa 50.06 295 *e*P P **18 50 38.2 0.0**
comp=Z,6.4nm,0.5s
GKN Gorkha 50.11 273 *e*P P **18 50 38.8 0.0**
comp=Z,28nm,0.4s
EKS2 Erkin-Say 50.52 295 P P **18 50 42.0 +0.3**
SNR=9.4
EKS2 Erkin-Say 50.52 295 *i*P P **18 50 42.0 +0.3**
EKS2 Erkin-Say 50.52 295 *e*P P **18 50 41.8 +0.1**
comp=Z,12nm,0.5s
DANN Dangsing 50.56 274 *e*P P **18 50 43.0 +0.7**
comp=Z,334nm,0.7s
AML Almayashu 50.81 295 P P **18 50 44.9 +0.7**
SNR=5.4
AML Almayashu 50.81 295 *i*P P **18 50 44.9 +0.7**
KOLN Koldanda 51.00 274 *e*P P **18 50 45.9 +0.3**
comp=Z,104nm,0.6s
MTKI Muara Teweh, K 51.26 220 P P **18 50 48.6 +1.3**
comp=Z,53nm,0.8s
PYUN Piuthan 51.26 274 *e*P P **18 50 47.9 +0.4**
comp=Z,272nm,0.7s
MNAS Manas 51.44 296 P P **18 50 49.0 +0.4**
MNAS pmax pmax
comp=Z,39nm,0.7s
KSM Kuching 51.47 226⇓P P **18 50 50.8 +1.9**
KSM Kuching 51.47 226 *e*P P **18 50 50.1 +1.2**
comp=Z,22nm,0.8s
SFK Sufi-Kurgan 51.91 293 P P **18 50 51.8 -0.5**
SFK pmax pmax
comp=Z,32nm,1.1s
STKI Sintang 52.06 224 P P **18 50 54.7 +1.4**
comp=Z,27nm,0.7s,comp=Z,1μm
SURT Suratani 52.42 243 P P **18 50 58.6 +2.6**
comp=Z,5.9nm,1.0s,comp=Z,216nm
KTGM Kuala Trenggan 52.44 236⇓P P **18 50 58.0 +1.9**
DLBC Dease Lake 52.46 41 P P **18 50 58.1 +2.2**
comp=Z,4.7nm,0.8s,baz=274,slow=5.8,SNR=14
DLBC pP **pP** **18 51 11.0 +0.6**
comp=Z,3.3nm,0.6s,baz=270,slow=6.1,SNR=4.7
SVE Sverdlovsk 52.46 316⇓ *i*P P **18 50 55.9 +0.1**
SVE pmax pmax
comp=Z,35nm,1.0s
KK31 Karatay Array 52.47 297 P P **18 50 55.8 -0.3**
KK31 pmax pmax
comp=Z,18nm,0.5s
KKAR Karatay Array 52.47 297 *e*P P **18 50 55.9 -0.2**
KKAR pmax pmax
comp=Z,23nm,0.6s
KKAR Karatay Array 52.47 297 *e*P P **18 50 55.9 -0.2**
comp=Z,23nm,0.6s
LGTI Lohaghat 52.51 277 *ex* P **18 50 57.2 +0.6**
SOKR Solikamsk 53.23 321*c i*P P **18 51 00.0 -1.4**
SOKR pmax pmax
comp=Z,30nm,0.9s
PKDT Phuket 53.52 243 P P **18 51 05.8 +1.7**
comp=Z,35nm,1.1s,comp=Z,1μm
ARU Arti 53.67 317 P P **18 51 04.2 -0.5**
comp=Z,204nm,1.1s,SNR=23
ARU Arti 53.67 317*c i*P P **18 51 04.3 -0.5**
ARU *PP **pP** **18 51 20.7 +1.4**
ARU 18 52 08.6
ARU 18 53 01.7
ARU PPP PPP 18 54 15.4
ARU S **S** **18 58 34.8 +0.5**
ARU SS **SS** **19 02 15.2 +0.4**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU Arti 53.67 317 *e*P P **18 51 04.3 -0.5**
ARU Arti 53.67 317 *e*P P **18 51 04.1 -0.5**
comp=Z,37nm,1.0s
SMLA Simla 53.83 281 *i* x P **18 51 06.4 +0.2**
KULM Kulim 54.01 239 *e*P P **18 51 08.7 +1.1**
comp=Z,30nm,1.1s
TPRI Tanjung Pinang 55.13 232 P P **18 51 18.0 +2.2**
comp=Z,50nm,0.9s,comp=Z,4μm
SPITS Spitsbergen Ar 55.19 349 LR LR 19 15 27.5
comp=Z,80nm,21.2s,baz=30,slow=37
DZET Dzherino 55.66 293 P P **18 51 18.9 -0.6**
DZET pmax pmax
comp=Z,30nm,0.7s
AB31 Akbulak array 56.13 308 *i*P P **18 51 22.5 -0.1**
AB31 pmax pmax
comp=Z,14nm,0.3s
ABKAR Akbulak array 56.13 308 *e*P P **18 51 22.5 0.0**
comp=Z,30nm,0.5s
RES Resolute Bay 56.22 16 P P **18 51 22.8 0.0**
comp=Z,46nm,0.8s,baz=310,slow=6.5,SNR=208
TPI Tanjungpandan 56.44 226 P P **18 51 26.1 +1.0**
comp=Z,31nm,0.8s
PRGR Permogore 57.20 326⇑ *i*P P **18 51 28.6 -1.3**
PRGR pmax pmax
comp=Z,27nm,0.9s
YKA Yellowknife Ar 57.44 33 P P **18 51 31.9 +0.3**
comp=Z,4.5nm,0.7s,baz=304,slow=6.5,SNR=112
BKNI Bangkinang 57.66 235 P P **18 51 35.7 +1.9**
comp=Z,139nm,0.8s
KBL Kabul 57.74 289 *e*P P **18 51 33.1 -1.4**
KBL pmax pmax
comp=Z,39nm,0.8s
KBL Kabul 57.74 289 *e*P P **18 51 33.0 -1.4**
comp=Z,39nm,0.8s
LVZ Lovozero 57.75 335 *e*P P **18 51 33.8 0.0**
LVZ pmax pmax
comp=Z,11nm,0.8s
KEV Kevo 58.79 339 *e*P P **18 51 39.9 -1.1**
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 58.79 339 *ep* P **18 51 39.9 -1.1**
comp=Z,12nm,0.7s
PWJI Pagerwojo 58.92 219 P P **18 51 42.8 +0.3**
comp=Z,33nm,1.1s
ARCES ARCESS Array B 59.33 339 P P **18 51 44.5 -0.3**
comp=Z,7.1nm,0.8s,baz=32,slow=7.5,SNR=18
ARCES LR LR 19 21 55.9
comp=Z,124nm,18.5s,baz=20,slow=41
LHSI Lahat 59.58 230 P P **18 51 48.2 +1.1**
comp=Z,84nm,0.8s
LEM Lembang 59.91 224 P P **18 51 50.2 +0.6**
comp=Z,45nm,0.9s
DAG Danmarks Havn 60.06 356⇑ *i*P P **18 51 48.9 -0.7**
DAG pmax pmax
comp=Z,9.0nm,1.0s
DAG Danmarks Havn 60.06 356⇑ *i*P P **18 51 48.9 -0.7**
comp=Z,9.2nm,1.0s
LWLI Liwa 60.27 228 P P **18 51 51.4 -0.6**
HYB Hyderabad 60.94 267 *i*P P **18 51 55.0 -1.5**
KULLO Kullorsuaq 61.82 6⇑ *i*P P **18 52 00.8 -0.7**
KULLO pmax pmax
comp=Z,20nm,0.8s
KULLO Kullorsuaq 61.82 6⇑ *i*P P **18 52 00.8 -0.7**
comp=Z,20nm,0.8s
JOF Joensuu 61.92 332 *e*P P **18 52 00.8 -1.6**
JOF pmax pmax
comp=Z,13nm,0.5s
JOF Joensuu 61.92 332 *ep* P **18 52 00.8 -1.6**
comp=Z,13nm,0.5s
MDRS Chennai 62.53 262 *ex* P 18 52 11.2 +4.0
MDRS *ex* x 18 58 51.2
MDRS *ex* x 19 06 03.2
MDRS *ex* x 19 13 31.2
MDRS *ex* x 19 19 47.2
IMYA Miami 62.82 295 *e*P P **18 52 09.4 +0.3**
EDM Edmonton 63.18 41 *e*P P **18 52 11.3 +0.3**
EDM Edmonton 63.18 41 *e*P P **18 52 11.3 +0.3**
GEYT Alibeck 63.22 298 P P **18 52 11.7 +0.1**
comp=Z,16nm,0.5s,baz=51,slow=3.5,SNR=49
GEYT LR LR 19 21 59.6
comp=Z,321nm,18.1s,baz=65,slow=38
WRAB Tennant Creek 63.31 191*d i*P P **18 52 11.9 -0.3**
WRAB pmax pmax
comp=Z,25nm,1.0s
WRAB Tennant Creek 63.31 191 *e*P P **18 52 10.3 -1.9**
comp=Z,13nm,1.1s
WB2 Warramunga Arr 63.32 191 *e*P P **18 52 11.3 -0.9**
WRA Warramunga Arr 63.33 191 P P **18 52 11.5 -0.7**
comp=Z,5.2nm,0.7s,baz=7.5,slow=6.8,SNR=86
IMOG Moghan 63.46 296 *e*P P **18 52 13.9 +0.4**
IAKL Akhelmad 63.56 296 *e*P P **18 52 14.8 +0.7**
G05D Wamic, OR 63.61 52⇓P P **18 52 16.7 +2.6**
baz=63
IKRD Kardeh 63.62 297 *e*P P 18 52 10.7 -3.8
ISFR Sfrayin 63.79 297 *e*P P **18 52 16.4 +0.7**
I04A Tendick Farm, 63.80 54⇓P P 18 52 18.7 +3.4
baz=64
KAF Kangasniemi 64.18 333 *e*P P **18 52 15.9 -1.5**
KAF pmax pmax
comp=Z,13nm,0.5s
KAF Kangasniemi 64.18 333 *ep* P **18 52 15.9 -1.5**
comp=Z,13nm,0.5s
NEW Newport 64.19 47⇓P P **18 52 19.1 +1.3**
baz=64
J04D Umpqua Nationa 64.31 54⇓P P **18 52 20.6 +1.8**
baz=64
SUMG Summit 64.73 1⇑ *i*P P **18 52 21.8 +0.5**
SUMG pmax pmax
comp=Z,38nm,0.8s
SUMG Summit 64.73 1 *e*P P **18 52 21.8 +0.5**
comp=Z,37nm,0.7s
SUMG Summit 64.73 1⇑ *i*P P **18 52 21.8 +0.5**
comp=Z,38nm,0.8s
FINES FINESS Array B 64.73 332 P P **18 52 20.6 -0.4**
comp=Z,32nm,0.5s,baz=52,slow=7.0,SNR=260
FINES LR LR 19 23 43.0
comp=Z,203nm,18.7s,baz=49,slow=39
J05D Fort Rock, OR 64.80 54⇑P P **18 52 24.0 +2.0**
baz=65
YBH Yreka Blue Hor 64.83 56 LR LR 19 14 51.5
comp=Z,40nm,21.1s,baz=305,slow=31
OBN Obninsk 64.86 323*c i*P P **18 52 21.3 -0.6**
OBN *e* 18 54 43.6
OBN *e*S **SPn** **19 01 15.9 +0.8**
OBN pmax pmax
comp=Z,36nm,0.8s
OBN Obninsk 64.86 323 *e*P P **18 52 21.3 -0.6**
OBN Obninsk 64.86 323 *e*P P **18 52 21.2 -0.7**
comp=Z,31nm,0.8s
K04D Chiloquin, OR 64.88 54⇑P P **18 52 24.3 +1.8**
baz=65
M02C Callahan 64.94 56⇓P P **18 52 25.1 +2.3**
baz=65
VRHR Novokhopersk 65.00 317 *e*P P **18 52 21.5 -1.4**
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.6s
IDAH Dahanechah 65.06 292 *e*P P **18 52 24.5 +0.4**
N02D Trinity Center 65.27 56⇓P P **18 52 26.9 +1.9**
baz=65
M04C Macdoel 65.32 55⇑P P **18 52 26.8 +1.5**
baz=65

WALA **Waterton Lakes** 65.41 45 *e*P P 18 52 26.8 +0.9
comp=E,8.8nm,0.9s
ITEG **Tejag** 65.73 293 *e*P P 18 52 28.6 +0.4
IKOO **Kooshah** 65.84 292 *e*P P 18 52 29.4 +0.4
PALK **Pallekele** 66.11 257 *i* P P 18 52 31.5 +0.8
VSR **Storozhevoye** 66.13 318 *e*P P 18 52 30.0 -0.2
VSR pmax pmax
comp=Z,70nm,0.6s
VSR pmax pmax
comp=N,40nm,0.7s
VSR pmax pmax
comp=E,30nm,0.7s
VORD **Divnogorie** 66.23 318 *e*P P 18 52 30.6 -0.2
VORD pmax pmax
comp=Z,100nm,1.6s
VORD pmax pmax
comp=N,160nm,0.8s
VORD pmax pmax
comp=E,170nm,0.7s
SWMT **Swartz Lake** 66.32 47 *e*P P 18 52 32.4 +0.7
comp=E,13nm,1.0s
VSU **Vasula** 66.60 330*c* *i*P P 18 52 32.9 -0.2
VSU pmax pmax
comp=Z,100nm,1.0s
SLMT **Seeley Lake** 66.76 47 *e*P P 18 52 35.2 +0.7
comp=Z,15nm,0.9s
MSO **Missoula** 66.77 47 ⇑P P 18 52 35.6 +1.0
baz=66
AS31 **Alice Springs** 67.05 191 *e*P P 18 52 36.2 -0.2
ASAR **Alice Springs** 67.05 191 P P 18 52 36.5 +0.2
comp=Z,11nm,0.8s,baz=11,slow=5.9,SNR=124
FFC **Flin Flon** 67.38 35 *e*P P 18 52 38.3 +0.1
FFC pmax pmax
comp=Z,12nm,0.8s
FFC **Flin Flon** 67.38 35 *e*P P 18 52 38.7 +0.5
FFC **Flin Flon** 67.38 35 *e*P P 18 52 38.3 +0.1
comp=Z,12nm,0.8s
IANJ **Anjilo** 67.39 298 *e*P P 18 52 39.7 +0.8
ILULI **Ilulissat** 67.52 6 *i* P P 18 52 38.6 -0.1
ILULI pmax pmax
comp=Z,16nm,0.9s
ILULI **Ilulissat** 67.52 6 *i* P P 18 52 38.6 -0.1
comp=Z,16nm,0.9s
FCC **Fort Churchill** 67.58 29 *e*P P 18 52 39.2 -0.1
FCC pmax pmax
comp=Z,11nm,0.6s
FCC **Fort Churchill** 67.58 29 *e*P P 18 52 39.2 -0.1
comp=Z,11nm,0.6s
HRY **Holter Researc** 67.97 46 *e*P P 18 52 42.4 +0.2
comp=Z,8.3nm,0.7s
A19A **Klindworth Far** 68.13 43 ⇓P P 18 52 43.6 +0.5
baz=68,SNR=8.9
EGMT **Eagleton** 68.21 44 ⇓P P 18 52 44.4 +0.8
baz=68
LRM **Limekiln Ridge** 68.21 47 *e*P P 18 52 44.5 +0.7
comp=Z,134nm,1.0s
B19A **Brinkman Farms** 68.34 43 ⇓P P 18 52 45.5 +1.2
baz=68
HLID **Hailey** 68.56 50 ⇑P P 18 52 47.2 +1.2
baz=68
HLID **Hailey** 68.56 50 *e*P P 18 52 47.1 +1.1
comp=Z,2.7nm,0.9s
HLID *e* 18 53 01.1
A20A **Cobblestone Ra** 68.57 43 ⇓P P 18 52 46.8 +1.0
baz=68
C19A **Slack Wire Ran** 68.76 44 ⇑P P 18 52 48.0 +1.0
baz=68,SNR=7.5
WAKR **Walker** 68.77 57 *e*P P 18 52 48.4 +0.9
comp=Z,16nm,1.4s
B20A **Solberg Farm,** 68.81 43 ⇑P P 18 52 48.1 +0.7
baz=69
ISAL **Salakas** 68.91 328 *e*P P 18 52 47.5 -0.1
ISAL AMB AMB 18 52 48.5
comp=Z,21nm,0.8s
KIV **Kislovodsk** 68.92 311 P P 18 52 49.5 +1.5
comp=Z,345nm,0.9s,SNR=12
KIV **Kislovodsk** 68.92 311 *e*P P 18 52 49.2 +1.1
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,136nm,17.0s
KIV **Kislovodsk** 68.92 311 P P 18 52 49.5 +1.5
SNR=8.5
KIV **Kislovodsk** 68.92 311 *e*P P 18 52 48.6 +0.5
comp=Z,53nm,0.9s
KBZ **Khabaz** 68.94 310 P P 18 52 49.2 +1.1
comp=Z,20nm,0.8s,baz=62,slow=4.9,SNR=14
KBZ LR LR 19 26 23.6
comp=Z,131nm,21.8s,baz=30,slow=39
ZEI **Tsey** 68.98 309 *e*P P 18 52 46.1 -2.5
ZEI pmax pmax
comp=Z,19nm,1.0s
A21A **Bergtoll Ranch** 68.99 42 ⇑P P 18 52 49.0 +0.6
baz=69,SNR=7.0
IIGN **Ignalina** 69.03 327 *e*P P 18 52 48.2 -0.2
IIGN AMB AMB 18 52 50.1
comp=Z,24nm,1.0s
NACGM **Naroch** 69.14 327 *e* P 18 52 45.0 -4.1
D19A **Cripps Ranch,** 69.22 44 ⇓P P 18 52 51.0 +1.1
baz=69
C20A **Veseth Ranch,** 69.30 44 ⇓P P 18 52 51.2 +0.8
baz=69
B21A **Ellsworth Farm** 69.32 43 ⇓P P 18 52 51.5 +1.1
baz=69
A22A **Carney Farms,** 69.48 42 ⇓P P 18 52 52.0 +0.5
baz=69,SNR=9.1
NVAR **Mina Array Bea** 69.51 56 P P 18 52 53.2 +1.1
comp=Z,6.6nm,0.7s,baz=291,slow=6.4,SNR=54
NVAR pP **pP** 18 53 07.5 +0.4
comp=Z,7.8nm,0.7s,baz=285,slow=6.9,SNR=16
D20A **Manuel Ranch,** 69.65 44 ⇓P P 18 52 53.6 +1.1
baz=69,SNR=6.1
NB2 **NORSAR Subarra** 69.65 338 P P 18 52 51.9 -0.4
comp=Z,19nm,0.8s,baz=36,slow=6.2
NB2 **NORSAR Subarra** 69.65 338 P P 18 52 51.9 -0.4
baz=36,slow=6.2
NOA **NORSAR Array B** 69.65 338 P P 18 52 51.9 -0.4
comp=Z,16nm,0.7s,baz=36,slow=6.1,SNR=87
NOA LR LR 19 27 46.0
comp=Z,102nm,20.1s,baz=30,slow=40
C21A **Desert Coulee** 69.69 43 ⇑P P 18 52 53.5 +0.8
baz=69
HFS **Hagfors** 69.69 336 LR LR 19 27 07.4
comp=Z,84nm,18.5s,baz=35,slow=39
E19A **Rath Farm, Rou** 69.73 45 ⇑P P 18 52 54.5 +1.4
baz=70,SNR=5.9
SFJD **Kangerlussuaq** 69.73 6 *i* P P 18 52 51.6 -1.0
SFJD pmax pmax
comp=Z,7.0nm,0.8s
SFJD **Kangerlussuaq** 69.73 6 *i* P P 18 52 51.6 -1.0
comp=Z,7.3nm,0.8s
IZEF **Zefreh** 70.01 297 *e*P P 18 52 55.3 +0.1
E20A **Meyer Farm, Mu** 70.04 45 ⇓P P 18 52 56.2 +1.3
baz=70
F19A **Roth Farm, Mol** 70.05 46 ⇓P P 18 52 56.1 +1.0
baz=70
H17A **Grant Village** 70.15 47 ⇑P P 18 52 57.5 +1.6
baz=70
GNI **Garni** 70.17 307*c* *i*P P 18 52 57.3 +1.3
GNI pmax pmax
comp=Z,18nm,1.2s
GNI **Garni** 70.17 307 *e*P P 18 52 56.2 +0.3
comp=Z,18nm,0.9s
IKLH **Kolahrood** 70.23 297 *e*P P 18 52 57.0 +0.4
D21A **La Casta Ranch** 70.25 44 ⇑P P 18 52 57.2 +1.0
baz=70
B23A **Brockton** 70.29 42 ⇑P P 18 52 57.2 +0.7
baz=70,SNR=10
C22A **Vida** 70.34 43 ⇑P P 18 52 57.6 +0.9
baz=70
RLMT **Red Lodge** 70.37 46 *e*P P 18 52 57.6 +0.5
comp=Z,4.3nm,0.7s
TPH **Tonopah** 70.40 56 *e*P P 18 52 58.5 +1.1
TPH *e* 18 53 12.6
TPH pmax pmax
comp=Z,6.0nm,0.7s
TPH **Tonopah** 70.40 56 *e*P P 18 52 58.5 +1.1
comp=Z,6.3nm,0.7s
TPH *e* 18 53 12.6
H18A **Shoshone NF, C** 70.45 47 ⇑P P 18 52 58.9 +1.2
baz=70
A24A **Westby** 70.46 41 ⇑P P 18 52 58.2 +0.8
baz=70
I17A **Pilgrim Ck.** 70.46 48 ⇓P P 18 52 59.4 +1.7
baz=70,SNR=10
D22A **Cohagen** 70.60 43 ⇓P P 18 52 59.1 +0.7
baz=70,SNR=5.2

HVU **Hansel Valley** 70.63 51 *e*P P 18 52 59.7 +0.9
HVU *e* 18 53 14.2
HVU pmax pmax
comp=Z,5.0nm,0.9s
HVU **Hansel Valley** 70.63 51 *e*P P 18 52 59.7 +0.9
comp=Z,5.3nm,0.9s
HVU *e* 18 53 14.2
C23A **Lambert** 70.65 42 ⇑P P 18 52 59.6 +1.0
baz=70
DGMT **Dagmar** 70.67 41 ⇓P P 18 52 59.8 +1.1
baz=70
DGMT **Dagmar** 70.67 41 *e*P P 18 52 59.2 +0.4
comp=Z,18nm,0.7s
A25A **Svangstu Ranch** 70.87 40 ⇓P P 18 53 01.1 +1.2
baz=71
AKASG **Malin Array Be** 71.11 323 P P 18 53 01.0 -0.3
AKASG **Malin Array Be** 71.11 323 P P 18 53 00.9 -0.3
comp=Z,27nm,0.6s,baz=41,slow=6.0,SNR=166
KIEV **Kiev** 71.13 323*c* *i*P P 18 53 00.8 -0.6
KIEV **Kiev** 71.13 323 *e*P P 18 53 00.8 -0.6
KIEV **Kiev** 71.13 323 *e*P P 18 53 00.8 -0.6
comp=Z,35nm,0.8s
E22A **Miles City** 71.20 44 ⇑P P 18 53 02.9 +0.9
baz=71
R11A **Troy Canyon, C** 71.21 55 ⇑P P 18 53 03.3 +1.0
baz=71,SNR=6.0
R11A **Troy Canyon, C** 71.21 55 *e*P P 18 53 02.9 +0.5
comp=Z,3.6nm,0.8s
R11A *e* 18 53 17.2
SUW **Suwalki** 71.21 328 *e*P P 18 53 00.9 -0.9
SUW pmax pmax
comp=Z,34nm,0.8s
SUW **Suwalki** 71.21 328 *e*P P 18 53 01.3 -0.5
SUW **Suwalki** 71.21 328 *e*P P 18 53 00.9 -0.9
comp=Z,34nm,0.8s
G21A **Lodge Grass** 71.38 45 ⇓P P 18 53 04.1 +0.9
baz=71
A26A **Wade Farm, Ken** 71.41 40 ⇓P P 18 53 04.0 +0.9
baz=71,SNR=5.4
E23A **Ismay** 71.48 43 ⇓P P 18 53 04.8 +1.2
baz=71
F22A **Rosebud** 71.49 44 ⇓P P 18 53 04.9 +1.2
baz=71
MPMC **Manual Prospec** 71.52 58 ⇑P P 18 53 05.2 +0.9
baz=71
D24A **Glendive** 71.55 42 ⇑P P 18 53 04.8 +0.8
baz=71,SNR=8.1
FURC **Furnace Creek,** 71.64 57 ⇑P P 18 53 06.5 +1.8
baz=71
DUG **Dugway, Tooele** 71.65 52 *e*P P 18 53 06.0 +1.1
DUG *e* 18 53 19.6
DUG pmax pmax
comp=Z,3.0nm,0.7s
DUG **Dugway, Tooele** 71.65 52 ⇑P P 18 53 05.9 +1.1
baz=71,SNR=6.6
DUG **Dugway, Tooele** 71.65 52 *e*P P 18 53 06.0 +1.1
comp=Z,3.4nm,0.7s
DUG *e* 18 53 19.6
B26A **Jensen Ranch,** 71.68 40 ⇓P P 18 53 05.9 +1.1
baz=71
BANOM **Banah** 71.69 289 ⇓*i*P P 18 53 05.3 0.0
SNR=6.1
BANOM **Banah** 71.69 289 P P 18 53 05.6 +0.3
SNR=6.1
TPNV **Topopah Spring** 71.71 56 ⇑P P 18 53 06.6 +1.2
baz=72,SNR=10.0
J19A **Crowheart** 71.72 48 ⇑P P 18 53 06.3 +1.0
baz=72,SNR=7.4
I20A **Wband** 71.76 47 ⇓P P 18 53 06.5 +1.0
baz=72
BW06 **Boulder Array** 71.78 48 *e*P P 18 53 06.0 +0.3
comp=Z,11nm,0.9s
BW06 *e* 18 53 20.4
PDAR **Pinedale Array** 71.78 48 P P 18 53 06.2 +0.4
comp=Z,6.2nm,0.8s,baz=267,slow=2.0,SNR=52
PDAR pP **pP** 18 53 20.3 -0.6
comp=Z,6.5nm,0.6s,baz=286,slow=1.6,SNR=16
H21A **Big Horn, Sher** 71.87 46 ⇓P P 18 53 07.1 +1.0
baz=72
WBK **Wadi Bani Khal** 71.91 284 P P 18 53 08.1 +1.5
SNR=6.0
E24A **Baker** 71.94 43 ⇓P P 18 53 07.5 +1.1
baz=72
EDW2 **Edwards Air Fo** 71.96 59 ⇓P P 18 53 08.1 +1.3
baz=72
F23A **Volborg** 71.97 44 ⇑P P 18 53 07.1 +0.5
baz=72,SNR=7.4
C26A **Widner Farm, P** 72.13 41 ⇓P P 18 53 08.4 +0.8
baz=72
J20A **Shoshoni** 72.18 47 ⇑P P 18 53 08.9 +0.9
baz=72,SNR=8.6
A28A **Rude Farm, Bot** 72.22 39 ⇑P P 18 53 09.1 +1.1
baz=72
H22A **Clearmont** 72.25 45 ⇓P P 18 53 09.5 +1.1
baz=72
I21A **Big Trails, Te** 72.30 46 ⇑P P 18 53 09.5 +0.8
baz=72,SNR=9.9
IKAZ **Kazeun** 72.30 294 *e*P P 18 53 09.5 +0.3
F24A **Ekalaka** 72.37 43 ⇓P P 18 53 09.2 +0.2
baz=72,SNR=6.2
SHOC **Shoshone, Teco** 72.37 57 ⇑P P 18 53 10.7 +1.6
baz=72
E25A **Miller Ranch,** 72.43 42 ⇓P P 18 53 10.3 +0.9
baz=72
HOQ **Hoqain** 72.47 286 P P 18 53 10.6 +0.7
SNR=7.0
C27A **Sayler Ranch,** 72.50 40 ⇓P P 18 53 10.5 +0.8
baz=72
B28A **Dugan Ranch, T** 72.51 39 ⇓P P 18 53 10.6 +0.8
baz=72
HATD **Hatta, Dubai** 72.51 288 ⇓*i*P P 18 53 10.3 +0.2
SNR=13
HATD **Hatta, Dubai** 72.51 288 P P 18 53 10.6 +0.5
SNR=5.7
J21A **Lysite** 72.53 47 ⇑P P 18 53 10.8 +0.6
baz=72
D26A **Manning** 72.53 41 ⇓P P 18 53 11.1 +1.2
baz=72
ASHO **Ashiyiah** 72.65 288 ⇑*i*P P 18 53 10.9 -0.1
SNR=6.1
ASHO **Ashiyiah** 72.65 288 P P 18 53 11.1 +0.1
SNR=6.1
ASHO P P 18 53 11.1 +0.1
SNR=5.6
SHPR **Sheep Range** 72.66 56 *e*P P 18 53 11.8 +0.7
comp=Z,4.3nm,0.8s
SHPR *e* 18 53 26.6
I22A **9 Mile Ranch,** 72.67 46 ⇓P P 18 53 11.8 +0.9
baz=72
JMDO **Jabal Madar** 72.68 285 P P 18 53 11.7 +0.5
SNR=6.0
A29A **Manning Farm,** 72.68 38 ⇑P P 18 53 11.6 +0.8
baz=72,SNR=17
NAZ **Nazwa, Dubai** 72.73 288 *i* P P 18 53 11.3 -0.1
SNR=8.0
F25A **Bowman** 72.81 43 ⇓P P 18 53 12.9 +1.3
baz=72
TUQ **Turquoise Moun** 72.89 57 ⇓P P 18 53 13.8 +1.4
baz=73
E26A **Carlson Angus** 72.91 42 ⇓P P 18 53 12.8 +0.5
baz=73
B29A **Wagenman Farm,** 72.96 39 ⇑P P 18 53 13.3 +0.9
baz=73
J22A **Midwest** 73.00 46 ⇑P P 18 53 13.7 +0.8
baz=73
C28A **Hausauer Farms** 73.02 40 ⇑P P 18 53 13.8 +1.0
baz=73
H24A **Dirks Ranch, A** 73.08 44 ⇑P P 18 53 13.7 +0.4
baz=73
BSY **Bisya** 73.08 285 P P 18 53 14.1 +0.5
SNR=11
A30A **Hoffart Farm,** 73.09 38 ⇓P P 18 53 14.0 +0.8
baz=73
K21A **Alcova** 73.12 47 ⇑P P 18 53 14.1 +0.3
baz=73
ULM **Lac du Bonnet** 73.19 36 P P 18 53 13.4 -0.3
comp=Z,6.7nm,0.7s,baz=305,slow=5.9,SNR=13
ASUD **Al Ashush, Dub** 73.20 288 ⇑*i*P P 18 53 14.4 +0.2
SNR=16
ASUD **Al Ashush, Dub** 73.20 288 P P 18 53 14.3 +0.2
SNR=16
F26A **Lodgepole** 73.25 42 ⇑P P 18 53 15.4 +1.1
baz=73
MDND **Maddock** 73.29 39 ⇓P P 18 53 15.4 +1.0
baz=73
MDND **Maddock** 73.29 39 *e*P P 18 53 15.1 +0.7
comp=Z,15nm,0.7s
MDND *e* 18 53 29.4

D28A **Regan** 73.31 40 ⇑P P 18 53 15.3 +0.8
baz=73
BSD **Bornholm Skovb** 73.36 333 ⇑*i*P P 18 53 14.3 -0.3
BSD pmax pmax
comp=Z,26nm,0.8s
BSD **Bornholm Skovb** 73.36 333 ⇑*i*P P 18 53 14.3 -0.3
comp=Z,26nm,0.8s
E27A **Carson** 73.38 41 ⇑P P 18 53 15.8 +0.9
baz=73
B30A **Myrvik Farm, E** 73.44 38 ⇑P P 18 53 15.9 +0.7
baz=73,SNR=6.9
GMRC **Granite Mounta** 73.48 58 ⇓P P 18 53 16.9 +1.0
baz=73
K22A **Casper** 73.50 47 ⇑P P 18 53 16.9 +1.0
baz=73
G26A **Maurine** 73.68 43 ⇓P P 18 53 17.0 +0.2
baz=73,SNR=9.4
E28A **Huff** 73.69 41 ⇓P P 18 53 17.5 +0.8
baz=73
COP **Copenhagen** 73.72 334 *e*P P 18 53 17.1 +0.5
COP pmax pmax
comp=Z,25nm,0.8s
COP **Copenhagen** 73.72 334 *i* P P 18 53 17.1 +0.5
comp=Z,25nm,0.8s
RSSD **Black Hills** 73.78 44 *e*P P 18 53 17.7 +0.1
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD **Black Hills** 73.78 44 *e*P P 18 53 17.7 +0.1
comp=Z,5.0nm,0.8s
N20A **Spence Gulch,** 73.80 49 ⇓P P 18 53 18.9 +1.1
baz=74
BEL **Belsk** 73.81 328 *e*P P 18 53 18.1 +0.8
BEL **Belsk** 73.81 328 *e*P P 18 53 18.1 +0.8
K23A **Bowen Ranch, D** 73.91 46 ⇓P P 18 53 19.6 +1.3
baz=74
C30A **Mose, Pekin** 73.92 39 ⇑P P 18 53 18.9 +0.9
baz=74
L22A **Ellis Ranch, M** 73.97 47 ⇑P P 18 53 19.7 +0.9
baz=74
I25A **Rochford** 74.01 44 ⇓P P 18 53 19.1 +0.2
baz=74
LVV **L'vov** 74.03 325 *e*P P 18 53 18.4 -0.2
GKP **Gorka Klasztor** 74.03 330 *e*P P 18 53 18.7 +0.2
GKP **Gorka Klasztor** 74.03 330 *e*P P 18 53 18.7 +0.2
LLD **Lille Linde** 74.08 334 *e*P P 18 53 19.1 +0.3
LLD **Lille Linde** 74.08 334 *i* P P 18 53 19.1 +0.3
MUD **Monsted U'grnd** 74.08 336 *e*P P 18 53 18.8 +0.1
MUD pmax pmax
comp=Z,10.0nm,0.8s
MUD **Monsted U'grnd** 74.08 336 *i* P P 18 53 18.8 +0.1
comp=Z,9.9nm,0.8s
IRM **Iron Mountain** 74.21 58 ⇑P P 18 53 21.3 +1.2
baz=74
D30A **Buchanan** 74.22 39 ⇓P P 18 53 20.4 +0.6
baz=74
O20A **White River Ci** 74.29 50 ⇑P P 18 53 21.3 +0.8
baz=74
W13A **Hualapai Mount** 74.37 57 ⇑P P 18 53 21.9 +0.7
baz=74
H27A **Howes** 74.41 43 ⇓P P 18 53 21.4 +0.3
baz=74
J25A **Sunshine Ranch** 74.41 45 ⇑P P 18 53 21.5 +0.3
baz=74
I26A **New Underwood** 74.44 44 ⇑P P 18 53 21.8 +0.6
baz=74
U15A **North Rim** 74.45 55 ⇓P P 18 53 22.7 +1.0
baz=74,SNR=6.4
E30A **Jud** 74.60 40 ⇑P P 18 53 22.4 +0.3
baz=74
F29A **Eureka** 74.65 41 ⇓P P 18 53 22.7 +0.3
baz=74
AGMN **Agassiz Nation** 74.66 37 ⇑P P 18 53 22.6 +0.2
baz=74
AGMN **Agassiz Nation** 74.66 37 *e*P P 18 53 22.0 -0.3
comp=Z,6.4nm,0.7s
AGMN *e* 18 53 36.4
G28A **Parade** 74.67 42 ⇑P P 18 53 22.9 +0.4
baz=74
KWP **Kalwaria Pacla** 74.73 325 *e*P P 18 53 23.2 +0.5
KWP pmax pmax
comp=Z,35nm,0.7s
KWP **Kalwaria Pacla** 74.73 325 *e*P P 18 53 23.4 +0.7
KWP **Kalwaria Pacla** 74.73 325 ⇑*i*P P 18 53 23.4 +0.7
KWP **Kalwaria Pacla** 74.73 325 *e*P P 18 53 23.2 +0.5
comp=Z,35nm,0.7s
PDMCI **Parker Dam,Lak** 74.74 57 ⇑P P 18 53 24.3 +1.3
baz=74
N22A **Wattenberg Ran** 74.81 48 ⇓P P 18 53 24.4 +0.7
baz=75
I27A **Quinn** 74.83 43 ⇓P P 18 53 24.1 +0.7
baz=75
J26A **Sides Ranch, S** 74.84 44 ⇓P P 18 53 24.2 +0.6
baz=75
H28A **Mission Ridge** 74.90 42 ⇑P P 18 53 24.6 +0.7
baz=75
K25A **Mack Ranch, Ha** 74.93 45 ⇓P P 18 53 24.7 +0.5
baz=75
N23A **Red Feather La** 75.03 48 ⇓P P 18 53 26.4 +1.4
baz=75
F30A **Leola** 75.03 40 ⇓P P 18 53 24.6 0.0
baz=75
MALT **Malatya** 75.06 309 ⇓*i*P P 18 53 26.1 +1.2
BURAR **Bucovina Array** 75.17 322 ⇓*i*P P 18 53 25.7 +0.3
O22A **Kremmling** 75.21 49 ⇑P P 18 53 27.1 +1.0
baz=75
K26A **Motz Farm, Whi** 75.22 45 ⇑P P 18 53 27.0 +1.1
baz=75
M24A **Cheyenne** 75.23 47 ⇓P P 18 53 27.1 +1.1
baz=75
I28A **Midland** 75.32 43 ⇓P P 18 53 26.9 +0.7
baz=75
TESR **Tescani** 75.34 321 ⇓*i*P P 18 53 26.2 -0.1
J27A **Elkhorn Farm,** 75.43 44 ⇓P P 18 53 27.7 +0.7
baz=75
KOLS **Kolonicke sedl** 75.45 325 *e*P P 18 53 27.0 +0.1
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS **Kolonicke sedl** 75.45 325 *e*P P 18 53 27.0 +0.1
OJC **Ojcow** 75.46 327 *e*P P 18 53 27.5 +0.5
OJC *e**PP **pP** 18 53 43.8 +1.6
OJC **Ojcow** 75.46 327 *e*P P 18 53 27.4 +0.5
G30A **Faulkton** 75.49 41 ⇓P P 18 53 27.2 0.0
baz=75,SNR=8.5
STHS **Stebnicka Huta** 75.50 326 *e*P P 18 53 27.9 +0.7
STHS pmax pmax
comp=Z,10.0nm,0.7s
STHS **Stebnicka Huta** 75.50 326 *e*P P 18 53 27.9 +0.7
O23A **Lake Granby, G** 75.52 48 ⇓P P 18 53 28.4 +0.6
baz=75,SNR=6.1
CFR **Carcaliu** 75.62 319 ⇓*i*P P 18 53 27.8 -0.1
PETR **Petresti** 75.65 320 ⇓*i*P P 18 53 29.7 +1.6
M25A **Palm-Egli Farm** 75.66 46 ⇑P P 18 53 29.3 +0.8
baz=75
UZH **Uzhgorod** 75.67 325 *e*P P 18 53 23.1 -5.0
Y14A **Wickenburg** 75.68 57 ⇓P P 18 53 30.2 +1.6
baz=76
J28A **Allard Ranch,** 75.70 43 ⇓P P 18 53 28.7 +0.3
baz=75,SNR=7.6
I29A **Vivian Onida** 75.73 42 ⇓P P 18 53 29.6 +1.0
baz=76
VRI **Vrincioaia** 75.78 320 ⇑*i*P P 18 53 29.4 +0.5
CRVS **Cervenica-Dubn** 75.81 325 *e*P P 18 53 29.5 +0.5
CRVS pmax pmax
comp=Z,6.0nm,0.7s
CRVS **Cervenica-Dubn** 75.81 325 *e*P P 18 53 29.5 +0.5
PLOR **Plostina** 75.83 320 ⇓*i*P P 18 53 29.2 0.0
BSEG **Bad Segeberg** 75.85 334 *e*P P 18 53 29.3 +0.3
comp=Z,23nm,0.8s
NIE **Niedzica** 75.88 326 *e*P P 18 53 30.4 +1.0
NIE **Niedzica** 75.88 326 *e*P P 18 53 30.3 +0.9
BMR **Baia Mare** 75.89 323 ⇓*i*P P 18 53 30.6 +1.2
TRPA **Tarpa** 75.95 324 ⇓*i*P P 18 53 30.4 +0.8
TRPA **Tarpa** 75.95 324 ⇓*e*PKKPdf P 18 53 30.5 +0.8
ISCO **Idaho Springs** 75.97 48 ⇓P P 18 53 31.4 +1.0
baz=76
TIRR **Tirgusor** 76.02 319 ⇓*i*P P 18 53 29.5 -0.7
BRSD **Miller** 76.08 41 ⇑P P 18 53 31.1 +0.5
baz=76
TLB **Topalu** 76.11 319 ⇓*i*P P 18 53 30.7 0.0
M26A **McRoberts Ranc** 76.12 46 ⇓P P 18 53 31.9 +0.8
baz=76
K28A **Ten Mile Ranch** 76.15 44 ⇓P P 18 53 31.7 +0.6
baz=76
MVCO **Mesa Verde** 76.15 52 ⇓P P 18 53 32.4 +1.0
baz=76
P23A **Jefferson** 76.15 49 ⇓P P 18 53 32.4 +0.9

baz=76
J29A Okreek 76.17 43 ⇑P P 18 53 31.9 +0.8
baz=76
I30A Oacoma 76.24 42 ⇓P P 18 53 32.4 +0.9
baz=76
X16A Lo Mia Camp, P 76.31 56 ⇓P P 18 53 33.6 +1.3
baz=76,SNR=6.3
KSP Ksiaz 76.33 329⇑*eP* P 18 53 32.4 +0.6
KSP *e**PP **pP** 18 53 46.6 -0.5
KSP Ksiaz 76.33 329 *eP* P 18 53 32.3 +0.5
DOPR Dopca 76.33 321⇓*iP* P 18 53 33.3 +1.3
OKC Ostrava-Krasne 76.42 328 *eP* P 18 53 32.8 +0.4
OKC *e* 18 53 47.2
OKC Ostrava-Krasne 76.42 328 *eP* P 18 53 32.8 +0.4
OKC *ex* x 18 53 37.9
OKC *epP* **pP** 18 53 47.2 -0.5
ISR Istrita 76.43 320⇓*iP* P 18 53 33.8 +1.2
MLR Muntele Rosu 76.43 321⇑*iP* P 18 53 32.9 +0.2
M27A Reverse DX Ran 76.47 45 ⇑P P 18 53 34.3 +1.3
baz=76
N26A Koester Ranch, 76.54 46 ⇑P P 18 53 34.2 +0.8
baz=76
KECS Kecovo 76.54 326 *eP* P 18 53 33.3 +0.2
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 76.54 326 *eP* P 18 53 33.3 +0.2
MSAB Monastry St. A 76.58 319⇓*iP* P 18 53 34.4 +1.1
J30A Dallas 76.64 42 ⇓P P 18 53 34.4 +0.6
baz=76
UPC Upice 76.70 329 *eP* P 18 53 34.6 +0.6
UPC *e* 18 53 51.0
UPC Upice 76.70 329 *eP* P 18 53 34.6 +0.6
UPC *ex* x 18 53 40.4
UPC *epP* **pP** 18 53 51.0 +1.7
PSN Preselentsi 76.70 318⇓*iP* P 18 53 35.1 +1.0
MORC Moravsky Berou 76.70 328 *eP* P 18 53 34.6 +0.5
MORC pmax pmax
comp=Z,20nm,0.8s
MORC Moravsky Berou 76.70 328⇓*iP* P 18 53 34.7 +0.6
MORC Moravsky Berou 76.70 328 *eP* P 18 53 34.6 +0.5
comp=Z,20nm,0.8s
DPC Dobruska-Polom 76.71 329 *eP* P 18 53 34.9 +0.8
DPC *e* 18 53 42.2
DPC *e* 18 53 49.7
DPC Dobruska-Polom 76.71 329 *eP* P 18 53 34.9 +0.8
DPC *ex* x 18 53 42.2
DPC *epP* **pP** 18 53 49.7 +0.3
DPC AMS AMS 19 29 00.0
S22A 4UR Ranch, Cre 76.73 51 ⇑P P 18 53 35.6 +0.8
baz=76,SNR=5.9
BRTR Keskin Array B 76.75 312 P P 18 53 34.8 +0.1
comp=Z,2.7nm,0.7s,baz=84,slow=3.6,SNR=12
BRTR LR LR 19 33 31.3
comp=Z,66nm,18.9s,baz=38,slow=40
KRLC Kraliky 76.76 329 *eP* P 18 53 34.9 +0.5
KRLC *e* 18 53 51.5
KRLC Kraliky 76.76 329 *eP* P 18 53 34.9 +0.5
KRLC *epP* **pP** 18 53 51.5 +1.8
VOIR 76.88 321⇓*iP* P 18 53 36.2 +1.0
DRGR 76.90 323⇓*iP* P 18 53 36.0 +0.7
N27A Anderson Farm, 76.92 46 ⇓P P 18 53 36.2 +0.7
baz=77
P25A Willow Gulch B 76.97 48 ⇓P P 18 53 36.7 +0.8
baz=77
R23A Moffat 76.99 50 ⇓P P 18 53 37.2 +1.0
baz=77
K30A Basset 77.06 43 ⇓P P 18 53 37.4 +1.2
baz=77
OGNE Ogallala 77.08 46 ⇑P P 18 53 37.3 +1.0
baz=77
OGNE Ogallala 77.08 46 *eP* P 18 53 36.9 +0.5
comp=Z,15nm,0.8s
ARR Arges 77.13 321⇑*iP* P 18 53 37.9 +1.4
NRDL Niedersach Rie 77.14 333 *eP* P 18 53 36.2 0.0
comp=Z,9.0nm,0.8s
X18A Snowflake 77.14 55 ⇑P P 18 53 38.6 +1.7
baz=77
CLL Collm 77.14 331⇑*iP* P 18 53 36.2 -0.2
CLL *i* *PP **pP** 18 53 52.4 +0.7
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 77.14 331 *eP* P 18 53 36.1 -0.3
comp=Z,35nm,0.9s
CLL Collm 77.14 331⇑*iP* P 18 53 36.2 -0.2
comp=Z,35nm,0.8s
CLL *i* 18 53 40.0
CLL *i* pP **pP** 18 53 52.4 +0.7
CLL *i* sP **sP** 18 53 56.4 -1.4
CLL LmV 19 31 00.0
comp=Z,100nm,18.0s
BRG Berggiesshubel 77.17 331 *i* P P 18 53 36.4 -0.1
comp=Z,7.5nm,0.7s
BRG *e* 18 53 55.5
comp=Z,5.9nm,1.1s
comp=N,146nm,14.7s
comp=E,87nm,14.7s
comp=Z,196nm,17.0s
BRG Berggiesshubel 77.17 331 *i* P P 18 53 36.4 -0.1
BRG *e* 18 53 55.5
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG MLR MLR
comp=N,146nm,14.7s
BRG Berggiesshubel 77.17 331 *eP* P 18 53 36.5 -0.1
comp=Z,8.0nm,0.7s
BRG *epP* **pP** 18 53 54.1 +2.2
VYHS Vyhne 77.21 326 *eP* P 18 53 37.6 +0.7
VYHS pmax pmax
comp=Z,7.0nm,0.7s
VYHS Vyhne 77.21 326 *eP* P 18 53 37.6 +0.7
PVCC Panska Ves 77.22 330 *eP* P 18 53 37.5 +0.6
PVCC *e* 18 53 51.4
PVCC *e* 18 53 54.6
PVCC Panska Ves 77.22 330 *eP* P 18 53 37.5 +0.6
PVCC *epP* **pP** 18 53 51.4 -0.8
PVCC *ex* x 18 53 54.6
PSZ Piszkesteto 77.23 325 *eP* P 18 53 37.8 +0.7
PSZ pmax pmax
comp=Z,11nm,0.8s
PSZ Piszkesteto 77.23 325⇓*iP* P 18 53 38.1 +1.0
PSZ Piszkesteto 77.23 325 *eP* P 18 53 37.8 +0.7
comp=Z,11nm,0.8s
PSZ Piszkesteto 77.23 325⇑*e* P 18 53 38.0 +1.0
Q25A Bedland, Calha 77.35 48 ⇓P P 18 53 39.0 +0.9
baz=77
R24A Sanders Place, 77.36 49 ⇑P P 18 53 38.8 +0.7
baz=77
P26A Davis Ranch, A 77.38 47 ⇑P P 18 53 39.2 +1.0
baz=77
VRAC Vranov 77.45 328⇓*iP* P 18 53 39.3 +1.1
LOT Lotru 77.46 322⇓*iP* P 18 53 39.1 +0.6
SDCO Great Sand Dun 77.48 50 ⇓P P 18 53 39.7 +0.7
baz=77
CLZ Clausthal 77.60 333 *eP* P 18 53 39.3 +0.3
comp=Z,22nm,0.7s
PRA Prague 77.65 330 *eP* P 18 53 39.8 +0.6
PRA Prague 77.65 330 *eP* P 18 53 39.8 +0.6
PRU Pruhonice 77.67 330 *eP* P 18 53 40.0 +0.6
PRU *e* 18 53 48.8
PRU *e* 18 53 54.8
PRU MLR MLR
comp=Z,200nm,18.8s
PRU Pruhonice 77.67 330 *eP* P 18 53 40.0 +0.6
PRU *e*PCP **PcP** 18 53 48.8 -0.6
PRU *epP* **pP** 18 53 54.8 +0.1
PRU AMS AMS 19 30 00.0
comp=Z,200nm,18.8s
S24A Houchin Ranch, 77.72 50 ⇓P P 18 53 41.1 +0.8
baz=78
Q26A Hugo 77.74 48 ⇓P P 18 53 41.0 +0.8
baz=78
ECSD EROS Data Cent 77.74 41 ⇓P P 18 53 40.2 +0.3
baz=78
ECSD EROS Data Cent 77.74 41 *eP* P 18 53 39.7 -0.2
comp=Z,14nm,1.0s
ECSD *e* 18 53 54.1
SMOL Smolenice 77.76 327 *eP* P 18 53 41.2 +1.3
SMOL Smolenice 77.76 327 *eP* P 18 53 41.2 +1.3
L31A Butterfield Fa 77.81 43 ⇓P P 18 53 40.8 +0.4
baz=78
R25A Fountain Ranch 77.87 49 ⇑P P 18 53 41.7 +0.7
baz=78
TREC Trest 77.89 329 *eP* P 18 53 41.0 +0.4
TREC *e* 18 53 55.9
TREC Trest 77.89 329 *eP* P 18 53 41.0 +0.4
TREC *epP* **pP** 18 53 55.9 -0.1
GZR Gura Zlata 77.95 322⇓*iP* P 18 53 41.5 +0.4
IBBN Ibbenburen 78.05 335 *eP* P 18 53 41.4 0.0
comp=Z,27nm,0.8s
TANN Tannenbergstha 78.08 331 *eP* P 18 53 41.5 -0.2
comp=Z,4.0nm,0.9s
S25A Robets Cordova 78.14 49 ⇑P P 18 53 43.3 +0.8
baz=78
KSCO Kaye Shedlock' 78.16 47 ⇓P P 18 53 43.0 +0.5
baz=78
MOX Moxa 78.18 332 *eP* P 18 53 42.2 0.0
comp=Z,8.0nm,0.7s
R26A Arlington 78.22 48 ⇓P P 18 53 43.3 +0.5
baz=78,SNR=8.8
PKSG 78.27 326⇑*ep* P 18 53 43.5 +0.8
BZS Buzias 78.30 323⇑*iP* P 18 53 42.9 0.0
O29A 4D Ranch, Culb 78.32 45 ⇓P P 18 53 43.8 +0.6
baz=78
CSKK Cs˘‡kako 78.35 326⇑*e*PKKPbc P 18 53 43.9 +0.7
M31A Lambtecht Ranc 78.36 44 ⇓P P 18 53 43.7 +0.3
baz=78
SPMN Marine on St. 78.36 37 ⇑P P 18 53 43.8 +0.5
baz=78
PKST T˘'s 78.52 326⇑*eP* P 18 53 44.6 +0.4
T25A Trinidad 78.52 50 ⇑P P 18 53 45.2 +0.5
baz=78
Q28A Sharon Springs 78.55 47 ⇑P P 18 53 44.9 +0.3
baz=78
R27A Eads 78.59 48 ⇓P P 18 53 45.2 +0.3
baz=78,SNR=5.8
UBBA Unterbreizbach 78.59 333 *eP* P 18 53 44.0 -0.3
comp=Z,4.0nm,0.7s
RBK Rabkut 78.62 283 P P 18 53 44.9 -0.3
SNR=5.3
O30A MW Ranch, Wils 78.67 45 ⇑P P 18 53 45.2 0.0
baz=78
S26A Kim 78.70 49 ⇑P P 18 53 45.8 +0.3
baz=78
ROTZ Rozenmuhle 78.71 331 *eP* P 18 53 45.6 +0.4
comp=Z,11nm,1.1s
KHC Kasperske Hory 78.74 330 *eP* P 18 53 45.4 0.0
KHC *e* 18 53 54.8
KHC *e* 18 54 01.4
KHC *e* 18 54 05.9
KHC MLR MLR
comp=Z,200nm,16.4s
KHC Kasperske Hory 78.74 330 *eP* P 18 53 45.4 0.0
KHC *e*PCP **PcP** 18 53 54.8 +0.7
KHC *epP* **pP** 18 54 01.4 +0.7
KHC *esP* **sP** 18 54 05.9 -0.9
KHC AMS AMS 19 31 20.0
comp=Z,200nm,16.4s
KHC Kasperske Hory 78.74 330 *eP* P 18 53 45.4 0.0
comp=Z,24nm,0.6s
SOP Sopron 78.78 327⇑*eP* P 18 53 46.7 +1.2
CONA Conrad Observa 78.85 328⇑*iP* P 18 53 47.0 +0.9
comp=Z,12nm,0.7s,SNR=10
ANMO Albuquerque 78.91 52 *eP* P 18 53 47.3 +0.5
ANMO pmax pmax
comp=Z,15nm,1.7s
GEC2 GERESS Array S 78.93 329 *eP* P 18 53 46.4 -0.1
comp=Z,8.0nm,0.6s
GERES GERESS Array B 78.93 329 P P 18 53 46.3 -0.1
comp=Z,7.0nm,0.6s,baz=37,slow=6.2,SNR=66
GERES LR LR 19 32 07.7
comp=Z,192nm,18.9s,baz=38,slow=38
SCHQ Schefferville 78.93 18 P P 18 53 46.3 0.0
comp=Z,5.0nm,0.7s,baz=320,slow=3.4,SNR=6.8
SCHQ LR LR 19 29 36.0
comp=Z,53nm,21.9s,baz=314,slow=36
T26A Comanche Natio 78.95 49 ⇓P P 18 53 47.2 +0.3
baz=79
BUG Bochum--Univer 78.95 334 *eP* P 18 53 46.2 -0.2
comp=Z,16nm,0.8s
S27A Las Animas 78.97 48 ⇑P P 18 53 47.1 +0.2
baz=79
WET Wettzell 78.98 330 *eP* P 18 53 47.1 +0.4
comp=Z,16nm,0.9s
P30A Selden 79.03 46 ⇑P P 18 53 47.5 +0.3
baz=79
U25A Circle Dot Ran 79.05 50 ⇓P P 18 53 48.3 +0.8
baz=79
O31A Woolen Ranch, 79.06 45 ⇑P P 18 53 47.2 -0.1
baz=79
PKSM Moragy 79.11 325⇓*iP* P 18 53 46.9 -0.5
PKSM Moragy 79.11 325⇑*eP* P 18 53 47.2 -0.2
GRF Grafenberg Arr 79.12 331 *eP* P 18 53 47.9 +0.5
comp=Z,30nm,0.9s
GRF *epP* **pP** 18 54 04.7 +1.9
GRFO Grafenberg 79.12 331 *eP* P 18 53 47.9 +0.5
GRFO pmax pmax
comp=Z,22nm,0.8s
GRFO Grafenberg 79.12 331 *eP* P 18 53 47.9 +0.5
comp=Z,22nm,0.8s
Q29A Oakley 79.13 46 ⇓P P 18 53 47.9 +0.2
baz=79
V25A Rancho No Teng 79.33 51 ⇓P P 18 53 49.9 +0.8
baz=79
R29A Marienthal 79.38 47 ⇑P P 18 53 49.4 +0.3
baz=79
U26A Atchley Ranch, 79.43 50 ⇓P P 18 53 50.0 +0.4
baz=79
Q30A Quinter 79.47 46 ⇓P P 18 53 50.0 +0.4
baz=79
P31A Stockton 79.50 45 ⇓P P 18 53 49.9 +0.1
baz=79
MOA Molln 79.54 329⇑*iP* P 18 53 50.1 +0.4
comp=Z,6.9nm,0.8s,SNR=6.0
ARSA Arzberg 79.54 328⇑*iP* P 18 53 50.2 +0.4
comp=Z,5.7nm,0.8s
TNS Taunus Mts 79.62 333 *eP* P 18 53 49.7 -0.5
comp=Z,9.0nm,0.9s
319A Douglas 79.72 57 ⇑P P 18 53 52.3 +1.2
baz=80
121A Cookes Peak, D 79.82 55 ⇑P P 18 53 53.2 +1.5
baz=80
V26A Tequesquite Ra 79.83 50 ⇑P P 18 53 52.6 +0.8
baz=80
VTS Vihsha 79.91 320⇓*iP* P 18 53 52.9 +0.9
U27A Thompson Grove 79.92 49 ⇑P P 18 53 52.8 +0.7
baz=80
R30A Dighton 79.95 46 ⇑P P 18 53 52.7 +0.5
baz=80
BEBN Eben Emael 80.01 335 P P 18 53 52.2 0.0
comp=Z,5.3nm,0.8s
MEM Membach 80.07 335 P P 18 53 52.5 0.0
comp=Z,8.5nm,0.9s
RJOB Jochberg 80.19 329 *eP* P 18 53 53.8 +0.5
comp=Z,16nm,0.8s
RJOB *epP* **pP** 18 54 10.5 +1.8
SOKA Soboth 80.20 327⇑*iP* P 18 53 53.6 +0.2
comp=Z,17nm,0.8s,SNR=13
PERS Pernice 80.20 327 *i* P P 18 53 53.6 +0.2
Q32A Meitler Ranch, 80.32 45 ⇑P P 18 53 54.3 +0.1
baz=80
FUR Furstenfeldbru 80.39 330 *eP* P 18 53 54.6 +0.3
comp=Z,22nm,0.8s
MMB Musomiste 80.44 319⇓*iP* P 18 53 55.4 +0.7
BCLA Clavier 80.46 335 P P 18 53 53.9 -0.7
KBA Koelnbreinsper 80.53 329⇑*iP* P 18 53 56.0 +0.7
comp=Z,20nm,0.7s,SNR=17
OBKA Obir 80.53 328⇑*iP* P 18 53 55.2 0.0
comp=Z,9.1nm,0.6s,SNR=5.8
NVR Nevrokopi 80.56 319 *eP* P 18 53 54.9 -0.5
STU Stuttgart 80.61 332 *eP* P 18 53 55.4 -0.1
comp=Z,21nm,0.8s
RAYN Ar Rayn 80.67 293 *eP* P 18 53 56.1 -0.2
comp=Z,13nm,0.8s
SNF Seneffe 80.69 336 P P 18 53 56.0 +0.2
Q33A Connelly Farm, 80.69 44 ⇓P P 18 53 56.4 +0.2
baz=80
PDKS Podkum 80.72 327 *eP* P 18 53 56.0 -0.2
MYKA Terra Mystica 80.78 328⇑*iP* P 18 53 56.3 -0.2
comp=Z,10nm,0.8s
WLF Walferdange 80.85 334 P P 18 53 58.0 +1.2
WLF Walferdange 80.85 334 *eP* P 18 53 57.3 +0.6
comp=Z,9.0nm,0.8s
WLF *epP* **pP** 18 54 14.3 +2.2
GIVF Givet 80.88 335 *eP* P 18 53 56.6 -0.3
GIVF Givet 80.88 335 *eP* P 18 53 56.6 -0.3
GIVF Givet 80.88 335 *eP* P 18 53 56.6 -0.3
DOU Dourbes 80.96 335 P P 18 53 57.0 -0.3
WATA Walderalm 80.97 330⇑*iP* P 18 53 57.9 +0.3
comp=Z,8.9nm,0.5s
WTTA Wattenberg 81.01 330⇓*iP* P 18 53 58.3 +0.4
comp=Z,16nm,0.7s,SNR=5.5
BOJS Bojanci 81.07 327 *eP* P 18 53 57.8 -0.2
BAIF Baives 81.11 335⇑*iP* P 18 53 57.8 -0.3
comp=Z,8.3nm,0.8s
BAIF Baives 81.11 335⇑*iP* P 18 53 57.8 -0.3
BAIF pmax pmax
comp=Z,8.0nm,0.8s
BAIF Baives 81.11 335⇑*iP* P 18 53 57.8 -0.3
comp=Z,8.3nm,0.8s
W28A Vega 81.11 50 ⇑P P 18 53 59.3 +0.8
baz=81
MOTA Moosalm 81.14 330⇑*iP* P 18 53 58.7 +0.2
comp=Z,16nm,0.6s,SNR=20
T31A Randall Ranch, 81.14 47 ⇓P P 18 53 59.0 +0.4
baz=81
RETA Reutte 81.14 330⇑*iP* P 18 53 58.7 +0.3
comp=Z,12nm,0.9s,SNR=5.5
KNT Kendrikon 81.17 319 *eP* P 18 53 58.7 +0.1
VAY Valandovo 81.20 320 *iP* P 18 53 58.3 -0.4
comp=Z,25nm,1.1s
SKO Skopje 81.22 321 *iP* P 18 53 59.3 +0.4
comp=Z,30nm,0.8s
JAVS Javornik 81.23 328 *iP* P 18 53 58.0 -0.9
OUR Ouranopolis 81.28 318 *eP* P 18 53 59.4 +0.2
BFO Black Forest 81.28 332 *iP* P 18 53 59.4 +0.3
BFO Black Forest 81.28 332 *eP* P 18 53 58.9 -0.2
comp=Z,10.0nm,0.9s
T32A Huddler Ranch, 81.48 46 ⇓P P 18 54 00.9 +0.5
baz=81
HORT Hortiatis 81.51 319 *eP* P 18 53 59.7 -0.8
PLG Polygyros 81.51 319 *eP* P 18 54 00.3 -0.2
FETA Feichten 81.55 330⇑*iP* P 18 54 00.9 +0.2
comp=Z,8.1nm,0.8s
GRG Griva 81.56 320 *eP* P 18 54 00.7 0.0
CDF Champ du Feu 81.57 333⇑*iP* P 18 54 00.6 -0.1
comp=Z,20nm,0.8s
CDF Champ du Feu 81.57 333⇑*iP* P 18 54 00.6 -0.1
CDF pmax pmax
comp=Z,20nm,0.8s
CDF Champ du Feu 81.57 333⇑*iP* P 18 54 00.6 -0.1
comp=Z,20nm,0.8s
DAVA Damuels 81.63 331⇑*iP* P 18 54 01.3 +0.1
comp=Z,14nm,0.7s,SNR=6.8
UDBI Udbina 81.66 326 P P 18 54 00.5 -0.7
AMTX Amarillo 81.68 50 ⇓P P 18 54 02.2 +0.7
baz=81
MSTX Muleshoe 81.73 51 ⇑P P 18 54 02.5 +0.7
baz=82
PAIG Paliouri 81.74 318 *eP* P 18 54 01.6 0.0
ECH Echery 81.78 333 *eP* P 18 54 01.1 -0.6
ECH pmax pmax
comp=Z,10.0nm,0.8s
ECH Echery 81.78 333 *eP* P 18 54 01.1 -0.6
comp=Z,10nm,0.8s
MNTX Cornudas Mount 81.85 54 ⇑P P 18 54 03.6 +1.3
baz=82
PAGF Fort de Pagny 81.95 334⇑*iP* P 18 54 02.8 +0.2
comp=Z,15nm,0.7s
PAGF Fort de Pagny 81.95 334⇑*iP* P 18 54 02.8 +0.2
comp=Z,15nm,0.7s
NVLJ Novalja 82.00 326 P P 18 54 01.6 -1.3
V31A Spring Creek L 82.04 48 ⇓P P 18 54 04.3 +1.0
baz=82
FNA Florina 82.18 320 *eP* P 18 54 04.1 +0.1
LIT Litokhoron 82.19 319 *eP* P 18 54 03.5 -0.5
STON Ston 82.19 324 P P 18 54 02.6 -1.3
MEZF Maizieres J'vi 82.22 334⇑*iP* P 18 54 04.1 +0.1
comp=Z,22nm,0.8s
MEZF Maizieres J'vi 82.22 334⇑*iP* P 18 54 04.1 +0.1
comp=Z,22nm,0.8s
HINF Hinteralfeld 82.23 333⇑*iP* P 18 54 03.6 -0.5
comp=Z,5.6nm,0.7s
HINF Hinteralfeld 82.23 333⇑*iP* P 18 54 03.6 -0.5
HINF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 82.23 333⇑*iP* P 18 54 03.6 -0.5
comp=Z,5.6nm,0.7s
AOS Alonnisos 82.23 318 *eP* P 18 54 04.1 -0.1
HAU Haudompre 82.23 333⇑*iP* P 18 54 03.7 -0.4
comp=Z,13nm,0.7s
HAU *eR*
comp=Z,88nm,21.5s
HAU Haudompre 82.23 333⇑*iP* P 18 54 03.7 -0.4
HAU pmax pmax
comp=Z,13nm,0.7s
HAU Haudompre 82.23 333⇑*iP* P 18 54 03.7 -0.4
comp=Z,13nm,0.7s
XOR Xorichti 82.42 318 *eP* P 18 54 04.7 -0.5
W31A Holland Ranch, 82.42 48 ⇓P P 18 54 06.2 +0.9
baz=82
Z28A Tucker Farm, M 82.44 51 ⇑P P 18 54 06.8 +1.2
baz=82
NEO Neokhori 82.45 318 *eP* P 18 54 04.6 -0.8
U33A Lingo Farm, Me 82.47 46 ⇓P P 18 54 06.0 +0.5
baz=82
SFTF Sexfontaines 82.48 334⇑*iP* P 18 54 05.2 -0.2
comp=Z,37nm,0.9s
SFTF Sexfontaines 82.48 334⇑*iP* P 18 54 05.2 -0.2
comp=Z,37nm,0.9s
V32A Arapaho 82.51 47 ⇑P P 18 54 06.9 +1.1
baz=82
TUE Stuetta 82.52 331 *eP* P 18 54 05.9 0.0
comp=Z,11nm,0.8s
NEST Nestorio 82.63 320 *eP* P 18 54 06.2 -0.2
MRKA Markates 82.73 318 *eP* P 18 54 06.1 -0.8
U34A Anderson Ranch 82.78 46 ⇓P P 18 54 07.7 +0.6
baz=82
SMIA Simia 82.78 318 *eP* P 18 54 06.8 -0.3
S36A Lake Cedric, C 82.81 44 ⇓P P 18 54 07.8 +0.5
baz=82
X31A McDonald Ranch 82.81 49 ⇓P P 18 54 08.5 +1.2
baz=83
V33A Lossen Ranch, 82.84 47 ⇑P P 18 54 08.3 +0.8
baz=83
W32A Sentinel 82.84 48 ⇓P P 18 54 08.7 +1.1
baz=83
Z29A Hungry Hill Ra 82.85 51 ⇓P P 18 54 08.5 +0.8
baz=83
Y30A Stafford Cattl 82.86 50 ⇑P P 18 54 08.8 +1.2
baz=83
128A Castleberry Fa 82.88 52 ⇑P P 18 54 08.7 +0.9
baz=83
LKR Lokris 83.06 318 *eP* P 18 54 07.6 -0.9
AGG Agios Georgios 83.10 318 *eP* P 18 54 07.5 -1.3
AXAR Agios Charalam 83.14 318 *eP* P 18 54 08.3 -0.7
Z30A Sanderson Ranc 83.16 50 ⇑P P 18 54 09.8 +0.6
baz=83
228A UT Block 9, Go 83.18 52 ⇑P P 18 54 10.6 +1.2
baz=83
MAKR Makrakomi, Fth 83.21 319 *eP* P 18 54 08.3 -1.0
V34A Guthrie 83.24 46 ⇑P P 18 54 10.5 +1.0
baz=83
JAN Janina 83.32 320 *eP* P 18 54 10.3 +0.4
X32A Elmer 83.35 48 ⇓P P 18 54 10.9 +0.8
baz=83
EVR Evrytania 83.44 319 *eP* P 18 54 10.0 -0.6
CABF La Chapelle 83.53 333 *eP* P 18 54 10.8 -0.2
comp=Z,14nm,0.9s
CABF pmax pmax
comp=Z,14nm,0.9s
CABF La Chapelle 83.53 333 *eP* P 18 54 10.8 -0.2
comp=Z,14nm,0.9s
W34A Bridge Creek, 83.56 47 ⇓P P 18 54 12.0 +0.8
baz=83
DSL Palaion Diasel 83.61 319 *eP* P 18 54 11.3 -0.1
FLN La Foliniere 83.64 338⇑*iP* P 18 54 10.9 -0.4
comp=Z,15nm,0.7s
FLN *eR*
comp=Z,126nm,23.0s
FLN La Foliniere 83.64 338⇑*iP* P 18 54 10.9 -0.4
FLN pmax pmax
comp=Z,15nm,0.7s
FLN La Foliniere 83.64 338⇑*iP* P 18 54 10.9 -0.4
comp=Z,15nm,0.7s
IGT Igoumenitsa 83.66 320 *eP* P 18 54 11.1 -0.5
LOR Lormes 83.69 334⇑*iP* P 18 54 11.3 -0.3
comp=Z,26nm,0.8s
LOR *eR*
comp=Z,85nm,22.0s
LOR Lormes 83.69 334⇑*iP* P 18 54 11.3 -0.3
LOR pmax pmax
comp=Z,26nm,0.8s
LOR Lormes 83.69 334⇑*iP* P 18 54 11.3 -0.3
comp=Z,26nm,0.8s
KALE Kalithea 83.69 318 *eP* P 18 54 10.2 -1.7
Z31A Sharp Cattle R 83.69 50 ⇑P P 18 54 12.4 +0.4

	baz=84								
LDF	**La Druitiere**	**83.69**	**337**	⇑	*i*P		**P**	**18 54 11.2**	**-0.4**
	comp=Z,12nm,0.7s								
LDF	**La Druitiere**	**83.69**	**337**	⇑	*i*P		**P**	**18 54 11.2**	**-0.4**
LDF					pmax	pmax			
	comp=Z,12nm,0.7s								
LDF	**La Druitiere**	**83.69**	**337**	⇑	*i*P		**P**	**18 54 11.2**	**-0.4**
	comp=Z,12nm,0.7s								
229A	**Bryant Ranch,**	**83.74**	**52**	⇓	P		**P**	**18 54 12.7**	**+0.5**
	baz=84								
KEK	**Kerkira**	**83.77**	**320**		*e*P		**P**	**18 54 12.4**	**+0.2**
EFP	**Efpalio**	**83.78**	**318**		*e*P		**P**	**18 54 12.1**	**-0.1**
GUR	**Goura**	**83.94**	**318**		*e*P		**P**	**18 54 11.9**	**-1.3**
KLV	**Kalavryta, Ach**	**83.95**	**318**		*e*P		**P**	**18 54 12.1**	**-1.1**
SSF	**Saint Saulge**	**83.98**	**334**	⇑	*i*P		**P**	**18 54 12.9**	**-0.2**
	comp=Z,17nm,0.9s								
SSF	**Saint Saulge**	**83.98**	**334**	⇑	*i*P		**P**	**18 54 12.9**	**-0.2**
SSF					pmax	pmax			
	comp=Z,17nm,0.9s								
SSF	**Saint Saulge**	**83.98**	**334**	⇑	*i*P		**P**	**18 54 12.9**	**-0.2**
	comp=Z,17nm,0.9s								
X34A	**Smith Ranch, M**	**84.00**	**47**	⇑	P		**P**	**18 54 14.1**	**+0.6**
	baz=84								
Y33A	**Hilltop Ranch,**	**84.02**	**48**	⇓	P		**P**	**18 54 14.2**	**+0.6**
	baz=84								
HYF	**Humbligny**	**84.07**	**335**		*e*P		**P**	**18 54 13.7**	**+0.1**
HYF	**Humbligny**	**84.07**	**335**		*e*P		**P**	**18 54 13.7**	**+0.1**
GRR	**Gorron**	**84.09**	**338**	⇑	*i*P		**P**	**18 54 13.6**	**0.0**
	comp=Z,12nm,0.7s								
GRR	**Gorron**	**84.09**	**338**	⇑	*i*P		**P**	**18 54 13.6**	**0.0**
GRR					pmax	pmax			
	comp=Z,12nm,0.7s								
GRR	**Gorron**	**84.09**	**338**	⇑	*i*P		**P**	**18 54 13.6**	**0.0**
	comp=Z,12nm,0.7s								
TUL1	**Leonard**	**84.09**	**45**	⇑	P		**P**	**18 54 14.3**	**+0.4**
	baz=84								
ZKR	**Zakros**	**84.13**	**314**		*e*P		**P**	**18 54 14.3**	**+0.2**
230A	**Sterling City**	**84.20**	**51**	⇓	P		**P**	**18 54 15.3**	**+0.7**
	baz=84								
DRO	**Drossia**	**84.24**	**318**		*e*P		**P**	**18 54 14.8**	**+0.2**
SMF	**Signal de Mont**	**84.24**	**334**	⇑	*i*P		**P**	**18 54 14.4**	**-0.1**
	comp=Z,35nm,0.8s								
SMF	**Signal de Mont**	**84.24**	**334**	⇑	*i*P		**P**	**18 54 14.4**	**-0.1**
SMF					pmax	pmax			
	comp=Z,35nm,0.8s								
SMF	**Signal de Mont**	**84.24**	**334**	⇑	*i*P		**P**	**18 54 14.4**	**-0.1**
	comp=Z,35nm,0.8s								
LPL	**La Plagne**	**84.27**	**332**	⇑	*i*P		**P**	**18 54 15.1**	**+0.2**
	comp=Z,16nm,0.8s								
LPL	**La Plagne**	**84.27**	**332**	⇑	*i*P		**P**	**18 54 15.1**	**+0.2**
LPL					pmax	pmax			
	comp=Z,17nm,0.8s								
LPL	**La Plagne**	**84.27**	**332**	⇑	*i*P		**P**	**18 54 15.1**	**+0.2**
	comp=Z,16nm,0.8s								
AVF	**Avril sur Loir**	**84.27**	**334**	⇑	*i*P		**P**	**18 54 14.6**	**0.0**
	comp=Z,32nm,0.8s								
AVF	**Avril sur Loir**	**84.27**	**334**	⇑	*i*P		**P**	**18 54 14.6**	**0.0**
AVF					pmax	pmax			
	comp=Z,32nm,0.8s								
AVF	**Avril sur Loir**	**84.27**	**334**	⇑	*i*P		**P**	**18 54 14.6**	**0.0**
	comp=Z,32nm,0.8s								
LPG	**La Plagne**	**84.28**	**332**	⇑	*i*P		**P**	**18 54 15.3**	**+0.3**
	comp=Z,26nm,0.9s								
LPG	**La Plagne**	**84.28**	**332**	⇑	*i*P		**P**	**18 54 15.3**	**+0.3**
LPG					pmax	pmax			
	comp=Z,26nm,0.9s								
LPG	**La Plagne**	**84.28**	**332**	⇑	*i*P		**P**	**18 54 15.3**	**+0.3**
	comp=Z,26nm,0.9s								
RLS	**Riolos of Patr**	**84.28**	**318**		*e*P		**P**	**18 54 15.1**	**+0.3**
NPS	**Neapolis**	**84.34**	**314**		*e*P		**P**	**18 54 15.7**	**+0.5**
PMOR	**Pomariorio Ree**	**84.41**	**116**		*e*T		T	20 26 41.9	
	comp=Z,45nm,0.3s								
Z33A	**Whitaker Ranch**	**84.48**	**49**	⇑	P		**P**	**18 54 16.6**	**+0.6**
	baz=84								
LAST	**Lasithi**	**84.49**	**314**		*e*P		**P**	**18 54 16.1**	**+0.1**
330A	**Mertzon**	**84.52**	**52**	⇑	P		**P**	**18 54 16.9**	**+0.7**
	baz=84								
Y34A	**Reagan Ranch,**	**84.53**	**48**	⇓	P		**P**	**18 54 16.9**	**+0.7**
	baz=84								
AMT	**Artemida-Makis**	**84.57**	**318**		*e*P		**P**	**18 54 15.9**	**-0.4**
TXAR	**Lajitas Array**	**84.57**	**55**		P		**P**	**18 54 17.2**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=298,slow=3.6,SNR=48								
TXAR					pP		**pP**	**18 54 31.9**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=301,slow=3.7,SNR=13								
VLI	**Velíai**	**84.60**	**317**		*e*P		**P**	**18 54 15.0**	**-1.4**
VLS	**Valsamata**	**84.61**	**319**		*e*P		**P**	**18 54 16.1**	**-0.4**
231A	**Bronte**	**84.62**	**51**	⇓	P		**P**	**18 54 17.4**	**+0.7**
	baz=84								
BGF	**Bois d'Agland**	**84.64**	**335**		*e*P		**P**	**18 54 16.4**	**0.0**
	comp=Z,13nm,0.6s								
BGF	**Bois d'Agland**	**84.64**	**335**		*e*P		**P**	**18 54 16.4**	**0.0**
BGF					pmax	pmax			
	comp=Z,13nm,0.6s								
BGF	**Bois d'Agland**	**84.64**	**335**		*e*P		**P**	**18 54 16.4**	**0.0**
	comp=Z,13nm,0.6s								
SGMF	**Saint Gilles**	**84.67**	**339**	⇑	*i*P		**P**	**18 54 16.8**	**+0.2**
	comp=Z,35nm,1.0s								
SGMF	**Saint Gilles**	**84.67**	**339**	⇑	*i*P		**P**	**18 54 16.8**	**+0.2**
SGMF					pmax	pmax			
	comp=Z,35nm,1.0s								
SGMF	**Saint Gilles**	**84.67**	**339**	⇑	*i*P		**P**	**18 54 16.8**	**+0.2**
	comp=Z,35nm,1.0s								
429A	**Davenport Ranc**	**84.68**	**53**	⇓	P		**P**	**18 54 17.7**	**+0.6**
	baz=84								
BNI	**Bardonecchia**	**84.69**	**332**		*e*P		**P**	**18 54 16.7**	**-0.2**
BNI					pmax	pmax			
	comp=Z,9.0nm,1.0s								
BNI	**Bardonecchia**	**84.69**	**332**		*e*P		**P**	**18 54 16.7**	**-0.2**
	comp=Z,9.4nm,1.0s								
ITM	**Ithomi**	**84.74**	**318**		*e*P		**P**	**18 54 16.3**	**-0.9**
SFIN	**Lafayette**	**84.76**	**37**	⇓	P		**P**	**18 54 17.5**	**+0.4**
	baz=84								
ROSF	**Rostrenen**	**84.79**	**339**	⇑	*i*P		**P**	**18 54 17.5**	**+0.4**
	comp=Z,39nm,1.0s								
ROSF	**Rostrenen**	**84.79**	**339**	⇑	*i*P		**P**	**18 54 17.5**	**+0.4**
ROSF					pmax	pmax			
	comp=Z,39nm,1.0s								
ROSF	**Rostrenen**	**84.79**	**339**	⇑	*i*P		**P**	**18 54 17.5**	**+0.4**
	comp=Z,39nm,1.0s								
529A	**Stev Forest Ra**	**84.86**	**53**	⇓	P		**P**	**18 54 19.2**	**+1.3**
	baz=85								
133A	**Hamilton Ranch**	**84.91**	**49**	⇑	P		**P**	**18 54 19.2**	**+1.1**
	baz=85								
MBDF	**Montbardon**	**84.94**	**331**	⇑	*i*P		**P**	**18 54 17.8**	**-0.4**
	comp=Z,9.5nm,0.6s								
MBDF	**Montbardon**	**84.94**	**331**	⇑	*i*P		**P**	**18 54 17.8**	**-0.4**
MBDF					pmax	pmax			
	comp=Z,10.0nm,0.6s								
MBDF	**Montbardon**	**84.94**	**331**	⇑	*i*P		**P**	**18 54 17.8**	**-0.4**
	comp=Z,9.5nm,0.6s								
SIVA	**Sivas**	**84.95**	**314**		*e*P		**P**	**18 54 18.4**	**+0.2**
232A	**Coleman**	**85.03**	**50**	⇓	P		**P**	**18 54 19.4**	**+0.7**
	baz=85								
PYL	**PYLOS**	**85.06**	**318**		*e*P		**P**	**18 54 17.5**	**-1.2**
ANKY	**Antikythira Is**	**85.07**	**316**		*e*P		**P**	**18 54 18.0**	**-0.8**
TCF	**Toulx Ste Croi**	**85.08**	**335**	⇑	*i*P		**P**	**18 54 18.8**	**+0.1**
	comp=Z,9.7nm,0.7s								
TCF	**Toulx Ste Croi**	**85.08**	**335**	⇑	*i*P		**P**	**18 54 18.8**	**+0.1**
TCF					pmax	pmax			
	comp=Z,10.0nm,0.7s								
TCF	**Toulx Ste Croi**	**85.08**	**335**	⇑	*i*P		**P**	**18 54 18.8**	**+0.1**
	comp=Z,9.7nm,0.7s								
ORIF	**Oris-en-Rattie**	**85.08**	**332**	⇑	*i*P		**P**	**18 54 19.1**	**+0.3**
	comp=Z,14nm,0.8s								
ORIF					*e*R				
	comp=Z,108nm,22.0s								
ORIF	**Oris-en-Rattie**	**85.08**	**332**	⇑	*i*P		**P**	**18 54 19.1**	**+0.3**
ORIF					pmax	pmax			
	comp=Z,14nm,0.8s								
ORIF	**Oris-en-Rattie**	**85.08**	**332**	⇑	*i*P		**P**	**18 54 19.1**	**+0.3**
	comp=Z,14nm,0.8s								
KARN	**Karanos**	**85.12**	**315**		*e*P		**P**	**18 54 19.0**	**-0.1**
QUIF	**Quistinic**	**85.14**	**339**		*e*P		**P**	**18 54 19.1**	**+0.2**
	comp=Z,27nm,1.0s								
QUIF	**Quistinic**	**85.14**	**339**		*e*P		**P**	**18 54 19.1**	**+0.2**
QUIF					pmax	pmax			
	comp=Z,27nm,1.0s								
QUIF	**Quistinic**	**85.14**	**339**		*e*P		**P**	**18 54 19.1**	**+0.2**
	comp=Z,27nm,1.0s								
PPT2	**Papeete2**	**85.21**	**119**		*e*LR		LR	19 20 49.8	
	comp=Z,378nm,30.8s								
Z35A	**Perchaven, San**	**85.28**	**48**	⇑	P		**P**	**18 54 20.5**	**+0.6**
	baz=85								
530A	**J-C Ranch, Com**	**85.35**	**53**	⇓	P		**P**	**18 54 21.7**	**+1.3**
	baz=85								
233A	**Rising Star**	**85.36**	**50**	⇓	P		**P**	**18 54 21.1**	**+0.8**
	baz=85								
332A	**Millersview**	**85.36**	**51**	⇑	P		**P**	**18 54 21.2**	**+0.8**
	baz=85								
431A	**Sonora**	**85.38**	**52**	⇓	P		**P**	**18 54 21.5**	**+1.0**
	baz=85								
SBF	**Sospel**	**85.45**	**330**	⇑	*i*P		**P**	**18 54 20.1**	**-0.6**
	comp=Z,35nm,0.6s								
SBF	**Sospel**	**85.45**	**330**	⇑	*i*P		**P**	**18 54 20.1**	**-0.6**
SBF					pmax	pmax			
	comp=Z,35nm,0.6s								
SBF	**Sospel**	**85.45**	**330**	⇑	*i*P		**P**	**18 54 20.1**	**-0.6**
	comp=Z,35nm,0.6s								
MFF	**Saint Martin d**	**85.50**	**337**	⇑	*i*P		**P**	**18 54 21.1**	**+0.3**
	comp=Z,29nm,0.9s								
MFF	**Saint Martin d**	**85.50**	**337**	⇑	*i*P		**P**	**18 54 21.1**	**+0.3**
MFF					pmax	pmax			
	comp=Z,29nm,0.9s								
MFF	**Saint Martin d**	**85.50**	**337**	⇑	*i*P		**P**	**18 54 21.1**	**+0.3**
	comp=Z,29nm,0.9s								
VIVF	**Saint-Julien-l**	**85.55**	**333**	⇑	*i*P		**P**	**18 54 21.4**	**+0.3**
	comp=Z,17nm,0.8s								
VIVF	**Saint-Julien-l**	**85.55**	**333**	⇑	*i*P		**P**	**18 54 21.4**	**+0.3**
VIVF					pmax	pmax			
	comp=Z,17nm,0.8s								
VIVF	**Saint-Julien-l**	**85.55**	**333**	⇑	*i*P		**P**	**18 54 21.4**	**+0.3**
	comp=Z,17nm,0.8s								
432A	**Menard**	**85.71**	**51**	⇑	P		**P**	**18 54 22.8**	**+0.7**
	baz=86								
234A	**Clairette**	**85.79**	**49**	⇓	P		**P**	**18 54 23.3**	**+0.8**
	baz=86								
531A	**Rocksprings**	**85.80**	**52**	⇓	P		**P**	**18 54 23.5**	**+0.8**
	baz=86								
333A	**Richland Sprin**	**85.83**	**50**	⇑	P		**P**	**18 54 23.4**	**+0.7**
	baz=86								
JCT	**Junction City**	**86.00**	**51**	⇓	P		**P**	**18 54 24.1**	**+0.6**
	baz=86								
FRF	**La Foret Royal**	**86.00**	**331**		*e*P		**P**	**18 54 23.1**	**-0.2**
	comp=Z,21nm,0.9s								
FRF	**La Foret Royal**	**86.00**	**331**		*e*P		**P**	**18 54 23.1**	**-0.2**
FRF					pmax	pmax			
	comp=Z,21nm,0.9s								
FRF	**La Foret Royal**	**86.00**	**331**		*e*P		**P**	**18 54 23.1**	**-0.2**
	comp=Z,21nm,0.9s								
PGF	**Pioggiola**	**86.00**	**329**	⇑	*i*P		**P**	**18 54 23.0**	**-0.5**
PGF	**Pioggiola**	**86.00**	**329**	⇑	*i*P		**P**	**18 54 23.0**	**-0.5**
PGF	**Pioggiola**	**86.00**	**329**	⇑	*i*P		**P**	**18 54 23.0**	**-0.5**
SMRF	**Simiane la Rot**	**86.01**	**332**		*e*P		**P**	**18 54 23.8**	**+0.4**
SMRF	**Simiane la Rot**	**86.01**	**332**		*e*P		**P**	**18 54 23.8**	**+0.4**
RJF	**Les Rejaudoux**	**86.17**	**335**	⇑	*i*P		**P**	**18 54 24.6**	**+0.5**
	comp=Z,18nm,0.8s								
RJF					*e*R				
	comp=Z,170nm,23.0s								
RJF	**Les Rejaudoux**	**86.17**	**335**	⇑	*i*P		**P**	**18 54 24.6**	**+0.5**
RJF					pmax	pmax			
	comp=Z,18nm,0.8s								
RJF	**Les Rejaudoux**	**86.17**	**335**	⇑	*i*P		**P**	**18 54 24.6**	**+0.5**
	comp=Z,18nm,0.8s								
433A	**Art**	**86.20**	**51**	⇑	P		**P**	**18 54 25.2**	**+0.7**
	baz=86								
532A	**Rocksprings**	**86.20**	**52**	⇑	P		**P**	**18 54 25.2**	**+0.6**
	baz=86								
334A	**Lometa**	**86.24**	**50**	⇓	P		**P**	**18 54 25.4**	**+0.6**
	baz=86								
LMR	**La Mourre**	**86.25**	**331**	⇑	*i*P		**P**	**18 54 24.3**	**-0.2**
	comp=Z,64nm,0.9s								
LMR	**La Mourre**	**86.25**	**331**	⇑	*i*P		**P**	**18 54 24.3**	**-0.2**
LMR					pmax	pmax			
	comp=Z,64nm,0.9s								
LMR	**La Mourre**	**86.25**	**331**	⇑	*i*P		**P**	**18 54 24.3**	**-0.2**
	comp=Z,64nm,0.9s								
MIAR	**Mount Ida**	**86.30**	**45**		*e*P		**P**	**18 54 24.5**	**-0.4**
MIAR					*e**PP		**pP**	**18 54 39.6**	**-0.8**
MIAR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
MIAR	**Mount Ida**	**86.30**	**45**		*e*P		**P**	**18 54 24.5**	**-0.4**
	comp=Z,4.5nm,0.7s								
MIAR					*e*pP		**pP**	**18 54 39.6**	**-0.8**
CAF	**Calviac**	**86.34**	**334**		*e*P		**P**	**18 54 25.9**	**+0.9**
	comp=Z,29nm,0.8s								
CAF	**Calviac**	**86.34**	**334**		*e*P		**P**	**18 54 25.9**	**+0.9**
CAF					pmax	pmax			
	comp=Z,29nm,0.8s								
CAF	**Calviac**	**86.34**	**334**		*e*P		**P**	**18 54 25.9**	**+0.9**
	comp=Z,29nm,0.8s								
MEH	**Mehetia**	**86.39**	**118**		*e*T		T	20 29 12.6	
	comp=Z,13nm,0.2s								
LASF	**Ste Croix**	**86.51**	**333**	⇑	*i*P		**P**	**18 54 26.4**	**+0.6**
	comp=Z,19nm,0.9s								
LASF	**Ste Croix**	**86.51**	**333**	⇑	*i*P		**P**	**18 54 26.4**	**+0.6**
	comp=Z,19nm,0.9s								
LFF	**La Frestale**	**86.74**	**335**	⇑	*i*P		**P**	**18 54 27.7**	**+0.8**
	comp=Z,40nm,0.8s								
LFF	**La Frestale**	**86.74**	**335**	⇑	*i*P		**P**	**18 54 27.7**	**+0.8**
LFF					pmax	pmax			
	comp=Z,40nm,0.8s								
LFF	**La Frestale**	**86.74**	**335**	⇑	*i*P		**P**	**18 54 27.7**	**+0.8**
	comp=Z,40nm,0.8s								
H06S1	**SOCORRO T**	**87.46**	**67**		T		T	20 30 57.6	
	SNR=16								
MTLF	**Montolieu**	**87.71**	**334**	⇑	*i*P		**P**	**18 54 32.3**	**+0.7**
	comp=Z,12nm,0.7s								
MTLF	**Montolieu**	**87.71**	**334**	⇑	*i*P		**P**	**18 54 32.3**	**+0.7**
MTLF					pmax	pmax			
	comp=Z,12nm,0.7s								
MTLF	**Montolieu**	**87.71**	**334**	⇑	*i*P		**P**	**18 54 32.3**	**+0.7**
	comp=Z,12nm,0.7s								
340A	**Bronson**	**88.56**	**47**	⇓	P		**P**	**18 54 36.7**	**+0.9**
	baz=88								
EPF	**Esparros**	**88.59**	**335**	⇑	*i*P		**P**	**18 54 36.6**	**+0.7**
	comp=Z,5.2nm,0.6s								
EPF	**Esparros**	**88.59**	**335**	⇑	*i*P		**P**	**18 54 36.6**	**+0.7**
EPF					pmax	pmax			
	comp=Z,5.0nm,0.6s								
EPF	**Esparros**	**88.59**	**335**	⇑	*i*P		**P**	**18 54 36.6**	**+0.7**
	comp=Z,5.2nm,0.6s								
ETSF	**Etsaut**	**88.99**	**335**	⇑	*i*P		**P**	**18 54 38.4**	**+0.6**
	comp=Z,12nm,0.7s								
ETSF	**Etsaut**	**88.99**	**335**	⇑	*i*P		**P**	**18 54 38.4**	**+0.6**
ETSF					pmax	pmax			
	comp=Z,13nm,0.7s								
ETSF	**Etsaut**	**88.99**	**335**	⇑	*i*P		**P**	**18 54 38.4**	**+0.6**
	comp=Z,12nm,0.7s								
SJPF	**Ste Jean**	**89.00**	**336**		*e*P		**P**	**18 54 37.6**	**-0.1**
	comp=Z,20nm,1.1s								
SJPF	**Ste Jean**	**89.00**	**336**		*e*P		**P**	**18 54 37.6**	**-0.1**
SJPF					pmax	pmax			
	comp=Z,20nm,1.1s								
SJPF	**Ste Jean**	**89.00**	**336**		*e*P		**P**	**18 54 37.6**	**-0.1**
	comp=Z,20nm,1.1s								
TBI	**Tubuai**	**89.53**	**123**		*e*LR		LR	18 55 57.7	
	comp=Z,184nm,27.5s								
TBI	**Tubuai**	**89.53**	**123**		*e*T		T	20 33 12.3	
	comp=Z,9.0nm,0.3s								
KEST	**Kesra**	**91.70**	**325**		P		**P**	**18 54 50.2**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=10,slow=5.4,SNR=5.2								
ESDC	**Sonseca Array**	**92.97**	**336**		P		**P**	**18 54 56.1**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=9.8,slow=4.2,SNR=11								
TORD	**Torodi Ar. Bea**	**114.66**	**320**		PKP		PKPdf	19 00 22.6	-0.9
	comp=Z,1.4nm,0.4s,baz=16,slow=2.2,SNR=44								
TORD					PP		PP	19 01 11.4	-9.2
	comp=Z,1.3nm,0.9s,baz=12,slow=6.1,SNR=5.2								
VNDA	**Vanda**	**120.69**	**176**		PKP		**PKPdf**	**19 00 33.7**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=318,slow=4.6,SNR=12								
VNDA					pPKP		**pPKPdf**	**19 00 49.0**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=330,slow=4.9,SNR=5.1								
DBIC	**Dimbokro**	**123.36**	**323**		PKP		**PKPdf**	**19 00 39.5**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=41,slow=2.7,SNR=10								
DBIC	**Dimbokro**	**123.36**	**323**		PKP		**PKPdf**	**19 00 39.5**	**-0.7**
DBIC					*e*PKPdf		**PKPdf**	**19 00 39.6**	**-0.7**
TIC	**Toumodi**	**123.46**	**323**		*e*PKP1		**PKPdf**	**19 00 39.4**	**-1.1**
	comp=Z,7.4nm,0.2s								
KIC	**Kosan Boka**	**123.59**	**323**		*e*PKP1		**PKPdf**	**19 00 39.9**	**-0.8**
	comp=Z,9.9nm,0.7s								
LIC	**Lamto**	**123.84**	**323**		*e*PKIKP		**PKPdf**	**19 00 40.4**	**-0.8**
LIC	**Lamto**	**123.84**	**323**		*e*PKP1		**PKPdf**	**19 00 40.3**	**-0.9**
	comp=Z,30nm,1.4s								
LIC	**Lamto**	**123.84**	**323**		*e*PKPdf		**PKPdf**	**19 00 40.4**	**-0.8**
BOSA	**Boshof**	**129.83**	**266**		PKP		**PKPdf**	**19 00 50.3**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=90,slow=4.0,SNR=3.5								
LPAZ	**La Paz**	**141.42**	**57**		PKhKP		PKPpre	19 01 10.1	
	comp=Z,0.8nm,0.7s,baz=349,slow=5.2,SNR=3.3								
LPAZ					PKP		**PKiKP**	**19 01 16.2**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=292,slow=6.3,SNR=6.9								
SIV	**San Ignacio**	**145.26**	**47**		PKPbc		**PKPab**	**19 01 20.7**	**0.0**
	comp=Z,24nm,0.6s,baz=316,slow=3.1,SNR=65								
LVC	**Limon Verde**	**145.55**	**65**		*e*PKPdf		**PKPab**	**19 01 22.5**	**+0.5**
VNA2	**Neumayer--Watz**	**148.72**	**197**		P		**PKPbc**	**19 01 29.1**	**+0.3**
VNA3	**Neumayer Olymp**	**148.95**	**196**		P		**PKPbc**	**19 01 29.5**	**+0.1**
VNA1	**Neumayer--Stat**	**149.12**	**197**		P		**PKPbc**	**19 01 30.3**	**+0.6**
BDFB	**Brasilia**	**150.67**	**26**		PKPbc		**PKPbc**	**19 01 35.6**	**+0.3**
	comp=Z,16nm,0.7s,baz=103,slow=1.1,SNR=15								
CFAA	**Coronel Fontan**	**151.63**	**77**		PKPbc		**PKPbc**	**19 01 36.7**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=228,slow=0.5,SNR=4.3								
CFAA					pPKPbc		**pPKPbc**	**19 01 52.0**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=246,slow=3.3,SNR=4.1								
PLCA	**Paso Flores**	**153.78**	**97**		PKPbc		**PKPbc**	**19 01 42.3**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=253,slow=1.8,SNR=9.9								
PLCA					pPKPbc		**pPKPbc**	**19 01 56.3**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=311,slow=1.9,SNR=3.9								

*IDC **08** 18:45:21.5±0.8,24°.35S×175°.21W,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.1/31,mbtmp4.1/8,ML3.2/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/27,Error ellipse: s-maj=30.6km s-min=22.6km az=171.0*

*ISCJB **08** 18:45:25.2±0.8,24°.4S±0°.2×175°.3W±0°.1,h33km,mb4.2/10, MS3.3/2,Error ellipse: s-maj=22.2km s-min=17.7km az=12.0*

*NEIC **08** 18:45:28.3±4.7,24°.36S×175°.26W,h47km±40km,mb4.6/3, Error ellipse: s-maj=22.5km s-min=17.2km az=62.0*

ISC 08 18:45:26.9±0.7,24°.4S±0°.2×175°.2W±0°.1,h35km,n21, σ0s91/17,mb4.3/10,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.02**	**274**		*e*P		P	18 49 30.7	+6.8
	30nm,1.0s								
DZM					*e*LR		LR	18 53 39.6	
	164nm,22.5s								
DZM	**Mont Dzumac**	**17.02**	**274**		P		**Pn**	**18 49 22.7**	**+0.3**
	0.1nm,0.3s,baz=98,slow=15,SNR=2.0								
PPT2	**Papeete2**	**24.84**	**79**		*e*LR		LR	18 56 30.5	
	216nm,26.5s								
PPT	**Papeete**	**24.85**	**79**		LR		LR	18 57 35.8	
	comp=Z,44nm,20.2s,baz=212,slow=30								
PMG	**Port Moresby**	**38.81**	**286**		P		**P**	**18 52 48.2**	**-0.4**
	17nm,0.9s,baz=134,slow=6.2,SNR=5.3								
PMG	**Port Moresby**	**38.81**	**286**		*e*P		**P**	**18 52 48.9**	**+0.3**
ASAR	**Alice Springs**	**46.27**	**260**		P		**P**	**18 53 48.9**	**-0.4**
	2.0nm,0.9s,baz=105,slow=7.9,SNR=8.9								
WRAB	**Tennant Creek**	**46.73**	**265**		*e*P		**P**	**18 53 52.0**	**-0.8**
	6.3nm,1.0s								
WRA	**Warramunga Arr**	**46.74**	**265**		P		**P**	**18 53 51.2**	**-1.7**
	3.5nm,0.8s,baz=100,slow=8.2,SNR=8.9								
SBA	**Scott Base**	**54.22**	**185**		*e*P		**P**	**18 54 50.1**	**+1.6**
	5.8nm,0.9s								
VNDA	**Vanda**	**54.33**	**186**		P		**P**	**18 54 50.1**	**+0.7**
	2.6nm,0.9s,baz=4.7,slow=5.2,SNR=11								
QSPA	**South Pole Qui**	**65.72**	**180**		*e*P		**P**	**18 56 07.0**	**-0.9**
	9.5nm,1.2s								
PETK	**Petropavlovsk-**	**80.67**	**344**		LR		LR	19 28 37.1	
	comp=Z,27n

MKAR	**Makanchi Array**	**46.53**	**346**	P		**P**	**19 18 35.0**	**+0.4**
	0.3nm,0.5s,baz=158,slow=9.1,SNR=7.8							
KURBB	**Kurchatov Arra**	**51.02**	**345**	P		**P**	**19 19 08.9**	**-0.1**
	0.2nm,0.3s,baz=163,slow=6.9,SNR=5.4							
ZALV	**Zalesovo Beam**	**52.83**	**351**	P		**P**	**19 19 23.0**	**+0.6**
	1.6nm,0.4s,baz=172,slow=6.3,SNR=14							
BVAR	**Borovoye Array**	**55.56**	**341**	P		**P**	**19 19 41.9**	**-0.4**
	0.5nm,0.5s,baz=147,slow=9.5,SNR=5.6							

*IDC **08** 19:18:19.5±0.8,0°.86S×24°.49W, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, MS3.5/10, Ms1 3.5/10, ms1mx3.3/28, Error ellipse: s-maj=28.1km s-min=20.1km az=153.0*

*NEIC **08** 19:18:20.7±0.5,0°.93S×24°.62W, h10km, mb4.6/2, Error ellipse: s-maj=22.5km s-min=12.4km az=150.0*

*ISCJB **08** 19:18:21.7±0.6,0°.8S±0°.1×24°.40W±0°.09, h22km, mb4.0/13, MS3.5/8, Error ellipse: s-maj=21.1km s-min=12.5km az=162.7*

ISC 08 19:18:23.1±0.7, 0°.9S±0°.2×24°.5W±0°.1, h22km, n31, σ1§92/20, mb4.1/15, MS3.5/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**12.14**	**125**	T	T	19 33 41.6	
	baz=303,slow=74,SNR=253						
H10N2	**ASCENSION HYDR**	**12.15**	**125**	T	T	19 33 40.0	
	baz=303,slow=74,SNR=254						
H10N1	**ASCENSION HYDR**	**12.16**	**125**	T	T	19 33 40.0	
	baz=303,slow=74,SNR=266						
RCBR	**Riachuelo**	**12.38**	**246**	Pn	Pn	19 21 12.8	-5.4
	1.6nm,0.3s,baz=70,slow=16,SNR=15						
RCBR				LR	LR	19 24 51.8	
	comp=Z,215nm,20.1s,baz=129,slow=32						
H10S3	**ASCENSION HYDR**	**12.67**	**130**	T	T	19 34 22.6	
	baz=308,slow=74,SNR=134						
H10S1	**ASCENSION HYDR**	**12.68**	**130**	T	T	19 34 19.1	
	baz=308,slow=74,SNR=172						
H10S2	**ASCENSION HYDR**	**12.69**	**130**	T	T	19 34 23.7	
	baz=308,slow=74,SNR=147						
BBTS	**Babate**	**17.34**	**27**	LR	LR	19 28 12.6	
	comp=Z,98nm,18.5s,baz=139,slow=34						
LIC	**Lamto**	**20.69**	**70**	*eP*	**P**	**19 23 02.2**	**+0.2**
	36nm,1.2s						
TIC	**Toumodi**	**20.84**	**69**	*eP*	**P**	**19 23 01.9**	**-1.7**
	6.3nm,0.2s						
DBIC	**Dimbokro**	**21.00**	**69**	P	**P**	**19 23 03.8**	**-1.5**
	6.9nm,0.8s,baz=228,slow=12,SNR=8.8						
DBIC				LR	LR	19 29 26.1	
	comp=Z,155nm,21.9s,baz=233,slow=32						
KIC	**Kosan Boka**	**21.01**	**70**	*eP*	**P**	**19 23 05.6**	**+0.2**
	15nm,0.8s						
BDFB	**Brasilia**	**27.44**	**236**	LR	LR	19 34 02.5	
	comp=Z,208nm,19.9s,baz=61,slow=34						
TORD	**Torodi Ar. Bea**	**29.49**	**61**	P	**P**	**19 24 25.1**	**-0.9**
	1.4nm,0.9s,baz=242,slow=9.8,SNR=6.9						
TORD				LR	LR	19 34 35.7	
	comp=Z,139nm,20.8s,baz=335,slow=33						
TAM	**Tamanrasset**	**37.54**	**49**	*eP*	**P**	**19 25 38.0**	**+2.0**
	5.5nm,1.1s						
ESDC	**Sonseca Array**	**44.53**	**23**	P	**P**	**19 26 33.1**	**-0.1**
	0.2nm,0.4s,baz=211,slow=7.2,SNR=3.8						
LPAZ	**La Paz**	**45.62**	**248**	P	**P**	**19 26 43.2**	**+0.3**
	1.9nm,0.7s,baz=76,slow=7.2,SNR=7.5						
LPAZ				LR	LR	19 45 18.8	
	comp=Z,55nm,19.2s,baz=81,slow=36						
ROSC	**El Rosal**	**50.09**	**277**	LR	LR	19 48 12.8	
	comp=Z,67nm,18.0s,baz=6.0,slow=36						
BOSA	**Boshof**	**54.90**	**125**	P	**P**	**19 27 53.8**	**+1.2**
	2.6nm,0.9s,baz=297,slow=4.9,SNR=3.1						
GERES	**GERESS Array B**	**59.50**	**28**	P	**P**	**19 28 23.8**	**-0.9**
	0.6nm,0.7s,baz=232,slow=6.6,SNR=5.4						
KMBO	**Kilima Mbogo**	**61.76**	**91**	LR	LR	19 52 18.3	
	comp=Z,92nm,21.1s,baz=90,slow=33						
BRTR	**Keskin Array B**	**66.60**	**46**	P	**P**	**19 29 12.6**	**+0.4**
	0.9nm,0.8s,baz=236,slow=8.7,SNR=4.3						
BRTR				LR	LR	20 00 34.0	
	comp=Z,14nm,18.5s,baz=246,slow=38						
AKASG	**Malin Array Be**	**68.63**	**33**	P	**P**	**19 29 24.7**	**+0.2**
	2.0nm,0.7s,baz=237,slow=7.0,SNR=7.6						
AKASG				LR	LR	20 01 38.7	
	comp=Z,18nm,18.5s,baz=330,slow=38						
FINES	**FINESS Array B**	**73.04**	**23**	P	**P**	**19 29 51.5**	**+0.4**
	0.8nm,0.7s,baz=212,slow=5.8,SNR=3.8						
TXAR	**Lajitas Array**	**80.97**	**300**	P	**P**	**19 30 36.7**	**0.0**
	0.4nm,0.9s,baz=118,slow=7.3,SNR=3.4						
PDAR	**Pinedale Array**	**86.94**	**313**	P	**P**	**19 31 07.2**	**+0.2**
	0.6nm,0.9s,baz=98,slow=6.6,SNR=3.5						
QSPA	**South Pole Qui**	**89.20**	**180**	*eP*	**P**	**19 31 16.8**	**-0.3**
	10.0nm,1.2s						
YKA	**Yellowknife Ar**	**90.81**	**332**	P	**P**	**19 31 24.1**	**-0.3**
	0.8nm,0.7s,baz=98,slow=5.2,SNR=18						
ASAR	**Alice Springs**	**147.33**	**141**	PKPbc	**PKPbc**	**19 38 06.3**	**-1.0**
	2.6nm,0.7s,baz=210,slow=2.3,SNR=39						
AS31	**Alice Springs**	**147.83**	**141**	*e*PKPdf	**PKPbc**	**19 38 05.7**	**-1.6**
WRA	**Warramunga Arr**	**150.71**	**136**	PKPbc	**PKPbc**	**19 38 13.5**	**-1.1**
	1.6nm,0.9s,baz=241,slow=2.4,SNR=14							

KRSC 08 19:39:51.6±1.4, 48°.88N×158°.00E, h17km±32km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.18**	**327**	*eP*	Pn	19 40 28.7	+1.6
SKR				*eS*	Sn	19 40 54.8	+1.1
PAU	**Pauzhetka**	**2.71**	**344**	*eP*	Pn	19 40 36.8	+2.5
PAU				*eS*	Sb	19 41 10.1	-2.3
RUS	**Russkaya**	**3.58**	**5**	*eP*	Pn	19 40 50.0	+3.7
RUS				*eS*	Sn	19 41 32.4	+4.3
MTVR	**Mutnovka**	**3.62**	**2**	*eP*	Pn	19 40 49.5	+2.5
MTVR				*eS*	Sn	19 41 33.4	+4.0
UGLR	**Uglovaya**	**4.37**	**7**	*eP*	Pn	19 41 01.3	+4.0
SPN	**Mys Shipunski**	**4.42**	**16**	P	Pn	19 41 02.0	+4.2
AVH	**Avacha**	**4.42**	**6**	*eP*	Pn	19 41 02.7	+4.7
SMAR	**Somma**	**4.42**	**6**	*eP*	Pn	19 41 01.5	+3.3
KOK	**Koryaka**	**4.44**	**5**	*eP*	Pn	19 41 03.2	+4.9
SDLR	**Sedlovina**	**4.44**	**7**	*eP*	Pn	19 41 02.8	+4.4
KRER	**Koryakskii**	**4.46**	**6**	*eP*	Pn	19 41 03.1	+4.4
KRX	**Arik**	**4.51**	**5**	*eP*	Pn	19 41 03.7	+4.4
GNL	**Ganaly**	**4.83**	**360**	*eP*	Pn	19 41 08.0	+4.4

*IDC **08** 19:46:50.8±3.2,9°.53S×112°.93E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.4/27, mbtmp3.4/5, Error ellipse: s-maj=155.6km s-min=21.4km az=49.0*

*ISCJB **08** 19:46:55.8±0.9,9°.62S±0°.08×112°.89E±0°.07, h36km, mb3.3/5, Error ellipse: s-maj=12.1km s-min=8.1km az=32.9*

*DJA **08** 19:47:01.0±2.0,9°.S±6′×11°.3E±°, h31km±23km, M3.6/13, MLv3.6/13*

ISC 08 19:46:57.0±1.2, 9°.5S±0°.1×112°.91E±0°.06, h36km, n13, σ1§92/15, mb3.3/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.35**	**23**	P	**Pn**	**19 47 19.7**	**+0.5**
PWJI	**Pagerwojo**	**1.85**	**324**	P	**Pn**	**19 47 27.9**	**+1.8**
PWJI				S	Sn	**19 47 48.6**	**+0.4**
BLJI	**Banyuglugur**	**1.89**	**21**	P	**Pn**	**19 47 28.5**	**+1.8**
BLJI				S	**Sn**	**19 47 48.8**	**-0.5**
ABJI	**Asem Bagus**	**2.16**	**37**	P	**Pn**	**19 47 32.4**	**+2.0**
PCJI	**Pacitan**	**2.16**	**307**	P	**Pn**	**19 47 32.7**	**+2.3**
DNP	**Denpasar**	**2.42**	**70**	P	**Pn**	**19 47 37.0**	**+3.0**
WOJI	**Wonogiri, Jawa**	**2.58**	**310**	P	**Pn**	**19 47 38.7**	**+2.5**
SRBI	**Singaraja**	**2.69**	**58**	P	**Pn**	**19 47 40.3**	**+2.7**
WRA	**Warramunga Arr**	**23.14**	**119**	P	**P**	**19 51 59.1**	**-1.2**
	0.4nm,0.7s,baz=301,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**24.50**	**128**	P	**P**	**19 52 11.5**	**-1.6**
	0.3nm,0.7s,baz=304,slow=9.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**31.03**	**334**	P	**P**	**19 53 10.8**	**-0.7**
	0.4nm,0.8s,baz=162,slow=10.0,SNR=4.4						
SONM	**Songino Array**	**57.39**	**355**	P	**P**	**19 56 41.2**	**-0.6**
	0.6nm,0.7s,baz=175,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**62.37**	**337**	P	**P**	**19 57 15.1**	**-0.8**
	0.4nm,0.5s,baz=149,slow=7.6,SNR=10						

*NEIC **08** 19:55:07.0,34°.40S×72°.08W, h15km, ML3.5(GUC), After GUC.*

NEIC Felt [IV] at Pichilemu and [II] at San Antonio, San Fernando and Santo Domingo.

GUC 08 19:55:07.0±0.5, 34°.40S×72°.08W, h15km±6km, ML3.5,

2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.92**	**131**	⇓*iP*	Pb	19 55 22.0	-2.7
NICH				*iS*	Sb	19 55 33.4	-3.3
NICH	**Los Niches**	**0.92**	**131**	⇓*iP*	Pb	19 55 22.0	-2.7
NICH				*iS*	Sb	19 55 33.4	-3.3
TALC	**Talca**	**1.06**	**160**	⇑*iP*	Pb	19 55 24.2	-2.8
TALC				*iS*	Sb	19 55 37.5	-3.1
TALC	**Talca**	**1.06**	**160**	⇑*iP*	Pb	19 55 24.2	-2.8
TALC				*iS*	Sb	19 55 37.5	-3.1
TACH	**Talagante**	**1.21**	**52**	*iP*	Pn	19 55 26.4	-2.9
TACH				*eS*	Sb	19 55 41.2	-3.8
TACH	**Talagante**	**1.21**	**52**	*iP*	Pn	19 55 26.4	-2.9
TACH				*eS*	Sb	19 55 41.2	-3.8
LNCH	**Linares**	**1.49**	**165**	⇓*iP*	Pn	19 55 31.7	-1.6
LNCH				*iS*	Sn	19 55 51.0	-1.4
LNCH				AML	AML	19 55 56.0	
	comp=E,1μm,0.6s						
LNCH	**Linares**	**1.49**	**165**	P	Pn	19 55 31.7	-1.6
LNCH				S	Sn	19 55 51.0	-1.4
SAN	**Santiago**	**1.51**	**52**	*iS*	Sn	19 55 50.3	-2.8
CLCH	**Cerro Calan**	**1.63**	**52**	*eP*	Pn	19 55 33.2	-2.0
CLCH				*iS*	Sn	19 55 53.6	-2.4
CLCH				AML	AML	19 56 01.1	
	comp=N,939nm,0.7s						
CLCH				AML	AML	19 56 01.7	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.71**	**43**	⇓*iP*	Pn	19 55 35.0	-1.4
PEL				*iS*	Sn	19 55 56.1	-1.9
PEL				AML	AML	19 56 02.5	
	comp=N,888nm,0.4s						
PEL	**Peldehue**	**1.71**	**43**	⇓*iP*	Pn	19 55 35.0	-1.4
PEL				*iS*	Sn	19 55 56.1	-1.9
FCH	**Farellones**	**1.83**	**55**	AML	AML	19 55 57.2	
	comp=N,618nm,0.3s						

*ISCJB **08** 20:09:50.7±0.8,23°.52S±0°.07×68°.8W±0°.1, h101km±12km, mb3.7/5, Error ellipse: s-maj=20.2km s-min=10.0km az=16.0*

*IDC **08** 20:09:52.7±1.0,23°.43S×68°.70W, h101km±7km, mb3.6/5, mb1 3.7/7, mb1mx3.5/19, mbtmp3.9/7, Error ellipse: s-maj=32.9km s-min=18.3km az=99.0*

*GUC **08** 20:09:53.2±0.5,23°.36S×69°.11W, h110km±6km, ML3.8*

ISC 08 20:09:52.0±0.8, 23°.51S±0°.07×68°.9W±0°.1, h102km±7km, n15, σ1§46/21, mb3.9/5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**1.00**	**323**	*eP*	**Pn**	**20 10 12.6**	**-0.3**
PB06				*eS*	**Sn**	**20 10 28.0**	**-0.6**
PB06				AML	AML	20 10 28.6	
	comp=E,4μm,0.1s						
PB04	**IPOC Station P**	**1.35**	**337**	*eP*	Pn	20 10 19.9	+3.3
PB04				*eS*	**Sn**	**20 10 40.0**	**+4.9**
PB04				AML	AML	20 10 44.0	
	comp=N,903nm,0.6s						
PB10	**IPOC Station P**	**1.51**	**269**	*eP*	**Pn**	**20 10 18.6**	**+0.1**
PB10				*eS*	**Sn**	**20 10 37.5**	**-1.1**
PB10				AML	AML	20 10 44.4	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**1.73**	**350**	*eP*	**Pn**	**20 10 21.8**	**+0.3**
PB09				*eS*	**Sn**	**20 10 43.5**	**-0.4**
PB07	**IPOC Station P**	**1.99**	**333**	*eP*	**Pn**	**20 10 24.4**	**-0.4**
PB07				*eS*	**Sn**	**20 10 47.9**	**-1.8**
LPAZ	**La Paz**	**7.22**	**6**	P	**Pn**	**20 11 35.4**	**-0.2**
	comp=E,0.7nm,0.3s,baz=185,slow=13,SNR=12						
CFAA	**Coronel Fontan**	**8.09**	**176**	P	**Pn**	**20 11 47.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=0.6,slow=14,SNR=7.8						
SIV	**San Ignacio**	**10.50**	**46**	P	Pn	20 12 16.1	-3.6
	comp=E,2.2nm,0.3s,baz=240,slow=12,SNR=14						
BDFB	**Brasilia**	**21.17**	**72**	P	**P**	**20 14 28.0**	**-1.4**
	comp=E,1.4nm,0.3s,baz=232,slow=12,SNR=4.0						
PTGA	**Pitinga**	**24.25**	**22**	P	**P**	**20 14 58.9**	**-0.7**
	comp=E,1.4nm,0.3s,baz=180,slow=19,SNR=4.7						
SNAA	**Sanae**	**60.39**	**161**	P	**P**	**20 19 51.3**	**+1.0**
	comp=E,0.7nm,0.6s,baz=286,slow=7.1,SNR=9.8						
TORD	**Torodi Ar. Bea**	**78.04**	**70**	P	**P**	**20 21 39.9**	**-0.1**
	comp=E,1.6nm,0.6s,baz=258,slow=5.2,SNR=16						
TORD				pP	**pP**	**20 22 06.3**	**+0.1**
	comp=E,0.2nm,0.5s,baz=252,slow=4.8,SNR=2.8						
YKA	**Yellowknife Ar**	**93.07**	**341**	P	**P**	**20 22 54.7**	**+0.9**
	comp=E,0.1nm,0.4s,baz=139,slow=5.7,SNR=3.9						
YKA				pP	**pP**	**20 23 20.7**	**0.0**
	comp=E,0.1nm,0.3s,baz=132,slow=4.4,SNR=2.7						
WRA	**Warramunga Arr**	**131.22**	**210**	PKP	**PKPdf**	**20 28 53.6**	**+0.6**
	comp=E,0.1nm,0.5s,baz=144,slow=1.5,SNR=4.8						
MKAR	**Makanchi Array**	**147.24**	**38**	PKPbc	**PKPbc**	**20 29 22.3**	**-1.1**
	comp=E,0.5nm,0.6s,baz=325,slow=3.4,SNR=7.2						
MKAR				pPKPbc	**pPKPbc**	**20 29 50.6**	**-0.7**
	comp=E,0.5nm,0.7s,baz=337,slow=2.3,SNR=5.2						

KRSC 08 20:10:16.9±1.9, 50°.89N×157°.71E, h80km±23km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.81**	**316**	*iP*	Pn	20 10 34.8	+1.1
PAU				*eS*	Sn	20 10 48.9	+2.6
SKR	**Severo-Kuril's**	**1.03**	**259**	*iP*	Pn	20 10 37.4	+1.1
SKR				*iS*	Sn	20 10 51.3	+0.5
MIPR	**Malaya Ipel'ka**	**1.51**	**337**	*eP*	Pn	20 10 42.6	+0.2
MTVR	**Mutnovka**	**1.62**	**10**	*eP*	Pn	20 10 45.6	+1.6
MTVR				*eS*	Sn	20 11 06.2	+1.6
RUS	**Russkaya**	**1.63**	**18**	*iP*	Pn	20 10 45.5	+1.7
RUS				*eS*	Sn	20 11 05.3	+1.1
UGLR	**Uglovaya**	**2.42**	**16**	*eP*	Pn	20 10 57.1	+2.5
AVH	**Avacha**	**2.46**	**15**	P	Pn	20 10 57.7	+2.6
SMAR	**Somma**	**2.47**	**15**	*eP*	Pn	20 10 58.1	+2.7
KOK	**Koryaka**	**2.48**	**13**	*eP*	Pn	20 10 57.7	+2.4
NLC	**Nalychevo**	**2.50**	**23**	*eS*	Sn	20 11 26.4	+1.4
SDLR	**Sedlovina**	**2.50**	**16**	*eP*	Pn	20 10 57.7	+2.1
KRER	**Koryakskii**	**2.50**	**14**	*eP*	Pn	20 10 58.2	+2.4
KRX	**Arik**	**2.54**	**13**	*eP*	Pn	20 10 58.5	+2.3
SPN	**Mys Shipunski**	**2.64**	**32**	*eP*	Pn	20 11 00.0	+2.7
SPN				*eS*	Sn	20 11 31.1	+2.8
GNL	**Ganaly**	**2.82**	**3**	P	Pn	20 11 04.3	+4.4
MKZ	**Mys Kozlova**	**4.41**	**32**	*eP*	Pn	20 11 22.8	+1.5
MKZ				*eS*	Sn	20 12 11.7	+0.3
KBTR	**Krutoberegovo**	**6.14**	**28**	P	Pn	20 11 48.6	+3.8

IDC 08 20:19:01.0±11.0, 20°.45S×177°.92W, h574km±104km, mb3.3/4, mb1 3.5/5, mb1mx3.0/19, mbtmp4.3/5, Error ellipse: s-maj=91.9km s-min=63.9km az=106.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.67**	**261**	P	P	20 22 08.6	+1.7
	0.4nm,0.3s,baz=84,slow=17,SNR=5.0						
JAY	**Jayapura**	**44.10**	**288**	P	P	20 26 19.4	-0.2
	8.1nm,0.5s,baz=144,slow=3.0,SNR=7.3						
ASAR	**Alice Springs**	**44.60**	**257**	P	P	20 26 23.2	-0.2
	2.7nm,0.8s,baz=86,slow=8.8,SNR=21						
WRA	**Warramunga Arr**	**44.68**	**262**	P	P	20 26 23.2	-0.7
	0.9nm,0.3s,baz=97,slow=7.6,SNR=68						
CMAR	**Chiang Mai Arr**	**90.17**	**290**	P	P	20 31 02.9	+1.6
	0.7nm,0.9s,baz=116,slow=4.1,SNR=6.8						
BVAR	**Borovoye Array**	**119.09**	**320**	PKP	PKPdf	20 36 45.0	0.0
	0.4nm,0.4s,baz=141,slow=1.8,SNR=4.7						
AKASG	**Malin Array Be**	**143.01**	**331**	PKP	PKPab	20 37 27.5	0.0
	0.9nm,0.5s,baz=42,slow=4.4,SNR=9.4						
BRTR	**Keskin Array B**	**146.87**	**312**	PKPbc	PKPbc	20 37 39.5	-0.5
	0.5nm,0.6s,baz=38,slow=2.6,SNR=2.9						

*ISCJB **08** 20:22:19.5±0.4,36°.56N±0°.04×71°.45E±0°.05, h114km, mb3.5/4, Error ellipse: s-maj=7.3km s-min=4.4km az=139.3*

*IDC **08** 20:22:19.6±4.7,36°.36N×71°.53E, h132km±31km, mb3.2/4, mb1 3.2/9, mb1mx2.9/43, mbtmp3.6/9, Error ellipse: s-maj=56.0km s-min=20.5km az=152.0*

*NNC **08** 20:22:27.8±1.8,37°.06N×71°.18E, h166km±15km, mb2.8, mpv3.8, Error ellipse: s-maj=16.5km s-min=7.1km az=163.0*

ISC 08 20:22:20.1±0.8, 36°.53N±0°.07×71°.45E±0°.07, h114km, n27, σ1§38/32, mb3.5/4, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.08**	**318**	⇓P	Pn	20 23 10.3	+3.0
	23nm,0.4s						
DZET				⇓S	**Sn**	**20 23 44.1**	**+0.3**
	77nm,0.4s						
SFK	**Sufi-Kurgan**	**3.83**	**24**	⇓P	Pn	20 23 21.3	+3.8
	42nm,0.3s						
SFK				⇓S	**Sn**	**20 24 04.6**	**+2.6**
	11nm,0.2s						
MNAS	**Manas**	**6.00**	**7**	⇑P	**Pn**	**20 23 48.1**	**+1.5**
	5.8nm,0.7s						
MNAS				⇑S	**Sn**	**20 24 51.8**	**-2.3**
	5.2nm,0.4s						
AAK	**Ala-Archa**	**6.53**	**20**	⇑P	**Pn**	**20 23 55.9**	**+2.1**
	2.5nm,0.5s						
AAK				⇓S	**Sn**	**20 25 06.6**	**-0.3**
	8.1nm,0.8s						
AAK	**Ala-Archa**	**6.53**	**20**	P	**Pn**	**20 23 55.7**	**+1.9**
	1.6nm,0.3s,baz=192,slow=9.3,SNR=27						
AAK				S	**Sn**	**20 25 06.2**	**-0.8**
	0.6nm,0.3s,baz=316,slow=22,SNR=10						
KK31	**Karatay Array**	**6.60**	**354**	⇓P	**Pn**	**20 23 55.8**	**+1.2**
	2.3nm,0.3s,baz=182,slow=13,SNR=173						
KK31				⇑S	**Sn**	**20 25 04.8**	**-3.6**
	4.6nm,0.6s,baz=177,slow=24,SNR=4.6						
GEYT	**Alibeck**	**10.72**	**281**	P	**Pn**	**20 24 51.6**	**+1.2**
	0.6nm,0.3s,baz=104,slow=11,SNR=8.8						
GEYT				S	**Sn**	**20 26 49.1**	**+0.7**
	0.4nm,0.3s,baz=268,slow=40,SNR=3.6						
PYUN	**Piuthan**	**12.87**	**127**	*eP*	**Pn**	**20 25 20.3**	**+1.2**
	19nm,0.4s						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**Pn**	**20 25 20.7**	**-0.5**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.5						
DANN	**Dangsing**	**13.21**	**125**	*eP*	**Pn**	**20 25 23.1**	**-0.4**
KOLN	**Koldanda**	**13.49**	**127**	*eP*	**Pn**	**20 25 27.7**	**+0.6**
	3.2nm,0.3s						
GKN	**Gorkha**	**14.02**	**124**	*eP*	**Pn**	**20 25 33.7**	**-0.2**
	10nm,0.5s						
KKN	**Kakani**	**14.59**	**123**	*eP*	**Pn**	**20 25 41.1**	**-0.1**
PKIN	**Phulchoki**	**14.80**	**123**	*eP*	Pn	**20 25 44.1**	**+0.1**
	5.4nm,0.3s						
PKI	**Pulchoki**	**14.82**	**123**	*eP*	Pn	**20 25 44.0**	**-0.2**
	3.2nm,0.3s						
GUN	**Gumba**	**14.92**	**121**	*eP*	**Pn**	**20 25 46.1**	**+0.6**
	3.5nm,0.3s						
KURBB	**Kurchatov Arra**	**14.98**	**18**	P	**Pn**	**20 25 47.4**	**+1.6**
	0.0nm,0.3s,baz=202,slow=11,SNR=4.6						
AB31	**Akbulak array**	**15.23**	**330**	⇑P	**Pn**	**20 25 49.6**	**+0.7**
	0.4nm,0.3s,baz=141,slow=12,SNR=23						
AB31				⇑S	Sn	20 28 25.4	-12
	0.4nm,0.4s,baz=150,slow=22,SNR=5.8						
JIRN	**Jiri**	**15.29**	**121**	*eP*	**Pn**	**20 25 51.1**	**+0.9**
	16nm,0.4s						
RAMN	**Ramite**	**16.03**	**122**	*eP*	**P**	**20 26 00.2**	**-0.3**
	4.7nm,0.6s						
ODAN	**Odare**	**16.62**	**121**	*eP*	Pn	**20 26 07.1**	**+0.5**
	5.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.94**	**329**	⇑P	**Pn**	**20 26 10.0**	**0.0**
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**19.74**	**24**	P	**P**	**20 26 39.5**	**-1.2**
	0.3nm,0.3s,baz=215,slow=10,SNR=6.3						
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**20 29 23.4**	**-0.4**
	0.4nm,0.7s,baz=114,slow=6.7,SNR=3.4						
ARCES	**ARCESS Array B**	**41.25**	**337**	P	**P**	**20 29 53.3**	**-0.2**
	2.5nm,1.0s,baz=118,slow=7.3,SNR=2.7						
NOA	**NORSAR Array B**	**44.57**	**323**	P	**P**	**20 30 18.6**	**-1.9**
	0.6nm,0.6s,baz=96,slow=7.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**20 32 53.2**	**-1.9**
	0.7nm,1.2s,baz=50,slow=5.6,SNR=2.7						

*KLM **08** 20:27:56.7, 1°.25N×95°.96E, h10km, mb4.2, MS5.3*

*IDC **08** 20:28:06.9±0.9, 1°.54N×96°.85E, h0km, mb4.1/16, mb1 4.1/17, mb1mx4.0/29, mbtmp4.0/17, ML4.0/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/39, Error ellipse: s-maj=33.9km s-min=17.2km az=48.0*

*ISCJB **08** 20:28:09.1±0.5, 1°.51N±0°.05×96°.93E±0°.04, h28km, mb4.1/20, MS3.4/5, Error ellipse: s-maj=6.8km s-min=5.2km az=28.1*

*DJA **08** 20:28:09.5±1.0, 2°.N±6′×9°.7E±°, h14km±14km, M4.3/9, mb4.5/1, mB4.6/1, MLv4.3/9, Mw(mB)3.8/1*

*NEIC **08** 20:28:12.6±0.5, 1°.66N×96°.95E, h35km, mb4.2/7, Error ellipse: s-maj=9.4km s-min=8.6km az=53.0*

ISC 08 20:28:11.3±0.6, 1°.60N±0°.06×96°.93E±0°.06, h28km, n73, σ0§98/58, mb4.2/20, MS3.3/5, 6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.01**	**323**	P	**Pn**	**20 28 29.0**	**-0.6**
TPTI		**1.67**	**8**	P	**Pn**	**20 28 37.5**	**-1.2**
TPTI				S	**Sb**	**20 29 00.9**	**-1

16nm,1.0s
KOLN Koldanda 28.99 335 *e*P **P 20 34 10.0 +1.0**
7.5nm,0.6s
BATI Baumata 29.07 114 LR LR 20 46 42.2
comp=Z,166nm,18.3s,baz=268,slow=38
H01W3 Cape Leeuwin H 39.71 158 T T 21 18 07.8
baz=333,slow=76,SNR=5.8
H01W2 Cape Leeuwin H 39.72 158 T T 21 18 04.9
baz=333,slow=76,SNR=2.8
H01W1 Cape Leeuwin H 39.72 158 T T 21 18 01.8
baz=333,slow=76,SNR=3.5
WRA Warramunga Arr 42.47 122 P **P 20 36 04.2 -0.1**
0.4nm,0.4s,baz=302,slow=9.2,SNR=15
ASAR Alice Springs 43.84 127 P **P 20 36 15.5 +0.1**
0.7nm,0.6s,baz=299,slow=8.1,SNR=9.2
AAK Ala-Archa 45.53 337 LR LR 20 56 51.7
comp=Z,37nm,20.4s,baz=156,slow=38
KSAR Wonju Array Be 45.65 35 P **P 20 36 29.4 -0.2**
KSRS Korea Array 45.68 35 P **P 20 36 29.4 -0.4**
1.7nm,0.5s,baz=235,slow=7.3,SNR=6.0
SONM Songino Array 46.78 9 P **P 20 36 38.8 +0.3**
3.5nm,0.7s,baz=190,slow=9.2,SNR=38
SONM PcP **PcP 20 38 11.8 +0.4**
0.5nm,0.5s,baz=187,slow=3.6,SNR=5.6
MKAR Makanchi Array 46.80 346 P **P 20 36 38.9 +0.4**
6.0nm,0.7s,baz=161,slow=7.6,SNR=78
MKAR LR LR 21 00 17.9
comp=Z,26nm,19.8s,baz=124,slow=41
ULN Ulaanbaatar 46.92 9 *e*P **P 20 36 39.9 +0.4**
2.4nm,0.9s
TLY Talaya 50.23 5 LR LR 21 01 01.0
comp=Z,58nm,18.5s,baz=175,slow=39
GEYT Alibeck 50.74 320 P **P 20 37 09.3 +0.4**
1.0nm,0.6s,baz=120,slow=5.7,SNR=2.8
KURBB Kurchatov Arra 51.28 345 P **P 20 37 13.0 +0.3**
1.7nm,0.8s,baz=166,slow=7.0,SNR=20
KURK Kurchatov 51.34 345 *e*P **P 20 37 13.4 +0.2**
ZALV Zalesovo Beam 53.13 351 P **P 20 37 26.8 +0.4**
5.2nm,0.5s,baz=178,slow=6.4,SNR=47
BVAR Borovoye Array 55.79 341 P **P 20 37 45.7 -0.1**
1.4nm,0.5s,baz=147,slow=9.5,SNR=19
ABKAR Akbulak array 57.04 332 *e*P **P 20 37 54.3 -0.4**
2.5nm,0.7s
ASAJ Asahikawa 58.51 37 P **P 20 38 06.1 +1.0**
3.7nm,0.7s,baz=274,slow=10,SNR=3.2
MMAI Mount Meron Ar 65.46 306 LR LR 21 09 04.0
comp=Z,18nm,18.9s,baz=135,slow=38
BRTR Keskin Array B 68.65 312 P **P 20 39 11.9 -0.6**
0.6nm,0.7s,baz=120,slow=7.3,SNR=3.6
TIXI Tiksi 72.85 10 *e*P **P 20 39 35.9 -1.2**
2.1nm,0.5s
AKASG Malin Array Be 74.78 322 P **P 20 39 48.3 -0.6**
0.7nm,0.5s,baz=92,slow=4.8,SNR=6.0
FINES FINESS Array B 79.53 333 P **P 20 40 14.9 -0.4**
1.4nm,0.7s,baz=129,slow=5.2,SNR=7.1
ARCES ARCESS Array B 82.08 340 P **P 20 40 29.0 +0.2**
1.0nm,0.5s,baz=90,slow=5.4,SNR=15
GERES GERESS Array B 84.34 319 P **P 20 40 42.1 +1.0**
0.4nm,0.5s,baz=106,slow=4.9,SNR=6.8
NOA NORSAR Array B 86.53 331 P **P 20 40 51.1 -0.6**
0.5nm,0.8s,baz=114,slow=5.5,SNR=3.0
TXAR Lajitas Array 143.47 31 PKP **PKPdf 20 47 45.5 +1.3**
0.1nm,0.5s,baz=258,slow=3.6,SNR=3.3

GUC 08 20:30:23.0±0.7, 35°19S×72°58W, h5km±7km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.80**	**105**	*e*P	**Pb**	20 30 39.5	+0.1
TALC				*e*S	Sb	20 30 51.1	+0.6
COCH	**Cobquecura**	**0.95**	**190**	*e*P	**Pg**	20 30 41.2	0.0
COCH				*e*S	Sb	20 30 55.6	+0.8
LNCH	**Linares**	**1.03**	**130**	*e*P	**Pb**	20 30 43.5	+0.2
LNCH				*e*S	Sn	20 30 58.9	-0.1
LNCH				AML	AML	20 31 00.0	
	comp=N,7μm,0.3s						
NICH	**Los Niches**	**1.12**	**81**	*e*P	Pg	20 30 43.7	-0.8
NICH				*e*S	Sb	20 30 59.5	-0.3
CCSP	**San Pedro de C**	**1.70**	**195**	*e*S	Sb	20 31 17.1	+0.6
CCSP				AML	AML	20 31 21.1	
	comp=E,852nm,0.3s						

MEX 08 20:44:02.7±0.9, 32°57N×115°20W, h20km±16km, MD3.8, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.17**	**180**	*e*P	Pg	20 44 07.1	-0.2
MBIG				*e*S	Sg	20 44 09.5	-0.9
CBX	**Cerro Bola**	**1.27**	**259**	*e*P	Pn	20 44 22.0	-3.5
CBX				*i* Sn	Pn	20 44 36.5	-5.6
SPIG	**San Pedro Mart**	**1.54**	**189**	*e*P	Pn	20 44 25.9	-3.6
SPIG				*e*S	Sn	20 44 44.8	-4.4

*CSEM **08** 20:50:13.0±0.3, 38°.89N×24°.41E, h20km, MD3.0, Error ellipse: s-maj=7.7km s-min=5.3km az=123.0*
ATH 08 20:50:12.8, 38°.93N×24°.41E, h27km±3km, MD3.0/9, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.48**	**300**	*e*PB	Pb	20 50 23.1	+0.4
AOS				*e*SB	Sn	20 50 30.7	-0.7
AOS	**Alonnisos**	**0.48**	**300**	*e*Pb	Pb	20 50 23.1	+0.4
AOS				*e*Sb	Sn	20 50 30.7	-0.7
MRKA	**Markates**	**0.68**	**251**	*e*PB	Pb	20 50 25.8	-0.3
MRKA				*e*SN	Sb	20 50 35.6	+0.4
MRKA	**Markates**	**0.68**	**251**	*e*Pb	Pb	20 50 25.8	-0.3
MRKA				*e*Sn	Sb	20 50 35.6	+0.4
SKIA	**Skiathos**	**0.77**	**288**	*e*PN	Pn	20 50 28.6	+0.6
SKIA	**Skiathos**	**0.77**	**288**	*e*Pn	Pn	20 50 28.6	+0.6
SMIA	**Simia**	**0.94**	**267**	*e*PN	Pb	20 50 30.8	+0.3
SMIA	**Simia**	**0.94**	**267**	*e*Pn	Pb	20 50 30.8	+0.3
PTL	**Penteli**	**0.98**	**206**	*e*PN	Pb	20 50 31.5	+0.3
PTL	**Penteli**	**0.98**	**206**	*e*Pn	Pb	20 50 31.5	+0.3
NEO	**Neokhori**	**1.00**	**293**	*e*PN	Pb	20 50 33.2	+1.7
NEO				*e*SN	Sn	20 50 46.2	+1.9
NEO	**Neokhori**	**1.00**	**293**	*e*Pn	Pb	20 50 33.2	+1.7
NEO				*e*Sn	Sn	20 50 46.2	+1.9
XOR	**Xorichti**	**1.04**	**295**	*e*PN	Pb	20 50 33.5	+1.2
XOR	**Xorichti**	**1.04**	**295**	*e*Pn	Pb	20 50 33.5	+1.2
LIA	**Limnos Island**	**1.14**	**32**	*e*PN	Pb	20 50 34.4	+0.6
LIA	**Limnos Island**	**1.14**	**32**	*e*Pn	Pb	20 50 34.4	+0.6
PAIG	**Paliouri**	**1.15**	**331**	*e*PN	Pb	20 50 35.3	+1.3
PAIG	**Paliouri**	**1.15**	**331**	*e*Pn	Pb	20 50 35.3	+1.3
OUR	**Ouranopolis**	**1.44**	**347**	*e*PN	Pb	20 50 38.7	-0.3
OUR	**Ouranopolis**	**1.44**	**347**	*e*Pn	Pb	20 50 38.7	-0.3

*CSEM **08** 20:50:47.5±0.3, 41°.59N×23°.02E, h20km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.6km az=36.0*
*ISCJB **08** 20:50:49.0±0.6, 41°.47N±0°.03×23°.04E±0°.03, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=148.9*
*SKO **08** 20:50:48.2, 41°.50N×23°.04E, h15km, M1.5, ML1.5*
*THE **08** 20:50:49.3, 41°.47N×23°.04E, h1km±2km, ML1.9/7, Error ellipse: s-maj=2.4km s-min=0.8km az=295.0*
*ATH **08** 20:50:49.1, 41°.47N×23°.05E, h14km±4km, MD2.9/8*
ISC 08 20:50:49.1±1.0, 41°.48N±0°.03×23°.04E±0°.02, h12km±9km, n43, σ0°.47/72, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNT	**Kendrikon**	**0.33**	**199**	P	**Pg**	**20 50 55.9**	**0.0**
KNT				S	**Sg**	**20 51 00.6**	**+0.2**
KNT	**Kendrikon**	**0.33**	**199**	*e*PB	**Pg**	**20 50 55.9**	**0.0**
KNT				*e*SB	**Sg**	**20 51 00.6**	**+0.2**
KNT	**Kendrikon**	**0.33**	**199**	P	**Pg**	**20 50 55.9**	**0.0**
KNT				S	**Sg**	**20 51 00.6**	**+0.2**
VAY	**Valandovo**	**0.39**	**246**	P	**Pg**	**20 50 56.5**	**-0.3**
VAY				S	**Sg**	**20 51 01.8**	**-0.2**
VAY	**Valandovo**	**0.39**	**246**	*i* Pg	**Pb**	**20 50 57.8**	**-0.1**
VAY				*i* Sg	**Sg**	**20 51 02.3**	**+0.3**
VAY				*e*Lg	Lg	20 51 03.6	
	comp=E,37nm,0.2s						
VAY				*e*Lg	Lg	20 51 04.0	
	comp=N,41nm,0.2s						
VAY	**Valandovo**	**0.39**	**246**	S	**Sg**	**20 51 01.8**	**-0.2**
VAY				*i* Sg	**Sg**	**20 51 02.3**	**+0.3**
VAY				*e*Lg	Lg	20 51 03.6	
	comp=N,37nm,0.2s						
VAY	**Valandovo**	**0.39**	**246**	P	**Pg**	**20 50 56.5**	**-0.3**
VAY	**Valandovo**	**0.39**	**246**	*i* Pg	**Pb**	**20 50 57.7**	**-0.2**
SRS	**Serrai**	**0.55**	**131**	P	**Pg**	**20 50 59.5**	**-0.4**
SRS				S	**Sg**	**20 51 07.3**	**+0.1**
SRS	**Serrai**	**0.55**	**131**	*e*PG	**Pg**	**20 50 59.5**	**-0.4**
SRS				*e*SB	**Sg**	**20 51 06.7**	**-0.5**
SRS	**Serrai**	**0.55**	**131**	P	**Pg**	**20 50 59.5**	**-0.4**
SRS				*e*Sb	**Sg**	**20 51 06.7**	**-0.5**
SRS				S	**Sg**	**20 51 07.3**	**+0.1**
NVR	**Nevrokopi**	**0.63**	**101**	P	**Pg**	**20 51 01.1**	**-0.4**
NVR				S	**Sg**	**20 51 09.8**	**0.0**
NVR	**Nevrokopi**	**0.63**	**101**	*e*PB	**Pg**	**20 51 01.0**	**-0.4**
NVR	**Nevrokopi**	**0.63**	**101**	*e*Pb	**Pg**	**20 51 01.0**	**-0.4**
NVR				S	**Sg**	**20 51 09.6**	**0.0**
SOH	**Sokhos**	**0.70**	**160**	P	**Pg**	**20 51 02.5**	**-0.2**
SOH				S	**Sg**	**20 51 12.6**	**+0.8**
SOH	**Sokhos**	**0.70**	**160**	*e*PB	**Pg**	**20 51 02.5**	**-0.2**
SOH				*e*SB	**Sg**	**20 51 12.3**	**+0.5**
SOH	**Sokhos**	**0.70**	**160**	P	**Pg**	**20 51 02.5**	**-0.2**
SOH				*e*Sb	**Sg**	**20 51 12.3**	**+0.5**
SOH	**Sokhos**	**0.70**	**160**	S	**Sg**	**20 51 12.6**	**+0.8**
GRG	**Griva**	**0.71**	**223**	P	**Pg**	**20 51 02.7**	**-0.1**
GRG				S	**Sg**	**20 51 12.8**	**+0.6**
GRG	**Griva**	**0.71**	**223**	*e*PB	**Pg**	**20 51 02.8**	**-0.1**
GRG				*e*SB	**Sg**	**20 51 12.4**	**+0.2**
GRG	**Griva**	**0.71**	**223**	P	**Pg**	**20 51 02.7**	**-0.1**
GRG				*e*Sb	**Sg**	**20 51 12.4**	**+0.2**
GRG				S	**Sg**	**20 51 12.8**	**+0.6**
THE	**Thessaloniki**	**0.85**	**184**	P	**Pb**	**20 51 05.4**	**-0.2**
THE				S	**Sb**	**20 51 16.8**	**-0.2**
THE	**Thessaloniki**	**0.85**	**184**	*e*PB	**Pb**	**20 51 05.5**	**-0.2**
THE	**Thessaloniki**	**0.85**	**184**	*e*Pb	**Pb**	**20 51 05.5**	**-0.2**
THE				S	**Sb**	**20 51 16.8**	**-0.2**
HORT	**Hortiatis**	**0.88**	**177**	P	**Pb**	**20 51 06.1**	**-0.3**
HORT				S	**Sb**	**20 51 18.2**	**+0.1**
HORT	**Hortiatis**	**0.88**	**177**	*e*PB	**Pb**	**20 51 06.0**	**-0.3**
HORT	**Hortiatis**	**0.88**	**177**	P	**Pb**	**20 51 06.1**	**-0.3**
HORT				S	**Sb**	**20 51 18.2**	**+0.1**
VTS	**Vitosha**	**1.12**	**6**	P	**Pb**	**20 51 09.8**	**-0.7**
VTS				S	**Sn**	**20 51 25.5**	**-0.6**
VTS	**Vitosha**	**1.12**	**6**	P	**Pb**	**20 51 09.8**	**-0.7**
PLG	**Polygyros**	**1.15**	**164**	P	**Pn**	**20 51 10.4**	**-0.6**
PLG				S	**Sb**	**20 51 26.3**	**+0.6**
PLG	**Polygyros**	**1.15**	**164**	*e*PN	**Pn**	**20 51 10.6**	**-0.4**
PLG	**Polygyros**	**1.15**	**164**	P	**Pn**	**20 51 10.4**	**-0.6**
PLG				S	**Sb**	**20 51 26.3**	**+0.6**
OUR	**Ouranopolis**	**1.35**	**148**	P	**Pg**	**20 51 15.0**	**+0.1**
OUR				S	**Sg**	**20 51 32.6**	**+0.1**
OUR	**Ouranopolis**	**1.35**	**148**	*e*PB	**Pg**	**20 51 15.1**	**+0.1**
OUR	**Ouranopolis**	**1.35**	**148**	*e*Pb	**Pg**	**20 51 15.1**	**+0.1**
OUR				S	**Sg**	**20 51 32.6**	**+0.1**
PLD	**Plovdiv**	**1.39**	**63**	P	**Pg**	**20 51 16.1**	**+0.3**
PLD				S	**Sg**	**20 51 35.6**	**+1.7**
PLD	**Plovdiv**	**1.39**	**63**	P	**Pg**	**20 51 16.1**	**+0.3**
PLD	**Plovdiv**	**1.39**	**63**	S	**Sg**	**20 51 35.6**	**+1.7**
FNA	**Florina**	**1.44**	**242**	*e*PB	**Pb**	**20 51 16.1**	**+0.3**
FNA	**Florina**	**1.44**	**242**	*e*Pb	**Pb**	**20 51 16.1**	**+0.3**
PAIG	**Paliouri**	**1.62**	**162**	P	**Pn**	**20 51 18.0**	**+0.5**
PAIG	**Paliouri**	**1.62**	**162**	*e*PG	**Pn**	**20 51 18.1**	**+0.5**
PAIG	**Paliouri**	**1.62**	**162**	P	**Pn**	**20 51 18.0**	**+0.5**

*SKO **08** 20:51:09.5, 42°.73N×20°.60E, h0km, M1.4, ML1.5*
*BEO **08** 20:51:09.4±0.5, 42°.69N×20°.58E, h0km, ML1.5/8*
CSEM 08 20:51:08.3±0.2, 42°.72N×20°.57E, h10km, ML1.6, Error ellipse: s-maj=3.9km s-min=2.5km az=44.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEJK	**Peje**	**0.23**	**249**	P	Pg	20 51 13.6	+0.5
PEJK				S	Sg	20 51 17.5	+1.2
SMRK	**Smrekonice**	**0.31**	**61**	P	Pg	20 51 14.7	0.0
SMRK				S	Sg	20 51 19.1	+0.2
BEY	**Berane**	**0.52**	**287**	P	Pg	20 51 18.5	0.0
PRZK	**Prizren**	**0.53**	**164**	P	Pg	20 51 19.2	+0.5
SELS	**Selova**	**0.64**	**39**	*e*Pg	Pg	20 51 21.2	+0.4
SELS				*e*Sg	Sb	20 51 30.7	-0.1
SJES	**Sjenica**	**0.69**	**321**	*e*Pg	Pg	20 51 21.5	-0.4
SJES				*e*Sg	Sg	20 51 31.1	+0.1
GJIK	**Gjilan**	**0.69**	**112**	P	Pg	20 51 21.5	-0.3
GJIK				S	Sg	20 51 31.3	+0.3
IVAS	**Ivanjica**	**0.91**	**341**	*e*Pg	Pg	20 51 25.3	-0.6
IVAS				*e*Sg	Sn	20 51 39.8	-0.6
IVAS	**Ivanjica**	**0.91**	**341**	*e*Pg	Pg	20 51 25.3	-0.6
IVAS				*e*Sg	Sn	20 51 39.8	-0.6
BARS	**Barje**	**0.93**	**84**	*e*Sg	Sg	20 51 38.2	-0.1
BARS	**Barje**	**0.93**	**84**	*e*Sg	Sg	20 51 38.2	-0.1
SKO	**Skopje**	**0.99**	**139**	*i* Pg	Pg	20 51 27.5	+0.1
SKO				*i* Sg	Sb	20 51 41.2	+0.5
SKO				*e*Lg	Lg	20 51 41.6	
	comp=N,17nm,0.2s						
SKO				*e*Lg	Lg	20 51 43.4	
	comp=E,9.7nm,0.8s						
SKO	**Skopje**	**0.99**	**139**	*i* Pg	Pg	20 51 27.5	+0.1
SKO				*i* Sg	Sb	20 51 41.2	+0.4
SKO				*e*Lg	Lg	20 51 41.5	
	comp=E,17nm,0.2s						
PDG	**Podgorica**	**1.01**	**254**	*e*Sg	Sn	20 51 42.1	-0.7
PDG	**Podgorica**	**1.01**	**254**	*e*Sg	Sn	20 51 42.1	-0.7
GRUS	**Gruza**	**1.17**	**5**	*e*Pg	Pg	20 51 31.4	+0.6
GRUS	**Gruza**	**1.17**	**5**	*e*Pg	Pg	20 51 31.4	+0.6
BBLS	**Lazići**	**1.42**	**324**	*e*Pg	Pb	20 51 35.3	+0.3
BBLS				*e*Sg	Sg	20 51 55.0	+0.7
BBLS	**Lazići**	**1.42**	**324**	*e*Pg	Pb	20 51 35.3	+0.3
BBLS				*e*Sg	Sg	20 51 55.0	+0.7
DIVS	**Divibare**	**1.44**	**343**	*e*Pg	Pg	20 51 35.9	-0.1
DIVS				*e*Sg	Sg	20 51 56.6	+1.8
DIVS	**Divibare**	**1.44**	**343**	*e*Pg	Pg	20 51 35.9	-0.1
DIVS				*e*Sg	Sg	20 51 56.6	+1.8
TREB	**Trebinje**	**1.63**	**271**	*e*Pn	Pg	20 51 39.8	+0.2

*ISCJB **08** 21:09:17.3±0.8, 37°.94S±0°.05×73°.24W±0°.09, h33km, mb3.7/6, Error ellipse: s-maj=10.7km s-min=7.2km az=1.8*
*GUC **08** 21:09:18.4±0.5, 37°.89S×73°.26W, h22km±3km, ML4.4*
*IDC **08** 21:09:18.1±0.9, 37°.78S×72°.97W, h30km±6km, mb3.6/6, mb1 3.7/8, mb1mx3.7/19, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=25.0km s-min=14.5km az=85.0*
ISC 08 21:09:18.3±0.7, 37°.79S±0°.05×73°.12W±0°.07, h33km, n15, σ0°.98/23, mb3.7/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGCH	**Angol**	**0.33**	**94**	*e*P	**Pb**	**21 09 26.9**	**+0.4**
AGCH				*e*S	**Sn**	**21 09 33.1**	**+0.8**
CCSP	**San Pedro de C**	**0.94**	**0**	*e*P	**Pb**	**21 09 36.5**	**+0.4**
CCSP				*e*S	**Sb**	**21 09 49.8**	**+1.5**
CCSP				AML	AML	21 09 55.0	
	comp=E,15μm,0.4s						
COCH	**Cobquecura**	**1.67**	**9**	*e*P	**Pb**	**21 09 47.8**	**-0.7**
COCH				*e*S	**Sb**	**21 10 10.1**	**+1.0**
LNCH	**Linares**	**2.28**	**33**	*e*P	**Pb**	**21 09 57.3**	**-1.6**
LNCH				*e*S	**Sb**	**21 10 27.0**	**+0.3**
PLCA	**Paso Flores**	**3.55**	**147**	Pn	**Pn**	**21 10 11.8**	**+0.5**
	comp=E,1.4nm,0.3s,baz=320,slow=10,SNR=39						
PLCA				Lg	Lg	21 11 09.0	
	comp=E,10nm,0.3s,baz=200,slow=9.3,SNR=8.2						
CFAA	**Coronel Fontan**	**7.36**	**35**	Pn	**Pn**	**21 11 03.1**	**-0.4**
	comp=E,0.2nm,0.3s,baz=213,slow=15,SNR=8.6						
CFAA				Sn	**Sn**	**21 12 27.0**	**+1.2**
	comp=E,0.3nm,0.3s,baz=215,slow=17,SNR=3.0						
CFAA				Lg	Lg	21 13 08.3	
	comp=E,0.2nm,0.3s,baz=306,slow=16,SNR=4.3						
LPAZ	**La Paz**	**21.86**	**13**	P	**P**	**21 14 09.6**	**+0.7**
	comp=E,0.6nm,0.7s,baz=162,slow=6.4,SNR=2.0						
SIV	**San Ignacio**	**24.18**	**29**	P	**P**	**21 14 30.8**	**-0.9**
	comp=E,1.5nm,0.9s,baz=223,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**52.46**	**180**	P	**P**	**21 18 28.3**	**+0.7**
	comp=E,1.5nm,0.6s,baz=180,slow=3.0,SNR=4.2						
QSPA				pP	**pP**	**21 18 37.6**	**+0.1**
	comp=E,1.3nm,0.7s,baz=162,slow=3.2,SNR=2.7						
TXAR	**Lajitas Array**	**72.64**	**332**	P	**P**	**21 20 43.3**	**+0.7**
	comp=E,0.6nm,0.6s,baz=150,slow=8.9,SNR=8.6						
TORD	**Torodi Ar. Bea**	**86.31**	**70**	P	**P**	**21 21 56.4**	**-0.8**
	comp=E,0.6nm,0.6s,baz=218,slow=4.6,SNR=12						
PDAR	**Pinedale Array**	**86.76**	**334**	P	**P**	**21 21 60.0**	**+0.9**
	comp=E,0.3nm,0.7s,baz=184,slow=7.2,SNR=2.7						
PDAR				pP	**pP**	**21 22 09.0**	**-0.6**
	comp=E,0.7nm,1.0s,baz=119,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**117.04**	**209**	PKP	**PKPdf**	**21 27 59.4**	**-0.9**
	comp=E,0.3nm,0.9s,baz=146,slow=1.6,SNR=5.8						
WRA				pPKP	**pPKPdf**	**21 28 09.2**	**-1.9**
	comp=E,0.8nm,1.3s,baz=10,slow=16,SNR=1.6						
ILAR	**Eielson Array**	**117.15**	**332**	PKP	**PKPdf**	**21 27 58.0**	**-1.0**
	comp=E,0.3nm,0.9s,baz=267,slow=1.8,SNR=3.3						
MKAR	**Makanchi Array**	**159.77**	**56**	PKPab	**PKPab**	**21 29 51.7**	**-0.8**
	comp=E,0.1nm,0.5s,baz=289,slow=3.0,SNR=4.6						

CASC 08 21:13:18.1±3.0, 11°.97N×83°.01W, h65km±591km, MD4.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FORC	**Fortuna**	**2.21**	**228**	*i* P	Pn	21 13 52.9	+0.4
FORC				*i* S	Sn	21 14 19.9	+1.1
URSC	**Urasca**	**2.25**	**200**	*e*P	Pn	21 13 53.3	0.0
URSC				*e*S	Sn	21 14 20.4	+0.2
PTEN	**Parque Tenorio**	**2.31**	**238**	*i* P	Pn	21 13 53.8	-0.1
PTEN				*i* S	Sn	21 14 21.6	+0.2
CGA2	**Cerro Gallo 2**	**2.41**	**217**	*e*P	Pn	21 13 57.4	+2.0
CGA2				*e*S	Sn	21 14 27.5	+3.5
BUS	**Buena Vista**	**2.51**	**197**	*e*P	Pn	21 13 56.9	-0.3
BUS				*e*S	Sn	21 14 26.6	-0.5
GBS2	**Las Lilas**	**2.65**	**245**	*i* S	Sn	21 14 29.0	-0.6

*ISCJB **08** 21:15:01.7±0.6, 34°.41S±0°.03×72°.16W±0°.07, h10km, mb4.1/8, MS3.5/6, Error ellipse: s-maj=8.8km s-min=3.9km az=5.1*
*NEIC **08** 21:15:03.4, 34°.38S×72°.09W, h15km, mb4.2/4, ML4.6(GUC), After GUC.*
NEIC Felt [V] at Navidad, Paredones and Pichilemu; [III] at Curico, San Fernando and Santa Cruz; [II] at Rancagua.
*IDC **08** 21:15:04.0±0.9, 34°.57S×71°.82W, h0km, mb4.2/8, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, ML4.5/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/21, Error ellipse: s-maj=27.1km s-min=13.8km az=105.0*
*GUC **08** 21:15:03.4±0.8, 34°.38S×72°.09W, h15km±8km, ML4.6*
ISC 08 21:15:03.8±0.7, 34°.42S±0°.03×72°.05W±0°.08, h10km, n46, σ1°.36/48, mb4.3/8, MS3.6/6, 3C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.70**	**49**	⇓*i* P	**Pg**	**21 15 16.0**	**-1.4**
LNV	**Longovilo**	**0.70**	**49**	⇓*i* P	**Pg**	**21 15 16.0**	**-1.4**
NICH	**Los Niches**	**0.90**	**131**	⇓*i* P	**Pg**	**21 15 20.6**	**-0.4**
NICH				*i* S	**Sg**	**21 15 32.7**	**-0.1**
NICH	**Los Niches**	**0.90**	**131**	⇓*i* P	**Pg**	**21 15 20.6**	**-0.4**
NICH				*i* S	**Sg**	**21 15 32.7**	**-0.1**
TALC	**Talca**	**1.04**	**161**	⇓*i* P	**Pb**	**21 15 22.6**	**-1.2**
TALC				*i* S	**Sg**	**21 15 36.0**	**-1.2**
TALC	**Talca**	**1.04**	**161**	⇓*i* P	**Pb**	**21 15 22.6**	**-1.2**
TALC				S	**Sg**	**21 15 36.0**	**-1.2**
LNCH	**Linares**	**1.47**	**166**	*e*P	**Pn**	**21 15 29.0**	**-1.4**
LNCH				*e*S	**Sn**	**21 15 49.0**	**-0.8**
LNCH	**Linares**	**1.47**	**166**	*e*P	**Pn**	**21 15 29.0**	**-1.4**
LNCH				*e*S	**Sn**	**21 15 49.0**	**-0.8**
CLCH	**Cerro Calan**	**1.62**	**51**	⇑*i* P	**Pn**	**21 15 31.4**	**-1.1**
CLCH				*e*S	**Sn**	**21 15 53.0**	**-0.5**
CLCH				AML	AML	21 15 60.0	
	comp=E,11μm,0.5s						
ROCH	**El Roble**	**1.68**	**31**	⇑*i* P	**Pn**	**21 15 31.6**	**-1.9**
ROCH				*e*S	**Sn**	**21 15 54.3**	**-1.0**
ROCH				AML	AML	21 15 59.5	
	comp=N,22μm,0.4s						
ROCH	**El Roble**	**1.68**	**31**	⇑*i* P	**Pn**	**21 15 31.6**	**-1.9**
ROCH				*e*S	**Sn**	**21 15 54.3**	**-1.0**
PEL	**Peldehue**	**1.71**	**42**	⇓*i* P	**Pn**	**21 15 32.5**	**-1.2**
PEL				*i* S	**Sn**	**21 15 54.1**	**-1.5**
PEL				AML	AML	21 16 02.0	
	comp=N,14μm,0.6s						
PEL	**Peldehue**	**1.71**	**42**	⇓*i* P	**Pn**	**21 15 32.5**	**-1.2**
PEL				*i* S	**Sn**	**21 15 54.1**	**-1.5**
FCH	**Farellones**	**1.83**	**54**	AML	AML	21 15 49.3	
	comp=N,6μm,0.3s						
CFAA	**Coronel Fontan**	**4.26**	**50**	Pn	**Pn**	**21 16 10.8**	**+2.0**
	comp=N,0.8nm,0.3s,baz=222,slow=13,SNR=42						
CFAA				Sn	**Sn**	**21 17 00.9**	**+2.3**
	comp=N,2.2nm,0.3s,baz=278,slow=7.5,SNR=4.4						
CFAA				Lg	Lg	21 17 18.1	
	comp=N,4.0nm,0.3s,baz=302,slow=21,SNR=5.6						
CFAA				LR	LR	21 17 24.6	
	comp=N,16nm,18.7s,baz=238,slow=33						
LCO	**Las Campanas**	**5.51**	**12**	*e*Pn	**Pn**	**21 16 24.8**	**-1.5**
PLCA	**Paso Flores**	**6.42**	**170**	Pn	**Pn**	**21 16 39.3**	**+0.8**
	comp=N,4.3nm,0.3s,baz=343,slow=9.8,SNR=46						
PLCA				Lg	Lg	21 18 22.1	
	comp=N,2.4nm,0.3s,baz=272,slow=17,SNR=5.3						
PLCA				LR	LR	21 19 22.5	
	comp=N,223nm,18.0s,baz=242,slow=42						
PLCA	**Paso Flores**	**6.42**	**170**	*e*Pn	**Pn**	**21 16 38.4**	**0.0**

ISC 08 21:26:11.3±1.2, 32°20N±0°.05×115°25W±0°.04, h15km±8km, n26, σ0°79/36, 9C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	0.21	13	*eP*	Pg	21 26 16.8	+0.6
MBIG				*i* S	Sg	21 26 18.9	-0.6
CPBX	**Cerro Prieto**	0.22	349	*eP*	Pg	21 26 16.5	+0.2
SGL	**Mount Signal**	0.60	318	⇑P	Pg	21 26 23.0	-0.1
DREC	**Desert Rsrch C**	0.63	345	⇓P	Pg	21 26 24.0	+0.4
DREC				S	Sb	21 26 34.0	+1.5
ERPC	**Ernies Place**	0.64	328	⇓P	Pg	21 26 24.0	+0.1
COA	**Coachella**	0.67	9	⇓P	Pb	21 26 24.0	-0.7
YUH	**Yuha Desert**	0.72	308	⇑P	Pb	21 26 25.0	-0.5
COK	**Cook Ranch**	0.76	328	⇑P	Pb	21 26 26.0	-0.2
RUN	**Ruthven**	0.81	17	⇓P	Pb	21 26 27.0	0.0
SWSC	**Sam W. Stewart**	0.87	328	P	Pb	21 26 28.0	-0.1
CRR	**Carrizo Plain**	0.91	319	⇓P	Pb	21 26 28.0	-0.8
CBKC	**Canebrake**	1.09	310	⇑P	Pn	21 26 32.0	-0.1
CBKC				S	Sb	21 26 45.0	-1.0
SPX	**San Pedro Mart**	1.16	189	*eP*	Pn	21 26 33.3	0.0
SPX				*eS*	Sn	21 26 49.0	-0.1
CBX	**Cerro Bola**	1.20	276	*eP*	Pn	21 26 33.4	-0.2
CBX				*eS*	Sb	21 26 48.4	-0.8
CBX	**Cerro Bola**	1.20	276	*eP*	Pn	21 26 33.4	-0.2
CBX				*eS*	Sb	21 26 48.4	-0.8
FRK	**Frink**	1.24	345	⇓P	Pg	21 26 37.0	+1.7
BAR	**Barrett**	1.29	292	⇑P	Pn	21 26 34.0	-0.8
BAR				S	Sn	21 26 52.0	+0.2
LTC	**Little Chuckwa**	1.30	7	⇓P	Pn	21 26 33.0	-1.8
DPP	**Dos Picos Cty**	1.63	300	⇓P	Pb	21 26 41.0	-0.1
DPP				S	Sn	21 26 59.0	-1.2
BLYC	**Blythe**	1.66	21	⇓P	Pb	21 26 42.0	+0.4
CPE	**Camp Elliot**	1.71	294	P	Pg	21 26 45.0	+0.9
CPE				S	Sn	21 27 03.0	+1.0
PLM	**Palomar**	1.78	311	⇑P	Pb	21 26 44.0	+0.3
POB	**Polly Butte**	2.04	317	P	Pn	21 26 46.0	+0.8
POB				⇑P	Pb	21 26 49.0	+0.9
BACC	**Bachelor Mtn.**	2.06	314	⇑P	Pb	21 26 49.0	+0.6
DGR	**Domenigoni Val**	2.07	315	⇓P	Pb	21 26 49.0	+0.5
PEM	**Pine Mountain**	2.94	313	⇑P	Pb	21 27 04.0	+0.6

*IDC **08** 21:27:00.8±1.2, 38°68N×141°.02E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, ML2.9/3, MS2.5/3, Ms1 2.5/3, ms1mx2.2/21, Error ellipse: s-maj=30.9km s-min=18.8km az=106.0*

*ISCJB **08** 21:27:01.1±0.5, 38°.78N±0°.03×140°.83E±0°.04, h10km±5km, mb3.3/5, Error ellipse: s-maj=5.7km s-min=4.0km az=21.3*

*JMA **08** 21:27:01.2, 38°.79N×140°.80E, h3km±1km, M3.0*

JMA Felt II J1.

ISC 08 21:27:01.5±1.2, 38°.76N±0°.03×140°.83E±0°.03, h0km±10km, n19, σ1°819/28, mb3.6/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	0.36	58	P	Pg	21 27 08.3	-0.1
JMK				*eS*	Sg	21 27 13.3	+0.2
JYK	**Kaneyama**	0.40	294	P	Pg	21 27 08.6	-0.5
JOU	**Okura**	0.41	198	P	Pg	21 27 09.8	+0.4
JOU				*eS*	Sb	21 27 16.0	-2.4
JIO	**Ouri**	0.51	127	P	Pg	21 27 11.5	+0.3
JIO				S	Sb	21 27 19.1	-2.0
JRG	**Rokugo**	0.65	347	P	Pg	21 27 13.5	-0.5
JRG				*eS*	Sg	21 27 22.5	0.0
JOM	**Ohasama**	0.80	27	P	Pg	21 27 15.9	-0.9
JOM				S	Sg	21 27 26.5	-0.7
JYS	**Shirataka**	0.80	228	P	Pg	21 27 16.8	-0.1
JYS				*eS*	Sg	21 27 27.8	+0.5
JYA	**Atsumi**	0.89	260	P	Pg	21 27 17.8	-0.7
JYA				S	Sg	21 27 29.7	-0.3
JMM	**Marumori**	0.89	182	P	Pg	21 27 18.4	-0.1
JMM				*eS*	Sb	21 27 30.6	-1.6
MJAR	**Matsushiro Arr**	3.04	224	Pn	Pn	21 27 50.6	-0.1
MJAR	0.2nm,0.3s,baz=27,slow=16,SNR=2.9			Pg	Pb	21 27 57.4	+1.0
MJAR	0.7nm,0.3s,baz=24,slow=14,SNR=32			LR	LR	21 29 22.4	
MAT	comp=Z,41nm,18.8s,baz=35,slow=46 **Matsushiro**	3.04	224	P	Pb	21 27 55.5	-0.9
MAT				*eS*	Sb	21 28 31.9	-2.1
ASAJ	**Asahikawa**	5.51	13	Pn	Pn	21 28 26.0	+1.3
JNU	0.6nm,0.3s,baz=216,slow=8.1,SNR=5.2 **Nakatsue**	9.83	238	LR	LR	21 33 35.5	
KSRS	comp=Z,52nm,19.4s,baz=19,slow=40 **Korea Array**	10.26	267	Pn	Pn	21 29 32.3	+2.5
KSRS	0.2nm,0.3s,baz=90,slow=14,SNR=2.8			LR	LR	21 32 42.4	
SEY	comp=Z,23nm,19.5s,baz=190,slow=33 **Seymchan**	25.20	12	P	P	21 32 28.1	-0.3
SONM	1.5nm,0.6s,baz=211,slow=7.2,SNR=4.4 **Songino Array**	26.47	301	P	P	21 32 41.4	+1.2
MKAR	0.2nm,0.8s,baz=96,slow=7.2,SNR=2.3 **Makanchi Array**	42.83	300	P	P	21 35 01.0	0.0
WRA	0.2nm,0.7s,baz=72,slow=4.7,SNR=2.8 **Warramunga Arr**	58.71	187	P	P	21 36 59.3	-1.6
ASAR	0.5nm,0.9s,baz=3.8,slow=7.1,SNR=9.1 **Alice Springs**	62.44	187	P	P	21 37 25.9	-0.3
	0.3nm,0.8s,baz=9.7,slow=6.6,SNR=5.2						

*ISCJB **08** 21:32:51.6±0.3, 32°.34N±0°.02×115°.36W±0°.03, h16km±5km, Error ellipse: s-maj=4.3km s-min=3.3km az=173.6*

*MEX **08** 21:32:51.8±0.8, 32°.57N×115°.13W, h20km±11km, MD3.5*

*ECX **08** 21:32:52.9±0.6, 32°.34N×115°.39W, h5km, MD3.2, ML3.4*

*NEIC **08** 21:32:52.0, 32°.35N×115°.39W, h5km, MD3.4(ECX), ML3.3(PAS), After ECX.*

ISC 08 21:32:51.3±0.8, 32°.35N±0°.02×115°.37W±0°.03, h18km±5km, n52, σ0°72/70, 11C-26D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	0.09	39	⇓*eP*	Pg	21 32 54.8	-0.1
CPBX				*eS*	Sg	21 32 57.0	-0.3
CPBX	**Cerro Prieto**	0.09	39	*eP*	Pg	21 32 54.7	-0.1
MBIG	**Mexicali**	0.16	68	*eP*	Pb	21 32 56.4	+0.8
MBIG				*eS*	Sg	21 32 58.3	-0.2
EMX	**El Mayor**	0.37	163	*eP*	Pg	21 32 59.0	-0.1
EMX				*eS*	Sg	21 33 04.4	+0.1
DREC	**Desert Rsrch C**	0.46	352	P	Pb	21 33 02.0	+1.1
DREC				S	Sn	21 33 10.0	-0.8
ERPC	**Ernies Place**	0.47	328	⇓P	Pb	21 33 01.0	0.0
WESC	**Westside Schoo**	0.51	324	⇓P	Pb	21 33 02.0	+0.2
YUH	**Yuha Desert**	0.56	303	⇓*iP*	Pg	21 33 02.2	-0.2
YUH	**Yuha Desert**	0.56	303	⇓P	Pg	21 33 02.0	-0.4
COA	**Coachella**	0.56	22	⇓*iP*	Pb	21 33 03.4	+0.9
COA	**Coachella**	0.56	22	⇓P	Pb	21 33 03.0	+0.5
COK	**Cook Ranch**	0.58	329	⇓*iP*	Pb	21 33 03.6	+0.6
COK	**Cook Ranch**	0.58	329	⇓P	Pg	21 33 03.0	+0.1
RDX	**Rancho Dawling**	0.64	229	⇓*eP*	Pg	21 33 03.2	-0.8
RDX				*eS*	Sg	21 33 12.0	-0.6
RMX	**La Rumorosa**	0.65	293	⇓*eP*	Sg	21 33 03.9	-0.3
RMX				*eS*	Sb	21 33 13.0	0.0
SWSC	**Sam W. Stewart**	0.69	329	⇑P	Pg	21 33 05.0	+0.1
RUN	**Ruthven**	0.71	28	⇓P	Pg	21 33 05.0	-0.2
YMD	**Yuma Desert**	0.73	73	⇑P	Pg	21 33 04.0	-1.6
CRR	**Carrizo Plain**	0.74	317	⇓*iP*	Pb	21 33 05.8	+0.2
CRR	**Carrizo Plain**	0.74	317	⇓P	Pg	21 33 05.0	-0.8
CLIC	**Calipatria**	0.80	351	⇑P	Pg	21 33 07.0	0.0
ERRC	**Elmore Ranch**	0.86	334	⇓P	Pb	21 33 08.0	+0.3
ERRC				S	Sn	21 33 21.0	+0.4
ECBX	**El Chinero**	0.91	163	⇑*eP*	Pg	21 33 08.3	-0.8
ECBX				*eS*	Sg	21 33 20.4	-0.7
CBKC	**Canebrake**	0.93	307	⇓P	Pg	21 33 09.0	-0.3
FRK	**Frink**	1.08	348	⇑P	Pb	21 33 10.0	-1.4
CBX	**Cerro Bola**	1.09	269	*eP*	Pb	21 33 11.9	+0.1
CBX				*eS*	Sn	21 33 27.8	+1.1
CBX	**Cerro Bola**	1.09	269	⇓*eP*	Pb	21 33 11.9	+0.1
CBX				*eS*	Sb	21 33 26.0	+0.1
CBX	comp=N,1μm,0.4s			AML	AML	21 33 26.9	
CBX				⇑*e*		21 33 26.9	
CBX	**Cerro Bola**	1.09	269	*eP*	Pb	21 33 11.9	+0.1
CBX				*eS*	Sn	21 33 27.8	+1.1
ZAX	**El Zacaton**	1.13	223	*eP*	Pb	21 33 12.3	-0.1
ZAX				*eS*	Sg	21 33 27.4	-0.6
ZAX				⇑*e*		21 33 32.0	
ZAX	comp=E,1μm,0.5s			AML	AML	21 33 32.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	1.15	287	⇓P	Pb	21 33 12.0	-0.7
BAR				S	Sb	21 33 27.0	-0.3
LTC	**Little Chuckwa**	1.17	12	P	Pn	21 33 12.0	-0.8
BATC	**Bat Cave Butte**	1.18	341	⇓P	Pn	21 33 13.0	+0.1
ECNX	**Esteban Cantu**	1.25	237	*eP*	Pn	21 33 14.4	+0.4
PBX	**Punta Banda**	1.30	243	*eP*	Pn	21 33 15.2	+0.6
SPIG	**San Pedro Mart**	1.30	184	*iP*	Pn	21 33 15.1	+0.2
SPIG				*iS*	Sg	21 33 34.1	+0.6
SPIG	**San Pedro Mart**	1.30	184	*iP*	Pn	21 33 15.1	+0.2
SPIG				*iS*	Sg	21 33 34.1	+0.6
SPX	**San Pedro Mart**	1.30	184	⇑*eP*	Pn	21 33 15.1	+0.1
SPX				⇓*e*		21 33 35.2	
SPX	comp=E,368nm,0.3s			AML	AML	21 33 35.2	
SPX	**San Pedro Mart**	1.30	184	*eP*	Pn	21 33 15.0	+0.1
EML	**El Monte Cty P**	1.36	294	P	Pn	21 33 16.0	+0.6
EML				S	Sb	21 33 33.0	-0.3
DPP	**Dos Picos Cty**	1.48	297	⇑P	Pn	21 33 18.0	+0.9
DPP				S	Sb	21 33 37.0	+0.3
SND	**San Diego**	1.49	287	⇑P	Pn	21 33 18.0	+0.8
PFO	**Pinyon Flats O**	1.55	324	P	Pn	21 33 18.0	-0.2
CPE	**Camp Elliot**	1.56	291	⇓P	Pn	21 33 19.0	+0.8
CPE				S	Sn	21 33 39.0	+1.0
PLM	**Palomar**	1.61	309	P	Pn	21 33 19.0	0.0
DNR	**Dunn Ranch,Anz**	1.61	319	P	Pn	21 33 19.0	0.0
BACC	**Bachelor Mtn.**	1.89	312	⇓P	Pb	21 33 26.0	+0.7
DGR	**Domenigoni Val**	1.89	314	⇑P	Pg	21 33 27.0	-0.7
CHNC	**Chino**	2.54	311	P	Pb	21 33 37.0	+0.6
BREC	**Barre Substati**	2.63	304	⇓P	Pg	21 33 40.0	-1.8
BFSC	**Mount Baldy Ra**	2.69	315	⇓P	Pn	21 33 32.0	-1.8
VTV	**Victorville**	2.75	324	⇓P	Pg	21 33 43.0	-1.0
MTPC	**Mountain Pass**	3.13	357	⇓P	Pn	21 33 42.0	+2.0

IDC 08 21:38:42.7±3.0, 12°.84S×71°.09W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=116.3km s-min=38.9km az=52.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	4.47	140	Pn	Pn	21 39 52.3	-0.2
	0.2nm,0.3s,baz=322,slow=4.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	76.63	73	P	P	21 50 36.1	+0.1
	0.7nm,0.8s,baz=254,slow=5.5,SNR=4.1						
YKA	**Yellowknife Ar**	82.37	341	P	P	21 51 06.2	0.0
	0.1nm,0.6s,baz=132,slow=5.1,SNR=3.9						

*ISCJB **08** 21:41:18.9±2.5, 32°.13N±0°.03×115°.04W±0°.07, h15km±24km, Error ellipse: s-maj=10.0km s-min=5.2km az=174.7*

*NEIC **08** 21:41:18.0, 32°.17N×115°.08W, h7km, ML3.3(PAS), After PAS.*

*MEX **08** 21:41:19.9±1.0, 32°.17N×115°.08W, h10km, MD3.6*

ISC 08 21:41:17.0±1.1, 32°.12N±0°.03×115°.10W±0°.04, h16km±11km, n23, σ0°75/30, 2C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	0.30	344	*iP*	Pb	21 41 25.4	+1.2
MBIG				*iS*	Sg	21 41 27.8	0.0
CPBX	**Cerro Prieto**	0.35	330	*eP*	Pb	21 41 25.7	+0.8
YMD	**Yuma Desert**	0.64	47	⇓P	Pg	21 41 30.0	+0.3
COA	**Coachella**	0.75	359	⇑P	Pg	21 41 32.0	+0.4
DREC	**Desert Rsrch C**	0.75	337	⇓P	Pg	21 41 32.0	+0.4
SGL	**Mount Signal**	0.75	315	⇓P	Pb	21 41 32.0	+0.2
ERPC	**Ernies Place**	0.79	323	⇓P	Pn	21 41 34.0	+0.5
RUN	**Ruthven**	0.86	7	⇓P	Pg	21 41 33.0	-0.8
YUH	**Yuha Desert**	0.88	308	⇓P	Pg	21 41 34.0	0.0
SPIG	**San Pedro Mart**	1.11	196	*eP*	Pb	21 41 38.6	+0.5
SPIG				*eS*	Sb	21 41 52.9	+0.4
SPIG	**San Pedro Mart**	1.11	196	*eP*	Pb	21 41 38.6	+0.5
SPIG				*eS*	Sb	21 41 52.9	+0.4
SPX	**San Pedro Mart**	1.11	196	*eP*	Pg	21 41 38.1	-0.4
SPX				*eS*	Sg	21 41 52.2	-1.0
CBKC	**Canebrake**	1.25	309	⇑P	Pg	21 41 41.0	-0.1
CBX	**Cerro Bola**	1.34	279	*iP*	Pn	21 41 41.7	+0.5
CBX				*eS*	Sb	21 41 58.1	-0.7
CBX	**Cerro Bola**	1.34	279	*iP*	Pn	21 41 41.7	+0.5
CBX				*eS*	Sb	21 41 58.1	-0.7
FRK	**Frink**	1.36	341	⇓P	Pn	21 41 40.0	-1.4
LTC	**Little Chuckwa**	1.37	1	⇓P	Pn	21 41 41.0	-0.6
BAR	**Barrett**	1.44	293	⇓P	Pn	21 41 43.0	+0.4
BAR				S	Sg	21 42 04.0	+0.4
PLM	**Palomar**	1.93	310	⇓P	Pg	21 41 54.0	-0.1
POB	**Polly Butte**	2.19	316	P	Pb	21 41 58.0	+1.6
DGR	**Domenigoni Val**	2.22	314	⇓P	Pg	21 41 59.0	-0.6
BBSC	**Beaumont Base**	2.40	319	P	Pg	21 42 03.0	0.0
VTV	**Victorville**	3.07	323	P	Pb	21 42 10.0	-1.4

*ISCJB **08** 21:52:29.9±0.2, 59°.82N±0°.02×152°.49W±0°.04, h102km±2km, mb3.7/9, Error ellipse: s-maj=4.1km s-min=3.2km az=141.9*

*IDC **08** 21:52:32.7±2.9, 60°.04N×152°.45W, h98km±21km, mb3.4/9, mb1 3.7/13, mb1mx3.5/31, mbtmp3.9/13, Error ellipse: s-maj=28.5km s-min=18.1km az=172.0*

*NEIC **08** 21:52:32.3, 59°.82N×152°.54W, h84km, MG3.9(AEIC), After AEIC.*

NEIC Felt [III] at Homer. Also felt at Anchor Point and Ninilchik.

ISC 08 21:52:30.8±0.7, 59°.83N±0°.04×152°.51W±0°.04, h92km±5km, n127, σ0°79/140, mb3.6/9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	0.31	295	P	Pn	21 52 44.5	-0.2
IVE	**Iliamna Volcan**	0.32	307	P	Pn	21 52 44.4	-0.3
IVE				S	Sn	21 52 54.5	-0.6
ILW	**Iliamna West**	0.39	307	P	Pn	21 52 45.0	-0.3
OPT	**Oil Point**	0.40	245	P	Pn	21 52 45.2	0.0
HOM	**Homer**	0.47	111	P	Pn	21 52 46.1	+0.5
HOM				S	Sn	21 52 57.8	+1.2
RED	**Redoubt Volcan**	0.61	348	P	Pn	21 52 46.8	0.0
AUL	**Augustine Lava**	0.65	227	P	Pn	21 52 47.3	+0.2
AUL				S	Sn	21 52 59.7	+0.5
AUP	**Augustine Pinn**	0.66	225	P	Pn	21 52 47.3	+0.1
AUH	**Augustine H**	0.66	226	P	Pn	21 52 47.4	+0.1
AUI	**Augustine Isla**	0.68	224	P	Pn	21 52 47.3	0.0
RDWB	**Redoubt West**	0.68	346	P	Pn	21 52 47.5	-0.1
RDWB				S	Sn	21 52 59.6	-0.5
RDN	**Redoubt North**	0.70	350	P	Pn	21 52 47.9	+0.2
CNPM	**China Poot**	0.71	114	P	Pn	21 52 48.1	+0.4
CNPM				S	Sn	21 53 01.0	+0.6
NCT	**North Crescent**	0.77	344	P	Pn	21 52 48.3	0.0
DFR	**Drift River**	0.77	354	P	Pn	21 52 48.5	+0.2
BRLK	**Bradley Lake**	0.82	94	P	Pn	21 52 49.1	+0.3
BRLK				S	Sn	21 53 02.5	+0.2
SLKM	**Skilak Lake**	1.33	58	P	Pn	21 52 54.9	+0.2
CKL	**Chakachamna La**	1.38	4	P	Pn	21 52 55.9	+0.6
CKN	**Chakachatna No**	1.41	7	P	Pn	21 52 56.5	+0.8
SPBG	**Spurr Blockage**	1.44	3	P	Pn	21 52 56.7	+0.7
SPBG				S	Sn	21 53 15.5	+0.4
BGL	**Barrier Glacie**	1.44	2	P	Pn	21 52 56.8	+0.7
SEW	**Seward**	1.57	78	P	Pn	21 52 58.1	+0.6
STLK	**Strandline Lak**	1.71	11	P	Pn	21 53 00.3	+0.8
FIB	**Fire Island**	1.77	40	P	Pn	21 53 02.1	+2.0
SUA	**Susitna One**	1.86	27	P	Pn	21 53 02.5	+1.1
SUA				S	Sn	21 53 26.4	+1.8
RC01	**Rabbit Creek A**	1.87	46	P	Pn	21 53 01.9	+0.5
RC01				S	Sn	21 53 25.5	+0.8
SVW2	**Sparrevohn**	1.98	311	P	Pn	21 53 02.7	-0.2
KAKN	**Katmai Knife C**	2.02	222	P	Pn	21 53 03.7	+0.3
PTE	**Portage**	2.02	57	P	Pn	21 53 04.2	+0.8
KVTA	**Katmai Vly 10**	2.04	226	P	Pn	21 53 03.9	+0.3
KDAK	**Kodiak Island**	2.05	181	P	Pn	21 53 03.1	-0.6
KCE	**Katmai Mt Cerb**	2.10	222	P	Pn	21 53 05.3	+0.8
KABU	**Katmai Buttres**	2.12	224	P	Pn	21 53 05.4	+0.7
KABR	**Katmai Barrier**	2.12	218	P	Pn	21 53 05.1	+0.3
KELA	**Mount Kelaz**	2.17	232	P	Pn	21 53 05.7	+0.3
SKT	**Skwentna**	2.21	12	P	Pn	21 53 06.5	+0.6
OHAK	**Old Harbor**	2.54	189	P	Pn	21 53 10.6	-1.0
PLK2	**Peulik 2**	2.87	225	P	Pn	21 53 15.1	+0.5
GLI	**Glacier Island**	2.89	66	P	Pn	21 53 13.9	-1.0
PLK3	**Peulik 3**	2.90	224	P	Pn	21 53 15.6	+0.6
PLK1	**Peulik 1**	2.94	228	P	Pn	21 53 15.8	+0.3
PLK4	**Peulik 4**	2.98	224	P	Pn	21 53 16.5	+0.3
PPLA	**Purkeypile**	3.09	3	P	Pn	21 53 18.9	+1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JPK	**Jack Peak**	3.18	65	P	Pn	21 53 18.7	-0.1
SCM	**Sheep Creek Mo**	3.24	49	P	Pn	21 53 19.8	+0.1
VMT	**TAPS Tl Valdez**	3.29	65	P	Pn	21 53 20.5	+0.3
VLZ	**Valdez**	3.33	64	P	Pn	21 53 20.6	-0.1
SII	**Sitkinak Islan**	3.39	196	P	Pn	21 53 21.1	-0.6
EYAK	**Cordova Ski Ar**	3.46	75	P	Pn	21 53 22.1	-0.4
TT01	**Tatalina**	3.52	333	P	Pn	21 53 23.6	+0.2
DIV	**Divide**	3.58	66	P	Pn	21 53 24.2	-0.1
CAST	**Castle Rocks**	3.61	3	P	Pn	21 53 25.4	+0.8
KLU	**Klutina**	3.65	60	P	Pn	21 53 25.0	-0.1
TRF	**Thorofare Moun**	3.79	15	P	Pn	21 53 27.2	+0.1
KTH	**Kantishna Hill**	3.82	11	P	Pn	21 53 28.2	+0.8
GOAT	**Goat Mountain**	3.96	76	P	Pn	21 53 29.0	-0.3
RAGM	**Ragged Mountai**	3.96	78	P	Pn	21 53 28.9	-0.5
RND	**Reindeer**	4.00	24	P	Pn	21 53 30.2	+0.4
BMRM	**Bremner River**	4.09	70	P	Pn	21 53 30.5	-0.6
DHY	**Denali Highway**	4.09	35	P	Pn	21 53 32.0	+0.9
PS11	**TAPS Pump St11**	4.11	54	P	Pn	21 53 32.0	+0.7
MCK	**McKinley**	4.27	22	P	Pn	21 53 34.7	+1.2
NICHA	**Nichawak Mount**	4.31	81	P	Pn	21 53 33.6	-0.3
SUCK	**Suckling Hills**	4.40	83	P	Pn	21 53 35.6	+0.4
HARP	**HAARP**	4.41	51	P	Pn	21 53 36.2	+0.8
BERG	**Berg Lake**	4.45	79	P	Pn	21 53 36.2	+0.3
GLB	**Gilahina Butte**	4.58	66	P	Pn	21 53 38.0	+0.3
BWN	**Browne**	4.59	17	P	Pn	21 53 39.2	+1.4
PAX	**Paxson**	4.63	44	P	Pn	21 53 39.0	+0.7
KHIT	**Khitrov Hills**	4.67	78	P	Pn	21 53 39.4	+0.3
VRDI	**Verde Repeater**	4.69	69	P	Pn	21 53 39.2	-0.2
PS10	**TAPS Pump St10**	4.83	39	P	Pn	21 53 42.3	+1.2
KULT	**Kultieth River**	4.93	81	P	Pn	21 53 42.1	-0.3
MCARA	**McCarthy VSAT**	4.93	67	P	Pn	21 53 42.6	+0.2
BARK	**Barkley Ridge**	5.05	79	P	Pn	21 53 44.0	-0.1
DDM	**Donnelly Dome**	5.07	36	P	Pn	21 53 46.1	+1.8
WRH	**Wood River Hil**	5.10	22	P	Pn	21 53 44.9	+0.2
ISLE	**Juniper Island**	5.13	77	P	Pn	21 53 44.8	-0.5
PTPK	**Patty Peak**	5.15	70	P	Pn	21 53 46.1	+0.5
KIAG	**Kiagna River**	5.16	73	P	Pn	21 53 45.3	-0.3
BALM	**Baldy**	5.18	72	P	Pn	21 53 46.3	+0.4
BAGL	**Bagley Icefiel**	5.25	78	P	Pn	21 53 47.7	+1.0
MLY	**Manley**	5.29	8	P	Pn	21 53 48.1	+0.8
CCB	**Clear Creek Bu**	5.31	22	P	Pn	21 53 47.6	0.0
MESA	**MESA**	5.31	82	P	Pn	21 53 48.3	+0.5
GCSA	**Galena City Sc**	5.34	339	P	Pn	21 53 48.3	+0.3
GRNC	**Granite Creek**	5.43	76	P	Pn	21 53 50.4	+1.0
PS08	**TAPS Pump Stn8**	5.43	27	P	Pn	21 53 49.8	+0.6
COLA	**College**	5.51	21	P	Pn	21 53 50.6	+0.4
BARN	**Barnard Glacie**	5.51	72	P	Pn	21 53 51.1	+0.5
MDM	**Murphy Dome**	5.52	19	P	Pn	21 53 50.9	+0.4
DOT	**Dot Lake**	5.55	43	P	Pn	21 53 51.8	+0.9
IL1	**Eielson Array**	5.61	25	P	Pn	21 53 51.6	-0.1
ILAR	**Eielson Array**	5.61	25	P	Pn	21 53 51.5	-0.1
ILAR	11nm,0.3s,baz=208,slow=14,SNR=279			S	Sn	21 54 51.9	-2.8
ILB	4.9nm,0.3s,baz=203,slow=16,SNR=5.2 **Eielson Array**	5.61	25	P	Pn	21 53 51.7	0.0
RKAV	**Rock Avalanche**	5.61	80	P	Pn	21 53 52.6	+0.7
GLM	**Gilmore Dome**	5.70	22	P	Pn	21 53 53.4	+0.5
TABL	**Table Mountain**	5.72	79	P	Pn	21 53 53.6	+0.3
CHX	**Chaix Hills**	5.73	83	P	Pn	21 53 54.2	+0.8
SCRK	**Sand Creek**	5.79	40	P	Pn	21 53 54.7	+0.5
BCA3	**Beaver Creek A**	6.08	53	P	Pn	21 53 58.9	+0.7
PS06	**TAPS Pump Stn6**	6.18	11	P	Pn	21 54 00.4	+1.0
IM3	**Indian Mountai**	6.21	355	P	Pn	21 54 00.1	+0.4
PS05	**TAPS Pump Stn5**	7.06	6	P	Pn	21 54 12.7	+1.4
EGAK	**Eagle**	7.25	42	P	Pn	21 54 13.7	-0.2
DAWY	**Dawson**	7.50	50	P	Pn	21 54 18.2	+0.9
COLD	**Co

	baz=41								
NRN					*e*S		**Sg**	22 07 10.0	**-0.4**
	baz=41								
AML	**Almayashu**	**2.64**	**359**		P		**Pb**	22 06 35.4	**+0.2**
	SNR=19								
AML	**Almayashu**	**2.64**	**359**	⇑	*i*P		**Pb**	22 06 35.4	**+0.2**
	baz=359								
AML				⇑	*i*S		**Sb**	22 07 10.2	**+2.3**
	baz=359								
ARK	**Arkit**	**2.68**	**330**		*e*P		**Pb**	22 06 35.4	**-0.3**
	baz=330								
ARK					*e*S		**Sg**	22 07 12.4	**-1.0**
	baz=330								
UCH	**Uchtor**	**2.79**	**12**		P		**Pb**	22 06 38.6	**+0.8**
	SNR=29								
UCH	**Uchtor**	**2.79**	**12**	⇑	*i*P		**Pb**	22 06 38.2	**+0.3**
	baz=12								
UCH				⇑	*i*S		**Sg**	22 07 16.3	**-0.8**
	baz=12								
KZA	**Kyzart**	**2.82**	**23**		P		**Pg**	22 06 41.0	**-0.5**
	SNR=13								
KZA	**Kyzart**	**2.82**	**23**	⇑	*i*P		**Pb**	22 06 39.1	**+0.8**
	baz=23								
KZA				⇑	*i*S		**Sg**	22 07 19.2	**+1.2**
	baz=23								
MNAS	**Manas**	**3.14**	**343**	⇓	Pn		**Pn**	22 06 35.6	**-1.8**
	3.8nm,0.5s								
MNAS				⇑	Lg		Lg	22 07 28.2	
	15nm,0.7s								
EKS2	**Erkin-Say**	**3.17**	**0**	⇑	*i*P		**Pb**	22 06 42.8	**-1.2**
	baz=0.0								
EKS2				⇑	*i*S		**Sb**	22 07 24.5	**+1.6**
	baz=0.0								
AAK	**Ala-Archa**	**3.19**	**10**	⇓	Pg		**Pb**	22 06 44.6	**+0.1**
	5.1nm,0.5s								
AAK				⇓	Lg		Lg	22 07 29.5	
	8.3nm,0.7s								
AAK	**Ala-Archa**	**3.19**	**10**		P		**Pb**	22 06 44.4	**0.0**
	SNR=13								
AAK	**Ala-Archa**	**3.19**	**10**	⇑	*i*P		**Pb**	22 06 44.5	**+0.1**
	baz=10.0								
AAK				⇑	*i*S		**Sb**	22 07 26.8	**+3.3**
	baz=10.0								
KBK	**Karagaybulak**	**3.29**	**15**		P		**Pg**	22 06 49.4	**-1.0**
	SNR=5.9								
KBK	**Karagaybulak**	**3.29**	**15**	⇑	*i*P		**Pb**	22 06 45.3	**-0.8**
	baz=16								
KBK				⇑	*i*S		**Sg**	22 07 31.0	**-1.9**
	baz=16								
ULHL	**Ulahol**	**3.33**	**34**		P		**Pg**	22 06 49.9	**-1.3**
	SNR=7.5								
ULHL	**Ulahol**	**3.33**	**34**	⇑	*i*P		**Pb**	22 06 48.1	**+1.2**
	baz=34								
ULHL				⇑	*i*S		**Sg**	22 07 34.6	**+0.2**
	baz=34								
TKM2	**Tokmak 2**	**3.69**	**21**	⇓	Pg		Pn	22 06 48.3	+3.2
	3.7nm,0.6s								
TKM2				⇑	Lg		Lg	22 07 44.7	
	9.2nm,0.8s								
KK31	**Karatay Array**	**4.36**	**327**	⇑	Pn		Pb	22 06 58.9	-5.5
	0.3nm,0.3s,baz=140,slow=14,SNR=30								
KK31				⇓	Pg		**Pg**	22 07 08.3	**-2.6**
	1.1nm,0.3s,baz=142,slow=16,SNR=7.0								
KK31				⇑	Lg		Lg	22 08 04.6	
	2.2nm,0.5s,baz=152,slow=28								
PDGK	**Podgornoye**	**5.76**	**46**	⇑	Lg		Lg	22 08 54.0	
	8.6nm,1.0s								

*ISCJB **08** 22:21:13.2±0.9, 36°.61S±0°.04×73°.56W±0°.06, h29km±6km, mb4.7/51, MS4.2/6, Error ellipse: s-maj=8.7km s-min=5.6km az=16.2*

*GUC **08** 22:21:13.3±0.6, 36°.68S×73°.61W, h22km±4km, ML4.6*

*NEIC **08** 22:21:14.6±1.7, 36°.55S×73°.54W, h26km±3km, mb4.8/39, Error ellipse: s-maj=23.1km s-min=11.2km az=90.0*

NEIC Felt [III] at Concepcion. Also felt at Coronel, Lebu, Nacimiento and Talcahuano.

*IDC **08** 22:21:14.4±0.5, 36°.61S×73°.42W, h23km±2km, mb4.1/16, mb1 4.3/19, mb1mx4.2/24, mbtmp4.3/19, ML3.9/3, MS4.0/8, Ms1 4.0/8, ms1mx3.8/19, Error ellipse: s-maj=19.1km s-min=13.0km az=87.0*

*BJI **08** 22:21:18.2, 36°.50S×73°.20W, h35km, mB5.1/3, Ms5.0/5, Ms7 4.6/5*

ISC 08 22:21:14.4±0.5, 36°.61S±0°.04×73°.55W±0°.06, h26km±3km, h25km:pP-P, n122, σ1§26/141, mb4.8/51, MS4.2/6, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.43**	**123**	⇓	*e*P	**Pb**	**22 21 22.0**	**-1.5**
CCSP					*e*S	**Sb**	**22 21 28.7**	**-0.9**
CCSP					AML	AML	22 21 32.1	
	comp=E,81µm,0.3s							
COCH	**Cobquecura**	**0.78**	**52**	⇓	*e*P	**Pb**	**22 21 28.4**	**-1.0**
COCH					*e*S	**Sn**	**22 21 40.5**	**-0.1**
LNCH	**Linares**	**1.75**	**65**		*e*P	**Pn**	**22 21 42.1**	**-1.1**
LNCH					*e*S	**Sn**	**22 22 05.2**	**+0.5**
TALC	**Talca**	**1.97**	**53**		*e*P	**Pn**	**22 21 47.7**	**+1.6**
TALC					*e*S	**Sb**	**22 22 15.2**	**+1.5**
NICH	**Los Niches**	**2.48**	**50**		*e*P	**Pn**	**22 21 54.9**	**+1.8**
NICH					*e*S	**Sb**	**22 22 30.4**	**+2.0**
CHCH	**Chadas Angostu**	**3.57**	**42**		*e*P	**Pn**	**22 22 08.3**	**0.0**
RCDM	**Rinconada Maip**	**3.84**	**37**		*e*P	**Pn**	**22 22 11.3**	**-0.7**
CLCH	**Cerro Calan**	**4.05**	**39**	⇑	*e*P	**Pn**	**22 22 13.7**	**-1.2**
YECH	**El Yeso**	**4.09**	**45**		*e*P	**Pn**	**22 22 17.0**	**+1.4**
YECH					*e*S	**Sn**	**22 23 06.1**	**+3.3**
PEL	**Peldehue**	**4.19**	**35**	⇓	*e*P	**Pn**	**22 22 15.9**	**-0.8**
ROCH	**El Roble**	**4.19**	**31**	⇓	*e*P	**Pn**	**22 22 16.0**	**-1.0**
PLCA	**Paso Flores**	**4.74**	**151**		Pn	**Pn**	**22 22 24.8**	**+0.5**
	comp=E,3.8nm,0.3s,baz=335,slow=10,SNR=46							
PLCA					Lg	Lg	22 23 37.6	
	comp=E,10nm,0.3s,baz=295,slow=17,SNR=5.8							
PLCA					LR	LR	22 24 12.9	
	comp=E,1µm,18.2s,baz=321,slow=38							
PLCA	**Paso Flores**	**4.74**	**151**		*e*Pn	**Pn**	**22 22 25.2**	**+0.9**
CMCH	**Combarbala**	**5.82**	**22**	⇑	*e*P	**Pn**	**22 22 37.3**	**-1.9**
CFAA	**Coronel Fontan**	**6.66**	**43**		Pn	**Pn**	**22 22 50.0**	**-0.7**
	comp=E,1.0nm,0.3s,baz=212,slow=13,SNR=43							
CFAA					Sn	**Sn**	**22 24 05.6**	**-0.2**
	comp=E,0.2nm,0.3s,baz=246,slow=20,SNR=1.7							
CFAA					Lg	Lg	22 24 26.9	
	comp=E,0.6nm,0.3s,baz=108,slow=20,SNR=5.5							
CFAA					LR	LR	22 25 45.3	
	comp=E,189nm,19.3s,baz=227,slow=41							
LCO	**Las Campanas**	**7.95**	**18**		*e*P	**Pn**	**22 23 06.6**	**-2.0**
LCO	**Las Campanas**	**7.95**	**18**		*e*Pn	**Pn**	**22 23 06.6**	**-2.0**
TRQA	**Tornquist**	**9.33**	**102**		*e*Pn	**Pn**	**22 23 27.8**	**+0.5**
CHRN	**Cochrane**	**10.54**	**177**		*e*P	**Pn**	**22 23 44.9**	**+1.1**
LVC	**Limon Verde**	**14.52**	**17**		*e*Pn	**Pn**	**22 24 38.4**	**-0.1**
PSGC	**Pisagua**	**17.22**	**11**		*e*P	Pn	22 25 07.7	-5.6
MNMC	**Minimini**	**17.76**	**12**		*e*P	**Pn**	**22 25 19.3**	**-0.9**
USHA	**Ushuaia**	**18.56**	**171**		P	**Pn**	**22 25 30.5**	**+1.0**
	comp=E,0.1nm,0.3s,baz=336,slow=10,SNR=2.9							
LPAZ	**La Paz**	**20.81**	**15**		P	**P**	**22 25 55.7**	**+1.2**
	comp=E,7.4nm,0.8s,baz=186,slow=9.3,SNR=18							
LPAZ	**La Paz**	**20.81**	**15**		*e*P	**P**	**22 25 55.7**	**+1.2**
	comp=E,24nm,0.9s							
SIV	**San Ignacio**	**23.34**	**32**		P	**P**	**22 26 19.7**	**-1.2**
	comp=E,14nm,0.9s,baz=221,slow=9.3,SNR=16							
SAML	**Samuel**	**29.11**	**21**		*e*P	**P**	**22 27 12.9**	**-0.2**
	comp=E,13nm,1.4s							
BDFB	**Brasilia**	**30.85**	**54**		P	**P**	**22 27 27.5**	**-1.2**
	comp=E,2.6nm,0.6s,baz=235,slow=11,SNR=3.6							
BDFB					LR	LR	22 41 17.7	
	comp=E,736nm,19.2s,baz=227,slow=39							
BDFB	**Brasilia**	**30.85**	**54**		*e*P	**P**	**22 27 29.2**	**+0.5**
PTGA	**Pitinga**	**37.86**	**23**		P	**P**	**22 28 28.3**	**-1.0**
	comp=E,7.0nm,0.9s,baz=207,slow=11,SNR=10							
PTGA	**Pitinga**	**37.86**	**23**		*e*P	**P**	**22 28 28.3**	**-1.0**
	comp=E,16nm,1.2s							
SDV	**Santo Domingo**	**45.34**	**4**		*e*P	**P**	**22 29 29.9**	**-0.8**
	comp=E,10.0nm,1.0s							
VNA3	**Neumayer Olymp**	**47.43**	**157**		P	**P**	**22 29 47.7**	**+1.3**
VNA2	**Neumayer--Watz**	**48.11**	**156**		P	**P**	**22 29 52.2**	**+0.6**
	baz=293,slow=8.4							
SNAA	**Sanae**	**49.66**	**157**		P	**P**	**22 30 03.7**	**+0.1**
	comp=E,2.4nm,0.9s,baz=272,slow=8.4,SNR=8.4							
SNAA	**Sanae**	**49.66**	**157**		*e*P	**P**	**22 30 03.0**	**-0.5**
	comp=E,17nm,0.8s							
QSPA	**South Pole Qui**	**53.63**	**180**		P	**P**	**22 30 33.6**	**+0.3**
	comp=E,6.8nm,0.8s,baz=171,slow=7.9,SNR=34							
RKT	**Rikitea**	**54.11**	**266**		*e*T	T	23 28 46.7	
	comp=E,1.5nm,0.2s							
VNDA	**Vanda**	**61.30**	**192**		P	**P**	**22 31 26.9**	**-0.2**
	comp=E,1.0nm,1.0s,baz=212,slow=1.4,SNR=3.5							
TBI	**Tubuai**	**65.54**	**258**		*e*LR	LR	22 51 38.1	
	comp=E,149nm,25.8s							
MEH	**Mehetia**	**67.31**	**264**		*e*T	T	23 45 15.3	
	comp=E,34nm,0.2s							
TIAR	**Tiarei**	**68.50**	**264**		*e*T	T	23 46 44.6	
	comp=E,4.4nm,0.3s							
PPT2	**Papeete2**	**68.67**	**264**		*e*S	S	22 41 25.6	+7.9
	comp=E,63nm,24.2s							
PPT2	**Papeete2**	**68.67**	**264**		*e*LR	LR	22 53 12.6	
	comp=E,222nm,24.2s							
PPT	**Papeete**	**68.68**	**264**		LR	LR	22 55 44.4	
	comp=E,234nm,18.1s,baz=174,slow=30							
JCT	**Junction City**	**71.14**	**336**		*e*P	**P**	**22 32 30.4**	**-0.2**
	comp=E,9.4nm,1.0s							
LTX	**Lajitas**	**71.44**	**332**		*e*P	**P**	**22 32 33.2**	**+0.6**
TXAR	**Lajitas Array**	**71.44**	**332**		P	**P**	**22 32 33.2**	**+0.6**
	comp=E,1.0nm,0.6s,baz=150,slow=8.7,SNR=13							
TXAR					LR	LR	22 59 32.0	
	comp=E,112nm,18.1s,baz=0.0,slow=32							
WHTX	**Lake Whitney,**	**71.82**	**339**		*e*P	**P**	**22 32 34.7**	**0.0**
	comp=E,8.7nm,0.8s							
SWET	**Sewanee**	**72.39**	**349**		*e*P	**P**	**22 32 38.4**	**+0.3**
TKL	**Tuckaleechee C**	**72.53**	**351**		P	**P**	**22 32 39.8**	**+0.9**
	comp=E,1.8nm,0.6s,baz=198,slow=7.4,SNR=2.8							
TKL	**Tuckaleechee C**	**72.53**	**351**		*e*P	**P**	**22 32 39.0**	**+0.2**
ABTX	**Abilene, Hawle**	**73.07**	**337**		*e*P	**P**	**22 32 42.2**	**0.0**
	comp=E,3.9nm,1.0s							
WVT	**Waverly**	**73.58**	**348**		*e*P	**P**	**22 32 44.2**	**-0.8**
	comp=E,15nm,1.1s							
TUL1	**Leonard**	**75.06**	**341**		*e*P	**P**	**22 32 53.4**	**-0.2**
	comp=E,13nm,0.8s							
SIUC	**Southern Illin**	**75.36**	**347**		*e*P	**P**	**22 32 56.8**	**+1.4**
	comp=E,16nm,0.7s							
LIC	**Lamto**	**76.77**	**72**		*e*P	**P**	**22 33 03.9**	**-0.1**
	comp=E,31nm,1.0s							
TUC	**Tucson**	**76.90**	**328**		*e*P	**P**	**22 33 04.3**	**-0.1**
	comp=E,4.3nm,1.1s							
TIC	**Toumodi**	**77.04**	**72**		*e*P	**P**	**22 33 05.5**	**-0.1**
	comp=E,4.9nm,0.2s							
KIC	**Kosan Boka**	**77.08**	**72**		*e*P	**P**	**22 33 05.8**	**+0.1**
	comp=E,26nm,0.8s							
DBIC	**Dimbokro**	**77.18**	**72**		P	**P**	**22 33 06.5**	**+0.2**
	comp=E,11nm,0.8s,baz=215,slow=5.1,SNR=11							
DBIC					pP	**pP**	**22 33 14.9**	**+0.4**
	comp=E,4.5nm,0.6s,baz=211,slow=6.6,SNR=4.3							
DBIC					LR	LR	23 03 20.5	
	comp=E,80nm,20.2s,baz=208,slow=33							
DBIC	**Dimbokro**	**77.18**	**72**		*e*P	**P**	**22 33 05.6**	**-0.7**
	comp=E,14nm,0.9s							
ANMO	**Albuquerque**	**77.50**	**333**		*e*P	**P**	**22 33 06.6**	**-1.2**
	comp=E,14nm,1.4s							
T25A	**Trinidad**	**78.75**	**335**		*e*P	**P**	**22 33 13.7**	**-1.0**
	comp=E,8.6nm,0.8s							
BOSA	**Boshof**	**79.95**	**118**		P	**P**	**22 33 21.3**	**-0.3**
	comp=E,5.7nm,0.9s,baz=226,slow=6.6,SNR=6.7							
BOSA					LR	LR	23 04 50.8	
	comp=E,58nm,18.3s,baz=208,slow=33							
S22A	**4UR Ranch, Cre**	**80.14**	**334**		*e*P	**P**	**22 33 21.5**	**-0.9**
	comp=E,3.9nm,0.9s							
Q24A	**Divide**	**80.65**	**336**		*e*P	**P**	**22 33 25.8**	**+0.7**
	comp=E,6.3nm,0.8s							
PV01	**Paradox Valley**	**81.11**	**333**		*e*P	**P**	**22 33 29.0**	**+1.5**
SMCO	**Snowmass**	**81.47**	**334**		*e*P	**P**	**22 33 28.6**	**-1.0**
	comp=E,8.3nm,1.0s							
PV09	**Paradox Valley**	**81.64**	**333**		*e*P	**P**	**22 33 30.4**	**-0.1**
KNB	**Kanab**	**81.80**	**329**		*e*P	**P**	**22 33 31.1**	**-0.1**
	comp=E,6.0nm,0.9s							
LBTB	**Lobatse**	**82.32**	**115**		*e*P	**P**	**22 33 32.7**	**-1.6**
	comp=E,90nm,2.3s							
CCUT	**Cedar City**	**82.48**	**329**		*e*P	**P**	**22 33 33.7**	**-1.1**
	comp=E,4.3nm,0.9s							
ECSD	**EROS Data Cent**	**82.67**	**343**		*e*P	**P**	**22 33 34.8**	**-0.5**
	comp=E,14nm,0.8s							
SRU	**San Rafael Swe**	**82.70**	**332**		*e*P	**P**	**22 33 35.7**	**-0.1**
	comp=E,6.4nm,0.8s							
MVU	**Marysvale**	**82.83**	**330**		*e*P	**P**	**22 33 36.0**	**-0.6**
	comp=E,13nm,1.8s							
TMUT	**Trail Mountain**	**83.12**	**331**		*e*P	**P**	**22 33 37.4**	**-0.8**
	comp=E,9.5nm,1.2s							
MPU	**Maple Canyon**	**83.91**	**332**		*e*P	**P**	**22 33 40.6**	**-1.4**
	comp=E,9.3nm,1.0s							
R11A	**Troy Canyon, C**	**84.09**	**328**		*e*P	**P**	**22 33 42.6**	**-0.4**
	comp=E,3.6nm,1.0s							
DUG	**Dugway, Tooele**	**84.52**	**331**		*e*P	**P**	**22 33 44.2**	**-0.8**
	comp=E,6.1nm,1.0s							
TCUT	**Toone Canyon**	**84.78**	**332**		*e*P	**P**	**22 33 45.6**	**-0.8**
	comp=E,9.9nm,0.9s							
RSSD	**Black Hills**	**84.98**	**338**		*e*P	**P**	**22 33 47.2**	**-0.2**
	comp=E,7.1nm,0.8s							
HWUT	**Hardware Ranch**	**85.26**	**332**		*e*P	**P**	**22 33 48.2**	**-0.6**
	comp=E,12nm,1.0s							
NV01	**Mina Array Sit**	**85.34**	**326**		*e*P	**P**	**22 33 50.7**	**+1.4**
NV01					*e*pP	**pP**	**22 33 58.2**	**+0.5**
NVAR	**Mina Array Bea**	**85.34**	**326**		P	**P**	**22 33 50.7**	**+1.4**
	comp=E,1.0nm,0.8s,baz=160,slow=5.8,SNR=5.1							
NVAR					pP	**pP**	**22 33 58.2**	**+0.5**
	comp=E,2.6nm,0.9s,baz=151,slow=6.2,SNR=8.7							
BW06	**Boulder Array**	**85.55**	**334**		*e*P	**P**	**22 33 50.5**	**+0.2**
	comp=E,4.2nm,0.9s							
PD31	**Pinedale Array**	**85.55**	**334**		*e*P	**P**	**22 33 51.1**	**+0.8**
PD31					*e*pP	**pP**	**22 33 58.6**	**0.0**
PDAR	**Pinedale Array**	**85.55**	**334**		P	**P**	**22 33 51.1**	**+0.8**
	comp=E,0.7nm,0.8s,baz=155,slow=5.0,SNR=4.4							
PDAR					pP	**pP**	**22 33 58.6**	**0.0**
	comp=E,2.1nm,0.8s,baz=142,slow=4.6,SNR=13							
HVU	**Hansel Valley**	**85.87**	**332**		*e*P	**P**	**22 33 52.5**	**+0.7**
	comp=E,4.7nm,0.8s							
ELK	**Elko**	**85.96**	**330**		P	**P**	**22 33 53.7**	**+1.3**
	comp=E,0.5nm,0.4s,baz=162,slow=6.6,SNR=2.6							
ELK					pP	**pP**	**22 34 00.8**	**+0.1**
	comp=E,2.7nm,0.8s,baz=182,slow=5.2,SNR=6.2							
ELK	**Elko**	**85.96**	**330**		*e*P	**P**	**22 33 51.2**	**-1.2**
	comp=E,46nm,1.9s							
TOA0	**Torodi Ar. Sit**	**86.25**	**71**		*e*P	**P**	**22 33 53.6**	**-0.5**
TOA0					*e*pP	**pP**	**22 34 01.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**86.25**	**71**		P	**P**	**22 33 53.6**	**-0.5**
	comp=E,3.5nm,0.9s,baz=215,slow=4.5,SNR=19							
TORD					pP	**pP**	**22 34 01.8**	**-0.7**
	comp=E,2.0nm,0.9s,baz=231,slow=4.8,SNR=6.2							
TORD					LR	LR	23 11 29.7	
	comp=E,96nm,18.2s,baz=240,slow=35							
REDW	**Red Top Meadow**	**86.53**	**334**		*e*P	**P**	**22 33 56.7**	**+1.6**
	comp=E,23nm,1.8s							
TPAW	**Teton Pass**	**86.67**	**334**		*e*P	**P**	**22 33 55.9**	**0.0**
	comp=E,7.8nm,0.9s							
FXWY	**Fox Creek**	**86.83**	**334**		*e*P	**P**	**22 33 55.2**	**-1.3**
	comp=E,4.1nm,1.0s							
AGMN	**Agassiz Nation**	**86.84**	**345**		*e*P	**P**	**22 33 56.5**	**+0.3**
HLID	**Hailey**	**88.02**	**332**		*e*P	**P**	**22 34 01.9**	**-0.3**
	comp=E,30nm,2.0s							
MCMT	**McKenzie Canyo**	**88.52**	**333**		*e*P	**P**	**22 34 03.9**	**-0.8**
ULM	**Lac du Bonnet**	**88.71**	**346**		P	**P**	**22 34 05.2**	**+0.2**
	comp=E,1.2nm,0.4s,baz=180,slow=7.1,SNR=2.5							
ULM					pP	**pP**	**22 34 11.8**	**-1.6**
	comp=E,4.3nm,0.8s,baz=172,slow=4.6,SNR=5.4							
GERES	**GERESS Array B**	**114.86**	**47**		PKP	PKPdf	22 39 52.5	+0.1
	comp=E,0.2nm,0.6s,baz=241,slow=3.2,SNR=3.3							
GERES					pPKP	PKiKP	22 39 58.9	+6.4
	comp=E,0.7nm,0.7s,baz=211,slow=3.4,SNR=4.4							
WRA	**Warramunga Arr**	**117.88**	**210**		PKP	**PKPdf**	**22 39 57.6**	**-1.5**
	comp=E,0.2nm,0.6s,baz=153,slow=1.9,SNR=3.8							
BRTR	**Keskin Array B**	**124.15**	**63**		pPKP	pPKPdf	22 40 17.5	-1.7
	comp=E,0.3nm,0.3s,baz=198,slow=4.1,SNR=3.5							
H11S2	**WAKE ISLAND Hyl**	**124.47**	**268**		T	T	00 57 22.7	
	baz=118							
H11S1	**WAKE ISLAND Hyl**	**124.48**	**268**		T	T	00 57 17.7	
	baz=118							
H11S3	**WAKE ISLAND Hyl**	**124.49**	**268**		T	T	00 57 09.2	
	baz=118							
AKASG	**Malin Array Be**	**124.85**	**49**		PKP	**PKPdf**	**22 40 10.2**	**-1.2**
	comp=E,0.4nm,0.5s,baz=225,slow=1.2,SNR=2.9							
AKASG					pPKP	**pPKPdf**	**22 40 17.6**	**-2.4**
	comp=E,0.2nm,0.2s,baz=259,slow=3.3,SNR=2.8							
HYB	**Hyderabad**	**148.82**	**120**		*i* PKP	**PKPbc**	**22 41 00.0**	**-0.2**
BVAR	**Borovoye Array**	**150.01**	**45**		PKPbc	**PKPbc**	**22 41 02.4**	**+0.3**
	comp=E,0.8nm,0.5s,baz=296,slow=3.8,SNR=8.6							
BVAR					pPKPbc	**pPKPbc**	**22 41 09.7**	**-0.9**
	comp=E,2.1nm,0.7s,baz=302,slow=3.5,SNR=10							
AAK	**Ala-Archa**	**154.76**	**66**		PKPbc	**PKPbc**	**22 41 11.7**	**-1.6**
	comp=E,1.3nm,0.9s,baz=270,slow=6.1,SNR=4.6							
KURBB	**Kurchatov Arra**	**155.59**	**46**		PKP	**PKPdf**	**22 41 05.6**	**+0.3**
	comp=E,0.3nm,0.3s,baz=300,slow=1.9,SNR=3.9							
KURBB					pPKP	**pPKPdf**	**22 41 12.9**	**-1.0**
	comp=E,0.7nm,0.5s,baz=296,slow=2.2,SNR=3.8							
KSH	**Kashi**	**155.89**	**74**		*e*PKP	**PKPdf**	**22 41 05.8**	**-0.4**
KSH					pPKP	**pPKPdf**	**22 41 16.5**	**+1.7**
KSH					SKS	**SKSdf**	**22 48 07.6**	**-3.3**
KSH					PPMZ			
	comp=E,200nm,3.9s							
KSH					LN			
	comp=E,80nm,5.0s							
KSH					LE			
	comp=E,53nm,4.8s							
KSH					LZ			
	comp=E,130nm,6.0s							
ZALV	**Zalesovo Beam**	**157.09**	**34**		PKP	**PKPdf**	**22 41 06.2**	**-0.9**
	comp=E,0.3nm,0.3s,baz=306,slow=3.4,SNR=3.4							
ZALV					pPKP	**pPKPdf**	**22 41 13.8**	**-1.9**
	comp=E,1.6nm,0.8s,baz=302,slow=3.3,SNR=5.0							
ZALV					PKPab	**PKPab**	**22 41 37.9**	**+0.2**
	comp=E,6.3nm,1.2s,baz=308,slow=4.0,SNR=4.1							
MKAR	**Makanchi Array**	**159.37**	**53**		PKP	**PKPdf**	**22 41 09.6**	**-0.6**
	comp=E,0.1nm,0.5s,baz=277,slow=1.4,SNR=3.6							
MKAR					pPKP	**pPKPdf**	**22 41 17.2**	**-1.6**
	comp=E,1.2nm,0.9s,baz=30,slow=1.1,SNR=7.6							
MKAR					PKPab	**PKPab**	**22 41 47.4**	**-0.6**
	comp=E,1.2nm,0.9s,baz=302,slow=4.0,SNR=6.7							
WMQ	**Urumqi**	**163.99**	**58**		*e*PKP	**PKPdf**	**22 41 17.0**	**+1.9**
WMQ					pPKP	**pPKPdf**	**22 41 28.0**	**+4.3**
WMQ					sPKP		22 41 31.5	
WMQ					LN			
	comp=E,71nm,26.2s							
WMQ					LZ			
	comp=E,87nm,20.6s							
NJ2	**Nanjing**	**168.78**	**250**		*e*PKP	**PKPdf**	**22 41 21.3**	**+2.2**
SONM	**Songino Array**	**168.78**	**0**		PKPab	**PKPab**	**22 42 28.7**	**-0.6**
	comp=E,0.3nm,0.7s,baz=342,slow=3.6,SNR=3.2							
SONM					pPKPab	**pPKPab**	**22 42 37.1**	**-0.5**
	comp=E,1.2nm,0.8s,baz=341,slow=5.2,SNR=8.4							
BJI	**Beijing**	**171.62**	**297**		PKP	**PKPdf**	**22 41 24.1**	**+3.7**
BJI					SS	SS	23 07 42.1	+2.7
BJI					LN			
	comp=E,110nm,23.7s							
BJI					LE			
	comp=E,210nm,25.2s							
BJI					LZ			
	comp=E,31nm,22.5s							
CD2	**Chengdu**	**173.89**	**158**		PKP	**PKPdf**	**22 41 23.6**	**+1.8**
GTA	**Gaotai**	**174.06**	**60**		*e*PKP	PKPdf	22 41 29.2	+7.5
GTA					pPKP	pPKPdf	22 41 39.8	+9.5
GTA					sPKP		22 41 43.5	
HHC	**Hu-ho-hao-te**	**174.18**	**318**		*e*PKP	**PKPdf**	**22 41 23.8**	**+2.2**
HHC					PKS	**PKSdf**	**22 44 54.6**	**+0.7**
HHC					PP	**PP**	**22 46 49.6**	**+4.0**
HHC					SKS	**SKSdf**	**22 48 21.7**	**-1.4**
HHC					SKKS	**SKKSac**	**22 53 30.6**	**+0.3**
HHC					SS	**SS**	**23 08 01.2**	**-2.2**
HHC					PPMZ			
	comp=E,23nm,5.4s							
HHC					LN			
	comp=E,120nm,19.0s							
HHC					LE			
	comp=E,120nm,20.0s							
HHC					LZ			
	comp=E,110nm,18.8s							
LZH	**Lanzhou**	**177.84**	**103**		*e*PKP	**PKPdf**	**22 41 23.4**	**+0.7**
LZH					pPKP	**pPKPdf**	**22 41 34.5**	**+3.1**
LZH					sPKP		22 41 38.6	
LZH					LN			
	comp=E,180nm,18.0s							
LZH					LE			
	comp=E,190nm,18.2s							
LZH					LZ			
	comp=E,230nm,20.1s							

**DJA 08 22:21:32.2±1.3, 4°N±8°×9°6E±°, h33km±18km, M4.3

KURBB	**Kurchatov Arra**	**52.14**	**345**	P		**P**	**22 31 30.9**	**+0.4**
	1.0nm,0.5s,baz=165,slow=6.9,SNR=14								
USRK	**Ussuriysk Ar.**	**53.40**	**31**	P		**P**	**22 31 39.9**	**-0.1**
	4.1nm,0.8s,baz=222,slow=5.5,SNR=5.8								
ZALV	**Zalesovo Beam**	**54.02**	**351**	P		**P**	**22 31 44.4**	**+0.1**
	4.0nm,0.4s,baz=178,slow=7.5,SNR=32								
BVAR	**Borovoye Array**	**56.63**	**341**	P		**P**	**22 32 02.9**	**-0.3**
	1.2nm,0.7s,baz=148,slow=8.7,SNR=8.8								
AKTO	**Aktyubinsk**	**59.52**	**332**	P		**P**	**22 32 22.7**	**-0.8**
	0.8nm,0.6s,baz=144,slow=7.6,SNR=3.5								
BRTR	**Keskin Array B**	**69.20**	**313**	P		**P**	**22 33 25.4**	**-1.9**
	0.8nm,0.9s,baz=117,slow=7.3,SNR=2.8								
AKASG	**Malin Array Be**	**75.45**	**323**	P		**P**	**22 34 02.9**	**-1.4**
	0.2nm,0.3s,baz=85,slow=5.2,SNR=4.6								
MLR	**Muntele Rosu**	**76.20**	**317**	P		**P**	**22 34 08.3**	**-0.6**
	0.6nm,1.0s,baz=121,slow=5.9,SNR=3.8								
FINES	**FINESS Array B**	**80.30**	**333**	P		**P**	**22 34 30.7**	**-0.2**
	0.9nm,0.8s,baz=110,slow=7.6,SNR=3.2								
ARCES	**ARCESS Array B**	**82.91**	**340**	P		**P**	**22 34 44.8**	**+0.2**
	1.5nm,0.9s,baz=108,slow=5.8,SNR=3.5								
NB2	**NORSAR Subarra**	**87.29**	**331**	P		P	22 35 14.2	+7.4
	comp=Z,0.7nm,0.8s,baz=99,slow=4.8								
TXAR	**Lajitas Array**	**144.30**	**32**	PKP		**PKPdf**	**22 41 56.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=259,slow=0.5,SNR=4.5								

*ISCJB **08** 22:37:34.6±0.7, 36.60N±0.03×9.68W±0.05, h10km, Error ellipse: s-maj=5.8km s-min=4.3km az=148.2*
*MDD **08** 22:37:36.9±0.9, 36.51N×9.92W, h66km±25km, mb3.9/11, Error ellipse: s-maj=10.0km s-min=6.5km az=79.0, PRXIMO*
*CNRM **08** 22:37:36.3, 36.55N×9.67W, h30km, MD3.3*
*CSEM **08** 22:37:36.6±0.3, 36.52N×9.79W, h30km, ML3.3/13, Error ellipse: s-maj=6.7km s-min=4.7km az=76.0*
*INMG **08** 22:37:38.5±1.1, 36.53N×9.88W, h31km, ML2.4, Error ellipse: s-maj=4.2km s-min=2.6km az=73.0*
*IGIL **08** 22:37:38.4, 36.53N×9.90W, h31km, ML2.5*

ISC 08 22:37:33.1±1.6, **36.54N**±0.06×**9.86W**±0.07, **h10km, n124, σ2.31/211, 6C-1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.23**	**51**	*e*P		**Pg**	**22 37 58.6**	**+1.7**
MORF				*e*S		**Sg**	**22 38 13.5**	**+0.6**
MORF				AML		AML	22 38 14.1	
	comp=N,89nm,0.1s							
MORF	**Marmelete**	**1.23**	**51**	*i* P		**Pg**	**22 37 58.6**	**+1.7**
MORF				*e*S		**Sn**	**22 38 13.8**	**+0.5**
MORF				A		A	22 38 14.3	
	comp=N,58nm,0.1s							
MORF	**Marmelete**	**1.23**	**51**	⇑P		**Pg**	**22 37 58.6**	**+1.7**
MORF				S		**Sn**	**22 38 13.8**	**+0.5**
	comp=N,58nm,0.1s							
MORF	**Marmelete**	**1.23**	**51**	*e*S		**Sn**	**22 38 13.8**	**+0.5**
	comp=N,58nm,0.1s							
PTEO	**Sao Teotonio**	**1.35**	**42**	*i* P		**Pg**	**22 38 00.1**	**+1.0**
PTEO				*e*S		**Sn**	**22 38 16.7**	**+0.6**
PTEO				A		A	22 38 17.8	
	comp=N,25nm,0.2s							
PTEO	**Sao Teotonio**	**1.35**	**42**	⇑P		**Pg**	**22 38 00.1**	**+1.0**
PTEO				S		**Sn**	**22 38 16.7**	**+0.6**
	comp=N,13nm,0.2s							
PTEO	**Sao Teotonio**	**1.35**	**42**	*e*S		**Sn**	**22 38 16.7**	**+0.6**
	comp=N,25nm,0.2s							
PBDV	**Barranco-do-Ve**	**1.70**	**65**	*i* P		**Pb**	**22 38 05.0**	**+0.5**
PBDV				*e*S		**Sn**	**22 38 24.6**	**-0.1**
PBDV				A		A	22 38 28.6	
	comp=N,17nm,0.3s							
PBDV	**Barranco-do-Ve**	**1.70**	**65**	⇑P		**Pb**	**22 38 05.0**	**+0.5**
PBDV				S		**Sn**	**22 38 24.6**	**-0.1**
	comp=N,17nm,0.3s							
PCVE	**Castro Verde**	**1.82**	**53**	*e*Pn		**Pb**	**22 38 06.8**	**+0.3**
PCVE				*e*Sn		**Sn**	**22 38 27.7**	**+0.1**
PCVE	**Castro Verde**	**1.82**	**53**	⇑Pn		**Pb**	**22 38 06.8**	**+0.3**
PCVE				Sn		**Sn**	**22 38 27.7**	**+0.1**
MESJ	**Messejana**	**1.84**	**45**	*e*P		**Pb**	**22 38 06.9**	**+0.1**
MESJ				*e*S		**Sn**	**22 38 27.9**	**-0.2**
MESJ				AML		AML	22 38 29.6	
	comp=N,23nm,0.2s							
MESJ	**Messejana**	**1.84**	**45**	*i* Pn		**Pb**	**22 38 07.0**	**+0.1**
MESJ				*e*Sn		**Sn**	**22 38 28.0**	**-0.2**
MESJ				A		A	22 38 40.9	
	comp=N,16nm,0.5s							
MESJ	**Messejana**	**1.84**	**45**	⇓Pn		**Pb**	**22 38 07.0**	**+0.1**
MESJ				Sn		**Sn**	**22 38 28.0**	**-0.2**
	comp=N,16nm,0.5s							
PNCL	**Nicolau / Gran**	**1.89**	**34**	*e*Pn		**Pb**	**22 38 07.5**	**-0.3**
PNCL				*e*Sn		**Sn**	**22 38 29.3**	**-0.1**
PNCL				A		A	22 38 31.6	
	comp=N,20nm,0.3s							
PNCL	**Nicolau / Gran**	**1.89**	**34**	*e*Pn		**Pb**	**22 38 07.5**	**-0.3**
PNCL				*e*Sn		**Sn**	**22 38 29.3**	**-0.1**
	comp=N,20nm,0.3s							
PVAQ	**Vaqueiros**	**1.92**	**63**	*i* Pn		**Pb**	**22 38 08.0**	**-0.2**
PVAQ				*e*Sn		**Sn**	**22 38 29.9**	**-0.2**
PVAQ				A		A	22 38 31.7	
	comp=N,21nm,0.1s							
PVAQ	**Vaqueiros**	**1.92**	**63**	⇑Pn		**Pb**	**22 38 08.0**	**-0.2**
PVAQ				Sn		**Sn**	**22 38 29.9**	**-0.2**
	comp=N,21nm,0.1s							
EGRO	**El Granado**	**2.15**	**62**	⇑P		**Pn**	**22 38 10.9**	**+2.0**
	comp=N,1.9nm,0.1s,SNR=18							
EGRO				S		**Sn**	**22 38 35.0**	**-0.6**
	comp=N,16nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**2.15**	**62**	P		**Pn**	**22 38 10.9**	**+2.0**
	comp=N,1.9nm,0.1s,SNR=18							
EGRO				S		**Sn**	**22 38 35.0**	**-0.6**
	comp=N,16nm,0.1s,SNR=7.9							
PMST	**Lisbon--Monsan**	**2.26**	**14**	*e*Sn		**Sn**	**22 38 38.0**	**-0.4**
PMST				A		A	22 38 40.1	
	comp=N,18nm,0.3s							
PMST	**Lisbon--Monsan**	**2.26**	**14**	*e*Sn		**Sn**	**22 38 38.0**	**-0.4**
	comp=N,18nm,0.3s							
PACT	**Alcochete**	**2.37**	**20**	*e*Pn		**Pb**	**22 38 15.2**	**-0.7**
PACT				*e*Sn		**Sn**	**22 38 43.2**	**+2.1**
PACT	**Alcochete**	**2.37**	**20**	*e*Pn		**Pb**	**22 38 15.2**	**-0.7**
PMAFR	**Mafra**	**2.45**	**11**	*e*Pn		**Pn**	**22 38 14.8**	**+1.6**
PMAFR				*e*Sn		**Sn**	**22 38 42.2**	**-1.1**
PMAFR				A		A	22 38 45.2	
	comp=N,39nm,0.4s							
PMAFR	**Mafra**	**2.45**	**11**	P		**Pn**	**22 38 14.8**	**+1.6**
	comp=N,1.5nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**22 38 41.2**	**-2.1**
	comp=N,31nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**2.45**	**11**	P		**Pn**	**22 38 14.8**	**+1.6**
	comp=N,1.5nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**22 38 41.2**	**-2.1**
	comp=N,31nm,0.1s,SNR=7.9							
PMAFR				*e*Sn		**Sn**	**22 38 42.2**	**-1.1**
	comp=N,39nm,0.4s							
EVO	**Evora**	**2.47**	**36**	*e*Pn		**Pn**	**22 38 15.2**	**+1.7**
EVO				*e*Sn		**Sn**	**22 38 42.9**	**-0.8**
EVO				A		A	22 38 44.2	
	comp=N,19nm,0.1s							
EVO	**Evora**	**2.47**	**36**	Pn		**Pn**	**22 38 15.2**	**+1.7**
EVO				Sn		**Sn**	**22 38 42.9**	**-0.8**
	comp=N,19nm,0.1s							
EVO	**Evora**	**2.47**	**36**	*e*Pn		**Pn**	**22 38 15.2**	**+1.7**
EVO				*e*Sn		**Sn**	**22 38 42.9**	**-0.8**
	comp=N,19nm,0.1s							
PBAR	**Barrancos**	**2.78**	**53**	*e*Pn		**Pn**	**22 38 19.5**	**+1.8**
PBAR				*e*Sn		**Sn**	**22 38 50.5**	**-0.7**
PBAR				A		A	22 38 53.5	
	comp=N,14nm,0.2s							
PBAR	**Barrancos**	**2.78**	**53**	Pn		**Pn**	**22 38 19.5**	**+1.8**
PBAR				Sn		**Sn**	**22 38 50.5**	**-0.7**
	comp=N,14nm,0.2s							
PBAR	**Barrancos**	**2.78**	**53**	*e*Pn		**Pn**	**22 38 19.5**	**+1.8**
PBAR				*e*Sn		**Sn**	**22 38 50.5**	**-0.7**
	comp=N,14nm,0.2s							
EMIN	**Mina Concepcio**	**2.83**	**63**	P		**Pn**	**22 38 20.0**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**22 38 51.3**	**-1.1**
	comp=N,5.1nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.83**	**63**	P		**Pn**	**22 38 20.0**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**22 38 51.3**	**-1.1**
	comp=N,5.1nm,0.1s,SNR=7.9							
PMTG	**Montargil**	**2.84**	**27**	*e*Pn		**Pn**	**22 38 20.6**	**+2.1**
PMTG				*e*Sn		**Sn**	**22 38 51.9**	**-0.8**
PMTG				A		A	22 38 52.3	
	comp=N,15nm,0.6s							
PMTG	**Montargil**	**2.84**	**27**	*e*Pn		**Pn**	**22 38 20.6**	**+2.1**
PMTG				*e*Sn		**Sn**	**22 38 51.9**	**-0.8**
	comp=N,15nm,0.6s							
PESTR	**Estremoz**	**2.94**	**37**	*e*Pn		**Pn**	**22 38 21.4**	**+1.5**
PESTR				*e*Sn		**Sn**	**22 38 54.4**	**-0.9**
PESTR				A		A	22 39 04.0	
	comp=N,4.2nm,0.4s							
PESTR	**Estremoz**	**2.94**	**37**	*e*Pn		**Pn**	**22 38 21.4**	**+1.5**
PESTR				*e*Sn		**Sn**	**22 38 54.4**	**-0.9**
	comp=N,4.2nm,0.4s							
EBAD	**Badajoz**	**3.16**	**45**	P		**Pn**	**22 38 24.3**	**+1.4**
	comp=N,1.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**22 38 59.1**	**-1.6**
	comp=N,23nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.16**	**45**	P		**Pn**	**22 38 24.3**	**+1.4**
	comp=N,1.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**22 38 59.1**	**-1.6**
	comp=N,23nm,0.2s,SNR=7.9							
ESPR	**Espera**	**3.23**	**83**	P		**Pn**	**22 38 26.0**	**+2.0**
	comp=N,3.4nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**22 39 00.8**	**-1.7**
	comp=N,109nm,0.2s,SNR=7.9							
ESPR	**Espera**	**3.23**	**83**	P		**Pn**	**22 38 26.0**	**+2.0**
	comp=N,3.4nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**22 39 00.8**	**-1.7**
	comp=N,109nm,0.2s,SNR=7.9							
PTOM	**Tomar**	**3.28**	**20**	*e*Pn		**Pn**	**22 38 26.0**	**+1.5**
PTOM				*e*Sn		**Sn**	**22 39 02.2**	**-1.4**
PTOM				A		A	22 39 04.6	
	comp=N,9.7nm,0.1s							
PTOM	**Tomar**	**3.28**	**20**	Pn		**Pn**	**22 38 26.0**	**+1.5**
PTOM				Sn		**Sn**	**22 39 02.2**	**-1.4**
	comp=N,4.8nm,0.1s							
PTOM	**Tomar**	**3.28**	**20**	*e*Pn		**Pn**	**22 38 26.0**	**+1.5**
PTOM				*e*Sn		**Sn**	**22 39 02.2**	**-1.4**
	comp=N,9.7nm,0.1s							
PMRV	**Marv??o**	**3.48**	**33**	*e*Pn		**Pn**	**22 38 29.2**	**+1.8**
PMRV				*e*Sn		**Sn**	**22 39 06.7**	**-1.9**
PMRV				A		A	22 39 09.8	
	comp=N,8.0nm,0.2s							
PMRV	**Marv??o**	**3.48**	**33**	Pn		**Pn**	**22 38 29.2**	**+1.8**
PMRV				Sn		**Sn**	**22 39 06.7**	**-1.9**
	comp=N,8.0nm,0.2s							
PMRV	**Marv??o**	**3.48**	**33**	*e*Pn		**Pn**	**22 38 29.2**	**+1.8**
PMRV				*e*Sn		**Sn**	**22 39 06.7**	**-1.9**
	comp=N,8.0nm,0.2s							
PCAS	**Casmilo, Conde**	**3.67**	**17**	*e*Pn		**Pn**	**22 38 31.8**	**+1.9**
PCAS				*e*Sn		**Sn**	**22 39 11.2**	**-2.0**
PCAS				A		A	22 39 14.6	
	comp=N,6.7nm,0.9s							
PCAS	**Casmilo, Conde**	**3.67**	**17**	*e*Pn		**Pn**	**22 38 31.8**	**+1.9**
PCAS				*e*Sn		**Sn**	**22 39 11.2**	**-2.0**
	comp=N,6.7nm,0.9s							
PCBR	**Castelo Branco**	**3.79**	**29**	*e*Pn		**Pn**	**22 38 33.8**	**+2.2**
PCBR				*e*Sn		**Sn**	**22 39 14.4**	**-1.8**
PCBR				A		A	22 39 16.7	
	comp=N,4.3nm,0.5s							
PCBR	**Castelo Branco**	**3.79**	**29**	Pn		**Pn**	**22 38 33.8**	**+2.2**
PCBR				Sn		**Sn**	**22 39 14.4**	**-1.8**
	comp=N,2.2nm,0.5s							
PCBR	**Castelo Branco**	**3.79**	**29**	*e*Pn		**Pn**	**22 38 33.8**	**+2.2**
PCBR				*e*Sn		**Sn**	**22 39 14.4**	**-1.8**
	comp=N,4.3nm,0.5s							
ECAB	**El Cabril**	**3.86**	**65**	P		**Pn**	**22 38 34.1**	**+1.5**
	comp=N,1.3nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**22 39 15.4**	**-2.6**
	comp=N,3.5nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.10**	**88**	P		**Pn**	**22 38 38.2**	**+2.4**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**22 39 21.4**	**-2.4**
	comp=N,3.8nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**4.10**	**88**	S		**Sn**	**22 39 21.4**	**-2.4**
	comp=N,3.8nm,0.3s,SNR=7.9							
MTE	**Manteigas**	**4.26**	**25**	*e*Pn		**Pn**	**22 38 39.8**	**+1.7**
MTE				*e*Sn		**Sn**	**22 39 25.1**	**-2.8**
MTE				A		A	22 39 28.9	
	comp=N,5.8nm,0.4s							
MTE	**Manteigas**	**4.26**	**25**	Pn		**Pn**	**22 38 39.8**	**+1.7**
MTE				Sn		**Sn**	**22 39 25.1**	**-2.8**
	comp=N,2.9nm,0.4s							
MTE	**Manteigas**	**4.26**	**25**	*e*Pn		**Pn**	**22 38 39.8**	**+1.7**
MTE				*e*Sn		**Sn**	**22 39 25.1**	**-2.8**
	comp=N,5.8nm,0.4s							
PVIS	**Viseu**	**4.44**	**20**	*e*Sn		**Sn**	**22 39 30.2**	**-2.2**
PVIS	**Viseu**	**4.44**	**20**	Sn		**Sn**	**22 39 30.2**	**-2.2**
PVIS	**Viseu**	**4.44**	**20**	*e*Sn		**Sn**	**22 39 30.2**	**-2.2**
EADA	**Adamuz**	**4.51**	**67**	P		**Pn**	**22 38 43.3**	**+1.8**
	comp=N,1.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**22 39 30.9**	**-3.2**
	comp=N,3.6nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.51**	**67**	P		**Pn**	**22 38 43.3**	**+1.8**
	comp=N,1.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**22 39 30.9**	**-3.2**
	comp=N,3.6nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**4.61**	**39**	P		**Pn**	**22 38 44.6**	**+1.8**
	comp=N,0.4nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**22 39 32.8**	**-3.6**
	comp=N,3.7nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**4.61**	**39**	P		**Pn**	**22 38 44.6**	**+1.8**
	comp=N,0.4nm,0.1s,SNR=7.9							
EPLA				S		**Sn**	**22 39 32.8**	**-3.6**
	comp=N,3.7nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**5.01**	**19**	*e*Sn		**Sn**	**22 39 43.2**	**-3.3**
PVRL				A		A	22 39 46.6	
	comp=N,7.4nm,0.2s							
PVRL	**Vila Real**	**5.01**	**19**	Sn		**Sn**	**22 39 43.2**	**-3.3**
	comp=N,3.7nm,0.2s							
PVRL	**Vila Real**	**5.01**	**19**	*e*Sn		**Sn**	**22 39 43.2**	**-3.3**
	comp=N,7.4nm,0.2s							
KIB	**El Ksiba**	**5.06**	**140**	P		**Pn**	**22 38 48.0**	**-1.1**
KIB				S		Sn	22 39 41.0	-6.6
KIB	**El Ksiba**	**5.06**	**140**	*i* P		**Pn**	**22 38 48.0**	**-1.1**
KIB				*i* S		Sn	22 39 41.0	-6.6
POLO	**Lamas de Olo**	**5.09**	**18**	*e*Pn		**Pn**	**22 38 51.2**	**+1.7**
POLO				*e*Sn		**Sn**	**22 39 44.5**	**-3.9**
POLO				A		A	22 39 48.2	
	comp=N,1.2nm,0.2s							
POLO	**Lamas de Olo**	**5.09**	**18**	*e*Pn		**Pn**	**22 38 51.2**	**+1.7**
POLO				*e*Sn		**Sn**	**22 39 44.5**	**-3.9**
	comp=N,1.2nm,0.2s							
EBAN	**Banos Encina**	**5.10**	**70**	P		**Pn**	**22 38 50.6**	**+0.9**
	comp=N,1.7nm,0.2s,SNR=7.9							
EBAN				S		**Sn**	**22 39 44.2**	**-4.4**
	comp=N,1.9nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**5.10**	**70**	P		**Pn**	**22 38 50.6**	**+0.9**
	comp=N,1.7nm,0.2s,SNR=7.9							
EBAN				S		**Sn**	**22 39 44.2**	**-4.4**
	comp=N,1.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.12**	**25**	*e*Pn		**Pn**	**22 38 51.7**	**+1.8**
MVO				*e*Sn		**Sn**	**22 39 45.9**	**-3.2**
MVO				A		A	22 39 48.5	
	comp=N,5.0nm,0.6s							
MVO	**Moncorvo**	**5.12**	**25**	P		**Pn**	**22 38 51.2**	**+1.3**
	comp=N,0.4nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**22 39 44.1**	**-5.0**
	comp=N,2.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.12**	**25**	P		**Pn**	**22 38 51.2**	**+1.3**
	comp=N,0.4nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.12**	**25**	*e*Pn		**Pn**	**22 38 51.7**	**+1.8**
MVO				S		**Sn**	**22 39 44.1**	**-5.0**
	comp=N,2.9nm,0.1s,SNR=7.9							
MVO				*e*Sn		**Sn**	**22 39 45.9**	**-3.2**
	comp=N,5.0nm,0.6s							
TZC	**Tazercounte**	**5.19**	**147**	P		**Pn**	**22 38 51.0**	**-0.1**
TZC				S		**Sn**	**22 39 46.0**	**-5.1**
TZC	**Tazercounte**	**5.19**	**147**	*e*P		**Pn**	**22 38 51.0**	**-0.1**
TZC				*i* S		**Sn**	**22 39 46.0**	**-5.1**
PAB	**San Pablo**	**5.28**	**54**	P		**Pn**	**22 38 53.0**	**+0.8**
	comp=N,7.4nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**22 39 49.6**	**-3.6**
	comp=N,6.2nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**5.28**	**54**	P		**Pn**	**22 38 53.0**	**+0.8**
	comp=N,7.4nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**22 39 49.6**	**-3.6**
	comp=N,6.2nm,0.1s,SNR=7.9							
PCAB	**Cabril**	**5.36**	**15**	*e*Sn		**Sn**	**22 39 51.0**	**-3.9**
PCAB				A		A	22 40 01.9	
	comp=N,6.3nm,0.7s							
PCAB	**Cabril**	**5.36**	**15**	Sn		**Sn**	**22 39 51.0**	**-3.9**
	comp=N,3.2nm,0.7s							
PCAB	**Cabril**	**5.36**	**15**	*e*Sn		**Sn**	**22 39 51.0**	**-3.9**
	comp=N,6.3nm,0.7s							
ELOB	**Lobios**	**5.50**	**14**	P		**Pn**	**22 38 55.2**	**+0.1**
	comp=N,0.3nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**22 39 52.7**	**-5.8**
	comp=N,0.7nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.50**	**14**	P		**Pn**	**22 38 55.2**	**+0.1**
	comp=N,0.3nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**22 39 52.7**	**-5.8**
	comp=N,0.7nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.56**	**12**	*e*Pn		**Pn**	**22 38 57.1**	**+1.2**
PGAV				*e*Sn		**Sn**	**22 39 55.5**	**-4.4**
PGAV				A		A	22 39 58.2	
	comp=N,3.8nm,0.4s							
PGAV	**Gavieira, Arco**	**5.56**	**12**	*e*Pn		**Pn**	**22 38 57.1**	**+1.2**
PGAV				*e*Sn		**Sn**	**22 39 55.5**	**-4.4**
	comp=N,3.8nm,0.4s							
EQES	**Quesada**	**5.57**	**75**	P		**Pn**	**22 38 57.4**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**22 39 57.0**	**-3.2**
	comp=N,2.9nm,0.1s,SNR=7.9							
EQES	**Quesada**	**5.57**	**75**	P		**Pn**	**22 38 57.4**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**22 39 57.0**	**-3.2**
	comp=N,2.9nm,0.1s,SNR=7.9							
OUK	**Oukaimeden**	**5.57**	**162**	P		**Pn**	**22 38 56.0**	**-0.4**
OUK				S		Sn	22 39 55.0	-5.6
OUK	**Oukaimeden**	**5.57**	**162**	*i* P		**Pn**	**22 38 56.0**	**-0.4**
OUK				*i* S		Sn	22 39 55.0	-5.6
ESDC	**Sonseca Array**	**5.60**	**54**	P		**Pn**	**22 38 57.3**	**+0.7**
	comp=N,6.1nm,0.2s,baz=240,slow=13,SNR=7.9							
ESDC				S		**Sn**	**22 39 57.2**	**-3.9**
	comp=N,4.1nm,0.3s,baz=242,slow=23,SNR=7.9							
ESDC	**Sonseca Array**	**5.60**	**54**	P		**Pn**	**22 38 57.3**	**+0.7**
	comp=N,6.1nm,0.2s,SNR=7.9							
ESDC				S		**Sn**	**22 39 57.2**	**-3.9**
	comp=N,4.1nm,0.3s,SNR=7.9							
EBER	**Berja**	**5.61**	**84**	S		**Sn**	**22 40 01.0**	**-0.4**
	comp=N,5.4nm,0.4s,SNR=4.0							
EBER	**Berja**	**5.61**	**84**	S		**Sn**	**22 40 01.0**	**-0.4**
	comp=N,5.4nm,0.4s,SNR=4.0							
PBRG	**Braganca**	**5.79**	**24**	*e*Sn		**Sn**	**22 40 01.8**	**-3.7**
PBRG				A		A	22 40 06.2	
	comp=N,2.9nm,0.9s							
PBRG	**Braganca**	**5.79**	**24**	Sn		**Sn**	**22 40 01.8**	**-3.7**
	comp=N,1.4nm,0.9s							
PBRG	**Braganca**	**5.79**	**24**	*e*Sn		**Sn**	**22 40 01.8**	**-3.7**
	comp=N,2.9nm,0.9s							
ECAL	**Calabor**	**5.91**	**23**	S		**Sn**	**22 40 04.6**	**-4.0**
	comp=N,0.6nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.91**	**23**	S		**Sn**	**22 40 04.6**	**-4.0**
	comp=N,0.6nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**5.94**	**75**	S		**Sn**	**22 40 05.1**	**-4.3**
	comp=N,2.1nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**5.94**	**75**	S		**Sn**	**22 40 05.1**	**-4.3**
	comp=N,2.1nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**6.04**	**73**	P		**Pn**	**22 39 04.0**	**+1.4**
	comp=N,0.4nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**22 40 08.2**	**-3.7**
	comp=N,3.8nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**6.04**	**73**	P		**Pn**	**22 39 04.0**	**+1.4**
	comp=N,0.4nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**22 40 08.2**	**-3.7**
	comp=N,3.8nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**6.06**	**46**	P		**Pn**	**22 39 04.5**	**+1.6**
	comp=N,0.3nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**22 40 08.8**	**-3.6**
	comp=N,1.2nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.06**	**46**	P		**Pn**	**22 39 04.5**	**+1.6**
	comp=N,0.3nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**22 40 08.8**	**-3.6**
	comp=N,1.2nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**6.21**	**68**	P		**Pn**	**22 39 05.7**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=4.0							
EVIA				S		Sn	22 40 10.4	-5.5
	comp=N,1.9nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**6.21**	**68**	P		**P

4.7nm,0.5s
RETA Reutte 145.61 333⇑ *i*PKPab **PKPdf** 22 58 36.9 0.0
2.6nm,0.5s
FETA Feichten 145.99 332⇑ *i*PKPab **PKPdf** 22 58 38.2 +0.5
9.9nm,1.2s
TORD Torodi Ar. Bea 166.27 250 PKP **PKPdf** 22 59 05.5 +0.9
0.4nm,1.0s,baz=128,slow=2.4,SNR=2.7

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*ISCJB **08** 22:41:30.3±0.3,36°.40N±0°.02×77°.33E±0°.04,h84km±4km, mb4.2/34, Error ellipse: s-maj=5.2km s-min=2.7km az=163.3*
*NNC **08** 22:41:30.4±5.5,36°.34N×77°.09E,h74km±70km,mb4.1, mpv4.3, Error ellipse: s-maj=41.2km s-min=29.3km az=157.0*
*MOS **08** 22:41:31.9±1.0,36°.40N×77°.18E,h96km,mb4.2/20, Error ellipse: s-maj=9.9km s-min=5.0km az=106.6*
*NEIC **08** 22:41:32.5±0.8,36°.43N×77°.24E,h88km±7km,mb4.4/10, Error ellipse: s-maj=8.2km s-min=5.8km az=215.0*
*IDC **08** 22:41:33.0±0.9,36°.44N×77°.23E,h90km±8km,mb3.8/15, mb1 3.9/20,mb1mx3.8/31,mbtmp4.2/20,MS3.2/5, Ms1 3.2/5,ms1mx2.7/42, Error ellipse: s-maj=15.3km s-min=11.3km az=51.0*
*BJI **08** 22:41:33.4,36°.66N×77°.38E,h105km,mB4.2/8,mb4.2/12*
ISC 08 22:41:33.4±0.4,36°.41N±0°.03×77°.23E±0°.04,h98km±3km, h98km:pP-P,n179,σ1s79/209,mb4.2/34,14C-8D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.25**	**343**	P		**Pn**	**22 42 20.0**	**-2.6**
KSH				S		**Sn**	**22 42 54.6**	**-6.0**
KSH				SMN				
	3μm,0.9s							
KSH				SME				
	3μm,0.5s							
DLH	**Dalhousie**	**4.00**	**195**	*e*P		**Pn**	**22 42 33.0**	**+0.2**
DLH				*e*S		**Sn**	**22 43 17.0**	**-1.8**
DHRM	**DHARAMSHALA**	**4.22**	**191**	*e*P		**Pn**	**22 42 36.7**	**+0.8**
DHRM				*e*S		**Sn**	**22 43 23.1**	**-1.1**
DHRM				AML		AML	22 43 29.3	
	comp=N,844nm,1.4s							
DHRM				AML		AML	22 43 31.1	
	comp=E,894nm,0.2s							
CHCP	**Chirah Chowk**	**4.26**	**231**	P		**Pn**	**22 42 37.3**	**+1.2**
PONG	**Pong**	**4.57**	**194**	*e*P		**Pn**	**22 42 40.0**	**-0.3**
PONG				*e*S		**Sn**	**22 43 30.0**	**-2.3**
SFK	**Sufi-Kurgan**	**4.64**	**322**	⇑Pn		**Pn**	**22 42 39.5**	**-1.9**
	comp=E,7.9nm,0.4s							
SFK				⇑Sn		**Sn**	**22 43 33.3**	**-0.9**
	comp=E,123nm,0.6s							
SDNR	**Sundarnagar**	**4.91**	**183**	*e*P		**Pn**	**22 42 45.0**	**+0.1**
SDNR				*e*S		**Sn**	**22 43 36.5**	**-4.0**
BHK	**Bhakra**	**5.03**	**188**	*e*P		**Pn**	**22 42 47.2**	**+0.6**
BHK				*ex*		**Sn**	**22 43 45.8**	**+2.3**
CEP	**Cherat**	**5.07**	**241**	P		**Pn**	**22 42 46.4**	**-0.8**
SMLA	**Simla**	**5.27**	**181**	*e*P		**Pn**	**22 42 50.1**	**+0.3**
SMLA				*i* S		**Sn**	**22 43 45.5**	**-3.7**
SMLA				*i* S		**Sn**	**22 43 45.8**	**-3.5**
SMLA				AML		AML	22 43 46.1	
	comp=E,548nm,1.1s							
SMLA				AML		AML	22 43 46.6	
	comp=N,649nm,0.9s							
THW	**Thamme Wali**	**5.79**	**233**	P		**Pn**	**22 42 55.8**	**-1.0**
SARP	**Sargodha**	**5.86**	**221**	P		**Pn**	**22 42 57.3**	**-0.5**
KZA	**Kyzart**	**5.86**	**345**	P		**Pn**	**22 42 58.3**	**+0.2**
	SNR=18							
KZA	**Kyzart**	**5.86**	**345**	*i* P		**Pn**	**22 42 58.3**	**+0.2**
ULHL	**Ulahol**	**5.87**	**353**	P		**Pn**	**22 42 59.0**	**+0.9**
	SNR=16							
ULHL	**Ulahol**	**5.87**	**353**	*i* P		**Pn**	**22 42 59.0**	**+0.9**
UCH	**Uchtor**	**6.17**	**341**	P		**Pn**	**22 43 02.7**	**+0.3**
	SNR=35							
UCH	**Uchtor**	**6.17**	**341**	*i* P		**Pn**	**22 43 02.7**	**+0.3**
AML	**Almayashu**	**6.33**	**335**	P		**Pn**	**22 43 04.9**	**+0.3**
	SNR=12							
AML	**Almayashu**	**6.33**	**335**	*i* P		**Pn**	**22 43 04.9**	**+0.3**
KBK	**Karagaybulak**	**6.48**	**345**	P		**Pn**	**22 43 07.1**	**+0.8**
	SNR=19							
KBK	**Karagaybulak**	**6.48**	**345**	*i* P		**Pn**	**22 43 07.1**	**+0.8**
AAK	**Ala-Archa**	**6.56**	**342**	⇑Pn		**Pn**	**22 43 08.0**	**+0.6**
	comp=N,33nm,0.8s							
AAK				⇑Sn		**Sn**	**22 44 19.4**	**-1.4**
	comp=N,44nm,0.7s							
AAK	**Ala-Archa**	**6.56**	**342**	P		**Pn**	**22 43 08.1**	**+0.6**
	SNR=16							
AAK	**Ala-Archa**	**6.56**	**342**	P		**Pn**	**22 43 08.1**	**+0.6**
	comp=N,5.2nm,0.3s,baz=156,slow=12,SNR=53							
AAK				S		**Sn**	**22 44 18.5**	**-2.3**
	comp=N,3.5nm,0.3s,baz=332,slow=18,SNR=6.0							
AAK				LR		LR	22 46 16.0	
	comp=N,68nm,20.2s,baz=186,slow=43							
AAK	**Ala-Archa**	**6.56**	**342**	*e*Pn		**Pn**	**22 43 07.6**	**+0.2**
AAK				*e*Sn		**Sn**	**22 44 20.3**	**-0.5**
TKM2	**Tokmak 2**	**6.62**	**350**	⇑Pn		**Pn**	**22 43 08.2**	**-0.1**
	comp=N,11nm,0.5s							
TKM2				⇑Sn		**Sn**	**22 44 21.3**	**-1.0**
	comp=N,18nm,0.8s							
TKM2	**Tokmak 2**	**6.62**	**350**	P		**Pn**	**22 43 08.7**	**+0.4**
	SNR=9.0							
TKM2	**Tokmak 2**	**6.62**	**350**	*i* P		**Pn**	**22 43 08.6**	**+0.4**
TKM2	**Tokmak 2**	**6.62**	**350**	*e*Pn		**Pn**	**22 43 08.4**	**+0.1**
EKS2	**Erkin-Say**	**6.79**	**338**	*e*P		**Pn**	**22 43 12.2**	**+1.7**
EKS2	**Erkin-Say**	**6.79**	**338**	*e*Pn		**Pn**	**22 43 12.2**	**+1.7**
CHMS	**Chumysh**	**6.85**	**345**	P		**Pn**	**22 43 11.7**	**+0.5**
	SNR=11							
CHMS	**Chumysh**	**6.85**	**345**	*i* P		**Pn**	**22 43 11.7**	**+0.5**
KBL	**Kabul**	**6.93**	**257**	*e*P		**Pn**	**22 43 10.3**	**-2.3**
KBL				*e*			22 44 26.3	
KBL	**Kabul**	**6.93**	**257**	*e*Pn		**Pn**	**22 43 10.3**	**-2.3**
KBL				*e*Sn		**Sn**	**22 44 26.3**	**-3.8**
MNAS	**Manas**	**7.08**	**330**	⇓Pn		**Pn**	**22 43 13.4**	**-1.0**
	comp=N,6.7nm,0.5s							
MNAS				⇓Sn		**Sn**	**22 44 34.8**	**+1.4**
	comp=N,18nm,0.5s							
DZET	**Dzherino**	**7.08**	**292**	⇓Pn		Pn	22 43 06.8	-7.7
	comp=N,6.2nm,0.5s							
DZET				⇓Sn		Sn	22 44 23.8	-10
	comp=N,94nm,0.6s							
PDGK	**Podgornoye**	**7.12**	**13**	⇑Pn		**Pn**	**22 43 12.6**	**-2.2**
	comp=N,82nm,0.7s							
PDGK				⇓Sn		**Sn**	**22 44 28.8**	**-5.3**
	comp=N,103nm,0.8s							
LGTI	**Lohaghat**	**7.39**	**159**	*ex*		Pn	22 43 11.6	-7.0
LGTI				*ex*		**Sn**	**22 44 38.1**	**-2.8**
NDI	**New Delhi**	**7.71**	**180**	*e*P		**Pn**	**22 43 21.0**	**-2.0**
NDI				*ex*		Sn	22 44 39.5	-9.2
SONA	**Sohna**	**8.14**	**181**	*e*P		**Pn**	**22 43 27.6**	**-1.2**
SONA				*e*S		Sn	22 44 50.9	-8.3
KUDL	**Kundal**	**8.27**	**185**	⇑*i*P		**Pn**	**22 43 29.7**	**-0.8**
KUDL				*e*S		Sn	22 44 55.3	-7.0
KHET	**Khetri**	**8.40**	**189**	*e*P		**Pn**	**22 43 30.4**	**-2.0**
KHET				*ex*		Sn	22 44 54.0	-12
KK31	**Karatay Array**	**8.45**	**324**	⇑Pn		**Pn**	**22 43 31.7**	**-1.2**
	comp=N,3.1nm,0.3s,baz=157,slow=13							
KK31				⇓Sn		**Sn**	**22 45 01.0**	**-5.5**
	comp=N,16nm,0.5s,baz=149,slow=29,SNR=4.8							
KKAR	**Karatay Array**	**8.45**	**324**	*e*P		**Pn**	**22 43 31.8**	**-1.1**
KKAR				*e*			22 45 04.1	
KKAR	**Karatay Array**	**8.45**	**324**	*e*Pn		**Pn**	**22 43 31.8**	**-1.1**
KKAR				*e*Sn		**Sn**	**22 45 04.1**	**-2.4**
PYUN	**Piuthan**	**9.62**	**148**	*e*P		Pn	22 43 45.8	-3.3
	comp=N,501nm,0.3s							
DANN	**Dangsing**	**9.75**	**144**	*e*P		Pn	22 43 47.2	-3.8
AJM	**Ajmer**	**10.15**	**193**	*ex*		**Pn**	**22 43 55.0**	**-1.2**
AJM				*ex*		Sn	22 45 41.0	-7.1
KOLN	**Koldanda**	**10.17**	**146**	*e*P		**Pn**	**22 43 53.7**	**-2.9**
	comp=N,68nm,0.4s							
GKN	**Gorkha**	**10.47**	**141**	*e*P		**Pn**	**22 43 57.9**	**-2.8**
	comp=N,108nm,0.4s							
WMQ	**Urumqi**	**10.90**	**44**	*e*P		Pn	22 43 58.4	-7.9
WMQ				pP			22 44 02.0	
WMQ				sP			22 44 03.8	
WMQ				S		Sn	22 45 57.4	-8.9
WMQ				SS			22 46 11.0	
KKN	**Kakani**	**10.97**	**139**	*e*P		Pn	22 44 03.8	-3.8
	comp=N,48nm,0.5s							
MK31	**Makanchi Array**	**11.04**	**18**	⇑Pn		**Pn**	**22 44 06.2**	**-2.0**
	comp=N,3.1nm,0.2s,baz=200,slow=12,SNR=803							
MK31				⇑Sn		**Sn**	**22 46 04.0**	**-5.5**
	comp=N,12nm,0.6s,baz=200,slow=31,SNR=4.1							
MK31	**Makanchi Array**	**11.04**	**18**	*e*P		**Pn**	**22 44 05.8**	**-2.4**
MK31				*e*			22 46 03.1	
MK31	**Makanchi Array**	**11.04**	**18**	*e*Pn		**Pn**	**22 44 05.8**	**-2.4**
MK31				*e*Sn		Sn	22 46 03.1	-6.4
MKAR	**Makanchi Array**	**11.04**	**18**	P		**Pn**	**22 44 06.0**	**-2.2**
	comp=N,8.4nm,0.3s,baz=200,slow=12,SNR=313							
MKAR				S		**Sn**	**22 46 04.2**	**-5.3**
	comp=N,6.2nm,0.3s,baz=195,slow=22,SNR=12							
GUN	**Gumba**	**11.20**	**137**	*e*P		Pn	22 44 07.0	-3.8
	comp=N,37nm,0.3s							
PKIN	**Phulchoki**	**11.21**	**140**	*e*P		Pn	22 44 06.8	-4.0
	comp=N,30nm,0.3s							
PKI	**Pulchoki**	**11.22**	**140**	*e*P		Pn	22 44 07.0	-4.0
	comp=N,35nm,0.4s							
JIRN	**Jiri**	**11.57**	**136**	*e*P		Pn	22 44 12.1	-3.6
	comp=N,136nm,0.4s							
RAMN	**Ramite**	**12.35**	**137**	*e*P		Pn	22 44 21.2	-4.8
	comp=N,58nm,0.5s							
TAPN	**Taplejung**	**12.68**	**133**	*e*P		Pn	22 44 26.1	-4.3
	comp=N,23nm,0.3s							
ODAN	**Odare**	**12.86**	**135**	*e*P		Pn	22 44 27.8	-5.0
	comp=N,37nm,0.4s							
LSA	**Lhasa**	**13.45**	**116**	P		**Pn**	**22 44 40.2**	**-0.5**
LSA	**Lhasa**	**13.45**	**116**	*e*P		**Pn**	**22 44 40.7**	**-0.1**
LSA	**Lhasa**	**13.45**	**116**	*e*Pn		**Pn**	**22 44 40.7**	**-0.1**
KURBB	**Kurchatov Arra**	**14.23**	**3**	P		Pn	22 44 46.8	-3.5
	comp=N,0.1nm,0.3s,baz=190,slow=12,SNR=9.2							
KURK	**Kurchatov**	**14.33**	**4**	*e*P		Pn	22 44 48.2	-3.3
KURK	**Kurchatov**	**14.33**	**4**	*e*Pn		Pn	22 44 48.2	-3.3
GEYT	**Alibeck**	**15.31**	**281**	P		Pn	22 44 58.9	-5.3
	comp=N,0.2nm,0.3s,baz=107,slow=9.8,SNR=3.0							
GEYT				S		Sn	22 47 42.1	-11
	comp=N,0.9nm,0.3s,baz=92,slow=13,SNR=4.6							
SHL	**Shillong**	**16.56**	**127**	*e*P		**Pn**	**22 45 16.4**	**-3.5**
SHL				*ex*		x	22 48 06.0	
BVAR	**Borovoye Array**	**17.29**	**346**	P		**P**	**22 45 27.6**	**-0.8**
	comp=N,0.7nm,0.3s,baz=162,slow=11,SNR=15							
BVAR				LR		LR	22 52 57.5	
	comp=N,28nm,20.2s,baz=146,slow=40							
RPR	**Rampur**	**17.58**	**174**	*e*Pn		**Pn**	**22 45 32.2**	**-0.1**
AB31	**Akbulak array**	**17.98**	**321**	⇑P		**Pn**	**22 45 36.4**	**-0.4**
	comp=N,4.3nm,0.7s,baz=124,slow=12,SNR=58							
ABKAR	**Akbulak array**	**17.98**	**321**	*e*P		**P**	**22 45 35.1**	**-0.9**
	comp=N,3.0nm,0.5s							
POO	**Poona**	**18.06**	**190**	*ex*		**S**	**22 48 57.0**	**-2.2**
GTA	**Gaotai**	**18.07**	**74**	*e*P		**Pn**	**22 45 39.8**	**+1.7**
GTA				sP		sP	22 46 13.8	+5.7
GTA				PMZ				
	comp=N,3.0nm,0.9s							
GTA				PMZ				
	comp=N,110nm,9.5s							
GTA				LN				
	comp=N,170nm,19.5s							
GTA				LE				
	comp=N,270nm,21.4s							
GTA				LZ				
	comp=N,120nm,15.7s							
ZALV	**Zalesovo Beam**	**18.31**	**14**	*e*P		**P**	**22 45 39.9**	**+0.3**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**18.31**	**14**	P		**P**	**22 45 38.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=9.1							
CHLP	**Challavanipeta**	**18.83**	**160**	*e*Pn		**P**	**22 45 46.4**	**+0.8**
NVS	**Novosibirsk**	**18.89**	**11**	*e*P		**P**	**22 45 45.0**	**-0.9**
NVS				pmax		pmax		
	comp=Z,18nm,1.1s							
NVS				pmax		pmax		
	comp=N,12nm,1.0s							
HYBB	**Hyderabad (bro**	**18.96**	**176**	*e*P		**P**	**22 45 46.1**	**-0.9**
HYBB				*e*Pn		**Pn**	**22 45 49.0**	**+0.2**
HYB	**Hyderabad**	**18.96**	**176**	*i* P		**P**	**22 45 47.0**	**0.0**
HYB				*e*S		S	22 49 05.0	-12
AKTO	**Aktyubinsk**	**19.70**	**321**	⇑P		**P**	**22 45 54.5**	**-0.2**
	comp=N,3.8nm,0.5s							
AKTO	**Aktyubinsk**	**19.70**	**321**	P		**P**	**22 45 54.4**	**-0.3**
	comp=N,1.1nm,0.3s,baz=137,slow=13,SNR=13							
NJS	**Nagarjunasagar**	**19.87**	**174**	*e*P		**P**	**22 45 57.2**	**+0.4**
NJS				*e*			22 45 58.9	
NJS				*e*			22 49 24.8	
NJS				*e*S		**S**	**22 49 37.3**	**+2.1**
URV	**Uravakonda**	**21.38**	**180**	*e*P		**P**	**22 46 12.9**	**-0.2**
URV				*e*			22 46 15.5	
URV				*e*S		**S**	**22 50 03.5**	**-1.5**
LZH	**Lanzhou**	**21.45**	**83**	*e*P		**P**	**22 46 12.0**	**-1.9**
LZH				pP		**pP**	**22 46 34.5**	**+1.6**
LZH				PP		**PnPn**	**22 46 41.5**	**+2.4**
LZH				sP		**sP**	**22 46 49.0**	**+3.8**
LZH				PMZ				
	comp=N,23nm,1.1s							
LZH				PMZ				
	comp=N,69nm,4.5s							
SKHT	**Srikalahasti**	**22.69**	**174**	*e*P		**P**	**22 46 28.0**	**+1.2**
CD2	**Chengdu**	**22.72**	**96**	*e*P		**P**	**22 46 31.0**	**+3.8**
CD2	**Chengdu**	**22.72**	**96**	*e*P		**P**	**22 46 26.5**	**-0.7**
CD2				pP		**pP**	**22 46 50.5**	**+4.0**
CD2				PP		**PnPn**	**22 47 00.5**	**+4.2**
CD2				sP		sP	22 47 04.8	+6.1
CD2				S		**S**	**22 50 21.3**	**-7.1**
CD2				sS		**sS**	**22 51 02.1**	**-0.9**
CD2				SS		**SnSn**	**22 51 13.3**	**+4.4**
CD2				PMZ				
	comp=N,10.0nm,0.5s							
CD2				LN				
	comp=N,800nm,14.2s							
CD2				LE				
	comp=N,820nm,18.1s							
CD2				LZ				
	comp=N,1μm,14.2s							
ZAK	**Zakamensk**	**23.37**	**45**	*e*P		**P**	**22 46 33.9**	**+0.7**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
ARU	**Arti**	**23.65**	**334**	*d* iP		**P**	**22 46 36.5**	**+0.9**
ARU				*PP		**pP**	**22 46 54.6**	**-1.6**
ARU							22 47 11.4	
ARU				S		**S**	**22 50 45.1**	**+2.3**
ARU				SS		**SnSn**	**22 51 33.1**	**+1.8**
ARU				pmax		pmax		
	comp=Z,7.0nm,1.7s							
ARU	**Arti**	**23.65**	**334**	*e*P		**P**	**22 46 35.3**	**-0.3**
	comp=Z,3.5nm,0.4s							
SONM	**Songino Array**	**24.31**	**53**	*e*P		**P**	**22 46 41.9**	**+0.1**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**24.31**	**53**	P		**P**	**22 46 43.3**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=253,slow=9.4,SNR=20							
ULN	**Ulaanbaatar**	**24.75**	**53**	*e*P		**P**	**22 46 46.9**	**+1.1**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CRAI	**Chiangrai**	**25.88**	**122**	P		**P**	**22 46 54.0**	**-2.2**
	comp=Z,203nm,0.8s							
CHTO	**Chiang Mai**	**25.93**	**127**	*e*P		**P**	**22 46 56.0**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
CHTO	**Chiang Mai**	**25.93**	**127**	*e*P		**P**	**22 46 56.0**	**-0.6**
	comp=Z,4.8nm,0.9s							
CHTO	**Chiang Mai**	**25.93**	**127**	P		**P**	**22 46 59.9**	**+3.3**
	comp=Z,27nm,1.0s							
CMMT	**Chiang Mai**	**25.93**	**127**	P		**P**	**22 46 59.8**	**+3.1**
	comp=Z,7.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**26.19**	**127**	*e*P		**P**	**22 47 01.8**	**+2.9**
CMAR				pmax		pmax		
	comp=Z,6.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**26.19**	**127**	P		**P**	**22 46 59.3**	**+0.4**
	comp=Z,6.3nm,0.7s,baz=310,slow=11,SNR=36							
NANT	**Nan**	**27.10**	**124**	P		**P**	**22 47 05.7**	**-1.4**
	comp=Z,25nm,0.8s							
RAYN	**Ar Rayn**	**30.19**	**254**	*e*P		**P**	**22 47 34.5**	**-0.1**
	comp=Z,4.3nm,0.8s							
UBPT	**Khong Chiam**	**32.80**	**123**	P		**P**	**22 47 57.8**	**+0.4**
	comp=Z,21nm,0.7s,comp=Z,656nm							
HIA	**Hailar**	**33.27**	**54**	*e*P		**P**	**22 48 01.8**	**+0.5**
HIA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
OBN	**Obninsk**	**33.35**	**317**	⇑P		**P**	**22 48 04.2**	**+2.4**
OBN				*e*PP		**pP**	**22 48 25.5**	**+1.5**
OBN				*e*			22 49 17.2	
OBN				*e*S		**S**	**22 53 15.4**	**+0.2**
OBN				*e*SS		**SS**	**22 55 48.7**	**+6.0**
OBN				pmax		pmax		
	comp=Z,13nm,2.0s							
BRTR	**Keskin Array B**	**34.23**	**289**	*e*P		**P**	**22 48 11.0**	**+1.2**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**34.23**	**289**	P		**P**	**22 48 11.3**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=92,slow=8.8,SNR=4.8							
KIEV	**Kiev**	**36.94**	**308**	*e*P		**P**	**22 48 33.4**	**+0.7**
DLV	**T Lat**	**37.22**	**123**	*e*P		**P**	**22 48 35.7**	**0.0**
	comp=Z,6.4nm,0.5s							
JOF	**Joensuu**	**38.52**	**328**	*e*P		**P**	**22 48 45.8**	**-0.1**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.5s							
JOF	**Joensuu**	**38.52**	**328**	*ep*		**P**	**22 48 45.8**	**-0.1**
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**40.41**	**325**	*e*P		**P**	**22 49 02.2**	**+0.7**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.4s							
FINES	**FINESS Array B**	**40.41**	**325**	P		**P**	**22 49 01.9**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=118,slow=9.7,SNR=47							
ARCES	**ARCESS Array B**	**43.20**	**336**	*e*P		**P**	**22 49 24.7**	**+0.5**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**43.20**	**336**	P		**P**	**22 49 24.6**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=99,slow=8.1,SNR=22							
TPRI	**Tanjung Pinang**	**43.44**	**138**	P		**P**	**22 49 27.0**	**+0.3**
DPC	**Dobruska-Polom**	**45.16**	**308**	*e*P		**P**	**22 49 41.1**	**+0.9**
DPC				*e*PP		**pP**	**22 50 03.4**	**+0.1**
DPC				*e*SP		**sP**	**22 50 15.9**	**+1.4**
DPC	**Dobruska-Polom**	**45.16**	**308**	*e*P		**P**	**22 49 41.1**	**+0.9**
DPC				*ep*P		**pP**	**22 50 03.4**	**+0.1**
DPC				*ex*		x	22 50 15.9	
BRG	**Berggiesshubel**	**46.60**	**309**	*e*P		pP	22 50 16.1	+1.4
	comp=Z,4.4nm,1.0s							
GERES	**GERESS Array B**	**47.06**	**306**	*e*P		**P**	**22 49 56.6**	**+1.5**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**47.06**	**306**	P		**P**	**22 49 55.6**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=82,slow=3.0,SNR=5.4							
GERES				pP		**pP**	**22 50 18.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=79,slow=6.9,SNR=4.9							
KHC	**Kasperske Hory**	**47.09**	**307**	*e*P		**P**	**22 49 54.7**	**-0.6**
KHC				*e**PP		**pP**	**22 50 18.0**	**-0.6**
KHC	**Kasperske Hory**	**47.09**	**307**	*e*P		**P**	**22 49 54.7**	**-0.6**
KHC				*ep*P		**pP**	**22 50 18.0**	**-0.6**
KHC				*ex*		x	22 50 21.8	
NB2	**NORSAR Subarra**	**47.48**	**323**	P		**P**	**22 49 58.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**47.48**	**323**	*e*P		P	22 50 03.2	+5.1
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**47.48**	**323**	P		**P**	**22 49 58.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=91,slow=7.6,SNR=6.2							
NOA				pP		**pP**	**22 50 20.2**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=90,slow=7.6,SNR=3.5							
LWLI	**Liwa**	**48.26**	**143**	P		**P**	**22 50 06.4**	**+1.7**
	comp=Z,901nm,1.2s,comp=Z,130μm							
ASAJ	**Asahikawa**	**49.30**	**60**	LR		LR	23 15 16.3	
	comp=Z,76nm,19.4s,baz=22,slow=41							
LEM	**Lembang**	**51.60**	**140**	LR		LR	23 16 16.4	
	comp=Z,54nm,18.6s,slow=40							
HINF	**Hinteralfeld**	**51.74**	**306**	*e*P		**P**	**22 50 30.7**	**0.0**
HINF	**Hinteralfeld**	**51.74**	**306**	*e*P		**P**	**22 50 30.7**	**0.0**
HINF	**Hinteralfeld**	**51.74**	**306**	*e*P		**P**	**22 50 30.7**	**0.0**
LPG	**La Plagne**	**52.43**	**303**	*ep*P		pP	22 50 59.6	-0.2
LPG	**La Plagne**	**52.43**	**303**	*e*P		**P**	**22 50 36.8**	**+0.7**
	comp=Z,3.3nm,0.7s							
LPG	**La Plagne**	**52.43**	**303**	*e*P		**P**	**22 50 36.8**	**+0.7**
LPG				*e**PP		**pP**	**22 50 59.6**	**-0.2**
LPG				pmax		pmax		
	comp=Z,3.0nm,0.7s							
LPG	**La Plagne**	**52.43**	**303**	*e*P		**P**	**22 50 36.8**	**+0.7**
	comp=Z,3.3nm,0.7s							
LPG				*ep*P		**pP**	**22 50 59.6**	**-0.2**
LPL	**La Plagne**	**52.44**	**303**	*ep*P		pP	22 50 59.6	-0.2
LPL	**La Plagne**	**52.44**	**303**	*e*P		**P**	**22 50 36.9**	**+0.8**
	comp=Z,5.1nm,0.8s							
LPL	**La Plagne**	**52.44**	**303**	*e*P		**P**	**22 50 36.9**	**+0.8**
LPL				*e**PP		**pP**	**22 50 59.6**	**-0.2**
LPL				pmax		pmax		
	comp=Z,5.0nm,0.8s							
LPL	**La Plagne**	**52.44**	**303**	*e*P		**P**	**22 50 36.9**	**+0.8**
	comp=Z,5.1nm,0.8s							
LPL				*ep*P		**pP**	**22 50 59.6**	**-0.2**
CABF	**La Chapelle**	**52.56**	**305**	*e*P		**P**	**22 50 37.1**	**+0.3**
CABF	**La Chapelle**	**52.56**	**305**	*e*P		**P**	**22 50 37.1**	**+0.3**
CABF	**La Chapelle**	**52.56**	**305**	*e*P		**P**	**22 50 37.1**	**+0.3**
KMBO	**Kilima Mbogo**	**52.66**	**234**	*e*P		**P**	**22 50 39.0**	**+0.9**
KMBO				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KMBO	**Kilima Mbogo**	**52.66**	**234**	P		**P**	**22 50 39.1**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=43,sl

ECX 08 22:47:01.1±0.6,32°.21N×115°.23W,h8km,MD3.8,ML4.0
MEX 08 22:47:01.5±0.9,32°.31N×115°.11W,h25km±12km,MD3.8

ISC 08 22:46:59.1±0.9,32°.18N±0°.02×115°.20W±0°.03,h14km±7km, n44,σ0§65/56,22C-16D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.20**	**190⇑**	*eP*	**Pg**	**22 47 03.3**	**-0.3**
EMX				*eS*	**Sg**	**22 47 06.6**	**-0.1**
MBIG	**Mexicali**	**0.22**	**0**	*eP*	**Pb**	**22 47 05.4**	**+0.6**
MBIG				*eS*	**Sg**	**22 47 07.5**	**+0.2**
CPBX	**Cerro Prieto**	**0.25**	**339⇓**	*eP*	**Pb**	**22 47 05.3**	**0.0**
CPBX				*eS*	**Sg**	**22 47 08.1**	**0.0**
CPBX	**Cerro Prieto**	**0.25**	**339**	*eP*	**Pb**	**22 47 05.3**	**0.0**
CPBX				*i S*	**Sg**	**22 47 08.7**	**+0.5**
SGL	**Mount Signal**	**0.64**	**316⇓**	*i P*	**Pg**	**22 47 11.9**	**+0.3**
YMD	**Yuma Desert**	**0.67**	**56⇑**	*i P*	**Pb**	**22 47 13.0**	**+0.6**
YMD	**Yuma Desert**	**0.67**	**56**	⇑P	**Pb**	**22 47 13.0**	**+0.6**
RDX	**Rancho Dawling**	**0.68**	**248⇑**	*eP*	**Pb**	**22 47 13.0**	**+0.2**
RDX				*eS*	**Sb**	**22 47 22.4**	**+0.3**
COA	**Coachella**	**0.68**	**5**	⇑*i P*	**Pg**	**22 47 12.6**	**+0.2**
COA	**Coachella**	**0.68**	**5**	⇑P	**Pg**	**22 47 12.0**	**-0.4**
ERPC	**Ernies Place**	**0.68**	**325**	⇓P	**Pb**	**22 47 13.0**	**+0.3**
ECBX	**El Chinero**	**0.72**	**170**	⇓*eP*	**Pb**	**22 47 12.3**	**-1.0**
ECBX				*eS*	**Sg**	**22 47 22.8**	**+0.2**
WESC	**Westside Schoo**	**0.73**	**322**	⇓P	**Pb**	**22 47 13.0**	**-0.5**
COK	**Cook Ranch**	**0.80**	**326**	⇓*i P*	**Pb**	**22 47 14.7**	**0.0**
COK	**Cook Ranch**	**0.80**	**326**	⇓P	**Pb**	**22 47 14.0**	**-0.7**
RUN	**Ruthven**	**0.81**	**13**	⇑P	**Pb**	**22 47 14.0**	**-0.9**
RMX	**La Rumorosa**	**0.85**	**300⇑**	*eP*	**Pb**	**22 47 15.5**	**-0.2**
RMX				*e*		22 47 28.4	
RMX				AML	AML	22 47 28.4	
	comp=N,4μm,0.3s						
CRR	**Carrizo Plain**	**0.96**	**317⇓**	*i P*	**Pb**	**22 47 17.3**	**-0.1**
CRR	**Carrizo Plain**	**0.96**	**317**	⇓P	**Pb**	**22 47 17.0**	**-0.4**
ZAX	**El Zacaton**	**1.13**	**234⇓**	*eP*	**Pn**	**22 47 20.5**	**-0.1**
ZAX				AML	AML	22 47 38.7	
	comp=E,4μm,0.4s						
ZAX				⇑*e*		22 47 38.7	
ZAX				AML	AML	22 47 38.9	
	comp=N,4μm,0.7s						
ZAX				⇓*e*		22 47 38.9	
CBKC	**Canebrake**	**1.14**	**309**	⇓P	**Pn**	**22 47 20.0**	**-0.6**
SPIG	**San Pedro Mart**	**1.16**	**191**	*eP*	**Pn**	**22 47 21.2**	**+0.1**
SPIG				*i S*	**Sg**	**22 47 37.8**	**+1.2**
SPIG	**San Pedro Mart**	**1.16**	**191**	*eP*	**Pn**	**22 47 21.2**	**+0.1**
SPIG				*i S*	**Sg**	**22 47 37.8**	**+1.2**
SPX	**San Pedro Mart**	**1.16**	**191⇓**	*eP*	**Pn**	**22 47 21.2**	**+0.1**
SPX				⇓*e*		22 47 40.5	
SPX				AML	AML	22 47 40.5	
	comp=N,2μm,0.5s						
CBX	**Cerro Bola**	**1.25**	**276**	*eP*	**Pn**	**22 47 21.7**	**-0.5**
CBX				*eS*	**Sb**	**22 47 37.7**	**-0.7**
CBX	**Cerro Bola**	**1.25**	**276⇑**	*eP*	**Pn**	**22 47 21.7**	**-0.5**
CBX				*eS*	**Sn**	**22 47 38.9**	**+0.1**
CBX				⇑*e*		22 47 44.5	
CBX				AML	AML	22 47 44.5	
	comp=E,4μm,0.5s						
CBX	**Cerro Bola**	**1.25**	**276**	*eP*	**Pn**	**22 47 21.7**	**-0.5**
CBX				*eS*	**Sb**	**22 47 37.7**	**-0.7**
FRK	**Frink**	**1.27**	**343**	P	**Pb**	**22 47 23.0**	**+0.3**
ECNX	**Esteban Cantu**	**1.30**	**247⇑**	*eP*	**Pn**	**22 47 23.0**	**+0.2**
LTC	**Little Chuckwa**	**1.31**	**5**	⇑P	**Pn**	**22 47 22.0**	**-0.9**
BAR	**Barrett**	**1.34**	**292**	*ePn*	**Pn**	**22 47 22.8**	**-0.6**
BAR				*eS*	**Sn**	**22 47 40.4**	**-0.6**
PBX	**Punta Banda**	**1.37**	**252⇑**	*eP*	**Pn**	**22 47 24.0**	**+0.3**
BORC	**Borrego Spring**	**1.49**	**317**	⇑P	**Pn**	**22 47 23.0**	**-2.4**
EML	**El Monte Cty P**	**1.56**	**297**	⇑P	**Pn**	**22 47 27.0**	**+0.7**
CTW	**Cottonwood Mou**	**1.59**	**339**	P	**Pg**	**22 47 31.0**	**+1.3**
BLYC	**Blythe**	**1.66**	**20**	⇑P	**Pg**	**22 47 31.0**	**0.0**
SND	**San Diego**	**1.68**	**291**	⇓P	**Pg**	**22 47 31.0**	**-0.4**
CPE	**Camp Elliot**	**1.76**	**294**	⇓P	**Pn**	**22 47 29.0**	**0.0**
FRD	**Ford Ranch, An**	**1.76**	**318**	⇑P	**Pn**	**22 47 30.0**	**+0.8**
PFO	**Pinyon Flats O**	**1.77**	**324**	⇑P	**Pb**	**22 47 31.0**	**-0.4**
PLM	**Palomar**	**1.82**	**310**	P	**Pn**	**22 47 30.0**	**-0.1**
POB	**Polly Butte**	**2.08**	**316**	⇑P	**Pn**	**22 47 34.0**	**+0.3**
BACC	**Bachelor Mtn.**	**2.10**	**313**	⇓P	**Pb**	**22 47 38.0**	**+1.0**
DGR	**Domenigoni Val**	**2.11**	**314**	⇑P	**Pb**	**22 47 38.0**	**+0.9**

ISCJB 08 22:55:49.8±0.6,32°.82N±0°.06×92°.02E±0°.09,h14km, mb3.6/9,MS3.5/2,Error ellipse: s-maj=11.8km s-min=7.5km az=26.3
IDC 08 22:55:49.0±0.9,32°.68N×91°.73E,h0km,mb3.5/10, mb1 3.6/14,mb1mx3.5/32,mbtmp3.5/14,ML3.3/4,MS3.4/2, Ms1 3.4/2,ms1mx2.5/46,Error ellipse: s-maj=38.1km s-min=16.6km az=59.0

ISC 08 22:55:51.4±0.7,32°.84N±0°.09×92°.0E±0°.1,h14km,n24, σ1§67/22,mb3.6/9,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare**	**7.18**	**215**	*eP*	**Pn**	**22 57 35.7**	**-0.6**
	5.6nm,0.4s						
GUN	**Gumba**	**7.22**	**229**	*eP*	**Pn**	**22 57 39.7**	**+2.8**
	7.0nm,0.4s						
RAMN	**Ramite**	**7.52**	**220**	*eP*	**Pn**	**22 57 42.2**	**+1.4**
	14nm,0.5s						
PKI	**Pulchoki**	**7.76**	**229**	*eP*	**Pn**	**22 57 46.3**	**+2.1**
	13nm,0.4s						
DANN	**Dangsing**	**8.40**	**240**	*eP*	**Pn**	**22 57 54.5**	**+1.5**
	13nm,0.5s						
KOLN	**Koldanda**	**8.85**	**237**	*eP*	**Pn**	**22 58 00.4**	**+1.3**
	6.6nm,0.6s						
PYUN	**Piuthan**	**9.10**	**241**	*eP*	**Pn**	**22 58 03.2**	**+0.6**
	12nm,0.4s						
CMAR	**Chiang Mai Arr**	**15.62**	**155**	Pn	**Pn**	**22 59 28.9**	**-2.3**
	0.2nm,0.3s,baz=335,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**15.79**	**335**	Pn	**Pn**	**22 59 30.1**	**-3.2**
	0.0nm,0.3s,baz=138,slow=14,SNR=2.2						
AAK	**Ala-Archa**	**16.93**	**310**	Pn	**Pn**	**22 59 46.3**	**-1.7**
	0.1nm,0.3s,baz=138,slow=12,SNR=1.7						
SONM	**Songino Array**	**18.51**	**32**	P	**Pn**	**23 00 08.7**	**+1.2**
	0.1nm,0.3s,baz=212,slow=14,SNR=3.6						
KURBB	**Kurchatov Arra**	**20.36**	**335**	P	**P**	**23 00 25.6**	**-1.7**
	0.2nm,0.3s,baz=143,slow=11,SNR=6.5						
ZALV	**Zalesovo Beam**	**21.71**	**348**	P	**P**	**23 00 43.4**	**+1.5**
	0.9nm,0.7s,baz=170,slow=11,SNR=5.9						
BVAR	**Borovoye Array**	**25.46**	**329**	P	**P**	**23 01 19.7**	**+0.9**
	1.0nm,0.7s,baz=136,slow=8.0,SNR=5.0						
FINES	**FINESS Array B**	**50.33**	**325**	P	**P**	**23 04 48.1**	**+0.7**
	0.5nm,0.8s,baz=101,slow=9.9,SNR=3.8						
ARCES	**ARCESS Array B**	**51.44**	**336**	LR	LR	23 28 09.7	
	comp=Z,32nm,19.8s,baz=242,slow=38						
HFS	**Hagfors**	**56.45**	**324**	LR	LR	23 33 46.0	
	comp=Z,47nm,19.5s,baz=256,slow=40						
NB2	**NORSAR Subarra**	**57.52**	**325**	P	**P**	**23 05 40.2**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=83,slow=7.4						
NOA	**NORSAR Array B**	**57.52**	**325**	P	**P**	**23 05 40.1**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=80,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**66.27**	**136**	P	**P**	**23 06 39.5**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=332,slow=6.6,SNR=5.4						
ASAR	**Alice Springs**	**68.96**	**139**	P	**P**	**23 06 56.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=328,slow=6.5,SNR=12						
INK	**Inuvik**	**73.63**	**16**	P	**P**	**23 07 25.2**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=285,slow=5.2,SNR=3.1						
YKA	**Yellowknife Ar**	**82.61**	**12**	P	**P**	**23 08 14.7**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=322,slow=4.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.25**	**281**	P	**P**	**23 08 15.7**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=46,slow=4.5,SNR=4.7						

JMA 08 22:57:18.4±0.2,30°.53N×138°.87E,h502km,M3.3
ISCJB 08 22:57:19.1±0.5,30°.38N±0°.05×138°.24E±0°.09,h440km, mb2.9/8,Error ellipse: s-maj=10.4km s-min=7.1km az=179.3
IDC 08 22:57:20.0±1.1,30°.46N×138°.51E,h442km±20km,mb2.7/8, mb1 2.9/11,mb1mx2.7/28,mbtmp3.6/11,Error ellipse: s-maj=45.1km s-min=11.9km az=68.0

ISC 08 22:57:20.1±0.8,30°.42N±0°.07×138°.4E±0°.1,h440km,n19, σ1§59/24,mb3.0/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.93**	**23**	P	P	**22 58 28.5**	**+2.8**
JIE	**Ise**	**4.22**	**340**	P	P	22 58 40.0	+3.5
JCJ	**Chichijima**	**4.67**	**134**	P	**P**	**22 58 41.8**	**+0.8**
	10nm,0.3s,baz=287,slow=19,SNR=4.2						
JCJ				S	**S**	**22 59 45.9**	**-0.8**
	9.4nm,0.3s,baz=90,slow=20,SNR=3.8						
BSO3	**Boso 3**	**4.71**	**21**	P	**P**	**22 58 41.6**	**+0.9**
BSO3				*eS*	**S**	**22 59 47.0**	**+0.4**
BSO1	**Boso 1**	**4.74**	**26**	P	**P**	**22 58 42.0**	**+1.3**
BSO1				S	**S**	**22 59 48.3**	**+1.7**
BSO4	**Boso 4**	**4.83**	**19**	P	**P**	**22 58 43.3**	**+1.2**
BSO4				S	**S**	**22 59 50.8**	**+1.7**
JRY	**Ryogami san**	**5.59**	**4**	P	**P**	**22 58 50.4**	**+0.6**
JAG	**Ashikaga**	**6.05**	**8**	P	**P**	**22 58 54.5**	**+0.1**
JAG				*eS*	**S**	**23 00 07.9**	**-3.7**
JHO	**Hitachi**	**6.43**	**16**	P	**P**	**22 58 58.8**	**+0.4**
JHO				S	**S**	**23 00 15.2**	**-3.6**
KSRS	**Korea Array**	**11.19**	**312**	P	**P**	**22 59 51.6**	**+1.5**
	0.2nm,0.3s,baz=116,slow=9.3,SNR=5.1						
USRK	**Ussuriysk Ar.**	**14.67**	**341**	P	**P**	**23 00 28.0**	**+0.3**
	0.5nm,0.3s,baz=148,slow=11,SNR=6.4						
SONM	**Songino Array**	**30.04**	**314**	P	**P**	**23 02 51.8**	**+0.3**
	0.2nm,0.5s,baz=116,slow=9.4,SNR=2.9						
MKAR	**Makanchi Array**	**45.83**	**307**	P	**P**	**23 05 00.8**	**-0.2**
	0.1nm,0.6s,baz=89,slow=7.4,SNR=2.7						
KURBB	**Kurchatov Arra**	**48.37**	**312**	P	**P**	**23 05 19.5**	**-0.6**
	0.3nm,0.5s,baz=93,slow=7.2,SNR=4.2						
WRA	**Warramunga Arr**	**50.23**	**185**	P	**P**	**23 05 34.2**	**0.0**
	0.8nm,0.4s,baz=0.9,slow=7.8,SNR=32						
BVAR	**Borovoye Array**	**53.37**	**316**	P	**P**	**23 05 54.8**	**-2.0**
	0.2nm,0.3s,baz=84,slow=9.1,SNR=4.3						
ASAR	**Alice Springs**	**53.95**	**185**	P	**P**	**23 06 01.4**	**+0.1**
	0.3nm,0.4s,baz=1.4,slow=6.1,SNR=7.8						
ARCES	**ARCESS Array B**	**69.31**	**340**	P	**P**	**23 07 41.9**	**+0.3**
	0.7nm,0.7s,baz=56,slow=8.0,SNR=5.0						
FINES	**FINESS Array B**	**73.50**	**332**	P	**P**	**23 08 06.1**	**-0.2**
	0.2nm,0.4s,baz=57,slow=5.1,SNR=4.6						

ISCJB 08 23:32:27.1±0.7,35°.74S±0°.04×73°.51W±0°.07,h10km, mb3.9/5,MS4.2/2,Error ellipse: s-maj=8.3km s-min=5.5km az=174.1
IDC 08 23:32:27.4±1.7,35°.89S×73°.44W,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.8/17,mbtmp3.7/7,ML3.5/2,MS4.1/2, Ms1 4.1/2,ms1mx3.0/34,Error ellipse: s-maj=43.6km s-min=21.6km az=75.0
GUC 08 23:32:29.8±0.4,35°.83S×73°.45W,h36km±2km,ML4.0
NEIC 08 23:32:32.9±0.9,35°.75S×73°.30W,h35km,mb4.1/3,Error ellipse: s-maj=20.0km s-min=11.2km az=87.0

ISC 08 23:32:28.7±0.8,35°.84S±0°.04×73°.38W±0°.07,h10km,n23, σ1§47/26,mb4.1/5,1C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.56**	**121**	*i P*	**Pn**	**23 32 41.8**	**-0.9**
COCH				*i S*	**Sn**	**23 32 50.8**	**-1.2**
CCSP	**San Pedro de C**	**1.02**	**168**	*eP*	**Pn**	**23 32 48.6**	**-0.5**
CCSP				*i S*	**Sn**	**23 33 02.5**	**-1.0**
CCSP				AML	AML	23 33 04.2	
	comp=E,3μm,0.5s						
LNCH	**Linares**	**1.44**	**91⇑**	*i P*	**Pb**	**23 32 55.5**	**-0.1**
LNCH				*i S*	**Sg**	**23 33 15.3**	**+0.2**
TALC	**Talca**	**1.49**	**73**	*eP*	**Pb**	**23 32 56.2**	**-0.2**
CHCH	**Chadas Angostu**	**2.94**	**50**	*eP*	**Pn**	**23 33 15.8**	**+0.3**
RCDM	**Rinconada Maip**	**3.16**	**43**	*eP*	**Pn**	**23 33 18.5**	**-0.1**
PEL	**Peldehue**	**3.49**	**40⇓**	*i P*	**Pn**	**23 33 23.7**	**+0.6**
PEL				AML	AML	23 34 31.7	
	comp=E,544nm,0.7s						
PLCA	**Paso Flores**	**5.37**	**156**	Pn	**Pn**	**23 33 50.2**	**+1.3**
	comp=E,0.4nm,0.3s,baz=335,slow=12,SNR=4.4						
PLCA				Lg	Lg	23 35 16.9	
	comp=E,0.4nm,0.3s,baz=252,slow=20,SNR=4.2						
PLCA	**Paso Flores**	**5.37**	**156**	*ePn*	**Pn**	**23 33 50.5**	**+1.6**
PLCA				Lg	Lg	23 35 16.9	
PLCA				*eSg*	**Sg**	**23 35 18.1**	**-2.9**
CFAA	**Coronel Fontan**	**6.01**	**47**	Pn	**Pn**	**23 33 58.0**	**+0.2**
	comp=E,1.2nm,0.3s,baz=234,slow=11,SNR=38						
CFAA				Sn	**Sn**	**23 35 06.5**	**-0.2**
	comp=E,0.3nm,0.3s,baz=70,slow=15,SNR=4.9						
CFAA				Lg	Lg	23 35 34.0	
	comp=E,0.1nm,0.3s,baz=35,slow=17,SNR=2.7						
LCO	**Las Campanas**	**7.18**	**19**	*ePn*	**Pn**	**23 34 12.0**	**-2.0**
LCO				*eSn*	**Sn**	**23 35 30.8**	**-4.9**
TRQA	**Tornquist**	**9.39**	**107**	*ePn*	**Pn**	**23 34 44.7**	**+0.6**
LPAZ	**La Paz**	**20.03**	**15**	P	Pn	23 37 04.3	0.0
	comp=E,0.9nm,0.6s,baz=200,slow=12,SNR=4.9						
LPAZ	**La Paz**	**20.03**	**15**	*eP*	**P**	**23 37 02.0**	**-0.4**
	comp=E,1.7nm,0.8s						
BDFB	**Brasilia**	**30.28**	**55**	P	**P**	**23 38 41.9**	**+1.7**
	comp=E,3.1nm,0.7s,baz=211,slow=5.9,SNR=3.0						
SJG	**San Juan**	**54.09**	**8**	LR	LR	00 04 44.3	
	comp=E,43nm,19.2s,baz=270,slow=36						
QSPA	**South Pole Qui**	**54.40**	**180**	*eP*	**P**	**23 41 56.5**	**+0.9**
	comp=E,2.1nm,1.0s						
TXAR	**Lajitas Array**	**70.82**	**332**	P	**P**	**23 43 45.8**	**+0.3**
	comp=E,0.2nm,0.5s,baz=155,slow=8.8,SNR=2.7						
DBIC	**Dimbokro**	**76.81**	**72**	P	**P**	**23 44 21.4**	**+0.4**
	comp=E,1.4nm,0.7s,baz=236,slow=7.3,SNR=3.1						
DBIC	**Dimbokro**	**76.81**	**72**	*eP*	**P**	**23 44 21.7**	**+0.7**
	comp=E,2.3nm,0.7s						
ELK	**Elko**	**85.37**	**329**	LR	LR	00 15 50.0	
	comp=E,410nm,19.9s,baz=0.0,slow=30						
TORD	**Torodi Ar. Bea**	**85.86**	**71**	P	**P**	**23 45 08.8**	**-0.1**
	comp=E,1.1nm,1.2s,baz=214,slow=5.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**156.37**	**33**	PKPab	**PKPab**	**23 52 52.0**	**+0.6**
	comp=E,0.2nm,0.4s,baz=255,slow=5.5,SNR=2.2						

ISCJB 08 23:56:08.1±0.7,32°.62N±0°.02×115°.74W±0°.03,h11km±5km, Error ellipse: s-maj=4.3km s-min=3.1km az=155.5
NEIC 08 23:56:08.0,32°.62N×115°.80W,h1km,ML3.4(PAS),After PAS.
ECX 08 23:56:10.2±0.6,32°.60N×115°.81W,h4km,MD3.3,ML3.5

ISC 08 23:56:07.6±1.0,32°.61N±0°.02×115°.72W±0°.03,h18km±4km, n35,σ0§67/51,15C-11D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESC	**Westside Schoo**	**0.15**	**356**	⇓P	**Pg**	**23 56 12.0**	**+0.2**
RMX	**La Rumorosa**	**0.30**	**268**	*eP*	**Pg**	**23 56 14.3**	**0.0**
RMX				*eS*	**Sg**	**23 56 18.3**	**-0.5**
RMX				*e*		23 56 18.7	
RMX				AML	AML	23 56 18.7	
	comp=N,7μm,0.1s						
SWSC	**Sam W. Stewart**	**0.33**	**349**	⇑P	**Pb**	**23 56 15.0**	**-0.1**
CPBX	**Cerro Prieto**	**0.40**	**119**	*eP*	**Pn**	**23 56 18.5**	**0.0**
CPBX				*eS*	**Sn**	**23 56 25.3**	**-0.3**
CPBX				⇓*e*		23 56 32.8	
CPBX				AML	AML	23 56 32.8	
	comp=N,13μm,0.5s						
CPBX				AML	AML	23 56 36.1	
	comp=E,11μm,0.4s						
CPBX				⇑*e*		23 56 36.1	
ERRC	**Elmore Ranch**	**0.51**	**350**	⇓P	**Pn**	**23 56 19.0**	**-1.0**
CLIC	**Calipatria**	**0.55**	**17**	⇑P	**Pn**	**23 56 20.0**	**-0.5**
RDX	**Rancho Dawling**	**0.71**	**195**	*eP*	**Pn**	**23 56 22.6**	**-0.3**
RDX				*eS*	**Sg**	**23 56 31.8**	**+0.7**
EMX	**El Mayor**	**0.74**	**147**	*eP*	**Pb**	**23 56 21.5**	**-0.5**
EMX				*eS*	**Sg**	**23 56 31.9**	**-0.1**
FRK	**Frink**	**0.79**	**5**	⇓P	**Pg**	**23 56 23.0**	**-0.1**
BAR	**Barrett**	**0.81**	**275**	⇑P	**Pb**	**23 56 23.0**	**-0.1**
BAR				S	**Sb**	**23 56 33.0**	**-0.7**
CBX	**Cerro Bola**	**0.85**	**250**	*eP*	**Pg**	**23 56 24.5**	**+0.3**
CBX				*eS*	**Sb**	**23 56 34.9**	**-0.2**
BORC	**Borrego Spring**	**0.88**	**318**	⇓P	**Pb**	**23 56 24.0**	**-0.3**
BORC				P	**Pn**	**23 56 25.0**	**-0.1**
BORC				S	**Sb**	**23 56 36.0**	**+0.3**
EML	**El Monte Cty P**	**0.99**	**287**	P	**Pb**	**23 56 23.0**	**-3.2**
EML				⇓P	**Pn**	**23 56 26.0**	**-0.6**
LTC	**Little Chuckwa**	**1.03**	**32**	⇑P	**Pn**	**23 56 27.0**	**-0.2**
BC3	**Big Chuckawall**	**1.06**	**12**	P	**Pb**	**23 56 27.0**	**-0.6**
CTCC	**Cactus City**	**1.06**	**348**	⇑P	**Pb**	**23 56 27.0**	**-0.5**
CTCC				S	**Sb**	**23 56 41.0**	**-0.1**
DPP	**Dos Picos Cty**	**1.10**	**291**	⇓P	**Pb**	**23 56 28.0**	**-0.1**
DPP				S	**Sb**	**23 56 42.0**	**-0.1**
FRD	**Ford Ranch, An**	**1.15**	**320**	⇑P	**Pn**	**23 56 28.0**	**-0.9**
PFO	**Pinyon Flats O**	**1.17**	**328**	⇑P	**Pn**	**23 56 29.0**	**-0.2**
ZAX	**El Zacaton**	**1.19**	**203**	*eP*	**Pg**	**23 56 30.7**	**0.0**
ZAX				*eS*	**Sg**	**23 56 46.3**	**0.0**
CPE	**Camp Elliot**	**1.20**	**284**	⇑P	**Pb**	**23 56 30.0**	**+0.2**
CPE				S	**Sb**	**23 56 45.0**	**+0.1**
ECNX	**Esteban Cantu**	**1.21**	**218**	*eP*	**Pb**	**23 56 30.5**	**+0.5**
PLM	**Palomar**	**1.21**	**308**	⇑P	**Pg**	**23 56 31.0**	**-0.1**
PBX	**Punta Banda**	**1.22**	**225**	*eP*	**Pg**	**23 56 30.7**	**-0.5**
DNR	**Dunn Ranch,Anz**	**1.22**	**321**	⇑P	**Pn**	**23 56 30.0**	**+0.1**
ECBX	**El Chinero**	**1.27**	**153**	*eP*	**Pn**	**23 56 30.1**	**-0.4**
ECBX				*eS*	**Sn**	**23 56 47.4**	**+0.3**
CRY	**Cary Ranch**	**1.28**	**318**	⇑P	**Pg**	**23 56 33.0**	**+0.7**
CRY				S	**Sn**	**23 56 48.0**	**+0.6**
POB	**Polly Butte**	**1.47**	**317**	⇓P	**Pb**	**23 56 35.0**	**+0.5**
BACC	**Bachelor Mtn.**	**1.49**	**312**	⇓P	**Pb**	**23 56 35.0**	**+0.2**
DGR	**Domenigoni Val**	**1.50**	**314**	⇓P	**Pg**	**23 56 36.0**	**-0.5**
DGR				S	**Sb**	**23 56 54.0**	**+0.4**
SPX	**San Pedro Mart**	**1.58**	**172**	*eP*	**Pb**	**23 56 37.1**	**+0.7**
RMR	**Rimrock**	**1.75**	**336**	⇑P	**Pn**	**23 56 38.0**	**+0.8**
SME	**Santa Rosa Min**	**1.82**	**312**	⇓P	**Pb**	**23 56 41.0**	**+0.5**
BTL	**Butler Peak**	**1.96**	**327**	⇑P	**Pn**	**23 56 41.0**	**+0.8**
PEM	**Pine Mountain**	**2.37**	**311**	⇑P	**Pb**	**23 56 51.0**	**+1.2**

BUL 08 23:57:37.1±0.5,3°.57S×35°.16E,h32km±30km,MD3.8
IDC 08 23:57:40.1±0.6,4°.14S×35°.12E,h0km,mb4.3/23, mb1 4.4/25,mb1mx4.4/31,mbtmp4.3/25,ML5.0/2,MS4.2/27, Ms1 4.2/27,ms1mx4.1/38,Error ellipse: s-maj=16.7km s-min=11.6km az=115.0
ISCJB 08 23:57:41.3±0.2,4°.13S±0°.03×35°.15E±0°.04,h23km, mb4.7/100,MS4.3/31,Error ellipse: s-maj=5.6km s-min=4.8km az=25.5
BJI 08 23:57:42.6,4°.40S×35°.20E,h24km,mB5.1/21,mb5.0/32, Ms4.9/14,Ms7 4.5/15
NEIC 08 23:57:43.7±0.3,4°.18S×35°.19E,mb5.0/23,Error ellipse: s-maj=6.8km s-min=5.8km az=98.0
NEIC Felt [III] at Arusha. Also felt at Dodoma, Haidom and Namanga. Felt at Nairobi, Kenya.
GCMT 08 23:57:43.3±0.2,4°.14S×35°.24E,h25km±1km,MW5.1/89, Moment Tensor Solution. s54,c66; s89,c130; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.38±.13; Mθθ-0.78±.11; Mφφ 1.16±.13; Mrθ 0.19±.22; Mrφ 4.23±.10; Mθφ-2.47±.30; Best double couple: M☉5.00100×10^16 NP1:φ355.00000°,δ88.00000°,λ-150.00000°. NP2: φ263.00000°,δ60.00000°,λ-2.00000°. Principal axes: T 5.1570, Plg19.0000°, Azm125.0000°; N -0.3110, Plg60.0000°, Azm358.0000°; P -4.8450, Plg22.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 08 23:57:43.2±1.2,4°.02S×35°.14E,h33km,mb4.7/31, MS4.1/5 Error ellipse: s-maj=13.3km s-min=6.4km az=86.4

ISC 08 23:57:43.0±0.3,4°.17S±0°.04×35°.24E±0°.06,h21km±3km, h21km:pP-P,n275,σ1§37/270,mb4.8/94,MS4.2/31, 15C-14D,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAUS	**Longido**	**2.04**	**46**	*i P*	**Pn**	**23 58 14.3**	**-2.0**
MAUS				*i S*	**Sn**	**23 58 41.2**	**0.0**
DODT	**Dodoma, Tanzan**	**2.07**	**166**	*i P*	**Pn**	**23 58 16.8**	**+0.1**
DODT				*i S*	**Sb**	**23 58 46.4**	**+0.9**
I32KE	**NAIROBI INFRAS**	**3.31**	**29**	Pg	**Pb**	**23 58 41.7**	**+0.4**
	baz=195,slow=8.0						
I32KE				Lg	Lg	23 59 21.1	
I32KE				*i*		00 10 20.0	
	baz=213,slow=311,SNR=0.6						
KMBO	**Kilima Mbogo**	**3.63**	**34**	*i P*	**Pn**	**23 58 35.5**	**-2.8**
KMBO				pmax	pmax		
	comp=Z,131nm,0.3s						
KMBO	**Kilima Mbogo**	**3.63**	**34**	Pn	**Pn**	**23 58 35.5**	**-2.8**
	comp=Z,57nm,0.3s,baz=212,slow=17,SNR=233						
KMBO				Pg	**Pb**	**23 58 45.7**	**-1.0**
	comp=Z,299nm,0.3s,baz=212,slow=19,SNR=187						
KMBO				LR	LR	23 59 20.7	
	comp=Z,1μm,21.4s,baz=280,slow=27						
KMBO				Lg	Lg	23 59 32.3	
	comp=Z,762nm,0.3s,baz=108,slow=20,SNR=8.3						
KMBO	**Kilima Mbogo**	**3.63**	**34**	P	**Pn**	**23 58 35.6**	**-2.7**
	SNR=1983						
LSZ	**Lusaka**	**13.04**	**212**	Pn	**Pn

TIC	**Toumodi**	**41.60**	**285**	*e*P		**P**	**00 05 29.9**	**-0.1**
	comp=Z,47nm,0.8s								
IRAZ	**Razeghan**	**41.71**	**18**	*e*P		pP	00 05 36.9	-0.4
IDMV	**Damavand**	**42.56**	**20**	*e*P		pP	00 05 45.5	+1.1
IPRN	**Peran**	**43.27**	**20**	*e*P		pP	00 05 49.0	-0.9
BR101	**Keskin Array S**	**43.70**	**358**	*e*P		**P**	**00 05 47.1**	**+0.4**
BRTR	**Keskin Array B**	**43.70**	**358**	*i* P		**P**	**00 05 47.2**	**+0.4**
BRTR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BRTR	**Keskin Array B**	**43.70**	**358**	P		**P**	**00 05 47.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=170,slow=8.5,SNR=8.6								
GNI	**Garni**	**44.96**	**10**	*e*P		P	00 05 53.3	-3.6
GNI					pmax	pmax			
	comp=Z,4.0nm,1.3s								
KDZ	**Kurdzhali**	**46.47**	**350**	⇑*i*P		pP	00 06 18.6	+3.4
KEST	**Kesra**	**46.52**	**331**	LR		LR	00 27 31.3		
	comp=Z,287nm,18.7s,baz=182,slow=39								
GEYT	**Alibeck**	**46.97**	**25**	P		**P**	**00 06 12.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=224,slow=7.5,SNR=2.6								
GEYT				LR		LR	00 28 18.4		
	comp=Z,557nm,18.6s,baz=210,slow=39								
ZEI	**Tsey**	**47.39**	**9**	*e*P		P	00 06 22.4	+6.4
ZEI					pmax	pmax			
	comp=Z,14nm,1.6s								
KBZ	**Khabaz**	**48.17**	**7**	P		**P**	**00 06 22.1**	**+0.3**
KBZ					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**48.17**	**7**	P		**P**	**00 06 22.1**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=158,slow=5.4,SNR=2.5								
KIV	**Kislovodsk**	**48.37**	**7**	*e*P		**P**	**00 06 22.3**	**-1.2**
KIV					pmax	pmax			
	comp=Z,13nm,1.0s								
KIV	**Kislovodsk**	**48.37**	**7**	*e*P		**P**	**00 06 23.6**	**+0.1**
	comp=Z,11nm,0.9s								
CFR	**Carcaliu**	**49.53**	**353**	⇑P		**P**	**00 06 34.2**	**+2.0**
CFR	**Carcaliu**	**49.53**	**353**	⇑*i*P		**P**	**00 06 34.2**	**+2.0**
KBL	**Kabul**	**49.96**	**37**	*e*P		**P**	**00 06 35.1**	**-0.8**
	comp=Z,9.8nm,1.0s								
KBL				*ep*P		**pP**	**00 06 41.9**	**-0.7**
KBL				*es*P		**sP**	**00 06 45.3**	**+0.2**
MLR	**Muntele Rosu**	**50.13**	**351**	⇓P		pP	00 06 46.0	+2.4
MLR	**Muntele Rosu**	**50.13**	**351**	⇓*i*P		pP	00 06 46.0	+2.4
ARR	**Arges**	**50.22**	**350**	⇓*i*P		**P**	**00 06 37.1**	**-0.4**
GZR	**Gura Zlata**	**50.58**	**349**	⇓P		**P**	**00 06 40.2**	**-0.1**
GZR	**Gura Zlata**	**50.58**	**349**	⇓*i*P		**P**	**00 06 40.2**	**-0.1**
DRGR		**51.94**	**349**	⇓P		**P**	**00 06 51.1**	**+0.7**
DRGR		**51.94**	**349**	⇓*i*P		**P**	**00 06 51.1**	**+0.7**
PKSM	**Moragy**	**52.28**	**345**	⇓P		**P**	**00 06 53.2**	**+0.3**
PKSM	**Moragy**	**52.28**	**345**	⇓*i*P		**P**	**00 06 53.2**	**+0.3**
BURAR	**Bucovina Array**	**52.31**	**351**	⇓P		**P**	**00 06 53.6**	**+0.3**
BURAR	**Bucovina Array**	**52.31**	**351**	⇓*i*P		**P**	**00 06 53.6**	**+0.3**
BOJS	**Bojanci**	**52.56**	**342**	*i* P		**P**	**00 06 55.1**	**+0.1**
TRPA	**Tarpa**	**53.26**	**349**	⇓*i*P		**P**	**00 07 00.6**	**+0.5**
JAVS	**Javornik**	**53.28**	**342**	*i* P		**P**	**00 07 00.1**	**-0.3**
PSZ	**Piszkesteto**	**53.59**	**347**	⇑P		**P**	**00 07 02.5**	**-0.1**
PSZ	**Piszkesteto**	**53.59**	**347**	⇑*i*P		**P**	**00 07 02.5**	**-0.1**
PSZ	**Piszkesteto**	**53.59**	**347**	*e*P		**P**	**00 07 02.1**	**-0.5**
	comp=Z,9.6nm,1.0s								
PERS	**Pernice**	**53.63**	**343**	*i* P		**P**	**00 07 03.3**	**+0.4**
CADS	**Cadrg**	**53.68**	**342**	*i* P		**P**	**00 07 02.9**	**-0.4**
OBKA	**Obir**	**53.68**	**342**	⇑*i*P		**P**	**00 07 03.6**	**+0.2**
	comp=Z,8.0nm,1.0s								
SOKA	**Soboth**	**53.69**	**343**	⇑*i*P		**P**	**00 07 03.7**	**+0.3**
	comp=Z,10nm,1.1s,SNR=9.2								
FRF	**La Foret Royal**	**54.05**	**335**	*e*P		**P**	**00 07 06.7**	**+0.7**
FRF	**La Foret Royal**	**54.05**	**335**	*e*P		**P**	**00 07 06.7**	**+0.7**
ARSA	**Arzberg**	**54.07**	**344**	⇓*i*P		**P**	**00 07 06.6**	**+0.5**
	comp=Z,6.0nm,1.0s								
KOLS	**Kolonicke sedl**	**54.08**	**349**	*e*P		**P**	**00 07 07.0**	**+0.9**
CRVS	**Cervenica-Dubn**	**54.20**	**349**	*e*P		**P**	**00 07 07.0**	**0.0**
VYHS	**Vyhne**	**54.37**	**347**	*e*P		**P**	**00 07 07.5**	**-0.8**
KBA	**Koelnbreinsper**	**54.56**	**342**	⇑*i*P		**P**	**00 07 09.8**	**-0.1**
	comp=Z,9.7nm,1.4s								
CONA	**Conrad Observa**	**54.59**	**344**	⇑*i*P		**P**	**00 07 09.8**	**-0.2**
	comp=Z,9.6nm,1.3s,SNR=6.6								
KWP	**Kalwaria Pacla**	**54.67**	**350**	*e*P		**P**	**00 07 10.7**	**+0.3**
KWP	**Kalwaria Pacla**	**54.67**	**350**	*e*P		**P**	**00 07 10.7**	**+0.3**
STHS	**Stebnicka Huta**	**54.73**	**349**	*e*P		**P**	**00 07 11.3**	**+0.4**
SMRF	**Simiane la Rot**	**54.85**	**334**	*e*P		**P**	**00 07 13.5**	**+1.6**
SMRF	**Simiane la Rot**	**54.85**	**334**	*e*P		**P**	**00 07 13.5**	**+1.6**
KIEV	**Kiev**	**54.89**	**355**	*e*P		**P**	**00 07 11.5**	**-0.5**
KIEV	**Kiev**	**54.89**	**355**	*e*P		**P**	**00 07 11.2**	**-0.8**
	comp=Z,19nm,1.6s								
AKASG	**Malin Array Be**	**54.90**	**355**	P		**P**	**00 07 11.3**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=176,slow=6.3,SNR=11								
AKASG					LR	LR	00 34 18.4		
	comp=Z,152nm,18.7s,baz=155,slow=40								
AKBB	**Malin Array Si**	**54.90**	**355**	*e*P		**P**	**00 07 11.3**	**-0.7**
NIE	**Niedzica**	**54.92**	**348**	*e*P		**P**	**00 07 12.2**	**-0.1**
MBDF	**Montbardon**	**54.94**	**335**	*e*P		**P**	**00 07 13.7**	**+1.0**
	comp=Z,20nm,1.0s								
MBDF	**Montbardon**	**54.94**	**335**	*e*P		**P**	**00 07 13.7**	**+1.0**
MOA	**Molln**	**54.97**	**343**	⇑*i*P		**P**	**00 07 12.6**	**-0.1**
	comp=Z,11nm,1.1s,SNR=7.6								
VORD	**Divnogorie**	**55.03**	**3**	*e*P		P	00 07 18.7	+5.8
VORD					pmax	pmax			
	comp=Z,4.0nm,0.3s								
VORD					pmax	pmax			
	comp=N,10.0nm,0.9s								
VORD					pmax	pmax			
	comp=E,10.0nm,0.6s								
BNI	**Bardonecchia**	**55.25**	**336**	*e*P		P	00 07 10.8	-4.0
BNI				*ep*P		pP	00 07 19.3	-2.3
VSR	**Storozhevoye**	**55.27**	**3**	*e*P		P	00 07 22.3	+7.6
VSR					pmax	pmax			
	comp=Z,8.0nm,1.0s								
VSR					pmax	pmax			
	comp=N,9.0nm,0.8s								
VSR					pmax	pmax			
	comp=E,7.0nm,1.5s								
VRHR	**Novokhopersk**	**55.32**	**5**	*e*P		P	00 07 21.7	+6.7
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
VRHR					pmax	pmax			
	comp=N,100nm,2.0s								
VRHR					pmax	pmax			
	comp=E,20nm,0.7s								
FETA	**Feichten**	**55.37**	**340**	⇑*i*P		**P**	**00 07 15.6**	**-0.1**
	comp=E,6.9nm,1.1s								
TUE	**Stuetta**	**55.39**	**338**	*ep*P		**pP**	**00 07 25.0**	**+2.4**
TUE				*ep*P		pP	00 07 33.3	+11
ORIF	**Oris-en-Rattie**	**55.47**	**335**	*e*P		**P**	**00 07 16.0**	**-0.4**
	comp=E,51nm,1.7s								
ORIF				*e*R					
	comp=E,340nm,22.2s								
ORIF	**Oris-en-Rattie**	**55.47**	**335**	*e*P		**P**	**00 07 16.0**	**-0.4**
MOTA	**Moosalm**	**55.52**	**340**	⇑*i*P		**P**	**00 07 15.9**	**-0.9**
	comp=E,6.9nm,1.1s								
LPG	**La Plagne**	**55.58**	**336**	*e*P		**P**	**00 07 16.3**	**-1.1**
	comp=E,29nm,1.2s								
LPG	**La Plagne**	**55.58**	**336**	*e*P		**P**	**00 07 16.3**	**-1.1**
LPL	**La Plagne**	**55.60**	**336**	*e*P		**P**	**00 07 16.3**	**-1.2**
	comp=E,42nm,1.3s								
LPL	**La Plagne**	**55.60**	**336**	*e*P		**P**	**00 07 16.3**	**-1.2**
RETA	**Reutte**	**55.76**	**340**	⇑*i*P		**P**	**00 07 17.4**	**-1.0**
	comp=E,10nm,1.4s								
MORC	**Moravsky Berou**	**55.87**	**346**	*e*P		**P**	**00 07 18.2**	**-0.9**
	comp=E,10nm,1.4s								
DAVA	**Damuels**	**55.89**	**339**	⇑*i*P		**P**	**00 07 18.8**	**-0.7**
	comp=E,20nm,1.1s								
TREC	**Trest**	**55.94**	**345**	*e*P		**P**	**00 07 17.9**	**-1.7**
TREC					MLR	MLR			
	comp=Z,300nm,17.8s								
TREC	**Trest**	**55.94**	**345**	*e*P		**P**	**00 07 17.9**	**-1.7**
TREC					AMS	AMS	00 33 40.0		
	comp=Z,300nm,17.8s								
GEC2	**GERESS Array S**	**56.03**	**343**	*e*P		**P**	**00 07 19.9**	**-0.4**
GERES	**GERESS Array B**	**56.03**	**343**	P		**P**	**00 07 20.0**	**-0.4**
GERES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
GERES	**GERESS Array B**	**56.03**	**343**	P		**P**	**00 07 19.9**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=149,slow=6.2,SNR=28								
GERES					LR	LR	00 32 16.6		
	comp=Z,146nm,19.3s,baz=178,slow=37								
SFK	**Sufi-Kurgan**	**56.28**	**35**	P		**P**	**00 07 22.0**	**-0.5**
SFK					pmax	pmax			
	comp=Z,38nm,1.1s								
KHC	**Kasperske Hory**	**56.33**	**343**	*e*P		**P**	**00 07 20.7**	**-1.7**
KHC				*e*			00 07 28.2		
KHC					MLR	MLR			
	comp=Z,200nm,18.0s								
KHC	**Kasperske Hory**	**56.33**	**343**	*e*P		**P**	**00 07 20.7**	**-1.7**
KHC				*ep*P		**pP**	**00 07 28.2**	**-0.9**
KHC				*ex*		x	00 07 43.5		
KHC					AMS	AMS	00 32 10.0		
	comp=Z,200nm,18.0s								
KHC	**Kasperske Hory**	**56.33**	**343**	*e*P		**P**	**00 07 21.0**	**-1.4**
	comp=Z,7.4nm,1.1s								
KRLC	**Kraliky**	**56.33**	**346**	*e*P		**P**	**00 07 22.1**	**-0.3**
KRLC	**Kraliky**	**56.33**	**346**	*e*P		**P**	**00 07 22.1**	**-0.3**
KRLC				*ex*		x	00 07 42.3		
EPF	**Esparros**	**56.58**	**330**	*e*P		**P**	**00 07 24.6**	**+0.3**
	comp=Z,46nm,1.6s								
EPF	**Esparros**	**56.58**	**330**	*e*P		**P**	**00 07 24.6**	**+0.3**
ESDC	**Sonseca Array**	**56.59**	**324**	P		**P**	**00 07 24.5**	**0.0**
	comp=Z,2.0nm,0.8s,baz=130,slow=6.6,SNR=15								
ESDC					LR	LR	00 32 21.2		
	comp=Z,183nm,18.5s,baz=130,slow=37								
DPC	**Dobruska-Polom**	**56.70**	**346**	*e*P		**P**	**00 07 24.0**	**-1.0**
DPC				*e*			00 07 39.2		
DPC	**Dobruska-Polom**	**56.70**	**346**	*e*P		**P**	**00 07 24.0**	**-1.0**
DPC				*ex*		x	00 07 39.2		
DPC					AMS	AMS	00 32 20.0		
CABF	**La Chapelle**	**56.76**	**336**	*e*P		**P**	**00 07 25.8**	**+0.2**
	comp=Z,64nm,1.5s								
CABF	**La Chapelle**	**56.76**	**336**	*e*P		**P**	**00 07 25.8**	**+0.2**
KK31	**Karatay Array**	**56.83**	**30**	*i* P		**P**	**00 07 26.2**	**+0.2**
KK31					pmax	pmax			
	comp=Z,30nm,1.1s								
KKAR	**Karatay Array**	**56.83**	**30**	*e*P		**P**	**00 07 26.1**	**+0.1**
PRU	**Pruhonice**	**56.83**	**344**	*ex*		**pS**	**00 15 24.7**	**-1.5**
PRU					AMS	AMS	00 32 00.0		
	comp=Z,100nm,18.5s								
UPC	**Upice**	**56.92**	**345**	*e*P		**P**	**00 07 25.4**	**-1.2**
UPC				*e*			00 07 32.9		
UPC	**Upice**	**56.92**	**345**	*e*P		**P**	**00 07 25.4**	**-1.2**
UPC				*ep*P		**pP**	**00 07 32.9**	**-0.4**
ETSF	**Etsaut**	**56.94**	**329**	*e*P		**P**	**00 07 28.3**	**+1.4**
	comp=Z,54nm,1.6s								
ETSF	**Etsaut**	**56.94**	**329**	*e*P		**P**	**00 07 28.3**	**+1.4**
CAF	**Calviac**	**57.16**	**332**	*e*P		**P**	**00 07 28.6**	**+0.2**
CAF	**Calviac**	**57.16**	**332**	*e*P		**P**	**00 07 28.6**	**+0.2**
BFO	**Black Forest**	**57.33**	**339**	*i* P		**P**	**00 07 29.8**	**+0.3**
ABKAR	**Akbulak array**	**57.38**	**19**	*e*P		**P**	**00 07 29.7**	**0.0**
KSH	**Kashi**	**57.40**	**37**	P		P	00 07 26.2	-4.1
KSH					PP	**PP**	**00 09 34.2**	**-3.7**
KSH					PcS	**PcS**	**00 12 21.7**	**-3.6**
KSH					S	S	00 15 17.2	-9.0
KSH					ScS	**ScS**	**00 17 12.6**	**-6.3**
KSH					SS	SS	00 19 06.7	-9.5
KSH					PMZ				
	comp=Z,6.0nm,1.0s								
KSH					PMZ				
	comp=Z,110nm,3.9s								
KSH					LN				
	comp=Z,110nm,6.4s								
KSH					LE				
	comp=Z,140nm,7.8s								
KSH					LZ				
	comp=Z,250nm,8.4s								
HINF	**Hinteralfeld**	**57.45**	**338**	*e*P		**P**	**00 07 29.7**	**-0.7**
	comp=Z,11nm,1.0s								
HINF	**Hinteralfeld**	**57.45**	**338**	*e*P		**P**	**00 07 29.7**	**-0.7**
RJF	**Les Rejaudoux**	**57.70**	**332**	*e*P		**P**	**00 07 32.6**	**+0.4**
RJF				*e*R					
	comp=Z,421nm,18.5s								
RJF	**Les Rejaudoux**	**57.70**	**332**	*e*P		**P**	**00 07 32.6**	**+0.4**
SMF	**Signal de Mont**	**57.71**	**335**	*e*P		**P**	**00 07 31.9**	**-0.3**
	comp=Z,31nm,1.3s								
SMF	**Signal de Mont**	**57.71**	**335**	*e*P		**P**	**00 07 31.9**	**-0.3**
CDF	**Champ du Feu**	**57.78**	**338**	*e*P		**P**	**00 07 32.0**	**-0.8**
	comp=Z,22nm,1.2s								
CDF	**Champ du Feu**	**57.78**	**338**	*e*P		**P**	**00 07 32.0**	**-0.8**
LFF	**La Frestale**	**57.79**	**332**	*e*P		**P**	**00 07 33.1**	**+0.3**
	comp=Z,37nm,1.2s								
LFF	**La Frestale**	**57.79**	**332**	*e*P		**P**	**00 07 33.1**	**+0.3**
HAU	**Haudompre**	**57.80**	**337**	*e*P		**P**	**00 07 32.3**	**-0.5**
	comp=Z,50nm,1.6s								
HAU				*e*R					
	comp=Z,202nm,18.5s								
HAU	**Haudompre**	**57.80**	**337**	*e*P		**P**	**00 07 32.3**	**-0.5**
AVF	**Avril sur Loir**	**58.03**	**335**	*e*P		**P**	**00 07 34.1**	**-0.3**
	comp=Z,25nm,1.1s								
AVF	**Avril sur Loir**	**58.03**	**335**	*e*P		**P**	**00 07 34.1**	**-0.3**
BGF	**Bois d'Agland**	**58.07**	**334**	*e*P		**P**	**00 07 34.6**	**-0.1**
BGF	**Bois d'Agland**	**58.07**	**334**	*e*P		**P**	**00 07 34.6**	**-0.1**
TCF	**Toulx Ste Croi**	**58.14**	**334**	*e*P		**P**	**00 07 35.6**	**+0.4**
	comp=Z,36nm,1.2s								
TCF	**Toulx Ste Croi**	**58.14**	**334**	*e*P		**P**	**00 07 35.6**	**+0.4**
LOR	**Lormes**	**58.19**	**335**	*e*P		**P**	**00 07 35.2**	**-0.4**
	comp=Z,38nm,1.6s								
LOR				*e*R					
	comp=Z,280nm,18.0s								
LOR	**Lormes**	**58.19**	**335**	*e*P		**P**	**00 07 35.2**	**-0.4**
EKS2	**Erkin-Say**	**58.22**	**33**	*e*P		**P**	**00 07 35.3**	**-0.7**
	comp=Z,39nm,1.8s								
EVO	**Evora**	**58.33**	**321**	*e*P		**P**	**00 07 36.3**	**-0.4**
	comp=Z,22nm,1.4s								
EVO				*e*R					
	comp=Z,629nm,17.1s								
EVOP	**Sao Brissos**	**58.40**	**321**	*e*P		**P**	**00 07 36.3**	**-0.9**
CLL	**Collm**	**58.45**	**344**	*e*S		S	00 15 48.0	+8.8
CLL				*e*SS		**SS**	**00 19 36.0**	**+4.0**
CLL				*e*SSS		SSS	00 22 06.0		
CLL				LmV			00 37 00.0		
	comp=Z,200nm,18.8s								
SFTF	**Sexfontaines**	**58.47**	**337**	*e*P		**P**	**00 07 37.5**	**0.0**
	comp=Z,41nm,1.1s								
SFTF	**Sexfontaines**	**58.47**	**337**	*e*P		**P**	**00 07 37.5**	**0.0**
PAGF	**Fort de Pagny**	**58.48**	**337**	*e*P		**P**	**00 07 37.5**	**-0.1**
	comp=Z,8.1nm,1.3s								
PAGF	**Fort de Pagny**	**58.48**	**337**	*e*P		**P**	**00 07 37.5**	**-0.1**
AAK	**Ala-Archa**	**58.59**	**33**	P		**P**	**00 07 38.7**	**+0.1**
AAK					pmax	pmax			
	comp=Z,4.0nm,1.2s								
AAK	**Ala-Archa**	**58.59**	**33**	P		**P**	**00 07 38.7**	**+0.1**
	comp=Z,4.1nm,1.2s,baz=231,slow=8.7,SNR=4.2								
AAK	**Ala-Archa**	**58.59**	**33**	P		pP	00 07 46.2	+0.8
	SNR=7.6								
AAK	**Ala-Archa**	**58.59**	**33**	*e*P		**P**	**00 07 38.5**	**-0.1**
	comp=Z,13nm,1.0s								
MEZF	**Maizieres J'vi**	**58.70**	**337**	*e*P		**P**	**00 07 39.3**	**+0.2**
	comp=Z,49nm,1.3s								
MEZF	**Maizieres J'vi**	**58.70**	**337**	*e*P		**P**	**00 07 39.3**	**+0.2**
FRU	**Bishkek**	**58.79**	**33**	*e*P		**pP**	**00 07 45.5**	**-1.1**
FRU					pmax	pmax			
	comp=Z,50nm,1.8s								
SUW	**Suwalki**	**58.84**	**352**	*e*P		**P**	**00 07 39.3**	**-0.6**
SUW	**Suwalki**	**58.84**	**352**	*e*P		**P**	**00 07 39.5**	**-0.4**
	comp=Z,27nm,1.0s								
OBN	**Obninsk**	**59.08**	**1**⇑	*e*P		**P**	**00 07 41.6**	**0.0**
OBN				*e*			00 09 49.6		
OBN				*e*S		**S**	**00 15 51.6**	**+4.3**
OBN					pmax	pmax			
	comp=Z,3.0nm,0.9s								
OBN					MLR	MLR			
	comp=Z,91nm,21.0s								
TKM2	**Tokmak 2**	**59.38**	**34**	*e*P		**P**	**00 07 44.2**	**-0.1**
	comp=Z,34nm,0.9s								
MFF	**Saint Martin d**	**59.44**	**332**	*e*P		**P**	**00 07 45.6**	**+1.3**
	comp=Z,68nm,1.8s								
MFF	**Saint Martin d**	**59.44**	**332**	*e*P		**P**	**00 07 45.6**	**+1.3**
GIVF	**Givet**	**60.09**	**338**	*e*P		**P**	**00 07 48.2**	**-0.4**
	comp=Z,28nm,1.2s								
GIVF	**Givet**	**60.09**	**338**	*e*P		**P**	**00 07 48.2**	**-0.4**
BAIF	**Baives**	**60.29**	**338**	*e*P		**P**	**00 07 51.0**	**+1.0**
BAIF	**Baives**	**60.29**	**338**	*e*P		**P**	**00 07 51.0**	**+1.0**
LDF	**La Druitiere**	**60.92**	**334**	*e*P		**P**	**00 07 53.9**	**-0.4**
	comp=Z,30nm,1.4s								
LDF	**La Druitiere**	**60.92**	**334**	*e*P		**P**	**00 07 53.9**	**-0.4**
FLN	**La Foliniere**	**61.20**	**334**	*e*P		**P**	**00 07 55.5**	**-0.8**
FLN				*e*R					
	comp=Z,363nm,17.0s								
FLN	**La Foliniere**	**61.20**	**334**	*e*P		**P**	**00 07 55.5**	**-0.8**
SGMF	**Saint Gilles**	**61.77**	**332**	*e*P		**P**	**00 08 01.0**	**+0.9**
	comp=Z,33nm,1.3s								
SGMF	**Saint Gilles**	**61.77**	**332**	*e*P		**P**	**00 08 01.0**	**+0.9**
QUIF	**Quistinic**	**61.81**	**332**	*e*P		**P**	**00 08 00.0**	**-0.4**
	comp=Z,68nm,1.7s								
QUIF	**Quistinic**	**61.81**	**332**	*e*P		**P**	**00 08 00.0**	**-0.4**
PDGK	**Podgornoye**	**61.84**	**35**	P		**P**	**00 07 59.0**	**-1.6**
PDGK					pmax	pmax			
	comp=Z,18nm,1.3s								
ARU	**Arti**	**63.34**	**14**	*d i* P		**P**	**00 08 09.3**	**-1.1**
ARU							00 10 25.0		
ARU					S	**S**	**00 16 40.6**	**-0.8**
ARU					SS	**SS**	**00 20 47.0**	**-1.4**
ARU					pmax	pmax			
	comp=Z,6.0nm,1.7s								
ARU					MLR	MLR			
	comp=Z,479nm,19.0s								
ARU	**Arti**	**63.34**	**14**	*e*P		**P**	**00 08 10.0**	**-0.3**
	comp=Z,19nm,1.4s								
BVA0	**Borovoye Array**	**64.21**	**23**	*i* P		**pP**	**00 08 21.9**	**-1.2**
BVA0					pmax	pmax			
	comp=Z,11nm,1.1s								
SVE	**Sverdlovsk**	**64.22**	**15**	*e*P		**pP**	**00 08 22.8**	**-0.2**
SVE					pmax	pmax			
	comp=Z,10.0nm,1.2s								
SVE					MLR	MLR			
	comp=Z,289nm,17.0s								
MK31	**Makanchi Array**	**65.52**	**34**	*i* P		**P**	**00 08 24.3**	**-0.6**
MK31					pmax	pmax			
	comp=Z,29nm,0.9s								
MK32	**Makanchi Array**	**65.52**	**34**	*e*P		**P**	**00 08 24.3**	**-0.7**
MKAR	**Makanchi Array**	**65.52**	**34**	P		**P**	**00 08 24.3**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=232,slow=7.3,SNR=16								
MKAR					LR	LR	00 40 58.8		
	comp=Z,285nm,18.6s,baz=255,slow=40								
MKAR	**Makanchi Array**	**65.52**	**34**	*e*P		**P**	**00 08 24.1**	**-0.9**
FIA0	**FINESS Array S**	**65.81**	**355**	*e*P		**P**	**00 08 25.8**	**-0.6**
FINES	**FINESS Array B**	**65.81**	**355**	P		**P**	**00 08 25.8**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=155,slow=5.9,SNR=7.5								
FINES					LR	LR	00 41 17.9		
	comp=Z,190nm,18.1s,baz=192,slow=40								
SOKR	**Solikamsk**	**65.82**	**12**	*e*P		**pP**	**00 08 33.9**	**+0.6**
SOKR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
MAW	**Mawson**	**66.09**	**169**	LR		LR	00 31 33.4		
	comp=Z,157nm,21.4s,baz=280,slow=31								
KURK	**Kurchatov**	**66.10**	**29**	P		**pP**	**00 08 33.9**	**-1.5**
KURK					pmax	pmax			
	comp=Z,16nm,1.3s								
KURK	**Kurchatov**	**66.10**	**29**	P		pP	00 08 35.7	+0.3
	SNR=13								
KURK	**Kurchatov**	**66.10**	**29**	*e*P		**P**	**00 08 27.9**	**-0.6**
	comp=Z,31nm,1.1s								
KURK				*ep*P		**pP**	**00 08 35.1**	**-0.3**
PRGR	**Permogore**	**66.11**	**5**	*e*P		**P**	**00 08 26.9**	**-1.4**
PRGR				*e**PP		**pP**	**00 08 37.0**	**+1.8**
PRGR				*e*			00 08 54.8		
PRGR					pmax	pmax			
	comp=Z,15nm,1.4s								
KAF	**Kangasniemi**	**66.45**	**355**	*e*P		**P**	**00 08 29.3**	**-1.2**
KAF					pmax	pmax			
	comp=Z,2.0nm,0.7s								
KAF	**Kangasniemi**	**66.45**	**355**	*ep*		**P**	**00 08 29.3**	**-1.2**
	comp=Z,1.5nm,0.7s								
CM31	**Chiang Mai Arr**	**66.63**	**68**	*e*P		**P**	**00 08 35.1**	**+2.5**
CMAR	**Chiang Mai Arr**	**66.63**	**68**	P		**P**	**00 08 35.1**	**+2.5**
	comp=Z,2.4nm,0.4s,baz=267,slow=7.9,SNR=4.8								
CMAR					LR	LR	00 36 05.2		
	comp=Z,48nm,20.2s,baz=248,slow=34								
CHTO	**Chiang Mai**	**66.71**	**68**	P		pP	00 08 40.3	+0.3
	SNR=5.3								
CHTO	**Chiang Mai**	**66.71**	**68**	*e*P		**P**	**00 08 31.2**	**-1.9**
	comp=Z,8.6nm,1.0s								
CHTO	**Chiang Mai**	**66.71**	**68**	P		pP	00 08 40.8	+0.8
	comp=Z,40nm,1.2s								
CMMT	**Chiang Mai**	**66.72**	**68**	P		pP	00 08 40.8	+0.8
	comp=Z,11nm,1.2s								
JOF	**Joensuu**	**66.97**	**358**	*e*P		**P**	**00 08 32.0**	**-1.8**
JOF					pmax	pmax			
	comp=Z,2.0nm,0.8s								
JOF	**Joensuu**	**66.97**	**358**	*ep*		**P**	**00 08 32.0**	**-1.8**

XAN					PMZ				
	comp=N,2.0nm,1.1s								
ZAK	**Zakamensk**	**79.44**	**37**	*e*P		**P**		**00 09 48.2**	**+0.2**
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.6s								
TLY	**Talaya**	**80.09**	**36**	*e*P		**pP**		**00 09 59.7**	**+1.4**
TLY					pmax	pmax			
	comp=Z,14nm,1.9s								
TLY					MLR	MLR			
	comp=Z,217nm,13.0s								
TLY	**Talaya**	**80.09**	**36**		P	pP		00 10 01.1	+2.8
	SNR=5.3								
SONA0	**Songino Array**	**80.58**	**40**	*e*P		**P**		**00 09 55.7**	**+1.4**
SONM	**Songino Array**	**80.58**	**40**		P	**P**		**00 09 55.7**	**+1.5**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.9s								
SONM					MLR	MLR			
	comp=Z,88nm,18.5s								
SONM	**Songino Array**	**80.58**	**40**		P	**P**		**00 09 55.7**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=242,slow=5.0,SNR=5.4								
SONM					LR	LR		00 48 35.9	
	comp=Z,88nm,18.5s,baz=251,slow=38								
ULN	**Ulaanbaatar**	**81.01**	**40**		P	pP		00 10 05.2	+1.7
	SNR=7.3								
ULN	**Ulaanbaatar**	**81.01**	**40**	*e*P		**P**		**00 09 55.1**	**-1.5**
	comp=Z,13nm,1.0s								
ULN				*e*pP		**pP**		**00 10 04.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**82.43**	**48**	*e*P		**P**		**00 10 02.8**	**-1.3**
HHC					PP	**PP**		**00 13 13.2**	**-0.2**
HHC					S	**S**		**00 20 15.8**	**-3.9**
HHC					SS	**SS**		**00 25 41.4**	**+0.5**
HHC					PMZ				
	comp=Z,33nm,0.7s								
HHC					PMZ				
	comp=Z,150nm,3.7s								
HHC					LN				
	comp=Z,220nm,14.8s								
HHC					LE				
	comp=Z,140nm,13.6s								
HHC					LZ				
	comp=Z,150nm,21.0s								
BJI	**Beijing**	**85.74**	**49**		P	**P**		**00 10 20.0**	**-0.8**
BJI					S	**S**		**00 20 53.0**	**+0.4**
BJI					SS	**SS**		**00 26 30.3**	**+0.7**
BJI					PMZ				
	comp=Z,14nm,0.5s								
BJI					PMZ				
	comp=Z,120nm,6.1s								
BJI					LN				
	comp=Z,140nm,25.2s								
BJI					LE				
	comp=Z,160nm,25.6s								
BJI					LZ				
	comp=Z,61nm,37.8s								
QSPA	**South Pole Qui**	**85.89**	**180**		LR	LR		00 45 12.4	
	comp=Z,108nm,21.9s,baz=252,slow=33								
NJ2	**Nanjing**	**86.79**	**58**	*e*P		**P**		**00 10 23.6**	**-2.6**
NJ2					PMZ				
	comp=Z,20nm,0.8s								
BOD	**Bodaibo**	**87.54**	**32**	*e*P		**P**		**00 10 31.8**	**+2.5**
BOD					pmax	pmax			
	comp=Z,4.0nm,1.5s								
VNDA	**Vanda**	**93.38**	**170**		P	**P**		**00 10 56.3**	**0.0**
	comp=Z,1.3nm,0.9s,baz=242,slow=5.0,SNR=3.7								
VNDA					LR	LR		00 50 31.1	
	comp=Z,146nm,19.8s,baz=230,slow=34								
KSRS	**Korea Array**	**94.64**	**53**		LR	LR		00 56 36.8	
	comp=Z,43nm,18.4s,baz=282,slow=37								
MDJ	**Mudanjiang**	**96.01**	**46**		P	**P**		**00 11 08.0**	**-0.9**
MDJ					PMZ				
	comp=Z,4.0nm,0.6s								
MDJ					PMZ				
	comp=Z,180nm,6.7s								
MDJ					LN				
	comp=Z,100nm,23.8s								
MDJ					LE				
	comp=Z,66nm,23.7s								
MDJ					LZ				
	comp=Z,110nm,25.0s								
AS12	**Alice Springs**	**96.26**	**114**	*e*P		**P**		**00 11 12.6**	**+1.9**
ASAR	**Alice Springs**	**96.26**	**114**		P	**P**		**00 11 12.6**	**+1.9**
	comp=Z,0.8nm,1.1s,baz=272,slow=3.5,SNR=2.9								
ASAR					LR	LR		00 50 15.7	
	comp=Z,237nm,18.2s,baz=264,slow=33								
WRA	**Warramunga Arr**	**97.12**	**111**		P	Pdif		00 11 15.5	+0.8
	comp=Z,0.4nm,0.8s,baz=274,slow=3.2,SNR=2.8								
WRA					LR	LR		00 51 17.2	
	comp=Z,162nm,19.5s,baz=270,slow=33								
USRK	**Ussuriysk Ar.**	**97.73**	**46**		LR	LR		00 58 30.6	
	comp=Z,78nm,20.7s,baz=270,slow=37								
PLCA	**Paso Flores**	**99.16**	**228**		LR	LR		00 53 11.2	
	comp=Z,156nm,18.2s,baz=138,slow=34								

*ISN **09** 00:14:53.1±0.3,35˚.24N×44˚.64E,h0km,ML3.1*
ISC 09 00:14:52.5±1.4,35˚.3N±0˚.1×44˚.7E±0˚.1,h10km,n9,σ1§09/9, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.32**	**292**	*e*Pg	**Pg**	**00 14 59.5**	**+0.6**
	baz=125						
IKRK				*e*Sg	**Sg**	**00 15 04.0**	**+0.9**
CUKT	**Cukurca**	**2.15**	**336**	*e*PG	**Pn**	**00 15 29.4**	**+0.8**
IBDR	**Badra**	**2.40**	**154**	*e*Pn	Pg	00 15 43.7	+5.3
	baz=55						
IBDR				*e*SN	**Sg**	**00 16 09.6**	**+0.2**
IBDR				*e*SG	Sb	00 16 32.7	+27
SIRT	**Sirnak**	**2.87**	**321**	*e*PN	**Pg**	**00 15 46.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**4.01**	**317**	*e*PN	**Pb**	**00 16 04.2**	**+0.8**
MAZI	**Mazidag**	**4.06**	**304**	*e*PN	**Pg**	**00 16 09.1**	**-1.3**
AGRB	**Hanur-Agry**	**4.50**	**343**	*e*PN	Pb	00 16 08.1	-3.6
SVRC	**Sivrice-ELAZID**	**5.32**	**307**	*e*PN	**Pb**	**00 16 24.7**	**-0.9**
MALT	**Malatya**	**5.87**	**303**	*e*PN	**Pb**	**00 16 33.8**	**-1.2**

*IDC **09** 00:18:54.6±2.6,31˚.36N×115˚.97W,h0km,mb3.1/1, mb1 3.4/5,mb1mx3.1/44,mbtmp3.1/5,ML2.9/4,MS3.0/4, Ms1 3.0/4,ms1mx2.8/13,Error ellipse: s-maj=41.1km s-min=13.0km az=41.0*
*ISCJB **09** 00:19:00.3±0.3,32˚.33N±0˚.02×115˚.33W±0˚.02,h24km±2km, mb3.0/1,MS3.1/1,Error ellipse: s-maj=2.9km s-min=2.8km az=8.6*
*NEIC **09** 00:19:00.0,32˚.28N×115˚.38W,h28km,MD3.7(MEX), ML4.1(PAS),After PAS.*
NEIC Felt at Mexicali and Tijuana. Also felt at Somerton, Arizona and at Del Mar, Escondido, Laguna Niguel and San Diego, California.
*ECX **09** 00:19:01.9±0.5,32˚.31N×115˚.38W,h7km,MD3.9,ML4.1*
*MEX **09** 00:19:02.2±0.9,32˚.40N×115˚.24W,h22km±11km,MD4.1*
ISC 09 00:19:00.6±0.8,32˚.32N±0˚.02×115˚.36W±0˚.02,h17km±5km, n68,σ0§96/95,33C-20D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**26**	⇑*e*P	**Pb**	**00 19 04.1**	**-0.1**
CPBX				*e*S	**Sg**	**00 19 06.9**	**+0.3**
CPBX	**Cerro Prieto**	**0.10**	**26**	*e*P	**Pb**	**00 19 04.3**	**+0.1**
CPBX				*i* S	**Sg**	**00 19 07.5**	**+0.9**
MBIG	**Mexicali**	**0.16**	**58**	*e*P	**Pb**	**00 19 05.4**	**+0.3**
MBIG				*e*S	**Sg**	**00 19 07.8**	**+0.1**
EMX	**El Mayor**	**0.35**	**164**	*e*P	**Pg**	**00 19 07.4**	**-0.5**
EMX				*e*S	**Sg**	**00 19 12.6**	**-0.3**
SGL	**Mount Signal**	**0.45**	**316**	⇓*i*P	**Pg**	**00 19 09.7**	**0.0**
DREC	**Desert Rsrch C**	**0.49**	**351**	*e*P	**Pb**	**00 19 11.0**	**+0.2**
ERPC	**Ernies Place**	**0.49**	**328**	*e*P	**Pb**	**00 19 11.0**	**+0.2**
WESC	**Westside Schoo**	**0.54**	**324**	⇓*i*P	**Pg**	**00 19 11.0**	**-0.3**
COA	**Coachella**	**0.57**	**20**	⇑*i*P	**Pb**	**00 19 12.5**	**+0.3**
COA	**Coachella**	**0.57**	**20**	⇑*i*P	**Pg**	**00 19 12.0**	**0.0**
YUH	**Yuha Desert**	**0.58**	**304**	⇑*i*P	**Pg**	**00 19 11.0**	**-1.1**
COK	**Cook Ranch**	**0.61**	**329**	⇑*i*P	**Pg**	**00 19 12.8**	**+0.2**
COK	**Cook Ranch**	**0.61**	**329**	⇑*i*P	**Pg**	**00 19 12.0**	**-0.7**
RDX	**Rancho Dawling**	**0.63**	**232**	*e*P	**Pg**	**00 19 12.9**	**-0.3**
RDX				*e*S	**Sg**	**00 19 21.2**	**-0.4**
RMX	**La Rumorosa**	**0.67**	**295**	⇑*e*P	**Pg**	**00 19 13.3**	**-0.5**
RMX				*e*S	**Sg**	**00 19 22.5**	**-0.3**
RMX				⇑*e*		00 19 24.3	
RMX				AML	AML	00 19 24.3	
	comp=N,7μm,0.5s						
BTCC	**Bruns Corner**	**0.70**	**10**	*e*P	**Pg**	**00 19 13.0**	**-1.3**
BTCC				*e*S	**Sb**	**00 19 24.0**	**+0.4**
SWSC	**Sam W. Stewart**	**0.72**	**329**	⇓P	**Pb**	**00 19 14.2**	**-0.5**
	baz=0.8						
SWSC				⇓S	**Sg**	**00 19 24.0**	**-0.2**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.72**	**329**	⇑*i*P	**Pb**	**00 19 14.0**	**-0.7**
SWSC				*e*S	**Sg**	**00 19 24.0**	**-0.2**
RUN	**Ruthven**	**0.72**	**26**	⇑*i*P	**Pb**	**00 19 14.0**	**-0.7**
YMD	**Yuma Desert**	**0.72**	**71**	⇓*i*P	**Pb**	**00 19 14.0**	**-0.8**
CRR	**Carrizo Plain**	**0.76**	**318**	⇑*i*P	**Pb**	**00 19 14.0**	**-1.4**
CLIC	**Calipatria**	**0.83**	**350**	⇑*i*P	**Pb**	**00 19 16.0**	**-0.5**
GLA	**Glamis**	**0.85**	**31**	⇓P	**Pb**	**00 19 16.4**	**-0.6**
	baz=0.9						
GLA				⇑S	**Sb**	**00 19 27.9**	**-0.3**
	baz=0.9						
GLA	**Glamis**	**0.85**	**31**	⇓*i*P	**Pb**	**00 19 16.0**	**-1.0**
GLA				*e*S	**Sb**	**00 19 27.0**	**-1.2**
ERRC	**Elmore Ranch**	**0.88**	**334**	⇑*i*P	**Pb**	**00 19 17.0**	**-0.5**
ERRC				*e*S	**Sb**	**00 19 28.0**	**-1.0**
ECBX	**El Chinero**	**0.89**	**163**	*e*P	**Pb**	**00 19 16.9**	**-0.7**
ECBX				*e*S	**Sb**	**00 19 29.0**	**-0.1**
CBKC	**Canebrake**	**0.95**	**307**	⇑*i*P	**Pb**	**00 19 18.0**	**-0.6**
MONP	**Monument Peak,**	**1.06**	**302**	⇓P	**Pb**	**00 19 19.7**	**-0.9**
	baz=1.1						
MONP				⇑S	**Sb**	**00 19 33.9**	**-0.4**
	baz=1.1						
FRK	**Frink**	**1.10**	**348**	⇑*i*P	**Pb**	**00 19 19.0**	**-2.2**
CBX	**Cerro Bola**	**1.11**	**270**	*e*P	**Pb**	**00 19 21.0**	**-0.4**
CBX				*e*S	**Sb**	**00 19 35.1**	**-0.5**
CBX	**Cerro Bola**	**1.11**	**270**	⇑*e*P	**Pb**	**00 19 21.0**	**-0.4**
CBX				*e*S	**Sb**	**00 19 36.1**	**+0.5**
CBX	**Cerro Bola**	**1.11**	**270**	*e*P	**Pb**	**00 19 21.0**	**-0.4**
CBX				*e*S	**Sb**	**00 19 35.1**	**-0.5**
ZAX	**El Zacaton**	**1.12**	**224**	*e*P	**Pn**	**00 19 21.3**	**-0.4**
ZAX				*e*S	**Sb**	**00 19 35.9**	**-0.1**
ZAX				AML	AML	00 19 39.7	
	comp=N,4μm,0.9s						
ZAX				⇓*e*		00 19 39.7	
ZAX				⇓*e*		00 19 40.0	
ZAX				AML	AML	00 19 40.0	
	comp=E,4μm,0.4s						
BAR	**Barrett**	**1.17**	**288**	*e*P	**Pn**	**00 19 21.0**	**-1.2**
BAR				*e*S	**Sb**	**00 19 37.0**	**-0.2**
LTC	**Little Chuckwa**	**1.19**	**12**	⇑*i*P	**Pn**	**00 19 21.0**	**-1.5**
ECNX	**Esteban Cantu**	**1.25**	**238**	*e*P	**Pn**	**00 19 23.4**	**0.0**
ECNX				*e*S	**Sb**	**00 19 39.6**	**0.0**
SPIG	**San Pedro Mart**	**1.28**	**184**	*i* P	**Pn**	**00 19 23.6**	**-0.4**
SPIG				*e*S	**Sb**	**00 19 39.6**	**-1.0**
SPIG	**San Pedro Mart**	**1.28**	**184**	*e*P	**Pn**	**00 19 23.6**	**-0.4**
SPIG				*e*S	**Sb**	**00 19 40.6**	**0.0**
SPIG	**San Pedro Mart**	**1.28**	**184**	*i* P	**Pn**	**00 19 23.6**	**-0.4**
SPIG				*e*S	**Sb**	**00 19 39.6**	**-1.0**
SPX	**San Pedro Mart**	**1.28**	**184**	*e*P	**Pn**	**00 19 23.6**	**-0.4**
BORC	**Borrego Spring**	**1.30**	**317**	*e*P	**Pn**	**00 19 22.0**	**-2.0**
PBX	**Punta Banda**	**1.30**	**244**	*e*P	**Pn**	**00 19 24.1**	**+0.1**
PBX				*e*S	**Sn**	**00 19 41.1**	**+0.1**
BC3	**Big Chuckawall**	**1.33**	**357**	⇓P	**Pn**	**00 19 23.4**	**-1.2**
	baz=1.4						
BC3				⇓S	**Sn**	**00 19 39.9**	**-2.1**
	baz=1.4						
EML	**El Monte Cty P**	**1.38**	**295**	*e*P	**Pn**	**00 19 24.0**	**-1.1**
113A	**Mohawk Valley,**	**1.41**	**71**	⇓P	**Pn**	**00 19 25.1**	**-0.5**
	baz=1.4						
113A				⇑S	**Sn**	**00 19 42.4**	**-1.4**
	baz=1.4						
109C	**Camp Elliot, M**	**1.58**	**291**	⇓P	**Pn**	**00 19 27.4**	**-0.5**
	baz=1.6						
109C				⇑Sb	**Sb**	**00 19 49.1**	**+0.1**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.58**	**325**	Pn	**Pn**	**00 19 26.9**	**-1.2**
	comp=E,17nm,0.3s,baz=146,slow=12,SNR=60						
PFO				Lg	Lg	00 19 50.7	
	comp=E,137nm,0.3s,baz=54,slow=19,SNR=35						
PFO	**Pinyon Flats O**	**1.58**	**325**	⇓P	**Pn**	**00 19 26.8**	**-1.2**
	baz=1.6						
PFO				⇑S	**Sn**	**00 19 46.0**	**-2.1**
	baz=1.6						
Y12C	**Blythe**	**1.58**	**26**	⇑P	**Pn**	**00 19 27.2**	**-0.7**
	baz=1.6						
BELC	**Belle Mtn. Jos**	**1.76**	**342**	⇑P	**Pn**	**00 19 29.3**	**-1.1**
	baz=1.8						
IRM	**Iron Mountain**	**1.84**	**5**	⇑P	**Pn**	**00 19 30.5**	**-0.9**
	baz=1.9						
MURC	**Murrieta**	**2.00**	**310**	⇑P	**Pn**	**00 19 32.7**	**-1.1**
	baz=2.0						
MURC				⇑Sb	**Sb**	**00 20 02.6**	**+1.3**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.19**	**99**	⇑P	**Pn**	**00 19 35.3**	**-1.0**
	baz=2.2						
214A				⇑S	**Sn**	**00 20 01.9**	**-1.2**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.22**	**27**	⇓Sb	**Sb**	**00 20 09.0**	**+1.5**
	baz=2.3						
Z14A	**Wintersburg**	**2.28**	**62**	⇓P	**Pn**	**00 19 37.1**	**-0.4**
	baz=2.3						
GMRC	**Granite Mounta**	**2.46**	**354**	⇓P	**Pn**	**00 19 39.4**	**-0.7**
	baz=2.6						
Y14A	**Wickenburg**	**2.55**	**50**	⇑P	**Pn**	**00 19 40.7**	**-0.5**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.71**	**315**	⇓Sb	**Sb**	**00 20 23.4**	**+1.5**
	baz=2.7						
SCI	**San Clemente I**	**2.77**	**285**	⇑Sb	**Sb**	**00 20 24.9**	**+1.6**
	baz=2.8						
CIS	**Catalina Islan**	**2.78**	**294**	⇓P	**Pn**	**00 19 43.9**	**-0.5**
	baz=2.8						
CIS				⇑Sb	**Sb**	**00 20 25.2**	**+1.5**
	baz=2.8						
FMP	**Fort Macarthur**	**2.83**	**300**	⇑Sb	**Sb**	**00 20 26.2**	**+1.1**
	baz=2.8						
NVAR	**Mina Array Bea**	**6.55**	**339**	Pn	Pn	00 20 43.0	+6.6
	comp=E,0.1nm,0.3s,baz=166,slow=16,SNR=2.1						
NVAR				Pg	**Pg**	**00 21 07.9**	**+1.9**
	comp=E,0.2nm,0.3s,baz=167,slow=17,SNR=11						
NVAR				Lg	Lg	00 22 46.8	
	comp=E,0.1nm,0.3s,baz=162,slow=29,SNR=2.6						
ANMO	**Albuquerque**	**7.87**	**68**	Pn	Pn	00 21 01.0	+6.5
	comp=E,0.1nm,0.3s,baz=265,slow=11,SNR=2.9						
ANMO				Pg	Pb	00 21 32.4	+16
	comp=E,0.2nm,0.3s,baz=247,slow=15,SNR=4.3						
ANMO				LR	LR	00 23 50.0	
	comp=E,93nm,20.0s,baz=268,slow=34						
ELK	**Elko**	**8.40**	**1**	Pn	Pn	00 21 13.1	+11
	comp=E,0.1nm,0.3s,baz=66,slow=19,SNR=1.8						
ELK				Pg	Pb	00 21 39.1	+13
	comp=E,0.1nm,0.3s,baz=180,slow=14,SNR=2.4						
TXAR	**Lajitas Array**	**10.48**	**103**	Pn	**Pn**	**00 21 32.8**	**+2.6**
	comp=E,0.1nm,0.3s,baz=280,slow=12,SNR=10						
TXAR				Lg	Lg	00 24 34.6	
	comp=E,0.1nm,0.3s,baz=276,slow=25,SNR=8.3						
TXAR				LR	LR	00 25 24.0	
	comp=E,84nm,21.7s,baz=0.0,slow=36						
YBH	**Yreka Blue Hor**	**11.07**	**330**	LR	LR	00 26 05.4	
	comp=E,37nm,19.4s,baz=230,slow=37						
DLBC	**Dease Lake**	**27.95**	**343**	LR	LR	00 37 36.0	
	comp=E,47nm,19.0s,baz=331,slow=39						
ILAR	**Eielson Array**	**37.81**	**339**	P	**P**	**00 26 18.1**	**+2.4**
	comp=E,0.2nm,0.6s,baz=148,slow=8.5,SNR=3.5						

*KRSC **09** 00:21:14.0±1.0,55˚.90N×162˚.80E,h24km±9km,ML3.8*
*ISCJB **09** 00:21:15.1±0.7,55˚.94N±0˚.04×162˚.77E±0˚.05,h18km±7km, mb3.6/5,Error ellipse: s-maj=6.1km s-min=4.9km az=164.9*
*IDC **09** 00:21:15.2±1.3,56˚.19N×162˚.58E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.3/46,mbtmp3.6/6,ML2.0/1,Error ellipse: s-maj=36.6km s-min=24.0km az=149.0*
ISC 09 00:21:14.9±1.2,55˚.95N±0˚.04×162˚.68E±0˚.03,h9km±9km, n35,σ1§39/43,mb3.7/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.27**	**17**	*i* P	**Pg**	**00 21 20.7**	**+0.4**
KBTR				*i* S	**Sb**	**00 21 26.2**	**-0.4**
SMKR	**Semkarok**	**0.93**	**314**	*i* P	**Pg**	**00 21 32.1**	**-0.6**
SMKR				*e*S	**Sb**	**00 21 45.9**	**+0.3**
BDR	**Baidarnaya**	**1.03**	**308**	*i* P	**Pb**	**00 21 34.4**	**-0.5**
BDR				*i* S	**Sn**	**00 21 49.6**	**-0.5**
SRKR	**Sorokina**	**1.10**	**310**	*i* P	**Pb**	**00 21 35.1**	**-1.0**
SRKR				*i* S	**Sg**	**00 21 51.2**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**1.12**	**270**	P	**Pg**	**00 21 37.9**	**+1.6**
KLY	**Klyuchi**	**1.19**	**289**	P	**Pn**	**00 21 34.6**	**-3.1**
KLY				S	**Sb**	**00 21 50.2**	**-2.9**
KPT	**Kopyto**	**1.38**	**272**	P	**Pg**	**00 21 42.1**	**+0.7**
KMNR	**Kamenistaya**	**1.39**	**263**	P	**Pn**	**00 21 40.0**	**-0.6**
KMNR				S	**Sg**	**00 21 59.8**	**+0.2**
MKZ	**Mys Kozlova**	**1.50**	**202**	*e*P	**Pn**	**00 21 41.8**	**-0.2**
MKZ				S	**Sg**	**00 22 02.3**	**-0.8**
KOZ	**Kozyrevsk**	**1.58**	**275**	P	**Pb**	**00 21 43.9**	**-0.4**
TUMR	**Tumrok**	**1.59**	**246**	*i* P	**Pn**	**00 21 42.9**	**-0.4**
TUMR				*e*S	**Sb**	**00 22 04.6**	**0.0**
KZV	**Kizimen**	**1.60**	**239**	P	**Pn**	**00 21 42.6**	**-0.9**
SRDR	**Sredinnyy**	**1.70**	**284**	*e*P	**Pn**	**00 21 44.7**	**-0.1**
SRDR				*e*S	**Sn**	**00 22 06.9**	**+0.2**
BKI	**Bering**	**2.01**	**110**	*e*P	**Pn**	**00 21 47.7**	**-1.3**
BKI				*e*S	**Sn**	**00 22 13.0**	**-1.3**
ESO	**Esso**	**2.24**	**271**	*e*P	**Pn**	**00 21 52.9**	**+0.7**
ESO				S	**Sn**	**00 22 21.3**	**+1.4**
SPN	**Mys Shipunski**	**3.25**	**210**	P	**Pn**	**00 22 07.7**	**+1.6**
SDLR	**Sedlovina**	**3.47**	**221**	P	**Pn**	**00 22 08.0**	**-1.2**
KRX	**Arik**	**3.50**	**224**	P	**Pn**	**00 22 10.8**	**+1.2**
KRER	**Koryakskii**	**3.50**	**222**	P	**Pn**	**00 22 09.8**	**+0.1**
SMAR	**Somma**	**3.51**	**222**	P	**Pn**	**00 22 08.4**	**-1.5**
AVH	**Avacha**	**3.54**	**222**	P	**Pn**	**00 22 11.9**	**+1.9**
UGLR	**Uglovaya**	**3.55**	**221**	P	**Pn**	**00 22 09.5**	**-0.7**
GNL	**Ganaly**	**3.55**	**232**	P	**Pn**	**00 22 09.5**	**-0.8**
KOK	**Koryaka**	**3.55**	**223**	P	**Pn**	**00 22 11.9**	**+1.6**
PETK	**Petropavlovsk-**	**4.07**	**228**	Pn	Pn	00 22 20.9	+3.6
	0.5nm,0.3s,baz=63,slow=16,SNR=2.9						
PETK				Sn	**Sb**	**00 23 11.1**	**-4.7**
	0.7nm,0.3s,baz=38,slow=16,SNR=2.6						
RUS	**Russkaya**	**4.29**	**216**	P	**Pn**	**00 22 20.5**	**+0.2**
MTVR	**Mutnovka**	**4.36**	**219**	P	**Pn**	**00 22 22.3**	**+0.8**
ILAR	**Eielson Array**	**25.77**	**49**	P	**P**	**00 26 47.0**	**+1.4**
	0.2nm,0.7s,baz=274,slow=8.0,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**36.30**	**173**	T	T	01 06 44.7	
	baz=356,slow=76,SNR=174						
H11N3	**WAKE ISLAND Hy**	**36.32**	**173**	T	T	01 06 48.9	
	baz=356,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**36.32**	**173**	T	T	01 06 48.4	
	baz=356,slow=76,SNR=170						
YKA	**Yellowknife Ar**	**40.06**	**46**	P	**P**	**00 28 50.6**	**+0.7**
	0.2nm,0.5s,baz=298,slow=8.6,SNR=5.6						
PFO	**Pinyon Flats O**	**57.99**	**76**	P	**P**	**00 31 09.1**	**+1.2**
	2.9nm,0.5s,baz=11,slow=5.2,SNR=6.4						
FINES	**FINESS Array B**	**58.08**	**337**	P	**P**	**00 31 07.7**	**-0.2**
	0.8nm,0.7s,baz=36,slow=10,SNR=6.8						
NOA	**NORSAR Array B**	**61.20**	**345**	P	**P**	**00 31 29.2**	**-0.2**
	0.4nm,0.7s,baz=20,slow=6.9,SNR=2.7						

*IGIL **09** 00:25:46.8,36˚.65N×11˚.88W,h9km,ML2.1*
*MDD **09** 00:25:46.2±1.5,36˚.71N×11˚.81W,h0km,mb4.2/11,Error ellipse: s-maj=13.3km s-min=10.7km az=46.0,PRXIMO*
*INMG **09** 00:25:47.4±1.1,36˚.66N×11˚.88W,h10km,ML2.3,Error ellipse: s-maj=4.4km s-min=3.3km az=75.0*
*CSEM **09** 00:25:48.7±0.3,36˚.85N×11˚.63W,h10km,ML3.3/23,Error ellipse: s-maj=5.1km s-min=4.0km az=49.0*
ISC 09 00:25:45.0±2.9,36.77N±0˚.09×11˚.8W±0˚.1,h10km,n105, σ1§66/204,1C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.57**	**77**	*e*P	**Pn**	**00 26 28.2**	**+1.4**
MORF				*e*S	**Sn**	**00 26 58.4**	**+0.3**
MORF				AML	AML	00 27 00.6	
	comp=N,16nm,0.5s						
MORF	**Marmelete**	**2.57**	**77**	*e*Pn	**Pn**	**00 26 28.2**	**+1.4**
MORF				*e*Sn	**Sn**	**00 26 59.3**	**+1.2**
MORF				A	A	00 27 01.0	
	comp=N,9.2nm,1.3s						
MORF	**Marmelete**	**2.57**	**77**	P	**Pn**	**00 26 28.2**	**+1.4**
MORF				S	**Sn**	**00 26 58.4**	**+0.3**
	comp=N,16nm,0.5s						
MORF	**Marmelete**	**2.57**	**77**	*e*Pn	**Pn**	**00 26 28.2**	**+1.4**
MORF				*e*Sn	**Sn**	**00 26 59.3**	**+1.2**
	comp=N,9.2nm,1.3s						
PTEO	**Sao Teotonio**	**2.57**	**72**	*e*Pn	**Pn**	**00 26 28.6**	**+1.9**
PTEO				*e*Sn	**Sn**	**00 26 59.5**	**+1.5**
PTEO				A	A	00 27 02.4	
	comp=N,10nm,0.8s						
PTEO	**Sao Teotonio**	**2.57**	**72**	Pn	**Pn**	**00 26 28.6**	**+1.9**
PTEO				Sn	**Sn**	**00 26 59.5**	**+1.5**
	comp=N,5.1nm,0.8s						
PTEO	**Sao Teotonio**	**2.57**	**72**	*e*Pn	**Pn**	**00 26 28.6**	**+1.9**
PTEO				*e*Sn	**Sn**	**00 26 59.5**	**+1.5**
	comp=N,10nm,0.8s						
PMST	**Lisbon--Monsan**	**2.85**	**46**	*e*Pn	**Pn**	**00 26 32.6**	**+2.1**
PMST				*e*Sn	**Sb**	**00 27 09.3**	**-1.6**
PMST				A	A	00 27 14.1	
	comp=N,16nm,0.4s						
PMST	**Lisbon--Monsan**	**2.85**	**46**	*e*Pn	**Pn**	**00 26 32.6**	**+2.1**
PNCL	**Nicolau / Gran**	**2.92**	**62**	*e*Pn	**Pn**	**00 26 33.6**	**+2.1**
PNCL				*e*Sn	**Sn**	**00 27 08.2**	**+1.5**
PNCL				A	A	00 27 13.2	
	comp=N

comp=N,1.1nm,0.1s,SNR=7.9
EGRO S Sn 00 27 21.9 +0.3
comp=N,0.4nm,0.1s,SNR=7.9
EGRO El Granado 3.53 76 P Pn 00 26 41.6 +1.8
comp=N,1.1nm,0.1s,SNR=7.9
EGRO S Sn 00 27 21.9 +0.3
comp=N,0.4nm,0.1s,SNR=7.9
PMTG Montargil 3.64 50 *e*Pn Pn 00 26 43.0 +1.7
PMTG *e*Sn Sn 00 27 25.6 +1.3
PMTG A A 00 27 39.2
comp=N,2.4nm,0.6s
PMTG Montargil 3.64 50 *e*Pn Pn 00 26 43.0 +1.7
PMTG *e*Sn Sn 00 27 25.6 +1.3
comp=N,2.4nm,0.6s
PTOM Tomar 3.90 42 *e*Pn Pn 00 26 47.3 +2.4
PTOM *e*Sn Sn 00 27 32.3 +1.6
PTOM A A 00 27 41.3
comp=N,4.2nm,0.2s
PTOM Tomar 3.90 42 Pn Pn 00 26 47.3 +2.4
PTOM Sn Sn 00 27 32.3 +1.6
comp=N,2.1nm,0.2s
PTOM Tomar 3.90 42 *e*Pn Pn 00 26 47.3 +2.4
PTOM *e*Sn Sn 00 27 32.3 +1.6
comp=N,4.2nm,0.2s
PESTR Estremoz 3.93 57 *e*Pn Pn 00 26 47.5 +2.1
PESTR *e*Sn Sn 00 27 32.9 +1.3
PESTR A A 00 27 34.9
comp=N,1.5nm,0.2s
PESTR Estremoz 3.93 57 *e*Pn Pn 00 26 47.5 +2.1
PESTR *e*Sn Sn 00 27 32.9 +1.3
comp=N,1.5nm,0.2s
PBAR Barrancos 4.03 68 *e*Pn Pn 00 26 48.9 +2.1
PBAR *e*Sn Sn 00 27 34.4 +0.3
PBAR A A 00 27 40.2
comp=N,4.4nm,0.5s
PBAR Barrancos 4.03 68 Pn Pn 00 26 48.9 +2.1
PBAR Sn Sn 00 27 34.4 +0.3
comp=N,4.4nm,0.5s
PBAR Barrancos 4.03 68 *e*Pn Pn 00 26 48.9 +2.1
PBAR *e*Sn Sn 00 27 34.4 +0.3
comp=N,4.4nm,0.5s
PCAS Casmilo, Conde 4.17 37 *e*Pn Pn 00 26 50.8 +2.0
PCAS *e*Sn Sn 00 27 38.7 +1.1
PCAS A A 00 27 41.0
comp=N,2.4nm,0.1s
PCAS Casmilo, Conde 4.17 37 *e*Pn Pn 00 26 50.8 +2.0
PCAS *e*Sn Sn 00 27 38.7 +1.1
comp=N,2.4nm,0.1s
EMIN Mina Concepcio 4.20 75 P Pn 00 26 50.4 +1.2
comp=N,1.5nm,0.1s,SNR=20
EMIN S Sn 00 27 38.6 +0.3
comp=N,1.3nm,0.2s,SNR=5.9
EMIN Mina Concepcio 4.20 75 P Pn 00 26 50.4 +1.2
comp=N,1.5nm,0.1s,SNR=20
EMIN S Sn 00 27 38.6 +0.3
comp=N,1.3nm,0.2s,SNR=5.9
EBAD Badajoz 4.27 61 P Pn 00 26 51.7 +1.6
comp=N,1.4nm,0.1s,SNR=16
EBAD S Sn 00 27 40.6 +0.6
comp=N,2.8nm,0.2s,SNR=4.9
EBAD Badajoz 4.27 61 P Pn 00 26 51.7 +1.6
comp=N,1.4nm,0.1s,SNR=16
EBAD S Sn 00 27 40.6 +0.6
comp=N,2.8nm,0.2s,SNR=4.9
PMRV Marv??o 4.37 51 *i* Pn Pn 00 26 52.9 +1.5
PMRV *e*Sn Sn 00 27 42.3 -0.1
PMRV A A 00 27 44.8
comp=N,2.5nm,0.3s
PMRV Marv??o 4.37 51 ⇓Pn Pn 00 26 52.9 +1.5
PMRV Sn Sn 00 27 42.3 -0.1
comp=N,2.5nm,0.3s
PCBR Castelo Branco 4.57 47 *e*Pn Pn 00 26 56.0 +1.8
PCBR *e*Sn Sn 00 27 48.1 +0.7
PCBR A A 00 27 50.3
comp=N,1.6nm,0.1s
PCBR Castelo Branco 4.57 47 Pn Pn 00 26 56.0 +1.8
PCBR Sn Sn 00 27 48.1 +0.7
comp=N,0.8nm,0.1s
PCBR Castelo Branco 4.57 47 *e*Pn Pn 00 26 56.0 +1.8
PCBR *e*Sn Sn 00 27 48.1 +0.7
comp=N,1.6nm,0.1s
ESPR Espera 4.76 87 P Pn 00 26 58.0 +1.1
comp=N,3.4nm,0.2s,SNR=6.6
ESPR S Sn 00 27 50.4 -1.8
comp=N,14nm,0.3s,SNR=5.7
ESPR Espera 4.76 87 P Pn 00 26 58.0 +1.1
comp=N,3.4nm,0.2s,SNR=6.6
ESPR S Sn 00 27 50.4 -1.8
comp=N,14nm,0.3s,SNR=5.7
MTE Manteigas 4.92 41 *e*Pn Pn 00 27 00.9 +1.9
MTE *e*Sn Sn 00 27 56.3 +0.3
MTE A A 00 27 59.0
comp=N,3.2nm,0.1s
MTE Manteigas 4.92 41 Pn Pn 00 27 00.9 +1.9
MTE Sn Sn 00 27 56.3 +0.3
comp=N,1.6nm,0.1s
MTE Manteigas 4.92 41 *e*Pn Pn 00 27 00.9 +1.9
MTE *e*Sn Sn 00 27 56.3 +0.3
comp=N,3.2nm,0.1s
PVIS Viseu 4.98 37 *e*Pn Pn 00 27 01.8 +1.9
PVIS *e*Sn Sn 00 27 57.7 +0.2
PVIS A A 00 28 01.2
comp=N,6.2nm,0.1s
PVIS Viseu 4.98 37 Pn Pn 00 27 01.8 +1.9
PVIS Sn Sn 00 27 57.7 +0.2
comp=N,3.1nm,0.1s
PVIS Viseu 4.98 37 *e*Pn Pn 00 27 01.8 +1.9
PVIS *e*Sn Sn 00 27 57.7 +0.2
comp=N,6.2nm,0.1s
ECAB El Cabril 5.24 74 P Pn 00 27 04.9 +1.5
comp=N,1.4nm,0.1s,SNR=14
ECAB S Sn 00 28 02.5 -1.4
comp=N,1.3nm,0.2s
ECAB El Cabril 5.24 74 P Pn 00 27 04.9 +1.5
comp=N,1.4nm,0.1s,SNR=14
ECAB S Sn 00 28 02.5 -1.4
comp=N,1.3nm,0.2s
PVRL Vila Real 5.50 34 *e*Pn Pn 00 27 08.6 +1.5
PVRL *e*Sn Sn 00 28 09.2 -1.2
PVRL A A 00 28 10.7
comp=N,3.0nm,0.1s
PVRL Vila Real 5.50 34 Pn Pn 00 27 08.6 +1.5
PVRL Sn Sn 00 28 09.2 -1.2
comp=N,1.5nm,0.1s
PVRL Vila Real 5.50 34 *e*Pn Pn 00 27 08.6 +1.5
PVRL *e*Sn Sn 00 28 09.2 -1.2
comp=N,3.0nm,0.1s
POLO Lamas de Olo 5.55 33 *e*Pn Pn 00 27 09.4 +1.7
POLO *e*Sn Sn 00 28 10.4 -1.2
POLO A A 00 28 12.9
comp=N,1.0nm,0.1s
POLO Lamas de Olo 5.55 33 *e*Pn Pn 00 27 09.4 +1.7
POLO *e*Sn Sn 00 28 10.4 -1.2
comp=N,1.0nm,0.1s
EPLA Plasencia 5.56 52 P Pn 00 27 09.7 +1.9
comp=N,0.6nm,0.1s,SNR=13
EPLA S Sn 00 28 11.2 -0.6
comp=N,1.1nm,0.1s
EPLA Plasencia 5.56 52 P Pn 00 27 09.7 +1.9
comp=N,0.6nm,0.1s,SNR=13
EPLA S Sn 00 28 11.2 -0.6
comp=N,1.1nm,0.1s
PCAB Cabril 5.73 30 *e*Sn Sn 00 28 15.4 -0.6
PCAB A A 00 28 17.6
comp=N,4.8nm,0.1s
PCAB Cabril 5.73 30 Sn Sn 00 28 15.4 -0.6
comp=N,2.4nm,0.1s
PCAB Cabril 5.73 30 *e*Sn Sn 00 28 15.4 -0.6
comp=N,4.8nm,0.1s
MVO Moncorvo 5.75 39 *e*Pn Pn 00 27 12.1 +1.7
MVO *e*Sn Sn 00 28 15.3 -1.1
MVO A A 00 28 17.1
comp=N,2.6nm,0.1s
MVO Moncorvo 5.75 39 P Pn 00 27 11.9 +1.5
comp=N,2.1nm,0.2s,SNR=6.5
MVO S Sn 00 28 15.5 -0.9
comp=N,1.8nm,0.1s,SNR=8.4
MVO Moncorvo 5.75 39 *e*Pn Pn 00 27 12.1 +1.7
MVO *e*Sn Sn 00 28 15.3 -1.1
comp=N,2.6nm,0.1s
ELOB Lobios 5.85 28 P Pn 00 27 13.8 +1.9
comp=N,0.4nm,0.0s,SNR=6.5
ELOB S Sn 00 28 18.3 -0.8
comp=N,2.5nm,0.1s,SNR=8.9
ELOB Lobios 5.85 28 P Pn 00 27 13.8 +1.9
comp=N,0.4nm,0.0s,SNR=6.5
ELOB S Sn 00 28 18.3 -0.8
comp=N,2.5nm,0.1s,SNR=8.9
PGAV Gavieira, Arco 5.86 27 *e*Pn Pn 00 27 13.8 +1.8
PGAV *e*Sn Sn 00 28 18.8 -0.5
PGAV A A 00 28 23.4
comp=N,4.0nm,0.1s
PGAV Gavieira, Arco 5.86 27 *e*Pn Pn 00 27 13.8 +1.8
PGAV *e*Sn Sn 00 28 18.8 -0.5
comp=N,4.0nm,0.1s
EADA Adamuz 5.91 74 P Pn 00 27 14.0 +1.4
comp=N,0.4nm,0.1s,SNR=7.9
EADA S Sn 00 28 19.5 -0.9
comp=N,0.6nm,0.2s,SNR=7.9
EADA Adamuz 5.91 74 P Pn 00 27 14.0 +1.4
comp=N,0.4nm,0.1s,SNR=7.9
EADA S Sn 00 28 19.5 -0.9
comp=N,0.6nm,0.2s,SNR=7.9
PBRG Braganca 6.37 36 *e*Pn Pn 00 27 20.7 +1.7
PBRG *e*Sn Sn 00 28 30.6 -1.2
PBRG A A 00 28 32.7
comp=N,2.2nm,0.2s
PBRG Braganca 6.37 36 Pn Pn 00 27 20.7 +1.7
PBRG Sn Sn 00 28 30.6 -1.2
comp=N,1.1nm,0.2s
PBRG Braganca 6.37 36 *e*Pn Pn 00 27 20.7 +1.7
PBRG *e*Sn Sn 00 28 30.6 -1.2
comp=N,2.2nm,0.2s
ECAL Calabor 6.48 36 P Pn 00 27 22.3 +1.8
comp=N,1.2nm,0.1s,SNR=7.9
ECAL S Sn 00 28 34.4 -0.1
comp=N,2.1nm,0.2s,SNR=7.9
ECAL Calabor 6.48 36 P Pn 00 27 22.3 +1.8
comp=N,1.2nm,0.1s,SNR=7.9
ECAL S Sn 00 28 34.4 -0.1
comp=N,2.1nm,0.2s,SNR=7.9
PAB San Pablo 6.49 62 P Pn 00 27 22.1 +1.5
comp=N,2.1nm,0.2s,SNR=7.9
PAB S Sn 00 28 33.8 -0.9
comp=N,1.1nm,0.1s,SNR=7.9
PAB San Pablo 6.49 62 P Pn 00 27 22.1 +1.5
comp=N,2.1nm,0.2s,SNR=7.9
PAB S Sn 00 28 33.8 -0.9
comp=N,1.1nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.54 18 P Pn 00 27 23.0 +1.8
comp=N,1.1nm,0.1s,SNR=7.9
EMAZ S Sn 00 28 31.7 -4.1
comp=N,7.7nm,0.1s,SNR=11
EMAZ Mazaricos 6.54 18 P Pn 00 27 23.0 +1.8
comp=N,1.1nm,0.1s,SNR=7.9
EMAZ S Sn 00 28 31.7 -4.1
comp=N,7.7nm,0.1s,SNR=11
EAGO Agolada(Pontev 6.66 24 P Pn 00 27 25.0 +2.1
comp=N,0.9nm,0.1s,SNR=7.9
EAGO S Sn 00 28 35.7 -3.2
comp=N,2.5nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.66 24 P Pn 00 27 25.0 +2.1
comp=N,0.9nm,0.1s,SNR=7.9
EAGO S Sn 00 28 35.7 -3.2
comp=N,2.5nm,0.1s,SNR=7.9
ESDC Sonseca Array 6.81 62 P Pn 00 27 26.6 +1.6
comp=N,1.1nm,0.1s,baz=248,slow=14,SNR=12
ESDC S Sn 00 28 41.2 -1.4
comp=N,0.4nm,0.1s,baz=247,slow=24,SNR=4.6
ESDC Sonseca Array 6.81 62 P Pn 00 27 26.6 +1.6
comp=N,1.1nm,0.1s,SNR=12
ESDC S Sn 00 28 41.2 -1.4
comp=N,0.4nm,0.1s,SNR=4.6
EQES Quesada 7.03 79 P Pn 00 27 29.6 +1.5
comp=N,0.2nm,0.2s,SNR=7.9
EQES S Sn 00 28 46.1 -2.0
comp=N,0.8nm,0.3s,SNR=4.0
EQES Quesada 7.03 79 P Pn 00 27 29.6 +1.5
comp=N,0.2nm,0.2s,SNR=7.9
EQES S Sn 00 28 46.1 -2.0
comp=N,0.8nm,0.3s,SNR=4.0
EPON Pontenova 7.45 27 P Pn 00 27 35.7 +2.0
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 00 28 55.7 -2.6
comp=N,1.2nm,0.4s,SNR=4.0
EPON Pontenova 7.45 27 P Pn 00 27 35.7 +2.0
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 00 28 55.7 -2.6
comp=N,1.2nm,0.4s,SNR=4.0
ETOB Tobarra 8.33 74 P Pn 00 27 47.2 +1.3
comp=N,0.2nm,0.1s,SNR=7.9
ETOB S Sn 00 29 15.8 -4.3
comp=N,0.5nm,0.4s,SNR=7.9
ETOB Tobarra 8.33 74 P Pn 00 27 47.2 +1.3
comp=N,0.2nm,0.1s,SNR=7.9
ETOB S Sn 00 29 15.8 -4.3
comp=N,0.5nm,0.4s,SNR=7.9
ETOR Torete 8.61 59 P Pn 00 27 51.5 +1.8
comp=N,2.9nm,0.2s,SNR=18
ETOR S Sn 00 29 24.8 -2.1
comp=N,0.6nm,0.3s
ETOR Torete 8.61 59 P Pn 00 27 51.5 +1.8
comp=N,2.9nm,0.2s,SNR=18
ETOR S Sn 00 29 24.8 -2.1
comp=N,0.6nm,0.3s

*GUC **09** 00:30:29.4±0.6, 38.°14S×73.°27W, h82km±12km, ML4.9*
*ISCJB **09** 00:30:30.0±0.6, 38.°12S±0.°03×72.°90W±0.°07, h43km±5km, mb4.7/48, MS3.8/5, Error ellipse: s-maj=9.5km s-min=4.7km az=2.9*
*IDC **09** 00:30:30.3±0.9, 38.°06S×72.°87W, h34km±5km, mb4.1/11, mb1 4.2/14, mb1mx4.1/24, mbtmp4.2/14, ML3.6/3, MS3.6/8, Ms1 3.6/8, ms1mx3.4/26, Error ellipse: s-maj=24.1km s-min=16.1km az=87.0*
*NEIC **09** 00:30:30.0±0.2, 38.°10S×73.°06W, mb4.8/36, ML4.9(GUC), Error ellipse: s-maj=7.1km s-min=4.9km az=81.0*
NEIC Felt [III] at Angol, Curacautin, Lota, Temuco, Tirua and Traiguen. Also felt at Canete, Concepcion, Coronel, Los Angeles and Victoria.
*BJI **09** 00:30:34.3, 38.°00S×73.°00W, h39km, mB5.2/6, Ms5.2/6, Ms7 4.9/5*
ISC 09 00:30:30.6±0.5, 38.°15S±0.°03×73.°02W±0.°08, h36km±1km, h36km:pP-P, n259, σ1§04/269, mb4.7/48, MS4.0/5, 79C-83D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CCSP	**San Pedro de C**	**1.30**	**357**	⇓*i*P	Pn		**00 30 52.4**	**+0.2**
CCSP				*i* S	**Sn**		**00 31 09.8**	**+1.5**
CCSP				AML	AML		00 31 14.2	
	comp=E,34μm,0.4s							
CCSP	**San Pedro de C**	**1.30**	**357**	⇓*i*P	Pn		**00 30 52.4**	**+0.2**
CCSP				*i* S	**Sn**		**00 31 09.8**	**+1.5**
VLCH	**Valdivia**	**1.67**	**186**	⇑*i*P	Pn		**00 30 57.0**	**-0.2**
VLCH				*i* S	**Sn**		**00 31 18.0**	**+0.7**
VLCH	**Valdivia**	**1.67**	**186**	⇑*i*P	Pn		**00 30 57.0**	**-0.2**
VLCH				*i* S	**Sn**		**00 31 18.0**	**+0.7**
OSCH	**Osorno**	**2.43**	**182**	*i* S	**Sn**		**00 31 36.8**	**+0.7**
OSCH				AML	AML		00 31 55.3	
	comp=E,4μm,0.6s							
OSCH	**Osorno**	**2.43**	**182**	P	Pn		00 31 00.0	-7.7
OSCH				*i* S	**Sn**		**00 31 36.8**	**+0.7**
LNCH	**Linares**	**2.56**	**27**	⇑*i*P	Pn		**00 31 10.2**	**+0.7**
LNCH				*i* S	**Sn**		**00 31 41.2**	**+1.8**
LNCH				AML	AML		00 31 56.1	
	comp=N,7μm,0.4s							
LNCH	**Linares**	**2.56**	**27**	⇑*i*P	Pn		**00 31 10.2**	**+0.7**
LNCH				*i* S	**Sn**		**00 31 41.2**	**+1.8**
PLCA	**Paso Flores**	**3.21**	**144**	Pn	Pn		**00 31 20.4**	**+1.8**
	comp=N,3.3nm,0.3s,baz=310,slow=9.8,SNR=80							
PLCA				Lg	Lg		00 32 06.6	
	comp=N,18nm,0.3s,baz=297,slow=2.3,SNR=4.8							
PLCA				LR	LR		00 32 46.0	
	comp=N,1μm,20.1s,baz=309,slow=42							
PLCA	**Paso Flores**	**3.21**	**144**	*e*Pn	Pn		**00 31 20.5**	**+1.9**
LCO	**Las Campanas**	**9.31**	**13**	*e*Pn	Pn		**00 32 41.4**	**-1.2**
LCO				*e*Sn	**Sn**		**00 34 21.2**	**-4.9**
CFAA	**Coronel Fontan**	**7.62**	**32**	Pn	Pn		**00 32 17.3**	**-1.8**
	comp=N,0.2nm,0.3s,baz=202,slow=13,SNR=23							
CFAA				Sn	**Sn**		**00 33 45.1**	**+1.0**
	comp=N,0.6nm,0.3s,baz=253,slow=17,SNR=2.5							
CFAA				Lg	Lg		00 34 29.9	
	comp=N,0.3nm,0.3s,baz=300,slow=15,SNR=3.4							
CFAA				LR	LR		00 35 59.2	
	comp=N,55nm,19.8s,baz=212,slow=44							
TRQA	**Tornquist**	**8.71**	**93**	*e*Pn	Pn		00 32 36.6	+2.6
LCO	**Las Campanas**	**9.31**	**13**	*e*Pn	Pn		**00 32 41.4**	**-1.2**
LCO				*e*Sn	**Sn**		**00 34 21.2**	**-4.9**
LVC	**Limon Verde**	**15.88**	**14**	*e*Pn	Pn		**00 34 10.2**	**-1.4**
	comp=N,12nm,1.0s							
USHA	**Ushuaia**	**16.98**	**171**	P	Pn		**00 34 25.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=332,slow=12,SNR=2.4							
USHA				LR	LR		00 41 21.4	
	comp=N,247nm,21.5s,baz=10.0,slow=38							
EFI	**East Falkland**	**17.14**	**147**	*e*Pn	Pn		**00 34 24.0**	**-3.0**
	comp=N,85nm,1.2s							
LPAZ	**La Paz**	**22.20**	**13**	P	P		**00 35 24.6**	**+0.2**
	comp=N,2.9nm,0.7s,baz=166,slow=9.0,SNR=10.0							
SIV	**San Ignacio**	**24.45**	**29**	P	P		**00 35 43.7**	**-2.4**
	comp=N,1.8nm,0.7s,baz=226,slow=10,SNR=3.3							
SIV				LR	LR		00 47 26.3	
	comp=N,156nm,20.6s,baz=142,slow=42							
NNA	**Nana**	**26.27**	**352**	LR	LR		00 44 05.0	
	comp=N,88nm,19.8s,baz=169,slow=31							
SAML	**Samuel**	**30.39**	**19**	*e*P	P		**00 36 38.7**	**-0.6**
	comp=N,6.7nm,1.2s							
BDFB	**Brasilia**	**31.44**	**51**	P	P		**00 36 47.1**	**-1.6**
	comp=N,1.8nm,0.7s,baz=223,slow=18,SNR=2.3							
BDFB				LR	LR		00 50 49.2	
	comp=N,407nm,19.2s,baz=174,slow=39							
BDFB	**Brasilia**	**31.44**	**51**	*e*P	P		**00 36 48.1**	**-0.6**
OTAV	**Otavalo**	**38.52**	**351**	*e*P	P		**00 37 49.1**	**-1.0**
	comp=N,21nm,1.4s							
VNA3	**Neumayer Olymp**	**45.86**	**156**	P	P		**00 38 49.6**	**+0.8**
VNA2	**Neumayer--Watz**	**46.54**	**156**	P	P		**00 38 54.9**	**+0.8**
	baz=289,slow=10.0							
RCBR	**Riachuelo**	**46.57**	**56**	*e*P	P		**00 38 55.9**	**+0.9**
	comp=N,83nm,2.3s							
SDV	**Santo Domingo**	**46.84**	**3**	*e*P	P		**00 38 56.6**	**-0.6**
	comp=N,4.4nm,0.9s							
QSPA	**South Pole Qui**	**52.10**	**180**	P	P		**00 39 37.5**	**+0.7**
	comp=N,10nm,1.0s,baz=147,slow=5.7,SNR=22							
RKT	**Rikitea**	**54.45**	**267**	*e*LR	LR		00 55 37.2	
	comp=N,161nm,26.2s							
RKT	**Rikitea**	**54.45**	**267**	*e*T	T		01 38 04.4	
	comp=N,0.8nm,0.2s							
SBA	**Scott Base**	**58.86**	**192**	*e*P	P		00 40 28.8	+3.8
	comp=N,34nm,1.6s							
TBI	**Tubuai**	**65.65**	**259**	*e*LR	LR		01 00 46.1	
	comp=N,111nm,23.5s							
MEH	**Mehetia**	**67.58**	**264**	*e*T	T		01 54 28.1	
	comp=N,7.1nm,0.2s							
PPT2	**Papeete2**	**68.92**	**264**	*e*LR	LR		01 02 21.2	
	comp=N,77nm,24.0s							
MAW	**Mawson**	**69.44**	**163**	LR	LR		01 10 12.9	
	comp=N,119nm,21.4s,baz=239,slow=34							
933A	**Laredo**	**69.89**	**335**	⇓P	P		**00 41 38.6**	**+0.9**
	baz=70							
TIGA	**Tifton**	**69.93**	**350**	*e*P	P		**00 41 37.0**	**-0.8**
	comp=N,81nm,0.3s							
834A	**Tilden**	**70.13**	**336**	⇓P	P		**00 41 40.3**	**+1.2**
	baz=70							
833A	**Chaparral WMA,**	**70.58**	**335**	⇑P	P		**00 41 42.7**	**+0.8**
	baz=71							
832A	**Faith Ranch, C**	**70.74**	**335**	⇑P	P		**00 41 43.4**	**+0.5**
	baz=71							
636A	**Smothers Creek**	**70.93**	**338**	⇓P	P		**00 41 44.9**	**+0.9**
	baz=71							
732A	**Laxson Ranch,**	**71.15**	**335**	⇓P	P		**00 41 46.0**	**+0.7**
	baz=71,SNR=5.3							
633A	**Saathoff Ranch**	**71.56**	**336**	⇓P	P		**00 41 48.5**	**+0.6**
	baz=72							
632A	**Uvalde**	**71.81**	**336**	⇓P	P		**00 41 49.8**	**+0.4**
	baz=72,SNR=5.6							
534A	**Blanco**	**71.87**	**337**	⇑P	P		**00 41 49.8**	**+0.1**
	baz=72							
533A	**Kerrville**	**72.09**	**336**	⇑P	P		**00 41 51.6**	**+0.6**
	baz=72							
337A	**Centerville**	**72.32**	**340**	⇓P	P		**00 41 53.5**	**+1.2**
	baz=73							
532A	**Rocksprings**	**72.42**	**336**	⇑P	P		**00 41 53.2**	**+0.2**
	baz=73,SNR=13							
434A	**Burnet**	**72.54**	**337**	⇓P	P		**00 41 53.5**	**-0.2**
	baz=73,SNR=6.7							
239A	**Gary**	**72.61**	**341**	⇑P	P		**00 41 54.5**	**+0.5**
	baz=73							
336A	**Riesel**	**72.66**	**339**	⇓P	P		**00 41 53.8**	**-0.5**
	baz=73							
531A	**Rocksprings**	**72.66**	**335**	⇓P	P		**00 41 54.9**	**+0.4**
	baz=73,SNR=6.7							
JCT	**Junction City**	**72.71**	**336**	⇑P	P		**00 41 54.7**	**-0.1**
	baz=73,SNR=6.3							
JCT	**Junction City**	**72.71**	**336**	*e*P	P		**00 41 54.2**	**-0.5**
	comp=N,17nm,0.9s							
335A	**Moody**	**72.73**	**338**	⇑P	P		**00 41 55.5**	**+0.7**
	baz=73							
433A	**Art**	**72.74**	**337**	⇓P	P		**00 41 54.8**	**-0.1**
	baz=73,SNR=12							
530A	**J-C Ranch, Com**	**72.91**	**335**	⇑P	P		**00 41 56.9**	**+1.0**
	baz=73,SNR=10							
TXAR	**Lajitas Array**	**72.99**	**332**	P	P		**00 41 57.0**	**+0.4**
	comp=N,3.9nm,0.9s,baz=150,slow=8.3,SNR=31							
LTX	**Lajitas**	**72.99**	**332**	*e*P	P		**00 41 57.0**	**+0.4**
334A	**Lometa**	**73.02**	**338**	⇓P	P		**00 41 56.6**	**+0.1**
	baz=73,SNR=11							
432A	**Menard**	**73.07**	**336**	⇑P	P		**00 41 56.2**	**-0.7**
	baz=73							
431A	**Sonora**	**73.16**	**335**	⇑P	P		**00 41 57.4**	**0.0**
	baz=73,SNR=5.7							
529A	**Stev Forest Ra**	**73.19**	**334**	⇑P	P		**00 41 58.1**	**+0.5**
	baz=74,SNR=8.2							
333A	**Richland Sprin**	**73.24**	**337**	⇑P	P		**00 41 57.8**	**-0.1**
	baz=74,SNR=5.4							
KMSC	**Kings Mountain**	**73.33**	**353**	⇓P	P		**00 41 57.2**	**-1.0**
	baz=74							
WHTX	**Lake Whitney,**	**73.40**	**338**	⇓P	P		**00 41 59.1**	**+0.3**
	baz=74							
WHTX	**Lake Whitney,**	**73.40**	**338**	*e*P	P		**00 41 58.8**	**0.0**
	comp=N,17nm,1.0s							
430A	**Baggett Ranch,**	**73.46**	**335**	⇓P	P		**00 41 59.5**	**+0.3**
	baz=74,SNR=8.2							
137A	**Heron Place, G**	**73.50**	**340**	⇑P	P		**00 41 59.6**	**+0.3**
	baz=74							
332A	**Millersview**	**73.53**	**336**	⇑P	P		**00 41 59.2**	**-0.3**
	baz=74,SNR=8.0							
429A	**Davenport Ranc**	**73.54**	**334**	⇑P	P		**00 42 00.2**	**+0.6**
	baz=74,SNR=5.3							
234A	**Clairette**	**73.61**	**338**	⇓P	P		**00 42 00.3**	**+0.3**
	baz=74							
331A	**San Angelo**	**73.68**	**336**	⇓P	P		**00 42 00.0**	**-0.4**
	baz=74,SNR=7.3							
233A	**Rising Star**	**73.86**	**337**	⇓P	P		**00 42 01.7**	**+0.3**
	baz=74							
232A	**Coleman**	**73.97**	**337**	⇑P	P		**00 42 02.1**	**0.0**
	baz=74,SNR=7.9							
SWET	**Sewanee**	**73.97**	**349**	*e*P	P		**00 42 01.8**	**-0.3**
330A	**Mertzon**	**74.01**	**335**	⇓P	P		**00 42 02.0**	**-0.4**
	baz=74							
134A	**White-Moore Ra**	**74.13**	**338**	⇑P	P		**00 42 02.7**	**-0.3**
	baz=74							
231A	**Bronte**	**74.22**	**336**	⇓P	P		**00 42 03.4**	**-0.2**
	baz=74							
329A	**Wagon Wheel Ra**	**74.36**	**335**	⇓P	P		**00 42 04.7**	**+0.3**
	baz=75,SNR=6.7							
133A	**Hamilton Ranch**	**74.41**	**338**	⇑P	P		**00 42 04.2**	**-0.4**
	baz=75							
230A	**Sterling City**	**74.43**	**335**	⇓P	P		**00 42 04.6**	**-0.3**
	baz=75							
BBTS	**Babate**	**74.54**	**57**	LR	LR		01 12 50.1	
	comp=N,71nm,19.1s,slow=34							
Z35A	**Perchaven, San**	**74.60**	**339**	⇑P	P		**00 42 05.1**	**-0.6**
	baz=75							
ABTX	**Abilene, Hawle**	**74.65**	**337**	⇓P	P		**00 42 05.7**	**-0.4**
	baz=75,SNR=6.5							
229A	**Bryant Ranch,**	**74.74**	**335**	⇓P	P		**00 42 06.8**	**+0.1**
	baz=75							
Z34A	**Collier Ranch,**	**74.83**	**339**	⇓P	P		**00 42 06.5**	**-0.5**
	baz=75							
131A	**Roby**	**74.93**	**336**	⇓P	P		**00 42 07.5**	**-0.2**
	baz=75							
Z33A	**Whitaker Ranch**	**75.00**	**338**	⇓P	P		**00 42 07.8**	**-0.3**
	baz=75							
130A	**Snyder**	**75.04**	**336**	⇑P	P		**00 42 08.0**	**-0.4**
	baz=75							
228A	**UT Block 9, Go**	**75.14**	**334**	⇑P	P		**00 42 09.4**	**+0.4**
	baz=75							
WVT	**Waverly**	**75.17**	**348**	*e*P	P		**00 42 08.2**	**-0.7**
	comp=N,13nm,1.1s							
Z32A	**Haskell**	**75.23**	**337**	⇓P	P		**00 42 09.0**	**-0.4**
	baz=76,SNR=5.2							
Y34A	**Reagan Ranch,**	**75.33**	**339**	⇑P	P		**00 42 10.8**	**+0.9**
	baz=76							
129A	**Stewart Farms,**	**75.36**	**335**	⇑P	P		**00 42 10.7**	**+0.5**
	baz=76							
Z31A	**Sharp Cattle R**	**75.44**	**337**	⇓P	P		**00 42 10.8**	**+0.2**
	baz=76,SNR=5.1							
128A	**Castleberry Fa**	**75.56**	**335**	⇑P	P		**00 42 11.3**	**-0.1**
	baz=76,SNR=5.1							
Z30A	**Sanderson Ranc**	**75.73**	**336**	⇓P	P		**00 42 12.4**	**+0.1**

		baz=76							
MNTX	Cornudas Mount	75.75	332	⇑P		P	00 42 12.0	-0.4	
	baz=76								
MNTX	Cornudas Mount	75.75	332	*e*P		P	00 42 12.1	-0.4	
	comp=N,2.9nm,1.0s								
Y32A	R-V Farms, Ver	75.87	338	⇑P		P	00 42 13.1	+0.1	
	baz=76								
Z29A	Hungry Hill Ra	75.89	336	⇑P		P	00 42 13.4	+0.1	
	baz=76								
X34A	Smith Ranch, M	75.96	339	⇓P		P	00 42 13.6	+0.1	
	baz=76								
Y31A	Rekieta Farm,	76.08	337	⇓P		P	00 42 14.7	+0.4	
	baz=76								
WMOK	Wichita Mounta	76.36	338	*e*P		P	00 42 15.3	-0.5	
	comp=N,8.7nm,1.1s								
Y29A	Porterfield Fa	76.43	336	⇑P		P	00 42 16.8	+0.5	
	baz=77								
W34A	Bridge Creek,	76.53	339	⇓P		P	00 42 16.4	-0.4	
	baz=77								
X31A	McDonald Ranch	76.61	337	⇑P		P	00 42 17.2	0.0	
	baz=77,SNR=5.6								
TUL1	Leonard	76.64	341	⇓P		P	00 42 17.2	-0.1	
	baz=77								
TUL1	Leonard	76.64	341	*e*P		P	00 42 17.1	-0.3	
	comp=N,14nm,0.8s								
W33A	Caddo, Fort Co	76.65	339	⇓P		P	00 42 18.9	+1.4	
	baz=77								
V35A	Meyer Ranch, C	76.78	340	⇓P		P	00 42 18.1	0.0	
	baz=77								
W32A	Sentinel	76.85	338	⇓P		P	00 42 18.7	+0.1	
	baz=77,SNR=8.5								
LIC	Lamto	76.85	71	*e*P		P	00 42 19.1	0.0	
	comp=N,35nm,1.1s								
MSTX	Muleshoe	76.89	335	⇑P		P	00 42 19.3	+0.3	
	baz=77								
MSTX	Muleshoe	76.89	335	*e*P		P	00 42 18.8	-0.1	
	comp=N,11nm,1.1s								
319A	Douglas	76.99	329	⇑P		P	00 42 21.2	+1.6	
	baz=77								
V34A	Guthrie	77.03	340	⇓P		P	00 42 19.1	-0.4	
	baz=77								
V34A	Guthrie	77.03	340	*e*P		P	00 42 19.5	0.0	
	comp=N,11nm,0.8s								
W31A	Holland Ranch,	77.12	338	⇓P		P	00 42 19.9	-0.2	
	baz=77								
TIC	Toumodi	77.13	71	*e*P		P	00 42 16.9	-3.8	
	comp=N,7.3nm,0.2s								
KIC	Kosan Boka	77.16	71	*e*P		P	00 42 20.7	-0.1	
	comp=N,19nm,0.9s								
V33A	Lossen Ranch,	77.23	339	⇓P		P	00 42 21.1	+0.4	
	baz=78								
DBIC	Dimbokro	77.27	71	P		P	00 42 21.7	+0.2	
	comp=N,2.9nm,0.7s,baz=203,slow=7.2,SNR=4.7								
DBIC				pP		PcP	00 42 31.4	-0.6	
	comp=N,6.0nm,0.8s,baz=210,slow=8.9,SNR=4.2								
DBIC	Dimbokro	77.27	71	*e*P		P	00 42 21.2	-0.2	
	comp=N,34nm,1.6s								
DBIC				*e*pP		PcP	00 42 28.7	-3.3	
V32A	Arapaho	77.35	339	⇓P		P	00 42 21.4	0.0	
	baz=78								
AMTX	Amarillo	77.37	336	⇓P		P	00 42 22.2	+0.5	
	baz=78								
AMTX	Amarillo	77.37	336	*e*P		P	00 42 21.7	+0.1	
	comp=N,20nm,1.1s								
121A	Cookes Peak, D	77.41	330	⇓P		P	00 42 23.2	+1.2	
	baz=78								
U32A	Winter Ranch,	77.95	339	⇑P		P	00 42 24.9	+0.2	
	baz=78								
W26A	Owens Ranch, T	78.25	335	⇑P		P	00 42 27.5	+1.0	
	baz=78								
S36A	Lake Cedric, C	78.31	342	⇑P		P	00 42 26.4	-0.2	
	baz=79								
T33A	Patterson Ranc	78.40	340	⇓P		P	00 42 27.4	+0.2	
	baz=79,SNR=6.5								
TUC	Tucson	78.43	328	*e*P		P	00 42 27.9	+0.4	
	comp=N,5.0nm,1.2s								
S35A	Otter Creek Ra	78.45	341	⇓P		P	00 42 27.0	-0.5	
	baz=79								
LAZ	Ladron	78.83	332	*e*P		P	00 42 29.2	-0.6	
BOSA	Boshof	78.86	118	P		P	00 42 30.1	-0.2	
	comp=N,2.7nm,1.0s,baz=249,slow=5.4,SNR=3.9								
R36A	Gordon, Harris	78.86	342	⇓P		P	00 42 29.6	0.0	
	baz=79								
V26A	Tequesquite Ra	78.90	335	⇓P		P	00 42 30.0	-0.1	
	baz=79								
214A	Organ Pipe Nat	78.99	326	⇑P		P	00 42 32.2	+1.7	
	baz=79								
ANMO	Albuquerque	79.06	333	*e*P		P	00 42 31.3	+0.2	
	comp=N,7.4nm,1.1s								
ANMO				*e*pP		pP	00 42 42.1	-0.2	
U27A	Thompson Grove	79.15	336	⇑P		P	00 42 31.9	+0.4	
	baz=79								
V25A	Rancho No Teng	79.21	334	⇓P		P	00 42 32.0	+0.1	
	baz=80								
U26A	Atchley Ranch,	79.43	335	⇓P		P	00 42 33.7	+0.6	
	baz=80								
R33A	Olander Ranch,	79.48	340	⇓P		P	00 42 33.7	+0.7	
	baz=80								
S30A	Montezuma	79.55	338	⇓P		P	00 42 34.0	+0.5	
	baz=80								
T28A	Walsh	79.57	337	⇑P		P	00 42 34.0	+0.3	
	baz=80								
U25A	Circle Dot Ran	79.65	335	⇓P		P	00 42 34.8	+0.5	
	baz=80								
R32A	Long Quarter,	79.78	340	⇓P		P	00 42 34.7	0.0	
	baz=80								
S28A	Manter	79.93	337	⇑P		P	00 42 36.5	+0.8	
	baz=80								
Q33A	Connelly Farm,	80.09	341	⇑P		P	00 42 36.5	+0.2	
	baz=80								
T26A	Comanche Natio	80.09	336	⇑P		P	00 42 37.8	+1.1	
	baz=80								
Q32A	Meitler Ranch,	80.27	340	⇑P		P	00 42 37.8	+0.4	
	baz=81								
T25A	Trinidad	80.32	335	⇓P		P	00 42 39.1	+1.1	
	baz=81								
T25A	Trinidad	80.32	335	*e*P		P	00 42 38.4	+0.5	
	comp=N,12nm,1.0s								
W18A	Petrified Fore	80.45	330	⇓P		P	00 42 40.2	+1.6	
	baz=81								
S26A	Kim	80.45	336	⇑P		P	00 42 39.8	+1.3	
	baz=81								
R29A	Marienthal	80.47	338	⇓P		P	00 42 38.8	+0.3	
	baz=81								
Q31A	Ellis	80.51	339	⇑P		P	00 42 39.2	+0.5	
	baz=81								
X16A	Lo Mia Camp, P	80.53	329	⇓P		P	00 42 40.8	+1.8	
	baz=81								
T24B	San Luis	80.58	334	⇑P		P	00 42 40.1	+0.6	
	baz=81								
R28A	Tribune	80.60	337	⇑P		P	00 42 40.0	+0.7	
	baz=81								
Q30A	Quinter	80.72	339	⇑P		P	00 42 40.1	+0.3	
	baz=81								
S25A	Robets Cordova	80.81	335	⇓P		P	00 42 41.4	+0.9	
	baz=81								
S24A	Houchin Ranch,	81.05	335	⇓P		P	00 42 43.6	+1.7	
	baz=81								
R26A	Arlington	81.07	336	⇑P		P	00 42 43.3	+1.5	
	baz=81								
SDCO	Great Sand Dun	81.24	334	⇑P		P	00 42 44.1	+1.2	
	baz=82								
SDCO	Great Sand Dun	81.24	334	*e*P		P	00 42 43.9	+1.0	
	comp=N,2.9nm,1.1s								
P30A	Selden	81.25	339	⇑P		P	00 42 43.2	+0.6	
	baz=82								
WUAZ	Wupatki	81.45	329	⇑P		P	00 42 45.7	+1.8	
	baz=82								
R24A	Sanders Place,	81.55	335	⇑P		P	00 42 45.9	+1.5	
	baz=82								
S22A	4UR Ranch, Cre	81.70	334	⇑P		P	00 42 46.5	+1.1	
	baz=82								
O30A	MW Ranch, Wils	81.79	339	⇓P		P	00 42 45.7	+0.3	
	baz=82								
MVCO	Mesa Verde	81.82	332	⇓P		P	00 42 47.1	+1.2	
	baz=82								
W13A	Hualapai Mount	82.13	327	⇑P		P	00 42 48.9	+1.3	
	baz=82								
Q24A	Divide	82.22	335	⇑P		P	00 42 49.4	+1.3	
	baz=82								
P25A	Willow Gulch B	82.40	336	⇑P		P	00 42 49.8	+1.0	
	baz=83								
U15A	North Rim	82.61	329	⇓P		P	00 42 51.8	+1.6	
	baz=83								
O25A	Wiggins	82.93	336	⇑P		P	00 42 52.3	+0.8	
	baz=83								
SMCO	Snowmass	83.03	334	*e*P		P	00 42 52.1	-0.3	
	comp=N,7.6nm,1.1s								
ISCO	Idaho Springs	83.13	335	⇑P		P	00 42 54.0	+1.2	
	baz=83								
TUQ	Turquoise Moun	83.30	326	⇑P		P	00 42 55.3	+1.8	
	baz=84								
KNB	Kanab	83.33	329	*e*P		P	00 42 54.2	+0.5	
	comp=N,15nm,1.3s								
L29A	Maesberg Ranch	83.66	340	⇓P		P	00 42 55.8	+0.7	
	baz=84								
O22A	Kremmling	83.77	335	⇑P		P	00 42 56.9	+0.8	
	baz=84								
K30A	Basset	84.00	341	⇓P		P	00 42 57.8	+1.0	
	baz=84								
CCUT	Cedar City	84.01	329	*e*P		P	00 42 58.6	+1.3	
	comp=N,5.3nm,1.1s								
CCUT				*e*pP		pP	00 43 09.6	+1.1	
N23A	Red Feather La	84.23	336	⇓P		P	00 42 58.8	+0.5	
	baz=84								
SRU	San Rafael Swe	84.25	332	*e*P		P	00 42 59.0	+0.6	
	comp=N,5.7nm,1.1s								
ECSD	EROS Data Cent	84.26	343	⇑P		P	00 42 58.1	0.0	
	baz=85								
ECSD	EROS Data Cent	84.26	343	*e*P		P	00 42 57.7	-0.4	
	comp=N,23nm,1.0s								
N22A	Wattenberg Ran	84.31	335	⇓P		P	00 42 59.5	+0.8	
	baz=85								
ISA	Isabella, Lake	84.64	324	⇑P		P	00 43 01.5	+1.2	
	baz=85								
TPNV	Topopah Spring	84.72	327	⇓P		P	00 43 01.6	+0.9	
	baz=85								
TPNV	Topopah Spring	84.72	327	*e*P		P	00 43 00.9	+0.2	
	comp=N,55nm,2.5s								
DAC	Darwin (Calif)	84.75	325	*e*P		P	00 42 59.9	-1.1	
	comp=N,5.7nm,1.0s								
SPMN	Marine on St.	84.89	346	⇓P		P	00 43 00.6	-0.6	
	baz=85								
J28A	Allard Ranch,	85.13	340	⇓P		P	00 43 03.4	+0.9	
	baz=85								
J27A	Elkhorn Farm,	85.19	339	⇓P		P	00 43 03.7	+0.8	
	baz=86								
K24A	Anderson Ranch	85.52	337	⇑P		P	00 43 05.6	+1.0	
	baz=86								
J26A	Sides Ranch, S	85.54	338	⇑P		P	00 43 05.5	+0.9	
	baz=86								
R11A	Troy Canyon, C	85.61	328	⇑P		P	00 43 06.5	+1.2	
	baz=86								
R11A	Troy Canyon, C	85.61	328	*e*P		P	00 43 06.4	+1.2	
	comp=N,4.4nm,1.0s								
I28A	Midland	85.65	340	⇓P		P	00 43 05.7	+0.6	
	baz=86								
DUG	Dugway, Tooele	86.06	331	⇑P		P	00 43 08.5	+1.1	
	baz=86								
DUG	Dugway, Tooele	86.06	331	*e*P		P	00 43 06.4	-1.0	
	comp=N,4.7nm,1.0s								
TPH	Tonopah	86.08	327	*e*P		P	00 43 07.6	+0.1	
	comp=N,8.2nm,0.9s								
TOA0	Torodi Ar. Sit	86.36	70	*e*P		P	00 43 08.3	-1.0	
TOA0				*e*pP		pP	00 43 18.8	-1.8	
TORD	Torodi Ar. Bea	86.36	70	P		P	00 43 08.3	-1.0	
	comp=N,2.5nm,0.9s,baz=236,slow=4.4,SNR=14								
TORD				pP		pP	00 43 18.8	-1.8	
	comp=N,2.4nm,0.9s,baz=229,slow=3.7,SNR=7.8								
I25A	Rochford	86.38	338	⇑P		P	00 43 09.0	+0.1	
	baz=87								
H27A	Howes	86.48	340	⇑P		P	00 43 09.5	+0.3	
	baz=87								
G28A	Parade	86.58	341	⇓P		P	00 43 10.0	+0.3	
	baz=87								
HWUT	Hardware Ranch	86.81	332	*e*P		P	00 43 11.1	0.0	
	comp=N,9.8nm,1.1s								
NV01	Mina Array Sit	86.85	326	*e*P		P	00 43 11.5	+0.1	
NVAR	Mina Array Bea	86.85	326	P		P	00 43 11.5	+0.1	
	comp=N,1.7nm,0.8s,baz=150,slow=6.0,SNR=8.9								
H25A	Fruitdale	86.89	339	⇓P		P	00 43 12.6	+1.4	
	baz=87								
F29A	Eureka	87.01	342	⇑P		P	00 43 11.6	-0.1	
	baz=87								
I22A	9 Mile Ranch,	87.10	336	⇑P		P	00 43 12.6	+0.3	
	baz=87								
PD31	Pinedale Array	87.11	334	*e*P		P	00 43 12.0	-0.6	
PDAR	Pinedale Array	87.11	334	P		P	00 43 12.0	-0.6	
	comp=N,1.4nm,1.0s,baz=160,slow=4.7,SNR=7.6								
J20A	Shoshoni	87.13	335	⇓P		P	00 43 13.6	+1.1	
	baz=87								
G26A	Maurine	87.23	340	⇓P		P	00 43 13.1	+0.2	
	baz=88								
I21A	Big Trails, Te	87.29	336	⇑P		P	00 43 13.4	+0.1	
	baz=88								
J19A	Crowheart	87.38	335	⇓P		P	00 43 14.8	+1.0	
	baz=88								
HVU	Hansel Valley	87.42	331	*e*P		P	00 43 13.6	-0.4	
	comp=N,3.7nm,0.7s								
ELK	Elko	87.49	329	*e*P		P	00 43 14.5	0.0	
	comp=N,3.9nm,1.0s								
F27A	Lemmon	87.61	340	⇑P		P	00 43 14.5	-0.1	
	baz=88								
D30A	Buchanan	87.94	343	⇑P		P	00 43 16.8	+0.6	
	baz=88								
AGMN	Agassiz Nation	88.43	345	⇓P		P	00 43 18.5	+0.1	
	baz=89								
AGMN	Agassiz Nation	88.43	345	*e*P		P	00 43 17.9	-0.5	
	comp=N,16nm,1.3s								
C30A	Mose, Pekin	88.44	343	⇓P		P	00 43 18.8	+0.3	
	baz=89								
H18A	Shoshone NF, C	88.83	335	⇓P		P	00 43 22.2	+1.5	
	baz=89								
B30A	Myrvik Farm, E	89.11	343	⇓P		P	00 43 21.6	0.0	
	baz=89								
B29A	Wagenman Farm,	89.36	343	⇓P		P	00 43 23.0	+0.2	
	baz=90								
HLID	Hailey	89.56	331	⇑P		P	00 43 26.1	+2.0	
	baz=90								
HLID	Hailey	89.56	331	*e*P		P	00 43 22.8	-1.3	
	comp=N,2.9nm,0.9s								
A29A	Manning Farm,	89.76	343	⇑P		P	00 43 24.9	+0.3	
	baz=90								
ULM	Lac du Bonnet	90.30	346	P		P	00 43 26.7	-0.4	
	comp=N,2.3nm,0.7s,baz=157,slow=6.4,SNR=4.8								
YKA	Yellowknife Ar	105.72	341	Pdiff		Pdif	00 44 35.7	-0.8	
	comp=N,0.2nm,0.8s,baz=148,slow=4.8,SNR=4.1								
YKB5	Yellowknife Ar	105.72	341	*e*Pdif		Pdif	00 44 35.7	-0.8	
GERES	GERESS Array B	115.59	47	PKP		PKPdf	00 49 07.9	-0.4	
	comp=N,0.5nm,0.8s,baz=276,slow=3.8,SNR=3.7								
GERES				pPKP	PKiKP		00 49 19.5	+11	
	comp=N,0.7nm,0.8s,baz=230,slow=1.0,SNR=4.6								
WRA	Warramunga Arr	116.76	209	PKP		PKPdf	00 49 10.6	-0.9	
	comp=N,1.8nm,1.4s,baz=161,slow=1.7,SNR=3.7								
ILAR	Eielson Array	117.51	332	PKP		PKPdf	00 49 10.8	-0.6	
	comp=N,0.3nm,0.7s,baz=176,slow=2.7,SNR=3.2								
BRTR	Keskin Array B	124.46	64	PKP		PKPdf	00 49 25.5	-0.2	
	comp=N,0.6nm,0.7s,baz=219,slow=1.8,SNR=3.5								
BRTR				pPKP		pPKPdf	00 49 36.8	-0.7	
	comp=N,1.8nm,0.7s,baz=200,slow=3.1,SNR=7.9								
ABKAR	Akbulak array	144.76	56	*e*PKPdf	PKPbc		00 50 02.0	0.0	
HYB	Hyderabad	147.67	122	*i* PKP		PKPbc	00 50 11.0	-0.7	
HYB				*e*			00 50 21.5		
KKAR	Karatay Array	152.03	68	*e*PKPab		PKPab	00 50 32.2	+1.0	
EKS2	Erkin-Say	154.42	69	*e*PKPdf		PKPdf	00 50 18.4	-0.2	
AAK	Ala-Archa	154.95	69	*e*PKPbc		PKPbc	00 50 28.4	+0.2	
TKM2	Tokmak 2	155.76	69	*e*PKPdf		PKPdf	00 50 20.3	-0.2	
KSH	Kashi	155.86	77	PKP		PKPdf	00 50 28.1	+7.4	
KSH				pPKP		pPKPdf	00 50 38.7	+6.2	
KSH				PKS		PKSdf	00 54 00.5	+5.7	
KSH				SKS		SKSdf	00 57 28.0	+3.7	
KSH				PPMZ					
	comp=N,120nm,6.2s								
KSH				LN					
	comp=N,82nm,4.7s								
KSH				LE					
	comp=N,62nm,5.4s								
KSH				LZ					
	comp=N,94nm,7.8s								
ZALV	Zalesovo Beam	158.09	37	PKP		PKPdf	00 50 21.2	-1.7	
	comp=N,0.7nm,0.7s,baz=299,slow=3.1,SNR=3.6								
ZALV				PKPab		PKPab	00 50 54.0	-2.6	
	comp=N,0.4nm,0.4s,baz=305,slow=5.1,SNR=2.8								
MKAR	Makanchi Array	159.91	57	PKP		PKPdf	00 50 24.5	-0.8	
	comp=N,1.0nm,1.0s,baz=276,slow=2.3,SNR=7.0								
MKAR				PKPab		PKPab	00 51 04.1	-0.7	
	comp=N,1.2nm,0.7s,baz=282,slow=4.0,SNR=7.0								
WMQ	Urumqi	164.38	63	*e*PKP		PKPdf	00 50 33.7	+3.7	
WMQ				pPKP		pPKPdf	00 50 44.5	+2.8	
WMQ				sPKP			00 50 48.0		
WMQ				PPMZ					
	comp=N,140nm,4.0s								
CN2	Changchun	164.96	298	*e*PKP		PKPdf	00 50 33.3	+2.9	
SONM	Songino Array	170.31	2	PKPab		PKPab	00 51 50.9	+0.3	
	comp=N,0.5nm,0.9s,baz=337,slow=3.3,SNR=2.7								
CD2	Chengdu	172.31	159	PKP		PKPdf	00 50 37.1	+1.4	
HHC	Hu-ho-hao-te	175.54	309	*e*PKP		PKPdf	00 50 39.2	+2.6	
HHC				pPKP		pPKPdf	00 50 49.4	+1.1	
HHC				sPKP			00 50 53.7		
HHC				PP	PP		00 56 12.6	+5.6	
HHC				SKS		SKSdf	00 57 36.6	-0.2	
HHC				SS		SS	01 17 30.6	0.0	
HHC				PPMZ					
	comp=N,28nm,6.0s								
HHC				LN					
	comp=N,120nm,22.9s								
HHC				LE					
	comp=N,160nm,21.2s								
HHC				LZ					
	comp=N,73nm,19.7s								
LZH	Lanzhou	176.76	128	*e*PKP		PKPdf	00 50 39.4	+2.3	
LZH				pPKP		pPKPdf	00 50 51.5	+2.7	
LZH				sPKP			00 50 57.3		
LZH				LN					
	comp=N,190nm,18.0s								
LZH				LE					
	comp=N,190nm,18.2s								
LZH				LZ					
	comp=N,230nm,20.1s								

*IDC **09** 00:35:16.6±1.3,9.°77S×117.°68E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.6/37, mbtmp3.7/8, ML3.7/2, MS3.0/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=52.6km s-min=20.4km az=47.0*

*ISCJB **09** 00:35:24.0±0.5,9.°87S±0.°06×118.°10E±0.°04, h38km, mb3.8/5, MS3.0/1, Error ellipse: s-maj=8.8km s-min=5.5km az=20.0*

*DJA **09** 00:35:23.9±1.5,10.°S±7.°×11.°8E±.°, h11km±14km, M4.2/15, mb4.4/3, mB5.2/1, MLv4.1/15, Mw(mB)4.5/1*

*AUST **09** 00:35:52.0±3.6, 12.°00S×118.°45E, h36km, Error ellipse: s-maj=1.3km s-min=1.1km az=267.0*

ISC 09 00:35:23.8±0.8, **9.°83S**±0.°08×**118.°08E**±0.°05, **h38**km, **n29, σ2s26/22, mb3.9/5, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	Waikabubak, Su	1.31	82	P	Pn	00 35 46.0	+0.4
WSI	Waingapu	2.20	86	P	Sn	00 36 33.8	+10
BASI	Baing, Sumba	2.50	99	P	Pn	00 36 04.9	+3.0
IGBI	Denpasar	3.06	289	P	Pn	00 36 11.1	+1.5
SRBI	Singaraja	3.31	301	P	Pn	00 36 15.9	+2.7
EDFI	Ende, Flores	3.73	74	P	Pn	00 36 20.6	+1.7
ABJI	Asem Bagus	4.30	298	P	Pn	00 36 30.6	+3.9
GMJI	Gumukmas	4.83	288	P	Pn	00 36 36.7	+2.7
KMMI	Kalianget	4.91	304	P	Pn	00 36 37.5	+2.4
BKSI	Bulukumba	4.91	25	P	Pn	00 36 36.7	+1.5
BATI	Baumata	5.52	94	P	Pn	00 36 45.1	+1.6
	18nm,1.0s,0.1nm						
BATI	Baumata	5.52	94	Pn	Pn	00 36 46.3	+2.8
	11nm,0.3s,baz=252,slow=6.4,SNR=6.0						
BATI				Sn	Sn	00 37 47.4	+1.6
	2.9nm,0.3s,baz=81,slow=19,SNR=2.1						
BNSI	Bone	5.75	21	P	Pn	00 36 49.9	+3.2
MTN	Manton Dam	13.15	104	S	Sn	00 40 47.6	-5.5
	baz=12,SNR=3.2						
GIRL	Giralia	13.27	196	P	Pn	00 38 29.9	+0.3
	baz=11,SNR=6.0						
KDU	Kakadu	14.40	103	P	P	00 38 57.5	+6.0
	baz=14,SNR=4.8						
MEEK	Meekatharra	16.73	178	P	P	00 39 17.8	+0.5
	baz=15,SNR=9.1						
MEEK				S	Sn	00 42 03.8	-16
	baz=15,SNR=7.1						
WRKA	Warakurna	17.98	149	P	P	00 39 33.8	+2.7
	baz=16,SNR=5.1						
WRA	Warramunga Arr	18.64	124	P	P	00 39 39.4	+0.9
	0.1nm,0.3s,baz=294,slow=13,SNR=7.6						
WRA				S	Sn	00 42 56.2	-10
	0.1nm,0.3s,baz=291,slow=24,SNR=4.5						
ASAR	Alice Springs	20.44	134	P	P	00 39 59.5	+1.4
	0.6nm,0.5s,baz=306,slow=10.0,SNR=7.4						
ASAR				S	S	00 43 41.4	-3.7
	0.4nm,0.4s,baz=314,slow=24,SNR=3.2						
BLDU	Ballidu	20.72	183	P	Pn	00 40 09.7	+6.1
	baz=19,SNR=5.3						
CMAR	Chiang Mai Arr	33.86	326	LR	LR	00 56 06.8	
	comp=Z,26nm,19.0s,baz=290,slow=37						
KSRS	Korea Array	47.93	11	P	P	00 43 56.8	-1.7
	1.0nm,0.5s,baz=185,slow=7.5,SNR=4.4						
SONM	Songino Array	58.34	351	P	P	00 45 12.2	-2.9
	0.7nm,0.7s,baz=172,slow=6.9,SNR=7.1						
MKAR	Makanchi Array	64.78	334	P	P	00 45 55.8	-2.8
	0.3nm,0.3s,baz=146,slow=6.3,SNR=9.3						
KURBB	Kurchatov Arra	69.31	334	P	P	00 46 25.0	-2.1
	0.2nm,0.2s,baz=139,slow=5.2,SNR=3.4						
ZALV	Zalesovo Beam	69.49	340	P	P	00 46 25.0	-3.2
	0.4nm,0.3s,baz=172,slow=5.3,SNR=4.3						
YKA	Yellowknife Ar	115.31	24	PKP	PKPdf	00 53 59.8	-1.1
	0.1nm,0.3s,baz=309,slow=1.9,SNR=4.1						
TORD	Torodi Ar. Bea	117.70	280	PKP	PKPdf	00 54 05.0	-1.9
	0.3nm,0.7s,baz=58,slow=0.9,SNR=3.3						

*IDC **09** 01:20:44.7±1.5,34.°24S×72.°23W, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.6/30, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=44.0km s-min=32.1km az=86.0*

*ISCJB **09** 01:20:45.8±1.9,34.°21S±0.°04×72.°33W±0.°08, h14km±14km, mb3.5/2, Error ellipse: s-maj=10.7km s-min=6.7km az=5.4*

*GUC **09** 01:20:47.8±0.7,34.°22S×72.°21W, h13km±4km, ML3

*NEIC **09** 01:27:08.5σ0.6,44°24'N×129°00'W,h10km,mb4.2/23,*
Error ellipse: s-maj=8.2km s-min=4.8km az=59.0
ISC 09 01:27:09.7±0.6,**44.19N**±0.07×**128.95W**±0.06,**h15**km,
n298,σ1$35/281,mb4.1/21,MS3.3/10,94C-106D,Off
coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.61**	**110**	*e*Pn			Pn	01 28 00.5	-4.6
I03D	**Drain, OR**	**4.08**	**95**	⇓P			**Pn**	**01 28 10.6**	**-0.9**
	baz=4.1,SNR=410								
G03D	**McMinnville, O**	**4.18**	**74**	⇑P			**Pn**	**01 28 12.4**	**-0.5**
	baz=4.2,SNR=21								
G03D				⇓S			**Sn**	**01 29 03.9**	**+2.4**
	baz=4.2								
L02D	**Cave Junction,**	**4.41**	**116**	⇓P			**Pn**	**01 28 13.7**	**-2.4**
	baz=4.4								
L02D				⇑S			**Sn**	**01 29 07.1**	**0.0**
	baz=4.4								
F04D	**Rainier, OR**	**4.61**	**64**	⇓P			**Pn**	**01 28 18.1**	**-0.7**
	baz=4.6								
BMW	**Boistfort Moun**	**4.64**	**58**	P			**Pn**	**01 28 18.4**	**-0.9**
HUMO	**Hull Mountain**	**4.64**	**108**	*e*Pn			**Pn**	**01 28 16.5**	**-2.9**
HUMO				*e*Sn			**Sn**	**01 29 11.3**	**-1.7**
SSOR	**Sweet Springs**	**4.69**	**80**	P			**Pn**	**01 28 20.5**	**+0.5**
I04A	**Tendick Farm,**	**4.74**	**93**	⇓P			**Pn**	**01 28 20.3**	**-0.3**
	baz=4.8,SNR=20								
BBOR	**Butler Butte**	**4.74**	**104**	P			**Pn**	**01 28 19.2**	**-1.6**
NLWA	**Neilton Lookou**	**4.78**	**46**	*e*Pn			**Pn**	**01 28 20.1**	**-1.1**
NLWA				*e*Sn			**Sn**	**01 29 15.8**	**-0.6**
HBO	**Huckleberry Mo**	**4.79**	**92**	P			**Pn**	**01 28 22.2**	**+0.6**
OSR	**Olympics--Salm**	**4.81**	**45**	P			**Pn**	**01 28 20.9**	**-0.8**
OOW	**Octopus West**	**4.86**	**41**	P			**Pn**	**01 28 22.0**	**-0.3**
J04D	**Umpqua Nationa**	**5.05**	**98**	⇑P			**Pn**	**01 28 24.5**	**-0.6**
	baz=5.1,SNR=22								
FL2	**Flat Top 2**	**5.08**	**64**	P			**Pn**	**01 28 25.5**	**+0.1**
MTMW	**Mount Mitchell**	**5.11**	**67**	P			**Pn**	**01 28 26.1**	**+0.3**
OBC	**Olympics--Boni**	**5.12**	**40**	P			**Pn**	**01 28 25.5**	**-0.4**
OSD	**Olympics--Snow**	**5.15**	**43**	P			**Pn**	**01 28 25.9**	**-0.5**
YBH	**Yreka Blue Hor**	**5.20**	**116**	Pn			**Pn**	**01 28 28.9**	**+1.9**
	0.6nm,0.3s,baz=112,slow=15,SNR=8.5								
YBH				Sn			**Sn**	**01 29 25.7**	**-0.9**
	0.1nm,0.3s,baz=22,slow=19,SNR=2.1								
YBH				LR			LR	01 30 10.8	
	comp=Z,250nm,21.9s,baz=298,slow=35								
YBH	**Yreka Blue Hor**	**5.20**	**116**	*e*Pn			**Pn**	**01 28 25.2**	**-1.7**
	11nm,0.8s								
YBH				Sn			**Sn**	**01 29 25.7**	**-0.9**
TDL	**Tradedollar La**	**5.22**	**63**	P			**Pn**	**01 28 27.4**	**+0.1**
M02C	**Callahan**	**5.29**	**120**	⇑P			**Pn**	**01 28 27.8**	**-0.4**
	baz=5.3								
I05D	**Terrebonne, OR**	**5.47**	**86**	⇑P			**Pn**	**01 28 30.5**	**-0.2**
	baz=5.5								
K04D	**Chiloquin, OR**	**5.47**	**104**	⇑P			**Pn**	**01 28 29.5**	**-1.3**
	baz=5.5								
K04D				⇑S			**Sn**	**01 29 31.8**	**-1.6**
	baz=5.5								
G05D	**Wamic, OR**	**5.54**	**76**	⇑P			**Pn**	**01 28 32.3**	**+0.7**
	baz=5.5,SNR=9.0								
LON	**Longmire**	**5.64**	**60**	P			**Pn**	**01 28 33.1**	**+0.1**
REMR	**Mount Rainier-**	**5.65**	**60**	P			**Pn**	**01 28 33.5**	**+0.3**
J05D	**Fort Rock, OR**	**5.66**	**97**	⇓P			**Pn**	**01 28 32.7**	**-0.7**
	baz=5.7,SNR=14								
WDC	**Whiskeytown Da**	**5.96**	**125**	*e*Pn			**Pn**	**01 28 37.7**	**+0.3**
	5.4nm,0.7s								
MBW	**Mount Baker**	**6.69**	**44**	P			**Pn**	**01 28 48.3**	**+0.8**
HAWA	**Hanford**	**7.00**	**68**	*e*Pn			**Pn**	**01 28 49.2**	**-2.4**
	10nm,0.7s								
WVOR	**Wild Horse Val**	**7.72**	**100**	*e*Pn			**Pn**	**01 28 58.8**	**-2.9**
	9.1nm,1.0s								
CMB	**Columbia Colle**	**8.92**	**131**	*e*Pn			**Pn**	**01 29 18.7**	**+0.7**
	12nm,1.3s								
WAKR	**Walker**	**9.13**	**125**	*e*Pn			**Pn**	**01 29 21.6**	**+0.5**
	12nm,0.8s								
NEW	**Newport**	**9.15**	**59**	Pn			**Pn**	**01 29 20.9**	**-0.2**
	0.9nm,0.3s,baz=249,slow=12,SNR=12								
NEW				LR			LR	01 32 48.9	
	comp=Z,328nm,21.4s,baz=251,slow=37								
NEW	**Newport**	**9.15**	**59**	⇓P			**Pn**	**01 29 20.2**	**-1.0**
	baz=9.1,SNR=6.7								
NEW	**Newport**	**9.15**	**59**	*e*Pn			**Pn**	**01 29 20.6**	**-0.6**
	7.5nm,0.9s								
MFID	**Camas Ranch**	**9.52**	**90**	*e*Pn			**Pn**	**01 29 26.4**	**0.0**
	9.9nm,1.3s								
NVAR	**Mina Array Bea**	**9.86**	**122**	Pn			**Pn**	**01 29 32.4**	**+1.3**
	0.4nm,0.3s,baz=281,slow=13,SNR=20								
BSMT	**Bassoo Peak**	**10.51**	**65**	*e*Pn			**Pn**	**01 29 39.1**	**-0.8**
	6.5nm,0.8s								
HLID	**Hailey**	**10.52**	**88**	⇑P			**Pn**	**01 29 42.0**	**+2.0**
	baz=10,SNR=18								
HLID	**Hailey**	**10.52**	**88**	*e*Pn			**Pn**	**01 29 42.4**	**+2.3**
	12nm,0.9s								
ELK	**Elko**	**10.70**	**104**	Pn			**Pn**	**01 29 44.0**	**+1.4**
	0.1nm,0.3s,baz=1.8,slow=4.4,SNR=9.3								
MSO	**Missoula**	**10.86**	**71**	⇓P			**Pn**	**01 29 45.3**	**+0.6**
	baz=11								
SWMT	**Swartz Lake**	**10.95**	**67**	*e*Pn			**Pn**	**01 29 44.1**	**-1.7**
	5.0nm,0.9s								
SLMT	**Seeley Lake**	**11.23**	**69**	*e*Pn			**Pn**	**01 29 48.4**	**-1.3**
	29nm,1.1s								
VES	**Vestal, Richgr**	**11.25**	**134**	⇑P			**Pn**	**01 29 49.3**	**-0.6**
	baz=11								
ISA	**Isabella, Lake**	**11.71**	**133**	⇑P			**Pn**	**01 29 53.9**	**-2.3**
	baz=12								
ISA	**Isabella, Lake**	**11.71**	**133**	*e*Pn			**Pn**	**01 29 55.1**	**-1.0**
	7.1nm,0.9s								
FURC	**Furnace Creek,**	**12.02**	**126**	⇓P			**Pn**	**01 30 01.5**	**+1.2**
	baz=12								
TPNV	**Topopah Spring**	**12.06**	**123**	⇑P			**Pn**	**01 30 01.9**	**+0.8**
	baz=12								
QLMT	**Earthquake Lak**	**12.53**	**81**	*e*Pn			**Pn**	**01 30 06.6**	**-1.0**
	0.5nm,0.6s								
EDW2	**Edwards Air Fo**	**12.56**	**134**	⇓P			**Pn**	**01 30 07.5**	**-0.4**
	baz=13								
DUG	**Dugway, Tooele**	**12.62**	**103**	*e*Pn			**Pn**	**01 30 06.5**	**-2.2**
	5.0nm,1.4s								
SHOC	**Shoshone, Teco**	**12.75**	**126**	⇓P			**Pn**	**01 30 10.9**	**+0.6**
	baz=13,SNR=8.6								
GSC	**Goldstone, Bar**	**12.88**	**129**	⇓P			**Pn**	**01 30 13.3**	**+1.0**
	baz=13,SNR=8.0								
GSC	**Goldstone, Bar**	**12.88**	**129**	*e*Pn			**Pn**	**01 30 13.2**	**+1.0**
	12nm,1.0s								
HWUT	**Hardware Ranch**	**13.01**	**95**	*e*Pn			Pn	01 30 10.1	-4.0
	5.3nm,1.0s								
SHPR	**Sheep Range**	**13.01**	**121**	*e*Pn			**Pn**	**01 30 15.4**	**+1.3**
	43nm,2.0s								
BFSC	**Mount Baldy Ra**	**13.23**	**135**	⇓P			**Pn**	**01 30 18.1**	**+1.0**
	baz=13								
TUQ	**Turquoise Moun**	**13.28**	**127**	⇓P			**Pn**	**01 30 18.8**	**+1.0**
	baz=13,SNR=8.5								
ARUT	**Antelope Range**	**13.34**	**113**	*e*Pn			**Pn**	**01 30 19.7**	**+1.1**
	0.6nm,1.0s								
HEC	**Hector,Ludlow**	**13.49**	**130**	⇓P			**Pn**	**01 30 20.8**	**+0.3**
	baz=14,SNR=7.5								
H18A	**Shoshone NF, C**	**13.79**	**81**	⇑P			**Pn**	**01 30 26.7**	**+1.9**
	baz=14								
TMUT	**Trail Mountain**	**14.12**	**104**	*e*Pn			**Pn**	**01 30 29.2**	**-0.1**
	14nm,1.0s								
BW06	**Boulder Array**	**14.15**	**89**	*e*Pn			**Pn**	**01 30 30.6**	**+0.8**
	17nm,1.8s								
PDAR	**Pinedale Array**	**14.15**	**89**	Pn			**Pn**	**01 30 31.8**	**+2.0**
	0.1nm,0.3s,baz=304,slow=11,SNR=8.4								
PDAR				LR			LR	01 36 07.7	
	comp=Z,171nm,20.3s,baz=272,slow=38								
DLBC	**Dease Lake**	**14.28**	**358**	LR			LR	01 35 23.0	
	comp=Z,262nm,18.9s,baz=133,slow=35								
C19A	**Slack Wire Ran**	**14.28**	**69**	⇓P			**Pn**	**01 30 33.0**	**+1.6**
	baz=14								
BELC	**Belle Mtn. Jos**	**14.29**	**131**	⇑P			**Pn**	**01 30 31.6**	**+0.1**
	baz=14								
D19A	**Cripps Ranch,**	**14.34**	**71**	⇑P			**Pn**	**01 30 34.0**	**+1.9**
	baz=14								
PFO	**Pinyon Flats O**	**14.34**	**133**	LR			LR	01 35 27.8	
	comp=Z,146nm,21.5s,baz=296,slow=35								
E19A	**Rath Farm, Rou**	**14.37**	**74**	⇓P			**Pn**	**01 30 34.4**	**+1.9**
	baz=14								
J19A	**Crowheart**	**14.42**	**87**	⇑P			**Pn**	**01 30 34.6**	**+1.3**
	baz=14								
B19A	**Brinkman Farms**	**14.46**	**66**	⇓P			**Pn**	**01 30 36.2**	**+2.5**
	baz=14								
IRM	**Iron Mountain**	**14.64**	**128**	⇑P			**Pn**	**01 30 36.7**	**+0.4**
	baz=15								
SRU	**San Rafael Swe**	**14.67**	**104**	*e*P			**P**	**01 30 43.4**	**+0.4**
	63nm,1.1s								
W13A	**Hualapai Mount**	**14.72**	**123**	⇓P			**Pn**	**01 30 37.6**	**+0.2**
	baz=15								
G20A	**Bridger**	**14.78**	**79**	⇓P			**Pn**	**01 30 39.2**	**+0.9**
	baz=15								
F20A	**Billings**	**14.80**	**76**	⇑P			**Pn**	**01 30 39.5**	**+1.0**
	baz=15								
E20A	**Meyer Farm, Mu**	**14.82**	**74**	⇑P			**Pn**	**01 30 39.5**	**+0.9**
	baz=15								
D20A	**Manuel Ranch,**	**14.84**	**71**	⇑P			**Pn**	**01 30 40.1**	**+1.1**
	baz=15								
BC3	**Big Chuckawall**	**14.85**	**131**	⇓P			**Pn**	**01 30 39.1**	**0.0**
	baz=15,SNR=6.1								
U15A	**North Rim**	**14.87**	**116**	⇓P			**Pn**	**01 30 40.4**	**+0.7**
	baz=15,SNR=16								
MONP	**Monument Peak,**	**14.93**	**135**	P			**Pn**	**01 30 39.6**	**-0.7**
	baz=15,SNR=8.1								
C20A	**Veseth Ranch,**	**14.98**	**69**	⇑P			**Pn**	**01 30 43.0**	**+2.1**
	baz=15								
H20A	**Greybull**	**15.00**	**82**	⇑P			**Pn**	**01 30 43.1**	**+2.0**
	baz=15								
B20A	**Solberg Farm,**	**15.06**	**66**	⇑P			**P**	**01 30 45.1**	**-2.1**
	baz=15								
J20A	**Shoshoni**	**15.10**	**86**	⇓P			**Pn**	**01 30 44.8**	**+2.2**
	baz=15								
PDMCI	**Parker Dam,Lak**	**15.12**	**126**	⇓P			**Pn**	**01 30 43.8**	**+1.2**
	baz=15								
I21A	**Big Trails, Te**	**15.59**	**84**	⇑P			**P**	**01 30 52.1**	**-1.1**
	baz=16,SNR=6.5								
N20A	**Spence Gulch,**	**15.62**	**95**	⇓P			**Pn**	**01 30 50.7**	**+1.3**
	baz=16,SNR=12								
O20A	**White River Ci**	**15.87**	**98**	*e*Pn			**Pn**	**01 30 51.4**	**-1.3**
	25nm,1.2s								
WUAZ	**Wupatki**	**16.01**	**117**	⇑P			**Pn**	**01 30 56.1**	**+1.6**
	baz=16								
WUAZ	**Wupatki**	**16.01**	**117**	*e*Pn			**Pn**	**01 30 54.3**	**-0.2**
	11nm,1.0s								
Y14A	**Wickenburg**	**16.04**	**124**	⇑P			**Pn**	**01 30 55.7**	**+0.9**
	baz=16								
LAO	**LASA Array**	**16.14**	**73**	*e*Pn			**Pn**	**01 30 54.4**	**-1.5**
	54nm,0.5s								
I22A	**9 Mile Ranch,**	**16.16**	**83**	⇑P			**P**	**01 30 58.3**	**-1.1**
	baz=16								
113A	**Mohawk Valley,**	**16.44**	**129**	⇑P			**Pn**	**01 31 01.2**	**+1.3**
	baz=16								
PV01	**Paradox Valley**	**16.48**	**105**	*e*Pn			**Pn**	**01 31 01.2**	**+0.7**
	2nm,1.1s								
X16A	**Lo Mia Camp, P**	**16.67**	**120**	⇓P			**Pn**	**01 31 04.0**	**+1.1**
	baz=17,SNR=7.7								
F23A	**Volborg**	**16.73**	**76**	⇑P			**P**	**01 31 05.6**	**-0.1**
	baz=17								
D23A	**Lindsay**	**16.84**	**71**	⇓P			**P**	**01 31 07.6**	**+0.7**
	baz=17								
C23A	**Lambert**	**16.89**	**69**	⇑P			**P**	**01 31 07.4**	**0.0**
	baz=17								
N22A	**Wattenberg Ran**	**16.92**	**94**	⇑P			**Pn**	**01 31 06.7**	**+0.6**
	baz=17								
MVCO	**Mesa Verde**	**16.98**	**107**	⇓P			**P**	**01 31 08.2**	**-0.5**
	baz=17,SNR=10								
MVCO	**Mesa Verde**	**16.98**	**107**	*e*Pn			**Pn**	**01 31 07.6**	**+0.7**
	17nm,1.0s								
B23A	**Brockton**	**17.07**	**67**	⇓P			**P**	**01 31 09.6**	**+0.2**
	baz=17								
O22A	**Kremmling**	**17.07**	**96**	⇓P			**Pn**	**01 31 08.9**	**+0.8**
	baz=17,SNR=5.6								
N23A	**Red Feather La**	**17.26**	**93**	⇑P			**Pn**	**01 31 10.9**	**+0.6**
	baz=17								
C24A	**Savage**	**17.39**	**70**	⇓P			**P**	**01 31 13.2**	**+0.3**
	baz=17,SNR=5.4								
F24A	**Ekalaka**	**17.39**	**76**	⇓P			**P**	**01 31 12.8**	**-0.2**
	baz=17								
H24A	**Dirks Ranch, A**	**17.41**	**80**	⇑P			**Pn**	**01 31 12.7**	**+0.6**
	baz=17,SNR=6.9								
I24A	**Kuemmerle Ranc**	**17.49**	**83**	⇑P			**P**	**01 31 14.8**	**+0.6**
	baz=18								
O23A	**Lake Granby, G**	**17.51**	**95**	⇓P			**P**	**01 31 14.3**	**-0.3**
	baz=18								
J24A	**Dixon Ranch, L**	**17.56**	**84**	⇑P			**P**	**01 31 15.4**	**+0.4**
	baz=18								
214A	**Organ Pipe Nat**	**17.59**	**129**	⇑P			**Pn**	**01 31 14.6**	**+0.4**
	baz=18								
A24A	**Westby**	**17.77**	**66**	⇓P			**P**	**01 31 17.8**	**+0.6**
	baz=18								
RSSD	**Black Hills**	**17.86**	**81**	*e*Pn			**Pn**	**01 31 14.2**	**-3.6**
	3.9nm,0.9s								
ISCO	**Idaho Springs**	**17.88**	**96**	⇑P			**P**	**01 31 19.0**	**+0.3**
	baz=18								
ISCO	**Idaho Springs**	**17.88**	**96**	*e*Pn			**Pn**	**01 31 17.5**	**-0.5**
	4.1nm,0.9s								
P23A	**Jefferson**	**17.88**	**98**	⇓P			**P**	**01 31 18.9**	**+0.2**
	baz=18								
S22A	**4UR Ranch, Cre**	**17.88**	**103**	⇓P			**P**	**01 31 19.1**	**+0.4**
	baz=18								
M24A	**Cheyenne**	**17.89**	**90**	⇑P			**P**	**01 31 19.5**	**+0.8**
	baz=18								
F25A	**Bowman**	**18.07**	**76**	⇑P			**P**	**01 31 21.9**	**+1.3**
	baz=18								
I25A	**Rochford**	**18.10**	**82**	⇓P			**P**	**01 31 22.0**	**+1.0**
	baz=18								
D25A	**Fairfield**	**18.13**	**72**	⇓P			**P**	**01 31 23.2**	**+2.1**
	baz=18								
J25A	**Sunshine Ranch**	**18.16**	**84**	⇓P			**P**	**01 31 22.7**	**+1.1**
	baz=18								
C25A	**Fred Ranch, W**	**18.18**	**70**	⇓P			**P**	**01 31 23.6**	**+1.9**
	baz=18								
K25A	**Mack Ranch, Ha**	**18.28**	**86**	⇑P			**P**	**01 31 24.2**	**+1.3**
	baz=18								
A25A	**Svangstu Ranch**	**18.35**	**66**	⇑P			**P**	**01 31 26.1**	**+2.6**
	baz=18								
R23A	**Moffat**	**18.38**	**101**	⇓P			**Pn**	**01 31 25.7**	**+1.5**
	baz=18								
TUC	**Tucson**	**18.51**	**124**	*e*P			**Pn**	**01 31 26.1**	**+0.6**
	8.5nm,1.3s								
Q24A	**Divide**	**18.53**	**98**	⇓P			**Pn**	**01 31 27.5**	**+1.4**
	baz=18								
F26A	**Lodgepole**	**18.63**	**76**	⇑P			**Pn**	**01 31 28.8**	**+1.8**
	baz=19								
J26A	**Sides Ranch, S**	**18.70**	**84**	⇓P			**Pn**	**01 31 29.3**	**+1.5**
	baz=19								
I26A	**New Underwood**	**18.72**	**81**	⇓P			**Pn**	**01 31 29.9**	**+1.9**
	baz=19								
G26A	**Maurine**	**18.73**	**77**	⇑P			**Pn**	**01 31 29.9**	**+1.7**
	baz=19								
E26A	**Carlson Angus**	**18.73**	**74**	⇓P			**Pn**	**01 31 29.9**	**+1.6**
	baz=19								
K26A	**Motz Farm, Whi**	**18.75**	**86**	⇓P			**Pn**	**01 31 29.5**	**+1.0**
	baz=19								
T23A	**Casias Ranch,**	**18.77**	**104**	⇓P			**Pn**	**01 31 30.4**	**+1.4**
	baz=19								
SDCO	**Great Sand Dun**	**18.81**	**102**	⇓P			**Pn**	**01 31 30.1**	**+0.7**
	baz=19,SNR=8.9								
R24A	**Sanders Place,**	**18.87**	**100**	⇓P			**Pn**	**01 31 31.2**	**+1.1**
	baz=19								
C26A	**Wahner Farm, P**	**18.97**	**69**	⇓P			**Pn**	**01 31 32.4**	**+1.4**
	baz=19								
P25A	**Willow Gulch B**	**19.02**	**96**	⇓P			**Pn**	**01 31 32.5**	**+0.6**
	baz=19								
A26A	**Wade Farm, Ken**	**19.05**	**66**	⇓P			**Pn**	**01 31 33.6**	**+1.6**
	baz=19								
S24A	**Houchin Ranch,**	**19.06**	**102**	⇑P			**Pn**	**01 31 33.1**	**+0.6**
	baz=19								
H27A	**Howes**	**19.18**	**79**	⇑P			**Pn**	**01 31 34.8**	**+1.2**
	baz=19								
Q25A	**Bedland, Calha**	**19.19**	**97**	⇓P			**Pn**	**01 31 34.4**	**+0.4**
	baz=19								
E27A	**Carson**	**19.36**	**74**	⇓P			**Pn**	**01 31 37.4**	**+1.7**
	baz=19								
C27A	**Sayler Ranch,**	**19.36**	**70**	⇑P			**Pn**	**01 31 37.3**	**+1.5**
	baz=19								
LAZ	**Ladron**	**19.46**	**113**	*e*P			**Pn**	**01 31 37.3**	**+0.1**
	3.4nm,1.0s								
J27A	**Elkhorn Farm,**	**19.47**	**83**	⇓P			**Pn**	**01 31 38.1**	**+1.0**
	baz=19								
R25A	**Fountain Ranch**	**19.49**	**100**	⇓P			**Pn**	**01 31 38.6**	**+1.1**
	baz=20								
P26A	**Davis Ranch, A**	**19.59**	**95**	⇓P			**Pn**	**01 31 39.5**	**+0.8**
	baz=20								
ANMO	**Albuquerque**	**19.59**	**110**	P			**Pn**	**01 31 38.3**	**-0.5**
	0.0nm,0.3s,baz=351,slow=12,SNR=2.4								
ANMO	**Albuquerque**	**19.59**	**110**	*e*P			**P**	**01 31 37.4**	**-0.1**
	3.1nm,0.8s								
S25A	**Robets Cordova**	**19.60**	**101**	⇓P			**Pn**	**01 31 39.9**	**+1.0**
	baz=20,SNR=10								
U24A	**Moreno Valley**	**19.61**	**105**	⇓P			**Pn**	**01 31 40.9**	**+1.8**
	baz=20,SNR=9.0								
Q26A	**Hugo**	**19.71**	**97**	⇑P			**Pn**	**01 31 40.3**	**+0.1**
	baz=20								
LPM	**Los Pinos Moun**	**19.85**	**112**	*e*P			**Pn**	**01 31 41.5**	**-0.3**
	3.0nm,0.5s								
T25A	**Trinidad**	**19.86**	**102**	⇑P			**Pn**	**01 31 43.4**	**+1.4**
	baz=20,SNR=15								
H28A	**Mission Ridge**	**19.92**	**79**	⇓P			**Pn**	**01 31 43.1**	**+0.6**
	baz=20								
I28A	**Midland**	**19.92**	**81**	⇓P			**Pn**	**01 31 43.0**	**+0.5**
	baz=20								
F28A	**McLaughlin**	**19.93**	**75**	⇑P			**Pn**	**01 31 43.1**	**+0.6**
	baz=20								
G28A	**Parade**	**19.94**	**78**	⇑P			**Pn**	**01 31 42.8**	**+0.1**
	baz=20								
R26A	**Arlington**	**20.02**	**98**	⇓P			Pn	01 31 43.4	-0.4
	baz=20,SNR=6.0								
319A	**Douglas**	**20.07**	**123**	⇓P			Pn	01 31 43.8	-0.6
	baz=20								
B28A	**Dugan Ranch, T**	**20.14**	**68**	⇑P			Pn	01 31 45.6	+0.6
	baz=20								
YKA	**Yellowknife Ar**	**20.15**	**20**	P			**P**	**01 31 42.4**	**-0.6**
	4.0nm,1.0s,baz=208,slow=11,SNR=21								
121A	**Cookes Peak, D**	**20.21**	**118**	⇑P			**P**	**01 31 44.9**	**+0.8**
	baz=20								
U25A	**Circle Dot Ran**	**20.22**	**104**	⇑P			Pn	01 31 47.5	+1.2
	baz=20,SNR=20								
S26A	**Kim**	**20.30**	**100**	⇓P			Pn	01 31 47.2	0.0
	baz=20,SNR=5.6								
FFC	**Flin Flon**	**20.33**	**49**	*e*P			**P**	**01 31 45.0**	**0.0**
	18nm,0.9s								
V25A	**Rancho No Teng**	**20.37**	**106**	⇑P			Pn	01 31 48.3	+0.3
	baz=20,SNR=18								
T26A	**Comanche Natio**	**20.42**	**101**	⇓P			Pn	01 31 48.8	+0.2
	baz=20,SNR=13								
R27A	**Eads**	**20.49**	**98**	⇓P			Pn	01 31 48.4	-0.9
	baz=20,SNR=8.6								
J29A	**Okreek**	**20.64**	**82**	⇑P			Pn	01 31 49.9	-1.1
	baz=21								
E29A	**Napoleon**	**20.67**	**73**	⇑P			Pn	01 31 51.4	+0.1
	baz=21								
D29A	**Pettibone, Tap**	**20.68**	**72**	⇓P			Pn	01 31 51.3	0.0
	baz=21								
U26A	**Atchley Ranch,**	**20.69**	**103**	⇓P			Pn	01 31 52.1	+0.3
	baz=21,SNR=12								
K29A	**Lazy Trails An**	**20.79**	**84**	⇓P			Pn	01 31 52.4	-0.3
	baz=21								
B29A	**Wagenman Farm,**	**20.81**	**68**	⇓P			Pn	01 31 52.6	-0.3
	baz=21								
M29A	**Burnside Ranch**	**20.87**	**88**	⇑P			Pn	01 31 53.2	-0.5
	baz=21								
A29A	**Manning Farm,**	**20.90**	**66**	⇓P			Pn	01 31 53.4	-0.5
	baz=21,SNR=14								
V26A	**Tequesquite Ra**	**20.96**	**105**	⇑P			Pn	01 31 53.8	-1.1
	baz=21,SNR=16								
T27A	**Campo**	**21.09**	**101**	⇓P			**P**	**01 31 55.4**	**+1.8**
	baz=21								
F30A	**Leola**	**21.17**	**75**	⇑P			**P**	**01 31 56.2**	**+1.9**
	baz=21								
R28A	**Tribune**	**21.17**	**97**	⇓P			**P**	**01 31 55.9**	**+1.5**
	baz=21								
O29A	**4D Ranch, Culb**	**21.21**	**91**	⇑P			**P**	**01 31 57.1**	**+2.3**
	baz=21								
D30A	**Buchanan**	**21.25**	**71**	⇑P			**P**	**01 31 57.8**	**+2.7**
	baz=21								
J30A	**Dallas**	**21.25**	**82**	⇓P			**P**	**01 31 57.5**	**+2.3**
	baz=21								
P29A	**Atwood**	**21.30**	**93**	⇓P			**P**	**01 31 58.0**	**+2.1**
	baz=21								
K30A	**Basset**	**21.31**	**84**	⇑P			**P**	**01 31 58.5**	**+2.6**
	baz=21								
U27A	**Thompson Grove**	**21.32**	**102**	⇓P			**P**	**01 31 58.2**	**+2.1**
	baz=21								
W26A	**Owens Ranch, T**	**21.35**	**107**	⇑P			**P**	**01 31 58.2**	**+1.8**
	baz=21					

X33A	**Lawton**	**25.31**	**102**	⇑P		**P**	**01 32 36.8**	**+1.1**
	baz=25							
529A	**Stev Forest Ra**	**25.38**	**115**	⇓P		**P**	**01 32 38.0**	**+1.6**
	baz=25,SNR=16							
S35A	**Otter Creek Ra**	**25.38**	**94**	⇓P		**P**	**01 32 38.2**	**+1.9**
	baz=25							
W34A	**Bridge Creek,**	**25.47**	**100**	⇑P		**P**	**01 32 38.7**	**+1.5**
	baz=26							
231A	**Bronte**	**25.51**	**109**	⇓P		**P**	**01 32 38.4**	**+0.8**
	baz=26							
ABTX	**Abilene, Hawle**	**25.57**	**107**	⇓P		**P**	**01 32 39.0**	**+1.0**
	baz=26							
COLD	**Coldfoot**	**25.73**	**341**	*e*P		**P**	**01 32 37.8**	**-1.4**
	2.3nm,1.0s							
FCC	**Fort Churchill**	**25.78**	**43**	*e*P		**P**	**01 32 39.1**	**-0.5**
331A	**San Angelo**	**25.82**	**110**	⇓P		**P**	**01 32 41.1**	**+0.8**
	baz=26							
S36A	**Lake Cedric, C**	**25.89**	**93**	⇓P		**P**	**01 32 42.7**	**+1.8**
	baz=26							
530A	**J-C Ranch, Com**	**25.94**	**113**	⇑P		**P**	**01 32 42.6**	**+1.2**
	baz=26							
232A	**Coleman**	**26.00**	**108**	⇓P		**P**	**01 32 42.4**	**+0.5**
	baz=26,SNR=5.8							
133A	**Hamilton Ranch**	**26.08**	**106**	⇓P		**P**	**01 32 44.0**	**+1.3**
	baz=26							
431A	**Sonora**	**26.09**	**112**	⇑P		**P**	**01 32 43.6**	**+0.8**
	baz=26							
332A	**Millersview**	**26.24**	**109**	⇓P		**P**	**01 32 45.1**	**+0.9**
	baz=26							
233A	**Rising Star**	**26.43**	**107**	⇑P		**P**	**01 32 47.3**	**+1.4**
	baz=26							
531A	**Rocksprings**	**26.45**	**112**	⇑P		**P**	**01 32 47.4**	**+1.3**
	baz=26							
432A	**Menard**	**26.51**	**110**	⇑P		**P**	**01 32 47.9**	**+1.3**
	baz=26							
TUL1	**Leonard**	**26.55**	**97**	⇑P		**P**	**01 32 48.0**	**+1.1**
	baz=26							
134A	**White-Moore Ra**	**26.68**	**105**	⇓P		**P**	**01 32 49.0**	**+1.0**
	baz=27							
JCT	**Junction City**	**26.75**	**111**	⇑P		**P**	**01 32 49.5**	**+0.7**
	baz=27							
JCT	**Junction City**	**26.75**	**111**	*e*P		**P**	**01 32 49.5**	**+0.7**
	6.7nm,0.9s							
333A	**Richland Sprin**	**26.79**	**108**	⇑P		**P**	**01 32 49.9**	**+0.8**
	baz=27							
532A	**Rocksprings**	**26.91**	**112**	⇑P		**P**	**01 32 50.5**	**+0.3**
	baz=27							
433A	**Art**	**27.06**	**110**	⇑P		**P**	**01 32 52.2**	**+0.7**
	baz=27,SNR=8.1							
434A	**Burnet**	**27.58**	**109**	⇓P		**P**	**01 32 56.6**	**+0.3**
	baz=28							
534A	**Blanco**	**27.93**	**110**	⇑P		**P**	**01 32 59.5**	**+0.1**
	baz=28							
832A	**Faith Ranch, C**	**28.06**	**115**	⇑P		**P**	**01 33 00.6**	**+0.1**
	baz=28							
MIAR	**Mount Ida**	**28.80**	**97**	*e*P		**P**	**01 33 07.9**	**+0.8**
	5.8nm,1.0s							
NATX	**Nacogdoches**	**29.53**	**103**	*e*P		**P**	**01 33 11.8**	**-1.7**
OXF	**Oxford**	**31.80**	**94**	*e*P		**P**	**01 33 35.6**	**+2.1**
	31nm,1.1s							
WVT	**Waverly**	**32.17**	**90**	*e*P		**P**	**01 33 36.1**	**-0.6**
	15nm,1.6s							
RES	**Resolute Bay**	**34.10**	**15**	P		**P**	**01 33 51.2**	**-2.0**
	2.1nm,0.8s,baz=223,slow=8.3,SNR=10							
RES	**Resolute Bay**	**34.10**	**15**	*e*P		**P**	**01 33 50.5**	**-2.6**
	2.2nm,0.8s							
FRB	**Frobisher Bay**	**38.73**	**38**	P		**P**	**01 34 33.2**	**+0.5**
	0.9nm,0.5s,baz=295,slow=9.3,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**58.09**	**267**	T		T	02 39 28.5	
	baz=49,slow=75,SNR=1219							
H11N2	**WAKE ISLAND Hy**	**58.09**	**267**	T		T	02 39 28.9	
	baz=49,slow=75,SNR=752							
H11N1	**WAKE ISLAND Hy**	**58.11**	**267**	T		T	02 39 41.2	
	baz=49,slow=75,SNR=687							
H11S1	**WAKE ISLAND Hy**	**59.02**	**266**	T		T	02 40 44.7	
	baz=49,slow=75,SNR=71							
H11S2	**WAKE ISLAND Hy**	**59.03**	**266**	T		T	02 40 42.0	
	baz=49,slow=75,SNR=64							
H11S3	**WAKE ISLAND Hy**	**59.04**	**266**	T		T	02 40 43.3	
	baz=49,slow=75,SNR=62							
HFS	**Hagfors**	**71.63**	**19**	LR		LR	02 08 48.9	
	comp=Z,23nm,19.1s,baz=0.5,slow=35							
FINES	**FINESS Array B**	**72.79**	**12**	P		**P**	**01 38 35.2**	**-1.8**
	1.5nm,0.9s,baz=327,slow=7.3,SNR=3.0							
HHC	**Hu-ho-hao-te**	**79.40**	**318**	*e*P		**P**	**01 39 15.1**	**-0.1**
HHC				pP		**pP**	**01 39 20.2**	**+0.1**
HHC				sP		**sP**	**01 39 22.2**	**+0.3**
HHC				PP		**PP**	**01 42 16.4**	**+1.8**
HHC				S		**S**	**01 49 13.5**	**-2.0**
HHC				SKS		**SKSac**	**01 49 25.8**	**-5.3**
HHC				LN				
	120nm,17.9s							
HHC				LE				
	160nm,17.2s							
HHC				LZ				
	74nm,15.8s							
LPAZ	**La Paz**	**81.77**	**122**	P		**P**	**01 39 27.6**	**-1.0**
	1.2nm,0.8s,baz=318,slow=5.0,SNR=5.2							
AKASG	**Malin Array Be**	**83.60**	**14**	P		**P**	**01 39 36.5**	**-0.5**
	0.3nm,0.3s,baz=331,slow=5.6,SNR=4.5							
MKAR	**Makanchi Array**	**85.29**	**339**	P		**P**	**01 39 46.1**	**+0.3**
	0.3nm,0.9s,baz=28,slow=6.8,SNR=3.1							
AKTO	**Aktyubinsk**	**85.56**	**356**	LR		LR	02 19 00.1	
	comp=Z,19nm,20.4s,slow=36							
WMQ	**Urumqi**	**86.47**	**334**	*e*P		**P**	**01 39 54.3**	**+2.5**
WMQ				pP		**pP**	**01 39 59.0**	**+2.3**
WMQ				sP		**sP**	**01 40 01.5**	**+3.0**
LZH	**Lanzhou**	**86.85**	**320**	*e*P		**P**	**01 39 54.1**	**+0.3**
LZH				pP		**PcP**	**01 39 57.3**	**+1.2**
LZH				*e*PP		**PP**	**01 43 18.5**	**+2.7**
LZH				PMZ				
	15nm,1.5s							
LZH				PMZ				
	46nm,9.0s							
LZH				LZ				
	220nm,19.4s							
DZM	**Mont Dzumac**	**88.47**	**237**	LR		LR	02 14 01.6	
	comp=Z,19nm,19.1s,baz=60,slow=32							
CD2	**Chengdu**	**91.12**	**317**	*e*P		**P**	**01 40 15.2**	**+1.2**
GNI	**Garni**	**95.85**	**5**	LR		LR	02 24 02.5	
	comp=Z,12nm,21.9s,baz=299,slow=36							
GEYT	**Alibeck**	**98.01**	**354**	LR		LR	02 28 30.2	
	comp=Z,21nm,19.2s,baz=215,slow=38							

GUC 09 01:30:07.5±0.5, 34°80S×72°44W, h14km±3km, ML3.5,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TALC	**Talca**	**0.89**	**132**	*e*P		Pg	01 30 23.6	-1.2
TALC				*e*S		Sg	01 30 35.6	-0.9
NICH	**Los Niches**	**1.02**	**102**	*e*P		Pb	01 30 25.8	-1.2
NICH				*e*S		Sb	01 30 39.4	-0.8
LNCH	**Linares**	**1.25**	**147**	*e*P		Pn	01 30 29.5	-1.1
LNCH				*e*S		Sb	01 30 45.9	-1.0
COCH	**Cobquecura**	**1.36**	**192**	*e*P		Pn	01 30 31.1	-0.9
COCH				*e*S		Sn	01 30 48.6	-1.3
RCDM	**Rinconada Maip**	**1.89**	**46**	*e*P		Pn	01 30 38.0	-1.4
RCDM				*e*S		Sn	01 31 02.2	-0.8
CLCH	**Cerro Calan**	**2.11**	**49**	*e*P		Pn	01 30 42.9	+0.3
CLCH				*e*S		Sb	01 31 10.4	-1.5
CLCH				AML		AML	01 31 22.1	
	comp=N,403nm,0.6s							
PEL	**Peldehue**	**2.21**	**42**	*e*P		Pn	01 30 44.6	+0.8
PEL				*e*S		Sn	01 31 12.8	+1.8
PEL				AML		AML	01 31 16.6	
	comp=N,523nm,0.4s							

IDC 09 01:42:45.4±2.0, 3°19S×128°14E, h0km, mb3.2/2,
mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, ML3.2/1, Error
ellipse: s-maj=149.1km s-min=26.8km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**17.71**	**160**	P		P	01 46 54.4	-0.3
	0.1nm,0.3s,baz=339,slow=12,SNR=9.4							
ASAR	**Alice Springs**	**21.10**	**165**	P		P	01 47 30.6	-1.2
	0.4nm,0.3s,baz=346,slow=11,SNR=6.4							
MKAR	**Makanchi Array**	**64.05**	**327**	P		P	01 53 21.4	+0.3
	0.1nm,0.4s,baz=134,slow=6.2,SNR=2.8							

*TIR **09** 01:56:38.0±4.0, 39°42N×21°26E, h0km±67km*
*ATH **09** 01:56:43.2, 39°55N×21°22E, h13km±1km, MD3.3/34*

*IDC **09** 01:56:43.1±1.1, 39°57N×21°19E, h0km, mb3.5/8,*
mb1 3.5/11, mb1mx3.4/33, mbtmp3.5/11, ML2.7/3, Error
ellipse: s-maj=23.3km s-min=14.7km az=115.0
*THE **09** 01:56:43.5, 39°55N×21°22E, h0km±1km, ML3.0/24, Error*
ellipse: s-maj=1.6km s-min=0.6km az=278.0
*SKO **09** 01:56:43.1, 39°47N×21°26E, h0km, M2.5, ML2.9*
*CSEM **09** 01:56:43.5±0.1, 39°54N×21°24E, h2km, MD3.3, Error*
ellipse: s-maj=2.4km s-min=1.9km az=73.0
*BEO **09** 01:56:45.7±1.2, 39°17N×21°38E, h18km, ML2.8/6*

ISC 09 01:56:43.2±1.1, 39°55N±0°01×21°24E±0°01, h0km±8km,
n269, σ0°98/362, mb3.5/8, 9C-18D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAN	**Janina**	**0.32**	**290**	P		**Pg**	**01 56 48.8**	**-0.5**
JAN				S		**Sg**	**01 56 54.4**	**+1.0**
JAN	**Janina**	**0.32**	**290**	*e*PG		**Pg**	**01 56 48.9**	**-0.4**
JAN				*e*SB		**Sg**	**01 56 53.8**	**+0.4**
JAN	**Janina**	**0.32**	**290**	*e*Pg		**Pg**	**01 56 48.9**	**-0.4**
JAN				*e*Sb		**Sg**	**01 56 53.8**	**+0.4**
JAN				S		**Sg**	**01 56 54.4**	**+1.0**
DSL	**Palaion Diasel**	**0.43**	**195**	P		**Pg**	**01 56 50.5**	**-0.9**
DSL				S		**Sg**	**01 56 56.7**	**-0.3**
DSL	**Palaion Diasel**	**0.43**	**195**	*e*PG		**Pg**	**01 56 50.7**	**-0.7**
DSL				*e*SB		**Sg**	**01 56 57.0**	**0.0**
DSL	**Palaion Diasel**	**0.43**	**195**	*e*Pg		**Pg**	**01 56 50.7**	**-0.7**
DSL				S		**Sg**	**01 56 56.7**	**-0.3**
DSL				*e*Sb		**Sg**	**01 56 57.0**	**0.0**
THL	**Klokotos Trika**	**0.60**	**88**	P		**Pb**	**01 56 56.9**	**+0.3**
THL	**Klokotos Trika**	**0.60**	**88**	P		**Pb**	**01 56 56.9**	**+0.3**
IGT	**Igoumenitsa**	**0.70**	**269**	P		**Pg**	**01 56 55.5**	**-1.1**
IGT				S		**Sg**	**01 57 06.5**	**+0.8**
IGT	**Igoumenitsa**	**0.70**	**269**	*e*PG		**Pg**	**01 56 55.3**	**-1.3**
IGT	**Igoumenitsa**	**0.70**	**269**	*e*PB		**Pg**	**01 56 55.6**	**-1.1**
IGT				*e*SB		**Sg**	**01 57 06.8**	**+1.1**
IGT	**Igoumenitsa**	**0.70**	**269**	P		**Pg**	**01 56 55.5**	**-1.1**
IGT				S		**Sg**	**01 57 06.5**	**+0.8**
IGT				*e*Sb		**Sg**	**01 57 06.8**	**+1.1**
EVR	**Evrytania**	**0.77**	**145**	P		**Pg**	**01 56 57.2**	**-0.8**
EVR				S		**Sb**	**01 57 09.6**	**-1.0**
EVR	**Evrytania**	**0.77**	**145**	*e*PB		**Pg**	**01 56 57.3**	**-0.8**
EVR				*e*SB		**Sg**	**01 57 09.2**	**+1.2**
EVR	**Evrytania**	**0.77**	**145**	P		**Pg**	**01 56 57.2**	**-0.8**
EVR				*e*Sb		**Sg**	**01 57 09.2**	**+1.2**
EVR				S		**Sb**	**01 57 09.6**	**-1.0**
KZN	**Kozani**	**0.86**	**28**	P		**Pg**	**01 56 59.5**	**-0.2**
KZN				S		**Sb**	**01 57 13.9**	**+0.7**
KZN	**Kozani**	**0.86**	**28**	*e*PB		**Pg**	**01 57 00.1**	**+0.4**
KZN				*e*SB		**Sb**	**01 57 12.8**	**-0.4**
KZN	**Kozani**	**0.86**	**28**	P		**Pg**	**01 56 59.5**	**-0.2**
KZN	**Kozani**	**0.86**	**28**	*e*Pb		**Pg**	**01 57 00.1**	**+0.4**
KZN				*e*Sb		**Sb**	**01 57 12.8**	**-0.4**
KZN				S		**Sb**	**01 57 13.9**	**+0.7**
NEST	**Nestorio**	**0.88**	**351**	P		**Pg**	**01 57 00.2**	**+0.2**
NEST				S		**Sb**	**01 57 13.2**	**-0.4**
NEST	**Nestorio**	**0.88**	**351**	*e*PB		**Pg**	**01 57 00.4**	**+0.4**
NEST	**Nestorio**	**0.88**	**351**	P		**Pg**	**01 57 00.2**	**+0.2**
NEST				S		**Sb**	**01 57 13.2**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.88**	**127**	P		**Pg**	**01 56 59.9**	**-0.1**
MAKR				S		**Sb**	**01 57 14.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.88**	**127**	*e*PB		**Pg**	**01 57 00.0**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.88**	**127**	P		**Pg**	**01 56 59.9**	**-0.1**
MAKR				S		**Sb**	**01 57 14.2**	**+0.6**
PDO	**Prodromos**	**0.95**	**183**	P		**Pg**	**01 57 01.0**	**-0.4**
PDO				S		**Sb**	**01 57 14.8**	**-0.8**
PDO	**Prodromos**	**0.95**	**183**	*e*PN		**Pg**	**01 57 01.8**	**+0.4**
PDO	**Prodromos**	**0.95**	**183**	P		**Pg**	**01 57 01.0**	**-0.4**
PDO	**Prodromos**	**0.95**	**183**	*e*Pn		**Pg**	**01 57 01.8**	**+0.4**
PDO				S		**Sb**	**01 57 14.8**	**-0.8**
PVO	**Paravola**	**0.96**	**166**	P		**Pg**	**01 57 01.2**	**-0.3**
PVO				S		**Sb**	**01 57 15.2**	**-0.7**
PVO	**Paravola**	**0.96**	**166**	P		**Pg**	**01 57 01.2**	**-0.3**
PVO				S		**Sb**	**01 57 15.2**	**-0.7**
AGG	**Agios Georgios**	**1.00**	**121**	P		**Pg**	**01 57 02.0**	**-0.3**
AGG	**Agios Georgios**	**1.00**	**121**	*e*PG		**Pg**	**01 57 01.9**	**-0.4**
AGG	**Agios Georgios**	**1.00**	**121**	*e*PB		**Pg**	**01 57 02.2**	**-0.1**
AGG	**Agios Georgios**	**1.00**	**121**	P		**Pg**	**01 57 02.0**	**-0.3**
SRN	**Sarande**	**1.01**	**289**	*i* PG		**Pg**	**01 57 02.3**	**-0.2**
SRN				*i* SG		**Sn**	**01 57 19.5**	**+0.1**
SRN	**Sarande**	**1.01**	**289**	P		**Pg**	**01 57 01.3**	**-1.2**
SRN				S		**Sb**	**01 57 17.8**	**+0.5**
SRN	**Sarande**	**1.01**	**289**	P		**Pg**	**01 57 01.3**	**-1.2**
SRN	**Sarande**	**1.01**	**289**	*i* Pg		**Pg**	**01 57 02.3**	**-0.2**
	SNR=90							
SRN				S		**Sb**	**01 57 17.8**	**+0.5**
SRN				*i* Sg		**Sn**	**01 57 19.5**	**+0.1**
	SNR=90							
LIT	**Litokhoron**	**1.11**	**60**	P		**Pg**	**01 57 04.2**	**-0.3**
LIT				S		**Sn**	**01 57 23.1**	**+1.1**
LIT	**Litokhoron**	**1.11**	**60**	*e*PB		**Pb**	**01 57 05.0**	**-0.3**
LIT	**Litokhoron**	**1.11**	**60**	P		**Pg**	**01 57 04.2**	**-0.3**
LIT	**Litokhoron**	**1.11**	**60**	*e*Pb		**Pb**	**01 57 05.0**	**-0.3**
LIT				S		**Sn**	**01 57 23.1**	**+1.1**
KEK	**Kerkira**	**1.12**	**279**	P		**Pg**	**01 57 03.5**	**-1.2**
KEK				S		**Sb**	**01 57 21.5**	**+0.9**
KEK	**Kerkira**	**1.12**	**279**	*e*PG		**Pg**	**01 57 03.8**	**-0.9**
KEK	**Kerkira**	**1.12**	**279**	P		**Pg**	**01 57 03.5**	**-1.2**
KEK	**Kerkira**	**1.12**	**279**	*e*Pg		**Pg**	**01 57 03.8**	**-0.9**
KEK				S		**Sb**	**01 57 21.5**	**+0.9**
KBN	**Korca**	**1.13**	**342**	*i* PN		**Pn**	**01 57 07.3**	**+1.0**
KBN				*i* SN		Sn	01 57 29.9	+7.3
KBN	**Korca**	**1.13**	**342**	P		**Pg**	**01 57 04.2**	**-0.6**
KBN	**Korca**	**1.13**	**342**	P		**Pg**	**01 57 04.2**	**-0.6**
KBN	**Korca**	**1.13**	**342**	*i* Pn		**Pn**	**01 57 07.3**	**+1.0**
	SNR=40							
EFP	**Efpalio**	**1.24**	**155**	P		**Pg**	**01 57 06.7**	**-0.2**
EFP				S		**Sn**	**01 57 25.5**	**+0.5**
EFP	**Efpalio**	**1.24**	**155**	*e*PB		**Pb**	**01 57 07.2**	**-0.2**
EFP	**Efpalio**	**1.24**	**155**	P		**Pg**	**01 57 06.7**	**-0.2**
EFP	**Efpalio**	**1.24**	**155**	*e*Pb		**Pb**	**01 57 07.2**	**-0.2**
FNA	**Florina**	**1.24**	**5**	P		**Pg**	**01 57 06.2**	**-0.7**
FNA				S		**Sn**	**01 57 25.7**	**+0.5**
FNA	**Florina**	**1.24**	**5**	*e*PN		**Pg**	**01 57 06.1**	**-0.7**
FNA				*e*SN		**Sg**	**01 57 22.9**	**-0.1**
FNA	**Florina**	**1.24**	**5**	*e*PB		**Pg**	**01 57 06.5**	**-0.4**
FNA	**Florina**	**1.24**	**5**	P		**Pg**	**01 57 06.2**	**-0.7**
FNA	**Florina**	**1.24**	**5**	*e*Pb		**Pg**	**01 57 06.5**	**-0.4**
FNA				S		**Sn**	**01 57 25.7**	**+0.5**
KALE	**Kalithea**	**1.35**	**148**	P		**Pg**	**01 57 08.3**	**-0.9**
KALE				S		**Sn**	**01 57 29.8**	**+1.7**
KALE	**Kalithea**	**1.35**	**148**	*e*PG		**Pg**	**01 57 08.2**	**-0.9**
KALE	**Kalithea**	**1.35**	**148**	P		**Pg**	**01 57 08.3**	**-0.9**
KALE				S		**Sn**	**01 57 29.8**	**+1.7**
AXAR	**Agios Charalam**	**1.35**	**125**	P		**Pg**	**01 57 08.7**	**-0.4**
AXAR				S		**Sn**	**01 57 28.8**	**+0.8**
AXAR	**Agios Charalam**	**1.35**	**125**	*e*PB		**Pb**	**01 57 09.5**	**+0.1**
AXAR	**Agios Charalam**	**1.35**	**125**	P		**Pg**	**01 57 08.7**	**-0.4**
AXAR	**Agios Charalam**	**1.35**	**125**	*e*Pb		**Pb**	**01 57 09.5**	**+0.1**
AXAR				S		**Sn**	**01 57 28.8**	**+0.8**
VLS	**Valsamata**	**1.46**	**200**	P		**Pn**	**01 57 10.5**	**-0.3**
VLS				S		**Sn**	**01 57 31.7**	**+1.1**
VLS	**Valsamata**	**1.46**	**200**	*e*PB		**Pg**	**01 57 11.0**	**-0.2**
VLS	**Valsamata**	**1.46**	**200**	P		**Pn**	**01 57 10.5**	**-0.3**
VLS	**Valsamata**	**1.46**	**200**	*e*Pb		**Pg**	**01 57 11.0**	**-0.2**
VLS				S		**Sn**	**01 57 31.7**	**+1.1**
KFL	**Anninata**	**1.48**	**194**	P		**Pb**	**01 57 11.5**	**0.0**
KFL				S		**Sn**	**01 57 32.4**	**+1.3**
KFL	**Anninata**	**1.48**	**194**	P		**Pb**	**01 57 11.5**	**0.0**
KFL				S		**Sn**	**01 57 32.4**	**+1.3**
RLS	**Riolos of Patr**	**1.50**	**173**	P		**Pg**	**01 57 12.1**	**+0.2**
RLS				S		**Sn**	**01 57 33.3**	**+1.7**
RLS	**Riolos of Patr**	**1.50**	**173**	*e*PB		**Pg**	**01 57 12.2**	**+0.3**
RLS	**Riolos of Patr**	**1.50**	**173**	*e*Pb		**Pg**	**01 57 12.2**	**+0.3**
XOR	**Xorichti**	**1.52**	**96**	P		**Pn**	**01 57 11.2**	**-0.5**
XOR				S		**Sg**	**01 57 34.0**	**+1.8**
XOR	**Xorichti**	**1.52**	**96**	*e*PG		**Pn**	**01 57 11.4**	**-0.3**
XOR	**Xorichti**	**1.52**	**96**	P		**Pn**	**01 57 11.2**	**-0.5**
XOR				S		**Sg**	**01 57 34.0**	**+1.8**
NEO	**Neokhori**	**1.56**	**98**	P		**Pn**	**01 57 11.5**	**-0.7**
NEO				S		**Sg**	**01 57 34.0**	**+0.8**
NEO	**Neokhori**	**1.56**	**98**	*e*PG		**Pn**	**01 57 12.2**	**0.0**
NEO	**Neokhori**	**1.56**	**98**	P		**Pn**	**01 57 11.5**	**-0.7**
NEO	**Neokhori**	**1.56**	**98**	*e*Pg		**Pn**	**01 57 12.2**	**0.0**
NEO				S		**Sg**	**01 57 34.0**	**+0.8**
DRO	**Drossia**	**1.64**	**167**	P		**Pn**	**01 57 12.8**	**-0.4**
DRO	**Drossia**	**1.64**	**167**	*e*PB		**Pg**	**01 57 14.6**	**0.0**
DRO	**Drossia**	**1.64**	**167**	P		**Pn**	**01 57 12.8**	**-0.4**
DRO	**Drossia**	**1.64**	**167**	*e*Pb		**Pg**	**01 57 14.6**	**0.0**
LKR	**Lokris**	**1.64**	**123**	P		**Pn**	**01 57 13.3**	**+0.1**
LKR				S		**Sb**	**01 57 35.2**	**-0.3**
LKR	**Lokris**	**1.64**	**123**	*e*PB		**Pb**	**01 57 14.3**	**0.0**
LKR	**Lokris**	**1.64**	**123**	P		**Pn**	**01 57 13.3**	**+0.1**
LKR	**Lokris**	**1.64**	**123**	*e*Pb		**Pb**	**01 57 14.3**	**0.0**
LKR				S		**Sb**	**01 57 35.2**	**-0.3**
GRG	**Griva**	**1.66**	**32**	P		**Pn**	**01 57 13.2**	**-0.4**
GRG	**Griva**	**1.66**	**32**	*e*PN		**Pn**	**01 57 12.2**	**-1.4**
GRG	**Griva**	**1.66**	**32**	*e*PB		**Pn**	**01 57 13.8**	**+0.2**
GRG	**Griva**	**1.66**	**32**	*e*Pn		**Pn**	**01 57 12.2**	**-1.4**
GRG	**Griva**	**1.66**	**32**	P		**Pn**	**01 57 13.2**	**-0.4**
GRG	**Griva**	**1.66**	**32**	*e*Pb		**Pn**	**01 57 13.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.67**	**154**	P		**Pn**	**01 57 13.8**	**+0.1**
KLV				S		**Sg**	**01 57 36.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.67**	**154**	*e*PG		**Pn**	**01 57 14.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.67**	**154**	P		**Pn**	**01 57 13.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.67**	**154**	*e*Pg		**Pb**	**01 57 14.9**	**+0.2**
KLV				S		**Sg**	**01 57 36.8**	**+0.1**
SMIA	**Simia**	**1.67**	**113**	P		**Pn**	**01 57 13.0**	**-0.7**
SMIA				S		**Sg**	**01 57 37.7**	**+0.8**
SMIA	**Simia**	**1.67**	**113**	*e*PB		**Pn**	**01 57 14.1**	**+0.4**
SMIA	**Simia**	**1.67**	**113**	P		**Pn**	**01 57 13.0**	**-0.7**
SMIA	**Simia**	**1.67**	**113**	*e*Pb		**Pn**	**01 57 14.1**	**+0.4**
SMIA				S		**Sg**	**01 57 37.7**	**+0.8**
THE	**Thessaloniki**	**1.71**	**50**	P		**Pn**	**01 57 13.6**	**-0.6**
THE				S		**Sg**	**01 57 38.5**	**+0.3**
THE	**Thessaloniki**	**1.71**	**50**	P		**Pn**	**01 57 13.6**	**-0.6**
THE				S		**Sg**	**01 57 38.5**	**+0.3**
SKIA	**Skiathos**	**1.77**	**102**	P		**Pn**	**01 57 14.9**	**-0.2**
SKIA				S		**Sn**	**01 57 38.4**	**+0.1**
SKIA	**Skiathos**	**1.77**	**102**	*e*PN		**Pb**	**01 57 15.8**	**-0.7**
SKIA	**Skiathos**	**1.77**	**102**	P		**Pn**	**01 57 14.9**	**-0.2**
SKIA	**Skiathos**	**1.77**	**102**	*e*Pn		**Pb**	**01 57 15.8**	**-0.7**
SKIA				S		**Sn**	**01 57 38.4**	**+0.1**
HORT	**Hortiatis**	**1.77**	**53**	P		**Pn**	**01 57 14.4**	**-0.8**
HORT	**Hortiatis**	**1.77**	**53**	*e*PN		**Pn**	**01 57 14.4**	**-0.8**
HORT	**Hortiatis**	**1.77**	**53**	*e*PN		**Pn**	**01 57 15.3**	**+0.1**
HORT	**Hortiatis**	**1.77**	**53**	P		**Pn**	**01 57 14.4**	**-0.8**
HORT	**Hortiatis**	**1.77**	**53**	*e*Pn		**Pn**	**01 57 15.3**	**+0.1**
GUR	**Goura**	**1.83**	**151**	P		**Pn**	**01 57 16.7**	**+0.8**
GUR	**Goura**	**1.83**	**151**	*e*PG		**Pg**	**01 57 18.0**	**-0.2**
GUR	**Goura**	**1.83**	**151**	P		**Pn**	**01 57 16.7**	**+0.8**
GUR	**Goura**	**1.83**	**151**	*e*Pg		**Pg**	**01 57 18.0**	**-0.2**
PLG	**Polygyros**	**1.89**	**63**	P		**Pn**	**01 57 15.9**	**-0.8**
PLG	**Polygyros**	**1.89**	**63**	*e*PB		**Pn**	**01 57 16.2**	**-0.5**
PLG	**Polygyros**	**1.89**	**63**	P		**Pn**	**01 57 15.9**	**-0.8**
PAIG	**Paliouri**	**1.92**	**78**	P		**Pn**	**01 57 15.8**	**-1.3**
PAIG				S		**Sn**	**01 57 41.9**	**-0.1**
PAIG	**Paliouri**	**1.92**	**78**	*e*PB		**Pn**	**01 57 16.1**	**-1.0**
PAIG	**Paliouri**	**1.92**	**78**	P		**Pn**	**01 57 15.8**	**-1.3**
PAIG				S		**Sn**	**01 57 41.9**	**-0.1**
MRKA	**Markates**	**2.01**	**114**	P		**Pn**	**01 57 17.9**	**-0.5**
MRKA				S		**Sn**	**01 57 44.8**	**+0.5**
MRKA	**Markates**	**2.01**	**114**	*e*PN		**Pn**	**01 57 19.2**	**+0.8**
MRKA	**Markates**	**2.01**	**114**	P		**

VTS	**Vitosha**	**3.38**	**25**	⇓*i*Pn		**Pn**	**01 57 38.5**	**+1.1**
VTS	**Vitosha**	**3.38**	**25**	⇓*i*P		**Pn**	**01 57 38.8**	**+1.4**
SMTH	**Samothraki Isl**	**3.42**	**73**	P		**Pn**	**01 57 37.4**	**-0.4**
SMTH	**Samothraki Isl**	**3.42**	**73**	P		**Pn**	**01 57 37.4**	**-0.4**
TIP	**Timpagrande**	**3.49**	**265**	P		**Pn**	**01 57 38.4**	**-0.4**
TIP				S		**Sn**	**01 58 21.7**	**+0.9**
TIP	**Timpagrande**	**3.49**	**265**	P		**Pn**	**01 57 38.4**	**-0.4**
TIP				S		**Sn**	**01 58 21.7**	**+0.9**
RDO	**Rodhopi**	**3.65**	**63**	P		**Pn**	**01 57 40.7**	**-0.2**
RDO				S		**Sn**	**01 58 24.2**	**-0.5**
RDO	**Rodhopi**	**3.65**	**63**	P		**Pn**	**01 57 40.7**	**-0.2**
RDO				S		**Sn**	**01 58 24.2**	**-0.5**
SELS	**Selova**	**3.67**	**359**	*e*Pn		**Pn**	**01 57 42.1**	**+0.9**
KDZ	**Kurdzhali**	**3.81**	**55**	⇓*i*P		Pn	01 57 46.6	+3.5
KDZ	**Kurdzhali**	**3.81**	**55**	⇓*i*P		Pn	01 57 46.6	+3.5
TREB	**Trebinje**	**3.84**	**326**	*e*Pn		**Pn**	**01 57 44.5**	**+1.0**
TREB	**Trebinje**	**3.84**	**326**	*e*Pn		**Pn**	**01 57 44.5**	**+1.0**
ZAPS	**Zavoj**	**3.87**	**15**	⇓*i*Pn		**Pn**	**01 57 45.7**	**+1.8**
ALN	**Alexandroupoli**	**3.92**	**68**	P		**Pn**	**01 57 44.1**	**-0.5**
ALN	**Alexandroupoli**	**3.92**	**68**	*e*PN		**Pn**	**01 57 44.3**	**-0.3**
ALN	**Alexandroupoli**	**3.92**	**68**	*e*Pn		**Pn**	**01 57 44.3**	**-0.3**
ENEZ	**Enez**	**3.95**	**71**	*e*PN		**Pn**	**01 57 44.8**	**-0.2**
ENEZ	**Enez**	**3.95**	**71**	*e*Pn		**Pn**	**01 57 44.8**	**-0.2**
ANKY	**Antikythira Is**	**4.02**	**155**	P		**Pn**	**01 57 47.1**	**+1.1**
ANKY	**Antikythira Is**	**4.02**	**155**	P		**Pn**	**01 57 47.1**	**+1.1**
IVAS	**Ivanjica**	**4.11**	**349**	*e*Pn		**Pn**	**01 57 48.6**	**+1.4**
IVAS	**Ivanjica**	**4.11**	**349**	*e*Pn		**Pn**	**01 57 48.6**	**+1.4**
GELI	**Tayfur-Gelibol**	**4.11**	**76**	*e*PN		**Pn**	**01 57 46.4**	**-0.9**
GELI	**Tayfur-Gelibol**	**4.11**	**76**	*e*Pn		**Pn**	**01 57 46.4**	**-0.9**
ERIK	**Erikli-Kesan**	**4.20**	**73**	*e*PN		**Pn**	**01 57 47.9**	**-0.5**
ERIK	**Erikli-Kesan**	**4.20**	**73**	*e*Pn		**Pn**	**01 57 47.9**	**-0.5**
GRUS	**Gruza**	**4.35**	**355**	*e*Pn		**Pn**	**01 57 51.7**	**+1.2**
GRUS	**Gruza**	**4.35**	**355**	*e*Pn		**Pn**	**01 57 51.7**	**+1.2**
DIVS	**Divibare**	**4.64**	**349**	P		**Pn**	**01 57 55.7**	**+1.1**
DIVS				S		**Sn**	**01 58 48.0**	**-1.1**
DIVS	**Divibare**	**4.64**	**349**	⇓*i*Pn		**Pn**	**01 57 51.7**	**+2.5**
DIVS				*e*Sn		**Sn**	**01 58 49.1**	**0.0**
DIVS	**Divibare**	**4.64**	**349**	P		**Pn**	**01 57 55.7**	**+1.1**
DIVS	**Divibare**	**4.64**	**349**	⇓*i*Pn		**Pn**	**01 57 51.7**	**+2.5**
DIVS				S		**Sn**	**01 58 48.0**	**-1.1**
DIVS				*e*Sn		**Sn**	**01 58 49.1**	**0.0**
KARN	**Karanos**	**4.66**	**152**	P		**Pn**	**01 57 57.2**	**+2.4**
KARN	**Karanos**	**4.66**	**152**	P		**Pn**	**01 57 57.2**	**+2.4**
RKY	**Sarkoy-Tekirda**	**4.69**	**74**	*e*PN		**Pn**	**01 57 55.2**	**-0.1**
RKY	**Sarkoy-Tekirda**	**4.69**	**74**	*e*Pn		**Pn**	**01 57 55.2**	**-0.1**
EDRB	**Edirne**	**4.77**	**60**	*e*PN		**Pn**	**01 57 56.4**	**+0.1**
EDRB	**Edirne**	**4.77**	**60**	*e*Pn		**Pn**	**01 57 56.4**	**+0.1**
IDI	**Anoyia**	**5.15**	**145**	Pn		**Pn**	**01 58 03.0**	**+1.4**
	comp=E,0.4nm,0.3s,baz=284,slow=12,SNR=4.3							
TEKS	**Tekeris**	**5.16**	**346**	*i* Pn		**Pn**	**01 58 03.7**	**+2.1**
TEKS	**Tekeris**	**5.16**	**346**	*i* Pn		**Pn**	**01 58 03.7**	**+2.1**
LAST	**Lasithi**	**5.53**	**141**	P		**Pn**	**01 58 07.2**	**+0.4**
LAST	**Lasithi**	**5.53**	**141**	P		**Pn**	**01 58 07.2**	**+0.4**
GZR	**Gura Zlata**	**5.95**	**11**	⇑*i*P		**Pn**	**01 58 12.6**	**+0.1**
GZR	**Gura Zlata**	**5.95**	**11**	⇑*i*P		**Pn**	**01 58 12.6**	**+0.1**
BZS	**Buzias**	**6.07**	**3**	⇑*i*P		**Pn**	**01 58 14.7**	**+0.6**
BZS	**Buzias**	**6.07**	**3**	⇑*i*P		**Pn**	**01 58 14.7**	**+0.6**
ARR	**Arges**	**6.33**	**22**	⇓*i*P		**Pn**	**01 58 19.1**	**+1.3**
ARR	**Arges**	**6.33**	**22**	⇓*i*P		**Pn**	**01 58 19.1**	**+1.3**
UDBI	**Udbina**	**6.43**	**322**	*e*Pn		**Pn**	**01 58 19.8**	**+0.7**
ISR	**Istrita**	**6.81**	**34**	⇑*i*P		**Pn**	**01 58 24.7**	**+0.3**
ISR	**Istrita**	**6.81**	**34**	⇑*i*P		**Pn**	**01 58 24.7**	**+0.3**
MLR	**Muntele Rosu**	**6.88**	**29**	⇑*i*P		**Pn**	**01 58 27.5**	**+2.1**
MLR	**Muntele Rosu**	**6.88**	**29**	Pn		**Pn**	**01 58 27.5**	**+2.1**
	comp=E,0.0nm,0.3s,baz=200,slow=12,SNR=9.8							
MLR				Sn		**Sn**	**01 59 43.9**	**-0.5**
	baz=212,slow=19,SNR=1.3							
NVLJ	**Novalja**	**6.89**	**319**	*i* Pn		**Pn**	**01 58 24.5**	**-0.9**
NVLJ	**Novalja**	**6.89**	**319**	*i* Pn		**Pn**	**01 58 24.5**	**-0.9**
PKSM	**Moragy**	**6.92**	**345**	⇓*i*P		**Pn**	**01 58 26.4**	**+0.5**
PKSM	**Moragy**	**6.92**	**345**	⇓*i*P		**Pn**	**01 58 26.4**	**+0.5**
PLOR	**Plostina**	**7.45**	**31**	⇓*i*P		**Pn**	**01 58 35.8**	**+2.7**
VRI	**Vrincioaia**	**7.50**	**31**	⇓*i*P		**Pn**	**01 58 35.2**	**+1.5**
VRI	**Vrincioaia**	**7.50**	**31**	⇓*i*P		**Pn**	**01 58 35.2**	**+1.5**
BRTR	**Keskin Array B**	**9.57**	**85**	Pn		**Pn**	**01 59 04.8**	**+2.5**
	comp=E,0.1nm,0.3s,baz=254,slow=14,SNR=3.0							
HFS	**Hagfors**	**21.14**	**350**	P		**P**	**02 01 29.2**	**-0.3**
	comp=E,0.8nm,0.6s,baz=172,slow=13,SNR=3.2							
FINES	**FINESS Array B**	**22.12**	**6**	P		**P**	**02 01 39.7**	**-0.3**
	comp=E,1.3nm,0.8s,baz=192,slow=13,SNR=4.4							
NOA	**NORSAR Array B**	**22.39**	**347**	P		**P**	**02 01 42.7**	**-0.3**
	comp=E,1.8nm,0.7s,baz=163,slow=10,SNR=5.6							
TORD	**Torodi Ar. Bea**	**31.45**	**219**	P		**P**	**02 03 06.4**	**0.0**
	comp=E,0.5nm,1.0s,baz=38,slow=9.6,SNR=3.1							
MKAR	**Makanchi Array**	**44.12**	**60**	P		**P**	**02 04 53.2**	**+0.1**
	comp=E,0.6nm,0.7s,baz=275,slow=7.4,SNR=8.2							
ZALV	**Zalesovo Beam**	**44.37**	**49**	P		**P**	**02 04 54.9**	**-0.1**
	comp=E,0.8nm,0.4s,baz=266,slow=8.9,SNR=5.8							
SONM	**Songino Array**	**59.16**	**51**	P		**P**	**02 06 44.9**	**-0.8**
	comp=E,0.9nm,0.9s,baz=292,slow=8.7,SNR=4.1							
YKA	**Yellowknife Ar**	**72.29**	**340**	P		**P**	**02 08 09.6**	**-0.4**
	comp=E,0.2nm,0.7s,baz=41,slow=5.5,SNR=4.9							

*ISCJB **09** 02:12:25.7±0.7,38°.82N±0'.06×74°.55E±0'.07, h10km, mb3.4/10, Error ellipse: s-maj=8.6km s-min=7.7km az=142.5*
*IDC **09** 02:12:25.9±1.0,38°.94N×74°.64E, h0km, mb3.5/10, mb1 3.7/15, mb1mx3.6/37, mbtmp3.5/15, ML2.9/5, Error ellipse: s-maj=18.2km s-min=16.7km az=107.0*
*NNC **09** 02:12:29.3±1.3,39°.08N×74°.50E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.9km s-min=7.1km az=12.0*

ISC 09 02:12:27.8±0.9, 38°.94N±0'.07×74°.60E±0'.06, h10km, n33, σ1§96/40, mb3.5/10, 16C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.36**	**322**	⇓P	**Pn**	**02 12 50.7**	**-2.4**
	16nm,0.4s						
SFK				⇑S	**Sn**	**02 13 09.1**	**-2.2**
	137nm,0.7s						
KZA	**Kyzart**	**3.17**	**9**	P	**Pb**	**02 13 25.3**	**+0.8**
	SNR=17						
AML	**Almayashu**	**3.26**	**348**	P	**Pn**	**02 13 21.4**	**+2.1**
	SNR=22						
UCH	**Uchtor**	**3.28**	**359**	P	**Pn**	**02 13 21.9**	**+2.2**
	SNR=25						
ULHL	**Ulahol**	**3.53**	**20**	P	**Pb**	**02 13 28.6**	**-1.8**
	SNR=9.4						
AAK	**Ala-Archa**	**3.69**	**359**	⇑Pn	**Pn**	**02 13 26.2**	**+1.2**
	5.1nm,0.8s						
AAK				⇓Pg	**Pb**	**02 13 34.7**	**+1.6**
	13nm,0.7s						
AAK				⇑Lg	Lg	02 14 20.4	
	70nm,1.0s						
AAK	**Ala-Archa**	**3.69**	**359**	Pn	**Pn**	**02 13 27.4**	**+2.4**
	0.6nm,0.3s,baz=167,slow=8.6,SNR=20						
AAK				Pg	**Pb**	**02 13 33.2**	**+0.1**
	3.0nm,0.3s,baz=172,slow=14,SNR=28						
AAK				Sn	**Sb**	**02 14 15.9**	**-2.0**
	0.8nm,0.3s,baz=198,slow=20,SNR=3.3						
KBK	**Karagaybulak**	**3.72**	**4**	P	Pn	02 13 28.5	+3.1
	SNR=13						
MNAS	**Manas**	**3.88**	**336**	⇑Pn	**Pn**	**02 13 29.3**	**+1.7**
MNAS				⇑Sn	**Sn**	**02 14 15.5**	**+2.2**
	29nm,0.8s						
TKM2	**Tokmak 2**	**4.05**	**10**	⇓Pn	**Pn**	**02 13 32.2**	**+2.3**
	11nm,0.7s						
TKM2				⇓Sn	**Sn**	**02 14 20.4**	**+2.9**
	18nm,0.7s						
TKM2	**Tokmak 2**	**4.05**	**10**	P	**Pn**	**02 13 32.8**	**+2.9**
	SNR=23						
DZET	**Dzherino**	**4.50**	**270**	⇑Pn	**Pn**	**02 13 38.6**	**+2.4**
	5.6nm,0.4s						
DZET				⇓Pg	**Pb**	**02 13 48.8**	**+1.8**
	26nm,0.7s						
DZET				⇑Sn	**Sn**	**02 14 33.6**	**+4.9**
	38nm,0.9s						
DZET				⇑Lg	Lg	02 14 51.7	
	48nm,0.8s						
KK31	**Karatay Array**	**5.18**	**325**	Pn	**Pn**	**02 13 46.8**	**+1.4**
	0.3nm,0.2s,baz=140,slow=13,SNR=21						
KK31				⇑Pg	Pb	02 14 01.2	+2.8
	6.5nm,0.9s,baz=141,slow=14,SNR=8.9						
KK31				⇑Lg	Lg	02 15 08.9	
	12nm,0.7s,baz=136,slow=27						
PDGK	**Podgornoye**	**5.73**	**39**	⇑Pn	**Pn**	**02 13 55.3**	**+2.5**
	7.1nm,1.2s						
PDGK				⇑Pg	**Pb**	**02 14 10.5**	**+2.8**
	13nm,1.3s						
PDGK				⇑Lg	Lg	02 15 26.0	
	42nm,0.9s						

MK31	**Makanchi Array**	**9.66**	**33**	⇑Pn		**Pn**	**02 14 48.1**	**+1.2**
	2.3nm,1.1s,baz=220,slow=12,SNR=7.0							
MK31				⇑Lg		Lg	02 17 32.8	
	3.6nm,1.1s,baz=220,slow=28,SNR=3.8							
MKAR	**Makanchi Array**	**9.66**	**33**	Pn		**Pn**	**02 14 48.5**	**+1.6**
	0.1nm,0.3s,baz=196,slow=13,SNR=6.4							
MKAR				Lg		Lg	02 17 29.2	
	0.0nm,0.3s,baz=215,slow=26,SNR=2.5							
KURBB	**Kurchatov Arra**	**12.01**	**12**	Lg		Lg	02 18 41.6	
	0.1nm,0.3s,baz=209,slow=30,SNR=6.9							
BVA0	**Borovoye Array**	**14.38**	**350**	⇓P		**Pn**	**02 15 52.2**	**+0.9**
	3.3nm,1.1s,baz=164,slow=9.4,SNR=4.9							
BVAR	**Borovoye Array**	**14.38**	**350**	Pn		**Pn**	**02 15 48.8**	**-2.5**
	0.2nm,0.3s,baz=172,slow=15,SNR=3.4							
BVAR				Lg		Lg	02 19 55.9	
	0.1nm,0.3s,baz=151,slow=28,SNR=2.8							
AB31	**Akbulak array**	**14.71**	**319**	⇑P		**Pn**	**02 15 53.4**	**-2.4**
	0.6nm,0.6s,baz=122,slow=9.5,SNR=9.0							
AKTO	**Aktyubinsk**	**16.42**	**320**	⇓P		**P**	**02 16 19.0**	**+0.9**
	4.1nm,1.3s							
AKTO	**Aktyubinsk**	**16.42**	**320**	Pn		**Pn**	**02 16 17.3**	**-0.9**
	0.1nm,0.3s,baz=91,slow=14,SNR=3.2							
ZALV	**Zalesovo Beam**	**16.55**	**22**	Pn		**Pn**	**02 16 18.2**	**-1.6**
	0.1nm,0.3s,baz=220,slow=8.7,SNR=2.4							
SONM	**Songino Array**	**24.62**	**58**	P		**P**	**02 17 47.8**	**-0.5**
	0.3nm,0.7s,baz=281,slow=8.7,SNR=2.9							
BRTR	**Keskin Array B**	**31.50**	**285**	P		**P**	**02 18 50.7**	**+0.8**
	0.6nm,0.7s,baz=84,slow=6.4,SNR=3.5							
FINES	**FINESS Array B**	**37.14**	**323**	P		**P**	**02 19 38.0**	**-0.2**
	0.4nm,0.3s,baz=116,slow=12,SNR=12							
ARCES	**ARCESS Array B**	**40.04**	**336**	P		**P**	**02 20 02.4**	**-0.2**
	2.5nm,0.8s,baz=107,slow=7.8,SNR=11							
GERES	**GERESS Array B**	**43.90**	**304**	P		**P**	**02 20 35.2**	**+0.7**
	0.5nm,0.6s,baz=64,slow=7.6,SNR=5.6							
NOA	**NORSAR Array B**	**44.20**	**321**	P		**P**	**02 20 35.7**	**-1.0**
	0.5nm,0.6s,baz=91,slow=7.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**68.60**	**270**	P		**P**	**02 23 30.2**	**-1.0**
	0.7nm,0.9s,baz=48,slow=5.5,SNR=6.7							
ILAR	**Eielson Array**	**71.63**	**17**	P		**P**	**02 23 47.9**	**-1.2**
	0.2nm,0.8s,baz=328,slow=3.2,SNR=3.6							
YKA	**Yellowknife Ar**	**78.64**	**4**	P		**P**	**02 24 29.2**	**-0.2**
	0.3nm,0.6s,baz=344,slow=5.7,SNR=8.1							
WRA	**Warramunga Arr**	**80.94**	**125**	P		**P**	**02 24 42.7**	**+0.1**
	0.2nm,0.7s,baz=314,slow=5.6,SNR=3.6							

GUC 09 02:17:47.9±0.5, 33°.89S×72°.36W, h24km±9km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.05**	**35**	*e*P	**Pb**	02 18 07.5	+0.1
IHA				*e*S	Sn	02 18 22.1	+1.1
TACH	**Talagante**	**1.20**	**79**	*i* P	Pb	02 18 09.8	-0.3
RCDM	**Rinconada Maip**	**1.35**	**73**	*i* P	Pb	02 18 12.6	0.0
RCDM				*i* S	Sb	02 18 31.1	+1.6
RCDM				AML	AML	02 18 32.3	
	comp=N,984nm,0.2s						
NICH	**Los Niches**	**1.45**	**140**	*i* P	Pb	02 18 13.8	-0.4
NICH				*i* S	Sb	02 18 34.0	+1.8
NICH				AML	AML	02 18 40.0	
	comp=E,3μm,0.2s						
SAN	**Santiago**	**1.48**	**73**	*e*P	Pn	02 18 13.8	+0.8
SAN				*e*S	Sn	02 18 32.2	+0.5
SAN				AML	AML	02 18 36.9	
	comp=N,657nm,0.3s						
PEL	**Peldehue**	**1.58**	**62**	*e*P	Pb	02 18 16.4	-0.1
PEL				*e*S	Sb	02 18 36.0	-0.2
PEL				AML	AML	02 18 41.6	
	comp=E,2μm,0.6s						
CLCH	**Cerro Calan**	**1.59**	**72**	*e*P	Pb	02 18 16.8	0.0
CLCH				*e*S	Sb	02 18 36.0	-0.7
CLCH				AML	AML	02 18 46.2	
	comp=E,630nm,0.3s						
TALC	**Talca**	**1.62**	**159**	*i* P	Pb	02 18 17.3	+0.3
TALC				*i* S	Sb	02 18 38.4	+1.4

*NEIC **09** 02:27:47.2, 32°.10N×115°.17W, h32km, ML3.4(PAS), After PAS.*
*MEX **09** 02:27:49.1±1.0, 32°.22N×115°.08W, h10km, MD3.9*

ISC 09 02:27:45.7±1.5, 32°.13N±0'.04×115°.15W±0'.04, h1km±12km, n26, σ1§30/40, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.28**	**352**	*e*P	**Pb**	**02 27 53.6**	**-0.1**
MBIG				*e*S	**Sg**	**02 27 55.7**	**+0.9**
CPBX	**Cerro Prieto**	**0.32**	**336**	*e*P	**Pb**	**02 27 53.7**	**-0.5**
GLA	**Glamis**	**0.96**	**16**	*e*Pg	**Pg**	**02 28 03.8**	**-0.4**
GLA				*e*Sg	**Sg**	**02 28 16.1**	**-0.6**
SPIG	**San Pedro Mart**	**1.11**	**194**	*e*P	**Pn**	**02 28 08.1**	**-0.6**
SPIG				*e*S	**Sn**	**02 28 24.6**	**-0.2**
SPIG	**San Pedro Mart**	**1.11**	**194**	*e*P	**Pn**	**02 28 08.1**	**-0.6**
SPIG				*e*S	**Sn**	**02 28 24.6**	**-0.2**
SPX	**San Pedro Mart**	**1.11**	**194**	*e*P	**Pn**	**02 28 08.3**	**-0.4**
SPX				*e*S	**Sn**	**02 28 23.8**	**-1.0**
CBX	**Cerro Bola**	**1.30**	**279**	*i* P	**Pg**	**02 28 10.7**	**+0.1**
CBX	**Cerro Bola**	**1.30**	**279**	*i* P	**Pg**	**02 28 10.7**	**+0.1**
BAR	**Barrett**	**1.40**	**294**	*e*Pg	**Pn**	**02 28 10.8**	**-1.7**
BAR				*e*Sg	**Sb**	**02 28 28.7**	**-2.5**
PFO	**Pinyon Flats O**	**1.84**	**324**	*e*Pn	**Pn**	**02 28 16.3**	**-2.3**
PFO				*e*Sn	**Sn**	**02 28 41.3**	**-1.4**
214A	**Organ Pipe Nat**	**1.99**	**94**	*e*Pn	**Pn**	**02 28 19.1**	**-1.4**
214A				*e*Sn	**Sn**	**02 28 46.9**	**+0.6**
PASC	**Pasadena Art C**	**3.26**	**310**	*e*Pn	**Pn**	**02 28 36.6**	**-1.5**
PASC				*e*Pg	**Pb**	**02 28 45.5**	**+1.1**
PASC				*e*Sn	**Sn**	**02 29 16.7**	**-0.8**
PASC				*e*Sg	**Sb**	**02 29 27.6**	**+2.9**
GSC	**Goldstone, Bar**	**3.46**	**337**	*e*Pn	**Pn**	**02 29 00.5**	**-0.2**
TUC	**Tucson**	**3.70**	**86**	*e*Pn	**Pn**	**02 28 41.6**	**-2.6**
TUC				*e*Lg	Lg	02 29 43.9	
SHPR	**Sheep Range**	**4.37**	**360**	*e*Pn	**Pn**	**02 28 53.5**	**+0.1**
SHPR				*e*Pg	**Pg**	**02 29 07.8**	**-1.7**
SHPR				*e*Lg	Lg	02 29 59.2	
ISA	**Isabella, Lake**	**4.48**	**323**	*e*Pn	**Pn**	**02 28 55.2**	**+0.3**
ISA				*e*Pg	**Pb**	**02 29 07.9**	**+2.7**
ISA				*e*Lg	Lg	02 30 07.2	
DAC	**Darwin (Calif)**	**4.61**	**335**	*e*Pn	**Pn**	**02 28 57.0**	**+0.2**
WUAZ	**Wupatki**	**4.62**	**42**	*e*Pn	**Pn**	**02 28 57.4**	**+0.6**
W18A	**Petrified Fore**	**5.41**	**55**	*e*Pn	**Pn**	**02 29 08.8**	**+1.0**
W18A				*e*Sn	**Sn**	**02 30 12.3**	**+1.5**
CCUT	**Cedar City**	**5.61**	**15**	*e*Pn	**Pn**	**02 29 10.9**	**+0.4**
	4.3nm,0.7s						
CCUT				*e*Lg	Lg	02 30 47.6	
ARUT	**Antelope Range**	**5.82**	**13**	*e*Pn	**Pn**	**02 29 12.7**	**-0.7**
	0.6nm,0.5s						
121A	**Cookes Peak, D**	**6.25**	**84**	*e*Pn	**Pn**	**02 29 18.9**	**-0.3**
	6.4nm,0.4s						
121A				*e*Lg	Lg	02 31 05.3	
MVU	**Marysvale**	**6.80**	**20**	*e*Pn	**Pn**	**02 29 26.1**	**-0.8**
	3.4nm,0.7s						
LAZ	**Ladron**	**7.08**	**69**	*e*Pn	**Pn**	**02 29 30.8**	**+0.1**
MVCO	**Mesa Verde**	**7.46**	**45**	*e*Pn	**Pn**	**02 29 37.8**	**+1.8**
	4.7nm,0.6s						
MVCO				*e*Lg	Lg	02 31 44.3	
O20A	**White River Ci**	**9.75**	**33**	*e*Pn	**Pn**	**02 30 07.8**	**+0.6**

*ISCJB **09** 02:55:48.4±0.4, 32°.15N±0'.03×115°.11W±0'.03, h23km±4km, Error ellipse: s-maj=4.9km s-min=4.3km az=162.9*
*ECX **09** 02:55:50.4±0.5, 32°.14N×115°.19W, h8km, MD3.9, ML4.1*
*MEX **09** 02:55:50.3±0.7, 32°.20N×114°.92W, h15km, MD3.7*
*NEIC **09** 02:55:50.0, 32°.15N×115°.19W, h3km, MD3.6(MEX), ML4.0(PAS), ML4.2(ECX), After ECX.*

ISC 09 02:55:48.7±0.8, 32°.12N±0'.02×115°.16W±0'.03, h17km±6km, n43, σ1§18/57, 7C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.15**	**207**	⇓*e*P	**Pg**	**02 55 52.5**	**-0.3**
EMX				*e*S	**Sg**	**02 55 55.3**	**-0.3**
EMX	**El Mayor**	**0.15**	**207**	*e*P	**Pg**	**02 55 52.5**	**-0.3**
EMX				*e*S	**Sg**	**02 55 55.3**	**-0.3**
MBIG	**Mexicali**	**0.28**	**354**	*e*P	**Pg**	**02 55 55.5**	**+0.6**
MBIG				*i* S	**Sb**	**02 56 01.2**	**+1.4**
CPBX	**Cerro Prieto**	**0.32**	**338**	*e*P	**Pg**	**02 55 54.9**	**-0.6**
CPBX				⇓*e*P	**Pg**	**02 55 55.9**	**+0.4**
CPBX				*e*S	**Sg**	**02 55 59.4**	**-0.7**
CPBX				⇑*e*		02 56 01.2	
CPBX				AML	AML	02 56 01.2	
	comp=N,65μm,0.4s						
CPBX				AML	AML	02 56 03.1	
	comp=N,64μm,0.3s						
CPBX				AML	AML	02 56 04.1	
	comp=E,69μm,0.5s						
CPBX				⇑*e*		02 56 04.1	
CPBX				AML	AML	02 56 25.3	
	comp=E,60μm,0.6s						
CPBX	**Cerro Prieto**	**0.32**	**338**	*i* P	**Pg**	**02 55 55.8**	**+0.4**
CPBX				*e*S	**Sg**	**02 55 59.4**	**-0.7**
ECBX	**El Chinero**	**0.66**	**172**	⇓*e*P	**Pg**	**02 56 01.9**	**+0.3**
ECBX				*e*S	**Sg**	**02 56 11.1**	**+0.8**
RDX	**Rancho Dawling**	**0.69**	**254**	⇑*e*P	**Pg**	**02 56 02.7**	**+0.3**
RDX				*e*S	**Sg**	**02 56 11.7**	**+0.1**
RDX	**Rancho Dawling**	**0.69**	**254**	*e*P	**Pg**	**02 56 02.7**	**+0.3**
RDX				*e*S	**Sg**	**02 56 11.7**	**+0.1**
SGL	**Mount Signal**	**0.71**	**318**	⇓*i*P	**Pg**	**02 56 02.2**	**-0.4**
COA	**Coachella**	**0.74**	**3**	⇓*i*P	**Pg**	**02 56 02.8**	**-0.4**
YUH	**Yuha Desert**	**0.83**	**309**	⇓*i*P	**Pg**	**02 56 04.0**	**-0.8**
RMX	**La Rumorosa**	**0.91**	**302**	⇑*e*P	**Pg**	**02 56 05.9**	**-0.6**
RMX				*e*S	**Sg**	**02 56 17.8**	**-0.7**
SPIG	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pb**	**02 56 09.9**	**+0.3**
SPIG	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pb**	**02 56 09.9**	**+0.3**
SPX	**San Pedro Mart**	**1.11**	**194**	*e*P	**Pb**	**02 56 09.8**	**+0.2**
SPX	**San Pedro Mart**	**1.11**	**194**	*e*P	**Pb**	**02 56 10.0**	**+0.4**
ZAX	**El Zacaton**	**1.12**	**238**	*e*P	**Pb**	**02 56 09.8**	**0.0**
ZAX				⇑*e*		02 56 27.5	
ZAX				AML	AML	02 56 27.5	
	comp=E,5μm,0.4s						
CBX	**Cerro Bola**	**1.29**	**279**	*i* P	**Pn**	**02 56 13.0**	**+1.0**
CBX				*i* S	**Sb**	**02 56 29.7**	**+0.8**
CBX	**Cerro Bola**	**1.29**	**279**	⇑*e*P	**Pn**	**02 56 11.9**	**-0.2**
CBX				*e*S	**Sb**	**02 56 28.7**	**-0.2**
CBX				AML	AML	02 56 30.7	
	comp=N,7μm,0.5s						
CBX				⇓*e*		02 56 30.7	
CBX				*e*		02 56 33.5	
CBX				AML	AML	02 56 33.5	
	comp=E,5μm,0.4s						
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pn**	**02 56 11.9**	**-0.2**
CBX				*e*S	**Sb**	**02 56 28.7**	**-0.2**
ECNX	**Esteban Cantu**	**1.31**	**250**	⇑*e*P	**Pn**	**02 56 12.5**	**+0.3**
PBX	**Punta Banda**	**1.38**	**254**	⇓*e*P	**Pn**	**02 56 13.8**	**+0.5**
BAR	**Barrett**	**1.39**	**294**	*e*Pg	**Pn**	**02 56 13.2**	**-0.2**
PFO	**Pinyon Flats O**	**1.84**	**324**	*e*Pn	**Pn**	**02 56 18.1**	**-1.5**
PFO				*e*Sg	**Sn**	**02 56 39.9**	**-2.7**
214A	**Organ Pipe Nat**	**2.00**	**94**	*e*Pn	**Pn**	**02 56 20.7**	**-1.1**
MWC	**Mount Wilson**	**3.21**	**312**	*e*Pn	**Pn**	**02 56 40.4**	**+1.9**
MWC				*e*Lg	Lg	02 57 27.6	
PASC	**Pasadena Art C**	**3.26**	**310**	*e*Pn	**Pn**	**02 56 41.7**	**+2.7**
PASC

0.3nm,0.8s,baz=312,slow=3.0,SNR=3.6

GUC 09 03:36:42.8±0.4, 36.09S×73.03W, h28km±2km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.20**	**102**	*eP*	Pb	03 36 49.2	+0.5
COCH				*eS*	Sb	03 36 53.5	+0.7
CCSP	**San Pedro de C**	**0.76**	**185**	*eP*	Pb	03 36 57.5	+0.1
CCSP				*eS*	Sn	03 37 08.6	+0.5
CCSP				AML	AML	03 37 09.6	
	comp=E,4μm,0.4s						
LNCH	**Linares**	**1.18**	**79**	*eP*	Pb	03 37 04.5	-0.1
LNCH				*eS*	Sb	03 37 20.8	+1.3
TALC	**Talca**	**1.33**	**59**	*eP*	Pb	03 37 06.9	-0.1
TALC				*eS*	Sb	03 37 24.9	+1.2
NICH	**Los Niches**	**1.82**	**54**	*eP*	Pb	03 37 14.6	-0.9
NICH				*eS*	Sb	03 37 38.6	+0.7

*JMA **09** 03:45:30.6±0.3, 34.21N×137.32E, h355km±3km, M3.4*
*ISCJB **09** 03:45:31.1±0.3, 34.18N±0.05×137.33E±0.05, h347km±2km, mb3.5/24, Error ellipse: s-maj=9.1km s-min=6.0km az=157.2*
*IDC **09** 03:45:31.8±1.1, 34.09N×137.28E, h340km±10km, mb3.3/21, mb1 3.5/26, mb1mx3.3/57, mbtmp4.0/26, Error ellipse: s-maj=12.8km s-min=10.9km az=81.0*
ISC 09 03:45:32.1±0.6, 34.20N±0.07×137.29E±0.05, h341km±5km, n61, σ0°82/76, mb3.6/24, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.28**	**134**	P	**Pn**	**03 46 15.6**	**+0.9**
TTO4				S	**S**	**03 46 50.3**	**+1.5**
TTO3	**TONANKAI O.B.S**	**0.35**	**165**	P	**Pn**	**03 46 15.9**	**+0.9**
TK02	**Tokai 2**	**0.46**	**123**	P	**Pn**	**03 46 15.9**	**+0.9**
TK02				S	**S**	**03 46 51.1**	**+1.7**
JIE	**Ise**	**0.52**	**291**	P	**Pn**	**03 46 15.7**	**+0.4**
JIE				S	**S**	**03 46 49.5**	**-0.5**
TTO1	**TONANKAI O.B.S**	**0.72**	**216**	P	**Pn**	**03 46 16.3**	**+0.7**
JWY	**Kouya**	**1.41**	**271**	P	**Pn**	**03 46 19.1**	**+0.2**
JWY				S	**S**	**03 46 55.3**	**-1.1**
JWZ	**Kozaga**	**1.47**	**243**	P	**Pn**	**03 46 18.8**	**-0.4**
JWZ				S	**S**	**03 46 55.8**	**-1.2**
JGM	**Miyama**	**1.56**	**343**	P	**Pn**	**03 46 20.2**	**+0.5**
JGM				S	**S**	**03 46 58.1**	**+0.2**
JYN	**Shimob**	**1.65**	**38**	P	**Pn**	**03 46 20.7**	**+0.4**
JOD2	**Odawara 2**	**1.82**	**54**	P	**Pn**	**03 46 21.2**	**-0.1**
JOD2				*eS*	**S**	**03 47 00.7**	**-0.1**
JWT	**Wachi**	**1.89**	**305**	P	**Pn**	**03 46 22.0**	**+0.2**
JWT				S	**S**	**03 47 00.9**	**-0.7**
JKG	**Kaga**	**2.21**	**339**	P	**Pn**	**03 46 24.3**	**+0.3**
JRY	**Ryogami san**	**2.24**	**36**	P	**Pn**	**03 46 24.9**	**+0.6**
JRY				S	**S**	**03 47 05.9**	**-0.3**
JHJ2	**Mitsune**	**2.37**	**117**	P	**Pn**	**03 46 25.0**	**-0.4**
JAI	**Aioi**	**2.40**	**261**	P	**Pn**	**03 46 25.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.45**	**18**	P	**Pn**	**03 46 26.2**	**+0.2**
	5.8nm,0.3s,baz=195,slow=9.3,SNR=86						
MJAR				S	**S**	**03 47 08.0**	**-1.3**
	0.9nm,0.3s,baz=193,slow=15,SNR=8.8						
MAT	**Matsushiro**	**2.45**	**18**	P	**Pn**	**03 46 26.2**	**+0.2**
MAT				S	**S**	**03 47 07.9**	**-1.3**
MAT	**Matsushiro**	**2.45**	**18**	P	**Pn**	**03 46 26.1**	**+0.1**
MAT				S	**S**	**03 47 08.2**	**-1.0**
JAG	**Ashikaga**	**2.83**	**38**	P	**Pn**	**03 46 28.0**	**-1.2**
JMN	**Monobe**	**2.88**	**261**	P	**Pn**	**03 46 29.6**	**-0.1**
BSO1	**Boso 1**	**3.08**	**81**	P	**Pn**	**03 46 29.1**	**-1.8**
BSO1				S	**S**	**03 47 16.6**	**-1.6**
JHS	**Saijyo**	**3.53**	**284**	P	**Pn**	**03 46 36.3**	**+0.4**
JHS				S	**S**	**03 47 26.9**	**-0.3**
JTO	**Tosashimizu**	**3.98**	**252**	P	**Pn**	**03 46 40.0**	**-0.4**
JNU	**Nakatsue**	**5.46**	**260**	P	**Pn**	**03 46 56.5**	**+0.1**
	1.9nm,0.3s,baz=78,slow=2.6,SNR=15						
JMK	**Ichinoseki**	**5.70**	**33**	P	**Pn**	**03 46 57.8**	**-1.2**
JCJ	**Chichijima**	**8.24**	**148**	P	Pn	03 47 24.0	-5.1
	11nm,0.3s,baz=288,slow=19,SNR=5.4						
JCJ				S	S	03 48 51.8	-13
	baz=195,slow=16						
KSRS	**Korea Array**	**8.27**	**296**	P	**Pn**	**03 47 30.1**	**+0.9**
	1.7nm,0.3s,baz=110,slow=12,SNR=35						
ASAJ	**Asahikawa**	**10.72**	**21**	P	**Pn**	**03 47 58.1**	**-0.4**
	1.0nm,0.3s,baz=243,slow=18,SNR=3.2						
USRK	**Ussuriysk Ar.**	**10.79**	**339**	P	**P**	**03 47 60.0**	**-0.5**
	0.6nm,0.3s,baz=151,slow=10,SNR=11						
SONM	**Songino Array**	**26.79**	**310**	P	**P**	**03 50 42.7**	**+0.7**
	1.4nm,0.4s,baz=119,slow=8.1,SNR=20						
ZALV	**Zalesovo Beam**	**41.43**	**315**	P	**P**	**03 52 45.8**	**-0.4**
	0.6nm,0.3s,baz=87,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**42.85**	**304**	P	**P**	**03 52 58.1**	**+0.4**
	4.3nm,0.7s,baz=90,slow=10.0,SNR=50						
MKAR				ScP	**ScP**	**03 57 59.4**	**-0.1**
	0.1nm,0.5s,baz=83,slow=5.6,SNR=3.9						
ODAN	**Odare**	**43.25**	**274**	*eP*	**P**	**03 53 01.3**	**-0.1**
	13nm,0.2s						
RAMN	**Ramite**	**43.87**	**275**	*eP*	**P**	**03 53 05.4**	**-0.9**
	7.6nm,0.6s						
JIRN	**Jiri**	**43.94**	**276**	*eP*	**P**	**03 53 06.7**	**-0.3**
	13nm,0.4s						
GUN	**Gumba**	**44.11**	**276**	*eP*	**P**	**03 53 07.9**	**-0.4**
GKN	**Gorkha**	**45.10**	**277**	*eP*	**P**	**03 53 15.1**	**-0.7**
	8.3nm,0.4s						
KURBB	**Kurchatov Arra**	**45.16**	**310**	P	**P**	**03 53 15.7**	**0.0**
	2.0nm,0.5s,baz=88,slow=6.3,SNR=32						
DANN	**Dangsing**	**45.69**	**278**	*eP*	**P**	**03 53 20.5**	**-0.1**
	20nm,0.3s						
KOLN	**Koldanda**	**46.04**	**277**	*eP*	**P**	**03 53 22.6**	**-0.5**
	4.4nm,0.4s						
PYUN	**Piuthan**	**46.41**	**278**	*eP*	**P**	**03 53 25.9**	**-0.2**
	26nm,0.4s						
BVAR	**Borovoye Array**	**50.03**	**314**	P	**P**	**03 53 53.0**	**+0.2**
	0.8nm,0.3s,baz=110,slow=5.9,SNR=8.4						
BVAR				PcP	**PcP**	**03 55 07.0**	**0.0**
	0.3nm,0.4s,baz=70,slow=4.7,SNR=3.5						
ILAR	**Eielson Array**	**53.66**	**31**	P	**P**	**03 54 19.6**	**+0.5**
	0.6nm,0.8s,baz=271,slow=4.9,SNR=8.6						
WRA	**Warramunga Arr**	**53.92**	**183**	P	**P**	**03 54 20.2**	**-1.3**
	2.2nm,0.3s,baz=360,slow=7.6,SNR=102						
ASAR	**Alice Springs**	**57.64**	**184**	P	**P**	**03 54 46.5**	**-1.2**
	0.5nm,0.3s,baz=16,slow=12,SNR=14						
AKTO	**Aktyubinsk**	**58.08**	**312**	P	**P**	**03 54 52.3**	**+1.9**
	1.1nm,0.6s,baz=88,slow=11,SNR=5.8						
INK	**Inuvik**	**58.41**	**26**	P	**P**	**03 54 53.2**	**+0.8**
	1.2nm,0.5s,baz=298,slow=7.1,SNR=11						
KEV	**Kevo**	**64.88**	**339**	*ep*	**P**	**03 55 32.4**	**-2.7**
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**65.44**	**339**	P	**P**	**03 55 39.1**	**+0.3**
	1.1nm,0.6s,baz=69,slow=7.9,SNR=11						
JOF	**Joensuu**	**66.85**	**331**	*ep*	**P**	**03 55 47.2**	**-0.5**
	0.4nm,0.3s						
YKA	**Yellowknife Ar**	**67.91**	**28**	P	**P**	**03 55 55.2**	**+0.9**
	0.3nm,0.4s,baz=298,slow=6.0,SNR=14						
KAF	**Kangasniemi**	**69.25**	**332**	*ep*	**P**	**03 56 01.9**	**-0.6**
	1.1nm,0.4s						
FINES	**FINESS Array B**	**69.72**	**331**	P	**P**	**03 56 05.3**	**0.0**
	0.9nm,0.4s,baz=77,slow=4.7,SNR=15						
KBZ	**Khabaz**	**70.16**	**310**	P	**P**	**03 56 08.3**	**0.0**
	1.4nm,0.7s,baz=63,slow=2.3,SNR=4.0						
AKASG	**Malin Array Be**	**74.43**	**321**	P	**P**	**03 56 33.0**	**-0.3**
	0.6nm,0.4s,baz=52,slow=5.5,SNR=7.5						
HFS	**Hagfors**	**75.23**	**334**	P	**P**	**03 56 37.3**	**-0.4**
	0.3nm,0.3s,baz=45,slow=2.2,SNR=5.4						
NOA	**NORSAR Array B**	**75.45**	**336**	P	**P**	**03 56 38.6**	**-0.4**
	0.6nm,0.7s,baz=47,slow=5.8,SNR=2.7						
BRTR	**Keskin Array B**	**78.15**	**310**	P	**P**	**03 56 54.6**	**+0.2**
	1.1nm,0.7s,baz=67,slow=3.7,SNR=4.3						
PDAR	**Pinedale Array**	**82.03**	**43**	P	**P**	**03 57 15.2**	**+0.1**
	0.4nm,0.8s,baz=359,slow=3.8,SNR=3.6						
GERES	**GERESS Array B**	**83.27**	**326**	P	**P**	**03 57 21.1**	**0.0**
	0.9nm,0.6s,baz=45,slow=5.8,SNR=10.0						
TXAR	**Lajitas Array**	**94.51**	**50**	P	**P**	**03 58 15.6**	**+1.0**
	0.3nm,0.6s,baz=285,slow=2.5,SNR=4.6						

*IDC **09** 03:46:07.6±3.6, 34.76S×72.56W, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/21, mbtmp3.2/4, ML3.6/2, Error ellipse: s-maj=90.2km s-min=22.8km az=90.0*
*GUC **09** 03:46:08.9±0.5, 34.75S×72.70W, h19km±3km, ML4.2*
ISC 09 03:46:07.5±2.8, 34.72S±0.05×72.71W±0.08, h4km±17km, n11, σ0°72/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.11**	**128**	*eP*	**Pb**	**03 46 29.4**	**+0.1**
TALC				*eS*	**Sn**	**03 46 44.9**	**-0.8**
NICH	**Los Niches**	**1.25**	**104**	*eP*	**Pn**	**03 46 31.6**	**-0.1**
NICH				*eS*	**Sn**	**03 46 48.9**	**-0.1**
COCH	**Cobquecura**	**1.41**	**183**	*eP*	**Pn**	**03 46 33.6**	**-0.4**
COCH				*eS*	**Sn**	**03 46 53.0**	**0.0**
LNCH	**Linares**	**1.45**	**142**	*eP*	**Pb**	**03 46 34.7**	**-0.3**
LNCH				*eS*	**Sg**	**03 46 54.0**	**+0.1**
SJCH	**San Jose de Ma**	**2.23**	**62**	*eP*	**Pn**	**03 46 46.3**	**+1.0**
SJCH				*eS*	**Sb**	**03 47 15.5**	**-0.9**
SJCH				AML	AML	03 47 24.1	
	comp=E,1μm,0.6s						
CLCH	**Cerro Calan**	**2.23**	**54**	*eP*	**Pb**	**03 46 47.6**	**-0.8**
CLCH				*eS*	**Sb**	**03 47 17.3**	**+0.8**
CLCH				AML	AML	03 47 30.0	
	comp=N,2μm,2.2s						
PEL	**Peldehue**	**2.30**	**48**	*eP*	**Pb**	**03 46 48.9**	**-0.8**
PEL				*eS*	**Sb**	**03 47 19.1**	**+0.7**
PEL				AML	AML	03 47 25.9	
	comp=N,3μm,0.6s						
CFAA	**Coronel Fontan**	**4.87**	**52**	Pn	**Pn**	**03 47 21.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=222,slow=12,SNR=11						
CFAA				Lg	Lg	03 48 30.6	
	comp=N,0.6nm,0.3s,baz=201,slow=14,SNR=3.4						
PLCA	**Paso Flores**	**6.24**	**165**	Pn	**Pn**	**03 47 41.9**	**+1.4**
	comp=N,0.4nm,0.3s,baz=342,slow=13,SNR=13						
PLCA				Lg	Lg	03 49 22.1	
	comp=N,0.3nm,0.3s,baz=268,slow=15,SNR=3.5						
LPAZ	**La Paz**	**18.81**	**14**	P	**P**	**03 50 29.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=191,slow=8.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**84.97**	**70**	P	**P**	**03 58 44.2**	**-0.2**
	comp=N,0.2nm,0.7s,baz=248,slow=5.9,SNR=2.5						

*ISCJB **09** 03:53:18.2±0.2, 24.82N±0.02×121.82E±0.02, h91km±1km, mb3.8/16, Error ellipse: s-maj=3.8km s-min=2.7km az=159.5*
*JMA **09** 03:53:18.9±0.2, 24.79N×121.83E, h82km±2km, M3.5*
*TAP **09** 03:53:19.3, 24.77N×121.79E, h81km, ML4.3, B*
*NEIC **09** 03:53:19.3, 24.77N×121.79E, h81km, mb3.9/3, After TAP.*
NEIC Felt at T'u-ch'eng. Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien and T'ai-pei.
*IDC **09** 03:53:26.7±4.4, 24.73N×121.80E, h163km±41km, mb3.4/13, mb1 3.5/14, mb1mx3.3/40, mbtmp3.9/14, Error ellipse: s-maj=24.9km s-min=12.0km az=67.0*
ISC 09 03:53:18.9±0.6, 24.79N±0.03×121.83E±0.02, h85km±4km, n91, σ0°91/139, mb3.9/16, 3C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.07**	**253**	⇓*iP*	**Pn**	**03 53 31.7**	**+0.8**
	baz=270						
ILA				*i* S	**Sn**	**03 53 41.2**	**+1.3**
	baz=270						
EGS		**0.11**	**59**	⇓*iP*	**Pn**	**03 53 31.5**	**+0.5**
	baz=75						
EGS				*e*S	**Sn**	**03 53 41.0**	**+1.0**
	baz=75						
TWE	**Neicheng**	**0.16**	**246**	⇓*iP*	**Pn**	**03 53 31.7**	**+0.6**
	baz=258						
TWE				*i* S	**Sn**	**03 53 40.8**	**+0.6**
	baz=258						
TWC	**Suao**	**0.18**	**173**	⇓*iP*	**Pn**	**03 53 32.0**	**+0.7**
	baz=159						
TWC				S	**Sn**	**03 53 41.1**	**+0.8**
	baz=159						
TWB1	**Santiao Chiao**	**0.27**	**34**	⇓*iP*	**Pn**	**03 53 32.0**	**+0.3**
	baz=47						
TWB1				*i* S	**Sn**	**03 53 41.0**	**0.0**
	baz=47						
ENTT	**Nioudou**	**0.28**	**238**	⇓P	**Pn**	**03 53 32.2**	**+0.5**
	baz=247						
NWF	**Wu-fen Shan**	**0.29**	**352**	⇓*iP*	**Pn**	**03 53 32.2**	**+0.3**
	baz=358						
NWF				*i* S	**Sn**	**03 53 41.5**	**+0.1**
	baz=358						
TWA	**Mucha**	**0.29**	**311**	⇓*iP*	**Pn**	**03 53 32.1**	**+0.3**
	baz=313						
TWA				S	**Sn**	**03 53 41.2**	**-0.1**
	baz=313						
TATO	**Taipei**	**0.36**	**302**	*eP*	**Pn**	**03 53 31.9**	**-0.3**
TATO				*eS*	**Sn**	**03 53 41.3**	**-0.6**
ENA	**Nanau**	**0.36**	**192**	⇓*eP*	**Pn**	**03 53 32.5**	**+0.3**
	baz=193						
ENA				*e*S	**Sn**	**03 53 43.3**	**+1.3**
	baz=193						
TAP1	**Taipei**	**0.37**	**312**	⇑*iP*	**Pn**	**03 53 32.2**	**0.0**
	baz=316						
TAP1				*i* S	**Sn**	**03 53 41.9**	**-0.2**
	baz=316						
TAP	**Taipei**	**0.38**	**311**	⇓P	**Pn**	**03 53 32.3**	**0.0**
	baz=316						
TAP				S	**Sn**	**03 53 41.9**	**-0.3**
	baz=316						
YHNB	**Yeheng**	**0.43**	**254**	⇑*iPn*	**Pn**	**03 53 32.4**	**-0.3**
YHNB				*e*Sn	**Sn**	**03 53 41.8**	**-1.1**
NSK	**Sanguang**	**0.44**	**256**	⇓*iP*	**Pn**	**03 53 32.7**	**-0.1**
	baz=256						
NSK				*i* S	**Sn**	**03 53 42.0**	**-1.1**
	baz=256						
EHP	**Heping Village**	**0.48**	**189**	*eP*	**Pn**	**03 53 34.7**	**+1.6**
	baz=194						
TWS1	**Kuangyinshan**	**0.48**	**310**	⇓*iP*	**Pn**	**03 53 33.6**	**+0.5**
	baz=303						
TWS1				*i* S	**Sn**	**03 53 44.2**	**+0.7**
	baz=303						
TWY	**Chenhua**	**0.53**	**337**	⇓*iP*	**Pn**	**03 53 33.8**	**+0.4**
	baz=335						
TWY				*i* S	**Sn**	**03 53 44.9**	**+0.8**
	baz=335						
NNS	**Nan Shan**	**0.54**	**230**	⇓*iP*	**Pn**	**03 53 33.9**	**+0.3**
	baz=229						
NNS				*e*S	**Sn**	**03 53 44.5**	**-0.1**
	baz=229						
NCU	**National Centr**	**0.61**	**288**	P	**Pn**	**03 53 34.3**	**+0.2**
	baz=281						
NCU				S	**Sn**	**03 53 45.7**	**+0.3**
	baz=281						
NACB	**Ninganchiao**	**0.65**	**199**	*e*Pn	**Pn**	**03 53 33.1**	**-1.4**
TWD	**Chiawan**	**0.73**	**197**	*eP*	**Pn**	**03 53 34.8**	**-0.6**
	baz=200						
TWD				*e*S	**Sn**	**03 53 47.4**	**-0.2**
	baz=200						
NSTT	**Nanjuang**	**0.77**	**258**	⇑*iP*	**Pn**	**03 53 35.8**	**+0.1**
	baz=258						
NSTT				*i* S	**Sn**	**03 53 47.5**	**-0.6**
	baz=258						
HSN	**Hsinchu**	**0.78**	**271**	*eP*	**Pn**	**03 53 35.6**	**-0.2**
	baz=274						
HSN				*e*S	**Sn**	**03 53 47.7**	**-0.7**
	baz=274						
TWT	**Tachien**	**0.80**	**228**	⇓*iP*	**Pn**	**03 53 37.2**	**+1.0**
	baz=221						
TWT				S	**Sn**	**03 53 49.8**	**+0.7**
	baz=221						
WHF	**Hehuan Shan**	**0.82**	**219**	⇓*iP*	**Pn**	**03 53 37.0**	**+0.3**
	baz=208						
WHF				*e*S	**Sn**	**03 53 49.9**	**0.0**
	baz=208						
HWA	**Hwalien**	**0.83**	**194**	*eP*	**Pn**	**03 53 36.0**	**-0.4**
	baz=200						
PCYT	**Pengchaiyu**	**0.87**	**15**	*eP*	**Pn**	**03 53 37.1**	**+0.3**
	baz=20						
PCYT				*e*S	**Sn**	**03 53 51.0**	**+0.8**
	baz=20						
ESL	**Shilin**	**1.03**	**200**	*eP*	**Pn**	**03 53 37.7**	**-1.0**
	baz=191						
NSY	**Sanyi**	**1.04**	**249**	P	**Pn**	**03 53 39.4**	**+0.6**
	baz=258						
NSY				*e*S	**Sn**	**03 53 53.9**	**+0.3**
	baz=258						
TWQ1	**Liyutan**	**1.05**	**246**	P	**Pn**	**03 53 39.3**	**+0.3**
	baz=246						
TWQ1				*e*S	**Sn**	**03 53 53.7**	**-0.3**
	baz=246						
JYNG	**Yonaguni jima**	**1.07**	**108**	P	**Pn**	**03 53 39.2**	**+0.1**
JYNG				*e*S	**Sn**	**03 53 54.1**	**-0.2**
YOJ	**Yonaguni jima**	**1.13**	**106**	P	**Pn**	**03 53 39.8**	**0.0**
YOJ				*e*S	**Sn**	**03 53 55.1**	**-0.3**
YOJ	**Yonaguni jima**	**1.13**	**106**	*e*Pn	**Pn**	**03 53 39.7**	**0.0**
YOJ				*e*Sn	**Sn**	**03 53 55.4**	**0.0**
WDT	**Danda**	**1.21**	**212**	⇓P	**Pn**	**03 53 41.4**	**+0.3**
	baz=219						
TCU	**Taichung**	**1.23**	**239**	*eP*	**Pn**	**03 53 41.1**	**+0.1**
	baz=239						
SMLT	**Sun Moon Lake**	**1.23**	**223**	P	**Pn**	**03 53 42.2**	**+0.9**
	baz=230						
SMLT				S	**Sn**	**03 53 59.1**	**+1.2**
	baz=230						
TYC	**Yuchr**	**1.25**	**225**	*eP*	**Pn**	**03 53 41.8**	**+0.6**
	baz=224						
TYC				S	**Sn**	**03 53 59.5**	**+1.4**
	baz=224						
SSLB	**Suanglung**	**1.27**	**219**	*e*Pn	**Pn**	**03 53 41.2**	**-0.4**
SSLB				*e*Sn	**Sn**	**03 54 00.7**	**+1.9**
EHY	**Hungye**	**1.36**	**200**	*eP*	**Pn**	**03 53 41.7**	**-1.0**
	baz=192						
WNT	**Mingjian**	**1.38**	**229**	*eP*	**Pn**	**03 53 42.4**	**-0.6**
	baz=238						
WNT				*e*S	**Sn**	**03 54 01.4**	**+0.4**
	baz=238						
YULB	**Yu-li**	**1.47**	**199**	*e*Pn	**Pn**	**03 53 42.7**	**-1.4**
TWF1	**Yuli**	**1.51**	**199**	*eP*	**Pn**	**03 53 43.2**	**-1.3**
	baz=197						
YUS	**Yu-Shan**	**1.52**	**212**	*eP*	**Pn**	**03 53 46.0**	**+0.8**
	baz=222						
YUS				*e*S	**Sn**	**03 54 05.1**	**+0.2**
	baz=222						
ALS	**Alishan**	**1.58**	**216**	*eP*	**Pn**	**03 53 46.9**	**+1.1**
	baz=225						
CHN5	**Tsauling**	**1.58**	**222**	*eP*	**Pn**	**03 53 46.4**	**+0.8**
	baz=221						
CHN5				*e*S	**Sn**	**03 54 06.7**	**+0.9**
	baz=221						
WGK	**Gukeng**	**1.59**	**227**	*eP*	**Pn**	**03 53 46.2**	**+0.6**
	baz=236						
WGK				*e*S	**Sn**	**03 54 07.3**	**+1.5**
	baz=236						
CHKT	**Chengkung**	**1.73**	**194**	*eP*	**Pn**	**03 53 47.3**	**-0.2**
	baz=192						
ELDTW	**Lidau**	**1.75**	**205**	*eP*	**Pn**	**03 53 48.5**	**+0.7**
	baz=197						
IRIF	**Iriomote-Funau**	**1.79**	**104**	P	**Pn**	**03 53 48.2**	**0.0**
IRIF				*e*S	**Sn**	**03 54 10.4**	**-0.1**
CHY	**Chiayi**	**1.81**	**225**	*eP*	**Pn**	**03 53 48.7**	**+0.1**
	baz=234						
CHY				*e*S	**Sn**	**03 54 11.7**	**+0.7**
	baz=234						
CHN4	**Tsaushan**	**1.82**	**219**	*eP*	**Pn**	**03 53 49.0**	**+0.4**
	baz=218						
CHN4				*e*S	**Sn**	**03 54 14.5**	**+3.3**
	baz=218						
TPUB	**Ta-pu**	**1.84**	**217**	*e*Pn	**Pn**	**03 53 49.2**	**+0.3**
STYT	**Tauyuan**	**1.89**	**211**	*eP*	**Pn**	**03 53 50.8**	**+1.2**
	baz=220						
STYT				*e*S	**Sn**	**03 54 15.1**	**+2.2**
	baz=220						
WTP	**Ta-pu**	**1.89**	**216**	*eP*	**Pn**	**03 53 50.3**	**+0.7**
	baz=214						
WTP				*e*S	**Sn**	**03 54 16.6**	**+3.7**
	baz=214						
HATJ	**Hateruma jima**	**1.94**	**112**	P	**Pn**	**03 53 50.8**	**+0.6**
HATJ				*e*S	**Sn**	**03 54 14.8**	**+0.7**
TWK	**Hsinying**	**1.95**	**219**	*eP*	**Pn**	**03 53 51.0**	**+0.6**
	baz=218						
CHN1	**Nanshi**	**1.99**	**217**	*eP*	**Pn**	**03 53 51.5**	**+0.6**
	baz=217						
CHN1				*e*S	**Sn**	**03 54 16.2**	**+1.1**
	baz=217						
SGST	**Jiashian**	**2.04**	**214**	*eP*	**Pn**	**03 53 52.8**	**+1.2**
	baz=224						
JKRS	**Kuro-shima**	**2.06**	**105**	P	**Pn**	**03 53 52.1**	**+0.3**
JKRS				*e*S	**Sn**	**03 54 17.1**	**+0.2**
TWG	**Pinlang**	**2.08**	**200**	*eP*	**Pn**	**03 53 50.9**	**-1.1**
	baz=189						
TWG	**Pinlang**	**2.08**	**200**	*e*Pn	**Pn**	**03 53 50.5**	**-1.5**
JIJ	**Ishigaki jima**	**2.15**	**101**	P	**Pn**	**03 53 53.0**	**0.0**
JIJ				*e*S	**Sn**	**03 54 18.3**	**-0.7**
JISG	**Ishigakijimahi**	**2.27**	**95**	P	**Pn**	**03 53 54.8**	**+0.3**
JISG				*e*S	**Sn**	**03 54 23.2**	**+1.4**
SSD	**Sandimen**	**2.31**	**209**	*eP*	**Pn**	**03 53 56.5**	**+1.4**
	baz=218						
PNG	**Penghu**	**2.40**	**240**	*eP*	**Pn**	**03 53 56.0**	**-0.4**
	baz=241						
WDGT	**Dungji**	**2.50**	**233**	*eP*	**Pn**	**03 53 58.0**	**-0.4**
	baz=233						
EAST	**Anshuo**	**2.56**	**201**	*eP*	**Pn**	**03 53 58.0**	**-0.4**
	baz=190						
JTJ	**Tarama**	**2.62**	**93**	P	**Pn**	**03 54 00.4**	**+1.2**
JTJ				*e*S	**Sn**	**03 54 31.6**	**+1.4**
SCZT	**Fangliau**	**2.65**	**205**	*eP*	**Pn**	**03 53 59.8**	**+0.2**
	baz=203						
LAY	**Lan-yu**	**2.75**	**185**	*eP*	**Pn**	**03 53 59.6**	**-1.4**
	baz=178						
QZH	**Quanzhou**	**2.94**	**274**	⇓*i*Pn	**Pn**	**03 54 03.0**	**-0.6**
QZH				sPn	Sn	03 54 30.8	-7.2
QZH				Sn	Sn	03 54 34.9	-3.1
QZH				smax	smax		
	comp=N,330nm,0.6s						
QZH				smax	smax		
	comp=E,250nm,0.5s						
TWK1	**Hengchun**	**2.98**	**199**	*eP*	**Pn**	**03 54 04.4**	**+0.2**
	baz=196						
KNM	**Kinmen**	**3.11**	**264**	*eP*	**Pn**	**03 54 06.9**	**+1.0**
	baz=263						
KNM				*e*S	**Sn**	**03 54 42.1**	**+0.1**
	baz=263						
JKE	**Kume jima 2**	**4.74**	**70**	P	**Pn**	**03 54 29.7**	**+1.8**
KSRS	**Korea Array**	**13.66**	**21**	P	**P**	**03 56 36.1**	**+1.3**
	comp=E,0.4nm,0.3s,baz=201,slow=12,SNR=17						
CMAR	**Chiang Mai Arr**	**22.17**	**258**	P	**P**	**03 58 10.2**	**+2.0**
	comp=E,0.8nm,0.3s,baz=64,slow=6.1,SNR=3.6						
SONM	**Songino Array**	**26.05**	**336**	P	**P**	**03 58 44.7**	**+0.3**
	comp=E,3.1nm,0.9s,baz=150,sl

mb1 3.6/4, mb1mx3.2/31, mbtmp3.6/4, Error ellipse: s-maj=204.7km s-min=19.4km az=106.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.06**	**4**	P	Pn	04 05 26.9	+0.4
	123nm,0.3s,baz=284,slow=23,SNR=56						
JCJ				S	Sn	04 05 40.5	+0.2
	53nm,0.3s,baz=12,slow=24,SNR=8.2						
WRA	**Warramunga Arr**	**46.31**	**190**	P	P	04 13 28.0	-0.3
	2.6nm,0.6s,baz=11,slow=8.7,SNR=34						
WRA				pP	pP	04 13 42.2	-0.5
	0.5nm,0.4s,baz=10,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**50.04**	**190**	P	P	04 13 56.9	-0.1
	0.1nm,0.5s,baz=15,slow=10,SNR=4.3						
ILAR	**Eielson Array**	**58.68**	**28**	P	P	04 14 59.6	+0.3
	0.4nm,0.7s,baz=260,slow=5.4,SNR=5.1						
YKA	**Yellowknife Ar**	**73.11**	**28**	P	P	04 16 31.8	-0.2
	0.3nm,0.7s,baz=294,slow=5.8,SNR=6.1						
YKA				pP	pP	04 16 47.1	-0.1
	0.1nm,0.5s,baz=293,slow=6.2,SNR=1.6						

ISCJB ***09*** *04:34:40.3±0.6, 32.47N±0.05×115.89W±0.05, h10km, Error ellipse: s-maj=6.9km s-min=5.5km az=28.0*
NEIC ***09*** *04:34:45.5, 32.79N×116.04W, h6km, ML3.2(PAS), After PAS.*
NEIC Felt at Chula Vista, Coronado, San Diego and San Marcos. Also felt at Mexicali, Baja California.
MEX ***09*** *04:34:46.3±1.0, 32.46N×115.21W, h23km±9km, MD3.6*
ISC 09 04:34:39.7±0.9, 32.46N±0.05×115.79W±0.03, h10km, n18, σ1§95/20, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.41**	**96**	*i* P	**Pb**	**04 34 48.6**	**-0.5**
MBIG	**Mexicali**	**0.50**	**96**	*e*P	**Pg**	**04 34 49.9**	**+0.4**
MBIG				*e*S	**Sg**	**04 34 52.2**	**-3.9**
CBX	**Cerro Bola**	**0.76**	**259**	*i* P	Pn	04 35 06.2	+10
CBX				*i* S	Sn	04 35 19.9	+12
BAR	**Barrett**	**0.78**	**286**	*e*Pg	**Pg**	**04 34 55.1**	**+0.4**
BAR				*e*Sg	**Sg**	**04 35 02.6**	**-2.3**
GLA	**Glamis**	**1.00**	**54**	*e*Pg	**Pn**	**04 35 01.3**	**+1.5**
PFO	**Pinyon Flats O**	**1.27**	**334**	*e*Pg	**Pn**	**04 35 01.3**	**-2.5**
PFO				*e*Sg	Sb	04 35 11.4	-9.0
SPIG	**San Pedro Mart**	**1.44**	**169**	*i* P	**Pg**	**04 35 07.9**	**+0.6**
SPIG				*e*S	**Sb**	**04 35 25.9**	**+0.6**
SPIG	**San Pedro Mart**	**1.44**	**169**	*i* P	**Pg**	**04 35 07.9**	**+0.6**
SPIG				*e*S	**Sb**	**04 35 25.9**	**+0.6**
214A	**Organ Pipe Nat**	**2.57**	**101**	*e*Pn	**Pg**	**04 35 30.7**	**+1.7**
MWC	**Mount Wilson**	**2.59**	**313**	*e*Pg	**Pn**	**04 35 24.4**	**+2.5**
GSC	**Goldstone, Bar**	**2.96**	**344**	*e*Pn	**Pn**	**04 35 27.2**	**+0.3**
ISA	**Isabella, Lake**	**3.90**	**326**	*e*Pg	**Pb**	**04 35 48.7**	**+0.1**
TUC	**Tucson**	**4.23**	**91**	*e*Pn	**Pb**	**04 35 52.7**	**-1.7**
TUC				*e*Sn	**Sb**	**04 36 45.6**	**+0.1**
WUAZ	**Wupatki**	**4.77**	**49**	*e*Pn	Pn	04 35 56.5	+4.8
CCUT	**Cedar City**	**5.45**	**21**	*e*Pn	**Pn**	**04 36 04.1**	**+2.8**
	15nm,1.2s						
ARUT	**Antelope Range**	**5.65**	**19**	*e*Pn	**Pn**	**04 36 07.1**	**+3.2**
	3.9nm,0.8s						
W18A	**Petrified Fore**	**5.69**	**61**	*e*Pn	Pn	04 36 08.4	+3.9
MVCO	**Mesa Verde**	**7.64**	**50**	*e*Pn	Pn	04 36 36.9	+5.7
MVCO				*e*Sg	**Sg**	**04 38 42.8**	**-2.0**

DDA ***09*** *04:36:00.5, 36.69N×36.11E, h12km, MD3.3*
CSEM ***09*** *04:36:01.6±0.3, 36.66N×36.06E, h2km, MD3.3, Error ellipse: s-maj=6.2km s-min=5.6km az=174.0*
ISK ***09*** *04:36:01.9, 36.75N×36.01E, h5km, MD3.3*
NSSC ***09*** *04:36:03.7±1.5, 36.61N×36.08E, h5km±9km, ML2.6*
ISC 09 04:36:01.4±1.0, 36.67N±0.02×36.10E±0.02, h9km±9km, n46, σ1§13/72, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.44**	**321**	*e*PG	**Pg**	**04 36 09.7**	**-0.3**
CEYT	**Ceyhan**	**0.44**	**321**	*e*Pg	**Pg**	**04 36 09.7**	**-0.3**
YAYL	**Yayladag**	**0.63**	**179**	*i* P	**Pg**	**04 36 12.8**	**-0.9**
YAYL				*i* S	**Sg**	**04 36 22.1**	**+0.2**
YAYL	**Yayladag**	**0.63**	**179**	*i* P	**Pg**	**04 36 12.8**	**-0.9**
YAYL				*i* S	**Sg**	**04 36 22.1**	**+0.2**
BTCH	**Batrach**	**0.69**	**155**	*e*P	**Pb**	**04 36 15.6**	**-0.1**
BTCH				*e*S	**Sb**	**04 36 25.8**	**+0.4**
BTCH				AML	AML	04 36 31.6	
	comp=E,282nm,0.5s						
BTCH				AML	AML	04 36 32.7	
	comp=N,696nm,0.6s						
BTCH	**Batrach**	**0.69**	**155**	*e*P	**Pg**	**04 36 15.5**	**+0.7**
BTCH				*e*S	**Sb**	**04 36 25.4**	**0.0**
BTCH				AML	AML	04 36 30.0	
	comp=E,343nm,0.2s						
BTCH				AML	AML	04 36 32.5	
	comp=N,590nm,0.3s						
KUZU	**Kuzuini**	**0.79**	**82**	*i* P	**Pg**	**04 36 15.6**	**-1.1**
KUZU				*i* S	**Sb**	**04 36 29.8**	**+1.6**
KUZU	**Kuzuini**	**0.79**	**82**	*i* P	**Pg**	**04 36 15.6**	**-1.1**
KUZU				*i* S	**Sb**	**04 36 29.8**	**+1.6**
ARNB	**Al Arnab**	**0.81**	**187**	*e*P	**Pb**	**04 36 18.6**	**+0.9**
ARNB				*e*S	**Sg**	**04 36 28.4**	**+0.8**
ARNB				AML	AML	04 36 33.0	
	comp=N,237nm,0.6s						
ARNB				AML	AML	04 36 34.9	
	comp=E,76nm,0.8s						
ARNB	**Al Arnab**	**0.81**	**187**	*e*P	**Pb**	**04 36 18.6**	**+0.9**
ARNB				*e*S	**Sg**	**04 36 28.2**	**+0.6**
ARNB				AML	AML	04 36 34.6	
	comp=N,244nm,0.5s						
ARNB				AML	AML	04 36 42.9	
	comp=E,66nm,0.6s						
KOZT	**Kozan**	**0.84**	**345**	*e*PG	**Pg**	**04 36 17.4**	**-0.2**
KOZT				*e*SG	**Sg**	**04 36 28.6**	**+0.1**
KOZT	**Kozan**	**0.84**	**345**	*e*Pg	**Pg**	**04 36 17.4**	**-0.2**
KOZT				*e*Sg	**Sg**	**04 36 28.6**	**+0.1**
ANDN	**Andirin**	**0.93**	**12**	*i* P	**Pg**	**04 36 19.1**	**-0.2**
ANDN				*i* S	**Sg**	**04 36 30.3**	**-1.2**
ANDN	**Andirin**	**0.93**	**12**	*i* P	**Pg**	**04 36 19.1**	**-0.2**
ANDN				*i* S	**Sg**	**04 36 30.3**	**-1.2**
HCB	**Kahramanmara¯**	**0.94**	**44**	*i* P	**Pg**	**04 36 18.9**	**-0.5**
HCB				*i* S	**Sg**	**04 36 30.8**	**-0.8**
KARA	**Karaisali**	**1.02**	**306**	*e*PG	**Pg**	**04 36 20.7**	**-0.4**
KARA	**Karaisali**	**1.02**	**306**	*e*Pg	**Pg**	**04 36 20.7**	**-0.4**
KMRS	**Kahramanmaras**	**1.05**	**37**	*e*PG	**Pg**	**04 36 21.5**	**-0.2**
KMRS	**Kahramanmaras**	**1.05**	**37**	*e*Pg	**Pg**	**04 36 21.5**	**-0.2**
WRDH	**Warideh**	**1.19**	**167**	*e*P	**Pn**	**04 36 24.6**	**+0.4**
WRDH				*e*S	**Sn**	**04 36 40.7**	**+0.2**
WRDH				AML	AML	04 36 42.9	
	comp=N,300nm,0.8s						
WRDH				AML	AML	04 36 45.3	
	comp=Z,235nm,0.4s						
WRDH	**Warideh**	**1.19**	**167**	*e*P	**Pb**	**04 36 24.4**	**+0.3**
WRDH				*e*S	**Sb**	**04 36 38.7**	**-0.8**
WRDH				AML	AML	04 36 43.4	
	comp=E,110nm,0.3s						
WRDH				AML	AML	04 36 49.0	
	comp=N,316nm,0.5s						
MERS	**Mersin**	**1.28**	**279**	*e*PN	**Pn**	**04 36 25.8**	**+0.2**
MERS	**Mersin**	**1.28**	**279**	*e*Pn	**Pn**	**04 36 25.8**	**+0.2**
KFRA	**Kufra**	**1.56**	**158**	*e*P	**Pn**	**04 36 30.2**	**+0.8**
KFRA				*e*S	**Sn**	**04 36 45.3**	**-4.5**
KFRA				AML	AML	04 36 54.7	
	comp=N,608nm,0.6s						
KFRA				AML	AML	04 37 02.1	
	comp=E,438nm,0.3s						
KIZK	**Mersin**	**1.58**	**264**	*i* P	**Pb**	**04 36 30.5**	**-0.3**
KIZK				*i* S	**Sg**	**04 36 52.9**	**+0.6**
KIZK	**Mersin**	**1.58**	**264**	*i* P	**Pb**	**04 36 30.5**	**-0.3**
KIZK				*i* S	**Sg**	**04 36 52.9**	**+0.6**
BIDA	**Albida**	**1.66**	**174**	*e*P	**Pb**	**04 36 32.8**	**+0.6**
BIDA				*e*S	**Sn**	**04 36 51.8**	**-0.5**
BIDA				AML	AML	04 36 59.5	
	comp=E,131nm,0.6s						
BIDA				AML	AML	04 37 00.5	
	comp=N,242nm,0.4s						
BIDA	**Albida**	**1.66**	**174**	*e*P	**Pb**	**04 36 32.5**	**+0.3**
BIDA				*e*S	**Sn**	**04 36 49.0**	**-3.3**
BIDA				AML	AML	04 36 59.6	
	comp=E,133nm,0.7s						
BIDA				AML	AML	04 37 00.5	
	comp=N,244nm,0.5s						
NIG	**Nigde**	**1.86**	**321**	*e*PN	**Pn**	**04 36 34.6**	**+0.8**
NIG	**Nigde**	**1.86**	**321**	*e*Pn	**Pn**	**04 36 34.6**	**+0.8**
ATAB	**Bozova**	**1.93**	**65**	*i* P	**Pb**	**04 36 36.0**	**-0.8**
ATAB				*i* S	**Sb**	**04 37 01.8**	**+0.8**
ATAB	**Bozova**	**1.93**	**65**	*i* P	**Pb**	**04 36 36.0**	**-0.8**
ATAB				*i* S	**Sb**	**04 37 01.8**	**+0.8**
JHLN	**Al Jahlan**	**2.14**	**117**	*e*P	**Pg**	**04 36 43.3**	**+0.9**
JHLN				*e*S	**Sb**	**04 37 08.3**	**+1.3**
HAWK	**Haweek**	**2.16**	**173**	*e*P	**Pn**	**04 36 39.4**	**+1.7**
HAWK				*e*S	**Sn**	**04 37 01.6**	**-2.9**
HAWK				AML	AML	04 37 10.2	
	comp=E,39nm,0.4s						
HAWK				AML	AML	04 37 11.7	
	comp=N,48nm,0.4s						
AKCD	**Akcadag**	**2.18**	**41**	*i* P	**Pn**	**04 36 39.4**	**+1.4**
AKCD				*i* S	**Sn**	**04 37 06.5**	**+1.3**
AKCD	**Akcadag**	**2.18**	**41**	*i* P	**Pn**	**04 36 39.4**	**+1.4**
AKCD				*i* S	**Sn**	**04 37 06.5**	**+1.3**
BNN	**Bunyan**	**2.19**	**355**	*e*PN	**Pn**	**04 36 39.6**	**+1.6**
BNN	**Bunyan**	**2.19**	**355**	*e*Pn	**Pn**	**04 36 39.7**	**+1.6**
DARE	**Darende-Malaty**	**2.20**	**30**	*e*PN	**Pb**	**04 36 40.2**	**-1.1**
DARE	**Darende-Malaty**	**2.20**	**30**	*e*Pn	**Pb**	**04 36 40.2**	**-1.1**
URFA	**Urfa**	**2.31**	**70**	*e*PN	**Pb**	**04 36 43.4**	**+0.1**
URFA	**Urfa**	**2.31**	**70**	*e*Pn	**Pb**	**04 36 43.4**	**+0.1**
KSRV	**Kasrt alli**	**2.48**	**108**	*e*P	**Pb**	**04 36 46.2**	**+0.1**
KSRV				*e*S	**Sn**	**04 37 11.7**	**-0.7**
KSRV				AML	AML	04 37 26.3	
	comp=Z,38nm,0.8s						
SVRC	**Sivrice-ELAZID**	**3.07**	**55**	*e*PN	Pn	04 36 53.7	+3.4
SVRC	**Sivrice-ELAZID**	**3.07**	**55**	*e*Pn	Pn	04 36 53.7	+3.4
SFNV	**Sufian**	**3.24**	**93**	*e*P	**Pn**	**04 36 51.9**	**-0.6**
SFNV				*e*S	**Sn**	**04 37 29.4**	**-1.9**
SFNV				AML	AML	04 38 01.0	
	comp=Z,34nm,0.3s						

ISCJB ***09*** *04:38:48.5±0.3, 37.63N±0.05×95.82E±0.04, h12km, mb4.2/40, MS3.4/16, Error ellipse: s-maj=6.8km s-min=4.0km az=15.8*
IDC ***09*** *04:38:48.7±0.8, 37.68N×95.90E, h0km, mb4.0/16, mb1 4.2/20, mb1mx4.1/48, mbtmp4.1/20, ML3.8/4, MS3.4/19, Ms1 3.4/19, ms1mx3.3/42, Error ellipse: s-maj=23.5km s-min=15.4km az=27.0*
NEIC ***09*** *04:38:49.5±0.3, 37.57N×95.72E, h10km, mb4.6/9, Error ellipse: s-maj=9.2km s-min=6.1km az=23.0*
BJI ***09*** *04:38:51.0, 37.56N×95.78E, h17km, mB4.4/7, mb4.4/12, ML4.3/11, Ms4.1/15, Ms7.3/8/12*
MOS ***09*** *04:38:51.6±1.7, 37.65N×95.82E, h33km, mb4.6/24, Error ellipse: s-maj=9.7km s-min=5.2km az=130.1*
NNC ***09*** *04:38:54.0±1.5, 38.06N×95.47E, h0km, mb4.4, Error ellipse: s-maj=24.2km s-min=18.5km az=34.0*
ISC 09 04:38:50.9±0.4, 37.70N±0.06×95.75E±0.04, h12km, n179, σ1§67/166, mb4.3/42, MS3.5/16, 11C-13D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.62**	**60**	Pn	**Pn**	**04 39 49.6**	**+2.8**
GTA				Pg	**Pb**	**04 39 55.3**	**+0.5**
GTA				Sn	**Sn**	**04 40 29.1**	**-0.4**
GTA				Sg	**Sb**	**04 40 37.4**	**-1.3**
GTA				SMN			
	120nm,1.0s						
GTA				SME			
	250nm,0.8s						
LZH	**Lanzhou**	**6.68**	**101**	*e*Pn	**Pn**	**04 40 28.2**	**-0.8**
LZH				Pg	**Pb**	**04 40 49.0**	**+1.9**
LZH				Sn	**Sn**	**04 41 42.7**	**-2.4**
LZH				Sg	Sb	04 42 13.5	+6.6
LZH				SMN			
	220nm,1.1s						
LZH				SME			
	250nm,1.2s						
LZH				LN			
	1μm,10.0s						
LZH				LE			
	870nm,9.7s						
LZH				LZ			
	1μm,11.2s						
WMQ	**Urumqi**	**8.65**	**318**	P	**Pn**	**04 40 57.0**	**+1.2**
WMQ				pP	pP	04 41 00.5	
WMQ				S	**Sn**	**04 42 36.4**	**+3.1**
WMQ				PMZ			
	31nm,1.2s						
WMQ				PMZ			
	58nm,4.2s						
WMQ				SMN			
	190nm,1.0s						
WMQ				SME			
	250nm,0.8s						
WMQ				LN			
	620nm,8.0s						
WMQ				LE			
	650nm,9.0s						
WMQ				LZ			
	460nm,8.4s						
LSA	**Lhasa**	**8.85**	**207**	P	**Pn**	**04 40 59.3**	**+0.3**
LSA	**Lhasa**	**8.85**	**207**	*e*P	**Pn**	**04 41 00.0**	**+1.0**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s						
LSA	**Lhasa**	**8.85**	**207**	*e*Pn	**Pn**	**04 41 00.0**	**+1.0**
	comp=Z,19nm,0.9s						
XAN	**Xi'an**	**11.29**	**105**	P	Pn	04 41 27.8	-4.2
XAN				LR	LR		
	comp=N,770nm,14.4s						
XAN				LR	LR		
	comp=E,200nm,14.4s						
XAN				LR	LR		
	comp=Z,96nm,12.4s						
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**04 41 54.8**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=217,slow=15,SNR=21						
SONM				Lg	Lg	04 45 27.7	
	comp=Z,0.1nm,0.3s,baz=227,slow=25,SNR=4.0						
SONM				LR	LR	04 47 12.2	
	comp=Z,227nm,22.0s,baz=238,slow=40						
ULN	**Ulaanbaatar**	**13.11**	**36**	*ce*P	P	04 42 03.6	-3.6
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ULN	**Ulaanbaatar**	**13.11**	**36**	*e*Pn	**Pn**	**04 41 57.6**	**+0.7**
	comp=Z,6.9nm,0.6s						
MK31	**Makanchi Array**	**13.48**	**317**	⇑P	**Pn**	**04 41 59.8**	**-2.1**
	comp=Z,11nm,0.6s,baz=122,slow=14,SNR=249						
MK31				⇓S	**Sn**	**04 44 27.6**	**-4.0**
	comp=Z,7.2nm,0.7s,baz=127,slow=26,SNR=3.0						
MK31	**Makanchi Array**	**13.48**	**317**	P	**Pn**	**04 42 01.1**	**-0.8**
MK31				pmax	pmax		
	comp=Z,12nm,0.5s						
MKAR	**Makanchi Array**	**13.48**	**317**	Pn	**Pn**	**04 42 00.8**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=125,slow=14,SNR=115						
MKAR				Sn	Sn	04 44 25.2	-6.3
	comp=Z,0.4nm,0.3s,baz=129,slow=24,SNR=2.9						
MKAR				Lg	Lg	04 46 06.1	
	baz=119,slow=24,SNR=2.1						
ENH	**Enshi**	**13.58**	**119**	*e*Pn	Pn	04 41 59.4	-4.0
	comp=Z,27nm,0.9s						
PDGK	**Podgornoye**	**13.59**	**300**	⇓P	**Pn**	**04 42 01.8**	**-1.5**
	comp=Z,9.6nm,0.7s						
PDGK				S	**Sn**	**04 44 31.3**	**-2.9**
PDGK	**Podgornoye**	**13.59**	**300**	P	**Pn**	**04 42 02.6**	**-0.7**
PDGK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZAK	**Zakamensk**	**13.78**	**21**	*e*P	**P**	**04 42 14.3**	**-0.3**
ZAK				*e*		04 44 48.1	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MOY	**Mondy**	**14.45**	**13**	*e*P	P	04 42 26.5	+4.4
TLY	**Talaya**	**15.05**	**19**	Pn	**Pn**	**04 42 19.3**	**-4.0**
	comp=Z,0.0nm,0.3s,baz=207,slow=2.3,SNR=2.8						
TLY				Lg	Lg	04 46 46.3	
	comp=Z,0.0nm,0.3s,baz=197,slow=17,SNR=1.7						
ULHL	**Ulahol**	**15.63**	**293**	P	**Pn**	**04 42 30.2**	**-0.9**
	SNR=6.4						
ULHL	**Ulahol**	**15.63**	**293**	*i* P	**Pn**	**04 42 30.2**	**-0.9**
BJT	**Baijiatuan**	**16.07**	**75**	*e*P	**Pn**	**04 42 36.4**	**-0.2**
BJT	**Baijiatuan**	**16.07**	**75**	*e*Pn	**Pn**	**04 42 36.4**	**-0.2**
TKM2	**Tokmak 2**	**16.23**	**295**	⇑P	**Pn**	**04 42 39.5**	**+0.7**
	comp=Z,21nm,0.8s						
TKM2				S	**Sn**	**04 45 36.4**	**-2.4**
TKM2	**Tokmak 2**	**16.23**	**295**	P	**Pn**	**04 42 40.1**	**+1.3**
	SNR=23						
TKM2	**Tokmak 2**	**16.23**	**295**	*i* P	**Pn**	**04 42 38.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	**16.23**	**295**	*e*Pn	**Pn**	**04 42 38.1**	**-0.7**
KZA	**Kyzart**	**16.33**	**292**	P	**Pn**	**04 42 40.9**	**+0.5**
	SNR=5.2						
KZA	**Kyzart**	**16.33**	**292**	*i* P	**Pn**	**04 42 40.8**	**+0.5**
KBK	**Karagaybulak**	**16.64**	**294**	P	**P**	**04 42 46.2**	**-0.3**
	SNR=7.9						
KBK	**Karagaybulak**	**16.64**	**294**	*i* P	**P**	**04 42 46.2**	**-0.3**
AAK	**Ala-Archa**	**16.97**	**294**	⇓P	**P**	**04 42 49.3**	**-0.8**
	comp=Z,11nm,0.9s						
AAK	**Ala-Archa**	**16.97**	**294**	P	**P**	**04 42 51.8**	**+1.7**
	SNR=6.6						
AAK	**Ala-Archa**	**16.97**	**294**	*d* P	**P**	**04 42 51.4**	**+1.3**
AAK				pmax	pmax		
	comp=Z,22nm,0.8s						
AAK	**Ala-Archa**	**16.97**	**294**	P	**P**	**04 42 50.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=109,slow=7.0,SNR=20						
AAK				LR	LR	04 50 34.4	
	comp=Z,113nm,20.6s,baz=102,slow=41						
AAK	**Ala-Archa**	**16.97**	**294**	*e*Pn	**Pn**	**04 42 48.1**	**-0.1**
SFK	**Sufi-Kurgan**	**17.48**	**284**	⇑P	**P**	**04 42 56.6**	**+0.7**
	comp=Z,4.2nm,0.8s						
AML	**Almayashu**	**17.48**	**292**	P	**P**	**04 42 58.6**	**+2.6**
	SNR=10						
AML	**Almayashu**	**17.48**	**292**	*i* P	**P**	**04 42 58.6**	**+2.6**
EKS2	**Erkin-Say**	**17.50**	**293**	*e*P	**Pn**	**04 42 54.3**	**-0.5**
EKS2	**Erkin-Say**	**17.50**	**293**	*e*Pn	**Pn**	**04 42 54.2**	**-0.5**
KURBB	**Kurchatov Arra**	**17.82**	**322**	⇓P	**Pn**	**04 42 58.9**	**+0.3**
	comp=Z,8.1nm,0.8s						
KURBB	**Kurchatov Arra**	**17.82**	**322**	P	**Pn**	**04 42 58.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=24						
KURBB				Lg	Lg	04 48 18.2	
	baz=128,slow=32,SNR=2.3						
KURK	**Kurchatov**	**17.84**	**322**	⇑P	**P**	**04 42 59.6**	**+0.1**
	comp=Z,7.6nm,0.9s						
KURK	**Kurchatov**	**17.84**	**322**	*e*P	**Pn**	**04 42 57.3**	**-1.5**
KURK				pmax	pmax		
	comp=Z,15nm,0.8s						
KURK	**Kurchatov**	**17.84**	**322**	*e*Pn	**Pn**	**04 42 57.3**	**-1.5**
	comp=Z,15nm,0.8s						
KURK				Lg	Lg	04 48 18.2	
ZALV	**Zalesovo Beam**	**17.91**	**339**	P	**P**	**04 43 00.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=155,slow=11,SNR=14						
ZALV				LR	LR	04 50 01.7	
	comp=Z,138nm,18.7s,baz=98,slow=37						
MNAS	**Manas**	**18.40**	**292**	⇓P	**Pn**	**04 43 08.4**	**+2.5**
	comp=Z,9.9nm,1.1s						
NVS	**Novosibirsk**	**19.16**	**338**	*e*P	**P**	**04 43 13.5**	**-0.4**
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,15nm,1.4s						
NVS				pmax	pmax		
	comp=N,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**19.37**	**171**	P	**P**	**04 43 16.1**	**-0.4**
	comp=N,0.7nm,0.3s,baz=341,slow=11,SNR=6.2						
CMAR				LR	LR	04 50 51.5	
	comp=N,90nm,21.4s,baz=346,slow=37						
KK31	**Karatay Array**	**19.93**	**294**	P	**Pn**	**04 43 24.2**	**0.0**
	comp=N,9.9nm,0.9s,baz=92,slow=11,SNR=46						
KK31	**Karatay Array**	**19.93**	**294**	*i* P	**Pn**	**04 43 24.2**	**0.0**
KK31				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**20.80**	**49**	*e*P	Pn	04 43 40.2	+5.8
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DZET	**Dzherino**	**21.15**	**281**	⇓P	**P**	**04 43 36.9**	**+1.0**
	comp=Z,16nm,0.7s						
DZET	**Dzherino**	**21.15**	**281**	P	**P**	**04 43 36.9**	**+1.0**
DZET				pmax	pmax		
	comp=Z,14nm,0.7s						
SNY	**Shenyang**	**21.74**	**70**	⇓P	**P**	**04 43 46.1**	**+4.0**
SNY				PMZ			
	comp=Z,28nm,0.7s						
SNY				PMZ			
	comp=Z,1μm,3.4s						
SNY				LN			
	comp=Z,190nm,5.7s						
SNY				LE			
	comp=Z,210nm,3.9s						
SNY				LZ			
	comp=Z,210nm,18.6s						
KBL	**Kabul**	**21.78**	**270**	*e*P	**P**	**04 43 42.7**	**0.0**
KBL				pmax	pmax		
	comp=Z,16nm,0.6s						
KBL	**Kabul**	**21.78**	**270**	*e*P	**P**	**04 43 42.7**	**0.0**
	comp=Z,16nm,0.6s						
BVA0	**Borovoye Array**	**23.33**	**319**	⇑P	**P**	**04 43 59.9**	**+1.1**
	comp=Z,4.0nm,0.7s,baz=123,slow=10,SNR=13						
BVA0	**Borovoye Array**	**23.33**	**319**	*i* P	**P**	**04 43 59.8**	**+1.1**
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**23.33**	**319**	P	**P**	**04 43 59.0**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=123,slow=11,SNR=14						
BVAR				LR	LR	04 53 47.2	
	comp=Z,240nm,20.2s,baz=132,slow=38						
BOD	**Bodaibo**	**23.43**	**25**	*e*P	**P**	**04 43 57.3**	**-2.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s						
KSAR	**Wonju Array Be**	**25.41**	**81**	P	**P**	**04 44 17.6**	**-0.6**
KSAR	**Wonju Array Be**	**25.41**	**81**	P	**P**	**04 44 17.6**	**-0.6**
KSRS	**Korea Array**	**25.44**	**81**	P	**P**	**04 44 17.6**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,56nm,20.8s						
KSRS	**Korea Array**	**25.44**	**81**	P	**P**	**04 44 17.6**	**-0.8**
	comp=Z,7.9nm,0.6s,baz=278,slow=9.7,SNR=23						
KSRS				LR	LR	04 55 35.9	
	comp=Z,56nm,20.8s,baz=279,slow=40						
USRK	**Ussuriysk Ar.**	**27.97**	**65**	LR	LR	04 56 50.2	
	comp=Z,61nm,18.9s,baz=94,slow=39						
AB31	**Akbulak array**	**28.18**	**306**	P	**P**	**04 44 44.7**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=90,slow=8.7,SNR=11						
ABKAR	**Akbulak array**	**28.18**	**306**	*e*P	**P**	**04 44 42.5**	**-0.5**
GEYT	**Alibeck**	**29.60**	**282**	P	**P**	**04 44 58.5**	**+2.6**
	comp=Z,2.1nm,0.5s,baz=74,slow=5.1,SNR=2.8						
**AKTO

OBN MLR MLR
comp=Z,140nm,22.0s
OBN Obninsk 42.96 314 LR LR 05 05 36.1
comp=Z,132nm,20.6s,baz=89,slow=37
JOF Joensuu 45.73 325 *eP* **P 04 47 12.3 +0.8**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 45.73 325 *ep* **P 04 47 12.3 +0.8**
comp=Z,3.1nm,0.7s
BRTR Keskin Array B 47.64 293 *ceP* **P 04 47 28.7 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 47.64 293 P **P 04 47 27.1 +0.1**
comp=Z,1.4nm,0.6s,baz=97,slow=6.0,SNR=8.1
BRTR LR LR 05 08 43.0
comp=Z,20nm,21.9s,baz=56,slow=38
AKASG Malin Array Be 47.87 308 *ceP* **P 04 47 31.6 +3.2**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 47.87 308 P **P 04 47 29.0 +0.6**
comp=Z,2.9nm,0.8s,baz=68,slow=7.1,SNR=8.0
KIEV Kiev 47.88 308 *eP* **P 04 47 31.3 +2.8**
KAF Kangasniemi 48.06 324 *eP* **P 04 47 30.2 +0.4**
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 48.06 324 *ep* **P 04 47 30.2 +0.4**
comp=Z,1.3nm,0.6s
FINES FINESS Array B 48.21 323 *ceP* **P 04 47 32.7 +1.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 48.21 323 P **P 04 47 30.4 -0.6**
comp=Z,2.5nm,0.8s,baz=112,slow=8.8,SNR=9.4
FINES LR LR 05 09 15.4
comp=Z,56nm,18.2s,baz=22,slow=38
ARCES ARCESS Array B 48.37 334 P **P 04 47 33.0 +0.9**
comp=Z,1.0nm,0.6s,baz=79,slow=6.4,SNR=4.5
ARCES LR LR 05 10 11.0
comp=Z,34nm,19.1s,baz=111,slow=39
BILL Bilibino 48.42 28⇓ *eP* P 04 47 37.7 +5.2
BILL *e* 04 49 27.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,43nm,18.0s
SPITS Spitsbergen Ar 51.25 345 LR LR 05 11 25.6
comp=Z,38nm,18.7s,baz=65,slow=38
MLR Muntele Rosu 51.29 302 LR LR 05 11 40.7
comp=Z,9.0nm,18.7s,baz=48,slow=38
KWP Kalwaria Pacla 52.19 308 *eP* **P 04 48 02.1 +0.8**
KWP pmax pmax
comp=Z,19nm,0.9s
KWP Kalwaria Pacla 52.19 308 *eP* **P 04 48 02.1 +0.8**
comp=Z,19nm,0.9s
KOLS Kolonicke sedl 52.66 307 *eP* P 04 48 08.9 +4.1
KOLS Kolonicke sedl 52.66 307 *esP* **P 04 48 08.9 +4.1**
STHS Stebnicka Huta 53.17 308 *eP* P 04 48 12.6 +4.0
STHS Stebnicka Huta 53.17 308 *esP* **P 04 48 12.6 +4.0**
KECS Kecovo 53.93 307 *eP* P 04 48 19.2 +5.1
KECS Kecovo 53.93 307 *esP* **P 04 48 19.2 +5.1**
NB2 NORSAR Subarra 55.34 324 P **P 04 48 24.1 -0.2**
comp=Z,1.8nm,0.6s,baz=73,slow=7.4
NOA NORSAR Array B 55.34 324 P **P 04 48 23.8 -0.5**
comp=Z,2.1nm,0.8s,baz=74,slow=7.5,SNR=8.6
NOA LR LR 05 13 28.8
comp=Z,39nm,19.6s,baz=60,slow=38
BRG Berggiesshubel 57.13 312 *eP* P 04 48 41.4 +4.3
comp=Z,2.7nm,0.7s
BRG Berggiesshubel 57.13 312 *eP* P 04 48 41.4 +4.3
BRG pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 57.53 312 *eP* **P 04 48 43.0 +3.1**
CLL Collm 57.53 312 *esP* **P 04 48 43.0 +3.1**
GERES GERESS Array B 58.02 310 P **P 04 48 44.5 +0.9**
comp=Z,1.3nm,0.8s,baz=75,slow=5.7,SNR=8.2
GERES LR LR 05 15 06.8
comp=Z,53nm,20.9s,baz=76,slow=38
MOTA Moosalm 60.22 309⇑ *i*pP **P 04 48 59.3 +0.5**
comp=Z,4.1nm,1.0s
FETA Feichten 60.58 309 ⇓pP **P 04 49 03.3 +1.9**
DAVA Damuels 61.00 309 ⇓pP **P 04 49 03.8 -0.4**
comp=Z,3.8nm,0.8s
LPG La Plagne 63.73 308 *eP* **P 04 49 21.9 -0.8**
comp=Z,5.2nm,0.6s
LPG La Plagne 63.73 308 *eP* **P 04 49 21.9 -0.8**
LPG pmax pmax
comp=Z,5.0nm,0.6s
LPG La Plagne 63.73 308 *eP* **P 04 49 21.9 -0.8**
comp=Z,5.2nm,0.6s
LPL La Plagne 63.73 308 *eP* **P 04 49 21.3 -1.3**
comp=Z,3.0nm,0.6s
LPL La Plagne 63.73 308 *eP* **P 04 49 21.3 -1.3**
LPL pmax pmax
comp=Z,3.0nm,0.6s
LPL La Plagne 63.73 308 *eP* **P 04 49 21.3 -1.3**
comp=Z,3.0nm,0.6s
MBDF Montbardon 64.08 308 *eP* **P 04 49 22.7 -2.1**
MBDF Montbardon 64.08 308 *eP* **P 04 49 22.7 -2.1**
MBDF Montbardon 64.08 308 *eP* **P 04 49 22.7 -2.1**
COLD Coldfoot 64.21 23 *eP* **P 04 49 25.7 +0.6**
comp=Z,4.5nm,0.9s
LOR Lormes 64.66 311 *eP* **P 04 49 27.0 -1.4**
comp=Z,5.0nm,0.8s
LOR *eR*
comp=Z,48nm,20.1s
LOR Lormes 64.66 311 *eP* **P 04 49 27.0 -1.4**
LOR pmax pmax
comp=Z,5.0nm,0.8s
LOR Lormes 64.66 311 *eP* **P 04 49 27.0 -1.4**
comp=Z,5.0nm,0.8s
SMF Signal de Mont 64.97 311 *eP* **P 04 49 29.1 -1.3**
SMF Signal de Mont 64.97 311 *eP* **P 04 49 29.1 -1.3**
SMF Signal de Mont 64.97 311 *eP* **P 04 49 29.1 -1.3**
AVF Avril sur Loir 65.19 311 *eP* **P 04 49 30.9 -0.9**
AVF Avril sur Loir 65.19 311 *eP* **P 04 49 30.9 -0.9**
AVF Avril sur Loir 65.19 311 *eP* **P 04 49 30.9 -0.9**
TCF Toulx Ste Croi 66.13 311 *eP* **P 04 49 36.3 -1.6**
TCF Toulx Ste Croi 66.13 311 *eP* **P 04 49 36.3 -1.6**
TCF Toulx Ste Croi 66.13 311 *eP* **P 04 49 36.3 -1.6**
KMBO Kilima Mbogo 66.27 249 LR LR 05 18 49.6
comp=Z,47nm,18.9s,baz=47,slow=36
LDF La Druitiere 66.33 314 *eP* P 04 49 35.7 -3.5
LDF La Druitiere 66.33 314 *eP* P 04 49 35.7 -3.5
LDF La Druitiere 66.33 314 *eP* P 04 49 35.7 -3.5
COLA College 66.42 25 *eP* **P 04 49 39.7 +0.3**
COLA pmax pmax
comp=Z,7.0nm,1.0s
COLA College 66.42 25 *eP* **P 04 49 39.7 +0.3**
comp=Z,6.7nm,1.0s
FLN La Foliniere 66.45 314 *eP* **P 04 49 38.8 -1.1**
FLN *eR*
comp=Z,96nm,21.2s
FLN La Foliniere 66.45 314 *eP* **P 04 49 38.8 -1.1**
FLN La Foliniere 66.45 314 *eP* **P 04 49 38.8 -1.1**
ILAR Eielson Array 66.80 24 P **P 04 49 41.5 -0.5**
comp=Z,1.4nm,0.9s,baz=304,slow=6.5,SNR=8.3
GRR Gorron 66.86 314 *eP* **P 04 49 41.0 -1.5**
GRR Gorron 66.86 314 *eP* **P 04 49 41.0 -1.5**
GRR Gorron 66.86 314 *eP* **P 04 49 41.0 -1.5**
MFF Saint Martin d 67.37 312 *eP* **P 04 49 45.1 -0.7**
MFF Saint Martin d 67.37 312 *eP* **P 04 49 45.1 -0.7**
MFF Saint Martin d 67.37 312 *eP* **P 04 49 45.1 -0.7**
LFF La Frestale 67.70 310 *eP* **P 04 49 45.6 -2.3**
LFF La Frestale 67.70 310 *eP* **P 04 49 45.6 -2.3**
LFF La Frestale 67.70 310 *eP* **P 04 49 45.6 -2.3**
WRA Warramunga Arr 67.86 141 P **P 04 49 48.0 -1.2**
WRA Warramunga Arr 67.86 141 P **P 04 49 48.0 -1.2**
comp=Z,0.8nm,0.9s,baz=339,slow=6.4,SNR=5.0
INK Inuvik 68.11 18 *eP* **P 04 49 50.3 +0.2**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 68.11 18 P **P 04 49 50.2 +0.2**
comp=Z,1.2nm,0.8s,baz=336,slow=8.1,SNR=5.6
INK Inuvik 68.11 18 *eP* **P 04 49 50.3 +0.2**
comp=Z,3.1nm,1.1s
ROSF Rostrenen 68.25 315 *eP* **P 04 49 49.0 -2.4**
ROSF Rostrenen 68.25 315 *eP* **P 04 49 49.0 -2.4**
ROSF Rostrenen 68.25 315 *eP* **P 04 49 49.0 -2.4**
QUIF Quistinic 68.42 314 *eP* **P 04 49 50.9 -1.5**
comp=Z,16nm,1.0s
QUIF Quistinic 68.42 314 *eP* **P 04 49 50.9 -1.5**
QUIF pmax pmax
comp=Z,16nm,1.0s
QUIF Quistinic 68.42 314 *eP* **P 04 49 50.9 -1.5**
comp=Z,16nm,1.0s
EPF Esparros 68.95 309 *eP* **P 04 49 53.9 -2.0**
EPF Esparros 68.95 309 *eP* **P 04 49 53.9 -2.0**
AS31 Alice Springs 70.80 143 *eP* **P 04 50 06.1 -1.2**
ESDC Sonseca Array 73.51 308 P **P 04 50 23.9 +0.4**
comp=Z,0.7nm,0.5s,baz=38,slow=6.0,SNR=6.8
YKA Yellowknife Ar 77.20 14 P **P 04 50 43.6 -0.6**
comp=Z,0.2nm,0.4s,baz=333,slow=5.5,SNR=8.5
TORD Torodi Ar. Bea 85.24 283 P **P 04 51 26.8 -1.0**
comp=Z,0.7nm,0.9s,baz=57,slow=4.5,SNR=4.5

JMA 09 04:39:52.6±0.5, 34.78N×142.07E, h18km, M2.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIM2	**Oshima 3**	**2.17**	**269**	P	Pn	04 40 28.9	+1.0
JOD2	**Odawara 2**	**2.49**	**282**	P	Pn	04 40 32.6	+0.3
JOD2				S	Sn	04 41 01.9	-0.4

*IDC **09** 05:10:50.5±1.7, 40.65N×140.66E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/34, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=48.5km s-min=28.1km az=79.0*
*ISCJB **09** 05:10:58.6±0.5, 40.92N±0.03×141.33E±0.06, h93km±5km, mb3.4/3, Error ellipse: s-maj=8.0km s-min=4.6km az=11.9*
*JMA **09** 05:10:58.8±0.1, 40.94N×141.41E, h87km±1km, M3.1*
ISC 09 05:10:59.3±0.9, 40.92N±0.03×141.35E±0.05, h83km±7km, n20, σ1°04/30, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTM	**Tenmabayashi**	**0.25**	**239**	P	**Pn**	**05 11 11.7**	**0.0**
JTM				S	**Sn**	**05 11 21.3**	**+0.5**
JOT	**Ohata**	**0.52**	**334**	P	**Pn**	**05 11 13.5**	**0.0**
JOT				S	**Sn**	**05 11 24.5**	**+0.5**
JANG	**Nango**	**0.56**	**167**	P	**Pn**	**05 11 13.4**	**-0.5**
JANG				S	**Sn**	**05 11 24.1**	**-0.5**
JAH	**Hinai**	**0.91**	**217**	P	**Pn**	**05 11 17.9**	**+0.4**
JAH				S	**Sn**	**05 11 32.4**	**+1.4**
JSR	**Shiriuchi**	**0.93**	**311**	P	**Pn**	**05 11 17.8**	**+0.1**
JSR				S	**Sn**	**05 11 31.8**	**+0.3**
JKB	**Kayabe**	**1.00**	**346**	P	**Pn**	**05 11 18.6**	**+0.1**
JKB				*eS*	**Sn**	**05 11 33.2**	**+0.4**
JIW	**Iwasaki**	**1.07**	**253**	*eS*	**Sn**	**05 11 35.5**	**+1.1**
JYM2	**Yakumo 2**	**1.41**	**329**	P	**Pn**	**05 11 24.1**	**+0.6**
JYM2				*eS*	**Sn**	**05 11 43.2**	**+1.4**
JOM	**Ohasama**	**1.44**	**182**	P	**Pn**	**05 11 24.4**	**+0.4**
JOM				*eS*	**Sn**	**05 11 44.1**	**+1.5**
JNB	**Noboribetsu**	**1.57**	**351**	P	**Pn**	**05 11 25.7**	**+0.1**
JNB				S	**Sn**	**05 11 45.7**	**+0.2**
JRG	**Rokugo**	**1.62**	**200**	P	**Pn**	**05 11 27.1**	**+0.9**
JRG				S	**Sn**	**05 11 48.5**	**+1.9**
JNBK	**Urakawa-nobuka**	**1.72**	**37**	P	**Pn**	**05 11 28.1**	**+0.6**
JNBK				S	**Sn**	**05 11 50.9**	**+1.9**
JEM	**Erimo**	**1.75**	**50**	P	**Pn**	**05 11 27.9**	**+0.1**
JEM				S	**Sn**	**05 11 49.6**	**0.0**
ASAJ	**Asahikawa**	**3.33**	**16**	Pn	**Pn**	**05 11 49.6**	**+0.6**
	1.5nm,0.3s,baz=210,slow=8.1,SNR=3.7						
ASAJ				Sn	**Sn**	**05 12 30.1**	**+2.6**
	1.1nm,0.3s,baz=22,slow=19,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**30.34**	**126**	T	T	05 48 11.4	
	baz=318,slow=75,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**30.35**	**126**	T	T	05 48 11.0	
	baz=318,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**30.36**	**126**	T	T	05 48 09.0	
	baz=318,slow=75,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.35**	**309**	P	**P**	**05 18 18.9**	**-1.2**
	0.4nm,0.4s,baz=81,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**42.12**	**299**	P	**P**	**05 18 41.8**	**-1.2**
	0.5nm,0.6s,baz=80,slow=8.9,SNR=5.5						
WRA	**Warramunga Arr**	**60.90**	**188**	P	**P**	**05 21 02.7**	**-0.5**
	0.2nm,0.9s,baz=3.8,slow=6.9,SNR=3.4						

JMA 09 05:11:24.7, 37.31N×138.89E, h14km±1km, M1.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHK	**Hiroka**	**0.12**	**121**	P	Pg	05 11 28.0	-0.1
JHK				S	Sg	05 11 30.4	+0.1
JIZZ	**Izumozaki**	**0.26**	**327**	P	Pg	05 11 30.7	+0.4
JIZZ				S	Sb	05 11 35.5	-0.1
JNS	**Sasagawa**	**0.61**	**34**	P	Pb	05 11 37.0	-0.2
JKT	**Katashina**	**0.61**	**152**	P	Pg	05 11 36.5	-0.4
JKT				S	Sg	05 11 44.9	-0.2
JFY	**Yanaizu**	**0.66**	**81**	S	Sg	05 11 46.2	-0.1
MAT	**Matsushiro**	**0.94**	**216**	P	Pb	05 11 41.7	-1.1
MAT				S	Sb	05 11 53.8	-1.4

*ISCJB **09** 05:32:13.8±0.4, 32.20N±0.02×115.23W±0.02, h14km±3km, mb3.6/2, MS3.3/3, Error ellipse: s-maj=2.8km s-min=2.5km az=15.2*
*IDC **09** 05:32:13.7±1.5, 32.35N×115.29W, h0km, mb3.7/2, mb1 3.8/8, mb1mx3.5/43, mbtmp3.5/8, ML3.3/5, MS3.2/6, Ms1 3.2/6, ms1mx2.9/44, Error ellipse: s-maj=23.3km s-min=10.6km az=34.0*
*NEIC **09** 05:32:15.5, 32.24N×115.30W, h6km, MD3.9(MEX), ML4.2(PAS), ML4.6(ECX), After ECX.*
NEIC Felt [III] at Mexicali. Also felt at San Luis Rio Colorado, Sonora. Felt [III] at El Centro, California. Also felt at Brawley, Chula Vista, El Cajon, Lakeside, Oceanside, San Diego, Solana Beach and Spring Valley. Felt [II] at Yuma, Arizona.
*ECX **09** 05:32:15.6±0.6, 32.22N×115.31W, h6km, MD4.1, ML4.3*
*MEX **09** 05:32:16.5±0.4, 32.26N×115.24W, h13km±10km, MD4.0*
ISC 09 05:32:14.5±0.8, 32.20N±0.02×115.31W±0.02, h15km±5km, n96, σ1°45/118, MS3.3/3, 24C-26D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**2**⇓	*eP*	**Pg**	**05 32 19.5**	**+0.2**
CPBX	**Cerro Prieto**	**0.21**	**2**	*eP*	**Pg**	**05 32 19.5**	**+0.2**
EMX	**El Mayor**	**0.22**	**164**⇓	*eP*	**Pg**	**05 32 18.7**	**-0.7**
EMX				*eS*	**Sg**	**05 32 22.4**	**-0.3**
EMX	**El Mayor**	**0.22**	**164**	*eP*	**Pg**	**05 32 18.7**	**-0.7**
EMX				*eS*	**Sg**	**05 32 22.4**	**-0.3**
MBIG	**Mexicali**	**0.23**	**25**	*eP*	**Pg**	**05 32 19.7**	**+0.2**
MBIG				*i* S	**Sg**	**05 32 22.0**	**-0.9**
SGL	**Mount Signal**	**0.57**	**322**⇓	*iP*	**Pb**	**05 32 25.6**	**-0.5**
RDX	**Rancho Dawling**	**0.60**	**243**⇑	*eP*	**Pb**	**05 32 26.9**	**+0.1**
RDX				*eS*	**Sb**	**05 32 35.1**	**0.0**
RDX	**Rancho Dawling**	**0.60**	**243**	*eP*	**Pb**	**05 32 26.9**	**+0.1**
RDX				*eS*	**Sb**	**05 32 35.1**	**0.0**
COA	**Coachella**	**0.68**	**14**⇑	*iP*	**Pg**	**05 32 27.3**	**-0.4**
YUH	**Yuha Desert**	**0.68**	**311**⇓	*iP*	**Pg**	**05 32 27.4**	**-0.4**
COK	**Cook Ranch**	**0.73**	**332**⇓	*iP*	**Pg**	**05 32 28.1**	**-0.6**
YMD	**Yuma Desert**	**0.74**	**61**⇑	*iP*	**Pg**	**05 32 28.1**	**-0.8**
ECBX	**El Chinero**	**0.76**	**163**⇓	*eP*	**Pg**	**05 32 27.7**	**-1.6**
ECBX				*eS*	**Sg**	**05 32 38.4**	**-0.9**
RMX	**La Rumorosa**	**0.76**	**302**⇓	*eP*	**Pg**	**05 32 28.9**	**-0.4**
RMX				*eS*	**Sg**	**05 32 39.3**	**-0.1**
RMX	**La Rumorosa**	**0.76**	**302**	*eP*	**Pg**	**05 32 28.9**	**-0.4**
RMX				*eS*	**Sg**	**05 32 39.3**	**-0.1**
SWSC	**Sam W. Stewart**	**0.84**	**331**	⇓P	**Pg**	**05 32 29.4**	**-1.4**
	baz=0.8						
SWSC				⇑S	**Sb**	**05 32 41.6**	**-0.4**
	baz=0.8						
GLA	**Glamis**	**0.94**	**26**	⇓P	**Pb**	**05 32 30.9**	**-1.7**
	baz=0.9						
GLA				⇓S	**Sb**	**05 32 44.1**	**-0.8**
	baz=0.9						
GLA	**Glamis**	**0.94**	**26**	*e*Pg	**Pb**	**05 32 30.9**	**-1.7**
GLA				*e*Sn	**Sb**	**05 32 42.6**	**-2.2**
ZAX	**El Zacaton**	**1.07**	**230**⇑	*eP*	**Pb**	**05 32 34.5**	**-0.2**
CBX	**Cerro Bola**	**1.15**	**276**	*eP*	**Pb**	**05 32 35.3**	**-0.8**
CBX				*eS*	**Sb**	**05 32 50.5**	**-0.5**
CBX	**Cerro Bola**	**1.15**	**276**⇑	*eP*	**Pb**	**05 32 35.5**	**-0.6**
CBX				*eS*	**Sb**	**05 32 51.0**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**276**	*eP*	**Pb**	**05 32 35.5**	**-0.6**
CBX				*eS*	**Sb**	**05 32 51.0**	**+0.1**
MONP	**Monument Peak,**	**1.16**	**307**	⇑P	**Pn**	**05 32 34.8**	**-1.6**
	baz=1.1						
MONP				⇓S	**Sb**	**05 32 50.5**	**-0.8**
	baz=1.1						
SPIG	**San Pedro Mart**	**1.16**	**187**	*eP*	**Pn**	**05 32 35.9**	**-0.6**
SPIG				*i* S	**Sb**	**05 32 50.7**	**-0.7**
SPX	**San Pedro Mart**	**1.16**	**186**⇑	*eP*	**Pn**	**05 32 35.9**	**-0.6**
SPX				*e*		05 32 54.3	
	comp=N,5μm,0.3s						
SPX	**San Pedro Mart**	**1.16**	**186**	*eP*	**Pn**	**05 32 35.9**	**-0.6**
SPX				*eS*	**Sb**	**05 32 51.5**	**+0.1**
ECNX	**Esteban Cantu**	**1.22**	**244**⇑	*eP*	**Pn**	**05 32 37.0**	**-0.1**
PBX	**Punta Banda**	**1.29**	**249**⇑	*eP*	**Pn**	**05 32 37.8**	**-0.1**
PBX	**Punta Banda**	**1.29**	**249**	*eP*	**Pn**	**05 32 37.8**	**-0.1**
113A	**Mohawk Valley,**	**1.42**	**66**⇑	P	**Pn**	**05 32 38.4**	**-1.3**
	baz=1.4						
113A				⇓S	**Sn**	**05 32 55.7**	**-2.6**
	baz=1.4						
BC3	**Big Chuckawall**	**1.45**	**355**⇓	P	**Pn**	**05 32 38.5**	**-1.9**
	baz=1.4						
109C	**Camp Elliot, M**	**1.66**	**295**⇑	P	**Pn**	**05 32 42.2**	**-0.9**
	baz=1.7						
109C				⇓Sb	**Sb**	**05 33 05.8**	**+0.3**
	baz=1.7						
Y12C	**Blythe**	**1.68**	**23**⇓	P	**Pn**	**05 32 41.7**	**-1.6**
	baz=1.6						
Y12C				⇓Sb	**Sb**	**05 33 06.8**	**+0.7**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.70**	**326**	Pn	**Pn**	**05 32 42.0**	**-1.7**
	comp=N,36nm,0.3s,baz=144,slow=12,SNR=7.9						
PFO				Lg	Lg	05 33 05.7	
	comp=N,199nm,0.3s,baz=57,slow=21,SNR=13						
PFO				LR	LR	05 33 06.1	
	comp=N,51nm,21.1s,baz=120,slow=33						
PFO	**Pinyon Flats O**	**1.70**	**326**	⇓P	**Pn**	**05 32 42.0**	**-1.7**
	baz=1.7						
PFO				⇓Sb	**Sb**	**05 33 07.6**	**+0.8**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.70**	**326**	*e*Pn	**Pn**	**05 32 41.9**	**-1.8**
PFO				Lg	Lg	05 33 05.7	
PFO				*e*S	**Sg**	**05 33 07.9**	**-1.4**
BELC	**Belle Mtn. Jos**	**1.88**	**342**	⇓P	**Pn**	**05 32 44.3**	**-2.0**
	baz=1.9						
IRM	**Iron Mountain**	**1.96**	**4**⇑	P	**Pn**	**05 32 45.7**	**-1.4**
	baz=1.9						
MURC	**Murrieta**	**2.11**	**312**⇑	P	**Pn**	**05 32 48.0**	**-1.4**
	baz=2.1						
MURC				⇑Sb	**Sb**	**05 33 20.0**	**+1.4**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.14**	**96**⇑	P	**Pn**	**05 32 48.0**	**-1.7**
	baz=2.1						
214A				⇓S	**Sn**	**05 33 13.1**	**-2.8**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.14**	**96**	*e*Pn	**Pn**	**05 32 47.8**	**-1.8**
Z14A	**Wintersburg**	**2.31**	**59**⇓	P	**Pn**	**05 32 50.9**	**-1.0**
	baz=2.3						
Z14A				⇑S	**Sn**	**05 33 17.4**	**-2.6**
	baz=2.3						
PDMCI	**Parker Dam,Lak**	**2.31**	**25**⇓	P	**Pn**	**05 32 50.9**	**-1.1**
	baz=2.3						
PDMCI				⇑Sb	**Sb**	**05 33 25.5**	**+1.3**
	baz=2.3						
BBRC	**Big Bear Solar**	**2.46**	**327**⇓	P	**Pn**	**05 32 53.1**	**-1.2**
	baz=2.4						
GMRC	**Granite Mounta**	**2.59**	**354**⇑	P	**Pn**	**05 32 54.6**	**-1.3**
	baz=2.6						
Y14A	**Wickenburg**	**2.60**	**48**⇑	P	**Pn**	**05 32 55.2**	**-0.8**
	baz=2.6						
Y14A				⇑Sb	**Sb**	**05 33 34.1**	**+1.5**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.83**	**317**⇓	⇓Sb	**Sb**	**05 33 41.0**	**+1.7**
	baz=2.8						
SCI	**San Clemente I**	**2.84**	**287**⇑	Sb	**Sb**	**05 33 40.6**	**+1.2**
	baz=2.8						
CIS	**Catalina Islan**	**2.87**	**296**⇓	⇓Sb	**Sb**	**05 33 42.1**	**+1.8**
	baz=2.9						
FMP	**Fort Macarthur**	**2.92**	**302**⇑	Sb	**Sb**	**05 33 43.7**	**+1.9**
	baz=2.9						
MWC	**Mount Wilson**	**3.06**	**312**	*e*Pn	**Pn**	**05 33 03.3**	**+0.8**
MWC				*e*Sg	**Sg**	**05 33 49.3**	**-3.5**
PASC	**Pasadena Art C**	**3.11**	**310**	*e*Pn	**Pb**	**05 33 06.7**	**-2.7**
PASC				*e*Sg	**Sb**	**05 33 48.7**	**+1.5**
DECC	**Green Verdugo**	**3.25**	**310**⇓	Sb	**Sb**	**05 33 53.4**	**+2.1**
	baz=3.2						
GSC	**Goldstone, Bar**	**3.33**	**338**	*e*Pn	**Pn**	**05 33 07.2**	**+1.0**
EDW2	**Edwards Air Fo**	**3.48**	**321**⇑	Sb	**Sb**	**05 34 00.5**	**+2.5**
	baz=3.5						
OSI	**Osito Audit: C**	**3.73**	**311**	*e*Pn	**Pn**	**05 33 10.6**	**-1.0**
TUC	**Tucson**	**3.84**	**87**	*e*Pn	**Pn**	**05 33 11.3**	**-1.8**
TUC				*e*S	**Sb**	**05 34 13.1**	**+4.8**
SHPR	**Sheep Range**	**4.29**	**2**	*e*Pn	**Pn**	**05 33 19.9**	**+0.4**
ISA	**Isabella, Lake**	**4.34**	**324**	*e*Pn	**Pn**	**05 33 19.0**	**-0.9**
DAC	**Darwin (Calif)**	**4.48**	**336**	*e*Pn	**Pn**	**05 33 21.2**	**-0.9**
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn	**Pn**	**05 33 25.4**	**+1.0**
TPNV	**Topopah Spring**	**4.80**	**351**	*e*Pn	**Pn**	**05 33 28.1**	**+1.7**
W18A	**Petrified Fore**	**5.48**	**56**	*e*Pn	**Pn**	**05 33 36.5**	**+0.7**
CCUT	**Cedar City**	**5.57**	**16**	*e*Pn	**Pn**	**05 33 38.5**	**+1.5**
ARUT	**Antelope Range**	**5.78**	**15**	*e*Pn	**Pn**	**05 33 41.0**	**+1.2**
	comp=N,80nm,0.8s						
MTUM	**Tungsten Hills**	**5.79**	**333**	*e*Pg	**Pg**	**05 34 03.9**	**-1.5**
TPH	**Tonopah**	**6.07**	**346**	*e*Pn	**Pn**	**05 33 45.5**	**+1.7**
	comp=N,20nm,0.7s						
R11A	**Troy Canyon, C**	**6.14**	**358**	*e*Pn	**Pn**	**05 33 45.5**	**+0.8**
121A	**Cookes Peak, D**	**6.38**	**85**	*e*Pn	**Pn**	**05 33 47.8**	**-0.3**
	comp=N,37nm,0.5s						
NVAR	**Mina Array Bea**	**6.68**	**339**	Pn	**Pn**	**05 33 50.8**	**-1.4**
	comp=N,0.1nm,0.3s,baz=161,slow=14,SNR=2.3						
NVAR				Pg	**Pg**	**05 34 19.4**	**-2.9**
	comp=N,0.7nm,0.3s,baz=159,slow=18,SNR=12						
NVAR				Lg	Lg	05 35 54.1	
	baz=137,slow=31,SNR=2.3						
MVU	**Marysvale**	**6.78**	**21**	*e*Pn	Pn	05 33 58.3	+4.7
LENM	**Lemitar**	**7.26**	**72**	*e*Pn	**Pn**	**05 34 01.0**	**+0.8**
MVCO	**Mesa Verde**	**7.51**	**46**	*e*Pn	**Pn**	**05 34 06.3**	**+2.6**
LPM	**Los Pinos Moun**	**7.57**	**72**	*e*Pn	**Pn**	**05 34 04.6**	**+0.2**
ANMO	**Albuquerque**	**7.88**	**67**	Pn	**Pn**	**05 34 09.7**	**+1.0**
	comp=N,0.3nm,0.3s,baz=255,slow=15,SNR=10.0						
ANMO				Lg	Lg	05 36 20.3	
	comp=N,0.1nm,0.3s,baz=304,slow=18,SNR=2.5						
ANMO				LR	LR	05 37 16.8	
	comp=N,176nm,19.9s,baz=288,slow=39						
ANMO	**Albuquerque**	**7.88**	**67**	*e*Pn	**Pn**	**05 34 09.1**	**+0.3**
ANMO				Lg	Lg	05 36 20.3	
SRU	**San Rafael Swe**	**7.92**	**28**	Pn	**Pn**	**05 34 12.2**	**+3.0**
	comp=N,35nm,0.7s						
PV01	**Paradox Valley**	**8.09**	**41**	*e*Pn	**Pn**	**05 34 14.3**	**+2.6**
	comp=N,1μm,0.7s						
MNTX	**Cornudas Mount**	**8.45**	**91**	*e*Pn	**Pn**	**05 34 16.6**	**+0.2**
ELK	**Elko**	**8.53**	**0**	Pn	**Pn**	**05 34 18.4**	**+0.8**
	comp=N,0.3nm,0.3s,baz=269,slow=22,SNR=6.3						
ELK				*e*Pg	Pg	05 34 55.2	-2.6
	comp=N,0.1nm,0.3s,baz=168,slow=11,SNR=4.4			

*ISCJB **09** 05:37:13.4±0.8, 12°.7S×0°.1×76°.1W±0°.1, h91km, mb3.4/4, Error ellipse: s-maj=25.9km s-min=7.8km az=140.9*
*IDC **09** 05:37:14.7±1.4, 12°.70S×76°.03W, h91km±12km, mb3.2/4, mb1 3.7/6, mb1mx3.3/30, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/11, Error ellipse: s-maj=44.1km s-min=17.8km az=50.0*

ISC 09 05:37:14.2±1.0, 12°.8S±0°.2×76°.2W±0°.2, h91km±15, σ0§92/12, mb3.5/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.07**	**322**	**P**	**Pn**	**05 37 34.5**	**-0.4**
	698nm,0.3s,baz=123,slow=12,SNR=1471						
NNA				S	**Sn**	**05 37 49.9**	**-0.5**
	2µm,0.3s,baz=207,slow=22,SNR=117						
ATAH	**Atahualpa**	**6.08**	**339**	P	**Pn**	**05 38 43.2**	**+1.3**
	5.0nm,0.3s,baz=139,slow=3.1,SNR=15						
ATAH				S	**Sn**	**05 39 49.2**	**-1.1**
	1.9nm,0.3s,baz=162,slow=20,SNR=1.8						
LPAZ	**La Paz**	**8.50**	**115**	P	**Pn**	**05 39 15.4**	**+0.2**
	1.2nm,0.3s,baz=296,slow=9.1,SNR=39						
SIV	**San Ignacio**	**14.95**	**104**	LR	LR	05 47 18.5	
	comp=Z,96nm,20.4s,baz=294,slow=41						
CFAA	**Coronel Fontan**	**20.05**	**160**	P	Pn	05 41 42.4	-0.5
	0.3nm,0.5s,baz=331,slow=9.5,SNR=6.8						
TXAR	**Lajitas Array**	**49.62**	**328**	P	**P**	**05 45 56.6**	**-0.1**
	0.3nm,0.7s,baz=156,slow=6.9,SNR=3.3						
NVAR	**Mina Array Bea**	**64.44**	**324**	P	**P**	**05 47 42.9**	**+1.6**
	0.6nm,0.7s,baz=111,slow=8.1,SNR=3.6						
YKA	**Yellowknife Ar**	**80.84**	**343**	P	**P**	**05 49 17.0**	**-0.7**
	0.3nm,0.6s,baz=142,slow=5.9,SNR=9.5						
TORD	**Torodi Ar. Bea**	**81.38**	**74**	P	**P**	**05 49 20.7**	**-0.9**
	0.5nm,0.7s,baz=240,slow=4.4,SNR=4.5						
H11S2	**WAKE ISLAND Hyl**	**19.45**	**284**	T	T	08 05 27.9	
	baz=96						
H11S1	**WAKE ISLAND Hyl**	**19.46**	**284**	T	T	08 05 28.2	
	baz=96						
H11S3	**WAKE ISLAND Hyl**	**19.47**	**284**	T	T	08 05 28.7	
	baz=96						
ASAR	**Alice Springs**	**133.30**	**219**	PKP	**PKPdf**	**05 56 20.0**	**-0.5**
	0.3nm,0.7s,baz=116,slow=2.2,SNR=3.0						
WRA	**Warramunga Arr**	**135.70**	**223**	PKP	**PKPdf**	**05 56 25.5**	**+0.4**
	0.4nm,0.6s,baz=136,slow=2.0,SNR=5.9						
SONM	**Songino Array**	**145.04**	**357**	PKP	**PKPdf**	**05 56 41.2**	**0.0**
	1.7nm,0.6s,baz=338,slow=3.0,SNR=12						

*NEIC **09** 05:47:28.6, 16°.66N×99°.52W, h16km, MD4.0(MEX), After MEX.*

MEX 09 05:47:28.6±0.5, 16°.66N×99°.52W, h16km±9km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.39**	**302**	*i* P	Pn	05 47 40.7	+1.0
ACX				*i* S	Sn	05 47 46.6	-0.2
ACX	**Acapulco**	**0.39**	**302**	*i* P	Pn	05 47 40.7	+1.0
ACX				*i* S	Sn	05 47 46.6	-0.2
CAIG	**El Cayaco**	**0.82**	**298**	*e*P	Pb	05 47 41.4	-3.1
CAIG				*e*S	Sb	05 47 51.7	-3.6
CAIG	**El Cayaco**	**0.82**	**298**	*e*P	Pb	05 47 41.4	-3.1
CAIG				*e*S	Sb	05 47 51.7	-3.6
TLIG	**Tlapa**	**1.28**	**45**	*e*P	Pn	05 47 48.1	-4.0
TLIG				*i* S	Sb	05 48 03.1	-5.7
PNIG	**Pinotepa**	**1.36**	**101**	*e*P	Pn	05 47 50.0	-3.1
PNIG				*i* S	Sn	05 48 05.5	-5.3
PNIG	**Pinotepa**	**1.36**	**101**	*e*P	Pn	05 47 50.0	-3.1
PNIG				*i* S	Sn	05 48 05.5	-5.3
PLIG	**Platanillo**	**1.72**	**0**	*i* P	Pn	05 47 55.3	-2.9
PLIG				*i* S	Sn	05 48 15.4	-4.6
PLIG	**Platanillo**	**1.72**	**0**	*i* P	Pn	05 47 55.3	-2.9
PLIG				*i* S	Sn	05 48 15.4	-4.6
ARIG	**Puente Sto Nin**	**1.80**	**334**	*e*P	Pn	05 47 56.3	-2.8
ARIG				*i* S	Sn	05 48 17.6	-4.1

*CSEM **09** 05:52:11.5±0.1, 38°.34N×30°.69E, h10km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.9km az=86.0*
*DDA **09** 05:52:15.5, 38°.53N×30°.90E, h7km, MD2.7*

ISK 09 05:52:11.1, 38°.33N×30°.67E, h9km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.24**	**338**	*e*PG	Pg	05 52 16.5	+0.2
SHUT				*e*SG	Sg	05 52 20.5	+0.8
SHUT	**Suhut-Afyon**	**0.24**	**338**	*e*Pg	Pg	05 52 16.5	+0.3
SHUT				*e*Sg	Sg	05 52 20.5	+0.8
BOLV	**Bolvadin**	**0.45**	**30**	*i* P	Pg	05 52 20.4	+0.3
BOLV				*i* S	Sg	05 52 26.5	+0.3
BOLV	**Bolvadin**	**0.45**	**30**	*i* P	Pg	05 52 20.4	+0.3
BOLV				*i* S	Sg	05 52 26.5	+0.3
ISP	**Isparta**	**0.52**	**193**	*e*PG	Pg	05 52 21.8	+0.5
ISP				*e*SG	Sb	05 52 29.2	-1.0
ISP	**Isparta**	**0.52**	**193**	*e*Pg	Pg	05 52 21.8	+0.5
ISP				*e*Sg	Sb	05 52 29.2	-1.0
KDHN	**Kadinhani**	**1.16**	**80**	*i* P	Pb	05 52 32.7	-0.7
KDHN				*i* S	Sg	05 52 48.1	-0.5
KDHN	**Kadinhani**	**1.16**	**80**	*i* P	Pb	05 52 32.7	-0.7
KDHN				*i* S	Sg	05 52 48.1	-0.5
SEYT	**Eskypehyr**	**1.20**	**7**	*i* S	Sb	05 52 48.6	-1.3
SEYT	**Eskypehyr**	**1.20**	**7**	*i* S	Sb	05 52 48.6	-1.4
LADK	**Ladik-KONYA**	**1.34**	**95**	*e*Pn	Pb	05 52 36.6	0.0
LADK	**Ladik-KONYA**	**1.34**	**95**	*e*Pn	Pb	05 52 36.6	0.0
KONT	**Konya--Tatoy**	**1.39**	**105**	*e*PN	Pb	05 52 37.3	0.0
KONT	**Konya--Tatoy**	**1.39**	**105**	*e*Pn	Pb	05 52 37.3	0.0
TVSB	**Tavsanli**	**1.46**	**320**	*e*PN	Pb	05 52 38.3	-0.3
TVSB	**Tavsanli**	**1.46**	**320**	*e*Pn	Pb	05 52 38.3	-0.4

*IDC **09** 05:53:32.8±1.0, 29°.81S×73°.08W, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.7/28, mbtmp3.6/7, ML3.6/4, MS3.4/5, Ms1 3.4/5, ms1mx3.2/21, Error ellipse: s-maj=34.6km s-min=25.9km az=59.0*
*ISCJB **09** 05:53:35.7±0.8, 29°.88S±0°.04×72°.91W±0°.07, h33km, mb3.6/3, MS3.5/2, Error ellipse: s-maj=8.5km s-min=5.3km az=177.5*
*GUC **09** 05:53:38.5±0.3, 29°.89S×72°.71W, h80km±11km, ML4.3*

ISC 09 05:53:37.6±0.8, 29°.84S±0°.05×72°.93W±0°.09, h35km, n20, σ1§42/26, mb3.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.46**	**93**	*e*P	**Pn**	**05 54 00.8**	**-0.7**
LSCH				*e*S	**Sn**	**05 54 17.8**	**-1.6**
LSCH				AML	AML	05 54 18.6	
	comp=E,952nm,0.3s						
CMCH	**Combarbala**	**2.12**	**129**	*e*P	**Pn**	**05 54 10.0**	**-0.7**
CMCH				*e*S	**Sn**	**05 54 34.1**	**-1.9**
VACH	**Vallenar**	**2.28**	**57**	*e*P	**Pn**	**05 54 12.6**	**-0.2**
VACH				*e*S	**Sn**	**05 54 38.4**	**-1.3**
CPCH	**Copiapo**	**3.35**	**43**	*e*P	**Pn**	**05 54 27.7**	**+0.1**
CPCH				*e*S	**Sn**	**05 55 05.1**	**-1.1**
PEL	**Peldehue**	**3.81**	**150**	*e*P	**Pn**	**05 54 33.5**	**-0.4**
PEL				*e*S	**Sn**	**05 55 15.3**	**-2.0**
PEL				AML	AML	05 55 23.8	
	comp=E,684nm,0.6s						
CLCH	**Cerro Calan**	**4.09**	**151**	*e*P	**Pn**	**05 54 37.3**	**-0.4**
CLCH				*e*S	**Sn**	**05 55 22.0**	**-2.3**
CLCH				AML	AML	05 55 33.4	
	comp=E,589nm,0.5s						
CFAA	**Coronel Fontan**	**4.40**	**115**	Pn	**Pn**	**05 54 44.6**	**+2.6**
	comp=E,0.5nm,0.3s,baz=297,slow=12,SNR=74						
CFAA				Sn	**Sn**	**05 55 35.7**	**+3.6**
	comp=E,2.4nm,0.3s,baz=56,slow=19,SNR=17						
CFAA				LR	LR	05 56 28.0	
	comp=E,20nm,21.6s,baz=270,slow=39						
PLCA	**Paso Flores**	**11.04**	**171**	Pn	**Pn**	**05 56 12.8**	**-0.2**
	comp=E,0.2nm,0.3s,baz=352,slow=12,SNR=8.8						
PLCA				Sn	Sn	05 58 25.8	+11
	comp=E,0.1nm,0.3s,baz=45,slow=19,SNR=3.1						
PLCA				LR	LR	05 59 49.4	
	comp=E,211nm,20.6s,baz=312,slow=34						
LPAZ	**La Paz**	**14.19**	**19**	Pn	**Pn**	**05 56 55.0**	**-1.7**
	comp=E,0.1nm,0.3s,baz=187,slow=8.1,SNR=3.4						
LPAZ				LR	LR	06 03 23.1	
	comp=E,64nm,18.4s,baz=238,slow=42						
SIV	**San Ignacio**	**17.57**	**41**	P	**Pn**	**05 57 39.8**	**-0.1**
	comp=E,0.3nm,0.3s,baz=234,slow=7.8,SNR=10						
SIV				LR	LR	06 04 54.5	
	comp=E,106nm,21.4s,baz=16,slow=39						
ATAH	**Atahualpa**	**23.17**	**346**	LR	LR	06 06 26.9	
	comp=E,80nm,18.3s,baz=183,slow=34						
USHA	**Ushuaia**	**25.18**	**174**	LR	LR	06 08 18.2	
	comp=E,265nm,18.4s,baz=340,slow=35						
TXAR	**Lajitas Array**	**65.75**	**331**	P	**P**	**06 04 20.1**	**+1.0**
	comp=E,0.4nm,0.6s,baz=154,slow=6.7,SNR=5.9						
PDAR	**Pinedale Array**	**79.72**	**333**	P	**P**	**06 05 42.2**	**+0.3**
	comp=E,0.4nm,0.9s,baz=134,slow=5.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.54**	**71**	P	**P**	**06 06 03.5**	**+1.1**
	comp=E,0.5nm,0.6s,baz=264,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**123.96**	**211**	PKP	**PKPdf**	**06 12 32.4**	**-0.4**
	comp=E,0.5nm,0.9s,baz=156,slow=1.6,SNR=4.5						
BVAR	**Borovoye Array**	**144.63**	**39**	PKP	**PKPdf**	**06 13 10.6**	**+0.5**
	comp=E,0.6nm,0.6s,baz=222,slow=2.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**150.21**	**38**	PKPbc	**PKPbc**	**06 13 25.1**	**+0.6**
	comp=E,0.2nm,0.2s,baz=307,slow=2.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**151.01**	**28**	PKPbc	**PKPbc**	**06 13 26.9**	**+0.6**
	comp=E,1.4nm,0.6s,baz=336,slow=2.9,SNR=8.4						
ZALV				PKPab	**PKPab**	**06 13 33.3**	**-0.6**
	comp=E,0.6nm,0.5s,baz=266,slow=3.9,SNR=4.6						
MKAR	**Makanchi Array**	**154.38**	**42**	PKPab	**PKPab**	**06 13 49.0**	**+0.6**
	comp=E,0.2nm,0.6s,baz=307,slow=3.6,SNR=3.8						

*IDC **09** 06:04:16.0±0.5, 21°.75S×174°.48W, h0km, mb4.7/17, mb1 4.9/18, mb1mx4.7/35, mbtmp4.7/18, ML4.1/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/38, Error ellipse: s-maj=17.7km s-min=16.0km az=120.0*
*ISCJB **09** 06:04:18.9±0.1, 21°.89S±0°.05×174°.47W±0°.04, h27km, mb5.0/106, MS4.4/14, Error ellipse: s-maj=7.7km s-min=4.1km az=145.8*
*MOS **09** 06:04:20.0±1.4, 21°.79S×174°.57W, h33km, mb5.2/22, Error ellipse: s-maj=13.7km s-min=10.2km az=45.2*
*BJI **09** 06:04:20.7, 21°.67S×174°.50W, h31km, mB5.4/25, mb5.0/25, Ms5.4/22, Ms7 5.0/20*
*GCMT **09** 06:04:21.0±0.3, 21°.84S×173°.68W, h21km±1km, MW5.0/72, Moment Tensor Solution. s22,c24; s72,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.43±.24; $M_{\theta\theta}$-0.66±.14; $M_{\phi\phi}$-2.77±.15; $M_{r\theta}$-0.83±.25; $M_{\theta\phi}$-0.59±.06; $M_{\phi r}$2.11±.22; Best double couple: $M_0$3.86300×10^{16} NP1:ϕ_s357.00000°, δ62.00000°, λ76.00000°. NP2: ϕ_s205.00000°, δ31.00000°, λ115.00000°. Principal axes: T 4.2690, Plg69.0000°, Azm237.0000°; N -0.8120, Plg13.0000°, Azm3.0000°; P -3.4570, Plg16.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 06:04:21.0±3.7, 21°.80S×174°.54W, h30km±26km, mb5.1/85 Error ellipse: s-maj=7.5km s-min=5.2km az=157.0*

ISC 09 06:04:20.8±0.3, 21°.84S±0°.06×174°.47W±0°.07, h27km, h27km:pP-P, n512, σ1§10/548, mb5.0/106, MS4.3/14, 138C-129D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.01**	**202**	Sn	Sn	06 07 36.7	-8.5
	45nm,0.3s,baz=41,slow=19,SNR=2.5						
RAO				LR	LR	06 09 09.6	
	comp=Z,412nm,19.1s,baz=20,slow=36						
AFI	**Afiamalu**	**8.29**	**18**	*e*P	Pn	06 06 12.7	-6.7
AFI	**Afiamalu**	**8.29**	**18**	*e*Pn	Pn	06 06 12.7	-6.7
DZM	**Mont Dzumac**	**17.71**	**266**	*e*P	**P**	**06 08 28.7**	**+2.2**
	48nm,1.1s						
DZM				*e*LR	LR	06 12 48.9	
	1µm,23.5s						
DZM	**Mont Dzumac**	**17.71**	**266**	P	**P**	**06 08 28.6**	**+2.2**
	0.5nm,0.3s,baz=245,slow=23,SNR=12						
DZM				LR	LR	06 12 43.7	
	comp=Z,417nm,18.2s,baz=104,slow=29						
URZ	**Urewera**	**17.90**	**202**	P	**P**	**06 08 28.8**	**+0.5**
	0.6nm,0.3s,baz=46,slow=5.2,SNR=5.7						
URZ				S	Sn	06 11 31.5	-15
	0.8nm,0.3s,baz=142,slow=19,SNR=6.5						
URZ	**Urewera**	**17.90**	**202**	*e*P	**P**	**06 08 28.6**	**+0.3**
	28nm,1.2s						
URZ				S	Sn	06 11 31.5	-15
BFZ	**Birch Farm**	**20.37**	**201**	*e*P	**P**	**06 08 55.0**	**-0.3**
	76nm,1.2s						
SNZO	**South Karori**	**21.46**	**203**	*e*P	**P**	**06 09 07.6**	**+0.6**
	80nm,1.3s						
KHZ	**Kahutara**	**22.85**	**203**	*e*P	**P**	**06 09 21.0**	**-0.9**
	359nm,2.8s						
TBI	**Tubuai**	**23.13**	**99**	*e*LQ	LQ	06 13 31.7	
	665nm,25.5s						
TBI				*e*LR	LR	06 14 29.6	
	1µm,27.8s,baz=271						
PAE	**Paea**	**23.78**	**84**	*e*T	T	06 34 14.1	
	2.9nm,0.4s						
PPT2	**Papeete2**	**23.80**	**84**	*e*LQ	LQ	06 13 48.2	
	722nm,25.0s						
PPT2				*e*LR	LR	06 14 55.5	
	2µm,25.5s,baz=254						
PPT2	**Papeete2**	**23.80**	**84**	*e*T	T	06 34 16.7	
	2.4nm,0.3s						
PPT	**Papeete**	**23.80**	**84**	LR	LR	06 17 03.4	
	comp=Z,820nm,19.0s,baz=258,slow=32						
TVO	**Taravao**	**24.05**	**85**	*e*T	T	06 34 35.0	
	1.4nm,0.4s						
RPZ	**Rata Peaks**	**24.91**	**205**	*e*P	**P**	**06 09 42.8**	**+1.2**
	35nm,1.2s						
ODZ	**Otahua Downs**	**26.18**	**204**	*e*P	**P**	**06 09 52.6**	**-0.4**
	23nm,1.1s						
HNR	**Honiara**	**27.50**	**293**	LR	LR	06 19 16.6	
	comp=Z,268nm,21.1s,baz=119,slow=33						
EIDS	**Eidsvold**	**31.71**	**257**	*e*P	**P**	**06 10 41.9**	**-0.6**
	2.9nm,0.5s						
RMQ	**Roma**	**33.80**	**255**	P	**P**	**06 11 01.0**	**+0.2**
	baz=38,SNR=8.5						
RKT	**Rikitea**	**36.44**	**100**	*e*LR	LR	06 20 34.3	
	910nm,30.0s,baz=266						
CTA	**Charters Tower**	**36.66**	**265**	P	**P**	**06 11 24.3**	**-1.1**
	11nm,0.6s,baz=101,slow=10,SNR=22						
CTAO	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**06 11 24.2**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,11nm,0.6s						
CTAO	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**06 11 24.2**	**-1.2**
	comp=Z,11nm,0.6s						
QLP	**Quilpie**	**37.85**	**254**	P	**P**	**06 11 34.2**	**-1.2**
	baz=42,SNR=9.0						
MCQ	**Macquarie Isla**	**38.27**	**205**	P	**P**	**06 11 38.5**	**-0.1**
	baz=42,SNR=6.3						
PMG	**Port Moresby**	**38.85**	**282**	*c i*P	**P**	**06 11 43.2**	**-0.8**
PMG				pmax	pmax		
	comp=Z,13nm,1.0s						
PMG	**Port Moresby**	**38.85**	**282**	LR	LR	06 26 15.3	
	comp=Z,426nm,18.2s,baz=154,slow=34						
PMG	**Port Moresby**	**38.85**	**282**	*e*P	**P**	**06 11 42.9**	**-1.1**
	comp=Z,3.0nm,0.8s						
COEN	**Coen**	**40.96**	**274**	*e*P	**P**	**06 12 00.4**	**-1.1**
	comp=Z,5.6nm,0.6s						
BBOO	**Buckleboo**	**44.94**	**245**	P	**P**	**06 12 31.7**	**-1.9**
	baz=49,SNR=4.7						
BBOO	**Buckleboo**	**44.94**	**245**	*e*P	**P**	**06 12 31.7**	**-1.9**
	comp=Z,1.9nm,1.4s						
KIP	**Kipapa**	**45.90**	**22**	⇑ *i*P	**P**	**06 12 40.3**	**-0.8**
KIP				pmax	pmax		
	comp=Z,150nm,1.7s						
AS31	**Alice Springs**	**47.44**	**257**	*e*P	**P**	**06 12 51.6**	**-1.8**
ASAR	**Alice Springs**	**47.44**	**257**	P	**P**	**06 12 51.8**	**-1.7**
	comp=Z,12nm,0.8s,baz=91,slow=8.3,SNR=58						
ASAR				PcP	**PcP**	**06 14 23.6**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=95,slow=4.4,SNR=5.0						
ASAR				LR	LR	06 31 46.3	
	comp=Z,377nm,18.8s,baz=106,slow=35						
JAY	**Jayapura**	**47.59**	**287**	P	**P**	**06 12 54.4**	**-0.3**
	comp=Z,15nm,0.7s,baz=169,slow=7.8,SNR=7.0						
JAY				LR	LR	06 31 07.7	
	comp=Z,138nm,20.1s,baz=104,slow=34						
WRAB	**Tennant Creek**	**47.68**	**262**	P	**P**	**06 12 53.2**	**-2.2**
	comp=Z,119nm,1.1s,SNR=11						
WRAB	**Tennant Creek**	**47.68**	**262**	*d i*P	**P**	**06 12 53.1**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,72nm,1.2s						
WRAB	**Tennant Creek**	**47.68**	**262**	*e*P	**P**	**06 12 53.1**	**-2.2**
	comp=Z,31nm,1.2s						
WRA	**Warramunga Arr**	**47.69**	**262**	P	**P**	**06 12 53.1**	**-2.3**
	comp=Z,18nm,1.1s,baz=99,slow=7.4,SNR=86						
WRA				PcP	**PcP**	**06 14 24.8**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=94,slow=3.9,SNR=5.0						
WRA				LR	LR	06 33 33.0	
	comp=Z,305nm,18.1s,baz=110,slow=37						
FORT	**Forrest**	**51.81**	**247**	P	**P**	**06 13 24.9**	**-1.6**
	baz=56,SNR=33						
FORT	**Forrest**	**51.81**	**247**	*e*P	**P**	**06 13 25.0**	**-1.6**
	comp=Z,51nm,0.7s						
WRKA	**Warakurna**	**52.28**	**255**	P	**P**	**06 13 28.6**	**-1.7**
	baz=56,SNR=24						
SBA	**Scott Base**	**56.79**	**185**	*e*P	**P**	**06 14 03.2**	**+1.1**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SBA	**Scott Base**	**56.79**	**185**	*e*P	**P**	**06 14 03.2**	**+1.1**
	comp=Z,8.2nm,1.0s						
VNDA	**Vanda**	**56.90**	**186**	*e*P	**P**	**06 14 04.4**	**+1.5**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**56.90**	**186**	P	**P**	**06 14 04.3**	**+1.4**
	comp=Z,4.1nm,0.9s,baz=5.4,slow=5.7,SNR=14						
VNDA				LR	LR	06 34 09.2	
	comp=Z,148nm,20.5s,baz=360,slow=32						
SOEI	**Soe**	**59.83**	**271**	*e*P	P	06 14 19.1	-5.5
	comp=Z,62nm,0.7s						
BLDU	**Ballidu**	**61.53**	**246**	P	**P**	**06 14 35.2**	**-0.5**
	baz=66,SNR=7.4						
MORW	**Morawa**	**62.38**	**248**	P	**P**	**06 14 42.2**	**+0.8**
	baz=66,SNR=4.6						
CASY	**Casey**	**64.18**	**206**	*e*P	**P**	**06 14 53.1**	**+0.3**
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	**68.24**	**180**	P	**P**	**06 15 19.2**	**+0.2**
	comp=Z,9.4nm,1.1s,baz=32,slow=2.1,SNR=14						
MJAR	**Matsushiro Arr**	**73.27**	**322**	P	**P**	**06 15 48.9**	**-0.9**
	comp=Z,5.7nm,0.7s,baz=158,slow=5.9,SNR=14						
MAJO	**Matsushiro**	**73.27**	**322**	⇓ *i*P	**P**	**06 15 49.1**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,209nm,2.5s						
MAJO	**Matsushiro**	**73.27**	**322**	*e*P	**P**	**06 15 49.4**	**-0.3**
	comp=Z,9.8nm,0.8s						
MAT	**Matsushiro**	**73.27**	**322**	P	**P**	**06 15 48.5**	**-1.2**
MAT				*e*S	**S**	**06 25 16.0**	**-0.6**
KSM	**Kuching**	**76.86**	**277**	P	**P**	**06 16 11.4**	**+0.5**
	baz=80,SNR=3.5						
KSM	**Kuching**	**76.86**	**277**	*e*P	**P**	**06 16 11.1**	**+0.1**
	comp=Z,9.1nm,0.6s						
VES	**Vestal, Richgr**	**77.69**	**43**	⇓ P	**P**	**06 16 15.3**	**+0.2**
	baz=78						
EDW2	**Edwards Air Fo**	**77.80**	**45**	⇓ P	**P**	**06 16 15.9**	**0.0**
	baz=78						
ISA	**Isabella, Lake**	**77.97**	**44**	*e*P	**P**	**06 16 16.4**	**-0.4**
ISA				pmax	pmax		
	comp=Z,23nm,1.6s						
ISA	**Isabella, Lake**	**77.97**	**44**	⇓ P	**P**	**06 16 17.1**	**+0.3**
	baz=78						
ISA	**Isabella, Lake**	**77.97**	**44**	*e*P	**P**	**06 16 16.4**	**-0.4**
	comp=Z,23nm,1.6s						
CMB	**Columbia Colle**	**78.26**	**41**	*e*P	**P**	**06 16 17.6**	**-0.7**
CMB				pmax	pmax		
	comp=Z,15nm,1.4s						
CMB	**Columbia Colle**	**78.26**	**41**	*e*P	**P**	**06 16 17.6**	**-0.7**
	comp=Z,15nm,1.4s						
LRMC	**Laurel Mtn Rad**	**78.36**	**44**	⇓ P	**P**	**06 16 18.9**	**-0.1**
	baz=79						
PETK	**Petropavlovsk-**	**78.45**	**343**	P	**P**	**06 16 18.0**	**-0.9**
PETK	**Petropavlovsk-**	**78.45**	**343**	P	**P**	**06 16 18.0**	**-0.9**
	comp=Z,10nm,0.8s,baz=144,slow=8.8,SNR=8.0						
BELC	**Belle Mtn. Jos**	**78.59**	**46**	⇑ P	**P**	**06 16 20.2**	**-0.1**
	baz=79						
WDC	**Whiskeytown Da**	**78.65**	**38**	*e*P	**P**	**06 16 20.2**	**-0.2**
WDC				pmax	pmax		
	comp=Z,22nm,1.3s						
WDC	**Whiskeytown Da**	**78.65**	**38**	*e*P	**P**	**06 16 20.2**	**-0.2**
	comp=Z,22nm,1.3s						
N02D	**Trinity Center**	**78.82**	**37**	⇑ P	**P**	**06 16 21.5**	**+0.1**
	baz=79						
GSC	**Goldstone, Bar**	**78.83**	**45**	*e*P	**P**	**06 16 21.2**	**-0.4**
GSC				pmax	pmax		
	comp=Z,31nm,1.9s						
GSC	**Goldstone, Bar**	**78.83**	**45**	⇑ P	**P**	**06 16 21.8**	**+0.2**
	baz=79						
GSC	**Goldstone, Bar**	**78.83**	**45**	*e*P	**P**	**06 16 21.2**	**-0.4**
	comp=Z,31nm,1.9s						
GLA	**Glamis**	**78.83**	**48**	*e*P	**P**	**06 16 19.7**	**-1.9**
GLA	**Glamis**	**78.83**	**48**	*e*P	**P**	**06 16 19.7**	**-1.9**
	comp=Z,88nm,0.5s						
MPMC	**Manual Prospec**	**78.84**	**44**	⇓ P	**P**	**06 16 21.9**	**+0.1**
	baz=79						
HEC	**Hector,Ludlow**	**78.86**	**45**	⇑ P	**P**	**06 16 21.9**	**+0.2**
	baz=79						
MTUM	**Tungsten Hills**	**78.95**	**42**	*e*P	**P**	**06 16 22.8**	**+0.5**
MLAC	**Mammoth, Mammo**	**78.95**	**42**	⇓ P	**P**	**06 16 22.4**	**0.0**
	baz=79						
M02C	**Callahan**	**79.02**	**37**	⇑ P	**P**	**06 16 23.0**	**+0.5**
	baz=79						
WAKR	**Walker**	**79.13**	**41**	*e*P	**P**	**06 16 22.4**	**-0.9**
IRM	**Iron Mountain**	**79.25**	**47**	⇑ P	**P**	**06 16 23.7**	**-0.1**
	baz=80						
YBH	**Yreka Blue Hor**	**79.33**	**37**	*e*P	**P**	**06 16 24.7**	**+0.5**
YBH				pmax	pmax		
	comp=Z,37nm,1.6s						
YBH	**Yreka Blue Hor**	**79.33**	**37**	*e*P	**P**	**06 16 24.6**	**+0.5**
	comp=Z,37nm,1.6s						
TUQ	**Turquoise Moun**	**79.49**	**45**	⇓ P	**P**	**06 16 25.1**

WUAZ **Wupatki** 82.58 47 *e*P P 06 16 41.9 +0.1
comp=Z,31nm,1.6s
I07A **Izee** 82.64 37 *e*P P 06 16 42.2 +0.4
comp=Z,14nm,1.3s
G06A **Carlson Farm,** 82.78 35 *e*P P 06 16 43.1 +0.7
comp=Z,58nm,1.6s
X18A **Snowflake** 83.03 49 ⇑P P 06 16 44.2 0.0
baz=83
ELK **Elko** 83.07 41 *e*P P 06 16 44.2 0.0
ELK pmax pmax
comp=Z,11nm,1.2s
ELK **Elko** 83.07 41 *e*P P 06 16 44.2 0.0
comp=Z,11nm,1.2s
NJ2 **Nanjing** 83.28 308 *e*P P 06 16 44.5 -0.7
NJ2 PMZ
comp=Z,30nm,0.6s
FMW **Mount Fremont** 83.36 33 P P 06 16 46.0 +0.4
D05A **Enumclaw** 83.37 33 *e*P P 06 16 46.4 +1.0
comp=Z,126nm,1.4s
MDJ **Mudanjiang** 83.53 323 P P 06 16 48.5 +2.3
MDJ pP **pP** 06 16 58.1 +3.2
MDJ sP **sP** 06 17 01.0 +3.0
MDJ PP **PP** 06 20 01.3 +2.2
MDJ S **SKSac** 06 27 08.2 +1.4
MDJ sS sS 06 27 26.8 +6.2
MDJ PMZ
comp=Z,11nm,0.8s
MDJ PMZ
comp=Z,83nm,3.6s
MDJ LN
comp=Z,570nm,14.3s
MDJ LE
comp=Z,170nm,14.3s
MDJ LZ
comp=Z,750nm,13.1s
121A **Cookes Peak, D** 83.53 51 ⇑P P 06 16 46.8 0.0
baz=84
MVU **Marysvale** 83.68 44 *e*P P 06 16 47.0 -0.4
comp=Z,22nm,1.2s
G08A **Pilot Rock** 83.72 36 *e*P P 06 16 46.3 -1.1
comp=Z,31nm,1.1s
E07A **Sunnyside** 84.05 34 *e*P P 06 16 49.4 +0.5
comp=Z,38nm,1.2s
LTY **Liberty** 84.08 34 *e*P P 06 16 49.1 0.0
comp=Z,21nm,1.3s
HAWA **Hanford** 84.11 35 *e*P P 06 16 49.4 +0.2
comp=Z,39nm,1.4s
GBB **Gable Butte** 84.20 35 P P 06 16 49.9 +0.3
DUG **Dugway, Tooele** 84.25 43 *e*P P 06 16 48.4 -1.8
DUG pmax pmax
comp=Z,15nm,1.5s
DUG **Dugway, Tooele** 84.25 43 ⇑P P 06 16 49.8 -0.4
baz=84
DUG **Dugway, Tooele** 84.25 43 *e*P P 06 16 48.4 -1.8
comp=Z,15nm,1.5s
MFID **Camas Ranch** 84.31 39 *e*P P 06 16 49.1 -1.3
comp=Z,19nm,1.1s
BMO **Blue Mountains** 84.35 37 *e*P P 06 16 49.1 -1.4
comp=Z,17nm,1.3s
QIZ **Qiongzhong** 84.41 293 P P 06 16 51.2 -0.1
QIZ PP **PP** 06 20 06.5 -0.3
QIZ S **S** 06 27 14.9 -1.3
QIZ SS **SS** 06 32 43.8 -3.4
QIZ PMZ
comp=Z,26nm,1.6s
QIZ PMZ
comp=Z,120nm,5.1s
QIZ LN
comp=Z,1μm,11.4s
QIZ LZ
comp=Z,840nm,15.8s
WTV **Waterville** 84.74 34 P P 06 16 52.3 -0.1
TMUT **Trail Mountain** 84.77 44 *e*P P 06 16 53.4 +0.3
comp=Z,36nm,1.1s
NLW **Nelson Butte** 84.79 33 P P 06 16 52.5 -0.3
D08A **Wollman Farm,** 84.86 34 *e*P P 06 16 53.3 +0.4
comp=Z,20nm,1.1s
MNTX **Cornudas Mount** 84.87 53 ⇑P P 06 16 52.9 -0.5
baz=85
MNTX **Cornudas Mount** 84.87 53 *e*P P 06 16 52.6 -0.8
comp=Z,11nm,1.2s
MPU **Maple Canyon** 84.90 43 *e*P P 06 16 53.9 +0.3
comp=Z,10nm,1.1s
E09A **Wood Farm, Sta** 84.93 35 *e*P P 06 16 53.2 -0.1
comp=Z,21nm,1.2s
LENM **Lemitar** 84.94 50 *e*P P 06 16 53.9 0.0
comp=Z,27nm,1.5s
SAW **Saint Andrews** 85.03 34 P P 06 16 53.8 0.0
TXAR **Lajitas Array** 85.03 56 P P 06 16 53.4 -1.0
comp=Z,6.5nm,1.1s,baz=212,slow=4.4,SNR=34
TXAR LR LR 06 48 21.2
comp=Z,164nm,19.3s,baz=0.0,slow=31
F10A **Beach Ranch, E** 85.09 36 *e*P P 06 16 53.8 -0.5
comp=Z,28nm,1.1s
SRU **San Rafael Swe** 85.11 45 *e*P P 06 16 54.2 -0.5
SRU pmax pmax
comp=Z,31nm,1.2s
SRU **San Rafael Swe** 85.11 45 *e*P P 06 16 54.1 -0.5
comp=Z,31nm,1.2s
OD2 **Odessa Site #2** 85.19 34 P P 06 16 54.7 +0.1
HLID **Hailey** 85.23 39 ⇑P P 06 16 54.6 -0.5
baz=86,SNR=14
HLID **Hailey** 85.23 39 *e*P P 06 16 55.1 0.0
comp=Z,11nm,1.1s
LPM **Los Pinos Moun** 85.26 50 *e*P P 06 16 55.2 -0.2
GAMB **Gambell** 85.36 1 *e*P P 06 16 55.2 +0.2
comp=Z,19nm,1.0s
DAU **Daniels Canyon** 85.36 43 *e*P P 06 16 56.1 +0.1
DAU **Daniels Canyon** 85.36 43 *e*P P 06 16 56.1 +0.1
comp=Z,0.5nm,0.9s
CN2 **Changchun** 85.39 321 *e*P P 06 16 56.3 +0.7
CN2 *e*pP **pP** 06 17 06.4 +2.0
CN2 *e*S **S** 06 27 23.4 -1.5
CN2 PMZ
comp=Z,20nm,1.2s
CN2 LN
comp=Z,600nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,600nm,18.0s
MVCO **Mesa Verde** 85.45 47 ⇓P P 06 16 56.4 -0.1
baz=86
MVCO **Mesa Verde** 85.45 47 *e*P P 06 16 56.3 -0.2
comp=Z,11nm,1.5s
B08A **Colville Reser** 85.49 33 *e*P P 06 16 55.7 -0.4
comp=Z,16nm,1.3s
TCUT **Toone Canyon** 85.65 42 *e*P P 06 16 57.4 0.0
comp=Z,62nm,1.5s
C09A **Chrisman Ranch** 85.68 34 *e*P P 06 16 56.4 -0.6
comp=Z,89nm,2.2s
PV10 **Paradox Valley** 85.70 46 *e*P P 06 16 57.0 -0.7
comp=Z,148nm,1.3s
ANMO **Albuquerque** 85.70 50 *d i*P P 06 16 57.1 -0.6
ANMO pmax pmax
comp=Z,113nm,1.2s
ANMO **Albuquerque** 85.70 50 *e*P P 06 16 56.5 -1.2
comp=Z,29nm,1.2s
HWUT **Hardware Ranch** 85.83 42 *e*P P 06 16 57.4 -0.8
GDL2 **Guadalupe Moun** 85.87 53 *e*P P 06 16 58.8 +0.2
GDL2 epP pP 06 17 31.0 +24
PV01 **Paradox Valley** 85.88 46 *e*P P 06 16 57.7 -0.8
comp=Z,1μm,1.6s
PLCA **Paso Flores** 85.95 132 *e*P P 06 16 58.1 -0.8
PLCA pmax pmax
comp=Z,31nm,1.8s
PLCA **Paso Flores** 85.95 132 P P 06 16 57.7 -1.1
comp=Z,3.5nm,1.0s,baz=246,slow=5.2,SNR=4.9
PLCA LR LR 06 46 56.9
comp=Z,179nm,19.7s,baz=269,slow=30
PLCA **Paso Flores** 85.95 132 *e*P P 06 16 58.1 -0.8
comp=Z,31nm,1.8s
BMRM **Bremner River** 85.97 14 *e*P P 06 16 58.5 +0.2
comp=Z,48nm,1.7s
529A **Stev Forest Ra** 86.52 56 ⇓P P 06 17 00.9 -0.8
baz=87
SNAA **Sanae** 86.56 177 P P 06 17 00.9 -0.3
comp=Z,5.6nm,1.1s,baz=222,slow=4.3,SNR=8.4
IPM **Ipoh** 86.56 276 *e*P P 06 17 02.9 +0.6
comp=Z,27nm,1.2s
VNA3 **Neumayer Olymp** 86.57 175 P P 06 17 00.8 -0.4
NEW **Newport** 86.57 34 ⇑P P 06 17 01.2 -0.3
baz=87
S22A **4UR Ranch, Cre** 86.86 47 ⇑P P 06 17 03.2 -0.3
baz=87
S22A **4UR Ranch, Cre** 86.86 47 *e*P P 06 17 03.1 -0.4
comp=Z,11nm,1.3s
MCMT **McKenzie Canyo** 86.88 39 *e*P P 06 17 03.0 -0.3
comp=Z,0.9nm,0.7s
429A **Davenport Ranc** 87.00 55 ⇓P P 06 17 03.2 -0.8
baz=87
T23A **Casias Ranch,** 87.05 48 ⇓P P 06 17 04.2 -0.2
baz=87
VNA2 **Neumayer--Watz** 87.05 176 P P 06 17 01.8 -1.7
baz=275,slow=2.6
TRF **Thorofare Moun** 87.11 11 *e*P P 06 17 02.8 -1.1
comp=Z,158nm,2.3s
SKAG **Skagway** 87.13 19 *e*P P 06 17 05.3 +1.5
comp=Z,78nm,1.9s
O20A **White River Ci** 87.15 45 ⇓P P 06 17 04.9 +0.2
baz=87
228A **UT Block 9, Go** 87.16 54 ⇓P P 06 17 04.3 -0.5
baz=87
530A **J-C Ranch, Com** 87.20 56 ⇓P P 06 17 04.0 -1.0
baz=87,SNR=8.3
KULM **Kulim** 87.21 277 *e*P P 06 17 06.5 +1.1
comp=Z,18nm,1.3s
TPAW **Teton Pass** 87.25 41 *e*P P 06 17 05.1 -0.1
comp=Z,6.2nm,1.1s
U24A **Moreno Valley** 87.26 49 ⇑P P 06 17 05.7 +0.3
baz=88
TNA **Tin City** 87.26 3 *e*P P 06 17 04.6 +0.3
comp=Z,7.8nm,1.0s
329A **Wagon Wheel Ra** 87.33 55 ⇓P P 06 17 04.6 -1.0
baz=88,SNR=6.8
DLMT **Dillon** 87.33 38 *e*P P 06 16 59.8 -5.6
832A **Faith Ranch, C** 87.44 58 ⇑P P 06 17 04.9 -1.2
baz=88,SNR=8.5
V25A **Rancho No Teng** 87.45 50 ⇑P P 06 17 05.3 -0.9
baz=88,SNR=8.7
631A **Perdido Creek** 87.46 57 ⇑P P 06 17 05.2 -1.0
baz=88,SNR=13
128A **Castleberry Fa** 87.47 53 ⇓P P 06 17 05.4 -0.9
baz=88,SNR=6.6
SMCO **Snowmass** 87.49 46 *e*P P 06 17 06.3 -0.3
comp=Z,6.0nm,1.0s
N20A **Spence Gulch,** 87.50 44 ⇑P P 06 17 05.3 -1.1
baz=88,SNR=7.2
T24B **San Luis** 87.51 48 ⇑P P 06 17 06.0 -0.6
baz=88
LOHW **Long Hollow** 87.53 41 *e*P P 06 17 06.2 -0.3
comp=Z,7.4nm,1.4s
430A **Baggett Ranch,** 87.57 56 ⇓P P 06 17 05.5 -1.3
baz=88
MCK **McKinley** 87.60 11 *e*P P 06 17 06.0 -0.1
MCK pmax pmax
comp=Z,24nm,1.2s
MCK **McKinley** 87.60 11 *e*P P 06 17 06.0 -0.1
comp=Z,24nm,1.2s
732A **Laxson Ranch,** 87.63 58 ⇓P P 06 17 06.0 -1.0
baz=88,SNR=5.8
229A **Bryant Ranch,** 87.67 54 ⇑P P 06 17 06.5 -0.8
baz=88
933A **Laredo** 87.70 59 ⇑P P 06 17 06.8 -0.6
baz=88,SNR=6.0
W26A **Owens Ranch, T** 87.70 51 ⇓P P 06 17 06.9 -0.5
baz=88
PDAR **Pinedale Array** 87.71 42 P P 06 17 05.6 -1.8
comp=Z,2.6nm,0.9s,baz=210,slow=3.3,SNR=17
PDAR LR LR 06 48 47.2
comp=Z,88nm,19.2s,baz=242,slow=30
I17A **Pilgrim Ck.** 87.72 40 ⇑P P 06 17 06.8 -0.5
baz=88
R23A **Moffat** 87.77 47 ⇓P P 06 17 06.9 -0.9
baz=88
SDCO **Great Sand Dun** 87.77 48 ⇑P P 06 17 07.3 -0.6
baz=88
SDCO **Great Sand Dun** 87.77 48 *e*P P 06 17 07.5 -0.4
comp=Z,18nm,1.9s
531A **Rocksprings** 87.82 56 ⇓P P 06 17 06.9 -1.1
baz=88,SNR=16
P22A **Eagle** 87.85 46 ⇑P P 06 17 07.5 -0.6
baz=88
Z28A **Tucker Farm, M** 87.86 53 ⇓P P 06 17 07.3 -0.8
baz=88
MSTX **Muleshoe** 87.89 52 ⇑P P 06 17 07.5 -0.8
baz=88
330A **Mertzon** 87.90 55 ⇑P P 06 17 07.0 -1.3
baz=88
833A **Chaparral WMA,** 87.91 58 ⇓P P 06 17 07.2 -1.2
baz=88,SNR=5.5
S24A **Houchin Ranch,** 87.92 48 ⇓P P 06 17 08.2 -0.4
baz=88
034A **Hebbronville** 87.93 60 ⇓P P 06 17 08.5 0.0
baz=88,SNR=7.1
129A **Stewart Farms,** 87.94 54 ⇓P P 06 17 08.1 -0.4
baz=88
431A **Sonora** 88.01 56 ⇑P P 06 17 08.0 -0.8
baz=88
V26A **Tequesquite Ra** 88.02 50 ⇓P P 06 17 08.2 -0.7
baz=88
632A **Uvalde** 88.12 57 ⇑P P 06 17 08.6 -0.8
baz=88,SNR=6.0
733A **Divot King Ran** 88.16 58 ⇑P P 06 17 08.7 -0.8
baz=88
T25A **Trinidad** 88.23 49 ⇑P P 06 17 09.5 -0.4
baz=88
Y28A **McKinney Farm,** 88.25 52 ⇓P P 06 17 09.3 -0.6
baz=88
O22A **Kremmling** 88.28 45 ⇓P P 06 17 09.4 -0.8
baz=88,SNR=6.1
R24A **Sanders Place,** 88.28 48 ⇑P P 06 17 09.7 -0.5
baz=88
J19A **Crowheart** 88.29 42 ⇓P P 06 17 09.2 -0.9
baz=88,SNR=5.6
934A **Benavides** 88.29 59 ⇓P P 06 17 09.3 -0.9
baz=88
532A **Rocksprings** 88.30 57 ⇓P P 06 17 09.3 -1.0
baz=88,SNR=11
U26A **Atchley Ranch,** 88.34 50 ⇑P P 06 17 09.8 -0.7
baz=88
Z29A **Hungry Hill Ra** 88.35 53 ⇓P P 06 17 09.5 -0.9
baz=88
P23A **Jefferson** 88.35 46 ⇑P P 06 17 09.8 -0.9
baz=89
331A **San Angelo** 88.43 55 ⇓P P 06 17 09.6 -1.2
baz=89
SEY **Seymchan** 88.45 346 *i* P P 06 17 09.7 -0.4
S25A **Robets Cordova** 88.46 48 ⇓P P 06 17 10.3 -0.8
baz=89
834A **Tilden** 88.49 59 ⇑P P 06 17 10.4 -0.7
baz=89
JCT **Junction City** 88.54 56 ⇓P P 06 17 10.3 -1.1
baz=89
X28A **Dimmitt** 88.57 52 ⇓P P 06 17 10.6 -0.9
baz=89
633A **Saathoff Ranch** 88.58 58 ⇑P P 06 17 10.7 -0.8
baz=89
Y29A **Porterfield Fa** 88.65 53 ⇑P P 06 17 11.2 -0.6
baz=89
N22A **Wattenberg Ran** 88.66 45 ⇑P P 06 17 11.6 -0.4
baz=89
O23A **Lake Granby, G** 88.72 45 ⇓P P 06 17 11.5 -0.8
baz=89
432A **Menard** 88.72 56 ⇓P P 06 17 11.5 -0.7
baz=89
WALA **Waterton Lakes** 88.75 35 *e*P P 06 17 11.4 -0.6
comp=Z,5.0nm,1.0s
Z30A **Sanderson Ranc** 88.79 53 ⇓P P 06 17 11.4 -1.1
baz=89
231A **Bronte** 88.79 55 ⇓P P 06 17 11.1 -1.4
baz=89
T26A **Comanche Natio** 88.82 49 ⇑P P 06 17 11.5 -1.2
baz=89
COLA **College** 88.84 11 ⇑*e*P P 06 17 12.0 +0.2
COLA pmax pmax
comp=Z,143nm,1.7s
COLA **College** 88.84 11 *e*P P 06 17 11.8 0.0
comp=Z,38nm,1.4s
M22A **Cedar Creek Ra** 88.88 44 ⇑P P 06 17 12.1 -0.8
baz=89
X29A **Tulia** 88.89 52 ⇑P P 06 17 12.1 -0.9
baz=89
ILAR **Eielson Array** 88.92 11 P P 06 17 11.6 -0.7
comp=Z,6.4nm,1.1s,baz=217,slow=5.2,SNR=21
J20A **Shoshoni** 88.94 42 ⇑P P 06 17 12.3 -0.7
baz=89
IM04 **Indian Mountai** 88.94 8 *e*P P 06 17 13.0 +0.6
533A **Kerrville** 88.96 57 ⇓P P 06 17 12.2 -1.1
baz=89
332A **Millersview** 88.98 56 ⇑P P 06 17 12.1 -1.3
baz=89
U27A **Thompson Grove** 89.00 50 ⇓P P 06 17 12.8 -0.7
baz=89
N23A **Red Feather La** 89.04 45 ⇓P P 06 17 13.3 -0.5
baz=89
TRTT **Trang** 89.05 279 P P 06 17 16.0 +1.9
comp=Z,28nm,1.5s,comp=Z,546nm
H19A **Powell** 89.08 40 ⇑P P 06 17 13.8 +0.1
baz=89
K21A **Alcova** 89.08 43 ⇑P P 06 17 13.5 -0.4
baz=89
AMTX **Amarillo** 89.11 52 ⇓P P 06 17 13.9 -0.1
baz=89
S26A **Kim** 89.11 49 ⇓P P 06 17 12.7 -1.3
baz=89,SNR=5.6
BJI **Beijing** 89.17 314 P P 06 17 14.7 +0.7
BJI S **S** 06 28 01.8 +0.4
BJI SS **SS** 06 33 57.3 +1.1
BJI PMZ
comp=Z,14nm,1.9s
BJI PMZ
comp=Z,150nm,6.1s
BJI LN
comp=Z,530nm,13.7s
BJI LE
comp=Z,650nm,14.9s
BJI LZ
comp=Z,340nm,18.3s
433A **Art** 89.21 56 ⇓P P 06 17 13.4 -1.1
baz=89,SNR=8.6
I20A **Worland** 89.22 41 ⇓P P 06 17 13.8 -0.6
baz=89
W29A **Amarillo** 89.25 52 ⇓P P 06 17 14.1 -0.5
baz=89
232A **Coleman** 89.28 55 ⇑P P 06 17 13.8 -1.1
baz=90
L22A **Ellis Ranch, M** 89.30 44 ⇑P P 06 17 14.7 -0.1
baz=90
J21A **Lysite** 89.33 42 ⇓P P 06 17 14.4 -0.6
baz=90
534A **Blanco** 89.38 57 ⇑P P 06 17 14.4 -0.9
baz=90
735A **Kenedy** 89.40 59 ⇑P P 06 17 14.5 -0.8
baz=90
R26A **Arlington** 89.46 48 ⇓P P 06 17 14.9 -0.7
baz=90,SNR=6.2
Z31A **Sharp Cattle R** 89.54 54 ⇑P P 06 17 15.7 -0.2
baz=90
333A **Richland Sprin** 89.54 56 ⇑P P 06 17 15.2 -0.8
baz=90
P25A **Willow Gulch B** 89.55 47 ⇓P P 06 17 15.6 -0.5
baz=90
K22A **Casper** 89.56 43 ⇓P P 06 17 15.4 -0.6
baz=90
H20A **Greybull** 89.58 41 ⇓P P 06 17 15.5 -0.5
baz=90
ABTX **Abilene, Hawle** 89.61 55 ⇓P P 06 17 15.6 -0.8
baz=90
ABTX **Abilene, Hawle** 89.61 55 *e*P P 06 17 15.7 -0.6
comp=Z,8.3nm,1.0s
635A **Leesville** 89.65 58 ⇓P P 06 17 16.1 -0.5
baz=90
I21A **Big Trails, Te** 89.67 42 ⇓P P 06 17 15.8 -0.6
baz=90
Q26A **Hugo** 89.70 48 ⇓P P 06 17 16.2 -0.6
baz=90
Y31A **Rekieta Farm,** 89.74 53 ⇑P P 06 17 15.9 -1.0
baz=90
T28A **Walsh** 89.83 50 ⇑P P 06 17 16.8 -0.6
baz=90
DAWY **Dawson** 89.87 15 *e*P P 06 17 17.4 +0.6
434A **Burnet** 89.87 57 ⇓P P 06 17 16.3 -1.3
baz=90,SNR=7.3
R27A **Eads** 89.90 48 ⇑P P 06 17 16.9 -0.8
baz=90
233A **Rising Star** 89.91 55 ⇓P P 06 17 16.8 -0.9
baz=90
Z32A **Haskell** 90.03 54 ⇑P P 06 17 17.5 -0.7
baz=90,SNR=7.9
EGAK **Eagle** 90.08 14 *e*P P 06 17 17.2 -0.5
comp=Z,31nm,1.7s
334A **Lometa** 90.12 56 ⇑P P 06 17 17.9 -0.8
baz=90,SNR=7.8
133A **Hamilton Ranch** 90.15 55 ⇑P P 06 17 18.3 -0.5
baz=90
GYA **Guiyang** 90.18 298 *e*P P 06 17 19.0 -0.2
GYA pP **pP** 06 17 30.2 +2.2
GYA PP **PP** 06 20 55.8 +2.5
GYA SKS **SKSac** 06 27 45.4 -3.5
GYA S **S** 06 28 08.2 -3.5
GYA sS **sS** 06 28 26.0 -0.2
GYA SS **SS** 06 34 11.7 +0.1
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.4s
GYA LN
comp=Z,580nm,20.5s
GYA LE
comp=Z,520nm,21.2s
GYA LZ
comp=Z,560nm,20.0s
S28A **Manter** 90.20 49 ⇑P P 06 17 18.4 -0.7
baz=90
I22A **9 Mile Ranch,** 90.21 42 ⇑P P 06 17 18.2 -0.8
baz=90
X31A **McDonald Ranch** 90.25 53 ⇓P P 06 17 18.8 -0.5
baz=90
636A **Smothers Creek** 90.26 58 ⇓P P 06 17 18.9 -0.5
baz=90
KSCO **Kaye Shedlock'** 90.36 48 ⇑P P 06 17 19.2 -0.6
baz=91
Y32A **R-V Farms, Ver** 90.37 53 ⇓P P 06 17 19.1 -0.7
baz=91
D19A **Cripps Ranch,** 90.48 38 ⇑P P 06 17 19.9 -0.2
baz=91
234A **Clairette** 90.49 56 ⇓P P 06 17 19.4 -1.0
baz=91,SNR=5.5
W31A **Holland Ranch,** 90.52 52 ⇓P P 06 17 19.9 -0.6
baz=91
Z33A **Whitaker Ranch** 90.56 54 ⇓P P 06 17 20.1 -0.6
baz=91
R28A **Tribune** 90.61 49 ⇓P P 06 17 20.2 -0.8
baz=91,SNR=5.6
COLD **Coldfoot** 90.62 9 *e*P P 06 17 21.0 +0.8
comp=Z,17nm,2.0s
X32A **Elmer** 90.67 53 ⇑P P 06 17 21.1 -0.1
baz=91
BILL **Bilibino** 90.73 353 ⇑*i*P P 06 17 19.2 -1.4
BILL *e* 06 20 53.8
BILL *e*S **SKSac** 06 27 45.7 -4.3
BILL *e*SS **SS** 06 34 14.3 -3.4
BILL pmax pmax
comp=Z,10.0nm,1.7s
134A **White-Moore Ra** 90.77 55 ⇓P P 06 17 21.7 0.0
baz=91
V31A **Spring Creek L** 90.85 52 ⇑P P 06 17 22.0 -0.1
baz=91
D20A **Manuel Ranch,** 90.87 39 ⇑P P 06 17 22.1 +0.2
baz=91
Q28A **Sharon Springs** 90.93 48 ⇓P P 06 17 22.3 -0.2
baz=91
Y33A **Hilltop Ranch,** 90.98 54 ⇑P P 06 17 22.3 -0.3
baz=91
W32A **Sentinel** 91.00 52 ⇑P P 06 17 21.9 -0.8
baz=91,SNR=5.3
P28A **Saint Francis** 91.22 48 ⇓P P 06 17 23.1 -0.6
baz=91
LOEI **Loei** 91.26 288 P P 06 17 25.4 +1.1
comp=Z,11nm,1.4s
X33A **Lawton** 91.30 53 ⇓P P 06 17 23.7 -0.5
baz=92
V32A **Arapaho** 91.41 52 ⇑P P 06 17 24.0 -0.7
baz=92
HKT **Hockley** 91.42 58 *e*P P 06 17 23.1 -1.6
HKT pmax pmax
comp=Z,18nm,1.6s
HKT **Hockley** 91.42 58 *e*P P 06 17 23.1 -1.6
comp=Z,18nm,1.6s
Q29A **Oakley** 91.44 48 ⇑P P 06 17 24.2 -0.5
baz=92
G23A **Biddle** 91.54 41 ⇑P P 06 17 24.9 -0.2
baz=92
T31A **Randall Ranch,** 91.56 51 ⇑P P 06 17 24.9 -0.4
baz=92
XAN **Xi'an** 91.57 306 P P 06 17 26.3 +0.9
XAN pP **pP** 06 17 37.1 +2.9
XAN S **S** 06 28 29.5 +5.5
XAN PMZ
comp=Z,3.0nm,1.1s
XAN PMZ

	comp=Z,31nm,7.2s							
XAN				LN				
	comp=Z,620nm,16.5s							
XAN				LZ				
	comp=Z,320nm,15.5s							
W33A	**Caddo, Fort Co**	**91.59**	**53**	⇑P	**P**		06 17 25.1	-0.3
	baz=92							
Y34A	**Reagan Ranch,**	**91.61**	**54**	⇑P	**P**		06 17 25.2	-0.4
	baz=92							
R30A	**Dighton**	**91.66**	**49**	⇑P	**P**		06 17 25.2	-0.5
	baz=92							
F23A	**Volborg**	**91.79**	**41**	⇑P	**P**		06 17 26.1	-0.2
	baz=92							
X34A	**Smith Ranch, M**	**91.83**	**53**	⇓P	**P**		06 17 26.6	0.0
	baz=92							
H24A	**Dirks Ranch, A**	**91.84**	**42**	⇓P	**P**		06 17 25.9	-0.6
	baz=92							
RSSD	**Black Hills**	**91.86**	**43**	*e*P	**P**		06 17 25.8	-1.0
RSSD				pmax	pmax			
	comp=Z,4.0nm,1.1s							
RSSD	**Black Hills**	**91.86**	**43**	*e*P	**P**		06 17 25.8	-1.0
	comp=Z,4.3nm,1.1s							
N28A	**Pribbeno Ranch**	**91.88**	**47**	⇓P	**P**		06 17 26.3	-0.5
	baz=92							
S31A	**Mullinville**	**91.93**	**50**	⇑P	**P**		06 17 26.8	-0.2
	baz=92							
I25A	**Rochford**	**92.00**	**43**	⇓P	**P**		06 17 27.1	-0.3
	baz=92							
Q30A	**Quinter**	**92.01**	**49**	⇑P	**P**		06 17 26.7	-0.6
	baz=92,SNR=7.1							
V33A	**Lossen Ranch,**	**92.01**	**52**	⇑P	**P**		06 17 27.0	-0.5
	baz=92							
438A	**Sam Houston St**	**92.03**	**58**	⇓P	**P**		06 17 27.5	-0.1
	baz=92							
J26A	**Sides Ranch, S**	**92.08**	**44**	⇑P	**P**		06 17 28.2	+0.6
	baz=92							
T32A	**Huddler Ranch,**	**92.14**	**51**	⇓P	**P**		06 17 27.5	-0.4
	baz=92							
W34A	**Bridge Creek,**	**92.14**	**53**	⇓P	**P**		06 17 27.5	-0.5
	baz=92							
W34A	**Bridge Creek,**	**92.14**	**53**	*e*P	**P**		06 17 27.7	-0.3
	comp=Z,66nm,1.7s							
R31A	**Burdett**	**92.19**	**50**	⇑P	**P**		06 17 27.8	-0.4
	baz=92							
B21A	**Ellsworth Farm**	**92.21**	**38**	⇑P	**P**		06 17 28.2	+0.2
	baz=92							
P30A	**Selden**	**92.24**	**48**	⇑P	**P**		06 17 28.1	-0.4
	baz=92							
237A	**Washetta, Mont**	**92.28**	**56**	⇓P	**P**		06 17 28.1	-0.6
	baz=92							
S32A	**Newby Ranch, P**	**92.35**	**50**	⇑P	**P**		06 17 28.5	-0.4
	baz=93							
F24A	**Ekalaka**	**92.44**	**41**	⇑P	**P**		06 17 29.3	0.0
	baz=93							
A21A	**Bergtoll Ranch**	**92.55**	**38**	⇑P	**P**		06 17 29.8	+0.2
	baz=93							
137A	**Heron Place, G**	**92.56**	**56**	⇑P	**P**		06 17 30.2	+0.2
	baz=93							
HHC	**Hu-ho-hao-te**	**92.66**	**313**	*e*P	**P**		06 17 31.6	+1.2
HHC				pP	**pP**		06 17 41.8	+2.6
HHC				sP	**sP**		06 17 46.5	+4.2
HHC				PP	**PP**		06 21 15.0	+2.4
HHC				SKS	**SKSac**		06 28 01.3	-1.1
HHC				S	**S**		06 28 31.9	-1.6
HHC				sS	**sS**		06 28 48.2	+0.1
HHC				PMZ				
	comp=Z,22nm,0.5s							
HHC				PMZ				
	comp=Z,61nm,5.6s							
HHC				LN				
	comp=Z,530nm,16.1s							
HHC				LE				
	comp=Z,910nm,17.7s							
HHC				LZ				
	comp=Z,760nm,17.7s							
J27A	**Elkhorn Farm,**	**92.75**	**44**	⇑P	**P**		06 17 30.9	+0.2
	baz=93							
M29A	**Burnside Ranch**	**92.79**	**46**	⇓P	**P**		06 17 30.5	-0.5
	baz=93							
238A	**Jacksonville**	**92.81**	**57**	⇓P	**P**		06 17 30.5	-0.7
	baz=93							
U34A	**Anderson Ranch**	**92.82**	**52**	⇑P	**P**		06 17 30.7	-0.4
	baz=93							
R32A	**Long Quarter,**	**92.83**	**50**	⇓P	**P**		06 17 30.8	-0.3
	baz=93							
P31A	**Stockton**	**92.83**	**48**	⇓P	**P**		06 17 30.9	-0.3
	baz=93							
H26A	**Fairpoint**	**92.89**	**43**	⇓P	**P**		06 17 31.8	+0.5
	baz=93							
KMI	**Kunming**	**92.89**	**296**	P	**P**		06 17 33.3	+1.3
KMI				PMZ				
	comp=Z,13nm,1.0s							
K28A	**Ten Mile Ranch**	**92.92**	**45**	⇓P	**P**		06 17 31.7	+0.2
	baz=93							
C23A	**Lambert**	**92.95**	**39**	⇑P	**P**		06 17 31.8	+0.3
	baz=93							
339A	**Huntington**	**92.99**	**58**	⇓P	**P**		06 17 32.0	0.0
	baz=93							
V35A	**Meyer Ranch, C**	**93.05**	**53**	⇓P	**P**		06 17 31.7	-0.5
	baz=93							
CRAI	**Chiangrai**	**93.07**	**290**	P	P		06 17 41.8	+9.2
	comp=Z,6.4nm,0.9s,comp=Z,11μm							
F25A	**Bowman**	**93.08**	**41**	⇓P	**P**		06 17 32.7	+0.5
	baz=93							
D24A	**Glendive**	**93.13**	**40**	⇓P	**P**		06 17 32.8	+0.5
	baz=93							
Q32A	**Meitler Ranch,**	**93.18**	**49**	⇓P	**P**		06 17 32.7	0.0
	baz=93							
R33A	**Olander Ranch,**	**93.29**	**50**	⇑P	**P**		06 17 33.0	-0.3
	baz=94							
G26A	**Maurine**	**93.32**	**42**	⇑P	**P**		06 17 33.2	-0.1
	baz=94							
J28A	**Allard Ranch,**	**93.33**	**44**	⇓P	**P**		06 17 33.7	+0.3
	baz=94							
H27A	**Howes**	**93.34**	**43**	⇑P	**P**		06 17 33.6	+0.3
	baz=94							
B23A	**Brockton**	**93.39**	**39**	⇓P	**P**		06 17 34.2	+0.7
	baz=94							
K29A	**Lazy Trails An**	**93.63**	**45**	⇑P	**P**		06 17 35.1	+0.3
	baz=94							
I28A	**Midland**	**93.63**	**44**	⇓P	**P**		06 17 34.8	+0.1
	baz=94							
S34A	**Willow Spring**	**93.66**	**51**	⇓P	**P**		06 17 34.9	-0.1
	baz=94							
CMAR	**Chiang Mai Arr**	**93.67**	**288**	P	**P**		06 17 34.6	-0.8
	comp=Z,1.8nm,0.3s,baz=121,slow=3.6,SNR=13							
L30A	**Spencer Herefo**	**93.67**	**46**	⇑P	**P**		06 17 34.9	-0.1
	baz=94							
Q33A	**Connelly Farm,**	**93.69**	**49**	⇓P	**P**		06 17 34.9	-0.1
	baz=94							
D25A	**Fairfield**	**93.75**	**40**	⇑P	**P**		06 17 35.4	+0.2
	baz=94							
CHTO	**Chiang Mai**	**93.80**	**289**	P	P		06 17 40.5	+4.5
	comp=Z,30nm,1.7s							
DGMT	**Dagmar**	**93.86**	**39**	⇑P	**P**		06 17 35.8	+0.1
	baz=94							
DGMT	**Dagmar**	**93.86**	**39**	*e*P	**P**		06 17 36.0	+0.4
	comp=Z,26nm,0.9s							
TUL1	**Leonard**	**93.89**	**53**	⇓P	**P**		06 17 35.8	-0.2
	baz=94							
M31A	**Lambtecht Ranc**	**93.90**	**47**	⇓P	**P**		06 17 36.2	+0.1
	baz=94							
J29A	**Okreek**	**93.91**	**45**	⇑P	**P**		06 17 35.7	-0.3
	baz=94							
O32A	**Brockman Farm,**	**93.92**	**48**	⇓P	**P**		06 17 35.9	-0.3
	baz=94							
F27A	**Lemmon**	**93.95**	**42**	⇓P	**P**		06 17 36.0	-0.1
	baz=94							
E26A	**Carlson Angus**	**93.95**	**41**	⇑P	**P**		06 17 36.1	-0.1
	baz=94							
K30A	**Basset**	**94.06**	**46**	⇑P	**P**		06 17 36.5	-0.2
	baz=94							
CMAI	**Chiengmai2**	**94.12**	**290**	P	P		06 17 43.9	+6.2
A24A	**Westby**	**94.19**	**39**	⇑P	**P**		06 17 37.0	-0.1
	baz=94							
I29A	**Vivian Onida**	**94.20**	**44**	⇑P	**P**		06 17 37.0	-0.3
	baz=94							
D26A	**Manning**	**94.22**	**41**	⇓P	**P**		06 17 37.6	+0.2
	baz=94							
CD2	**Chengdu**	**94.29**	**301**	*e*P	**P**		06 17 38.8	+0.7
CD2				pP	**pP**		06 17 49.9	+3.1
CD2				sP	**sP**		06 17 54.0	+4.0
CD2				PP	**PP**		06 21 28.7	+3.1
CD2				SKS	**SKSac**		06 28 09.6	-2.0
CD2				S	**S**		06 28 44.7	-3.5
CD2				sS	**sS**		06 29 03.3	+0.5
CD2				SS	**SS**		06 35 10.5	0.0
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.2s							
CD2				LN				
	comp=Z,1μm,12.4s							
CD2				LE				
	comp=Z,1μm,17.0s							
CD2				LZ				
	comp=Z,1μm,12.5s							
L31A	**Butterfield Fa**	**94.36**	**46**	⇓P	**P**		06 17 38.0	-0.1
	baz=95							
B25A	**Knox Farm, Ray**	**94.37**	**39**	⇓P	**P**		06 17 38.0	0.0
	baz=95							
J30A	**Dallas**	**94.42**	**45**	⇓P	**P**		06 17 38.0	-0.3
	baz=95							
E27A	**Carson**	**94.48**	**42**	⇑P	**P**		06 17 38.5	-0.1
	baz=95							
BGNE	**Belgrade**	**94.49**	**47**	⇑P	**P**		06 17 38.4	-0.4
	baz=95							
F28A	**McLaughlin**	**94.69**	**42**	⇓P	**P**		06 17 38.9	-0.6
	baz=95							
I30A	**Oacoma**	**94.72**	**44**	⇓P	**P**		06 17 39.7	0.0
	baz=95							
S36A	**Lake Cedric, C**	**94.77**	**51**	⇓P	**P**		06 17 38.8	-1.2
	baz=95							
C26A	**Wahner Farm, P**	**94.80**	**40**	⇓P	**P**		06 17 39.5	-0.4
	baz=95							
LZH	**Lanzhou**	**96.20**	**306**	*e*P	**P**		06 17 46.5	-0.4
LZH				pP	**pP**		06 17 57.8	+2.2
LZH				sP	**sP**		06 18 01.7	+2.9
LZH				*e*PP	**PP**		06 21 42.3	+1.8
LZH				SKS	**SKSac**		06 28 19.1	-2.8
LZH				*e*S	**S**		06 29 00.2	-4.7
LZH				sS	**sS**		06 29 17.1	-2.4
LZH				*e*SS	**SS**		06 35 37.0	-0.8
LZH				PMZ				
	comp=Z,32nm,1.6s							
LZH				PMZ				
	comp=Z,100nm,7.2s							
LZH				LN				
	comp=Z,580nm,17.5s							
LZH				LE				
	comp=Z,630nm,17.8s							
LZH				LZ				
	comp=Z,750nm,19.6s							
YKA	**Yellowknife Ar**	**96.37**	**24**	P	**P**		06 17 45.6	-1.1
	comp=Z,1.2nm,0.9s,baz=236,slow=4.4,SNR=21							
ECSD	**EROS Data Cent**	**96.49**	**45**	⇑P	**P**		06 17 47.0	-0.7
	baz=97							
ECSD	**EROS Data Cent**	**96.49**	**45**	*e*P	**P**		06 17 46.9	-0.9
	comp=Z,32nm,1.4s							
D30A	**Buchanan**	**96.51**	**42**	⇓P	**P**		06 17 47.0	-0.8
	baz=97							
A29A	**Manning Farm,**	**97.00**	**40**	⇓P	**P**		06 17 49.6	-0.4
	baz=97							
LPAZ	**La Paz**	**98.50**	**111**	LR	LR		06 56 05.6	
	comp=Z,194nm,18.2s,baz=228,slow=32							
ULM	**Lac du Bonnet**	**99.53**	**40**	LR	LR		06 59 03.6	
	comp=Z,214nm,18.5s,baz=244,slow=33							
WMQ	**Urumqi**	**110.30**	**310**	*e*PKP	**PKiKP**		06 22 50.1	-0.4
WMQ				sPKP			06 23 04.5	
WMQ				*e*PP	**PP**		06 23 28.5	+2.9
WMQ				PKS	**PKSdf**		06 26 26.0	-1.0
WMQ				SS	SS		06 38 49.0	-2.5
WMQ				PPMZ				
	comp=Z,140nm,4.9s							
WMQ				LN				
	comp=Z,470nm,22.8s							
WMQ				LE				
	comp=Z,390nm,26.6s							
WMQ				LZ				
	comp=Z,380nm,24.3s							
KURK	**Kurchatov**	**117.21**	**317**	PKIKP	**PKPdf**		06 23 03.5	+0.2
KURK	**Kurchatov**	**117.21**	**317**	PKP	**PKPdf**		06 23 03.5	+0.2
KURBB	**Kurchatov Arra**	**117.27**	**317**	PKP	**PKPdf**		06 23 03.5	+0.1
	comp=Z,0.4nm,0.6s,baz=72,slow=3.0,SNR=3.3							
KSH	**Kashi**	**118.36**	**304**	*e*PKP	**PKPdf**		06 23 07.1	+1.0
KSH				*e*PP	PP		06 24 29.9	+7.1
KSH				PKS	**PKSdf**		06 26 42.6	-0.3
KSH				SKS	**SKSdf**		06 30 14.8	-1.8
KSH				SKKS	**SKKSac**		06 31 17.0	-4.4
KSH				PPMZ				
	comp=Z,35nm,3.8s							
KSH				LN				
	comp=Z,110nm,6.7s							
KSH				LE				
	comp=Z,80nm,5.0s							
KSH				LZ				
	comp=Z,110nm,8.7s							
SUMG	**Summit**	**123.64**	**15**	*i* P	**PKPdf**		06 23 16.6	+1.0
	comp=Z,3.0nm,1.1s							
ARU	**Arti**	**128.16**	**326**	*i* PKIKP	**PKPdf**		06 23 23.5	-0.7
ARU							06 25 24.6	
ARU							06 30 26.4	
ARU				SP	SP		06 35 22.7	-8.3
FINES	**FINESS Array B**	**137.93**	**345**	*c i* PKIKP	**PKPdf**		06 23 45.4	+3.0
FINES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
OBN	**Obninsk**	**139.47**	**333**	*c i* PKIKP	**PKPdf**		06 23 46.3	+0.9
OBN				*e*			06 30 52.8	
OBN				pmax	pmax			
	comp=Z,25nm,1.7s							
OBN				MLR	MLR			
	comp=Z,135nm,19.0s							
KMBO	**Kilima Mbogo**	**141.53**	**238**	PKhKP	PKPpre		06 23 44.5	
	comp=Z,0.5nm,0.3s,baz=174,slow=8.8,SNR=3.5							
SUW	**Suwalki**	**145.19**	**342**	*e*PKIKP	**PKPbc**		06 23 54.3	-1.0
SUW	**Suwalki**	**145.19**	**342**	*e*PKP	**PKPbc**		06 23 54.2	-1.0
MUD	**Monsted U'grnd**	**145.32**	**356**	*i* PKIKP	**PKPab**		06 23 56.3	+0.6
MUD				pmax	pmax			
	comp=Z,24nm,1.0s							
MUD	**Monsted U'grnd**	**145.32**	**356**	*i* P	**PKPab**		06 23 56.3	+0.6
	comp=Z,24nm,0.9s							
AKASG	**Malin Array Be**	**145.74**	**333**	PKPbc	**PKPdf**		06 23 55.5	-1.1
	comp=Z,7.9nm,0.9s,baz=38,slow=3.8,SNR=30							
KIEV	**Kiev**	**145.75**	**333**	⇑*i* PKP2	**PKPdf**		06 23 56.2	-0.5
KIEV	**Kiev**	**145.75**	**333**	*e*PKPdf	**PKPdf**		06 23 56.3	-0.3
BSD	**Bornholm Skovb**	**146.03**	**350**	*e*PKP2	**PKPdf**		06 23 56.3	-0.7
BSD				pmax	pmax			
	comp=Z,14nm,0.9s							
BSD	**Bornholm Skovb**	**146.03**	**350**	*i* P	**PKPdf**		06 23 56.3	-0.7
	comp=Z,14nm,0.8s							
MALT	**Malatya**	**147.35**	**308**	⇑PKP2	**PKPab**		06 24 03.5	-0.8
MALT	**Malatya**	**147.35**	**308**	⇑*i* P	**PKPab**		06 24 03.5	-0.8
LVV	**L'vov**	**148.48**	**337**	*i* PKP2	**PKPbc**		06 24 05.7	+0.8
KWP	**Kalwaria Pacla**	**149.11**	**338**	⇑PKP2	**PKPbc**		06 24 06.5	0.0
KWP	**Kalwaria Pacla**	**149.11**	**338**	*e*PKP	**PKPbc**		06 24 07.4	+0.9
KWP	**Kalwaria Pacla**	**149.11**	**338**	⇑*i* P	**PKPbc**		06 24 06.4	0.0
KWP	**Kalwaria Pacla**	**149.11**	**338**	*e*PKPbc	**PKPbc**		06 24 06.3	-0.2
OJC	**Ojcow**	**149.53**	**342**	*e*PKP	**PKPbc**		06 24 08.4	+0.9
STHS	**Stebnicka Huta**	**149.79**	**339**	*e*PKP2	**PKPbc**		06 24 09.9	+1.7
STHS	**Stebnicka Huta**	**149.79**	**339**	*e*PKP	**PKPbc**		06 24 09.9	+1.7
BURAR	**Bucovina Array**	**149.79**	**333**	⇑PKP2	**PKPbc**		06 24 09.0	+0.6
BURAR	**Bucovina Array**	**149.79**	**333**	⇑*i* P	**PKPbc**		06 24 09.0	+0.6
KSP	**Ksiaz**	**149.85**	**346**	*e*PKP2	**PKPbc**		06 24 09.3	+1.0
KSP	**Ksiaz**	**149.85**	**346**	*e*PKP	**PKPbc**		06 24 09.3	+1.0
KOLS	**Kolonicke sedl**	**149.85**	**338**	*e*PKP2	**PKPbc**		06 24 09.8	+1.4
KOLS	**Kolonicke sedl**	**149.85**	**338**	*e*PKP	**PKPbc**		06 24 09.8	+1.4
CLL	**Collm**	**150.01**	**351**	*e*PKP2	**PKPbc**		06 24 08.0	-0.6
CLL				pmax	pmax			
	comp=Z,51nm,1.6s							
CLL				MLR	MLR			
	comp=Z,200nm,18.0s							
CLL	**Collm**	**150.01**	**351**	*e*PKPbc	**PKPbc**		06 24 08.0	-0.6
	comp=Z,51nm,1.6s							
CLL				*i* (pPKPbc)			06 24 16.3	
CLL				*e*pPKiKP	**pPKiKP**		06 24 19.0	+0.5
CLL				*e*			06 24 57.0	
CLL				LmV			07 38 00.0	
	comp=Z,200nm,18.0s							
NIE	**Niedzica**	**150.08**	**340**	*e*PKP	**PKPbc**		06 24 10.3	+1.4
UZH	**Uzhgorod**	**150.10**	**337**	⇓*i* PKIKP	**PKPbc**		06 24 09.8	+0.9
UZH				*i*			06 24 15.6	
UZH				*e*			06 24 26.2	
CRVS	**Cervenica-Dubn**	**150.16**	**339**	*e*PKIKP	**PKPbc**		06 24 10.4	+1.3
CRVS	**Cervenica-Dubn**	**150.16**	**339**	*e*PKP	**PKPbc**		06 24 10.4	+1.3
BRTR	**Keskin Array B**	**150.17**	**313**	*c i* PKIKP	**PKPbc**		06 24 10.0	+0.4
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BRTR	**Keskin Array B**	**150.17**	**313**	PKPbc	**PKPbc**		06 24 08.1	-1.5
	comp=Z,1.7nm,0.7s,baz=116,slow=2.9,SNR=8.3							
UPC	**Upice**	**150.22**	**346**	*e*PKIKP	**PKPbc**		06 24 10.3	+1.1
UPC	**Upice**	**150.22**	**346**	⇑*e*PKP	**PKPbc**		06 24 10.3	+1.1
CFR	**Carcaliu**	**150.24**	**327**	⇓*i*PKIKP	**PKPbc**		06 24 09.1	-0.2
CFR	**Carcaliu**	**150.24**	**327**	⇓*i*P	**PKPbc**		06 24 09.1	-0.2
BRG	**Berggiesshubel**	**150.28**	**349**	*e*PKP	**PKPbc**		06 24 09.4	+0.1
	comp=Z,41nm,1.6s							
BRG	**Berggiesshubel**	**150.28**	**349**	*e*PKIKP	**PKPbc**		06 24 09.4	+0.1
BRG				pmax	pmax			
	comp=Z,41nm,1.6s							
DPC	**Dobruska-Polom**	**150.30**	**346**	*e*PKIKP	**PKPdf**		06 24 05.3	+1.0
DPC				*e*			06 24 10.6	
DPC	**Dobruska-Polom**	**150.30**	**346**	*e*PKPDF	**PKPdf**		06 24 05.3	+1.0
DPC				⇑*e*PKP	**PKiKP**		06 24 10.6	+0.4
DPC				*e*pPKP	**pPKPab**		06 24 26.4	+1.9
ASF	**Jabal al Asfar**	**150.32**	**297**	PKPbc	**PKPbc**		06 24 08.5	-1.7
	comp=Z,1.0nm,0.5s,baz=255,slow=1.2,SNR=3.8							
PVCC	**Panska Ves**	**150.50**	**348**	*e*PKIKP	**PKPbc**		06 24 10.7	+0.9
PVCC	**Panska Ves**	**150.50**	**348**	⇑*e*PKP	**PKPbc**		06 24 10.7	+0.9
MORC	**Moravsky Berou**	**150.54**	**344**	⇓PKIKP	**PKPbc**		06 24 09.9	-0.1
MORC	**Moravsky Berou**	**150.54**	**344**	⇓*i*P	**PKPbc**		06 24 09.9	-0.1
MORC	**Moravsky Berou**	**150.54**	**344**	*e*PKPbc	**PKPbc**		06 24 09.9	-0.1
KECS	**Kecovo**	**150.85**	**339**	*e*PKIKP	**PKPbc**		06 24 12.5	+1.8
KECS	**Kecovo**	**150.85**	**339**	*e*PKP	**PKPbc**		06 24 12.5	+1.8
PRA	**Prague**	**150.96**	**348**	*e*PKIKP	**PKPbc**		06 24 12.5	+1.6
PRA	**Prague**	**150.96**	**348**	⇑*e*PKP	**PKPbc**		06 24 12.5	+1.6
DOPR	**Dopca**	**150.99**	**331**	⇓*i*P	**PKPbc**		06 24 10.9	-0.3
PRU	**Pruhonice**	**151.02**	**348**	*e*PKIKP	**PKPbc**		06 24 10.7	-0.4
PRU	**Pruhonice**	**151.02**	**348**	⇑*e*PKP	**PKPbc**		06 24 10.7	-0.4
GONC	**GO Pecny, Ondr**	**151.04**	**348**	⇑*e*PKP	**PKPbc**		06 24 12.1	+0.9
MLR	**Muntele Rosu**	**151.09**	**330**	⇑PKIKP	**PKPbc**		06 24 12.0	+0.4
MLR	**Muntele Rosu**	**151.09**	**330**	⇑*i*P	**PKPbc**		06 24 12.0	+0.4
NKC	**Novy Kostel**	**151.14**	**351**	*e*PKIKP	**PKPbc**		06 24 12.4	+1.0
NKC	**Novy Kostel**	**151.14**	**351**	⇑*e*PKP	**PKPbc**		06 24 12.4	+1.0
VYHS	**Vyhne**	**151.35**	**341**	*e*PKIKP	**PKPbc**		06 24 12.8	+0.9
VYHS	**Vyhne**	**151.35**	**341**	*e*PKP	**PKPbc**		06 24 12.8	+0.9
PSZ	**Piszkesteto**	**151.53**	**340**	*e*PKIKP	**PKPbc**		06 24 14.2	+1.7
PSZ	**Piszkesteto**	**151.53**	**340**	*e*PKPbc	**PKPbc**		06 24 14.2	+1.7
VOIR		**151.54**	**330**	⇓PKIKP	**PKPbc**		06 24 13.6	+1.0
VOIR		**151.54**	**330**	⇓*i*P	**PKPbc**		06 24 13.6	+1.0
ARR	**Arges**	**151.79**	**331**	⇑*i*P	**PKPbc**		06 24 13.7	+0.6
KHC	**Kasperske Hory**	**152.02**	**349**	*e*PKIKP	**PKPdf**		06 24 06.6	-0.3
KHC				*e*			06 24 13.2	
KHC				*e*			06 24 22.6	
KHC	**Kasperske Hory**	**152.02**	**349**	*e*PKPDF	**PKPdf**		06 24 06.6	-0.3
KHC				⇑*e*PKP	**PKPbc**		06 24 13.2	-0.3
KHC				*e*PKPAB	**PKPab**		06 24 22.6	-0.2
KHC	**Kasperske Hory**	**152.02**	**349**	*e*PKPdf	**PKPdf**		06 24 06.7	-0.2
KHC				*e*PKPbc	**PKPbc**		06 24 12.8	-0.7
GERES	**GERESS Array B**	**152.27**	**348**	PKPbc	**PKPbc**		06 24 13.5	-0.6
	comp=Z,1.4nm,0.7s,baz=48,slow=2.0,SNR=12							
CONA	**Conrad Observa**	**152.68**	**345**	⇑*i*PKPdf	**PKPdf**		06 24 09.5	+1.5
	comp=Z,6.4nm,1.1s							
ABTA	**Abfaltersbach**	**154.51**	**349**	⇓*i*PKPdf	**PKPdf**		06 24 10.3	-0.4
	comp=Z,2.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**170.62**	**156**	PKP	**PKPdf**		06 24 25.8	-1.5
	comp=Z,2.0nm,1.2s,baz=268,slow=2.3,SNR=5.4							
TORD				PKPab	**PKPab**		06 25 43.7	-0.8
	comp=Z,2.9nm,1.1s,baz=239,slow=2.8,SNR=7.6							

*ISCJB **09** 06:11:17.9±0.3,6˚.20S±0˚.03×130˚.29E±0˚.04,h146km, mb4.2/11, Error ellipse: s-maj=5.6km s-min=3.5km az=171.8*

*NEIC **09** 06:11:20.1±1.1,6˚.25S×130˚.20E,h162km±12km, mb4.2/6, Error ellipse: s-maj=13.9km s-min=9.0km az=67.0*

*DJA **09** 06:11:21.5±0.3,6˚S±2˚×13˚0E±˚,h150km±6km, M4.6/14, mb4.7/7, mB5.4/4, MLv4.5/8, MLv4.7/14, Mw(mB)4.8/4*

*IDC **09** 06:11:23.1±2.7,6˚.33S×130˚.09E,h191km±26km, mb3.8/9, mb1 3.9/12, mb1mx3.7/41, mbtmp4.5/12, Error ellipse: s-maj=23.6km s-min=12.3km az=56.0*

ISC 09 06:11:18.6±0.5,6˚.22S±0˚.04×130˚.27E±0˚.05,h146km,n49, σ2s10/58,mb4.2/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.72**	**348**		P	Pn	06 11 55.4	+5.1
BNDI					S	**Sn**	**06 12 18.1**	**+3.6**
SAUI	**Saumlaki**	**2.03**	**150**		P	Pn	06 11 58.3	+4.4
SAUI					S	**Sn**	**06 12 26.6**	**+5.6**
MSAI	**Masohi**	**3.15**	**335**		P	**Pn**	**06 12 10.4**	**+2.7**
MSAI					S	**Sn**	**06 12 48.1**	**+2.4**
FAKI	**Fak Fak**	**3.82**	**31**		P	**Pn**	**06 12 17.5**	**+1.0**
FAKI					S	**Sn**	**06 13 00.8**	**-0.6**

AAK	**Ala-Archa**	**70.12**	**320**	P		**P**	**06 22 15.6**	**+0.3**
	1.9nm,0.4s,baz=130,slow=6.3,SNR=7.5								
AAK	**Ala-Archa**	**70.12**	**320**	*e*P		**P**	**06 22 15.5**	**+0.1**
	2.8nm,0.6s								
ZALV	**Zalesovo Beam**	**71.00**	**334**	P		**P**	**06 22 19.2**	**-1.0**
	1.6nm,0.6s,baz=110,slow=6.5,SNR=9.2								
KURBB	**Kurchatov Arra**	**71.98**	**328**	P		**P**	**06 22 25.6**	**-0.6**
	2.7nm,0.7s,baz=129,slow=5.0,SNR=28								
KURK	**Kurchatov**	**71.99**	**328**	*e*P		**P**	**06 22 26.0**	**-0.2**
	4.6nm,0.9s								
VNDA	**Vanda**	**73.19**	**173**	*e*P		**P**	**06 22 30.2**	**-2.7**
	28nm,2.5s								
BVAR	**Borovoye Array**	**77.55**	**328**	P		**P**	**06 22 57.4**	**-0.8**
	1.0nm,0.5s,baz=134,slow=6.4,SNR=6.1								
AKTO	**Aktyubinsk**	**83.62**	**322**	P		**P**	**06 23 30.2**	**-0.4**
	1.3nm,0.7s,baz=109,slow=7.1,SNR=6.5								
TORD	**Torodi Ar. Bea**	**128.91**	**282**	PKP		**PKPdf**	**06 30 09.0**	**-1.0**
	0.5nm,0.8s,baz=87,slow=1.4,SNR=3.2								
LPAZ	**La Paz**	**151.17**	**141**	PKPbc		**PKPbc**	**06 30 55.9**	**-0.5**
	0.6nm,0.4s,baz=11,slow=9.0,SNR=8.9								
LPAZ	**La Paz**	**151.17**	**141**	*e*PKPbc		**PKPbc**	**06 30 56.4**	**0.0**

*IDC **09** 06:12:15.8±9.0, 36.5°N×71.3°E, h145km±58km, mb3.1/2, mb1 3.1/8, mb1mx2.9/52, mbtmp3.6/8, Error ellipse: s-maj=76.7km s-min=47.6km az=180.0*

*NNC **09** 06:12:19.4±1.1, 36.9°N×70.8°E, h167km, mb3.0, mpv4.0, Error ellipse: s-maj=9.6km s-min=4.3km az=170.0*

ISC 09 06:12:19.2±1.8, **36.9°N**±0.1°×**70.9°1E**±0.0°, **h150km**, **n22**, σ1ŝ**33**/30, **7C-9D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.54**	**320**		⇑P		**Pn**	**06 13 01.1**	**+0.3**
	47nm,0.3s								
DZET					⇓S		**Sn**	**06 13 34.7**	**+1.7**
	107nm,0.4s								
SFK	**Sufi-Kurgan**	**3.74**	**32**		⇓P		**Pn**	**06 13 16.5**	**+0.3**
	5.1nm,0.2s								
SFK					⇓S		**Sn**	**06 14 02.5**	**+2.0**
	24nm,0.3s								
AML	**Almayashu**	**5.67**	**21**	P			**Pn**	**06 13 41.8**	**0.0**
	SNR=55								
MNAS	**Manas**	**5.74**	**12**		⇑P		**Pn**	**06 13 42.7**	**+0.2**
	5.0nm,0.4s								
MNAS					⇓S		**Sn**	**06 14 48.7**	**+1.1**
	21nm,0.6s								
UCH	**Uchtor**	**6.03**	**26**	P			**Pn**	**06 13 47.0**	**+0.4**
	SNR=16								
KZA	**Kyzart**	**6.18**	**32**	P			**Pn**	**06 13 48.8**	**+0.2**
	SNR=8.0								
EKS2	**Erkin-Say**	**6.19**	**20**	P			**Pn**	**06 13 49.2**	**+0.8**
	SNR=14								
KK31	**Karatay Array**	**6.23**	**357**		⇑P		**Pn**	**06 13 49.9**	**+1.0**
	5.8nm,0.3s,baz=168,slow=11,SNR=169								
KK31					⇓S		**Sn**	**06 14 59.4**	**+0.3**
	12nm,0.6s,baz=145,slow=24,SNR=5.7								
AAK	**Ala-Archa**	**6.38**	**25**		⇑P		**Pn**	**06 13 51.2**	**+0.2**
	4.5nm,0.5s								
AAK					⇓S		**Sn**	**06 15 04.1**	**+1.2**
	11nm,0.6s								
AAK	**Ala-Archa**	**6.38**	**25**	P			**Pn**	**06 13 53.5**	**+2.4**
	SNR=8.0								
AAK	**Ala-Archa**	**6.38**	**25**	P			**Pn**	**06 13 50.6**	**-0.4**
	2.6nm,0.3s,baz=171,slow=5.7,SNR=24								
AAK					S		**Sn**	**06 15 04.7**	**+1.8**
	1.1nm,0.3s,baz=323,slow=19,SNR=8.8								
TKM2	**Tokmak 2**	**7.03**	**29**		⇓P		**Pn**	**06 14 00.3**	**+0.5**
	9.3nm,0.5s								
TKM2					⇑S		**Sn**	**06 15 18.2**	**-0.4**
	4.3nm,0.8s								
TKM2	**Tokmak 2**	**7.03**	**29**	P			**Pn**	**06 13 59.0**	**-0.7**
	SNR=26								
MKAR	**Makanchi Array**	**13.03**	**37**	P			Pn	06 15 15.8	-2.9
	0.1nm,0.3s,baz=211,slow=8.2,SNR=3.7								
AB31	**Akbulak array**	**14.72**	**331**		⇓P		**Pn**	**06 15 40.0**	**+0.1**
	0.7nm,0.3s,baz=143,slow=12,SNR=50								
AB31					⇑S		**Sn**	**06 18 19.5**	**-3.7**
	1.6nm,0.7s,baz=144,slow=25,SNR=9.5								
KURBB	**Kurchatov Arra**	**14.79**	**19**	P			**Pn**	**06 15 38.3**	**-2.4**
	0.0nm,0.3s,baz=206,slow=10.0,SNR=2.7								
BVAR	**Borovoye Array**	**16.15**	**359**	P			**Pn**	**06 15 56.8**	**-0.7**
	0.3nm,0.3s,baz=164,slow=12,SNR=5.3								
AKTO	**Aktyubinsk**	**16.42**	**330**		⇓P		**P**	**06 16 01.3**	**+0.5**
	3.1nm,1.0s								
AKTO					⇑S		**Sn**	**06 19 03.4**	**-0.5**
	1.4nm,0.6s								
AKTO	**Aktyubinsk**	**16.42**	**330**	P			**P**	**06 16 02.0**	**+1.2**
	0.2nm,0.3s,baz=141,slow=13,SNR=5.5								
ZALV	**Zalesovo Beam**	**19.61**	**25**	P			**P**	**06 16 34.9**	**-0.7**
	0.4nm,0.3s,baz=218,slow=16,SNR=6.8								
ARCES	**ARCESS Array B**	**40.77**	**337**	P			**P**	**06 19 46.1**	**+1.0**
	1.2nm,0.9s,baz=114,slow=9.0,SNR=6.4								
YKA	**Yellowknife Ar**	**80.87**	**3**	P			**P**	**06 24 14.7**	**-1.3**
	0.1nm,0.4s,baz=352,slow=5.5,SNR=7.2								

*NEIC **09** 06:22:04.9, 32.13°N×114.92°W, h20km, MD4.3(MEX), After MEX.*

MEX 09 06:22:05.2±0.7, **32.06°N×114.90°W**, **h16**km±61km, **MD4.1**, **Western Arizona-Sonora border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.42**	**324**	*e*P			Pg	06 22 12.1	-1.8
MBIG					*e*S		Sg	06 22 17.9	-1.7
CPBX	**Cerro Prieto**	**0.49**	**316**	*e*P			Pg	06 22 13.2	-1.9
GLA	**Glamis**	**0.99**	**4**	*e*Pg			Pb	06 22 21.2	-2.8
GLA					*e*Sn		Sb	06 22 36.3	-0.6
SPX	**San Pedro Mart**	**1.12**	**205**	*e*P			Pb	06 22 22.3	-4.3
SPX					*i* S		Sb	06 22 36.9	-4.4
CBX	**Cerro Bola**	**1.51**	**280**	*e*P			Pn	06 22 28.2	-3.6
CBX					*i* S		Sn	06 22 46.1	-5.2
CBX	**Cerro Bola**	**1.51**	**280**	*e*P			Pn	06 22 28.2	-3.6
CBX					*e*S		Sn	06 22 48.1	-3.2
BAR	**Barrett**	**1.62**	**293**	*e*Pn			Pn	06 22 29.8	-3.3
BAR					*e*Sg		Sn	06 22 51.7	-1.9
214A	**Organ Pipe Nat**	**1.78**	**93**	*e*Pn			Pn	06 22 32.4	-3.0
PFO	**Pinyon Flats O**	**2.02**	**320**	*e*Pn			Pn	06 22 34.9	-3.9
MWC	**Mount Wilson**	**3.41**	**310**	*e*P			Pn	06 23 01.7	+3.7
PASC	**Pasadena Art C**	**3.46**	**308**	*e*Pn			Pn	06 22 56.0	-2.5
TUC	**Tucson**	**3.50**	**85**	*e*Pn			Pn	06 22 55.8	-3.3
121A	**Cookes Peak, D**	**6.04**	**84**	*e*Pn			Pn	06 23 32.5	-1.7

*IDC **09** 06:29:32.0±0.7, 1.79°N×99.12°E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.0/52, mbtmp4.1/17, ML4.3/2, MS4.1/22, Ms1 4.1/22, ms1mx3.9/45, Error ellipse: s-maj=34.7km s-min=13.7km az=50.0*

*MOS **09** 06:29:35.1±1.2, 1.79°N×99.06°E, h33km, mb4.6/15, Error ellipse: s-maj=18.2km s-min=8.1km az=114.6*

*KLM **09** 06:29:35.6, 1.87°N×99.15°E, h11km, mb4.6, ML4.7*

*DJA **09** 06:29:36.0±0.2, 2°N±2°×9°E±°, h10km, M4.8/16, mb4.8/3, mB5.1/1, MLv4.8/16, Mw(mB)4.5/1*

*BJI **09** 06:29:36.2, 1.87°N×98.59°E, h30km, mB4.8/9, mb4.3/11, Ms4.8/9, Ms7 4.6/8*

*NEIC **09** 06:29:37.7±2.6, 1.86°N×99.17°E, h35km±18km, mb4.4/14, Error ellipse: s-maj=14.1km s-min=6.1km az=50.0*

NEIC Felt [III] at Tarutung.

*GCMT **09** 06:29:37.7±0.4, 1.87°N×99.17°E, h21km±1km, MW4.9/66, Moment Tensor Solution. s23,c25; s66,c95; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr0.68±.15; M_θθ-2.54±.12; M_φφ 1.86±.11; M_rθ-1.18±.20; M_θφ0.97±.09; M_φr~0.20±.20; Best double couple: M_o2.64900×10^16 NP1:φ_b239.00000°, δ88.00000°, λ26.00000°. NP2: φ_b148.00000°, δ64.00000°, λ178.00000°. Principal axes: T 2.2180, Plg19.0000°, Azm106.0000°; N 0.8580, Plg64.0000°, Azm242.0000°; P -3.0790, Plg17.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **09** 06:29:37.4±0.5, 1.82N±0.04×99.12E±0.04, h51km±4km, mb4.3/36, MS4.1/23 Error ellipse: s-maj=8.5km s-min=4.3km az=141.4*

ISC 09 06:29:37.6±0.5, **1.86N**±0.04×**99.07E**±0.04, **h33**km±1km, **n123**, σ1ŝ**76**/134, **mb4.4**/36, **MS4.1**/23, **7C-5D**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.17**	**154**	P			Pn	06 29 54.0	-3.7
TSI	**Tuntungan**	**1.71**	**343**	P			**Pn**	**06 30 06.4**	**+1.3**
KCSI	**Kotacane, Aceh**	**2.10**	**322**	P			**Pn**	**06 30 11.5**	**+1.0**
KCSI					S		**Sb**	**06 30 40.3**	**-0.6**
TPTI		**2.34**	**307**	P			**Pn**	**06 30 15.2**	**+1.3**
TPTI					S		**Sb**	**06 30 47.0**	**-0.8**
BKNI	**Bangkinang**	**2.49**	**128**	P			**Pn**	**06 30 15.5**	**-0.4**
BKNI					S		**Sn**	**06 30 45.8**	**+0.7**
BKNI	**Bangkinang**	**2.49**	**128**	*e*Pn			**Pn**	**06 30 15.5**	**-0.4**
SNSI	**Sinabang, Aceh**	**2.79**	**281**	P			**Pn**	**06 30 22.1**	**+2.1**
FRIM	**Kepong**	**2.90**	**62**		⇑P		**Pn**	**06 30 21.3**	**-0.2**
PDSI	**Padang**	**3.08**	**153**	P			**Pn**	**06 30 24.6**	**+0.6**
PDSI					S		**Sn**	**06 31 02.7**	**+2.9**
IPM	**Ipoh**	**3.26**	**37**		⇑P		**Pn**	**06 30 26.2**	**-0.3**
IPM	**Ipoh**	**3.26**	**37**	*e*Pn			**Pn**	**06 30 25.3**	**-1.2**
SDSI	**Sungai Dareh**	**3.64**	**140**	P			**Pn**	**06 30 31.9**	**+0.2**
SDSI					S		**Sb**	**06 31 28.1**	**+3.1**
KULM	**Kulim**	**3.76**	**25**		⇑P		**Pn**	**06 30 32.9**	**-0.5**
KULM	**Kulim**	**3.76**	**25**	*e*Pn			**Pn**	**06 30 31.9**	**-1.5**
RGRI	**Rengat**	**3.93**	**124**	P			**Pn**	**06 30 35.3**	**-0.4**
RGRI					S		**Sn**	**06 31 22.9**	**+2.1**
LHMI	**Lhok Sumawe**	**3.96**	**328**	P			**Pn**	**06 30 37.7**	**+1.6**
LHMI	**Lhok Sumawe**	**3.96**	**328**	*e*Pn			**Pn**	**06 30 36.3**	**+0.2**
KGM	**Kluang**	**4.25**	**88**		⇓P		**Pn**	**06 30 38.6**	**-1.6**
MYKOM	**Kota Tinggi**	**4.78**	**91**		⇓P		**Pn**	**06 30 45.5**	**-1.9**
MYKOM	**Kota Tinggi**	**4.78**	**91**	*e*Pn			Pn	06 30 44.5	-2.9
KTGM	**Kuala Trenggan**	**5.33**	**50**		⇑P		**Pn**	**06 30 55.2**	**+0.2**
TRTT	**Trang**	**5.97**	**6**	P			**Pn**	**06 31 05.1**	**+1.3**
	57nm,0.8s,1μm0.6nm								
SURT	**Suratani**	**7.06**	**358**	P			Pn	06 31 22.9	+4.2
	11nm,1.0s,206nm0.2nm								
LHSI	**Lahat**	**7.19**	**142**	P			**Pn**	**06 31 21.2**	**+0.7**
	90nm,1.6s,0.7nm								
MDSI	**Maura Dua**	**8.11**	**141**	P			**Pn**	**06 31 33.6**	**+0.5**
PHET	**Kaeng Krachan**	**11.00**	**3**	P			Pn	06 32 23.2	+10
CHBT	**CHBT**	**11.30**	**16**	P			Pn	06 32 21.9	+5.0
	17nm,1.1s,4μm								
LEM	**Lembang**	**12.13**	**135**	LR			LR	06 37 43.4	
	comp=Z,1μm,19.1s,baz=298,slow=41								
UTHA	**Uthaitani**	**13.62**	**2**	P			P	06 33 00.8	+3.7
PBKT	**Sadao Pong**	**14.74**	**7**	P			**P**	**06 33 11.6**	**+2.1**
	16nm,0.9s								
UBPT	**Khong Chiam**	**14.76**	**25**	P			**P**	**06 33 11.6**	**+1.8**
LOEI	**Loei**	**15.71**	**8**	P			**P**	**06 33 23.4**	**+3.1**
	17nm,0.7s								
CMAR	**Chiang Mai Arr**	**16.50**	**360**	P			**Pn**	**06 33 28.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**16.50**	**360**	Pn			**Pn**	**06 33 27.9**	**+1.2**
	0.5nm,0.3s,baz=193,slow=12,SNR=22								
CMAR						LR	LR	06 39 50.9	
	comp=Z,1μm,20.2s,baz=190,slow=37								
LAMP	**Lampang**	**16.57**	**2**	P			P	06 33 36.3	+6.4
	4.4nm,1.0s								
CMMT	**Chiang Mai**	**16.85**	**360**	P			**P**	**06 33 33.7**	**+0.7**
CHTO	**Chiang Mai**	**16.86**	**360**	*e*P			**P**	**06 33 33.0**	**0.0**
CHTO						pmax	pmax		
	comp=Z,14nm,1.3s								
CHTO	**Chiang Mai**	**16.86**	**360**	*e*P			**P**	**06 33 33.0**	**0.0**
	comp=Z,14nm,1.3s								
CHTO	**Chiang Mai**	**16.86**	**360**	P			**P**	**06 33 34.1**	**+1.1**
	comp=Z,41nm,1.2s								
PALK	**Pallekele**	**19.07**	**287**	P			**Pn**	**06 33 58.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=101,slow=10,SNR=2.2								
SLVN	**Son La**	**19.93**	**13**	*e*P			**Pn**	**06 34 08.3**	**-0.4**
	comp=Z,18nm,1.1s								
LUWI	**Luwuk**	**23.88**	**97**	*e*P			**P**	**06 34 48.8**	**+0.3**
	comp=Z,79nm,1.2s								
CD2	**Chengdu**	**29.24**	**8**	P			**P**	**06 35 36.5**	**-0.2**
CD2					pP		**pP**	**06 35 46.4**	**+0.2**
CD2					sP		**sP**	**06 35 50.6**	**+0.4**
CD2					PP		**PnPn**	**06 36 32.1**	**+1.6**
CD2					S		**S**	**06 40 26.1**	**-1.3**
CD2					sS		**sS**	**06 40 42.7**	**-0.4**
CD2					SS		**SnSn**	**06 41 58.6**	**+4.2**
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					PMZ				
	comp=Z,120nm,5.2s								
LZH	**Lanzhou**	**34.35**	**7**	*e*P			P	06 36 26.1	+4.5
LZH					pP		pP	06 36 36.5	+5.3
LZH					sP		sP	06 36 40.4	+5.2
LZH					PP		**PP**	**06 37 43.5**	**+3.6**
LZH					*e*S		**S**	**06 41 51.7**	**+4.4**
LZH					sS		sS	06 42 08.0	+4.9
LZH					*e*SS		**SnSn**	**06 44 03.5**	**+4.8**
LZH					PMZ				
	comp=Z,25nm,1.2s								
LZH					PMZ				
	comp=Z,170nm,5.9s								
LZH					LN				
	comp=Z,590nm,10.5s								
LZH					LE				
	comp=Z,620nm,11.2s								
LZH					LZ				
	comp=Z,760nm,15.0s								
NJ2	**Nanjing**	**35.35**	**30**	*e*P			P	06 36 37.0	+6.9
NJ2					S		S	06 42 14.5	+12
NJ2					PMZ				
	comp=Z,40nm,0.7s								
NJ2					LN				
	comp=Z,1μm,12.6s								
NJ2					LE				
	comp=Z,2μm,17.0s								
NJ2					LZ				
	comp=Z,2μm,15.6s								
GTA	**Gaotai**	**37.39**	**1**	*e*P			**P**	**06 36 47.4**	**-0.2**
GTA					PMZ				
	comp=Z,2.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**40.43**	**15**	*e*P			**P**	**06 37 13.0**	**0.0**
HHC					pP		**pP**	**06 37 22.8**	**0.0**
HHC					sP		**sP**	**06 37 26.8**	**+0.1**
HHC					PP		**PnPn**	**06 38 50.8**	**+0.3**
HHC					S		**S**	**06 43 16.4**	**-3.1**
HHC					sS		**sS**	**06 43 37.0**	**+1.5**
HHC					ScS		**ScS**	**06 47 13.7**	**-3.1**
HHC					PMZ				
	comp=Z,22nm,0.6s								
HHC					PMZ				
	comp=Z,69nm,5.9s								
HHC					LN				
	comp=Z,350nm,15.1s								
HHC					LE				
	comp=Z,710nm,14.0s								
HHC					LZ				
	comp=Z,290nm,16.2s								
WRA	**Warramunga Arr**	**40.82**	**124**	P			**P**	**06 37 14.4**	**-2.1**
	comp=Z,4.5nm,0.7s,baz=301,slow=9.1,SNR=17								
WRA					PcP		**PcP**	**06 39 16.6**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=307,slow=2.8,SNR=5.4								
WRA					LR		LR	06 56 03.0	
	comp=Z,217nm,19.9s,baz=285,slow=39								
WRAB	**Tennant Creek**	**40.83**	**124**	*e*P			**P**	**06 37 16.3**	**-0.2**
WRAB					pmax		pmax		
	comp=Z,7.0nm,0.8s								
WRAB	**Tennant Creek**	**40.83**	**124**	*e*P			**P**	**06 37 16.3**	**-0.2**
	comp=Z,6.5nm,0.8s								
WB2	**Warramunga Arr**	**40.83**	**124**	*e*P			**P**	**06 37 16.1**	**-0.5**
JAY	**Jayapura**	**41.85**	**96**	LR			LR	06 56 46.1	
	comp=Z,148nm,20.1s,baz=321,slow=39								
ASAR	**Alice Springs**	**42.33**	**129**	P			**P**	**06 37 26.9**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=304,slow=7.9,SNR=16								
ASAR					PcP		**PcP**	**06 39 21.9**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=311,slow=3.5,SNR=7.3								
ASAR					LR		LR	06 55 11.3	
	comp=Z,246nm,21.5s,baz=292,slow=36								
FORT	**Forrest**	**42.60**	**142**	*e*P			**P**	**06 37 29.2**	**-1.6**
	comp=Z,14nm,0.6s								
WMQ	**Urumqi**	**42.99**	**348**	*e*P			**P**	**06 37 36.4**	**+2.5**
WMQ					pP		**pP**	**06 37 46.0**	**+2.3**
WMQ					sP		**sP**	**06 37 50.0**	**+2.4**
WMQ					PP		**PP**	**06 39 19.0**	**+4.8**
WMQ					*e*S		**S**	**06 44 01.0**	**+3.8**
WMQ					sS		**sS**	**06 44 15.0**	**+1.7**
WMQ					PMZ				
	comp=Z,110nm,4.6s								
WMQ					LN				
	comp=Z,260nm,17.6s								
WMQ					LE				
	comp=Z,190nm,15.0s								
WMQ					LZ				
	comp=Z,260nm,22.3s								
TKM2	**Tokmak 2**	**45.95**	**336**	*e*P			**P**	**06 37 57.4**	**-0.3**
TKM2					pmax		pmax		
	comp=Z,5.0nm,1.1s								
TKM2	**Tokmak 2**	**45.95**	**336**	*e*P			**P**	**06 37 57.4**	**-0.3**
	comp=Z,5.1nm,1.1s								
AAK	**Ala-Archa**	**46.17**	**335**		⇓*e*P		**P**	**06 37 59.6**	**+0.1**
AAK					pmax		pmax		
	comp=Z,10.0nm,1.2s								
AAK	**Ala-Archa**	**46.17**	**335**	P			**P**	**06 38 00.8**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=280,slow=12,SNR=5.8								
AAK					PcP		**PcP**	**06 39 35.4**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=172,slow=7.1,SNR=3.5								
AAK	**Ala-Archa**	**46.17**	**335**	*e*P			**P**	**06 38 01.2**	**+1.7**
	comp=Z,5.7nm,1.2s								
AAK					PcP		**PcP**	**06 39 35.4**	**+0.4**
SONM	**Songino Array**	**46.24**	**7**	P			**P**	**06 37 59.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=191,slow=8.3,SNR=6.6								
SONM					PcP		**PcP**	**06 39 37.4**	**+2.3**
	comp=Z,1.9nm,0.9s,baz=190,slow=3.0,SNR=4.6								
EKS2	**Erkin-Say**	**46.50**	**334**	*e*P			**P**	**06 38 03.5**	**+1.5**
EKS2					pmax		pmax		
	comp=Z,6.0nm,1.0s								
EKS2	**Erkin-Say**	**46.50**	**334**	*e*P			**P**	**06 38 03.5**	**+1.5**
	comp=Z,5.5nm,1.0s								
MKAR	**Makanchi Array**	**47.09**	**344**	*i* P			**P**	**06 38 06.3**	**-0.1**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**47.09**	**344**	P			**P**	**06 38 05.7**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=152,slow=7.6,SNR=20								
MKAR					LR		LR	07 01 44.3	
	comp=Z,105nm,18.9s,baz=158,slow=41								
MKAR	**Makanchi Array**	**47.09**	**344**	*e*P			**P**	**06 38 06.2**	**-0.2**
CN2	**Changchun**	**47.90**	**26**	*e*P			**P**	**06 38 15.7**	**+3.0**
KKAR	**Karatay Array**	**48.33**	**332**	*e*P			**P**	**06 38 15.9**	**-0.1**
KKAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	**48.33**	**332**	*e*P			**P**	**06 38 15.9**	**-0.1**
	comp=Z,1.7nm,0.8s								
TLY	**Talaya**	**49.80**	**4**	LR			LR	07 03 24.6	
	comp=Z,265nm,18.1s,baz=169,slow=41								
MJAR	**Matsushiro Arr**	**49.96**	**42**	LR			LR	07 01 13.8	
	comp=Z,156nm,18.7s,baz=205,slow=38								
CTA	**Charters Tower**	**51.14**	**118**	P			**P**	**06 38 37.2**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=294,slow=6.8,SNR=3.9								
USRK	**Ussuriysk Ar.**	**51.26**	**30**	LR			LR	07 03 16.2	
	comp=Z,225nm,19.2s,baz=209,slow=40								
KURBB	**Kurchatov Arra**	**51.61**	**343**	P			**P**	**06 38 39.4**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=164,slow=7.0,SNR=12								
KURBB					PcP		**PcP**	**06 39 53.6**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=153,slow=3.4,SNR=4.4								
KURK	**Kurchatov**	**51.67**	**344**	*e*P			**P**	**06 38 41.0**	**-0.2**
KURK								06 39 53.6	
KURK					pmax		pmax		
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**51.67**	**344**	*e*P			**P**	**06 38 41.0**	**-0.2**
	comp=Z,3.2nm,0.8s								
KURK					PcP		**PcP**	**06 39 53.6**	**-0.9**
ZALV	**Zalesovo Beam**	**53.23**	**350**	P			**P**	**06 38 53.1**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=176,slow=6.0,SNR=15								
ZALV					LR		LR	07 06 21.2	
	comp=Z,135nm,18.2s,baz=244,slow=41								
BVAR	**Borovoye Array**	**56.27**	**340**	P			**P**	**06 39 13.4**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=138,slow=9.9,SNR=4.6								
BVAR					LR		LR	07 06 54.3	
	comp=Z,83nm,20.3s,baz=146,slow=40								
EIDS	**Eidsvold**	**57.13**	**122**	*e*P			**P**	**06 39 21.7**	**+0.3**
	comp=Z,4.7nm,0.9s								
ABKAR	**Akbulak array**	**57.84**	**331**	*e*P			**P**	**06 39 24.8**	**-1.1**
	comp=Z,1.6nm,0.6s								
AKTO	**Aktyubinsk**	**59.55**	**331**	P			**P**	**06 39 36.4**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=127,slow=6.7,SNR=5.0								
AKTO					LR		LR	07 09 47.9	
	comp=Z,100nm,20.1s,baz=131,slow=40								
ARU	**Arti**	**63.33**	**336**	*d* P			**P**	**06 40 01.4**	**-1.9**
ARU								06 42 17.6	
ARU					S		**S**	**06 48 33.0**	**-0.2**
ARU					SS		**SS**	**06 52 36.8**	**-3.4**
ARU					pmax		pmax		
	comp=Z,6.0nm,1.7s								
ARU					MLR		MLR		
	comp=Z,319nm,21.0s								
ZEI	**Tsey**	**63.77**	**318**	*e*P			**P**	**06 40 06.4**	**-0.3**
ZEI					pmax		pmax		
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	**64.81**	**318**	P			**P**	**06 40 13.4**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=139,slow=5.2,SNR=6.0								
KBZ					LR		LR	07 11 54.4	
	comp=Z,85nm,21.9s,baz=136,slow=39								
KIV	**Kislovodsk**	**65.05**	**318**		⇓*e*P		**P**	**06 40 13.9**	**-1.0**
KIV					*e*			06 42 42.7	
KIV					*e*S		**S**	**06 48 49.2**	**-6.0**
KIV					*e*SS		**SS**	**06 53 01.5**	**-6.3**
KIV					pmax		pmax		
	comp=Z,3.0nm,0.5s								
KIV					MLR		MLR		
	comp=Z,103nm,21.0s								
DZM	**Mont Dzumac**	**69.84**	**114**	*e*LR			LR	07 02 06.5	
	comp=Z,222nm,24.4s								
BRTR	**Keskin Array

BDFB	**Brasilia**	**144.78**	**245**	PKP	**PKPab**	**06 49 09.7**	**-1.5**
	comp=Z,4.2nm,0.8s,baz=164,slow=8.2,SNR=4.8						

*ISCJB **09** 06:47:00.8±0.6,35°.35N±0°.04×141°.41E±0°.06,h25km, mb3.7/12,MS3.5/2, Error ellipse: s-maj=7.1km s-min=5.5km az=15.3*
*JMA **09** 06:47:01.9±0.2,35°.38N×141°.33E,h34km±2km,M3.3*
*IDC **09** 06:47:05.1±2.9,35°.25N×141°.18E,h44km±24km,mb3.5/12, mb1 3.7/13,mb1mx3.4/60,mbtmp3.7/13,ML3.2/1,MS3.3/3, Ms1 3.3/3,ms1mx3.0/39,Error ellipse: s-maj=31.1km s-min=17.5km az=74.0*

ISC 09 06:47:02.7±0.8,35°.34N±0°.04×141°.31E±0°.08,h25km,n30, σ0§90/27,mb3.7/12,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.52**	**315**	P	**Pb**	**06 47 12.3**	**-0.9**
CHOJ				S	**Sb**	**06 47 20.0**	**-0.4**
BSO1	**Boso 1**	**0.73**	**202**	P	**Pn**	**06 47 16.8**	**-0.2**
BSO1				S	**Sn**	**06 47 27.7**	**+0.7**
KTR	**Katsuura**	**0.83**	**257**	S	**Sb**	**06 47 29.1**	**-0.3**
BSO3	**Boso 3**	**0.84**	**231**	P	**Pb**	**06 47 18.2**	**-0.3**
BSO3				S	**Sb**	**06 47 28.6**	**-0.8**
BSO4	**Boso 4**	**0.87**	**247**	P	**Pb**	**06 47 18.4**	**-0.6**
JCN	**Nagara**	**0.91**	**276**	P	**Pb**	**06 47 19.3**	**-0.5**
JYT	**Yasato**	**1.27**	**315**	P	**Pn**	**06 47 24.0**	**-0.9**
JHO	**Hitachi**	**1.41**	**335**	P	**Pn**	**06 47 25.9**	**-0.9**
MJAR	**Matsushiro Arr**	**2.79**	**296**	P	**Pn**	**06 47 46.6**	**+0.8**
	4.3nm,0.3s,baz=102,slow=7.7,SNR=18						
MJAR				LR	LR	06 48 57.0	
	comp=Z,212nm,18.1s,baz=115,slow=41						
MAT	**Matsushiro**	**2.79**	**296**	P	**Pn**	**06 47 46.4**	**+0.6**
MAT				eS	**Sn**	**06 48 20.0**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**27.39**	**118**	T	T	07 21 45.6	
	baz=310,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.40**	**118**	T	T	07 21 51.0	
	baz=310,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.41**	**118**	T	T	07 21 36.3	
	baz=310,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	07 22 21.1	
	baz=312,slow=76,SNR=69						
H11S1	**WAKE ISLAND Hy**	**28.05**	**120**	T	T	07 22 21.0	
	baz=312,slow=76,SNR=79						
H11S2	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	07 22 23.7	
	baz=312,slow=76,SNR=47						
SONM	**Songino Array**	**28.70**	**307**	P	**P**	**06 52 59.4**	**+1.6**
	0.3nm,0.5s,baz=115,slow=6.5,SNR=3.4						
CMAR	**Chiang Mai Arr**	**41.01**	**257**	LR	LR	07 13 06.5	
	comp=Z,28nm,20.9s,baz=165,slow=38						
ZALV	**Zalesovo Beam**	**43.01**	**314**	P	**P**	**06 54 59.8**	**0.0**
	0.8nm,0.5s,baz=69,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**44.97**	**304**	P	**P**	**06 55 15.8**	**+0.1**
	0.5nm,0.6s,baz=86,slow=9.8,SNR=10						
MKAR				ScP	**ScP**	**07 00 45.9**	**-1.6**
	0.2nm,0.5s,baz=108,slow=3.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**46.99**	**309**	P	**P**	**06 55 30.0**	**-1.5**
	1.2nm,0.6s,baz=84,slow=7.6,SNR=13						
ILAR	**Eielson Array**	**50.98**	**32**	P	**P**	**06 56 03.5**	**+1.6**
	0.4nm,0.6s,baz=264,slow=6.0,SNR=7.6						
BVAR	**Borovoye Array**	**51.66**	**313**	P	**P**	**06 56 07.2**	**0.0**
	0.4nm,0.5s,baz=74,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**55.37**	**188**	P	**P**	**06 56 34.2**	**-0.4**
	2.0nm,0.5s,baz=3.4,slow=7.7,SNR=24						
ASAR	**Alice Springs**	**59.10**	**188**	P	**P**	**06 57 00.1**	**-0.9**
	0.1nm,0.4s,baz=352,slow=6.0,SNR=3.6						
ARCES	**ARCESS Array B**	**65.56**	**340**	P	**P**	**06 57 44.1**	**+0.4**
	1.5nm,0.8s,baz=55,slow=7.8,SNR=4.1						
FINES	**FINESS Array B**	**70.28**	**332**	P	**P**	**06 58 12.6**	**-0.8**
	1.5nm,0.7s,baz=41,slow=4.4,SNR=4.8						
AKASG	**Malin Array Be**	**75.59**	**323**	P	**P**	**06 58 44.5**	**-0.6**
	0.2nm,0.3s,baz=45,slow=7.2,SNR=4.4						
NOA	**NORSAR Array B**	**75.72**	**337**	P	**P**	**06 58 46.1**	**+0.3**
	0.7nm,0.8s,baz=42,slow=5.4,SNR=3.2						
PPT	**Papeete**	**83.95**	**116**	LR	LR	07 32 30.1	
	comp=Z,48nm,19.7s,baz=256,slow=32						

*NEIC **09** 06:51:43.6,32°.15N×115°.07W,h17km,MD3.8(MEX), ML3.4(PAS),After PAS.*
*MEX **09** 06:51:44.2±0.9,32°.15N×115°.08W,h10km,MD3.6*

ISC 09 06:51:41.4±1.5,32°.04N±0°.04×115°.15W±0°.04,h3km±13km, n25,σ1§38/35,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.37**	**353**	*e*P	**Pg**	**06 51 49.4**	**+0.9**
MBIG				*i* S	**Sg**	**06 51 52.3**	**-1.0**
CPBX	**Cerro Prieto**	**0.40**	**341**	*e*P	**Pb**	**06 51 50.2**	**-0.9**
SPIG	**San Pedro Mart**	**1.03**	**195**	*e*P	**Pn**	**06 52 02.4**	**-0.6**
SPIG				*i* S	**Sn**	**06 52 17.7**	**-0.3**
SPIG	**San Pedro Mart**	**1.03**	**195**	*e*P	**Pn**	**06 52 02.4**	**-0.6**
SPIG				*e*S	**Sb**	**06 52 16.3**	**+0.3**
SPX	**San Pedro Mart**	**1.03**	**195**	*e*P	**Pn**	**06 52 02.4**	**-0.6**
SPX				*e*S	**Sb**	**06 52 16.6**	**+0.5**
GLA	**Glamis**	**1.04**	**15**	*e*Pg	**Pg**	**06 51 59.6**	**-1.8**
GLA				*e*Sg	**Sg**	**06 52 13.7**	**-1.3**
CBX	**Cerro Bola**	**1.31**	**282**	*e*P	**Pn**	**06 52 06.3**	**-0.5**
CBX				*i* S	**Sb**	**06 52 22.0**	**-2.1**
CBX	**Cerro Bola**	**1.31**	**282**	*e*P	**Pn**	**06 52 06.3**	**-0.5**
CBX				*e*S	**Sb**	**06 52 24.1**	**0.0**
BAR	**Barrett**	**1.44**	**297**	*e*Pn	**Pn**	**06 52 07.3**	**-1.0**
BAR				*e*Sn	**Sn**	**06 52 27.8**	**-0.1**
PFO	**Pinyon Flats O**	**1.91**	**325**	*e*Pn	**Pn**	**06 52 12.7**	**-2.3**
214A	**Organ Pipe Nat**	**1.99**	**92**	*e*Pn	**Pn**	**06 52 13.0**	**-2.9**
MWC	**Mount Wilson**	**3.27**	**313**	*e*Pg	**Pb**	**06 52 41.2**	**+1.0**
PASC	**Pasadena Art C**	**3.32**	**311**	*e*Pg	**Pb**	**06 52 41.4**	**+0.5**
PASC				*e*Sg	**Sb**	**06 53 24.0**	**+2.3**
GSC	**Goldstone, Bar**	**3.54**	**337**	*e*Pg	**Pb**	**06 52 45.9**	**+1.3**
TUC	**Tucson**	**3.71**	**85**	*e*Pn	**Pn**	**06 52 41.0**	**+1.3**
TUC				*e*Pg	**Pg**	**06 52 54.7**	**+2.2**
TUC				*e*Sg	**Sg**	**06 53 39.7**	**-0.9**
SHPR	**Sheep Range**	**4.46**	**360**	*e*Pn	**Pn**	**06 52 49.5**	**-0.5**
ISA	**Isabella, Lake**	**4.55**	**323**	*e*Pg	Pb	06 53 05.4	-3.5
WUAZ	**Wupatki**	**4.68**	**41**	*e*Pn	**Pn**	**06 52 52.9**	**-0.2**
DAC	**Darwin (Calif)**	**4.69**	**335**	*e*Pn	**Pn**	**06 52 54.6**	**+1.4**
DAC				*e*Pg	Pg	06 53 15.1	+3.9
W18A	**Petrified Fore**	**5.46**	**54**	*e*Pn	**Pn**	**06 53 03.2**	**-0.6**
	9.7nm,0.6s						
CCUT	**Cedar City**	**5.69**	**14**	*e*Pn	**Pn**	**06 53 07.0**	**0.0**
	19nm,1.0s						
ARUT	**Antelope Range**	**5.90**	**13**	*e*Pn	**Pn**	**06 53 09.8**	**-0.1**
	1.9nm,0.8s						
ARUT				*e*Pg	**Pg**	**06 53 35.3**	**+0.8**
121A	**Cookes Peak, D**	**6.25**	**84**	*e*Pn	**Pn**	**06 53 12.8**	**-2.0**
	9.8nm,0.8s						
R11A	**Troy Canyon, C**	**6.30**	**357**	*e*Pg	Pg	06 53 39.0	-3.2
	2.7nm,0.7s						
MVU	**Marysvale**	**6.88**	**20**	*e*Pn	**Pn**	**06 53 26.0**	**+2.6**
	20nm,1.2s						

*IDC **09** 07:04:28.4±0.8,52°.09N×171°.35W,h0km,mb3.9/11, mb1 4.1/12,mb1mx3.7/54,mbtmp3.8/12,ML3.3/1,Error ellipse: s-maj=32.2km s-min=16.5km az=159.0*
*ISCJB **09** 07:04:33.2±0.5,51°.91N±0°.09×171°.11W±0°.06,h42km, mb3.8/12,Error ellipse: s-maj=13.3km s-min=3.5km az=161.7*
*NEIC **09** 07:04:34.0,52°.12N×171°.07W,h30km,ML3.5(AEIC),After AEIC.*

ISC 09 07:04:34.5±0.8,51°.9N±0°.1×171°.14W±0°.05,h42km,n44, σ1§14/44,mb3.8/12,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.74**	**53**	P	**Pn**	**07 05 01.0**	**-1.1**
NIKH				S	**Sn**	**07 05 22.0**	**-1.0**
KOFP	**Korovin Flat P**	**1.85**	**281**	P	**Pn**	**07 05 04.1**	**+0.3**
KOKL	**Mount Kliuchef**	**1.93**	**283**	P	**Pn**	**07 05 04.8**	**0.0**
OKFG	**Magazine Ridge**	**2.45**	**52**	P	**Pn**	**07 05 10.9**	**-1.0**
OKFG				S	**Sn**	**07 05 43.1**	**+2.5**
GSMY	**Great Sitkin M**	**3.04**	**274**	P	**Pn**	**07 05 20.3**	**+0.3**
GSTD	**Great Sitkin T**	**3.10**	**274**	P	**Pn**	**07 05 21.4**	**+0.5**
GSTD				S	**Sn**	**07 05 58.1**	**+1.4**
MSOM	**Makushin Julie**	**3.15**	**52**	P	**Pn**	**07 05 22.1**	**+0.5**
MREP	**Makushin Rep't**	**3.25**	**53**	P	**Pn**	**07 05 22.9**	**-0.1**
ETKA	**Kagalaska Isla**	**3.26**	**271**	P	**Pn**	**07 05 23.9**	**+0.8**
MSW	**Makushin Switc**	**3.29**	**51**	P	**Pn**	**07 05 23.9**	**+0.4**
MTBL	**Makushin Table**	**3.37**	**51**	P	**Pn**	**07 05 25.5**	**+0.8**
UNV	**Unalaska Valle**	**3.39**	**54**	P	**Pn**	**07 05 24.7**	**-0.2**
UNV				S	**Sn**	**07 06 05.3**	**+1.5**
ADK	**Adak**	**3.44**	**271**	P	**Pn**	**07 05 26.4**	**+0.9**
AKRB	**Akutan Reef Bi**	**3.76**	**52**	P	**Pn**	**07 05 30.9**	**+1.0**
AKRB				S	**Sn**	**07 06 15.9**	**+3.0**
ZRO	**Akutan Zero**	**3.79**	**53**	P	**Pn**	**07 05 31.4**	**+1.2**
AKGG	**Akutan Green G**	**3.84**	**52**	P	**Pn**	**07 05 31.3**	**+0.3**
AKSA	**Akutan Strait**	**3.95**	**54**	P	**Pn**	**07 05 33.8**	**+1.3**
TASE	**Tanaga Southea**	**4.28**	**271**	P	**Pn**	**07 05 38.7**	**+1.6**
WESN	**West Dahl Nort**	**4.73**	**54**	P	**Pn**	**07 05 44.1**	**+0.9**
SPIA	**Saint Paul Isl**	**5.27**	**5**	P	**Pn**	**07 05 51.5**	**+0.9**
FALS	**False Pass**	**5.46**	**55**	P	**Pn**	**07 05 54.5**	**+1.3**
DRIA	**Deer Island**	**6.10**	**57**	P	**Pn**	**07 06 02.3**	**+0.2**
DTNA	**Dutton South F**	**6.19**	**55**	P	**Pn**	**07 06 03.1**	**-0.1**
SDPT	**Sand Point**	**7.20**	**58**	P	**Pn**	**07 06 17.7**	**+0.7**
ILAR	**Eielson Array**	**17.92**	**35**	P	**Pn**	**07 08 37.9**	**-2.3**
	0.0nm,0.3s,baz=231,slow=11,SNR=5.3						
SEY	**Seymchan**	**22.17**	**314**	P	**P**	**07 09 27.1**	**+0.6**
	0.3nm,0.3s,baz=94,slow=7.9,SNR=3.6						
DLBC	**Dease Lake**	**24.04**	**58**	P	**P**	**07 09 46.1**	**+0.8**
	1.3nm,0.5s,baz=294,slow=8.0,SNR=14						
INK	**Inuvik**	**24.30**	**33**	P	**P**	**07 09 46.4**	**-1.1**
	0.9nm,0.5s,baz=262,slow=7.8,SNR=13						
YKA	**Yellowknife Ar**	**31.34**	**48**	P	**P**	**07 10 49.8**	**-0.6**
	0.2nm,0.4s,baz=272,slow=8.0,SNR=14						
YKA				PcP	**PcP**	**07 13 43.7**	**+0.4**
	0.2nm,0.6s,baz=284,slow=2.3,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**36.45**	**216**	T	T	07 50 13.0	
	baz=21,slow=75,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**36.46**	**216**	T	T	07 50 15.2	
	baz=21,slow=75,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**36.47**	**216**	T	T	07 50 15.1	
	baz=21,slow=75,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**37.65**	**216**	T	T	07 52 28.2	
	baz=22,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**37.66**	**216**	T	T	07 52 23.0	
	baz=22,slow=76,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**37.66**	**216**	T	T	07 52 23.4	
	baz=22,slow=76,SNR=6.1						
NVAR	**Mina Array Bea**	**38.75**	**89**	P	**P**	**07 11 56.2**	**+1.3**
	0.2nm,0.3s,baz=297,slow=10.0,SNR=3.9						
PDAR	**Pinedale Array**	**41.56**	**78**	P	**P**	**07 12 18.6**	**+0.5**
	1.3nm,0.6s,baz=300,slow=4.6,SNR=16						
ULM	**Lac du Bonnet**	**45.31**	**61**	P	**P**	**07 12 47.3**	**-0.5**
	1.3nm,0.5s,baz=273,slow=6.7,SNR=3.9						
TXAR	**Lajitas Array**	**53.85**	**87**	P	**P**	**07 13 53.5**	**+0.3**
	0.8nm,0.5s,baz=298,slow=5.4,SNR=16						
KURK	**Kurchatov**	**61.96**	**317**	P	**P**	**07 14 48.3**	**-1.3**
KURBB	**Kurchatov Arra**	**62.06**	**317**	P	**P**	**07 14 48.3**	**-2.0**
	0.4nm,0.5s,baz=49,slow=6.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**75.64**	**282**	P	**P**	**07 16 15.7**	**+0.4**
	1.4nm,0.3s,baz=26,slow=6.3,SNR=6.6						
WRA	**Warramunga Arr**	**85.89**	**230**	P	**P**	**07 17 09.0**	**-0.7**
	0.4nm,0.6s,baz=36,slow=6.0,SNR=8.2						
ASAR	**Alice Springs**	**89.29**	**229**	P	**P**	**07 17 26.4**	**+0.3**
	1.4nm,0.5s,baz=28,slow=5.0,SNR=26						

*ISCJB **09** 07:08:07.8±1.0,37°.8N±0°.1×95°.95E±0°.08,h10km,mb3.8/2, Error ellipse: s-maj=15.7km s-min=7.8km az=19.4*
*IDC **09** 07:08:07.1±2.7,37°.38N×95°.80E,h0km,mb4.0/2, mb1 3.9/7,mb1mx3.5/63,mbtmp3.9/7,ML3.6/4,Error ellipse: s-maj=62.3km s-min=22.8km az=18.0*
*BJI **09** 07:08:09.7,37°.56N×95°.78E,h10km,ML3.6/12,Ms3.4/2, Ms7 3.2/5*
*NNC **09** 07:08:11.8±1.2,37°.99N×95°.63E,h0km,mb3.9,Error ellipse: s-maj=18.4km s-min=6.6km az=67.0*

ISC 09 07:08:11.8±1.0,37°.8N±0°.1×95°.70E±0°.05,h10km,n17, σ1§79/26,4C-6D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.59**	**63**	Pn	**Pn**	**07 09 09.5**	**+1.8**
GTA				Pg	**Pb**	**07 09 14.8**	**-0.7**
GTA				Sg	**Sb**	**07 09 56.5**	**-2.7**
GTA				SMN			
	79nm,0.8s						
GTA				SME			
	55nm,0.9s						
LZH	**Lanzhou**	**6.75**	**102**	*e*Pg	**Pb**	**07 10 07.9**	**-1.4**
LZH				Sg	**Sb**	**07 11 33.1**	**+3.0**
LZH				SMN			
	100nm,1.3s						
LZH				SME			
	87nm,1.2s						
LZH				LZ			
	260nm,8.5s						
WMQ	**Urumqi**	**8.52**	**317**	P	**Pn**	**07 10 17.3**	**+2.0**
WMQ				pP	pP	07 10 20.5	
WMQ				sP	sP	07 10 23.3	
WMQ				S	**Sn**	**07 11 55.5**	**+3.9**
WMQ				sS	sS	07 12 02.0	
WMQ				SMN			
	49nm,0.7s						
WMQ				SME			
	52nm,0.8s						
WMQ				LZ			
	130nm,6.4s						
SONM	**Songino Array**	**12.70**	**35**	Pn	**Pn**	**07 11 14.9**	**+2.3**
	0.4nm,0.3s,baz=221,slow=14,SNR=7.9						
MK31	**Makanchi Array**	**13.35**	**316**	P	**Pn**	**07 11 20.2**	**-1.2**
	3.4nm,0.6s,baz=127,slow=14,SNR=66						
MK31				⇑S	**Sn**	**07 13 49.5**	**-0.3**
	2.0nm,0.8s,baz=126,slow=25,SNR=4.8						
MKAR	**Makanchi Array**	**13.35**	**316**	Pn	**Pn**	**07 11 20.2**	**-1.2**
	1.1nm,0.3s,baz=124,slow=14,SNR=59						
MKAR				Sn	**Sn**	**07 13 47.7**	**-2.2**
	0.1nm,0.3s,baz=110,slow=20,SNR=2.7						
PDGK	**Podgornoye**	**13.49**	**299**	⇑P	**Pn**	**07 11 21.2**	**-2.0**
	1.8nm,0.6s						
PDGK				⇓S	**Sn**	**07 13 53.3**	**+0.3**
	2.9nm,0.7s						
TKM2	**Tokmak 2**	**16.13**	**295**	⇑P	**Pn**	**07 11 59.1**	**+0.2**
	3.3nm,0.7s						
AAK	**Ala-Archa**	**16.88**	**293**	P	**Pn**	**07 12 08.8**	**+0.5**
	0.1nm,0.3s,baz=153,slow=9.0,SNR=5.2						
KURBB	**Kurchatov Arra**	**17.69**	**322**	⇓P	**Pn**	**07 12 17.4**	**-0.8**
	2.2nm,0.7s						
KURBB				⇓S	**Sn**	**07 15 34.3**	**-0.9**
	6.6nm,0.8s						
KURBB	**Kurchatov Arra**	**17.69**	**322**	P	**Pn**	**07 12 18.2**	**0.0**
	0.1nm,0.3s,baz=134,slow=11,SNR=19						
KURK	**Kurchatov**	**17.71**	**322**	⇓P	**Pn**	**07 12 17.7**	**-0.7**
	1.8nm,0.9s						
KURK				⇑S	**Sn**	**07 15 34.5**	**-1.1**
	1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**17.78**	**339**	P	**P**	**07 12 19.7**	**-0.3**
	0.1nm,0.3s,baz=150,slow=12,SNR=6.6						
MNAS	**Manas**	**18.31**	**292**	⇓P	**Pn**	**07 12 26.1**	**0.0**
	4.1nm,1.3s						
KK31	**Karatay Array**	**19.84**	**293**	⇓P	**P**	**07 12 43.2**	**+0.3**
	1.6nm,0.8s,baz=92,slow=11,SNR=9.9						
KSRS	**Korea Array**	**25.45**	**81**	P	**P**	**07 13 36.4**	**-3.5**
	2.3nm,0.5s,baz=282,slow=9.4,SNR=9.1						
AKTO	**Aktyubinsk**	**29.51**	**307**	P	**P**	**07 14 16.0**	**-0.1**
	0.9nm,0.7s,baz=108,slow=14,SNR=5.0						

*DDA **09** 07:09:05.9,35°.41N×29°.27E,h2km,MD3.8*
*IDC **09** 07:09:09.4±0.7,35°.78N×29°.45E,h0km,mb4.1/22, mb1 4.2/28,mb1mx4.1/53,mbtmp4.1/28,ML4.0/6,MS3.4/4, Ms1 3.4/4,ms1mx2.8/55,Error ellipse: s-maj=18.2km s-min=12.0km az=179.0*
*ISK **09** 07:09:09.6,35°.62N×29°.44E,h12km,ML4.2*
*NEIC **09** 07:09:11.0,35°.70N×29°.37E,h12km,mb4.2/5, ML4.0(ATH),ML4.1(ISK),ML4.3(THE),After ISK.*
*MOS **09** 07:09:11.4±1.1,35°.61N×29°.40E,h33km,mb4.4/14,Error ellipse: s-maj=7.1km s-min=4.4km az=124.9*
*CSEM **09** 07:09:12.6±0.1,35°.66N×29°.46E,h20km,mb4.2/10,Ms3.3, Error ellipse: s-maj=4.7km s-min=2.6km az=1.0*
*BJI **09** 07:09:12.3,36°.42N×29°.52E,h12km,mB4.7/4,mb4.6/7, Ms4.5/3,Ms7 4.2/5*
*ATH **09** 07:09:13.9,35°.78N×29°.29E,h33km±2km,MD4.0/23*
*THE **09** 07:09:15.6,35°.76N×29°.41E,h32km±5km,ML4.3/7,Error ellipse: s-maj=5.3km s-min=0.8km az=136.0*
*NIC **09** 07:09:15.7,35°.90N×29°.55E,h25km,mb4.4,ML4.1*
*HLW **09** 07:09:17.7,35°.40N×29°.58E,h28km±9km,Ml3.6*
*NSSC **09** 07:09:23.5±4.1,35°.29N×30°.21E,h38km±436km,MD2.1, ML3.1*

ISC 09 07:09:11.6±0.5,35°.69N±0°.03×29°.44E±0°.02,h15km±2km, h15km:pP-P,n584,σ1§46/670,mb4.1/35,17C-8D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.55**	**14**	*i* S	**Sn**	**07 09 35.5**	**+1.4**
AKAS	**Kas**	**0.55**	**14**	*i* P	**Pb**	**07 09 23.1**	**0.0**
AKAS				*i* S	**Sn**	**07 09 35.5**	**+1.4**
FETY	**Fethiye**	**0.98**	**343**	*e*PG	**Pg**	**07 09 30.4**	**-0.2**
FETY				*e*SG	**Sn**	**07 09 45.5**	**+1.0**
FETY	**Fethiye**	**0.98**	**343**	*e*Pg	**Pg**	**07 09 30.4**	**-0.2**
FETY				*e*Sg	**Sn**	**07 09 45.5**	**+1.0**
ELL	**Elmali**	**1.12**	**20**	*e*PN	**Pb**	**07 09 32.5**	**-0.2**
ELL				*e*SN	**Sn**	**07 09 49.3**	**+1.3**
ELL	**Elmali**	**1.12**	**20**	*e*Pn	**Pb**	**07 09 32.5**	**-0.2**
ELL				*e*Sn	**Sn**	**07 09 49.3**	**+1.3**
ARG	**Arkhangelos**	**1.18**	**296**	P	**Pb**	**07 09 33.7**	**0.0**
ARG				S	**Sg**	**07 09 49.8**	**-0.1**
ARG	**Arkhangelos**	**1.18**	**296**	P	**Pb**	**07 09 33.7**	**0.0**
ARG				S	**Sg**	**07 09 49.8**	**-0.1**
ARG	**Arkhangelos**	**1.18**	**296**	*e*PN	**Pb**	**07 09 33.7**	**0.0**
ARG	**Arkhangelos**	**1.18**	**296**	P	**Pb**	**07 09 33.7**	**0.0**
ARG				S	**Sg**	**07 09 49.8**	**-0.1**
ARG	**Arkhangelos**	**1.18**	**296**	P	**Pb**	**07 09 33.7**	**0.0**
ARG				S	**Sg**	**07 09 49.8**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.29**	**331**	*e*PN	**Pn**	**07 09 35.1**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.29**	**331**	*e*Pn	**Pn**	**07 09 35.1**	**+0.1**
TURN	**Turunc**	**1.35**	**330**	*i* P	**Pn**	**07 09 35.9**	**0.0**
TURN	**Turunc**	**1.35**	**330**	*i* P	**Pn**	**07 09 35.9**	**0.0**
GOLH	**Golhisar**	**1.54**	**4**	*i* P	**Pb**	**07 09 40.6**	**+0.7**
GOLH	**Golhisar**	**1.54**	**4**	*i* P	**Pb**	**07 09 40.6**	**+0.7**
GOLH				*i* S	**Sg**	**07 10 03.2**	**+1.8**
ANTB	**Antalya**	**1.55**	**39**	*e*PN	**Pn**	**07 09 38.4**	**-0.2**
ANTB	**Antalya**	**1.55**	**39**	*e*Pn	**Pn**	**07 09 38.4**	**-0.2**
YER	**Yerkesik**	**1.71**	**327**	*e*PN	**Pn**	**07 09 41.1**	**+0.2**
YER	**Yerkesik**	**1.71**	**327**	*e*Pn	**Pn**	**07 09 41.1**	**+0.2**
KARP	**Karpathos**	**1.86**	**266**	P	**Pb**	**07 09 44.2**	**-1.0**
KARP				S	**Sn**	**07 10 06.1**	**-0.1**
KARP	**Karpathos**	**1.86**	**266**	*e*PB	**Pb**	**07 09 44.2**	**-1.0**
KARP	**Karpathos**	**1.86**	**266**	*e*Pb	**Pb**	**07 09 44.2**	**-1.0**
KARP				S	**Sn**	**07 10 06.1**	**-0.1**
KARP	**Karpathos**	**1.86**	**266**	P	**Pb**	**07 09 44.3**	**-1.0**
BCK	**Bucak**	**1.99**	**27**	*e*PN	**Pn**	**07 09 45.0**	**+0.2**
BCK	**Bucak**	**1.99**	**27**	*e*Pn	**Pn**	**07 09 45.0**	**+0.2**
DNZL	**Cakiroluk**	**2.02**	**351**	*i* P	**Pb**	**07 09 48.8**	**+0.8**
DNZL	**Cakiroluk**	**2.02**	**351**	*i* P	**Pb**	**07 09 48.8**	**+0.8**
DNZL				*i* S	**Sg**	**07 10 16.5**	**0.0**
NIS1	**Nisyros Isl.**	**2.04**	**297**	P	**Pn**	**07 09 46.1**	**+0.7**
NIS1				S	**Sn**	**07 10 09.6**	**-1.0**
NIS1	**Nisyros Isl.**	**2.04**	**297**	*e*PN	**Pn**	**07 09 46.0**	**+0.7**
NIS1	**Nisyros Isl.**	**2.04**	**297**	P	**Pn**	**07 09 46.1**	**+0.7**
NIS1				S	**Sn**	**07 10 09.6**	**-1.0**
NIS1	**Nisyros Isl.**	**2.04**	**297**	P	**Pn**	**07 09 46.1**	**+0.7**
BDRM	**Kayabasi**	**2.11**	**311**	*i* P	**Pn**	**07 09 46.7**	**+0.3**
BDRM				*i* S	**Sb**	**07 10 14.3**	**-1.3**
BDRM	**Kayabasi**	**2.11**	**311**	*i* P	**Pn**	**07 09 46.7**	**+0.3**
BDRM				*i* S	**Sb**	**07 10 14.3**	**-1.3**
BODT	**Bodrum**	**2.19**	**309**	*e*PN	**Pn**	**07 09 48.3**	**+0.8**
BODT	**Bodrum**	**2.19**	**309**	*e*Pn	**Pn**	**07 09 48.3**	**+0.8**
ISP	**Isparta**	**2.30**	**22**	P	**Pn**	**07 09 50.9**	**+1.9**
ISP	**Isparta**	**2.30**	**22**	*e*PN	**Pn**	**07 09 49.5**	**+0.6**
ISP	**Isparta**	**2.30**	**22**	*e*P	**Pn**	**07 09 51.0**	**+1.9**
ISP	**Isparta**	**2.30**	**22**	P	**Pn**	**07 09 50.9**	**+1.9**
ISP	**Isparta**	**2.30**	**22**	*e*Pn	**Pb**	**07 09 51.0**	**-1.7**
AYDN	**Tasoluk**	**2.33**	**328**	*i* P	**Pb**	**07 09 52.6**	**-0.7**
AYDN	**Tasoluk**	**2.33**	**328**	*i* P	**Pb**	**07 09 52.6**	**-0.7**
AYDN				*i* S	**Sb**	**07 10 22.9**	**+1.1**
GAZI	**Gazipasa**	**2.40**	**76**	*i* P	**Pn**	**07 09 50.9**	**+0.6**
GAZI				*i* S	**Sn**	**07 10 18.9**	**-0.5**
GAZI	**Gazipasa**	**2.40**

SANT S **Sn** 07 10 41.0 -0.6
BLCB Balcova 3.30 325 *e*PN **Pn** 07 10 03.4 +0.8
BLCB Balcova 3.30 325 *e*Pn **Pn** 07 10 03.4 +0.8
THR2 Thira island, 3.33 284 P **Pn** 07 10 04.2 +1.1
THR2 Thira island, 3.33 284 P **Pn** 07 10 04.2 +1.1
THR2 Thira island, 3.33 284 P **Pn** 07 10 04.2 +1.1
THR6 Thira Island, 3.34 283 P **Pn** 07 10 04.0 +0.8
THR6 Thira Island, 3.34 283 P **Pn** 07 10 04.0 +0.8
THR6 Thira Island, 3.34 283 P **Pn** 07 10 04.0 +0.8
LFK Lefkose 3.37 96 *e*PN **Pn** 07 10 03.7 0.0
LFK Lefkose 3.37 96 *e*Pn **Pn** 07 10 03.7 0.0
DEMI Demirci 3.39 350 *i* P **Pn** 07 10 04.4 +0.4
DEMI Demirci 3.39 350 *i* P **Pn** 07 10 04.4 +0.4
THR5 Thira Island, 3.39 283 P **Pn** 07 10 04.7 +0.8
THR5 Thira Island, 3.39 283 *e*PN **Pn** 07 10 03.9 0.0
THR5 Thira Island, 3.39 283 *e*Pn **Pn** 07 10 03.9 0.0
THR5 Thira Island, 3.39 283 P **Pn** 07 10 04.7 +0.8
ALT Altintas 3.40 9 P **Pn** 07 10 04.8 +0.7
ALT Altintas 3.40 9 *e*PN **Pn** 07 10 05.0 +0.9
ALT Altintas 3.40 9 *e*Pn **Pn** 07 10 05.0 +0.9
ALT Altintas 3.40 9 P **Pn** 07 10 04.8 +0.7
LADK Ladik-KONYA 3.43 42 *e*PN **Pn** 07 10 05.5 +0.9
LADK Ladik-KONYA 3.43 42 *e*Pn **Pn** 07 10 05.5 +0.9
AKHS Akhisar 3.43 338 *i* P **Pn** 07 10 04.5 0.0
AKHS Akhisar 3.43 338 *i* P **Pn** 07 10 04.5 0.0
AKS Akhisar 3.43 338 *e*PN **Pn** 07 10 06.0 +1.5
AKS Akhisar 3.43 338 *e*Pn **Pn** 07 10 06.0 +1.5
APE Apeiranthos 3.44 295 P **Pn** 07 10 05.1 +0.5
APE Apeiranthos 3.44 295 ⇓ *i*P **Pn** 07 10 05.2 +0.6
APE Apeiranthos 3.44 295 *e*PN **Pn** 07 10 05.5 +0.9
APE Apeiranthos 3.44 295 *i* P **Pn** 07 10 05.2 +0.6
APE Apeiranthos 3.44 295 *e*Pn **Pn** 07 10 05.5 +0.9
APE Apeiranthos 3.44 295 P **Pn** 07 10 05.1 +0.5
ZEY Izmir 3.46 318 *i* P **Pn** 07 10 05.5 +0.6
KDHN Kadinhani 3.54 36 *i* P **Pn** 07 10 08.6 +2.5
KDHN *i* S **Sn** 07 10 48.3 +0.5
KDHN Kadinhani 3.54 36 *i* P **Pn** 07 10 08.6 +2.5
KDHN *i* S **Sn** 07 10 48.3 +0.5
KIZT Kizilcal 3.73 31 *e*PN **Pn** 07 10 10.2 +1.5
KIZT Kizilcal 3.73 31 *e*Pn **Pn** 07 10 10.2 +1.5
IDI Anoyia 3.73 265 Pn **Pn** 07 10 09.8 +1.1
35nm,0.3s,baz=59,slow=18,SNR=75
IDI Sn **Sn** 07 10 50.1 -2.3
49nm,0.3s,baz=274,slow=12,SNR=9.2
TVSB Tavsanli 3.75 0 *e*PN **Pn** 07 10 09.4 +0.4
TVSB Tavsanli 3.75 0 *e*Pn **Pn** 07 10 09.4 +0.4
CHOS Chios island 3.81 316 P **Pn** 07 10 11.0 +1.2
CHOS S **Sn** 07 10 53.1 -1.3
CHOS Chios island 3.81 316 *e*PN **Pn** 07 10 10.9 +1.2
CHOS Chios island 3.81 316 *e*PN **Pn** 07 10 11.7 +1.9
CHOS Chios island 3.81 316 P **Pn** 07 10 11.0 +1.2
CHOS S **Sn** 07 10 53.1 -1.3
CHOS Chios island 3.81 316 P **Pn** 07 10 11.0 +1.2
CHOS S **Sn** 07 10 53.1 -1.3
SIVA Sivas 3.84 261 P **Pn** 07 10 11.9 +1.8
SIVA S **Sn** 07 10 56.0 +1.0
SIVA Sivas 3.84 261 *e*PN **Pn** 07 10 12.1 +2.0
SIVA *e*SN **Sn** 07 10 54.2 -0.8
SIVA Sivas 3.84 261 P **Pn** 07 10 11.9 +1.8
SIVA *e*Sn **Sn** 07 10 54.2 -0.8
SIVA S **Sn** 07 10 56.0 +1.0
SIVA Sivas 3.84 261 P **Pn** 07 10 11.9 +1.8
SIVA S **Sn** 07 10 56.0 +1.0
EREN Erenkoy 3.86 91 *e*PN **Pn** 07 10 10.7 +0.3
EREN Erenkoy 3.86 91 *e*Pn **Pn** 07 10 10.7 +0.3
KIZK Mersin 3.89 77 *e*P Pn 07 10 14.3 +3.5
KIZK *i* S **Sn** 07 10 58.4 +2.2
KIZK Mersin 3.89 77 *e*P Pn 07 10 14.3 +3.5
KIZK *i* S **Sn** 07 10 58.4 +2.2
ESKT Eskisehir 3.98 16 *e*PN **Pn** 07 10 13.4 +1.2
ESKT Eskisehir 3.98 16 *e*Pn **Pn** 07 10 13.4 +1.2
SVRH Sivrihisar-ESK 4.10 23 *e*PN **Pn** 07 10 14.8 +1.1
SVRH Sivrihisar-ESK 4.10 23 *e*Pn **Pn** 07 10 14.8 +1.1
SULT Sultanhani-AKS 4.11 51 *e*PN **Pn** 07 10 14.8 +0.9
SULT Sultanhani-AKS 4.11 51 *e*Pn **Pn** 07 10 14.8 +0.9
BALB Balikesir 4.13 343 *e*PN **Pn** 07 10 15.8 +1.8
BALB Balikesir 4.13 343 *e*Pn **Pn** 07 10 15.8 +1.8
MERS Mersin 4.27 73 *e*PN **Pn** 07 10 16.9 +0.8
MERS Mersin 4.27 73 *e*Pn **Pn** 07 10 16.9 +0.8
VAM Vamos 4.28 268 P **Pn** 07 10 16.5 +0.3
VAM S **Sn** 07 11 01.4 -4.4
VAM Vamos 4.28 268 P **Pn** 07 10 16.5 +0.3
VAM Vamos 4.28 268 *e*PN **Pn** 07 10 16.5 +0.3
VAM Vamos 4.28 268 P **Pn** 07 10 16.5 +0.3
VAM S **Sn** 07 11 01.4 -4.4
VAM Vamos 4.28 268 P **Pn** 07 10 16.5 +0.3
PRK Paraskevi 4.35 326 P **Pn** 07 10 18.4 +1.3
PRK Paraskevi 4.35 326 P **Pn** 07 10 18.4 +1.3
PRK Paraskevi 4.35 326 *e*PN **Pn** 07 10 18.3 +1.2
PRK Paraskevi 4.35 326 P **Pn** 07 10 18.4 +1.3
PRK Paraskevi 4.35 326 P **Pn** 07 10 18.4 +1.3
KARN Karanos 4.51 268 P **Pn** 07 10 20.7 +1.4
KARN S **Sn** 07 11 12.0 +0.5
KARN Karanos 4.51 268 *e*PN **Pn** 07 10 21.1 +1.8
KARN Karanos 4.51 268 P **Pn** 07 10 20.7 +1.4
KARN Karanos 4.51 268 *e*Pn **Pn** 07 10 21.1 +1.8
KARN S **Sn** 07 11 12.0 +0.5
KARN Karanos 4.51 268 P **Pn** 07 10 20.7 +1.4
KARN S **Sn** 07 11 12.0 +0.5
CAVI Cavuskoy 4.51 4 *e*PN **Pn** 07 10 21.2 +1.9
CAVI Cavuskoy 4.51 4 *e*Pn **Pn** 07 10 21.2 +1.9
SIGR SIGRI 4.52 322 P **Pn** 07 10 20.4 +1.0
SIGR S **Sn** 07 11 09.8 -1.9
SIGR SIGRI 4.52 322 *e*PN **Pn** 07 10 20.8 +1.4
SIGR SIGRI 4.52 322 *e*PN **Pn** 07 10 20.8 +1.4
SIGR SIGRI 4.52 322 P **Pn** 07 10 20.4 +1.0
SIGR SIGRI 4.52 322 *e*Pn **Pn** 07 10 20.8 +1.4
SIGR S **Sn** 07 11 09.8 -1.9
SIGR SIGRI 4.52 322 P **Pn** 07 10 20.4 +1.0
GULE Gulek 4.58 68 *i* P Pn 07 10 24.4 +3.9
GULE *i* S **Sn** 07 11 16.1 +2.5
GULE Gulek 4.58 68 *i* P Pn 07 10 24.4 +3.9
GULE *i* S **Sn** 07 11 16.1 +2.5
MATC Matruh 4.71 204 P **Pn** 07 10 23.7 +1.6
baz=207
AFSR Af ar-Bala (A 4.73 37 *e*PN **Pn** 07 10 23.2 +0.8
AFSR Af ar-Bala (A 4.73 37 *e*Pn **Pn** 07 10 23.2 +0.8
GULT Gulveren 4.81 10 *e*PN **Pn** 07 10 25.2 +1.7
GULT Gulveren 4.81 10 *e*Pn **Pn** 07 10 25.2 +1.7
ARMT Armutlu 4.88 355 *e*PN **Pn** 07 10 26.6 +2.2
ARMT Armutlu 4.88 355 *e*Pn **Pn** 07 10 26.7 +2.2
ANTO Ankara 4.94 32 *e*P **Pn** 07 10 27.9 +2.6
ANTO Ankara 4.94 32 *e*P **Pn** 07 10 27.9 +2.6
ANTO Ankara 4.94 32 *e*Pn **Pn** 07 10 27.9 +2.6
KRBG Karabiga-Canak 4.99 341 *e*PN **Pn** 07 10 27.1 +1.3
KRBG Karabiga-Canak 4.99 341 *e*Pn **Pn** 07 10 27.1 +1.3
ANKY Antikythira Is 4.99 274 P **Pn** 07 10 26.7 +0.8
ANKY Antikythira Is 4.99 274 *e*PN **Pn** 07 10 27.2 +1.3
ANKY *e*SN **Sn** 07 11 21.7 -1.6
ANKY Antikythira Is 4.99 274 P **Pn** 07 10 26.7 +0.8
ANKY Antikythira Is 4.99 274 *e*Pn **Pn** 07 10 27.2 +1.3
ANKY *e*Sn **Sn** 07 11 21.7 -1.6
ATHU Athens Univers 5.07 298 P **Pn** 07 10 28.3 +1.3
ATHU Athens Univers 5.07 298 P **Pn** 07 10 28.3 +1.3
ATHU Athens Univers 5.07 298 P **Pn** 07 10 28.3 +1.3
HBRG Burj al 'Arab 5.12 176 P **Pn** 07 10 28.2 +0.6
baz=177
LPK Lapseki 5.13 336 *e*PN **Pn** 07 10 30.0 +2.3
LPK Lapseki 5.13 336 *e*Pn **Pn** 07 10 30.0 +2.3
NAIG Nisos Aigina 5.20 295 *e*PN **Pn** 07 10 31.2 +2.4
NAIG Nisos Aigina 5.20 295 *e*Pn **Pn** 07 10 31.2 +2.4
BRTR Keskin Array B 5.22 38 Pn **Pn** 07 10 31.1 +1.9
2.7nm,0.3s,baz=208,slow=14,SNR=117
BRTR Sn **Sn** 07 11 30.5 +1.2
3.4nm,0.3s,baz=211,slow=26,SNR=18
KYTH Kithira 5.22 278 P **Pn** 07 10 30.2 +1.1
KYTH Kithira 5.22 278 *e*PN **Pn** 07 10 30.3 +1.1
KYTH Kithira 5.22 278 P **Pn** 07 10 30.2 +1.1
KYTH Kithira 5.22 278 P **Pn** 07 10 30.2 +1.1
GELI Tayfur-Gelibol 5.25 334 *e*PN **Pn** 07 10 31.5 +2.1
GELI Tayfur-Gelibol 5.25 334 *e*Pn **Pn** 07 10 31.5 +2.1
ARNB Al Arnab 5.32 86 *e*P **Pn** 07 10 31.8 +1.4
ARNB *e*S Sn 07 11 24.8 -6.7
ARNB AML AML 07 11 49.0
comp=E,27nm,1.1s
ARNB AML AML 07 11 50.8
comp=N,46nm,0.9s
VLI Veliai 5.35 283 P **Pn** 07 10 32.3 +1.4
VLI S **Sn** 07 11 30.1 -2.2
VLI Veliai 5.35 283 *e*PN **Pn** 07 10 32.3 +1.4
VLI *e*SN **Sn** 07 11 30.3 -2.0
VLI Veliai 5.35 283 P **Pn** 07 10 32.3 +1.4
VLI *e*Sn **Sn** 07 11 30.3 -2.0
VLI Veliai 5.35 283 P **Pn** 07 10 32.3 +1.4
VLI S **Sn** 07 11 30.1 -2.2
LIA Limnos Island 5.38 323 P **Pn** 07 10 31.2 0.0
LIA Limnos Island 5.38 323 *e*PN **Pn** 07 10 32.7 +1.5
LIA Limnos Island 5.38 323 P **Pn** 07 10 31.2 0.0
LIA Limnos Island 5.38 323 *e*Pn **Pn** 07 10 32.7 +1.5
LIA Limnos Island 5.38 323 P **Pn** 07 10 31.2 0.0
HWQ Hawqa 5.53 103 *e*P **Pn** 07 10 34.4 +1.0
HWQ Hawqa 5.53 103 *e*P **Pn** 07 10 34.4 +1.0
MRKA Markates 5.55 304 P **Pn** 07 10 35.3 +1.6
MRKA Markates 5.55 304 *e*PN **Pn** 07 10 35.6 +1.9
MRKA Markates 5.55 304 P **Pn** 07 10 35.3 +1.6
MRKA Markates 5.55 304 *e*Pn **Pn** 07 10 35.6 +1.9
MMAI Mount Meron Ar 5.61 117 Pn **Pn** 07 10 35.4 +0.9
comp=N,18nm,0.3s,baz=316,slow=13,SNR=23
MMAI Sn **Sn** 07 11 36.3 -2.5
comp=N,9.7nm,0.3s,baz=305,slow=15,SNR=3.2
AOS Alonnisos 5.62 310 *e*PN **Pn** 07 10 37.5 +2.9
AOS Alonnisos 5.62 310 *e*Pn **Pn** 07 10 37.5 +2.9
BIDA Albida 5.67 95 *e*P **Pn** 07 10 35.2 -0.1
BIDA *e*S Sn 07 11 28.6 -12
BIDA AML AML 07 11 40.7
comp=E,62nm,0.5s
BIDA AML AML 07 11 42.0
comp=N,145nm,0.8s
SMTH Samothraki Isl 5.68 328 *e*PN **Pn** 07 10 36.8 +1.4
SMTH Samothraki Isl 5.68 328 *e*Pn **Pn** 07 10 36.8 +1.4
LTK Loutraki 5.68 296 P **Pn** 07 10 37.6 +2.1
LTK Loutraki 5.68 296 *e*PN **Pn** 07 10 37.7 +2.2
LTK Loutraki 5.68 296 P **Pn** 07 10 37.6 +2.1
LTK Loutraki 5.68 296 P **Pn** 07 10 37.6 +2.1
WRDH Warideh 5.69 90 *e*P **Pn** 07 10 36.3 +0.8
WRDH *e*S Sn 07 11 30.6 -10
WRDH AML AML 07 11 55.4
comp=E,27nm,0.4s
WRDH AML AML 07 11 58.2
comp=N,46nm,0.7s
BTCH Batrach 5.71 85 *e*P **Pn** 07 10 38.4 +2.5
BTCH *e*S Sn 07 11 33.0 -8.3
BTCH AML AML 07 11 49.2
comp=N,86nm,0.3s
BTCH AML AML 07 11 55.4
comp=E,49nm,0.6s
RCY Rachaya 5.71 111 *e*P **Pn** 07 10 36.5 +0.5
RCY Rachaya 5.71 111 *e*P **Pn** 07 10 36.5 +0.5
HAWK Haweek 5.83 100 *e*P **Pn** 07 10 38.0 +0.5
HAWK *e*S Sn 07 11 32.1 -12
HAWK AML AML 07 11 44.4
comp=N,65nm,0.6s
HAWK AML AML 07 11 44.6
comp=E,93nm,0.6s
BRBR Barbar 5.84 111 *e*P **Pn** 07 10 38.2 +0.5
BRBR *e*S Sn 07 11 31.1 -14
BRBR AML AML 07 11 55.1
comp=N,60nm,0.5s
BRBR AML AML 07 11 58.8
comp=E,76nm,0.5s
ALN Alexandroupoli 5.84 334 P **Pn** 07 10 39.0 +1.5
ALN Alexandroupoli 5.84 334 P **Pn** 07 10 39.0 +1.5
ALN Alexandroupoli 5.84 334 *e*PN **Pn** 07 10 39.5 +2.0
ALN Alexandroupoli 5.84 334 P **Pn** 07 10 39.0 +1.5
ALN Alexandroupoli 5.84 334 *e*Pn **Pn** 07 10 39.5 +2.0
ALN Alexandroupoli 5.84 334 P **Pn** 07 10 39.0 +1.5
SKIA Skiathos 5.88 308 P **Pn** 07 10 40.6 +2.5
SKIA Skiathos 5.88 308 P **Pn** 07 10 40.6 +2.5
VLX Vlachokerasia 5.92 288 P **Pn** 07 10 40.8 +2.0
VLX Vlachokerasia 5.92 288 *e*PN **Pn** 07 10 40.8 +2.0
VLX Vlachokerasia 5.92 288 P **Pn** 07 10 40.8 +2.0
VLX Vlachokerasia 5.92 288 P **Pn** 07 10 40.8 +2.0
RSH 5.93 142 P **Pn** 07 10 39.6 +0.8
baz=140
AMAG Maghara 5.95 147 P **Pn** 07 10 39.8 +0.7
baz=146
MARH Ras Al Marh 6.03 104 *e*P **Pn** 07 10 41.9 +1.4
MARH *e*S Sn 07 11 40.4 -9.0
MARH AML AML 07 12 01.6
comp=E,72nm,0.5s
MARH AML AML 07 12 08.0
comp=N,42nm,0.5s
KOT Kottamia 6.09 160 P **Pn** 07 10 41.9 +0.7
baz=160
KOT AMP 07 11 00.0
comp=N,110μm,1.8s,logA/T=4.8,baz=160
GUR Goura 6.12 294 P **Pn** 07 10 43.5 +2.0
GUR S **Sn** 07 11 51.6 +0.4
GUR Goura 6.12 294 *e*PN **Pn** 07 10 44.1 +2.6
GUR Goura 6.12 294 P **Pn** 07 10 43.5 +2.0
GUR Goura 6.12 294 *e*Pn **Pn** 07 10 44.1 +2.6
GUR S **Sn** 07 11 51.6 +0.4
GUR Goura 6.12 294 P **Pn** 07 10 43.5 +2.0
GUR S **Sn** 07 11 51.6 +0.4
HNAT Natroun 6.13 170 P **Pn** 07 10 41.9 +0.4
baz=171
TCHB Talchebab 6.20 117 *e*P **Pn** 07 10 43.3 +0.8
TCHB *e*S Sn 07 11 38.6 -15
TCHB AML AML 07 12 04.7
comp=E,45nm,0.6s
TCHB AML AML 07 12 08.9
comp=N,125nm,0.3s
TOTH TOTAH 6.22 110 *e*P **Pn** 07 10 44.9 +2.0
ITM Ithomi 6.23 286 P **Pn** 07 10 45.5 +2.5
ITM S **Sn** 07 11 52.6 -1.4
ITM Ithomi 6.23 286 *e*PN **Pn** 07 10 45.8 +2.8
ITM Ithomi 6.23 286 P **Pn** 07 10 45.5 +2.5
ITM Ithomi 6.23 286 *e*Pn **Pn** 07 10 45.8 +2.8
ITM S **Sn** 07 11 52.6 -1.4
ITM Ithomi 6.23 286 P **Pn** 07 10 45.5 +2.5
ITM S **Sn** 07 11 52.6 -1.4
KLV Kalavryta, Ach 6.29 294 P **Pn** 07 10 46.3 +2.4
KLV S **Sn** 07 11 54.5 -1.0
KLV Kalavryta, Ach 6.29 294 *e*PN **Pn** 07 10 46.3 +2.4
KLV Kalavryta, Ach 6.29 294 P **Pn** 07 10 46.3 +2.4
KLV S **Sn** 07 11 54.5 -1.0
KLV Kalavryta, Ach 6.29 294 P **Pn** 07 10 46.3 +2.4
KLV S **Sn** 07 11 54.5 -1.0
HSAF As Saff 6.32 163 P **Pn** 07 10 44.5 +0.3
baz=163
PYL PYLOS 6.33 283 P **Pn** 07 10 45.3 +1.0
PYL S **Sn** 07 11 52.8 -3.5
PYL PYLOS 6.33 283 *e*PN **Pn** 07 10 45.5 +1.2
PYL PYLOS 6.33 283 P **Pn** 07 10 45.3 +1.0
PYL PYLOS 6.33 283 P **Pn** 07 10 45.3 +1.0
PYL S **Sn** 07 11 52.8 -3.5
GLL Jalalah 6.39 162 P **Pn** 07 10 45.8 +0.6
baz=162
KALE Kalithea 6.43 297 P **Pn** 07 10 47.6 +1.9
KALE Kalithea 6.43 297 *e*PN **Pn** 07 10 48.1 +2.4
KALE Kalithea 6.43 297 P **Pn** 07 10 47.6 +1.9
KALE Kalithea 6.43 297 *e*Pn **Pn** 07 10 48.1 +2.4
KALE Kalithea 6.43 297 P **Pn** 07 10 47.6 +1.9
RABH Abou Rabah 6.49 99 *e*P Pn 07 10 52.2 +5.6
RABH *e*S Sn 07 11 52.6 -7.9
RABH AML AML 07 12 22.3
comp=E,28nm,0.4s
RABH AML AML 07 12 40.8
comp=N,15nm,0.4s
AGG Agios Georgios 6.56 303 P **Pn** 07 10 49.9 +2.4
AGG Agios Georgios 6.56 303 P **Pn** 07 10 49.9 +2.4
AGG Agios Georgios 6.56 303 *e*PN **Pn** 07 10 49.9 +2.4
AGG Agios Georgios 6.56 303 P **Pn** 07 10 49.9 +2.4
AGG Agios Georgios 6.56 303 P **Pn** 07 10 49.9 +2.4
DRO Drossia 6.59 292 P Pn 07 10 51.2 +3.2
DRO Drossia 6.59 292 *e*PN **Pn** 07 10 50.3 +2.3
DRO Drossia 6.59 292 *e*Pn **Pn** 07 10 50.3 +2.3
DRO Drossia 6.59 292 P Pn 07 10 51.2 +3.2
EFP Efpalio 6.61 297 P **Pn** 07 10 50.6 +2.4
EFP S **Sn** 07 12 03.6 +0.4
EFP Efpalio 6.61 297 *e*PN **Pn** 07 10 51.2 +3.0
EFP Efpalio 6.61 297 P **Pn** 07 10 50.6 +2.4
EFP Efpalio 6.61 297 *e*Pn **Pn** 07 10 51.2 +3.0
EFP S **Sn** 07 12 03.6 +0.4
ROOS tl_alroos 6.63 101 *e*P **Pn** 07 10 50.5 +2.0
MAKR Makrakomi, Fth 6.70 302 P Pn 07 10 52.5 +3.1
MAKR Makrakomi, Fth 6.70 302 P Pn 07 10 52.5 +3.1
MAKR Makrakomi, Fth 6.70 302 P Pn 07 10 52.5 +3.1
SALA Sala 6.74 114 *e*P **Pn** 07 10 50.8 +0.7
RLS Riolos of Patr 6.81 293 P Pn 07 10 54.4 +3.5
RLS S **Sn** 07 12 10.4 +2.3
RLS Riolos of Patr 6.81 293 *e*PN **Pn** 07 10 54.3 +3.4
RLS Riolos of Patr 6.81 293 *e*Pn Pn 07 10 54.3 +3.4
RLS S **Sn** 07 12 10.4 +2.3
RLS Riolos of Patr 6.81 293 P Pn 07 10 54.4 +3.5
RLS S **Sn** 07 12 10.4 +2.3
HNKL Nakhl 6.90 145 P **Pn** 07 10 52.8 +0.6
baz=144
HNKL AMP 07 12 00.0
comp=E,50μm,0.5s,logA/T=5.0,baz=144
LIT Litokhoron 7.04 311 *e*PN **Pn** 07 10 56.6 +2.6
LIT Litokhoron 7.04 311 *e*Pn **Pn** 07 10 56.6 +2.6
ZALF Zalf 7.09 111 *e*P **Pn** 07 10 57.6 +2.7
ASF Jabal al Asfar 7.12 117 Pn **Pn** 07 10 55.9 +0.5
comp=E,0.8nm,0.3s,baz=207,slow=2.3,SNR=6.6
ASF Sn **Sn** 07 12 16.9 +0.8
comp=E,0.6nm,0.3s,baz=219,slow=14,SNR=2.9
PDO Prodromos 7.20 296 P Pn 07 11 00.0 +3.7
PDO S **Sn** 07 12 17.4 -0.4
PDO Prodromos 7.20 296 *e*PN Pn 07 10 59.7 +3.4
PDO Prodromos 7.20 296 *e*Pn Pn 07 10 59.7 +3.4
PDO S **Sn** 07 12 17.4 -0.4
MMB Musomiste 7.39 325 ⇑P Pn 07 11 04.5 +5.6
MMB Musomiste 7.39 325 ⇑ *i*P Pn 07 11 04.5 +5.6
DSL Palaion Diasel 7.47 300 P **Pn** 07 11 02.3 +2.3
DSL S **Sn** 07 12 25.6 +1.1
DSL Palaion Diasel 7.47 300 *e*PN Pn 07 11 03.3 +3.3
DSL Palaion Diasel 7.47 300 P **Pn** 07 11 02.3 +2.3
DSL Palaion Diasel 7.47 300 *e*Pn Pn 07 11 03.3 +3.3
DSL S **Sn** 07 12 25.6 +1.1
DSL Palaion Diasel 7.47 300 P **Pn** 07 11 02.3 +2.3
DSL S **Sn** 07 12 25.6 +1.1
VLS Valsamata 7.51 292 P **Pn** 07 11 01.3 +0.8
VLS S **Sn** 07 12 23.6 -1.7
VLS Valsamata 7.51 292 P **Pn** 07 11 01.3 +0.8
VLS S **Sn** 07 12 23.6 -1.7
VLS Valsamata 7.51 292 *e*PN **Pn** 07 11 02.4 +1.9
VLS Valsamata 7.51 292 P **Pn** 07 11 01.3 +0.8
VLS Valsamata 7.51 292 *e*Pn **Pn** 07 11 02.4 +1.9
VLS S **Sn** 07 12 23.6 -1.7
VLS Valsamata 7.51 292 P **Pn** 07 11 01.3 +0.8
VLS S **Sn** 07 12 23.6 -1.7
NEST Nestorio 8.12 308 *e*PN **Pn** 07 11 11.6 +2.6
NEST Nestorio 8.12 308 *e*Pn **Pn** 07 11 11.6 +2.6
HKAT Jabal Katrina 8.13 150 P **Pn** 07 11 10.1 +0.9
baz=150
KEK Kerkira 8.63 301 P **Pn** 07 11 18.2 +2.4
KEK S **Sn** 07 12 52.0 -0.8
KEK Kerkira 8.63 301 *e*PN **Pn** 07 11 17.6 +1.8
KEK Kerkira 8.63 301 *e*Pn **Pn** 07 11 17.6 +1.8
KEK Kerkira 8.63 301 P **Pn** 07 11 18.2 +2.4
KEK S **Sn** 07 12 52.0 -0.8
KEK Kerkira 8.63 301 P **Pn** 07 11 18.2 +2.4
KEK S **Sn** 07 12 52.0 -0.8
SHRM 8.74 152 P **Pn** 07 11 18.5 +1.0
baz=151
TIRR Tirgusor 8.79 355 ⇑P Pn 07 11 24.4 +6.4
TIRR Tirgusor 8.79 355 ⇑ *i*P Pn 07 11 24.4 +6.4
TIRR Tirgusor 8.79 355 *e*Pn **Pn** 07 11 20.5 +2.5
TIRR Tirgusor 8.79 355 *e*Pn **Pn** 07 11 20.5 +2.5
PHP Peshkopia 9.23 313 P **Pn** 07 11 26.9 +2.8
PHP Peshkopia 9.23 313 P **Pn** 07 11 26.9 +2.8
PHP Peshkopia 9.23 313 P **Pn** 07 11 26.9 +2.8
PHP Peshkopia 9.23 313 P **Pn** 07 11 26.9 +2.8
CFR Carcaliu 9.53 354 ⇑P Pn 07 11 36.2 +8.1
CFR Carcaliu 9.53 354 ⇑ *i*P Pn 07 11 36.2 +8.1
MLR Muntele Rosu 10.14 346 ⇑P Pn 07 11 44.6 +8.0
MLR Muntele Rosu 10.14 346 ⇑ *i*P Pn 07 11 44.6 +8.0
MLR Muntele Rosu 10.14 346 Pn Pn 07 11 42.2 +5.6
comp=E,0.1nm,0.3s,baz=188,slow=13,SNR=5.5
VOIR 10.29 342 ⇓P Pn 07 11 41.9 +3.3
VOIR 10.29 342 ⇓ *i*P Pn 07 11 41.9 +3.3
VOIR 10.29 342 P Pn 07 11 41.9 +3.3
VRI Vrincioaia 10.37 349 ⇑P Pn 07 11 48.4 +8.7
VRI Vrincioaia 10.37 349 ⇑ *i*P Pn 07 11 48.4 +8.7
TIP Timpagrande 10.66 293 P **Pn** 07 11 42.9 -0.9
TIP Timpagrande 10.66 293 P **Pn** 07 11 42.9 -0.9
TIP Timpagrande 10.66 293 *e*Pn **Pn** 07 11 42.7 -1.1
TIP *e*Sn Sn 07 13 35.1 -7.8
GZR Gura Zlata 10.93 334 ⇑P Pn 07 11 54.7 +7.3
GZR Gura Zlata 10.93 334 ⇑ *i*P Pn 07 11 54.7 +7.3
ANN Anapa 10.95 31 *e*P Pn 07 11 42.7 -4.9
ANN pmax pmax
comp=Z,96nm,1.3s
CEL Celeste 11.13 287 *e*Pn **Pn** 07 11 48.9 -1.3
CEL Celeste 11.13 287 *e*Pn **Pn** 07 11 48.9 -1.3
CEL *e*Sn Sn 07 13 46.3 -8.1
STON Ston 11.57 312 *e*Pn **Pn** 07 11 57.3 +1.2
STON Sn **Sn** 07 14 04.3 -0.7
STON Ston 11.57 312 *e*Pn **Pn** 07 11 57.3 +1.2
STON Sn **Sn** 07 14 04.3 -0.7
CUC Castrocucco 11.59 296 *e*Pn **Pn** 07 11 55.6 -0.9
CUC Castrocucco 11.59 296 *e*Pn **Pn** 07 11 55.6 -0.9
KBZ Khabaz 13.09 48 Pn **P** 07 12 28.1 +1.0
comp=Z,0.3nm,0.3s,baz=230,slow=7.1,SNR=26
KIV Kislovodsk 13.09 47 ⇓ *e*P **Pn** 07 12 14.3 -2.7
KIV *e*S Sn 07 14 51.5 +9.1
KIV pmax pmax
comp=Z,4.0nm,0.7s
UDBI Udbina 13.67 314 *e*Pn Pn 07 12 28.2 +3.4
UDBI Udbina 13.67 314 *e*Pn Pn 07 12 28.2 +3.4
KIEV Kiev 14.99 359 ⇑ *e*P **Pn** 07 12 42.4 -0.4
KIEV Kiev 14.99 359 *e*P **P** 07 12 48.2 0.0
comp=Z,5.1nm,0.9s
KIEV Kiev 14.99 359 *e*P **P** 07 12 48.1 0.0
comp=Z,5.1nm,0.9s
VYHS Vyhne 15.00 332 *e*P **P** 07 12 49.0 +0.7
VYHS Vyhne 15.00 332 *e*P **P** 07 12 49.0 +0.7
VYHS Vyhne 15.00 332 *e*P **P** 07 12 49.0 +0.7
AKASG Malin Array Be 15.00 359 Pn **P** 07 12 48.7 +0.4
comp=Z,0.4nm,0.3s,baz=161,slow=8.1,SNR=13
KEST Kesra 16.32 276 Pn **Pn** 07 13 00.8 +0.5
comp=Z,0.2nm,0.3s,baz=45,slow=6.3,SNR=7.3
KEST Kesra 16.32 276 *e*P **Pn** 07 13 01.2 +1.0
KEST Kesra 16.32 276 *e*P **Pn** 07 13 01.2 +1.0
VRAC Vranov 16.54 329 LR LR 07 19 35.8
comp=Z,63nm,20.8s,baz=108,slow=38
PGF Pioggiola 17.25 300 *e*P **Pn** 07 13 10.4 -1.6
PGF Pioggiola 17.25 300 *e*P **Pn** 07 13 10.4 -1.6
PGF Pioggiola 17.25 300 *e*P **Pn** 07 13 10.4 -1.6
PGF Pioggiola 17.25 300 *e*P **Pn** 07 13 10.4 -1.6
GERES GERESS Array B 17.51 323 P **P** 07 13 15.8 -0.4
comp=Z,0.2nm,0.3s,baz=137,slow=13,SNR=12
KHC Kasperske Hory 17.77 324 *e*P **Pn** 07 13 18.2 0.0
KHC pmax pmax
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 17.77 324 *e*P **P** 07 13 19.0 0.0
KHC Kasperske Hory 17.77 324 *e*P **Pn** 07 13 18.2 0.0
comp=Z,4.7nm,0.8s
KHC Kasperske Hory 17.77 324 *e*P **Pn** 07 13 18.2 0.0
comp=Z,4.7nm,0.8s
FETA Feichten 17.99 315 ⇑ *i*Pn **P** 07 13 24.5 +2.9
DAVOX Davos/Dischmat 18.36 313 LR LR 07 20 36.1
comp=Z,69nm,21.4s,baz=82,slow=38
SBF Sospel 18.74 302 *e*P **P** 07 13 28.8 -1.0
SBF Sospel 18.74 302 *e*P **P** 07 13 28.8 -1.0
SBF Sospel 18.74 302 *e*P **P** 07 13 28.8 -1.0
SBF Sospel 18.74 302 *e*P **P** 07 13 28.8 -1.0
BRG Berggiesshubel 18.84 328 *e*(P) **Pn** 07 13 33.7 +2.3
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 18.84 328 *e*P **Pn** 07 13 33.7 +2.3
BRG pmax pmax
comp=Z,2.0nm,0.8s
FRF La Foret Royal 19.19 301 *e*P **P** 07 13 34.5 -0.2
FRF La Foret Royal 19.19 301 *e*P **P** 07 13 34.5 -0.2
FRF La Foret Royal 19.19 301 *e*P **P** 07 13 34.5 -0.2
FRF La Foret Royal 19.19 301 *e*P **P** 07 13 34.5 -0.2
LMR La Mourre 19.23 300 *e*P **P** 07 13 34.5 -0.5
LMR La Mourre 19.23 300 *e*P **P** 07 13 34.5 -0.5
LMR La Mourre 19.23 300 *e*P **P** 07 13 34.5 -0.5
LMR La Mourre 19.23 300 *e*P **P** 07 13 34.5 -0.5
MBDF Montbardon 19.47 305 *e*P **P** 07 13 37.1 -0.8
comp=Z,12nm,0.7s
**MBDF Mont

CLL				*e*(PP)			07 13 50.0		
CLL				*e*PPP		PPP	07 14 02.0		
CLL				*e*S		**S**	**07 17 18.0**	**-1.1**	
CLL	**Collm**	**19.57**	**328**	*e*P		**P**	**07 13 38.0**	**-0.7**	
SENIN	**Lac Senin/Sane**	**19.75**	**309**	*e*P		**P**	**07 13 41.4**	**+0.4**	
SENIN	**Lac Senin/Sane**	**19.75**	**309**	*e*P		**P**	**07 13 41.4**	**+0.4**	
LPG	**La Plagne**	**19.76**	**307**	*e*P		**P**	**07 13 40.8**	**-0.4**	
	comp=Z,12nm,0.7s								
LPG	**La Plagne**	**19.76**	**307**	*e*P		**P**	**07 13 40.8**	**-0.4**	
LPG				pmax	pmax				
	comp=Z,12nm,0.7s								
LPG	**La Plagne**	**19.76**	**307**	*e*P		**P**	**07 13 40.8**	**-0.4**	
	comp=Z,6.0nm,0.7s								
LPG	**La Plagne**	**19.76**	**307**	*e*P		**P**	**07 13 40.8**	**-0.4**	
	comp=Z,12nm,0.7s								
LPL	**La Plagne**	**19.78**	**307**	*e*P		**P**	**07 13 40.9**	**-0.4**	
	comp=Z,15nm,0.7s								
LPL	**La Plagne**	**19.78**	**307**	*e*P		**P**	**07 13 40.9**	**-0.4**	
LPL				pmax	pmax				
	comp=Z,15nm,0.7s								
LPL	**La Plagne**	**19.78**	**307**	*e*P		**P**	**07 13 40.9**	**-0.4**	
	comp=Z,7.7nm,0.7s								
LPL	**La Plagne**	**19.78**	**307**	*e*P		**P**	**07 13 40.9**	**-0.4**	
	comp=Z,15nm,0.7s								
OBN	**Obninsk**	**20.04**	**12**‖	*e*P		**P**	**07 13 43.5**	**-0.2**	
OBN				*e*			07 14 03.3		
OBN				*e*S		Sn	07 17 33.4	+3.0	
OBN				pmax	pmax				
	comp=Z,26nm,2.5s								
OBN	**Obninsk**	**20.04**	**12**	*e*P		**P**	**07 13 43.5**	**-0.2**	
	comp=Z,26nm,2.5s								
ORIF	**Oris-en-Rattie**	**20.13**	**304**	*e*P		**P**	**07 13 44.9**	**-0.1**	
ORIF	**Oris-en-Rattie**	**20.13**	**304**	*e*P		**P**	**07 13 44.9**	**-0.1**	
ORIF	**Oris-en-Rattie**	**20.13**	**304**	*e*P		**P**	**07 13 44.9**	**-0.1**	
ORIF	**Oris-en-Rattie**	**20.13**	**304**	*e*P		**P**	**07 13 44.9**	**-0.1**	
CABF	**La Chapelle**	**20.61**	**309**	*e*P		**P**	**07 13 47.8**	**-2.4**	
	comp=Z,17nm,0.8s								
CABF	**La Chapelle**	**20.61**	**309**	*e*P		**P**	**07 13 47.8**	**-2.4**	
CABF				pmax	pmax				
	comp=Z,17nm,0.8s								
CABF	**La Chapelle**	**20.61**	**309**	*e*P		**P**	**07 13 47.8**	**-2.4**	
	comp=Z,8.6nm,0.8s								
CABF	**La Chapelle**	**20.61**	**309**	*e*P		**P**	**07 13 47.8**	**-2.4**	
	comp=Z,17nm,0.8s								
CDF	**Champ du Feu**	**20.70**	**315**	*e*P		**P**	**07 13 50.1**	**-1.1**	
CDF	**Champ du Feu**	**20.70**	**315**	*e*P		**P**	**07 13 50.1**	**-1.1**	
CDF	**Champ du Feu**	**20.70**	**315**	*e*P		**P**	**07 13 50.1**	**-1.1**	
CDF	**Champ du Feu**	**20.70**	**315**	*e*P		**P**	**07 13 50.1**	**-1.1**	
VIVF	**Saint-Julien-l**	**20.93**	**303**	*e*P		**P**	**07 13 52.7**	**-0.9**	
VIVF	**Saint-Julien-l**	**20.93**	**303**	*e*P		**P**	**07 13 52.7**	**-0.9**	
VIVF	**Saint-Julien-l**	**20.93**	**303**	*e*P		**P**	**07 13 52.7**	**-0.9**	
VIVF	**Saint-Julien-l**	**20.93**	**303**	*e*P		**P**	**07 13 52.7**	**-0.9**	
LASF	**Ste Croix**	**21.28**	**301**	*e*P		**P**	**07 13 56.6**	**-0.8**	
LASF	**Ste Croix**	**21.28**	**301**	*e*P		**P**	**07 13 56.6**	**-0.8**	
LASF	**Ste Croix**	**21.28**	**301**	*e*P		**P**	**07 13 56.6**	**-0.8**	
SMF	**Signal de Mont**	**22.06**	**308**	*e*P		**P**	**07 14 04.5**	**-1.2**	
	comp=Z,16nm,0.8s								
SMF	**Signal de Mont**	**22.06**	**308**	*e*P		**P**	**07 14 04.5**	**-1.2**	
SMF				pmax	pmax				
	comp=Z,16nm,0.8s								
SMF	**Signal de Mont**	**22.06**	**308**	*e*P		**P**	**07 14 04.5**	**-1.2**	
	comp=Z,8.1nm,0.8s								
SMF	**Signal de Mont**	**22.06**	**308**	*e*P		**P**	**07 14 04.5**	**-1.2**	
	comp=Z,16nm,0.8s								
LOR	**Lormes**	**22.27**	**309**	*e*P		**P**	**07 14 06.9**	**-1.1**	
LOR	**Lormes**	**22.27**	**309**	*e*P		**P**	**07 14 06.9**	**-1.1**	
LOR	**Lormes**	**22.27**	**309**	*e*P		**P**	**07 14 06.9**	**-1.1**	
LOR	**Lormes**	**22.27**	**309**	*e*P		**P**	**07 14 06.9**	**-1.1**	
MTLF	**Montolieu**	**22.28**	**298**	*e*P		**P**	**07 14 06.8**	**-1.3**	
MTLF	**Montolieu**	**22.28**	**298**	*e*P		**P**	**07 14 06.8**	**-1.3**	
MTLF	**Montolieu**	**22.28**	**298**	*e*P		**P**	**07 14 06.8**	**-1.3**	
MTLF	**Montolieu**	**22.28**	**298**	*e*P		**P**	**07 14 06.8**	**-1.3**	
SSF	**Saint Saulge**	**22.42**	**308**	*e*P		**P**	**07 14 08.9**	**-0.7**	
	comp=Z,11nm,0.8s								
SSF	**Saint Saulge**	**22.42**	**308**	*e*P		**P**	**07 14 08.9**	**-0.7**	
SSF				pmax	pmax				
	comp=Z,11nm,0.8s								
SSF	**Saint Saulge**	**22.42**	**308**	*e*P		**P**	**07 14 08.9**	**-0.7**	
	comp=Z,5.4nm,0.8s								
SSF	**Saint Saulge**	**22.42**	**308**	*e*P		**P**	**07 14 08.9**	**-0.7**	
	comp=Z,11nm,0.8s								
CAF	**Calviac**	**22.73**	**302**	*e*P		**P**	**07 14 11.0**	**-1.9**	
CAF	**Calviac**	**22.73**	**302**	*e*P		**P**	**07 14 11.0**	**-1.9**	
CAF	**Calviac**	**22.73**	**302**	*e*P		**P**	**07 14 11.0**	**-1.9**	
CAF	**Calviac**	**22.73**	**302**	*e*P		**P**	**07 14 11.0**	**-1.9**	
VSU	**Vasula**	**22.85**	**356**	*ce*P		**P**	**07 14 18.3**	**+4.4**	
VSU				pmax	pmax				
	comp=Z,65nm,1.7s								
GEYT	**Alibeck**	**23.03**	**76**	P		**P**	**07 14 16.0**	**-0.2**	
	comp=Z,3.4nm,0.6s,baz=293,slow=9.2,SNR=6.9								
RJF	**Les Rejaudoux**	**23.20**	**303**	*e*P		**P**	**07 14 15.9**	**-1.9**	
RJF	**Les Rejaudoux**	**23.20**	**303**	*e*P		**P**	**07 14 15.9**	**-1.9**	
RJF	**Les Rejaudoux**	**23.20**	**303**	*e*P		**P**	**07 14 15.9**	**-1.9**	
RJF	**Les Rejaudoux**	**23.20**	**303**	*e*P		**P**	**07 14 15.9**	**-1.9**	
BAIF	**Baives**	**23.26**	**316**	*e*P		**P**	**07 14 14.6**	**-3.7**	
BAIF	**Baives**	**23.26**	**316**	*e*P		**P**	**07 14 14.6**	**-3.7**	
BAIF	**Baives**	**23.26**	**316**	*e*P		**P**	**07 14 14.6**	**-3.7**	
EPF	**Esparros**	**23.58**	**297**	*e*P		**P**	**07 14 19.4**	**-2.2**	
EPF	**Esparros**	**23.58**	**297**	*e*P		**P**	**07 14 19.4**	**-2.2**	
EPF	**Esparros**	**23.58**	**297**	*e*P		**P**	**07 14 19.4**	**-2.2**	
EPF	**Esparros**	**23.58**	**297**	*e*P		**P**	**07 14 19.4**	**-2.2**	
ETSF	**Etsaut**	**24.21**	**296**	*e*P		**P**	**07 14 26.6**	**-1.1**	
ETSF	**Etsaut**	**24.21**	**296**	*e*P		**P**	**07 14 26.6**	**-1.1**	
ETSF	**Etsaut**	**24.21**	**296**	*e*P		**P**	**07 14 26.6**	**-1.1**	
ETSF	**Etsaut**	**24.21**	**296**	*e*P		**P**	**07 14 26.6**	**-1.1**	
TAM	**Tamanrasset**	**24.43**	**245**	*e*P		**P**	**07 14 32.2**	**+2.3**	
TAM				pmax	pmax				
	comp=Z,6.0nm,1.0s								
TAM	**Tamanrasset**	**24.43**	**245**	*e*P		**P**	**07 14 32.2**	**+2.3**	
	comp=Z,5.8nm,1.0s								
MFF	**Saint Martin d**	**24.66**	**305**	*e*P		**P**	**07 14 30.3**	**-1.3**	
	comp=Z,9.9nm,0.7s								
MFF	**Saint Martin d**	**24.66**	**305**	*e*P		**P**	**07 14 30.3**	**-1.3**	
MFF				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MFF	**Saint Martin d**	**24.66**	**305**	*e*P		**P**	**07 14 30.3**	**-1.3**	
	comp=Z,4.9nm,0.7s								
MFF	**Saint Martin d**	**24.66**	**305**	*e*P		**P**	**07 14 30.3**	**-1.3**	
	comp=Z,9.9nm,0.7s								
SJPF	**Ste Jean**	**24.73**	**297**	*e*P		**P**	**07 14 32.5**	**+0.2**	
SJPF	**Ste Jean**	**24.73**	**297**	*e*P		**P**	**07 14 32.5**	**+0.2**	
SJPF	**Ste Jean**	**24.73**	**297**	*e*P		**P**	**07 14 32.5**	**+0.2**	
SJPF	**Ste Jean**	**24.73**	**297**	*e*P		**P**	**07 14 32.5**	**+0.2**	
LDF	**La Druitiere**	**25.25**	**310**	*e*P		**P**	**07 14 35.2**	**-1.7**	
LDF	**La Druitiere**	**25.25**	**310**	*e*P		**P**	**07 14 35.2**	**-1.7**	
LDF	**La Druitiere**	**25.25**	**310**	*e*P		**P**	**07 14 35.2**	**-1.7**	
LDF	**La Druitiere**	**25.25**	**310**	*e*P		**P**	**07 14 35.2**	**-1.7**	
AKTK	**Aktyubinsk**	**25.35**	**46**	P		**P**	**07 14 37.3**	**-0.5**	
AKTO	**Aktyubinsk**	**25.35**	**46**	P		**P**	**07 14 37.3**	**-0.5**	
	comp=Z,3.4nm,0.7s,baz=262,slow=8.9,SNR=15								
FLN	**La Foliniere**	**25.53**	**310**	*e*P		**P**	**07 14 38.1**	**-1.3**	
FLN	**La Foliniere**	**25.53**	**310**	*e*P		**P**	**07 14 38.1**	**-1.3**	
FLN	**La Foliniere**	**25.53**	**310**	*e*P		**P**	**07 14 38.1**	**-1.3**	
FLN	**La Foliniere**	**25.53**	**310**	*e*P		**P**	**07 14 38.1**	**-1.3**	
GRR	**Gorron**	**25.64**	**309**	*e*P		**P**	**07 14 39.1**	**-1.4**	
GRR	**Gorron**	**25.64**	**309**	*e*P		**P**	**07 14 39.1**	**-1.4**	
GRR	**Gorron**	**25.64**	**309**	*e*P		**P**	**07 14 39.1**	**-1.4**	
GRR	**Gorron**	**25.64**	**309**	*e*P		**P**	**07 14 39.1**	**-1.4**	
FINES	**FINESS Array B**	**25.86**	**356**	P		**P**	**07 14 41.7**	**-0.5**	
	comp=Z,1.8nm,0.5s,baz=162,slow=12,SNR=14								
ABKAR	**Akbulak array**	**26.06**	**49**	*e*P		**P**	**07 14 43.6**	**-0.6**	
	comp=Z,3.5nm,0.6s								
ABKAR	**Akbulak array**	**26.06**	**49**	*e*P		**P**	**07 14 43.6**	**-0.6**	
	comp=Z,3.5nm,0.6s								
HFS	**Hagfors**	**26.49**	**342**	P		**P**	**07 14 47.7**	**-0.3**	
	comp=Z,3.6nm,0.7s,baz=153,slow=10.0,SNR=9.4								
ESDC	**Sonseca Array**	**26.64**	**289**	P		**P**	**07 14 50.0**	**+0.4**	
	comp=Z,1.9nm,0.5s,baz=79,slow=9.5,SNR=11								
JOF	**Joensuu**	**27.27**	**2**	*e*P		**P**	**07 14 53.2**	**-1.8**	
JOF				pmax	pmax				
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**27.27**	**2**	*ep*		**P**	**07 14 53.2**	**-1.8**	
	comp=Z,1.7nm,0.6s								
JOF	**Joensuu**	**27.27**	**2**	*e*P		**P**	**07 14 53.2**	**-1.8**	
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**27.90**	**341**	P		**P**	**07 14 59.4**	**-1.3**	
	comp=Z,3.5nm,1.1s,baz=147,slow=9.3								
NB2	**NORSAR Subarra**	**27.90**	**341**	P		**P**	**07 14 59.4**	**-1.3**	
	comp=Z,3.5nm,1.1s,SNR=4.6								
NOA	**NORSAR Array B**	**27.90**	**341**	P		**P**	**07 14 59.8**	**-1.0**	
	comp=Z,1.5nm,0.8s,baz=144,slow=8.7,SNR=4.8								
BVAR	**Borovoye Array**	**33.46**	**46**	P		**P**	**07 15 49.7**	**-0.1**	
	comp=Z,1.2nm,0.7s,baz=251,slow=9.0,SNR=3.7								
TORD	**Torodi Ar. Bea**	**33.59**	**235**	P		**P**	**07 15 52.1**	**+0.8**	
	comp=Z,2.5nm,0.7s,baz=27,slow=7.9,SNR=17								
ARCES	**ARCESS Array B**	**33.97**	**358**	P		**P**	**07 15 53.4**	**-0.7**	
	comp=Z,1.3nm,0.7s,baz=170,slow=7.4,SNR=11								
AAK	**Ala-Archa**	**35.28**	**65**‖	*e*P		**P**	**07 16 03.1**	**-2.8**	
AAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
AAK	**Ala-Archa**	**35.28**	**65**	P		**P**	**07 16 03.2**	**-2.7**	
	comp=Z,1.6nm,0.7s,baz=27,slow=22,SNR=3.7								
TKM2	**Tokmak 2**	**36.07**	**64**	*e*P		**P**	**07 16 12.5**	**-0.2**	
TKM2	**Tokmak 2**	**36.07**	**64**	*e*P		**P**	**07 16 12.5**	**-0.2**	
TKM2	**Tokmak 2**	**36.07**	**64**	*e*P		**P**	**07 16 12.6**	**-0.2**	
AAK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KURBB	**Kurchatov Arra**	**38.06**	**51**	P		**P**	**07 16 28.2**	**-1.1**	
	comp=Z,2.1nm,0.7s,baz=275,slow=8.8,SNR=9.0								
KURBB				PcP		**PcP**	**07 18 45.2**	**+0.9**	
	comp=Z,0.7nm,0.6s,baz=272,slow=4.0,SNR=4.9								
KURK	**Kurchatov**	**38.13**	**51**	P		**P**	**07 16 28.3**	**-1.6**	
KURK							07 18 45.3		
KURK	**Kurchatov**	**38.13**	**51**	P		**P**	**07 16 28.3**	**-1.6**	
KURK	**Kurchatov**	**38.13**	**51**	PcP		**PcP**	**07 18 45.2**	**+0.7**	
KURK	**Kurchatov**	**38.13**	**51**	P		**P**	**07 16 28.2**	**-1.6**	
KURK				PcP		**PcP**	**07 18 45.2**	**+0.7**	
MKAR	**Makanchi Array**	**40.55**	**57**	P		**P**	**07 16 49.8**	**-0.4**	
	comp=Z,1.5nm,0.6s,baz=268,slow=7.0,SNR=7.2								
ZALV	**Zalesovo Beam**	**42.11**	**47**	P		**P**	**07 17 01.7**	**-1.1**	
	comp=Z,1.9nm,0.6s,baz=268,slow=9.2,SNR=12								
WMQ	**Urumqi**	**44.70**	**61**	*e*P		**P**	**07 17 26.0**	**+2.0**	
WMQ				pP		**pP**	**07 17 30.0**	**+1.2**	
WMQ				sP		**sP**	**07 17 33.0**	**+2.4**	
WMQ				PMZ					
	comp=Z,7.0nm,0.6s								
WMQ				PMZ					
	comp=Z,93nm,4.6s								
WMQ				LZ					
	comp=Z,99nm,17.0s								
SUMG	**Summit**	**49.74**	**339**	*e*P		**P**	**07 18 03.4**	**+0.1**	
SUMG				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SUMG	**Summit**	**49.74**	**339**	*e*P		**P**	**07 18 03.4**	**+0.1**	
	comp=Z,4.1nm,0.8s								
SUMG	**Summit**	**49.74**	**339**	*e*P		**P**	**07 18 03.4**	**+0.1**	
	comp=Z,4.1nm,0.8s								
SONM	**Songino Array**	**56.43**	**52**	P		**P**	**07 18 52.9**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=288,slow=7.5,SNR=6.0								
ULN	**Ulaanbaatar**	**56.84**	**52**	*ce*P		**P**	**07 18 56.0**	**+0.5**	
ULN				pmax	pmax				
	comp=Z,6.0nm,2.3s								
ULN	**Ulaanbaatar**	**56.84**	**52**	*e*P		**P**	**07 18 56.0**	**+0.5**	
	comp=Z,6.0nm,2.3s								
BOD	**Bodaibo**	**57.86**	**39**	*e*P		**P**	**07 19 01.3**	**-1.1**	
BOD				pmax	pmax				
	comp=Z,4.0nm,1.2s								
BOD	**Bodaibo**	**57.86**	**39**	*e*P		**P**	**07 19 01.3**	**-1.1**	
	comp=Z,4.0nm,1.2s								
LZH	**Lanzhou**	**58.81**	**66**	*e*P		**P**	**07 19 10.5**	**+0.9**	
LZH				pP		**pP**	**07 19 13.7**	**-0.7**	
LZH				sP		**sP**	**07 19 15.2**	**-1.1**	
LZH				*e*PP		**PP**	**07 21 21.6**	**+2.2**	
LZH				PMZ					
	comp=Z,19nm,1.6s								
LZH				PMZ					
	comp=Z,41nm,9.5s								
LZH				LN					
	comp=Z,130nm,14.8s								
LZH				LE					
	comp=Z,120nm,15.0s								
LZH				LZ					
	comp=Z,160nm,18.2s								
DGAR	**Diego Garcia**	**58.95**	**128**‖	*e*P		**P**	**07 19 09.1**	**-1.4**	
DGAR	**Diego Garcia**	**58.95**	**128**	*e*P		**P**	**07 19 09.1**	**-1.4**	
TIXI	**Tiksi**	**59.42**	**21**‖	*e*P		**P**	**07 19 13.2**	**+0.2**	
TIXI	**Tiksi**	**59.42**	**21**	*e*P		**P**	**07 19 13.2**	**+0.2**	
CD2	**Chengdu**	**60.92**	**71**	P		**P**	**07 19 26.0**	**+2.0**	
HHC	**Hu-ho-hao-te**	**62.41**	**58**	*e*P		**P**	**07 19 34.0**	**0.0**	
HHC				pP		**pP**	**07 19 40.4**	**+1.5**	
HHC				sP		**sP**	**07 19 41.6**	**+0.8**	
HHC				PP		**PP**	**07 21 53.7**	**+2.6**	
HHC				S		**S**	**07 27 59.0**	**-1.5**	
HHC				sS		**sS**	**07 28 05.6**	**-2.9**	
HHC				ScS		**SKKSac**	**07 29 21.9**	**-4.0**	
HHC				PMZ					
	comp=Z,50nm,5.7s								
HHC				LN					
	comp=Z,83nm,14.7s								
HHC				LE					
	comp=Z,120nm,14.4s								
HHC				LZ					
	comp=Z,56nm,15.2s								
CMAR	**Chiang Mai Arr**	**63.04**	**86**	*i* P		**P**	**07 19 39.2**	**+0.8**	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**63.04**	**86**	P		**P**	**07 19 37.5**	**-0.9**	
	comp=Z,1.4nm,0.3s,baz=290,slow=8.3,SNR=4.1								
SCHQ	**Schefferville**	**65.02**	**321**	P		**P**	**07 19 49.4**	**-1.4**	
	comp=Z,1.1nm,0.6s,baz=64,slow=4.2,SNR=6.2								
CN2	**Changchun**	**70.19**	**50**	*e*P		**P**	**07 20 23.5**	**-0.1**	
BILL	**Bilibino**	**71.64**	**16**‖	*e*P		**P**	**07 20 35.0**	**+2.9**	
BILL				*e*			07 23 10.9		
BILL				pmax	pmax				
	comp=Z,4.0nm,1.7s								
SEY	**Seymchan**	**71.70**	**24**	P		**P**	**07 20 33.4**	**+0.9**	
	comp=Z,0.4nm,0.4s,baz=343,slow=1.9,SNR=4.1								
USRK	**Ussuriysk Ar.**	**73.96**	**47**	P		**P**	**07 20 46.4**	**+0.2**	
	comp=Z,4.8nm,0.8s,baz=295,slow=4.1,SNR=11								
KSAR	**Wonju Array Be**	**75.14**	**55**	P		**P**	**07 20 53.4**	**+0.2**	
KSAR	**Wonju Array Be**	**75.14**	**55**	P		**P**	**07 20 53.4**	**+0.2**	
KSAR	**Wonju Array Be**	**75.14**	**55**	P		**P**	**07 20 53.4**	**+0.2**	
KSRS	**Korea Array**	**75.16**	**55**	P		**P**	**07 20 53.4**	**+0.1**	
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KSRS				MLR	MLR				
	comp=Z,27nm,19.0s								
KSRS	**Korea Array**	**75.16**	**55**	P		**P**	**07 20 53.4**	**+0.1**	
	comp=Z,1.4nm,0.7s,baz=298,slow=5.5,SNR=5.6								
KSRS				LR	LR		07 57 35.3		
	comp=Z,27nm,18.9s,baz=5.0,slow=39								
INK	**Inuvik**	**75.53**	**354**	P		**P**	**07 20 56.2**	**+1.4**	
	comp=Z,1.9nm,1.0s,baz=15,slow=4.3,SNR=6.0								
YKA	**Yellowknife Ar**	**77.96**	**344**	P		**P**	**07 21 08.2**	**-0.5**	
	comp=Z,0.4nm,0.6s,baz=26,slow=5.5,SNR=11								
ILAR	**Eielson Array**	**79.82**	**358**	P		**P**	**07 21 18.7**	**-0.2**	
	comp=Z,0.6nm,0.8s,baz=352,slow=5.8,SNR=3.5								
ULM	**Lac du Bonnet**	**81.76**	**328**	P		**P**	**07 21 28.0**	**-1.5**	
ULM	**Lac du Bonnet**	**81.76**	**328**	P		**P**	**07 21 28.0**	**-1.5**	
	comp=Z,1.5nm,0.5s,baz=72,slow=5.5,SNR=5.1								
ULM	**Lac du Bonnet**	**81.76**	**328**	P		**P**	**07 21 28.0**	**-1.5**	
ROSC	**El Rosal**	**98.29**	**282**	LR		LR	08 07 40.2		
	comp=Z,48nm,18.1s,baz=109,slow=36								

GUC 09 07:10:25.4±0.5, 36°03S×72°74W, h30km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
COCH	**Cobquecura**	**0.11**	**203**	*e*P	Pb	07 10 30.3		-0.5
COCH				*e*S	Sn	07 10 34.1		-0.4
CCSP	**San Pedro de C**	**0.87**	**200**	*e*P	Pn	07 10 40.4		-1.1
CCSP				*e*S	Sn	07 10 52.0		-1.1
CCSP				AML	AML	07 10 54.1		
	comp=E,2μm,0.3s							
TALC	**Talca**	**1.10**	**55**	*e*P	Pn	07 10 44.1		-0.6
TALC				*e*S	Sn	07 10 58.3		-0.5
TALC				AML	AML	07 11 02.5		
	comp=E,4μm,0.4s							
CLCH	**Cerro Calan**	**3.19**	**35**	AML	AML	07 12 09.0		
	comp=E,173nm,0.7s							
PEL	**Peldehue**	**3.34**	**31**	AML	AML	07 12 18.8		
	comp=E,190nm,0.5s							

JMA 09 07:13:15.8±0.1, 28°66N×129°59E, h17km±2km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JAM	**Amami Oshima**	**0.25**	**177**	P	Pg	07 13 21.1		-0.3
JAM				S	Sg	07 13 25.0		-0.2
JZK	**Kikaishima**	**0.48**	**136**	P	Pg	07 13 25.2		-0.3
JZK				*e*S	Sg	07 13 31.9		-0.1
JAMN	**Amaminishikomi**	**0.55**	**221**	P	Pg	07 13 26.7		-0.1
JAMN				*e*S	Sg	07 13 34.2		0.0
JTAJ	**Takarajima**	**0.60**	**325**	P	Pg	07 13 27.5		-0.1
JTAJ				*e*S	Sg	07 13 35.7		+0.1
JTK	**Tokunoshima**	**1.04**	**213**	P	Pb	07 13 34.0		-1.3
JTK				S	Sb	07 13 48.2		-0.5
JNN	**Nakanoshima**	**1.20**	**12**	P	Pn	07 13 35.5		-2.4
JNN				*e*S	Sb	07 13 51.5		-2.0
JOKE	**Okinoerabujima**	**1.58**	**215**	P	Pn	07 13 42.9		-0.1
JOKE				*e*S	Sn	07 14 03.2		+0.2
JYAK	**Yakushimahirau**	**1.77**	**27**	P	Pn	07 13 43.2		-2.4
JYAK				*e*S	Sn	07 14 05.5		-2.2
JKC	**Kuchinoerabu**	**1.87**	**16**	P	Pn	07 13 45.2		-1.8
JKC				*e*S	Sn	07 14 07.0		-3.3
JOW	**Kunigami**	**2.16**	**213**	P	Pn	07 13 52.2		+1.1
JOW				*e*S	Sn	07 14 17.6		+0.1
JIH	**Iheya**	**2.17**	**222**	P	Pn	07 13 51.9		+0.8
JNTH	**Nagotoyohara**	**2.55**	**213**	P	Pn	07 13 57.5		+1.2
JNTH				*e*S	Sn	07 14 27.4		+0.5
JAGN	**Aguni-jima**	**2.93**	**226**	P	Pn	07 14 02.1		+0.5
JAGN				*e*S	Sn	07 14 36.7		+0.3
JKE	**Kume jima 2**	**3.41**	**228**	P	Pn	07 14 08.7		+0.5
JKE				*e*S	Sn	07 14 49.0		+0.8

ISCJB ***09*** *07:17:31.4±0.7, 18°.3N±0°.1×145°.6E±0°.2, h145km, mb3.5/10, Error ellipse: s-maj=25.0km s-min=17.2km az=5.4*

IDC ***09*** *07:17:35.3±13.0, 18°.25N×145°.77E, h170km±123km, mb3.4/9, mb1 3.7/9, mb1mx3.4/48, mbtmp3.9/9, Error ellipse: s-maj=30.4km s-min=16.1km az=75.0*

ISC 09 07:17:32.9±0.9, 18°.3N±0°.2×145°.8E±0°.2, h145km, n17, σ0°.56/11, mb3.7/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
H11S3	**WAKE ISLAND Hy**	**19.85**	**86**	T	T	07 42 57.9		
	baz=212							
H11S1	**WAKE ISLAND Hy**	**19.86**	**86**	T	T	07 42 50.3		
	baz=212,slow=74,SNR=4.7							
H11S2	**WAKE ISLAND Hy**	**19.87**	**86**	T	T	07 42 51.5		
	baz=212,slow=74,SNR=6.2							
H11N1	**WAKE ISLAND Hy**	**20.02**	**82**	T	T	07 42 58.7		
	baz=288,SNR=4.4							
H11N2	**WAKE ISLAND Hy**	**20.03**	**82**	T	T	07 43 20.3		
	baz=288							
H11N3	**WAKE ISLAND Hy**	**20.04**	**82**	T	T	07 43 08.8		
	baz=288							
WRA	**Warramunga Arr**	**39.58**	**197**	P	**P**	**07 24 50.3**		**+0.1**
	2.5nm,0.9s,baz=23,slow=10,SNR=17							
ASAR	**Alice Springs**	**43.25**	**196**	P	**P**	**07 25 19.6**		**-0.4**
	0.6nm,0.6s,baz=16,slow=8.1,SNR=9.1							
SONM	**Songino Array**	**43.53**	**322**	P	**P**	**07 25 22.5**		**+0.3**
	0.2nm,0.4s,baz=128,slow=9.5,SNR=2.4							
MKAR	**Makanchi Array**	**58.82**	**314**	P	**P**	**07 27 16.0**		**-0.1**
	0.1nm,0.4s,baz=91,slow=8.5,SNR=2.9							
KURBB	**Kurchatov Arra**	**61.70**	**318**	P	**P**	**07 27 34.7**		**-0.9**
	0.5nm,0.7s,baz=93,slow=7.6,SNR=

KK04 S **Sg** 07 31 36.5 -2.0
KK07 Karatay Array 0.36 101 P **Pg** 07 31 31.6 -2.1
KK07 S **Sg** 07 31 36.1 -2.4
KK01 Karatay Array 0.36 99 P **Pg** 07 31 31.7 -2.0
KK01 S **Sg** 07 31 36.2 -2.3
KK02 Karatay Array 0.37 99 P **Pg** 07 31 31.8 -1.9
KK02 S **Sg** 07 31 36.4 -2.3
KK31 Karatay Array 0.37 99 ⇑P **Pg** 07 31 31.9 -1.8
241nm,0.2s,baz=249,slow=18
KK31 ⇑S **Sg** 07 31 36.6 -2.1
2μm,0.5s,baz=255,slow=41,SNR=6.2
KK31 Karatay Array 0.37 99 *e*PG **Pg** 07 31 31.8 -2.0
KK31 pmax pmax
comp=Z,165nm,0.3s
KKAR Karatay Array 0.37 99 *e*PG **Pg** 07 31 31.9 -1.9
KKAR Karatay Array 0.37 99 *e*Pg **Pg** 07 31 31.9 -1.9
KK05 Karatay Array 0.37 97 P **Pg** 07 31 32.0 -1.9
KK05 S **Sg** 07 31 36.7 -2.2
KK06 Karatay Array 0.38 100 P **Pg** 07 31 31.8 -2.2
KK06 S **Sg** 07 31 36.4 -2.6
MNAS Manas 1.95 109 ⇓P **Pn** 07 31 59.2 -0.4
comp=Z,71nm,0.4s
MNAS ⇑S **Sn** 07 32 23.7 -0.5
comp=Z,482nm,0.6s
MNAS Manas 1.95 109 PN **Pn** 07 31 59.2 -0.4
MNAS 07 32 23.7
MNAS pmax pmax
comp=Z,42nm,0.3s
MNAS pmax pmax
comp=N,482nm,0.6s
ARK Arkit 1.98 133 *e*P **Pb** 07 32 03.2 +0.6
baz=131
EKS2 Erkin-Say 2.81 99 P **Pn** 07 32 13.1 +1.6
SNR=25
EKS2 Erkin-Say 2.81 99 *i* PN **Pn** 07 32 13.0 +1.6
EKS2 Erkin-Say 2.81 99 ⇓*i*P **Pn** 07 32 12.1 +0.7
baz=103
EKS2 ⇓*i*S **Sb** 07 32 51.9 +0.8
baz=103
EKS2 Erkin-Say 2.81 99 *e*Pn **Pn** 07 32 12.2 +0.7
EKS2 *e*Sg **Sb** 07 32 51.5 +0.4
AML Almayashu 2.90 110 P **Pn** 07 32 14.5 +1.5
SNR=42
AML Almayashu 2.90 110 *i* PN **Pn** 07 32 14.5 +1.5
AML Almayashu 2.90 110 ⇑*i*P **Pn** 07 32 14.5 +1.5
baz=112
AML ⇑*i*S **Sb** 07 32 53.9 -0.2
baz=112
BTK Batken 3.16 169 *e*P **Pn** 07 32 17.7 +1.5
baz=163
BTK *e*S **Sn** 07 32 56.3 +2.4
baz=163
USP Ospenovka 3.28 87 P **Pn** 07 32 18.4 +0.5
SNR=62
USP Ospenovka 3.28 87 *i* PN **Pn** 07 32 18.3 +0.5
AAK Ala-Archa 3.33 98 ⇑Pn **Pn** 07 32 19.5 +0.9
comp=N,10nm,0.6s
AAK ⇓Pg **Pb** 07 32 25.7 0.0
comp=N,70nm,0.4s
AAK ⇑Lg Lg 07 33 07.2
comp=N,186nm,0.5s
AAK Ala-Archa 3.33 98 P **Pn** 07 32 20.1 +1.4
SNR=6.3
AAK Ala-Archa 3.33 98 PN **Pn** 07 32 21.3 +2.6
AAK 07 33 07.2
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 3.33 98 Pn **Pn** 07 32 19.6 +0.9
comp=Z,2.9nm,0.3s,baz=251,slow=8.2,SNR=33
AAK Pg **Pb** 07 32 24.5 -1.2
comp=Z,48nm,0.3s,baz=228,slow=2.1,SNR=151
AAK Lg Lg 07 33 07.5
comp=Z,92nm,0.3s,baz=127,slow=17,SNR=22
AAK Ala-Archa 3.33 98 *e*Pn **Pn** 07 32 19.6 +0.9
AAK Pg **Pb** 07 32 24.5 -1.2
AAK *e*Sg **Sb** 07 33 06.5 +0.2
AAK Lg Lg 07 33 07.5
ARLS Aral 3.44 111 *i* P **Pn** 07 32 22.9 +2.8
baz=112
UCH Uchtor 3.44 104 P **Pn** 07 32 22.3 +1.8
SNR=26
UCH Uchtor 3.44 104 *i* PN **Pn** 07 32 22.2 +1.8
CHVK Chauvay 3.44 151 *i* P **Pn** 07 32 22.0 +1.7
baz=147
CHVK *e*S **Sn** 07 33 03.0 +1.8
baz=147
CHMS Chumysh 3.47 91 P **Pn** 07 32 21.0 +0.5
SNR=12
CHMS Chumysh 3.47 91 *i* PN **Pn** 07 32 21.0 +0.5
SALK Salom-Alik 3.64 128 *i* P **Pn** 07 32 25.0 +2.1
baz=127
SALK *e*S **Sn** 07 33 08.6 +2.8
baz=127
KBK Karagaybulak 3.66 96 P **Pn** 07 32 24.3 +1.1
SNR=11
KBK Karagaybulak 3.66 96 *i* PN **Pn** 07 32 24.3 +1.1
DRK Karamyk 3.92 159 *e*P **Pn** 07 32 29.0 +2.2
baz=155
DRK *e*S **Sn** 07 33 15.5 +2.6
baz=155
KZA Kyzart 4.01 104 P **Pn** 07 32 30.8 +2.6
SNR=17
KZA Kyzart 4.01 104 *i* PN **Pn** 07 32 30.8 +2.6
SFK Sufi-Kurgan 4.09 139 ⇑Pn **Pn** 07 32 30.0 +0.8
comp=Z,6.1nm,0.3s
SFK ⇓Pg **Pb** 07 32 38.9 +0.3
comp=Z,26nm,0.4s
SFK ⇑Lg Lg 07 33 31.0
comp=Z,255nm,1.0s
SFK Sufi-Kurgan 4.09 139 PN **Pn** 07 32 30.8 +1.6
SFK 07 33 31.2
SFK pmax pmax
comp=N,255nm,1.0s
TKM2 Tokmak 2 4.10 91 ⇓Pn **Pn** 07 32 29.6 +0.4
comp=N,8.9nm,0.6s
TKM2 ⇑Pg **Pb** 07 32 38.9 +0.1
comp=N,53nm,0.4s
TKM2 ⇑Lg Lg 07 33 30.5
comp=N,269nm,0.6s
TKM2 Tokmak 2 4.10 91 P **Pn** 07 32 29.7 +0.4
SNR=27
TKM2 Tokmak 2 4.10 91 *i* PN **Pn** 07 32 29.7 +0.4
TKM2 Tokmak 2 4.10 91 *e*Pn **Pn** 07 32 29.9 +0.6
TKM2 *e*Pg **Pb** 07 32 39.8 +1.1
TKM2 *e*Sg **Sb** 07 33 30.0 +1.7
DZET Dzherino 4.44 192 ⇓Pn **Pn** 07 32 35.0 +1.1
comp=N,41nm,0.4s
DZET ⇓Pg **Pb** 07 32 45.4 +0.8
DZET ⇓Lg Lg 07 33 44.6
comp=N,168nm,0.6s
DZET Dzherino 4.44 192 PN **Pn** 07 32 35.0 +1.1
DZET 07 33 43.9
DZET pmax pmax
comp=Z,41nm,0.4s
DZET pmax pmax
comp=N,150nm,0.5s
ULHL Ulahol 4.68 99 P **Pg** 07 32 53.1 -2.9
SNR=13
KNDC Almaty 5.08 87 ⇑Pg **Pb** 07 32 57.9 +2.5
comp=N,88nm,0.8s
KNDC ⇓Lg Lg 07 34 05.6
comp=N,227nm,0.6s
OTUK Ortayu 5.34 17 ⇓Pn **Pn** 07 32 48.6 +2.6
comp=N,57nm,0.7s
OTUK ⇑Sn **Sn** 07 33 49.3 +1.7
comp=N,53nm,0.4s
OTUK ⇓Lg Lg 07 34 15.0
comp=N,250nm,0.9s
OTUK Ortayu 5.34 17 PN **Pn** 07 32 48.7 +2.6
OTUK 07 33 49.2
OTUK pmax pmax
comp=Z,57nm,0.7s
OTUK smax smax
comp=N,53nm,0.4s
OTUK pmax pmax
comp=N,250nm,0.9s
KSH Kashi 5.77 127 Pn **Pn** 07 32 54.1 +1.9
KSH SMN
comp=N,240nm,0.8s
KSH SME
comp=N,200nm,0.9s
PDGK Podgornoye 6.92 85 ⇓Pn **Pn** 07 33 08.1 +0.4
comp=N,1.3nm,0.5s
PDGK ⇓Pg Pb 07 33 30.6 +4.0
comp=N,21nm,0.6s
PDGK ⇓Lg Lg 07 34 59.0
comp=N,90nm,0.7s
KBL Kabul 8.64 185 *e*P **Pn** 07 33 32.4 +0.7
KBL *e* 07 35 07.0
KBL Kabul 8.64 185 *e*Pn **Pn** 07 33 32.4 +0.7
KBL *e*Sn **Sn** 07 35 07.0 -2.2
AB31 Akbulak array 9.27 315 Pn **Pn** 07 33 40.4 +0.4
comp=N,5.9nm,0.5s,baz=125,slow=14,SNR=144
AB31 ⇓Sn **Sn** 07 35 21.7 -2.4
comp=N,27nm,0.8s,baz=121,slow=23,SNR=10
AB31 Akbulak array 9.27 315 *e*P **Pn** 07 33 40.3 +0.4
AB31 07 35 20.6
AB31 pmax pmax
comp=Z,5.0nm,0.4s
AB31 smax smax
comp=N,27nm,0.8s
ABKAR Akbulak array 9.27 315 *e*Pn **Pn** 07 33 40.3 +0.4
ABKAR *e*Sn **Sn** 07 35 21.7 -2.4
MK31 Makanchi Array 9.43 63 Pn **Pn** 07 33 42.3 +0.1
comp=N,5.3nm,0.5s,baz=243,slow=15,SNR=189
MK31 ⇓Sn **Sn** 07 35 27.8 -0.3
comp=N,15nm,0.6s
MK31 ⇑Lg Lg 07 36 23.6
comp=N,45nm,0.9s,baz=264,slow=30,SNR=3.8
MK31 Makanchi Array 9.43 63 *e*P **Pn** 07 33 42.3 +0.1
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MK31 pmax pmax
comp=N,45nm,0.9s
MKAR Makanchi Array 9.43 63 Pn **Pn** 07 33 42.0 -0.1
comp=N,4.8nm,0.3s,baz=244,slow=16,SNR=273
MKAR Sn **Sn** 07 35 26.4 -1.7
comp=N,1.8nm,0.3s,baz=246,slow=21,SNR=3.8
MKAR Lg Lg 07 36 23.1
comp=N,2.2nm,0.3s,baz=252,slow=32,SNR=6.1
MKAR LR LR 07 37 29.8
comp=N,77nm,18.7s,baz=292,slow=39
KURBB Kurchatov Arra 9.46 35 ⇑Pn **Pn** 07 33 42.5 -0.1
comp=N,2.1nm,0.3s
KURBB ⇓Sn **Sn** 07 35 27.9 -1.1
comp=N,17nm,0.7s
KURBB ⇑Lg Lg 07 36 24.6
comp=N,224nm,0.6s
KURBB Kurchatov Arra 9.46 35 Pn **Pn** 07 33 42.1 -0.6
comp=N,0.5nm,0.3s,baz=224,slow=13,SNR=32
KURBB Sn **Sn** 07 35 28.6 -0.4
comp=N,0.5nm,0.3s,baz=256,slow=12,SNR=8.3
KURBB Lg Lg 07 36 27.8
comp=N,1.9nm,0.3s,baz=227,slow=27,SNR=19
KURK Kurchatov 9.57 35 ⇑Pn **Pn** 07 33 43.2 -0.9
comp=N,1.3nm,0.6s
KURK ⇑Sn **Sn** 07 35 28.4 -3.1
comp=N,9.5nm,0.7s
KURK ⇓Lg Lg 07 36 27.1
comp=N,148nm,1.0s
KURK Kurchatov 9.57 35 *e*P **Pn** 07 33 44.0 -0.1
KURK *e* 07 35 34.2
KURK Kurchatov 9.57 35 *e*Pn **Pn** 07 33 44.0 -0.1
KURK *e*Sn **Sn** 07 35 34.2 +2.6
KURK Lg Lg 07 36 27.8
BVA0 Borovoye Array 9.87 1 ⇑Pn **Pn** 07 33 49.0 +0.7
comp=N,10nm,0.5s,baz=0.0,slow=0.1,SNR=2.8
BVA0 ⇑Sn **Sn** 07 35 37.3 -1.7
comp=N,10nm,0.5s,baz=166,slow=22,SNR=12
BVA0 ⇑Lg Lg 07 36 37.9
comp=N,61nm,0.9s,baz=171,slow=26,SNR=3.9
BVA0 Borovoye Array 9.87 1 P **Pn** 07 33 49.8 +1.5
BVA0 *e* 07 35 37.1
BVA0 pmax pmax
comp=Z,10.0nm,0.5s
BVA0 smax smax
comp=N,11nm,0.5s
BVA0 pmax pmax
comp=N,55nm,0.9s
BVAR Borovoye Array 9.87 1 Pn **Pn** 07 33 49.8 +1.5
comp=N,5.9nm,0.3s,baz=166,slow=13,SNR=78
BVAR Sn **Sn** 07 35 37.6 -1.5
comp=N,8.7nm,0.3s,baz=165,slow=24,SNR=11
BVAR Lg Lg 07 36 43.4
comp=N,0.6nm,0.3s,baz=179,slow=26,SNR=3.7
GEYT Alibeck 10.45 244 Pn **Pn** 07 33 55.0 -1.3
comp=N,2.3nm,0.3s,baz=67,slow=8.0,SNR=7.7
GEYT Sn **Sn** 07 35 49.0 -4.3
comp=N,1.0nm,0.3s,baz=42,slow=15,SNR=2.7
AKTO Aktyubinsk 10.97 316 ⇑Pn **Pn** 07 34 04.1 +0.8
comp=N,19nm,0.7s
AKTO ⇓Sn **Sn** 07 36 06.8 +0.8
comp=N,22nm,0.9s
AKTO Aktyubinsk 10.97 316 Pn **Pn** 07 34 04.9 +1.6
comp=N,2.1nm,0.3s,baz=133,slow=13,SNR=78
AKTO Sn **Sn** 07 36 05.1 -0.9
comp=N,1.4nm,0.3s,baz=190,slow=23,SNR=9.9
WMQ Urumqi 12.86 81 *e*P **Pn** 07 34 31.0 +1.8
WMQ pP 07 34 34.6
WMQ sP 07 34 38.0
WMQ PMZ
comp=N,9.0nm,1.0s
ZALV Zalesovo Beam 14.54 37 Pn **Pn** 07 34 52.4 +0.3
comp=N,2.8nm,0.3s,baz=230,slow=14,SNR=18
ZALV Sn **Sn** 07 37 29.4 -3.8
comp=N,1.1nm,0.3s,baz=222,slow=17,SNR=4.1
ARU Arti 15.17 335*c* *i*P **Pn** 07 34 59.6 -0.9
ARU S **Sn** 07 37 47.1 -1.3
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 15.17 335 *e*P **Pn** 07 34 59.9 -0.7
comp=Z,12nm,1.0s
GNI Garni 19.10 270⇑ *e*P **P** 07 35 49.9 +0.5
GNI pmax pmax
comp=Z,16nm,1.7s
KBZ Khabaz 19.67 281 P **P** 07 35 55.2 -0.1
comp=Z,0.3nm,0.3s,baz=112,slow=9.7,SNR=7.3
KIV Kislovodsk 19.80 282 *e*P **P** 07 35 56.5 -0.3
KIV *e*S **S** 07 39 35.2 -4.5
KIV pmax pmax
comp=Z,16nm,0.6s
KIV Kislovodsk 19.80 282 *e*P **P** 07 35 57.1 +0.3
comp=Z,17nm,0.7s
ZAK Zakamensk 23.75 61 *e*P P 07 36 27.7 -11
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 24.12 58 *e*P **P** 07 36 42.8 +0.7
OBN Obninsk 24.68 311⇓ *e*P **P** 07 36 45.5 -1.6
OBN *e* 07 37 19.1
OBN pmax pmax
comp=Z,4.0nm,0.5s
OBN MLR MLR
comp=Z,95nm,20.0s
SONM Songino Array 25.76 67 P **P** 07 36 59.1 +1.9
comp=Z,0.7nm,0.8s,baz=278,slow=11,SNR=3.7
ULN Ulaanbaatar 26.20 67 *i*P **P** 07 37 01.7 +0.5
ULN pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 26.86 94 *e*P **P** 07 37 07.3 0.0
LZH pP **pP** 07 37 09.4 -1.2
LZH sP **sP** 07 37 12.0 0.0
LZH PP **PnPn** 07 37 52.5 +3.6
LZH PMZ
comp=Z,21nm,1.2s
LZH LN
comp=Z,340nm,12.7s
LZH LE
comp=Z,370nm,13.1s
LZH LZ
comp=Z,460nm,16.7s
BRTR Keskin Array B 27.35 275 *i* P **P** 07 37 13.0 +1.4
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 27.35 275 P **P** 07 37 12.6 +1.0
comp=Z,0.9nm,0.8s,baz=88,slow=7.6,SNR=3.7
CD2 Chengdu 29.38 103 P **P** 07 37 30.9 +1.2
CD2 PMZ
comp=Z,10.0nm,0.5s
VSU Vasula 30.70 315⇑ *e*P **P** 07 37 41.9 +0.9
HHC Hu-ho-hao-te 30.73 80 *e*P **P** 07 37 41.3 -0.4
HHC pP **pP** 07 37 46.1 +1.1
HHC sP **sP** 07 37 48.8 +2.4
HHC PP **PnPn** 07 38 42.9 +1.6
HHC S **S** 07 42 42.6 -1.9
HHC ScS **ScS** 07 48 15.6 -2.5
HHC PMZ
comp=Z,8.0nm,0.6s
HHC LN
comp=Z,110nm,15.3s
HHC LE
comp=Z,300nm,15.9s
HHC LZ
comp=Z,82nm,16.2s
XAN Xi'an 31.50 94 P **P** 07 37 53.4 +5.0
FINES FINESS Array B 31.69 321 P **P** 07 37 51.1 +1.5
comp=Z,0.9nm,0.5s,baz=114,slow=8.5,SNR=7.5
FINES LR LR 07 50 00.9
comp=Z,69nm,18.4s,baz=151,slow=35
ARCES ARCESS Array B 34.76 334 P **P** 07 38 18.9 +2.5
comp=Z,3.2nm,0.9s,baz=106,slow=9.5,SNR=5.7
VYHS Vyhne 35.51 297 *e*P **P** 07 38 22.2 -0.9
VYHS Vyhne 35.51 297 *e*P **P** 07 38 22.2 -0.9
NB2 NORSAR Subarra 38.75 318 P **P** 07 38 52.1 +1.6
comp=Z,0.7nm,0.5s,baz=92,slow=9.3
NOA NORSAR Array B 38.75 318 P **P** 07 38 51.7 +1.2
comp=Z,0.9nm,0.8s,baz=92,slow=8.5,SNR=3.2
NOA LR LR 07 55 17.8
comp=Z,42nm,19.2s,baz=40,slow=37
GERES GERESS Array B 38.76 299 P **P** 07 38 53.4 +2.6
comp=Z,2.4nm,0.7s,baz=69,slow=7.4,SNR=16
CN2 Changchun 39.58 69 *e*P **P** 07 38 56.4 -1.2
TIXI Tiksi 39.97 25⇓ *e*P **P** 07 39 01.5 +1.1
TIXI pmax pmax
comp=Z,2.0nm,1.2s
SPITS Spitsbergen Ar 40.85 345 P **P** 07 39 10.8 +3.0
comp=Z,17nm,1.1s,baz=109,slow=14,SNR=8.4
BILL Bilibino 53.02 28⇓ *e*P **P** 07 40 41.6 -1.2
BILL *e* 07 42 46.1
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL MLR MLR
comp=Z,55nm,15.0s
TORD Torodi Ar. Bea 65.33 265 P **P** 07 42 07.4 -1.5
comp=Z,0.4nm,0.5s,baz=45,slow=6.2,SNR=9.1
INK Inuvik 67.46 9 P **P** 07 42 22.9 +1.3
comp=Z,0.9nm,0.7s,baz=356,slow=6.7,SNR=3.8
ILAR Eielson Array 68.59 16 P **P** 07 42 29.1 +0.3
comp=Z,0.3nm,0.9s,baz=222,slow=6.2,SNR=5.2
YKA Yellowknife Ar 74.63 2 P **P** 07 43 06.4 +1.2
comp=Z,0.5nm,0.6s,baz=355,slow=6.2,SNR=24
WRA Warramunga Arr 86.15 122 P **P** 07 44 07.0 -0.7
comp=Z,0.3nm,0.8s,baz=330,slow=4.9,SNR=5.0
ASAR Alice Springs 88.67 125 P **P** 07 44 20.0 +0.1
ASAR Alice Springs 88.67 125 P **P** 07 44 20.0 +0.1
comp=Z,0.1nm,0.5s,baz=320,slow=4.7,SNR=4.3
PDAR Pinedale Array 94.45 360 LR LR 08 31 29.7
comp=Z,27nm,18.1s,baz=112,slow=38

MAN 09 07:33:32, 13.58N×120.68E, h120km, mb4.5, ML3.4, MS3.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.28**	**106**⇑	*e*P		Pn	07 33 50.7	+1.8
LUBP	**Lubang**	**0.44**	**290**	*e*P		Pn	07 33 51.4	+1.8
LUBP				*e*S		Sn	07 33 59.6	-3.3
SJMP	**San Jose**	**1.20**	**159**	*e*P		Pn	07 33 57.4	+1.3
SJMP				*e*S		Sn	07 34 15.8	+1.6
BUSP	**Coron**	**1.64**	**197**	*e*P		Pn	07 34 02.3	+1.2
OTRP	**Odiongan**	**1.79**	**133**	*e*P		Pn	07 34 03.6	+0.8
CUYO	**Cuyo Island**	**2.74**	**173**	*e*P		Pn	07 34 16.1	+1.2

NNC 09 07:36:29.5±0.6, 50.21N×79.15E, h0km, mb3.9, mpv3.3, 3C-3D, Error ellipse: s-maj=10.6km s-min=3.0km az=51.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR14	**Kurchatov Arra**	**0.54**	**319**	P		Pg	07 36 40.2	+0.3
KUR14				S		Sb	07 36 48.7	-1.5
KUR07	**Kurchatov Arra**	**0.55**	**313**	P		Pg	07 36 39.9	-0.1
KUR07				S		Sg	07 36 48.7	+1.6
KUR15	**Kurchatov Arra**	**0.55**	**318**	P		Pg	07 36 40.5	+0.4
KUR15				S		Sb	07 36 49.0	-1.6
KUR06	**Kurchatov Arra**	**0.56**	**315**	P		Pg	07 36 40.2	0.0
KUR06				S		Sg	07 36 48.9	+1.4
KURBB	**Kurchatov Arra** 58nm,0.3s	**0.57**	**316**	⇑P		Pg	07 36 40.6	+0.1
KURBB				⇓S		Sg	07 36 48.8	+0.9
	231nm,0.6s							
KUR05	**Kurchatov Arra**	**0.58**	**318**	P		Pg	07 36 40.8	+0.1
KUR05				S		Sg	07 36 48.7	+0.5
KUR16	**Kurchatov Arra**	**0.59**	**315**	P		Pg	07 36 40.6	-0.2
KUR16				S		Sg	07 36 49.1	+0.7
KUR04	**Kurchatov Arra**	**0.59**	**320**	P		Pg	07 36 41.2	+0.2
KUR04				S		Sg	07 36 48.8	+0.2
KUR17	**Kurchatov Arra**	**0.60**	**314**	P		Pg	07 36 40.6	-0.5
KUR17				S		Sg	07 36 49.3	+0.3
KURK	**Kurchatov** 6.2nm,0.3s	**0.61**	**326**	⇓P		Pg	07 36 42.0	+0.8
KURK				⇑S		Sg	07 36 49.7	+0.6
	39nm,0.7s							
MK31	**Makanchi Array** 5.9nm,0.6s,baz=192,slow=17,SNR=15	**4.01**	**147**	Pn		Pn	07 37 31.9	-0.2
MK31				⇑Pg		Pb	07 37 42.2	+1.2
	5.1nm,0.5s,baz=255,slow=40,SNR=7.7							
MK31				⇓Lg		Lg	07 38 33.8	
	6.2nm,0.4s,baz=338,slow=27,SNR=8.1							

IDC 09 07:36:42.0±10.0, 32.57N×110.81E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/50, mbtmp3.3/3, Error ellipse: s-maj=640.4km s-min=31.5km az=84.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=340,slow=7.8,SNR=22	**56.86**	**153**	P		P	07 46 29.6	+1.0
ASAR	**Alice Springs** 0.2nm,0.5s,baz=335,slow=7.1,SNR=5.9	**60.11**	**155**	P		P	07 46 49.9	-1.4
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=326,slow=5.0,SNR=4.3	**78.50**	**20**	P		P	07 48 44.7	0.0

*NEIC **09** 07:39:14.0, 32.07N×115.05W, h5km, ML3.7(PAS), ML3.9(ECX), After ECX.*

ECX 09 07:39:14.0±0.5, 32.07N×115.05W, h9km, MD3.6, ML3.8, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.18**	**243**⇑	*e*P		Pg	07 39 16.0	-1.8
EMX				*e*S		Sg	07 39 18.9	-1.6
EMX	**El Mayor**	**0.18**	**243**	*e*P		Pg	07 39 16.0	-1.8
EMX				*e*S		Sg	07 39 18.9	-1.6
CPBX	**Cerro Prieto**	**0.41**	**328**⇑	*e*P		Pg	07 39 21.8	-0.2
ECBX	**El Chinero**	**0.60**	**180**⇓	*e*P		Pg	07 39 23.9	-1.7
ECBX				*e*S		Sg	07 39 32.2	-1.2
RDX	**Rancho Dawling**	**0.77**	**260**⇑	*e*P		Pg	07 39 27.9	-1.4
RDX				*e*S		Sg	07 39 38.7	-0.8
RDX				*e*			07 39 40.1	
	comp=N,2μm,0.4s							
RDX	**Rancho Dawling**	**0.77**	**260**	*e*P		Pg	07 39 27.8	-1.4
RDX				*e*S		Sg	07 39 38.7	-0.8
GLA	**Glamis**	**1.00**	**11**	*e*Pg		Pg	07 39 30.4	-2.8
RMX	**La Rumorosa**	**1.02**	**302**	*e*P		Pg	07 39 31.6	-2.2
RMX				*e*S		Sg	07 39 45.5	-1.8
RMX				AML	AML	AML	07 39 46.4	
	comp=N,2μm,0.1s							
RMX				*e*			07 39 46.4	
RMX	**La Rumorosa**	**1.02**	**302**	*e*P		Pg	07 39 31.6	-2.2
RMX				*e*S		Sg	07 39 45.5	-1.8
SPX	**San Pedro Mart**	**1.08**	**199**⇓	*e*P		Pg	07 39 33.0	-2.3
SPX				AML	AML	AML	07 39 50.0	
	comp=N,1μm,0.6s							
SPX				*e*			07 39 50.0	
SPX	**San Pedro Mart**	**1.08**	**199**	*e*P		Pg	07 39 33.0	-2.3
ZAX	**El Zacaton**	**1.18**	**242**⇓	*e*P		Pb	07 39 34.5	-2.3
ZAX				⇑*e*			07 39 54.4	
ZAX				AML	AML	AML	07 39 54.4	
	comp=E,3μm,0.6s							
ECNX	**Esteban Cantu**	**1.38**	**253**⇑	*e*P		Pn	07 39 37.6	-2.0
CBX	**Cerro Bola**	**1.39**	**280**⇑	*e*P		Pn	07 39 37.4	-2.4
CBX				*e*S		Sb	07 39 56.1	-2.3
CBX				⇓*e*			07 39 57.9	
CBX				AML	AML	AML	07 39 57.9	
	comp=N,3μm,0.2s							
CBX				AML	AML	AML	07 39 58.2	
	comp=E,3μm,0.2s							
CBX				⇓*e*			07 39 58.2	
CBX	**Cerro Bola**	**1.39**	**280**	*e*P		Pn	07 39 37.4	-2.4
CBX				*e*S		Sb	07 39 56.1	-2.3
PBX	**Punta Banda**	**1.47**	**258**	*e*P		Pn	07 39 38.7	-1.9
PBX	**Punta Banda**	**1.47**	**258**	*e*P		Pn	07 39 38.6	-2.1

BAR	**Barrett**	**1.50**	**294**	*e*Pn	Pn	07 39 40.1	-1.1
BAR				*e*Sn	Sn	07 39 59.3	-1.7
214A	**Organ Pipe Nat**	**1.90**	**93**	*e*Pn	Pn	07 39 43.4	-3.3
PFO	**Pinyon Flats O**	**1.94**	**323**	*e*Pn	Pn	07 39 44.1	-3.2
PFO				*e*Sg	Sg	07 40 15.8	-0.9
GSC	**Goldstone, Bar**	**3.54**	**336**	*e*Pn	Pn	07 40 11.2	+1.9
GSC				*e*Pg	Pg	07 40 23.5	+1.5
SHPR	**Sheep Range**	**4.42**	**359**	*e*Pn	Pn	07 40 20.5	-1.1
SHPR				*e*Pg	Pg	07 40 38.0	-1.0
WUAZ	**Wupatki**	**4.60**	**41**	*e*Pn	Pn	07 40 23.7	-0.3
DAC	**Darwin (Calif)**	**4.70**	**334**	*e*Pn	Pn	07 40 30.1	+4.7
W18A	**Petrified Fore** comp=E,11nm,0.5s	**5.37**	**54**	*e*Pn	Pn	07 40 34.4	-0.3
CCUT	**Cedar City** comp=E,21nm,0.9s	**5.64**	**14**	*e*Pn	Pn	07 40 38.2	-0.1
ARUT	**Antelope Range** comp=E,2.1nm,0.5s	**5.85**	**13**	*e*Pn	Pn	07 40 41.2	0.0
121A	**Cookes Peak, D** comp=E,8.7nm,0.4s	**6.17**	**84**	*e*Pn	Pn	07 40 43.4	-2.1
MVU	**Marysvale** comp=E,16nm,0.9s	**6.82**	**19**	*e*Pn	Pn	07 40 56.5	+1.9

*ISCJB **09** 07:42:39.5±0.5,52°.07S±0°.07×27°.9E±0°.2, h10km, mb4.0/12, MS3.5/11, Error ellipse: s-maj=21.7km s-min=9.7km az=176.6*
*IDC **09** 07:42:39.6±0.8,52°.08S×27°.75E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/29, mbtmp3.9/9, MS3.6/11, Ms1 3.6/11, ms1mx3.4/32, Error ellipse: s-maj=30.0km s-min=17.2km az=82.0*
*NEIC **09** 07:42:40.9±0.4, 52°.13S×27°.73E, h10km, mb4.4/9, Error ellipse: s-maj=21.1km s-min=9.6km az=77.0*

ISC 09 07:42:40.8±0.6, 52°.12S±0°.09×27°.7E±0°.2, h10km, n31, σ1§78/23, mb4.2/12, MS3.5/11, South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland** 12nm,1.0s,baz=181,slow=9.4,SNR=3.3	**20.36**	**343**	P		Pn	07 47 19.3	-0.4
SUR	comp=Z,198nm,18.5s,baz=216,slow=32			LR		LR	07 53 27.2	
SUR	**Sutherland** 15nm,1.4s	**20.36**	**343**	*e*P		Pn	07 47 19.1	-0.5
MAW	**Mawson** comp=Z,78nm,20.7s,baz=248,slow=31	**23.01**	**146**	LR		LR	07 54 36.9	
BOSA	**Boshof** 3.7nm,0.6s,baz=174,slow=10,SNR=14	**23.55**	**355**	P		**P**	**07 47 50.1**	**-1.2**
BOSA	comp=Z,156nm,18.2s,baz=182,slow=35			LR		LR	07 56 12.4	
BOSA	**Boshof** 6.8nm,0.8s	**23.55**	**355**	*e*P		**P**	**07 47 51.2**	**-0.1**
SNAA	**Sanae**	**23.82**	**203**	P		**P**	**07 47 57.0**	**+3.5**
SNAA	**Sanae** 2.5nm,0.8s,baz=81,slow=14,SNR=8.1	**23.82**	**203**	P		**P**	**07 47 54.8**	**+1.2**
SNAA	comp=Z,70nm,19.8s,baz=338,slow=31			LR		LR	07 55 03.3	
SNAA	**Sanae** 44nm,1.1s	**23.82**	**203**	*e*P		**P**	**07 47 48.8**	**-4.8**
VNA2	**Neumayer--Watz** baz=38,slow=10.0	**24.59**	**207**	P		**P**	**07 48 01.9**	**+1.4**
VNA1	**Neumayer--Stat**	**24.69**	**208**	P		**P**	**07 48 02.4**	**+0.9**
VNA3	**Neumayer Olymp**	**25.39**	**207**	P		**P**	**07 48 04.1**	**-3.7**
LBTB	**Lobatse** 3.1nm,0.7s,baz=190,slow=8.5,SNR=6.5	**27.11**	**356**	P		**P**	**07 48 23.0**	**-0.9**
LBTB	comp=Z,147nm,19.0s,baz=194,slow=32			LR		LR	07 57 08.2	
LBTB	**Lobatse** 38nm,1.7s	**27.11**	**356**	*e*P		**P**	**07 48 22.6**	**-1.3**
TSUM	**Tsumeb** 2.1nm,0.5s	**33.80**	**343**	*e*P		**P**	**07 49 23.6**	**+0.6**
LSZ	**Lusaka** 3.0nm,0.6s	**36.76**	**1**	*e*P		**P**	**07 49 47.8**	**-0.7**
QSPA	**South Pole Qui** comp=Z,142nm,18.9s,baz=254,slow=36	**38.10**	**180**	LR		LR	08 05 14.1	
QSPA	**South Pole Qui** 11nm,1.0s	**38.10**	**180**	*e*P		**P**	**07 49 58.9**	**-0.6**
CASY	**Casey** 5.3nm,1.0s	**41.30**	**143**	*e*P		**P**	**07 50 25.8**	**-0.1**
VNDA	**Vanda** 0.4nm,0.5s,baz=261,slow=9.2,SNR=8.5	**47.54**	**168**	P		**P**	**07 51 15.0**	**-0.6**
VNDA	comp=Z,77nm,21.9s,baz=202,slow=35			LR		LR	08 10 16.1	
VNDA	**Vanda** 2.0nm,1.0s	**47.54**	**168**	*e*P		**P**	**07 51 15.2**	**-0.4**
PLCA	**Paso Flores** 1.7nm,0.9s,baz=127,slow=5.1,SNR=3.4	**63.62**	**237**	P		**P**	**07 53 12.8**	**+1.0**
DBIC	**Dimbokro** comp=Z,25nm,18.7s,baz=124,slow=30	**64.84**	**324**	LR		LR	08 15 15.4	
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=160,slow=4.6,SNR=2.6	**68.80**	**333**	P		**P**	**07 53 45.9**	**+1.0**
LPAZ	**La Paz** comp=Z,53nm,19.4s,baz=74,slow=34	**80.85**	**255**	LR		LR	08 27 52.2	
ASAR	**Alice Springs** 0.5nm,0.6s,baz=212,slow=4.9,SNR=7.2	**80.98**	**117**	P		**P**	**07 54 56.5**	**+0.8**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=211,slow=4.3,SNR=4.5	**84.19**	**115**	P		**P**	**07 55 13.7**	**+1.3**
KEST	**Kesra** comp=Z,31nm,19.3s,baz=282,slow=37	**88.95**	**345**	LR		LR	08 36 50.3	
CMAR	**Chiang Mai Arr** comp=Z,11nm,21.1s,baz=95,slow=30	**93.40**	**64**	LR		LR	08 30 07.4	
FCC	**Fort Churchill**	**147.28**	**305**	*e*PKPbc		**PKPbc**	**08 02 23.0**	**-0.1**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=97,slow=7.6,SNR=3.7	**150.03**	**269**	PKPab		**PKPab**	**08 02 36.1**	**-0.9**
NVAR	**Mina Array Bea** 0.5nm,0.5s,baz=141,slow=3.5,SNR=2.4	**152.74**	**253**	PKPab		**PKPab**	**08 02 48.4**	**0.0**

*ISCJB **09** 07:47:29.9±0.4, 32°.37N±0°.02×115°.39W±0°.02, h12km±4km, Error ellipse: s-maj=3.5km s-min=3.2km az=29.0*
*MEX **09** 07:47:31.0±1.0, 32°.53N×115°.20W, h24km±8km, MD3.7*
*ECX **09** 07:47:31.6±0.6, 32°.35N×115°.41W, h5km, MD3.6, ML3.8*
*NEIC **09** 07:47:31.4, 32°.36N×115°.41W, h5km, MD3.9(MEX), ML3.7(PAS), ML3.9(ECX), After ECX.*

ISC 09 07:47:30.3±0.8, 32°.34N±0°.02×115°.41W±0°.02, h13km±6km, n39, σ0§81/65, 12C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.12**	**48**	⇑*e*P		**Pg**	**07 47 33.8**	**+0.2**
CPBX				*e*S		**Sg**	**07 47 35.5**	**-0.4**
CPBX	**Cerro Prieto**	**0.12**	**48**	*i* P		**Pg**	**07 47 33.8**	**+0.2**
CPBX				*i* S		**Sb**	**07 47 37.5**	**+0.3**
MBIG	**Mexicali**	**0.19**	**68**	*e*P		**Pb**	**07 47 35.3**	**-0.4**
MBIG				*e*S		**Sg**	**07 47 37.8**	**+0.2**
EMX	**El Mayor**	**0.38**	**157**	*e*P		**Pg**	**07 47 37.6**	**-0.2**
EMX				*e*S		**Sg**	**07 47 43.2**	**+0.3**
EMX	**El Mayor**	**0.38**	**157**	*e*P		**Pg**	**07 47 37.6**	**-0.2**
EMX				*e*S		**Sg**	**07 47 43.2**	**+0.3**
SGL	**Mount Signal**	**0.41**	**320**	⇓*i*P		**Pg**	**07 47 38.7**	**+0.2**
YUH	**Yuha Desert**	**0.53**	**306**	⇑*i*P		**Pg**	**07 47 40.7**	**-0.1**
COK	**Cook Ranch**	**0.58**	**333**	*i* P		**Pb**	**07 47 42.1**	**-0.1**
COA	**Coachella**	**0.58**	**25**	⇓*i*P		**Pg**	**07 47 42.2**	**-0.1**
RDX	**Rancho Dawling**	**0.61**	**228**	⇑*e*P		**Pg**	**07 47 42.4**	**+0.2**
RDX				*e*S		**Sb**	**07 47 51.3**	**0.0**
RDX	comp=N,4μm,0.4s			⇑*e*			07 47 56.8	
RDX	**Rancho Dawling**	**0.61**	**228**	*e*P		**Pg**	**07 47 42.4**	**+0.2**
RDX				*e*S		**Sg**	**07 47 50.7**	**+0.4**
RMX	**La Rumorosa**	**0.62**	**295**	⇑*e*P		**Pg**	**07 47 42.3**	**-0.2**
RMX				*e*S		**Sg**	**07 47 50.7**	**-0.1**
RMX				⇓*e*			07 47 51.6	
RMX	comp=N,6μm,0.1s			AML		AML	07 47 51.6	
RMX	**La Rumorosa**	**0.62**	**295**	*e*P		**Pg**	**07 47 42.3**	**-0.2**
RMX				*e*S		**Sg**	**07 47 50.6**	**-0.1**
CRR	**Carrizo Plain**	**0.72**	**320**	⇑*i*P		**Pg**	**07 47 44.4**	**0.0**
YMD	**Yuma Desert**	**0.76**	**73**	⇓*i*P		**Pg**	**07 47 44.9**	**-0.2**
GLA	**Glamis**	**0.87**	**34**	*e*Pg		**Pg**	**07 47 46.2**	**-0.9**
GLA				*e*Sg		**Sg**	**07 47 57.7**	**-0.8**
ECBX	**El Chinero**	**0.91**	**160**	*e*P		**Pb**	**07 47 46.4**	**-1.6**
ECBX				*e*S		**Sg**	**07 47 59.2**	**-0.7**
CBX	**Cerro Bola**	**1.06**	**269**	*i* P		**Pb**	**07 47 50.5**	**-0.1**
CBX				*i* S		**Sg**	**07 48 04.7**	**+0.1**
CBX	**Cerro Bola**	**1.06**	**269**	⇑*e*P		**Pb**	**07 47 50.4**	**-0.1**
CBX				*e*S		**Sb**	**07 48 04.5**	**+0.1**
CBX	comp=E,4μm,0.4s			AML		AML	07 48 07.7	
CBX				⇓*e*			07 48 07.7	
CBX	comp=N,4μm,0.7s			AML		AML	07 48 10.9	
CBX				⇑*e*			07 48 10.9	
CBX	**Cerro Bola**	**1.06**	**269**	*e*P		**Pb**	**07 47 50.4**	**-0.1**
CBX				*e*S		**Sb**	**07 48 04.5**	**+0.1**
CBX				*i* S		**Sg**	**07 48 05.1**	**+0.5**
ZAX	**El Zacaton**	**1.10**	**222**	⇑*e*P		**Pn**	**07 47 51.3**	**-0.2**
ZAX				*e*S		**Sn**	**07 48 06.3**	**-0.3**
ZAX				⇓*e*			07 48 10.0	
ZAX	comp=E,3μm,0.4s			AML		AML	07 48 10.0	
BAR	**Barrett**	**1.12**	**288**	*e*Pg		**Pb**	**07 47 51.1**	**-0.4**
BAR				*e*Sg		**Sb**	**07 48 05.5**	**-0.5**
ECNX	**Esteban Cantu**	**1.21**	**236**	⇑*e*P		**Pb**	**07 47 53.3**	**+0.1**
ECNX				*e*S		**Sg**	**07 48 09.9**	**+0.4**
PBX	**Punta Banda**	**1.26**	**242**	⇑*e*P		**Pb**	**07 47 54.0**	**0.0**
PBX				*e*S		**Sg**	**07 48 11.2**	**+0.1**
PBX	**Punta Banda**	**1.26**	**242**	*e*P		**Pb**	**07 47 53.9**	**0.0**
PBX				*e*S		**Sg**	**07 48 11.2**	**+0.1**
SPIG	**San Pedro Mart**	**1.29**	**182**	*e*P		**Pn**	**07 47 53.8**	**-0.4**
SPIG				*i* S		**Sn**	**07 48 11.5**	**0.0**
SPIG	**San Pedro Mart**	**1.29**	**182**	*e*P		**Pn**	**07 47 53.8**	**-0.4**
SPIG				*e*S		**Sn**	**07 48 11.8**	**+0.3**
SPX	**San Pedro Mart**	**1.29**	**182**	⇓*e*		**Sg**	**07 48 14.8**	**+2.9**
SPX	comp=E,837nm,0.4s			AML		AML	07 48 14.8	
SPX	**San Pedro Mart**	**1.29**	**182**	*i* P		**Pn**	**07 47 54.0**	**-0.3**
SPX				*i* S		**Sg**	**07 48 12.0**	**+0.1**
PFO	**Pinyon Flats O**	**1.54**	**326**	*e*Pn		**Pn**	**07 47 56.2**	**-1.4**
PFO				*e*Sn		**Sn**	**07 48 16.0**	**-1.6**
214A	**Organ Pipe Nat**	**2.24**	**99**	*e*Pn		**Pn**	**07 48 05.6**	**-1.5**
214A				*e*Pg		**Pg**	**07 48 14.5**	**+1.3**
GSC	**Goldstone, Bar**	**3.18**	**339**	*e*Pn		**Pn**	**07 48 19.6**	**-0.5**
GSC				*e*Pg		**Pg**	**07 48 32.1**	**+0.9**
TUC	**Tucson**	**3.92**	**89**	*e*Pn		**Pn**	**07 48 28.9**	**-1.3**
SHPR	**Sheep Range**	**4.16**	**3**	*e*Pn		**Pn**	**07 48 34.2**	**+0.5**
WUAZ	**Wupatki**	**4.62**	**46**	*e*Pn		**Pn**	**07 48 41.4**	**+1.5**
CCUT	**Cedar City** comp=E,7.1nm,0.8s	**5.47**	**17**	*e*Pn		**Pn**	**07 48 52.6**	**+1.0**
W18A	**Petrified Fore** comp=E,21nm,0.4s	**5.48**	**58**	*e*Pn		**Pn**	**07 48 53.0**	**+1.2**
121A	**Cookes Peak, D** comp=E,407nm,0.7s	**6.45**	**86**	*e*Pn		**Pn**	**07 49 05.2**	**0.0**
MVCO	**Mesa Verde** comp=E,5.3nm,0.4s	**7.48**	**48**	*e*Pn		**Pn**	**07 49 22.2**	**+2.9**

*ISCJB **09** 08:10:40.1±0.5, 36°.83N±0°.03×71°.32E±0°.06, h106km, mb3.4/7, Error ellipse: s-maj=7.7km s-min=4.0km az=156.6*
*IDC **09** 08:10:42.4±4.1, 36°.92N×71°.46E, h107km±34km, mb3.3/7, mb1 3.5/12, mb1mx3.2/59, mbtmp3.8/12, MS3.1/1, Ms1 3.1/1, ms1mx2.2/41, Error ellipse: s-maj=27.0km s-min=21.2km az=27.0*
*NNC **09** 08:10:46.3±1.6, 37°.23N×71°.13E, h123km, mb3.5, mpv4.2, Error ellipse: s-maj=14.3km s-min=5.5km az=168.0*

ISC 09 08:10:41.4±0.7, 36°.87N±0°.06×71°.27E±0°.06, h106km, n44, σ1§91/50, mb3.5/7, 9C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 37nm,0.3s	**2.73**	**316**	⇓P		**Pn**	**08 11 25.0**	**+1.1**
DZET				⇑S		**Sn**	**08 11 55.8**	**-0.8**
AML	**Almayashu** SNR=82	**5.58**	**19**	P		**Pn**	**08 12 03.0**	**+0.7**
MNAS	**Manas** 20nm,0.7s	**5.69**	**9**	⇑P		**Pn**	**08 12 04.0**	**+0.4**
MNAS	16nm,0.3s			⇑S		**Sn**	**08 13 05.4**	**-2.2**
DLH	**Dalhousie**	**5.80**	**137**	*e*P		**Pn**	**08 12 07.0**	**+1.8**
DLH				*e*S		**Sn**	**08 13 08.0**	**-2.5**
UCH	**Uchtor** SNR=19	**5.91**	**24**	P		**Pn**	**08 12 07.5**	**+0.6**
KZA	**Kyzart** SNR=29	**6.04**	**29**	P		**Pn**	**08 12 09.6**	**+1.0**
EKS2	**Erkin-Say** SNR=26	**6.09**	**18**	P		**Pn**	**08 12 10.1**	**+1.0**
KK31	**Karatay Array** 19nm,0.4s,baz=180,slow=13,SNR=57	**6.25**	**355**	⇑P		**Pn**	**08 12 11.9**	**+0.7**
KK31	3.2nm,0.3s,baz=177,slow=20,SNR=4.4			⇑S		**Sn**	**08 13 17.2**	**-3.9**
AAK	**Ala-Archa** 13nm,0.4s	**6.27**	**22**	⇑P		**Pn**	**08 12 12.4**	**+0.9**
AAK	31nm,0.8s			⇓S		**Sn**	**08 13 19.3**	**-2.5**
AAK	**Ala-Archa** SNR=28	**6.27**	**22**	P		**Pn**	**08 12 12.6**	**+1.2**
AAK	**Ala-Archa** 7.5nm,0.3s,baz=190,slow=8.0,SNR=94	**6.27**	**22**	P		**Pn**	**08 12 12.4**	**+0.9**
AAK	2.2nm,0.3s,baz=314,slow=21,SNR=13			S		**Sn**	**08 13 19.4**	**-2.3**
KBK	**Karagaybulak** SNR=5.3	**6.43**	**25**	P		**Pn**	**08 12 11.7**	**-2.1**
ULHL	**Ulahol** SNR=11	**6.60**	**34**	P		**Pn**	**08 12 17.7**	**+1.6**
CHMS	**Chumysh** SNR=12	**6.68**	**23**	P		**Pn**	**08 12 18.0**	**+1.1**
USP	**Ospenovka** SNR=7.7	**6.85**	**20**	P		**Pn**	**08 12 19.5**	**+0.2**
TKM2	**Tokmak 2** 10nm,0.6s	**6.89**	**27**	⇑P		**Pn**	**08 12 20.4**	**+0.3**
TKM2	10nm,0.8s			⇓S		**Sn**	**08 13 35.9**	**-1.1**
TKM2	**Tokmak 2** SNR=7.2	**6.89**	**27**	P		**Pn**	**08 12 21.2**	**+1.2**
SMLA	**Simla**	**7.53**	**138**	⇓*i*P		**Pn**	**08 12 29.9**	**+1.3**
SMLA				*e*S		**Sn**	**08 13 46.9**	**-5.5**
SMLA	comp=E,523nm,0.2s			AML		AML	08 13 48.9	
SMLA	comp=N,664nm,0.3s			AML		AML	08 13 49.2	
JOSI	**Joshimath**	**9.34**	**130**	*e*P		Pn	08 13 07.2	+14
JOSI				*e*S		**Sn**	**08 14 42.0**	**+5.4**
JOSI	comp=N,148nm,0.6s			AML		AML	08 14 59.5	
JOSI	comp=E,164nm,1.2s			AML		AML	08 15 00.5	
KHET	**Khetri**	**9.57**	**155**	*e*P		Pn	08 12 47.6	-8.7
KHET				*e*S		Sn	08 14 13.8	-28
KHET	comp=N,134nm,0.3s			AML		AML	08 14 39.8	
KHET	comp=E,143nm,0.6s			AML		AML	08 14 40.0	
SONA	**Sohna**	**9.89**	**149**	*e*P		Pn	08 12 56.4	-4.2
SONA				*ex*		x	08 14 38.9	
SONA	comp=E,39nm,0.5s			AML		AML	08 14 46.4	
SONA	comp=N,18nm,0.1s			AML		AML	08 14 50.7	
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=227,slow=12,SNR=7.3	**12.86**	**36**	P		**Pn**	**08 13 39.2**	**-1.0**
PYUN	**Piuthan** comp=N,37nm,0.4s	**13.19**	**128**	*e*P		**Pn**	**08 13 41.9**	**-3.0**
DANN	**Dangsing** comp=N,8.9nm,0.3s	**13.52**	**125**	*e*P		**Pn**	**08 13 47.3**	**-1.9**
KOLN	**Koldanda** comp=N,10nm,0.4s	**13.81**	**128**	*e*P		**Pn**	**08 13 50.7**	**-2.2**
GKN	**Gorkha** comp=N,8.9nm,0.3s	**14.33**	**124**	*e*P		**Pn**	**08 13 58.2**	**-1.3**
AB31	**Akbulak array** comp=N,1.7nm,0.5s,baz=140,slow=13,SNR=68	**14.87**	**330**	P		**Pn**	**08 14 04.6**	**-1.5**
AB31	comp=N,2.0nm,0.8s,baz=148,slow=23,SNR=5.8			⇑S		Sn	08 16 36.0	-14
PKI	**Pulchoki** comp=N,8.7nm,0.4s	**15.12**	**124**	*e*P		**Pn**	**08 14 08.7**	**-1.1**
GUN	**Gumba** comp=N,28nm,0.8s	**15.22**	**122**	*e*P		**Pn**	**08 14 09.9**	**-1.1**
JIRN	**Jiri** comp=N,24nm,0.6s	**15.59**	**122**	*e*P		**Pn**	**08 14 14.3**	**-1.4**
BVAR	**Borovoye Array** baz=144,slow=12,SNR=2.6	**16.16**	**358**	P		**Pn**	**08 14 22.4**	**+0.2**
RAMN	**Ramite** comp=N,17nm,0.6s	**16.33**	**123**	*e*P		**Pn**	**08 14 22.1**	**-2.6**
AKTO	**Aktyubinsk** comp=N,3.8nm,0.6s	**16.57**	**329**	⇓P		**P**	**08 14 28.0**	**0.0**
AKTO	comp=N,2.4nm,0.9s			⇓S		Sn	08 17 18.4	-13
AKTO	**Aktyubinsk** comp=N,0.6nm,0.3s,baz=122,slow=13,SNR=14	**16.57**	**329**	P		**P**	**08 14 28.2**	**+0.3**
ZALV	**Zalesovo Beam** comp=N,0.7nm,0.3s,baz=216,slow=10,SNR=8.3	**19.49**	**25**	P		**P**	**08 15 00.4**	**+0.6**
SONM	**Songino Array**	**27.95**	**56**	P		**P**	**08 16 22.1**	**+0.2**
	comp=N,0.2nm,0.5s,baz=249,slow=11,SNR=3.8							
ARCES	**ARCESS Array B** comp=N,2.1nm,0.9s,baz=116,slow=8.1,SNR=4.5	**40.88**	**337**	P		**P**	**08 18 14.7**	**+2.1**
GERES	**GERESS Array B** comp=N,23nm,19.3s,baz=269,slow=39	**42.89**	**305**	LR		LR	08 38 53.8	
TORD	**Torodi Ar. Bea** comp=N,0.4nm,0.6s,baz=41,slow=6.8,SNR=3.0	**65.94**	**269**	P		**P**	**08 21 18.0**	**+1.5**
INK	**Inuvik** comp=N,0.3nm,0.5s,baz=317,slow=3.5,SNR=4.5	**73.50**	**9**	P		**P**	**08 22 00.7**	**-1.3**
YKA	**Yellowknife Ar** comp=N,0.2nm,0.4s,baz=351,slow=5.4,SNR=14	**80.86**	**3**	P		**P**	**08 22 44.9**	**+1.7**
WRA	**Warramunga Arr** comp=N,0.4nm,0.5s,baz=326,slow=4.7,SNR=16	**82.00**	**122**	P		**P**	**08 22 50.1**	**+0.2**
ASAR	**Alice Springs** comp=N,0.5nm,0.6s,baz=318,slow=4.8,SNR=9.7	**84.29**	**125**	P		**P**	**08 23 01.9**	**+0.3**

*ISCJB **09** 08:11:44.8±0.7, 51°.6N±0°.1×75°.7E±0°.1, h10km, Error ellipse: s-maj=18.4km s-min=5.4km az=34.1*
*NNC **09** 08:11:44.9±1.1, 51°.23N×75°.36E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=31.6km s-min=6.1km az=23.0*
*IDC **09** 08:11:46.1±1.1, 51°.53N×75°.64E, h0km, mb1 2.7/4, mb1mx2.6/32, mbtmp2.7/4, ML2.3/4, Error ellipse: s-maj=34.9km s-min=9.5km az=32.0*

ISC 09 08:11:46.2±1.1, 51°.6N±0°.1×75°.7E±0°.1, h10km, n9, σ1§39/15, 5C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 3.2nm,0.5s	**2.04**	**119**	⇑P		**Pn**	**08 12 20.7**	**+0.2**
KURBB	45nm,0.6s			⇓S		**Sb**	**08 12 49.9**	**+1.3**
KURBB	**Kurchatov Arra** 0.5nm,0.3s,baz=304,slow=18,SNR=40	**2.04**	**119**	P		**Pn**	**08 12 22.2**	**-1.0**
KURBB	0.2nm,0.3s,baz=72,slow=12,SNR=5.1			Lg		Lg	08 12 49.2	
KURK	**Kurchatov** 0.8nm,0.4s	**2.04**	**116**	⇓P		**Pn**	**08 12 20.3**	**-0.3**
KURK	5.3nm,0.6s			⇑S		**Sb**	**08 12 49.3**	**+0.5**
BVA0	**Borovoye Array** 2.3nm,0.7s,baz=119,slow=17,SNR=9.3	**3.56**	**295**	Pn		**Pn**	**08 12 41.9**	**+0.5**
BVA0	5.0nm,0.4s,baz=111,slow=28,SNR=5.1			⇑Sn		**Sn**	**08 13 25.2**	**+1.6**
BVAR	**Borovoye Array** 0.6nm,0.3s,baz=114,slow=16,SNR=9.8	**3.56**	**295**	Pn		**Pn**	**08 12 42.1**	**+0.6**
BVAR	0.7nm,0.3s,baz=104,slow=23,SNR=5.3			Sn		**Sn**	**08 13 20.5**	**-3.1**
I46RU	**ZALESOVO INFRA** baz=250,slow=338,SNR=0.7	**5.98**	**64**	*i*			08 50 50.0	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=255,slow=15,SNR=5.2	**5.98**	**64**	Pn		**Pn**	**08 13 15.2**	**+0.5**
MK31	**Makanchi Array** 0.8nm,0.9s,baz=313,slow=14,SNR=3.7	**6.48**	**136**	⇓Pg		**Pn**	**08 13 19.4**	**-2.2**
MK31	0.5nm,0.6s,baz=216,slow=6.8,SNR=6.7			⇓Pg		**Pb**	**08 13 39.8**	**+0.9**
MK31	0.7nm,0.5s,baz=334,slow=22,SNR=5.2			⇑Sn		**Sn**	**08 14 36.3**	**+0.9**
MK31	1.5nm,0.5s,baz=316,slow=28,SNR=6.2			⇑Lg		Lg	08 15 08.0	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=314,slow=12,SNR=4.1	**6.48**	**136**	Pn		**Pn**	**08 13 21.0**	**-0.6**
MKAR	0.3nm,0.3s,baz=337,slow=22,SNR=6.7			Sn		**Sn**	**08 14 35.0**	**-0.4**
MKAR	0.8nm,0.3s,baz=319,slow=27,SNR=9.6			Lg		Lg	08 15 08.2	

IDC 09 08:18:06.7±1.4, 27°.09N×140°.37E, h327km±16km, mb2.7/4, mb1 2.9/5, mb1mx2.6/47, mbtmp3.5/5, Error ellipse: s-maj=35.5km s-min=17.7km az=83.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 6.6nm,0.3s,baz=108,slow=19,SNR=4.9	**1.62**	**90**	P		Pn	08 18 53.2	-0.1
JCJ	12nm,0.3s,baz=359,slow=19,SNR=6.9			S		S	08 19 26.9	-3.7
KSRS	**Korea Array** 0.3nm,0.3s,baz=131,slow=12,SNR=5.2	**14.73**	**318**	P		Pn	08 21 22.9	+1.9
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=145,slow=10,SNR=4.3	**18.36**	**341**	P		P	08 21 59.0	+0.5
WRA	**Warramunga Arr** 0.1nm,0.2s,baz=7.5,slow=8.4,SNR=16	**47.12**	**188**	P		P	08 26 07.0	-0.1
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=91,slow=7.6,SNR=4.6	**51.88**	**314**	P		P	08 26 42.1	-0.3
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=287,slow=6.4,SNR=3.5	**72.91**	**28**	P		P	08 29 00.5	+0.1
FINES	**FINESS Array B** 0.3nm,0.3s,baz=94,slow=5.9,SNR=4.7	**77.23**	**333**	P		P	08 29 24.7	-0.2

*ISCJB **09** 08:27:18.5±0.6, 4°.98S±0°.05×129°.32E±0°.07, h200km, Error ellipse: s-maj=10.1km s-min=6.3km az=169.5*
*DJA **09** 08:27:22.3±0.7, 5°.S±7°.×12°.9E±°., h197km±6km, M3.4/7, mb3.9/1, mB4.1/1, MLv3.1/7, Mw(mB)3.2/1*

ISC 09 08:27:18.6±1.1, 5°.00S±0°.07×129°.21E±0°.08, h200km, n10, σ2§03/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.84**	**56**	P		**Pn**	**08 28 50.4**	**+3.1**
BNDI				S		**Sn**	**08 28 12.0**	**+2.4**
MSAI	**Masohi**	**1.67**	**350**	P		**Pn**	**08 27 54.0**	**+0.2**
MSAI				S		**Sn**	**08 28 19.9**	**-1.4**
NLAI	**Namlea**	**2.73**	**310**	P		**Pn**	**08 28 06.5**	**+1.4**
FAKI	**Fak Fak**	**3.67**	**56**	P		**Pn**	**08 28 16.5**	**+0.1**
FAKI				S		**Sn**	**08 28 58.8**	**-2.9**
FAKI	**Fak Fak** baz=4.6,SNR=4.6	**3.67**	**56**	P		**Sn**	**08 29 01.6**	**0.0**
SANI	**Sanana**	**4.35**	**312**	P		**Pn**	**08 28 22.8**	**-2.0**
KDI	**Kendari**	**6.65**	**279**	P		Pn	08 28 58.0	+3.7
MTN	**Manton Dam** baz=6.0,SNR=3.9	**8.02**	**166**	P		**Pn**	**08 29 13.8**	**+1.6**
MTN	baz=6.0,SNR=5.1			S		**Sn**	**08 30 41.9**	**-0.7**
KDU	**Kakadu** baz=6.2,SNR=9.2	**8.29**	**157**	P		**Pn**	**08 29 17.2**	**+1.6**
K

COCH	**Cobquecura**	**0.62**	**133**	⇓*i*P	Pb	08 41 57.7	-0.2
COCH				*i* S	Sb	08 42 06.0	-0.2
CCSP	**San Pedro de C**	**1.15**	**170**	*e*P	Pb	08 42 08.4	+1.6
CCSP				*i* S	Sb	08 42 21.2	0.0
LNCH	**Linares**	**1.43**	**96**	*e*P	Pn	08 42 10.2	-0.1
LNCH				*i* S	Sb	08 42 29.0	-0.4
TALC	**Talca**	**1.44**	**78**	⇑*i*P	Pn	08 42 10.6	+0.2
TALC				*i* S	Sb	08 42 29.6	+0.1
CLCH	**Cerro Calan**	**3.28**	**46**	AML	AML	08 43 34.1	
	comp=N,90nm,0.5s						

*ISCJB **09** 08:47:02.2±0.9, 38°.58S±0°.09×175°.92E±0°.09, h177km, Error ellipse: s-maj=13.9km s-min=8.3km az=155.5*
*WEL **09** 08:47:02.9±0.6, 38°.33S×175°.97E, h160km±5km, ML3.3/11, Error ellipse: s-maj=3.9km s-min=3.8km az=90.0*

ISC 09 08:46:60.0±1.4, 38°.40S±0°.10×175°.87E±0°.08, h177km, n41, σ1℩40/43, 5C-3D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUVZ	**Tukino**	**0.88**	**191**	PN	**Pn**	**08 47 28.8**	**+2.1**
FWVZ	**Far West T-bar**	**0.89**	**196**	⇑PN	**Pn**	**08 47 28.8**	**+2.0**
BKZ	**Black Stump Fm**	**0.91**	**148**	⇑PN	**Pn**	**08 47 28.0**	**+1.2**
BKZ				SN	**Sn**	**08 47 46.5**	**-1.1**
TRVZ	**Turoa**	**0.93**	**195**	PN	**Pn**	**08 47 29.2**	**+2.1**
URZ	**Urewera**	**0.99**	**82**	⇓PN	**Pn**	**08 47 27.4**	**+0.2**
URZ				SN	**Sn**	**08 47 45.6**	**-2.6**
MOVZ	**Moawhango**	**1.01**	**185**	PN	**Pn**	**08 47 29.1**	**+1.6**
NMHZ	**Naumai**	**1.01**	**134**	PN	**Pn**	**08 47 29.5**	**+1.9**
MTVZ	**Mangateitei**	**1.03**	**197**	PN	**Pn**	**08 47 29.8**	**+2.1**
BHHZ	**Black Hill Sta**	**1.10**	**172**	PN	**Pn**	**08 47 29.7**	**+1.5**
MCHZ	**McNeill Hill**	**1.23**	**148**	PN	**Pn**	**08 47 31.2**	**+2.1**
ARHZ	**Aropaoanui**	**1.23**	**135**	PN	**Pn**	**08 47 30.9**	**+1.7**
ARHZ				SN	**Sn**	**08 47 51.7**	**-0.2**
KRHZ	**Kereru**	**1.30**	**163**	⇑PN	**Pn**	**08 47 31.5**	**+1.7**
RIGZ	**Rimuhau**	**1.52**	**102**	PN	**Pn**	**08 47 32.6**	**+0.8**
WAZ	**Wanganui**	**1.52**	**207**	PN	**Pn**	**08 47 33.9**	**+2.1**
PNHZ	**Pukenui**	**1.54**	**170**	PN	**Pn**	**08 47 33.5**	**+1.5**
KNZ	**Kokohu**	**1.54**	**114**	PN	**Pn**	**08 47 33.0**	**+1.0**
KAHZ	**Kahuranaki**	**1.60**	**151**	PN	**Pn**	**08 47 34.4**	**+1.7**
TSZ	**Takapari Road**	**1.66**	**177**	⇑PN	**Pn**	**08 47 34.8**	**+1.6**
PXZ	**Pawanui**	**1.80**	**155**	PN	**Pn**	**08 47 36.1**	**+1.4**
PXZ				SN	**Sn**	**08 48 00.5**	**-1.2**
DVHZ	**Dannevirke**	**1.91**	**173**	PN	**Pn**	**08 47 37.0**	**+1.2**
POWZ	**Post Office Ro**	**1.99**	**182**	PN	**Pn**	**08 47 38.0**	**+1.3**
ANWZ	**Angora Road**	**2.11**	**167**	PN	**Pn**	**08 47 39.4**	**+1.4**
PRWZ	**Pori Road**	**2.15**	**178**	PN	**Pn**	**08 47 39.9**	**+1.4**
MRZ	**Mangatainoka R**	**2.27**	**186**	⇑PN	**Pn**	**08 47 40.8**	**+1.0**
BFZ	**Birch Farm**	**2.30**	**173**	PN	**Pn**	**08 47 40.9**	**+0.9**
TIWZ	**Tintock**	**2.37**	**180**	⇓PN	**Pn**	**08 47 42.0**	**+1.0**
HOWZ	**Holdsworth Sta**	**2.51**	**186**	⇓PN	**Pn**	**08 47 43.4**	**+0.8**
KIW	**Kapiti Island**	**2.57**	**196**	PN	**Pn**	**08 47 44.1**	**+0.9**
TMWZ	**Te Maipa**	**2.71**	**180**	PN	**Pn**	**08 47 45.2**	**+0.4**
MTW	**Mount Morrison**	**2.77**	**186**	PN	**Pn**	**08 47 45.9**	**+0.3**
CAW	**Cannon Point**	**2.77**	**193**	PN	**Pn**	**08 47 46.4**	**+0.8**
TCW	**Tory Channel**	**3.06**	**203**	PN	**Pn**	**08 47 50.0**	**+0.9**
PLWZ	**Palliser**	**3.20**	**188**	PN	**Pn**	**08 47 51.0**	**+0.1**
TUWZ	**Tuamarina**	**3.37**	**205**	PN	**Pn**	**08 47 53.6**	**+0.6**
NNZ	**Nelson**	**3.41**	**213**	PN	**Pn**	**08 47 53.9**	**+0.6**
QRZ	**Quartz Range**	**3.54**	**226**	PN	**Pn**	**08 47 55.4**	**+0.4**
KHZ	**Kahutara**	**4.39**	**203**	PN	**Pn**	**08 48 06.2**	**+0.3**
MQZ	**McQueen's Vall**	**5.83**	**204**	PN	**Pn**	**08 48 23.3**	**-1.3**
ASAR	**Alice Springs**	**38.50**	**280**	P	sP	08 54 59.4	-3.6
	0.1nm,0.3s,baz=105,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**40.26**	**285**	P	sP	08 55 08.1	-10
	0.2nm,0.3s,baz=110,slow=8.1,SNR=8.6						
FINES	**FINESS Array B**	**150.31**	**331**	PKP	**PKPab**	**09 06 36.1**	**0.0**
	0.7nm,0.5s,baz=19,slow=5.1,SNR=4.0						

*IDC **09** 08:59:25.8±2.4, 2°.26N×96°.12E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/52, mbtmp3.8/7, ML4.3/1, MS2.7/1, Ms1 2.9/1, ms1mx2.3/49, Error ellipse: s-maj=90.4km s-min=25.4km az=56.0*
*ISCJB **09** 08:59:27.4±1.5, 2°.30N±0°.08×96°.06E±0°.07, h20km±9km, mb3.9/6, Error ellipse: s-maj=13.3km s-min=12.0km az=148.9*
*DJA **09** 08:59:29.8±1.0, 2°.N±5°×9°.6E±°, h12km±3km, M4.3/10, mb4.8/3, mB5.8/2, MLv4.0/10, Mw(mB)5.3/2*

ISC 09 08:59:29.4±1.8, 2°.36N±0°.08×96°.1E±0°.1, h18km±7km, n20, σ1℩04/17, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.20**	**76**	P	**Pg**	**08 59 34.4**	**+0.1**
SNSI				S	**Sg**	**08 59 37.3**	**-0.4**
TPTI		**1.38**	**49**	P	**Pn**	**08 59 52.4**	**-1.4**
TPTI				S	**Sn**	**09 00 11.6**	**0.0**
KCSI	**Kotacane, Aceh**	**2.00**	**55**	P	**Pn**	**09 00 01.8**	**-0.6**
KCSI				S	**Sn**	**09 00 28.1**	**+1.0**
TSI	**Tuntungan**	**2.68**	**65**	P	**Pn**	**09 00 13.2**	**+1.5**
LHMI	**Lhok Sumawe**	**2.96**	**16**	P	**Pn**	**09 00 17.1**	**+1.5**
MNSI	**Mandailing Nat**	**3.78**	**114**	P	**Pn**	**09 00 27.9**	**+1.0**
RGRI	**Rengat**	**6.76**	**113**	P	**Pn**	**09 01 08.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.23**	**10**	Pn	**Pn**	**09 03 18.2**	**+1.5**
	0.4nm,0.3s,baz=199,slow=12,SNR=4.1						
CMAR				LR	LR	09 10 17.7	
	comp=Z,25nm,20.7s,baz=165,slow=40						
H08S2	**Diego Garcia H**	**25.59**	**247**	T	T	09 31 31.0	
	baz=68,slow=76,SNR=120						
H08S3	**Diego Garcia H**	**25.59**	**247**	T	T	09 31 30.5	
	baz=68,slow=76,SNR=170						
H08S1	**Diego Carcia H**	**25.61**	**247**	T	T	09 31 35.4	
	baz=68,slow=76,SNR=141						
H01W3	**Cape Leeuwin H**	**40.72**	**157**	T	T	09 50 20.4	
	baz=333,slow=76,SNR=38						
H01W2	**Cape Leeuwin H**	**40.73**	**157**	T	T	09 50 21.4	
	baz=333,slow=76,SNR=41						
H01W1	**Cape Leeuwin H**	**40.73**	**157**	T	T	09 50 22.3	
	baz=333,slow=76,SNR=38						
WRA	**Warramunga Arr**	**43.55**	**122**	P	**P**	**09 07 31.4**	**-1.3**
	0.3nm,0.8s,baz=300,slow=9.3,SNR=3.8						
MKAR	**Makanchi Array**	**45.87**	**347**	P	**P**	**09 07 50.5**	**-0.2**
	2.4nm,0.7s,baz=162,slow=7.9,SNR=30						
SONM	**Songino Array**	**46.16**	**10**	P	**P**	**09 07 52.6**	**-0.5**
	0.7nm,0.5s,baz=190,slow=9.0,SNR=6.5						
KURBB	**Kurchatov Arra**	**50.34**	**346**	P	**P**	**09 08 25.1**	**-0.1**
	0.3nm,0.4s,baz=165,slow=7.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**52.26**	**352**	P	**P**	**09 08 39.2**	**-0.3**
	2.1nm,0.4s,baz=180,slow=6.8,SNR=12						
BVAR	**Borovoye Array**	**54.81**	**341**	P	**P**	**09 08 58.1**	**-0.2**
	0.6nm,0.4s,baz=160,slow=9.1,SNR=5.6						

*IDC **09** 09:19:56.8±2.3, 7°.66S×127°.74E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.2/32, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=277.5km s-min=32.6km az=64.0*

ISC 09 09:19:57.7±1.6, 7°.8S±0°.2×127°.9E±0°.4, h10km, n6, σ1℩98/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.00**	**148**	P	**Pn**	**09 21 24.9**	**-1.7**
	baz=4.1,SNR=7.2						
MTN				S	**Sn**	**09 22 37.2**	**+1.8**
	baz=4.1,SNR=3.1						
KDU	**Kakadu**	**6.68**	**138**	P	**Pn**	**09 21 35.1**	**-0.8**
	baz=4.5,SNR=43						
KNRA	**Kununurra**	**7.93**	**174**	P	Pb	09 22 09.1	-6.2
	baz=6.8,SNR=9.2						
KNRA				S	Sb	09 23 40.8	-9.1
	baz=6.8,SNR=7.1						
WRA	**Warramunga Arr**	**13.65**	**153**	Pn	**Pn**	**09 23 11.7**	**+0.2**
	0.4nm,0.3s,baz=329,slow=14,SNR=9.8						
WRA				Sn	Sn	09 25 33.7	-10
	0.4nm,0.3s,baz=343,slow=19,SNR=4.8						
ASAR	**Alice Springs**	**16.86**	**161**	Pn	**P**	**09 23 57.9**	**+1.8**
	0.2nm,0.3s,baz=339,slow=9.4,SNR=12						
ASAR				Sn	**Sn**	**09 26 59.1**	**-2.4**
	0.1nm,0.3s,baz=334,slow=20,SNR=3.6						
MKAR	**Makanchi Array**	**67.71**	**328**	P	**P**	**09 30 55.2**	**-0.1**
	0.1nm,0.3s,baz=117,slow=5.0,SNR=4.4						

DJA 09 09:22:32.5±0.3, 2°.S±2°×12°.2E±°, h55km±12km, M4.2/21, mb4.4/2, mB4.8/1, MLv4.1/21, Mw(mB)4.1/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.40**	**26**	P	Pn	09 22 55.5	-0.2
LUWI				S	Sn	09 23 13.5	+0.4
LUWI	**Luwuk**	**1.40**	**26**	P	Pn	09 22 55.5	-0.2
	baz=11,SNR=47						
APSI	**Ampana**	**1.48**	**339**	P	Pn	09 22 56.8	-0.1
TTSI	**Tana Toraja**	**2.46**	**253**	P	Pn	09 23 10.1	-0.1
PCI	**Palu**	**2.72**	**301**	P	Pn	09 23 13.9	+0.1
MRSI	**Marisa**	**2.78**	**355**	P	Pn	09 23 14.6	0.0
MRSI				S	Sn	09 23 47.5	+0.6
SPSI	**Sidrap Palu**	**2.91**	**236**	P	Pn	09 23 16.6	+0.3
SPSI				S	Sn	09 23 50.4	+0.3
BNSI	**Bone**	**2.92**	**225**	P	Pn	09 23 16.8	+0.2
GTOI	**Gorontalo**	**3.04**	**16**	P	Pn	09 23 18.9	+0.7
BBSI	**Bau Bau**	**3.18**	**173**	P	Pn	09 23 22.0	+1.9
KMSI	**Cibinong**	**3.39**	**32**	P	Pn	09 23 23.6	+0.7
KMSI				S	Sn	09 24 02.1	+0.2
MPSI	**Mapaga**	**3.48**	**319**	P	Pn	09 23 26.0	+1.9
MPSI				S	Sn	09 24 06.4	+2.4
BKSI	**Bulukumba**	**3.62**	**214**	P	Pn	09 23 26.7	+0.6
BKSI				S	Sn	09 24 07.2	-0.5
SANI	**Sanana**	**3.82**	**86**	P	Pn	09 23 29.0	+0.1
SANI				S	Sn	09 24 04.1	-8.5
BSSI	**Bau Bau, Buton**	**4.16**	**204**	P	Pn	09 23 33.1	-0.4
LBMI	**Labuha**	**5.58**	**73**	P	Pn	09 23 50.8	-2.2
	44nm,0.5s,887nm0.4nm						

WEL 09 09:45:36.1±0.1, 39°.70S×175°.04E, h89km±1km, ML3.6/14, 5C-21D, Error ellipse: s-maj=0.5km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.07**	**216**	⇓PN	Pn	09 45 48.6	-0.2
WAZ				SN	Sn	09 45 58.0	-0.1
MTVZ	**Mangateitei**	**0.46**	**47**	⇓PN	Pn	09 45 50.2	-0.4
PKVZ	**Pokaka**	**0.47**	**30**	⇓PN	Pn	09 45 50.3	-0.5
LREZ	**Lake Rotokare**	**0.55**	**296**	PN	Pn	09 45 50.9	-0.2
LREZ				SN	Sn	09 46 02.5	+0.1
TRVZ	**Turoa**	**0.56**	**45**	PN	Pn	09 45 50.9	-0.8
WNWZ	**Wahianoa**	**0.57**	**50**	⇓PN	Pn	09 45 51.4	-0.2
DRZ	**Dome Shelter**	**0.59**	**44**	PN	Pn	09 45 51.6	-0.4
FWVZ	**Far West T-bar**	**0.60**	**42**	⇓PN	Pn	09 45 51.5	-0.4
WHVZ	**Whangaehu Hut**	**0.60**	**46**	⇓PN	Pn	09 45 51.5	-0.5
VRZ	**Vera Road**	**0.61**	**339**	⇓PN	Pn	09 45 51.3	-0.5
MOVZ	**Moawhango**	**0.63**	**62**	⇓PN	Pn	09 45 51.6	-0.4
WPVZ	**Whakapapa**	**0.63**	**39**	PN	Pn	09 45 51.7	-0.4
COVZ	**Chateau Observ**	**0.64**	**38**	PN	Pn	09 45 51.6	-0.5
TUVZ	**Tukino**	**0.64**	**48**	⇓PN	Pn	09 45 52.1	-0.1
NGZ	**Ngauruhoe**	**0.68**	**40**	⇓PN	Pn	09 45 52.3	-0.4
TWVZ	**Taurewa**	**0.70**	**26**	⇓PN	Pn	09 45 52.1	-0.6
OTVZ	**Oturere**	**0.72**	**42**	⇓PN	Pn	09 45 52.9	-0.1
WTVZ	**West Tongariro**	**0.72**	**36**	⇓PN	Pn	09 45 52.6	-0.4
KRVZ	**Karewarewa**	**0.77**	**38**	⇓PN	Pn	09 45 53.0	-0.4
PREZ	**Palmer Road**	**0.77**	**298**	PN	Pn	09 45 53.4	+0.1
TSZ	**Takapari Road**	**0.80**	**117**	⇓PN	Pn	09 45 53.4	-0.2
TSZ				AML	AML	09 46 10.2	
TSZ				AML	AML	09 46 12.0	
BHHZ	**Black Hill Sta**	**0.82**	**75**	⇓PN	Pn	09 45 53.0	-0.6
DREZ	**Durham Road**	**0.82**	**308**	PN	Pn	09 45 53.9	0.0
MHEZ	**Mangahewa**	**0.83**	**318**	PN	Pn	09 45 54.2	+0.2
NEZ	**North Egmont**	**0.84**	**300**	PN	Pn	09 45 54.2	0.0
KATZ	**Kakaramea**	**0.89**	**35**	⇓PN	Pn	09 45 54.4	-0.3
KHEZ	**Kahui Hut**	**0.89**	**297**	PN	Pn	09 45 54.4	-0.3
POWZ	**Post Office Ro**	**0.89**	**141**	PN	Pn	09 45 54.3	-0.2
PNHZ	**Pukenui**	**0.92**	**104**	PN	Pn	09 45 54.9	0.0
NMEZ	**Namu Road**	**0.94**	**287**	PN	Pn	09 45 54.7	-0.4
PKE	**Pukeiti**	**0.96**	**302**	PN	Pn	09 45 55.0	-0.4
RITZ	**Rihia Road**	**0.96**	**42**	PN	Pn	09 45 55.7	+0.2
NWEZ	**Newall Road**	**1.00**	**295**	PN	Pn	09 45 55.4	-0.3
RATZ	**Rangitukua**	**1.01**	**35**	PN	Pn	09 45 55.8	-0.2
KRHZ	**Kereru**	**1.03**	**87**	PN	Pn	09 45 56.2	0.0
MRZ	**Mangatainoka R**	**1.05**	**157**	PN	Pn	09 45 56.3	0.0
MRZ				AML	AML	09 46 13.8	
MRZ				AML	AML	09 46 15.2	
DVHZ	**Dannevirke**	**1.05**	**125**	PN	Pn	09 45 55.9	-0.6
PRWZ	**Pori Road**	**1.11**	**140**	PN	Pn	09 45 57.2	0.0
OGWZ	**Otaki Gorge**	**1.12**	**175**	PN	Pn	09 45 57.4	+0.2
WATZ	**Wairara**	**1.13**	**29**	PN	Pn	09 45 57.5	+0.1
WPHZ	**Waipukurau**	**1.14**	**109**	PN	Pn	09 45 59.4	+2.0
HATZ	**Hinemaiaia**	**1.15**	**46**	PN	Pn	09 45 57.2	-0.4
KIW	**Kapiti Island**	**1.16**	**185**	PN	Pn	09 45 57.6	-0.1
KIW				AML	AML	09 46 15.4	
KIW				AML	AML	09 46 17.8	
HIZ	**Hauiti**	**1.19**	**353**	⇑PN	Pn	09 45 57.9	-0.2
BKZ	**Black Stump Fm**	**1.25**	**65**	⇓PN	Pn	09 45 58.6	-0.2
BKZ				AML	AML	09 46 21.9	
BKZ				AML	AML	09 46 22.7	
HOWZ	**Holdsworth Sta**	**1.25**	**163**	PN	Pn	09 45 58.9	+0.1
TIWZ	**Tintock**	**1.26**	**149**	PN	Pn	09 45 58.8	-0.1
TIWZ				AML	AML	09 46 24.1	
TIWZ				AML	AML	09 46 24.1	
MCHZ	**McNeill Hill**	**1.31**	**79**	⇑PN	Pn	09 45 59.9	+0.5
ANWZ	**Angora Road**	**1.34**	**125**	PN	Pn	09 45 59.7	-0.1
BFZ	**Birch Farm**	**1.35**	**137**	PN	Pn	09 45 59.5	-0.4
PRHZ	**Porangahau**	**1.35**	**115**	PN	Pn	09 45 59.9	-0.1
DUWZ	**D'Urville Isla**	**1.39**	**217**	⇓PN	Pn	09 46 00.4	-0.2
CAW	**Cannon Point**	**1.41**	**179**	⇓PN	Pn	09 46 00.6	-0.1
CAW				AML	AML	09 46 18.1	
CAW				AML	AML	09 46 25.0	
KAHZ	**Kahuranaki**	**1.42**	**94**	PN	Pn	09 46 00.5	-0.4
TLZ	**Tolley Road**	**1.43**	**16**	⇑PN	Pn	09 46 00.6	-0.4
PXZ	**Pawanui**	**1.44**	**104**	PN	Pn	09 46 01.1	0.0
WPRZ	**Whakapapataria**	**1.47**	**37**	PN	Pn	09 46 01.6	+0.1
MTW	**Mount Morrison**	**1.50**	**166**	PN	Pn	09 46 01.6	-0.2
MTW				AML	AML	09 46 27.1	
MTW				AML	AML	09 46 27.8	
NMHZ	**Naumai**	**1.50**	**67**	PN	Pn	09 46 02.6	+0.7
TMWZ	**Te Maipa**	**1.55**	**155**	PN	Pn	09 46 02.5	-0.1
ARHZ	**Aropaoanui**	**1.58**	**74**	PN	Pn	09 46 02.8	0.0
WEL	**Wellington**	**1.60**	**187**	PN	Pn	09 46 02.6	-0.4
PRRZ	**Plateau Road**	**1.60**	**42**	PN	Pn	09 46 02.5	-0.2
TCW	**Tory Channel**	**1.62**	**201**	PN	Pn	09 46 03.0	-0.3
TCW				AML	AML	09 46 23.9	
TCW				AML	AML	09 46 24.0	
PAWZ	**Paruwai Farm**	**1.71**	**170**	PN	Pn	09 46 04.2	-0.3
PAWZ				AML	AML	09 46 23.4	
PAWZ				AML	AML	09 46 23.9	
BHW	**Baring Head**	**1.71**	**184**	PN	Pn	09 46 04.0	-0.5
BHW				AML	AML	09 46 23.8	
BHW				AML	AML	09 46 31.6	
MSWZ	**Moikau Station**	**1.72**	**175**	PN	Pn	09 46 04.2	-0.5
MSWZ				AML	AML	09 46 23.7	
MSWZ				AML	AML	09 46 23.8	
RAHZ	**Arahi**	**1.77**	**64**	PN	Pn	09 46 06.0	+0.6
TARZ	**Mount Tarawera**	**1.86**	**38**	PN	Pn	09 46 06.9	+0.3
PLWZ	**Palliser**	**1.87**	**175**	PN	Pn	09 46 06.0	-0.8
TUWZ	**Tuamarina**	**1.92**	**205**	PN	Pn	09 46 06.5	-0.7
TUWZ				AML	AML	09 46 30.4	
TUWZ				AML	AML	09 46 30.6	
NNZ	**Nelson**	**1.97**	**219**	PN	Pn	09 46 07.4	-0.6
TOZ	**Tahuroa Road**	**2.00**	**11**	PN	Pn	09 46 08.0	-0.3
SNGZ	**Shannon Statio**	**2.01**	**64**	PN	Pn	09 46 08.2	-0.3
CMWZ	**Cape Campbell**	**2.14**	**197**	*e*PN	Pn	09 46 10.0	-0.2
KNZ	**Kokohu**	**2.15**	**72**	*e*PN	Pn	09 46 09.4	-0.9
URZ	**Urewera**	**2.16**	**49**	⇑PN	Pn	09 46 09.5	-1.0
URZ				AML	AML	09 46 36.2	
BSWZ	**Blackbirch Sta**	**2.20**	**203**	PN	Pn	09 46 10.1	-0.8
QRZ	**Quartz Range**	**2.22**	**239**	PN	Pn	09 46 10.3	-1.0
MHGZ	**Mahia Peninsul**	**2.29**	**77**	PN	Pn	09 46 11.4	-0.8
RIGZ	**Rimuhau**	**2.34**	**66**	PN	Pn	09 46 12.3	-0.6
PRGZ	**Paritu Road**	**2.34**	**72**	PN	Pn	09 46 11.9	-1.0
MWZ	**Matawai**	**2.37**	**56**	PN	Pn	09 46 12.3	-1.0
MWZ				AML	AML	09 46 51.3	
MWZ				AML	AML	09 46 51.5	
TKGZ	**Te Karaka**	**2.53**	**61**	PN	Pn	09 46 14.4	-0.8
MKAZ	**Moumakai**	**2.59**	**2**	PN	Pn	09 46 15.9	-0.2
THZ	**Tophouse**	**2.62**	**218**	PN	Pn	09 46 15.7	-0.9
ETAZ	**East Tamaki Re**	**2.75**	**358**	PN	Pn	09 46 18.4	+0.2
TWGZ	**Tauwhareparae**	**2.75**	**57**	PN	Pn	09 46 17.8	-0.6
WTAZ	**Waiatarua**	**2.79**	**352**	PN	Pn	09 46 18.4	-0.4
HAZ	**Te Kaha**	**2.90**	**49**	PN	Pn	09 46 18.1	-2.1
KHZ	**Kahutara**	**2.94**	**202**	PN	Pn	09 46 19.5	-1.3
RVAZ	**Riverhead Bore**	**2.95**	**353**	⇓PN	Pn	09 46 21.0	0.0
PUZ	**Puketiti**	**2.99**	**58**	PN	Pn	09 46 20.0	-1.6
KUZ	**Kuaotunu**	**3.00**	**11**	PN	Pn	09 46 21.0	-0.6
DSZ	**Denniston Nort**	**3.19**	**229**	PN	Pn	09 46 22.8	-1.5
WMGZ	**Waiomatatini S**	**3.24**	**56**	PN	Pn	09 46 23.2	-1.7
WCZ	**Waipu Caves**	**3.79**	**351**	⇑PN	Pn	09 46 32.3	-0.1
OXZ	**Oxford**	**4.26**	**211**	PN	Pn	09 46 35.2	-3.5
MQZ	**McQueen's Vall**	**4.38**	**203**	PN	Pn	09 46 36.9	-3.3
FOZ	**Fox Glacier**	**5.56**	**224**	PN	Pn	09 46 54.6	-1.7
ODZ	**Otahua Downs**	**6.25**	**210**	PN	Pn	09 47 02.6	-3.1
CTZ	**Chatham Island**	**7.43**	**126**	PN	Pn	09 47 20.9	-0.8

*IDC **09** 09:53:03.2±1.4, 27°.18N×96°.55E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.2/56, mbtmp3.5/5, MS2.4/1, Ms1 2.6/1, ms1mx2.2/39, Error ellipse: s-maj=66.2km s-min=20.1km az=65.0*
*ISCJB **09** 09:53:04.9±0.9, 27°.39N±0°.09×95°.72E±0°.06, h33km, mb3.4/5, Error ellipse: s-maj=13.8km s-min=6.6km az=13.0*

ISC 09 09:53:07.1±1.1, 27°.30N±0°.09×95°.74E±0°.08, h35km, n20, σ3℩02/29, mb3.4/5, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.99**	**213**	*e*P	**Pn**	**09 53 53.0**	**+1.0**
IMP				*e*S	Sn	09 53 58.0	-29
IMP				*e*SS	**SnSn**	**09 54 29.0**	**-9.4**
IMP				x		09 54 35.0	ex
SHL	**Shillong**	**3.86**	**244**	⇑*i*PN	**Pn**	**09 54 06.5**	**+2.3**
SHL				*e*SN	**Sn**	**09 54 52.0**	**+3.6**
TAPN	**Taplejung**	**7.14**	**272**	*e*Pn	**Pn**	**09 54 50.6**	**+1.3**
TAPN				*e*Sn	**Sn**	**09 56 12.3**	**+2.9**
	50nm,0.5s						
ODAN	**Odare**	**7.45**	**269**	*e*Pn	**Pn**	**09 54 56.1**	**+2.5**
ODAN				*e*Sn	**Sn**	**09 56 20.8**	**+3.8**
RAMN	**Ramite**	**8.15**	**270**	*e*Pn	**Pn**	**09 55 05.8**	**+2.7**
RAMN				*e*Sn	**Sn**	**09 56 36.2**	**+2.1**
	36nm,0.3s						
JIRN	**Jiri**	**8.49**	**275**	*e*Pn	**Pn**	**09 55 10.0**	**+2.1**
JIRN				*e*Sn	**Sn**	**09 56 42.8**	**+0.2**
	65nm,0.3s						
GUN	**Gumba**	**8.77**	**276**	*e*Sn	**Sn**	**09 56 47.9**	**-1.6**
	59nm,0.5s						
PKI	**Pulchoki**	**9.18**	**274**	*e*Sn	**Sn**	**09 56 58.5**	**-1.1**
	19nm,0.4s						
PKIN	**Phulchoki**	**9.19**	**274**	*e*Sn	**Sn**	**09 57 00.0**	**+0.2**
	26nm,0.3s						
CMAR	**Chiang Mai Arr**	**9.29**	**161**	Pn	**Pn**	**09 55 18.9**	**+0.4**
	0.7nm,0.3s,baz=331,slow=13,SNR=20						
CMAR				LR	LR	09 58 01.9	
	comp=Z,24nm,21.4s,baz=38,slow=33						
CMAR				Lg	Lg	09 58 07.3	
	0.6nm,0.3s,baz=339,slow=30,SNR=4.4						
KKN	**Kakani**	**9.29**	**275**	*e*Pn	**Pn**	**09 55 20.4**	**+1.6**
KKN				*e*Sn	**Sn**	**09 57 00.5**	**-1.8**
GKN	**Gorkha**	**9.87**	**277**	*e*Pn	**Pn**	**09 55 26.6**	**0.0**
GKN				*e*Sn	**Sn**	**09 57 13.9**	**-2.3**
	21nm,0.3s						
DANN	**Dangsing**	**10.65**	**278**	*e*Pn	**Pn**	**09 55 36.9**	**-0.6**
DANN				*e*Sn	**Sn**	**09 57 31.1**	**-4.6**
	22nm,0.4s						
KOLN	**Koldanda**	**10.78**	**275**	*e*Pn	**Pn**	**09 55 39.9**	**+0.7**
KOLN				*e*Sn	**Sn**	**09 57 35.8**	**-3.0**
	16nm,0.4s						
PYUN	**Piuthan**	**11.32**	**277**	*e*Pn	**Pn**	**09 55 45.7**	**-0.9**
PYUN				*e*Sn	**Sn**	**09 57 47.8**	**-4.2**
	52nm,0

DL2				Sg	**Sg**	**10 53 28.6**	**-1.3**		
TIA	**Tai'an**	**3.43**	**194**	Pn	**Pn**	**10 52 50.8**	**-3.0**		
TIA				Pg	**Pb**	**10 52 58.5**	**-2.6**		
TIA				Sg	**Sb**	**10 53 41.9**	**-1.0**		
TIA				SMN					
	1μm,0.8s								
TIA				SME					
	2μm,0.8s								
TIA	**Tai'an**	**3.43**	**194**	Pn	**Pn**	**10 52 50.8**	**-3.0**		
TIA				Pg	**Pb**	**10 52 58.5**	**-2.6**		
TIA				Sg	**Sb**	**10 53 41.9**	**-1.0**		
SNY	**Shenyang**	**4.72**	**60**	⇓Pn	**Pn**	**10 53 11.2**	**-0.3**		
SNY				Pg	Pb	10 53 27.5	+4.4		
SNY				Sn	**Sn**	**10 54 04.0**	**-2.2**		
SNY				Sg	**Sg**	**10 54 31.3**	**-0.5**		
SNY				SMN					
	2μm,0.7s								
SNY				SME					
	460nm,0.6s								
SNY	**Shenyang**	**4.72**	**60**	⇓Pn	**Pn**	**10 53 11.2**	**-0.3**		
SNY				Pg	Pb	10 53 27.5	+4.4		
SNY				Sn	**Sn**	**10 54 04.0**	**-2.2**		
SNY				Sg	**Sg**	**10 54 31.3**	**-0.5**		
TIY	**Taiyuan**	**4.83**	**249**	Pg	**Pb**	**10 53 25.1**	**+0.2**		
TIY				Sg	**Sb**	**10 54 23.5**	**+0.5**		
TIY				SMN					
	900nm,0.6s								
TIY				SME					
	1μm,0.7s								
HHC	**Hu-ho-hao-te**	**5.19**	**287**	*e*Pn	Pn	10 53 21.2	+3.2		
HHC				Pg	**Pb**	**10 53 33.2**	**+2.1**		
HHC				Sn	**Sb**	**10 54 33.8**	**+0.2**		
HHC				Sg	**Sg**	**10 54 41.8**	**-5.1**		
HHC				smax	smax				
	comp=N,300nm,0.7s								
HHC				smax	smax				
	comp=E,390nm,0.6s								
HHC	**Hu-ho-hao-te**	**5.19**	**287**	*e*Pg	**Pb**	**10 53 33.1**	**+2.0**		
HHC				Sg	**Sg**	**10 54 41.9**	**-5.0**		
HHC				SMN					
	comp=E,270nm,0.6s								
HHC				SME					
	comp=E,300nm,0.5s								
BTO	**Baotou**	**6.31**	**282**	*e*Pg	**Pb**	**10 53 51.6**	**+1.5**		
BTO				SMN					
	comp=E,53nm,0.5s								
BTO				SME					
	comp=E,38nm,0.6s								
KSGAH	**Ganghwa**	**6.77**	**103**	P	**Pn**	**10 53 38.8**	**-0.7**		
	SNR=9.9								
KSGAH	**Ganghwa**	**6.77**	**103**	P	**Pn**	**10 53 38.8**	**-0.7**		
	SNR=9.9								
CN2	**Changchun**	**6.93**	**50**	*e*Pg	Pb	10 54 06.4	+5.8		
CN2				*e*Sn	Sn	10 55 10.8	+10		
CN2				*e*Sg	**Sg**	**10 55 41.1**	**-1.4**		
CN2				SMN					
	comp=E,100nm,0.8s								
CN2				SME					
	comp=E,100nm,0.8s								
YNCB	**YEONCHEON**	**7.03**	**100**	P	**Pn**	**10 53 42.5**	**-0.7**		
	SNR=8.2								
YNCB	**YEONCHEON**	**7.03**	**100**	P	**Pn**	**10 53 42.5**	**-0.7**		
	SNR=8.2								
NJ2	**Nanjing**	**7.51**	**175**	*e*Pn	**Pn**	**10 53 47.7**	**-2.1**		
NJ2				Sn	**Sn**	**10 55 15.2**	**+0.2**		
NJ2				LN					
	comp=E,2μm,12.5s								
NJ2				LE					
	comp=E,560nm,12.8s								
KSCEA	**Cheonan**	**7.69**	**108**	P	**Pn**	**10 53 52.0**	**-0.2**		
	SNR=13								
KSCEA	**Cheonan**	**7.69**	**108**	P	**Pn**	**10 53 52.0**	**-0.2**		
	SNR=13								
KSCHC	**Chuncheon**	**7.78**	**100**	P	**Pn**	**10 53 53.0**	**-0.5**		
	SNR=29								
KSCHC	**Chuncheon**	**7.78**	**100**	P	**Pn**	**10 53 53.0**	**-0.5**		
	SNR=29								
KSAR	**Wonju Array Be**	**7.93**	**102**	P	**Pn**	**10 53 55.3**	**-0.3**		
KSAR						10 55 19.6			
KSAR	**Wonju Array Be**	**7.93**	**102**	Pn	**Pn**	**10 53 55.2**	**-0.3**		
KSAR				Sn	Sn	10 55 19.6	-5.8		
KSAR				Lg	Lg	10 56 07.3			
KSRS	**Korea Array**	**7.96**	**102**	Pn	**Pn**	**10 53 55.2**	**-0.7**		
	comp=E,23nm,0.3s,baz=289,slow=13,SNR=245								
KSRS				Sn	Sn	10 55 19.6	-6.4		
	comp=E,3.0nm,0.3s,baz=286,slow=25,SNR=4.4								
KSRS				Lg	Lg	10 56 07.3			
	comp=E,1.3nm,0.3s,baz=279,slow=25,SNR=5.2								
KSRS				LR	LR	10 57 15.8			
	comp=E,73nm,21.8s,baz=318,slow=40								
SEHB	**SEOHWA**	**8.00**	**96**	P	**Pn**	**10 53 56.8**	**+0.3**		
	SNR=18								
KSCHJ	**Chungju**	**8.20**	**106**	P	**Pn**	**10 53 59.1**	**-0.2**		
	SNR=5.8								
KSCHJ	**Chungju**	**8.20**	**106**	P	**Pn**	**10 53 59.1**	**-0.2**		
	SNR=5.8								
KSBON	**Boeun**	**8.22**	**109**	P	**Pn**	**10 53 58.9**	**-0.6**		
	SNR=32								
KSDGY	**Daegwallycong**	**8.46**	**99**	P	**Pn**	**10 54 02.9**	**0.0**		
	SNR=20								
KSJMJ	**Jumunjin**	**8.47**	**98**	P	**Pn**	**10 54 02.8**	**-0.2**		
	SNR=9.2								
WHN	**Wuhan**	**9.51**	**200**	P	**Pn**	**10 54 18.8**	**+1.6**		
WHN				LN					
	comp=E,2μm,16.7s								
WHN				LE					
	comp=E,2μm,18.3s								
WHN				LZ					
	comp=E,810nm,13.6s								
HIA	**Hailar**	**9.78**	**6**	*c i*P	**Pn**	**10 54 21.6**	**+0.7**		
HIA	**Hailar**	**9.78**	**6**	*e*Pn	**Pn**	**10 54 21.1**	**+0.2**		
HIA				*e*Sn	**Sn**	**10 56 07.6**	**-3.1**		
VLA	**Vladivostok**	**10.94**	**67**	*e*P	Pn	10 54 33.6	-3.1		
USRK	**Ussuriysk Ar.**	**11.32**	**61**	Lg	Lg	10 57 54.8			
	comp=E,1.0nm,0.3s,baz=257,slow=20,SNR=5.0								
ULN	**Ulaanbaatar**	**11.53**	**320**	*c e*P	**Pn**	**10 54 43.8**	**-1.2**		
ULN				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ULN	**Ulaanbaatar**	**11.53**	**320**	*e*Pn	**Pn**	**10 54 43.9**	**-1.2**		
	comp=Z,5.4nm,0.5s								
ULN				*e*Sn	Sn	10 56 43.9	-10		
LZH	**Lanzhou**	**11.82**	**257**	*e*P	**Pn**	**10 54 50.4**	**+1.5**		
LZH				pP		10 54 53.7			
LZH				sP		10 54 55.8			
LZH				PP	**PnPn**	**10 55 00.0**	**+3.4**		
LZH				*e*S	**Sn**	**10 57 03.3**	**+2.4**		
LZH				sS		10 57 08.5			
LZH				*e*SS	**SnSn**	**10 57 17.2**	**+4.5**		
LZH				PMZ					
	comp=Z,25nm,1.0s								
LZH				PMZ					
	comp=Z,110nm,4.3s								
LZH				LN					
	comp=Z,460nm,10.0s								
LZH				LE					
	comp=Z,610nm,11.2s								
LZH				LZ					
	comp=Z,910nm,15.0s								
SONM	**Songino Array**	**11.85**	**318**	Pn	**Pn**	**10 54 47.6**	**-1.7**		
	comp=Z,2.0nm,0.3s,baz=134,slow=14,SNR=41								
SONM				Sn	Sn	10 56 51.6	-10		
	comp=Z,0.9nm,0.3s,baz=127,slow=24,SNR=5.0								
SONM				Lg	Lg	10 58 10.2			
	comp=Z,1.9nm,0.3s,baz=129,slow=33,SNR=7.6								
SONM				LR	LR	10 59 53.1			
	comp=Z,179nm,19.3s,baz=126,slow=40								
GTA	**Gaotai**	**14.15**	**275**	*e*P	**P**	**10 55 29.1**	**+0.7**		
GTA				pP	pP	10 55 33.2			
GTA				sP	sP	10 55 36.3			
GTA				S	Sn	10 57 34.9	-23		
GTA				sS	sS	10 57 42.5			
GTA				SS	SnSn	10 57 49.1	-21		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GTA				pmax	pmax				
	comp=Z,73nm,5.9s								
GTA				LR	LR				
	comp=N,260nm,11.2s								
GTA				LR	LR				
	comp=E,140nm,12.4s								
GTA				LR	LR				
	comp=Z,110nm,10.9s								
CD2	**Chengdu**	**14.56**	**238**	*e*P	**Pn**	**10 55 26.0**	**-0.3**		
CD2				pP	pP	10 55 30.3			
CD2				sP	sP	10 55 33.8			
CD2				PP	**PnPn**	**10 55 38.5**	**+4.3**		
CD2				S	**Sn**	**10 58 08.4**	**+0.6**		
CD2				sS	sS	10 58 13.5			
CD2				SS	**S**	**10 58 25.0**	**-2.3**		
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
CD2				LN					
	comp=Z,670nm,16.1s								
CD2				LE					
	comp=Z,730nm,12.7s								
CD2				LZ					
	comp=Z,290nm,8.2s								
ZAK	**Zakamensk**	**15.06**	**321**	*e*P	**Pn**	**10 55 29.0**	**-4.0**		
ZAK				*e*		10 58 19.0			
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
TLY	**Talaya**	**15.77**	**325**	*e*P	**P**	**10 55 48.0**	**+1.8**		
TLY				pmax	pmax				
	comp=Z,4.0nm,0.7s								
TLY	**Talaya**	**15.77**	**325**	Pn	**P**	**10 55 47.9**	**+1.8**		
	comp=Z,0.0nm,0.3s,baz=42,slow=7.8,SNR=6.6								
TLY				Lg	Lg	11 00 17.3			
	comp=Z,0.0nm,0.3s,baz=177,slow=7.4,SNR=3.5								
TLY				LR	LR	11 02 29.9			
	comp=Z,82nm,18.9s,baz=164,slow=40								
TLY	**Talaya**	**15.77**	**325**	*e*Pn	**Pn**	**10 55 41.1**	**-1.1**		
	comp=Z,5.1nm,0.7s								
TLY				Lg	Lg	11 00 17.3			
MAJO	**Matsushiro**	**16.10**	**94**	⇓*e*P	**P**	**10 55 52.3**	**+2.4**		
MAJO	**Matsushiro**	**16.10**	**94**	*e*Pn	**Pn**	**10 55 44.5**	**-2.1**		
	comp=Z,8.8nm,0.8s								
MAT	**Matsushiro**	**16.10**	**94**	P	**P**	**10 55 51.9**	**+2.0**		
MJAR	**Matsushiro Arr**	**16.10**	**94**	Pn	**P**	**10 55 53.0**	**+3.1**		
	comp=Z,0.4nm,0.3s,baz=287,slow=11,SNR=14								
MJAR				LR	LR	11 01 15.0			
	comp=Z,21nm,20.3s,baz=255,slow=35								
BOD	**Bodaibo**	**18.47**	**353**	*e*P	**P**	**10 56 16.7**	**+0.7**		
BOD				pmax	pmax				
	comp=Z,3.0nm,1.2s								
QIZ	**Qiongzhong**	**21.67**	**202**	P	**P**	**10 56 48.9**	**-2.2**		
QIZ				S	**S**	**11 00 48.5**	**-2.5**		
QIZ				PMZ					
	comp=Z,40nm,1.4s								
QIZ				LE					
	comp=Z,100nm,11.8s								
QIZ				LZ					
	comp=Z,180nm,10.6s								
SLVN	**Son La**	**21.86**	**218**	*e*P	**P**	**10 56 51.3**	**-1.9**		
	comp=Z,8.1nm,1.1s								
WMQ	**Urumqi**	**23.06**	**291**	*e*P	**P**	**10 57 06.7**	**+1.0**		
WMQ				pP	**pP**	**10 57 11.0**	**+2.4**		
WMQ				sP	**sP**	**10 57 13.7**	**+3.8**		
WMQ				PP	**PnPn**	**10 57 36.0**	**+5.4**		
WMQ				*e*S	**S**	**11 01 13.0**	**-3.6**		
WMQ				PMZ					
	comp=Z,13nm,0.8s								
WMQ				PMZ					
	comp=Z,110nm,6.2s								
WMQ				LN					
	comp=Z,250nm,6.4s								
WMQ				LE					
	comp=Z,250nm,6.0s								
WMQ				LZ					
	comp=Z,200nm,6.2s								
YAK	**Yakutsk**	**23.59**	**14**	*e*P	**P**	**10 57 08.8**	**-1.9**		
YAK				pmax	pmax				
	comp=Z,13nm,1.1s								
YAK	**Yakutsk**	**23.59**	**14**	LR	LR	11 06 57.8			
	comp=Z,48nm,20.1s,baz=266,slow=38								
ZALV	**Zalesovo Beam**	**26.68**	**314**	P	**P**	**10 57 40.7**	**+1.5**		
	comp=Z,0.4nm,0.4s,baz=97,slow=12,SNR=2.6								
ZALV				LR	LR	11 07 29.8			
	comp=Z,48nm,18.3s,baz=66,slow=35								
CMAR	**Chiang Mai Arr**	**26.79**	**224**	P	**P**	**10 57 42.5**	**+2.0**		
	comp=Z,0.7nm,0.4s,baz=36,slow=9.4,SNR=3.3								
CMAR				LR	LR	11 07 47.6			
	comp=Z,41nm,19.9s,baz=9.0,slow=35								
MKAR	**Makanchi Array**	**26.94**	**297**	P	**P**	**10 57 43.9**	**+2.2**		
	comp=Z,1.2nm,0.9s,baz=81,slow=8.9,SNR=4.8								
MKAR				PcP	**PcP**				
	comp=Z,0.3nm,0.6s,baz=102,slow=3.4,SNR=3.4								
MKAR				LR	LR	11 08 54.6			
	comp=Z,55nm,18.5s,baz=92,slow=38								
KURK	**Kurchatov**	**29.68**	**305**	P	**P**	**10 58 06.4**	**+0.4**		
KURK	**Kurchatov**	**29.68**	**305**	P	**P**	**10 58 06.3**	**+0.4**		
KURBB	**Kurchatov Arra**	**29.73**	**305**	P	**P**	**10 58 06.3**	**0.0**		
	comp=Z,1.0nm,0.5s,baz=95,slow=9.9,SNR=9.7								
PETK	**Petropavlovsk-**	**30.08**	**50**	LR	LR	11 11 40.0			
	comp=Z,60nm,18.7s,baz=255,slow=40								
TKM2	**Tokmak 2**	**31.91**	**290**	*e*P	**P**	**10 58 26.2**	**+0.1**		
TKM2				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TKM2	**Tokmak 2**	**31.91**	**290**	*e*P	**P**	**10 58 26.2**	**+0.1**		
	comp=Z,1.4nm,0.6s								
TIXI	**Tiksi**	**32.62**	**6**	⇓*e*P	**P**	**10 58 32.7**	**+1.0**		
TIXI				pmax	pmax				
	comp=Z,7.0nm,2.5s								
BILL	**Bilibino**	**38.58**	**27**	⇑*e*P	**P**	**10 59 23.6**	**+0.8**		
BILL				*i*		11 00 53.8			
BILL				*e*S	**S**	**11 05 23.3**	**+4.8**		
BILL				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BILL				MLR	MLR				
	comp=Z,96nm,20.0s								
ARU	**Arti**	**41.85**	**314**	*d i*P	P	10 59 54.0	+3.9		
ARU						11 01 26.9			
ARU				S	**S**	**11 06 07.8**	**+0.2**		
ARU				SS	**SS**	**11 09 07.3**	**-6.1**		
ARU				pmax	pmax				
	comp=Z,7.0nm,1.7s								
ARU	**Arti**	**41.85**	**314**	*e*P	**P**	**10 59 50.9**	**+0.8**		
	comp=Z,1.8nm,0.5s								
GEYT	**Alibeck**	**46.07**	**288**	LR	LR	11 20 39.1			
	comp=Z,52nm,20.9s,baz=120,slow=37								
TNA	**Tin City**	**48.26**	**32**	*e*P	**P**	**11 00 41.8**	**+0.9**		
	comp=Z,3.6nm,1.0s								
KIV	**Kislovodsk**	**54.62**	**301**	⇑*e*P	P	11 01 33.5	+4.5		
KIV				*e*		11 03 39.1			
KIV				*e*S	**S**	**11 09 11.6**	**+2.9**		
KIV				pmax	pmax				
	comp=Z,11nm,1.2s								
KIV				MLR	MLR				
	comp=Z,42nm,21.0s								
COLA	**College**	**56.60**	**31**	⇓*e*P	**P**	**11 01 44.1**	**+1.3**		
COLA				pmax	pmax				
	comp=Z,37nm,2.5s								
ILAR	**Eielson Array**	**57.02**	**31**	P	**P**	**11 01 45.8**	**0.0**		
	comp=Z,1.0nm,0.8s,baz=279,slow=5.7,SNR=13								
ILAR				LR	LR	11 26 45.4			
	comp=Z,61nm,18.4s,baz=240,slow=37								
FINES	**FINESS Array B**	**57.12**	**325**	P	**P**	**11 01 46.0**	**-0.5**		
FINES	**FINESS Array B**	**57.12**	**325**	P	**P**	**11 01 46.0**	**-0.5**		
	comp=Z,1.1nm,0.4s,baz=76,slow=5.9,SNR=8.6								
KIEV	**Kiev**	**60.09**	**313**	*e*P	P	11 02 02.2	-5.1		
KIEV				pmax	pmax				
	comp=Z,8.0nm,0.7s								
KIEV	**Kiev**	**60.09**	**313**	*e*P	P	11 02 02.2	-5.1		
	comp=Z,8.0nm,0.7s								
WRAB	**Tennant Creek**	**61.09**	**163**	*e*P	**P**	**11 02 15.6**	**+1.2**		
WRAB				pmax	pmax				
	comp=Z,1.0nm,0.9s								
WRAB	**Tennant Creek**	**61.09**	**163**	*e*P	**P**	**11 02 15.6**	**+1.2**		
	comp=Z,1.5nm,0.9s								
WRA	**Warramunga Arr**	**61.10**	**163**	P	**P**	**11 02 16.3**	**+1.8**		
	comp=Z,0.6nm,0.7s,baz=349,slow=7.5,SNR=5.6								
BRTR	**Keskin Array B**	**62.55**	**300**	P	**P**	**11 02 24.2**	**-0.2**		
	comp=Z,0.8nm,0.5s,baz=66,slow=5.4,SNR=4.6								
NB2	**NORSAR Subarra**	**63.60**	**329**	P	**P**	**11 02 29.8**	**-1.1**		
	comp=Z,0.6nm,0.5s,baz=45,slow=7.4								
NOA	**NORSAR Array B**	**63.60**	**329**	P	**P**	**11 02 29.8**	**-1.1**		
	comp=Z,0.6nm,0.5s,baz=54,slow=6.7,SNR=3.7								
NOA				LR	LR	11 30 43.6			
	comp=Z,40nm,18.1s,baz=35,slow=37								
ASAR	**Alice Springs**	**64.60**	**164**	P	**P**	**11 02 37.4**	**-0.4**		
	comp=Z,0.3nm,0.6s,baz=339,slow=5.8,SNR=6.1								
APE	**Apeiranthos**	**69.35**	**301**	⇑*e*P	P	11 03 13.2	+5.1		
YKA	**Yellowknife Ar**	**69.85**	**23**	P	**P**	**11 03 09.9**	**-0.7**		
	comp=Z,0.8nm,0.5s,baz=318,slow=6.0,SNR=57								

GUC 09 11:15:06.3±0.6, 34.75S×72.52W, h30km±3km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.97**	**132**	*e*P	Pn	11 15 23.4	-0.5
TALC				*e*S	Sn	11 15 35.6	-1.0
NICH	**Los Niches**	**1.09**	**104**	*e*P	Pn	11 15 25.0	-0.5
NICH				*e*S	Sn	11 15 39.0	-0.5
LNV	**Longovilo**	**1.21**	**49**	*e*P	Pn	11 15 26.8	-0.4
LNCH	**Linares**	**1.32**	**146**	*e*P	Pn	11 15 29.0	+0.2
LNCH				*e*S	Sb	11 15 46.7	-0.5
COCH	**Cobquecura**	**1.40**	**189**	*e*P	Pn	11 15 29.3	-0.4
COCH				*e*S	Sn	11 15 47.0	-0.2
TACH	**Talagante**	**1.71**	**50**	*e*P	Pn	11 15 34.3	+0.3
CHCH	**Chadas Angostu**	**1.74**	**63**	*e*P	Pn	11 15 35.5	+0.8
SJCH	**San Jose de Ma**	**2.11**	**59**	*e*P	Pn	11 15 40.7	+1.0
SJCH				*e*S	Sn	11 16 06.2	+1.2
SJCH				AML	AML	11 16 11.5	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**2.13**	**51**	*e*P	Pn	11 15 40.6	+0.7
CLCH				*e*S	Sn	11 16 07.0	+1.5
CLCH				AML	AML	11 16 23.8	
	comp=N,1μm,0.5s						

DHMR 09 11:15:43.8±0.8, 11.99N×43.83E, h5km±11km, ML3.7, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.27**	**13**	⇓*i*P	Pg	11 16 07.5	-1.0
TRBA				*i* S	Sn	11 16 25.9	-0.3
TRBA				AML	AML	11 16 26.5	
	comp=E,852nm,0.4s						
UDYN	**Al 'Udayn**	**1.97**	**4**	*i* P	Pn	11 16 18.6	+0.5
UDYN				*i* S	Sg	11 16 46.8	-0.9
UDYN				AML	AML	11 16 52.4	
	comp=E,1μm,0.5s						
DHBB	**Dhamar BB**	**2.63**	**12**	*i* P	Pb	11 16 30.0	-1.8
DHBB				*i* S	Sb	11 17 05.2	+0.5

*ISCJB **09** 11:35:53.6±0.8, 2.11N±0.10×96.96E±0.08, h28km, mb3.9/8, MS4.2/1, Error ellipse: s-maj=16.6km s-min=7.9km az=38.9*
*IDC **09** 11:35:55.1±1.7, 1.99N×96.72E, h26km±6km, mb3.8/8, mb1 3.9/9, mb1mx3.6/43, mbtmp4.0/9, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/43, Error ellipse: s-maj=66.6km s-min=16.2km az=58.0*
ISC 09 11:35:54.8±1.2, 2.0N±0.2×96.8E±0.2, h28km, n24, σ1s12/14, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.64**	**311**	P	**Pb**	**11 36 06.0**	**-1.6**
TPTI		**1.32**	**16**	P	Pn	11 36 14.1	-3.2
	201nm,0.7s,15μm0.7nm						
KCSI	**Kotacane, Aceh**	**1.80**	**32**	P	Pn	11 36 18.4	-5.6
	260nm,0.8s,4μm1.3nm						
MNSI	**Mandailing Nat**	**3.00**	**113**	S	**Sn**	**11 37 13.1**	**-2.6**
LEM	**Lembang**	**13.89**	**129**	LR	LR	11 46 00.7	
	comp=Z,97nm,18.2s,baz=160,slow=43						
CMAR	**Chiang Mai Arr**	**16.50**	**7**	Pn	**Pn**	**11 39 45.4**	**+1.0**
	0.3nm,0.3s,baz=198,slow=11,SNR=15						
CMAR				LR	LR	11 45 29.0	
	comp=Z,30nm,19.7s,baz=195,slow=35						
H08S2	**Diego Garcia H**	**26.08**	**248**	T	T	12 08 14.3	
	baz=69,slow=75,SNR=382						
H08S3	**Diego Garcia H**	**26.09**	**248**	T	T	12 08 14.8	
	baz=69,slow=75,SNR=258						
H08S1	**Diego Garcia H**	**26.10**	**248**	T	T	12 08 15.9	
	baz=69,slow=75,SNR=431						
H08N1	**Diego Garcia H**	**27.06**	**252**	T	T	12 09 46.3	
	baz=28						
H08N2	**Diego Garcia H**	**27.07**	**252**	T	T	12 09 43.6	
	baz=28						
H08N3	**Diego Garcia H**	**27.08**	**252**	T	T	12 09 45.7	
	baz=28						
H01W3	**Cape Leeuwin H**	**40.11**	**158**	T	T	12 26 03.4	
	baz=333,slow=76,SNR=9.7						
H01W2	**Cape Leeuwin H**	**40.13**	**158**	T	T	12 26 15.9	
	baz=333,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**40.13**	**158**	T	T	12 26 07.8	
	baz=333,slow=76,SNR=11						
WRA	**Warramunga Arr**	**42.78**	**122**	P	**P**	**11 43 51.0**	**+0.7**
	1.1nm,0.6s,baz=301,slow=9.2,SNR=8.3						
ASAR	**Alice Springs**	**44.17**	**127**	P	**P**	**11 44 02.6**	**+1.1**
	0.5nm,0.8s,baz=316,slow=8.2,SNR=6.1						
ASAR				pP	**pP**	**11 44 11.1**	**+1.0**
	0.4nm,0.7s,baz=300,slow=7.8,SNR=4.5						
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**11 44 19.2**	**+0.4**
	1.5nm,0.6s,baz=160,slow=7.5,SNR=17						
SONM	**Songino Array**	**46.42**	**9**	P	**P**	**11 44 19.4**	**+0.3**
	1.1nm,0.8s,baz=191,slow=9.2,SNR=9.1						
SONM				pP	**pP**	**11 44 27.2**	**-0.4**
	0.5nm,0.5s,baz=192,slow=10.0,SNR=5.8						
JCJ	**Chichijima**	**50.09**	**56**	LR	LR	12 03 34.9	
	comp=Z,257nm,20.1s,baz=156,slow=33						
KURBB	**Kurchatov Arra**	**50.88**	**345**	P	**P**	**11 44 53.8**	**+0.7**
	0.9nm,0.2s,baz=163,slow=6.6,SNR=4.6						
KURBB				pP	**pP**	**11 45 01.6**	**-0.1**
	0.5nm,0.3s,baz=159,slow=6.9,SNR=2.1						
ZALV	**Zalesovo Beam**	**52.73**	**351**	P	**P**	**11 45 07.2**	**+0.3**
	3.0nm,0.6s,baz=176,slow=5.8,SNR=19						
BVAR	**Borovoye Array**	**55.39**	**341**	P	**P**	**11 45 26.3**	**0.0**
	1.0nm,0.7s,baz=141,slow=7.6,SNR=4.9						
FINES	**FINESS Array B**	**79.13**	**332**	P	**P**	**11 47 56.5**	**-0.1**
	0.7nm,0.6s,baz=101,slow=7.2,SNR=2.9						

IDC 09 11:42:59.0±3.7, 13.61N×145.75E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/48, mbtmp4.0/9, Error ellipse: s-maj=98.3km s-min=34.5km az=6.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**20.69**	**74**	T	T	12 09 22.2	
	baz=263,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**20.71**	**74**	T	T	12 09 23.8	
	baz=263,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**20.71**	**74**	T	T	12 09 24.5	
	baz=263,slow=75,SNR=9.9						
H11N1	**WAKE ISL

	baz=297							
NRN	**Naryn**	**2.14**	**273**	*i*	P	**Pg**	**11 45 15.6**	**+0.4**
	baz=275							
KNDC	**Almaty**	**2.33**	**324**	⇑	Pg	**Pb**	**11 45 16.4**	**+0.4**
KNDC				⇑	Lg	Lg	11 45 49.6	
BOOM	**Boomskoye usch**	**2.45**	**299**	*i*	P	**Pg**	**11 45 19.0**	**-2.1**
	baz=300							
BOOM					*e*S	**Sg**	**11 45 53.6**	**+0.8**
	baz=300							
KZA	**Kyzart**	**2.79**	**286**		P	**Pg**	**11 45 25.5**	**-2.1**
	SNR=20							
KZA	**Kyzart**	**2.79**	**286**	⇑	*i*P	**Pb**	**11 45 23.9**	**-0.1**
	baz=288							
KZA				⇑	*i*S	**Sg**	**11 46 06.2**	**+2.5**
	baz=288							
TKM2	**Tokmak 2**	**2.88**	**304**	⇑	Pg	**Pb**	**11 45 26.6**	**+1.2**
	9.4nm,0.4s							
TKM2				⇑	Lg	Lg	11 46 07.3	
	60nm,0.6s							
TKM2	**Tokmak 2**	**2.88**	**304**		P	**Pg**	**11 45 26.9**	**-2.4**
	SNR=37							
TKM2	**Tokmak 2**	**2.88**	**304**	⇑	*i*P	**Pb**	**11 45 26.4**	**+0.9**
	baz=305							
TKM2				⇑	*i*S	**Sg**	**11 46 07.4**	**+0.8**
	baz=305							
KBK	**Karagaybulak**	**3.18**	**295**		P	**Pb**	**11 45 28.9**	**-1.8**
	SNR=9.6							
KBK	**Karagaybulak**	**3.18**	**295**	⇓	*i*P	**Pb**	**11 45 31.7**	**+1.1**
	baz=297							
KBK				⇓	*i*S	**Sg**	**11 46 17.5**	**+1.1**
	baz=297							
UCH	**Uchtor**	**3.35**	**287**		P	**Pg**	**11 45 37.0**	**-1.4**
	SNR=37							
UCH	**Uchtor**	**3.35**	**287**	⇑	*i*P	**Pg**	**11 45 36.3**	**-2.1**
	baz=288							
UCH				⇑	*i*S	**Sg**	**11 46 24.4**	**+2.5**
	baz=288							
CHMS	**Chumysh**	**3.46**	**300**	⇑	*i*P	**Pb**	**11 45 34.5**	**-0.7**
	baz=301							
CHMS				⇑	*i*S	**Sg**	**11 46 23.1**	**-2.1**
	baz=301							
FRU	**Bishkek**	**3.48**	**297**	*e*	P	**Pg**	**11 45 40.0**	**-0.7**
	baz=298							
AAK	**Ala-Archa**	**3.48**	**293**	⇑	Pg	**Pb**	**11 45 37.4**	**+1.6**
	7.4nm,0.6s							
AAK				⇑	Lg	Lg	11 46 26.6	
	30nm,0.8s							
AAK	**Ala-Archa**	**3.48**	**293**		P	**Pb**	**11 45 37.2**	**+1.4**
	SNR=12							
AAK	**Ala-Archa**	**3.48**	**293**	⇑	*i*P	**Pb**	**11 45 36.8**	**+1.0**
	baz=294							
AAK				⇑	*i*S	**Sg**	**11 46 26.7**	**+0.6**
	baz=294							
AML	**Almayashu**	**3.93**	**283**		P	**Pg**	**11 45 47.5**	**-2.0**
	SNR=29							
EKS2	**Erkin-Say**	**4.00**	**291**		P	**Pg**	**11 45 48.4**	**-2.3**
	SNR=8.8							
SFK	**Sufi-Kurgan**	**4.28**	**253**		Pg	**Pg**	**11 45 53.7**	**-2.4**
SFK					Lg	Lg	11 46 50.9	
MNAS	**Manas**	**4.86**	**286**	⇑	Pg	**Pg**	**11 46 04.4**	**-2.9**
	5.8nm,0.7s							
MNAS				⇓	Lg	Lg	11 47 11.0	
	12nm,0.7s							
MK31	**Makanchi Array**	**5.98**	**23**	⇑	Pn	**Pn**	**11 46 03.6**	**+1.3**
	0.2nm,0.3s,baz=201,slow=13,SNR=11							
MK31				⇑	Pg	Pb	11 46 22.3	+4.1
	0.8nm,0.6s,baz=202,slow=11,SNR=4.1							
MK31				⇑	Lg	Lg	11 47 42.2	
	8.9nm,0.8s,baz=209,slow=28,SNR=4.4							
KK31	**Karatay Array**	**6.43**	**289**	⇓	Pg	Pg	11 46 33.4	-3.7
	1.7nm,0.6s,baz=110,slow=15,SNR=15							
KK31				⇓	Lg	Lg	11 48 00.8	
	6.9nm,0.9s,baz=95,slow=28,SNR=5.5							

IDC ***09*** *11:49:18.6±3.5, 16˚.95S×68˚.99W, h188km±12km, mb3.3/5, mb1 3.5/6, mb1mx3.2/36, mbtmp3.9/6, Error ellipse: s-maj=81.9km s-min=18.5km az=18.0*

ISC 09 11:49:12.1±1.5, 17˚.7S±0˚.2×69˚.3W±0˚.1, h153km, n7, σ2s23/9, mb3.6/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.80**	**37**	P		**Pn**	**11 49 47.5**	**+1.7**
	23nm,0.3s,baz=306,slow=4.1,SNR=926							
LPAZ				S		**Sn**	**11 50 11.7**	**0.0**
	2.7nm,0.3s,baz=342,slow=22,SNR=8.8							
SIV	**San Ignacio**	**8.04**	**79**	P		**Pn**	**11 51 07.8**	**+1.7**
	2.9nm,0.3s,baz=284,slow=12,SNR=27							
SIV				S		**Sn**	**11 52 31.8**	**-3.9**
	0.1nm,0.3s,baz=351,slow=19,SNR=3.8							
BDFB	**Brasilia**	**20.46**	**87**	P		**P**	**11 53 40.6**	**+2.5**
	1.3nm,0.5s,baz=306,slow=8.7,SNR=3.0							
PDAR	**Pinedale Array**	**70.70**	**330**	P		**P**	**12 00 11.0**	**-0.6**
	0.3nm,1.0s,baz=160,slow=8.2,SNR=2.4							
ULM	**Lac du Bonnet**	**71.64**	**342**	P		**P**	**12 00 15.4**	**-1.4**
	1.3nm,0.4s,baz=150,slow=3.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**76.44**	**71**	P		**P**	**12 00 45.4**	**-0.1**
	0.9nm,0.9s,baz=257,slow=5.5,SNR=8.3							
YKA	**Yellowknife Ar**	**87.54**	**341**	P		**P**	**12 01 41.8**	**-0.4**
	0.4nm,0.5s,baz=134,slow=4.9,SNR=18							

NIED ***09*** *11:49:00, 24˚.80N×122˚.00E, h113km, Mw4.3 Best double couple: M0 3.45000×10^15 NP1: φs 287.00000°, δ 6.00000°, λ 40.00000°. NP2: φs 157.00000°, δ 86.00000°, λ 94.00000°.*

BJI ***09*** *11:49:49.0, 24˚.88N×121˚.95E, h18km, mB4.4/13, mb4.2/19, ML4.3/8, Ms4.0/3, Ms7 4.0/1*

NEIC ***09*** *11:49:52.9±0.4, 24˚.85N×122˚.10E, h105km±4km, mb4.4/5, Error ellipse: s-maj=9.0km s-min=7.3km az=143.0*

NEIC Felt at Taipei. Recorded [2 TAP] in Hua-lien, I-lan, T'ai-chung, T'ai-pei and T'ao-yuan.

JMA ***09*** *11:49:52.8±0.2, 24˚.82N×122˚.00E, h105km±3km, M4.3*

ISCJB ***09*** *11:49:52.3±0.2, 24˚.87N±0˚.02×122˚.05E±0˚.01, h111km±1km, mb4.1/25, Error ellipse: s-maj=2.9km s-min=1.9km az=150.5*

IDC ***09*** *11:49:53.6±0.8, 24˚.92N×122˚.15E, h114km±6km, mb3.6/15, mb1 3.7/17, mb1mx3.5/50, mbtmp4.0/17, MS2.7/1, Ms1 2.7/1, ms1mx2.2/41, Error ellipse: s-maj=16.5km s-min=12.9km az=56.0*

TAP ***09*** *11:49:53.6, 24˚.87N×122˚.00E, h104km, ML5.1, C*

ISC 09 11:49:53.3±0.5, 24˚.89N±0˚.03×122˚.03E±0˚.02, h110km±3km, h113km:pP-P, n143, σ1s13/247, mb4.0/25, 8C-27D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EGS		**0.10**	**246**	⇓	P	**Pn**	**11 50 08.1**	**-0.3**
	baz=239							
EGS				S		**Sn**	**11 50 18.4**	**-1.4**
	baz=239							
TWB1	**Santiao Chiao**	**0.13**	**342**	⇓	*i*P	**Pn**	**11 50 08.2**	**-0.3**
	baz=359							
TWB1				*i*	S	**Sn**	**11 50 18.8**	**-1.1**
	baz=359							
ILA	**Ilan**	**0.28**	**245**		P	**Pn**	**11 50 08.8**	**-0.2**
	baz=241							
ILA					S	**Sn**	**11 50 19.9**	**-0.8**
	baz=241							
NWF	**Wu-fen Shan**	**0.29**	**309**	⇓	*i*P	**Pn**	**11 50 08.8**	**-0.3**
	baz=310							
NWF				*i*	S	**Sn**	**11 50 19.5**	**-1.5**
	baz=310							
TWC	**Suao**	**0.32**	**211**	⇓	*i*P	**Pn**	**11 50 08.7**	**-0.4**
	baz=207							
TWA	**Mucha**	**0.42**	**283**	⇓	*i*P	**Pn**	**11 50 09.2**	**-0.4**
	baz=285							
TWA				*i*	S	**Sn**	**11 50 20.2**	**-1.7**
	baz=285							
TAP1	**Taipei**	**0.49**	**288**	⇓	P	**Pn**	**11 50 09.5**	**-0.5**
	baz=290							
TAP1					S	**Sn**	**11 50 20.9**	**-1.6**
	baz=290							
ENTT	**Nioudou**	**0.49**	**240**	⇓	*i*P	**Pn**	**11 50 10.1**	**0.0**
	baz=239							
TAP	**Taipei**	**0.50**	**288**	*e*	P	**Pn**	**11 50 09.5**	**-0.6**
	baz=290							
TAP					S	**Sn**	**11 50 21.3**	**-1.4**
	baz=290							
TATO	**Taipei**	**0.50**	**280**	*e*	Pn	**Pn**	**11 50 09.4**	**-0.7**
TATO				*e*	Sn	**Sn**	**11 50 24.1**	**+1.3**
ENA	**Nanau**	**0.53**	**210**	*e*	P	**Pn**	**11 50 10.4**	**+0.1**
	baz=199							
TWY	**Chenhua**	**0.55**	**315**	⇓	*i*P	**Pn**	**11 50 10.2**	**-0.3**
	baz=321							
TWY					S	**Sn**	**11 50 21.9**	**-1.5**
	baz=321							
TWS1	**Kuangyinshan**	**0.60**	**291**	⇓	*i*P	**Pn**	**11 50 10.7**	**-0.1**
	baz=293							
TWS1					*e*S	**Sn**	**11 50 23.4**	**-0.6**
	baz=293							
EHP	**Heping Village**	**0.63**	**205**	*e*	P	**Pn**	**11 50 11.5**	**+0.4**
	baz=193							
EHP					*e*S	**Sn**	**11 50 24.4**	**-0.1**
	baz=193							
YHNB	**Yeheng**	**0.63**	**250**	*e*	Pn	**Pn**	**11 50 10.7**	**-0.5**
YHNB				*e*	Sn	**Sn**	**11 50 23.3**	**-1.4**
NSK	**Sanguang**	**0.65**	**251**	⇓	*i*P	**Pn**	**11 50 11.0**	**-0.3**
	baz=242							
NSK				*i*	S	**Sn**	**11 50 23.4**	**-1.4**
	baz=242							
PCYT	**Pengchaiyu**	**0.74**	**3**	⇑	*i*P	**Pn**	**11 50 12.3**	**+0.3**
	baz=12							
PCYT				*i*	S	**Sn**	**11 50 25.9**	**-0.2**
	baz=12							
NNS	**Nan Shan**	**0.75**	**234**	⇓	P	**Pn**	**11 50 12.2**	**0.0**
	baz=231							
NNS					*e*S	**Sn**	**11 50 25.5**	**-0.9**
	baz=231							
NCU	**National Centr**	**0.77**	**276**	⇓	*i*P	**Pn**	**11 50 12.6**	**+0.3**
	baz=268							
NCU					S	**Sn**	**11 50 26.3**	**-0.3**
	baz=268							
NACB	**Ninganchiao**	**0.81**	**209**	*e*	Pn	**Pn**	**11 50 11.7**	**-1.0**
NACB				*e*	Sn	**Sn**	**11 50 25.9**	**-1.3**
TWD	**Chiawan**	**0.90**	**206**	⇓	*i*P	**Pn**	**11 50 12.6**	**-0.8**
	baz=212							
TWD					S	**Sn**	**11 50 27.1**	**-1.4**
	baz=212							
JYNG	**Yonagunijimaku**	**0.94**	**117**		P	**Pn**	**11 50 13.1**	**-0.7**
JYNG					*e*S	**Sn**	**11 50 28.3**	**-1.0**
HSN	**Hsinchu**	**0.97**	**265**	⇓	*i*P	**Pn**	**11 50 13.8**	**-0.3**
	baz=267							
HSN				*i*	S	**Sn**	**11 50 28.7**	**-1.2**
	baz=267							
NSTT	**Nanjuang**	**0.97**	**255**	⇓	*i*P	**Pn**	**11 50 14.1**	**-0.1**
	baz=248							
NSTT					S	**Sn**	**11 50 29.0**	**-0.9**
	baz=248							
HWA	**Hwalien**	**0.98**	**203**		P	**Pn**	**11 50 13.8**	**-0.5**
	baz=190							
HWA					S	**Sn**	**11 50 29.5**	**-0.7**
	baz=190							
YOJ	**Yonaguni jima**	**0.99**	**115**		P	**Pn**	**11 50 13.8**	**-0.4**
YOJ					*e*S	**Sn**	**11 50 29.1**	**-1.1**
YOJ	**Yonaguni jima**	**0.99**	**115**	*e*	Pn	**Pn**	**11 50 13.9**	**-0.4**
YOJ				*e*	Sn	**Sn**	**11 50 29.4**	**-0.7**
TWT	**Tachien**	**1.00**	**231**	⇓	*i*P	**Pn**	**11 50 15.3**	**+0.6**
	baz=224							
TWT					S	**Sn**	**11 50 30.9**	**0.0**
	baz=224							
WHF	**Hehuan Shan**	**1.02**	**224**	⇓	*i*P	**Pn**	**11 50 15.0**	**-0.1**
	baz=216							
WHF					S	**Sn**	**11 50 30.1**	**-1.4**
	baz=216							
ESF	**Shoufeng Towns**	**1.12**	**205**	*e*	P	**Pn**	**11 50 15.9**	**+0.2**
	baz=209							
ESF					*e*S	**Sn**	**11 50 31.7**	**-1.0**
	baz=209							
ESL	**Shilin**	**1.20**	**207**	⇓	*e*P	**Pn**	**11 50 15.3**	**-1.4**
	baz=204							
ESL					*e*S	**Sn**	**11 50 31.2**	**-3.0**
	baz=204							
NSY	**Sanyi**	**1.25**	**248**	⇓	*i*P	**Pn**	**11 50 17.4**	**+0.3**
	baz=248							
NSY					S	**Sn**	**11 50 34.7**	**-0.5**
	baz=248							
TEGC	**Jichi Village**	**1.25**	**201**	*e*	P	**Pn**	**11 50 17.7**	**+0.4**
	baz=191							
TEGC					*e*S	**Sn**	**11 50 35.4**	**+0.1**
	baz=191							
TWQ1	**Liyutan**	**1.27**	**245**	⇓	*i*P	**Pn**	**11 50 17.4**	**0.0**
	baz=245							
TWQ1				*i*	S	**Sn**	**11 50 35.1**	**-0.5**
	baz=245							
WDT	**Danda**	**1.39**	**216**	⇓	*i*P	**Pn**	**11 50 19.1**	**0.0**
	baz=208							
WDT					*e*S	**Sn**	**11 50 38.0**	**-0.7**
	baz=208							
SMLT	**Sun Moon Lake**	**1.44**	**226**	⇓	*i*P	**Pn**	**11 50 19.8**	**+0.3**
	baz=231							
SMLT					S	**Sn**	**11 50 39.3**	**0.0**
	baz=231							
TCU	**Taichung**	**1.44**	**240**	⇓	*e*P	**Pn**	**11 50 19.5**	**+0.2**
	baz=239							
TCU					*e*S	**Sn**	**11 50 38.5**	**-0.6**
	baz=239							
TYC	**Yuchr**	**1.45**	**228**	⇓	P	**Pn**	**11 50 19.7**	**+0.2**
	baz=235							
TYC					*e*S	**Sn**	**11 50 39.2**	**-0.2**
	baz=235							
SSLB	**Suanglung**	**1.47**	**222**	*e*	Pn	**Pn**	**11 50 19.9**	**+0.1**
SSLB				*e*	Sn	**Sn**	**11 50 40.2**	**+0.3**
EHY	**Hungye**	**1.52**	**205**	*e*	P	**Pn**	**11 50 18.7**	**-1.6**
	baz=195							
EHY					*e*S	**Sn**	**11 50 38.3**	**-2.5**
	baz=195							
WNT	**Mingjian**	**1.59**	**231**	*e*	P	**Pn**	**11 50 21.4**	**+0.3**
	baz=239							
WNT					S	**Sn**	**11 50 41.9**	**-0.4**
	baz=239							
YULB	**Yu-li**	**1.63**	**204**	*e*	Pn	**Pn**	**11 50 19.9**	**-1.8**
YULB				*e*	Sn	**Sn**	**11 50 40.6**	**-2.7**
IRIF	**Iriomote-Funau**	**1.64**	**109**		P	**Pn**	**11 50 21.1**	**-0.7**
IRIF					*e*S	**Sn**	**11 50 42.5**	**-0.9**
TWF1	**Yuli**	**1.67**	**204**	*e*	P	**Pn**	**11 50 20.7**	**-1.4**
	baz=201							
TWF1					*e*S	**Sn**	**11 50 41.8**	**-2.3**
	baz=201							
YUS	**Yu-Shan**	**1.71**	**216**	⇓	*e*P	**Pn**	**11 50 23.8**	**+0.8**
	baz=206							
YUS					*e*S	**Sn**	**11 50 45.5**	**-0.2**
	baz=206							
ALS	**Alishan**	**1.77**	**220**	⇓	P	**Pn**	**11 50 24.2**	**+0.5**
	baz=228							
ALS					S	**Sn**	**11 50 46.1**	**-0.7**
	baz=228							
CHN5	**Tsauling**	**1.78**	**224**	⇓	*e*P	**Pn**	**11 50 23.9**	**+0.3**
	baz=223							
CHN5					*e*S	**Sn**	**11 50 46.2**	**-0.5**
	baz=223							
WGK	**Gukeng**	**1.80**	**229**	*e*	P	**Pn**	**11 50 24.1**	**+0.4**
	baz=237							
WGK					*e*S	**Sn**	**11 50 46.9**	**+0.1**
	baz=237							
HATJ	**Hateruma jima**	**1.81**	**117**		P	**Pn**	**11 50 24.2**	**+0.3**
HATJ					*e*S	**Sn**	**11 50 46.9**	**-0.4**
CHKT	**Chengkung**	**1.88**	**199**	*e*	P	**Pn**	**11 50 23.9**	**-0.9**
	baz=196							
CHKT					*e*S	**Sn**	**11 50 46.1**	**-2.6**
	baz=196							
WTCT	**Ta-ch'eng**	**1.89**	**238**	*e*	P	**Pn**	**11 50 24.6**	**-0.3**
	baz=237							
WTCT					*e*S	**Sn**	**11 50 48.1**	**-1.0**
	baz=237							
ELDTW	**Lidau**	**1.93**	**209**	*e*	P	**Pn**	**11 50 25.2**	**-0.3**
	baz=199							
ELDTW					*e*S	**Sn**	**11 50 48.9**	**-1.1**
	baz=199							
CHN2	**Minshiung**	**1.96**	**227**	*e*	P	**Pn**	**11 50 26.4**	**+0.7**
	baz=235							
CHN2					*e*S	**Sn**	**11 50 50.5**	**0.0**
	baz=235							
JIJ	**Ishigaki jima**	**1.99**	**105**		P	**Pn**	**11 50 25.6**	**-0.5**
JIJ					*e*S	**Sn**	**11 50 49.1**	**-2.1**
CHN4	**Tsaushan**	**2.02**	**221**	⇑	P	**Pn**	**11 50 26.8**	**+0.3**
	baz=220							
CHN4					*e*S	**Sn**	**11 50 52.8**	**+1.0**
	baz=220							
CHY	**Chiayi**	**2.02**	**227**		P	**Pn**	**11 50 26.9**	**+0.4**
	baz=235							
CHY				*i*	S	**Sn**	**11 50 51.5**	**-0.3**
	baz=235							
TPUB	**Ta-pu**	**2.03**	**219**	*e*	Pn	**Pn**	**11 50 26.5**	**-0.2**
TPUB				*e*	Sn	**Sn**	**11 50 54.2**	**+2.0**
WSF	**Szhu**	**2.07**	**233**	*e*	P	**Pn**	**11 50 27.0**	**-0.1**
	baz=233							
WSF					S	**Sn**	**11 50 52.6**	**-0.3**
	baz=233							
STYT	**Tauyuan**	**2.07**	**214**	⇑	*i*P	**Pn**	**11 50 27.8**	**+0.5**
	baz=222							
STYT					S	**Sn**	**11 50 52.9**	**-0.3**
	baz=222							
WTP	**Ta-pu**	**2.08**	**219**	⇑	*i*P	**Pn**	**11 50 27.6**	**+0.2**
	baz=217							
WTP					*e*S	**Sn**	**11 50 53.4**	**-0.1**
	baz=217							
JISG	**Ishigakijimahi**	**2.09**	**98**		P	**Pn**	**11 50 27.5**	**+0.1**
JISG					*e*S	**Sn**	**11 50 52.7**	**-0.9**
TWK	**Hsinying**	**2.14**	**222**	⇑	P	**Pn**	**11 50 28.2**	**+0.1**
	baz=220							
TWK					*e*S	**Sn**	**11 50 54.6**	**-0.2**
	baz=220							
CHN1	**Nanshi**	**2.18**	**219**	*e*	P	**Pn**	**11 50 28.7**	**+0.1**
	baz=218							
CHN1					*e*S	**Sn**	**11 50 54.6**	**-1.0**
	baz=218							
SGST	**Jiashian**	**2.23**	**217**	⇑	P	**Pn**	**11 50 29.7**	**+0.4**
	baz=224							
SGST					*e*S	**Sn**	**11 50 56.5**	**-0.3**
	baz=224							
TWG	**Pinlang**	**2.24**	**203**	*e*	P	**Pn**	**11 50 27.9**	**-1.5**
	baz=193							
TWG					*e*S	**Sn**	**11 50 54.8**	**-2.1**
	baz=193							
TWG	**Pinlang**	**2.24**	**203**	*e*	Pn	**Pn**	**11 50 27.5**	**-1.8**
TWG				*e*	Sn	**Sn**	**11 50 55.1**	**-1.8**
CHN8	**Yiju**	**2.26**	**228**	*e*	P	**Pn**	**11 50 29.8**	**+0.2**
	baz=237							
CHN8					*e*S	**Sn**	**11 50 56.8**	**-0.6**
	baz=237							
TTN	**Taitung**	**2.27**	**201**	*e*	P	**Pn**	**11 50 29.0**	**-0.8**
	baz=193							
TTN					*e*S	**Sn**	**11 50 56.8**	**-0.9**
	baz=193							
CHN3	**Shinhua**	**2.36**	**221**	*e*	P	**Pn**	**11 50 31.6**	**+0.7**
	baz=228							
CHN3					*e*S	**Sn**	**11 50 59.7**	**0.0**
	baz=228							
SCLT	**Jiali**	**2.39**	**225**	*e*	P	**Pn**	**11 50 31.5**	**+0.2**
	baz=224							
SCLT					S	**Sn**	**11 51 00.6**	**+0.2**
	baz=224							
JTJ	**Tarama**	**2.44**	**95**		P	**Pn**	**11 50 32.5**	**+0.6**
JTJ					*e*S	**Sn**	**11 51 01.6**	**+0.1**
TAI1	**Yung-k'ang**	**2.47**	**222**	*e*	P	**Pn**	**11 50 32.8**	**+0.5**
	baz=231							
TAI1					*e*S	**Sn**	**11 51 01.1**	**-1.1**
	baz=231							
ECL	**Taimali**	**2.48**	**204**	*e*	P	**Pn**	**11 50 30.9**	**-1.6**
	baz=195							
ECL					*e*S	**Sn**	**11 50 59.0**	**-3.6**
	baz=195							
SSD	**Sandimen**	**2.49**	**211**	*e*	P	**Pn**	**11 50 33.1**	**+0.6**
	baz=208							
SSD					*e*S	**Sn**	**11 51 02.7**	**+0.1**
	baz=208							
TWM1	**Shoushan**	**2.53**	**216**	*e*	P	**Pn**	**11 50 34.4**	**+1.3**
	baz=216							
SGLT	**Jiouru**	**2.57**	**214**	*e*	P	**Pn**	**11 50 34.7**	**+1.0**
	baz=211							
SGLT					*e*S	**Sn**	**11 51 04.4**	**-0.3**
	baz=211							
PNG	**Penghu**	**2.62**	**240**	*e*	P	**Pn**	**11 50 33.2**	**-1.0**
	baz=240							
PNG					*e*S	**Sn**	**11 51 03.0**	**-2.6**
	baz=240							
WDGT	**Dungji**	**2.71**	**234**	*e*	P	**Pn**	**11 50 34.6**	**-0.8**
	baz=234							
WDGT					S	**Sn**	**11 51 05.8**	**-2.0**
	baz=234							
EAST	**Anshuo**	**2.72**	**204**	*e*	P	**Pn**	**11 50 34.5**	**-1.1**
	baz=193							
EAST					*e*S	**Sn**	**11 51 07.2**	**-0.9**
	baz=193							
TAW	**Tawu**	**2.72**	**203**	*e*	P	**Pn**	**11 50 36.8**	**+1.1**
	baz=198							
SCZT	**Fangliau**	**2.82**	**208**	⇑	P	**Pn**	**11 50 37.2**	**+0.4**
	baz=215							
SCZT					*e*S	**Sn**	**11 51 10.0**	**-0.4**
	baz=215							
JIRB	**Irabujima**	**2.85**	**90**		P	**Pn**	**11 50 37.9**	**+0.6**
JIRB					*e*S	**Sn**	**11 51 10.7**	**-0.5**
JIKM	**Ikemajima**	**2.92**	**89**		P	**Pn**	**11 50 39.1**	**+0.9**
JIKM					*e*S	**Sn**	**11 51 12.2**	**-0.6**
TWP	**Hsiaoliuchiu**	**2.96**	**212**	*e*	P	**Pn**	**11 50 39.6**	**+0.9**
	baz=209							
TWP					*e*S	**Sn**	**11 51 13.3**	**-0.4**
	baz=209							
JMJ	**Miyako jima 2**	**2.96**	**91**	*e*	S	**Sn**	**11 51 13.3**	**-0.6**
JOGS	**Gusukube**	**3.07**	**92**		P	**Pn**	**11 50 41.2**	**+1.0**
JOGS					*e*S	**Sn**	**11 51 16.6**	**+0.3**
HEN	**Hengchun**	**3.10**	**203**	*e*	P	**Pn**	**11 50 41.1**	**+0.5**
	baz=209							
HEN					*e*S	**Sn**	**11 51 17.0**	**-0.2**
	baz=209							
QZH	**Quanzhou**	**3.12**	**272**	⇑	*i*Pn	**Pn**	**11 50 40.3**	**-0.6**
QZH						Sn	**Sn**	**11 51 14.6**	**-3.0**
QZH						SMN		
	1μm,0.8s							
QZH						SME		
	660nm,0.6s							
TWK1	**Hengchun**	**3.14**	**201**	*e*	P	**Pn**	**11 50 41.4**	**+0.3**
	baz=198							
TWK1					*e*S	**Sn**	**11 51 17.2**	**-0.9**
	baz=198							
TSEB	**Hengchuen, Pin**	**3.15**	**200**	*e*	P	**Pn**	**11 50 42.1**	**+0.9**
	baz=197							
TSEB					*e*S	**Sn**	**11 51 17.9**	**-0.3**
	baz=197							
KNM	**Kinmen**	**3.31**	**263**	*e*	P	**Pn**	**11 50 44.3**	**+1.0**
	baz=263							
KNM					*e*S	**Sn**	**11 51 22.0**	**0.0**
	baz=263							
JKE	**Kume jima 2**	**4.53**	**71**		P	**Pn**	**11 51 00.8**	**+1.1**
JKE					*e*S	**Sn**	**11 51 52.9**	**+1.6**
JAGN	**Aguni-jima**	**5.00**	**69**		P	**Pn**	**11 51 06.6**	**+0.6**
JAGN					*e*S	**Sn**	**11 52 02.2**	**-0.4**
JNTH	**Nagotoyohara**	**5.64**	**72**		P	**Pn**	**11 51 14.6**	**-0.2**
JIH	**Iheya**	**5.75**	**67**		P	**Pn**	**11 51 16.3**	**0.0**
JOW	**Kunigami**	**5.95**	**70**		P	**Pn**	**11 51 18.1**	**-0.9**
JOW					*e*S	**Sn**	**11 52 24.5**	**-1.2**
JOW	**Kunigami**	**5.95**	**70**	*e*	P	**Pn**	**11 51 18.1**	**-0.9**
	0.9nm,0.3s,baz=126,slow=29,SNR=14							
JOW	**Kunigami**	**5.95**	**70**	*e*	Pn	**Pn**	**11 51 18.2**	**-0.7**
JOW				*e*	Sn	**Sn**	**11 52 24.6**	**-1.2**
JOKE	**Okinoerabujima**	**6.37**	**66**		P	**Pn**	**11 51 23.5**	**-1.2**
**JTK

HHC	**Hu-ho-hao-te**	**18.16**	**334**	*e*P	**Pn**	**11 53 59.5**	**+1.1**
HHC				S	**S**	**11 57 13.9**	**-5.8**
HHC				PMZ			
	comp=Z,13nm,0.5s						
HHC				PMZ			
	comp=Z,88nm,6.0s						
DLV	**T Lat**	**18.17**	**227**	*e*P	**P**	**11 53 58.2**	**+0.6**
	comp=Z,28nm,1.2s						
CN2	**Changchun**	**19.08**	**8**	*e*P	**Pn**	**11 54 08.4**	**-0.6**
LZH	**Lanzhou**	**19.21**	**310**	*e*P	**Pn**	**11 54 10.4**	**-0.5**
LZH				PP	**pP**	**11 54 31.5**	**+2.4**
LZH				*e*S	**S**	**11 57 37.0**	**-3.7**
LZH				PMZ			
	comp=Z,27nm,1.0s						
LZH				PMZ			
	comp=Z,140nm,4.2s						
CHTO	**Chiang Mai**	**22.25**	**259**	*e*P	**P**	**11 54 42.6**	**+1.2**
	comp=Z,6.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**22.37**	**258**	P	**P**	**11 54 43.9**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=59,slow=8.1,SNR=12						
SBUM	**Sibu**	**24.23**	**205**	*e*P	**P**	**11 54 59.4**	**-0.6**
	comp=Z,8.3nm,0.8s						
ULN	**Ulaanbaatar**	**25.82**	**336**	*e*P	**P**	**11 55 14.8**	**+0.5**
	comp=Z,5.9nm,1.3s						
SONM	**Songino Array**	**26.04**	**336**	P	**P**	**11 55 16.8**	**+0.5**
	comp=Z,5.6nm,1.0s,baz=151,slow=9.4,SNR=24						
SONM				pP	**pP**	**11 55 42.3**	**+2.1**
	comp=Z,7.0nm,1.0s,baz=156,slow=8.9,SNR=12						
IPM	**Ipoh**	**28.62**	**228**	*e*P	**P**	**11 55 39.6**	**0.0**
	comp=Z,13nm,0.8s						
MNSI	**Mandailing Nat**	**32.32**	**226**	P	**P**	**11 56 12.6**	**+0.5**
	comp=Z,58nm,0.8s,comp=Z,2µm						
WMQ	**Urumqi**	**33.74**	**313**	*e*P	**P**	**11 56 24.8**	**+0.5**
WMQ				pP	**pP**	**11 56 49.0**	**+0.2**
WMQ				sP	**sP**	**11 57 03.0**	**+1.5**
WMQ				PP	**PP**	**11 57 42.0**	**-0.7**
WMQ				PcP	**PcP**	**11 59 01.5**	**+0.1**
WMQ				*e*S	**S**	**12 01 43.0**	**+3.3**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.6s						
MDSI	**Maura Dua**	**33.97**	**213**	P	**P**	**11 56 28.5**	**+2.1**
	comp=Z,12nm,1.3s						
MKAR	**Makanchi Array**	**38.38**	**315**	P	**P**	**11 57 04.0**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=96,slow=11,SNR=7.0						
MKAR				pP	**pP**	**11 57 29.4**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=101,slow=11,SNR=8.2						
ZALV	**Zalesovo Beam**	**40.08**	**326**	P	**P**	**11 57 17.2**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=107,slow=7.9,SNR=5.7						
ZALV				pP	**pP**	**11 57 42.6**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=110,slow=8.0,SNR=5.7						
WRAB	**Tennant Creek**	**46.13**	**164**	*e*P	**P**	**11 58 06.7**	**-0.1**
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**46.14**	**164**	P	**P**	**11 58 06.6**	**-0.3**
	comp=Z,5.1nm,0.6s,baz=345,slow=8.4,SNR=68						
WB2	**Warramunga Arr**	**46.14**	**164**	*e*P	**P**	**11 58 06.5**	**-0.4**
TIXI	**Tiksi**	**46.95**	**3**	*e*P	**P**	**11 58 11.6**	**-1.0**
	comp=Z,6.4nm,0.8s						
BVAR	**Borovoye Array**	**47.63**	**320**	P	**P**	**11 58 18.5**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=101,slow=8.3,SNR=9.1						
AS31	**Alice Springs**	**49.62**	**166**	*e*P	**P**	**11 58 33.5**	**-0.1**
ASAR	**Alice Springs**	**49.62**	**166**	P	**P**	**11 58 33.8**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=340,slow=7.0,SNR=66						
ASAR				PcP	**PcP**	**11 59 53.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=351,slow=4.4,SNR=4.1						
ABKAR	**Akbulak array**	**53.51**	**314**	*e*P	**P**	**11 59 02.5**	**+0.1**
	comp=Z,2.4nm,0.5s						
AKTO	**Aktyubinsk**	**54.82**	**315**	P	**P**	**11 59 12.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=101,slow=16,SNR=3.8						
GEYT	**Alibeck**	**55.11**	**300**	P	**P**	**11 59 16.2**	**+2.0**
	comp=Z,2.4nm,0.6s,baz=11,slow=3.0,SNR=4.5						
ILAR	**Eielson Array**	**68.24**	**27**	P	**P**	**12 00 41.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=282,slow=6.1,SNR=8.8						
FINES	**FINESS Array B**	**71.23**	**330**	P	**P**	**12 00 59.8**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=72,slow=4.5,SNR=3.5						
INK	**Inuvik**	**72.29**	**22**	P	**P**	**12 01 05.8**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=299,slow=7.8,SNR=9.5						
INK				pP	**pP**	**12 01 33.7**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=198,slow=4.6,SNR=3.0						
AKASG	**Malin Array Be**	**72.86**	**318**	P	**P**	**12 01 08.7**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=73,slow=2.1,SNR=5.4						
BRTR	**Keskin Array B**	**73.38**	**306**	P	**P**	**12 01 13.7**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=62,slow=5.7,SNR=4.7						
YKA	**Yellowknife Ar**	**82.03**	**23**	P	**P**	**12 01 59.7**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=312,slow=5.1,SNR=32						
GLA	**Glamis**	**100.94**	**46**	*e*Pdif	**Pdif**	**12 03 31.6**	**+1.0**

*GCMT **09** 11:50:32.0±0.2, 62°.19S×164°.87E, h18km±1km, MW5.2/95, Moment Tensor Solution. s50,c69; s95,c144; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.02; $M_{\theta\theta}$0.82±.02; $M_{\phi\phi}$-0.73±.02; $M_{r\theta}$-0.45±.06; $M_{r\phi}$-0.12±.02; $M_{\theta\phi}$0.28±.05; Best double couple: $M_0$0.93800×10^{17} NP1:ϑ$_b$318.00000°, δ89.00000°, λ32.00000°. NP2: ϕ$_s$228.00000°, δ58.00000°, λ179.00000°. Principal axes: T 1.0350, Plg23.0000°, Azm188.0000°; N -0.1940, Plg58.0000°, Azm320.0000°; P -0.8410, Plg21.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **09** 11:50:34.6±0.7, 62°.12S±0°.06×165°.1E±0°.2, h10km, mb3.9/4, MS4.3/12 Error ellipse: s-maj=16.5km s-min=8.6km az=-2.1*

*IDC **09** 11:50:34.4±1.3, 62°.14S×165°.53E, h0km, mb4.3/2, mb1 4.6/3, mb1mx4.1/23, mbtmp4.4/3, ML4.7/1, MS4.4/13, Ms1 4.4/13, ms1mx4.3/15, Error ellipse: s-maj=72.5km s-min=28.4km az=76.0*

*NEIC **09** 11:50:36.8±0.7, 62°.21S×164°.69E, h10km, Error ellipse: s-maj=39.5km s-min=11.3km az=77.0*

ISC 09 11:50:36.2±0.8, 62°.10S±0°.09×165°.2E±0°.1, h10km, n41, σ1^{s}54/15, mb4.1/4, MS4.3/12, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDA	**Vanda**	**15.54**	**183**	Pn		**Pn**	**11 54 13.3**	**-1.6**
	3.1nm,0.3s,baz=6.3,slow=14,SNR=75							
VNDA				LR		LR	11 59 07.8	
	comp=Z,4µm,21.2s,baz=9.5,slow=33							
VNDA	**Vanda**	**15.54**	**183**	*e*Pn		**Pn**	**11 54 13.6**	**-1.3**
	2.8nm,0.3s							
SBA	**Scott Base**	**15.84**	**179**	*e*Pn		**Pn**	**11 54 17.9**	**-1.0**
	534nm,1.8s							
SBA				*e*Sn		**Sn**	**11 57 15.4**	**+1.2**
URZ	**Urewera**	**24.97**	**23**	LR		LR	12 05 43.8	
	comp=Z,2µm,18.8s,baz=196,slow=36							
QSPA	**South Pole Qui**	**28.00**	**180**	P		**P**	**11 56 26.5**	**-0.4**
	6.1nm,1.1s,baz=11,slow=4.0,SNR=6.0							
QSPA				LR		LR	12 06 02.0	
	comp=Z,1µm,19.1s,baz=30,slow=33							
MAW	**Mawson**	**39.04**	**216**	LR		LR	12 14 09.3	
	comp=Z,1µm,18.5s,baz=112,slow=36							
DZM	**Mont Dzumac**	**40.01**	**2**	*e*LR		LR	12 08 53.2	
	537nm,30.9s							
H01W1	**Cape Leeuwin H**	**41.77**	**286**	T		T	12 43 16.9	
	baz=146,slow=76,SNR=113							
H01W2	**Cape Leeuwin H**	**41.78**	**286**	T		T	12 43 15.1	
	baz=146,slow=76,SNR=109							
H01W3	**Cape Leeuwin H**	**41.79**	**286**	T		T	12 43 16.1	
	baz=146,slow=76,SNR=114							
ASAR	**Alice Springs**	**43.87**	**317**	P		**P**	**11 58 43.5**	**+0.9**
	2.6nm,1.0s,baz=155,slow=7.8,SNR=13							
ASAR				LR		LR	12 15 54.3	
	comp=Z,224nm,18.1s,baz=160,slow=34							
WRA	**Warramunga Arr**	**47.22**	**319**	LR		LR	12 16 58.4	
	comp=Z,332nm,19.0s,baz=165,slow=33							
WRAB	**Tennant Creek**	**47.22**	**319**	*e*P		**P**	**11 59 09.8**	**+0.7**
TBI	**Tubuai**	**49.34**	**60**	*e*S		**S**	**12 06 32.3**	**+0.6**
	283nm,30.5s							
TBI				*e*LQ		LQ	12 10 51.8	
	1µm,27.2s							
TBI				*e*LR		LR	12 13 22.9	
	403nm,24.2s,baz=210							
TBI	**Tubuai**	**49.34**	**60**	*e*T		T	12 52 05.1	
	73nm,0.4s							
PMG	**Port Moresby**	**54.22**	**338**	LR		LR	12 19 25.7	
	comp=Z,433nm,19.4s,baz=172,slow=32							
PMG	**Port Moresby**	**54.22**	**338**	P		**P**	**12 00 01.6**	**-0.2**
	0.4nm,0.6s							
PAE	**Paea**	**54.42**	**56**	*e*T		T	12 58 23.1	
	6.2nm,0.3s							
TVO	**Taravao**	**54.44**	**57**	*e*T		T	12 58 24.9	
	2.9nm,0.3s							
PPT2	**Papeete2**	**54.48**	**56**	*e*S		**S**	**12 07 40.3**	**-2.3**
	250nm,27.8s							
PPT2				*e*LQ		LQ	12 13 00.4	
	835nm,25.0s							
PPT2				*e*LR		LR	12 15 45.5	
	289nm,22.2s,baz=204							
PPT2	**Papeete2**	**54.48**	**56**	*e*T		T	12 58 28.4	
	12nm,0.4s							
PPT	**Papeete**	**54.50**	**56**	LR		LR	12 19 08.7	
	comp=Z,142nm,18.3s,baz=205,slow=32							
TIAR	**Tiarei**	**54.60**	**57**	*e*T		T	12 58 37.3	
	3.5nm,0.3s							
MEH	**Mehetia**	**54.82**	**58**	*e*T		T	12 58 54.7	
	12nm,0.2s							
RKT	**Rikitea**	**55.80**	**74**	*e*S		**S**	**12 08 00.7**	**+0.6**
	299nm,30.2s							
RKT				*e*LQ		LQ	12 14 02.3	
	322nm,29.5s							
RKT				*e*LR		LR	12 16 16.4	
	382nm,29.2s,baz=204							
RKT	**Rikitea**	**55.80**	**74**	*e*T		T	13 00 20.3	
	9.2nm,0.2s							
VAH	**Vaihoa**	**57.38**	**57**	*e*T		T	13 02 05.9	
	149nm,0.3s							
LEM	**Lembang**	**69.22**	**296**	LR		LR	12 27 16.1	
	comp=Z,93nm,21.6s,baz=210,slow=32							
BOSA	**Boshof**	**84.03**	**215**	LR		LR	12 38 45.2	
	comp=Z,195nm,18.5s,baz=162,slow=34							
H08S2	**Diego Garcia H**	**84.56**	**264**	T		T	13 36 55.7	
	baz=152,slow=76,SNR=27							
H08S1	**Diego Carcia H**	**84.57**	**264**	T		T	13 36 56.6	
	baz=152,slow=76,SNR=23							
H08S3	**Diego Garcia H**	**84.58**	**264**	T		T	13 36 57.2	
	baz=152,slow=76,SNR=24							
H08N1	**Diego Carcia H**	**86.39**	**263**	T		T	13 39 15.3	
	baz=44							
H08N3	**Diego Garcia H**	**86.40**	**263**	T		T	13 39 15.9	
	baz=44							
H08N2	**Diego Garcia H**	**86.41**	**263**	T		T	13 39 25.6	
	baz=44							
LPAZ	**La Paz**	**91.38**	**130**	P		**P**	**12 03 45.6**	**+2.6**
	1.0nm,0.8s,baz=230,slow=5.4,SNR=3.5							
LPAZ				LR		LR	12 35 27.5	
	comp=Z,108nm,21.0s,baz=196,slow=30							
CMAR	**Chiang Mai Arr**	**95.61**	**299**	LR		LR	12 41 58.1	
	comp=Z,59nm,22.0s,baz=194,slow=32							
BDFB	**Brasilia**	**98.22**	**148**	LR		LR	12 46 38.6	
	comp=Z,88nm,19.3s,baz=192,slow=34							
MKAR	**Makanchi Array**	**126.95**	**301**	PKP		**PKPdf**	**12 09 38.6**	**-0.5**
	0.2nm,0.6s,baz=167,slow=2.5,SNR=2.3							
YKA	**Yellowknife Ar**	**138.11**	**43**	PKP		**PKPdf**	**12 09 56.9**	**-2.6**
	0.1nm,0.8s,baz=211,slow=3.4,SNR=3.5							
RES	**Resolute Bay**	**150.72**	**32**	PKPbc		**PKPbc**	**12 10 26.6**	**0.0**
	0.7nm,0.8s,baz=203,slow=1.9,SNR=1.9							

*ISCJB **09** 11:59:00.4±0.6, 32°.61N±0°.03×115°.74W±0°.03, h4km±4km, Error ellipse: s-maj=4.9km s-min=3.9km az=21.4*

*NEIC **09** 11:59:01.3, 32°.56N×115°.74W, h4km, ML3.6(PAS), After PAS.*

*MEX **09** 11:59:03.6±0.4, 32°.68N×115°.73W, h20km±23km, MD3.6*

ISC 09 11:59:01.2±1.2, 32°.56N±0°.03×115°.74W±0°.03, h5km±10km, n16, σ0^{s}85/32, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.48**	**108**	*i* P		**Pb**	**11 59 12.5**	**+0.3**
MBIG				*i* S		**Sb**	**11 59 19.7**	**0.0**
BAR	**Barrett**	**0.79**	**279**	*e*Pg		**Pg**	**11 59 16.3**	**-0.1**
BAR				*e*Sg		**Sg**	**11 59 26.2**	**-0.6**
CBX	**Cerro Bola**	**0.82**	**253**	*i* P		**Pg**	**11 59 17.4**	**+0.5**
CBX				*i* S		**Sg**	**11 59 28.2**	**+0.7**
CBX	**Cerro Bola**	**0.82**	**253**	*i* P		**Pg**	**11 59 17.4**	**+0.5**
CBX				*i* S		**Sg**	**11 59 28.2**	**+0.7**
GLA	**Glamis**	**0.91**	**57**	*e*Pg		**Pg**	**11 59 18.1**	**-0.6**
GLA				*e*Sg		**Sg**	**11 59 30.3**	**-0.3**
PFO	**Pinyon Flats O**	**1.21**	**330**	*e*Pg		**Pn**	**11 59 23.5**	**-1.4**
PFO				*e*Sg		**Sb**	**11 59 38.3**	**-2.2**
SPIG	**San Pedro Mart**	**1.53**	**171**	*e*P		**Pn**	**11 59 28.6**	**-0.9**
SPIG				*i* S		**Sn**	**11 59 49.0**	**-0.9**
SPIG	**San Pedro Mart**	**1.53**	**171**	*e*P		**Pn**	**11 59 28.6**	**-0.9**
SPIG				*i* S		**Sb**	**11 59 49.8**	**-0.2**
MWC	**Mount Wilson**	**2.55**	**311**	*e*Pn		**Pn**	**11 59 43.5**	**+0.1**
MWC				*e*Sn		**Sb**	**12 00 18.8**	**-0.6**
PASC	**Pasadena Art C**	**2.60**	**309**	*e*Pn		**Pn**	**11 59 43.9**	**-0.1**
PASC				*e*Sn		**Sn**	**12 00 16.4**	**+0.5**
GSC	**Goldstone, Bar**	**2.87**	**342**	*e*Pn		**Pn**	**11 59 48.5**	**+0.7**
GSC				*e*Sn		**Sn**	**12 00 23.1**	**+0.3**
ISA	**Isabella, Lake**	**3.84**	**325**	*e*Pn		**Pn**	**11 59 59.9**	**-1.1**
ISA				*e*Sn		**Sn**	**12 00 47.2**	**+0.7**
SHPR	**Sheep Range**	**3.96**	**7**	*e*Pn		**Pn**	**12 00 04.1**	**+1.2**
SHPR				*e*Sg		**Sg**	**12 01 09.0**	**+0.4**
DAC	**Darwin (Calif)**	**4.01**	**338**	*e*Pn		**Pn**	**12 00 03.9**	**+0.4**
DAC				*e*Sn		**Sn**	**12 00 50.5**	**-0.5**
TUC	**Tucson**	**4.20**	**92**	*e*Pn		**Pn**	**12 00 05.7**	**-0.3**
TUC				*e*Sg		**Sg**	**12 01 16.0**	**-0.2**
121A	**Cookes Peak, D**	**6.72**	**88**	*e*Pn		**Pn**	**12 00 40.6**	**-0.1**
121A				*e*Sn		**Sn**	**12 01 59.6**	**+1.8**

*IDC **09** 12:07:34.8±1.1, 1°.78N×99°.35E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/50, mbtmp3.9/10, MS3.9/7, Ms1 3.9/7, ms1mx3.4/36, Error ellipse: s-maj=59.0km s-min=16.2km az=53.0*

*KLM **09** 12:07:36.5, 1°.63N×98°.89E, h33km, mb4.5, ML4.5*

*ISCJB **09** 12:07:38.8±0.4, 1°.81N±0°.04×99°.12E±0°.04, h33km, mb4.0/12, MS4.0/6, Error ellipse: s-maj=7.1km s-min=5.1km az=141.3*

*DJA **09** 12:07:38.9±0.3, 2°.N±3°.×9°.9E±°, h10km, M4.4/4, MLv4.4/4*

*NEIC **09** 12:07:39.5±0.8, 1°.66N×99°.17E, h35km, mb4.2/5, Error ellipse: s-maj=19.4km s-min=11.4km az=63.0*

NEIC Felt [II] at Tarutung.

ISC 09 12:07:39.5±0.7, 1°.68N±0°.06×99°.14E±0°.05, h35km, n44, σ1^{s}01/37, mb4.0/12, MS4.0/6, 5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNSI	**Mandailing Nat**	**0.99**	**153**	P		**Pn**	**12 07 58.1**	**+1.2**
MNSI				S		Sn	12 08 19.6	+10
TSI	**Tuntungan**	**1.89**	**342**	P		**Pn**	**12 08 08.2**	**-1.2**
KCSI	**Kotacane, Aceh**	**2.28**	**323**	P		**Pn**	**12 08 13.6**	**-1.1**
KCSI				S		Sn	12 08 49.5	+7.9
BKNI	**Bangkinang**	**2.33**	**125**	P		**Pn**	12 08 21.8	+6.3
BKNI	**Bangkinang**	**2.33**	**125**	*e*Pn		**Pn**	12 08 21.7	+6.3
BKNI				*e*Sn		**Sn**	**12 08 40.1**	**-2.8**
TPTI		**2.50**	**309**	P		**Pn**	**12 08 16.5**	**-1.3**
PDSI	**Padang**	**2.90**	**153**	P		Pn	12 08 27.4	+4.1
SNSI	**Sinabang, Aceh**	**2.90**	**284**	P		**Pn**	**12 08 22.1**	**-1.1**
FRIM	**Kepong**	**2.93**	**58**	⇑P		**Pn**	**12 08 23.8**	**+0.2**
IPM	**Ipoh**	**3.36**	**34**	⇑P		**Pn**	**12 08 30.0**	**+0.4**
IPM	**Ipoh**	**3.36**	**34**	*e*Pn		**Pn**	**12 08 29.4**	**-0.1**
SDSI	**Sungai Dareh**	**3.46**	**139**	P		Pn	12 08 36.8	+5.8
KULM	**Kulim**	**3.89**	**23**	⇓P		**Pn**	**12 08 36.1**	**-0.8**
KULM	**Kulim**	**3.89**	**23**	*e*Pn		**Pn**	**12 08 35.5**	**-1.4**
KULM				*e*Sn		**Sn**	**12 09 20.0**	**-1.4**
LHMI	**Lhok Sumawe**	**4.14**	**328**	P		**Pn**	**12 08 39.6**	**-0.8**
LHMI	**Lhok Sumawe**	**4.14**	**328**	*e*Pn		**Pn**	**12 08 39.8**	**-0.6**
LHMI				*e*Sn		**Sn**	**12 09 27.9**	**+0.3**
KGM	**Kluang**	**4.20**	**85**	⇑P		**Pn**	**12 08 41.6**	**+0.5**
MYKOM	**Kota Tinggi**	**4.71**	**89**	⇑P		**Pn**	**12 08 48.5**	**+0.3**
KTGM	**Kuala Trenggan**	**5.39**	**48**	⇑P		**Pn**	**12 08 57.7**	**+0.2**
MDSI	**Maura Dua**	**7.93**	**141**	P		Pn	12 09 37.8	+5.3
CMAR	**Chiang Mai Arr**	**16.67**	**359**	Pn		**Pn**	**12 11 29.8**	**-0.8**
CMAR				LR		LR	12 17 52.2	
	comp=Z,258nm,20.0s,baz=186,slow=37							
CHTO	**Chiang Mai**	**17.03**	**359**	*e*P		**P**	**12 11 37.1**	**+0.5**
	7.5nm,1.1s							
SLVN	**Son La**	**20.08**	**13**	*e*P		**Pn**	**12 12 12.9**	**+0.8**
	28nm,1.5s							
H08S2	**Diego Garcia H**	**28.14**	**250**	T		T	12 41 03.9	
	baz=72,slow=75,SNR=16							
H08S3	**Diego Garcia H**	**28.15**	**250**	T		T	12 41 05.9	
	baz=72,slow=75,SNR=14							
H08S1	**Diego Carcia H**	**28.16**	**250**	T		T	12 41 05.7	
	baz=72,slow=75,SNR=16							
WRA	**Warramunga Arr**	**40.67**	**124**	P		**P**	**12 15 15.8**	**-1.0**
	2.8nm,0.8s,baz=302,slow=9.2,SNR=20							
WRA				PcP		**PcP**	**12 17 18.7**	**+0.3**
	0.9nm,0.9s,baz=314,slow=2.4,SNR=5.4							
WRAB	**Tennant Creek**	**40.67**	**124**	*e*P		**P**	**12 15 17.5**	**+0.6**
	1.8nm,0.6s							
ASAR	**Alice Springs**	**42.16**	**129**	P		**P**	**12 15 28.8**	**-0.3**
	0.5nm,0.7s,baz=304,slow=7.9,SNR=8.7							
ASAR				PcP		**PcP**	**12 17 23.8**	**+0.7**
	0.7nm,0.9s,baz=316,slow=2.1,SNR=5.9							
ASAR				LR		LR	12 34 28.9	
	comp=Z,81nm,18.8s,baz=322,slow=38							
AAK	**Ala-Archa**	**46.36**	**335**	P		**P**	**12 16 04.4**	**+1.9**
	0.7nm,0.3s,baz=150,slow=7.3,SNR=5.5							
SONM	**Songino Array**	**46.40**	**7**	P		**P**	**12 16 02.2**	**-0.6**
	0.7nm,0.7s,baz=186,slow=9.3,SNR=5.7							
SONM				LR		LR	12 37 30.4	
	comp=Z,154nm,18.7s,baz=176,slow=39							
MKAR	**Makanchi Array**	**47.27**	**344**	P		**P**	**12 16 09.4**	**-0.1**
	0.8nm,0.7s,baz=147,slow=7.3,SNR=4.9							
KURBB	**Kurchatov Arra**	**51.80**	**343**	P		**P**	**12 16 43.4**	**-0.4**
	1.0nm,0.7s,baz=164,slow=7.1,SNR=6.0							
KURK	**Kurchatov**	**51.85**	**344**	*e*P		**P**	**12 16 44.5**	**+0.3**
GEYT	**Alibeck**	**52.10**	**319**	P		**P**	**12 16 47.2**	**+0.7**
	1.4nm,0.5s,baz=123,slow=10,SNR=3.4							
BVAR	**Borovoye Array**	**56.45**	**340**	P		**P**	**12 17 17.5**	**-0.2**
	1.1nm,0.6s,baz=130,slow=8.0,SNR=5.5							
ABKAR	**Akbulak array**	**58.02**	**331**	*e*P		**P**	**12 17 29.1**	**+0.2**
	1.4nm,0.8s							
KBZ	**Khabaz**	**64.99**	**318**	P		**P**	**12 18 17.2**	**+1.2**
	1.7nm,0.8s,baz=119,slow=10,SNR=3.6							
PETK	**Petropavlovsk-**	**70.27**	**33**	LR		LR	12 51 06.7	
	comp=Z,125nm,20.6s,baz=157,slow=37							
TIXI	**Tiksi**	**72.39**	**9**	*e*P		**P**	**12 19 01.6**	**0.0**
	11nm,1.3s							
MAW	**Mawson**	**73.63**	**194**	LR		LR	12 45 13.0	
	comp=Z,70nm,20.1s,baz=66,slow=31							
VNDA	**Vanda**	**85.92**	**169**	LR		LR	12 54 25.1	
	comp=Z,57nm,19.4s,baz=235,slow=33							
TORD	**Torodi Ar. Bea**	**96.86**	**283**	LR		LR	13 00 09.7	
	comp=Z,135nm,21.7s,baz=145,slow=32							
TXAR	**Lajitas Array**	**142.22**	**34**	PKP		**PKPdf**	**12 27 07.2**	**-2.0**
	0.2nm,0.6s,baz=276,slow=1.7,SNR=3.2							

CASC 09 12:10:47.2±2.9, 6°.52N×82°.71W, h12km±42km, MD4.1, 3C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ACR	**Cerro Adams**	**2.17**	**348**	*e*P		Pn	12 11 24.6	+1.5
ACR				*e*S		Sn	12 11 48.2	-1.8
BRU2	**Volcan**	**2.26**	**0**	*e*P		Pn	12 11 24.6	0.0
BRU2				*e*S		Sn	12 11 51.1	-1.4
TBS2		**2.26**	**1**	*e*S		Sb	12 11 55.0	-1.3
BRU	**Baru**	**2.27**	**4**	*e*P		Pn	12 11 24.8	-0.4
BUS	**Buena Vista**	**3.19**	**341**	⇑*e*P		Pn	12 11 37.8	0.0
BUS				*e*S		Sn	12 12 18.8	+2.7
QCR	**Quepos**	**3.22**	**334**	⇑*e*P		Pn	12 11 37.3	-0.4
QCR				*e*S		Sn	12 12 16.4	+0.4
URSC	**Urasca**	**3.46**	**342**	⇓*e*P		Pn	12 11 41.9	+0.8
URSC				*e*S		Sn	12 12 23.8	+1.6
SJS	**Escuela Geolog**	**3.65**	**339**	*e*P		Pn	12 11 43.3	-0.4
ZANG	**Zanguenga, Cho**	**3.71**	**49**	*e*P		Pn	12 11 43.9	-0.5
BCIP	**Isla Barro Col**	**3.87**	**47**	*e*P		Pn	12 11 46.8	+0.2
BCIP				*e*S		Sn	12 12 33.0	+1.0
CGA2	**Cerro Gallo 2**	**3.88**	**334**	*e*P		Pn	12 11 47.1	+0.2
CGA2				*e*S		Sn	12 12 32.6	0.0
UPA	**Univ. de Panam**	**3.98**	**52**	*e*P		Pn	12 11 47.3	-0.8
JCR	**Jicaral**	**4.07**	**324**	⇑*e*P		Pn	12 11 48.9	-0.5
JCR				*e*S		Sn	12 12 37.8	+0.7

MEX 09 12:11:19.8±0.8, 32°.09N×115°.26W, h15km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.32**	**9**	*e*P		Pg	12 11 26.2	-0.4
MBIG				*i* S		Sg	12 11 30.1	-1.0
SPIG	**San Pedro Mart**	**1.05**	**190**	*e*P		Pb	12 11 37.5	-2.7
SPIG				*i* S		Sb	12 11 48.8	-5.3

*NNC **09** 12:16:47.4±1.9, 53°.92N×86°.34E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=15.4km s-min=12.3km az=179.

comp=N,658nm,0.2s
SALK Salom-Alik 1.53 76 *i* P Pg 12 23 55.0 -0.6
baz=77
SALK *e*S Sg 12 24 15.8 +0.2
baz=77
MNAS Manas 2.02 14 ⇑Pg Pg 12 24 05.1 +0.3
comp=N,115nm,0.3s
MNAS ⇑Lg Lg 12 24 33.8
comp=N,710nm,0.3s
AML Almayashu 2.12 40 P Pb 12 24 04.7 +0.3
SNR=164
AML Almayashu 2.12 40 *i* PN Pb 12 24 04.7 +0.3
ARLS Aral 2.29 54 ⇓*i*P Pb 12 24 06.6 -0.6
baz=54
EKS2 Erkin-Say 2.58 33 P Pb 12 24 11.6 -0.5
SNR=22
EKS2 Erkin-Say 2.58 33 *e*PN Pb 12 24 11.5 -0.5
EKS2 *e* 12 24 45.1
EKS2 Erkin-Say 2.58 33 *e*Pn Pb 12 24 11.5 -0.5
EKS2 *e*Sn Sb 12 24 45.1 +1.6
UCH Uchtor 2.62 49 P Pb 12 24 12.1 -1.1
SNR=97
UCH Uchtor 2.62 49 *i* PN Pb 12 24 12.0 -1.1
KK31 Karatay Array 2.77 339 Pn Pb 12 24 13.2 -1.9
comp=N,17nm,0.4s,baz=154,slow=13,SNR=1165
KK31 Pg Pg 12 24 19.4 +0.3
comp=N,82nm,0.4s
KK31 Lg Lg 12 24 55.1
comp=N,226nm,0.3s,baz=155,slow=30,SNR=8.7
KK31 Karatay Array 2.77 339 PN Pb 12 24 13.3 -1.9
KK31 S Sg 12 24 55.0 +0.1
KK31 pmax pmax
comp=Z,106nm,0.2s
KK31 smax smax
comp=N,547nm,0.3s
KKAR Karatay Array 2.77 339 *e*PN Pb 12 24 13.6 -1.6
KKAR Karatay Array 2.77 339 *e*Pn Pb 12 24 13.6 -1.6
AAK Ala-Archa 2.89 42 ⇑Pn Pb 12 24 15.8 -1.6
comp=N,19nm,0.6s
AAK ⇓Pg Pg 12 24 20.7 -0.8
comp=N,98nm,0.3s
AAK ⇓Lg Lg 12 25 00.3
comp=N,226nm,0.3s
AAK Ala-Archa 2.89 42 P Pb 12 24 15.8 -1.6
SNR=17
AAK Ala-Archa 2.89 42 Pn Pb 12 24 15.7 -1.6
comp=N,12nm,0.3s,baz=207,slow=5.1,SNR=88
AAK Lg Lg 12 24 59.7
comp=N,124nm,0.3s,baz=148,slow=23,SNR=15
AAK Ala-Archa 2.89 42 *e*Pn Pb 12 24 15.8 -1.6
AAK *e*Sn Sn 12 24 47.0 +0.7
AAK Lg Lg 12 24 59.7
DZET Dzherino 2.90 235 Pn Pb 12 24 16.6 -1.0
comp=N,16nm,0.3s
DZET Pg Pg 12 24 21.5 -0.2
comp=N,75nm,0.3s
DZET Sn Sb 12 24 51.3 -1.7
DZET Lg Lg 12 25 02.6
KZA Kyzart 2.99 58 P Pb 12 24 17.2 -2.1
SNR=161
FRU Bishkek 3.10 41 *e*PN Pb 12 24 19.0 -1.9
FRU *i* 12 24 26.0
FRU *e*S Sb 12 24 59.0 +0.5
FRU *i* 12 25 07.0
FRU pmax pmax
comp=Z,410nm,1.8s
FRU pmax pmax
comp=E,1μm,2.0s
KBK Karagaybulak 3.15 46 P Pb 12 24 19.8 -2.0
SNR=83
KBK Karagaybulak 3.15 46 *i* PN Pb 12 24 19.8 -2.0
NRN Naryn 3.27 73 ⇓*i*P Pn 12 24 19.0 +1.9
baz=73
CHMS Chumysh 3.29 40 P Pb 12 24 21.2 -2.9
SNR=30
CHMS Chumysh 3.29 40 *i* PN Pb 12 24 21.2 -2.9
KSH Kashi 3.32 106 Pn Pn 12 24 18.7 +1.1
KSH Sn Sn 12 24 57.0 +0.2
KSH smax smax
comp=N,2μm,0.3s
KSH smax smax
comp=E,2μm,0.6s
USP Ospenovka 3.38 35 P Pb 12 24 22.2 -3.4
SNR=22
USP Ospenovka 3.38 35 *i* PN Pb 12 24 22.2 -3.4
TKM2 Tokmak 2 3.68 48 ⇑Pn Pn 12 24 26.3 +3.6
TKM2 ⇑Lg Lg 12 25 24.4
comp=E,300nm,0.7s
TKM2 Tokmak 2 3.68 48 P Pn 12 24 26.8 +4.0
SNR=138
TKM2 Tokmak 2 3.68 48 *e*PN Pn 12 24 26.7 +4.0
TKM2 Tokmak 2 3.68 48 *e*Pn Pn 12 24 26.7 +4.0
ULHL Ulahol 3.72 61 P Pn 12 24 26.3 +3.1
SNR=60
KNDC Almaty 4.67 53 ⇓Pg Pg 12 24 54.2 -1.2
comp=E,101nm,0.6s
KNDC ⇑Lg Lg 12 25 56.2
comp=E,390nm,0.6s
AAA Alma-Ata 4.69 52 *i* PN Pb 12 24 50.9 +2.9
AAA *i* S Sg 12 25 54.3 -2.2
AAA pmax pmax
comp=Z,178nm,0.4s
AAA smax smax
comp=E,365nm,0.7s
PDGK Podgornoye 6.34 61 Pn Pn 12 25 01.9 +3.0
comp=E,4.6nm,0.6s
PDGK ⇓Pg Pg 12 25 22.7 -4.7
comp=E,26nm,0.6s
PDGK ⇑Lg Lg 12 26 46.2
comp=E,115nm,0.8s
PDGK Podgornoye 6.34 61 PN Pn 12 25 01.5 +2.6
PDGK 12 26 46.9
PDGK pmax pmax
comp=Z,26nm,0.6s
PDGK smax smax
comp=N,48nm,0.6s
KBL Kabul 6.38 201 *e*PN Pn 12 25 02.8 +3.0
KBL *e* 12 26 16.9
KBL Kabul 6.38 201 *e*Pn Pn 12 25 02.8 +3.0
KBL *e*Sn Sn 12 26 16.9 +4.5
CEP Cherat 6.69 180 P Pn 12 25 07.3 +3.3
CEP S Sn 12 26 21.0 +1.0
CHCP Chirah Chowk 6.95 170 P Pn 12 25 10.6 +3.2
THW Thamme Wali 7.72 181 P Pn 12 25 19.2 +1.2
OTUK Ortayu 7.72 2 ⇑Pn Pn 12 25 22.3 +4.3
comp=N,7.7nm,0.5s
OTUK ⇓Lg Lg 12 27 35.2
DLH Dalhousie 8.63 156 *e*P Pn 12 25 37.0 +6.4
DLH *e*S Sn 12 27 01.0 -6.7
MK31 Makanchi Array 9.81 47 Pn Pn 12 25 49.0 +2.4
comp=N,1.8nm,0.5s,baz=233,slow=13,SNR=23
MK31 ⇓Pg 12 26 25.7
comp=N,3.1nm,0.5s,baz=231,slow=13,SNR=4.9
MK31 ⇑Sn Sn 12 27 38.1 +1.5
comp=N,5.4nm,0.7s
MK31 ⇑Lg Lg 12 28 39.7
comp=N,4.1nm,0.5s,baz=234,slow=25,SNR=3.6
MK31 Makanchi Array 9.81 47 *i* P Pn 12 25 49.0 +2.4
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 9.81 47 Pn Pn 12 25 48.5 +1.8
comp=Z,0.6nm,0.3s,baz=233,slow=14,SNR=28
MKAR Lg Lg 12 28 38.7
comp=Z,0.9nm,0.3s,baz=227,slow=25,SNR=5.6
MKAR Makanchi Array 9.81 47 *e*Pn Pn 12 25 49.4 +2.8
MKAR Lg Lg 12 28 38.7
GEYT Alibeck 10.97 261 Pn Pn 12 26 00.4 -2.1
comp=Z,1.1nm,0.3s,baz=66,slow=14,SNR=3.3
GEYT Sn Sn 12 27 59.3 -5.7
comp=Z,2.0nm,0.3s,baz=60,slow=10,SNR=3.4
KURBB Kurchatov Arra 11.12 23 ⇓Pn Pn 12 26 04.4 -0.1
comp=Z,5.8nm,0.5s
KURBB ⇓Lg Lg 12 29 22.6
comp=Z,105nm,1.0s
KURBB Kurchatov Arra 11.12 23 Pn Pn 12 26 04.7 +0.2
comp=Z,0.4nm,0.3s,baz=214,slow=12,SNR=13
KURBB Lg Lg 12 29 22.6
comp=Z,0.4nm,0.3s,baz=214,slow=29,SNR=7.3
KURK Kurchatov 11.23 23 ⇓Pn Pn 12 26 05.8 -0.2
comp=Z,3.1nm,0.6s
KURK ⇑Lg Lg 12 29 23.4
comp=Z,20nm,0.7s
KURK Kurchatov 11.23 23 *e*P Pn 12 26 06.8 +0.8
KURK *e* 12 28 13.0
KURK Kurchatov 11.23 23 *e*Pn Pn 12 26 06.8 +0.8
KURK *e*Sn Sn 12 28 13.0 +1.8
KURK Lg Lg 12 29 22.6
AB31 Akbulak array 12.13 320 Pn Pn 12 26 17.7 -0.6
comp=Z,3.7nm,0.3s,baz=128,slow=14,SNR=221
AB31 ⇑Sn Sn 12 28 26.2 -7.0
comp=Z,7.2nm,0.7s,baz=130,slow=24,SNR=4.3
AB31 ⇑Lg Lg 12 29 53.1
comp=Z,3.2nm,0.5s
AB31 Akbulak array 12.13 320 P Pn 12 26 17.4 -0.9
AB31 pmax pmax
comp=Z,5.0nm,0.3s
ABKAR Akbulak array 12.13 320 *e*Pn Pn 12 26 17.5 -0.9
ABKAR *e*Sn Sn 12 28 23.2 -10
WMQ Urumqi 12.20 69 *e*P Pn 12 26 28.6 +9.2
WMQ pP 12 26 32.0
WMQ sP 12 26 35.0
WMQ PP PnPn 12 26 38.5 +11
WMQ *e*S Sn 12 28 42.2 +7.0
WMQ SS SnSn 12 28 57.2 +10
WMQ PMZ
comp=Z,7.0nm,0.7s
WMQ PMZ
comp=Z,66nm,5.1s
WMQ LN
comp=Z,290nm,7.2s
WMQ LE
comp=Z,200nm,6.0s
WMQ LZ
comp=Z,260nm,10.3s
BVA0 Borovoye Array 12.54 356 ⇑Sn Sn 12 28 45.3 +2.0
comp=Z,7.7nm,0.8s,baz=161,slow=23,SNR=4.5
BVA0 ⇑Lg Lg 12 30 05.2
comp=Z,39nm,1.1s
BVAR Borovoye Array 12.54 356 Pn Pn 12 26 24.1 +0.2
comp=Z,0.9nm,0.3s,baz=158,slow=11,SNR=4.7
BVAR Sn Sn 12 28 38.4 -4.9
comp=Z,1.3nm,0.3s,baz=161,slow=24,SNR=5.5
BVAR Lg Lg 12 30 11.0
comp=Z,0.8nm,0.3s,baz=166,slow=36,SNR=3.7
AKTO Aktyubinsk 13.85 320 ⇑Pn Pn 12 26 40.3 -1.4
comp=Z,9.2nm,0.6s
AKTO ⇑Sn Sn 12 29 18.5 +3.3
comp=Z,6.0nm,0.6s
AKTO ⇑Lg Lg 12 30 48.5
comp=Z,33nm,1.3s
AKTO Aktyubinsk 13.85 320 Pn Pn 12 26 41.1 -0.6
comp=Z,1.0nm,0.3s,baz=132,slow=14,SNR=12
AKTO Sn Sn 12 29 09.2 -6.0
comp=Z,0.5nm,0.3s,baz=162,slow=20,SNR=3.9
AKTO LR LR 12 32 26.7
comp=Z,112nm,18.4s,baz=136,slow=39
PYUN Piuthan 15.42 140 *e*P Pn 12 26 56.0 -7.3
comp=Z,235nm,0.6s
DANN Dangsing 15.60 137 *e*P Pn 12 27 00.1 -5.6
comp=Z,27nm,0.4s
KOLN Koldanda 15.99 139 *e*P Pn 12 27 04.0 -6.7
comp=Z,18nm,0.3s
ZALV Zalesovo Beam 16.02 29 Pn Pn 12 27 09.8 -0.9
comp=Z,0.3nm,0.3s,baz=214,slow=10,SNR=6.8
ZALV Sn Sn 12 30 14.1 +6.2
comp=Z,0.1nm,0.3s,baz=222,slow=19,SNR=2.6
ZALV LR LR 12 33 48.9
comp=Z,81nm,19.6s,baz=252,slow=39
NVS Novosibirsk 16.21 24 *e*P P 12 27 15.4 -0.8
NVS *e* 12 30 13.7
GKN Gorkha 16.34 136 *e*P Pn 12 27 10.4 -4.7
comp=Z,44nm,0.4s
KKN Kakani 16.85 135 *e*P Pn 12 27 16.8 -4.9
comp=Z,37nm,0.7s
GUN Gumba 17.08 133 *e*P Pn 12 27 20.8 -3.9
PKI Pulchoki 17.09 135 *e*P Pn 12 27 19.6 -5.2
comp=Z,32nm,0.4s
JIRN Jiri 17.45 133 *e*P Pn 12 27 25.3 -4.0
comp=Z,27nm,0.4s
ARU Arti 18.14 336 *d*iP Pn 12 27 37.0 -0.2
ARU S Sn 12 30 49.3 -10
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 18.14 336 *e*Pn Pn 12 27 37.2 0.0
RAMN Ramite 18.23 133 *e*P Pn 12 27 33.0 -5.8
comp=Z,24nm,0.5s
TAPN Taplejung 18.55 130 *e*P P 12 27 38.5 -4.1
comp=Z,15nm,0.6s
ODAN Odare 18.74 132 *e*P P 12 27 39.2 -5.4
comp=Z,20nm,0.6s
GNI Garni 20.65 278 ⇑*e*P Pn 12 28 18.2 +11
GNI pmax pmax
comp=Z,26nm,1.2s
ZEI Tsey 20.97 285 *e*P Pn 12 28 11.2 -0.3
ZEI pmax pmax
comp=Z,11nm,0.6s
GTA Gaotai 21.43 84 *e*P P 12 28 14.7 +1.1
GTA pP pP 12 28 21.8 +3.9
GTA sP sP 12 28 25.5 +5.7
GTA pmax pmax
comp=Z,4.0nm,0.8s
KBZ Khabaz 21.67 288 P P 12 28 16.9 +0.9
comp=Z,2.1nm,0.9s,baz=95,slow=13,SNR=3.1
KIV Kislovodsk 21.81 289 *d*iP P 12 28 25.8 +8.1
KIV *e* 12 28 47.5
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,37nm,16.0s
KIV Kislovodsk 21.81 289 P P 12 28 17.0 -0.7
comp=Z,20nm,0.8s
ZAK Zakamensk 23.98 55 *e*P P 12 28 41.8 +1.8
ZAK pmax pmax
comp=Z,6.0nm,0.9s
LZH Lanzhou 25.41 90 *e*P P 12 29 03.5 +10
LZH PP PnPn 12 29 42.6 +14
LZH PMZ
comp=Z,23nm,1.1s
LZH PMZ
comp=Z,79nm,4.8s
LZH LN
comp=Z,410nm,12.0s
LZH LE
comp=Z,430nm,12.5s
LZH LZ
comp=Z,570nm,15.2s
SONM Songino Array 25.66 62 P P 12 28 55.8 +0.4
comp=Z,1.8nm,0.6s,baz=272,slow=9.0,SNR=16
ULN Ulaanbaatar 26.11 62 *e*P P 12 29 00.4 +1.0
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 26.11 62 *e*P P 12 29 00.4 +1.0
comp=Z,4.8nm,0.8s
OBN Obninsk 27.47 314 ⇓*e*P P 12 29 18.1 +6.8
OBN *e* 12 30 01.2
OBN pmax pmax
comp=Z,7.0nm,0.6s
CD2 Chengdu 27.50 100 *e*P P 12 29 26.7 +15
CD2 pP pP 12 29 31.0 +15
CD2 sP sP 12 29 33.7 +15
CD2 PP PP 12 30 14.9 +0.9
CD2 S S 12 34 06.8 +14
CD2 sS sS 12 34 13.5 +14
CD2 SS SnSn 12 35 25.1 +23
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.6s
BRTR Keskin Array B 29.09 281 P P 12 29 27.3 +1.2
comp=Z,0.3nm,0.3s,baz=76,slow=5.3,SNR=2.8
HHC Hu-ho-hao-te 29.93 76 *e*P P 12 29 43.6 +10
HHC pP pP 12 29 48.0 +10
HHC sP sP 12 29 51.3 +11
HHC PP PP 12 30 40.1 -1.0
HHC S S 12 34 38.6 +8.0
HHC sS sS 12 34 43.8 +5.7
HHC ScS ScS 12 40 21.9 +9.0
HHC PMZ
comp=Z,22nm,0.6s
HHC PMZ
comp=Z,140nm,5.7s
HHC LN
comp=Z,92nm,12.2s
HHC LE
comp=Z,120nm,12.2s
HHC LZ
comp=Z,53nm,12.3s
AKASG Malin Array Be 31.11 304 P P 12 29 44.9 +1.2
comp=Z,0.4nm,0.4s,baz=76,slow=7.6,SNR=2.5
BOD Bodaibo 31.87 43 *e*P P 12 29 51.4 +1.0
BOD pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 32.02 125 P P 12 29 49.8 -2.2
comp=Z,0.4nm,0.4s,baz=304,slow=9.7,SNR=3.5
APA Apatity 34.23 335 *e*P P 12 30 08.8 -2.0
APA MLR MLR
comp=Z,200nm,13.0s
FINES FINESS Array B 34.60 323 *ce*P P 12 30 22.3 +8.2
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 34.60 323 P P 12 30 15.1 +0.9
comp=Z,0.6nm,0.4s,baz=115,slow=9.7,SNR=8.6
FINES LR LR 12 45 16.9
comp=Z,51nm,18.5s,baz=196,slow=38
KOLS Kolonicke sedl 35.66 301 *e*P P 12 30 32.5 +9.1
KOLS Kolonicke sedl 35.66 301 *ep*P P 12 30 32.5 +9.1
CRVS Cervenica-Dubn 36.20 301 *e*P P 12 30 38.4 +10
CRVS Cervenica-Dubn 36.20 301 *ep*P pP 12 30 38.4 +5.8
ARCES ARCESS Array B 37.72 335 P P 12 30 41.9 +1.1
comp=Z,1.1nm,0.5s,baz=105,slow=7.8,SNR=13
NJ2 Nanjing 38.44 87 *e*P P 12 30 59.5 +12
NJ2 PMZ
comp=Z,30nm,0.8s
CN2 Changchun 39.28 67 *e*P P 12 31 03.9 +10
YAK Yakutsk 40.34 38 *e*P P 12 31 02.2 -0.5
YAK pmax pmax
comp=Z,16nm,0.9s
YAK Yakutsk 40.34 38 P P 12 31 03.0 +0.4
comp=Z,14nm,0.4s,baz=298,slow=1.1,SNR=8.6
GERES GERESS Array B 41.27 302 P P 12 31 12.1 +1.4
comp=Z,0.3nm,0.4s,baz=90,slow=7.8,SNR=2.6
NB2 NORSAR Subarra 41.64 320 P P 12 31 14.5 +1.0
comp=Z,1.0nm,0.6s,baz=89,slow=7.9
NOA NORSAR Array B 41.64 320 P P 12 31 13.9 +0.4
comp=Z,0.5nm,0.8s,baz=108,slow=5.7,SNR=3.3
NOA LR LR 12 49 27.2
comp=Z,62nm,19.6s,baz=100,slow=37
MDJ Mudanjiang 41.95 65 P P 12 31 23.9 +7.7
MDJ PMZ
comp=Z,5.0nm,1.2s
AVF Avril sur Loir 48.53 301 *e*P P 12 32 11.1 +2.7
comp=Z,2.1nm,1.1s
AVF Avril sur Loir 48.53 301 *e*P P 12 32 11.1 +2.7
AVF pmax pmax
comp=Z,21nm,1.1s
AVF Avril sur Loir 48.53 301 *e*P P 12 32 11.1 +2.7
comp=Z,21nm,1.1s
MJAR Matsushiro Arr 50.95 72 P P 12 32 26.1 -0.9
comp=Z,2.9nm,0.9s,baz=290,slow=9.6,SNR=8.1
TORD Torodi Ar. Bea 66.53 267 P P 12 34 14.6 -1.0
comp=Z,3.2nm,0.5s,baz=53,slow=5.5,SNR=50
INK Inuvik 69.83 10 P P 12 34 36.1 +0.7
comp=Z,1.7nm,0.5s,baz=353,slow=6.4,SNR=32
ILAR Eielson Array 70.73 17 P P 12 34 41.1 +0.1
comp=Z,0.9nm,0.7s,baz=326,slow=5.2,SNR=9.9
FRB Frobisher Bay 71.43 343 LR LR 13 12 20.0
comp=Z,80nm,18.9s,baz=208,slow=41
DBIC Dimbokro 75.60 266 P P 12 35 09.3 -1.3
comp=Z,1.6nm,0.5s,baz=22,slow=6.5,SNR=3.7
YKA Yellowknife Ar 77.20 3 P P 12 35 19.4 +0.5
comp=Z,2.0nm,0.5s,baz=350,slow=5.7,SNR=76
FCC Fort Churchill 80.38 353 *e*P P 12 35 36.9 +0.5
FCC pmax pmax
comp=Z,1.0nm,0.6s
FCC Fort Churchill 80.38 353 *e*P P 12 35 36.9 +0.5
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 83.58 123 P P 12 35 51.9 -1.9
comp=Z,1.4nm,0.8s,baz=322,slow=5.1,SNR=20
ASAR Alice Springs 86.03 126 P P 12 36 04.2 -2.0
comp=Z,1.4nm,0.7s,baz=314,slow=5.0,SNR=37

IDC ***09*** *12:43:14.0±2.5, 1°.82N×96°.71E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/32, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=103.6km s-min=20.6km az=62.0*
ISCJB ***09*** *12:43:16.8±0.8, 1°.89N±0°.05×96°.67E±0°.06, h28km, mb3.5/5, Error ellipse: s-maj=10.5km s-min=5.7km az=144.4*
DJA ***09*** *12:43:18.8±0.6, 2°N±3′×97°E±°, h21km±13km, M3.8/9, mb4.1/1, MLv3.6/9*
ISC 09 12:43:18.5±0.9, 2°.00N±0°.06×96°.71E±0°.06, h28km, n18, σ0s92/17, mb3.4/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.56**	**317**	P	**Pn**	**12 43 31.1**	**+0.5**
SNSI				S	**Sb**	**12 43 37.0**	**-0.6**
TPTI		**1.34**	**20**	P	**Pn**	**12 43 41.5**	**+0.2**
TPTI				S	**Sb**	**12 43 59.0**	**-0.7**
KCSI	**Kotacane, Aceh**	**1.85**	**35**	P	**Pn**	**12 43 49.7**	**+1.3**
KCSI				S	**Sb**	**12 44 13.7**	**-0.6**
MNSI	**Mandailing Nat**	**3.10**	**113**	P	**Pn**	**12 44 06.6**	**+1.0**
MNSI				S	**Sn**	**12 44 41.3**	**-0.5**
LHMI	**Lhok Sumawe**	**3.22**	**4**	P	**Pn**	**12 44 07.5**	**+0.3**
PDSI	**Padang**	**4.73**	**128**	P	**Pn**	**12 44 28.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.50**	**7**	Pn	**P**	**12 47 09.7**	**-0.9**
	0.1nm,0.3s,baz=199,slow=12,SNR=6.2						
H08S2	**Diego Garcia H**	**25.99**	**248**	T	T	13 15 37.1	
	baz=69,slow=75,SNR=323						
H08S3	**Diego Garcia H**	**25.99**	**248**	T	T	13 15 33.5	
	baz=69,slow=75,SNR=246						
H08S1	**Diego Carcia H**	**26.01**	**248**	T	T	13 15 37.8	
	baz=69,slow=75,SNR=299						
H01W3	**Cape Leeuwin H**	**40.16**	**158**	T	T	13 33 26.1	
	baz=333,slow=75,SNR=9.1						
H01W2	**Cape Leeuwin H**	**40.17**	**158**	T	T	13 33 24.9	
	baz=333,slow=75,SNR=8.8						
H01W1	**Cape Leeuwin H**	**40.18**	**158**	T	T	13 33 23.9	
	baz=333,slow=75,SNR=10.0						
WRA	**Warramunga Arr**	**42.87**	**122**	P	**P**	**12 51 13.6**	**-1.1**
	0.6nm,0.7s,baz=300,slow=9.2,SNR=8.9						
WRA				PcP	**PcP**	**12 53 05.1**	**-0.5**
	0.2nm,0.7s,baz=308,slow=2.7,SNR=3.6						
ASAR	**Alice Springs**	**44.26**	**127**	P	**P**	**12 51 24.7**	**-1.2**
	0.5nm,0.8s,baz=300,slow=8.4,SNR=7.6						
MKAR	**Makanchi Array**	**46.36**	**346**	P	**P**	**12 51 43.3**	**+1.1**
	0.3nm,0.4s,baz=152,slow=8.3,SNR=6.6						
SONM	**Songino Array**	**46.42**	**9**	P	**P**	**12 51 43.7**	**+0.9**
	0.2nm,0.4s,baz=198,slow=8.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**52.70**	**351**	P	**P**	**12 52 31.4**	**+1.0**
	1.0nm,0.6s,baz=165,slow=7.7,SNR=5.1						

IDC ***09*** *12:58:29.5±1.3, 30°.51N×83°.28E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.2/43, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=36.7km s-min=34.6km az=174.0*
NDI ***09*** *12:59:06.0±2.2, 28°.19N×82°.96E, h33km, ML3.4*
ISC 09 12:58:32.2±1.1, 30°.6N±0°.1×83°.34E±0°.08, h18km, n9, σ2s09/9, mb3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**2.91**	**248**	*ex*	**Pg**	**12 59 27.0**	**-1.0**
SDNR	**Sundarnagar**	**5.54**	**281**	*e*P	Pg	13 00 26.0	+7.7
SDNR				*e*S	**Sg**	**13 01 29.6**	**-0.4**
AGRA	**Agra**	**5.79**	**236**	*e*P	**Pb**	**13 00 12.7**	**+0.1**
AGRA				*e*S	**Sn**	**13 01 01.1**	**-2.0**
AGRA				AML	AML	13 01 08.9	
	comp=N,41nm,0.2s						
AGRA				AML	AML	13 01 09.1	
	comp=E,72nm,0.2s						
SONA	**Sohna**	**5.93**	**248**	*e*P	Pg	13 00 21.9	-3.8
SONA				*e*S	Sb	13 01 15.8	-10
KHET	**Khetri**	**7.03**	**251**	*ex*	x	13 00 23.3	
KHET				*ex*	**Sn**	**13 01 38.1**	**+4.3**
KHET				AML	AML	13 02 28.5	
	comp=E,96nm,0.1s						
KHET				AML	AML	13 02 28.5	
	comp=N,82nm,0.1s						
MKAR	**Makanchi Array**	**16.21**	**357**	Pn	**Pn**	**13 02 17.7**	**-1.2**
	comp=N,0.0nm,0.3s,baz=181,slow=12,SNR=2.2						
SONM	**Songino Array**	**24.67**	**39**	P	**P**	**13 03 53.1**	**+1.0**
	comp=N,0.5nm,0.9s,baz=225,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**70.19**	**129**	P	**P**	**13 09 44.4**	**+0.2**
	comp=N,0.3nm,0.6s,baz=324,slow=6.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**76.32**	**277**	P	**P**	**13 10 20.6**	**+0.1**
	comp=N,0.3nm,0.7s,baz=52,slow=4.7,SNR=2.9						

MEX 09 13:08:52.4±0.9, 32°.38N×115°.04W, h33km±8km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.14**	**283**	*i* P	Pn	13 08 57.1	+0.7
MBIG				*i* S	Sb	13 09 01.1	-1.4

CBX	**Cerro Bola**	**1.37 268**	*i* P		Pn	13 09 14.0	-1.4
CBX			*i* S		Sn	13 09 29.2	-3.4
SPIG	**San Pedro Mart**	**1.37 195**	*i* P		Pn	13 09 13.8	-2.0
SPIG			*i* S		Sn	13 09 30.4	-2.7

*IDC **09** 13:20:34.5±1.7,33°.81S×73°.47W,h0km,mb3.7/2, mb1 1.0/4,mb1mx3.7/27,mbtmp3.8/4,ML4.1/2,Error ellipse: s-maj=39.1km s-min=31.7km az=87.0*
*ISCJB **09** 13:20:37.2±1.2,33°.9S±0°.1×73°.3W±0°.1,h33km,mb3.7/1, Error ellipse: s-maj=17.8km s-min=12.9km az=38.6*
ISC 09 13:20:39.5±1.3,33°.8S±0°.1×73°.3W±0°.1,h35km,n6,σ0s51/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.81**	**64**	Pn	**Pn**	**13 21 49.3**	**-0.1**
	0.1nm,0.3s,baz=236,slow=13,SNR=8.3						
CFAA				Sn	**Sn**	**13 22 43.8**	**-0.2**
	0.7nm,0.3s,baz=322,slow=23,SNR=11						
PLCA	**Paso Flores**	**7.23**	**163**	Pn	**Pn**	**13 22 22.6**	**-0.1**
	2.1nm,0.3s,baz=340,slow=12,SNR=30						
LPAZ	**La Paz**	**18.08**	**16**	P	**Pn**	**13 24 48.1**	**-0.4**
	0.1nm,0.3s,baz=196,slow=7.4,SNR=4.4						
SIV	**San Ignacio**	**20.91**	**35**	P	**P**	**13 25 19.8**	**+0.8**
	2.6nm,0.7s,baz=240,slow=11,SNR=6.6						
TXAR	**Lajitas Array**	**69.08**	**332**	P	**P**	**13 31 41.8**	**-0.2**
	0.6nm,0.6s,baz=155,slow=7.8,SNR=7.6						
MKAR	**Makanchi Array**	**157.44**	**48**	PKPab	**PKPab**	**13 41 03.6**	**+0.3**
	0.3nm,0.8s,baz=302,slow=5.6,SNR=3.6						

IDC 09 13:24:00.9±2.6,53°.71N×87°.01E,h0km,mb1 2.7/2, mb1mx2.7/30,mbtmp2.7/2,ML2.3/2,Error ellipse: s-maj=23.5km s-min=13.6km az=74.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**282**	*i*		13 32 10.0	
	baz=102,slow=332,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.32**	**281**	Pg	Pg	13 24 25.2	-1.1
	0.7nm,0.3s,baz=100,slow=17,SNR=17						
ZALV				Lg	Lg	13 24 43.3	
	1.1nm,0.3s,baz=102,slow=29,SNR=17						
KURBB	**Kurchatov Arra**	**6.06**	**243**	Pn	Pn	13 25 32.0	+0.3
	0.0nm,0.3s,baz=61,slow=14,SNR=4.1						
KURBB				Lg	Lg	13 27 13.7	
	0.0nm,0.3s,baz=60,slow=32,SNR=6.0						
MKAR	**Makanchi Array**	**7.55**	**206**	Pn	Pn	13 25 53.6	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=5.3						
MKAR				Sn	Sn	13 27 19.0	+0.5
	0.1nm,0.3s,baz=26,slow=27,SNR=2.8						
MKAR				Lg	Lg	13 28 01.7	
	0.0nm,0.3s,baz=28,slow=28,SNR=4.6						

*IDC **09** 13:27:07.5±2.0,19°.38S×167°.85E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.9/25,mbtmp3.9/7,ML3.8/1,MS2.4/1, Ms1 2.4/1,ms1mx2.3/24,Error ellipse: s-maj=57.6km s-min=27.0km az=126.0*
*ISCJB **09** 13:27:09.8±1.6,19°.5S±0°.1×167°.8E±0°.3,h26km,mb3.9/6, Error ellipse: s-maj=42.2km s-min=11.4km az=18.5*
ISC 09 13:27:10.8±1.8,19°.6S±0°.2×168°.0E±0°.3,h26km,n7, σ0s65/8,mb3.7/6,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.84**	**210**	Pn	**Pn**	**13 27 54.6**	**-0.1**
	13nm,0.3s,baz=32,slow=19,SNR=150						
DZM				LR	LR	13 28 17.8	
	comp=Z,63nm,20.9s,baz=28,slow=24						
DZM				Sn	**Sn**	**13 28 27.9**	**-0.2**
	46nm,0.3s,baz=294,slow=23,SNR=15						
WRA	**Warramunga Arr**	**31.63**	**264**	P	**P**	**13 33 31.6**	**-0.4**
	0.4nm,0.4s,baz=85,slow=8.3,SNR=16						
ASAR	**Alice Springs**	**31.89**	**257**	P	**P**	**13 33 34.1**	**-0.1**
	1.6nm,0.6s,baz=84,slow=8.8,SNR=47						
NWAO	**Narrogin (SRO)**	**46.99**	**243**	P	**P**	**13 35 40.4**	**+0.5**
	6.4nm,0.8s,baz=83,slow=8.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**77.58**	**295**	P	**P**	**13 39 05.9**	**+0.8**
	0.5nm,0.8s,baz=123,slow=4.6,SNR=4.2						
SONM	**Songino Array**	**86.81**	**324**	P	**P**	**13 39 51.9**	**-1.0**
	0.4nm,0.6s,baz=126,slow=4.1,SNR=5.0						
ILAR	**Eielson Array**	**90.94**	**18**	P	**P**	**13 40 12.1**	**+0.2**
	0.2nm,0.8s,baz=206,slow=6.0,SNR=3.9						

*IDC **09** 13:40:34.0±0.8,19°.59S×168°.05E,h0km,mb4.0/12, mb1 4.3/13,mb1mx4.1/29,mbtmp4.1/13,ML4.3/1,MS3.7/10, Ms1 3.7/10,ms1mx3.5/19,Error ellipse: s-maj=24.3km s-min=18.8km az=130.0*
*NEIC **09** 13:40:35.3±0.4,19°.63S×168°.03E,h10km,mb4.8/6,Error ellipse: s-maj=11.5km s-min=9.2km az=142.0*
*ISCJB **09** 13:40:36.3±0.5,19°.62S±0°.06×168°.00E±0°.08,h26km, mb4.2/14,MS3.8/8,Error ellipse: s-maj=12.0km s-min=7.8km az=27.1*
ISC 09 13:40:38.1±0.6,19°.59S±0°.08×168°.0E±0°.1,h26km,n35, σ1s18/33,mb4.1/14,MS3.8/8,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.84**	**210**	*e*Pn	**Pn**	**13 41 21.2**	**-0.7**
	277nm,0.3s						
DZM				*e*Sn	**Sn**	**13 41 54.9**	**-0.5**
	274nm,0.2s						
DZM	**Mont Dzumac**	**2.84**	**210**	Pn	**Pn**	**13 41 21.2**	**-0.7**
	46nm,0.3s,baz=36,slow=18,SNR=325						
DZM				Sn	**Sn**	**13 41 54.8**	**-0.6**
	96nm,0.3s,baz=139,slow=23,SNR=13						
DZM				LR	LR	13 41 59.7	
	comp=Z,238nm,19.3s,baz=48,slow=30						
DZM	**Mont Dzumac**	**2.84**	**210**	*e*Pn	**Pn**	**13 41 20.9**	**-1.1**
DZM				*e*Sn	**Sn**	**13 41 54.8**	**-0.6**
NFK	**Norfolk Island**	**9.41**	**180**	P	**Pn**	**13 42 54.0**	**+2.0**
	baz=10,SNR=4.0						
RAO	**Raoul Island**	**16.05**	**130**	LR	LR	13 49 12.0	
	comp=Z,213nm,21.3s,baz=158,slow=32						
URZ	**Urewera**	**20.23**	**159**	P	**P**	**13 45 11.1**	**-0.2**
	9.2nm,0.8s,baz=350,slow=8.4,SNR=6.9						
URZ				LR	LR	13 52 17.7	
	comp=Z,316nm,18.3s,baz=348,slow=35						
URZ	**Urewera**	**20.23**	**159**	*e*P	**P**	**13 45 09.4**	**-1.8**
	78nm,1.3s						
CTA	**Charters Tower**	**20.42**	**265**	P	Pn	13 45 15.3	-0.4
	6.2nm,0.7s,baz=101,slow=12,SNR=6.9						
CTAO	**Charters Tower**	**20.42**	**265**	*e*P	**P**	**13 45 13.2**	**-0.3**
	62nm,1.4s						
QLP	**Quilpie**	**22.88**	**248**	P	**P**	**13 45 41.3**	**+1.4**
	baz=24,SNR=12						
CMSA	**Cobar Meteorol**	**23.29**	**235**	P	**P**	**13 45 46.0**	**+2.0**
	baz=24,SNR=9.5						
COEN	**Coen**	**24.37**	**279**	P	**P**	**13 45 56.4**	**+2.1**
	baz=25,SNR=6.4						
WB2	**Warramunga Arr**	**31.60**	**264**	*e*P	**P**	**13 46 58.7**	**-0.3**
WRAB	**Tennant Creek**	**31.60**	**264**	*e*P	**P**	**13 46 57.3**	**-1.7**
	14nm,1.3s						
WRA	**Warramunga Arr**	**31.61**	**264**	P	**P**	**13 46 58.4**	**-0.7**
	0.7nm,0.4s,baz=88,slow=8.4,SNR=28						
WRA				LR	LR	13 59 07.9	
	comp=Z,197nm,19.2s,baz=90,slow=35						
AS31	**Alice Springs**	**31.87**	**257**	*e*P	**P**	**13 47 01.1**	**-0.2**
ASAR	**Alice Springs**	**31.87**	**257**	P	**P**	**13 47 01.4**	**0.0**
	2.8nm,0.7s,baz=85,slow=8.8,SNR=69						
ASAR				LR	LR	13 59 45.8	
	comp=Z,330nm,18.6s,baz=94,slow=36						
WRKA	**Warakurna**	**36.99**	**254**	P	**P**	**13 47 46.3**	**+0.5**
	baz=38,SNR=5.5						
KNRA	**Kununurra**	**37.50**	**270**	P	**P**	**13 47 47.0**	**-3.0**
	baz=38,SNR=3.2						
TBI	**Tubuai**	**39.70**	**103**	*e*LQ	LQ	13 57 30.8	
	548nm,29.0s						
TBI				*e*LR	LR	13 59 13.2	
	154nm,33.2s						
PPT2	**Papeete2**	**40.23**	**94**	*e*LQ	LQ	13 57 43.8	
	469nm,30.0s						
PPT2				*e*LR	LR	13 59 22.3	
	282nm,31.5s,baz=259						
MEEK	**Meekatharra**	**45.70**	**252**	P	**P**	**13 48 58.2**	**+1.0**
	baz=47,SNR=6.6						
VNDA	**Vanda**	**58.04**	**182**	P	**P**	**13 50 28.5**	**+0.1**
	0.9nm,0.8s,baz=27,slow=4.5,SNR=3.4						
VNDA				LR	LR	14 12 35.8	
	comp=Z,37nm,19.4s,baz=4.5,slow=33						
KSRS	**Korea Array**	**68.12**	**327**	LR	LR	14 21 50.4	
	comp=Z,24nm,18.0s,baz=337,slow=36						
QSPA	**South Pole Qui**	**70.46**	**180**	*e*P	**P**	**13 51 50.4**	**+0.2**
	9.0nm,1.2s						
PETK	**Petropavlovsk-**	**72.94**	**354**	P	**P**	**13 52 05.2**	**+0.3**
	3.7nm,0.9s,baz=156,slow=7.3,SNR=2.7						
PETK				LR	LR	14 20 28.2	
	comp=Z,48nm,18.9s,baz=160,slow=33						
CMAR	**Chiang Mai Arr**	**77.55**	**295**	P	**P**	**13 52 33.4**	**+1.1**
	0.9nm,0.8s,baz=131,slow=3.9,SNR=4.9						
SEY	**Seymchan**	**83.16**	**353**	P	**P**	**13 53 02.3**	**+1.0**
	0.3nm,0.4s,baz=148,slow=4.1,SNR=2.2						
GAMB	**Gambell**	**84.60**	**9**	*e*P	**P**	**13 53 08.4**	**-0.2**
	3.3nm,0.6s						
SONM	**Songino Array**	**86.78**	**324**	P	**P**	**13 53 20.8**	**+0.7**
	0.8nm,0.7s,baz=151,slow=4.5,SNR=6.4						
NVAR	**Mina Array Bea**	**89.94**	**49**	P	**P**	**13 53 35.1**	**-0.4**
	1.1nm,0.7s,baz=231,slow=7.8,SNR=6.9						
ILAR	**Eielson Array**	**90.93**	**18**	P	**P**	**13 53 37.7**	**-1.5**
	0.3nm,0.7s,baz=234,slow=5.2,SNR=5.7						
ILAR				LR	LR	14 31 07.8	
	comp=Z,53nm,19.3s,baz=254,slow=33						
WVOR	**Wild Horse Val**	**91.42**	**45**	*e*P	**P**	**13 53 41.5**	**-0.7**
	9.1nm,1.3s						
TXAR	**Lajitas Array**	**98.00**	**62**	P	**P**	**13 54 11.7**	**-0.8**
	0.3nm,0.8s,baz=235,slow=6.4,SNR=3.0						
TXAR				LR	LR	14 30 07.9	
	comp=Z,36nm,20.3s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**101.54**	**28**	P	**Pdif**	**13 54 27.0**	**-0.3**
	0.4nm,0.7s,baz=254,slow=4.8,SNR=7.3						

*DHMR **09** 13:45:13.5±0.6,11°.94N×43°.73E,h13km±10km,ML5.0*
*IDC **09** 13:45:15.7±0.9,12°.16N×43°.52E,h0km,mb4.0/16, mb1 4.0/17,mb1mx3.9/48,mbtmp4.0/17,ML3.5/1,MS3.7/20, Ms1 3.6/20,ms1mx3.5/38,Error ellipse: s-maj=22.2km s-min=18.2km az=3.0*
*ISN **09** 13:45:25.3±2.2,11°.86N×44°.88E,h13km±23km,ML4.1*
*CSEM **09** 13:45:29.1±1.1,12°.30N×44°.18E,h2km,ML5.0,Error ellipse: s-maj=128.1km s-min=26.1km az=90.0*
ISC 09 13:45:17.0±0.7,12°.16N±0°.07×43°.5E±0°.1,h10km,n40, σ0s98/27,mb4.1/15,MS3.6/19,1C,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.21**	**28**	*i*P	**Pn**	**13 45 38.4**	**-1.9**
TRBA				*i* S	**Sn**	**13 45 57.0**	**+0.2**
TRBA				AML	AML	13 46 01.7	
	comp=Z,16μm,0.4s						
UDYN	**Al 'Udayn**	**1.85**	**13**	*i* P	**Pb**	**13 45 48.8**	**-2.3**
UDYN				*i* S	**Sg**	**13 46 16.8**	**+0.2**
UDYN				AML	AML	13 46 24.4	
	comp=E,23μm,0.5s						
UDYN	**Al 'Udayn**	**1.85**	**13**	*i* P	**Pb**	**13 45 48.8**	**-2.3**
UDYN				*i* S	**Sg**	**13 46 16.8**	**+0.2**
	comp=E,12μm,0.5s						
DHBB	**Dhamar BB**	**2.54**	**19**	*i* P	**Pn**	**13 45 59.6**	**+0.9**
DHBB				*i* S	**Sb**	**13 46 35.7**	**+1.3**
DHBB				AML	AML	13 46 46.5	
	comp=N,23μm,1.0s						
DHBB	**Dhamar BB**	**2.54**	**19**	*i* P	**Pn**	**13 45 59.6**	**+0.9**
DHBB				*i* S	**Sb**	**13 46 35.7**	**+1.3**
	comp=N,11μm,1.0s						
KMBO	**Kilima Mbogo**	**14.60**	**206**	Pn	**Pn**	**13 48 43.6**	**-0.4**
	comp=N,0.2nm,0.3s,baz=21,slow=9.1,SNR=4.9						
KMBO				Lg	Lg	13 52 47.9	
	comp=N,0.5nm,0.3s,baz=119,slow=23,SNR=7.0						
KMBO				LR	LR	13 54 08.8	
	comp=N,416nm,20.9s,baz=82,slow=36						
NSR	**Nassriya**	**18.92**	**7**	*e*P	Pn	13 49 48.5	+10
NSR				*i* S	S	13 53 23.1	+10
NSR	**Nassriya**	**18.92**	**7**	*e*P	Pn	13 49 48.5	+10
	SNR=35						
NSR				*i* S	S	13 53 23.1	+10
	SNR=4.0						
ASF	**Jabal al Asfar**	**20.84**	**344**	P	**P**	**13 49 58.7**	**-0.3**
	comp=N,1.9nm,0.9s,baz=159,slow=6.0,SNR=1.7						
ASF				Lg	Lg	13 56 25.1	
	comp=N,3.6nm,0.9s,baz=237,slow=18,SNR=3.3						
IBDR	**Badra**	**20.97**	**6**	*e*P	Pn	13 50 11.4	+8.4
IBDR				*e*S	Sn	13 54 07.9	+7.9
RTB	**Rutbah**	**20.99**	**352**	*i* P	Pn	13 50 14.1	+11
RTB				*i* S	Sn	13 54 13.1	+13
RTB	**Rutbah**	**20.99**	**352**	*i* P	Pn	13 50 14.1	+11
	SNR=3.0						
BHD	**Baghdad**	**21.03**	**2**	*i* P	P	13 50 12.0	+11
BHD				*i* S	Sn	13 54 09.1	+7.7
BHD	**Baghdad**	**21.03**	**2**	*i* P	P	13 50 12.0	+11
	SNR=3.0						
MMAI	**Mount Meron Ar**	**22.06**	**342**	LR	LR	13 57 46.3	
	comp=N,222nm,20.6s,baz=170,slow=34						
IKRK	**Kirkuk**	**23.15**	**2**	*e*P	P	13 50 34.4	+11
IKRK				*i* S	Sn	13 54 47.0	-5.3
MSL	**Mosul**	**24.14**	**359**	*e*P	P	13 50 43.1	+10
MSL				*e*S	S	13 55 07.0	+16
MSL	**Mosul**	**24.14**	**359**	*e*S	S	13 55 07.0	+16
	SNR=29						
GNI	**Garni**	**27.90**	**2**	LR	LR	14 03 26.6	
	comp=N,81nm,18.9s,baz=177,slow=39						
GEYT	**Alibeck**	**28.79**	**24**	LR	LR	14 04 53.0	
	comp=N,351nm,18.2s,baz=205,slow=41						
BRTR	**Keskin Array B**	**28.82**	**344**	P	**P**	**13 51 15.6**	**0.0**
	comp=N,2.1nm,0.9s,baz=157,slow=11,SNR=8.2						
BRTR				LR	LR	14 02 10.8	
	comp=N,186nm,19.9s,baz=144,slow=35						
KBZ	**Khabaz**	**31.46**	**359**	LR	LR	14 05 08.8	
	comp=N,72nm,20.4s,baz=177,slow=38						
MLR	**Muntele Rosu**	**36.45**	**339**	LR	LR	14 09 00.9	
	comp=N,14nm,18.5s,baz=160,slow=39						
KEST	**Kesra**	**38.76**	**313**	LR	LR	14 09 29.9	
	comp=N,30nm,19.2s,baz=348,slow=38						
AKASG	**Malin Array Be**	**40.18**	**346**	P	**P**	**13 52 53.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=162,slow=6.9,SNR=7.5						
AKASG				LR	LR	14 10 44.6	
	comp=N,83nm,18.3s,baz=215,slow=38						
TORD	**Torodi Ar. Bea**	**40.80**	**276**	P	**P**	**13 52 59.1**	**+0.1**
	comp=N,2.7nm,0.8s,baz=88,slow=7.6,SNR=17						
TORD				LR	LR	14 10 02.3	
	comp=N,102nm,19.6s,baz=175,slow=36						
GERES	**GERESS Array B**	**44.16**	**332**	P	**P**	**13 53 26.9**	**+0.9**
	comp=N,0.7nm,0.7s,baz=153,slow=7.5,SNR=7.1						
GERES				LR	LR	14 12 21.6	
	comp=N,35nm,19.3s,baz=110,slow=37						
BOSA	**Boshof**	**44.22**	**203**	LR	LR	14 11 54.6	
	comp=N,143nm,18.2s,baz=33,slow=36						
MKAR	**Makanchi Array**	**47.47**	**36**	P	**P**	**13 53 52.9**	**+0.7**
	comp=N,5.3nm,1.0s,baz=229,slow=7.4,SNR=17						
MKAR				LR	LR	14 17 27.4	
	comp=N,146nm,18.1s,baz=248,slow=41						
DBIC	**Dimbokro**	**48.00**	**268**	P	**P**	**13 53 56.4**	**-0.3**
	comp=N,1.8nm,0.6s,baz=35,slow=3.1,SNR=2.3						
DBIC				LR	LR	14 12 50.3	
	comp=N,43nm,18.4s,baz=62,slow=34						
FINES	**FINESS Array B**	**50.82**	**349**	P	**P**	**13 54 17.0**	**-0.5**
	comp=N,2.6nm,1.1s,baz=164,slow=5.6,SNR=3.2						
FINES				LR	LR	14 17 34.3	
	comp=N,44nm,18.4s,baz=169,slow=38						
ZALV	**Zalesovo Beam**	**52.91**	**29**	P	**P**	**13 54 33.3**	**+0.1**
	comp=N,5.0nm,0.9s,baz=228,slow=7.8,SNR=10						
ZALV				LR	LR	14 20 53.1	
	comp=N,305nm,18.2s,baz=248,slow=40						
CMAR	**Chiang Mai Arr**	**53.65**	**76**	P	**P**	**13 54 38.9**	**-0.4**
	comp=N,1.8nm,0.8s,baz=274,slow=8.3,SNR=13						
NOA	**NORSAR Array B**	**54.20**	**341**	P	**P**	**13 54 42.2**	**-0.4**
	comp=N,0.9nm,0.8s,baz=140,slow=7.6,SNR=3.0						
NOA				LR	LR	14 19 20.7	
	comp=N,44nm,18.7s,baz=110,slow=38						
ARCES	**ARCESS Array B**	**56.47**	**353**	P	**P**	**13 55 13.6**	**+0.6**
	comp=N,3.6nm,0.9s,baz=172,slow=8.7,SNR=4.0						
ARCES				LR	LR	14 20 26.2	
	comp=N,51nm,19.5s,baz=216,slow=36						
SONM	**Songino Array**	**62.93**	**42**	P	**P**	**13 55 44.1**	**+0.3**
	comp=N,1.9nm,1.1s,baz=251,slow=7.1,SNR=4.1						
SONM				LR	LR	14 27 22.7	
	comp=N,53nm,18.4s,baz=250,slow=40						
SEY	**Seymchan**	**87.62**	**26**	P	**P**	**13 58 05.8**	**+0.4**
	comp=N,1.2nm,1.0s,baz=290,slow=4.0,SNR=3.4						
PETK	**Petropavlovsk-**	**94.27**	**33**	LR	LR	14 46 07.1	
	comp=N,59nm,18.2s,baz=343,slow=39						
WRA	**Warramunga Arr**	**94.81**	**109**	P	**P**	**13 58 40.3**	**+0.5**
	comp=N,0.5nm,0.9s,baz=297,slow=3.2,SNR=4.0						
ASAR	**Alice Springs**	**95.12**	**113**	P	**P**	**13 58 42.0**	**+0.8**
	comp=N,0.4nm,0.8s,baz=273,slow=2.4,SNR=4.1						

*IDC **09** 13:47:20.8±1.0,50°.80N×158°.53E,h0km,mb3.6/5, mb1 4.0/6,mb1mx3.4/50,mbtmp3.6/6,ML2.9/1,MS2.1/1, Ms1 2.1/1,ms1mx1.9/47,Error ellipse: s-maj=37.4km s-min=20.2km az=110.0*
*ISCJB **09** 13:47:24.6±0.6,50°.88N±0°.04×158°.45E±0°.07,h31km, mb3.5/5,Error ellipse: s-maj=6.5km s-min=4.9km az=19.3*
*MOS **09** 13:47:24.2±1.4,50°.84N×158°.26E,h41km,mb4.0/2,Error ellipse: s-maj=25.8km s-min=9.2km az=81.5*
*KRSC **09** 13:47:24.5±2.8,50°.98N×158°.39E,h80km±28km,ML4.0*
ISC 09 13:47:25.0±0.9,50°.89N±0°.06×158°.38E±0°.05,h31km,n46, σ1s43/62,mb3.6/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.15**	**301**	PN	**Pb**	**13 47 45.6**	**-0.6**
PAU				S	**Sn**	**13 47 59.1**	**-0.4**
PAU	**Pauzhetka**	**1.15**	**301**	*i* P	**Pb**	**13 47 45.6**	**-0.6**
PAU				*e*S	**Sn**	**13 47 59.1**	**-0.4**
SKR	**Severo-Kuril's**	**1.45**	**263**	*e*PN	Pn	13 47 45.0	-4.0
SKR				*i* S	**Sn**	**13 48 03.0**	**-4.0**
SKR				pmax	pmax		
	comp=E,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,250nm,0.5s						
SKR				pmax	pmax		
	comp=N,70nm,0.4s						
SKR				smax	smax		
	comp=N,1μm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	**Severo-Kuril's**	**1.45**	**263**	*i* P	**Pn**	**13 47 49.9**	**+0.9**
SKR				*e*S	**Sn**	**13 48 07.1**	**+0.1**
RUS	**Russkaya**	**1.55**	**3**	PN	**Pn**	**13 47 50.9**	**+0.5**
RUS				S	**Sn**	**13 48 08.8**	**-0.7**
RUS	**Russkaya**	**1.55**	**3**	*e*P	**Pn**	**13 47 50.9**	**+0.5**
RUS				*e*S	**Sn**	**13 48 08.8**	**-0.7**
MTVR	**Mutnovka**	**1.60**	**356**	*i* P	**Pn**	**13 47 52.2**	**+0.9**
MTVR				*e*S	**Sn**	**13 48 11.0**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.72**	**325**	*e*P	**Pb**	**13 47 54.3**	**-1.6**
MIPR				*e*S	**Sn**	**13 48 14.4**	**+0.7**
PET	**Petropavlovsk**	**2.15**	**4**	PN	**Pn**	**13 47 59.7**	**+1.1**
PET				S	**Sn**	**13 48 23.6**	**-0.6**
PET	**Petropavlovsk**	**2.15**	**4**	*e*P	**Pn**	**13 47 59.6**	**+1.0**
PET				*e*S	**Sn**	**13 48 23.6**	**-0.6**
APC	**Apacha**	**2.18**	**340**	*e*P	**Pn**	**13 48 00.7**	**+1.7**
APC				*e*S	**Sn**	**13 48 25.3**	**+0.4**
PETK	**Petropavlovsk-**	**2.27**	**349**	PN	**Pn**	**13 48 01.6**	**+1.3**
PETK						13 48 30.2	
PETK				pmax	pmax		
	comp=Z,14nm,0.3s						
PETK				smax	smax		
	comp=N,6.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.27**	**349**	Pn	**Pn**	**13 48 01.6**	**+1.3**
	comp=N,14nm,0.3s,baz=137,slow=15,SNR=66						
PETK				Sn	**Sb**	**13 48 30.2**	**-2.5**
	comp=N,6.3nm,0.3s,baz=156,slow=26,SNR=5.9						
PETK				LR	LR	13 49 01.0	
	comp=N,39nm,20.6s,baz=112,slow=42						
UGLR	**Uglovaya**	**2.34**	**6**	*e*P	**Pn**	**13 48 02.9**	**+1.5**
UGLR				*e*S	**Sn**	**13 48 29.0**	**-0.1**
NLC	**Nalytchevo**	**2.37**	**14**	PN	**Pn**	**13 48 01.1**	**-0.5**
NLC	**Nalytchevo**	**2.37**	**14**	*e*P	**Pn**	**13 48 01.1**	**-0.5**
NLC				S	**Sn**	**13 48 25.7**	**-3.8**
AVH	**Avacha**	**2.39**	**5**	*e*P	**Pn**	**13 48 04.1**	**+2.0**
AVH				*e*S	**Sn**	**13 48 31.6**	**+1.3**
SMAR	**Somma**	**2.40**	**6**	*e*P	**Pn**	**13 48 03.6**	**+1.4**
SMAR				*e*S	**Sn**	**13 48 30.6**	**0.0**
KOK	**Koryaka**	**2.42**	**4**	*e*P	**Pn**	**13 48 04.6**	**+2.2**
KOK				*e*S	**Sn**	**13 48 32.3**	**+1.4**
SDLR	**Sedlovina**	**2.42**	**7**	*e*P	**Pn**	**13 48 03.3**	**+0.9**
SDLR				S	**Sn**	**13 48 29.6**	**-1.4**
KRER	**Koryakskii**	**2.43**	**5**	*e*P	**Pn**	**13 48 04.6**	**+1.9**
KRER				*e*S	**Sn**	**13 48 31.9**	**+0.4**
SPN	**Mys Shipunski**	**2.44**	**24**	PN	**Pn**	**13 48 04.0**	**+1.4**
SPN				S	**Sn**	**13 48 30.8**	**-0.5**
SPN	**Mys Shipunski**	**2.44**	**24**	*e*P	**Pn**	**13 48 03.9**	**+1.4**
SPN				*e*S	**Sn**	**13 48 30.8**	**-0.5**
KRX	**Arik**	**2.48**	**4**	*e*P	**Pn**	**13 48 05.2**	**+1.8**
KRX				*e*S	**Sn**	**13 48 32.9**	**+0.3**
GNL	**Ganaly**	**2.83**	**355**	*e*P	**Pn**	**13 48 10.1**	**+2.0**
KII	**Karymskiy**	**3.22**	**11**	P	**Pn**	**13 48 14.6**	**+1.2**
KII				S	**Sn**	**13 48 49.4**	**-1.4**
MKZ	**Mys Kozlova**	**4.20**	**28**	PN	**Pn**	**13 48 27.3**	**+0.5**
MKZ	**Mys Kozlova**	**4.20**	**28**	*e*P	**Pn**	**13 48 27.3**	**+0.5**
MKZ				S	**Sn**	**13 49 11.2**	**-3.5**
KZV	**Kizimen**	**4.39**	**14**	*e*P	**Pn**	**13 48 31.7**	**+2.2**
TUMR	**Tumrok**	**4.53**	**13**	*e*P	**Pn**	**13 48 33.9**	**+2.4**
KBTR	**Krutoberegovo**	**5.95**	**25**	PN	**Pn**	**13 48 52.2**	**+1.4**
KBTR	**Krutoberegovo**	**5.95**	**25**	*e*P	**Pn**	**13 48 52.2**	**+1.4**
BKI	**Bering**	**6.29**	**44**	S	Sn	13 49 59.5	-6.8
H11N2	**WAKE ISLAND Hy**	**31.81**	**165**	T	T	14 27 41.7	
	baz=350,slow=76,SNR=172

DHY				S		**Sg**	**14 04 01.1**	**-0.7**
RND	**Reindeer**	**1.35**	**5**	P		**Pn**	**14 03 43.5**	**-0.3**
STLK	**Strandline Lak**	**1.42**	**248**	P		**Pn**	**14 03 43.9**	**-0.8**
TRF	**Thorofare Moun**	**1.49**	**339**	P		**Pn**	**14 03 45.5**	**-0.3**
GLI	**Glacier Island**	**1.53**	**140**	P		**Pn**	**14 03 45.6**	**-0.6**
JPK	**Jack Peak**	**1.57**	**129**	P		**Pn**	**14 03 46.6**	**-0.2**
KLU	**Klutina**	**1.62**	**109**	P		**Pn**	**14 03 47.1**	**-0.4**
KLU				S		**Sb**	**14 04 09.4**	**+0.2**
VLZ	**Valdez**	**1.62**	**124**	P		**Pn**	**14 03 46.6**	**-0.8**
VLZ				S		**Sn**	**14 04 08.1**	**+0.4**
SLKM	**Skilak Lake**	**1.65**	**200**	P		**Pn**	**14 03 47.2**	**-0.7**
PPLA	**Purkeypile**	**1.66**	**302**	P		**Pn**	**14 03 47.5**	**-0.5**
PPLA				S		**Sb**	**14 04 10.4**	**0.0**
SPU	**Mount Spurr**	**1.67**	**239**	P		**Pn**	**14 03 47.9**	**-0.2**
MCK	**McKinley**	**1.68**	**3**	P		**Pn**	**14 03 48.4**	**+0.2**
CKN	**Chakachatna No**	**1.69**	**241**	P		**Pn**	**14 03 48.6**	**+0.2**
PS11	**TAPS Pump St11**	**1.71**	**88**	P		**Pn**	**14 03 49.7**	**+1.0**
KTH	**Kantishna Hill**	**1.71**	**332**	P		**Pn**	**14 03 48.5**	**-0.2**
SPBG	**Spurr Blockage**	**1.76**	**244**	P		**Pn**	**14 03 49.4**	**+0.1**
BGL	**Barrier Glacie**	**1.76**	**244**	P		**Pn**	**14 03 49.5**	**+0.1**
CKL	**Chakachamna La**	**1.77**	**242**	P		**Pn**	**14 03 49.5**	**-0.2**
DIV	**Divide**	**1.85**	**119**	P		**Pn**	**14 03 49.9**	**-0.7**
HARP	**HAARP**	**1.88**	**78**	P		**Pn**	**14 03 52.0**	**+1.0**
PAX	**Paxson**	**1.92**	**60**	P		**Pn**	**14 03 52.3**	**+0.7**
CAST	**Castle Rocks**	**1.93**	**316**	P		**Pn**	**14 03 51.3**	**-0.4**
PS12	**TAPS Pump St12**	**1.97**	**106**	P		**Pn**	**14 03 52.3**	**0.0**
SEW	**Seward**	**1.98**	**185**	P		**Pn**	**14 03 51.9**	**-0.4**
PS10	**TAPS Pump St10**	**2.05**	**47**	P		**Pn**	**14 03 54.6**	**+1.3**
HIN	**Hinchinbrook I**	**2.10**	**142**	P		**Pn**	**14 03 53.7**	**-0.2**
BWN	**Browne**	**2.12**	**356**	P		**Pn**	**14 03 54.2**	**0.0**
EYAK	**Cordova Ski Ar**	**2.22**	**132**	P		**Pn**	**14 03 55.8**	**+0.2**
DFR	**Drift River**	**2.27**	**231**	P		**Pn**	**14 03 56.6**	**+0.1**
DDM	**Donnelly Dome**	**2.28**	**39**	P		**Pb**	**14 03 58.8**	**-1.6**
WASW	**Wrangell South**	**2.33**	**91**	P		**Pn**	**14 03 58.2**	**+0.9**
CHUM	**Lake Minchumin**	**2.34**	**323**	P		**Pn**	**14 03 57.1**	**-0.2**
REF	**Redoubt East F**	**2.35**	**229**	P		**Pn**	**14 03 57.6**	**0.0**
NCT	**North Crescent**	**2.38**	**232**	P		**Pn**	**14 03 58.6**	**+0.6**
RDWB	**Redoubt West**	**2.40**	**230**	P		**Pn**	**14 03 58.0**	**-0.3**
BMRM	**Bremner River**	**2.42**	**115**	P		**Pn**	**14 03 58.0**	**-0.5**
WRH	**Wood River Hil**	**2.46**	**10**	P		**Pn**	**14 03 58.6**	**-0.3**
BRLK	**Bradley Lake**	**2.47**	**201**	P		**Pn**	**14 03 59.9**	**+0.8**
HDA	**Harding Lake**	**2.54**	**22**	P		**Pn**	**14 04 00.1**	**0.0**
GOAT	**Goat Mountain**	**2.58**	**123**	P		**Pn**	**14 04 00.5**	**-0.2**
GLB	**Gilahina Butte**	**2.59**	**102**	P		**Pn**	**14 04 00.9**	**+0.1**
CCB	**Clear Creek Bu**	**2.66**	**12**	P		**Pn**	**14 04 01.1**	**-0.5**
PS08	**TAPS Pump Stn8**	**2.69**	**22**	P		**Pn**	**14 04 01.9**	**-0.2**
RAGM	**Ragged Mountai**	**2.73**	**126**	P		**Pn**	**14 04 02.9**	**+0.3**
CNPM	**China Poot**	**2.75**	**203**	P		**Pn**	**14 04 03.3**	**+0.3**
DOT	**Dot Lake**	**2.80**	**53**	P		**Pn**	**14 04 04.5**	**+0.8**
VRDI	**Verde Repeater**	**2.83**	**105**	P		**Pn**	**14 04 03.7**	**-0.5**
COLA	**College**	**2.88**	**11**	P		**Pn**	**14 04 04.4**	**-0.2**
IL1	**Eielson Array**	**2.89**	**19**	P		**Pn**	**14 04 04.5**	**-0.4**
ILAR	**Eielson Array**	**2.89**	**19**	Pn		**Pn**	**14 04 04.1**	**-0.8**
	4.2nm,0.3s,baz=202,slow=14,SNR=69							
ILAR				Sn		**Sn**	**14 04 38.3**	**-0.8**
	9.6nm,0.3s,baz=205,slow=23,SNR=20							
ILAR				LR		LR	14 05 22.0	
	comp=Z,49nm,22.0s,baz=334,slow=42							
MDM	**Murphy Dome**	**2.93**	**7**	P		**Pn**	**14 04 05.2**	**-0.2**
MCARA	**McCarthy VSAT**	**2.97**	**101**	P		**Pn**	**14 04 06.1**	**+0.1**
SCRK	**Sand Creek**	**3.02**	**48**	P		**Pn**	**14 04 07.1**	**+0.4**
MLY	**Manley**	**3.06**	**347**	P		**Pn**	**14 04 06.8**	**-0.5**
NICHA	**Nichawaak Mount**	**3.09**	**124**	P		**Pn**	**14 04 07.4**	**-0.2**
BERG	**Berg Lake**	**3.10**	**120**	P		**Pn**	**14 04 05.3**	**-2.5**
SVW2	**Sparrevohn**	**3.25**	**255**	P		**Pn**	**14 04 08.6**	**-1.1**
KHIT	**Khitrov Hills**	**3.26**	**117**	P		**Pn**	**14 04 10.3**	**+0.3**
PTPK	**Patty Peak**	**3.29**	**103**	P		**Pn**	**14 04 10.5**	**0.0**
TT01	**Tatalina**	**3.32**	**288**	P		**Pn**	**14 04 09.9**	**-0.8**
KIAG	**Kiagna River**	**3.43**	**107**	P		**Pn**	**14 04 11.6**	**-0.9**
BCA3	**Beaver Creek A**	**3.53**	**70**	P		**Pn**	**14 04 14.1**	**+0.3**
ISLE	**Juniper Island**	**3.58**	**111**	P		**Pn**	**14 04 13.7**	**-0.7**
BARK	**Barkley Ridge**	**3.60**	**115**	P		**Pn**	**14 04 15.1**	**+0.4**
BARN	**Barnard Glacie**	**3.70**	**103**	P		**Pn**	**14 04 16.2**	**0.0**
BAGL	**Bagley Icefiel**	**3.74**	**112**	P		**Pn**	**14 04 16.2**	**-0.3**
GRNC	**Granite Creek**	**3.78**	**107**	P		**Pn**	**14 04 16.8**	**-0.5**
PS06	**TAPS Pump Stn6**	**3.81**	**356**	P		**Pn**	**14 04 17.9**	**+0.4**
RKAV	**Rock Avalanche**	**4.15**	**112**	P		**Pn**	**14 04 22.1**	**-0.2**
GCSA	**Galena City Sc**	**4.41**	**311**	P		**Pn**	**14 04 25.3**	**-0.4**
IM3	**Indian Mountai**	**4.43**	**335**	P		**Pn**	**14 04 25.6**	**-0.4**
EGAK	**Eagle**	**4.49**	**49**	P		**Pn**	**14 04 26.8**	**-0.0**
COLD	**Coldfoot**	**5.21**	**355**	P		**Pn**	**14 04 36.6**	**0.0**
HYT	**Haines Junctio**	**5.70**	**97**	P		**Pn**	**14 04 44.2**	**+0.7**
BM3	**Burnt Mountain**	**5.71**	**18**	P		**Pn**	**14 04 43.8**	**+0.2**
TNA	**Tin City**	**9.01**	**301**	P		**Pn**	**14 05 28.4**	**-0.4**
INK	**Inuvik**	**9.04**	**39**	Pn		**Pn**	**14 05 30.5**	**+1.4**
	0.1nm,0.3s,baz=228,slow=14,SNR=7.2							
INK				Sn		**Sn**	**14 07 08.9**	**-1.2**
	0.3nm,0.3s,baz=241,slow=19,SNR=8.6							
YKA	**Yellowknife Ar**	**15.95**	**73**	Pn		**Pn**	**14 07 03.4**	**+0.6**
	0.1nm,0.3s,baz=284,slow=10,SNR=5.6							
MKAR	**Makanchi Array**	**63.95**	**329**	P		**P**	**14 13 51.3**	**0.0**
	0.2nm,0.5s,baz=41,slow=6.6,SNR=2.9							

*IDC **09** 14:12:54.9±1.7, 7.°38N×126.°47E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/34, mbtmp3.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/32, Error ellipse: s-maj=176.9km s-min=20.5km az=67.0*

*MAN **09** 14:13:02, 7.°43N×126.°35E, h1km, mb4.8, ML3.7, MS3.7*

ISC 09 14:12:57.3±2.2, 7.°36N±0.°05×126.°64E±0.°09, h14km±13km, n14, σ0°84/18, mb3.6/4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**223**	*eP*		**Pn**	**14 13 11.2**		**+0.3**
MATI				*eS*		**Sb**	**14 13 18.2**		**+1.4**
BIPH	**Bislig**	**0.86**	**341**	⇑*iP*		**Pn**	**14 13 15.7**		**+0.6**
BIPH				*i* S		**Sb**	**14 13 25.7**		**+0.1**
BUKP	**Musuan**	**1.65**	**288**	*eP*		**Pb**	**14 13 28.4**		**+0.9**
BUKP				*eS*		**Sg**	**14 13 50.0**		**-0.5**
BUTP	**Butuan**	**1.89**	**328**	*eP*		**Pg**	**14 13 33.1**		**-0.6**
BUTP				*eS*		**Sg**	**14 13 59.8**		**+1.5**
CGP	**Cagayan de Oro**	**2.22**	**300**	⇑*eP*		**Pb**	**14 13 36.8**		**-0.4**
CGP				*eS*		**Sn**	**14 14 01.4**		**+0.5**
CTBH	**Cotabato--PC H**	**2.38**	**267**	*eP*		**Pb**	**14 13 39.1**		**-0.9**
SCPH	**Surigao**	**2.66**	**335**	*eP*		**Pb**	**14 13 45.2**		**+0.4**
SCPH				*eS*		**Sb**	**14 14 17.3**		**-0.1**
TGY	**Tagaytay City**	**8.73**	**321**	LR		LR	14 18 26.2		
	comp=Z,24nm,20.8s,baz=114,slow=38								
PMG	**Port Moresby**	**26.37**	**129**	LR		LR	14 30 44.9		
	comp=Z,44nm,18.1s,baz=248,slow=40								
WRA	**Warramunga Arr**	**28.17**	**165**	P		**P**	**14 18 49.8**		**+0.3**
	0.2nm,0.4s,baz=345,slow=10,SNR=8.4								
ASAR	**Alice Springs**	**31.64**	**167**	P		**P**	**14 19 20.6**		**+0.3**
	0.2nm,0.3s,baz=338,slow=7.3,SNR=19								
ASAR				PcP		**PcP**	**14 22 12.2**		**-0.2**
	0.2nm,0.6s,baz=352,slow=2.6,SNR=4.4								
MKAR	**Makanchi Array**	**54.57**	**324**	P		**P**	**14 22 24.1**		**-1.1**
	0.7nm,0.6s,baz=115,slow=9.2,SNR=12								
ZALV	**Zalesovo Beam**	**57.35**	**332**	P		**P**	**14 22 43.9**		**-1.0**
	0.5nm,0.3s,baz=113,slow=9.6,SNR=2.6								
KBZ	**Khabaz**	**80.44**	**313**	LR		LR	15 06 56.1		
	comp=Z,20nm,18.1s,baz=208,slow=40								

IDC 09 14:17:48.9±8.5, 15.°66S×173.°04W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/28, mbtmp3.4/3, Error ellipse: s-maj=375.1km s-min=37.6km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.13**	**257**	P		P	P	14 26 46.2	-0.2
	0.2nm,0.6s,baz=94,slow=7.5,SNR=4.7								
ASAR	**Alice Springs**	**50.37**	**252**	P		P	P	14 26 48.2	0.0
	0.8nm,0.6s,baz=86,slow=8.0,SNR=25								
ILAR	**Eielson Array**	**82.63**	**11**	P		P	P	14 30 13.7	0.0
	0.2nm,0.6s,baz=218,slow=4.2,SNR=5.2								

NNC 09 14:36:16.4±1.4, 37.°47N×70.°82E, h0km, mb3.2, mpv4.7, 7C-3D, Error ellipse: s-maj=11.8km s-min=6.3km az=174.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.06**	**311**	⇑Pg		Pb	Pb	14 36 53.8	-1.0
	10μm,0.0s								
DZET				⇓Lg		Lg	Lg	14 37 22.0	
	39nm,0.5s								
SFK	**Sufi-Kurgan**	**3.30**	**39**	⇓Pn		Pn	Pn	14 37 09.7	+0.1
	0.5nm,0.2s								
SFK				⇑Lg		Lg	Lg	14 38 01.9	
	5.8nm,0.4s								
MNAS	**Manas**	**5.18**	**14**	⇑Pn		Pn	Pn	14 37 34.9	-0.5
	0.6nm,0.4s								
MNAS				⇑Sn		Sn	Sn	14 38 36.2	+0.2
	1.7nm,0.6s								
MNAS				⇑Lg		Lg	Lg	14 39 02.1	
	2.4nm,0.7s								
KK31	**Karatay Array**	**5.64**	**358**	⇑Pn		Pn	Pn	14 37 42.4	+1.0
	0.5nm,0.2s,baz=171,slow=12,SNR=15								
KK31				⇑Sn		Sn	Sn	14 38 48.5	+1.6
	0.4nm,0.3s								
KK31				⇓Lg		Lg	Lg	14 39 17.0	
	1.0nm,0.4s,baz=166,slow=28,SNR=5.1								

*IDC **09** 14:37:38.0±2.2, 8.°38S×106.°52E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/38, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=48.9km s-min=26.3km az=60.0*

*NEIC **09** 14:37:44.4±1.4, 8.°24S×106.°83E, h35km, mb3.6/2, Error ellipse: s-maj=23.2km s-min=15.3km az=68.0*

NEIC Felt [III] at Sindangbarang.

*ISCJB **09** 14:37:47.0±0.7, 8.°31S±0.°05×107.°21E±0.°05, h35km, mb3.5/5, Error ellipse: s-maj=9.0km s-min=4.8km az=38.5*

*DJA **09** 14:37:48.2±0.5, 8.°S±3.°×10.°7E±.°, h13km±4km, M4.1/19, MLv4.1/19*

ISC 09 14:37:49.1±1.1, 8.°17S±0.°08×107.°27E±0.°05, h35km, n24, σ1°43/30, mb3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.81**	**42**	P		**Pn**	**14 38 03.6**		**-0.5**
CISI				S		**Sn**	**14 38 13.7**		**-1.3**
CISI	**Cisompet, Garu**	**0.81**	**42**	*e*P		**Pn**	**14 38 03.7**		**-0.4**
CISI				*e*S		Sn	14 38 22.2		+7.2
CNJI	**Cibinong**	**0.86**	**351**	P		**Pn**	**14 38 04.0**		**-0.7**
CNJI				S		**Sn**	**14 38 14.6**		**-1.5**
CMJI	**Cimerak**	**1.23**	**72**	P		**Pn**	**14 38 09.9**		**+0.1**
CMJI				S		**Sn**	**14 38 27.7**		**+2.5**
SKJI	**Sukabumi**	**1.35**	**329**	P		**Pn**	**14 38 11.5**		**0.0**
LEM	**Lembang**	**1.37**	**15**	P		**Pn**	**14 38 12.2**		**+0.2**
LEM				S		**Sn**	**14 38 30.9**		**+1.9**
LEM	**Lembang**	**1.37**	**15**	Pn		**Pn**	**14 38 12.1**		**+0.1**
	158nm,0.3s,baz=227,slow=19,SNR=51								
LEM				Sn		**Sn**	**14 38 30.8**		**+1.7**
	136nm,0.3s,baz=138,slow=23,SNR=19								
KPJI	**Karang Pucung**	**1.84**	**63**	P		**Pn**	**14 38 19.5**		**+1.2**
TNG	**Tangerang**	**2.07**	**343**	P		**Pn**	**14 38 23.2**		**+1.8**
TNG				S		**Sn**	**14 38 47.0**		**+0.9**
CGJI	**Cibinong**	**2.19**	**315**	P		**Pn**	**14 38 22.5**		**-0.6**
CGJI				S		**Sn**	**14 38 52.4**		**+3.4**
SBJI	**Serang**	**2.32**	**331**	P		**Pn**	**14 38 25.8**		**+0.9**
UGM	**Wanagama**	**3.23**	**86**	P		**Pn**	**14 38 39.1**		**+1.7**
WOJI	**Wonogiri, Jawa**	**3.64**	**85**	P		**Pn**	**14 38 43.6**		**+0.7**
KASI	**Kota Agung**	**3.80**	**313**	P		**Pn**	**14 38 46.4**		**+1.2**
PCJI	**Pacitan**	**3.87**	**91**	P		**Pn**	**14 38 47.2**		**+1.0**
PWJI	**Pagerwojo**	**4.49**	**89**	P		**Pn**	**14 38 56.3**		**+1.6**
MDSI	**Maura Dua**	**4.77**	**320**	P		**Pn**	**14 38 59.7**		**+1.1**
JAGI	**Jajag, Banyuwa**	**6.82**	**93**	*e*Pn		**Pn**	**14 39 26.4**		**-0.3**
	24nm,0.3s								
BATI	**Baumata**	**16.31**	**98**	P		**Pn**	**14 41 37.1**		**+1.4**
	0.8nm,0.3s,baz=270,slow=12,SNR=3.4								
WRA	**Warramunga Arr**	**28.70**	**117**	P		**P**	**14 43 42.1**		**-1.1**
	0.7nm,0.6s,baz=289,slow=10,SNR=7.5								
WRAB	**Tennant Creek**	**28.71**	**117**	*e*P		**P**	**14 43 42.3**		**-0.9**
	0.6nm,0.7s								
ASAR	**Alice Springs**	**29.81**	**124**	P		**P**	**14 43 51.5**		**-1.5**
	0.4nm,0.6s,baz=302,slow=8.6,SNR=9.4								
CTAO	**Charters Tower**	**39.52**	**112**	P		**P**	**14 45 15.0**		**-1.9**
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**59.06**	**340**	P		P	14 47 39.5		-6.3
	0.2nm,0.5s,baz=151,slow=8.5,SNR=4.0								

DHMR 09 14:43:00.1±0.8, 12.°15N×43.°41E, h14km±22km, ML4.1, 1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.28**	**33**	⇓*iP*		Pn		14 43 23.3	-0.6
TRBA				*i* S		Sg		14 43 42.2	+0.3
TRBA				AML		AML		14 43 43.1	
	comp=E,4μm,0.2s								
UDYN	**Al 'Udayn**	**1.89**	**17**	*i* P		Pn		14 43 33.3	+1.2
UDYN				*i* S		Sb		14 43 59.3	+1.1
UDYN				AML		AML		14 44 07.9	
	comp=Z,3μm,0.3s								
DHBB	**Dhamar BB**	**2.59**	**22**	*i* P		Pb		14 43 45.0	-1.8
DHBB				*i* S		Sb		14 44 19.1	+0.4

MEX 09 14:44:53.6±0.7, 32.°51N×115.°60W, h10km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.36**	**107**	*i* P		Pg		14 45 00.5	-0.1
MBIG				*i* S		Sg		14 45 05.3	-0.1
CBX	**Cerro Bola**	**0.92**	**258**	*i* P		Pg		14 45 08.8	-2.7
CBX				*i* S		Sg		14 45 19.8	-3.9
SPIG	**San Pedro Mart**	**1.47**	**175**	*i* P		Pn		14 45 17.5	-3.1
SPIG				*i* S		Sn		14 45 34.7	-5.4

*ISCJB **09** 14:54:57.3±1.5, 18.°7S±0.°2×173.°5W±0.°2, h100km, mb4.2/6, Error ellipse: s-maj=30.4km s-min=24.5km az=15.7*

*NEIC **09** 14:55:00.1±8.0, 18.°67S×173.°49W, h113km±71km, mb4.7/2, Error ellipse: s-maj=33.3km s-min=24.2km az=218.0*

*IDC **09** 14:55:08.3±19.0, 18.°10S×174.°05W, h164km±144km, mb3.8/4, mb1 4.0/5, mb1mx3.4/35, mbtmp4.2/5, ML4.0/1, Error ellipse: s-maj=248.1km s-min=45.9km az=140.0*

ISC 09 14:54:58.8±1.7, 18.°6S±0.°2×173.°5W±0.°3, h100km, n10, σ0°82/10, mb4.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.13**	**256**	P		**P**		**14 59 15.2**	**+0.9**
	0.4nm,0.3s,baz=79,slow=19,SNR=8.0								
URZ	**Urewera**	**21.21**	**201**	*e*P		**P**		**14 59 35.1**	**-1.3**
RPZ	**Rata Peaks**	**28.19**	**204**	P		**P**		**15 00 43.1**	**+1.1**
	16nm,0.5s								
CTA	**Charters Tower**	**37.95**	**261**	P		**P**		**15 02 06.6**	**-0.5**
	4.5nm,0.4s,baz=92,slow=11,SNR=19								
CTAO	**Charters Tower**	**37.95**	**261**	*e*P		**P**		**15 02 06.8**	**-0.2**
	3.8nm,0.6s								
WB2	**Warramunga Arr**	**49.09**	**259**	*e*P		**P**		**15 03 36.2**	**-0.3**
WRAB	**Tennant Creek**	**49.10**	**259**	*e*P		**P**		**15 03 36.1**	**-0.4**
	0.6nm,0.8s								
WRA	**Warramunga Arr**	**49.10**	**259**	P		**P**		**15 03 36.1**	**-0.5**
	1.1nm,0.3s,baz=97,slow=7.9,SNR=57								
ASAR	**Alice Springs**	**49.11**	**255**	P		**P**		**15 03 36.5**	**-0.1**
	4.1nm,0.5s,baz=91,slow=7.8,SNR=129								
ILAR	**Eielson Array**	**85.61**	**11**	P		**P**		**15 07 25.7**	**0.0**
	0.4nm,0.8s,baz=224,slow=5.9,SNR=4.4								

*IDC **09** 15:19:33.3±1.1, 9.°34S×156.°26E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/24, mbtmp4.0/8, MS3.5/13, Ms1 3.5/13, ms1mx3.3/33, Error ellipse: s-maj=39.3km s-min=22.4km az=133.0*

ISC 09 15:19:36.8±0.8, 9.°4S±0.°2×156.°36E±0.°08, h24km, n20, σ0°77/12, mb3.9/8, MS3.6/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.54**	**91**	LR		LR		15 21 41.2	
	comp=Z,503nm,20.2s,baz=229,slow=35								
HNR	**Honiara**	**3.54**	**91**	*e*P		**Pn**		**15 20 31.0**	**+0.7**
HNR				*e*S		**Sb**		**15 21 20.0**	**-1.4**
PMG	**Port Moresby**	**9.07**	**269**	LR		LR		15 25 12.5	
	comp=Z,249nm,19.3s,baz=100,slow=38								
DZM	**Mont Dzumac**	**15.89**	**144**	*e*P		**P**		**15 23 23.1**	**+0.5**
	42nm,1.6s								
DZM				*e*LR		LR		15 26 55.2	
	895nm,25.5s								
WRA	**Warramunga Arr**	**23.70**	**241**	P		**P**		**15 24 46.8**	**-0.3**
	1.9nm,0.7s,baz=65,slow=10,SNR=21								
ASAR	**Alice Springs**	**25.72**	**234**	P		**P**		**15 25 05.3**	**-0.2**
	1.4nm,0.9s,baz=64,slow=11,SNR=12								
ASAR				LR		LR		15 34 20.9	
	comp=Z,109nm,20.9s,baz=56,slow=35								
BATI	**Baumata**	**32.22**	**266**	LR		LR		15 41 35.4	
	comp=Z,113nm,18.6s,slow=41								
MJAR	**Matsushiro Arr**	**48.78**	**341**	LR		LR		15 49 00.9	
	comp=Z,21nm,18.1s,baz=205,slow=36								
PPT	**Papeete**	**53.05**	**105**	LR		LR		15 46 21.4	
	comp=Z,30nm,21.5s,baz=296,slow=30								
PPT2	**Papeete2**	**53.05**	**105**	*e*LR		LR		15 44 37.7	
	60nm,23.5s								
PETK	**Petropavlovsk-**	**62.27**	**1**	P		**P**		**15 29 56.4**	**-0.2**
	7.6nm,1.1s,baz=190,slow=7.3,SNR=3.3								
PETK				LR		LR		15 54 18.9	
	comp=Z,63nm,20.4s,baz=163,slow=34								
CMAR	**Chiang Mai Arr**	**63.04**	**296**	P		**P**		**15 30 02.2**	**-0.3**
	1.2nm,0.9s,baz=110,slow=4.9,SNR=8.9								
CMAR				LR		LR		15 56 26.2	
	comp=Z,12nm,20.8s,baz=160,slow=35								
VNDA	**Vanda**	**68.16**	**179**	LR		LR		15 54 40.4	
	comp=Z,82nm,21.3s,baz=326,slow=31								
SONM	**Songino Array**	**72.08**	**327**	P		**P**		**15 30 58.9**	**-0.3**
	0.4nm,0.4s,baz=122,slow=5.2,SNR=5.1								
MAW	**Mawson**	**82.71**	**203**	LR		LR		16 07 03.8	
	comp=Z,58nm,18.4s,baz=69,slow=34								
ILAR	**Eielson Array**	**85.11**	**21**	P		**P**		**15 32 11.5**	**+1.1**
	0.7nm,0.9s,baz=255,slow=4.4,SNR=2.9								
ILAR				LR		LR		16 04 22.2	
	comp=Z,27nm,20.8s,baz=232,slow=32								
MKAR	**Makanchi Array**	**86.09**	**319**	P		**P**		**15 32 15.1**	**-0.6**
	0.4nm,0.9s,baz=105,slow=5.4,SNR=3.5								
MKAR				LR		LR		16 12 23.4	
	comp=Z,16nm,18.8s,baz=67,slow=37								
NVAR	**Mina Array Bea**	**92.15**	**52**	P		**P**		**15 32 45.6**	**+0.7**
	1.3nm,1.0s,baz=224,slow=4.1,SNR=3.7								
BVAR	**Borovoye Array**	**95.02**	**323**	LR		LR		16 14 35.1	
	comp=Z,25nm,21.5s,slow=35								
BDFB	**Brasilia**	**145.33**	**136**	PKPbc		**PKPbc**		**15 39 13.2**	**-0.4**
	2.5nm,0.7s,baz=180,slow=4.0,SNR=5.2								

*ISCJB **09** 15:33:11.1±1.0, 33.°27N±0.°06×137.°81E±0.°05, h59km±9km, mb3.3/3, Error ellipse: s-maj=10.2km s-min=5.5km az=158.1*

*JMA **09** 15:33:11.1±0.1, 33.°26N×137.°85E, h52km±2km, M3.1*

*IDC **09** 15:33:13.9±3.0, 33.°68N×139.°45E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/37, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=133.8km s-min=21.6km az=74.0*

ISC 09 15:33:11.4±2.0, 33.°23N±0.°10×137.°83E±0.°05, h51km±18km, n22, σ0°78/38, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.57**	**340**	P		**Pn**		**15 33 22.8**	**-0.5**
TK01				S		**Sn**		**15 33 31.3**	**-0.6**
TK02	**Tokai 2**	**0.72**	**355**	P		**Pn**		**15 33 25.1**	**-0.2**
TK02				S		**Sn**		**15 33 35.6**	**+0.3**
TTO3	**TONANKAI O.B.S**	**0.73**	**331**	P		**Pn**		**15 33 25.4**	**0.0**
TTO3				S		**Sn**		**15 33 36.6**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.82**	**343**	P		**Pn**		**15 33 26.3**	**-0.2**
TTO4				S		**Sn**		**15 33 37.4**	**-0.1**
TTO2	**TONANKAI O.B.S**	**0.84**	**307**	P		**Pn**		**15 33 27.1**	**+0.4**
TTO2				S		**Sn**		**15 33 39.3**	**+1.3**
TK03	**Tokai 3**	**0.94**	**7**	P		**Pn**		**15 33 27.8**	**-0.5**
TK03				S		**Sn**		**15 33 40.7**	**0.0**
TTO1	**TONANKAI O.B.S**	**0.96**	**295**	P		**Pn**		**15 33 28.6**	**+0.3**
TTO1				S		**Sn**		**15 33 41.9**	**+1.1**
TTO5	**TONANKA

NYNU	**Nynaeshamn**	**2.15**	**261**	*P*		**Pn**	**15 59 51.1**	**+1.8**
NYNU	**Nynaeshamn**	**2.15**	**261**	*P*		**Pn**	**15 59 51.1**	**+1.8**
PVF	**Pernaja**	**2.21**	**57**	*eP*		**Pn**	**15 59 50.5**	**+0.5**
PVF				*eS*		**Sn**	**16 00 18.4**	**+0.4**
PVF				MSG			16 00 21.3	
	comp=Z,42nm,0.2s							
PVF	**Pernaja**	**2.21**	**57**	P		**Pn**	**15 59 50.5**	**+0.5**
PVF				S		**Sn**	**16 00 18.4**	**+0.4**
FORU	**Forsmark**	**2.22**	**298**	*eP*		**Pn**	**15 59 51.2**	**+1.0**
FORU				*eS*		**Sn**	**16 00 19.8**	**+1.5**
FORU	**Forsmark**	**2.22**	**298**	P		**Pn**	**15 59 51.2**	**+1.0**
FORU				S		**Sn**	**16 00 19.8**	**+1.5**
FORU	**Forsmark**	**2.22**	**298**	P		**Pn**	**15 59 51.2**	**+1.0**
FORU				S		**Sn**	**16 00 19.8**	**+1.5**
FLYU	**Flymyra**	**2.27**	**291**	*eP*		**Pn**	**15 59 51.7**	**+0.8**
FLYU	**Flymyra**	**2.27**	**291**	P		**Pn**	**15 59 51.7**	**+0.8**
FLYU	**Flymyra**	**2.27**	**291**	P		**Pn**	**15 59 51.7**	**+0.8**
UPP	**Uppsala**	**2.33**	**283**	*eP*		**Pn**	**15 59 53.1**	**+1.4**
UPP	**Uppsala**	**2.33**	**283**	P		**Pn**	**15 59 53.2**	**+1.4**
UPP	**Uppsala**	**2.33**	**283**	P		**Pn**	**15 59 53.1**	**+1.4**
GOTU	**Gotland**	**2.53**	**229**	*eP*		**Pn**	**15 59 56.3**	**+1.7**
GOTU	**Gotland**	**2.53**	**229**	P		**Pn**	**15 59 56.3**	**+1.7**
GOTU	**Gotland**	**2.53**	**229**	P		**Pn**	**15 59 56.3**	**+1.7**
VSU	**Vasula**	**2.57**	**109**	Pn		**Pn**	**15 59 56.1**	**+1.0**
VSU				Sn		**Sn**	**16 00 28.8**	**+1.9**
VSU	**Vasula**	**2.57**	**109**	Pn		**Pn**	**15 59 56.1**	**+1.0**
VSU				Sn		**Sn**	**16 00 28.8**	**+1.9**
VSU	**Vasula**	**2.57**	**109**	*eP*		**Pn**	**15 59 55.6**	**+0.5**
VSU				*eS*		**Sn**	**16 00 28.1**	**+1.1**
VSU	**Vasula**	**2.57**	**109**	P		**Pn**	**15 59 55.5**	**+0.5**
VSU	**Vasula**	**2.57**	**109**	Pn		**Pn**	**15 59 56.1**	**+1.0**
	SNR=50							
VSU				S		**Sn**	**16 00 28.1**	**+1.1**
VSU				Sn		**Sn**	**16 00 28.8**	**+1.9**
	SNR=50							
BACU	**Backbrunna**	**2.59**	**282**	*eP*		**Pn**	**15 59 56.5**	**+1.2**
BACU	**Backbrunna**	**2.59**	**282**	P		**Pn**	**15 59 56.5**	**+1.2**
BACU	**Backbrunna**	**2.59**	**282**	P		**Pn**	**15 59 56.5**	**+1.2**
OSTU	**Oestervaala**	**2.65**	**290**	*eP*		**Pn**	**15 59 57.3**	**+1.1**
OSTU	**Oestervaala**	**2.65**	**290**	P		**Pn**	**15 59 57.3**	**+1.1**
OSTU	**Oestervaala**	**2.65**	**290**	P		**Pn**	**15 59 57.3**	**+1.1**
IGGU	**Iggoen**	**2.82**	**304**	*eP*		**Pn**	**16 00 00.4**	**+1.8**
IGGU	**Iggoen**	**2.82**	**304**	P		**Pn**	**16 00 00.3**	**+1.8**
IGGU	**Iggoen**	**2.82**	**304**	P		**Pn**	**16 00 00.4**	**+1.8**
FIA0	**FINESS Array S**	**2.84**	**42**	Pn		**Pn**	**15 59 59.5**	**+0.7**
	baz=213,slow=14							
FIA0				Lg		Lg	16 00 36.1	
	baz=220,slow=28							
FIA0	**FINESS Array S**	**2.84**	**42**	Pn		**Pn**	**15 59 59.5**	**+0.7**
	baz=213,slow=14							
FIA0				Lg		Lg	16 00 36.1	
	baz=220,slow=28							
FIA0	**FINESS Array S**	**2.84**	**42**	*eP*		**Pn**	**15 59 59.4**	**+0.7**
FIA0				*eS*		**Sn**	**16 00 35.0**	**+1.4**
FIA0				MSG			16 00 37.3	
	comp=Z,16nm,0.2s							
FIA0	**FINESS Array S**	**2.84**	**42**	P		**Pn**	**15 59 59.4**	**+0.7**
FIA0				S		**Sn**	**16 00 35.0**	**+1.4**
FIA0				Lg		Lg	16 00 36.1	
	SNR=50							
FINES	**FINESS Array B**	**2.84**	**42**	Pn		**Pn**	**15 59 59.5**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=226,slow=14,SNR=75							
FINES				Sn		**Sn**	**16 00 34.5**	**+0.8**
	comp=Z,6.6nm,0.3s,baz=227,slow=24,SNR=32							
VJF	**Virojoki**	**2.96**	**65**	*eP*		**Pn**	**15 59 59.4**	**-1.1**
VJF				*eS*		**Sn**	**16 00 35.8**	**-0.8**
VJF	**Virojoki**	**2.96**	**65**	P		**Pn**	**15 59 59.3**	**-1.1**
VJF				S		**Sn**	**16 00 35.8**	**-0.8**
KEF	**Keuruu**	**3.09**	**25**	*eP*		**Pn**	**16 00 04.2**	**+1.9**
KEF				*eS*		**Sn**	**16 00 41.2**	**+1.4**
KEF	**Keuruu**	**3.09**	**25**	P		**Pn**	**16 00 04.1**	**+1.9**
KEF				S		**Sn**	**16 00 41.1**	**+1.4**
ARNU	**Arnoeviken**	**3.28**	**317**	*eP*		**Pn**	**16 00 05.7**	**+0.8**
ARNU	**Arnoeviken**	**3.28**	**317**	P		**Pn**	**16 00 05.7**	**+0.8**
ARNU	**Arnoeviken**	**3.28**	**317**	P		**Pn**	**16 00 05.7**	**+0.8**
FALU	**Falun**	**3.35**	**292**	*eP*		**Pn**	**16 00 06.8**	**+1.1**
FALU	**Falun**	**3.35**	**292**	P		**Pn**	**16 00 06.8**	**+1.1**
FALU	**Falun**	**3.35**	**292**	P		**Pn**	**16 00 06.8**	**+1.1**
KAF	**Kangasniemi**	**3.41**	**35**	*eP*		**Pn**	**16 00 08.1**	**+1.5**
KAF	**Kangasniemi**	**3.41**	**35**	P		**Pn**	**16 00 08.1**	**+1.5**
VAF	**Ylistaro**	**3.67**	**4**	*eP*		**Pn**	**16 00 12.7**	**+2.6**
VAF	**Ylistaro**	**3.67**	**4**	P		**Pn**	**16 00 12.7**	**+2.6**
SUF	**Sumiainen**	**3.87**	**29**	*eP*		**Pn**	**16 00 13.8**	**+0.9**
SUF	**Sumiainen**	**3.87**	**29**	P		**Pn**	**16 00 13.7**	**+0.9**
HFS	**Hagfors**	**4.32**	**283**	Pn		**Pn**	**16 00 19.7**	**+0.5**
	baz=95,slow=14							
HFS				Pg		**Pb**	**16 00 30.6**	**+1.6**
	baz=86,slow=18							
HFS				Lg		Lg	16 01 26.4	
	baz=88,slow=37							
HFS	**Hagfors**	**4.32**	**283**	Pn		**Pn**	**16 00 19.7**	**+0.5**
	baz=95,slow=14							
HFS				Pg		**Pb**	**16 00 30.6**	**+1.6**
	baz=86,slow=18							
HFS				Lg		Lg	16 01 26.4	
	baz=88,slow=37							
HFS	**Hagfors**	**4.32**	**283**	Pn		**Pn**	**16 00 19.7**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=111,slow=14,SNR=32							
HFS				Sn		**Sn**	**16 01 08.4**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=107,slow=18,SNR=5.5							
HFS				Lg		Lg	16 01 27.5	
	comp=Z,4.2nm,0.3s,baz=93,slow=30,SNR=14							
HFS	**Hagfors**	**4.32**	**283**	Pn		**Pn**	**16 00 19.7**	**+0.5**
	baz=95,slow=14,SNR=50							
HFS				Lg		Lg	16 01 26.4	
	SNR=90							
JOF	**Joensuu**	**5.68**	**48**	*eP*		**Pn**	**16 00 37.3**	**-0.4**
JOF	**Joensuu**	**5.68**	**48**	P		**Pn**	**16 00 37.3**	**-0.4**
NB2	**NORSAR Subarra**	**5.68**	**292**	Pn		**Pn**	**16 00 37.5**	**-0.3**
	baz=98,slow=14							
NB2				Sn		**Sn**	**16 01 43.6**	**0.0**
	baz=105,slow=28							
NB2				Lg		Lg	16 02 06.3	
	baz=106,slow=37							
NB2	**NORSAR Subarra**	**5.68**	**292**	Pn		**Pn**	**16 00 37.5**	**-0.3**
	baz=98,slow=14							
NB2				Sn		**Sn**	**16 01 43.6**	**0.0**
	baz=105,slow=28							
NB2				Lg		Lg	16 02 06.3	
	baz=106,slow=37							
NB2	**NORSAR Subarra**	**5.68**	**292**	Pn		**Pn**	**16 00 37.5**	**-0.3**
	baz=98,slow=13,SNR=50							
NB2				Sn		**Sn**	**16 01 43.7**	**0.0**
	baz=105,slow=23,SNR=50							
NOA	**NORSAR Array B**	**5.68**	**292**	Pn		**Pn**	**16 00 37.0**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=92,slow=12,SNR=35							
NOA				Sn		**Sn**	**16 01 41.0**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=140,slow=24,SNR=3.0							
NOA				Lg		Lg	16 02 09.6	
	comp=Z,1.4nm,0.3s,baz=132,slow=16,SNR=5.7							
BSD	**Bornholm Skovb**	**5.81**	**225**	*iP*		**Pn**	**16 00 38.2**	**-1.3**
BSD				*eS*		**Sn**	**16 01 42.0**	**-4.7**
APA0	**Apatity Array**	**9.55**	**26**	Pn		**Pn**	**16 01 29.9**	**-0.8**
	baz=216,slow=16							
APA0	**Apatity Array**	**9.55**	**26**	Pn		**Pn**	**16 01 29.9**	**-0.8**
	baz=216,slow=16							
APA0	**Apatity Array**	**9.55**	**26**	Pn		**Pn**	**16 01 29.9**	**-0.8**
	baz=216,slow=15,SNR=50							
ARA0	**ARCESS Array S**	**10.28**	**7**	Pn		**Pn**	**16 01 38.5**	**-2.3**
	baz=184,slow=14							
ARA0				Sn		Sn	16 03 26.4	-10
	baz=185,slow=28							
ARA0	**ARCESS Array S**	**10.28**	**7**	Pn		**Pn**	**16 01 38.5**	**-2.3**
	baz=184,slow=14							
ARA0				Sn		Sn	16 03 26.4	-10
	baz=185,slow=28							
ARCES	**ARCESS Array B**	**10.28**	**7**	Pn		**Pn**	**16 01 37.9**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=186,slow=14,SNR=48							
ARCES				Sn		Sn	16 03 28.4	-8.2
	comp=Z,0.2nm,0.3s,baz=186,slow=24,SNR=4.9							

*IDC **09** 15:59:09.2±1.4, 1°.89N×96°.65E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.7/51, mbtmp3.9/12, ML4.2/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/38, Error ellipse: s-maj=51.4km s-min=18.0km az=54.0*

*ISCJB **09** 15:59:11.8±0.7, 1°.90N±0°.05×96°.55E±0°.06, h28km, mb3.9/10, MS3.1/1, Error ellipse: s-maj=9.3km s-min=5.9km az=144.3*

*DJA **09** 15:59:13.1±1.3, 2°.N±3°.×9°.6E±1°.3, h41km±16km, M4.0/4, mb4.2/3, mB4.7/1, MLv3.9/4, Mw(mB)4.0/1*

ISC 09 15:59:14.2±0.8, **2°.04N**±0°.06×**96°.62E**±0°.08, **h28**km, **n23**, **σ0°78/21, mb3.9/10, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.47**	**321**	P		*i* P	**Pb**	**15 59 23.9**	**-0.1**
SNSI				S		S	**Sn**	**15 59 32.1**	**-0.3**
TPTI		**1.33**	**25**	P		P	**Pn**	**15 59 36.3**	**-0.6**
TPTI				S		S	**Sb**	**15 59 55.5**	**+0.3**
KCSI	**Kotacane, Aceh**	**1.86**	**38**	P		P	**Pn**	**15 59 44.7**	**+0.4**
KCSI				S		S	**Sb**	**16 00 10.0**	**-0.5**
TSI	**Tuntungan**	**2.42**	**53**	P		P	**Pn**	**15 59 52.9**	**+1.0**
MNSI	**Mandailing Nat**	**3.20**	**113**	P		P	**Pn**	**16 00 02.8**	**+0.1**
MNSI				S		S	**Sn**	**16 00 40.2**	**+0.2**
PDSI	**Padang**	**4.83**	**127**	P		P	**Pn**	**16 00 26.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.47**	**8**	Pn		**Pn**	**16 03 03.4**	**-0.1**
	0.3nm,0.3s,baz=195,slow=11,SNR=5.7								
CMAR				LR		LR	16 10 31.9		
	comp=Z,43nm,18.6s,baz=190,slow=41								
H08S2	**Diego Garcia H**	**25.93**	**248**	T		T	16 31 30.1		
	baz=69,slow=75,SNR=467								
H08S3	**Diego Garcia H**	**25.93**	**248**	T		T	16 31 31.0		
	baz=69,slow=75,SNR=183								
H08S1	**Diego Garcia H**	**25.94**	**248**	T		T	16 31 32.2		
	baz=69,slow=75,SNR=408								
H01W3	**Cape Leeuwin H**	**40.24**	**157**	T		T	16 49 32.4		
	baz=333,slow=76,SNR=5.4								
H01W2	**Cape Leeuwin H**	**40.25**	**157**	T		T	16 49 31.9		
	baz=333,slow=76,SNR=6.1								
H01W1	**Cape Leeuwin H**	**40.25**	**157**	T		T	16 49 31.3		
	baz=333,slow=76,SNR=5.9								
WRA	**Warramunga Arr**	**42.97**	**122**	P		**P**	**16 07 09.5**	**-1.7**	
	1.6nm,0.6s,baz=300,slow=9.2,SNR=21								
ASAR	**Alice Springs**	**44.36**	**127**	P		**P**	**16 07 20.8**	**-1.7**	
	0.5nm,0.8s,baz=305,slow=8.3,SNR=8.4								
AAK	**Ala-Archa**	**45.00**	**337**	P		**P**	**16 07 28.8**	**+1.4**	
	0.3nm,0.3s,baz=146,slow=7.3,SNR=3.6								
KSRS	**Korea Array**	**45.49**	**35**	P		**P**	**16 07 31.1**	**-0.1**	
	0.7nm,0.6s,baz=232,slow=8.6,SNR=3.9								
KSRS				LR		LR	16 26 58.6		
	comp=Z,22nm,18.5s,baz=211,slow=37								
MKAR	**Makanchi Array**	**46.29**	**346**	P		**P**	**16 07 37.8**	**+0.4**	
	1.9nm,0.7s,baz=162,slow=8.0,SNR=30								
SONM	**Songino Array**	**46.39**	**9**	P		**P**	**16 07 38.5**	**+0.2**	
	0.6nm,0.4s,baz=191,slow=9.1,SNR=7.3								
KURBB	**Kurchatov Arra**	**50.77**	**345**	P		**P**	**16 08 12.1**	**+0.3**	
	0.5nm,0.2s,baz=167,slow=6.6,SNR=4.2								
ZALV	**Zalesovo Beam**	**52.64**	**351**	P		**P**	**16 08 26.0**	**+0.3**	
	2.4nm,0.7s,baz=178,slow=7.1,SNR=13								
BVAR	**Borovoye Array**	**55.27**	**341**	P		**P**	**16 08 45.0**	**+0.1**	
	0.6nm,0.6s,baz=137,slow=7.3,SNR=4.0								
ARCES	**ARCESS Array B**	**81.55**	**340**	P		**P**	**16 11 29.2**	**+0.2**	
	1.9nm,0.9s,baz=99,slow=5.6,SNR=8.1								

*ISCJB **09** 16:08:06.3±0.5, 32°.65N±0°.04×115°.74W±0°.03, h4km±4km, Error ellipse: s-maj=6.9km s-min=3.3km az=20.4*

*NEIC **09** 16:08:08.0, 32°.59N×115°.76W, h3km, MD3.7(MEX), ML3.5(PAS), After PAS.*

*MEX **09** 16:08:09.0±1.1, 32°.08N×115°.62W, h16km±873km, MD3.4*

ISC 09 16:08:07.0±1.2, **32°.50N**±0°.05×**115°.79W**±0°.02, **h15**km±10km, **n16**, **σ1°44/35, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.42**	**100**	*i* P			**Pb**	**16 08 16.8**	**+0.6**
CPBX				*eS*			**Sn**	**16 08 23.8**	**-2.2**
MBIG	**Mexicali**	**0.51**	**100**	*i* P			**Pg**	**16 08 17.8**	**+0.7**
MBIG				*i* S			**Sg**	**16 08 23.8**	**-0.2**
CBX	**Cerro Bola**	**0.76**	**256**	*i* P			**Pn**	**16 08 23.4**	**+0.1**
CBX				*i* S			**Sn**	**16 08 34.7**	**+0.2**
CBX	**Cerro Bola**	**0.76**	**256**	*i* P			**Pn**	**16 08 23.6**	**+0.3**
CBX				*i* S			**Sn**	**16 08 35.0**	**+0.5**
BAR	**Barrett**	**0.77**	**284**	*ePg*			**Pb**	**16 08 22.0**	**-0.1**
BAR				*eSg*			**Sb**	**16 08 32.4**	**+0.1**
PFO	**Pinyon Flats O**	**1.24**	**334**	*ePg*			**Pn**	**16 08 28.1**	**-1.9**
PFO				*eSg*			**Sn**	**16 08 44.5**	**-2.1**
SPIG	**San Pedro Mart**	**1.47**	**169**	*eP*			Pn	16 08 25.9	-7.4
SPIG				*i* S			Sn	16 08 37.9	-15
214A	**Organ Pipe Nat**	**2.58**	**101**	*ePn*			**Pn**	**16 08 47.2**	**-1.2**
214A				*ePg*			**Pg**	**16 08 57.2**	**+0.6**
214A				*eSn*			**Sb**	**16 09 22.1**	**-2.5**
PASC	**Pasadena Art C**	**2.61**	**311**	Pn			**Pn**	**16 08 49.6**	**+1.0**
PASC				*ePg*			**Pg**	**16 08 58.0**	**+1.0**
PASC				*eSn*			**Sn**	**16 09 20.8**	**+0.7**
OSI	**Osito Audit: C**	**3.23**	**312**	*ePg*			**Pg**	**16 09 08.1**	**-1.0**
ISA	**Isabella, Lake**	**3.87**	**326**	*ePn*			**Pn**	**16 09 08.3**	**+2.3**
ISA				*eSn*			**Sn**	**16 09 51.5**	**+0.3**
DAC	**Darwin (Calif)**	**4.06**	**339**	Pn			**Pn**	**16 09 10.2**	**+1.5**
DAC				*ePg*			**Pg**	**16 09 23.6**	**-1.2**
DAC				*eSn*			**Sn**	**16 09 56.6**	**-0.6**
TUC	**Tucson**	**4.24**	**91**	Pn			**Pn**	**16 09 10.4**	**-0.7**
TUC				*ePg*			**Pg**	**16 09 28.7**	**+0.4**
TUC				*eSn*			**Sn**	**16 10 02.8**	**+2.3**
WUAZ	**Wupatki**	**4.75**	**49**	*ePn*			**Pn**	**16 09 17.9**	**-0.3**
WUAZ				*eSn*			**Sn**	**16 10 14.9**	**+1.8**
W18A	**Petrified Fore**	**5.68**	**61**	*ePn*			**Pn**	**16 09 31.8**	**+0.7**
W18A				*ePg*			**Pg**	**16 09 58.8**	**+3.0**
W18A				*eSn*			**Sn**	**16 10 37.5**	**+1.4**
W18A				*eSg*			**Sg**	**16 11 06.8**	**-2.6**
121A	**Cookes Peak, D**	**6.76**	**88**	*ePn*			**Pn**	**16 09 46.3**	**+0.3**
	7.6nm,0.6s								
121A				*eSn*			**Sn**	**16 11 01.4**	**-1.4**

*ISCJB **09** 16:17:41.2±0.7, 37°.4N±0°.1×134°.9E±0°.2, h400km, mb2.6/3, Error ellipse: s-maj=18.4km s-min=14.3km az=42.4*

*IDC **09** 16:17:42.2±1.4, 38°.04N×136°.32E, h450km±24km, mb2.4/3, mb1 2.6/5, mb1mx2.3/60, mbtmp3.2/5, Error ellipse: s-maj=74.5km s-min=19.8km az=60.0*

*JMA **09** 16:17:43.2±0.1, 37°.28N×135°.10E, h390km, M2.9*

ISC 09 16:17:42.2±1.0, **37°.4N**±0°.1×**135°.0E**±0°.2, **h400**km, **n12**, **σ0°48/11, mb2.6/3, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**1.92**	**88**	P			**Pn**	**16 18 37.5**	**-0.1**
JWT	**Wachi**	**2.14**	**170**	P			**Pn**	**16 18 38.4**	**-0.7**
JSD	**Sado**	**2.70**	**75**	P			**Pn**	**16 18 42.6**	**-0.4**
JNG	**Nsakai**	**2.71**	**110**	P			**Pn**	**16 18 43.3**	**+0.1**
MAT	**Matsushiro**	**2.75**	**107**	P			**Pn**	**16 18 42.8**	**-0.6**
MAT	**Matsushiro**	**2.75**	**107**	P			**Pn**	**16 18 42.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.75**	**107**	P			**Pn**	**16 18 43.2**	**-0.2**
	1.4nm,0.3s,baz=310,slow=17,SNR=32								
JFT	**Otama**	**4.29**	**87**	P			Pn	16 18 56.1	-0.9
USRK	**Ussuriysk Ar.**	**7.16**	**343**	P			**Pn**	**16 19 27.9**	**-0.1**
	0.4nm,0.3s,baz=150,slow=11,SNR=7.1								
MKAR	**Makanchi Array**	**39.53**	**301**	P			**P**	**16 24 36.3**	**+0.1**
	0.1nm,0.5s,baz=88,slow=9.2,SNR=4.3								
WRA	**Warramunga Arr**	**57.03**	**181**	P			**P**	**16 26 48.9**	**+0.7**
	0.2nm,0.5s,baz=16,slow=7.1,SNR=13								
ASAR	**Alice Springs**	**60.74**	**181**	P			**P**	**16 27 13.6**	**+0.2**
	0.2nm,0.8s,baz=1.2,slow=6.0,SNR=8.8								

*IDC **09** 16:31:12.6±2.6, 41°.15N×109°.34W, h0km, mb2.6/1, mb1 3.2/3, mb1mx3.1/34, mbtmp2.9/3, ML2.5/2, Error ellipse: s-maj=29.3km s-min=8.0km az=113.0*

*NEIC **09** 16:31:20.9±0.5, 41°.79N×110°.67W, h0km, ML2.4, Error ellipse: s-maj=8.1km s-min=4.8km az=140.0, Suspected Mining explosion.*

NEIC 10 km [5 miles] W of Kemmerer.

ISC 09 16:31:19.0±0.8, **41°.67N**±0°.03×**110°.38W**±0°.03, **h0**km, **n25**, **σ1°86/41, Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWUT	**Hardware Ranch**	**0.89**	**267**	*ePg*			**Pg**	**16 31 34.6**	**-1.5**
HWUT				*eSg*			**Sg**	**16 31 44.6**	**-3.0**
TCUT	**Toone Canyon**	**0.95**	**235**	*ePg*			**Pg**	**16 31 37.7**	**+0.5**
TCUT				*eSg*			**Sg**	**16 31 49.7**	**+0.2**
BW06	**Boulder Array**	**1.26**	**29**	*ePg*			**Pn**	**16 31 44.4**	**+0.3**
BW06				*eSg*			**Sn**	**16 32 05.8**	**+3.9**
PDAR	**Pinedale Array**	**1.26**	**29**	Pg			**Pn**	**16 31 44.6**	**+0.5**
	4.2nm,0.3s,baz=165,slow=16,SNR=118								
PDAR				Lg			Lg	16 32 03.6	
	7.1nm,0.3s,baz=218,slow=19,SNR=18								
DAU	**Daniels Canyon**	**1.42**	**208**	*ePg*			**Pb**	**16 31 47.5**	**+1.0**
DAU				*eSg*			**Sn**	**16 32 09.5**	**+3.7**
CTU	**Camp Tracy**	**1.42**	**227**	*ePg*			**Pn**	**16 31 45.8**	**-0.5**
CTU				*eSg*			**Sn**	**16 32 06.8**	**+1.1**
HVU	**Hansel Valley**	**1.80**	**274**	*ePn*			**Pn**	**16 31 50.2**	**-1.2**
HVU				*eSn*			**Sn**	**16 32 12.6**	**-2.5**
MPU	**Maple Canyon**	**1.90**	**210**	*ePn*			**Pg**	**16 31 54.4**	**-1.1**
MPU				*eSn*			**Sg**	**16 32 19.2**	**-0.9**
BGU	**Big Grassy Mou**	**2.13**	**251**	*ePn*			**Pn**	**16 31 53.7**	**-2.3**
BGU				*eSn*			**Sn**	**16 32 21.7**	**-1.5**
BGU				*eSg*			**Sb**	**16 32 25.4**	**-0.2**
NLU	**North Lily Min**	**2.14**	**218**	*ePn*			**Pg**	**16 31 59.2**	**-0.8**
NLU				*eSn*			**Sb**	**16 32 25.4**	**-0.5**
O20A	**White River Ci**	**2.23**	**133**	*ePn*			Pg	16 32 03.6	+1.8
O20A				*eSn*			Sg	16 32 35.3	+4.7
O20A				*eSg*			Sb	16 32 45.8	+17
DUG	**Dugway, Tooele**	**2.36**	**232**	*ePn*			**Pn**	**16 32 00.1**	**+1.0**
DUG				*eSn*			**Sn**	**16 32 30.4**	**+1.6**
DUG				*eSg*			**Sg**	**16 32 35.8**	**+1.0**
TMUT	**Trail Mountain**	**2.45**	**195**	*ePn*			**Pg**	**16 32 05.0**	**-1.0**
TMUT				*eSn*			**Sg**	**16 32 37.3**	**-0.4**
TMUT				*eSg*			Sb	16 32 45.3	+10
SRU	**San Rafael Swe**	**2.55**	**183**	*ePg*			**Pg**	**16 32 07.6**	**-0.3**
SRU				*eSn*			**Sg**	**16 32 41.1**	**0.0**
SRU				*eSg*			Sb	16 32 50.5	+12
H17A	**Grant Village**	**2.73**	**357**	*ePn*			**Pb**	**16 32 08.3**	**-0.7**
H17A				*eSn*			**Sn**	**16 32 40.6**	**+2.3**
K22A	**Casper**	**3.03**	**70**	Pn			**Pb**	**16 32 12.9**	**-1.0**
K22A				*eSg*			Sg	16 33 10.3	+13
MVU	**Marysvale**	**3.46**	**205**	*ePn*			**Pn**	**16 32 16.5**	**+2.1**
MVU				*eSn*			**Sb**	**16 33 00.9**	**-3.0**
HLID	**Hailey**	**3.53**	**304**	*ePn*			**Pn**	**16 32 16.9**	**+1.6**
HLID				*eSn*			**Sn**	**16 32 56.5**	**-1.4**
HLID				*eSg*			**Sb**	**16 33 07.5**	**+1.5**
ELK	**Elko**	**3.78**	**258**	Pn			**Pn**	**16 32 21.9**	**+3.1**
	0.1nm,0.3s,baz=90,slow=20,SNR=4.9								
ELK				Sn			**Sb**	**16 33 16.7**	**+3.5**
	0.4nm,0.3s,baz=177,slow=20,SNR=3.7								
ISCO	**Idaho Springs**	**4.07**	**116**	*ePn*			Pb	16 32 28.0	-3.8
ISCO				*eSn*			**Sg**	**16 33 25.8**	**-4.0**
MFID	**Camas Ranch**	**4.39**	**295**	Pn			**Pn**	**16 32 27.1**	**+0.1**
MVCO	**Mesa Verde**	**4.68**	**161**	*ePn*			Pb	16 32 35.3	-6.8
MVCO				*ePg*			Pg	16 32 52.0	+3.2
RSSD	**Black Hills**	**5.27**	**60**	*ePn*			Pn	16 32 43.2	+4.0
	7.6nm,0.6s								
RSSD				*eSg*			**Sg**	**16 34 08.1**	**0.0**
NVAR	**Mina Array Bea**	**6.88**	**245**	Pn			Pn	16 33 05.5	+4.1
	0.1nm,0.3s,baz=68,slow=14,SNR=6.7								
YKA	**Yellowknife Ar**	**21.01**	**355**	P			**P**	**16 36 04.0**	**+0.1**
	0.2nm,0.6s,baz=164,slow=9.0,SNR=3.6								

*IDC **09** 16:34:20.5±0.4, 9°.57S×149°.98E, h0km, mb4.9/21, mb1 5.0/25, mb1mx5.0/28, mbtmp4.9/25, ML4.3/4, MS4.5/20, Ms1 4.5/20, ms1mx4.5/26, Error ellipse: s-maj=13.0km s-min=12.2km az=65.0*

*BJI **09** 16:34:20.8, 9.83S×150°.36E, h35km, mB5.3/50, mb5.2/65, Ms4.9/58, Ms7 4.6/54*

*GCMT **09** 16:34:23.3±0.1, 9°.59S×149°.95E, h18km, MW5.4/91, Moment Tensor Solution. s71,c130; s91,c180; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr=0.66±.02; Mθθ1.27±.02; Mφφ-0.60±.02; Mrθ0.15±.04; Mθφ0.32±.01; Mφr-0.78±.05; Best double couple: M⌀1.39200×1017 NP1:⌀s296.00000°, δ61.00000°, λ-36.00000°. NP2:⌀s45.00000°, δ59.00000°, λ-145.00000°. Principal axes: T 1.3240, Plg1.0000°, Azm351.0000

WRA Warramunga Arr 18.12 234 P P 16 38 35.8 +0.6
comp=Z,0.9nm,0.3s,baz=60,slow=12,SNR=98
WRA S Sn 16 41 49.0 -7.3
comp=Z,1.0nm,0.3s,baz=60,slow=22,SNR=6.3
WRA LR LR 16 45 49.2
comp=Z,2μm,18.0s,baz=55,slow=38
SAUI Saumlaki 18.40 274 P Pn 16 38 40.5 +2.1
SAUI Saumlaki 18.40 274 eP Pn P 16 38 38.3 +0.1
comp=Z,143nm,0.8s
MTN Manton Dam 18.61 258 P Pn 16 38 42.2 +1.1
baz=19,SNR=26
FAKI Fak Fak 18.72 290 P Pn 16 38 42.5 +0.2
FAKI Fak Fak 18.72 290 P Pn 16 38 42.7 +0.4
baz=19,SNR=25
FAKI Fak Fak 18.72 290 eP Pn Pn 16 38 42.2 -0.1
comp=Z,103nm,0.9s
DZM Mont Dzumac 20.15 130 eP P 16 38 58.3 +0.8
comp=Z,327nm,1.1s
DZM eLR LR 16 43 34.5
comp=Z,5μm,24.3s
DZM Mont Dzumac 20.15 130 P Pn 16 38 59.3 -0.2
comp=Z,110nm,1.0s,baz=327,slow=3.3,SNR=18
DZM LR LR 16 45 53.9
comp=Z,4μm,18.4s,baz=314,slow=34
DZM Mont Dzumac 20.15 130 ePn Pn 16 38 58.7 -0.9
comp=Z,143nm,1.0s
DZM P P 16 38 59.3 +1.9
BNDI Bandanaira 20.43 283 P P 16 39 01.3 +0.9
AS31 Alice Springs 20.63 226 eP Pn 16 39 04.4 -0.6
ASAR Alice Springs 20.63 226 P Pn 16 39 04.5 -0.5
comp=Z,41nm,1.1s,baz=61,slow=10,SNR=333
ASAR S S 16 42 51.1 -0.2
comp=Z,4.0nm,0.7s,baz=48,slow=26,SNR=5.1
ASAR LR LR 16 46 07.9
comp=Z,1μm,19.6s,baz=50,slow=34
ARMA Armidale 20.71 176 P Pn 16 39 06.9 +0.8
baz=21,SNR=13
ARMA Armidale 20.71 176 eP P 16 39 04.3 +0.8
comp=Z,166nm,1.2s
KNRA Kununurra 21.40 252 P P 16 39 11.4 +0.5
baz=21,SNR=77
MSAI Masohi 21.69 285 P P 16 39 13.2 -0.9
CMSA Cobar Meteorol 22.10 189 P P 16 39 19.4 +1.2
baz=22,SNR=28
NLAI Namlea 23.47 284 P P 16 39 34.0 +1.4
GUMO Guam 23.62 348 PFAKE 16 39 40.0 +6.0
GUMO LR LR
comp=Z,200nm,19.0s
LBMI Labuha 23.97 291 P P 16 39 39.0 +1.7
YNG Young 24.55 183 P P 16 39 45.1 +2.6
baz=25,SNR=6.8
TNTI Ternate 24.66 294 P P 16 39 44.7 +1.0
TNTI Ternate 24.66 294 eP P 16 39 41.9 -1.7
comp=Z,252nm,1.1s
SANI Sanana 24.89 286 P P 16 39 46.1 +0.4
SOEI Soe 25.20 268 P P 16 39 50.6 +1.8
SOEI Soe 25.20 268 P P 16 39 50.6 +1.8
baz=25,SNR=27
SOEI Soe 25.20 268 eP P 16 39 49.5 +0.7
comp=Z,231nm,1.2s
CNB Canberra Magne 25.54 181 P P 16 39 54.0 +2.5
baz=26,SNR=4.7
CAN Canberra 25.55 182 eP P 16 39 50.9 -0.7
CAN pmax pmax
comp=Z,86nm,1.4s
CAN MLR MLR
comp=Z,3μm,20.0s
CAN Canberra 25.55 182 eP P 16 39 50.9 -0.7
comp=Z,86nm,1.4s
CAN LR LR
comp=Z,3μm,20.0s
WRKA Warakurna 25.56 231 P P 16 39 52.5 +0.7
baz=26,SNR=183
BATI Baumata 25.79 267 P P 16 39 56.4 +2.4
BATI Baumata 25.79 267 P P 16 39 56.0 +2.1
comp=Z,110nm,0.7s,baz=192,slow=2.0,SNR=26
BATI LR LR 16 52 06.5
comp=Z,3μm,18.2s,baz=120,slow=41
BBOO Buckleboo 26.31 207 P P 16 39 59.2 +0.7
baz=26,SNR=12
BBOO Buckleboo 26.31 207 eP P 16 39 59.2 +0.7
comp=Z,2.5nm,1.0s
SGSI Sangihe 27.62 298 P P 16 40 11.6 +1.2
KMSI Cibinong 27.68 290 P P 16 40 11.8 +0.8
EDFI Ende, Flores 27.80 270 P P 16 40 12.3 +0.1
TOO Toolangi 28.06 187 P P 16 40 16.6 +2.5
baz=28,SNR=6.8
LUWI Luwuk 28.25 286 P P 16 40 10.1 -6.0
LUWI Luwuk 28.25 286 P P 16 40 10.2 -6.0
baz=28,SNR=9.0
LUWI Luwuk 28.25 286 P P 16 40 16.0 -0.1
comp=Z,219nm,1.0s
GTOI Gorontalo 28.60 289 P P 16 40 21.1 +1.9
BASI Baing, Sumba 28.82 266 P sP 16 40 36.8 +1.0
WSI Waingapu 29.12 267 P P 16 40 24.3 +0.5
WSI Waingapu 29.12 267 P P 16 40 25.1 +1.3
baz=29,SNR=3.8
FORT Forrest 29.20 221 P P 16 40 25.3 +1.0
baz=29,SNR=25
FORT Forrest 29.20 221 eP P 16 40 25.3 +1.0
comp=Z,264nm,1.7s
DAV Davao City (W) 29.33 304 PFAKE 16 40 40.0 +14
DAV LR LR
comp=Z,1μm,21.0s
APSI Ampana 29.36 286 P P 16 40 26.8 +0.9
MRSI Marisa 29.54 288 P P 16 40 29.6 +2.0
BKSI Bulukumba 29.77 276 P P 16 40 29.5 -0.1
BNSI Bone 29.96 278 P P 16 40 32.4 +1.2
WBSI Waikabubak, Su 30.01 267 P P 16 40 31.6 -0.2
KAPI Kappang 30.18 277 P P 16 40 34.2 +0.9
comp=Z,460nm,0.8s,SNR=14
KAPI Kappang 30.18 277 P P 16 40 34.4 +1.2
SNR=10
KAPI Kappang 30.18 277 eP P 16 40 33.5 +0.2
comp=Z,15nm,0.9s
KAPI LR LR
comp=Z,760nm,19.0s
SPSI Sidrap Palu 30.38 279 P P 16 40 35.1 +0.2
TTSI Tana Toraja 30.53 280 P sP 16 40 54.9 +4.0
PCI Palu 31.09 284 P P 16 40 43.3 +2.1
comp=Z,97nm,1.0s,comp=Z,1μm
MPSI Mapaga 31.42 287 P P 16 40 44.1 0.0
MSLP Maasin 31.70 308 eP P 16 40 46.8 +0.2
TAU Tasmania Unive 33.19 183 PFAKE 16 41 10.0 +11
TAU LR LR
comp=Z,5μm,19.0s
KMBL Kambalda 33.76 226 P P 16 41 05.7 +1.3
baz=34,SNR=5.0
BKB Balikpapan 33.81 282 P P 16 41 09.0 +3.9
comp=Z,128nm,1.2s,comp=Z,2μm
MEEK Meekatharra 34.00 236 P P 16 41 07.9 +1.2
baz=34,SNR=52
KBKI Kotabaru 34.03 278 P P 16 41 07.7 +0.7
RCP Roxas 34.21 307⇓ eP P 16 41 09.2 +0.7
SRBI Singaraja 34.24 270 P P 16 41 13.1 +4.3
comp=Z,26nm,1.3s
IGBI Denpasar 34.24 269 P P 16 41 10.1 +1.2
comp=Z,103nm,0.9s
PVCP Virac 34.41 312 eP P 16 41 10.6 +0.4
TSM Tawau 34.74 292 ⇑P P 16 41 13.8 +0.7
CUYO Cuyo Island 35.17 305 eP P 16 41 17.5 +0.6
ABJI Asem Bagus 35.23 270 P P 16 41 20.0 +2.6
comp=Z,91nm,0.9s
JAGI Jajag, Banyuwa 35.25 269 P P 16 41 16.6 -1.0
JAGI Jajag, Banyuwa 35.25 269 P P 16 41 16.8 -0.8
baz=35,SNR=12
JAGI S S 16 46 44.1 -5.2
baz=35,SNR=4.5
JAGI Jajag, Banyuwa 35.25 269 eP P 16 41 15.7 -1.9
comp=Z,53nm,0.6s
BBKI Banjar Baru 35.29 278 P P 16 41 18.9 +1.0
AUQP San Andres 35.34 310 eP P 16 41 20.3 +2.1
KMMI Kalianget 35.58 271 P P 16 41 20.7 +0.3
BLJI Banyuglugur 35.87 270 P P 16 41 25.6 +2.7
comp=Z,42nm,1.0s
SDKM Sandakan 35.91 294 ⇑P P 16 41 23.1 -0.2
SJMP San Jose 36.02 307 eP P 16 41 25.7 +1.6
BOAC Boac 36.06 309 eP P 16 41 25.2 +0.8
ENPP El Nido 36.67 304 eP P 16 41 31.1 +1.4
KDM Kudat 36.78 295 ⇑P P 16 41 32.6 +2.0
BATP Bataraza 36.80 299 eP P 16 41 31.3 +0.5
MORW Morawa 37.07 234 P P 16 41 34.0 +1.0
baz=37,SNR=6.6
TGY Tagaytay City 37.15 309 P P 16 41 34.5 +0.7
comp=Z,134nm,0.4s,baz=261,slow=1.7,SNR=20
BLDU Ballidu 37.22 231 P P 16 41 35.0 +0.8
baz=37,SNR=10
URZ Urewera 37.55 144 P P 16 41 37.1 +0.1
comp=Z,2.2nm,0.6s,baz=282,slow=9.3,SNR=3.0
PWJI Pagerwojo 37.61 269 P P 16 41 37.4 -0.3
BALP Baler 37.69 312 eP P 16 41 38.4 +0.1
NWAO Narrogin (SRO) 37.93 228 P P 16 41 40.2 0.0
NWAO MLR MLR
comp=Z,1.0nm,21.0s
NWAO Narrogin (SRO) 37.93 228 P P 16 41 40.2 0.0
comp=Z,10nm,1.0s,baz=69,slow=17,SNR=3.3
NWAO Narrogin (SRO) 37.93 228 P P 16 41 40.2 0.0
NWAO LR LR
comp=Z,1.0nm,21.0s
PCJI Pacitan 38.21 269 P P 16 41 43.0 +0.2
SNZO South Karori 38.41 149 PFAKE 16 42 00.0 +16
SNZO LR LR
comp=Z,1μm,20.0s
WOJI Wonogiri, Jawa 38.49 270 P P 16 41 45.6 +0.5
PBKI Pangkalan Bun 38.54 278 P P 16 41 48.7 +3.1
comp=Z,192nm,1.1s,comp=Z,2μm
KHZ Kahutara 38.68 152 eP P 16 41 46.5 +0.1
comp=Z,147nm,2.1s
UGM Wanagama 38.88 269 P P 16 41 49.1 +0.7
baz=39,SNR=6.6
SCZP Santa Cruz 38.95 310 eP P 16 41 46.7 -2.2
APYP Conner 39.32 314 eP P 16 41 51.8 -0.1
SBUM Sibu 39.36 286 ⇑P P 16 41 54.2 +1.8
SBUM Sibu 39.36 286 eP P 16 41 52.2 -0.2
comp=Z,42nm,1.1s
STKI Sintang 39.38 282 P P 16 41 54.4 +1.8
KPJI Karang Pucung 40.51 270 P P 16 42 02.8 +0.8
KSM Kuching 40.89 284 P P 16 42 06.5 +1.3
baz=41,SNR=10
KSM Kuching 40.89 284 ⇑P P 16 42 06.9 +1.7
KSM Kuching 40.89 284 eP P 16 42 05.0 -0.1
comp=Z,70nm,1.2s
KSM LR LR
comp=Z,629nm,22.0s
CISI Cisompet, Garu 41.59 269 P P 16 42 11.0 +0.1
baz=42,SNR=4.2
CISI Cisompet, Garu 41.59 269 P P 16 42 10.1 -0.8
comp=Z,50nm,0.6s
LEM Lembang 41.86 271 P P 16 42 14.4 +1.1
LEM Lembang 41.86 271 P P 16 42 13.7 +0.4
comp=Z,64nm,0.9s,baz=68,slow=8.2,SNR=15
LEM Lembang 41.86 271 P P 16 42 14.8 +1.4
baz=42,SNR=4.3
JOW Kunigami 41.89 331 eP P 16 42 12.6 -0.5
comp=Z,31nm,0.9s
TPI Tanjungpandan 42.46 276 P P 16 42 19.8 +1.8
comp=Z,72nm,1.6s,comp=Z,1μm
CBJI Citeko 42.67 271 P P 16 42 19.5 -0.2
TPUB Ta-pu 43.48 319 P P 16 42 24.6 -1.5
comp=Z,24nm,0.6s
SSLB Suanglung 43.62 320 eP P 16 42 26.3 -0.9
comp=Z,14nm,0.9s
CGJI Cibinong 43.78 271 P P 16 42 28.4 -0.3
YHNB Yeheng 44.00 321 eP P 16 42 29.6 -0.7
comp=Z,79nm,1.1s
YHNB LR LR
comp=Z,1μm,22.0s
TATO Taipei 44.15 322 eP P 16 42 31.2 -0.2
comp=Z,57nm,0.8s
TATO LR LR
comp=Z,1μm,20.0s
KASI Kota Agung 45.11 272 P P 16 42 38.0 -1.3
MCQ Macquarie Isla 45.30 173 P P 16 42 39.6 -0.6
baz=46,SNR=4.8
MDSI Maura Dua 45.57 273 P P 16 42 42.1 -0.9
LWLI Liwa 45.61 272 P P 16 42 42.5 -0.9
QZH Quanzhou 45.95 319 eP P 16 42 51.0 +5.3
QZH S S 16 49 30.0 +1.7
QZH LZ
comp=Z,1μm,21.4s
JNU Nakatsue 46.23 338 eP P 16 42 46.8 -1.1
comp=Z,13nm,0.9s
DLV T Lat 46.37 297 eP P 16 42 49.5 0.0
comp=Z,113nm,0.9s
JMBI JAMBI 46.61 277 P P 16 42 54.2 +3.0
comp=Z,254nm,1.1s,comp=Z,3μm
MYKOM Kota Tinggi 47.19 282 ⇑P P 16 42 57.2 +1.5
MYKOM Kota Tinggi 47.19 282 eP P 16 42 55.2 -0.5
comp=Z,206nm,2.2s
MJAR Matsushiro Arr 47.25 347 P P 16 42 55.0 -0.7
comp=Z,7.8nm,0.8s,baz=175,slow=9.0,SNR=23
MAJO Matsushiro 47.25 347 c iP P 16 42 55.2 -0.5
MAJO MLR MLR
comp=Z,2μm,17.0s
MAJO Matsushiro 47.25 347 eP P 16 42 54.7 -1.0
comp=Z,38nm,1.1s
MAJO LR LR
comp=Z,623nm,20.0s
MAT Matsushiro 47.25 347 P P 16 42 54.1 -1.6
MAT S S 16 49 41.6 -4.9
KGM Kluang 47.76 282 ⇑P P 16 43 01.6 +1.4
GZH Guangzhou 48.33 313 P P 16 43 09.6 +5.3
GZH PP PP 16 45 01.6 +4.5
GZH S S 16 50 09.5 +7.3
GZH sS sS 16 50 27.2 +7.4
GZH LN
comp=Z,1μm,17.3s
GZH LE
comp=Z,590nm,14.7s
QIZ Qiongzhong 48.66 306 PFAKE 16 43 20.0 +13
QIZ LR LR
comp=Z,602nm,22.0s
SSE Sheshan 48.97 327 P P 16 43 09.9 +0.8
SSE S S 16 50 13.4 +2.4
SSE PMZ
comp=Z,35nm,0.9s
SSE PMZ
comp=Z,130nm,6.0s
SSE LN
comp=Z,510nm,21.5s
SSE LE
comp=Z,470nm,21.5s
SSE LZ
comp=Z,740nm,21.9s
UBPT Khong Chiam 50.47 299 P P 16 43 21.8 +1.0
comp=Z,32nm,1.0s
IPM Ipoh 50.62 284 eP P 16 43 20.9 -1.2
comp=Z,36nm,0.8s
NJ2 Nanjing 50.97 326 eP P 16 43 24.0 -0.3
NJ2 pP pP 16 43 33.2 -1.8
NJ2 S S 16 50 39.0 +0.1
NJ2 sS sS 16 50 56.0 -0.6
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 PMZ
comp=Z,290nm,4.6s
NJ2 LN
comp=Z,2μm,22.6s
NJ2 LE
comp=Z,2μm,27.2s
NJ2 LZ
comp=Z,2μm,28.6s
MNSI Mandailing Nat 51.10 279 P P 16 43 25.6 0.0
KSRS Korea Array 51.18 338 P P 16 43 25.7 0.0
comp=Z,14nm,0.9s,baz=154,slow=8.5,SNR=42
KSRS LR LR 17 03 44.5
comp=Z,433nm,20.5s,baz=131,slow=34
KSAR Wonju Array Be 51.18 338 P P 16 43 25.7 -0.1
KSAR Wonju Array Be 51.18 338 P P 16 43 25.7 -0.1
KULM Kulim 51.21 285 eP P 16 43 26.0 -0.5
comp=Z,172nm,1.7s
KULM LR LR
comp=Z,515nm,21.0s
INCN Inchon 51.70 336 PFAKE 16 43 40.0 +10
INCN LR LR
comp=Z,614nm,21.0s
ERM Erimo 51.79 354 PFAKE 16 43 40.0 +10
ERM LR LR
comp=Z,572nm,19.0s
COCO West Island 52.04 262 PFAKE 16 43 40.0 +7.4
COCO LR LR
comp=Z,803nm,19.0s
CHBT CHBT 52.18 294 P P 16 43 34.4 +0.8
comp=Z,75nm,1.2s,comp=Z,1μm
TRTT Trang 52.88 287 P P 16 43 40.4 +1.5
comp=Z,27nm,1.4s,comp=Z,652nm
KHON Khomkaen 53.22 299 P P 16 43 42.6 +1.3
comp=Z,17nm,0.8s
KCSI Kotacane, Aceh 53.50 282 P P 16 43 42.1 -1.4
YUK Yuzh-Kuril'sk 53.57 356 c iP P 16 43 39.5 -3.8
YUK i 16 45 42.1
YUK i PPP PPP 16 46 49.7
YUK i S S 16 51 07.6 -6.5
YUK i SS SS 16 54 45.9 -9.2
YUK MLR MLR
comp=N,480nm,18.0s
YUK MLR MLR
comp=E,300nm,18.0s
YUK MLR MLR
comp=Z,275nm,18.0s
ASAJ Asahikawa 53.93 354 LR LR 17 07 12.3
comp=Z,321nm,18.5s,baz=162,slow=37
SURT Suratani 54.08 288 P P 16 43 48.6 +0.9
comp=Z,22nm,1.5s,comp=Z,332nm
SLVN Son La 54.62 305 eP P 16 43 51.1 -0.5
comp=Z,14nm,1.0s
PHET Kaeng Krachan 54.67 293 P P 16 43 53.3 +1.3
comp=Z,147nm,0.9s
PBKT Sadao Pong 54.92 298 P P 16 44 01.6 +7.9
VLA Vladivostok 55.03 344⇓ eP P 16 43 51.5 -2.5
VLA i S S 16 51 31.0 -2.8
VLA pmax pmax
comp=Z,40nm,1.3s
TIA Tai'an 55.05 328 ⇑P P 16 43 53.9 -0.5
TIA PMZ
comp=Z,20nm,0.9s
GYA Guiyang 55.20 312⇓ iP P 16 43 56.1 +0.3
GYA pP pP 16 44 08.2 +1.6
GYA PP PP 16 46 02.8 +3.2
GYA ScP ScP 16 48 52.0 -0.7
GYA S S 16 51 46.5 +9.4
GYA SS SS 16 55 20.2 -1.6
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,620nm,18.4s
GYA LE
comp=Z,560nm,19.0s
GYA LZ
comp=Z,590nm,18.8s
ENH Enshi 55.50 317 PFAKE 16 44 10.0 +12
ENH LR LR
comp=Z,325nm,20.0s
SRDT SRDT 55.67 295 P P 16 44 00.6 +1.5
comp=Z,157nm,1.2s
UTTA Uttaradit 55.78 299 P P 16 44 00.9 +1.0
comp=Z,18nm,1.0s,comp=Z,147nm
USRK Ussuriysk Ar. 56.00 345 P P 16 44 01.8 +0.8
comp=Z,13nm,0.8s,baz=174,slow=7.8,SNR=24
USRK LR LR 17 05 30.1
comp=Z,300nm,21.4s,baz=153,slow=33
LAMP Lampang 56.90 300 P P 16 44 09.3 +1.4
comp=Z,18nm,0.9s,comp=Z,152nm
CRAI Chiangrai 57.02 302 P P 16 44 06.6 -2.1
comp=Z,33nm,1.0s,comp=Z,2μm
MDJ Mudanjiang 57.05 343 P P 16 44 09.8 +1.4
MDJ pP pP 16 44 19.4 +0.1
MDJ sP sP 16 44 23.7 +0.2
MDJ PP PP 16 46 18.2 +2.6
MDJ S S 16 52 04.6 +3.9
MDJ sS sS 16 52 19.2 +0.7
MDJ SS SS 16 55 55.3 +5.2
MDJ PMZ
comp=Z,9.0nm,1.3s
MDJ PMZ
comp=Z,110nm,4.2s
MDJ LE
comp=Z,230nm,8.1s
MDJ LZ
comp=Z,370nm,15.0s
MDJ Mudanjiang 57.05 343 PFAKE 16 44 20.0 +12
MDJ LR LR
comp=Z,429nm,21.0s
DRV Dumont d'Urvil 57.31 185 S S 16 52 02.0 -1.6
DRV L L 16 58 00.0
DRV R 17 01 00.0
KMI Kunming 57.45 308 P P 16 44 13.4 +1.4
KMI S S 16 52 07.1 -0.1
KMI PMZ
comp=Z,37nm,0.9s
KMI PMZ
comp=Z,220nm,5.6s
KMI LN
comp=Z,260nm,24.2s
KMI LE
comp=Z,290nm,26.0s
KMI LZ
comp=Z,550nm,30.3s
CMAR Chiang Mai Arr 57.47 299 P P 16 44 13.3 +1.4
comp=Z,23nm,0.8s,baz=125,slow=5.3,SNR=152
CMAR LR LR 17 11 43.6
comp=Z,183nm,19.6s,baz=128,slow=39
CMMT Chiang Mai 57.61 299 P P 16 44 15.7 +2.8
comp=Z,56nm,1.1s,comp=Z,664nm
CHTO Chiang Mai 57.61 299 eP P 16 44 13.5 +0.6
CHTO pmax pmax
comp=Z,29nm,0.9s
CHTO MLR MLR
comp=Z,279nm,22.0s
CHTO Chiang Mai 57.61 299 P P 16 44 14.3 +1.4
SNR=12
CHTO Chiang Mai 57.61 299 eP P 16 44 13.5 +0.6
comp=Z,29nm,0.9s
CHTO LR LR
comp=Z,279nm,22.0s
CHTO Chiang Mai 57.61 299 P P 16 44 13.8 +0.9
comp=Z,194nm,1.1s,comp=Z,2μm
CMAI Chiengmai2 58.01 301 P P 16 44 17.0 +1.1
comp=Z,20nm,1.1s,comp=Z,1μm
MHMT Maesarieng 58.23 298 P P 16 44 18.3 +1.1
comp=Z,23nm,1.1s,comp=Z,256nm
XAN Xi'an 58.28 320 P P 16 44 16.9 -0.5
XAN pP pP 16 44 26.2 -2.1
XAN PP PP 16 46 33.2 +6.4
XAN S S 16 52 17.5 +0.1
XAN ScS ScS 16 54 02.6 -2.0
XAN SS SS 16 56 13.5 +3.6
XAN PMZ
comp=Z,10.0nm,0.9s
XAN LN
comp=Z,240nm,19.6s
XAN LZ
comp=Z,140nm,22.7s
BJI Beijing 58.46 330 P P 16 44 19.9 +1.5
BJI S S 16 52 20.0 +0.7
BJI SS SS 16 56 15.0 +2.6
BJI PMZ
comp=Z,14nm,0.5s
BJI PMZ
comp=Z,160nm,4.4s
BJI LN
comp=Z,440nm,26.3s
BJI LE
comp=Z,460nm,23.8s
BJI LZ
comp=Z,620nm,33.2s
PPT2 Papeete2 59.20 105 eS S 16 52 27.8 -2.2
comp=Z,253nm,24.8s
PPT2 eLQ LQ 16 59 18.0
comp=Z,4μm,30.2s
PPT2 eLR LR 17 01 42.7
comp=Z,2μm,28.5s,baz=266
PPT Papeete 59.20 105 LR LR 17 06 17.8
comp=Z,155nm,19.0s,baz=268,slow=32
HABR Khabarovsk 59.34 349 eP P 16 44 21.7 -2.7
HABR e*PP pP 16 44 32.0 -3.3
HABR e*SP sP 16 44 36.1 -3.3
HABR 16 45 10.3
HABR 16 46 33.2
HABR eS S 16 52 28.1 -2.3
HABR e*SS sS 16 52 45.3 -3.1
HABR e 16 54 09.3
HABR eSS SS 16 56 24.3 -1.7
HABR pmax pmax
comp=Z,27nm,1.8s
HABR MLR MLR
comp=Z,267nm,17.0s
TBI Tubuai 59.39 111 eS S 16 52 30.0 -2.1
comp=Z,395nm,26.8s
TBI eLQ LQ 16 59 19.9
comp=Z,2μm,33.8s
TBI eLR LR 17 01 50.9
comp=Z,961nm,25.2s,baz=280
TIAR Tiarei 59.42 105 eP P 16 44 27.4 +1.8
comp=Z,17nm,0.9s
TVO Taravao 59.51 105 eP P 16 44 28.2 +1.9

comp=Z,22nm,1.2s
CD2 Chengdu 59.83 314 *e*P P **16 44 28.8 +0.6**
CD2 pP **pP** **16 44 39.3 +0.2**
CD2 sP **sP** **16 44 43.5 +0.2**
CD2 PcP **PcP** **16 45 14.7 +0.1**
CD2 PP **PP** **16 46 42.9 +2.3**
CD2 PcS **PcS** **16 49 15.4 -1.5**
CD2 S **S** **16 52 36.6 -1.0**
CD2 SS **SS** **16 56 34.2 -0.2**
CD2 PMZ
comp=Z,80nm,0.7s
CD2 PMZ
comp=Z,200nm,5.0s
CD2 LN
comp=Z,4µm,25.5s
CD2 LE
comp=Z,430nm,17.6s
CD2 LZ
comp=Z,480nm,19.6s
MEH Mehetia 60.64 105 *e*P P **16 44 35.6 +1.6**
comp=Z,34nm,1.1s
PMOR Pomariorio Ree 60.90 102 *e*P P **16 44 37.9 +2.2**
comp=Z,156nm,1.2s
HHC Hu-ho-hao-te 61.41 328 *e*P P **16 44 41.9 +3.0**
HHC pP **pP** **16 44 52.6 +2.8**
HHC sP **sP** **16 44 56.0 +2.0**
HHC PP **PP** **16 46 59.5 +5.0**
HHC S **S** **16 52 59.6 +2.1**
HHC sS **sS** **16 53 18.7 +3.2**
HHC ScS **SKKSac** **16 54 27.5 -0.2**
HHC PMZ
comp=Z,17nm,0.6s
HHC PMZ
comp=Z,120nm,5.8s
HHC LN
comp=Z,360nm,15.9s
HHC LE
comp=Z,310nm,15.9s
HHC LZ
comp=Z,330nm,16.7s
BTO Baotou 62.07 327 *e*P P **16 44 42.7 -0.6**
CASY Casey 62.53 197 *e*P P **16 44 46.5 +0.7**
comp=Z,24nm,1.0s
CASY LR LR
comp=Z,1µm,20.0s
LZH Lanzhou 62.80 319 ⇓P P **16 44 49.5 +1.1**
LZH pP **pP** **16 45 00.6 +1.3**
LZH sP **sP** **16 45 04.7 +1.2**
LZH PP **PP** **16 47 09.5 +2.5**
LZH *e*S **S** **16 53 15.0 -0.4**
LZH sS **sS** **16 53 33.0 -0.5**
LZH SS **SS** **16 57 21.0 -0.1**
LZH PMZ
comp=Z,57nm,1.3s
LZH PMZ
comp=Z,310nm,8.2s
LZH LN
comp=Z,460nm,15.3s
LZH LE
comp=Z,460nm,15.0s
LZH LZ
comp=Z,820nm,18.5s
PETK Petropavlovsk- 62.89 5 P P **16 44 48.1 -0.2**
comp=Z,5.5nm,0.7s,baz=174,slow=7.3,SNR=11
PETK LR LR 17 07 24.0
comp=Z,296nm,21.8s,baz=197,slow=32
PET Petropavlovsk 62.90 6 PFAKE 16 45 00.0 +12
PET LR LR
comp=Z,406nm,21.0s
HIA Hailar 64.36 339 *e*P P **16 44 58.0 -0.2**
HIA pmax pmax
comp=Z,34nm,1.1s
HIA MLR MLR
comp=Z,550nm,21.0s
HIA Hailar 64.36 339 *e*P P **16 44 58.0 -0.2**
comp=Z,34nm,1.1s
HIA LR LR
comp=Z,550nm,21.0s
SHL Shillong 66.36 303 ⇓*i*P P **16 45 13.0 +1.1**
GTA Gaotai 67.34 320 *e*P P **16 45 18.2 +0.5**
GTA pP **pP** **16 45 28.5 -0.3**
GTA sP **sP** **16 45 33.0 +0.1**
GTA S **S** **16 54 12.7 +1.8**
GTA sS **sS** **16 54 29.3 +0.2**
GTA SS **SS** **16 58 36.8 +5.2**
GTA PMZ
comp=Z,19nm,1.4s
GTA PMZ
comp=Z,190nm,6.9s
GTA LN
comp=Z,160nm,17.6s
GTA LE
comp=Z,240nm,17.3s
GTA LZ
comp=Z,310nm,18.5s
VNDA Vanda 68.12 177 P P **16 45 23.1 +1.1**
comp=Z,8.9nm,0.9s,baz=328,slow=6.8,SNR=18
VNDA LR LR 17 13 23.8
comp=Z,495nm,18.0s,baz=354,slow=34
VNDA Vanda 68.12 177 P P **16 45 23.1 +1.1**
VNDA *e*P pP 16 45 23.2 -10
ULN Ulaanbaatar 68.66 331*d* *i*P P **16 45 26.2 +0.3**
ULN pmax pmax
comp=Z,50nm,1.7s
ULN MLR MLR
comp=Z,486nm,19.0s
ULN Ulaanbaatar 68.66 331 P P **16 45 26.8 +0.9**
SNR=20
ULN Ulaanbaatar 68.66 331 *e*P P **16 45 25.6 -0.2**
comp=Z,25nm,1.0s
ULN LR LR
comp=Z,461nm,20.0s
LSA Lhasa 68.68 307 P P **16 45 27.7 +0.9**
LSA PMZ
comp=Z,50nm,0.9s
LSA Lhasa 68.68 307 *e*P P **16 45 27.4 +0.6**
LSA pmax pmax
comp=Z,39nm,0.7s
LSA MLR MLR
comp=Z,435nm,22.0s
LSA Lhasa 68.68 307 *e*P P **16 45 27.4 +0.6**
comp=Z,39nm,0.7s
LSA LR LR
comp=Z,435nm,22.0s
CIT Chita 68.90 337 *e*P P **16 45 27.7 +0.5**
SONM Songino Array 68.96 330 P P **16 45 28.0 +0.3**
SONM Songino Array 68.96 330 P P **16 45 28.0 +0.3**
comp=Z,26nm,1.0s,baz=143,slow=5.5,SNR=87
SONM LR LR 17 16 11.8
comp=Z,546nm,20.1s,baz=131,slow=36
CLNS Chul'man 69.39 346 *e*P P 16 45 35.0 +4.9
CLNS pmax pmax
comp=Z,24nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.0s
TAPN Taplejung 70.50 303 *e*P P **16 45 38.3 +0.4**
comp=N,60nm,0.7s
ODAN Odare 70.58 303 *e*P P **16 45 38.7 +0.4**
comp=N,98nm,0.8s
CHLP Challavanipeta 70.66 293 *e*P P **16 45 39.8 +1.2**
CHLP *e* 16 45 46.2
CHLP *e*S S **16 54 52.6 +2.0**
CHLP *e*SKSac **SKSac** **16 55 35.1 -3.3**
PALK Pallekele 70.89 281 *i*P P **16 45 42.2 +2.0**
RAMN Ramite 71.27 303 *e*P P **16 45 42.6 +0.1**
comp=N,61nm,1.1s
JIRN Jiri 71.87 303 *e*P P **16 45 46.1 -0.1**
comp=N,68nm,1.0s
ZAK Zakamensk 72.19 331 ⇓*i*P P **16 45 47.4 +0.1**
ZAK pmax pmax
comp=Z,39nm,1.2s
GUN Gumba 72.22 303 *e*P P **16 45 48.6 +0.3**
comp=Z,93nm,0.7s
SEY Seymchan 72.41 1 *i*P P **16 45 48.3 +0.1**
SEY Seymchan 72.41 1 LR LR 17 19 44.6
comp=Z,232nm,18.6s,baz=151,slow=38
PKI Pulchoki 72.48 303 *e*P P **16 45 49.7 -0.2**
comp=Z,112nm,1.3s
PKIN Phulchoki 72.50 303 *e*P P **16 45 50.1 +0.2**
comp=Z,39nm,1.0s
KKN Kakani 72.67 303 *e*P P **16 45 50.7 -0.1**
comp=Z,90nm,1.0s
RKT Rikitea 72.71 111 *e*S S **16 55 12.4 -1.9**
comp=Z,218nm,27.0s
RKT *e*LQ LQ 17 04 55.3
comp=Z,607nm,33.5s
RKT *e*LR LR 17 08 03.5
comp=Z,802nm,23.8s,baz=268
TLY Talaya 72.88 332 P P **16 45 51.5 +0.2**
comp=Z,110nm,1.4s,SNR=5.2
TLY Talaya 72.88 332 *e*P P **16 45 51.6 +0.2**
TLY pmax pmax
comp=Z,21nm,1.0s
TLY Talaya 72.88 332 P P **16 45 51.9 +0.6**
SNR=10
TLY Talaya 72.88 332 *e*P P **16 45 51.1 -0.2**
comp=Z,34nm,1.3s
TLY LR LR
comp=Z,330nm,20.0s
IRK Irkutsk 72.97 333 *e*P P **16 45 51.0 -0.8**
IRK pmax pmax
comp=Z,50nm,1.6s
YAK Yakutsk 73.19 350 *e*P P **16 45 52.4 -0.4**
YAK *e* 16 46 05.5
YAK *e* 16 48 35.5
YAK *e*PPP PPP 16 50 20.3
YAK *e*S **S** **16 55 12.5 -5.5**
YAK *e* 16 55 51.8
YAK *e**SS **ScS** **16 56 01.2 +3.1**
YAK *e*SS **SS** **16 59 57.8 -2.5**
YAK pmax pmax
comp=Z,28nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,73nm,4.7s
YAK pmax pmax
comp=N,88nm,3.8s
YAK pmax pmax
comp=E,87nm,3.5s
YAK smax smax
comp=N,185nm,5.1s
YAK smax smax
comp=E,185nm,4.0s
YAK Yakutsk 73.19 350 *e*P P **16 45 52.7 -0.1**
comp=E,34nm,1.1s
YAK LR LR
comp=Z,290nm,21.0s
GKN Gorkha 73.28 303 *e*P P **16 45 54.4 +0.1**
comp=Z,183nm,1.2s
BOD Bodaibo 73.33 341 *e*P P **16 45 53.1 -0.7**
BOD pmax pmax
comp=Z,21nm,1.3s
SKHT Srikalahasti 73.36 287 *e*P P **16 45 55.4 +0.6**
ADKI Addanki 73.66 290 *e*P P **16 45 57.1 +0.6**
KOLN Koldanda 74.06 302 *e*P P **16 45 59.0 0.0**
comp=Z,95nm,0.8s
MOY Mondy 74.12 331 *e*P P **16 45 58.8 +0.1**
MOY pmax pmax
comp=Z,73nm,2.5s
DANN Dangsing 74.12 303 *e*P P **16 45 59.2 -0.3**
comp=Z,98nm,1.0s
NJS Nagarjunasagar 74.46 290 *e*P P **16 46 01.2 -0.1**
PYUN Piuthan 74.67 303 *e*P P **16 46 02.2 -0.4**
comp=Z,273nm,0.8s
RPR Rampur 75.08 292 *e*P P **16 46 04.9 +0.1**
HYB Hyderabad 75.38 291 *i*P P **16 46 06.0 -0.6**
HYB *e* 16 46 13.0
HYBB Hyderabad (bro 75.38 291 *e*P P **16 46 06.4 -0.2**
HYBB *e*S S **16 55 41.8 -2.7**
URV Uravakonda 75.96 288 *e*P P **16 46 10.2 +0.3**
URV *e* 16 46 17.2
PAF Port-aux-Franc 75.98 222 P P 16 45 47.0 -22
PAF S **SKiKP** **16 55 26.0 -0.8**
PAF L L 17 05 00.0
PAF R 17 12 00.0
DGAR Diego Garcia 76.41 265 PFAKE 16 46 20.0 +7.4
DGAR LR LR
comp=Z,344nm,20.0s
SDPT Sand Point 76.85 27 *e*P P **16 46 14.2 0.0**
comp=Z,308nm,2.1s
WMQ Urumqi 77.39 319 P P **16 46 17.9 +0.4**
WMQ pP **PcP** **16 46 28.2 +0.3**
WMQ sP **sP** **16 46 33.8 +1.0**
WMQ PP **PP** **16 49 14.0 +1.6**
WMQ S **S** **16 56 04.5 -1.1**
WMQ SKS **SKSac** **16 56 23.0 -5.0**
WMQ SS **SS** **17 01 05.0 0.0**
WMQ PMZ
comp=Z,37nm,1.1s
WMQ PMZ
comp=Z,280nm,4.8s
WMQ LN
comp=Z,380nm,15.0s
WMQ LE
comp=Z,230nm,12.2s
WMQ LZ
comp=Z,420nm,21.0s
BILL Bilibino 78.39 6⇑ *i*P P **16 46 22.9 +0.4**
BILL *e* 16 49 19.1
BILL *e*S S 16 56 30.3 +15
BILL pmax pmax
comp=Z,28nm,1.2s
BILL Bilibino 78.39 6 *e*P P **16 46 22.7 +0.2**
comp=Z,69nm,1.0s
BILL LR LR
comp=Z,454nm,21.0s
MAW Mawson 79.98 203 P P **16 46 32.9 +1.6**
comp=Z,9.7nm,1.0s,baz=81,slow=11,SNR=3.6
MAW LR LR 17 19 51.9
comp=Z,357nm,20.2s,baz=67,slow=34
POO Poona 79.99 291 *e*P P **16 46 31.0 -1.3**
QSPA South Pole Qui 80.33 180 P P **16 46 34.2 +0.9**
comp=Z,16nm,0.9s,baz=317,slow=0.7,SNR=52
QSPA South Pole Qui 80.33 180 P P **16 46 34.2 +0.9**
QSPA LR LR
comp=Z,814nm,20.0s
TNA Tin City 81.26 16 *e*P P **16 46 38.1 +0.1**
comp=Z,18nm,1.0s
KDAK Kodiak Island 81.82 27 PFAKE 16 46 50.0 +8.9
KDAK LR LR
comp=Z,588nm,21.0s
MK31 Makanchi Array 82.10 320 *i*P P **16 46 42.4 -0.6**
MK31 pmax pmax
comp=Z,12nm,0.7s
MKAR Makanchi Array 82.10 320 P P **16 46 42.8 -0.2**
comp=Z,11nm,0.8s,baz=104,slow=6.4,SNR=110
MKAR LR LR 17 24 15.5
comp=Z,98nm,20.3s,baz=89,slow=36
MKAR Makanchi Array 82.10 320 P P **16 46 42.8 -0.2**
MKAR *e*P PcP 16 46 42.9 -5.4
TIXI Tiksi 82.33 353⇑ *i*P P **16 46 42.2 -1.4**
TIXI pmax pmax
comp=Z,11nm,1.2s
TIXI MLR MLR
comp=Z,185nm,20.0s
TIXI Tiksi 82.33 353 *e*P P **16 46 43.6 0.0**
comp=Z,13nm,1.0s
TIXI LR LR
comp=Z,227nm,21.0s
SVW2 Sparrevohn 82.43 24 *e*P P **16 46 45.1 +0.8**
PDGK Podgornoye 82.66 316 P P **16 46 45.3 -0.6**
PDGK pmax pmax
comp=Z,23nm,0.7s
ZALV Zalesovo Beam 83.59 327 P P **16 46 49.2 -1.3**
comp=Z,22nm,0.9s,baz=108,slow=4.8,SNR=50
ZALV LR LR 17 23 41.3
comp=Z,351nm,20.7s,baz=70,slow=35
KSH Kashi 83.90 312 P P **16 46 53.6 +1.0**
KSH sP **sP** **16 47 07.9 -0.1**
KSH PP **PP** **16 50 08.4 +1.8**
KSH S **SKSac** **16 57 12.5 -0.8**
KSH PMZ
comp=Z,19nm,1.0s
KSH PMZ
comp=Z,160nm,3.4s
KSH LN
comp=Z,140nm,5.7s
KSH LE
comp=Z,91nm,6.0s
KSH LZ
comp=Z,230nm,9.1s
RC01 Rabbit Creek A 84.80 25 *e*P P **16 46 56.4 0.0**
comp=Z,23nm,1.2s
NVS Novosibirsk 84.81 328 ⇓*i*P P **16 46 54.8 -1.8**
NVS *i* 16 47 01.7
NVS *e*S S **16 57 16.8 -5.3**
NVS pmax pmax
comp=N,15nm,1.2s
NVS pmax pmax
comp=E,27nm,1.2s
NVS pmax pmax
comp=Z,51nm,1.2s
NVS pmax pmax
comp=E,34nm,3.3s
NVS pmax pmax
comp=Z,42nm,3.3s
NVS pmax pmax
comp=N,11nm,2.3s
NVS smax smax
comp=N,44nm,3.7s
NVS smax smax
comp=E,47nm,3.7s
KZA Kyzart 85.20 314 P P **16 47 00.2 +0.7**
SNR=47
KZA Kyzart 85.20 314 *i*P P **16 47 00.2 +0.7**
TKM2 Tokmak 2 85.21 315 P P **16 46 59.2 -0.1**
SNR=26
TKM2 Tokmak 2 85.21 315 *e*P P **16 46 59.1 -0.1**
TKM2 pmax pmax
comp=Z,16nm,0.7s
TKM2 MLR MLR
comp=Z,330nm,21.0s
TKM2 Tokmak 2 85.21 315 *e*P P **16 46 59.1 -0.2**
comp=Z,16nm,0.7s
TKM2 LR LR
comp=Z,330nm,21.0s
KBK Karagaybulak 85.59 314 P P **16 47 00.9 -0.2**
SNR=15
KBK Karagaybulak 85.59 314 *i*P P **16 47 00.9 -0.2**
KTH Kantishna Hill 85.60 23 *e*P P **16 46 59.4 -1.2**
comp=Z,21nm,1.1s
UCH Uchtor 85.77 314 P P **16 47 02.7 +0.3**
SNR=33
UCH Uchtor 85.77 314 *i*P P **16 47 02.6 +0.3**
TRF Thorofare Moun 85.79 23 *e*P P **16 47 02.7 +1.1**
comp=Z,28nm,1.5s
KURK Kurchatov 85.81 323 P P **16 47 01.5 -0.2**
comp=Z,48nm,1.3s,SNR=11
KURK Kurchatov 85.81 323 P P **16 46 59.8 -1.9**
KURK pmax pmax
comp=Z,14nm,1.3s
KURK Kurchatov 85.81 323 P P **16 47 01.5 -0.2**
SNR=10
KURK Kurchatov 85.81 323 *e*P P **16 47 01.1 -0.6**
KURK LR LR
comp=Z,282nm,22.0s
CHMS Chumysh 85.83 315 P P **16 47 01.8 -0.3**
SNR=15
CHMS Chumysh 85.83 315 *i*P P **16 47 01.8 -0.3**
SFK Sufi-Kurgan 85.87 312 P P **16 47 01.7 -0.9**
SFK pmax pmax
comp=Z,27nm,1.0s
FRU Bishkek 85.87 315 *i*P P **16 47 00.0 -2.3**
FRU pmax pmax
comp=Z,50nm,1.9s
AAK Ala-Archa 85.90 314 P P **16 47 02.0 -0.6**
comp=Z,153nm,0.7s,SNR=22
AAK Ala-Archa 85.90 314 P P **16 47 02.7 +0.1**
SNR=19
AAK Ala-Archa 85.90 314 P P **16 47 02.3 -0.3**
AAK pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 85.90 314 P P **16 47 02.8 +0.2**
SNR=12
AAK Ala-Archa 85.90 314 *e*P P **16 47 02.5 -0.2**
AAK LR LR
comp=Z,203nm,20.0s
IM04 Indian Mountai 85.91 20 *e*P P **16 47 01.6 -0.4**
USP Ospenovka 86.08 315 P P **16 47 03.2 -0.1**
SNR=22
USP Ospenovka 86.08 315 *i*P P **16 47 03.2 -0.1**
AML Almayashu 86.32 314 P P **16 47 05.2 +0.2**
SNR=37
AML Almayashu 86.32 314 *i*P P **16 47 05.2 +0.2**
EKS2 Erkin-Say 86.41 314 P P **16 47 05.0 -0.1**
SNR=21
EKS2 Erkin-Say 86.41 314 *e*P P **16 47 05.0 -0.1**
EKS2 MLR MLR
comp=Z,206nm,20.0s
EKS2 Erkin-Say 86.41 314 *e*P P **16 47 05.0 -0.1**
EKS2 LR LR
comp=Z,206nm,20.0s
MCK McKinley 86.46 23 *e*P P **16 47 03.4 -1.3**
MCK pmax pmax
comp=Z,40nm,1.0s
MCK McKinley 86.46 23 *e*P P **16 47 03.4 -1.3**
comp=Z,40nm,1.0s
BMRM Bremner River 86.94 26 *e*P P **16 47 06.6 -0.5**
comp=Z,39nm,1.3s
COLA College 87.43 22*d* *i*P P **16 47 07.8 -1.5**
COLA pmax pmax
comp=Z,55nm,1.2s
COLA College 87.43 22 *e*P P **16 47 08.2 -1.1**
comp=Z,26nm,0.9s
COLA LR LR
comp=Z,441nm,19.0s
PAX Paxson 87.47 24 *e*P P **16 47 09.6 -0.1**
PAX pmax pmax
comp=Z,85nm,2.3s
PAX Paxson 87.47 24 *e*P P **16 47 09.6 -0.1**
comp=Z,85nm,2.3s
ILAR Eielson Array 87.75 23 P P **16 47 09.2 -1.8**
comp=Z,5.1nm,1.0s,baz=256,slow=4.9,SNR=31
ILAR LR LR 17 23 03.2
comp=Z,352nm,20.0s,baz=246,slow=33
COLD Coldfoot 87.79 20 *e*P P **16 47 11.6 +0.6**
comp=Z,31nm,1.5s
KBL Kabul 87.94 305 *e*P P **16 47 11.8 -1.0**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 87.94 305 *e*P P **16 47 11.8 -1.0**
comp=Z,9.8nm,1.1s
SYO Syowa Base 88.13 200⇑ *e*P P **16 47 15.0 +2.3**
DOT Dot Lake 88.34 24 *e*P P **16 47 13.4 -0.4**
KK31 Karatay Array 88.84 314 P P **16 47 15.5 -1.1**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 88.84 314 *e*P P **16 47 15.6 -1.0**
KKAR Karatay Array 88.84 314 *e*P P **16 47 15.6 -1.0**
EGAK Eagle 89.96 24 *e*P P **16 47 21.7 +0.4**
comp=Z,40nm,1.5s
EGAK LR LR
comp=Z,370nm,19.0s
HYT Haines Junctio 90.08 28 *e*P P **16 47 23.2 +1.0**
BVA0 Borovoye Array 91.37 324 *i*P P **16 47 26.0 -2.1**
BVA0 pmax pmax
comp=Z,12nm,1.2s
DLBC Dease Lake 93.04 31 P P **16 47 36.6 +0.8**
comp=Z,1.6nm,0.8s,baz=241,slow=14,SNR=3.7
MSEY Mahe Island 93.51 265 PFAKE 16 47 50.0 +11
MSEY LR LR
comp=Z,356nm,19.0s
INK Inuvik 94.02 21 P P **16 47 40.8 +0.8**
comp=Z,1.5nm,0.9s,baz=268,slow=10,SNR=3.3
AB31 Akbulak array 97.17 319 *i*P P **16 47 52.3 -2.5**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 97.17 319 *e*P P **16 47 52.6 -2.2**
GEYT Alibeck 97.21 307 P P **16 47 54.5 -0.8**
comp=Z,4.1nm,0.7s,baz=354,slow=1.5,SNR=10
GEYT LR LR 17 35 39.1
comp=Z,177nm,21.6s,baz=60,slow=38
HAWA Hanford 97.35 44 PFAKE 16 48 10.0 +14
HAWA LR LR
comp=Z,749nm,21.0s
NVAR Mina Array Bea 97.38 52 P Pdif 16 47 57.0 +0.6
comp=Z,1.3nm,0.8s,baz=268,slow=5.9,SNR=6.2
WVOR Wild Horse Val 97.56 48 PFAKE 16 48 10.0 +13
WVOR LR LR
comp=Z,507nm,22.0s
AKTO Aktyubinsk 98.53 320 P P **16 47 57.9 -3.0**
AKTO pmax pmax
comp=Z,3.0nm,1.0s
ABPO Ambohimpanom 98.61 249 PFAKE 16 48 10.0 +7.7
ABPO LR LR
comp=Z,534nm,21.0s
ARU Arti 98.68 326*c* *i*P P **16 47 59.2 -2.2**
ARU 16 51 59.5
ARU S **SKSac** **16 58 34.4 -2.2**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU MLR MLR
comp=Z,248nm,19.0s
ARU Arti 98.68 326 PFAKE 16 48 10.0 +8.5

ARU					LR	LR			
	comp=Z,285nm,20.0s								
BMO	**Blue Mountains**	**98.75**	**46**		PFAKE			16 48 10.0	+7.8
BMO					LR	LR			
	comp=Z,550nm,22.0s								
NEW	**Newport**	**99.15**	**43**		PFAKE			16 48 10.0	+6.2
NEW					LR	LR			
	comp=Z,524nm,19.0s								
HLID	**Hailey**	**100.74**	**47**		PFAKE			16 48 20.0	+8.8
HLID					LR	LR			
	comp=Z,582nm,19.0s								
YKA	**Yellowknife Ar**	**101.07**	**28**		P		**Pdif**	**16 48 11.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=278,slow=4.3,SNR=4.5								
DUG	**Dugway, Tooele**	**101.76**	**51**		PFAKE			16 48 30.0	+14
DUG					LR	LR			
	comp=Z,428nm,19.0s								
WUAZ	**Wupatki**	**102.67**	**56**		PFAKE			16 48 30.0	+10
WUAZ					LR	LR			
	comp=Z,415nm,20.0s								
HWUT	**Hardware Ranch**	**102.76**	**49**		PFAKE			16 48 30.0	+10
HWUT					LR	LR			
	comp=Z,292nm,19.0s								
BOZ	**Bozeman (W)**	**102.80**	**45**		PFAKE			16 48 30.0	+10
BOZ					LR	LR			
	comp=Z,398nm,21.0s								
TUC	**Tucson**	**102.99**	**59**		PFAKE			16 48 30.0	+8.7
TUC					LR	LR			
	comp=Z,559nm,19.0s								
AHID	**Auburn Hatcher**	**103.13**	**48**		PFAKE			16 48 30.0	+8.1
AHID					LR	LR			
	comp=Z,457nm,20.0s								
EGMT	**Eagleton**	**104.08**	**43**		PFAKE			16 48 40.0	+14
EGMT					LR	LR			
	comp=Z,690nm,22.0s								
BW06	**Boulder Array**	**104.27**	**48**		PFAKE			16 48 40.0	+13
BW06					LR	LR			
	comp=Z,426nm,21.0s								
RLMT	**Red Lodge**	**104.46**	**46**		PFAKE			16 48 40.0	+12
RLMT					LR	LR			
	comp=Z,414nm,19.0s								
MVCO	**Mesa Verde**	**105.05**	**54**		PFAKE			16 53 00.0	
MVCO					LR	LR			
	comp=Z,473nm,22.0s								
LAO	**LASA Array**	**106.53**	**44**		PFAKE			16 53 00.0	
LAO					LR	LR			
	comp=Z,531nm,21.0s								
ANMO	**Albuquerque**	**106.68**	**56**		PFAKE			16 53 00.0	
ANMO					LR	LR			
	comp=Z,255nm,19.0s								
ISCO	**Idaho Springs**	**107.29**	**51**		PFAKE			16 53 00.0	
ISCO					LR	LR			
	comp=Z,506nm,20.0s								
GNI	**Garni**	**107.70**	**309**		PFAKE			16 53 00.0	
GNI					LR	LR			
	comp=Z,113nm,19.0s								
DGMT	**Dagmar**	**107.76**	**42**		PFAKE			16 53 00.0	
DGMT					LR	LR			
	comp=Z,365nm,19.0s								
KBS	**Kingsbay**	**107.76**	**352**		PFAKE			16 53 00.0	
KBS					LR	LR			
	comp=Z,216nm,20.0s								
LVZ	**Lovozero**	**108.25**	**339**		PFAKE			16 53 00.0	
LVZ					LR	LR			
	comp=Z,251nm,20.0s								
FFC	**Flin Flon**	**108.32**	**35**		PFAKE			16 53 00.0	
FFC					LR	LR			
	comp=Z,232nm,19.0s								
KIV	**Kislovodsk**	**108.99**	**313**		PFAKE			16 53 00.0	
KIV					LR	LR			
	comp=Z,196nm,20.0s								
TXAR	**Lajitas Array**	**109.01**	**62**		PKiKP		**PKiKP**	**16 52 51.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=270,slow=2.5,SNR=3.8								
OGNE	**Ogallala**	**109.96**	**50**		PFAKE			16 53 10.0	
OGNE					LR	LR			
	comp=Z,457nm,19.0s								
KEV	**Kevo**	**110.03**	**342**		PFAKE			16 53 00.0	
KEV					LR	LR			
	comp=Z,299nm,20.0s								
ARCES	**ARCESS Array B**	**110.59**	**342**		PKiKP		**PKiKP**	**16 52 53.2**	**-1.2**
	comp=Z,1.8nm,1.0s,baz=343,slow=2.5,SNR=4.6								
OBN	**Obninsk**	**111.12**	**326**	*i*	PKiKP		**PKiKP**	**16 52 56.4**	**+0.8**
OBN				*e*				16 53 34.1	
OBN				*e*	SS		SS	17 09 24.0	+20
OBN					pmax		pmax		
	comp=Z,5.0nm,0.6s								
OBN	**Obninsk**	**111.12**	**326**		PFAKE			16 53 10.0	
OBN					LR	LR			
	comp=Z,374nm,21.0s								
KMBO	**Kilima Mbogo**	**112.05**	**265**		PFAKE			16 53 10.0	
KMBO					LR	LR			
	comp=Z,260nm,22.0s								
JCT	**Junction City**	**112.35**	**61**		PFAKE			16 53 10.0	
JCT					LR	LR			
	comp=Z,601nm,19.0s								
WMOK	**Wichita Mounta**	**113.00**	**56**		PFAKE			16 53 10.0	
WMOK					LR	LR			
	comp=Z,429nm,22.0s								
AGMN	**Agassiz Nation**	**113.27**	**41**		PFAKE			16 53 10.0	
AGMN					LR	LR			
	comp=Z,465nm,20.0s								
ECSD	**EROS Data Cent**	**113.61**	**46**		PFAKE			16 53 10.0	
ECSD					LR	LR			
	comp=Z,454nm,20.0s								
KVTX	**Kingsville**	**114.11**	**64**		PFAKE			16 53 10.0	+7.8
KVTX					LR	LR			
	comp=Z,658nm,19.0s								
FINES	**FINESS Array B**	**114.18**	**334**		PKP		PKPdf	16 53 00.4	-0.9
	comp=Z,1.2nm,0.8s,baz=106,slow=4.2,SNR=4.8								
KSU1	**Kansas State U**	**114.29**	**51**		PFAKE			16 53 10.0	+7.7
KSU1					LR	LR			
	comp=Z,339nm,19.0s								
EYMN	**Ely**	**116.20**	**41**		PFAKE			16 53 20.0	+14
EYMN					LR	LR			
	comp=Z,341nm,19.0s								
BRTR	**Keskin Array B**	**116.23**	**310**		PKiKP		**PKPdf**	**16 53 05.0**	**-1.2**
BRTR	**Keskin Array B**	**116.23**	**310**		PKP		**PKPdf**	**16 53 05.0**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=66,slow=4.2,SNR=4.9								
SCIA	**State Center**	**116.39**	**48**		PFAKE			16 53 20.0	+14
SCIA					LR	LR			
	comp=Z,537nm,21.0s								
AKASG	**Malin Array Be**	**116.62**	**322**		PKP		**PKPdf**	**16 53 04.2**	**-2.1**
	comp=Z,1.1nm,0.6s,baz=60,slow=2.3,SNR=7.0								
KIEV	**Kiev**	**116.63**	**322**	*i*	PKiKP		**PKPdf**	**16 53 05.9**	**-0.5**
KIEV	**Kiev**	**116.63**	**322**		PFAKE			16 53 20.0	+14
KIEV					LR	LR			
	comp=Z,271nm,21.0s								
NATX	**Nacogdoches**	**116.68**	**59**		PFAKE			16 53 20.0	+13
NATX					LR	LR			
	comp=Z,2μm,20.0s								
ANTO	**Ankara**	**116.84**	**310**		PFAKE			16 53 20.0	+13
ANTO					LR	LR			
	comp=Z,120nm,19.0s								
LSZ	**Lusaka**	**117.11**	**247**		PFAKE			16 53 20.0	+12
LSZ					LR	LR			
	comp=Z,241nm,19.0s								
CSS	**Prodhromos**	**117.17**	**304**		PFAKE			16 53 20.0	+12
CSS					LR	LR			
	comp=Z,49nm,19.0s								
MIAR	**Mount Ida**	**117.29**	**56**		PFAKE			16 53 20.0	+12
MIAR					LR	LR			
	comp=Z,423nm,19.0s								
COWI	**Conover**	**118.26**	**43**		PFAKE			16 53 20.0	+10
COWI					LR	LR			
	comp=Z,574nm,21.0s								
JFWS	**Jewell Farm**	**118.32**	**46**		PFAKE			16 53 20.0	+10
JFWS					LR	LR			
	comp=Z,380nm,19.0s								
ISP	**Isparta**	**118.96**	**308**		PFAKE			16 53 20.0	+8.6
ISP					LR	LR			
	comp=Z,138nm,21.0s								
NB2	**NORSAR Subarra**	**120.39**	**338**		PKPdf		**PKPdf**	**16 53 11.7**	**-1.7**
	comp=Z,5.2nm,1.4s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**120.39**	**338**		PKP		**PKPdf**	**16 53 12.0**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=51,slow=2.0,SNR=4.9								
KOLS	**Kolonicke sedl**	**121.45**	**322**		*e*PKIKP		**PKPdf**	**16 53 16.2**	**+0.4**
KOLS	**Kolonicke sedl**	**121.45**	**322**		*e*PKP		**PKPdf**	**16 53 16.2**	**+0.4**
KONO	**Kongsberg**	**121.91**	**338**		PFAKE			16 53 30.0	+14
KONO					LR	LR			
	comp=Z,273nm,22.0s								
CRVS	**Cervenica-Dubn**	**121.96**	**322**		*e*PKIKP		**PKPdf**	**16 53 16.8**	**+0.1**
CRVS	**Cervenica-Dubn**	**121.96**	**322**		*e*PKP		**PKPdf**	**16 53 16.8**	**+0.1**
NIE	**Niedzica**	**122.42**	**323**		*e*PKP		**PKPdf**	**16 53 18.0**	**+0.4**
AAM	**Ann Arbor**	**123.16**	**45**		PFAKE			16 53 30.0	+11
AAM					LR	LR			
	comp=Z,288nm,20.0s								
SANT	**Santorini**	**123.22**	**307**		PFAKE			16 53 30.0	+10
SANT					LR	LR			
	comp=Z,122nm,20.0s								
PSZ	**Piszkesteto**	**123.32**	**322**		PFAKE			16 53 30.0	+11
PSZ					LR	LR			
	comp=Z,238nm,19.0s								
VYHS	**Vyhne**	**123.70**	**323**	*e*	PKIKP		**PKPdf**	**16 53 19.9**	**-0.2**
VYHS	**Vyhne**	**123.70**	**323**	*e*	PKP		**PKPdf**	**16 53 19.9**	**-0.2**
KSP	**Ksiaz**	**124.03**	**326**	*e*	PKP		PKPdf	16 53 27.2	+6.6
ACSO	**Alum Creek Sta**	**124.30**	**48**		PFAKE			16 53 30.0	+8.5
ACSO					LR	LR			
	comp=Z,390nm,20.0s								
TSUM	**Tsumeb**	**124.89**	**239**		PFAKE			16 53 30.0	+6.6
TSUM					LR	LR			
	comp=Z,523nm,19.0s								
CFAA	**Coronel Fontan**	**125.12**	**140**		PKP		**PKPdf**	**16 53 23.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=300,slow=8.1,SNR=2.9								
BRG	**Berggiesshubel**	**125.28**	**327**		*e*PKP		**PKPdf**	**16 53 23.0**	**0.0**
	comp=Z,9.7nm,1.2s								
	comp=N,199nm,28.4s								
	comp=E,284nm,27.7s								
	comp=Z,259nm,19.0s								
BRG	**Berggiesshubel**	**125.28**	**327**		*e*PKIKP		**PKPdf**	**16 53 23.0**	**0.0**
BRG					pmax	pmax			
	comp=Z,10.0nm,1.3s								
BRG					MLR	MLR			
	comp=Z,259nm,19.0s								
CLL	**Collm**	**125.54**	**328**	*i*	PKIKP		**PKPdf**	**16 53 22.9**	**-0.6**
CLL				*e*				16 53 30.0	
CLL					pmax	pmax			
	comp=Z,7.0nm,1.0s								
CLL					MLR	MLR			
	comp=Z,300nm,21.1s								
CLL	**Collm**	**125.54**	**328**	*i*	PKPdf		**PKPdf**	**16 53 22.9**	**-0.6**
	comp=Z,7.0nm,1.0s								
CLL				*e*	(SS)			16 11 48.0	
CLL				*e*	SSS		SSS	16 16 48.0	
CLL				*e*	SSSS			16 20 42.0	
CLL					LmV			16 53 00.0	
	comp=Z,300nm,21.1s								
CLL				*e*	(pPKPdf)			16 53 30.0	
GOGA	**Godfrey**	**125.75**	**56**		PFAKE			16 53 40.0	+16
GOGA					LR	LR			
	comp=Z,540nm,19.0s								
ERPA	**Erie**	**125.78**	**44**		PFAKE			16 53 40.0	+16
ERPA					LR	LR			
	comp=Z,338nm,20.0s								
JTS	**JuntasAbangare**	**126.09**	**84**		PFAKE			16 53 40.0	+14
JTS					LR	LR			
	comp=Z,289nm,19.0s								
KHC	**Kasperske Hory**	**126.42**	**326**	*e*	PKIKP		**PKPdf**	**16 53 25.0**	**-0.3**
KHC				*e*				16 53 31.5	
KHC	**Kasperske Hory**	**126.42**	**326**	*e*	PKPdf		**PKPdf**	**16 53 25.0**	**-0.3**
KHC				*ex*			x	16 53 31.5	
KHC	**Kasperske Hory**	**126.42**	**326**	*e*	PKPdf		**PKPdf**	**16 53 24.8**	**-0.5**
GERES	**GERESS Array B**	**126.50**	**325**		PKP		**PKPdf**	**16 53 25.5**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=69,slow=1.6,SNR=21								
PERS	**Pernice**	**126.80**	**322**	*e*	PKPdf		**PKPdf**	**16 53 25.7**	**-0.4**
BLA	**Blacksburg**	**127.14**	**50**		PFAKE			16 53 40.0	+13
BLA					LR	LR			
	comp=Z,481nm,19.0s								
BOJS	**Bojanci**	**127.25**	**321**	*e*	PKPdf		**PKPdf**	**16 53 27.2**	**+0.2**
LJU	**Ljubljana**	**127.44**	**322**	*e*	PKPdf		**PKPdf**	**16 53 27.4**	**+0.1**
LONY	**Lake Ozonia**	**128.29**	**40**		PFAKE			16 53 40.0	+11
LONY					LR	LR			
	comp=Z,433nm,19.0s								
BINY	**Binghamton**	**128.48**	**43**		PFAKE			16 53 40.0	+11
BINY					LR	LR			
	comp=Z,583nm,20.0s								
NCB	**Newcomb**	**128.83**	**40**		PFAKE			16 53 40.0	+10
NCB					LR	LR			
	comp=Z,1μm,19.0s								
TIP	**Timpagrande**	**128.93**	**313**		PFAKE			16 53 40.0	+10
TIP					LR	LR			
	comp=Z,104nm,19.0s								
CBN	**Corbin Frederi**	**129.08**	**48**		PFAKE			16 53 40.0	+9.4
CBN					LR	LR			
	comp=Z,476nm,21.0s								
CUC	**Castrocucco**	**129.29**	**314**		PFAKE			16 53 40.0	+8.9
CUC					LR	LR			
	comp=Z,106nm,21.0s								
CNNC	**Cliffs of the**	**129.70**	**52**		PFAKE			16 53 40.0	+8.1
CNNC					LR	LR			
	comp=Z,733nm,21.0s								
BFO	**Black Forest**	**129.74**	**327**		PFAKE			16 53 40.0	+8.4
BFO					LR	LR			
	comp=Z,221nm,21.0s								
CEL	**Celeste**	**129.91**	**312**		PFAKE			16 53 40.0	+7.7
CEL					LR	LR			
	comp=Z,224nm,20.0s								
AQU	**L'Aquila**	**129.91**	**318**		PFAKE			16 53 40.0	+7.8
AQU					LR	LR			
	comp=Z,195nm,20.0s								
WLF	**Walferdange**	**130.02**	**330**		PFAKE			16 53 40.0	+7.9
WLF					LR	LR			
	comp=Z,510nm,20.0s								
LBNH	**Lisbon**	**130.13**	**39**		PFAKE			16 53 40.0	+7.5
LBNH					LR	LR			
	comp=Z,469nm,19.0s								
CDF	**Champ du Feu**	**130.24**	**328**	*e*	PKIKP		**PKPdf**	**16 53 31.9**	**-0.8**
CDF	**Champ du Feu**	**130.24**	**328**	*e*	PKIKP		**PKPdf**	**16 53 31.9**	**-0.8**
CDF	**Champ du Feu**	**130.24**	**328**	*e*	PKPdf		**PKPdf**	**16 53 31.9**	**-0.8**
TUE	**Stuetta**	**130.26**	**325**		PFAKE			16 53 40.0	+7.1
TUE					LR	LR			
	comp=Z,499nm,22.0s								
GIVF	**Givet**	**130.38**	**331**	*e*	PKIKP		**PKPdf**	**16 53 32.7**	**-0.1**
GIVF	**Givet**	**130.38**	**331**	*e*	PKIKP		**PKPdf**	**16 53 32.7**	**-0.1**
GIVF	**Givet**	**130.38**	**331**	*e*	PKPdf		**PKPdf**	**16 53 32.7**	**-0.1**
ECH	**Echery**	**130.43**	**328**		PFAKE			16 53 40.0	+7.0
ECH					LR	LR			
	comp=Z,243nm,21.0s								
BAIF	**Baives**	**130.70**	**331**	*e*	PKIKP		**PKPdf**	**16 53 33.4**	**0.0**
BAIF	**Baives**	**130.70**	**331**	*e*	PKIKP		**PKPdf**	**16 53 33.4**	**0.0**
BAIF	**Baives**	**130.70**	**331**	*e*	PKPdf		**PKPdf**	**16 53 33.4**	**0.0**
HINF	**Hinteralfeld**	**130.83**	**328**	*e*	PKIKP		**PKPdf**	**16 53 33.1**	**-0.7**
HINF	**Hinteralfeld**	**130.83**	**328**	*e*	PKIKP		**PKPdf**	**16 53 33.1**	**-0.7**
HINF	**Hinteralfeld**	**130.83**	**328**	*e*	PKPdf		**PKPdf**	**16 53 33.1**	**-0.7**
VLC	**Villacollemand**	**130.92**	**322**		PFAKE			16 53 50.0	+16
VLC					LR	LR			
	comp=Z,269nm,22.0s								
HAU	**Haudompre**	**130.98**	**328**	*e*	PKIKP		**PKPdf**	**16 53 33.4**	**-0.6**
HAU	**Haudompre**	**130.98**	**328**	*e*	PKIKP		**PKPdf**	**16 53 33.4**	**-0.6**
HAU	**Haudompre**	**130.98**	**328**	*e*	PKPdf		**PKPdf**	**16 53 33.4**	**-0.6**
PKME	**Peaks-Kenny Pk**	**131.17**	**36**		PFAKE			16 53 50.0	+16
PKME					LR	LR			
	comp=Z,349nm,20.0s								
CABF	**La Chapelle**	**131.99**	**327**	*e*	PKIKP		**PKPdf**	**16 53 35.6**	**-0.5**
	comp=Z,17nm,1.0s								
CABF	**La Chapelle**	**131.99**	**327**	*e*	PKIKP		**PKPdf**	**16 53 35.6**	**-0.5**
CABF	**La Chapelle**	**131.99**	**327**	*e*	PKPdf		**PKPdf**	**16 53 35.6**	**-0.5**
LPG	**La Plagne**	**132.30**	**325**	*e*	PKIKP		**PKPdf**	**16 53 35.4**	**-1.5**
	comp=Z,9.0nm,1.0s								
LPG	**La Plagne**	**132.30**	**325**	*e*	PKIKP		**PKPdf**	**16 53 35.4**	**-1.5**
LPG	**La Plagne**	**132.30**	**325**	*e*	PKPdf		**PKPdf**	**16 53 35.4**	**-1.5**
LPL	**La Plagne**	**132.30**	**325**	*e*	PKIKP		**PKPdf**	**16 53 35.2**	**-1.7**
LPL	**La Plagne**	**132.30**	**325**	*e*	PKIKP		**PKPdf**	**16 53 35.2**	**-1.7**
LPL	**La Plagne**	**132.30**	**325**	*e*	PKPdf		**PKPdf**	**16 53 35.2**	**-1.7**
BNI	**Bardonecchia**	**132.61**	**325**		PFAKE			16 53 50.0	+13
BNI					LR	LR			
	comp=Z,331nm,21.0s								
SBF	**Sospel**	**132.86**	**323**	*e*	PKIKP		**PKPdf**	**16 53 36.3**	**-1.5**
SBF	**Sospel**	**132.86**	**323**	*e*	PKPdf		**PKPdf**	**16 53 36.3**	**-1.5**
SSF	**Saint Saulge**	**133.06**	**329**	*e*	PKIKP		**PKPdf**	**16 53 37.3**	**-0.6**
	comp=Z,11nm,0.9s								
SSF	**Saint Saulge**	**133.06**	**329**	*e*	PKIKP		**PKPdf**	**16 53 37.3**	**-0.6**
SSF	**Saint Saulge**	**133.06**	**329**	*e*	PKPdf		**PKPdf**	**16 53 37.3**	**-0.6**
ORIF	**Oris-en-Rattie**	**133.14**	**325**	*e*	PKIKP		**PKPdf**	**16 53 38.2**	**-0.1**
	comp=Z,5.1nm,0.7s								
ORIF	**Oris-en-Rattie**	**133.14**	**325**	*e*	PKIKP		**PKPdf**	**16 53 38.2**	**-0.1**
ORIF	**Oris-en-Rattie**	**133.14**	**325**	*e*	PKPdf		**PKPdf**	**16 53 38.2**	**-0.1**
SMF	**Signal de Mont**	**133.16**	**328**	*e*	PKIKP		**PKPdf**	**16 53 37.4**	**-0.8**
SMF	**Signal de Mont**	**133.16**	**328**	*e*	PKIKP		**PKPdf**	**16 53 37.4**	**-0.8**
SMF	**Signal de Mont**	**133.16**	**328**	*e*	PKPdf		**PKPdf**	**16 53 37.4**	**-0.8**
AVF	**Avril sur Loir**	**133.32**	**329**	*e*	PKIKP		**PKPdf**	**16 53 37.4**	**-1.0**
	comp=Z,4.0nm,0.8s								
AVF	**Avril sur Loir**	**133.32**	**329**	*e*	PKIKP		**PKPdf**	**16 53 37.4**	**-1.0**
AVF	**Avril sur Loir**	**133.32**	**329**	*e*	PKPdf		**PKPdf**	**16 53 37.4**	**-1.0**
FRF	**La Foret Royal**	**133.51**	**323**	*e*	PKIKP		**PKPdf**	**16 53 38.0**	**-0.9**
FRF	**La Foret Royal**	**133.51**	**323**	*e*	PKIKP		**PKPdf**	**16 53 38.0**	**-0.9**
FRF	**La Foret Royal**	**133.51**	**323**	*e*	PKPdf		**PKPdf**	**16 53 38.0**	**-0.9**
SSB	**Saint Sauveur**	**133.66**	**326**		PFAKE			16 53 50.0	+11
SSB					LR	LR			
	comp=Z,202nm,19.0s								
BGF	**Bois d'Agland**	**133.73**	**329**	*e*	PKIKP		**PKPdf**	**16 53 37.6**	**-1.6**
BGF	**Bois d'Agland**	**133.73**	**329**	*e*	PKPdf		**PKPdf**	**16 53 37.6**	**-1.6**
LDF	**La Druitiere**	**133.74**	**333**	*e*	PKIKP		**PKPdf**	**16 53 38.1**	**-1.1**
LDF	**La Druitiere**	**133.74**	**333**	*e*	PKIKP		**PKPdf**	**16 53 38.1**	**-1.1**
LDF	**La Druitiere**	**133.74**	**333**	*e*	PKPdf		**PKPdf**	**16 53 38.1**	**-1.1**
FLN	**La Foliniere**	**133.78**	**333**	*e*	PKIKP		**PKPdf**	**16 53 38.4**	**-0.8**
	comp=Z,19nm,1.1s								
FLN	**La Foliniere**	**133.78**	**333**	*e*	PKIKP		**PKPdf**	**16 53 38.4**	**-0.8**
FLN	**La Foliniere**	**133.78**	**333**	*e*	PKPdf		**PKPdf**	**16 53 38.4**	**-0.8**
GRR	**Gorron**	**134.23**	**333**	*e*	PKIKP		**PKPdf**	**16 53 39.3**	**-0.8**
GRR	**Gorron**	**134.23**	**333**	*e*	PKIKP		**PKPdf**	**16 53 39.3**	**-0.8**
GRR	**Gorron**	**134.23**	**333**	*e*	PKPdf		**PKPdf**	**16 53 39.3**	**-0.8**
TCF	**Toulx Ste Croi**	**134.24**	**329**	*e*	PKIKP		**PKPdf**	**16 53 39.5**	**-0.7**
	comp=Z,28nm,1.1s								
TCF	**Toulx Ste Croi**	**134.24**	**329**	*e*	PKIKP		**PKPdf**	**16 53 39.5**	**-0.7**
TCF	**Toulx Ste Croi**	**134.24**	**329**	*e*	PKPdf		**PKPdf**	**16 53 39.5**	**-0.7**
QUIF	**Quistinic**	**135.60**	**334**	*e*	PKIKP		**PKPdf**	**16 53 41.6**	**-1.0**
QUIF	**Quistinic**	**135.60**	**334**	*e*	PKIKP		**PKPdf**	**16 53 41.6**	**-1.0**
QUIF	**Quistinic**	**135.60**	**334**	*e*	PKPdf		**PKPdf**	**16 53 41.6**	**-1.0**
EPF	**Esparros**	**137.42**	**327**	*e*	PKIKP		**PKPdf**	**16 53 44.9**	**-1.4**
EPF	**Esparros**	**137.42**	**327**	*e*	PKIKP		**PKPdf**	**16 53 44.9**	**-1.4**
EPF	**Esparros**	**137.42**	**327**	*e*	PKPdf		**PKPdf**	**16 53 44.9**	**-1.4**
SDDR	**Presa de Saban**	**139.18**	**72**		PFAKE			16 54 00.0	+10
SDDR					LR	LR			
	comp=Z,197nm,19.0s								
SDV	**Santo Domingo**	**140.06**	**88**	*e*	PKPdf		**PKPdf**	**16 53 52.4**	**+0.3**
BBSR	**BB Station**	**140.91**	**50**		PFAKE			16 54 00.0	+7.1
BBSR					LR	LR			
	comp=Z,220nm,21.0s								
PAB	**San Pablo**	**142.38**	**327**		PFAKE			16 54 10.0	+15
PAB					LR	LR			
	comp=Z,168nm,19.0s								
PGAV	**Gavieira, Arco**	**142.51**	**333**	*e*	PKPdf		**PKPdf**	**16 53 54.4**	**-1.2**
PGAV	**Gavieira, Arco**	**142.51**	**333**	*e*	LR	LR		17 43 45.3	
	comp=Z,211nm,20.0s								
MVO	**Moncorvo**	**142.56**	**331**	*e*	LR	LR		17 44 11.5	
	comp=Z,233nm,18.0s								
MTE	**Manteigas**	**143.40**	**330**	*e*	LR	LR		17 41 42.8	
	comp=Z,187nm,18.0s								
MTE	**Manteigas**	**143.40**	**330**		PFAKE			16 54 10.0	+13
MTE					LR	LR			
	comp=Z,305nm,20.0s								
TAM	**Tamanrasset**	**143.45**	**295**	*e*	PKIKP		**PKPdf**	**16 53 57.9**	**0.0**
TAM					MLR	MLR			
	comp=Z,174nm,19.0s								
TAM	**Tamanrasset**	**143.45**	**295**	*e*	PKPdf		**PKPdf**	**16 53 57.9**	**0.0**
TAM					LR	LR			
	comp=Z,174nm,19.0s								
PCBR	**Castelo Branco**	**143.79**	**330**	*e*	PKPdf		**PKPdf**	**16 53 56.8**	**-1.0**
SJG	**San Juan**	**144.12**	**72**		PFAKE			16 54 10.0	+11
SJG					LR	LR			
	comp=Z,211nm,20.0s								
PTOM	**Tomar**	**144.42**	**331**	*e*	PKPdf		PKPbc	16 53 57.4	0.0
PMTG	**Montargil**	**144.75**	**330**	*e*	PKPdf		**PKPab**	**16 53 58.3**	**0.0**
PBAR	**Barrancos**	**144.82**	**328**	*e*	PKPdf		**PKPab**	**16 53 58.5**	**-0.1**
EVO	**Evora**	**145.06**	**329**	*e*	PKIKP		**PKPbc**	**16 53 59.0**	**-0.4**
	comp=Z,46nm,1.1s								
EVO	**Evora**	**145.06**	**329**	*e*	PKPdf		**PKPbc**	**16 53 59.3**	**-0.1**
EVOP	**Sao Brissos**	**145.12**	**329**	*e*	PKIKP		**PKPbc**	**16 53 59.0**	**-0.6**
EVOP	**Sao Brissos**	**145.12**	**329**	*e*	PKPdf		**PKPbc**	**16 53 59.0**	**-0.6**
PNCL	**Nicolau / Coran**	**145.64**	**329**	*e*	PKPab		**PKPbc**	**16 54 01.4**	**+0.1**
MESJ	**Messejana**	**145.69**	**328**	*e*	PKPab		**PKPab**	**16 54 01.7**	**-0.1**
PCVE	**Castro Verde**	**145.75**	**328**	*e*	PKPab		**PKPab**	**16 54 02.0**	**-0.1**
PVAQ	**Vaqueiros**	**145.75**	**327**	*e*	PKPab		**PKPbc**	**16 54 01.8**	**+0.1**
PTEO	**Sao Teotonio**	**146.17**	**329**	*e*	PKPbc		**PKPdf**	**16 54 01.4**	**-0.6**
PFVI	**Vila Bisbo**	**146.54**	**328**	*e*	PKPab		**

CNJI	**Cibinong**	**3.95**	**289**	P	Pn	16 46 19.4	-1.0

*ISN **09** 17:03:16.0±2.1, 11°.83N×44°.98E, h0km±21km, ML4.2*
*CSEM **09** 17:03:21.1±0.9, 12°.06N×41°.67E, h10km, ML4.3, Error ellipse: s-maj=25.9km s-min=17.4km az=179.0*
*DHMR **09** 17:03:37.3±1.4, 11°.88N×43°.68E, h8km±13km, ML4.3*
*IDC **09** 17:03:38.9±1.9, 11°.58N×43°.58E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/39, mbtmpg3.7/9, MS3.5/1, Ms1 3.5/1, ms1mx2.8/32, Error ellipse: s-maj=41.0km s-min=25.6km az=3.0*

ISC 09 17:03:43.7±1.3, 12°.11N±0°.09×43°.8E±0°.2, h10km, n20, σ1§41/16, mb3.7/8, 2C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.15**	**15**	*i*P	**Pb**	**17 04 04.0**	**-1.9**
TRBA				*i* S	**Sn**	**17 04 23.0**	**+0.9**
TRBA	comp=N,3µm,0.7s			AML	AML	17 04 25.3	
TRBA	**At Turbah**	**1.15**	**15**	*i*P	**Pb**	**17 04 04.0**	**-1.9**
TRBA				*i* S	**Sn**	**17 04 23.0**	**+0.9**
UDYN	**Al 'Udayn**	**1.85**	**5**	*i* P	**Pn**	**17 04 14.1**	**-1.7**
UDYN				*i* S	**Sg**	**17 04 42.9**	**-0.5**
UDYN	comp=E,7µm,0.6s			AML	AML	17 04 49.1	
DHBB	**Dhamar BB**	**2.51**	**13**	*i* P	**Pn**	**17 04 24.1**	**-0.8**
DHBB				*i* S	**Sb**	**17 05 02.3**	**+2.1**
DHBB	**Dhamar BB**	**2.51**	**13**	*i* P	**Pn**	**17 04 24.1**	**-0.8**
NSR	**Nassriya**	**18.93**	**6**	*e*P	P	17 07 40.4	-24
NSR				*e*S	Sn	17 11 17.6	-20
ASF	**Jabal al Asfar**	**20.95**	**343**	P	Pn	17 08 29.0	-0.6
	comp=E,0.8nm,0.4s,baz=126,slow=14,SNR=3.1						
IBDR	**Badra**	**20.99**	**5**	*e*P	P	17 08 02.0	-25
IBDR				*e*S	S	17 12 00.8	-20
RTB	**Rutbah**	**21.07**	**352**	*e*P	P	17 08 07.0	-21
RTB				*e*S	S	17 12 06.9	-16
BHD	**Baghdad**	**21.07**	**1**	*e*P	P	17 08 03.7	-24
BHD				*e*S	S	17 12 04.3	-18
IKRK	**Kirkuk**	**23.19**	**1**	*e*P	P	17 08 28.4	-22
IKRK				*e*S	S	17 12 44.6	-18
MSL	**Mosul**	**24.19**	**359**	*e*P	P	17 08 38.5	-22
MSL				*e*S	S	17 13 01.3	-17
BRTR	**Keskin Array B**	**28.94**	**344**	P	**P**	**17 09 45.2**	**+1.8**
	comp=E,1.4nm,1.0s,baz=161,slow=12,SNR=6.3						
BRTR				LR	LR	17 20 25.4	
	comp=E,83nm,18.6s,baz=110,slow=34						
KBZ	**Khabaz**	**31.51**	**359**	P	**P**	**17 10 07.7**	**+1.9**
	comp=E,2.8nm,1.0s,baz=160,slow=5.3,SNR=4.1						
AKASG	**Malin Array Be**	**40.29**	**346**	P	**P**	**17 11 21.1**	**+0.2**
	comp=E,0.3nm,0.5s,baz=164,slow=6.7,SNR=6.1						
TORD	**Torodi Ar. Bea**	**41.07**	**276**	P	P	17 11 23.1	-4.9
	comp=E,1.1nm,0.7s,baz=95,slow=6.7,SNR=7.8						
GERES	**GERESS Array B**	**44.32**	**332**	P	**P**	**17 11 53.5**	**-0.6**
	comp=E,0.4nm,0.7s,baz=148,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**47.35**	**36**	P	**P**	**17 12 18.7**	**+0.8**
	comp=E,1.1nm,0.8s,baz=224,slow=8.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**52.82**	**29**	P	**P**	**17 12 58.7**	**-0.5**
	comp=E,1.4nm,0.8s,baz=233,slow=7.2,SNR=6.7						
CMAR	**Chiang Mai Arr**	**53.40**	**76**	P	**P**	**17 13 04.2**	**0.0**
	comp=E,0.6nm,0.7s,baz=276,slow=9.0,SNR=7.3						

*ISCJB **09** 17:05:14.8±0.8, 36°.55N±0°.05×138°.90E±0°.09, h150km±6km, mb3.1/2, Error ellipse: s-maj=11.7km s-min=8.0km az=5.9*
*IDC **09** 17:05:15.1±1.1, 36°.63N×138°.54E, h152km±8km, mb2.7/2, mb1 3.1/3, mb1mx2.7/40, mbtmpg3.4/3, Error ellipse: s-maj=51.4km s-min=21.7km az=93.0*
*JMA **09** 17:05:16.7±0.1, 36°.52N×138°.90E, h142km±1km, M2.3*

ISC 09 17:05:15.4±1.2, 36°.55N±0°.06×138°.88E±0°.07, h149km±8km, n16, σ0§81/25, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGK	**Kuni**	**0.19**	**273**	P	**Pn**	**17 05 36.3**	**+0.7**
JKT	**Katashina**	**0.37**	**54**	P	**Pn**	**17 05 36.9**	**+0.8**
JKT				S	**Sn**	**17 05 51.2**	**-0.7**
JAG	**Ashikaga**	**0.48**	**105**	P	**Pn**	**17 05 37.1**	**+0.6**
JRY	**Ryogami san**	**0.54**	**178**	P	**Pn**	**17 05 37.6**	**+0.7**
JRY				*e*S	**Sn**	**17 05 53.1**	**-0.1**
MJAR	**Matsushiro Arr**	**0.54**	**269**	P	**Pn**	**17 05 36.6**	**-0.3**
	25nm,0.3s,baz=77,slow=5.3,SNR=307						
MJAR				S	**Sn**	**17 05 52.7**	**-0.5**
	6.8nm,0.3s,baz=143,slow=24,SNR=6.6						
MAT	**Matsushiro**	**0.54**	**269**	P	**Pn**	**17 05 37.3**	**+0.4**
MAT				S	**Sn**	**17 05 52.9**	**-0.3**
MAT	**Matsushiro**	**0.54**	**269**	P	**Pn**	**17 05 37.3**	**+0.4**
MAT				S	**Sn**	**17 05 53.1**	**-0.1**
JYN	**Shimob**	**1.09**	**195**	P	**Pn**	**17 05 41.5**	**+0.5**
JYN				*e*S	**Sn**	**17 05 59.7**	**-0.7**
JOD2	**Odawara 2**	**1.30**	**172**	P	**Pn**	**17 05 43.3**	**+0.4**
JOD2				*e*S	**Sn**	**17 06 03.1**	**-0.7**
JSZ	**Suzu**	**1.51**	**307**	P	**Pn**	**17 05 45.4**	**+0.5**
JFT	**Otama**	**1.51**	**50**	P	**Pn**	**17 05 46.9**	**+1.9**
JSD	**Sado**	**1.56**	**342**	P	**Pn**	**17 05 46.0**	**+0.5**
JSD				*e*S	**Sn**	**17 06 08.1**	**-0.6**
JGM	**Miyama**	**1.95**	**245**	P	**Pn**	**17 05 51.1**	**+1.2**
JGM				*e*S	**Sn**	**17 06 17.3**	**+1.0**
ASAJ	**Asahikawa**	**8.07**	**19**	P	**Pn**	**17 07 08.8**	**-0.9**
	0.3nm,0.3s,baz=211,slow=21,SNR=6.4						
WRA	**Warramunga Arr**	**56.35**	**185**	P	**P**	**17 14 41.2**	**+0.3**
	0.2nm,0.6s,baz=0.2,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**60.08**	**185**	P	**P**	**17 15 05.6**	**-1.2**
	0.3nm,0.9s,baz=350,slow=7.7,SNR=4.9						

*IDC **09** 17:06:06.5±1.2, 0°.21N×122°.05E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/35, mbtmpg3.4/4, Error ellipse: s-maj=139.4km s-min=20.2km az=65.0*
*ISCJB **09** 17:06:25.3±0.6, 0°.17N±0°.08×122°.35E±0°.07, h202km, mb3.2/4, Error ellipse: s-maj=11.2km s-min=9.3km az=172.2*
*DJA **09** 17:06:28.6±0.6, 0°.N±3°×12°.2E±°, h154km±5km, M3.5/10, MLv3.5/10*

ISC 09 17:06:24.8±1.2, 0°.31N±0°.09×122°.28E±0°.06, h202km, n13, σ2§08/15, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.38**	**297**	P	**Pn**	**17 06 50.7**	**-1.0**
MRSI				S	S	**17 07 08.7**	**-4.0**
GTOI	**Gorontalo**	**0.80**	**66**	P	**Pn**	**17 06 53.4**	**-0.1**
APSI	**Ampana**	**1.36**	**208**	P	**Pn**	**17 06 57.6**	**+0.1**
APSI				S	**S**	**17 07 19.5**	**-3.2**
LUWI	**Luwuk**	**1.43**	**160**	P	**Pn**	**17 06 58.0**	**0.0**
LUWI				S	**S**	**17 07 20.9**	**-2.7**
KMSI	**Cibinong**	**1.72**	**81**	P	**Pn**	**17 07 02.4**	**+1.7**
KMSI				S	**S**	**17 07 27.8**	**-0.3**
MPSI	**Mapaga**	**2.38**	**271**	P	**Pn**	**17 07 08.7**	**+1.2**
PCI	**Palu**	**2.72**	**244**	P	**Pn**	**17 07 12.0**	**+0.6**
TTSI	**Tana Toraja**	**4.14**	**216**	P	**Pn**	**17 07 30.4**	**+2.0**
SANI	**Sanana**	**4.38**	**122**	P	**Pn**	**17 07 30.7**	**-0.8**
WRA	**Warramunga Arr**	**23.34**	**150**	P	**P**	**17 11 17.2**	**+2.1**
	0.7nm,0.4s,baz=328,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.37**	**155**	P	**P**	**17 11 44.5**	**+2.0**
	0.4nm,0.5s,baz=344,slow=14,SNR=24						
SONM	**Songino Array**	**49.31**	**346**	P	P	17 14 58.3	+4.8
	0.3nm,0.7s,baz=152,slow=6.5,SNR=2.9						
MKAR	**Makanchi Array**	**57.98**	**329**	P	P	17 16 00.3	+4.0
	0.3nm,0.4s,baz=124,slow=8.8,SNR=3.4						

MEX 09 17:20:07.2±0.5, 32°.58N×114°.57W, h10km, MD3.5, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.56**	**253**	*i* P	Pg	17 20 17.6	-0.5
MBIG				*i* S	Sg	17 20 25.6	+0.1
SPIG	**San Pedro Mart**	**1.71**	**207**	*e*P	Pn	17 20 34.0	-3.5
SPIG				*i* S	Sn	17 20 54.6	-5.1
CBX	**Cerro Bola**	**1.79**	**262**	*i* P	Pn	17 20 35.6	-2.8
CBX				*i* S	Sn	17 20 56.5	-4.8

DJA 09 17:28:21.0±0.5, 2°N±3°×12°7E±°, h88km±7km, M3.8/12, mb3.9/7, mB4.5/1, MLv3.7/12, Mw(mB)3.6/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.17**	**177**	P	Pn	17 28 43.6	+1.0
TNTI				S	Sn	17 29 00.0	+1.2
SGSI	**Sangihe**	**2.48**	**314**	S	Sn	17 29 29.6	+0.6
LBMI	**Labuha**	**2.58**	**176**	P	Pn	17 29 01.6	+0.7
LBMI				S	Sn	17 29 32.1	+0.7
KMSI	**Cibinong**	**3.60**	**248**	P	Pn	17 29 15.0	+0.4
KMSI				S	Sn	17 29 56.6	+0.5
SANI	**Sanana**	**4.19**	**198**	P	Pn	17 29 20.5	-2.1
SANI				S	Sn	17 30 03.5	-6.9
GTOI	**Gorontalo**	**4.49**	**253**	P	Pn	17 29 28.2	+1.5
NLAI	**Namlea**	**5.16**	**182**	P	Pn	17 29 34.3	-1.5
	11nm,0.9s,483nm0.1nm						
LUWI	**Luwuk**	**5.42**	**237**	P	Pn	17 29 39.6	+0.2
	13nm,0.9s,0.2nm						
MSAI	**Masohi**	**5.50**	**163**	P	Pn	17 29 39.0	-1.5
	4.0nm,0.6s,0.0nm						
MRSI	**Marisa**	**5.56**	**255**	P	Pn	17 29 41.7	+0.4
	9.8nm,0.5s,0.1nm						
APSI	**Ampana**	**6.33**	**243**	P	Pn	17 29 52.2	+0.4

*IDC **09** 17:34:32.7±0.9, 54°.76N×160°.26W, h0km, mb3.9/24, mb1 4.1/25, mb1mx3.9/54, mbtmpg3.9/25, ML3.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/48, Error ellipse: s-maj=25.8km s-min=14.2km az=174.0*
*MOS **09** 17:34:33.3±1.1, 54°.88N×160°.23W, h11km, mb4.2/7, Error ellipse: s-maj=15.6km s-min=8.8km az=86.8*
*ISCJB **09** 17:34:35.9±0.4, 54°.65N±0°.06×159°.95W±0°.05, h33km, mb4.0/28, MS3.1/3, Error ellipse: s-maj=8.3km s-min=3.7km az=161.4*
*NEIC **09** 17:34:35.5, 54°.62N×160°.06W, h6km, mb4.0/1, ML3.7(AEIC), After AEIC.*

ISC 09 17:34:36.4±0.6, 54°.51N±0°.08×160°.25W±0°.05, h33km, n79, σ1§20/69, mb4.1/28, MS3.0/3, 7C-4D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.85**	**351**	P	**Pn**	**17 34 50.8**	**-1.1**
SDPT				S	**Sn**	**17 35 01.2**	**-2.0**
DRIA	**Deer Island**	**1.25**	**292**	P	**Pb**	**17 34 59.1**	**-0.4**
DT1	**Dutton Round H**	**1.32**	**298**	P	**Pb**	**17 34 60.0**	**-0.6**
DTNA	**Dutton South F**	**1.32**	**300**	P	**Pb**	**17 35 00.2**	**-0.4**
DTNA				S	**Sb**	**17 35 18.7**	**+1.5**
FALS	**False Pass**	**1.87**	**282**	P	**Pb**	**17 35 09.0**	**-0.8**
FALS				S	**Sb**	**17 35 34.3**	**+1.5**
SSLN	**Shishaldin Nor**	**2.20**	**279**	P	**Pb**	**17 35 14.2**	**-1.2**
WESE	**West Dahl East**	**2.53**	**271**	P	**Pb**	**17 35 19.1**	**-2.0**
AKSA	**Akutan Strait**	**3.21**	**265**	P	Pb	17 35 28.5	-4.2
AHB	**Akutan Harbor**	**3.29**	**265**	P	Pb	17 35 30.4	-3.5
ZRO	**Akutan Zero**	**3.38**	**265**	P	Pb	17 35 31.5	-4.1
UNV	**Unalaska Valle**	**3.73**	**262**	P	Pb	17 35 35.9	-5.6
UNV				S	**Sb**	**17 36 21.1**	**-5.2**
PLK4	**Peulik 4**	**3.81**	**33**	P	**Pn**	**17 35 34.2**	**+1.5**
MSW	**Makushin Switc**	**3.88**	**264**	P	Pn	17 35 37.9	+4.2
MSOM	**Makushin Julie**	**4.00**	**263**	P	Pn	17 35 39.7	+4.5
MSOM	**Makushin Julie**	**4.00**	**263**	P	Pn	17 35 39.7	+4.5
SII	**Sitkinak Islan**	**4.01**	**57**	P	**Pn**	**17 35 34.4**	**-1.1**
KABR	**Katmai Barrier**	**4.67**	**37**	P	**Pn**	**17 35 44.0**	**-0.5**
KVTA	**Katmai Vly 10**	**4.75**	**33**	P	**Pn**	**17 35 46.6**	**+1.0**
OHAK	**Old Harbor**	**4.77**	**52**	P	**Pn**	**17 35 44.1**	**-1.7**
KDAK	**Kodiak Island**	**5.39**	**49**	*i* P	**Pn**	**17 35 54.0**	**-0.4**
KDAK	**Kodiak Island**	**5.39**	**49**	P	**Pn**	**17 35 53.4**	**-0.9**
CNPM	**China Poot**	**7.03**	**41**	P	**Pn**	**17 36 16.4**	**-0.5**
RDWB	**Redoubt West**	**7.19**	**31**	P	**Pn**	**17 36 19.9**	**+0.7**
BRLK	**Bradley Lake**	**7.32**	**40**	P	**Pn**	**17 36 20.9**	**+0.1**
SUA	**Susitna One**	**8.60**	**32**	P	**Pn**	**17 36 40.0**	**+1.6**
TNA	**Tin City**	**11.71**	**344**	*e*Pn	**Pn**	**17 37 21.4**	**+0.5**
	40nm,1.5s						
COLA	**College**	**12.10**	**26**	*e*P	**Pn**	**17 37 25.7**	**-0.5**
ILAR	**Eielson Array**	**12.27**	**28**	Pn	Pn	17 37 24.6	-4.0
	0.1nm,0.3s,baz=216,slow=13,SNR=8.5						
ILAR				Sn	Sn	17 39 38.0	-6.0
	0.1nm,0.3s,baz=225,slow=20,SNR=3.1						
INK	**Inuvik**	**18.59**	**32**	P	**P**	**17 38 48.3**	**-2.0**
	0.2nm,0.3s,baz=228,slow=12,SNR=9.0						
BILL	**Bilibino**	**20.66**	**324**	*e*P	**P**	**17 39 11.5**	**-1.4**
BILL				*e*		17 39 28.9	
BILL				*e*S	S	17 42 51.5	-10
BILL				pmax	pmax		
	comp=E,10.0nm,2.5s						
BILL				MLR	MLR		
	comp=E,158nm,16.0s						
PETK	**Petropavlovsk-**	**24.61**	**284**	P	**P**	**17 39 54.2**	**+0.9**
	comp=E,5.7nm,0.6s,baz=84,slow=12,SNR=11						
PETK				LR	LR	17 51 02.2	
	comp=E,40nm,18.2s,baz=73,slow=40						
YKA	**Yellowknife Ar**	**24.66**	**53**	P	**P**	**17 39 53.0**	**-0.6**
YKA	**Yellowknife Ar**	**24.66**	**53**	P	**P**	**17 39 52.9**	**-0.6**
	comp=E,0.9nm,0.8s,baz=262,slow=7.5,SNR=13						
SEY	**Seymchan**	**25.43**	**308**	P	**P**	**17 39 59.4**	**-1.2**
	comp=E,1.9nm,0.6s,baz=101,slow=11,SNR=9.0						
RES	**Resolute Bay**	**32.02**	**27**	P	**P**	**17 40 58.2**	**-1.0**
	comp=E,0.4nm,0.7s,baz=333,slow=4.5,SNR=3.4						
TIXI	**Tiksi**	**33.79**	**327**	*i*eP	**P**	**17 41 14.3**	**-0.3**
TIXI				pmax	pmax		
	comp=E,3.0nm,1.7s						
TIXI	**Tiksi**	**33.79**	**327**	*e*P	**P**	**17 41 13.7**	**-0.9**
	comp=E,1.7nm,0.8s						
PDAR	**Pinedale Array**	**34.75**	**88**	P	**P**	**17 41 25.3**	**+1.8**
	comp=E,2.0nm,0.7s,baz=329,slow=6.8,SNR=2.1						
YAK	**Yakutsk**	**35.89**	**311**	*e*P	**P**	**17 41 32.3**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**42.77**	**229**	T	T	18 28 30.2	
	baz=28,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**42.78**	**229**	T	T	18 28 30.6	
	baz=28,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**42.79**	**229**	T	T	18 28 31.5	
	baz=28,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**43.94**	**228**	T	T	18 29 58.2	
	baz=27,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**43.95**	**228**	T	T	18 30 00.1	
	baz=27,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**43.95**	**228**	T	T	18 29 58.0	
	baz=27,slow=76,SNR=6.7						
MAJO	**Matsushiro**	**45.14**	**273**	*i*eP	P	17 42 52.6	+3.1
MAJO				pmax	pmax		
	comp=E,94nm,1.7s						
MJAR	**Matsushiro Arr**	**45.14**	**273**	P	**P**	**17 42 50.6**	**+1.1**
	comp=E,1.8nm,0.8s,baz=36,slow=6.3,SNR=5.1						
MJAR				LR	LR	18 01 23.6	
	comp=E,19nm,21.4s,baz=105,slow=36						
TXAR	**Lajitas Array**	**47.44**	**98**	P	**P**	**17 43 08.9**	**+1.2**
	comp=E,0.3nm,0.8s,baz=309,slow=5.7,SNR=3.5						
KSRS	**Korea Array**	**50.46**	**281**	P	**P**	**17 43 31.6**	**+1.0**
	comp=E,1.8nm,0.8s,baz=53,slow=6.8,SNR=9.6						
KSAR	**Wonju Array Be**	**50.49**	**281**	P	**P**	**17 43 31.6**	**+0.7**
KSAR	**Wonju Array Be**	**50.49**	**281**	P	**P**	**17 43 31.6**	**+0.7**
ULN	**Ulaanbaatar**	**54.40**	**304**	*i*eP	**P**	**17 44 00.6**	**+0.7**
ULN				pmax	pmax		
	comp=E,5.0nm,2.5s						
SONM	**Songino Array**	**54.74**	**305**	P	**P**	**17 44 03.4**	**+1.1**
	comp=E,1.9nm,0.8s,baz=40,slow=7.1,SNR=15						
SONM				PcP	**PcP**	**17 45 06.1**	**+1.5**
	comp=E,0.4nm,0.8s,baz=23,slow=1.1,SNR=3.6						
KURK	**Kurchatov**	**64.18**	**323**	P	**P**	**17 45 08.3**	**+1.1**
KURK	**Kurchatov**	**64.18**	**323**	P	**P**	**17 45 08.3**	**+1.1**
FINES	**FINESS Array B**	**64.28**	**357**	P	**P**	**17 45 07.0**	**-0.7**
FINES	**FINESS Array B**	**64.28**	**357**	P	**P**	**17 45 07.0**	**-0.7**
	comp=E,0.6nm,0.6s,baz=357,slow=9.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**64.29**	**323**	P	**P**	**17 45 08.3**	**+0.3**
	comp=E,1.4nm,1.0s,baz=21,slow=6.7,SNR=8.8						
NOA	**NORSAR Array B**	**64.59**	**5**	P	**P**	**17 45 10.0**	**+0.1**
NOA	**NORSAR Array B**	**64.59**	**5**	P	**P**	**17 45 10.0**	**+0.1**
	comp=E,1.4nm,0.9s,baz=356,slow=6.4,SNR=3.6						
BVAR	**Borovoye Array**	**64.91**	**329**	P	**P**	**17 45 12.4**	**+0.4**
	comp=E,3.0nm,0.7s,baz=32,slow=7.0,SNR=16						
HFS	**Hagfors**	**65.60**	**3**	P	**P**	**17 45 15.7**	**-0.6**
	comp=E,1.3nm,0.7s,baz=46,slow=4.2,SNR=3.9						
MKAR	**Makanchi Array**	**66.07**	**318**	*ce*P	**P**	**17 45 19.6**	**-0.1**
MKAR				pmax	pmax		
	comp=E,1.0nm,0.6s						
MKAR	**Makanchi Array**	**66.07**	**318**	P	**P**	**17 45 18.9**	**-0.8**
	comp=E,0.6nm,0.6s,baz=45,slow=6.7,SNR=8.0						
EKA	**Eskdalemuir Ar**	**68.91**	**14**	P	**P**	**17 45 37.6**	**+0.2**
	comp=E,2.4nm,0.8s,baz=334,slow=5.6,SNR=7.5						
AKTO	**Aktyubinsk**	**70.62**	**335**	P	**P**	**17 45 47.7**	**-0.3**
	comp=E,3.0nm,0.8s,baz=3.2,slow=4.3,SNR=12						
AAK	**Ala-Archa**	**72.55**	**321**	*i*eP	**P**	**17 46 01.5**	**+1.5**
AAK				pmax	pmax		
	comp=E,6.0nm,0.8s						
AKASG	**Malin Array Be**	**74.86**	**354**	*ce*P	**P**	**17 46 13.6**	**+0.5**
AKASG				pmax	pmax		
	comp=E,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.86**	**354**	P	**P**	**17 46 12.7**	**-0.4**
	comp=E,1.6nm,0.6s,baz=8.4,slow=5.9,SNR=7.8						
KIEV	**Kiev**	**74.86**	**354**	*i*eP	**P**	**17 46 12.9**	**-0.2**
GERES	**GERESS Array B**	**76.89**	**4**	P	**P**	**17 46 25.6**	**+0.8**
	comp=E,0.4nm,0.6s,baz=7.4,slow=4.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**81.26**	**289**	*ce*P	**P**	**17 46 50.2**	**+1.1**
CMAR				pmax	pmax		
	comp=E,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**81.26**	**289**	P	**P**	**17 46 50.3**	**+1.1**
	comp=E,1.8nm,0.9s,baz=11,slow=6.4,SNR=11						
GEYT	**Ailbeck**	**82.20**	**330**	P	**P**	**17 46 54.9**	**+1.0**
	comp=E,2.3nm,0.8s,baz=331,slow=5.4,SNR=4.3						
ESDC	**Sonseca Array**	**84.00**	**18**	P	**P**	**17 47 03.9**	**+0.8**
	comp=E,3.1nm,0.8s,baz=341,slow=4.9,SNR=13						
BRTR	**Keskin Array B**	**85.38**	**349**	*ce*P	**P**	**17 47 11.8**	**+1.6**
BRTR				pmax	pmax		
	comp=E,2.0nm,1.1s						
BRTR	**Keskin Array B**	**85.38**	**349**	P	**P**	**17 47 10.2**	**-0.1**
	comp=E,1.0nm,0.7s,baz=40,slow=2.1,SNR=4.2						
WRA	**Warramunga Arr**	**92.71**	**239**	*i* P	**P**	**17 47 46.0**	**+1.1**
WRA				pmax	pmax		
	comp=E,1.0nm,0.8s						
WRA	**Warramunga Arr**	**92.71**	**239**	P	**P**	**17 47 45.4**	**+0.5**
	comp=E,0.5nm,0.8s,baz=45,slow=3.8,SNR=5.1						

DHMR 09 17:38:15.0±1.1, 11°.91N×43°.90E, h13km±21km, ML3.6, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.33**	**9**	*i*P	Pb	17 38 40.1	-0.1
TRBA				*i* S	Sg	17 38 58.3	-0.2
TRBA	comp=N,914nm,0.7s			AML	AML	17 39 03.8	
UDYN	**Al 'Udayn**	**2.05**	**2**	*i* P	Pn	17 38 50.4	+0.9
UDYN				*i* S	Sb	17 39 19.0	+1.1
UDYN	comp=E,650nm,0.3s			AML	AML	17 39 20.0	
DHBB	**Dhamar BB**	**2.69**	**10**	*i* P	Pb	17 39 01.1	-2.4
DHBB				*i* S	Sb	17 39 37.2	+0.5

*DDA **09** 17:38:39.7, 36°.84N×30°.39E, h12km, MD3.2*
*IDC **09** 17:38:39.7±1.1, 36°.93N×30°.51E, h0km, mb3.5/7, mb1 3.5/10, mb1mx3.4/46, mbtmpg3.5/10, ML3.4/3, Error ellipse: s-maj=31.3km s-min=17.9km az=143.0*
*ISCJB **09** 17:38:39.9±0.5, 36°.85N±0°.02×30°.35E±0°.02, h8km±3km, mb3.5/7, Error ellipse: s-maj=3.7km s-min=3.1km az=5.0*
*ISK **09** 17:38:39.8, 36°.88N×30°.32E, h10km, ML3.4*
*CSEM **09** 17:38:40.3±0.1, 36°.87N×30°.31E, h2km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=4.0*
*THE **09** 17:38:41.6, 37°.04N×30°.58E, h0km±1km, Error ellipse: s-maj=3.2km s-min=1.2km az=116.0*

ISC 09 17:38:40.6±1.0, 36°.87N±0°.02×30°.34E±0°.02, h6km±7km, n145, σ1§05/173, mb3.5/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.13**	**4**	*i* P	**Pg**	**17 38 42.5**	**-0.9**
KORT				*i* S	**Sg**	**17 38 46.8**	**+1.5**
KORT	**Korkueli**	**0.13**	**4**	*i* P	**Pg**	**17 38 42.5**	**-0.9**
KORT				*i* S	**Sg**	**17 38 46.8**	**+1.5**
ANTB	**Antalya**	**0.25**	**83**	*e*PG	**Pg**	**17 38 45.7**	**+0.2**
ANTB				*e*SG	**Sg**	**17 38 50.0**	**+1.1**
ANTB	**Antalya**	**0.25**	**83**	*e*Pg	**Pg**	**17 38 45.7**	**+0.2**
ANTB				*e*Sg	**Sg**	**17 38 50.0**	**+1.1**
ELL	**Elmali**	**0.37**	**251**	*e*PG	**Pg**	**17 38 46.8**	**-1.0**
ELL	**Elmali**	**0.37**	**251**	*e*Pg	**Pg**	**17 38 46.8**	**-1.0**
BCK	**Bucak**	**0.62**	**19**	*e*PG	**Pg**	**17 38 51.6**	**-1.0**
BCK				*e*SG	**Sg**	**17 39 01.2**	**+0.5**
BCK	**Bucak**	**0.62**	**19**	*e*Pg	**Pg**	**17 38 51.6**	**-1.0**
BCK				*e*Sg	**Sg**	**17 39 01.3**	**+0.5**
GOLH	**Golhisar**	**0.72**	**301**	*i* P	**Pg**	**17 38 54.6**	**+0.1**
GOLH	**Golhisar**	**0.72**	**301**	*i* P	**Pg**	**17 38 54.6**	**+0.1**
GOLH				*i* S	**Sb**	**17 39 07.5**	**+1.6**
AKAS	**Kas**	**0.87**	**223**	*i* P	**Pg**	**17 38 55.7**	**-1.6**
AKAS	**Kas**	**0.87**	**223**	*i* P	**Pg**	**17 38 55.7**	**-1.6**
AKAS				*i* S	**Sn**	**17 39 12.7**	**+0.2**
ISP	**Isparta**	**0.96**	**9**	P	**Pg**	**17 38 58.2**	**-0.9**

IZM	**Izmir**	**2.88**	**303**	*e*PN	**Pn**	**17 39 26.9**	**-0.2**
IZM	**Izmir**	**2.88**	**303**	*e*Pn	**Pn**	**17 39 26.9**	**-0.2**
BORA	**Eskisehir**	**3.01**	**2**	*i* P	**Pn**	**17 39 29.6**	**+0.7**
BORA				*i* S	**Sn**	**17 40 06.3**	**+1.0**
BORA	**Eskisehir**	**3.01**	**2**	*i* P	**Pn**	**17 39 29.6**	**+0.7**
BORA				*i* S	**Sn**	**17 40 06.3**	**+1.0**
BLCB	**Balcova**	**3.02**	**301**	*e*PN	**Pn**	**17 39 29.0**	**0.0**
BLCB	**Balcova**	**3.02**	**301**	*e*Pn	**Pn**	**17 39 29.0**	**0.0**
LFK	**Lefkose**	**3.03**	**121**	*e*PN	**Pn**	**17 39 30.1**	**+0.9**
LFK	**Lefkose**	**3.03**	**121**	*e*Pn	**Pn**	**17 39 30.1**	**+0.9**
KIZK	**Mersin**	**3.08**	**96**	*i* P	**Pn**	**17 39 30.5**	**+0.7**
KIZK	**Mersin**	**3.08**	**96**	*i* P	**Pn**	**17 39 30.5**	**+0.7**
CSS	**Prodhromos**	**3.08**	**127**	P	**Pn**	**17 39 29.6**	**-0.3**
CSS	**Prodhromos**	**3.08**	**127**	*e*PN	**Pn**	**17 39 29.5**	**-0.3**
CSS	**Prodhromos**	**3.08**	**127**	P	**Pn**	**17 39 29.6**	**-0.3**
DURS	**Dursunbey**	**3.10**	**332**	*i* P	**Pn**	**17 39 30.4**	**+0.3**
DURS	**Dursunbey**	**3.10**	**332**	*i* P	**Pn**	**17 39 30.4**	**+0.3**
CAVI	**Cavuskoy**	**3.35**	**353**	*e*PN	**Pn**	**17 39 33.7**	**+0.2**
CAVI	**Cavuskoy**	**3.35**	**353**	*e*Pn	**Pn**	**17 39 33.7**	**+0.2**
MERS	**Mersin**	**3.35**	**89**	*e*PN	**Pn**	**17 39 34.1**	**+0.5**
MERS	**Mersin**	**3.35**	**89**	*e*Pn	**Pn**	**17 39 34.1**	**+0.5**
AFSR	**Afˇar-Bala (A**	**3.35**	**39**	*e*PN	**Pn**	**17 39 33.9**	**+0.2**
AFSR	**Afˇar-Bala (A**	**3.35**	**39**	*e*Pn	**Pn**	**17 39 33.9**	**+0.2**
EREN	**Erenkoy**	**3.37**	**112**	*e*PN	**Pn**	**17 39 34.5**	**+0.7**
EREN	**Erenkoy**	**3.37**	**112**	*e*Pn	**Pn**	**17 39 34.5**	**+0.7**
ULDT	**Uludag**	**3.40**	**344**	*i* P	**Pn**	**17 39 34.3**	**-0.1**
ULDT	**Uludag**	**3.40**	**344**	*i* P	**Pn**	**17 39 34.3**	**-0.1**
GULT	**Gulveren**	**3.56**	**2**	*e*PN	**Pn**	**17 39 36.8**	**+0.3**
GULT	**Gulveren**	**3.56**	**2**	*e*Pn	**Pn**	**17 39 36.8**	**+0.3**
ANTO	**Ankara**	**3.56**	**32**	*e*PN	**Pn**	**17 39 36.9**	**+0.4**
ANTO	**Ankara**	**3.56**	**32**	*e*Pn	**Pn**	**17 39 36.9**	**+0.4**
LOD	**Lodumlu**	**3.57**	**32**	*e*PN	**Pn**	**17 39 36.3**	**-0.2**
LOD	**Lodumlu**	**3.57**	**32**	*e*Pn	**Pn**	**17 39 36.3**	**-0.2**
GULE	**Gulek**	**3.57**	**82**	*e*P	**Pb**	**17 39 41.6**	**-2.7**
BALY	**Balya**	**3.58**	**324**	*i* S	**Sn**	**17 40 23.2**	**+4.0**
MDUB	**Mudurnu**	**3.66**	**10**	*e*PN	**Pn**	**17 39 37.9**	**+0.1**
MDUB	**Mudurnu**	**3.66**	**10**	*e*Pn	**Pn**	**17 39 37.9**	**+0.1**
CHOS	**Chios island**	**3.72**	**295**	*e*PN	**Pn**	**17 39 39.9**	**+1.2**
CHOS	**Chios island**	**3.72**	**295**	*e*Pn	**Pn**	**17 39 39.9**	**+1.2**
KCTX	**Karacabey (Bur**	**3.73**	**336**	*e*PN	**Pn**	**17 39 38.4**	**-0.3**
KCTX	**Karacabey (Bur**	**3.73**	**336**	*e*Pn	**Pn**	**17 39 38.4**	**-0.3**
KARA	**Karaisali**	**3.79**	**83**	*e*PN	**Pn**	**17 39 40.4**	**+0.8**
KARA	**Karaisali**	**3.79**	**83**	*e*Pn	**Pn**	**17 39 40.4**	**+0.8**
BRTR	**Keskin Array B**	**3.86**	**41**	Pn	**Pn**	**17 39 40.0**	**-0.5**
	2.2nm,0.3s,baz=213,slow=15,SNR=66						
BRTR				Sn	**Sn**	**17 40 27.9**	**+1.6**
	2.2nm,0.3s,baz=214,slow=28,SNR=12						
ARMT	**Armutlu**	**3.87**	**343**	*e*PN	**Pn**	**17 39 40.2**	**-0.3**
ARMT	**Armutlu**	**3.87**	**343**	*e*Pn	**Pn**	**17 39 40.3**	**-0.3**
EDC	**Edincik**	**3.98**	**332**	*e*PN	**Pn**	**17 39 42.6**	**+0.6**
EDC	**Edincik**	**3.98**	**332**	*e*Pn	**Pn**	**17 39 42.7**	**+0.6**
BCAM	**Yenicaga**	**4.17**	**18**	*i* P	**Pn**	**17 39 45.6**	**+0.8**
BCAM	**Yenicaga**	**4.17**	**18**	*i* P	**Pn**	**17 39 45.6**	**+0.8**
CDAG	**Cicekdag**	**4.20**	**48**	*i* P	**Pn**	**17 39 46.1**	**+0.8**
CDAG				*i* S	**Sn**	**17 40 36.3**	**+1.6**
CDAG	**Cicekdag**	**4.20**	**48**	*i* P	**Pn**	**17 39 46.1**	**+0.8**
CDAG				*i* S	**Sn**	**17 40 36.3**	**+1.6**
KOZT	**Kozan**	**4.42**	**80**	*e*PN	**Pn**	**17 39 49.5**	**+1.2**
KOZT	**Kozan**	**4.42**	**80**	*e*Pn	**Pn**	**17 39 49.5**	**+1.2**
GELI	**Tayfur-Gelibol**	**4.64**	**321**	*e*PN	**Pn**	**17 39 52.0**	**+0.7**
GELI	**Tayfur-Gelibol**	**4.64**	**321**	*e*Pn	**Pn**	**17 39 52.0**	**+0.7**
IDI	**Anoyia**	**4.69**	**252**	Pn	**Pn**	**17 39 52.5**	**+0.5**
	0.9nm,0.3s,baz=68,slow=19,SNR=6.8						
IDI				Sn	**Sn**	**17 40 48.5**	**+1.9**
	1.1nm,0.3s,baz=85,slow=18,SNR=2.4						
CORM	**Corum**	**4.71**	**44**	*e*PN	**Pn**	**17 39 53.2**	**+0.8**
CORM	**Corum**	**4.71**	**44**	*e*Pn	**Pn**	**17 39 53.2**	**+0.8**
YAYL	**Yayladag**	**4.72**	**98**	*e*P	Pn	17 39 48.9	-3.6
YAYL				*e*S	**Sn**	**17 40 53.3**	**+5.6**
MMAI	**Mount Meron Ar**	**5.66**	**131**	Pn	**Pn**	**17 40 03.9**	**-1.5**
	2.0nm,0.3s,baz=316,slow=11,SNR=10						
MMAI				Sn	**Sn**	**17 41 11.6**	**+0.9**
	0.7nm,0.3s,baz=313,slow=23,SNR=3.2						
AKTO	**Aktyubinsk**	**24.02**	**47**	P	**P**	**17 43 54.9**	**-1.2**
	0.5nm,0.4s,baz=234,slow=5.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**34.85**	**235**	P	**P**	**17 45 34.5**	**+1.8**
	0.3nm,0.6s,baz=55,slow=8.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**36.77**	**52**	P	**P**	**17 45 47.7**	**-1.0**
	0.9nm,0.6s,baz=276,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**39.32**	**59**	P	**P**	**17 46 09.6**	**-0.8**
	0.7nm,0.7s,baz=273,slow=4.7,SNR=6.5						
ZALV	**Zalesovo Beam**	**40.77**	**47**	P	**P**	**17 46 20.8**	**-1.5**
	0.4nm,0.4s,baz=266,slow=8.7,SNR=2.6						
SONM	**Songino Array**	**55.13**	**53**	P	**P**	**17 48 12.8**	**-1.0**
	0.4nm,0.8s,baz=295,slow=6.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**62.24**	**87**	P	**P**	**17 49 02.1**	**-1.4**
	0.4nm,0.7s,baz=301,slow=9.3,SNR=4.8						

MEX 09 17:41:09.5±0.4, 32.52N×115.14W, h21km±3km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.12**	**205**	*i* P	Pb	17 41 12.6	-3.3
MBIG				*e*S	Sb	17 41 15.4	-5.0
CBX	**Cerro Bola**	**1.31**	**261**	*i* P	Pn	17 41 29.6	-3.1
CBX				*i* S	Sn	17 41 44.7	-5.0
SPIG	**San Pedro Mart**	**1.50**	**191**	*e*P	Pn	17 41 32.2	-3.4
SPIG				*i* S	Sn	17 41 50.5	-4.3

MEX 09 17:48:36.0±0.9, 32.57N×115.07W, h30km±6km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**214**	*i* P	Pb	17 48 40.1	-2.0
MBIG				*i* S	Sb	17 48 44.0	-2.4
CBX	**Cerro Bola**	**1.37**	**260**	*e*P	Pn	17 48 57.1	-2.1
CBX				*e*S	Sn	17 49 13.2	-3.3
SPIG	**San Pedro Mart**	**1.56**	**193**	*e*P	Pn	17 48 60.0	-2.1
SPIG				*i* S	Sn	17 49 18.6	-3.0

IDC 09 17:52:57.4±354.0, 57.14N×31.78E, h0km, Error ellipse: s-maj=163.0km s-min=89.9km az=111.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.01**	**96**	*i*		18 11 10.0	
	baz=281,slow=322,SNR=6.3						
I48TN	**KESRA INFRASON**	**26.12**	**225**	*i*		20 32 40.0	
	baz=28,slow=322,SNR=0.4						
I46RU	**ZALESOVO INFRA**	**29.55**	**73**	*i*		20 54 40.0	
	baz=297,slow=338,SNR=2.1						

SZGRF ***09*** *17:55:48.1, 35.04N×72.67E, h114km, mb4.5, Pakistan*
MOS ***09*** *17:56:04.3±0.8, 36.01N×69.55E, h109km, mb4.7/48, Error ellipse: s-maj=5.4km s-min=3.7km az=100.8*
ISCJB ***09*** *17:56:04.9±0.3, 36.08N±0.02×69.60E±0.02, h112km±3km, mb4.5/98, Error ellipse: s-maj=3.2km s-min=2.7km az=152.9*
BJI ***09*** *17:56:05.7, 36.15N×69.45E, h115km, mB4.8/27, mb4.6/28*
IDC ***09*** *17:56:05.3±2.2, 36.02N×69.64E, h108km±20km, mb4.2/36, mb1 4.3/41, mb1mx4.1/64, mbtmp4.6/41, MS3.2/4, Ms1 3.2/4, ms1mx2.9/34, Error ellipse: s-maj=10.1km s-min=8.0km az=145.0*
NEIC ***09*** *17:56:06.5±0.5, 36.10N×69.59E, h115km±5km, mb4.7/55, Error ellipse: s-maj=4.4km s-min=4.0km az=182.0*
NEIC Felt at Bagrami, Charikar and Kunduz. Also felt at Peshawar, Pakistan.
NNC ***09*** *17:56:10.5±1.3, 36.51N×69.32E, h157km, mb4.0, mpv4.9, Error ellipse: s-maj=10.6km s-min=7.2km az=9.0*

ISC 09 17:56:05.9±0.3, 36.10N±0.03×69.53E±0.03, h108km±2km, h108km:pP-P, n395, σ1°49/462, mb4.5/99, 36C-25D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.61**	**194**	*e*Pn	**Pn**	**17 56 35.2**	**+1.1**
KBL				*e*Sn	**Sn**	**17 56 57.4**	**+1.8**
DZET	**Dzherino**	**2.75**	**348**	⇓P	**Pn**	**17 56 49.6**	**+0.9**
	287nm,0.3s						
DZET				⇑S	**Sn**	**17 57 21.3**	**-0.3**
	3μm,0.5s						
DZET	**Dzherino**	**2.75**	**348**	PN	**Pn**	**17 56 47.2**	**-1.5**
DZET				pmax	pmax		
	comp=Z,287nm,0.3s						

CEP	**Cherat**	**3.00**	**139**	P	**Pn**	**17 56 53.8**	**+1.8**
CEP				S	**Sn**	**17 57 30.0**	**+2.6**
THW	**Thamme Wali**	**3.77**	**150**	P	**Pn**	**17 57 02.5**	**+0.3**
SARP	**Sargodha**	**4.92**	**147**	P	**Pn**	**17 57 16.8**	**-0.8**
SFK	**Sufi-Kurgan**	**5.01**	**38**	⇓P	**Pn**	**17 57 21.0**	**+2.0**
	comp=Z,67nm,0.4s						
SFK				⇑S	**Sn**	**17 58 18.1**	**+2.3**
	comp=Z,231nm,0.3s						
SFK	**Sufi-Kurgan**	**5.01**	**38**	PN	**Pn**	**17 57 20.9**	**+2.0**
SFK				S	**Sn**	**17 58 19.3**	**+3.5**
SFK				pmax	pmax		
	comp=Z,57nm,0.3s						
SFK				smax	smax		
	comp=N,345nm,0.5s						
JMU	**Jammu**	**5.58**	**126**	*e*P	**Pn**	**17 57 27.0**	**+0.5**
JMU				*e*S	**Sn**	**17 58 27.0**	**-2.3**
KSH	**Kashi**	**6.13**	**54**	P	**Pn**	**17 57 32.0**	**-2.1**
KSH				S	Sn	17 58 27.2	-16
KSH				SMN			
	comp=N,1μm,0.8s						
KSH				SME			
	comp=N,720nm,0.5s						
DLH	**Dalhousie**	**6.40**	**122**	*e*P	**Pn**	**17 57 37.0**	**-0.9**
DLH				*e*S	**Sn**	**17 58 46.0**	**-3.6**
MNAS	**Manas**	**6.78**	**19**	⇓P	**Pn**	**17 57 43.6**	**+0.7**
	comp=N,46nm,0.6s						
MNAS				⇓S	**Sn**	**17 58 56.9**	**-1.7**
	comp=N,110nm,0.5s						
AML	**Almayashu**	**6.83**	**27**	P	**Pn**	**17 57 44.7**	**+0.9**
	SNR=172						
AML	**Almayashu**	**6.83**	**27**	*i* PN	**Pn**	**17 57 44.7**	**+0.9**
KK31	**Karatay Array**	**7.03**	**6**	P	**Pn**	**17 57 47.0**	**+0.8**
	comp=N,7.5nm,0.2s,baz=196,slow=16,SNR=865						
KK31				⇑S	**Sn**	**17 59 00.1**	**-4.5**
	comp=N,37nm,0.4s,baz=199,slow=19,SNR=3.7						
KK31	**Karatay Array**	**7.03**	**6**	PN	**Pn**	**17 57 46.9**	**+0.8**
KK31				pmax	pmax		
	comp=Z,32nm,0.2s						
KKAR	**Karatay Array**	**7.03**	**6**	*e*PN	**Pn**	**17 57 46.4**	**+0.2**
KKAR	**Karatay Array**	**7.03**	**6**	*e*Pn	**Pn**	**17 57 46.4**	**+0.2**
KKAR				*e*Sn	Sn	17 58 52.8	-12
UCH	**Uchtor**	**7.24**	**31**	P	**Pn**	**17 57 50.3**	**+1.0**
	SNR=151						
UCH	**Uchtor**	**7.24**	**31**	*i* PN	**Pn**	**17 57 50.3**	**+1.0**
EKS2	**Erkin-Say**	**7.33**	**25**	P	**Pn**	**17 57 51.4**	**+1.0**
	SNR=121						
EKS2	**Erkin-Say**	**7.33**	**25**	*e*PN	**Pn**	**17 57 51.3**	**+1.0**
EKS2	**Erkin-Say**	**7.33**	**25**	*e*Pn	**Pn**	**17 57 51.3**	**+1.0**
EKS2				*e*Sn	Sn	17 58 59.1	-13
BHK	**Bhakra**	**7.40**	**127**	*e*P	**Pn**	**17 57 52.4**	**+1.2**
BHK				*e*S	**Sn**	**17 59 11.2**	**-2.4**
KZA	**Kyzart**	**7.44**	**35**	P	**Pn**	**17 57 52.6**	**+0.5**
	SNR=132						
KZA	**Kyzart**	**7.44**	**35**	*i* PN	**Pn**	**17 57 52.6**	**+0.5**
AAK	**Ala-Archa**	**7.57**	**29**	⇓P	**Pn**	**17 57 54.7**	**+1.1**
	comp=Z,25nm,0.4s						
AAK				⇑S	**Sn**	**17 59 18.2**	**+0.4**
	comp=Z,114nm,0.7s						
AAK	**Ala-Archa**	**7.57**	**29**	P	**Pn**	**17 57 54.9**	**+1.3**
	SNR=69						
AAK	**Ala-Archa**	**7.57**	**29**	*d* iPN	**Pn**	**17 57 54.5**	**+0.9**
AAK				pmax	pmax		
	comp=Z,51nm,0.7s						
AAK	**Ala-Archa**	**7.57**	**29**	P	**Pn**	**17 57 54.7**	**+1.1**
	comp=Z,18nm,0.3s,baz=190,slow=6.8,SNR=218						
AAK				S	**Sn**	**17 59 17.8**	**0.0**
	comp=Z,13nm,0.3s,baz=320,slow=22,SNR=8.8						
AAK	**Ala-Archa**	**7.57**	**29**	Pn	**Pn**	**17 57 55.0**	**+1.4**
	SNR=17						
AAK	**Ala-Archa**	**7.57**	**29**	*e*Pn	**Pn**	**17 57 54.7**	**+1.1**
AAK				*e*Sn	**Sn**	**17 59 12.5**	**-5.3**
AAK				S	**Sn**	**17 59 17.8**	**0.0**
SDNR	**Sundarnagar**	**7.71**	**124**	*e*P	**Pn**	**17 57 55.0**	**-0.4**
SDNR				*e*S	**Sn**	**17 59 17.0**	**-4.1**
KBK	**Karagaybulak**	**7.77**	**31**	P	**Pn**	**17 57 57.6**	**+1.3**
	SNR=59						
KBK	**Karagaybulak**	**7.77**	**31**	*i* PN	**Pn**	**17 57 57.7**	**+1.3**
FRU	**Bishkek**	**7.79**	**29**	*i* PN	**Pn**	**17 57 58.0**	**+1.6**
FRU				pmax	pmax		
	comp=Z,50nm,1.0s						
FRU				pmax	pmax		
	comp=E,430nm,1.6s						
CHMS	**Chumysh**	**7.98**	**29**	P	**Pn**	**17 58 00.3**	**+1.2**
	SNR=17						
CHMS	**Chumysh**	**7.98**	**29**	*i* PN	**Pn**	**17 58 00.2**	**+1.2**
ULHL	**Ulahol**	**8.05**	**38**	P	**Pn**	**17 58 01.2**	**+1.1**
	SNR=6.0						
ULHL	**Ulahol**	**8.05**	**38**	*i* PN	**Pn**	**17 58 01.2**	**+1.1**
SMLA	**Simla**	**8.07**	**126**	*i* P	**Pn**	**17 58 00.4**	**+0.1**
SMLA				*i* S	**Sn**	**17 59 26.3**	**-3.5**
SMLA				*i* S	**Sn**	**17 59 26.4**	**-3.5**
SMLA				AML	AML	17 59 51.5	
	comp=N,1μm,0.6s						
SMLA				AML	AML	17 59 53.6	
	comp=E,962nm,1.2s						
USP	**Ospenovka**	**8.11**	**27**	P	**Pn**	**17 58 01.8**	**+0.9**
	SNR=11						
USP	**Ospenovka**	**8.11**	**27**	*i* PN	**Pn**	**17 58 01.7**	**+0.9**
TKM2	**Tokmak 2**	**8.26**	**33**	⇓P	**Pn**	**17 58 03.3**	**+0.2**
	comp=E,51nm,0.7s						
TKM2				⇑S	**Sn**	**17 59 33.7**	**-1.1**
	comp=E,108nm,0.8s						
TKM2	**Tokmak 2**	**8.26**	**33**	P	**Pn**	**17 58 03.9**	**+0.8**
	SNR=12						
TKM2	**Tokmak 2**	**8.26**	**33**	*i* PN	**Pn**	**17 58 03.8**	**+0.8**
TKM2	**Tokmak 2**	**8.26**	**33**	*e*Pn	**Pn**	**17 58 03.5**	**+0.4**
KNDC	**Almaty**	**9.13**	**37**	⇓P	**Pn**	**17 58 16.2**	**+1.6**
	comp=E,88nm,0.7s						
KNDC				⇓S	**Sn**	**17 59 55.4**	**-0.1**
	comp=E,95nm,1.1s						
GEYT	**Alibeck**	**9.31**	**285**	P	**Pn**	**17 58 15.1**	**-2.1**
	comp=E,25nm,0.3s,baz=126,slow=8.1,SNR=150						
GEYT				S	**Sn**	**17 59 54.9**	**-5.1**
	comp=E,7.5nm,0.3s,baz=132,slow=15,SNR=4.3						
GEYT				LR	LR	18 02 50.3	
	comp=E,73nm,19.3s,baz=25,slow=43						
KHET	**Khetri**	**9.61**	**145**	*e*P	Pn	17 58 29.8	+8.6
KHET				*e*S	Sn	17 59 57.2	-10
NDI	**New Delhi**	**9.84**	**137**	*e*P	**Pn**	**17 58 22.5**	**-1.9**
NDI				*e*S	Sn	18 00 04.0	-9.0
KUDL	**Kundal**	**9.88**	**141**	*e*P	**Pn**	**17 58 22.4**	**-2.5**
KUDL				*e*S	Sn	18 00 04.7	-9.3
KUDL				AML	AML	18 00 12.0	
	comp=E,232nm,0.2s						
KUDL				AML	AML	18 00 13.6	
	comp=N,123nm,0.5s						
PDGK	**Podgornoye**	**10.52**	**44**	⇑P	**Pn**	**17 58 33.3**	**-0.1**
	comp=N,20nm,0.6s						
PDGK				⇑S	**Sn**	**18 00 30.3**	**+1.1**
	comp=N,32nm,1.3s						
PTH	**Pithoragarh**	**11.11**	**123**	*e*P	Pn	17 58 37.0	-4.7
PTH				*e*S	Sn	18 00 33.0	-11
LGTI	**Lohaghat**	**11.19**	**123**	*e*P	**Pn**	**17 58 39.6**	**-3.0**
LGTI				*ex*	x	18 00 38.1	
OTUK	**Ortayu**	**12.31**	**9**	⇑P	**Pn**	**17 58 55.8**	**-1.5**
	comp=N,7.1nm,0.6s						
OTUK				⇑S	Sn	18 01 06.5	-6.1
	comp=N,14nm,0.5s						
OTUK	**Ortayu**	**12.31**	**9**	P	**Pn**	**17 58 55.2**	**-2.1**
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PYUN	**Piuthan**	**13.91**	**121**	*e*P	**Pn**	**17 59 16.2**	**-2.4**
	comp=Z,310nm,0.3s						
DANN	**Dangsing**	**14.30**	**119**	*e*P	**Pn**	**17 59 21.0**	**-2.6**
	comp=Z,76nm,0.2s						
MK31	**Makanchi Array**	**14.32**	**38**	⇓P	**Pn**	**17 59 23.5**	**0.0**
	comp=Z,5.9nm,0.3s,baz=226,slow=10,SNR=114						
MK31				⇓S	**Sn**	**18 01 58.7**	**-2.5**
	comp=Z,9.5nm,1.1s,baz=236,slow=18,SNR=5.1						
MK31	**Makanchi Array**	**14.32**	**38**	P	**Pn**	**17 59 23.4**	**0.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MKAR	**Makanchi Array**	**14.32**	**38**	*i* P	**Pn**	**17 59 24.1**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	**Makanchi Array**	**14.32**	**38**	P	**Pn**	**17 59 23.4**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=225,slow=15,SNR=46						
KOLN	**Koldanda**	**14.54**	**121**	*e*P	**Pn**	**17 59 24.1**	**-2.5**
	comp=Z,75nm,0.3s						
AB31	**Akbulak array**	**14.90**	**335**	⇑P	**Pn**	**17 59 29.7**	**-1.1**
	comp=Z,7.5nm,0.5s,baz=155,slow=13,SNR=225						
AB31				⇑S	Sn	18 02 03.4	-12
	comp=Z,12nm,0.5s,baz=159,slow=23,SNR=6.6						
AB31	**Akbulak array**	**14.90**	**335**	*e*P	**Pn**	**17 59 29.6**	**-1.1**
AB31				pmax	pmax		

	comp=Z,3.0nm,0.2s						
ABKAR	**Akbulak array**	**14.90**	**335**	*e*Pn	**Pn**	**17 59 28.8**	**-1.9**
ABKAR				*e*Sn	Sn	18 02 02.5	-13
GKN	**Gorkha**	**15.13**	**118**	*e*P	**Pn**	**17 59 31.2**	**-2.8**
	comp=Z,143nm,0.4s						
KKN	**Kakani**	**15.72**	**117**	*e*P	**Pn**	**17 59 38.9**	**-2.5**
	comp=Z,79nm,0.4s						
WMQ	**Urumqi**	**15.90**	**55**	P	**Pn**	**17 59 44.1**	**+0.7**
WMQ				pP	**pP**	**18 00 00.0**	**-4.7**
WMQ				sP	**sP**	**18 00 14.0**	**-4.4**
WMQ				S	**Sn**	**18 02 37.0**	**-2.5**
WMQ				SS	SS	18 02 58.0	
WMQ				PMZ			
	comp=Z,27nm,0.8s						
WMQ				PMZ			
	comp=Z,140nm,6.0s						
WMQ				LN			
	comp=Z,250nm,5.2s						
WMQ				LE			
	comp=Z,250nm,6.4s						
WMQ				LZ			
	comp=Z,350nm,5.6s						
KURBB	**Kurchatov Arra**	**15.90**	**21**	⇑P	**Pn**	**17 59 42.2**	**-1.0**
	comp=Z,29nm,0.7s						
KURBB				⇓S	**Sn**	**18 02 35.1**	**-4.1**
	comp=Z,11nm,0.9s						
KURBB	**Kurchatov Arra**	**15.90**	**21**	P	**Pn**	**17 59 42.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=19						
PKIN	**Phulchoki**	**15.92**	**118**	*e*P	**Pn**	**17 59 41.8**	**-2.3**
	comp=Z,88nm,0.3s						
PKI	**Pulchoki**	**15.94**	**118**	*e*P	**Pn**	**17 59 42.0**	**-2.3**
	comp=Z,83nm,0.4s						
KURK	**Kurchatov**	**16.01**	**21**	⇓P	**Pn**	**17 59 43.4**	**-1.3**
	comp=Z,6.6nm,0.7s						
KURK				⇑S	**Sn**	**18 02 37.5**	**-4.4**
	comp=Z,14nm,2.1s						
KURK	**Kurchatov**	**16.01**	**21**	P	**Pn**	**17 59 42.6**	**-2.0**
KURK	**Kurchatov**	**16.01**	**21**	*e*Pn	**Pn**	**17 59 42.1**	**-2.5**
	comp=Z,16nm,0.8s						
GUN	**Gumba**	**16.08**	**116**	*e*P	**Pn**	**17 59 43.7**	**-2.4**
	comp=Z,91nm,0.3s						
ASHO	**Ashiyiah**	**16.25**	**229**	*i* Pn	**P**	**17 59 51.2**	**+2.3**
	SNR=9.3						
ASHO	**Ashiyiah**	**16.25**	**229**	*i* P	**P**	**17 59 51.2**	**+2.3**
	SNR=9.3						
ASHO	**Ashiyiah**	**16.25**	**229**	*i* P	**P**	**17 59 51.2**	**+2.3**
	SNR=9.3						
ASHO	**Ashiyiah**	**16.25**	**229**	Pn	**P**	**17 59 50.6**	**+1.7**
	SNR=5.3						
WBK	**Wadi Bani Khal**	**16.28**	**217**	Pn	**P**	**17 59 51.3**	**+2.1**
	SNR=7.8						
JIRN	**Jiri**	**16.45**	**116**	*e*P	**Pn**	**17 59 48.7**	**-1.9**
	comp=Z,198nm,0.3s						
AKTO	**Aktyubinsk**	**16.57**	**333**	⇓P	**Pn**	**17 59 50.6**	**-0.9**
	comp=Z,14nm,0.7s						
AKTO				⇑S	Sn	18 02 43.7	-12
	comp=Z,13nm,0.7s						
AKTO	**Aktyubinsk**	**16.57**	**333**	P	**Pn**	**17 59 51.4**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=135,slow=14,SNR=41						
AKTO				S	Sn	18 02 48.0	-7.4
	comp=Z,0.9nm,0.3s,baz=234,slow=23,SNR=7.1						
JMDO	**Jabal Madar**	**16.91**	**219**	Pn	**P**	**17 59 58.2**	**+2.0**
	SNR=5.5						
BVA0	**Borovoye Array**	**16.93**	**2**	P	**Pn**	**17 59 54.0**	**-2.0**
	comp=Z,13nm,0.9s,baz=166,slow=12,SNR=45						
BVA0				⇓S	**Sn**	**18 02 57.7**	**-6.4**
	comp=Z,7.6nm,0.7s,baz=191,slow=21,SNR=4.5						
BVA0	**Borovoye Array**	**16.93**	**2**	*i* P	**Pn**	**17 59 55.5**	**-0.5**
BVA0				S	**Sn**	**18 02 57.6**	**-6.4**
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BVA0				smax	smax		
	comp=N,7.0nm,0.7s						
BVAR	**Borovoye Array**	**16.93**	**2**	P	**Pn**	**17 59 55.8**	**-0.2**
	comp=N,1.7nm,0.3s,baz=167,slow=12,SNR=30						
RAMN	**Ramite**	**17.16**	**117**	*e*P	**P**	**17 59 57.8**	**-1.4**
	comp=N,95nm,0.4s						
TAPN	**Taplejung**	**17.74**	**114**	*e*P	**P**	**18 00 05.5**

comp=Z,42nm,1.1s
URV Uravakonda 22.18 160 *e*P **P 18 00 54.2 +1.0**
URV *e*S **S 18 04 49.8 -0.7**
ADKI Addanki 22.22 153 *e*P **P 18 00 54.2 +0.5**
ADKI *e*S **S 18 04 49.7 -1.4**
ADKI *e* 18 06 16.8
RBK Rabkut 22.97 220 P **P 18 01 01.5 +0.2**
SNR=5.4
ABTO Aybut 23.58 222 P **P 18 01 06.9 0.0**
SNR=12
SKHT Srikalahasti 24.07 155 *e*P **P 18 01 12.0 +0.8**
GTA Gaotai 24.11 73 *e*P **P 18 01 13.5 +1.8**
GTA pP **pP 18 01 37.4 +2.8**
GTA sP **sP 18 01 49.8 +1.9**
GTA S **S 18 05 21.1 -0.6**
GTA sS **sS 18 05 59.8 -2.9**
GTA SS **SnSn 18 06 20.0 +4.7**
GTA PMZ
comp=Z,4.0nm,0.8s
GTA PMZ
comp=Z,68nm,5.9s
GTA LN
comp=Z,180nm,7.4s
GTA LE
comp=Z,200nm,9.3s
GTA LZ
comp=Z,150nm,7.8s
RAYN Ar Rayn 24.25 245 *e*P **P 18 01 11.8 -1.1**
comp=Z,4.2nm,0.8s
SOKR Solikamsk 24.92 345 *e*P **P 18 01 20.9 +2.4**
SOKR pmax pmax
comp=Z,20nm,1.3s
VRHR Novokhopersk 24.96 316 *e*P **P 18 01 19.4 +0.4**
VRHR *e* 18 01 54.0
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.6s
VORD Divnogorie 26.25 314 *e*P **P 18 01 31.6 +1.0**
VORD *e* 18 01 55.5
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,8.0nm,0.6s
VORD pmax pmax
comp=Z,4.0nm,0.6s
VSR Storozhevoye 26.42 314 *e*P **P 18 01 32.6 +0.4**
VSR *e* 18 01 56.1
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,30nm,1.6s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=Z,3.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.8s
MOY Mondy 27.23 45 *e*P **P 18 01 42.1 +2.5**
LZH Lanzhou 27.64 80 *e*P **P 18 01 45.3 +1.7**
LZH pP **pP 18 02 09.8 +2.5**
LZH sP **sP 18 02 23.4 +3.5**
LZH *e*S **S 18 06 18.1 +0.5**
LZH sS **sS 18 06 59.5 +0.3**
LZH PMZ
comp=E,23nm,1.0s
LZH PMZ
comp=E,110nm,4.7s
LZH LN
comp=E,350nm,12.5s
LZH LE
comp=E,340nm,12.2s
LZH LZ
comp=E,520nm,15.3s
ZAK Zakamensk 28.14 49 *e*P **P 18 01 48.9 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
MMAI Mount Meron Ar 28.19 274 P **P 18 01 49.4 +1.1**
comp=Z,1.7nm,0.5s,baz=64,slow=10,SNR=4.5
MMAI PcP **PcP 18 04 59.9 +0.4**
comp=Z,1.6nm,0.6s,baz=90,slow=5.8,SNR=4.2
BRTR Keskin Array B 28.43 288*ce*P **P 18 01 51.9 +1.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 28.43 288 P **P 18 01 51.5 +1.1**
comp=Z,3.4nm,0.7s,baz=101,slow=8.9,SNR=23
TLY Talaya 28.77 47 P **P 18 01 54.3 +1.0**
TLY Talaya 28.77 47 LR LR 18 13 22.3
comp=Z,23nm,21.3s,baz=202,slow=36
TLY Talaya 28.77 47 P **P 18 01 54.2 +1.0**
CD2 Chengdu 28.91 90 *e*P **P 18 01 56.0 +1.3**
CD2 pP **pP 18 02 19.2 +0.6**
CD2 sP **sP 18 02 31.9 +0.8**
CD2 PP **PnPn 18 02 53.5 +1.7**
CD2 S **S 18 06 37.2 -0.2**
CD2 sS **sS 18 07 17.9 -1.1**
CD2 SS **SnSn 18 08 13.2 +1.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s
CD2 LN
comp=Z,380nm,15.7s
CD2 LE
comp=Z,340nm,19.6s
CD2 LZ
comp=Z,290nm,15.6s
OBN Obninsk 29.48 321*c i*P **P 18 02 00.3 +1.0**
OBN *e**PP **pP 18 02 24.4 +1.1**
OBN *e* 18 02 57.8
OBN pmax pmax
comp=Z,27nm,1.1s
OBN Obninsk 29.48 321 P **P 18 02 00.4 +1.0**
comp=Z,18nm0.4s,baz=340,slow=12,SNR=5.5
OBN Obninsk 29.48 321 *e*P **P 18 01 59.9 +0.5**
comp=Z,10nm,0.5s
SONM Songino Array 29.54 55 P **P 18 02 00.0 -0.2**
comp=Z,1.0nm,0.5s,baz=268,slow=8.9,SNR=9.4
SONM S **S 18 06 44.4 -2.6**
comp=Z,1.5nm,1.0s,baz=201,slow=12,SNR=5.7
PRGR Permogore 29.66 337 *e*P P 18 01 57.1 -3.8
PRGR pmax pmax
comp=Z,19nm,0.8s
ULN Ulaanbaatar 29.98 55⇑*e*P **P 18 02 05.8 +1.7**
ULN pmax pmax
comp=Z,6.0nm,2.5s
ULN Ulaanbaatar 29.98 55 *e*P **P 18 02 04.8 +0.7**
comp=Z,3.3nm,0.7s
PALK Pallekele 30.46 158 P **P 18 02 10.2 +1.7**
PALK pmax pmax
comp=Z,11nm,1.1s
PALK Pallekele 30.46 158 P **P 18 02 10.2 +1.7**
comp=Z,10nm,1.1s
DAMY Dhamar 31.07 233 *e*PP PP 18 03 28.2 +1.9
AKASG Malin Array Be 32.28 310 P **P 18 02 24.6 +0.6**
comp=Z,3.5nm,0.5s,baz=85,slow=7.1,SNR=48
KIEV Kiev 32.28 310⇑*i*P **P 18 02 24.4 +0.3**
KIEV Kiev 32.28 310 *e*P **P 18 02 24.1 0.0**
comp=Z,6.4nm,0.7s
CFR Carcaliu 32.39 299⇑P **P 18 02 26.2 +1.1**
CFR Carcaliu 32.39 299⇑*i*P **P 18 02 26.2 +1.1**
HHC Hu-ho-hao-te 33.01 69 *e*P **P 18 02 31.6 +0.8**
HHC pP **pP 18 02 56.3 +1.4**
HHC sP **sP 18 03 09.5 +2.1**
HHC PP **PP 18 03 45.8 -1.5**
HHC S **S 18 07 39.6 -1.8**
HHC sS **sS 18 08 23.4 +0.1**
HHC ScS **ScS 18 12 46.1 -0.7**
HHC PMZ
comp=Z,17nm,0.6s
HHC PMZ
comp=Z,92nm,5.7s
VRI Vrincioaia 33.40 300⇑P **P 18 02 35.3 +1.3**
VRI Vrincioaia 33.40 300⇑*i*P **P 18 02 35.3 +1.3**
PLOR Plostina 33.45 300⇓P **P 18 02 36.8 +2.4**
PLOR Plostina 33.45 300⇓*i*P **P 18 02 36.8 +2.4**
TESR Tescani 33.48 302⇑*i*P **P 18 02 34.4 -0.2**
MLR Muntele Rosu 33.94 300⇑P **P 18 02 41.0 +2.2**
MLR Muntele Rosu 33.94 300⇑*i*P **P 18 02 41.0 +2.2**
MLR Muntele Rosu 33.94 300 P **P 18 02 40.5 +1.7**
comp=Z,4.2nm,0.9s,baz=14,slow=2.0,SNR=33
BURAR Bucovina Array 34.51 303⇑P **P 18 02 44.3 +0.7**
BURAR Bucovina Array 34.51 303⇑*i*P **P 18 02 44.3 +0.7**
VOIR 34.57 300⇓P **P 18 02 44.1 -0.1**
VOIR 34.57 300⇓*i*P **P 18 02 44.1 -0.1**
ARR Arges 34.87 299⇑*i*P **P 18 02 47.7 +1.0**
JOF Joensuu 35.63 331 *e*P **P 18 02 52.9 0.0**
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 35.63 331 *e*p **P 18 02 52.9 0.0**
comp=Z,9.8nm,0.5s
VSU Vasula 35.76 322⇑*i*P **P 18 02 54.3 +0.2**
VSU pmax pmax
comp=Z,40nm,1.0s
IDI Anoyia 36.02 282 P **P 18 02 56.1 -0.6**
comp=Z,6.2nm,0.8s,baz=79,slow=10,SNR=5.8
KWP Kalwaria Pacla 36.29 307 *e*P **P 18 03 00.1 +1.3**
KWP pmax pmax
comp=Z,4.0nm,0.3s
KWP Kalwaria Pacla 36.29 307 *e*P **P 18 03 00.3 +1.6**
KWP Kalwaria Pacla 36.29 307 *e*P **P 18 03 00.1 +1.3**
comp=Z,4.3nm,0.3s
BOD Bodaibo 36.41 39 *e*P **P 18 03 00.6 +1.0**
BOD pmax pmax
comp=Z,5.0nm,1.7s
KOLS Kolonicke sedl 36.54 306 *e*P **P 18 03 01.9 +1.1**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 36.54 306 *e*P **P 18 03 01.9 +1.1**
BZS Buzias 36.98 300⇓P **P 18 03 05.0 +0.4**
BZS Buzias 36.98 300⇓*i*P **P 18 03 05.0 +0.4**
FINES FINESS Array B 37.16 327 P **P 18 03 06.7 +0.8**
comp=Z,6.3nm,0.7s,baz=119,slow=12,SNR=33
STHS Stebnicka Huta 37.23 306 *e*P **P 18 03 07.4 +0.7**
STHS Stebnicka Huta 37.23 306 *e*P **P 18 03 07.4 +0.7**
KAF Kangasniemi 37.32 328 *e*P **P 18 03 06.8 -0.5**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 37.32 328 *e*p **P 18 03 06.8 -0.5**
comp=Z,3.4nm,0.5s
KECS Kecovo 37.71 305 *e*P **P 18 03 12.2 +1.5**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 37.71 305 *e*P **P 18 03 12.2 +1.5**
NIE Niedzica 37.84 306 *e*P **P 18 03 14.0 +2.1**
PSZ Piszkesteto 38.10 304 P **P 18 03 15.2 +1.1**
PSZ Piszkesteto 38.10 304 P **P 18 03 15.2 +1.1**
OJC Ojcow 38.20 308 *e*P **P 18 03 15.8 +1.0**
VYHS Vyhne 38.80 305 *e*P **P 18 03 22.1 +2.1**
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 38.80 305 *e*P **P 18 03 22.1 +2.1**
QIZ Qiongzhong 39.26 105 P **P 18 03 24.3 +0.3**
QIZ sP **sP 18 04 02.6 +1.6**
QIZ sS **sS 18 10 00.3 +0.9**
QIZ PMZ
comp=Z,100nm,3.6s
MORC Moravsky Berou 39.65 307 *e*P **P 18 03 27.4 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 39.65 307 *e*P **P 18 03 27.4 +0.4**
comp=Z,3.7nm,0.7s
KRLC Kraliky 40.14 307 *e*P **P 18 03 31.7 +0.7**
KRLC Kraliky 40.14 307 *e*P **P 18 03 31.7 +0.7**
VRAC Vranov 40.27 306 P **P 18 03 33.1 +1.0**
comp=Z,5.0nm,0.7s,baz=102,slow=9.4,SNR=7.6
DPC Dobruska-Polom 40.43 308 *e*P **P 18 03 35.0 +1.6**
DPC Dobruska-Polom 40.43 308 *e*P **P 18 03 35.0 +1.6**
DPC Dobruska-Polom 40.43 308 *e*P **P 18 03 34.3 +0.9**
comp=Z,44nm,1.0s
UPC Upice 40.63 308 *e*P **P 18 03 36.6 +1.6**
UPC Upice 40.63 308 *e*P **P 18 03 36.6 +1.6**
NJ2 Nanjing 40.71 81 *e*P **P 18 03 36.0 +0.1**
NJ2 PMZ
comp=Z,20nm,0.6s
KEV Kevo 40.74 339 *e*P **P 18 03 36.2 +0.6**
KEV pmax pmax
comp=Z,12nm,0.9s
KEV Kevo 40.74 339 *e*p **P 18 03 35.4 -0.2**
comp=Z,5.1nm,0.5s
KEV Kevo 40.74 339 *e*P **P 18 03 36.2 +0.6**
comp=Z,12nm,0.9s
ARCES ARCESS Array B 41.06 338 P **P 18 03 38.6 +0.2**
comp=Z,11nm,0.8s,baz=110,slow=8.6,SNR=40
GROS Grobnik 41.17 302 *i* P **P 18 03 40.5 +0.9**
TIP Timpagrande 41.42 291 P **P 18 03 42.7 +1.0**
PERS Pernice 41.42 302 *i* P **P 18 03 42.7 +1.1**
PRU Pruhonice 41.58 307 *e*P **P 18 03 44.5 +1.7**
PRU Pruhonice 41.58 307 *e*P **P 18 03 44.5 +1.7**
BRG Berggiesshubel 41.94 309 *i* P **P 18 03 46.9 +1.2**
comp=Z,5.9nm,0.7s
BRG *e*pP pP 18 04 21.6 +11
comp=Z,2.0nm,0.7s
BRG *e*sP sP 18 04 38.9 +16
comp=Z,1.5nm,0.8s
BRG *e*sS sS 18 11 04.3 +25
comp=Z,3.9nm,0.8s
BRG Berggiesshubel 41.94 309 *i* P **P 18 03 46.9 +1.2**
BRG *e**PP pP 18 04 21.6 +11
BRG pmax pmax
comp=Z,6.0nm,0.7s
CUC Castrocucco 41.95 292 *e*P **P 18 03 47.5 +1.5**
comp=Z,14nm,0.7s
GERES GERESS Array B 42.19 306 P **P 18 03 47.8 -0.1**
comp=Z,1.5nm,0.8s,baz=92,slow=8.0,SNR=13
KHC Kasperske Hory 42.25 306 *e*P **P 18 03 48.9 +0.6**
KHC Kasperske Hory 42.25 306 *e*P **P 18 03 48.9 +0.6**
CLL Collm 42.52 309 *e*P **P 18 03 51.0 +0.6**
CLL Collm 42.52 309 *e*P **P 18 03 51.0 +0.6**
CLL *e*PP **PP 18 05 33.0 +2.2**
CLL LmV 18 34 00.0
comp=Z,100nm,19.2s
ROBS Robic 42.57 302 *i* P **P 18 03 51.5 +0.7**
HFS Hagfors 42.65 322 P **P 18 03 50.9 -0.5**
baz=105,slow=9.1
IPM Ipoh 42.78 130 *e*P **P 18 03 53.2 +0.3**
comp=Z,21nm,0.7s
CN2 Changchun 42.84 62 *e*P **P 18 03 54.5 +1.4**
AQU L'Aquila 43.25 296 P **P 18 03 57.3 +0.8**
AQU pmax pmax
comp=Z,6.0nm,0.6s
AQU L'Aquila 43.25 296 P **P 18 03 57.3 +0.8**
comp=Z,5.7nm,0.6s
DGAR Diego Garcia 43.37 176 *e*P **P 18 03 59.7 +2.2**
DGAR pmax pmax
comp=Z,68nm,0.9s
DGAR Diego Garcia 43.37 176 *e*P **P 18 03 59.7 +2.2**
comp=Z,68nm,0.9s
GRF Grafenberg Arr 43.75 307 *e*P **P 18 04 02.1 +1.8**
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 43.99 323 P **P 18 04 01.9 -0.2**
comp=Z,8.1nm,0.7s,baz=97,slow=7.9
NOA NORSAR Array B 43.99 323 P **P 18 04 02.0 -0.1**
comp=Z,6.5nm,0.6s,baz=98,slow=8.0,SNR=40
KONO Kongsberg 44.65 321 *e*P **P 18 04 06.7 -0.6**
KONO pmax pmax
comp=Z,6.0nm,0.7s
KONO Kongsberg 44.65 321 *e*P **P 18 04 06.7 -0.6**
comp=Z,6.4nm,0.7s
MNSI Mandailing Nat 44.84 135 P **P 18 04 09.9 +0.5**
comp=Z,54nm,0.8s
YAK Yakutsk 44.98 35 *e*P **P 18 04 09.9 0.0**
YAK *e**PP **pP 18 04 34.5 -0.5**
YAK *e* 18 05 46.2
YAK *e* 18 05 56.7
YAK *e*PPP PPP 18 06 37.1
YAK *e*S **S 18 10 42.7 +2.9**
YAK *e**SS **sS 18 11 24.2 +1.0**
YAK *e* 18 13 56.9
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=Z,92nm,5.8s
YAK pmax pmax
comp=N,156nm,4.9s
YAK pmax pmax
comp=E,142nm,6.3s
YAK smax smax
comp=N,36nm,2.2s
YAK smax smax
comp=E,87nm,3.0s
YAK Yakutsk 44.98 35 P **P 18 04 08.0 -1.8**
comp=E,14nm,0.7s,baz=287,slow=0.6,SNR=8.6
YAK Yakutsk 44.98 35 *e*P **P 18 04 10.4 +0.5**
comp=E,13nm,0.6s
BKNI Bangkinang 46.07 133 P **P 18 04 19.9 +0.8**
comp=E,90nm,0.8s
BKNI Bangkinang 46.07 133 *e*P **P 18 04 19.4 +0.3**
comp=E,64nm,0.7s
KSAR Wonju Array Be 46.10 70 P **P 18 04 18.6 -0.5**
KSAR Wonju Array Be 46.10 70 P **P 18 04 18.6 -0.5**
KSRS Korea Array 46.13 70 P **P 18 04 18.6 -0.7**
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 46.13 70 P **P 18 04 18.6 -0.7**
comp=Z,1.4nm,0.7s,baz=279,slow=7.1,SNR=5.9
PGF Pioggiola 46.40 297 *e*P **P 18 04 21.4 -0.1**
comp=Z,33nm,0.9s
PGF Pioggiola 46.40 297 *e*P **P 18 04 21.4 -0.1**
PGF pmax pmax
comp=Z,33nm,0.9s
PGF Pioggiola 46.40 297 *e*P **P 18 04 21.4 -0.1**
comp=Z,33nm,0.9s
TIXI Tiksi 46.59 22⇑*e*P **P 18 04 23.3 +0.9**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 46.59 22 *e*P **P 18 04 23.0 +0.6**
comp=Z,6.5nm,0.8s
SENIN Lac Senin/Sane 46.80 303 *e*P **P 18 04 25.2 +0.4**
HINF Hinteralfeld 46.85 305 *e*P **P 18 04 25.0 +0.1**
comp=Z,11nm,1.0s
HINF Hinteralfeld 46.85 305 *e*P **P 18 04 25.0 +0.1**
HINF pmax pmax
comp=Z,11nm,1.0s
HINF Hinteralfeld 46.85 305 *e*P **P 18 04 25.0 +0.1**
comp=Z,11nm,1.0s
HAU Haudompre 47.15 305 *e*P **P 18 04 27.4 +0.2**
comp=Z,8.0nm,0.7s
HAU Haudompre 47.15 305 *e*P **P 18 04 27.4 +0.2**
HAU pmax pmax
comp=Z,8.0nm,0.7s
HAU Haudompre 47.15 305 *e*P **P 18 04 27.4 +0.2**
comp=Z,8.0nm,0.7s
SBF Sospel 47.22 299 *e*P **P 18 04 28.3 +0.5**
SBF Sospel 47.22 299 *e*P **P 18 04 28.3 +0.5**
SBF Sospel 47.22 299 *e*P **P 18 04 28.3 +0.5**
LPG La Plagne 47.35 302 *e*P **P 18 04 29.6 +0.5**
comp=Z,11nm,0.8s
LPG La Plagne 47.35 302 *e*P **P 18 04 29.6 +0.5**
LPG pmax pmax
comp=Z,11nm,0.8s
LPG La Plagne 47.35 302 *e*P **P 18 04 29.6 +0.5**
comp=Z,11nm,0.8s
LPL La Plagne 47.35 302 *e*P **P 18 04 29.6 +0.5**
comp=Z,12nm,0.9s
LPL La Plagne 47.35 302 *e*P **P 18 04 29.6 +0.5**
LPL pmax pmax
comp=Z,12nm,0.9s
LPL La Plagne 47.35 302 *e*P **P 18 04 29.6 +0.5**
comp=Z,12nm,0.9s
PAGF Fort de Pagny 47.47 306 *e*P **P 18 04 30.7 +1.1**
comp=Z,5.2nm,1.0s
PAGF Fort de Pagny 47.47 306 *e*P **P 18 04 30.7 +1.1**
comp=Z,5.2nm,1.0s
MBDF Montbardon 47.49 301 *e*P **P 18 04 30.0 -0.1**
comp=Z,8.9nm,0.6s
MBDF Montbardon 47.49 301 *e*P **P 18 04 30.0 -0.1**
MBDF pmax pmax
comp=Z,9.0nm,0.6s
MBDF Montbardon 47.49 301 *e*P **P 18 04 30.0 -0.1**
comp=Z,8.9nm,0.6s
CABF La Chapelle 47.58 303 *e*P **P 18 04 31.2 +0.6**
CABF La Chapelle 47.58 303 *e*P **P 18 04 31.2 +0.6**
CABF La Chapelle 47.58 303 *e*P **P 18 04 31.2 +0.6**
SPITS Spitsbergen Ar 47.61 347 P **P 18 04 31.3 +1.0**
comp=Z,7.7nm,0.7s,baz=133,slow=13,SNR=20
KMBO Kilima Mbogo 47.69 226*ce*P **P 18 04 30.7 -1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 47.69 226 P **P 18 04 30.7 -1.3**
comp=Z,2.4nm,0.8s,baz=28,slow=12,SNR=8.1
KMBO Kilima Mbogo 47.69 226 *e*P **P 18 04 32.0 0.0**
comp=Z,0.3nm,0.6s
FRF La Foret Royal 47.84 299 *e*P **P 18 04 32.5 -0.1**
FRF La Foret Royal 47.84 299 *e*P **P 18 04 32.5 -0.1**
FRF La Foret Royal 47.84 299 *e*P **P 18 04 32.5 -0.1**
SFTF Sexfontaines 47.98 306 *e*P **P 18 04 34.2 +0.6**
SFTF Sexfontaines 47.98 306 *e*P **P 18 04 34.2 +0.6**
KEST Kesra 48.03 288 P **P 18 04 35.0 +0.7**
comp=Z,1.9nm,0.5s,baz=359,slow=3.3,SNR=11
BAIF Baives 48.20 308 *e*P **P 18 04 36.5 +1.2**
comp=Z,18nm,1.0s
BAIF Baives 48.20 308 *e*P **P 18 04 36.5 +1.2**
BAIF pmax pmax
comp=Z,18nm,1.0s
BAIF Baives 48.20 308 *e*P **P 18 04 36.5 +1.2**
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 48.92 301 *e*P **P 18 04 41.5 +0.6**
comp=Z,5.8nm,0.6s
VIVF Saint-Julien-l 48.92 301 *e*P **P 18 04 41.5 +0.6**
VIVF pmax pmax
comp=Z,6.0nm,0.6s
VIVF Saint-Julien-l 48.92 301 *e*P **P 18 04 41.5 +0.6**
comp=Z,5.8nm,0.6s
SMF Signal de Mont 49.09 304 *e*P **P 18 04 42.3 +0.2**
comp=Z,18nm,0.8s
SMF Signal de Mont 49.09 304 *e*P **P 18 04 42.3 +0.2**
SMF pmax pmax
comp=Z,18nm,0.8s
SMF Signal de Mont 49.09 304 *e*P **P 18 04 42.3 +0.2**
comp=Z,18nm,0.8s
AVF Avril sur Loir 49.38 304 *e*P **P 18 04 44.5 +0.2**
comp=Z,12nm,0.8s
AVF Avril sur Loir 49.38 304 *e*P **P 18 04 44.5 +0.2**
AVF pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 49.38 304 *e*P **P 18 04 44.5 +0.2**
comp=Z,12nm,0.8s
LASF Ste Croix 49.68 301 *e*P **P 18 04 47.4 +0.8**
comp=Z,23nm,1.1s
LASF Ste Croix 49.68 301 *e*P **P 18 04 47.4 +0.8**
comp=Z,23nm,1.1s
TCF Toulx Ste Croi 50.27 304 *e*P **P 18 04 51.6 +0.5**
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 50.27 304 *e*P **P 18 04 51.6 +0.5**
TCF pmax pmax
comp=Z,18nm,0.9s
TCF Toulx Ste Croi 50.27 304 *e*P **P 18 04 51.6 +0.5**
comp=Z,18nm,0.9s
CAF Calviac 50.70 302 *e*P **P 18 04 55.0 +0.6**
CAF Calviac 50.70 302 *e*P **P 18 04 55.0 +0.6**
CAF Calviac 50.70 302 *e*P **P 18 04 55.0 +0.6**
RJF Les Rejaudoux 50.98 303 *e*P **P 18 04 57.3 +0.9**
comp=Z,9.5nm,1.1s
RJF Les Rejaudoux 50.98 303 *e*P **P 18 04 57.3 +0.9**
RJF pmax pmax
comp=Z,10.0nm,1.0s
RJF Les Rejaudoux 50.98 303 *e*P **P 18 04 57.3 +0.9**
comp=Z,9.5nm,1.0s
MTLF Montolieu 51.02 300 *e*P **P 18 04 57.0 +0.3**
MTLF Montolieu 51.02 300 *e*P **P 18 04 57.0 +0.3**
MTLF Montolieu 51.02 300 *e*P **P 18 04 57.0 +0.3**
LDF La Druitiere 51.27 307 *e*P **P 18 04 58.3 -0.2**
comp=Z,3.7nm,0.7s
LDF La Druitiere 51.27 307 *e*P **P 18 04 58.3 -0.2**
LDF pmax pmax
comp=Z,4.0nm,0.6s
LDF La Druitiere 51.27 307 *e*P **P 18 04 58.3 -0.2**
comp=Z,3.7nm,0.6s
FLN La Foliniere 51.46 307 *e*P **P 18 04 59.7 -0.2**
comp=Z,7.8nm,0.7s
FLN La Foliniere 51.46 307 *e*P **P 18 04 59.7 -0.2**
FLN pmax pmax
comp=Z,8.0nm,0.7s
FLN La Foliniere 51.46 307 *e*P **P 18 04 59.7 -0.2**
comp=Z,7.8nm,0.7s
LFF La Frestale 51.60 302 *e*P **P 18 05 01.7 +0.7**
LFF La Frestale 51.60 302 *e*P **P 18 05 01.7 +0.7**
LFF La Frestale 51.60 302 *e*P **P 18 05 01.7 +0.7**

EKA	Eskdalemuir Ar	51.75	316	P		P		18 05 01.0	-0.9
	comp=Z,3.1nm,0.7s,baz=96,slow=6.9,SNR=16								
GRR	Gorron	51.79	307	*e*P		P		18 05 02.1	-0.3
GRR	Gorron	51.79	307	*e*P		P		18 05 02.1	-0.3
GRR	Gorron	51.79	307	*e*P		P		18 05 02.1	-0.3
ETSF	Etsaut	53.09	300	*e*P		P		18 05 12.5	+0.3
	comp=Z,4.3nm,0.5s								
ETSF	Etsaut	53.09	300	*e*P		P		18 05 12.5	+0.3
ETSF				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ETSF	Etsaut	53.09	300	*e*P		P		18 05 12.5	+0.3
	comp=Z,4.3nm,0.5s								
ROSF	Rostrenen	53.37	307	*e*P		P		18 05 13.8	-0.2
	comp=Z,5.5nm,0.7s								
ROSF	Rostrenen	53.37	307	*e*P		P		18 05 13.8	-0.2
ROSF				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ROSF	Rostrenen	53.37	307	*e*P		P		18 05 13.8	-0.2
	comp=Z,5.5nm,0.7s								
QUIF	Quistinic	53.41	307	*e*P		P		18 05 14.7	+0.4
QUIF	Quistinic	53.41	307	*e*P		P		18 05 14.7	+0.4
QUIF	Quistinic	53.41	307	*e*P		P		18 05 14.7	+0.4
YSS	Yuzh-Sakhalins	54.02	54	P		P		18 05 19.2	+0.5
YSS	Yuzh-Sakhalins	54.02	54	P		P		18 05 19.2	+0.5
MAJO	Matsushiro	54.20	68	P		P		18 05 19.8	-0.5
MAJO	Matsushiro	54.20	68	P		P		18 05 19.8	-0.5
SEY	Seymchan	55.41	33	*e*P		P		18 05 29.4	+0.9
TAM	Tamanrasset	56.39	275	P		P		18 05 35.9	-0.5
TAM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TAM	Tamanrasset	56.39	275	P		P		18 05 35.9	-0.5
	comp=Z,3.4nm,0.9s								
ESDC	Sonseca Array	56.59	298	P		P		18 05 37.3	-0.1
	comp=Z,2.8nm,0.6s,baz=59,slow=7.7,SNR=24								
OPO	Ambohidratompo	58.34	205	P		P		18 05 49.4	-0.5
	comp=Z,5.9nm,0.8s,baz=23,slow=6.2,SNR=7.1								
BILL	Bilibino	59.48	26⇓	*e*P		P		18 05 58.4	+1.4
BILL				*i* *e	PP	pP		18 06 25.5	+2.1
BILL				*e*				18 08 07.5	
BILL				pmax	pmax				
	comp=Z,3.0nm,0.8s								
EVO	Evora	59.94	298	*e*P		P		18 06 01.1	+0.5
	comp=Z,7.1nm,0.8s								
EVOP	Sao Brissos	60.02	298	*e*P		P		18 06 01.1	-0.1
EVOP				pmax	pmax				
	comp=Z,7.0nm,0.8s								
EVOP	Sao Brissos	60.02	298	*e*P		P		18 06 01.1	-0.1
	comp=Z,7.1nm,0.8s								
SUMG	Summit	61.05	341	*e*P		P		18 06 09.5	+1.4
SUMG				pmax	pmax				
	comp=Z,201nm,3.0s								
SUMG	Summit	61.05	341	*e*P		P		18 06 09.5	+1.4
	comp=Z,201nm,3.0s								
LSZ	Lusaka	64.33	225	P		P		18 06 29.9	-0.4
	comp=Z,3.6nm,0.5s,baz=45,slow=7.9,SNR=12								
TORD	Torodi Ar. Bea	64.52	268	P		P		18 06 29.9	-1.6
	comp=Z,4.7nm,0.6s,baz=48,slow=6.1,SNR=36								
BATI	Baumata	68.67	121	P		P		18 06 56.2	-1.7
	comp=Z,14nm,0.7s,baz=29,slow=1.4,SNR=6.7								
COLD	Coldfoot	72.67	15	*e*P		P		18 07 21.6	+0.3
	comp=Z,7.4nm,0.9s								
DBIC	Dimbokro	73.49	266	*e*P		P		18 07 25.6	-1.4
DBIC				pmax	pmax				
	comp=Z,8.0nm,0.9s								
DBIC	Dimbokro	73.49	266	P		P		18 07 24.9	-2.1
	comp=Z,5.2nm,0.8s,baz=26,slow=8.5,SNR=5.4								
DBIC	Dimbokro	73.49	266	*e*P		P		18 07 25.6	-1.4
	comp=Z,8.4nm,0.9s								
LBTB	Lobatse	73.59	221	P		P		18 07 27.2	-0.3
LBTB				pmax	pmax				
	comp=Z,19nm,0.6s								
LBTB	Lobatse	73.59	221	P		P		18 07 27.1	-0.3
	comp=Z,19nm,0.6s,baz=50,slow=4.4,SNR=48								
LBTB	Lobatse	73.59	221	*e*P		P		18 07 27.6	+0.1
	comp=Z,19nm,0.6s								
TSUM	Tsumeb	73.74	231	P		P		18 07 28.3	-0.2
	comp=Z,3.2nm,0.5s,baz=24,slow=9.0,SNR=5.6								
TSUM	Tsumeb	73.74	231	*e*P		P		18 07 28.3	-0.2
	comp=Z,17nm,1.2s								
INK	Inuvik	74.48	9	*e*P		P		18 07 33.1	+1.2
INK				pmax	pmax				
	comp=Z,6.0nm,0.6s								
INK	Inuvik	74.48	9	P		P		18 07 32.4	+0.5
	comp=Z,4.0nm,0.5s,baz=351,slow=6.4,SNR=34								
INK	Inuvik	74.48	9	*e*P		P		18 07 33.0	+1.2
	comp=Z,6.0nm,0.6s								
COLA	College	75.18	16	*d* *i*P		P		18 07 36.5	+0.5
COLA				pmax	pmax				
	comp=Z,40nm,0.8s								
COLA	College	75.18	16	*e*P		P		18 07 36.1	+0.1
	comp=Z,9.8nm,0.8s								
CAST	Castle Rocks	75.43	18	*e*P		P		18 07 38.5	+1.0
	comp=Z,9.2nm,1.0s								
ILAR	Eielson Array	75.48	15	P		P		18 07 37.2	-0.5
	comp=Z,2.4nm,0.8s,baz=315,slow=4.7,SNR=29								
BOSA	Boshof	76.69	219	P		P		18 07 44.7	-0.5
	comp=Z,16nm,0.7s,baz=24,slow=4.0,SNR=30								
PAX	Paxson	77.36	16	*e*P		P		18 07 48.2	-0.3
PAX				pmax	pmax				
	comp=Z,7.0nm,0.6s								
PAX	Paxson	77.36	16	*e*P		P		18 07 48.2	-0.3
	comp=Z,16nm,0.6s								
DAWY	Dawson	77.57	13	*e*P		P		18 07 50.2	+0.6
	comp=Z,3.8nm,0.7s								
KDAK	Kodiak Island	80.00	21	*i* P		P		18 08 02.9	0.0
YKA	Yellowknife Ar	81.69	2	P		P		18 08 12.1	+0.3
	comp=Z,2.1nm,0.8s,baz=350,slow=5.3,SNR=40								
SUR	Sutherland	81.99	220	P		P		18 08 12.8	-1.1
SCHQ	Schefferville	81.99	336	P		P		18 08 12.7	-0.9
	comp=Z,2.4nm,0.9s,baz=56,slow=3.6,SNR=3.0								
WRA	Warramunga Arr	82.80	121	*i* P		P		18 08 16.7	-1.5
WRA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	Warramunga Ar	82.80	121	P		P		18 08 16.8	-1.5
	comp=Z,1.1nm,0.5s,baz=324,slow=4.9,SNR=29								
WRAB	Tennant Creek	82.80	121⇑	*i*P		P		18 08 17.0	-1.2
WRAB				pmax	pmax				
	comp=Z,9.0nm,1.0s								
WRAB	Tennant Creek	82.80	121	*e*P		P		18 08 16.8	-1.4
	comp=Z,3.5nm,0.8s								
FCC	Fort Churchill	84.50	352	*e*P		P		18 08 26.3	0.0
FCC	Fort Churchill	84.50	352	*e*P		P		18 08 26.2	0.0
AS31	Alice Springs	85.01	124	*e*P		P		18 08 28.1	-1.3
ASAR	Alice Springs	85.01	124	P		P		18 08 28.2	-1.2
	comp=Z,1.2nm,0.7s,baz=315,slow=5.1,SNR=27								
FFC	Flin Flon	89.24	355	P		P		18 08 49.3	-0.1
FFC				pmax	pmax				
	comp=Z,2.0nm,0.9s								
FFC	Flin Flon	89.24	355	P		P		18 08 49.2	-0.1
	comp=Z,2.5nm,0.9s								
CTA	Charters Tower	91.46	114	P		P		18 08 58.9	-1.3
	comp=Z,0.7nm,0.4s,baz=315,slow=1.4,SNR=2.6								
CTA				LR		LR		18 56 01.7	
	comp=Z,116nm,21.0s,baz=172,slow=39								
CTAO	Charters Tower	91.46	114	P		P		18 08 58.6	-1.6
CTAO				pmax	pmax				
	comp=Z,3.0nm,0.9s								
CTAO	Charters Tower	91.46	114	P		P		18 08 58.6	-1.6
	comp=Z,2.5nm,0.9s								
LPAZ	La Paz	137.60	286	PKP		PKPdf		18 15 17.3	-1.0
	comp=Z,0.8nm,0.6s,baz=124,slow=1.3,SNR=4.1								
PLCA	Paso Flores	148.58	249	PKPbc		PKPbc		18 15 39.5	-0.5
	comp=Z,3.5nm,0.9s,baz=82,slow=2.4,SNR=7.3								

*IDC **09** 17:56:15.7±1.8, 33°.90S×72°.36W, h0km, mb3.9/3, mb1 3.8/6, mb1mx3.7/32, mbtmp3.7/6, ML3.7/3, MS2.2/1, Ms1 2.2/1, ms1mx2.2/17, Error ellipse: s-maj=65.5km s-min=22.6km az=107.0*

*GUC **09** 17:56:18.8±0.5, 33°.91S×72°.19W, h38km±4km, ML3.8*

*NEIC **09** 17:56:19.8±4.0, 33°.89S×72°.34W, h29km±29km, mb4.3/2, Error ellipse: s-maj=28.0km s-min=9.2km az=88.0*

ISC 09 17:56:17.7±1.5, 33°.95S±0'.04×72°.26W±0'.06, h16km±10km, n22, σ1°37/30, mb4.0/3, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.30	70	*e*P		P	Pn	17 56 40.3	-0.9
RCDM				*e*S		S	Sb	17 56 56.9	-1.2
RCDM				AML		AML	AML	17 57 02.6	
	comp=N,2μm,0.6s								
NICH	Los Niches	1.35	141	*e*P		P	Pg	17 56 43.1	-0.6
NICH				*e*S		S	Sb	17 57 01.3	+1.5
TALC	Talca	1.54	160⇓	*i*P		P	Pg	17 56 46.3	-0.9
TALC				*e*S		S	Sg	17 57 07.0	-0.1
CLCH	Cerro Calan	1.54	69	*e*P		P	Pn	17 56 44.8	+0.2
CLCH				*e*S		S	Sn	17 57 05.0	+0.7
CLCH				AML		AML	AML	17 57 17.9	
	comp=E,3μm,0.4s								
PEL	Peldehue	1.54	59	*e*P		P	Pb	17 56 45.0	-0.9
PEL				*i* S		S	Sb	17 57 05.1	-0.2
PEL				AML		AML	AML	17 57 10.5	
	comp=N,6μm,0.8s								
SJCH	San Jose de Ma	1.62	80	*e*P		P	Pn	17 56 44.9	-0.7
SJCH				*e*S		S	Sn	17 57 05.7	-0.6
SJCH				AML		AML	AML	17 57 10.5	
	comp=N,3μm,0.7s								
FCH	Farellones	1.76	70	*e*P		P	Pg	17 56 52.0	+0.6
FCH				*e*S		S	Sg	17 57 15.2	+0.9
FCH				AML		AML	AML	17 57 20.5	
	comp=N,1μm,0.3s								
YECH	El Yeso	1.83	82	*e*P		P	Pb	17 56 50.0	-1.0
CFAA	Coronel Fontan	4.12	56	Pn		P	Pn	17 57 21.3	+1.3
	comp=N,0.8nm,0.3s,baz=228,slow=12,SNR=26								
CFAA				Lg		Lg		17 58 20.2	
	comp=N,1.8nm,0.3s,baz=316,slow=20,SNR=10								
CFAA				LR		LR		17 58 59.3	
	comp=N,34nm,21.6s,baz=225,slow=39								
LCO	Las Campanas	5.10	16	*e*Pn		P	Pn	17 57 33.0	-0.8
	comp=N,33nm,0.6s								
LCO				*e*Pb		P	Pb	17 57 45.6	-1.1
LCO				*e*Pg		P	Pg	17 57 50.2	-5.1
LCO				*e*Sn		S	Sn	17 58 29.6	-2.9
LCO				*e*Sg		S	Sb	17 58 51.9	+4.0
PLCA	Paso Flores	6.91	169	Pn		P	Pn	17 57 59.0	+0.7
	comp=N,0.6nm,0.3s,baz=327,slow=8.8,SNR=10.0								
PLCA				Lg		Lg		17 59 49.7	
	comp=N,0.1nm,0.3s,baz=291,slow=14,SNR=4.4								
PLCA	Paso Flores	6.91	169	Pn		P	Pn	17 57 59.0	+0.7
PLCA				Lg		Lg		17 59 49.7	
PLCA				*e*Sg		Sg		17 59 50.1	-9.1
TRQA	Tornquist	9.28	119	*e*Pn		P	Pn	17 58 31.9	+1.0
	comp=N,8.5nm,1.0s								
LVC	Limon Verde	11.67	15	Pn		P	Pn	17 59 05.4	+1.5
LPAZ	La Paz	17.98	13	P		P	P	18 00 27.9	-0.2
	comp=N,0.2nm,0.3s,baz=202,slow=7.6,SNR=6.0								
EFI	East Falkland	20.48	154	P		P	Pn	18 00 57.7	+0.8
	comp=N,43nm,1.1s								
SIV	San Ignacio	20.53	32	P		P	Pn	18 00 57.4	-0.3
	comp=N,2.2nm,0.9s,baz=216,slow=8.7,SNR=3.8								
SAML	Samuel	26.25	21	P		P		18 01 51.6	-0.6
	comp=N,2.0nm,0.8s								
QSPA	South Pole Qui	56.29	180	P		P		18 05 59.1	+1.8
	comp=N,1.5nm,0.9s,baz=134,slow=5.2,SNR=4.3								
BBSR	BB Station	66.35	7	P		P		18 07 04.0	-1.5
TORD	Torodi Ar. Bea	84.37	70	P		P		18 08 49.4	-0.2
	comp=N,2.5nm,0.9s,baz=234,slow=4.8,SNR=7.7								
ZALV	Zalesovo Beam	154.28	32	PKPbc		PKPbc		18 16 16.1	-0.5
	comp=N,1.1nm,0.6s,baz=300,slow=3.2,SNR=5.0								

*IDC **09** 17:59:37.5±0.7, 14°.44N×93°.03E, h0km, mb4.1/17, mb1 4.2/19, mb1mx3.9/55, mbtmp4.0/19, ML4.1/2, Error ellipse: s-maj=19.6km s-min=18.2km az=104.0*

*ISCJB **09** 17:59:40.9±0.4, 14°.57N±0'.07×93°.05E±0'.04, h33km, mb4.3/32, Error ellipse: s-maj=10.6km s-min=5.8km az=170.1*

*NEIC **09** 17:59:42.7±0.4, 14°.52N×93°.00E, h35km, mb4.8/13, Error ellipse: s-maj=11.2km s-min=7.4km az=149.0*

*BKK **09** 18:00:06.7±1.6, 15°.N±5°×9°.5E±1°.6, h10km, M4.3/9, mb4.5/8, mB5.0/4, MLv4.2/9, Mw(mB)4.3/4*

ISC 09 17:59:42.9±0.6, 14°.55N±0°.09×93°.01E±0°.07, h35km, n74, σ0°.90/65, mb4.3/32, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDT	SRDT	5.92	91	P		P	Pn	18 01 08.8	+0.7
MHMT	Maesarieng	5.94	52	P		P	Pn	18 01 15.1	+6.7
PHET	Kaeng Krachan	6.63	103	P		P	Pn	18 01 18.7	+0.8
	132nm,0.7s,3μm0.8nm								
CMAR	Chiang Mai Arr	6.89	55	Pn		P	Pn	18 01 21.8	+0.3
	0.6nm,0.3s,baz=243,slow=15,SNR=29								
CMAR						Sn	Sn	18 02 37.2	-1.4
	1.2nm,0.3s,baz=101,slow=9.9,SNR=4.8								
CHTO	Chiang Mai	7.09	52	*e*Pn		P	Pn	18 01 23.1	-1.1
	8.6nm,0.6s								
CHTO				*e*S			Sn	18 02 26.4	-17
CHTO	Chiang Mai	7.09	52	P		P	Pn	18 01 24.6	+0.3
	27nm,0.7s,0.3nm								
CMMT	Chiang Mai	7.09	52	P		P	Pn	18 01 24.4	+0.1
	18nm,0.9s,0.1nm								
UTTA	Uttaradit	7.91	65	P		P	Pn	18 01 43.6	+8.1
PBKT	Sadao Pong	7.93	74	P		P	Pn	18 01 36.3	+0.6
	19nm,0.7s,0.1nm								
CRAI	Chiangrai	9.01	50	P		P	Pn	18 01 58.0	+7.3
VIS	Vishakhapatnam	9.83	290	*i* P		P	Pn	18 02 02.7	+0.9
VIS				*i* S		S	Sn	18 04 44.2	+53
VIS				*ex*		x		18 04 46.1	
VIS				*ex*		x		18 04 53.3	
PALK	Pallekele	14.08	240	Pn		P	Pn	18 02 58.7	-1.3
	1.2nm,0.3s,baz=48,slow=11,SNR=6.2								
PALK						Sn	Sn	18 05 22.3	-13
	1.8nm,0.3s,baz=314,slow=13,SNR=6.5								
PALK	Pallekele	14.08	240	*e*Pn		P	Pn	18 02 57.2	-2.8
PALK						Sn	Sn	18 05 22.3	-13
LSA	Lhasa	15.18	354	*e*Pn		P	Pn	18 03 12.4	-2.8
QIZ	Qiongzhong	16.72	72	*e*Pn		P	Pn	18 03 25.4	-9.1
H08S3	Diego Garcia H	30.00	224	T		T		18 37 15.8	
	baz=42,slow=76,SNR=4.2								
H08S2	Diego Garcia H	30.01	224	T		T		18 37 22.8	
	baz=42,slow=76,SNR=5.1								
H08S1	Diego Garcia H	30.02	224	T		T		18 37 19.8	
	baz=42,slow=76,SNR=7.0								
MKAR	Makanchi Array	33.38	347	P		P		18 06 19.4	+1.4
	0.7nm,0.5s,baz=167,slow=9.3,SNR=4.6								
SONM	Songino Array	35.00	16	P		P		18 06 33.5	+1.4
	1.2nm,1.1s,baz=198,slow=8.9,SNR=4.3								
KURBB	Kurchatov Arra	37.85	345	P		P		18 06 57.3	+1.1
	1.5nm,0.7s,baz=177,slow=6.5,SNR=4.3								
KURK	Kurchatov	37.91	345	P		P		18 06 57.3	+0.6
ZALV	Zalesovo Beam	39.84	352	P		P		18 07 13.4	+0.6
	1.1nm,0.6s,baz=171,slow=7.8,SNR=2.7								
ABKAR	Akbulak array	43.93	329	*e*P		P		18 07 47.1	+0.8
	9.2nm,0.7s								
MAJO	Matsushiro	45.77	53	P		P		18 08 00.9	-0.4
MJAR	Matsushiro Arr	45.77	53	P		P		18 08 01.2	-0.1
	1.0nm,0.7s,baz=274,slow=9.6,SNR=3.4								
ARU	Arti	49.37	336	P		P		18 08 24.9	-4.0
WRAB	Tennant Creek	53.17	129	P		P		18 08 48.8	-9.1
ASAR	Alice Springs	55.14	133	P		P		18 09 11.1	-1.1
	1.6nm,0.5s,baz=310,slow=6.9,SNR=17								
BRTR	Keskin Array B	57.36	308	P		P		18 09 28.2	+0.2
	1.2nm,0.8s,baz=114,slow=7.1,SNR=3.7								
TIXI	Tiksi	60.96	12	*e*P		P		18 09 51.8	-0.4
	10nm,1.2s								
AKASG	Malin Array Be	62.32	320	P		P		18 10 00.8	-0.9
	1.0nm,0.7s,baz=90,slow=5.4,SNR=4.0								
JOF	Joensuu	64.40	333	*e*p		P		18 10 16.0	+0.8
	1.8nm,0.6s								
FINES	FINESS Array B	66.35	331	P		P		18 10 28.2	+0.4
	2.4nm,0.7s,baz=106,slow=6.3,SNR=14								
KAF	Kangasniemi	66.40	332	*e*p		P		18 10 29.4	+1.2
	0.9nm,0.7s								
ARCES	ARCESS Array B	68.66	340	P		P		18 10 43.3	+0.9
	1.3nm,0.7s,baz=74,slow=4.3,SNR=6.4								
LSZ	Lusaka	70.60	248	*e*P		P		18 10 56.4	+1.0
	3.7nm,0.9s								
GERES	GERESS Array B	72.18	317	P		P		18 11 05.4	+1.0
	2.1nm,0.6s,baz=86,slow=5.8,SNR=15								
CLL	Collm	72.56	320	*i* pP		pP		18 11 16.3	-1.0
NB2	NORSAR Subarra	73.42	330	P		P		18 11 11.4	0.0
	comp=Z,0.8nm,0.6s,baz=89,slow=5.9								
NOA	NORSAR Array B	73.42	330	P		P		18 11 11.5	0.0
	comp=Z,1.3nm,0.7s,baz=89,slow=5.8,SNR=7.1								
CDF	Champ du Feu	76.46	317	*e*P		P		18 11 28.5	-0.8
CDF	Champ du Feu	76.46	317	*e*P		P		18 11 28.5	-0.8
LBTB	Lobatse	76.56	239	P		P		18 11 30.4	+0.2
	comp=Z,1.8nm,0.6s,baz=73,slow=17,SNR=3.2								
HAU	Haudompre	77.13	317	*e*P		P		18 11 32.2	-0.8
HAU	Haudompre	77.13	317	*e*P		P		18 11 32.2	-0.8
LPG	La Plagne	77.18	314	*e*P		P		18 11 33.4	-0.3
	comp=Z,8.9nm,0.7s								
LPG	La Plagne	77.18	314	*e*P		P		18 11 33.4	-0.3
	comp=Z,8.9nm,0.7s								
LPL	La Plagne	77.19	314	*e*P		P		18 11 33.4	-0.3
	comp=Z,13nm,0.7s								
LPL	La Plagne	77.19	314	*e*P		P		18 11 33.4	-0.3
	comp=Z,13nm,0.7s								
MBDF	Montbardon	77.27	313	*e*P		P		18 11 32.8	-1.2
	comp=Z,12nm,0.9s								
MBDF	Montbardon	77.27	313	*e*P		P		18 11 32.8	-1.2
	comp=Z,12nm,0.9s								
FRF	La Foret Royal	77.53	312	*e*P		P		18 11 34.7	-0.6
	comp=Z,13nm,0.8s								
FRF	La Foret Royal	77.53	312	*e*P		P		18 11 34.7	-0.6
	comp=Z,13nm,0.8s								
SMRF	Simiane la Rot	78.23	313	*e*P		P		18 11 39.1	-0.2
SMRF	Simiane la Rot	78.23	313	*e*P		P		18 11 39.1	-0.2
BAIF	Baives	78.23	319	*e*P		P		18 11 38.9	-0.2
	comp=Z,6.5nm,0.7s								
BAIF	Baives	78.24	319	*e*P		P		18 11 38.9	-0.2
	comp=Z,6.0nm,0.7s								
BAIF	Baives	78.24	319	*e*P		P		18 11 38.9	-0.2
	comp=Z,6.5nm,0.7s								
BOSA	Boshof	78.27	236	P		P		18 11 40.2	+0.5
	comp=Z,1.4nm,0.6s,baz=80,slow=6.3,SNR=5.8								
SMF	Signal de Mont	79.02	315	*e*P		P		18 11 42.6	-0.9
	comp=Z,8.2nm,0.9s								
SMF	Signal de Mont	79.02	315	*e*P		P		18 11 42.6	-0.9
	comp=Z,8.2nm,0.9s								
AVF	Avril sur Loir	79.32	316	*e*P		P		18 11 44.1	-1.0
	comp=Z,6.3nm,0.8s								
AVF	Avril sur Loir	79.32	316	*e*P		P		18 11 44.1	-1.0
	comp=Z,6.3nm,0.8s								
LDF	La Druitiere	81.29	318	*e*P		P		18 11 54.9	-0.8
	comp=Z,11nm,0.9s								
LDF	La Druitiere	81.29	318	*e*P		P		18 11 54.9	-0.8
	comp=Z,11nm,0.9s								
ESDC	Sonseca Array	86.11	310	P		P		18 12 20.5	-0.1
	comp=Z,0.5nm,0.5s,baz=61,slow=4.9,SNR=4.7								
PPLA	Purkeypile	87.95	25	*e*P		P		18 12 29.3	+0.1
	comp=Z,2.8nm,0.8s								
TORD	Torodi Ar. Bea	88.01	283	P		P		18 12 30.6	+0.4
	comp=Z,1.6nm,0.8s,baz=80,slow=4.4,SNR=6.7								
MCK	McKinley	88.80	23	*e*P		P		18 12 32.7	-0.4
	comp=Z,5.2nm,1.0s								
ILAR	Eielson Array	89.00	22	P		P		18 12 33.7	-0.2
	comp=Z,0.8nm,0.8s,baz=294,slow=4.4,SNR=6.4								
PDAR	Pinedale Array	119.31	19	PKP		PKPdf		18 18 29.1	-0.1
	comp=Z,0.4nm,0.7s,baz=54,slow=2.6,SNR=3.7								
NVAR	Mina Array Bea	119.69	28	PKP		PKPdf		18 18 30.7	+0.8
	comp=Z,0.5nm,0.6s,baz=334,slow=6.0,SNR=3.0								
TXAR	Lajitas Array	133.50	20	PKP		PKPdf		18 18 56.9	+0.5
	comp=Z,0.3nm,0.6s,baz=205,slow=2.4,SNR=4.8								

*MOS **09** 18:02:20.8±0.8, 14°.36N×93°.17E, h33km, mb5.1/42, Error ellipse: s-maj=8.5km s-min=5.1km az=122.2*

*BJI **09** 18:02:20.1, 14°.00N×93°.04E, h56km, mB4.7/31, mb4.6/37, Ms4.1/35, Ms7 3.8/34*

*IDC **09** 18:02:23.0±0.4, 14°.39N×93°.16E, h33km±2km, mb4.3/30, mb1 4.3/31, mb1mx4.3/37, mbtmp4.4/31, ML4.3/1, MS3.7/6, Ms1 3.8/6, ms1mx3.5/26, Error ellipse: s-maj=12.4km s-min=9.9km az=53.0*

*NEIC **09** 18:02:23.1±0.2, 14°.41N×93°.11E, h35km, mb4.8/22, Error ellipse: s-maj=6.1km s-min=4.3km az=218.0*

*ISCJB **09** 18:02:24.8±1.0, 14°.38N±0°.03×93°.15E±0°.03, h65km±10km, mb4.5/103, Error ellipse: s-maj=5.7km s-min=5.6km az=155.1*

*SZGRF **09** 18:02:25.1, 14°.55N×92°.85E, h40km, mb4.5, Andaman Islands, India, region*

*DJA **09** 18:02:28.5±0.8, 14°.N±4°×9°.3E±°, h56km±7km, M5.1/8, mb4.8/8, mB5.3/4, MLv5.3/1, Mw(mB)4.8/4*

*BKK **09** 18:02:47.7±1.6, 14°.N±5°×9°.4E±1°.6, h10km, M4.5/11, mB5.0/6, mb4.6/11, MLv4.7/9, Mw(mB)4.4/6*

ISC 09 18:02:23.9±0.4, 14°.39N±0°.04×93°.06E±0°.04, h42km±2km, h42km:pP-P, n314, σ1°63/363, mb4.7/103, MS3.7/4, 23C-40D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDT	SRDT	5.88	90	P		P	Pn	18 03 58.6	+10
MHMT	Maesarieng	6.01	51	P		P	Pn	18 04 04.5	+14
	58nm,0.9s,919nm0.3nm								
PHET	Kaeng Krachan	6.55	102	P		P	Pn	18 04 08.8

CD2 LN
comp=Z,380nm,15.6s
CD2 LE
comp=Z,340nm,19.6s
CD2 LZ
comp=Z,290nm,15.6s
KSM Kuching 21.34 125 *e*Pn **P** 18 07 08.5 +0.9
comp=Z,5.5nm,0.6s
ENH Enshi 21.88 41 *e*P **P** 18 07 11.6 -1.7
comp=Z,24nm,0.9s
STKI Sintang 23.12 126 P **P** 18 07 27.7 +1.2
comp=Z,36nm,0.5s,comp=Z,13µm
LZH Lanzhou 23.67 22 *e*P **P** 18 07 32.3 +0.5
LZH pP **pP** 18 07 45.2 +2.3
LZH sP **sP** 18 07 51.8 +3.7
LZH PP **PnPn** 18 08 06.0 +5.5
LZH *e*S **S** 18 11 40.0 -3.9
LZH sS **sS** 18 12 00.7 -2.1
LZH SS **SnSn** 18 12 30.5 +6.2
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,130nm,4.5s
LZH LN
comp=Z,370nm,12.3s
LZH LE
comp=Z,350nm,12.0s
LZH LZ
comp=Z,560nm,14.7s
XAN Xi'an 24.27 34 P **P** 18 07 36.4 -0.9
XAN pP **pP** 18 07 53.0 +4.4
XAN PMZ
comp=Z,6.0nm,0.9s
XAN LN
comp=Z,140nm,17.5s
XAN LZ
comp=Z,65nm,15.5s
PBKI Pangkalan Bun 25.07 131 P P 18 07 54.6 +10
WHN Wuhan 25.34 47 P **P** 18 07 44.0 -2.9
WHN S **S** 18 12 07.4 -3.0
WHN LZ
comp=Z,600nm,20.2s
GTA Gaotai 25.63 12 *e*P **P** 18 07 51.5 +1.9
GTA pP **pP** 18 08 03.2 +2.3
GTA sP **sP** 18 08 08.9 +2.9
GTA S **S** 18 12 15.7 +0.6
GTA sS **sS** 18 12 34.4 +0.3
GTA SS **SnSn** 18 13 21.5 +10
GTA PMZ
comp=Z,13nm,0.9s
GTA PMZ
comp=Z,120nm,5.9s
GTA LN
comp=Z,130nm,16.4s
GTA LE
comp=Z,200nm,15.4s
GTA LZ
comp=Z,210nm,16.6s
BBKI Banjar Baru 27.94 128 P **P** 18 08 11.2 +0.6
KSH Kashi 29.19 332 P **P** 18 08 21.4 -0.2
KSH pP **pP** 18 08 36.1 +3.1
KSH PP **PnPn** 18 09 17.4 +1.7
KSH S **S** 18 13 06.9 -4.4
KSH sS **sS** 18 13 32.4 +2.0
KSH PcS **PcS** 18 15 10.7 -0.5
KSH PMZ
comp=Z,93nm,4.9s
KSH LN
comp=Z,120nm,6.1s
KSH LE
comp=Z,120nm,6.8s
KSH LZ
comp=Z,260nm,6.4s
NJ2 Nanjing 29.39 49 *e*P **P** 18 08 23.3 0.0
NJ2 PMZ
comp=Z,30nm,0.7s
KBL Kabul 29.54 317 P **P** 18 08 25.5 +0.7
KBL Kabul 29.54 317 P **P** 18 08 25.5 +0.7
WMQ Urumqi 29.69 352 *e*P P 18 08 29.4 +3.5
WMQ pP pP 18 08 43.0 +5.7
WMQ sP sP 18 08 50.0 +7.6
WMQ PP **PP** 18 09 29.0 -4.4
WMQ S **S** 18 13 21.0 +2.1
WMQ SS **SnSn** 18 14 56.0 +5.2
WMQ PMZ
comp=Z,6.0nm,0.4s
WMQ PMZ
comp=Z,92nm,5.1s
WMQ LN
comp=Z,420nm,11.2s
WMQ LE
comp=Z,490nm,14.8s
WMQ LZ
comp=Z,530nm,20.0s
H08S3 Diego Garcia H 29.92 224 T T 18 40 07.6
baz=42,slow=76,SNR=10
H08S2 Diego Garcia H 29.92 224 T T 18 39 58.0
baz=42,slow=76,SNR=7.7
H08S1 Diego Garcia H 29.94 224 T T 18 40 08.1
baz=42,slow=76,SNR=4.5
HHC Hu-ho-hao-te 30.91 28 *e*P **P** 18 08 37.2 +0.5
HHC pP **pP** 18 08 52.7 +4.5
HHC sP sP 18 08 59.3 +6.1
HHC PP **PnPn** 18 09 40.6 +2.2
HHC S **S** 18 13 34.8 -3.4
HHC sS **sS** 18 13 59.4 +2.1
HHC ScS **ScS** 18 19 05.0 -4.1
HHC PMZ
comp=Z,12nm,0.6s
HHC PMZ
comp=Z,57nm,6.1s
HHC LN
comp=Z,130nm,14.9s
HHC LE
comp=Z,140nm,13.1s
HHC LZ
comp=Z,96nm,13.9s
SRBI Singaraja 31.33 134 P **P** 18 08 43.2 +2.7
comp=Z,18nm,1.1s
TKM2 Tokmak 2 32.16 336 *e*P **P** 18 08 49.2 +1.3
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 32.16 336 *e*P **P** 18 08 49.2 +1.3
comp=Z,2.5nm,0.6s
AAK Ala-Archa 32.38 334 *ce*P **P** 18 08 52.4 +2.7
AAK pmax pmax
comp=Z,11nm,1.7s
AAK Ala-Archa 32.38 334 P **P** 18 08 50.2 +0.5
comp=Z,2.8nm,0.9s,baz=148,slow=7.1,SNR=3.8
BJI Beijing 32.60 34 P **P** 18 08 52.0 +0.5
BJI S **S** 18 14 04.3 0.0
BJI PMZ
comp=Z,10.0nm,1.1s
BJI PMZ
comp=Z,120nm,5.0s
BJI LN
comp=Z,190nm,15.0s
BJI LE
comp=Z,160nm,18.1s
BJI LZ
comp=Z,130nm,23.7s
EKS2 Erkin-Say 32.71 333 *e*P **P** 18 08 52.3 -0.2
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 32.71 333 *e*P **P** 18 08 52.3 -0.2
comp=Z,7.0nm,0.9s
MKAR Makanchi Array 33.54 347 P **P** 18 09 00.4 +0.8
comp=Z,3.8nm,0.7s,baz=166,slow=8.4,SNR=16
MKAR PcP **PcP** 18 11 40.0 +0.4
comp=Z,1.8nm,0.8s,baz=180,slow=2.9,SNR=4.0
MKAR LR LR 18 27 10.9
comp=Z,123nm,18.1s,baz=171,slow=44
KKAR Karatay Array 34.55 330 *e*P **P** 18 09 09.2 +0.8
KKAR Karatay Array 34.55 330 *e*P **P** 18 09 09.2 +0.8
SONM Songino Array 35.14 16 P **P** 18 09 14.5 +0.9
comp=Z,5.2nm,1.1s,baz=198,slow=10,SNR=15
SONM PcP **PcP** 18 11 45.2 +0.8
comp=Z,1.3nm,0.8s,baz=190,slow=4.0,SNR=4.0
ULN Ulaanbaatar 35.34 16 *ce*P **P** 18 09 16.1 +0.7
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 35.34 16 *e*P **P** 18 09 15.8 +0.5
comp=Z,9.0nm,1.4s
ZAK Zakamensk 36.85 11 *e*P P 18 09 20.9 -7.2
ZAK pmax pmax
comp=Z,3.0nm,1.8s
comp=Z,8.1nm,1.0s
KEV Kevo 68.38 340 *e*P **P** 18 13 20.3 -0.5
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 68.38 340 *ep* **P** 18 13 20.3 -0.5
comp=Z,4.8nm,0.7s
ARCES ARCESS Array B 68.82 340 P **P** 18 13 23.4 -0.2
comp=Z,2.2nm,0.6s,baz=81,slow=7.5,SNR=15
VYHS Vyhne 68.92 317 *e*P **P** 18 13 25.3 +0.7
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 68.92 317 *e*P **P** 18 13 25.3 +0.7
PKSM Moragy 69.00 314 ⇑P **P** 18 13 25.1 +0.1
PKSM Moragy 69.00 314 ⇑*i*P **P** 18 13 25.1 +0.1
MORC Moravsky Berou 69.81 318 ⇓P **P** 18 13 31.1 +0.9
MORC Moravsky Berou 69.81 318 ⇓*i*P **P** 18 13 31.0 +0.9
KRLC Kraliky 70.31 318 *e*P **P** 18 13 34.4 +1.2
KRLC *e* 18 13 44.8
KRLC Kraliky 70.31 318 *e*P **P** 18 13 34.4 +1.2
KRLC *ep*P **pP** 18 13 44.8 -0.8
BILL Bilibino 70.48 22 ⇑*i*P **P** 18 13 33.6 -0.2
BILL *e* 18 16 04.6
BILL *e*S S 18 22 52.3 +8.7
BILL pmax pmax
comp=Z,15nm,1.7s
BILL Bilibino 70.48 22 *e*P **P** 18 13 33.4 -0.4
comp=Z,6.1nm,0.8s
LSZ Lusaka 70.58 248 P **P** 18 13 37.3 +1.9
comp=Z,4.5nm,0.6s,baz=61,slow=6.8,SNR=12
DPC Dobruska-Polom 70.61 319 *e*P **P** 18 13 36.1 +1.1
DPC *e* 18 13 47.0
DPC Dobruska-Polom 70.61 319 *e*P **P** 18 13 36.1 +1.1
DPC *ep*P **pP** 18 13 47.0 -0.4
DPC Dobruska-Polom 70.61 319 *e*P **P** 18 13 36.0 +1.0
comp=Z,25nm,0.8s
KSP Ksiaz 70.63 319 *e*P **P** 18 13 36.0 +0.9
KSP *e**PP **pP** 18 13 47.2 -0.3
CONA Conrad Observa 70.90 316 ⇓*i*P **P** 18 13 37.8 +0.9
comp=Z,3.4nm,0.9s
PRU Pruhonice 71.75 318 *e*P **P** 18 13 42.8 +1.0
PRU *e* 18 13 54.0
PRU Pruhonice 71.75 318 *e*P **P** 18 13 42.8 +1.0
PRU *ep*P **pP** 18 13 54.0 -0.3
CRNS Crni Vrh 72.04 314 *i*P **P** 18 13 44.4 +0.7
CRNS *i*pP **pP** 18 13 55.5 -0.7
BRG Berggiesshubel 72.12 319 *i*P **P** 18 13 45.0 +1.0
comp=Z,8.7nm,1.0s
BRG *i* 18 13 56.3
comp=Z,6.8nm,0.8s
BRG Berggiesshubel 72.12 319 *i*P **P** 18 13 45.0 +1.0
BRG *i* 18 13 56.3
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 72.12 319 *e*P **P** 18 13 45.1 +1.0
comp=Z,4.0nm,0.7s
RUE Ruedersdorf 72.20 321 *e*P **P** 18 13 45.1 +0.7
comp=Z,31nm,0.6s
VOJS Vojsko 72.31 314 *i*P **P** 18 13 45.8 +0.4
VOJS *i*pP **pP** 18 13 56.8 -1.0
GEC2 GERESS Array S 72.33 317 *e*P **P** 18 13 46.3 +0.9
GEC2 GERESS Array S 72.33 317 *e*P **P** 18 13 46.4 +1.0
comp=Z,5.0nm,0.7s
GEC2 *ep*P **pP** 18 13 57.9 0.0
GEC2 GERESS Array S 72.33 317 *e*P **P** 18 13 46.3 +0.9
GERES GERESS Array B 72.33 317 P **P** 18 13 46.3 +0.9
comp=Z,6.9nm,0.7s,baz=84,slow=6.0,SNR=33
GERES pP **pP** 18 13 55.7 -2.2
comp=Z,5.4nm,0.7s,baz=88,slow=6.8,SNR=14
KHC Kasperske Hory 72.40 317 *e*P **P** 18 13 45.9 +0.1
KHC *e* 18 13 55.4
KHC Kasperske Hory 72.40 317 *e*P **P** 18 13 45.9 +0.1
KHC *ep*P **pP** 18 13 55.4 -2.9
KHC Kasperske Hory 72.40 317 *e*P **P** 18 13 46.0 +0.3
comp=Z,3.5nm,0.8s
CLL Collm 72.71 320 *i*P **P** 18 13 47.2 -0.3
CLL *e* 18 13 59.0
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 72.71 320 *e*P **P** 18 13 48.1 +0.6
comp=Z,4.0nm,1.0s
CLL Collm 72.71 320 *i*P **P** 18 13 47.2 -0.3
comp=Z,5.0nm,1.1s
CLL *ep*P **pP** 18 13 59.0 -1.0
WET Wettzell 72.86 317 *e*P **P** 18 13 49.6 +1.1
comp=Z,3.0nm,0.8s
RJOB Jochberg 72.97 316 *e*P **P** 18 13 49.6 +0.3
comp=Z,2.0nm,0.9s
TANN Tannenbergstha 73.08 319 *e*P **P** 18 13 50.7 +0.9
comp=Z,2.0nm,0.8s
ROTZ Rotzenmuhle 73.27 318 *e*P **P** 18 13 52.3 +1.4
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 73.58 330 P **P** 18 13 52.2 -0.4
comp=Z,4.0nm,0.7s,baz=91,slow=5.9
NOA NORSAR Array B 73.58 330 P **P** 18 13 52.3 -0.2
comp=Z,3.4nm,0.6s,baz=90,slow=5.8,SNR=15
NOA pP **pP** 18 14 01.1 -4.0
comp=Z,4.4nm,0.9s,baz=90,slow=5.8,SNR=7.7
MOX Moxa 73.61 319 *e*P **P** 18 13 53.8 +0.9
comp=Z,3.0nm,0.8s
GRF Grafenberg Arr 73.91 318 *e*P **P** 18 13 56.1 +1.4
comp=Z,5.0nm,0.9s
BSEG Bad Segeberg 74.25 322 *e*P **P** 18 13 57.8 +1.3
comp=Z,6.0nm,0.9s
CLZ Clausthal 74.33 320 *e*P **P** 18 13 58.0 +0.9
comp=Z,4.0nm,0.8s
NRDL Niedersach Rie 74.45 321 *e*P **P** 18 13 58.8 +1.2
comp=Z,2.0nm,1.0s
TNS Taunus Mts 75.66 319 *e*P **P** 18 14 05.7 +0.9
comp=Z,3.0nm,0.7s
PGF Pioggiola 76.09 311 *e*P **P** 18 14 06.8 -0.7
PGF Pioggiola 76.09 311 *e*P **P** 18 14 06.8 -0.7
PGF Pioggiola 76.09 311 *e*P **P** 18 14 06.8 -0.7
LBTB Lobatse 76.52 240 P **P** 18 14 11.9 +1.7
comp=Z,3.4nm,0.4s,baz=89,slow=4.7,SNR=10.0
CDF Champ du Feu 76.61 317 *e*P **P** 18 14 09.7 -0.6
comp=Z,12nm,1.1s
CDF Champ du Feu 76.61 317 *e*P **P** 18 14 09.7 -0.6
CDF pmax pmax
comp=Z,12nm,1.1s
CDF Champ du Feu 76.61 317 *e*P **P** 18 14 09.7 -0.6
comp=Z,12nm,1.1s
KEST Kesra 76.71 304 P **P** 18 14 11.9 +0.8
comp=Z,2.6nm,0.9s,baz=46,slow=0.3,SNR=4.3
SENIN Lac Senin/Sane 76.84 315 *e*P **P** 18 14 12.7 +0.9
HINF Hinteralfeld 76.96 316 *e*P **P** 18 14 11.5 -0.7
HINF Hinteralfeld 76.96 316 *e*P **P** 18 14 11.5 -0.7
HINF Hinteralfeld 76.96 316 *e*P **P** 18 14 11.5 -0.7
SBF Sospel 77.06 312 *e*P **P** 18 14 12.4 -0.5
SBF Sospel 77.06 312 *e*P **P** 18 14 12.4 -0.5
SBF Sospel 77.06 312 *e*P **P** 18 14 12.4 -0.5
HAU Haudompre 77.27 317 *e*P **P** 18 14 13.3 -0.7
comp=Z,16nm,1.1s
HAU Haudompre 77.27 317 *e*P **P** 18 14 13.3 -0.7
HAU pmax pmax
comp=Z,16nm,1.1s
HAU Haudompre 77.27 317 *e*P **P** 18 14 13.3 -0.7
comp=Z,16nm,1.1s
LPG La Plagne 77.33 314 ⇓*i*P **P** 18 14 14.6 0.0
comp=Z,32nm,0.9s
LPG La Plagne 77.33 314 ⇓*i*P **P** 18 14 14.6 0.0
LPG pmax pmax
comp=Z,32nm,0.9s
LPG La Plagne 77.33 314 ⇓*i*P **P** 18 14 14.6 0.0
comp=Z,32nm,0.9s
LPL La Plagne 77.34 314 ⇓*i*P **P** 18 14 14.6 0.0
comp=Z,25nm,0.7s
LPL La Plagne 77.34 314 ⇓*i*P **P** 18 14 14.6 0.0
LPL pmax pmax
comp=Z,25nm,0.7s
LPL La Plagne 77.34 314 ⇓*i*P **P** 18 14 14.6 0.0
comp=Z,25nm,0.7s
MBDF Montbardon 77.41 313 ⇓*i*P **P** 18 14 14.0 -1.0
comp=Z,23nm,1.2s
MBDF Montbardon 77.41 313 ⇓*i*P **P** 18 14 14.0 -1.0
MBDF pmax pmax
comp=Z,23nm,1.2s
MBDF Montbardon 77.41 313 ⇓*i*P **P** 18 14 14.0 -1.0
comp=Z,23nm,1.2s
PAGF Fort de Pagny 77.61 317 *e*P **P** 18 14 15.5 -0.3
PAGF Fort de Pagny 77.61 317 *e*P **P** 18 14 15.5 -0.3
CABF La Chapelle 77.63 315 *e*P **P** 18 14 15.9 -0.2
comp=Z,13nm,0.9s
CABF La Chapelle 77.63 315 *e*P **P** 18 14 15.9 -0.2

KURBB Kurchatov Arra 38.01 345 P **P** 18 09 38.5 +0.6
comp=Z,6.8nm,0.8s,baz=163,slow=8.0,SNR=19
KURK Kurchatov 38.08 345 P **P** 18 09 38.5 +0.1
KURK Kurchatov 38.08 345 P **P** 18 09 38.5 +0.1
KSAR Wonju Array Be 38.50 47 P **P** 18 09 41.1 -1.1
KSAR *PP **pP** 18 09 53.0 -0.8
KSAR Wonju Array Be 38.50 47 P **P** 18 09 41.0 -1.1
KSAR pP **pP** 18 09 53.0 -0.8
KSRS Korea Array 38.53 47 P **P** 18 09 41.0 -1.3
comp=Z,1.8nm,0.9s,baz=247,slow=9.9,SNR=6.5
KSRS pP **pP** 18 09 53.0 -1.1
comp=Z,2.1nm,0.8s,baz=245,slow=8.1,SNR=5.4
GEYT Alibeck 38.80 314 P **P** 18 09 45.6 +0.8
comp=Z,2.2nm,0.7s,baz=156,slow=7.8,SNR=4.2
BATI Baumata 38.96 127 P **P** 18 09 44.0 -2.3
comp=Z,13nm,0.5s,baz=331,slow=3.9,SNR=5.4
ZALV Zalesovo Beam 40.00 352 *i*P **P** 18 09 54.7 +0.3
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 40.00 352 P **P** 18 09 54.2 -0.2
comp=Z,2.4nm,0.5s,baz=185,slow=9.5,SNR=9.3
BVAR Borovoye Array 42.53 340 P **P** 18 10 16.0 +0.8
comp=Z,1.4nm,0.7s,baz=108,slow=4.7,SNR=5.2
BVAR pP **pP** 18 10 25.7 -1.3
comp=Z,2.3nm,0.8s,baz=111,slow=8.1,SNR=4.9
ABKAR Akbulak array 44.08 329 *e*P **P** 18 10 28.9 +1.1
USRK Ussuriysk Ar. 44.46 40 LR LR 18 31 56.4
comp=Z,98nm,18.9s,baz=225,slow=40
FITZ Fitzroy Crossi 45.54 134 *e*P **P** 18 10 38.9 -0.9
comp=Z,11nm,1.1s
AKTO Aktyubinsk 45.80 329 P **P** 18 10 41.9 +0.5
comp=Z,3.0nm,0.5s,baz=95,slow=8.8,SNR=9.7
MAJO Matsushiro 45.83 53 P **P** 18 10 40.2 -1.7
MAJO Matsushiro 45.83 53 P **P** 18 10 40.2 -1.7
MJAR Matsushiro Arr 45.83 53 P **P** 18 10 41.2 -0.8
comp=Z,1.7nm,0.8s,baz=264,slow=10,SNR=6.2
BOD Bodaibo 46.14 15 *e*P **P** 18 10 44.1 +0.1
BOD pmax pmax
comp=Z,6.0nm,1.3s
SVE Sverdlovsk 49.01 337 ⇓*e*P **P** 18 11 07.2 +0.9
SVE pmax pmax
comp=Z,16nm,0.8s
GNI Garni 49.27 311 *c i*P **P** 18 11 11.8 +3.0
GNI pmax pmax
comp=Z,20nm,1.2s
GNI Garni 49.27 311 P **P** 18 11 09.5 +0.8
comp=Z,2.7nm,0.4s,baz=181,slow=12,SNR=5.5
ARU Arti 49.53 336 *c i*P **P** 18 11 11.1 +0.8
ARU 18 13 04.8
ARU S **S** 18 18 10.9 -4.2
ARU SS SS 18 21 36.8 -11
ARU pmax pmax
comp=Z,14nm,1.7s
ARU Arti 49.53 336 *e*P **P** 18 11 10.3 0.0
comp=Z,5.4nm,0.6s
KIV Kislovodsk 51.89 315 *d*P **P** 18 11 29.9 +1.5
KIV *e* 18 13 25.6
KIV *e*S S 18 18 41.7 -6.7
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 51.89 315 *e*P **P** 18 11 30.1 +1.7
comp=Z,16nm,0.9s
SOKR Solikamsk 52.41 338 *e*P **P** 18 11 31.1 -0.7
SOKR pmax pmax
comp=Z,20nm,1.0s
NWAO Narrogin (SRO) 52.42 154 P **P** 18 11 30.9 -1.4
comp=Z,13nm,0.9s,baz=276,slow=8.2,SNR=4.5
WRA Warramunga Arr 53.03 129 P **P** 18 11 36.3 -0.7
comp=Z,7.4nm,0.8s,baz=312,slow=8.0,SNR=28
WRA PcP **PcP** 18 12 45.4 +0.1
comp=Z,0.8nm,0.4s,baz=324,slow=3.4,SNR=8.4
WRAB Tennant Creek 53.03 129 *ce*P **P** 18 11 36.9 -0.2
WRAB pmax pmax
comp=Z,51nm,1.7s
WRAB Tennant Creek 53.03 129 *e*P **P** 18 11 36.3 -0.8
comp=Z,11nm,0.9s
WB2 Warramunga Arr 53.04 129 *e*P **P** 18 11 36.1 -1.0
YAK Yakutsk 54.24 20 *e*P **P** 18 11 44.2 -1.0
YAK pmax pmax
comp=Z,13nm,1.2s
YAK Yakutsk 54.24 20 *e*P **P** 18 11 44.9 -0.3
comp=Z,16nm,0.9s
AS31 Alice Springs 55.00 133 *e*P **P** 18 11 50.8 -0.6
ASAR Alice Springs 55.00 133 P **P** 18 11 51.0 -0.3
comp=Z,2.4nm,0.4s,baz=310,slow=7.0,SNR=28
ASAR pP **pP** 18 12 01.7 -1.8
comp=Z,2.1nm,0.5s,baz=309,slow=6.8,SNR=6.9
ASAR PcP **PcP** 18 12 52.8 0.0
comp=Z,0.5nm,0.5s,baz=315,slow=5.8,SNR=2.3
ASAR LR LR 18 37 02.8
comp=Z,78nm,20.4s,baz=307,slow=38
BRTR Keskin Array B 57.49 308 *ce*P **P** 18 12 09.6 +0.4
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 57.49 308 P **P** 18 12 08.9 -0.2
comp=Z,5.3nm,0.9s,baz=121,slow=8.3,SNR=16
BRTR pP **pP** 18 12 20.6 -0.7
comp=Z,4.7nm,0.9s,baz=120,slow=7.1,SNR=9.7
BRTR LR LR 18 40 18.0
comp=Z,60nm,19.3s,baz=150,slow=40
OBN Obninsk 59.37 326 ⇓*e*P **P** 18 12 22.5 +0.8
OBN *e* 18 14 33.1
OBN pmax pmax
comp=Z,22nm,1.5s
TIXI Tiksi 61.11 12 *ce*P **P** 18 12 33.0 -0.4
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 61.11 12 *e*P **P** 18 12 32.6 -0.8
comp=Z,16nm,1.2s
CFR Carcaliu 62.29 314 ⇑P **P** 18 12 42.3 +0.5
CFR Carcaliu 62.29 314 ⇑*i*P **P** 18 12 42.3 +0.5
AKASG Malin Array Be 62.47 320 P **P** 18 12 42.4 -0.5
comp=Z,0.8nm,0.5s,baz=83,slow=6.1,SNR=10
CTAO Charters Tower 62.53 122 *e*P **P** 18 12 43.5 -0.2
CTAO pmax pmax
comp=Z,11nm,1.4s
CTAO Charters Tower 62.53 122 *e*P **P** 18 12 43.5 -0.2
comp=Z,11nm,1.4s
VRI Vrincioaia 63.35 314 ⇑P **P** 18 12 50.7 +1.8
VRI Vrincioaia 63.35 314 ⇑*i*P **P** 18 12 50.7 +1.8
PLOR Plostina 63.41 314 ⇓P **P** 18 12 50.8 +1.5
PLOR Plostina 63.41 314 ⇓*i*P **P** 18 12 50.8 +1.5
TESR Tescani 63.49 315 ⇑*i*P **P** 18 12 50.2 +0.4
MLR Muntele Rosu 63.86 314 ⇓P **P** 18 12 53.6 +1.2
MLR Muntele Rosu 63.86 314 ⇓*i*P **P** 18 12 53.6 +1.2
VOIR 64.48 314 ⇑P **P** 18 12 57.5 +1.1
VOIR 64.48 314 ⇑*i*P **P** 18 12 57.5 +1.1
JOF Joensuu 64.56 333 *e*P **P** 18 12 56.7 +0.2
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 64.56 333 *ep* **P** 18 12 56.7 +0.2
comp=Z,3.7nm,0.5s
BURAR Bucovina Array 64.59 316 ⇑P **P** 18 12 58.1 +1.0
BURAR Bucovina Array 64.59 316 ⇑*i*P **P** 18 12 58.1 +1.0
VTS Vitosha 65.61 310 ⇑P **P** 18 13 04.1 +0.2
VTS Vitosha 65.61 310 ⇑*i*P **P** 18 13 04.1 +0.2
TRPA Tarpa 66.43 316 ⇓*i*P **P** 18 13 09.3 +0.5
FINES FINESS Array B 66.51 331 P **P** 18 13 09.4 +0.3
comp=Z,6.5nm,0.6s,baz=109,slow=6.4,SNR=35
FINES pP **pP** 18 13 19.6 -1.8
comp=Z,2.6nm,0.5s,baz=110,slow=6.7,SNR=6.7
KAF Kangasniemi 66.56 332 *e*P **P** 18 13 08.9 -0.5
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 66.56 332 *ep* **P** 18 13 08.9 -0.5
comp=Z,1.9nm,0.6s
KOLS Kolonicke sedl 66.68 317 *e*P **P** 18 13 11.7 +1.3
KOLS Kolonicke sedl 66.68 317 *e*P **P** 18 13 11.7 +1.3
CRVS Cervenica-Dubn 67.21 317 *e*P **P** 18 13 15.4 +1.6
CRVS pmax pmax
comp=Z,13nm,1.1s
CRVS Cervenica-Dubn 67.21 317 *e*P **P** 18 13 15.3 +1.5
STHS Stebnicka Huta 67.39 318 *e*P **P** 18 13 16.0 +1.0
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 67.39 318 *e*P **P** 18 13 16.0 +1.0
KECS Kecovo 67.83 317 *e*P **P** 18 13 18.7 +1.0
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 67.83 317 *e*P **P** 18 13 18.7 +1.0
PSZ Piszkesteto 68.19 316 *e*P **P** 18 13 21.2 +1.1
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 68.19 316 ⇓*i*P **P** 18 13 21.2 +1.1
PSZ Piszkesteto 68.19 316 *e*P **P** 18 13 21.2 +1.1

CABF pmax pmax
comp=Z,13nm,0.9s
CABF La Chapelle 77.63 315 *eP* **P 18 14 15.9 -0.2**
comp=Z,13nm,0.9s
FRF La Foret Royal 77.66 312⇓ *iP* **P 18 14 16.0 -0.2**
comp=Z,26nm,1.0s
FRF La Foret Royal 77.66 312⇓ *iP* **P 18 14 16.0 -0.2**
FRF pmax pmax
comp=Z,26nm,1.0s
FRF La Foret Royal 77.66 312⇓ *iP* **P 18 14 16.0 -0.2**
comp=Z,26nm,1.0s
LMR La Mourre 77.80 312 *eP* **P 18 14 16.7 -0.2**
comp=Z,6.6nm,0.7s
LMR La Mourre 77.80 312 *eP* **P 18 14 16.7 -0.2**
LMR pmax pmax
comp=Z,7.0nm,0.6s
LMR La Mourre 77.80 312 *eP* **P 18 14 16.7 -0.2**
comp=Z,6.6nm,0.6s
ORIF Oris-en-Rattie 78.02 313 *eP* **P 18 14 18.0 -0.3**
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 78.02 313 *eP* **P 18 14 18.0 -0.3**
ORIF pmax pmax
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 78.02 313 *eP* **P 18 14 18.0 -0.3**
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 78.06 317 *eP* **P 18 14 18.0 -0.3**
MEZF Maizieres J'vi 78.06 317 *eP* **P 18 14 18.0 -0.3**
SFTF Sexfontaines 78.12 317 *eP* **P 18 14 18.2 -0.4**
comp=Z,19nm,0.9s
SFTF Sexfontaines 78.12 317 *eP* **P 18 14 18.2 -0.4**
comp=Z,19nm,0.9s
BOSA Boshof 78.22 236 P **P 18 14 21.2 +1.6**
comp=Z,4.9nm,0.5s,baz=68,slow=3.7,SNR=15
BOSA pP **PcP 18 14 30.5 +1.5**
comp=Z,3.1nm,0.5s,baz=110,slow=6.7,SNR=2.3
SMRF Simiane la Rot 78.37 313 *eP* **P 18 14 20.3 +0.1**
comp=Z,11nm,0.8s
SMRF Simiane la Rot 78.37 313 *eP* **P 18 14 20.3 +0.1**
comp=Z,11nm,0.8s
BAIF Baives 78.39 319 *eP* **P 18 14 20.0 -0.1**
comp=Z,16nm,1.0s
BAIF Baives 78.39 319 *eP* **P 18 14 20.0 -0.1**
BAIF pmax pmax
comp=Z,16nm,1.0s
BAIF Baives 78.39 319 *eP* **P 18 14 20.0 -0.1**
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 78.87 314 *eP* **P 18 14 22.6 -0.3**
comp=Z,21nm,1.2s
VIVF Saint-Julien-l 78.87 314 *eP* **P 18 14 22.6 -0.3**
VIVF pmax pmax
comp=Z,21nm,1.2s
VIVF Saint-Julien-l 78.87 314 *eP* **P 18 14 22.6 -0.3**
comp=Z,21nm,1.2s
LOR Lormes 79.05 316 *eP* **P 18 14 23.0 -0.8**
comp=Z,7.5nm,0.8s
LOR Lormes 79.05 316 *eP* **P 18 14 23.0 -0.8**
LOR pmax pmax
comp=Z,8.0nm,0.8s
LOR Lormes 79.05 316 *eP* **P 18 14 23.0 -0.8**
comp=Z,7.5nm,0.8s
SMF Signal de Mont 79.16 315⇓ *iP* **P 18 14 23.8 -0.6**
comp=Z,14nm,0.8s
SMF Signal de Mont 79.16 315⇓ *iP* **P 18 14 23.8 -0.6**
SMF pmax pmax
comp=Z,14nm,0.8s
SMF Signal de Mont 79.16 315⇓ *iP* **P 18 14 23.8 -0.6**
comp=Z,14nm,0.8s
SSF Saint Saulge 79.32 316 *eP* **P 18 14 24.8 -0.5**
comp=Z,6.3nm,0.7s
SSF Saint Saulge 79.32 316 *eP* **P 18 14 24.8 -0.5**
SSF pmax pmax
comp=Z,6.0nm,0.7s
SSF Saint Saulge 79.32 316 *eP* **P 18 14 24.8 -0.5**
comp=Z,6.3nm,0.7s
AVF Avril sur Loir 79.47 316⇓ *iP* **P 18 14 25.4 -0.7**
comp=Z,8.7nm,0.8s
AVF Avril sur Loir 79.47 316⇓ *iP* **P 18 14 25.4 -0.7**
AVF pmax pmax
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 79.47 316⇓ *iP* **P 18 14 25.4 -0.7**
comp=Z,8.7nm,0.8s
LASF Ste Croix 79.58 313 *eP* **P 18 14 26.8 0.0**
LASF Ste Croix 79.58 313 *eP* **P 18 14 26.8 0.0**
BGF Bois d'Agland 79.85 315 *eP* **P 18 14 27.8 -0.4**
BGF Bois d'Agland 79.85 315 *eP* **P 18 14 27.8 -0.4**
BGF Bois d'Agland 79.85 315 *eP* **P 18 14 27.8 -0.4**
TCF Toulx Ste Croi 80.33 315⇓ *iP* **P 18 14 30.6 -0.2**
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 80.33 315⇓ *iP* **P 18 14 30.6 -0.2**
TCF pmax pmax
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 80.33 315⇓ *iP* **P 18 14 30.6 -0.2**
comp=Z,21nm,1.2s
CAF Calviac 80.69 314 *eP* **P 18 14 32.7 -0.1**
CAF Calviac 80.69 314 *eP* **P 18 14 32.7 -0.1**
CAF Calviac 80.69 314 *eP* **P 18 14 32.7 -0.1**
MTLF Montolieu 80.88 312 *eP* **P 18 14 33.7 -0.1**
comp=Z,13nm,0.9s
MTLF Montolieu 80.88 312 *eP* **P 18 14 33.7 -0.1**
MTLF pmax pmax
comp=Z,13nm,0.9s
MTLF Montolieu 80.88 312 *eP* **P 18 14 33.7 -0.1**
comp=Z,13nm,0.9s
RJF Les Rejaudoux 81.00 314⇓ *iP* **P 18 14 34.4 0.0**
comp=Z,11nm,0.7s
RJF Les Rejaudoux 81.00 314⇓ *iP* **P 18 14 34.4 0.0**
RJF pmax pmax
comp=Z,11nm,0.7s
RJF Les Rejaudoux 81.00 314⇓ *iP* **P 18 14 34.4 0.0**
comp=Z,11nm,0.7s
LDF La Druitiere 81.43 318⇓ *iP* **P 18 14 36.1 -0.5**
comp=Z,14nm,0.7s
LDF La Druitiere 81.43 318⇓ *iP* **P 18 14 36.1 -0.5**
LDF pmax pmax
comp=Z,14nm,0.7s
LDF La Druitiere 81.43 318⇓ *iP* **P 18 14 36.1 -0.5**
comp=Z,14nm,0.7s
TSUM Tsumeb 81.43 248 P **P 18 14 37.0 -0.3**
comp=Z,1.5nm,0.7s,baz=209,slow=19,SNR=3.6
FLN La Foliniere 81.63 318⇓ *iP* **P 18 14 37.1 -0.5**
comp=Z,20nm,1.0s
FLN La Foliniere 81.63 318⇓ *iP* **P 18 14 37.1 -0.5**
FLN pmax pmax
comp=Z,20nm,1.0s
FLN La Foliniere 81.63 318⇓ *iP* **P 18 14 37.1 -0.5**
comp=Z,20nm,1.0s
MFF Saint Martin d 81.87 316 *eP* **P 18 14 38.5 -0.4**
comp=Z,24nm,1.2s
MFF Saint Martin d 81.87 316 *eP* **P 18 14 38.5 -0.4**
MFF pmax pmax
comp=Z,24nm,1.2s
MFF Saint Martin d 81.87 316 *eP* **P 18 14 38.5 -0.4**
comp=Z,24nm,1.2s
GRR Gorron 81.96 318 *eP* **P 18 14 38.8 -0.5**
GRR Gorron 81.96 318 *eP* **P 18 14 38.8 -0.5**
GRR Gorron 81.96 318 *eP* **P 18 14 38.8 -0.5**
SGMF Saint Gilles 83.09 318 *eP* **P 18 14 45.0 -0.3**
comp=Z,19nm,0.9s
SGMF Saint Gilles 83.09 318 *eP* **P 18 14 45.0 -0.3**
SGMF pmax pmax
comp=Z,19nm,0.9s
SGMF Saint Gilles 83.09 318 *eP* **P 18 14 45.0 -0.3**
comp=Z,19nm,0.9s
ROSF Rostrenen 83.53 318 *eP* **P 18 14 47.3 -0.2**
comp=Z,12nm,0.9s
ROSF Rostrenen 83.53 318 *eP* **P 18 14 47.3 -0.2**
ROSF pmax pmax
comp=Z,12nm,0.9s
ROSF Rostrenen 83.53 318 *eP* **P 18 14 47.3 -0.2**
comp=Z,12nm,0.9s
QUIF Quistinic 83.57 318 *eP* **P 18 14 47.0 -0.7**
QUIF Quistinic 83.57 318 *eP* **P 18 14 47.0 -0.7**
QUIF Quistinic 83.57 318 *eP* **P 18 14 47.0 -0.7**
IM04 Indian Mountai 86.03 22 *eP* **P 18 15 00.6 +0.8**
ESDC Sonseca Array 86.24 310 P **P 18 15 01.2 -0.3**
comp=Z,1.3nm,0.6s,baz=58,slow=5.2,SNR=7.1
ESDC pP **pP 18 15 11.3 -2.9**
comp=Z,2.0nm,0.7s,baz=61,slow=4.6,SNR=6.1
SUMG Summit 87.60 347 *iP* **P 18 15 08.9 +1.1**
SUMG *e* 18 15 20.6
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 87.60 347 *eP* **P 18 15 08.5 +0.8**
comp=Z,168nm,2.9s
SUMG Summit 87.60 347 *iP* **P 18 15 08.9 +1.1**
comp=Z,4.6nm,0.9s
SUMG *e* 18 15 20.6
CAST Castle Rocks 87.86 24 *eP* **P 18 15 10.0 +1.2**
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 88.09 283 P **P 18 15 11.3 +0.6**
comp=Z,4.8nm,0.9s,baz=77,slow=4.4,SNR=19
TORD pP **pP 18 15 20.6 -3.0**
comp=Z,4.7nm,1.0s,baz=60,slow=5.1,SNR=9.6
MCK McKinley 88.93 23 *eP* **P 18 15 14.0 +0.2**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 88.93 23 *eP* **P 18 15 13.9 +0.2**
comp=Z,7.9nm,1.0s
ILAR Eielson Array 89.14 22 P **P 18 15 13.9 -0.8**
comp=Z,1.6nm,0.8s,baz=294,slow=4.3,SNR=15
ILAR pP **pP 18 15 24.6 -3.0**
comp=Z,1.5nm,0.8s,baz=301,slow=4.8,SNR=7.4
RC01 Rabbit Creek A 89.97 26 *eP* **P 18 15 19.2 +0.6**
comp=Z,15nm,0.8s
DAWY Dawson 92.17 20 *eP* **P 18 15 29.9 +1.0**
DBIC Dimbokro 95.97 278 P **P 18 15 48.6 +1.3**
comp=Z,2.0nm,0.7s,baz=54,slow=8.7,SNR=3.0
YKA Yellowknife Ar 100.36 13 P **Pdif 18 16 06.2 +0.3**
comp=Z,0.2nm,0.6s,baz=333,slow=5.0,SNR=3.6
PDAR Pinedale Array 119.45 19 PKP **PKPdf 18 21 09.6 +0.1**
comp=Z,0.6nm,0.6s,baz=100,slow=1.1,SNR=5.7
PDAR pPKP **pPKPdf 18 21 21.1 -1.7**
comp=Z,1.2nm,0.7s,baz=94,slow=1.0,SNR=7.2
NVAR Mina Array Bea 119.80 28 PKP **PKPdf 18 21 10.7 +0.4**
comp=Z,0.9nm,0.6s,baz=277,slow=2.2,SNR=6.3
NVAR pPKP **pPKPdf 18 21 21.9 -1.6**
comp=Z,1.4nm,0.7s,baz=295,slow=2.1,SNR=5.2
PTRM Twissleman Ran 121.10 31 *e*PKPdf **PKPdf 18 21 15.6 +2.9**
MVU Marysvale 122.31 23 *e*PKPdf **PKPdf 18 21 17.5 +2.3**
TXAR Lajitas Array 133.63 20 PKP **PKPdf 18 21 38.8 +2.0**
comp=Z,0.5nm,0.6s,baz=191,slow=1.3,SNR=6.9
PLCA Paso Flores 150.11 205 PKPbc **PKPbc 18 22 10.7 +0.2**
comp=Z,2.7nm,0.9s,baz=192,slow=3.2,SNR=4.2

*DHMR **09** 18:02:40.7±0.8, 11°.98N×43°.56E, h3km±4km, ML4.8*
*ISCJB **09** 18:02:42.7±0.4, 11°.89N±0°.04×43°.67E±0°.06, h10km, mb4.1/20, MS3.8/9, Error ellipse: s-maj=8.7km s-min=5.4km az=21.7*
*IDC **09** 18:02:42.8±1.0, 11°.82N×43°.66E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.0/48, mbtmp4.1/18, ML3.1/1, MS3.9/10, Ms1 3.8/10, ms1mx3.5/30, Error ellipse: s-maj=23.0km s-min=19.1km az=39.0*
*NEIC **09** 18:02:43.7±0.6, 11°.78N×43°.65E, h10km, mb4.4/4, Error ellipse: s-maj=15.1km s-min=11.4km az=79.0*
*CSEM **09** 18:02:45.0±0.3, 11°.95N×43°.72E, h10km, mb4.5/5, Error ellipse: s-maj=13.9km s-min=11.2km az=79.0*
ISC 09 18:02:44.5±0.6, 12°.00N±0°.06×43°.61E±0°.08, h10km, n57, σ1s51/54, mb4.2/20, MS3.7/9, 5C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TRBA	**At Turbah**	**1.32**	**22**⇑	*i*P		**Pn**	**18 03 06.5**	**-2.7**
TRBA				*i* S		**Sb**	**18 03 25.6**	**-1.1**
TRBA				AML		AML	18 03 27.0	
	comp=N,10μm,0.3s							
UDYN	**Al 'Udayn**	**1.99**	**10**⇑	*i*P		**Pn**	**18 03 16.5**	**-1.9**
UDYN				*i* S		**Sb**	**18 03 45.5**	**-0.3**
UDYN				AML		AML	18 03 51.4	
	comp=Z,13μm,0.6s							
DHBB	**Dhamar BB**	**2.67**	**17**	*i*P		**Pn**	**18 03 27.8**	**-0.1**
DHBB				*i* S		**Sb**	**18 04 04.8**	**-0.8**
DHBB				AML		AML	18 04 18.2	
	comp=N,16μm,0.7s							
DHBB	**Dhamar BB**	**2.67**	**17**	*i*P		**Pn**	**18 03 27.8**	**-0.1**
MUKL	**Al Mukalla**	**5.83**	**64**	*i*P		**Pn**	**18 04 10.6**	**-0.6**
MUKL				*i* S		**Sn**	**18 05 20.6**	**+2.4**
RAYN	**Ar Rayn**	**11.60**	**9**	*e*Pn		Pn	18 05 26.2	-4.1
RAYN				*e*Sn		Sn	18 07 24.4	-16
RAYN				*e*Lg		Lg	18 08 45.5	
KMBO	**Kilima Mbogo**	**14.49**	**206**	Pn		Pn	18 06 06.7	-3.4
	comp=N,0.1nm,0.3s,baz=85,slow=10.0,SNR=3.2							
KMBO				LR		LR	18 11 37.3	
	comp=N,481nm,21.7s,baz=80,slow=37							
KMBO	**Kilima Mbogo**	**14.49**	**206**	*e*Sn		**Sn**	**18 08 51.8**	**+0.8**
KMBO	**Kilima Mbogo**	**14.49**	**206**	*e*Pn		Pn	18 06 04.7	-5.3
KMBO				*e*Sn		**Sn**	**18 08 51.8**	**+0.8**
KMBO				*e*Lg		Lg	18 09 49.3	
ASUD	**Al Ashush, Dub**	**16.77**	**40**⇑	*i*P		**P**	**18 06 42.3**	**+0.5**
	SNR=6.6							
FAQ	**Al Faqa, Dubai**	**17.02**	**40**	⇑P		**P**	**18 06 45.8**	**+1.2**
ASHO	**Ashiyiah**	**17.27**	**41**⇓	*i*P		**P**	**18 06 50.1**	**+2.7**
	SNR=7.1							
HATD	**Hatta, Dubai**	**17.42**	**41**⇑	*i*P		**P**	**18 06 52.2**	**+3.1**
	SNR=8.2							
MSEY	**Mahe Island**	**20.34**	**144**	P		**P**	**18 07 20.0**	**-1.3**
MSEY	**Mahe Island**	**20.34**	**144**	P		**P**	**18 07 20.1**	**-1.3**
ASF	**Jabal al Asfar**	**21.00**	**344**	P		**P**	**18 07 31.9**	**+3.5**
	comp=N,3.1nm,0.9s,baz=49,slow=3.7,SNR=4.9							
MMAI	**Mount Meron Ar**	**22.23**	**342**	P		**P**	**18 07 42.8**	**+1.3**
	comp=N,3.0nm,1.0s,baz=138,slow=20,SNR=2.5							
GNI	**Garni**	**28.06**	**2**	P		**P**	**18 08 37.6**	**+1.2**
	comp=N,2.1nm,0.5s,baz=12,slow=19,SNR=2.5							
GNI				LR		LR	18 20 27.6	
	comp=N,112nm,18.8s,baz=176,slow=38							
GNI	**Garni**	**28.06**	**2**	*e*P		**P**	**18 08 35.3**	**-1.0**
	comp=N,10.0nm,1.0s							
GNI	**Garni**	**28.06**	**2**	*e*P		**P**	**18 08 35.3**	**-1.0**
	comp=N,10.0nm,1.0s							
GEYT	**Alibeck**	**28.90**	**24**	LR		LR	18 22 20.6	
	comp=N,387nm,18.6s,baz=185,slow=41							
BRTR	**Keskin Array B**	**28.99**	**344**	P		**P**	**18 08 47.6**	**+3.0**
	comp=N,5.6nm,1.0s,baz=153,slow=8.3,SNR=17							
BRTR				LR		LR	18 19 39.5	
	comp=N,202nm,20.8s,baz=147,slow=35							
KBZ	**Khabaz**	**31.62**	**359**	P		P	18 09 10.9	+3.3
	comp=N,6.7nm,1.1s,baz=151,slow=5.3,SNR=5.3							
KBZ				LR		LR	18 22 48.2	
	comp=N,118nm,19.3s,baz=180,slow=38							
KIV	**Kislovodsk**	**31.85**	**359**	P		**P**	**18 09 12.4**	**+2.6**
KIV	**Kislovodsk**	**31.85**	**359**	P		**P**	**18 09 12.4**	**+2.6**
ABKAR	**Akbulak array**	**39.53**	**17**	*e*P		**P**	**18 10 14.7**	**-0.9**
	comp=N,8.0nm,0.7s							
ABKAR	**Akbulak array**	**39.53**	**17**	*e*P		**P**	**18 10 14.7**	**-0.9**
	comp=N,8.0nm,0.7s							
AKTO	**Aktubinsk**	**40.11**	**14**	P		**P**	**18 10 21.5**	**+1.1**
	comp=N,5.2nm,1.1s,baz=199,slow=7.8,SNR=6.3							
EKS2	**Erkin-Say**	**40.23**	**35**	P		**P**	**18 10 20.9**	**-0.8**
	comp=N,7.5nm,1.1s							
EKS2	**Erkin-Say**	**40.23**	**35**	P		**P**	**18 10 20.9**	**-0.8**
	comp=N,7.5nm,1.1s							
AKASG	**Malin Array Be**	**40.35**	**346**	P		**P**	**18 10 22.2**	**-0.1**
	comp=N,0.5nm,0.4s,baz=163,slow=6.9,SNR=14							
AKASG				LR		LR	18 28 12.6	
	comp=N,84nm,19.1s,baz=160,slow=38							
VSL	**Villasalto**	**40.81**	**318**	P		**P**	**18 10 23.7**	**-2.7**
TORD	**Torodi Ar. Bea**	**40.89**	**276**	P		**P**	**18 10 27.4**	**+0.1**
	comp=N,2.6nm,0.8s,baz=87,slow=6.7,SNR=9.2							
PSZ	**Piszkesteto**	**40.94**	**336**	*e*P		**P**	**18 10 28.7**	**+1.4**
	comp=N,8.3nm,1.0s							
PSZ	**Piszkesteto**	**40.94**	**336**	*e*P		**P**	**18 10 28.7**	**+1.4**
	comp=N,8.3nm,1.0s							
TKM2	**Tokmak 2**	**41.43**	**36**	P		**P**	**18 10 30.9**	**-0.7**
TKM2	**Tokmak 2**	**41.43**	**36**	P		**P**	**18 10 30.9**	**-0.7**
MORC	**Moravsky Berou**	**43.36**	**335**	P		**P**	**18 10 47.1**	**+0.1**
MORC	**Moravsky Berou**	**43.36**	**335**	P		**P**	**18 10 47.1**	**+0.1**
BOSA	**Boshof**	**44.10**	**203**	LR		LR	18 29 43.7	
	comp=N,213nm,20.1s,baz=10,slow=37							
GERES	**GERESS Array B**	**44.33**	**332**	P		**P**	**18 10 55.3**	**+0.4**
	comp=N,1.1nm,0.8s,baz=129,slow=6.8,SNR=5.7							
BVAR	**Borovoye Array**	**46.19**	**22**	P		**P**	**18 11 10.6**	**+1.1**
	comp=N,2.0nm,0.8s,baz=210,slow=7.0,SNR=2.4							
MKAR	**Makanchi Array**	**47.56**	**36**	P		**P**	**18 11 20.8**	**+0.4**
	comp=N,2.2nm,0.8s,baz=218,slow=8.7,SNR=4.8							
KURBB	**Kurchatov Arra**	**47.91**	**29**	P		**P**	**18 11 21.9**	**-1.0**
	comp=N,1.2nm,1.1s,baz=229,slow=8.1,SNR=2.7							
KURK	**Kurchatov**	**48.02**	**29**	P		**P**	**18 11 22.0**	**-1.8**
KURK	**Kurchatov**	**48.02**	**29**	P		**P**	**18 11 21.9**	**-1.8**
ZALV	**Zalesovo Beam**	**53.01**	**29**	P		**P**	**18 12 01.5**	**0.0**
	comp=N,3.7nm,0.9s,baz=179,slow=6.9,SNR=5.3							
ZALV				LR		LR	18 37 50.6	
	comp=N,281nm,18.9s,baz=248,slow=40							
CHTO	**Chiang Mai**	**53.61**	**75**	P		**P**	**18 12 04.6**	**-1.9**
CHTO	**Chiang Mai**	**53.61**	**75**	P		**P**	**18 12 04.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**53.62**	**76**	P		**P**	**18 12 06.5**	**-0.1**
	comp=N,4.3nm,0.9s,baz=272,slow=8.5,SNR=25							
NOA	**NORSAR Array B**	**54.37**	**341**	LR		LR	18 36 49.6	
	comp=N,41nm,20.0s,baz=220,slow=38							
SONM	**Songino Array**	**62.99**	**42**	P		**P**	**18 13 12.9**	**+1.0**
	comp=N,2.3nm,0.9s,baz=249,slow=6.2,SNR=6.4							
ULN	**Ulaanbaatar**	**63.43**	**42**	P		**P**	**18 13 14.4**	**-0.4**
ULN	**Ulaanbaatar**	**63.43**	**42**	P		**P**	**18 13 14.4**	**-0.4**
PETK	**Petropavlovsk-**	**94.36**	**34**	LR		LR	19 03 43.6	
	comp=N,83nm,18.2s,baz=273,slow=39							
WRA	**Warramunga Arr**	**94.69**	**109**	P		**P**	**18 16 06.6**	**-0.1**
	comp=N,0.7nm,0.9s,baz=294,slow=3.3,SNR=3.5							
ASAR	**Alice Springs**	**95.00**	**113**	P		**P**	**18 16 07.9**	**-0.2**
	comp=N,0.7nm,0.9s,baz=265,slow=5.5,SNR=3.2							

GUC 09 18:03:41.0±0.3, 34°.25S×72°.20W, h38km±2km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LNV	**Longovilo**	**0.72**	**66**	*i*P		Pn	18 03 54.6	0.0
LNV				*i* S		Sn	18 04 04.9	+0.4
NICH	**Los Niches**	**1.09**	**133**	*i*P		Pn	18 04 01.2	+1.4
NICH				*i* S		Sn	18 04 16.1	+2.4
NICH				AML		AML	18 04 23.7	
	comp=E,5μm,0.5s							
TALC	**Talca**	**1.23**	**158**	*i*P		Pn	18 04 02.8	+1.1
TALC				*i* S		Sn	18 04 19.3	+2.2
TALC				AML		AML	18 04 36.0	
	comp=E,6μm,0.0s							
CLCH	**Cerro Calan**	**1.63**	**59**	*i*P		Pn	18 04 08.9	+1.6
CLCH				*i* S		Sn	18 04 30.2	+3.2
CLCH				AML		AML	18 04 36.9	
	comp=E,795nm,0.4s							
PEL	**Peldehue**	**1.68**	**49**	*i*P		Pn	18 04 09.8	+1.8
PEL				*i* S		Sn	18 04 31.7	+3.4
PEL				AML		AML	18 04 39.8	
	comp=N,1μm,0.5s							

*ISCJB **09** 18:32:38.4±0.6, 19°.86S±0°.05×69°.3W±0°.1, h117km±6km, mb3.5/4, Error ellipse: s-maj=18.5km s-min=6.9km az=10.5*
*GUC **09** 18:32:38.6±0.5, 19°.82S×69°.32W, h110km±4km, ML4.0*
*IDC **09** 18:32:39.1±0.9, 19°.97S×68°.82W, h108km±7km, mb3.2/5, mb1 3.4/7, mb1mx3.3/20, mbtmp3.6/7, Error ellipse: s-maj=27.4km s-min=15.2km az=99.0*
ISC 09 18:32:39.0±0.7, 19°.85S±0°.04×69°.25W±0°.10, h105km±6km, n18, σ1s16/29, mb3.6/4, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PB11	**IPOC Station P**	**0.40**	**284**⇓	*i*P		**Pn**	**18 32 54.8**	**-0.1**
PB11				*i* S		**Sn**	**18 33 06.6**	**-0.2**
PB11				AML		AML	18 33 07.3	
	comp=N,28μm,0.2s							
HMBC	**Humberstone**	**0.73**	**235**⇓	*i*P		**Pn**	**18 32 57.5**	**+0.1**
HMBC				*i* S		**Sn**	**18 33 11.9**	**+0.7**
HMBC				AML		AML	18 33 13.3	
	comp=N,6μm,0.5s							
MNMC	**Minimini**	**0.79**	**335**⇓	*i*P		**Pn**	**18 32 58.3**	**+0.2**
MNMC				*i* S		**Sn**	**18 33 12.4**	**0.0**
MNMC				AML		AML	18 33 13.0	
	comp=N,10μm,0.4s							
PSGC	**Pisagua**	**0.86**	**287**⇓	*i*P		**Pn**	**18 32 58.5**	**-0.1**
PSGC				*i* S		**Sn**	**18 33 13.1**	**-0.2**
PSGC				AML		AML	18 33 13.7	
	comp=N,2μm,0.6s							
PB01	**IPOC Station P**	**1.20**	**191**	*i*P		**Pn**	**18 33 02.9**	**+0.7**
PB01				*i* S		**Sn**	**18 33 21.4**	**+1.7**
PB01				AML		AML	18 33 22.5	
	comp=E,5μm,0.4s							
PATCX	**Punta Patache**	**1.28**	**221**⇑	*i*P		**Pn**	**18 33 03.4**	**+0.3**
PATCX				*i* S		**Sn**	**18 33 22.2**	**+0.9**
PATCX				AML		AML	18 33 23.2	
	comp=E,2μm,0.2s							
PB07	**IPOC Station P**	**1.96**	**198**	*i*P		**Pn**	**18 33 12.1**	**+0.6**
PB07				*i* S		**Sn**	**18 33 37.6**	**+1.4**
PB07				AML		AML	18 33 42.0	
	comp=E,500nm,0.3s							
PB06	**IPOC Station P**	**2.85**	**186**	*i*P		**Pn**	**18 33 24.0**	**+0.9**
PB06				*e*S		**Sn**	**18 33 56.1**	**-0.9**
PB06				AML		AML	18 34 03.0	
	comp=N,223nm,0.5s							
LPAZ	**La Paz**	**3.70**	**17**	P		**Pn**	**18 33 36.6**	**+1.7**
	comp=N,1.9nm,0.3s,baz=193,slow=8.6,SNR=22							
LPAZ				S		**Sn**	**18 34 19.4**	**+1.3**
	comp=N,0.2nm,0.3s,baz=59,slow=5.9,SNR=2.6							
SIV	**San Ignacio**	**8.68**	**65**	P		Pn	18 34 37.2	-4.6
	comp=N,0.9nm,0.3s,baz=258,slow=14,SNR=8.6							
PLCA	**Paso Flores**	**20.84**	**183**	P		**P**	**18 37 10.9**	**-1.5**
	comp=N,1.1nm,0.7s,baz=162,slow=6.4,SNR=3.1							
PTGA	**Pitinga**	**21.07**	**27**	P		**P**	**18 37 12.2**	**-2.6**
	comp=N,0.9nm,0.3s,baz=218,slow=18,SNR=3.2							
TXAR	**Lajitas Array**	**59.10**	**325**	P		**P**	**18 42 31.1**	**+2.5**
	comp=N,0.1nm,0.5s,baz=112,slow=4.0,SNR=2.5							
TORD	**Torodi Ar. Bea**	**77.11**	**71**	P		**P**	**18 44 19.5**	**-1.9**
	comp=N,1.1nm,0.6s,baz=256,slow=5.5,SNR=22							
TORD				pP		**pP**	**18 44 47.7**	**-0.7**
	comp=N,0.1nm,0.5s,baz=114,slow=36,SNR=1.5							
YKA	**Yellowknife Ar**	**89.54**	**341**	P		**P**	**18 45 24.3**	**+0.3**
	comp=N,0.5nm,0.7s,baz=132,slow=5.1,SNR=11							
YKA				pP		**pP**	**18 45 52.3**	**+0.7**
	comp=N,0.4nm,0.6s,baz=133,slow=4.7,SNR=7.1							
ASAR	**Alice Springs**	**131.21**	**209**	PKP		**PKPdf**	**18 51 39.3**	**-0.2**
	comp=N,0.1nm,0.5s,baz=130,slow=2.0,SNR=4.5							
WRA	**Warramunga Arr**	**134.19**	**212**	PKP		**PKPdf**	**18 51 44.9**	**-0.2**
	comp=N,0.2nm,0.5s,baz=126,slow=1.5,SNR=3.0							
SONM	**Songino Array**	**151.87**	**6**	PKPbc		**PKPbc**	**18 52 22.1**	**+0.4**
	comp=N,0.4nm,0.5s,baz=290,slow=0.5,SNR=4.7							
SONM				pPKPbc		**pPKPbc**	**18 52 50.8**	**+0.4**
	comp=N,0.2nm,0.5s,baz=240,slow=2.4,SNR=1.9							

DHMR 09 18:33:27.3±0.7, 12°.04N×43°.61E, h9km±17km, ML4.0, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TRBA	**At Turbah**	**1.28**	**23**⇑	*i*P		Pn	18 33 51.3	-0.5
TRBA				*i* S		Sn	18 34 09.4	+0.1
TRBA				AML		AML	18 34 13.5	
	comp=Z,1μm,0.5s							
UDYN	**Al 'Udayn**	**1.95**	**10**	*i*P		Pn	18 34 01.9	+1.1
UDYN				*i* S		Sb	18 34 28.8	+1.0
UDYN				AML		AML	18 34 36.5	
	comp=E,2μm,0.5s							
DHBB	**Dhamar BB**	**2.63**	**17**	*i*P		Pn	18 34 12.5	+2.1
DHBB				*i* S		Sb	18 34 48.5	+0.8
DHBB				AML		AML	18 34 59.2	
	comp=N,2μm,0.5s							

*CRAAG **09** 18:37:00.1, 35°.96N×1°.30E, Ml3.1*
*ISCJB **09** 18:37:01.4±0.6, 36°.09N±0°.05×1°.25E±0°.05, h19km±6km, Error ellipse: s-maj=9.5km s-min=5.6km az=149.6*
*MDD **09** 18:37:

EMUR	**La Murta**	**2.69**	**312**	P		**Pn**	**18 37 44.3**	**-0.1**
	1.4nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**2.69**	**312**	P		**Pn**	**18 37 44.3**	**-0.1**
	1.4nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**2.90**	**336**	P		**Pn**	**18 37 48.3**	**+0.9**
	0.3nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**18 38 21.6**	**-0.6**
	3.5nm,0.5s,SNR=7.9							
EBEN	**Beniarda**	**2.90**	**336**	P		**Pn**	**18 37 48.3**	**+0.9**
	0.3nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**18 38 21.6**	**-0.6**
	3.5nm,0.5s,SNR=7.9							
EIBI	**Ibiza**	**2.97**	**1**	P		**Pn**	**18 37 49.1**	**+0.8**
	1.6nm,0.1s,SNR=9.5							
EIBI				S		**Sn**	**18 38 22.2**	**-1.6**
	5.8nm,0.2s							
EIBI	**Ibiza**	**2.97**	**1**	P		**Pn**	**18 37 49.1**	**+0.8**
	1.6nm,0.1s,SNR=9.5							
EIBI				S		**Sn**	**18 38 22.2**	**-1.6**
	5.8nm,0.2s							
ETOB	**Tobarra**	**3.42**	**320**	P		**Pn**	**18 37 55.8**	**+1.2**
	1.9nm,0.2s,SNR=16							
ETOB				S		**Sn**	**18 38 34.5**	**-0.6**
	2.3nm,0.2s							
ETOB	**Tobarra**	**3.42**	**320**	P		**Pn**	**18 37 55.8**	**+1.2**
	1.9nm,0.2s,SNR=16							
ETOB				S		**Sn**	**18 38 34.5**	**-0.6**
	2.3nm,0.2s							
EBER	**Berja**	**3.45**	**285**	P		**Pn**	**18 37 54.6**	**-0.5**
	7.5nm,0.2s,SNR=21							
EBER				S		**Sn**	**18 38 34.1**	**-1.8**
	7.1nm,0.4s							
EBER	**Berja**	**3.45**	**285**	P		**Pn**	**18 37 54.6**	**-0.5**
	7.5nm,0.2s,SNR=21							
EBER				S		**Sn**	**18 38 34.1**	**-1.8**
	7.1nm,0.4s							
SESP	**Santiago Espad**	**3.68**	**305**	P		**Pn**	**18 38 00.0**	**+1.8**
	4.5nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**18 38 41.9**	**+0.4**
	3.3nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.68**	**305**	P		**Pn**	**18 38 00.0**	**+1.8**
	4.5nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**18 38 41.9**	**+0.4**
	3.3nm,0.2s,SNR=7.9							
EQES	**Quesada**	**3.89**	**298**	P		**Pn**	**18 38 03.1**	**+2.1**
	7.4nm,0.3s,SNR=17							
EQES				S		**Sn**	**18 38 47.3**	**+0.7**
	5.2nm,0.4s							
EQES	**Quesada**	**3.89**	**298**	P		**Pn**	**18 38 03.1**	**+2.1**
	7.4nm,0.3s,SNR=17							
EQES				S		**Sn**	**18 38 47.3**	**+0.7**
	5.2nm,0.4s							
ETOS	**Mallorca**	**3.91**	**18**	P		**Pn**	**18 38 00.8**	**-0.4**
	2.1nm,0.4s,SNR=7.9							
ETOS				S		**Sn**	**18 38 45.2**	**-1.8**
	4.1nm,0.5s,SNR=7.9							
ETOS	**Mallorca**	**3.91**	**18**	P		**Pn**	**18 38 00.8**	**-0.4**
	2.1nm,0.4s,SNR=7.9							
ETOS				S		**Sn**	**18 38 45.2**	**-1.8**
	4.1nm,0.5s,SNR=7.9							
EQUE	**Quentar**	**3.96**	**288**	P		**Pn**	**18 38 02.7**	**+0.8**
	4.3nm,0.2s,SNR=12							
EQUE	**Quentar**	**3.96**	**288**	P		**Pn**	**18 38 02.7**	**+0.8**
	4.3nm,0.2s,SNR=12							
EGUA	**Guajares**	**3.97**	**283**	P		**Pn**	**18 38 02.4**	**+0.3**
	1.7nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**3.97**	**283**	P		**Pn**	**18 38 02.4**	**+0.3**
	1.7nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**4.07**	**289**	P		**Pn**	**18 38 05.7**	**+2.1**
	1.9nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**4.07**	**289**	P		**Pn**	**18 38 05.7**	**+2.1**
	1.9nm,0.1s,SNR=7.9							
ERON	**Agron**	**4.20**	**285**	P		**Pn**	**18 38 07.4**	**+2.1**
	4.5nm,0.1s,SNR=7.9							
ERON	**Agron**	**4.20**	**285**	P		**Pn**	**18 38 07.4**	**+2.1**
	4.5nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**4.52**	**343**	P		**Pn**	**18 38 11.4**	**+1.7**
	0.7nm,0.2s,SNR=7.2							
EMOS				S		**Sn**	**18 38 59.8**	**-2.4**
	1.1nm,0.2s							
EMOS	**Mosqueruela**	**4.52**	**343**	P		**Pn**	**18 38 11.4**	**+1.7**
	0.7nm,0.2s,SNR=7.2							
EMOS				S		**Sn**	**18 38 59.8**	**-2.4**
	1.1nm,0.2s							
EMIJ	**Mijas**	**4.90**	**278**	P		**Pn**	**18 38 13.1**	**-1.8**
	1.4nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**4.90**	**278**	P		**Pn**	**18 38 13.1**	**-1.8**
	1.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.12**	**296**	P		**Pn**	**18 38 18.0**	**+0.1**
	0.6nm,0.4s,SNR=7.9							
EADA				S		**Sn**	**18 39 17.2**	**+0.3**
	1.4nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**5.12**	**296**	P		**Pn**	**18 38 18.0**	**+0.1**
	0.6nm,0.4s,SNR=7.9							
EADA				S		**Sn**	**18 39 17.2**	**+0.3**
	1.4nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.30**	**358**	P		**Pn**	**18 38 21.5**	**+1.2**
	1.6nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.30**	**358**	P		**Pn**	**18 38 21.5**	**+1.2**
	1.6nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**5.65**	**310**	P		**Pn**	**18 38 25.6**	**+0.4**
	1.9nm,0.3s,SNR=7.9							
PAB				S		**Sn**	**18 39 26.9**	**-3.0**
	1.8nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**5.65**	**310**	P		**Pn**	**18 38 25.6**	**+0.4**
	1.9nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**5.71**	**293**	P		**Pn**	**18 38 25.8**	**-0.2**
	0.9nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**5.71**	**293**	P		**Pn**	**18 38 25.8**	**-0.2**
	0.9nm,0.3s,SNR=7.9							

*CSEM **09** 18:43:35.5,38°.58N×29°.27W,h0km,ML2.8*
PDA 09 18:43:35.5±0.5,**38°.58N×29°.27W,h0**km±3km**,MD3.6, ML2.8,Error ellipse: s-maj=6.1km s-min=3.9km az=9.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.45**	**89**	*e*P	Pg	18 43 43.8	-0.4
CALA				*e*S	Sg	18 43 50.0	-0.1
CALA	**Caldeira**	**0.45**	**89**	*e*P	Pg	18 43 43.8	-0.4
CALA				*e*S	Sg	18 43 50.0	-0.1
PCED	**Cedros**	**0.45**	**83**	*i* P	Pg	18 43 43.7	-0.5
PCED				*e*S	Sg	18 43 50.1	+0.1
PCED				A	A	18 43 51.2	
	200nm,0.6s						
HOR	**Horta**	**0.51**	**96**	*e*S	Sg	18 43 51.7	-0.1
HOR	**Horta**	**0.51**	**96**	*e*S	Sg	18 43 51.7	-0.1
PCAN	**Candelaria**	**0.63**	**100**	*e*S	Sg	18 43 54.8	-1.0
PCAN				A	A	18 44 01.9	
	303nm,0.3s						
PCAN	**Candelaria**	**0.63**	**100**	*e*S	Sg	18 43 54.8	-1.0
PICO	**Pico**	**0.67**	**96**	*i* P	Pg	18 43 47.3	-1.2
PICO				*e*S	Sg	18 43 56.0	-1.2
ROSA	**Rosais**	**0.82**	**80**	*i* P	Pg	18 43 49.1	-2.2
ROSA				*e*S	Sg	18 43 59.5	-2.4
ROSA				A	A	18 44 06.1	
	193nm,0.6s						
PMAN	**Manadas**	**0.93**	**86**	*e*P	Pg	18 43 50.8	-2.5
PMAN				*e*S	Sg	18 44 02.4	-3.0
PMAN				A	A	18 44 13.1	
	83nm,0.3s						
PMAN	**Manadas**	**0.93**	**86**	*e*P	Pg	18 43 50.8	-2.5
PMAN				*e*S	Sg	18 44 02.4	-3.0
TOPO	**Topo**	**1.06**	**89**	*e*P	Pg	18 43 52.9	-3.1
TOPO				*e*S	Sg	18 44 05.7	-4.1
TOPO	**Topo**	**1.06**	**89**	*e*P	Pg	18 43 52.9	-3.1
TOPO				*e*S	Sg	18 44 05.7	-4.1

*ISCJB **09** 18:45:07.6±0.9,6°.89S±0°.07×129°.20E±0°.07,h139km, mb3.1/1,Error ellipse: s-maj=10.5km s-min=9.2km az=167.5*
*IDC **09** 18:45:09.2±9.4,6°.87S×129°.64E,h141km±95km,mb3.0/1, mb1 3.1/4,mb1mx2.8/30,mbtmp3.5/4,Error ellipse: s-maj=103.1km s-min=31.6km az=45.0*
ISC 09 18:45:08.2±1.1,**7°.09S**±0°.08×**129°.29E**±0°.08,**h139**km,**n6, σ3°38/8,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.18**	**114**	P	Pn	18 45 49.3	+4.4
SAUI				S	**Sn**	**18 46 17.5**	**+4.4**
FAKI	**Fak Fak**	**5.09**	**36**	P	**Pn**	**18 46 20.6**	**-2.1**
FAKI				S	Sn	18 47 12.0	-8.7
BATI	**Baumata**	**6.36**	**241**	P	Pn	18 46 46.8	+7.0
	1.4nm,0.3s,baz=63,slow=5.1,SNR=12						
BATI				S	**Sn**	**18 47 53.0**	**+1.7**
	2.9nm,0.3s,baz=105,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**13.68**	**159**	P	**Pn**	**18 48 16.9**	**+0.3**
	0.3nm,0.3s,baz=338,slow=13,SNR=17						
WRA				S	**Sn**	**18 50 44.0**	**-4.0**
	0.2nm,0.3s,baz=332,slow=24,SNR=6.7						
ASAR	**Alice Springs**	**17.07**	**165**	P	**Pn**	**18 49 01.9**	**+3.3**
	0.1nm,0.3s,baz=345,slow=9.9,SNR=25						
ASAR				S	**S**	**18 52 07.4**	**-1.6**
	0.0nm,0.3s,baz=336,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**18 55 52.6**	**+0.7**
	0.2nm,0.5s,baz=125,slow=7.4,SNR=4.3						

*IDC **09** 18:52:07.9±2.3,1°.85N×96°.78E,h0km,mb3.6/7,mb1 3.7/8, mb1mx3.4/48,mbtmp3.6/8,ML3.6/1,Error ellipse: s-maj=97.5km s-min=19.8km az=57.0*
*ISCJB **09** 18:52:10.0±0.9,1°.79N±0°.06×96°.76E±0°.07,h28km, mb3.6/7,Error ellipse: s-maj=10.4km s-min=8.5km az=151.9*
*DJA **09** 18:52:12.3±0.9,2°.N±9°×9°.6E±°,h76km±9km,M3.7/8, mb3.9/2,mB4.5/1,MLv3.6/8,Mw(mB)3.7/1*
ISC 09 18:52:12.0±1.2,**1°.96N**±0°.09×**96°.91E**±0°.06,**h28**km,**n16, σ1°21/16,mb3.6/7,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.73**	**308**	P	**Pb**	**18 52 26.0**	**-0.2**
SNSI				S	**Sb**	**18 52 34.8**	**-1.1**
TPTI		**1.32**	**12**	P	**Pn**	**18 52 35.0**	**+0.4**
TPTI				S	**Sb**	**18 52 54.3**	**+1.6**
KCSI	**Kotacane, Aceh**	**1.78**	**29**	P	**Pb**	**18 52 43.2**	**-0.7**
KCSI				S	**Sb**	**18 53 07.2**	**+1.4**
TSI	**Tuntungan**	**2.26**	**47**	P	**Pb**	**18 52 50.0**	**-2.0**
LHMI	**Lhok Sumawe**	**3.25**	**1**	P	**Pn**	**18 52 59.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**16.52**	**7**	Pn	**P**	**18 56 03.6**	**-0.6**
	0.1nm,0.3s,baz=200,slow=12,SNR=15						
H08S2	**Diego Garcia H**	**26.16**	**248**	T	T	19 24 34.3	
	baz=69,slow=75,SNR=97						
H08S3	**Diego Garcia H**	**26.16**	**248**	T	T	19 24 43.0	
	baz=69,slow=75,SNR=63						
H08S1	**Diego Garcia H**	**26.17**	**248**	T	T	19 24 35.8	
	baz=69,slow=75,SNR=96						
WRA	**Warramunga Arr**	**42.69**	**122**	P	**P**	**19 00 08.0**	**+1.3**
	0.3nm,0.8s,baz=302,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**44.09**	**128**	P	**P**	**19 00 17.7**	**-0.3**
	0.3nm,0.8s,baz=301,slow=7.5,SNR=4.6						
SONM	**Songino Array**	**46.43**	**9**	P	**P**	**19 00 36.7**	**+0.4**
	0.4nm,0.7s,baz=188,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**46.44**	**346**	P	**P**	**19 00 37.5**	**+1.1**
	1.2nm,0.8s,baz=159,slow=8.5,SNR=12						
KURBB	**Kurchatov Arra**	**50.93**	**345**	P	**P**	**19 01 11.4**	**+0.7**
	0.5nm,0.7s,baz=165,slow=6.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**52.77**	**351**	P	**P**	**19 01 24.8**	**+0.4**
	1.8nm,0.6s,baz=173,slow=6.8,SNR=10						
BVAR	**Borovoye Array**	**55.44**	**341**	P	**P**	**19 01 44.5**	**+0.6**
	0.5nm,0.6s,baz=134,slow=8.5,SNR=5.7						

HEL 09 18:56:57.8±0.6,**67°.70N×33°.96E,h0**km,**ML1.3, Explosion,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.66**	**274**	SB	Sn	18 57 47.3	-2.8
VRF				MSG		18 57 47.3	
	comp=Z,1.1nm,0.2s						
KU6	**Riekki**	**2.32**	**226**	PG	Pb	18 57 39.2	-1.3
KU6				SG	Sb	18 58 08.9	-0.9
MSF	**Maaselka**	**2.65**	**230**	PG	Pb	18 57 44.7	-1.4
MSF				SG	Sb	18 58 19.9	+0.8
MSF				MSG		18 58 19.9	
	comp=Z,0.6nm,0.3s						
SGF	**Sodankyl**	**2.86**	**268**	SB	Sb	18 58 22.6	-2.6
SGF				MSG		18 58 22.6	
	comp=Z,2.0nm,0.3s						
KEV	**Kevo**	**3.27**	**312**	SN	Sn	18 58 29.2	-0.5
KEV				MSG		18 58 29.2	
	comp=Z,0.5nm,0.2s						
RNF	**Rovaniemi**	**3.29**	**254**	PN	Pn	18 57 50.8	+0.3
RNF				SN	Sn	18 58 29.4	-0.7
RNF				MSG		18 58 29.4	
	comp=Z,1.2nm,0.3s						
ARE0	**ARCESS Array S**	**3.60**	**305**	PN	Pn	18 57 54.3	-0.6
ARE0				SN	Sn	18 58 36.5	-1.6
ARE0				MSG		18 58 36.5	
	comp=Z,0.2nm,0.2s						

*ISCJB **09** 18:57:35.9±0.7,31°.60N±0°.08×105°.6E±0°.1,h10km, mb3.2/7,Error ellipse: s-maj=14.4km s-min=11.5km az=14.6*
*IDC **09** 18:57:36.9±0.9,31°.66N×105°.61E,h0km,mb3.3/7, mb1 3.5/10,mb1mx3.2/68,mbtmp3.3/10,ML3.5/3,MS2.8/1, Ms1 3.0/1,ms1mx2.3/22,Error ellipse: s-maj=33.5km s-min=18.1km az=58.0*
*BJI **09** 18:57:37.0,32°.32N×104°.96E,h8km,ML3.4/6*
ISC 09 18:57:37.9±0.8,**31°.6N**±0°.1×**105°.5E**±0°.1,**h10**km,**n11, σ1°36/11,mb3.2/7,Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.62**	**245**	Pn	**Pn**	**18 58 04.9**	**-1.7**
CD2				SMN			
	2µm,0.6s						
CD2				SME			
	810nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.36**	**206**	Pn	**Pn**	**19 01 01.8**	**+0.4**
	0.4nm,0.3s,baz=15,slow=14,SNR=6.4						
CMAR				LR	LR	19 07 36.2	
	comp=Z,34nm,18.5s,baz=265,slow=41						
SONM	**Songino Array**	**16.23**	**2**	Pn	**Pn**	**19 01 24.6**	**-1.3**
	0.1nm,0.3s,baz=186,slow=12,SNR=3.0						
KSRS	**Korea Array**	**19.38**	**66**	P	**P**	**19 02 02.0**	**-1.8**
	0.1nm,0.3s,baz=250,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**23.39**	**317**	P	**P**	**19 02 46.6**	**-0.1**
	0.2nm,0.5s,baz=118,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**26.80**	**332**	P	**P**	**19 03 19.3**	**+1.3**
	0.3nm,0.5s,baz=140,slow=9.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**27.56**	**321**	P	**P**	**19 03 24.7**	**-0.1**
	0.2nm,0.7s,baz=134,slow=9.1,SNR=2.9						
FINES	**FINESS Array B**	**57.80**	**326**	P	**P**	**19 07 31.2**	**+2.1**
	0.7nm,0.7s,baz=89,slow=7.2,SNR=3.3						
WRA	**Warramunga Arr**	**58.25**	**148**	P	**P**	**19 07 33.2**	**+0.5**
	0.1nm,0.5s,baz=339,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**61.33**	**150**	P	**P**	**19 07 54.5**	**+0.7**
	0.1nm,0.4s,baz=330,slow=6.6,SNR=4.7						
YKA	**Yellowknife Ar**	**80.86**	**18**	P	**P**	**19 09 51.8**	**+0.1**
	0.2nm,0.6s,baz=329,slow=3.9,SNR=3.9						

*IDC **09** 19:03:03.8±4.6,35°.82N×69°.39E,h90km±32km,mb3.2/4, mb1 3.3/10,mb1mx3.0/61,mbtmp3.6/10,Error ellipse: s-maj=50.8km s-min=19.5km az=157.0*
*NNC **09** 19:03:11.3±1.4,36°.51N×69°.37E,h156km,mb2.9,mpv3.8, Error ellipse: s-maj=11.3km s-min=7.2km az=9.0*
ISC 09 19:03:08.5±1.6,**36°.4N**±0°.1×**69°.27E**±0°.07,**h100**km,**n19, σ1°77/27,mb3.4/3,8C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.47**	**352**	⇓P	Pn	19 03 50.7	+3.4
	29nm,0.4s						
DZET				⇑S	**Sn**	**19 04 22.1**	**+5.1**
	48nm,0.4s						
SFK	**Sufi-Kurgan**	**4.94**	**41**	⇓P	**Pn**	**19 04 21.7**	**+1.0**
	2.8nm,0.5s						
SFK				⇑S	**Sn**	**19 05 18.8**	**+2.1**
	12nm,0.6s						
MNAS	**Manas**	**6.61**	**21**	⇓P	**Pn**	**19 04 44.3**	**+1.1**
	9.1nm,0.8s						
MNAS				⇑S	**Sn**	**19 05 57.1**	**-0.1**
	4.0nm,0.6s						
KK31	**Karatay Array**	**6.80**	**8**	P	**Pn**	**19 04 47.7**	**+2.0**
	9.2nm,0.4s,baz=198,slow=14,SNR=71						
KK31				⇓S	**Sn**	**19 06 01.3**	**-0.3**
	3.6nm,0.6s,baz=193,slow=22,SNR=5.8						
AAK	**Ala-Archa**	**7.45**	**31**	⇑P	**Pn**	**19 04 55.1**	**+0.4**
AAK				⇓S	**Sn**	**19 06 17.0**	**-0.7**
	7.5nm,1.2s						
AAK	**Ala-Archa**	**7.45**	**31**	P	**Pn**	**19 04 55.6**	**+1.0**
	1.1nm,0.3s,baz=194,slow=8.1,SNR=20						
AAK				S	**Sn**	**19 06 16.5**	**-1.2**
	0.5nm,0.3s,baz=291,slow=23,SNR=8.9						
TKM2	**Tokmak 2**	**8.17**	**35**	⇓P	**Pn**	**19 05 04.0**	**-0.4**
	1.3nm,0.6s						
TKM2				⇑S	**Sn**	**19 06 33.0**	**-2.1**
	3.8nm,1.0s						
GEYT	**Alibeck**	**9.04**	**283**	P	**Pn**	**19 05 15.2**	**-1.0**
	0.6nm,0.3s,baz=107,slow=9.5,SNR=6.6						
GEYT				S	**Sn**	**19 06 57.5**	**+1.3**
	0.4nm,0.3s,baz=97,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**14.25**	**39**	P	**Pn**	**19 06 26.1**	**+0.5**
	0.1nm,0.3s,baz=218,slow=8.9,SNR=8.1						
MK31	**Makanchi Array**	**14.25**	**39**	⇑P	**Pn**	**19 06 24.7**	**-0.9**
	1.1nm,0.7s,baz=214,slow=8.8,SNR=11						
AB31	**Akbulak array**	**14.58**	**335**	⇑P	**Pn**	**19 06 30.2**	**+0.5**
	0.7nm,0.5s,baz=148,slow=13,SNR=41						
AB31				⇑S	**Sn**	**19 09 07.0**	**-3.2**
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**15.74**	**22**	P	**P**	**19 06 46.9**	**+0.6**
	0.1nm,0.3s,baz=213,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**16.25**	**334**	⇓P	**Pn**	**19 06 48.5**	**-2.1**
	3.3nm,1.0s						
AKTO				⇓S	**Sn**	**19 09 47.4**	**-3.1**
	1.0nm,0.9s						
AKTO	**Aktyubinsk**	**16.25**	**334**	P	**P**	**19 06 52.9**	**+1.0**
	0.2nm,0.3s,baz=149,slow=16,SNR=5.5						
BVAR	**Borovoye Array**	**16.68**	**2**	P	**Pn**	**19 06 56.5**	**+0.5**
	0.3nm,0.3s,baz=176,slow=11,SNR=8.4						
ZALV	**Zalesovo Beam**	**20.64**	**27**	P	**P**	**19 07 40.5**	**+0.6**
	1.7nm,0.6s,baz=220,slow=12,SNR=12						
FINES	**FINESS Array B**	**36.83**	**327**	P	**P**	**19 10 07.2**	**+0.7**
	0.4nm,0.6s,baz=108,slow=4.5,SNR=2.0						
NOA	**NORSAR Array B**	**43.66**	**323**	P	**P**	**19 11 03.1**	**+0.2**
	0.5nm,0.9s,baz=104,slow=8.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**64.32**	**268**	P	P	19 13 30.4	-3.4
	0.3nm,0.7s,baz=45,slow=5.9,SNR=3.2						

*ISCJB **09** 19:04:09.4±0.3,47°.27N±0°.03×150°.69E±0°.04, h189km±3km,mb4.2/88,Error ellipse: s-maj=6.8km s-min=3.3km az=141.3*
*MOS **09** 19:04:10.1±0.9,47°.34N×150°.59E,h193km,mb4.5/40, Error ellipse: s-maj=7.9km s-min=5.3km az=86.2*
*BJI **09** 19:04:10.7,47°.52N×150°.82E,h209km,mB4.5/15, mb4.4/22*
*SKHL **09** 19:04:10.1±1.0,47°.12N×150°.79E,h183km±7km,mb5.3/6, msh5.7/5*
*NEIC **09** 19:04:12.9±0.2,47°.33N×150°.57E,mb4.3/27,Error ellipse: s-maj=5.8km s-min=3.5km az=141.0*
*IDC **09** 19:04:13.2±0.6,47°.40N×150°.58E,h206km±4km,mb3.8/33, mb1 3.9/39,mb1mx3.9/43,mbtmp4.3/39,Error ellipse: s-maj=10.0km s-min=7.0km az=142.0*
*JMA **09** 19:04:13.4±0.6,46°.25N×151°.07E,h228km,M4.3*
ISC 09 19:04:11.9±0.4,**47°.27N**±0°.05×**150°.71E**±0°.05,**h199**km±3km, **h198**km**:pP-P,n326,**σ1°23/365,**mb4.2/88,11C-4D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.84**	**225**	*e*PN	**Pn**	**19 04 57.6**	**-1.9**
KUR				*e*S	**Sn**	**19 05 35.5**	**-1.2**
KUR				pmax	pmax		
	comp=N,33nm,0.7s						
KUR				pmax	pmax		
	comp=E,45nm,0.7s						
KUR				pmax	pmax		
	comp=Z,115nm,0.7s						
KUR				smax	smax		
	comp=N,438nm,0.7s						
KUR				smax	smax		
	comp=E,258nm,0.7s						
KUR	**Kuril'sk**	**2.84**	**225**	*e*P	**Pn**	**19 04 57.6**	**-1.9**
KUR				AMB	AMB	19 05 00.8	
	comp=E,115nm,0.7s						
KUR				*e*S	**Sn**	**19 05 35.5**	**-1.2**
KUR				A	A	19 05 44.8	
	comp=E,438nm,0.7s						
KUR				A	A	19 05 44.8	
	comp=E,258nm,0.7s						
SHO	**Shikotan**	**4.36**	**220**	*e*P	**Pn**	**19 05 15.0**	**-3.1**
SHO				AMB	AMB	19 05 15.6	
	comp=E,265nm,0.5s						
SHO				*e*S	**Sn**	**19 06 04.9**	**-5.2**
SHO				A	A	19 06 05.2	
	comp=E,286nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.70**	**228**	*d i* PN	**Pn**	**19 05 21.2**	**-1.1**
YUK				*i* S	**Sn**	**19 06 17.0**	**-0.7**
YUK				pmax	pmax		
	comp=N,123nm,0.4s						
YUK				pmax	pmax		
	comp=E,187nm,0.4s						
YUK				pmax	pmax		
	comp=Z,974nm,0.4s						
YUK				smax	smax		
	comp=N,219nm,0.7s						
YUK				smax	smax		
	comp=E,363nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.70**	**228**	*e*P	**Pn**	**19 05 21.2**	**-1.1**
YUK				AMB	AMB	19 05 21.7	
	comp=E,97nm,0.4s						
YUK				*e*S	**Sn**	**19 06 17.0**	**-0.7**
YUK				A	A	19 06 20.7	
	comp=E,363nm,0.7s						
YUK				A	A	19 06 20.7	
	comp=E,220nm,0.7s						
SKR	**Severo-Kuril's**	**4.93**	**44**	*e*PN	Pn	19 05 18.5	-6.7
SKR				*e*S	Sn	19 06 16.0	-7.0
SKR				pmax	pmax		
	comp=N,70nm,0.7s						
SKR				pmax	pmax		
	comp=E,60nm,0.7s						
SKR				pmax	pmax		
	comp=Z,110nm,0.7s						
SKR				smax	smax		
	comp=N,110nm,0.6s						
SKR				smax	smax		
	comp=E,70nm,0.4s						
SKR	**Severo-Kuril's**	**4.93**	**44**	*e*P	**Pn**	**19 05 24.0**	**-1.2**
SKR				*e*S	**Sn**	**19 06 21.1**	**-1.9**
SKR				A	A	19 06 27.1	
	comp=E,234nm,0.7s						
JRA	**Rausu**	**5.15**	**232**	P	**Pn**	**19 05 26.7**	**-1.4**
NEM2	**Nemuro 2**	**5.25**	**224

JHR **Hokuryu** 7.23 244 P **Pn** 19 05 55.6 +0.5
PETK **Petropavlovsk-** 7.36 35 P **Pn** 19 05 55.5 -1.2
comp=Z,2.2nm,0.3s,baz=187,slow=12,SNR=25
JBT2 **Biratori 2** 7.43 236 P **Pn** 19 05 54.9 -2.7
ERM **Erimo** 7.53 228⇑ *e*PN **Pn** 19 05 55.8 -3.1
ERM **Erimo** 7.53 228 *e*Pn **Pn** 19 05 55.7 -3.2
ERM *e*Sn Sn 19 07 12.8 -11
JEM **Erimo** 7.53 228 P Pn 19 05 55.5 -3.4
JNBK **Urakawa-nobuka** 7.55 231 P Pn 19 05 53.6 -5.6
PET **Petropavlovsk** 7.69 39 *e*PN **Pn** 19 05 58.6 -2.3
PET **Petropavlovsk** 7.69 39 *e*P **Pn** 19 05 59.8 -1.0
PET AMB AMB 19 06 13.3
comp=Z,479nm,1.0s
PET *e*S **Sn** 19 07 23.3 -4.3
PET A A 19 07 34.6
comp=Z,520nm,1.2s
PET **Petropavlovsk** 7.69 39 *e*Pn **Pn** 19 05 58.6 -2.3
JEW **Eniwo** 7.91 239 P **Pn** 19 06 02.7 -1.2
JNB **Noboribetsu** 8.38 239 P **Pn** 19 06 06.9 -3.1
JNB *e*S Sn 19 07 37.6 -6.6
JKB **Kayabe** 8.76 236 P Pn 19 06 10.7 -4.2
JSH **Shimam** 8.87 242 P **Pn** 19 06 15.1 -1.2
JYM2 **Yakumo 2** 8.99 239 P **Pn** 19 06 14.9 -3.0
JSR **Shiriuchi** 9.34 236 P Pn 19 06 18.3 -4.2
JTM **Tenmabayashi** 9.50 230 P Pn 19 06 18.8 -5.7
JOSM **Okushiri--Mats** 9.54 241 P **Pn** 19 06 22.2 -2.8
JANG **Nango** 9.57 227 P Pn 19 06 19.3 -6.3
JTH **Tanohata** 9.74 224 P Pn 19 06 20.6 -7.1
OFUJ **Ofunato** 10.51 222 P Pn 19 06 32.0 -5.7
HABR **Khabarovsk** 10.59 282 *e*PN **Pn** 19 06 35.5 -3.1
HABR *e*S **Sn** 19 08 32.8 -3.9
HABR pmax pmax
comp=Z,67nm,2.3s
JRG **Rokugo** 10.76 227 P Pn 19 06 36.4 -4.4
JIO **Ouri** 11.17 221 P Pn 19 06 40.3 -5.8
JYA **Atsumi** 11.83 227 P Pn 19 06 50.1 -4.5
USRK **Ussuriysk Ar.** 13.43 264 P **Pn** 19 07 15.1 +0.4
comp=Z,2.7nm,0.3s,baz=70,slow=13,SNR=49
VLA **Vladivostok** 13.90 260 *de*P **Pn** 19 07 19.4 -1.1
VLA **Vladivostok** 13.90 260 *e*P **Pn** 19 07 19.4 -1.1
MAJO **Matsushiro** 14.18 225 *d i*P **Pn** 19 07 22.4 -1.6
MAJO **Matsushiro** 14.18 225 *e*P **Pn** 19 07 22.4 -1.6
MAJO **Matsushiro** 14.18 225 *e*Pn **Pn** 19 07 21.8 -2.3
MAT **Matsushiro** 14.18 225 P **Pn** 19 07 22.2 -1.9
MAT S **Sn** 19 10 06.4 +3.9
MJAR **Matsushiro Arr** 14.18 225 P **Pn** 19 07 22.5 -1.5
comp=Z,0.7nm,0.3s,baz=22,slow=12,SNR=13
MDJ **Mudanjiang** 14.93 268 *e*Pn **Pn** 19 07 32.4 -0.7
SEY **Seymchan** 15.72 3 P **P** 19 07 42.3 -0.1
comp=Z,0.3nm,0.3s,baz=180,slow=10.0,SNR=16
SEY **Seymchan** 15.72 3 *e*P **Pn** 19 07 43.3 +0.7
YAK **Yakutsk** 19.01 329 *e*P **P** 19 08 18.2 -0.1
YAK *e*S **S** 19 11 43.1 0.0
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK smax smax
comp=N,65nm,3.7s
YAK smax smax
comp=E,84nm,3.5s
YAK **Yakutsk** 19.01 329 P **P** 19 08 16.3 -2.0
comp=E,0.0nm,0.3s,baz=86,slow=1.6,SNR=12
YAK **Yakutsk** 19.01 329 *e*P **P** 19 08 18.2 -0.1
YAK **Yakutsk** 19.01 329 *e*P **P** 19 08 18.2 -0.1
comp=E,32nm,0.8s
KSRS **Korea Array** 19.43 248 P **P** 19 08 24.2 +1.1
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS **Korea Array** 19.43 248 P **P** 19 08 24.2 +1.1
comp=Z,0.6nm,0.3s,baz=54,slow=10,SNR=24
KSAR **Wonju Array Be** 19.46 248 P **P** 19 08 24.2 +0.8
KSAR **Wonju Array Be** 19.46 248 P **P** 19 08 24.2 +0.8
INCN **Inchon** 20.23 250 *e*P **P** 19 08 32.4 +0.7
JNU **Nakatsue** 20.54 234 P **P** 19 08 37.4 +1.3
comp=Z,10nm,0.8s,baz=25,slow=8.7,SNR=7.8
BILL **Bilibino** 22.29 15⇑ *e*P **P** 19 08 52.7 +0.3
BILL *e**PP **pP** 19 09 31.9 +4.9
BILL *e*S **S** 19 12 48.1 +5.8
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL **Bilibino** 22.29 15 *e*P **P** 19 08 52.7 +0.3
BILL **Bilibino** 22.29 15 P **P** 19 08 51.1 -1.3
BOD **Bodaibo** 24.39 309 *e*P **P** 19 09 09.5 -2.0
BOD pmax pmax
comp=Z,3.0nm,1.3s
TIXI **Tiksi** 26.52 345 *ce*P **P** 19 09 29.4 -1.1
TIXI pmax pmax
comp=Z,13nm,2.5s
TIXI **Tiksi** 26.52 345 *e*P **P** 19 09 28.7 -1.8
comp=Z,4.1nm,0.6s
HHC **Hu-ho-hao-te** 28.63 272 *e*P **P** 19 09 51.5 +1.7
HHC pP **pP** 19 10 30.4 +0.3
HHC sP **sP** 19 10 53.1 +0.1
HHC PcP **PcP** 19 12 58.4 +3.0
HHC S **S** 19 14 24.3 +0.8
HHC sS **sS** 19 15 33.9 -1.5
HHC ScS **ScS** 19 20 12.4 +1.1
HHC PMZ
comp=Z,15nm,0.5s
HHC PMZ
comp=Z,120nm,6.3s
ULN **Ulaanbaatar** 29.17 288⇑ *e*P **P** 19 09 53.4 -1.2
ULN pmax pmax
comp=Z,3.0nm,1.7s
ULN **Ulaanbaatar** 29.17 288 *e*P **P** 19 09 53.4 -1.2
ULN **Ulaanbaatar** 29.17 288 P **P** 19 09 51.9 -2.8
comp=Z,1.8nm,0.7s
SONM **Songino Array** 29.61 288 P **P** 19 09 58.0 -0.4
comp=Z,0.4nm,0.6s,baz=65,slow=7.6,SNR=4.2
SONM PcP **PcP** 19 12 57.7 -0.1
comp=Z,0.8nm,0.6s,baz=98,slow=3.7,SNR=5.2
H11N2 **WAKE ISLAND Hy** 30.48 149 T T 19 41 45.6
baz=338,slow=76,SNR=45
H11N1 **WAKE ISLAND Hy** 30.49 149 T T 19 41 37.8
baz=338,slow=76,SNR=37
H11N3 **WAKE ISLAND Hy** 30.50 149 T T 19 42 00.2
baz=338,slow=76,SNR=33
ZAK **Zakamensk** 30.96 294 *e*P **P** 19 10 09.4 -0.9
ZAK pmax pmax
comp=Z,1.0nm,1.0s
H11S1 **WAKE ISLAND Hy** 31.54 150 T T 19 43 24.9
baz=340,slow=76,SNR=34
H11S3 **WAKE ISLAND Hy** 31.55 150 T T 19 43 25.4
baz=340,slow=76,SNR=34
H11S2 **WAKE ISLAND Hy** 31.56 150 T T 19 43 08.0
baz=340,slow=76,SNR=23
TATO **Taipei** 32.13 236 P **P** 19 10 19.8 -0.8
IM04 **Indian Mountai** 34.31 37 *e*P **P** 19 10 39.6 +0.6
KTH **Kantishna Hill** 35.44 41 *e*P **P** 19 10 49.8 +1.0
comp=Z,12nm,0.9s
COLD **Coldfoot** 35.83 35 *e*P **P** 19 10 52.5 +0.6
comp=Z,3.1nm,0.8s
LZH **Lanzhou** 36.24 269 *e*P **P** 19 10 58.0 +2.0
LZH pP **pP** 19 11 39.1 +1.8
LZH sP **sP** 19 12 01.0 +1.0
LZH PP **PnPn** 19 12 28.3 +3.4
LZH PMZ
comp=Z,20nm,1.2s
LZH PMZ
comp=Z,67nm,5.3s
MCK **McKinley** 36.32 41 *e*P **P** 19 10 56.1 -0.1
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK **McKinley** 36.32 41 *e*P **P** 19 10 56.0 -0.1
MCK **McKinley** 36.32 41 *e*P **P** 19 10 56.1 -0.1
comp=Z,5.8nm,0.9s
COLA **College** 36.75 39 *d i*P **P** 19 11 00.3 +0.6
COLA *i**PP **pP** 19 11 42.5 +1.4
COLA pmax pmax
comp=Z,68nm,1.0s
COLA **College** 36.75 39 *e*P **P** 19 11 00.3 +0.6
COLA **College** 36.75 39 *e*P **P** 19 10 60.0 +0.2
comp=Z,15nm,0.6s
ILAR **Eielson Array** 37.17 39 P **P** 19 11 03.5 +0.3
comp=Z,1.8nm,0.4s,baz=268,slow=6.9,SNR=47
ILAR PcP **PcP** 19 13 17.6 -1.0
comp=Z,0.9nm,0.9s,baz=273,slow=3.8,SNR=4.7
GTA **Gaotai** 37.27 277 *e*P **P** 19 11 05.1 +0.5
GTA PMZ
comp=Z,3.0nm,1.0s
DOT **Dot Lake** 38.49 41 *e*P **P** 19 11 13.7 -0.7
comp=Z,3.9nm,0.6s
CD2 **Chengdu** 39.30 263 *e*P **P** 19 11 22.0 +0.5
CD2 PMZ
comp=Z,10.0nm,0.5s
EGAK **Eagle** 39.61 39 *e*P **P** 19 11 23.8 +0.2
comp=Z,7.1nm,0.6s
ZALV **Zalesovo Beam** 40.97 305 P **P** 19 11 33.6 -1.3
comp=Z,0.8nm,0.5s,baz=69,slow=8.1,SNR=4.1
ZALV PcP **PcP** 19 13 31.3 +0.4
comp=Z,6.5nm,0.7s,baz=76,slow=2.7,SNR=29
HYT **Haines Junctio** 42.04 44 *e*P **P** 19 11 45.6 +2.0
INK **Inuvik** 42.09 33 *e*P **P** 19 11 44.7 +1.0
INK *PP **pP** 19 12 26.8 +0.7
INK pmax pmax
comp=Z,7.0nm,0.9s
INK **Inuvik** 42.09 33 P **P** 19 11 44.7 +1.0
comp=Z,2.6nm,0.3s,baz=276,slow=6.1,SNR=31
INK pP **pP** 19 12 26.8 +0.7
comp=Z,2.4nm,0.9s,baz=282,slow=3.6,SNR=2.3
INK **Inuvik** 42.09 33 *e*P **P** 19 11 44.6 +0.9
INK **Inuvik** 42.09 33 *e*P **P** 19 11 44.7 +0.9
comp=Z,6.9nm,0.9s
INK pP **pP** 19 12 26.8 +0.7
WMQ **Urumqi** 43.20 290 *e*P **P** 19 11 55.0 +1.9
WMQ *e*S **S** 19 18 06.0 +1.4
WMQ PMZ
comp=Z,7.0nm,0.5s
WMQ PMZ
comp=Z,73nm,8.2s
MKAR **Makanchi Array** 45.24 296 *ce*P **P** 19 12 08.3 -0.9
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR **Makanchi Array** 45.24 296 P **P** 19 12 08.4 -0.7
comp=Z,4.0nm,0.6s,baz=68,slow=8.0,SNR=58
MKAR PcP **PcP** 19 13 46.0 +0.4
comp=Z,3.1nm,0.6s,baz=100,slow=0.8,SNR=26
MKAR **Makanchi Array** 45.24 296 *e*P **P** 19 12 08.3 -0.9
MKAR **Makanchi Array** 45.24 296 *e*P **P** 19 12 08.0 -1.2
MKAR *e*PcP **PcP** 19 13 45.8 +0.3
KURK **Kurchatov** 45.70 302 P **P** 19 12 12.3 -0.4
KURK 19 13 47.5
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK **Kurchatov** 45.70 302 *e*P **P** 19 12 11.8 -0.9
KURK **Kurchatov** 45.70 302 *e*P **P** 19 12 10.5 -2.2
comp=Z,6.5nm,0.9s
KURK PcP **PcP** 19 13 47.5 +0.4
KURBB **Kurchatov Arra** 45.79 302 P **P** 19 12 12.2 -1.1
comp=Z,3.2nm,0.6s,baz=69,slow=8.6,SNR=19
KURBB PcP **PcP** 19 13 47.5 +0.1
comp=Z,2.8nm,0.7s,baz=70,slow=3.5,SNR=18
DLBC **Dease Lake** 46.40 46 P **P** 19 12 18.9 +0.8
comp=Z,2.6nm,0.8s,baz=314,slow=11,SNR=4.0
LSA **Lhasa** 48.61 271 *e*P **P** 19 12 37.1 +1.1
LSA pmax pmax
comp=Z,2.0nm,0.6s
LSA **Lhasa** 48.61 271 *e*P **P** 19 12 37.1 +1.1
comp=Z,2.0nm,0.6s
CHTO **Chiang Mai** 50.66 254 *e*P **P** 19 12 51.5 +0.5
CHTO pmax pmax
comp=Z,18nm,1.6s
CHTO **Chiang Mai** 50.66 254 *e*P **P** 19 12 51.5 +0.5
comp=Z,18nm,1.6s
RES **Resolute Bay** 50.86 18 P **P** 19 12 51.7 0.0
comp=Z,8.7nm,0.8s,baz=326,slow=8.4,SNR=35
RES PcP **PcP** 19 14 06.0 +0.8
comp=Z,1.1nm,0.7s,baz=302,slow=4.5,SNR=3.5
CMAR **Chiang Mai Arr** 50.92 254 P **P** 19 12 54.0 +1.1
comp=Z,1.6nm,0.5s,baz=30,slow=7.8,SNR=13
CMAR PcP **PcP** 19 14 07.9 +1.5
comp=Z,1.0nm,1.0s,baz=18,slow=3.2,SNR=5.1
TKM2 **Tokmak 2** 51.29 295 P **P** 19 12 55.3 -0.4
TKM2 **Tokmak 2** 51.29 295 P **P** 19 12 55.3 -0.4
YKA **Yellowknife Ar** 51.48 36 P **P** 19 12 57.2 +0.7
comp=Z,4.1nm,0.5s,baz=299,slow=7.0,SNR=81
YKA pP **pP** 19 13 41.9 +1.4
comp=Z,1.0nm,0.8s,baz=299,slow=7.2,SNR=2.4
YKA PcP **PcP** 19 14 08.0 +0.3
comp=Z,0.5nm,0.7s,baz=306,slow=3.7,SNR=3.7
AAK **Ala-Archa** 52.13 295 *c i*P **P** 19 13 01.6 -0.2
AAK pmax pmax
comp=Z,12nm,0.7s
AAK **Ala-Archa** 52.13 295 P **P** 19 13 01.8 0.0
comp=Z,4.8nm,0.8s,baz=95,slow=5.6,SNR=22
AAK **Ala-Archa** 52.13 295 *e*P **P** 19 13 01.6 -0.2
AAK **Ala-Archa** 52.13 295 *e*P **P** 19 13 00.9 -0.9
comp=Z,4.9nm,0.8s
SVE **Sverdlovsk** 52.32 316 *e*P **P** 19 13 02.4 -0.4
SVE pmax pmax
comp=Z,7.0nm,0.6s
TAPN **Taplejung** 52.44 271 *e*P **P** 19 13 05.7 +1.3
EKS2 **Erkin-Say** 52.55 295 *e*P **P** 19 13 04.6 -0.3
EKS2 *e* 19 14 12.9
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 **Erkin-Say** 52.55 295 *e*P **P** 19 13 04.6 -0.3
comp=Z,4.8nm,0.7s
EKS2 *e*PcP **PcP** 19 14 12.9 +0.6
ODAN **Odare** 52.97 271 *e*P **P** 19 13 09.0 +0.7
comp=Z,3.4nm,0.5s
JIRN **Jiri** 53.27 273 *e*P **P** 19 13 10.8 +0.2
comp=Z,10nm,0.6s
GUN **Gumba** 53.33 273 *e*P **P** 19 13 11.4 +0.4
comp=Z,6.5nm,0.5s
RAMN **Ramite** 53.45 272 *e*P **P** 19 13 12.0 +0.2
comp=Z,7.1nm,0.5s
ARU **Arti** 53.51 316 *c i*P **P** 19 13 10.4 -1.0
ARU *PP **pP** 19 13 55.2 -0.6
ARU 19 14 14.0
ARU 19 15 09.4
ARU S **S** 19 20 29.4 +1.1
ARU SS **SS** 19 24 09.6 -1.1
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU **Arti** 53.51 316 *e*P **P** 19 13 10.6 -0.8
ARU **Arti** 53.51 316 *e*P **P** 19 13 10.0 -1.4
comp=Z,5.2nm,0.6s
ARU *epP **pP** 19 13 57.6 +1.8
ARU *es*P **sP** 19 14 14.1 -3.6
KKN **Kakani** 53.81 273 *e*P **P** 19 13 14.9 +0.6
comp=Z,6.1nm,0.5s
PKI **Pulchoki** 53.86 273 *e*P **P** 19 13 14.7 -0.2
comp=Z,2.5nm,0.5s
GKN **Gorkha** 54.11 274 *e*P **P** 19 13 16.6 +0.2
comp=Z,9.4nm,0.7s
KKAR **Karatay Array** 54.30 297 *e*P **P** 19 13 16.6 -0.9
KKAR **Karatay Array** 54.30 297 *e*P **P** 19 13 16.6 -0.9
DANN **Dangsing** 54.48 275 *e*P **P** 19 13 19.9 +0.6
comp=Z,12nm,0.7s
KOLN **Koldanda** 54.96 274 *e*P **P** 19 13 22.2 -0.4
comp=Z,6.3nm,0.7s
PYUN **Piuthan** 55.17 275 *e*P **P** 19 13 23.0 -1.1
comp=Z,8.8nm,0.4s
PRGR **Permogore** 56.03 326 *e*P **P** 19 13 27.9 -1.5
PRGR pmax pmax
comp=Z,15nm,0.8s
KEV **Kevo** 56.29 340 *e*P **P** 19 13 29.7 -1.4
KEV **Kevo** 56.29 340 *ep* **P** 19 13 29.7 -1.4
comp=Z,0.4nm,0.3s
ARCES **ARCESS Array B** 56.81 340 P **P** 19 13 34.6 -0.2
comp=Z,1.0nm,0.6s,baz=25,slow=6.7,SNR=6.2
ARCES PcP **PcP** 19 14 28.2 +0.1
comp=Z,2.0nm,0.7s,baz=52,slow=6.3,SNR=9.9
ABKAR **Akbulak array** 56.82 308 *e*P **P** 19 13 34.1 -1.1
ABKAR *epP **pP** 19 14 21.4 +1.4
AKTO **Aktyubinsk** 57.15 310 P **P** 19 13 37.1 -0.3
comp=Z,1.9nm,0.5s,baz=56,slow=7.6,SNR=15
AKTO PcP **PcP** 19 14 29.4 -0.3
comp=Z,1.6nm,0.7s,baz=71,slow=8.5,SNR=4.8
KSM **Kuching** 57.52 230 P **P** 19 13 40.8 +0.3
KULM **Kulim** 59.84 242 *e*P **P** 19 13 56.7 +0.2
JOF **Joensuu** 60.12 333 *e*P **P** 19 13 56.8 -1.0
JOF pmax pmax
comp=Z,3.0nm,0.6s
JOF **Joensuu** 60.12 333 *ep* **P** 19 13 56.8 -1.0
comp=Z,3.4nm,0.6s
JOF **Joensuu** 60.12 333 *ep* **PcP** 19 14 41.1 -0.3
comp=Z,1.4nm,0.6s
MOD **Modoc Plateau** 60.25 59 *e*P **P** 19 13 59.8 +0.6
comp=Z,74nm,2.7s
KBL **Kabul** 60.34 290 P **P** 19 13 58.5 -1.6
KBL **Kabul** 60.34 290 P **P** 19 13 58.5 -1.6
MSO **Missoula** 60.73 52 *e*P **P** 19 14 03.5 +1.1
comp=Z,4.4nm,0.8s
WVOR **Wild Horse Val** 60.88 58 *e*P **P** 19 14 04.3 +0.9
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR **Wild Horse Val** 60.88 58 *e*P **P** 19 14 04.3 +0.9
comp=Z,3.4nm,0.9s
FFC **Flin Flon** 61.38 39 *e*P **P** 19 14 06.5 +0.1
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC **Flin Flon** 61.38 39 *e*P **P** 19 14 07.3 +0.9
FFC **Flin Flon** 61.38 39 *e*P **P** 19 14 06.5 +0.1
comp=Z,5.5nm,0.8s
FCC **Fort Churchill** 61.71 32 *e*P **P** 19 14 08.2 -0.3
FCC **Fort Churchill** 61.71 32 *e*P **P** 19 14 08.2 -0.3
comp=Z,333nm,0.6s
KAF **Kangasniemi** 62.26 334 *e*P **P** 19 14 10.4 -1.8
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF **Kangasniemi** 62.26 334 *ep* **P** 19 14 10.4 -1.8
comp=Z,3.5nm,0.7s
KAF **Kangasniemi** 62.26 334 *ep* **PcP** 19 14 48.9 -1.1
comp=Z,2.4nm,0.5s
BOZ **Bozeman (W)** 62.73 51 *e*P **P** 19 14 16.7 +1.0
BOZ pmax pmax
comp=Z,2.0nm,0.7s
BOZ **Bozeman (W)** 62.73 51 *e*P **P** 19 14 16.7 +1.0
comp=Z,2.2nm,0.7s
FINES **FINESS Array B** 62.85 334 P **P** 19 14 14.6 -1.4
comp=Z,6.4nm,0.6s,baz=36,slow=7.0,SNR=51
FINES PcP **PcP** 19 14 52.3 -0.2
comp=Z,4.3nm,0.6s,baz=90,slow=3.8,SNR=11
FINES pP **pP** 19 15 03.0 +1.2
comp=Z,2.2nm,0.7s,baz=45,slow=6.2,SNR=3.9
FINES **FINESS Array B** 62.85 334 *e*P **P** 19 14 14.5 -1.5
NVAR **Mina Array Bea** 63.63 61 P **P** 19 14 22.8 +0.9
comp=Z,3.7nm,0.6s,baz=289,slow=7.2,SNR=25
TPH **Tonopah** 64.51 61 *e*P **P** 19 14 27.9 +0.4
TPH pmax pmax
comp=Z,6.0nm,0.9s
TPH **Tonopah** 64.51 61 *e*P **P** 19 14 27.9 +0.4
comp=Z,5.8nm,0.9s
GEYT **Alibeck** 64.92 299 P **P** 19 14 28.5 -1.5
comp=Z,1.1nm,0.9s,baz=35,slow=5.3,SNR=3.5
GEYT pP **pP** 19 15 17.7 +1.7
comp=Z,1.9nm,0.8s,baz=174,slow=1.3,SNR=3.8
R11A **Troy Canyon, C** 65.30 60 *e*P **P** 19 14 32.6 0.0
comp=Z,55nm,2.8s
DUG **Dugway, Tooele** 65.67 57 *e*P **P** 19 14 36.3 +1.4
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG **Dugway, Tooele** 65.67 57 *e*P **P** 19 14 36.3 +1.4
comp=Z,5.2nm,0.8s
CTAO **Charters Tower** 67.17 185 P **P** 19 14 44.4 +0.1
CTAO **Charters Tower** 67.17 185 P **P** 19 14 44.4 +0.1
NB2 **NORSAR Subarra** 67.19 340 P **P** 19 14 42.7 -1.3
comp=Z,4.0nm,0.8s,baz=28,slow=6.5
NOA **NORSAR Array B** 67.19 340 P **P** 19 14 43.1 -0.9
comp=Z,2.7nm,0.7s,baz=30,slow=6.4,SNR=14
NOA PcP **PcP** 19 15 10.1 -0.4
comp=Z,0.5nm,0.6s,baz=28,slow=6.5,SNR=2.5
NOA pP **pP** 19 15 31.8 +1.4
comp=Z,1.3nm,0.8s,baz=29,slow=6.3,SNR=2.8
HFS **Hagfors** 67.38 338 P **P** 19 14 43.9 -1.3
comp=Z,4.8nm,0.7s,baz=52,slow=5.8,SNR=15
HFS PcP **PcP** 19 15 10.8 -0.5
comp=Z,2.2nm,0.6s,baz=64,slow=3.4,SNR=4.9
HFS pP **pP** 19 15 32.5 +1.0
comp=Z,4.2nm,0.7s,baz=46,slow=4.3,SNR=5.7
SRU **San Rafael Swe** 67.70 56 *e*P **P** 19 14 48.0 +0.2
SRU pmax pmax
comp=Z,15nm,0.9s
SRU **San Rafael Swe** 67.70 56 *e*P **P** 19 14 48.0 +0.2
comp=Z,15nm,0.9s
WRAB **Tennant Creek** 68.50 197⇑ *e*P **P** 19 14 52.5 -0.1
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WRAB **Tennant Creek** 68.50 197 *e*P **P** 19 14 52.3 -0.3
WRAB *e*PcP **PcP** 19 15 16.1 -0.2
WB2 **Warramunga Arr** 68.51 197 *e*P **P** 19 14 51.8 -0.8
WRA **Warramunga Arr** 68.51 197 P **P** 19 14 52.2 -0.4
comp=Z,4.3nm,0.9s,baz=15,slow=6.8,SNR=25
WRA PcP **PcP** 19 15 17.1 +0.8
comp=Z,2.1nm,0.8s,baz=13,slow=5.0,SNR=11
KBZ **Khabaz** 69.30 312 P **P** 19 14 57.6 +0.2
comp=Z,2.2nm,0.7s,baz=56,slow=8.4,SNR=7.0
AKASG **Malin Array Be** 70.18 325 *ce*P **P** 19 15 01.1 -1.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 70.18 325 P **P** 19 15 01.3 -1.3
comp=Z,1.4nm,0.4s,baz=34,slow=6.1,SNR=7.4
AKASG pP **pP** 19 15 50.1 +0.8
comp=Z,0.7nm,0.5s,baz=34,slow=6.1,SNR=1.9
GNI **Garni** 70.93 309 P **P** 19 15 08.2 +0.7
comp=Z,1.8nm,0.5s,baz=349,slow=19,SNR=2.8
PALK **Pallekele** 71.15 260 P **P** 19 15 08.5 -0.6
PALK **Pallekele** 71.15 260 P **P** 19 15 08.5 -0.6
AS31 **Alice Springs** 72.22 196 *e*P **P** 19 15 15.9 +0.8
ASAR **Alice Springs** 72.22 196 P **P** 19 15 16.0 +0.9
ASAR **Alice Springs** 72.22 196 P **P** 19 15 15.9 +0.9
comp=Z,4.1nm,0.8s,baz=9.7,slow=5.9,SNR=88
ANMO **Albuquerque** 72.94 57⇑ *e*P **P** 19 15 20.9 +1.3
ANMO pmax pmax
comp=Z,28nm,2.6s
SCHQ **Schefferville** 73.44 22 P **P** 19 15 22.1 +0.1
comp=Z,1.7nm,0.4s,baz=336,slow=5.0,SNR=12
STHS **Stebnicka Huta** 74.22 328 *e*P **P** 19 15 26.4 -0.2
STHS **Stebnicka Huta** 74.22 328 *e*P **P** 19 15 26.4 -0.2
DPC **Dobruska-Polom** 75.10 332 *e*P **P** 19 15 32.2 +0.5
DPC **Dobruska-Polom** 75.10 332 *e*P **P** 19 15 32.2 +0.5
MORC **Moravsky Berou** 75.19 331 P **P** 19 15 30.6 -1.6
MORC **Moravsky Berou** 75.19 331 P **P** 19 15 30.6 -1.6
KECS **Kecovo** 75.28 328 *e*P **P** 19 15 33.0 +0.3
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 75.28 328 *e*P **P** 19 15 33.0 +0.3
CLL **Collm** 75.29 334 *e*P **P** 19 15 32.0 -0.7
CLL *e**PP **pP** 19 16 21.0 +1.0
CLL **Collm** 75.29 334 *e*P **P** 19 15 32.0 -0.7
CLL *ep*P **pP** 19 16 21.0 +1.0
EKA **Eskdalemuir Ar** 75.42 345 P **P** 19 15 32.7 -0.6
comp=Z,0.6nm,0.4s,baz=21,slow=4.8,SNR=11
MLR **Muntele Rosu** 75.68 323 P **P** 19 15 35.1 -0.1
comp=Z,0.4nm,0.7s,baz=190,slow=15,SNR=6.2
VYHS **Vyhne** 75.85 329 *e*P **P** 19 15 35.9 0.0
VYHS pmax pmax
comp=Z,2.0nm,1.3s
VYHS **Vyhne** 75.85 329 *e*P **P** 19 15 35.9 0.0
BRTR **Keskin Array B** 76.87 315 P **P** 19 15 41.7 -0.3
comp=Z,0.8nm,0.6s,baz=72,slow=4.6,SNR=4.1
KHC **Kasperske Hory** 77.03 333 *e*P **P** 19 15 42.8 +0.2
KHC **Kasperske Hory** 77.03 333 *e*P **P** 19 15 42.8 +0.2
GERES **GERESS Array B** 77.25 332 P **P** 19 15 43.1 -0.7
comp=Z,0.5nm,0.4s,baz=42,slow=5.7,SNR=8.3
TXAR **Lajitas Array** 78.65 59 P **P** 19 15 52.5 +0.6
comp=Z,5.0nm,0.6s,baz=297,slow=4.2,SNR=78
CDF **Champ du Feu** 79.53 336 *e*P **P** 19 15 57.2 +0.8
CDF **Champ du Feu** 79.53 336 *e*P **P** 19 15 57.2 +0.8
CDF **Champ du Feu** 79.53 336 *e*P **P** 19 15 57.2 +0.8
PAGF **Fort de Pagny** 79.82 337 *e*P **P** 19 15 57.5 -0.3
comp=Z,1.7nm,0.6s
PAGF **Fort de Pagny** 79.82 337 *e*P **P** 19 15 57.5 -0.3
comp=Z,1.7nm,0.6s
SFTF **Sexfontaines** 80.32 338 *e*P **P** 19 16 00.4 -0.1
comp=Z,4.5nm,0.3s
SFTF **Sexfontaines** 80.32 338 *e*P **P** 19 16 00.4 -0.1
comp=Z,4.5nm,0.3s
FORT **Forrest** 80.33 200 *e*P **P** 19 16 01.6 +1.1
comp=Z,24nm,0.7s
FLN **La Foliniere** 81.13 341 *e*P **P** 19 16 04.5 -0.2
comp=Z,8.3nm,0.7s
FLN **La Foliniere** 81.13 341 *e*P **P** 19 16 04.5 -0.2
FLN pmax pmax
comp=Z,8.0nm,0.7s
FLN **La Foliniere** 81.13 341 *e*P **P** 19 16 04.5 -0.2
comp=Z,8.3nm,0.7s
LDF **La Druitiere** 81.21 341 *e*P **P** 19 16 04.7 -0.4
comp=Z,4.2nm,0.6s
LDF **La Druitiere** 81.21 341 *e*P **P** 19 16 04.7 -0.4
LDF pmax pmax
comp=Z,4.0nm,0.6s
LDF **La Druitiere** 81.21 341 *e*P **P** 19 16 04.7 -0.4
comp=Z,4.2nm,0.6s
MMAI **Mount Meron Ar** 81.23 310 P **P** 19 16 06.2 +0.5
comp=Z,2.1nm,0.7s,baz=54,slow=6.3,SNR=4.6
LOR **Lormes** 81.49 338 *e*P **P** 19 16 06.0 -0.7
comp=Z,4.5nm,0.6s
LOR **Lormes** 81.49 338 *e*P **P** 19 16 06.0 -0.7
LOR pmax pmax
comp=Z,5.0nm,0.6s

LOR	**Lormes**	**81.49**	**338**	*eP*	**P**	**19 16 06.0**	**-0.7**
	comp=Z,4.5nm,0.6s							
GRR	**Gorron**	**81.56**	**341**	*eP*	**P**	**19 16 07.1**	**+0.1**
	comp=Z,9.5nm,0.6s							
GRR	**Gorron**	**81.56**	**341**	*eP*	**P**	**19 16 07.1**	**+0.1**
GRR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
GRR	**Gorron**	**81.56**	**341**	*eP*	**P**	**19 16 07.1**	**+0.1**
	comp=Z,9.5nm,0.6s							
SSF	**Saint Saulge**	**81.77**	**338**	*eP*	**P**	**19 16 08.0**	**-0.2**
SSF	**Saint Saulge**	**81.77**	**338**	*eP*	**P**	**19 16 08.0**	**-0.2**
SSF	**Saint Saulge**	**81.77**	**338**	*eP*	**P**	**19 16 08.0**	**-0.2**
SGMF	**Saint Gilles**	**82.05**	**342**	*eP*	**P**	**19 16 09.7**	**+0.1**
	comp=Z,14nm,0.7s							
SGMF	**Saint Gilles**	**82.05**	**342**	*eP*	**P**	**19 16 09.7**	**+0.1**
SGMF				pmax	pmax			
	comp=Z,14nm,0.7s							
SGMF	**Saint Gilles**	**82.05**	**342**	*eP*	**P**	**19 16 09.7**	**+0.1**
	comp=Z,14nm,0.7s							
AVF	**Avril sur Loir**	**82.06**	**338**	*eP*	**P**	**19 16 09.1**	**-0.6**
	comp=Z,4.1nm,0.6s							
AVF	**Avril sur Loir**	**82.06**	**338**	*eP*	**P**	**19 16 09.1**	**-0.6**
AVF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AVF	**Avril sur Loir**	**82.06**	**338**	*eP*	**P**	**19 16 09.1**	**-0.6**
	comp=Z,4.1nm,0.6s							
SMF	**Signal de Mont**	**82.07**	**338**	*eP*	**P**	**19 16 09.7**	**0.0**
	comp=Z,9.1nm,0.8s							
SMF	**Signal de Mont**	**82.07**	**338**	*eP*	**P**	**19 16 09.7**	**0.0**
SMF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SMF	**Signal de Mont**	**82.07**	**338**	*eP*	**P**	**19 16 09.7**	**0.0**
	comp=Z,9.1nm,0.8s							
ROSF	**Rostrenen**	**82.12**	**343**	*eP*	**P**	**19 16 09.6**	**-0.3**
	comp=Z,12nm,0.8s							
ROSF	**Rostrenen**	**82.12**	**343**	*eP*	**P**	**19 16 09.6**	**-0.3**
ROSF				pmax	pmax			
	comp=Z,12nm,0.8s							
ROSF	**Rostrenen**	**82.12**	**343**	*eP*	**P**	**19 16 09.6**	**-0.3**
	comp=Z,12nm,0.8s							
LPL	**La Plagne**	**82.33**	**335**	*eP*	**P**	**19 16 12.6**	**+1.2**
	comp=Z,12nm,0.9s							
LPL	**La Plagne**	**82.33**	**335**	*eP*	**P**	**19 16 12.6**	**+1.2**
LPL				pmax	pmax			
	comp=Z,12nm,0.9s							
LPL	**La Plagne**	**82.33**	**335**	*eP*	**P**	**19 16 12.6**	**+1.2**
	comp=Z,12nm,0.9s							
LPG	**La Plagne**	**82.34**	**335**	*eP*	**P**	**19 16 12.3**	**+0.8**
	comp=Z,8.5nm,0.8s							
LPG	**La Plagne**	**82.34**	**335**	*eP*	**P**	**19 16 12.3**	**+0.8**
LPG				pmax	pmax			
	comp=Z,9.0nm,0.8s							
LPG	**La Plagne**	**82.34**	**335**	*eP*	**P**	**19 16 12.3**	**+0.8**
	comp=Z,8.5nm,0.8s							
BGF	**Bois d'Agland**	**82.41**	**338**	*eP*	**P**	**19 16 11.4**	**-0.1**
	comp=Z,5.1nm,0.7s							
BGF	**Bois d'Agland**	**82.41**	**338**	*eP*	**P**	**19 16 11.4**	**-0.1**
BGF				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BGF	**Bois d'Agland**	**82.41**	**338**	*eP*	**P**	**19 16 11.4**	**-0.1**
	comp=Z,5.1nm,0.7s							
QUIF	**Quistinic**	**82.50**	**343**	*eP*	**P**	**19 16 11.6**	**-0.3**
	comp=Z,17nm,1.0s							
QUIF	**Quistinic**	**82.50**	**343**	*eP*	**P**	**19 16 11.6**	**-0.3**
QUIF				pmax	pmax			
	comp=Z,17nm,1.0s							
QUIF	**Quistinic**	**82.50**	**343**	*eP*	**P**	**19 16 11.6**	**-0.3**
	comp=Z,17nm,1.0s							
TCF	**Toulx Ste Croi**	**82.82**	**339**	*eP*	**P**	**19 16 13.2**	**-0.4**
	comp=Z,3.0nm,0.6s							
TCF	**Toulx Ste Croi**	**82.82**	**339**	*eP*	**P**	**19 16 13.2**	**-0.4**
TCF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TCF	**Toulx Ste Croi**	**82.82**	**339**	*eP*	**P**	**19 16 13.2**	**-0.4**
	comp=Z,3.0nm,0.6s							
MBDF	**Montbardon**	**83.04**	**335**	*eP*	**P**	**19 16 15.6**	**+0.7**
MBDF	**Montbardon**	**83.04**	**335**	*eP*	**P**	**19 16 15.6**	**+0.7**
MBDF	**Montbardon**	**83.04**	**335**	*eP*	**P**	**19 16 15.6**	**+0.7**
MFF	**Saint Martin d**	**83.09**	**340**	*eP*	**P**	**19 16 14.7**	**-0.3**
	comp=Z,13nm,0.7s							
MFF	**Saint Martin d**	**83.09**	**340**	*eP*	**P**	**19 16 14.7**	**-0.3**
MFF				pmax	pmax			
	comp=Z,13nm,0.7s							
MFF	**Saint Martin d**	**83.09**	**340**	*eP*	**P**	**19 16 14.7**	**-0.3**
	comp=Z,13nm,0.7s							
ORIF	**Oris-en-Rattie**	**83.12**	**336**	*eP*	**P**	**19 16 15.6**	**+0.3**
	comp=Z,7.0nm,0.7s							
ORIF	**Oris-en-Rattie**	**83.12**	**336**	*eP*	**P**	**19 16 15.6**	**+0.3**
ORIF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
ORIF	**Oris-en-Rattie**	**83.12**	**336**	*eP*	**P**	**19 16 15.6**	**+0.3**
	comp=Z,7.0nm,0.7s							
VIVF	**Saint-Julien-l**	**83.51**	**336**	*eP*	**P**	**19 16 18.1**	**+0.9**
VIVF	**Saint-Julien-l**	**83.51**	**336**	*eP*	**P**	**19 16 18.1**	**+0.9**
VIVF	**Saint-Julien-l**	**83.51**	**336**	*eP*	**P**	**19 16 18.1**	**+0.9**
CAF	**Calviac**	**84.13**	**338**	*eP*	**P**	**19 16 20.6**	**+0.3**
	comp=Z,9.0nm,0.8s							
CAF	**Calviac**	**84.13**	**338**	*eP*	**P**	**19 16 20.6**	**+0.3**
CAF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CAF	**Calviac**	**84.13**	**338**	*eP*	**P**	**19 16 20.6**	**+0.3**
	comp=Z,9.0nm,0.8s							
LMR	**La Mourre**	**84.39**	**335**	*eP*	**P**	**19 16 21.4**	**-0.2**
LMR	**La Mourre**	**84.39**	**335**	*eP*	**P**	**19 16 21.4**	**-0.2**
LMR	**La Mourre**	**84.39**	**335**	*eP*	**P**	**19 16 21.4**	**-0.2**
LFF	**La Frestale**	**84.44**	**339**	*eP*	**P**	**19 16 21.9**	**+0.1**
	comp=Z,9.0nm,0.5s							
LFF	**La Frestale**	**84.44**	**339**	*eP*	**P**	**19 16 21.9**	**+0.1**
LFF				pmax	pmax			
	comp=Z,9.0nm,0.5s							
LFF	**La Frestale**	**84.44**	**339**	*eP*	**P**	**19 16 21.9**	**+0.1**
	comp=Z,9.0nm,0.5s							
LASF	**Ste Croix**	**84.45**	**337**	*eP*	**P**	**19 16 22.1**	**+0.1**
LASF	**Ste Croix**	**84.45**	**337**	*eP*	**P**	**19 16 22.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**85.33**	**208**	P	**P**	**19 16 26.9**	**+0.8**
	comp=Z,12nm,0.9s,baz=117,slow=6.8,SNR=4.1							
MTLF	**Montolieu**	**85.57**	**338**	*eP*	**P**	**19 16 27.4**	**-0.1**
MTLF	**Montolieu**	**85.57**	**338**	*eP*	**P**	**19 16 27.4**	**-0.1**
MTLF	**Montolieu**	**85.57**	**338**	*eP*	**P**	**19 16 27.4**	**-0.1**
EPF	**Esparros**	**86.34**	**339**	*eP*	**P**	**19 16 31.2**	**-0.1**
	comp=Z,2.4nm,0.6s							
EPF	**Esparros**	**86.34**	**339**	*eP*	**P**	**19 16 31.2**	**-0.1**
EPF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
EPF	**Esparros**	**86.34**	**339**	*eP*	**P**	**19 16 31.2**	**-0.1**
	comp=Z,2.4nm,0.6s							
ETSF	**Etsaut**	**86.68**	**339**	*eP*	**P**	**19 16 32.8**	**-0.2**
	comp=Z,2.8nm,0.5s							
ETSF	**Etsaut**	**86.68**	**339**	*eP*	**P**	**19 16 32.8**	**-0.2**
ETSF				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ETSF	**Etsaut**	**86.68**	**339**	*eP*	**P**	**19 16 32.8**	**-0.2**
	comp=Z,2.8nm,0.5s							
ESDC	**Sonseca Array**	**90.54**	**341**	P	**P**	**19 16 50.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=359,slow=4.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**113.78**	**327**	PKiKP	**PKiKP**	**19 22 26.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=16,slow=2.0,SNR=12							
DBIC	**Dimbokro**	**122.10**	**331**	PKP	**PKPdf**	**19 22 42.5**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=56,slow=3.6,SNR=3.3							
VNDA	**Vanda**	**124.71**	**177**	PKP	**PKPdf**	**19 22 46.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=320,slow=3.4,SNR=5.9							
LPAZ	**La Paz**	**135.52**	**59**	PKP	**PKPdf**	**19 23 08.1**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=346,slow=2.6,SNR=2.7							
QSPA	**South Pole Qui**	**137.01**	**180**	PKP	**PKPdf**	**19 23 08.4**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=283,slow=4.4,SNR=8.8							
BDFB	**Brasilia**	**144.84**	**32**	PKP	PKPbc	19 23 24.3	-0.6
	comp=Z,6.0nm,0.8s,baz=255,slow=3.4,SNR=5.0							
PLCA	**Paso Flores**	**149.88**	**93**	PKPbc	**PKPbc**	**19 23 38.5**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=257,slow=3.2,SNR=12							

*IDC **09** 19:12:15.8±5.4, 32.°70S×179.°64W, h176km±42km, mb3.9/2, mb1 3.9/4, mb1mx3.5/17, mbtmp4.2/4, Error ellipse: s-maj=48.3km s-min=28.3km az=53.0*

*NEIC **09** 19:12:17.7±4.3, 32.°73S×179.°82W, h185km±30km, mb4.1/4, Error ellipse: s-maj=54.3km s-min=18.4km az=58.0*

*ISCJB **09** 19:12:18.6±0.7, 32.°98S±0.°05×179.°9E±0.°1, h200km, mb3.9/6, Error ellipse: s-maj=13.5km s-min=6.3km az=5.0*

ISC 09 19:12:20.3±1.0, 32.°93S±0.°08×179.°8E±0.°1, h200km, n44, σ1s90/48, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.77**	**194**	*e*PN	**Pn**	**19 13 32.0**	**+0.3**
MXZ				*e*SN	**Sn**	**19 14 31.7**	**+3.7**
WMGZ	**Waiomatatini S**	**5.00**	**192**	*e*PN	**Pn**	**19 13 35.5**	**+1.0**
HAZ	**Te Kaha**	**5.08**	**198**	PN	**Pn**	**19 13 37.7**	**+2.1**
PUZ	**Puketiti**	**5.27**	**193**	*e*PN	**Pn**	**19 13 38.4**	**+0.2**
PUZ				SN	**Sn**	**19 14 42.9**	**+3.2**
CNGZ	**Carnagh Statio**	**5.68**	**192**	*e*PN	**Pn**	**19 13 43.6**	**+0.3**
MWZ	**Matawai**	**5.69**	**198**	*e*PN	**Pn**	**19 13 43.7**	**+0.3**
MWZ				SN	**Sn**	**19 14 54.8**	**+5.4**
URZ	**Urewera**	**5.74**	**201**	P	**Pn**	**19 13 44.9**	**+0.8**
	0.9nm,0.3s,baz=7.2,slow=2.0,SNR=18						
URZ				S	**Sn**	**19 14 54.6**	**+4.2**
	13nm,0.3s,baz=343,slow=19,SNR=21						
URZ	**Urewera**	**5.74**	**201**	*e*PN	**Pn**	**19 13 44.6**	**+0.5**
RIGZ	**Rimuhau**	**5.99**	**195**	*e*PN	**Pn**	**19 13 47.0**	**-0.3**
KNZ	**Kokohu**	**6.31**	**195**	*e*PN	**Pn**	**19 13 50.5**	**-0.9**
ARHZ	**Aropaoanui**	**6.70**	**199**	*e*PN	**Pn**	**19 13 56.0**	**-0.5**
BKZ	**Black Stump Fm**	**6.76**	**202**	*e*PN	**Pn**	**19 13 56.6**	**-0.8**
FWVZ	**Far West T-bar**	**7.17**	**207**	*e*PN	**Pn**	**19 14 03.5**	**+0.7**
WNVZ	**Wahianoa**	**7.22**	**207**	*e*PN	**Pn**	**19 14 03.9**	**+0.5**
KAHZ	**Kahuranaki**	**7.23**	**198**	*e*PN	**Pn**	**19 14 01.9**	**-1.6**
PXZ	**Pawanui**	**7.46**	**197**	*e*SN	**Sn**	**19 15 28.6**	**-2.1**
TSZ	**Takapari Road**	**7.74**	**202**	*e*PN	**Pn**	**19 14 08.3**	**-1.8**
BFZ	**Birch Farm**	**8.23**	**199**	*e*PN	**Pn**	**19 14 14.3**	**-2.1**
BFZ				*e*SN	**Sn**	**19 15 47.9**	**-1.1**
MRZ	**Mangatainoka R**	**8.41**	**202**	*e*PN	**Pn**	**19 14 16.2**	**-2.6**
MRZ				*e*SN	**Sn**	**19 15 52.1**	**-1.2**
TIWZ	**Tintock**	**8.42**	**201**	*e*PN	**Pn**	**19 14 16.4**	**-2.6**
OGWZ	**Otaki Gorge**	**8.69**	**204**	*e*PN	**Pn**	**19 14 19.7**	**-2.6**
KIW	**Kapiti Island**	**8.82**	**205**	*e*PN	**Pn**	**19 14 22.0**	**-2.0**
CAW	**Cannon Point**	**8.98**	**203**	*e*PN	Pn	19 14 22.9	-3.3
NNZ	**Nelson**	**9.71**	**210**	*e*PN	**Pn**	**19 14 33.9**	**-1.7**
NNZ				*e*SN	**Sn**	**19 16 23.5**	**-0.7**
QRZ	**Quartz Range**	**9.78**	**214**	*e*PN	**Pn**	**19 14 35.4**	**-1.1**
THZ	**Tophouse**	**10.36**	**210**	*e*PN	**Pn**	**19 14 42.1**	**-2.0**
THZ				*e*SN	**Sn**	**19 16 39.4**	**-0.4**
DSZ	**Denniston Nort**	**10.84**	**213**	*e*PN	**Pn**	**19 14 47.9**	**-2.3**
DSZ				*e*SN	**Sn**	**19 16 48.3**	**-2.8**
MQZ	**McQueen's Vall**	**12.11**	**205**	*e*PN	Pn	19 15 03.0	-3.4
MQZ				*e*SN	Sn	19 17 13.0	-8.4
FOZ	**Fox Glacier**	**13.23**	**214**	*e*SN	S	19 17 39.6	-8.2
JCZ	**Jackson Bay**	**14.05**	**215**	*e*PN	**Pn**	**19 15 29.1**	**-1.7**
DZM	**Mont Dzumac**	**16.00**	**309**	P	**Pn**	**19 15 55.4**	**+0.6**
	0.2nm,0.3s,baz=141,slow=13,SNR=4.4						
CTAO	**Charters Tower**	**32.45**	**285**	P	P	19 18 34.0	+2.2
AS31	**Alice Springs**	**41.15**	**271**	*eP*	**P**	**19 19 46.8**	**+1.6**
ASAR	**Alice Springs**	**41.15**	**271**	P	**P**	**19 19 47.1**	**+1.9**
	4.1nm,0.7s,baz=108,slow=7.6,SNR=98						
WRAB	**Tennant Creek**	**42.37**	**276**	*eP*	**P**	**19 19 56.2**	**+1.1**
	6.2nm,0.8s						
WRA	**Warramunga Arr**	**42.38**	**276**	P	**P**	**19 19 56.5**	**+1.4**
	1.7nm,0.4s,baz=115,slow=8.1,SNR=103						
VNDA	**Vanda**	**45.40**	**185**	*eP*	**P**	**19 20 18.6**	**+0.3**
	0.8nm,0.8s						
CASY	**Casey**	**52.01**	**209**	P	**P**	**19 21 08.8**	**0.0**
	4.3nm,1.0s						
QSPA	**South Pole Qui**	**57.18**	**180**	*eP*	P	19 21 50.2	+4.1
	5.8nm,0.6s						
PMSA	**Palmer Station**	**70.74**	**156**	P	**P**	**19 23 11.8**	**-2.3**
VNA3	**Neumayer Olymp**	**75.90**	**177**	P	**P**	**19 23 44.8**	**+0.5**
VNA2	**Neumayer--Watz**	**76.31**	**178**	P	**P**	**19 23 47.0**	**+0.4**
	slow=0.7						
FINES	**FINESS Array B**	**146.80**	**337**	PKPbc	**PKPdf**	**19 31 35.1**	**-0.7**
	1.0nm,0.4s,baz=72,slow=4.5,SNR=9.8						
TORD	**Torodi Ar. Bea**	**160.23**	**186**	PKPab	**PKPab**	**19 32 37.0**	**-0.4**
	0.3nm,0.5s,baz=192,slow=3.8,SNR=5.0						

KRSC 09 19:18:20.1±1.0, 53.°02N×157.°74E, h235km±8km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**0.55**	**89**	*e*P	Pn	19 18 51.6	+0.3
MTVR	**Mutnovka**	**0.60**	**153**	*e*P	Pn	19 18 53.5	+1.7
MTVR				*e*S	S	19 19 16.0	-0.5
KOK	**Koryaka**	**0.61**	**62**	*e*P	Pn	19 18 52.9	+1.2
KRX	**Arik**	**0.65**	**57**	*e*P	Pn	19 18 52.7	+0.8
AVH	**Avacha**	**0.65**	**67**	*e*P	Pn	19 18 52.6	+0.8
KRER	**Koryakskii**	**0.67**	**64**	*e*P	Pn	19 18 53.3	+1.2
UGLR	**Uglovaya**	**0.68**	**73**	*e*P	Pn	19 18 53.3	+1.3
GNL	**Ganaly**	**0.69**	**10**	*e*P	Pn	19 18 52.4	+0.4
SDLR	**Sedlovina**	**0.74**	**69**	*e*P	Pn	19 18 53.0	+0.8
RUS	**Russkaya**	**0.75**	**141**	*e*P	Pn	19 18 52.4	+0.2
RUS				*e*S	S	19 19 17.4	+0.2
NLC	**Nalytchevo**	**0.98**	**80**	*e*S	S	19 19 20.4	+1.1
MKZ	**Mys Kozlova**	**2.83**	**55**	*e*P	Pn	19 19 10.8	+1.2
MKZ				*e*S	S	19 19 48.5	-0.1

*ISCJB **09** 19:27:46.6±0.2, 51.°50N±0.°01×15.°96E±0.°03, h0km, mb3.3/5, Error ellipse: s-maj=2.4km s-min=1.9km az=176.0*

*CSEM **09** 19:27:48.8±0.1, 51.°50N×16.°00E, h1km, ML3.7/13, Error ellipse: s-maj=2.7km s-min=2.4km az=59.0*

*IPEC **09** 19:27:48.2±0.4, 51.°57N×16.°23E, h0km±2km, ML3.0/3, Error ellipse: s-maj=3.7km s-min=1.8km az=60.0*

*IDC **09** 19:27:50.0±0.6, 51.°50N×16.°01E, h0km, mb3.3/5, mb1 3.4/13, mb1mx3.4/33, mbtmp3.4/13, ML3.3/8, Error ellipse: s-maj=12.6km s-min=6.3km az=109.0*

*BGR **09** 19:27:50.2±0.5, 51.°49N×16.°11E, h1km, ML3.0/7, Error ellipse: s-maj=6.7km s-min=3.3km az=26.0*

*STR **09** 19:27:50.7±0.5, 51.°39N×16.°04E, h5km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*VIE **09** 19:27:51.8±0.5, 51.°29N×16.°06E, h0km, mb2.9/7, ML3.2/8, Error ellipse: s-maj=3.2km s-min=2.2km az=172.0 69 km WNW of Wroclaw Suspected Mining induced.*

*LDG **09** 19:27:51.3±0.1, 51.°32N×15.°99E, h1km, Ml3.4/23, Error ellipse: s-maj=2.7km s-min=1.3km az=11.0, Suspected Mining induced.*

*UPP **09** 19:27:53.8, 51.°78N×15.°57E, h0km, ML1.8, Suspected Mining explosion.*

ISC 09 19:27:48.4±0.5, 51.°55N±0.°02×16.°04E±0.°02, h0km, n176, σ1s32/252, mb3.2/5, 6C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**19 28 02.8**	**+0.6**
KSP				*e*Sg	**Sg**	**19 28 11.7**	**+0.2**
KSP	**Ksiaz**	**0.72**	**167**	*e*Pg	**Pg**	**19 28 02.8**	**+0.6**
KSP				*e*Sg	**Sg**	**19 28 11.9**	**+0.4**
KSP	**Ksiaz**	**0.72**	**167**	Pg	**Pg**	**19 28 02.8**	**+0.6**
KSP				Sg	**Sg**	**19 28 11.7**	**+0.2**
UPC	**Upice**	**1.04**	**181**	*e*PG	**Pg**	**19 28 08.3**	**0.0**
UPC				*e*SG	**Sg**	**19 28 21.7**	**0.0**
	comp=Z,125nm,0.3s						
UPC	**Upice**	**1.04**	**181**	Pg	**Pg**	**19 28 08.3**	**0.0**
UPC				Sg	**Sg**	**19 28 21.7**	**0.0**
	125nm,0.3s						
DPC	**Dobruska-Polom**	**1.21**	**171**	*e*Pg	**Pg**	**19 28 11.6**	**0.0**
DPC				*e*Sg	**Sg**	**19 28 27.3**	**+0.1**
DPC	**Dobruska-Polom**	**1.21**	**171**	*e*PG	**Pg**	**19 28 11.6**	**0.0**
DPC				*e*SG	**Sg**	**19 28 26.1**	**-1.1**
DPC	**Dobruska-Polom**	**1.21**	**171**	Pg	**Pg**	**19 28 11.6**	**0.0**
DPC				Sg	**Sg**	**19 28 27.3**	**+0.1**
PVCC	**Panska Ves**	**1.38**	**223**	*e*PG	**Pb**	**19 28 15.7**	**+0.7**
PVCC				*e*SG	**Sn**	**19 28 34.0**	**+0.2**
	comp=Z,369nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**223**	Pg	**Pb**	**19 28 15.7**	**+0.7**
PVCC				Sg	**Sn**	**19 28 34.0**	**+0.2**
	369nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**244**	PN	**Pb**	**19 28 16.7**	**0.0**
BRG				PG	**Pg**	**19 28 18.4**	**+1.7**
BRG				SG	**Sn**	**19 28 38.1**	**+1.8**
	151nm,0.4s						
BRG	**Berggiesshubel**	**1.48**	**244**	*e*Pn	**Pb**	**19 28 16.8**	**+0.1**
BRG				*e*Sg	**Sn**	**19 28 38.5**	**+2.2**
BRG	**Berggiesshubel**	**1.48**	**244**	Pn	**Pb**	**19 28 16.8**	**+0.1**
BRG				Sg	**Sn**	**19 28 38.5**	**+2.2**
KRLC	**Kraliky**	**1.55**	**162**	*e*PG	**Pn**	**19 28 17.2**	**0.0**
KRLC				*e*SG	**Sn**	**19 28 37.2**	**-0.8**
KRLC	**Kraliky**	**1.55**	**162**	Pg	**Pn**	**19 28 17.2**	**0.0**
KRLC				Sg	**Sn**	**19 28 37.2**	**-0.8**
PRA	**Prague**	**1.79**	**215**	*e*PG	**Pn**	**19 28 21.2**	**+0.6**
PRA				*e*SG	**Sg**	**19 28 46.1**	**+0.1**
PRA	**Prague**	**1.79**	**215**	Pg	**Pn**	**19 28 21.2**	**+0.6**
PRA				Sg	**Sg**	**19 28 46.1**	**+0.1**
FBE	**Freiberg**	**1.80**	**251**	*e*Pn	**Pb**	**19 28 21.6**	**-0.6**
FBE				*e*Pg	**Pg**	**19 28 24.1**	**+1.2**
FBE	**Freiberg**	**1.80**	**251**	Pn	**Pb**	**19 28 21.6**	**-0.6**
GOPC	**GO Pecny, Ondr**	**1.82**	**206**	*e*PN	**Pn**	**19 28 21.3**	**+0.4**
GOPC				*e*PG	**Pg**	**19 28 23.1**	**-0.1**
GOPC	**GO Pecny, Ondr**	**1.82**	**206**	Pn	**Pn**	**19 28 21.3**	**+0.4**
GOPC	**GO Pecny, Ondr**	**1.82**	**206**	Pg	**Pg**	**19 28 23.1**	**-0.1**
PRU	**Pruhonice**	**1.83**	**212**	*e*PN	**Pn**	**19 28 21.3**	**+0.3**
PRU				*e*PG	**Pb**	**19 28 22.7**	**+0.1**
PRU				*e*SG	**Sn**	**19 28 45.3**	**+0.5**
	comp=Z,45nm,0.4s						
PRU	**Pruhonice**	**1.83**	**212**	Pn	**Pn**	**19 28 21.3**	**+0.3**
GKP	**Gorka Klasztor**	**1.88**	**23**	*e*Pn	**Pb**	**19 28 24.2**	**+0.7**
GKP				*e*Pg	Pg	19 28 29.6	+5.3
GKP				*e*Sn	**Sg**	**19 28 50.0**	**+1.4**
GKP				*e*Sg	**Sb**	**19 28 53.3**	**+5.8**
GKP	**Gorka Klasztor**	**1.88**	**23**	*e*Pn	**Pb**	**19 28 24.2**	**+0.7**
CLL	**Collm**	**1.92**	**264**	*e*Pn	**Pn**	**19 28 23.0**	**+0.8**
CLL				*e*Pg	**Pg**	**19 28 26.4**	**+1.4**
CLL	**Collm**	**1.92**	**264**	*e*Pn	**Pn**	**19 28 23.0**	**+0.8**
CLL				*e*Pg	**Pg**	**19 28 26.0**	**+1.0**
CLL				*e*		19 28 29.0	
CLL				*i* Sg	**Sg**	**19 28 51.9**	**+2.1**
	comp=Z,48nm,0.5s						
CLL	**Collm**	**1.92**	**264**	Pn	**Pn**	**19 28 23.0**	**+0.8**
RAC	**Raciborz**	**2.00**	**136**	*e*Pg	**Pb**	**19 28 26.0**	**+0.3**
RAC				*e*Sg	**Sg**	**19 28 53.2**	**+0.5**
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	**Pn**	**19 28 23.5**	**-0.1**
MORC				*e*Sg	**Sn**	**19 28 51.0**	**+1.5**
MORC	**Moravsky Berou**	**2.01**	**151**	Pn	**Pn**	**19 28 23.5**	**-0.1**
MORC				Sg	**Sn**	**19 28 51.0**	**+1.5**
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*Pn	**Pn**	**19 28 25.4**	**-0.4**
OKC				*e*Pg	**Pb**	**19 28 29.5**	**+1.0**
OKC				*e*Sg	**Sb**	**19 28 56.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*PG	**Pb**	**19 28 29.1**	**+0.5**
OKC				*e*SG	**Sb**	**19 28 56.1**	**+0.1**
	comp=Z,98nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**141**	Pn	**Pn**	**19 28 25.4**	**-0.4**
OKC	**Ostrava-Krasne**	**2.17**	**141**	Pg	**Pb**	**19 28 29.5**	**+1.0**
OKC				Sg	**Sb**	**19 28 56.1**	**+0.1**
	comp=Z,98nm,0.6s						
VRAC	**Vranov**	**2.27**	**171**	Pn	**Pn**	**19 28 27.9**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=350,slow=17,SNR=17						
VRAC				Lg	Lg	19 28 59.7	
	comp=Z,7.1nm,0.3s,baz=61,slow=19,SNR=5.1						
VRAC	**Vranov**	**2.27**	**171**	*e*Pn	**Pn**	**19 28 27.0**	**-0.1**
VRAC				*e*Sg	**Sb**	**19 28 59.5**	**+0.7**
	comp=Z,107nm,0.8s						
TREC	**Trest**	**2.28**	**189**	*e*PN	**Pn**	**19 28 29.1**	**+1.8**
TREC				*e*PG	**Pb**	**19 28 31.5**	**+1.1**
TREC				*e*SG	**Sb**	**19 29 00.6**	**+1.4**
	comp=Z,55nm,0.3s						
TREC	**Trest**	**2.28**	**189**	Pn	**Pn**	**19 28 29.1**	**+1.8**
TREC	**Trest**	**2.28**	**189**	Pg	**Pb**	**19 28 31.5**	**+1.1**
TREC				Sg	**Sb**	**19 29 00.6**	**+1.4**
	comp=Z,55nm,0.3s						
KRUC	**Moravsky**	**2.50**	**175**	*e*Pn	**Pn**	**19 28 30.2**	**0.0**
KRUC				*e*Sg	**Sb**	**19 29 06.8**	**+1.5**
	comp=Z,62nm,0.6s						
TANN	**Tannenbergstha**	**2.53**	**245**	*e*Sg	**Sg**	**19 29 09.8**	**+0.2**
TANN	**Tannenbergstha**	**2.53**	**245**	Sg	**Sg**	**19 29 09.8**	**+0.2**
WERD	**Werda**	**2.60**	**246**	*e*Pn	**Pn**

MOTA ⇑*i*Sg **Sg** **19 30 39.9 +1.5**
comp=Z,14nm,0.7s
MOTA Moosalm 5.29 219 Pn **Pn** **19 29 09.8 +1.0**
SNR=7.2
MOTA Sg **Sg** **19 30 39.9 +1.5**
comp=Z,14nm,0.7s
VXJU Vaexsjoe 5.42 354 P **Pn** **19 29 11.4 +1.0**
VXJU Vaexsjoe 5.42 354 P **Pn** **19 29 11.4 +1.0**
baz=182
ABH Alteburg 5.64 256 P **Pn** **19 29 14.5 +1.0**
OSKU Oskarshamn 5.66 0 P **Pn** **19 29 14.8 +1.2**
OSKU Oskarshamn 5.66 0 P **Pn** **19 29 14.8 +1.2**
BYXU Byxelkrok 5.78 5 P **Pn** **19 29 16.7 +1.4**
BYXU Byxelkrok 5.78 5 P **Pn** **19 29 16.7 +1.4**
FABU Falkenberg 5.80 342 P **Pn** **19 29 15.9 +0.3**
FABU Falkenberg 5.80 342 P **Pn** **19 29 15.9 +0.3**
LANF Langenberg 5.87 247 P **Pn** **19 29 17.5 +0.9**
LANF Langenberg 5.87 247 P **Pn** **19 29 17.5 +0.9**
ASPU Aespoe 5.89 3 P **Pn** **19 29 18.2 +1.4**
ASPU Aespoe 5.89 3 P **Pn** **19 29 18.2 +1.4**
RUP Ruppelstein 6.00 256 P **Pn** **19 29 19.4 +0.9**
EKSU Eksjoe 6.05 356 P **Pn** **19 29 20.0 +0.9**
EKSU Eksjoe 6.05 356 P **Pn** **19 29 20.0 +0.9**
VSTU Vaestervik 6.13 3 P **Pn** **19 29 21.4 +1.3**
VSTU Vaestervik 6.13 3 P **Pn** **19 29 21.4 +1.3**
DAVOX Davos/Dischmat 6.25 223 Pn **Pn** **19 29 23.1 +1.2**
comp=Z,0.8nm,0.3s,baz=18,slow=16,SNR=7.0
DAVOX Lg Lg 19 31 05.0
comp=Z,0.5nm,0.3s,baz=15,slow=20,SNR=2.7
BORU Boraas 6.39 344 P **Pn** **19 29 24.4 +0.8**
BORU Boraas 6.39 344 P **Pn** **19 29 24.4 +0.8**
CDF Champ du Feu 6.46 244 *e*Pn **Pn** **19 29 23.7 -1.1**
CDF Champ du Feu 6.46 244 *e*Pg Pg 19 29 48.6 -3.5
CDF *e*Sg **Sg** **19 31 10.1 -5.7**
comp=Z,44nm,0.9s
CDF Champ du Feu 6.46 244 *e*Pn **Pn** **19 29 23.7 -1.1**
FKPU Falk 6.76 350 P **Pn** **19 29 30.0 +1.2**
FKPU Falk 6.76 350 P **Pn** **19 29 29.9 +1.2**
VIKU Vikbolandet 6.98 3 P **Pn** **19 29 32.8 +1.0**
VIKU Vikbolandet 6.98 3 P **Pn** **19 29 32.8 +1.0**
HINF Hinteralfeld 7.03 242 *e*Pn **Pn** **19 29 31.4 -1.1**
HINF *e*Sg Sg 19 31 27.4 -6.6
comp=Z,21nm,0.8s
HINF Hinteralfeld 7.03 242 *e*Pn **Pn** **19 29 31.4 -1.1**
HAU Haudompre 7.21 244 *e*Pn **Pn** **19 29 33.8 -1.1**
HAU *e*Sg Sg 19 31 33.2 -6.4
comp=Z,40nm,1.1s
HAU Haudompre 7.21 244 *e*Pn **Pn** **19 29 33.8 -1.1**
GIVF Givet 7.25 263 *e*Pn **Pn** **19 29 35.3 -0.2**
GIVF *e*Sg **Sg** **19 31 36.7 -4.4**
comp=Z,7.6nm,0.6s
GIVF Givet 7.25 263 *e*Pn **Pn** **19 29 35.3 -0.2**
PAGF Fort de Pagny 7.28 250 *e*Pn **Pn** **19 29 35.2 -0.8**
PAGF *e*Sg Sg 19 31 35.9 -6.2
comp=Z,11nm,1.1s
PAGF Fort de Pagny 7.28 250 *e*Pn **Pn** **19 29 35.2 -0.8**
BAIF Baives 7.64 263 *e*Pn **Pn** **19 29 40.7 -0.2**
BAIF *e*Sg **Sg** **19 31 49.0 -4.7**
comp=Z,24nm,1.2s
BAIF Baives 7.64 263 *e*Pn **Pn** **19 29 40.7 -0.2**
MEZF Maizieres J'vi 7.70 251 *e*Pn **Pn** **19 29 40.9 -0.8**
baz=67
MEZF Maizieres J'vi 7.70 251 *e*Pn **Pn** **19 29 40.9 -0.8**
SFTF Sexfontaines 7.85 249 *e*Pn **Pn** **19 29 42.9 -0.9**
SFTF *e*Sg Sg 19 31 53.7 -6.7
comp=Z,10.0nm,0.6s
SFTF Sexfontaines 7.85 249 *e*Pn **Pn** **19 29 42.9 -0.9**
CABF La Chapelle 8.19 237 *e*Pn **Pn** **19 29 46.9 -1.5**
CABF La Chapelle 8.19 237 *e*Pg Pg 19 30 19.7 -5.4
CABF *e*Sn Sn 19 31 13.2 -8.4
CABF *e*Sg Sg 19 32 03.0 -8.1
comp=Z,52nm,1.3s
CABF La Chapelle 8.19 237 *e*Pn **Pn** **19 29 46.9 -1.5**
AKASG Malin Array Be 8.34 91 Pn **Pn** **19 29 49.1 -1.3**
comp=Z,1.6nm,0.3s,baz=279,slow=12,SNR=9.5
LPL La Plagne 8.63 229 *e*Pn **Pn** **19 29 52.9 -1.7**
LPL *e*Sn Sn 19 31 23.4 -9.3
comp=Z,1.5nm,0.6s
LPL La Plagne 8.63 229 *e*Pn **Pn** **19 29 52.9 -1.7**
LPG La Plagne 8.63 229 *e*Pn **Pn** **19 29 52.9 -1.8**
LPG *e*Sn Sn 19 31 23.6 -9.3
comp=Z,0.3nm,0.3s
LPG La Plagne 8.63 229 *e*Pn **Pn** **19 29 52.9 -1.8**
HFS Hagfors 8.71 352 Pn **Pn** **19 29 55.8 +0.4**
comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=9.0
LOR Lormes 9.02 246 *e*Pn **Pn** **19 29 58.6 -1.2**
baz=64
LOR Lormes 9.02 246 *e*Pg 19 30 35.2
LOR *e*Sn Sn 19 31 33.8 -8.2
LOR *e*Sg 19 32 29.9
comp=Z,3.2nm,0.7s
LOR Lormes 9.02 246 *e*Pn **Pn** **19 29 58.6 -1.2**
MBDF Montbardon 9.21 226 *e*Pn **Pn** **19 30 00.6 -1.9**
MBDF *e*Sn Sn 19 31 36.9 -10
comp=Z,1.8nm,0.5s
MBDF Montbardon 9.21 226 *e*Pn **Pn** **19 30 00.6 -1.9**
SSF Saint Saulge 9.33 246 *e*Pn **Pn** **19 30 02.9 -1.2**
SSF *e*Sg Sn 19 32 39.5 +50
comp=Z,1.0nm,0.3s
SSF Saint Saulge 9.33 246 *e*Pn **Pn** **19 30 02.9 -1.2**
SMF Signal de Mont 9.38 243 *e*Pn **Pn** **19 30 03.4 -1.3**
SMF *e*Sn Sn 19 31 42.2 -8.7
SMF *e*Sg 19 32 40.8
comp=Z,12nm,1.0s
SMF Signal de Mont 9.38 243 *e*Pn **Pn** **19 30 03.4 -1.3**
ORIF Oris-en-Rattie 9.48 230 *e*Pn **Pn** **19 30 04.1 -2.0**
ORIF *e*Sn Sn 19 31 43.6 -10
comp=Z,0.5nm,0.5s
ORIF Oris-en-Rattie 9.48 230 *e*Pn **Pn** **19 30 04.1 -2.0**
AVF Avril sur Loir 9.57 245 *e*Pn **Pn** **19 30 06.0 -1.3**
AVF *e*Sn Sn 19 31 46.7 -8.8
AVF *e*Sg 19 32 47.0
comp=Z,4.7nm,0.7s
AVF Avril sur Loir 9.57 245 *e*Pn **Pn** **19 30 06.0 -1.3**
NOA NORSAR Array B 9.88 346 Pn **Pn** **19 30 10.2 -1.4**
comp=Z,0.2nm,0.3s,baz=167,slow=13,SNR=3.7
BGF Bois d'Agland 9.99 245 *e*Pn **Pn** **19 30 11.8 -1.3**
BGF *e*Sn Sn 19 31 57.1 -8.7
BGF *e*Sg 19 33 00.1
comp=Z,6.1nm,0.4s
BGF Bois d'Agland 9.99 245 *e*Pn **Pn** **19 30 11.8 -1.3**
FRF La Foret Royal 10.20 222 *e*Pn **Pn** **19 30 13.5 -2.4**
FRF *e*Sn Sn 19 32 00.0 -11
comp=Z,0.6nm,0.4s
FRF La Foret Royal 10.20 222 *e*Pn **Pn** **19 30 13.5 -2.4**
SMRF Simiane la Rot 10.33 227 *e*Pn **Pn** **19 30 15.7 -2.1**
SMRF *e*Sn Sn 19 32 03.6 -11
comp=Z,2.1nm,0.6s
SMRF Simiane la Rot 10.33 227 *e*Pn **Pn** **19 30 15.7 -2.1**
TCF Toulx Ste Croi 10.51 245 *e*Pn **Pn** **19 30 18.9 -1.3**
TCF Toulx Ste Croi 10.51 245 *e*Pn **Pn** **19 30 18.9 -1.3**
FINES FINESS Array B 11.35 25 Pn **Pn** **19 30 30.2 -1.3**
comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=10
FINES Sn Sn 19 32 29.2 -10
comp=Z,0.3nm,0.3s,baz=211,slow=21,SNR=5.8
EKA Eskdalemuir Ar 12.05 296 Pn **Pn** **19 30 39.6 -1.5**
baz=101,slow=13,SNR=5.4
ARCES ARCESS Array B 18.59 10 Pn **P** **19 32 04.1 -2.6**
comp=Z,0.3nm,0.3s,baz=193,slow=14,SNR=12
BVAR Borovoye Array 32.62 66 P **P** **19 34 23.3 +1.9**
comp=Z,0.4nm,0.5s,baz=338,slow=6.7,SNR=3.7
KURBB Kurchatov Arra 38.20 66 P **P** **19 35 09.4 -0.1**
comp=Z,0.4nm,0.8s,baz=300,slow=7.4,SNR=3.8
TORD Torodi Ar. Bea 40.02 202 P **P** **19 35 25.8 +0.9**
comp=Z,0.4nm,0.8s,baz=14,slow=8.8,SNR=3.0
MKAR Makanchi Array 42.24 69 P **P** **19 35 44.7 +1.7**
comp=Z,0.3nm,0.7s,baz=282,slow=10,SNR=2.9
YKA Yellowknife Ar 59.81 336 P **P** **19 37 56.7 +2.0**
comp=Z,0.3nm,0.6s,baz=27,slow=6.8,SNR=5.6

MAN 09 19:27:59,16.91N×120.58E,h39km,mb4.4,ML3.3,MS3.1, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.75**	**10**	*e*P	Pn	19 28 15.7	+2.6
ABRA				*e*S	Sn	19 28 25.7	+2.5
BOLP	**Bolinao**	**0.82**	**230**	*e*P	Pn	19 28 15.7	+1.6
APYP	**Conner**	**1.14**	**34**	*e*P	Pn	19 28 20.0	+1.5
APYP				*e*S	Sn	19 28 31.5	-1.4
PIP	**Pasuquin**	**1.41**	**2**	⇓*i*P	Pn	19 28 23.0	+0.8
BALP	**Baler**	**1.51**	**140**	*e*P	Pn	19 28 24.7	+1.2

*IDC **09** 19:48:06.5±0.9,23.42N×143.50E,h0km,mb3.7/9, mb1 3.7/10,mb1mx3.6/27,mbtmp3.6/10,ML3.3/1,MS3.0/6, Ms1 3.0/6,ms1mx2.7/39,Error ellipse: s-maj=34.3km s-min=19.4km az=83.0*

*ISCJB **09** 19:48:09.1±0.8,23.4N±0.1×143.4E±0.2,h31km,mb3.7/9, MS2.9/5,Error ellipse: s-maj=28.1km s-min=15.9km az=169.0*

ISC 09 19:48:11.2±1.0,23.4N±0.1×143.5E±0.2,h31km,n15, σ0s43/11,mb3.6/9,MS2.9/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**19.33**	**320**	P	**P**	**19 52 33.8**	**-0.2**
KSRS	0.1nm,0.3s,baz=126,slow=13,SNR=4.1			LR	LR	19 59 51.2	
ASAJ	**Asahikawa**	**20.66**	**358**	LR	LR	20 01 11.4	
USRK	**Ussuriysk Ar.**	**22.77**	**338**	LR	LR	20 02 05.1	
SONM	**Songino Array**	**38.20**	**319**	LR	LR	20 11 24.1	
CMAR	**Chiang Mai Arr**	**41.75**	**272**	LR	LR	20 13 58.9	
WRA	**Warramunga Arr**	**44.01**	**192**	P	**P**	**19 56 15.8**	**-0.2**
WRA	0.7nm,0.8s,baz=13,slow=8.6,SNR=9.0			PcP	**PcP**	**19 58 02.2**	**+0.9**
ASAR	**Alice Springs**	**47.71**	**192**	P	**P**	**19 56 44.9**	**-0.4**
ZALV	**Zalesovo Beam**	**53.04**	**321**	P	**P**	**19 57 25.4**	**+0.2**
MKAR	**Makanchi Array**	**53.74**	**312**	P	**P**	**19 57 30.9**	**+0.4**
KURBB	**Kurchatov Arra**	**56.46**	**316**	P	**P**	**19 57 49.8**	**-0.2**
ILAR	**Eielson Array**	**60.40**	**28**	P	**P**	**19 58 17.3**	**0.0**
BVAR	**Borovoye Array**	**61.55**	**319**	P	**P**	**19 58 25.7**	**+0.4**
YKA	**Yellowknife Ar**	**74.82**	**28**	P	**P**	**19 59 48.2**	**-0.1**
FINES	**FINESS Array B**	**81.75**	**334**	P	**P**	**20 00 26.3**	**-0.3**
VRAC	**Vranov**	**93.55**	**328**	LR	LR	20 46 22.7	

IDC 09 19:49:30.4±355.0,57.25N×31.21E,h0km,Error ellipse: s-maj=165.8km s-min=94.3km az=115.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.33**	**97**	*i*		20 09 00.0	
	baz=282,slow=325,SNR=4.0						
I48TN	**KESRA INFRASON**	**25.98**	**224**	*i*		22 28 40.0	
	baz=24,slow=323,SNR=0.3						
I46RU	**ZALESOVO INFRA**	**29.81**	**73**	*i*		22 53 30.0	
	baz=297,slow=339,SNR=1.7						

*IDC **09** 20:17:38.6±0.5,38.37S×73.71W,h0km,mb4.4/12, mb1 4.6/15,mb1mx4.5/26,mbtmp4.4/15,ML3.8/3,MS3.9/12, Ms1 3.9/12,ms1mx3.7/22,Error ellipse: s-maj=16.4km s-min=12.4km az=72.0*

*NEIC **09** 20:17:39.8±2.7,38.36S×73.72W,h9km±16km,mb4.9/48, ML4.9(GUC),Error ellipse: s-maj=10.8km s-min=5.3km az=80.0*

NEIC Felt [III] at Angol, Curacautin, Gorbea, Pucon, Puerto Saavedra, Queule, Renaico and Tolten. Also felt at Canete and Temuco.

*GUC **09** 20:17:39.1±0.5,38.41S×73.94W,h15km±7km,ML4.9*

*ISCJB **09** 20:17:40.0±0.2,38.37S±0.03×73.68W±0.06,h18km, mb4.8/60,MS4.1/12,Error ellipse: s-maj=7.4km s-min=4.1km az=165.8*

*BJI **09** 20:17:40.8,38.30S×73.70W,h13km,mB5.2/8,Ms5.2/6, Ms7 4.9/7*

*MOS **09** 20:17:42.8±1.0,38.38S×73.75W,h33km,mb5.0/17,Error ellipse: s-maj=21.8km s-min=9.7km az=108.3*

ISC 09 20:17:41.0±0.3,38.40S±0.04×73.75W±0.07,h18km,n301, σ1s19/309,mb4.9/62,MS4.0/12,54C-72D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.46**	**164**	*e*P	**Pn**	**20 18 04.6**	**-1.8**
VLCH				*i* S	**Sn**	**20 18 23.8**	**-1.4**
VLCH	**Valdivia**	**1.46**	**164**	*e*P	**Pn**	**20 18 04.6**	**-1.8**
VLCH				*i* S	**Sn**	**20 18 23.8**	**-1.4**
CCSP	**San Pedro de C**	**1.63**	**19**	*e*P	**Pn**	**20 18 07.8**	**-0.9**
CCSP				*i* S	**Sn**	**20 18 29.2**	**-0.1**
CCSP				AML	AML	20 18 41.3	
	comp=E,21μm,0.6s						
CCSP	**San Pedro de C**	**1.63**	**19**	*e*P	**Pn**	**20 18 07.8**	**-0.9**
CCSP				*i* S	**Sn**	**20 18 29.2**	**-0.1**
OSCH	**Osorno**	**2.23**	**168**	*e*P	**Pn**	**20 18 16.5**	**-0.6**
OSCH	**Osorno**	**2.23**	**168**	*e*P	**Pn**	**20 18 16.5**	**-0.6**
PLCA	**Paso Flores**	**3.40**	**134**	*e*P	**Pn**	**20 18 34.3**	**+1.0**
PLCA	**Paso Flores**	**3.40**	**134**	Pn	**Pn**	**20 18 34.0**	**+0.7**
	comp=E,2.4nm,0.3s,baz=307,slow=10.0,SNR=46						
PLCA				Pg	**Pb**	**20 18 39.0**	**-1.8**
	comp=E,25nm,0.3s,baz=317,slow=16,SNR=77						
PLCA				Lg	Lg	20 19 26.8	
	comp=E,31nm,0.3s,baz=259,slow=11,SNR=3.0						
PLCA	**Paso Flores**	**3.40**	**134**	*e*Pn	**Pn**	**20 18 34.3**	**+1.0**
PLCA				*e*Sg	**Sg**	**20 19 27.9**	**-2.4**
CFAA	**Coronel Fontan**	**8.14**	**35**	Pn	**Pn**	**20 19 36.3**	**-2.1**
	comp=E,0.9nm,0.3s,baz=208,slow=11,SNR=27						
CFAA				Sn	**Sn**	**20 21 09.0**	**-1.0**
	comp=E,1.1nm,0.3s,baz=173,slow=17,SNR=7.2						
CFAA				Lg	Lg	20 21 57.4	
	baz=252,slow=20,SNR=1.9						
CFAA				LR	LR	20 23 19.7	
	comp=E,166nm,18.1s,baz=229,slow=42						
TRQA	**Tornquist**	**9.27**	**92**	*e*Pn	**Pn**	**20 19 55.9**	**+2.1**
LCO	**Las Campanas**	**9.70**	**16**	*e*Pn	**Pn**	**20 19 57.0**	**-2.9**
LVC	**Limon Verde**	**16.27**	**16**	*e*Pn	**Pn**	**20 21 24.7**	**-4.1**
	comp=E,9.5nm,0.8s						
USHA	**Ushuaia**	**16.84**	**169**	Pn	**Pn**	**20 21 35.9**	**+0.3**
	comp=E,0.4nm,0.3s,baz=333,slow=9.0,SNR=5.3						
EFI	**East Falkland**	**17.25**	**145**	⇑*e*P	**P**	**20 21 43.3**	**+1.1**
EFI				pmax	pmax		
	comp=Z,276nm,1.7s						
EFI	**East Falkland**	**17.25**	**145**	*e*Pn	**P**	**20 21 42.1**	**-0.1**
LPAZ	**La Paz**	**22.57**	**14**	*e*P	**P**	**20 22 41.6**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,16nm,0.8s						
LPAZ	**La Paz**	**22.57**	**14**	P	**P**	**20 22 41.7**	**+0.6**
	comp=Z,13nm,1.1s,baz=182,slow=11,SNR=22						
LPAZ	**La Paz**	**22.57**	**14**	*e*P	**P**	**20 22 41.6**	**+0.6**
	comp=Z,16nm,0.8s						
SIV	**San Ignacio**	**24.95**	**30**	P	**P**	**20 23 03.8**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=239,slow=11,SNR=6.2						
SAML	**Samuel**	**30.82**	**21**	*e*P	**P**	**20 23 54.8**	**-1.1**
BDFB	**Brasilia**	**32.04**	**52**	P	**P**	**20 24 07.0**	**+0.2**
BDFB	**Brasilia**	**32.04**	**52**	P	**P**	**20 24 07.0**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=248,slow=5.8,SNR=5.0						
BDFB				LR	LR	20 38 52.5	
	comp=Z,538nm,21.1s,baz=218,slow=40						
OTAV	**Otavalo**	**38.69**	**352**	*e*P	**P**	**20 25 04.5**	**+0.1**
	comp=Z,24nm,1.5s						
VNA3	**Neumayer Olymp**	**45.87**	**156**	P	**P**	**20 26 01.9**	**+0.2**
VNA2	**Neumayer--Watz**	**46.55**	**155**	P	**P**	**20 26 08.6**	**+1.5**
	baz=293,slow=10.0						
SDV	**Santo Domingo**	**47.13**	**4**	*e*P	**P**	**20 26 11.6**	**-0.8**
	comp=Z,7.1nm,0.8s						
SNAA	**Sanae**	**48.09**	**156**	P	**P**	**20 26 19.7**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=260,slow=10,SNR=13						
JTS	**JuntasAbangare**	**49.55**	**345**	⇑*e*P	**P**	**20 26 31.6**	**+0.7**
JTS				pmax	pmax		
	comp=Z,32nm,1.7s						
QSPA	**South Pole Qui**	**51.85**	**180**	*e*P	**P**	**20 26 48.4**	**+0.5**
	comp=Z,20nm,1.0s						
RKT	**Rikitea**	**53.86**	**268**	*e*T	T	21 24 45.3	
	comp=Z,2.8nm,0.2s						
SBA	**Scott Base**	**58.50**	**192**	P	**P**	**20 27 36.9**	**+1.4**
SBA				pmax	pmax		
	comp=Z,12nm,1.2s						
SBA	**Scott Base**	**58.50**	**192**	P	**P**	**20 27 36.9**	**+1.4**
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**59.53**	**192**	*e*P	**P**	**20 27 44.1**	**+1.5**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**59.53**	**192**	P	**P**	**20 27 43.9**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=142,slow=3.9,SNR=15						
VNDA				LR	LR	20 50 35.8	
	comp=Z,72nm,19.8s,baz=136,slow=33						
VNDA	**Vanda**	**59.53**	**192**	*e*P	**P**	**20 27 44.1**	**+1.5**
	comp=Z,5.5nm,0.9s						
TBI	**Tubuai**	**65.04**	**259**	*e*LR	LR	20 47 48.4	
	comp=Z,135nm,28.2s						
TBI	**Tubuai**	**65.04**	**259**	*e*T	T	21 38 41.5	
	comp=Z,10nm,0.3s						
MEH	**Mehetia**	**66.98**	**265**	*e*T	T	21 41 08.3	
	comp=Z,29nm,0.2s						
TIAR	**Tiarei**	**68.16**	**265**	*e*T	T	21 42 36.8	
	comp=Z,11nm,0.3s						
PAE	**Paea**	**68.29**	**264**	*e*T	T	21 42 46.1	
	comp=Z,2.6nm,0.3s						
PPT2	**Papeete2**	**68.32**	**264**	*e*LR	LR	20 49 21.3	
	comp=Z,109nm,26.0s						
PPT	**Papeete**	**68.34**	**264**	LR	LR	20 50 38.1	
	comp=Z,94nm,19.8s,baz=30,slow=29						
034A	**Hebbronville**	**69.18**	**336**	⇓P	**P**	**20 28 47.6**	**+1.3**
	baz=70						
MAW	**Mawson**	**69.36**	**164**	LR	LR	20 59 49.5	
	comp=Z,196nm,18.2s,baz=237,slow=36						
834A	**Tilden**	**70.12**	**337**	⇑P	**P**	**20 28 52.9**	**+0.8**
	baz=70						
636A	**Smothers Creek**	**70.95**	**339**	⇑P	**P**	**20 28 58.3**	**+1.2**
	baz=71						
LPIG	**La Paz**	**71.00**	**325**	LR	LR	20 54 05.4	
	comp=Z,102nm,20.3s,baz=182,slow=31						
732A	**Laxson Ranch,**	**71.13**	**336**	⇓P	**P**	**20 28 58.6**	**+0.3**
	baz=71,SNR=6.5						
633A	**Saathoff Ranch**	**71.56**	**337**	⇓P	**P**	**20 29 01.4**	**+0.5**
	baz=72						
632A	**Uvalde**	**71.80**	**336**	⇓P	**P**	**20 29 02.8**	**+0.5**
	baz=72						
534A	**Blanco**	**71.88**	**338**	⇑P	**P**	**20 29 03.6**	**+0.8**
	baz=72						
631A	**Perdido Creek**	**71.96**	**336**	⇓P	**P**	**20 29 03.8**	**+0.5**
	baz=72						
339A	**Huntington**	**72.03**	**341**	⇑P	**P**	**20 29 04.7**	**+1.0**
	baz=72						
533A	**Kerrville**	**72.09**	**337**	⇑P	**P**	**20 29 04.9**	**+0.8**
	baz=72						
LRAL	**Lakeview Retre**	**72.13**	**348**	*e*P	**P**	**20 29 03.8**	**-0.4**
	comp=Z,13nm,0.8s						
337A	**Centerville**	**72.36**	**340**	⇓P	**P**	**20 29 07.1**	**+1.5**
	baz=73						
532A	**Rocksprings**	**72.41**	**336**	⇓P	**P**	**20 29 06.6**	**+0.5**
	baz=73,SNR=12						
434A	**Burnet**	**72.55**	**338**	⇓P	**P**	**20 29 06.8**	**0.0**
	baz=73,SNR=8.9						
531A	**Rocksprings**	**72.65**	**336**	⇓P	**P**	**20 29 08.2**	**+0.8**
	baz=73,SNR=8.3						
239A	**Gary**	**72.66**	**342**	⇓P	**P**	**20 29 08.2**	**+0.8**
	baz=73						
336A	**Riesel**	**72.69**	**339**	⇓P	**P**	**20 29 08.0**	**+0.4**
	baz=73						
JCT	**Junction City**	**72.70**	**337**	*e*P	**P**	**20 29 07.9**	**+0.1**
JCT				pmax	pmax		
	comp=Z,19nm,1.0s						
JCT	**Junction City**	**72.70**	**337**	⇑P	**P**	**20 29 07.8**	**+0.1**
	baz=73,SNR=5.8						
JCT	**Junction City**	**72.70**	**337**	*e*P	**P**	**20 29 07.8**	**+0.1**
	comp=Z,19nm,1.0s						
433A	**Art**	**72.74**	**337**	⇓P	**P**	**20 29 07.4**	**-0.5**
	baz=73,SNR=10.0						
530A	**J-C Ranch, Com**	**72.89**	**335**	⇑P	**P**	**20 29 09.8**	**+0.9**
	baz=73,SNR=9.2						
TXAR	**Lajitas Array**	**72.95**	**333**	P	**P**	**20 29 09.9**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=155,slow=8.6,SNR=52						
TXAR				LR	LR	20 54 55.0	
	comp=Z,62nm,21.6s,baz=0.0,slow=31						
334A	**Lometa**	**73.03**	**338**	⇑P	**P**	**20 29 09.8**	**+0.2**
	baz=73,SNR=13						
432A	**Menard**	**73.07**	**337**	⇑P	**P**	**20 29 10.4**	**+0.5**
	baz=73						
431A	**Sonora**	**73.15**	**336**	⇓P	**P**	**20 29 10.4**	**0.0**
	baz=74,SNR=5.7						
529A	**Stev Forest Ra**	**73.17**	**334**	⇑P	**P**	**20 29 09.7**	**-0.8**
	baz=74,SNR=5.5						
333A	**Richland Sprin**	**73.24**	**338**	⇓P	**P**	**20 29 10.7**	**-0.2**
	baz=74,SNR=6.4						
WHTX	**Lake Whitney,**	**73.42**	**339**	⇓P	**P**	**20 29 12.6**	**+0.7**
	baz=74						
138A	**Matatall Enter**	**73.43**	**341**	⇓P	**P**	**20 29 13.0**	**+1.0**
	baz=74						
430A	**Baggett Ranch,**	**73.45**	**336**	⇓P	**P**	**20 29 12.3**	**+0.1**
	baz=74,SNR=5.7						
429A	**Davenport Ranc**	**73.52**	**335**	⇓P	**P**	**20 29 12.8**	**+0.2**
	baz=74,SNR=6.5						
332A	**Millersview**	**73.53**	**337**	⇑P	**P**	**20 29 12.6**	**0.0**
	baz=74,SNR=7.1						
137A	**Heron Place, G**	**73.54**	**341**	⇑P	**P**	**20 29 13.6**	**+1.0**
	baz=74						
331A	**San Angelo**	**73.67**	**336**	⇓P	**P**	**20 29 13.3**	**-0.2**
	baz=74,SNR=6.3						
232A	**Coleman**	**73.97**	**337**	⇓P	**P**	**20 29 15.1**	**-0.1**
	baz=74,SNR=5.5						
330A	**Mertzon**	**74.00**	**336**	⇑P	**P**	**20 29 15.6**	**+0.2**
	baz=74						
SWET	**Sewanee**	**74.11**	**350**	*e*P	**P**	**20 29 16.4**	**+0.5**
231A	**Bronte**	**74.22**	**337**	⇓P	**P**	**20 29 16.9**	**+0.3**
	baz=74						
329A	**Wagon Wheel Ra**	**74.34**	**335**	⇓P	**P**	**20 29 17.5**	**+0.2**
	baz=75						
133A	**Hamilton Ranch**	**74.42**	**338**	⇓P	**P**	**20 29 17.6**	**-0.2**
	baz=75						
Z35A	**Perchaven, San**	**74.63**	**340**	⇑P	**P**	**20 29 19.1**	**+0.2**
	baz=75						
ABTX	**Abilene, Hawle**	**74.65**	**338**	⇓P	**P**	**20 29 19.7**	**+0.6**
	baz=75						
ABTX	**Abilene, Hawle**	**74.65**	**338**	*e*P	**P**	**20 29 18.8**	**-0.3**
	comp=Z,13nm,0.9s						
229A	**Bryant Ranch,**	**74.72**	**336**	⇑P	**P**	**20 29 20.0**	**+0.5**
	baz=75						
131A	**Roby**	**74.92**	**337**	⇓P	**P**	**20 29 21.0**	**+0.3**
	baz=75						
Z33A	**Whitaker Ranch**	**75.01**	**338**	⇑P	**P**	**20 29 21.6**	**+0.4**
	baz=75						
130A	**Snyder**	**75.03**	**336**	⇓P	**P**	**20 29 21.6**	**+0.3**
	baz=75						
Z32A	**Haskell**	**75.24**	**338**	⇓P	**P**	**20 29 22.7**	**+0.2**
	baz=76,SNR=5.6						
Y34A	**Reagan Ranch,**	**75.36**	**340**	⇑P	**P**	**20 29 23.8**	**+0.7**
	baz=76						
Z31A	**Sharp Cattle R**	**75.45**	**337**	⇑P	**P**	**20 29 23.9**	**+0.2**
	baz=76,SNR=5.3						
CASY	**Casey**	**75.60**	**182**	*e*P	**P**	**20 29 24.1**	**-0.1**
	comp=Z,136nm,2.6s						
Y33A	**Hilltop Ranch,**	**75.65**	**339**	⇑P	**P**	**20 29 24.9**	**+0.1**
	baz=76						
Z30A	**Sanderson Ranc**	**75.72**	**337**	⇓P	**P**	**20 29 25.2**	**-0.2**
	baz=76,SNR=5.9						
Z29A	**Hungry Hill Ra**	**75.88**	**336**	⇑P	**P**	**20 29 25.9**	**-0.3**
	baz=76,SNR=6.8						
X34A	**Smith Ranch, M**	**75.99**	**

AMTX **Amarillo** 77.37 337 ⇓P P 20 29 35.2 +0.5
baz=78
AMTX **Amarillo** 77.37 337 *e*P P 20 29 34.4 -0.2
comp=Z,20nm,1.0s
V32A **Arapaho** 77.37 339 ⇓P P 20 29 35.0 +0.4
baz=78
LIC **Lamto** 77.48 72 *e*P P 20 29 36.1 +0.5
comp=Z,28nm,0.9s
W29A **Amarillo** 77.58 337 ⇑P P 20 29 36.9 +1.0
baz=78
U34A **Anderson Ranch** 77.64 341 ⇓P P 20 29 36.5 +0.5
baz=78
V31A **Spring Creek L** 77.65 339 ⇑P P 20 29 36.8 +0.6
baz=78
TIC **Toumodi** 77.76 71 *e*P P 20 29 37.5 +0.3
comp=Z,7.4nm,0.4s
KIC **Kosan Boka** 77.78 72 *e*P P 20 29 37.8 +0.4
comp=Z,19nm,0.8s
DBIC **Dimbokro** 77.90 71 P P 20 29 38.8 +0.8
comp=Z,6.5nm,0.7s,baz=200,slow=7.0,SNR=11
DBIC LR LR 21 01 16.9
comp=Z,54nm,18.1s,baz=202,slow=34
DBIC **Dimbokro** 77.90 71 *e*P P 20 29 38.7 +0.7
comp=Z,7.1nm,0.7s
TUC **Tucson** 78.34 329 *e*P P 20 29 41.0 +0.9
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC **Tucson** 78.34 329 *e*P P 20 29 41.0 +0.9
comp=Z,5.2nm,1.0s
S36A **Lake Cedric, C** 78.38 342 ⇓P P 20 29 40.6 +0.6
baz=79
T33A **Patterson Banc** 78.43 340 ⇓P P 20 29 41.4 +1.0
baz=79
ACSO **Alum Creek Sta** 78.70 353 *e*P P 20 29 40.6 -1.2
comp=Z,16nm,0.9s
ANMO **Albuquerque** 79.02 333 *e*P P 20 29 44.8 +0.9
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO **Albuquerque** 79.02 333 LR LR 20 58 28.9
comp=Z,102nm,20.2s,baz=186,slow=31
ANMO **Albuquerque** 79.02 333 *e*P P 20 29 44.8 +0.9
comp=Z,9.4nm,1.0s
V25A **Rancho No Teng** 79.19 335 ⇓P P 20 29 44.9 0.0
baz=80
BOSA **Boshof** 79.25 118 P P 20 29 45.9 +0.4
comp=Z,8.2nm,0.8s,baz=221,slow=4.7,SNR=7.1
BOSA LR LR 20 58 33.2
comp=Z,62nm,21.3s,baz=230,slow=31
TSUM **Tsumeb** 79.35 106 P P 20 29 48.0 +1.8
T28A **Walsh** 79.57 337 ⇓P P 20 29 47.3 +0.5
baz=80
U25A **Circle Dot Ran** 79.63 335 ⇓P P 20 29 48.6 +1.4
baz=80
T26A **Comanche Natio** 80.08 336 ⇓P P 20 29 50.8 +1.2
baz=80
T25A **Trinidad** 80.31 336 ⇑P P 20 29 52.3 +1.4
baz=81
T25A **Trinidad** 80.31 336 *e*P P 20 29 51.6 +0.7
comp=Z,15nm,0.9s
W18A **Petrified Fore** 80.38 331 ⇑P P 20 29 53.3 +2.0
baz=81
X16A **Lo Mia Camp, P** 80.44 329 ⇑P P 20 29 53.1 +1.4
baz=81
S26A **Kim** 80.45 336 ⇓P P 20 29 52.8 +1.2
baz=81
R28A **Tribune** 80.61 338 ⇑P P 20 29 53.7 +1.4
baz=81
Q30A **Quinter** 80.75 339 ⇓P P 20 29 54.2 +1.2
baz=81
S25A **Robets Cordova** 80.79 336 ⇓P P 20 29 54.3 +0.9
baz=81
R27A **Eads** 80.85 337 ⇓P P 20 29 54.2 +0.5
baz=81
SWSC **Sam W. Stewart** 81.03 325 *e*P P 20 29 56.1 +1.6
S24A **Houchin Ranch,** 81.03 335 ⇑P P 20 29 56.1 +1.2
baz=81
R26A **Arlington** 81.07 337 ⇑P P 20 29 56.1 +1.3
baz=81
SDCO **Great Sand Dun** 81.22 335 ⇓P P 20 29 56.8 +1.0
baz=82
WUAZ **Wupatki** 81.37 330 ⇓P P 20 29 58.0 +1.5
baz=82
P29A **Atwood** 81.53 339 ⇑P P 20 29 58.6 +1.4
baz=82
R24A **Sanders Place,** 81.53 336 ⇑P P 20 29 58.8 +1.4
baz=82
S22A **4UR Ranch, Cre** 81.67 334 ⇑P P 20 29 59.2 +0.9
baz=82
S22A **4UR Ranch, Cre** 81.67 334 *e*P P 20 29 59.0 +0.8
comp=Z,4.3nm,0.9s
LBTB **Lobatse** 81.71 115 *e*P P 20 29 58.8 +0.1
LBTB **Lobatse** 81.71 115 *e*P P 20 29 58.8 +0.1
R23A **Moffat** 81.73 335 ⇓P P 20 29 59.3 +0.7
baz=82
MVCO **Mesa Verde** 81.78 333 ⇓P P 20 29 59.7 +1.0
baz=82
MVCO **Mesa Verde** 81.78 333 *e*P P 20 29 59.5 +0.7
comp=Z,4.9nm,0.8s
PFO **Pinyon Flats O** 81.89 325 P P 20 30 10.2 +11
comp=Z,79nm,0.4s,SNR=14
SNDA **J Saunders Pla** 81.91 325 *e*P P 20 29 58.6 -0.8
Q24A **Divide** 82.21 336 ⇓P P 20 30 02.3 +1.3
baz=82
P25A **Willow Gulch B** 82.40 337 ⇑P P 20 30 03.6 +1.7
baz=83
U15A **North Rim** 82.53 330 ⇑P P 20 30 04.3 +1.6
baz=83
CIAC **Catalina I. Ai** 82.61 324 *e*P P 20 30 04.1 +1.2
SMCO **Snowmass** 83.00 335 *e*P P 20 30 06.2 +0.9
comp=Z,7.7nm,1.0s
ISCO **Idaho Springs** 83.12 336 ⇑P P 20 30 07.0 +1.3
baz=83
KNB **Kanab** 83.25 329 *e*P P 20 30 07.5 +1.1
KNB pmax pmax
comp=Z,14nm,1.2s
KNB **Kanab** 83.25 329 *e*P P 20 30 07.5 +1.1
comp=Z,14nm,1.2s
O23A **Lake Granby, G** 83.59 336 ⇑P P 20 30 08.9 +0.7
baz=84
BSC **Santa Cruz Isl** 83.67 323 ⇓P P 20 30 09.5 +1.1
baz=84
O22A **Kremmling** 83.75 335 ⇓P P 20 30 10.3 +1.2
baz=84
SHPR **Sheep Range** 83.77 328 *e*P P 20 30 09.1 0.0
CCUT **Cedar City** 83.93 329 *e*P P 20 30 11.5 +1.6
comp=Z,6.6nm,1.0s
ARUT **Antelope Range** 84.16 329 *e*P P 20 30 12.5 +1.5
ARUT **Antelope Range** 84.16 329 *e*P P 20 30 12.5 +1.5
comp=Z,0.3nm,0.7s
SRU **San Rafael Swe** 84.20 332 *e*P P 20 30 11.4 +0.2
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU **San Rafael Swe** 84.20 332 *e*P P 20 30 11.4 +0.2
comp=Z,5.4nm,0.8s
MVU **Marysvale** 84.30 331 *e*P P 20 30 12.8 +1.0
comp=Z,15nm,1.4s
ECSD **EROS Data Cent** 84.33 344 ⇓P P 20 30 12.3 +0.8
baz=85
ECSD **EROS Data Cent** 84.33 344 *e*P P 20 30 11.3 -0.2
comp=Z,15nm,0.9s
ISA **Isabella, Lake** 84.51 325 ⇑P P 20 30 14.6 +1.9
baz=85
TPNV **Topopah Spring** 84.61 327 *e*P P 20 30 14.7 +1.4
TPNV pmax pmax
comp=Z,78nm,2.6s
TPNV **Topopah Spring** 84.61 327 ⇓P P 20 30 15.2 +1.9
baz=85
TPNV **Topopah Spring** 84.61 327 *e*P P 20 30 14.7 +1.4
comp=Z,78nm,2.6s
TMUT **Trail Mountain** 84.61 332 *e*P P 20 30 14.4 +1.0
comp=Z,6.3nm,0.8s
J27A **Elkhorn Farm,** 85.22 340 ⇓P P 20 30 17.7 +1.7
baz=86
R11A **Troy Canyon, C** 85.52 328 ⇓P P 20 30 19.5 +1.7
baz=86
R11A **Troy Canyon, C** 85.52 328 *e*P P 20 30 19.5 +1.7
comp=Z,4.7nm,1.0s
J26A **Sides Ranch, S** 85.57 339 ⇑P P 20 30 19.2 +1.4
baz=86
DAU **Daniels Canyon** 85.61 332 *e*P P 20 30 19.4 +1.0
DAU **Daniels Canyon** 85.61 332 *e*P P 20 30 19.4 +1.0
comp=Z,0.3nm,0.9s
TPH **Tonopah** 85.97 327 *e*P P 20 30 20.5 +0.4
TPH pmax pmax
comp=Z,8.0nm,1.0s
TPH **Tonopah** 85.97 327 *e*P P 20 30 20.5 +0.4
comp=Z,7.7nm,1.0s
K22A **Casper** 85.99 336 *e*P P 20 30 20.4 +0.4
comp=Z,9.2nm,0.6s
DUG **Dugway, Tooele** 86.00 331 *e*P P 20 30 21.2 +1.0
DUG pmax pmax
comp=Z,14nm,1.2s
DUG **Dugway, Tooele** 86.00 331 ⇓P P 20 30 21.4 +1.3
baz=86
DUG **Dugway, Tooele** 86.00 331 *e*P P 20 30 21.2 +1.0
comp=Z,14nm,1.2s
I25A **Rochford** 86.40 339 ⇑P P 20 30 22.0 -0.1
baz=87
H27A **Howes** 86.52 340 ⇓P P 20 30 22.8 +0.4
baz=87
NVAR **Mina Array Bea** 86.73 327 P P 20 30 25.1 +1.1
comp=Z,1.5nm,0.7s,baz=156,slow=6.7,SNR=10
HWUT **Hardware Ranch** 86.77 333 *e*P P 20 30 24.0 +0.1
comp=Z,18nm,1.1s
MSKU **Masuku** 86.91 90 LR LR 21 03 36.9
comp=Z,74nm,19.6s,baz=191,slow=32
TORD **Torodi Ar. Bea** 86.99 71 P P 20 30 25.3 -0.1
comp=Z,1.7nm,0.7s,baz=226,slow=4.5,SNR=8.4
BW06 **Boulder Array** 87.09 334 *e*P P 20 30 25.8 +0.2
comp=Z,15nm,1.6s
PDAR **Pinedale Array** 87.09 334 P P 20 30 25.7 +0.2
comp=Z,2.5nm,0.9s,baz=150,slow=5.7,SNR=16
J20A **Shoshoni** 87.12 336 ⇓P P 20 30 26.4 +0.9
baz=87
G27A **Dupree** 87.17 341 ⇓P P 20 30 25.4 -0.2
baz=88
G26A **Maurine** 87.27 340 ⇑P P 20 30 26.4 +0.3
baz=88
I21A **Big Trails, Te** 87.28 336 ⇑P P 20 30 26.9 +0.6
baz=88
H24A **Dirks Ranch, A** 87.31 339 ⇓P P 20 30 26.0 -0.3
baz=88
J19A **Crowheart** 87.36 335 ⇑P P 20 30 27.3 +0.5
baz=88
HVU **Hansel Valley** 87.36 332 *e*P P 20 30 27.5 +0.7
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU **Hansel Valley** 87.36 332 *e*P P 20 30 27.5 +0.7
comp=Z,8.9nm,0.9s
ELK **Elko** 87.42 330 *e*P P 20 30 28.2 +1.0
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK **Elko** 87.42 330 LR LR 21 06 58.5
comp=Z,46nm,18.4s,baz=181,slow=34
ELK **Elko** 87.42 330 *e*P P 20 30 28.2 +1.0
comp=Z,5.5nm,1.0s
D30A **Buchanan** 88.01 343 ⇓P P 20 30 30.3 +0.7
baz=88
LOHW **Long Hollow** 88.19 334 *e*P P 20 30 31.3 +0.5
comp=Z,36nm,2.4s
TPAW **Teton Pass** 88.20 334 *e*P P 20 30 31.6 +0.7
comp=Z,5.2nm,0.8s
E26A **Carlson Angus** 88.32 341 ⇑P P 20 30 31.7 +0.6
baz=89
FXWY **Fox Creek** 88.36 334 *e*P P 20 30 32.1 +0.5
comp=Z,56nm,3.0s
I17A **Pilgrim Ck.** 88.45 334 ⇑P P 20 30 33.2 +1.2
baz=89
AGMN **Agassiz Nation** 88.53 345 ⇑P P 20 30 32.0 0.0
baz=89
IMW **Indian Meadow** 88.56 334 *e*P P 20 30 33.4 +0.9
comp=Z,6.3nm,1.0s
H19A **Powell** 88.59 336 ⇓P P 20 30 32.3 -0.2
baz=89
FLWY **Flagg Ranch** 88.64 334 *e*P P 20 30 33.9 +1.1
comp=Z,9.9nm,1.0s
H18A **Shoshone NF, C** 88.82 335 ⇑P P 20 30 34.2 +0.4
baz=89
G20A **Bridger** 88.83 336 ⇑P P 20 30 34.0 +0.3
baz=89
YFT **Old Faithful** 89.01 334 *e*P P 20 30 32.5 -2.2
comp=Z,12nm,1.3s
RLMT **Red Lodge** 89.08 336 *e*P P 20 30 36.0 +1.0
comp=Z,12nm,1.4s
B30A **Myrvik Farm, E** 89.18 344 ⇓P P 20 30 35.5 +0.5
baz=90
HLID **Hailey** 89.51 332 ⇑P P 20 30 38.4 +1.5
baz=90
HLID **Hailey** 89.51 332 *e*P P 20 30 38.5 +1.6
comp=Z,7.2nm,1.1s
LSZ **Lusaka** 89.71 109 P P 20 30 41.0 +2.4
LSZ pmax pmax
comp=Z,4.0nm,1.0s
LSZ **Lusaka** 89.71 109 P P 20 30 41.0 +2.4
comp=Z,4.1nm,1.0s
MCMT **McKenzie Canyo** 90.03 333 *e*P P 20 30 40.9 +1.5
ULM **Lac du Bonnet** 90.40 346 P P 20 30 41.1 +0.5
comp=Z,3.3nm,0.9s,baz=181,slow=1.8,SNR=3.5
WALA **Waterton Lakes** 94.06 335 *e*P P 20 30 58.4 +0.6
comp=Z,123nm,3.0s
DZM **Mont Dzumac** 97.54 234 *e*LR LR 21 02 56.5
comp=Z,83nm,23.9s
GERES **GERESS Array B** 116.19 47 PKP PKPdf 20 36 22.6 -0.1
comp=Z,1.0nm,0.8s,baz=252,slow=2.5,SNR=6.6
WRA **Warramunga Arr** 116.26 210 PKP PKPdf 20 36 22.9 -0.8
comp=Z,0.6nm,0.9s,baz=152,slow=1.7,SNR=4.9
WRAB **Tennant Creek** 116.26 210 *e*PKIKP PKPdf 20 36 22.4 -1.4
WRAB **Tennant Creek** 116.26 210 *e*PKPdf PKPdf 20 36 22.4 -1.4
ILAR **Eielson Array** 117.46 332 PKP PKPdf 20 36 24.1 -0.5
comp=Z,0.5nm,1.0s,baz=113,slow=2.1,SNR=3.7
VYHS **Vyhne** 119.04 49 *e*PKIKP PKPdf 20 36 28.5 +0.4
VYHS **Vyhne** 119.04 49 *e*PKP PKPdf 20 36 28.5 +0.4
H11S2 **WAKE ISLAND Hyl** 124.24 267 T T 22 52 56.8
baz=126
H11S1 **WAKE ISLAND Hyl** 124.25 267 T T 22 52 59.0
baz=126
H11S3 **WAKE ISLAND Hyl** 124.25 267 T T 22 52 56.9
baz=126
BRTR **Keskin Array B** 125.09 64 PKP PKPdf 20 36 40.8 +0.7
comp=Z,0.5nm,0.8s,baz=273,slow=2.7,SNR=3.1
KIEV **Kiev** 126.11 50 *e*PKIKP PKPdf 20 36 41.2 -0.3
AKASG **Malin Array Be** 126.13 50 PKP PKPdf 20 36 40.8 -0.8
comp=Z,0.2nm,0.3s,baz=263,slow=3.0,SNR=4.2
SPITS **Spitsbergen Ar** 127.27 15 PKP PKPdf 20 36 44.8 +1.7
comp=Z,5.9nm,1.0s,baz=174,slow=5.8,SNR=2.2
OBN **Obninsk** 131.53 46 ⇓*e*PKIKP PKPdf 20 36 52.1 +0.4
OBN *e* 20 39 12.2
OBN *e* 20 44 01.5
OBN *e*SS SS 20 56 50.7 +5.9
OBN pmax pmax
comp=Z,25nm,3.0s
OBN MLR MLR
comp=Z,86nm,20.0s
BILL **Bilibino** 136.12 332 *de*PKIKP PKPdf 20 37 01.6 +1.6
BILL *e* 20 39 44.0
GEYT **Alibeck** 142.50 75 PKhKP PKPpre 20 37 04.1
comp=Z,0.7nm,0.5s,baz=248,slow=7.6,SNR=2.7
SEY **Seymchan** 143.04 327 *e*PKIKP PKPbc 20 37 10.1 +0.5
ARU **Arti** 143.92 44 *i* PKIKP PKPbc 20 37 12.7 +0.4
ARU **Arti** 143.92 44 *e*PKPdf PKPbc 20 37 12.3 0.0
AKTO **Aktyubinsk** 144.12 54 PKP PKPbc 20 37 12.8 -0.3
comp=Z,3.1nm,0.6s,baz=245,slow=2.4,SNR=15
TIXI **Tiksi** 144.73 348 ⇓*e*PKIKP PKPab 20 37 13.1 -1.1
TIXI **Tiksi** 144.73 348 *e*PKPdf PKPab 20 37 13.0 -1.3
SVE **Sverdlovsk** 144.97 43 ⇓*i*PKIKP PKPdf 20 37 16.4 +0.2
SVE pmax pmax
comp=Z,23nm,1.4s
ABKAR **Akbulak array** 145.38 56 *e*PKPdf PKPab 20 37 17.2 -0.1
HYB **Hyderabad** 148.02 123 *i* PKP PKPdf 20 37 24.0 +1.3
BVAR **Borovoye Array** 151.36 48 PKP PKPdf 20 37 27.2 +0.4
comp=Z,1.1nm,0.9s,baz=338,slow=3.2,SNR=6.4
BVAR PKPbc PKiKP 20 37 33.7 +0.3
comp=Z,4.6nm,0.7s,baz=287,slow=3.2,SNR=41
YSS **Yuzh-Sakhalins** 152.04 300 PKIKP PKPbc 20 37 33.7 -0.9
YAK **Yakutsk** 152.30 336 *e*PKIKP PKPbc 20 37 33.3 -1.4
YAK pmax pmax
comp=Z,14nm,0.9s
KKAR **Karatay Array** 152.66 69 *e*PKIKP PKPbc 20 37 35.3 -0.9
KKAR **Karatay Array** 152.66 69 *e*PKPbc PKPbc 20 37 35.3 -0.9
MJAR **Matsushiro Arr** 154.63 276 PKPab PKPab 20 37 56.0 +0.5
comp=Z,1.6nm,0.9s,baz=141,slow=6.2,SNR=3.7
AAK **Ala-Archa** 155.57 70 *e*PKIKP PKPdf 20 37 33.3 -0.2
AAK 20 37 47.2
AAK 20 38 00.1
AAK **Ala-Archa** 155.57 70 PKP PKPdf 20 37 32.9 -0.5
comp=Z,0.5nm,0.4s,baz=257,slow=6.8,SNR=4.6
AAK PKPbc PKPbc 20 37 47.2
comp=Z,0.8nm,0.6s,baz=205,slow=7.3,SNR=4.9
AAK PKPab PKPab 20 38 00.1 +0.5
comp=Z,2.1nm,0.6s,baz=197,slow=2.3,SNR=11
AAK **Ala-Archa** 155.57 70 *e*PKPdf PKPdf 20 37 33.3 -0.2
AAK PKPbc PKPbc 20 37 47.2
AAK PKPab PKPab 20 38 00.1 +0.5
KSH **Kashi** 156.48 78 *e*PKP PKPdf 20 37 32.9 -1.8
KSH pPKP pPKPdf 20 37 43.9 +3.0
KSH PKS PKSdf 20 41 06.1 -2.6
KSH SKS SKSdf 20 44 34.5 -5.5
KSH PPMZ
comp=Z,140nm,5.5s
KSH LN
comp=Z,93nm,3.9s
KSH LE
comp=Z,130nm,4.7s
KSH LZ
comp=Z,160nm,6.5s
KURBB **Kurchatov Arra** 156.91 49 PKP PKPdf 20 37 35.2 +0.5
comp=Z,1.1nm,1.0s,baz=301,slow=1.8,SNR=9.1
KURBB PKPab PKPab 20 38 05.1 +0.3
comp=Z,1.8nm,0.8s,baz=292,slow=4.5,SNR=9.8
KURK **Kurchatov** 156.93 49 PKIKP PKPdf 20 37 35.2 +0.5
KURK **Kurchatov** 156.93 49 PKP PKPdf 20 37 35.2 +0.5
KURK PKPab PKPab 20 38 05.1 +0.2
NVS **Novosibirsk** 157.35 36 *i* PKP2 PKPab 20 38 06.4 -0.1
ZALV **Zalesovo Beam** 158.63 36 PKP PKPdf 20 37 35.2 -1.5
comp=Z,1.1nm,0.8s,baz=224,slow=4.1,SNR=5.9
ZALV PKPab PKPab 20 38 12.2 +0.2
comp=Z,2.0nm,0.6s,baz=307,slow=5.4,SNR=7.9
USRK **Ussuriysk Ar.** 159.85 295 PKPab PKPab 20 38 18.2 +0.5
comp=Z,1.8nm,0.8s,baz=82,slow=3.2,SNR=4.0
BOD **Bodaibo** 159.91 348 *e*PKP2 PKPab 20 38 16.4 -1.1
BOD pmax pmax
comp=Z,3.0nm,1.0s
MKAR **Makanchi Array** 160.53 57 PKP PKPdf 20 37 39.4 +0.3
comp=Z,1.2nm,1.0s,baz=290,slow=3.5,SNR=7.0
MKAR PKPab PKPab 20 38 20.7 0.0
comp=Z,0.8nm,0.7s,baz=295,slow=4.2,SNR=6.5
KSRS **Korea Array** 162.87 274 PKP PKPdf 20 37 40.9 -0.9
comp=Z,0.3nm,0.3s,baz=156,slow=6.5,SNR=4.4
KSRS PKPab PKPab 20 38 32.0 +0.8
comp=Z,0.2nm,0.3s,baz=128,slow=4.5,SNR=4.2
KSAR **Wonju Array Be** 162.90 274 PKIKP PKPdf 20 37 40.9 -1.0
KSAR 20 38 32.0
KSAR **Wonju Array Be** 162.90 274 PKP PKPdf 20 37 40.9 -1.0
KSAR PKPab PKPab 20 38 32.0 +0.7
CN2 **Changchun** 164.56 297 *e*PKP PKPdf 20 37 43.8 +0.6
LSA **Lhasa** 164.79 120 PKIKP PKPdf 20 37 44.7 +0.2
LSA **Lhasa** 164.79 120 PKPdf PKPdf 20 37 44.7 +0.2
WMQ **Urumqi** 165.01 63 *e*PKP PKPdf 20 37 44.6 +0.9
WMQ PPMZ
comp=Z,98nm,5.6s
WMQ LZ
comp=Z,140nm,21.4s
ZAK **Zakamensk** 167.83 9 *e*PKP2 PKPab 20 38 52.3 -0.3
ZAK pmax pmax
comp=Z,3.0nm,1.4s
SONM **Songino Array** 170.56 359 PKP PKPdf 20 37 47.4 -0.2
comp=Z,0.2nm,0.4s,baz=309,slow=5.0,SNR=3.7
SONM PKPab PKPab 20 39 05.2 +0.4
comp=Z,1.7nm,0.9s,baz=340,slow=5.9,SNR=9.3
CD2 **Chengdu** 172.26 164 PKP PKPdf 20 37 48.4 -0.4
CD2 PKS PKSdf 20 41 19.3 -1.9
CD2 PP PP 20 43 06.7 +3.6
CD2 SKS SKSdf 20 44 48.7 -2.6
CD2 SKKS SKKSac 20 49 51.0 +1.4
CD2 SS SS 21 04 13.8 +1.9
CD2 PPMZ
comp=Z,120nm,5.8s
GTA **Gaotai** 174.88 77 *e*PKP PKPdf 20 37 50.3 +0.6
GTA pPKP pPKPdf 20 37 54.6 -1.3
GTA sPKP 20 37 58.3
HHC **Hu-ho-hao-te** 175.22 302 *e*PKP PKPdf 20 37 50.1 +0.4
HHC pPKP pPKPdf 20 38 00.1 +4.2
HHC PP PP 20 43 22.0 +3.3
HHC SKS SKSdf 20 44 48.0 -3.8
HHC SS SS 21 04 37.6 -5.1
HHC PPMZ
comp=Z,18nm,6.2s
HHC LN
comp=Z,91nm,22.8s
HHC LE
comp=Z,87nm,22.4s
HHC LZ
comp=Z,120nm,19.7s
LZH **Lanzhou** 177.00 140 *e*PKP PKPdf 20 37 49.1 -1.2
LZH pPKP pPKPdf 20 37 53.5 -3.0
LZH sPKP 20 37 54.9
LZH LN
comp=Z,220nm,18.3s
LZH LE
comp=Z,230nm,18.4s
LZH LZ
comp=Z,250nm,20.1s

IDC ***09*** *20:28:20.9±8.2, 31°.87S×179°.98E, h337km±91km, mb3.1/2, mb1 3.3/3, mb1mx3.1/18, mbtmp3.8/3, Error ellipse: s-maj=99.5km s-min=38.8km az=2.0*
ISCJB ***09*** *20:28:26.2±1.1, 32°.12S±0°.06×179°.3E±0°.2, h363km, mb3.2/2, Error ellipse: s-maj=21.7km s-min=8.5km az=3.7*
ISC 09 20:28:26.9±1.7, 32°.2S±0°.1×179°.3E±0°.2, h363km, n24,
σ1s 51/34, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.41**	**188**	*e*PN	**Pn**	**20 29 51.8**	**+0.3**
MXZ				*e*SN	**S**	**20 30 58.9**	**-1.2**
WMGZ	**Waiomatatini S**	**5.65**	**187**	*e*PN	**Pn**	**20 29 56.0**	**+1.9**
HAZ	**Te Kaha**	**5.68**	**192**	*e*PN	**Pn**	**20 29 56.7**	**+2.2**
HAZ				*e*SN	**S**	**20 31 06.4**	**+0.9**
PUZ	**Puketiti**	**5.92**	**188**	*e*PN	**Pn**	**20 29 58.8**	**+1.6**
PUZ				SN	**S**	**20 31 11.6**	**+1.1**
MWZ	**Matawai**	**6.29**	**193**	*e*PN	**Pn**	**20 30 03.3**	**+2.0**
URZ	**Urewera**	**6.31**	**196**	P	**Pn**	**20 30 01.8**	**+0.3**
	1.9nm,0.3s,baz=9.5,slow=19,SNR=18						
URZ				S	**S**	**20 31 20.1**	**+1.7**
	3.2nm,0.3s,baz=73,slow=19,SNR=22						
URZ	**Urewera**	**6.31**	**196**	*e*PN	**Pn**	**20 30 02.9**	**+1.4**
URZ				*e*SN	**S**	**20 31 20.1**	**+1.7**
BKZ	**Black Stump Fm**	**7.32**	**197**	*e*PN	**P**	**20 30 15.0**	**+0.7**
BKZ				*e*SN	**S**	**20 31 39.5**	**-0.3**
WNVZ	**Wahianoa**	**7.72**	**202**	*e*PN	**P**	**20 30 19.8**	**+0.7**
BHHZ	**Black Hill Sta**	**7.73**	**199**	*e*PN	**P**	**20 30 19.1**	**0.0**
KAHZ	**Kahuranaki**	**7.83**	**194**	*e*PN	**P**	**20 30 20.5**	**+0.3**
PXZ	**Pawanui**	**8.06**	**193**	*e*PN	**P**	**20 30 23.4**	**+0.6**
PXZ				*e*SN	**S**	**20 31 53.3**	**-2.4**
TSZ	**Takapari Road**	**8.30**	**198**	*e*SN	**S**	**20 31 59.5**	**-1.4**
BFZ	**Birch Farm**	**8.81**	**195**	*e*PN	**Pn**	**20 30 31.0**	**+0.4**
BFZ				*e*SN	**S**	**20 32 08.0**	**-4.0**
MRZ	**Mangatainoka R**	**8.96**	**198**	*e*PN	**Pn**	**20 30 32.2**	**-0.1**
MRZ				*e*SN	**S**	**20 32 12.6**	**-2.6**
OGWZ	**Otaki Gorge**	**9.22**	**200**	*e*PN	**Pn**	**20 30 35.6**	**+0.1**
TCW	**Tory Channel**	**9.86**	**203**	*e*PN	**Pn**	**20 30 43.5**	**+0.6**
TUWZ	**Tuamarina**	**10.16**	**203**	*e*PN	**Pn**	**20 30 46.9**	**+0.4**
NNZ	**Nelson**	**10.18**	**206**	*e*PN	**Pn**	**20 30 46.9**	**+0.2**
NNZ				*e*SN	**S**	**20 32 42.6**	**+1.1**
THZ	**Tophouse**	**10.83**	**206**	*e*SN	**S**	**20 32 55.0**	**-0.7**
MQZ	**McQueen's Vall**	**12.62**	**203**	*e*SN	**S**	**20 33 32.7**	**-1.0**
ASAR	**Alice Springs**	**40.75**	**270**	P	**P**	**20 35 35.1**	**+1.0**
	0.6nm,0.6s,baz=108,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**41.91**	**276**	P	**P**	**20 35 43.9**	**+0.4**
	0.8nm,0.3s,baz=113,slow=7.9,SNR=55						
FINES	**FINESS Array B**	**145.97**	**337**	PKPbc	**PKPdf**	**20 47 19.3**	**-2.9**
	0.8nm,0.6s,baz=67,slow=3.3,SNR=11						

IDC ***09*** *20:50:07.2±1.9, 0°.81N×125°.33E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=185.5km s-min=24.3km az=64.0*
ISCJB ***09*** *20:50:12.9±0.9, 1°.15N±0°.08×126°.24E±0°.04, h44km, mb3.4/3, Error ellipse: s-maj=12.1km s-min=5.8km az=7.5*
DJA ***09*** *20:50:13.3±1.1, 1°N±4°×12°6E±°, h28km±15km, M3.6/3, mb3.6/1, MLv3.6/3*
ISC 09 20:50:13.2±1.2, 1°.20N±0°.09×126°.27E±0°.05, h44km, n12,
σ1s 55/16, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.18**	**111**	P	**Pn**	**20 50 33.4**	**+0.1**
TNTI				S	**Sn**	**20 50 51.0**	**+2.9**
LBMI	**Labuha**	**2.20**	**146**	P	**Pn**	**20 50 48.0**	**+0.6**
KMSI	**Cibinong**	**2.37**	**255**	P	**Pn**	**20 50 49.4**	**-0.3**
KMSI				S	**Sn**	**20 51 16.9**	**-0.7**
SANI	**Sanana**	**3.24**	**185**	P	**Pn**	**20 51 02.7**	**+1.0**
SANI				S	**Sn**	**20 51 37.8**	**-1.3**
GTOI	**Gorontalo**	**3.31**	**260**	P	**Pn**	**20 51 04.0**	**+1.4**
LUWI	**Luwuk**	**4.15**	**238**	P	**Pn**	**20 51 16.1**	**+2.0**

LUWI				S		Sn	20 52 02.8	+1.4
MRSI	**Marisa**	**4.39**	**261**	P		**Pn**	**20 51 17.4**	**0.0**
APSI	**Ampana**	**5.08**	**246**	P		**Pn**	**20 51 27.4**	**+0.5**
MPSI	**Mapaga**	**6.43**	**262**	P		**Pn**	**20 51 48.0**	**+2.5**
WRA	**Warramunga Arr**	**22.45**	**160**	P		**P**	**20 55 07.0**	**-1.7**
	0.8nm,0.5s,baz=335,slow=11,SNR=20							
ASAR	**Alice Springs**	**25.81**	**164**	P		**P**	**20 55 40.0**	**-0.6**
	0.3nm,0.4s,baz=346,slow=11,SNR=13							
MKAR	**Makanchi Array**	**59.37**	**326**	P		**P**	**21 00 10.0**	**-1.2**
	0.2nm,0.3s,baz=119,slow=7.5,SNR=7.8							

CASC 09 20:53:14.3±1.9, 13°51N×90°43W, h20km±7km, MD3.7, ML3.5, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.85**	**67**	⇓*eP*	Pb	20 53 30.6	-0.1
SBLS				*eS*	Sb	20 53 42.0	+0.1
RTR	**El Retiro**	**0.85**	**63**	⇓*eP*	Pb	20 53 30.9	+0.2
RTR				*eS*	Sb	20 53 41.8	-0.1
SNJE	**San Jose**	**0.87**	**66**	⇓*iP*	Pb	20 53 31.0	-0.1
SNJE				⇑*eS*	Sb	20 53 42.8	+0.2
RBDL	**Robledal**	**0.94**	**50**	⇓*eP*	Pb	20 53 32.0	-0.1
NBG	**Las Nubes**	**1.07**	**4**	*eP*	Pn	20 53 34.7	+0.1
NBG				*eS*	Sb	20 53 48.8	+0.3
BOQS	**Boqueron**	**1.14**	**79**	*eP*	Pn	20 53 35.0	-0.4
BOQS				*eS*	Sb	20 53 50.4	+0.2
SNET	**Serv Nac Est T**	**1.18**	**81**	*eP*	Pn	20 53 35.1	-0.6
SNET				*eS*	Sb	20 53 50.4	-0.6
SNET				AML	AML	20 53 53.0	
	comp=Z,1μm,0.3s						
LFRS	**El Faro**	**1.33**	**85**	*eP*	Pn	20 53 37.4	-0.6
LFRS				*eS*	Sb	20 53 56.0	+0.4
LBRS	**Las Brisas**	**1.36**	**80**	*eP*	Pn	20 53 38.5	+0.1
LBRS				*eS*	Sb	20 53 56.2	-0.2
JAT	**Jato**	**1.42**	**304**	*eP*	Pn	20 53 37.2	-1.9
SNVI	**San Vicente**	**1.55**	**86**	*eP*	Pn	20 53 41.6	+0.6
MRL	**Marmol**	**1.70**	**25**	⇑*eP*	Pn	20 53 44.0	+0.8
VSM	**San Miguel**	**2.10**	**92**	*eP*	Pn	20 53 48.5	-0.1

*IDC **09** 20:53:24.0±2.2, 32°.21N×115°.54W, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/26, mbtmp3.3/4, ML3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=39.1km s-min=11.0km az=38.0*

*ISCJB **09** 20:53:25.2±0.4, 32°.31N±0°.02×115°.32W±0°.02, h10km±3km, mb3.5/1, MS3.3/1, Error ellipse: s-maj=2.7km s-min=2.6km az=19.6*

*NEIC **09** 20:53:27.1, 32°.30N×115°.36W, h6km, ML4.1(ECX), ML4.2(PAS), After ECX.*

NEIC Felt [II] at Mexicali. Felt at El Cajon, El Centro, Encinitas, San Diego, Santee, Solana Beach and Vista, California.

*ECX **09** 20:53:27.1±0.6, 32°.29N×115°.35W, h6km, MD4.0, ML4.2*

ISC 09 20:53:26.2±0.8, 32°.30N±0°.02×115°.37W±0°.02, h12km±6km, n71, σ1°66/101, 24C-23D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**27**	⇑*eP*	**Pg**	**20 53 29.5**	**0.0**
CPBX				*eP*	**Pg**	**20 53 29.5**	**0.0**
CPBX				*eS*	**Sg**	**20 53 32.0**	**+0.2**
EMX	**El Mayor**	**0.33**	**161**	⇓*eP*	**Pg**	**20 53 32.7**	**-0.3**
EMX				*eS*	**Sg**	**20 53 37.2**	**-0.2**
COA	**Coachella**	**0.59**	**21**	⇑*eP*	**Pg**	**20 53 38.0**	**+0.2**
RDX	**Rancho Dawling**	**0.61**	**232**	⇑*eP*	**Pg**	**20 53 38.0**	**-0.2**
COK	**Cook Ranch**	**0.62**	**331**	⇓*eP*	**Pg**	**20 53 38.5**	**+0.2**
RMX	**La Rumorosa**	**0.67**	**297**	*eP*	**Pg**	**20 53 38.8**	**-0.4**
RMX				*eS*	**Sg**	**20 53 48.6**	**+0.5**
RMX				⇑*e*		20 53 50.5	
RMX				AML	AML	20 53 50.5	
	comp=N,11μm,0.6s						
SWSC	**Sam W. Stewart**	**0.73**	**331**	⇑P	**Pg**	**20 53 39.9**	**-0.5**
	baz=0.7						
SWSC				⇑S	**Sg**	**20 53 50.3**	**+0.4**
	baz=0.7						
YMD	**Yuma Desert**	**0.74**	**70**	⇓*eP*	**Pg**	**20 53 40.0**	**-0.6**
RUN	**Ruthven**	**0.74**	**26**	⇑*eP*	**Pg**	**20 53 39.9**	**-0.8**
CRR	**Carrizo Plain**	**0.77**	**319**	⇓*eP*	**Pg**	**20 53 40.8**	**-0.3**
ECBX	**El Chinero**	**0.87**	**162**	*eP*	**Pg**	**20 53 42.0**	**-1.1**
ECBX				*eS*	**Sg**	**20 53 54.0**	**-0.5**
GLA	**Glamis**	**0.88**	**31**	⇑*eP*	**Pg**	**20 53 41.9**	**-1.2**
GLA	**Glamis**	**0.88**	**31**	⇓P	**Pg**	**20 53 41.9**	**-1.2**
	baz=0.9						
GLA				⇓S	**Sg**	**20 53 54.0**	**-0.6**
	baz=0.9						
GLA	**Glamis**	**0.88**	**31**	*ePg*	**Pg**	**20 53 41.8**	**-1.3**
GLA				*eSg*	**Sg**	**20 53 52.0**	**-2.6**
MONP	**Monument Peak,**	**1.06**	**304**	⇑P	**Pg**	**20 53 45.5**	**-1.1**
	baz=1.1						
MONP				⇑S	**Sg**	**20 53 59.6**	**-0.9**
	baz=1.1						
CBX	**Cerro Bola**	**1.09**	**271**	⇑*eP*	**Pg**	**20 53 46.6**	**-0.7**
CBX				*eS*	**Sg**	**20 54 01.7**	**+0.1**
CBX				⇑*e*		20 54 08.7	
CBX				AML	AML	20 54 08.7	
	comp=E,8μm,0.6s						
ZAX	**El Zacaton**	**1.10**	**224**	*eP*	**Pg**	**20 53 46.5**	**-0.9**
ZAX				*eS*	**Sg**	**20 54 01.2**	**-0.6**
ZAX				AML	AML	20 54 05.5	
	comp=N,4μm,0.5s						
ZAX				⇓*e*		20 54 05.5	
BAR	**Barrett**	**1.16**	**289**	*ePg*	**Pb**	**20 53 46.9**	**-1.3**
BAR				*eSg*	**Sg**	**20 54 02.9**	**-0.9**
ECNX	**Esteban Cantu**	**1.23**	**239**	*eP*	**Pn**	**20 53 48.7**	**-0.5**
ECNX				*eS*	**Sb**	**20 54 04.9**	**-0.3**
SPIG	**San Pedro Mart**	**1.26**	**184**	*eP*	**Pn**	**20 53 48.7**	**-1.2**
SPIG				*eS*	**Sb**	**20 54 05.0**	**-1.2**
SPX	**San Pedro Mart**	**1.26**	**184**	*eP*	**Pn**	**20 53 48.7**	**-1.2**
SPX				*eS*	**Sb**	**20 54 06.0**	**-0.3**
SPX				AML	AML	20 54 07.6	
	comp=E,2μm,0.5s						
SPX				⇓*e*		20 54 07.6	
PBX	**Punta Banda**	**1.28**	**244**	*eP*	**Pn**	**20 53 49.4**	**-0.5**
PBX				*eS*	**Sb**	**20 54 06.6**	**-0.1**
BC3	**Big Chuckawall**	**1.35**	**357**	⇓P	**Pn**	**20 53 49.1**	**-1.9**
	baz=1.4						
BC3				⇓S	**Sb**	**20 54 06.2**	**-2.5**
	baz=1.4						
113A	**Mohawk Valley,**	**1.43**	**71**	⇓P	**Pn**	**20 53 50.3**	**-1.6**
	baz=1.4						
113A				⇓S	**Sn**	**20 54 07.9**	**-2.8**
	baz=1.4						
109C	**Camp Elliot, M**	**1.58**	**292**	⇓P	**Pn**	**20 53 53.3**	**-0.7**
	baz=1.6						
109C				⇑Sb	**Sb**	**20 54 15.4**	**+0.3**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.59**	**325**	Pn	**Pn**	**20 53 52.6**	**-1.7**
	comp=E,36nm,0.3s,baz=144,slow=15,SNR=141						
PFO				LR	LR	20 54 02.5	
	comp=E,41nm,21.2s,baz=124,slow=24						
PFO				Lg	Lg	20 54 14.2	
	comp=E,124nm,0.3s,baz=52,slow=22,SNR=16						
PFO	**Pinyon Flats O**	**1.59**	**325**	⇑P	**Pn**	**20 53 52.6**	**-1.7**
	baz=1.6						
PFO				⇓Sb	**Sb**	**20 54 16.6**	**+1.0**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.59**	**325**	*ePn*	**Pn**	**20 53 51.7**	**-2.6**
PFO				*eSn*	**Sn**	**20 54 12.7**	**-2.0**
Y12C	**Blythe**	**1.61**	**26**	⇓P	**Pn**	**20 53 52.7**	**-1.7**
	baz=1.6						
BELC	**Belle Mtn. Jos**	**1.77**	**343**	⇑P	**Pn**	**20 53 55.0**	**-1.8**
	baz=1.8						
IRM	**Iron Mountain**	**1.86**	**6**	⇓P	**Pn**	**20 53 56.4**	**-1.5**
	baz=1.9						
IRM				⇑Sb	**Sb**	**20 54 24.6**	**+1.2**
	baz=1.9						
MURC	**Murrieta**	**2.01**	**311**	⇓P	**Pn**	**20 53 58.8**	**-1.2**
	baz=2.0						
MURC				⇑Sb	**Sb**	**20 54 29.0**	**+1.4**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.20**	**98**	⇓P	**Pn**	**20 54 00.5**	**-2.1**
	baz=2.2						
214A				⇑Sb	**Sb**	**20 54 33.7**	**+0.6**
	baz=2.2						
214A	**Organ Pipe Nat**	**2.20**	**98**	*ePn*	**Pn**	**20 54 00.3**	**-2.3**
PDMCI	**Parker Dam,Lak**	**2.24**	**27**	⇑Sb	**Sb**	**20 54 35.7**	**+1.5**
	baz=2.2						
Z14A	**Wintersburg**	**2.30**	**62**	⇓P	**Pn**	**20 54 02.8**	**-1.1**
	baz=2.3						
GMRC	**Granite Mounta**	**2.48**	**354**	⇑P	**Pn**	**20 54 05.7**	**-0.8**
	baz=2.5						
NEE2	**Needles Airpor**	**2.54**	**14**	⇓P	**Pn**	**20 54 06.4**	**-0.7**
	baz=2.5						
NEE2				⇑Sb	**Sb**	**20 54 45.2**	**+2.4**
	baz=2.5						
Y14A	**Wickenburg**	**2.57**	**50**	⇓P	**Pn**	**20 54 06.6**	**-1.1**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.72**	**316**	⇑Sb	**Sb**	**20 54 50.1**	**+1.9**
	baz=2.7						
CIS	**Catalina Islan**	**2.78**	**294**	⇓P	**Pn**	**20 54 10.2**	**-0.3**
	baz=2.8						
CIS				⇑Sb	**Sb**	**20 54 51.5**	**+1.7**
	baz=2.8						
MWC	**Mount Wilson**	**2.96**	**311**	*ePn*	**Pn**	**20 54 15.3**	**+2.2**
MWC				*eSn*	**Sb**	**20 54 54.2**	**-0.9**
PASC	**Pasadena Art C**	**3.00**	**309**	Pn	**Pn**	**20 54 12.2**	**-1.4**
PASC				*eSg*	**Sb**	**20 54 58.8**	**+2.5**
DECC	**Green Verdugo**	**3.15**	**309**	⇓Sb	**Sb**	**20 55 02.8**	**+2.3**
	baz=3.2						
GSC	**Goldstone, Bar**	**3.22**	**339**	*ePn*	**Pn**	**20 54 16.8**	**+0.2**
EDW2	**Edwards Air Fo**	**3.37**	**320**	⇑Sb	**Sb**	**20 55 10.1**	**+3.2**
	baz=3.4						
OSI	**Osito Audit: C**	**3.63**	**310**	Pn	**Pn**	**20 54 25.3**	**+3.1**
TUC	**Tucson**	**3.88**	**89**	*ePn*	**Pn**	**20 54 24.2**	**-1.6**
TUC				*eSg*	**Sb**	**20 55 24.9**	**+3.2**
SHPR	**Sheep Range**	**4.19**	**2**	*ePn*	**Pn**	**20 54 28.9**	**-1.2**
SHPR				*eSg*	**Sg**	**20 55 36.8**	**-4.2**
ISA	**Isabella, Lake**	**4.23**	**323**	*ePn*	**Pn**	**20 54 29.9**	**-0.6**
ISA				*eSg*	**Sg**	**20 55 37.5**	**-4.5**
DAC	**Darwin (Calif)**	**4.37**	**336**	*ePn*	**Pn**	**20 54 31.8**	**-0.7**
WUAZ	**Wupatki**	**4.62**	**45**	*ePn*	**Pn**	**20 54 36.5**	**+0.6**
W18A	**Petrified Fore**	**5.47**	**58**	*ePn*	**Pn**	**20 54 48.8**	**+1.1**
CCUT	**Cedar City**	**5.49**	**17**	*ePn*	**Pn**	**20 54 48.8**	**+0.9**
ARUT	**Antelope Range**	**5.70**	**16**	*ePn*	**Pn**	**20 54 51.3**	**+0.5**
R11A	**Troy Canyon, C**	**6.03**	**358**	*ePn*	**Pn**	**20 54 56.2**	**+0.8**
R11A				*ePg*	**Pg**	**20 55 19.4**	**-2.4**
R11A				*eSg*	**Sg**	**20 56 36.9**	**-2.9**
121A	**Cookes Peak, D**	**6.42**	**86**	*ePn*	**Pn**	**20 55 00.5**	**-0.2**
NVAR	**Mina Array Bea**	**6.56**	**339**	Pg	Pg	20 55 28.1	-3.8
	comp=E,0.3nm,0.3s,baz=165,slow=18,SNR=8.1						
MVU	**Marysvale**	**6.70**	**22**	Pn	**Pn**	**20 55 07.3**	**+2.7**
LENM	**Lemitar**	**7.28**	**73**	*ePn*	**Pn**	**20 55 12.9**	**+0.4**
MVCO	**Mesa Verde**	**7.48**	**47**	*ePn*	**Pn**	**20 55 17.5**	**+2.2**
SRU	**San Rafael Swe**	**7.85**	**29**	Pn	**Pn**	**20 55 20.9**	**+0.5**
ANMO	**Albuquerque**	**7.89**	**68**	Pn	**Pn**	**20 55 22.9**	**+2.0**
	comp=E,0.1nm,0.3s,baz=263,slow=11,SNR=2.6						
ANMO				Pg	**Pg**	**20 55 57.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=263,slow=11,SNR=3.7						
ELK	**Elko**	**8.42**	**1**	Pg	Pg	20 56 01.3	-6.2
	comp=E,0.1nm,0.3s,baz=191,slow=19,SNR=3.1						
TXAR	**Lajitas Array**	**10.49**	**103**	Pn	**Pn**	**20 55 58.0**	**+1.6**
	comp=E,0.3nm,0.3s,baz=279,slow=13,SNR=10						
TXAR				Lg	Lg	20 59 00.6	
	comp=E,0.1nm,0.3s,baz=288,slow=26,SNR=4.7						
PDAR	**Pinedale Array**	**11.41**	**22**	Pn	Pn	20 56 14.7	+5.5
	comp=E,0.0nm,0.3s,baz=199,slow=14,SNR=2.9						
ILAR	**Eielson Array**	**37.82**	**339**	P	**P**	**21 00 43.8**	**+1.6**
	comp=E,0.7nm,0.8s,baz=155,slow=7.3,SNR=7.9						
PETK	**Petropavlovsk-**	**63.15**	**318**	LR	LR	21 27 02.8	
	comp=E,21nm,21.0s,baz=82,slow=32						
CN2	**Changchun**	**86.11**	**321**	*eP*	P	21 06 02.8	-4.2
WMQ	**Urumqi**	**101.36**	**343**	*eP*	**Pdif**	**21 07 21.6**	**+4.2**
WMQ				pP	pP	21 07 26.0	+4.3
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,64nm,4.8s						
LZH	**Lanzhou**	**102.68**	**328**	*eP*	**Pdif**	**21 07 24.1**	**+0.5**
LZH				pP		21 07 27.3	
LZH				sP		21 07 28.8	
LZH				*ePP*	**PP**	**21 11 39.5**	**+3.5**
LZH				pmax	pmax		
	comp=Z,14nm,1.5s						
LZH				pmax	pmax		
	comp=Z,45nm,5.3s						

*ISK **09** 20:54:02.9, 37°.00N×28°.70E, h5km, MD2.4*

*CSEM **09** 20:54:03.5±0.3, 37°.01N×28°.67E, h8km, MD2.4, Error ellipse: s-maj=12.8km s-min=5.1km az=50.0*

*DDA **09** 20:54:03.6, 37°.04N×28°.47E, h28km, MD2.6*

ISC 09 20:54:03.2±1.6, 37°.03N±0°.05×28°.71E±0°.07, h3km±13km, n12, σ1°57/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.17**	**209**	*i*P	Pg	20 54 10.8	+4.2
TURN	**Turunc**	**0.17**	**209**	*i*P	Pg	20 54 10.8	+4.2
TURN				*i*S	Sg	20 54 18.2	+9.4
DALY	**Dalyan (Mu¨la**	**0.21**	**192**	*ePG*	**Pg**	**20 54 07.2**	**-0.1**
DALY				*eSG*	**Sg**	**20 54 10.3**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.21**	**192**	*ePg*	**Pg**	**20 54 07.2**	**-0.1**
DALY				*eSg*	**Sg**	**20 54 10.3**	**+0.3**
YER	**Yerkesik**	**0.36**	**288**	*ePG*	**Pg**	**20 54 10.6**	**+0.5**
YER	**Yerkesik**	**0.36**	**288**	*ePg*	**Pg**	**20 54 10.6**	**+0.5**
FETY	**Fethiye**	**0.49**	**142**	*ePG*	**Pg**	**20 54 12.6**	**-0.1**
FETY				*eSG*	**Sb**	**20 54 19.8**	**-2.4**
FETY	**Fethiye**	**0.49**	**142**	*ePg*	**Pg**	**20 54 12.6**	**-0.1**
FETY				*eSg*	**Sb**	**20 54 19.8**	**-2.4**
AKAS	**Kas**	**1.07**	**137**	*i*P	**Pn**	**20 54 25.4**	**+0.1**
AKAS	**Kas**	**1.07**	**137**	*i*P	**Pn**	**20 54 25.4**	**+0.1**
AKAS				*i*S	**Sn**	**20 54 45.1**	**+4.4**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**325**	*ePN*	**Pg**	**20 54 25.2**	**+0.4**
AYDB				*eSN*	**Sn**	**20 54 41.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**325**	*ePn*	**Pg**	**20 54 25.2**	**+0.4**
AYDB				*eSn*	**Sn**	**20 54 41.6**	**-0.5**

*DSN **09** 21:20:11.4±0.0, 38°.90N×42°.84E, h15km, mb4.4/6, Ms4.5/6, Error ellipse: s-maj=28.7km s-min=0.8km az=227.0*

*IDC **09** 21:21:52.6±0.9, 32°.62N×48°.21E, h0km, mb3.7/18, mb1 3.8/23, mb1mx3.7/53, mbtmp3.8/23, ML3.5/5, Error ellipse: s-maj=20.5km s-min=13.2km az=167.0*

*CSEM **09** 21:21:55.0±0.2, 32°.39N×48°.20E, h15km, ML3.8, Error ellipse: s-maj=6.6km s-min=3.8km az=29.0*

*TEH **09** 21:21:56.7, 32°.51N×48°.36E, h5km, ML3.9*

*THR **09** 21:21:56.0±0.9, 32°.56N×48°.37E, h16km±10km, ML3.8*

*ISN **09** 21:21:58.8±2.3, 32°.95N×48°.17E, h0km±6km, ML3.9*

ISC 09 21:21:56.2±1.2, 32°.47N±0°.04×48°.22E±0°.03, h28km±9km, n130, σ1°18/129, mb3.9/24, 11C-12D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.61**	**126**	*ePg*	**Pb**	**21 22 07.4**	**-0.9**
SHGR	**Shooshtar-Gavs**	**0.61**	**126**	*ePg*	**Pb**	**21 22 07.4**	**-0.9**
IKFM	**Kafar-mosalman**	**1.10**	**344**	*ePg*	**Pb**	**21 22 15.5**	**-1.0**
IKFM				*eSg*	**Sn**	**21 22 30.9**	**+1.0**
IKFM				*e*		21 22 36.9	
	comp=Z,99nm,0.2s						
IKFM	**Kafar-mosalman**	**1.10**	**344**	*ePg*	**Pb**	**21 22 15.5**	**-1.0**
IKFM				*eSg*	**Sn**	**21 22 30.9**	**+1.0**
IKOM	**Komasi**	**1.80**	**341**	*ePn*	**Pb**	**21 22 27.8**	**-0.8**
IKOM				*eSg*	**Sb**	**21 22 53.1**	**+2.4**
IKOM				*e*		21 22 59.6	
	comp=Z,12μm,0.2s						
IKOM	**Komasi**	**1.80**	**341**	*ePn*	**Pb**	**21 22 27.8**	**-0.8**
IKOM				*eSg*	**Sb**	**21 22 53.2**	**+2.4**
IBZA	**Bozab**	**2.02**	**352**	*ePn*	**Pb**	**21 22 30.7**	**-1.6**
IBZA				*e*		21 23 00.4	
	comp=Z,6μm,0.1s						
IBZA	**Bozab**	**2.02**	**352**	*ePn*	**Pb**	**21 22 30.7**	**-1.6**
IBDR	**Badra**	**2.03**	**289**	*ePn*	**Pb**	**21 22 31.0**	**-1.4**
IBDR				*eSN*	**Sb**	**21 22 56.8**	**-0.5**
IPIR	**Pirpir**	**2.27**	**84**	*ePn*	**Pn**	**21 22 32.4**	**+0.3**
IPIR	**Pirpir**	**2.27**	**84**	*ePn*	**Pn**	**21 22 32.4**	**+0.3**
NSR	**Nassriya**	**2.29**	**231**	*ePN*	Pb	21 22 40.6	+3.9
NSR				*eSN*	Sb	21 23 11.0	+6.3
NSR				*eSG*	Sn	21 23 34.9	+36
NSR	**Nassriya**	**2.29**	**231**	*ePg*	**Pn**	**21 22 32.9**	**+0.8**
	baz=68						
NSR				*eSg*	**Sn**	**21 23 00.1**	**+0.7**
NSR	**Nassriya**	**2.29**	**231**	*ePn*	Pb	21 22 40.7	+3.9
	SNR=39						
NSR				*eSn*	Sb	21 23 11.0	+6.3
	SNR=39						
NSR				*eSg*	Sn	21 23 34.9	+36
	SNR=90						
IGHG	**Ghaleghazi**	**2.31**	**324**	*ePn*	**Pb**	**21 22 36.7**	**-0.6**
IGHG				*e*		21 23 19.3	
	comp=Z,9μm,0.4s						
IGHG	**Ghaleghazi**	**2.31**	**324**	*ePn*	**Pb**	**21 22 36.7**	**-0.6**
IDHR	**Dehrash**	**2.70**	**326**	*ePn*	**Pb**	**21 22 41.5**	**-2.4**
IDHR				*e*		21 23 26.8	
	comp=Z,4μm,0.1s						
IDHR	**Dehrash**	**2.70**	**326**	*ePn*	**Pb**	**21 22 41.5**	**-2.4**
SNGE	**Sanandaj**	**2.72**	**345**	*ePn*	Pb	21 22 40.7	-3.5
SNGE				AML	AML	21 23 23.4	
	comp=E,243nm,0.6s						
SNGE	**Sanandaj**	**2.72**	**345**	*ePn*	Pb	21 22 40.7	-3.5
	comp=E,243nm,0.6s						
IKLH	**Kolahrood**	**2.95**	**72**	*ePn*	**Pn**	**21 22 43.0**	**+1.6**
IKLH	**Kolahrood**	**2.95**	**72**	*ePn*	**Pn**	**21 22 43.0**	**+1.6**
IRAZ	**Razeghan**	**3.25**	**25**	*ePn*	**Pn**	**21 22 47.8**	**+2.2**
IRAZ				*e*		21 22 55.0	
	comp=Z,3μm,0.1s						
IRAZ	**Razeghan**	**3.25**	**25**	*ePn*	**Pn**	**21 22 47.8**	**+2.2**
GHVR	**GHOM**	**3.26**	**51**	*ePn*	**Pn**	**21 22 46.6**	**+1.1**
GHVR				AML	AML	21 23 42.7	
	comp=N,342nm,0.8s						
GHVR				AML	AML	21 23 44.4	
	comp=E,284nm,0.7s						
GHVR	**GHOM**	**3.26**	**51**	*ePn*	**Pn**	**21 22 46.6**	**+1.1**
	comp=E,284nm,0.7s						
BHD	**Baghdad**	**3.33**	**285**	*ePN*	Pb	21 22 50.6	-3.8
BHD				*ePG*	Pn	21 23 09.4	+23
BHD				*eSN*	**Sn**	**21 23 26.3**	**+1.4**
BHD				*eSG*	Sb	21 23 58.2	+24
BHD	**Baghdad**	**3.33**	**285**	*ePn*	Pb	21 22 50.6	-3.8
	SNR=39						
BHD				*eSn*	**Sn**	**21 23 26.3**	**+1.4**
	SNR=39						
IZEF	**Zefreh**	**3.49**	**82**	*ePn*	**Pn**	**21 22 50.1**	**+1.2**
IZEF	**Zefreh**	**3.49**	**82**	*ePn*	**Pn**	**21 22 50.1**	**+1.2**
IMHD	**Mahdasht**	**3.80**	**32**	*ePn*	**Pn**	**21 22 54.1**	**+1.3**
IMHD				*e*		21 23 51.0	
	comp=Z,2μm,0.4s						
IMHD	**Mahdasht**	**3.80**	**32**	*ePn*	**Pn**	**21 22 54.2**	**+1.3**
IVRN	**Varamin**	**3.86**	**48**	*ePn*	**Pn**	**21 22 55.2**	**+1.5**
IVRN				*e*		21 24 07.3	
	comp=Z,2μm,0.5s						
IVRN	**Varamin**	**3.86**	**48**	*ePn*	**Pn**	**21 22 55.2**	**+1.5**
NASN	**Na'in**	**3.88**	**84**	*ePn*	**Pn**	**21 22 55.5**	**+1.2**
NASN				AML	AML	21 23 42.4	
	comp=N,129nm,0.4s						
NASN				AML	AML	21 24 02.5	
	comp=E,139nm,0.6s						
NASN	**Na'in**	**3.88**	**84**	*ePn*	**Pn**	**21 22 55.5**	**+1.2**
	comp=E,139nm,0.6s						
CHTH	**Charan**	**4.19**	**34**	*ePn*	**Pn**	**21 22 59.2**	**+0.7**
CHTH				*eSg*	**Sb**	**21 24 01.7**	**+2.1**
CHTH	**Charan**	**4.19**	**34**	*ePn*	**Pn**	**21 22 59.2**	**+0.7**
ZNJK	**Zanjan**	**4.21**	**5**	*ePn*	**Pn**	**21 23 00.4**	**+1.7**
ZNJK	**Zanjan**	**4.21**	**5**	*ePn*	**Pn**	**21 23 00.4**	**+1.7**
IGZV	**Ghazvin**	**4.24**	**22**	*ePn*	**Pn**	**21 22 59.4**	**+0.2**
IGZV				*e*		21 24 16.2	
	comp=Z,1μm,0.4s						
IGZV	**Ghazvin**	**4.24**	**22**	*ePn*	**Pn**	**21 22 59.4**	**+0.2**
IKRK	**Kirkuk**	**4.35**	**313**	*ePN*	**Pn**	**21 23 01.3**	**+0.9**
IDMV	**Damavand**	**4.43**	**45**	*ePn*	**Pn**	**21 23 02.7**	**+0.9**
IDMV				*e*		21 24 18.9	
	comp=Z,1μm,0.4s						
IDMV	**Damavand**	**4.43**	**45**	*ePn*	**Pn**	**21 23 02.7**	**+0.9**
ISAD	**Sadrabad**	**4.67**	**95**	*ePn*	**Pn**	**21 23 06.3**	**+1.2**
ISAD				*e*		21 24 28.7	
	comp=Z,1μm,0.3s						
ISAD	**Sadrabad**	**4.67**	**95**	*ePn*	**Pn**	**21 23 06.3**	**+1.2**
ILAS	**Lasjerd**	**4.89**	**52**	*ePn*	**Pn**	**21 23 08.4**	**+0.3**
ILAS				*e*		21 24 38.6	
	comp=Z,1μm,0.3s						
ILAS	**Lasjerd**	**4.89**	**52**	*ePn*	**Pn**	**21 23 08.4**	**+0.3**
IFIR	**Firoozkooh**	**4.92**	**49**	*e*	x	21 23 14.5	
	comp=Z,618nm,0.1s						
IFIR				*ePn*	**Pn**	**21 23 09.4**	**+1.0**
ICHK	**Chekchek**	**5.24**	**91**	*ePn*	**Pn**	**21 23 13.4**	**+0.5**
ICHK				*e*		21 23 15.2	
	comp=Z,876nm,0.1s						
ICHK	**Chekchek**	**5.24**	**91**	*ePn*	**Pn**	**21 23 13.4**	**+0.5**
ISHM	**Shahmirzad**	**5.36**	**50**	*ePn*	**Pn**	**21 23 15.3**	**+0.7**
ISHM				*e*		21 24 54.3	
	comp=Z,935nm,0.3s						
ISHM	**Shahmirzad**	**5.36**	**50**	*ePn*	**Pn**	**21 23 15.3**	**+0.7**
IMEH	**Mehriz**	**5.54**	**99**	*ePn*	**Pn**	**21 23 17.1**	**+0.2**
IMEH				*e*		21 24 22.9	
	comp=Z

comp=Z,6.2nm,0.7s
MBDF Montbardon 34.27 303 *e*P **P 21 28 40.3 +0.3**
comp=Z,6.0nm,0.7s
LPG La Plagne 34.38 304 *e*P **P 21 28 41.3 +0.2**
comp=Z,6.5nm,0.8s
LPG La Plagne 34.38 304 *e*P **P 21 28 41.3 +0.2**
comp=Z,6.0nm,0.8s
LPL La Plagne 34.40 304 *e*P **P 21 28 41.3 +0.2**
LPL La Plagne 34.40 304 *e*P **P 21 28 41.3 +0.2**
CABF La Chapelle 35.00 306 *e*P **P 21 28 46.6 +0.4**
comp=Z,14nm,0.9s
CABF La Chapelle 35.00 306 *e*P **P 21 28 46.6 +0.4**
comp=Z,13nm,0.9s
HFS Hagfors 35.80 331 P **P 21 28 52.5 -0.2**
comp=Z,1.0nm,0.3s,baz=115,slow=10.0,SNR=16
SMF Signal de Mont 36.53 306 *e*P **P 21 28 59.1 -0.2**
comp=Z,7.0nm,0.8s
SMF Signal de Mont 36.53 306 *e*P **P 21 28 59.1 -0.2**
comp=Z,7.0nm,0.8s
SSF Saint Saulge 36.81 307 *e*P **P 21 29 02.1 +0.5**
SSF Saint Saulge 36.81 307 *e*P **P 21 29 02.1 +0.5**
AVF Avril sur Loir 36.88 306 *e*P **P 21 29 02.1 -0.1**
AVF Avril sur Loir 36.88 306 *e*P **P 21 29 02.1 -0.1**
KEV Kevo 39.18 349 *e*p **P 21 29 20.8 -0.4**
comp=Z,0.3nm,0.3s
ARCES ARCESS Array B 39.25 348 P **P 21 29 21.2 -0.7**
comp=Z,1.7nm,0.9s,baz=159,slow=9.1,SNR=10
SONM Songino Array 45.96 53 P **P 21 30 15.8 -1.0**
comp=Z,0.2nm,0.4s,baz=277,slow=8.0,SNR=2.5
TORD Torodi Ar. Bea 46.58 257 P **P 21 30 23.0 +1.1**
comp=Z,0.7nm,0.9s,baz=63,slow=7.7,SNR=7.7
CMAR Chiang Mai Arr 47.46 94 P **P 21 30 30.3 +1.6**
comp=Z,0.3nm,0.7s,baz=296,slow=9.8,SNR=4.4
SPITS Spitsbergen Ar 47.87 352 P **P 21 30 30.4 -0.7**
comp=Z,2.9nm,0.9s,baz=140,slow=11,SNR=13
BOSA Boshof 64.55 202 P **P 21 32 32.1 +1.3**
comp=Z,3.5nm,0.8s,baz=32,slow=5.2,SNR=4.7
SEY Seymchan 67.64 29 P **P 21 32 50.1 0.0**
comp=Z,1.1nm,0.2s,baz=349,slow=22,SNR=4.7
ILAR Eielson Array 82.36 6 P **P 21 34 13.8 -1.3**
comp=Z,0.3nm,0.7s,baz=337,slow=4.4,SNR=3.9
YKA Yellowknife Ar 84.36 352 P **P 21 34 24.7 -0.7**
comp=Z,0.5nm,0.9s,baz=17,slow=5.3,SNR=5.3

DJA 09 21:32:15.0±0.4, 2°S±4°×12°4E±°, h10km, M3.9/2, MLv3.9/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUWI	**Luwuk**	**1.32**	**319**	P		Pn	21 32 36.7	-2.9
APSI	**Ampana**	**2.29**	**300**	P		Pn	21 32 54.2	+1.3
APSI				S		Sn	21 33 20.0	-1.1
SANI	**Sanana**	**2.35**	**90**	P		Pn	21 32 52.6	-1.0
KMSI	**Cibinong**	**2.63**	**7**	P		Pn	21 32 57.9	+0.4
KMSI				S		Sn	21 33 30.4	+0.9
GTOI	**Gorontalo**	**2.74**	**347**	P		Pb	21 33 02.1	-2.0
MRSI	**Marisa**	**3.03**	**326**	P		Pn	21 33 03.7	+0.6
MRSI				S		Sn	21 33 33.1	-6.4
TTSI	**Tana Toraja**	**3.94**	**255**	P		Pn	21 33 15.1	-0.5
PCI	**Palu**	**3.97**	**287**	P		Pn	21 33 15.9	-0.1
LBMI	**Labuha**	**4.11**	**70**	P		Pn	21 33 17.4	-0.5
SPSI	**Sidrap Palu**	**4.31**	**244**	P		Pn	21 33 20.5	-0.1
MPSI	**Mapaga**	**4.43**	**302**	P		Pn	21 33 24.1	+1.8

*ISCJB **09** 21:32:14.5±0.3, 68°.76N×0°.02×17°.2W±0°.1, h10km, mb3.8/22, MS3.3/13, Error ellipse: s-maj=6.8km s-min=3.5km az=3.4*
*IDC **09** 21:32:15.2±0.7, 68°.87N×16°.95W, h0km, mb3.6/13, mb1 3.7/20, mb1mx3.5/59, mbtmp3.6/20, ML3.2/5, MS3.3/19, Ms1 3.3/19, ms1mx3.2/50, Error ellipse: s-maj=19.1km s-min=12.8km az=36.0*
*CSEM **09** 21:32:15.7±0.2, 68°.74N×17°.36W, h10km, mb4.4/9, Error ellipse: s-maj=8.0km s-min=4.4km az=87.0*
*REY **09** 21:32:17.4, 68°.67N×16°.68W, h15km, ML3.5, ML3.8*
ISC 09 21:32:15.8±0.6, 68°.72N±0°.05×17°.18W±0°.06, h10km, n114, σ1§17/121, mb3.8/22, MS3.4/13, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGRI	**Grimsey**	**2.22**	**189**	P		**Pn**	**21 32 52.6**	**+0.1**
IGRI				S		**Sn**	**21 33 19.1**	**-0.8**
IGRI	**Grimsey**	**2.22**	**189**	P		**Pn**	**21 32 52.6**	**+0.1**
	baz=194							
IGRI				S		**Sn**	**21 33 19.1**	**-0.8**
	baz=194							
ILEI	**Leirhofn**	**2.34**	**173**	P		**Pn**	**21 32 53.9**	**-0.4**
ILEI				S		**Sn**	**21 33 22.7**	**-0.4**
ILEI	**Leirhofn**	**2.34**	**173**	P		**Pn**	**21 32 53.9**	**-0.4**
	baz=178							
ILEI				S		**Sn**	**21 33 22.7**	**-0.4**
	baz=178							
IHED	**Heoinshofoi**	**2.66**	**181**	P		**Pn**	**21 32 58.7**	**+0.1**
IHED	**Heoinshofoi**	**2.66**	**181**	P		**Pn**	**21 32 58.7**	**+0.1**
	baz=186							
IGIL	**Gilhagi**	**2.68**	**173**	P		**Pn**	**21 32 58.6**	**-0.3**
IGIL				S		**Sn**	**21 33 31.1**	**-0.2**
IGIL	**Gilhagi**	**2.68**	**173**	P		**Pn**	**21 32 58.6**	**-0.3**
	baz=177							
IGIL				S		**Sn**	**21 33 31.1**	**-0.2**
	baz=177							
ISIG	**Siglufjorour**	**2.69**	**195**	P		**Pn**	**21 32 59.7**	**+0.7**
ISIG	**Siglufjorour**	**2.69**	**195**	P		**Pn**	**21 32 59.7**	**+0.7**
	baz=200							
IGRA	**Granastaoir**	**2.82**	**183**	P		**Pn**	**21 33 01.1**	**+0.2**
IGRA	**Granastaoir**	**2.82**	**183**	P		**Pn**	**21 33 01.1**	**+0.2**
	baz=188							
IHLA	**Hella**	**2.83**	**190**	P		**Pn**	**21 33 01.7**	**+0.7**
IHLA				S		**Sn**	**21 33 34.3**	**-0.8**
IHLA	**Hella**	**2.83**	**190**	P		**Pn**	**21 33 01.7**	**+0.7**
	baz=194							
IHLA				S		**Sn**	**21 33 34.3**	**-0.8**
	baz=194							
IHRN	**Hraun**	**2.86**	**205**	P		**Pn**	**21 33 03.2**	**+1.8**
IHRN	**Hraun**	**2.86**	**205**	P		**Pn**	**21 33 03.2**	**+1.8**
	baz=209							
ISKI	**Skildingahˆ‡ls**	**2.87**	**179**	P		**Pn**	**21 33 01.7**	**+0.2**
ISKI				S		**Sn**	**21 33 36.5**	**+0.4**
ISKI	**Skildingahˆ‡ls**	**2.87**	**179**	P		**Pn**	**21 33 01.7**	**+0.2**
	baz=183							
ISKI				S		**Sn**	**21 33 36.5**	**+0.4**
	baz=183							
IGHA	**Grjothals**	**2.90**	**176**	P		**Pn**	**21 33 02.3**	**+0.3**
IGHA				S		**Sn**	**21 33 37.6**	**+0.8**
IGHA	**Grjothals**	**2.90**	**176**	P		**Pn**	**21 33 02.3**	**+0.3**
	baz=180							
IGHA				S		**Sn**	**21 33 37.6**	**+0.8**
	baz=180							
IREN	**Reynihlio**	**3.09**	**178**	P		**Pn**	**21 33 05.3**	**+0.7**
IREN				S		**Sn**	**21 33 42.4**	**+0.8**
IREN	**Reynihlio**	**3.09**	**178**	P		**Pn**	**21 33 05.3**	**+0.7**
	baz=182							
IREN				S		**Sn**	**21 33 42.4**	**+0.8**
	baz=182							
IGRS	**Grimsstaoir**	**3.13**	**172**	P		**Pn**	**21 33 05.2**	**+0.1**
IGRS				S		**Sn**	**21 33 42.9**	**+0.5**
IGRS	**Grimsstaoir**	**3.13**	**172**	P		**Pn**	**21 33 05.2**	**+0.1**
	baz=176							
IGRS				S		**Sn**	**21 33 42.9**	**+0.5**
	baz=176							
IMEL	**Melhnausar**	**3.18**	**176**	P		**Pn**	**21 33 06.2**	**+0.4**
IMEL	**Melhnausar**	**3.18**	**176**	P		**Pn**	**21 33 06.2**	**+0.4**
	baz=180							
ISVA	**Svartarkot**	**3.40**	**181**	P		**Pn**	**21 33 09.7**	**+0.8**
ISVA				S		**Sn**	**21 33 50.3**	**+1.1**
ISVA	**Svartarkot**	**3.40**	**181**	P		**Pn**	**21 33 09.7**	**+0.8**
	baz=184							
ISVA				S		**Sn**	**21 33 50.3**	**+1.1**
	baz=184							
IASK	**Askja**	**3.69**	**177**	P		**Pn**	**21 33 13.7**	**+0.7**
IASK	**Askja**	**3.69**	**177**	P		**Pn**	**21 33 13.7**	**+0.7**
	baz=180							
IADA	**Aoalbol**	**3.77**	**170**	P		**Pn**	**21 33 13.6**	**-0.4**
IADA	**Aoalbol**	**3.77**	**170**	P		**Pn**	**21 33 13.6**	**-0.4**
	baz=173							
IMKO	**Mokollar**	**3.78**	**175**	P		**Pn**	**21 33 14.7**	**+0.7**
IMKO	**Mokollar**	**3.78**	**175**	P		**Pn**	**21 33 14.7**	**+0.7**
	baz=178							
IHVA	**Hvannstoosfjol**	**3.82**	**172**	P		**Pn**	**21 33 14.4**	**-0.3**
IHVA	**Hvannstoosfjol**	**3.82**	**172**	P		**Pn**	**21 33 14.3**	**-0.3**
	baz=175							
IGLU	**Glumsstadir**	**3.85**	**167**	P		**Pn**	**21 33 14.4**	**-0.6**
IGLU	**Glumsstadir**	**3.85**	**167**	P		**Pn**	**21 33 14.4**	**-0.6**
	baz=170							
IBRU	**Bruarjokull**	**3.94**	**173**	P		**Pn**	**21 33 16.2**	**-0.1**
IBRU	**Bruarjokull**	**3.94**	**173**	P		**Pn**	**21 33 16.2**	**-0.1**
	baz=176							
IKRE	**Kreppuhraun**	**3.97**	**175**	P		**Pn**	**21 33 17.1**	**+0.4**
IKRE	**Kreppuhraun**	**3.97**	**175**	P		**Pn**	**21 33 17.1**	**+0.4**
	baz=178							
IVSH	**V-Sauoahnukur**	**3.98**	**171**	P		**Pn**	**21 33 16.3**	**-0.5**
IVSH	**V-Sauoahnukur**	**3.98**	**171**	P		**Pn**	**21 33 16.3**	**-0.5**
	baz=174							
BORG	**Borgarnes**	**4.32**	**204**	Pn		Pn	21 33 24.5	+3.1
	4.0nm,0.3s,baz=7.9,slow=5.5,SNR=13							
BORG						Sn	**21 34 18.8**	**-5.0**
	baz=15,slow=20,SNR=2.7							
SUMG	**Summit**	**8.02**	**308**	*i* P		**Pn**	**21 34 11.5**	**-1.0**
	8.4nm,0.8s							
SUMG	**Summit**	**8.02**	**308**	*i* P		**Pn**	**21 34 11.5**	**-1.0**
	8.4nm,0.8s							
DAG	**Danmarks Havn**	**8.10**	**358**	*i* P		**Pn**	**21 34 12.4**	**-0.9**
	2.9nm,0.9s							
DAG	**Danmarks Havn**	**8.10**	**358**	*i* P		**Pn**	**21 34 12.4**	**-0.9**
	2.9nm,0.9s							
SFJD	**Kangerlussuaq**	**12.63**	**278**	LR		LR	21 39 57.1	
	comp=Z,93nm,19.1s,baz=70,slow=36							
SPITS	**Spitsbergen Ar**	**13.16**	**30**	Pn		**Pn**	**21 35 21.3**	**-1.2**
	baz=228,slow=11,SNR=29							
SPITS						LR	21 38 53.5	
	comp=Z,76nm,20.0s,baz=330,slow=31							
NOA	**NORSAR Array B**	**14.17**	**109**	Pn		**Pn**	**21 35 36.3**	**+0.1**
	0.1nm,0.3s,baz=307,slow=14,SNR=2.6							
NOA						LR	21 40 54.7	
	comp=Z,59nm,18.6s,baz=305,slow=37							
EKA	**Eskdalemuir Ar**	**14.89**	**147**	Pn		**Pn**	**21 35 47.0**	**+0.9**
	baz=336,slow=14,SNR=4.6							
ARCES	**ARCESS Array B**	**15.01**	**67**	Pn		**Pn**	**21 35 46.3**	**-1.2**
	0.0nm,0.3s,baz=280,slow=10.0,SNR=2.2							
ARCES						LR	21 40 14.7	
	comp=Z,113nm,18.3s,baz=252,slow=32							
HFS	**Hagfors**	**15.68**	**108**	Pn		**Pn**	**21 35 56.2**	**-0.2**
	baz=311,slow=9.3,SNR=1.7							
HFS						LR	21 40 49.6	
	comp=Z,114nm,18.3s,baz=323,slow=33							
FINES	**FINESS Array B**	**19.23**	**91**	Pn		**P**	**21 36 37.8**	**-1.9**
	0.1nm,0.3s,baz=306,slow=19,SNR=3.2							
FINES						LR	21 42 46.7	
	comp=Z,68nm,19.4s,baz=328,slow=33							
FRB	**Frobisher Bay**	**20.74**	**281**	P		Pn	21 36 57.1	-1.3
	2.3nm,0.7s,baz=61,slow=12,SNR=3.7							
FRB						LR	21 45 10.4	
	comp=Z,52nm,18.8s,baz=273,slow=37							
BAIF	**Baives**	**21.43**	**140**	*e*P		**P**	**21 37 04.8**	**+1.2**
	14nm,1.1s							
BAIF	**Baives**	**21.43**	**140**	*e*P		**P**	**21 37 04.8**	**+1.2**
	14nm,1.1s							
ROSF	**Rostrenen**	**21.59**	**154**	*e*P		**P**	**21 37 05.8**	**+0.5**
	7.7nm,0.8s							
ROSF	**Rostrenen**	**21.59**	**154**	*e*P		**P**	**21 37 05.8**	**+0.5**
	7.0nm,0.8s							
FLN	**La Foliniere**	**21.66**	**149**	*e*P		**P**	**21 37 07.8**	**+1.7**
	9.0nm,0.7s							
FLN	**La Foliniere**	**21.66**	**149**	*e*P		**P**	**21 37 07.8**	**+1.7**
	9.0nm,0.7s							
SGMF	**Saint Gilles**	**21.78**	**153**	*e*P		**P**	**21 37 08.5**	**+1.1**
	29nm,1.1s							
SGMF	**Saint Gilles**	**21.78**	**153**	*e*P		**P**	**21 37 08.5**	**+1.1**
	28nm,1.1s							
LDF	**La Druitiere**	**21.89**	**149**	*e*P		**P**	**21 37 09.7**	**+1.1**
	17nm,1.1s							
LDF	**La Druitiere**	**21.89**	**149**	*e*P		**P**	**21 37 09.7**	**+1.1**
	17nm,1.1s							
QUIF	**Quistinic**	**22.01**	**154**	*e*P		**P**	**21 37 10.1**	**+0.2**
	45nm,1.3s							
QUIF	**Quistinic**	**22.01**	**154**	*e*P		**P**	**21 37 10.1**	**+0.2**
	45nm,1.3s							
MEZF	**Maizieres J'vi**	**23.08**	**140**	*e*P		**P**	**21 37 23.2**	**+2.0**
MEZF	**Maizieres J'vi**	**23.08**	**140**	*e*P		**P**	**21 37 23.2**	**+2.0**
PAGF	**Fort de Pagny**	**23.19**	**139**	*e*P		**P**	**21 37 24.5**	**+2.2**
	2.9nm,0.9s							
PAGF	**Fort de Pagny**	**23.19**	**139**	*e*P		**P**	**21 37 24.5**	**+2.2**
	2.0nm,0.9s							
BRG	**Berggiesshubel**	**23.32**	**124**	*e*P		**P**	**21 37 26.0**	**+2.3**
	4.4nm,1.3s							
RES	**Resolute Bay**	**23.34**	**319**	P		**P**	**21 37 23.6**	**0.0**
	0.9nm,1.1s,baz=90,slow=10.0,SNR=3.7							
RES						LR	21 46 20.5	
	comp=Z,130nm,18.2s,baz=34,slow=36							
MFF	**Saint Martin d**	**23.80**	**150**	*e*P		**P**	**21 37 28.7**	**+0.3**
	50nm,1.6s							
MFF	**Saint Martin d**	**23.80**	**150**	*e*P		**P**	**21 37 28.7**	**+0.3**
	49nm,1.6s							
LOR	**Lormes**	**23.97**	**143**	*e*P		**P**	**21 37 31.1**	**+1.1**
LOR	**Lormes**	**23.97**	**143**	*e*P		**P**	**21 37 31.1**	**+1.1**
PRU	**Pruhonice**	**24.29**	**124**	*e*P		**P**	**21 37 36.7**	**+3.8**
AVF	**Avril sur Loir**	**24.32**	**144**	*e*P		**P**	**21 37 34.1**	**+0.9**
AVF	**Avril sur Loir**	**24.32**	**144**	*e*P		**P**	**21 37 34.1**	**+0.9**
BGF	**Bois d'Agland**	**24.43**	**145**	*e*P		**P**	**21 37 35.3**	**+1.1**
BGF	**Bois d'Agland**	**24.43**	**145**	*e*P		**P**	**21 37 35.3**	**+1.1**
DPC	**Dobruska-Polom**	**24.51**	**122**	*e*P		P	21 37 40.6	+5.6
TCF	**Toulx Ste Croi**	**24.56**	**146**	*e*P		**P**	**21 37 34.9**	**-0.5**
TCF	**Toulx Ste Croi**	**24.56**	**146**	*e*P		**P**	**21 37 34.9**	**-0.5**
SMF	**Signal de Mont**	**24.56**	**144**	*e*P		**P**	**21 37 36.6**	**+1.2**
SMF	**Signal de Mont**	**24.56**	**144**	*e*P		**P**	**21 37 36.6**	**+1.2**
KHC	**Kasperske Hory**	**24.77**	**127**	*e*P		**P**	**21 37 38.3**	**+1.0**
KRLC	**Kraliky**	**24.90**	**121**	*e*P		**P**	**21 37 42.8**	**+4.3**
GERES	**GERESS Array B**	**25.06**	**127**	P		**P**	**21 37 41.1**	**+1.1**
	3.3nm,1.0s,baz=330,slow=7.8,SNR=17							
CABF	**La Chapelle**	**25.10**	**140**	*e*P		**P**	**21 37 41.8**	**+1.4**
	7.4nm,0.9s							
CABF	**La Chapelle**	**25.10**	**140**	*e*P		**P**	**21 37 41.8**	**+1.4**
	7.0nm,0.9s							
VRAC	**Vranov**	**25.51**	**122**	P		**P**	**21 37 46.2**	**+2.2**
	1.5nm,0.6s,baz=345,slow=14,SNR=3.3							
VRAC						LR	21 47 23.7	
	comp=Z,46nm,19.2s,baz=332,slow=36							
LFF	**La Frestale**	**25.57**	**150**	*e*P		**P**	**21 37 45.7**	**+1.2**
LFF	**La Frestale**	**25.57**	**150**	*e*P		**P**	**21 37 45.7**	**+1.2**
DAVOX	**Davos/Dischmat**	**25.88**	**134**	LR		LR	21 47 48.4	
	comp=Z,69nm,19.6s,baz=332,slow=36							
SCHQ	**Schefferville**	**26.35**	**263**	LR		LR	21 46 53.2	
	comp=Z,59nm,19.0s,baz=61,slow=33							
AKASG	**Malin Array Be**	**28.53**	**105**	P		**P**	**21 38 10.2**	**-0.8**
	0.3nm,0.4s,baz=324,slow=9.2,SNR=2.9							
AKASG						LR	21 48 28.5	
	comp=Z,37nm,20.2s,baz=230,slow=34							
INK	**Inuvik**	**36.48**	**326**	P		**P**	**21 39 20.0**	**-0.3**
	0.6nm,0.6s,baz=100,slow=3.4,SNR=2.9							
YKA	**Yellowknife Ar**	**36.61**	**309**	P		**P**	**21 39 22.4**	**+0.9**
	0.6nm,0.8s,baz=44,slow=8.1,SNR=7.7							
SADO	**Sadowa**	**39.14**	**265**	LR		LR	21 54 45.5	
	comp=Z,30nm,19.4s,baz=150,slow=34							
BRTR	**Keskin Array B**	**39.60**	**110**	P		**P**	**21 39 48.2**	**+1.0**
	0.3nm,0.4s,baz=326,slow=7.5,SNR=2.7							
ULM	**Lac du Bonnet**	**40.56**	**284**	LR		LR	21 56 32.4	
	comp=Z,44nm,18.2s,baz=1.0,slow=36							
ILAR	**Eielson Array**	**42.16**	**331**	P		**P**	**21 40 09.0**	**+1.2**
	0.9nm,1.0s,baz=18,slow=8.0,SNR=5.7							
ILAR						LR	22 01 23.4	
	comp=Z,46nm,18.3s,baz=60,slow=42							
DLBC	**Dease Lake**	**44.17**	**316**	LR		LR	21 58 47.8	
	comp=Z,86nm,19.7s,baz=151,slow=36							
ZALV	**Zalesovo Beam**	**45.08**	**55**	LR		LR	22 02 40.9	
	comp=Z,40nm,19.0s,baz=250,slow=41							
KURBB	**Kurchatov Arra**	**46.01**	**62**	P		**P**	**21 40 38.1**	**-0.7**
	0.7nm,0.8s,baz=331,slow=7.1,SNR=3.2							
TKL	**Tuckaleechee C**	**48.82**	**263**	LR		LR	22 00 01.5	
	comp=Z,56nm,18.8s,baz=76,slow=34							
MKAR	**Makanchi Array**	**50.56**	**61**	P		**P**	**21 41 12.7**	**-1.3**
	0.4nm,0.8s,baz=348,slow=6.5,SNR=2.4							
PDAR	**Pinedale Array**	**51.78**	**291**	LR		LR	22 03 13.3	
	comp=Z,47nm,18.9s,baz=34,slow=36							
TORD	**Torodi Ar. Bea**	**56.85**	**158**	P		**P**	**21 42 01.5**	**+1.2**
	0.4nm,0.9s,baz=337,slow=6.3,SNR=2.8							
CMAR	**Chiang Mai Arr**	**81.92**	**59**	P		**P**	**21 44 36.0**	**+0.6**
	0.3nm,0.7s,baz=327,slow=6.5,SNR=3.5							

*IDC **09** 21:40:49.1±5.0, 5°.63S×133°.48E, h0km, mb3.2/1, mb1 3.9/3, mb1mx3.5/26, mbtmp3.6/3, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/12, Error ellipse: s-maj=290.5km s-min=31.3km az=77.0*
*ISCJB **09** 21:40:56.0±0.5, 5°.97S±0°.03×131°.17E±0°.07, h86km, mb3.0/1, Error ellipse: s-maj=9.9km s-min=4.3km az=171.1*
*DJA **09** 21:40:59.4±0.4, 6°S±2°×13°1E±°, h100km±7km, M4.2/12, mb4.1/7, mB5.2/3, MLv4.2/12, Mw(mB)4.6/3*

ISC 09 21:40:57.4±0.9, 5°.93S±0°.05×131°.08E±0°.07, h86km, n18, σ1§51/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**1.82**	**320**	P		**Pn**	**21 41 28.8**	**+1.6**
BNDI				S		**Sn**	**21 41 51.1**	**+1.4**
SAUI	**Saumlaki**	**2.06**	**174**	P		Pn	21 41 34.4	+4.1
SAUI				S		Sn	21 42 02.8	+7.5
FAKI	**Fak Fak**	**3.21**	**21**	P		**Pn**	**21 41 46.2**	**+0.5**
FAKI				S		**Sn**	**21 42 21.9**	**-1.1**
FAKI	**Fak Fak**	**3.21**	**21**	P		**Pn**	**21 41 46.8**	**+1.1**
	baz=3.4,SNR=70							
FAKI				S		**Sn**	**21 42 21.7**	**-1.3**
	baz=3.4,SNR=7.0							
MSAI	**Masohi**	**3.34**	**320**	P		**Pn**	**21 41 48.3**	**+0.8**
MSAI				S		**Sn**	**21 42 22.9**	**-3.3**
RKPI	**Ransiki, Papua**	**5.37**	**35**	P		**Pn**	**21 42 16.5**	**+1.4**
	27nm,0.8s,9µm0.8nm							
LBMI	**Labuha**	**6.35**	**326**	P		**Pn**	**21 42 27.3**	**-1.2**
	15nm,1.2s,817nm0.1nm							
SANI	**Sanana**	**6.37**	**307**	P		**Pn**	**21 42 30.0**	**+1.2**
	7.8nm,0.9s,0.0nm							
KDU	**Kakadu**	**6.86**	**169**	P		**Pn**	**21 42 36.4**	**+0.9**
	baz=7.6,SNR=110							
KDU				S		**Sn**	**21 43 50.8**	**-1.2**
	baz=7.6,SNR=5.4							
MTN	**Manton Dam**	**6.87**	**180**	P		**Pn**	**21 42 36.9**	**+1.3**
	baz=7.4,SNR=102							
MTN				S		**Sn**	**21 43 52.2**	**-0.2**
	baz=7.4,SNR=7.8							
TNTI	**Ternate**	**7.62**	**331**	P		**Pn**	**21 42 45.8**	**0.0**
	48nm,1.1s,0.2nm							
SOEI	**Soe**	**7.75**	**240**	P		**Pn**	**21 42 50.2**	**+2.6**
KNRA	**Kununurra**	**9.95**	**193**	P		**Pn**	**21 43 16.8**	**-0.9**
	baz=10,SNR=90							
KNRA				S		Sn	21 45 02.3	-5.3
	baz=10,SNR=5.5							
WRA	**Warramunga Arr**	**14.29**	**167**	Pn		Pn	21 44 12.1	-3.7
	0.6nm,0.3s,baz=357,slow=14,SNR=23							
WRA						Sn	21 46 42.9	-10
	0.8nm,0.3s,baz=355,slow=24,SNR=9.7							
ASAR	**Alice Springs**	**17.85**	**172**	P		**P**	**21 45 00.5**	**+0.7**
	0.5nm,0.3s,baz=360,slow=14,SNR=48							
ASAR				S		Sn	21 48 10.0	-9.1
	0.1nm,0.3s,baz=355,slow=27,SNR=4.9							
WRKA	**Warakurna**	**19.19**	**188**	P		**P**	**21 45 15.7**	**+1.2**
	baz=20,SNR=13							
DZM	**Mont Dzumac**	**37.74**	**119**	LR		LR	22 01 17.8	
	comp=Z,28nm,18.2s,baz=32,slow=34							
MKAR	**Makanchi Array**	**67.93**	**326**	P		P	21 51 56.7	+10
	0.1nm,0.4s,baz=133,slow=5.4,SNR=2.6							

*IDC **09** 21:44:33.0±0.9, 34°.26N×109°.29W, h0km, mb1 3.2/5, mb1mx2.9/45, mbtmp2.8/5, ML3.1/4, Error ellipse: s-maj=16.7km s-min=10.5km az=34.0*
*NEIC **09** 21:44:34.9±1.0, 34°.23N×109°.16W, h0km, ML2.6, Error ellipse: s-maj=13.6km s-min=8.8km az=214.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] W of Quemado.
*ISCJB **09** 21:44:39.2±0.6, 34°.09N±0°.04×108°.82W±0°.05, h0km, Error ellipse: s-maj=7.1km s-min=5.2km az=41.9*
ISC 09 21:44:38.3±0.9, 34°.18N±0°.04×108°.91W±0°.03, h0km, n14, σ1§38/18, New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
W18A	**Petrified Fore**	**1.16**	**324**	*e*Pg		Pn	21 45 04.6	+2.7
W18A				*e*Sn		**Sn**	**21 45 20.2**	**+1.6**
LAZ	**Ladron**	**1.48**	**81**	*e*Pg		**Pg**	**21 45 06.9**	**+0.2**
LENM	**Lemitar**	**1.60**	**90**	*e*Pg		**Pb**	**21 45 08.9**	**-0.1**
LENM				*e*Sn		**Sg**	**21 45 30.7**	**+0.8**
LPM	**Los Pinos Moun**	**1.89**	**85**	*e*Pg		**Pb**	**21 45 14.0**	**+0.2**
121A	**Cookes Peak, D**	**1.90**	**150**	*e*Pg		**Pb**	**21 45 13.7**	**-0.2**
121A				*e*Sn		**Sn**	**21 45 35.5**	**-1.3**
ANMO	**Albuquerque**	**2.16**	**69**	Pn		**Pn**	**21 45 16.4**	**+0.6**
	1.9nm,0.3s,baz=255,slow=12,SNR=48							
ANMO						Sn		**Sb**	**21 45 45.6**	**-0.3**
	3.5nm,0.3s,baz=342,slow=22,SNR=12							
ANMO	**Albuquerque**	**2.16**	**69**	*e*Pn		**Pn**	**21 45 16.2**	**+0.4**
ANMO				*e*Sn		**Sb**	**21 45 46.4**	**+0.5**
WUAZ	**Wupatki**	**2.42**	**304**	*e*Pn		**Pg**	**21 45 24.3**	**-0.5**
WUAZ				*e*Sn		**Sg**	**21 45 59.8**	**+3.6**
TUC	**Tucson**	**2.44**	**221**	*e*Pn		**Pb**	**21 45 22.0**	**-1.1**
TUC				*e*Sn		**Sg**	**21 45 56.5**	**-0.2**
MVCO	**Mesa

KNRA	**Kununurra**	**54.55**	**262**	P		**P**	**21 57 46.1**	**-0.1**
	baz=56,SNR=5.2								
SOEI	**Soe**	**60.02**	**268**	P		**P**	**21 58 27.1**	**+2.0**
	baz=62,SNR=11								
SOEI	**Soe**	**60.02**	**268**	*eP*		**P**	**21 58 26.6**	**+1.5**
VNDA	**Vanda**	**62.17**	**186**	P		**P**	**21 58 39.8**	**+1.3**
	3.3nm,1.0s,baz=11,slow=7.1,SNR=13								
MEEK	**Meekatharra**	**62.59**	**248**	P		**P**	**21 58 41.9**	**-0.3**
	baz=64,SNR=3.4								
MJAR	**Matsushiro Art**	**69.25**	**321**	P		**P**	**21 59 25.0**	**+0.2**
	6.0nm,1.2s,baz=155,slow=6.8,SNR=7.3								
H06E1	**SOCORRO T-PHAS**	**71.53**	**63**	T		T	23 17 23.0		
	SNR=31								
PETK	**Petropavlovsk-**	**73.45**	**343**	P		**P**	**21 59 49.4**	**-0.4**
	3.7nm,0.7s,baz=124,slow=8.6,SNR=5.2								
NVAR	**Mina Array Bea**	**75.74**	**42**	P		**P**	**22 00 04.7**	**+1.0**
	4.3nm,0.9s,baz=232,slow=8.7,SNR=17								
KSRS	**Korea Array**	**76.37**	**316**	P		**P**	**22 00 08.6**	**+1.6**
	1.5nm,0.6s,baz=129,slow=6.8,SNR=9.6								
KSAR	**Wonju Array Be**	**76.39**	**316**	P		**P**	**22 00 08.6**	**+1.5**
TXAR	**Lajitas Array**	**81.95**	**56**	P		**P**	**22 00 39.4**	**+1.4**
	1.3nm,1.0s,baz=208,slow=7.1,SNR=8.3								
MCMT	**McKenzie Canyo**	**82.67**	**39**	*eP*		**P**	**22 00 40.6**	**-1.0**
	2.4nm,1.0s								
SEY	**Seymchan**	**83.39**	**345**	P		**P**	**22 00 44.1**	**-0.3**
	2.3nm,0.8s,baz=68,slow=11								
PDAR	**Pinedale Array**	**83.68**	**42**	P		**P**	**22 00 46.8**	**0.0**
	3.5nm,0.8s,baz=203,slow=3.3,SNR=25								
ILAR	**Eielson Array**	**83.72**	**11**	P		**P**	**22 00 45.7**	**-0.4**
	0.5nm,0.5s,baz=223,slow=5.8,SNR=11								
MSTX	**Muleshoe**	**84.53**	**52**	*eP*		**P**	**22 00 51.0**	**-0.2**
	6.4nm,1.0s								
MAW	**Mawson**	**86.45**	**199**	P		**P**	**22 00 59.3**	**-0.6**
	3.7nm,0.7s,baz=159,slow=8.6,SNR=2.9								
YKA	**Yellowknife Ar**	**91.47**	**24**	P		**P**	**22 01 23.9**	**+0.3**
	0.4nm,0.7s,baz=235,slow=4.4,SNR=5.4								
CMAR	**Chiang Mai Arr**	**92.15**	**288**	P		**P**	**22 01 28.5**	**+0.7**
	1.8nm,0.9s,baz=83,slow=2.8,SNR=11								
CHTO	**Chiang Mai**	**92.25**	**289**	*eP*		**P**	**22 01 28.3**	**0.0**
	1.4nm,0.5s								
ATAH	**Atahualpa**	**93.61**	**98**	LR		LR	22 32 25.2		
	comp=Z,719nm,19.2s,baz=189,slow=28								
SONM	**Songino Array**	**95.11**	**318**	P		**P**	**22 01 42.5**	**+1.5**
	0.2nm,0.4s,baz=122,slow=5.1,SNR=2.4								
MKAR	**Makanchi Array**	**111.00**	**314**	PKiKP		**PKiKP**	**22 06 49.2**	**-1.9**
	0.3nm,0.5s,baz=262,slow=1.1,SNR=7.0								
ARCES	**ARCESS Array B**	**125.60**	**352**	PKP		**PKPdf**	**22 07 17.0**	**-1.5**
	1.1nm,0.9s,baz=357,slow=2.4,SNR=4.8								
KMBO	**Kilima Mbogo**	**144.27**	**244**	PKP		PKPbc	22 07 52.6	-0.7
	2.7nm,0.9s,baz=48,slow=7.7,SNR=8.4								
BRTR	**Keskin Array B**	**146.47**	**319**	PKPbc		**PKPbc**	**22 07 58.9**	**-0.5**
	1.5nm,0.6s,baz=326,slow=3.2,SNR=8.7								
GERES	**GERESS Array B**	**147.12**	**350**	PKPbc		**PKPbc**	**22 07 60.0**	**-0.9**
	0.3nm,0.3s,baz=27,slow=3.3,SNR=5.4								

ISCJB ***09*** *21:57:59.5±0.3,32.69N±0.03×115.78W±0.02, h20km±5km, Error ellipse: s-maj=4.7km s-min=3.2km az=13.6*
NEIC ***09*** *21:58:00.0,32.65N×115.79W, h10km, MD3.6(MEX), ML3.6(PAS), After PAS.*
MEX ***09*** *21:58:00.5±0.9,32.82N×115.71W, h16km±16km, MD3.5*

ISC 09 21:57:58.9±0.9,32.70N±0.03×115.79W±0.02,h16km±6km, n41,σ0s49/52,20C-12D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.07**	**128**	*i*P	**Pg**	**21 58 01.0**	**-0.9**
WESC	**Westside Schoo**	**0.08**	**39**	*i*P	**Pg**	**21 58 03.0**	**+1.0**
YUH	**Yuha Desert**	**0.12**	**247**	*i*P	**Pb**	**21 58 03.0**	**+0.2**
ERPC	**Ernies Place**	**0.12**	**66**	*i*P	**Pb**	**21 58 03.0**	**+0.2**
COK	**Cook Ranch**	**0.16**	**20**	*i*P	**Pb**	**21 58 04.0**	**+0.4**
CRR	**Carrizo Plain**	**0.24**	**322**	*i*P	**Pb**	**21 58 05.0**	**+0.1**
SWSC	**Sam W. Stewart**	**0.24**	**360**	*i*P	**Pb**	**21 58 05.0**	**0.0**
DREC	**Desert Resrch C**	**0.31**	**69**	*i*P	**Pb**	**21 58 07.0**	**+0.9**
ERRC	**Elmore Ranch**	**0.42**	**357**	*i*P	**Pb**	**21 58 09.0**	**+1.0**
CBKC	**Canebrake**	**0.44**	**298**	*i*P	**Pb**	**21 58 09.0**	**+0.7**
CPBX	**Cerro Prieto**	**0.50**	**124**	*i*P	**Pb**	**21 58 09.7**	**+0.5**
CPBX				*i*S	**Sb**	**21 58 17.5**	**+1.2**
CLIC	**Calipatria**	**0.50**	**27**	*i*P	**Pb**	**21 58 10.0**	**+0.7**
MBIG	**Mexicali**	**0.58**	**120**	*eP*	**Pb**	**21 58 10.4**	**-0.2**
MBIG				*i*S	**Sg**	**21 58 17.9**	**-0.1**
COA	**Coachella**	**0.59**	**73**	*i*P	**Pb**	**21 58 11.0**	**+0.2**
FRK	**Frink**	**0.72**	**10**	*eP*	**Pb**	**21 58 13.0**	**0.0**
BAR	**Barrett**	**0.74**	**269**	*i*P	**Pb**	**21 58 14.0**	**+0.6**
RUN	**Ruthven**	**0.74**	**68**	*i*P	**Pg**	**21 58 13.0**	**-0.3**
BATC	**Bat Cave Butte**	**0.76**	**357**	*i*P	**Pb**	**21 58 14.0**	**+0.2**
BORC	**Borrego Spring**	**0.78**	**318**	*i*P	**Pn**	**21 58 15.0**	**-0.2**
BORC				*i*S	**Sn**	**21 58 26.0**	**-0.6**
CBX	**Cerro Bola**	**0.83**	**243**	*i*P	**Pn**	**21 58 15.8**	**-0.2**
CBX				*i*S	**Sb**	**21 58 26.4**	**+0.4**
CBX	**Cerro Bola**	**0.83**	**243**	*i*P	**Pn**	**21 58 15.8**	**-0.2**
CBX				*i*S	**Sb**	**21 58 26.6**	**+0.6**
GLA	**Glamis**	**0.89**	**66**	*i*P	**Pb**	**21 58 16.0**	**0.0**
GLA				*i*S	**Sg**	**21 58 27.0**	**-0.8**
EML	**El Monte Cty P**	**0.91**	**283**	*eP*	**Pn**	**21 58 17.0**	**0.0**
EML				*i*S	**Sg**	**21 58 28.0**	**-0.4**
CTCC	**Cactus City**	**0.97**	**350**	*i*P	**Pb**	**21 58 17.0**	**-0.4**
LTC	**Little Chuckwa**	**1.00**	**37**	*i*P	**Pg**	**21 58 18.0**	**-0.2**
BC3	**Big Chuckawall**	**1.00**	**16**	*i*P	**Pg**	**21 58 18.0**	**-0.2**
DPP	**Dos Picos Cty**	**1.01**	**288**	*i*P	**Pb**	**21 58 18.0**	**-0.1**
DPP				*i*S	**Sg**	**21 58 32.0**	**+0.3**
HAY	**Hayfield**	**1.01**	**5**	*i*P	**Pn**	**21 58 19.0**	**+0.5**
FRD	**Ford Ranch, An**	**1.05**	**320**	*i*P	**Pg**	**21 58 19.0**	**-0.1**
YMD	**Yuma Desert**	**1.06**	**97**	*eP*	**Pb**	**21 58 18.0**	**-0.9**
SND	**San Diego**	**1.08**	**274**	*i*P	**Pb**	**21 58 19.0**	**-0.1**
PLM	**Palomar**	**1.11**	**306**	*i*P	**Pb**	**21 58 20.0**	**+0.1**
DNR	**Dunn Ranch,Anz**	**1.12**	**321**	*i*P	**Pb**	**21 58 20.0**	**+0.1**
CPE	**Camp Elliot**	**1.12**	**280**	*i*P	**Pn**	**21 58 20.0**	**0.0**
CPE				*i*S	**Sb**	**21 58 35.0**	**-0.2**
CRY	**Cary Ranch**	**1.18**	**318**	*i*P	**Pb**	**21 58 21.0**	**+0.1**
POB	**Polly Butte**	**1.37**	**317**	*i*P	**Pn**	**21 58 23.0**	**-0.5**
BACC	**Bachelor Mtn.**	**1.39**	**312**	*i*P	**Pn**	**21 58 23.0**	**-0.7**
TPC	**Twentynine Pal**	**1.42**	**351**	*i*P	**Pn**	**21 58 24.0**	**-0.2**
BLYC	**Blythe**	**1.50**	**45**	*i*P	**Pn**	**21 58 25.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.67**	**170**	*eP*	**Pn**	**21 58 28.2**	**+0.4**
SPIG				*i*S	**Sn**	**21 58 48.8**	**-0.3**
SPIG	**San Pedro Mart**	**1.67**	**170**	*eP*	**Pn**	**21 58 28.2**	**+0.4**
SPIG				*eS*	**Sn**	**21 58 49.0**	**-0.1**

ISCJB ***09*** *22:06:25.5±0.4,26.40N±0.06×127.35E±0.05, h56km±4km, mb3.5/6, Error ellipse: s-maj=11.9km s-min=3.7km az=144.6*
JMA ***09*** *22:06:26.4±0.2,26.32N×127.36E, h46km±2km, M3.2*
JMA Felt I J1.
IDC ***09*** *22:07:14.6±12.0,27.23N×125.03E, h406km±129km, mb2.9/6, mb1 3.0/6, mb1mx2.7/26, mbtmp3.6/6, Error ellipse: s-maj=61.9km s-min=35.4km az=114.0*

ISC 09 22:06:26.4±0.9,26.38N±0.06×127.37E±0.05,h48km±7km, n21,σ0s88/32,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.24**	**332**	P	**Pn**	**22 06 35.1**	**+0.3**
JAGN				S	**Sn**	**22 06 41.3**	**+0.5**
JJT2	**Tamagusuku 2**	**0.42**	**125**	P	**Pn**	**22 06 36.5**	**0.0**
JKE	**Kume jima 2**	**0.52**	**264**	P	**Pn**	**22 06 37.6**	**-0.2**
JKE				S	**Sn**	**22 06 45.5**	**-0.5**
JNTH	**Nagotoyohara**	**0.60**	**76**	P	**Pn**	**22 06 38.8**	**0.0**
JNTH				S	**Sn**	**22 06 47.3**	**-0.4**
JIH	**Iheya**	**0.85**	**39**	P	**Pn**	**22 06 42.2**	**+0.2**
JIH				*eS*	**Sn**	**22 06 53.1**	**-0.3**
JOW	**Kunigami**	**0.93**	**61**	P	**Pn**	**22 06 43.6**	**+0.5**
JOW				*eS*	**Sn**	**22 06 55.6**	**+0.2**
JOKE	**Okinoerabujima**	**1.45**	**47**	P	**Pn**	**22 06 50.2**	**0.0**
JOKE				*eS*	**Sn**	**22 07 07.3**	**-0.8**
JTK	**Tokunoshima**	**1.99**	**45**	P	**Pn**	**22 06 57.9**	**+0.4**
JTK				*eS*	**Sn**	**22 07 20.4**	**-0.9**
JOGS	**Gusukube**	**2.39**	**228**	P	**Pn**	**22 07 04.2**	**+1.1**
JAMN	**Amaminishikomi**	**2.46**	**40**	P	**Pn**	**22 07 04.2**	**+0.3**
JAMN				*eS*	**Sn**	**22 07 31.1**	**-1.6**
JIRB	**Irabujima**	**2.51**	**233**	P	**Pn**	**22 07 05.8**	**+1.1**
JIRB				*eS*	**Sn**	**22 07 34.0**	**-0.1**
JAM	**Amami Oshima**	**2.84**	**44**	P	**Pn**	**22 07 10.4**	**+1.2**
JAM				*eS*	**Sn**	**22 07 43.9**	**+1.8**
JTJ	**Tarama**	**2.96**	**235**	P	**Pn**	**22 07 12.1**	**+1.2**
JTJ				*eS*	**Sn**	**22 07 45.2**	**-0.1**
JISG	**Ishigakijimahi**	**3.29**	**238**	P	**Pn**	**22 07 14.9**	**-0.5**
JISG				*eS*	**Sn**	**22 07 51.4**	**-1.8**
JIJ	**Ishigaki jima**	**3.54**	**236**	P	**Pn**	**22 07 19.4**	**+0.6**
SONM	**Songino Array**	**27.01**	**328**	P	**P**	**22 12 04.8**	**+0.9**
	0.6nm,0.6s,baz=138,slow=9.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	**27.39**	**259**	P	**P**	**22 12 08.5**	**+1.1**
	0.3nm,0.6s,baz=40,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**40.86**	**312**	P	**P**	**22 14 02.5**	**-1.1**
	0.5nm,0.5s,baz=100,slow=10,SNR=18						
ZALV	**Zalesovo Beam**	**41.66**	**323**	P	**P**	**22 14 09.7**	**-0.3**
	0.5nm,0.4s,baz=110,slow=8.1,SNR=4.0						
FINES	**FINESS Array B**	**72.35**	**330**	P	**P**	**22 17 46.1**	**-0.7**
	0.5nm,0.8s,baz=98,slow=10.0,SNR=5.1						
DLBC	**Dease Lake**	**74.17**	**32**	P	pP	22 18 10.7	-1.0
	0.7nm,0.3s,baz=291,slow=8.6,SNR=3.1						

ISCJB ***09*** *22:12:55.8±0.5,50.17N±0.04×19.03E±0.03, h0km, Error ellipse: s-maj=5.5km s-min=2.3km az=16.1*
CSEM ***09*** *22:12:56.4±0.3,50.19N×19.07E, h2km, ML2.3/4, Error ellipse: s-maj=8.8km s-min=3.5km az=9.0*
PRU ***09*** *22:12:57.6,50.18N×19.05E, h0km*

ISC 09 22:12:57.1±0.9,50.15N±0.04×19.07E±0.02,h0km,n31, σ1s08/54,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**81**	*eP*g	**Pg**	**22 13 04.9**	**-1.2**
OJC				*eS*g	**Sg**	**22 13 10.9**	**-1.3**
OJC	**Ojcow**	**0.47**	**81**	*eP*g	**Pg**	**22 13 04.9**	**-1.2**
OJC				*eS*g	**Sg**	**22 13 10.9**	**-1.3**
OKC	**Ostrava-Krasne**	**0.67**	**243**	*eP*G	**Pg**	**22 13 10.8**	**+0.8**
OKC				*eS*G	**Sg**	**22 13 19.7**	**+1.0**
	comp=Z,8.1nm,0.3s						
OKC	**Ostrava-Krasne**	**0.67**	**243**	Pg	**Pg**	**22 13 10.8**	**+0.8**
OKC				Sg	**Sg**	**22 13 19.7**	**+1.0**
	8.1nm,0.3s						
LANS	**Liptovska Anna**	**1.03**	**165**	*eP*g	**Pg**	**22 13 16.3**	**-0.5**
LANS				*eS*g	**Sg**	**22 13 30.4**	**+0.2**
MORC	**Moravsky Berou**	**1.06**	**250**	*eP*g	**Pg**	**22 13 17.7**	**+0.4**
MORC				*eS*g	**Sb**	**22 13 33.2**	**+0.6**
NIE	**Niedzica**	**1.09**	**132**	*eP*g	**Pg**	**22 13 17.5**	**-0.4**
NIE				*eS*g	**Sg**	**22 13 32.5**	**+0.6**
NIE	**Niedzica**	**1.09**	**132**	*eP*g	**Pg**	**22 13 17.5**	**-0.4**
NIE				*eS*g	**Sg**	**22 13 32.5**	**+0.6**
KRLC	**Kraliky**	**1.48**	**268**	*eP*G	**Pn**	**22 13 24.0**	**-1.0**
KRLC				*eS*G	**Sn**	**22 13 44.7**	**-0.3**
KRLC	**Kraliky**	**1.48**	**268**	Pg	**Pn**	**22 13 24.0**	**-1.0**
KRLC				Sg	**Sn**	**22 13 44.7**	**-0.3**
STHS	**Stebnicka Huta**	**1.59**	**117**	*eP*n	**Pn**	**22 13 26.4**	**0.0**
STHS				*eS*n	**Sg**	**22 13 50.0**	**+2.0**
STHS	**Stebnicka Huta**	**1.59**	**117**	*eP*N	**Pn**	**22 13 26.4**	**0.0**
STHS				*eS*N	**Sg**	**22 13 50.0**	**+2.0**
VYHS	**Vyhne**	**1.67**	**185**	*eP*n	**Pn**	**22 13 26.3**	**-1.2**
VYHS				*eS*n	**Sn**	**22 13 48.3**	**-1.3**
VYHS	**Vyhne**	**1.67**	**185**	*eP*N	**Pn**	**22 13 26.3**	**-1.2**
VYHS				*eS*N	**Sn**	**22 13 48.3**	**-1.3**
DPC	**Dobruska-Polom**	**1.78**	**278**	*eP*G	**Pn**	**22 13 29.1**	**0.0**
DPC				*eS*G	**Sg**	**22 13 54.3**	**+0.2**
DPC	**Dobruska-Polom**	**1.78**	**278**	Pg	**Pn**	**22 13 29.1**	**0.0**
DPC				Sg	**Sg**	**22 13 54.3**	**+0.2**
VRAC	**Vranov**	**1.82**	**243**	*eS*g	**Sb**	**22 13 54.4**	**-0.1**
KSP	**Ksiaz**	**1.91**	**292**	*eP*g	**Pg**	**22 13 34.2**	**+0.6**
KSP				*eS*g	**Sg**	**22 13 59.8**	**+1.5**
KECS	**Kecovo**	**1.91**	**150**	*eP*n	**Pn**	**22 13 29.0**	**-1.8**
KECS				*eS*n	**Sn**	**22 13 55.3**	**-0.2**
KECS	**Kecovo**	**1.91**	**150**	*eP*N	**Pn**	**22 13 29.0**	**-1.8**
KECS				*eS*N	**Sn**	**22 13 55.3**	**-0.2**
UPC	**Upice**	**1.99**	**282**	*eS*G	**Sg**	**22 14 01.1**	**0.0**
	comp=Z,2.0nm,0.4s						
UPC	**Upice**	**1.99**	**282**	Sg	**Sg**	**22 14 01.1**	**0.0**
	2.0nm,0.4s						
CRVS	**Cervenica-Dubn**	**2.00**	**128**	*eP*n	**Pn**	**22 13 33.5**	**+1.5**
CRVS				*eS*n	**Sn**	**22 13 59.1**	**+1.4**
CRVS	**Cervenica-Dubn**	**2.00**	**128**	*eP*N	**Pn**	**22 13 33.5**	**+1.5**
CRVS				*eS*N	**Sn**	**22 13 59.1**	**+1.4**
KOLS	**Kolonicke sedl**	**2.41**	**119**	*eS*n	**Sn**	**22 14 10.2**	**+2.2**
KOLS	**Kolonicke sedl**	**2.41**	**119**	*eS*N	**Sn**	**22 14 10.2**	**+2.2**
PRU	**Pruhonice**	**2.92**	**269**	*eS*G	**Sg**	**22 14 30.0**	**-0.9**
	comp=Z,2.0nm,0.5s						
PRU	**Pruhonice**	**2.92**	**269**	Sg	**Sg**	**22 14 30.0**	**-0.9**
	2.0nm,0.5s						
BRG	**Berggiesshubel**	**3.35**	**284**	SG	**Sg**	**22 14 45.1**	**+0.4**
	1.8nm,0.6s						
KHC	**Kasperske Hory**	**3.71**	**256**	*eP*N	**Pn**	**22 13 55.0**	**-0.7**
KHC				*eP*G	**Pg**	**22 14 08.0**	**-0.2**
KHC				*eS*G	**Sg**	**22 14 54.6**	**-1.7**
	comp=Z,1.6nm,0.3s						
KHC	**Kasperske Hory**	**3.71**	**256**	Pn	**Pn**	**22 13 55.0**	**-0.7**

KRNET 09 22:14:29.8±0.1,39.05N×74.77E,h2km,mb3.5,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**1.97**	**339**	*eP*	Pb	22 15 06.1	-0.6
	baz=338						
SALK				*eS*	Sg	22 15 33.1	-0.5
	baz=338						
CHVK	**Chauvay**	**2.25**	**300**	*eP*	Pb	22 15 11.0	-0.5
	baz=300						
CHVK				*eS*	Sb	22 15 41.0	+1.0
	baz=300						
DRK	**Karamyk**	**2.35**	**282**	*eP*	Pb	22 15 12.0	-1.3
	baz=282						
DRK				*eS*	Sb	22 15 43.0	0.0
	baz=282						
NRN	**Naryn**	**2.56**	**21**	*eP*	Pb	22 15 17.4	+0.4
	baz=21						
NRN				*eS*	Sg	22 15 52.0	-1.0
	baz=21						

ISCJB ***09*** *22:23:00.2±0.4,28.47S±0.02×68.11W±0.03, h100km±3km, mb5.5/113, Error ellipse: s-maj=4.6km s-min=3.4km az=151.8*
BJI ***09*** *22:23:00.1,28.50S×68.00W, h87km, mB5.6/42, Ms5.5/29, Ms7 5.2/30*
SJA ***09*** *22:23:01.4±0.7,28.57S×68.24W, h121km±7km, ML5.6, MW4.8*
MOS ***09*** *22:23:01.3±0.9,28.42S×68.18W, h107km, mb5.8/14, Error ellipse: s-maj=9.2km s-min=5.4km az=98.1*
GUC ***09*** *22:23:02.7±0.7,28.51S×68.30W, h113km±112km*
GCMT ***09*** *22:23:02.7±0.1,28.81S×68.36W, h131km, MW5.8/120, Moment Tensor Solution. s120,c229; s120,c260; Duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr=4.57±.05; Mθθ0.54±.06; Mφφ4.03±.07; Mrθ1.25±.04; Mθφ-2.58±.06; Mφr0.86±.05; Best double couple: M◎5.25500×10^17 NP1:φs170.00000°,δ49.00000°, λ-64.00000°. NP2:φs314.00000°,δ47.00000°, λ-117.00000°. Principal axes: T 5.4030, Plg1.0000°, Azm242.0000°; N -0.2960, Plg19.0000°, Azm333.0000°; P -5.1060, Plg71.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***09*** *22:23:03.0±0.1,28.56S×68.12W, mb5.8/32, ME5.2, MW5.8, MD5.5(SJA) Error ellipse: s-maj=4.0km s-min=2.7km az=69.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^17Nm; Mrr-5.63; Mθθ0.05; Mφφ5.58; Mrθ1.71; Mθφ-3.50; Mφr0.83; Best double couple: M◎6.90000×10^17 NP1:φs314.00000°,δ49.00000°, λ-120.00000°. NP2:φs175.00000°,δ49.00000°, λ-60.00000°. Principal axes: T 7.2700, Plg0.0000°, Azm244.0000°; N -0.8800, Plg21.0000°, Azm334.0000°; P -6.3900, Plg68.0000°, Azm154.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V] in the epicentral area; [IV] at Catamarca and La Rioja; [III] at San Juan and San Miguel de Tucuman; [II] at Cordoba. Felt [IV] at Copiapo, [III] at Tierra Amarilla and [II] at La Higuera, La Serena, Vallenar and Vicuna, Chile. Also felt at Coquimbo.
IDC ***09*** *22:23:03.5±0.2,28.61S×68.11W, h118km±1km, mb5.1/26, mb1 5.1/28, mb1mx5.1/29, mbtmp5.4/28, MS4.7/10, Ms1 4.7/10, ms1mx4.5/22 Error ellipse: s-maj=10.0km s-min=6.1km az=88.0*
LDG ***09*** *22:23:04.5±1.1,27.82S×68.37W, h118km, Mb5.2/30, Ms4.7/11, Error ellipse: s-maj=75.2km s-min=55.8km az=82.0*

ISC 09 22:23:03.1±0.2,28.59S±0.03×68.20W±0.03,h117km±1km,

h117km:pP-P,n1411,σ1s14/1932,mb5.6/107,277C-267D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**2.12**	**87**	*i*P	**Pn**	**22 23 38.1**	**+0.3**
CYA				*i*S	**Sn**	**22 24 04.4**	**-0.1**
CYA				AML	AML	22 24 06.3	
	comp=Z,45μm,0.7s						
AVFE	**Valle Fertil**	**2.17**	**163**	*i*P	**Pn**	**22 23 38.6**	**+0.1**
AVFE				AML	AML	22 24 06.9	
	comp=Z,23μm,0.3s						
LCO	**Las Campanas**	**2.24**	**258**	*i*P	**Pn**	**22 23 38.8**	**-0.9**
LCO				*i*S	**Sn**	**22 24 06.4**	**-1.2**
LCO	**Las Campanas**	**2.24**	**258**	*e*Pn	**Pn**	**22 23 38.4**	**-1.2**
LCO				*e*Sn	**Sn**	**22 24 06.0**	**-1.6**
LCO	**Las Campanas**	**2.24**	**258**	*i*P	**Pn**	**22 23 38.8**	**-0.9**
LCO				*i*S	**Sn**	**22 24 06.6**	**-1.0**
VACH	**Vallenar**	**2.25**	**270**	*i*P	**Pn**	**22 23 38.3**	**-1.3**
VACH				*i*S	**Sn**	**22 24 05.3**	**-2.2**
CPCH	**Copiapo**	**2.26**	**302**	*i*P	**Pn**	**22 23 38.6**	**-1.1**
CPCH				*i*S	**Sn**	**22 24 04.9**	**-2.9**
APLL	**PUNTA DE LOS L**	**2.32**	**141**	*i*P	**Pn**	**22 23 40.6**	**+0.1**
AMOG	**MOGNA**	**2.36**	**186**	*i*P	**Pn**	**22 23 40.4**	**-0.6**
RTLL	**Cerro Villicun**	**2.74**	**185**	*i*P	**Pn**	**22 23 45.8**	**-0.2**
ACHE	**Chepes**	**2.90**	**153**	*i*P	**Pn**	**22 23 47.9**	**-0.1**
SJA	**San Juan**	**2.95**	**186**	*i*P	**Pn**	**22 23 48.7**	**+0.1**
SJA				AML	AML	22 24 28.3	
	comp=Z,17μm,0.4s						
CFAA	**Coronel Fontan**	**3.01**	**181**	P	**Pn**	**22 23 49.4**	**0.0**
	comp=Z,200nm,0.3s,baz=353,slow=13,SNR=8409						
CFAA				S	**Sn**	**22 24 24.1**	**-1.1**
	comp=Z,732nm,0.3s,baz=237,slow=18,SNR=34						
CFAA	**Coronel Fontan**	**3.01**	**181**	*i*P	**Pn**	**22 23 49.2**	**-0.2**
CFAA				*i*S	**Sn**	**22 24 24.9**	**-0.3**
AHML	**Horco Molle**	**3.11**	**55**	*i*P	**Pn**	**22 23 50.4**	**-0.4**
CMCH	**Combarbala**	**3.54**	**223**	*i*P	**Pn**	**22 23 54.2**	**-2.4**
CMCH				*i*S	**Sn**	**22 24 35.6**	**-2.3**
PEL	**Peldehue**	**5.02**	**205**	*i*P	**Pn**	**22 24 14.0**	**-2.2**
PEL				*e*S	**Sn**	**22 25 10.6**	**-2.7**
CLCH	**Cerro Calan**	**5.20**	**202**	*i*P	**Pn**	**22 24 16.9**	**-1.8**
LVC	**Limon Verde**	**5.98**	**354**	*e*Pn	**Pn**	**22 24 28.4**	**-1.1**
PB06	**IPOC Station P**	**5.99**	**348**	*i*P	**Pn**	**22 24 27.8**	**-1.7**
I41PY	**VILLA FLORIDA**	**9.93**	**80**	*i*		23 16 30.0	
	baz=255,slow=322,SNR=1.5						
LPAZ	**La Paz**	**12.24**	**0**	P	**Pn**	**22 25 51.7**	**-2.4**
	comp=Z,12nm,0.3s,baz=183,slow=3.5,SNR=143						
LPAZ				LR	LR	22 31 14.5	
	comp=Z,11μm,19.1s,baz=186,slow=40						
PLCA	**Paso Flores**	**12.27**	**188**	P	Pn	22 25 49.9	-4.0
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PLCA	**Paso Flores**	**12.27**	**188**	P	Pn	22 25 49.9	-4.0
	comp=Z,3.2nm,0.3s,baz=4.1,slow=13,SNR=108						
PLCA	**Paso Flores**	**12.27**	**188**	*e*Pn	Pn	22 25 49.8	-4.0
ARE	**Arequipa**	**12.44**	**345**	*e*P	Pn	22 25 52.0	-4.5
ARE	**Arequipa**	**12.44**	**345**	*e*P	Pn	22 25 52.0	-4.5
SIV	**San Ignacio**	**14.16**	**29**	P	Pn	22 26 14.4	-4.0
	comp=Z,2.5nm,0.3s,baz=225,slow=15,SNR=55						
NNA	**Nana**	**18.38**	**332**	P	**Pn**	**22 27 10.5**	**0.0**
	comp=Z,1.5nm,0.3s,baz=184,slow=14,SNR=5.8						
SAML	**Samuel**	**20.10**	**15**	*e*P	**P**	**22 27 27.5**	**-0.1**
	comp=Z,324nm,1.3s						
BDFB	**Brasilia**	**22.66**	**60**	*e*P	**P**	**22 27 52.0**	**-2.8**
BDFB	**Brasilia**	**22.66**	**60**	P	**P**	**22 27 52.2**	**-2.6**
	comp=Z,136nm,0.7s,baz=224,slow=9.0,SNR=54						
BDFB	**Brasilia**	**22.66**	**60**	*e*P	**P**	**22 27 52.0**	**-2.8**
I09BR	**BRASILIA INFRA**	**22.66**	**60**	*i*		00 38 13.7	
	baz=231,slow=327						
ATAH	**Atahualpa**	**23.41**	**334**	P	**P**	**22 28 04.0**	**+1.8**
	comp=Z,11nm,0.9s,baz=160,slow=6.4,SNR=22						
EFI	**East Falkland**	**24.28**	**165**	*

NVL **N'lazarevskaya** 60.03 158 *eP* P 22 32 53.5 -3.5
NVL pmax pmax
comp=Z,102nm,1.1s
SACV Santiago Islan 61.11 51 *eP* **P** **22 33 05.0 -0.1**
comp=Z,68nm,1.1s
TIGA Tifton 61.47 345 *eP* **P** **22 33 06.6 -0.5**
TIGA *epP* **pP** **22 33 34.8 -0.8**
QSPA South Pole Qui 61.64 180 P **P** **22 33 08.8 +0.6**
comp=Z,248nm,0.8s,baz=156,slow=1.7,SNR=585
QSPA pP **pP** **22 33 37.4 +0.7**
comp=Z,119nm,0.8s,baz=76,slow=2.9,SNR=7.9
035Z Hargill 61.79 330 ⇓P **P** **22 33 10.4 +1.0**
baz=62
BRAL Brewton 61.93 342 *eP* **P** **22 33 10.5 +0.2**
BRAL *epP* **pP** **22 33 39.4 +0.5**
RGRS Roger Stewart 62.21 349 *eP* **P** **22 33 12.3 +0.3**
RGRS *epP* **pP** **22 33 40.4 -0.3**
035A Encino 62.22 330 ⇑P **P** **22 33 13.3 +1.0**
baz=62,SNR=6.1
CSU Charleston Sou 62.26 349 *eP* **P** **22 33 12.2 -0.3**
CSU *epP* **pP** **22 33 42.7 +1.6**
NHSC New Hope 62.40 349 *eP* **P** **22 33 13.2 -0.1**
NHSC *epP* **pP** **22 33 43.4 +1.4**
034A Hebbronville 62.59 329 ⇑P **P** **22 33 16.0 +1.3**
baz=63
738A Farr-Stevens R 62.85 333 ⇓P **P** **22 33 17.8 +1.4**
baz=63
934A Benavides 62.98 330 ⇑P **P** **22 33 18.7 +1.4**
baz=63,SNR=14
835A Beeville 63.27 331 ⇑P **P** **22 33 20.8 +1.6**
baz=64
933A Laredo 63.33 329 ⇑P **P** **22 33 20.5 +0.9**
baz=64,SNR=16
GOGA Godfrey 63.34 346 *eP* **P** **22 33 19.0 -0.6**
GOGA *e*PP **pP** **22 33 48.0 -0.2**
GOGA Godfrey 63.34 346 *eP* **P** **22 33 19.0 -0.6**
GOGA *epP* **pP** **22 33 48.0 -0.2**
834A Tilden 63.44 330 ⇓P **P** **22 33 21.7 +1.3**
baz=64,SNR=14
735A Kenedy 63.76 331 ⇓P **P** **22 33 23.4 +0.9**
baz=64,SNR=6.0
LRAL Lakeview Retre 63.83 342 *eP* **P** **22 33 21.8 -1.0**
LRAL *epP* **pP** **22 33 50.1 -1.4**
HKT Hockley 63.91 333 *eP* **P** **22 33 23.5 +0.2**
HKT *e*PP **pP** **22 33 53.2 +1.2**
HKT Hockley 63.91 333 *eP* **P** **22 33 23.5 +0.2**
HKT *epP* **pP** **22 33 53.2 +1.2**
833A Chaparral WMA, 63.99 329 ⇓P **P** **22 33 25.1 +1.1**
baz=64,SNR=17
636A Smothers Creek 63.99 332 ⇓P **P** **22 33 25.0 +1.1**
baz=64,SNR=11
538A Harpers Horsep 64.02 334 ⇑P **P** **22 33 25.5 +1.4**
baz=64
734A La Parita Cree 64.07 330 ⇑P **P** **22 33 25.3 +0.8**
baz=64,SNR=8.8
734A ⇓S **S** **22 41 54.3 +2.4**
baz=64
VBMS Vicksburg 64.08 339 *eP* **P** **22 33 25.0 +0.5**
VBMS *epP* **pP** **22 33 53.7 +0.5**
CNNC Cliffs of the 64.14 351 *eP* **P** **22 33 24.9 +0.1**
CNNC *epP* **pP** **22 33 52.6 -0.9**
635A Leesville 64.21 331 ⇓P **P** **22 33 25.6 +0.2**
baz=64,SNR=6.3
832A Faith Ranch, C 64.22 329 ⇑P **P** **22 33 26.3 +0.8**
baz=64,SNR=24
537A Green Hill Far 64.22 333 ⇓P **P** **22 33 26.2 +0.8**
baz=64
733A Divot King Ran 64.28 330 ⇑P **P** **22 33 26.7 +0.8**
baz=65,SNR=15
634A China Grove, S 64.45 331 ⇑P **P** **22 33 27.4 +0.5**
baz=65
438A Sam Houston St 64.48 334 ⇓P **P** **22 33 28.2 +1.0**
baz=65
340A Bronson 64.49 336 ⇑P **P** **22 33 27.7 +0.6**
baz=65
536A Bastrop 64.52 332 ⇑P **P** **22 33 28.1 +0.8**
baz=65
KMSC Kings Mountain 64.59 348 ⇑P **P** **22 33 27.9 +0.1**
baz=65
KMSC Kings Mountain 64.59 348 *eP* **P** **22 33 26.8 -0.9**
KMSC *epP* **pP** **22 33 55.8 -0.7**
732A Laxson Ranch, 64.59 329 ⇓P **P** **22 33 28.4 +0.5**
baz=65,SNR=39
339A Huntington 64.66 335 ⇑P **P** **22 33 29.2 +0.9**
baz=65
535A Dale 64.68 332 ⇑P **P** **22 33 28.8 +0.4**
baz=65
437A Phantom Ranch, 64.81 334 ⇑P **P** **22 33 30.2 +0.9**
baz=65
633A Saathoff Ranch 64.87 330 ⇓P **P** **22 33 30.4 +0.7**
baz=65
338A Crockett 64.96 335 ⇑P **P** **22 33 31.3 +1.0**
baz=65
436A Wall Ranch, Ga 65.02 333 ⇓P **P** **22 33 31.4 +0.8**
baz=65
534A Blanco 65.06 331 ⇑P **P** **22 33 31.0 +0.1**
baz=65
337A Centerville 65.15 334 ⇓P **P** **22 33 32.6 +1.2**
baz=65,SNR=6.8
632A Uvalde 65.18 330 ⇑P **P** **22 33 32.4 +0.6**
baz=66,SNR=37
239A Gary 65.24 336 ⇑P **P** **22 33 32.9 +0.8**
baz=66
533A Kerrville 65.34 331 ⇓P **P** **22 33 33.3 +0.5**
baz=66,SNR=24
435B Jarrell 65.35 332 ⇓P **P** **22 33 33.4 +0.6**
baz=66
631A Perdido Creek 65.45 329 ⇑P **P** **22 33 33.9 +0.4**
baz=66
238A Jacksonville 65.47 335 ⇑P **P** **22 33 34.3 +0.8**
baz=66
TKL Tuckaleechee C 65.57 346 *eP* **P** **22 33 33.1 -1.0**
TKL *e*PP **pP** **22 34 01.9 -1.0**
TKL Tuckaleechee C 65.57 346 *eP* **P** **22 33 33.0 -1.0**
TKL *epP* **pP** **22 34 01.9 -1.0**
336A Riesel 65.58 333 ⇓P **P** **22 33 34.7 +0.5**
baz=66,SNR=12
SWET Sewanee 65.63 344 *eP* **P** **22 33 33.6 -1.0**
SWET *epP* **pP** **22 34 01.6 -1.7**
434A Burnet 65.66 332 ⇑P **P** **22 33 34.8 0.0**
baz=66,SNR=27
SLBS Sierra La Lagu 65.71 318 *eP* **P** **22 33 36.2 +0.9**
SLBS *epP* **PcP** **22 34 06.1 +0.3**
335A Moody 65.72 333 ⇓P **P** **22 33 35.4 +0.3**
baz=66,SNR=10.0
237A Washetta, Mont 65.73 334 ⇓P **P** **22 33 35.8 +0.6**
baz=66,SNR=8.5
532A Rocksprings 65.76 330 ⇓P **P** **22 33 36.3 +0.7**
baz=66,SNR=57
OXF Oxford 65.89 341 *eP* **P** **22 33 35.5 -0.6**
OXF *e*PP **pP** **22 34 03.9 -1.1**
OXF Oxford 65.89 341 *eP* **P** **22 33 35.5 -0.6**
OXF *epP* **pP** **22 34 03.9 -1.1**
BBTS Babate 65.91 56 P **P** **22 33 36.6 -0.1**
comp=Z,88nm,1.1s,baz=238,slow=1.5,SNR=7.1
BBTS pP **PcP** **22 34 06.2 -0.4**
comp=Z,30nm,0.7s,baz=244,slow=3.5,SNR=2.3
433A Art 65.95 331 ⇓P **P** **22 33 36.9 +0.2**
baz=66
JCT Junction City 66.02 330 *eP* **P** **22 33 37.3 +0.2**
JCT *e*PP **PcP** **22 34 07.0 +0.2**
JCT Junction City 66.02 330 ⇑P **P** **22 33 37.6 +0.5**
baz=66,SNR=29
JCT Junction City 66.02 330 *eP* **P** **22 33 37.3 +0.2**
JCT *epP* **PcP** **22 34 07.0 +0.2**
138A Matatall Enter 66.05 335 ⇓P **P** **22 33 38.2 +1.0**
baz=66,SNR=7.8
531A Rocksprings 66.08 330 ⇓P **P** **22 33 38.3 +0.8**
baz=66,SNR=52
334A Lometa 66.10 332 ⇑P **P** **22 33 37.7 +0.1**
baz=66,SNR=16
137A Heron Place, G 66.24 335 ⇓P **P** **22 33 39.5 +1.1**
baz=66
432A Menard 66.36 331 ⇓P **P** **22 33 39.5 +0.2**
baz=67,SNR=41
WHTX Lake Whitney, 66.36 333 ⇑P **P** **22 33 39.8 +0.5**
baz=67
WHTX Lake Whitney, 66.36 333 *eP* **P** **22 33 39.0 -0.2**
WHTX *epP* **PcP** **22 34 08.9 +0.8**
URVA University of 66.39 352 *eP* **P** **22 33 38.5 -0.7**
URVA *epP* **PcP** **22 34 07.9 -0.2**
333A Richland Sprin 66.40 331 ⇑P **P** **22 33 39.8 +0.2**
baz=67
VWCC Virginia Weste 66.41 350 *eP* **P** **22 33 39.2 -0.3**
VWCC *epP* **pP** **22 34 08.9 +0.5**
530A J-C Ranch, Com 66.42 329 ⇑P **P** **22 33 40.6 +0.9**
baz=67,SNR=34
BLA Blacksburg 66.45 349 *eP* **P** **22 33 39.8 +0.1**
BLA *e*PP **PcP** **22 34 08.1 -0.3**
BLA Blacksburg 66.45 349 *eP* **P** **22 33 39.8 +0.1**
BLA *epP* **PcP** **22 34 08.1 -0.3**
431A Sonora 66.55 330 ⇑P **P** **22 33 40.9 +0.3**
baz=67,SNR=17
JSRW J. Sargeant Re 66.55 352 *eP* **P** **22 33 40.9 +0.6**
JSRW *epP* **PcP** **22 34 08.2 -0.6**
234A Clairette 66.64 332 ⇓P **P** **22 33 41.1 0.0**
baz=67,SNR=20
332A Millersview 66.77 331 ⇑P **P** **22 33 42.0 +0.1**
baz=67,SNR=29
529A Stev Forest Ra 66.81 328 ⇓P **P** **22 33 43.0 +0.8**
baz=67,SNR=38
TXAR Lajitas Array 66.83 327 P **P** **22 33 42.7 +0.3**
comp=Z,8.5nm,0.9s,baz=146,slow=5.5,SNR=57
TXAR pP **pP** **22 34 13.2 +1.8**
comp=Z,41nm,1.0s,baz=143,slow=9.1,SNR=15
TXAR PKP2bc 23 02 10.3
comp=Z,3.3nm,1.1s,baz=336,slow=2.0,SNR=11
LTX Lajitas 66.83 327 *eP* **P** **22 33 42.7 +0.3**
LTX *e*PP **pP** **22 34 13.2 +1.8**
LTX Lajitas 66.83 327 *eP* **P** **22 33 42.7 +0.3**
LTX *epP* **pP** **22 34 13.2 +1.8**
135A Vickery Place, 66.84 333 ⇑P **P** **22 33 42.4 +0.2**
baz=67
430A Baggett Ranch, 66.92 329 ⇓P **P** **22 33 43.1 +0.2**
baz=67,SNR=23
233A Rising Star 66.97 332 ⇑P **P** **22 33 43.3 +0.2**
baz=67,SNR=19
WVT Waverly 66.97 343 *eP* **P** **22 33 41.8 -1.2**
WVT *e*PP **PcP** **22 34 11.2 +0.6**
WVT Waverly 66.97 343 *eP* **P** **22 33 41.8 -1.2**
WVT *epP* **PcP** **22 34 11.2 +0.6**
331A San Angelo 67.01 330 ⇑P **P** **22 33 43.6 +0.2**
baz=67,SNR=20
UALR University of 67.02 339 *eP* **P** **22 33 42.9 -0.5**
UALR *epP* **PcP** **22 34 10.5 -0.3**
429A Davenport Ranc 67.08 329 ⇑P **P** **22 33 44.7 +0.7**
baz=67,SNR=58
134A White-Moore Ra 67.12 333 ⇑P **P** **22 33 43.9 -0.1**
baz=67,SNR=7.5
232A Coleman 67.17 331 ⇓P **P** **22 33 44.6 +0.2**
baz=68
MIAR Mount Ida 67.22 337 *eP* **P** **22 33 44.1 -0.5**
MIAR *e* 22 34 10.5
MIAR Mount Ida 67.22 337 *eP* **P** **22 33 44.1 -0.5**
MIAR *e*PcP **PcP** **22 34 10.5 -1.1**
GNAR Gosnell 67.42 341 *eP* **P** **22 33 45.6 -0.2**
GNAR *epP* **pP** **22 34 15.1 +0.3**
330A Mertzon 67.42 330 ⇑P **P** **22 33 45.8 -0.2**
baz=68,SNR=24
Z35A Perchaven, San 67.46 334 ⇓P **P** **22 33 46.4 +0.2**
baz=68,SNR=12
133A Hamilton Ranch 67.49 332 ⇑P **P** **22 33 46.5 +0.1**
baz=68,SNR=18
GLAT Glass 67.50 342 *eP* **P** **22 33 46.0 -0.2**
GLAT *epP* **pP** **22 34 15.9 +0.6**
231A Bronte 67.50 331 ⇓P **P** **22 33 46.2 -0.3**
baz=68,SNR=8.0
Z34A Collier Ranch, 67.76 333 ⇑P **P** **22 33 48.2 +0.1**
baz=68,SNR=9.5
230A Sterling City 67.80 330 ⇑P **P** **22 33 48.1 -0.3**
baz=68,SNR=6.1
ABTX Abilene, Hawle 67.81 332 ⇓P **P** **22 33 48.6 +0.2**
baz=68,SNR=16
ABTX Abilene, Hawle 67.81 332 *eP* **P** **22 33 48.4 0.0**
ABTX *epP* **pP** **22 34 18.3 +0.9**
329A Wagon Wheel Ra 67.85 329 ⇓P **P** **22 33 49.0 +0.3**
baz=68,SNR=25
PARMO Parma 68.00 341 *eP* **P** **22 33 49.6 +0.2**
PARMO *epP* **pP** **22 34 19.2 +0.8**
Z33A Whitaker Ranch 68.02 333 ⇓P **P** **22 33 49.9 +0.2**
baz=68,SNR=14
131A Roby 68.16 331 ⇑P **P** **22 33 51.0 +0.4**
baz=68,SNR=11
229A Bryant Ranch, 68.18 330 ⇑P **P** **22 33 50.9 +0.1**
baz=68,SNR=6.3
Y34A Reagan Ranch, 68.21 334 ⇓P **P** **22 33 50.9 +0.1**
baz=68,SNR=17
PBMO Poplar Bluff 68.29 341 *eP* **P** **22 33 50.8 -0.5**
PBMO *epP* **pP** **22 34 20.4 +0.1**
Z32A Haskell 68.33 332 ⇓P **P** **22 33 51.8 +0.2**
baz=69,SNR=12
130A Snyder 68.34 331 ⇑P **P** **22 33 51.7 -0.1**
baz=69,SNR=10
WCI Wyandotte Cave 68.59 345 *eP* **P** **22 33 52.0 -1.2**
WCI *e*PP **pP** **22 34 21.0 -1.3**
WCI Wyandotte Cave 68.59 345 *eP* **P** **22 33 52.0 -1.2**
WCI *epP* **pP** **22 34 20.9 -1.3**
Y33A Hilltop Ranch, 68.60 333 ⇑P **P** **22 33 53.4 +0.1**
baz=69,SNR=10
Z31A Sharp Cattle R 68.61 332 ⇓P **P** **22 33 53.6 +0.2**
baz=69,SNR=20
MVL Millersville 68.66 353 *eP* **P** **22 33 53.6 +0.2**
MVL *epP* **pP** **22 34 22.6 0.0**
228A UT Block 9, Go 68.66 329 ⇑P **P** **22 33 53.7 -0.1**
baz=69,SNR=18
USIN University of 68.67 344 *eP* **P** **22 33 52.5 -1.1**
USIN *epP* **pP** **22 34 21.8 -0.9**
129A Stewart Farms, 68.77 330 ⇓P **P** **22 33 54.4 0.0**
baz=69,SNR=5.3
X34A Smith Ranch, M 68.81 334 ⇓P **P** **22 33 54.5 0.0**
baz=69,SNR=17
SIUC Southern Illin 68.83 342 *eP* **P** **22 33 53.7 -0.9**
SIUC *epP* **pP** **22 34 23.0 -0.7**
Y32A R-V Farms, Ver 68.92 332 ⇑P **P** **22 33 55.3 0.0**
baz=69,SNR=11
Z30A Sanderson Ranc 69.00 331 ⇑P **P** **22 33 55.5 -0.3**
baz=69,SNR=24
SBA Scott Base 69.01 191 *eP* **P** **22 33 56.5 +1.2**
SBA pmax pmax
comp=Z,598nm,2.0s
SBA Scott Base 69.01 191 *eP* **P** **22 33 56.5 +1.2**
comp=Z,598nm,2.0s
X33A Lawton 69.01 334 ⇓P **P** **22 33 55.6 -0.3**
baz=69
128A Castleberry Fa 69.03 329 ⇑P **P** **22 33 56.3 +0.1**
baz=69,SNR=19
BRNJ Basking Ridge 69.17 355 *eP* **P** **22 33 57.3 +0.7**
BRNJ *epP* **pP** **22 34 27.7 +2.0**
TUL1 Leonard 69.22 336 ⇑P **P** **22 33 56.8 -0.3**
baz=70,SNR=14
TUL1 Leonard 69.22 336 *eP* **P** **22 33 56.5 -0.5**
TUL1 *epP* **pP** **22 34 26.9 +0.7**
X32A Elmer 69.22 333 ⇑P **P** **22 33 57.0 -0.2**
baz=70,SNR=7.5
Y31A Rekieta Farm, 69.22 332 ⇓P **P** **22 33 57.4 +0.2**
baz=70,SNR=11
Z29A Hungry Hill Ra 69.23 330 ⇑P **P** **22 33 57.0 -0.3**
baz=70,SNR=9.1
W34A Bridge Creek, 69.34 334 ⇑P **P** **22 33 57.9 0.0**
baz=70,SNR=6.9
W34A Bridge Creek, 69.34 334 *eP* **P** **22 33 57.1 -0.7**
W34A *epP* **pP** **22 34 27.9 +0.8**
Y30A Stafford Cattl 69.41 331 ⇑P **P** **22 33 58.1 -0.3**
baz=70
SSPA Standing Stone 69.45 352 *eP* **P** **22 33 58.1 -0.2**
SSPA *epP* **pP** **22 34 27.1 -0.4**
V35A Meyer Ranch, C 69.46 335 ⇓P **P** **22 33 58.2 -0.4**
baz=70,SNR=11
OLIL Olney 69.50 343 *eP* **P** **22 33 57.4 -1.4**
OLIL *epP* **pP** **22 34 27.4 -0.4**
W33A Caddo, Fort Co 69.54 334 ⇓P **P** **22 33 59.3 +0.2**
baz=70,SNR=19
BLO Bloomington 69.54 345 *eP* **P** **22 33 58.0 -1.0**
BLO *e*PP **pP** **22 34 27.5 -0.6**
BLO pmax pmax
comp=Z,69nm,0.7s
BLO Bloomington 69.54 345 *eP* **P** **22 33 58.0 -1.0**
comp=Z,69nm,0.7s
BLO *epP* **pP** **22 34 27.5 -0.6**
Z28A Tucker Farm, M 69.56 330 ⇑P **P** **22 33 59.3 -0.1**
baz=70,SNR=7.7
ODNJ Ogdensburg 69.57 355 *eP* **P** **22 33 59.2 +0.1**
ODNJ *epP* **pP** **22 34 29.3 +1.1**
MNTX Cornudas Mount 69.61 327 ⇓P **P** **22 33 59.0 -0.7**
baz=70
SYO Syowa Base 69.68 159 ⇑P **P** **22 33 58.2 -1.3**
X31A McDonald Ranch 69.68 332 ⇑P **P** **22 33 59.9 -0.1**
baz=70,SNR=11
Y29A Porterfield Fa 69.73 331 ⇑P **P** **22 34 00.1 -0.3**
baz=70,SNR=7.9
V34A Guthrie 69.78 335 ⇓P **P** **22 34 00.3 -0.3**
baz=70,SNR=13
V34A Guthrie 69.78 335 *eP* **P** **22 34 00.1 -0.4**
V34A *epP* **pP** **22 34 30.1 +0.5**
W32A Sentinel 69.82 333 ⇑P **P** **22 34 00.9 +0.1**
baz=70,SNR=21
ACSO Alum Creek Sta 69.83 348 *eP* **P** **22 34 00.0 -0.7**
ACSO *epP* **pP** **22 34 30.0 +0.1**
X30A Coker Ranch, T 69.89 332 ⇑P **P** **22 34 01.2 -0.1**
baz=70,SNR=7.3
LIC Lamto 69.92 71 *eP* **P** **22 34 02.1 +0.2**
comp=Z,122nm,0.8s
VNDA Vanda 70.02 190 *eP* **P** **22 34 03.0 +1.5**
VNDA *e*PP **pP** **22 34 31.6 +1.0**
VNDA pmax pmax
comp=Z,440nm,2.1s
VNDA Vanda 70.02 190 P **P** **22 34 03.0 +1.5**
comp=Z,37nm,0.9s,baz=135,slow=5.2,SNR=139
VNDA pP **pP** **22 34 31.6 +1.0**
comp=Z,33nm,0.9s,baz=98,slow=3.6,SNR=5.6
VNDA PKP2bc 23 01 59.3
comp=Z,1.8nm,1.0s,baz=297,slow=5.2,SNR=6.5
VNDA Vanda 70.02 190 *eP* **P** **22 34 03.0 +1.5**
comp=Z,440nm,2.1s
VNDA *epP* **pP** **22 34 31.6 +1.0**
Y28A McKinney Farm, 70.02 330 ⇑P **P** **22 34 02.2 +0.1**
baz=70
V33A Lossen Ranch, 70.06 334 ⇓P **P** **22 34 02.2 0.0**
baz=70,SNR=17
KSPA Keystone Colle 70.14 354 *eP* **P** **22 34 02.9 +0.3**
KSPA *epP* **pP** **22 34 32.5 +0.7**
W31A Holland Ranch, 70.15 333 ⇓P **P** **22 34 02.6 -0.3**
baz=70,SNR=6.1
TIC Toumodi 70.16 70 *eP* **P** **22 34 03.5 +0.1**
comp=Z,43nm,0.6s
KIC Kosan Boka 70.23 71 *eP* **P** **22 34 04.2 +0.4**
comp=Z,166nm,0.9s
X29A Tulia 70.24 331 ⇓P **P** **22 34 03.3 -0.2**
baz=70,SNR=5.8
V32A Arapaho 70.26 334 ⇓P **P** **22 34 03.7 +0.1**
baz=71,SNR=5.3
MSTX Muleshoe 70.30 330 ⇓P **P** **22 34 03.8 -0.1**
baz=71,SNR=28
MSTX Muleshoe 70.30 330 *eP* **P** **22 34 03.6 -0.3**
MSTX *epP* **pP** **22 34 33.9 +0.8**
DBIC Dimbokro 70.31 71 *eP* **P** **22 34 04.8 +0.5**
DBIC Dimbokro 70.31 71 P **P** **22 34 04.7 +0.5**
DBIC *P **pP** **22 34 33.1 -0.3**
DBIC pmax pmax
comp=Z,37nm,0.6s
DBIC pmax pmax
comp=Z,47nm,0.9s
DBIC MLR MLR
comp=Z,458nm,18.1s
DBIC Dimbokro 70.31 71 P **P** **22 34 04.7 +0.5**
comp=Z,37nm,0.6s,baz=211,slow=6.9,SNR=43
DBIC pP **pP** **22 34 33.0 -0.3**
comp=Z,47nm,0.9s,baz=199,slow=6.2,SNR=5.3
DBIC LR LR 23 05 12.8
comp=Z,458nm,18.1s,baz=194,slow=36
DBIC Dimbokro 70.31 71 *eP* **P** **22 34 02.2 -2.0**
DBIC *epP* **pP** **22 34 32.1 -1.4**
U34A Anderson Ranch 70.32 335 ⇓P **P** **22 34 03.7 -0.1**
baz=71,SNR=6.1
U34A Anderson Ranch 70.32 335 *eP* **P** **22 34 03.1 -0.7**
U34A *epP* **pP** **22 34 34.1 +1.1**
W30A Crocket Farms 70.41 332 ⇓P **P** **22 34 04.7 +0.3**
baz=71
X28A Dimmitt 70.52 331 ⇓P **P** **22 34 05.4 +0.2**
baz=71,SNR=5.8
U33A Lingo Farm, Me 70.53 335 ⇑P **P** **22 34 05.2 +0.1**
baz=71
AMTX Amarillo 70.61 331 ⇑P **P** **22 34 05.8 +0.1**
baz=71
AMTX Amarillo 70.61 331 *eP* **P** **22 34 05.5 -0.2**
AMTX *epP* **pP** **22 34 35.2 +0.3**
V31A Spring Creek L 70.62 333 ⇑P **P** **22 34 06.4 +0.6**
baz=71,SNR=6.8
ALLY Alegheny Colle 70.75 351 *eP* **P** **22 34 05.9 -0.4**
ALLY *epP* **pP** **22 34 35.5 -0.1**
S36A Lake Cedric, C 70.78 337 ⇓P **P** **22 34 06.4 -0.2**
baz=71
W29A Amarillo 70.80 331 ⇓P **P** **22 34 06.7 -0.2**
baz=71,SNR=8.4
BINY Binghamton 70.80 354 *eP* **P** **22 34 06.8 +0.2**
BINY *epP* **pP** **22 34 36.4 +0.6**
HRV Adam Dziewonsk 70.81 357 *eP* **P** **22 34 07.1 +0.5**
HRV *e*PP **pP** **22 34 36.1 +0.3**
HRV Adam Dziewonsk 70.81 357 *eP* **P** **22 34 07.1 +0.5**
HRV *epP* **pP** **22 34 36.1 +0.3**
U32A Winter Ranch, 70.82 334 ⇑P **P** **22 34 07.1 +0.2**
baz=71,SNR=9.3
SFIN Lafayette 70.83 345 ⇑P **P** **22 34 05.5 -1.2**
baz=71
SFIN Lafayette 70.83 345 *eP* **P** **22 34 05.3 -1.4**
SFIN *epP* **pP** **22 34 35.1 -0.9**
V30A Spur Ranch, Mi 70.95 332 ⇓P **P** **22 34 08.6 +0.9**
baz=71,SNR=7.1
S35A Otter Creek Ra 71.00 337 ⇓P **P** **22 34 07.9 0.0**
baz=71
R37A Teagarden Farm 71.06 338 ⇓P **P** **22 34 08.0 -0.3**
baz=71
TRY Troy 71.14 356 *eP* **P** **22 34 09.2 +0.6**
TRY *epP* **pP** **22 34 38.5 +0.6**
U31A Nine Bar Ranch 71.14 333 ⇑P **P** **22 34 09.6 +0.7**
baz=72
W28A Vega 71.15 331 ⇑P **P** **22 34 09.3 +0.3**
baz=72
T33A Patterson Ranc 71.15 335 ⇓P **P** **22 34 09.1 +0.2**
baz=72,SNR=16
ERPA Erie 71.19 351 *eP* **P** **22 34 08.8 -0.1**
ERPA *epP* **pP** **22 34 38.7 +0.5**
S34A Willow Spring 71.29 336 ⇑P **P** **22 34 09.6 -0.1**
baz=72,SNR=5.6
R36A Gordon, Harris 71.30 338 ⇓P **P** **22 34 09.3 -0.4**
baz=72,SNR=8.7
319A Douglas 71.31 324 ⇓P **P** **22 34 11.4 +1.3**
baz=72
V29A Stinnett 71.39 332 ⇓P **P** **22 34 10.9 +0.5**
baz=72
Q37A Longview Farm, 71.45 339 ⇑P **P** **22 34 10.4 -0.2**
baz=72
121A Cookes Peak, D 71.47 325 ⇓P **P** **22 34 12.5 +1.4**
baz=72,SNR=28
T32A Huddler Ranch, 71.50 335 ⇓P **P** **22 34 11.4 +0.5**
baz=72,SNR=13
S33A Kaszmaul Farm, 71.52 335 ⇓P **P** **22 34 11.2 +0.1**
baz=72
MMNY Mt. Morris Dam 71.53 352 *eP* **P** **22 34 10.6 -0.4**
MMNY *epP* **pP** **22 34 39.5 -0.7**
V28A Channing 71.58 331 ⇓P **P** **22 34 12.0 +0.4**
baz=72,SNR=11
U30A WK&E Inc. Balk 71.60 333 ⇑P **P** **22 34 12.1 +0.4**
baz=72
T31A Randall Ranch, 71.71 334 ⇑P **P** **22 34 12.8 +0.5**
baz=72,SNR=11
U29A Oasis Ranch, S 71.78 332 ⇑P **P** **22 34 13.1 +0.4**
baz=72
ACCN Adirondack Com 71.79 356 *eP* **P** **22 34 13.0 +0.5**
ACCN *epP* **pP** **22 34 42.4 +0.6**
V27A Dan Oppiter Fa 71.84 331 ⇑P **P** **22 34 13.6 +0.4**
baz=72,SNR=5.2
TBI Tubuai 71.92 253 *eP* **P** **22 34 15.3 +1.4**
comp=Z,494nm,1.2s
TBI *epP* **pP** **22 34 44.1 +0.9**
comp=Z,430nm,1.2s
TBI *eS* **S** **22 43 28.2 +2.4**
comp=Z,1μm,28.2s
TBI Tubuai 71.92 253 *eLR* LR 22 56 29.3
comp=Z,1μm,33.8s
S32A Newby Ranch, P 71.96 335 ⇓P **P** **22 34 14.1 +0.4**
baz=72
AAM Ann Arbor 71.96 348 *eP* **P** **22 34 12.5 -1.0**
AAM *e*PP **pP** **22 34 42.5 -0.3**
AAM Ann Arbor 71.96 348 *eP* **P** **22 34 12.5 -1.0**
AAM *epP* **pP** **22 34 42.5 -0.3**
T30A Plains 72.00 333 ⇓P **P** **22 34 14.6 +0.6**
baz=72
HNH Hanover 72.03 357 *eP* **P** **22 34 14.2 +0.2**
HNH *epP* **pP** **22 34 45.1 +1.8**
S31A Mullinville 72.09 334 ⇑P **P** **22 34 15.0 +0.4**
baz=72,SNR=6.4
U28A Mallet 72.11 332 ⇑P **P** **22 34 15.2 +0.5**
baz=72
R33A Olander Ranch, 72.14 336 ⇓P **P** **22 34 14.8 +0.1**
baz=72,SNR=7.3
BNM Barren Site 72.22 327 *eP* **P** **22 34 16.4 +0.8**

BNM epP pP 22 34 44.8 -0.2
V26A Tequesquite Ra 72.29 330 ⇑P P 22 34 15.9 0.0
baz=73,SNR=12
Y22D IRIS PASSCAL I 72.30 327 ⇑P P 22 34 17.3 +1.3
baz=73
LPM Los Pinos Moun 72.35 327 eP P 22 34 17.3 +1.0
LPM epP pP 22 34 46.1 +0.4
KSU1 Kansas State U 72.37 337 ⇑P P 22 34 15.9 -0.2
baz=73
MDV Middlebury 72.38 356 eP P 22 34 16.3 +0.3
MDV epP pP 22 34 45.5 +0.2
LENM Lemitar 72.40 327 eP P 22 34 17.6 +1.0
LENM epP pP 22 34 46.5 +0.5
T29A Hugoton 72.40 333 ⇑P P 22 34 16.8 +0.4
baz=73,SNR=5.3
U27A Thompson Grove 72.40 331 ⇑P P 22 34 17.0 +0.5
baz=73,SNR=10
S30A Montezuma 72.49 334 ⇑P P 22 34 17.5 +0.6
baz=73
R32A Long Quarter, 72.51 335 ⇓P P 22 34 17.4 +0.4
baz=73,SNR=9.0
LBNH Lisbon 72.55 357 eP P 22 34 17.9 +0.9
LBNH e*PP pP 22 34 46.5 +0.1
LBNH Lisbon 72.55 357 eP P 22 34 17.9 +0.9
LBNH epP pP 22 34 46.5 +0.1
LAZ Ladron 72.67 327 eP P 22 34 19.2 +1.0
LAZ epP pP 22 34 47.8 +0.2
V25A Rancho No Teng 72.69 330 ⇓P P 22 34 18.5 +0.2
baz=73,SNR=30
R31A Burdett 72.70 335 ⇓P P 22 34 18.4 +0.4
baz=73
Q33A Connelly Farm, 72.70 336 ⇑P P 22 34 18.1 0.0
baz=73,SNR=5.8
T28A Walsh 72.70 332 ⇓P P 22 34 18.1 -0.1
baz=73,SNR=12
S29A Ulysses 72.73 333 ⇓P P 22 34 18.8 +0.5
baz=73,SNR=8.7
U26A Atchley Ranch, 72.77 331 ⇑P P 22 34 19.0 +0.3
baz=73,SNR=27
ANMO Albuquerque 72.79 328 d iP P 22 34 19.6 +0.7
ANMO pmax pmax
comp=Z,451nm,2.5s
ANMO Albuquerque 72.79 328 eP P 22 34 19.3 +0.3
ANMO epP pP 22 34 49.7 +1.4
TUC Tucson 72.84 323 eP P 22 34 19.5 +0.4
TUC e*PP pP 22 34 48.8 +0.3
TUC Tucson 72.84 323 eP P 22 34 19.5 +0.4
TUC epP pP 22 34 48.8 +0.3
T27A Campo 72.90 332 ⇑P P 22 34 19.9 +0.4
baz=73
Q32A Meitler Ranch, 72.96 336 ⇓P P 22 34 19.9 +0.3
baz=73,SNR=6.5
KOMG Komaggas 72.97 115 eP P 22 34 20.9 +0.9
KOMG AMB AMB 22 34 51.7
comp=Z,133nm,2.1s
KOMG Komaggas 72.97 115 eP P 22 34 20.9 +0.9
CER Ceres 72.98 119 eP P 22 34 20.9 +0.8
CER AMB AMB 22 34 22.3
comp=Z,165nm,2.2s
CER Ceres 72.98 119 eP P 22 34 20.9 +0.8
R30A Dighton 72.98 334 ⇓P P 22 34 20.5 +0.7
baz=73
MEH Mehetia 72.99 259 eP P 22 34 21.8 +1.5
comp=Z,71nm,1.2s
MEH epP pP 22 34 50.5 +0.8
comp=Z,62nm,1.2s
S28A Manter 73.02 333 ⇑P P 22 34 20.2 +0.1
baz=73,SNR=8.1
P33A Williams Farm, 73.04 337 ⇓P P 22 34 20.3 +0.2
baz=73,SNR=6.3
U25A Circle Dot Ran 73.07 330 ⇓P P 22 34 21.2 +0.7
baz=73,SNR=30
LONY Lake Ozonia 73.08 355 eP P 22 34 20.2 0.0
LONY epP pP 22 34 48.1 -1.5
Q31A Ellis 73.28 335 ⇓P P 22 34 22.1 +0.6
baz=74
T26A Comanche Natio 73.37 331 ⇑P P 22 34 23.1 +0.8
baz=74,SNR=30
R29A Marienthal 73.43 334 ⇑P P 22 34 23.0 +0.5
baz=74,SNR=10
U24A Moreno Valley 73.46 330 ⇓P P 22 34 24.1 +1.2
baz=74
S27A Las Animas 73.51 332 ⇑P P 22 34 23.3 +0.3
baz=74,SNR=6.2
P32A Huiting Farm, 73.53 336 ⇑P P 22 34 23.1 +0.2
baz=74
Q30A Quinter 73.56 334 ⇓P P 22 34 23.7 +0.5
baz=74,SNR=18
R28A Tribune 73.63 333 ⇓P P 22 34 23.9 +0.3
baz=74,SNR=11
214A Organ Pipe Nat 73.65 322 ⇓P P 22 34 25.3 +1.5
baz=74
SADO Sadowa 73.68 352 pP pP 22 34 53.8 +0.7
baz=187,slow=5.3
T25A Trinidad 73.69 331 ⇑P P 22 34 25.2 +1.1
baz=74,SNR=34
T25A Trinidad 73.69 331 eP P 22 34 24.8 +0.6
T25A epP pP 22 34 53.3 -0.3
S26A Kim 73.69 331 ⇓P P 22 34 25.1 +1.0
baz=74,SNR=43
P31A Stockton 73.72 335 ⇓P P 22 34 24.6 +0.5
baz=74,SNR=20
VAH Vaihoa 73.74 261 eP P 22 34 26.2 +1.5
comp=Z,164nm,1.3s
VAH epP pP 22 34 54.7 +0.6
comp=Z,110nm,1.1s
Q29A Oakley 73.78 334 ⇑P P 22 34 24.7 +0.2
baz=74,SNR=11
SCIA State Center 73.85 341 eP P 22 34 24.2 -0.5
SCIA epP pP 22 34 53.6 -0.6
R27A Eads 73.98 332 ⇓P P 22 34 26.0 +0.3
baz=74,SNR=9.8
O32A Brockman Farm, 73.98 336 ⇓P P 22 34 25.7 +0.1
baz=74,SNR=5.3
JFWS Jewell Farm 73.98 343 eP P 22 34 24.4 -1.1
JFWS e*PP pP 22 34 54.4 -0.5
JFWS Jewell Farm 73.98 343 eP P 22 34 24.4 -1.1
JFWS epP pP 22 34 54.4 -0.5
T24B San Luis 74.05 330 ⇓P P 22 34 27.7 +1.3
baz=74
TVO Taravao 74.05 258 eP P 22 34 28.3 +1.7
comp=Z,99nm,1.5s
TVO epP pP 22 34 56.8 +0.8
comp=Z,50nm,1.2s
P30A Selden 74.06 335 ⇓P P 22 34 26.6 +0.5
baz=74,SNR=6.7
PMOR Pomariorio Ree 74.07 261 eP P 22 34 28.2 +1.6
comp=Z,190nm,1.2s
S25A Robets Cordova 74.14 331 ⇓P P 22 34 27.8 +1.0
baz=74,SNR=41
X18A Snowflake 74.15 325 ⇓P P 22 34 28.3 +1.4
baz=74
Q28A Sharon Springs 74.26 333 ⇓P P 22 34 28.0 +0.7
baz=75,SNR=9.5
O31A Woolen Ranch, 74.26 336 ⇑P P 22 34 27.5 +0.3
baz=75,SNR=6.3
R26A Arlington 74.26 332 ⇓P P 22 34 27.9 +0.5
baz=75,SNR=26
T23A Casias Ranch, 74.32 329 ⇑P P 22 34 29.0 +1.1
baz=75,SNR=5.4
P29A Atwood 74.38 334 ⇑P P 22 34 28.7 +0.7
baz=75,SNR=13
PAE Paea 74.38 258 eP P 22 34 30.0 +1.6
comp=Z,26nm,1.1s
PAE epP pP 22 34 58.7 +0.8
comp=Z,37nm,1.1s
PPT2 Papeete2 74.41 258 eP P 22 34 30.5 +1.8
comp=Z,220nm,1.2s
PPT2 epP pP 22 34 58.9 +0.7
comp=Z,177nm,1.2s
PPT2 eS S 22 43 55.6 +1.4
comp=Z,1µm,28.8s
PPT2 Papeete2 74.41 258 eLQ LQ 22 54 29.4
comp=Z,1µm,24.2s
PPT2 eLR LR 22 57 41.7
comp=Z,1µm,23.0s
PPT Papeete 74.42 258 P P 22 34 30.9 +2.2
PPT *PP pP 22 35 01.1 +2.9
PPT pmax pmax
comp=Z,132nm,1.0s
PPT pmax pmax
comp=Z,108nm,0.8s
PPT Papeete 74.42 258 P P 22 34 30.9 +2.2
comp=Z,132nm,1.0s,baz=89,slow=0.9,SNR=10
PPT pP pP 22 35 01.1 +2.9
comp=Z,108nm,0.8s,baz=162,slow=3.0,SNR=2.9

PPT Papeete 74.42 258 eP P 22 34 30.3 +1.6
PPT epP pP 22 34 58.4 +0.2
N32A Stulken Farm, 74.43 337 ⇑P P 22 34 28.4 +0.2
baz=75
S24A Houchin Ranch, 74.46 330 ⇑P P 22 34 30.2 +1.4
baz=75,SNR=47
R25A Fountain Ranch 74.48 331 ⇑P P 22 34 29.5 +0.8
baz=75
W18A Petrified Fore 74.51 326 ⇓P P 22 34 30.1 +1.1
baz=75
W18A Petrified Fore 74.51 326 eP P 22 34 29.7 +0.7
W18A epP pP 22 34 58.6 +0.2
KSCO Kaye Shedlock' 74.53 333 ⇑P P 22 34 29.9 +1.0
baz=75,SNR=9.5
KSCO Kaye Shedlock' 74.53 333 eP P 22 34 29.8 +0.9
KSCO epP pP 22 34 58.5 0.0
SUR Sutherland 74.54 119 eP P 22 34 30.3 +0.9
SUR AMB AMB 22 34 33.8
comp=Z,119nm,3.0s
SUR AMS AMS 22 55 04.4
comp=Z,971nm,6.0s
SUR Sutherland 74.54 119 eP P 22 34 29.3 -0.2
comp=Z,27nm,1.0s
SUR epP pP 22 34 56.9 -2.0
O30A MW Ranch, Wils 74.55 335 ⇑P P 22 34 29.5 +0.6
baz=75
P28A Saint Francis 74.67 334 ⇑P P 22 34 30.7 +1.0
baz=75
SDCO Great Sand Dun 74.67 330 ⇓P P 22 34 30.9 +1.0
baz=75
N31A Bailey Ranch, 74.72 336 ⇑P P 22 34 30.5 +0.6
baz=75
O29A 4D Ranch, Culb 74.78 335 ⇓P P 22 34 30.8 +0.6
baz=75,SNR=6.9
113A Mohawk Valley, 74.79 321 ⇑P P 22 34 31.6 +1.2
baz=75
Z14A Wintersburg 74.80 322 ⇑P P 22 34 31.9 +1.4
baz=75
Q26A Hugo 74.82 332 ⇓P P 22 34 31.5 +0.9
baz=75,SNR=12
X16A Lo Mia Camp, P 74.82 324 ⇓P P 22 34 32.4 +1.6
baz=75
S23A Nye Farm, Mont 74.86 330 ⇓P P 22 34 32.1 +1.1
baz=75
R24A Sanders Place, 74.90 331 ⇓P P 22 34 32.4 +1.2
baz=75,SNR=17
BGNE Belgrade 74.96 337 ⇑P P 22 34 31.5 +0.4
baz=75,SNR=15
BGNE Belgrade 74.96 337 eP P 22 34 31.2 0.0
BGNE epP pP 22 35 00.9 +0.2
P27A Ficken Ranch, 74.98 333 ⇑P P 22 34 32.6 +1.1
baz=75
N30A Hueftle Ranch, 75.11 335 ⇓P P 22 34 32.8 +0.7
baz=75
Q25A Bedland, Calha 75.11 332 ⇑P P 22 34 33.1 +0.7
baz=75
O28A Krutsinger Ran 75.15 334 ⇓P P 22 34 33.2 +0.8
baz=76,SNR=7.2
R23A Moffat 75.18 330 ⇓P P 22 34 33.9 +1.1
baz=76,SNR=26
M31A Lambtecht Ranc 75.19 337 ⇑P P 22 34 33.3 +0.8
baz=76,SNR=17
S22A 4UR Ranch, Cre 75.26 329 ⇓P P 22 34 34.2 +0.8
baz=76,SNR=17
S22A 4UR Ranch, Cre 75.26 329 eP P 22 34 33.8 +0.5
S22A epP pP 22 35 03.2 +0.3
Y14A Wickenburg 75.27 323 ⇑P P 22 34 34.2 +1.0
baz=76
P26A Davis Ranch, A 75.29 333 ⇓P P 22 34 34.2 +0.9
baz=76,SNR=7.3
N29A Votaw Ranch, W 75.32 335 ⇑P P 22 34 33.8 +0.5
baz=76,SNR=8.7
O27A Beecher Island 75.48 334 ⇑P P 22 34 35.4 +1.1
baz=76,SNR=8.6
Q24A Divide 75.53 331 ⇓P P 22 34 35.9 +1.0
baz=76,SNR=34
Q24A Divide 75.53 331 eP P 22 34 35.7 +0.7
Q24A epP pP 22 35 06.1 +1.6
N28A Pribbeno Ranch 75.55 334 ⇑P P 22 34 35.4 +0.7
baz=76
P25A Willow Gulch B 75.58 332 ⇑P P 22 34 36.4 +1.4
baz=76,SNR=20
MVCO Mesa Verde 75.59 328 ⇑P P 22 34 36.3 +1.1
baz=76
MVCO Mesa Verde 75.59 328 eP P 22 34 35.6 +0.4
MVCO epP pP 22 35 05.4 +0.6
GLA Glamis 75.59 321 eP P 22 34 36.1 +1.1
GLA e*PP pP 22 35 04.1 -0.5
GLA Glamis 75.59 321 ⇑P P 22 34 36.4 +1.3
baz=76
GLA Glamis 75.59 321 eP P 22 34 36.1 +1.1
GLA epP pP 22 35 04.1 -0.5
WUAZ Wupatki 75.65 325 ⇑P P 22 34 37.0 +1.5
baz=76
WUAZ Wupatki 75.65 325 eP P 22 34 36.5 +1.1
WUAZ epP pP 22 35 06.7 +1.6
M30A Dale-Ortello V 75.67 336 ⇓P P 22 34 36.0 +0.6
baz=76
Q23A Hartsel 75.78 331 ⇓P P 22 34 37.5 +1.2
baz=76
O26A Horse Wrangler 75.86 333 ⇓P P 22 34 37.7 +1.2
baz=76
L31A Butterfield Fa 75.88 337 ⇑P P 22 34 37.0 +0.5
baz=76,SNR=14
M29A Burnside Ranch 75.89 335 ⇓P P 22 34 37.5 +1.0
baz=76
P24A Kohler Place, 75.89 332 ⇓P P 22 34 37.8 +1.0
baz=76
Y12C Blythe 75.95 322 ⇓P P 22 34 38.3 +1.3
baz=76
OGNE Ogallala 75.96 334 ⇑P P 22 34 37.9 +0.9
baz=76
L30A Spencer Herefo 75.98 336 ⇑P P 22 34 37.6 +0.6
baz=76,SNR=7.5
N27A Anderson Farm, 76.03 334 ⇑P P 22 34 38.2 +0.7
baz=76,SNR=5.6
SWSC Sam W. Stewart 76.05 320 ⇑P P 22 34 38.6 +1.0
baz=76
O25A Wiggins 76.07 332 ⇑P P 22 34 38.9 +1.2
baz=76,SNR=6.6
M28A Bar X Bar Ranc 76.10 335 ⇓P P 22 34 39.0 +1.2
baz=76,SNR=6.5
PDMCI Parker Dam,Lak 76.16 322 ⇓P P 22 34 39.5 +1.3
baz=76
P23A Jefferson 76.17 331 ⇓P P 22 34 40.1 +1.6
baz=76
N26A Koester Ranch, 76.32 333 ⇑P P 22 34 40.4 +1.3
baz=77
L29A Maesberg Ranch 76.35 336 ⇑P P 22 34 40.0 +0.9
baz=77
BAR Barrett 76.35 319 eP P 22 34 40.1 +0.7
BAR epP pP 22 35 10.0 +1.0
MONP Monument Peak, 76.36 320 ⇓P P 22 34 40.9 +1.2
baz=77
PV01 Paradox Valley 76.37 328 eP P 22 34 40.4 +0.8
PV01 epP pP 22 35 10.7 +1.5
BC3 Big Chuckawall 76.39 321 ⇑P P 22 34 40.9 +1.3
baz=77
ISCO Idaho Springs 76.43 331 eP P 22 34 40.5 +0.5
ISCO e*PP pP 22 35 09.3 -0.3
ISCO Idaho Springs 76.43 331 ⇑P P 22 34 41.1 +1.1
baz=77
ISCO Idaho Springs 76.43 331 eP P 22 34 40.5 +0.5
ISCO epP pP 22 35 09.2 -0.3
O24A Longmont 76.47 332 ⇓P P 22 34 41.1 +1.1
baz=77
SMCO Snowmass 76.50 330 eP P 22 34 41.6 +1.1
SMCO epP pP 22 35 12.0 +1.9
ECSD EROS Data Cent 76.54 339 ⇑P P 22 34 40.4 +0.2
baz=77
ECSD EROS Data Cent 76.54 339 eP P 22 34 39.9 -0.2
ECSD epP pP 22 35 09.8 +0.1
UPI Upington 76.56 115 ⇓iP P 22 34 41.8 +0.9
UPI AMB AMB 22 34 42.2
comp=Z,203nm,1.3s
UPI Upington 76.56 115 eP P 22 34 41.8 +0.9
PV05 Paradox Valley 76.57 328 eP P 22 34 41.2 +0.5
PV05 epP pP 22 35 11.8 +1.4
K30A Basset 76.58 337 ⇓P P 22 34 40.7 +0.3
baz=77,SNR=8.1
M27A Reverse DX Ran 76.60 334 ⇓P P 22 34 41.3 +0.7
baz=77
IRM Iron Mountain 76.60 321 ⇑P P 22 34 41.9 +1.2
baz=77
W13A Hualapai Mount 76.63 323 ⇓P P 22 34 42.5 +1.4
baz=77

N25A Grover 76.65 333 ⇓P P 22 34 42.5 +1.4
baz=77
L28A Connealy Angus 76.68 335 ⇓P P 22 34 42.2 +1.1
baz=77
COWI Conover 76.72 345 eP P 22 34 41.0 -0.1
COWI epP pP 22 35 10.8 0.0
P22A Eagle 76.75 330 ⇓P P 22 34 43.1 +1.4
baz=77
109C Camp Elliot, M 76.75 319 ⇓P P 22 34 42.4 +0.9
baz=77
NEE2 Needles Airpor 76.77 322 ⇑P P 22 34 42.8 +1.2
baz=77
PV10 Paradox Valley 76.78 328 eP P 22 34 42.3 +0.4
PV10 epP pP 22 35 11.2 -0.4
BUFB Buffelsbos 76.79 122 eP P 22 34 49.4 +7.5
SPMN Marine on St. 76.80 342 ⇑P P 22 34 41.3 -0.2
baz=77
SPMN Marine on St. 76.80 342 eP P 22 34 40.7 -0.8
SPMN epP pP 22 35 10.2 -1.0
U15A North Rim 76.82 325 ⇑P P 22 34 44.0 +1.8
baz=77
M26A McRoberts Ranc 76.83 334 ⇑P P 22 34 43.0 +1.0
baz=77
O23A Lake Granby, G 76.90 331 ⇑P P 22 34 43.8 +1.3
baz=77
K29A Lazy Trails An 76.91 336 ⇓P P 22 34 43.2 +0.9
baz=77
PFO Pinyon Flats O 76.91 320 eP P 22 34 43.3 +0.7
PFO e*PP pP 22 35 13.9 +1.6
PFO Pinyon Flats O 76.91 320 ⇑P P 22 34 44.2 +1.6
baz=77
PFO Pinyon Flats O 76.91 320 eP P 22 34 43.3 +0.7
PFO epP pP 22 35 13.9 +1.6
PV09 Paradox Valley 76.92 328 eP P 22 34 43.6 +0.8
PV09 epP pP 22 35 12.5 +0.1
BELC Belle Mtn. Jos 76.95 321 ⇑P P 22 34 44.0 +1.2
baz=77
N24A Carr 76.98 332 ⇓P P 22 34 44.2 +1.3
baz=77
L27A T5 Ranch, Ells 77.05 335 ⇓P P 22 34 44.2 +1.1
baz=77
J30A Dallas 77.11 337 ⇑P P 22 34 43.6 +0.2
baz=77
O22A Kremmling 77.13 331 ⇑P P 22 34 44.7 +0.9
baz=77
M25A Palm-Egli Farm 77.17 333 ⇑P P 22 34 44.8 +1.0
baz=78
K28A Ten Mile Ranch 77.24 336 ⇑P P 22 34 45.5 +1.4
baz=78
LDFC Landfair 77.27 322 eP P 22 34 45.3 +0.8
LDFC epP pP 22 35 16.4 +2.2
L26A Underwood Farm 77.30 334 ⇑P P 22 34 45.5 +0.9
baz=78
MURC Murrieta 77.33 320 ⇑P P 22 34 46.0 +1.2
baz=78
GMRC Granite Mounta 77.34 322 ⇓P P 22 34 46.4 +1.4
baz=78
MAW Mawson 77.39 163 P P 22 34 45.1 +0.4
MAW *PP pP 22 35 14.2 -0.1
MAW pmax pmax
comp=Z,96nm,0.8s
MAW pmax pmax
comp=Z,70nm,1.0s
MAW Mawson 77.39 163 P P 22 34 45.1 +0.4
comp=Z,96nm,0.8s,baz=218,slow=6.7,SNR=56
MAW pP pP 22 35 14.2 -0.1
comp=Z,70nm,1.0s,baz=224,slow=6.2,SNR=4.8
MAW LR LR 23 07 52.7
comp=Z,302nm,21.0s,baz=231,slow=35
J29A Okreek 77.47 337 ⇓P P 22 34 45.8 +0.4
baz=78
N23A Red Feather La 77.48 332 ⇓P P 22 34 47.0 +1.2
baz=78
N23A Red Feather La 77.48 332 eP P 22 34 46.3 +0.5
N23A epP pP 22 35 16.9 +1.4
TSUM Tsumeb 77.48 105 ⇓iP P 22 34 47.3 +1.1
TSUM Tsumeb 77.48 105 eP P 22 34 46.7 +0.5
comp=Z,114nm,1.0s
TSUM epP pP 22 35 14.9 -1.0
M24A Cheyenne 77.50 333 ⇑P P 22 34 47.1 +1.3
baz=78
KNB Kanab 77.55 325 eP P 22 34 47.2 +1.1
KNB e*PP pP 22 35 18.1 +2.3
KNB Kanab 77.55 325 eP P 22 34 47.2 +1.1
KNB epP pP 22 35 18.1 +2.3
K27A Flueckinger Fa 77.55 335 ⇑P P 22 34 47.2 +1.3
baz=78
I30A Oacoma 77.61 337 ⇑P P 22 34 46.2 +0.1
baz=78
N22A Wattenberg Ran 77.62 331 ⇑P P 22 34 48.1 +1.5
baz=78
PHWY Pilot Hill 77.62 332 eP P 22 34 46.6 0.0
PHWY epP pP 22 35 17.7 +1.4
BBRC Big Bear Solar 77.66 320 ⇓P P 22 34 48.5 +1.6
baz=78
L25A Engebretsen Ra 77.74 334 ⇓P P 22 34 48.4 +1.4
baz=78
HEC Hector,Ludlow 77.75 321 ⇓P P 22 34 49.0 +1.8
baz=78
J28A Allard Ranch, 77.81 336 ⇑P P 22 34 47.9 +0.6
baz=78
O20A White River Ci 77.84 330 ⇑P P 22 34 48.8 +1.1
baz=78
O20A White River Ci 77.84 330 eP P 22 34 48.3 +0.6
O20A epP pP 22 35 18.1 +0.6
M23A Laramie 77.87 332 ⇑P P 22 34 48.7 +0.9
baz=78
CIS Catalina Islan 77.88 319 ⇓P P 22 34 49.1 +1.2
baz=78
K26A Motz Farm, Whi 77.90 334 ⇑P P 22 34 48.9 +1.1
baz=78
BRSD Miller 77.92 338 ⇓P P 22 34 47.8 0.0
baz=78
BRSD Miller 77.92 338 eP P 22 34 47.6 -0.3
BRSD epP pP 22 35 18.0 +0.4
J27A Elkhorn Farm, 77.94 335 ⇓P P 22 34 49.4 +1.3
baz=78
TUQ Turquoise Moun 77.97 322 ⇑P P 22 34 49.7 +1.2
baz=78
I29A Vivian Onida 78.01 337 ⇓P P 22 34 48.5 +0.2
baz=78
PMAR Madeira 78.02 42 epP pP 22 35 20.4 +1.8
PMAR A A 22 35 41.8
comp=Z,187nm,1.4s
L24A Wheatland 78.03 333 ⇑P P 22 34 49.5 +0.9
baz=78
BFSC Mount Baldy Ra 78.06 320 ⇓P P 22 34 49.9 +1.0
baz=78
SRU San Rafael Swe 78.06 328 eP P 22 34 49.5 +0.5
SRU e*PP pP 22 35 19.9 +1.2
SRU San Rafael Swe 78.06 328 eP P 22 34 49.5 +0.5
SRU epP pP 22 35 19.9 +1.2
DRLN Deer Lake 78.08 7 eP P 22 34 47.8 -0.7
DRLN epP pP 22 35 18.2 0.0
K25A Mack Ranch, Ha 78.09 334 ⇑P P 22 34 50.3 +1.4
baz=78
RRX Edison Barstow 78.15 321 ⇓P P 22 34 50.7 +1.3
baz=78
M22A Cedar Creek Ra 78.18 331 ⇓P P 22 34 50.7 +1.1
baz=78
CCUT Cedar City 78.23 325 eP P 22 34 51.0 +1.0
CCUT epP pP 22 35 19.8 0.0
MWC Mount Wilson 78.27 320 eP P 22 34 50.5 +0.3
MWC e*PP pP 22 35 21.2 +1.2
MWC Mount Wilson 78.27 320 eP P 22 34 50.5 +0.3
MWC epP pP 22 35 21.2 +1.2
I28A Midland 78.29 336 ⇓P P 22 34 50.4 +0.5
baz=79
PASC Pasadena Art C 78.31 320 eP P 22 34 49.6 -0.6
PASC epP pP 22 35 21.4 +1.5
GSC Goldstone, Bar 78.36 321 eP P 22 34 51.2 +0.6
GSC e*PP pP 22 35 19.4 -0.9
GSC Goldstone, Bar 78.36 321 ⇓P P 22 34 52.1 +1.5
baz=79
GSC Goldstone, Bar 78.36 321 eP P 22 34 51.2 +0.6
GSC epP pP 22 35 19.4 -0.9
SHPR Sheep Range 78.37 323 eP P 22 34 51.6 +0.9
SHPR epP pP 22 35 19.8 -0.7
J26A Sides Ranch, S 78.39 335 ⇑P P 22 34 51.9 +1.3
baz=79
MVU Marysvale 78.40 326 eP P 22 34 52.0 +1.1
MVU epP pP 22 35 22.1 +1.5
L23A Garrett 78.40 332 ⇓P P 22 34 51.3 +0.5
baz=79
N20A Spence Gulch, 78.42 330 ⇑P P 22 34 52.0 +1.1

baz=79
DECC Green Verdugo 78.44 320 ⇓P P 22 34 52.1 +1.1
baz=79
GRM Grahamstown 78.48 122 eP P 22 34 51.8 +0.4
GRM AMB AMB 22 35 23.1
comp=Z,220nm,1.4s
GRM Grahamstown 78.48 122 eP P 22 34 51.8 +0.4
GRM Grahamstown 78.48 122 eP P 22 34 51.8 +0.4
H29A Onida 78.51 337 ⇓P P 22 34 51.3 +0.2
baz=79
SHOC Shoshone, Teco 78.51 322 ⇑P P 22 34 52.3 +1.0
baz=79
TMUT Trail Mountain 78.54 327 eP P 22 34 52.5 +0.7
TMUT epP pP 22 35 22.6 +1.1
K24A Anderson Ranch 78.56 333 ⇓P P 22 34 52.6 +1.1
baz=79
G30A Faulkton 78.60 338 ⇓P P 22 34 51.4 -0.1
baz=79
L22A Ellis Ranch, M 78.63 332 ⇑P P 22 34 53.5 +1.5
baz=79
I27A Quinn 78.67 336 ⇓P P 22 34 52.5 +0.5
baz=79
EDW2 Edwards Air Fo 78.71 320 ⇓P P 22 34 53.3 +0.8
baz=79
J25A Sunshine Ranch 78.73 334 ⇓P P 22 34 53.5 +1.0
baz=79
H28A Mission Ridge 78.83 337 ⇓P P 22 34 53.3 +0.4
baz=79
K23A Bowen Ranch, D 78.91 333 ⇑P P 22 34 54.5 +1.1
baz=79
G29A Hoven 78.91 338 ⇓P P 22 34 53.2 0.0
baz=79
I26A New Underwood 78.93 335 ⇓P P 22 34 54.0 +0.6
baz=79
OSI Osito Audit: C 78.93 320 ⇓P P 22 34 54.2 +0.5
baz=79
OSI Osito Audit: C 78.93 320 eP P 22 34 54.0 +0.3
OSI epP pP 22 35 23.4 0.0
LRMC Laurel Mtn Rad 78.97 321 ⇑P P 22 34 54.8 +0.8
baz=79
EYMN Ely 79.01 344 eP P 22 34 52.7 -1.0
EYMN epP pP 22 35 22.3 -1.2
J24A Dixon Ranch, L 79.01 334 ⇑P P 22 34 55.5 +1.5
baz=79
BSC Santa Cruz Isl 79.01 319 ⇓P P 22 34 55.0 +0.9
baz=79
G28A Parade 79.14 337 ⇑P P 22 34 55.1 +0.5
baz=80
H27A Howes 79.16 336 ⇑P P 22 34 55.2 +0.5
baz=80
K22A Casper 79.18 332 ⇓P P 22 34 55.8 +0.8
baz=80
K22A Casper 79.18 332 eP P 22 34 55.5 +0.5
comp=Z,670nm,2.0s
K22A epP pP 22 35 23.3 -1.5
F30A Leola 79.19 339 ⇓P P 22 34 54.8 +0.1
baz=80
TOA0 Torodi Ar. Sit 79.23 69 eP P 22 34 56.1 +0.4
TOA0 epP pP 22 35 25.6 +0.2
TOA0 eS S 22 44 47.0 +0.6
TORD Torodi Ar. Bea 79.23 69 P P 22 34 56.1 +0.4
comp=Z,53nm,0.8s,baz=274,slow=5.8,SNR=546
TORD pP pP 22 35 25.6 +0.2
comp=Z,298nm,0.8s,baz=252,slow=4.6,SNR=24
TORD S S 22 44 47.0 +0.6
comp=Z,2.7nm,1.1s,baz=229,slow=2.7,SNR=8.0
TORD PKKPbc PKKPbc 22 53 46.0 +0.8
comp=Z,0.7nm,0.6s,baz=54,slow=2.2,SNR=16
TORD LR LR 23 07 24.2
comp=Z,490nm,20.4s,baz=240,slow=34
I25A Rochford 79.24 335 ⇑P P 22 34 56.2 +0.9
baz=80
FURC Furnace Creek, 79.25 322 ⇓P P 22 34 56.6 +1.4
baz=80
TPNV Topopah Spring 79.28 323 eP P 22 34 56.3 +0.7
TPNV e*PP pP 22 35 25.6 +0.2
TPNV Topopah Spring 79.28 323 ⇓P P 22 34 57.2 +1.6
baz=80
TPNV Topopah Spring 79.28 323 eP P 22 34 56.3 +0.7
TPNV epP pP 22 35 25.6 +0.2
MPMC Manual Prospec 79.29 321 ⇓P P 22 34 56.5 +0.8
baz=80
MPU Maple Canyon 79.30 327 eP P 22 34 56.0 +0.3
MPU epP pP 22 35 24.9 -0.7
ARVC Arvin 79.36 320 ⇑P P 22 34 57.2 +1.2
baz=80
SBC Santa Barbara 79.38 319 ⇑P P 22 34 56.7 +0.8
baz=80
H26A Fairpoint 79.40 336 ⇑P P 22 34 56.2 +0.2
baz=80
J23A Dilts Ranch, B 79.42 333 ⇓P P 22 34 57.2 +1.0
baz=80
DAU Daniels Canyon 79.44 328 eP P 22 34 57.2 +0.6
DAU e*PP pP 22 35 28.1 +1.7
DAU Daniels Canyon 79.44 328 eP P 22 34 57.2 +0.6
DAU epP pP 22 35 28.1 +1.7
RSSD Black Hills 79.44 335 eP P 22 34 56.4 0.0
RSSD e*PP pP 22 35 25.4 -0.9
RSSD Black Hills 79.44 335 eP P 22 34 56.4 0.0
RSSD epP pP 22 35 25.4 -0.9
F29A Eureka 79.44 338 ⇑P P 22 34 56.1 0.0
baz=80
I24A Kuemmerle Ranc 79.44 334 ⇑P P 22 34 57.3 +1.0
baz=80
NLU North Lily Min 79.47 327 eP P 22 34 57.4 +0.7
NLU epP pP 22 35 27.1 +0.6
K21A Alcova 79.47 332 ⇑P P 22 34 57.3 +0.7
baz=80
DAC Darwin (Calif) 79.51 321 eP P 22 34 57.0 0.0
DAC e*PP pP 22 35 28.1 +1.3
DAC Darwin (Calif) 79.51 321 eP P 22 34 57.0 0.0
DAC epP pP 22 35 28.1 +1.3
ISA Isabella, Lake 79.55 320 eP P 22 34 57.7 +0.7
ISA e*PP pP 22 35 27.9 +1.1
ISA Isabella, Lake 79.55 320 ⇓P P 22 34 58.1 +1.0
baz=80
ISA Isabella, Lake 79.55 320 eP P 22 34 57.7 +0.7
ISA epP pP 22 35 27.9 +1.1
BOSA Boshof 79.62 117 AMB AMB 22 34 57.8
comp=Z,166nm,1.1s
BOSA ⇓*i*P P 22 34 58.0 +0.2
BOSA AMS AMS 23 07 57.3
comp=Z,732nm,5.2s
BOSA Boshof 79.62 117 P P 22 34 58.0 +0.2
comp=Z,121nm,0.8s,baz=255,slow=3.8,SNR=147
BOSA pP pP 22 35 27.6 0.0
comp=Z,75nm,0.8s,baz=237,slow=3.6,SNR=6.2
BOSA PKKPbc PKKPbc 22 53 44.1 +0.3
comp=Z,4.5nm,1.0s,baz=108,slow=3.2,SNR=3.1
BOSA LR LR 23 06 12.1
comp=Z,584nm,19.8s,baz=237,slow=32
H25A Fruitdale 79.70 335 ⇓P P 22 34 58.0 +0.4
baz=80
E30A Jud 79.74 339 ⇓P P 22 34 57.9 +0.2
baz=80
G27A Dupree 79.76 337 ⇓P P 22 34 58.3 +0.4
baz=80
F28A McLaughlin 79.78 338 ⇓P P 22 34 58.5 +0.6
baz=80
J22A Midwest 79.80 333 ⇑P P 22 34 58.9 +0.6
baz=80
I23A Meade Ranch, G 79.85 334 ⇓P P 22 34 59.0 +0.5
baz=80
CTU Camp Tracy 79.89 328 eP P 22 34 58.7 -0.2
CTU epP pP 22 35 28.9 +0.2
GRAC Grapevine Rang 79.92 322 ⇑P P 22 34 59.9 +1.0
baz=80
G26A Maurine 79.92 336 ⇓P P 22 34 58.9 +0.1
baz=80
R11A Troy Canyon, C 79.98 324 ⇑P P 22 35 00.4 +1.0
baz=80
R11A Troy Canyon, C 79.98 324 eP P 22 35 00.1 +0.7
R11A epP pP 22 35 29.1 -0.2
DUG Dugway, Tooele 80.01 327 eP P 22 34 59.9 +0.4
DUG e*PP pP 22 35 29.7 +0.4
DUG pmax pmax
comp=Z,274nm,1.9s
DUG Dugway, Tooele 80.01 327 ⇑P P 22 35 00.2 +0.7
baz=80
DUG Dugway, Tooele 80.01 327 eP P 22 34 59.9 +0.4
comp=Z,274nm,1.9s
DUG epP pP 22 35 29.7 +0.4
VES Vestal, Richgr 80.02 320 ⇓P P 22 35 00.3 +0.9
baz=80
E29A Napoleon 80.03 339 ⇓P P 22 34 59.5 +0.2
baz=80

TCUT Toone Canyon 80.07 328 eP P 22 34 59.8 -0.2
TCUT epP pP 22 35 30.0 +0.3
G25A Newell 80.13 336 ⇓P P 22 35 00.1 +0.2
baz=80
J21A Lysite 80.14 332 ⇓P P 22 35 00.7 +0.5
baz=80
SMMC Simmler 80.16 319 ⇑P P 22 35 01.5 +1.2
baz=80
H24A Dirks Ranch, A 80.17 335 ⇑P P 22 35 00.4 +0.2
baz=80
I22A 9 Mile Ranch, 80.20 333 ⇑P P 22 35 01.0 +0.6
baz=80
F27A Lemmon 80.22 337 ⇓P P 22 35 00.6 +0.3
baz=80
D30A Buchanan 80.23 339 ⇑P P 22 35 00.8 +0.5
baz=81
H23A Clabaugh Cattl 80.33 334 ⇓P P 22 35 01.5 +0.4
baz=81
E28A Huff 80.38 338 ⇑P P 22 35 01.9 +0.7
baz=81
J20A Shoshoni 80.41 332 ⇑P P 22 35 02.9 +1.3
baz=81
TIN Tinemaha, Big 80.42 322 ⇑P P 22 35 03.1 +1.4
baz=81
F26A Lodgepole 80.43 336 ⇑P P 22 35 02.1 +0.6
baz=81
RCTC Rector, Farmer 80.44 320 ⇑P P 22 35 01.9 +0.2
baz=81
D29A Pettibone, Tap 80.45 339 ⇑P P 22 35 01.9 +0.3
baz=81
AGMN Agassiz Nation 80.46 342 ⇑P P 22 35 01.4 -0.1
baz=81
AGMN Agassiz Nation 80.46 342 eP P 22 35 01.2 -0.3
AGMN epP pP 22 35 31.1 -0.3
I21A Big Trails, Te 80.46 332 ⇑P P 22 35 02.1 +0.3
baz=81
HWUT Hardware Ranch 80.53 329 eP P 22 35 02.5 +0.2
HWUT epP pP 22 35 32.1 -0.1
E27A Carson 80.55 337 ⇓P P 22 35 02.4 +0.3
baz=81
BW06 Boulder Array 80.56 330 eP P 22 35 02.1 -0.3
BW06 epP pP 22 35 30.8 -1.6
PD31 Pinedale Array 80.56 330 eP P 22 35 02.4 -0.1
PD31 epP pP 22 35 32.1 -0.3
PDAR Pinedale Array 80.56 330 P P 22 35 02.6 +0.2
comp=Z,26nm,0.8s,baz=131,slow=5.5,SNR=103
PDAR pP pP 22 35 33.6 +1.3
comp=Z,45nm,0.9s,baz=134,slow=3.5,SNR=11
PDAR PKKPbc PKKPbc 22 53 41.5 -2.9
comp=Z,1.0nm,0.7s,baz=143,slow=1.9,SNR=7.7
PDAR LR LR 23 11 29.4
comp=Z,137nm,18.5s,baz=208,slow=36
G24A Alzada 80.61 335 ⇑P P 22 35 02.8 +0.3
baz=81
TPH Tonopah 80.63 323 eP P 22 35 03.0 +0.1
TPH e*PP pP 22 35 32.5 -0.3
TPH Tonopah 80.63 323 eP P 22 35 03.0 +0.1
TPH epP pP 22 35 32.5 -0.3
BGU Big Grassy Mou 80.68 327 eP P 22 35 02.7 -0.4
BGU epP pP 22 35 33.2 +0.3
C30A Mose, Pekin 80.68 340 ⇓P P 22 35 03.2 +0.5
baz=81
H22A Clearmont 80.73 333 ⇑P P 22 35 03.5 +0.3
baz=81
J19A Crowheart 80.74 331 ⇓P P 22 35 04.3 +0.9
baz=81
F25A Bowman 80.77 336 ⇑P P 22 35 03.8 +0.5
baz=81
G23A Biddle 80.87 334 ⇓P P 22 35 04.2 +0.3
baz=81
D28A Regan 80.88 338 ⇑P P 22 35 04.4 +0.6
baz=81
E26A Carlson Angus 80.89 337 ⇓P P 22 35 04.1 +0.1
baz=81
I20A Worland 80.92 332 ⇑P P 22 35 04.9 +0.7
baz=81
H21A Big Horn, Sher 81.03 333 ⇓P P 22 35 04.9 +0.1
baz=81
F24A Ekalaka 81.06 335 ⇓P P 22 35 05.1 +0.2
baz=81
D27A Center 81.12 338 ⇑P P 22 35 05.6 +0.4
baz=81
MDND Maddock 81.15 339 ⇑P P 22 35 05.8 +0.6
baz=82
MDND Maddock 81.15 339 eP P 22 35 05.6 +0.4
MDND epP pP 22 35 35.3 +0.1
MLAC Mammoth, Mammo 81.17 322 ⇑P P 22 35 07.0 +1.1
baz=82
HVU Hansel Valley 81.22 328 eP P 22 35 05.8 -0.2
HVU e*PP pP 22 35 35.4 -0.5
HVU Hansel Valley 81.22 328 eP P 22 35 05.8 -0.2
HVU epP pP 22 35 35.4 -0.5
G22A Birney 81.23 334 ⇑P P 22 35 06.0 +0.2
baz=82
E25A Miller Ranch, 81.24 336 ⇑P P 22 35 06.4 +0.6
baz=82
C28A Hausauer Farms 81.28 339 ⇓P P 22 35 06.5 +0.6
baz=82
B30A Myrvik Farm, E 81.30 340 ⇑P P 22 35 06.5 +0.5
baz=82
H20A Greybull 81.30 332 ⇑P P 22 35 06.6 +0.4
baz=82
F23A Volborg 81.31 335 ⇑P P 22 35 06.5 +0.3
baz=82
I19A Meeteetse 81.35 332 ⇓P P 22 35 07.3 +0.7
baz=82
D26A Manning 81.36 337 ⇓P P 22 35 07.1 +0.7
baz=82
RAR Rarotonga 81.45 251 eP P 22 35 06.5 -1.0
RAR e*PP pP 22 35 37.9 +0.5
RAR Rarotonga 81.45 251 eP P 22 35 06.5 -1.0
RAR epP pP 22 35 37.9 +0.5
NV01 Mina Array Sit 81.47 322 eP P 22 35 08.0 +0.6
NV01 epP pP 22 35 39.0 +1.6
NVAR Mina Array Bea 81.47 322 P P 22 35 08.0 +0.6
comp=Z,7.8nm,0.9s,baz=157,slow=6.3,SNR=50
NVAR pP pP 22 35 39.0 +1.6
comp=Z,28nm,0.9s,baz=149,slow=6.1,SNR=15
NVAR PKKPbc PKKPbc 22 53 41.6 -0.3
comp=Z,1.9nm,0.7s,baz=288,slow=1.9,SNR=12
LBTB Lobatse 81.53 114 ⇓*i*P P 22 35 08.3 +0.3
LBTB AMB AMB 22 35 39.1
comp=Z,170nm,2.8s
LBTB AMS AMS 23 09 56.2
comp=Z,817nm,6.0s
LBTB Lobatse 81.53 114 eP P 22 35 07.2 -0.9
LBTB e*PP pP 22 35 37.4 -0.6
LBTB pmax pmax
comp=Z,131nm,0.8s
LBTB Lobatse 81.53 114 eP P 22 35 07.2 -0.9
comp=Z,131nm,0.8s
LBTB epP pP 22 35 37.4 -0.6
G21A Lodge Grass 81.59 333 ⇓P P 22 35 08.3 +0.5
baz=82
REDW Red Top Meadow 81.60 330 eP P 22 35 08.1 +0.1
REDW epP pP 22 35 38.5 +0.5
SEK Senekal 81.61 118 ⇓*i*P P 22 35 08.7 +0.3
SEK AMB AMB 22 35 09.2
comp=Z,215nm,1.2s
SEK Senekal 81.61 118 eP P 22 35 08.7 +0.3
ELK Elko 81.61 326 eP P 22 35 08.2 +0.1
ELK e*PP pP 22 35 38.8 +0.7
ELK Elko 81.61 326 eP P 22 35 08.2 +0.1
ELK epP pP 22 35 38.8 +0.7
E24A Baker 81.62 336 ⇓P P 22 35 08.4 +0.6
baz=82
B29A Wagenman Farm, 81.62 340 ⇓P P 22 35 08.2 +0.5
baz=82
SNOW Snow King Moun 81.64 330 eP P 22 35 08.2 -0.1
SNOW epP pP 22 35 38.2 0.0
C27A Sayler Ranch, 81.65 338 ⇓P P 22 35 08.7 +0.8
baz=82
F22A Rosebud 81.69 334 ⇓P P 22 35 08.6 +0.5
baz=82
LOHW Long Hollow 81.69 330 eP P 22 35 08.7 +0.2
LOHW epP pP 22 35 38.5 +0.1
A30A Hoffart Farm, 81.73 340 ⇑P P 22 35 08.5 +0.2
baz=82
D25A Fairfield 81.77 337 ⇓P P 22 35 09.6 +1.0
baz=82
H19A Powell 81.86 332 ⇓P P 22 35 09.9 +0.7
baz=82
FXWY Fox Creek 81.90 330 eP P 22 35 09.1 -0.5
FXWY epP pP 22 35 39.1 -0.4
B28A Dugan Ranch, T 81.92 339 ⇑P P 22 35 09.9 +0.6
baz=82

I17A Pilgrim Ck. 81.93 331 ⇓P P 22 35 10.9 +1.2
baz=82
E23A Ismay 81.93 335 ⇓P P 22 35 09.5 +0.1
baz=82
C26A Wahner Farm, P 81.94 338 ⇑P P 22 35 10.1 +0.7
baz=82
G20A Bridger 81.99 333 ⇓P P 22 35 10.1 +0.2
baz=82
A29A Manning Farm, 82.00 340 ⇓P P 22 35 09.7 +0.1
baz=82
MSKU Masuku 82.02 88 eP P 22 35 09.8 -0.8
MSKU epP pP 22 35 40.1 -0.5
PRYS Parys 82.05 116 ⇓*i*P P 22 35 10.3 -0.5
PRYS AMB AMB 22 35 11.9
comp=Z,95nm,2.2s
PRYS Parys 82.05 116 eP P 22 35 10.3 -0.5
F21A Absaloka Mine, 82.06 334 ⇑P P 22 35 10.6 +0.4
baz=82
IMW Indian Meadow 82.06 330 eP P 22 35 10.8 +0.4
IMW epP pP 22 35 41.5 +1.1
D24A Glendive 82.10 336 ⇑P P 22 35 11.1 +0.9
baz=82
FLWY Flagg Ranch 82.11 331 eP P 22 35 11.4 +0.8
comp=Z,681nm,2.1s
FLWY epP pP 22 35 41.0 +0.4
E22A Miles City 82.12 335 ⇓P P 22 35 10.5 +0.1
baz=82
WAKR Walker 82.13 322 eP P 22 35 09.9 -1.0
WAKR epP pP 22 35 41.2 +0.3
H18A Shoshone NF, C 82.15 332 ⇑P P 22 35 11.3 +0.5
baz=82
B27A Peters Farms, 82.17 338 ⇑P P 22 35 11.1 +0.6
baz=82
KSR Koster 82.18 115 eP P 22 35 11.4 -0.1
KSR AMB AMB 22 35 12.4
comp=Z,92nm,1.1s
KSR Koster 82.18 115 eP P 22 35 11.4 -0.1
C25A Freed Ranch, W 82.23 337 ⇑P P 22 35 11.5 +0.5
baz=82
ULM Lac du Bonnet 82.24 342 P P 22 35 10.4 -0.4
comp=Z,34nm,0.7s,baz=155,slow=5.7,SNR=66
ULM pP pP 22 35 40.9 0.0
comp=Z,123nm,1.1s,baz=159,slow=4.2,SNR=11
ULM PKKPbc PKKPbc 22 53 37.2 -3.4
comp=Z,5.7nm,0.8s,baz=329,slow=3.8,SNR=13
ULM PKPPKP P'P'df 23 01 41.2 +0.2
comp=Z,0.8nm,0.5s,baz=325,slow=2.9,SNR=3.4
A28A Rude Farm, Bot 82.30 339 ⇑P P 22 35 11.6 +0.3
baz=83
H17A Grant Village 82.31 331 ⇑P P 22 35 13.1 +1.4
baz=83
H17A Grant Village 82.31 331 eP P 22 35 12.2 +0.5
H17A epP pP 22 35 43.8 +2.1
CMB Columbia Colle 82.32 321 eP P 22 35 10.9 -0.7
CMB e*PP pP 22 35 42.3 +0.6
CMB Columbia Colle 82.32 321 eP P 22 35 10.9 -0.7
CMB epP pP 22 35 42.2 +0.6
WDLM Western Deep L 82.33 116 eP P 22 35 12.4 +0.1
WDLM AMB AMB 22 35 12.8
comp=Z,128nm,1.3s
RLMT Red Lodge 82.34 332 eP P 22 35 12.2 +0.4
RLMT epP pP 22 35 42.0 +0.2
LKWY Lake 82.37 331 eP P 22 35 12.9 +0.9
LKWY e*PP pP 22 35 43.0 +1.0
LKWY Lake 82.37 331 eP P 22 35 12.9 +0.9
LKWY epP pP 22 35 43.0 +1.0
BMN Battle Mountai 82.37 324 eP P 22 35 10.8 -1.2
BMN pmax pmax
comp=Z,19nm,0.9s
BMN Battle Mountai 82.37 324 eP P 22 35 10.8 -1.2
comp=Z,19nm,0.9s
LAO LASA Array 82.44 335 eP P 22 35 11.8 -0.3
LAO epP pP 22 35 42.7 +0.7
F20A Billings 82.44 333 ⇑P P 22 35 12.6 +0.4
baz=83
YFT Old Faithful 82.46 331 eP P 22 35 13.1 +0.6
YFT epP pP 22 35 44.1 +1.6
B26A Jensen Ranch, 82.46 338 ⇑P P 22 35 12.7 +0.5
baz=83
C24A Savage 82.49 336 ⇓P P 22 35 13.0 +0.8
baz=83
KLOF Kloof 82.52 116 eP P 22 35 13.4 +0.1
KLOF AMB AMB 22 35 14.0
comp=Z,178nm,1.1s
KLOF Kloof 82.52 116 eP P 22 35 13.4 +0.1
YNR Norris Junctio 82.61 331 eP P 22 35 13.2 0.0
YNR epP pP 22 35 43.6 +0.4
E21A Keefer Ranch, 82.64 334 ⇑P P 22 35 13.5 +0.5
baz=83
A27A Ledoux Ranch, 82.64 339 ⇓P P 22 35 13.5 +0.5
baz=83
DRV Dumont d'Urvil 82.65 191 P P 22 34 54.0 -19
DRV S S 22 44 53.0 -27
DRV SS SS 22 50 35.0 -8.4
DRV L L 22 54 00.0
DRV R 23 01 00.0
B25A Knox Farm, Ray 82.69 337 ⇑P P 22 35 14.2 +0.9
baz=83
YMR Madison River 82.69 331 eP P 22 35 14.8 +1.1
YMR epP pP 22 35 44.8 +1.1
D22A Cohagen 82.81 335 ⇓P P 22 35 14.8 +0.8
baz=83
F19A Roth Farm, Mol 82.81 333 ⇑P P 22 35 14.4 +0.4
baz=83
A26A Wade Farm, Ken 82.85 338 ⇓P P 22 35 14.4 +0.3
baz=83
C23A Lambert 82.99 336 ⇑P P 22 35 15.4 +0.5
baz=83
E20A Meyer Farm, Mu 83.02 333 ⇓P P 22 35 15.6 +0.5
baz=83
ERPM east rand prop 83.02 116 eP P 22 35 16.1 +0.2
ERPM AMB AMB 22 35 17.9
comp=Z,128nm,1.2s
ERPM east rand prop 83.02 116 eP P 22 35 16.1 +0.2
QLMT Earthquake Lak 83.02 331 eP P 22 35 15.7 +0.3
QLMT epP pP 22 35 46.4 +1.0
D21A La Casta Ranch 83.04 334 ⇑P P 22 35 15.7 +0.6
baz=83
GCMT Greycliff 83.05 332 eP P 22 35 15.5 +0.1
GCMT epP pP 22 35 45.5 +0.1
SCHQ Schefferville 83.08 1 P P 22 35 14.7 -0.4
comp=Z,24nm,1.1s,baz=204,slow=4.8,SNR=18
SCHQ pP pP 22 35 45.7 +0.6
comp=Z,57nm,1.1s,baz=164,slow=3.6,SNR=13
SCHQ PKKPbc PKKPbc 22 53 36.5 -2.4
comp=Z,1.9nm,0.7s,baz=342,slow=6.4,SNR=3.8
SCHQ Schefferville 83.08 1 eP P 22 35 14.8 -0.3
SCHQ epP pP 22 35 44.9 -0.3
C22A Vida 83.20 335 ⇓P P 22 35 16.2 +0.2
baz=84
DGMT Dagmar 83.21 337 ⇑P P 22 35 16.6 +0.6
baz=84
DGMT Dagmar 83.21 337 eP P 22 35 15.8 -0.2
DGMT epP pP 22 35 47.0 +1.0
E19A Rath Farm, Rou 83.24 333 ⇑P P 22 35 16.9 +0.6
baz=84
A25A Svangstu Ranch 83.24 338 ⇑P P 22 35 16.8 +0.7
baz=84
SLR Silverton 83.34 116 ⇓*i*P P 22 35 17.3 -0.2
SLR AMB AMB 22 35 18.1
comp=Z,216nm,1.1s
SLR AMS AMS 23 10 26.0
comp=Z,875nm,5.9s
SLR Silverton 83.34 116 eP P 22 35 17.3 -0.2
SLR Silverton 83.34 116 eP P 22 35 17.3 -0.2
HLID Hailey 83.37 328 ⇓P P 22 35 18.3 +1.2
baz=84
HLID Hailey 83.37 328 eP P 22 35 17.7 +0.6
HLID epP pP 22 35 47.9 +0.7
B23A Brockton 83.48 336 ⇓P P 22 35 17.9 +0.5
baz=84
D20A Manuel Ranch, 83.50 334 ⇑P P 22 35 17.8 +0.3
baz=84
A24A Westby 83.53 337 ⇑P P 22 35 18.1 +0.5
baz=84
MCMT McKenzie Canyo 83.64 330 eP P 22 35 19.3 +0.7
MCMT epP pP 22 35 49.9 +1.3
B22A Reddig Ranch S 83.70 336 ⇓P P 22 35 19.0 +0.5
baz=84
BOZ Bozeman (W) 83.76 331 eP P 22 35 18.6 -0.4
BOZ e*PP pP 22 35 48.6 -0.5
BOZ Bozeman (W) 83.76 331 eP P 22 35 18.6 -0.4
BOZ epP pP 22 35 48.6 -0.5
D19A Cripps Ranch, 83.85 333 ⇓P P 22 35 19.4 0.0
baz=84

A23A Redstone 83.86 337 ⇓P P 22 35 19.4 +0.1
baz=84
MFID Camas Ranch 83.92 327 eP P 22 35 19.7 -0.1
comp=Z,106nm,1.5s
MFID epP pP 22 35 49.0 -0.9
DLMT Dillon 83.95 330 eP P 22 35 20.5 +0.5
DLMT epP pP 22 35 51.6 +1.5
C20A Veseth Ranch, 83.96 334 ⇑P P 22 35 19.7 -0.2
baz=84
B21A Ellsworth Farm 84.18 335 ⇓P P 22 35 21.2 +0.2
baz=84
LRM Limekiln Ridge 84.25 331 eP P 22 35 21.8 +0.2
LRM epP pP 22 35 51.7 0.0
A22A Carney Farms, 84.26 336 ⇓P P 22 35 21.5 +0.2
baz=85
C19A Slack Wire Ran 84.38 334 ⇑P P 22 35 22.2 +0.1
baz=85
B20A Solberg Farm, 84.57 335 ⇓P P 22 35 23.0 +0.1
baz=85
WVOR Wild Horse Val 84.57 325 eP P 22 35 22.7 -0.4
WVOR e*PP pP 22 35 53.8 +0.5
WVOR Wild Horse Val 84.57 325 eP P 22 35 22.7 -0.4
WVOR epP pP 22 35 53.8 +0.5
A21A Bergtoll Ranch 84.62 336 ⇑P P 22 35 23.1 0.0
baz=85
EGMT Eagleton 84.89 333 ⇓P P 22 35 24.6 0.0
baz=85
EGMT Eagleton 84.89 333 eP P 22 35 24.2 -0.4
EGMT epP pP 22 35 55.0 +0.2
A20A Cobblestone Ra 84.90 335 ⇓P P 22 35 24.6 +0.1
baz=85
B19A Brinkman Farms 84.93 334 ⇓P P 22 35 24.8 +0.1
baz=85
MOD Modoc Plateau 85.04 324 eP P 22 35 25.5 0.0
MOD epP pP 22 35 55.7 0.0
A19A Klindworth Far 85.24 335 ⇑P P 22 35 26.4 +0.2
baz=86
WDC Whiskeytown Da 85.29 322 eP P 22 35 25.3 -1.4
WDC e*PP pP 22 35 56.8 -0.1
WDC pmax pmax
comp=Z,86nm,1.5s
WDC Whiskeytown Da 85.29 322 eP P 22 35 25.3 -1.4
comp=Z,86nm,1.5s
WDC epP pP 22 35 56.8 -0.1
CASY Casey 85.43 179 eP P 22 35 27.1 0.0
comp=Z,116nm,0.8s
CASY epP pP 22 35 57.0 -0.3
CHMT Chamberlain Mo 85.45 331 eP P 22 35 27.6 +0.1
CHMT epP pP 22 35 57.5 -0.2
N02D Trinity Center 85.66 322 ⇑P P 22 35 28.3 -0.2
baz=86
MSO Missoula 85.68 330 ⇑P P 22 35 29.3 +0.8
baz=86
MSO Missoula 85.68 330 eP P 22 35 28.9 +0.3
MSO epP pP 22 35 58.6 -0.2
KMRM Mail Ridge 85.69 321 eP P 22 35 29.3 +0.5
comp=Z,362nm,1.9s
KMRM epP pP 22 35 57.3 -1.7
BMO Blue Mountains 85.70 327 eP P 22 35 28.6 -0.1
comp=Z,178nm,2.0s
BMO epP pP 22 35 59.0 +0.1
M04C Macdoel 85.76 323 ⇑P P 22 35 29.4 +0.3
baz=86
SLMT Seeley Lake 85.81 331 eP P 22 35 29.1 -0.1
SLMT epP pP 22 36 00.2 +0.8
PFVI Vila Bisbo 85.87 44 epP pP 22 36 01.4 +1.6
PFVI A A 22 36 04.0
comp=Z,270nm,1.7s
K05A Summer Lake 85.93 324 eP P 22 35 30.2 +0.2
K05A epP pP 22 35 58.6 -1.6
M02C Callahan 86.03 322 ⇓P P 22 35 30.8 +0.4
baz=86
MORF Marmelete 86.09 44 eP P 22 35 30.5 -0.3
MORF eS S 22 45 47.7 -7.7
MORF AMS AMS 23 13 19.4
comp=Z,722nm,19.9s
MORF Marmelete 86.09 44 eP P 22 35 32.1 +1.3
comp=Z,166nm,1.2s
MORF Marmelete 86.09 44 eP P 22 35 30.4 -0.3
MORF eS S 22 45 47.7 -7.7
YBH Yreka Blue Hor 86.19 322 eP P 22 35 30.2 -1.0
YBH e*PP pP 22 36 00.9 -0.5
YBH Yreka Blue Hor 86.19 322 eP P 22 35 30.2 -1.0
YBH epP pP 22 36 00.9 -0.5
I07A Izee 86.20 326 eP P 22 35 30.5 -0.8
I07A epP pP 22 36 01.1 -0.4
PTEO Sao Teotonio 86.20 43 eP P 22 35 32.6 +1.4
comp=Z,395nm,1.6s
PTEO epP pP 22 36 03.6 +2.2
K04D Chiloquin, OR 86.31 323 ⇑P P 22 35 32.2 +0.5
baz=87
PBDV Barranco-do-Ve 86.49 44 eP P 22 35 33.3 +0.6
comp=Z,394nm,1.5s
PBDV epP pP 22 36 04.9 +2.0
F10A Beach Ranch, E 86.50 328 eP P 22 35 31.9 -0.8
F10A epP pP 22 36 02.5 -0.3
J05D Fort Rock, OR 86.50 324 ⇓P P 22 35 33.5 +0.7
baz=87
PNCL Nicolau / Gran 86.69 43 eP P 22 35 34.8 +1.2
comp=Z,212nm,1.4s
PNCL epP pP 22 36 05.6 +1.8
MESJ Messejana 86.70 43 eP P 22 35 33.3 -0.3
MESJ eS S 22 45 51.4 -10
MESJ Messejana 86.70 43 eP P 22 35 34.5 +0.9
comp=Z,243nm,1.8s
MESJ epP pP 22 36 05.9 +2.0
MESJ Messejana 86.70 43 eP P 22 35 33.3 -0.3
MESJ eS S 22 45 51.3 -10
PMST Lisbon--Monsan 86.71 42 epP pP 22 36 05.6 +1.7
PMST A A 22 36 08.3
comp=Z,326nm,1.6s
LIS Lisbon 86.71 42 eP P 22 35 33.5 -0.2
LIS eS S 22 45 51.9 -9.4
LIS AMS AMS 23 07 30.4
comp=Z,831nm,24.9s
LIS Lisbon 86.71 42 eP P 22 35 33.4 -0.2
LIS eS S 22 45 51.8 -9.4
PVAQ Vaqueiros 86.72 44 eP P 22 35 34.2 +0.4
comp=Z,274nm,1.5s
PVAQ epP pP 22 36 05.9 +1.9
PVAQ eSKS SKSac 22 45 51.7 +2.0
PMAFR Mafra 86.79 42 eP P 22 35 34.2 +0.1
comp=Z,228nm,1.9s
PMAFR epP pP 22 36 06.0 +1.7
G08A Pilot Rock 86.82 327 eP P 22 35 34.1 -0.1
G08A epP pP 22 36 05.3 +0.9
J04D Umpqua Nationa 86.92 324 ⇓P P 22 35 35.5 +0.6
baz=87
HUMO Hull Mountain 86.93 323 eP P 22 35 33.6 -1.1
HUMO epP pP 22 36 05.5 +0.6
PACT Alcochete 86.94 42 epP pP 22 36 07.3 +2.3
PACT A A 22 36 11.9
comp=Z,437nm,1.8s
L02D Cave Junction, 86.96 322 ⇑P P 22 35 35.8 +0.9
baz=87
EVOP Sao Brissos 87.20 43 eP P 22 35 34.7 -1.3
EVOP e*PP pP 22 36 06.7 +0.4
EVOP e*SP sP 22 36 18.8 +0.1
EVOP Sao Brissos 87.20 43 eP P 22 35 34.7 -1.3
EVOP epP pP 22 36 06.7 +0.4
EVOP esP sP 22 36 18.8 +0.1
EVO Evora 87.27 43 eP P 22 35 34.7 -1.7
comp=Z,33nm,0.9s
EVO epP pP 22 36 06.7 0.0
EVO esP sP 22 36 18.8 -0.3
EVO eR
comp=Z,825nm,20.0s
EVO Evora 87.27 43 eP P 22 35 36.5 +0.1
comp=Z,149nm,1.3s
EVO epP pP 22 36 08.1 +1.4
I05D Terrebonne, OR 87.31 325 ⇓P P 22 35 37.7 +1.2
baz=88
E09A Wood Farm, Sta 87.33 328 eP P 22 35 35.8 -0.7
E09A epP pP 22 36 05.3 -1.5
WALA Waterton Lakes 87.40 332 eP P 22 35 37.0 +0.1
WALA epP pP 22 36 07.5 +0.2
I04A Tendick Farm, 87.47 324 ⇓P P 22 35 37.3 +0.1
baz=88
PMTG Montargil 87.49 42 eP P 22 35 37.8 +0.4
comp=Z,312nm,1.3s
PMTG epP pP 22 36 09.2 +1.5
G06A Carlson Farm, 87.59 326 eP P 22 35 38.3 +0.5
G06A epP pP 22 36 08.6 +0.4
PBAR Barrancos 87.63 44 eP P 22 35 38.5 +0.4
comp=Z,313nm,1.4s
PBAR epP pP 22 36 09.9 +1.5
PTOM Tomar 87.74 42 eP P 22 35 38.7 +0.1
comp=Z,280nm,1.6s
PTOM epP pP 22 36 09.8 +0.9
PESTR Estremoz 87.74 43 eP P 22 35 38.2 -0.4
comp=Z,171nm,2.0s
PESTR i P PcP 22 35 46.2 +5.8
PESTR epP pP 22 36 10.6 +1.6
I03D Drain, OR 87.89 323 ⇑P P 22 35 39.7 +0.5
baz=88
FFC Flin Flon 87.92 341 eP P 22 35 38.3 -0.8
FFC e*PP pP 22 36 08.5 -0.9
FFC Flin Flon 87.92 341 eP P 22 35 38.3 -0.8
FFC epP pP 22 36 08.5 -0.9
G05D Wamic, OR 87.94 326 ⇑P P 22 35 40.5 +1.1
baz=88
PCAS Casmilo, Conde 87.97 42 eP P 22 35 40.3 +0.6
comp=Z,163nm,2.1s
PCAS epP pP 22 36 11.4 +1.4
H04A Detroit Lake 87.98 325 eP P 22 35 38.8 -0.8
H04A epP pP 22 36 09.8 -0.2
D08A Wollman Farm, 88.09 328 eP P 22 35 39.9 -0.2
D08A epP pP 22 36 10.3 -0.1
NEW Newport 88.17 330 P P 22 35 39.9 -0.6
NEW *PP pP 22 36 11.2 +0.4
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW pmax pmax
comp=Z,14nm,1.0s
NEW Newport 88.17 330 P P 22 35 39.9 -0.6
comp=Z,9.4nm,1.0s,baz=132,slow=5.8,SNR=17
NEW pP pP 22 36 11.2 +0.4
comp=Z,14nm,0.9s,baz=119,slow=7.4,SNR=6.5
NEW Newport 88.17 330 ⇑P P 22 35 40.1 -0.3
baz=88
NEW Newport 88.17 330 eP P 22 35 39.4 -1.1
NEW epP pP 22 36 09.3 -1.5
PMRV Marv??o 88.22 43 eP P 22 35 41.1 +0.2
comp=Z,88nm,1.4s
PMRV epP pP 22 36 12.1 +0.8
PMRV eSKS SKSac 22 46 02.8 +4.1
LSZ Lusaka 88.27 106 eP P 22 35 43.1 +1.2
LSZ Lusaka 88.27 106 eP P 22 35 41.8 -0.1
LSZ e*PP pP 22 36 13.3 +1.0
LSZ Lusaka 88.27 106 eP P 22 35 41.8 -0.1
LSZ epP pP 22 36 13.3 +1.0
C09A Chrisman Ranch 88.34 329 eP P 22 35 40.9 -0.4
C09A epP pP 22 36 11.4 -0.2
PCBR Castelo Branco 88.43 42 i P P 22 35 49.0 +7.2
PCBR epP pP 22 36 12.6 +0.4
PCBR A A 22 36 17.6
comp=Z,86nm,1.9s
COR Corvallis 88.48 324 eP P 22 35 42.0 +0.1
COR e*PP pP 22 36 12.9 +0.6
COR Corvallis 88.48 324 eP P 22 35 42.0 +0.1
COR epP pP 22 36 12.9 +0.6
PVIS Viseu 88.75 41 eP P 22 35 43.2 -0.2
comp=Z,72nm,2.0s
PVIS epP pP 22 36 14.3 +0.5
MTE Manteigas 88.75 42 eP P 22 35 43.6 +0.2
comp=Z,134nm,1.5s
MTE epP pP 22 36 14.8 +1.0
MTE eSKS SKSac 22 46 04.4 +2.5
MTE Manteigas 88.75 42 eP P 22 35 42.5 -1.0
MTE epP pP 22 36 13.6 -0.3
BFZ Birch Farm 88.82 223 eP P 22 35 42.8 -1.1
BFZ epP pP 22 36 15.2 +0.9
G03D McMinnville, O 88.89 325 ⇑P P 22 35 44.8 +0.9
baz=89
MQZ McQueen's Vall 89.02 219 ePN P 22 35 45.7 +1.0
MQZ pP pP 22 36 16.6 +1.4
RIOJ Rimuhau 89.08 226 ePN P 22 35 42.3 +3.0
PUZ Puketiti 89.14 226 PN P 22 35 48.0 +2.5
PUZ pP pP 22 36 17.7 +1.8
PVRL Vila Real 89.21 41 i P P 22 35 54.0 +8.4
PVRL epP pP 22 36 16.7 +0.7
PVRL A A 22 36 34.3
comp=Z,93nm,1.9s
POLO Lamas de Olo 89.23 41 eP P 22 35 45.6 -0.1
comp=Z,42nm,1.7s
B08A Colville Reser 89.23 329 eP P 22 35 43.7 -1.8
B08A epP pP 22 36 15.1 -0.8
MRZ Mangatainoka R 89.23 223 ePN P 22 35 47.2 +1.4
LON Longmire 89.25 326 eP P 22 35 44.7 -0.9
LON e*PP pP 22 36 16.2 +0.2
LON Longmire 89.25 326 eP P 22 35 44.7 -0.9
LON epP pP 22 36 16.2 +0.2
ODZ Otahua Downs 89.25 217 eP P 22 35 45.1 -0.7
comp=Z,263nm,1.8s
ODZ epP pP 22 36 16.1 -0.1
PCAB Cabril 89.31 41 A A 22 36 23.7
comp=Z,66nm,1.6s
KHZ Kahutara 89.34 221 eP P 22 35 46.8 +0.6
comp=Z,743nm,1.8s
PGAV Gavieira, Arco 89.34 40 eSKS SKSac 22 46 07.9 +2.5
SNZO South Karori 89.35 222 eP P 22 35 45.5 -0.9
comp=Z,126nm,1.1s
F04D Rainier, OR 89.37 325 ⇑P P 22 35 47.0 +0.9
baz=90
MVO Moncorvo 89.54 41 eP P 22 35 47.8 +0.7
comp=Z,84nm,1.8s
MVO epP pP 22 36 18.7 +1.2
MVO eSKS SKSac 22 46 11.0 +4.5
BKZ Black Stump Fm 89.59 225 eP P 22 35 48.8 +1.2
comp=Z,252nm,1.8s
HAZ Te Kaha 89.63 226 PN P 22 35 50.5 +2.7
HAZ pP pP 22 36 20.9 +2.8
FCC Fort Churchill 89.65 347 eP P 22 35 46.5 -0.5
FCC e*PP pP 22 36 17.7 +0.2
FCC Fort Churchill 89.65 347 eP P 22 35 46.5 -0.5
FCC epP pP 22 36 17.7 +0.2
URZ Urewera 89.75 226 P P 22 35 49.7 +1.4
baz=93,slow=5.6
URZ Urewera 89.75 226 eP P 22 35 48.7 +0.4
comp=Z,75nm,1.0s
LTZ Lake Taylor 89.83 220 PN P 22 35 50.1 +1.4
LTZ pP pP 22 36 19.7 +0.6
RPZ Rata Peaks 89.90 219 eP P 22 35 49.5 +0.6
comp=Z,184nm,0.9s
RPZ epP pP 22 36 19.1 -0.2
WHZ Wether Hill Ro 90.08 215 eP P 22 35 49.2 -0.5
comp=Z,100nm,0.9s
TRVZ Turoa 90.09 224 PN P 22 35 51.9 +1.7
PBRG Braganca 90.11 41 eP P 22 35 50.0 +0.2
comp=Z,63nm,1.7s
FWVZ Far West T-bar 90.11 224 ePN P 22 35 52.1 +1.8
FWVZ pP pP 22 36 22.0 +1.3
THZ Tophouse 90.12 221 ePN P 22 35 51.6 +1.5
THZ pP pP 22 36 21.0 +0.6
PAB San Pablo 90.12 44 eP P 22 35 49.2 -0.7
PAB e*PP pP 22 36 20.6 +0.2
PAB San Pablo 90.12 44 eP P 22 35 49.1 -0.7
PAB epP pP 22 36 20.6 +0.2
B06A Marblemount 90.34 328 eP P 22 35 49.8 -0.7
B06A epP pP 22 36 20.6 -0.3
EDM Edmonton 90.42 335 eP P 22 35 49.3 -1.6
EDM e*PP pP 22 36 20.6 -0.8
EDM Edmonton 90.42 335 eP P 22 35 49.3 -1.6
EDM epP pP 22 36 20.6 -0.8
ESDC Sonseca Array 90.44 44 P P 22 35 51.8 +0.5
comp=Z,2.1nm,0.9s,baz=245,slow=5.1,SNR=8.1
ESDC pP pP 22 36 22.1 +0.3
comp=Z,7.8nm,0.9s,baz=231,slow=4.4,SNR=6.7
ESDC LR LR 23 15 55.3
comp=Z,462nm,18.6s,baz=245,slow=35
NLWA Neilton Lookou 90.70 326 eP P 22 35 51.7 -0.7
comp=Z,142nm,1.8s
NLWA epP pP 22 36 21.7 -1.1
DSZ Denniston Nort 90.76 220 PN P 22 35 53.4 +0.4
A05A Maple Falls 90.96 328 eP P 22 35 52.7 -0.7
A05A epP pP 22 36 23.3 -0.6
FRB Frobisher Bay 92.02 360 P P 22 35 57.3 -0.6
comp=Z,4.4nm,1.1s,baz=171,slow=7.3
FRB pP pP 22 36 28.4 0.0
comp=Z,8.6nm,0.9s,baz=198,slow=7.2,SNR=9.1
PAF Port-aux-Franc 94.02 154 P P 22 35 48.0 -20
PAF PP PP 22 39 33.0 -21
PAF S SP 22 48 24.0 +1.8
PAF SS SS 22 53 30.0 +1.0
PAF L L 23 01 00.0
PAF R 23 06 00.0
SJPF Ste Jean 94.14 43 eP P 22 36 08.9 +0.6
comp=Z,37nm,1.2s
SJPF eP pP 22 36 40.1 +1.3
SJPF Ste Jean 94.14 43 eP P 22 36 08.9 +0.6
SJPF e*PP pP 22 36 40.1 +1.3
SJPF Ste Jean 94.14 43 eP P 22 36 08.9 +0.6
SJPF epP pP 22 36 40.1 +1.3
ETSF Etsaut 94.42 43 eP P 22 36 10.3 +0.6
comp=Z,23nm,1.2s
ETSF Etsaut 94.42 43 eP P 22 36 10.3 +0.6
ETSF Etsaut 94.42 43 eP P 22 36 10.3 +0.6
EPF Esparros 95.03 43 eP P 22 36 12.8 +0.4
comp=Z,10nm,1.0s
EPF Esparros 95.03 43 eP P 22 36 12.8 +0.4
EPF Esparros 95.03 43 eP P 22 36 12.8 +0.4
QUIF Quistinic 95.88 38 eP P 22 36 15.4 -0.7
comp=Z,19nm,1.1s
QUIF epP pP 22 36 46.6 0.0
QUIF Quistinic 95.88 38 eP P 22 36 15.4 -0.7
QUIF e*PP pP 22 36 46.6 0.0
QUIF Quistinic 95.88 38 eP P 22 36 15.4 -0.7
QUIF epP pP 22 36 46.6 0.0
ROSF Rostrenen 96.08 37 eP P 22 36 16.4 -0.6
ROSF epP pP 22 36 47.5 0.0
ROSF Rostrenen 96.08 37 eP P 22 36 16.4 -0.6
ROSF e*PP pP 22 36 47.5 0.0
ROSF Rostrenen 96.08 37 eP P 22 36 16.4 -0.6
ROSF epP pP 22 36 47.5 0.0
MTLF Montolieu 96.34 44 eP P 22 36 18.2 -0.1
MTLF epP pP 22 36 49.3 +0.4
MTLF Montolieu 96.34 44 eP P 22 36 18.2 -0.1
MTLF e*PP pP 22 36 49.3 +0.4
MTLF Montolieu 96.34 44 eP P 22 36 18.2 -0.1
MTLF epP pP 22 36 49.3 +0.4
LFF La Frestale 96.35 42 eP P 22 36 18.4 +0.1
comp=Z,14nm,0.8s
LFF epP pP 22 36 49.4 +0.6
LFF esP sP 22 37 02.4 +1.2
LFF La Frestale 96.35 42 eP P 22 36 18.4 +0.1
LFF e*PP pP 22 36 49.4 +0.6
LFF e*SP sP 22 37 02.4 +1.2
LFF La Frestale 96.35 42 eP P 22 36 18.4 +0.1
LFF epP pP 22 36 49.4 +0.6
LFF esP sP 22 37 02.4 +1.2
SGMF Saint Gilles 96.41 38 eP P 22 36 17.7 -0.8
comp=Z,46nm,1.5s
SGMF Saint Gilles 96.41 38 eP P 22 36 17.7 -0.8
SGMF Saint Gilles 96.41 38 eP P 22 36 17.7 -0.8
MFF Saint Martin d 96.78 40 eP P 22 36 20.1 -0.1
comp=Z,62nm,1.4s
MFF epP pP 22 36 51.2 +0.4
MFF Saint Martin d 96.78 40 eP P 22 36 20.1 -0.1
MFF e*PP pP 22 36 51.2 +0.4
MFF Saint Martin d 96.78 40 eP P 22 36 20.1 -0.1
MFF epP pP 22 36 51.2 +0.4
RJF Les Rejaudoux 97.01 42 eP P 22 36 21.1 -0.2
RJF eR
comp=Z,489nm,21.5s
RJF Les Rejaudoux 97.01 42 eP P 22 36 21.1 -0.2
RJF Les Rejaudoux 97.01 42 eP P 22 36 21.1 -0.2
KEST Kesra 97.03 53 LR LR 23 22 23.1
comp=Z,324nm,19.0s,baz=158,slow=37
CAF Calviac 97.13 42 eP Pdif 22 36 22.0 0.0
CAF Calviac 97.13 42 eP Pdif 22 36 22.0 0.0
CAF Calviac 97.13 42 eP Pdif 22 36 22.0 0.0
GRR Gorron 97.41 38 eP P 22 36 22.3 -0.7
comp=Z,14nm,0.9s
GRR Gorron 97.41 38 eP P 22 36 22.3 -0.7
GRR Gorron 97.41 38 eP P 22 36 22.3 -0.7
LASF Ste Croix 97.74 44 eP Pdif 22 36 25.0 +0.3
LASF epP pP 22 36 56.0 +0.8
LASF Ste Croix 97.74 44 eP Pdif 22 36 25.0 +0.3
LASF epP pP 22 36 56.0 +0.8
FLN La Foliniere 97.83 38 eP P 22 36 24.4 -0.5
comp=Z,31nm,1.4s
FLN epP pP 22 36 55.4 0.0
FLN esP sP 22 37 08.6 +0.8
FLN eR
comp=Z,343nm,20.0s
FLN La Foliniere 97.83 38 eP P 22 36 24.4 -0.5
FLN e*PP pP 22 36 55.4 0.0
FLN e*SP sP 22 37 08.6 +0.8
FLN La Foliniere 97.83 38 eP P 22 36 24.4 -0.5
FLN epP pP 22 36 55.4 0.0
FLN esP sP 22 37 08.6 +0.8
LDF La Druitiere 97.93 38 eP P 22 36 24.8 -0.6
comp=Z,16nm,1.0s
LDF La Druitiere 97.93 38 eP P 22 36 24.8 -0.6
LDF La Druitiere 97.93 38 eP P 22 36 24.8 -0.6
TCF Toulx Ste Croi 97.96 41 eP P 22 36 25.3 -0.3
comp=Z,9.3nm,0.9s
TCF epP pP 22 36 56.4 +0.3
TCF Toulx Ste Croi 97.96 41 eP P 22 36 25.3 -0.3
TCF e*PP pP 22 36 56.4 +0.3
TCF Toulx Ste Croi 97.96 41 eP P 22 36 25.3 -0.3
TCF epP pP 22 36 56.4 +0.3
YKA Yellowknife Ar 98.05 340 P P 22 36 25.0 -0.5
YKA *PP pP 22 36 56.5 +0.4
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA pmax pmax
comp=Z,16nm,0.8s
YKA Yellowknife Ar 98.05 340 P P 22 36 25.0 -0.5
comp=Z,6.5nm,0.8s,baz=140,slow=4.5,SNR=101
YKA pP pP 22 36 56.5 +0.4
comp=Z,16nm,0.8s,baz=138,slow=4.6,SNR=18
YKA PKKPbc PKKPbc 22 52 58.3 -2.3
comp=Z,0.3nm,0.5s,baz=320,slow=3.2,SNR=5.7
YKB5 Yellowknife Ar 98.05 340 eP P 22 36 25.0 -0.5
YKB5 epP pP 22 36 56.5 +0.5
BGF Bois d'Agland 98.48 41 eP P 22 36 27.8 -0.1
comp=Z,17nm,1.0s
BGF epP pP 22 36 58.9 +0.5
BGF Bois d'Agland 98.48 41 eP P 22 36 27.8 -0.1
BGF e*PP pP 22 36 58.9 +0.5
BGF Bois d'Agland 98.48 41 eP P 22 36 27.8 -0.1
BGF epP pP 22 36 58.9 +0.5
VIVF Saint-Julien-l 98.65 43 eP Pdif 22 36 29.2 +0.5
comp=Z,8.6nm,0.9s
VIVF epP pP 22 37 00.3 +1.0
VIVF esP sP 22 37 13.3 +1.7
VIVF Saint-Julien-l 98.65 43 eP Pdif 22 36 29.2 +0.5
VIVF e*PP pP 22 37 00.3 +1.0
VIVF e*SP sP 22 37 13.3 +1.7
VIVF Saint-Julien-l 98.65 43 eP Pdif 22 36 29.2 +0.5
VIVF epP pP 22 37 00.3 +1.0
VIVF esP sP 22 37 13.3 +1.7
SMRF Simiane la Rot 98.74 45 eP Pdif 22 36 30.2 +1.0
SMRF epP pP 22 37 01.2 +1.5
SMRF Simiane la Rot 98.74 45 eP Pdif 22 36 30.2 +1.0
SMRF epP pP 22 37 01.2 +1.5
AVF Avril sur Loir 98.89 41 eP P 22 36 29.5 -0.2
AVF Avril sur Loir 98.89 41 eP P 22 36 29.5 -0.2
AVF Avril sur Loir 98.89 41 eP P 22 36 29.5 -0.2
LMR La Mourre 98.99 45 eP Pdif 22 36 30.7 +0.5
LMR La Mourre 98.99 45 eP Pdif 22 36 30.7 +0.5
LMR La Mourre 98.99 45 eP Pdif 22 36 30.7 +0.5
SMF Signal de Mont 99.10 42 eP Pdif 22 36 30.8 +0.1
comp=Z,26nm,1.0s
SMF epP pP 22 37 01.9 +0.7
SMF esP sP 22 37 14.8 +1.2
SMF Signal de Mont 99.10 42 eP Pdif 22 36 30.8 +0.1
SMF e*PP pP 22 37 01.9 +0.7
SMF e*SP sP 22 37 14.8 +1.2
SMF Signal de Mont 99.10 42 eP Pdif 22 36 30.8 +0.1
SMF epP pP 22 37 01.9 +0.7
SMF esP sP 22 37 14.8 +1.2
SSF Saint Saulge 99.13 41 eP Pdif 22 36 30.4 -0.4
comp=Z,16nm,1.2s
SSF epP pP 22 37 01.4 +0.1
SSF Saint Saulge 99.13 41 eP Pdif 22 36 30.4 -0.4
SSF e*PP pP 22 37 01.4 +0.1
SSF Saint Saulge 99.13 41 eP Pdif 22 36 30.4 -0.4
SSF epP pP 22 37 01.4 +0.1
ORIF Oris-en-Rattie 99.42 44 eP Pdif 22 36 33.1 +0.9
comp=Z,12nm,1.0s
ORIF eR
comp=Z,576nm,21.0s
ORIF Oris-en-Rattie 99.42 44 eP Pdif 22 36 33.1 +0.9
ORIF Oris-en-Rattie 99.42 44 ePdif Pdif 22 36 33.1 +0.9
LOR Lormes 99.44 41 eP Pdif 22 36 31.8 -0.4
comp=Z,9.9nm,1.0s
LOR epP pP 22 37 02.9 +0.1

LOR esP **sP** **22 37 15.8 +0.7**
LOR eR
comp=Z,426nm,21.8s
LOR Lormes 99.44 41 eP **Pdif** **22 36 31.8 -0.4**
LOR e*PP **pP** **22 37 02.9 +0.1**
LOR e*SP **sP** **22 37 15.8 +0.7**
LOR Lormes 99.44 41 ePdif **Pdif** **22 36 31.8 -0.4**
LOR epP **pP** **22 37 02.9 +0.1**
LOR esP **sP** **22 37 15.8 +0.7**
SBF Sospel 99.84 45 eP **Pdif** **22 36 34.6 +0.5**
comp=Z,27nm,1.1s
SBF epP **pP** **22 37 05.7 +1.0**
SBF Sospel 99.84 45 eP **Pdif** **22 36 34.6 +0.5**
SBF e*PP **pP** **22 37 05.7 +1.0**
SBF Sospel 99.84 45 ePdif **Pdif** **22 36 34.6 +0.5**
SBF epP **pP** **22 37 05.7 +1.0**
MBDF Montbardon 99.86 44 eP **Pdif** **22 36 35.1 +0.8**
MBDF Montbardon 99.86 44 eP **Pdif** **22 36 35.1 +0.8**
MBDF Montbardon 99.86 44 ePdif **Pdif** **22 36 35.1 +0.8**
LPL La Plagne 100.24 44 eP **Pdif** **22 36 36.9 +0.9**
LPL La Plagne 100.24 44 eP **Pdif** **22 36 36.9 +0.9**
LPL La Plagne 100.24 44 ePdif **Pdif** **22 36 36.9 +0.9**
LPG La Plagne 100.24 44 eP **Pdif** **22 36 37.1 +1.0**
comp=Z,15nm,1.1s
LPG epP pP 22 37 08.1 +1.4
LPG La Plagne 100.24 44 eP **Pdif** **22 36 37.1 +1.0**
LPG La Plagne 100.24 44 ePdif **Pdif** **22 36 37.1 +1.0**
EKA Eskdalemuir Ar 100.29 32 P **Pdif** **22 36 35.1 -0.6**
comp=Z,2.2nm,1.0s,baz=222,slow=1.1,SNR=4.9
EKA pP pP 22 37 06.0 -0.4
comp=Z,4.3nm,1.0s,baz=243,slow=3.7,SNR=5.8
EKA PKKPbc **PKKPbc** **22 52 53.3 -0.7**
comp=Z,0.3nm,0.5s,baz=59,slow=4.4,SNR=3.2
CABF La Chapelle 100.41 42 eP **Pdif** **22 36 36.9 +0.3**
CABF epP pP 22 37 07.9 +0.7
CABF La Chapelle 100.41 42 eP **Pdif** **22 36 36.9 +0.3**
CABF La Chapelle 100.41 42 ePdif **Pdif** **22 36 36.9 +0.3**
SFTF Sexfontaines 100.61 41 eP **Pdif** **22 36 37.1 -0.2**
comp=Z,16nm,1.0s
SFTF Sexfontaines 100.61 41 ePdif **Pdif** **22 36 37.1 -0.2**
DLBC Dease Lake 100.75 332 PKKPbc PKKPbc 22 52 51.0 -1.8
comp=Z,1.7nm,0.7s,baz=300,slow=8.1,SNR=4.6
DLBC Dease Lake 100.75 332 ePdif **Pdif** **22 36 37.1 -0.6**
MEZF Maizieres J'vi 100.77 40 eP **Pdif** **22 36 37.9 -0.1**
comp=Z,11nm,0.9s
MEZF epP pP 22 37 09.0 +0.3
MEZF Maizieres J'vi 100.77 40 ePdif **Pdif** **22 36 37.9 -0.1**
BAIF Baives 101.11 39 eP **Pdif** **22 36 39.2 -0.3**
comp=Z,8.5nm,1.1s
BAIF Baives 101.11 39 eP **Pdif** **22 36 39.2 -0.3**
BAIF Baives 101.11 39 ePdif **Pdif** **22 36 39.2 -0.3**
PAGF Fort de Pagny 101.18 41 eP **Pdif** **22 36 40.0 +0.1**
comp=Z,4.1nm,1.0s
PAGF epP pP 22 37 11.1 +0.5
PAGF esP 22 37 24.2
PAGF Fort de Pagny 101.18 41 ePdif **Pdif** **22 36 40.0 +0.1**
PAGF e 22 37 24.2
HAU Haudompre 101.27 41 eP **Pdif** **22 36 40.1 -0.2**
comp=Z,10.0nm,0.9s
HAU eR
comp=Z,441nm,21.8s
HAU Haudompre 101.27 41 eP **Pdif** **22 36 40.1 -0.2**
HAU Haudompre 101.27 41 ePdif **Pdif** **22 36 40.1 -0.2**
HINF Hinteralfeld 101.47 42 eP **Pdif** **22 36 41.0 -0.2**
comp=Z,12nm,1.0s
HINF epP pP 22 37 12.1 +0.2
HINF esP 22 37 25.1
HINF Hinteralfeld 101.47 42 eP **Pdif** **22 36 41.0 -0.2**
HINF Hinteralfeld 101.47 42 ePdif **Pdif** **22 36 41.0 -0.2**
GIVF Givet 101.47 39 eP **Pdif** **22 36 41.0 -0.1**
GIVF epP pP 22 37 12.0 +0.2
GIVF Givet 101.47 39 eP **Pdif** **22 36 41.0 -0.1**
GIVF Givet 101.47 39 ePdif **Pdif** **22 36 41.0 -0.1**
CDF Champ du Feu 102.01 41 eP **Pdif** **22 36 43.5 -0.1**
comp=Z,4.3nm,0.6s
CDF Champ du Feu 102.01 41 eP **Pdif** **22 36 43.5 -0.1**
CDF Champ du Feu 102.01 41 ePdif **Pdif** **22 36 43.5 -0.1**
MEM Membach 102.38 39 ePP PP 22 40 56.6 -2.9
MEM ePKiKP **PP** **22 40 56.9 -2.6**
BFO Black Forest 102.58 42 *i* P **Pdif** **22 36 46.7 +0.6**
BFO Black Forest 102.58 42 eP **Pdif** **22 36 46.7 +0.6**
DAVOX Davos/Dischmat 102.76 44 P **Pdif** **22 36 47.6 +0.4**
DAVOX 22 41 00.4
DAVOX pmax pmax
comp=Z,1.0nm,0.7s
DAVOX pmax pmax
comp=Z,3.0nm,1.0s
DAVOX Davos/Dischmat 102.76 44 P **Pdif** **22 36 47.6 +0.4**
comp=Z,1.1nm,0.7s,baz=350,slow=6.1
DAVOX pPdiff **pPdif** **22 37 18.7 +1.0**
comp=Z,3.0nm,0.9s,baz=214,slow=3.6,SNR=2.9
DAVOX PP **PP** **22 41 00.4 -2.4**
comp=Z,2.6nm,1.0s,baz=227,slow=12,SNR=4.3
FUORN Ofenpass-Fuorn 102.92 44 ePP PP 22 41 01.3 -2.7
FUORN ePKiKP **PP** **22 41 01.8 -2.3**
SUMG Summit 102.94 9 *i* P pPdif 22 37 18.8 +0.6
comp=Z,7.2nm,1.0s
KMBO Kilima Mbogo 103.00 98 P **Pdif** **22 36 48.6 -0.6**
comp=Z,0.5nm,0.5s,baz=95,slow=11,SNR=2.5
RETA Reutte 103.63 43 *i* PKiKP **PKiKP** **22 41 06.7 -1.9**
comp=Z,18nm,1.5s,SNR=5.7
ABTA Abfaltersbach 104.36 44⇓ *i* PKiKP **PKiKP** **22 41 11.9 +1.8**
comp=Z,25nm,1.5s,SNR=6.1
RES Resolute Bay 104.48 353 Pdiff **Pdif** **22 36 54.1 +0.2**
comp=Z,0.4nm,0.3s,baz=200,slow=7.9,SNR=2.8
RES pPdiff **pPdif** **22 37 25.2 +0.8**
comp=Z,1.7nm,0.9s,baz=180,slow=13,SNR=5.9
RES PKKPbc **PKKPbc** **22 52 39.5 -2.5**
comp=Z,2.4nm,0.8s,baz=336,slow=4.8,SNR=7.7
RES PKKPab **PKKPab** **22 52 57.2 +1.5**
comp=Z,2.3nm,0.9s,baz=320,slow=4.3,SNR=4.7
RES Resolute Bay 104.48 353 ePKiKP **PKiKP** **22 41 09.2 -0.1**
JAVS Javornik 104.95 46 ePP PP 22 41 16.2 -2.7
KBA Koelnbreinsper 105.02 44⇑ *i* PP PP 22 41 15.6 -3.9
comp=Z,21nm,1.6s,SNR=6.1
LJU Ljubljana 105.31 46 ePP PP 22 41 19.1 -2.4
BOJS Bojanci 105.54 46 ePP PP 22 41 20.7 -2.4
SOKA Soboth 105.89 45 *i* PP PP 22 41 21.9 -4.0
comp=Z,25nm,1.6s,SNR=9.0
GEC2 GERESS Array S 105.99 43 eP **Pdif** **22 37 01.9 +0.5**
GEC2 e 22 41 26.5
GEC2 GERESS Array S 105.99 43 ePdif **Pdif** **22 37 01.9 +0.5**
GEC2 ePKiKP **PKiKP** **22 41 12.9 0.0**
GEC2 ePP **PP** **22 41 26.5 -0.1**
GEC2 ePKKPbc **PKKPbc** **22 52 36.5 -0.3**
GEC2 ePKKPab **PKKPab** **22 52 53.6 +3.4**
GERES GERESS Array B 105.99 43 Pdiff **Pdif** **22 37 01.9 +0.5**
comp=Z,0.1nm,0.3s,baz=233,slow=9.7,SNR=2.5
GERES PKiKP **PKiKP** **22 41 12.9 0.0**
comp=Z,0.8nm,0.8s,baz=122,slow=1.3,SNR=4.3
GERES PP **PP** **22 41 26.5 -0.1**
comp=Z,0.7nm,0.7s,baz=193,slow=5.5,SNR=4.1
GERES PKKPbc **PKKPbc** **22 52 36.5 -0.3**
comp=Z,1.0nm,0.8s,baz=72,slow=0.3,SNR=7.1
GERES PKKPab **PKKPab** **22 52 53.6 +3.4**
comp=Z,1.1nm,0.7s,baz=77,slow=5.1,SNR=8.1
KHC Kasperske Hory 106.04 43 ePKP **PKiKP** **22 41 14.8 +1.8**
KHC *ex* x 22 41 40.2
KHC *e*SKS **SKSac** **22 47 30.6 +0.2**
KHC *e*SP **SP** **22 50 26.0 -5.7**
KHC ePKKP **PKKPbc** **22 52 35.9 -0.7**
KHC *ex* x 22 52 52.1
KHC ePKKS 22 56 21.7
KHC Kasperske Hory 106.04 43 ePKiKP **PKiKP** **22 41 12.9 0.0**
CLL Collm 106.63 40 eP **Pdif** **22 37 03.0 -1.0**
CLL *e* 22 41 30.0
CLL *e* 22 47 36.0
CLL *e*SP SP 22 50 40.0 +2.4
CLL pmax pmax
comp=Z,15nm,1.6s
CLL pmax pmax
comp=Z,22nm,1.5s
CLL Collm 106.63 40 ePdif **Pdif** **22 37 03.0 -1.0**
CLL *es*Pdif sPdif 22 37 46.0 -0.9
CLL ePKiKP **PKiKP** **22 41 16.0 +2.1**
CLL ePP **PP** **22 41 30.0 -1.0**
comp=Z,15nm,1.6s
CLL epPP 22 41 56.0
CLL *e*SKSac **SKSac** **22 47 36.0 +3.3**
CLL *e*SKKSac **SKKSac** **22 48 21.0 -1.8**
CLL *es*Sdiff **sSdif** **22 49 51.0 +3.8**
CLL *e*SP **SP** **22 50 40.0 +2.5**
CLL *es*PS 22 51 31.0
CLL *i* PKKPab **PKKPab** **22 52 49.4 +2.2**
comp=Z,22nm,1.5s
CLL *e* 22 55 00.0
CLL *e*SS **SS** **22 56 27.0 +0.6**
CLL *e*SSS SSS 23 00 30.0
CLL LmV 23 26 00.0
comp=Z,400nm,18.9s
CLL LmH 23 27 00.0
comp=N,200nm,19.6s
CLL LmH 23 27 00.0
comp=E,200nm,20.0s
PRA Prague 106.94 42 *e*SKS **SKSac** **22 47 37.5 +3.4**
PRA *e*SP **SP** **22 50 36.6 -4.2**
PRU Pruhonice 106.97 42 ePP PP 22 41 26.3 -7.3
PRU *ex* x 22 41 57.4
PRU *e*SKS **SKSac** **22 47 35.3 +1.0**
PRU *e*SP **SP** **22 50 34.2 -6.9**
PRU ePKKP **PKKPbc** **22 52 33.4 -0.2**
PRU *ex* x 22 52 48.7
PRU ePKKS 22 56 19.2
PRU AMS AMS 23 26 40.0
comp=E,300nm,25.2s
BRG Berggiesshubel 106.98 41 PDIFF **pPdif** **22 37 37.9 +1.8**
comp=E,4.9nm,1.0s
BRG ePP PKiKP 22 41 20.1 +5.5
comp=E,8.7nm,1.4s
BRG SKS **SKSac** **22 47 38.0 +3.7**
BRG SDIFF SKKSac 22 48 33.0 +7.6
BRG PS **SP** **22 50 32.0 -9.2**
BRG ePKKP **PKKPab** **22 52 47.8 +2.1**
comp=E,28nm,1.8s
BRG SS SKKPbc 22 55 40.0 -28
DZM Mont Dzumac 107.11 232 ePP PP 22 41 37.9 +3.5
comp=E,112nm,28.7s
DZM Mont Dzumac 107.11 232 ePS PS 22 51 02.5 +4.8
comp=E,450nm,26.9s
DZM *e*SS SS 22 56 37.4 +4.6
comp=E,721nm,24.8s
DZM Mont Dzumac 107.11 232 eLR LR 23 12 47.0
comp=E,2µm,34.2s
PVCC Panska Ves 107.20 42 ePKKS **PKKSbc** **22 56 17.5 +0.4**
PVCC AMS AMS 23 26 00.0
comp=E,400nm,22.3s
TREC Trest 107.25 43 eSP SP 22 50 37.9 -6.2
TREC AMS AMS 23 33 10.0
comp=E,200nm,21.4s
JMIC Jan Mayen 107.71 17 Pdiff **Pdif** **22 37 07.5 -0.9**
comp=E,25nm,0.5s,baz=231,slow=9.0,SNR=2.8
INK Inuvik 107.78 339 Pdiff **Pdif** **22 37 08.8 +0.1**
comp=E,2.7nm,1.1s,baz=119,slow=4.9,SNR=4.6
INK pPdiff **pPdif** **22 37 40.0 +0.8**
comp=E,3.4nm,1.0s,baz=100,slow=5.7,SNR=7.0
INK PKKPbc **PKKPbc** **22 52 30.1 -1.6**
comp=E,3.5nm,0.8s,baz=279,slow=2.2,SNR=8.6
INK PKKPab **PKKPab** **22 52 42.2 +0.9**
comp=E,3.6nm,0.9s,baz=306,slow=4.7,SNR=7.2
VRAC Vranov 107.92 43⇑ *i* P PP 22 41 49.0 +8.5
VRAC Vranov 107.92 43 PKKPab PKKPab 22 52 44.4 +2.8
comp=E,1.2nm,0.6s,baz=121,slow=2.1,SNR=4.4
PKSM Moragy 107.99 47⇑ *i* P PP 22 41 48.9 +7.8
PKSM Moragy 107.99 47⇑ *i* P **PKKPbc** **22 52 28.3 -2.0**
UPC Upice 108.04 42 ePKKP **PKKPdf** **22 52 42.1 -2.3**
UPC ePKKS **PKKSdf** **22 56 22.5 +1.0**
DPC Dobruska-Polom 108.16 42 ePKP **PKiKP** **22 41 11.9 -5.0**
DPC ePP PP 22 41 35.2 -7.1
DPC eSKS **SKSac** **22 47 41.6 +2.0**
DPC eSP **SP** **22 50 45.9 -7.4**
DPC ePKKP **PKKPdf** **22 52 43.0 -1.2**
DPC *ex* x 22 53 01.6
DPC ePKKS **PKKSbc** **22 56 17.6 +3.1**
DPC AMS AMS 23 26 40.0
KRLC Kraliky 108.33 43 ePKKP **PKKPbc** **22 52 29.0 -0.4**
KRLC ePKKS **PKKSdf** **22 56 17.7 -3.4**
MORC Moravsky Berou 108.67 43⇓ *i* P **PP** **22 41 48.9 +2.9**
OKC Ostrava-Krasne 109.05 43 eSP SP 22 50 59.8 -2.5
OKC AMS AMS 23 31 10.0
comp=E,300nm,18.2s
APE Apeiranthos 109.36 58⇑ *i* P **PP** **22 41 52.6 +1.2**
MMB Musomiste 109.69 53⇓ *i* P **PKKPbc** **22 52 23.5 -1.2**
BZS Buzias 109.70 48⇓ *i* P **PP** **22 41 50.6 -3.0**
BZS Buzias 109.70 48⇓ *i* P **PKKPab** **22 52 35.8 +1.9**
NB2 NORSAR Subarra 109.71 31 PKPdf **PP** **22 41 51.4 -1.8**
comp=Z,2.3nm,0.9s,baz=248,slow=1.9
NB200 NORSAR Array S 109.71 31 ePKKPab PKKPab 22 52 34.6 +1.4
NOA NORSAR Array B 109.71 31 pPdiff **pPdif** **22 37 51.5 +3.4**
comp=Z,0.7nm,0.9s,baz=235,slow=4.5,SNR=2.6
NOA PKKPab **PKKPab** **22 52 34.6 +1.4**
comp=Z,2.7nm,0.8s,baz=68,slow=4.5,SNR=9.7
NIE Niedzica 110.22 44 ePKP **PKiKP** **22 41 21.5 +0.7**
NIE ePP **PP** **22 41 53.5 -3.7**
HFS Hagfors 110.49 32 PKKPbc PKKPbc 22 52 21.2 -1.6
comp=Z,1.7nm,0.9s,baz=141,slow=5.7,SNR=5.5
HFS PKKPab **PKKPab** **22 52 30.9 +1.2**
comp=Z,4.8nm,0.8s,baz=106,slow=4.8,SNR=11
DRGR 110.82 47⇑ *i* P pPKiKP 22 41 53.0 -0.8
DRGR 110.82 47⇓ *i* P **PKKPab** **22 52 30.9 +1.9**
ILAR Eielson Array 110.86 333 *i* PKiKP **PKiKP** **22 41 21.0 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 110.86 333 PKiKP **PKiKP** **22 41 20.9 -0.5**
comp=Z,0.9nm,0.9s,baz=170,slow=1.3,SNR=5.0
ILAR PKKPbc **PKKPbc** **22 52 18.9 -2.8**
comp=Z,0.4nm,0.6s,baz=308,slow=3.7,SNR=5.6
KDZ Kurdzhali 110.90 53⇓ *i* P pPKiKP 22 41 54.2 +0.1
TRPA Tarpa 111.16 46⇑ *i* P pPKiKP 22 41 54.7 +0.4
UZH Uzhgorod 111.17 45 ePKiKP **PKiKP** **22 41 26.3 +3.8**
UZH *i* 22 41 54.7
UZH *e* 22 42 12.2
COLA College 111.28 333⇑ *i* PKiKP **PKiKP** **22 41 23.5 +1.3**
HUMR Humele 111.56 50⇑ *i* P pPKiKP 22 41 54.1 -1.1
ARR Arges 111.61 49⇑ *i* P pPKiKP 22 41 55.8 +0.4
ARR Arges 111.61 49⇑ *i* P **PKKPab** **22 52 28.4 +2.7**
KWP Kalwaria Pacla 111.76 44 ePKiKP **PKiKP** **22 41 23.8 +0.2**
KWP *e* 22 41 55.8
KWP Kalwaria Pacla 111.76 44 ePKP **PKiKP** **22 41 23.8 +0.2**
KWP ePP PP 22 41 55.8 -12
KWP Kalwaria Pacla 111.76 44⇓ *i* P pPKiKP 22 41 55.3 -0.1
KWP Kalwaria Pacla 111.76 44⇑ *i* P **PKKPbc** **22 52 17.6 -0.6**
VOIR 111.91 49⇑ *i* P pPKiKP 22 41 54.9 0.0
JMB Yambol 111.99 53⇑ *i* P pPKiKP 22 41 56.3 +0.2
DOPR Dopca 112.30 49⇓ *i* P pPKiKP 22 41 57.0 +0.4
DOPR Dopca 112.30 49⇑ *i* P **PKKPab** **22 52 25.6 +3.1**
MLR Muntele Rosu 112.52 49⇑ *i* P pPKiKP 22 41 56.0 -1.2
MLR Muntele Rosu 112.52 49⇓ *i* P pPKiKP 22 41 55.3 -0.1
MLR Muntele Rosu 112.52 49 PKiKP **PKiKP** **22 41 24.8 -0.6**
baz=270,slow=2.0
MLR PKKPab **PKKPab** **22 52 24.0 +2.3**
baz=23,slow=2.5
BURAR Bucovina Array 112.70 47⇑ *i* P pPKiKP 22 41 57.9 +0.5
BURAR Bucovina Array 112.70 47⇑ *i* P **PKKPab** **22 52 23.5 +2.8**
ISR Istrita 112.81 50⇑ *i* P **PKKPab** **22 52 24.2 +3.8**
PLOR Plostina 113.10 49⇑ *i* P pPKiKP 22 41 57.8 -0.3
PLOR Plostina 113.10 49⇑ *i* P **PKKPab** **22 52 21.6 +2.8**
VRI Vrincioaia 113.16 49⇑ *i* P pPKiKP 22 41 56.2 -2.0
VRI Vrincioaia 113.16 49⇑ *i* P **PKKPab** **22 52 20.4 +1.7**
TESR Tescani 113.30 49⇓ *i* P pPKiKP 22 41 58.6 +0.1
TESR Tescani 113.30 49⇓ *i* P **PKKPab** **22 52 20.0 +1.9**
MSAB Monastry St. A 113.36 51⇑ *i* P pPKiKP 22 41 50.7 -7.9
MSAB Monastry St. A 113.36 51⇑ *i* P **PKKPab** **22 52 19.8 +1.9**
SUW Suwalki 113.38 40 ePKiKP **PKiKP** **22 41 26.1 -0.4**
SUW *e* 22 41 58.1
SUW Suwalki 113.38 40 ePKP **PKiKP** **22 41 26.1 -0.4**
SUW ePP **pPKiKP** **22 41 58.0 -0.3**
SUW Suwalki 113.38 40 ePKiKP **PKiKP** **22 41 25.8 -0.7**
PSN Preselentsi 113.49 52⇑ *i* P pPKiKP 22 41 59.4 +0.5
PSN Preselentsi 113.49 52⇓ *i* P **PKKPab** **22 52 19.2 +1.8**
HARR Harsova 113.62 51⇑ *i* P pPKiKP 22 41 57.7 -1.4
HARR Harsova 113.62 51⇑ *i* P **PKKPab** **22 52 19.9 +3.2**
TLB Topalu 113.66 51⇓ *i* P pPKiKP 22 41 59.5 +0.4
TLB Topalu 113.66 51⇓ *i* P **PKKPab** **22 52 19.5 +3.0**
TIRR Tirgusor 113.88 51 ePKiKP **PKiKP** **22 41 27.3 -0.5**
TIRR Tirgusor 113.88 51⇑ *i* P pPKiKP 22 41 59.5 -0.1
TIRR Tirgusor 113.88 51⇑ *i* P **PKKPab** **22 52 18.6 +3.0**
TIRR Tirgusor 113.88 51 ePKiKP **PKiKP** **22 41 27.3 -0.5**
CFR Carcaliu 113.90 50⇓ *i* P pPKiKP 22 41 58.8 -0.8
CFR Carcaliu 113.90 50⇑ *i* P **PKKPab** **22 52 18.3 +2.9**
TLCR 114.36 50⇓ *i* P pPKiKP 22 42 00.9 +0.4
CSS Prodhromos 114.58 62 ePKiKP PKPdf 22 41 28.4 -1.1
KIS Kishinev 114.87 48 *e* **PKKPbc** **22 52 04.0 -3.6**
MMAI Mount Meron Ar 115.59 65 PKP **PKPdf** **22 41 32.0 +0.4**
comp=Z,1.8nm,0.5s,baz=80,slow=1.9,SNR=19
MMAI pPKP **pPKiKP** **22 42 03.5 +0.1**
comp=Z,6.0nm,0.6s,baz=336,slow=1.8,SNR=7.3
MMAI PKKPbc **PKKPbc** **22 52 04.9 +0.1**
comp=Z,0.9nm,0.5s,baz=54,slow=7.3,SNR=4.7
NACGM Naroch 115.64 40 *e* pPKiKP 22 42 01.0 -1.6
NACGM Naroch 115.64 40 *e* **PKKPbc** **22 52 02.0 -3.1**
ANTO Ankara 115.66 57 ePKIKP **PKPdf** **22 41 31.1 -0.4**
ANTO *e* 22 42 02.7
ANTO Ankara 115.66 57⇑ *i* P pPKiKP 22 42 02.7 -0.6
ANTO Ankara 115.66 57 ePKPdf **PKPdf** **22 41 31.1 -0.4**
ANTO epPKPdf **pPKiKP** **22 42 02.7 -0.6**
KIEV Kiev 116.07 45 *d* PKIKP **PKPdf** **22 41 30.8 -1.0**
KIEV Kiev 116.07 45 ePKPdf **PKPdf** **22 41 30.3 -1.5**
KIEV epPKPdf pPKPdf 22 42 02.5 -1.1
AKASG Malin Array Be 116.08 45 PKIKP **PKPdf** **22 41 31.0 -0.9**
AKASG 22 42 02.9
AKASG 22 52 04.3
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 116.08 45 PKP **PKPdf** **22 41 30.9 -0.9**
comp=Z,3.5nm,0.7s,baz=267,slow=2.5,SNR=18
AKASG pPKP pPKPdf 22 42 02.9 -0.8
comp=Z,11nm,0.7s,baz=262,slow=2.8,SNR=16
AKASG PKKPbc **PKKPbc** **22 52 04.2 +0.8**
comp=Z,1.0nm,0.6s,baz=62,slow=3.9,SNR=4.3
AKBB Malin Array Si 116.08 45 ePKIKP **PKPdf** **22 41 31.0 -0.9**
AKBB *e* 22 42 02.9
AKBB *e* 22 52 04.3
AKBB Malin Array Si 116.08 45 ePKPdf **PKPdf** **22 41 30.9 -0.9**
AKBB epPKPdf pPKPdf 22 42 02.9 -0.8
AKBB ePKKPbc **PKKPbc** **22 52 04.2 +0.8**
BRBR Barbar 116.15 65 eP **PKPdf** **22 41 33.9 +1.1**
MICGM Minsk 116.17 40 *e* pPKPdf 22 42 02.0 -1.7
BR101 Keskin Array S 116.24 57 ePKPdf **PKPdf** **22 41 32.6 -0.1**
BR101 epPKPdf pPKPdf 22 42 04.5 0.0
BR101 ePKKPbc **PKKPab** **22 52 08.1 +2.3**
BRTR Keskin Array B 116.24 57 PKIKP **PKPdf** **22 41 32.7 -0.1**
BRTR 22 42 04.6
BRTR 22 52 08.1
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR pmax pmax
comp=Z,9.0nm,0.8s
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 116.24 57 PKP **PKPdf** **22 41 32.6 -0.1**
comp=Z,4.8nm,0.8s,baz=187,slow=3.5,SNR=23
BRTR pPKP pPKPdf 22 42 04.5 0.0
comp=Z,8.6nm,0.8s,baz=186,slow=2.9,SNR=12
BRTR PKKPab **PKKPab** **22 52 08.1 +2.3**
comp=Z,3.3nm,0.7s,baz=104,slow=4.6,SNR=16
VSU Vasula 116.40 36 *d* PKIKP **PKPdf** **22 41 31.6 -0.6**
ASF Jabal al Asfar 116.52 66 PKP **PKPdf** **22 41 34.0 +0.5**
comp=Z,5.7nm,0.9s,baz=153,slow=1.2,SNR=10
ASF pPKP pPKPdf 22 42 05.4 +0.2
comp=Z,7.0nm,1.0s,baz=358,slow=0.2,SNR=6.3
SALA Sala 116.56 66 eP **PKPdf** **22 41 33.5 -0.1**
SPA0 Spitsbergen Ar 116.66 13 ePKPdf **PKPdf** **22 41 32.0 -0.3**
SPA0 epPKPdf pPKPdf 22 42 04.5 +0.5
SPA0 ePKKPbc **PKKPab** **22 51 59.9 -2.1**
SPITS Spitsbergen Ar 116.66 13 PKIKP **PKPdf** **22 41 32.0 -0.3**
SPITS 22 42 04.5
SPITS pmax pmax
comp=Z,10.0nm,1.1s
SPITS pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 116.66 13 PKP **PKPdf** **22 41 32.0 -0.3**
comp=Z,9.6nm,1.1s,baz=297,slow=13,SNR=3.0
SPITS pPKP pPKPdf 22 42 04.5 +0.5
comp=Z,8.4nm,0.9s,baz=205,slow=17,SNR=2.9
SPITS PKKPbc **PKKPab** **22 51 59.9 -2.1**
comp=Z,20nm,1.2s,baz=135,slow=14,SNR=7.3
FIA0 FINESS Array S 116.68 32 ePKIKP **PKPdf** **22 41 32.2 -0.5**
FIA0 *e* 22 42 04.7
FIA0 *e* 22 52 30.3
FIA0 FINESS Array S 116.68 32 ePKPdf **PKPdf** **22 41 32.2 -0.5**
FIA0 epPKPdf pPKPdf 22 42 04.7 +0.2
FIA0 ePKKPbc **PKKPab** **22 52 04.0 +1.5**
FIA0 ePKKPdf **PKKPdf** **22 52 30.3 +2.1**
FINES FINESS Array B 116.68 32 PKIKP **PKPdf** **22 41 32.2 -0.5**
FINES 22 42 04.7
FINES 22 52 30.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 116.68 32 PKP **PKPdf** **22 41 32.2 -0.5**
comp=Z,1.7nm,0.7s,baz=259,slow=2.4,SNR=11
FINES pPKP pPKPdf 22 42 04.7 +0.2
comp=Z,5.2nm,0.8s,baz=132,slow=2.8,SNR=8.6
FINES PKKPab **PKKPab** **22 52 04.0 +1.5**
comp=Z,4.2nm,0.7s,baz=81,slow=3.6,SNR=14
FINES PKKP **PKKPdf** **22 52 30.3 +2.1**
comp=Z,2.8nm,0.7s,baz=96,slow=1.4,SNR=3.3
FINES PKPPKP **P'P'df** **23 00 37.5 +0.9**
comp=Z,0.7nm,0.7s,baz=90,slow=6.9,SNR=4.0
MARH Ras Al Marh 116.76 64 eP **PKPdf** **22 41 34.8 +0.7**
HAWK Haweek 116.85 64 eP **PKPdf** **22 41 34.5 +0.4**
RNB Al Arnab 116.91 62 eP **PKPdf** **22 41 34.9 +0.5**
KAF Kangasniemi 116.91 32 ePKIKP **PKPdf** **22 41 31.9 -1.2**
KAF Kangasniemi 116.91 32 ep **PKPdf** **22 41 31.9 -1.2**
KAF Kangasniemi 116.91 32 epkp **PKKPbc** **22 52 00.2 -0.7**
BIDA Albida 116.93 63 eP **PKPdf** **22 41 35.7 +1.6**
KFRA Kufra 117.36 63 eP **PKPdf** **22 41 35.7 +0.8**
ARA0 ARCESS Array S 117.75 23 ePKPdf **PKPdf** **22 41 34.6 +0.1**
ARA0 epPKPdf **pPKPdf** **22 42 06.0 -0.4**
ARA0 ePKKPbc **PKKPab** **22 51 56.5 -1.1**
ARCES ARCESS Array B 117.75 23 PKIKP **PKPdf** **22 41 34.7 +0.1**
ARCES 22 42 06.0
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 117.75 23 PKP **PKPdf** **22 41 34.6 +0.1**
comp=Z,0.8nm,0.6s,baz=347,slow=3.7,SNR=8.3
ARCES pPKP **pPKPdf** **22 42 06.0 -0.4**
comp=Z,4.8nm,0.8s,baz=305,slow=4.3,SNR=6.4
ARCES PKKPbc **PKKPab** **22 51 56.5 -1.1**
comp=Z,5.8nm,0.8s,baz=85,slow=4.9,SNR=24
KEV Kevo 118.30 23 epkp 22 51 51.5
NWAO Narrogin (SRO) 118.61 185 ePKIKP **PKPdf** **22 41 35.8 -1.7**
NWAO Narrogin (SRO) 118.61 185 PKP **PKPdf** **22 41 36.8 -0.7**
comp=Z,3.7nm,0.6s,baz=141,slow=5.1,SNR=5.5
NWAO Narrogin (SRO) 118.61 185 ePKPdf **PKPdf** **22 41 35.8 -1.7**
JHLN Al Jahlan 118.78 63 eP **PKPdf** **22 41 37.0 -0.6**
KSRV Kasrt alli 119.27 63 eP **PKPdf** **22 41 37.4 -1.1**
JOF Joensuu 119.32 31 ePKIKP **PKPdf** **22 41 36.8 -0.9**
JOF Joensuu 119.32 31 ep **PKPdf** **22 41 36.8 -0.9**
JOF Joensuu 119.32 31 epkp **PKKPbc** **22 51 50.3 -1.9**
comp=Z,3.0nm,0.5s
MALT Malatya 119.46 60⇓ *i* P pPKPdf 22 42 10.9 +0.2
TNA Tin City 119.65 332 ePKPdf **PKPdf** **22 41 37.8 -0.4**
TNA epPKPdf **pPKPdf** **22 42 10.2 +0.2**
ANN Anapa 120.20 52 *i* PKIKP **PKPdf** **22 41 40.3 +0.4**
ANN eSP SP 22 52 51.4 +6.6
ANN pmax pmax
comp=Z,69nm,1.0s
SFNV Sufian 120.28 62 eP **PKPdf** **22 41 39.6 -0.9**
APA Apatity 120.49 26⇓ *i* PKIKP **PKPdf** **22 41 39.6 -0.2**
APA MLR MLR
comp=Z,400nm,21.0s
MZRK Al-Mazaregh 120.55 63 eP **PKPdf** **22 41 39.2 -1.8**
KBSD Kabsdagh 120.76 62 eP **PKPdf** **22 41 37.7 -3.7**
RAYN Ar Rayn 120.89 78 ePKPdf **PKPdf** **22 41 41.0 -1.0**
RAYN epPKPdf **pPKPdf** **22 42 14.0 +0.2**
LVZ Lovozero 120.97 25⇑ *i* PKIKP **PKPdf** **22 41 41.0 +0.2**
LVZ Lovozero 120.97 25 ePKPdf **PKPdf** **22 41 40.7 -0.1**
LVZ epPKPdf **pPKPdf** **22 42 12.7 +0.1**
OBN Obninsk 121.22 41 *d* PKIKP **PKPdf** **22 41 41.1 -0.5**
OBN *i* 22 42 12.4
OBN pmax pmax
comp=Z,71nm,1.7s
OBN Obninsk 121.22 41 PKP **PKPdf** **22 41 41.2 -0.3**
comp=Z,7.4nm,0.4s,baz=314,slow=2.4,SNR=12
OBN pPKP **pPKPdf** **22 42 13.3 0.0**
comp=Z,43nm,0.9s,baz=308,slow=1.7,SNR=7.5
OBN Obninsk 121.22 41 ePKPdf **PKPdf** **22 41 40.7 -0.9**
OBN epPKPdf **pPKPdf** **22 42 11.8 -1.5**
CTA Charters Tower 121.27 218 PKP **PKPdf** **22 41 42.2 -0.7**
comp=Z,8.8nm,0.8s,baz=162,slow=1.6,SNR=10

CTA PKP **pPKPdf** 22 42 14.4 -0.2
comp=Z,9.3nm,0.9s,baz=8.8,slow=1.6,SNR=6.3
CTA PKKPbc **PKKPbc** 22 51 44.7 +0.5
comp=Z,2.5nm,0.9s,baz=338,slow=5.4,SNR=3.7
CTA PKKP **PKKPdf** 22 52 17.1 -0.4
comp=Z,3.5nm,0.9s,baz=7.8,slow=1.3,SNR=5.4
CTAO Charters Tower 121.27 218 *e*PKIKP **PKPdf** 22 41 41.7 -1.2
CTAO *e* 22 42 13.9
CTAO Charters Tower 121.27 218 *e*PKPdf **PKPdf** 22 41 41.7 -1.2
CTAO *ep*PKPdf **pPKPdf** 22 42 13.9 -0.7
MOS Moscow 121.88 40 *e*PKIKP **PKPdf** 22 41 41.6 -1.2
MOS *e* 22 42 13.4
MOS pmax pmax
comp=Z,76nm,1.9s
MOS MLR MLR
comp=Z,500nm,21.0s
VSR Storozhevoye 122.36 45 *e*PKIKP **PKPdf** 22 41 43.3 -0.6
VSR *e**PP x 22 42 14.8
VSR pmax pmax
comp=Z,50nm,1.7s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,7.0nm,0.6s
TMCR Tamitsa 122.39 30 *e*PKIKP **PKPdf** 22 41 43.4 -0.1
TMCR pmax pmax
comp=Z,36nm,1.4s
KIV Kislovodsk 123.76 54*d i*PKIKP **PKPdf** 22 41 46.7 -0.3
KIV *i* 22 42 18.0
KIV *e* 22 43 29.3
KIV *e*PPP PPP 22 46 06.4
KIV *e* 22 48 33.6
KIV *i* SS SS 23 00 46.2 +35
KIV pmax pmax
comp=Z,57nm,1.3s
KIV Kislovodsk 123.76 54 *i* PKiKP **PKiKP** 22 41 47.6 +0.4
SNR=12
KIV Kislovodsk 123.76 54 PKPdf **PKPdf** 22 41 47.3 +0.3
SNR=8.5
KIV Kislovodsk 123.76 54 *e*PKPdf **PKPdf** 22 41 46.6 -0.4
KIV *ep*PKPdf **pPKPdf** 22 42 18.1 -0.6
AS12 Alice Springs 123.86 205 *e*PKPdf **PKPdf** 22 41 46.9 -1.0
AS12 *ep*PKPdf **pPKPdf** 22 42 18.8 -0.9
AS12 *e*PKKPbc **PKKPbc** 22 51 34.4 -0.1
ASAR Alice Springs 123.86 205 PKP **PKPdf** 22 41 46.9 -1.0
comp=Z,38nm,0.7s,baz=145,slow=2.0,SNR=202
ASAR pPKP **pPKPdf** 22 42 18.8 -0.9
comp=Z,20nm,0.8s,baz=142,slow=2.0,SNR=7.3
ASAR PKKPbc **PKKPbc** 22 51 34.4 -0.1
comp=Z,1.4nm,0.7s,baz=333,slow=3.2,SNR=12
ASAR PKKP **PKKPdf** 22 52 16.4 +3.8
comp=Z,1.2nm,0.8s,baz=348,slow=4.2,SNR=4.2
ASAR SKKPbc SKKPbc 22 55 07.5 -3.4
comp=Z,1.0nm,1.1s,baz=335,slow=4.1,SNR=4.5
ASAR PKKS 22 55 52.2
comp=Z,3.0nm,1.0s,baz=344,slow=5.2,SNR=4.5
KBZ Khabaz 123.87 55 PKP **PKPdf** 22 41 47.5 +0.4
comp=Z,16nm,0.9s,baz=270,slow=1.9,SNR=20
KBZ pPKP **pPKPdf** 22 42 19.4 +0.6
comp=Z,31nm,1.0s,baz=270,slow=2.4,SNR=8.4
VRHR Novokhopersk 123.88 46 *e*PKIKP **PKPdf** 22 41 46.6 -0.2
VRHR *e**PP x 22 42 18.3
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,8.0nm,0.5s
AKH Akhalkalaki 123.93 57 P **PKPdf** 22 41 48.5 +1.0
ONI Oni 124.10 56 P **PKPdf** 22 41 47.3 -0.4
GOF Gofitskoye 124.17 53 *e*PKIKP **PKPdf** 22 41 47.6 0.0
ZEI Tsey 124.45 56 *i* PKIKP **PKPdf** 22 41 47.7 -0.8
ZEI pmax pmax
comp=Z,24nm,1.3s
KZR Kazreti 124.61 58 P **PKPdf** 22 41 49.3 +0.7
GNI Garni 124.64 59*d i*PKIKP **PKPdf** 22 41 49.3 +0.4
GNI Garni 124.64 59 PKP **PKPdf** 22 41 49.6 +0.7
comp=Z,14nm,0.9s,baz=14,slow=1.9,SNR=15
GNI pPKP **pPKPdf** 22 42 21.8 +1.2
comp=Z,17nm,0.8s,baz=344,slow=2.3,SNR=9.2
GNI Garni 124.64 59 *i* PKiKP **PKiKP** 22 41 49.8 +0.6
SNR=9.8
GNI Garni 124.64 59 PKPdf **PKPdf** 22 41 50.1 +1.2
SNR=5.3
GNI Garni 124.64 59 *e*PKPdf **PKPdf** 22 41 49.0 0.0
GNI *ep*PKPdf **pPKPdf** 22 42 19.9 -0.8
TBLG Delisi 124.90 57 P **PKPdf** 22 41 49.6 +0.5
DGRG David-gareji 125.33 58 P **PKPdf** 22 41 50.5 +0.5
PRGR Permogore 126.01 33 *e*PKIKP **PKPdf** 22 41 49.8 -0.8
PRGR *e* 22 42 21.7
PRGR pmax pmax
comp=Z,33nm,0.8s
WRA Warramunga Arr 127.07 207 PKP **PKPdf** 22 41 53.5 -0.5
comp=Z,71nm,0.8s,baz=160,slow=1.6,SNR=256
WRA pPKP **pPKPdf** 22 42 25.1 -0.7
comp=Z,42nm,0.8s,baz=159,slow=1.6,SNR=7.5
WRA PP **PP** 22 43 50.6 -1.9
comp=Z,6.2nm,1.1s,baz=166,slow=5.2,SNR=5.9
WRA SKKPbc SKKPbc 22 55 09.7 +10
comp=Z,3.5nm,1.1s,baz=341,slow=4.3,SNR=4.6
WRA SKKP 22 55 30.3
comp=Z,3.7nm,0.9s,baz=348,slow=6.1,SNR=5.0
WRA PKKS 22 55 42.1
comp=Z,4.0nm,1.1s,baz=344,slow=5.6,SNR=4.5
WRAB Tennant Creek 127.07 207*d i*PKIKP **PKPdf** 22 41 53.4 -0.6
WRAB Tennant Creek 127.07 207 *e*PKPdf **PKPdf** 22 41 53.0 -1.0
WRAB *ep*PKPdf **pPKPdf** 22 42 25.1 -0.7
COEN Coen 127.94 220 *e*PKPdf **PKPdf** 22 41 55.3 -0.5
PMG Port Moresby 129.08 227*c i*PKIKP **PKPdf** 22 41 58.8 +0.8
PMG Port Moresby 129.08 227 PKP **PKPdf** 22 41 59.0 +1.0
comp=Z,27nm,1.0s,baz=312,slow=1.6,SNR=5.9
PMG pPKP **pPKPdf** 22 42 30.6 +0.9
comp=Z,32nm,0.9s,baz=221,slow=8.1,SNR=4.7
BILL Bilibino 129.29 337 *e*PKIKP **PKPdf** 22 41 56.8 +0.1
BILL *e* 22 42 28.6
BILL Bilibino 129.29 337 *e*PKPdf **PKPdf** 22 41 56.8 +0.1
BILL *ep*PKPdf **pPKPdf** 22 42 28.6 +0.2
ASUD Al Ashush, Dub 129.74 81⇑ *i*PKiKP **PKiKP** 22 41 59.4 -0.3
SNR=8.2
FAQ Al Faqa, Dubai 130.01 81⇑ *i*PKiKP **PKPdf** 22 41 59.4 0.0
SNR=9.2
NAZ Nazwa, Dubai 130.14 80⇓ *i*PKiKP **PKPdf** 22 41 59.6 0.0
SNR=8.1
ARQ Araqi 130.38 83 PKPdf **PKPdf** 22 42 00.2 +0.1
SNR=6.6
ASHO Ashiyiah 130.39 81 *i* PKPdf **PKPdf** 22 41 59.5 -0.6
SNR=10
ASHO Ashiyiah 130.39 81 PKPdf **PKPdf** 22 42 00.0 -0.1
SNR=13
HATD Hatta, Dubai 130.50 81⇑ *i*PKPdf **PKPdf** 22 41 59.9 -0.4
SNR=9.3
BSY Bisya 130.79 84 PKPdf **PKPdf** 22 42 01.2 +0.2
SNR=11
BANOM Banah 130.96 79⇓ PKPdf **PKPdf** 22 42 01.1 -0.1
HOQ Hoqain 131.15 83 PKPdf **PKPdf** 22 42 01.4 -0.2
SNR=6.1
SMDO Samad 131.63 84 PKPdf **PKPdf** 22 42 02.5 -0.1
SNR=15
SOKR Solikamsk 131.78 34 *e*PKIKP **PKPdf** 22 42 01.2 -0.4
SOKR pmax pmax
comp=Z,30nm,1.4s
WBK Wadi Bani Khal 132.29 85 PKPdf **PKPdf** 22 42 05.0 +1.2
SNR=10.0
ARU Arti 133.49 38 *i* PKIKP **PKPdf** 22 42 05.5 +0.5
ARU 22 44 33.5
ARU SS SS 23 02 07.4 -3.0
ARU Arti 133.49 38 *e*PKPdf **PKPdf** 22 42 04.8 -0.1
ARU *ep*PKPdf **pPKPdf** 22 42 36.6 -0.2
AKTO Aktyubinsk 134.28 46 PKP **PKPdf** 22 42 07.2 +0.6
comp=Z,6.3nm,1.0s,baz=314,slow=0.6,SNR=27
AKTO pPKP **pPKPdf** 22 42 39.2 +0.8
comp=Z,7.5nm,0.7s,baz=30,slow=1.9,SNR=6.5
GEYT Alibeck 134.69 64 PKhKP PKPpre 22 41 56.2
comp=Z,1.7nm,0.5s,baz=293,slow=7.6,SNR=3.8
GEYT PKP **PKPdf** 22 42 08.2 +0.4
comp=Z,14nm,0.8s,baz=276,slow=4.3,SNR=22
GEYT pPKP pPKPdf 22 42 40.1 +0.5
comp=Z,19nm,0.7s,baz=262,slow=4.5,SNR=10
ABKAR Akbulak array 135.68 48 *e*PKPpre PKPpre 22 41 56.1
ABKAR *e*PKPdf **PKPdf** 22 42 09.3 0.0
ABKAR *ep*PKPdf pPKPdf 22 42 41.2 +0.1
TIXI Tiksi 135.87 352 *e*PKIKP **PKPdf** 22 42 08.6 -0.4
TIXI *e* 22 42 40.6
TIXI Tiksi 135.87 352 *e*PKPdf **PKPdf** 22 42 08.6 -0.4
TIXI *ep*PKPdf **pPKPdf** 22 42 40.6 -0.2

SEY Seymchan 136.79 334 PKP **PKPdf** 22 42 11.9 +1.0
comp=Z,19nm,0.9s,baz=87,slow=2.8,SNR=7.8
SEY pPKP **pPKPdf** 22 42 43.9 +1.1
comp=Z,42nm,0.8s,baz=115,slow=2.3,SNR=12
PET Petropavlovsk 137.96 319 *e*PKIKP **PKPdf** 22 42 15.7 +2.3
JAY Jayapura 138.45 227 PKhKP PKPpre 22 42 04.7
comp=Z,5.1nm,0.8s,baz=247,slow=7.7,SNR=2.5
JAY PKP **PKPdf** 22 42 15.3 -0.3
comp=Z,9.0nm,0.8s,baz=198,slow=3.6,SNR=6.5
PEA2 Petropavlovsk- 138.48 319 *e*PKPpre PKPpre 22 42 10.3
PEA2 *e*PKPdf **PKiKP** 22 42 15.6 -1.0
PEA2 *ep*PKPdf pPKPdf 22 42 47.7 +1.5
PETK Petropavlovsk- 138.48 319 PKIKP PKPpre 22 42 10.3
PETK 22 42 47.7
PETK pmax pmax
comp=Z,14nm,0.9s
PETK pmax pmax
comp=Z,41nm,0.9s
PETK Petropavlovsk- 138.48 319 PKhKP PKPpre 22 42 10.3
comp=Z,14nm,0.9s,baz=106,slow=4.8,SNR=4.3
PETK PKP **PKiKP** 22 42 15.6 -1.0
comp=Z,12nm,0.9s,baz=98,slow=11,SNR=4.0
PETK pPKP pPKPdf 22 42 47.7 +1.5
comp=Z,41nm,0.9s,baz=88,slow=3.7,SNR=12
BATI Baumata 139.77 198 PKhKP PKPpre 22 42 11.0
baz=326,slow=3.6
BATI PKP **PKiKP** 22 42 19.2 -1.1
comp=Z,47nm,0.8s,baz=163,slow=1.9,SNR=9.7
SOEI Soe 140.03 199 *e*PKPdf **PKPdf** 22 42 15.7 -2.9
BVAR Borovoye Array 141.06 39 PKIKP PKPpre 22 42 14.6
BVAR 22 42 52.0
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,19nm,0.8s
BVAR Borovoye Array 141.06 39 PKhKP PKPpre 22 42 14.6
comp=Z,0.8nm,0.5s,baz=295,slow=3.4,SNR=4.4
BVAR PKP **PKPdf** 22 42 20.0 +1.0
comp=Z,7.0nm,0.8s,baz=288,slow=1.4,SNR=18
BVAR pPKP pPKPdf 22 42 52.0 +1.1
comp=Z,19nm,0.8s,baz=285,slow=2.9,SNR=10
BNDI Bandanaira 142.75 211 P **PKPdf** 22 42 19.4 -3.9
comp=Z,159nm,1.6s,comp=Z,3μm
FAKI Fak Fak 143.03 215 P PKPbc 22 42 20.4 -0.5
comp=Z,87nm,1.9s,comp=Z,2μm
FAKI Fak Fak 143.03 215 *e*PKPpre PKPbc 22 42 20.7 -0.2
RKPI Ransiki, Papua 143.18 219 P PKPbc 22 42 21.8 +0.5
comp=Z,100nm,0.7s
KBL Kabul 143.29 70 *e*PKHKP PKPab 22 42 19.8 -0.3
KBL Kabul 143.29 70 *e*PKPpre PKPab 22 42 19.8 -0.3
GMJI Gumukmas 143.32 183 P PKPbc 22 42 21.1 -0.5
comp=Z,71nm,1.5s
SRBI Singaraja 143.40 186 P PKPab 22 42 20.5 -0.2
comp=Z,2μmcomp=Z,107nm,1.4s
UGM Wanagama 143.69 178 P PKPbc 22 42 23.5 +0.8
comp=Z,228nm,2.0s,comp=Z,6μm
UGM Wanagama 143.69 178 *e*PKPdf PKPbc 22 42 23.3 +0.5
WOJI Wonogiri, Jawa 143.78 179 P PKPbc 22 42 22.7 -0.2
comp=Z,213nm,1.8s,comp=Z,6μm
PALK Pallekele 143.80 120 *e*PKIKP PKPbc 22 42 22.8 -0.3
PALK Pallekele 143.80 120 PKP PKPbc 22 42 23.3 +0.2
comp=Z,28nm,0.8s,baz=255,slow=3.1,SNR=12
PALK Pallekele 143.80 120 PKPdf PKPbc 22 42 24.0 +0.9
SNR=8.2
PALK Pallekele 143.80 120 *e*PKPdf PKPbc 22 42 22.8 -0.3
CISI Cisompet, Garu 143.86 173 *e*PKPpre PKPab 22 42 21.8 -0.8
KKAR Karatay Array 143.91 55 *e*PKIKP PKPab 22 42 21.6 -0.3
KKAR Karatay Array 143.91 55 *e*PKPpre PKPab 22 42 21.6 -0.4
KPJI Karang Pucung 144.18 175 P PKPbc 22 42 24.1 -0.1
comp=Z,321nm,0.8s,comp=Z,4μm
YAK Yakutsk 144.53 346 *i* PKIKP **PKPab** 22 42 23.1 -0.5
YAK *e* 22 42 54.3
YAK *e* 22 45 39.1
YAK eSS SS 23 04 18.3 -0.6
YAK pmax pmax
comp=Z,209nm,0.9s
YAK pmax pmax
comp=E,12nm,0.8s
YAK pmax pmax
comp=N,44nm,1.4s
YAK pmax pmax
comp=Z,72nm,1.5s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,113nm,1.9s
YAK Yakutsk 144.53 346 PKP PKPbc 22 42 23.9 +0.1
baz=119,slow=0.3
YAK pPKP pPKPdf 22 42 55.3 -1.3
comp=N,395nm,0.7s,baz=224,slow=0.5,SNR=7.0
YAK Yakutsk 144.53 346 *e*PKPdf PKPbc 22 42 23.7 -0.1
YAK *ep*PKPdf pPKPdf 22 42 55.1 -1.6
LEM Lembang 144.56 173 P **PKPdf** 22 42 26.2 -0.5
comp=N,1μm,1.1s,comp=N,12μm
LEM Lembang 144.56 173 PKP **PKPdf** 22 42 26.3 -0.5
comp=N,568nm,0.8s,baz=181,slow=3.3
LEM pPKP **pPKPdf** 22 42 58.6 +0.1
comp=N,426nm,0.8s,baz=125,slow=10,SNR=5.9
SBJI Serang 145.07 170 P **PKPdf** 22 42 27.4 +0.1
comp=N,329nm,1.5s,comp=N,6μm
TNG Tangerang 145.09 171 P **PKPdf** 22 42 27.5 +0.1
comp=N,912nm,1.5s,comp=N,17μm
TNG P **PKPab** 22 42 27.8 +0.7
comp=N,1μm,1.5s,comp=N,26μm
URV Uravakonda 145.31 106 *e*PKPab **PKPbc** 22 42 27.7 0.0
BLSI Bandar Lampung 145.66 168 P **PKPbc** 22 42 28.7 -0.1
comp=N,310nm,0.8s,comp=N,6μm
KAPI Kappang 145.73 194 *e*PKPdf **PKPbc** 22 42 29.2 +0.2
KAPI *ep*PKPdf **pPKPdf** 22 42 59.7 -0.6
LWLI Liwa 145.77 166 P **PKPab** 22 42 29.9 +0.1
comp=N,380nm,0.9s,comp=N,5μm
GUMO Guam 145.87 251 *e*PKIKP **PKPdf** 22 42 28.3 -0.3
GUMO *e* 22 42 59.2
GUMO Guam 145.87 251 *e*PKPdf **PKPdf** 22 42 28.3 -0.3
GUMO *ep*PKPdf **pPKPdf** 22 42 59.2 -1.2
MNAI Manna 146.16 164 P **PKPab** 22 42 31.0 -0.1
LATR Latur 146.24 100 *ex* **PKPab** 22 42 31.0 -0.4
MDSI Maura Dua 146.31 166 P **PKPdf** 22 42 28.7 -0.8
comp=N,206nm,1.1s,comp=N,3μm
EKS2 Erkin-Say 146.35 55 P **PKPbc** 22 42 30.5 +0.2
SNR=47
EKS2 Erkin-Say 146.35 55 *e*PKP2 **PKPbc** 22 42 29.9 -0.4
EKS2 Erkin-Say 146.35 55 *e*PKPdf **PKPbc** 22 42 29.9 -0.4
EKS2 *ep*PKPdf **pPKPdf** 22 43 00.9 +0.3
AML Almayashu 146.40 56 P **PKPbc** 22 42 30.8 0.0
SNR=40
NVS Novosibirsk 146.62 30⇓ *i*PKIKP **PKPdf** 22 42 28.5 -0.2
NVS *i* 22 43 00.5
NVS *i* 22 43 12.5
NVS *i* 22 45 53.2
NVS pmax pmax
comp=Z,362nm,1.5s
NVS pmax pmax
comp=N,27nm,1.6s
NVS pmax pmax
comp=E,80nm,1.6s
KURBB Kurchatov Arra 146.65 39 PKPbc **PKPdf** 22 42 29.7 +0.9
comp=E,59nm,0.9s,baz=298,slow=3.2,SNR=141
KURBB pPKPbc pPKPbc 22 43 02.2 +0.1
comp=E,130nm,0.8s,baz=302,slow=2.9,SNR=16
KURK Kurchatov 146.65 39 *e*PKIKP **PKPdf** 22 42 29.3 +0.4
KURK *e* 22 43 00.8
KURK Kurchatov 146.65 39 PKPdf **PKPbc** 22 42 30.1 -0.6
SNR=74
KURK Kurchatov 146.65 39 *e*PKPdf **PKPdf** 22 42 29.3 +0.4
KURK *ep*PKPdf **pPKPdf** 22 43 00.8 +0.1
USP Ospenovka 146.73 54 P **PKPbc** 22 42 30.8 -0.5
SNR=28
SKHT Srikalahasti 146.76 110 *e*P **PKPab** 22 42 32.8 -0.7
SKHT *ep*PKiKP **pPKiKP** 22 43 04.4 -1.9
SKHT *es*PKiKP sPKiKP 22 43 17.0 -1.5
SKHT *e* 22 53 20.0
AAK Ala-Archa 146.87 55 P **PKPbc** 22 42 31.4 -0.5
SNR=72
AAK Ala-Archa 146.87 55*d i*PKP2 **PKPdf** 22 42 30.5 +0.7
AAK Ala-Archa 146.87 55 PKPbc **PKPbc** 22 42 31.3 -0.5
comp=E,68nm,0.8s,baz=196,slow=2.2,SNR=60
AAK pPKPbc pPKPbc 22 43 04.0 +0.8
comp=E,103nm,0.9s,baz=186,slow=1.8,SNR=6.1
AAK Ala-Archa 146.87 55 PKPdf **PKPbc** 22 42 31.6 -0.2
SNR=55
AAK Ala-Archa 146.87 55 *e*PKPdf **PKPdf** 22 42 30.8 +1.0
AAK *ep*PKPdf **pPKPdf** 22 43 01.1 -0.5
FRU Bishkek 146.91 55⇓ *i*PKP2 **PKPbc** 22 42 31.0 -0.8
FRU pmax pmax
comp=Z,650nm,1.9s
CHMS Chumysh 146.97 54 P **PKPbc** 22 42 30.9 -1.0
SNR=65
UCH Uchtor 146.97 56 P **PKPbc** 22 42 32.0 -0.5
SNR=79
KUR Kuril'sk 147.05 310*d i*PKHKP PKPpre 22 42 24.2
KUR SS SS 23 05 25.5 +36
KBK Karagaybulak 147.19 55 P **PKPbc** 22 42 31.7 -1.0
SNR=48
KZA Kyzart 147.54 56 P **PKPbc** 22 42 33.0 -1.0
SNR=24
HYB Hyderabad 147.54 103 *i* PKP **PKPdf** 22 42 31.0 -0.4
HYB *e* 22 42 33.5
HYB *e*PKPAB **PKPab** 22 42 37.0 +0.4
HYB *e* 22 42 47.0
HYB *e* 22 43 04.0
HYB *ep*PKP pPKPdf 22 43 18.0 +15
HYB *e* 22 43 28.0
HYB *es*PKP 22 43 45.0
HYBB Hyderabad (bro 147.54 103 *e*PKPbc **PKPdf** 22 42 32.0 +0.6
HYBB *e*PKPab **PKPbc** 22 42 34.5 +0.3
HYBB *ep*PKPbc **pPKPbc** 22 43 03.2 -2.5
HYBB *ep*PKPab **pPKPab** 22 43 06.2 -1.2
HYBB *es*SS SS 23 04 58.1 +1.8
TKM2 Tokmak 2 147.59 54 P **PKPdf** 22 42 32.0 +1.0
SNR=77
TKM2 Tokmak 2 147.59 54 *e*PKIKP **PKPdf** 22 42 31.5 +0.5
TKM2 *e* 22 43 04.1
TKM2 Tokmak 2 147.59 54 *e*PKPdf **PKPdf** 22 42 31.5 +0.5
TKM2 *ep*PKPdf **pPKPdf** 22 43 04.1 +1.2
NJS Nagarjunasagar 147.80 105 *e*PKPbc **PKPdf** 22 42 32.3 +0.5
NJS *e*PKiKP **PKPbc** 22 42 35.3 +0.4
NJS *ep*PKPab **pPKPab** 22 43 07.0 -1.4
NJS *es*PKiKP sPKiKP 22 43 20.1 -0.4
NJS *e*PP **PP** 22 46 05.8 +2.8
NJS *e*SS **SS** 23 05 01.2 +2.1
ZAA1 Zalesovo Array 147.91 30 *e*PKPbc **PKPbc** 22 42 34.7 +0.7
ZAA1 *ep*PKPdf **pPKPdf** 22 43 05.1 +2.4
ZALV Zalesovo Beam 147.91 30 PKPbc **PKPbc** 22 42 34.7 +0.7
comp=Z,65nm,0.5s,baz=304,slow=3.3,SNR=101
ZALV pPKPbc **pPKPbc** 22 43 05.1 -0.4
comp=Z,319nm,0.7s,baz=298,slow=3.2,SNR=21
ADKI Addanki 148.03 107 *e*PKPbc **PKPdf** 22 42 33.5 +1.3
ADKI *e*PKiKP **PKiKP** 22 42 36.4 -0.8
ADKI *e* 22 42 39.3
ADKI *ep*PKPbc **pPKPbc** 22 43 05.6 -1.3
ADKI *ep*PKPab **pPKPab** 22 43 07.4 -1.9
ADKI *es*PKPab **sPKPab** 22 43 20.4 -1.2
ADKI *e*PP **PP** 22 46 06.3 +2.0
ADKI *e*SS **SS** 23 05 05.4 +3.9
ULHL Ulahol 148.22 55 P **PKPdf** 22 42 33.6 +1.6
SNR=26
KSH Kashi 148.56 60 PKPbc **PKPdf** 22 42 33.0 +0.4
KSH pPKP **pPKPdf** 22 42 59.8 -4.7
KSH PKS **PP** 22 46 06.4 -0.9
KSH PPMZ
comp=Z,130nm,3.9s
KSH LN
comp=Z,110nm,7.0s
KSH LE
comp=Z,140nm,5.6s
KSH LZ
comp=Z,190nm,10.8s
TNTI Ternate 148.59 211 *e*PKPdf **PKPdf** 22 42 32.8 -0.5
TNTI *ep*PKPdf **pPKPdf** 22 43 06.4 +1.3
LUWI Luwuk 148.72 201 *e*PKPdf **PKPdf** 22 42 33.5 0.0
LUWI *ep*PKPdf **pPKPdf** 22 43 04.9 -0.4
RPR Rampur 148.79 101 *e*PKPbc **PKPdf** 22 42 33.8 +0.5
RPR *e*PKiKP **PKPbc** 22 42 37.6 +0.2
RPR *ep*PKPbc **pPKPbc** 22 43 08.2 -0.7
RPR *ep*PKiKP **pPKiKP** 22 43 10.1 -0.3
RPR *es*PKPbc **sPKPbc** 22 43 18.9 -2.2
RPR *es*PKiKP **sPKiKP** 22 43 21.3 -1.3
RPR *e*PP **PP** 22 46 09.4 +0.6
RPR *e*SS **SS** 23 05 13.6 +3.4
NGP Nagpur 149.45 97 *e*P **PKPbc** 22 42 38.6 -0.4
NGP *e*S x 22 43 13.2
NGP *ex* x 22 43 18.5
YSS Yuzh-Sakhalins 149.70 316 *i* PKHKP **PKPdf** 22 42 35.0 +1.0
YSS pmax pmax
comp=Z,570nm,1.8s
YSS pmax pmax
comp=E,170nm,1.3s
YSS Yuzh-Sakhalins 149.70 316 *e*PKPdf **PKPdf** 22 42 33.6 -0.3
YSS *e*PKPbc **PKPbc** 22 42 38.9 +0.1
YSS *ep*PKPdf **pPKPdf** 22 43 03.8 -2.0
YSS *ep*PKPab **pPKPab** 22 43 10.7 -4.6
SMLA Simla 149.93 77 *i* x **PKPdf** 22 42 36.0 +1.2
SMLA *i* x x 22 43 14.6
SMLA AML AML 22 43 22.6
SMLA AML AML 22 43 23.4
CLNS Chul'man 150.28 345 *e*PKIKP **PKPdf** 22 42 34.9 +0.2
CLNS *e* 22 43 10.7
CLNS pmax pmax
comp=Z,27nm,1.1s
CLNS pmax pmax
comp=N,134nm,1.3s
CLNS pmax pmax
comp=E,27nm,1.0s
MK32 Makanchi Array 150.66 44 *e*PKPdf **PKPdf** 22 42 35.0 -0.6
MK32 *e*PKPbc **PKiKP** 22 42 41.8 0.0
MK32 *ep*PKPdf **pPKPdf** 22 43 13.3 +5.9
MKAR Makanchi Array 150.66 44 *e*PKIKP **PKPdf** 22 42 35.1 -0.5
MKAR *e* 22 42 12.7
MKAR Makanchi Array 150.66 44 PKP **PKPdf** 22 42 35.0 -0.6
comp=E,3.2nm,0.9s,baz=293,slow=1.7,SNR=27
MKAR PKPbc **PKiKP** 22 42 41.8 0.0
comp=E,85nm,0.8s,baz=303,slow=2.4,SNR=395
MKAR pPKPbc **pPKPbc** 22 43 13.3 +0.5
comp=E,110nm,0.8s,baz=304,slow=2.1,SNR=8.8
MKAR Makanchi Array 150.66 44 *e*PKPdf **PKPdf** 22 42 35.0 -0.5
MKAR *e*PKPbc **PKPbc** 22 42 41.2 0.0
MKAR *ep*PKPdf **pPKPdf** 22 43 12.7 +5.3
BOD Bodaibo 150.74 358 *e*PKIKP **PKPdf** 22 42 35.0 -0.3
BOD *e* 22 43 11.7
BOD pmax pmax
comp=Z,77nm,1.5s
BOD pmax pmax
comp=Z,197nm,1.1s
ASAJ Asahikawa 150.96 311 PKIKP **PKPdf** 22 42 36.8 +0.7
ASAJ 22 43 13.9
ASAJ pmax pmax
comp=Z,21nm,0.9s
ASAJ pmax pmax
comp=Z,190nm,1.0s
ASAJ Asahikawa 150.96 311 PKP **PKPdf** 22 42 36.8 +0.7
comp=Z,21nm,0.9s,baz=322,slow=3.9,SNR=5.6
ASAJ PKPbc **PKiKP** 22 42 42.6 +0.2
comp=Z,64nm,1.0s,baz=225,slow=5.2,SNR=15
ASAJ pPKPbc **pPKPbc** 22 43 13.9 +0.4
comp=Z,190nm,1.0s,baz=230,slow=4.1,SNR=14
ASAJ Asahikawa 150.96 311 *e*PKPdf **PKPdf** 22 42 36.2 +0.2
ASAJ *e*PKPbc **PKPbc** 22 42 41.6 -0.3
ASAJ *ep*PKPdf **pPKPdf** 22 43 13.4 +5.5
ERM Erimo 151.29 306*de*PKIKP **PKPdf** 22 42 38.0 +1.4
ERM Erimo 151.29 306 *e*PKPbc **PKPbc** 22 42 43.4 +0.7
ERM *ep*PKPdf **pPKPdf** 22 43 14.9 +6.5
TOLI Toli-Toli 151.37 199 *e*PKPdf **PKPdf** 22 42 37.3 -0.3
TOLI *e*PKPbc **PKPbc** 22 42 42.6 -1.1
MYKOM Kota Tinggi 152.29 163 *e*PKPdf **PKPdf** 22 42 38.2 -0.8
MYKOM *e*PKPbc **PKPbc** 22 42 45.0 -0.9
KGM Kluang 152.37 161⇑P **PKPbc** 22 42 46.0 0.0
CHLP Challavanipeta 152.72 105 *e*PKPdf **PKPdf** 22 42 39.8 +0.3
CHLP *e*PKiKP **PKiKP** 22 42 47.0 +0.2
CHLP *e*PKPab **PKPab** 22 42 58.7 +0.9
CHLP *ep*PKPdf **pPKPdf** 22 43 09.7 -1.6
CHLP *ep*PKiKP **pPKiKP** 22 43 17.8 -0.7
CHLP *ep*PKPab **pPKPab** 22 43 27.5 -1.0
CHLP *e*PP **PP** 22 46 27.9 -3.4
CHLP *e* 22 47 13.0
CHLP *e*SS SS 23 05 53.4 -0.2
LHMI Lhok Sumawe 152.83 146 *e*PKPdf **PKPdf** 22 42 39.6 -0.2
LHMI *e*PKPbc **PKPbc** 22 42 46.5 -0.5
KSM Kuching 153.00 177⇑S **PKPdf** 22 42 38.9 -1.2
KSM Kuching 153.00 177 *e*PKPdf **PKPdf** 22 42 39.6 -0.5
KSM *e*PKPbc **PKPbc** 22 42 46.5 -1.0
KSM *e*PKPab **PKPab** 22 42 59.0 +0.1
KSM *ep*PKPab **pPKPab** 22 43 28.6 -1.0
CBI Chichi jima 153.12 274 *e*PKPbc **PKPbc** 22 42 46.5 -0.8
JCJ Chichijima 153.12 274 PKPbc **PKPbc** 22 42 46.5 -0.9
comp=Z,49nm,0.7s,baz=151,slow=19,SNR=3.0
HABR Khabarovsk 153.25 324*d i*PKIKP **PKPdf** 22 42 39.4 +0.1

HABR					*e*			22 43 09.9	
HABR								22 43 20.3	
HABR					*e*			22 46 33.2	
HABR					*e*			22 49 39.2	
HABR					*e*PPP	PPP		22 50 00.9	
HABR					*e*SS	SS		23 06 01.4	+4.0
HABR					*e*SSS	SSS		23 11 51.9	
HABR					pmax	pmax			
	comp=E,29nm,1.7s								
HABR					pmax	pmax			
	comp=Z,80nm,1.7s								
HABR					pmax	pmax			
	comp=N,23nm,1.7s								
IPM	**Ipoh**	**153.93**	**155**		*e*PKPdf	**PKPdf**	**22 42 39.4**	**-2.0**	
IPM					*e*PKPbc	**PKPbc**	**22 42 48.7**	**-0.8**	
SBUM	**Sibu**	**154.01**	**181**	⇑S		**PKPdf**	**22 42 42.3**	**+0.8**	
SBUM	**Sibu**	**154.01**	**181**	*e*PKPdf		**PKPdf**	**22 42 40.9**	**-0.6**	
SBUM				*e*PKPbc		**PKPbc**	**22 42 48.7**	**-0.9**	
SBUM				*e*PKPab		**PKPab**	**22 43 03.6**	**+0.4**	
KLR	**Kul'dur**	**154.34**	**329**	*e*PKIKP		**PKPdf**	**22 42 36.8**	**-4.1**	
KLR				*e*			22 43 08.5		
KULM	**Kulim**	**154.53**	**153**	*e*PKPdf		**PKPdf**	**22 42 42.2**	**0.0**	
KULM				*e*PKPbc		**PKPbc**	**22 42 49.3**	**-1.4**	
KULM				*e*PKPab		**PKPab**	**22 43 04.8**	**-0.6**	
PYUN	**Piuthan**	**154.66**	**84**	*e*P		**PKPdf**	**22 42 42.2**	**-0.1**	
	comp=N,175nm,1.0s								
KOLN	**Koldanda**	**155.15**	**85**	*e*P		**PKPdf**	**22 42 42.5**	**-0.4**	
	comp=N,55nm,1.0s								
DANN	**Dangsing**	**155.37**	**84**	*e*P		**PKPdf**	**22 42 43.8**	**+0.5**	
	comp=N,198nm,1.1s								
MOY	**Mondy**	**155.56**	**16**	*e*PKIKP		**PKPdf**	**22 42 43.6**	**+1.0**	
MOY				pmax	pmax				
	comp=Z,184nm,2.7s								
IRK	**Irkutsk**	**155.71**	**11**	*e*PKIKP		**PKPdf**	**22 42 43.0**	**+0.3**	
IRK				*e*			22 43 09.2		
IRK				pmax	pmax				
	comp=Z,163nm,2.0s								
GKN	**Gorkha**	**156.09**	**85**	*e*P		**PKPdf**	**22 42 44.3**	**+0.2**	
	comp=Z,176nm,1.1s								
TLY	**Talaya**	**156.13**	**13**	*i* PKIKP		**PKPdf**	**22 42 43.9**	**+0.7**	
TLY				*e*			22 43 12.5		
TLY				pmax	pmax				
	comp=Z,52nm,1.6s								
TLY	**Talaya**	**156.13**	**13**	PKP		**PKPdf**	**22 42 44.6**	**+1.4**	
	comp=Z,2.8nm,0.6s,baz=204,slow=3.2								
TLY				PKPab		**PKPab**	**22 43 11.9**	**+0.6**	
	comp=Z,7.3nm,0.5s,baz=348,slow=2.5,SNR=6.4								
TLY				pPKPab		**pPKPab**	**22 43 43.1**	**+1.0**	
	comp=Z,46nm,1.0s,baz=330,slow=4.5,SNR=7.4								
TLY	**Talaya**	**156.13**	**13**	PKPdf		**PKPdf**	**22 42 44.7**	**+1.4**	
	SNR=22								
TLY	**Talaya**	**156.13**	**13**	*e*PKPdf		**PKPdf**	**22 42 44.3**	**+1.0**	
TLY				*e*PKPab		**PKPab**	**22 43 11.8**	**+0.4**	
TLY				*ep*PKPab		**pPKPab**	**22 43 42.9**	**+0.8**	
MJAR	**Matsushiro Arr**	**156.42**	**296**	PKIKP		**PKPdf**	**22 42 43.5**	**-0.6**	
MJAR							22 43 13.7		
MJAR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MJAR				pmax	pmax				
	comp=Z,12nm,0.8s								
MJAR	**Matsushiro Arr**	**156.42**	**296**	PKP		**PKPdf**	**22 42 43.5**	**-0.6**	
	comp=Z,4.9nm,1.0s,baz=217,slow=1.0,SNR=16								
MJAR				PKPab		**PKPab**	**22 43 13.7**	**+0.4**	
	comp=Z,12nm,0.8s,baz=102,slow=2.3,SNR=18								
MJAR				pPKPab		**pPKPab**	**22 43 43.7**	**-0.2**	
	comp=Z,15nm,1.1s,baz=118,slow=2.1,SNR=2.9								
MAJO	**Matsushiro**	**156.42**	**296**	*i* PKIKP		**PKPdf**	**22 42 43.4**	**-0.7**	
MAJO	**Matsushiro**	**156.42**	**296**	*e*PKPdf		**PKPdf**	**22 42 43.5**	**-0.7**	
MAJO				*e*PKPab		**PKPab**	**22 43 13.7**	**+0.4**	
MAJO				*ep*PKPab		**pPKPab**	**22 43 43.7**	**-0.2**	
MAT	**Matsushiro**	**156.42**	**296**	PKP		**PKPdf**	**22 42 43.1**	**-1.0**	
KKN	**Kakani**	**156.62**	**86**	*e*P		**PKPdf**	**22 42 44.6**	**-0.3**	
	comp=Z,147nm,1.0s								
PKIN	**Phulchoki**	**156.69**	**86**	*e*P		**PKPdf**	**22 42 44.4**	**-0.7**	
	comp=Z,39nm,1.0s								
PKI	**Pulchoki**	**156.71**	**86**	*e*P		**PKPdf**	**22 42 44.9**	**-0.3**	
	comp=Z,324nm,1.1s								
GUN	**Gumba**	**157.17**	**85**	*e*P		**PKPdf**	**22 42 45.8**	**0.0**	
	comp=Z,222nm,1.2s								
ZAK	**Zakamensk**	**157.29**	**14**	⇑*i* PKIKP		**PKPdf**	**22 42 44.9**	**0.0**	
ZAK				pmax	pmax				
	comp=Z,18nm,1.8s								
JIRN	**Jiri**	**157.40**	**86**	*e*P		**PKPdf**	**22 42 45.9**	**-0.2**	
	comp=Z,109nm,1.0s								
USRK	**Ussuriysk Ar.**	**157.57**	**319**	PKP		**PKPdf**	**22 42 45.3**	**0.0**	
	comp=Z,5.4nm,0.9s,baz=239,slow=1.1,SNR=9.4								
USRK				PKPab		**PKPab**	**22 43 17.1**	**-0.7**	
	comp=Z,18nm,1.0s,baz=257,slow=1.1,SNR=16								
RAMN	**Ramite**	**157.65**	**88**	*e*P		**PKPdf**	**22 42 46.1**	**-0.2**	
	comp=Z,147nm,0.9s								
VLA	**Vladivostok**	**158.28**	**317**	*ce*PKIKP		**PKPdf**	**22 42 46.1**	**-0.1**	
ODAN	**Odare**	**158.33**	**89**	*e*P		**PKPdf**	**22 42 47.4**	**+0.3**	
	comp=Z,61nm,0.9s								
HIA	**Hailar**	**158.47**	**346**	*e*PKIKP		**PKPdf**	**22 42 45.0**	**-1.3**	
HIA				*e*			22 43 17.1		
HIA	**Hailar**	**158.47**	**346**	*e*PKPdf		**PKPdf**	**22 42 45.0**	**-1.3**	
HIA				*e*PKPab		**PKPab**	**22 43 17.1**	**-4.5**	
HIA				*ep*PKPab		**pPKPab**	**22 43 52.0**	**-0.1**	
MDJ	**Mudanjiang**	**158.63**	**323**	PKP		**PKPdf**	**22 42 46.1**	**-0.5**	
MDJ				pPKP	pPKPdf		22 43 09.0	-9.5	
MDJ				sPKP			22 43 17.5		
MDJ				PKS		**PKSdf**	**22 46 20.3**	**+0.3**	
MDJ				PP		**PP**	**22 47 03.6**	**+0.6**	
MDJ				SKS		**SKSdf**	**22 49 43.0**	**+1.7**	
MDJ				SS		**SS**	**23 06 59.9**	**+4.6**	
MDJ				PPMZ					
	comp=Z,170nm,5.2s								
MDJ				LN					
	comp=Z,78nm,10.2s								
MDJ				LE					
	comp=Z,160nm,10.2s								
MDJ				LZ					
	comp=Z,140nm,7.1s								
TAPN	**Taplejung**	**158.69**	**88**	*e*P		**PKPdf**	**22 42 47.5**	**-0.1**	
	comp=Z,178nm,1.8s								
SONA0	**Songino Array**	**160.33**	**11**	*e*PKPdf		**PKPdf**	**22 42 49.1**	**+0.5**	
SONA0				*ep*PKPdf		**pPKPdf**	**22 43 21.4**	**+0.9**	
SONA0				*e*PKPab		**PKPab**	**22 43 30.5**	**+0.7**	
SONA0				*ep*PKPab		**pPKPab**	**22 44 01.3**	**+0.9**	
SONM	**Songino Array**	**160.33**	**11**	PKIKP		**PKPdf**	**22 42 49.1**	**+0.5**	
SONM							22 43 21.4		
SONM							22 43 30.5		
SONM				pmax	pmax				
	comp=Z,7.0nm,1.0s								
SONM				pmax	pmax				
	comp=Z,26nm,1.0s								
SONM				pmax	pmax				
	comp=Z,11nm,1.0s								
SONM	**Songino Array**	**160.33**	**11**	PKP		**PKPdf**	**22 42 49.1**	**+0.5**	
	comp=Z,6.9nm,1.0s,baz=238,slow=0.4,SNR=44								
SONM				pPKP		**pPKPdf**	**22 43 21.4**	**+0.9**	
	comp=Z,26nm,1.0s,baz=210,slow=0.6,SNR=18								
SONM				PKPab		**PKPab**	**22 43 30.5**	**+0.7**	
	comp=Z,11nm,1.0s,baz=333,slow=3.0,SNR=8.6								
SONM				pPKPab		**pPKPab**	**22 44 01.3**	**+0.9**	
	comp=Z,21nm,0.9s,baz=344,slow=3.8,SNR=4.7								
ULN	**Ulaanbaatar**	**160.40**	**10**	*d* PKIKP		**PKPdf**	**22 42 49.0**	**+0.3**	
ULN	**Ulaanbaatar**	**160.40**	**10**	PKPdf		**PKPdf**	**22 42 49.5**	**+0.8**	
	SNR=14								
ULN	**Ulaanbaatar**	**160.40**	**10**	*e*PKPdf		**PKPdf**	**22 42 49.1**	**+0.3**	
ULN				*ep*PKPdf		**pPKPdf**	**22 43 20.8**	**+0.1**	
ULN				*e*PKPab		**PKPab**	**22 43 30.8**	**+0.6**	
ULN				*ep*PKPab		**pPKPab**	**22 44 01.2**	**+0.4**	
LSA	**Lhasa**	**161.93**	**81**	PKP		**PKPdf**	**22 42 52.4**	**+1.1**	
LSA	**Lhasa**	**161.93**	**81**	*e*PKIKP		**PKPdf**	**22 42 51.2**	**-0.1**	
LSA				*e*			22 43 23.1		
LSA	**Lhasa**	**161.93**	**81**	*e*PKPdf		**PKPdf**	**22 42 51.2**	**-0.1**	
LSA				*ep*PKPdf		**pPKPdf**	**22 43 23.1**	**-0.1**	
LSA				*ep*PKPab		**pPKPab**	**22 44 09.3**	**+0.7**	
JNU	**Nakatsue**	**163.01**	**290**	PKPab		**PKPab**	**22 43 42.1**	**+0.1**	
	comp=Z,17nm,1.0s,baz=168,slow=9.1,SNR=4.0								
JNU	**Nakatsue**	**163.01**	**290**	*e*PKPdf		**PKPdf**	**22 42 50.7**	**-1.0**	
JNU				*e*PKPab		**PKPab**	**22 43 41.9**	**-0.1**	
DLV	**T Lat**	**163.15**	**169**	*e*PKPdf		**PKPdf**	**22 42 52.8**	**+0.3**	
DLV				*e*PKPab		**PKPab**	**22 43 41.8**	**-1.1**	
MHMT	**Maesarieng**	**163.60**	**126**	P		**PKPdf**	**22 42 53.2**	**+0.6**	
KSRS	**Korea Array**	**163.86**	**307**	PKP		**PKPdf**	**22 42 52.2**	**-0.1**	
	comp=Z,12nm,1.1s,baz=106,slow=0.4,SNR=38								
KSRS				pPKP		**pPKPdf**	**22 43 24.5**	**+0.3**	
	comp=Z,22nm,1.1s,baz=90,slow=0.6,SNR=10								
KSRS				PKPab		**PKPab**	**22 43 47.4**	**+1.9**	
	comp=Z,6.9nm,0.9s,baz=58,slow=1.8,SNR=5.6								
KSRS				pPKPab		**pPKPab**	**22 44 17.5**	**+1.4**	
	comp=Z,10.0nm,1.0s,baz=60,slow=4.2,SNR=2.8								
KS15	**Wonju Array Si**	**163.89**	**307**	*e*PKPdf		**PKPdf**	**22 42 52.2**	**-0.1**	
KS15				*ep*PKPdf		**pPKPdf**	**22 43 24.5**	**+0.2**	
KS15				*e*PKPab		**PKPab**	**22 43 47.4**	**+1.7**	
KS15				*ep*PKPab		**pPKPab**	**22 44 17.5**	**+1.2**	
PBKT	**Sadao Pong**	**164.42**	**138**	P		**PKPdf**	**22 42 53.7**	**+0.3**	
	comp=Z,46nm,1.7s,comp=Z,972nm								
CM31	**Chiang Mai Arr**	**164.50**	**128**	*e*PKPdf		**PKPdf**	**22 42 53.9**	**+0.4**	
CM31				*ep*PKPdf		**pPKPdf**	**22 43 25.7**	**+0.3**	
CM31				*e*PKPab		**PKPab**	**22 43 48.5**	**-0.2**	
CM31				*ep*PKPab		**pPKPab**	**22 44 18.8**	**-0.6**	
CM31				*es*SKSdf		sSKSdf	22 50 59.0	+16	
CMAR	**Chiang Mai Arr**	**164.50**	**128**	PKIKP		**PKPdf**	**22 42 53.7**	**+0.4**	
CMAR							22 43 25.7		
CMAR							22 43 48.6		
CMAR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CMAR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CMAR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**164.50**	**128**	PKP		**PKPdf**	**22 42 53.9**	**+0.4**	
	comp=Z,6.2nm,0.9s,baz=256,slow=2.3,SNR=47								
CMAR				pPKP		**pPKPdf**	**22 43 25.7**	**+0.3**	
	comp=Z,10.0nm,1.0s,baz=262,slow=2.2,SNR=4.3								
CMAR				PKPab		**PKPab**	**22 43 48.5**	**-0.2**	
	comp=Z,6.4nm,0.8s,baz=236,slow=4.7,SNR=7.0								
CMAR				pPKPab		**pPKPab**	**22 44 18.8**	**-0.6**	
	comp=Z,15nm,1.0s,baz=233,slow=4.1,SNR=5.6								
CMAR				PKKP			22 50 59.0		
	comp=Z,0.7nm,0.3s,baz=3.5,slow=4.7,SNR=4.3								
CHTO	**Chiang Mai**	**164.74**	**127**	*e*PKIKP		**PKPdf**	**22 42 53.4**	**-0.2**	
CHTO				*e*			22 43 25.0		
CHTO				*e*			22 43 48.8		
CHTO	**Chiang Mai**	**164.74**	**127**	PKPdf		**PKPdf**	**22 42 54.1**	**+0.5**	
	SNR=15								
CHTO	**Chiang Mai**	**164.74**	**127**	*e*PKPdf		**PKPdf**	**22 42 53.4**	**-0.2**	
CHTO				*ep*PKPdf		**pPKPdf**	**22 43 25.0**	**-0.6**	
CHTO				*e*PKPab		**PKPab**	**22 43 48.8**	**-1.0**	
CHTO				*ep*PKPab		**pPKPab**	**22 44 18.6**	**-1.9**	
CHTO	**Chiang Mai**	**164.74**	**127**	P		**PKPdf**	**22 42 53.7**	**+0.1**	
	comp=Z,121nm,1.9s,comp=Z,5μm								
CMMT	**Chiang Mai**	**164.74**	**127**	P		**PKPdf**	**22 42 53.7**	**0.0**	
	comp=Z,35nm,2.0s,comp=Z,1μm								
LAMP	**Lampang**	**165.02**	**129**	P		**PKPdf**	**22 42 54.6**	**+0.7**	
	comp=Z,7.6nm,1.1s,comp=Z,117nm								
UTTA	**Uttaradit**	**165.06**	**134**	P		**PKPdf**	**22 42 54.5**	**+0.6**	
	comp=Z,6.0nm,1.3s,comp=Z,127nm								
KHON	**Khomkaen**	**165.26**	**144**	P		**PKPdf**	**22 42 55.3**	**+1.2**	
GTA	**Gaotai**	**165.34**	**39**	PKP		**PKPdf**	**22 42 54.2**	**+0.5**	
GTA				pPKP		**pPKPdf**	**22 43 20.8**	**-4.9**	
GTA				sPKP			22 43 31.7		
GTA				PPMZ					
	comp=Z,64nm,9.5s								
GTA				LN					
	comp=Z,110nm,15.4s								
GTA				LE					
	comp=Z,140nm,18.8s								
GTA				LZ					
	comp=Z,200nm,18.5s								
SZP	**Santa**	**166.44**	**218**	*e*PKPdf		**PKPdf**	**22 42 54.5**	**-0.5**	
CRAI	**Chiangrai**	**166.68**	**126**	P		**PKPdf**	**22 42 52.4**	**-2.8**	
HHC	**Hu-ho-hao-te**	**167.76**	**1**	*e*PKP		**PKPdf**	**22 42 56.3**	**+0.8**	
HHC				PPMZ					
	comp=Z,290nm,7.2s								
HHC				LN					
	comp=Z,180nm,14.5s								
HHC				LE					
	comp=Z,160nm,15.3s								
HHC				LZ					
	comp=Z,440nm,27.1s								
BTO	**Baotou**	**167.92**	**6**	*e*PKP		**PKPdf**	**22 42 55.7**	**+0.1**	
BJI	**Beijing**	**168.02**	**344**	PKP		**PKPdf**	**22 42 55.5**	**0.0**	
BJI				SS		SS	23 08 35.8	+4.8	
BJI				LN					
	comp=Z,200nm,18.4s								
BJI				LE					
	comp=Z,180nm,20.5s								
BJI				LZ					
	comp=Z,320nm,23.2s								
LZH	**Lanzhou**	**169.94**	**40**	⇓PKP		**PKPdf**	**22 42 58.0**	**+0.9**	
LZH				pPKP		**pPKPdf**	**22 43 22.1**	**-7.0**	
LZH				sPKP			22 43 30.3		
LZH				PKS		**PKSdf**	**22 46 29.2**	**-0.5**	
LZH				PP		**PP**	**22 48 04.0**	**+1.5**	
LZH				SKKS			22 54 40.0		
LZH				PPMZ					
	comp=Z,570nm,7.4s								
LZH				LN					
	comp=Z,410nm,19.0s								
LZH				LE					
	comp=Z,460nm,18.2s								
LZH				LZ					
	comp=Z,470nm,20.1s								
QIZ	**Qiongzhong**	**170.32**	**169**	PKP		**PKPdf**	**22 42 57.0**	**-0.6**	
QIZ				sPKP			22 43 30.3		
QIZ				PKPab		**PKPab**	**22 44 15.5**	**+1.3**	
QIZ				PP		**PP**	**22 48 01.8**	**-1.5**	
QIZ				SS		SS	23 08 53.8	+0.1	
QIZ				LZ					
	comp=Z,310nm,37.7s								
SSLB	**Suanglung**	**170.49**	**242**	*e*PKPdf		**PKPdf**	**22 42 57.5**	**-0.1**	
SSLB				*ep*PKPdf		**pPKPdf**	**22 43 29.9**	**+0.3**	
TIA	**Tai'an**	**171.17**	**331**	PKP		**PKPdf**	**22 42 57.8**	**+0.2**	
TIA				sPKP			22 43 28.9		
TIA				PPMZ					
	comp=Z,360nm,8.9s								
TIA				LN					
	comp=Z,200nm,35.7s								
TIA				LE					
	comp=Z,610nm,38.7s								
TIA				LZ					
	comp=Z,150nm,18.4s								
KMI	**Kunming**	**171.21**	**111**	PKP		**PKPdf**	**22 42 58.3**	**+0.1**	
QZH	**Quanzhou**	**172.93**	**241**	*i* PKP		**PKPdf**	**22 42 59.8**	**+1.1**	
QZH				sPKP			22 43 30.5		
QZH				PKPab		**PKPab**	**22 44 28.3**	**+2.3**	
QZH				PP		**PP**	**22 48 17.7**	**-0.1**	
XAN	**Xi'an**	**174.03**	**24**	PKP		**PKPdf**	**22 42 59.2**	**+0.3**	
GZH	**Guangzhou**	**174.35**	**195**	PKP		**PKPdf**	**22 43 00.3**	**+1.1**	
GZH				PKPab		**PKPab**	**22 44 32.2**	**+0.2**	
GZH				PP		**PP**	**22 48 23.2**	**0.0**	
GZH				PPMZ					
	comp=Z,790nm,7.0s								
GYA	**Guiyang**	**174.97**	**114**	PKP		**PKPdf**	**22 42 58.8**	**-0.7**	
GYA				pPKP		pPKPdf	22 43 21.0	-11	
GYA				PKPab		**PKPab**	**22 44 33.5**	**-1.8**	
GYA				PKS		**PKSdf**	**22 46 29.0**	**-2.9**	
GYA				PP		**PP**	**22 48 25.4**	**-2.6**	
GYA				SKKS			22 55 04.3		
GYA				SS		**SS**	**23 09 41.5**	**-0.8**	
GYA				PPMZ					
	comp=Z,180nm,8.4s								
GYA				LN					
	comp=Z,230nm,22.0s								
GYA				LE					
	comp=Z,190nm,23.2s								
GYA				LZ					
	comp=Z,220nm,21.8s								
WHN	**Wuhan**	**177.04**	**312**	PKP		**PKPdf**	**22 43 00.3**	**+0.6**	
WHN				LZ					
	comp=Z,1μm,33.5s								
ENH	**Enshi**	**177.37**	**50**	*e*PKPdf		**PKPdf**	**22 42 58.8**	**-1.0**	
ENH				*ep*PKPdf		**pPKPdf**	**22 43 30.5**	**-1.4**	

IDC ***09*** *22:23:55.8±0.9, 41°.07N×78°.92E, h0km, mb3.6/9, mb1 3.7/13, mb1mx3.6/31, mbtmp3.6/13, ML3.1/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/52, Error ellipse: s-maj=18.2km s-min=14.3km az=35.0*

BJI ***09*** *22:23:57.4, 41°.27N×78°.97E, h13km, ML3.4/8*

KRNET ***09*** *22:23:57.3±0.1, 41°.30N×78°.82E, h2km, mb4.0*

NNC ***09*** *22:23:58.5±1.1, 41°.35N×78°.88E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=9.2km s-min=4.2km az=150.0*

ISC 09 22:23:58.7±0.8, 41°.31N±0°.06×78°.80E±0°.04, h13km, n51, σ1§68/54, mb3.6/8, 29C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.46**	**305**	*e*P	**Pb**	**22 24 25.0**	**-0.9**
	baz=304						
KDJ				*e*S	**Sg**	**22 24 46.0**	**+0.2**
	baz=304						

PDGK	**Podgornoye**	**2.08**	**14**	⇑Pg		**Pg**	**22 24 36.1**	**-2.5**	
	59nm,0.4s								
PDGK				⇑Lg		Lg	22 25 03.1		
	297nm,0.6s								
NRN	**Naryn**	**2.11**	**274**	*i* P		**Pg**	**22 24 39.6**	**+0.4**	
	baz=274								
ULHL	**Ulahol**	**2.13**	**297**	P		**Pg**	**22 24 38.4**	**-1.2**	
	SNR=60								
ULHL	**Ulahol**	**2.13**	**297**	⇑*i* P		**Pg**	**22 24 38.3**	**-1.2**	
	baz=297								
ULHL				⇑*i* S		**Sg**	**22 25 09.0**	**+1.9**	
	baz=297								
KNDC	**Almaty**	**2.34**	**325**	⇑Pg		**Pg**	**22 24 41.6**	**-1.9**	
KNDC				⇓Lg		Lg	22 25 15.0		
BOOM	**Boomskoye usch**	**2.44**	**300**	*i* P		**Pg**	**22 24 43.0**	**-2.4**	
	baz=300								
BOOM				*e*S		**Sg**	**22 25 17.2**	**+0.2**	
	baz=300								
KZA	**Kyzart**	**2.76**	**287**	P		**Pb**	**22 24 48.3**	**+0.1**	
	SNR=35								
KZA	**Kyzart**	**2.76**	**287**	⇑*i* P		**Pb**	**22 24 47.8**	**-0.4**	
	baz=287								
KZA				⇑*i* S		**Sg**	**22 25 29.1**	**+1.5**	
	baz=287								
KSH	**Kashi**	**2.81**	**231**	Pg		Pg	22 24 59.0	+6.5	
KSH				Sg		Sg	22 25 44.1	+15	
KSH				SMN					
	76nm,0.7s								
KSH				SME					
	170nm,1.0s								
TKM2	**Tokmak 2**	**2.87**	**305**	⇑Pg		**Pg**	**22 24 50.9**	**-2.8**	
	37nm,0.5s								
TKM2				⇑Lg		Lg	22 25 31.5		
	236nm,0.6s								
TKM2	**Tokmak 2**	**2.87**	**305**	P		**Pg**	**22 24 51.2**	**-2.6**	
	SNR=64								
TKM2	**Tokmak 2**	**2.87**	**305**	⇑*i* P		**Pb**	**22 24 48.9**	**-1.1**	
	baz=305								
TKM2				⇑*i* S		**Sg**	**22 25 31.2**	**+0.2**	
	baz=305								
KBK	**Karagaybulak**	**3.17**	**296**	P		**Pg**	**22 24 56.7**	**-2.7**	
	SNR=49								
UCH	**Uchtor**	**3.33**	**287**	P		**Pg**	**22 25 01.3**	**-1.3**	
	SNR=80								
UCH	**Uchtor**	**3.33**	**287**	⇑*i* P		**Pg**	**22 24 59.5**	**-3.1**	
	baz=287								
UCH				⇑*i* S		**Sg**	**22 25 48.4**	**+2.6**	
	baz=287								
ARLS	**Aral**	**3.40**	**281**	⇓*i* P		**Pg**	**22 25 01.1**	**-2.8**	
	baz=281								
CHMS	**Chumysh**	**3.45**	**301**	P		**Pb**	**22 25 00.4**	**+0.7**	
	SNR=11								
CHMS	**Chumysh**	**3.45**	**301**	⇑*i* P		**Pb**	**22 24 59.2**	**-0.5**	
	baz=301								
CHMS				⇑*i* S		**Sg**	**22 25 47.8**	**-1.6**	
	baz=301								
FRU	**Bishkek**	**3.46**	**297**	*i* P		**Pg**	**22 25 02.0**	**-3.1**	
	baz=297								
AAK	**Ala-Archa**	**3.47**	**294**	⇑Pg		**Pb**	**22 25 01.5**	**+1.4**	
AAK	32nm,0.7s			⇑Lg		Lg	22 25 49.5		
	78nm,0.8s								
AAK	**Ala-Archa**	**3.47**	**294**	P		**Pb**	**22 25 01.5**	**+1.4**	
	SNR=21								
AAK	**Ala-Archa**	**3.47**	**294**	Pn		**Pb**	**22 24 57.8**	**-2.3**	
	4.2nm,0.3s,baz=130,slow=8.8,SNR=39								
AAK				Lg		Lg	22 25 51.7		
	11nm,0.3s,baz=317,slow=20,SNR=11								
AAK				LR		LR	22 26 32.6		
	comp=Z,62nm,18.1s,baz=54,slow=43								
AAK	**Ala-Archa**	**3.47**	**294**	⇑*i* P		**Pb**	**22 25 00.6**	**+0.5**	
	baz=294								
AAK				⇑*i* S		**Sg**	**22 25 50.7**	**+0.6**	
	baz=294								
USP	**Ospenovka**	**3.74**	**303**	P		**Pb**	**22 25 05.4**	**+0.8**	
	SNR=9.1								
AML	**Almayashu**	**3.91**	**284**	P		**Pg**	**22 25 12.0**	**-1.6**	
	SNR=24								
EKS2	**Erkin-Say**	**3.98**	**291**	P		**Pg**	**22 25 12.7**	**-2.2**	
	SNR=16								
SFK	**Sufi-Kurgan**	**4.23**	**254**	⇑Pg		**Pg**	**22 25 16.9**	**-2.9**	
	24nm,0.7s								
SFK				⇑Lg		Lg	22 26 16.1		
	73nm,0.7s								
MNAS	**Manas**	**4.84**	**286**	⇑Pg		**Pg**	**22 25 28.8**	**-2.7**	
MNAS				⇑Lg		Lg	22 26 35.1		
	78nm,1.2s								
MK31	**Makanchi Array**	**6.03**	**23**	Pn		**Pn**	**22 25 28.7**	**+1.1**	
	1.0nm,0.4s,baz=201,slow=12,SNR=92								
MK31				⇓Pg		Pg	22 25 48.3	-5.8	
	2.0nm,0.4s,baz=197,slow=13,SNR=6.0								
MK31				⇓Sn

PHP				*i* SG	Sg	22 28 45.5	-0.4		
PHP	**Peshkopia**	**0.12**	**327**	P	Pg	22 28 43.8	-0.3		
PHP				S	Sg	22 28 45.6	-0.2		
PHP	**Peshkopia**	**0.12**	**327**	P	Pg	22 28 43.8	-0.3		
PHP				*i* Sg	Sg	22 28 45.5	-0.3		
	SNR=90								
TIR	**Tirane**	**0.55**	**245**	P	Pg	22 28 51.6	-0.6		
TIR				S	Sg	22 28 59.3	-0.1		
TIR	**Tirane**	**0.55**	**245**	P	Pg	22 28 51.6	-0.6		
TIR				S	Sg	22 28 59.3	-0.1		
PUK	**Puka**	**0.66**	**314**	*i* PG	Pg	22 28 53.3	-1.2		
PUK				*i* SG	Sg	22 29 03.0	-0.2		
PUK	**Puka**	**0.66**	**314**	*i* Pg	Pg	22 28 53.3	-1.2		
	SNR=90								
PUK				*i* Sg	Sg	22 29 03.0	-0.2		
	SNR=90								
SKO	**Skopje**	**0.79**	**60**	*e*Pg	Pg	22 28 56.7	0.0		
SKO	**Skopje**	**0.79**	**60**	*e*Pg	Pg	22 28 56.7	0.0		
BCI	**Bajram Curri**	**0.86**	**336**	*i* PG	Pg	22 28 57.6	-0.6		
BCI				*i* SG	Sb	22 29 11.5	+0.2		
BCI	**Bajram Curri**	**0.86**	**336**	*i* Pg	Pg	22 28 57.6	-0.5		
	SNR=90								
BCI				*i* Sg	Sb	22 29 11.5	+0.2		
	SNR=90								
FNA	**Florina**	**1.02**	**141**	*i* PG	Pg	22 29 00.8	-0.5		
FNA				*i* SG	Sb	22 29 16.2	+0.2		
FNA	**Florina**	**1.02**	**141**	P	Pg	22 29 00.6	-0.7		
FNA				S	Sb	22 29 16.2	+0.2		
FNA	**Florina**	**1.02**	**141**	*e*PN	Pg	22 29 00.7	-0.6		
FNA				*e*SB	Sb	22 29 16.4	+0.4		
FNA	**Florina**	**1.02**	**141**	*i* Pg	Pg	22 29 00.8	-0.5		
	SNR=90								
FNA				*e*Sb	Sb	22 29 16.4	+0.4		
ULC	**Ulcinj**	**1.03**	**292**	⇑*i* Pg	Pg	22 28 59.8	-1.7		
ULC				*e*Sg	Sb	22 29 16.3	-0.1		
ULC	**Ulcinj**	**1.03**	**292**	⇑*i* Pg	Pg	22 28 59.8	-1.7		
ULC				*e*Sg	Sb	22 29 16.3	-0.1		
PVY	**Plav**	**1.10**	**337**	⇓*i* Pg	Pg	22 29 01.6	-1.3		
PVY				*e*Sg	Sb	22 29 18.8	+0.3		
DRME	**Dracevica, Mon**	**1.17**	**302**	⇓*i* Pg	Pg	22 29 02.6	-1.5		
DRME				*e*Sg	Sn	22 29 21.3	-0.4		
DRME	**Dracevica, Mon**	**1.17**	**302**	⇓*i* Pg	Pg	22 29 02.6	-1.5		
DRME				*e*Sg	Sn	22 29 21.3	-0.4		
NEST	**Nestorio**	**1.23**	**161**	P	Pg	22 29 04.8	-0.5		
NEST				S	Sn	22 29 23.0	-0.2		
NEST	**Nestorio**	**1.23**	**161**	*e*PB	Pg	22 29 05.2	-0.1		
NEST				*e*SB	Sn	22 29 24.6	+1.4		
NEST	**Nestorio**	**1.23**	**161**	P	Pg	22 29 04.8	-0.5		
NEST	**Nestorio**	**1.23**	**161**	*e*Pb	Pg	22 29 05.2	-0.1		
NEST				S	Sn	22 29 23.0	-0.2		
NEST				*e*Sb	Sb	22 29 24.6	+2.5		
PDG	**Podgorica**	**1.27**	**312**	*e*Sg	Sn	22 29 24.3	+0.2		
PDG	**Podgorica**	**1.27**	**312**	*e*Sg	Sn	22 29 24.3	+0.2		
TTG	**Podgorica**	**1.27**	**312**	⇓*i* Pg	Pg	22 29 04.6	-1.4		
TTG				*e*Sg	Sn	22 29 24.4	+0.3		
BEY	**Berane**	**1.37**	**340**	⇓*i* Pg	Pn	22 29 07.2	-0.7		
BEY				*e*Sg	Sn	22 29 28.5	+1.7		
IVA	**Berane**	**1.37**	**340**	⇓*i* Pg	Pn	22 29 07.2	-0.7		
IVA				*e*Sg	Sn	22 29 28.5	+1.7		
BUM	**Brajici-Budva**	**1.42**	**301**	⇑*i* Pg	Pn	22 29 07.5	-1.0		
BUM				*e*Sg	Sn	22 29 29.2	+1.4		
BUM	**Brajici-Budva**	**1.42**	**301**	⇑*i* Pg	Pn	22 29 07.5	-1.0		
BUM				*e*Sg	Sn	22 29 29.2	+1.4		
GRG	**Griva**	**1.54**	**113**	*e*PB	Pn	22 29 10.5	+0.3		
GRG	**Griva**	**1.54**	**113**	*e*Pb	Pn	22 29 10.5	+0.3		
VAY	**Valandovo**	**1.56**	**99**	P	Pn	22 29 10.1	-0.2		
VAY				S	Sg	22 29 32.9	+1.3		
VAY	**Valandovo**	**1.56**	**99**	*e*Pg	Pn	22 29 10.3	0.0		
VAY				*e*Sg	Sg	22 29 32.7	+1.1		
VAY	**Valandovo**	**1.56**	**99**	P	Pn	22 29 10.1	-0.2		
VAY				*e*Sg	Sg	22 29 32.7	+1.1		
NKME	**Niksic**	**1.67**	**316**	*e*Pn	Pn	22 29 12.1	+0.2		
NKME				*e*Sn	Sg	22 29 37.8	+2.4		
NKME	**Niksic**	**1.67**	**316**	*e*Pn	Pn	22 29 12.1	+0.2		
NKME				*e*Sn	Sg	22 29 37.8	+2.4		
NKY	**Niksic**	**1.68**	**318**	⇑*i* Pn	Pn	22 29 12.0	-0.2		
NKY				*e*Sn	Sg	22 29 38.0	+2.1		
NKY	**Niksic**	**1.68**	**318**	⇑*i* Pn	Pn	22 29 12.0	-0.2		
NKY				*e*Sn	Sg	22 29 38.0	+2.1		
SELS	**Selova**	**1.69**	**15**	*e*Pn	Pn	22 29 11.8	-0.5		
HCY	**Herceg Novi**	**1.75**	**300**	⇑*i* Pn	Pn	22 29 12.9	-0.1		
HCY				*e*Sn	Sg	22 29 39.5	+1.7		
HCY	**Herceg Novi**	**1.75**	**300**	⇑*i* Pn	Pn	22 29 12.9	-0.1		
HCY				*e*Sn	Sg	22 29 39.5	+1.7		
KNT	**Kendrikon**	**1.83**	**102**	*e*Pn	Pn	22 29 14.6	+0.5		
TREB	**Trebinje**	**1.98**	**306**	*e*Pn	Pb	22 29 17.7	-0.7		
TREB	**Trebinje**	**1.98**	**306**	*e*Pn	Pb	22 29 17.7	-0.7		
UPM	**Unac-Piva**	**2.02**	**324**	⇓*i* Pn	Pn	22 29 18.1	+1.2		
UPM				*e*Sn	Sg	22 29 46.6	-0.4		
UPM	**Unac-Piva**	**2.02**	**324**	⇓*i* Pn	Pn	22 29 18.1	+1.2		
UPM				*e*Sn	Sg	22 29 46.6	-0.4		
IGT	**Igoumenitsa**	**2.05**	**184**	*e*PN	Pb	22 29 19.2	-0.4		
IGT	**Igoumenitsa**	**2.05**	**184**	*e*Pn	Pb	22 29 19.2	-0.4		
STON	**Ston**	**2.47**	**302**	*i* Pn	Pn	22 29 23.5	+0.7		
STON				Sn	Sb	22 29 55.9	-1.5		
STON	**Ston**	**2.47**	**302**	*i* Pn	Pn	22 29 23.5	+0.7		
STON				Sn	Sb	22 29 55.9	-1.5		

DHMR 09 22:29:07.4±1.7, 12°07N×44°65E, h18km±76km, ML3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.27**	**336**	*i* P	Pb	22 29 31.3	-0.2
TRBA				*i* S	Sg	22 29 49.6	+0.6
TRBA				AML	AML	22 29 50.9	
	comp=E,1μm,0.2s						
UDYN	**Al 'Udayn**	**2.00**	**341**	*i* P	Pn	22 29 41.8	+0.7
UDYN				*i* S	Sb	22 30 08.6	-0.3
UDYN				AML	AML	22 30 15.6	
	comp=E,1μm,0.5s						
DHBB	**Dhamar BB**	**2.50**	**354**	*i* S	Sb	22 30 24.5	+1.0

*ATH **09** 22:35:39.7, 41°.07N×23°.50E, h18km±1km, MD3.0/16*
*ISCJB **09** 22:35:40.2±0.3, 41°.04N±0°.02×23°.43E±0°.02, h7km±3km, Error ellipse: s-maj=3.0km s-min=2.5km az=32.0*
*THE **09** 22:35:40.6, 41°.06N×23°.45E, h0km±1km, ML2.3/10, Error ellipse: s-maj=1.5km s-min=0.4km az=236.0*
*CSEM **09** 22:35:40.6±0.1, 41°.05N×23°.46E, h2km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.5km az=113.0*
*SKO **09** 22:35:41.3, 41°.08N×23°.46E, h0km, M1.5, ML2.0*
*BEO **09** 22:35:41.2±0.9, 41°.06N×23°.48E, h0km, ML2.1/4*
*SOF **09** 22:35:41.1, 41°.11N×23°.46E, h3km, MD2.9*

ISC 09 22:35:40.9±0.9, 41°.06N±0°.01×23°.46E±0°.02, h4km±8km, n94, σ0.975/143, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.12**	**58**	P	**Pg**	**22 35 43.2**	**-0.1**
SRS				S	**Sg**	**22 35 45.0**	**+0.1**
SRS	**Serrai**	**0.12**	**58**	*e*PB	**Pg**	**22 35 43.3**	**-0.1**
SRS				*e*SB	**Sg**	**22 35 45.0**	**+0.1**
SRS	**Serrai**	**0.12**	**58**	*e*Pb	**Pg**	**22 35 43.3**	**-0.1**
SRS				S	**Sg**	**22 35 45.0**	**+0.1**
SOH	**Sokhos**	**0.25**	**199**	P	**Pg**	**22 35 45.9**	**+0.2**
SOH				S	**Sg**	**22 35 49.6**	**+0.6**
SOH	**Sokhos**	**0.25**	**199**	*e*PB	**Pg**	**22 35 46.0**	**+0.2**
SOH				*e*SB	**Sg**	**22 35 49.6**	**+0.6**
SOH	**Sokhos**	**0.25**	**199**	P	**Pg**	**22 35 45.9**	**+0.2**
SOH				S	**Sg**	**22 35 49.6**	**+0.6**
NVR	**Nevrokopi**	**0.42**	**46**	P	**Pg**	**22 35 48.8**	**-0.3**
NVR				S	**Sg**	**22 35 54.7**	**+0.1**
NVR	**Nevrokopi**	**0.42**	**46**	*e*PB	**Pg**	**22 35 48.9**	**-0.2**
NVR				*e*SB	**Sg**	**22 35 53.9**	**-0.7**
NVR	**Nevrokopi**	**0.42**	**46**	P	**Pg**	**22 35 48.8**	**-0.3**
NVR				*e*Sb	**Sg**	**22 35 53.9**	**-0.7**
NVR				S	**Sg**	**22 35 54.7**	**+0.1**
KNT	**Kendrikon**	**0.44**	**284**	P	**Pg**	**22 35 49.2**	**-0.2**
KNT				S	**Sg**	**22 35 55.2**	**+0.1**
KNT	**Kendrikon**	**0.44**	**284**	*e*PG	**Pg**	**22 35 48.4**	**-1.0**
KNT	**Kendrikon**	**0.44**	**284**	*e*PB	**Pg**	**22 35 49.2**	**-0.2**
KNT				*e*SB	**Sg**	**22 35 55.3**	**+0.1**
KNT	**Kendrikon**	**0.44**	**284**	*e*Pg	**Pg**	**22 35 48.4**	**-1.0**
KNT	**Kendrikon**	**0.44**	**284**	P	**Pg**	**22 35 49.2**	**-0.2**
KNT				S	**Sg**	**22 35 55.2**	**+0.1**
HORT	**Hortiatis**	**0.53**	**211**	P	**Pg**	**22 35 51.0**	**-0.1**
HORT				S	**Sg**	**22 35 58.7**	**+0.6**
HORT	**Hortiatis**	**0.53**	**211**	*e*PG	**Pg**	**22 35 50.4**	**-0.8**
HORT				*e*SG	**Sg**	**22 35 58.1**	**0.0**
HORT	**Hortiatis**	**0.53**	**211**	*e*PN	**Pg**	**22 35 51.1**	**-0.1**
HORT				*e*SN	**Sg**	**22 35 59.0**	**+0.9**
HORT	**Hortiatis**	**0.53**	**211**	*e*Pg	**Pg**	**22 35 50.4**	**-0.8**
HORT	**Hortiatis**	**0.53**	**211**	*e*Pn	**Pg**	**22 35 51.1**	**-0.1**
HORT				*e*Sg	**Sg**	**22 35 58.1**	**0.0**
HORT				*e*Sn	**Sg**	**22 35 59.0**	**+0.9**
THE	**Thessaloniki**	**0.57**	**222**	P	**Pg**	**22 35 51.7**	**-0.1**
THE				S	**Sg**	**22 35 59.9**	**+0.7**
THE	**Thessaloniki**	**0.57**	**222**	*e*PN	**Pg**	**22 35 51.7**	**-0.1**
THE				*e*SN	**Sg**	**22 35 59.8**	**+0.6**
THE	**Thessaloniki**	**0.57**	**222**	P	**Pg**	**22 35 51.7**	**-0.1**
THE				*e*Sn	**Sg**	**22 35 59.8**	**+0.6**
MMB	**Musomiste**	**0.57**	**20**	*i* Pg	**Pg**	**22 35 51.1**	**-0.8**
MMB	**Musomiste**	**0.57**	**20**	*i* Pg	**Pg**	**22 35 51.1**	**-0.8**
PLG	**Polygyros**	**0.68**	**181**	P	**Pg**	**22 35 53.2**	**-0.8**
PLG				S	**Sg**	**22 36 03.5**	**+0.7**
PLG	**Polygyros**	**0.68**	**181**	*e*PN	**Pg**	**22 35 53.3**	**-0.8**
PLG				*e*SN	**Sg**	**22 36 02.7**	**-0.1**
PLG	**Polygyros**	**0.68**	**181**	P	**Pg**	**22 35 53.2**	**-0.8**
PLG				*e*Sn	**Sg**	**22 36 02.7**	**-0.1**
PLG				S	**Sg**	**22 36 03.5**	**+0.7**
VAY	**Valandovo**	**0.72**	**292**	P	**Pg**	**22 35 54.1**	**-0.7**
VAY				S	**Sg**	**22 36 04.2**	**0.0**
VAY	**Valandovo**	**0.72**	**292**	*e*Pg	**Pg**	**22 35 54.4**	**-0.4**
VAY				*e*Sg	**Sg**	**22 36 04.2**	**0.0**
VAY	**Valandovo**	**0.72**	**292**	*i* Pg	**Pg**	**22 35 54.7**	**-0.1**
VAY				*i* Sg	**Sg**	**22 36 04.6**	**+0.3**
VAY				*e*Lg	Lg	22 36 05.9	
	comp=N,50nm,0.6s						
VAY				*e*Lg	Lg	22 36 06.1	
	comp=E,36nm,0.5s						
VAY	**Valandovo**	**0.72**	**292**	P	**Pg**	**22 35 54.1**	**-0.7**
VAY	**Valandovo**	**0.72**	**292**	*i* Pg	**Pg**	**22 35 54.7**	**-0.1**
VAY				S	**Sg**	**22 36 04.2**	**0.0**
VAY				*e*Lg	Lg	22 36 06.1	
	comp=E,36nm,0.5s						
GRG	**Griva**	**0.81**	**263**	P	**Pg**	**22 35 56.0**	**-0.5**
GRG				S	**Sg**	**22 36 07.5**	**+0.5**
GRG	**Griva**	**0.81**	**263**	*e*PG	**Pg**	**22 35 55.9**	**-0.5**
GRG	**Griva**	**0.81**	**263**	*e*PN	**Pg**	**22 35 56.0**	**-0.5**
GRG				*e*SN	**Sg**	**22 36 07.7**	**+0.7**
GRG	**Griva**	**0.81**	**263**	P	**Pg**	**22 35 56.0**	**-0.5**
GRG				*e*Sn	**Sg**	**22 36 07.7**	**+0.7**
OUR	**Ouranopolis**	**0.82**	**151**	P	**Pg**	**22 35 56.3**	**-0.4**
OUR				S	**Sg**	**22 36 08.4**	**+1.1**
OUR	**Ouranopolis**	**0.82**	**151**	*e*PG	**Pg**	**22 35 57.4**	**+0.7**
OUR	**Ouranopolis**	**0.82**	**151**	*e*PN	**Pg**	**22 35 56.2**	**-0.4**
OUR				*e*SN	**Sg**	**22 36 07.8**	**+0.5**
OUR	**Ouranopolis**	**0.82**	**151**	P	**Pg**	**22 35 56.3**	**-0.4**
OUR	**Ouranopolis**	**0.82**	**151**	*e*Pg	**Pg**	**22 35 57.4**	**+0.7**
OUR				*e*Sn	**Sg**	**22 36 07.8**	**+0.5**
OUR				S	**Sg**	**22 36 08.4**	**+1.1**
KKB	**Krupnik**	**0.86**	**341**	*i* Pg	**Pg**	**22 35 56.4**	**-1.0**
KKB	**Krupnik**	**0.86**	**341**	*i* Pg	**Pg**	**22 35 56.4**	**-1.0**
RZN	**Rozhen**	**1.14**	**56**	*i* P	**Pg**	**22 36 02.8**	**+0.1**
RZN	**Rozhen**	**1.14**	**56**	*i* P	**Pg**	**22 36 02.8**	**+0.1**
PAIG	**Paliouri**	**1.14**	**172**	P	**Pg**	**22 36 01.5**	**-1.3**
PAIG				S	**Sg**	**22 36 18.2**	**+0.7**
PAIG	**Paliouri**	**1.14**	**172**	*e*PN	**Pg**	**22 36 02.0**	**-0.8**
PAIG				*e*SN	**Sg**	**22 36 17.0**	**-0.5**
PAIG	**Paliouri**	**1.14**	**172**	P	**Pg**	**22 36 01.5**	**-1.3**
PAIG	**Paliouri**	**1.14**	**172**	*e*Pn	**Pg**	**22 36 02.0**	**-0.8**
PAIG				*e*Sn	**Sg**	**22 36 17.0**	**-0.5**
PAIG				S	**Sg**	**22 36 18.2**	**+0.7**
PLD	**Plovdiv**	**1.40**	**41**	P	**Pn**	**22 36 07.5**	**+0.3**
PLD				S	**Sn**	**22 36 26.7**	**+0.5**
PLD	**Plovdiv**	**1.40**	**41**	*e*Pn	**Pn**	**22 36 07.6**	**+0.3**
PLD				*e*Sn	**Sn**	**22 36 26.5**	**+0.3**
PLD	**Plovdiv**	**1.40**	**41**	P	**Pn**	**22 36 07.6**	**+0.3**
PLD	**Plovdiv**	**1.40**	**41**	*e*Pn	**Pn**	**22 36 07.6**	**+0.3**
PLD				*e*Sn	**Sn**	**22 36 26.5**	**+0.3**
VTS	**Vitosha**	**1.55**	**353**	P	**Pn**	**22 36 09.2**	**-0.2**
VTS				S	**Sb**	**22 36 30.6**	**+0.4**
VTS	**Vitosha**	**1.55**	**353**	*e*Pn	**Pb**	**22 36 10.1**	**-0.1**
VTS				*e*Sg	**Sn**	**22 36 30.2**	**+0.2**
VTS	**Vitosha**	**1.55**	**353**	*i* P	**Pb**	**22 36 10.1**	**-0.1**
VTS	**Vitosha**	**1.55**	**353**	P	**Pn**	**22 36 09.2**	**-0.2**
VTS	**Vitosha**	**1.55**	**353**	*e*Pn	**Pb**	**22 36 10.1**	**-0.1**
RDO	**Rodhopi**	**1.57**	**86**	P	**Pn**	**22 36 08.2**	**-1.3**
RDO				S	**Sb**	**22 36 31.4**	**+0.7**
RDO	**Rodhopi**	**1.57**	**86**	*e*PN	**Pn**	**22 36 08.3**	**-1.3**
RDO	**Rodhopi**	**1.57**	**86**	*e*Pn	**Pn**	**22 36 08.3**	**-1.3**
RDO				S	**Sb**	**22 36 31.4**	**+0.7**
PGB	**Panagyurishte**	**1.58**	**19**	*i* P	**Pn**	**22 36 10.3**	**+0.5**
PGB	**Panagyurishte**	**1.58**	**19**	*i* P	**Pn**	**22 36 10.3**	**+0.5**
KDZ	**Kurdzhali**	**1.59**	**67**	*i* P	**Pn**	**22 36 09.1**	**-0.7**
KDZ	**Kurdzhali**	**1.59**	**67**	*i* P	**Pn**	**22 36 09.1**	**-0.7**
SMTH	**Samothraki Isl**	**1.68**	**110**	P	**Pn**	**22 36 09.3**	**-1.7**
SMTH	**Samothraki Isl**	**1.68**	**110**	*e*PN	**Pn**	**22 36 09.4**	**-1.6**
SMTH	**Samothraki Isl**	**1.68**	**110**	*e*Pn	**Pn**	**22 36 09.4**	**-1.6**
XOR	**Xorichti**	**1.70**	**187**	P	**Pn**	**22 36 10.7**	**-0.6**
XOR	**Xorichti**	**1.70**	**187**	*e*PN	**Pn**	**22 36 10.8**	**-0.6**
XOR	**Xorichti**	**1.70**	**187**	*e*Pn	**Pn**	**22 36 10.8**	**-0.6**
LIA	**Limnos Island**	**1.75**	**131**	*e*PN	**Pn**	**22 36 10.5**	**-1.5**
LIA	**Limnos Island**	**1.75**	**131**	*e*Pn	**Pn**	**22 36 10.5**	**-1.5**
NEO	**Neokhori**	**1.76**	**186**	*e*PN	**Pn**	**22 36 11.5**	**-0.6**
NEO	**Neokhori**	**1.76**	**186**	*e*Pn	**Pn**	**22 36 11.5**	**-0.6**
AOS	**Alonnisos**	**1.91**	**170**	*e*PN	**Pn**	**22 36 14.1**	**-0.1**
AOS	**Alonnisos**	**1.91**	**170**	*e*PB	**Pn**	**22 36 12.8**	**-1.4**
AOS	**Alonnisos**	**1.91**	**170**	*e*Pn	**Pn**	**22 36 14.1**	**-0.1**
ALN	**Alexandroupoli**	**1.96**	**94**	P	**Pn**	**22 36 13.8**	**-1.1**
ALN				S	**Sb**	**22 36 41.8**	**-0.2**
ALN	**Alexandroupoli**	**1.96**	**94**	*e*PN	**Pb**	**22 36 16.6**	**-0.6**
ALN	**Alexandroupoli**	**1.96**	**94**	*e*PN	**Pn**	**22 36 13.6**	**-1.3**
ALN	**Alexandroupoli**	**1.96**	**94**	P	**Pn**	**22 36 13.8**	**-1.1**
ALN				S	**Sb**	**22 36 41.8**	**-0.2**
ENEZ	**Enez**	**2.06**	**98**	*e*PN	**Pn**	**22 36 17.5**	**+1.2**
ENEZ	**Enez**	**2.06**	**98**	*e*Pn	**Pn**	**22 36 17.5**	**+1.2**
BARS	**Barje**	**2.15**	**326**	*e*Pn	**Pn**	**22 36 17.9**	**+0.4**
BARS	**Barje**	**2.15**	**326**	*e*Pn	**Pn**	**22 36 17.9**	**+0.4**
ZAPS	**Zavoj**	**2.30**	**345**	*e*Pn	**Pn**	**22 36 20.7**	**+1.0**
MPEP	**Malo Peshtene**	**2.31**	**5**	Pg	**Pg**	**22 36 24.3**	**-0.9**
ERIK	**Erikli-Kesan**	**2.34**	**98**	*e*PN	**Pn**	**22 36 21.6**	**+1.4**
ERIK	**Erikli-Kesan**	**2.34**	**98**	*e*Pn	**Pn**	**22 36 21.6**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.38**	**105**	*e*PN	**Pn**	**22 36 22.2**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.38**	**105**	*e*Pn	**Pn**	**22 36 22.2**	**+1.5**
EDRB	**Edirne**	**2.59**	**71**	*e*PN	**Pn**	**22 36 25.3**	**+1.7**
EDRB	**Edirne**	**2.59**	**71**	*e*Pn	**Pn**	**22 36 25.3**	**+1.7**

*SZGRF **09** 22:36:41.9, 17°.27S×174°.35W, h33km, Tonga Islands*
*IDC **09** 22:36:56.2±5.2, 16°.98S×174°.65W, h148km±46km, mb3.9/20, mb1 4.1/21, mb1mx4.0/42, mbtmp4.3/21, Error ellipse: s-maj=16.3km s-min=13.9km az=103.0*
*ISCJB **09** 22:36:57.5±0.5, 16°.96S±0°.10×174°.7W±0°.1, h172km, mb4.0/20, Error ellipse: s-maj=16.8km s-min=11.5km az=39.3*

ISC 09 22:36:58.7±0.5, 17°.0S±0°.1×174°.7W±0°.1, h172km, n88, σ0.967/86, mb4.0/20, 15C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.52**	**251**	P	**P**	**22 41 03.1**	**+0.8**
	0.2nm,0.3s,baz=80,slow=17,SNR=3.0						
URZ	**Urewera**	**22.40**	**197**	P	**P**	**22 41 41.7**	**-1.2**
	3.9nm,0.4s,baz=260,slow=4.2,SNR=11						
CTA	**Charters Tower**	**37.14**	**259**	P	**P**	**22 43 52.5**	**-0.7**
	4.3nm,0.8s,baz=105,slow=8.8,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**39.73**	**332**	T	T	23 26 03.8	
	baz=155						
H11S3	**WAKE ISLAND Hy**	**39.74**	**332**	T	T	23 26 05.7	
	baz=155						
H11S1	**WAKE ISLAND Hy**	**39.75**	**332**	T	T	23 26 01.8	
	baz=155						
JAY	**Jayapura**	**46.14**	**283**	P	**P**	**22 45 07.8**	**+1.4**
	4.3nm,0.4s,baz=120,slow=7.1,SNR=5.4						
WRA	**Warramunga Arr**	**48.33**	**258**	P	**P**	**22 45 22.1**	**-1.1**
	1.4nm,0.4s,baz=96,slow=7.1,SNR=12						
WRA				PcP	**PcP**	**22 46 47.3**	**+0.1**
	1.0nm,0.6s,baz=97,slow=3.2,SNR=3.0						
ASAR	**Alice Springs**	**48.49**	**253**	P	**P**	**22 45 23.9**	**-0.6**
	26nm,0.7s,baz=87,slow=8.6,SNR=90						
ASAR				PcP	**PcP**	**22 46 47.9**	**0.0**
	1.5nm,0.6s,baz=104,slow=3.8,SNR=7.0						
VNDA	**Vanda**	**61.70**	**186**	P	**P**	**22 46 59.5**	**+1.4**
	0.7nm,0.6s,baz=11,slow=7.7,SNR=6.5						
MJAR	**Matsushiro Arr**	**69.38**	**321**	P	**P**	**22 47 48.7**	**+0.7**
	1.8nm,1.0s,baz=159,slow=5.5,SNR=3.4						
QSPA	**South Pole Qui**	**73.08**	**180**	P	**P**	**22 48 09.9**	**0.0**
	2.3nm,0.7s,baz=78,slow=7.0,SNR=14						
PETK	**Petropavlovsk-**	**73.77**	**343**	P	**P**	**22 48 14.3**	**+0.6**
	4.9nm,0.8s,baz=120,slow=8.8,SNR=4.4						
NVAR	**Mina Array Bea**	**76.30**	**42**	P	**P**	**22 48 29.8**	**+0.9**
	1.5nm,0.7s,baz=230,slow=8.5,SNR=11						
LEM	**Lembang**	**76.34**	**267**	P	**P**	**22 48 30.6**	**+1.0**
	14nm,0.5s,baz=287,slow=19,SNR=3.7						
KSRS	**Korea Array**	**76.45**	**316**	P	**P**	**22 48 29.1**	**-0.4**
	2.2nm,0.9s,baz=132,slow=3.6,SNR=3.2						
TXAR	**Lajitas Array**	**82.48**	**56**	P	**P**	**22 49 02.8**	**+0.3**
	1.0nm,0.9s,baz=223,slow=8.6,SNR=8.3						
DLBC	**Dease Lake**	**83.60**	**22**	P	**P**	**22 49 08.2**	**+0.7**
	1.8nm,0.8s,baz=190,slow=5.6,SNR=3.6						
SEY	**Seymchan**	**83.73**	**345**	P	**P**	**22 49 07.2**	**-0.7**
	3.3nm,0.8s,baz=125,slow=5.0,SNR=5.0						
ILAR	**Eielson Array**	**84.22**	**12**	P	**P**	**22 49 09.9**	**-0.4**
	1.4nm,0.6s,baz=231,slow=5.9,SNR=19						
PDAR	**Pinedale Array**	**84.23**	**42**	P	**P**	**22 49 11.1**	**-0.1**
	1.3nm,0.6s,baz=212,slow=3.3,SNR=10						
MAW	**Mawson**	**85.92**	**199**	P	**P**	**22 49 19.4**	**+0.5**
	3.2nm,0.6s,baz=104,slow=4.2,SNR=4.3						
YKA	**Yellowknife Ar**	**92.01**	**24**	P	**P**	**22 49 47.4**	**-0.2**
	0.3nm,0.8s,baz=251,slow=4.8,SNR=4.0						
SONM	**Songino Array**	**95.21**	**318**	P	**P**	**22 50 01.1**	**-1.7**
	1.5nm,1.0s,baz=104,slow=0.6,SNR=2.3						
MKAR	**Makanchi Array**	**111.06**	**314**	PKiKP	**PKiKP**	**22 55 11.8**	**+0.1**
	0.6nm,0.6s,baz=160,slow=1.0,SNR=9.0						
BVAR	**Borovoye Array**	**118.37**	**322**	PKP	**PKPdf**	**22 55 24.9**	**-0.6**
	1.5nm,0.5s,baz=178,slow=0.9,SNR=6.1						
ARCES	**ARCESS Array B**	**125.98**	**351**	PKP	**PKPdf**	**22 55 39.6**	**-0.1**
	1.1nm,0.6s,baz=11,slow=0.9,SNR=5.9						
GEYT	**Alibeck**	**129.45**	**305**	PKP	**PKPdf**	**22 55 47.6**	**+0.3**
	1.0nm,0.7s,baz=17,slow=1.5,SNR=2.5						
BOSA	**Boshof**	**130.76**	**203**	PKP	**PKPdf**	**22 55 50.7**	**+0.5**
	2.4nm,0.9s,baz=227,slow=3.6,SNR=2.0						
FINES	**FINESS Array B**	**133.20**	**347**	PKP	**PKPdf**	**22 55 53.6**	**+0.1**
	1.7nm,0.8s,baz=29,slow=3.2,SNR=3.8						
KMBO	**Kilima Mbogo**	**143.76**	**243**	PKP	**PKPbc**	22 56 12.9	+0.3
	3.0nm,0.8s,baz=84,slow=2.9,SNR=8.1						
MALT	**Malatya**	**144.09**	**313**	⇓*i* P	**PKPdf**	**22 56 13.5**	**-0.8**
KWP	**Kalw

IDC ***09*** *22:51:16.7±1.1, 32°.79N×106°.33E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/28, mbtmp3.5/6, ML3.8/2, MS4.0/5, Ms1 4.1/5, ms1mx3.3/33, Error ellipse: s-maj=51.3km s-min=23.1km az=68.0*

BJI ***09*** *22:51:18.5, 32°.76N×105°.86E, h5km, ML3.7/17, Ms7 3.3/2*

ISC 09 22:51:17.6±0.8, 32°.65N±0°.05×105°.94E±0°.06, h10km, n14, σ1§30/15, mb3.6/4, MS4.1/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.54**	**227**	Pn	**Pn**	**22 51 59.8**	**+0.8**
CD2				Pg	**Pb**	**22 52 03.7**	**+0.4**
CD2				Sn	**Sn**	**22 52 26.6**	**-3.4**
CD2				Sg	**Sg**	**22 52 38.3**	**-1.0**
CD2	610nm,0.7s			SMN			
CD2	440nm,0.8s			SME			
XAN	**Xi'an**	**2.85**	**60**	Pg	**Pb**	**22 52 07.5**	**-1.1**
XAN				Sg	**Sb**	**22 52 44.7**	**+1.0**
XAN	230nm,0.6s			SMN			
XAN	79nm,0.6s			SME			
LZH	**Lanzhou**	**3.84**	**334**	*e*Pn	**Pn**	**22 52 16.8**	**-0.1**
LZH				Pg	**Pb**	**22 52 24.9**	**-0.6**
LZH				Sg	**Sb**	**22 53 12.9**	**+0.8**
LZH	240nm,1.0s			SMN			
LZH	350nm,1.0s			SME			
LZH	650nm,8.0s			LZ			
SONM	**Songino Array**	**15.17**	**1**	Pn	**Pn**	**22 54 52.1**	**+0.2**
	0.1nm,0.3s,baz=183,slow=13,SNR=2.6						
CMAR	**Chiang Mai Arr**	**15.47**	**206**	Pn	**P**	**22 55 01.6**	**+1.1**
	0.6nm,0.3s,baz=12,slow=10,SNR=4.9						
WMQ	**Urumqi**	**18.12**	**313**	P	P	22 55 23.2	-6.5
WMQ				pP	pP	22 55 27.0	-5.5
WMQ				sP	sP	22 55 30.5	-3.3
WMQ				*e*S	Sn	22 58 41.0	-11
WMQ	comp=Z,14nm,0.8s			pmax	pmax		
WMQ	comp=Z,130nm,4.4s			pmax	pmax		
WMQ	comp=N,350nm,7.2s			LR	LR		
WMQ	comp=E,270nm,8.9s			LR	LR		
WMQ	comp=Z,290nm,12.6s			LR	LR		
MKAR	**Makanchi Array**	**22.91**	**315**	P	**P**	**22 56 23.0**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=100,slow=11,SNR=5.4						
ARCES	**ARCESS Array B**	**56.50**	**335**	LR	LR	23 26 58.2	
	comp=Z,219nm,21.5s,baz=265,slow=38						
FINES	**FINESS Array B**	**57.16**	**326**	LR	LR	23 28 32.8	
	comp=Z,199nm,18.8s,baz=262,slow=39						
AKASG	**Malin Array Be**	**57.47**	**313**	LR	LR	23 27 31.0	
	comp=Z,92nm,19.6s,baz=245,slow=38						
SPITS	**Spitsbergen Ar**	**58.21**	**346**	LR	LR	23 29 24.2	
	comp=Z,154nm,21.6s,baz=220,slow=39						
WRA	**Warramunga Arr**	**58.93**	**149**	P	**P**	**23 01 17.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=342,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**62.04**	**151**	P	**P**	**23 01 38.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=332,slow=7.0,SNR=6.5						
ASAR				LR	LR	23 30 48.3	
	comp=Z,96nm,18.4s,baz=149,slow=38						
YKA	**Yellowknife Ar**	**79.75**	**18**	P	**P**	**23 03 25.0**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=330,slow=5.2,SNR=4.1						

WEL 09 22:53:50.1±1.0, 34°.44S×178°.65E, h33km, ML3.6/3, Error ellipse: s-maj=17.4km s-min=8.0km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**3.37**	**183**	PN	Pn	22 54 40.1	-0.4
HAZ	**Te Kaha**	**3.38**	**192**	*e*PN	Pn	22 54 40.3	-0.2
HAZ				*e*SN	Sn	22 55 20.5	+1.0
PUZ	**Puketiti**	**3.64**	**185**	*e*PN	Pn	22 54 42.6	-1.5
PUZ				*e*SN	Sn	22 55 22.3	-3.6
MWZ	**Matawai**	**3.99**	**193**	PN	Pn	22 54 47.4	-1.5
URZ	**Urewera**	**4.01**	**198**	PN	Pn	22 54 48.6	-0.5
URZ				*e*SN	Sn	22 55 34.5	-0.5

IDC ***09*** *22:55:46.8±1.4, 41°.05N×72°.32E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.5/31, mbtmp3.6/11, ML3.1/4, Error ellipse: s-maj=24.3km s-min=11.1km az=159.0*

KRNET ***09*** *22:55:47.9±0.1, 41°.10N×72°.48E, h2km, mb4.0*

NNC ***09*** *22:55:49.4±1.1, 41°.21N×72°.47E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=14.2km s-min=4.4km az=73.0*

ISC 09 22:55:48.2±1.1, 41°.12N±0°.02×72°.41E±0°.03, h7km±9km, n47, σ1§23/58, mb3.7/6, 18C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.76**	**334**	*e*P	**Pg**	**22 56 03.3**	**+0.5**
	baz=331						
CHVK	**Chauvay**	**1.00**	**189**	*e*P	**Pg**	**22 56 07.2**	**-0.2**
	baz=192						
CHVK				*e*S	**Sg**	**22 56 21.0**	**+0.6**
	baz=192						
SALK	**Salom-Alik**	**1.09**	**102**	*e*P	**Pg**	**22 56 07.8**	**-1.4**
	baz=102						
SALK				*e*S	**Sg**	**22 56 22.0**	**-1.4**
	baz=102						
MNAS	**Manas**	**1.37**	**3**	⇓P	**Pn**	**22 56 13.4**	**-0.4**
	23nm,0.3s						
MNAS				⇓S	**Sb**	**22 56 31.8**	**-0.1**
	72nm,0.3s						
SFK	**Sufi-Kurgan**	**1.38**	**143**	⇑P	**Pg**	**22 56 15.8**	**+1.0**
	72nm,0.4s						
SFK				⇓S	**Sn**	**22 56 35.8**	**+3.0**
	292nm,0.6s						
AML	**Almayashu**	**1.39**	**43**	P	**Pn**	**22 56 14.7**	**+0.3**
	SNR=78						
AML	**Almayashu**	**1.39**	**43**	⇑*i*P	**Pn**	**22 56 14.6**	**+0.2**
	baz=41						
AML				⇑*i*S	**Sb**	**22 56 32.8**	**-0.1**
	baz=41						
BTK	**Batken**	**1.61**	**229**	⇓*i*P	**Pb**	**22 56 18.6**	**+0.2**
	baz=231						
BTK				⇓*e*S	**Sg**	**22 56 40.3**	**+0.2**
	baz=231						
ARLS	**Aral**	**1.61**	**62**	*i* P	**Pg**	**22 56 19.4**	**+0.2**
	baz=61						
DRK	**Karamyk**	**1.71**	**196**	*e*P	**Pb**	**22 56 20.0**	**-0.1**
	baz=198						
DRK				*e*S	**Sb**	**22 56 43.0**	**+1.2**
	baz=198						
EKS2	**Erkin-Say**	**1.85**	**33**	P	**Pg**	**22 56 23.7**	**+0.1**
	SNR=60						
EKS2	**Erkin-Say**	**1.85**	**33**	⇑*i*P	**Pb**	**22 56 22.7**	**+0.3**
	baz=31						
EKS2				⇑*i*S	**Sg**	**22 56 48.6**	**+1.1**
	baz=31						
UCH	**Uchtor**	**1.92**	**54**	P	**Pg**	**22 56 25.2**	**+0.1**
	SNR=99						
UCH	**Uchtor**	**1.92**	**54**	⇑*i*P	**Pg**	**22 56 25.1**	**0.0**
	baz=53						
UCH				⇑*i*S	**Sg**	**22 56 51.5**	**+1.4**
	baz=53						
AAK	**Ala-Archa**	**2.17**	**45**	⇑Pg	**Pb**	**22 56 28.2**	**+0.3**
	25nm,0.3s						
AAK				⇑Lg	Lg	22 56 57.0	
	98nm,0.6s						
AAK	**Ala-Archa**	**2.17**	**45**	P	**Pb**	**22 56 28.6**	**+0.7**
	SNR=45						
AAK	**Ala-Archa**	**2.17**	**45**	Pn	**Pb**	**22 56 28.6**	**+0.7**
	14nm,0.3s,baz=201,slow=4.3,SNR=106						
AAK				Sn	**Sg**	**22 56 58.8**	**+1.0**
	24nm,0.3s,baz=21,slow=17,SNR=20						
AAK	**Ala-Archa**	**2.17**	**45**	⇓*i*P	**Pb**	**22 56 28.6**	**+0.7**
	baz=44						
AAK				⇓*i*S	**Sg**	**22 56 57.6**	**-0.3**
	baz=44						
KZA	**Kyzart**	**2.33**	**65**	P	**Pb**	**22 56 31.2**	**+0.4**
	SNR=30						
KZA	**Kyzart**	**2.33**	**65**	⇑*i*P	**Pb**	**22 56 31.2**	**+0.4**
	baz=64						
KZA				⇑*i*S	**Sg**	**22 57 03.6**	**+0.4**
	baz=64						
FRU	**Bishkek**	**2.37**	**43**	*e*P	**Pb**	**22 56 31.0**	**-0.3**
	baz=42						
KK31	**Karatay Array**	**2.43**	**325**	⇑Pg	**Pb**	**22 56 30.6**	**-1.7**
	52nm,0.5s,baz=129,slow=14,SNR=1018						
KK31				Lg	Lg	22 57 02.8	
	185nm,0.5s,baz=134,slow=29,SNR=20						
KBK	**Karagaybulak**	**2.44**	**50**	P	**Pb**	**22 56 33.1**	**+0.6**
	SNR=36						
KBK	**Karagaybulak**	**2.44**	**50**	⇓*i*P	**Pb**	**22 56 33.0**	**+0.6**
	baz=49						
KBK				⇓*i*S	**Sg**	**22 57 06.2**	**-0.3**
	baz=49						
CHMS	**Chumysh**	**2.56**	**42**	P	**Pb**	**22 56 33.7**	**-0.8**
	SNR=23						
CHMS	**Chumysh**	**2.56**	**42**	⇑*i*P	**Pb**	**22 56 33.6**	**-0.9**
	baz=41						
CHMS				⇑*i*S	**Sb**	**22 57 07.7**	**+1.5**
	baz=41						
USP	**Ospenovka**	**2.65**	**35**	P	**Pb**	**22 56 34.7**	**-1.3**
	SNR=16						
TKM2	**Tokmak 2**	**2.98**	**52**	⇓Pg	**Pb**	**22 56 39.7**	**-2.0**
	13nm,0.5s						
TKM2				⇑Lg	Lg	22 57 22.4	
	59nm,0.5s						
TKM2	**Tokmak 2**	**2.98**	**52**	P	**Pb**	**22 56 39.9**	**-1.8**
	SNR=12						
KSH	**Kashi**	**3.16**	**119**	Pn	**Pb**	**22 56 42.4**	**-2.3**
KSH				Sn	**Sb**	**22 57 21.8**	**-1.7**
KSH	comp=N,50nm,0.9s			smax	smax		
KSH	comp=E,61nm,0.7s			smax	smax		
PDGK	**Podgornoye**	**5.69**	**65**	⇑Pg	Pb	22 57 31.6	+3.8
	comp=E,5.0nm,0.9s						
PDGK	comp=E,10nm,0.7s			⇓Lg	Lg	22 58 49.3	
OTUK	**Ortayu**	**7.12**	**360**	⇓Pg	Pb	22 57 56.0	+3.8
	comp=E,4.4nm,0.9s						
OTUK	comp=E,21nm,0.7s			⇓Lg	Lg	22 59 32.0	
MK31	**Makanchi Array**	**9.10**	**48**	Pn	**Pn**	**22 58 02.5**	**+2.5**
	comp=E,1.0nm,0.7s,baz=226,slow=13,SNR=14						
MK31	comp=E,4.6nm,0.8s			⇑Lg	Lg	23 00 37.1	
MKAR	**Makanchi Array**	**9.10**	**48**	Pn	**Pn**	**22 58 03.0**	**+3.1**
	comp=E,0.2nm,0.3s,baz=230,slow=15,SNR=16						
MKAR	comp=E,0.2nm,0.3s,baz=227,slow=27,SNR=4.3			Lg	Lg	23 00 39.3	
KURBB	**Kurchatov Arra**	**10.41**	**22**	⇓Lg	Lg	23 01 14.8	
	comp=E,11nm,0.8s						
KURK	**Kurchatov**	**10.52**	**22**	⇓Lg	Lg	23 01 17.8	
	comp=E,8.0nm,1.0s						
AB31	**Akbulak array**	**11.97**	**317**	⇑Pn	**Pn**	**22 58 37.6**	**-1.6**
	comp=E,1.4nm,0.5s,baz=128,slow=12,SNR=40						
BVAR	**Borovoye Array**	**11.99**	**354**	Pn	**Pn**	**22 58 37.8**	**-1.6**
	baz=172,slow=11,SNR=2.0						
BVAR	comp=E,0.2nm,0.3s,baz=154,slow=27,SNR=3.9			Lg	Lg	23 02 09.3	
AKTO	**Aktyubinsk**	**13.68**	**318**	⇓Pn	**Pn**	**22 59 04.5**	**+2.0**
	comp=E,1.9nm,0.7s						
AKTO	**Aktyubinsk**	**13.68**	**318**	Pn	**Pn**	**22 59 01.1**	**-1.4**
	comp=E,0.2nm,0.3s,baz=126,slow=14,SNR=3.8						
ZALV	**Zalesovo Beam**	**15.29**	**29**	Pn	**Pn**	**22 59 26.5**	**+2.1**
	comp=E,0.1nm,0.3s,baz=224,slow=9.3,SNR=4.7						
ZALV	baz=211,slow=22,SNR=3.8			Lg	Lg	23 03 55.3	
FINES	**FINESS Array B**	**34.39**	**322**	P	**P**	**23 02 35.9**	**+0.3**
	comp=E,0.6nm,0.4s,baz=120,slow=10,SNR=7.6						
ARCES	**ARCESS Array B**	**37.36**	**335**	P	**P**	**23 02 60.0**	**-1.0**
	comp=E,1.4nm,0.9s,baz=117,slow=7.5,SNR=4.3						
GERES	**GERESS Array B**	**41.32**	**301**	P	**P**	**23 03 34.4**	**-0.1**
	comp=E,0.3nm,0.5s,baz=66,slow=10,SNR=4.3						
NOA	**NORSAR Array B**	**41.45**	**320**	P	**P**	**23 03 35.0**	**-0.3**
	comp=E,0.3nm,0.5s,baz=112,slow=5.8,SNR=3.1						
KSRS	**Korea Array**	**42.51**	**76**	P	**P**	**23 03 44.1**	**0.0**
	comp=E,0.5nm,0.3s,baz=276,slow=8.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**66.98**	**268**	P	**P**	**23 06 40.4**	**-1.4**
	comp=E,0.6nm,0.7s,baz=53,slow=5.3,SNR=7.2						

BJI ***09*** *23:05:40.4, 32°.37N×114°.71W, h10km, mB5.6/7, mb5.6/4, Ms5.1/5, Ms7 4.9/5*

ISCJB ***09*** *23:05:40.5±0.3, 32°.22N±0°.01×115°.24W±0°.01, h5km±2km, mb4.1/15, MS4.2/9, Error ellipse: s-maj=2.1km s-min=2.0km az=2.6*

NEIC ***09*** *23:05:43.2, 32°.24N×115°.26W, h4km, mb4.5/20, MD5.0(MEX), ML4.8(ECX), ML5.1(PAS), After ECX.*

NEIC Felt [IV] at Mexicali and [II] at Tijuana. Also felt at Ensenada. Felt [IV] at El Centro; [III] at Calexico, Chula Vista, Imperial and La Mesa; [II] at Aliso Viejo, Brawley, Carlsbad, Costa Mesa, El Cajon, Irvine, La Jolla, Lakeside, Newport Beach, Poway, San Diego, San Marcos and Santee, California. Felt in parts of Imperial, Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties. Felt [II] at Yuma, Arizona. Also felt at Somerton and Tempe.

ECX ***09*** *23:05:43.1±0.6, 32°.24N×115°.27W, h4km, ML4.8*

IDC ***09*** *23:05:43.7±1.2, 32°.38N×115°.00W, h0km, mb3.9/8, mb1 4.2/15, mb1mx4.0/31, mbtmp4.0/15, ML3.9/7, MS4.2/13, Ms1 4.2/13, ms1mx3.8/47, Error ellipse: s-maj=22.3km s-min=11.2km az=46.0*

MEX ***09*** *23:05:43.8±0.8, 32°.25N×115°.17W, h11km±11km, MD4.9*

ISC 09 23:05:42.3±0.6, 32°.21N±0°.02×115°.26W±0°.02, h11km±3km, n300, σ1§71/339, mb4.2/15, MS4.3/9, 34C-46D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.20**	**14**	*i* P	**Pg**	**23 05 46.8**	**+0.2**
MBIG				*e*S	**Sg**	**23 05 48.8**	**-0.8**
CPBX	**Cerro Prieto**	**0.21**	**349**	*e*P	**Pg**	**23 05 44.7**	**-2.1**
CPBX				*e*S	**Sg**	**23 05 47.5**	**-2.3**
CPBX	**Cerro Prieto**	**0.21**	**349**	*e*Pg	**Pg**	**23 05 46.8**	**0.0**
CPBX				*e*Sg	**Sg**	**23 05 50.1**	**+0.3**
EMX	**El Mayor**	**0.23**	**177**	*e*P	**Pg**	**23 05 45.7**	**-1.3**
EMX				*e*S	**Sg**	**23 05 49.8**	**-0.5**
EMX	**El Mayor**	**0.23**	**177**	*e*P	**Pg**	**23 05 45.7**	**-1.3**
EMX				*e*S	**Sg**	**23 05 49.8**	**-0.5**
EMSC	**East Mesa**	**0.57**	**24**	*e*Pg	**Pg**	**23 05 53.6**	**+0.1**
SGL	**Mount Signal**	**0.59**	**318**	⇓*i*P	**Pg**	**23 05 53.5**	**-0.3**
SGL	**Mount Signal**	**0.59**	**318**	*i* P	**Pg**	**23 05 53.5**	**-0.3**
DRIEC	**Desert Rsrch C**	**0.61**	**348**	*e*Pg	**Pb**	**23 05 54.6**	**-0.4**
ERPC	**Ernies Place**	**0.63**	**327**	*e*Pg	**Pg**	**23 05 54.7**	**+0.1**
RDX	**Rancho Dawling**	**0.65**	**244**	⇑*e*P	**Pg**	**23 05 54.7**	**-0.2**
RDX				*e*S	**Sg**	**23 06 03.5**	**0.0**
RDX	**Rancho Dawling**	**0.65**	**244**	*e*P	**Pg**	**23 05 54.7**	**-0.2**
RDX				*e*S	**Sg**	**23 06 03.5**	**0.0**
COA	**Coachella**	**0.66**	**10**	⇓*i*P	**Pg**	**23 05 54.8**	**-0.3**
COA	**Coachella**	**0.66**	**10**	*e*Pg	**Pg**	**23 05 54.8**	**-0.3**
WESC	**Westside Schoo**	**0.68**	**324**	*e*Pg	**Pg**	**23 05 55.4**	**-0.1**
YMD	**Yuma Desert**	**0.69**	**60**	⇑*i*P	**Pg**	**23 05 55.1**	**-0.6**
YMD	**Yuma Desert**	**0.69**	**60**	⇑*i*P	**Pg**	**23 05 55.0**	**-0.8**
YUH	**Yuha Desert**	**0.71**	**308**	*e*P	**Pg**	**23 05 55.5**	**-0.6**
YUH	**Yuha Desert**	**0.71**	**308**	*e*Pg	**Pg**	**23 05 55.5**	**-0.6**
COK	**Cook Ranch**	**0.75**	**328**	⇓*i*P	**Pg**	**23 05 56.4**	**-0.5**
COK	**Cook Ranch**	**0.75**	**328**	*i* P	**Pg**	**23 05 56.4**	**-0.5**
ECBX	**El Chinero**	**0.76**	**167**	⇓*e*P	**Pg**	**23 05 55.4**	**-1.6**
ECBX				*e*S	**Sg**	**23 06 06.3**	**-0.6**
RUN	**Ruthven**	**0.79**	**17**	⇓*i*P	**Pg**	**23 05 56.4**	**-1.3**
RUN	**Ruthven**	**0.79**	**17**	⇓*i*P	**Pg**	**23 05 56.0**	**-1.7**
RMX	**La Rumorosa**	**0.80**	**299**	*e*P	**Pg**	**23 05 57.1**	**-0.6**
RMX				*e*S	**Sg**	**23 06 07.8**	**-0.4**
RMX	**La Rumorosa**	**0.80**	**299**	*e*P	**Pg**	**23 05 57.1**	**-0.6**
RMX				*e*S	**Sg**	**23 06 07.8**	**-0.4**
BTCC	**Brunts Corner**	**0.80**	**2**	⇓*i*P	**Pg**	**23 05 56.0**	**-1.8**
SWSC	**Sam W. Stewart**	**0.86**	**328**	⇑P	**Pg**	**23 05 57.6**	**-1.3**
	baz=0.8						
SWSC	baz=0.8			⇓S	**Sg**	**23 06 10.0**	**-0.1**
SWSC	**Sam W. Stewart**	**0.86**	**328**	*e*Pg	Pg	23 05 55.4	-3.5
SWSC				*e*Pn	**Pg**	**23 05 57.6**	**-1.3**
CRR	**Carrizo Plain**	**0.90**	**318**	*e*Pg	**Pg**	**23 05 58.5**	**-1.2**
GLA	**Glamis**	**0.91**	**23**	⇓*i*P	**Pg**	**23 05 58.3**	**-1.6**
GLA	**Glamis**	**0.91**	**23**	⇓P	**Pg**	**23 05 58.4**	**-1.6**
	baz=0.9						
GLA	baz=0.9			⇑S	**Sg**	**23 06 11.0**	**-0.9**
GLA	**Glamis**	**0.91**	**23**	*e*Pg	**Pg**	**23 05 58.6**	**-1.3**
GLA				*e*Sg	**Sg**	**23 06 10.8**	**-1.1**
CLIC	**Calipatria**	**0.95**	**346**	*e*Pg	**Pg**	**23 05 59.1**	**-1.6**
ERRC	**Elmore Ranch**	**1.02**	**332**	*e*Pg	**Pg**	**23 06 00.5**	**-1.5**
CBKC	**Canebrake**	**1.08**	**309**	*e*Pg	**Pg**	**23 06 01.7**	**-1.6**
ZAX	**El Zacaton**	**1.11**	**231**	*e*P	**Pg**	**23 06 02.7**	**-1.1**
ZAX				*e*S	**Sg**	**23 06 18.0**	**-0.2**
SPIG	**San Pedro Mart**	**1.18**	**189**	*i* P	**Pb**	**23 06 03.6**	**-1.3**
SPIG				*i* S	**Sg**	**23 06 18.3**	**-2.1**
SPIG	**San Pedro Mart**	**1.18**	**189**	⇓*e*P	**Pb**	**23 06 03.6**	**-1.3**
SPIG				*e*S	**Sg**	**23 06 20.2**	**-0.2**
SPIG	**San Pedro Mart**	**1.18**	**189**	*e*Sg	**Sg**	**23 06 18.3**	**-2.1**
SPX	**San Pedro Mart**	**1.18**	**189**	⇓*e*P	**Pb**	**23 06 03.6**	**-1.3**
SPX				*e*S	**Sg**	**23 06 20.9**	**+0.5**
SPX				⇓*e*		23 06 22.3	
SPX	comp=E,7μm,0.6s			AML	AML	23 06 22.3	
SPX	**San Pedro Mart**	**1.18**	**189**	*e*Sg	**Sg**	**23 06 18.1**	**-2.2**
MONP	**Monument Peak,**	**1.19**	**305**	⇓P	**Pb**	**23 06 03.5**	**-1.6**
	baz=1.2						
MONP	baz=1.2			⇑S	**Sg**	**23 06 19.4**	**-1.4**
CBX	**Cerro Bola**	**1.20**	**275**	*i* P	**Pb**	**23 06 03.9**	**-1.2**
CBX				*i* S	**Sg**	**23 06 19.2**	**-1.8**
CBX	**Cerro Bola**	**1.20**	**275**	⇑*e*P	**Pb**	**23 06 04.0**	**-1.2**
CBX				*e*S	**Sg**	**23 06 19.7**	**-1.2**
CBX				⇑*e*		23 06 22.1	
CBX	comp=N,54μm,0.5s			AML	AML	23 06 22.1	
CBX	**Cerro Bola**	**1.20**	**275**	*e*Pg	**Pb**	**23 06 03.9**	**-1.2**
CBX				*e*Sg	**Sg**	**23 06 19.2**	**-1.8**
FRK	**Frink**	**1.23**	**345**	*e*Pg	**Pb**	**23 06 02.5**	**-3.1**
ECNX	**Esteban Cantu**	**1.27**	**244**	*e*P	**Pn**	**23 06 05.3**	**-0.8**
ECNX				*e*S	**Sb**	**23 06 22.9**	**+0.2**
BAR	**Barrett**	**1.28**	**292**	*e*Pg	**Pn**	**23 06 05.3**	**-1.0**
BAR				*e*Sg	**Sb**	**23 06 22.0**	**-1.0**
BAR				*e*ScS	**ScS**	**23 21 16.9**	**+1.6**
PBX	**Punta Banda**	**1.33**	**250**	⇑*e*P	**Pn**	**23 06 06.2**	**-0.7**
PBX				*e*S	**Sb**	**23 06 24.2**	**-0.2**
PBX	**Punta Banda**	**1.33**	**250**	*e*P	**Pn**	**23 06 06.2**	**-0.7**
PBX				*e*S	**Sb**	**23 06 24.2**	**-0.2**
BATC	**Bat Cave Butte**	**1.34**	**339**	*e*Pg	**Pn**	**23 06 04.3**	**-2.6**
113A	**Mohawk Valley,**	**1.38**	**66**	⇓P	**Pn**	**23 06 05.6**	**-1.9**
	baz=1.4						
113A	baz=1.4			⇑S	**Sb**	**23 06 23.6**	**-2.0**
BORC	**Borrego Spring**	**1.44**	**317**	*e*Pn	**Pn**	**23 06 06.5**	**-1.8**
BC3	**Big Chuckawall**	**1.45**	**353**	⇑P	**Pn**	**23 06 06.5**	**-2.1**
	baz=1.4						
BC3	baz=1.4			⇑S	**Sn**	**23 06 25.3**	**-2.3**
EML	**El Monte Cty P**	**1.50**	**297**	*e*Pn	**Pn**	**23 06 06.8**	**-2.4**
CTW	**Cottonwood Mou**	**1.55**	**341**	*e*Pn	**Pn**	**23 06 07.3**	**-2.6**
CTCC	**Cactus City**	**1.56**	**337**	*e*Pn	**Pg**	**23 06 13.2**	**+0.8**
DPP	**Dos Picos Cty**	**1.62**	**299**	*e*Pn	**Pn**	**23 06 09.6**	**-1.4**
HWB	**Hans Werner Br**	**1.65**	**300**	*e*Pn	**Pn**	**23 06 09.9**	**-1.4**
BLYC	**Blythe**	**1.65**	**22**	*e*Pn	**Pb**	**23 06 13.1**	**+0.2**
Y12C	**Blythe**	**1.65**	**22**	⇓P	**Pn**	**23 06 09.3**	**-2.0**
	baz=1.6						
109C	**Camp Elliot, M**	**1.70**	**294**	⇑P	**Pn**	**23 06 10.9**	**-1.0**
	baz=1.7						
109C	baz=1.7			⇑S	**Sb**	**23 06 35.2**	**+0.1**
CPE	**Camp Elliot**	**1.70**	**294**	*e*Pn	**Pn**	**23 06 11.0**	**-1.0**
FRD	**Ford Ranch, An**	**1.71**	**319**	*e*Pn	**Pn**	**23 06 10.2**	**-1.9**
PFO	**Pinyon Flats O**	**1.72**	**324**	Pn	**Pn**	**23 06 10.3**	**-2.1**
	comp=N,68nm,0.3s,baz=139,slow=12,SNR=318						
PFO	comp=N,741nm,0.3s,baz=54,slow=18,SNR=16			Lg	Lg	23 06 36.4	
PFO	**Pinyon Flats O**	**1.72**	**324**	⇑P	**Pn**	**23 06 10.3**	**-2.1**
	baz=1.7						
PFO	baz=1.7			⇓S	**Sb**	**23 06 36.0**	**+0.3**
PFO	**Pinyon Flats O**	**1.72**	**324**	*e*Pn	**Pn**	**23 06 09.9**	**-2.4**
PFO				*e*Sn	**Sn**	**23 06 31.0**	**-3.3**
PFO				*e*Sg	**Sb**	**23 06 36.3**	**+0.6**
SNDA	**J Saunders Pla**	**1.76**	**320**	*e*Pn	**Pn**	**23 06 11.1**	**-1.7**
PLM	**Palomar**	**1.77**	**310**	*e*Pn	**Pn**	**23 06 11.4**	**-1.6**
PLM				*e*Pg	**Pb**	**23 06 15.0**	**+0.2**
DNR	**Dunn Ranch,Anz**	**1.78**	**320**	*e*Pn	**Pn**	**23 06 11.5**	**-1.6**
CRY	**Cary Ranch**	**1.84**	**318**	*e*Pn	**Pn**	**23 06 12.2**	**-1.7**
BELC	**Belle Mtn. Jos**	**1.89**	**341**	⇑P	**Pn**	**23 06 12.6**	**-2.1**
	baz=1.9						
IRM	**Iron Mountain**	**1.94**	**3**	⇓P	**Pn**	**23 06 13.4**	**-1.9**
	baz=1.9						
IRM	**Iron Mountain**	**1.94**	**3**	*e*Pn	**Pn**	**23 06 13.6**	**-1.8**
TPC	**Twentynine Pal**	**2.00**	**341**	*e*Pn	**Pn**	**23 06 14.2**	**-1.9**
BACC	**Bachelor Mtn.**	**2.05**	**313**	*e*Pn	**Pn**	**23 06 15.1**	**-1.7**
BACC				*e*Pg	**Pb**	**23 06 20.1**	**+0.5**
BACC				*e*ScS	ScS	23 21 19.1	+3.5
DGR	**Domenigoni Val**	**2.06**	**315**	*e*Pn	**Pn**	**23 06 15.3**	**-1.6**
214A	**Organ Pipe Nat**	**2.09**	**96**	⇓P	**Pn**	**23 06 15.1**	**-2.3**
	baz=2.1						
HMTC	**Hemet**	**2.09**	**316**	*e*Pn	**Pn**	**23 06 15.9**	**-1.5**
MURC	**Murrieta**	**2.14**	**311**	⇓P	**Pn**	**23 06 16.7**	**-1.3**
	baz=2.1						
MURC	baz=2.1			⇓Sb	**Sb**	**23 06 49.3**	**+1.6**
Z14A	**Wintersburg**	**2.26**	**59**	⇑P	**Pn**	**23 06 17.8**	**-1.9**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.28**	**24**	⇓P	**Pn**	**23 06 18.5**	**-1.4**
	baz=2.3						
PDMCI	baz=2.3			⇓Sb	**Sb**	**23 06 53.7**	**+2.0**
DANC	**Danby, Needles**	**2.42**	**358

ISA	Isabella, Lake	4.36	323	ePn	Pn	23 06 47.6	-1.0		
ISA				ePg	Pg	23 07 03.3	-2.5		
DAC	Darwin (Calif)	4.49	335	ePn	Pn	23 06 49.8	-0.7		
DAC				ePg	Pg	23 07 07.2	-1.3		
WUAZ	Wupatki baz=4.6	4.61	43	⇓P	Pn	23 06 52.7	+0.5		
WUAZ	Wupatki	4.61	43	ePn	Pn	23 06 53.4	+1.2		
TPNV	Topopah Spring baz=4.8	4.79	350	⇑P	Pn	23 06 53.8	-0.9		
TPNV	Topopah Spring	4.79	350	ePn	Pn	23 06 55.3	+0.6		
U15A	North Rim baz=4.9	4.87	29	⇓P	Pn	23 06 56.5	+0.7		
X18A	Snowflake baz=5.0	5.00	61	⇑P	Pn	23 06 58.0	+0.5		
SMMC	Simmler baz=5.0	5.01	309	⇓P	Pn	23 06 59.1	+1.5		
ICU	Indian Springs	5.05	12	ePn	Pn	23 06 58.7	+0.7		
319A	Douglas baz=5.2	5.16	98	⇓P	Pn	23 06 58.7	-0.8		
KNB	Kanab	5.20	22	ePn	Pn	23 07 00.5	+0.4		
EKU	East Kanab	5.36	24	ePn	Pn	23 07 03.4	+1.0		
PTRM	Twisslemen Ran	5.36	311	ePn	Pn	23 07 04.0	+1.7		
W18A	Petrified Fore baz=5.4	5.44	56	⇓P	Pn	23 07 04.1	+0.6		
W18A	Petrified Fore	5.44	56	ePn	Pn	23 07 04.3	+0.8		
CCUT	Cedar City	5.55	16	ePn	Pn	23 07 05.7	+0.7		
ARUT	Antelope Range	5.76	14	ePn	Pn	23 07 08.3	+0.5		
TPH	Tonopah	6.07	345	ePn	Pn	23 07 12.5	+0.4		
R11A	Troy Canyon, C baz=6.1	6.13	358	⇓P	Pn	23 07 12.8	-0.2		
R11A	Troy Canyon, C	6.13	358	ePn	Pn	23 07 12.7	-0.2		
121A	Cookes Peak, D baz=6.3	6.33	85	⇑P	Pn	23 07 14.7	-1.1		
CGIG		6.50	105	*i* P	Pn	23 07 17.7	-0.4		
CGIG				*i* S	Sn	23 08 29.8	-2.5		
NV01	Mina Array Sit	6.68	339	ePn	Pn	23 07 26.0	+5.4		
NV01				ePg	Pg	23 07 53.4	+3.1		
NVAR	Mina Array Bea comp=N,0.4nm,0.3s,baz=161,slow=13,SNR=12	6.68	339	Pn	Pn	23 07 26.0	+5.4		
NVAR	comp=N,1.8nm,0.3s,baz=175,slow=15,SNR=20			Pg	Pg	23 07 53.4	+3.1		
MVU	Marysvale	6.75	21	ePn	Pn	23 07 22.1	+0.5		
MMU	Miners Mountai	6.79	27	ePn	Pn	23 07 23.6	+1.4		
SAO	San Andreas Ge	6.83	313	ePn	Pn	23 07 27.4	+4.9		
SAO				ePg	Pb	23 07 44.6	+3.4		
LAZ	Ladron	7.14	70	ePn	Pn	23 07 27.2	+0.3		
WAKR	Walker	7.14	333	ePn	Pn	23 07 27.4	+0.5		
CMB	Columbia Colle	7.17	326	ePn	Pn	23 07 25.9	-1.3		
LENM	Lemitar	7.21	72	ePn	Pn	23 07 27.9	+0.1		
Y22D	IRIS PASSCAL I baz=7.2	7.23	73	⇑P	Pn	23 07 28.4	+0.3		
MVCO	Mesa Verde baz=7.5	7.47	46	⇑P	Pn	23 07 32.5	+1.0		
MVCO	Mesa Verde	7.47	46	ePn	Pn	23 07 33.2	+1.7		
BNM	Barren Site	7.49	73	ePn	Pn	23 07 32.0	+0.3		
LPM	Los Pinos Moun	7.52	72	ePn	Pn	23 07 32.6	+0.5		
PV05	Paradox Valley	7.72	39	ePn	Pn	23 07 38.5	+3.5		
TMUT	Trail Mountain	7.79	24	ePn	Pn	23 07 40.9	+4.9		
TMUT				ePg	Pg	23 08 07.1	-4.4		
ANMO	Albuquerque comp=N,0.4nm,0.3s,baz=255,slow=12,SNR=9.5	7.83	67	Pn	Pn	23 07 37.4	+1.0		
ANMO	comp=N,0.4nm,0.3s,baz=293,slow=17,SNR=2.7			Lg	Lg	23 09 47.5			
ANMO	comp=N,2μm,21.0s,baz=248,slow=40			LR	LR	23 10 45.1			
ANMO	Albuquerque	7.83	67	ePn	Pn	23 07 37.1	+0.7		
SRU	San Rafael Swe	7.88	28	ePn	Pn	23 07 40.0	+2.9		
PV10	Paradox Valley	7.98	38	ePn	Pn	23 07 40.5	+2.1		
PV09	Paradox Valley	8.02	37	ePn	Pn	23 07 42.1	+3.1		
PV01	Paradox Valley	8.05	41	ePn	Pn	23 07 37.8	-1.6		
NLU	North Lily Min	8.14	18	ePn	Pn	23 07 41.9	+1.3		
DUG	Dugway, Tooele	8.21	13	ePn	Pn	23 07 42.9	+1.4		
MPU	Maple Canyon	8.32	20	ePn	Pn	23 07 45.8	+2.8		
BMN	Battle Mountai	8.35	350	ePn	Pn	23 07 45.8	+2.3		
MNTX	Cornudas Mount baz=8.4	8.41	91	⇓P	Pn	23 07 43.5	-0.6		
MNTX	Cornudas Mount	8.41	91	ePn	Pn	23 07 44.7	+0.5		
ELK	Elko comp=N,0.7nm,0.3s,baz=178,slow=12,SNR=15	8.52	0	Pn	Pn	23 07 47.4	+1.6		
ELK	comp=N,0.7nm,0.3s,baz=180,slow=16,SNR=6.9			Pg	Pg	23 08 24.9	-0.5		
ELK	comp=N,0.2nm,0.3s,baz=90,slow=20,SNR=2.0			Lg	Lg	23 10 08.0			
ELK	comp=N,2μm,19.2s,baz=179,slow=40			LR	LR	23 11 15.8			
ELK	Elko	8.52	0	ePn	Pn	23 07 46.3	+0.5		
ELK				ePg	Pg	23 08 24.2	-1.1		
DAU	Daniels Canyon	8.79	20	ePn	Pn	23 07 52.6	+2.9		
S22A	4UR Ranch, Cre	8.85	49	ePn	Pn	23 07 51.8	+1.4		
BGU	Big Grassy Mou	8.88	11	ePn	Pn	23 07 51.3	+0.6		
CTU	Camp Tracy	8.92	17	ePn	Pn	23 07 53.6	+2.3		
LPIG	La Paz comp=N,12nm,0.3s,baz=334,slow=6.6,SNR=4.2	9.18	150	Pn	Pn	23 07 57.5	+2.8		
GDL2	Guadalupe Moun	9.23	87	ePn	Pn	23 07 55.1	-0.4		
TCUT	Toone Canyon	9.41	18	ePn	Pn	23 07 57.5	-0.5		
SMCO	Snowmass	9.67	42	ePn	Pn	23 08 04.6	+2.7		
SLBS	Sierra La Lagu	9.70	150	ePn	Pn	23 08 03.5	+1.5		
SDCO	Great Sand Dun	9.72	53	ePn	Pn	23 08 04.0	+1.6		
O20A	White River Ci	9.72	34	ePn	Pn	23 08 02.3	0.0		
HVU	Hansel Valley	9.75	11	ePn	Pn	23 08 04.8	+2.1		
HWUT	Hardware Ranch	9.83	16	ePn	Pn	23 08 05.8	+2.0		
T25A	Trinidad	10.19	58	ePn	Pn	23 08 11.4	+2.7		
N20A	Spence Gulch, baz=10	10.28	31	⇓P	Pn	23 08 08.0	-1.9		
LTX	Lajitas	10.37	103	ePn	Pn	23 08 12.7	+1.5		
LTX				eLg	Lg	23 11 14.1			
TXAR	Lajitas Array comp=N,2.4nm,0.3s,baz=287,slow=13,SNR=79	10.37	103	Pn	Pn	23 08 12.7	+1.5		
TXAR	comp=N,0.3nm,0.3s,baz=269,slow=26,SNR=6.0			Lg	Lg	23 11 14.1			
TXAR	comp=N,1μm,21.5s,baz=0.0,slow=38			LR	LR	23 12 14.4			
S25A	Robets Cordova baz=10	10.41	56	⇓P	Pn	23 08 10.1	-1.6		
MOD	Modoc Plateau	10.47	339	ePn	Pn	23 08 17.7	+5.1		
MSTX	Muleshoe	10.62	77	ePn	Pn	23 08 17.8	+3.3		
ISCO	Idaho Springs	10.87	43	ePn	Pn	23 08 21.6	+3.4		
AHID	Auburn Hatcher	11.04	16	ePn	Pn	23 08 21.7	+1.4		
MFID	Camas Ranch	11.19	358	ePn	Pn	23 08 22.3	-0.1		
YBH	Yreka Blue Hor comp=N,0.1nm,0.3s,baz=155,slow=6.2,SNR=9.7	11.21	330	Pn	Pn	23 08 27.2	+4.7		
YBH	comp=N,0.1nm,0.3s,baz=266,slow=19,SNR=2.3			Lg	Lg	23 11 26.3			
YBH	comp=N,946nm,20.5s,baz=166,slow=39			LR	LR	23 13 01.9			
YBH	Yreka Blue Hor	11.21	330	ePn	Pn	23 08 26.4	+3.9		
HLID	Hailey	11.35	3	ePn	Pn	23 08 27.4	+2.8		
K05A	Summer Lake	11.40	339	ePn	Pn	23 08 26.5	+1.1		
RWWY	Rawlins	11.43	32	ePn	Pn	23 08 23.4	-2.4		
BW06	Boulder Array	11.46	22	ePn	Pn	23 08 30.5	+4.4		
PD31	Pinedale Array	11.46	22	ePn	Pn	23 08 27.5	+1.4		
PD31				eLg	Lg	23 11 48.0			
PDAR	Pinedale Array comp=N,0.0nm,0.3s,baz=184,slow=12,SNR=3.5	11.46	22	Pn	Pn	23 08 27.5	+1.4		
PDAR	comp=N,0.1nm,0.3s,baz=217,slow=33,SNR=3.4			Lg	Lg	23 11 48.0			
AMTX	Amarillo	11.64	73	ePn	Pn	23 08 28.7	+0.3		
REDW	Red Top Meadow	11.66	16	ePn	Pn	23 08 30.4	+1.5		
TPAW	Teton Pass	11.76	16	ePn	Pn	23 08 32.6	+2.4		
FXWY	Fox Creek	11.88	15	ePn	Pn	23 08 35.0	+3.1		
LOHW	Long Hollow	11.96	17	ePn	Pn	23 08 33.6	+0.7		
HUMO	Hull Mountain	12.04	332	ePn	Pn	23 08 33.8	0.0		
IMW	Indian Meadow	12.15	15	ePn	Pn	23 08 35.5	-0.1		
I07A	Izee	12.31	346	ePn	Pn	23 08 38.2	+0.5		
FLWY	Flagg Ranch	12.38	15	ePn	Pn	23 08 41.4	+2.7		
H17A	Grant Village	12.70	15	ePn	Pn	23 08 44.6	+1.5		
BMO	Blue Mountains	12.72	353	ePn	Pn	23 08 46.5	+3.3		
MCMT	McKenzie Canyo	12.73	8	ePn	Pn	23 08 46.3	+2.7		
YMR	Madison River	12.88	14	ePn	Pn	23 08 48.5	+3.0		
YMR				eSn	Sn	23 11 07.3	-1.6		
ABTX	Abilene, Hawle	13.20	84	ePn	Pn	23 08 52.0	+2.2		
DLMT	Dillon	13.29	8	ePn	Pn	23 08 51.7	+0.7		
JCT	Junction City	13.32	93	ePn	Pn	23 08 55.1	+3.6		
G08A	Pilot Rock	13.37	349	ePn	Pn	23 08 56.2	+4.1		
H04A	Detroit Lake	13.57	338	ePn	Pn	23 08 58.4	+3.6		
G06A	Carlson Farm,	13.66	344	ePn	Pn	23 08 56.9	+0.9		
BOZ	Bozeman (W)	13.71	11	ePn	Pn	23 08 52.8	-3.9		
RLMT	Red Lodge	13.71	18	ePn	Pn	23 08 59.8	+3.0		
LRM	Limekiln Ridge	13.76	8	ePn	Pn	23 08 58.4	+0.8		
CRMT	Chrome Mountai	13.81	15	eSn	Sn	23 11 26.6	-5.1		
F10A	Beach Ranch, E	13.82	354	ePn	Pn	23 08 58.2	-0.1		
G05D	Wamic, OR baz=14	13.84	342	⇓P	Pn	23 09 00.0	+1.7		
233A	Rising Star baz=14	13.87	86	⇓P	Pn	23 08 59.2	+0.3		
PAT2	Paterson 2	14.09	347	ePn	P	23 09 09.9	+0.4		
E09A	Wood Farm, Sta	14.45	352	ePn	Pn	23 09 10.5	+3.7		
HAWA	Hanford	14.54	348	ePn	P	23 09 12.5	-2.1		
RSW	Rattlesnake Hi	14.55	348	P	P	23 09 13.3	-1.5		
MSO	Missoula	14.63	4	ePn	Pn	23 09 11.3	+1.9		
HRY	Holter Researc	14.72	9	ePn	P	23 09 15.3	-1.4		
X34A	Smith Ranch, M baz=15	14.75	76	⇑P	Pn	23 09 11.8	+0.9		
E07A	Sunnyside	14.76	347	ePn	Pn	23 09 14.0	+3.1		
CHMT	Chamberlain Mo	14.76	5	ePn	Pn	23 09 14.1	+2.9		
F04A	Amboy	14.78	340	ePn	Pn	23 09 12.3	+1.1		
RSSD	Black Hills	14.79	33	ePn	Pn	23 09 13.1	+1.5		
SLMT	Seeley Lake	15.07	5	ePn	Pn	23 09 16.8	+1.5		
D08A	Wollman Farm, comp=N,31nm,1.4s	15.09	350	ePn	Pn	23 09 17.6	+2.2		
V34A	Guthrie comp=N,34nm,1.3s	15.15	71	ePn	Pn	23 09 16.5	+0.3		
LON	Longmire comp=N,33nm,1.1s	15.36	343	ePn	Pn	23 09 19.8	+0.7		
OD2	Odessa Site #2	15.39	351	P	P	23 09 22.5	-1.5		
LTY	Liberty comp=N,38nm,1.6s	15.59	346	ePn	P	23 09 25.6	-0.6		
D05A	Enumclaw comp=N,136nm,1.4s	15.82	343	ePn	Pn	23 09 26.5	+1.6		
ETW	Entiat	15.85	347	P	P	23 09 29.2	-0.1		
LAO	LASA Array comp=N,49nm,1.3s	16.03	23	ePn	Pn	23 09 28.6	+0.8		
NEW	Newport comp=N,0.2nm,0.3s,baz=177,slow=13,SNR=15	16.09	355	Pn	P	23 09 31.0	-0.9		
NEW	Newport comp=N,54nm,1.2s	16.09	355	ePn	Pn	23 09 30.2	+1.6		
PIER	Pier 30 Seattl	16.27	343	eSn	Sn	23 12 29.2	-1.9		
PIER				ePcP	PcP	23 14 20.8	-3.6		
PIER				eScP	ScP	23 18 01.0	+2.2		
PIER				eScS	ScS	23 21 42.4	+4.7		
MARYW	Marymoor Park	16.29	343	eSn	Sn	23 12 24.9	-6.7		
MARYW				ePcP	PcP	23 14 28.3	+3.8		
MARYW				eScP	ScP	23 17 58.9	0.0		
MARYW				eScS	ScS	23 21 40.0	+2.3		
B08A	Colville Reser	16.42	350	ePn	Pn	23 09 34.0	+1.3		
TUL1	Leonard comp=N,26nm,1.0s	16.54	72	ePn	Pn	23 09 33.8	-0.5		
HKT	Hockley comp=N,31nm,1.6s	16.79	93	ePn	Pn	23 09 37.0	-0.4		
WALA	Waterton Lakes comp=N,1μm,1.2s	16.86	3	ePn	Pn	23 09 38.3	0.0		
PGC	Sidney comp=N,1μm,1.3s	17.55	342	ePn	Pn	23 09 45.1	-1.6		
MIAR	Mount Ida comp=N,143nm,2.5s	18.26	77	ePn	Pn	23 09 55.0	-0.7		
ECSD	EROS Data Cent comp=N,22nm,1.5s	18.62	47	eP	P	23 09 59.5	-0.2		
EDM	Edmonton	21.04	3	eP	P	23 10 25.2	-0.9		
SPMN	Marine on St. comp=N,27nm,1.3s	21.72	47	eP	P	23 10 33.0	-0.5		
AGMN	Agassiz Nation comp=N,26nm,1.2s	21.75	37	eP	P	23 10 34.8	+1.1		
BBB	Bella Bella comp=N,1μm,19.3s,baz=148,slow=38	22.05	339	LR	LR	23 19 45.4			
JFWS	Jewell Farm comp=N,12nm,0.9s	22.44	54	eP	P	23 10 41.7	+0.5		
WVT	Waverly comp=N,8.4nm,0.9s	22.99	73	eP	P	23 10 47.1	0.0		
ULM	Lac du Bonnet comp=N,8.5nm,1.1s,baz=209,slow=9.8,SNR=7.7	23.06	33	P	P	23 10 48.5	+0.8		
ULM	Lac du Bonnet comp=N,7.0nm,1.0s	23.06	33	eP	P	23 10 48.5	+0.8		
FFC	Flin Flon comp=N,55nm,2.3s	24.40	19	eP	P	23 11 01.4	+0.9		
TKL	Tuckaleechee C comp=N,710nm,19.8s,baz=273,slow=37	26.29	74	LR	LR	23 21 53.6			
DLBC	Dease Lake comp=N,3.6nm,0.9s,baz=182,slow=4.3,SNR=6.3	28.07	343	P	P	23 11 36.3	+2.6		
DLBC	Dease Lake comp=N,35nm,1.8s	28.07	343	eP	P	23 11 34.6	+0.8		
YKA	Yellowknife Ar comp=N,0.2nm,0.7s,baz=180,slow=8.2,SNR=2.9	30.30	1	P	P	23 11 53.7	+0.4		
YKB5	Yellowknife Ar	30.30	1	eP	P	23 11 53.7	+0.4		
DAWY	Dawson	35.25	342	eP	P	23 12 37.7	+1.0		
JTS	JuntasAbangare comp=N,506nm,20.9s,baz=328,slow=36	35.47	121	LR	LR	23 26 59.6			
INK	Inuvik comp=N,54nm,2.5s	37.65	349	eP	P	23 12 57.8	+0.8		
ILAR	Eielson Array comp=N,2.1nm,0.8s,baz=150,slow=7.7,SNR=20	37.94	339	P	P	23 13 02.4	+2.8		
ILB	Eielson Array	37.94	339	eP	P	23 13 00.5	+0.9		
COLD	Coldfoot comp=N,5.3nm,1.2s	40.61	340	eP	P	23 13 22.0	+0.2		
SCHQ	Schefferville comp=N,359nm,18.2s,baz=208,slow=35	40.70	42	LR	LR	23 29 21.1			
IM04	Indian Mountai	40.93	337	eP	P	23 13 25.6	+1.2		
ROSC	El Rosal comp=N,154nm,19.3s,baz=2.0,slow=38	46.94	117	LR	LR	23 35 45.3			
ARCES	ARCESS Array B comp=N,185nm,19.0s,baz=321,slow=37	74.59	13	LR	LR	23 51 37.6			
NB200	NORSAR Array S	77.40	24	eP	P	23 17 38.7	+1.5		
NOA	NORSAR Array B comp=N,0.6nm,0.8s,baz=313,slow=5.2,SNR=3.2	77.40	24	P	P	23 17 38.7	+1.5		
FIA0	FINESS Array S	81.53	18	eP	P	23 18 01.6	+2.0		
FIA0				eScS	ScS	23 28 32.8	+4.3		
FINES	FINESS Array B comp=N,1.2nm,0.8s,baz=333,slow=0.3,SNR=5.3	81.53	18	P	P	23 18 01.6	+2.0		
ESDC	Sonseca Array comp=N,0.2nm,0.4s,baz=317,slow=9.6,SNR=3.6	84.28	46	P	P	23 18 15.3	+1.0		
ESDC	comp=N,124nm,21.3s,baz=300,slow=33			LR	LR	23 52 00.1			
JCJ	Chichijima comp=N,277nm,21.6s,baz=115,slow=30	85.64	299	LR	LR	23 48 48.4			
SONA0	Songino Array	91.99	333	eP	P	23 18 55.5	+4.2		
SONM	Songino Array comp=N,0.6nm,1.0s,baz=66,slow=3.7,SNR=3.9	91.99	333	P	P	23 18 55.5	+4.2		
KEST	Kesra comp=N,37nm,19.5s,baz=286,slow=36	94.77	42	LR	LR	00 01 59.6			
HHC	Hu-ho-hao-te	95.42	326	eP	P	23 19 05.7	-1.5		
HHC				pP	pP	23 19 10.4	-0.5		
HHC				sP	sP	23 19 14.0	+1.8		
HHC				PP	PP	23 22 58.4	+1.5		
HHC				SKS	SKSac	23 29 39.6	-3.8		
HHC				S	S	23 30 17.6	-5.9		
HHC	comp=N,12nm,0.6s			PMZ					
HHC	comp=N,58nm,6.2s			PMZ					
HHC	comp=N,170nm,19.7s			LN					
HHC	comp=N,150nm,20.5s			LE					
HHC	comp=N,110nm,20.0s			LZ					
NJ2	Nanjing	98.15	316	eP	P	23 19 19.5	-0.1		
WMQ	Urumqi	101.48	343	eP	Pdif	23 19 32.8	-1.5		
WMQ				pP	pP	23 19 37.5	-0.7		
WMQ				sP		23 19 40.0			
WMQ				SKS	SKSac	23 30 10.0	-3.8		
WMQ				eS	Sdif	23 31 09.0	-5.7		
WMQ	comp=N,5.0nm,0.5s			PMZ					
WMQ	comp=N,63nm,6.0s			PMZ					
WMQ	comp=N,220nm,16.2s			LN					
WMQ	comp=N,140nm,20.2s			LE					
WMQ	comp=N,400nm,29.8s			LZ					
LZH	Lanzhou	102.81	328	eP	Pdif	23 19 37.0	-3.5		
LZH				ePP	PP	23 23 53.1	-0.2		
LZH				SKS		23 30 15.2			
LZH				eS	SKKSac	23 31 14.0	+14		
LZH	comp=N,17nm,1.6s			PMZ					
LZH	comp=N,100nm,9.2s			PMZ					
LZH	comp=N,240nm,17.2s			LN					
LZH	comp=N,250nm,17.3s			LE					
LZH	comp=N,380nm,19.4s			LZ					
CD2	Chengdu	107.15	326	Pdif	Pdif	23 19 58.2	-1.5		
CD2				PP	PP	23 24 27.4	+1.9		
CD2				S	Sdif	23 31 55.9	-6.6		
CD2				SS	SS	23 39 29.9	-2.5		
CD2	comp=N,160nm,6.2s			PPMZ					
CD2	comp=N,400nm,20.6s			LN					
CD2	comp=N,480nm,25.5s			LZ					
KSH	Kashi	107.88	351	ePdif	Pdif	23 20 10.1	+7.2		
KSH				PP	PP	23 24 45.5	+15		
KSH	Kashi	107.88	351	SKS	SKSdf	23 31 25.3	+3.0		
KSH	Kashi	107.88	351	SS	SS	23 40 00.2	+19		
KSH	comp=Z,81nm,7.5s			AMB	AMB				
KSH	comp=N,76nm,5.5s			LR	LR				
KSH	comp=E,100nm,6.4s			LR	LR				
KSH	comp=Z,140nm,6.1s			LR	LR				

*ISK **09** 23:11:48.6,39˚.61N×41˚.03E,h4km,MD2.7*
*ISCJB **09** 23:11:49.6±0.5,39˚.59N±0˚.02×41˚.04E±0˚.03,h3km±5km, Error ellipse: s-maj=4.1km s-min=3.5km az=153.7*
*DDA **09** 23:11:49.5,39˚.64N×41˚.04E,h7km,MD2.9*
*CSEM **09** 23:11:49.5±0.1,39˚.59N×41˚.04E,h5km,MD2.7, Error ellipse: s-maj=3.9km s-min=2.9km az=15.0*

ISC 09 23:11:50.0±1.1,39˚.60N±0˚.02×41˚.06E±0˚.02,h6km±10km, n37,σ1s09/55,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EZM	Erzurum	0.39	37	ePG	Pg	Pg	23 11 57.1	-0.5
ERZM	Erzurum	0.39	38	*i* P	Pg	Pg	23 11 57.2	-0.5
ERZM				*i* S	Sg	Sg	23 12 03.4	+0.5
ERZM	Erzurum	0.39	38	*i* P	Pg	Pg	23 11 57.2	-0.5
ERZM				*i* S	Sg	Sg	23 12 03.4	+0.5
VRTB	Varto-Mus	0.53	144	ePG	Pg	Pg	23 11 59.9	-0.4
VRTB				eSG	Sg	Sg	23 12 08.4	+1.1
VRTB	Varto-Mus	0.53	144	ePg	Pg	Pg	23 11 59.9	-0.4
VRTB				eSg	Sg	Sg	23 12 08.4	+1.1
KOPT	Kop Dagi	0.60	315	*i* P	Pg	Pg	23 12 01.6	-0.1
KOPT				*i* S	Sb	Sb	23 12 12.5	+0.4
KOPT	Kop Dagi	0.60	315	*i* P	Pg	Pg	23 12 01.6	-0.1
KOPT				*i* S	Sb	Sb	23 12 12.5	+0.4
BNGL	BINGOL	0.65	174	*i* P	Pg	Pg	23 12 02.4	-0.1
BNGL				*i* S	Sb	Sb	23 12 13.4	+0.1
BNGB	Bing¯¶l	0.67	206	ePG	Pg	Pg	23 12 02.3	-0.7
BNGB				eSG	Sg	Sg	23 12 12.4	+0.8
HOMI	Horasan	0.79	55	*i* P	Pg	Pg	23 12 04.3	-1.0
HOMI				*i* S	Sb	Sb	23 12 18.0	+0.5
EKAR	Karacoban	0.85	113	*i* P	Pg	Pg	23 12 06.1	-0.3
EKAR	Karacoban	0.85	113	*i* P	Pg	Pg	23 12 06.1	-0.3
EKAR				*i* S	Sn	Sn	23 12 24.1	+2.4
ERZN	Erzincan	1.03	270	ePG	Pg	Pg	23 12 08.0	-1.8
ERZN				eSG	Sg	Sg	23 12 23.0	-0.2
EUZM	Uzumlu	1.05	276	*i* P	Pg	Pg	23 12 09.1	-1.2
EUZM	Uzumlu	1.05	276	*i* P	Pg	Pg	23 12 09.1	-1.2
EUZM				*i* S	Sn	Sn	23 12 26.2	-0.4
EATA	Eleskirt	1.14	76	*i* P	Pg	Pg	23 12 11.6	-0.3
EATA				*i* S	Sn	Sn	23 12 29.9	+0.9
EATA	Eleskirt	1.14	76	*i* P	Pg	Pg	23 12 11.6	-0.3
EATA				*i* S	Sn	Sn	23 12 29.9	+0.9
TUTA	Tutak	1.37	98	*i* P	Pn	Pn	23 12 10.9	-5.1
TUTA				*i* S	Sb	Sb	23 12 31.4	-2.8
TUTA	Tutak	1.37	98	*i* P	Pn	Pn	23 12 10.9	-5.1
TUTA				*i* S	Sb	Sb	23 12 31.4	-2.8
BTMT	Batman	1.44	166	ePN	Pn	Pn	23 12 16.7	-0.1
BTMT	Batman	1.44	166	ePn	Pn	Pn	23 12 16.7	-0.1
SVAN	Silvan-Diyarba	1.45	176	ePN	Pn	Pn	23 12 16.7	-0.1
GUMT	Gumushane	1.49	306	ePN	Pn	Pn	23 12 16.8	-0.7
GUMT	Gumushane	1.49	306	ePn	Pn	Pn	23 12 16.8	-0.7
KELT	Kelkit	1.49	292	*i* P	Pn	Pn	23 12 17.2	-0.4
KELT	Kelkit	1.49	292	*i* P	Pn	Pn	23 12 17.2	-0.4
KELT				*i* S	Sg	Sg	23 12 42.3	+4.3
AGRB	Hanur-Agry	1.50	90	ePN	Pn	Pn	23 12 16.8	-0.9
AGRB				eSN	Sg	Sg	23 12 38.5	+0.4
AGRB	Hanur-Agry	1.50	90	ePn	Pn	Pn	23 12 16.8	-0.9
AGRB				eSn	Sg	Sg	23 12 38.5	+0.4
DAGI	Agillar	1.62	24	*i* P	Pn	Pn	23 12 19.3	0.0
DAGI				*i* S	Sg	Sg	23 12 42.0	-0.1
SVRC	Sivrice-ELAZID	1.83	229	ePN	Pn	Pn	23 12 21.7	-0.5
SVRC	Sivrice-ELAZID	1.83	229	ePn	Pn	Pn	23 12 21.7	-0.5
BCA	Borcka	1.90	13	ePN	Pn	Pn	23 12 22.9	0.0
BCA	Borcka	1.90	13	ePn	Pn	Pn	23 12 23.0	0.0
ILIC	ilic-Erzincan	1.93	267	ePN	Pn	Pn	23 12 23.0	-0.6
ILIC	ilic-Erzincan	1.93	267	ePn	Pn	Pn	23 12 23.0	-0.6
CLDR	Caldiran	2.26	101	ePN	Pn	Pn	23 12 28.8	+0.6
CLDR	Caldiran	2.26	101	ePn	Pn	Pn	23 12 28.8	+0.6

*ISCJB **09** 23:11:56.7±0.5,0˚.99N±0˚.07×85˚.24W±0˚.06,h10km, mb4.7/46, MS4.0/14, Error ellipse: s-maj=12.1km s-min=5.5km az=36.4*
*IDC **09** 23:11:56.8±0.8,1˚.11N×85˚.26W,h0km,mb4.1/14, mb1 4.3/17,mb1mx4.1/42,mbtmp

431A	**Sonora**	**32.90**	**335**	P	**P**	**23 18 34.1 +1.5**
	baz=33					
529A	**Stev Forest Ra**	**33.13**	**333**	P	**P**	**23 18 36.0 +1.4**
	baz=33					
234A	**Clairette**	**33.14**	**340**	P	**P**	**23 18 35.8 +1.3**
	baz=33					
LTX	**Lajitas**	**33.17**	**330**	*e*P	**P**	**23 18 34.8 -0.2**
TXAR	**Lajitas Array**	**33.17**	**330**	P	**P**	**23 18 34.8 -0.2**
	0.6nm,0.8s,baz=150,slow=9.8,SNR=5.9					
TXAR				LR	LR	23 30 53.2
	comp=Z,260nm,20.4s,baz=0.0,slow=34					
332A	**Millersview**	**33.17**	**337**	P	**P**	**23 18 36.2 +1.3**
	baz=33					
LPIG	**La Paz**	**33.35**	**316**	LR	LR	23 28 53.2
	comp=Z,188nm,19.6s,baz=209,slow=30					
331A	**San Angelo**	**33.37**	**336**	P	**P**	**23 18 37.9 +1.3**
	baz=34					
233A	**Rising Star**	**33.42**	**339**	P	**P**	**23 18 38.6 +1.6**
	baz=34					
OXF	**Oxford**	**33.58**	**354**	*e*P	**P**	**23 18 37.7 -0.7**
	60nm,1.3s					
329A	**Wagon Wheel Ra**	**34.18**	**334**	P	**P**	**23 18 44.6 +0.9**
	baz=34					
KMSC	**Kings Mountain**	**34.21**	**6**	P	**P**	**23 18 43.0 -0.8**
	baz=34					
Z31A	**Sharp Cattle R**	**35.05**	**338**	P	**P**	**23 18 52.0 +0.9**
	baz=35					
Z30A	**Sanderson Ranc**	**35.39**	**337**	P	**P**	**23 18 55.1 +1.0**
	baz=36					
Z29A	**Hungry Hill Ra**	**35.60**	**336**	P	**P**	**23 18 57.0 +1.0**
	baz=36					
Y31A	**Rekieta Farm,**	**35.66**	**339**	P	**P**	**23 18 57.9 +1.4**
	baz=36					
MNTX	**Cornudas Mount**	**35.94**	**330**	P	**P**	**23 18 59.9 +1.1**
	baz=36					
X31A	**McDonald Ranch**	**36.16**	**339**	P	**P**	**23 19 02.5 +1.8**
	baz=36					
CFAA	**Coronel Fontan**	**36.24**	**155**	LR	LR	23 30 09.4
	comp=Z,42nm,20.3s,baz=342,slow=30					
V33A	**Lossen Ranch,**	**36.70**	**342**	P	**P**	**23 19 06.4 +1.2**
	baz=37					
AMTX	**Amarillo**	**37.02**	**337**	*e*P	**P**	**23 19 09.7 +1.6**
	10nm,0.8s					
U34A	**Anderson Ranch**	**37.05**	**344**	P	**P**	**23 19 07.9 -0.3**
	baz=37					
U34A	**Anderson Ranch**	**37.05**	**344**	*e*P	**P**	**23 19 08.4 +0.1**
	31nm,1.0s					
OLIL	**Olney**	**37.67**	**357**	*e*P	**P**	**23 19 13.1 -0.3**
	74nm,1.4s					
S35A	**Otter Creek Ra**	**37.90**	**346**	P	**P**	**23 19 15.5 0.0**
	baz=38					
V26A	**Tequesquite Ra**	**38.65**	**336**	P	**P**	**23 19 23.3 +1.4**
	baz=39					
U27A	**Thompson Grove**	**38.81**	**337**	P	**P**	**23 19 23.9 +0.7**
	baz=39					
R33A	**Olander Ranch,**	**38.92**	**344**	P	**P**	**23 19 24.4 +0.3**
	baz=39					
V25A	**Rancho No Teng**	**39.03**	**335**	P	**P**	**23 19 26.2 +1.0**
	baz=39					
ANMO	**Albuquerque**	**39.11**	**332**	*e*P	**P**	**23 19 26.6 +0.7**
	22nm,1.8s					
U26A	**Atchley Ranch,**	**39.15**	**336**	P	**P**	**23 19 27.1 +0.9**
	baz=39					
S29A	**Ulysses**	**39.26**	**340**	P	**P**	**23 19 28.4 +1.5**
	baz=39					
SFIN	**Lafayette**	**39.26**	**358**	*e*P	**P**	**23 19 25.6 -1.1**
	24nm,1.1s					
T27A	**Campo**	**39.33**	**338**	P	**P**	**23 19 29.1 +1.5**
	baz=40					
R31A	**Burdett**	**39.35**	**342**	P	**P**	**23 19 29.3 +1.6**
	baz=40					
T25A	**Trinidad**	**40.06**	**336**	P	**P**	**23 19 34.9 +1.1**
	baz=40					
T25A	**Trinidad**	**40.06**	**336**	*e*P	**P**	**23 19 35.0 +1.2**
	17nm,1.3s					
S26A	**Kim**	**40.11**	**337**	P	**P**	**23 19 35.9 +1.8**
	baz=40					
R28A	**Tribune**	**40.14**	**340**	P	**P**	**23 19 35.8 +1.4**
	baz=40					
T24B	**San Luis**	**40.40**	**335**	P	**P**	**23 19 38.7 +2.1**
	baz=40					
BDFB	**Brasilia**	**40.43**	**116**	LR	LR	23 37 59.5
	comp=Z,259nm,18.0s,baz=248,slow=39					
P31A	**Stockton**	**40.45**	**343**	P	**P**	**23 19 37.6 +0.9**
	baz=41					
S25A	**Robets Cordova**	**40.52**	**336**	P	**P**	**23 19 39.6 +2.0**
	baz=41					
R26A	**Arlington**	**40.69**	**338**	P	**P**	**23 19 40.2 +1.3**
	baz=41					
P30A	**Selden**	**40.73**	**342**	P	**P**	**23 19 40.4 +1.3**
	baz=41					
S24A	**Houchin Ranch,**	**40.82**	**336**	P	**P**	**23 19 41.7 +1.5**
	baz=41					
R25A	**Fountain Ranch**	**40.88**	**337**	P	**P**	**23 19 42.7 +2.2**
	baz=41					
Q26A	**Hugo**	**41.27**	**338**	P	**P**	**23 19 45.6 +1.9**
	baz=41					
S22A	**4UR Ranch, Cre**	**41.59**	**334**	P	**P**	**23 19 48.2 +1.7**
	baz=42					
S22A	**4UR Ranch, Cre**	**41.59**	**334**	*e*P	**P**	**23 19 47.5 +0.9**
	56nm,2.3s					
P23A	**Jefferson**	**42.55**	**336**	P	**P**	**23 19 56.5 +2.1**
	baz=43					
ISCO	**Idaho Springs**	**42.83**	**337**	P	**P**	**23 19 58.5 +1.9**
	baz=43					
ISCO	**Idaho Springs**	**42.83**	**337**	*e*P	**P**	**23 19 56.5 -0.1**
	11nm,1.3s					
SMCO	**Snowmass**	**42.85**	**335**	*e*P	**P**	**23 19 57.9 +0.9**
	22nm,1.6s					
P22A	**Eagle**	**43.11**	**336**	P	**P**	**23 19 59.8 +0.9**
	baz=43					
U15A	**North Rim**	**43.20**	**328**	P	**P**	**23 20 01.6 +1.9**
	baz=43					
K30A	**Basset**	**43.44**	**345**	P	**P**	**23 20 03.0 +1.7**
	baz=44					
PLCA	**Paso Flores**	**43.64**	**164**	P	**P**	**23 20 02.1 -0.8**
	3.2nm,0.9s,baz=338,slow=10.0,SNR=4.5					
PLCA	**Paso Flores**	**43.64**	**164**	*e*P	**P**	**23 20 01.7 -1.2**
	32nm,1.7s					
SPMN	**Marine on St.**	**44.56**	**353**	P	**P**	**23 20 09.1 -0.9**
	baz=45					
SPMN	**Marine on St.**	**44.56**	**353**	*e*P	**P**	**23 20 08.5 -1.6**
	14nm,0.9s					
CCUT	**Cedar City**	**44.61**	**328**	*e*P	**P**	**23 20 12.6 +1.6**
	34nm,2.2s					
N20A	**Spence Gulch,**	**44.78**	**335**	P	**P**	**23 20 12.8 +0.6**
	baz=45					
L23A	**Garrett**	**44.86**	**339**	P	**P**	**23 20 13.8 +1.0**
	baz=45					
J26A	**Sides Ranch, S**	**45.03**	**342**	P	**P**	**23 20 15.5 +1.5**
	baz=45					
J24A	**Dixon Ranch, L**	**45.56**	**340**	P	**P**	**23 20 19.2 +0.9**
	baz=46					
H28A	**Mission Ridge**	**45.68**	**344**	P	**P**	**23 20 18.9 -0.2**
	baz=46					
TPNV	**Topopah Spring**	**45.77**	**325**	*e*P	**P**	**23 20 21.4 +1.3**
	68nm,2.5s					
I25A	**Rochford**	**45.88**	**342**	P	**P**	**23 20 21.1 +0.3**
	baz=46					
H27A	**Howes**	**45.93**	**343**	P	**P**	**23 20 22.1 +1.0**
	baz=46					
J22A	**Midwest**	**46.27**	**339**	P	**P**	**23 20 25.0 +1.1**
	baz=46					
J21A	**Lysite**	**46.57**	**338**	P	**P**	**23 20 28.0 +1.7**
	baz=47					
G26A	**Maurine**	**46.69**	**343**	P	**P**	**23 20 28.1 +1.1**
	baz=47					
H24A	**Dirks Ranch, A**	**46.79**	**341**	P	**P**	**23 20 28.9 +1.1**
	baz=47					
J20A	**Shoshoni**	**46.82**	**337**	P	**P**	**23 20 29.6 +1.4**
	baz=47					
HWUT	**Hardware Ranch**	**46.85**	**333**	*e*P	**P**	**23 20 28.1 -0.4**
	51nm,2.3s					
PD31	**Pinedale Array**	**46.92**	**336**	*e*P	**P**	**23 20 28.6 -0.6**
PDAR	**Pinedale Array**	**46.92**	**336**	P	**P**	**23 20 28.6 -0.6**
	1.2nm,0.8s,baz=139,slow=7.3,SNR=9.2					
PDAR				LR	LR	23 40 36.0
	comp=Z,355nm,18.6s,baz=152,slow=37					
H22A	**Clearmont**	**47.26**	**340**	P	**P**	**23 20 32.8 +1.3**
	baz=47					
D30A	**Buchanan**	**47.42**	**348**	P	**P**	**23 20 32.1 -0.5**
	baz=48					
HVU	**Hansel Valley**	**47.54**	**332**	*e*P	**P**	**23 20 33.3 -0.6**
	53nm,2.7s					
F23A	**Volborg**	**47.93**	**341**	P	**P**	**23 20 37.2 +0.5**
	baz=48					
REDW	**Red Top Meadow**	**47.95**	**335**	*e*P	**P**	**23 20 37.3 +0.2**
	20nm,1.4s					

NV01	**Mina Array Sit**	**47.97**	**325**	*e*P	**P**	**23 20 38.9 +1.5**
NV01				*e*PcP	**PcP**	**23 22 06.8 +1.2**
NVAR	**Mina Array Bea**	**47.97**	**325**	P	**P**	**23 20 38.9 +1.5**
	1.8nm,0.9s,baz=133,slow=8.0,SNR=11					
NVAR				PcP	**PcP**	**23 22 06.8 +1.2**
	1.1nm,0.9s,baz=124,slow=5.9,SNR=3.1					
AGMN	**Agassiz Nation**	**48.01**	**351**	P	**P**	**23 20 36.0 -1.2**
	baz=48					
AGMN	**Agassiz Nation**	**48.01**	**351**	*e*P	**P**	**23 20 36.0 -1.2**
	9.3nm,0.9s					
G20A	**Bridger**	**48.46**	**338**	P	**P**	**23 20 41.1 +0.2**
	baz=49					
B30A	**Myrvik Farm, E**	**48.61**	**349**	P	**P**	**23 20 42.5 +0.7**
	baz=49					
CMB	**Columbia Colle**	**48.94**	**323**	*e*P	**P**	**23 20 43.8 -0.8**
	55nm,2.8s					
HLID	**Hailey**	**49.69**	**332**	P	**P**	**23 20 51.7 +1.3**
	baz=50					
HLID	**Hailey**	**49.69**	**332**	*e*P	**P**	**23 20 51.8 +1.3**
	11nm,1.4s					
ULM	**Lac du Bonnet**	**49.91**	**351**	P	**P**	**23 20 49.2 -2.5**
	7.2nm,0.9s,baz=151,slow=9.0,SNR=8.9					
ULM				LR	LR	23 41 38.5
	comp=Z,62nm,22.0s,baz=56,slow=36					
ULM	**Lac du Bonnet**	**49.91**	**351**	*e*P	**P**	**23 20 49.2 -2.5**
	12nm,1.0s					
BOZ	**Bozeman (W)**	**50.14**	**336**	*e*P	**P**	**23 20 53.0 -0.8**
	45nm,2.2s					
EGMT	**Eagleton**	**51.41**	**339**	*e*P	**P**	**23 21 02.6 -0.6**
	32nm,0.7s					
CHMT	**Chamberlain Mo**	**51.82**	**336**	*e*P	**P**	**23 21 06.1 -0.4**
BMO	**Blue Mountains**	**52.02**	**331**	*e*P	**P**	**23 21 07.6 -0.3**
	60nm,2.7s					
MSO	**Missoula**	**52.04**	**335**	P	**P**	**23 21 08.7 +0.8**
	baz=52					
MSO	**Missoula**	**52.04**	**335**	*e*P	**P**	**23 21 07.5 -0.4**
	13nm,1.3s					
F10A	**Beach Ranch, E**	**52.82**	**332**	*e*P	**P**	**23 21 13.8 0.0**
	154nm,2.8s					
J05D	**Fort Rock, OR**	**52.90**	**328**	P	**P**	**23 21 15.1 +0.6**
	baz=53					
SCHQ	**Schefferville**	**55.80**	**13**	LR	LR	23 45 45.0
	comp=Z,115nm,18.5s,baz=126,slow=36					
YKA	**Yellowknife Ar**	**65.17**	**346**	P	**P**	**23 22 37.7 -1.3**
	1.4nm,0.8s,baz=140,slow=6.2,SNR=28					
YKB5	**Yellowknife Ar**	**65.17**	**346**	*e*P	**P**	**23 22 37.7 -1.3**
PPT	**Papeete**	**65.80**	**250**	LR	LR	23 45 29.3
	comp=Z,138nm,20.1s,baz=30,slow=30					
DLBC	**Dease Lake**	**67.15**	**336**	P	**P**	**23 22 52.7 +0.8**
	3.7nm,1.1s,baz=162,slow=7.9,SNR=5.6					
DLBC	**Dease Lake**	**67.15**	**336**	*e*P	**P**	**23 22 52.1 +0.1**
	106nm,2.7s					
RES	**Resolute Bay**	**73.85**	**357**	P	**P**	**23 23 31.8 -0.7**
	1.0nm,1.0s,baz=207,slow=6.8,SNR=3.8					
RES	**Resolute Bay**	**73.85**	**357**	*e*P	**P**	**23 23 31.6 -0.9**
	61nm,2.9s					
INK	**Inuvik**	**74.72**	**343**	P	**P**	**23 23 37.4 -0.2**
	3.2nm,0.9s,baz=129,slow=5.6,SNR=3.0					
INK	**Inuvik**	**74.72**	**343**	*e*P	**P**	**23 23 37.0 -0.6**
	10nm,1.2s					
ILAR	**Eielson Array**	**77.32**	**337**	LR	LR	23 59 35.1
	comp=Z,146nm,18.5s,baz=126,slow=37					
MCK	**McKinley**	**77.70**	**336**	*e*P	**P**	**23 23 53.9 -0.8**
	86nm,2.4s					
ESDC	**Sonseca Array**	**82.76**	**50**	P	**P**	**23 24 22.1 -0.5**
	1.1nm,0.8s,baz=256,slow=4.4,SNR=5.2					
ROSF	**Rostrenen**	**84.02**	**42**	*e*P	**P**	**23 24 27.8 -1.0**
	13nm,1.0s					
ROSF	**Rostrenen**	**84.02**	**42**	*e*P	**P**	**23 24 27.8 -1.0**
QUIF	**Quistinic**	**84.05**	**42**	*e*P	**P**	**23 24 28.3 -0.6**
QUIF	**Quistinic**	**84.05**	**42**	*e*P	**P**	**23 24 28.3 -0.6**
SGMF	**Saint Gilles**	**84.49**	**42**	*e*P	**P**	**23 24 30.4 -0.8**
SGMF	**Saint Gilles**	**84.49**	**42**	*e*P	**P**	**23 24 30.4 -0.8**
EKA	**Eskdalemuir Ar**	**84.77**	**35**	P	**P**	**23 24 30.9 -1.6**
	2.2nm,0.9s,baz=261,slow=4.2,SNR=5.4					
FLN	**La Foliniere**	**85.90**	**41**	*e*P	**P**	**23 24 37.6 -0.6**
	18nm,1.1s					
FLN	**La Foliniere**	**85.90**	**41**	*e*P	**P**	**23 24 37.6 -0.6**
MFF	**Saint Martin d**	**86.01**	**44**	*e*P	**P**	**23 24 38.3 -0.6**
	7.4nm,0.9s					
MFF	**Saint Martin d**	**86.01**	**44**	*e*P	**P**	**23 24 38.3 -0.6**
LDF	**La Druitiere**	**86.13**	**42**	*e*P	**P**	**23 24 38.8 -0.6**
	18nm,1.1s					
LDF	**La Druitiere**	**86.13**	**42**	*e*P	**P**	**23 24 38.8 -0.6**
TOA0	**Torodi Ar. Sit**	**86.92**	**77**	*e*P	**P**	**23 24 43.4 -0.6**
TORD	**Torodi Ar. Bea**	**86.92**	**77**	P	**P**	**23 24 43.4 -0.6**
	0.8nm,1.1s,baz=289,slow=9.0,SNR=3.1					
TORD				LR	LR	00 03 32.0
	comp=Z,118nm,19.6s,baz=295,slow=36					
GAMB	**Gambell**	**87.51**	**334**	*e*P	**P**	**23 24 43.9 -1.9**
	52nm,1.4s					
TCF	**Toulx Ste Croi**	**87.63**	**44**	*e*P	**P**	**23 24 45.9 -0.9**
TCF	**Toulx Ste Croi**	**87.63**	**44**	*e*P	**P**	**23 24 45.9 -0.9**
SSF	**Saint Saulge**	**88.53**	**43**	*e*P	**P**	**23 24 49.8 -1.2**
SSF	**Saint Saulge**	**88.53**	**43**	*e*P	**P**	**23 24 49.8 -1.2**
LOR	**Lormes**	**88.77**	**43**	*e*P	**P**	**23 24 51.6 -0.6**
LOR	**Lormes**	**88.77**	**43**	*e*P	**P**	**23 24 51.6 -0.6**
BAIF	**Baives**	**88.99**	**40**	*e*P	**P**	**23 24 52.0 -1.1**
BAIF	**Baives**	**88.99**	**40**	*e*P	**P**	**23 24 52.0 -1.1**
SONA0	**Songino Array**	**130.32**	**350**	*e*PKPdf	**PKPdf**	**23 31 09.1 +0.1**
SONM	**Songino Array**	**130.32**	**350**	PKP	**PKPdf**	**23 31 09.1 +0.1**
	0.3nm,0.7s,baz=80,slow=3.4,SNR=2.7					
MK32	**Makanchi Array**	**131.22**	**11**	*e*PKPdf	**PKPdf**	**23 31 10.7 +0.1**
MKAR	**Makanchi Array**	**131.22**	**11**	PKP	**PKPdf**	**23 31 10.7 +0.1**
	0.6nm,1.1s,baz=343,slow=1.5,SNR=2.2					
WMQ	**Urumqi**	**134.98**	**7**	*e*PKP	**PKPdf**	**23 31 15.1 -2.8**
WMQ				PPMZ		
	140nm,5.1s					
WMQ				LZ		
	130nm,28.6s					
HHC	**Hu-ho-hao-te**	**135.62**	**342**	*e*PKP	**PKPdf**	**23 31 21.2 +2.0**
HHC				PP	PP	23 34 01.6 +6.2
HHC				PPMZ		
	71nm,6.0s					
HHC				LN		
	100nm,21.5s					
HHC				LE		
	140nm,19.0s					
HHC				LZ		
	100nm,22.2s					
AS12	**Alice Springs**	**135.76**	**236**	*e*PKPdf	**PKPdf**	**23 31 20.4 +0.6**
ASAR	**Alice Springs**	**135.76**	**236**	PKP	**PKPdf**	**23 31 20.4 +0.6**
	0.7nm,1.0s,baz=115,slow=2.2,SNR=4.4					
KSH	**Kashi**	**136.23**	**21**	*e*PKP	**PKPdf**	**23 31 21.9 +1.5**
KSH				PP	**PP**	**23 34 03.8 +4.5**
KSH				PKS	**PKSdf**	**23 34 56.7 -0.1**
KSH				PPMZ		
	120nm,5.2s					
KSH				LN		
	130nm,7.2s					
KSH				LE		
	120nm,5.7s					
KSH				LZ		
	120nm,7.2s					
WRA	**Warramunga Arr**	**136.83**	**241**	PKP	**PKPdf**	**23 31 22.9 +1.0**
	1.1nm,1.1s,baz=151,slow=1.2,SNR=5.3					
LZH	**Lanzhou**	**142.15**	**348**	*e*PKP	**PKPdf**	**23 31 31.1 -0.3**
LZH				PP	**PP**	**23 34 40.0 +4.3**
LZH				PPMZ		
	150nm,9.6s					
LZH				LN		
	170nm,18.0s					
LZH				LE		
	160nm,17.9s					
LZH				LZ		
	200nm,20.0s					
CD2	**Chengdu**	**147.13**	**345**	PKPbc	**PKPdf**	**23 31 39.0 -1.0**
CD2				PP	**PP**	**23 35 10.1 +4.7**
CD2				PKS	**PKSdf**	**23 35 13.5 -1.9**
CD2				PPMZ		
	120nm,5.4s					
GYA	**Guiyang**	**150.36**	**338**	*e*PKPbc	**PKPdf**	**23 31 43.8 -1.7**
GYA				PKPab	**PKPab**	**23 31 58.0 +1.2**
GYA				PKS	**PKSdf**	**23 35 17.4 -3.1**
GYA				PP	**PP**	**23 35 27.6 +3.1**
GYA				PPMZ		
	120nm,8.2s					
GYA				LN		
	130nm,22.6s					
GYA				LE		
	120nm,23.0s					
GYA				LZ		
	140nm,21.4s					
CMAR	**Chiang Mai Arr**	**160.24**	**348**	PKPab	**PKPab**	**23 32 37.5 -1.3**
	0.4nm,0.4s,baz=355,slow=6.7,SNR=4.2					

*IDC **09** 23:17:18.4±1.1,25°.96N×125°.06E,h0km,mb3.3/4, mb1 3.4/6,mb1mx3.2/48,mbtmp3.3/6,ML2.8/2,Error ellipse: s-maj=34.4km s-min=20.7km az=68.0*
*ISCJB **09** 23:17:29.4±0.4,26°.36N±0°.07×125°.94E±0°.06, h128km±6km,mb3.1/4,Error ellipse: s-maj=13.7km s-min=3.6km az=142.2*
*JMA **09** 23:17:30.4±0.2,26°.39N×125°.92E,h124km±3km,M3.2*

ISC 09 23:17:30.6±0.8,26°.34N±0°.07×125°.97E±0°.06,h132km±8km, n28,σ1°43/45,mb3.2/4,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.74**	**91**	P	**Pn**	**23 17 51.0**	**-0.5**
JKE				S	**Sn**	**23 18 06.3**	**-0.9**
JAGN	**Aguni-jima**	**1.17**	**78**	P	**Pn**	**23 17 55.0**	**-0.3**
JAGN				S	**Sn**	**23 18 13.3**	**-0.8**
JIKM	**Ikemajima**	**1.55**	**205**	P	**Pn**	**23 17 59.9**	**+0.4**
JIKM				S	**Sn**	**23 18 20.5**	**-0.9**
JJT2	**Tamagusuku 2**	**1.61**	**97**	P	**Pn**	**23 18 00.4**	**+0.3**
JJT2				S	**Sn**	**23 18 23.2**	**+0.6**
JMJ	**Miyako jima 2**	**1.64**	**202**	P	**Pn**	**23 18 00.7**	**+0.3**
JMJ				S	**Sn**	**23 18 22.4**	**-0.8**
JOGS	**Gusukube**	**1.65**	**198**	P	**Pn**	**23 18 01.0**	**+0.4**
JOGS				S	**Sn**	**23 18 23.0**	**-0.5**
JIRB	**Irabujima**	**1.67**	**206**	P	**Pn**	**23 18 00.6**	**-0.2**
JIRB				S	**Sn**	**23 18 22.3**	**-1.5**
JNTH	**Nagotoyohara**	**1.85**	**84**	P	**Pn**	**23 18 03.0**	**+0.1**
JNTH				S	**Sn**	**23 18 26.8**	**-0.8**
JIH	**Iheya**	**1.92**	**68**	P	**Pn**	**23 18 03.6**	**-0.1**
JIH				S	**Sn**	**23 18 28.1**	**-0.9**
JTJ	**Tarama**	**2.04**	**214**	P	**Pn**	**23 18 04.7**	**-0.5**
JTJ				S	**Sn**	**23 18 29.9**	**-1.8**
JOW	**Kunigami**	**2.12**	**76**	P	**Pn**	**23 18 06.1**	**-0.1**
JOW				S	**Sn**	**23 18 32.3**	**-1.2**
JOW	**Kunigami**	**2.12**	**76**	Pn	**Pn**	**23 18 06.2**	**-0.1**
	1.3nm,0.3s,baz=111,slow=24,SNR=17						
JOW				Sn	**Sn**	**23 18 32.6**	**-0.9**
	5.2nm,0.3s,baz=131,slow=27,SNR=16						
JISG	**Ishigakijimahi**	**2.30**	**221**	P	**Pn**	**23 18 07.8**	**-0.6**
JISG				S	**Sn**	**23 18 35.3**	**-2.1**
JOKE	**Okinoerabujima**	**2.54**	**66**	P	**Pn**	**23 18 10.9**	**-0.5**
JIJ	**Ishigaki jima**	**2.57**	**220**	P	**Pn**	**23 18 10.7**	**-1.1**
JIJ				S	**Sn**	**23 18 40.0**	**-3.4**
IRIF	**Iriomote-Funau**	**2.84**	**226**	P	**Pn**	**23 18 14.2**	**-1.1**
HATJ	**Hateruma jima**	**3.00**	**221**	P	**Pn**	**23 18 16.1**	**-1.2**
JTK	**Tokunoshima**	**3.03**	**61**	P	**Pn**	**23 18 17.0**	**-0.6**
JTK				S	**Sn**	**23 18 51.5**	**-2.4**
YOJ	**Yonaguni jima**	**3.26**	**236**	P	**Pn**	**23 18 20.5**	**-0.2**
JYNG	**Yonagunijimaku**	**3.32**	**236**	P	**Pn**	**23 18 21.5**	**+0.1**
JAMN	**Amaminishikomi**	**3.43**	**56**	P	**Pn**	**23 18 21.6**	**-1.2**
JAM	**Amami Oshima**	**3.84**	**57**	P	**Pn**	**23 18 27.1**	**-1.1**
JAM				S	**Sn**	**23 19 10.4**	**-2.5**
JMZ	**Minamidaito 2**	**4.75**	**95**	P	**Pn**	**23 18 40.0**	**-0.5**
JMZ				S	**Sn**	**23 19 30.0**	**-4.8**
KSRS	**Korea Array**	**11.20**	**8**	Pn	**Pn**	**23 20 08.8**	**+1.9**
	0.2nm,0.3s,baz=189,slow=14,SNR=6.0						
SONM	**Songino Array**	**26.39**	**329**	P	**P**	**23 22 56.1**	**+1.3**
	0.4nm,0.8s,baz=134,slow=4.2,SNR=2.6						
MKAR	**Makanchi Array**	**39.95**	**312**	P	**P**	**23 24 51.0**	**-1.0**
	0.2nm,0.4s,baz=93,slow=9.8,SNR=7.6						
WRA	**Warramunga Arr**	**46.72**	**169**	P	**P**	**23 25 47.7**	**+1.2**
	0.4nm,0.7s,baz=348,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**50.30**	**171**	P	**P**	**23 26 15.4**	**+1.5**
	0.3nm,0.8s,baz=356,slow=11,SNR=4.0						

*ISCJB **09** 23:26:07.9±1.3,17°.2S±0°.2×69°.69W±0°.07,h173km, mb3.3/5,Error ellipse: s-maj=34.0km s-min=9.4km az=5.1*
*IDC **09** 23:26:14.5±3.0,16°.48S×69°.33W,h193km±8km,mb3.1/6, mb1 3.3/7,mb1mx3.1/33,mbtmp3.6/7,MS3.7/1,Ms1 3.7/1, ms1mx3.0/8,Error ellipse: s-maj=95.8km s-min=16.5km az=17.0*

ISC 09 23:26:10.4±1.6,17°.2S±0°.3×69°.55W±0°.10,h173km,n11, σ1°67/11,mb3.2/5,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.62**	**57**	P	**Pn**	**23 26 45.5**	**+1.8**
	14nm,0.3s,baz=276,slow=7.8,SNR=318						
LPAZ				S	**Sn**	**23 27 09.7**	**+0.5**
	3.7nm,0.3s,baz=187,slow=18,SNR=8.8						
SIV	**San Ignacio**	**8.21**	**83**	P	**Pn**	**23 28 06.6**	**0.0**
	0.8nm,0.3s,baz=290,slow=12,SNR=7.3						
SIV				S	**Sn**	**23 29 36.6**	**-1.9**
	baz=0.0,slow=20,SNR=3.4						
NNA	**Nana**	**8.74**	**305**	P	Pn	23 28 09.9	-3.8
	4.4nm,0.3s,baz=134,slow=12,SNR=5.5						
NNA				S	Sn	23 29 38.4	-13
	2.0nm,0.3s,baz=240,slow=15,SNR=3.5						
BDFB	**Brasilia**	**20.71**	**89**	P	**P**	**23 30 38.3**	**+0.7**
	1.6nm,0.3s,baz=248,slow=14,SNR=3.2						
CMIG	**Matias Romero**	**42.21**	**322**	LR	LR	23 49 40.4	
	comp=Z,100nm,20.2s,baz=136,slow=34						
TXAR	**Lajitas Array**	**56.77**	**324**	P	**P**	**23 35 35.4**	**-1.3**
	0.2nm,0.6s,baz=123,slow=6.6,SNR=2.2						
PDAR	**Pinedale Array**	**70.08**	**330**	P	**P**	**23 37 03.2**	**-0.8**
	0.2nm,0.4s,baz=123,slow=6.6,SNR=2.2						
NVAR	**Mina Array Bea**	**71.74**	**322**	P	**P**	**23 37 13.5**	**-0.6**
	0.2nm,0.6s,baz=116,slow=4.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**76.52**	**72**	P	**P**	**23 37 41.7**	**-0.2**
	1.5nm,0.7s,baz=271,slow=5.2,SNR=20						
YKA	**Yellowknife Ar**	**86.92**	**341**	P	**P**	**23 38 34.6**	**-0.7**
	0.2nm,0.6s,baz=136,slow=5.1,SNR=7.0						
SONM	**Songino Array**	**149.24**	**5**	PKPbc	**PKPdf**	**23 45 37.6**	**+3.4**
	0.3nm,0.5s,baz=319,slow=2.5,SNR=3.3						

*ISCJB **09** 23:26:18.2±1.6,48°.2S±0°.2×104°.5E±0°.5,h10km,mb3.7/4, MS3.8/1,Error ellipse: s-maj=46.6km s-min=24.1km az=6.5*
*IDC **09** 23:26:18.9±1

DHBB	**Dhamar BB**	**2.62**	**15**	*i* P	Pb	23 35 55.6	-2.0
DHBB				*i* S	Sb	23 36 30.5	+0.5

*IDC **09** 23:38:06.0±2.7, 1.84N×96.62E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/42, mbtmp3.5/7, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/30, Error ellipse: s-maj=110.3km s-min=20.1km az=59.0*

ISC 09 23:38:11.2±2.7, 2.0N±0.3×96.9E±0.6, h28km, n14, σ0§22/7, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
CMAR	**Chiang Mai Arr**	**16.45**	**7**	Pn	**P**		**23 42 02.6**	**-0.1**
	0.2nm,0.3s,baz=199,slow=12,SNR=4.8							
H08S2	**Diego Garcia H**	**26.20**	**248**	T	T		00 10 44.4	
	baz=69,slow=75,SNR=107							
H08S3	**Diego Garcia H**	**26.20**	**248**	T	T		00 10 25.7	
	baz=69,slow=75,SNR=71							
H08S1	**Diego Garcia H**	**26.21**	**248**	T	T		00 10 45.8	
	baz=69,slow=75,SNR=93							
H01W3	**Cape Leeuwin H**	**40.12**	**158**	T	T		00 28 25.7	
	baz=335							
H01W2	**Cape Leeuwin H**	**40.13**	**158**	T	T		00 28 25.6	
	baz=335							
H01W1	**Cape Leeuwin H**	**40.13**	**158**	T	T		00 28 32.4	
	baz=335							
WRA	**Warramunga Arr**	**42.71**	**123**	P	**P**		**23 46 06.2**	**-0.1**
	0.3nm,0.9s,baz=301,slow=9.1,SNR=3.7							
ASAR	**Alice Springs**	**44.12**	**128**	P	**P**		**23 46 17.6**	**0.0**
	0.3nm,0.8s,baz=306,slow=7.9,SNR=3.2							
SONM	**Songino Array**	**46.36**	**9**	P	**P**		**23 46 35.2**	**+0.2**
	0.3nm,0.5s,baz=193,slow=9.1,SNR=4.4							
MKAR	**Makanchi Array**	**46.37**	**346**	P	**P**		**23 46 34.8**	**-0.3**
	0.6nm,0.6s,baz=160,slow=7.7,SNR=8.4							
KURBB	**Kurchatov Arra**	**50.86**	**345**	P	**P**		**23 47 09.7**	**+0.2**
	0.4nm,0.6s,baz=165,slow=7.1,SNR=5.2							
ZALV	**Zalesovo Beam**	**52.70**	**351**	P	**P**		**23 47 23.0**	**-0.1**
	1.1nm,0.6s,baz=174,slow=6.3,SNR=7.6							
ASAJ	**Asahikawa**	**58.17**	**37**	LR	LR		00 16 00.7	
	comp=Z,80nm,18.2s,baz=170,slow=39							

*ISCJB **10** 00:02:08.2±1.0, 11.4S±0.1×166.3E±0.2, h59km, mb3.9/7, MS3.4/2, Error ellipse: s-maj=25.7km s-min=16.9km az=1.8*

*IDC **10** 00:02:09.6±5.7, 11.34S×166.26E, h56km±50km, mb3.8/7, mb1 3.9/8, mb1mx3.7/31, mbtmp4.0/8, ML3.7/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/29, Error ellipse: s-maj=35.4km s-min=30.3km az=145.0*

ISC 10 00:02:09.8±1.1, 11.4S±0.1×166.3E±0.2, h59km, n11, σ0§67/10, mb4.0/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
HNR	**Honiara**	**6.53**	**286**	LR	LR		00 06 35.7	
	comp=Z,223nm,19.5s,baz=112,slow=41							
DZM	**Mont Dzumac**	**10.67**	**179**	P	**Pn**		**00 04 40.0**	**0.0**
	0.5nm,0.3s,baz=88,slow=14,SNR=7.3							
DZM				S	Sn		00 06 48.5	+11
	0.1nm,0.3s,baz=60,slow=20,SNR=2.0							
DZM				LR	LR		00 08 20.4	
	comp=Z,123nm,18.7s,baz=47,slow=35							
PMG	**Port Moresby**	**18.92**	**274**	LR	LR		00 12 55.4	
	comp=Z,124nm,20.3s,baz=22,slow=34							
CTA	**Charters Tower**	**21.14**	**243**	P	**P**		**00 06 51.0**	**+0.9**
	5.7nm,0.7s,baz=71,slow=11,SNR=10							
WRA	**Warramunga Arr**	**31.89**	**250**	P	**P**		**00 08 29.2**	**-0.6**
	2.6nm,0.8s,baz=81,slow=9.1,SNR=22							
WRA				PcP	**PcP**		**00 11 18.8**	**-0.6**
	0.6nm,0.9s,baz=75,slow=3.0,SNR=4.1							
WRA				LR	LR		00 20 07.5	
	comp=Z,58nm,20.4s,baz=220,slow=34							
ASAR	**Alice Springs**	**33.14**	**244**	P	**P**		**00 08 39.8**	**-1.0**
	3.2nm,0.8s,baz=74,slow=9.6,SNR=42							
ASAR				PcP	**PcP**		**00 11 23.2**	**+0.4**
	0.5nm,0.8s,baz=79,slow=3.8,SNR=4.9							
VNDA	**Vanda**	**66.20**	**181**	P	**P**		**00 12 51.2**	**+0.3**
	1.1nm,0.9s,baz=350,slow=9.6,SNR=3.6							
SONM	**Songino Array**	**79.22**	**324**	P	**P**		**00 14 09.0**	**+0.3**
	0.1nm,0.4s,baz=126,slow=4.8,SNR=3.9							
ILAR	**Eielson Array**	**83.63**	**18**	P	**P**		**00 14 31.1**	**-0.4**
	0.5nm,0.7s,baz=236,slow=5.6,SNR=7.4							
MKAR	**Makanchi Array**	**94.11**	**317**	P	**P**		**00 15 22.4**	**+0.4**
	1.1nm,0.8s,baz=100,slow=5.8,SNR=9.4							
TXAR	**Lajitas Array**	**95.50**	**61**	LR	LR		00 50 08.0	
	comp=Z,18nm,21.8s,baz=0.0,slow=30							

GUC 10 00:13:17.3±0.4, 34.79S×72.32W, h22km±3km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
TALC	**Talca**	**0.83**	**137**	*e*P	Pb		00 13 32.3	-0.7
TALC				*e*S	Sb		00 13 43.5	-0.2
NICH	**Los Niches**	**0.92**	**104**	*e*P	Pb		00 13 33.7	-0.9
NICH				*e*S	Sb		00 13 46.5	0.0
LNCH	**Linares**	**1.21**	**151**	*e*P	Pn		00 13 38.4	-0.4
LNCH				*e*S	Sn		00 13 54.4	-0.1
COCH	**Cobquecura**	**1.39**	**196**	*e*P	Pn		00 13 41.1	-0.2
COCH				*e*S	Sn		00 13 59.2	+0.2
CLCH	**Cerro Calan**	**2.03**	**47**	*e*P	Pn		00 13 51.6	+1.3
CLCH				*e*S	Sb		00 14 17.7	-0.9
CLCH				AML	AML		00 14 20.2	
	comp=N,783nm,0.7s							
PEL	**Peldehue**	**2.13**	**40**	*e*P	Pn		00 13 52.8	+1.1
PEL				*e*S	Sb		00 14 19.8	-1.6
PEL				AML	AML		00 14 25.5	
	comp=N,714nm,0.7s							

DHMR 10 00:23:13.6±1.0, 11.86N×43.88E, h10km, ML3.9, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
TRBA	**At Turbah**	**1.38**	**10**	*i*P	Pn		00 23 38.8	-0.5
TRBA				*i* S	Sg		00 23 58.4	-0.3
TRBA				AML	AML		00 24 04.0	
	comp=E,2μm,0.4s							
UDYN	**Al 'Udayn**	**2.09**	**2**	*i* P	Pn		00 23 50.2	+1.2
UDYN				*i* S	Sb		00 24 19.2	+1.0
UDYN				AML	AML		00 24 24.2	
	comp=E,2μm,0.4s							
DHBB	**Dhamar BB**	**2.74**	**10**	*i* P	Pb		00 24 00.7	-2.5
DHBB				*i* S	Sb		00 24 38.2	+1.2

MEX 10 00:28:08.7±0.7, 32.42N×114.95W, h20km±17km, MD3.7, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
MBIG	**Mexicali**	**0.21**	**267**	*e*P	Pb		00 28 13.3	-0.8
MBIG				*i* S	Sb		00 28 17.2	-0.5
SPIG	**San Pedro Mart**	**1.44**	**198**	*e*P	Pn		00 28 31.2	-2.8
SPIG				*e*S	Sn		00 28 48.0	-4.7
CBX	**Cerro Bola**	**1.46**	**266**	*i* P	Pn		00 28 31.1	-2.9
CBX				*i* S	Sn		00 28 47.6	-5.2

*ISCJB **10** 00:56:30.5±1.7, 21.2S±0.3×171.1E±0.1, h150km, mb3.7/3, Error ellipse: s-maj=47.3km s-min=16.4km az=2.4*

*IDC **10** 00:56:38.1±4.7, 21.47S×170.71E, h182km±31km, mb3.4/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.9/4, Error ellipse: s-maj=48.9km s-min=34.1km az=39.0*

ISC 10 00:56:33.2±1.8, 21.4S±0.3×171.0E±0.1, h150km, n14, σ0§90/13, mb3.6/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
DZM	**Mont Dzumac**	**4.33**	**260**	P	**Pn**		**00 57 39.6**	**+1.8**
	4.9nm,0.3s,baz=89,slow=18,SNR=48							
DZM				S	**Sn**		**00 58 27.7**	**-0.3**
	3.4nm,0.3s,baz=348,slow=23,SNR=6.6							
EIDS	**Eidsvold**	**18.74**	**254**	P	**Pn**		**01 00 42.7**	**-0.1**
	baz=17,SNR=9.7							
ARMA	**Armidale**	**19.62**	**239**	P	**Pn**		**01 00 52.0**	**-1.2**
	baz=18,SNR=7.5							
RMQ	**Roma**	**20.98**	**252**	P	Pn		01 01 06.6	-2.7
	baz=20,SNR=6.1							
CMSA	**Cobar Meteorol**	**24.79**	**241**	P	**P**		**01 01 41.2**	**0.0**
	baz=23,SNR=13							
QLP	**Quilpie**	**25.01**	**253**	P	**P**		**01 01 43.5**	**+0.2**
	baz=24,SNR=7.5							
BBOO	**Buckleboo**	**33.02**	**242**	P	**P**		**01 02 53.7**	**-0.5**
	baz=31,SNR=5.5							
ASAR	**Alice Springs**	**34.32**	**259**	P	**P**		**01 03 05.0**	**-0.6**
	2.1nm,0.6s,baz=89,slow=9.6,SNR=31							
WRA	**Warramunga Arr**	**34.32**	**266**	P	**P**		**01 03 04.5**	**-1.1**
	0.8nm,0.6s,baz=97,slow=8.4,SNR=10							
MTN	**Manton Dam**	**38.98**	**276**	P	P		01 03 49.0	+3.9
	baz=38,SNR=4.1							
WRKA	**Warakurna**	**39.34**	**256**	P	**P**		**01 03 47.6**	**-0.5**
	baz=38,SNR=9.3							
MEEK	**Meekatharra**	**47.91**	**253**	P	**P**		**01 04 55.8**	**-0.8**
	baz=46,SNR=5.1							
VNDA	**Vanda**	**56.37**	**182**	P	**P**		**01 05 58.9**	**+0.6**
	0.5nm,0.9s,baz=21,slow=6.1,SNR=3.8							
GERES	**GERESS Array B**	**147.16**	**332**	PKPbc	**PKPbc**		**01 15 58.9**	**+0.2**
	0.3nm,0.4s,baz=46,slow=4.2,SNR=6.5							

*IDC **10** 00:56:41.1±1.5, 13.17N×91.68E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.4/43, mbtmp3.5/8, ML4.0/1, Error ellipse: s-maj=40.3km s-min=21.9km az=70.0*

*ISCJB **10** 00:56:44.6±1.0, 13.2N±0.1×91.8E±0.1, h33km, mb3.5/7, Error ellipse: s-maj=19.4km s-min=13.9km az=135.6*

ISC 10 00:56:46.5±1.3, 13.2N±0.2×91.8E±0.2, h35km, n8, σ1§16/9, mb3.5/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
CMAR	**Chiang Mai Arr**	**8.67**	**52**	Pn	**Pn**		**00 58 47.8**	**-1.6**
	0.5nm,0.3s,baz=249,slow=12,SNR=7.9							
CMAR				Sn	**Sn**		**01 00 26.8**	**+0.8**
	0.9nm,0.3s,baz=236,slow=24,SNR=5.0							
MKAR	**Makanchi Array**	**34.41**	**348**	P	**P**		**01 03 30.3**	**-0.1**
	0.2nm,0.4s,baz=165,slow=12,SNR=3.3							
SONM	**Songino Array**	**36.62**	**17**	P	**P**		**01 03 49.2**	**-0.3**
	0.5nm,0.7s,baz=179,slow=6.5,SNR=3.3							
KSRS	**Korea Array**	**40.26**	**47**	P	**P**		**01 04 22.1**	**+1.9**
	0.6nm,0.3s,baz=247,slow=7.7,SNR=2.7							
ZALV	**Zalesovo Beam**	**41.01**	**354**	P	**P**		**01 04 26.6**	**+0.6**
	0.6nm,0.5s,baz=174,slow=7.3,SNR=4.1							
WRA	**Warramunga Arr**	**53.31**	**127**	P	**P**		**01 06 02.3**	**-0.1**
	0.2nm,0.6s,baz=307,slow=8.1,SNR=5.3							
ASAR	**Alice Springs**	**55.16**	**131**	P	**P**		**01 06 16.0**	**+0.1**
	0.2nm,0.4s,baz=307,slow=6.7,SNR=3.1							
ILAR	**Eielson Array**	**90.69**	**21**	P	**P**		**01 09 44.7**	**-0.7**
	0.2nm,0.6s,baz=310,slow=4.2,SNR=3.0							

*ISCJB **10** 01:05:22.5±0.4, 32.68N±0.02×115.72W±0.02, h11km±3km, Error ellipse: s-maj=3.8km s-min=3.3km az=11.4*

*NEIC **10** 01:05:24.0, 32.64N×115.75W, h2km, ML3.4(PAS), ML3.5(ECX), After ECX.*

*ECX **10** 01:05:24.3±0.6, 32.64N×115.75W, h2km, MD3.4, ML3.6*

ISC 10 01:05:22.8±0.9, 32.64N±0.02×115.69W±0.02, h10km±7km, n30, σ0§80/53, 9C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
SGL	**Mount Signal**	**0.03**	**294**	↓*i*P	**Pg**		**01 05 24.5**	**-0.2**
YUH	**Yuha Desert**	**0.20**	**273**	↑*i*P	**Pg**		**01 05 27.1**	**+0.1**
COK	**Cook Ranch**	**0.21**	**352**	↑*i*P	**Pb**		**01 05 28.6**	**-0.2**
RMX	**La Rumorosa**	**0.33**	**264**	*e*P	**Pg**		**01 05 29.6**	**+0.1**
RMX				*e*S	**Sg**		**01 05 34.0**	**+0.2**
RMX	**La Rumorosa**	**0.33**	**264**	*e*P	**Pg**		**01 05 29.6**	**+0.1**
RMX				*e*S	**Sg**		**01 05 34.0**	**+0.2**
CRR	**Carrizo Plain**	**0.34**	**317**	↓*i*P	**Pg**		**01 05 30.0**	**+0.3**
CPBX	**Cerro Prieto**	**0.39**	**124**	*e*P	**Pb**		**01 05 31.4**	**-0.4**
CPBX				*e*S	**Sb**		**01 05 37.8**	**-0.2**
CPBX				↑*e*			01 05 40.0	
CPBX				AML	AML		01 05 40.0	
	comp=N,8μm,0.4s							
COA	**Coachella**	**0.53**	**65**	↑*i*P	**Pb**		**01 05 35.0**	**+0.8**
RDX	**Rancho Dawling**	**0.74**	**197**	*e*P	**Pg**		**01 05 37.2**	**+0.1**
RDX				*e*S	**Sg**		**01 05 47.4**	**+0.6**
RDX				↑*e*			01 05 50.5	
	comp=E,2μm,0.3s							
RDX	**Rancho Dawling**	**0.74**	**197**	*e*P	**Pg**		**01 05 37.2**	**+0.1**
RDX				*e*S	**Sg**		**01 05 47.4**	**+0.6**
EMX	**El Mayor**	**0.75**	**149**	*e*P	**Pg**		**01 05 36.5**	**-0.8**
	comp=Z,6.0nm,0.0s							
EMX				*e*S	**Sg**		**01 05 47.2**	**+0.1**
EMX				↑*e*			01 05 52.3	
	comp=E,1μm,1.0s							
EMX	**El Mayor**	**0.75**	**149**	*e*P	**Pg**		**01 05 36.5**	**-0.8**
EMX				*e*S	**Sg**		**01 05 47.2**	**+0.1**
BAR	**Barrett**	**0.83**	**273**	*e*Pg	**Pg**		**01 05 38.2**	**-0.6**
BAR				*e*Sg	**Sg**		**01 05 48.5**	**-1.1**
GLA	**Glamis**	**0.84**	**60**	↑*i*P	**Pb**		**01 05 39.5**	**0.0**
GLA	**Glamis**	**0.84**	**60**	*e*Pg	**Pg**		**01 05 39.3**	**+0.3**
GLA				*e*Sg	**Sb**		**01 05 51.0**	**+0.1**
CBX	**Cerro Bola**	**0.88**	**249**	*e*P	**Pg**		**01 05 39.7**	**-0.1**
CBX				*e*S	**Sg**		**01 05 51.2**	**-0.2**
YMD	**Yuma Desert**	**0.97**	**95**	↑*i*P	**Pg**		**01 05 41.5**	**0.0**
PFO	**Pinyon Flats O**	**1.16**	**327**	*e*Pg	**Pb**		**01 05 43.5**	**-1.6**
PFO				*e*Sg	**Sb**		**01 05 58.4**	**-1.9**
ZAX	**El Zacaton**	**1.22**	**204**	*e*P	**Pn**		**01 05 45.8**	**-0.2**
ZAX				*e*S	**Sb**		**01 06 02.1**	**+0.1**
ECNX	**Esteban Cantu**	**1.24**	**218**	*e*P	**Pb**		**01 05 46.7**	**+0.3**
ECNX				*e*S	**Sg**		**01 06 03.1**	**+0.3**
PBX	**Punta Banda**	**1.25**	**225**	*e*P	**Pn**		**01 05 46.1**	**-0.3**
PBX				*e*S	**Sb**		**01 06 01.9**	**-0.7**
ECBX	**El Chinero**	**1.28**	**155**	*e*P	**Pn**		**01 05 46.0**	**-0.7**
ECBX				*e*S	**Sb**		**01 06 03.3**	**-0.2**
ECBX				↑*e*			01 06 04.9	
	comp=N,913nm,0.4s							
SPIG	**San Pedro Mart**	**1.60**	**173**	*e*P	**Pn**		**01 05 52.2**	**+0.8**
SPIG				*e*S	**Sb**		**01 06 13.9**	**+0.9**
SPX	**San Pedro Mart**	**1.60**	**173**	*e*P	**Pb**		**01 05 52.4**	**-0.3**
214A	**Organ Pipe Nat**	**2.53**	**105**	*e*Pn	**Pn**		**01 06 03.5**	**-0.6**
MWC	**Mount Wilson**	**2.53**	**309**	*e*Pn	**Pn**		**01 06 04.5**	**+0.4**
MWC				*e*Sg	**Sb**		**01 06 40.8**	**+1.0**
PASC	**Pasadena Art C**	**2.59**	**307**	*e*Pn	**Pn**		**01 06 05.1**	**+0.4**
PASC				*e*Pg	**Pg**		**01 06 12.0**	**-0.4**
PASC				*e*Sg	**Sb**		**01 06 41.9**	**+0.8**
GSC	**Goldstone, Bar**	**2.81**	**341**	*e*Pn	**Pn**		**01 06 09.6**	**+1.7**
GSC				*e*Pg	**Pg**		**01 06 16.8**	**0.0**
GSC				*e*Sg	**Sg**		**01 06 52.7**	**-0.6**
ISA	**Isabella, Lake**	**3.80**	**323**	*e*Pn	**Pn**		**01 06 22.7**	**+1.2**
ISA				*e*Pg	**Pb**		**01 06 31.6**	**+1.6**
ISA				*e*Sg	**Sg**		**01 07 22.1**	**-2.8**
TUC	**Tucson**	**4.16**	**93**	*e*Pn	**Pn**		**01 06 26.6**	**+0.2**

DHMR 10 01:11:21.2±1.4, 12.01N×44.48E, h14km±999km, ML3.6, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
TRBA	**At Turbah**	**1.27**	**344**	↑*i*P	Pn		01 11 44.6	-0.1
TRBA				*i* S	Sg		01 12 02.7	+0.1
UDYN	**Al 'Udayn**	**2.01**	**346**	*i* P	Pn		01 11 55.3	+0.4
UDYN				*i* S	Sb		01 12 23.8	+1.0
UDYN				AML	AML		01 12 29.9	
	comp=E,560nm,0.7s							
DHBB	**Dhamar BB**	**2.55**	**358**	*i* P	Pb		01 12 05.8	-1.3
DHBB				*i* S	Sb		01 12 38.8	+0.2

*IDC **10** 01:20:41.6±2.2, 0.13S×97.12E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.5/46, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=78.3km s-min=19.8km az=60.0*

*ISCJB **10** 01:20:43.8±2.0, 0.0N±0.2×97.3E±0.4, h22km, mb3.9/6, Error ellipse: s-maj=65.3km s-min=16.2km az=154.0*

ISC 10 01:20:45.5±2.6, 0.0S±0.3×97.2E±0.5, h22km, n15, σ0§75/8, mb3.9/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
CMAR	**Chiang Mai Arr**	**18.45**	**5**	P	**P**		**01 24 58.8**	**-1.1**
	0.3nm,0.3s,baz=198,slow=11,SNR=6.7							
H08S2	**Diego Garcia H**	**25.80**	**252**	T	T		01 52 54.6	
	baz=73,slow=74,SNR=70							
H08S3	**Diego Garcia H**	**25.81**	**252**	T	T		01 52 56.4	
	baz=73,slow=74,SNR=66							
H08S1	**Diego Garcia H**	**25.82**	**252**	T	T		01 53 06.3	
	baz=73,slow=74,SNR=113							
H01W3	**Cape Leeuwin H**	**38.10**	**157**	T	T		02 08 20.9	
	baz=334,slow=76,SNR=13							
H01W2	**Cape Leeuwin H**	**38.11**	**157**	T	T		02 08 21.7	
	baz=334,slow=76,SNR=13							
H01W1	**Cape Leeuwin H**	**38.11**	**157**	T	T		02 08 20.6	
	baz=334,slow=76,SNR=12							
WRA	**Warramunga Arr**	**41.36**	**121**	P	**P**		**01 28 29.7**	**-0.6**
	0.9nm,0.5s,baz=302,slow=8.9,SNR=24							
ASAR	**Alice Springs**	**42.63**	**126**	P	**P**		**01 28 40.8**	**+0.1**
	0.7nm,0.8s,baz=312,slow=8.2,SNR=8.5							
SONM	**Songino Array**	**48.34**	**8**	P	**P**		**01 29 25.5**	**-0.1**
	0.9nm,0.7s,baz=190,slow=8.5,SNR=6.2							
MKAR	**Makanchi Array**	**48.44**	**346**	P	**P**		**01 29 26.5**	**+0.2**
	1.2nm,0.6s,baz=157,slow=7.9,SNR=16							
USRK	**Ussuriysk Ar.**	**53.80**	**31**	P	**P**		**01 30 07.6**	**+1.1**
	1.0nm,0.7s,baz=224,slow=7.6,SNR=2.9							
ZALV	**Zalesovo Beam**	**54.77**	**351**	P	**P**		**01 30 13.5**	**+0.1**
	1.9nm,0.6s,baz=186,slow=6.6,SNR=13							
H09W1	**TRISTAN DA CUN**	**105.52**	**231**	T	T		03 31 47.7	
	SNR=32							
TXAR	**Lajitas Array**	**144.68**	**33**	PKP	**PKPab**		**01 40 20.1**	**-0.1**
	0.5nm,0.8s,baz=210,slow=0.8,SNR=5.1							

NNC 10 01:23:17.3±3.3, 38.95N×75.58E, h0km, mb3.5, mpv3.1, 8C-5D, Error ellipse: s-maj=27.6km s-min=21.2km az=1.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
SFK	**Sufi-Kurgan**	**1.92**	**304**	⇑Pn	**Pn**		**01 23 50.0**	**-1.7**
	63nm,0.3s							
SFK				⇑Sn	Sg		01 24 19.4	-0.4
	48nm,0.4s							
AAK	**Ala-Archa**	**3.77**	**348**	⇑Pn	**Pn**		**01 24 18.6**	**+1.7**
	2.7nm,0.8s							
AAK				⇑Pg	Pb		01 24 24.8	-0.1
	7.2nm,0.8s							
AAK				⇑Lg	Lg		01 25 16.4	
	11nm,0.9s							
TKM2	**Tokmak 2**	**3.96**	**0**	⇓Pn	**Pn**		**01 24 21.5**	**+1.8**
	4.2nm,0.6s							
TKM2				⇑Lg	Lg		01 25 22.3	
	6.3nm,0.7s							
MNAS	**Manas**	**4.23**	**327**	⇓Pn	**Pn**		**01 24 23.4**	**+0.1**
	1.1nm,0.8s							
MNAS				⇑Pg	Pb		01 24 32.9	0.0
	3.6nm,0.9s							
MNAS				⇓Sn	Sn		01 25 14.9	+1.4
	2.1nm,0.6s							
MNAS				⇓Lg	Lg		01 25 30.8	
	6.9nm,0.7s							
KK31	**Karatay Array**	**5.65**	**319**	Pn	Pn		01 24 41.2	-1.3
	0.2nm,0.2s,baz=126,slow=13,SNR=15							
KK31				⇑Sn	Sn		01 25 46.4	-1.7
	0.6nm,0.4s,baz=141,slow=23,SNR=4.4							
KK31				⇓Lg	Lg		01 26 13.3	
	3.1nm,0.9s,baz=8.8,slow=16,SNR=2.6							

*ISCJB **10** 01:36:13.4±0.8, 7.23S±0.06×129.46E±0.06, h150km, mb3.5/1, Error ellipse: s-maj=9.8km s-min=7.5km az=143.0*

*IDC **10** 01:36:14.7±9.2, 7.25S×129.37E, h151km±96km, mb3.4/1, mb1 3.5/4, mb1mx3.1/34, mbtmp3.9/4, Error ellipse: s-maj=86.8km s-min=27.0km az=36.0*

ISC 10 01:36:13.1±0.9, 7.24S±0.06×129.56E±0.08, h150km, n9, σ2§84/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
FAKI	**Fak Fak**	**5.06**	**32**	P	**Pn**		**01 37 28.4**	**+1.0**
	baz=4.9,SNR=10							
FAKI				S	**Sn**		**01 38 21.6**	**-3.7**
	baz=4.9,SNR=5.5							
MTN	**Manton Dam**	**5.78**	**165**	P	Pn		01 37 41.1	+4.1
	baz=6.1,SNR=31							
MTN				S	**Sn**		**01 38 44.2**	**+1.7**
	baz=6.1,SNR=9.6							
SOEI	**Soe**	**5.80**	**244**	P	**Pn**		**01 37 39.4**	**+2.1**
	baz=5.9,SNR=5.3							
SOEI				S	Sn		01 38 34.1	-9.1
	baz=5.9,SNR=3.9							
KDU	**Kakadu**	**6.13**	**152**	P	Pn		01 37 45.6	+4.1
	baz=6.4,SNR=31							
KDU				S	**Sn**		**01 38 52.1**	**+1.4**
	baz=6.4,SNR=6.6							
BATI	**Baumata**	**6.53**	**243**	P	**Pn**		**01 37 47.1**	**+0.2**
	7.5nm,0.3s,baz=52,slow=2.4,SNR=5.2							
BATI				S	**Sn**		**01 38 58.0**	**-2.5**
	8.1nm,0.3s,baz=225,slow=2.6,SNR=3.8							
KNRA	**Kununurra**	**8.42**	**185**	P	**Pn**		**01 38 14.2**	**+2.1**
	baz=8.7,SNR=45							
WRA	**Warramunga Arr**	**13.45**	**160**	P	**Pn**		**01 39 18.5**	**+0.3**
	0.4nm,0.3s,baz=332,slow=12,SNR=23							
WRA				S	**Sn**		**01 41 43.0**	**-4.1**
	0.7nm,0.3s,baz=333,slow=22,SNR=10							
ASAR	**Alice Springs**	**16.86**	**166**	P	**Pn**		**01 40 03.4**	**+3.0**
	0.3nm,0.3s,baz=343,slow=10,SNR=24							
ASAR				S	**S**		**01 43 03.5**	**-4.4**
	0.2nm,0.3s,baz=346,slow=25,SNR=3.6							
MKAR	**Makanchi Array**	**68.19**	**327**	P	**P**		**01 46 58.1**	**+0.8**
	0.5nm,0.5s,baz=118,slow=7.8,SNR=12							

*ISCJB **10** 01:50:55.0±0.4, 32.18N±0.02×115.12W±0.03, h10km±3km, Error ellipse: s-maj=4.0km s-min=3.0km az=23.3*

*MEX **10** 01:50:56.9±0.4, 32.31N×114.95W, h38km±5km, MD3.8*

*ECX **10** 01:50:57.9±0.6, 32.17N×115.23W, h8km, MD3.3, ML3.5*

*NEIC **10** 01:50:57.0, 32.15N×115.21W, h10km, ML3.2(PAS), After PAS.*

ISC 10 01:50:56.2±0.9, 32.15N±0.02×115.18W±0.02, h14km±6km, n34, σ0§94/66, 3C-4D, California-Baja California border region

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

214A	**Organ Pipe Nat**	**2.02**	**95**	*e*Pn	**Pn**	**01 51 28.6**	**-1.3**
214A				*e*Pg	**Pb**	**01 51 33.3**	**+0.5**
LDFC	**Landfair**	**2.92**	**1**	*e*Pn	**Pn**	**01 51 42.9**	**+0.5**
LDFC				*e*Pg	**Pg**	**01 51 52.0**	**-0.3**
LDFC				*e*Sn	**Sn**	**01 52 19.1**	**+1.7**
MWC	**Mount Wilson**	**3.18**	**311**	*e*Pn	**Pn**	**01 51 45.8**	**-0.2**
MWC				*e*Pg	**Pb**	**01 51 53.6**	**+1.0**
MWC				*e*Sg	**Sb**	**01 52 33.9**	**+2.6**
PASC	**Pasadena Art C**	**3.23**	**310**	*e*Pn	**Pn**	**01 51 45.7**	**-0.8**
PASC				*e*Sg	**Sb**	**01 52 35.1**	**+2.5**
GSC	**Goldstone, Bar**	**3.43**	**337**	*e*Pn	**Pn**	**01 51 48.6**	**-0.7**
GSC				*e*Pg	**Pg**	**01 52 01.1**	**-0.8**
TUC	**Tucson**	**3.73**	**86**	*e*Pn	**Pn**	**01 51 51.9**	**-1.6**
TUC				*e*Pg	**Pb**	**01 52 02.8**	**+0.9**
TUC				*e*Sg	**Sg**	**01 52 54.1**	**-2.0**
SHPR	**Sheep Range**	**4.35**	**0**	*e*Pn	**Pn**	**01 52 02.7**	**+0.6**
SHPR				*e*Pg	**Pg**	**01 52 17.7**	**-1.8**
SHPR				*e*Sn	**Sn**	**01 52 54.8**	**+2.2**
SHPR				*e*Sg	**Sg**	**01 53 17.3**	**+1.4**
WUAZ	**Wupatki**	**4.62**	**42**	*e*Pn	**Pn**	**01 52 06.1**	**+0.3**
WUAZ				*e*Sg	**Sg**	**01 53 24.6**	**-0.1**
CCUT	**Cedar City**	**5.59**	**15**	*e*Pn	**Pn**	**01 52 19.7**	**+0.5**
CCUT				*e*Pg	Pb	01 52 38.9	+5.1
121A	**Cookes Peak, D**	**6.27**	**85**	*e*Pn	**Pn**	**01 52 28.7**	**+0.2**

KRSC ***10*** *02:02:39.4±2.2,50.°42N×157.°54E,h101km±29km,ML4.0*
MOS ***10*** *02:02:39.4±2.0,50.°40N×157.°50E,h101km,mb4.2/1,Error ellipse: s-maj=65.0km s-min=17.3km az=78.3*
SKHL ***10*** *02:02:41.8±0.2,50.°29N×157.°78E,h45km,mb4.7/1*
ISC 10 02:02:38.4±2.7,**50.°4N**±0.1×**157.°3E**±0.2,**h132**km±22km,
n30,σ1**°60**/44,**1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.80**	**292**	⇑*i*PN		Pn	02 02 55.5	-4.1
SKR					pmax	pmax		
	comp=Z,250nm,0.5s							
SKR					pmax	pmax		
	comp=N,60nm,0.3s							
SKR					pmax	pmax		
	comp=E,60nm,0.3s							
SKR	**Severo-Kuril's**	**0.80**	**292**	*i* P		**Pn**	**02 03 00.6**	**+1.0**
SKR				*i* S		**Sn**	**02 03 14.6**	**-1.2**
SKR	**Severo-Kuril's**	**0.80**	**292**	*e*P		**Pn**	**02 03 00.7**	**+1.1**
SKR					AMB	AMB	02 03 01.0	
	comp=E,373nm,0.5s							
SKR					*e*S	**Sn**	**02 03 14.7**	**-1.1**
SKR					A	A	02 03 15.0	
	comp=E,1μm,0.2s							
PAU	**Pauzhetka**	**1.12**	**345**	PN		**Pn**	**02 03 02.8**	**+0.3**
PAU				S		**Sn**	**02 03 20.2**	**-0.7**
PAU	**Pauzhetka**	**1.12**	**345**	*e*P		**Pn**	**02 03 02.8**	**+0.3**
PAU				*e*S		**Sn**	**02 03 20.2**	**-0.7**
PAU	**Pauzhetka**	**1.12**	**345**	*e*P		**Pn**	**02 03 03.4**	**+0.9**
PAU				*e*S		**Sn**	**02 03 19.8**	**-1.1**
PAU				A		A	02 03 22.0	
	comp=E,799nm,0.5s							
MIPR	**Malaya Ipel'ka**	**1.92**	**350**	*i* P		**Pn**	**02 03 11.0**	**-0.4**
MTVR	**Mutnovka**	**2.17**	**15**	*e*P		**Pn**	**02 03 16.4**	**+1.7**
MTVR				*e*S		**Sn**	**02 03 42.4**	**-0.1**
RUS	**Russkaya**	**2.19**	**20**	PN		**Pn**	**02 03 16.3**	**+1.6**
RUS				S		**Sn**	**02 03 42.2**	**-0.4**
RUS	**Russkaya**	**2.19**	**20**	*e*P		**Pn**	**02 03 16.3**	**+1.6**
RUS				*e*S		**Sn**	**02 03 42.2**	**-0.4**
APC	**Apacha**	**2.54**	**358**	*e*P		**Pn**	**02 03 19.3**	**+0.2**
PET	**Petropavlovsk**	**2.77**	**17**	*e*S		**Sn**	**02 03 55.1**	**-0.6**
PET	**Petropavlovsk**	**2.77**	**17**	*e*S		**Sn**	**02 03 55.6**	**-0.1**
UGLR	**Uglovaya**	**2.98**	**18**	*i* P		**Pn**	**02 03 27.3**	**+2.4**
UGLR				*e*S		**Sn**	**02 04 01.1**	**+0.3**
AVH	**Avacha**	**3.02**	**17**	*e*P		**Pn**	**02 03 27.8**	**+2.5**
AVH				*e*S		**Sn**	**02 04 01.5**	**-0.1**
KOK	**Koryaka**	**3.03**	**16**	*e*P		**Pn**	**02 03 27.9**	**+2.5**
SMAR	**Somma**	**3.03**	**18**	*e*P		**Pn**	**02 03 28.1**	**+2.5**
KRER	**Koryakskii**	**3.06**	**17**	*e*P		**Pn**	**02 03 28.1**	**+2.2**
SDLR	**Sedlovina**	**3.06**	**18**	*e*P		**Pn**	**02 03 27.9**	**+2.0**
SDLR				*e*S		**Sn**	**02 04 02.1**	**-0.5**
NLC	**Nalytchevo**	**3.07**	**24**	*e*S		**Sn**	**02 04 00.0**	**-2.5**
KRX	**Arik**	**3.09**	**15**	*e*P		**Pn**	**02 03 28.6**	**+2.3**
SPN	**Mys Shipunski**	**3.20**	**31**	PN		**Pn**	**02 03 29.0**	**+1.4**
SPN				S		**Sn**	**02 04 04.6**	**-1.1**
SPN	**Mys Shipunski**	**3.20**	**31**	*e*P		**Pn**	**02 03 29.0**	**+1.4**
SPN				*e*S		**Sn**	**02 04 04.6**	**-1.1**
GNL	**Ganaly**	**3.33**	**7**	*e*P		**Pn**	**02 03 29.7**	**+0.2**
KII	**Karymskiy**	**3.89**	**19**	*e*S		**Sn**	**02 04 22.3**	**+0.4**
MKZ	**Mys Kozlova**	**4.98**	**31**	PN		**Pn**	**02 03 51.5**	**+0.4**
MKZ				S		**Sn**	**02 04 44.5**	**-3.2**
MKZ	**Mys Kozlova**	**4.98**	**31**	*e*P		**Pn**	**02 03 51.5**	**+0.4**
MKZ				*e*S		**Sn**	**02 04 44.5**	**-3.2**
KBTR	**Krutoberegovo**	**6.71**	**28**	PN		**Pn**	**02 04 15.6**	**+1.3**
KBTR	**Krutoberegovo**	**6.71**	**28**	*e*P		**Pn**	**02 04 15.6**	**+1.3**
BKI	**Bering**	**7.14**	**44**	*e*S		**Sn**	**02 05 36.7**	**-3.0**

JMA ***10*** *02:06:21.6±0.1,24.°55N×122.°73E,h108km±1km,M1.9*
ISCJB ***10*** *02:06:22.3±0.6,24.°60N±0.°05×122.°74E±0.°02,h99km±5km, Error ellipse: s-maj=8.3km s-min=3.1km az=172.7*
TAP ***10*** *02:06:22.6,24.°54N×122.°74E,h93km±2km,ML3.6,D*
ISC 10 02:06:22.7±1.5,**24.°59N**±0.°07×**122.°74E**±0.°03,**h98**km±10km,
n34,σ0**°79**/64,**2D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.23**	**127**	P		**Pn**	**02 06 37.0**	**+0.2**
JYNG				*e*S		**Sn**	**02 06 48.4**	**+1.1**
YOJ	**Yonaguni jima**	**0.28**	**118**	P		**Pn**	**02 06 37.1**	**+0.1**
YOJ				*e*S		**Sn**	**02 06 48.5**	**+0.9**
TWC	**Suao**	**0.81**	**271**	*e*P		**Pn**	**02 06 40.6**	**-0.4**
	baz=274							
TWC				S		**Sn**	**02 06 54.3**	**-0.5**
	baz=274							
ENA	**Nanau**	**0.92**	**260**	*e*P		**Pn**	**02 06 42.2**	**0.0**
	baz=262							
ENA				*e*S		**Sn**	**02 06 57.2**	**+0.4**
	baz=262							
IRIF	**Iriomote-Funau**	**0.94**	**106**	P		**Pn**	**02 06 42.3**	**0.0**
IRIF				*e*S		**Sn**	**02 06 57.5**	**+0.5**
NWF	**Wu-fen Shan**	**0.99**	**299**	P		**Pn**	**02 06 43.2**	**+0.1**
	baz=301							
NWF				*e*S		**Sn**	**02 06 57.1**	**-1.1**
	baz=301							
ENTT	**Nioudou**	**1.07**	**273**	*e*P		**Pn**	**02 06 43.9**	**+0.1**
	baz=275							
ENTT				*e*S		**Sn**	**02 06 59.9**	**+0.2**
	baz=275							
HATJ	**Hateruma jima**	**1.11**	**118**	*e*S		**Sn**	**02 07 00.8**	**+0.4**
TWD	**Chiawan**	**1.16**	**244**	P		**Pn**	**02 06 44.4**	**-0.4**
	baz=246							
TWD				*e*S		**Sn**	**02 07 00.8**	**-0.7**
	baz=246							
NNS	**Nan Shan**	**1.25**	**263**	P		**Pn**	**02 06 46.0**	**0.0**
	baz=265							
NNS				*e*S		**Sn**	**02 07 02.7**	**-0.9**
	baz=265							
NSK	**Sanguang**	**1.26**	**274**	P		**Pn**	**02 06 46.1**	**+0.1**
	baz=276							
NSK				S		**Sn**	**02 07 03.3**	**-0.3**
	baz=276							
JIJ	**Ishigaki jima**	**1.30**	**100**	P		**Pn**	**02 06 46.2**	**-0.2**
JIJ				*e*S		**Sn**	**02 07 04.1**	**-0.2**
WHF	**Hehuan Shan**	**1.42**	**252**	⇓*i*P		**Pn**	**02 06 48.1**	**-0.2**
	baz=253							
WHF				*e*S		**Sn**	**02 07 06.1**	**-1.5**
	baz=253							
ESL	**Shilin**	**1.42**	**237**	*e*P		**Pn**	**02 06 47.3**	**-0.7**
	baz=238							
ESL				*e*S		**Sn**	**02 07 06.0**	**-1.0**
	baz=238							
JISG	**Ishigakijimahi**	**1.43**	**90**	P		**Pn**	**02 06 47.5**	**-0.5**
JISG				S		**Sn**	**02 07 06.4**	**-0.8**
TWT	**Tachien**	**1.47**	**257**	P		**Pn**	**02 06 49.0**	**+0.4**
	baz=258							
TWT				*e*S		**Sn**	**02 07 08.6**	**+0.4**
	baz=258							
NSTT	**Nanjuang**	**1.58**	**272**	*e*P		**Pn**	**02 06 50.0**	**0.0**
	baz=273							
NSTT				*e*S		**Sn**	**02 07 10.3**	**-0.3**
	baz=273							
WDT	**Danda**	**1.69**	**241**	⇓P		**Pn**	**02 06 51.2**	**-0.4**
	baz=241							
WDT				S		**Sn**	**02 07 12.1**	**-1.3**
	baz=241							
EHY	**Hungye**	**1.69**	**230**	P		**Pn**	**02 06 50.5**	**-0.8**
	baz=231							
EHY				S		**Sn**	**02 07 11.4**	**-1.6**
	baz=231							
JTJ	**Tarama**	**1.79**	**88**	P		**Pn**	**02 06 52.2**	**-0.3**
JTJ				*e*S		**Sn**	**02 07 14.7**	**-0.4**
TWF1	**Yuli**	**1.81**	**227**	*e*P		**Pn**	**02 06 52.2**	**-0.6**
	baz=227							
TWF1				*e*S		**Sn**	**02 07 15.7**	**0.0**
	baz=227							
TWQ1	**Liyutan**	**1.81**	**263**	*e*P		**Pn**	**02 06 53.2**	**+0.4**
	baz=263							
TWQ1				*e*S		**Sn**	**02 07 15.4**	**-0.3**
	baz=263							
NSY	**Sanyi**	**1.81**	**265**	*e*S		**Sn**	**02 07 16.8**	**+1.0**
	baz=266							
SMLT	**Sun Moon Lake**	**1.82**	**248**	*e*P		**Pn**	**02 06 53.7**	**+0.7**
	baz=248							
SMLT				*e*S		**Sn**	**02 07 16.5**	**+0.4**
	baz=248							
TYC	**Yuchr**	**1.85**	**249**	*e*P		**Pn**	**02 06 53.6**	**+0.3**
	baz=249							
TYC				*e*S		**Sn**	**02 07 17.6**	**+1.0**
	baz=249							
YUS	**Yu-Shan**	**1.97**	**236**	*e*P		**Pn**	**02 06 55.5**	**+0.2**
	baz=237							
YUS				*e*S		**Sn**	**02 07 20.0**	**-0.1**
	baz=237							
ALS	**Alishan**	**2.07**	**239**	*e*P		**Pn**	**02 06 57.0**	**+0.6**
	baz=239							
ALS				*e*S		**Sn**	**02 07 23.0**	**+0.9**
	baz=239							
ELDTW	**Lidau**	**2.11**	**229**	*e*P		**Pn**	**02 06 55.9**	**-0.8**
	baz=229							
ELDTW				*e*S		**Sn**	**02 07 22.2**	**-0.5**
	baz=229							
CHN5	**Tsauling**	**2.13**	**243**	*e*P		**Pn**	**02 06 57.6**	**+0.6**
	baz=243							
CHN5				*e*S		**Sn**	**02 07 22.1**	**-1.1**
	baz=243							
JIRB	**Irabujima**	**2.23**	**83**	P		**Pn**	**02 06 58.5**	**+0.3**
CHN4	**Tsaushan**	**2.32**	**238**	*e*P		**Pn**	**02 07 00.0**	**+0.6**
	baz=238							
WTP	**Ta-pu**	**2.36**	**236**	*e*P		**Pn**	**02 07 00.7**	**+0.7**
	baz=236							
WTP				*e*S		**Sn**	**02 07 32.0**	**+3.4**
	baz=236							
TWK	**Hsinying**	**2.45**	**238**	*e*P		**Pn**	**02 07 01.9**	**+0.8**
	baz=238							
TWK				*e*S		**Sn**	**02 07 30.3**	**-0.3**
	baz=238							
CHN1	**Nanshi**	**2.46**	**236**	*e*P		**Pn**	**02 07 02.1**	**+0.8**
	baz=236							
CHN1				*e*S		**Sn**	**02 07 30.6**	**-0.3**
	baz=236							

MEX ***10*** *02:18:09.1±0.7,32.°88N×115.°77W,h16km±16km,MD3.7*
NEIC ***10*** *02:18:10.0,32.°62N×115.°78W,h5km,MD3.7(MEX), ML3.7(ECX),ML3.7(PAS),After ECX.*
NEIC Felt [II] at Borrego Springs, California. Also felt at El Centro and in parts of Orange, Riverside and San Diego Counties.
ECX ***10*** *02:18:10.4±0.6,32.°61N×115.°77W,h4km,MD3.4,ML3.6*
ISC 10 02:18:08.8±0.9,**32.°64N**±0.°02×**115.°72W**±0.°02,**h12**km±8km,
n40,σ1**°40**/87,**10C-2D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.30**	**264**	⇑*i*P		**Pg**	**02 18 15.0**	**-0.1**
RMX				*e*S		**Sg**	**02 18 18.8**	**-0.4**
RMX				⇑*e*			02 18 20.1	
	comp=E,8μm,0.2s							
RMX	**La Rumorosa**	**0.30**	**264**	*i* P		**Pg**	**02 18 15.0**	**-0.1**
RMX				*e*S		**Sg**	**02 18 18.8**	**-0.4**
CPIR	**Carrizo Plain**	**0.33**	**321**	⇑*e*P		**Pb**	**02 18 15.9**	**-0.7**
CPBX	**Cerro Prieto**	**0.42**	**121**	*e*P		**Pb**	**02 18 18.4**	**+0.3**
CPBX				*e*S		**Sb**	**02 18 24.6**	**+0.2**
CPBX	**Cerro Prieto**	**0.42**	**121**	*e*P		**Pn**	**02 18 19.1**	**-1.5**
CPBX				*i* S		**Sb**	**02 18 25.8**	**+1.4**
MBIG	**Mexicali**	**0.50**	**117**	*e*P		**Pb**	**02 18 20.0**	**+0.5**
MBIG				*i* S		**Sn**	**02 18 29.0**	**+3.8**
RDX	**Rancho Dawling**	**0.73**	**195**	⇑*e*P		**Pg**	**02 18 22.4**	**-0.6**
RDX				⇑*e*			02 18 33.0	
	comp=N,3μm,0.3s							
RDX	**Rancho Dawling**	**0.73**	**195**	*e*P		**Pg**	**02 18 22.4**	**-0.6**
RDX				*e*S		**Sg**	**02 18 32.0**	**-0.6**
EMX	**El Mayor**	**0.76**	**148**	⇓*e*P		**Pb**	**02 18 23.6**	**-0.4**
EMX				*e*S		**Sb**	**02 18 34.0**	**-0.4**
EMX	**El Mayor**	**0.76**	**148**	*e*P		**Pb**	**02 18 23.6**	**-0.4**
EMX				*e*S		**Sb**	**02 18 34.0**	**-0.4**
BAR	**Barrett**	**0.80**	**273**	*e*Pg		**Pg**	**02 18 33.5**	**-0.6**
BAR				*e*Sg		**Sg**	**02 18 33.5**	**-1.3**
CBX	**Cerro Bola**	**0.86**	**248**	*i* P		**Pg**	**02 18 24.7**	**-0.7**
CBX				*e*S		**Sg**	**02 18 34.9**	**-1.7**
CBX	**Cerro Bola**	**0.86**	**248**	⇑*i*P		**Pg**	**02 18 25.0**	**-0.4**
CBX				*e*S		**Sg**	**02 18 35.9**	**-0.7**
CBX				AML	AML		02 18 39.3	
	comp=N,2μm,0.3s							
CBX				⇓*e*			02 18 39.3	
CBX				AML	AML		02 18 39.7	
	comp=E,2μm,0.3s							
CBX				⇑*e*			02 18 39.7	
CBX	**Cerro Bola**	**0.86**	**248**	*i* P		**Pg**	**02 18 24.7**	**-0.7**
CBX				*e*S		**Sg**	**02 18 35.9**	**-0.7**
GLA	**Glamis**	**0.86**	**61**	⇑*e*P		**Pb**	**02 18 25.6**	**-0.2**
PFO	**Pinyon Flats O**	**1.15**	**328**	*e*Pg		**Pn**	**02 18 30.6**	**-0.3**
PFO				*e*Sg		**Sb**	**02 18 44.4**	**-1.3**
ZAX	**El Zacaton**	**1.21**	**203**	*e*P		**Pn**	**02 18 31.1**	**-0.5**
ZAX				*e*S		**Sb**	**02 18 46.6**	**-0.7**
ECNX	**Esteban Cantu**	**1.23**	**217**	*e*P		**Pn**	**02 18 31.2**	**-0.7**
ECNX				*e*S		**Sb**	**02 18 47.1**	**-0.7**
PBX	**Punta Banda**	**1.23**	**224**	⇑*e*P		**Pn**	**02 18 31.3**	**-0.6**
PBX				*e*S		**Sb**	**02 18 47.1**	**-0.8**
ECBX	**El Chinero**	**1.29**	**154**	*e*P		**Pg**	**02 18 33.1**	**-0.5**
ECBX				*e*S		**Sg**	**02 18 50.4**	**-0.1**
ECBX				⇑*e*			02 18 53.5	
	comp=N,930nm,0.8s							
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P		**Pn**	**02 18 37.2**	**0.0**
SPIG				*e*S		**Sb**	**02 18 59.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P		**Pn**	**02 18 37.2**	**0.0**
SPIG				*e*S		**Sb**	**02 18 59.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P		**Pn**	**02 18 37.2**	**0.0**
SPIG				*e*S		**Sb**	**02 18 59.1**	**+0.3**
SPX	**San Pedro Mart**	**1.60**	**172**	*e*P		**Pn**	**02 18 37.2**	**-0.1**
SPX				*e*S		**Sb**	**02 18 59.4**	**+0.6**
MWC	**Mount Wilson**	**2.51**	**310**	*e*Pn		**Pn**	**02 18 51.1**	**+1.4**
MWC				*e*Pg		**Pg**	**02 18 56.1**	**-0.9**
MWC				*e*Sg		**Sb**	**02 19 26.3**	**+1.3**
214A	**Organ Pipe Nat**	**2.56**	**105**	*e*Pn		**Pn**	**02 18 50.0**	**-0.2**
214A				*e*Pg		**Pg**	**02 18 57.0**	**-0.9**
214A				*e*Sg		**Sg**	**02 19 29.3**	**-1.7**
PASC	**Pasadena Art C**	**2.57**	**307**	*e*Pn		**Pn**	**02 18 51.1**	**+0.8**
PASC				*e*Pg		**Pb**	**02 18 55.6**	**+0.8**
PASC				*e*Sg		**Sb**	**02 19 27.6**	**+1.2**
GSC	**Goldstone, Bar**	**2.81**	**342**	*e*Pn		**Pn**	**02 18 55.3**	**+1.6**
GSC				*e*Pg		**Pg**	**02 19 01.5**	**-1.1**
GSC				*e*Sg		**Sg**	**02 19 38.1**	**-1.0**
SHPR	**Sheep Range**	**3.89**	**7**	*e*Pn		**Pn**	**02 19 09.8**	**+1.2**
SHPR				*e*Pg		**Pg**	**02 19 23.3**	**0.0**
SHPR				*e*Sn		**Sn**	**02 19 57.3**	**+3.0**
SHPR				*e*Sg		**Sg**	**02 20 12.6**	**-1.1**
DAC	**Darwin (Calif)**	**3.95**	**337**	*e*Pn		**Pn**	**02 19 09.8**	**+0.4**
DAC				*e*Pg		**Pg**	**02 19 22.7**	**-1.7**
DAC				*e*Sg		**Sg**	**02 20 11.9**	**-3.7**
WUAZ	**Wupatki**	**4.61**	**50**	*e*Pn		**Pn**	**02 19 20.1**	**+1.6**
WUAZ				*e*Pg		**Pg**	**02 19 36.3**	**-0.9**
WUAZ				*e*Sg		**Sg**	**02 20 37.0**	**0.0**
CCUT	**Cedar City**	**5.27**	**21**	*e*Pn		**Pn**	**02 19 29.3**	**+1.6**
	comp=N,8.8nm,1.0s							
CCUT				*e*Pg		**Pg**	**02 19 49.5**	**-0.3**
CCUT				*e*Sg		**Sg**	**02 20 53.8**	**-4.3**
ARUT	**Antelope Range**	**5.47**	**19**	*e*Pn		**Pn**	**02 19 32.4**	**+2.0**
ARUT				*e*Pg		**Pg**	**02 19 53.2**	**-0.4**
W18A	**Petrified Fore**	**5.56**	**62**	*e*Pn		**Pn**	**02 19 33.3**	**+1.7**
W18A				*e*Pg		**Pg**	**02 19 52.4**	**-2.9**
W18A				*e*Sg		**Sg**	**02 21 03.6**	**-3.8**
R11A	**Troy Canyon, C**	**5.70**	**1**	*e*Pn		**Pn**	**02 19 32.0**	**-1.5**
R11A				*e*Pg		**Pg**	**02 19 59.1**	**+1.1**
R11A				*e*Sg		**Sg**	**02 21 10.0**	**-1.9**
MVU	**Marysvale**	**6.52**	**25**	*e*Pn		**Pn**	**02 19 46.5**	**+1.7**
MVU				*e*Pg		**Pg**	**02 20 13.6**	**0.0**
MVU				*e*Sg		**Sg**	**02 21 35.3**	**-2.7**
WAKR	**Walker**	**6.59**	**334**	*e*Pn		**Pn**	**02 19 47.1**	**+1.4**
WAKR				*e*Pg		Pg	02 20 10.0	-5.0
WAKR				*e*Sg		**Sg**	**02 21 37.4**	**-2.9**
121A	**Cookes Peak, D**	**6.70**	**89**	*e*Pn		**Pn**	**02 19 47.1**	**-0.2**
	comp=N,10nm,0.6s							
MVCO	**Mesa Verde**	**7.49**	**50**	*e*Pn		**Pn**	**02 19 59.0**	**+0.9**
MVCO				*e*Pg		**Pg**	**02 20 33.3**	**+1.2**
MVCO				*e*Sg		Sg	02 22 00.5	-8.5
LPM	**Los Pinos Moun**	**7.78**	**75**	*e*Pn		**Pn**	**02 20 02.2**	**+0.2**
	comp=N,25nm,1.5s							

DHMR 10 02:24:47.5±1.6,**11.°87N**×**43.°79E,h5**km±23km,**ML3.5,1C, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.39**	**13**	⇑*i*P		Pb	02 25 14.2	-0.1
TRBA				*i* S		Sn	02 25 32.8	0.0
TRBA					AML	AML	02 25 38.7	
	comp=E,556nm,0.4s							
UDYN	**Al 'Udayn**	**2.09**	**5**	*i* P		Pn	02 25 24.0	+0.5
UDYN				*i* S		Sg	02 25 53.8	-1.2
UDYN					AML	AML	02 25 59.7	
	comp=E,506nm,0.4s							
DHBB	**Dhamar BB**	**2.74**	**12**	*i* P		Pn	02 25 34.9	+2.2
DHBB				*i* S		Sb	02 26 12.6	+0.8

IDC 10 02:29:45.0±5.1,**20.°97S**×**178.°34W,h416**km±53km, **mb2.9**/3,**mb1 3.1**/4,**mb1mx2.8**/31,**mbtmp3.7**/4,**Error ellipse: s-maj=33.3km s-min=25.0km az=90.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.68**	**192**	P		P	02 33 25.2	-0.2
	0.4nm,0.3s,baz=332,slow=15,SNR=4.0							
URZ				S		S	02 36 28.2	+0.7
	0.2nm,0.3s,baz=99,slow=19,SNR=3.0							
ASAR	**Alice Springs**	**44.10**	**257**	P		P	02 37 14.4	-0.2
	0.5nm,0.6s,baz=92,slow=8.0,SNR=7.7							
WRA	**Warramunga Arr**	**44.22**	**263**	P		P	02 37 15.5	-0.1
	0.3nm,0.3s,baz=94,slow=8.0,SNR=18							
ILAR	**Eielson Array**	**88.84**	**13**	P		P	02 41 53.0	+0.4
	0.2nm,0.4s,baz=217,slow=5.4,SNR=7.0							
AKASG	**Malin Array Be**	**143.26**	**331**	PKP		PKPab	02 48 27.9	0.0
	1.2nm,0.4s,baz=20,slow=3.4,SNR=11							
BRTR	**Keskin Array B**	**146.91**	**312**	PKPbc		PKPbc	02 48 39.9	0.0
	0.7nm,0.5s,baz=137,slow=5.1,SNR=5.6							

TAP ***10*** *02:30:53.4,23.°05N×121.°01E,h3km,ML3.7,C*
JMA ***10*** *02:30:53.5,23.°01N×121.°22E,h0km,M3.3*
ISC 10 02:30:54.1±0.9,**23.°06N**±0.°02×**121.°04E**±0.°02,**h7**km±7km,
n64,σ0**°90**/113,**1C-17D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.13**	**349**	⇓*i*P		**Pg**	**02 30 56.8**	**-0.2**
	baz=7.0							
ELDTW				S		**Sg**	**02 30 58.6**	**-0.3**
	baz=7.0							
TWG	**Pinlang**	**0.24**	**174**	⇑*i*P		**Pg**	**02 30 59.1**	**+0.3**
	baz=154							
TWG				*i* S		**Sg**	**02 31 02.7**	**+0.7**
	baz=154							
STYT	**Tauyuan**	**0.28**	**292**	⇓*i*P		**Pg**	**02 30 58.9**	**-0.8**
	baz=296							
STYT				*i* S		**Sg**	**02 31 02.5**	**-1.0**
	baz=296							
CHKT	**Chengkung**	**0.30**	**82**	⇓*i*P		**Pb**	**02 31 02.1**	**+0.4**
	baz=83							
CHKT				S		**Sb**	**02 31 08.1**	**+1.2**
	baz=83							
TTN	**Taitung**	**0.32**	**163**	P		**Pb**	**02 31 01.6**	**-0.4**
	baz=156							
TTN				S		**Sb**	**02 31 07.5**	**+0.1**
	baz=156							
TWF1	**Yuli**	**0.38**	**38**	⇓*i*P		**Pg**	**02 31 02.0**	**+0.6**
	baz=43							
TWF1				*i* S		**Sg**	**02 31 07.2**	**+0.8**
	baz=43							
SGST	**Jiashian**	**0.43**	**273**	⇓*i*P		**Pg**	**02 31 02.1**	**-0.3**
	baz=274							
SGST				S		**Sg**	**02 31 07.8**	**-0.1**
	baz=274							
WTP	**Ta-pu**	**0.44**	**296**	⇓*i*P		**Pg**	**02 31 02.6**	**0.0**
	baz=298							
WTP				*i* S		**Sg**	**02 31 08.5**	**+0.1**
	baz=298							
YUS	**Yu-Shan**	**0.44**	**349**	⇓*i*P		**Pg**	**02 31 02.6**	**-0.2**
	baz=354							
YUS				*e*S		**Sg**	**02 31 08.2**	**-0.

SMLT					*e*S		**Sn**	02 31 24.6	-0.4
	baz=359								
ESL	**Shilin**	**0.83**	**25**	*e*P			**Pg**	02 31 09.9	-0.2
	baz=35								
ESL					*e*S		**Sg**	02 31 20.9	-0.1
	baz=35								
TYC	**Yuchr**	**0.86**	**349**	*e*P			**Pg**	02 31 10.6	-0.1
	baz=357								
TYC					*e*S		**Sn**	02 31 24.2	-1.3
	baz=357								
WNT	**Mingjian**	**0.88**	**338**	*e*P			**Pb**	02 31 12.1	+0.3
	baz=340								
TWP	**Hsiaoliuchiu**	**0.95**	**222**	*e*P			**Pn**	02 31 13.5	-0.3
	baz=212								
WTCT	**Ta-ch'eng**	**1.07**	**319**	*e*P			**Pg**	02 31 13.8	-0.8
	baz=321								
WTCT					*e*S		**Sb**	02 31 29.4	+0.4
	baz=321								
HEN	**Hengchun**	**1.08**	**195**	*e*P			**Pn**	02 31 17.2	+1.5
	baz=193								
HEN					*e*S		**Sn**	02 31 33.2	+2.2
	baz=193								
WHF	**Hehuan Shan**	**1.10**	**11**	*e*P			**Pg**	02 31 14.9	-0.4
	baz=13								
WHF					S		**Sb**	02 31 31.0	+0.5
	baz=13								
LAY	**Lan-yu**	**1.12**	**155**	*e*P			**Pg**	02 31 14.1	-1.4
	baz=153								
TWK1	**Hengchun**	**1.13**	**191**	*e*P			**Pn**	02 31 16.4	0.0
	baz=189								
TWK1					*e*S		**Sn**	02 31 34.2	+2.1
	baz=189								
TCU	**Taichung**	**1.14**	**343**	*e*P			**Pn**	02 31 16.2	-0.3
	baz=333								
TCU					*e*S		**Sn**	02 31 33.9	+1.6
	baz=333								
TWD	**Chiawan**	**1.14**	**26**	*e*P			**Pg**	02 31 15.7	-0.2
	baz=36								
TWD					*e*S		**Sb**	02 31 30.9	-0.2
	baz=36								
TSEB	**Hengchuen, Pin**	**1.16**	**187**	*e*P			**Pn**	02 31 17.5	+0.7
	baz=173								
TSEB					*e*S		**Sn**	02 31 35.2	+2.4
	baz=173								
TWT	**Tachien**	**1.20**	**6**	*e*P			**Pb**	02 31 16.9	-0.3
	baz=13								
TWT					*e*S		**Sb**	02 31 32.6	-0.4
	baz=13								
WDGT	**Dungji**	**1.29**	**279**	*e*P			**Pn**	02 31 17.2	-1.3
	baz=280								
WDGT					*e*S		**Sb**	02 31 34.2	-1.3
	baz=280								
TWQ1	**Liyutan**	**1.31**	**349**	*e*P			**Pg**	02 31 19.9	+0.7
	baz=352								
TWQ1					*e*S		**Sg**	02 31 39.4	+3.1
	baz=352								
NSY	**Sanyi**	**1.38**	**349**	*e*P			**Pg**	02 31 20.7	+0.2
	baz=339								
NSY					*e*S		**Sg**	02 31 39.8	+1.4
	baz=339								
NNS	**Nan Shan**	**1.41**	**12**	*e*P			**Pb**	02 31 20.8	-0.1
	baz=24								
NNS					*e*S		**Sg**	02 31 39.8	+0.3
	baz=24								
PNG	**Penghu**	**1.46**	**291**	⇓*i*P			**Pn**	02 31 20.0	-0.9
	baz=292								
PNG					*e*S		**Sn**	02 31 38.6	-1.6
	baz=292								
ENA	**Nanau**	**1.51**	**25**	*e*P			**Pb**	02 31 22.3	-0.1
	baz=27								
ENA					*e*S		**Sg**	02 31 42.2	-0.4
	baz=27								
NSTT	**Nanjuang**	**1.57**	**359**	*e*P			**Pb**	02 31 23.2	-0.3
	baz=3.0								
NSTT					*e*S		**Sg**	02 31 45.8	+1.3
	baz=3.0								
NSK	**Sanguang**	**1.64**	**10**	*e*P			**Pb**	02 31 24.6	0.0
	baz=25								
NSK					*e*S		**Sb**	02 31 45.7	+0.1
	baz=25								
ENTT	**Nioudou**	**1.65**	**17**	*e*P			**Pb**	02 31 24.5	-0.3
	baz=34								
ENTT					*e*S		**Sb**	02 31 45.9	0.0
	baz=34								
TWC	**Suao**	**1.71**	**25**	*e*P			**Pb**	02 31 25.6	-0.3
	baz=28								
TWC					*e*S		**Sb**	02 31 48.1	+0.5
	baz=28								
EGS		**1.96**	**24**	*e*P			**Pb**	02 31 30.3	+0.2
	baz=26								
TWA	**Mucha**	**1.98**	**14**	*e*P			**Pg**	02 31 31.6	-0.5
	baz=33								
TWA					*e*S		**Sg**	02 31 57.2	-0.5
	baz=33								
TWS1	**Kuangyinshan**	**2.06**	**9**	*e*P			**Pg**	02 31 32.8	-0.8
	baz=21								
TWS1					*e*S		**Sg**	02 32 00.3	-0.1
	baz=21								
NWF	**Wu-fen Shan**	**2.12**	**18**	*e*P			**Pb**	02 31 31.9	-1.0
	baz=36								
TWB1	**Santiao Chiao**	**2.13**	**24**	*e*P			**Pb**	02 31 33.6	+0.7
	baz=39								
JYNG	**Yonagunijimaku**	**2.23**	**51**	P			**Pn**	02 31 31.8	+0.4
JYNG					*e*S		**Sn**	02 31 59.0	-0.2
YOJ	**Yonaguni jima**	**2.28**	**52**	*e*S			**Sn**	02 31 59.7	-0.8
HATJ	**Hateruma jima**	**2.72**	**68**	*e*S			**Sn**	02 32 10.0	-1.4
IRIF	**Iriomote-Funau**	**2.77**	**62**	P			**Pn**	02 31 39.9	+1.0
IRIF					*e*S		**Sn**	02 32 12.2	-0.4
JISG	**Ishigakijimahi**	**3.36**	**62**	P			**Pn**	02 31 46.8	-0.2
JISG					*e*S		**Sn**	02 32 23.9	-3.2

IDC ***10*** *02:37:38.0±3.9, 38°.03S×179°.41E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/23, mbtmp3.4/3, Error ellipse: s-maj=83.4km s-min=32.7km az=44.0*

ISCJB ***10*** *02:37:45.9±0.7, 38°.93S±0°.03×178°.61E±0°.05, h32km±5km, mb3.3/3, Error ellipse: s-maj=7.1km s-min=4.7km az=178.5*

WEL ***10*** *02:37:48.4±0.3, 38°.82S×178°.46E, h28km±1km, ML3.8/28, Error ellipse: s-maj=2.2km s-min=1.2km az=90.0*

WEL Felt in the Gisborne region, maximum reported intensity MM 5.

NEIC ***10*** *02:37:49.2, 38°.81S×178°.43E, h33km, ML3.8(WEL), After WEL.*

NEIC Felt [IV] at Gisborne and Whataupoko.

ISC 10 02:37:46.7±1.4, 38°.89S±0°.03×178°.55E±0°.06, h26km±11km, n158, σ1§09/166, mb3.4/3, 10C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.48**	**327**	⇑P*	**Pb**	**02 37 57.0**	**+0.4**
CNGZ	**Carnagh Statio**	**0.48**	**327**	P*n	**Pb**	**02 37 57.0**	**+0.4**
PRGZ	**Paritu Road**	**0.52**	**266**	P*	**Pn**	**02 37 58.3**	**-0.1**
PRGZ	**Paritu Road**	**0.52**	**266**	P*n	**Pn**	**02 37 58.4**	**-0.1**
MHGZ	**Mahia Peninsul**	**0.56**	**242**	P*	**Pn**	**02 38 00.1**	**+1.1**
MHGZ	**Mahia Peninsul**	**0.56**	**242**	P*n	**Pn**	**02 38 00.3**	**+1.3**
RIGZ	**Rimuhau**	**0.64**	**286**	⇑P*	**Pb**	**02 37 59.2**	**-0.1**
RIGZ				S*	**Sb**	**02 38 07.9**	**0.0**
KNZ	**Kokohu**	**0.69**	**259**	⇑P*	**Pn**	**02 38 00.8**	**+0.1**
KNZ	**Kokohu**	**0.69**	**259**	P*n	**Pn**	**02 38 01.0**	**+0.2**
TKGZ	**Te Karaka**	**0.71**	**309**	⇑P*	**Pb**	**02 37 59.9**	**-0.5**
TWGZ	**Tauwhareparae**	**0.84**	**328**	⇑P*	**Pn**	**02 38 02.2**	**-0.6**
SNGZ	**Shannon Statio**	**0.95**	**276**	⇑PN	**Pn**	**02 38 03.9**	**-0.4**
MWZ	**Matawai**	**0.97**	**304**	⇑PN	**Pn**	**02 38 03.6**	**-1.0**
MWZ	**Matawai**	**0.97**	**304**	⇑P*n	**Pn**	**02 38 03.6**	**-1.0**
WHHZ	**Waihua**	**1.04**	**259**	P*n	**Pb**	**02 38 05.9**	**-0.1**
WMGZ	**Waiomatatini S**	**1.07**	**354**	⇑PN	**Pn**	**02 38 06.5**	**+0.5**
RAHZ	**Arahi**	**1.14**	**268**	PN	**Pn**	**02 38 06.7**	**-0.2**
RAHZ	**Arahi**	**1.14**	**268**	P*n	**Pn**	**02 38 07.0**	**+0.1**
ARHZ	**Aropaoanui**	**1.26**	**252**	PN	**Pb**	**02 38 09.3**	**-0.5**
HAZ	**Te Kaha**	**1.28**	**332**	PN	**Pn**	**02 38 08.2**	**-0.7**
URZ	**Urewera**	**1.29**	**299**	PN	**Pn**	**02 38 08.2**	**-0.8**
URZ				SN	**Sn**	**02 38 24.3**	**-1.0**
URZ				AML	AML	02 38 25.3	
URZ	**Urewera**	**1.29**	**299**	P*n	**Pn**	**02 38 09.3**	**+0.4**
	54nm,0.3s,baz=119,slow=6.2,SNR=423						
URZ				Sn	**Sn**	**02 38 25.0**	**-0.4**
	102nm,0.3s,baz=319,slow=20,SNR=28						
URZ				LR	LR	02 39 07.3	
	comp=Z,493nm,19.0s,baz=174,slow=49						
URZ	**Urewera**	**1.29**	**299**	Pn	**Pn**	**02 38 08.2**	**-0.8**
URZ				Sn	**Sn**	**02 38 24.3**	**-1.0**
MXZ	**Matakaoa Point**	**1.34**	**352**	⇓PN	**Pn**	**02 38 10.0**	**+0.3**
MXZ				AML	AML	02 38 28.0	
MXZ				AML	AML	02 38 31.4	
MXZ	**Matakaoa Point**	**1.34**	**352**	Pn	**Pn**	**02 38 10.3**	**+0.7**
NMHZ	**Naumai**	**1.37**	**261**	PN	**Pn**	**02 38 10.3**	**+0.2**
NMHZ				SN	**Sn**	**02 38 26.1**	**-1.4**
NMHZ	**Naumai**	**1.37**	**261**	Pn	**Pn**	**02 38 10.5**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.38**	**236**	PN	**Pn**	**02 38 10.9**	**+0.8**
CKHZ				SN	**Sb**	**02 38 29.5**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.38**	**236**	Pn	**Pb**	**02 38 11.2**	**-0.5**
CKHZ				Sn	**Sb**	**02 38 29.5**	**+0.6**
MCHZ	**McNeill Hill**	**1.54**	**248**	PN	**Pn**	**02 38 13.1**	**+0.7**
MCHZ	**McNeill Hill**	**1.54**	**248**	Pn	**Pn**	**02 38 13.3**	**+0.9**
KAHZ	**Kahuranaki**	**1.58**	**235**	PN	**Pn**	**02 38 13.9**	**+0.9**
KAHZ	**Kahuranaki**	**1.58**	**235**	Pn	**Pn**	**02 38 13.9**	**+0.9**
EDRZ	**Edgecumbe**	**1.62**	**298**	PN	**Pn**	**02 38 13.3**	**-0.3**
EDRZ				AML	AML	02 38 35.9	
EDRZ				AML	AML	02 38 44.4	
EDRZ	**Edgecumbe**	**1.62**	**298**	Pn	**Pn**	**02 38 13.6**	**0.0**
BKZ	**Black Stump Fm**	**1.62**	**260**	PN	**Pn**	**02 38 13.8**	**+0.2**
BKZ				AML	AML	02 38 53.5	
BKZ				AML	AML	02 38 55.8	
BKZ	**Black Stump Fm**	**1.62**	**260**	Pn	**Pn**	**02 38 13.9**	**+0.3**
MARZ	**Manawahe**	**1.72**	**301**	PN	**Pn**	**02 38 14.5**	**-0.5**
MARZ	**Manawahe**	**1.72**	**301**	Pn	**Pn**	**02 38 15.4**	**+0.4**
TARZ	**Mount Tarawera**	**1.73**	**292**	PN	**Pn**	**02 38 15.2**	**+0.1**
TARZ	**Mount Tarawera**	**1.73**	**292**	Pn	**Pn**	**02 38 15.5**	**+0.4**
PXZ	**Pawanui**	**1.73**	**228**	PN	**Pn**	**02 38 15.3**	**+0.3**
PXZ				AML	AML	02 38 38.0	
PXZ				AML	AML	02 38 38.3	
PXZ				AML	AML	02 38 38.3	
PXZ				AML	AML	02 39 24.7	
PXZ	**Pawanui**	**1.73**	**228**	Pn	**Pn**	**02 38 15.6**	**+0.5**
MKRZ	**Makatiti**	**1.79**	**294**	PN	**Pn**	**02 38 16.7**	**+0.8**
MKRZ				AML	AML	02 38 27.5	
MKRZ				AML	AML	02 38 30.4	
HLRZ	**Highlands Stat**	**1.83**	**290**	PN	**Pn**	**02 38 17.4**	**+0.9**
KRHZ	**Kereru**	**1.85**	**245**	PN	**Pn**	**02 38 17.1**	**+0.4**
OPRZ	**Ohinepanea**	**1.88**	**303**	PN	**Pn**	**02 38 16.1**	**-0.9**
OPRZ	**Ohinepanea**	**1.88**	**303**	Pn	**Pn**	**02 38 16.2**	**-0.9**
KARZ	**Kaharoa**	**2.00**	**295**	PN	**Pn**	**02 38 18.3**	**-0.6**
KARZ	**Kaharoa**	**2.00**	**295**	Pn	**Pn**	**02 38 18.5**	**-0.3**
WPHZ	**Waipukurau**	**2.01**	**234**	PN	**Pn**	**02 38 19.1**	**+0.3**
WPHZ	**Waipukurau**	**2.01**	**234**	Pn	**Pn**	**02 38 19.8**	**+0.9**
PRHZ	**Porangahau**	**2.02**	**226**	PN	**Pn**	**02 38 19.4**	**+0.4**
PRHZ	**Porangahau**	**2.02**	**226**	Pn	**Pn**	**02 38 19.5**	**+0.5**
BHHZ	**Black Hill Sta**	**2.02**	**252**	PN	**Pn**	**02 38 19.4**	**+0.3**
BHHZ				SN	**Sn**	**02 38 41.9**	**-1.7**
BHHZ	**Black Hill Sta**	**2.02**	**252**	Pn	**Pn**	**02 38 19.4**	**+0.3**
PNHZ	**Pukenui**	**2.09**	**240**	PN	**Pn**	**02 38 20.1**	**+0.1**
PNHZ	**Pukenui**	**2.09**	**240**	Pn	**Pn**	**02 38 20.5**	**+0.3**
RATZ	**Rangitukua**	**2.17**	**270**	*e*PN	**Pn**	**02 38 22.2**	**+1.1**
RATZ				AML	AML	02 39 20.3	
KATZ	**Kakaramea**	**2.23**	**267**	*e*PN	**Pn**	**02 38 22.1**	**+0.1**
KATZ				AML	AML	02 38 42.7	
KATZ				AML	AML	02 39 08.5	
KATZ	**Kakaramea**	**2.23**	**267**	Pn	**Pn**	**02 38 22.8**	**+0.9**
MOVZ	**Moawhango**	**2.23**	**256**	PN	**Pn**	**02 38 23.0**	**+1.0**
MOVZ				AML	AML	02 38 49.2	
MOVZ				AML	AML	02 38 49.8	
MOVZ	**Moawhango**	**2.23**	**256**	Pn	**Pn**	**02 38 23.0**	**+1.0**
OTVZ	**Oturere**	**2.26**	**262**	PN	**Pn**	**02 38 23.3**	**+0.8**
OTVZ				AML	AML	02 38 49.0	
OTVZ				AML	AML	02 39 26.2	
OTVZ	**Oturere**	**2.26**	**262**	Pn	**Pn**	**02 38 23.3**	**+0.8**
KRVZ	**Karewarewa**	**2.27**	**264**	PN	**Pn**	**02 38 23.1**	**+0.5**
KRVZ				AML	AML	02 38 47.9	
KRVZ				AML	AML	02 38 48.1	
KRVZ	**Karewarewa**	**2.27**	**264**	Pn	**Pn**	**02 38 23.3**	**+0.7**
NGZ	**Ngauruhoe**	**2.31**	**262**	PN	**Pn**	**02 38 23.8**	**+0.7**
NGZ				AML	AML	02 39 21.7	
NGZ				AML	AML	02 39 24.4	
NGZ	**Ngauruhoe**	**2.31**	**262**	Pn	**Pn**	**02 38 23.9**	**+0.7**
WTVZ	**West Tongariro**	**2.31**	**263**	PN	**Pn**	**02 38 23.9**	**+0.7**
WTVZ				AML	AML	02 38 56.1	
WTVZ				AML	AML	02 39 04.5	
WTVZ	**West Tongariro**	**2.31**	**263**	Pn	**Pn**	**02 38 23.9**	**+0.7**
DVHZ	**Dannevirke**	**2.32**	**232**	PN	**Pn**	**02 38 23.0**	**-0.1**
DVHZ	**Dannevirke**	**2.32**	**232**	Pn	**Pn**	**02 38 23.1**	**-0.1**
TSZ	**Takapari Road**	**2.32**	**239**	PN	**Pn**	**02 38 22.6**	**-0.6**
TSZ				AML	AML	02 38 51.7	
TSZ				AML	AML	02 38 53.5	
TSZ	**Takapari Road**	**2.32**	**239**	Pn	**Pn**	**02 38 23.2**	**0.0**
WHVZ	**Whangaehu Hut**	**2.33**	**259**	⇑PN	**Pn**	**02 38 24.4**	**+0.9**
WNVZ	**Wahianoa**	**2.33**	**258**	PN	**Pn**	**02 38 24.1**	**+0.6**
WNVZ	**Wahianoa**	**2.33**	**258**	Pn	**Pn**	**02 38 24.2**	**+0.6**
DRZ	**Dome Shelter**	**2.35**	**260**	PN	**Pn**	**02 38 25.2**	**+1.4**
DRZ				AML	AML	02 38 51.0	
DRZ				AML	AML	02 38 53.9	
DRZ	**Dome Shelter**	**2.35**	**260**	Pn	**Pn**	**02 38 25.2**	**+1.4**
WPVZ	**Whakapapa**	**2.36**	**261**	PN	**Pn**	**02 38 24.5**	**+0.7**
WPVZ				AML	AML	02 38 52.5	
WPVZ				AML	AML	02 38 54.9	
WPVZ	**Whakapapa**	**2.36**	**261**	Pn	**Pn**	**02 38 24.5**	**+0.7**
COVZ	**Chateau Observ**	**2.36**	**262**	*e*PN	**Pn**	**02 38 24.0**	**+0.3**
FWVZ	**Far West T-bar**	**2.36**	**260**	PN	**Pn**	**02 38 24.4**	**+0.5**
FWVZ				AML	AML	02 38 51.6	
FWVZ				AML	AML	02 38 53.0	
FWVZ	**Far West T-bar**	**2.36**	**260**	Pn	**Pn**	**02 38 24.7**	**+0.8**
TRVZ	**Turoa**	**2.37**	**259**	PN	**Pn**	**02 38 24.5**	**+0.5**
TRVZ				AML	AML	02 38 53.3	
TRVZ				AML	AML	02 39 30.7	
TRVZ	**Turoa**	**2.37**	**259**	Pn	**Pn**	**02 38 24.6**	**+0.5**
TWVZ	**Taurewa**	**2.43**	**265**	PN	**Pn**	**02 38 25.5**	**+0.7**
TWVZ	**Taurewa**	**2.43**	**265**	Pn	**Pn**	**02 38 25.5**	**+0.7**
MTVZ	**Mangateitei**	**2.44**	**257**	PN	**Pn**	**02 38 25.6**	**+0.7**
MTVZ				AML	AML	02 38 57.0	
MTVZ				AML	AML	02 39 04.9	
MTVZ	**Mangateitei**	**2.44**	**257**	Pn	**Pn**	**02 38 25.9**	**+1.0**
BFZ	**Birch Farm**	**2.52**	**224**	PN	**Pn**	**02 38 25.5**	**-0.4**
BFZ				SN	**Sn**	**02 38 55.0**	**-0.8**
BFZ	**Birch Farm**	**2.52**	**224**	Pn	**Pn**	**02 38 25.7**	**-0.2**
BFZ				Sn	**Sn**	**02 38 55.0**	**-0.8**
PRWZ	**Pori Road**	**2.59**	**229**	PN	**Pn**	**02 38 26.7**	**-0.1**
POWZ	**Post Office Ro**	**2.62**	**234**	PN	**Pn**	**02 38 27.3**	**+0.1**
POWZ	**Post Office Ro**	**2.62**	**234**	Pn	**Pn**	**02 38 27.9**	**+0.7**
CPWZ	**Castlepoint**	**2.71**	**221**	PN	**Pn**	**02 38 28.7**	**+0.2**
CPWZ				SN	**Sn**	**02 39 00.7**	**+0.4**
TIWZ	**Tintock**	**2.78**	**227**	PN	**Pn**	**02 38 29.3**	**-0.3**
TIWZ				AML	AML	02 39 05.1	
TIWZ				AML	AML	02 39 05.8	
MRZ	**Mangatainoka R**	**2.89**	**231**	PN	**Pn**	**02 38 30.6**	**-0.4**
MRZ				AML	AML	02 39 04.4	
MRZ				AML	AML	02 39 04.6	
MRZ	**Mangatainoka R**	**2.89**	**231**	Pn	**Pn**	**02 38 30.8**	**-0.3**
WAZ	**Wanganui**	**2.89**	**251**	PN	**Pn**	**02 38 32.6**	**+1.6**
WAZ				AML	AML	02 39 06.9	
WAZ	**Wanganui**	**2.89**	**251**	Pn	**Pn**	**02 38 32.7**	**+1.7**
VRZ	**Vera Road**	**2.96**	**264**	PN	**Pn**	**02 38 33.0**	**+1.0**
VRZ	**Vera Road**	**2.96**	**264**	Pn	**Pn**	**02 38 33.0**	**+1.0**
TMWZ	**Te Maipa**	**3.01**	**222**	PN	**Pn**	**02 38 31.8**	**-0.9**
HOWZ	**Holdsworth Sta**	**3.08**	**228**	PN	**Pn**	**02 38 32.6**	**-1.0**
HOWZ	**Holdsworth Sta**	**3.08**	**228**	Pn	**Pn**	**02 38 33.0**	**-0.6**
KUZ	**Kuaotunu**	**3.10**	**313**	Pn	**Pn**	**02 38 33.1**	**-0.7**
OGWZ	**Otaki Gorge**	**3.23**	**232**	PN	**Pn**	**02 38 35.3**	**-0.4**
OGWZ	**Otaki Gorge**	**3.23**	**232**	Pn	**Pn**	**02 38 35.3**	**-0.4**
MTW	**Mount Morrison**	**3.26**	**225**	PN	**Pn**	**02 38 34.9**	**-1.1**
MTW				AML	AML	02 39 14.6	
MTW				AML	AML	02 39 15.3	
MTW	**Mount Morrison**	**3.26**	**225**	Pn	**Pn**	**02 38 34.9**	**-1.1**
LREZ	**Lake Rotokare**	**3.27**	**259**	PN	**Pn**	**02 38 34.8**	**+1.8**
TRWZ	**Traveller**	**3.33**	**220**	PN	**Pn**	**02 38 35.5**	**-1.5**
TRWZ	**Traveller**	**3.33**	**220**	Pn	**Pn**	**02 38 35.8**	**-1.2**
KIW	**Kapiti Island**	**3.42**	**234**	PN	**Pn**	**02 38 37.6**	**-0.7**
KIW	**Kapiti Island**	**3.42**	**234**	Pn	**Pn**	**02 38 37.8**	**-0.5**
PREZ	**Palmer Road**	**3.44**	**261**	PN	**Pn**	**02 38 40.5**	**+1.9**
PAWZ	**Paruwai Farm**	**3.45**	**223**	PN	**Pn**	**02 38 37.5**	**-1.2**
PAWZ				AML	AML	02 39 18.1	
PAWZ				AML	AML	02 39 20.5	
PAWZ	**Paruwai Farm**	**3.45**	**223**	Pn	**Pn**	**02 38 37.5**	**-1.2**
CAW	**Cannon Point**	**3.47**	**229**	PN	**Pn**	**02 38 38.0**	**-1.0**
CAW				AML	AML	02 39 20.4	
CAW				AML	AML	02 39 21.1	
CAW	**Cannon Point**	**3.47**	**229**	Pn	**Pn**	**02 38 38.2**	**-0.8**
KHEZ	**Kahui Hut**	**3.55**	**262**	*e*PN	**Pn**	**02 38 41.9**	**+1.8**
PKE	**Pukeiti**	**3.56**	**264**	PN	**Pn**	**02 38 42.2**	**+1.9**
MSWZ	**Moikau Station**	**3.57**	**224**	PN	**Pn**	**02 38 38.9**	**-1.4**
MSWZ				AML	AML	02 39 21.1	
MSWZ				AML	AML	02 39 21.8	
MSWZ	**Moikau Station**	**3.57**	**224**	Pn	**Pn**	**02 38 38.9**	**-1.4**
NMEZ	**Namu Road**	**3.67**	**260**	*e*PN	**Pn**	**02 38 43.6**	**+1.9**
PLWZ	**Palliser**	**3.68**	**222**	PN	**Pn**	**02 38 40.2**	**-1.7**
PLWZ	**Palliser**	**3.68**	**222**	Pn	**Pn**	**02 38 40.2**	**-1.7**
BHW	**Baring Head**	**3.78**	**227**	PN	**Pn**	**02 38 41.6**	**-1.5**
BHW	**Baring Head**	**3.78**	**227**	Pn	**Pn**	**02 38 41.9**	**-1.2**
TCW	**Tory Channel**	**4.01**	**233**	PN	**Pn**	**02 38 44.7**	**-1.7**
TCW				AML	AML	02 39 31.1	
TCW				AML	AML	02 39 32.1	
TCW	**Tory Channel**	**4.01**	**233**	Pn	**Pn**	**02 38 45.2**	**-1.2**
DUWZ	**D'Urville Isla**	**4.04**	**240**	*e*PN	**Pn**	**02 38 45.6**	**-1.2**
DUWZ	**D'Urville Isla**	**4.04**	**240**	Pn	**Pn**	**02 38 45.7**	**-1.1**
TUWZ	**Tuamarina**	**4.34**	**233**	PN	**Pn**	**02 38 49.0**	**-1.9**
TUWZ				AML	AML	02 39 40.4	
TUWZ	**Tuamarina**	**4.34**	**233**	Pn	**Pn**	**02 38 49.3**	**-1.6**
BSWZ	**Blackbirch Sta**	**4.55**	**230**	*e*PN	**Pn**	**02 38 52.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**4.55**	**230**	Pn	**Pn**	**02 38 53.0**	**-0.8**
NNZ	**Nelson**	**4.60**	**238**	*e*PN	**Pn**	**02 38 53.0**	**-1.4**
QRZ	**Quartz Range**	**5.02**	**245**	PN	**Pn**	**02 38 58.0**	**-2.2**
QRZ	**Quartz Range**	**5.02**	**245**	Pn	**Pn**	**02 38 58.1**	**-2.1**
THZ	**Tophouse**	**5.18**	**235**	PN	**Pn**	**02 39 00.2**	**-2.3**
THZ	**Tophouse**	**5.18**	**235**	Pn	**Pn**	**02 39 00.4**	**-2.1**
KHZ	**Kahutara**	**5.19**	**226**	*e*PN	**Pn**	**02 39 00.5**	**-2.0**
DSZ	**Denniston Nort**	**5.89**	**239**	Pn	**Pn**	**02 39 09.7**	**-2.5**
CTZ	**Chatham Island**	**6.06**	**145**	PN	Pn	02 39 19.0	+4.5
CTZ				SN	**Sn**	**02 40 23.3**	**+0.5**
CTZ	**Chatham Island**	**6.06**	**145**	Pn	Pn	02 39 19.1	+4.7
LTZ	**Lake Taylor**	**6.15**	**229**	*e*PN	**Pn**	**02 39 12.7**	**-3.1**
LTZ	**Lake Taylor**	**6.15**	**229**	Pn	**Pn**	**02 39 12.7**	**-3.1**
MQZ	**McQueen's Vall**	**6.55**	**221**	PN	**Pn**	**02 39 19.2**	**-2.0**
MQZ	**McQueen's Vall**	**6.55**	**221**	Pn	**Pn**	**02 39 19.3**	**-1.9**
FOZ	**Fox Glacier**	**8.14**	**232**	*e*PN	Pn	02 39 38.8	-4.3
LBZ	**Lake Benmore**	**8.33**	**226**	*e*PN	**Pn**	**02 39 42.7**	**-2.9**
PYZ	**Puysegur Point**	**11.37**	**226**	Pn	Pn	02 40 21.9	-5.5
VNDA	**Vanda**	**39.38**	**186**	P	**P**	**02 45 16.0**	**+2.4**
	0.4nm,0.3s,baz=30,slow=6.4,SNR=8.3						
ASAR	**Alice Springs**	**40.65**	**279**	P	**P**	**02 45 25.6**	**+0.9**
	0.6nm,0.7s,baz=127,slow=8.6,SNR=5.2						
WRA	**Warramunga Arr**	**42.41**	**283**	P	**P**	**02 45 38.3**	**-0.9**
	0.2nm,0.5s,baz=118,slow=8.5,SNR=5.3						

GUC 10 02:39:54.7±0.5, 19°.43S×70°.05W, h59km±3km, ML3.8, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.17**	**202**	*e*P	Pn	02 40 04.5	+0.4
PSGC				*e*S	Sn	02 40 11.3	+0.4
PSGC				AML	AML	02 40 11.7	
	comp=N,8μm,0.5s						
MNMC	**Minimini**	**0.53**	**55**	*e*P	Pn	02 40 07.5	+0.3
MNMC				*e*S	Sn	02 40 16.3	-0.1
MNMC				AML	AML	02 40 16.9	
	comp=N,8μm,0.2s						
HMBC	**Humberstone**	**0.85**	**170**	*e*P	Pn	02 40 11.2	+0.2
HMBC				*e*S	Sn	02 40 23.7	+0.7
HMBC				AML	AML	02 40 27.2	
	comp=N,3μm,0.6s						
PATCX	**Punta Patache**	**1.38**	**184**	*e*P	Pn	02 40 18.4	+0.5
PATCX				*e*S	Sn	02 40 36.4	+1.1
PB01	**IPOC Station P**	**1.69**	**162**	*e*P	Pn	02 40 23.0	+0.9
PB01				*e*S	Sn	02 40 44.1	+1.4

BATI Baumata 6.58 243 P **Pn** 02 54 57.9 +0.2
184nm,0.3s,baz=135,slow=2.2,SNR=204
BATI S **Sn** 02 56 11.7 +0.5
392nm,0.3s,baz=109,slow=7.1,SNR=5.4
LBMI Labuha 6.90 342 P Pn 02 55 06.0 +4.0
BBSI Bau Bau 7.22 284 P Pn 02 55 10.1 +3.7
2µm,1.1s,862µm32nm
RKPI Ransiki, Papua 7.29 39 P **Pn** 02 55 07.2 -0.2
932nm,0.7s,22µm8.6nm
EDFI Ende, Flores 7.99 259 P **Pn** 02 55 18.6 +1.6
TNTI Ternate 8.28 344 P Pn 02 55 24.7 +3.9
TNTI Ternate 8.28 344 *e*Pn **Pn** 02 55 22.6 +1.8
KNRA Kununurra 8.42 186 P **Pn** 02 55 19.8 -2.9
baz=8.2,SNR=286
KNRA S Sn 02 56 46.7 -9.4
baz=8.2,SNR=27
BSSI Bau Bau, Buton 9.13 276 P Pn 02 55 35.8 +3.4
LUWI Luwuk 9.20 312 P Pn 02 55 37.2 +3.9
LUWI Luwuk 9.20 312 ⇑P **Pn** 02 55 36.5 +3.1
baz=9.3,SNR=8.7
LUWI S Sn 02 57 04.8 -10
baz=9.3,SNR=5.2
LUWI Luwuk 9.20 312 *e*Pn Pn 02 55 37.8 +4.4
BASI Baing, Sumba 9.41 251 P **Pn** 02 55 35.7 -0.5
WSI Waingapu 9.52 255 P **Pn** 02 55 36.9 -0.9
WSI Waingapu 9.52 255 ⇓P **Pn** 02 55 36.7 -1.1
baz=9.4,SNR=14
KMSI Cibinong 9.59 324 P Pn 02 55 42.8 +4.1
BKSI Bulukumba 9.63 281 P **Pn** 02 55 41.6 +2.4
471nm,0.8s,4µm
WAMI Wamena 9.65 70 P Pn 02 55 44.9 +5.4
BNSI Bone 9.87 286 P **Pn** 02 55 45.4 +2.9
489nm,0.9s,5µm
KAPI Kappang 10.05 282 Pn **Pn** 02 55 47.0 +2.0
1µm,0.6s,SNR=25
KAPI Kappang 10.05 282 *e*Pn **Pn** 02 55 47.1 +2.1
175nm,0.8s
APSI Ampana 10.13 308 P Pn 02 55 51.3 +5.2
GTOI Gorontalo 10.23 320 P Pn 02 55 55.1 +7.6
SPSI Sidrap Palu 10.33 288 P **Pn** 02 55 51.2 +2.5
336nm,0.7s,4µm
WBSI Waikabubak, Su 10.39 256 P **Pn** 02 55 50.3 +0.7
1µm,0.8s,13µm
SMPI Sarmi 10.46 60 P **Pn** 02 55 50.5 -0.1
354nm,1.3s,5µm
TTSI Tana Toraja 10.61 293 P Pn 02 55 56.6 +4.0
MMPI Merauke 10.74 97 P Pn 02 56 04.2 +10
MMPI Merauke 10.74 97 S Sn 02 57 46.2 -6.4
baz=11,SNR=3.4
MRSI Marisa 10.84 315 P Pn 02 55 59.2 +3.5
GENI Genyem 11.48 67 P **Pn** 02 56 04.2 -0.3
290nm,0.8s,4µm
PCI Palu 11.61 302 P Pn 02 56 09.5 +3.4
371nm,1.1s,3µm
JAY Jayapura 12.01 67 P **Pn** 02 56 11.1 -0.4
104nm,1.3s,5µm
JAY Jayapura 12.01 67 P **Pn** 02 56 09.7 -1.8
6.0nm,0.3s,baz=280,slow=7.5,SNR=39
JAY S **Sn** 02 58 22.6 -1.0
4.6nm,0.3s,baz=114,slow=20,SNR=5.8
MPSI Mapaga 12.28 307 P **Pn** 02 56 18.1 +3.0
WRAB Tennant Creek 13.42 160 P Pn 02 56 25.6 -4.6
2µm,0.5s
WRAB Tennant Creek 13.42 160 *c i*P Pn 02 56 24.7 -5.4
WRAB Tennant Creek 13.42 160 *e*Pn Pn 02 56 24.8 -5.4
WRAB *e*Sn Sn 02 58 42.5 -15
WRA Warramunga Arr 13.43 161 P Pn 02 56 25.5 -4.7
29nm,0.3s,baz=336,slow=14,SNR=288
WRA S Sn 02 58 45.5 -13
24nm,0.3s,baz=337,slow=22,SNR=18
WRA LR LR 03 02 40.0
comp=Z,1µm,18.7s,baz=335,slow=41
WB2 Warramunga Arr 13.43 160 *e*Pn **Pn** 02 56 28.2 -2.1
WB2 *e*Sn Sn 02 58 43.4 -15
SRBI Singaraja 14.30 266 P **Pn** 02 56 42.8 +1.2
100nm,1.1s,1µm
COEN Coen 14.90 118 ⇓P Pn 02 56 46.1 -3.2
baz=15,SNR=50
COEN Coen 14.90 118 *e*Pn Pn 02 56 45.9 -3.4
COEN *e*Sn Sn 02 59 19.6 -14
BBKI Banjar Baru 15.18 284 P **P** 02 56 58.1 +2.4
ABJI Asem Bagus 15.26 267 P **P** 02 56 56.1 -0.5
138nm,0.7s,3µm
JAGI Jajag, Banyuwa 15.37 264 P **Pn** 02 56 55.4 +0.2
159nm,0.6s,2µm
JAGI Jajag, Banyuwa 15.37 264 P **Pn** 02 56 51.0 -4.2
baz=15,SNR=30
JAGI Jajag, Banyuwa 15.37 264 *e*Pn **Pn** 02 56 55.1 -0.1
111nm,0.5s
JAGI *e*Sn Sn 02 59 32.3 -13
KMMI Kalianget 15.53 270 P **P** 02 56 59.4 -0.2
170nm,1.0s,2µm
BLJI Banyuglugur 15.89 267 P **Pn** 02 57 01.6 -0.2
GMJI Gumukmas 16.05 265 P **Pn** 02 57 02.8 -1.0
QIS Mount Isa 16.39 145 P **Pn** 02 57 04.9 -3.1
baz=16,SNR=105
QIS S Sn 02 59 54.9 -15
baz=16,SNR=7.0
TSM Tawau 16.39 314 ⇑P **P** 02 57 11.5 +2.3
AS31 Alice Springs 16.84 166 *e*Pn **Pn** 02 57 09.9 -3.6
AS31 *e*Sn Sn 03 00 06.9 -14
ASAR Alice Springs 16.84 166 P **Pn** 02 57 09.8 -3.7
7.7nm,0.3s,baz=342,slow=14,SNR=113
ASAR S Sn 03 00 09.0 -12
9.3nm,0.3s,baz=346,slow=25,SNR=9.4
GRJI Gresik 17.01 270 P **P** 02 57 17.9 +1.9
286nm,0.7s,2µm
PMG Port Moresby 17.49 98 *ce*P **Pn** 02 57 23.5 +2.0
PMG pmax pmax
comp=Z,283nm,1.0s
PMG Port Moresby 17.49 98 P **Pn** 02 57 23.0 +1.5
comp=Z,3.6nm,0.3s,baz=298,slow=11,SNR=26
PMG LR LR 03 05 38.7
comp=Z,640nm,19.1s,baz=277,slow=42
PMG Port Moresby 17.49 98 P **Pn** 02 57 24.5 +3.0
baz=18,SNR=14
PMG Port Moresby 17.49 98 *e*Pn **Pn** 02 57 23.0 +1.5
comp=Z,61nm,0.9s
PWJI Pagerwojo 17.67 266 P **P** 02 57 21.8 -1.5
WRKA Warakurna 17.73 184 ⇑P **P** 02 57 21.6 -2.4
baz=18,SNR=432
WRKA S Sn 03 00 28.1 -14
baz=18,SNR=8.9
SDKM Sandakan 17.82 316 ⇑P **Pn** 02 57 28.5 +2.9
PCJI Pacitan 18.29 266 P **P** 02 57 27.6 -2.6
MANU Manus Island 18.43 75 P **Pn** 02 57 36.0 +3.1
baz=19,SNR=3.4
MANU S S 03 00 44.6 -13
baz=19,SNR=5.1
PBKI Pangkalan Bun 18.43 283 P **Pn** 02 57 35.4 +2.5
UGM Wanagama 18.94 267 P **P** 02 57 36.8 -0.4
UGM Wanagama 18.94 267 ⇓P **P** 02 57 35.7 -1.5
baz=19,SNR=4.9
UGM Wanagama 18.94 267 *e*P **P** 02 57 37.1 -0.1
comp=Z,154nm,1.0s
KDM Kudat 18.99 318 ⇓P **Pn** 02 57 42.5 +3.1
BTM Bintulu 19.49 302 ⇓P **Pn** 02 57 44.8 -0.6
SBUM Sibu 19.85 298 *e*P **P** 02 57 47.9 +0.8
comp=Z,98nm,0.8s
KPJI Karang Pucung 20.52 268 P **P** 02 57 52.7 -1.6
CTA Charters Tower 20.57 130 P Pn 02 57 57.0 -0.9
comp=Z,170nm,1.0s,baz=305,slow=12,SNR=73
CTA S **S** 03 01 44.9 +5.1
comp=Z,11nm,0.7s,baz=37,slow=20,SNR=3.4
CTA LR LR 03 06 45.9
comp=Z,838nm,18.1s,baz=298,slow=39
CTAO Charters Tower 20.57 130 *e*P Pn 02 57 56.9 -1.1
CTAO *e*S **S** 03 01 37.7 -2.2
CTAO pmax pmax
comp=Z,209nm,1.0s
CTAO Charters Tower 20.57 130 *e*P Pn 02 57 56.9 -1.0
comp=Z,209nm,1.0s
CTAO *e*S **S** 03 01 37.7 -2.2
KSM Kuching 21.12 293 P **P** 02 57 57.3 -3.6
baz=21,SNR=8.9
KSM S **S** 03 01 54.4 +3.6
baz=21,SNR=3.1
KSM Kuching 21.12 293 ⇓P **P** 02 58 00.8 -0.1
KSM Kuching 21.12 293 *e*P **P** 02 58 00.5 -0.4
comp=Z,116nm,0.8s
GIRL Giralia 21.30 222 ⇑P **P** 02 58 03.8 +1.1
baz=21,SNR=32
CISI Cisompet, Garu 21.62 268 P **P** 02 58 05.4 -0.8
CISI Cisompet, Garu 21.62 268 P **P** 02 58 03.6 -2.7
baz=22,SNR=3.8
CISI Cisompet, Garu 21.62 268 *e*P **P** 02 58 04.9 -1.4
comp=Z,133nm,0.6s
CISI *e*S **S** 03 01 53.7 -6.9
LEM Lembang 21.84 270 P **P** 02 58 08.6 0.0
comp=Z,31nm,0.5s,baz=113,slow=10,SNR=4.5
LEM LR LR 03 08 12.6
comp=Z,477nm,22.0s,baz=90,slow=41
MEEK Meekatharra 21.94 207 ⇓P **P** 02 58 09.4 0.0
baz=22,SNR=75
CNJI Cibinong 22.30 268 P **P** 02 58 11.2 -2.2
TGY Tagaytay City 22.89 338 P **P** 02 58 19.8 +0.3
comp=Z,151nm,0.3s,baz=192,slow=4.1,SNR=14
FORT Forrest 23.45 183 ⇑P **P** 02 58 24.7 +0.1
baz=23,SNR=54
FORT S S 03 02 38.8 +7.9
baz=23,SNR=7.1
FORT Forrest 23.45 183 *e*P **P** 02 58 25.1 +0.5
comp=Z,235nm,0.8s
FORT *e*S **S** 03 02 34.2 +3.4
QLP Quilpie 23.73 146 ⇓P **P** 02 58 28.1 +1.0
baz=24,SNR=348
QLP S S 03 02 43.9 +8.5
baz=24,SNR=5.0
CGJI Cibinong 23.75 270 P **P** 02 58 23.9 -3.6
KMBL Kambalda 25.06 196 ⇓P **P** 02 58 40.0 +0.9
baz=25,SNR=13
KMBL S S 03 03 14.7 +18
baz=25,SNR=6.6
MORW Morawa 25.20 209 ⇓P **P** 02 58 40.6 +0.2
baz=25,SNR=27
MORW S S 03 03 20.4 +22
baz=25,SNR=5.9
BBOO Buckleboo 26.13 168 P **P** 02 58 49.2 +0.4
baz=26,SNR=20
BBOO Buckleboo 26.13 168 *e*P **P** 02 58 49.1 +0.4
BLDU Ballidu 26.21 206 P **P** 02 58 49.8 +0.3
baz=26,SNR=24
BLDU S S 03 03 43.1 +28
baz=26,SNR=5.6
RMQ Roma 26.42 139 P **P** 02 58 52.9 +1.5
baz=26,SNR=14
MYKOM Kota Tinggi 27.23 288 ⇓P **P** 02 59 00.8 +1.9
MYKOM Kota Tinggi 27.23 288 *e*P **P** 02 58 59.8 +0.9
EIDS Eidsvold 27.29 134 P **P** 02 58 59.8 +0.5
baz=27,SNR=4.6
EIDS Eidsvold 27.29 134 *e*P **P** 02 58 59.0 -0.4
comp=Z,20nm,1.0s
KGM Kluang 27.81 288 ⇑P **P** 02 59 05.2 +1.2
NWAO Narrogin (SRO) 28.02 203 P **P** 02 59 06.9 +1.2
comp=Z,24nm,0.7s,baz=48,slow=9.1,SNR=16
NWAO Narrogin (SRO) 28.02 203 P **P** 02 59 06.6 +0.9
baz=28,SNR=11
CMSA Cobar Meteorol 28.45 150 P **P** 02 59 10.8 +1.2
baz=28,SNR=34
KTGM Kuala Trenggan 29.23 295 ⇓P **P** 02 59 17.3 +0.7
RKGY Rocky Gully 29.62 201 P **P** 02 59 22.7 +2.8
baz=30,SNR=8.8
FRIM Kepong 29.81 290 ⇑P **P** 02 59 23.0 +1.2
HNR Honiara 30.09 96 LR LR 03 11 53.3
comp=Z,414nm,20.4s,baz=268,slow=37
IPM Ipoh 30.82 291 ⇑P **P** 02 59 31.4 +0.7
IPM Ipoh 30.82 291 *e*P **P** 02 59 30.4 -0.4
comp=Z,39nm,0.6s
ARMA Armidale 30.94 141 P **P** 02 59 33.8 +2.1
baz=31,SNR=7.8
ARMA Armidale 30.94 141 *e*P **P** 02 59 33.9 +2.1
comp=Z,57nm,1.2s
KULM Kulim 31.47 293 *e*P **P** 02 59 36.0 -0.4
comp=Z,43nm,0.8s
YNG Young 32.02 150 P **P** 02 59 42.6 +1.6
baz=32,SNR=18
SKLT Songkhla 32.27 296 P **P** 02 59 45.3 +1.8
comp=Z,52nm,0.8s
QIZ Qiongzhong 32.58 324 P **P** 02 59 48.0 +1.9
QIZ pP **pP** 03 00 07.4 -0.2
QIZ S **S** 03 04 57.1 +2.1
QIZ sS **sS** 03 05 32.3 0.0
QIZ LZ
comp=Z,220nm,20.8s
MGCD Mangrove Creek 32.62 145 P **P** 02 59 49.0 +2.7
baz=33,SNR=8.8
COCO West Island 32.66 259 *i* P **P** 02 59 46.5 -0.4
UBPT Khong Chiam 32.77 313 P **P** 02 59 47.9 +0.2
comp=Z,19nm,1.4s,comp=Z,970nm
CAN Canberra 33.13 150 *e*P **P** 02 59 52.4 +1.6
CAN pmax pmax
comp=Z,162nm,1.2s
CAN Canberra 33.13 150 *e*P **P** 02 59 52.4 +1.6
comp=Z,162nm,1.2s
CNB Canberra Magne 33.30 150 P **P** 02 59 54.3 +2.0
baz=33,SNR=19
TRTT Trang 33.39 296 P **P** 02 59 53.9 +0.7
comp=Z,104nm,0.8s,comp=Z,741nm
TOO Toolangi 33.45 157 P **P** 02 59 56.1 +2.5
baz=33,SNR=41
JOW Kunigami 33.90 358 P **P** 02 59 56.9 -0.6
comp=Z,1.7nm,0.5s,baz=150,slow=7.6
MILA Mila 34.60 152 P **P** 03 00 05.8 +2.3
baz=34,SNR=8.2
PKDT Phuket 34.62 295 P **P** 03 00 05.5 +1.6
comp=Z,52nm,0.8s,comp=Z,3µm
SURT Suratani 34.68 297 P **P** 03 00 06.0 +1.6
comp=Z,16nm,0.8s
LHMI Lhok Sumawe 34.87 290 *e*P **P** 03 00 05.0 -1.1
comp=Z,123nm,0.8s
PBKT Sadao Pong 36.92 310 P **P** 03 00 26.1 +2.6
comp=Z,6.7nm,0.9s,comp=Z,2µm
SRDT SRDT 37.09 305 P **P** 03 00 26.6 +1.6
comp=Z,100nm,0.8s
UTTA Uttaradit 37.95 311 P **P** 03 00 32.2 0.0
comp=Z,11nm,0.9s,comp=Z,91nm
SLVN Son La 38.00 319 *e*P **P** 03 00 32.3 -0.4
comp=Z,18nm,1.0s
MOO Moorlands 38.34 159 P **P** 03 00 37.6 +2.4
baz=38,SNR=9.0
DZM Mont Dzumac 38.42 117 *e*P **P** 03 00 37.6 +1.3
comp=Z,94nm,1.1s
DZM Mont Dzumac 38.42 117 *e*LR LR 03 11 14.3
comp=Z,1µm,30.7s
DZM Mont Dzumac 38.42 117 P **P** 03 00 37.8 +1.5
comp=Z,32nm,0.9s,baz=283,slow=6.8,SNR=23
TAU Tasmania Unive 38.79 159 *e*P **P** 03 00 39.7 +0.7
TAU pmax pmax
comp=Z,57nm,1.1s
TAU Tasmania Unive 38.79 159 *e*P **P** 03 00 39.7 +0.7
comp=Z,57nm,1.1s
LAMP Lampang 39.12 311 P **P** 03 00 42.3 +0.3
comp=Z,8.8nm,0.9s,comp=Z,102nm
CMAR Chiang Mai Arr 39.60 311 P **P** 03 00 46.4 +0.4
comp=Z,14nm,0.8s,baz=141,slow=7.3,SNR=84
CMAR ScP **ScP** 03 06 32.4 +0.4
comp=Z,3.1nm,0.9s,baz=159,slow=2.9,SNR=7.5
CRAI Chiangrai 39.66 314 P **P** 03 00 43.5 -3.0
CMMT Chiang Mai 39.81 311 P **P** 03 00 47.6 -0.2
comp=Z,50nm,0.9s
CHTO Chiang Mai 39.81 311 *e*P **P** 03 00 48.1 +0.3
CHTO pmax pmax
comp=Z,29nm,0.9s
CHTO Chiang Mai 39.81 311 P **P** 03 00 47.4 -0.4
SNR=13
CHTO Chiang Mai 39.81 311 *e*P **P** 03 00 48.0 +0.3
comp=Z,29nm,0.9s
CHTO *e*ScP **ScP** 03 06 33.1 +0.3
CHTO Chiang Mai 39.81 311 P **P** 03 00 47.6 -0.2
comp=Z,172nm,1.0s
JNU Nakatsue 40.16 2 P **P** 03 00 49.0 -1.5
comp=Z,14nm,1.0s,baz=206,slow=7.3,SNR=4.2
GYA Guiyang 40.23 327 P **P** 03 00 52.8 +1.5
GYA pP **pP** 03 01 14.6 +1.3
GYA sP **sP** 03 01 26.0 +1.9
GYA PP **PnPn** 03 02 31.4 +1.2
GYA ScP **ScP** 03 06 34.8 +0.4
GYA S **S** 03 06 52.7 +1.0
GYA sS **sS** 03 07 32.2 +2.5
GYA SS **SS** 03 09 49.4 -4.3
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.1s
GYA LN
comp=Z,530nm,17.6s
GYA LE
comp=Z,480nm,18.2s
GYA LZ
comp=Z,510nm,17.8s
WHN Wuhan 40.33 339 P **P** 03 00 51.8 0.0
WHN pP **pP** 03 01 12.1 -1.8
WHN S **S** 03 06 58.1 +5.4
WHN LZ
comp=Z,340nm,19.6s
NJ2 Nanjing 40.41 346 *e*P **P** 03 00 52.5 +0.1
NJ2 PMZ
comp=Z,30nm,0.5s
CMAI Chiengmai2 40.43 312 P **P** 03 00 53.1 +0.1
comp=Z,28nm,0.8s
KMI Kunming 41.47 322 P **P** 03 01 01.3 -0.3
KMI pP **pP** 03 01 23.4 -0.3
KMI sP **sP** 03 01 34.6 +0.1
KMI PMZ
comp=Z,16nm,1.3s
KMI PMZ
comp=Z,92nm,3.9s
KMI LN
comp=Z,140nm,16.0s
KMI LE
comp=Z,96nm,20.7s
KMI LZ
comp=Z,130nm,17.6s
MJAR Matsushiro Arr 44.30 10 P **P** 03 01 22.1 -1.9
comp=Z,14nm,1.0s,baz=188,slow=9.7,SNR=27
MJAR LR LR 03 18 38.0
comp=Z,62nm,20.2s,baz=210,slow=34
MAJO Matsushiro 44.30 10 *d i*P **P** 03 01 22.6 -1.4
MAJO pmax pmax
comp=Z,131nm,1.0s
MAJO Matsushiro 44.30 10 *e*P **P** 03 01 22.4 -1.6
comp=Z,48nm,1.1s
MAJO *ep*P **pP** 03 01 43.3 -3.1
MAJO *es*P **sP** 03 01 55.7 -1.4
MAT Matsushiro 44.30 10 P **P** 03 01 22.6 -1.4
MAT *e*S **S** 03 07 54.0 +3.0
KSAR Wonju Array Be 44.49 358 P **P** 03 01 25.5 +0.1
KSAR Wonju Array Be 44.49 358 P **P** 03 01 25.5 +0.1
KSRS Korea Array 44.50 358 P **P** 03 01 25.5 0.0
comp=Z,3.7nm,0.9s,baz=176,slow=9.5,SNR=11
CD2 Chengdu 45.31 328 *e*P **P** 03 01 32.0 -0.1
CD2 pP **pP** 03 01 54.6 0.0
CD2 sP **sP** 03 02 05.9 +0.6
CD2 PP **PP** 03 03 20.4 +0.4
CD2 PcS **PcS** 03 07 03.0 -1.6
CD2 S **S** 03 08 05.2 -0.7
CD2 sS **sS** 03 08 44.7 +0.2
CD2 SS **ScS** 03 11 21.6 +1.8
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,210nm,13.1s
CD2 LZ
comp=Z,200nm,19.1s
XAN Xi'an 45.50 336 P **P** 03 01 32.1 -1.5
XAN pP **pP** 03 01 51.7 -4.4
XAN S S 03 08 01.9 -6.7
XAN PMZ
comp=Z,3.0nm,1.0s
XAN PMZ
comp=Z,29nm,5.3s
XAN LN
comp=Z,130nm,20.4s
XAN LE
comp=Z,61nm,21.4s
XAN LZ
comp=Z,34nm,17.3s
IMP Imphal 47.14 314 *e*P **P** 03 01 47.0 +0.4
BJI Beijing 48.66 346 P **P** 03 01 59.8 +1.8
BJI S **S** 03 08 56.7 +3.6
BJI PMZ
comp=Z,21nm,0.6s
BJI PMZ
comp=Z,170nm,5.1s
BJI LN
comp=Z,120nm,28.4s
BJI LE
comp=Z,180nm,25.5s
BJI LZ
comp=Z,69nm,26.3s
OUZ Omahuta 48.97 131 *e*P **P** 03 02 02.1 +1.6
comp=Z,27nm,1.2s
SHL Shillong 49.09 313 *ex* **P** 03 02 00.6 -1.2
LZH Lanzhou 49.44 332 *e*P **P** 03 02 05.0 +0.7
LZH pP **pP** 03 02 28.3 +1.2
LZH sP **sP** 03 02 39.6 +1.9
LZH PP **PP** 03 04 01.2 +1.8
LZH ScP **ScP** 03 07 12.5 +0.3
LZH *e*S **S** 03 09 00.4 -4.2
LZH sS **sS** 03 09 43.0 -0.7
LZH SS **SS** 03 12 31.1 -6.8
LZH PMZ
comp=Z,28nm,1.1s
LZH PMZ
comp=Z,140nm,5.2s
DCZ Deep Cove 50.02 146 *e*P **P** 03 02 10.4 +2.1
HHC Hu-ho-hao-te 50.66 342 *e*P **P** 03 02 14.6 +1.3
HHC PMZ
comp=Z,19nm,0.8s
HHC PMZ
comp=Z,110nm,5.4s
WHZ Wether Hill Ro 50.71 146 *e*P **P** 03 02 14.2 +0.7
comp=Z,54nm,0.9s
PALK Pallekele 50.87 285 *i* P **P** 03 02 15.7 +0.4
PALK Pallekele 50.87 285 *e*P **P** 03 02 13.6 -1.7
comp=Z,7.4nm,0.9s
CN2 Changchun 50.95 356 *e*P **P** 03 02 16.4 +1.1
USRK Ussuriysk Ar. 51.25 2 P **P** 03 02 17.2 -0.3
comp=Z,6.6nm,0.7s,baz=190,slow=8.7,SNR=11
USRK LR LR 03 23 20.9
comp=Z,48nm,21.9s,baz=158,slow=35
RPZ Rata Peaks 51.27 142 *e*P **P** 03 02 19.9 +2.0
comp=Z,180nm,1.1s
MDJ Mudanjiang 51.62 360 P **P** 03 02 19.9 -0.4
MDJ pP **pP** 03 02 41.3 -1.9
MDJ sP **sP** 03 02 52.1 -1.7
MDJ ScP **ScP** 03 07 20.9 -0.2
MDJ PcS **PcS** 03 07 30.9 +0.2
MDJ S **S** 03 09 40.1 +5.9
MDJ PMZ
comp=Z,10.0nm,1.1s
MDJ PMZ
comp=Z,46nm,3.7s
MDJ LN
comp=Z,130nm,29.8s
MDJ LE
comp=Z,45nm,19.6s
MDJ LZ
comp=Z,150nm,35.1s
CHLP Challavanipeta 51.71 300 *e*P **P** 03 02 20.7 -0.7
ODZ Otahua Downs 51.76 144 *e*P **P** 03 02 23.0 +1.6
LSA Lhasa 52.11 317 P **P** 03 02 25.1 +0.3
LSA Lhasa 52.11 317 *e*P **P** 03 02 24.4 -0.4
LSA *e**PP **pP** 03 02 47.6 -0.2
LSA pmax pmax
comp=Z,22nm,0.6s
LSA Lhasa 52.11 317 *e*P **P** 03 02 24.4 -0.4
comp=Z,22nm,0.6s
LSA *ep*P **pP** 03 02 47.6 -0.2
KHZ Kahutara 52.17 139 *e*P **P** 03 02 25.1 +0.6
comp=Z,76nm,1.0s
SNZO South Karori 52.41 138 *e*P **P** 03 02 26.1 -0.2
comp=Z,68nm,1.1s
ASAJ Asahikawa 52.46 12 P **P** 03 02 25.7 -0.8
comp=Z,5.1nm,0.5s,baz=245,slow=10.0,SNR=7.8
BKZ Black Stump Fm 52.70 134 *e*P **P** 03 02 29.5 +1.0
URZ Urewera 52.77 133 *e*P **P** 03 02 29.1 +0.1
comp=Z,58nm,1.2s
ODAN Odare 53.13 311 *e*P **P** 03 02 31.3 -0.8
comp=Z,47nm,0.5s
TAPN Taplejung 53.17 312 *e*P **P** 03 02 31.7 -0.7
comp=Z,71nm,0.5s
BFZ Birch Farm 53.17 136 *e*P **P** 03 02 33.0 +1.1
comp=Z,337nm,2.6s
SKHT Srikalahasti 53.75 293 *e*P **P** 03 02 35.0 -1.4
RAMN Ramite 53.77 311 *e*P **P** 03 02 36.4 -0.4
comp=Z,210nm,1.1s
GTA Gaotai 54.01 332 *e*P **P** 03 02 37.9 -0.2
GTA PMZ
comp=Z,7.0nm,0.9s
ADKI Addanki 54.25 295 *e*P **P** 03 02 39.0 -1.1
ADKI *ep*P **pP** 03 03 03.1 -0.1
ADKI *e*S **S** 03 10 06.3 -4.4
JIRN Jiri 54.46 311 *e*P **P** 03 02 41.3 -0.7
GUN Gumba 54.83 312 *e*P **P** 03 02 44.0 -0.6
comp=Z,122nm,0.8s

PKI Pulchoki 55.00 311 *e*P **P 03 02 44.7 -1.1**
comp=Z,41nm,0.5s
PKIN Phulchoki 55.01 311 *e*P **P 03 02 45.8 0.0**
comp=Z,15nm,0.4s
NJS Nagarjunasagar 55.10 296 *e*P **P 03 02 44.6 -1.7**
NJS *e*pP **pP 03 03 09.9 +0.5**
NJS *e*sP **sP 03 03 21.4 +1.4**
NJS *e*ScP **ScP 03 07 37.1 +0.2**
KKN Kakani 55.21 311 *e*P **P 03 02 46.4 -0.8**
comp=Z,61nm,0.7s
HABR Khabarovsk 55.69 4 *e*P **P 03 02 48.2 -1.7**
HABR *e**PP **pP 03 03 08.5 -4.6**
HABR *e**SP sP 03 03 17.6 -6.0
HABR *e*S **S 03 10 29.5 +0.6**
HABR *e* 03 12 29.2
HABR *e*SS **SS 03 14 16.7 +0.8**
HABR pmax pmax
comp=Z,44nm,1.5s
HABR pmax pmax
comp=E,28nm,1.5s
HABR pmax pmax
comp=N,16nm,1.7s
GKN Gorkha 55.80 311 *e*P **P 03 02 50.6 -0.8**
comp=N,59nm,0.4s
RPR Rampur 55.97 298 *e*P **P 03 02 51.2 -1.3**
RPR *e*pP **pP 03 03 14.2 -1.5**
RPR *e*PcP **PcP 03 03 45.0 -5.0**
HYB Hyderabad 56.08 297 *i* P **P 03 02 50.5 -2.8**
HYB *e*pP **pP 03 03 16.0 -0.6**
HYBB Hyderabad (bro 56.08 297 *e*P **P 03 02 52.5 -0.9**
HYBB *e*pP **pP 03 03 15.3 -1.3**
HYBB *e*sP **sP 03 03 28.5 +1.3**
URV Uravakonda 56.39 293 *e*P **P 03 02 53.2 -2.4**
KOLN Koldanda 56.47 310 *e*P **P 03 02 55.6 -0.5**
comp=N,108nm,0.8s
DANN Dangsing 56.65 311 *e*P **P 03 02 56.8 -0.7**
comp=N,100nm,0.7s
PYUN Piuthan 57.10 310 *e*P **P 03 03 00.1 -0.5**
comp=N,334nm,0.8s
AFI Afiamalu 57.88 102 *e*P **P 03 03 08.0 +1.8**
AFI Afiamalu 57.88 102 *e*P **P 03 03 08.0 +1.8**
ULN Ulaanbaatar 58.38 342 *c i*P **P 03 03 09.3 +0.2**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 58.38 342 P **P 03 03 09.7 +0.6**
SNR=7.2
ULN Ulaanbaatar 58.38 342 *e*P **P 03 03 09.1 0.0**
comp=Z,21nm,0.8s
SONM Songino Array 58.55 342 P **P 03 03 10.4 +0.1**
comp=Z,2.2nm,0.5s,baz=157,slow=6.5,SNR=17
SONM PKP2bc 03 33 00.3
comp=Z,1.4nm,0.9s,baz=352,slow=2.9,SNR=6.5
CASY Casey 60.40 189 *e*P **P 03 03 23.4 +0.9**
comp=Z,43nm,1.2s
ZAK Zakamensk 61.77 341 *e*P **P 03 03 30.2 -2.0**
ZAK *e* 03 03 55.6
ZAK pmax pmax
comp=Z,6.0nm,1.8s
TLY Talaya 62.79 342 *e*P **P 03 03 39.4 +0.5**
TLY *e* 03 13 17.0
TLY pmax pmax
comp=Z,10.0nm,1.6s
TLY MLR MLR
comp=Z,50nm,16.0s
TLY Talaya 62.79 342 P **P 03 03 38.8 -0.1**
comp=Z,1.3nm,0.3s,baz=180,slow=5.8,SNR=6.2
TLY Talaya 62.79 342 *e*P **P 03 03 37.8 -1.0**
comp=Z,7.1nm,1.0s
TLY *e*pP **pP 03 04 05.2 +2.7**
WMQ Urumqi 63.39 327 P **P 03 03 43.3 +0.2**
WMQ pP **pP 03 04 06.5 -0.3**
WMQ sP **sP 03 04 19.0 +1.8**
WMQ PP **PP 03 06 05.5 +1.8**
WMQ *e*S **S 03 12 07.0 -1.5**
WMQ SKS **SKSac 03 13 24.0 -3.6**
WMQ PMZ
comp=Z,20nm,1.0s
WMQ PMZ
comp=Z,200nm,5.1s
WMQ LN
comp=Z,260nm,16.6s
WMQ LE
comp=Z,210nm,12.3s
WMQ LZ
comp=Z,280nm,21.0s
MOY Mondy 63.62 341 *e*P **P 03 03 44.9 +0.4**
CLNS Chul'man 63.98 357 *e*P **P 03 03 46.6 0.0**
CLNS pmax pmax
comp=Z,10.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.0s
PETK Petropavlovsk- 64.68 18 P **P 03 03 51.8 +0.6**
comp=E,18nm,1.0s,baz=193,slow=6.1,SNR=4.3
PETK LR LR 03 31 45.6
comp=E,21nm,19.4s,baz=210,slow=36
BOD Bodaibo 66.08 351 *e*P **P 03 03 58.8 -1.3**
BOD pmax pmax
comp=Z,11nm,1.3s
PDGK Podgornoye 67.76 323 P **P 03 04 11.6 +0.5**
PDGK pmax pmax
comp=Z,17nm,0.9s
KSH Kashi 67.94 318 P **P 03 04 12.6 +0.1**
KSH pP **pP 03 04 37.1 +0.6**
KSH *e*PP **PP 03 06 44.5 +0.8**
KSH PcS 03 08 42.0
KSH S **S 03 12 59.8 -4.4**
KSH sS **sS 03 13 42.7 -2.6**
KSH ScS **SKiKP 03 13 57.8 -1.9**
KSH SS **SS 03 17 24.0 -4.2**
KSH PMZ
comp=Z,14nm,1.1s
KSH PMZ
comp=Z,110nm,6.1s
KSH LN
comp=Z,98nm,5.1s
KSH LE
comp=Z,110nm,6.8s
KSH LZ
comp=Z,180nm,6.6s
MK31 Makanchi Array 68.22 327 *e*P **P 03 04 13.9 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.5s
MKAR Makanchi Array 68.22 327 *ce*P **P 03 04 13.6 -0.4**
MKAR pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 68.22 327 P **P 03 04 13.7 -0.3**
comp=Z,17nm,0.5s,baz=123,slow=7.8,SNR=246
YAK Yakutsk 69.07 0 *e*P **P 03 04 17.6 -1.3**
YAK *e**PP **PcP 03 04 38.4 -3.9**
YAK *e* 03 06 48.9
YAK *e*S **S 03 13 14.7 -1.7**
YAK *e**SS **sS 03 13 58.0 +0.4**
YAK *e*SS **SS 03 17 42.7 -1.7**
YAK pmax pmax
comp=Z,52nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK smax smax
comp=E,62nm,1.8s
YAK Yakutsk 69.07 0 P **P 03 04 16.1 -2.8**
comp=E,19nm,0.3s,baz=2.7,slow=3.2,SNR=9.3
YAK Yakutsk 69.07 0 *e*P **P 03 04 18.3 -0.6**
comp=E,62nm,0.9s
SFK Sufi-Kurgan 69.84 317 P **P 03 04 24.7 +0.3**
SFK pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 69.93 321 P **P 03 04 24.4 -0.5**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 69.93 321 *e*P **P 03 04 24.5 -0.4**
comp=Z,16nm,0.9s
AAK Ala-Archa 70.48 320 P **P 03 04 28.4 +0.2**
comp=Z,62nm,1.2s,SNR=5.9
AAK Ala-Archa 70.48 320 *d i*P **P 03 04 28.8 +0.6**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 70.48 320 P **P 03 04 28.4 +0.2**
comp=Z,3.6nm,0.5s,baz=122,slow=5.9,SNR=14
AAK Ala-Archa 70.48 320 P **P 03 04 29.3 +1.1**
SNR=6.5
AAK Ala-Archa 70.48 320 *e*P **P 03 04 28.0 -0.2**
comp=Z,25nm,1.0s
AAK *e*pP **pP 03 04 53.3 +0.9**
KBL Kabul 70.63 310 *e*P **P 03 04 29.4 +0.1**
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 70.63 310 *e*P **P 03 04 29.4 +0.1**
comp=Z,7.5nm,0.6s
EKS2 Erkin-Say 70.95 320 *e*P **P 03 04 30.9 -0.1**
EKS2 *e**PP **pP 03 04 57.4 +2.2**
EKS2 pmax pmax
comp=Z,29nm,1.0s
EKS2 Erkin-Say 70.95 320 *e*P **P 03 04 30.9 -0.1**
comp=Z,29nm,1.0s
EKS2 *e*pP **pP 03 04 57.4 +2.2**
ZALV Zalesovo Beam 71.64 334 P **P 03 04 33.5 -1.1**
comp=Z,7.6nm,0.6s,baz=119,slow=5.2,SNR=33
MNAS Manas 71.69 319 P **P 03 04 35.6 +0.1**
MNAS pmax pmax
comp=Z,16nm,1.3s
SEY Seymchan 72.12 11 P **P 03 04 38.0 +0.6**
SEY Seymchan 72.12 11 P **P 03 04 38.0 +0.6**
comp=Z,23nm,1.0s,baz=205,slow=4.9,SNR=47
VNDA Vanda 72.25 173 *e*P **P 03 04 38.8 +0.8**
VNDA Vanda 72.25 173 P **P 03 04 39.0 +1.0**
comp=Z,7.3nm,0.7s,baz=323,slow=6.5,SNR=37
VNDA LR LR 03 35 26.8
comp=Z,156nm,20.1s,baz=332,slow=35
VNDA Vanda 72.25 173 *e*P **P 03 04 38.8 +0.8**
comp=Z,0.1nm,0.9s
RER Riviere de l'E 72.41 250 *e*P **P 03 04 41.9 +1.8**
comp=Z,94nm,0.8s
KURBB Kurchatov Arra 72.52 329 P **P 03 04 39.6 -0.5**
comp=Z,7.3nm,0.6s,baz=126,slow=4.8,SNR=79
KURK Kurchatov 72.53 329 P **P 03 04 39.9 -0.2**
comp=Z,57nm,0.5s,SNR=14
KURK Kurchatov 72.53 329 P **P 03 04 39.5 -0.6**
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 72.53 329 P **P 03 04 40.1 0.0**
SNR=7.2
KURK Kurchatov 72.53 329 *e*P **P 03 04 39.4 -0.6**
comp=Z,33nm,1.0s
DZET Dzherino 72.54 314 P **P 03 04 39.8 -0.8**
DZET pmax pmax
comp=Z,16nm,0.7s
NVS Novosibirsk 72.92 334⇑ *i*P **P 03 04 40.1 -2.2**
NVS *i* 03 05 02.4
NVS *e*S S 03 13 53.6 -7.6
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS pmax pmax
comp=Z,23nm,1.3s
NVS smax smax
comp=N,20nm,2.7s
NVS smax smax
comp=E,17nm,2.7s
KK31 Karatay Array 73.27 319 *i* P **P 03 04 44.3 -0.4**
KK31 pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 73.27 319 *e*P **P 03 04 43.8 -0.9**
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 73.27 319 *e*P **P 03 04 43.8 -0.9**
comp=Z,13nm,0.9s
MAW Mawson 74.58 201 P **P 03 04 52.9 +1.1**
comp=Z,21nm,1.0s,baz=88,slow=8.0,SNR=18
MAW LR LR 03 34 19.2
comp=Z,167nm,21.9s,baz=60,slow=33
MAW Mawson 74.58 201 P **P 03 04 53.5 +1.7**
baz=74,SNR=15
SMDO Samad 76.10 296 P **P 03 05 01.5 -0.1**
SNR=8.5
HOQ Hoqain 76.89 296 P **P 03 05 06.1 +0.2**
SNR=6.8
BVA0 Borovoye Array 78.07 328 *i* P **P 03 05 10.9 -0.9**
BVA0 pmax pmax
comp=Z,19nm,1.1s
BVAR Borovoye Array 78.07 328 P **P 03 05 11.2 -0.6**
comp=Z,4.7nm,0.5s,baz=130,slow=6.0,SNR=38
IMYA Miami 78.09 309 *e*P **P 03 05 11.0 -1.5**
BRVK Borovoye 78.14 328 P **P 03 05 11.1 -1.1**
comp=Z,91nm,1.0s,SNR=8.0
ASHO Ashiyiah 78.26 297⇑ *i*P **P 03 05 13.1 -0.5**
SNR=11
BANOM Banah 78.34 298⇓ *i*P **P 03 05 13.8 -0.1**
SNR=9.0
ISRO Mashad 78.56 309 *e*P **P 03 05 13.3 -1.7**
FAQ Al Faqa, Dubai 78.69 297⇓ *i*P **P 03 05 15.2 -0.7**
SNR=12
TBI Tubuai 78.86 112 *e*LR LR 03 29 59.6
comp=Z,301nm,32.0s
ASUD Al Ashush, Dub 78.89 297 ⇓P **P 03 05 16.7 -0.3**
PPT2 Papeete2 79.12 106 *e*LR LR 03 30 07.9
comp=Z,223nm,31.6s
PPT Papeete 79.12 106 LR LR 03 36 50.8
comp=Z,30nm,20.2s,baz=282,slow=33
ABTO Aybut 79.22 289 P **P 03 05 18.6 -0.3**
SNR=5.6
IKRD Kardeh 79.44 309 *e*P P 03 05 15.2 -4.8
BILL Bilibino 79.44 13 *e*P **P 03 05 19.5 +0.5**
BILL pmax pmax
comp=Z,3.0nm,0.7s
BILL Bilibino 79.44 13 *e*P **P 03 05 19.5 +0.5**
comp=Z,2.7nm,0.7s
GEYT Alibeck 80.08 310 P **P 03 05 23.3 +0.1**
comp=Z,7.3nm,0.9s,baz=242,slow=3.2,SNR=16
GEYT LR LR 03 46 55.8
comp=Z,40nm,19.2s,baz=185,slow=40
IBAF Bafgh 80.36 304 *e*P **P 03 05 22.6 -2.4**
ISAD Sadrabad 82.00 304 *e*P **P 03 05 32.0 -1.8**
AB31 Akbulak array 82.46 322 *i* P **P 03 05 34.5 -1.0**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 82.46 322 *e*P **P 03 05 34.5 -0.9**
comp=Z,16nm,0.8s
QSPA South Pole Qui 82.73 180 *e*P **P 03 05 36.8 0.0**
comp=Z,15nm,0.7s
SYO Syowa Base 83.29 201⇑ *e*X **P 03 05 38.0 -1.4**
SYO Syowa Base 83.29 201⇓ *e*PcP **PcP 03 05 42.2 -1.5**
AKTO Aktyubinsk 84.03 322 P **P 03 05 42.7 -0.9**
comp=Z,6.1nm,0.6s,baz=111,slow=7.0,SNR=24
SVE Sverdlovsk 84.78 329 *d i*P **P 03 05 46.9 -0.2**
SVE pmax pmax
comp=Z,53nm,1.2s
ARU Arti 85.71 328 P **P 03 05 51.9 +0.1**
comp=Z,140nm,1.0s,SNR=10
ARU Arti 85.71 328 *c i*P **P 03 05 51.0 -0.8**
ARU **PP* **pP 03 06 13.2 -3.5**
ARU 03 09 09.3
ARU S S 03 16 08.8 -7.7
ARU pmax pmax
comp=Z,32nm,1.2s
ARU Arti 85.71 328 *e*P **P 03 05 50.6 -1.1**
comp=Z,33nm,1.1s
RAYN Ar Rayn 87.50 294 P **P 03 06 01.9 +0.6**
comp=Z,163nm,0.8s,SNR=13
RAYN Ar Rayn 87.50 294 *e*P **P 03 06 00.8 -0.5**
comp=Z,22nm,0.8s
RAYN *e*pP **pP 03 06 26.6 +0.2**
SOKR Solikamsk 87.64 331 *e*P **P 03 05 58.9 -2.2**
SOKR pmax pmax
comp=Z,20nm,1.5s
GNI Garni 90.72 310⇓ *e*P **P 03 06 17.8 +1.6**
GNI pmax pmax
comp=Z,9.0nm,1.2s
GNI Garni 90.72 310 P **P 03 06 17.5 +1.3**
comp=Z,1.5nm,0.5s,baz=12,slow=21,SNR=3.6
GNI Garni 90.72 310 *e*P **P 03 06 16.6 +0.3**
comp=Z,8.5nm,1.1s
ZEI Tsey 91.73 313 *e*P **P 03 06 19.8 -1.1**
ZEI pmax pmax
comp=Z,9.0nm,1.3s
NVL N'lazarevskaya 92.00 197 *e*P **P 03 06 21.1 -0.3**
NVL pmax pmax
comp=Z,9.0nm,0.9s
RKT Rikitea 92.13 113 *e*LR LR 03 36 08.1
comp=Z,204nm,35.2s
KMBO Kilima Mbogo 92.20 269 *ce*P **P 03 06 25.5 +1.7**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 92.20 269 P **P 03 06 24.1 +0.3**
comp=Z,3.2nm,0.7s,baz=48,slow=7.1,SNR=11
KMBO Kilima Mbogo 92.20 269 *e*P **P 03 06 23.3 -0.5**
comp=Z,1.2nm,0.9s
MCK McKinley 92.67 26 *e*P **P 03 06 22.8 -1.8**
MCK pmax pmax
comp=Z,23nm,1.2s
MCK McKinley 92.67 26 *e*P **P 03 06 22.8 -1.8**
comp=Z,23nm,1.2s
COLD Coldfoot 92.84 23 *e*P **P 03 06 25.0 -0.2**
comp=Z,12nm,1.1s
COLA College 93.34 25⇑ *i*P **P 03 06 26.9 -0.6**
COLA pmax pmax
comp=Z,54nm,1.7s
COLA College 93.34 25 *e*P **P 03 06 26.7 -0.8**
comp=Z,2.9nm,0.8s
PRGR Permogore 93.47 332 *e*P P 03 06 24.8 -3.4
PRGR pmax pmax
comp=Z,7.0nm,0.9s
ILAR Eielson Array 93.73 25 P **P 03 06 27.6 -1.7**
comp=Z,5.5nm,1.0s,baz=268,slow=4.3,SNR=32
ILAR PKKPbc **PKKPdf 03 23 33.7 -1.2**
comp=Z,0.6nm,0.8s,baz=29,slow=1.6,SNR=7.2
ILAR LR LR 03 42 23.5
comp=Z,28nm,21.0s,baz=284,slow=31
PAX Paxson 94.09 27 *e*P **P 03 06 30.8 -0.4**
PAX pmax pmax
comp=Z,26nm,1.4s
PAX Paxson 94.09 27 *e*P **P 03 06 30.8 -0.4**
comp=Z,26nm,1.4s
EGAK Eagle 96.17 26 *e*P **P 03 06 39.9 -0.6**
comp=Z,9.6nm,1.0s
DAWY Dawson 96.90 26 *e*P **P 03 06 43.8 -0.1**
DAWY *e*pP **pP 03 07 10.7 +1.6**
OBN Obninsk 97.64 325 LR LR 03 54 26.2
comp=Z,210nm,21.9s,baz=169,slow=38
BOSA Boshof 99.01 240 *e*P **Pdif 03 06 54.3 -0.1**
BOSA pmax pmax
comp=Z,7.0nm,0.9s
BOSA Boshof 99.01 240 P **Pdif 03 06 54.2 -0.1**
comp=Z,4.7nm,0.8s,baz=117,slow=9.2,SNR=3.8
BOSA LR LR 03 47 18.4
comp=Z,62nm,18.3s,baz=124,slow=33
BOSA Boshof 99.01 240 *e*P **Pdif 03 06 54.3 -0.1**
comp=Z,6.8nm,0.9s
LSZ Lusaka 99.03 253 *e*P **Pdif 03 06 54.5 -0.1**
LSZ pmax pmax
comp=Z,4.0nm,0.6s
LSZ Lusaka 99.03 253 *e*P **Pdif 03 06 54.5 -0.1**
comp=Z,3.6nm,0.6s
BRTR Keskin Array B 99.17 309 P **Pdif 03 06 53.8 -1.1**
comp=Z,0.2nm,0.6s,baz=117,slow=6.3,SNR=2.3
BRTR LR LR 03 57 04.7
comp=Z,19nm,21.9s,baz=99,slow=39
INK Inuvik 99.23 22 *e*P **Pdif 03 06 53.3 -0.9**
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 99.23 22 P **Pdif 03 06 52.6 -1.6**
comp=Z,4.6nm,1.1s,baz=263,slow=8.4,SNR=7.2
INK Inuvik 99.23 22 *e*P **Pdif 03 06 53.3 -0.9**
comp=Z,8.4nm,1.3s
ARCES ARCESS Array B 101.68 340 P **Pdif 03 07 06.4 +1.3**
comp=Z,0.8nm,0.4s,baz=80,slow=7.5,SNR=10
ARCES PKiKP **PKiKP 03 11 28.4 +0.3**
comp=Z,0.8nm,0.7s,baz=101,slow=1.6,SNR=5.2
ARCES PKKPbc **PKKPbc 03 23 11.5 -3.0**
comp=Z,2.2nm,1.0s,baz=254,slow=4.0,SNR=5.4
AKASG Malin Array Be 102.15 320 *i* P **Pdif 03 07 07.0 -0.6**
AKASG Malin Array Be 102.15 320 *e* P **Pdif 03 07 04.8 -2.8**
comp=Z,0.1nm,0.3s,baz=77,slow=4.5,SNR=4.7
FINES FINESS Array B 102.80 331 P **Pdif 03 07 08.2 -2.0**
comp=Z,0.7nm,0.6s,baz=52,slow=3.4,SNR=7.1
FINES PKiKP **PKiKP 03 11 30.5 +0.3**
comp=Z,0.3nm,0.4s,baz=134,slow=4.4,SNR=5.0
RES Resolute Bay 107.99 11 *e*PKP **PKiKP 03 11 38.9 -0.6**
KECS Kecovo 108.05 319 *e*P **Pdif 03 07 37.4 +3.5**
KECS Kecovo 108.05 319 PDIF **Pdif 03 07 37.4 +3.5**
YKA Yellowknife Ar 108.14 26 Pdiff **Pdif 03 07 33.8 -0.1**
comp=Z,1.0nm,1.2s,baz=290,slow=4.8,SNR=4.6
YKA PKiKP **PKiKP 03 11 39.2 -0.9**
comp=Z,0.5nm,0.6s,baz=296,slow=1.6,SNR=9.3
YKA PKKPbc **PKKPbc 03 22 52.1 -2.5**
comp=Z,1.0nm,0.7s,baz=104,slow=3.2,SNR=17
YKA PKKPab **PKKPab 03 23 05.6 -0.3**
comp=Z,0.7nm,0.8s,baz=108,slow=4.4,SNR=7.0
PSZ Piszkesteto 108.54 318 *e*PKP **PKiKP 03 11 40.3 -1.1**
MORC Moravsky Berou 109.70 320 *e*PKP **PKiKP 03 11 42.8 -0.7**
NEW Newport 110.80 41 *e*PKiKP **PKiKP 03 11 46.6 +1.0**
NEW Newport 110.80 41 *e*PKP **PKiKP 03 11 46.6 +1.0**
WVOR Wild Horse Val 110.88 47 *e*PKiKP **PKiKP 03 11 46.5 +0.4**
WVOR Wild Horse Val 110.88 47 *e*PKP **PKiKP 03 11 46.5 +0.4**
NVAR Mina Array Bea 111.75 52 Pdiff **Pdif 03 07 56.4 +5.5**
comp=Z,0.4nm,0.7s,baz=270,slow=4.4,SNR=4.0
NVAR PKKPab **PKKPab 03 22 51.8 +1.1**
comp=Z,0.6nm,0.7s,baz=102,slow=6.2,SNR=4.2
TIP Timpagrande 112.23 309 *e*PKP **PKiKP 03 11 49.0 +0.4**
GERES GERESS Array B 112.36 320 PKiKP **PKiKP 03 11 48.5 -0.2**
comp=Z,0.8nm,0.6s,baz=83,slow=2.0,SNR=9.3
GERES PKKPab **PKKPab 03 22 48.7 +1.2**
comp=Z,0.2nm,0.5s,baz=253,slow=4.1,SNR=4.5
SLMT Seeley Lake 113.42 41 *e*PKP **PKiKP 03 11 50.4 -0.5**
ELK Elko 113.69 49 PKiKP **PKiKP 03 11 52.3 +0.7**
comp=Z,1.3nm,0.4s,baz=221,slow=9.9,SNR=9.5
HLID Hailey 113.70 46 *e*PKP **PKiKP 03 11 52.7 +1.2**
MCMT McKenzie Canyo 114.48 44 *e*PKP PKPdf 03 11 54.3 +1.2
BOZ Bozeman (W) 115.10 43 *e*PKiKP **PKPdf 03 11 55.2 +1.1**
BOZ Bozeman (W) 115.10 43 *e*PKP **PKPdf 03 11 55.2 +1.1**
DAVOX Davos/Dischmat 115.42 319 PKP **PKPdf 03 11 54.6 -0.1**
comp=Z,1.8nm,0.6s,baz=211,slow=5.9,SNR=6.1
DUG Dugway, Tooele 115.62 49 *e*PKiKP **PKPdf 03 11 55.4 +0.2**
DUG Dugway, Tooele 115.62 49 *e*PKPdf **PKPdf 03 11 55.4 +0.2**
A19A Klindworth Far 115.94 39⇓P **PKPdf 03 11 54.9 -0.6**
baz=116
B19A Brinkman Farms 115.98 39⇑P **PKPdf 03 11 56.6 +1.1**
baz=116
C19A Slack Wire Ran 116.15 40⇓P **PKPdf 03 11 57.0 +1.1**
baz=116
H17A Grant Village 116.17 44⇓P **PKPdf 03 11 55.9 -0.4**
baz=116
HWUT Hardware Ranch 116.20 47 *e*PKPdf **PKPdf 03 11 56.9 +0.5**
I17A Pilgrim Ck. 116.30 44⇓P **PKPdf 03 11 57.8 +1.3**
baz=116
D19A Cripps Ranch, 116.45 41⇓P **PKPdf 03 11 57.6 +1.0**
baz=116
A20A Cobblestone Ra 116.47 38⇑P **PKPdf 03 11 57.3 +0.8**
baz=116
E19A Rath Farm, Rou 116.74 41⇓P **PKPdf 03 11 58.4 +1.3**
baz=117
WLF Walferdange 116.79 323 *e*PKiKP **PKPdf 03 11 57.5 +0.5**
WLF Walferdange 116.79 323 *e*PKPdf **PKPdf 03 11 57.5 +0.5**
C20A Veseth Ranch, 116.82 40⇑P **PKPdf 03 11 58.3 +1.1**
baz=117
F19A Roth Farm, Mol 116.83 42⇑P **PKPdf 03 11 58.3 +1.0**
baz=117
D20A Manuel Ranch, 116.95 40⇑P **PKPdf 03 11 58.2 +0.8**
baz=117
H19A Powell 117.17 43⇑P **PKPdf 03 11 58.1 0.0**
baz=117
B21A Ellsworth Farm 117.19 39⇑P **PKPdf 03 11 58.7 +0.8**
baz=117
BW06 Boulder Array 117.33 45 *e*PKPdf **PKPdf 03 11 57.8 -0.8**
PDAR Pinedale Array 117.33 45 PKP **PKPdf 03 11 59.0 +0.5**
comp=Z,3.0nm,0.9s,baz=195,slow=1.1,SNR=23
PDAR PKKPab **PKKPab 03 22 26.9 +1.0**
comp=Z,0.8nm,0.6s,baz=118,slow=6.4,SNR=5.9
I19A Meeteetse 117.36 44⇓P **PKPdf 03 11 59.0 +0.5**
baz=117
FFC Flin Flon 117.36 31 *e*PKiKP **PKPdf 03 11 57.7 -0.2**
FFC Flin Flon 117.36 31 *e*PKPdf **PKPdf 03 11 57.7 -0.2**
F20A Billings 117.37 42⇓P **PKPdf 03 11 59.3 +1.0**
baz=117
G20A Bridger 117.52 42⇑P **PKPdf 03 11 59.3 +0.6**
baz=117
J19A Crowheart 117.55 45⇓P **PKPdf 03 11 60.0 +1.1**
baz=118
A22A Carney Farms, 117.66 38⇑P **PKPdf 03 11 59.8 +1.1**
baz=118,SNR=8.0
D21A La Casta Ranch 117.69 40⇓P **PKPdf 03 12 00.5 +1.6**
baz=118
H20A Greybull 117.90 43⇓P **PKPdf 03 12 00.3 +0.9**
baz=118
F21A Absaloka Mine, 118.04 41⇑P **PKPdf 03 12 00.9 +1.2**
baz=118
BNI Bardonecchia 118.08 318 *e*PKiKP **PKPdf 03 11 59.6 -0.2**
BNI Bardonecchia 118.08 318 *e*PKPdf **PKPdf 03 11 59.6 -0.2**
C22A Vida 118.15 39⇑P **PKPdf 03 12 00.2 +0.5**
baz=118,SNR=7.3
D22A Cohagen 118.18 40⇑P **PKPdf 03 12 01.1 +1.3**

	baz=118							
J20A	Shoshoni	118.19	44	⇑P		PKPdf	03 12 01.2	+1.1
	baz=118							
LAO	LASA Array	118.32	40	ℯPKPdf		PKPdf	03 12 01.0	+0.9
B23A	Brockton	118.42	38	⇑P		PKPdf	03 12 01.0	+0.8
	baz=118,SNR=6.5							
H21A	Big Horn, Sher	118.50	43	⇑P		PKPdf	03 12 01.2	+0.6
	baz=118							
C23A	Lambert	118.56	39	⇓P		PKPdf	03 12 02.1	+1.6
	baz=118,SNR=14							
E22A	Miles City	118.59	41	⇓P		PKPdf	03 12 01.1	+0.5
	baz=118							
I21A	Big Trails, Te	118.60	44	⇑P		PKPdf	03 12 01.7	+0.8
	baz=118							
J21A	Lysite	118.64	44	⇓P		PKPdf	03 12 02.3	+1.3
	baz=119							
FCC	Fort Churchill	118.74	24	ℯPKIKP		PKPdf	03 12 00.2	-0.2
FCC	Fort Churchill	118.74	24	ℯPKPdf		PKPdf	03 12 00.1	-0.2
D23A	Lindsay	118.79	40	⇓P		PKPdf	03 12 02.0	+1.0
	baz=119							
TUC	Tucson	118.79	57	ℯPKIKP		PKPdf	03 12 00.9	-0.6
TUC	Tucson	118.79	57	ℯPKPdf		PKPdf	03 12 00.9	-0.6
G22A	Birney	118.80	42	⇓P		PKPdf	03 12 02.6	+1.5
	baz=119							
N20A	Spence Gulch,	118.81	47	⇓P		PKPdf	03 12 02.1	+0.6
	baz=119							
A24A	Westby	118.84	37	⇑P		PKPdf	03 12 01.3	+0.3
	baz=119,SNR=5.7							
DGMT	Dagmar	118.91	38	⇓P		PKPdf	03 12 02.5	+1.4
	baz=119,SNR=5.8							
DGMT	Dagmar	118.91	38	ℯPKPdf		PKPdf	03 12 01.6	+0.4
H22A	Clearmont	118.97	43	⇑P		PKPdf	03 12 02.4	+0.9
	baz=119							
E23A	Ismay	118.98	40	⇓P		PKPdf	03 12 02.9	+1.6
	baz=119							
K21A	Alcova	119.00	45	⇑P		PKPdf	03 12 02.4	+0.7
	baz=119							
O20A	White River Ci	119.02	48	⇓P		PKPdf	03 12 03.4	+1.5
	baz=119							
O20A	White River Ci	119.02	48	ℯPKPdf		PKPdf	03 12 02.8	+1.0
I22A	9 Mile Ranch,	119.12	43	⇑P		PKPdf	03 12 02.1	+0.3
	baz=119							
C24A	Savage	119.14	39	⇑P		PKPdf	03 12 03.0	+1.3
	baz=119,SNR=14							
EKA	Eskdalemuir Ar	119.20	331	PKP		PKPdf	03 12 01.8	+0.4
	comp=Z,0.2nm,0.3s,baz=39,slow=2.7,SNR=6.2							
F23A	Volborg	119.20	41	⇑P		PKPdf	03 12 02.5	+0.7
	baz=119							
ESK	Eskdalemuir	119.23	331	ℯPKIKP		PKPdf	03 11 59.2	-2.3
ESK	Eskdalemuir	119.23	331	ℯPKPdf		PKPdf	03 11 59.2	-2.3
J22A	Midwest	119.28	44	⇓P		PKPdf	03 12 02.7	+0.5
	baz=119							
D24A	Glendive	119.37	39	⇓P		PKPdf	03 12 03.1	+1.0
	baz=119							
A25A	Svangstu Ranch	119.37	37	⇑P		PKPdf	03 12 02.8	+0.8
	baz=119,SNR=5.3							
G23A	Biddle	119.40	42	⇓P		PKPdf	03 12 03.2	+0.9
	baz=119							
K22A	Casper	119.50	45	⇓P		PKPdf	03 12 04.0	+1.3
	baz=119							
K22A	Casper	119.50	45	ℯPKPdf		PKPdf	03 12 03.0	+0.4
E24A	Baker	119.59	40	⇓P		PKPdf	03 12 03.5	+1.0
	baz=120							
B25A	Knox Farm, Ray	119.62	38	⇑P		PKPdf	03 12 04.1	+1.6
	baz=120							
M22A	Cedar Creek Ra	119.84	46	⇑P		PKPdf	03 12 04.9	+1.4
	baz=120							
D25A	Fairfield	119.98	39	⇓P		PKPdf	03 12 05.7	+2.4
	baz=120							
G24A	Alzada	119.99	41	⇑P		PKPdf	03 12 04.0	+0.6
	baz=120							
H24A	Dirks Ranch, A	120.12	42	⇓P		PKPdf	03 12 03.7	0.0
	baz=120							
N22A	Wattenberg Ran	120.13	47	⇓P		PKPdf	03 12 05.5	+1.4
	baz=120							
E25A	Miller Ranch,	120.19	40	⇓P		PKPdf	03 12 04.7	+1.0
	baz=120,SNR=5.6							
L23A	Garrett	120.25	45	⇓P		PKPdf	03 12 04.3	+0.1
	baz=120							
O22A	Kremmling	120.26	47	⇑P		PKPdf	03 12 04.9	+0.5
	baz=120							
P22A	Eagle	120.27	48	⇓P		PKPdf	03 12 05.5	+1.1
	baz=120							
F25A	Bowman	120.39	40	⇓P		PKPdf	03 12 04.5	+0.4
	baz=120,SNR=5.5							
C26A	Wahner Farm, P	120.45	38	⇑P		PKPdf	03 12 05.5	+1.3
	baz=120,SNR=6.1							
N23A	Red Feather La	120.47	47	⇓P		PKPdf	03 12 05.6	+0.9
	baz=120							
J24A	Dixon Ranch, L	120.56	43	⇑P		PKPdf	03 12 05.3	+0.7
	baz=120							
D26A	Manning	120.58	39	⇓P		PKPdf	03 12 05.3	+0.9
	baz=120							
RSSD	Black Hills	120.69	42	ℯPKIKP		PKPdf	03 12 05.0	0.0
RSSD	Black Hills	120.69	42	ℯPKPdf		PKPdf	03 12 05.0	0.0
G25A	Newell	120.70	41	⇑P		PKPdf	03 12 05.0	+0.3
	baz=121							
O23A	Lake Granby, G	120.70	47	⇑P		PKPdf	03 12 06.0	+0.8
	baz=121							
S22A	4UR Ranch, Cre	120.74	50	⇑P		PKPdf	03 12 07.0	+1.7
	baz=121							
H25A	Fruitdale	120.80	42	⇓P		PKPdf	03 12 04.6	-0.3
	baz=121							
E26A	Carlson Angus	120.80	39	⇓P		PKPdf	03 12 05.6	+0.7
	baz=121,SNR=7.5							
C27A	Sayler Ranch,	120.86	38	⇑P		PKPdf	03 12 06.2	+1.3
	baz=121,SNR=5.5							
F26A	Lodgepole	120.92	40	⇑P		PKPdf	03 12 06.1	+0.9
	baz=121,SNR=8.6							
I25A	Rochford	120.94	42	⇓P		PKPdf	03 12 06.0	+0.6
	baz=121							
ISCO	Idaho Springs	121.05	48	ℯPKIKP		PKPdf	03 12 06.4	+0.5
ISCO	Idaho Springs	121.05	48	ℯPKPdf		PKPdf	03 12 06.4	+0.5
A28A	Rude Farm, Bot	121.06	36	⇑P		PKPdf	03 12 06.1	+0.8
	baz=121							
M24A	Cheyenne	121.08	46	⇓P		PKPdf	03 12 07.0	+1.3
	baz=121							
D27A	Center	121.11	38	⇑P		PKPdf	03 12 06.3	+0.9
	baz=121							
J25A	Sunshine Ranch	121.12	43	⇑P		PKPdf	03 12 06.0	+0.3
	baz=121							
G26A	Maurine	121.19	41	⇓P		PKPdf	03 12 06.3	+0.6
	baz=121,SNR=7.8							
B28A	Dugan Ranch, T	121.22	37	⇓P		PKPdf	03 12 06.6	+1.1
	baz=121							
121A	Cookes Peak, D	121.24	56	⇓P		PKPdf	03 12 07.2	+0.9
	baz=121							
N24A	Carr	121.26	46	⇑P		PKPdf	03 12 07.4	+1.3
	baz=121							
F27A	Lemmon	121.33	40	⇑P		PKPdf	03 12 06.6	+0.7
	baz=121,SNR=7.5							
H26A	Fairpoint	121.34	41	⇓P		PKPdf	03 12 06.3	+0.3
	baz=121,SNR=7.7							
K25A	Mack Ranch, Ha	121.36	44	⇓P		PKPdf	03 12 06.3	+0.1
	baz=121							
R23A	Moffat	121.38	49	⇓P		PKPdf	03 12 08.2	+1.7
	baz=121							
E27A	Carson	121.38	39	⇓P		PKPdf	03 12 06.7	+0.7
	baz=121,SNR=5.9							
I26A	New Underwood	121.51	42	⇑P		PKPdf	03 12 07.2	+0.9
	baz=121							
T23A	Casias Ranch,	121.54	51	⇓P		PKPdf	03 12 06.8	0.0
	baz=122							
G27A	Dupree	121.59	40	⇑P		PKPdf	03 12 06.9	+0.4
	baz=122,SNR=20							
J26A	Sides Ranch, S	121.64	43	⇓P		PKPdf	03 12 07.4	+0.7
	baz=122							
Q24A	Divide	121.65	48	⇑P		PKPdf	03 12 07.9	+0.8
	baz=122							
A29A	Manning Farm,	121.66	36	⇓P		PKPdf	03 12 06.8	+0.5
	baz=122							
P24A	Kohler Place,	121.66	48	⇑P		PKPdf	03 12 07.4	+0.5
	baz=122							
D28A	Regan	121.66	38	⇓P		PKPdf	03 12 06.9	+0.4
	baz=122							
SDCO	Great Sand Dun	121.75	50	⇓P		PKPdf	03 12 09.3	+2.0
	baz=122							
ANMO	Albuquerque	121.76	53	*d i* PKIKP		PKPdf	03 12 08.9	+1.7
ANMO				pmax	pmax			
	comp=Z,53nm,1.0s							
ANMO	Albuquerque	121.76	53	PKP		PKPdf	03 12 08.9	+1.7
	comp=Z,10nm,0.9s,baz=218,slow=3.6,SNR=15							
ANMO	Albuquerque	121.76	53	ℯPKPdf		PKPdf	03 12 08.4	+1.1
LPM	Los Pinos Moun	121.78	54	ℯPKPdf		PKPdf	03 12 08.4	+1.1
H27A	Howes	121.79	41	⇑P		PKPdf	03 12 07.4	+0.5
	baz=122,SNR=18							
K26A	Motz Farm, Whi	121.80	44	⇑P		PKPdf	03 12 07.8	+0.8
	baz=122							
B29A	Wagenman Farm,	121.81	36	⇑P		PKPdf	03 12 06.9	+0.2
	baz=122							
E28A	Huff	121.86	39	⇑P		PKPdf	03 12 07.7	+0.9
	baz=122							
R24A	Sanders Place,	121.90	49	⇑P		PKPdf	03 12 08.9	+1.4
	baz=122							
MDND	Maddock	121.95	37	⇓P		PKPdf	03 12 07.2	+0.2
	baz=122							
S24A	Houchin Ranch,	122.00	50	⇑P		PKPdf	03 12 09.2	+1.4
	baz=122							
I27A	Quinn	122.03	42	⇓P		PKPdf	03 12 07.8	+0.5
	baz=122,SNR=9.0							
T24B	San Luis	122.04	51	⇓P		PKPdf	03 12 10.0	+2.1
	baz=122							
O25A	Wiggins	122.04	47	⇑P		PKPdf	03 12 08.6	+1.1
	baz=122							
FRB	Frobisher Bay	122.11	9	PKP		PKPdf	03 12 06.5	-0.3
	comp=Z,2.9nm,0.8s,baz=348,slow=3.1,SNR=8.2							
F28A	McLaughlin	122.11	39	⇑P		PKPdf	03 12 08.3	+1.0
	baz=122,SNR=6.2							
L26A	Underwood Farm	122.11	44	⇑P		PKPdf	03 12 09.1	+1.5
	baz=122							
A30A	Hoffart Farm,	122.19	35	⇑P		PKPdf	03 12 07.8	+0.4
	baz=122							
P25A	Willow Gulch B	122.20	48	⇑P		PKPdf	03 12 09.7	+1.7
	baz=122							
D29A	Pettibone, Tap	122.32	38	⇑P		PKPdf	03 12 08.2	+0.5
	baz=122							
Q25A	Bedland, Calha	122.33	48	⇓P		PKPdf	03 12 09.8	+1.5
	baz=122							
G28A	Parade	122.36	40	⇑P		PKPdf	03 12 08.7	+0.8
	baz=122,SNR=8.7							
J27A	Elkhorn Farm,	122.39	43	⇑P		PKPdf	03 12 08.6	+0.6
	baz=122							
B30A	Myrvik Farm, E	122.41	36	⇑P		PKPdf	03 12 08.4	+0.5
	baz=122							
K27A	Flueckinger Fa	122.44	43	⇑P		PKPdf	03 12 08.5	+0.3
	baz=122							
H28A	Mission Ridge	122.47	41	⇑P		PKPdf	03 12 08.5	+0.4
	baz=122,SNR=11							
E29A	Napoleon	122.51	38	⇑P		PKPdf	03 12 09.0	+0.8
	baz=122							
R25A	Fountain Ranch	122.55	49	⇑P		PKPdf	03 12 10.1	+1.5
	baz=122							
O26A	Horse Wrangler	122.58	46	⇑P		PKPdf	03 12 09.3	+0.7
	baz=122							
S25A	Robets Cordova	122.58	50	⇑P		PKPdf	03 12 10.0	+1.3
	baz=122							
I28A	Midland	122.65	42	⇑P		PKPdf	03 12 09.1	+0.7
	baz=122,SNR=10							
C30A	Mose, Pekin	122.69	37	⇑P		PKPdf	03 12 09.3	+0.9
	baz=123							
F29A	Eureka	122.73	39	⇑P		PKPdf	03 12 09.0	+0.5
	baz=123							
T25A	Trinidad	122.76	50	⇑P		PKPdf	03 12 10.9	+1.7
	baz=123							
P26A	Davis Ranch, A	122.78	47	⇓P		PKPdf	03 12 10.2	+1.1
	baz=123							
D30A	Buchanan	122.80	37	⇓P		PKPdf	03 12 08.9	+0.3
	baz=123							
J28A	Allard Ranch,	122.83	42	⇑P		PKPdf	03 12 09.5	+0.6
	baz=123,SNR=13							
ULM	Lac du Bonnet	122.86	33	PKP		PKPdf	03 12 08.4	-0.2
	comp=Z,7.6nm,0.9s,baz=315,slow=3.5,SNR=13							
N27A	Anderson Farm,	122.94	46	⇑P		PKPdf	03 12 09.6	+0.4
	baz=123							
G29A	Hoven	122.95	40	⇑P		PKPdf	03 12 09.4	+0.4
	baz=123							
V25A	Rancho No Teng	122.97	52	⇑P		PKPdf	03 12 10.8	+1.2
	baz=123							
U25A	Circle Dot Ran	122.98	51	⇓P		PKPdf	03 12 10.9	+1.4
	baz=123							
E30A	Jud	122.99	38	⇑P		PKPdf	03 12 09.5	+0.5
	baz=123							
H29A	Onida	123.01	41	⇑P		PKPdf	03 12 09.6	+0.4
	baz=123							
K28A	Ten Mile Ranch	123.03	43	⇑P		PKPdf	03 12 09.7	+0.4
	baz=123							
R26A	Arlington	123.12	49	⇑P		PKPdf	03 12 10.6	+0.9
	baz=123							
O27A	Beecher Island	123.19	46	⇑P		PKPdf	03 12 10.8	+1.1
	baz=123							
I29A	Vivian Onida	123.20	41	⇓P		PKPdf	03 12 10.3	+0.8
	baz=123,SNR=6.1							
OGNE	Ogallala	123.24	45	⇓P		PKPdf	03 12 11.1	+1.4
	baz=123							
S26A	Kim	123.32	49	⇑P		PKPdf	03 12 11.5	+1.3
	baz=123							
P27A	Ficken Ranch,	123.34	47	⇑P		PKPdf	03 12 11.1	+1.0
	baz=123							
T26A	Comanche Natio	123.37	50	⇓P		PKPdf	03 12 11.5	+1.3
	baz=123							
MNTX	Cornudas Mount	123.41	57	⇑P		PKPdf	03 12 11.8	+1.5
	baz=123							
J29A	Okreek	123.45	42	⇑P		PKPdf	03 12 10.5	+0.5
	baz=123,SNR=15							
G30A	Faulkton	123.47	40	⇑P		PKPdf	03 12 10.7	+0.7
	baz=123							
U26A	Atchley Ranch,	123.49	51	⇓P		PKPdf	03 12 12.3	+1.7
	baz=123							
R27A	Eads	123.61	48	⇓P		PKPdf	03 12 12.5	+1.9
	baz=124							
V26A	Tequesquite Ra	123.63	52	⇑P		PKPdf	03 12 12.1	+1.3
	baz=124							
N28A	Pribbeno Ranch	123.68	45	⇓P		PKPdf	03 12 11.7	+1.1
	baz=124							
K29A	Lazy Trails An	123.72	43	⇑P		PKPdf	03 12 11.3	+0.7
	baz=124,SNR=6.3							
O28A	Krutsinger Ran	123.72	46	⇓P		PKPdf	03 12 11.7	+1.0
	baz=124							
I30A	Oacoma	123.82	41	⇓P		PKPdf	03 12 11.7	+1.0
	baz=124							
L29A	Maesberg Ranch	123.89	43	⇑P		PKPdf	03 12 10.3	-0.7
	baz=124							
BRSD	Miller	123.90	40	⇓P		PKPdf	03 12 11.9	+1.0
	baz=124							
AGMN	Agassiz Nation	123.91	35	⇓P		PKPdf	03 12 11.0	+0.3
	baz=124							
P28A	Saint Francis	123.94	47	⇓P		PKPdf	03 12 12.1	+0.9
	baz=124							
J30A	Dallas	124.03	42	⇓P		PKPdf	03 12 11.5	+0.4
	baz=124,SNR=10.0							
Q28A	Sharon Springs	124.06	47	⇑P		PKPdf	03 12 12.8	+1.4
	baz=124							
T27A	Campo	124.07	50	⇓P		PKPdf	03 12 13.1	+1.6
	baz=124							
TAM	Tamanrasset	124.16	293	ℯPKIKP		PKPdf	03 12 12.5	+0.4
TAM	Tamanrasset	124.16	293	ℯPKPdf		PKPdf	03 12 12.5	+0.4
U27A	Thompson Grove	124.19	51	⇓P		PKPdf	03 12 12.5	+0.7
	baz=124							
K30A	Basset	124.23	42	⇑P		PKPdf	03 12 12.0	+0.5
	baz=124,SNR=12							
R28A	Tribune	124.33	48	⇑P		PKPdf	03 12 13.4	+1.4
	baz=124							
O29A	4D Ranch, Culb	124.42	46	⇑P		PKPdf	03 12 13.5	+1.5
	baz=124							
L30A	Spencer Herefo	124.45	43	⇓P		PKPdf	03 12 12.5	+0.4
	baz=124							
T28A	Walsh	124.51	50	⇓P		PKPdf	03 12 13.8	+1.5
	baz=124							
P29A	Atwood	124.52	46	⇓P		PKPdf	03 12 13.2	+1.0
	baz=124							
N30A	Hueftle Ranch,	124.65	45	⇑P		PKPdf	03 12 13.2	+0.8
	baz=125							
U28A	Mallet	124.66	50	⇑P		PKPdf	03 12 13.9	+1.2
	baz=125							
Q29A	Oakley	124.74	47	⇑P		PKPdf	03 12 13.4	+0.7
	baz=125							
R29A	Marienthal	124.79	48	⇑P		PKPdf	03 12 14.1	+1.3
	baz=125							
V28A	Channing	124.86	51	⇑P		PKPdf	03 12 14.8	+1.7
	baz=125							
O30A	MW Ranch, Wils	124.92	45	⇑P		PKPdf	03 12 13.6	+0.6
	baz=125							
MSTX	Muleshoe	124.95	53	⇑P		PKPdf	03 12 15.0	+1.6
	baz=125							
MSTX	Muleshoe	124.95	53	ℯPKPdf		PKPdf	03 12 14.0	+0.6
L31A	Butterfield Fa	124.96	43	⇑P		PKPdf	03 12 13.2	+0.2
	baz=125,SNR=7.6							
W28A	Vega	125.02	52	⇑P		PKPdf	03 12 14.7	+1.3
	baz=125							
P30A	Selden	125.03	46	⇑P		PKPdf	03 12 14.2	+1.0
	baz=125,SNR=5.6							
S29A	Ulysses	125.09	49	⇑P		PKPdf	03 12 15.3	+1.9
	baz=125							
T29A	Hugoton	125.11	49	⇑P		PKPdf	03 12 15.2	+1.7
	baz=125							
M31A	Lambtecht Ranc	125.21	44	⇓P		PKPdf	03 12 13.9	+0.4
	baz=125							
X28A	Dimmitt	125.25	53	⇑P		PKPdf	03 12 15.6	+1.8
	baz=125							
Q30A	Quinter	125.26	47	⇑P		PKPdf	03 12 14.5	+0.8
	baz=125,SNR=5.9							
V29A	Stinnett	125.36	51	⇑P		PKPdf	03 12 15.6	+1.6
	baz=125							
TXAR	Lajitas Array	125.38	59	PKP		PKPdf	03 12 15.4	+1.2
	comp=Z,5.7nm,0.9s,baz=244,slow=1.1,SNR=27							
Y28A	McKinney Farm,	125.39	53	⇓P		PKPdf	03 12 15.0	+0.9
	baz=125							
Z28A	Tucker Farm, M	125.46	54	⇑P		PKPdf	03 12 14.2	-0.1
	baz=125							
R30A	Dighton	125.47	48	⇓P		PKPdf	03 12 15.2	+1.1
	baz=125,SNR=7.9							
W29A	Amarillo	125.50	52	⇑P		PKPdf	03 12 15.6	+1.3
	baz=125							
AMTX	Amarillo	125.55	52	⇑P		PKPdf	03 12 15.9	+1.6
	baz=126							
128A	Castleberry Fa	125.56	55	⇓P		PKPdf	03 12 14.9	+0.4
	baz=126							
228A	UT Block 9, Go	125.61	56	⇑P		PKPdf	03 12 15.8	+1.3
	baz=126							
P31A	Stockton	125.66	46	⇓P		PKPdf	03 12 15.4	+1.0
	baz=126,SNR=8.7							
X29A	Tulia	125.67	53	⇑P		PKPdf	03 12 15.8	+1.2
	baz=126							
ECSD	EROS Data Cent	125.72	40	⇓P		PKPdf	03 12 15.0	+0.6
	baz=126							
ECSD	EROS Data Cent	125.72	40	ℯPKPdf		PKPdf	03 12 14.3	-0.1
BGNE	Belgrade	125.75	43	⇑P		PKPdf	03 12 15.6	+1.2
	baz=126,SNR=11							
BGNE	Belgrade	125.75	43	ℯPKPdf		PKPdf	03 12 14.1	-0.4
U30A	WK&E Inc. Balk	125.81	50	⇑P		PKPdf	03 12 15.4	+0.6
	baz=126							
Q31A	Ellis	125.85	47	⇑P		PKPdf	03 12 16.0	+1.2
	baz=126							
Y29A	Porterfield Fa	125.86	53	⇓P		PKPdf	03 12 16.8	+1.8
	baz=126							
Z29A	Hungry Hill Ra	126.01	54	⇓P		PKPdf	03 12 16.5	+1.2
	baz=126							
R31A	Burdett	126.02	47	⇓P		PKPdf	03 12 16.3	+1.2
	baz=126,SNR=6.2							
V30A	Spur Ranch, Mi	126.04	51	⇓P		PKPdf	03 12 16.7	+1.5
	baz=126							
129A	Stewart Farms,	126.06	55	⇑P		PKPdf	03 12 16.8	+1.4
	baz=126							
O32A	Brockman Farm,	126.14	45	⇑P		PKPdf	03 12 15.7	+0.4
	baz=126							
P32A	Huiting Farm,	126.17	46	⇑P		PKPdf	03 12 16.3	+1.0
	baz=126,SNR=11							
329A	Wagon Wheel Ra	126.28	56	⇑P		PKPdf	03 12 17.5	+1.6
	baz=126							
229A	Bryant Ranch,	126.29	56	⇓P		PKPdf	03 12 17.1	+1.3
	baz=126							
S31A	Mullinville	126.30	48	⇑P		PKPdf	03 12 17.3	+1.6
	baz=126							
X30A	Coker Ranch, T	126.31	52	⇓P		PKPdf	03 12 17.5	+1.7
	baz=126							
T31A	Randall Ranch,	126.34	49	⇑P		PKPdf	03 12 17.2	+1.4
	baz=126							
529A	Stev Forest Ra	126.42	58	⇓P		PKPdf	03 12 17.9	+1.7
	baz=126							
Q32A	Meitler Ranch,	126.45	46	⇑P		PKPdf	03 12 17.0	+1.1
	baz=126,SNR=5.4							
Z30A	Sanderson Ranc	126.47	54	⇑P		PKPdf	03 12 17.0	+0.8
	baz=126							
U31A	Nine Bar Ranch	126.47	50	⇑P		PKPdf	03 12 18.3	+2.2
	baz=126							
Y30A	Stafford Cattl	126.47	53	⇑P		PKPdf	03 12 17.8	+1.7
	baz=126							
EYMN	Ely	126.54	33	ℯPKPdf		PKPdf	03 12 15.4	-0.4
R32A	Long Quarter,	126.56	47	⇓P		PKPdf	03 12 17.5	+1.3
	baz=126,SNR=9.7							
429A	Davenport Ranc	126.57	57	⇓P		PKPdf	03 12 17.9	+1.5
	baz=126							
S32A	Newby Ranch, P	126.67	48	⇑P		PKPdf	03 12 16.9	+0.6
	baz=127							
V31A	Spring Creek L	126.68	50	⇑P		PKPdf	03 12 18.7	+2.2
	baz=127							
130A	Snyder	126.80	55	⇑P		PKPdf	03 12 18.2	+1.4
	baz=127							
W31A	Holland Ranch,	126.80	51	⇓P		PKPdf	03 12 18.4	+1.7
	baz=127,SNR=7.4							
T32A	Huddler Ranch,	126.88	48	⇓P		PKPdf	03 12 17.8	+1.0
	baz=127							
230A	Sterling City	126.88	55	⇓P		PKPdf	03 12 19.1	+2.1
	baz=127							
P33A	Williams Farm,	126.89	45	⇑P		PKPdf	03 12 18.6	+1.8
	baz=127							
Y31A	Rekieta Farm,	126.95	53	⇓P		PKPdf	03 12 18.0	+1.0
	baz=127							
X31A	McDonald Ranch	126.96	52	⇓P		PKPdf	03 12 18.5	+1.5
	baz=127,SNR=8.1							
330A	Mertzon	126.96	56	⇑P		PKPdf	03 12 18.2	+1.0
	baz=127							
Q33A	Connelly Farm,	126.97	46	⇓P		PKPdf	03 12 18.2	+1.3
	baz=127,SNR=5.5							
430A	Baggett Ranch,	127.08	57	⇑P		PKPdf	03 12 18.8	+1.4
	baz=127							
U32A	Winter Ranch,	127.11	49	⇑P		PKPdf	03 12 18.8	+1.5
	ba

W34A	**Bridge Creek,** baz=128	**128.45**	**50**	⇓P		**PKPdf**	**03 12 22.0**	**+2.2**
TORD	**Torodi Ar. Bea**	**128.48**	**281**	PKP		**PKPdf**	**03 12 20.8**	**+0.4**
	comp=Z,5.3nm,0.7s,baz=93,slow=1.9,SNR=45							
TORD				SKPbc	SKiKP		03 15 31.0	-18
	comp=Z,11nm,1.1s,baz=87,slow=3.4,SNR=18							
S35A	**Otter Creek Ra** baz=128	**128.59**	**47**	⇓P		**PKPdf**	**03 12 21.9**	**+1.9**
632A	**Uvalde** baz=129,SNR=16	**128.62**	**58**	⇑P		**PKPdf**	**03 12 22.2**	**+1.9**
X34A	**Smith Ranch, M** baz=129,SNR=5.5	**128.63**	**51**	⇑P		**PKPdf**	**03 12 22.3**	**+2.1**
233A	**Rising Star** baz=129,SNR=5.9	**128.64**	**55**	⇓P		**PKPdf**	**03 12 21.9**	**+1.6**
732A	**Laxson Ranch,** baz=129,SNR=7.0	**128.67**	**59**	⇑P		**PKPdf**	**03 12 22.0**	**+1.6**
PLCA	**Paso Flores**	**128.77**	**160**	*e*PKIKP		**PKPdf**	**03 12 21.4**	**+1.0**
PLCA	**Paso Flores**	**128.77**	**160**	PKP		**PKPdf**	**03 12 22.0**	**+1.6**
	comp=Z,14nm,1.1s,baz=201,slow=3.4,SNR=11							
PLCA				SKPbc	SKiKP		03 15 33.6	-15
	comp=Z,3.9nm,0.9s,baz=200,slow=8.2,SNR=4.7							
PLCA	**Paso Flores**	**128.77**	**160**	*e*PKPdf		**PKPdf**	**03 12 21.4**	**+1.0**
PLCA				SKPbc	SKiKP		03 15 33.6	-15
832A	**Faith Ranch, C** baz=129	**128.78**	**59**	⇓P		**PKPdf**	**03 12 22.4**	**+1.7**
333A	**Richland Sprin** baz=129,SNR=14	**128.78**	**55**	⇑P		**PKPdf**	**03 12 21.6**	**+1.0**
433A	**Art** baz=129,SNR=11	**128.86**	**56**	⇑P		**PKPdf**	**03 12 21.9**	**+1.1**
R36A	**Gordon, Harris** baz=129	**128.91**	**46**	⇑P		**PKPdf**	**03 12 22.0**	**+1.4**
Y34A	**Reagan Ranch,** baz=129	**128.91**	**52**	⇓P		**PKPdf**	**03 12 22.8**	**+2.1**
COWI	**Conover**	**128.93**	**34**	*e*PKPdf		**PKPdf**	**03 12 20.2**	**-0.2**
V35A	**Meyer Ranch, C** baz=129	**128.97**	**49**	⇑P		**PKPdf**	**03 12 22.4**	**+1.6**
S36A	**Lake Cedric, C** baz=129	**129.10**	**46**	⇑P		**PKPdf**	**03 12 22.5**	**+1.5**
533A	**Kerrville** baz=129	**129.10**	**57**	⇓P		**PKPdf**	**03 12 22.5**	**+1.2**
134A	**White-Moore Ra** baz=129,SNR=6.4	**129.12**	**54**	⇓P		**PKPdf**	**03 12 22.8**	**+1.7**
633A	**Saathoff Ranch** baz=129,SNR=5.7	**129.15**	**58**	⇓P		**PKPdf**	**03 12 22.9**	**+1.6**
733A	**Divot King Ran** baz=129	**129.25**	**59**	⇑P		**PKPdf**	**03 12 23.0**	**+1.5**
234A	**Clairette** baz=129	**129.26**	**54**	⇓P		**PKPdf**	**03 12 23.4**	**+1.9**
833A	**Chaparral WMA,** baz=129,SNR=5.9	**129.26**	**59**	⇑P		**PKPdf**	**03 12 23.5**	**+2.0**
334A	**Lometa** baz=129,SNR=8.2	**129.39**	**55**	⇑P		**PKPdf**	**03 12 23.1**	**+1.4**
R37A	**Teagarden Farm** baz=129	**129.39**	**45**	⇓P		**PKPdf**	**03 12 22.9**	**+1.4**
Q37A	**Longview Farm,** baz=129	**129.40**	**45**	⇑P		**PKPdf**	**03 12 21.5**	**0.0**
434A	**Burnet** baz=130,SNR=12	**129.52**	**56**	⇑P		**PKPdf**	**03 12 23.2**	**+1.2**
Z35A	**Perchaven, San** baz=130	**129.53**	**52**	⇓P		**PKPdf**	**03 12 22.9**	**+1.0**
933A	**Laredo** baz=130	**129.54**	**60**	⇑P		**PKPdf**	**03 12 24.2**	**+2.1**
534A	**Blanco** baz=130,SNR=5.9	**129.58**	**57**	⇑P		**PKPdf**	**03 12 23.4**	**+1.2**
135A	**Vickery Place,** baz=130	**129.66**	**53**	⇑P		**PKPdf**	**03 12 24.0**	**+1.8**
TUL1	**Leonard** baz=130	**129.69**	**49**	⇑P		**PKPdf**	**03 12 23.6**	**+1.5**
TUL1	**Leonard**	**129.69**	**49**	*e*PKPdf		**PKPdf**	**03 12 23.0**	**+0.9**
634A	**China Grove, S** baz=130	**129.86**	**58**	⇑P		**PKPdf**	**03 12 24.5**	**+1.9**
834A	**Tilden** baz=130	**130.03**	**59**	⇑P		**PKPdf**	**03 12 25.0**	**+2.0**
335A	**Moody** baz=130	**130.06**	**55**	⇑P		**PKPdf**	**03 12 24.9**	**+1.9**
435B	**Jarrell** baz=130	**130.09**	**56**	⇓P		**PKPdf**	**03 12 25.3**	**+2.2**
934A	**Benavides** baz=130	**130.19**	**60**	⇓P		**PKPdf**	**03 12 26.0**	**+2.7**
535A	**Dale** baz=130	**130.33**	**57**	⇓P		**PKPdf**	**03 12 25.9**	**+2.4**
336A	**Riesel** baz=130	**130.50**	**55**	⇓P		**PKPdf**	**03 12 26.3**	**+2.5**
536A	**Bastrop** baz=131	**130.73**	**56**	⇓P		**PKPdf**	**03 12 26.7**	**+2.5**
SCHQ	**Schefferville**	**130.75**	**12**	SKPbc		**SKPbc**	**03 15 38.6**	**-0.6**
	comp=Z,9.3nm,0.8s,baz=0.8,slow=4.8,SNR=10							
636A	**Smothers Creek** baz=131	**130.92**	**57**	⇓P		**PKPdf**	**03 12 26.2**	**+1.6**
137A	**Heron Place, G** baz=131	**130.96**	**53**	⇑P		**PKPdf**	**03 12 25.6**	**+0.9**
337A	**Centerville** baz=131	**131.30**	**54**	⇑P		**PKPdf**	**03 12 26.7**	**+1.4**
537A	**Green Hill Far** baz=131	**131.35**	**56**	⇓P		**PKPdf**	**03 12 25.8**	**+0.4**
138A	**Matatall Enter** baz=131	**131.46**	**52**	⇓P		**PKPdf**	**03 12 27.1**	**+1.5**
238A	**Jacksonville** baz=132	**131.67**	**53**	⇓P		**PKPdf**	**03 12 27.4**	**+1.4**
338A	**Crockett** baz=132	**131.75**	**54**	⇑P		**PKPdf**	**03 12 28.9**	**+2.7**
MIAR	**Mount Ida**	**131.90**	**49**	*e*PKIKP		**PKPdf**	**03 12 27.8**	**+1.4**
MIAR	**Mount Ida**	**131.90**	**49**	*e*PKPdf		**PKPdf**	**03 12 27.8**	**+1.4**
738A	**Farr-Stevens R** baz=132	**132.28**	**57**	⇑P		**PKPdf**	**03 12 28.1**	**+0.8**
339A	**Huntington** baz=132	**132.36**	**54**	⇓P		**PKPdf**	**03 12 27.6**	**+0.3**
340A	**Bronson** baz=133	**132.86**	**53**	⇑P		**PKPdf**	**03 12 29.5**	**+1.2**
SFIN	**Lafayette** baz=133	**133.51**	**39**	⇓P		**PKPdf**	**03 12 30.0**	**+0.8**
TRQA	**Tornquist**	**133.65**	**167**	*e*PKPdf		**PKPdf**	**03 12 30.5**	**+0.9**
OLIL	**Olney**	**133.78**	**42**	*e*PKPdf		**PKPdf**	**03 12 31.4**	**+1.7**
KIC	**Kosan Boka**	**134.68**	**272**	*e*PKP1		**SKPbc**	**03 15 53.1**	**-0.9**
	comp=Z,106nm,1.1s							
DBIC	**Dimbokro**	**134.82**	**272**	PKP		**PKPdf**	**03 12 33.7**	**+1.3**
	comp=Z,3.6nm,0.5s,baz=117,slow=2.9,SNR=12							
DBIC				SKPbc		**SKPbc**	**03 15 53.7**	**-0.7**
	comp=Z,30nm,1.0s,baz=86,slow=4.4,SNR=17							
LIC	**Lamto**	**134.96**	**272**	*e*PKP1		**SKPbc**	**03 15 53.9**	**-1.0**
	comp=Z,101nm,1.4s							
TIC	**Toumodi**	**134.98**	**272**	*e*PKP1		**SKPbc**	**03 15 54.0**	**-1.0**
	comp=Z,52nm,0.9s							
OXF	**Oxford**	**135.00**	**47**	*e*PKIKP		**PKPdf**	**03 12 31.5**	**-0.7**
OXF	**Oxford**	**135.00**	**47**	*e*PKPdf		**PKPdf**	**03 12 31.5**	**-0.7**
WVT	**Waverly**	**135.34**	**44**	*e*PKIKP		**PKPdf**	**03 12 32.2**	**-0.6**
WVT	**Waverly**	**135.34**	**44**	*e*PKPdf		**PKPdf**	**03 12 32.1**	**-0.6**
LRAL	**Lakeview Retre**	**137.47**	**48**	*e*PKPdf		**PKPdf**	**03 12 36.4**	**-0.4**
TKL	**Tuckaleechee C**	**138.36**	**42**	PKP		**PKPdf**	**03 12 39.1**	**+0.7**
	comp=Z,13nm,0.7s,baz=315,slow=3.6,SNR=16							
LCO	**Las Campanas**	**138.98**	**152**	*e*PKPdf		**PKPdf**	**03 12 41.0**	**+0.8**
BLA	**Blacksburg**	**139.57**	**38**	*e*PKIKP		**PKPdf**	**03 12 41.0**	**+0.4**
BLA	**Blacksburg**	**139.57**	**38**	*e*PKPdf		**PKPdf**	**03 12 41.0**	**+0.4**
GOGA	**Godfrey**	**139.82**	**45**	*e*PKIKP		**PKPdf**	**03 12 41.1**	**0.0**
GOGA	**Godfrey**	**139.82**	**45**	*e*PKPdf		**PKPdf**	**03 12 41.1**	**0.0**
KMSC	**Kings Mountain** baz=140	**140.28**	**41**	⇑P		**PKPdf**	**03 12 42.7**	**+0.8**
TIGA	**Tifton** baz=141	**140.77**	**48**	⇓P		**PKPdf**	**03 12 44.4**	**+1.5**
LVC	**Limon Verde**	**145.22**	**149**	*e*PKPbc		**PKPdf**	**03 12 53.1**	**+1.8**
JTS	**JuntasAbangare**	**145.72**	**82**	*e*PKP2		**PKPab**	**03 12 53.9**	**+0.8**
JTS	**JuntasAbangare**	**145.72**	**82**	*e*PKPbc		**PKPab**	**03 12 53.9**	**+0.8**
NNA	**Nana**	**147.48**	**126**	*e*PKIKP		**PKPdf**	**03 12 55.4**	**+0.3**
NNA				*e*			03 12 58.2	
NNA	**Nana**	**147.48**	**126**	*e*PKPdf		**PKPdf**	**03 12 55.4**	**+0.3**
NNA				*e*PKPbc		**PKPbc**	**03 12 58.2**	**+0.5**
LPAZ	**La Paz**	**150.75**	**143**	*e*PKIKP		**PKPdf**	**03 13 02.3**	**+1.3**
LPAZ	**La Paz**	**150.75**	**143**	PKP		**PKPdf**	**03 13 02.6**	**+1.6**
	comp=Z,11nm,1.1s,baz=25,slow=1.0,SNR=23							
LPAZ				PKPbc		**PKiKP**	**03 13 08.4**	**+1.2**
	comp=Z,21nm,0.7s,baz=231,slow=1.9,SNR=87							
LPAZ				PKPab		**PKPab**	**03 13 15.3**	**+1.5**
	comp=Z,18nm,0.8s,baz=223,slow=2.6,SNR=11							
LPAZ	**La Paz**	**150.75**	**143**	*e*PKPdf		**PKPdf**	**03 13 02.3**	**+1.3**
LPAZ				*e*PKPbc		**PKiKP**	**03 13 07.5**	**+0.3**
LPAZ				*e*PKPab		**PKPab**	**03 13 15.9**	**+2.1**
BCIP	**Isla Barro Col**	**150.79**	**84**	*e*PKPdf		**PKPdf**	**03 13 00.1**	**-0.2**
BCIP				*e*PKPbc		**PKPbc**	**03 13 06.1**	**+0.1**
OTAV	**Otavalo**	**151.16**	**103**	*e*PKPdf		**PKPdf**	**03 13 02.2**	**+0.7**
OTAV				*e*PKPbc		**PKiKP**	**03 13 08.0**	**0.0**
OTAV				*e*PKPab		**PKPab**	**03 13 15.8**	**+0.3**
ROSC	**El Rosal**	**156.07**	**94**	PKP		**PKPdf**	**03 13 09.8**	**+1.4**
	comp=Z,4.9nm,0.5s,baz=301,slow=3.2,SNR=5.5							
ROSC				PKPab		**PKPab**	**03 13 37.9**	**+1.6**
	comp=Z,17nm,1.0s,baz=115,slow=2.0,SNR=9.4							
BDFB	**Brasilia**	**157.14**	**186**	PKP		**PKPdf**	**03 13 09.4**	**0.0**
	comp=Z,2.3nm,0.6s,baz=45,slow=2.9,SNR=3.5							
BDFB				PKPab		**PKPab**	**03 13 42.2**	**+2.1**
	comp=Z,2.7nm,0.7s,baz=130,slow=8.8,SNR=3.4							
SAML	**Samuel**	**159.47**	**141**	*e*PKPdf		**PKPdf**	**03 13 12.5**	**+0.4**
SAML				*e*PKPab		**PKPab**	**03 13 50.9**	**+0.7**
SDV	**Santo Domingo**	**159.89**	**84**	*e*PKPdf		**PKPdf**	**03 13 12.1**	**-0.7**
SDV				*e*PKPab		**PKPab**	**03 13 53.1**	**+0.6**

*ISCJB **10** 03:08:56.8±0.7, 8.4N±0.1×93.7E±0.1, h26km, mb3.9/15, MS3.6/1, Error ellipse: s-maj=19.5km s-min=15.3km az=151.3*
*IDC **10** 03:09:04.4±5.3, 8.5N×93.8E, h75km±47km, mb3.6/15, mb1 3.8/16, mb1mx3.5/46, mbtmp3.9/16, ML4.4/1, MS3.5/2, Ms1 3.6/2, ms1mx2.7/37, Error ellipse: s-maj=34.2km s-min=15.2km az=52.0*

ISC 10 03:08:58.6±0.8, 8.4N±0.1×93.7E±0.2, h26km, n21, σ1°02/18, mb3.8/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.23**	**27**	P		**Pn**		**03 11 39.5**	**+1.8**
	0.8nm,0.3s,baz=212,slow=15,SNR=11								
PALK	**Pallekele**	**12.89**	**266**	LR		LR		03 16 40.2	
	comp=Z,225nm,18.6s,baz=11,slow=35								
H08S3	**Diego Garcia H** baz=53,slow=75,SNR=31	**26.44**	**234**	T		T		03 41 25.6	
H08S2	**Diego Garcia H** baz=53,slow=75,SNR=44	**26.45**	**233**	T		T		03 41 25.8	
H08S1	**Diego Carcia H** baz=53,slow=75,SNR=40	**26.46**	**234**	T		T		03 41 27.0	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=175,slow=8.1,SNR=4.8	**39.47**	**348**	P		**P**		**03 16 26.5**	**-0.4**
GEYT	**Alibeck** 1.5nm,0.3s,baz=134,slow=8.3,SNR=3.5	**43.49**	**318**	P		**P**		**03 17 00.3**	**+0.3**
ZALV	**Zalesovo Beam** 2.2nm,0.8s,baz=170,slow=9.0,SNR=10	**45.97**	**353**	P		**P**		**03 17 19.3**	**-0.2**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=300,slow=9.5,SNR=17	**48.95**	**126**	P		**P**		**03 17 42.6**	**-0.6**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=305,slow=7.6,SNR=9.3	**50.62**	**130**	P		**P**		**03 17 55.4**	**-0.4**
ASAR				PcP		**PcP**		**03 19 13.1**	**-0.2**
	0.4nm,0.6s,baz=308,slow=3.4,SNR=4.3								
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=126,slow=9.6,SNR=4.6	**61.73**	**311**	P		**P**		**03 19 13.7**	**-1.4**
FINES	**FINESS Array B** 0.4nm,0.5s,baz=111,slow=6.2,SNR=7.8	**72.03**	**332**	P		**P**		**03 20 19.9**	**-0.1**
ARCES	**ARCESS Array B** 3.3nm,1.0s,baz=98,slow=7.5,SNR=3.8	**74.61**	**340**	P		**P**		**03 20 35.1**	**-0.1**
BOSA	**Boshof** 3.3nm,0.8s,baz=91,slow=4.7,SNR=5.1	**75.47**	**238**	P		**P**		**03 20 43.5**	**+2.5**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=94,slow=5.6,SNR=4.0	**77.12**	**318**	P		**P**		**03 20 49.6**	**-0.4**
HFS	**Hagfors** 1.6nm,0.8s,baz=96,slow=7.6,SNR=6.9	**77.76**	**330**	P		**P**		**03 20 52.9**	**-0.4**
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.8s,baz=90,slow=5.3	**79.04**	**331**	P		**P**		**03 20 59.9**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=95,slow=4.9,SNR=3.7	**79.04**	**331**	P		**P**		**03 20 59.5**	**-0.9**
NOA				LR		LR		04 00 06.8	
	comp=Z,28nm,19.6s,baz=110,slow=39								
EKA	**Eskdalemuir Ar** comp=Z,0.8nm,0.7s,baz=90,slow=5.8,SNR=5.5	**87.02**	**325**	P		**P**		**03 21 41.9**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=90,slow=3.7,SNR=3.8	**90.02**	**283**	P		**P**		**03 21 57.2**	**+0.4**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=298,slow=4.8,SNR=4.2	**94.44**	**22**	P		**P**		**03 22 14.8**	**-1.3**

*ISCJB **10** 03:09:31.0±0.3, 32.70N±0.01×115.77W±0.02, h10km±2km, Error ellipse: s-maj=2.4km s-min=2.3km az=176.6*
*MEX **10** 03:09:31.3±0.8, 32.85N×115.72W, h10km, MD3.8*
*ECX **10** 03:09:32.9±0.7, 32.67N×115.81W, h4km, MD3.8, ML4.0*
*NEIC **10** 03:09:32.3, 32.64N×115.81W, h6km, MD3.8(MEX), ML3.9(ECX), ML3.9(PAS), After PAS.*
NEIC Felt at Aliso Viejo, Alpine, Chula Vista, El Cajon, El Centro, Irvine, La Mesa, Laguna Niguel, Moreno Valley, Poway and San Diego. Also felt at Mexicali, Baja California.

ISC 10 03:09:30.8±0.7, 32.69N±0.01×115.77W±0.01, h10km±6km, n67, σ1°13/126, 25C-15D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.05**	**139**	⇑*e*P		**Pg**		**03 09 34.4**	**+1.6**
YUH	**Yuha Desert**	**0.14**	**252**	⇑*e*P		**Pg**		**03 09 35.0**	**+1.0**
COK	**Cook Ranch**	**0.16**	**12**	⇑*e*P		**Pg**		**03 09 36.7**	**+2.4**
SWSC	**Sam W. Stewart** baz=0.3,SNR=854	**0.25**	**354**	P		**Pb**		**03 09 37.8**	**+0.3**
SWSC				⇑S		**Sb**		**03 09 41.8**	**-0.2**
	baz=0.3								
CRR	**Carrizo Plain**	**0.26**	**319**	⇓*i*P		**Pb**		**03 09 37.6**	**-0.1**
CRR				⇓*e*P		**Pb**		**03 09 37.6**	**-0.1**
RMX	**La Rumorosa**	**0.28**	**252**	⇑*i*P		**Pg**		**03 09 37.4**	**+0.9**
RMX				*e*S		**Sg**		**03 09 40.9**	**+0.6**
RMX	**La Rumorosa**	**0.28**	**252**	*i*P		**Pg**		**03 09 37.4**	**+0.9**
RMX				*e*S		**Sg**		**03 09 40.9**	**+0.6**
CPBX	**Cerro Prieto**	**0.48**	**125**	*e*P		**Pb**		**03 09 42.5**	**+1.2**
CPBX				*e*S		**Sb**		**03 09 49.7**	**+1.3**
CPBX	**Cerro Prieto**	**0.48**	**125**	*e*P		**Pb**		**03 09 42.6**	**+1.2**
CPBX				*i*S		**Sb**		**03 09 52.5**	**+4.1**
MBIG	**Mexicali**	**0.56**	**120**	*i*P		**Pg**		**03 09 41.8**	**+0.1**
MBIG				*i*S		**Sb**		**03 09 50.9**	**+0.2**
COA	**Coachella**	**0.57**	**72**	⇑*e*P		**Pb**		**03 09 44.1**	**+1.1**
MONP	**Monument Peak,** baz=0.6,SNR=168	**0.58**	**290**	⇑P		**Pb**		**03 09 43.3**	**-0.1**
MONP				⇑S		**Sg**		**03 09 50.6**	**+0.7**
	baz=0.6								
BAR	**Barrett**	**0.76**	**270**	*e*Pg		**Pg**		**03 09 45.8**	**+0.2**
BAR				*e*Sg		**Sg**		**03 09 55.1**	**-0.4**
RDX	**Rancho Dawling**	**0.77**	**191**	⇓*e*P		**Pg**		**03 09 46.2**	**+0.4**
RDX				*e*S		**Sg**		**03 09 55.9**	**0.0**
RDX	**Rancho Dawling**	**0.77**	**191**	*e*P		**Pg**		**03 09 46.2**	**+0.4**
RDX				*e*S		**Sg**		**03 09 55.9**	**0.0**
EMX	**El Mayor**	**0.83**	**147**	⇓*e*P		**Pg**		**03 09 46.0**	**-0.8**
EMX				*e*S		**Sg**		**03 09 57.3**	**-0.3**
EMX				*e*				03 09 58.3	
	comp=N,3μm,0.5s								
EMX	**El Mayor**	**0.83**	**147**	*e*P		**Pg**		**03 09 46.0**	**-0.8**
EMX				*e*S		**Sg**		**03 09 57.3**	**-0.3**
CBX	**Cerro Bola**	**0.85**	**244**	*i*P		**Pg**		**03 09 47.6**	**+0.5**
CBX				*i*S		**Sg**		**03 09 58.5**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**244**	*e*P		**Pb**		**03 09 47.7**	**0.0**
CBX				*e*S		**Sg**		**03 09 58.5**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**244**	*i*P		**Pb**		**03 09 47.8**	**+0.1**
CBX				*i*S		**Sb**		**03 09 58.9**	**-0.3**
GLA	**Glamis** baz=0.9,SNR=339	**0.87**	**65**	P		**Pb**		**03 09 48.5**	**+0.4**
GLA				⇑S		**Sb**		**03 10 00.5**	**+0.7**
	baz=0.9								
GLA	**Glamis**	**0.87**	**65**	*e*Pg		**Pg**		**03 09 48.2**	**+0.6**
GLA				*e*Sg		**Sb**		**03 10 00.7**	**+0.9**
BC3	**Big Chuckawall** baz=1.1,SNR=135	**1.00**	**15**	⇓P		**Pg**		**03 09 50.5**	**+0.4**
BC3				⇑S		**Sg**		**03 10 03.7**	**+0.6**
	baz=1.1								
YMD	**Yuma Desert**	**1.04**	**97**	⇑*e*P		**Pg**		**03 09 50.8**	**-0.1**
PFO	**Pinyon Flats O** baz=1.1	**1.08**	**328**	⇑P		**Pg**		**03 09 51.5**	**-0.2**
PFO				⇑S		**Sb**		**03 10 07.0**	**+1.0**
	baz=1.1								
PFO	**Pinyon Flats O**	**1.08**	**328**	*e*Pg		**Pg**		**03 09 51.1**	**-0.6**
PFO				*e*Sg		**Sg**		**03 10 05.7**	**-0.1**
109C	**Camp Elliot, M** baz=1.1	**1.15**	**280**	⇓P		**Pg**		**03 09 52.7**	**-0.1**
109C				⇑S		**Sg**		**03 10 06.9**	**-0.8**
	baz=1.1								
PBX	**Punta Banda**	**1.25**	**221**	*e*P		**Pn**		**03 09 54.4**	**+0.1**
PBX				*e*S		**Sb**		**03 10 10.3**	**-0.3**
PBX	**Punta Banda**	**1.25**	**221**	*e*P		**Pn**		**03 09 54.6**	**+0.2**
PBX				*e*S		**Sb**		**03 10 10.7**	**+0.1**
ECNX	**Esteban Cantu**	**1.25**	**215**	*e*P		**Pn**		**03 09 54.4**	**-0.1**
ECNX				*e*S		**Sb**		**03 10 10.2**	**-0.5**
ZAX	**El Zacaton**	**1.25**	**200**	*e*P		**Pn**		**03 09 54.7**	**+0.3**
ZAX				*e*S		**Sb**		**03 10 10.9**	**+0.1**
BELC	**Belle Mtn. Jos** baz=1.4	**1.32**	**352**	⇓P		**Pn**		**03 09 54.9**	**-0.6**
BELC				⇓S		**Sb**		**03 10 11.9**	**-1.1**
	baz=1.4								
ECBX	**El Chinero**	**1.36**	**153**	*e*P		**Pn**		**03 09 54.7**	**-1.2**
ECBX				*e*S		**Sb**		**03 10 13.2**	**-0.5**
ECBX				⇑*e*				03 10 16.8	
	comp=N,2μm,1.0s								
ECBX				⇑*e*				03 10 17.8	
	comp=E,2μm,0.8s								
Y12C	**Blythe** baz=1.5,SNR=81	**1.48**	**44**	⇑P		**Pn**		**03 09 57.6**	**-0.1**
Y12C				⇑S		**Sn**		**03 10 17.0**	**-0.1**
	baz=1.5								
MURC	**Murrieta** baz=1.5	**1.51**	**307**	⇑P		**Pn**		**03 09 57.5**	**-0.5**
MURC				⇓Sb		**Sn**		**03 10 18.4**	**+0.6**
	baz=1.5								
IRM	**Iron Mountain** baz=1.6	**1.55**	**19**	⇑P		**Pn**		**03 09 58.7**	**+0.1**
IRM				⇓S		**Sn**		**03 10 19.4**	**+0.5**
	baz=1.6								
SPIG	**San Pedro Mart**	**1.66**	**171**	*e*P		**Pn**		**03 09 59.6**	**-0.8**
SPIG				*i*S		**Sn**		**03 10 22.2**	**+0.3**
SPIG	**San Pedro Mart**	**1.66**	**171**	*e*P		**Pn**		**03 10 01.4**	**+1.1**
SPIG				*e*S		**Sb**		**03 10 23.4**	**+0.6**
SPIG	**San Pedro Mart**	**1.66**	**171**	*e*P		**Pn**		**03 09 59.6**	**-0.8**
SPIG				*e*S		**Sb**		**03 10 22.9**	**+0.1**
SPX	**San Pedro Mart**	**1.66**	**171**	*e*P		**Pn**		**03 10 01.4**	**+1.0**
SPX				*e*S		**Sb**		**03 10 24.1**	**+1.3**
SPX	**San Pedro Mart**	**1.66**	**171**	*e*P		**Pb**		**03 10 02.2**	**+0.5**
SPX				*e*S		**Sb**		**03 10 24.1**	**+1.3**
113A	**Mohawk Valley,** baz=1.7,SNR=171	**1.69**	**87**	⇑P		**Pn**		**03 10 00.4**	**0.0**
113A				⇓S		**Sn**		**03 10 21.9**	**-0.2**
	baz=1.7								
BBRC	**Big Bear Solar** baz=1.9	**1.84**	**329**	⇓P		**Pn**		**03 10 03.1**	**+0.3**
PDMCI	**Parker Dam,Lak** baz=2.2,SNR=40	**2.10**	**40**	⇑P		**Pn**		**03 10 06.9**	**+0.8**
NEE2	**Needles Airpor** baz=2.3	**2.28**	**24**	⇓P		**Pn**		**03 10 09.4**	**+0.8**
CIS	**Catalina Islan** baz=2.3	**2.33**	**289**	⇑P		**Pn**		**03 10 10.5**	**+1.2**
FMP	**Fort Macarthur** baz=2.3	**2.35**	**296**	⇑Pb		**Pb**		**03 10 13.2**	**-0.1**
Z14A	**Wintersburg** baz=2.5,SNR=16	**2.46**	**73**	⇑P		**Pn**		**03 10 11.4**	**+0.3**
PASC	**Pasadena Art C**	**2.50**	**307**	*e*Pn		**Pn**		**03 10 12.4**	**+0.7**
PASC				*e*Pb		**Pb**		**03 10 16.1**	**+0.2**
PASC				*e*Pg		**Pg**		**03 10 18.2**	**-0.7**
PASC				*e*Sg		**Sb**		**03 10 48.7**	**+1.8**
214A	**Organ Pipe Nat** baz=2.6,SNR=12	**2.61**	**106**	P		**Pn**		**03 10 12.6**	**-0.5**
214A	**Organ Pipe Nat**	**2.61**	**106**	*e*Pn		**Pn**		**03 10 12.2**	**-0.9**
214A				*e*Pg		**Pg**		**03 10 21.8**	**+1.0**
Y14A	**Wickenburg** baz=2.7,SNR=58	**2.63**	**61**	⇓P		**Pn**		**03 10 14.1**	**+0.7**
GSC	**Goldstone, Bar**	**2.74**	**342**	*e*Pn		**Pn**		**03 10 14.9**	**-0.2**
GSC				*e*Pg		**Pg**		**03 10 23.1**	**-0.3**
GSC				*e*Sg		**Sg**		**03 10 59.5**	**+0.4**
SHPR	**Sheep Range**	**3.84**	**7**	*e*Pn		**Pn**		**03 10 31.4**	**+1.2**
SHPR				*e*Pg		**Pg**		**03 10 46.3**	**+1.9**
SHPR				*e*Sn		**Sn**		**03 11 17.4**	**+1.9**
SHPR				*e*Sg		**Sg**		**03 11 32.8**	**-1.4**
DAC	**Darwin (Calif)**	**3.88**	**338**	*e*Pn		**Pn**		**03 10 31.4**	**+0.5**
DAC				*e*Pg		**Pg**		**03 10 43.8**	**-1.5**
DAC				*e*Sn		**Sn**		**03 11 18.8**	**+2.2**
DAC				*e*Sg		**Sg**		**03 11 34.2**	**-1.4**
TUC	**Tucson**	**4.23**	**94**	*e*Pn		**Pn**		**03 10 35.6**	**+0.2**
TUC				*e*Sn		**Sn**		**03 11 25.5**	**+0.5**
WUAZ	**Wupatki**	**4.61**	**51**	*e*Pn		**Pn**		**03 10 42.6**	**+1.9**
WUAZ				*e*Pg		**Pg**		**03 10 58.2**	**-0.9**
WUAZ				*e*Sg		**Sg**		**03 11 57.1**	**-1.7**
CCUT	**Ced

WRA	**Warramunga Arr**	**22.73**	**228**	P	P	03 27 48.5	-0.7
	0.8nm,0.5s,baz=54,slow=10,SNR=13						
ASAR	**Alice Springs**	**25.44**	**222**	P	P	03 28 15.1	+0.9
	0.6nm,0.6s,baz=55,slow=9.1,SNR=7.5						
MKAR	**Makanchi Array**	**80.29**	**319**	P	P	03 34 56.9	+0.9
	0.1nm,0.8s,baz=98,slow=5.9,SNR=2.4						
ILAR	**Eielson Array**	**82.78**	**22**	P	P	03 35 08.4	-0.3
	0.2nm,0.7s,baz=235,slow=6.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.91**	**287**	PKPbc	PKPbc	03 42 34.8	-1.2
	0.5nm,1.1s,baz=92,slow=3.0,SNR=3.6						

IDC ***10*** *03:25:51.6±1.4, 16°.24N×121°.23E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/44, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=88.7km s-min=20.8km az=71.0*
MAN ***10*** *03:25:53, 16°.12N×121°.56E, h56km, mb4.5, ML3.4, MS3.3*
ISCJB ***10*** *03:25:55.5±0.6, 16°.25N±0°.04×121°.44E±0°.06, h40km±8km, mb3.4/4, Error ellipse: s-maj=9.3km s-min=6.3km az=175.2*

ISC 10 03:25:54.6±1.3, 16°32N±0°.03×121°44E±0°.05, h23km±12km, n13, σ1s02/19, mb3.5/4, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.58**	**167**	*e*P	**Pb**	**03 26 06.2**	**0.0**
BALP				*e*S	**Sb**	**03 26 14.8**	**+0.7**
PCPH	**Palayan**	**0.82**	**204**	*e*P	**Pn**	**03 26 09.8**	**-1.0**
PCPH				*i* S	**Sb**	**03 26 21.1**	**+0.3**
BCPH	**Baguio City Da**	**0.83**	**275**	*i*P	**Pn**	**03 26 09.7**	**-1.4**
BCPH				*i* S	**Sb**	**03 26 21.1**	**-0.3**
CVP	**Callao Caves**	**1.43**	**15**	*i*P	**Pb**	**03 26 19.9**	**-0.6**
CVP				*i* S	**Sb**	**03 26 39.3**	**+1.0**
BOLP	**Bolinao**	**1.47**	**273**	*e*P	**Pb**	**03 26 20.9**	**-0.3**
BOLP				*e*S	**Sb**	**03 26 41.1**	**+1.5**
ABRA	**Dolores**	**1.50**	**332**	*e*P	**Pb**	**03 26 21.3**	**-0.4**
APYP	**Conner**	**1.55**	**353**	*e*P	**Pb**	**03 26 22.6**	**0.0**
SCZP	**Santa Cruz**	**1.57**	**250**	*e*P	**Pn**	**03 26 20.9**	**-0.2**
TGY	**Tagaytay City**	**2.25**	**193**	Pn	**Pn**	**03 26 28.2**	**-2.3**
	37nm,0.3s,baz=239,slow=12,SNR=2.2						
TGY				Sn	**Sb**	**03 27 03.5**	**+1.4**
	67nm,0.3s,baz=139,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**38.20**	**160**	P	**P**	**03 33 13.2**	**+0.4**
	1.0nm,0.8s,baz=342,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**41.56**	**163**	P	**P**	**03 33 41.2**	**+0.5**
	0.3nm,0.6s,baz=340,slow=7.1,SNR=2.6						
KURBB	**Kurchatov Arra**	**48.46**	**325**	P	**P**	**03 34 35.9**	**+0.6**
	0.2nm,0.6s,baz=129,slow=7.5,SNR=4.9						
FINES	**FINESS Array B**	**78.36**	**331**	P	**P**	**03 37 53.0**	**0.0**
	0.8nm,0.6s,baz=77,slow=4.1,SNR=5.9						

ISCJB ***10*** *03:27:23.2±0.8, 22°.02S±0°.04×68°.6W±0°.1, h106km±9km, mb3.6/2, Error ellipse: s-maj=17.0km s-min=7.4km az=2.1*
IDC ***10*** *03:27:23.2±2.4, 22°.27S×68°.53W, h96km±21km, mb3.5/2, mb1 3.8/4, mb1mx3.3/29, mbtmp4.0/4, Error ellipse: s-maj=45.1km s-min=19.8km az=96.0*
GUC ***10*** *03:27:24.0±0.4, 22°.04S×68°.77W, h109km±2km, ML4.0*

ISC 10 03:27:23.6±1.0, 22°03S±0°.05×68°.6W±0°.1, h100km±10km, n17, σ1s21/23, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.64**	**292**	*e*P	**Pn**	**03 27 41.3**	**+0.7**
PB09				*e*S	**Sn**	**03 27 54.3**	**+0.8**
PB09				AML	AML	03 27 56.9	
	comp=E,13μm,0.6s						
PB04	**IPOC Station P**	**0.85**	**254**	*e*P	Pn	03 27 49.0	+6.6
PB04				*e*S	Sn	03 28 08.1	+12
PB04				AML	AML	03 28 15.4	
	comp=N,2μm,0.5s						
PB06	**IPOC Station P**	**1.12**	**233**	*e*P	**Pn**	**03 27 45.6**	**+0.1**
PB06				*e*S	**Sn**	**03 28 01.9**	**-0.1**
PB06				AML	AML	03 28 02.9	
	comp=N,4μm,0.3s						
PB07	**IPOC Station P**	**1.23**	**284**	*e*P	**Pn**	**03 27 46.7**	**-0.1**
PB07				*e*S	**Sn**	**03 28 03.8**	**-0.5**
PB07				AML	AML	03 28 04.4	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**1.28**	**320**	*e*P	**Pn**	**03 27 47.7**	**+0.3**
PB01				*e*S	**Sn**	**03 28 05.5**	**+0.2**
PB01				AML	AML	03 28 08.3	
	comp=E,1μm,0.3s						
PATCX	**Punta Patache**	**1.88**	**310**	*e*P	**Pn**	**03 27 54.4**	**-0.3**
PATCX				*e*S	**Sn**	**03 28 17.9**	**-0.6**
PATCX				AML	AML	03 28 23.8	
	comp=N,1μm,0.4s						
CEN1	**Los Morros**	**2.00**	**227**	*e*P	**Pn**	**03 27 59.0**	**+2.8**
HMBC	**Humberstone**	**2.12**	**325**	*e*P	**Pn**	**03 27 58.0**	**+0.2**
HMBC				*e*S	**Sn**	**03 28 23.9**	**-0.1**
HMBC				AML	AML	03 28 25.6	
	comp=E,1μm,0.5s						
PB10	**IPOC Station P**	**2.33**	**230**	*e*P	**Pn**	**03 27 59.9**	**-0.6**
PSGC	**Pisagua**	**2.81**	**329**	*e*P	**Pn**	**03 28 06.7**	**-0.3**
PSGC				*e*S	**Sn**	**03 28 39.3**	**-0.9**
MNMC	**Minimini**	**3.03**	**342**	*e*P	**Pn**	**03 28 10.7**	**+0.6**
MNMC				*e*S	**Sn**	**03 28 46.3**	**+0.5**
MNMC				AML	AML	03 28 58.8	
	comp=N,880nm,0.8s						
LPAZ	**La Paz**	**5.73**	**5**	P	Pn	03 28 51.0	+4.2
	comp=N,3.9nm,0.3s,baz=167,slow=11,SNR=113						
SIV	**San Ignacio**	**9.32**	**51**	P	**Pn**	**03 29 34.7**	**-0.4**
	comp=N,1.6nm,0.3s,baz=244,slow=13,SNR=27						
CFAA	**Coronel Fontan**	**9.54**	**178**	P	Pn	03 29 33.5	-4.5
	comp=N,0.1nm,0.3s,baz=352,slow=14,SNR=8.0						
CFAA				S	**Sn**	**03 31 19.5**	**-3.9**
	comp=N,0.0nm,0.3s,baz=189,slow=19,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.27**	**70**	P	**P**	**03 39 08.1**	**+0.7**
	comp=N,0.7nm,0.8s,baz=254,slow=5.3,SNR=15						
YKA	**Yellowknife Ar**	**91.78**	**340**	P	**P**	**03 40 20.3**	**+0.7**
	comp=N,0.4nm,0.7s,baz=130,slow=4.4,SNR=6.7						
MKAR	**Makanchi Array**	**145.89**	**37**	PKPbc	**PKPdf**	**03 46 51.0**	**+0.3**
	comp=N,0.3nm,0.7s,baz=307,slow=2.0,SNR=5.0						

IDC 10 03:31:01.1±5.3, 20°.99N×97°.39E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.2/45, mbtmp3.6/3, Error ellipse: s-maj=410.0km s-min=25.5km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**28.52**	**338**	P	P	03 36 58.8	+0.4
	0.3nm,0.4s,baz=162,slow=8.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**34.27**	**347**	P	P	03 37 48.1	-0.6
	0.5nm,0.4s,baz=177,slow=9.7,SNR=3.9						
WRA	**Warramunga Arr**	**54.43**	**136**	P	P	03 40 30.3	-0.1
	0.3nm,0.6s,baz=302,slow=6.8,SNR=19						

ISCJB ***10*** *03:49:28.2±1.1, 52°.6S±0°.2×28°.0E±0°.3, h10km, mb3.6/5, MS2.9/2, Error ellipse: s-maj=31.2km s-min=21.1km az=26.1*
IDC ***10*** *03:49:28.1±1.2, 52°.69S×27°.94E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/32, mbtmp3.8/5, MS3.1/2, Ms1 3.0/2, ms1mx2.7/24, Error ellipse: s-maj=42.4km s-min=28.5km az=77.0*

ISC 10 03:49:29.8±1.2, 52°.7S±0°.2×28°.0E±0°.3, h10km, n10, σ0s71/7, mb3.7/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**23.37**	**204**	P	**P**	**03 54 37.5**	**-0.6**
	1.1nm,0.7s,baz=56,slow=7.3,SNR=5.7						
BOSA	**Boshof**	**24.13**	**354**	LR	LR	04 02 13.6	
	comp=Z,44nm,20.2s,baz=165,slow=32						
VNA2	**Neumayer--Watz**	**24.16**	**208**	P	**P**	**03 54 46.5**	**+0.9**
	baz=43,slow=9.6						
VNA1	**Neumayer--Stat**	**24.27**	**209**	P	**P**	**03 54 46.6**	**-0.1**
VNA3	**Neumayer Olymp**	**24.96**	**208**	P	P	03 54 41.8	-11
LBTB	**Lobatse**	**27.69**	**355**	LR	LR	04 04 01.4	
	comp=Z,34nm,21.2s,baz=174,slow=32						
VNDA	**Vanda**	**46.96**	**168**	P	**P**	**03 58 00.0**	**0.0**
	1.5nm,0.7s,baz=239,slow=8.3,SNR=11						
TORD	**Torodi Ar. Bea**	**69.37**	**333**	P	**P**	**04 00 37.5**	**0.0**
	0.5nm,0.8s,baz=168,slow=5.9,SNR=6.3						
ASAR	**Alice Springs**	**80.59**	**117**	P	**P**	**04 01 43.2**	**+0.7**
	0.6nm,0.6s,baz=213,slow=5.1,SNR=8.0						
WRA	**Warramunga Arr**	**83.81**	**115**	P	**P**	**04 01 58.8**	**-0.7**
	0.3nm,0.6s,baz=212,slow=3.7,SNR=6.0						

ISCJB ***10*** *03:51:45.4±1.1, 39°.97N±0°.06×70°.57E±0°.05, h6km±6km, mb3.8/9, MS3.5/1, Error ellipse: s-maj=9.8km s-min=5.3km az=17.6*

IDC ***10*** *03:51:45.4±0.9, 39°.82N×70°.73E, h0km, mb3.7/8, mb1 3.8/15, mb1mx3.5/54, mbtmp3.7/15, ML3.4/7, MS3.5/1, Ms1 3.5/1, ms1mx2.3/44, Error ellipse: s-maj=17.7km s-min=12.2km az=150.0*
KRNET ***10*** *03:51:48.8±0.1, 40°.07N×70°.93E, h1km, mb4.2*
NNC ***10*** *03:51:49.1±0.3, 40°.06N×70°.64E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=6.5km s-min=2.8km az=135.0*

ISC 10 03:51:47.3±1.0, 39°97N±0°.04×70°69E±0°.04, h5km±7km, n44, σ1s88/48, mb3.8/9, 15C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.13**	**47**	⇓*i*P	**Pg**	**03 51 50.0**	**-0.1**
	baz=262						
BTK				⇓*e*S	**Sg**	**03 51 52.0**	**+0.1**
	baz=262						
DRK	**Karamyk**	**0.98**	**119**	⇓*i*P	**Pg**	**03 52 07.0**	**+0.8**
	baz=131						
DRK				⇓*e*S	**Sg**	**03 52 19.2**	**+0.3**
	baz=131						
CHVK	**Chauvay**	**1.18**	**81**	*e*P	**Pg**	**03 52 08.0**	**-2.0**
CHVK	baz=85						
				*e*S	**Sg**	**03 52 23.0**	**-2.3**
	baz=85						
DZET	**Dzherino**	**1.85**	**232**	⇑Pn	**Pb**	**03 52 22.7**	**+0.9**
	160nm,0.5s						
DZET				⇑Sn	**Sg**	**03 52 48.1**	**+1.2**
	868nm,0.5s						
SFK	**Sufi-Kurgan**	**2.16**	**88**	⇑Pn	**Pb**	**03 52 27.5**	**+0.5**
	18nm,0.2s						
SFK				⇑Lg	Lg	03 52 57.7	
	242nm,0.4s						
SALK	**Salom-Alik**	**2.55**	**68**	*e*P	**Pn**	**03 52 30.1**	**+0.6**
	baz=69						
SALK				*e*S	**Sn**	**03 53 02.1**	**+1.1**
	baz=69						
MNAS	**Manas**	**2.86**	**28**	⇑Pn	**Pn**	**03 52 35.8**	**+2.1**
	1.7nm,0.3s						
MNAS				⇓Pg	**Pb**	**03 52 40.2**	**+1.2**
	30nm,0.3s						
MNAS				⇑Lg	Lg	03 53 17.4	
	79nm,0.6s						
AML	**Almayashu**	**3.13**	**45**	P	**Pn**	**03 52 39.9**	**+2.3**
	SNR=23						
KK31	**Karatay Array**	**3.14**	**358**	Pn	**Pn**	**03 52 39.9**	**+2.5**
	3.0nm,0.2s,baz=174,slow=12,SNR=364						
KK31				⇓Pg	**Pb**	**03 52 44.8**	**+1.3**
	17nm,0.3s,baz=179,slow=17,SNR=7.4						
KK31				⇓Lg	Lg	03 53 25.4	
	65nm,0.4s,baz=180,slow=30,SNR=10						
ARLS	**Aral**	**3.34**	**54**	*i* P	**Pn**	**03 52 43.2**	**+2.9**
	baz=54						
EKS2	**Erkin-Say**	**3.55**	**40**	P	**Pn**	**03 52 46.4**	**+3.2**
	SNR=10						
UCH	**Uchtor**	**3.66**	**51**	P	**Pn**	**03 52 47.6**	**+2.6**
	SNR=15						
AAK	**Ala-Archa**	**3.91**	**46**	⇑Pn	Pn	03 52 51.3	+3.2
	8.4nm,0.3s						
AAK				⇑Pg	**Pb**	**03 52 59.2**	**+2.4**
	21nm,0.5s						
AAK				⇓Lg	Lg	03 53 52.7	
	45nm,0.4s						
AAK	**Ala-Archa**	**3.91**	**46**	P	Pn	03 52 51.4	+3.2
	SNR=8.7						
AAK	**Ala-Archa**	**3.91**	**46**	Pn	Pn	03 52 51.3	+3.2
	7.4nm,0.3s,baz=212,slow=3.8,SNR=53						
AAK				Lg	Lg	03 53 53.0	
	14nm,0.3s,baz=356,slow=23,SNR=6.3						
KZA	**Kyzart**	**4.04**	**57**	P	**Pn**	**03 52 53.3**	**+3.1**
	SNR=34						
KSH	**Kashi**	**4.09**	**95**	Pn	**Pn**	**03 52 51.1**	**+0.5**
KSH				Sn	**Sn**	**03 53 38.7**	**-0.3**
KSH				smax	smax		
	comp=N,74nm,0.8s						
KSH				smax	smax		
	comp=E,62nm,0.9s						
KBK	**Karagaybulak**	**4.18**	**49**	P	**Pn**	**03 52 54.6**	**+2.8**
	SNR=10						
CHMS	**Chumysh**	**4.30**	**44**	P	**Pn**	**03 52 56.2**	**+2.9**
	SNR=14						
TKM2	**Tokmak 2**	**4.72**	**50**	⇑Pn	**Pn**	**03 53 01.6**	**+2.3**
	comp=E,16nm,0.3s						
TKM2				⇓Lg	Lg	03 54 17.8	
	comp=E,43nm,0.6s						
TKM2	**Tokmak 2**	**4.72**	**50**	P	**Pn**	**03 53 01.7**	**+2.4**
	SNR=18						
PDGK	**Podgornoye**	**7.39**	**60**	⇑Pg	Pg	03 54 04.0	-4.8
	comp=E,4.7nm,0.9s						
PDGK				⇓Lg	Lg	03 55 43.0	
	comp=E,19nm,0.8s						
GEYT	**Alibeck**	**10.01**	**262**	Pn	**Pn**	**03 54 11.6**	**-0.1**
	comp=E,0.9nm,0.3s,baz=69,slow=7.9,SNR=2.6						
MK31	**Makanchi Array**	**10.85**	**47**	Pn	**Pn**	**03 54 24.4**	**+1.3**
	comp=E,1.0nm,0.5s,baz=233,slow=14,SNR=22						
MK31				⇓Lg	Lg	03 57 32.7	
	comp=E,1.8nm,0.5s						
MKAR	**Makanchi Array**	**10.85**	**47**	Pn	**Pn**	**03 54 24.2**	**+1.1**
	comp=E,0.4nm,0.3s,baz=232,slow=14,SNR=15						
MKAR				Lg	Lg	03 57 29.5	
	comp=E,0.1nm,0.3s,baz=242,slow=26,SNR=3.6						
KURBB	**Kurchatov Arra**	**11.99**	**25**	⇑Pn	**Pn**	**03 54 36.5**	**-2.2**
	comp=E,4.5nm,1.2s						
KURBB				⇑Lg	Lg	03 58 05.6	
	comp=E,13nm,0.8s						
KURBB	**Kurchatov Arra**	**11.99**	**25**	Pn	**Pn**	**03 54 36.8**	**-1.9**
	comp=E,0.1nm,0.3s,baz=214,slow=13,SNR=4.2						
KURBB				Lg	Lg	03 58 07.8	
	comp=E,0.1nm,0.3s,baz=194,slow=27,SNR=4.3						
AB31	**Akbulak array**	**12.03**	**324**	⇓Pn	**Pn**	**03 54 38.7**	**-0.5**
	comp=E,0.6nm,0.3s,baz=140,slow=12,SNR=38						
AB31				⇑Sn	**Sn**	**03 56 49.6**	**-4.0**
	comp=E,1.9nm,0.6s,baz=130,slow=26,SNR=4.3						
KURK	**Kurchatov**	**12.10**	**25**	⇑Lg	Lg	03 58 08.1	
	comp=E,4.6nm,0.8s						
BVAR	**Borovoye Array**	**13.06**	**359**	Pn	**Pn**	**03 54 51.8**	**-1.6**
	comp=E,0.2nm,0.3s,baz=166,slow=7.4,SNR=4.2						
BVAR				Lg	Lg	03 58 52.6	
	comp=E,0.0nm,0.3s,baz=177,slow=28,SNR=3.5						
AKTO	**Aktyubinsk**	**13.74**	**324**	⇑Pn	**Pn**	**03 55 02.6**	**0.0**
	comp=E,2.8nm,0.8s						
AKTO				⇓Sn	**Sn**	**03 57 32.7**	**-2.9**
	comp=E,2.6nm,0.8s						
AKTO	**Aktyubinsk**	**13.74**	**324**	Pn	**Pn**	**03 55 00.5**	**-2.1**
	comp=E,0.2nm,0.3s,baz=133,slow=15,SNR=5.2						
ZALV	**Zalesovo Beam**	**16.94**	**30**	P	**Pn**	**03 55 44.5**	**-0.3**
	comp=E,0.2nm,0.3s,baz=220,slow=13,SNR=4.9						
HHC	**Hu-ho-hao-te**	**30.94**	**75**	*e*P	**P**	**03 58 07.6**	**+2.5**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
PALK	**Pallekele**	**33.77**	**162**	LR	LR	04 13 03.5	
	comp=Z,80nm,18.4s,baz=137,slow=38						
FINES	**FINESS Array B**	**34.52**	**323**	P	**P**	**03 58 36.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=119,slow=10.0,SNR=10.0						
ARCES	**ARCESS Array B**	**37.87**	**336**	P	**P**	**03 59 05.5**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=107,slow=8.1,SNR=6.4						
NB2	**NORSAR Subarra**	**41.51**	**321**	P	**P**	**03 59 35.1**	**0.0**
	comp=Z,1.5nm,0.8s,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**41.51**	**321**	P	**P**	**03 59 35.2**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=93,slow=8.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**65.61**	**267**	P	**P**	**04 02 31.2**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=52,slow=5.5,SNR=9.1						
INK	**Inuvik**	**70.53**	**9**	P	**P**	**04 03 01.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=323,slow=5.1,SNR=2.4						
YKA	**Yellowknife Ar**	**77.80**	**3**	P	**P**	**04 03 44.4**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=352,slow=6.5,SNR=6.2						
WRA	**Warramunga Arr**	**84.03**	**122**	P	**P**	**04 04 17.9**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=319,slow=4.2,SNR=3.9						
ASAR	**Alice Springs**	**86.43**	**125**	P	P	04 04 28.9	-2.1
	comp=Z,0.5nm,1.0s,baz=311,slow=4.7,SNR=3.3						

IDC ***10*** *03:52:07.7±1.7, 0°.38N×117°.96E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.3/48, mbtmp3.6/5, MS2.8/3, Ms1 2.8/3, ms1mx2.5/28, Error ellipse: s-maj=332.4km s-min=19.5km az=59.0*
DJA ***10*** *03:52:22.5±1.6, 1°.N±11°×11°.9E±°, h10km, M3.2/6, MLv3.2/6*

ISC 10 03:52:15.3±1.3, 1°3N±0°.2×119°.0E±0°.1, h35km, n13, σ2s11/10, mb3.4/5, MS2.7/3, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.34**	**135**	P	**Pn**	**03 52 39.4**	**+1.9**
PCI	**Palu**	**2.36**	**158**	P	Pn	03 52 59.8	+8.2
MRSI	**Marisa**	**3.09**	**105**	P	**Pn**	**03 53 03.8**	**+2.2**
MRSI				S	**Sn**	**03 53 36.2**	**-1.2**
APSI	**Ampana**	**3.47**	**129**	P	**Pn**	**03 53 09.0**	**+2.1**
GTOI	**Gorontalo**	**4.11**	**99**	P	**Pn**	**03 53 16.4**	**+0.8**
LUWI	**Luwuk**	**4.47**	**121**	P	**Pn**	**03 53 22.2**	**+1.6**
WRA	**Warramunga Arr**	**25.95**	**145**	P	**P**	**03 57 41.0**	**-3.6**
	0.8nm,0.8s,baz=313,slow=8.7,SNR=8.1						
ASAR	**Alice Springs**	**28.76**	**151**	P	P	03 58 04.8	-5.1
	0.5nm,0.5s,baz=328,slow=8.8,SNR=12						
JCJ	**Chichijima**	**33.98**	**39**	LR	LR	04 13 51.3	
	comp=Z,9.6nm,21.3s,baz=64,slow=37						
KSRS	**Korea Array**	**36.91**	**12**	LR	LR	04 17 02.5	
	comp=Z,11nm,18.1s,baz=180,slow=39						
MKAR	**Makanchi Array**	**55.44**	**330**	P	**P**	**04 01 46.7**	**+0.3**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**59.52**	**337**	P	**P**	**04 02 15.5**	**+0.5**
	0.4nm,0.4s,baz=132,slow=6.0,SNR=2.1						
ZALV				LR	LR	04 28 11.0	
	comp=Z,13nm,18.1s,baz=72,slow=36						
KURBB	**Kurchatov Arra**	**59.86**	**331**	P	**P**	**04 02 17.3**	**-0.1**
	0.4nm,0.6s,baz=139,slow=6.6,SNR=4.3						

IDC 10 03:56:46.7±27.0, 12°.96S×167°.38E, h250km±261km, mb3.1/4, mb1 3.4/4, mb1mx3.0/34, mbtmp3.7/4, Error ellipse: s-maj=242.2km s-min=79.1km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.45**	**248**	P	P	04 01 16.0	+0.3
	3.9nm,0.7s,baz=82,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**32.40**	**253**	P	P	04 02 53.0	-0.5
	0.6nm,0.5s,baz=84,slow=9.2,SNR=7.3						
ASAR	**Alice Springs**	**33.44**	**247**	P	P	04 03 02.5	+0.1
	0.6nm,0.7s,baz=77,slow=9.4,SNR=9.0						
ILAR	**Eielson Array**	**84.82**	**18**	P	P	04 08 52.7	-0.1
	0.4nm,0.7s,baz=226,slow=6.1,SNR=6.0						

ISCJB ***10*** *04:00:23.8±1.3, 1°.85N±0°.10×127°.6E±0°.1, h112km, mb3.6/4, Error ellipse: s-maj=20.6km s-min=13.1km az=165.2*
DJA ***10*** *04:00:31.6±0.6, 1°N±4°×12°7E±°, h32km±11km, M3.9/9, mb3.9/1, MLv3.9/9*
IDC ***10*** *04:00:32.2±11.0, 1°.99N×126°.95E, h139km±109km, mb3.4/4, mb1 3.6/4, mb1mx3.1/37, mbtmp3.8/4, Error ellipse: s-maj=167.0km s-min=20.8km az=65.0*

ISC 10 04:00:28.5±1.3, 1°.8N±0°.1×127°.4E±0°.1, h112km, n12, σ2s76/11, mb3.7/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**180**	P	Pn	04 00 45.4	-4.4
LBMI	**Labuha**	**2.40**	**177**	P	**Pn**	**04 01 04.5**	**-2.2**
SGSI	**Sangihe**	**2.65**	**316**	P	Pn	04 01 14.0	+4.1
KMSI	**Cibinong**	**3.60**	**251**	P	**Pn**	**04 01 21.2**	**-1.3**
SANI	**Sanana**	**4.04**	**200**	P	**Pn**	**04 01 25.9**	**-2.6**
GTOI	**Gorontalo**	**4.51**	**256**	P	**Pn**	**04 01 35.4**	**+0.7**
NLAI	**Namlea**	**4.99**	**183**	P	**Pn**	**04 01 39.8**	**-1.4**
LUWI	**Luwuk**	**5.38**	**239**	P	**Pn**	**04 01 45.2**	**-1.4**
WRA	**Warramunga Arr**	**22.64**	**163**	P	**P**	**04 05 24.2**	**+3.9**
	2.4nm,0.5s,baz=342,slow=9.9,SNR=43						
ASAR	**Alice Springs**	**26.07**	**166**	P	**P**	**04 05 55.8**	**+4.0**
	0.6nm,0.5s,baz=347,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**04 09 18.7**	**+1.8**
	0.3nm,0.5s,baz=345,slow=2.3,SNR=5.8						
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**04 10 18.1**	**-2.0**
	0.8nm,0.6s,baz=121,slow=8.2,SNR=12						
KURBB	**Kurchatov Arra**	**63.72**	**328**	P	**P**	**04 10 45.9**	**-2.3**
	0.2nm,0.3s,baz=127,slow=4.9,SNR=4.6						

ISCJB ***10*** *04:02:53.9±1.2, 35°.14S±0°.06×71°.9W±0°.2, h48km±16km, Error ellipse: s-maj=24.4km s-min=7.9km az=16.8*
NEIC ***10*** *04:02:53.9, 35°.14S×71°.80W, h47km, MG3.6(GUC), After GUC.*
NEIC Felt [III] at Paredones and [II] at Colbun, San Javier and Talca.
GUC ***10*** *04:02:53.9±0.4, 35°.14S×71°.80W, h47km±1km, ML3.6*

ISC 10 04:02:54.9±1.5, 35°15S±0°.05×71°.8W±0°.1, h45km±14km, n13, σ0s75/26, 4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.27**	**155**	*e*P	**Pn**	**04 03 03.0**	**-0.3**
TALC				*e*S	**Sn**	**04 03 09.5**	**+0.3**
TALC				AML	AML	04 03 10.0	
	comp=N,18μm,0.0s						
TALC	**Talca**	**0.27**	**155**	*e*P	**Pn**	**04 03 03.0**	**-0.3**
TALC				*e*S	**Sn**	**04 03 09.5**	**+0.3**
NICH	**Los Niches**	**0.47**	**72**	*e*P	**Pn**	**04 03 04.9**	**-0.7**
NICH				*e*S	**Sn**	**04 03 13.7**	**+0.6**
NICH	**Los Niches**	**0.47**	**72**	*e*P	**Pn**	**04 03 04.9**	**-0.7**
NICH				*e*S	**Sn**	**04 03 13.7**	**+0.6**
LNCH	**Linares**	**0.71**	**168**	⇓*e*P	**Pn**	**04 03 08.0**	**-0.6**
LNCH				*e*S	**Sn**	**04 03

CBX	**Cerro Bola**	**0.86**	**248**	⇑*e*P	**Pg**	**04 05 29.8**	**-0.3**
CBX				*e*S	**Sg**	**04 05 40.8**	**-0.7**
CBX				⇓*e*		04 05 43.8	
CBX				AML	AML	04 05 43.8	
	comp=N,2μm,0.3s						
CBX	**Cerro Bola**	**0.86**	**248**	*i* P	**Pg**	**04 05 29.8**	**-0.3**
CBX				*i* S	**Sg**	**04 05 41.1**	**-0.3**
PFO	**Pinyon Flats O**	**1.15**	**327**	*e*Pg	**Pg**	**04 05 33.1**	**-2.4**
PFO				*e*Sg	**Sg**	**04 05 47.9**	**-2.6**
ZAX	**El Zacaton**	**1.22**	**203**	*e*P	**Pb**	**04 05 36.1**	**-0.3**
ZAX				*e*S	**Sg**	**04 05 52.0**	**-0.7**
ZAX				AML	AML	04 05 54.6	
	comp=E,718nm,0.3s						
ZAX				*e*		04 05 54.6	
ZAX				⇑*e*		04 05 54.7	
ZAX				AML	AML	04 05 54.7	
	comp=N,1μm,0.3s						
ECNX	**Esteban Cantu**	**1.23**	**218**	*e*P	**Pb**	**04 05 36.3**	**-0.3**
ECNX				*e*S	**Sg**	**04 05 52.1**	**-1.1**
PBX	**Punta Banda**	**1.24**	**224**	*e*P	**Pb**	**04 05 36.2**	**-0.5**
PBX				*e*S	**Sg**	**04 05 52.0**	**-1.3**
PBX	**Punta Banda**	**1.24**	**224**	*e*P	**Pb**	**04 05 36.2**	**-0.5**
PBX				*e*S	**Sg**	**04 05 52.0**	**-1.3**
ECBX	**El Chinero**	**1.29**	**154**	*e*P	**Pn**	**04 05 36.9**	**-0.3**
ECBX				*e*S	**Sb**	**04 05 54.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P	**Pn**	**04 05 41.5**	**-0.4**
SPIG				*i* S	**Sn**	**04 06 02.8**	**+0.2**
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P	**Pn**	**04 05 42.6**	**+0.8**
SPIG				*e*S	**Sb**	**04 06 04.2**	**+0.8**
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P	**Pn**	**04 05 41.5**	**-0.4**
SPIG				*i* S	**Sn**	**04 06 02.8**	**+0.2**
SPX	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**04 05 42.6**	**+0.8**
SPX				*e*S	**Sb**	**04 06 04.5**	**+1.0**
MWC	**Mount Wilson**	**2.52**	**310**	*e*Pg	**Pb**	**04 05 58.3**	**-0.3**
MWC				*e*Sg	**Sb**	**04 06 30.1**	**+0.6**
214A	**Organ Pipe Nat**	**2.55**	**105**	*e*Pn	**Pn**	**04 05 52.6**	**-2.0**
PASC	**Pasadena Art C**	**2.57**	**307**	*e*Pn	**Pn**	**04 05 54.4**	**-0.4**
PASC				*e*Pg	**Pb**	**04 05 59.1**	**-0.3**
PASC				*e*Sn	**Sn**	**04 06 26.6**	**+0.6**
PASC				*e*Sg	**Sb**	**04 06 32.6**	**+1.7**
GSC	**Goldstone, Bar**	**2.80**	**341**	*e*Pn	**Pn**	**04 05 58.5**	**+0.4**
GSC				*e*Pg	**Pg**	**04 06 06.7**	**-0.4**
GSC				*e*Sg	**Sg**	**04 06 42.5**	**-1.0**
ISA	**Isabella, Lake**	**3.78**	**324**	*e*Pn	**Pn**	**04 06 12.1**	**+0.5**
ISA				*e*Pg	**Pb**	**04 06 22.6**	**+2.5**
ISA				*e*Sg	**Sb**	**04 07 09.8**	**+3.9**
SHPR	**Sheep Range**	**3.88**	**7**	*e*Pn	**Pn**	**04 06 14.2**	**+1.2**
DAC	**Darwin (Calif)**	**3.94**	**337**	*e*Pn	**Pn**	**04 06 14.6**	**+0.7**
DAC				*e*Pg	**Pg**	**04 06 28.2**	**-0.8**
DAC				*e*Sg	**Sg**	**04 07 16.8**	**-3.3**
TUC	**Tucson**	**4.18**	**93**	*e*Pn	**Pn**	**04 06 17.1**	**+0.1**
TUC				*e*Pg	**Pg**	**04 06 31.6**	**-1.9**
121A	**Cookes Peak, D**	**6.70**	**89**	*e*Pn	**Pn**	**04 06 51.2**	**-0.4**
	comp=N,5.9nm,0.6s						

*NEIC **10** 04:12:27.5,32.62N×115.72W,h11km,ML3.4(PAS), ML3.5(ECX),After PAS.*
NEIC Felt at El Centro, California.
*ECX **10** 04:12:28.5±0.6,32.65N×115.74W,h4km,MD3.3,ML3.5*
ISC 10 04:12:27.0±0.9,32°64N±0.02×115°70W±0.02,h13km±7km, n34,σ1§00/72,7C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COK	**Cook Ranch**	**0.21**	**354**	⇓*e*P	**Pg**	**04 12 32.3**	**+0.7**
RMX	**La Rumorosa**	**0.32**	**263**	⇑*i*P	**Pg**	**04 12 33.9**	**+0.2**
RMX				*e*S	**Sg**	**04 12 38.3**	**+0.1**
RMX				AML	AML	04 12 39.6	
	comp=N,4μm,0.1s						
RMX				⇑*e*		04 12 39.6	
RMX	**La Rumorosa**	**0.32**	**263**	*i* P	**Pg**	**04 12 33.9**	**+0.2**
RMX				*e*S	**Sg**	**04 12 38.3**	**+0.1**
CPBX	**Cerro Prieto**	**0.40**	**124**	*e*P	**Pg**	**04 12 34.4**	**-0.7**
CPBX				*e*S	**Sg**	**04 12 40.6**	**0.0**
CPBX				AML	AML	04 12 44.2	
	comp=N,11μm,0.2s						
CPBX				⇑*e*		04 12 44.2	
CPBX				AML	AML	04 12 44.6	
	comp=E,16μm,0.4s						
CPBX				⇑*e*		04 12 44.6	
COA	**Coachella**	**0.53**	**66**	⇑*e*P	**Pb**	**04 12 38.4**	**+0.2**
RDX	**Rancho Dawling**	**0.74**	**196**	*e*P	**Pg**	**04 12 41.4**	**-0.1**
RDX				*e*S	**Sb**	**04 12 52.2**	**+0.2**
RDX				⇓*e*		04 12 54.7	
	comp=N,1μm,0.3s						
RDX	**Rancho Dawling**	**0.74**	**196**	*e*P	**Pg**	**04 12 41.4**	**-0.1**
RDX				*e*S	**Sb**	**04 12 52.2**	**+0.2**
EMX	**El Mayor**	**0.76**	**149**	*e*P	**Pg**	**04 12 40.8**	**-1.0**
EMX				*e*S	**Sg**	**04 12 51.4**	**-0.4**
EMX				⇑*e*		04 12 52.4	
	comp=E,1μm,0.4s						
EMX	**El Mayor**	**0.76**	**149**	*e*P	**Pg**	**04 12 40.8**	**-1.0**
EMX				*e*S	**Sg**	**04 12 51.4**	**-0.4**
BAR	**Barrett**	**0.82**	**273**	*e*Pg	**Pg**	**04 12 42.4**	**-0.5**
BAR				*e*Sg	**Sg**	**04 12 52.6**	**-1.1**
GLA	**Glamis**	**0.84**	**61**	*e*Pg	**Pg**	**04 12 42.5**	**-0.8**
GLA				*e*Sg	**Sg**	**04 12 53.7**	**-0.7**
CBX	**Cerro Bola**	**0.88**	**248**	*e*P	**Pg**	**04 12 43.9**	**-0.2**
CBX				*e*S	**Sg**	**04 12 55.2**	**-0.3**
CBX				AML	AML	04 12 57.4	
	comp=N,2μm,0.5s						
CBX				⇓*e*		04 12 57.4	
CBX	**Cerro Bola**	**0.88**	**248**	*e*P	**Pb**	**04 12 44.1**	**-0.1**
CBX				*e*S	**Sg**	**04 12 55.2**	**-0.3**
PFO	**Pinyon Flats O**	**1.15**	**327**	*e*Pn	**Pg**	**04 12 47.2**	**-2.0**
PFO				*e*Sg	**Sg**	**04 13 01.1**	**-3.1**
ZAX	**El Zacaton**	**1.23**	**203**	*e*P	**Pb**	**04 12 50.2**	**+0.1**
ZAX				*e*S	**Sb**	**04 13 06.4**	**+0.6**
ZAX				AML	AML	04 13 08.4	
	comp=N,613nm,0.2s						
ZAX				⇑*e*		04 13 08.4	
ECNX	**Esteban Cantu**	**1.24**	**218**	*e*P	**Pn**	**04 12 50.4**	**+0.3**
ECNX				*e*S	**Sb**	**04 13 06.5**	**+0.2**
PBX	**Punta Banda**	**1.25**	**224**	*e*P	**Pn**	**04 12 50.4**	**+0.3**
PBX				*e*S	**Sb**	**04 13 06.7**	**+0.3**
ECBX	**El Chinero**	**1.29**	**155**	*e*P	**Pn**	**04 12 49.6**	**-1.1**
ECBX				*e*S	**Sb**	**04 13 07.2**	**-0.4**
ECBX				⇓*e*		04 13 07.8	
	comp=E,614nm,0.5s						
ECBX				*e*		04 13 12.5	
	comp=N,639nm,0.7s						
SPIG	**San Pedro Mart**	**1.61**	**173**	*e*P	**Pn**	**04 12 55.9**	**+0.6**
SPIG				*e*S	**Sg**	**04 13 18.5**	**-0.3**
SPX	**San Pedro Mart**	**1.61**	**173**	*e*P	**Pn**	**04 12 56.0**	**+0.6**
SPX				*e*S	**Sg**	**04 13 18.6**	**-0.2**
LDFC	**Landfair**	**2.48**	**11**	*e*Pn	**Pn**	**04 13 07.5**	**+0.3**
LDFC				*e*Pg	**Pg**	**04 13 15.2**	**+0.7**
LDFC				*e*Sn	**Sn**	**04 13 37.3**	**0.0**
MWC	**Mount Wilson**	**2.52**	**309**	*e*Pn	**Pn**	**04 13 07.1**	**-0.7**
MWC				*e*Pg	**Pb**	**04 13 12.2**	**0.0**
MWC				*e*Sg	**Sb**	**04 13 44.8**	**+1.5**
214A	**Organ Pipe Nat**	**2.54**	**105**	*e*Pn	**Pn**	**04 13 06.6**	**-1.3**
PASC	**Pasadena Art C**	**2.58**	**307**	*e*Pn	**Pn**	**04 13 08.6**	**+0.2**
PASC				*e*Pg	**Pb**	**04 13 12.8**	**-0.3**
PASC				*e*Sn	**Sn**	**04 13 39.8**	**+0.3**
PASC				*e*Sg	**Sb**	**04 13 45.6**	**+0.9**
GSC	**Goldstone, Bar**	**2.81**	**341**	*e*Pn	**Pn**	**04 13 12.4**	**+0.8**
GSC				*e*Pg	**Pg**	**04 13 20.4**	**-0.4**
OSI	**Osito Audit: C**	**3.20**	**309**	*e*Pn	**Pn**	**04 13 17.6**	**+0.6**
OSI				*e*Sn	**Sn**	**04 13 55.1**	**+0.1**
OSI				*e*Sg	**Sg**	**04 14 07.6**	**-2.1**
ISA	**Isabella, Lake**	**3.79**	**323**	*e*Pn	**Pn**	**04 13 25.2**	**+0.1**
ISA				*e*Pg	**Pg**	**04 13 37.4**	**-2.2**
SHPR	**Sheep Range**	**3.88**	**6**	*e*Pn	**Pn**	**04 13 26.9**	**+0.4**
SHPR				*e*Pg	**Pg**	**04 13 39.9**	**-1.4**
SHPR				*e*Sg	**Sg**	**04 14 31.1**	**-0.5**
DAC	**Darwin (Calif)**	**3.95**	**337**	*e*Pn	**Pn**	**04 13 27.5**	**+0.1**
DAC				*e*Pg	**Pg**	**04 13 42.1**	**-0.5**
DAC				*e*Sn	**Sn**	**04 14 13.6**	**0.0**
DAC				*e*Sg	**Sb**	**04 14 27.8**	**+3.6**
TUC	**Tucson**	**4.17**	**93**	*e*Pn	**Pn**	**04 13 29.6**	**-0.8**
TUC				*e*Sn	**Sn**	**04 14 21.1**	**+2.1**
WUAZ	**Wupatki**	**4.59**	**50**	*e*Pn	**Pn**	**04 13 37.6**	**+1.4**
CCUT	**Cedar City**	**5.26**	**21**	*e*Pn	**Pn**	**04 13 46.5**	**+1.0**
CCUT				*e*Pg	**Pg**	**04 14 08.0**	**+0.3**
CCUT				*e*Sg	**Sg**	**04 15 14.2**	**-1.6**
R11A	**Troy Canyon, C**	**5.69**	**1**	*e*Pn	**Pn**	**04 13 52.0**	**+0.6**
R11A				*e*Pg	Pg	04 14 12.7	-3.4
R11A				*e*Sg	**Sg**	**04 15 28.5**	**-1.3**
121A	**Cookes Peak, D**	**6.68**	**89**	*e*Pn	**Pn**	**04 14 05.4**	**+0.4**

NNC 10 04:14:38.6±2.1,37°20N×70°70E,h2km±15km,mb3.7, mpv3.2,6C-4D,Error ellipse: s-maj=19.7km s-min=9.9km az=167.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.18**	**318**	⇑Pn	Pn	04 15 15.4	-0.6
	0.6nm,0.1s						
DZET				⇓Sn	Sn	04 15 44.8	+1.1
	8.1nm,0.2s						
SFK	**Sufi-Kurgan**	**3.57**	**37**	⇑Pn	Pn	04 15 36.1	+0.8
	2.5nm,0.3s						
SFK				⇑Pg	Pg	04 15 45.2	-2.1
	1.9nm,0.3s						
SFK				⇓Lg	Lg	04 16 28.7	
	3.9nm,0.2s						
MNAS	**Manas**	**5.46**	**14**	⇑Pn	Pn	04 16 01.1	0.0
	1.0nm,0.5s						
MNAS				⇑Sn	Sn	04 17 05.8	+1.1
	2.5nm,0.6s						
MNAS				⇓Lg	Lg	04 17 33.5	
	2.1nm,0.6s						
KK31	**Karatay Array**	**5.90**	**359**	Pn	Pn	04 16 06.9	-0.1
	0.9nm,0.3s,baz=173,slow=11,SNR=23						
KK31				⇓Sn	Sn	04 17 16.1	+1.0
	0.5nm,0.3s,baz=190,slow=24,SNR=6.0						
AAK	**Ala-Archa**	**6.16**	**27**	Pn	Pn	04 16 10.3	-0.5
	2.9nm,0.5s						
TKM2	**Tokmak 2**	**6.84**	**32**	⇑Pn	Pn	04 16 19.0	-1.2
	2.3nm,0.6s						

*ISCJB **10** 04:19:59.0±0.9,4.22S±0.05×76.55W±0.06,h98km±9km, mb4.3/42, Error ellipse: s-maj=9.8km s-min=8.1km az=154.7*
*NEIC **10** 04:20:01.6±0.9,4.28S×76.43W,h114km±9km,mb4.4/25, Error ellipse: s-maj=12.6km s-min=6.6km az=63.0*
NEIC Felt [II] at Santa Maria de Nieva.
*IDC **10** 04:20:01.8±0.7,4.16S×76.54W,h104km±6km,mb3.7/11, mb1 3.8/17,mb1mx3.7/29,mbtmp4.1/17,Error ellipse: s-maj=22.1km s-min=15.0km az=68.0*
*BJI **10** 04:20:02.5,4.30S×76.40W,h114km*
ISC 10 04:20:00.7±0.6,4°33S±0.05×76°43W±0.07,h105km±5km, h105km;pP-P,n72,σ1§30/82,mb4.3/42,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.40**	**215**	P	**Pn**	**04 20 53.9**	**+1.6**
	92nm,0.3s,baz=25,slow=10,SNR=368						
ATAH				S	**Sn**	**04 21 30.6**	**-1.5**
	50nm,0.3s,baz=144,slow=17,SNR=18						
OTAV	**Otavalo**	**4.97**	**336**	*e*Pn	**Pn**	**04 21 14.6**	**+1.1**
NNA	**Nana**	**7.62**	**183**	P	**Pn**	**04 21 51.7**	**+2.7**
	9.5nm,0.3s,baz=354,slow=10,SNR=18						
NNA				S	**Sn**	**04 23 10.1**	**-3.7**
	11nm,0.3s,baz=50,slow=20,SNR=9.7						
NNA	**Nana**	**7.62**	**183**	*e*Pn	**Pn**	**04 21 51.1**	**+2.0**
	29nm,0.4s						
NNA				*e*Sn	**Sn**	**04 23 09.8**	**-4.0**
ROSC	**El Rosal**	**9.37**	**13**	P	**Pn**	**04 22 11.3**	**-1.9**
	0.2nm,0.3s,baz=283,slow=23,SNR=2.2						
SAML	**Samuel**	**13.93**	**110**	*e*Pn	**Pn**	**04 23 14.4**	**+0.9**
SAML				*e*Sn	**Sn**	**04 25 44.9**	**-2.2**
SDV	**Santo Domingo**	**14.35**	**24**	*e*Pn	**Pn**	**04 23 17.0**	**-2.2**
LPAZ	**La Paz**	**14.40**	**146**	P	**P**	**04 23 24.1**	**0.0**
	0.1nm,0.3s,baz=309,slow=13,SNR=2.7						
LPAZ	**La Paz**	**14.40**	**146**	*e*Pn	**Pn**	**04 23 21.8**	**+1.5**
PTGA	**Pitinga**	**16.82**	**78**	P	**P**	**04 23 51.7**	**+1.3**
	0.8nm,0.3s,baz=256,slow=14,SNR=9.5						
PTGA	**Pitinga**	**16.82**	**78**	*e*Pn	**P**	**04 23 51.2**	**+0.7**
	48nm,1.6s						
JTS	**JuntasAbangare**	**16.83**	**330**	*e*Pn	Pn	04 23 44.8	-5.3
SIV	**San Ignacio**	**19.02**	**129**	P	**Pn**	**04 24 18.2**	**+1.7**
	0.2nm,0.3s,baz=312,slow=12,SNR=3.8						
LVC	**Limon Verde**	**19.57**	**159**	*e*P	**P**	**04 24 20.9**	**+0.2**
	13nm,1.4s						
TRQA	**Tornquist**	**36.06**	**160**	*e*P	**P**	**04 26 49.9**	**-2.3**
	3.0nm,0.9s						
PLCA	**Paso Flores**	**36.62**	**173**	*e*P	**P**	**04 26 58.2**	**+1.2**
	3.0nm,0.8s						
LRAL	**Lakeview Retre**	**38.49**	**346**	*e*P	**P**	**04 27 12.0**	**-0.8**
	7.2nm,0.9s						
KMSC	**Kings Mountain**	**39.54**	**354**	*e*P	**P**	**04 27 21.7**	**+0.3**
	23nm,1.4s						
SWET	**Sewanee**	**40.34**	**348**	*e*P	**P**	**04 27 27.4**	**-0.8**
	7.1nm,0.8s						
WVT	**Waverly**	**41.65**	**346**	*e*P	**P**	**04 27 36.8**	**-1.9**
TXAR	**Lajitas Array**	**42.48**	**324**	P	**P**	**04 27 46.2**	**+0.4**
	0.8nm,0.8s,baz=161,slow=9.5,SNR=3.6						
TXAR				PcP	**PcP**	**04 29 36.8**	**-0.1**
	0.7nm,0.9s,baz=145,slow=4.6,SNR=3.7						
ABTX	**Abilene, Hawle**	**42.86**	**331**	*e*P	**P**	**04 27 48.9**	**+0.2**
	4.9nm,0.6s						
TUL1	**Leonard**	**43.96**	**337**	*e*P	**P**	**04 27 57.1**	**-0.4**
WMOK	**Wichita Mounta**	**44.20**	**333**	*e*P	**P**	**04 27 58.7**	**-0.8**
	13nm,1.2s						
ANMO	**Albuquerque**	**48.21**	**327**	*e*P	**P**	**04 28 31.2**	**+0.1**
	7.2nm,1.2s						
ISCO	**Idaho Springs**	**51.48**	**331**	*e*P	**P**	**04 28 55.9**	**+0.1**
	1.1nm,0.7s						
SHPR	**Sheep Range**	**54.39**	**322**	*e*P	**P**	**04 29 15.3**	**-1.9**
DUG	**Dugway, Tooele**	**55.48**	**327**	*e*P	**P**	**04 29 24.0**	**-0.9**
	1.1nm,0.6s						
PDAR	**Pinedale Array**	**55.66**	**331**	P	**P**	**04 29 25.3**	**-1.0**
	1.5nm,1.0s,baz=145,slow=7.1,SNR=6.2						
HWUT	**Hardware Ranch**	**55.81**	**329**	*e*P	**P**	**04 29 26.7**	**-0.6**
	1.8nm,0.7s						
ULM	**Lac du Bonnet**	**56.90**	**345**	P	**P**	**04 29 33.7**	**-0.9**
	2.4nm,0.6s,baz=168,slow=9.2,SNR=6.4						
NVAR	**Mina Array Bea**	**57.54**	**322**	P	**P**	**04 29 39.9**	**+0.2**
	0.5nm,0.5s,baz=124,slow=7.7,SNR=4.9						
MFID	**Camas Ranch**	**59.33**	**327**	*e*P	**P**	**04 29 52.7**	**+0.8**
	5.2nm,0.9s						
SCHQ	**Schefferville**	**59.49**	**6**	P	**P**	**04 29 53.2**	**+0.6**
	3.1nm,0.6s,baz=219,slow=5.6,SNR=8.8						
WVOR	**Wild Horse Val**	**60.24**	**325**	*e*P	**P**	**04 29 57.0**	**-1.2**
	0.9nm,0.6s						
MSO	**Missoula**	**60.76**	**331**	*e*P	**P**	**04 30 02.1**	**+0.6**
	5.2nm,1.0s						
ASCN	**Ascension**	**61.77**	**97**	*e*P	**P**	**04 30 08.2**	**-0.7**
	93nm,1.0s						
FRB	**Frobisher Bay**	**68.16**	**4**	P	**P**	**04 30 49.5**	**+0.2**
	1.6nm,0.6s,baz=201,slow=6.5,SNR=7.7						
YKA	**Yellowknife Ar**	**72.69**	**343**	P	**P**	**04 31 16.3**	**-0.6**
	0.8nm,0.5s,baz=140,slow=6.2,SNR=27						
YKA				pP	**pP**	**04 31 42.5**	**-0.9**
	0.4nm,0.8s,baz=138,slow=5.8,SNR=3.2						
TORD	**Torodi Ar. Bea**	**79.45**	**76**	P	**P**	**04 31 57.6**	**+1.3**
	1.3nm,0.8s,baz=281,slow=6.3,SNR=15						
RES	**Resolute Bay**	**79.69**	**355**	P	**P**	**04 31 56.1**	**-0.2**
	1.4nm,1.0s,baz=151,slow=8.1,SNR=4.8						
INK	**Inuvik**	**82.43**	**342**	P	**P**	**04 32 11.2**	**+0.3**
	3.1nm,0.9s,baz=104,slow=6.2,SNR=9.4						
INK				pP	**pP**	**04 32 38.5**	**+0.5**
	2.0nm,0.9s,baz=97,slow=6.4,SNR=3.5						
EGAK	**Eagle**	**83.42**	**337**	*e*P	**P**	**04 32 16.3**	**+0.2**
	4.1nm,0.8s						
GRR	**Gorron**	**83.70**	**40**	*e*P	**P**	**04 32 18.6**	**+0.7**
	6.5nm,0.8s						
MFF	**Saint Martin d**	**83.76**	**42**	*e*P	**P**	**04 32 19.2**	**+0.9**
	4.1nm,0.7s						
LFF	**La Frestale**	**84.00**	**44**	*e*P	**P**	**04 32 20.6**	**+1.1**
	6.1nm,0.7s						
FLN	**La Foliniere**	**84.03**	**40**	*e*P	**P**	**04 32 20.5**	**+0.9**
	8.4nm,0.8s						
TAM	**Tamanrasset**	**84.26**	**67**	*e*P	**P**	**04 32 24.0**	**+2.5**
	3.8nm,1.2s						
PAX	**Paxson**	**84.48**	**335**	*e*P	**P**	**04 32 20.9**	**-0.8**
	4.2nm,1.0s						
RJF	**Les Rejaudoux**	**84.62**	**44**	*e*P	**P**	**04 32 23.3**	**+0.6**
	6.3nm,0.9s						
PMR	**Palmer**	**85.65**	**333**	*e*P	**P**	**04 32 25.9**	**-1.5**
	6.0nm,0.6s						
ILAR	**Eielson Array**	**85.69**	**336**	P	**P**	**04 32 27.9**	**+0.4**
	0.9nm,0.8s,baz=110,slow=4.0,SNR=12						
MCK	**McKinley**	**86.21**	**335**	*e*P	**P**	**04 32 30.1**	**-0.1**
	3.8nm,0.9s						
LOR	**Lormes**	**86.58**	**42**	*e*P	**P**	**04 32 33.9**	**+1.5**
	3.8nm,0.8s						
KTH	**Kantishna Hill**	**87.01**	**334**	*e*P	**P**	**04 32 33.7**	**-0.4**
	5.1nm,1.0s						
CABF	**La Chapelle**	**87.98**	**43**	*e*P	**P**	**04 32 39.6**	**+0.4**
	2.8nm,0.7s						
SBF	**Sospel**	**88.55**	**46**	*e*P	**P**	**04 32 42.2**	**+0.3**
	21nm,1.1s						
CDF	**Champ du Feu**	**89.03**	**41**	*e*P	**P**	**04 32 45.1**	**+1.0**
TSUM	**Tsumeb**	**92.37**	**109**	*e*P	**P**	**04 33 00.1**	**-0.2**
	3.7nm,0.8s						
TNA	**Tin City**	**94.54**	**335**	*e*P	**P**	**04 33 08.6**	**-0.5**
	4.0nm,1.2s						
MORC	**Moravsky Berou**	**95.85**	**41**	*e*P	**P**	**04 33 14.4**	**-1.1**
ZALV	**Zalesovo Beam**	**128.22**	**14**	PKP	**PKPdf**	**04 38 55.4**	**+0.7**
	1.3nm,0.6s,baz=323,slow=2.2,SNR=9.2						
ZALV				pPKP	**pPKPdf**	**04 39 24.5**	**+1.1**
	1.1nm,0.8s,baz=321,slow=2.0,SNR=2.7						
KURK	**Kurchatov**	**129.25**	**20**	*e*PKPdf	**PKPdf**	**04 38 58.0**	**+1.2**
KURBB	**Kurchatov Arra**	**129.29**	**20**	PKP	**PKPdf**	**04 38 58.5**	**+1.7**
	1.9nm,0.8s,baz=328,slow=2.7,SNR=10						
KURBB				pPKP	**pPKPdf**	**04 39 26.7**	**+1.1**
	0.8nm,0.6s,baz=326,slow=2.9,SNR=3.0						
MKAR	**Makanchi Array**	**133.86**	**20**	PKP	**PKPdf**	**04 39 06.6**	**+0.9**
	0.3nm,0.5s,baz=13,slow=1.8,SNR=8.3						
MKAR				pPKP	**pPKPdf**	**04 39 35.3**	**+0.9**
	0.2nm,0.6s,baz=2.8,slow=2.1,SNR=2.8						
TKM2	**Tokmak 2**	**134.25**	**29**	*e*PKPdf	**PKPdf**	**04 39 06.1**	**-0.7**
SONM	**Songino Array**	**136.59**	**357**	PKP	**PKPdf**	**04 39 11.4**	**+0.5**
	0.6nm,0.8s,baz=264,slow=1.7,SNR=3.8						
WMQ	**Urumqi**	**138.25**	**17**	*e*PKP	**PKPdf**	**04 39 15.0**	**+1.0**
ASAR	**Alice Springs**	**139.39**	**225**	PKP	**PKPdf**	**04 39 16.9**	**+0.2**
	0.5nm,0.6s,baz=130,slow=2.4,SNR=8.0						
WRA	**Warramunga Arr**	**141.32**	**230**	PKhKP	PKPpre	04 39 14.1	
	1.0nm,0.8s,baz=123,slow=1.7,SNR=4.7						
WRA				PKP	**PKPdf**	**04 39 20.3**	**+0.1**
	0.2nm,0.5s,baz=117,slow=2.2,SNR=6.0						
HHC	**Hu-ho-hao-te**	**142.94**	**350**	*e*PKP	**PKPdf**	**04 39 22.7**	**+0.1**
LZH	**Lanzhou**	**148.40**	**360**	*e*PKPbc	**PKPdf**	**04 39 29.2**	**-3.0**
LZH				pPKP	**pPKPdf**	**04 40 00.5**	**-0.4**
LZH				sPKP		04 40 12.9	

NEIC 10 04:21:26.6,31°96N×115°03W,h10km,ML3.7(PAS),After PAS.,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	**Glamis**	**1.11**	**9**	*e*Pg	Pb	04 21 45.4	-2.5
GLA				*e*Sg	Sg	04 22 01.0	-1.4
BAR	**Barrett**	**1.57**	**298**	*e*Pn	Pn	04 21 53.6	-1.0
BAR				*e*Sg	Sb	04 22 16.4	+0.6
214A	**Organ Pipe Nat**	**1.88**	**89**	*e*Pn	Pn	04 21 56.7	-2.2
214A				*e*Sn	Sn	04 22 21.8	-0.9
PFO	**Pinyon Flats O**	**2.04**	**324**	*e*Pn	Pn	04 22 00.3	-0.9
LDFC	**Landfair**	**3.12**	**359**	*e*Pn	Pn	04 22 15.3	-0.7
MWC	**Mount Wilson**	**3.41**	**312**	*e*Pg	Pg	04 22 30.6	-1.5
MWC				*e*Sg	Sg	04 23 12.8	-3.7
PASC	**Pasadena Art C**	**3.45**	**311**	*e*Pn	Pn	04 22 19.7	-0.8
PASC				*e*Pg	Pg	04 22 32.5	-0.4
TUC	**Tucson**	**3.62**	**83**	*e*Pn	Pn	04 22 21.9	-0.9
TUC				*e*Pg	Pg	04 22 34.9	-1.1
TUC				*e*Sg	Sb	04 23 17.4	+2.7
GSC	**Goldstone, Bar**	**3.65**	**336**	*e*Pn	Pn	04 22 22.9	-0.5
GSC				*e*Pg	Pg	04 22 35.3	-1.5
OSI	**Osito Audit: C**	**4.08**	**312**	*e*Pn	Pn	04 22 28.6	-0.5
OSI				*e*Sg	Sg	04 23 33.0	-4.7
SHPR	**Sheep Range**	**4.54**	**359**	*e*Pn	Pn	04 22 35.3	-0.3
SHPR				*e*Sg	Sg	04 23 49.4	-3.4
WUAZ	**Wupatki**	**4.68**	**40**	*e*Pn	Pn	04 22 37.1	-0.4
ISA	**Isabella, Lake**	**4.68**	**323**	*e*Pn	Pn	04 22 36.3	-1.1
DAC	**Darwin (Calif)**	**4.81**	**334**	*e*Pn	Pn	04 22 40.3	+0.8
DAC				*e*Pg	Pb	04 22 53.6	+2.3
W18A	**Petrified Fore**	**5.43**	**53**	*e*Pn	Pn	04 22 48.0	+0.2
CCUT	**Cedar City**	**5.75**	**13**	*e*Pn	Pn	04 22 52.6	+0.3
	11nm,0.7s						
CCUT				*e*

LNCH				eS	Sn	04 36 51.9	+1.4	
LCO	**Las Campanas**	**5.21**	**12**	ePn	Pn	04 37 17.6	-0.1	
	comp=N,28nm,0.4s							
LCO				eSn	Sn	04 38 15.5	-1.2	
PLCA	**Paso Flores**	**6.67**	**171**	ePn	Pn	04 37 38.1	+0.6	
	comp=N,4.4nm,0.5s							
TRQA	**Tornquist**	**8.92**	**119**	ePn	Pn	04 38 06.2	-2.2	
LVC	**Limon Verde**	**11.78**	**14**	ePn	Pn	04 38 46.7	-1.0	
LPAZ	**La Paz**	**18.09**	**12**	eP	P	04 40 10.1	-0.1	
	comp=N,1.2nm,0.7s							
SAML	**Samuel**	**26.32**	**20**	eP	P	04 41 33.0	-0.1	
	comp=N,3.0nm,1.0s							
SDV	**Santo Domingo**	**42.80**	**2**	eP	P	04 43 54.6	-0.4	
	comp=N,2.9nm,0.8s							
OBIP	**Obispado Ponce**	**52.13**	**6**	eP	P	04 45 07.1	-0.1	
SDDR	**Presa de Saban**	**52.83**	**1**	eP	P	04 45 13.5	+1.1	
WVT	**Waverly**	**71.47**	**346**	eP	P	04 47 17.1	+0.1	
	comp=N,2.4nm,0.6s							

IDC ***10*** *04:39:31.2±1.1,27.61N×143.09E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.7/25,mbtmp3.7/9,ML3.8/1,Error ellipse: s-maj=26.0km s-min=16.1km az=107.0*

ISCJB ***10*** *04:39:34.0±0.9,27.84N±0.04×143.0E±0.1,h27km, mb3.7/8,Error ellipse: s-maj=16.6km s-min=5.4km az=5.5*

JMA ***10*** *04:39:37.6±0.1,27.80N×142.27E,h63km±3km,M4.0*

ISC 10 04:39:35.4±1.1,27.74N±0.07×143.0E±0.1,h27km,n16, σ1§56/21,mb3.8/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.98**	**229**	P		**Pn**	**04 39 52.1**	**-1.2**
JCJ	**Chichijima**	**0.98**	**229**	Pn		**Pn**	**04 39 52.2**	**-1.2**
	139nm,0.3s,baz=41,slow=19,SNR=51							
JCJ				Sn		**Sb**	**04 40 06.2**	**0.0**
	171nm,0.3s,baz=107,slow=20,SNR=17							
BSO4	**Boso 4**	**7.58**	**343**	P		**Pn**	**04 41 25.1**	**+1.1**
BSO4				S		**Sn**	**04 42 47.7**	**-1.2**
JHU	**Hanno**	**8.69**	**339**	S		**Sn**	**04 43 13.7**	**-2.6**
JRY	**Ryogami san**	**8.96**	**338**	P		**Pn**	**04 41 44.6**	**+1.6**
JRY				S		**Sn**	**04 43 23.6**	**+0.5**
JHO	**Hitachi**	**9.08**	**347**	P		**Pn**	**04 41 43.7**	**-1.0**
JHO				S		**Sn**	**04 43 21.8**	**-4.2**
JAG	**Ashikaga**	**9.17**	**342**	P		**Pn**	**04 41 46.6**	**+0.7**
JAG				S		**Sn**	**04 43 27.1**	**-1.0**
MJAR	**Matsushiro Arr**	**9.67**	**336**	Pn		**Pn**	**04 41 53.6**	**+0.9**
	0.9nm,0.3s,baz=160,slow=11,SNR=6.8							
SONM	**Songino Array**	**34.77**	**315**	P		**P**	**04 46 24.0**	**+0.4**
	0.4nm,0.4s,baz=130,slow=4.3,SNR=3.9							
WRA	**Warramunga Arr**	**48.14**	**191**	P		**P**	**04 48 12.1**	**-1.2**
	0.9nm,0.4s,baz=12,slow=8.6,SNR=25							
ZALV	**Zalesovo Beam**	**49.49**	**319**	P		**P**	**04 48 24.6**	**+1.3**
	0.8nm,0.5s,baz=106,slow=6.5,SNR=4.5							
MKAR	**Makanchi Array**	**50.64**	**309**	P		**P**	**04 48 32.5**	**+0.4**
	0.3nm,0.5s,baz=90,slow=11,SNR=6.2							
ASAR	**Alice Springs**	**51.86**	**191**	P		**P**	**04 48 40.4**	**-1.1**
	0.3nm,0.4s,baz=8.7,slow=7.7,SNR=7.1							
KURBB	**Kurchatov Arra**	**53.12**	**314**	P		**P**	**04 48 51.7**	**+1.2**
	1.9nm,0.6s,baz=89,slow=7.1,SNR=19							
YKA	**Yellowknife Ar**	**71.22**	**29**	P		**P**	**04 50 52.3**	**+0.6**
	0.1nm,0.5s,baz=294,slow=6.1,SNR=2.9							
FINES	**FINESS Array B**	**77.69**	**334**	P		**P**	**04 51 30.4**	**+1.1**
	0.5nm,0.5s,baz=82,slow=4.2,SNR=12							

CSEM ***10*** *04:51:49.3±0.4,50.28N×18.74E,h1km,Error ellipse: s-maj=11.0km s-min=4.3km az=176.0*

PRU 10 04:51:50.0,50.26N×18.75E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**223**	ePG		Pg	04 51 59.5	-1.5
OKC				eSG		Sg	04 52 08.7	+0.2
	comp=Z,7.6nm,0.5s							
OKC	**Ostrava-Krasne**	**0.57**	**223**	Pg		Pg	04 51 59.5	-1.5
OKC				Sg		Sg	04 52 08.7	+0.2
	7.6nm,0.5s							
OJC	**Ojcow**	**0.67**	**93**	ePg		Pg	04 52 02.6	-0.4
OJC				eSg		Sg	04 52 11.5	-0.3
OJC	**Ojcow**	**0.67**	**93**	ePg		Pg	04 52 02.6	-0.4
OJC				eSg		Sg	04 52 11.5	-0.3
MORC	**Moravsky Berou**	**0.92**	**239**	ePg		Pg	04 52 08.1	+0.4
MORC				eSg		Sg	04 52 20.6	+1.0
KRLC	**Kraliky**	**1.28**	**262**	ePG		Pg	04 52 13.3	-1.3
KRLC				eSG		Sg	04 52 30.6	-0.7
KRLC	**Kraliky**	**1.28**	**262**	Pg		Pg	04 52 13.3	-1.3
KRLC				Sg		Sg	04 52 30.6	-0.7
DPC	**Dobruska-Polom**	**1.56**	**274**	ePG		Pn	04 52 19.1	0.0
DPC				eSG		Sn	04 52 39.8	-0.2
DPC	**Dobruska-Polom**	**1.56**	**274**	Pg		Pn	04 52 19.1	0.0
DPC				Sg		Sn	04 52 39.8	-0.2
KSP	**Ksiaz**	**1.67**	**291**	ePg		Pg	04 52 22.4	+0.3
KSP				eSg		Sg	04 52 45.0	+1.2
PVCC	**Panska Ves**	**2.69**	**277**	eSG		Sg	04 53 16.2	-0.2
	comp=Z,6.3nm,0.3s							
PVCC	**Panska Ves**	**2.69**	**277**	Sg		Sg	04 53 16.2	-0.2
	6.3nm,0.3s							
PRU	**Pruhonice**	**2.72**	**266**	eSG		Sg	04 53 16.2	-1.3
PRU	**Pruhonice**	**2.72**	**266**	Sg		Sg	04 53 16.2	-1.3
KHC	**Kasperske Hory**	**3.54**	**253**	eSG		Sg	04 53 41.4	-2.5
	comp=Z,3.5nm,0.6s							
KHC	**Kasperske Hory**	**3.54**	**253**	Sg		Sg	04 53 41.4	-2.5
	3.5nm,0.6s							

IDC 10 05:03:49.8±14.0,19.93S×179.12W,h609km±128km, mb2.9/3,mb1 3.2/3,mb1mx2.7/31,mbtmp3.8/3,Error ellipse: s-maj=199.3km s-min=48.9km az=135.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.63**	**256**	P		P	05 11 02.4	0.0
	1.4nm,0.5s,baz=91,slow=7.8,SNR=18							
ASAR				PcP		PcP	05 12 34.8	-0.9
	0.2nm,0.8s,baz=102,slow=3.4,SNR=4.1							
WRA	**Warramunga Arr**	**43.64**	**262**	P		P	05 11 02.3	-0.2
	0.6nm,0.3s,baz=97,slow=7.5,SNR=28							
ILAR	**Eielson Array**	**88.00**	**13**	P		P	05 15 35.6	-0.2
	0.2nm,0.4s,baz=215,slow=5.6,SNR=5.7							
AKASG	**Malin Array Be**	**142.01**	**331**	PKhKP		PKPpre	05 22 09.8	
	1.5nm,0.4s,baz=42,slow=4.4,SNR=20							
BRTR	**Keskin Array B**	**145.68**	**312**	PKPbc		PKPbc	05 22 21.7	-0.4
	0.4nm,0.5s,baz=138,slow=1.7,SNR=3.4							
GERES	**GERESS Array B**	**149.37**	**343**	PKPbc		PKPbc	05 22 30.9	-0.3
	0.3nm,0.5s,baz=15,slow=5.1,SNR=4.3							

IDC ***10*** *05:06:41.5±0.6,36.06S×101.11W,h0km,mb4.6/18, mb1 4.7/18,mb1mx4.5/31,mbtmp4.6/18,MS4.6/17, Ms1 4.6/17,ms1mx4.5/19,Error ellipse: s-maj=17.6km s-min=15.4km az=96.0*

MOS ***10*** *05:06:42.6±1.2,36.05S×101.03W,h10km,mb5.1/3,Error ellipse: s-maj=19.0km s-min=8.8km az=93.8*

BJI ***10*** *05:06:43.9,36.10S×101.00W,h10km,mB5.2/11,Ms5.3/8, Ms7 5.2/11*

ISCJB ***10*** *05:06:43.5±0.3,36.17S±0.05×100.90W±0.07,h14km, mb4.9/107,MS4.5/17,Error ellipse: s-maj=9.2km s-min=6.4km az=142.2*

NEIC ***10*** *05:06:43.7±0.3,36.16S×100.99W,h10km,mb5.0/92, Error ellipse: s-maj=8.5km s-min=6.5km az=49.0*

GCMT ***10*** *05:06:43.7±0.1,36.18S×101.17W,h15km,MW5.4/114, Moment Tensor Solution. s97,c156; s114,c204; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr~0.17±.02; Mθθ~0.20±.02; Mϕϕ0.36±.02; Mrθ0.04±.05; Mθϕ~1.42±.02; Mϕr~0.09±.05; Best double couple: M₀1.45100×10¹⁷ NP1:ϕ₁186.00000°,δ89.00000°, λ3.00000°. NP2:ϕ₂96.00000°,δ87.00000°,λ179.00000°. Principal axes: T 1.5370, Plg3.0000°, Azm51.0000°; N -0.1710, Plg86.0000°, Azm209.0000°; P -1.3660, Plg1.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 05:06:44.3±0.3,36.14S±0.08×101.00W±0.07,h14km, n563,σ1§42/547,mb5.0/107,MS4.7/17,152C-162D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.45**	**319**	LR		LR	05 12 31.2	
	comp=Z,6μm,21.5s,baz=112,slow=31							
PLCA	**Paso Flores**	**24.22**	**110**	eP		**P**	**05 12 02.5**	**+1.9**
PLCA				pmax		pmax		
	comp=Z,34nm,0.9s							
PLCA	**Paso Flores**	**24.22**	**110**	P		**P**	**05 12 01.9**	**+1.2**
	comp=Z,16nm,0.8s,baz=282,slow=10.0,SNR=40							
PLCA				LR		LR	05 18 00.3	
	comp=Z,703nm,18.6s,baz=276,slow=28							
PLCA	**Paso Flores**	**24.22**	**110**	eP		**P**	**05 12 02.5**	**+1.9**
	comp=Z,34nm,0.9s							
LCO	**Las Campanas**	**26.43**	**83**	eP		**P**	**05 12 21.4**	**+0.4**
	comp=Z,178nm,1.9s							
PTCN	**Pitcairn Islan**	**27.27**	**286**	eP		**P**	**05 12 29.3**	**+1.1**
	comp=Z,180nm,0.5s							
CFAA	**Coronel Fontan**	**27.50**	**90**	P		**P**	**05 12 30.7**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=253,slow=8.9,SNR=19							
CFAA				LR		LR	05 20 44.0	
	comp=Z,71nm,20.6s,baz=257,slow=30							
USHA	**Ushuaia**	**29.12**	**140**	P		**P**	**05 12 45.3**	**+0.9**
	comp=Z,10nm,1.1s,baz=280,slow=7.1,SNR=3.5							
USHA				LR		LR	05 21 40.9	
	comp=Z,4μm,19.1s,baz=254,slow=31							
LVC	**Limon Verde**	**30.88**	**73**	eP		**P**	**05 13 01.1**	**+0.4**
	comp=Z,16nm,0.7s							
TRQA	**Tornquist**	**31.03**	**105**	eP		**P**	**05 13 03.2**	**+1.7**
	comp=Z,15nm,0.8s							
RKT	**Rikitea**	**32.09**	**284**	eS		S	05 18 10.9	-12
	comp=Z,198nm,30.8s							
RKT				eLQ		LQ	05 19 56.9	
	comp=Z,3μm,29.8s							
RKT				eLR		LR	05 21 18.4	
	comp=Z,732nm,25.2s							
RKT	**Rikitea**	**32.09**	**284**	eT		T	05 46 14.0	
	comp=Z,2.1nm,0.3s							
NNA	**Nana**	**32.45**	**48**	LR		LR	05 23 22.7	
	comp=Z,2μm,19.5s,baz=220,slow=31							
ARE	**Arequipa**	**32.72**	**61**	eP		**P**	**05 13 18.0**	**+1.1**
ARE	**Arequipa**	**32.72**	**61**	eP		**P**	**05 13 18.0**	**+1.1**
EFI	**East Falkland**	**34.06**	**131**	eP		**P**	**05 13 28.3**	**+0.5**
EFI				pmax		pmax		
	comp=Z,110nm,1.4s							
EFI	**East Falkland**	**34.06**	**131**	eP		**P**	**05 13 28.3**	**+0.5**
	comp=Z,110nm,1.4s							
LPAZ	**La Paz**	**35.25**	**65**	eP		**P**	**05 13 40.2**	**+1.0**
LPAZ	**La Paz**	**35.25**	**65**	P		**P**	**05 13 38.8**	**-0.5**
	comp=Z,20nm,1.0s,baz=227,slow=6.1,SNR=38							
LPAZ				LR		LR	05 23 11.9	
	comp=Z,149nm,21.7s,baz=218,slow=28							
LPAZ	**La Paz**	**35.25**	**65**	eP		**P**	**05 13 40.3**	**+1.0**
	comp=Z,48nm,1.3s							
ATAH	**Atahualpa**	**35.51**	**41**	P		**P**	**05 13 40.6**	**-0.6**
	comp=Z,15nm,0.8s,baz=226,slow=6.9,SNR=11							
ATAH				LR		LR	05 24 36.3	
	comp=Z,2μm,20.9s,baz=223,slow=30							
PMSA	**Palmer Station**	**36.13**	**154**	LR		LR	05 24 24.1	
	comp=Z,2μm,21.2s,baz=300,slow=29							
SIV	**San Ignacio**	**40.73**	**71**	P		**P**	**05 14 25.1**	**+0.2**
	comp=Z,5.2nm,0.6s,baz=250,slow=7.3,SNR=17							
OTAV	**Otavalo**	**41.82**	**35**	eP		**P**	**05 14 33.8**	**-0.5**
	comp=Z,16nm,1.1s							
TBI	**Tubuai**	**43.55**	**273**	eLR		LR	05 26 35.1	
	comp=Z,1μm,26.5s,baz=116							
TBI	**Tubuai**	**43.55**	**273**	eT		T	06 00 27.1	
	comp=Z,6.9nm,0.3s							
SAML	**Samuel**	**43.73**	**61**	eP		**P**	**05 14 48.5**	**-0.8**
	comp=Z,8.7nm,0.9s							
MEH	**Mehetia**	**45.23**	**281**	eT		T	06 02 37.2	
	comp=Z,28nm,0.3s							
TVO	**Taravao**	**46.23**	**280**	eT		T	06 03 51.3	
	comp=Z,1.3nm,0.3s							
TIAR	**Tiarei**	**46.43**	**280**	eT		T	06 04 06.2	
	comp=Z,5.9nm,0.3s							
PPT2	**Papeete2**	**46.59**	**280**	eS		S	05 21 48.4	-12
	comp=Z,203nm,25.5s							
PPT2				eLR		LR	05 27 55.9	
	comp=Z,813nm,24.8s,baz=120							
PPT	**Papeete**	**46.60**	**280**	LR		LR	05 29 09.3	
	comp=Z,286nm,18.9s,baz=122,slow=29							
ROSC	**El Rosal**	**47.82**	**37**	P		**P**	**05 15 21.9**	**-0.1**
	comp=Z,10.0nm,0.7s,baz=198,slow=2.6,SNR=12							
ROSC				LR		LR	05 32 09.4	
	comp=Z,871nm,20.2s,baz=231,slow=32							
ROSC	**El Rosal**	**47.82**	**37**	eP		**P**	**05 15 22.8**	**+0.7**
JTS	**JuntasAbangare**	**48.59**	**21**	eP		**P**	**05 15 26.5**	**-1.0**
JTS				pmax		pmax		
	comp=Z,33nm,1.3s							
JTS	**JuntasAbangare**	**48.59**	**21**	P		**P**	**05 15 25.8**	**-1.6**
	comp=Z,10.0nm,0.9s,baz=198,slow=19,SNR=4.3							
JTS	**JuntasAbangare**	**48.59**	**21**	eP		**P**	**05 15 26.4**	**-1.0**
	comp=Z,33nm,1.3s							
BDFB	**Brasilia**	**51.18**	**81**	P		**P**	**05 15 45.9**	**-1.5**
	comp=Z,8.6nm,0.8s,baz=232,slow=6.6,SNR=12							
BDFB				LR		LR	05 35 23.8	
	comp=Z,542nm,19.5s,baz=230,slow=34							
PTGA	**Pitinga**	**51.83**	**57**	P		**P**	**05 15 51.1**	**-1.0**
	comp=Z,4.2nm,0.5s,baz=219,slow=8.4,SNR=14							
PTGA	**Pitinga**	**51.83**	**57**	eP		**P**	**05 15 51.0**	**-1.0**
	comp=Z,171nm,2.7s							
APG	**El Apazote**	**51.83**	**13**	P		P	05 15 46.8	-5.5
	comp=Z,24nm,1.2s,baz=180,slow=9.1,SNR=5.6							
SDV	**Santo Domingo**	**53.12**	**39**	eP		**P**	**05 15 59.6**	**-2.3**
	comp=Z,11nm,0.8s							
QSPA	**South Pole Qui**	**54.08**	**180**	P		**P**	**05 16 08.2**	**0.0**
	comp=Z,4.0nm,0.7s,baz=158,slow=1.5,SNR=27							
SBA	**Scott Base**	**55.45**	**195**	eP		**P**	**05 16 17.8**	**-0.1**
SBA				pmax		pmax		
	comp=Z,31nm,1.7s							
SBA	**Scott Base**	**55.45**	**195**	eP		**P**	**05 16 17.8**	**-0.1**
	comp=Z,31nm,1.7s							
VNDA	**Vanda**	**56.55**	**195**	eP		**P**	**05 16 25.2**	**-0.5**
VNDA				pmax		pmax		
	comp=Z,8.0nm,1.4s							
VNDA	**Vanda**	**56.55**	**195**	P		**P**	**05 16 25.7**	**0.0**
	comp=Z,1.8nm,1.0s,baz=83,slow=7.3,SNR=6.0							
VNDA				LR		LR	05 35 21.4	
	comp=Z,565nm,19.4s,baz=99,slow=30							
VNDA	**Vanda**	**56.55**	**195**	eP		**P**	**05 16 25.2**	**-0.5**
	comp=Z,7.8nm,1.4s							
VNA3	**Neumayer Olymp**	**56.67**	**157**	P		P	05 16 30.0	+3.3
VNA1	**Neumayer--Stat**	**57.27**	**157**	P		P	05 16 35.0	+4.1
PCRV	**Puerto La Cruz**	**57.41**	**44**	P		**P**	**05 16 30.8**	**-1.8**
	comp=Z,27nm,1.1s,baz=215,slow=3.3,SNR=4.5							
SNAA	**Sanae**	**58.63**	**158**	eP		**P**	**05 16 40.7**	**+0.2**
SNAA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
SDDR	**Presa de Saban**	**61.61**	**32**	eP		**P**	**05 17 03.4**	**+1.9**
	comp=Z,10.0nm,0.7s							
BKZ	**Black Stump Fm**	**63.17**	**240**	eP		**P**	**05 17 10.7**	**-1.2**
	comp=Z,28nm,1.5s							
834A	**Tilden**	**63.96**	**2**	P		P	05 17 20.6	+3.7
	baz=64							
TXAR	**Lajitas Array**	**65.17**	**357**	P		**P**	**05 17 23.9**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=180,slow=7.8,SNR=12							
TXAR				LR		LR	05 39 48.9	
	comp=Z,282nm,20.2s,baz=0.0,slow=30							
631A	**Perdido Creek**	**65.20**	**0**	P		**P**	**05 17 26.1**	**+1.0**
	baz=66							
635A	**Leesville**	**65.25**	**3**	P		**P**	**05 17 27.1**	**+1.8**
	baz=66							
633A	**Saathoff Ranch**	**65.27**	**2**	P		**P**	**05 17 26.0**	**+0.6**
	baz=66							
632A	**Uvalde**	**65.31**	**1**	P		**P**	**05 17 27.4**	**+1.7**
	baz=66							
636A	**Smothers Creek**	**65.38**	**4**	P		**P**	**05 17 28.1**	**+2.0**
	baz=66							
534A	**Blanco**	**65.86**	**2**	P		**P**	**05 17 31.2**	**+2.0**
	baz=66							
533A	**Kerrville**	**65.89**	**2**	P		**P**	**05 17 31.5**	**+2.1**
	baz=66							
535A	**Dale**	**65.89**	**3**	P		**P**	**05 17 31.5**	**+2.0**
	baz=66							
529A	**Stev Forest Ra**	**65.92**	**359**	P		**P**	**05 17 31.3**	**+1.6**
	baz=66							
532A	**Rocksprings**	**65.92**	**1**	P		**P**	**05 17 31.8**	**+2.0**
	baz=66							
530A	**J-C Ranch, Com**	**65.94**	**360**	P		**P**	**05 17 31.1**	**+1.3**
	baz=66							
531A	**Rocksprings**	**65.95**	**0**	P		**P**	**05 17 31.3**	**+1.4**
	baz=66							
536A	**Bastrop**	**65.97**	**4**	P		**P**	**05 17 31.6**	**+1.7**
	baz=66							
537A	**Green Hill Far**	**66.01**	**4**	P		**P**	**05 17 32.5**	**+2.2**
	baz=66							
JCT	**Junction City**	**66.28**	**1**	eP		**P**	**05 17 30.5**	**-1.5**
JCT				pmax		pmax		
	comp=Z,7.0nm,0.8s							
JCT	**Junction City**	**66.28**	**1**	P		**P**	**05 17 32.1**	**+0.1**
	baz=67							
JCT	**Junction City**	**66.28**	**1**	eP		**P**	**05 17 30.4**	**-1.5**
	comp=Z,6.9nm,0.8s							
429A	**Davenport Ranc**	**66.42**	**359**	P		**P**	**05 17 33.8**	**+0.9**
	baz=67							
431A	**Sonora**	**66.47**	**0**	P		**P**	**05 17 33.7**	**+0.4**
	baz=67							
433A	**Art**	**66.56**	**2**	P		**P**	**05 17 33.6**	**-0.2**
	baz=67							
430A	**Baggett Ranch,**	**66.57**	**360**	P		**P**	**05 17 34.9**	**+1.0**
	baz=67							
435B	**Jarrell**	**66.64**	**3**	P		**P**	**05 17 35.2**	**+1.0**
	baz=67							
434A	**Burnet**	**66.65**	**3**	P		**P**	**05 17 34.1**	**-0.2**
	baz=67							
432A	**Menard**	**66.67**	**1**	P		**P**	**05 17 34.6**	**+0.1**
	baz=67							
436A	**Wall Ranch, Ga**	**66.67**	**4**	P		**P**	**05 17 35.5**	**+1.1**
	baz=67							
331A	**San Angelo**	**67.09**	**1**	P		**P**	**05 17 37.6**	**+0.5**
	baz=68							
333A	**Richland Sprin**	**67.14**	**2**	P		**P**	**05 17 37.8**	**+0.4**
	baz=68							
335A	**Moody**	**67.15**	**3**	P		**P**	**05 17 39.4**	**+1.9**
	baz=68							
334A	**Lometa**	**67.17**	**3**	P		**P**	**05 17 37.5**	**-0.1**
	baz=68							
332A	**Millersview**	**67.18**	**1**	P		**P**	**05 17 37.2**	**-0.5**
	baz=68							
330A	**Mertzon**	**67.19**	**360**	P		**P**	**05 17 37.4**	**-0.4**
	baz=68							
329A	**Wagon Wheel Ra**	**67.28**	**359**	P		**P**	**05 17 38.9**	**+0.6**
	baz=68							
MNTX	**Cornudas Mount**	**67.61**	**356**	P		**P**	**05 17 40.2**	**-0.2**
	baz=68							
MNTX	**Cornudas Mount**	**67.61**	**356**	eP		**P**	**05 17 39.5**	**-0.9**
	comp=Z,24nm,2.1s							
319A	**Douglas**	**67.61**	**352**	P		**P**	**05 17 42.0**	**+1.4**
	baz=68							
230A	**Sterling City**	**67.67**	**360**	P		**P**	**05 17 42.3**	**+1.5**
	baz=68							
232A	**Coleman**	**67.68**	**1**	P		**P**	**05 17 42.4**	**+1.5**
	baz=68							
231A	**Bronte**	**67.72**	**1**	P		**P**	**05 17 42.9**	**+1.8**
	baz=68							
229A	**Bryant Ranch,**	**67.75**	**359**	P		**P**	**05 17 43.9**	**+2.6**
	baz=68							
233A	**Rising Star**	**67.83**	**2**	P		**P**	**05 17 42.0**	**+0.2**
	baz=68							
234A	**Clairette**	**67.84**	**3**	P		**P**	**05 17 42.1**	**+0.3**
	baz=68							
WHTX	**Lake Whitney,**	**67.85**	**3**	P		**P**	**05 17 41.9**	**-0.1**
	baz=68							
228A	**UT Block 9, Go**	**67.92**	**359**	P		**P**	**05 17 43.7**	**+1.3**
	baz=68							
237A	**Washetta, Mont**	**67.96**	**5**	P		**P**	**05 17 44.0**	**+1.5**
	baz=68							
239A	**Gary**	**68.08**	**6**	P		**P**	**05 17 45.3**	**+2.0**
	baz=68							
130A	**Snyder**	**68.38**	**0**	P		**P**	**05 17 47.2**	**+2.0**
	baz=69							
134A	**White-Moore Ra**	**68.41**	**3**	P		**P**	**05 17 47.1**	**+1.7**
	baz=69							
128A	**Castleberry Fa**	**68.42**	**359**	P		**P**	**05 17 47.6**	**+2.1**
	baz=69							
129A	**Stewart Farms,**	**68.42**	**359**	P		**P**	**05 17 47.5**	**+2.0**
	baz=69							
ABTX	**Abilene, Hawle**	**68.42**	**1**	P		**P**	**05 17 47.3**	**+1.8**
	baz=69							
133A	**Hamilton Ranch**	**68.42**	**2**	P		**P**	**05 17 46.3**	**+0.9**
	baz=69							
135A	**Vickery Place,**	**68.42**	**3**	P		P	05 17 48.9	+3.4
	baz=69							
131A	**Roby**	**68.45**	**1**	P		**P**	**05 17 47.3**	**+1.5**
	baz=69							
121A	**Cookes Peak, D**	**68.61**	**354**	P		**P**	**05 17 48.7**	**+1.9**
	baz=69							
214A	**Organ Pipe Nat**	**68.64**	**349**	P		**P**	**05 17 48.4**	**+1.5**
	baz=69							
214A	**Organ Pipe Nat**	**68.64**	**349**	eP		**P**	**05 17 47.0**	**+0.1**
	comp=Z,10nm,1.1s							
TUC	**Tucson**	**68.70**	**351**	eP		**P**	**05 17 46.8**	**-0.6**
TUC				pmax		pmax		
	comp=Z,17nm,1.3s							
TUC	**Tucson**	**68.70**	**351**	eP		**P**	**05 17 46.8**	**-0.6**
	comp=Z,17nm,1.3s							
Z29A	**Hungry Hill Ra**	**69.04**	**359**	P		**P**	**05 17 50.3**	**+0.9**
	baz=69							
Z30A	**Sanderson Ranc**	**69.06**	**360**	P		**P**	**05 17 51.3**	**+1.8**
	baz=69							
Z28A	**Tucker Farm, M**	**69.08**	**359**	P		**P**	**05 17 50.9**	**+1.3**
	baz=70							
Z33A	**Whitaker Ranch**	**69.10**	**2**	P		**P**	**05 17 50.4**	**+0.8**
	baz=70							
Z31A	**Sharp Cattle R**	**69.10**	**1**	P		**P**	**05 17 50.5**	**+0.7**
	baz=70							
TIGA	**Tifton**	**69.18**	**16**	P		**P**	**05 17 51.5**	**+1.3**
	baz=70							
Z34A	**Collier Ranch,**	**69.21**	**3**	P		**P**	**05 17 51.3**	**+0.9**
	baz=70							
113A	**Mohawk Valley,**	**69.58**	**349**	P		**P**	**05 17 55.2**	**+2.6**
	baz=70							
Y31A	**Rekieta Farm,**	**69.74**	**1**	P		**P**	**05 17 54.8**	**+1.1**
	baz=70							
Y32A	**R-V Farms, Ver**	**69.79**	**1**	P		**P**	**05 17 56.2**	**+2.2**
	baz=70							
SWSC	**Sam W. Stewart**	**70.10**	**347**	P		P	05 17 52.1	-3.7
	baz=70,

U31A **Nine Bar Ranch** 72.15 1 ⇓P P 05 18 10.4 +2.2
baz=72
U28A **Mallet** 72.16 359 ⇓P P 05 18 11.9 +3.5
baz=72
U26A **Atchley Ranch,** 72.21 358 ⇑P P 05 18 12.3 +3.5
baz=73
U25A **Circle Dot Ran** 72.24 357 ⇑P P 05 18 11.8 +2.8
baz=73
EDW2 **Edwards Air Fo** 72.41 345 ⇑P P 05 18 11.1 +1.2
baz=73
TUQ **Turquoise Moun** 72.55 347 ⇑P P 05 18 12.4 +1.6
baz=73,SNR=8.0
GSC **Goldstone, Bar** 72.58 346 *eP* P 05 18 10.6 -0.4
GSC pmax pmax
comp=Z,32nm,1.5s
GSC **Goldstone, Bar** 72.58 346 ⇑P P 05 18 12.8 +1.9
baz=73,SNR=5.5
GSC **Goldstone, Bar** 72.58 346 *eP* P 05 18 10.6 -0.4
comp=Z,32nm,1.5s
ARVC **Arvin** 72.82 345 ⇓P P 05 18 14.6 +2.3
baz=73
WVT **Waverly** 72.94 11 *eP* P 05 18 13.3 +0.4
WVT pmax pmax
comp=Z,11nm,1.1s
WVT **Waverly** 72.94 11 *eP* P 05 18 13.3 +0.4
comp=Z,11nm,1.1s
T24B **San Luis** 72.94 356 ⇓P P 05 18 15.6 +2.2
baz=73
U15A **North Rim** 72.96 350 ⇓P P 05 18 15.2 +1.8
baz=73
T25A **Trinidad** 72.98 357 ⇑P P 05 18 16.0 +2.6
baz=73
T26A **Comanche Natio** 72.98 358 ⇓P P 05 18 16.0 +2.6
baz=73
SHOC **Shoshone, Teco** 73.07 347 ⇓P P 05 18 16.0 +2.3
baz=73
PBMO **Poplar Bluff** 73.21 9 *eP* P 05 18 16.5 +2.0
comp=Z,7.8nm,0.9s
ISA **Isabella, Lake** 73.26 345 *eP* P 05 18 14.0 -1.0
ISA pmax pmax
comp=Z,25nm,1.5s
ISA **Isabella, Lake** 73.26 345 ⇓P P 05 18 16.6 +1.6
baz=74
ISA **Isabella, Lake** 73.26 345 *eP* P 05 18 13.9 -1.0
comp=Z,25nm,1.5s
MVCO **Mesa Verde** 73.31 354 ⇓P P 05 18 16.8 +1.4
baz=74
MVCO **Mesa Verde** 73.31 354 *eP* P 05 18 15.3 -0.1
comp=Z,90nm,2.0s
S28A **Manter** 73.36 359 ⇓P P 05 18 16.4 +0.8
baz=74
S26A **Kim** 73.42 358 ⇓P P 05 18 17.4 +1.5
baz=74
MPMC **Manual Prospec** 73.45 346 ⇑P P 05 18 17.6 +1.4
baz=74,SNR=6.8
SHPR **Sheep Range** 73.46 348 *eP* P 05 18 15.4 -0.8
S32A **Newby Ranch, P** 73.49 2 ⇑P P 05 18 18.4 +2.2
baz=74
S25A **Robets Cordova** 73.50 357 ⇑P P 05 18 18.1 +1.7
baz=74
S24A **Houchin Ranch,** 73.51 357 ⇓P P 05 18 17.8 +1.2
baz=74
S34A **Willow Spring** 73.56 3 ⇑P P 05 18 18.3 +1.8
baz=74
VES **Vestal, Richgr** 73.56 345 ⇓P P 05 18 17.9 +1.3
baz=74
S35A **Otter Creek Ra** 73.58 4 ⇓P P 05 18 17.1 +0.5
baz=74
S23A **Nye Farm, Mont** 73.62 356 ⇓P P 05 18 18.7 +1.5
baz=74
SDCO **Great Sand Dun** 73.63 356 ⇑P P 05 18 18.2 +0.8
baz=74
SDCO **Great Sand Dun** 73.63 356 *eP* P 05 18 17.3 -0.1
comp=Z,27nm,1.9s
S36A **Lake Cedric, C** 73.66 4 ⇓P P 05 18 17.3 +0.1
baz=74
DAC **Darwin (Calif)** 73.68 346 *eP* P 05 18 18.3 +0.8
DAC pmax pmax
comp=Z,15nm,1.4s
DAC **Darwin (Calif)** 73.68 346 *eP* P 05 18 18.3 +0.8
comp=Z,15nm,1.4s
S22A **4UR Ranch, Cre** 73.71 355 ⇓P P 05 18 19.5 +1.7
baz=74
S22A **4UR Ranch, Cre** 73.71 355 *eP* P 05 18 18.3 +0.4
comp=Z,20nm,1.4s
FURC **Furnace Creek,** 73.73 347 ⇑P P 05 18 19.1 +1.6
baz=74
R25A **Fountain Ranch** 73.98 357 ⇓P P 05 18 20.9 +1.7
baz=74
RCTC **Rector, Farmer** 74.05 345 ⇓P P 05 18 21.6 +2.2
baz=74
R30A **Dighton** 74.05 1 ⇓P P 05 18 20.5 +1.0
baz=74
R31A **Burdett** 74.07 1 ⇑P P 05 18 21.4 +1.8
baz=74
R27A **Eads** 74.07 359 ⇑P P 05 18 21.2 +1.5
baz=74
TPNV **Topopah Spring** 74.08 347 *eP* P 05 18 20.8 +0.9
TPNV pmax pmax
comp=Z,87nm,2.3s
TPNV **Topopah Spring** 74.08 347 ⇓P P 05 18 21.3 +1.4
baz=74,SNR=8.8
TPNV **Topopah Spring** 74.08 347 *eP* P 05 18 20.8 +0.9
comp=Z,87nm,2.3s
R23A **Moffat** 74.09 356 ⇑P P 05 18 21.0 +1.0
baz=74
R24A **Sanders Place,** 74.10 357 ⇑P P 05 18 21.3 +1.3
baz=74
R26A **Arlington** 74.10 358 ⇑P P 05 18 21.1 +1.2
baz=74
R28A **Tribune** 74.11 359 ⇑P P 05 18 21.2 +1.3
baz=74
CCUT **Cedar City** 74.21 350 *eP* P 05 18 20.7 0.0
comp=Z,18nm,1.1s
PV01 **Paradox Valley** 74.23 354 *eP* P 05 18 20.6 -0.2
comp=Z,1μm,1.4s
R36A **Gordon, Harris** 74.27 4 ⇓P P 05 18 22.9 +2.2
baz=75
GRAC **Grapevine Rang** 74.34 346 ⇓P P 05 18 22.9 +1.7
baz=75
ARUT **Antelope Range** 74.45 350 *eP* P 05 18 23.2 +1.2
ARUT pmax pmax
comp=Z,1.0nm,0.9s
ARUT **Antelope Range** 74.45 350 *eP* P 05 18 23.1 +1.2
comp=Z,0.9nm,0.9s
TIN **Tinemaha, Big** 74.56 346 ⇓P P 05 18 25.9 +3.3
baz=75
Q25A **Bedland, Calha** 74.74 357 ⇓P P 05 18 24.9 +1.2
baz=75
Q30A **Quinter** 74.75 1 ⇑P P 05 18 24.6 +1.0
baz=75
Q31A **Ellis** 74.78 1 ⇓P P 05 18 26.2 +2.4
baz=75
Q32A **Meitler Ranch,** 74.79 2 ⇑P P 05 18 25.9 +2.1
baz=75
KSCO **Kaye Shedlock'** 74.79 359 ⇓P P 05 18 26.3 +2.4
baz=75
Q24A **Divide** 74.83 357 ⇑P P 05 18 26.2 +1.9
baz=75
Q28A **Sharon Springs** 74.83 359 ⇓P P 05 18 26.6 +2.5
baz=75
Q37A **Longview Farm,** 74.89 5 ⇓P P 05 18 25.7 +1.4
baz=75
MTUM **Tungsten Hills** 74.92 346 *eP* P 05 18 25.3 +0.6
MVU **Marysvale** 74.99 351 *eP* P 05 18 26.1 +0.9
comp=Z,32nm,1.8s
SMCO **Snowmass** 75.15 355 *eP* P 05 18 26.4 +0.1
comp=Z,9.6nm,1.1s
MLAC **Mammoth, Mammo** 75.24 345 ⇓P P 05 18 28.9 +2.3
baz=76
P23A **Jefferson** 75.27 356 ⇓P P 05 18 29.5 +2.5
baz=76
P31A **Stockton** 75.30 1 ⇓P P 05 18 29.4 +2.7
baz=76
P30A **Selden** 75.31 1 ⇑P P 05 18 29.1 +2.3
baz=76
P25A **Willow Gulch B** 75.33 357 ⇑P P 05 18 29.6 +2.5
baz=76
R11A **Troy Canyon, C** 75.33 348 ⇑P P 05 18 28.6 +1.5
baz=76,SNR=12
R11A **Troy Canyon, C** 75.33 348 *eP* P 05 18 27.2 +0.1
comp=Z,24nm,1.6s
P27A **Ficken Ranch,** 75.33 359 ⇑P P 05 18 28.7 +1.7
baz=76
P28A **Saint Francis** 75.34 359 ⇑P P 05 18 28.8 +1.8
baz=76
TPH **Tonopah** 75.36 347 *eP* P 05 18 28.2 +0.9
TPH pmax pmax
comp=Z,71nm,1.9s
TPH **Tonopah** 75.36 347 *eP* P 05 18 28.1 +0.9
comp=Z,71nm,1.9s
P26A **Davis Ranch, A** 75.36 358 ⇓P P 05 18 28.4 +1.3
baz=76
P24A **Kohler Place,** 75.37 357 ⇑P P 05 18 29.4 +2.1
baz=76
P29A **Atwood** 75.37 0 ⇑P P 05 18 29.4 +2.3
baz=76
SRU **San Rafael Swe** 75.39 352 *eP* P 05 18 26.5 -0.9
SRU pmax pmax
comp=Z,11nm,1.0s
SRU **San Rafael Swe** 75.39 352 *eP* P 05 18 26.5 -0.9
comp=Z,11nm,1.0s
P32A **Huiting Farm,** 75.42 2 ⇓P P 05 18 29.1 +1.8
baz=76
OLIL **Olney** 75.45 10 *eP* P 05 18 26.5 -1.0
comp=Z,49nm,1.4s
P22A **Eagle** 75.55 355 ⇑P P 05 18 29.8 +1.4
baz=76
TMUT **Trail Mountain** 75.65 352 *eP* P 05 18 29.7 +0.7
comp=Z,17nm,1.0s
ISCO **Idaho Springs** 75.68 356 *eP* P 05 18 30.0 +0.7
ISCO pmax pmax
comp=Z,12nm,1.6s
ISCO **Idaho Springs** 75.68 356 ⇑P P 05 18 30.9 +1.7
baz=76
ISCO **Idaho Springs** 75.68 356 *eP* P 05 18 29.9 +0.7
comp=Z,12nm,1.6s
MAW **Mawson** 75.86 174 LR LR 05 49 29.7
comp=Z,407nm,20.8s,baz=215,slow=34
O29A **4D Ranch, Culb** 75.89 0 ⇓P P 05 18 31.9 +1.8
baz=76
O28A **Krutsinger Ran** 75.89 359 ⇓P P 05 18 31.8 +1.7
baz=76
NVAR **Mina Array Bea** 75.90 346 P P 05 18 30.3 -0.1
comp=Z,6.1nm,0.9s,baz=182,slow=5.1,SNR=33
O25A **Wiggins** 75.93 358 ⇓P P 05 18 32.8 +2.3
baz=76
O31A **Woolen Ranch,** 75.93 1 ⇓P P 05 18 32.6 +2.3
baz=76
O30A **MW Ranch, Wils** 75.95 1 ⇑P P 05 18 32.7 +2.2
baz=76
CMB **Columbia Colle** 75.95 344 *eP* P 05 18 31.0 +0.5
CMB pmax pmax
comp=Z,13nm,1.2s
CMB **Columbia Colle** 75.95 344 *eP* P 05 18 30.9 +0.5
comp=Z,13nm,1.2s
O27A **Beecher Island** 75.97 359 ⇓P P 05 18 33.7 +3.1
baz=76
O24A **Longmont** 75.98 357 ⇓P P 05 18 33.6 +2.9
baz=76
O26A **Horse Wrangler** 76.04 358 ⇑P P 05 18 33.7 +2.7
baz=76
O22A **Kremmling** 76.10 356 ⇑P P 05 18 33.8 +2.2
baz=76
O23A **Lake Granby, G** 76.11 356 ⇓P P 05 18 33.6 +1.9
baz=76
O20A **White River Ci** 76.19 354 ⇑P P 05 18 34.0 +2.0
baz=77
O20A **White River Ci** 76.19 354 *eP* P 05 18 32.5 +0.5
comp=Z,10nm,1.1s
WAKR **Walker** 76.20 345 *eP* P 05 18 33.0 +0.9
NLU **North Lily Min** 76.40 351 *eP* P 05 18 33.7 +0.5
comp=Z,10nm,1.2s
N28A **Pribbeno Ranch** 76.45 360 ⇑P P 05 18 35.8 +2.4
baz=77
OGNE **Ogallala** 76.72 359 ⇑P P 05 18 36.7 +1.9
baz=77
N22A **Wattenberg Ran** 76.73 356 ⇑P P 05 18 37.3 +2.2
baz=77
DUG **Dugway, Tooele** 76.73 351 *eP* P 05 18 34.7 -0.3
DUG pmax pmax
comp=Z,21nm,1.4s
DUG **Dugway, Tooele** 76.73 351 ⇓P P 05 18 36.5 +1.5
baz=77,SNR=8.2
DUG **Dugway, Tooele** 76.73 351 *eP* P 05 18 34.7 -0.3
comp=Z,21nm,1.4s
DAU **Daniels Canyon** 76.76 352 *eP* P 05 18 35.2 -0.1
DAU **Daniels Canyon** 76.76 352 *eP* P 05 18 35.2 -0.1
N23A **Red Feather La** 76.79 356 ⇓P P 05 18 37.2 +1.7
baz=77
N23A **Red Feather La** 76.79 356 *eP* P 05 18 37.4 +1.9
N20A **Spence Gulch,** 76.89 354 ⇑P P 05 18 37.8 +1.8
baz=77
M31A **Lambtecht Ranc** 77.13 2 ⇓P P 05 18 38.7 +1.6
baz=78
M28A **Bar X Bar Ranc** 77.16 360 ⇓P P 05 18 38.3 +1.0
baz=78
M29A **Burnside Ranch** 77.21 0 ⇓P P 05 18 40.9 +3.4
baz=78
SFIN **Lafayette** 77.21 11 ⇑P P 05 18 42.7 +5.3
baz=78
M24A **Cheyenne** 77.31 357 ⇓P P 05 18 40.3 +2.1
baz=78
M22A **Cedar Creek Ra** 77.34 356 ⇑P P 05 18 41.5 +3.0
baz=78
OHCM **Honcut** 77.44 344 *eP* P 05 18 40.9 +2.2
BGU **Big Grassy Mou** 77.48 351 *eP* P 05 18 38.4 -0.8
comp=Z,14nm,1.3s
ELK **Elko** 77.62 349 *eP* P 05 18 41.0 +0.9
ELK pmax pmax
comp=Z,15nm,1.4s
ELK **Elko** 77.62 349 *eP* P 05 18 41.0 +0.9
comp=Z,15nm,1.4s
BMN **Battle Mountai** 77.64 347 *eP* P 05 18 40.4 +0.3
BMN pmax pmax
comp=Z,4.0nm,0.4s
BMN **Battle Mountai** 77.64 347 *eP* P 05 18 40.4 +0.3
comp=Z,4.0nm,0.4s
L24A **Wheatland** 77.89 357 ⇓P P 05 18 43.9 +2.5
baz=78
L22A **Ellis Ranch, M** 77.95 356 ⇓P P 05 18 44.2 +2.3
baz=78
L31A **Butterfield Fa** 77.96 2 ⇑P P 05 18 44.3 +2.6
baz=78
HWUT **Hardware Ranch** 77.97 352 *eP* P 05 18 42.2 +0.2
comp=Z,5.5nm,1.0s
HVU **Hansel Valley** 78.29 351 *eP* P 05 18 42.5 -1.2
HVU pmax pmax
comp=Z,20nm,1.6s
HVU **Hansel Valley** 78.29 351 *eP* P 05 18 42.5 -1.2
comp=Z,20nm,1.6s
K25A **Mack Ranch, Ha** 78.42 358 ⇑P P 05 18 46.9 +2.6
baz=79
K30A **Basset** 78.45 1 ⇓P P 05 18 46.6 +2.2
baz=79
K27A **Flueckinger Fa** 78.47 359 ⇓P P 05 18 46.2 +1.6
baz=79
K28A **Ten Mile Ranch** 78.48 360 ⇓P P 05 18 46.2 +1.6
baz=79
K26A **Motz Farm, Whi** 78.49 358 ⇑P P 05 18 46.6 +1.9
baz=79
K29A **Lazy Trails An** 78.53 1 ⇓P P 05 18 46.2 +1.4
baz=79
K22A **Casper** 78.58 356 ⇓P P 05 18 47.6 +2.4
baz=79
K22A **Casper** 78.58 356 *eP* P 05 18 46.7 +1.5
comp=Z,64nm,1.9s
K21A **Alcova** 78.60 355 ⇓P P 05 18 47.1 +1.7
baz=79
K23A **Bowen Ranch, D** 78.63 357 ⇓P P 05 18 48.0 +2.5
baz=79
WDC **Whiskeytown Da** 78.87 343 *eP* P 05 18 47.3 +0.6
WDC pmax pmax
comp=Z,34nm,1.3s
WDC **Whiskeytown Da** 78.87 343 *eP* P 05 18 47.2 +0.6
comp=Z,34nm,1.3s
BW06 **Boulder Array** 78.92 354 *eP* P 05 18 45.8 -1.4
comp=Z,7.9nm,0.6s
PDAR **Pinedale Array** 78.92 354 P P 05 18 46.0 -1.2
comp=Z,6.9nm,0.9s,baz=162,slow=6.0,SNR=27
PDAR LR LR 05 49 19.8
comp=Z,124nm,18.7s,baz=166,slow=32
J27A **Elkhorn Farm,** 79.02 359 ⇓P P 05 18 48.5 +0.9
baz=79
J26A **Sides Ranch, S** 79.10 358 ⇓P P 05 18 48.7 +0.7
baz=80
J30A **Dallas** 79.10 1 ⇓P P 05 18 48.3 +0.3
baz=80
J24A **Dixon Ranch, L** 79.16 357 ⇓P P 05 18 49.3 +0.9
baz=80
J29A **Okreek** 79.17 0 ⇓P P 05 18 50.1 +1.7
baz=80
J28A **Allard Ranch,** 79.19 360 ⇑P P 05 18 50.4 +2.0
baz=80
J25A **Sunshine Ranch** 79.19 358 ⇑P P 05 18 49.8 +1.2
baz=80
J23A **Dilts Ranch, B** 79.27 357 ⇑P P 05 18 50.5 +1.4
baz=80
N02D **Trinity Center** 79.28 343 ⇑P P 05 18 50.1 +1.1
baz=80
DZM **Mont Dzumac** 79.29 251 *eS* S 05 28 38.5 -12
comp=Z,288nm,25.8s
DZM *eSS* SS 05 33 44.0 -12
DZM comp=Z,174nm,26.8s *eLR* LR 05 43 06.0
comp=Z,2μm,27.4s
J21A **Lysite** 79.33 355 ⇑P P 05 18 50.2 +0.8
baz=80
J22A **Midwest** 79.33 356 ⇓P P 05 18 50.4 +1.1
baz=80
J19A **Crowheart** 79.37 354 ⇑P P 05 18 49.5 -0.1
baz=80
J20A **Shoshoni** 79.38 355 ⇑P P 05 18 50.8 +1.2
baz=80
ECSD **EROS Data Cent** 79.59 3 ⇓P P 05 18 51.2 +0.6
baz=80
ECSD **EROS Data Cent** 79.59 3 *eP* P 05 18 49.1 -1.5
comp=Z,34nm,1.8s
REDW **Red Top Meadow** 79.63 353 *eP* P 05 18 51.5 +0.4
comp=Z,27nm,1.4s
MOD **Modoc Plateau** 79.65 345 *eP* P 05 18 51.8 +0.7
comp=Z,13nm,1.0s
I24A **Kuemmerle Ranc** 79.69 357 ⇓P P 05 18 53.3 +2.1
baz=80
M02C **Callahan** 79.72 343 ⇑P P 05 18 52.8 +1.4
baz=80
I28A **Midland** 79.76 360 ⇑P P 05 18 53.0 +1.5
baz=80
TPAW **Teton Pass** 79.77 353 *eP* P 05 18 51.8 -0.1
I21A **Big Trails, Te** 79.78 355 ⇑P P 05 18 52.8 +1.0
baz=80
I29A **Vivian Onida** 79.79 1 ⇑P P 05 18 52.9 +1.2
baz=80
I22A **9 Mile Ranch,** 79.81 356 ⇑P P 05 18 52.9 +1.0
baz=80
I26A **New Underwood** 79.81 359 ⇓P P 05 18 53.4 +1.5
baz=80
I25A **Rochford** 79.82 358 ⇓P P 05 18 53.1 +1.0
baz=80
I27A **Quinn** 79.84 359 ⇓P P 05 18 53.1 +1.1
baz=80
WVOR **Wild Horse Val** 79.84 347 *eP* P 05 18 52.5 +0.4
WVOR pmax pmax
comp=Z,9.0nm,1.0s
WVOR **Wild Horse Val** 79.84 347 *eP* P 05 18 52.5 +0.4
comp=Z,9.3nm,1.0s
LOHW **Long Hollow** 79.85 353 *eP* P 05 18 51.7 -0.6
comp=Z,11nm,1.3s
M04C **Macdoel** 79.86 344 ⇑P P 05 18 53.2 +0.9
baz=80
FXWY **Fox Creek** 79.92 353 *eP* P 05 18 52.2 -0.5
comp=Z,10nm,1.2s
RSSD **Black Hills** 79.93 358 *eP* P 05 18 52.4 -0.3
RSSD pmax pmax
comp=Z,31nm,1.7s
RSSD **Black Hills** 79.93 358 *eP* P 05 18 52.4 -0.3
comp=Z,31nm,1.7s
I20A **Worland** 79.97 355 ⇑P P 05 18 53.1 +0.3
baz=80,SNR=14
I19A **Meeteetse** 80.13 354 ⇓P P 05 18 54.3 +0.6
baz=80
I17A **Pilgrim Ck.** 80.16 353 ⇓P P 05 18 55.1 +1.1
baz=80
IMW **Indian Meadow** 80.17 353 *eP* P 05 18 53.6 -0.5
comp=Z,6.5nm,0.8s
BRSD **Miller** 80.23 1 ⇑P P 05 18 55.1 +1.1
baz=81
HLID **Hailey** 80.26 350 ⇑P P 05 18 54.7 +0.3
baz=81,SNR=32
HLID **Hailey** 80.26 350 *eP* P 05 18 54.2 -0.3
comp=Z,20nm,1.0s
MFID **Camas Ranch** 80.32 349 *eP* P 05 18 54.8 +0.2
comp=Z,13nm,1.4s
FLWY **Flagg Ranch** 80.33 353 *eP* P 05 18 54.6 -0.2
comp=Z,30nm,1.4s
H29A **Onida** 80.39 1 ⇓P P 05 18 56.2 +1.3
baz=81
H26A **Fairpoint** 80.39 359 ⇑P P 05 18 56.1 +1.1
baz=81
H27A **Howes** 80.40 359 ⇓P P 05 18 55.3 +0.3
baz=81
H25A **Fruitdale** 80.42 358 ⇓P P 05 18 55.8 +0.7
baz=81
H23A **Clabaugh Cattl** 80.42 357 ⇑P P 05 18 56.2 +1.0
baz=81
H28A **Mission Ridge** 80.44 360 ⇑P P 05 18 56.4 +1.2
baz=81
H20A **Greybull** 80.50 355 ⇓P P 05 18 56.6 +1.0
baz=81
H22A **Clearmont** 80.50 356 ⇑P P 05 18 56.9 +1.3
baz=81
K05A **Summer Lake** 80.56 345 *eP* P 05 18 58.4 +2.3
comp=Z,52nm,1.4s
H24A **Dirks Ranch, A** 80.57 357 ⇑P P 05 18 56.9 +1.0
baz=81
H21A **Big Horn, Sher** 80.58 356 ⇓P P 05 18 57.5 +1.4
baz=81
H17A **Grant Village** 80.63 353 ⇓P P 05 18 58.1 +1.6
baz=81
K04D **Chiloquin, OR** 80.65 345 ⇑P P 05 18 58.0 +1.6
baz=81
H19A **Powell** 80.76 354 ⇓P P 05 18 57.7 +0.6
baz=81,SNR=5.2
LKWY **Lake** 80.78 353 *eP* P 05 18 57.7 +0.4
LKWY pmax pmax
comp=Z,5.0nm,0.9s
LKWY **Lake** 80.78 353 *eP* P 05 18 57.7 +0.4
comp=Z,4.6nm,0.9s
H18A **Shoshone NF, C** 80.82 354 ⇑P P 05 18 58.1 +0.6
baz=81
G30A **Faulkton** 80.91 1 ⇓P P 05 18 59.7 +2.0
baz=81
YMR **Madison River** 80.94 353 *eP* P 05 18 59.6 +1.5
comp=Z,66nm,2.1s
G29A **Hoven** 80.96 1 ⇑P P 05 18 59.7 +1.7
baz=81
G23A **Biddle** 81.06 357 ⇓P P 05 18 59.7 +1.1
baz=82
G26A **Maurine** 81.07 359 ⇓P P 05 18 59.3 +0.7
baz=82
G22A **Birney** 81.12 356 ⇑P P 05 18 59.1 +0.2
baz=82
G27A **Dupree** 81.14 359 ⇑P P 05 18 59.4 +0.5
baz=82
QLMT **Earthquake Lak** 81.14 353 *eP* P 05 18 59.5 +0.4
G24A **Alzada** 81.15 358 ⇑P P 05 18 59.2 +0.2
baz=82
J05D **Fort Rock, OR** 81.17 345 ⇑P P 05 19 00.3 +1.0
baz=82
G21A **Lodge Grass** 81.18 356 ⇓P P 05 19 00.1 +0.9
baz=82
RLMT **Red Lodge** 81.23 354 *eP* P 05 18 59.0 -0.6
comp=Z,7.6nm,0.7s
G20A **Bridger** 81.25 355 ⇓P P 05 19 00.5 +0.9
baz=82,SNR=8.8
MCMT **McKenzie Canyo** 81.30 351 *eP* P 05 18 59.7 -0.3
comp=Z,2.8nm,1.0s
J04D **Umpqua Nationa** 81.31 345 ⇓P P 05 19 00.5 +0.4
baz=82
SPMN **Marine on St.** 81.33 6 ⇓P P 05 19 00.5 +0.7
baz=82
SPMN **Marine on St.** 81.33 6 *eP* P 05 18 59.3 -0.5
comp=Z,88nm,2.3s
F23A **Volborg** 81.58 357 ⇓P P 05 19 02.2 +0.9
baz=82
I07A **Izee** 81.59 347 *eP* P 05 19 02.4 +0.9
comp=Z,77nm,1.9s
F29A **Eureka** 81.60 1 ⇓P P 05 19 02.9 +1.6
baz=82
F28A **McLaughlin** 81.61 0 ⇑P P 05 19 03.0 +1.6
baz=82
F26A **Lodgepole** 81.63 359 ⇓P P 05 19 02.9 +1.4
baz=82
F27A **Lemmon** 81.64 359 ⇓P P 05 19 02.8 +1.3
baz=82
F24A **Ekalaka** 81.67 358 ⇑P P 05 19 02.4 +0.6
baz=82
F22A **Rosebud** 81.68 356 ⇓P P 05 19 03.0 +1.2
baz=82
F25A **Bowman** 81.72 358 ⇑P P 05 19 03.6 +1.6
baz=82
F21A **Absaloka Mine,** 81.77 356 ⇑P P 05 19 03.4 +1.1
baz=82
DLMT **Dillon** 81.80 352 *eP* P 05 19 04.7 +2.1

comp=Z,15nm,1.6s
F20A Billings 81.82 355 ⇑P P 05 19 03.7 +1.1
baz=82
I04A Tendick Farm, 81.91 345 ⇑P P 05 19 04.4 +1.4
baz=82
GCMT Greycliff 81.93 354 *e*P P 05 19 02.3 -0.9
comp=Z,1.5nm,0.5s
F19A Roth Farm, Mol 81.93 354 ⇑P P 05 19 02.8 -0.4
baz=82
BOZ Bozeman (W) 81.97 352 *e*P P 05 19 03.0 -0.5
BOZ pmax pmax
comp=Z,10.0nm,1.2s
BOZ Bozeman (W) 81.97 352 *e*P P 05 19 03.0 -0.5
comp=Z,9.5nm,1.2s
I03D Drain, OR 82.02 344 ⇓P P 05 19 03.5 0.0
baz=82
E27A Carson 82.19 360 ⇑P P 05 19 04.3 -0.1
baz=83
I05D Terrebonne, OR 82.20 345 ⇑P P 05 19 04.4 -0.1
baz=83
E26A Carlson Angus 82.24 359 ⇑P P 05 19 04.3 -0.4
baz=83
E30A Jud 82.28 1 ⇓P P 05 19 04.7 -0.2
baz=83
E25A Miller Ranch, 82.29 358 ⇑P P 05 19 04.4 -0.6
baz=83
E22A Miles City 82.32 357 ⇓P P 05 19 04.7 -0.4
baz=83
E28A Huff 82.34 0 ⇑P P 05 19 04.5 -0.7
baz=83
E29A Napoleon 82.34 1 ⇑P P 05 19 04.8 -0.4
baz=83
E24A Baker 82.38 358 ⇑P P 05 19 05.8 +0.4
baz=83
E21A Keefer Ranch, 82.48 356 ⇑P P 05 19 06.6 +0.6
baz=83
E20A Meyer Farm, Mu 82.52 355 ⇓P P 05 19 07.0 +0.8
baz=83
E19A Rath Farm, Rou 82.52 355 ⇓P P 05 19 06.9 +0.7
baz=83
COWI Conover 82.56 8 *e*P P 05 19 06.0 -0.4
comp=Z,6.4nm,0.6s
LAO LASA Array 82.58 356 *e*P P 05 19 05.6 -1.0
comp=Z,14nm,1.0s
G08A Pilot Rock 82.66 347 *e*P P 05 19 07.8 +0.8
comp=Z,39nm,2.0s
H04A Detroit Lake 82.71 345 *e*P P 05 19 08.7 +1.5
D26A Manning 82.80 359 ⇑P P 05 19 08.5 +0.9
baz=83
D30A Buchanan 82.89 2 ⇑P P 05 19 09.0 +0.9
baz=83
G06A Carlson Farm, 82.92 346 *e*P P 05 19 09.8 +1.6
comp=Z,84nm,2.2s
D24A Glendive 82.93 358 ⇑P P 05 19 09.4 +1.1
baz=83
D25A Fairfield 82.94 358 ⇑P P 05 19 09.9 +1.6
baz=83
D21A La Casta Ranch 83.00 356 ⇓P P 05 19 09.8 +1.1
baz=83
D23A Lindsay 83.02 357 ⇑P P 05 19 10.0 +1.2
baz=83
F10A Beach Ranch, E 83.04 349 *e*P P 05 19 09.6 +0.7
D22A Cohagen 83.04 356 ⇓P P 05 19 09.5 +0.6
baz=83,SNR=8.9
HRY Holter Researc 83.05 353 *e*P P 05 19 09.8 +0.9
G05D Wamic, OR 83.06 346 ⇓P P 05 19 10.4 +1.4
baz=83
D20A Manuel Ranch, 83.10 355 ⇑P P 05 19 10.2 +1.1
baz=84
D19A Cripps Ranch, 83.23 355 ⇑P P 05 19 11.4 +1.6
baz=84
C24A Savage 83.35 358 ⇓P P 05 19 11.3 +0.8
baz=84
CHMT Chamberlain Mo 83.41 352 *e*P P 05 19 11.6 +0.6
MSO Missoula 83.41 351 ⇓P P 05 19 12.9 +2.0
baz=84
MSO Missoula 83.41 351 *e*P P 05 19 12.4 +1.6
comp=Z,17nm,1.5s
C30A Mose, Pekin 83.50 2 ⇑P P 05 19 11.7 +0.6
baz=84
C26A Wahner Farm, P 83.59 359 ⇓P P 05 19 12.5 +0.8
baz=84
MDND Maddock 83.62 1 ⇓P P 05 19 12.9 +1.1
baz=84
C22A Vida 83.62 357 ⇑P P 05 19 12.6 +0.7
baz=84
C23A Lambert 83.65 357 ⇑P P 05 19 12.4 +0.5
baz=84
C20A Veseth Ranch, 83.71 355 ⇑P P 05 19 12.8 +0.6
baz=84
SLMT Seeley Lake 83.76 351 *e*P P 05 19 13.2 +0.5
C19A Slack Wire Ran 83.81 355 ⇓P P 05 19 13.6 +0.8
baz=84,SNR=6.0
HAWA Hanford 83.83 347 *e*P P 05 19 14.1 +1.2
comp=Z,21nm,1.3s
F04A Amboy 83.95 345 *e*P P 05 19 15.0 +1.5
comp=Z,39nm,1.2s
E07A Sunnyside 84.05 347 *e*P P 05 19 15.8 +1.7
comp=Z,31nm,1.4s
B25A Knox Farm, Ray 84.06 359 ⇑P P 05 19 15.5 +1.5
baz=84
B26A Jensen Ranch, 84.15 359 ⇑P P 05 19 16.6 +2.1
baz=84
B22A Reddig Ranch S 84.18 357 ⇓P P 05 19 15.7 +1.1
baz=85
AGMN Agassiz Nation 84.19 3 ⇓P P 05 19 14.8 +0.1
baz=85
AGMN Agassiz Nation 84.19 3 *e*P P 05 19 14.2 -0.4
comp=Z,5.6nm,0.8s
B28A Dugan Ranch, T 84.21 0 ⇑P P 05 19 15.6 +0.8
baz=85
B30A Myrvik Farm, E 84.25 2 ⇓P P 05 19 15.4 +0.5
baz=85,SNR=10.0
DGMT Dagmar 84.28 358 ⇓P P 05 19 16.2 +1.0
baz=85
DGMT Dagmar 84.28 358 *e*P P 05 19 15.5 +0.4
comp=Z,24nm,1.4s
B21A Ellsworth Farm 84.36 356 ⇑P P 05 19 16.9 +1.3
baz=85
D08A Wollman Farm, 84.37 348 *e*P P 05 19 17.5 +1.9
B19A Brinkman Farms 84.52 355 ⇓P P 05 19 17.9 +1.6
baz=85
LON Longmire 84.61 346 *e*P P 05 19 18.1 +1.2
LON pmax pmax
comp=Z,23nm,1.5s
LON Longmire 84.61 346 *e*P P 05 19 18.1 +1.2
comp=Z,23nm,1.5s
A26A Wade Farm, Ken 84.67 359 ⇓P P 05 19 19.4 +2.3
baz=85
A28A Rude Farm, Bot 84.67 0 ⇑P P 05 19 17.3 +0.1
baz=85
A29A Manning Farm, 84.70 1 ⇑P P 05 19 17.4 +0.1
baz=85,SNR=9.1
A27A Ledoux Ranch, 84.72 360 ⇓P P 05 19 19.4 +2.1
baz=85
A25A Svangstu Ranch 84.72 359 ⇓P P 05 19 18.2 +0.8
baz=85
A24A Westby 84.73 358 ⇓P P 05 19 18.4 +1.0
baz=85
A30A Hoffart Farm, 84.74 2 ⇓P P 05 19 17.8 +0.4
baz=85
A20A Cobblestone Ra 84.87 355 ⇑P P 05 19 19.2 +1.0
baz=85
A22A Carney Farms, 84.87 357 ⇓P P 05 19 19.0 +0.9
baz=85
LTY Liberty 84.87 347 *e*P P 05 19 19.7 +1.4
comp=Z,38nm,1.8s
A21A Bergtoll Ranch 84.92 356 ⇑P P 05 19 19.6 +1.2
baz=85
A19A Klindworth Far 84.97 355 ⇑P P 05 19 19.3 +0.6
baz=85
C09A Chrisman Ranch 84.98 348 *e*P P 05 19 20.4 +1.7
comp=Z,44nm,1.7s
D05A Enumclaw 85.06 346 *e*P P 05 19 21.2 +2.1
NEW Newport 85.25 349 *e*P P 05 19 19.6 -0.5
NEW pmax pmax
comp=Z,43nm,1.7s
NEW Newport 85.25 349 ⇓P P 05 19 21.1 +1.0
baz=86
NEW Newport 85.25 349 *e*P P 05 19 19.6 -0.5
comp=Z,43nm,1.7s
WALA Waterton Lakes 85.60 352 *e*P P 05 19 22.2 +0.3
comp=Z,36nm,1.7s
B08A Colville Reser 85.70 348 *e*P P 05 19 23.6 +1.3
comp=Z,43nm,2.1s
ULM Lac du Bonnet 86.13 3 *e*P P 05 19 23.4 -0.9
ULM pmax pmax
comp=Z,45nm,2.2s
ULM Lac du Bonnet 86.13 3 P P 05 19 22.9 -1.4
comp=Z,4.0nm,0.7s,baz=178,slow=3.3,SNR=10.0
ULM Lac du Bonnet 86.13 3 *e*P P 05 19 23.4 -0.9
comp=Z,45nm,2.2s
SCHQ Schefferville 95.24 19 LR LR 05 58 57.8
comp=Z,476nm,20.5s,baz=215,slow=33
BOSA Boshof 98.11 134 LR LR 05 58 05.6
comp=Z,251nm,20.6s,baz=226,slow=31
DBIC Dimbokro 98.84 88 LR LR 06 01 15.7
comp=Z,248nm,21.2s,baz=215,slow=33
YKA Yellowknife Ar 98.90 354 P P 05 20 22.1 -1.2
comp=Z,0.4nm,0.8s,baz=167,slow=4.6,SNR=8.0
ASAR Alice Springs 101.09 230 P Pdif 05 20 30.4 -3.9
comp=Z,0.7nm,0.8s,baz=135,slow=3.8,SNR=6.3
H01W1 Cape Leeuwin H 102.11 209 T T 07 15 28.2
baz=151,slow=76,SNR=25
H01W2 Cape Leeuwin H 102.11 209 T T 07 15 37.3
baz=151,slow=76,SNR=22
H01W3 Cape Leeuwin H 102.12 209 T T 07 15 18.3
baz=151,slow=76,SNR=23
H11S2 WAKE ISLAND Hyd 102.47 284 T T 07 13 34.9
baz=120,slow=75,SNR=5.5
H11S1 WAKE ISLAND Hyd 102.48 284 T T 07 13 35.2
baz=120,slow=75,SNR=9.3
H11S3 WAKE ISLAND Hyd 102.48 284 T T 07 13 40.7
baz=120,slow=75,SNR=5.3
WRA Warramunga Arr 103.54 233 Pdiff Pdif 05 20 41.0 -4.1
comp=Z,0.7nm,0.9s,baz=140,slow=4.8,SNR=5.5
TCF Toulx Ste Croi 123.45 54 *e*PKIKP PKPdf 05 25 40.6 -0.1
TCF Toulx Ste Croi 123.45 54 *e*PKIKP PKPdf 05 25 40.6 -0.1
TCF Toulx Ste Croi 123.45 54 *e*PKPdf PKPdf 05 25 40.6 -0.1
LOR Lormes 124.84 53 *e*PKIKP PKPdf 05 25 43.4 +0.1
comp=Z,4.8nm,0.8s
LOR Lormes 124.84 53 *e*PKIKP PKPdf 05 25 43.4 +0.1
LOR Lormes 124.84 53 *e*PKPdf PKPdf 05 25 43.4 +0.1
ORIF Oris-en-Rattie 125.46 57 *e*PKIKP PKPdf 05 25 43.7 -1.0
comp=Z,5.5nm,0.9s
ORIF Oris-en-Rattie 125.46 57 *e*PKIKP PKPdf 05 25 43.7 -1.0
ORIF Oris-en-Rattie 125.46 57 *e*PKPdf PKPdf 05 25 43.7 -1.0
LPL La Plagne 126.22 56 *e*PKIKP PKPdf 05 25 45.6 -0.7
comp=Z,7.6nm,1.0s
LPL La Plagne 126.22 56 *e*PKIKP PKPdf 05 25 45.6 -0.7
LPL La Plagne 126.22 56 *e*PKPdf PKPdf 05 25 45.6 -0.7
LPG La Plagne 126.22 56 *e*PKIKP PKPdf 05 25 46.6 +0.2
comp=Z,5.9nm,0.9s
LPG La Plagne 126.22 56 *e*PKIKP PKPdf 05 25 46.6 +0.2
LPG La Plagne 126.22 56 *e*PKPdf PKPdf 05 25 46.6 +0.2
SEY Seymchan 128.90 326 *e*PKIKP PKPdf 05 25 51.9 +1.4
CLL Collm 131.59 50 *e*PS PS 05 38 27.0 -3.3
CLL *e*PPS PPS 05 40 14.0
CLL *e*SS SS 05 45 54.0 +3.9
CLL *e*SSS SSS 05 50 36.0
GERES GERESS Array B 131.62 53 PKP PKPdf 05 25 56.7 +0.4
comp=Z,1.1nm,0.8s,baz=174,slow=1.2,SNR=8.3
VYHS Vyhne 134.93 55 *e*PKIKP PKPdf 05 26 06.2 +3.8
VYHS Vyhne 134.93 55 *e*PKP PKPdf 05 26 06.2 +3.8
FINES FINESS Array B 138.54 35 PKP PKPdf 05 26 08.7 +0.1
comp=Z,0.9nm,0.8s,baz=143,slow=3.8,SNR=4.2
MDJ Mudanjiang 141.08 299 PKP PKPdf 05 26 13.7 -0.1
KSRS Korea Array 141.16 287 PKP PKPdf 05 26 16.0 +1.9
comp=Z,0.7nm,0.4s,baz=109,slow=1.8,SNR=5.5
KSAR Wonju Array Be 141.18 287 PKIKP PKPdf 05 26 16.0 +1.8
KSAR Wonju Array Be 141.18 287 PKP PKPdf 05 26 16.0 +1.8
KIEV Kiev 141.76 52 *i* PKIKP PKPdf 05 26 14.3 -0.5
KIEV *i* 05 26 17.8
AKASG Malin Array Be 141.77 52 PKP PKPdf 05 26 16.0 +1.2
comp=Z,0.6nm,0.5s,baz=263,slow=3.2,SNR=5.4
BRTR Keskin Array B 144.33 70 PKP PKPab 05 26 17.8 -0.2
comp=Z,10nm,0.9s,baz=205,slow=2.6,SNR=21
OBN Obninsk 145.47 43 *i* PKIKP PKPdf 05 26 20.4 -0.7
OBN *i* 05 26 23.6
OBN *e*SS SS 05 49 11.8 +38
OBN pmax pmax
comp=Z,37nm,1.0s
OBN Obninsk 145.47 43 *e*PKPdf PKPdf 05 26 19.7 -1.5
MOS Moscow 145.87 42 *e*PKP2 PKPdf 05 26 21.2 -0.6
MOS pmax pmax
comp=Z,44nm,0.7s
NJ2 Nanjing 146.91 275 *e*PKPbc PKPdf 05 26 23.6 -0.8
PRGR Permogore 147.00 29 *e*PKIKP PKPdf 05 26 23.1 -0.5
PRGR pmax pmax
comp=Z,38nm,0.9s
HIA Hailar 147.72 307 *e*PKIKP PKPdf 05 26 25.7 +0.5
HIA Hailar 147.72 307 *e*PKPdf PKPdf 05 26 25.7 +0.5
VSR Storozhevoye 147.93 49 *e*PKP2 PKPbc 05 26 27.1 -1.4
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
QIZ Qiongzhong 147.97 246 PKPbc PKPdf 05 26 26.4 -0.1
QIZ PP PP 05 29 57.7 +0.5
QIZ LZ
comp=E,150nm,38.2s
VORD Divnogorie 148.06 50 *e*PKIKP PKPdf 05 26 27.1 +1.4
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,7.0nm,0.6s
BOD Bodaibo 148.30 324 *e*PKIKP PKPdf 05 26 25.4 -0.5
BOD pmax pmax
comp=Z,13nm,1.5s
RAYN Ar Rayn 148.50 104 *e*PKPbc PKPbc 05 26 32.2 +1.2
VRHR Novokhopersk 149.46 49 *e*PKP2 PKPbc 05 26 31.9 -0.5
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,40nm,1.0s
VRHR pmax pmax
comp=E,30nm,0.9s
WHN Wuhan 150.06 270 PKPbc PKPdf 05 26 31.0 +1.4
BJI Beijing 150.62 289 PKPbc PKPdf 05 26 30.2 +0.1
PALK Pallekele 151.23 184 *e*PKIKP PKPbc 05 26 37.9 0.0
PALK Pallekele 151.23 184 *e*PKPbc PKPbc 05 26 37.9 0.0
KIV Kislovodsk 151.30 63 *i* PKIKP PKPbc 05 26 38.7 +1.5
KIV *e*SS SS 05 49 37.6 -2.7
KIV pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 151.47 63 PKPbc PKPbc 05 26 37.4 0.0
comp=Z,12nm,0.8s,baz=267,slow=1.7,SNR=12
ZEI Tsey 152.24 65 *i* PKIKP PKPbc 05 26 39.1 -0.5
ZEI pmax pmax
comp=Z,14nm,0.8s
SOKR Solikamsk 152.46 25 *e*PKIKP PKPbc 05 26 40.9 +1.8
SOKR pmax pmax
comp=Z,9.0nm,0.7s
HHC Hu-ho-hao-te 154.17 290 *e*PKPbc PKPdf 05 26 35.1 -0.5
HHC PP PP 05 30 34.4 +1.4
HHC SKKS 05 37 19.7
HHC LN
comp=Z,430nm,21.0s
HHC LE
comp=Z,180nm,14.8s
HHC LZ
comp=Z,570nm,22.2s
GYA Guiyang 154.54 256 *e*PKPbc PKPdf 05 26 35.6 -0.9
GYA PKPab PKPab 05 27 02.0 +2.5
GYA PKS PKSdf 05 30 07.8 -3.1
GYA PP PP 05 30 38.2 +3.0
GYA SKKS 05 37 25.0
GYA SS SS 05 50 16.4 +0.1
GYA PPMZ
comp=Z,130nm,7.8s
GYA LN
comp=Z,130nm,22.2s
GYA LE
comp=Z,120nm,23.4s
GYA LZ
comp=Z,140nm,21.8s
CMAR Chiang Mai Arr 155.10 230 PKPab PKPab 05 26 59.2 -2.7
comp=Z,4.6nm,0.9s,baz=159,slow=2.9,SNR=16
ARU Arti 155.45 28 *i* PKIKP PKPdf 05 26 45.7 +9.1
ARU 05 30 37.1
ULN Ulaanbaatar 156.22 308 *e*PKP2 PKPab 05 27 04.1 -2.1
ULN Ulaanbaatar 156.22 308 *e*PKPab PKPab 05 27 04.1 -2.1
SONM Songino Array 156.65 309 PKP PKPdf 05 26 37.3 -1.4
comp=Z,0.4nm,0.7s,baz=147,slow=3.5,SNR=4.3
SONM PKPbc PKPbc 05 26 48.7
comp=Z,1.1nm,0.8s,baz=85,slow=3.0,SNR=5.8
SONM PKPab PKPab 05 27 03.3 -4.7
comp=Z,1.3nm,0.8s,baz=90,slow=2.9,SNR=4.9
CD2 Chengdu 158.74 263 PKP PKPdf 05 26 41.0 -0.7
CD2 PKS PKSdf 05 30 14.0 -1.4
CD2 PP PP 05 31 01.6 +3.2
CD2 SKS SKSdf 05 33 44.7 -2.3
CD2 SKKS SKKSac 05 37 47.4 +0.6
CD2 SS SS 05 51 02.4 +1.1
CD2 PPMZ
comp=Z,180nm,5.6s
AKTO Aktyubinsk 159.18 40 PKPab PKPab 05 27 18.4 -0.2
comp=Z,1.2nm,0.7s,baz=329,slow=5.9,SNR=3.6
LZH Lanzhou 159.94 277 *e*PKP PKPdf 05 26 44.2 +1.1
LZH pPKP pPKPdf 05 26 47.3 -0.6
LZH sPKP 05 26 48.7
LZH *e*PP PP 05 31 12.1 +7.0
LZH SKKS 05 37 53.0
LZH *e*SS SS 05 51 13.5 -0.8
LZH PPMZ
comp=Z,130nm,7.8s
LZH LN
comp=Z,180nm,18.0s
LZH LE
comp=Z,180nm,18.2s
LZH LZ
comp=Z,220nm,20.1s
ZALV Zalesovo Beam 161.73 349 PKP PKPdf 05 26 42.7 -1.5
comp=Z,0.4nm,0.4s,baz=329,slow=1.7,SNR=3.2
ZALV PKPab PKPab 05 27 29.0 -0.5
comp=Z,0.3nm,0.3s,baz=354,slow=4.3,SNR=2.7
MKAR Makanchi Array 169.07 348 PKPab PKPab 05 28 01.3 -0.8
comp=Z,0.5nm,0.8s,baz=20,slow=5.1,SNR=3.9
WMQ Urumqi 169.84 322 *e*PKP PKPdf 05 26 47.2 -4.0
WMQ pPKP pPKPdf 05 26 58.0 +1.9
WMQ PKPab PKPab 05 28 03.5 -2.2
WMQ *e*PP PP 05 31 54.5 -1.1
WMQ SS SS 05 52 51.0 -2.6
WMQ PPMZ
comp=Z,110nm,4.9s
WMQ LN
comp=Z,260nm,29.8s
WMQ LE
comp=Z,210nm,28.0s
WMQ LZ
comp=Z,230nm,27.5s
KSH Kashi 175.86 35 *e*PKP PKPdf 05 26 55.1 +1.1
KSH PKS PKSdf 05 30 26.1 -0.1
KSH SKS SKSdf 05 33 57.1 +0.5
KSH SKKS SKKSac 05 39 08.2 -3.1
KSH PPMZ
comp=Z,99nm,5.4s
KSH LN
comp=Z,93nm,6.4s
KSH LE
comp=Z,110nm,5.4s
KSH LZ
comp=Z,250nm,7.6s

IDC 10 05:33:31.8±1.7, 2°28N×127°40E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/34, mbtmp3.5/4, Error ellipse: s-maj=136.5km s-min=20.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.11**	**163**	P	P	05 38 39.6	+0.1
	0.4nm,0.3s,baz=343,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.55**	**167**	P	P	05 39 11.0	-0.6
	0.3nm,0.5s,baz=351,slow=8.0,SNR=9.0						
MKAR	**Makanchi Array**	**59.12**	**325**	P	P	05 43 35.1	+0.9
	0.2nm,0.3s,baz=123,slow=7.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**63.32**	**328**	P	P	05 44 02.1	-0.5
	0.4nm,0.5s,baz=124,slow=6.0,SNR=3.9						

IDC 10 05:40:16.3±2.6, 54°13N×86°39E, h0km, mb1 2.7/2, mb1mx2.7/41, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=20.9km s-min=11.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**260**	*i*		05 45 50.0	
	baz=80,slow=332,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.95**	**260**	Pg	Pg	05 40 33.2	-1.3
	0.8nm,0.3s,baz=80,slow=16,SNR=13						
ZALV				Lg	Lg	05 40 48.0	
	2.9nm,0.3s,baz=80,slow=28,SNR=14						
ZALV				Rg	Rg	05 40 59.6	
	1.5nm,0.3s,baz=66,slow=29,SNR=6.5						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	05 41 46.6	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	05 42 11.6	+0.7
	0.1nm,0.3s,baz=22,slow=14,SNR=6.5						
MKAR				Sn	Sn	05 43 40.9	+1.0
	0.1nm,0.3s,baz=18,slow=29,SNR=3.8						
MKAR				Lg	Lg	05 44 19.1	
	0.0nm,0.3s,baz=359,slow=33,SNR=2.1						

DJA 10 05:47:26.3±0.5, 1°S±3°×10°0E±°, h10km, M3.6/9, MLv3.6/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.30**	**118**	P	Pg	05 47 32.4	+0.1
PDSI				S	Sg	05 47 37.1	+0.7
SDSI	**Sungai Dareh**	**1.24**	**97**	P	Pb	05 47 49.8	0.0
SDSI				S	Sb	05 48 06.0	+0.2
BKNI	**Bangkinang**	**1.38**	**38**	P	Pn	05 47 50.2	-1.4
BKNI				S	Sb	05 48 08.4	-1.4
MNSI	**Mandailing Nat**	**1.67**	**338**	P	Pn	05 47 55.2	-0.5
MASI	**Maura Aman, Be**	**3.12**	**139**	P	Pn	05 48 15.4	-0.2
DSRI	**Dabo**	**4.39**	**86**	P	Pn	05 48 33.1	+0.1
LHSI	**Lahat**	**4.50**	**132**	P	Pn	05 48 34.4	-0.2
MNAI	**Manna**	**4.50**	**142**	P	Pn	05 48 34.7	0.0

GUC 10 06:05:31.3±0.3, 32°87S×72°31W, h35km±1km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.58**	**106**	*e*P	Pn	06 05 42.4	-0.6
PEL	**Peldehue**	**1.39**	**102**	*e*P	Pn	06 05 55.5	+1.2
PEL				*e*S	Sb	06 06 13.8	-0.6
PEL				AML	AML	06 06 16.3	
	comp=E,3μm,0.6s						
TACH	**Talagante**	**1.39**	**125**	*e*P	Pn	06 05 55.5	+1.2
TACH				*e*S	Sb	06 06 13.8	-0.5
SAN	**Santiago**	**1.50**	**113**	*e*P	Pn	06 05 57.1	+1.3
SAN				*e*S	Sb	06 06 16.9	-0.5
CLCH	**Cerro Calan**	**1.57**	**110**	*e*P	Pb	06 05 58.6	-1.4
CLCH				*e*S	Sb	06 06 19.2	-0.5
CLCH				AML	AML	06 06 29.1	
	comp=N,2μm,1.0s						
LACH	**Col Las Americ**	**1.60**	**112**	*e*S	Sb	06 06 19.7	-0.6
FSR	**Penalolen**	**1.61**	**113**	*e*P	Pb	06 05 59.0	-1.6
FSR				*e*S	Sb	06 06 20.2	-0.4
SJCH	**San Jose de Ma**	**1.81**	**116**	*e*P	Pb	06 06 02.2	-1.8
SJCH				*e*S	Sb	06 06 25.5	-0.8
SJCH				AML	AML	06 06 31.3	
	comp=E,880nm,0.5s						
YECH	**El Yeso**	**2.02**	**114**	*e*P	Pn	06 06 05.6	+2.2
YECH				*e*S	Sb	06 06 32.1	-0.9
YECH				AML	AML	06 06 33.5	
	comp=N,1μm,0.3s						
NICH	**Los Niches**	**2.31**	**158**	*e*S	Sb	06 06 37.5	-3.0

*KRNET **10** 06:09:46.8±0.1, 40°88N×77°85E, h2km, mb3.2*
*NNC **10** 06:09:49.9±3.3, 40°92N×77°92E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=34.7km s-min=15.6km az=148.0*

ISC 10 06:09:43.1±2.4, 40°6N±0°1×78°21E±0°08, h23km, n19, σ1s81/24, 8C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.72**	**334**	*e*P	**Pn**	**06 10 11.1**	**-0.8**
	baz=338						
KDJ				*e*S	**Sn**	**06 10 30.3**	**-2.9**
	baz=338						
NRN	**Naryn**	**1.87**	**297**	*i* P	**Pn**	**06 10 14.0**	**0.0**
	baz=291						
NRN				*e*S	**Sn**	**06 10 34.7**	**-2.4**
	baz=291						
ULHL	**Ulahol**	**2.22**	**319**	P	**Pn**	**06 10 20.6**	**+1.9**

SNR=47
ULHL Ulahol 2.22 319 ⇓*i*P **Pn 06 10 20.5 +1.8**
baz=319
ULHL ⇓*i*S **Sn 06 10 46.2 +0.7**
baz=319
BOOM Boomskoye usch 2.55 319 ⇓*i*P **Pb 06 10 26.4 -1.9**
baz=319
BOOM ⇓*i*S **Sn 06 10 56.1 +2.5**
baz=319
KZA Kyzart 2.68 305 P **Pb 06 10 29.2 -1.4**
SNR=31
KZA Kyzart 2.68 305 ⇑*i*P **Pn 06 10 27.6 +2.4**
baz=302
KZA ⇑*i*S **Sb 06 11 01.9 -1.3**
baz=302
PDGK Podgornoye 2.90 19 ⇑Pn **Pb 06 10 32.7 -1.4**
5.9nm,0.4s
PDGK ⇓Sn **Sb 06 11 09.5 +0.6**
57nm,0.7s
TKM2 Tokmak 2 3.04 321 ⇑Pn **Pn 06 10 33.0 +3.0**
9.4nm,0.5s
TKM2 ⇑Lg Lg 06 11 13.2
20nm,0.6s
TKM2 Tokmak 2 3.04 321 P **Pn 06 10 33.1 +3.0**
SNR=17
ARLS Aral 3.19 295 *i* P **Pb 06 10 37.9 -1.4**
baz=291
UCH Uchtor 3.23 302 P **Pb 06 10 39.0 -0.9**
SNR=15
AAK Ala-Archa 3.45 307 ⇑Pn **Pb 06 10 42.5 -1.1**
6.3nm,0.3s
AAK ⇑Lg Lg 06 11 25.2
23nm,0.8s
AAK Ala-Archa 3.45 307 P **Pb 06 10 43.2 -0.5**
SNR=19
CHMS Chumysh 3.53 314 P **Pb 06 10 44.8 -0.1**
SNR=16
SFK Sufi-Kurgan 3.65 262 ⇓Pn **Pb 06 10 45.8 -1.2**
2.1nm,0.5s
SFK ⇑Lg Lg 06 11 39.1
10nm,0.5s
AML Almayashu 3.73 296 P **Pb 06 10 48.9 +0.4**
SNR=14
EKS2 Erkin-Say 3.91 303 P **Pb 06 10 52.5 +1.0**
SNR=12
MK31 Makanchi Array 6.87 24 ⇓Lg Lg 06 13 17.1
0.9nm,0.6s,baz=208,slow=28,SNR=3.6

MOS ***10*** *06:16:10.5±1.3,4.°83S×145.°52E,h33km,mb5.1/29,Error ellipse: s-maj=11.2km s-min=6.2km az=104.6*
BJI ***10*** *06:16:11.1,4.°80S×145.°70E,h35km,mB5.1/40,mb5.0/52, Ms4.9/47,Ms7 4.6/44*
DJA ***10*** *06:16:11.1±0.5,5.°5S±6.°1×14.°6E±.°1,h10km,M5.4/19, mb5.2/19,mB5.7/10,MLv5.8/3,Mw(mB)5.3/10,Mwp5.6/1*
ISCJB ***10*** *06:16:13.4±0.2,4.°84S±0.°02×145.°72E±0.°03,h64km, mb4.8/89,Error ellipse: s-maj=4.9km s-min=3.3km az=164.9*
IDC ***10*** *06:16:14.3±1.9,4.°84S×145.°71E,h62km±17km,mb4.3/24, mb1 4.5/28,mb1mx4.4/39,mbtmp4.6/28,MS4.5/17, Ms1 4.5/17,ms1mx4.3/28,Error ellipse: s-maj=12.4km s-min=7.6km az=95.0*
GCMT ***10*** *06:16:14.3±0.2,4.°68S×145.°72E,h20km±1km,MW5.3/93, Moment Tensor Solution. s57,c83; s93,c160; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; Mrr-0.08±.03; Mθθ-0.46±.02; Mφφ 0.53±.03; Mrθ 0.21±.05; Mrφ 1.04±.02; Mθφ-0.34±.05; Best double couple: M0 1.22200×10^{17} NP1:φs348.00000°,δ83.00000°,λ-162.00000°. NP2: φs256.00000°,δ72.00000°,λ-7.00000°. Principal axes: T 1.2160, Plg8.0000°, Azm121.0000°; N 0.0120, Plg71.0000°, Azm7.0000°; P -1.2280, Plg18.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***10*** *06:16:14.3±1.0,4.°83S×145.°69E,h58km±9km,mb4.9/52 Error ellipse: s-maj=7.6km s-min=4.5km az=64.0*

ISC 10 06:16:14.7±0.3,4.°85S±0.°03×145.°71E±0.°05,h64km,n254,
σ1s46/221,mb4.9/87,5C-6D,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.75**	**162**	*ce*P		**Pn**	**06 17 22.7**	**-1.0**
PMG				pmax		pmax		
	comp=Z,520nm,0.6s							
PMG	**Port Moresby**	**4.75**	**162**	P		**Pn**	**06 17 23.0**	**-0.8**
	comp=Z,104nm,0.3s,baz=345,slow=11,SNR=212							
PMG				S		**Sn**	**06 18 19.1**	**+1.5**
	comp=Z,93nm,0.3s,baz=322,slow=20,SNR=7.7							
PMG				LR		LR	06 19 33.0	
	comp=Z,21μm,18.5s,baz=353,slow=42							
PMG	**Port Moresby**	**4.75**	**162**	P		**Pn**	**06 17 22.8**	**-1.0**
	baz=4.9,SNR=150							
PMG				S		**Sn**	**06 18 20.4**	**+2.8**
	baz=4.9,SNR=5.5							
JAY	**Jayapura**	**5.50**	**295**	P		**Pn**	**06 17 32.2**	**-2.0**
JAY	**Jayapura**	**5.50**	**295**	P		**Pn**	**06 17 32.7**	**-1.5**
	comp=Z,3.9nm,0.3s,baz=115,slow=12,SNR=24							
JAY				S		Sn	06 18 47.0	+11
	comp=Z,6.5nm,0.3s,baz=315,slow=24,SNR=10							
JAY				LR		LR	06 20 01.7	
	comp=Z,5μm,19.8s,baz=122,slow=41							
GENI	**Genyem**	**5.96**	**292**	P		**Pn**	**06 17 39.1**	**-1.3**
	comp=Z,525nm,1.0s,comp=Z,17μmcomp=Z,25μmcomp=Z,6.2nm							
GENI				S		Sn	06 18 52.5	+5.1
	comp=Z,525nm,1.0s,comp=Z,17μmcomp=Z,25μmcomp=Z,6.2nm							
RABL	**Rabaul**	**6.47**	**84**	P		**Pn**	**06 17 47.8**	**+0.4**
	baz=6.6,SNR=7.7							
SMPI	**Sarmi**	**7.54**	**292**	P		**Pn**	**06 18 00.9**	**-1.1**
	comp=Z,492nm,1.5s,comp=Z,7μmcomp=Z,2.0nm							
COEN	**Coen**	**9.39**	**195**	P		**Pn**	**06 18 28.0**	**+0.7**
	baz=9.4,SNR=117							
COEN				S		**Sn**	**06 20 06.7**	**-4.6**
	baz=9.4,SNR=5.1							
COEN	**Coen**	**9.39**	**195**	*e*Pn		**Pn**	**06 18 28.0**	**+0.7**
COEN				*e*Sn		**Sn**	**06 20 14.6**	**+3.2**
FAKI	**Fak Fak**	**13.56**	**278**	P		**Pn**	**06 19 23.1**	**-1.1**
	comp=Z,64nm,1.6s							
FAKI	**Fak Fak**	**13.56**	**278**	P		**Pn**	**06 19 25.0**	**+0.8**
	baz=13,SNR=5.9							
FAKI	**Fak Fak**	**13.56**	**278**	*e*Pn		**Pn**	**06 19 21.4**	**-2.9**
SAUI	**Saumlaki**	**14.65**	**257**	P		P	06 19 46.7	+3.5
SAUI	**Saumlaki**	**14.65**	**257**	*e*Pn		**P**	**06 19 40.5**	**-2.7**
HNR	**Honiara**	**14.84**	**109**	LR		LR	06 25 11.7	
	comp=Z,1μm,20.1s,baz=276,slow=36							
CTA	**Charters Tower**	**15.15**	**178**	P		**P**	**06 19 45.9**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=360,slow=15,SNR=16							
CTA				S		**S**	**06 22 43.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=77,slow=9.9,SNR=3.3							
CTA				LR		LR	06 26 16.6	
	comp=Z,4μm,18.1s,baz=1.5,slow=40							
CTAO	**Charters Tower**	**15.15**	**178**	*e*P		**P**	**06 19 46.0**	**-2.9**
CTAO				pmax		pmax		
	comp=Z,41nm,0.8s							
CTAO	**Charters Tower**	**15.15**	**178**	*e*P		**P**	**06 19 46.0**	**-2.9**
	comp=Z,42nm,0.8s							
KDU	**Kakadu**	**15.21**	**238**	P		**Pn**	**06 19 44.9**	**-1.0**
	baz=15,SNR=33							
BNDI	**Bandanaira**	**15.75**	**271**	P		**P**	**06 19 55.4**	**-0.1**
QIS	**Mount Isa**	**16.70**	**200**	P		**P**	**06 20 05.0**	**-1.0**
	baz=17,SNR=21							
MSAI	**Masohi**	**16.80**	**274**	P		P	06 20 20.5	+13
WRAB	**Tennant Creek**	**18.63**	**215**	P		**Pn**	**06 20 27.0**	**-1.3**
	comp=Z,852nm,0.8s							
WRAB	**Tennant Creek**	**18.63**	**215**	*e*P		**Pn**	**06 20 26.9**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,117nm,0.8s							
WRAB	**Tennant Creek**	**18.63**	**215**	*e*P		**Pn**	**06 20 26.9**	**-1.3**
	comp=Z,116nm,0.8s							
NLAI	**Namlea**	**18.63**	**274**	P		**Pn**	**06 20 27.2**	**-1.0**
WB2	**Warramunga Arr**	**18.64**	**215**	*e*P		**Pn**	**06 20 27.4**	**-0.9**
WRA	**Warramunga Arr**	**18.64**	**215**	*i* P		**P**	**06 20 26.0**	**-1.4**
WRA				pmax		pmax		
	comp=Z,72nm,0.8s							
WRA	**Warramunga Arr**	**18.64**	**215**	P		**Pn**	**06 20 26.8**	**-1.5**
	comp=Z,4.4nm,0.3s,baz=40,slow=11,SNR=77							
WRA				S		**Sn**	**06 23 57.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=34,slow=22,SNR=5.1							
WRA				LR		LR	06 28 33.9	
	comp=Z,3μm,18.8s,baz=40,slow=40							
KNRA	**Kununurra**	**19.82**	**236**	P		**P**	**06 20 39.2**	**-1.0**
	baz=20,SNR=139							
SANI	**Sanana**	**19.88**	**277**	P		**Pn**	**06 20 45.2**	**+2.1**
EIDS	**Eidsvold**	**21.04**	**166**	P		**P**	**06 20 54.4**	**+1.0**
	baz=21,SNR=27							
EIDS				S		Sn	06 24 50.8	-3.2
	baz=21,SNR=5.2							
EIDS	**Eidsvold**	**21.04**	**166**	*e*P		**P**	**06 20 54.5**	**+1.0**
	comp=Z,50nm,0.8s							
QLP	**Quilpie**	**21.66**	**184**	P		**P**	**06 21 01.0**	**+1.1**
	baz=22,SNR=19							
QLP				S		**S**	**06 25 00.8**	**+4.4**
	baz=22,SNR=5.4							
RMQ	**Roma**	**21.71**	**173**	P		**P**	**06 21 02.1**	**+1.6**
	baz=22,SNR=28							
SOEI	**Soe**	**21.81**	**256**	P		**P**	**06 21 02.7**	**+0.8**
SOEI	**Soe**	**21.81**	**256**	P		**P**	**06 21 03.6**	**+1.7**
	baz=22,SNR=18							
SOEI				S		Sn	06 25 13.0	+0.2
	baz=22,SNR=4.7							
SOEI	**Soe**	**21.81**	**256**	*e*P		**P**	**06 21 01.2**	**-0.7**
	comp=Z,375nm,0.8s							
AS31	**Alice Springs**	**21.90**	**210**	*e*P		**P**	**06 21 02.5**	**-0.1**
ASAR	**Alice Springs**	**21.90**	**210**	P		**P**	**06 21 02.3**	**-0.3**
	comp=Z,25nm,0.8s,baz=38,slow=10,SNR=112							
ASAR				S		**S**	**06 25 02.4**	**+1.2**
	comp=Z,6.0nm,0.9s,baz=28,slow=20,SNR=3.2							
ASAR				LR		LR	06 30 04.2	
	comp=Z,1μm,20.8s,baz=42,slow=38							
KMSI	**Cibinong**	**22.36**	**283**	P		P	06 21 22.5	+15
BATI	**Baumata**	**22.48**	**255**	P		**P**	**06 21 11.0**	**+1.9**
	comp=Z,167nm,0.8s,comp=Z,2μm							
BATI	**Baumata**	**22.48**	**255**	P		**P**	**06 21 10.2**	**+1.2**
	comp=Z,44nm,0.6s,baz=107,slow=14,SNR=7.9							
LUWI	**Luwuk**	**23.21**	**279**	P		P	06 21 21.0	+4.6
LUWI	**Luwuk**	**23.21**	**279**	P		P	06 21 27.5	+11
	baz=23,SNR=6.5							
LUWI	**Luwuk**	**23.21**	**279**	*e*P		**P**	**06 21 17.1**	**+0.7**
	comp=Z,125nm,0.9s							
EDFI	**Ende, Flores**	**24.16**	**259**	P		P	06 21 29.9	+4.7
MRSI	**Marisa**	**24.32**	**282**	P		**P**	**06 21 25.4**	**-1.2**
APSI	**Ampana**	**24.34**	**279**	P		P	06 21 36.6	+10
BSSI	**Bau Bau, Buton**	**25.13**	**266**	P		P	06 21 50.5	+16
BASI	**Baing, Sumba**	**25.47**	**256**	P		P	06 21 51.0	+14
BKSI	**Bulukumba**	**25.49**	**268**	P		P	06 21 40.8	+3.6
	comp=Z,42nm,1.0s,comp=Z,658nm							
BNSI	**Bone**	**25.52**	**270**	P		P	06 21 41.5	+4.0
	comp=Z,119nm,1.2s,comp=Z,1μm							
KAPI	**Kappang**	**25.86**	**269**	*e*P		**P**	**06 21 42.4**	**+1.8**
	comp=Z,12nm,1.1s							
SPSI	**Sidrap Palu**	**25.88**	**271**	P		P	06 21 50.3	+10
TTSI	**Tana Toraja**	**25.89**	**273**	P		P	06 21 45.1	+4.3
	comp=Z,119nm,1.4s,comp=Z,2μm							
ARMA	**Armidale**	**26.04**	**168**	P		**P**	**06 21 43.2**	**+1.1**
	baz=26,SNR=13							
ARMA	**Armidale**	**26.04**	**168**	*e*P		**P**	**06 21 43.3**	**+1.1**
	comp=Z,48nm,1.0s							
WRKA	**Warakurna**	**26.12**	**218**	P		**P**	**06 21 43.0**	**+0.1**
	baz=26,SNR=57							
PCI	**Palu**	**26.13**	**278**	P		P	06 21 59.7	+17
MPSI	**Mapaga**	**26.29**	**281**	P		P	06 21 58.1	+14
DZM	**Mont Dzumac**	**26.39**	**132**	P		**P**	**06 21 44.4**	**-1.0**
	comp=Z,14nm,0.7s,baz=294,slow=10.0,SNR=16							
DZM				LR		LR	06 31 50.5	
	comp=Z,2μm,19.4s,baz=314,slow=36							
WBSI	**Waikabubak, Su**	**26.53**	**258**	P		P	06 21 50.9	+4.2
	comp=Z,163nm,0.8s,comp=Z,9μm							
CMSA	**Cobar Meteorol**	**26.55**	**180**	P		**P**	**06 21 47.8**	**+1.2**
	baz=27,SNR=20							
BBOO	**Buckleboo**	**29.24**	**197**	P		**P**	**06 22 11.3**	**+0.6**
	baz=29,SNR=10							
BBOO	**Buckleboo**	**29.24**	**197**	*e*P		**P**	**06 22 11.3**	**+0.6**
	comp=Z,1.8nm,0.9s							
YNG	**Young**	**29.41**	**175**	P		**P**	**06 22 13.7**	**+1.5**
	baz=30,SNR=13							
CAN	**Canberra**	**30.47**	**175**	*e*P		**P**	**06 22 22.7**	**+1.1**
CAN				pmax		pmax		
	comp=Z,50nm,1.4s							
CAN	**Canberra**	**30.47**	**175**	*e*P		**P**	**06 22 22.6**	**+1.1**
	comp=Z,50nm,1.4s							
CNB	**Canberra Magne**	**30.50**	**174**	P		**P**	**06 22 23.5**	**+1.7**
	baz=31,SNR=7.3							
FORT	**Forrest**	**30.68**	**211**	P		**P**	**06 22 23.9**	**+0.5**
	baz=31,SNR=22							
FORT	**Forrest**	**30.68**	**211**	*e*P		**P**	**06 22 23.2**	**-0.1**
	comp=Z,58nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**31.08**	**41**	T		T	06 54 47.6	
	baz=223,slow=75,SNR=69							
H11S2	**WAKE ISLAND Hy**	**31.09**	**41**	T		T	06 54 44.6	
	baz=223,slow=75,SNR=47							
H11S1	**WAKE ISLAND Hy**	**31.10**	**41**	T		T	06 54 41.8	
	baz=223,slow=75,SNR=42							
JCJ	**Chichijima**	**31.94**	**354**	LR		LR	06 34 21.9	
	comp=Z,349nm,20.9s,baz=256,slow=34							
H11N1	**WAKE ISLAND Hy**	**32.09**	**40**	T		T	06 56 04.4	
	baz=221,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	**32.11**	**40**	T		T	06 56 06.3	
	baz=221,slow=76,SNR=20							
H11N2	**WAKE ISLAND Hy**	**32.11**	**40**	T		T	06 56 02.5	
	baz=221,slow=76,SNR=20							
TOO	**Toolangi**	**32.57**	**180**	P		P	06 22 43.0	+3.0
	baz=33,SNR=3.8							
MEEK	**Meekatharra**	**33.75**	**227**	P		**P**	**06 22 50.8**	**+0.4**
	baz=34,SNR=16							
KMBL	**Kambalda**	**34.59**	**217**	P		**P**	**06 22 58.1**	**+0.5**
	baz=35,SNR=11							
GIRL	**Giralia**	**35.19**	**237**	P		P	06 23 06.6	+3.8
	baz=35,SNR=4.7							
JOW	**Kunigami**	**35.73**	**333**	P		P	06 23 03.1	-4.3
	comp=Z,0.9nm,0.5s,baz=129,slow=9.5,SNR=3.8							
YULB	**Yu-li**	**36.82**	**321**	*e*P		**P**	**06 23 16.6**	**-0.1**
	comp=Z,14nm,0.6s							
TPUB	**Ta-pu**	**37.18**	**320**	*e*P		**P**	**06 23 19.0**	**-0.8**
	comp=Z,30nm,0.4s							
NACB	**Ninganchiao**	**37.20**	**322**	*e*P		P	06 23 21.3	+1.3
	comp=Z,191nm,1.5s							
BLDU	**Ballidu**	**37.45**	**223**	P		**P**	**06 23 22.1**	**+0.1**
	baz=37,SNR=9.9							
YHNB	**Yeheng**	**37.70**	**322**	*e*P		**P**	**06 23 23.1**	**-1.2**
	comp=Z,43nm,0.8s							
TATO	**Taipei**	**37.86**	**323**	*e*P		**P**	**06 23 25.3**	**-0.2**
	comp=Z,92nm,0.9s							
LEM	**Lembang**	**37.94**	**265**	LR		LR	06 41 23.3	
	comp=Z,406nm,21.1s,baz=75,slow=40							
NWAO	**Narrogin (SRO)**	**38.55**	**220**	P		**P**	**06 23 30.9**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=56,slow=9.7,SNR=3.8							
OUZ	**Omahuta**	**39.71**	**143**	*e*P		**P**	**06 23 41.2**	**+0.3**
	comp=Z,24nm,0.7s							
JNU	**Nakatsue**	**40.30**	**341**	P		**P**	**06 23 43.7**	**-2.1**
	comp=Z,8.9nm,0.7s,baz=154,slow=4.2,SNR=6.3							
JNU	**Nakatsue**	**40.30**	**341**	*e*P		**P**	**06 23 44.2**	**-1.6**
	comp=Z,12nm,1.0s							
KASI	**Kota Agung**	**41.04**	**267**	P		P	06 24 08.2	+16
MDSI	**Maura Dua**	**41.39**	**269**	P		P	06 23 56.7	+1.6
LWLI	**Liwa**	**41.49**	**268**	P		P	06 24 14.0	+18
MJAR	**Matsushiro Arr**	**41.77**	**351**	P		**P**	**06 23 58.4**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=185,slow=5.7,SNR=1.8							
MAJO	**Matsushiro**	**41.77**	**351**	*i* P		**P**	**06 23 58.3**	**+0.5**
MAJO				pmax		pmax		
	comp=Z,87nm,1.3s							
LHSI	**Lahat**	**42.07**	**270**	P		P	06 24 14.2	+14
QIZ	**Qiongzhong**	**42.55**	**305**	P		**P**	**06 24 05.1**	**+0.7**
QIZ				S		**S**	**06 30 25.9**	**+3.3**
QIZ				PMZ				
	comp=Z,38nm,2.1s							
QIZ				LN				
	comp=Z,390nm,22.5s							
QIZ				LZ				
	comp=Z,730nm,33.1s							
URZ	**Urewera**	**43.84**	**144**	P		**P**	**06 24 14.5**	**0.0**
	comp=Z,7.6nm,0.6s,baz=280,slow=3.4,SNR=13							
URZ				LR		LR	06 42 09.1	
	comp=Z,732nm,19.6s,baz=354,slow=36							
URZ	**Urewera**	**43.84**	**144**	*e*P		**P**	**06 24 15.3**	**+0.7**
	comp=Z,19nm,1.1s							
BKZ	**Black Stump Fm**	**44.08**	**145**	*e*P		**P**	**06 24 17.2**	**+0.6**
	comp=Z,24nm,1.0s							
DCZ	**Deep Cove**	**44.58**	**159**	*e*P		**P**	**06 24 21.1**	**+0.7**
	comp=Z,38nm,1.1s							
SNZO	**South Karori**	**44.62**	**149**	*e*P		**P**	**06 24 21.0**	**+0.3**
	comp=Z,51nm,1.3s							
RPZ	**Rata Peaks**	**44.70**	**154**	*e*P		**P**	**06 24 21.6**	**+0.2**
	comp=Z,29nm,0.8s							
NJ2	**Nanjing**	**44.72**	**327**	*e*P		P	06 24 23.0	+1.3
NJ2				pP		pP	06 24 30.7	-7.2
NJ2				sP		sP	06 24 35.6	-10
NJ2				S		S	06 30 59.5	+5.6
NJ2				sS		sS	06 31 14.0	-7.4
NJ2				PMZ				
	comp=Z,30nm,0.8s							
NJ2				LN				
	comp=Z,3μm,24.0s							
NJ2				LE				
	comp=Z,2μm,25.7s							
NJ2				LZ				
	comp=Z,7μm,25.4s							
KHZ	**Kahutara**	**44.85**	**151**	*e*P		**P**	**06 24 23.4**	**+0.8**
	comp=Z,18nm,0.8s							
BFZ	**Birch Farm**	**44.99**	**147**	*e*P		**P**	**06 24 23.8**	**+0.1**
	comp=Z,32nm,0.8s							
KSRS	**Korea Array**	**45.23**	**340**	P		**P**	**06 24 25.2**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=159,slow=9.7,SNR=24							
KSRS				LR		LR	06 41 03.9	
	comp=Z,794nm,19.8s,baz=154,slow=33							
KSAR	**Wonju Array Be**	**45.23**	**340**	P		**P**	**06 24 25.3**	**-0.4**
KSAR	**Wonju Array Be**	**45.23**	**340**	P		**P**	**06 24 25.2**	**-0.4**
PDSI	**Padang**	**45.35**	**273**	P		P	06 24 36.6	+10
WHN	**Wuhan**	**46.24**	**322**	⇓P		**P**	**06 24 34.7**	**+1.0**
WHN				S		S	06 31 22.1	+6.3
WHN				LN				
	comp=Z,630nm,12.4s							
WHN				LE				
	comp=Z,810nm,14.2s							
WHN				LZ				
	comp=Z,920nm,18.5s							
MNSI	**Mandailing Nat**	**46.42**	**276**	P		P	06 24 50.7	+15
KCSI	**Kotacane, Aceh**	**48.61**	**279**	P		P	06 25 02.0	+10
GYA	**Guiyang**	**48.96**	**312**	P		**P**	**06 24 54.9**	**-0.2**
GYA				pP		**pP**	**06 25 07.6**	**-3.9**
GYA				PP		**PP**	**06 26 50.8**	**+1.7**
GYA				ScP		**ScP**	**06 30 11.2**	**+3.0**
GYA				S		**S**	**06 31 58.0**	**+3.1**
GYA				sS		sS	06 32 16.5	-6.3
GYA				SS		**SS**	**06 35 25.7**	**-1.0**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,130nm,4.9s							
GYA				LN				
	comp=Z,580nm,18.7s							
GYA				LE				
	comp=Z,520nm,19.0s							
GYA				LZ				
	comp=Z,560nm,18.4s							
PBKT	**Sadao Pong**	**49.08**	**297**	P		P	06 25 07.1	+11
	comp=Z,7.4nm,2.1s							
USRK	**Ussuriysk Ar.**	**50.36**	**347**	P		**P**	**06 25 04.2**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=183,slow=8.7,SNR=5.4							
USRK				LR		LR	06 45 07.0	
	comp=Z,111nm,18.3s,baz=151,slow=34							
MDJ	**Mudanjiang**	**51.33**	**345**	P		P	06 25 14.3	+1.8
MDJ				pP		pP	06 25 23.2	-5.8
MDJ				sP		sP	06 25 27.8	-8.5
MDJ				ScP		**ScP**	**06 30 22.6**	**+4.9**
MDJ				PcS		**PcS**	**06 30 26.0**	**+1.8**
MDJ				S		S	06 32 33.0	+6.1
MDJ				sS		sS	06 32 48.1	-6.9
MDJ				PMZ				
	comp=Z,3.0nm,0.8s							
MDJ				PMZ				
	comp=Z,43nm,2.9s							
MDJ				LN				
	comp=Z,340nm,22.9s							
MDJ				LE				
	comp=Z,360nm,25.1s							
MDJ				LZ				
	comp=Z,380nm,31.4s							
CMAR	**Chiang Mai Arr**	**51.58**	**298**	P		**P**	**06 25 15.2**	**+0.4**
	comp=Z,6.0nm,0.7s,baz=123,slow=6.1,SNR=27							
CMAR				LR		LR	06 49 18.6	
	comp=Z,101nm,19.2s,baz=90,slow=38							
YSS	**Yuzh-Sakhalins**	**51.65**	**357**	*e*P		P	06 25 20.5	+5.7
YSS				*e*S		S	06 32 46.0	+15
YSS				*e*SSS		SSS	06 37 40.0	
YSS				MLR		MLR		
	comp=Z,400nm,17.0s							
CHTO	**Chiang Mai**	**51.71**	**298**	*e*P		**P**	**06 25 16.2**	**+0.4**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
CHTO	**Chiang Mai**	**51.71**	**298**	*e*P		**P**	**06 25 16.1**	**+0.4**
	comp=Z,7.9nm,0.9s							
CHTO	**Chiang Mai**	**51.71**	**298**	P		P	06 25 23.3	+7.5
CN2	**Changchun**	**51.76**	**341**	*e*P		P	06 25 19.2	+3.5
XAN	**Xi'an**	**51.98**	**321**	P		**P**	**06 25 16.9**	**-0.8**
XAN				pP		pP	06 25 28.1	-6.1
XAN				S		**S**	**06 32 35.2**	**-1.3**
XAN				PMZ				
	comp=Z,9.0nm,1.2s							
XAN				PMZ				
	comp=Z,21nm,6.1s							
XAN				LN				
	comp=Z,250nm,32.6s							
XAN				LZ				
	comp=Z,130nm,33.7s							
BJI	**Beijing**	**52.28**	**331**	P		P	06 25 21.6	+1.9
BJI				S		S	06 32 46.0	+5.8
BJI				PMZ				
	comp=Z,12nm,0.6s							
BJI				PMZ				
	comp=Z,65nm,4.9s							
BJI				LN				
	comp=Z,450nm,19.6s							
BJI				LE				
	comp=Z,540nm,20.5s							
BJI				LZ				
	comp=Z,600nm,24.2s							
CD2	**Chengdu**	**53.56**	**314**	P		**P**	**06 25 29.8**	**+0.5**
CD2				pP		pP	06 25 40.3	-5.7
CD2				sP		sP	06 25 44.4	-8.8
CD2				PP		**PP**	**06 27 32.2**	**+1.6**
CD2				PcS		**PcS**	**06 30 33.4**	**-1.2**
CD2				S		**S**	**06 32 59.5**	**+1.5**
CD2				sS		sS	06 33 17.0	-9.2
CD2				SS		**SS**	**06 36 39.7**	**+0.3**
CD2				PMZ				
	comp=Z,30nm,0.6s							
CD2				PMZ				
	comp=Z,220nm,6.6s							
CD2				LN				
	comp=Z,330nm,17.6s							
CD2				LE				
	comp=Z,450nm,16.6s							
CD2				LZ				
	comp=Z,460nm,16.6s							
HABR	**Khabarovsk**	**53.91**	**351**	P		**P**	**06 25 29.7**	**-1.8**
HABR				*e**SP		sP	06 25 43.8	-12
HABR				*e*			06 26 34.9	
HABR				*e*			06 27 31.0	
HABR				*e*PPP		PPP	06 28 39.3	
HABR				*e*S		**S**	**06 33 03.4**	**+1.3**
HABR				*e**SS		sS	06 33 20.3	-10
HABR				*e*			06 35 15.5

comp=Z,190nm,7.2s
LZH LN
comp=Z,430nm,14.7s
LZH LE
comp=Z,470nm,14.3s
LZH LZ
comp=Z,710nm,19.0s
HIA Hailar 58.44 340 *eP* **P 06 26 04.0 +0.1**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 58.44 340 *eP* **P 06 26 04.0 +0.1**
comp=Z,21nm,0.9s
PETK Petropavlovsk- 58.63 8 P **P 06 26 05.7 +0.6**
comp=Z,8.6nm,0.7s,baz=176,slow=7.0,SNR=6.8
PETK LR LR 06 46 30.3
comp=Z,194nm,21.9s,baz=192,slow=31
SHL Shillong 60.32 303 *eP* **P 06 26 17.5 +0.1**
GTA Gaotai 61.04 321 *eP* **P 06 26 22.8 +0.8**
GTA pP pP 06 26 29.8 -9.2
GTA sP sP 06 26 33.5 -13
GTA PMZ
comp=Z,21nm,1.0s
GTA PMZ
comp=Z,180nm,7.4s
GTA LN
comp=Z,260nm,21.9s
GTA LE
comp=Z,220nm,22.8s
GTA LZ
comp=Z,220nm,22.8s
ULN Ulaanbaatar 62.49 332 *c iP* **P 06 26 31.3 -0.4**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 62.49 332 *eP* **P 06 26 31.7 0.0**
comp=Z,9.0nm,1.0s
LSA Lhasa 62.53 307 *eP* **P 06 26 33.8 +1.2**
LSA pmax pmax
comp=Z,5.0nm,0.5s
LSA Lhasa 62.53 307 *eP* **P 06 26 33.8 +1.2**
comp=Z,4.8nm,0.5s
SONM Songino Array 62.78 331 P **P 06 26 33.2 -0.3**
comp=Z,2.5nm,0.7s,baz=161,slow=5.4,SNR=12
SONM LR LR 06 53 14.6
comp=Z,511nm,19.7s,baz=136,slow=35
TAPN Taplejung 64.45 303 *eP* **P 06 26 45.8 +0.6**
comp=Z,48nm,1.2s
ODAN Odare 64.55 303 *eP* **P 06 26 45.9 +0.2**
comp=Z,36nm,0.8s
RAMN Ramite 65.24 302 *eP* **P 06 26 51.0 +0.7**
JIRN Jiri 65.82 303 *eP* **P 06 26 54.2 0.0**
comp=Z,30nm,0.8s
ZAK Zakamensk 66.02 332 *eP* **P 06 26 54.1 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
CASY Casey 66.03 195 *eP* **P 06 26 53.5 -0.8**
comp=Z,12nm,0.7s
GUN Gumba 66.17 303 *eP* **P 06 26 56.0 -0.3**
comp=Z,35nm,0.7s
PKI Pulchoki 66.45 303 *eP* **P 06 26 57.5 -0.6**
comp=Z,30nm,1.0s
KKN Kakani 66.63 303 *eP* **P 06 26 59.2 +0.1**
comp=Z,51nm,0.9s
TLY Talaya 66.74 333 *eP* **P 06 26 59.4 +0.3**
TLY pmax pmax
comp=Z,13nm,1.6s
TLY Talaya 66.74 333 P **P 06 26 59.3 +0.2**
comp=Z,1.2nm,0.3s,baz=153,slow=6.8,SNR=3.8
TLY Talaya 66.74 333 *eP* **P 06 26 59.5 +0.3**
comp=Z,5.7nm,0.8s
GKN Gorkha 67.23 303 *eP* **P 06 27 03.1 +0.2**
comp=Z,35nm,0.7s
SEY Seymchan 67.79 3 P **P 06 27 06.0 +0.6**
comp=Z,1.8nm,0.6s,baz=188,slow=7.1,SNR=8.4
MOY Mondy 67.96 332 *eP* **P 06 27 07.5 +0.6**
KOLN Koldanda 68.03 302 *eP* **P 06 27 07.3 -0.7**
comp=Z,31nm,0.7s
DANN Dangsing 68.08 303 *eP* **P 06 27 07.7 -0.7**
comp=Z,26nm,0.7s
PYUN Piuthan 68.64 303 *eP* **P 06 27 11.6 -0.2**
comp=Z,56nm,0.7s
HYB Hyderabad 69.86 290 *i* P P 06 27 24.0 +4.7
WMQ Urumqi 71.09 320 ⇓ *i* P **P 06 27 27.1 +0.8**
WMQ pP pP 06 27 35.0 -8.7
WMQ sP sP 06 27 41.3 -9.5
WMQ PcP PcP 06 27 51.0 +4.8
WMQ PP **PP 06 30 04.0 -0.8**
WMQ *eS* **S 06 36 34.0 -4.1**
WMQ ScS **ScS 06 37 24.0 -1.2**
WMQ PMZ
comp=Z,26nm,1.5s
WMQ PMZ
comp=Z,140nm,6.0s
WMQ LN
comp=Z,440nm,22.2s
WMQ LE
comp=Z,330nm,20.2s
WMQ LZ
comp=Z,530nm,24.2s
VNDA Vanda 73.13 176 *eP* **P 06 27 38.7 +0.9**
VNDA pmax pmax
comp=Z,12nm,1.3s
VNDA Vanda 73.13 176 P **P 06 27 37.7 -0.1**
comp=Z,3.8nm,0.9s,baz=328,slow=6.3,SNR=10
VNDA Vanda 73.13 176 *eP* **P 06 27 38.7 +0.9**
comp=Z,12nm,1.3s
SBA Scott Base 73.80 175 *eP* P 06 27 43.9 +2.1
SBA pmax pmax
comp=Z,8.0nm,1.2s
SBA Scott Base 73.80 175 *eP* P 06 27 43.9 +2.1
comp=Z,8.2nm,1.2s
BILL Bilibino 74.15 8 *i* P **P 06 27 44.3 +0.4**
BILL *i* 06 27 57.3
BILL *e* 06 30 30.8
BILL pmax pmax
comp=Z,17nm,2.9s
POO Poona 74.46 291 *ex* x 06 27 56.0
MK31 Makanchi Array 75.80 321 *i* P **P 06 27 54.0 +0.1**
MK31 pmax pmax
comp=Z,32nm,1.1s
MKAR Makanchi Array 75.80 321 *i* P **P 06 27 53.5 -0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 75.80 321 P **P 06 27 53.6 -0.4**
comp=Z,8.6nm,0.9s,baz=104,slow=6.8,SNR=60
PDGK Podgornoye 76.36 317 P **P 06 27 57.7 +0.6**
PDGK pmax pmax
comp=Z,18nm,1.3s
TIXI Tiksi 77.15 355 ⇑ *eP* **P 06 28 01.2 +0.3**
TIXI pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 77.15 355 *eP* **P 06 28 01.3 +0.3**
comp=Z,4.5nm,0.7s
ZALV Zalesovo Beam 77.36 328 P **P 06 28 02.0 -0.5**
comp=Z,7.2nm,0.7s,baz=113,slow=5.4,SNR=33
ZALV LR LR 07 00 42.1
comp=Z,384nm,21.7s,baz=70,slow=34
KSH Kashi 77.66 312 P P 06 28 06.9 +2.2
KSH pP pP 06 28 17.2 -5.1
KSH PP PP 06 31 05.4 +4.7
KSH S S 06 37 56.4 +4.5
KSH sS **SKKSac 06 38 13.9 0.0**
KSH ScS **ScS 06 38 20.5 +2.2**
KSH PMZ
comp=Z,77nm,3.6s
KSH LN
comp=Z,200nm,6.3s
KSH LE
comp=Z,140nm,6.7s
KSH LZ
comp=Z,240nm,9.8s
TNA Tin City 77.90 18 *eP* P 06 28 06.6 +1.4
comp=Z,7.0nm,1.0s
NVS Novosibirsk 78.59 328 ⇑ *iP* **P 06 28 07.5 -1.8**
NVS *eS* **S 06 37 55.6 -5.3**
NVS pmax pmax
comp=Z,35nm,1.6s
NVS pmax pmax
comp=N,17nm,1.5s
NVS pmax pmax
comp=E,23nm,1.5s
NVS smax smax
comp=N,32nm,3.3s
NVS smax smax
comp=E,46nm,3.7s
KZA Kyzart 78.93 314 P **P 06 28 12.7 +0.7**
SNR=23
KZA Kyzart 78.93 314 *i* P **P 06 28 12.7 +0.7**
TKM2 Tokmak 2 78.93 315 P **P 06 28 12.8 +1.1**
SNR=12
TKM2 Tokmak 2 78.93 315 *i* P **P 06 28 12.8 +1.1**
TKM2 Tokmak 2 78.93 315 *eP* **P 06 28 11.7 0.0**
comp=E,9.6nm,0.8s
KBK Karagaybulak 79.31 315 P P 06 28 24.0 +10
SNR=5.9
UCH Uchtor 79.49 314 P P 06 28 16.8 +1.6
SNR=13
UCH Uchtor 79.49 314 *i* P P 06 28 16.7 +1.6
KURK Kurchatov 79.53 323 P **P 06 28 14.2 -0.3**
comp=E,51nm,1.0s,SNR=5.4
KURK Kurchatov 79.53 323 *eP* **P 06 28 14.8 +0.3**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 79.53 323 *eP* **P 06 28 14.8 +0.3**
comp=Z,18nm,1.0s
KURBB Kurchatov Arra 79.55 323 P **P 06 28 14.1 -0.5**
comp=Z,4.0nm,0.9s,baz=112,slow=4.6,SNR=30
AAK Ala-Archa 79.62 315 ⇑ *iP* **P 06 28 16.3 +0.8**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 79.62 315 *eP* **P 06 28 16.6 +1.1**
comp=Z,7.9nm,1.0s
SFK Sufi-Kurgan 79.62 312 P **P 06 28 16.5 +0.9**
SFK pmax pmax
comp=Z,17nm,1.4s
SVW2 Sparrevohn 79.75 25 *eP* P 06 28 18.4 +2.8
AML Almayashu 80.05 314 P **P 06 28 19.0 +0.9**
SNR=17
AML Almayashu 80.05 314 *i* P **P 06 28 19.0 +0.9**
EKS2 Erkin-Say 80.14 315 P **P 06 28 19.2 +1.0**
SNR=7.1
EKS2 Erkin-Say 80.14 315 *i* P **P 06 28 19.2 +1.0**
EKS2 Erkin-Say 80.14 315 *eP* **P 06 28 19.5 +1.3**
comp=Z,9.8nm,1.0s
RSO Redoubt South 80.66 26 *eP* P 06 28 23.1 +2.4
comp=Z,18nm,0.9s
MNAS Manas 81.00 314 P **P 06 28 23.9 +1.1**
MNAS pmax pmax
comp=Z,17nm,0.9s
SEW Seward 81.98 27 *eP* P 06 28 28.7 +1.3
comp=Z,15nm,1.0s
RC01 Rabbit Creek A 82.26 26 *eP* **P 06 28 28.9 0.0**
KK31 Karatay Array 82.57 314 *i* P **P 06 28 31.5 +0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 82.57 314 *eP* **P 06 28 31.7 +0.8**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 82.57 314 *eP* **P 06 28 31.7 +0.8**
comp=Z,8.3nm,1.0s
PMR Palmer 82.74 26 *eP* P 06 28 32.8 +1.5
PMR pmax pmax
comp=Z,9.0nm,1.1s
PMR Palmer 82.74 26 *eP* P 06 28 32.8 +1.5
comp=Z,8.9nm,1.1s
MAW Mawson 82.81 203 P **P 06 28 29.9 -1.7**
comp=Z,6.4nm,0.9s,baz=92,slow=3.0,SNR=3.3
KTH Kantishna Hill 82.83 24 *eP* **P 06 28 31.0 -0.8**
comp=Z,16nm,1.3s
DZET Dzherino 82.86 310 P **P 06 28 33.2 +0.5**
DZET pmax pmax
comp=Z,11nm,1.0s
IM04 Indian Mountai 82.86 21 *eP* **P 06 28 32.5 +0.5**
TRF Thorofare Moun 83.04 24 *eP* **P 06 28 32.5 -0.6**
comp=Z,5.4nm,0.7s
MCK McKinley 83.70 24 *eP* **P 06 28 35.3 -1.0**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 83.70 24 *eP* **P 06 28 35.3 -1.0**
comp=Z,13nm,1.0s
COLA College 84.60 23 *i* P **P 06 28 41.6 +0.8**
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 84.60 23 *eP* **P 06 28 40.2 -0.5**
comp=Z,31nm,1.2s
COLD Coldfoot 84.71 21 *eP* P 06 28 42.7 +1.3
comp=Z,4.0nm,0.8s
PAX Paxson 84.85 25 *eP* P 06 28 43.9 +1.7
PAX pmax pmax
comp=Z,2.0nm,0.6s
PAX Paxson 84.85 25 *eP* P 06 28 43.9 +1.7
comp=Z,1.6nm,0.6s
ILAR Eielson Array 84.94 23 P **P 06 28 41.1 -1.4**
comp=Z,6.7nm,0.7s,baz=252,slow=4.9,SNR=66
BVA0 Borovoye Array 85.09 324 P **P 06 28 42.8 -0.7**
BVA0 pmax pmax
comp=Z,14nm,1.3s
DOT Dot Lake 85.69 25 *eP* **P 06 28 46.3 0.0**
comp=Z,9.0nm,0.9s
EGAK Eagle 87.25 24 *eP* **P 06 28 54.8 +0.9**
comp=Z,9.9nm,0.8s
DAWY Dawson 87.78 25 *eP* **P 06 28 57.5 +1.0**
HYT Haines Junctio 87.80 29 *eP* **P 06 28 57.2 +0.4**
AB31 Akbulak array 90.87 319 *i* P **P 06 29 09.9 -1.4**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 90.87 319 *eP* **P 06 29 10.0 -1.3**
comp=Z,6.0nm,0.8s
GEYT Ailsick 91.05 308 LR LR 07 11 41.3
comp=Z,143nm,21.8s,baz=160,slow=36
INK Inuvik 91.06 22 *eP* P 06 29 13.2 +1.4
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 91.06 22 P **P 06 29 12.8 +1.0**
comp=Z,7.4nm,1.1s,baz=260,slow=3.3,SNR=7.8
INK Inuvik 91.06 22 *eP* P 06 29 13.2 +1.4
comp=Z,8.8nm,1.0s
SYO Syowa Base 91.22 200 ⇓ *ePcZP* **PcP 06 29 15.0 +1.6**
SYO Syowa Base 91.22 200 ⇓ *esP* sP 06 29 28.8 -8.6
AKTO Aktyubinsk 92.23 320 P **P 06 29 16.9 -0.7**
comp=Z,0.9nm,0.6s,baz=98,slow=7.1,SNR=4.0
ARU Arti 92.42 326 *d iP* **P 06 29 16.9 -1.4**
ARU 06 32 57.1
ARU S **SKSac 06 39 47.0 +0.9**
ARU pmax pmax
comp=Z,9.0nm,1.7s
NVAR Mina Array Bea 97.68 52 P Pdif 06 29 43.8 +0.6
comp=Z,0.8nm,0.7s,baz=272,slow=4.3,SNR=6.5
NVAR PP **PP 06 33 39.2 -2.4**
comp=Z,0.7nm,0.7s,baz=263,slow=14,SNR=4.3
YKA Yellowknife Ar 98.76 28 P Pdif 06 29 46.8 -0.2
comp=Z,1.7nm,1.0s,baz=277,slow=4.6,SNR=8.7
YKA PP **PP 06 33 51.5 +2.8**
comp=Z,0.2nm,0.9s,baz=271,slow=7.3,SNR=4.8
VYHS Vyhne 117.42 323 *eP* **Pdif 06 31 08.6 -1.8**
VYHS Vyhne 117.42 323 PDIF **Pdif 06 31 08.6 -1.8**
TORD Torodi Ar. Bea 143.55 286 PKhKP PKPpre 06 35 39.5
comp=Z,0.6nm,0.6s,baz=80,slow=3.5,SNR=5.5
SDV Santo Domingo 143.71 82 *ePKPdf* **PKPdf 06 35 43.0 -0.9**
CRPR Cabo Rojo, PR 145.36 65 *ePKPdf* **PKPab 06 35 45.1 -1.3**
SIV San Ignacio 146.37 129 PKPbc **PKPab 06 35 49.7 -0.6**
comp=Z,1.3nm,0.5s,baz=180,slow=1.0,SNR=4.0
KIC Kosan Boka 150.55 274 *eP* PKPab 06 36 13.9 +6.6
comp=Z,115nm,1.7s
DBIC Dimbokro 150.66 275 PKPab **PKPab 06 36 08.0 +0.3**
comp=Z,7.0nm,0.9s,baz=110,slow=0.5,SNR=4.4
TIC Toumodi 150.82 275 *eP* PKPab 06 36 13.6 +5.2
comp=Z,5.5nm,0.2s
LIC Lamto 150.84 274 *eP* PKPab 06 36 12.4 +3.9
comp=Z,59nm,1.0s
PTGA Pitinga 153.76 102 PKPbc **PKPbc 06 36 07.7 0.0**
comp=Z,0.8nm,0.6s,baz=326,slow=3.6,SNR=1.5
BDFB Brasilia 155.52 147 PKPab **PKPab 06 36 25.9 -2.1**
comp=Z,2.5nm,0.8s,baz=172,slow=2.5,SNR=3.6

NIED ***10*** *06:21:00,36.30N×141.00E,h44km,Mw3.9 Best double couple: M07.30000×10^14 NP1:φs36.00000°,δ22.00000°, λ-110.00000°. NP2:φs238.00000°,δ69.00000°, λ-82.00000°.*

ISCJB ***10*** *06:21:04.3±0.8,36.28N±0.04×141.02E±0.07,h46km±8km, mb3.8/4, Error ellipse: s-maj=9.7km s-min=6.8km az=1.1*

JMA ***10*** *06:21:05.2±0.1,36.28N×140.95E,h45km±1km,M3.6*

JMA Felt I J1.

IDC ***10*** *06:21:18.1±2.1,35.64N×139.20E,h105km±19km,mb3.4/4, mb1 3.6/5,mb1mx3.2/50,mbtmp3.8/5, Error ellipse: s-maj=42.9km s-min=21.3km az=90.0*

ISC 10 06:21:04.6±1.4,36.29N±0.04×141.03E±0.07,h33km±9km, n14,σ1s04/20,mb4.0/4,3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.49**	**311**	⇓P	**Pb**	**06 21 15.2**	**+0.1**
JHO				S	**Sb**	**06 21 22.1**	**-0.1**
CHOJ	**Chosi**	**0.60**	**193**	P	**Pn**	**06 21 17.1**	**+0.2**
CHOJ				S	**Sb**	**06 21 25.3**	**+0.2**
JYT	**Yasato**	**0.68**	**265**	⇓P	**Pn**	**06 21 17.7**	**-0.2**
JYT				S	**Sb**	**06 21 26.4**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.83**	**347**	⇓P	**Pn**	**06 21 20.0**	**-0.1**
ONAJ				S	**Sn**	**06 21 30.3**	**-1.0**
JFK	**Kawauchi**	**1.08**	**353**	P	**Pn**	**06 21 23.3**	**-0.3**
JAG	**Ashikaga**	**1.28**	**277**	P	**Pn**	**06 21 26.1**	**-0.1**
JAG				S	**Sn**	**06 21 39.7**	**-2.6**
JFT	**Otama**	**1.35**	**336**	P	**Pn**	**06 21 28.4**	**+1.2**
JFT				S	**Sn**	**06 21 44.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.29**	**277**	P	**Pn**	**06 21 40.9**	**+0.7**
	16nm,0.3s,baz=102,slow=9.0,SNR=77						
MJAR				S	**Sn**	**06 22 09.3**	**+2.1**
	18nm,0.3s,baz=79,slow=19,SNR=11						
MAT	**Matsushiro**	**2.29**	**277**	P	**Pn**	**06 21 41.1**	**+0.9**
MAT				S	**Sn**	**06 22 07.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.49**	**322**	P	Pn	06 23 39.8	+7.2
	0.4nm,0.3s,baz=139,slow=13,SNR=7.7						
KURBB	**Kurchatov Arra**	**46.22**	**309**	P	**P**	**06 29 26.2**	**-0.1**
	0.7nm,0.4s,baz=81,slow=7.3,SNR=5.9						
WRA	**Warramunga Arr**	**56.28**	**188**	P	**P**	**06 30 41.6**	**-0.5**
	1.0nm,0.4s,baz=5.9,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**60.01**	**188**	P	**P**	**06 31 08.4**	**+0.3**
	0.6nm,0.6s,baz=13,slow=8.3,SNR=4.1						
YKA	**Yellowknife Ar**	**64.61**	**30**	P	P	06 31 52.4	+14
	0.2nm,0.6s,baz=298,slow=5.7,SNR=3.9						

ISCJB ***10*** *06:22:26.7±2.2,33.38S±0.08×72.59W±0.07,h6km±16km, mb3.7/2, Error ellipse: s-maj=13.7km s-min=9.5km az=178.0*

IDC ***10*** *06:22:28.2±1.3,33.33S×72.42W,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.8/17,mbtmp3.7/5,ML3.9/2,MS2.1/1, Ms1 2.1/1,ms1mx2.1/32, Error ellipse: s-maj=26.7km s-min=21.3km az=113.0*

GUC ***10*** *06:22:28.0±0.4,33.33S×72.63W,h45km±4km,ML4.1*

ISC 10 06:22:28.6±2.3,33.3S±0.1×72.42W±0.07,h2km±14km,n16, σ0s55/18,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.70**	**68**	*eP*	**Pb**	**06 22 44.1**	**+0.5**
IHA				*eS*	**Sn**	**06 22 56.7**	**-0.3**
PEL	**Peldehue**	**1.46**	**85**	*eP*	**Pg**	**06 22 55.9**	**-0.6**
PEL				*eS*	**Sn**	**06 23 16.7**	**+0.9**
PEL				AML	AML	06 23 22.3	
	comp=E,4μm,0.4s						
CLCH	**Cerro Calan**	**1.58**	**94**	⇑ *eP*	**Pn**	**06 22 57.4**	**-0.3**
CLCH				*eS*	**Sg**	**06 23 19.8**	**+0.5**
CLCH				AML	AML	06 23 28.4	
	comp=E,3μm,0.8s						
LACH	**Col Las Ámeric**	**1.59**	**96**	*eP*	**Pn**	**06 22 57.5**	**-0.3**
LACH				*eS*	**Sg**	**06 23 20.0**	**+0.4**
YECH	**El Yeso**	**1.99**	**101**	*eP*	**Pn**	**06 23 03.6**	**+0.1**
YECH				*eS*	**Sb**	**06 23 30.6**	**-0.4**
CFAA	**Coronel Fontan**	**3.92**	**66**	Pn	**Pn**	**06 23 30.5**	**+0.7**
	comp=E,0.3nm,0.3s,baz=242,slow=14,SNR=22						
CFAA				Lg	Lg	06 24 33.8	
	comp=E,0.8nm,0.3s,baz=303,slow=19,SNR=4.5						
CFAA				LR	LR	06 25 15.4	
	comp=E,29nm,21.7s,baz=360,slow=42						
PLCA	**Paso Flores**	**7.57**	**169**	Pn	**Pn**	**06 24 19.9**	**-0.2**
	comp=E,0.8nm,0.3s,baz=334,slow=12,SNR=31						
PLCA				Lg	Lg	06 26 28.4	
	baz=0.0,slow=20,SNR=2.1						
LPAZ	**La Paz**	**17.37**	**14**	P	**P**	**06 26 33.8**	**-0.5**
	comp=E,0.1nm,0.3s,baz=180,slow=11,SNR=5.4						
SIV	**San Ignacio**	**20.05**	**33**	P	**P**	**06 27 02.7**	**-0.4**
	comp=E,2.6nm,0.8s,baz=222,slow=10,SNR=4.0						
TXAR	**Lajitas Array**	**68.97**	**331**	P	**P**	**06 33 35.9**	**+0.5**
	comp=E,0.4nm,0.8s,baz=155,slow=9.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P	**P**	**06 35 01.5**	**-0.8**
	comp=E,0.7nm,0.7s,baz=274,slow=3.7,SNR=4.8						
H11S2	**WAKE ISLAND Hyl**	**25.46**	**270**	T	T	08 59 29.6	
	baz=111						
H11S1	**WAKE ISLAND Hyl**	**25.47**	**270**	T	T	08 59 30.0	
	baz=111						
H11S3	**WAKE ISLAND Hyl**	**25.48**	**270**	T	T	08 59 30.6	
	baz=111						
ZALV	**Zalesovo Beam**	**153.79**	**31**	PKPbc	**PKPbc**	**06 42 28.5**	**-0.2**
	comp=E,0.4nm,0.5s,baz=320,slow=4.3,SNR=3.3						
MKAR	**Makanchi Array**	**156.53**	**47**	PKPab	**PKPab**	**06 42 53.8**	**+0.1**
	comp=E,0.2nm,0.5s,baz=287,slow=3.9,SNR=2.9						

GUC 10 06:27:25.2±0.3,32.50S×72.13W,h28km±2km,ML3.6,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.38**	**118**	*eP*	Pn	06 27 49.3	+0.6
PEL				*eS*	Sb	06 28 07.4	-0.3
PEL				AML	AML	06 28 13.8	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**1.61**	**124**	*eP*	Pn	06 27 52.8	+0.9
CLCH				*eS*	Sb	06 28 14.0	-0.5
CLCH				AML	AML	06 28 22.6	
	comp=N,1μm,0.8s						
FSR	**Penalolen**	**1.67**	**126**	*eP*	Pn	06 27 53.9	+1.3
FSR				*eS*	Sb	06 28 15.6	-0.4
SJCH	**San Jose de Ma**	**1.88**	**128**	*eP*	Pn	06 27 54.9	-0.7
SJCH				*eS*	Sn	06 28 19.3	+0.9
YECH	**El Yeso**	**2.08**	**125**	*eP*	Pb	06 28 00.8	-1.9
YECH				*eS*	Sb	06 28 27.9	-0.4
YECH				AML	AML	06 28 35.4	
	comp=E,544nm,0.6s						

IDC ***10*** *06:28:35.5±1.1,9.02N×127.07E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/24,mbtmp3.6/5, Error ellipse: s-maj=68.3km s-min=23.8km az=75.0*

MAN ***10*** *06:28:41,8.99N×126.37E,h9km,mb4.8,ML3.7,MS3.7*

MAN INTENSITY II - SAN AGUSTIN SURIGAO DEL SUR.

ISC 10 06:28:40.0±1.7,9.01N±0.06×126.36E±0.08,h11km±11km, n17,σ2s04/16,mb3.4/5,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.73**	**267**	*eP*	**Pb**	**06 28 55.8**	**+1.0**
BUTP				*eS*	**Sg**	**06 29 02.3**	**-1.6**
BIPH	**Bislig**	**0.82**	**180**	⇑ *iP*	**Pg**	**06 28 55.9**	**0.0**
BIPH				*i S*	**Sg**	**06 29 06.3**	**-0.3**
SCPH	**Surigao**	**1.16**	**312**	*eP*	**Pb**	**06 29 01.7**	**-0.3**
SCPH				*eS*	**Sb**	**06 29 15.2**	**-1.8**
BUKP	**Musuan**	**1.71**	**229**	*eP*	**Pn**	**06 29 11.2**	**+1.5**
BUKP				*eS*	**Sn**	**06 29 27.1**	**-4.5**
CGP	**Cagayan de Oro**	**1.74**	**252**	⇑ *eP*	**Pn**	**06 29 11.9**	**+1.7**
CGP				*eS*	**Sn**	**06 29 34.2**	**+1.9**
MSLP	**Maasin**	**1.86**	**307**	*eP*	**Pn**	**06 29 13.8**	**+2.0**
TBP	**Tagbilaran**	**2.56**	**286**	*eP*	**Pn**	**06 29 23.0**	**+1.6**
TBP				*eS*	**Sn**	**06 29 53.5**	**+0.9**
PAGZ	**Pagadian**	**3.17**	**249**	*eP*	**Pn**	**06 29 32.2**	**+2.4**
GUIM	**Jordan**	**4.05**	**294**	*eP*	Pn	06 29 45.8	+3.8
WRA	**Warramunga Arr**	**29.82**	**165**	P	P	06 34 42.3	-5.0
	0.3nm,0.6s,baz=352,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**33.30**	**167**	P	P	06 35 14.6	-3.3
	0.1nm,0.4s,baz=349,slow=6.7,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**40.20**	**72**	T	T	07 19 09.0	
	baz=262,slow=75,SNR=102						
H11S1	**WAKE ISLAND Hy**	**40.22**	**72**	T	T	07 19 10.2	
	baz=262,slow=75,SNR=93						
H11S2	**WAKE ISLAND Hy**	**40.22**	**72**	T	T	07 19 10.7	
	baz=262,slow=75,SNR=114						
MKAR	**Makanchi Array**	**53.08**	**323**	P	**P**	**06 37 56.7**	**-0.7**
	0.3nm,0.5s,baz=118,slow=7.6,SNR=6.9						
ILAR	**Eielson Array**	**80.53**	**26**	P	P	06 40 48.0	-4.0
	0.3nm,0.6s,baz=260,slow=4.7,SNR=6.7						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**06 41 16.7**	**-0.5**
	2.0nm,1.0s,baz=81,slow=6.5,SNR=4.1						

IDC ***10*** *06:29:55.4±0.6,41.17S×90.92W,h0km,mb4.2/11, mb1 4.4/12,mb1mx4.2/33,mbtmp4.3/12,ML3.7/1,MS5.2/20, Ms1 5.2/20,ms1mx5.0/28, Error ellipse: s-maj=21.5km s-min=12.0km az=68.0*

NEIC ***10*** *06:29:59.9±0.6,41.08S×89.89W,h7km,mb5.0/58, MS5.2/147,MW5.7, Error ellipse: s-maj=17.8km*

s-min=12.4km az=206.0,Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-1.17; $M_{r\theta}$0.46; $M_{r\phi}$-3.78; $M_{\theta\phi}$1.37; Best double couple: $M_0$4.20000×10^{17} NP1:ϕ_s265.00000°,δ72.00000°, λ-177.00000°. NP2:ϕ_s174.00000°,δ87.00000°, λ-18.00000°. Principal axes: T 3.6300, Plg10.0000°, Azm220.0000°; N 0.9300, Plg71.0000°, Azm344.0000°; P -4.5600, Plg14.0000°, Azm127.0000°;

*ISCJB **10** 06:29:59.7±0.4,40°64S±0°07×90°05W±0°09,h10km, mb4.8/70,MS5.2/167 Error ellipse: s-maj=11.5km s-min=9.0km az=41.1*

*GCMT **10** 06:29:59.9±0.1,41°26S×90°50W,h15km,MW5.8/123, Moment Tensor Solution. s112,c219; s123,c346; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.72±.04; $M_{\theta\theta}$0.76±.04; $M_{\phi\phi}$-0.04±.04; $M_{r\theta}$-0.34±.08; $M_{\theta\phi}$-5.51±.04; $M_{r\phi}$-0.15±.08; Best double couple: $M_0$5.53900×10^{17} NP1:ϕ_s88.00000°,δ88.00000°, λ-176.00000°. NP2:ϕ_s358.00000°,δ86.00000°, λ-2.00000°. Principal axes: T 5.8880, Plg1.0000°, Azm223.0000°; N -0.6970, Plg85.0000°, Azm117.0000°; P -5.1900, Plg4.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **10** 06:30:00.9,41°42S×89°87W,h10km,mB5.1/9,Ms5.3/10, Ms7 5.2/10*

*MOS **10** 06:30:00.6±1.3,40°75S×90°10W,h10km,mb5.0/22, MS5.2/13,Error ellipse: s-maj=20.4km s-min=11.1km az=91.5*

ISC 10 06:30:01.6±0.3,**40°83S**±0°06×**89°85W**±0°05,**h10**km,**n389,** σ1§**86**/206,**mb5.0**/69,**MS5.2**/166,**3C-2D, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PLCA	**Paso Flores**	**14.62**	**96**	*eP*		**P**		**06 33 34.2**	**-0.8**
PLCA	**Paso Flores**	**14.62**	**96**	Pn		**P**		**06 33 34.1**	**-0.9**
	0.1nm,0.3s,baz=279,slow=12,SNR=12								
PLCA					Sn		**S**	**06 36 31.4**	**+1.4**
	baz=254,slow=17,SNR=2.8								
PLCA					LR	LR	LR	06 37 56.3	
	comp=Z,12μm,19.1s,baz=264,slow=31								
PLCA	**Paso Flores**	**14.62**	**96**	*eP*		**P**		**06 33 32.6**	**-2.4**
	761nm,2.3s								
PLCA					Sn		**S**	**06 36 31.4**	**+1.4**
LCO	**Las Campanas**	**19.59**	**59**	*eP*		**Pn**		**06 34 32.4**	**+0.9**
	84nm,1.3s								
CFAA	**Coronel Fontan**	**19.68**	**69**	P		**P**		**06 34 30.1**	**-0.8**
	0.9nm,0.8s,baz=240,slow=10,SNR=8.0								
CFAA					S		Sn	06 38 22.2	+8.9
	0.3nm,0.9s,baz=245,slow=9.0,SNR=1.9								
CFAA					LR	LR	LR	06 40 40.4	
	comp=Z,2μm,20.6s,baz=234,slow=31								
USHA	**Ushuaia**	**19.96**	**142**	P		**P**		**06 34 30.7**	**-3.0**
	5.7nm,0.7s,baz=296,slow=9.6,SNR=3.7								
USHA					S		**Sn**	**06 38 21.8**	**+2.2**
	8.8nm,1.1s,baz=316,slow=9.3,SNR=2.0								
USHA					LR	LR	LR	06 40 43.3	
	comp=Z,18μm,19.4s,baz=270,slow=32								
TRQA	**Tornquist**	**21.66**	**92**	*eP*		**P**		**06 34 52.9**	**+0.5**
	283nm,1.9s								
TRQA					LR	LR			
	comp=Z,7μm,21.0s								
EFI	**East Falkland**	**24.32**	**127**⇑	*eP*		**P**		**06 35 19.6**	**+0.4**
EFI					pmax	pmax			
	comp=Z,85nm,1.1s								
EFI	**East Falkland**	**24.32**	**127**	PFAKE				06 35 30.0	+11
EFI					LR	LR			
	comp=Z,6μm,19.0s								
LVC	**Limon Verde**	**25.33**	**51**	*eP*		**P**		**06 35 30.9**	**+2.0**
	comp=Z,89nm,1.7s								
LVC					LR	LR			
	comp=Z,12μm,20.0s								
PMSA	**Palmer Station**	**28.21**	**157**	LR		LR	LR	06 43 54.1	
	comp=Z,6μm,20.3s,baz=310,slow=30								
PMSA	**Palmer Station**	**28.21**	**157**	PFAKE				06 36 00.0	+5.9
PMSA					LR	LR			
	comp=Z,7μm,20.0s								
ARE	**Arequipa**	**29.02**	**39**	*eP*		P		06 35 58.0	-4.1
ARE	**Arequipa**	**29.02**	**39**	*eP*		P		06 35 58.0	-4.1
LPAZ	**La Paz**	**30.85**	**44**	*eP*		**P**		**06 36 20.5**	**+1.8**
LPAZ	**La Paz**	**30.85**	**44**	P		**P**		**06 36 20.2**	**+1.5**
	comp=Z,4.7nm,0.6s,baz=280,slow=6.5,SNR=12								
LPAZ					LR	LR		06 46 18.2	
	comp=Z,9μm,18.7s,baz=208,slow=31								
LPAZ	**La Paz**	**30.85**	**44**	*eP*		**P**		**06 36 20.0**	**+1.3**
	comp=Z,35nm,1.3s								
NNA	**Nana**	**30.93**	**25**	*eP*		**P**		**06 36 18.9**	**+0.1**
NNA					pmax	pmax			
	comp=Z,51nm,1.4s								
NNA					MLR	MLR			
	comp=Z,7μm,22.0s								
NNA	**Nana**	**30.93**	**25**	P		**P**		**06 36 18.1**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=225,slow=13,SNR=2.4								
NNA					LR	LR		06 45 35.6	
	comp=Z,6μm,20.4s,baz=194,slow=30								
NNA	**Nana**	**30.93**	**25**	*eP*		**P**		**06 36 18.9**	**+0.1**
	comp=Z,51nm,1.4s								
NNA					LR	LR			
	comp=Z,7μm,22.0s								
ATAH	**Atahualpa**	**35.08**	**20**	P		**P**		**06 36 55.3**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=203,slow=7.9,SNR=4.7								
ATAH					LR	LR		06 47 55.3	
	comp=Z,12μm,21.1s,baz=225,slow=30								
SIV	**San Ignacio**	**35.12**	**54**	LR		LR		06 49 56.2	
	comp=Z,9μm,21.7s,baz=243,slow=33								
HOPE	**Hope Point**	**37.52**	**129**	PFAKE				06 37 20.0	+4.6
HOPE					LR	LR			
	comp=Z,6μm,22.0s								
SAML	**Samuel**	**39.59**	**44**	*eP*		**P**		**06 37 33.1**	**-0.1**
	comp=Z,11nm,1.0s								
SAML					LR	LR			
	comp=Z,6μm,21.0s								
PAYG	**Puerto Ayora**	**39.98**	**359**	PFAKE				06 37 50.0	+14
PAYG					LR	LR			
	comp=Z,2μm,19.0s								
RKT	**Rikitea**	**41.65**	**281**	*eS*		**S**		**06 44 11.3**	**+4.5**
	comp=Z,892nm,33.0s								
RKT					eLQ	LQ		06 47 22.9	
	comp=Z,7μm,31.8s								
RKT					eLR	LR		06 49 09.3	
	comp=Z,3μm,29.5s,baz=132								
RKT	**Rikitea**	**41.65**	**281**	*eT*		T		07 21 09.7	
	comp=Z,1.4nm,0.3s								
OTAV	**Otavalo**	**42.17**	**17**	*eP*		P		06 37 52.3	-2.7
	comp=Z,50nm,1.4s								
OTAV					LR	LR			
	comp=Z,4μm,22.0s								
BDFB	**Brasilia**	**44.01**	**68**	P		P		06 38 15.9	+6.3
	comp=Z,7.2nm,0.9s,baz=247,slow=3.9,SNR=3.6								
ROSC	**El Rosal**	**47.64**	**21**	P		**P**		**06 38 38.2**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=245,slow=3.0,SNR=5.7								
ROSC					LR	LR		06 57 03.6	
	comp=Z,2μm,18.1s,baz=184,slow=34								
ROSC	**El Rosal**	**47.64**	**21**	*eP*		**P**		**06 38 40.5**	**+2.0**
PTGA	**Pitinga**	**48.23**	**42**	P		P		06 38 38.0	-4.7
	comp=Z,5.9nm,0.7s,baz=204,slow=10,SNR=6.1								
PTGA	**Pitinga**	**48.23**	**42**	*eP*		**P**		**06 38 41.1**	**-1.5**
	comp=Z,11nm,0.9s								
PTGA					LR	LR			
	comp=Z,6μm,21.0s								
QSPA	**South Pole Qui**	**49.40**	**180**	P		P		06 38 42.3	-9.0
	comp=Z,5nm,0.7s,baz=139,slow=2.3,SNR=13								
QSPA	**South Pole Qui**	**49.40**	**180**	P		P		06 38 42.3	-9.0
QSPA					LR	LR			
	comp=Z,2μm,19.0s								
BCIP	**Isla Barro Col**	**50.60**	**13**	PFAKE				06 39 10.0	+9.3
BCIP					LR	LR			
	comp=Z,2μm,21.0s								
SNAA	**Sanae**	**50.92**	**156**‖	*eP*		P		06 39 03.8	+1.2
SNAA					pmax	pmax			
	comp=Z,36nm,1.9s								
JTS	**JuntasAbangare**	**51.07**	**6**	*i* P		**P**		**06 39 06.8**	**+2.6**
JTS					pmax	pmax			
	comp=Z,16nm,1.1s								
JTS	**JuntasAbangare**	**51.07**	**6**	PFAKE				06 39 20.0	+16
JTS					LR	LR			
	comp=Z,4μm,20.0s								
TBI	**Tubuai**	**52.45**	**270**	*eS*		**S**		**06 46 44.1**	**+3.2**
	comp=Z,958nm,38.0s								
TBI					eLQ	LQ		06 52 14.7	
	comp=Z,2μm,33.0s								
TBI					eLR	LR		06 54 00.1	
	comp=Z,2μm,28.2s,baz=126								
SDV	**Santo Domingo**	**52.55**	**24**	*eP*		**P**		**06 39 13.9**	**-1.6**
	comp=Z,17nm,1.2s								
SDV					LR	LR			
	comp=Z,4μm,21.0s								
SBA	**Scott Base**	**53.18**	**195**	*eP*		P		06 39 21.0	+1.8
SBA					pmax	pmax			
	comp=Z,24nm,1.5s								
SBA					MLR	MLR			
	comp=Z,3μm,22.0s								
SBA	**Scott Base**	**53.18**	**195**	*eP*		P		06 39 21.0	+1.8
	comp=Z,24nm,1.5s								
SBA					LR	LR			
	comp=Z,3μm,22.0s								
VNDA	**Vanda**	**54.27**	**195**	*eP*		P		06 39 30.5	+3.2
VNDA					pmax	pmax			
	comp=Z,23nm,1.7s								
VNDA	**Vanda**	**54.27**	**195**	P		P		06 39 17.1	-10
	comp=Z,0.9nm,0.9s,baz=110,slow=8.4,SNR=3.4								
VNDA	**Vanda**	**54.27**	**195**	*eP*		P		06 39 30.5	+3.2
	comp=Z,23nm,1.7s								
APG	**El Apazote**	**55.55**	**359**	P		P		06 39 31.9	-5.6
	comp=Z,3.6nm,0.7s,baz=185,slow=5.5,SNR=3.9								
NVL	**N'lazarevskaya**	**55.69**	**157**	*eP*		P		06 39 33.3	-4.3
NVL					pmax	pmax			
	comp=Z,3.0nm,0.5s								
PPT2	**Papeete2**	**55.91**	**276**	*eS*		**S**		**06 47 30.8**	**+2.9**
	comp=Z,2μm,28.2s								
PPT2					eLQ	LQ		06 53 40.9	
	comp=Z,638nm,22.8s								
PPT2					eLR	LR		06 55 39.8	
	comp=Z,1μm,27.0s								
PPT	**Papeete**	**55.92**	**276**	LR		LR		06 56 48.8	
	comp=Z,272nm,21.6s,baz=125,slow=29								
GRGR	**Grenville**	**58.80**	**33**	PFAKE				06 40 10.0	+10
GRGR					LR	LR			
	comp=Z,3μm,22.0s								
RCBR	**Riachuelo**	**59.34**	**69**	PFAKE				06 40 20.0	+16
RCBR					LR	LR			
	comp=Z,6μm,19.0s								
MTDJ	**Mount Denham**	**59.86**	**14**	PFAKE				06 40 20.0	+12
MTDJ					LR	LR			
	comp=Z,862nm,21.0s								
BBGH	**Gun Hill**	**60.59**	**34**	PFAKE				06 40 20.0	+7.5
BBGH					LR	LR			
	comp=Z,6μm,22.0s								
FDF	**Fort de France**	**61.36**	**32**	PFAKE				06 40 30.0	+12
FDF					LR	LR			
	comp=Z,2μm,21.0s								
SDDR	**Presa de Saban**	**61.96**	**20**	PFAKE				06 40 30.0	+8.2
SDDR					LR	LR			
	comp=Z,1μm,21.0s								
GTBY	**Guantanamo Bay**	**61.98**	**16**	PFAKE				06 40 30.0	+8.2
GTBY					LR	LR			
	comp=Z,1μm,21.0s								
SJG	**San Juan**	**62.64**	**25**	*eP*		**P**		**06 40 27.0**	**+0.7**
SJG					pmax	pmax			
	comp=Z,2.0nm,0.6s								
SJG					MLR	MLR			
	comp=Z,3μm,19.0s								
SJG	**San Juan**	**62.64**	**25**	LR		LR		07 06 57.2	
	comp=Z,4μm,18.6s,baz=270,slow=35								
SJG	**San Juan**	**62.64**	**25**	*eP*		**P**		**06 40 27.0**	**+0.7**
	comp=Z,2.2nm,0.6s								
SJG					LR	LR			
	comp=Z,3μm,19.0s								
ANWB	**Willy Bob**	**63.77**	**30**	PFAKE				06 40 50.0	+16
ANWB					LR	LR			
	comp=Z,2μm,20.0s								
SYO	**Syowa Base**	**64.28**	**162**‖	*eP*		**P**		**06 40 34.8**	**-1.8**
GRTK	**Grand Turk**	**64.42**	**19**	PFAKE				06 40 50.0	+12
GRTK					LR	LR			
	comp=Z,2μm,20.0s								
SNZO	**South Karori**	**68.03**	**234**	PFAKE				06 41 10.0	+8.9
SNZO					LR	LR			
	comp=Z,1μm,19.0s								
URZ	**Urewera**	**68.29**	**238**	LR		LR		07 03 06.7	
	comp=Z,1μm,21.4s,baz=186,slow=30								
834A	**Tilden**	**69.08**	**352**	P		**P**		**06 41 09.7**	**+2.1**
	baz=70								
732A	**Laxson Ranch,**	**69.84**	**351**	P		**P**		**06 41 10.8**	**-1.5**
	baz=70								
MAW	**Mawson**	**69.93**	**169**	LR		LR		07 09 26.6	
	comp=Z,2μm,20.7s,baz=197,slow=34								
RAO	**Raoul Island**	**70.19**	**248**	PFAKE				06 41 20.0	+5.3
RAO					LR	LR			
	comp=Z,629nm,19.0s								
636A	**Smothers Creek**	**70.28**	**353**	P		**P**		**06 41 13.5**	**-1.4**
	baz=71								
633A	**Saathoff Ranch**	**70.47**	**351**	P		**P**		**06 41 14.3**	**-1.8**
	baz=71								
632A	**Uvalde**	**70.59**	**351**	P		**P**		**06 41 14.7**	**-2.1**
	baz=71								
TXAR	**Lajitas Array**	**70.98**	**347**	P		P		06 41 16.1	-3.2
	comp=Z,2.2nm,0.9s,baz=167,slow=8.5,SNR=19								
TXAR					LR	LR		07 06 46.0	
	comp=Z,478nm,21.0s,baz=0.0,slow=31								
533A	**Kerrville**	**71.06**	**352**	P		**P**		**06 41 17.4**	**-2.3**
	baz=72								
532A	**Rocksprings**	**71.22**	**351**	P		**P**		**06 41 18.5**	**-2.3**
	baz=72								
531A	**Rocksprings**	**71.33**	**350**	P		**P**		**06 41 19.1**	**-2.3**
	baz=72								
530A	**J-C Ranch, Com**	**71.42**	**350**	P		**P**		**06 41 19.5**	**-2.4**
	baz=72								
BRAL	**Brewton**	**71.53**	**3**	PFAKE				06 41 30.0	+7.5
BRAL					LR	LR			
	comp=Z,707nm,22.0s								
JCT	**Junction City**	**71.55**	**351**	*eP*		**P**		**06 41 23.7**	**+1.0**
JCT					pmax	pmax			
	comp=Z,24nm,1.3s								
JCT					MLR	MLR			
	comp=Z,473nm,22.0s								
JCT	**Junction City**	**71.55**	**351**	P		**P**		**06 41 20.7**	**-2.0**
	baz=72								
JCT	**Junction City**	**71.55**	**351**	*eP*		**P**		**06 41 23.7**	**+1.0**
	comp=Z,24nm,1.3s								
JCT					LR	LR			
	comp=Z,473nm,22.0s								
434A	**Burnet**	**71.71**	**352**	P		**P**		**06 41 21.2**	**-2.5**
	baz=72								
433A	**Art**	**71.74**	**352**	P		P		06 41 20.7	-3.1
	baz=72								
431A	**Sonora**	**71.85**	**350**	P		P		06 41 21.2	-3.3
	baz=72								
432A	**Menard**	**71.94**	**351**	P		P		06 41 20.6	-4.5
	baz=72								
429A	**Davenport Ranc**	**71.97**	**349**	P		P		06 41 21.9	-3.4
	baz=73								
340A	**Bronson**	**71.98**	**356**	P		**P**		**06 41 23.7**	**-1.5**
	baz=73								
337A	**Centerville**	**72.00**	**355**	P		**P**		**06 41 23.0**	**-2.3**
	baz=73								
430A	**Baggett Ranch,**	**72.04**	**350**	P		P		06 41 22.1	-3.6
	baz=73								
CASY	**Casey**	**72.07**	**189**	PFAKE				06 41 30.0	+4.6
CASY					LR	LR			
	comp=Z,1μm,20.0s								
334A	**Lometa**	**72.22**	**352**	P		P		06 41 23.5	-3.2
	baz=73								
333A	**Richland Sprin**	**72.29**	**352**	P		P		06 41 23.4	-3.7
	baz=73								
NATX	**Nacogdoches**	**72.37**	**356**	PFAKE				06 41 40.0	+12
NATX					LR	LR			
	comp=Z,1μm,22.0s								
332A	**Millersview**	**72.44**	**351**	P		P		06 41 24.0	-4.0
	baz=73								
331A	**San Angelo**	**72.44**	**351**	P		P		06 41 24.2	-3.9
	baz=73								
134A	**White-Moore Ra**	**73.44**	**353**	P		P		06 41 30.9	-2.9
	baz=74								
LRAL	**Lakeview Retre**	**73.55**	**2**	*eP*		**P**		**06 41 34.8**	**+0.3**
	comp=Z,22nm,1.4s								
MNTX	**Cornudas Mount**	**73.59**	**346**	*eP*		**P**		**06 41 35.6**	**+0.9**
	comp=Z,40nm,2.5s								
ABTX	**Abilene, Hawle**	**73.65**	**351**	*eP*		**P**		**06 41 33.2**	**-1.9**
	comp=Z,18nm,1.1s								
ASCN	**Ascension**	**73.88**	**87**	PFAKE				06 41 50.0	+13
ASCN					LR	LR			
	comp=Z,1μm,20.0s								
128A	**Castleberry Fa**	**74.02**	**349**	P		P		06 41 33.0	-4.4
	baz=75								
319A	**Douglas**	**74.06**	**343**	P		P		06 41 33.4	-4.3
	baz=75								
GOGA	**Godfrey**	**74.11**	**6**	PFAKE				06 41 50.0	+12
GOGA					LR	LR			
	comp=Z,2μm,22.0s								
NHSC	**New Hope**	**74.11**	**8**	PFAKE				06 41 50.0	+12
NHSC					LR	LR			
	comp=Z,2μm,20.0s								
Z32A	**Haskell**	**74.31**	**352**	P		P		06 41 34.6	-4.4
	baz=75								
Z31A	**Sharp Cattle R**	**74.39**	**351**	P		P		06 41 35.8	-3.7
	baz=75								
Z29A	**Hungry Hill Ra**	**74.53**	**350**	P		P		06 41 35.8	-4.6
	baz=75								
Y34A	**Reagan Ranch,**	**74.78**	**353**	P		P		06 41 38.7	-3.0
	baz=75								
OXF	**Oxford**	**74.98**	**0**	*eP*		**P**		**06 41 42.2**	**-0.6**
OXF					pmax	pmax			
	comp=Z,28nm,1.4s								
OXF	**Oxford**	**74.98**	**0**	*eP*		**P**		**06 41 42.2**	**-0.6**
	comp=Z,28nm,1.4s								
Y31A	**Rekieta Farm,**	**75.04**	**351**	P		P		06 41 39.8	-3.4
	baz=76								
MIAR	**Mount Ida**	**75.09**	**357**	*eP*		**P**		**06 41 44.7**	**+1.3**
MIAR					pmax	pmax			
	comp=Z,9.0nm,1.3s								
MIAR					MLR	MLR			
	comp=Z,542nm,21.0s								
MIAR	**Mount Ida**	**75.09**	**357**	*eP*		**P**		**06 41 44.7**	**+1.3**
	comp=Z,8.7nm,1.3s								
MIAR					LR	LR			
	comp=Z,542nm,21.0s								
TUC	**Tucson**	**75.31**	**342**	*eP*		**P**		**06 41 42.9**	**-2.0**
TUC					pmax	pmax			
	comp=Z,8.0nm,1.1s								
TUC					MLR	MLR			
	comp=Z,569nm,19.0s								
TUC	**Tucson**	**75.31**	**342**	*eP*		**P**		**06 41 42.9**	**-2.0**
	comp=Z,8.2nm,1.1s								
TUC					LR	LR			
	comp=Z,569nm,19.0s								
MSTX	**Muleshoe**	**75.38**	**349**	P		P		06 41 42.1	-3.2
	baz=76								
MSTX	**Muleshoe**	**75.38**	**349**	*eP*		**P**		**06 41 43.0**	**-2.3**
	comp=Z,21nm,1.0s								
214A	**Organ Pipe Nat**	**75.47**	**340**	*eP*		**P**		**06 41 37.3**	**+1.5**
X30A	**Coker Ranch, T**	**75.59**	**351**	P		P		06 41 43.4	-3.0
	baz=76								
WMOK	**Wichita Mounta**	**75.65**	**352**	PFAKE				06 42 00.0	+13
WMOK					LR	LR			
	comp=Z,400nm,20.0s								
W33A	**Caddo, Fort Co**	**76.03**	**353**	P		**P**		**06 41 47.0**	**-1.9**
	baz=77								
W34A	**Bridge Creek,**	**76.05**	**353**	*eP*		**P**		**06 41 49.8**	**+0.9**
	comp=Z,19nm,1.0s								
TKL	**Tuckaleechee C**	**76.32**	**5**	LR		LR		07 09 48.7	
	comp=Z,1μm,21.0s,slow=31								
BBSR	**BB Station**	**76.46**	**22**	PFAKE				06 42 00.0	+8.7
BBSR					LR	LR			
	comp=Z,920nm,22.0s								
V35A	**Meyer Ranch, C**	**76.49**	**354**	P		**P**		**06 41 49.5**	**-1.9**
	baz=77								
CNNC	**Cliffs of the**	**76.50**	**10**	PFAKE				06 42 00.0	+8.6
CNNC					LR	LR			
	comp=Z,1μm,20.0s								
LAZ	**Ladron**	**76.54**	**345**	*eP*		**P**		**06 41 54.8**	**+2.8**
	comp=Z,1.4nm,1.2s								
TUL1	**Leonard**	**76.57**	**355**	P		**P**		**06 41 49.3**	**-2.6**
	baz=77								
TUL1	**Leonard**	**76.57**	**355**	*eP*		**P**		**06 41 52.3**	**+0.5**
	comp=Z,23nm,1.2s								
WVT	**Waverly**	**76.61**	**2**	*eP*		**P**		**06 41 53.2**	**+1.1**
WVT					pmax	pmax			
	comp=Z,8.0nm,1.3s								
WVT	**Waverly**	**76.61**	**2**	*eP*		**P**		**06 41 53.2**	**+1.1**
	comp=Z,7.6nm,1.3s								
V34A	**Guthrie**	**76.62**	**354**	*eP*		**P**		**06 41 52.6**	**+0.4**
	comp=Z,16nm,1.2s								
V32A	**Arapaho**	**76.65**	**352**	P		**P**		**06 41 50.1**	**-2.3**
	baz=77								
V33A	**Lossen Ranch,**	**76.67**	**353**	P		P		06 41 49.8	-2.7
	baz=77								
ANMO	**Albuquerque**	**76.94**	**346**⇑	*iP*		**P**		**06 41 53.5**	**-0.8**
ANMO					pmax	pmax			
	comp=Z,9.0nm,0.9s								
ANMO	**Albuquerque**	**76.94**	**346**	P		P		06 41 51.2	-3.0
	comp=Z,2.4nm,0.9s,baz=171,slow=8.6,SNR=5.1								
ANMO	**Albuquerque**	**76.94**	**346**	*eP*		P		06 41 51.6	-2.6
	comp=Z,12nm,1.3s								
ANMO					LR	LR			
	comp=Z,596nm,19.0s								
V26A	**Tequesquite Ra**	**77.33**	**348**	P		P		06 41 53.7	-2.6
	baz=78								
X16A	**Lo Mia Camp, P**	**77.48**	**342**	P		**P**		**06 41 54.8**	**-2.5**
	baz=78								
PFO	**Pinyon Flats O**	**78.03**	**338**	PFAKE				06 42 10.0	+10
PFO					LR	LR			
	comp=Z,732nm,20.0s								
BLA	**Blacksburg**	**78.15**	**8**	PFAKE				06 42 10.0	+9.2
BLA					LR	LR			
	comp=Z,2μm,20.0s								
WUAZ	**Wupatki**	**78.51**	**342**	PFAKE				06 42 10.0	+7.0
WUAZ					LR	LR			
	comp=Z,377nm,21.0s								
T26A	**Comanche Natio**	**78.65**	**349**	P		**P**		**06 42 01.7**	**-2.0**
	baz=79								
T25A	**Trinidad**	**78.74**	**348**	*eP*		**P**		**06 42 06.5**	**+2.3**
	comp=Z,56nm,2.0s								
T24B	**San Luis**	**78.82**	**347**	P		**P**		**06 42 03.6**	**-1.2**
	baz=79								
LDFC	**Landfair**	**79.04**	**339**	*eP*		**P**		**06 42 07.9**	**+2.1**
	comp=Z,22nm,1.1s								
S26A	**Kim**	**79.07**	**349**	P		**P**		**06 42 04.3**	**-1.6**
	baz=80								
S25A	**Robets Cordova**	**79.25**	**348**	P		P		06 42 04.2	-2.8
	baz=80								
R30A	**Dighton**	**79.32**	**352**	P		**P**		**06 42 05.2**	**-2.0**
	baz=80								
S24A	**Houchin Ranch,**	**79.36**	**348**	P		**P**		**06 42 06.2**	**-1.5**
	baz=80								
CBN	**Corbin Frederi**	**79.48**	**10**	PFAKE				06 42 20.0	+12
CBN					LR	LR			
	comp=Z,963nm,20.0s								
SDCO	**Great Sand Dun**	**79.50**	**347**	P		**P**		**06 42 06.1**	**-2.4**
	baz=80								
SDCO	**Great Sand Dun**	**79.50**	**347**	*eP*		**P**		**06 42 07.8**	**-0.8**
	comp=Z,4.7nm,1.1s								
MVCO	**Mesa Verde**	**79.53**	**345**	P		**P**		**06 42 06.3**	**-2.3**
	baz=80								
MVCO	**Mesa Verde**	**79.53**	**345**	*eP*		**P**		**06 42 06.6**	**-1.9**
	comp=Z,29nm,1.5s		

SRU	**San Rafael Swe**	**81.77**	**344**	*e*P	**P**	**06 42 21.3**	**+0.8**
SRU				pmax	pmax		
comp=Z,9.0nm,1.4s							
SRU	**San Rafael Swe**	**81.77**	**344**	*e*P	**P**	**06 42 21.3**	**+0.8**
comp=Z,9.1nm,1.4s							
O23A	**Lake Granby, G**	**81.98**	**348**	P	**P**	**06 42 20.5**	**-1.3**
baz=83							
TMUT	**Trail Mountain**	**82.10**	**343**	*e*P	**P**	**06 42 23.2**	**+0.8**
comp=Z,72nm,1.8s							
OGNE	**Ogallala**	**82.15**	**351**	PFAKE		06 42 30.0	+7.7
OGNE				LR	LR		
comp=Z,774nm,22.0s							
R11A	**Troy Canyon, C**	**82.24**	**340**	P	**P**	**06 42 22.3**	**-0.7**
baz=83							
R11A	**Troy Canyon, C**	**82.24**	**340**	*e*P	**P**	**06 42 23.9**	**+0.9**
comp=Z,5.3nm,1.6s							
SCIA	**State Center**	**82.42**	**357**	PFAKE		06 42 30.0	+6.4
SCIA				LR	LR		
comp=Z,723nm,20.0s							
SACV	**Santiago Islan**	**82.63**	**63**	PFAKE		06 42 40.0	+15
SACV				LR	LR		
comp=Z,2µm,20.0s							
N23A	**Red Feather La**	**82.65**	**348**	P	**P**	**06 42 26.0**	**+0.8**
baz=83							
N23A	**Red Feather La**	**82.65**	**348**	*e*P	**P**	**06 42 28.3**	**+3.1**
comp=Z,14nm,1.3s							
MPU	**Maple Canyon**	**82.88**	**343**	*e*P	**P**	**06 42 27.4**	**+1.1**
comp=Z,14nm,1.0s							
NLU	**North Lily Min**	**82.92**	**343**	*e*P	**P**	**06 42 26.0**	**-0.5**
comp=Z,11nm,1.1s							
AAM	**Ann Arbor**	**82.94**	**5**	PFAKE		06 42 40.0	+14
AAM				LR	LR		
comp=Z,1µm,20.0s							
PHWY	**Pilot Hill**	**82.97**	**348**	*e*P	P	06 42 30.2	+3.3
comp=Z,21nm,1.5s							
M24A	**Cheyenne**	**83.04**	**349**	P	**P**	**06 42 26.5**	**-0.6**
baz=84							
ERPA	**Erie**	**83.05**	**7**	PFAKE		06 42 40.0	+13
ERPA				LR	LR		
comp=Z,2µm,22.0s							
NVAR	**Mina Array Bea**	**83.06**	**338**	P	P	06 42 22.5	-4.9
comp=Z,1.6nm,1.0s,baz=164,slow=6.0,SNR=8.4							
SUR	**Sutherland**	**83.07**	**127**	PFAKE		06 42 40.0	+12
SUR				LR	LR		
comp=Z,1µm,20.0s							
DAU	**Daniels Canyon**	**83.18**	**344**	*e*P	**P**	**06 42 26.9**	**-1.1**
DAU	**Daniels Canyon**	**83.18**	**344**	*e*P	**P**	**06 42 26.9**	**-1.1**
DUG	**Dugway, Tooele**	**83.31**	**342**	*e*P	**P**	**06 42 27.8**	**-0.7**
DUG				pmax	pmax		
comp=Z,18nm,1.3s							
DUG				MLR	MLR		
comp=Z,606nm,21.0s							
DUG	**Dugway, Tooele**	**83.31**	**342**	P	**P**	**06 42 27.3**	**-1.2**
baz=84							
DUG	**Dugway, Tooele**	**83.31**	**342**	*e*P	**P**	**06 42 27.8**	**-0.7**
comp=Z,18nm,1.3s							
DUG				LR	LR		
comp=Z,606nm,21.0s							
JFWS	**Jewell Farm**	**83.37**	**360**	PFAKE		06 42 40.0	+12
JFWS				LR	LR		
comp=Z,840nm,20.0s							
BINY	**Binghamton**	**83.60**	**10**	PFAKE		06 42 40.0	+10
BINY				LR	LR		
comp=Z,944nm,22.0s							
HWUT	**Hardware Ranch**	**84.39**	**344**	*e*P	**P**	**06 42 33.5**	**-0.5**
comp=Z,10nm,1.3s							
ECSD	**EROS Data Cent**	**84.41**	**355**	P	**P**	**06 42 32.6**	**-1.2**
baz=85							
ECSD	**EROS Data Cent**	**84.41**	**355**	*e*P	**P**	**06 42 32.8**	**-1.0**
comp=Z,47nm,1.5s							
ECSD				LR	LR		
comp=Z,776nm,20.0s							
K22A	**Casper**	**84.46**	**348**	P	**P**	**06 42 32.3**	**-2.0**
baz=85							
K22A	**Casper**	**84.46**	**348**	*e*P	**P**	**06 42 33.3**	**-1.0**
comp=Z,31nm,1.4s							
K21A	**Alcova**	**84.56**	**347**	P	**P**	**06 42 33.5**	**-1.4**
baz=85							
HVU	**Hansel Valley**	**84.82**	**343**	*e*P	**P**	**06 42 36.5**	**+0.4**
HVU				pmax	pmax		
comp=Z,12nm,1.3s							
HVU	**Hansel Valley**	**84.82**	**343**	*e*P	**P**	**06 42 36.5**	**+0.4**
comp=Z,12nm,1.3s							
BW06	**Boulder Array**	**85.10**	**346**	*e*P	**P**	**06 42 36.1**	**-1.5**
comp=Z,14nm,1.4s							
BW06				LR	LR		
comp=Z,501nm,19.0s							
PDAR	**Pinedale Array**	**85.10**	**346**	P	**P**	**06 42 35.3**	**-2.3**
comp=Z,4.9nm,1.2s,baz=163,slow=4.7,SNR=13							
J21A	**Lysite**	**85.29**	**347**	P	**P**	**06 42 37.1**	**-1.4**
baz=86							
AHID	**Auburn Hatcher**	**85.40**	**344**	PFAKE		06 42 50.0	+11
AHID				LR	LR		
comp=Z,485nm,20.0s							
J19A	**Crowheart**	**85.49**	**346**	P	P	06 42 36.7	-2.8
baz=86							
RSSD	**Black Hills**	**85.53**	**350**	*e*P	**P**	**06 42 41.0**	**+1.3**
RSSD				pmax	pmax		
comp=Z,7.0nm,1.0s							
RSSD	**Black Hills**	**85.53**	**350**	*e*P	**P**	**06 42 41.0**	**+1.3**
comp=Z,6.8nm,1.0s							
NCB	**Newcomb**	**85.58**	**11**	PFAKE		06 42 50.0	+10
NCB				LR	LR		
comp=Z,998nm,21.0s							
DZM	**Mont Dzumac**	**85.61**	**245**	*e*S	**S**	**06 53 11.5**	**-1.5**
comp=Z,251nm,25.3s							
DZM	**Mont Dzumac**	**85.61**	**245**	*e*LR	LR	07 09 33.5	
comp=Z,3µm,29.8s							
DZM	**Mont Dzumac**	**85.61**	**245**	LR	LR	07 15 58.7	
comp=Z,399nm,18.7s,baz=158,slow=33							
REDW	**Red Top Meadow**	**85.93**	**345**	*e*P	**P**	**06 42 41.1**	**-0.6**
comp=Z,28nm,1.6s							
I20A	**Worland**	**85.99**	**347**	P	**P**	**06 42 40.5**	**-1.4**
baz=87							
TPAW	**Teton Pass**	**86.07**	**345**	*e*P	**P**	**06 42 41.5**	**-0.9**
comp=Z,31nm,1.6s							
LOHW	**Long Hollow**	**86.12**	**345**	*e*P	**P**	**06 42 44.2**	**+1.5**
comp=Z,29nm,2.0s							
LONY	**Lake Ozonia**	**86.17**	**11**	PFAKE		06 42 50.0	+7.4
LONY				LR	LR		
comp=Z,936nm,20.0s							
LBNH	**Lisbon**	**86.21**	**13**	PFAKE		06 42 50.0	+7.2
LBNH				LR	LR		
comp=Z,1µm,19.0s							
FXWY	**Fox Creek**	**86.23**	**345**	*e*P	**P**	**06 42 42.1**	**-1.1**
comp=Z,7.2nm,1.3s							
IMW	**Indian Meadow**	**86.46**	**345**	*e*P	**P**	**06 42 45.9**	**+1.5**
comp=Z,18nm,1.8s							
COWI	**Conover**	**86.55**	**0**	PFAKE		06 43 00.0	+16
COWI				LR	LR		
comp=Z,759nm,20.0s							
FLWY	**Flagg Ranch**	**86.59**	**345**	*e*P	**P**	**06 42 46.7**	**+1.8**
comp=Z,34nm,1.6s							
CRZF	**Crozet Islands**	**86.65**	**155**	S	SKSac	06 53 04.0	-8.0
CRZF				SS	SS	06 58 52.0	-10
CRZF				R		07 10 00.0	
WVOR	**Wild Horse Val**	**86.88**	**339**	PFAKE		06 43 00.0	+14
WVOR				LR	LR		
comp=Z,627nm,20.0s							
HLID	**Hailey**	**86.88**	**342**	*e*P	**P**	**06 42 44.7**	**-1.6**
comp=Z,41nm,2.2s							
HLID				LR	LR		
comp=Z,486nm,20.0s							
CAN	**Canberra**	**86.91**	**224**	PFAKE		06 43 00.0	+13
CAN				LR	LR		
comp=Z,867nm,19.0s							
LKWY	**Lake**	**87.00**	**345**	PFAKE		06 43 00.0	+13
LKWY				LR	LR		
comp=Z,378nm,21.0s							
YMR	**Madison River**	**87.21**	**345**	*e*P	**P**	**06 42 49.6**	**+1.6**
comp=Z,19nm,1.6s							
RLMT	**Red Lodge**	**87.33**	**346**	PFAKE		06 43 00.0	+11
RLMT				LR	LR		
comp=Z,696nm,22.0s							
PKME	**Peaks-Kenny Pk**	**87.67**	**14**	PFAKE		06 43 00.0	+10
PKME				LR	LR		
comp=Z,1µm,21.0s							
BOZ	**Bozeman (W)**	**88.28**	**345**	PFAKE		06 43 00.0	+7.0
BOZ				LR	LR		
comp=Z,445nm,22.0s							
LAO	**LASA Array**	**88.35**	**349**	PFAKE		06 43 00.0	+6.8
LAO				LR	LR		
comp=Z,485nm,19.0s							
EYMN	**Ely**	**88.41**	**359**	PFAKE		06 43 00.0	+6.7
EYMN				LR	LR		
comp=Z,820nm,20.0s							
BOSA	**Boshof**	**88.44**	**127**	LR	LR	07 16 41.6	
comp=Z,1µm,20.4s,baz=223,slow=32							
KIP	**Kipapa**	**88.49**	**300**	*e*P	**P**	**06 42 53.4**	**-0.9**
PAF	**Port-aux-Franc**	**88.49**	**167**	P	P	06 42 47.0	-7.0
PAF	**Port-aux-Franc**	**88.49**	**167**	S	SKSac	06 52 59.0	-24
PAF				SS	**SS**	**06 59 22.0**	**-6.2**
PAF				L	L	07 06 00.0	
PAF				R		07 12 00.0	
BMO	**Blue Mountains**	**88.79**	**341**	PFAKE		06 43 10.0	+15
BMO				LR	LR		
comp=Z,464nm,20.0s							
AGMN	**Agassiz Nation**	**88.91**	**356**	PFAKE		06 43 10.0	+14
AGMN				LR	LR		
comp=Z,551nm,20.0s							
DGMT	**Dagmar**	**89.82**	**351**	PFAKE		06 43 10.0	+10
DGMT				LR	LR		
comp=Z,648nm,20.0s							
TSUM	**Tsumeb**	**90.11**	**116**	PFAKE		06 43 10.0	+7.6
TSUM				LR	LR		
comp=Z,855nm,19.0s							
EGMT	**Eagleton**	**90.22**	**347**	PFAKE		06 43 10.0	+8.1
EGMT				LR	LR		
comp=Z,506nm,20.0s							
DBIC	**Dimbokro**	**90.54**	**82**	LR	LR	07 23 05.3	
comp=Z,1µm,18.0s,baz=208,slow=35							
HAWA	**Hanford**	**90.79**	**340**	PFAKE		06 43 20.0	+15
HAWA				LR	LR		
comp=Z,481nm,19.0s							
NEW	**Newport**	**91.95**	**342**	PFAKE		06 43 20.0	+10
NEW				LR	LR		
comp=Z,519nm,19.0s							
NLWA	**Neilton Lookou**	**92.90**	**338**	PFAKE		06 43 30.0	+16
NLWA				LR	LR		
comp=Z,967nm,21.0s							
FFC	**Flin Flon**	**95.75**	**353**	PFAKE		06 43 40.0	+13
FFC				LR	LR		
comp=Z,684nm,20.0s							
SCHQ	**Schefferville**	**97.31**	**13**	LR	LR	07 26 05.6	
comp=Z,802nm,20.0s,baz=204,slow=34							
HNR	**Honiara**	**98.77**	**250**	PFAKE		06 43 50.0	+8.1
HNR				LR	LR		
comp=Z,25nm,22.0s							
TORD	**Torodi Ar. Bea**	**99.62**	**81**	P	**Pdif**	**06 43 43.3**	**-2.3**
comp=Z,0.7nm,1.0s,baz=210,slow=5.0,SNR=2.4							
LSZ	**Lusaka**	**100.00**	**120**	PFAKE		06 44 00.0	+12
LSZ				LR	LR		
comp=Z,1µm,20.0s							
CTA	**Charters Tower**	**100.10**	**232**	LR	LR	07 22 01.6	
comp=Z,478nm,19.0s,baz=152,slow=32							
CTAO	**Charters Tower**	**100.10**	**232**	PFAKE		06 44 00.0	+12
CTAO				LR	LR		
comp=Z,580nm,19.0s							
NWAO	**Narrogin (SRO)**	**102.46**	**203**	PFAKE		06 44 10.0	+12
NWAO				LR	LR		
comp=Z,1.0nm,20.0s							
WRAK	**Wrangell Islan**	**103.33**	**337**	PFAKE		06 44 10.0	+9.0
WRAK				LR	LR		
comp=Z,218nm,20.0s							
RTC	**Rabat Centre**	**106.59**	**59**	PFAKE		06 48 40.0	
RTC				LR	LR		
comp=Z,1µm,22.0s							
WRAB	**Tennant Creek**	**106.92**	**223**	PFAKE		06 48 40.0	
WRAB				LR	LR		
comp=Z,754nm,19.0s							
PMG	**Port Moresby**	**107.58**	**240**	PFAKE		06 48 40.0	
PMG				LR	LR		
comp=Z,525nm,19.0s							
ABPO	**Ambohimpanom**	**108.34**	**137**	PFAKE		06 48 40.0	
ABPO				LR	LR		
comp=Z,1µm,21.0s							
TAM	**Tamanrasset**	**108.45**	**76**	PFAKE		06 48 40.0	
TAM				LR	LR		
comp=Z,1µm,19.0s							
MTE	**Manteigas**	**110.05**	**54**	PFAKE		06 48 40.0	
MTE				LR	LR		
comp=Z,3µm,21.0s							
KDAK	**Kodiak Island**	**111.33**	**329**	PFAKE		06 48 50.0	
KDAK				LR	LR		
comp=Z,908nm,20.0s							
PAB	**San Pablo**	**111.53**	**56**	PFAKE		06 48 50.0	
PAB				LR	LR		
comp=Z,2µm,20.0s							
SFJD	**Kangerlussuaq**	**111.59**	**16**	PFAKE		06 48 50.0	
SFJD				LR	LR		
comp=Z,1µm,20.0s							
H11S2	**WAKE ISLAND Hyl**	**111.89**	**276**	T	T	08 49 21.1	
baz=127,slow=75,SNR=5.4							
H11S1	**WAKE ISLAND Hyl**	**111.90**	**276**	T	T	08 49 21.1	
baz=127,slow=75,SNR=4.8							
H11S3	**WAKE ISLAND Hyl**	**111.90**	**276**	T	T	08 49 23.3	
baz=127,slow=75,SNR=3.5							
EGAK	**Eagle**	**112.66**	**339**	PFAKE		06 48 50.0	
EGAK				LR	LR		
comp=Z,572nm,19.0s							
COLA	**College**	**114.67**	**337**	PFAKE		06 48 50.0	+9.0
COLA				LR	LR		
comp=Z,456nm,19.0s							
KMBO	**Kilima Mbogo**	**116.42**	**117**	PFAKE		06 49 00.0	+14
KMBO				LR	LR		
comp=Z,712nm,20.0s							
SSB	**Saint Sauveur**	**120.15**	**54**	PFAKE		06 49 00.0	+7.7
SSB				LR	LR		
comp=Z,2µm,21.0s							
VSL	**Villasalto**	**120.45**	**62**	PFAKE		06 49 00.0	+7.0
VSL				LR	LR		
comp=Z,892nm,19.0s							
ESK	**Eskdalemuir**	**120.60**	**42**	PFAKE		06 49 00.0	+7.3
ESK				LR	LR		
comp=Z,728nm,20.0s							
BNI	**Bardonecchia**	**121.37**	**56**	PFAKE		06 49 10.0	+15
BNI				LR	LR		
comp=Z,3µm,20.0s							
CLTB	**Caltabellotta**	**122.13**	**66**	PFAKE		06 49 10.0	+14
CLTB				LR	LR		
comp=Z,2µm,19.0s							
WDD	**Wield Dalam**	**122.20**	**68**	PFAKE		06 49 10.0	+14
WDD				LR	LR		
comp=Z,3µm,20.0s							
ECH	**Echery**	**123.10**	**52**	PFAKE		06 49 10.0	+12
ECH				LR	LR		
comp=Z,1µm,20.0s							
WLF	**Walferdange**	**123.14**	**51**	PFAKE		06 49 10.0	+12
WLF				LR	LR		
comp=Z,3µm,20.0s							
VLC	**Villacollemand**	**123.31**	**58**	PFAKE		06 49 10.0	+12
VLC				LR	LR		
comp=Z,512nm,19.0s							
TUE	**Stuetta**	**123.68**	**55**	PFAKE		06 49 10.0	+11
TUE				LR	LR		
comp=Z,2µm,20.0s							
BFO	**Black Forest**	**123.86**	**53**	PFAKE		06 49 10.0	+11
BFO				LR	LR		
comp=Z,857nm,20.0s							
CEL	**Celeste**	**124.31**	**67**	PFAKE		06 49 10.0	+9.5
CEL				LR	LR		
comp=Z,2µm,19.0s							
AQU	**L'Aquila**	**124.48**	**61**	PFAKE		06 49 10.0	+9.3
AQU				LR	LR		
comp=Z,900nm,22.0s							
MSEY	**Mahe Island**	**124.70**	**136**	PFAKE		06 49 10.0	+7.9
MSEY				LR	LR		
comp=Z,590nm,19.0s							
CUC	**Castrocucco**	**125.05**	**65**	PFAKE		06 49 10.0	+8.1
CUC				LR	LR		
comp=Z,630nm,19.0s							
TIP	**Timpagrande**	**125.34**	**66**	PFAKE		06 49 10.0	+7.5
TIP				LR	LR		
comp=Z,1µm,22.0s							
COCO	**West Island**	**126.89**	**188**	PFAKE		06 49 20.0	+14
COCO				LR	LR		
comp=Z,716nm,21.0s							
KAPI	**Kappang**	**126.92**	**218**	PFAKE		06 49 20.0	+14
KAPI				LR	LR		
comp=Z,302nm,21.0s							
GERES	**GERESS Array B**	**127.33**	**54**	PKP	**PKPdf**	**06 49 05.4**	**-0.6**
comp=Z,0.6nm,0.6s,baz=176,slow=1.5,SNR=4.3							
CLL	**Collm**	**127.81**	**51**	*e*PKIKP	**PKPdf**	**06 49 07.0**	**+0.3**
CLL				*e*		06 51 11.0	
CLL				pmax	pmax		
comp=Z,4.0nm,1.2s							
CLL				MLR	MLR		
comp=Z,1µm,20.5s							
CLL	**Collm**	**127.81**	**51**	*e*PKPdf	**PKPdf**	**06 49 07.0**	**+0.3**
comp=Z,4.0nm,1.2s							
CLL				*e*PP	**PP**	**06 51 11.0**	**+1.6**
CLL				*e*SKPdf	**SKPdf**	**06 52 36.0**	**-5.9**
CLL				*e*		06 57 30.0	
CLL				*e*SKKSac	**SKKSac**	**06 58 02.0**	**-4.0**
CLL				*e*PSKS		07 01 09.0	
CLL				*e*PPS	PPS	07 02 52.0	
CLL				*e*SS	SS	07 08 30.0	+8.1
CLL				*e*(SSS)		07 12 48.0	
CLL				*e*SSSS		07 16 30.0	
CLL				*e*		07 17 00.0	
CLL				Lm	MLR	07 42 00.0	
comp=Z,1µm,20.5s							
KONO	**Kongsberg**	**128.63**	**40**	PFAKE		06 49 20.0	+12
KONO				LR	LR		
comp=Z,740nm,19.0s							
DGAR	**Diego Garcia**	**129.30**	**157**	PFAKE		06 49 20.0	+9.2
DGAR				LR	LR		
comp=Z,726nm,19.0s							
NOA	**NORSAR Array B**	**129.78**	**38**	PKP	**PKPdf**	**06 49 07.6**	**-2.6**
comp=Z,1.7nm,1.1s,baz=229,slow=1.9,SNR=2.6							
SANT	**Santorini**	**130.27**	**73**	PFAKE		06 49 20.0	+8.1
SANT				LR	LR		
comp=Z,658nm,20.0s							
VYHS	**Vyhne**	**130.39**	**56**	*e*PKIKP	**PKPdf**	**06 49 12.1**	**+0.4**
VYHS	**Vyhne**	**130.39**	**56**	*e*PKP	**PKPdf**	**06 49 12.1**	**+0.4**
PSZ	**Piszkesteto**	**130.87**	**57**	PFAKE		06 49 20.0	+7.2
PSZ				LR	LR		
comp=Z,1µm,20.0s							
KECS	**Kecovo**	**131.43**	**56**	*e*PKIKP	**PKPdf**	**06 49 13.5**	**-0.2**
KECS	**Kecovo**	**131.43**	**56**	*e*PKP	**PKPdf**	**06 49 13.4**	**-0.2**
KBS	**Kingsbay**	**131.99**	**15**	PFAKE		06 49 20.0	+6.1
KBS				LR	LR		
comp=Z,922nm,21.0s							
BILL	**Bilibino**	**132.22**	**330**	PFAKE		06 49 30.0	+15
BILL				LR	LR		
comp=Z,1µm,21.0s							
KWP	**Kalwaria Pacla**	**133.16**	**55**	PFAKE		06 49 30.0	+13
KWP				LR	LR		
comp=Z,1µm,21.0s							
DAV	**Davao City (W)**	**133.89**	**233**	PFAKE		06 49 30.0	+11
DAV				LR	LR		
comp=Z,317nm,22.0s							
ISP	**Isparta**	**134.55**	**73**	PFAKE		06 49 30.0	+10
ISP				LR	LR		
comp=Z,885nm,21.0s							
CSS	**Prodhromos**	**135.45**	**78**	PFAKE		06 49 30.0	+8.3
CSS				LR	LR		
comp=Z,187nm,22.0s							
KSM	**Kuching**	**136.78**	**210**	PFAKE		06 49 30.0	+5.1
KSM				LR	LR		
comp=Z,172nm,20.0s							
KEV	**Kevo**	**136.88**	**27**	PFAKE		06 49 30.0	+6.8
KEV				LR	LR		
comp=Z,628nm,21.0s							
FINES	**FINESS Array B**	**136.94**	**39**	PKP	**PKPdf**	**06 49 18.4**	**-5.2**
comp=Z,0.6nm,0.8s,baz=100,slow=1.6,SNR=2.6							
ANTO	**Ankara**	**136.96**	**72**	PFAKE		06 49 40.0	+16
ANTO				LR	LR		
comp=Z,710nm,20.0s							
KIEV	**Kiev**	**137.48**	**55**	PKIKP	**PKPdf**	**06 49 23.3**	**-1.6**
KIEV				*i*		06 49 30.1	
KIEV	**Kiev**	**137.48**	**55**	PFAKE		06 49 40.0	+15
KIEV				LR	LR		
comp=Z,499nm,21.0s							
BRTR	**Keskin Array B**	**137.52**	**72**	PKP	**PKPdf**	**06 49 23.2**	**-2.4**
comp=Z,0.9nm,0.8s,baz=218,slow=2.4,SNR=4.3							
SEY	**Seymchan**	**137.81**	**323**	*e*PKIKP	**PKPdf**	**06 49 27.2**	**+2.1**
LVZ	**Lovozero**	**139.96**	**29**	PFAKE		06 49 40.0	+11
LVZ				LR	LR		
comp=Z,556nm,21.0s							
ERM	**Erimo**	**140.77**	**290**	PFAKE		06 49 40.0	+8.8
ERM				LR	LR		
comp=Z,554nm,21.0s							
ANN	**Anapa**	**141.69**	**66**	*i* PKIKP	**PKPdf**	**06 49 33.8**	**+1.0**
ANN				pmax	pmax		
comp=Z,107nm,1.9s							
YSS	**Yuzh-Sakhalins**	**142.20**	**297**	PFAKE		06 49 40.0	+6.4
YSS				LR	LR		
comp=Z,188nm,22.0s							
OBN	**Obninsk**	**142.36**	**49**	*e*PKIKP	**PKPdf**	**06 49 30.3**	**-3.3**
OBN				pmax	pmax		
comp=Z,4.0nm,0.5s							
OBN				MLR	MLR		
comp=Z,1µm,21.0s							
OBN	**Obninsk**	**142.36**	**49**	PFAKE		06 49 40.0	+6.4
OBN				LR	LR		
comp=Z,1µm,21.0s							
MAJO	**Matsushiro**	**142.62**	**279**	PFAKE		06 49 50.0	+15
MAJO				LR	LR		
comp=Z,321nm,19.0s							
MOS	**Moscow**	**142.96**	**48**	*e*PKIKP	PKPdf	06 49 47.8	+13
MOS				MLR	MLR		
comp=Z,1µm,20.0s							
KULM	**Kulim**	**143.38**	**198**	PFAKE		06 49 50.0	+13
KULM				LR	LR		
comp=Z,202nm,20.0s							
TIXI	**Tiksi**	**143.64**	**340**	PFAKE		06 49 50.0	+15
TIXI				LR	LR		
comp=Z,484nm,22.0s							
VSR	**Storozhevoye**	**143.79**	**56**	*e*PKHKP	PKPpre	06 49 30.4	
VSR				pmax	pmax		
comp=Z,10.0nm,0.9s							
VSR				pmax	pmax		
comp=N,10.0nm,0.8s							
VSR				pmax	pmax		
comp=E,10.0nm,1.1s							
VORD	**Divnogorie**	**143.85**	**56**	*e*PKHKP	PKPpre	06 49 30.6	
VORD				pmax	pmax		
comp=Z,10.0nm,0.9s							
VORD				pmax	pmax		
comp=N,20nm,0.8s							
VORD				pmax	pmax		
comp=E,10.0nm,0.8s							
CHVG	**Ch'k'valeri**	**144.48**	**71**	P	**PKPdf**	**06 49 39.2**	**+1.4**
KIV	**Kislovodsk**	**145.18**	**69**	*e*PKIKP	**PKPdf**	**06 49 38.7**	**-0.4**
KIV				pmax	pmax		
comp=Z,16nm,1.9s							
KIV				MLR	MLR		
comp=Z,294nm,19.0s							
KIV	**Kislovodsk**	**145.18**	**69**	PFAKE		06 49 50.0	+11
KIV				LR	LR		
comp=Z,307nm,20.0s							
KBZ	**Khabaz**	**145.29**	**69**	PKPbc	**PKPbc**	**06 49 35.8**	**-3.1**
comp=Z,5.6nm,0.9s,baz=295,slow=6.7,SNR=5.3							
VRHR	**Novokhopersk**	**145.32**	**56**	*e*PKIKP	**PKPab**	**06 49 38.5**	**-0.5**
VRHR				pmax	pmax		
comp=Z,30nm,1.1s							
VRHR				pmax	pmax		
comp=N,10.0nm,0.5s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.6s							
ONI	**Oni**	**145.44**	**71**	P	PKPab	06 49 45.0	+5.2
PALK	**Pallekele**	**145.53**	**163**	*e*PKP2	**PKPdf**	**06 49 43.3**	**+2.7**
PALK	**Pallekele**	**145.53**	**163**	*e*PKPdf	**PKPdf**	**06 49 43.3**	**+2.7**
GOF	**Gofitskoye**	**145.64**	**67**	*e*PKP2	**PKPab**	**06 49 40.5**	**+0.1**
GNI	**Garni**	**145.75**	**76**	PFAKE		06 49 50.0	+8.8
GNI				LR	LR		
comp=Z,489nm,20.0s							
ZEI	**Tsey**	**145.80**	**71**	*i* PKIKP	**PKPdf**	**06 49 38.8**	**-1.6**
ZEI				pmax	pmax		
comp=Z,23nm,1.3s							
PRGR	**Permogore**	**146.16**	**37**	*e*PKP2	**PKPbc**	**06 49 40.1**	**-1.0**
PRGR				pmax	pmax		
comp=Z,66nm,1.3s							
DGRG	**David-gareji**	**146.56**	**74**	P	**PKPbc**	**06 49 42.7**	**-0.3**
YAK	**Yakutsk**	**148.25**	**325**	*e*PKHKP	PKPpre	06 49 39.0	
YAK				pmax	pmax		
comp=Z,14nm,0.7s							
YAK	**Yakutsk**	**148.25**	**325**	PFAKE		06 49 50.0	0.0
YAK				LR	LR		
comp=Z,500nm,22.0s							
MAK	**Makhachkala**	**148.43**	**72**	*e*PKP2	**PKPbc**	**06 49 48.1**	**+0.1**
MAK				*e*		06 53 18.9	
MA

KSAR	**Wonju Array Be**	**150.69**	**276**	PKIKP	**PKPbc**	**06 49 53.3**	**-0.5**
KSAR	**Wonju Array Be**	**150.69**	**276**	PKPab	**PKPbc**	**06 49 53.3**	**-0.5**
MDJ	**Mudanjiang**	**150.98**	**291**	PFAKE		06 50 00.0	-1.7
MDJ				LR	LR		
	comp=Z,496nm,22.0s						
INCN	**Inchon**	**151.65**	**275**	PFAKE		06 50 00.0	+4.0
INCN				LR	LR		
	comp=Z,340nm,21.0s						
QIZ	**Qiongzhong**	**152.49**	**224**	PKPbc	**PKPdf**	**06 49 49.1**	**-2.4**
QIZ				PP	**PP**	**06 53 43.9**	**+3.3**
QIZ				LZ			
	comp=Z,540nm,30.8s						
QIZ	**Qiongzhong**	**152.49**	**224**	PFAKE		06 50 00.0	+1.6
QIZ				LR	LR		
	comp=Z,443nm,20.0s						
ARU	**Arti**	**154.24**	**42**	*e*PKPdf	**PKPdf**	**06 49 54.6**	**+1.8**
ARU				LR	LR		
	comp=Z,925nm,20.0s						
GEYT	**Alibeck**	**155.14**	**86**	PKPab	**PKPab**	**06 50 19.3**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=242,slow=3.1,SNR=3.8						
NJ2	**Nanjing**	**155.39**	**258**	*e*PKP	**PKPdf**	**06 49 56.5**	**+1.3**
AKTO	**Aktyubinsk**	**155.73**	**56**	PKP	**PKPdf**	**06 49 56.4**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=356,slow=4.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**156.46**	**201**	PKPbc	PKPdf	06 50 02.3	+5.2
	comp=Z,1.1nm,0.3s,baz=278,slow=1.3,SNR=5.9						
CHTO	**Chiang Mai**	**156.79**	**202**	PFAKE		06 50 10.0	+13
CHTO				LR	LR		
	comp=Z,382nm,19.0s						
BOD	**Bodaibo**	**157.16**	**326**	*e*PKIKP	PKPdf	06 50 09.9	+13
ABKAR	**Akbulak array**	**157.18**	**58**	*e*PKPdf	**PKPdf**	**06 49 55.8**	**-1.3**
HIA	**Hailar**	**157.57**	**302**	PFAKE		06 50 10.0	+12
HIA				LR	LR		
	comp=Z,828nm,22.0s						
WHN	**Wuhan**	**157.89**	**250**	PKPbc	**PKPab**	**06 50 32.7**	**+1.2**
WHN				PKPab	PKPab	06 50 42.4	+11
WHN				PP	**PP**	**06 54 07.8**	**-3.5**
WHN				LR	LR		
	comp=Z,1μm,24.4s						
GYA	**Guiyang**	**160.19**	**229**	*e*PKP	**PKPdf**	**06 50 01.4**	**-0.1**
GYA				PKPab	**PKPab**	**06 50 45.2**	**+3.5**
GYA				PKS	**PKSdf**	**06 53 33.8**	**-1.3**
GYA				PP	PP	06 54 28.0	+4.5
GYA				PPMZ			
	comp=Z,130nm,7.8s						
GYA				LN			
	comp=Z,130nm,22.8s						
GYA				LE			
	comp=Z,120nm,23.0s						
GYA				LZ			
	comp=Z,140nm,21.6s						
BJI	**Beijing**	**160.19**	**276**	PKP	**PKPdf**	**06 50 02.2**	**+1.3**
BJI				SS	SS	07 14 38.5	+3.8
BJI				LN			
	comp=Z,180nm,25.7s						
BJI				LE			
	comp=Z,230nm,21.3s						
BJI				LZ			
	comp=Z,300nm,21.4s						
BJT	**Baijiatuau**	**160.19**	**276**	PFAKE		06 50 10.0	+9.1
BJT				LR	LR		
	comp=Z,516nm,19.0s						
ENH	**Enshi**	**161.10**	**242**	PFAKE		06 50 10.0	+7.7
ENH				LR	LR		
	comp=Z,214nm,21.0s						
HHC	**Hu-ho-hao-te**	**163.79**	**277**	*e*PKP	**PKPdf**	**06 50 03.6**	**-1.1**
HHC				PP	**PP**	**06 54 45.3**	**+1.9**
HHC				PPMZ			
	comp=Z,150nm,10.8s						
HHC				LN			
	comp=Z,340nm,21.0s						
HHC				LE			
	comp=Z,250nm,18.5s						
HHC				LZ			
	comp=Z,590nm,23.0s						
CD2	**Chengdu**	**165.19**	**232**	PKP	**PKPdf**	**06 50 06.0**	**-0.2**
CD2				PKS	**PKSdf**	**06 53 38.0**	**-1.1**
CD2				PP	PP	06 54 54.6	+4.5
CD2				SKS	**SKSdf**	**06 57 08.0**	**-2.5**
CD2				SKKS	**SKKSac**	**07 01 39.4**	**+1.4**
CD2				PPMZ			
	comp=Z,120nm,5.6s						
TLY	**Talaya**	**165.72**	**324**	PFAKE		06 50 20.0	+14
TLY				LR	LR		
	comp=Z,632nm,22.0s						
ULN	**Ulaanbaatar**	**166.03**	**306**	PFAKE		06 50 20.0	+14
ULN				LR	LR		
	comp=Z,964nm,22.0s						
ZAK	**Zakamensk**	**166.77**	**321**	*e*PKP2	**PKPab**	**06 51 13.5**	**+3.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**167.27**	**35**	PFAKE		06 50 20.0	+13
KURK				LR	LR		
	comp=Z,1μm,21.0s						
EKS2	**Erkin-Say**	**167.63**	**76**	*e*PKIKP	**PKPdf**	**06 50 08.0**	**+0.2**
EKS2				MLR	MLR		
	comp=Z,716nm,21.0s						
EKS2	**Erkin-Say**	**167.63**	**76**	*e*PKPdf	**PKPdf**	**06 50 08.0**	**+0.2**
EKS2				LR	LR		
	comp=Z,716nm,21.0s						
AAK	**Ala-Archa**	**168.16**	**76**	PFAKE		06 50 20.0	+12
AAK				LR	LR		
	comp=Z,592nm,21.0s						
LZH	**Lanzhou**	**168.27**	**251**	*e*PKP	**PKPdf**	**06 50 08.9**	**+0.4**
LZH				pPKP	**pPKPdf**	**06 50 12.1**	**+0.1**
LZH				sPKP		06 50 13.3	
LZH				*e*PP	**PP**	**06 55 10.2**	**+3.7**
LZH				SKKS		07 01 54.0	
LZH				*e*SS	**SS**	**07 15 57.0**	**-0.8**
LZH				PPMZ			
	comp=Z,160nm,8.9s						
LZH				LN			
	comp=Z,170nm,18.1s						
LZH				LE			
	comp=Z,180nm,18.3s						
LZH				LZ			
	comp=Z,210nm,20.2s						
LSA	**Lhasa**	**168.86**	**184**	PFAKE		06 50 20.0	+10
LSA				LR	LR		
	comp=Z,620nm,21.0s						
TKM2	**Tokmak 2**	**168.95**	**74**	*e*PKIKP	**PKPdf**	**06 50 07.1**	**-1.7**
TKM2				MLR	MLR		
	comp=Z,759nm,22.0s						
TKM2	**Tokmak 2**	**168.95**	**74**	*e*PKPdf	**PKPdf**	**06 50 07.1**	**-1.7**
TKM2				LR	LR		
	comp=Z,759nm,22.0s						
KSH	**Kashi**	**169.07**	**92**	*e*PKP	**PKPdf**	**06 50 09.8**	**+0.9**
KSH				PKS	**PKSdf**	**06 53 41.1**	**-0.3**
KSH				SKS	**SKSdf**	**06 57 12.5**	**-0.1**
KSH				PPMZ			
	comp=Z,160nm,5.3s						
KSH				LN			
	comp=Z,140nm,6.5s						
KSH				LE			
	comp=Z,150nm,7.5s						
KSH				LZ			
	comp=Z,270nm,8.8s						
MKAR	**Makanchi Array**	**171.77**	**41**	PKP	**PKPdf**	**06 50 07.6**	**-2.4**
	comp=Z,0.3nm,0.7s,baz=310,slow=0.3,SNR=3.0						
WMQ	**Urumqi**	**176.50**	**31**	*e*PKP	**PKPdf**	**06 50 09.7**	**-2.1**
WMQ				pPKP	**pPKPdf**	**06 50 20.0**	**+4.8**
WMQ				PKPab	**PKPab**	**06 51 52.0**	**-1.2**
WMQ				*e*PP	**PP**	**06 55 47.0**	**+1.0**
WMQ				PPMZ			
	comp=Z,120nm,7.2s						
WMQ				LN			
	comp=Z,620nm,18.8s						
WMQ				LE			
	comp=Z,580nm,23.0s						
WMQ				LZ			
	comp=Z,1μm,29.2s						

*ISCJB **10** 06:31:23.8±0.5,32°.12N±0°.02×115°.04W±0°.03,h8km±4km, Error ellipse: s-maj=4.4km s-min=3.2km az=21.8*
*NEIC **10** 06:31:25.9,32°.13N×115°.09W,h7km,ML3.3(PAS),After PAS.*
*ECX **10** 06:31:26.3±0.6,32°.09N×115°.09W,h8km,MD3.3,ML3.5*
ISC 10 06:31:24.9±0.9,32°.10N±0°.02×115°.12W±0°.03,h10km±8km, n33,σ1§02/53,6C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.16**	**223**	⇑*e*P		**Pg**		**06 31 28.4**	**0.0**
EMX				*e*S		**Sg**		**06 31 31.1**	**+0.4**
CPBX	**Cerro Prieto**	**0.35**	**333**	*e*P		**Pg**		**06 31 32.3**	**+0.4**
CPBX				*e*S		**Sb**		**06 31 38.5**	**-0.5**
CPBX				AML	AML	06 31 39.8			
	comp=N,18μm,0.2s								
CPBX				*e*		06 31 39.8			
ECBX	**El Chinero**	**0.63**	**175**	*e*P		**Pg**		**06 31 36.7**	**-0.5**
ECBX				*e*S		**Sg**		**06 31 45.2**	**-0.2**
YMD	**Yuma Desert**	**0.66**	**47**	⇑*i*P		**Pg**		**06 31 37.7**	**-0.1**
RDX	**Rancho Dawling**	**0.72**	**256**	*e*P		**Pg**		**06 31 39.5**	**+0.6**
RDX				*e*S		**Sb**		**06 31 50.1**	**+0.3**
SGI	**Mount Signal**	**0.75**	**317**	⇓*i*P		**Pg**		**06 31 39.6**	**+0.1**
COA	**Coachella**	**0.76**	**360**	⇓*i*P		**Pg**		**06 31 39.5**	**-0.1**
YUH	**Yuha Desert**	**0.87**	**309**	⇑*i*P		**Pg**		**06 31 42.0**	**+0.2**
COK	**Cook Ranch**	**0.91**	**325**	⇑*i*P		**Pb**		**06 31 42.8**	**0.0**
RMX	**La Rumorosa**	**0.96**	**302**	*e*P		**Pg**		**06 31 43.6**	**+0.2**
RMX				*e*S		**Sb**		**06 31 57.0**	**+0.5**
RMX				AML	AML	06 31 58.0			
	comp=N,1μm,0.1s								
RMX				⇑*e*		06 31 58.0			
GLA	**Glamis**	**0.98**	**14**	*e*Pg		**Pg**		**06 31 42.4**	**-1.4**
GLA				*e*Sg		**Sg**		**06 31 56.2**	**-0.4**
SPIG	**San Pedro Mart**	**1.09**	**196**	*e*P		**Pg**		**06 31 45.4**	**-0.6**
SPIG				*e*S		**Sg**		**06 32 00.3**	**0.0**
SPX	**San Pedro Mart**	**1.09**	**196**	*e*P		**Pg**		**06 31 45.2**	**-0.8**
SPX				*e*S		**Sg**		**06 32 00.3**	**0.0**
SPX				⇑*e*		06 32 02.5			
SPX				AML	AML	06 32 02.5			
	comp=N,547nm,0.5s								
ZAX	**El Zacaton**	**1.15**	**240**	*e*P		**Pb**		**06 31 46.1**	**-0.8**
ZAX				*e*S		**Sb**		**06 32 02.1**	**+0.2**
ZAX				⇓*e*		06 32 03.7			
ZAX				AML	AML	06 32 03.7			
	comp=E,916nm,0.4s								
CBX	**Cerro Bola**	**1.33**	**280**	*e*P		**Pn**		**06 31 49.9**	**+0.3**
CBX				*e*S		**Sn**		**06 32 08.1**	**+0.6**
CBX				*e*		06 32 10.9			
CBX				AML	AML	06 32 10.9			
	comp=E,1μm,0.3s								
ECNX	**Esteban Cantu**	**1.34**	**251**	*e*P		**Pn**		**06 31 49.4**	**-0.4**
ECNX				*e*S		**Sb**		**06 32 07.7**	**+0.3**
PBX	**Punta Banda**	**1.42**	**256**	*e*P		**Pn**		**06 31 50.6**	**-0.1**
PBX				*e*S		**Sb**		**06 32 10.2**	**+0.7**
BAR	**Barrett**	**1.44**	**294**	*e*Pn		**Pn**		**06 31 50.5**	**-0.6**
BAR				*e*Sn		**Sn**		**06 32 10.1**	**+0.1**
PFO	**Pinyon Flats O**	**1.88**	**323**	*e*Pn		**Pn**		**06 31 55.5**	**-1.8**
214A	**Organ Pipe Nat**	**1.96**	**94**	*e*Pn		**Pn**		**06 31 56.3**	**-2.0**
LDFC	**Landfair**	**2.97**	**0**	*e*Pn		**Pn**		**06 32 12.2**	**0.0**
LDFC				*e*Pg		**Pg**		**06 32 23.8**	**+2.0**
MWC	**Mount Wilson**	**3.25**	**311**	*e*Pg		**Pb**		**06 32 25.1**	**+2.2**
MWC				*e*Sg		**Sg**		**06 33 08.0**	**-1.4**
GSC	**Goldstone, Bar**	**3.49**	**337**	*e*Pn		Pb		06 32 23.4	-3.4
GSC				*e*Pg		**Pg**		**06 32 31.0**	**-0.8**
TUC	**Tucson**	**3.68**	**86**	*e*Pn		**Pn**		**06 32 24.7**	**+2.8**
TUC				*e*Pg		**Pg**		**06 32 37.8**	**+2.4**
SHPR	**Sheep Range**	**4.39**	**360**	*e*Pn		**Pn**		**06 32 32.6**	**+0.8**
SHPR				*e*Pg		**Pg**		**06 32 49.7**	**+0.6**
SHPR				*e*Sg		**Sg**		**06 33 45.9**	**-0.1**
ISA	**Isabella, Lake**	**4.52**	**323**	*e*Pg		**Pg**		**06 32 51.6**	**+0.1**
WUAZ	**Wupatki**	**4.62**	**41**	*e*Pg		**Pb**		**06 32 44.9**	**-1.2**
W18A	**Petrified Fore**	**5.40**	**55**	*e*Pn		**Pn**		**06 32 46.6**	**+0.9**
CCUT	**Cedar City**	**5.62**	**14**	*e*Pn		**Pn**		**06 32 49.7**	**+0.9**
	comp=E,15nm,1.1s								
CCUT				*e*Pg		**Pg**		**06 33 13.0**	**+0.4**
ARUT	**Antelope Range**	**5.84**	**13**	*e*Pg		**Pg**		**06 33 15.7**	**-1.0**
	comp=E,1.3nm,0.7s								
121A	**Cookes Peak, D**	**6.22**	**84**	*e*Pn		**Pn**		**06 32 55.8**	**-1.2**
	comp=E,4.7nm,0.4s								
R11A	**Troy Canyon, C**	**6.24**	**357**	*e*Pg		**Pg**		**06 33 22.5**	**-2.0**
	comp=E,1.7nm,0.7s								
MVU	**Marysvale**	**6.81**	**20**	*e*Pn		**Pn**		**06 33 04.1**	**-1.1**
	comp=E,11nm,1.0s								
MVU				*e*Pg		**Pg**		**06 33 35.0**	**-0.4**

DJA 10 06:41:48.5±0.5,1°.N±4°.×12°.5E±°,h16km±6km,M3.8/13, MLv3.8/13,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.69**	**254**	P		Pg		06 42 00.2	-1.8
KMSI				S		Sn		06 42 12.8	-1.1
GTOI	**Gorontalo**	**1.64**	**265**	P		Pb		06 42 18.5	+0.2
LUWI	**Luwuk**	**2.59**	**226**	P		Pn		06 42 30.3	+0.5
LUWI				S		Sn		06 43 01.3	+0.2
MRSI	**Marisa**	**2.71**	**264**	P		Pn		06 42 31.7	+0.2
MRSI				S		Sn		06 43 04.8	+0.8
TNTI	**Ternate**	**2.73**	**90**	P		Pn		06 42 31.7	0.0
SGSI	**Sangihe**	**3.03**	**17**	P		Pn		06 42 35.6	-0.2
SANI	**Sanana**	**3.11**	**154**	P		Pn		06 42 37.4	+0.5
LBMI	**Labuha**	**3.18**	**116**	P		Pn		06 42 37.0	-1.0
APSI	**Ampana**	**3.43**	**241**	P		Pn		06 42 41.3	+0.2
APSI				S		Sb		06 43 26.3	-4.0
NLAI	**Namlea**	**4.68**	**148**	P		Pn		06 42 59.2	+0.7
MPSI	**Mapaga**	**4.76**	**265**	P		Pn		06 43 00.0	+0.3

GUC 10 06:47:28.7±0.4,34°.57S×72°.02W,h19km±3km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.78**	**124**	*e*P		Pg		06 47 44.0	0.0
NICH				*e*S		Sn		06 47 55.6	-0.4
TALC	**Talca**	**0.89**	**159**	*e*P		Pb		06 47 45.5	0.0
TALC				*e*S		Sn		06 47 58.5	0.0
LNCH	**Linares**	**1.32**	**165**	*e*P		Pb		06 47 52.9	0.0
LNCH				*e*S		Sg		06 48 11.4	-0.2
SJCH	**San Jose de Ma**	**1.66**	**57**	*e*P		Pb		06 47 58.6	-0.3
SJCH				*e*S		Sg		06 48 21.3	-1.4
LACH	**Col Las Americ**	**1.67**	**48**	*e*P		Pb		06 47 58.8	-0.1
LACH				*e*S		Sg		06 48 21.4	-1.2
COCH	**Cobquecura**	**1.68**	**202**	*e*P		Pb		06 47 58.5	-0.6
COCH				*e*S		Sg		06 48 21.4	-1.6
CLCH	**Cerro Calan**	**1.70**	**47**	*e*P		Pb		06 47 59.5	0.0
CLCH				*e*S		Sg		06 48 22.6	-1.2
CLCH				AML	AML	06 48 26.7			
	comp=N,1μm,0.7s								
PEL	**Peldehue**	**1.80**	**38**	*e*P		Pb		06 48 00.8	-0.5
PEL				*e*S		Sg		06 48 25.4	-1.7
PEL				AML	AML	06 48 29.7			
	comp=E,2μm,0.4s								
YECH	**El Yeso**	**1.84**	**61**	*e*P		Pb		06 48 01.8	-0.4
YECH				*e*S		Sg		06 48 27.2	-1.6
YECH				AML	AML	06 48 33.2			
	comp=N,769nm,0.3s								

IDC 10 06:50:05.9±1.6,3°.81S×142°.10E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.4/28,mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=46.0km s-min=25.1km az=95.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.90**	**313**	Pn		Pn		06 50 39.5	-0.2
	3.8nm,0.3s,baz=139,slow=9.3,SNR=10.0								
JAY				Sn		Sn		06 51 00.9	-3.4
	5.1nm,0.3s,baz=127,slow=20,SNR=5.6								
MANU	**Manus Island**	**5.54**	**72**	P		Pn		06 51 16.2	-14
	baz=5.2,SNR=3.2								
MTN	**Manton Dam**	**14.07**	**230**	P		Pn		06 53 29.6	+2.8
	baz=15,SNR=5.2								
KNRA	**Kununurra**	**17.64**	**227**	P		P		06 54 16.3	+2.0
	baz=19,SNR=4.6								
WRA	**Warramunga Arr**	**17.73**	**205**	Pn		P		06 54 15.4	0.0
	0.2nm,0.3s,baz=30,slow=13,SNR=5.4								
ASAR	**Alice Springs**	**21.27**	**201**	P		P		06 54 53.7	-0.4
	0.5nm,0.5s,baz=33,slow=12,SNR=2.9								
MJAR	**Matsushiro Arr**	**40.30**	**355**	P		P		06 57 44.7	-0.4
	0.7nm,0.6s,baz=170,slow=8.1,SNR=4.5								
ILAR	**Eielson Array**	**85.44**	**24**	P		P		07 02 45.4	+0.2
	0.2nm,0.6s,baz=269,slow=6.4,SNR=4.0								

*ISCJB **10** 06:53:27.9±0.6,0°.18N±0°.05×125°.68E±0°.04,h49km, Error ellipse: s-maj=7.8km s-min=5.9km az=12.2*
*DJA **10** 06:53:28.6±3.1,0°.N±3°.×12°.6E±°,h35km±39km,M3.8/2, MLv3.8/2*
ISC 10 06:53:28.7±1.3,0°.17N±0°.05×125°.66E±0°.04,h49km,n11, σ1§52/15,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.73**	**284**	P		**Pn**		**06 53 56.4**	**+0.1**
KMSI				S		**Sn**		**06 54 18.4**	**+1.2**
TNTI	**Ternate**	**1.81**	**71**	P		**Pn**		**06 53 57.3**	**-0.1**
TNTI				S		**Sn**		**06 54 18.9**	**-0.2**
LBMI	**Labuha**	**2.00**	**114**	P		**Pn**		**06 54 00.3**	**+0.2**
SANI	**Sanana**	**2.23**	**172**	P		**Pn**		**06 54 02.4**	**-0.7**
SANI				S		**Sn**		**06 54 30.8**	**+1.4**
LUWI	**Luwuk**	**3.13**	**247**	P		**Pn**		**06 54 15.4**	**-0.1**
LUWI				S		**Sn**		**06 54 47.6**	**-4.1**
LUWI	**Luwuk**	**3.13**	**247**	P		**Pn**		**06 54 17.8**	**+2.3**
	baz=19,SNR=4.7								
SGSI	**Sangihe**	**3.50**	**358**	P		**Pn**		**06 54 20.6**	**0.0**
NLAI	**Namlea**	**3.67**	**157**	P		**Pn**		**06 54 23.8**	**+0.8**
MRSI	**Marisa**	**3.73**	**275**	P		**Pn**		**06 54 24.9**	**+1.1**
APSI	**Ampana**	**4.15**	**255**	P		**Pn**		**06 54 29.7**	**+0.1**
MSAI	**Masohi**	**4.78**	**137**	P		**Pn**		**06 54 38.2**	**0.0**

*IDC **10** 06:53:57.1±4.4,10°.96N×125°.47E,h63km±39km,mb4.1/23, mb1 4.2/23,mb1mx4.1/36,mbtmp4.4/23,Error ellipse: s-maj=18.8km s-min=11.9km az=72.0*
*ISCJB **10** 06:53:57.8±0.5,11°.01N±0°.03×125°.54E±0°.05,h83km±4km, mb4.5/65,Error ellipse: s-maj=8.6km s-min=4.7km az=158.1*
*MAN **10** 06:53:57,11°.05N×125°.57E,h33km,mb5.1,ML4.1,MS4.2*
MAN INTENSITY III - BORONGAN & LLORENTE EASTERN SAMAR; INTENSITY II - HERNANI MC ARTHUR SALCEDO & MERCEDES EASTERN SAMAR.
*MOS **10** 06:54:00.1±1.0,10°.90N×125°.46E,h109km,mb4.7/35, Error ellipse: s-maj=14.4km s-min=5.8km az=117.7*
*BJI **10** 06:54:03.1,10°.91N×125°.55E,h140km,mB4.9/20, mb4.6/34*
*NEIC **10** 06:54:05.3±1.2,10°.91N×125°.50E,h138km±11km, mb4.6/25,Error ellipse: s-maj=10.3km s-min=5.2km az=73.0*
NEIC Felt at Palo and Tacloban. Felt [III PIVS] at Borongan and Llorente and [II PIVS] at General MacArthur, Hernani, Mercedes and Salcedo, Samar.
ISC 10 06:54:00.6±0.8,10°.97N±0°.05×125°.52E±0°.06,h97km±7km, n171,σ1§41/182,mb4.6/65,10C-5D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.90**	**275**	*e*P		Pn		06 54 15.2	-4.4
OCLP				*e*S		Sn		06 54 27.5	-6.5
MSLP	**Maasin**	**1.05**	**218**	*e*P		**Pn**		**06 54 18.5**	**-2.9**
MSLP				*e*S		**Sn**		**06 54 35.4**	**-1.5**
SCPH	**Surigao**	**1.18**	**181**	⇓*e*P		Pn		06 54 19.2	-3.6
SCPH				*i* S		**Sn**		**06 54 34.4**	**-5.1**
CNP	**Catarman**	**1.75**	**331**	*e*P		Pn		06 54 25.9	-3.9
CNP				*e*S		**Sn**		**06 54 51.0**	**-1.0**
BUTP	**Butuan**	**1.99**	**177**	*e*P		**Pn**		**06 54 31.4**	**-1.6**
TBP	**Tagbilaran**	**2.06**	**232**	*e*P		**Pn**		**06 54 32.6**	**-1.3**
CGP	**Cagayan de Oro**	**2.63**	**198**	⇑*e*P		**Pn**		**06 54 39.3**	**-2.0**
CGP				*e*S		**Sn**		**06 55 11.9**	**-0.6**
BIPH	**Bislig**	**2.89**	**163**	⇓*e*P		**Pn**		**06 54 41.7**	**-3.1**
BIPH				*e*S		**Sn**		**06 55 19.7**	**+0.9**
GUIM	**Jordan**	**2.90**	**264**	*e*P		**Pn**		**06 54 42.8**	**-2.1**
PVCP	**Virac**	**2.93**	**333**	*e*P		Pn		06 54 41.2	-4.2
BUKP	**Musuan**	**3.10**	**188**	*e*P		**Pn**		**06 54 48.2**	**+0.5**
PAGZ	**Pagadian**	**3.75**	**214**	*e*P		**Pn**		**06 54 55.1**	**-1.2**
TPUB	**Ta-pu**	**13.12**	**340**	*e*Pn		**P**		**06 57 08.5**	**-1.2**
	28nm,0.6s								
SSLB	**Suanglung**	**13.47**	**342**	*e*Pn		**P**		**06 57 13.2**	**-0.4**
	15nm,0.9s								
FAKI	**Fak Fak**	**15.34**	**154**	*e*P		**Pn**		**06 57 31.9**	**+0.1**
	6.6nm,0.9s								
SBUM	**Sibu**	**15.68**	**238**	*e*P		**P**		**06 57 39.2**	**+1.1**
	21nm,1.1s								
QIZ	**Qiongzhong**	**17.12**	**300**	P		**P**		**06 57 57.6**	**+3.5**
QIZ				S		**S**		**07 01 10.2**	**+2.6**
QIZ				LE					
	110nm,18.2s								
QIZ				LZ					
	300nm,18.2s								
BATI	**Baumata**	**21.12**	**185**	P		**P**		**06 58 39.7**	**+2.0**
	21nm,0.5s,baz=324,slow=17,SNR=3.9								
NJ2	**Nanjing**	**21.87**	**345**	*e*P		**P**		**06 58 47.0**	**+1.5**
NJ2				PMZ					
	60nm,1.0s								
WHN	**Wuhan**	**22.07**	**334**	P		**P**		**06 58 48.6**	**+0.9**
TIA	**Tai'an**	**26.26**	**345**	⇑P		**P**		**06 59 26.5**	**-0.3**
TIA				PMZ					
	30nm,0.8s								
KSAR	**Wonju Array Be**	**26.45**	**4**	P		**P**		**06 59 28.5**	**+0.1**
KSAR	**Wonju Array Be**	**26.45**	**4**	P		**P**		**06 59 28.5**	**+0.1**
KSRS	**Korea Array**	**26.46**	**4**	P		**P**		**06 59 28.5**	**0.0**
	1.9nm,0.5s,baz=181,slow=10,SNR=12								
CMAR	**Chiang Mai Arr**	**26.73**	**289**	*e*P		**P**		**06 59 32.0**	**+0.7**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**26.73**	**289**	P		**P**		**06 59 31.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=102,slow=8.6,SNR=8.9								
XAN	**Xi'an**	**27.53**	**329**	P		**P**		**06 59 37.8**	**-0.5**
XAN				PMZ					
	comp=Z,3.0nm,0.8s								
MJAR	**Matsushiro Arr**	**27.93**	**22**	P		**P**		**06 59 39.7**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=199,slow=9.5,SNR=5.9								
CD2	**Chengdu**	**28.30**	**318**	*e*P		**P**		**06 59 44.3**	**-0.9**
CD2				pP		pP		07 00 15.5	+8.6
CD2				sP		sP		07 00 33.0	+15
CD2				PP		**PnPn**		**07 00 42.8**	**+3.7**
CD2				S		**S**		**07 04 20.3**	**-4.3**
CD2				sS		sS		07 05 15.2	+13
CD2				SS		**SnSn**		**07 05 59.1**	**+6.7**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,140nm,5.2s								
LZH	**Lanzhou**	**31.79**	**325**	*e*P		**P**		**07 00 17.5**	**+1.5**
L

comp=Z,10.0nm,0.4s
LSA Lhasa 37.02 305 *e*P **P 07 01 02.2 +0.5**
comp=Z,9.7nm,0.4s
TAPN Taplejung 39.06 300 *e*P **P 07 01 19.2 +0.5**
comp=Z,17nm,0.4s
ODAN Odare 39.19 299 *e*P **P 07 01 19.8 +0.1**
comp=Z,44nm,0.7s
RAMN Ramite 39.90 299 *e*P **P 07 01 26.0 +0.4**
comp=Z,21nm,0.4s
ULN Ulaanbaatar 39.92 341 ⇓*i*P **P 07 01 25.6 +0.3**
ULN pmax pmax
comp=Z,14nm,1.2s
ULN Ulaanbaatar 39.92 341 *e*P **P 07 01 26.2 +0.9**
comp=Z,7.7nm,0.7s
SONM Songino Array 40.11 340 P **P 07 01 27.7 +0.9**
comp=Z,3.6nm,0.7s,baz=156,slow=9.3,SNR=23
H11S3 WAKE ISLAND Hy 40.44 74 T T 07 44 45.0
baz=272,slow=74,SNR=38
JIRN Jiri 40.44 300 *e*P **P 07 01 30.6 +0.4**
comp=Z,63nm,0.4s
H11S1 WAKE ISLAND Hy 40.45 74 T T 07 44 35.7
baz=272,slow=74,SNR=28
H11S2 WAKE ISLAND Hy 40.46 74 T T 07 44 41.2
baz=272,slow=74,SNR=42
H11N1 WAKE ISLAND Hy 40.75 73 T T 07 45 02.9
baz=265,slow=74,SNR=148
H11N2 WAKE ISLAND Hy 40.75 73 T T 07 45 02.2
baz=265,slow=74,SNR=132
H11N3 WAKE ISLAND Hy 40.76 73 T T 07 44 58.1
baz=265,slow=74,SNR=164
GUN Gumba 40.78 300 *e*P **P 07 01 33.1 +0.2**
comp=Z,76nm,0.7s
PKI Pulchoki 41.09 300 *e*P **P 07 01 35.2 -0.2**
comp=Z,25nm,0.5s
PKIN Phulchoki 41.10 300 *e*P **P 07 01 35.2 -0.3**
comp=Z,10nm,0.3s
KKN Kakani 41.26 300 *e*P **P 07 01 36.6 -0.1**
FORT Forrest 41.58 177 *e*P **P 07 01 39.7 +0.8**
comp=Z,42nm,0.8s
GKN Gorkha 41.86 300 *e*P **P 07 01 41.1 -0.5**
comp=Z,22nm,0.5s
KOLN Koldanda 42.69 299 *e*P **P 07 01 48.3 0.0**
comp=Z,40nm,0.7s
DANN Dangsing 42.70 300 *e*P **P 07 01 48.4 -0.1**
comp=Z,55nm,0.5s
PYUN Piuthan 43.29 299 *e*P **P 07 01 52.3 -0.9**
comp=Z,60nm,0.5s
ZAK Zakamensk 43.35 339 *e*P **P 07 01 52.8 -0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 44.33 341 *e*P **P 07 02 02.2 +1.3**
TLY *e* 07 03 44.9
TLY *e*S **S 07 08 27.6 -0.3**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 44.33 341 *e*P **P 07 02 02.3 +1.3**
comp=Z,6.7nm,0.9s
BBOO Buckleboo 44.68 167 *e*P **P 07 02 04.2 +0.3**
comp=Z,12nm,0.6s
WMQ Urumqi 46.22 322 *e*P **P 07 02 18.2 +2.1**
WMQ pP pP 07 02 50.0 +11
WMQ sP sP 07 03 06.0 +16
WMQ *e*S **S 07 08 55.0 -0.4**
WMQ ScS **ScS 07 11 56.0 -6.0**
WMQ PMZ
comp=Z,7.0nm,0.5s
WMQ PMZ
comp=Z,160nm,7.2s
WMQ LN
comp=Z,350nm,16.2s
WMQ LE
comp=Z,430nm,20.4s
WMQ LZ
comp=Z,340nm,28.6s
BOD Bodaibo 47.58 352 *e*P **P 07 02 26.8 +0.5**
BOD pmax pmax
comp=Z,6.0nm,1.1s
PETK Petropavlovsk- 49.32 25 P **P 07 02 40.2 +0.4**
comp=Z,1.3nm,0.6s,baz=210,slow=4.8,SNR=4.1
PETK PcP **PcP 07 04 01.8 +0.8**
comp=Z,1.9nm,0.6s,baz=205,slow=4.1,SNR=3.6
MK31 Makanchi Array 51.03 323 *e*P **P 07 02 53.2 +0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 51.03 323 P **P 07 02 53.4 +0.6**
comp=Z,3.9nm,0.4s,baz=126,slow=7.1,SNR=86
MKAR PcP **PcP 07 04 07.7 +0.1**
comp=Z,1.4nm,0.5s,baz=127,slow=4.5,SNR=4.3
YAK Yakutsk 51.06 3 *e*P **P 07 02 50.1 -2.6**
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.3s
PDGK Podgornoye 51.19 318 P **P 07 02 54.1 +0.1**
PDGK pmax pmax
comp=Z,8.0nm,0.8s
DZM Mont Dzumac 51.86 129 P **P 07 03 00.6 +1.2**
comp=Z,7.0nm,1.1s,baz=265,slow=18,SNR=5.8
KSH Kashi 52.22 312 P **P 07 03 04.0 +2.1**
KSH pP pP 07 03 38.2 +13
KSH PP PP 07 05 06.8 +5.5
KSH S **S 07 10 18.1 -1.5**
KSH sS sS 07 11 15.1 +15
KSH SS **SS 07 13 56.7 -1.6**
KSH PMZ
comp=Z,6.0nm,0.6s
KSH PMZ
comp=Z,93nm,4.2s
KSH LN
comp=Z,130nm,5.1s
KSH LE
comp=Z,120nm,5.2s
KSH LZ
comp=Z,200nm,7.2s
ULHL Ulahol 52.96 315 P **P 07 03 08.7 +1.1**
SNR=9.1
ULHL Ulahol 52.96 315 *i*P **P 07 03 08.6 +1.1**
KZA Kyzart 53.59 315 P **P 07 03 13.7 +1.3**
SNR=14
KZA Kyzart 53.59 315 *i*P **P 07 03 13.6 +1.3**
TKM2 Tokmak 2 53.65 316 P **P 07 03 13.6 +1.0**
SNR=6.6
TKM2 Tokmak 2 53.65 316 *i*P **P 07 03 13.0 +0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 53.65 316 *e*P **P 07 03 13.5 +1.0**
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 53.66 331 P **P 07 03 11.9 -0.2**
comp=Z,5.5nm,0.3s,baz=124,slow=7.1,SNR=35
UCH Uchtor 54.16 315 P **P 07 03 17.6 +1.0**
SNR=36
UCH Uchtor 54.16 315 *i*P **P 07 03 17.5 +1.0**
SFK Sufi-Kurgan 54.18 312 P **P 07 03 16.7 +0.2**
SFK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 54.31 315⇑ *e*P **P 07 03 17.2 -0.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 54.31 315 *e*P **P 07 03 17.9 +0.6**
comp=Z,20nm,2.0s
AML Almayashu 54.70 314 P **P 07 03 21.5 +1.1**
SNR=26
AML Almayashu 54.70 314 *i*P **P 07 03 21.5 +1.1**
EKS2 Erkin-Say 54.82 315 P **P 07 03 22.2 +1.3**
SNR=11
EKS2 Erkin-Say 54.82 315 *e*P **P 07 03 22.2 +1.3**
EKS2 pmax pmax
comp=Z,11nm,0.8s
EKS2 Erkin-Say 54.82 315 *e*P **P 07 03 22.2 +1.3**
comp=Z,11nm,0.8s
NVS Novosibirsk 54.94 332⇑ *i*P **P 07 03 20.2 -1.1**
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 55.08 326 P **P 07 03 21.8 -0.6**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 55.08 326 *e*P **P 07 03 22.9 +0.5**
comp=Z,21nm,1.0s
SEY Seymchan 55.33 15 *i*P **P 07 03 25.5 +1.5**
MNAS Manas 55.65 314 P **P 07 03 27.6 +0.7**
MNAS pmax pmax
comp=Z,16nm,0.7s
KBL Kabul 56.33 304 *e*P **P 07 03 32.2 +0.2**
KBL pmax pmax
comp=Z,7.0nm,0.5s
KBL Kabul 56.33 304 *e*P **P 07 03 32.2 +0.2**
comp=Z,7.0nm,0.5s
KK31 Karatay Array 57.24 314 P **P 07 03 37.8 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR Karatay Array 57.24 314 *e*P **P 07 03 38.4 +0.4**
KKAR pmax pmax
comp=Z,16nm,0.6s
KKAR Karatay Array 57.24 314 *e*P **P 07 03 38.4 +0.4**
comp=Z,16nm,0.6s
DZET Dzherino 57.36 309 P **P 07 03 38.6 -0.5**
DZET pmax pmax
comp=Z,22nm,0.5s
TIXI Tiksi 60.67 1 ⇓*i*P **P 07 04 00.7 -0.5**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 60.67 1 *e*P **P 07 04 01.0 -0.1**
comp=Z,3.5nm,0.8s
BVA0 Borovoye Array 60.67 325 *i*P **P 07 04 01.4 -0.1**
BVA0 pmax pmax
comp=Z,8.0nm,1.1s
BILL Bilibino 62.94 16 ⇓*i*P **P 07 04 16.7 +0.3**
BILL pmax pmax
comp=Z,17nm,2.8s
BILL Bilibino 62.94 16 *e*P **P 07 04 16.6 +0.1**
comp=Z,2.5nm,0.6s
GEYT Alibeck 65.54 307 P **P 07 04 34.4 +0.3**
comp=Z,2.2nm,0.4s,baz=96,slow=8.8,SNR=3.4
AB31 Akbulak array 65.87 319 *i*P **P 07 04 35.5 -0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 65.87 319 *e*P **P 07 04 36.0 +0.1**
comp=Z,21nm,0.9s
SVE Sverdlovsk 67.23 327⇑ *i*P **P 07 04 44.9 +0.5**
SVE pmax pmax
comp=Z,13nm,0.9s
AKTO Aktyubinsk 67.32 320 P **P 07 04 44.7 -0.4**
AKTO pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 68.24 327*c i*P **P 07 04 50.3 -0.5**
ARU 07 07 19.0
ARU S **S 07 13 40.2 -3.4**
ARU pmax pmax
comp=Z,16nm,0.6s
ARU Arti 68.24 327 *e*P **P 07 04 49.9 -0.8**
comp=Z,21nm,0.6s
PRGR Permogore 75.62 331 P **P 07 05 33.3 -1.4**
PRGR pmax pmax
comp=Z,13nm,0.8s
KDAK Kodiak Island 76.48 33 *i*P **P 07 05 40.8 +1.1**
KIV Kislovodsk 77.33 313 *e*P **P 07 05 45.8 +0.8**
KIV pmax pmax
comp=Z,6.0nm,0.6s
COLD Coldfoot 77.75 23 *e*P **P 07 05 48.9 +2.2**
comp=Z,44nm,2.2s
CASY Casey 77.83 186 *e*P **P 07 05 48.1 +1.2**
MCK McKinley 78.28 27 *e*P **P 07 05 50.6 +0.9**
MCK pmax pmax
comp=Z,8.0nm,0.7s
MCK McKinley 78.28 27 *e*P **P 07 05 50.5 +0.9**
comp=Z,7.9nm,0.7s
ILAR Eielson Array 79.14 26 P **P 07 05 54.0 -0.4**
ILAR Eielson Array 79.14 26 P **P 07 05 54.0 -0.4**
comp=Z,1.4nm,0.7s,baz=237,slow=5.1,SNR=32
PAX Paxson 79.87 28 *e*P **P 07 05 58.9 +0.4**
PAX pmax pmax
comp=Z,3.0nm,0.7s
PAX Paxson 79.87 28 *e*P **P 07 05 58.9 +0.4**
comp=Z,2.5nm,0.7s
OBN Obninsk 80.50 324 *e*P **P 07 06 02.1 +0.3**
OBN pmax pmax
comp=Z,20nm,1.7s
JOF Joensuu 82.23 333 *e*P **P 07 06 09.3 -1.6**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 82.23 333 *ep* **P 07 06 09.3 -1.6**
comp=Z,6.7nm,0.6s
KEV Kevo 82.73 340 *e*P **P 07 06 11.9 -1.4**
KEV pmax pmax
comp=Z,3.0nm,0.7s
KEV Kevo 82.73 340 *ep* **P 07 06 11.9 -1.4**
comp=Z,3.2nm,0.7s
ARCES ARCESS Array B 83.29 340 P **P 07 06 16.5 +0.3**
comp=Z,3.2nm,0.6s,baz=78,slow=6.6,SNR=30
INK Inuvik 83.91 22 *e*P **P 07 06 20.1 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 83.91 22 P **P 07 06 20.2 +0.8**
comp=Z,2.4nm,0.7s,baz=279,slow=4.4,SNR=19
INK Inuvik 83.91 22 *e*P **P 07 06 20.1 +0.7**
comp=Z,3.8nm,0.9s
BRTR Keskin Array B 84.52 309*ce*P **P 07 06 22.7 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 84.52 309 P **P 07 06 22.5 -0.8**
comp=Z,2.9nm,0.8s,baz=117,slow=4.2,SNR=15
KAF Kangasniemi 84.67 332 *e*P **P 07 06 21.6 -1.8**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 84.67 332 *ep* **P 07 06 21.6 -1.8**
comp=Z,3.4nm,0.7s
FINES FINESS Array B 84.93 332 P **P 07 06 24.6 -0.1**
comp=Z,2.1nm,0.4s,baz=87,slow=4.7,SNR=58
AKASG Malin Array Be 85.56 321*ce*P **P 07 06 27.2 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 85.56 321 P **P 07 06 27.0 -1.0**
comp=Z,3.4nm,0.5s,baz=64,slow=4.8,SNR=14
KIEV Kiev 85.57 321 *i*P **P 07 06 27.2 -0.9**
KIEV Kiev 85.57 321 *e*P **P 07 06 27.4 -0.7**
comp=Z,8.1nm,0.9s
CSS Prodhromos 85.58 305 *e*P **P 07 06 28.7 +0.1**
comp=Z,3.6nm,0.9s
KMBO Kilima Mbogo 88.51 269*ce*P **P 07 06 46.4 +3.0**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 88.51 269 P **P 07 06 44.0 +0.6**
comp=Z,1.0nm,0.6s,baz=68,slow=7.8,SNR=4.4
KOLS Kolonicke sedl 90.36 320 *e*P **P 07 06 51.7 +0.6**
KOLS Kolonicke sedl 90.36 320 *e*P **P 07 06 51.7 +0.6**
VNDA Vanda 90.71 173 P **P 07 06 52.6 +0.6**
comp=Z,0.9nm,0.8s,baz=329,slow=7.4,SNR=3.0
CRVS Cervenica-Dubn 90.88 320 *e*P **P 07 06 53.8 +0.3**
CRVS Cervenica-Dubn 90.88 320 *e*P **P 07 06 53.8 +0.3**
KECS Kecovo 91.62 320 *e*P **P 07 06 56.6 -0.3**
KECS Kecovo 91.62 320 *e*P **P 07 06 56.6 -0.3**
NB2 NORSAR Subarra 91.81 334 P **P 07 06 56.1 -1.5**
comp=Z,0.7nm,0.8s,baz=67,slow=5.1
NOA NORSAR Array B 91.81 334 P **P 07 06 56.6 -1.0**
comp=Z,0.5nm,0.7s,baz=66,slow=4.9,SNR=3.7
YKA Yellowknife Ar 93.42 24 P **P 07 07 05.5 +0.6**
comp=Z,2.0nm,0.8s,baz=299,slow=4.6,SNR=30
GERES GERESS Array B 95.69 322 P **P 07 07 15.6 -0.1**
comp=Z,0.5nm,0.6s,baz=69,slow=4.4,SNR=5.0
NVAR Mina Array Bea 102.90 46 P **Pdif 07 07 49.6 +1.2**
comp=Z,0.2nm,0.6s,baz=284,slow=4.5,SNR=2.7
TXAR Lajitas Array 117.92 48 PKP **PKPdf 07 12 38.2 +1.5**
comp=Z,0.7nm,0.6s,baz=20,slow=1.1,SNR=8.8
TORD Torodi Ar. Bea 119.32 292 PKP **PKPdf 07 12 39.4 -0.2**
comp=Z,0.8nm,0.4s,baz=68,slow=2.2,SNR=22
WVT Waverly 123.58 32 *e*PKIKP **PKPdf 07 12 48.0 +0.7**
WVT Waverly 123.58 32 *e*PKPdf **PKPdf 07 12 48.0 +0.7**
TKL Tuckaleechee C 126.00 30 PKP **PKPdf 07 12 53.2 +1.3**
comp=Z,2.3nm,0.7s,baz=108,slow=2.1,SNR=3.9
DBIC Dimbokro 127.59 287 PKP **PKPdf 07 12 55.5 0.0**
comp=Z,1.1nm,0.4s,baz=243,slow=2.3,SNR=3.3
SDDR Presa de Saban 145.94 29 *e*PKPbc **PKPab 07 13 30.4 -0.1**
TRQA Tornquist 152.20 167 *e*PKPbc **PKPbc 07 13 45.9 +0.6**

IDC ***10*** *07:03:40.5±0.7, 12.05N×86.68W, h59km±6km, mb3.7/9, mb1 4.0/11,mb1mx3.7/32,mbtmp4.0/11, Error ellipse: s-maj=33.4km s-min=7.9km az=50.0*
NEIC ***10*** *07:03:43.1±1.1, 11.92N×86.38W, h97km±20km, mb4.4/31, Error ellipse: s-maj=20.0km s-min=16.0km az=102.0*
ISC 10 07:03:40.9±0.6, 11.9N±0.1×86.8W±0.1, h68km, n222,
σ1968/222, mb4.3/41, 97C-69D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.45**	**132**	P	**Pn**	**07 04 17.4**	**-1.2**
	29nm,0.3s,baz=318,slow=16,SNR=138						
JTS				S	**Sn**	**07 04 47.2**	**-0.3**
	48nm,0.3s,baz=298,slow=21,SNR=6.6						
JTS	**JuntasAbangare**	**2.45**	**132**	*e*Pn	**Pn**	**07 04 17.4**	**-1.2**
JTS				*e*Sn	**Sn**	**07 04 51.8**	**+4.3**
APG	**El Apazote**	**4.69**	**311**	P	Pn	07 04 45.8	-3.6
	1.1nm,0.3s,baz=128,slow=16,SNR=7.5						
CMIG	**Matias Romero**	**9.35**	**304**	P	**Pn**	**07 05 54.0**	**+1.0**
	1.1nm,0.3s,baz=151,slow=11,SNR=17						
CMIG				S	**Sn**	**07 07 34.5**	**-2.2**
	0.3nm,0.3s,baz=114,slow=15,SNR=2.1						
ROSC	**El Rosal**	**14.20**	**119**	P	**P**	**07 07 02.8**	**-1.8**
	0.3nm,0.3s,baz=270,slow=20,SNR=2.9						
034A	**Hebbronville**	**18.73**	**325**	⇑P	**Pn**	**07 07 56.5**	**+1.1**
	baz=19						
934A	**Benavides**	**19.07**	**327**	⇓P	**P**	**07 07 59.9**	**+2.0**
	baz=19						
834A	**Tilden**	**19.50**	**327**	⇑P	**P**	**07 08 03.8**	**+1.2**
	baz=20						
TIGA	**Tifton**	**19.63**	**8**	*e*P	**P**	**07 08 03.5**	**-0.5**
	33nm,0.9s						
733A	**Divot King Ran**	**20.36**	**327**	⇑P	**P**	**07 08 13.3**	**+1.3**
	baz=21,SNR=5.8						
832A	**Faith Ranch, C**	**20.40**	**325**	⇑P	**P**	**07 08 14.8**	**+2.4**
	baz=21						
535A	**Dale**	**20.59**	**333**	⇓P	**P**	**07 08 12.8**	**-1.7**
	baz=21						
732A	**Laxson Ranch,**	**20.74**	**326**	⇓P	**P**	**07 08 18.9**	**+2.9**
	baz=21,SNR=7.1						
633A	**Saathoff Ranch**	**20.89**	**328**	⇓P	**P**	**07 08 18.2**	**+0.5**
	baz=21						
534A	**Blanco**	**21.01**	**331**	⇑P	**P**	**07 08 20.2**	**+1.1**
	baz=21,SNR=5.6						
337A	**Centerville**	**21.03**	**338**	⇓P	**P**	**07 08 15.7**	**-3.5**
	baz=21						
632A	**Uvalde**	**21.25**	**327**	⇓P	**P**	**07 08 25.6**	**+4.0**
	baz=22						
631A	**Perdido Creek**	**21.60**	**326**	⇓P	**P**	**07 08 28.7**	**+3.4**
	baz=22,SNR=11						
335A	**Moody**	**21.61**	**335**	⇑P	**P**	**07 08 25.7**	**+0.4**
	baz=22						
532A	**Rocksprings**	**21.81**	**328**	⇑P	**P**	**07 08 30.7**	**+3.2**
	baz=22						
433A	**Art**	**21.91**	**331**	⇑P	**P**	**07 08 30.6**	**+2.0**
	baz=22						
334A	**Lometa**	**22.00**	**333**	⇑P	**P**	**07 08 31.9**	**+2.3**
	baz=22						
JCT	**Junction City**	**22.04**	**329**	⇑P	**P**	**07 08 32.7**	**+2.8**
	baz=22						
JCT	**Junction City**	**22.04**	**329**	*e*P	**P**	**07 08 32.5**	**+2.5**
	8.5nm,1.0s						
531A	**Rocksprings**	**22.17**	**327**	⇑P	**P**	**07 08 34.6**	**+3.1**
	baz=22						
WHTX	**Lake Whitney,**	**22.24**	**335**	*e*P	**P**	**07 08 34.4**	**+2.3**
	6.4nm,0.5s						
333A	**Richland Sprin**	**22.33**	**332**	⇑P	**P**	**07 08 34.6**	**+1.4**
	baz=23,SNR=14						
432A	**Menard**	**22.35**	**329**	⇓P	**P**	**07 08 35.5**	**+2.1**
	baz=23						
234A	**Clairette**	**22.53**	**334**	⇑P	**P**	**07 08 35.7**	**+0.4**
	baz=23						
530A	**J-C Ranch, Com**	**22.59**	**326**	⇓P	**P**	**07 08 38.6**	**+2.6**
	baz=23,SNR=7.9						
OXF	**Oxford**	**22.59**	**354**	*e*P	**P**	**07 08 36.7**	**+0.8**
	16nm,1.0s						
431A	**Sonora**	**22.61**	**328**	⇑P	**P**	**07 08 38.4**	**+2.2**
	baz=23,SNR=6.7						
135A	**Vickery Place,**	**22.72**	**336**	⇓P	**P**	**07 08 36.6**	**-0.6**
	baz=23						
332A	**Millersview**	**22.74**	**330**	⇓P	**P**	**07 08 39.4**	**+1.9**
	baz=23,SNR=12						
JSC	**Jenkinsville**	**22.81**	**12**	*e*P	**P**	**07 08 41.2**	**+3.1**
233A	**Rising Star**	**22.88**	**333**	⇑P	**P**	**07 08 39.8**	**+0.8**
	baz=23,SNR=9.7						
134A	**White-Moore Ra**	**23.00**	**335**	⇓P	**P**	**07 08 40.6**	**+0.4**
	baz=23,SNR=7.1						
331A	**San Angelo**	**23.02**	**329**	⇑P	**P**	**07 08 41.1**	**+0.7**
	baz=23,SNR=5.7						
430A	**Baggett Ranch,**	**23.03**	**327**	⇑P	**P**	**07 08 42.3**	**+1.8**
	baz=23						
529A	**Stev Forest Ra**	**23.07**	**324**	⇓P	**P**	**07 08 42.7**	**+1.8**
	baz=23						
232A	**Coleman**	**23.11**	**331**	⇑P	**P**	**07 08 42.4**	**+1.1**
	baz=23,SNR=5.4						
429A	**Davenport Ranc**	**23.26**	**325**	⇓P	**P**	**07 08 44.4**	**+1.6**
	baz=24,SNR=5.7						
MIAR	**Mount Ida**	**23.33**	**346**	*e*P	**P**	**07 08 44.6**	**+1.4**
	7.5nm,0.8s						
TXAR	**Lajitas Array**	**23.37**	**320**	P	**P**	**07 08 44.6**	**+0.8**
	6.6nm,0.7s,baz=138,slow=9.9,SNR=78						
TXAR				pP	**pP**	**07 08 57.3**	**-1.6**
	1.5nm,0.6s,baz=143,slow=13,SNR=4.5						
133A	**Hamilton Ranch**	**23.39**	**333**	⇑P	**P**	**07 08 45.7**	**+1.9**
	baz=24,SNR=6.9						
231A	**Bronte**	**23.47**	**330**	⇑P	**P**	**07 08 47.0**	**+2.3**
	baz=24						
Z34A	**Collier Ranch,**	**23.63**	**336**	⇓P	**P**	**07 08 47.3**	**+1.2**
	baz=24,SNR=9.2						
ABTX	**Abilene, Hawle**	**23.73**	**332**	⇑P	**P**	**07 08 47.5**	**+0.6**
	baz=24						
ABTX	**Abilene, Hawle**	**23.73**	**332**	*e*P	**P**	**07 08 47.8**	**+0.9**
	8.2nm,0.6s						
TKL	**Tuckaleechee C**	**23.77**	**6**	P	**P**	**07 08 49.8**	**+2.5**
	5.6nm,0.8s,baz=176,slow=11,SNR=8.0						
Z33A	**Whitaker Ranch**	**23.91**	**335**	⇑P	**P**	**07 08 50.2**	**+1.7**
	baz=24,SNR=8.3						
329A	**Wagon Wheel Ra**	**23.97**	**327**	⇑P	**P**	**07 08 50.8**	**+1.6**
	baz=24,SNR=7.7						
Y34A	**Reagan Ranch,**	**24.09**	**337**	⇑P	**P**	**07 08 51.3**	**+1.1**
	baz=24,SNR=5.3						
WVT	**Waverly**	**24.10**	**358**	*e*P	**P**	**07 08 53.3**	**+3.1**
	25nm,1.8s						
Z32A	**Haskell**	**24.23**	**333**	⇓P	**P**	**07 08 52.9**	**+1.5**
	baz=24,SNR=8.4						
229A	**Bryant Ranch,**	**24.25**	**328**	⇓P	**P**	**07 08 53.6**	**+1.9**
	baz=25						
Y33A	**Hilltop Ranch,**	**24.47**	**336**	⇓P	**P**	**07 08 54.9**	**+1.3**
	baz=25,SNR=12						
Z31A	**Sharp Cattle R**	**24.54**	**332**	⇓P	**P**	**07 08 55.7**	**+1.5**
	baz=25,SNR=11						
X34A	**Smith Ranch, M**	**24.69**	**338**	⇓P	**P**	**07 08 57.0**	**+1.4**
	baz=25,SNR=5.1						
Y32A	**R-V Farms, Ver**	**24.81**	**334**	⇑P	**P**	**07 08 58.5**	**+1.8**
	baz=25,SNR=7.5						
129A	**Stewart Farms,**	**24.81**	**328**	⇓P	**P**	**07 08 59.4**	**+2.6**
	baz=25,SNR=6.5						
X33A	**Lawton**	**24.89**	**337**	⇑P	**P**	**07 08 58.6**	**+1.1**
	baz=25,SNR=25						
Z30A	**Sanderson Ranc**	**24.97**	**331**	⇑P	**P**	**07 08 59.5**	**+1.3**
	baz=25						
X32A	**Elmer**	**25.10**	**335**	⇑P	**P**	**07 09 00.7**	**+1.3**
	baz=25,SNR=14						
128A	**Castleberry Fa**	**25.12**	**327**	⇓P	**P**	**07 09 01.1**	**+1.5**
	baz=25,SNR=6.7						
Y31A	**Rekieta Farm,**	**25.13**	**333**	⇑P	**P**	**07 09 01.4**	**+1.8**
	baz=25,SNR=6.4						
WMOK	**Wichita Mounta**	**25.17**	**336**	*e*P	**P**	**07 09 02.2**	**+2.2**
	18nm,0.9s						
TUL1	**Leonard**	**25.21**	**343**	⇓P	**P**	**07 08 58.9**	**-1.4**
	baz=26						
TUL1	**Leonard**	**25.21**	**343**	*e*P	**P**	**07 09 00.6**	**+0.3**
	19nm,1.5s						
Z29A	**Hungry Hill Ra**	**25.23**	**330**	⇑P	**P**	**07 09 01.9**	**+1.2**
	baz=26,SNR=10						
W34A	**Bridge Creek,**	**25.24**	**339**	⇓P	**P**	**07 09 01.7**	**+1.1**
	baz=26,SNR=6.2						
W34A	**Bridge Creek,**	**25.24**	**339**	*e*P	**P**	**07 09 01.5**	**+0.9**
	25nm,0.9s						
Y30A	**Stafford Cattl**	**25.35**	**332**	⇑P	**P**	**07 09 03.4**	**+1.7**
	baz=26						
V35A	**Meyer Ranch, C**	**25.40**	**341**	⇓P	**P**	**07 09 02.1**	**0.0**
	baz=26						
W33A	**Caddo, Fort Co**	**25.42**	**337**	⇑P	**P**	**07 09 04.3**	**+2.0**
	baz=26						
X31A	**McDonald Ranch**	**25.57**	**334**	⇑P	**P**	**07 09 05.0**	**+1.3**
	baz=26,SNR=8.8						
Z28A	**Tucker Farm, M**	**25.59**	**329**	⇑P	**P**	**07 09 05.7**	**+1.8**
	baz=26,SNR=8.5						
V34A	**Guthrie**	**25.69**	**340**	⇑P	**P**	**07 09 03.8**	**-0.8**
	baz=26						
W32A	**Sentinel**	**25.70**	**336**	⇑P	**P**	**07 09 05.9**	**+1.2**
	baz=26,SNR=13						
Y29A	**Porterfield Fa**	**25.70**	**330**	⇑P	**P**	**07 09 06.4**	**+1.5**
	baz=26						
X30A	**Coker Ranch, T**	**25.81**	**333**	⇓P	**P**	**07 09 07.6**	**+1.8**
	baz=26,SNR=9.9						
Y28A	**McKinney Farm,**	**26.02**	**330**	⇓P	**P**	**07 09 09.5**	**+1.7**
	baz=26						
W31A	**Holland Ranch,**	**26.03**	**335**	⇑P	**P**	**07 09 06.9**	**-0.9**
	baz=26						
MNTX	**Cornudas Mount**	**26.08**	**322**	*e*P	**P**	**07 09 09.3**	**+1.1**

	2.6nm,0.7s				
X29A	**Tulia**	26.19 331	⇑P	P	07 09 12.8 +3.4
	baz=26,SNR=8.3				
U34A	**Anderson Ranch**	26.24 340	⇑P	P	07 09 07.0 -2.7
	baz=26				
MSTX	**Muleshoe**	26.33 329	⇑P	P	07 09 12.3 +1.7
	baz=27,SNR=9.1				
MSTX	**Muleshoe**	26.33 329	*eP*	P	07 09 11.2 +0.6
	38nm,1.4s				
U33A	**Lingo Farm, Me**	26.43 339	⇓P	P	07 09 11.7 +0.3
	baz=27				
X28A	**Dimmitt**	26.49 331	⇓P	P	07 09 15.4 +3.4
	baz=27				
V31A	**Spring Creek L**	26.50 336	⇑P	P	07 09 16.1 +4.1
	baz=27,SNR=5.0				
AMTX	**Amarillo**	26.54 332	⇑P	P	07 09 15.0 +2.5
	baz=27				
AMTX	**Amarillo**	26.54 332	*eP*	P	07 09 14.5 +2.0
	7.7nm,0.7s				
S36A	**Lake Cedric, C**	26.86 344	⇑P	P	07 09 12.7 -2.5
	baz=27				
S35A	**Otter Creek Ra**	27.01 343	⇑P	P	07 09 15.1 -1.5
	baz=27				
U30A	**WK&E Inc. Balk**	27.48 335	⇑P	P	07 09 24.6 +3.7
	baz=28				
R33A	**Olander Ranch,**	28.09 341	⇑P	P	07 09 26.6 +0.4
	baz=28				
121A	**Cookes Peak, D**	28.13 320	⇑P	P	07 09 33.9 +7.1
	baz=28				
121A	**Cookes Peak, D**	28.13 320	*eP*	P	07 09 29.2 +2.3
	3.6nm,0.9s				
V25A	**Rancho No Teng**	28.73 329	⇓P	P	07 09 35.9 +3.7
	baz=29				
R30A	**Dighton**	28.86 338	⇓P	P	07 09 34.6 +1.5
	baz=29				
ANMO	**Albuquerque**	29.04 325	P	P	07 09 37.0 +2.1
	1.3nm,0.7s,baz=143,slow=5.1,SNR=5.6				
Q31A	**Ellis**	29.19 340	⇓P	P	07 09 37.3 +1.2
	baz=29				
Q30A	**Quinter**	29.45 338	⇓P	P	07 09 39.6 +1.2
	baz=30				
P32A	**Huiting Farm,**	29.49 341	⇑P	P	07 09 39.1 +0.5
	baz=30				
R28A	**Tribune**	29.51 336	⇑P	P	07 09 40.4 +1.5
	baz=30				
T25A	**Trinidad**	29.66 331	⇑P	P	07 09 43.9 +3.5
	baz=30				
O32A	**Brockman Farm,**	29.97 342	⇑P	P	07 09 44.0 +1.1
	baz=30				
Q28A	**Sharon Springs**	30.13 336	⇑P	P	07 09 46.8 +2.3
	baz=30				
P29A	**Atwood**	30.26 338	⇑P	P	07 09 47.9 +2.3
	baz=30				
O30A	**MW Ranch, Wils**	30.47 340	⇑P	P	07 09 49.1 +1.8
	baz=31				
P28A	**Saint Francis**	30.55 337	⇑P	P	07 09 50.4 +2.4
	baz=31				
SDCO	**Great Sand Dun**	30.67 330	⇑P	P	07 09 51.3 +1.9
	baz=31,SNR=11				
SDCO	**Great Sand Dun**	30.67 330	*eP*	P	07 09 50.5 +1.1
	3.4nm,0.7s				
O29A	**4D Ranch, Culb**	30.68 339	⇓P	P	07 09 51.4 +2.2
	baz=31				
Q26A	**Hugo**	30.71 334	⇑P	P	07 09 53.0 +3.3
	baz=31				
P27A	**Ficken Ranch,**	30.85 336	⇑P	P	07 09 52.9 +2.1
	baz=31				
R24A	**Sanders Place,**	30.86 331	⇑P	P	07 09 52.6 +1.6
	baz=31				
S23A	**Nye Farm, Mont**	30.88 329	⇓P	P	07 09 54.5 +3.2
	baz=31				
Q25A	**Bedland, Calha**	31.02 333	⇑P	P	07 09 54.6 +2.2
	baz=31				
O28A	**Krutsinger Ran**	31.03 337	⇓P	P	07 09 54.4 +2.0
	baz=31				
P26A	**Davis Ranch, A**	31.17 335	⇓P	P	07 09 56.6 +3.0
	baz=32				
R23A	**Moffat**	31.18 330	⇑P	P	07 09 56.5 +2.6
	baz=32				
S22A	**4UR Ranch, Cre**	31.33 329	⇓P	P	07 09 59.9 +4.7
	baz=32				
O27A	**Beecher Island**	31.36 337	⇑P	P	07 09 57.0 +1.8
	baz=32				
N28A	**Pribbeno Ranch**	31.44 338	⇓P	P	07 09 57.1 +1.2
	baz=32				
P25A	**Willow Gulch B**	31.48 334	⇓P	P	07 09 58.4 +2.0
	baz=32				
O26A	**Horse Wrangler**	31.73 336	⇓P	P	07 10 00.8 +2.3
	baz=32				
M29A	**Burnside Ranch**	31.81 340	⇓P	P	07 09 59.4 +0.3
	baz=32				
OGNE	**Ogallala**	31.84 338	⇑P	P	07 10 00.2 +0.7
	baz=32				
L31A	**Butterfield Fa**	31.90 343	⇑P	P	07 10 00.1 +0.2
	baz=32				
L30A	**Spencer Herefo**	31.95 342	⇑P	P	07 10 00.5 +0.1
	baz=32				
ISCO	**Idaho Springs**	32.36 332	⇓P	P	07 10 08.2 +3.9
	baz=33				
SMCO	**Snowmass**	32.51 330	*eP*	P	07 10 07.3 +1.6
	18nm,1.9s				
K30A	**Basset**	32.58 342	⇑P	P	07 10 07.0 +1.1
	baz=33,SNR=6.1				
ECSD	**EROS Data Cent**	32.79 347	⇑P	P	07 10 07.2 -0.4
	baz=33				
ECSD	**EROS Data Cent**	32.79 347	*eP*	P	07 10 06.9 -0.8
	69nm,2.6s				
K29A	**Lazy Trails An**	32.88 342	⇑P	P	07 10 09.5 +1.1
	baz=33,SNR=6.7				
PV10	**Paradox Valley**	32.96 327	*eP*	P	07 10 10.6 +1.2
	46nm,0.5s				
J30A	**Dallas**	33.15 343	⇑P	P	07 10 11.7 +0.9
	baz=33				
J29A	**Okreek**	33.47 342	⇓P	P	07 10 14.3 +0.8
	baz=34,SNR=18				
SPMN	**Marine on St.**	33.56 352	*eP*	P	07 10 13.9 -0.4
	5.9nm,0.5s				
LPAZ	**La Paz**	33.58 146	P	P	07 10 16.3 +0.8
	0.4nm,0.6s,baz=352,slow=12,SNR=3.1				
I30A	**Oacoma**	33.67 343	⇓P	P	07 10 15.9 +0.6
	baz=34,SNR=6.6				
J28A	**Allard Ranch,**	33.77 341	⇑P	P	07 10 17.2 +1.0
	baz=34				
J27A	**Elkhorn Farm,**	33.87 340	⇓P	P	07 10 19.1 +2.0
	baz=34				
O20A	**White River Ci**	33.87 330	*eP*	P	07 10 19.1 +1.9
	4.4nm,0.7s				
I29A	**Vivian Onida**	34.02 342	⇑P	P	07 10 18.8 +0.5
	baz=34,SNR=7.7				
I28A	**Midland**	34.26 341	⇓P	P	07 10 21.4 +1.0
	baz=34,SNR=7.8				
SRU	**San Rafael Swe**	34.29 326	*eP*	P	07 10 22.6 +1.6
	8.6nm,1.2s				
N20A	**Spence Gulch,**	34.41 331	⇑P	P	07 10 24.4 +2.4
	baz=35,SNR=5.1				
I27A	**Quinn**	34.61 340	⇓P	P	07 10 25.0 +1.5
	baz=35				
G30A	**Faulkton**	34.72 345	⇓P	P	07 10 24.2 -0.2
	baz=35,SNR=6.7				
H28A	**Mission Ridge**	34.83 342	⇑P	P	07 10 25.6 +0.3
	baz=35				
H27A	**Howes**	35.12 341	⇑P	P	07 10 29.0 +1.2
	baz=35,SNR=11				
G28A	**Parade**	35.16 343	⇑P	P	07 10 28.8 +0.6
	baz=35				
H26A	**Fairpoint**	35.33 340	⇓P	P	07 10 31.6 +1.9
	baz=36				
RSSD	**Black Hills**	35.33 338	*eP*	P	07 10 31.7 +1.8
	3.4nm,0.8s				
DAU	**Daniels Canyon**	35.62 327	*eP*	P	07 10 34.4 +1.9
G27A	**Dupree**	35.74 342	⇓P	P	07 10 33.8 +0.6
	baz=36				
F28A	**McLaughlin**	35.83 343	⇑P	P	07 10 34.4 +0.5
	baz=36				
G26A	**Maurine**	35.87 341	⇑P	P	07 10 35.2 +0.8
	baz=36,SNR=5.4				
E30A	**Jud**	35.94 346	⇑P	P	07 10 34.5 -0.4
	baz=36				
H24A	**Dirks Ranch, A**	36.06 338	⇓P	P	07 10 37.9 +1.9
	baz=36				
E29A	**Napoleon**	36.19 345	⇑P	P	07 10 36.8 -0.2
	baz=36				
TCUT	**Toone Canyon**	36.20 328	*eP*	P	07 10 38.9 +1.5
	4.5nm,0.7s				
F27A	**Lemmon**	36.21 342	⇑P	P	07 10 37.6 +0.4
	baz=36				
DUG	**Dugway, Tooele**	36.31 325	*eP*	P	07 10 39.4 +1.2
	2.6nm,1.0s				
F26A	**Lodgepole**	36.39 341	⇑P	P	07 10 39.7 +0.9
	baz=37				
D30A	**Buchanan**	36.48 346	⇑P	P	07 10 39.3 -0.1
	baz=37,SNR=5.5				
G24A	**Alzada**	36.52 339	⇓P	P	07 10 42.8 +2.9
	baz=37				
BW06	**Boulder Array**	36.52 331	*eP*	P	07 10 40.5 +0.3
	1.1nm,0.6s				
PDAR	**Pinedale Array**	36.52 331	P	P	07 10 40.8 +0.7
	2.3nm,0.6s,baz=130,slow=10,SNR=25				
E27A	**Carson**	36.58 343	⇓P	P	07 10 41.2 +0.9
	baz=37				
D29A	**Pettibone, Tap**	36.63 345	⇓P	P	07 10 40.6 -0.1
	baz=37				
J19A	**Crowheart**	36.67 332	⇓P	P	07 10 42.8 +1.4
	baz=37				
I20A	**Worland**	36.81 334	⇑P	P	07 10 43.9 +1.5
	baz=37				
BGU	**Big Grassy Mou**	36.93 326	*eP*	P	07 10 44.3 +0.7
	2.6nm,1.0s				
F24A	**Ekalaka**	36.97 339	⇓P	P	07 10 44.7 +0.9
	baz=37				
D28A	**Regan**	37.00 344	⇓P	P	07 10 44.2 +0.3
	baz=37				
AGMN	**Agassiz Nation**	37.03 350	⇑P	P	07 10 43.0 -1.0
	baz=37,SNR=5.6				
AGMN	**Agassiz Nation**	37.03 350	*eP*	P	07 10 43.5 -0.5
	4.9nm,0.5s				
G22A	**Birney**	37.11 337	⇑P	P	07 10 45.9 +0.9
	baz=37				
MDND	**Maddock**	37.37 346	⇑P	P	07 10 46.2 -0.7
	baz=38				
MDND	**Maddock**	37.37 346	*eP*	P	07 10 47.4 +0.4
	11nm,0.6s				
E24A	**Baker**	37.55 340	⇑P	P	07 10 50.2 +1.6
	baz=38				
REDW	**Red Top Meadow**	37.59 331	*eP*	P	07 10 50.3 +1.2
B30A	**Myrvik Farm, E**	37.65 347	⇑P	P	07 10 49.1 -0.2
	baz=38				
TPAW	**Teton Pass**	37.73 331	*eP*	P	07 10 51.6 +1.2
C27A	**Sayler Ranch,**	37.73 344	⇓P	P	07 10 50.8 +0.7
	baz=38				
C26A	**Wahner Farm, P**	38.00 343	⇓P	P	07 10 52.8 +0.5
	baz=38				
IMW	**Indian Meadow**	38.03 331	*eP*	P	07 10 54.0 +1.0
A30A	**Hoffart Farm,**	38.11 348	⇓P	P	07 10 52.8 -0.3
	baz=38				
B28A	**Dugan Ranch, T**	38.11 345	⇓P	P	07 10 53.8 +0.5
	baz=38				
A29A	**Manning Farm,**	38.29 347	⇑P	P	07 10 54.9 +0.2
	baz=38,SNR=5.2				
D23A	**Lindsay**	38.39 340	⇓P	P	07 10 56.9 +1.3
	baz=39				
C24A	**Savage**	38.44 341	⇑P	P	07 10 57.6 +1.5
	baz=39				
NVAR	**Mina Array Bea**	38.50 319	P	P	07 10 58.4 +1.5
	1.0nm,0.8s,baz=131,slow=8.1,SNR=7.3				
D22A	**Cohagen**	38.71 339	⇑P	P	07 10 59.8 +1.5
	baz=39				
B25A	**Knox Farm, Ray**	38.71 342	⇓P	P	07 10 59.7 +1.4
	baz=39				
E20A	**Meyer Farm, Mu**	38.89 336	⇓P	P	07 11 01.6 +1.8
	baz=39,SNR=7.4				
ULM	**Lac du Bonnet**	38.92 351	P	P	07 10 58.8 -1.1
	3.1nm,0.5s,baz=166,slow=8.5,SNR=13				
ULM			pP	pP	07 11 13.9 -2.7
	1.5nm,0.6s,baz=190,slow=6.1,SNR=2.9				
C23A	**Lambert**	38.93 340	⇑P	P	07 11 01.0 +0.9
	baz=39				
C22A	**Vida**	39.12 340	⇓P	P	07 11 03.1 +1.4
	baz=39				
DGMT	**Dagmar**	39.20 342	⇑P	P	07 11 03.2 +0.9
	baz=39				
DGMT	**Dagmar**	39.20 342	*eP*	P	07 11 03.5 +1.1
	8.4nm,0.6s				
B23A	**Brockton**	39.45 341	⇑P	P	07 11 05.9 +1.5
	baz=40				
HLID	**Hailey**	39.51 328	*eP*	P	07 11 06.5 +1.3
	1.5nm,0.7s				
MCMT	**McKenzie Canyo**	39.64 331	*eP*	P	07 11 07.7 +1.4
	1.4nm,0.6s				
B21A	**Ellsworth Farm**	40.09 339	⇓P	P	07 11 12.5 +2.7
	baz=40,SNR=8.7				
A22A	**Carney Farms,**	40.20 340	⇓P	P	07 11 12.2 +1.4
	baz=40				
A21A	**Bergtoll Ranch**	40.54 340	⇑P	P	07 11 15.2 +1.7
	baz=41				
A20A	**Cobblestone Ra**	40.80 339	⇑P	P	07 11 17.3 +1.7
	baz=41				
B19A	**Brinkman Farms**	40.81 337	⇓P	P	07 11 18.3 +2.5
	baz=41				
SCHQ	**Schefferville**	45.59 16	P	P	07 11 53.9 -0.2
	1.4nm,0.4s,baz=215,slow=5.2,SNR=12				
YKA	**Yellowknife Ar**	54.27 345	P	P	07 12 59.5 -0.3
	1.2nm,0.8s,baz=138,slow=7.6,SNR=23				
YKA			pP	pP	07 13 15.5 -1.8
	0.4nm,0.7s,baz=136,slow=7.8,SNR=4.8				
RC01	**Rabbit Creek A**	66.67 332	*eP*	P	07 14 25.5 +1.2
	6.3nm,0.6s				
ILAR	**Eielson Array**	66.74 336	P	P	07 14 23.8 -0.9
	1.4nm,1.1s,baz=146,slow=4.7,SNR=7.1				
ILAR			pP	pP	07 14 41.4 -1.4
	0.1nm,0.7s,baz=145,slow=3.3,SNR=1.2				
KSRS	**Korea Array**	121.04 328	PKP	PKPdf	07 22 25.9 -0.3
	1.2nm,0.7s,baz=3.3,slow=2.2,SNR=5.8				
ASAR	**Alice Springs**	139.66 247	PKP	PKPdf	07 23 01.5 -0.3
	0.3nm,0.5s,baz=97,slow=2.4,SNR=3.0				
WRA	**Warramunga Arr**	139.73 253	PKP	PKPdf	07 23 02.8 +0.8
	0.7nm,0.6s,baz=95,slow=1.9,SNR=9.4				
WRA			pPKP	pPKPdf	07 23 19.6 -2.1
	0.8nm,0.8s,baz=88,slow=2.0,SNR=4.4				
CMAR	**Chiang Mai Arr**	149.27 349	PKPbc	PKPbc	07 23 22.2 -0.6
	0.6nm,0.3s,baz=350,slow=4.8,SNR=5.4				

DJA 10 07:17:20.4±0.3, 2°N±4°×99°E±°, h10km, M3.5/12, mb3.1/1, MLv3.8/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	1.14	162	P	Pb	07 17 38.5	-3.6
KCSI	**Kotacane, Aceh**	2.18	318	P	Pn	07 17 57.0	+0.2
KCSI				S	Sb	07 18 26.8	-0.3
BKNI	**Bangkinang**	2.39	130	P	Pn	07 18 00.4	+0.8
BKNI				S	Sb	07 18 32.8	-0.2
TPTI		2.46	304	P	Pn	07 18 01.1	+0.5
TPTI				S	Sn	07 18 32.1	+1.5
PDSI	**Padang**	3.04	156	P	Pn	07 18 08.3	-0.3
SDSI	**Sungai Dareh**	3.56	142	P	Pn	07 18 16.5	+0.7
LHMI	**Lhok Sumawe**	4.03	326	P	Pn	07 18 22.2	0.0
BSI	**Banda Aceh**	5.31	313	P	Pn	07 18 39.7	-0.2

IDC 10 07:35:39.6±5.2, 15°31N×93°28W, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/40, mbtmp3.1/6, ML3.0/3, Error ellipse: s-maj=148.0km s-min=24.6km az=29.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	2.35	319	Pn	Pn	07 36 19.3	-0.2
	1.5nm,0.3s,baz=149,slow=12,SNR=27						
CMIG				Sn	Sn	07 36 50.2	+1.1
	4.5nm,0.3s,baz=124,slow=14,SNR=3.4						
APG	**El Apazote**	2.74	96	Pn	Pn	07 36 24.5	-0.5
	2.4nm,0.3s,baz=284,slow=12,SNR=23						
TXAR	**Lajitas Array**	16.93	327	Pn	Pn	07 39 37.0	-1.1
	0.0nm,0.3s,baz=159,slow=13,SNR=2.6						
NVAR	**Mina Array Bea**	31.88	321	P	P	07 42 06.8	-0.1
	0.3nm,0.6s,baz=139,slow=8.4,SNR=3.1						
YKA	**Yellowknife Ar**	49.48	347	P	P	07 44 31.2	-0.2
	0.3nm,0.5s,baz=155,slow=7.4,SNR=7.6						
INK	**Inuvik**	58.84	344	P	P	07 45 40.2	+0.6
	0.2nm,0.4s,baz=117,slow=4.5,SNR=2.9						

GUC 10 07:37:33.1±0.5, 34°96S×72°68W, h21km±4km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	0.96	118	*eP*	Pn	07 37 51.6	+0.3
TALC				*eS*	Sn	07 38 05.5	+1.1
COCH	**Cobquecura**	1.18	184	*eP*	Pb	07 37 54.9	+0.1
COCH				*eS*	Sn	07 38 11.2	+1.5
NICH	**Los Niches**	1.19	93	*eP*	Pb	07 37 55.1	+0.1
NICH				*eS*	Sn	07 38 11.7	+1.6
LNCH	**Linares**	1.25	136	*eP*	Pb	07 37 56.0	0.0
LNCH				*eS*	Sb	07 38 13.7	+2.0
CLCH	**Cerro Calan**	2.36	49	*eP*	Pb	07 38 13.4	-1.6
CLCH				*eS*	Sb	07 38 43.8	0.0
CLCH				AML	AML	07 38 56.6	
	comp=N,892nm,0.8s						
PEL	**Peldehue**	2.45	43	*eP*	Pb	07 38 14.9	-1.7
PEL				*eS*	Sb	07 38 46.5	+0.1
PEL				AML	AML	07 38 52.2	
	comp=N,1μm,0.5s						
YECH	**El Yeso**	2.50	60	*eP*	Pb	07 38 16.1	-1.6
YECH				*eS*	Sb	07 38 48.8	+0.3

*IDC **10** 07:40:58.5±0.9, 33°87N×132°72E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/28, mbtmp3.5/9, ML2.7/1, Error ellipse: s-maj=21.1km s-min=18.0km az=89.0*

*JMA **10** 07:41:05.0, 33°85N×132°54E, h44km, M3.9 Broadband fault plane solution: P waves. NP1:ϕ=331.00000°, δ48.00000°, λ-112.00000°. NP2:ϕ=182.00000°, δ46.00000°, λ-68.00000°. Principal axes: T Plg1.0000°, Azm76.0000°; N Plg16.0000°, Azm346.0000°; P Plg74.0000°, Azm170.0000°;*

JMA Felt II J1.

ISC 10 07:41:04.1±1.2, 33°83N±0°03×132°51E±0°04, h32km±10km, n23, σ1=35/35, mb3.7/8, 4C-4D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNA	**Nagahama**	0.28	186	⇓P	Pn	07 41 13.3	+1.4
JNA				S	Sn	07 41 19.4	+2.4
JHM	**Kurahashi**	0.30	3	⇓P	Pn	07 41 13.3	+1.0
JHM				S	Sn	07 41 19.5	+1.8
JET	**Tanbara**	0.45	97	P	Pn	07 41 14.9	+0.5
JET				S	Sn	07 41 22.1	+0.7
UWA2	**Uwa jima 2**	0.63	171	P	Pn	07 41 17.7	+0.9
UWA2				S	Sn	07 41 27.0	+1.3
JKU	**Kubokawa**	0.70	138	⇑P	Pn	07 41 18.3	+0.6
JKU				S	Sn	07 41 28.4	+1.0
JHT	**Toyohira**	0.83	355	⇓P	Pn	07 41 20.2	+0.6
JHT				S	Sn	07 41 31.4	+0.6
JTO	**Tosashimizu**	1.00	166	⇓P	Pb	07 41 22.9	-0.1
JTO				S	Sn	07 41 37.6	+2.7
JMN	**Monobe**	1.14	95	⇑P	Pn	07 41 24.0	+0.1
JGT	**Gotsu**	1.20	353	P	Pb	07 41 25.5	-0.8
JGT				S	Sb	07 41 41.3	-0.2
JHS	**Saijyo**	1.27	23	⇑P	Pn	07 41 26.3	+0.7
JHS				S	Sb	07 41 43.1	-0.3
JJS	**Sakaide**	1.29	65	⇑P	Pn	07 41 25.9	0.0
JNU	**Nakatsue**	1.54	243	Pg	Pb	07 41 30.6	-1.4
	61nm,0.3s,baz=47,slow=4.5,SNR=119						
JNU				Lg	Lg	07 41 44.4	
	65nm,0.3s,baz=61,slow=7.6,SNR=14						
KSRS	**Korea Array**	5.20	315	Pn	Pn	07 42 20.5	+1.0
	0.3nm,0.3s,baz=127,slow=15,SNR=2.9						
KSRS				Pg	Pb	07 42 35.9	+1.7
	0.6nm,0.3s,baz=131,slow=14,SNR=16						
KSRS				Sn	Sn	07 43 20.1	+1.8
	3.2nm,0.3s,baz=134,slow=24,SNR=10						
MAT	**Matsushiro**	5.39	58	P	Pn	07 42 24.4	+2.1
MAT				*eS*	Sn	07 43 25.5	+2.3
MJAR	**Matsushiro Arr**	5.39	58	Pn	Pn	07 42 24.8	+2.5
	6.9nm,0.3s,baz=243,slow=14,SNR=75						
MJAR				Lg	Lg	07 43 49.8	
	0.5nm,0.3s,baz=230,slow=30,SNR=3.1						
SONM	**Songino Array**	24.06	313	P	P	07 46 16.6	+0.1
	0.4nm,0.4s,baz=134,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	53.50	178	P	P	07 50 20.6	-0.9
	0.5nm,0.5s,baz=354,slow=7.9,SNR=7.7						
ILAR	**Eielson Array**	56.02	31	P	P	07 50 39.5	+0.3
	0.3nm,0.8s,baz=278,slow=7.2,SNR=3.5						
ASAR	**Alice Springs**	57.20	178	P	P	07 50 47.4	-0.7
	0.5nm,0.8s,baz=12,slow=6.4,SNR=5.5						
FINES	**FINESS Array B**	68.11	330	P	P	07 51 59.3	-1.1
	0.4nm,0.4s,baz=111,slow=7.6,SNR=3.2						
YKA	**Yellowknife Ar**	70.09	27	P	P	07 52 11.4	-1.3
	0.1nm,0.6s,baz=300,slow=6.3,SNR=2.3						
AKASG	**Malin Array Be**	72.18	319	P	P	07 52 24.8	-0.7
	0.8nm,0.5s,baz=55,slow=6.6,SNR=3.8						
HFS	**Hagfors**	73.80	333	P	P	07 52 34.0	-1.0
	0.6nm,0.4s,baz=54,slow=7.5,SNR=5.8						

*ISCJB **10** 08:01:28.7±0.6, 35°66N±0°05×6°25E±0°04, h10km, mb3.3/5, MS3.7/1, Error ellipse: s-maj=7.7km s-min=4.5km az=0.6*

*IDC **10** 08:01:28.2±1.2, 35°53N×6°43E, h0km, mb3.2/5, mb1 3.4/8, mb1mx3.2/55, mbtmp3.3/8, ML3.6/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/23, Error ellipse: s-maj=28.0km s-min=15.3km az=170.0*

*CRAAG **10** 08:01:30.3, 35°60N×6°35E, Ml3.8*

*CSEM **10** 08:01:31.1±0.5, 35°73N×6°34E, h10km, ML3.8, Error ellipse: s-maj=12.4km s-min=5.2km az=160.0*

ISC 10 08:01:30.0±0.9, 35°67N±0°07×6°37E±0°05, h10km, n44, σ1=12/49, mb3.3/5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASM	**Ain Smara**	0.59	9	P	Pg	08 01 41.9	+0.4
CASM	**Ain Smara**	0.59	9	P	Pg	08 01 41.9	+0.4
CKFL	**Kef-Lekhel**	0.78	21	P	Pn	08 01 47.2	0.0
CKFL	**Kef-Lekhel**	0.78	21	P	Pn	08 01 47.2	0.0
SET	**Setif**	0.95	304	P	Pb	08 01 49.0	+0.4
SET	**Setif**	0.95	304	P	Pb	08 01 49.0	+0.4
DFRA	**Djebel Bou Aff**	0.96	335	P	Pn	08 01 49.8	+0.1
DFRA	**Djebel Bou Aff**	0.96	335	P	Pn	08 01 49.8	+0.1
ABSA	**Djebel Ababsia**	1.08	56	P	Pg	08 01 51.3	+0.6
ABSA	**Djebel Ababsia**	1.08	56	P	Pg	08 01 51.3	+0.6
CAEH	**'Ain El Ouahch**	1.17	19	P	Pn	08 01 53.8	+1.3
CAEH	**'Ain El Ouahch**	1.17	19	P	Pn	08 01 53.8	+1.3
CMAH	**Djebel Manchou**	1.27	41	P	Pn	08 01 53.7	-0.2
CMAH	**Djebel Manchou**	1.27	41	P	Pn	08 01 53.7	-0.2
KEST	**Kesra**	2.42	88	Pn	Pn	08 02 09.8	+0.1
	1.5nm,0.3s,baz=71,slow=17,SNR=44						
KEST				Lg	Lg	08 02 43.8	
	3.2nm,0.3s,baz=165,slow=9.0,SNR=6.1						
EMHD	**Djebel Mahouad**	2.83	282	P	Pn	08 02 16.7	+1.4
EMHD	**Djebel Mahouad**	2.83	282	P	Pn	08 02 16.7	+1.4
ETRT	**Tiaret**	4.15	268	P	Pn	08 02 31.5	-2.0
EANR	**'Ain N'Sour**	4.29	275	P	Pn	08 02 35.4	-0.1
EANR	**'Ain N'Sour**	4.29	275	P	Pn	08 02 35.4	-0.1
ETOS	**Mallorca**	4.97	326	P	Pn	08 02 44.2	-0.5
	5.4nm,0.6s,SNR=9.7						
ETOS				S	Sn	08 03 40.6	-1.5
	18nm,0.5s,SNR=6.8						
EIBI	**Ibiza**	5.22	311	P	Pn	08 02 48.3	+0.2
	0.6nm,1.2s,SNR=14						
EIBI				S	Sn	08 03 48.0	-0.4
	44nm,2.7s,SNR=7.0						
EBEN	**Beniarda**	6.07	302	P	Pn	08 02 59.9	0.0
	0.2nm,2.0s,SNR=7.9						
EBEN				S	Sn	08 04 09.2	-0.3
	14nm,1.0s,SNR=7.9						
EMUR	**La Murta**	6.48	292	P	Pn	08 03 06.7	+1.2

2.8nm,0.5s,SNR=7.9
MDT Midelt 9.53 256 Pn **Pn 08 03 47.8 +0.4**
0.6nm,0.3s,baz=77,slow=18,SNR=18
EALK Alkurruntz 9.69 323 P **Pn 08 03 49.0 -0.4**
1.4nm,0.4s,SNR=7.9
ECAB El Cabril 9.75 288 P **Pn 08 03 51.2 +0.9**
3.0nm,1.3s,SNR=7.9
BRTR Keskin Array B 21.91 71 P **P 08 06 24.1 +0.6**
1.0nm,0.8s,baz=310,slow=5.8,SNR=4.6
AKASG Malin Array Be 22.30 41 P **P 08 06 27.9 +0.4**
0.2nm,0.3s,baz=237,slow=9.4,SNR=2.3
TORD Torodi Ar. Bea 22.82 192 P **P 08 06 31.1 -2.0**
1.8nm,0.5s,baz=12,slow=10,SNR=9.2
OBN Obninsk 28.42 37 LR LR 08 20 12.3
comp=Z,193nm,21.8s,baz=92,slow=39
MKAR Makanchi Array 56.09 53 P **P 08 11 08.0 -1.2**
0.3nm,0.5s,baz=283,slow=6.5,SNR=7.8
YKA Yellowknife Ar 71.36 335 P **P 08 12 51.8 +2.1**
0.1nm,0.5s,baz=49,slow=6.0,SNR=3.6

*ISCJB **10** 08:02:10.8±1.3,34˚.29S±0˚.04×72˚.2W±0˚.1,h38km±15km, mb3.7/3,Error ellipse: s-maj=16.7km s-min=5.8km az=17.2*
*GUC **10** 08:02:10.3±0.4,34˚.28S×72˚.13W,h38km±2km,ML4.3*
*IDC **10** 08:02:11.4±4.7,34˚.38S×72˚.03W,h34km±37km,mb3.5/4, mb1 3.8/7,mb1mx3.6/24,mbtmp3.7/7,ML3.6/3,Error ellipse: s-maj=40.5km s-min=20.8km az=99.0*
ISC 10 08:02:12.9±1.9,34˚.33S±0˚.06×72˚.1W±0˚.2,h47km±19km, n16,σ0.91/24,mb3.5/3,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
NICH	**Los Niches**	**0.96**	**135**	*eP*		**Pn**	**08 02 29.0**	**-1.0**
NICH				*eS*		**Sn**	**08 02 42.9**	**+0.3**
TALC	**Talca**	**1.12**	**162**	*eP*		**Pn**	**08 02 31.1**	**-1.1**
TALC				*eS*		**Sn**	**08 02 47.0**	**+0.5**
LACH	**Col Las Americ**	**1.54**	**56**	*eP*		**Pn**	**08 02 37.0**	**-1.0**
LACH				*eS*		**Sn**	**08 02 57.8**	**+0.9**
LNCH	**Linares**	**1.56**	**166**	*eP*		**Pn**	**08 02 38.0**	**-0.1**
LNCH				*eS*		**Sn**	**08 02 59.0**	**+1.8**
CLCH	**Cerro Calan**	**1.57**	**54**	*eP*		**Pn**	**08 02 37.9**	**-0.5**
CLCH				*eS*		**Sn**	**08 02 58.7**	**+1.0**
CLCH				AML		AML	08 03 13.4	
	comp=N,4μm,0.6s							
SJCH	**San Jose de Ma**	**1.57**	**65**	*eP*		**Pn**	**08 02 38.3**	**-0.2**
SJCH				*eS*		**Sn**	**08 02 59.0**	**+1.3**
PEL	**Peldehue**	**1.65**	**44**	⇓*eP*		**Pn**	**08 02 38.6**	**-0.8**
PEL				*eS*		**Sn**	**08 03 00.0**	**+0.6**
PEL				AML		AML	08 03 09.1	
	comp=N,7μm,0.5s							
CFAA	**Coronel Fontan**	**4.21**	**51**	Pn		**Pn**	**08 03 15.1**	**+0.5**
	comp=N,0.4nm,0.3s,baz=224,slow=9.9,SNR=15							
CFAA				Lg		Lg	08 04 16.3	
	comp=N,3.1nm,0.3s,baz=324,slow=22,SNR=3.6							
PLCA	**Paso Flores**	**6.50**	**170**	Pn		**Pn**	**08 03 46.2**	**+0.1**
	comp=N,0.5nm,0.3s,baz=341,slow=7.6,SNR=14							
PLCA				Lg		Lg	08 05 35.1	
	comp=N,0.2nm,0.3s,baz=266,slow=22,SNR=4.2							
LPAZ	**La Paz**	**18.31**	**12**	P		**Pn**	**08 06 23.9**	**-0.1**
	comp=N,0.2nm,0.3s,baz=169,slow=4.0,SNR=15							
SIV	**San Ignacio**	**20.76**	**31**	P		**P**	**08 06 48.6**	**-1.4**
	comp=N,3.0nm,0.8s,baz=227,slow=7.1,SNR=5.7							
TXAR	**Lajitas Array**	**70.01**	**331**	P		**P**	**08 13 20.1**	**+0.3**
	comp=N,0.4nm,0.6s,baz=154,slow=9.1,SNR=9.2							
NVAR	**Mina Array Bea**	**84.14**	**325**	P		**P**	**08 14 40.3**	**+1.2**
	comp=N,0.2nm,0.5s,baz=160,slow=2.9,SNR=3.2							
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P		**P**	**08 14 40.6**	**+0.3**
	comp=N,1.4nm,0.9s,baz=261,slow=5.1,SNR=4.2							
WRA	**Warramunga Arr**	**120.47**	**209**	PKP		**PKPdf**	**08 20 59.1**	**-0.7**
	comp=N,0.2nm,0.5s,baz=153,slow=1.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**154.51**	**33**	PKPbc		**PKPbc**	**08 22 07.0**	**-0.7**
	comp=N,1.0nm,0.7s,baz=279,slow=2.9,SNR=4.7							
ZALV				PKPab		**PKPab**	**08 22 22.1**	**-0.3**
	comp=N,0.6nm,0.5s,baz=298,slow=7.4,SNR=3.2							

*IDC **10** 08:20:03.6±2.4,34˚.04N×132˚.36E,h0km,mb3.0/1, mb1 3.5/2,mb1mx3.1/27,mbtmp3.4/2,ML3.7/1,Error ellipse: s-maj=34.6km s-min=24.0km az=136.0*
*ISCJB **10** 08:20:06.1±0.5,33˚.85N±0˚.03×132˚.51E±0˚.05,h46km±6km, mb3.0/1,Error ellipse: s-maj=6.9km s-min=4.5km az=168.7*
*JMA **10** 08:20:06.3,33˚.85N×132˚.54E,h44km,M3.5 Broadband fault plane solution: P waves. NP1:φs336.00000°, δ66.00000°,λ-107.00000°. NP2:φs193.00000°, δ30.00000°,λ-56.00000°. Principal axes: T Plg19.0000°, Azm79.0000°; N Plg16.0000°, Azm343.0000°; P Plg65.0000°, Azm216.0000°;*
JMA Felt I J1.
ISC 10 08:20:06.1±1.1,33˚.85N±0˚.03×132˚.48E±0˚.04,h30km±11km, n15,σ0.61/27,3C-4D,Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
JNA	**Nagahama**	**0.29**	**180**	⇓P		**Pn**	**08 20 14.6**	**+0.3**
JNA				S		**Sn**	**08 20 20.6**	**+1.0**
JHM	**Kurahashi**	**0.30**	**8**	⇓P		**Pn**	**08 20 14.7**	**+0.3**
JHM				S		**Sn**	**08 20 20.8**	**+1.0**
JET	**Tanbara**	**0.48**	**98**	P		**Pb**	**08 20 16.2**	**0.0**
JET				S		**Sb**	**08 20 23.3**	**+0.2**
UWA2	**Uwa jima 2**	**0.64**	**169**	P		**Pb**	**08 20 18.9**	**0.0**
UWA2				S		**Sn**	**08 20 28.3**	**-0.1**
JKU	**Kubokawa**	**0.72**	**137**	⇑P		**Pn**	**08 20 19.7**	**-0.6**
JKU				S		**Sb**	**08 20 29.7**	**-0.2**
JHT	**Toyohira**	**0.82**	**357**	⇓P		**Pn**	**08 20 21.5**	**-0.1**
JHT				S		**Sn**	**08 20 32.7**	**0.0**
JTO	**Tosashimizu**	**1.02**	**164**	⇓P		**Pn**	**08 20 24.2**	**-0.2**
JTO				S		**Sb**	**08 20 38.4**	**+0.2**
JMN	**Monobe**	**1.17**	**95**	⇑P		**Pn**	**08 20 26.1**	**-0.4**
JMN				S		**Sn**	**08 20 41.8**	**+0.3**
JGT	**Gotsu**	**1.19**	**354**	P		**Pb**	**08 20 26.9**	**+0.3**
JGT				S		**Sb**	**08 20 43.0**	**0.0**
JHS	**Saijyo**	**1.27**	**24**	⇑P		**Pn**	**08 20 27.7**	**-0.1**
JHS				S		**Sn**	**08 20 44.6**	**+0.8**
JNU	**Nakatsue**	**1.52**	**242**	Pg		**Pn**	**08 20 32.0**	**+0.7**
	11nm,0.3s,baz=50,slow=7.3,SNR=85							
JNU				Lg		Lg	08 20 45.7	
	21nm,0.3s,baz=49,slow=7.6,SNR=13							
KSRS	**Korea Array**	**5.17**	**315**	Pg		**Pb**	**08 21 34.7**	**-1.0**
	0.2nm,0.3s,baz=133,slow=14,SNR=7.3							
KSRS				Sn		**Sn**	**08 22 20.6**	**+0.6**
	1.0nm,0.3s,baz=134,slow=23,SNR=4.5							
MAT	**Matsushiro**	**5.41**	**59**	P		**Pn**	**08 21 25.6**	**+0.9**
MAT				*eS*		**Sn**	**08 22 25.6**	**-0.3**
MJAR	**Matsushiro Arr**	**5.41**	**59**	Pn		**Pn**	**08 21 25.9**	**+1.2**
	2.4nm,0.3s,baz=243,slow=14,SNR=25							
SONM	**Songino Array**	**24.04**	**313**	P		**P**	**08 25 17.7**	**-0.8**
	0.3nm,0.5s,baz=130,slow=8.9,SNR=2.7							

*MOS **10** 08:38:01.1±3.2,35˚.46N×6˚.28E,h33km,mb4.6/10,Error ellipse: s-maj=10.3km s-min=3.9km az=63.6*
*IDC **10** 08:38:01.1±0.6,35˚.46N×6˚.28E,h0km,mb4.0/19, mb1 4.2/23,mb1mx4.1/35,mbtmp4.0/23,ML4.0/4,MS3.5/18, Ms1 3.5/18,ms1mx3.3/54,Error ellipse: s-maj=16.7km s-min=11.5km az=104.0*
*CRAAG **10** 08:38:01.2,35˚.73N×6˚.45E,Ml4.6*
*NEIC **10** 08:38:02.8±0.4,35˚.62N×6˚.40E,h5km,mb4.1/11,Error ellipse: s-maj=6.8km s-min=6.2km az=137.0*
*ISCJB **10** 08:38:03.5±0.3,35˚.85N±0˚.04×6˚.29E±0˚.02,h10km, mb4.1/35,MS3.5/14,Error ellipse: s-maj=5.2km s-min=2.4km az=177.8*
*BJI **10** 08:38:03.2,35˚.90N×6˚.20E,h15km,mb4.3/6*
*CSEM **10** 08:38:04.1±0.2,35˚.73N×6˚.44E,h10km,mb4.3/14,Error ellipse: s-maj=5.5km s-min=2.8km az=174.0*
*LDG **10** 08:38:05.2±0.2,35˚.90N×6˚.18E,h15km,Ml3.8/17,Error ellipse: s-maj=5.5km s-min=2.7km az=150.0*
*STR **10** 08:38:15.0±0.5,36˚.63N×6˚.51E,h5km,Ml3.8,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 10 08:38:03.9±0.5,35.77N±0˚.05×6.41E±0˚.03,h10km,n331, σ1.9/65/298,mb4.2/35,MS3.4/14,18C-18D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CASM	**Ain Smara**	**0.49**	**8**	P		**Pb**	**08 38 14.5**	**-0.1**
CASM	**Ain Smara**	**0.49**	**8**	P		**Pb**	**08 38 14.5**	**-0.1**
CASM	**Ain Smara**	**0.49**	**8**	P		**Pb**	**08 38 14.6**	**-0.1**
CKFL	**Kef-Lekhel**	**0.67**	**22**	P		**Pb**	**08 38 18.0**	**+0.2**
CKFL	**Kef-Lekhel**	**0.67**	**22**	P		**Pb**	**08 38 18.0**	**+0.2**
DFRA	**Djebel Bou Aff**	**0.88**	**331**	P		**Pb**	**08 38 21.8**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.88**	**331**	P		**Pb**	**08 38 21.8**	**+0.4**
DFRA	**Djebel Bou Aff**	**0.88**	**331**	P		**Pb**	**08 38 21.8**	**+0.4**
SET	**Setif**	**0.92**	**298**	P		**Pn**	**08 38 23.0**	**0.0**
SET	**Setif**	**0.92**	**298**	P		**Pn**	**08 38 23.0**	**0.0**
ABSA	**Djebel Ababsia**	**1.00**	**60**	P		**Pg**	**08 38 23.4**	**+0.3**
ABSA	**Djebel Ababsia**	**1.00**	**60**	P		**Pg**	**08 38 23.4**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.06**	**19**	P		**Pb**	**08 38 24.8**	**+0.4**
CAEH	**'Ain El Ouahch**	**1.06**	**19**	P		**Pb**	**08 38 24.8**	**+0.4**
CAEH	**'Ain El Ouahch**	**1.06**	**19**	P		**Pb**	**08 38 24.8**	**+0.4**
CMAH	**Djebel Manchou**	**1.18**	**44**	P		**Pb**	**08 38 24.3**	**-2.1**
CMAH	**Djebel Manchou**	**1.18**	**44**	P		**Pb**	**08 38 24.3**	**-2.1**
CMAH	**Djebel Manchou**	**1.18**	**44**	P		**Pb**	**08 38 24.4**	**-2.1**
KEST	**Kesra**	**2.39**	**90**	Pn		**Pn**	**08 38 43.8**	**+0.7**
	6.3nm,0.3s,baz=232,slow=1.6,SNR=148							
EMHD	**Djebel Mahouad**	**2.83**	**280**	P		**Pn**	**08 38 50.6**	**+1.3**
EMHD	**Djebel Mahouad**	**2.83**	**280**	P		**Pn**	**08 38 50.6**	**+1.3**
ABA	**Alger-Bouzarea**	**2.91**	**292**	P		**Pn**	**08 38 51.0**	**+0.7**
ABA	**Alger-Bouzarea**	**2.91**	**292**	P		**Pn**	**08 38 51.0**	**+0.7**
EBNR	**Beni Rached**	**3.99**	**279**	P		Pn	08 39 09.0	+3.9
ECHA	**Ech Chlef**	**4.11**	**277**	P		**Pg**	**08 39 22.0**	**-0.6**
ETRT	**Tiaret**	**4.18**	**266**	P		**Pn**	**08 39 06.9**	**-0.9**
ETRT	**Tiaret**	**4.18**	**266**	P		**Pn**	**08 39 06.9**	**-0.9**
EANR	**'Ain N'Sour**	**4.32**	**274**	P		**Pn**	**08 39 09.9**	**+0.3**
EANR	**'Ain N'Sour**	**4.32**	**274**	P		**Pn**	**08 39 09.9**	**+0.3**
VSL	**Villasalto**	**4.40**	**31**	*e*Pn		**Pn**	**08 39 10.7**	**0.0**
VSL	**Villasalto**	**4.40**	**31**	*e*Pn		**Pn**	**08 39 10.7**	**0.0**
OKGL	**Djebel Kef Gue**	**4.69**	**275**	P		**Pn**	**08 39 15.0**	**+0.3**
	62nm,0.3s,SNR=7.9							
OKGL				S		**Sn**	**08 40 06.6**	**-2.6**
	1μm,2.7s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**4.69**	**275**	P		**Pn**	**08 39 15.0**	**+0.3**
OKGL				S		**Sn**	**08 40 06.6**	**-2.6**
ETOS	**Mallorca**	**4.90**	**326**	P		**Pn**	**08 39 18.3**	**+0.7**
	26nm,0.4s,SNR=35							
ETOS				S		**Sn**	**08 40 11.2**	**-3.2**
	102nm,1.9s							
ETOS	**Mallorca**	**4.90**	**326**	P		**Pn**	**08 39 18.3**	**+0.7**
ETOS				S		**Sn**	**08 40 11.2**	**-3.2**
EIBI	**Ibiza**	**5.18**	**310**	P		**Pn**	**08 39 22.3**	**+0.9**
	64nm,0.4s,SNR=47							
CLTB	**Caltabellotta**	**5.76**	**70**	*e*Pn		Pn	08 39 34.2	+4.8
EBEN	**Beniarda**	**6.05**	**301**	P		**Pn**	**08 39 34.2**	**+0.8**
	13nm,0.6s,SNR=18							
EMUR	**La Murta**	**6.47**	**291**	P		**Pn**	**08 39 39.6**	**+0.3**
	15nm,0.4s,SNR=12							
CFON	**Fontmartina**	**6.74**	**334**	P		**Pn**	**08 39 43.2**	**+0.3**
	3.8nm,0.3s,SNR=11							
EPOB	**Poblet**	**6.96**	**325**	P		**Pn**	**08 39 46.5**	**+0.5**
	37nm,0.8s,SNR=9.2							
ETOB	**Tobarra**	**6.97**	**297**	P		**Pn**	**08 39 46.7**	**+0.7**
	38nm,0.8s,SNR=27							
ERTA	**Horta de San J**	**7.04**	**319**	P		**Pn**	**08 39 47.8**	**+0.8**
	6.4nm,0.4s,SNR=5.5							
PGF	**Pioggiola**	**7.06**	**16**	*e*Pn		**Pn**	**08 39 45.7**	**-1.6**
PGF				*e*Sn		Sn	08 40 58.1	-10
	30nm,0.5s							
PGF	**Pioggiola**	**7.06**	**16**	*e*Pn		**Pn**	**08 39 45.7**	**-1.6**
EMOS	**Mosqueruela**	**7.10**	**312**	P		**Pn**	**08 39 49.2**	**+1.2**
	5.9nm,0.4s,SNR=8.9							
EJON	**La Jonquera**	**7.20**	**339**	P		**Pn**	**08 39 49.5**	**+0.2**
	9.6nm,0.7s,SNR=4.6							
EMIR	**Miracle**	**7.22**	**330**	P		**Pn**	**08 39 50.2**	**+0.7**
	53nm,0.9s,SNR=16							
SJAF	**Saint Jean de**	**7.24**	**339**	P		**Pn**	**08 39 49.8**	**+0.1**
	0.3nm,0.3s,SNR=7.9							
VALF	**Valcebollere**	**7.45**	**334**	P		**Pn**	**08 39 53.5**	**+0.8**
VALF				S		**Sn**	**08 41 16.8**	**-0.5**
VALF	**Valcebollere**	**7.45**	**334**	P		**Pn**	**08 39 53.5**	**+0.8**
VALF				S		**Sn**	**08 41 16.8**	**-0.5**
EHUE	**Huescar**	**7.50**	**288**	P		**Pn**	**08 39 54.0**	**+0.6**
	4.4nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**7.53**	**334**	P		**Pn**	**08 39 54.6**	**+0.8**
	5.8nm,0.4s,SNR=20							
SESP	**Santiago Espad**	**7.54**	**291**	P		**Pn**	**08 39 55.3**	**+1.3**
	3.4nm,0.3s,SNR=7.9							
LMR	**La Mourre**	**7.55**	**1**	*e*Pn		**Pn**	**08 39 51.2**	**-2.8**
LMR				*e*Sn		Sn	08 41 08.3	-11
	28nm,0.7s							
EBER	**Berja**	**7.59**	**281**	P		**Pn**	**08 39 55.0**	**+0.3**
	13nm,0.4s,SNR=13							
EMLI	**Melilla**	**7.64**	**269**	P		**Pn**	**08 39 56.1**	**+0.8**
	71nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**7.66**	**295**	P		**Pn**	**08 39 56.6**	**+0.9**
	34nm,0.4s,SNR=9.8							
CARF	**Carcanieres**	**7.69**	**336**	P		**Pn**	**08 39 56.9**	**+0.9**
CARF	**Carcanieres**	**7.69**	**336**	P		**Pn**	**08 39 56.9**	**+0.9**
LEPF	**PUYLOUBIER**	**7.76**	**356**	P		**Pn**	**08 39 56.0**	**-0.8**
LEPF	**PUYLOUBIER**	**7.76**	**356**	P		**Pn**	**08 39 56.0**	**-0.8**
CSOR	**Sort**	**7.76**	**330**	P		**Pn**	**08 39 57.6**	**+0.6**
	3.7nm,0.3s,SNR=11							
FRF	**La Foret Royal**	**7.78**	**1**	*e*Pn		**Pn**	**08 39 54.4**	**-2.7**
FRF				*e*Sn		Sn	08 41 14.0	-11
	21nm,0.5s							
EQES	**Quesada**	**7.87**	**288**	P		**Pn**	**08 39 59.4**	**+0.9**
	31nm,0.5s,SNR=28							
EQUE	**Quentar**	**8.06**	**283**	P		**Pn**	**08 40 02.1**	**+1.0**
	16nm,0.5s,SNR=22							
SBF	**Sospel**	**8.12**	**5**	*e*Pn		Pn	08 39 58.3	-3.5
SBF				*e*Sn		Sn	08 41 22.5	-11
	38nm,0.6s							
EGUA	**Guajares**	**8.12**	**280**	P		**Pn**	**08 40 02.8**	**+0.9**
	8.3nm,0.4s,SNR=7.9							
MVIF	**Mont Vial**	**8.13**	**4**	P		**Pn**	**08 40 01.2**	**-0.9**
MVIF				S		**Sn**	**08 41 30.9**	**-3.2**
MVIF	**Mont Vial**	**8.13**	**4**	P		**Pn**	**08 40 01.2**	**-0.9**
ECOG	**Cogollos-Vega**	**8.17**	**284**	P		**Pn**	**08 40 03.8**	**+1.2**
	3.4nm,0.3s,SNR=7.9							
SMRF	**Simiane la Rot**	**8.22**	**356**	*e*Pn		Pn	08 39 59.6	-3.6
SMRF				*e*Sn		Sn	08 41 24.0	-12
	4.5nm,0.5s							
MTLF	**Montolieu**	**8.22**	**338**	*e*Pn		Pn	08 39 58.8	-4.4
MTLF	**Montolieu**	**8.22**	**338**	*e*P		**Pn**	**08 40 04.3**	**+1.1**
MTLF				*e*Sn		Sn	08 41 23.6	-13
	4.7nm,0.7s							
MTLF	**Montolieu**	**8.22**	**338**	*e*P		**Pn**	**08 40 04.3**	**+1.1**
AUTN	**L'Aution**	**8.25**	**5**	P		**Pn**	**08 40 03.9**	**+0.1**
AUTN	**L'Aution**	**8.25**	**5**	P		**Pn**	**08 40 03.9**	**+0.1**
SAOF	**Saorge**	**8.25**	**6**	P		**Pn**	**08 40 04.1**	**+0.5**
SAOF				S		**Sn**	**08 41 33.3**	**-3.5**
SAOF	**Saorge**	**8.25**	**6**	P		**Pn**	**08 40 04.1**	**+0.5**
TOUF	**Mont Tournerai**	**8.25**	**4**	P		**Pn**	**08 40 02.8**	**-1.0**
TOUF				S		**Sn**	**08 41 33.4**	**-3.8**
TOUF	**Mont Tournerai**	**8.25**	**4**	P		**Pn**	**08 40 02.8**	**-1.0**
SELV	**Sierra Elvira**	**8.29**	**283**	P		**Pn**	**08 40 05.3**	**+1.1**
	7.1nm,0.4s,SNR=7.9							
MELF	**Melles**	**8.33**	**330**	P		**Pn**	**08 40 07.2**	**+2.5**
MELF	**Melles**	**8.33**	**330**	P		**Pn**	**08 40 07.2**	**+2.5**
ERON	**Agron**	**8.33**	**282**	P		**Pn**	**08 40 05.6**	**+0.8**
	20nm,0.5s,SNR=7.9							
ETOR	**Torete**	**8.34**	**310**	P		**Pn**	**08 40 05.8**	**+0.8**
	9.8nm,0.5s,SNR=7.0							
EBAN	**Banos Encina**	**8.50**	**289**	P		**Pn**	**08 40 07.9**	**+0.8**
	15nm,0.6s,SNR=5.6							
LASF	**Ste Croix**	**8.52**	**347**	*e*Pn		Pn	08 40 02.8	-4.5
LASF				*e*Sn		Sn	08 41 31.4	-12
	15nm,0.6s							
AQU	**L'Aquila**	**8.53**	**37**	*e*P		Pn	08 40 11.6	+4.2
AQU	**L'Aquila**	**8.53**	**37**	*e*Pn		Pn	08 40 11.6	+4.2
CUC	**Castrocucco**	**8.54**	**58**	*e*Pn		**Pn**	**08 40 07.6**	**-0.1**
CUC	**Castrocucco**	**8.54**	**58**	*e*Pn		**Pn**	**08 40 07.6**	**-0.1**
EPF	**Esparros**	**8.63**	**329**	*e*Pn		Pn	08 40 04.9	-4.0
EPF	**Esparros**	**8.63**	**329**	*e*P		**Pn**	**08 40 10.4**	**+1.5**
EPF				*e*Sn		Sn	08 41 33.7	-13
	12nm,0.5s							
EPF	**Esparros**	**8.63**	**329**	*e*P		**Pn**	**08 40 10.4**	**+1.5**
VIEF	**Viey**	**8.65**	**327**	P		**Pn**	**08 40 12.0**	**+2.8**
VIEF	**Viey**	**8.65**	**327**	P		**Pn**	**08 40 12.0**	**+2.8**
LABF	**Labassere**	**8.76**	**328**	P		**Pn**	**08 40 12.7**	**+2.1**
LABF	**Labassere**	**8.76**	**328**	P		**Pn**	**08 40 12.7**	**+2.1**
TIP	**Timpagrande**	**8.90**	**64**	*e*Pn		Pn	08 40 17.1	+4.6
ETSF	**Etsaut**	**8.93**	**325**	*e*Pn		Pn	08 40 08.9	-4.0
ETSF	**Etsaut**	**8.93**	**325**	*e*P		**Pn**	**08 40 14.4**	**+1.5**
ETSF				*e*Sn		Sn	08 41 40.7	-13
	15nm,0.8s							
ETSF	**Etsaut**	**8.93**	**325**	*e*P		**Pn**	**08 40 14.4**	**+1.5**
MBDF	**Montbardon**	**8.95**	**2**	*e*Pn		Pn	08 40 09.8	-3.5
MBDF				*e*Sn		Sn	08 41 42.6	-12
	9.4nm,0.6s							
REYF	**Montagne du Re**	**8.98**	**326**	P		**Pn**	**08 40 16.3**	**+2.6**
REYF	**Montagne du Re**	**8.98**	**326**	P		**Pn**	**08 40 16.3**	**+2.6**
EMIJ	**Mijas**	**9.08**	**278**	P		**Pn**	**08 40 15.6**	**+0.6**
	2.1nm,0.4s,SNR=7.9							
ESDC	**Sonseca Array**	**9.09**	**298**	Pn		**Pn**	**08 40 15.9**	**+0.7**
	1.5nm,0.3s,baz=115,slow=14,SNR=16							
ESDC				Sn		**Sn**	**08 41 52.8**	**-4.8**
	0.9nm,0.3s,baz=111,slow=24,SNR=4.1							
ESDC	**Sonseca Array**	**9.09**	**298**	P		**Pn**	**08 40 16.4**	**+1.2**
	6.2nm,0.7s,SNR=13							
EADA	**Adamuz**	**9.11**	**288**	P		**Pn**	**08 40 16.1**	**+0.7**
	0.2nm,0.2s,SNR=7.9							
ATE	**Arette**	**9.14**	**325**	P		**Pn**	**08 40 16.0**	**+0.2**
	0.8nm,0.5s,SNR=7.9							
ORIF	**Oris-en-Rattie**	**9.14**	**358**	*e*Pn		Pn	08 40 12.1	-3.8
ORIF				*e*Sn		Sn	08 41 46.5	-12
	16nm,0.9s							
VIVF	**Saint-Julien-l**	**9.17**	**352**	*e*Pn		Pn	08 40 12.1	-4.1
VIVF				*e*Sn		Sn	08 41 46.7	-13
	18nm,0.9s							
IELO	**Elcoad**	**9.21**	**322**	P		**Pn**	**08 40 17.1**	**+0.3**
	2.4nm,0.3s,SNR=7.9							
LARF	**Larrau**	**9.24**	**324**	P		**Pn**	**08 40 19.1**	**+2.0**
LARF	**Larrau**	**9.24**	**324**	P		**Pn**	**08 40 19.1**	**+2.0**
BNI	**Bardonecchia**	**9.27**	**1**	*e*P		**Pn**	**08 40 19.5**	**+1.8**
BNI	**Bardonecchia**	**9.27**	**1**	*e*P		**Pn**	**08 40 19.5**	**+1.8**
BNI	**Bardonecchia**	**9.27**	**1**	*e*Pn		**Pn**	**08 40 19.5**	**+1.8**
PAB	**San Pablo**	**9.32**	**297**	*e*P		**Pn**	**08 40 18.3**	**-0.1**
PAB	**San Pablo**	**9.32**	**297**	*e*Pn		**Pn**	**08 40 18.3**	**-0.1**
PAB	**San Pablo**	**9.32**	**297**	P		**Pn**	**08 40 18.9**	**+0.5**
	11nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**9.32**	**297**	*e*Pn		**Pn**	**08 40 18.3**	**-0.1**
EARA	**Aranguren**	**9.33**	**321**	P		**Pn**	**08 40 18.5**	**0.0**
	3.2nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**9.41**	**323**	*e*Pn		Pn	08 40 14.9	-4.6
SJPF	**Ste Jean**	**9.41**	**323**	*e*P		**Pn**	**08 40 20.9**	**+1.4**
SJPF				*e*Sn		Sn	08 41 51.9	-13
	7.2nm,0.4s							
SJPF	**Ste Jean**	**9.41**	**323**	*e*P		**Pn**	**08 40 20.9**	**+1.4**
OSSF	**Osses**	**9.53**	**324**	P		**Pn**	**08 40 23.7**	**+2.6**
OSSF	**Osses**	**9.53**	**324**	P		**Pn**	**08 40 23.7**	**+2.6**
MDT	**Midelt**	**9.59**	**255**	Pn		**Pn**	**08 40 22.0**	**0.0**
	4.6nm,0.3s,baz=74,slow=17,SNR=147							
MDT				Sn		**Sn**	**08 42 08.0**	**-1.9**
	0.6nm,0.3s,baz=240,slow=21,SNR=1.8							
MDT				Lg		Lg	08 43 01.6	
	0.5nm,0.3s,baz=264,slow=16,SNR=1.5							
MDT	**Midelt**	**9.59**	**255**	Pn		**Pn**	**08 40 22.0**	**0.0**
MDT				Sn		**Sn**	**08 42 08.0**	**-1.9**
ELIZ	**Elizondo**	**9.59**	**323**	P		**Pn**	**08 40 22.5**	**+0.5**
	6.5nm,0.4s,SNR=8.8							
SSB	**Saint Sauveur**	**9.60**	**352**	*e*P		Pn	08 40 27.9	+5.8
SSB				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SSB	**Saint Sauveur**	**9.60**	**352**	*e*Pn		Pn	08 40 27.9	+5.8
	comp=Z,4.5nm,0.8s							
EALK	**Alkurruntz**	**9.62**	**323**	P		**Pn**	**08 40 23.5**	**+1.1**
	comp=Z,19nm,0.6s,SNR=11							
GUD	**Guadarrama**	**9.63**	**303**	P		**Pn**	**08 40 23.3**	**+0.7**
	comp=Z,2.4nm,0.3s,SNR=7.9							
CAF	**Calviac**	**9.72**	**341**	*e*P

DPC	**Dobruska-Polom**	**16.25**	**23**	*e*P		**P**	**08 41 55.3**	**+0.1**
	comp=Z,36nm,0.9s							
DPC	**Dobruska-Polom**	**16.25**	**23**	*e*Pn		**P**	**08 41 55.2**	**+0.1**
	comp=Z,36nm,0.9s							
UPC	**Upice**	**16.29**	**22**	*e*P		**P**	**08 41 56.2**	**+0.6**
UPC	**Upice**	**16.29**	**22**	*e*P		**P**	**08 41 56.2**	**+0.6**
UPC	**Upice**	**16.29**	**22**	*e*P		**P**	**08 41 56.2**	**+0.6**
KECS	**Kecovo**	**16.41**	**35**	*e*P		**P**	**08 41 59.4**	**+2.5**
KECS	**Kecovo**	**16.41**	**35**	*e*P		**P**	**08 41 59.4**	**+2.5**
KECS	**Kecovo**	**16.41**	**35**	*e*P		**P**	**08 41 59.4**	**+2.5**
DRGR		**16.43**	**43**	⇑P		**P**	**08 41 56.9**	**-0.5**
DRGR		**16.43**	**43**	⇑*i*P		**P**	**08 41 56.9**	**-0.5**
DRGR		**16.43**	**43**	P		**P**	**08 41 56.9**	**-0.5**
OKC	**Ostrava-Krasne**	**16.45**	**28**	*e*P		**P**	**08 41 58.0**	**+0.6**
OKC					MLR	MLR		
	comp=Z,300nm,12.6s							
OKC	**Ostrava-Krasne**	**16.45**	**28**	*e*P		**P**	**08 41 58.0**	**+0.6**
OKC					AMS	AMS	08 50 00.0	
	comp=Z,300nm,12.6s							
OKC	**Ostrava-Krasne**	**16.45**	**28**	*e*P		**P**	**08 41 58.0**	**+0.6**
	comp=Z,300nm,12.6s							
KSP	**Ksiaz**	**16.67**	**22**	*e*P		**P**	**08 42 02.0**	**+2.2**
KSP	**Ksiaz**	**16.67**	**22**	*e*P		**P**	**08 42 02.0**	**+2.2**
KSP	**Ksiaz**	**16.67**	**22**	*e*P		**P**	**08 42 02.0**	**+2.2**
ARR	**Arges**	**16.80**	**50**	⇑*i*P		**P**	**08 42 03.8**	**+2.3**
NIE	**Niedzica**	**17.01**	**32**	*e*P		**P**	**08 42 06.3**	**+2.6**
VOIR		**17.10**	**50**	⇓P		**P**	**08 42 04.9**	**+0.2**
VOIR		**17.10**	**50**	⇓*i*P		**P**	**08 42 04.9**	**+0.2**
VOIR		**17.10**	**50**	P		**P**	**08 42 04.9**	**+0.2**
CRVS	**Cervenica-Dubn**	**17.16**	**36**	*e*P		**P**	**08 42 07.4**	**+2.1**
CRVS	**Cervenica-Dubn**	**17.16**	**36**	*e*P		**P**	**08 42 07.4**	**+2.1**
CRVS	**Cervenica-Dubn**	**17.16**	**36**	*e*P		**P**	**08 42 07.4**	**+2.1**
TRPA	**Tarpa**	**17.17**	**39**	⇓*i*P		**Pn**	**08 42 03.8**	**0.0**
OJC	**Ojcow**	**17.40**	**30**	*e*P		**P**	**08 42 09.5**	**+1.5**
STHS	**Stebnicka Huta**	**17.42**	**34**	*e*P		**P**	**08 42 12.1**	**+3.9**
STHS	**Stebnicka Huta**	**17.42**	**34**	*e*PN		**P**	**08 42 12.1**	**+3.9**
DOPR	**Dopca**	**17.56**	**49**	⇓*i*P		**P**	**08 42 12.3**	**+2.6**
MLR	**Muntele Rosu**	**17.68**	**51**	⇑P		**P**	**08 42 14.3**	**+3.1**
MLR	**Muntele Rosu**	**17.68**	**51**	⇑*i*P		**P**	**08 42 14.3**	**+3.1**
MLR	**Muntele Rosu**	**17.68**	**51**	P		**P**	**08 42 13.8**	**+2.6**
	comp=Z,0.0nm,0.3s,baz=279,slow=9.5,SNR=11							
MLR					LR	LR	08 48 55.1	
	comp=Z,31nm,21.1s,baz=268,slow=36							
PLOR	**Plostina**	**18.29**	**50**	⇓P		**P**	**08 42 19.7**	**+1.9**
PLOR	**Plostina**	**18.29**	**50**	⇓*i*P		**P**	**08 42 19.7**	**+1.9**
PLOR	**Plostina**	**18.29**	**50**	P		**P**	**08 42 19.7**	**+1.9**
BURAR	**Bucovina Array**	**18.31**	**44**	⇓P		**P**	**08 42 22.3**	**+4.2**
BURAR	**Bucovina Array**	**18.31**	**44**	⇓*i*P		**P**	**08 42 22.3**	**+4.2**
VRI	**Vrincioaia**	**18.34**	**50**	⇑P		**P**	**08 42 21.8**	**+3.4**
VRI	**Vrincioaia**	**18.34**	**50**	⇑*i*P		**P**	**08 42 21.8**	**+3.4**
TESR	**Tescani**	**18.59**	**49**	⇑*i*P		**Pn**	**08 42 21.5**	**+0.2**
TLB	**Topalu**	**18.68**	**55**	⇑P		**Pn**	**08 42 25.0**	**+2.6**
TLB	**Topalu**	**18.68**	**55**	⇑*i*P		**Pn**	**08 42 25.0**	**+2.6**
TIRR	**Tirgusor**	**18.89**	**56**	⇓P		**Pn**	**08 42 25.3**	**+0.4**
TIRR	**Tirgusor**	**18.89**	**56**	⇓*i*P		**Pn**	**08 42 25.3**	**+0.4**
TIRR	**Tirgusor**	**18.89**	**56**	P		**Pn**	**08 42 25.3**	**+0.4**
TIRR	**Tirgusor**	**18.89**	**56**	*e*P		**Pn**	**08 42 25.6**	**+0.7**
	comp=Z,8.2nm,1.1s							
CFR	**Carcaliu**	**18.96**	**54**	⇑P		**Pn**	**08 42 26.6**	**+0.8**
CFR	**Carcaliu**	**18.96**	**54**	⇑*i*P		**Pn**	**08 42 26.6**	**+0.8**
CFR	**Carcaliu**	**18.96**	**54**	P		**Pn**	**08 42 26.6**	**+0.8**
KIS	**Kishinev**	**20.14**	**49**	*e*P		**P**	**08 42 39.0**	**+1.0**
KIS				*e*			08 43 05.0	
KIS	**Kishinev**	**20.14**	**49**	*e*P		**P**	**08 42 39.0**	**+1.0**
KIS	**Kishinev**	**20.14**	**49**	*e*P		**P**	**08 42 39.0**	**+1.0**
ESK	**Eskdalemuir**	**20.63**	**344**	*e*P		Pn	08 42 45.8	+0.2
ESK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
ESK	**Eskdalemuir**	**20.63**	**344**	*e*P		Pn	08 42 45.8	+0.2
	comp=Z,6.3nm,0.9s							
ESK	**Eskdalemuir**	**20.63**	**344**	*e*P		Pn	08 42 45.8	+0.2
	comp=Z,6.3nm,0.9s							
EKA	**Eskdalemuir Ar**	**20.64**	**344**	P		Pn	08 42 44.7	-0.9
	comp=Z,1.7nm,0.6s,baz=157,slow=11,SNR=9.1							
BRTR	**Keskin Array B**	**21.85**	**71**	P		**P**	**08 42 58.6**	**+1.8**
	comp=Z,8.2nm,1.0s,baz=263,slow=9.8,SNR=24							
BRTR					LR	LR	08 53 58.8	
	comp=Z,30nm,18.3s,baz=268,slow=43							
CSS	**Prodhromos**	**21.95**	**84**	*e*P		**P**	**08 42 58.9**	**+1.2**
	comp=Z,2.6nm,0.8s							
CSS	**Prodhromos**	**21.95**	**84**	*e*P		**P**	**08 42 58.9**	**+1.2**
	comp=Z,2.6nm,0.8s							
KIEV	**Kiev**	**22.19**	**41**	*e*P		**P**	**08 43 01.2**	**+1.1**
KIEV	**Kiev**	**22.19**	**41**	*e*P		**P**	**08 43 01.2**	**+1.1**
KIEV	**Kiev**	**22.19**	**41**	*e*P		**P**	**08 43 04.1**	**+4.0**
	comp=Z,8.8nm,1.0s							
AKASG	**Malin Array Be**	**22.21**	**41**	*i*P		**P**	**08 43 00.6**	**+0.3**
AKASG					pmax	pmax		
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**22.21**	**41**	P		**P**	**08 42 59.0**	**-1.3**
	comp=Z,3.7nm,0.6s,baz=236,slow=10,SNR=9.4							
AKASG	**Malin Array Be**	**22.21**	**41**	*i*P		**P**	**08 43 00.6**	**+0.3**
	comp=Z,4.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**22.93**	**192**	P		**P**	**08 43 04.9**	**-3.3**
	comp=Z,5.6nm,0.5s,baz=15,slow=11,SNR=50							
TORD					S	S	08 47 11.6	-6.6
	comp=Z,3.2nm,1.1s,baz=22,slow=25,SNR=6.4							
NACGM	**Naroch**	**23.73**	**30**	*e*		**P**	**08 43 12.0**	**-4.0**
MMAI	**Mount Meron Ar**	**24.05**	**88**	P		**P**	**08 43 22.7**	**+3.5**
	comp=Z,1.6nm,0.7s,baz=289,slow=14,SNR=3.2							
HFS	**Hagfors**	**24.83**	**9**	P		**P**	**08 43 28.7**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=218,slow=16,SNR=3.2							
HFS					LR	LR	08 54 06.1	
	comp=Z,110nm,18.4s,baz=132,slow=38							
ANN	**Anapa**	**25.20**	**60**	*e*P		**P**	**08 43 29.5**	**0.0**
ANN				*e*S		**S**	**08 47 51.1**	**-3.6**
ANN					pmax	pmax		
	comp=Z,109nm,1.4s							
NB2	**NORSAR Subarra**	**25.47**	**5**	P		**P**	**08 43 32.0**	**+0.1**
	comp=Z,4.6nm,1.2s,baz=191,slow=9.3							
NB2	**NORSAR Subarra**	**25.47**	**5**	P		**P**	**08 43 32.0**	**+0.1**
	comp=Z,4.6nm,1.2s,SNR=5.6							
NOA	**NORSAR Array B**	**25.47**	**5**	P		**P**	**08 43 32.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=198,slow=8.5,SNR=5.1							
NOA					LR	LR	08 54 02.9	
	comp=Z,63nm,18.7s,baz=190,slow=37							
MALT	**Malatya**	**25.62**	**75**	⇓P		**P**	**08 43 34.9**	**+1.4**
MALT	**Malatya**	**25.62**	**75**	⇓*i*P		**P**	**08 43 34.9**	**+1.4**
MALT	**Malatya**	**25.62**	**75**	P		**P**	**08 43 34.9**	**+1.4**
VSU	**Vasula**	**26.37**	**24**	⇓*i*P		**P**	**08 43 40.9**	**+0.9**
VSU					pmax	pmax		
	comp=Z,40nm,1.0s							
VSU	**Vasula**	**26.37**	**24**	*i*P		**P**	**08 43 40.9**	**+0.9**
	comp=Z,40nm,1.0s							
OBN	**Obninsk**	**28.32**	**37**	*e*P		**P**	**08 43 59.3**	**+1.8**
OBN					pmax	pmax		
	comp=Z,5.0nm,0.7s							
OBN	**Obninsk**	**28.32**	**37**	LR		LR	08 55 15.0	
	comp=Z,119nm,18.8s,baz=96,slow=36							
OBN	**Obninsk**	**28.32**	**37**	*e*P		**P**	**08 43 59.3**	**+1.8**
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**	**28.55**	**20**	P		**P**	**08 44 01.4**	**+1.9**
	comp=Z,1.6nm,0.9s,baz=222,slow=2.6,SNR=6.2							
FINES					LR	LR	08 56 27.9	
	comp=Z,104nm,18.5s,baz=203,slow=38							
KBZ	**Khabaz**	**28.97**	**63**	P		**P**	**08 44 04.8**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=232,slow=12,SNR=3.4							
BBTS	**Babate**	**29.41**	**230**	LR		LR	08 58 02.4	
	comp=Z,137nm,18.5s,baz=343,slow=41							
DBIC	**Dimbokro**	**30.76**	**202**	LR		LR	08 56 00.5	
	comp=Z,78nm,21.1s,baz=2.5,slow=36							
JOF	**Joensuu**	**31.23**	**22**	*e*P		**P**	**08 44 22.9**	**-0.3**
JOF	**Joensuu**	**31.23**	**22**	*e*p		**P**	**08 44 22.9**	**-0.3**
	comp=Z,0.2nm,0.3s							
JOF	**Joensuu**	**31.23**	**22**	*e*P		**P**	**08 44 22.9**	**-0.3**
ARCES	**ARCESS Array B**	**35.40**	**11**	P		**P**	**08 44 59.3**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=202,slow=9.2,SNR=4.5							
ARCES				PcP		**PcP**	**08 47 29.4**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=202,slow=2.6,SNR=3.7							
ARCES					LR	LR	09 00 36.3	
	comp=Z,82nm,18.4s,baz=212,slow=38							
PRGR	**Permogore**	**35.69**	**31**	*e*P		**P**	**08 45 00.4**	**-1.6**
PRGR					pmax	pmax		
	comp=Z,13nm,0.6s							
PRGR	**Permogore**	**35.69**	**31**	*e*P		**P**	**08 45 00.4**	**-1.6**
	comp=Z,13nm,0.6s							
AKTO	**Aktyubinsk**	**39.61**	**52**	LR		LR	09 04 03.5	
	comp=Z,38nm,18.4s,baz=242,slow=39							
ARU	**Arti**	**40.44**	**43**	*d i*P		**P**	**08 45 41.4**	**-0.7**
ARU							08 47 11.4	
ARU					S	**S**	**08 51 48.6**	**-1.8**
ARU					SS	**SS**	**08 54 42.6**	**-6.7**
ARU					pmax	pmax		
	comp=Z,12nm,2.5s							
ARU	**Arti**	**40.44**	**43**	*e*P		**P**	**08 45 41.5**	**-0.7**
	comp=Z,4.2nm,0.8s							
ARU	**Arti**	**40.44**	**43**	*e*P		**P**	**08 45 41.5**	**-0.7**
	comp=Z,4.2nm,0.8s							
GEYT	**Alibeck**	**41.00**	**71**	P		**P**	**08 45 49.1**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=291,slow=12,SNR=3.7							
SVE	**Sverdlovsk**	**41.63**	**42**	*e*P		**P**	**08 45 52.3**	**+0.4**
SVE					pmax	pmax		
	comp=Z,13nm,1.2s							
SVE	**Sverdlovsk**	**41.63**	**42**	*e*P		**P**	**08 45 52.3**	**+0.4**
	comp=Z,13nm,1.2s							
BVAR	**Borovoye Array**	**47.21**	**48**	LR		LR	09 07 04.0	
	comp=Z,40nm,19.1s,baz=22,slow=37							
KKAR	**Karatay Array**	**48.97**	**61**	*e*P		**P**	**08 46 52.3**	**+1.8**
KKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
KKAR	**Karatay Array**	**48.97**	**61**	*e*P		**P**	**08 46 52.3**	**+1.8**
	comp=Z,1.2nm,0.6s							
KKAR	**Karatay Array**	**48.97**	**61**	*e*P		**P**	**08 46 52.3**	**+1.8**
	comp=Z,1.2nm,0.6s							
AAK	**Ala-Archa**	**51.92**	**60**	⇑P		**P**	**08 47 14.8**	**+1.8**
AAK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
AAK	**Ala-Archa**	**51.92**	**60**	*e*P		**P**	**08 47 14.7**	**+1.8**
	comp=Z,2.9nm,0.9s							
AAK	**Ala-Archa**	**51.92**	**60**	*e*P		**P**	**08 47 14.7**	**+1.8**
	comp=Z,2.9nm,0.9s							
SCHQ	**Schefferville**	**52.38**	**316**	P		**P**	**08 47 15.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=56,slow=9.3,SNR=3.8							
KURK	**Kurchatov**	**52.61**	**50**	*e*P		**P**	**08 47 17.0**	**-0.7**
KURK					pmax	pmax		
	comp=Z,7.0nm,0.7s							
KURK	**Kurchatov**	**52.61**	**50**	*e*P		**P**	**08 47 17.0**	**-0.7**
	comp=Z,7.2nm,0.7s							
KURK	**Kurchatov**	**52.61**	**50**	*e*P		**P**	**08 47 17.0**	**-0.7**
	comp=Z,7.2nm,0.7s							
ZALV	**Zalesovo Beam**	**55.53**	**45**	P		**P**	**08 47 38.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=286,slow=7.6,SNR=8.2							
ZALV					LR	LR	09 12 10.2	
	comp=Z,36nm,18.1s,baz=250,slow=37							
MKAR	**Makanchi Array**	**56.00**	**53**	P		**P**	**08 47 42.0**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=284,slow=6.1,SNR=38							
BOSA	**Boshof**	**66.46**	**162**	P		**P**	**08 48 51.7**	**-1.9**
	comp=Z,3.9nm,0.8s,baz=338,slow=11,SNR=4.2							
BOSA					LR	LR	09 19 42.0	
	comp=Z,105nm,21.3s,baz=342,slow=38							
ZAK	**Zakamensk**	**67.37**	**44**	*e*P		**P**	**08 49 00.0**	**+0.8**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.2s							
ZAK	**Zakamensk**	**67.37**	**44**	*e*P		**P**	**08 49 00.0**	**+0.8**
	comp=Z,1.0nm,1.2s							
BOD	**Bodaibo**	**68.89**	**33**	*e*P		**P**	**08 49 07.0**	**-1.5**
BOD					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BOD	**Bodaibo**	**68.89**	**33**	*e*P		**P**	**08 49 07.0**	**-1.5**
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**70.42**	**45**	P		**P**	**08 49 18.4**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=301,slow=6.6,SNR=7.7							
GTA	**Gaotai**	**70.69**	**55**	*e*P		P	08 49 10.6	-10
GTA					pP	pP	08 49 15.0	-8.4
GTA					sP	sP	08 49 18.0	-6.6
GTA					pmax	pmax		
	comp=Z,4.0nm,0.9s							
YKA	**Yellowknife Ar**	**71.28**	**335**	P		**P**	**08 49 23.0**	**-0.1**
YKA	**Yellowknife Ar**	**71.28**	**335**	P		**P**	**08 49 23.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=51,slow=6.0,SNR=11							
YKA	**Yellowknife Ar**	**71.28**	**335**	P		**P**	**08 49 23.0**	**-0.1**
YAK	**Yakutsk**	**72.36**	**24**	LR		LR	09 22 31.0	
	comp=Z,19nm,19.0s,baz=174,slow=37							
BDFB	**Brasilia**	**72.55**	**235**	LR		LR	09 18 50.5	
	comp=Z,99nm,20.4s,baz=40,slow=34							
HHC	**Hu-ho-hao-te**	**77.41**	**49**	*e*P		P	08 50 03.2	+3.8
HHC					PMZ			
	comp=Z,17nm,1.0s							
ILAR	**Eielson Array**	**77.61**	**349**	P		**P**	**08 50 01.5**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=351,slow=4.3,SNR=6.2							
SEY	**Seymchan**	**77.92**	**15**	P		**P**	**08 50 02.5**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=24,slow=1.4,SNR=3.5							
CMAR	**Chiang Mai Arr**	**81.43**	**74**	*e*P		**P**	**08 50 22.7**	**+1.2**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**81.43**	**74**	P		**P**	**08 50 20.8**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=299,slow=6.9,SNR=4.8							
PDAR	**Pinedale Array**	**82.44**	**318**	P		**P**	**08 50 27.9**	**+1.2**
	comp=Z,1.0nm,1.1s,baz=46,slow=5.2,SNR=3.4							

*ISCJB **10** 08:46:51.9±0.5, 32.°08N±0.°02×115.°02W±0.°02, h11km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=136.1*
*ECX **10** 08:46:53.6±0.5, 32.°10N×115.°08W, h8km, MD3.7, ML3.9*
*MEX **10** 08:46:53.7±0.3, 32.°12N×114.°86W, h15km, MD3.7*
*NEIC **10** 08:46:53.5, 32.°10N×115.°09W, h3km, MD3.7(MEX), ML3.7(PAS), ML3.9(ECX), After ECX.*
NEIC Felt at San Luis Rio Colorado, Sonora.

ISC 10 08:46:52.7±0.9, 32.°07N±0.°02×115.°09W±0.°02, h14km±6km, n54, σ0s97/80, 9C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
EMX	**El Mayor**	**0.15**	**236**	⇑*e*P		**Pg**	**08 46 56.2**	**-0.3**
EMX				*e*S		**Sg**	**08 46 58.9**	**-0.2**
EMX				⇑*e*			08 46 59.9	
	comp=E,13μm,0.7s							
EMX	**El Mayor**	**0.15**	**236**	*e*P		**Pg**	**08 46 56.2**	**-0.3**
EMX				*e*S		**Sg**	**08 46 59.4**	**+0.4**
MBIG	**Mexicali**	**0.34**	**345**	*i*P		**Pb**	**08 47 00.7**	**+0.1**
MBIG				*i*S		**Sb**	**08 47 07.0**	**+1.0**
CPBX	**Cerro Prieto**	**0.39**	**333**	*e*P		**Pg**	**08 47 00.1**	**-0.4**
CPBX				*e*S		**Sg**	**08 47 05.4**	**-0.5**
CPBX				⇑*e*			08 47 08.2	
	comp=N,65μm,0.4s							
CPBX	**Cerro Prieto**	**0.39**	**333**	*i*P		**Pb**	**08 47 01.1**	**-0.3**
CPBX				*i*S		**Sg**	**08 47 06.4**	**+0.6**
ECBX	**El Chinero**	**0.60**	**177**	*e*P		**Pg**	**08 47 04.4**	**-0.1**
ECBX				*e*S		**Sb**	**08 47 13.0**	**-0.2**
ECBX				⇑*e*			08 47 14.6	
	comp=N,5μm,0.7s							
YMD	**Yuma Desert**	**0.67**	**44**	⇑*e*P		**Pg**	**08 47 05.3**	**-0.5**
YMD	**Yuma Desert**	**0.67**	**44**	*e*P		**Pg**	**08 47 05.3**	**-0.5**
EMSC	**East Mesa**	**0.67**	**8**	*e*P		**Pg**	**08 47 05.7**	**-0.1**
RDX	**Rancho Dawling**	**0.73**	**259**	*e*P		**Pg**	**08 47 07.2**	**+0.1**
RDX				*e*S		**Sb**	**08 47 17.5**	**+0.1**
RDX				⇓*e*			08 47 20.5	
	comp=N,4μm,0.4s							
RDX	**Rancho Dawling**	**0.73**	**259**	*e*P		**Pg**	**08 47 07.2**	**+0.1**
RDX				*e*S		**Sb**	**08 47 17.5**	**+0.1**
SGL	**Mount Signal**	**0.79**	**317**	⇑*e*P		**Pg**	**08 47 07.5**	**-0.5**
SGL	**Mount Signal**	**0.79**	**317**	*e*P		**Pg**	**08 47 07.5**	**-0.5**
COA	**Coachella**	**0.79**	**358**	⇓*e*P		**Pg**	**08 47 07.2**	**-0.8**
COA	**Coachella**	**0.79**	**358**	*e*P		**Pg**	**08 47 07.3**	**-0.8**
RUN	**Ruthven**	**0.90**	**6**	⇓*e*P		**Pg**	**08 47 08.6**	**-1.6**
RUN	**Ruthven**	**0.90**	**6**	*e*P		**Pg**	**08 47 08.6**	**-1.6**
YUH	**Yuha Desert**	**0.91**	**309**	⇑*e*P		**Pg**	**08 47 09.5**	**-0.8**
YUH	**Yuha Desert**	**0.91**	**309**	*e*P		**Pg**	**08 47 09.5**	**-0.8**
COK	**Cook Ranch**	**0.94**	**325**	⇑*e*P		**Pg**	**08 47 09.9**	**-1.0**
COK	**Cook Ranch**	**0.94**	**325**	*e*P		**Pg**	**08 47 09.9**	**-1.0**
RMX	**La Rumorosa**	**0.99**	**303**	*e*P		**Pg**	**08 47 10.7**	**-1.1**
RMX				*e*S		**Sg**	**08 47 24.2**	**-0.6**
RMX	**La Rumorosa**	**0.99**	**303**	*e*P		**Pg**	**08 47 10.7**	**-1.1**
RMX				*e*S		**Sg**	**08 47 24.2**	**-0.6**
GLA	**Glamis**	**1.00**	**13**	⇓*e*P		**Pg**	**08 47 10.2**	**-1.9**
GLA	**Glamis**	**1.00**	**13**	*e*Pg		**Pg**	**08 47 09.9**	**-2.1**
GLA				*e*Sg		**Sg**	**08 47 24.0**	**-1.2**
SPIG	**San Pedro Mart**	**1.07**	**197**	*e*P		**Pg**	**08 47 12.5**	**-0.9**
SPIG				*i*S		**Sg**	**08 47 26.9**	**-0.6**
SPIG	**San Pedro Mart**	**1.07**	**197**	*e*P		**Pg**	**08 47 12.8**	**-0.7**
SPIG				*e*S		**Sb**	**08 47 27.0**	**-0.2**
SPIG	**San Pedro Mart**	**1.07**	**197**	*e*P		**Pg**	**08 47 12.5**	**-0.9**
SPIG				*i*S		**Sg**	**08 47 26.9**	**-0.6**
SPX	**San Pedro Mart**	**1.07**	**197**	*e*P		**Pg**	**08 47 12.8**	**-0.7**
SPX				*e*S		**Sn**	**08 47 28.4**	**-0.1**
SPX				⇑*e*			08 47 30.8	
	comp=N,2μm,0.9s							
SPX	**San Pedro Mart**	**1.07**	**197**	*e*P		**Pg**	**08 47 12.8**	**-0.7**
SPX				*e*S		**Sn**	**08 47 28.4**	**-0.1**
ZAX	**El Zacaton**	**1.15**	**241**	*e*P		**Pb**	**08 47 13.8**	**-0.6**
ZAX				*e*S		**Sg**	**08 47 29.9**	**+0.1**
ECNX	**Esteban Cantu**	**1.34**	**252**	*e*P		**Pn**	**08 47 16.9**	**-0.3**
ECNX				*e*S		**Sn**	**08 47 35.6**	**+0.7**
CBX	**Cerro Bola**	**1.35**	**281**	*e*P		**Pn**	**08 47 17.0**	**-0.3**
CBX				*i*S		**Sb**	**08 47 35.6**	**+0.5**
CBX	**Cerro Bola**	**1.35**	**281**	*e*P		**Pn**	**08 47 16.7**	**-0.6**
CBX				*e*S		**Sb**	**08 47 35.3**	**+0.2**
CBX				⇓*e*			08 47 37.1	
CBX					AML	AML	08 47 37.1	
	comp=N,4μm,0.5s							
CBX				*e*			08 47 37.2	
	comp=Z,2μm,0.2s							
CBX	**Cerro Bola**	**1.35**	**281**	*e*P		**Pn**	**08 47 16.9**	**-0.3**
CBX				*e*S		**Sb**	**08 47 35.3**	**+0.2**
CBX				*i* S		**Sb**	**08 47 35.6**	**+0.5**
PBX	**Punta Banda**	**1.43**	**257**	*e*P		**Pn**	**08 47 18.1**	**-0.1**
PBX				*e*S		**Sb**	**08 47 38.1**	**+0.9**
PBX	**Punta Banda**	**1.43**	**257**	*e*P		**Pn**	**08 47 18.1**	**-0.1**
PBX				*e*S		**Sb**	**08 47 38.1**	**+0.9**
PFO	**Pinyon Flats O**	**1.91**	**324**	*e*Pn		**Pn**	**08 47 23.3**	**-1.7**
214A	**Organ Pipe Nat**	**1.94**	**93**	*e*Pn		**Pn**	**08 47 23.6**	**-1.8**
LDFC	**Landfair**	**3.00**	**360**	*e*Pg		Pg	08 47 55.1	+4.9
MWC	**Mount Wilson**	**3.28**	**312**	*e*Pg		**Pb**	**08 47 51.9**	**+1.1**
PASC	**Pasadena Art C**	**3.33**	**310**	*e*Pg		**Pb**	**08 47 51.8**	**+0.1**
PASC				*e*Sn		**Sb**	**08 48 34.3**	**+2.3**
GSC	**Goldstone, Bar**	**3.52**	**337**	*e*Pg		**Pg**	**08 47 58.5**	**-1.7**
TUC	**Tucson**	**3.66**	**85**	*e*Pn		**Pn**	**08 47 50.4**	**+1.4**
TUC				*e*Pg		**Pg**	**08 48 03.2**	**+0.3**
TUC				*e*Sg		**Sg**	**08 48 50.4**	**+0.1**
SHPR	**Sheep Range**	**4.42**	**359**	*e*Pn		**Pn**	**08 48 00.6**	**+1.1**
ISA	**Isabella, Lake**	**4.55**	**323**	*e*Pg		**Pg**	**08 48 19.1**	**-0.8**
WUAZ	**Wupatki**	**4.62**	**41**	*e*Pn		**Pn**	**08 48 02.2**	**-0.2**
DAC	**Darwin (Calif)**	**4.68**	**334**	*e*Pn		Pn	08 48 08.8	+5.8
W18A	**Petrified Fore**	**5.41**	**54**	*e*Pn		**Pn**	**08 48 14.2**	**+1.1**
	comp=Z,20nm,0.5s							
CCUT	**Cedar City**	**5.65**	**14**	*e*Pn		**Pn**	**08 48 17.9**	**+1.4**
	comp=Z,31nm,1.0s							
ARUT	**Antelope Range**	**5.86**	**13**	*e*Pn		**Pn**	**08 48 21.4**	**+2.0**
	comp=Z,3.1nm,0.6s							
ARUT				*e*Pg		**Pg**	**08 48 43.4**	**-1.6**
ARUT				*e*Sg		Sg	08 50 08.3	+7.5
121A	**Cookes Peak, D**	**6.21**	**84**	*e*Pn		**Pn**	**08 48 23.0**	**-1.0**
	comp=Z,18nm,0.4s							
MVU	**Marysvale**	**6.83**	**19**	*e*Pn		**Pn**	**08 48 34.2**	**+1.5**
	comp=Z,14nm,0.8s							
MVCO	**Mesa Verde**	**7.47**	**45**	*e*

GEYT	**Alibeck**	**9.45**	**43**	Pn	**Pn**	**08 50 27.9**	**+0.5**	
	comp=Z,0.8nm,0.3s,baz=239,slow=10,SNR=9.1							
ASF	**Jabal al Asfar**	**11.14**	**278**	Pn	Pn	08 50 47.6	-3.0	
	comp=Z,1.1nm,0.3s,baz=55,slow=11,SNR=4.0							
MMAI	**Mount Meron Ar**	**12.44**	**282**	LR	LR	08 56 49.6		
	comp=Z,37nm,21.5s,baz=120,slow=42							
BRTR	**Keskin Array B**	**15.71**	**307**	Pn	**Pn**	**08 51 52.9**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=127,slow=13,SNR=2.4							
AKTO	**Aktyubinsk**	**20.06**	**15**	P	**P**	**08 52 42.0**	**-2.4**	
	comp=Z,2.1nm,0.5s,baz=186,slow=11,SNR=9.1							
AAK	**Ala-Archa**	**22.57**	**53**	P	**P**	**08 53 12.8**	**+1.1**	
	comp=Z,1.3nm,0.8s,baz=215,slow=8.8,SNR=3.0							
AKASG	**Malin Array Be**	**24.77**	**328**	P	**P**	**08 53 30.9**	**-1.9**	
	comp=Z,0.8nm,0.5s,baz=120,slow=7.3,SNR=3.6							
BVAR	**Borovoye Array**	**26.32**	**28**	P	**P**	**08 53 45.1**	**-1.7**	
	comp=Z,2.0nm,0.7s,baz=223,slow=14,SNR=8.9							
KURBB	**Kurchatov Arra**	**28.70**	**39**	P	**P**	**08 54 06.6**	**-1.6**	
	comp=Z,1.1nm,0.8s,baz=241,slow=9.4,SNR=6.1							
MKAR	**Makanchi Array**	**29.26**	**49**	P	**P**	**08 54 11.8**	**-1.6**	
	comp=Z,0.3nm,0.5s,baz=241,slow=9.7,SNR=4.9							
ZALV	**Zalesovo Beam**	**33.70**	**38**	P	P	08 54 49.4	-2.8	
	comp=Z,0.5nm,0.4s,baz=217,slow=18,SNR=2.7							
JOF	**Joensuu**	**33.83**	**345**	*ep*	P	08 54 49.8	-3.4	
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**33.97**	**340**	P	P	08 54 51.4	-3.1	
	comp=Z,0.9nm,0.5s,baz=148,slow=11,SNR=13							
KAF	**Kangasniemi**	**34.43**	**341**	*ep*	**P**	**08 54 59.7**	**+1.3**	
	comp=Z,0.3nm,0.3s							
HFS	**Hagfors**	**37.54**	**331**	P	P	08 55 22.2	-3.0	
	comp=Z,0.8nm,0.4s,baz=120,slow=14,SNR=3.6							
NOA	**NORSAR Array B**	**39.06**	**331**	P	P	08 55 34.7	-3.3	
	comp=Z,0.3nm,0.7s,baz=119,slow=8.6,SNR=2.8							
ARCES	**ARCESS Array B**	**40.73**	**347**	P	P	08 55 49.7	-2.0	
	comp=Z,1.4nm,0.8s,baz=152,slow=8.2,SNR=4.9							
TORD	**Torodi Ar. Bea**	**47.77**	**259**	P	P	08 56 46.2	-2.5	
	comp=Z,1.7nm,0.8s,baz=56,slow=7.9,SNR=9.0							
KSRS	**Korea Array**	**62.95**	**61**	P	P	08 58 35.3	-2.6	
	comp=Z,1.3nm,0.6s,baz=281,slow=7.7,SNR=5.5							
ILAR	**Eielson Array**	**83.36**	**7**	P	P	09 00 34.8	-3.2	
	comp=Z,0.4nm,0.8s,baz=304,slow=4.4,SNR=4.8							
YKA	**Yellowknife Ar**	**85.73**	**353**	P	P	09 00 46.6	-3.4	
	comp=Z,0.2nm,0.6s,baz=12,slow=5.4,SNR=5.4							

*ISCJB **10** 08:48:59.5±0.8, 19°.9S±0°.1×177°.9W±0°.2, h600km, mb3.8/10, Error ellipse: s-maj=20.4km s-min=14.0km az=27.8*
*IDC **10** 08:49:00.9±2.6, 19°.81S×177°.97W, h597km±32km, mb3.4/10, mb1 3.5/12, mb1mx3.3/28, mbtmp4.3/12, Error ellipse: s-maj=22.5km s-min=16.1km az=132.0*

ISC 10 08:49:00.8±0.9, **19°.8S**±0°.1×**178°.0W**±0°.2, **h600**km, **n23,** σ1§**03**/20, **mb3.9**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.75**	**258**	P		P	08 52 08.8	+1.9
	0.8nm,0.3s,baz=112,slow=19,SNR=15							
URZ	**Urewera**	**18.92**	**192**	P		**P**	**08 52 43.1**	**-1.5**
	2.1nm,0.3s,baz=271,slow=3.4,SNR=21							
QLP	**Quilpie**	**35.32**	**252**	P		**P**	**08 55 07.9**	**+0.5**
	baz=42,SNR=7.8							
COEN	**Coen**	**37.58**	**273**	P		**P**	**08 55 26.8**	**+0.7**
	baz=44,SNR=16							
ASAR	**Alice Springs**	**44.73**	**256**	P		**P**	**08 56 22.6**	**+0.2**
	5.6nm,0.7s,baz=87,slow=8.1,SNR=46							
ASAR				S		**S**	**09 02 16.5**	**-0.4**
	0.9nm,0.8s,baz=93,slow=16,SNR=6.9							
WRA	**Warramunga Arr**	**44.74**	**261**	P		**P**	**08 56 22.2**	**-0.3**
	2.5nm,0.3s,baz=97,slow=8.0,SNR=31							
KDU	**Kakadu**	**47.98**	**271**	P		**P**	**08 56 46.9**	**0.0**
	baz=54,SNR=5.4							
MTN	**Manton Dam**	**49.20**	**270**	P		**P**	**08 56 55.7**	**-0.3**
	baz=56,SNR=4.4							
WRKA	**Warakurna**	**49.71**	**254**	P		**P**	**08 56 59.8**	**+0.2**
	baz=57,SNR=7.3							
MEEK	**Meekatharra**	**58.20**	**250**	P		**P**	**08 57 58.9**	**-0.2**
	baz=65,SNR=3.2							
VNDA	**Vanda**	**58.64**	**185**	P		**P**	**08 58 02.0**	**+0.9**
	0.7nm,0.7s,baz=2.5,slow=7.5,SNR=3.6							
MJAR	**Matsushiro Arr**	**69.65**	**323**	P		**P**	**08 59 11.1**	**-0.2**
	2.4nm,0.6s,baz=162,slow=6.2,SNR=9.8							
ASAJ	**Asahikawa**	**73.11**	**331**	P		**P**	**08 59 31.9**	**+0.7**
	4.2nm,0.6s,baz=200,slow=3.7,SNR=4.4							
PETK	**Petropavlovsk-**	**75.58**	**345**	P		**P**	**08 59 44.9**	**-0.1**
	3.0nm,0.8s,baz=149,slow=6.4,SNR=4.0							
USRK	**Ussuriysk Ar.**	**78.39**	**326**	P		P	09 00 02.1	+1.7
	1.7nm,0.7s,baz=98,slow=3.1,SNR=6.3							
SEY	**Seymchan**	**85.68**	**347**	P		**P**	**09 00 36.9**	**+0.1**
	1.8nm,0.6s,baz=131,slow=11,SNR=6.3							
ILAR	**Eielson Array**	**87.60**	**13**	P		**P**	**09 00 45.4**	**-0.4**
	0.5nm,0.6s,baz=216,slow=4.9,SNR=11							
CMAR	**Chiang Mai Arr**	**89.91**	**290**	P		P	09 00 59.6	+2.0
	1.0nm,0.3s,baz=144,slow=2.7,SNR=5.5							
ARCES	**ARCESS Array B**	**128.21**	**350**	PKP		**PKPdf**	**09 06 59.7**	**+0.5**
	1.5nm,0.9s,baz=321,slow=1.7,SNR=5.7							
FINES	**FINESS Array B**	**135.09**	**344**	PKP		**PKPdf**	**09 07 14.8**	**+2.4**
	0.2nm,0.3s,baz=120,slow=5.5,SNR=4.2							
AKASG	**Malin Array Be**	**142.40**	**332**	PKhKP		PKPpre	09 07 22.6	
	0.5nm,0.3s,baz=43,slow=3.8,SNR=5.0							
BRTR	**Keskin Array B**	**146.38**	**313**	PKPbc		**PKPab**	**09 07 36.0**	**-2.5**
	0.8nm,0.6s,baz=153,slow=3.6,SNR=4.0							
GERES	**GERESS Array B**	**149.51**	**345**	PKPbc		**PKPbc**	**09 07 42.7**	**-0.7**
	0.8nm,0.5s,baz=37,slow=3.3,SNR=6.9							

*CSEM **10** 08:48:48.6, 35°.65N×6°.40E, h0km, ML3.8*
*CRAAG **10** 08:48:48.6, 35°.65N×6°.40E, Ml3.8*
*ISCJB **10** 08:49:13.0±0.7, 35°.6N±0°.1×6°.39E±0°.09, h10km, mb3.3/5, Error ellipse: s-maj=20.0km s-min=9.9km az=174.7*
*IDC **10** 08:49:12.9±1.1, 35°.57N×6°.40E, h0km, mb3.3/5, mb1 3.5/8, mb1mx3.3/33, mbtmp3.4/8, ML3.7/3, Error ellipse: s-maj=30.2km s-min=20.7km az=160.0*

ISC 10 08:49:13.7±0.9, **35°.6N**±0°.1×**6°.40E**±0°.05, **h10**km, **n14,** σ1§**60**/12, **mb3.5**/5, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEST	**Kesra**	**2.41**	**85**	Pn		**Pb**	**08 49 55.0**	**-2.2**
	1.6nm,0.3s,baz=212,slow=4.8,SNR=40							
EMHD	**Djebel Mahouad**	**2.87**	**284**	P		**Pg**	**08 50 08.0**	**-0.7**
EMHD	**Djebel Mahouad**	**2.87**	**284**	P		**Pg**	**08 50 08.0**	**-0.7**
ETRT	**Tiaret**	**4.16**	**269**	P		**Pb**	**08 50 25.0**	**-2.1**
ETRT	**Tiaret**	**4.16**	**269**	P		**Pb**	**08 50 25.0**	**-2.1**
EANR	**'Ain N'Sour**	**4.33**	**277**	P		Pn	08 50 22.4	+2.8
EANR	**'Ain N'Sour**	**4.33**	**277**	P		Pn	08 50 22.4	+2.8
ESDC	**Sonseca Array**	**9.19**	**300**	Pn		**Pn**	**08 51 28.0**	**+1.7**
	0.5nm,0.3s,baz=115,slow=14,SNR=4.6							
MDT	**Midelt**	**21.25**	**256**	P		**P**	**08 54 08.7**	**+1.2**
	0.8nm,0.3s,baz=76,slow=17,SNR=24							
BRTR	**Keskin Array B**	**21.94**	**71**	P		**P**	**08 54 08.7**	**+1.2**
	0.4nm,0.6s,baz=267,slow=10,SNR=2.4							
TORD	**Torodi Ar. Bea**	**22.71**	**192**	P		**P**	**08 54 16.0**	**+0.2**
	1.7nm,0.6s,baz=10,slow=11,SNR=12							
KURBB	**Kurchatov Arra**	**52.73**	**50**	P		**P**	**08 58 28.9**	**+0.5**
	0.4nm,0.6s,baz=286,slow=8.5,SNR=4.5							
MKAR	**Makanchi Array**	**56.14**	**53**	P		**P**	**08 58 53.3**	**0.0**
	0.4nm,0.6s,baz=287,slow=6.7,SNR=5.9							
YKA	**Yellowknife Ar**	**71.47**	**335**	P		**P**	**09 00 34.2**	**+0.1**
	0.1nm,0.7s,baz=49,slow=6.4,SNR=3.0							

*BJI **10** 09:06:18.9, 7°.91S×128°.85E, h225km, mB4.7/24, mb4.6/34*
*MOS **10** 09:06:26.8±0.9, 6°.95S×128°.30E, h226km, mb4.6/18, Error ellipse: s-maj=12.8km s-min=7.0km az=122.9*
*KLM **10** 09:06:26.9, 6°.94S×128°.86E, h247km, mb4.8, MS5.6*
*IDC **10** 09:06:27.6±1.4, 6°.95S×128°.30E, h219km±13km, mb4.1/21, mb1 4.2/24, mb1mx4.2/30, mbtmp4.7/24, Error ellipse: s-maj=11.2km s-min=9.2km az=71.0*
*NEIC **10** 09:06:28.1±0.4, 6°.98S×128°.36E, h226km±4km, mb4.7/17, Error ellipse: s-maj=5.9km s-min=4.7km az=220.0*
*ISCJB **10** 09:06:28.6±0.2, 7°.04S±0°.02×128°.37E±0°.03, h250km, mb4.4/46, Error ellipse: s-maj=4.2km s-min=3.1km az=145.2*
*DJA **10** 09:06:30.5±0.3, 7°.3S±3°×12°.8E±°, h111km±12km, M5.1/21, mb5.2/21, mB5.5/15, MLv5.6/7, Mw(mB)4.9/15*

ISC 10 09:06:29.4±0.3, **7°.09S**±0°.03×**128°.32E**±0°.04, **h250**km, **n194,** σ1§**46**/202, **mb4.3**/46, **9C-6D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.00**	**32**	P		Pn	09 07 16.6	-5.3
SAUI	**Saumlaki**	**3.09**	**107**	P		**Pn**	**09 07 19.7**	**-3.1**
SAUI				S		S	09 07 58.3	-6.8
SAUI	**Saumlaki**	**3.09**	**107**	*e*Pn		**Pn**	**09 07 20.7**	**-2.1**
MSAI	**Masohi**	**3.77**	**9**	P		**Pn**	**09 07 28.3**	**-2.2**
NLAI	**Namlea**	**4.01**	**342**	P		**Pn**	**09 07 32.3**	**-1.0**
SOEI	**Soe**	**4.80**	**236**	P		**Pn**	**09 07 41.4**	**-1.5**
SOEI				S		**S**	**09 08 38.8**	**-2.7**
SOEI	**Soe**	**4.80**	**236**	P		**Pn**	**09 07 41.5**	**-1.4**
	baz=5.0,SNR=471							
SOEI				S		**S**	**09 08 39.9**	**-1.6**
	baz=5.0,SNR=8.2							
SOEI	**Soe**	**4.80**	**236**	*e*Pn		**Pn**	**09 07 41.4**	**-1.5**
SANI	**Sanana**	**5.52**	**335**	P		**Pn**	**09 07 50.4**	**-1.2**
BATI	**Baumata**	**5.55**	**236**	P		**Pn**	**09 07 49.3**	**-2.6**
	4µm,0.7s,34µm12nm							
BATI	**Baumata**	**5.55**	**236**	P		**Pn**	**09 07 51.0**	**-1.0**
	691nm,0.3s,baz=109,slow=1.6,SNR=924							
BATI				S		**S**	**09 08 53.1**	**-4.8**
	773nm,0.3s,baz=294,slow=23,SNR=22							
FAKI	**Fak Fak**	**5.70**	**44**	P		Pn	09 07 48.9	-5.0
FAKI	**Fak Fak**	**5.70**	**44**	P		Pn	09 07 48.6	-5.2
	baz=5.5,SNR=154							
FAKI				S		S	09 08 51.9	-9.4
	baz=5.5,SNR=23							
FAKI	**Fak Fak**	**5.70**	**44**	*e*Pn		Pn	09 07 48.8	-5.0
FAKI				*e*Sn		S	09 08 48.5	-13
MTN	**Manton Dam**	**6.36**	**154**	P		**Pn**	**09 08 01.1**	**-0.9**
	baz=6.5,SNR=229							
MTN				S		S	09 09 05.4	-11
	baz=6.5,SNR=8.6							
LBMI	**Labuha**	**6.46**	**353**	P		**Pn**	**09 08 02.4**	**-0.9**
	758nm,0.8s,7µm2.8nm							
EDFI	**Ende, Flores**	**6.77**	**255**	P		**Pn**	**09 08 05.6**	**-1.7**
	152nm,0.7s,2µm0.7nm							
KDU	**Kakadu**	**6.91**	**144**	P		**Pn**	**09 08 07.7**	**-1.3**
	baz=7.1,SNR=294							
KDU				S		**S**	**09 09 25.6**	**-3.2**
	baz=7.1,SNR=4.2							
TNTI	**Ternate**	**7.86**	**353**	P		**Pn**	**09 08 19.4**	**-1.6**
TNTI	**Ternate**	**7.86**	**353**	*e*Pn		**Pn**	**09 08 19.6**	**-1.4**
RKPI	**Ransiki, Papua**	**8.05**	**47**	P		Pn	09 08 19.8	-3.6
LUWI	**Luwuk**	**8.16**	**317**	P		**Pn**	**09 08 24.7**	**-0.1**
	122nm,1.0s,4µm							
LUWI	**Luwuk**	**8.16**	**317**	*e*Pn		**Pn**	**09 08 24.9**	**+0.2**
BASI	**Baing, Sumba**	**8.26**	**247**	P		**Pn**	**09 08 23.8**	**-2.2**
	477nm,0.7s,6µm							
BKSI	**Bulukumba**	**8.33**	**282**	P		**Pn**	**09 08 26.4**	**-0.5**
	35nm,1.0s							
WSI	**Waingapu**	**8.34**	**252**	P		**Pn**	**09 08 25.5**	**-1.5**
	1µm,0.5s,15µm							
WSI	**Waingapu**	**8.34**	**252**	P		**Pn**	**09 08 25.2**	**-1.8**
	baz=8.5,SNR=6.2							
WSI				S		S	09 09 54.2	-7.6
	baz=8.5,SNR=7.3							
KNRA	**Kununurra**	**8.55**	**177**	P		**Pn**	**09 08 28.9**	**-0.7**
	baz=8.8,SNR=518							
KNRA				S		S	09 10 00.5	-6.3
	baz=8.8,SNR=14							
BNSI	**Bone**	**8.59**	**288**	P		**Pn**	**09 08 30.0**	**-0.2**
	46nm,1.2s,686nm							
KAPI	**Kappang**	**8.76**	**283**	*e*Pn		**Pn**	**09 08 32.1**	**-0.2**
APSI	**Ampana**	**9.05**	**312**	P		**Pn**	**09 08 36.9**	**+0.9**
	247nm,1.1s,3µm							
SPSI	**Sidrap Palu**	**9.05**	**290**	P		**Pn**	**09 08 36.4**	**+0.3**
	28nm,1.3s							
WBSI	**Waikabubak, Su**	**9.19**	**253**	P		**Pn**	**09 08 38.5**	**+0.7**
	144nm,0.8s,7µm							
TTSI	**Tana Toraja**	**9.37**	**295**	P		Pn	**09 08 41.9**	**+1.9**
MRSI	**Marisa**	**9.84**	**319**	P		**Pn**	**09 08 46.3**	**+0.2**
	148nm,0.9s,1µm							
WAMI	**Wamena**	**10.82**	**73**	P		P	09 09 05.2	+2.2
	197nm,0.5s							
MPSI	**Mapaga**	**11.18**	**311**	P		**Pn**	**09 09 03.5**	**+0.7**
SMPI	**Sani**	**11.53**	**64**	P		**Pn**	**09 09 06.4**	**-0.8**
GENI	**Genyem**	**12.62**	**70**	P		**P**	**09 09 21.1**	**-1.9**
KBKI	**Kotabaru**	**12.67**	**287**	P		**P**	**09 09 24.1**	**+0.6**
	28nm,0.8s,805nm							
JAY	**Jayapura**	**13.15**	**70**	P		**Pn**	**09 09 26.3**	**-1.0**
	4.2nm,0.3s,baz=286,slow=17,SNR=14							
JAY				S		**S**	**09 11 55.1**	**+1.5**
	0.9nm,0.3s,baz=108,slow=20,SNR=2.7							
BBKI	**Banjar Baru**	**13.89**	**284**	P		P	09 09 39.7	+2.6
	290nm,1.1s							
ABJI	**Asem Bagus**	**13.98**	**266**	P		**P**	**09 09 39.6**	**+1.5**
WRAB	**Tennant Creek**	**14.05**	**156**	↓*i* P		**P**	**09 09 37.6**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,58nm,1.0s							
WRAB	**Tennant Creek**	**14.05**	**156**	*e*Pn		**Pn**	**09 09 37.0**	**-1.2**
WRA	**Warramunga Arr**	**14.05**	**156**	*i* P		**Pn**	**09 09 37.2**	**-1.0**
WRA				pmax		pmax		
	comp=Z,12nm,0.5s							
WRA	**Warramunga Arr**	**14.05**	**156**	P		**P**	**09 09 37.4**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=334,slow=12,SNR=30							
WRA				S		**S**	**09 12 10.4**	**-3.6**
	comp=Z,7.8nm,0.3s,baz=326,slow=23,SNR=13							
JAGI	**Jajag, Banyuwa**	**14.10**	**263**	P		**Pn**	**09 09 37.6**	**-1.3**
	baz=14,SNR=12							
JAGI				S		S	09 12 02.2	-13
	baz=14,SNR=4.5							
JAGI	**Jajag, Banyuwa**	**14.10**	**263**	*e*Pn		**Pn**	**09 09 37.8**	**-1.1**
	comp=Z,40nm,0.6s							
KMMI	**Kalianget**	**14.24**	**269**	P		P	09 09 45.3	+4.4
BLJI	**Banyuglugur**	**14.61**	**267**	P		**Pn**	**09 09 46.6**	**+1.5**
MTKI	**Muara Teweh, K**	**14.71**	**294**	P		Pn	09 09 48.7	+2.5
TSM	**Tawau**	**15.38**	**317**	↑P		**Pn**	**09 09 56.0**	**+1.7**
BWJI	**Bawean**	**15.61**	**274**	P		Pn	09 10 05.7	+8.7
COEN	**Coen**	**16.12**	**116**	P		**Pn**	**09 10 03.2**	**+0.2**
	baz=16,SNR=42							
COEN	**Coen**	**16.12**	**116**	*e*Pn		**Pn**	**09 10 03.2**	**+0.2**
	comp=Z,14nm,1.5s							
PWJI	**Pagerwojo**	**16.40**	**266**	P		**Pn**	**09 10 05.9**	**-0.4**
SDKM	**Sandakan**	**16.82**	**318**	↑P		**Pn**	**09 10 11.5**	**+0.2**
PCJI	**Pacitan**	**17.02**	**265**	P		**Pn**	**09 10 13.1**	**-0.5**
PBKI	**Pangkalan Bun**	**17.14**	**284**	P		**Pn**	**09 10 16.8**	**+1.7**
QIS	**Mount Isa**	**17.29**	**142**	P		**Pn**	**09 10 16.7**	**-0.1**
	baz=18,SNR=51							
AS31	**Alice Springs**	**17.34**	**163**	*e*P		**Pn**	**09 10 17.7**	**+0.4**
AS31				*e*S		S	**09 13 22.6**	**+0.3**
ASAR	**Alice Springs**	**17.34**	**163**	P		**Pn**	**09 10 17.4**	**+0.1**
	comp=Z,8.9nm,0.3s,baz=342,slow=12,SNR=190							
ASAR				S		**S**	**09 13 22.5**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=336,slow=18,SNR=6.8							
UGM	**Wanagama**	**17.66**	**266**	P		**Pn**	**09 10 19.4**	**-1.7**
	baz=18,SNR=5.2							
WRKA	**Warakurna**	**17.85**	**180**	P		**Pn**	**09 10 23.1**	**-0.1**
	baz=18,SNR=32							
STKI	**Sintang**	**18.24**	**292**	P		**Pn**	**09 10 26.2**	**-1.7**
BTM	**Bintulu**	**18.32**	**303**	↓P		**Pn**	**09 10 27.1**	**-1.8**
SBUM	**Sibu**	**18.65**	**300**	↓P		**Pn**	**09 10 30.9**	**-1.8**
SBUM	**Sibu**	**18.65**	**300**	*e*P		**Pn**	**09 10 30.1**	**-2.6**
	comp=Z,132nm,1.1s							
PMG	**Port Moresby**	**18.79**	**98**	↑*e*P		**Pn**	**09 10 32.0**	**-2.4**
PMG				pmax		pmax		
	comp=Z,16nm,0.9s							
PMG	**Port Moresby**	**18.79**	**98**	P		**Pn**	**09 10 35.4**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=301,slow=5.9,SNR=9.4							
PMG	**Port Moresby**	**18.79**	**98**	P		**Pn**	**09 10 35.6**	**+1.2**
	baz=19,SNR=3.5							
KSM	**Kuching**	**19.88**	**295**	P		**P**	**09 10 41.9**	**-0.5**
	baz=20,SNR=7.9							
KSM	**Kuching**	**19.88**	**295**	*e*P		**P**	**09 10 41.8**	**-0.5**
	comp=Z,51nm,0.7s							
CISI	**Cisompet, Garu**	**20.34**	**267**	P		**P**	**09 10 46.1**	**-1.2**
	baz=20,SNR=3.5							
CISI	**Cisompet, Garu**	**20.34**	**267**	*e*P		**P**	**09 10 47.0**	**-0.3**
	comp=Z,121nm,0.6s							
CISI				*e*S		**S**	**09 14 21.0**	**+0.2**
LEM	**Lembang**	**20.55**	**269**	P		**P**	**09 10 50.9**	**+1.3**
	comp=Z,79nm,0.7s,baz=72,slow=6.5,SNR=13							
LEM	**Lembang**	**20.55**	**269**	P		**P**	**09 10 51.1**	**+1.5**
	baz=21,SNR=4.0							
GIRL	**Giralia**	**20.57**	**220**	P		Pn	09 10 59.0	+3.8
	baz=21,SNR=4.4							
MEEK	**Meekatharra**	**21.52**	**204**	P		**P**	**09 11 00.8**	**+1.7**
	baz=22,SNR=17							
CTA	**Charters Tower**	**21.67**	**128**	P		**P**	**09 11 03.0**	**+2.4**
CTA	**Charters Tower**	**21.67**	**128**	P		**P**	**09 11 03.0**	**+2.4**
	comp=Z,7.5nm,0.6s,baz=301,slow=12,SNR=17							
CTAO	**Charters Tower**	**21.67**	**128**	*e*P		**P**	**09 11 02.9**	**+2.4**
CTAO				pmax		pmax		
	comp=Z,13nm,1.0s							
CTAO	**Charters Tower**	**21.67**	**128**	*e*P		**P**	**09 11 02.9**	**+2.4**
	comp=Z,13nm,1.0s							
FORT	**Forrest**	**23.57**	**181**	P		**P**	**09 11 19.3**	**+1.6**
QLP	**Quilpie**	**24.60**	**144**	P		**P**	**09 11 29.5**	**+2.4**
	baz=25,SNR=6.7							
MYKOM	**Kota Tinggi**	**25.96**	**289**	*e*P		**P**	**09 11 41.2**	**+1.7**
	comp=Z,25nm,0.9s							
BBOO	**Buckleboo**	**26.59**	**165**	P		**P**	**09 11 47.1**	**+2.3**
	baz=27,SNR=8.4							
CMSA	**Cobar Meteorol**	**29.24**	**149**	P		P	09 12 11.4	+3.0
	baz=30,SNR=5.8							
KULM	**Kulim**	**30.22**	**293**	*e*P		P	09 12 19.3	+2.0
	comp=Z,15nm,0.8s							
UBPT	**Khong Chiam**	**31.73**	**315**	P		**P**	**09 12 30.8**	**+0.5**
	comp=Z,22nm,0.8s							
TRTT	**Trang**	**32.16**	**297**	P		**P**	**09 12 35.2**	**+1.0**
	comp=Z,15nm,0.9s							
CBIJ	**Chichi jima**	**36.54**	**21**	P		**P**	**09 13 09.9**	**-1.5**
JCJ	**Chichijima**	**36.54**	**21**	P		**P**	**09 13 09.9**	**-1.5**
	comp=Z,51nm,0.6s,baz=106,slow=23,SNR=4.5							
UTTA	**Uttaradit**	**36.89**	**312**	P		**P**	**09 13 15.2**	**+0.7**
	comp=Z,6.6nm,0.9s,comp=Z,107nm							
LAMP	**Lampang**	**38.05**	**312**	P		**P**	**09 13 25.9**	**+1.6**
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**38.52**	**312**	*ce*P		**P**	**09 13 28.8**	**+0.6**
CMAR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**38.52**	**312**	P		**P**	**09 13 28.9**	**+0.7**
	comp=Z,7.0nm,0.9s,baz=144,slow=7.4,SNR=37							
CMAR				PcP		**PcP**	**09 15 37.8**	**+2.2**
	comp=Z,1.5nm,0.4s,baz=167,slow=2.5,SNR=6.7							
CMMT	**Chiang Mai**	**38.74**	**312**	P		**P**	**09 13 30.5**	**+0.5**
	comp=Z,25nm,1.0s							
CHTO	**Chiang Mai**	**38.74**	**312**	*e*P		**P**	**09 13 30.7**	**+0.7**
CHTO				pmax		pmax		
	comp=Z,19nm,1.1s							
CHTO	**Chiang Mai**	**38.74**	**312**	*e*P		**P**	**09 13 30.6**	**+0.7**
	comp=Z,20nm,1.1s							
CHTO	**Chiang Mai**	**38.74**	**312**	P		**P**	**09 13 30.6**	**+0.6**
	comp=Z,86nm,1.0s							
CMAI	**Chiengmai2**	**39.38**	**314**	P		**P**	**09 13 36.3**	**+0.9**
	comp=Z,13nm,1.2s							
GYA	**Guiyang**	**39.41**	**329**	*e*P		P	09 13 38.0	+2.4
GYA				pP		pP	09 14 24.8	-2.2
GYA				sP		sP	09 14 51.4	-4.0
GYA				PP		**PnPn**	**09 15 17.0**	**-0.6**
GYA				S		S	09 19 23.2	+4.8
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
NJ2	**Nanjing**	**39.95**	**347**	*e*P		**P**	**09 13 38.7**	**-1.0**
NJ2				PMZ				
	comp=Z,40nm,0.5s							
KSAR	**Wonju Array Be**	**44.30**	**360**	P		**P**	**09 14 15.1**	**+0.4**
KSAR	**Wonju Array Be**	**44.30**	**360**	P		**P**	**09 14 15.1**	**+0.4**
KSRS	**Korea Array**	**44.31**	**360**	P		**P**	**09 14 15.1**	**+0.4**
	comp=Z,8.6nm,0.6s,baz=177,slow=9.1,SNR=43							
MAJO	**Matsushiro**	**44.38**	**11**	⇑*i* P		**P**	**09 14 14.3**	**-1.1**
MAJO				pmax		pmax		
	comp=Z,31nm,0.6s							
MAJO	**Matsushiro**	**44.38**	**11**	*e*P		**P**	**09 14 14.2**	**-1.1**
	comp=Z,104nm,2.6s							
MAT	**Matsushiro**	**44.38**	**11**	P		**P**	**09 14 13.1**	**-2.3**
MAT				*e*S		**S**	**09 20 28.5**	**-2.1**
MJAR	**Matsushiro Arr**	**44.38**	**11**	P		**P**	**09 14 14.2**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=186,slow=9.7,SNR=16							
CD2	**Chengdu**	**44.50**	**329**	*e*P		P	09 14 19.0	+2.5
CD2				pP		pP	09 15 07.9	-1.2
CD2				sP		sP	09 15 33.3	-3.9
CD2				PP		**PP**	**09 16 08.0**	**+2.0**
CD2				S		S	09 20 37.6	+5.0
CD2				sS		sS	09 22 03.0	-2.9
CD2				PMZ				
	comp=Z,10.0nm,0.5s							

MK31 pmax pmax
comp=Z,9.0nm,0.5s
MKAR Makanchi Array 67.39 328 P **P** 09 16 59.0 +1.0
comp=Z,14nm,0.5s,baz=118,slow=8.3,SNR=289
MKAR PcP **PcP** 09 17 24.4 +0.8
comp=Z,1.7nm,0.6s,baz=129,slow=5.8,SNR=5.4
SFK Sufi-Kurgan 68.85 318 P **P** 09 17 08.4 +0.9
SFK pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 69.00 321 *i* P **P** 09 17 09.0 +0.8
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 69.00 321 *e*P **P** 09 17 09.3 +1.1
AAK Ala-Archa 69.53 321 *c i* P **P** 09 17 13.0 +1.5
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 69.53 321 P **P** 09 17 12.6 +1.2
comp=Z,3.6nm,0.6s,baz=136,slow=5.8,SNR=15
AAK Ala-Archa 69.53 321 *e*P **P** 09 17 12.7 +1.2
comp=Z,5.2nm,0.8s
EKS2 Erkin-Say 70.00 320 *e*P **P** 09 17 15.9 +1.6
EKS2 Erkin-Say 70.00 320 *e*P **P** 09 17 15.9 +1.6
MNAS Manas 70.73 320 P **P** 09 17 20.0 +1.3
MNAS pmax pmax
comp=Z,6.0nm,1.1s
ZALV Zalesovo Beam 70.93 335 P **P** 09 17 19.8 +0.4
comp=Z,9.5nm,0.6s,baz=126,slow=5.3,SNR=46
KURBB Kurchatov Arra 71.72 329 P **P** 09 17 25.1 +0.9
comp=Z,16nm,0.6s,baz=130,slow=4.9,SNR=173
KURK Kurchatov 71.73 329 *e*P **P** 09 17 25.1 +0.9
KURK pmax pmax
comp=Z,21nm,0.8s
KURK Kurchatov 71.73 329 *e*P **P** 09 17 25.1 +0.9
comp=Z,21nm,0.8s
SEY Seymchan 72.21 11 *i* P **P** 09 17 28.0 +1.2
NVS Novosibirsk 72.22 335 *i* P **P** 09 17 27.2 +0.1
VNDA Vanda 72.57 173 P **P** 09 17 30.8 +1.9
comp=Z,1.1nm,0.6s,baz=327,slow=6.2,SNR=7.2
MAW Mawson 74.26 201 P **P** 09 17 40.8 +2.0
comp=Z,4.9nm,0.8s,baz=149,slow=5.9,SNR=2.9
JMDO Jabal Madar 74.66 295 P **P** 09 17 43.0 +1.0
SNR=8.7
SMDO Samad 74.88 296 P **P** 09 17 44.4 +1.0
SNR=6.6
BANOM Banah 77.14 299 P **P** 09 17 57.5 +1.6
SNR=6.3
BVAR Borovoye Array 77.25 328 P **P** 09 17 57.0 +1.0
BVAR Borovoye Array 77.25 328 P **P** 09 17 57.0 +1.0
comp=Z,3.2nm,0.6s,baz=123,slow=5.5,SNR=21
ABTO Aybut 77.95 289 P **P** 09 18 01.5 +0.8
SNR=9.1
TIXI Tiksi 78.57 0 ⇑*e*P **P** 09 18 04.6 +1.8
TIXI pmax pmax
comp=Z,15nm,3.0s
TIXI Tiksi 78.57 0 *e*P **P** 09 18 03.2 +0.4
GEYT Alibeck 79.00 311 P **P** 09 18 07.2 +1.3
comp=Z,3.3nm,0.7s,baz=116,slow=3.4,SNR=5.4
AB31 Akbulak array 81.54 322 P **P** 09 18 19.5 +0.4
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 81.54 322 *e*P **P** 09 18 19.8 +0.7
comp=Z,3.8nm,0.6s
SYO Syowa Base 82.98 201 ⇑*e*P **P** 09 18 27.2 +1.0
AKTO Aktyubinsk 83.12 323 P **P** 09 18 27.9 +0.6
AKTO pmax pmax
comp=Z,8.0nm,0.8s
SVE Sverdlovsk 83.98 329 *e*P **P** 09 18 32.7 +1.2
SVE pmax pmax
comp=Z,11nm,0.9s
ARU Arti 84.90 328 *d i* P **P** 09 18 36.8 +0.7
ARU 09 21 56.7
ARU S **S** 09 28 39.3 -3.7
ARU SS **SS** 09 34 22.4 +0.5
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 84.90 328 *e*P **P** 09 18 36.7 +0.6
comp=Z,1.8nm,0.6s
RAYN Ar Rayn 86.25 294 *e*P **P** 09 18 44.6 +1.1
comp=Z,18nm,0.9s
ZEI Tsey 90.68 313 *e*P **P** 09 19 03.9 -0.3
ZEI pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 90.92 269 P **P** 09 19 07.8 +1.8
comp=Z,1.1nm,0.4s,baz=44,slow=18,SNR=3.4
KBZ Khabaz 91.55 314 P **P** 09 19 08.8 +0.9
comp=Z,2.0nm,0.7s,baz=133,slow=6.1,SNR=4.9
ILAR Eielson Array 94.14 25 P **P** 09 19 19.7 +0.3
comp=Z,0.2nm,0.5s,baz=251,slow=5.3,SNR=8.3
BRTR Keskin Array B 98.07 309 P Pdif 09 19 38.4 +0.5
comp=Z,0.7nm,0.9s,baz=160,slow=5.2,SNR=2.4
ARCES ARCESS Array B 101.08 340 P **Pdif** 09 19 50.1 -0.4
comp=Z,2.9nm,1.0s,baz=95,slow=2.3,SNR=3.3
AKASG Malin Array Be 101.20 320 P **Pdif** 09 19 50.8 -0.6
comp=Z,0.2nm,0.4s,baz=67,slow=4.2,SNR=2.0
KECS Kecovo 107.08 319 *e*P **Pdif** 09 20 19.4 +1.8
KECS Kecovo 107.08 319 PDIF **Pdif** 09 20 19.4 +1.8
GERES GERESS Array B 111.41 320 PKiKP **PKiKP** 09 24 34.8 +0.8
comp=Z,0.5nm,0.6s,baz=35,slow=3.6,SNR=4.2
DUG Dugway, Tooele 116.48 49 *e*PKIKP **PKPdf** 09 24 45.7 +1.7
DUG Dugway, Tooele 116.48 49 *e*PKPdf **PKPdf** 09 24 45.7 +1.7
TORD Torodi Ar. Bea 127.19 281 PKP **PKPdf** 09 25 05.8 +0.8
comp=Z,1.7nm,0.6s,baz=53,slow=2.1,SNR=13
LPAZ La Paz 151.64 145 PKPbc **PKPbc** 09 25 58.2 +2.3
comp=Z,1.2nm,0.4s,baz=53,slow=4.9,SNR=13
LPAZ PKPab **PKPab** 09 26 07.9 +2.6
comp=Z,1.8nm,0.6s,baz=199,slow=6.1,SNR=9.1

*ISCJB **10** 09:12:26.2±0.3, 32.˙68N±0.˙01×115.˙72W±0.˙01, h4km±2km, mb4.2/17, MS3.7/9, Error ellipse: s-maj=2.1km s-min=1.6km az=24.8*
*IASPEI **10** 09:12:26.8±0.9, 32.˙68N±0.˙02×115.˙75W±0.˙02, h15km±6km, mb4.3/17, MS3.7/9, Error ellipse: s-maj=3.5km s-min=2.9km az=165.5*
*BJI **10** 09:12:27.4, 32.˙70N×115.˙80W, h6km, mb4.5/1, Ms4.8/1, Ms7 4.8/2*
*NEIC **10** 09:12:28.4, 32.˙67N×115.˙77W, h7km, mb4.5/18, MD4.3(MEX), MW4.5(PAS), After PAS.*
NEIC Felt [V] at Imperial and Holtville, [IV] at El Centro and Idyllwild and [III] in much of San Diego County and in the Palm Springs area. Felt widely in southern California and at Yuma, Arizona. Felt [III] at Mexicali and Tijuana, Baja California. Also felt at Ensenada and Tecate.
*ECX **10** 09:12:28.6±0.7, 32.˙67N×115.˙78W, h4km, ML4.6*
*MEX **10** 09:12:28.1±1.1, 32.˙79N×115.˙70W, h10km, MD4.2*
*IDC **10** 09:12:31.3±1.0, 33.˙09N×115.˙21W, h0km, mb4.0/11, mb1 4.1/17, mb1mx3.8/45, mbtmp3.9/17, ML3.7/6, MS3.7/13, Ms1 3.7/13, ms1mx3.5/36, Error ellipse: s-maj=22.3km s-min=9.8km az=47.0*

ISC 10 09:12:27.8±0.5, 32.˙66N±0.˙01×115.˙74W±0.˙01, h1km±3km, n415, σ1$39/420, mb4.3/17, MS3.7/9, 169C-132D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.01**	**115**	⇑*iP*		**Pg**		**09 12 29.9**	**+1.8**
YUH	**Yuha Desert**	**0.15**	**267**	*iP*		**Pg**		**09 12 31.1**	**+0.4**
COK	**Cook Tower**	**0.19**	**3**	⇓*iP*		**Pg**		**09 12 32.2**	**+0.6**
SWSC	**Sam W. Stewart** baz=0.3	**0.29**	**351**	⇑P		**Pg**		**09 12 33.4**	**+0.1**
SWSC	baz=0.3			⇓S		**Sg**		**09 12 37.4**	**+0.2**
RMX	**La Rumorosa**	**0.29**	**260**	⇑*iP*		**Pg**		**09 12 33.6**	**+0.2**
RMX				*eS*		**Sg**		**09 12 37.2**	**0.0**
CRR	**Carrizo Plain**	**0.30**	**320**	⇓*iP*		**Pg**		**09 12 33.1**	**-0.1**
CPBX	**Cerro Prieto**	**0.44**	**123**	⇑*eP*		Pg		09 12 30.1	-6.1
CPBX				*eS*		**Sg**		**09 12 36.9**	**-4.9**
CPBX	**Cerro Prieto**	**0.44**	**123**	*iP*		**Pg**		**09 12 37.2**	**+1.1**
CPBX				*iS*		**Sb**		**09 12 44.7**	**-0.7**
MBIG	**Mexicali**	**0.52**	**118**	*eP*		**Pg**		**09 12 38.8**	**+1.1**
MBIG				*eS*		**Sg**		**09 12 45.8**	**+1.3**
COA	**Coachella**	**0.56**	**68**	⇑*iP*		**Pg**		**09 12 38.9**	**+0.4**
MONP	**Monument Peak,** baz=0.6	**0.62**	**292**	⇓P		**Pg**		**09 12 39.3**	**-0.4**
MONP	baz=0.6			⇓S		**Sg**		**09 12 47.1**	**-0.6**
RDX	**Rancho Dawling**	**0.74**	**193**	⇓*iP*		**Pg**		**09 12 41.8**	**-0.3**
RDX				*eS*		**Sg**		**09 12 51.7**	**0.0**
BAR	**Barrett**	**0.79**	**272**	*ePg*		**Pg**		**09 12 42.2**	**-0.7**
BAR				*eSg*		**Sg**		**09 12 52.2**	**-0.9**
EMX	**El Mayor**	**0.79**	**148**	*eP*		**Pg**		**09 12 42.1**	**-0.7**
EMX				*eS*		**Sg**		**09 12 53.0**	**0.0**
EMX				⇑*e*				09 12 56.3	
	comp=N,20μm,0.9s								
CBX	**Cerro Bola**	**0.85**	**247**	*iP*		**Pg**		**09 12 43.8**	**-0.3**
CBX				*iS*		**Sg**		**09 12 54.6**	**-0.5**
CBX	**Cerro Bola**	**0.85**	**247**	*eP*		**Pg**		**09 12 43.7**	**-0.3**
CBX				*eS*		**Sg**		**09 12 54.5**	**-0.7**
CBX	**Cerro Bola**	**0.85**	**247**	*iP*		**Pg**		**09 12 44.1**	**0.0**
CBX				*iS*		**Sg**		**09 12 55.4**	**+0.2**
GLA	**Glamis** baz=0.9	**0.86**	**62**	⇑P		**Pg**		**09 12 43.4**	**-1.0**
GLA	baz=0.9			⇑S		**Sg**		**09 12 54.7**	**-0.9**
GLA	**Glamis**	**0.86**	**62**	*ePg*		**Pg**		**09 12 43.3**	**-1.0**
GLA				*eSg*		**Sg**		**09 12 55.1**	**-0.5**
BC3	**Big Chuckawall** baz=1.0	**1.03**	**13**	⇓P		**Pg**		**09 12 45.6**	**-1.8**
PFO	**Pinyon Flats O** baz=142,slow=17	**1.13**	**328**	Pn		Pg		09 12 47.1	-2.3
PFO	baz=237,slow=15			Lg		Lg		09 13 00.8	
PFO				LR		LR		09 13 14.1	
	comp=N,1μm,19.5s,baz=292,slow=37								
PFO	**Pinyon Flats O** baz=1.1	**1.13**	**328**	⇑P		Pg		09 12 46.9	-2.4
109C	**Camp Elliot, M** baz=1.1	**1.17**	**282**	⇑P		Pg		09 12 48.2	-2.0
109C	baz=1.1			⇓S		**Sg**		**09 13 03.3**	**-2.2**
ZAX	**El Zacaton**	**1.23**	**202**	*eP*		**Pg**		**09 12 50.4**	**-0.9**
ZAX				*eS*		**Sg**		**09 13 06.4**	**-0.7**
ECNX	**Esteban Cantu**	**1.23**	**216**	*eP*		**Pg**		**09 12 50.4**	**-1.0**
ECNX				*eS*		**Sg**		**09 13 06.2**	**-1.2**
PBX	**Punta Banda**	**1.24**	**223**	*eP*		**Pg**		**09 12 50.5**	**-1.0**
PBX				*eS*		**Sg**		**09 13 06.1**	**-1.4**
ECBX	**El Chinero**	**1.32**	**153**	*eP*		**Pn**		**09 12 50.6**	**-2.6**
ECBX				*eS*		**Sb**		**09 13 08.9**	**-1.8**
BELC	**Belle Mtn. Jos** baz=1.3	**1.36**	**351**	⇑P		Pn		09 12 50.4	-3.6
Y12C	**Blythe** baz=1.5	**1.49**	**43**	⇑P		Pn		09 12 52.5	-3.2
MURC	**Murrieta** baz=1.5	**1.55**	**308**	⇑P		Pn		09 12 53.0	-3.6
MURC	baz=1.5			⇓Sb		**Sn**		**09 13 14.9**	**-2.4**
IRM	**Iron Mountain** baz=1.6	**1.58**	**18**	⇓P		Pn		09 12 53.8	-3.2
SPIG	**San Pedro Mart**	**1.62**	**172**	*eP*		**Pn**		**09 12 55.9**	**-1.9**
SPIG				*iS*		**Sn**		**09 13 17.2**	**-2.3**
SPIG	**San Pedro Mart**	**1.62**	**172**	*eP*		**Pn**		**09 12 56.6**	**-1.2**
SPIG				*eS*		**Sn**		**09 13 19.1**	**-0.4**
SPIG	**San Pedro Mart**	**1.62**	**172**	*eP*		**Pn**		**09 12 55.9**	**-1.9**
SPIG				*iS*		**Sn**		**09 13 17.2**	**-2.3**
SPX	**San Pedro Mart**	**1.62**	**172**	*eP*		**Pn**		**09 12 56.6**	**-1.3**
SPX				*eS*		**Sn**		**09 13 19.7**	**+0.1**
SPX	comp=E,3μm,0.9s			AML		AML		09 13 22.9	
SPX				⇓*e*				09 13 22.9	
SPX	**San Pedro Mart**	**1.62**	**172**	*iP*		**Pn**		**09 12 55.2**	**-2.7**
SPX				*eS*		**Sn**		**09 13 16.6**	**-3.0**
113A	**Mohawk Valley,** baz=1.7	**1.67**	**86**	⇑P		**Pn**		**09 12 55.2**	**-2.9**
113A	baz=1.7			⇑S		**Sn**		**09 13 16.6**	**-3.6**
BBRC	**Big Bear Solar** baz=1.9	**1.88**	**329**	⇓P		Pn		09 12 58.6	-2.8
BBRC	baz=1.9			⇓Sb		**Sn**		**09 13 25.3**	**-0.5**
PDMCI	**Parker Dam,Lak** baz=2.1	**2.12**	**39**	⇓P		**Pn**		**09 13 01.7**	**-2.6**
GMRC	**Granite Mounta** baz=2.1	**2.12**	**2**	⇓P		Pn		09 13 01.4	-3.1
HEC	**Hector,Ludlow** baz=2.2	**2.23**	**347**	⇑P		Pn		09 13 02.8	-3.2
BFSC	**Mount Baldy Ra** baz=2.2	**2.25**	**315**	⇑P		Pn		09 13 03.2	-3.1
BFSC	baz=2.2			⇑Sb		**Sn**		**09 13 35.7**	**+0.9**
NEE2	**Needles Airpor** baz=2.3	**2.31**	**24**	⇑P		**Pn**		**09 13 04.5**	**-2.5**
CIS	**Catalina Islan** baz=2.3	**2.36**	**289**	⇑P		Pn		09 13 04.1	-3.6
CIS	baz=2.3			⇑Sb		**Sn**		**09 13 39.0**	**+1.6**
SCI	**San Clemente I** baz=2.4	**2.39**	**279**	⇑P		Pn		09 13 04.9	-3.2
FMP	**Fort Macarthur** baz=2.4	**2.39**	**297**	⇑P		Pn		09 13 04.5	-3.6
Z14A	**Wintersburg** baz=2.5	**2.45**	**73**	⇑P		**Pn**		**09 13 06.2**	**-2.8**
RRX	**Edison Barstow** baz=2.4	**2.46**	**335**	⇓P		Pn		09 13 05.8	-3.2
RRX	baz=2.4			⇑Sb		**Sb**		**09 13 43.1**	**-0.4**
LDFC	**Landfair**	**2.47**	**12**	*ePn*		**Pn**		**09 13 07.6**	**-1.8**
LDFC				*eSg*		Sg		09 13 56.0	+8.7
PASC	**Pasadena Art C**	**2.54**	**307**	Pn		**Pn**		**09 13 09.8**	**-0.4**
PASC				*eSn*		**Sn**		**09 13 43.5**	**+1.6**
214A	**Organ Pipe Nat** baz=2.6	**2.58**	**105**	⇓P		Pn		09 13 07.4	-3.4
214A	**Organ Pipe Nat**	**2.58**	**105**	*ePn*		Pn		09 13 07.3	-3.4
Y14A	**Wickenburg** baz=2.6	**2.62**	**60**	⇓P		**Pn**		**09 13 08.8**	**-2.6**
DECC	**Green Verdugo** baz=2.7	**2.69**	**307**	⇑Pb		**Pn**		**09 13 13.7**	**+1.5**
DECC	baz=2.7			⇑Sb		**Sb**		**09 13 48.7**	**-1.5**
TUQ	**Turquoise Moun** baz=2.8	**2.78**	**357**	⇓P		Pn		09 13 10.6	-3.0
GSC	**Goldstone, Bar** baz=2.8	**2.79**	**342**	⇑P		Pn		09 13 10.7	-2.9
GSC	**Goldstone, Bar**	**2.79**	**342**	*ePn*		Pn		09 13 10.4	-3.2
GSC				*eSn*		**Sb**		**09 13 51.6**	**-1.5**
W13A	**Hualapai Mount** baz=2.9	**2.88**	**32**	⇓P		**Pn**		**09 13 12.8**	**-2.3**
EDW2	**Edwards Air Fo** baz=2.9	**2.91**	**320**	⇑P		Pn		09 13 12.4	-2.8
EDW2	baz=2.9			⇓Sb		**Sb**		**09 13 55.8**	**-0.7**
OSI	**Osito Audit: C** baz=3.1	**3.17**	**309**	⇑Pb		**Pn**		**09 13 21.2**	**+2.4**
OSI	baz=3.1			⇓Sb		**Sb**		**09 14 02.7**	**-1.3**
OSI	**Osito Audit: C**	**3.17**	**309**	Pn		**Pn**		**09 13 16.3**	**-2.5**
OSI				*eSn*		**Sn**		**09 13 59.5**	**+2.2**
BSC	**Santa Cruz Isl** baz=3.5	**3.52**	**293**	⇑P		Pn		09 13 20.5	-3.2
ARVC	**Arvin** baz=3.5	**3.56**	**315**	⇑P		**Pn**		**09 13 21.7**	**-2.5**
MPMC	**Manual Prospec** baz=3.7	**3.69**	**337**	⇑P		Pn		09 13 23.3	-2.9
ISA	**Isabella, Lake** baz=3.7	**3.76**	**324**	⇓P		Pn		09 13 24.2	-2.8
ISA	**Isabella, Lake**	**3.76**	**324**	*ePn*		**Pn**		**09 13 24.5**	**-2.5**
SHPR	**Sheep Range** baz=4.5	**3.87**	**7**	*ePn*		**Pn**		**09 13 26.7**	**-1.9**
SHPR				*eSg*		**Sg**		**09 14 29.5**	**-2.7**
DAC	**Darwin (Calif)**	**3.92**	**338**	*ePn*		**Pn**		**09 13 26.7**	**-2.7**
X16A	**Lo Mia Camp, P** baz=4.0	**4.00**	**63**	⇓P		**Pn**		**09 13 28.3**	**-2.1**
TUC	**Tucson**	**4.20**	**93**	*ePn*		Pn		09 13 29.8	-3.3
TUC				*eSn*		**Sn**		**09 14 17.5**	**-5.4**
VES	**Vestal, Richgr** baz=4.2	**4.22**	**320**	⇓P		**Pn**		**09 13 30.6**	**-2.6**
TPNV	**Topopah Spring** baz=4.3	**4.30**	**355**	⇓P		**Pn**		**09 13 32.7**	**-1.8**
SMMC	**Simmler** baz=4.4	**4.42**	**308**	⇑P		**Pn**		**09 13 33.7**	**-2.3**
GRAC	**Grapevine Rang** baz=4.5	**4.54**	**343**	⇓P		**Pn**		**09 13 35.8**	**-1.8**
WUAZ	**Wupatki** baz=4.6	**4.61**	**51**	⇑P		**Pn**		**09 13 37.9**	**-0.9**
WUAZ	**Wupatki**	**4.61**	**51**	*ePn*		**Pn**		**09 13 38.1**	**-0.7**
WUAZ				*eSn*		**Sn**		**09 14 30.5**	**-2.6**
U15A	**North Rim** baz=4.7	**4.72**	**36**	⇓P		**Pn**		**09 13 39.4**	**-1.0**
X18A	**Snowflake** baz=5.2	**5.18**	**67**	⇓P		**Pn**		**09 13 45.2**	**-1.4**
CCUT	**Cedar City**	**5.26**	**21**	*ePn*		**Pn**		**09 13 47.1**	**-0.7**
CCUT				*eSg*		**Sg**		**09 15 16.0**	**-0.7**
ARUT	**Antelope Range**	**5.46**	**20**	*ePn*		**Pn**		**09 13 49.3**	**-1.1**
ARUT				*eSg*		**Sg**		**09 15 24.1**	**+1.0**
TPH	**Tonopah**	**5.54**	**348**	*ePn*		**Pn**		**09 13 50.5**	**-1.1**
W18A	**Petrified Fore** baz=5.6	**5.56**	**62**	⇑P		**Pn**		**09 13 51.3**	**-0.6**
W18A	**Petrified Fore**	**5.56**	**62**	*ePn*		**Pn**		**09 13 49.8**	**-2.1**
W18A				*eSg*		**Sg**		**09 15 25.5**	**-1.1**
319A	**Douglas** baz=5.7	**5.63**	**101**	⇓P		**Pn**		**09 13 50.4**	**-2.4**
R11A	**Troy Canyon, C** baz=5.7	**5.68**	**1**	⇑P		**Pn**		**09 13 51.8**	**-1.8**
R11A	**Troy Canyon, C**	**5.68**	**1**	*ePn*		**Pn**		**09 13 51.9**	**-1.7**
R11A				*eSg*		**Sg**		**09 15 28.2**	**-2.1**
NV11	**Mina Array Sit**	**6.09**	**342**	Pn		**Pn**		**09 13 57.8**	**-1.3**
NVAR	**Mina Array Bea**	**6.13**	**341**	Pn		**Pn**		**09 13 58.2**	**-1.5**
NVAR	comp=E,1.8nm,0.3s,baz=161,slow=15,SNR=48			Pg		Pb		09 14 18.4	+2.9
NVAR	comp=E,3.8nm,0.3s,baz=162,slow=19,SNR=14			Lg		Lg		09 15 40.6	
	comp=E,6.1nm,0.3s,baz=162,slow=33,SNR=3.3								
SAO	**San Andreas Ge**	**6.24**	**313**	*ePn*		**Pn**		**09 13 58.6**	**-2.4**
MVU	**Marysvale**	**6.50**	**25**	*ePn*		**Pn**		**09 14 05.1**	**+0.3**
WAKR	**Walker**	**6.57**	**334**	Pn		**Pn**		**09 14 05.4**	**-0.3**
WAKR				*eSg*		**Sg**		**09 15 55.5**	**-3.3**
CMB	**Columbia Colle**	**6.57**	**326**	*ePn*		**Pn**		**09 14 04.4**	**-1.2**
121A	**Cookes Peak, D** baz=6.7	**6.71**	**89**	⇓P		**Pn**		**09 14 06.1**	**-1.6**
121A	**Cookes Peak, D**	**6.71**	**89**	*ePn*		**Pn**		**09 14 05.8**	**-1.9**
LAZ	**Ladron**	**7.39**	**74**	*ePn*		**Pn**		**09 14 16.2**	**-0.8**
LENM	**Lemitar**	**7.48**	**76**	*ePn*		**Pn**		**09 14 17.2**	**-1.1**
MVCO	**Mesa Verde** baz=7.5	**7.48**	**51**	⇓P		**Pn**		**09 14 19.5**	**+1.3**
MVCO	**Mesa Verde**	**7.48**	**51**	*ePn*		**Pn**		**09 14 19.6**	**+1.3**
Y22D	**IRIS PASSCAL I** baz=7.5	**7.51**	**77**	⇓P		**Pn**		**09 14 16.8**	**-1.8**
TMUT	**Trail Mountain**	**7.58**	**28**	Pn		**Pn**		**09 14 20.6**	**+0.9**
TMUT				*eSg*		**Sg**		**09 16 35.5**	**+4.4**
SRU	**San Rafael Swe**	**7.71**	**32**	*ePn*		**Pn**		**09 14 21.9**	**+0.6**
BMN	**Battle Mountai**	**7.85**	**352**	Pn		**Pn**		**09 14 21.3**	**-2.0**
NLU	**North Lily Min**	**7.86**	**21**	Pn		**Pn**		**09 14 21.1**	**-2.4**
DUG	**Dugway, Tooele** baz=7.9	**7.88**	**17**	⇓P		**Pn**		**09 14 22.3**	**-1.4**
DUG	**Dugway, Tooele**	**7.88**	**17**	*ePn*		**Pn**		**09 14 21.8**	**-1.9**
DUG				*eSg*		**Sg**		**09 16 40.8**	**-0.2**
PV01	**Paradox Valley**	**8.01**	**45**	*ePn*		**Pn**		**09 14 25.9**	**+0.3**
PV01				*eSn*		**Sn**		**09 15 52.8**	**-4.1**
ANMO	**Albuquerque**	**8.06**	**71**	Pn		**Pn**		**09 14 25.4**	**-0.7**
ANMO	comp=E,1.0nm,0.3s,baz=265,slow=12,SNR=59			Lg		Lg		09 16 38.4	
	comp=E,0.2nm,0.3s,baz=202,slow=19,SNR=2.5								
ANMO	**Albuquerque**	**8.06**	**71**	*ePn*		**Pn**		**09 14 25.8**	**-0.4**
ANMO				*eSg*		**Sg**		**09 16 41.3**	**-5.2**
MPU	**Maple Canyon**	**8.06**	**23**	Pn		**Pn**		**09 14 26.9**	**+0.7**
ELK	**Elko**	**8.08**	**3**	Pn		**Pn**		**09 14 25.7**	**-0.9**
ELK	comp=E,0.3nm,0.3s,baz=179,slow=11,SNR=9.7			Pg		Pg		09 14 58.9	-3.8
ELK	comp=E,2.0nm,0.3s,baz=184,slow=14,SNR=6.7			Lg		Lg		09 16 45.0	
ELK	comp=E,1.2nm,0.3s,baz=198,slow=0.2,SNR=2.3			LR		LR		09 17 47.4	
	comp=E,638nm,19.4s,baz=180,slow=41								
BGU	**Big Grassy Mou**	**8.54**	**14**	*ePn*		**Pn**		**09 14 32.2**	**-0.5**
DAU	**Daniels Canyon**	**8.54**	**24**	Pn		**Pn**		**09 14 32.8**	**0.0**
CTU	**Camp Tracy**	**8.64**	**21**	Pn		**Pn**		**09 14 33.9**	**-0.2**
MNTX	**Cornudas Mount** baz=8.8	**8.83**	**93**	⇑P		**Pn**		**09 14 34.9**	**-1.8**
S22A	**4UR Ranch, Cre** baz=8.9	**8.88**	**53**	⇓P		**Pn**		**09 14 38.2**	**+0.6**
T23A	**Casias Ranch,** baz=9.1	**9.09**	**59**	⇑P		**Pn**		**09 14 40.9**	**+0.5**
TCUT	**Toone Canyon**	**9.13**	**21**	Pn		**Pn**		**09 14 42.6**	**+1.7**
U24A	**Moreno Valley** baz=9.4	**9.41**	**64**	⇑P		**Pn**		**09 14 45.3**	**+0.5**
HVU	**Hansel Valley**	**9.41**	**14**	Pn		**Pn**		**09 14 43.9**	**-0.7**
S23A	**Nye Farm, Mont** baz=9.4	**9.43**	**55**	⇑P		**Pn**		**09 14 45.3**	**+0.4**
T24B	**San Luis** baz=9.6	**9.58**	**60**	⇓P		**Pn**		**09 14 47.7**	**+0.6**
O20A	**White River Ci** baz=9.6	**9.60**	**37**	⇓P		**Pn**		**09 14 48.0**	**+0.7**
O20A	**White River Ci**	**9.60**	**37**	Pn		**Pn**		**09 14 48.9**	**+1.6**
V25A	**Rancho No Teng** baz=9.7	**9.74**	**68**	⇓P		**Pn**		**09 14 49.5**	**+0.3**
LPIG	**La Paz**	**9.77**	**149**	LR		LR		09 18 37.1	
	comp=E,297nm,18.9s,baz=338,slow=37								
R23A	**Moffat** baz=9.8	**9.79**	**53**	⇑P		**Pn**		**09 14 50.4**	**+0.4**
SDCO	**Great Sand Dun** baz=9.8	**9.79**	**56**	⇓P		**Pn**		**09 14 49.8**	**-0.2**
S24A	**Houchin Ranch,** baz=10.0	**9.95**	**57**	⇑P		**Pn**		**09 14 52.6**	**+0.4**
P22A	**Eagle** baz=10.0	**10.03**	**44**	⇓P		**Pn**		**09 14 52.9**	**-0.3**
U25A	**Circle Dot Ran** baz=10	**10.06**	**65**	⇓P		**Pn**		**09 14 53.2**	**-0.5**
N20A	**Spence Gulch,** baz=10	**10.12**	**34**	⇓P		**Pn**		**09 14 53.8**	**-0.7**
R24A	**Sanders Place,** baz=10	**10.30**	**54**	⇓P		**Pn**		**09 14 57.0**	**+0.1**
T25A	**Trinidad** baz=10	**10.32**	**61**	⇑P		**Pn**		**09 14 57.1**	**-0.1**
V26A	**Tequesquite Ra** baz=10	**10.38**	**69**	⇓P		**Pn**		**09 14 57.8**	**-0.1**
P23A	**Jefferson** baz=10	**10.45**	**47**	⇑P		**Pn**		**09 14 59.3**	**+0.2**
S25A	**Robets Cordova** baz=10	**10.51**	**59**	⇑P		**Pn**		**09 14 59.9**	**+0.1**
O22A	**Kremmling** baz=10	**10.53**	**42**	⇑P		**Pn**		**09 14 59.8**	**-0.3**
U26A	**Atchley Ranch,** baz=11	**10.57**	**66**	⇓P		**Pn**		**09 15 00.7**	**+0.1**
YBH	**Yreka Blue Hor**	**10.62**	**330**	Pn		Pn		09 15 05.0	+3.7
YBH	comp=E,0.1nm,0.3s,baz=140,slow=9.4,SNR=3.2			Lg		Lg		09 17 54.4	
	comp=E,0.0nm,0.3s,baz=112,slow=11,SNR=2.7								
Q24A	**Divide** baz=11	**10.65**	**51**	⇑P		**Pn**		**09 15 01.4**	**-0.5**
AHID	**Auburn Hatcher**	**10.74**	**19**	Pn		**Pn**		**09 15 04.9**	**+2.0**
R25A	**Fountain Ranch** baz=11	**10.83**	**56**	⇑P		**Pn**		**09 15 03.4**	**-0.7**
ISCO	**Idaho Springs** baz=11	**10.84**	**46**	⇑P		**Pn**		**09 15 04.6**	**+0.2**
ISCO	**Idaho Springs**	**10.84**	**46**	Pn		**Pn**		**09 15 06.4**	**+1.9**
TXAR	**Lajitas Array**	**10.88**	**105**	Pn		**Pn**		**09 15 04.3**	**-0.4**
TXAR	comp

baz=12
329A Wagon Wheel Ra 11.73 92 ⇓P Pn 09 15 16.0 -0.3
baz=12
Z29A Hungry Hill Ra 11.80 83 ⇓P Pn 09 15 17.1 -0.3
baz=12
229A Bryant Ranch, 11.81 90 ⇓P Pn 09 15 17.5 +0.1
baz=12
529A Stev Forest Ra 11.82 99 ⇑P Pn 09 15 18.0 +0.3
baz=12
J19A Crowheart 11.83 25 ⇓P Pn 09 15 18.3 +0.5
baz=12
Y29A Porterfield Fa 11.84 80 ⇑P Pn 09 15 18.8 +1.0
baz=12
X29A Tulia 11.85 78 ⇓P Pn 09 15 18.9 +0.8
baz=12
M23A Laramie 11.88 39 ⇑P Pn 09 15 19.6 +1.0
baz=12
AMTX Amarillo 11.91 75 ⇑P Pn 09 15 19.4 +0.5
baz=12
AMTX Amarillo 11.91 75 Pn Pn 09 15 20.0 +1.1
L22A Ellis Ranch, M 11.93 36 ⇑P Pn 09 15 18.8 -0.3
baz=12
R27A Eads 11.95 58 ⇑P Pn 09 15 20.6 +1.3
baz=12
I17A Pilgrim Ck. 11.95 18 ⇑P Pn 09 15 21.2 +1.7
baz=12
W29A Amarillo 11.97 74 ⇑P Pn 09 15 20.2 +0.6
baz=12
429A Davenport Ranc 11.97 96 ⇑P Pn 09 15 19.9 +0.2
baz=12
K21A Alcova 12.01 32 ⇓P Pn 09 15 20.1 -0.2
baz=12
T28A Walsh 12.04 65 ⇑P Pn 09 15 21.5 +0.8
baz=12
P26A Davis Ranch, A 12.15 52 ⇑P Pn 09 15 22.4 +0.2
baz=12
V29A Stinnett 12.19 71 ⇑P Pn 09 15 24.6 +1.9
baz=12
BMO Blue Mountains 12.24 355 Pn Pn 09 15 22.4 -0.9
J20A Shoshoni 12.26 27 ⇑P Pn 09 15 25.4 +1.8
baz=12
Z30A Sanderson Ranc 12.29 83 ⇓P Pn 09 15 23.7 -0.3
baz=12
I04A Tendick Farm, 12.29 337 ⇓P Pn 09 15 23.4 -0.5
baz=12
S28A Manter 12.35 63 ⇑P Pn 09 15 25.9 +1.0
baz=12
K22A Casper 12.36 34 ⇓P Pn 09 15 24.9 -0.1
baz=12
K22A Casper 12.36 34 Pn Pn 09 15 22.9 -2.0
L23A Garrett 12.36 37 ⇑P Pn 09 15 26.3 +1.2
baz=12
MCMT McKenzie Canyo 12.36 10 Pn Pn 09 15 30.0 +4.9
M24A Cheyenne 12.37 42 ⇑P Pn 09 15 27.6 +2.3
baz=12
H17A Grant Village 12.39 17 ⇑P Pn 09 15 27.5 +1.9
baz=12
H17A Grant Village 12.39 17 Pn Pn 09 15 23.1 -2.5
230A Sterling City 12.40 90 ⇓P Pn 09 15 25.5 -0.1
baz=12
330A Mertzon 12.42 92 ⇑P Pn 09 15 25.1 -0.8
baz=12
130A Snyder 12.46 86 ⇑P Pn 09 15 26.0 -0.3
baz=12
I05D Terrebonne, OR 12.46 341 ⇑P Pn 09 15 26.9 +0.7
baz=12
Y30A Stafford Cattl 12.48 80 ⇑P Pn 09 15 27.9 +1.3
baz=12
430A Baggett Ranch, 12.49 95 ⇓P Pn 09 15 26.6 -0.1
baz=12
J21A Lysite 12.51 29 ⇑P Pn 09 15 28.3 +1.2
baz=12
I19A Meeteetse 12.53 23 ⇑P Pn 09 15 25.8 -1.5
baz=12
X30A Coker Ranch, T 12.53 78 ⇓P Pn 09 15 28.0 +0.8
baz=12
530A J-C Ranch, Com 12.55 98 ⇓P Pn 09 15 27.7 0.0
baz=13
YMR Madison River 12.56 16 Pn Pn 09 15 29.2 +1.4
QLMT Earthquake Lak 12.61 14 ePn Pn 09 15 30.4 +1.9
P27A Ficken Ranch, 12.67 53 ⇑P Pn 09 15 29.9 +0.6
baz=13
YNR Norris Junctio 12.67 17 Pn Pn 09 15 28.4 -0.9
R28A Tribune 12.68 60 ⇓P Pn 09 15 30.2 +0.7
baz=13
L24A Wheatland 12.71 39 ⇓P Pn 09 15 30.7 +0.9
baz=13
I20A Worland 12.75 26 ⇑P Pn 09 15 31.0 +0.6
baz=13
V30A Spur Ranch, Mi 12.84 72 ⇑P Pn 09 15 32.0 +0.5
baz=13
K23A Bowen Ranch, D 12.86 36 ⇑P Pn 09 15 32.6 +0.7
baz=13
H18A Shoshone NF, C 12.90 20 ⇑P Pn 09 15 32.5 0.0
baz=13
131A Roby 12.94 86 ⇓P Pn 09 15 32.8 -0.1
baz=13
S29A Ulysses 12.95 63 ⇑P Pn 09 15 33.3 +0.3
baz=13
I21A Big Trails, Te 12.96 28 ⇓P Pn 09 15 33.6 +0.4
baz=13
Q28A Sharon Springs 12.96 57 ⇓P Pn 09 15 31.9 -1.3
baz=13
Y31A Rekieta Farm, 13.01 80 ⇓P Pn 09 15 34.3 +0.4
baz=13
U30A WK&E Inc. Balk 13.02 69 ⇑P Pn 09 15 35.0 +1.0
baz=13
431A Sonora 13.04 95 ⇓P Pn 09 15 35.5 +1.2
baz=13
231A Bronte 13.07 89 ⇑P Pn 09 15 35.0 +0.4
baz=13
331A San Angelo 13.07 92 ⇑P Pn 09 15 34.5 -0.1
baz=13
H19A Powell 13.10 22 ⇑P Pn 09 15 36.2 +1.1
baz=13
Z31A Sharp Cattle R 13.11 83 ⇑P Pn 09 15 35.7 +0.5
baz=13
531A Rocksprings 13.21 97 ⇓P Pn 09 15 36.7 +0.1
baz=13
H20A Greybull 13.27 25 ⇑P Pn 09 15 37.9 +0.6
baz=13
X31A McDonald Ranch 13.28 77 ⇑P Pn 09 15 38.3 +0.8
baz=13
G05D Wamic, OR 13.29 343 ⇑P Pn 09 15 39.2 +1.6
baz=13
I22A 9 Mile Ranch, 13.36 30 ⇑P Pn 09 15 39.9 +1.2
baz=13
W31A Holland Ranch, 13.36 75 ⇓P Pn 09 15 40.0 +1.4
baz=13
LRM Limekiln Ridge 13.39 10 Pn Pn 09 15 30.3 -8.9
631A Perdido Creek 13.40 100 ⇑P Pn 09 15 39.8 +0.7
baz=13
RLMT Red Lodge 13.42 20 Pn Pn 09 15 39.0 -0.6
Q29A Oakley 13.50 58 ⇑P Pn 09 15 39.0 -1.5
baz=14
ABTX Abilene, Hawle 13.57 86 ⇑P Pn 09 15 41.1 -0.4
baz=14
ABTX Abilene, Hawle 13.57 86 Pn Pn 09 15 40.4 -1.0
U31A Nine Bar Ranch 13.62 70 ⇑P Pn 09 15 41.5 -0.6
baz=14
332A Millersview 13.63 91 ⇓P Pn 09 15 42.8 +0.4
baz=14
232A Coleman 13.64 89 ⇓P Pn 09 15 41.0 -1.4
baz=14
Z32A Haskell 13.67 83 ⇑P Pn 09 15 42.1 -0.7
baz=14
432A Menard 13.68 93 ⇓P Pn 09 15 43.5 +0.5
baz=14
Y32A R-V Farms, Ver 13.70 80 ⇓P Pn 09 15 43.6 +0.4
baz=14
532A Rocksprings 13.76 96 ⇓P Pn 09 15 44.5 +0.4
baz=14
JCT Junction City 13.76 95 ⇓P Pn 09 15 45.0 +0.9
baz=14
JCT Junction City 13.76 95 Pn Pn 09 15 43.1 -1.0
R30A Dighton 13.79 62 ⇓P Pn 09 15 45.7 +1.2
baz=14
G20A Bridger 13.84 23 ⇑P Pn 09 15 45.8 +0.6
baz=14
X32A Elmer 13.84 78 ⇓P Pn 09 15 45.8 +0.6
baz=14
W32A Sentinel 13.92 75 ⇓P Pn 09 15 46.4 +0.1
baz=14
HAWA Hanford 14.03 349 Pn Pn 09 15 51.0 +3.4
632A Uvalde 14.03 99 ⇓P Pn 09 15 48.9 +1.2
baz=14
732A Laxson Ranch, 14.12 102 ⇓P Pn 09 15 50.0 +1.0
baz=14
133A Hamilton Ranch 14.18 86 ⇓P Pn 09 15 49.8 0.0
baz=14
F19A Roth Farm, Mol 14.19 20 ⇓P Pn 09 15 50.3 +0.4
baz=14
S31A Mullinville 14.19 65 ⇑P Pn 09 15 50.6 +0.7
baz=14
MSO Missoula 14.22 5 ⇑P Pn 09 15 50.1 -0.3
baz=14
233A Rising Star 14.26 88 ⇑P Pn 09 15 50.3 -0.5
baz=14
Z33A Whitaker Ranch 14.27 83 ⇓P Pn 09 15 51.1 +0.1
baz=14
WMOK Wichita Mounta 14.27 77 ePn Pn 09 15 47.7 -3.3
832A Faith Ranch, C 14.27 104 ⇑P Pn 09 15 51.3 +0.2
baz=14
P30A Selden 14.28 57 ⇓P Pn 09 15 51.6 +0.4
baz=14
333A Richland Sprin 14.28 91 ⇑P Pn 09 15 51.6 +0.3
baz=14
433A Art 14.30 93 ⇓P Pn 09 15 51.8 +0.4
baz=14
R31A Burdett 14.35 62 ⇑P Pn 09 15 51.4 -0.8
baz=14
HRY Holter Researc 14.35 11 P Pn 09 15 54.7 +2.4
CHMT Chamberlain Mo 14.37 7 P Pn 09 15 55.3 +2.8
Y33A Hilltop Ranch, 14.37 80 ⇑P Pn 09 15 52.9 +0.4
baz=14
X33A Lawton 14.49 78 ⇑P Pn 09 15 54.0 0.0
baz=14
533A Kerrville 14.50 96 ⇑P Pn 09 15 55.2 +0.9
baz=14
633A Saathoff Ranch 14.55 98 ⇓P Pn 09 15 55.9 +1.0
baz=15
W33A Caddo, Fort Co 14.56 75 ⇑P Pn 09 15 55.8 +0.8
baz=15
J26A Sides Ranch, S 14.57 39 ⇑P Pn 09 15 57.8 +2.6
baz=15
K27A Flueckinger Fa 14.64 43 ⇓P Pn 09 15 57.5 +1.4
baz=15
RSSD Black Hills 14.65 35 ePn Pn 09 15 56.7 +0.2
SLMT Seeley Lake 14.67 6 P Pn 09 15 59.0 +2.4
O30A MW Ranch, Wils 14.68 55 ⇓P Pn 09 15 55.3 -1.3
baz=15
733A Divot King Ran 14.68 101 ⇑P Pn 09 15 57.9 +1.2
baz=15
833A Chaparral WMA, 14.74 103 ⇓P Pn 09 15 58.3 +0.9
baz=15
V33A Lossen Ranch, 14.78 73 ⇑P Pn 09 15 58.7 +0.7
baz=15
E19A Rath Farm, Rou 14.79 19 ⇓P Pn 09 15 59.0 +1.0
baz=15
G23A Biddle 14.88 30 ⇑P Pn 09 15 59.0 -0.3
baz=15
H24A Dirks Ranch, A 14.88 33 ⇑P Pn 09 15 58.7 -0.7
baz=15
134A White-Moore Ra 14.89 86 ⇓P Pn 09 15 59.1 -0.3
baz=15
P31A Stockton 14.89 58 ⇓P Pn 09 16 01.2 +1.8
baz=15
234A Clairette 14.90 88 ⇑P Pn 09 15 59.0 -0.6
baz=15
334A Lometa 14.91 90 ⇑P Pn 09 15 59.6 -0.2
baz=15
Z34A Collier Ranch, 14.97 82 ⇑P Pn 09 15 59.8 -0.9
baz=15
434A Burnet 14.98 92 ⇓P Pn 09 16 00.9 +0.1
baz=15
534A Blanco 14.98 95 ⇑P Pn 09 16 00.8 +0.1
baz=15
R32A Long Quarter, 15.00 63 ⇑P Pn 09 15 59.8 -1.2
baz=15
U33A Lingo Farm, Me 15.01 71 ⇑P Pn 09 15 59.9 -1.1
baz=15
E20A Meyer Farm, Mu 15.01 21 ⇑P Pn 09 16 01.6 +0.5
baz=15
X34A Smith Ranch, M 15.05 78 ⇑P Pn 09 16 02.2 +0.6
baz=15
Y34A Reagan Ranch, 15.10 80 ⇑P Pn 09 16 03.6 +1.4
baz=15
933A Laredo 15.10 105 ⇓P Pn 09 16 02.9 +0.5
baz=15
W34A Bridge Creek, 15.13 75 ⇑P Pn 09 16 03.7 +0.9
baz=15
W34A Bridge Creek, 15.13 75 eP Pn 09 16 02.4 -0.3
comp=E,27nm,1.1s
H25A Fruitdale 15.23 35 ⇓P Pn 09 16 04.0 -0.1
baz=15
F23A Volborg 15.29 28 ⇓P Pn 09 16 05.3 +0.4
baz=15
G24A Alzada 15.39 31 ⇓P Pn 09 16 05.6 -0.7
baz=15
V34A Guthrie 15.40 73 ⇓P Pn 09 16 05.4 -0.9
baz=15
V34A Guthrie 15.40 73 ePn Pn 09 16 04.9 -1.4
comp=E,40nm,1.4s
135A Vickery Place, 15.45 85 ⇑P Pn 09 16 07.1 +0.2
baz=15
U34A Anderson Ranch 15.47 71 ⇑P Pn 09 16 07.0 -0.2
baz=16
WHTX Lake Whitney, 15.47 88 ⇑P Pn 09 16 06.5 -0.8
baz=16
WHTX Lake Whitney, 15.47 88 ePn Pn 09 16 07.3 +0.1
comp=E,66nm,1.1s
P32A Huiting Farm, 15.48 58 ⇑P Pn 09 16 07.4 +0.1
baz=16
834A Tilden 15.50 102 ⇓P Pn 09 16 07.8 +0.1
baz=16
Z35A Perchaven, San 15.53 82 ⇓P Pn 09 16 07.7 -0.3
baz=16
D20A Manuel Ranch, 15.54 20 ⇓P Pn 09 16 08.9 +0.7
baz=16
435B Jarrell 15.56 92 ⇓P Pn 09 16 09.0 +0.5
baz=16
335A Moody 15.61 90 ⇑P Pn 09 16 09.0 0.0
baz=16
NEW Newport 15.63 357 Pn Pn 09 16 09.8 +0.6
comp=E,0.0nm,0.3s,baz=171,slow=12,SNR=11
NEW LR LR 09 23 01.6
comp=E,273nm,19.8s,baz=182,slow=41
NEW Newport 15.63 357 ⇑P Pn 09 16 10.3 +1.1
baz=16
NEW Newport 15.63 357 P Pn 09 16 10.6 +1.4
comp=E,35nm,1.3s
I27A Quinn 15.63 39 ⇑P Pn 09 16 10.1 +0.7
baz=16
E22A Miles City 15.68 26 ⇑P Pn 09 16 09.7 -0.2
baz=16
934A Benavides 15.72 104 ⇓P Pn 09 16 10.1 -0.4
baz=16
635A Leesville 15.74 97 ⇓P Pn 09 16 09.5 -1.3
baz=16
535A Dale 15.74 95 ⇑P Pn 09 16 11.3 +0.6
baz=16
F24A Ekalaka 15.79 30 ⇓P Pn 09 16 11.6 +0.3
baz=16
LAO LASA Array 15.80 25 Pn Pn 09 16 09.6 -1.9
comp=E,31nm,1.0s
D21A La Casta Ranch 15.87 22 ⇑P Pn 09 16 11.8 -0.5
baz=16
C19A Slack Wire Ran 15.89 17 ⇓P Pn 09 16 11.9 -0.8
baz=16
V35A Meyer Ranch, C 15.94 74 ⇑P Pn 09 16 12.8 -0.5
baz=16
H27A Howes 16.00 38 ⇑P Pn 09 16 13.1 -1.0
baz=16
EGMT Eagleton 16.01 15 ⇓P Pn 09 16 15.2 +1.0
baz=16
EGMT Eagleton 16.01 15 ePn P 09 16 16.0 -1.8
comp=E,16nm,1.1s
835A Beeville 16.04 101 ⇑P Pn 09 16 14.6 0.0
baz=16
I28A Midland 16.07 41 ⇑P Pn 09 16 15.2 +0.2
baz=16
336A Riesel 16.08 89 ⇑P Pn 09 16 15.2 +0.1
baz=16
C20A Veseth Ranch, 16.15 19 ⇑P Pn 09 16 17.0 +1.1
baz=16
J29A Okreek 16.18 44 ⇑P Pn 09 16 16.7 +0.3
baz=16
K30A Basset 16.19 47 ⇓P Pn 09 16 17.9 +1.3
baz=16
D22A Cohagen 16.21 24 ⇑P Pn 09 16 15.8 -1.0
baz=16
636A Smothers Creek 16.32 96 ⇑P Pn 09 16 18.4 +0.2
baz=16
E24A Baker 16.42 29 ⇓P Pn 09 16 19.4 -0.1
baz=16
WALA Waterton Lakes 16.45 4 eP P 09 16 21.9 -0.8
comp=E,26nm,1.1s
I29A Vivian Onida 16.57 42 ⇓P Pn 09 16 21.6 +0.3
baz=17
D23A Lindsay 16.57 26 ⇓P Pn 09 16 21.9 +0.5
baz=17
B19A Brinkman Farms 16.59 16 ⇓P Pn 09 16 22.4 +0.7
baz=17
J30A Dallas 16.63 46 ⇓P Pn 09 16 21.7 -0.5
baz=17
S35A Otter Creek Ra 16.65 67 ⇑P Pn 09 16 20.9 -1.5
baz=17
E25A Miller Ranch, 16.75 31 ⇓P Pn 09 16 23.8 +0.1
baz=17
537A Green Hill Far 16.79 94 ⇑P Pn 09 16 25.0 +0.8
baz=17
TUL1 Leonard 16.80 73 ⇑P Pn 09 16 24.1 -0.2
baz=17
C22A Vida 16.83 24 ⇑P Pn 09 16 24.3 -0.3
baz=17
F27A Lemmon 16.91 35 ⇓P P 09 16 26.5 -1.3
baz=17
I30A Oacoma 17.01 44 ⇑P Pn 09 16 27.6 +0.7
baz=17
B21A Ellsworth Farm 17.07 20 ⇑P Pn 09 16 28.0 +0.3
baz=17
A19A Klindworth Far 17.09 16 ⇑P Pn 09 16 28.1 +0.2
baz=17
C23A Lambert 17.12 25 ⇓P Pn 09 16 28.2 0.0
baz=17
S36A Lake Cedric, C 17.22 67 ⇑P Pn 09 16 29.7 +0.1
baz=17
HKT Hockley 17.23 94 eP P 09 16 31.2 -0.1
comp=E,7.5nm,1.1s
A20A Cobblestone Ra 17.24 18 ⇓P Pn 09 16 28.9 -0.9
baz=17
B22A Reddig Ranch S 17.27 22 ⇑P Pn 09 16 29.9 -0.4
baz=17
438A Sam Houston St 17.35 91 ⇓P Pn 09 16 30.3 -0.9
baz=17
338A Crockett 17.38 89 ⇓P Pn 09 16 30.8 -0.8
baz=17
F28A McLaughlin 17.49 37 ⇑P Pn 09 16 32.8 -0.2
baz=18
E27A Carson 17.53 34 ⇓P Pn 09 16 32.7 -0.7
baz=18
BRSD Miller 17.59 43 P P 09 16 35.7 +0.4
A22A Carney Farms, 17.91 21 ⇑P P 09 16 38.6 -0.2
baz=18
R37A Teagarden Farm 17.93 66 ⇑P P 09 16 38.5 -0.5
baz=18
DGMT Dagmar 18.04 25 ⇑P P 09 16 39.8 -0.4
baz=18
DGMT Dagmar 18.04 25 eP P 09 16 40.1 -0.1
comp=E,20nm,1.1s
B25A Knox Farm, Ray 18.26 28 ⇓P P 09 16 43.1 +0.4
baz=18
Q37A Longview Farm, 18.34 64 ⇑P Pn 09 16 42.4 -1.0
baz=18
C27A Sayler Ranch, 18.52 32 ⇑P Pn 09 16 45.6 0.0
baz=18
MIAR Mount Ida 18.56 78 eP Pn 09 16 45.9 -0.3
comp=E,38nm,1.1s
340A Bronson 18.57 88 ⇑P P 09 16 45.0 -1.1
baz=19
ECSD EROS Data Cent 18.62 48 ⇓P Pn 09 16 47.0 +0.1
baz=19
ECSD EROS Data Cent 18.62 48 eP Pn 09 16 47.5 +0.7
comp=E,6.1nm,1.0s
E30A Jud 18.91 38 ⇓P Pn 09 16 50.8 +0.5
baz=19
D30A Buchanan 19.39 37 ⇓P Pn 09 16 56.0 -0.1
baz=19
MDND Maddock 19.48 34 eP P 09 16 56.3 +0.2
comp=E,34nm,1.1s
B28A Dugan Ranch, T 19.57 32 ⇓P P 09 16 57.3 +0.2
baz=20
A29A Manning Farm, 20.43 32 ⇓P Pn 09 17 07.4 -1.0
baz=20
EDM Edmonton 20.63 4 eP P 09 17 07.8 -0.7
comp=E,37nm,1.2s
A30A Hoffart Farm, 20.87 34 ⇑P P 09 17 11.1 -0.1
baz=21
BBB Bella Bella 21.49 339 P P 09 17 20.6 +2.9
comp=E,11nm,0.7s,baz=140,slow=17,SNR=2.3
BBB LR LR 09 26 20.5
comp=E,306nm,18.1s,baz=186,slow=39
AGMN Agassiz Nation 21.65 38 ⇓P P 09 17 19.3 -0.2
baz=22
AGMN Agassiz Nation 21.65 38 eP P 09 17 18.8 -0.7
comp=E,12nm,0.9s
SIUC Southern Illin 22.22 69 eP P 09 17 25.4 -0.4
comp=E,15nm,0.8s
ULM Lac du Bonnet 22.92 34 P P 09 17 31.8 -1.2
comp=E,3.3nm,1.0s,baz=223,slow=10.0,SNR=4.3
ULM LR LR 09 25 23.0
comp=E,54nm,20.6s,baz=261,slow=35
FFC Flin Flon 24.12 20 eP P 09 17 45.2 +0.3
comp=E,15nm,1.4s
CMIG Matias Romero 24.39 124 P P 09 17 51.9 +4.1
comp=E,2.5nm,0.6s,baz=353,slow=17,SNR=3.1
CMIG LR LR 09 28 23.2
comp=E,367nm,18.7s,baz=273,slow=39
TKL Tuckaleechee C 26.56 75 LR LR 09 28 58.0
comp=E,204nm,19.5s,baz=275,slow=38
ACSO Alum Creek Sta 27.30 65 eP P 09 18 13.7 -0.2
comp=E,16nm,0.9s
DLBC Dease Lake 27.54 344 P P 09 18 17.4 +1.5
comp=E,1.5nm,0.7s,baz=154,slow=8.9,SNR=5.2
APG El Apazote 28.92 121 LR LR 09 29 24.7
comp=E,458nm,19.8s,baz=266,slow=35
YKA Yellowknife Ar 29.86 1 P P 09 18 37.2 +0.8
comp=E,0.2nm,0.5s,baz=182,slow=8.9,SNR=8.0
JTS JuntasAbangare 36.05 121 P P 09 19 33.3 +2.3
comp=E,6.7nm,1.0s,baz=13,slow=19,SNR=2.6
ILAR Eielson Array 37.38 339 P P 09 19 43.5 +1.6
comp=E,1.1nm,0.8s,baz=155,slow=8.5,SNR=13
RES Resolute Bay 43.35 8 P P 09 20 31.2 +0.2
comp=E,0.6nm,0.7s,baz=228,slow=12,SNR=2.0
ROSC El Rosal 47.50 117 LR LR 09 43 37.5
comp=E,77nm,18.8s,baz=32,slow=39
SUMG Summit 55.39 21 eP P 09 22 03.1 -0.5
comp=E,7.1nm,0.9s
SEY Seymchan 62.30 329 P P 09 22 54.0 +2.8
comp=E,0.5nm,0.3s,baz=82,slow=6.5,SNR=4.0
PETK Petropavlovsk- 62.68 317 P P 09 22 57.5 +3.5
comp=E,4.2nm,0.8s,baz=94,slow=12,SNR=4.8
ARCES ARCSS Array B 74.26 13 LR LR 09 59 10.9
comp=E,58nm,19.4s,baz=340,slow=38
NOA NORSAR Array B 77.16 24 LR LR 09 59 13.2
comp=E,37nm,18.4s,baz=325,slow=37
FINES FINESS Array B 81.24 17 LR LR 09 59 55.2
comp=E,29nm,18.8s,baz=352,slow=35
MDJ Mudanjiang 82.85 319 P P 09 24 53.1 -0.9
MDJ PMZ
comp=E,5.0nm,1.0s
ZALV Zalesovo Beam 91.93 348 P P 09 25 40.4 +2.5
comp=E,0.7nm,0.5s,baz=17,slow=4.3,SNR=4.5
HHC Hu-ho-hao-te 94.82 326 eP P 09 25 45.6 -6.0
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,63nm,4.2s
NJ2 Nanjing 97.55 316 eP Pdif 09 26 05.0 +0.9
WMQ Urumqi 100.94 343 eP Pdif 09 26 20.0 +1.0
LZH Lanzhou 102.22 328 eP Pdif 09 26 23.4 -1.6
LZH ePP PP 09 30 39.5 +3.5
LZH LN
comp=Z,110nm,17.8s
LZH LE
comp=Z,130nm,18.0s
LZH LZ
comp=Z,150nm,19.8s
KSH Kashi 107.38 351 ePdif Pdif 09 26 54.5 +6.7
KSH S Sdif 09 39 00.5 +8.0
KSH LZ
comp=Z,140nm,6.9s

*ISCJB **10** 09:13:25.9±1.0, 31°.41S±0°.03×70°.44W±0°.05, h108km±15km, Error ellipse: s-maj=7.5km s-min=4.8km az=16.0*
*GUC **10** 09:13:26.8±0.5, 31°.48S×70°.71W, h130km±13km, ML3.6*
*SJA **10** 09:13:26.2±1.3, 31°.38S×70°.33W, h114km±29km, ML3.0, MW3.6*
ISC 10 09:13:25.2±2.0, 31°.41S±0°.04×70°.43W±0°.05, h127km±23km, n20, σ0°90/30, Chile-Argentina border

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**1.04**	**112**	*eP*	**Pn**	**09 13 49.2**	**+0.7**
AUSP	**Uspallata**	**1.20**	**133**	*eP*	**Pn**	**09 13 50.7**	**+0.6**
SJA	**San Juan**	**1.60**	**95**	*eP*	**Pn**	**09 13 55.2**	**+0.9**
LSCH	**La Serena**	**1.66**	**335**	*iP*	**Pn**	**09 13 55.0**	**+0.2**
LSCH				*iS*	**Sn**	**09 14 16.6**	**-0.9**
RTLL	**Cerro Villicun**	**1.67**	**88**	*eP*	**Pn**	**09 13 55.0**	**-0.1**
RTLL				*eS*	**Sn**	**09 14 16.6**	**-1.3**
AMOG	**MOGNA**	**1.72**	**75**	*eP*	**Pn**	**09 13 56.0**	**+0.3**
PEL	**Peldehue**	**1.74**	**187**	*iP*	**Pn**	**09 13 56.4**	**+0.5**
PEL				*iS*	**Sn**	**09 14 19.0**	**-0.4**
PEL				AML	AML	09 14 21.2	
	comp=E,726nm,0.2s						
CFAA	**Coronel Fontan**	**1.88**	**96**	*eP*	**Pn**	**09 13 58.0**	**+0.5**
CFAA				*eS*	**Sn**	**09 14 21.7**	**-0.6**
CLCH	**Cerro Calan**	**1.98**	**183**	*iP*	**Pn**	**09 13 59.8**	**+1.0**
CLCH				*iS*	**Sn**	**09 14 25.2**	**+0.5**
CLCH				AML	AML	09 14 30.1	
	comp=N,483nm,0.4s						
CLCH	**Cerro Calan**	**1.98**	**183**	*eS*	**Sn**	**09 14 25.9**	**+1.2**
CLCH				AML	AML	09 14 39.4	
	comp=E,887nm,0.6s						
LACH	**Col Las Americ**	**2.04**	**182**	*iS*	**Sn**	**09 14 26.0**	**+0.2**
LACH				AML	AML	09 14 29.1	
	comp=E,172nm,0.2s						
SJCH	**San Jose de Ma**	**2.23**	**178**	*iS*	**Sn**	**09 14 30.0**	**0.0**
SJCH				AML	AML	09 14 31.7	
	comp=N,274nm,0.4s						
YECH	**El Yeso**	**2.27**	**173**	*iP*	**Pn**	**09 14 03.5**	**+0.9**
YECH				*iS*	**Sn**	**09 14 31.1**	**-0.3**
YECH				AML	AML	09 14 36.5	
	comp=N,283nm,0.3s						
TACH	**Talagante**	**2.28**	**191**	*iP*	**Pn**	**09 14 02.6**	**+0.2**
TACH				*iS*	**Sn**	**09 14 30.1**	**-1.0**
LCO	**Las Campanas**	**2.40**	**354**	*eP*	**Pn**	**09 14 05.2**	**+0.8**
CHCH	**Chadas Angostu**	**2.52**	**184**	*iP*	**Pn**	**09 14 05.8**	**+0.2**
CHCH				*iS*	**Sn**	**09 14 36.1**	**-0.6**
AGUA	**GUANDACOL**	**2.54**	**42**	*eP*	**Pn**	**09 14 07.7**	**+1.8**
AVFE	**Valle Fertil**	**2.66**	**74**	*eP*	**Pn**	**09 14 07.4**	**0.0**
AVFE				*eS*	**Sn**	**09 14 38.5**	**-1.3**
AVFE				AML	AML	09 14 40.7	
	comp=Z,55nm,0.3s						
LNV	**Longovilo**	**2.67**	**198**	*iP*	**Pn**	**09 14 07.3**	**-0.1**
LNV				*iS*	**Sn**	**09 14 37.7**	**-2.3**
VACH	**Vallenar**	**2.84**	**354**	*iS*	**Sn**	**09 14 43.6**	**-0.4**

IDC ***10*** *09:21:40.7±0.9, 5.51S×141.82E, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.3/28, mbtmp4.3/17, ML4.6/3, MS3.7/5, Ms1 3.8/5, ms1mx3.2/24, Error ellipse: s-maj=29.9km s-min=17.8km az=93.0*

ISCJB ***10*** *09:21:44.3±0.3, 5.60S±0.03×141.62E±0.05, h33km, mb4.3/19, MS3.8/2, Error ellipse: s-maj=7.0km s-min=4.0km az=164.0*

NEIC ***10*** *09:21:46.8±0.9, 5.47S×141.68E, h40km±9km, mb4.6/7, Error ellipse: s-maj=10.4km s-min=7.4km az=69.0*

DJA ***10*** *09:21:48.0±0.4, 6.3S±2.1×14.2E±1.1, h50km±18km, M5.0/8, mb4.9/8, mB5.4/3, MLv5.0/5, Mw(mB)4.8/3*

ISC 10 09:21:46.4±0.5, 5.54S±0.04×141.62E±0.06, h35km, n53, σ1§64/58, mb4.3/19, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.14**	**343**	P	**Pn**	**09 22 34.2**	**+0.7**
JAY				S	**Sn**	**09 23 13.0**	**+3.2**
JAY	**Jayapura**	**3.14**	**343**	Pn	**Pn**	**09 22 34.0**	**+0.5**
	27nm,0.3s,baz=186,slow=9.5,SNR=94						
JAY				Sn	**Sn**	**09 23 12.6**	**+2.7**
	40nm,0.3s,baz=292,slow=22,SNR=13						
MMPI	**Merauke**	**3.16**	**203**	P	**Pn**	**09 22 35.4**	**+1.8**
MMPI				S	**Sn**	**09 23 12.4**	**+2.3**
MMPI	**Merauke**	**3.16**	**203**	P	**Pn**	**09 22 35.7**	**+2.1**
	baz=3.3,SNR=6.0						
MMPI				S	**Sn**	**09 23 13.5**	**+3.4**
	baz=3.3,SNR=7.3						
GENI	**Genyem**	**3.27**	**334**	P	**Pn**	**09 22 37.1**	**+1.9**
SMPI	**Sarmi**	**4.57**	**320**	P	**Pn**	**09 22 54.2**	**+1.1**
SMPI				S	**Sn**	**09 23 46.2**	**+1.2**
PMG	**Port Moresby**	**6.70**	**125**	Pn	**Pn**	**09 23 22.6**	**+0.2**
	1.7nm,0.3s,baz=299,slow=13,SNR=6.3						
PMG				LR	LR	09 27 02.3	
	comp=Z,310nm,20.6s,baz=302,slow=49						
PMG	**Port Moresby**	**6.70**	**125**	P	**Pn**	**09 23 23.5**	**+1.2**
	baz=7.2,SNR=5.7						
PMG	**Port Moresby**	**6.70**	**125**	*e*Pn	**Pn**	**09 23 22.4**	**0.0**
	12nm,0.9s						
RKPI	**Ransiki, Papua**	**8.44**	**298**	P	**Pn**	**09 23 46.3**	**0.0**
	92nm,0.6s,8μm						
COEN	**Coen**	**8.50**	**170**	P	**Pn**	**09 23 49.0**	**+1.8**
	baz=8.9,SNR=10.0						
COEN	**Coen**	**8.50**	**170**	*e*Pn	**Pn**	**09 23 48.9**	**+1.7**
	27nm,0.7s						
COEN				*e*Sn	**Sn**	**09 25 21.0**	**-0.9**
FAKI	**Fak Fak**	**9.70**	**285**	P	**Pn**	**09 24 01.9**	**-1.7**
	92nm,0.8s,720nm						
FAKI	**Fak Fak**	**9.70**	**285**	P	**Pn**	**09 24 02.0**	**-1.6**
	baz=9.3,SNR=34						
FAKI	**Fak Fak**	**9.70**	**285**	*e*Pn	**Pn**	**09 24 02.1**	**-1.6**
	55nm,0.7s						
BNDI	**Bandanaira**	**11.72**	**274**	P	**Pn**	**09 24 31.3**	**+0.1**
	113nm,1.1s						
QIS	**Mount Isa**	**15.06**	**187**	P	**Pn**	**09 25 15.1**	**-1.6**
	baz=15,SNR=18						
CTA	**Charters Tower**	**15.15**	**163**	Pn	**Pn**	**09 25 18.5**	**+0.7**
	baz=284,slow=4.2,SNR=2.4						
CTA				Lg	Lg	09 29 40.8	
	0.7nm,0.3s,baz=49,slow=18,SNR=5.1						
WRAB	**Tennant Creek**	**15.96**	**206**	*e*Pn	**Pn**	**09 25 24.5**	**-3.9**
	16nm,2.0s						
WRAB				*e*Sn	Sn	09 28 13.2	-11
WRA	**Warramunga Arr**	**15.97**	**206**	Pn	**Pn**	**09 25 24.9**	**-3.7**
	1.9nm,0.3s,baz=25,slow=14,SNR=19						
WRA				Sn	Sn	09 28 14.8	-10
	3.1nm,0.3s,baz=41,slow=23,SNR=5.8						
WRA				Lg	Lg	09 30 14.8	
	2.4nm,0.3s,baz=22,slow=32,SNR=5.2						
WRA				LR	LR	09 32 18.7	
	comp=Z,234nm,19.8s,baz=35,slow=40						
KNRA	**Kununurra**	**16.15**	**230**	P	**Pn**	**09 25 26.7**	**-4.2**
	baz=16,SNR=13						
SOEI	**Soe**	**17.70**	**255**	*e*P	**P**	**09 25 52.3**	**+1.2**
	47nm,0.7s						
SOEI				*e*S	**Sn**	**09 29 04.1**	**-2.8**
BATI	**Baumata**	**18.38**	**254**	P	**Pn**	**09 26 00.3**	**+1.6**
	3.4nm,0.3s,baz=358,slow=2.4,SNR=2.9						
AS31	**Alice Springs**	**19.49**	**202**	*e*P	**Pn**	**09 26 11.8**	**-0.3**
AS31				*e*S	S	09 29 34.6	-15
AS31				*e*S	S	09 29 34.6	-15
ASAR	**Alice Springs**	**19.50**	**202**	P	**Pn**	**09 26 11.6**	**-0.5**
	2.2nm,0.3s,baz=27,slow=9.8,SNR=84						
ASAR				S	S	09 29 35.6	-14
	0.5nm,0.3s,baz=14,slow=29,SNR=4.5						
ASAR				Lg	Lg	09 32 05.3	
	0.5nm,0.3s,baz=26,slow=32,SNR=4.5						
ASAR				LR	LR	09 34 20.6	
	comp=Z,382nm,18.1s,baz=24,slow=39						
QLP	**Quilpie**	**21.07**	**173**	P	**P**	**09 26 30.0**	**+2.3**
	baz=22,SNR=15						
RMQ	**Roma**	**21.92**	**163**	P	P	09 26 44.4	+7.6
	baz=22,SNR=7.7						
WRKA	**Warakurna**	**23.22**	**212**	P	**P**	**09 26 50.2**	**-0.4**
	baz=23,SNR=35						
DZM	**Mont Dzumac**	**29.09**	**127**	LR	LR	09 39 10.7	
	comp=Z,129nm,20.2s,baz=7.0,slow=36						
MJAR	**Matsushiro Arr**	**41.98**	**356**	P	**P**	**09 29 32.2**	**-2.0**
	1.4nm,0.6s,baz=194,slow=4.1,SNR=4.9						
KSAR	**Wonju Array Be**	**44.64**	**344**	P	**P**	**09 29 55.4**	**-0.3**
KSRS	**Korea Array**	**44.64**	**344**	P	**P**	**09 29 55.3**	**-0.2**
	1.5nm,0.6s,baz=157,slow=8.8,SNR=10.0						
CMAR	**Chiang Mai Arr**	**48.36**	**301**	P	**P**	**09 30 25.1**	**-0.1**
	2.1nm,0.7s,baz=123,slow=6.0,SNR=12						
USRK	**Ussuriysk Ar.**	**50.27**	**351**	P	**P**	**09 30 39.3**	**+0.1**
	5.0nm,0.8s,baz=170,slow=8.7,SNR=13						
PETK	**Petropavlovsk-**	**59.99**	**11**	P	**P**	**09 31 49.7**	**+0.4**
	5.8nm,0.8s,baz=178,slow=7.4,SNR=8.4						
ULN	**Ulaanbaatar**	**61.25**	**334**	*e*P	**P**	**09 31 58.8**	**+0.6**
	2.8nm,0.8s						
SONM	**Songino Array**	**61.51**	**334**	P	**P**	**09 32 00.6**	**+0.7**
	1.9nm,1.0s,baz=156,slow=8.8,SNR=10						
TLY	**Talaya**	**65.58**	**335**	P	**P**	**09 32 26.8**	**+0.2**
	1.2nm,0.8s,baz=146,slow=9.0,SNR=4.1						
SEY	**Seymchan**	**68.77**	**5**	P	**P**	**09 32 46.6**	**0.0**
	0.5nm,0.3s,baz=195,slow=9.4,SNR=7.0						
VNDA	**Vanda**	**72.74**	**175**	P	**P**	**09 33 11.1**	**+0.6**
	0.8nm,0.8s,baz=352,slow=5.0,SNR=4.2						
VNDA				LR	LR	10 04 15.9	
	comp=Z,91nm,18.3s,baz=336,slow=35						
MKAR	**Makanchi Array**	**73.79**	**322**	P	**P**	**09 33 17.7**	**+0.4**
	3.5nm,0.7s,baz=109,slow=7.5,SNR=43						
ZALV	**Zalesovo Beam**	**75.83**	**329**	P	**P**	**09 33 28.1**	**-0.8**
	1.1nm,0.6s,baz=125,slow=4.4,SNR=6.0						
KURK	**Kurchatov**	**77.69**	**325**	*e*P	**P**	**09 33 39.5**	**0.0**
KURBB	**Kurchatov Arra**	**77.70**	**324**	P	**P**	**09 33 39.3**	**-0.2**
	2.7nm,0.8s,baz=114,slow=4.8,SNR=22						
BVAR	**Borovoye Array**	**83.28**	**325**	P	**P**	**09 34 09.7**	**+0.2**
	5.0nm,0.8s,baz=112,slow=3.5,SNR=20						
MCK	**McKinley**	**86.01**	**25**	*e*P	**P**	**09 34 21.8**	**-1.2**
	5.1nm,0.7s						
COLD	**Coldfoot**	**86.81**	**21**	*e*P	**P**	**09 34 27.7**	**+0.9**
	2.4nm,0.7s						
ILAR	**Eielson Array**	**87.20**	**24**	P	**P**	**09 34 27.1**	**-1.7**
	2.4nm,0.8s,baz=257,slow=4.8,SNR=28						
ABKAR	**Akbulak array**	**88.74**	**320**	*e*P	**P**	**09 34 34.9**	**-1.6**
	0.6nm,0.6s						
EGAK	**Eagle**	**89.56**	**25**	*e*P	**P**	**09 34 39.5**	**-0.5**
	3.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**139.79**	**284**	PKP	**PKPdf**	**09 41 11.6**	**-0.2**
	0.6nm,0.9s,baz=64,slow=3.3,SNR=2.7						
ROSC	**El Rosal**	**144.19**	**89**	PKP	**PKPab**	**09 41 17.4**	**-0.6**
	2.9nm,0.5s,baz=106,slow=20,SNR=3.0						
DBIC	**Dimbokro**	**146.65**	**274**	PKPbc	**PKPbc**	**09 41 25.2**	**-0.3**
	5.0nm,0.7s,baz=122,slow=2.7,SNR=4.7						

ISCJB ***10*** *09:27:31.3±0.5, 45.07N±0.02×23.07E±0.03, h3km±4km, Error ellipse: s-maj=3.4km s-min=3.0km az=39.4*

BEO ***10*** *09:27:32.2±0.6, 45.07N×23.12E, h13km±3km, ML2.6/8*

BUC ***10*** *09:27:32.3±0.7, 45.14N×23.15E, h7km±7km, MD3.0/4, Error ellipse: s-maj=6.4km s-min=4.9km az=55.0*

CSEM ***10*** *09:27:32.0±0.1, 45.07N×23.08E, h5km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.6km az=139.0*

ISC 10 09:27:32.1±1.1, 45.07N±0.02×23.11E±0.02, h4km±9km, n90, σ0§77/124, 46C-23D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	**Gura Zlata**	**0.40**	**324**	⇓*i*Pg	**Pg**	**09 27 40.2**	**+0.3**
GZR	**Gura Zlata**	**0.40**	**324**	⇑*i*P	**Pg**	**09 27 40.5**	**+0.6**
GZR				*i*S	**Sg**	**09 27 45.9**	**+0.8**
GZR	**Gura Zlata**	**0.40**	**324**	⇑*i*P	**Pg**	**09 27 40.5**	**+0.6**
GZR	**Gura Zlata**	**0.40**	**324**	S	**Sg**	**09 27 45.9**	**+0.8**
GZR	**Gura Zlata**	**0.40**	**324**	⇓*i*Pg	**Pg**	**09 27 40.2**	**+0.3**
GZR	**Gura Zlata**	**0.40**	**324**	⇑*i*P	**Pg**	**09 27 40.5**	**+0.6**
GZR				*i*S	**Sg**	**09 27 45.9**	**+0.8**
SRE	**Strehaia**	**0.41**	**171**	⇑*i*P	**Pb**	**09 27 42.1**	**+0.1**
SRE				*i*S	**Sb**	**09 27 50.0**	**+1.3**
SRE	**Strehaia**	**0.41**	**171**	⇑*i*P	**Pb**	**09 27 42.1**	**+0.1**
SRE	**Strehaia**	**0.41**	**171**	S	**Sb**	**09 27 50.0**	**+1.3**
SRE	**Strehaia**	**0.41**	**171**	⇑*i*P	**Pb**	**09 27 42.1**	**+0.1**
SRE				S	**Sb**	**09 27 50.0**	**+1.3**
RMGR	**Halanga-Turnu**	**0.51**	**216**	*i*S	**Sb**	**09 27 52.5**	**+1.2**
RMGR	**Halanga-Turnu**	**0.51**	**216**	S	**Sb**	**09 27 52.5**	**+1.2**
RMGR	**Halanga-Turnu**	**0.51**	**216**	*i*S	**Sb**	**09 27 52.7**	**+1.2**
DJES	**Djerdap**	**0.58**	**226**	⇓*i*Pg	**Pg**	**09 27 43.8**	**+0.5**
DJES				*e*Sg	**Sb**	**09 27 53.3**	**-0.3**
LOT	**Lotru**	**0.60**	**51**	⇑*i*P	**Pg**	**09 27 42.9**	**-0.8**
LOT				*i*S	**Sg**	**09 27 50.4**	**-1.0**
LOT	**Lotru**	**0.60**	**51**	⇑*i*P	**Pg**	**09 27 42.9**	**-0.8**
LOT	**Lotru**	**0.60**	**51**	⇑*i*P	**Pg**	**09 27 42.9**	**-0.8**
LOT				*i*S	**Sg**	**09 27 50.4**	**-1.0**
DEV	**Deva**	**0.82**	**350**	⇑*i*P	**Pg**	**09 27 47.9**	**-0.1**
DEV				*i*S	**Sg**	**09 27 58.3**	**-0.4**
DEV	**Deva**	**0.82**	**350**	⇑*i*P	**Pg**	**09 27 47.9**	**-0.1**
DEV	**Deva**	**0.82**	**350**	⇑*i*P	**Pg**	**09 27 47.9**	**-0.1**
DEV				*i*S	**Sg**	**09 27 58.3**	**-0.4**
CRAR	**CRAIOVA**	**0.89**	**146**	*i*S	**Sb**	**09 28 03.1**	**+0.6**
CRAR	**CRAIOVA**	**0.89**	**146**	S	**Sb**	**09 28 03.1**	**+0.6**
CRAR	**CRAIOVA**	**0.89**	**146**	*i*S	**Sb**	**09 28 03.1**	**+0.6**
ARR	**Arges**	**1.12**	**74**	⇑*i*P	**Pg**	**09 27 52.6**	**-1.0**
ARR	**Arges**	**1.12**	**74**	⇑*i*P	**Pg**	**09 27 52.6**	**-1.0**
ARR	**Arges**	**1.12**	**74**	⇑*i*P	**Pg**	**09 27 52.6**	**-1.0**
ARR				S	**Sg**	**09 28 06.8**	**-1.2**
BZS	**Buzias**	**1.19**	**298**	⇑*i*Pg	**Pg**	**09 27 54.5**	**-0.4**
BZS				*e*Sg	**Sg**	**09 28 09.8**	**-0.4**
BZS	**Buzias**	**1.19**	**298**	⇑*i*P	**Pg**	**09 27 54.4**	**-0.4**
BZS				*i*S	**Sg**	**09 28 10.0**	**-0.2**
BZS	**Buzias**	**1.19**	**298**	⇑*i*P	**Pg**	**09 27 54.4**	**-0.4**
BZS	**Buzias**	**1.19**	**298**	⇑*i*Pg	**Pg**	**09 27 54.5**	**-0.4**
BZS				*i*S	**Sg**	**09 28 10.0**	**-0.2**
MTUR	**Matau**	**1.39**	**83**	⇓*i*P	**Pn**	**09 27 58.2**	**-0.2**
MTUR	**Matau**	**1.39**	**83**	⇓*i*P	**Pn**	**09 27 58.2**	**-0.2**
MTUR	**Matau**	**1.39**	**83**	⇓*i*P	**Pn**	**09 27 58.2**	**-0.2**
MDB	**Medias**	**1.39**	**39**	⇓*i*P	**Pn**	**09 27 57.3**	**-1.1**
MDB				*i*S	**Sg**	**09 28 17.1**	**+0.2**
MDB	**Medias**	**1.39**	**39**	⇓*i*P	**Pn**	**09 27 57.3**	**-1.1**
MDB				*i*S	**Sg**	**09 28 17.1**	**+0.2**
VOIR		**1.42**	**74**	⇑*i*P	**Pn**	**09 27 57.9**	**-0.9**
VOIR				*i*S	**Sn**	**09 28 18.0**	**0.0**
VOIR		**1.42**	**74**	⇑*i*P	**Pn**	**09 27 57.9**	**-0.9**
VOIR		**1.42**	**74**	⇑*i*P	**Pn**	**09 27 57.9**	**-0.9**
VOIR				*i*S	**Sn**	**09 28 18.0**	**0.0**
HUMR	**Humele**	**1.44**	**112**	⇑*i*P	**Pn**	**09 27 59.2**	**+0.2**
HUMR				*i*S	**Sg**	**09 28 19.3**	**+1.0**
HUMR	**Humele**	**1.44**	**112**	⇑*i*P	**Pn**	**09 27 59.2**	**+0.2**
HUMR	**Humele**	**1.44**	**112**	⇑*i*P	**Pn**	**09 27 59.2**	**+0.2**
HUMR				*i*S	**Sg**	**09 28 19.3**	**+1.0**
BOLS	**Boljevac**	**1.49**	**214**	*e*Pg	**Pn**	**09 27 59.1**	**-0.6**
BOLS				*e*Sg	**Sn**	**09 28 19.1**	**-0.6**
BOLS	**Boljevac**	**1.49**	**214**	*e*Pg	**Pn**	**09 27 59.1**	**-0.6**
BOLS				*e*Sg	**Sn**	**09 28 19.1**	**-0.6**
SVIS	**Svilajnac**	**1.57**	**240**	*e*Pn	**Pn**	**09 28 00.1**	**-0.7**
CJR	**Cluj-Napoca**	**1.68**	**12**	⇑*i*P	**Pn**	**09 28 01.7**	**-0.6**
CJR				*i*S	**Sb**	**09 28 25.0**	**-0.1**
CJR	**Cluj-Napoca**	**1.68**	**12**	⇑*i*P	**Pn**	**09 28 01.7**	**-0.6**
CJR	**Cluj-Napoca**	**1.68**	**12**	⇑*i*P	**Pn**	**09 28 01.7**	**-0.6**
CJR				*i*S	**Sb**	**09 28 25.0**	**-0.1**
DRGR		**1.74**	**351**	⇑*i*Pn	**Pn**	**09 28 02.6**	**-0.7**
DRGR				*e*Sg	**Sb**	**09 28 27.3**	**+0.3**
DRGR		**1.74**	**351**	⇓*i*P	**Pn**	**09 28 02.8**	**-0.5**
DRGR				*i*S	**Sn**	**09 28 26.2**	**+0.2**
DRGR		**1.74**	**351**	⇓*i*P	**Pn**	**09 28 02.8**	**-0.5**
DRGR		**1.74**	**351**	⇓*i*P	**Pn**	**09 28 02.8**	**-0.5**
DRGR				*i*S	**Sn**	**09 28 26.2**	**+0.2**
DRGR				*e*Sg	**Sb**	**09 28 27.3**	**+0.3**
ZAPS	**Zavoj**	**1.83**	**191**	⇑*i*Pn	**Pn**	**09 28 02.0**	**-2.4**
DOPR	**Dopca**	**1.83**	**60**	⇑*i*P	**Pn**	**09 28 04.5**	**0.0**
DOPR				*i*S	**Sn**	**09 28 28.4**	**+0.2**
DOPR	**Dopca**	**1.83**	**60**	⇑*i*P	**Pn**	**09 28 04.5**	**0.0**
DOPR	**Dopca**	**1.83**	**60**	⇑*i*P	**Pn**	**09 28 04.5**	**0.0**
DOPR				*i*S	**Sn**	**09 28 28.4**	**+0.2**
MLR	**Muntele Rosu**	**2.04**	**77**	⇓*i*P	**Pn**	**09 28 08.4**	**+0.9**
MLR	**Muntele Rosu**	**2.04**	**77**	⇓*i*P	**Pn**	**09 28 08.4**	**+0.9**
MLR	**Muntele Rosu**	**2.04**	**77**	⇓*i*P	**Pn**	**09 28 08.4**	**+0.9**
GRUS	**Gruza**	**2.08**	**236**	*e*Pn	**Pn**	**09 28 07.5**	**-0.3**
GRUS				*e*Sg	**Sg**	**09 28 38.5**	**-0.5**
GRUS	**Gruza**	**2.08**	**236**	*e*Pn	**Pn**	**09 28 07.5**	**-0.3**
GRUS				*e*Sg	**Sg**	**09 28 38.5**	**-0.5**
TRUS	**Trudelj**	**2.11**	**247**	⇓*i*Pn	**Pn**	**09 28 06.5**	**-1.7**
TRUS	**Trudelj**	**2.11**	**247**	⇓*i*Pn	**Pn**	**09 28 06.5**	**-1.7**
DIVS	**Divibare**	**2.43**	**248**	⇑*i*Pn	**Pn**	**09 28 12.0**	**-0.7**
DIVS	**Divibare**	**2.43**	**248**	⇑*i*Pn	**Pn**	**09 28 12.0**	**-0.7**
BARS	**Barje**	**2.44**	**203**	*e*Pn	**Pn**	**09 28 12.0**	**-0.8**
BARS	**Barje**	**2.44**	**203**	*e*Pn	**Pn**	**09 28 12.0**	**-0.8**
VTS	**Vitosha**	**2.48**	**178**	*e*Pn	**Pn**	**09 28 12.9**	**-0.6**
VTS	**Vitosha**	**2.48**	**178**	*e*Pn	**Pn**	**09 28 12.9**	**-0.6**
IVAS	**Ivanjica**	**2.60**	**236**	*i*Pn	**Pn**	**09 28 14.1**	**-0.9**
IVAS	**Ivanjica**	**2.60**	**236**	*i*Pn	**Pn**	**09 28 14.1**	**-0.9**
PLOR	**Plostina**	**2.61**	**71**	⇓*i*P	**Pn**	**09 28 16.2**	**+1.1**
PLOR				*i*S	**Sn**	**09 28 47.7**	**+0.4**
PLOR	**Plostina**	**2.61**	**71**	⇓*i*P	**Pn**	**09 28 16.2**	**+1.1**
PLOR	**Plostina**	**2.61**	**71**	⇓*i*P	**Pn**	**09 28 16.2**	**+1.1**
PLOR				*i*S	**Sn**	**09 28 47.7**	**+0.4**
BMR	**Baia Mare**	**2.62**	**6**	⇑*i*P	**Pn**	**09 28 15.1**	**-0.1**
BMR	**Baia Mare**	**2.62**	**6**	⇑*i*P	**Pn**	**09 28 15.1**	**-0.1**
BMR	**Baia Mare**	**2.62**	**6**	⇑*i*P	**Pn**	**09 28 15.1**	**-0.1**
VRI	**Vrincioaia**	**2.67**	**71**	⇑*i*P	**Pn**	**09 28 17.2**	**+1.3**
VRI	**Vrincioaia**	**2.67**	**71**	⇑*i*P	**Pn**	**09 28 17.2**	**+1.3**
VRI	**Vrincioaia**	**2.67**	**71**	⇑*i*P	**Pn**	**09 28 17.2**	**+1.3**
BBLS	**Lazići**	**2.91**	**247**	⇑*i*Pn	**Pn**	**09 28 19.1**	**-0.2**
BBLS	**Lazići**	**2.91**	**247**	⇑*i*Pn	**Pn**	**09 28 19.1**	**-0.2**
BURAR	**Bucovina Array**	**2.93**	**29**	⇑*i*P	**Pn**	**09 28 20.8**	**+1.2**
BURAR	**Bucovina Array**	**2.93**	**29**	⇑*i*P	**Pn**	**09 28 20.8**	**+1.2**
BURAR	**Bucovina Array**	**2.93**	**29**	⇑*i*P	**Pn**	**09 28 20.8**	**+1.2**
BURAR				S	**Sn**	**09 28 55.8**	**+0.4**
PKSM	**Moragy**	**3.33**	**292**	*e*Pn	**Pn**	**09 28 24.4**	**-0.7**
PKSM	**Moragy**	**3.33**	**292**	*e*Pn	**Pn**	**09 28 24.4**	**-0.7**
CFR	**Carcaliu**	**3.56**	**87**	⇓*i*P	**Pn**	**09 28 27.6**	**-0.5**
CFR	**Carcaliu**	**3.56**	**87**	⇓*i*P	**Pn**	**09 28 27.6**	**-0.5**
CFR	**Carcaliu**	**3.56**	**87**	⇓*i*P	**Pn**	**09 28 27.6**	**-0.5**

NNC 10 09:42:38.2±4.0, 36.71N×69.76E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=32.6km s-min=25.9km az=38.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.22**	**341**	⇓Pn	Pn	09 43 16.0	-0.4
	2.9nm,0.3s						
DZET				⇑Sn	Sn	09 43 45.6	+1.0
	19nm,0.4s						
MNAS	**Manas**	**6.14**	**19**	⇑Pn	Pn	09 44 12.1	+1.7
	1.0nm,0.2s						
MNAS				⇓Sn	Sn	09 45 21.0	-0.6
	1.1nm,0.6s						
KK31	**Karatay Array**	**6.41**	**5**	⇑Pn	Pn	09 44 13.6	-0.3
	0.4nm,0.3s,baz=195,slow=15,SNR=9.8						
KK31				⇑Sn	Sn	09 45 30.1	+2.3
	0.3nm,0.3s,baz=191,slow=27,SNR=3.8						

BJI ***10*** *09:47:52.0, 61.60N×146.70W, h44km, mB5.0/21, mb5.0/33, Ms4.8/7, Ms7 4.7/8*

ISCJB ***10*** *09:47:56.5±0.2, 61.71N±0.01×146.92W±0.03, h52km±1km, mb4.6/139, MS3.6/21, Error ellipse: s-maj=2.7km s-min=1.7km az=33.0*

MOS ***10*** *09:47:56.6±0.9, 61.71N×146.89W, h59km, mb5.0/66, Error ellipse: s-maj=10.7km s-min=3.8km az=90.1*

IDC ***10*** *09:47:58.1±0.6, 61.65N×146.96W, h57km±4km, mb4.3/32, mb1 4.4/35, mb1mx4.4/41, mbtmp4.6/35, MS3.6/20, Ms1 3.6/20, ms1mx3.3/43, Error ellipse: s-maj=10.9km s-min=7.9km az=45.0*

NEIC ***10*** *09:47:58.2, 61.60N×146.74W, h44km, mb4.6/46, MW4.5, ML4.6(AEIC), Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁵Nm; Mrr-5.16; Mθθ 1.23; Mϕϕ3.93; Mrθ-1.60; Mθϕ2.25; Mϕr-4.16; Best double couple: M0 6.80000×10¹⁵ NP1:ϕ215.00000°, δ25.00000°, λ-80.00000°. NP2:ϕ24.00000°, δ65.00000°, λ-95.00000°. Principal axes: T 6.8300, Plg20.0000°, Azm117.0000°; N 0.0000, Plg4.0000°, Azm25.0000°; P -6.8400, Plg69.0000°, Azm284.0000°; After AEIC.*

NEIC Felt [III] at Palmer and Valdez and [II] at Anchorage, Copper Center, Eagle River and Glennallen. Also felt at Wasilla.

SZGRF ***10*** *09:48:13.0, 63.21N×142.07W, h46km, mb4.9, Central Alaska, United States*

**ISC 10 09:47:57.0±0.3, 61.

ILAR S Sn 09 49 25.2 +4.6
224nm,0.3s,baz=178,slow=22,SNR=14
NCT North Crescent 3.17 253 P Pn 09 48 44.3 -0.1
CHX Chaix Hills 3.18 117 P Pn 09 48 44.8 +0.4
COLA College 3.30 352 P Pn 09 48 46.2 +0.2
COLA College 3.30 352 P Pn 09 48 46.2 +0.2
I53US FAIRBANKS INFR 3.30 352 *i* 10 10 00.0
baz=176,slow=335,SNR=0.7
GLM Gilmore Dome 3.39 356 P Pn 09 48 47.3 -0.1
MDM Murphy Dome 3.42 350 P Pn 09 48 47.7 +0.1
ILS Iliamna Low So 3.51 244 P Pn 09 48 49.5 +0.6
OPT Oil Point 3.74 241 P Pn 09 48 52.8 +0.7
MLY Manley 3.86 334 P Pn 09 48 54.1 +0.4
AUP Augustine Pinn 3.99 238 P Pn 09 48 56.5 +0.9
AUP Augustine Pinn 3.99 238 P Pn 09 48 56.5 +0.9
AUH Augustine H 4.00 238 P Pn 09 48 56.7 +1.0
AUI Augustine Isla 4.01 238 P Pn 09 48 56.8 +1.0
EGAK Eagle 4.06 36 P Pn 09 48 57.7 +1.2
DAWY Dawson 4.18 51 P Pn 09 48 59.1 +1.0
SVW2 Sparrevohn 4.27 267 P Pn 09 48 58.8 -0.5
PS06 TAPS Pump Stn6 4.45 344 P Pn 09 49 03.2 +1.4
TT01 Tatalina 4.51 291 P Pn 09 49 02.2 -0.4
HYT Haines Junctio 4.55 96 P Pn 09 49 03.5 +0.1
KDAK Kodiak Island 4.84 220 P Pn 09 49 06.6 -0.6
KDAK Kodiak Island 4.84 220 P Pn 09 49 06.6 -0.6
FYU Fort Yukon 5.01 7 P Pn 09 49 09.9 +0.4
IM3 Indian Mountai 5.36 328 P Pn 09 49 14.3 +0.1
KABR Katmai Barrier 5.41 233 P Pn 09 49 15.6 +0.6
PS05 TAPS Pump Stn5 5.48 344 P Pn 09 49 16.7 +0.8
OHAK Old Harbor 5.52 220 P Pn 09 49 15.6 -0.9
GCSA Galena City Sc 5.54 309 P Pn 09 49 16.3 -0.5
COLD Coldfoot 5.82 347 P Pn 09 49 21.2 +0.6
WHY Whitehorse 5.84 94 P Pn 09 49 20.3 -0.7
BM3 Burnt Mountain 5.90 8 P Pn 09 49 21.6 -0.1
SKAG Skagway 6.05 106 P Pn 09 49 23.3 -0.4
BESE Bessie Mountai 6.69 112 P Pn 09 49 32.4 -0.2
SIT Sitka 7.43 123 P Pn 09 49 42.5 -0.1
SIT Sitka 7.43 123 P Pn 09 49 42.5 -0.1
INK Inuvik 8.73 34 *e*P Pn 09 50 00.2 -0.2
INK Inuvik 8.73 34 P Pn 09 49 60.0 -0.4
0.9nm,0.3s,baz=232,slow=17,SNR=23
INK Inuvik 8.73 34 *e*Pn Pn 09 50 00.2 -0.2
DLBC Dease Lake 8.96 103 P Pn 09 50 04.1 +0.4
1.8nm,0.3s,baz=288,slow=12,SNR=57
DLBC LR LR 09 53 33.3
comp=Z,618nm,21.8s,baz=335,slow=37
WRAK Wrangell Islan 9.08 119 *e*Pn Pn 09 50 05.2 0.0
25nm,0.6s
TNA Tin City 10.19 302 *e*Pn Pn 09 50 20.5 +0.2
23nm,0.6s
TNA *e*Sn Sn 09 52 16.9 +4.0
GAMB Gambell 11.62 292 *e*Pn Pn 09 50 41.0 +1.1
16nm,0.9s
UNV Unalaska Valle 13.06 242 Pn Pn 09 51 00.2 +0.7
BBB Bella Bella 13.85 125 P Pn 09 51 11.8 +1.5
0.3nm,0.3s,baz=160,slow=3.2,SNR=3.3
BBB LR LR 09 56 20.9
comp=Z,173nm,20.7s,baz=267,slow=36
YKA Yellowknife Ar 15.02 73 P Pn 09 51 24.5 -1.4
0.6nm,0.3s,baz=278,slow=12,SNR=79
EDM Edmonton 19.66 100 *e*P P 09 52 22.5 +0.7
EDM Edmonton 19.66 100 *e*P P 09 52 22.5 +0.7
GPW Glacier Peak 19.83 121 P Pn 09 52 26.2 +0.5
BILL Bilibino 20.51 308 ⇓↑P P 09 52 30.0 -0.7
BILL *e* 09 52 49.1
BILL pmax pmax
comp=Z,29nm,1.3s
BILL Bilibino 20.51 308 *e*P P 09 52 30.1 -0.7
comp=Z,11nm,0.8s
ETW Entiat 20.57 121 P Pn 09 52 33.8 -0.5
TDL Tradedollar La 20.83 126 P Pn 09 52 37.6 +0.1
SAW Saint Andrews 20.87 119 P Pn 09 52 36.9 -1.0
NEW Newport 21.41 115 *e*P P 09 52 42.3 +1.7
NEW pmax pmax
comp=Z,22nm,0.9s
NEW Newport 21.41 115 P P 09 52 42.3 +1.7
comp=Z,16nm,0.8s,baz=318,slow=8.5,SNR=49
NEW LR LR 10 01 56.4
comp=Z,181nm,18.1s,baz=310,slow=39
NEW Newport 21.41 115 ⇑P P 09 52 42.9 +2.3
baz=21
NEW Newport 21.41 115 *e*P P 09 52 42.3 +1.7
comp=Z,22nm,0.9s
GBB Gable Butte 21.65 122 P P 09 52 45.1 +1.9
WRD Warden 21.69 120 P P 09 52 44.2 +0.5
G05D Wamic, OR 22.11 126 ⇓P P 09 52 50.4 +2.3
baz=22
WALA Waterton Lakes 22.23 109 *e*P P 09 52 50.3 +0.7
comp=Z,25nm,1.0s
RES Resolute Bay 22.29 33 *e*P P 09 52 49.0 -0.8
RES Resolute Bay 22.29 33 P P 09 52 48.9 -0.9
comp=Z,5.5nm,0.5s,baz=271,slow=11,SNR=18
RES Resolute Bay 22.29 33 *e*P P 09 52 49.0 -0.8
I03D Drain, OR 22.67 132 ⇑P P 09 52 57.0 +2.9
baz=23
I05D Terrebonne, OR 22.86 128 ⇑P P 09 52 58.0 +1.8
baz=23
I04A Tendick Farm, 22.93 130 ⇓P P 09 52 58.3 +1.5
baz=23
J04D Umpqua Nationa 23.52 130 ⇓P P 09 53 05.2 +2.4
baz=23
SLMT Seeley Lake 23.77 112 *e*P P 09 53 06.3 +1.2
comp=Z,9.9nm,1.1s
J05D Fort Rock, OR 23.80 129 ⇑P P 09 53 07.8 +2.4
baz=24
MSO Missoula 23.89 113 ⇑P P 09 53 08.1 +1.9
baz=24
L02D Cave Junction, 23.93 134 ⇑P P 09 53 09.1 +2.6
baz=24
BMO Blue Mountains 24.03 121 *e*P P 09 53 09.6 +2.2
comp=Z,13nm,1.0s
CHMT Chamberlain Mo 24.13 112 *e*P P 09 53 08.6 0.0
comp=Z,7.6nm,1.2s
K04D Chiloquin, OR 24.18 130 ⇑P P 09 53 11.9 +3.1
baz=24
FFC Flin Flon 24.18 86 *e*P P 09 53 09.3 +0.6
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC Flin Flon 24.18 86 *e*P P 09 53 09.3 +0.6
comp=Z,8.7nm,0.8s
YBH Yreka Blue Hor 24.62 133 P P 09 53 13.5 +0.6
comp=Z,6.0nm,0.9s,baz=314,slow=4.8,SNR=7.0
YBH LR LR 10 01 11.4
comp=Z,157nm,21.1s,baz=320,slow=32
A19A Klindworth Far 24.70 103 ⇓P P 09 53 15.0 +1.6
baz=25,SNR=5.7
EGMT Eagleton 24.88 106 ⇑P P 09 53 16.6 +1.5
baz=25,SNR=9.8
EGMT Eagleton 24.88 106 *e*P P 09 53 15.2 0.0
comp=Z,22nm,1.0s
M04C Macdoel 24.88 131 ⇑P P 09 53 17.6 +2.3
baz=25
HRY Holter Researc 24.92 111 *e*P P 09 53 16.2 +0.7
comp=Z,11nm,0.7s
B19A Brinkman Farms 24.94 104 ⇑P P 09 53 17.3 +1.6
baz=25,SNR=27
N02D Trinity Center 25.29 134 ⇓P P 09 53 21.6 +2.7
baz=25
MOD Modoc Plateau 25.34 129 *e*P P 09 53 23.8 +4.4
comp=Z,4.3nm,1.0s
B20A Solberg Farm, 25.38 103 ⇓P P 09 53 22.6 +3.0
baz=25,SNR=8.1
C19A Slack Wire Ran 25.42 106 ⇓P P 09 53 22.5 +2.5
baz=25,SNR=7.1
A21A Bergtoll Ranch 25.50 101 ⇑P P 09 53 23.5 +2.8
baz=25,SNR=6.9
WVOR Wild Horse Val 25.52 126 *e*P P 09 53 22.8 +1.8
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 25.52 126 *e*P P 09 53 22.8 +1.8
comp=Z,5.2nm,0.9s
MFID Camas Ranch 25.82 121 *e*P P 09 53 24.1 +0.4
comp=Z,3.5nm,1.0s
BOZ Bozeman (W) 25.82 112 *e*P P 09 53 25.4 +1.6
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 25.82 112 *e*P P 09 53 25.4 +1.6
comp=Z,2.8nm,0.7s
B21A Ellsworth Farm 25.86 102 ⇓P P 09 53 27.8 +3.8
baz=26,SNR=7.1
C20A Veseth Ranch, 25.91 105 ⇓P P 09 53 27.5 +3.1
baz=26
D19A Cripps Ranch, 25.91 106 ⇓P P 09 53 26.3 +1.8
baz=26
MCMT McKenzie Canyo 25.93 115 *e*P P 09 53 26.0 +1.1
comp=Z,4.4nm,1.1s
A22A Carney Farms, 25.97 100 ⇓P P 09 53 27.5 +2.5
baz=26,SNR=5.4
HLID Hailey 26.28 119 ⇑P P 09 53 30.6 +2.6
baz=26
HLID Hailey 26.28 119 *e*P P 09 53 29.3 +1.3
comp=Z,4.0nm,0.8s
D20A Manuel Ranch, 26.31 106 ⇓P P 09 53 30.2 +2.2
baz=26,SNR=11
E19A Rath Farm, Rou 26.48 107 ⇓P P 09 53 33.2 +3.5
baz=26
QLMT Earthquake Lak 26.55 113 *e*P P 09 53 32.4 +2.0
comp=Z,0.4nm,0.4s
GCMT Greycliff 26.59 109 *e*P P 09 53 32.4 +1.7
comp=Z,22nm,1.1s
E20A Meyer Farm, Mu 26.75 107 ⇑P P 09 53 35.5 +3.5
baz=27
B23A Brockton 26.78 100 ⇓P P 09 53 36.4 +4.1
baz=27,SNR=7.3
F19A Roth Farm, Mol 26.87 108 ⇓P P 09 53 36.1 +3.0
baz=27,SNR=5.4
C22A Vida 26.88 102 ⇓P P 09 53 36.3 +3.2
baz=27
YMR Madison River 26.88 113 *e*P P 09 53 35.0 +1.6
comp=Z,13nm,0.7s
A24A Westby 26.92 98 ⇑P P 09 53 37.3 +3.8
baz=27
DGMT Dagmar 27.15 99 ⇓P P 09 53 40.2 +4.6
baz=27
C23A Lambert 27.16 101 ⇑P P 09 53 38.3 +2.6
baz=27
D22A Cohagen 27.17 103 ⇓P P 09 53 38.6 +2.8
baz=27
E21A Keefer Ranch, 27.21 105 ⇓P P 09 53 39.0 +2.8
baz=27
H17A Grant Village 27.27 112 ⇑P P 09 53 39.7 +2.7
baz=27
F20A Billings 27.27 108 ⇓P P 09 53 39.6 +2.9
baz=27
RLMT Red Lodge 27.28 110 *e*P P 09 53 38.8 +1.7
comp=Z,15nm,0.9s
A25A Svangstu Ranch 27.33 97 ⇓P P 09 53 39.7 +2.5
baz=27
SEY Seymchan 27.42 300 P P 09 53 37.0 -0.8
comp=Z,8.7nm,0.8s,baz=65,slow=5.7,SNR=16
H18A Shoshone NF, C 27.45 111 ⇑P P 09 53 41.0 +2.5
baz=27,SNR=8.4
D23A Lindsay 27.61 102 ⇑P P 09 53 43.4 +3.7
baz=28
I17A Pilgrim Ck. 27.64 113 ⇑P P 09 53 43.6 +3.3
baz=28
G20A Bridger 27.68 109 ⇓P P 09 53 42.0 +1.5
baz=28
C24A Savage 27.71 101 ⇓P P 09 53 44.0 +3.3
baz=28
F21A Absaloka Mine, 27.72 106 ⇑P P 09 53 44.5 +3.7
baz=28
H19A Powell 27.76 110 ⇓P P 09 53 43.5 +2.3
baz=28,SNR=7.4
B25A Knox Farm, Ray 27.78 99 ⇓P P 09 53 45.1 +3.9
baz=28
A26A Wade Farm, Ken 27.87 96 ⇑P P 09 53 45.7 +3.7
baz=28,SNR=5.4
E23A Ismay 28.06 103 ⇓P P 09 53 46.4 +2.7
baz=28
D24A Glendive 28.06 101 ⇑P P 09 53 47.8 +4.1
baz=28
B26A Jensen Ranch, 28.14 97 ⇓P P 09 53 47.2 +2.7
baz=28
A27A Ledoux Ranch, 28.21 96 ⇓P P 09 53 46.8 +1.7
baz=28
I19A Meeetse 28.25 111 ⇑P P 09 53 48.0 +2.3
baz=28
ELK Elko 28.29 123 P P 09 53 48.2 +2.2
comp=Z,3.9nm,1.0s,baz=28,slow=6.3,SNR=15
ELK LR LR 10 03 48.3
comp=Z,125nm,21.8s,baz=1.0,slow=34
H20A Greybull 28.35 109 ⇓P P 09 53 48.7 +2.3
baz=28
E24A Baker 28.48 102 ⇑P P 09 53 49.7 +2.2
baz=28
D25A Fairfield 28.51 100 ⇑P P 09 53 49.8 +2.1
baz=28
G22A Birney 28.56 106 ⇓P P 09 53 51.2 +2.9
baz=28
B27A Peters Farms, 28.59 96 ⇑P P 09 53 51.2 +2.8
baz=28,SNR=6.0
F23A Volborg 28.59 105 ⇑P P 09 53 51.6 +3.1
baz=28
C26A Wahner Farm, P 28.60 98 ⇓P P 09 53 51.6 +3.1
baz=28
H21A Big Horn, Sher 28.67 108 ⇑P P 09 53 51.4 +2.1
baz=28
A28A Rude Farm, Bot 28.70 95 ⇓P P 09 53 51.3 +1.8
baz=29
I20A Worland 28.71 110 ⇓P P 09 53 52.1 +2.4
baz=29
J19A Crowheart 28.84 112 ⇑P P 09 53 53.1 +2.3
baz=29
F24A Ekalaka 28.94 103 ⇓P P 09 53 53.7 +2.0
baz=29,SNR=6.2
E25A Miller Ranch, 28.94 101 ⇑P P 09 53 53.1 +1.5
baz=29,SNR=7.0
C27A Sayler Ranch, 28.96 98 ⇓P P 09 53 56.7 +5.0
baz=29
B28A Dugan Ranch, T 28.98 96 ⇓P P 09 53 56.1 +4.3
baz=29
G23A Biddle 28.99 105 ⇓P P 09 53 56.6 +4.5
baz=29
D26A Manning 29.01 100 ⇓P P 09 53 55.2 +3.0
baz=29
PDAR Pinedale Array 29.01 113 P P 09 53 54.0 +1.5
comp=Z,2.3nm,0.8s,baz=306,slow=4.9,SNR=20
PDAR pP pP 09 54 08.1 +3.6
comp=Z,3.3nm,0.7s,baz=330,slow=5.2,SNR=12
PDAR LR LR 10 06 07.5
comp=Z,163nm,21.8s,baz=335,slow=37
NVAR Mina Array Bea 29.12 130 P P 09 53 55.7 +2.3
comp=Z,2.0nm,0.7s,baz=327,slow=11,SNR=17
NVAR PcP PcP 09 57 00.8 +0.7
comp=Z,1.1nm,0.7s,baz=310,slow=2.8,SNR=4.5
A29A Manning Farm, 29.19 94 ⇓P P 09 53 56.2 +2.5
baz=29,SNR=6.0
I21A Big Trails, Te 29.19 109 ⇑P P 09 53 56.2 +2.2
baz=29
J20A Shoshoni 29.20 111 ⇓P P 09 53 57.0 +3.0
baz=29
F25A Bowman 29.34 102 ⇓P P 09 53 59.9 +4.7
baz=29,SNR=5.8
G24A Alzada 29.34 104 ⇓P P 09 54 00.5 +5.2
baz=29
C28A Hausauer Farms 29.49 97 ⇑P P 09 54 00.8 +4.4
baz=29
J21A Lysite 29.49 110 ⇑P P 09 53 59.1 +2.4
baz=29
I22A 9 Mile Ranch, 29.50 108 ⇓P P 09 53 58.7 +2.1
baz=29,SNR=8.2
A30A Hoffart Farm, 29.62 93 ⇑P P 09 54 01.6 +4.1
baz=30
H24A Dirks Ranch, A 29.72 105 ⇓P P 09 54 00.2 +1.6
baz=30
DUG Dugway, Tooele 29.74 120 ⇓P P 09 54 01.2 +2.4
baz=30
F26A Lodgepole 29.77 102 ⇓P P 09 54 03.7 +4.7
baz=30,SNR=8.9
J22A Midwest 29.87 109 ⇑P P 09 54 02.6 +2.6
baz=30,SNR=5.6
ULM Lac du Bonnet 29.89 89 P P 09 54 07.4 +7.5
comp=Z,0.6nm,0.4s,baz=346,slow=8.3,SNR=3.8
ULM LR LR 10 06 20.4
comp=Z,162nm,20.5s,baz=269,slow=37
B30A Myrvik Farm, E 29.95 94 ⇓P P 09 54 05.3 +4.8
baz=30,SNR=5.2
K21A Alcova 30.14 111 ⇓P P 09 54 04.0 +1.6
baz=30
E28A Huff 30.16 99 ⇑P P 09 54 05.1 +2.8
baz=30,SNR=5.7
R11A Troy Canyon, C 30.21 126 ⇓P P 09 54 05.0 +1.9
baz=30
PETK Petropavlovsk- 30.24 279 P P 09 54 01.3 -1.6
comp=Z,3.1nm,0.9s,baz=91,slow=10,SNR=3.5
PETK LR LR 10 06 52.6
comp=Z,59nm,19.5s,baz=61,slow=38
H25A Fruitdale 30.26 104 ⇓P P 09 54 05.2 +2.0
baz=30
D29A Pettibone, Tap 30.33 97 ⇓P P 09 54 04.7 +0.8
baz=30
I24A Kuemmerle Ranc 30.37 106 ⇓P P 09 54 05.6 +1.3
baz=30
C30A Mose, Pekin 30.40 95 ⇓P P 09 54 06.1 +1.6
baz=30
RSSD Black Hills 30.44 105 *e*P P 09 54 05.7 +0.7
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 30.44 105 *e*P P 09 54 05.7 +0.7
comp=Z,8.1nm,0.9s
K22A Casper 30.45 110 ⇓P P 09 54 06.6 +1.4
baz=30
K22A Casper 30.45 110 *e*P P 09 54 06.5 +1.3
comp=Z,6.0nm,1.0s
G27A Dupree 30.46 101 ⇓P P 09 54 07.3 +2.3
baz=30
H26A Fairpoint 30.64 103 ⇓P P 09 54 07.8 +1.1
baz=30
F28A McLaughlin 30.65 100 ⇓P P 09 54 08.4 +1.7
baz=30,SNR=8.1
E29A Napoleon 30.66 97 ⇓P P 09 54 09.3 +2.5
baz=30
RCTC Rector, Farmer 30.67 133 ⇓P P 09 54 09.2 +2.3
baz=31
D30A Buchanan 30.70 96 ⇓P P 09 54 08.8 +1.7
baz=31,SNR=5.9
GRAC Grapevine Rang 30.72 130 ⇓P P 09 54 08.8 +1.3
baz=31
J24A Dixon Ranch, L 30.76 107 ⇑P P 09 54 09.2 +1.4
baz=31
H27A Howes 30.96 102 ⇑P P 09 54 11.9 +2.5
baz=31,SNR=6.4
L22A Ellis Ranch, M 30.99 110 ⇓P P 09 54 13.1 +3.2
baz=31,SNR=9.2
I26A New Underwood 31.05 104 ⇑P P 09 54 12.2 +1.9
baz=31
E30A Jud 31.06 97 ⇑P P 09 54 12.9 +2.6
baz=31
J25A Sunshine Ranch 31.11 106 ⇓P P 09 54 12.7 +1.8
baz=31
F29A Eureka 31.12 99 ⇑P P 09 54 12.9 +2.1
baz=31
N20A Spence Gulch, 31.14 114 ⇑P P 09 54 13.8 +2.5
baz=31,SNR=17
VES Vestal, Richgr 31.15 133 ⇓P P 09 54 14.4 +3.4
baz=31
G28A Parade 31.17 101 ⇓P P 09 54 14.0 +2.8
baz=31
TPNV Topopah Spring 31.19 128 ⇑P P 09 54 14.0 +2.3
baz=31
AGMN Agassiz Nation 31.23 92 ⇓P P 09 54 14.6 +2.8
baz=31
L23A Garrett 31.25 110 ⇓P P 09 54 14.0 +1.8
baz=31
SMMC Simmler 31.31 135 ⇑P P 09 54 15.1 +2.5
baz=31
FURC Furnace Creek, 31.38 129 ⇓P P 09 54 15.2 +2.1
baz=31
I27A Quinn 31.40 103 ⇓P P 09 54 15.2 +1.9
baz=31
M22A Cedar Creek Ra 31.42 111 ⇓P P 09 54 15.5 +1.8
baz=31
H28A Mission Ridge 31.42 101 ⇓P P 09 54 15.2 +1.8
baz=31,SNR=6.0
F30A Leola 31.49 98 ⇑P P 09 54 15.9 +1.8
baz=31
J26A Sides Ranch, S 31.50 105 ⇓P P 09 54 16.2 +1.9
baz=31
ISA Isabella, Lake 31.52 132 ⇑P P 09 54 16.6 +2.1
baz=31
L24A Wheatland 31.65 109 ⇓P P 09 54 17.6 +1.9
baz=32
K25A Mack Ranch, Ha 31.69 107 ⇓P P 09 54 18.2 +2.2
baz=32
O20A White River Ci 31.73 115 ⇑P P 09 54 19.3 +2.9
baz=32
M23A Laramie 31.75 110 ⇑P P 09 54 19.2 +2.5
baz=32,SNR=5.4
H29A Onida 31.83 101 ⇑P P 09 54 19.6 +2.4
baz=32,SNR=6.6
I28A Midland 31.86 102 ⇑P P 09 54 20.9 +3.6
baz=32
ARVC Arvin 31.88 133 ⇓P P 09 54 20.5 +3.0
baz=32
K26A Motz Farm, Whi 31.93 106 ⇓P P 09 54 20.8 +2.7
baz=32
G30A Faulkton 31.96 99 ⇑P P 09 54 21.1 +2.9
baz=32,SNR=11
N22A Wattenberg Ran 31.97 112 ⇓P P 09 54 20.6 +2.0
baz=32
TIXI Tiksi 31.99 323 *e*P P 09 54 16.8 -1.4
TIXI *e* 09 57 05.7
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 31.99 323 *e*P P 09 54 16.8 -1.4
comp=Z,6.6nm,0.6s
TIXI *e*PcP PcP 09 57 05.7 -1.1
L25A Engebretsen Ra 32.00 108 ⇑P P 09 54 20.7 +1.9
baz=32
J27A Elkhorn Farm, 32.05 104 ⇑P P 09 54 20.8 +1.8
baz=32
SHOC Shoshone, Teco 32.10 129 ⇑P P 09 54 22.3 +2.8
baz=32
N23A Red Feather La 32.12 111 ⇑P P 09 54 22.2 +2.3
baz=32
M24A Cheyenne 32.16 109 ⇓P P 09 54 22.0 +1.8
baz=32
SBC Santa Barbara 32.20 135 ⇑P P 09 54 21.7 +1.4
baz=32
I29A Vivian Onida 32.25 101 ⇓P P 09 54 22.4 +1.7
baz=32,SNR=7.8
J28A Allard Ranch, 32.27 103 ⇑P P 09 54 22.3 +1.4
baz=32
K27A Flueckinger Fa 32.37 105 ⇑P P 09 54 23.2 +1.3
baz=32
EDW2 Edwards Air Fo 32.40 132 ⇓P P 09 54 23.2 +1.1
baz=32
GSC Goldstone, Bar 32.44 130 ⇓P P 09 54 23.8 +1.3
baz=32
L26A Underwood Farm 32.50 107 ⇓P P 09 54 24.0 +0.9
baz=32
M25A Palm-Egli Farm 32.53 108 ⇓P P 09 54 24.7 +1.3
baz=32
BRSD Miller 32.56 100 ⇓P P 09 54 24.8 +1.3
baz=32
BRSD Miller 32.56 100 P P 09 54 26.6 +3.2
BSC Santa Cruz Isl 32.63 135 ⇓P P 09 54 25.6 +1.4
baz=33
N24A Carr 32.65 110 ⇓P P 09 54 25.4 +1.0
baz=32
TUQ Turquoise Moun 32.65 129 ⇓P P 09 54 26.6 +2.2
baz=33
O23A Lake Granby, G 32.68 112 ⇑P P 09 54 27.0 +2.1
baz=33,SNR=6.3
J29A Okreek 32.71 102 ⇑P P 09 54 26.8 +2.0
baz=33
I30A Oacoma 32.74 101 ⇑P P 09 54 26.9 +1.9
baz=33
RRX Edison Barstow 32.75 131 ⇑P P 09 54 27.4 +2.2
baz=33
K28A Ten Mile Ranch 32.76 104 ⇓P P 09 54 27.1 +1.8
baz=33
P22A Eagle 32.82 114 ⇓P P 09 54 27.6 +1.6
baz=33
M26A McRoberts Ranc 32.92 107 ⇓P P 09 54 27.8 +1.0
baz=33
O24A Longmont 33.13 111 ⇑P P 09 54 30.5 +1.8
baz=33
ISCO Idaho Springs 33.16 112 ⇓P P 09 54 30.5 +1.5
baz=33
J30A Dallas 33.16 101 ⇓P P 09 54 29.9 +1.1
baz=33
K29A Lazy Trails An 33.21 103 ⇑P P 09 54 30.8 +1.6
baz=33
M27A Reverse DX Ran 33.22 107 ⇑P P 09 54 31.5 +2.1
baz=33
GMRC Granite Mounta 33.33 129 ⇑P P 09 54 32.6 +2.3
baz=33
FMP Fort Macarthur 33.35 134 ⇓P P 09 54 32.2 +1.9
baz=33
N26A Koester Ranch, 33.40 108 ⇓P P 09 54 33.1 +2.2
baz=33
P23A Jefferson 33.40 113 ⇑P P 09 54 33.1 +1.9
baz=33
O25A Wiggins 33.57 110 ⇓P P 09 54 34.6 +2.2
baz=33
CIS Catalina Islan 33.59 134 ⇑P P 09 54 36.1 +3.5
baz=34
K30A Basset 33.61 102 ⇑P P 09 54 35.3 +2.7
baz=34
L29A Maesberg Ranch 33.68 104 ⇑P P 09 54 35.3 +2.0

P24A **Kohler Place,** 33.70 111 ⇑P P 09 54 34.8 +1.1
baz=34
N27A **Anderson Farm,** 33.73 107 ⇓P P 09 54 34.9 +1.1
baz=34
NEE2 **Needles Airpor** 33.73 128 ⇑P P 09 54 35.2 +1.5
baz=34
M28A **Bar X Bar Ranc** 33.79 106 ⇓P P 09 54 35.6 +1.3
baz=34
O26A **Horse Wrangler** 33.83 109 ⇓P P 09 54 36.8 +2.1
baz=34
OGNE **Ogallala** 33.84 107 ⇑P P 09 54 36.8 +2.1
baz=34
FRB **Frobisher Bay** 33.88 51 P P 09 54 34.0 -0.7
FRB **Frobisher Bay** 33.88 51 P P 09 54 34.0 -0.7
comp=Z,2.4nm,0.8s,baz=306,slow=9.6,SNR=9.3
SCI **San Clemente I** 33.93 135 ⇑P P 09 54 37.8 +2.4
baz=34
P25A **Willow Gulch B** 34.03 111 ⇓P P 09 54 38.5 +2.0
baz=34
Q24A **Divide** 34.05 112 ⇑P P 09 54 38.7 +1.9
baz=34
MVCO **Mesa Verde** 34.06 118 ⇓P P 09 54 38.9 +2.1
baz=34
M29A **Burnside Ranch** 34.07 105 ⇑P P 09 54 38.7 +2.0
baz=34
IRM **Iron Mountain** 34.07 129 ⇑P P 09 54 39.6 +2.9
baz=34
PFO **Pinyon Flats O** 34.09 131 LR LR 10 06 29.8
comp=Z,51nm,20.6s,baz=314,slow=32
PFO **Pinyon Flats O** 34.09 131 ⇑P P 09 54 39.0 +2.0
baz=34
L30A **Spencer Herefo** 34.12 103 ⇑P P 09 54 39.4 +2.3
baz=34
ECSD **EROS Data Cent** 34.20 98 ⇓P P 09 54 39.4 +1.6
baz=34,SNR=6.2
O27A **Beecher Island** 34.24 108 ⇓P P 09 54 40.5 +2.2
baz=34
N28A **Pribbeno Ranch** 34.27 107 ⇓P P 09 54 40.3 +1.8
baz=34
S22A **4UR Ranch, Cre** 34.32 115 ⇓P P 09 54 41.6 +2.5
baz=34
WUAZ **Wupatki** 34.33 123 ⇓P P 09 54 41.4 +2.3
baz=34
L31A **Butterfield Fa** 34.35 102 ⇑P P 09 54 41.8 +2.7
baz=34
P26A **Davis Ranch, A** 34.36 110 ⇑P P 09 54 41.1 +1.8
baz=34
M30A **Dale-Ortello V** 34.37 104 ⇑P P 09 54 41.9 +2.6
baz=34
R23A **Moffat** 34.39 114 ⇓P P 09 54 42.9 +3.1
baz=34
BC3 **Big Chuckawall** 34.41 130 ⇑P P 09 54 42.0 +2.3
baz=34
Q25A **Bedland, Calha** 34.49 111 ⇓P P 09 54 41.8 +1.3
baz=34
109C **Camp Elliot, M** 34.51 133 ⇓P P 09 54 43.0 +2.5
baz=34
N29A **Votaw Ranch, W** 34.59 105 ⇓P P 09 54 43.3 +2.1
baz=34
O28A **Krutsinger Ran** 34.62 107 ⇓P P 09 54 43.6 +2.2
baz=34
R24A **Sanders Place,** 34.67 113 ⇑P P 09 54 43.3 +1.2
baz=34
Y12C **Blythe** 34.67 129 ⇑P P 09 54 44.4 +2.5
baz=35
P27A **Ficken Ranch,** 34.71 109 ⇑P P 09 54 43.6 +1.3
baz=35
S23A **Nye Farm, Mont** 34.71 115 ⇓P P 09 54 43.6 +1.1
baz=35
MONP **Monument Peak,** 34.75 132 ⇓P P 09 54 44.6 +1.8
baz=35
Q26A **Hugo** 34.80 111 ⇓P P 09 54 44.6 +1.4
baz=35,SNR=6.2
SDCO **Great Sand Dun** 34.90 114 ⇑P P 09 54 46.2 +2.0
baz=35,SNR=5.4
SPMN **Marine on St.** 34.90 93 ⇑P P 09 54 45.6 +1.9
baz=35
SWSC **Sam W. Stewart** 34.93 131 ⇑P P 09 54 46.5 +2.4
baz=35
M31A **Lambtecht Ranc** 34.94 103 ⇓P P 09 54 45.8 +1.6
baz=35
O29A **4D Ranch, Culb** 35.06 106 ⇑P P 09 54 47.6 +2.3
baz=35
P28A **Saint Francis** 35.07 108 ⇑P P 09 54 47.3 +1.9
baz=35
R25A **Fountain Ranch** 35.10 112 ⇓P P 09 54 47.9 +2.2
baz=35
S24A **Houchin Ranch,** 35.11 114 ⇑P P 09 54 48.9 +2.9
baz=35
KSCO **Kaye Shedlock'** 35.13 109 ⇑P P 09 54 47.9 +1.9
baz=35
GLA **Glamis** 35.18 130 ⇑P P 09 54 49.3 +3.0
baz=35
T23A **Casias Ranch,** 35.26 115 ⇑P P 09 54 49.8 +2.6
baz=35
BGNE **Belgrade** 35.27 102 ⇓P P 09 54 49.3 +2.3
baz=35
R26A **Arlington** 35.35 111 ⇓P P 09 54 49.4 +1.6
baz=35
P29A **Atwood** 35.42 107 ⇓P P 09 54 50.5 +2.2
baz=35
S25A **Robets Cordova** 35.44 113 ⇓P P 09 54 50.5 +1.8
baz=35,SNR=8.1
T24B **San Luis** 35.52 114 ⇓P P 09 54 51.4 +1.9
baz=35
R27A **Eads** 35.65 110 ⇓P P 09 54 52.1 +1.7
baz=36
X18A **Snowflake** 35.76 122 ⇑P P 09 54 52.9 +1.4
baz=36
T25A **Trinidad** 35.88 113 ⇓P P 09 54 53.6 +1.0
baz=36
S26A **Kim** 35.90 112 ⇑P P 09 54 54.0 +1.5
baz=36
Q29A **Oakley** 35.98 108 ⇓P P 09 54 54.6 +1.5
baz=36
R28A **Tribune** 36.05 109 ⇓P P 09 54 55.1 +1.4
baz=36
U24A **Moreno Valley** 36.12 115 ⇑P P 09 54 57.4 +2.8
baz=36
P31A **Stockton** 36.20 105 ⇓P P 09 54 56.7 +1.6
baz=36
T26A **Comanche Natio** 36.21 112 ⇓P P 09 54 56.6 +1.3
baz=36,SNR=5.4
R29A **Marienthal** 36.28 108 ⇑P P 09 54 57.9 +2.1
baz=36
P32A **Huiting Farm,** 36.48 105 ⇑P P 09 54 58.7 +1.4
baz=36
U25A **Circle Dot Ran** 36.50 114 ⇓P P 09 54 59.1 +1.3
baz=36,SNR=16
Q31A **Ellis** 36.61 106 ⇓P P 09 54 59.9 +1.4
baz=36
S28A **Manter** 36.62 110 ⇑P P 09 55 00.4 +1.7
baz=36
T27A **Campo** 36.69 111 ⇓P P 09 55 01.3 +1.9
baz=37
R30A **Dighton** 36.79 108 ⇑P P 09 55 02.3 +2.2
baz=37,SNR=6.2
U26A **Atchley Ranch,** 36.80 113 ⇑P P 09 55 02.4 +2.1
baz=37,SNR=5.7
ANMO **Albuquerque** 36.85 118 LR LR 10 09 47.3
comp=Z,121nm,21.8s,baz=9.5,slow=35
YAK **Yakutsk** 36.87 309 P P 09 54 59.5 -0.8
comp=Z,8.7nm,0.4s,baz=158,slow=0.8,SNR=4.4
V25A **Rancho No Teng** 36.88 115 ⇑P P 09 55 03.3 +2.3
baz=37
T28A **Walsh** 36.92 111 ⇑P P 09 55 02.9 +1.7
baz=37
S29A **Ulysses** 36.95 109 ⇓P P 09 55 03.2 +1.7
baz=37
Q32A **Meitler Ranch,** 37.01 105 ⇑P P 09 55 03.2 +1.4
baz=37
P33A **Williams Farm,** 37.05 104 ⇓P P 09 55 03.8 +1.6
baz=37
R31A **Burdett** 37.13 107 ⇓P P 09 55 04.3 +1.4
baz=37,SNR=5.2
U27A **Thompson Grove** 37.18 112 ⇑P P 09 55 05.0 +1.5
baz=37
S30A **Montezuma** 37.23 108 ⇑P P 09 55 05.5 +1.7
baz=37
T29A **Hugoton** 37.25 110 ⇓P P 09 55 05.3 +1.3
baz=37
V26A **Tequesquite Ra** 37.28 114 ⇓P P 09 55 06.3 +2.0
baz=37,SNR=8.0
Q33A **Connelly Farm,** 37.34 104 ⇓P P 09 55 05.9 +1.3
baz=37
R32A **Long Quarter,** 37.39 106 ⇑P P 09 55 06.3 +1.1
baz=37,SNR=5.3

Y22D **IRIS PASSCAL I** 37.41 119 ⇓P P 09 55 07.2 +1.7
baz=37
U28A **Mallet** 37.48 112 ⇑P P 09 55 08.1 +2.1
baz=37
SUMG **Summit** 37.59 28 *i* P P 09 55 05.5 -1.3
SUMG pmax pmax
comp=Z,4.0nm,0.8s
SUMG **Summit** 37.59 28 *i* P P 09 55 05.5 -1.3
comp=Z,3.8nm,0.8s
T30A **Plains** 37.69 109 ⇓P P 09 55 09.8 +2.2
baz=38
V27A **Dan Oppiter Fa** 37.73 113 ⇑P P 09 55 09.9 +1.8
baz=38
KSU1 **Kansas State U** 37.82 103 ⇑P P 09 55 09.9 +1.2
baz=38
R33A **Olander Ranch,** 37.82 105 ⇓P P 09 55 09.6 +0.8
baz=38
JFWS **Jewell Farm** 37.85 93 *e*P P 09 55 09.2 +0.3
JFWS pmax pmax
comp=Z,10.0nm,0.8s
JFWS **Jewell Farm** 37.85 93 *e*P P 09 55 09.2 +0.3
comp=Z,10nm,0.8s
S32A **Newby Ranch, P** 37.88 107 ⇑P P 09 55 10.2 +1.0
baz=38
V28A **Channing** 38.01 112 ⇑P P 09 55 11.7 +1.2
baz=38
T31A **Randall Ranch,** 38.03 108 ⇑P P 09 55 12.1 +1.6
baz=38
U30A **WK&E Inc. Balk** 38.06 110 ⇓P P 09 55 12.5 +1.6
baz=38
DAG **Danmarks Havn** 38.10 17 *i* P P 09 55 09.8 -0.8
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG **Danmarks Havn** 38.10 17 *i* P P 09 55 09.8 -0.8
comp=Z,3.0nm,0.9s
V29A **Stinnett** 38.22 111 ⇓P P 09 55 13.3 +1.1
baz=38
T32A **Huddler Ranch,** 38.31 107 ⇑P P 09 55 14.6 +1.7
baz=38
121A **Cookes Peak, D** 38.38 121 ⇓P P 09 55 16.1 +2.4
baz=38
S33A **Kaszmaul Farm,** 38.39 106 ⇑P P 09 55 14.9 +1.4
baz=38
U31A **Nine Bar Ranch** 38.55 109 ⇑P P 09 55 15.8 +0.9
baz=38
S34A **Willow Spring** 38.72 105 ⇑P P 09 55 18.2 +2.0
baz=39
W29A **Amarillo** 38.79 112 ⇓P P 09 55 18.5 +1.5
baz=39
319A **Douglas** 38.80 124 ⇓P P 09 55 18.7 +1.6
baz=39
U32A **Winter Ranch,** 38.93 108 ⇑P P 09 55 19.0 +1.0
baz=39
R36A **Gordon, Harris** 38.96 103 ⇓P P 09 55 19.0 +0.7
baz=39
AMTX **Amarillo** 38.98 112 ⇑P P 09 55 20.2 +1.7
baz=39
V31A **Spring Creek L** 39.05 109 ⇓P P 09 55 21.0 +1.9
baz=39
X28A **Dimmitt** 39.05 113 ⇑P P 09 55 20.9 +1.6
baz=39
S35A **Otter Creek Ra** 39.10 104 ⇑P P 09 55 20.1 +0.7
baz=39
MSTX **Muleshoe** 39.27 114 ⇑P P 09 55 22.6 +1.6
baz=39,SNR=6.0
MSTX **Muleshoe** 39.27 114 *e*P P 09 55 22.3 +1.2
comp=Z,13nm,1.1s
X29A **Tulia** 39.34 113 ⇑P P 09 55 23.1 +1.6
baz=39
S36A **Lake Cedric, C** 39.40 103 ⇑P P 09 55 22.8 +0.8
baz=39
W31A **Holland Ranch,** 39.49 110 ⇑P P 09 55 24.2 +1.3
baz=39
U34A **Anderson Ranch** 39.55 106 ⇑P P 09 55 24.8 +1.6
baz=39,SNR=5.1
U34A **Anderson Ranch** 39.55 106 *e*P P 09 55 23.7 +0.5
comp=Z,13nm,1.0s
X30A **Coker Ranch, T** 39.70 112 ⇑P P 09 55 26.1 +1.6
baz=40,SNR=8.6
V33A **Lossen Ranch,** 39.72 108 ⇑P P 09 55 25.8 +1.2
baz=40
Y29A **Porterfield Fa** 39.84 113 ⇑P P 09 55 26.9 +1.1
baz=40
W32A **Sentinel** 39.86 109 ⇑P P 09 55 27.3 +1.5
baz=40
X31A **McDonald Ranch** 39.94 111 ⇓P P 09 55 28.1 +1.6
baz=40
MNTX **Cornudas Mount** 40.10 119 ⇑P P 09 55 28.7 +0.8
baz=40
SCHQ **Schefferville** 40.11 62 P P 09 55 27.1 -0.6
comp=Z,3.1nm,0.9s,baz=300,slow=5.0,SNR=7.6
SCHQ LR LR 10 12 30.7
comp=Z,93nm,19.8s,baz=353,slow=37
Y30A **Stafford Cattl** 40.17 112 ⇑P P 09 55 29.4 +0.9
baz=40
W33A **Caddo, Fort Co** 40.19 109 ⇑P P 09 55 30.0 +1.5
baz=40
Z29A **Hungry Hill Ra** 40.34 114 ⇓P P 09 55 31.1 +1.2
baz=40,SNR=6.4
Y31A **Rekieta Farm,** 40.38 111 ⇑P P 09 55 30.9 +0.8
baz=40
V35A **Meyer Ranch, C** 40.43 106 ⇑P P 09 55 31.3 +0.8
baz=40
X32A **Elmer** 40.43 110 ⇑P P 09 55 31.6 +1.1
baz=40
W34A **Bridge Creek,** 40.44 108 ⇑P P 09 55 31.6 +1.0
baz=40
128A **Castleberry Fa** 40.54 115 ⇑P P 09 55 32.7 +1.1
baz=40
Z30A **Sanderson Ranc** 40.57 113 ⇑P P 09 55 32.8 +1.0
baz=40
X33A **Lawton** 40.68 109 ⇓P P 09 55 33.7 +1.1
baz=41
Y32A **R-V Farms, Ver** 40.71 111 ⇓P P 09 55 34.1 +1.3
baz=41
TUL1 **Leonard** 40.79 105 ⇑P P 09 55 34.3 +0.8
baz=41
129A **Stewart Farms,** 40.80 114 ⇑P P 09 55 34.9 +1.2
baz=41
228A **UT Block 9, Go** 40.93 115 ⇓P P 09 55 36.2 +1.4
baz=41
Z31A **Sharp Cattle R** 40.98 112 ⇓P P 09 55 36.1 +1.0
baz=41
Y33A **Hilltop Ranch,** 41.07 110 ⇓P P 09 55 37.4 +1.6
baz=41
Z32A **Haskell** 41.28 111 ⇓P P 09 55 38.3 +0.7
baz=41,SNR=5.9
229A **Bryant Ranch,** 41.40 115 ⇑P P 09 55 39.9 +1.3
baz=41
131A **Roby** 41.41 113 ⇑P P 09 55 39.7 +1.0
baz=41
YSS **Yuzh-Sakhalins** 41.46 283 *e*P P 09 55 38.8 0.0
YSS **Yuzh-Sakhalins** 41.46 283 *e*P P 09 55 38.9 +0.1
comp=Z,7.7nm,0.6s
Y34A **Reagan Ranch,** 41.51 109 ⇑P P 09 55 40.5 +1.1
baz=41
Z33A **Whitaker Ranch** 41.62 110 ⇓P P 09 55 41.0 +0.7
baz=42
329A **Wagon Wheel Ra** 41.73 115 ⇓P P 09 55 42.7 +1.3
baz=42
230A **Sterling City** 41.77 114 ⇓P P 09 55 42.9 +1.3
baz=42
ABTX **Abilene, Hawle** 41.79 112 ⇑P P 09 55 42.9 +1.1
baz=42
231A **Bronte** 42.08 113 ⇓P P 09 55 45.0 +0.9
baz=42
133A **Hamilton Ranch** 42.12 111 ⇓P P 09 55 45.0 +0.6
baz=42
CLNS **Chul'man** 42.14 305 *e*P P 09 55 43.2 -1.1
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.9s
330A **Mertzon** 42.15 114 ⇑P P 09 55 45.5 +0.7
baz=42,SNR=5.8
Z35A **Perchaven, San** 42.26 109 ⇑P P 09 55 47.2 +1.6
baz=42
232A **Coleman** 42.41 112 ⇓P P 09 55 47.9 +1.1
baz=42
429A **Davenport Ranc** 42.51 116 ⇑P P 09 55 48.9 +1.2
baz=42,SNR=6.4
134A **White-Moore Ra** 42.53 110 ⇓P P 09 55 49.1 +1.4
baz=42
233A **Rising Star** 42.63 112 ⇓P P 09 55 49.3 +0.7
baz=42,SNR=6.6
430A **Baggett Ranch,** 42.66 115 ⇓P P 09 55 50.2 +1.3
baz=43,SNR=6.9
332A **Millersview** 42.80 113 ⇑P P 09 55 50.5 +0.5
baz=43
TXAR **Lajitas Array** 42.88 119 P P 09 55 52.4 +1.6
comp=E,1.6nm,0.6s,baz=330,slow=6.8,SNR=20
234A **Clairette** 42.98 111 ⇓P P 09 55 52.3 +0.8
baz=43
431A **Sonora** 43.02 114 ⇓P P 09 55 53.2 +1.4
baz=43,SNR=7.5
530A **J-C Ranch, Com** 43.16 116 ⇓P P 09 55 54.1 +1.1
baz=43
333A **Richland Sprin** 43.18 112 ⇑P P 09 55 54.0 +1.0
baz=43,SNR=5.6
432A **Menard** 43.21 113 ⇓P P 09 55 54.3 +1.0
baz=43
531A **Rocksprings** 43.49 115 ⇑P P 09 55 57.2 +1.6
baz=43,SNR=6.4
334A **Lometa** 43.51 111 ⇑P P 09 55 56.5 +0.8
baz=43
JCT **Junction City** 43.55 114 *e*P P 09 55 56.7 +0.7
JCT pmax pmax
comp=Z,7.0nm,0.5s
JCT **Junction City** 43.55 114 ⇑P P 09 55 57.2 +1.2
baz=43,SNR=7.1
JCT **Junction City** 43.55 114 *e*P P 09 55 56.7 +0.7
comp=Z,7.3nm,0.5s
433A **Art** 43.62 113 ⇑P P 09 55 56.8 +0.2
baz=44
532A **Rocksprings** 43.80 114 ⇓P P 09 55 59.3 +1.2
baz=44,SNR=9.2
HABR **Khabarovsk** 43.87 290 P P 09 55 56.6 -1.8
HABR *e**PP **pP** 09 56 09.8 -1.0
HABR *e**SP **sP** 09 56 16.0 -0.1
HABR 09 57 39.2
HABR *e* 09 57 42.3
HABR *e*PPP PPP 09 58 15.3
HABR *e*S **S** 10 02 24.2 -1.7
HABR *e**SS **sS** 10 02 47.5 +0.8
HABR *e* 10 05 51.2
HABR *e*SSS SSS 10 06 23.6
HABR pmax pmax
comp=Z,28nm,1.8s
HABR MLR MLR
comp=Z,214nm,21.0s
434A **Burnet** 43.94 112 ⇑P P 09 55 59.6 +0.5
baz=44
237A **Washetta, Mont** 44.03 108 ⇑P P 09 56 00.8 +1.0
baz=44
631A **Perdido Creek** 44.13 115 ⇓P P 09 56 01.4 +0.7
baz=44,SNR=6.3
533A **Kerrville** 44.23 113 ⇑P P 09 56 02.9 +1.3
baz=44
632A **Uvalde** 44.39 114 ⇓P P 09 56 03.7 +0.9
baz=44
534A **Blanco** 44.52 113 ⇓P P 09 56 04.8 +1.0
baz=44
732A **Laxson Ranch,** 44.98 115 ⇑P P 09 56 08.8 +1.3
baz=45
ERM **Erimo** 44.99 278 *c*eP P 09 56 07.4 0.0
ERM pmax pmax
comp=Z,27nm,1.7s
438A **Sam Houston St** 45.24 109 ⇓P P 09 56 11.2 +1.7
baz=45
733A **Divot King Ran** 45.29 114 ⇑P P 09 56 11.4 +1.6
baz=45,SNR=7.0
832A **Faith Ranch, C** 45.37 115 ⇑P P 09 56 12.2 +1.7
baz=45,SNR=12
BOD **Bodaibo** 45.48 312 *e*P P 09 56 09.4 -1.7
BOD pmax pmax
comp=Z,21nm,1.1s
833A **Chaparral WMA,** 45.59 115 ⇑P P 09 56 13.6 +1.3
baz=46
636A **Smothers Creek** 45.62 111 ⇑P P 09 56 14.5 +2.0
baz=46
834A **Tilden** 46.12 114 ⇑P P 09 56 17.8 +1.3
baz=46
933A **Laredo** 46.26 115 ⇓P P 09 56 19.2 +1.7
baz=46
USRK **Ussuriysk Ar.** 48.49 288 P P 09 56 33.5 -1.2
comp=Z,5.7nm,0.7s,baz=51,slow=11,SNR=17
KEV **Kevo** 48.84 3 *e*P P 09 56 34.8 -2.2
KEV pmax pmax
comp=Z,13nm,0.6s
KEV **Kevo** 48.84 3 *e*p P 09 56 34.8 -2.2
comp=Z,12nm,0.6s
ARCES **ARCESS Array B** 49.02 4 P P 09 56 37.3 -1.2
comp=Z,17nm,0.6s,baz=4.6,slow=7.5,SNR=76
ARCES PcP **PcP** 09 58 01.0 -0.6
comp=Z,4.3nm,0.8s,baz=354,slow=3.6,SNR=5.0
MDJ **Mudanjiang** 49.25 290 P P 09 56 39.6 -0.9
MDJ pP **pP** 09 56 51.1 -2.0
MDJ sP **sP** 09 56 56.0 -2.4
MDJ ScP **ScP** 10 01 54.8 +0.9
MDJ S **S** 10 03 40.9 -2.0
MDJ sS **sS** 10 04 00.5 -3.4
MDJ PMZ
comp=Z,14nm,1.1s
MDJ PMZ
comp=Z,44nm,2.8s
LVZ **Lovozero** 50.77 359 ⇑*i*P P 09 56 50.8 -1.0
LVZ pmax pmax
comp=Z,27nm,1.0s
LVZ **Lovozero** 50.77 359 *e*P P 09 56 51.4 -0.4
comp=Z,23nm,1.0s
MAJO **Matsushiro** 51.66 277 *i* P P 09 56 58.9 0.0
MAJO **Matsushiro** 51.66 277 *e*P P 09 56 58.6 -0.3
comp=Z,18nm,0.8s
MAT **Matsushiro** 51.66 277 P P 09 56 58.1 -0.8
MAT *e*S **S** 10 04 15.3 -1.4
MJAR **Matsushiro Arr** 51.66 277 P P 09 56 58.4 -0.5
comp=Z,7.6nm,0.8s,baz=2.6,slow=8.1,SNR=23
MJAR LR LR 10 20 42.7
comp=Z,16nm,21.1s,baz=50,slow=38
CN2 **Changchun** 51.73 293 *e*P P 09 56 58.7 -0.6
CN2 PMZ
comp=Z,20nm,0.8s
TLY **Talaya** 54.00 314 *e*P P 09 57 16.1 +0.2
TLY pmax pmax
comp=Z,14nm,1.2s
TLY **Talaya** 54.00 314 *e*P P 09 57 16.1 +0.2
comp=Z,14nm,1.2s
MOY **Mondy** 54.92 315 *e*P P 09 57 23.0 +0.3
ZAK **Zakamensk** 55.21 313 *e*P P 09 57 23.1 -1.7
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KSRS **Korea Array** 55.73 286 P P 09 57 28.6 +0.1
comp=Z,6.4nm,0.7s,baz=30,slow=6.9,SNR=29
KSRS LR LR 10 23 25.1
comp=Z,23nm,18.6s,baz=28,slow=38
KSAR **Wonju Array Be** 55.76 286 P P 09 57 28.7 -0.1
KSAR **Wonju Array Be** 55.76 286 P P 09 57 28.6 -0.1
JOF **Joensuu** 55.77 1 *e*P P 09 57 25.9 -2.6
JOF pmax pmax
comp=Z,6.0nm,0.5s
JOF **Joensuu** 55.77 1 *e*p P 09 57 25.9 -2.6
comp=Z,5.6nm,0.5s
ULN **Ulaanbaatar** 55.95 309 *d*iP P 09 57 30.0 -0.2
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN **Ulaanbaatar** 55.95 309 *e*P P 09 57 30.1 -0.1
comp=Z,7.2nm,0.8s
SONM **Songino Array** 56.22 309 P P 09 57 32.6 +0.5
comp=Z,8.9nm,0.9s,baz=38,slow=7.1,SNR=45
SONM pP **pP** 09 57 47.4 +2.5
comp=Z,5.5nm,0.7s,baz=25,slow=6.6,SNR=10
SONM LR LR 10 22 36.1
comp=Z,72nm,20.2s,baz=126,slow=37
KAF **Kangasniemi** 56.48 4 *e*P P 09 57 31.9 -1.6
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF **Kangasniemi** 56.48 4 *e*p P 09 57 31.9 -1.6
comp=Z,5.0nm,0.5s
NB2 **NORSAR Subarra** 56.51 13 P P 09 57 32.5 -1.3
comp=Z,2.6nm,0.6s,baz=348,slow=6.9
NOA **NORSAR Array B** 56.51 13 P P 09 57 32.7 -1.1
comp=Z,3.4nm,0.7s,baz=350,slow=7.0,SNR=20
NOA PcP **PcP** 09 58 29.1 -0.9
comp=Z,1.1nm,0.8s,baz=352,slow=4.4,SNR=3.3
PRGR **Permogore** 56.70 353 *e*P P 09 57 33.4 -1.7
PRGR pmax pmax
comp=Z,19nm,0.6s
FINES **FINESS Array B** 57.14 4 P P 09 57 37.2 -1.0
comp=Z,16nm,0.7s,baz=358,slow=7.8,SNR=98
SOKR **Solikamsk** 57.75 346 *e*P P 09 57 41.9 -0.6
SOKR pmax pmax
comp=Z,10.0nm,0.6s

ZALV	**Zalesovo Beam**	**57.78**	**327**	P		**P**		**09 57 41.6**	**-1.2**
	comp=Z,4.9nm,0.6s,baz=29,slow=7.0,SNR=18									
ZALV				LR		LR		10 25 01.8		
	comp=Z,62nm,19.5s,baz=70,slow=38									
SVE	**Sverdlovsk**	**59.96**	**343**	*eP*		**P**		**09 57 57.4**	**-0.5**
SVE				pmax		pmax				
	comp=Z,23nm,1.2s									
HHC	**Hu-ho-hao-te**	**60.06**	**301**	*eP*		**P**		**09 57 57.5**	**-1.5**
HHC				pP		**pP**		**09 58 13.9**	**+2.0**
HHC				PMZ						
	comp=Z,22nm,0.8s									
HHC				PMZ						
	comp=Z,76nm,4.2s									
ARU	**Arti**	**60.62**	**344**	*d iP*		**P**		**09 58 01.5**	**-1.0**
ARU				pmax		pmax				
	comp=Z,25nm,1.0s									
ARU	**Arti**	**60.62**	**344**	*eP*		**P**		**09 58 01.5**	**-1.0**
	comp=Z,26nm,1.0s									
BVA0	**Borovoye Array**	**61.96**	**336**	*i* P		**P**		**09 58 10.1**	**-1.5**
BVA0				pmax		pmax				
	comp=Z,9.0nm,0.9s									
KURK	**Kurchatov**	**62.30**	**329**	*eP*		**P**		**09 58 12.2**	**-1.6**
KURK				pmax		pmax				
	comp=Z,5.0nm,0.9s									
KURK	**Kurchatov**	**62.30**	**329**	*eP*		**P**		**09 58 12.2**	**-1.6**
	comp=Z,4.5nm,0.9s									
OBN	**Obninsk**	**63.58**	**358**	*d iP*		**P**		**09 58 21.9**	**-0.3**
OBN				pmax		pmax				
	comp=Z,51nm,1.2s									
OBN	**Obninsk**	**63.58**	**358**	P		**P**		**09 58 21.9**	**-0.3**
	comp=Z,16nm,0.3s,baz=31,slow=3.9,SNR=6.9									
NACGM	**Naroch**	**63.71**	**4**	*e*		P		09 58 20.0	-3.1	
NJ2	**Nanjing**	**64.34**	**290**	*eP*		**P**		**09 58 30.2**	**+2.6**
NJ2				PMZ						
	comp=Z,20nm,0.6s									
MK31	**Makanchi Array**	**64.96**	**325**	*eP*		**P**		**09 58 29.2**	**-2.3**
MK31				pmax		pmax				
	comp=Z,1.0nm,0.5s									
MKAR	**Makanchi Array**	**64.96**	**325**	P		**P**		**09 58 29.6**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=34,slow=6.6,SNR=48									
MKAR				LR		LR		10 29 16.7		
	comp=Z,65nm,21.5s,baz=9.0,slow=38									
GTA	**Gaotai**	**65.89**	**309**	P		**P**		**09 58 37.5**	**-0.3**
GTA				pP		**pP**		**09 58 47.6**	**-3.2**
GTA				sP		**sP**		**09 58 52.3**	**-3.7**
GTA				PMZ						
	comp=Z,21nm,1.1s									
MEM	**Membach**	**66.02**	**19**	P		**P**		**09 58 38.3**	**+0.1**
WMQ	**Urumqi**	**66.10**	**320**	*eP*		P		09 58 43.4	+4.5	
WMQ				pP		pP		09 58 53.5	+1.5	
WMQ				sP		sP		09 58 57.7	+0.5	
WMQ				PcP		**PcP**		**09 59 13.5**	**+4.4**
WMQ				*eS*		**S**		**10 07 28.0**	**+4.4**
WMQ				pmax		pmax				
	comp=Z,7.0nm,1.1s									
WMQ				pmax		pmax				
	comp=Z,73nm,3.5s									
WMQ				LR		LR				
	comp=N,160nm,27.6s									
WMQ				LR		LR				
	comp=E,150nm,29.0s									
WMQ				LR		LR				
	comp=Z,140nm,24.8s									
BCLA	**Clavier**	**66.10**	**19**	P		**P**		**09 58 40.2**	**+1.5**
CLL	**Collm**	**66.27**	**14**	*i* P		**P**		**09 58 39.0**	**-0.8**
CLL				pmax		pmax				
	comp=Z,9.0nm,1.0s									
CLL	**Collm**	**66.27**	**14**	*i* P		**P**		**09 58 39.0**	**-0.8**
	comp=Z,9.0nm,1.0s									
CLL				*es* P		**sP**		**09 58 59.0**	**+1.0**
BAIF	**Baives**	**66.27**	**20**	*eP*		**P**		**09 58 39.2**	**-0.6**
BAIF	**Baives**	**66.27**	**20**	*eP*		**P**		**09 58 39.2**	**-0.6**
BAIF	**Baives**	**66.27**	**20**	*eP*		**P**		**09 58 39.2**	**-0.6**
GIVF	**Givet**	**66.33**	**20**	*eP*		**P**		**09 58 39.7**	**-0.5**
GIVF	**Givet**	**66.33**	**20**	*eP*		**P**		**09 58 39.7**	**-0.5**
GIVF	**Givet**	**66.33**	**20**	*eP*		**P**		**09 58 39.7**	**-0.5**
AKTO	**Aktyubinsk**	**66.55**	**343**	P		**P**		**09 58 40.8**	**-0.9**
	comp=Z,8.6nm,0.5s,baz=26,slow=6.1,SNR=32									
FLN	**La Foliniere**	**66.69**	**24**	*eP*		**P**		**09 58 41.6**	**-0.9**
FLN				*eR*						
	comp=Z,34nm,20.8s									
FLN	**La Foliniere**	**66.69**	**24**	*eP*		**P**		**09 58 41.6**	**-0.9**
FLN	**La Foliniere**	**66.69**	**24**	*eP*		**P**		**09 58 41.6**	**-0.9**
BRG	**Berggiesshubel**	**66.80**	**13**	*eP*		**P**		**09 58 43.1**	**-0.1**
	comp=Z,7.8nm,0.8s									
BRG	**Berggiesshubel**	**66.80**	**13**	*eP*		**P**		**09 58 43.1**	**-0.1**
BRG				pmax		pmax				
	comp=Z,8.0nm,0.8s									
LDF	**La Druitiere**	**66.92**	**23**	*eP*		**P**		**09 58 43.0**	**-1.0**
	comp=Z,7.4nm,0.9s									
LDF	**La Druitiere**	**66.92**	**23**	*eP*		**P**		**09 58 43.0**	**-1.0**
LDF				pmax		pmax				
	comp=Z,7.0nm,0.9s									
LDF	**La Druitiere**	**66.92**	**23**	*eP*		**P**		**09 58 43.0**	**-1.0**
	comp=Z,7.4nm,0.9s									
KSP	**Ksiaz**	**67.07**	**12**	*eP*		**P**		**09 58 44.7**	**-0.2**
LZH	**Lanzhou**	**67.25**	**304**	*eP*		**P**		**09 58 46.3**	**-0.2**
LZH				pP		**pP**		**09 58 57.2**	**-2.4**
LZH				sP		**sP**		**09 59 01.5**	**-3.2**
LZH				PP		**PP**		**10 01 16.0**	**+1.5**
LZH				PMZ						
	comp=Z,29nm,1.6s									
LZH				PMZ						
	comp=Z,83nm,5.8s									
LZH				LN						
	comp=Z,390nm,15.1s									
LZH				LE						
	comp=Z,400nm,15.6s									
LZH				LZ						
	comp=Z,480nm,19.3s									
UPC	**Upice**	**67.38**	**12**	*eP*		**P**		**09 58 46.9**	**0.0**
UPC	**Upice**	**67.38**	**12**	*eP*		**P**		**09 58 46.9**	**0.0**
VSR	**Storozhevoye**	**67.41**	**356**	*eP*		**P**		**09 58 46.4**	**-0.7**
VSR				pmax		pmax				
	comp=Z,20nm,0.6s									
VSR				pmax		pmax				
	comp=N,20nm,0.8s									
VSR				pmax		pmax				
	comp=E,8.0nm,0.7s									
AB31	**Akbulak array**	**67.42**	**341**	*i* P		**P**		**09 58 46.3**	**-0.8**
AB31				pmax		pmax				
	comp=Z,14nm,0.6s									
ABKAR	**Akbulak array**	**67.42**	**341**	*eP*		**P**		**09 58 46.3**	**-0.8**
	comp=Z,12nm,0.6s									
VRHR	**Novokhopersk**	**67.43**	**354**	*eP*		**P**		**09 58 45.2**	**-2.0**
VRHR				pmax		pmax				
	comp=Z,20nm,0.7s									
VRHR				pmax		pmax				
	comp=N,40nm,1.4s									
VRHR				pmax		pmax				
	comp=E,20nm,1.6s									
DPC	**Dobruska-Polom**	**67.56**	**12**	*eP*		**P**		**09 58 48.4**	**+0.3**
DPC				*e*				09 59 09.4		
DPC	**Dobruska-Polom**	**67.56**	**12**	*eP*		**P**		**09 58 48.4**	**+0.3**
DPC				*es* P		**sP**		**09 59 09.4**	**+3.0**
WHN	**Wuhan**	**67.63**	**293**	⇓P		P		09 58 52.7	+4.0	
GRF	**Grafenberg Arr**	**67.64**	**15**	*eP*		**P**		**09 58 49.1**	**+0.5**
	comp=Z,5.0nm,0.6s									
GRF				*ep* P		**pP**		**09 59 02.0**	**+0.3**
PRA	**Prague**	**67.65**	**13**	*eP*		**P**		**09 58 48.2**	**-0.4**
PRA	**Prague**	**67.65**	**13**	*eP*		**P**		**09 58 48.2**	**-0.4**
VORD	**Divnogorie**	**67.66**	**356**	*eP*		**P**		**09 58 47.6**	**-1.0**
VORD				pmax		pmax				
	comp=Z,20nm,0.6s									
VORD				pmax		pmax				
	comp=N,20nm,0.9s									
VORD				pmax		pmax				
	comp=E,10.0nm,0.7s									
PRU	**Pruhonice**	**67.74**	**13**	*eP*		**P**		**09 58 49.4**	**+0.2**
PRU	**Pruhonice**	**67.74**	**13**	*eP*		**P**		**09 58 49.4**	**+0.2**
GOPC	**GO Pecny, Ondr**	**67.84**	**13**	*eP*		**P**		**09 58 50.0**	**+0.2**
KRLC	**Kraliky**	**67.88**	**11**	*eP*		**P**		**09 58 50.1**	**0.0**
KRLC				*e*				09 59 11.1		
KRLC	**Kraliky**	**67.88**	**11**	*eP*		**P**		**09 58 50.1**	**0.0**
KRLC				*es* P		**sP**		**09 59 11.1**	**+2.7**
MEZF	**Maizieres J'vi**	**67.92**	**20**	*eP*		**P**		**09 58 49.8**	**-0.5**
MEZF	**Maizieres J'vi**	**67.92**	**20**	*eP*		**P**		**09 58 49.8**	**-0.5**
PAGF	**Fort de Pagny**	**67.98**	**19**	*eP*		**P**		**09 58 50.3**	**-0.4**
	comp=E,8.1nm,1.0s									
PAGF	**Fort de Pagny**	**67.98**	**19**	*eP*		**P**		**09 58 50.3**	**-0.4**
	comp=E,8.1nm,1.0s									
AKASG	**Malin Array Be**	**67.98**	**3**	P		**P**		**09 58 49.7**	**-0.9**
	comp=E,11nm,0.7s,baz=359,slow=6.4,SNR=48									
AKASG				pP		**pP**		**09 59 04.5**	**+0.8**
	comp=E,2.6nm,0.4s,baz=359,slow=6.4,SNR=7.5									
KIEV	**Kiev**	**67.99**	**3**	*d iP*		**P**		**09 58 49.7**	**-1.0**
KIEV	**Kiev**	**67.99**	**3**	*eP*		**P**		**09 58 49.8**	**-1.0**
	comp=E,12nm,0.8s									
SFTF	**Sexfontaines**	**68.21**	**20**	*eP*		**P**		**09 58 51.4**	**-0.7**
SFTF	**Sexfontaines**	**68.21**	**20**	*eP*		**P**		**09 58 51.4**	**-0.7**
OKC	**Ostrava-Krasne**	**68.24**	**10**	*eP*		**P**		**09 58 52.2**	**-0.1**
OKC	**Ostrava-Krasne**	**68.24**	**10**	*eP*		**P**		**09 58 52.2**	**-0.1**
MORC	**Moravsky Berou**	**68.24**	**11**	⇑P		**P**		**09 58 52.1**	**-0.3**
MORC	**Moravsky Berou**	**68.24**	**11**	*i* P		**P**		**09 58 52.1**	**-0.3**
MORC	**Moravsky Berou**	**68.24**	**11**	*eP*		**P**		**09 58 52.2**	**-0.2**
	comp=E,10.0nm,1.0s									
CDF	**Champ du Feu**	**68.35**	**18**	*eP*		**P**		**09 58 51.7**	**-1.5**
	comp=E,8.5nm,0.7s									
CDF	**Champ du Feu**	**68.35**	**18**	*eP*		**P**		**09 58 51.7**	**-1.5**
CDF				pmax		pmax				
	comp=Z,9.0nm,0.7s									
CDF	**Champ du Feu**	**68.35**	**18**	*eP*		**P**		**09 58 51.7**	**-1.5**
	comp=Z,8.5nm,0.7s									
KHC	**Kasperske Hory**	**68.48**	**14**	*eP*		**P**		**09 58 53.7**	**-0.2**
KHC				pmax		pmax				
	comp=Z,13nm,1.0s									
KHC	**Kasperske Hory**	**68.48**	**14**	*eP*		**P**		**09 58 53.7**	**-0.2**
KHC				*es* P		**sP**		**09 59 13.5**	**+1.3**
KHC	**Kasperske Hory**	**68.48**	**14**	*eP*		**P**		**09 58 53.7**	**-0.2**
	comp=Z,13nm,1.0s									
ECH	**Echery**	**68.53**	**18**	*eP*		**P**		**09 58 54.0**	**-0.2**
ECH				pmax		pmax				
	comp=Z,9.0nm,1.0s									
ECH	**Echery**	**68.53**	**18**	*eP*		**P**		**09 58 54.0**	**-0.2**
	comp=Z,9.3nm,1.0s									
BFO	**Black Forest**	**68.59**	**18**	*i* P		**P**		**09 58 55.0**	**+0.4**
HAU	**Haudompre**	**68.61**	**19**	*eP*		**P**		**09 58 53.9**	**-0.8**
HAU				*eR*						
	comp=Z,41nm,20.2s									
HAU	**Haudompre**	**68.61**	**19**	*eP*		**P**		**09 58 53.9**	**-0.8**
HAU	**Haudompre**	**68.61**	**19**	*eP*		**P**		**09 58 53.9**	**-0.8**
VRAC	**Vranov**	**68.62**	**12**	⇑P		**P**		**09 58 54.8**	**+0.1**
VRAC	**Vranov**	**68.62**	**12**	*i* P		**P**		**09 58 54.8**	**+0.1**
GERES	**GERESS Array B**	**68.78**	**14**	P		**P**		**09 58 55.7**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=351,slow=5.1,SNR=33									
KWP	**Kalwaria Pacla**	**68.78**	**7**	⇓P		**P**		**09 58 55.8**	**+0.1**
KWP	**Kalwaria Pacla**	**68.78**	**7**	*i* P		**P**		**09 58 55.8**	**+0.1**
MFF	**Saint Martin d**	**68.83**	**24**	*eP*		**P**		**09 58 55.5**	**-0.5**
	comp=Z,12nm,1.0s									
MFF	**Saint Martin d**	**68.83**	**24**	*eP*		**P**		**09 58 55.5**	**-0.5**
MFF				pmax		pmax				
	comp=Z,12nm,1.0s									
MFF	**Saint Martin d**	**68.83**	**24**	*eP*		**P**		**09 58 55.5**	**-0.5**
	comp=Z,12nm,1.0s									
HINF	**Hinteralfeld**	**68.87**	**19**	*eP*		**P**		**09 58 55.4**	**-0.9**
	comp=Z,7.9nm,0.7s									
HINF	**Hinteralfeld**	**68.87**	**19**	*eP*		**P**		**09 58 55.4**	**-0.9**
HINF				pmax		pmax				
	comp=Z,8.0nm,0.7s									
HINF	**Hinteralfeld**	**68.87**	**19**	*eP*		**P**		**09 58 55.4**	**-0.9**
	comp=Z,7.9nm,0.7s									
STHS	**Stebnicka Huta**	**68.90**	**8**	*eP*		**P**		**09 58 57.2**	**+0.7**
STHS				pmax		pmax				
	comp=Z,11nm,0.8s									
STHS	**Stebnicka Huta**	**68.90**	**8**	*eP*		**P**		**09 58 57.2**	**+0.7**
LOR	**Lormes**	**68.92**	**21**	*eP*		**P**		**09 58 55.8**	**-0.8**
	comp=Z,17nm,1.0s									
LOR				*eR*						
	comp=Z,45nm,21.0s									
LOR	**Lormes**	**68.92**	**21**	*eP*		**P**		**09 58 55.8**	**-0.8**
LOR				pmax		pmax				
	comp=Z,17nm,1.0s									
LOR	**Lormes**	**68.92**	**21**	*eP*		**P**		**09 58 55.8**	**-0.8**
	comp=Z,17nm,1.0s									
SSF	**Saint Saulge**	**69.06**	**21**	*eP*		**P**		**09 58 56.8**	**-0.7**
	comp=Z,15nm,0.9s									
SSF	**Saint Saulge**	**69.06**	**21**	*eP*		**P**		**09 58 56.8**	**-0.7**
SSF				pmax		pmax				
	comp=Z,15nm,0.9s									
SSF	**Saint Saulge**	**69.06**	**21**	*eP*		**P**		**09 58 56.8**	**-0.7**
	comp=Z,15nm,0.9s									
AVF	**Avril sur Loir**	**69.29**	**21**	*eP*		**P**		**09 58 57.9**	**-1.0**
AVF	**Avril sur Loir**	**69.29**	**21**	*eP*		**P**		**09 58 57.9**	**-1.0**
AVF	**Avril sur Loir**	**69.29**	**21**	*eP*		**P**		**09 58 57.9**	**-1.0**
CRVS	**Cervenica-Dubn**	**69.42**	**8**	*eP*		**P**		**09 58 59.7**	**0.0**
CRVS				pmax		pmax				
	comp=Z,7.0nm,1.4s									
CRVS	**Cervenica-Dubn**	**69.42**	**8**	*eP*		**P**		**09 58 59.7**	**0.0**
BGF	**Bois d'Agland**	**69.43**	**22**	*eP*		**P**		**09 58 58.7**	**-1.1**
	comp=Z,5.8nm,0.6s									
BGF	**Bois d'Agland**	**69.43**	**22**	*eP*		**P**		**09 58 58.7**	**-1.1**
BGF				pmax		pmax				
	comp=Z,6.0nm,0.6s									
BGF	**Bois d'Agland**	**69.43**	**22**	*eP*		**P**		**09 58 58.7**	**-1.1**
	comp=Z,5.8nm,0.6s									
KOLS	**Kolonicke sedl**	**69.45**	**8**	*eP*		**P**		**09 59 00.1**	**+0.2**
KOLS				pmax		pmax				
	comp=Z,5.0nm,1.3s									
KOLS	**Kolonicke sedl**	**69.45**	**8**	*eP*		**P**		**09 59 00.1**	**+0.2**
SMF	**Signal de Mont**	**69.52**	**21**	*eP*		**P**		**09 58 59.3**	**-1.0**
	comp=Z,5.9nm,0.6s									
SMF	**Signal de Mont**	**69.52**	**21**	*eP*		**P**		**09 58 59.3**	**-1.0**
SMF				pmax		pmax				
	comp=Z,6.0nm,0.6s									
SMF	**Signal de Mont**	**69.52**	**21**	*eP*		**P**		**09 58 59.3**	**-1.0**
	comp=Z,5.9nm,0.6s									
TCF	**Toulx Ste Croi**	**69.57**	**22**	*eP*		**P**		**09 59 00.0**	**-0.7**
TCF	**Toulx Ste Croi**	**69.57**	**22**	*eP*		**P**		**09 59 00.0**	**-0.7**
TCF	**Toulx Ste Croi**	**69.57**	**22**	*eP*		**P**		**09 59 00.0**	**-0.7**
VYHS	**Vyhne**	**69.63**	**10**	*eP*		**P**		**09 59 01.1**	**+0.1**
VYHS				pmax		pmax				
	comp=Z,6.0nm,1.2s									
VYHS	**Vyhne**	**69.63**	**10**	*eP*		**P**		**09 59 01.1**	**+0.1**
KECS	**Kecovo**	**69.77**	**9**	*eP*		**P**		**09 59 01.9**	**+0.1**
KECS				pmax		pmax				
	comp=Z,6.0nm,0.8s									
KECS	**Kecovo**	**69.77**	**9**	*eP*		**P**		**09 59 01.9**	**+0.1**
CONA	**Conrad Observa**	**69.91**	**12**	*i* P		**P**		**09 59 03.0**	**+0.1**
	comp=Z,8.7nm,0.8s,SNR=7.5									
CABF	**La Chapelle**	**69.92**	**20**	*eP*		**P**		**09 59 02.3**	**-0.6**
	comp=Z,16nm,0.8s									
CABF	**La Chapelle**	**69.92**	**20**	*eP*		**P**		**09 59 02.3**	**-0.6**
CABF				pmax		pmax				
	comp=Z,16nm,0.8s									
CABF	**La Chapelle**	**69.92**	**20**	*eP*		**P**		**09 59 02.3**	**-0.6**
	comp=Z,16nm,0.8s									
WATA	**Walderalm**	**70.00**	**15**	⇓*i* P		**P**		**09 59 03.6**	**+0.1**
	comp=Z,25nm,1.1s,SNR=5.6									
WTTA	**Wattenberg**	**70.08**	**15**	*i* P		**P**		**09 59 04.3**	**+0.3**
	comp=Z,19nm,0.7s,SNR=8.1									
FETA	**Feichten**	**70.20**	**16**	*i* P		**P**		**09 59 05.1**	**+0.4**
	comp=Z,11nm,1.0s,SNR=7.1									
PSZ	**Piszkesteto**	**70.29**	**9**	⇓P		**P**		**09 59 05.2**	**+0.1**
PSZ	**Piszkesteto**	**70.29**	**9**	*i* P		**P**		**09 59 05.2**	**+0.1**
PSZ	**Piszkesteto**	**70.29**	**9**	*eP*		**P**		**09 59 05.6**	**+0.5**
	comp=Z,12nm,0.9s									
TKM2	**Tokmak 2**	**70.32**	**328**	P		**P**		**09 59 04.2**	**-1.4**
TKM2				pmax		pmax				
	comp=Z,5.0nm,0.8s									
TKM2	**Tokmak 2**	**70.32**	**328**	*eP*		**P**		**09 59 05.2**	**-0.4**
	comp=Z,4.9nm,1.0s									
KBA	**Koelnbreinsper**	**70.47**	**14**	*i* P		**P**		**09 59 06.9**	**+0.5**
	comp=Z,25nm,0.7s,SNR=13									
TUE	**Stuetta**	**70.55**	**17**	*eP*		**P**		**09 59 07.4**	**+0.5**
	comp=Z,12nm,0.8s									
LFF	**La Frestale**	**70.60**	**24**	*eP*		**P**		**09 59 06.3**	**-0.6**
	comp=Z,17nm,0.8s									
LFF	**La Frestale**	**70.60**	**24**	*eP*		**P**		**09 59 06.3**	**-0.6**
LFF				pmax		pmax				
	comp=Z,17nm,0.8s									
LFF	**La Frestale**	**70.60**	**24**	*eP*		**P**		**09 59 06.3**	**-0.6**
	comp=Z,17nm,0.8s									
CAF	**Calviac**	**70.86**	**23**	*eP*		**P**		**09 59 07.7**	**-0.9**
	comp=Z,12nm,1.0s									
CAF	**Calviac**	**70.86**	**23**	*eP*		**P**		**09 59 07.7**	**-0.9**
CAF				pmax		pmax				
	comp=Z,12nm,1.0s									
CAF	**Calviac**	**70.86**	**23**	*eP*		**P**		**09 59 07.7**	**-0.9**
	comp=Z,12nm,1.0s									
AAK	**Ala-Archa**	**70.86**	**329**	*d iP*		**P**		**09 59 08.1**	**-0.7**
AAK				pmax		pmax				
	comp=Z,19nm,1.2s									
AAK	**Ala-Archa**	**70.86**	**329**	P		**P**		**09 59 08.2**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=82,slow=1.1,SNR=12									
AAK				pP		**pP**		**09 59 23.6**	**+1.6**
	comp=Z,3.3nm,0.8s,baz=269,slow=0.7,SNR=6.5									
AAK	**Ala-Archa**	**70.86**	**329**	*eP*		**P**		**09 59 08.2**	**-0.7**
	comp=Z,7.9nm,1.2s									
AAK				pP		**pP**		**09 59 23.6**	**+1.6**
BURAR	**Bucovina Array**	**70.93**	**6**	⇑P		**P**		**09 59 08.9**	**-0.1**
BURAR	**Bucovina Array**	**70.93**	**6**	⇑*i* P		**P**		**09 59 08.9**	**-0.1**
EKS2	**Erkin-Say**	**71.01**	**330**	*eP*		**P**		**09 59 09.1**	**-0.6**
EKS2				pmax		pmax				
	comp=Z,13nm,1.2s									
EKS2	**Erkin-Say**	**71.01**	**330**	*eP*		**P**		**09 59 09.1**	**-0.6**
	comp=Z,13nm,1.2s									
LPL	**La Plagne**	**71.09**	**19**	*eP*		**P**		**09 59 10.3**	**+0.1**
LPL	**La Plagne**	**71.09**	**19**	*eP*		**P**		**09 59 10.3**	**+0.1**
LPL	**La Plagne**	**71.09**	**19**	*eP*		**P**		**09 59 10.3**	**+0.1**
LPG	**La Plagne**	**71.11**	**19**	*eP*		**P**		**09 59 10.6**	**+0.2**
LPG	**La Plagne**	**71.11**	**19**	*eP*		**P**		**09 59 10.6**	**+0.2**
LPG	**La Plagne**	**71.11**	**19**	*eP*		**P**		**09 59 10.6**	**+0.2**
OBKA	**Obir**	**71.17**	**14**	*i* P		**P**		**09 59 10.6**	**+0.1**
	comp=Z,30nm,0.9s,SNR=8.3									
KKAR	**Karatay Array**	**71.35**	**332**	*eP*		**P**		**09 59 10.5**	**-1.1**
KKAR				pmax		pmax				
	comp=Z,2.0nm,0.5s									
KKAR	**Karatay Array**	**71.35**	**332**	*eP*		**P**		**09 59 10.5**	**-1.1**
	comp=Z,1.6nm,0.5s									
VIVF	**Saint-Julien-l**	**71.40**	**21**	*eP*		**P**		**09 59 11.0**	**-0.8**
	comp=Z,9.2nm,0.8s									
VIVF	**Saint-Julien-l**	**71.40**	**21**	*eP*		**P**		**09 59 11.0**	**-0.8**
VIVF				pmax		pmax				
	comp=Z,9.0nm,0.8s									
VIVF	**Saint-Julien-l**	**71.40**	**21**	*eP*		**P**		**09 59 11.0**	**-0.8**
	comp=Z,9.2nm,0.8s									
MNAS	**Manas**	**71.48**	**330**	P		**P**		**09 59 11.3**	**-1.2**
MNAS				pmax		pmax				
	comp=Z,6.0nm,0.8s									
BNI	**Bardonecchia**	**71.54**	**20**	*eP*		**P**		**09 59 13.6**	**+0.8**
BNI				pmax		pmax				
	comp=Z,4.0nm,1.0s									
BNI	**Bardonecchia**	**71.54**	**20**	*eP*		**P**		**09 59 13.6**	**+0.8**
	comp=Z,4.0nm,1.0s									
ORIF	**Oris-en-Rattie**	**71.54**	**20**	*eP*		**P**		**09 59 12.1**	**-0.7**
	comp=Z,7.1nm,0.8s									
ORIF				*eR*						
	comp=Z,48nm,20.8s									
ORIF	**Oris-en-Rattie**	**71.54**	**20**	*eP*		**P**		**09 59 12.1**	**-0.7**
ORIF				pmax		pmax				
	comp=Z,7.0nm,0.8s									
ORIF	**Oris-en-Rattie**	**71.54**	**20**	*eP*		**P**		**09 59 12.1**	**-0.7**
	comp=Z,7.1nm,0.8s									
CD2	**Chengdu**	**71.81**	**301**	*eP*		**P**		**09 59 16.0**	**+1.5**
CD2				pP		**pP**		**09 59 27.2**	**-0.5**
CD2				sP		**sP**		**09 59 31.4**	**-1.5**
CD2				PP		**PP**		**10 01 57.5**	**+3.6**
CD2				S		**S**		**10 08 32.0**	**+0.6**
CD2				sS		**SKiKP**		**10 08 49.9**	**+1.9**
CD2				SKS		**SKSac**		**10 09 12.7**	**-1.7**
CD2				SS		**SS**		**10 13 09.5**	**+2.3**
CD2				PMZ						
	comp=Z,10.0nm,0.5s									
CD2				PMZ						
	comp=Z,120nm,5.6s									
MBDF	**Montbardon**	**71.87**	**20**	*eP*		**P**		**09 59 14.9**	**+0.1**
	comp=Z,11nm,0.7s									
MBDF	**Montbardon**	**71.87**	**20**	*eP*		**P**		**09 59 14.9**	**+0.1**
MBDF				pmax		pmax				
	comp=Z,11nm,0.7s									
MBDF	**Montbardon**	**71.87**	**20**	*eP*		**P**		**09 59 14.9**	**+0.1**
	comp=Z,11nm,0.7s									
SJPF	**Ste Jean**	**71.96**	**26**	*eP*		**P**		**09 59 15.0**	**-0.2**
SJPF	**Ste Jean**	**71.96**	**26**	*eP*		**P**		**09 59 15.0**	**-0.2**
SJPF	**Ste Jean**	**71.96**	**26**	*eP*		**P**		**09 59 15.0**	**-0.2**
LASF	**Ste Croix**	**72.01**	**22**	*eP*		**P**		**09 59 14.3**	**-1.2**

LSA	**Lhasa**	**77.74**	**311**	*e*P		**P**	**09 59 50.4**	**+1.0**
LSA				pmax	pmax				
	comp=Z,17nm,0.6s								
LSA	**Lhasa**	**77.74**	**311**	*e*P		**P**	**09 59 50.4**	**+1.0**
	comp=Z,17nm,0.6s								
GNI	**Garni**	**78.15**	**351**	*d* iP		**P**	**09 59 51.5**	**+0.4**
GNI				pmax	pmax				
	comp=Z,23nm,1.7s								
GNI	**Garni**	**78.15**	**351**	LR	LR		10 36 56.4		
	comp=Z,19nm,19.8s,baz=137,slow=38								
GEYT	**Alibeck**	**78.75**	**340**	P		**P**	**09 59 54.4**	**+0.1**
	comp=Z,7.0nm,0.7s,baz=308,slow=4.9,SNR=9.8								
BRTR	**Keskin Array B**	**79.00**	**360**	*ce*P		**P**	**09 59 55.7**	**-0.1**
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**79.00**	**360**	P		**P**	**09 59 55.4**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=1.9,slow=3.7,SNR=14								
BRTR				pP		**pP**	**10 00 10.9**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=329,slow=2.1,SNR=3.5								
QIZ	**Qiongzhong**	**79.62**	**291**	P		**P**	**09 59 58.9**	**-0.4**
QIZ				S		**S**	**10 09 57.1**	**-0.7**
QIZ				LZ					
	comp=Z,42nm,22.9s								
KEST	**Kesra**	**81.07**	**19**	P		**P**	**10 00 06.7**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=270,slow=20,SNR=3.3								
TAPN	**Taplejung**	**81.11**	**313**	*e*P		**P**	**10 00 07.4**	**-0.1**
	comp=Z,83nm,0.8s								
SHL	**Shillong**	**81.22**	**309**	*e*P		**P**	**10 00 08.0**	**0.0**
GUN	**Gumba**	**81.22**	**315**	*e*P		**P**	**10 00 07.9**	**-0.3**
	comp=Z,60nm,1.0s								
JIRN	**Jiri**	**81.35**	**314**	*e*P		**P**	**10 00 08.8**	**-0.1**
	comp=Z,84nm,0.9s								
DANN	**Dangsing**	**81.53**	**317**	*e*P		**P**	**10 00 09.1**	**-0.6**
	comp=Z,87nm,0.9s								
KKN	**Kakani**	**81.54**	**315**	*e*P		**P**	**10 00 09.8**	**+0.1**
GKN	**Gorkha**	**81.56**	**316**	*e*P		**P**	**10 00 09.4**	**-0.3**
	comp=Z,50nm,0.9s								
ODAN	**Odare**	**81.67**	**313**	*e*P		**P**	**10 00 10.0**	**-0.4**
	comp=Z,50nm,0.9s								
PKIN	**Phulchoki**	**81.69**	**315**	*e*P		**P**	**10 00 09.5**	**-1.1**
	comp=Z,8.2nm,0.6s								
PKI	**Pulchoki**	**81.70**	**315**	*e*P		**P**	**10 00 09.6**	**-1.1**
RAMN	**Ramite**	**81.86**	**314**	*e*P		**P**	**10 00 10.9**	**-0.6**
	comp=Z,65nm,0.9s								
PYUN	**Piuthan**	**82.01**	**317**	*e*P		**P**	**10 00 11.3**	**-0.9**
	comp=Z,82nm,0.9s								
HNR	**Honiara**	**82.02**	**233**	LR	LR		10 30 23.4		
	comp=Z,28nm,19.9s,baz=104,slow=31								
KOLN	**Koldanda**	**82.12**	**316**	*e*P		**P**	**10 00 11.9**	**-0.8**
	comp=Z,27nm,0.9s								
CMAR	**Chiang Mai Arr**	**84.84**	**300**	P		**P**	**10 00 26.1**	**-0.4**
	comp=Z,7.3nm,0.8s,baz=5.0,slow=6.0,SNR=46								
CMAR				pP		**pP**	**10 00 42.0**	**+2.0**
	comp=Z,1.7nm,0.4s,baz=1.0,slow=6.2,SNR=5.2								
PMG	**Port Moresby**	**87.21**	**245**	LR	LR		10 32 30.6		
	comp=Z,32nm,21.1s,baz=40,slow=31								
RAYN	**Ar Rayn**	**94.58**	**349**	*e*P		**P**	**10 01 12.1**	**-0.5**
	comp=Z,8.0nm,1.0s								
PMSA	**Palmer Station**	**140.16**	**138**	*e*PKPdf		**PKPdf**	**10 07 16.1**	**-2.5**
BOSA	**Boshof**	**146.57**	**13**	PKPbc		**PKPdf**	**10 07 32.0**	**+0.7**
	comp=Z,13nm,0.9s,baz=19,slow=2.8,SNR=16								

*ISCJB **10** 09:50:21.6±0.8,34°.89S±0°.04×72°.74W±0°.06,h10km, mb3.5/3,MS3.0/3,Error ellipse: s-maj=7.9km s-min=4.9km az=17.8*

*IDC **10** 09:50:21.6±1.6,34°.86S×72°.61W,h0km,mb3.6/3, mb1 3.9/6,mb1mx3.7/28,mbtmp3.7/6,ML3.7/3,MS3.2/3, Ms1 3.2/3,ms1mx2.9/19,Error ellipse: s-maj=40.8km s-min=29.0km az=90.0*

*GUC **10** 09:50:21.6±0.5,34°.86S×72°.62W,h15km±3km,ML4.1*

ISC 10 09:50:23.1±0.9,34°.91S±0°.05×72°.49W±0°.07,h10km,n16, σ1°33/21,mb3.7/3,MS3.1/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.86**	**125**	*e*P	**Pn**	**09 50 40.3**	**-0.9**
NICH	**Los Niches**	**1.04**	**96**	*e*P	**Pn**	**09 50 43.4**	**-0.4**
NICH				*e*S	**Sn**	**09 50 59.6**	**+1.2**
LNCH	**Linares**	**1.19**	**143**	*e*P	**Pg**	**09 50 45.7**	**-0.3**
LNCH				*e*S	**Sn**	**09 51 03.6**	**+1.6**
COCH	**Cobquecura**	**1.25**	**191**	*e*P	**Pb**	**09 50 45.1**	**-1.6**
COCH				*e*S	**Sn**	**09 51 03.0**	**-0.4**
FSR	**Penalolen**	**2.16**	**49**	*e*P	**Pb**	**09 51 00.3**	**-2.1**
FSR				*e*S	**Sb**	**09 51 29.6**	**+0.3**
SJCH	**San Jose de Ma**	**2.17**	**55**	*e*P	**Pb**	**09 51 00.8**	**-1.8**
SJCH				*e*S	**Sb**	**09 51 30.5**	**+0.9**
LACH	**Col Las Americ**	**2.18**	**49**	*e*P	**Pb**	**09 51 00.2**	**-2.4**
LACH				*e*S	**Sb**	**09 51 29.9**	**+0.1**
LACH				AML	AML	09 51 36.2	
	comp=E,1μm,0.2s						
YECH	**El Yeso**	**2.34**	**59**	*e*P	**Pb**	**09 51 04.1**	**-1.6**
YECH				*e*S	**Sb**	**09 51 36.3**	**+1.5**
YECH				AML	AML	09 51 46.1	
	comp=N,2μm,0.4s						
CFAA	**Coronel Fontan**	**4.85**	**48**	Pn	**Pn**	**09 51 37.5**	**+1.2**
	comp=N,0.4nm,0.3s,baz=226,slow=14,SNR=30						
CFAA				Lg	Lg	09 52 47.2	
	comp=N,0.6nm,0.3s,baz=119,slow=24,SNR=4.2						
PLCA	**Paso Flores**	**6.02**	**166**	Pn	**Pn**	**09 51 53.4**	**+1.1**
	comp=N,0.9nm,0.3s,baz=338,slow=11,SNR=26						
PLCA				Lg	Lg	09 53 32.0	
	comp=N,0.3nm,0.3s,baz=280,slow=8.4,SNR=3.7						
LPAZ	**La Paz**	**18.95**	**13**	P	**Pn**	**09 54 46.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=177,slow=7.8,SNR=17						
SIV	**San Ignacio**	**21.44**	**31**	P	**P**	**09 55 10.5**	**-1.0**
	comp=N,2.5nm,0.7s,baz=220,slow=9.5,SNR=6.5						
SIV				LR	LR	10 05 06.0	
	comp=N,117nm,19.2s,baz=222,slow=41						
NNA	**Nana**	**23.16**	**349**	LR	LR	10 02 45.2	
	comp=N,29nm,18.6s,baz=144,slow=32						
SNAA	**Sanae**	**50.89**	**158**	LR	LR	10 21 03.2	
	comp=N,17nm,18.3s,baz=320,slow=36						
TXAR	**Lajitas Array**	**70.34**	**331**	P	**P**	**10 01 36.8**	**-0.3**
	comp=N,0.1nm,0.5s,baz=156,slow=9.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**84.87**	**70**	P	**P**	**10 02 58.8**	**+0.3**
	comp=N,0.8nm,1.0s,baz=223,slow=6.0,SNR=2.5						

*ISCJB **10** 09:52:00.4±0.6,32°.71N±0°.04×115°.74W±0°.04,h31km±6km, Error ellipse: s-maj=7.4km s-min=5.1km az=6.2*

*NEIC **10** 09:52:00.8,32°.64N×115°.76W,h11km,MD3.7(MEX), ML3.7(PAS),After PAS.*

NEIC Felt [IV] at Indio and Rancho Mirage; [III] at La Jolla, Palm Springs and Santee. Felt at Ensenada, Mexicali and Tecate, Baja California.

*MEX **10** 09:52:02.2±0.6,32°.79N×115°.69W,h16km±999km,MD3.7*

ISC 10 09:52:00.9±1.1,32°.66N±0°.04×115°.74W±0°.03, h23km±14km,n17,σ1°11/27,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.44**	**123**	*e*P	**Pb**	**09 52 10.8**	**+0.7**
CPBX				*i* S	**Sn**	**09 52 18.2**	**-0.9**
MBIG	**Mexicali**	**0.52**	**118**	*e*P	**Pb**	**09 52 11.7**	**+0.2**
MBIG				*i* S	**Sb**	**09 52 18.7**	**+0.1**
BAR	**Barrett**	**0.79**	**272**	*e*Pg	**Pb**	**09 52 15.2**	**-0.7**
BAR				*e*Sg	**Sb**	**09 52 25.5**	**-0.7**
CBX	**Cerro Bola**	**0.85**	**246**	*e*P	**Pb**	**09 52 17.0**	**-0.2**
CBX				*i* S	**Sb**	**09 52 28.3**	**+0.1**
CBX	**Cerro Bola**	**0.85**	**246**	*e*P	**Pb**	**09 52 17.0**	**-0.2**
CBX				*i* S	**Sb**	**09 52 28.3**	**+0.1**
GLA	**Glamis**	**0.86**	**63**	*e*Pg	**Pb**	**09 52 16.4**	**-0.9**
GLA				*e*Sg	**Sb**	**09 52 28.0**	**-0.5**
PFO	**Pinyon Flats O**	**1.12**	**328**	*e*P	**Pn**	**09 52 19.9**	**-1.5**
PFO				*e*S	**Sb**	**09 52 33.7**	**-2.2**
SPIG	**San Pedro Mart**	**1.62**	**172**	*e*P	**Pn**	**09 52 28.8**	**+0.4**
SPIG				*e*S	**Sn**	**09 52 49.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.62**	**172**	*e*P	**Sn**	**09 52 28.8**	**+0.4**
SPIG				*e*S	**Sn**	**09 52 49.4**	**+0.5**
LDFC	**Landfair**	**2.47**	**12**	*e*Pg	Pb	09 52 49.5	+4.7
PASC	**Pasadena Art C**	**2.54**	**307**	*e*Pg	**Pb**	**09 52 45.5**	**-0.4**
PASC				*e*Sg	**Sb**	**09 53 17.2**	**+0.5**
214A	**Organ Pipe Nat**	**2.58**	**105**	*e*Pn	**Pn**	**09 52 40.1**	**-1.2**
GSC	**Goldstone, Bar**	**2.78**	**342**	*e*Pg	**Pb**	**09 52 52.6**	**+2.6**
GSC				*e*Sg	Sb	09 53 30.1	+6.4
ISA	**Isabella, Lake**	**3.76**	**324**	*e*Pn	**Pn**	**09 52 57.6**	**+0.1**
ISA				*e*Pg	**Pb**	**09 53 09.1**	**+2.5**
TUC	**Tucson**	**4.20**	**93**	*e*Pn	**Pn**	**09 53 02.5**	**-1.2**
WUAZ	**Wupatki**	**4.61**	**51**	*e*Pn	**Pn**	**09 53 10.3**	**+1.0**
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn	**Pn**	**09 53 38.5**	**+0.2**

*CSEM **10** 10:30:05.1,63°.02N×26°.47E,h0km,ML1.2,Mining explosion.*

HEL 10 10:30:05.1±0.1,63°.02N×26°.47E,h0km,ML1.2, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUF	**Sumiainen**	**0.33**	**206**	PG	Pg	10 30 10.9	-0.5
	baz=23						
SUF				SG	Sg	10 30 15.6	-0.2
SUF	**Sumiainen**	**0.33**	**206**	Pg	Pg	10 30 10.9	-0.5
SUF				Sg	Sg	10 30 15.5	-0.2
KAF	**Kangasniemi**	**0.91**	**185**	PG	Pg	10 30 21.5	-1.0
	baz=10.0						
KAF				SB	Sg	10 30 33.9	-0.3
KAF	**Kangasniemi**	**0.91**	**185**	Pg	Pg	10 30 21.5	-1.0
KAF				Sb	Sg	10 30 33.9	-0.4
KEF	**Keuruu**	**1.13**	**222**	PG	Pg	10 30 25.7	-1.0
KEF				SB	Sg	10 30 40.6	-0.7
KEF	**Keuruu**	**1.13**	**222**	Pg	Pg	10 30 25.7	-1.0
KEF				Sb	Sg	10 30 40.6	-0.7
FIA0	**FINESS Array S**	**1.59**	**187**	PG	Pn	10 30 33.6	-0.8
	baz=13						
FIA0				SN	Sn	10 30 54.8	-0.8
FIA0				MSG		10 30 54.8	
	comp=Z,0.6nm,0.2s						
FIA0	**FINESS Array S**	**1.59**	**187**	Pg	Pn	10 30 33.6	-0.8
FIA0				Sn	Sn	10 30 54.8	-0.8
VAF	**Ylistaro**	**1.73**	**273**	PG	Pn	10 30 36.3	-0.1
	baz=95						
VAF				SG	Sn	10 30 58.3	-0.9
VAF				MSG		10 30 58.3	
	comp=Z,0.3nm,0.2s						
VAF	**Ylistaro**	**1.73**	**273**	Pg	Pn	10 30 36.2	-0.2
VAF				Sg	Sn	10 30 58.2	-1.0
OUL	**Oulu**	**2.09**	**353**	PG	Pb	10 30 42.6	-1.2
OUL				SG	Sb	10 31 10.2	-0.2
OUL				MSG		10 31 10.2	
	comp=Z,0.4nm,0.2s						
OUL	**Oulu**	**2.09**	**353**	Pg	Pn	10 30 42.6	+1.2
OUL				Sg	Sb	10 31 10.2	-0.2
PVF	**Pernaja**	**2.50**	**187**	SG	Sb	10 31 21.9	0.0
PVF				MSG		10 31 21.9	
	comp=Z,0.6nm,0.2s						
PVF	**Pernaja**	**2.50**	**187**	Sg	Sb	10 31 21.9	0.0
VJF	**Virojoki**	**2.54**	**168**	SG	Sb	10 31 22.9	-0.2
VJF				MSG		10 31 22.9	
	comp=Z,0.9nm,0.2s						
VJF	**Virojoki**	**2.54**	**168**	Sg	Sb	10 31 22.9	-0.3
VSU	**Vasula**	**4.57**	**178**	PN	Pn	10 31 13.9	-1.5
VSU	**Vasula**	**4.57**	**178**	Pn	Pn	10 31 13.9	-1.5

*KOLA **10** 10:31:40.4,67°.46N×30°.55E,h0km*

*CSEM **10** 10:31:40.1±0.6,67°.50N×30°.21E,h2km,ML2.0,Error ellipse: s-maj=13.2km s-min=7.1km az=77.0,Mining explosion.*

*UPP **10** 10:31:44.0,67°.53N×29°.52E,h0km,ML1.2,Suspected Mining explosion.*

HEL 10 10:31:39.2±0.2,67°.52N×30°.42E,h0km,ML2.0, ML1.2(UPP),Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.38**	**307**	*e*P	Pg	10 31 45.9	-0.6
VRF				*e*S	Sg	10 31 50.8	-0.7
APA0	**Apatity Array**	**0.99**	**84**	P	Pg	10 31 57.4	-0.8
APA0				S	Sg	10 32 09.8	-1.3
APA	**Apatity**	**1.15**	**86**	P	Pg	10 32 00.0	-1.2
APA				S	Sg	10 32 14.4	-1.7
SGF	**Sodankyl**	**1.50**	**269**	SN	Pn	10 32 06.7	-0.6
SGF				MSG		10 32 06.7	
	comp=Z,4.3nm,0.2s						
SGF	**Sodankyl**	**1.50**	**269**	*e*PN	Pn	10 32 06.8	-0.6
SGF				*e*SN	Sn	10 32 27.8	+0.2
SGF				MSG		10 32 27.8	
	comp=Z,11nm,0.3s						
SGF	**Sodankyl**	**1.50**	**269**	Pn	Pn	10 32 06.7	-0.6
SGF				Sn	Sn	10 32 27.7	+0.1
	comp=Z,11nm,0.3s						
SGF	**Sodankyl**	**1.50**	**269**	Sn	Pn	10 32 06.7	-0.6
KU6	**Riekki**	**1.52**	**188**	*e*PN	Pn	10 32 07.4	-0.2
KU6				*e*SN	Sg	10 32 27.8	-0.2
KU6	**Riekki**	**1.52**	**188**	Pn	Pn	10 32 07.4	-0.2
KU6				Sn	Sg	10 32 27.7	-0.3
MSF	**Maaselka**	**1.71**	**199**	*e*PN	Pn	10 32 10.7	+0.5
MSF				*e*SN	Sn	10 32 32.4	-0.4
MSF	**Maaselka**	**1.71**	**199**	Pn	Pn	10 32 10.7	+0.5
MSF				Sn	Sn	10 32 32.4	-0.4
RNF	**Rovaniemi**	**1.95**	**244**	*e*PG	Pn	10 32 14.3	+0.7
RNF				*e*SG	Sn	10 32 39.1	+0.4
RNF				MSG		10 32 39.1	
	comp=Z,16nm,0.3s						
RNF	**Rovaniemi**	**1.95**	**244**	Pg	Pn	10 32 14.3	+0.7
RNF				Sg	Sn	10 32 39.1	+0.4
	comp=Z,16nm,0.3s						
KEV	**Kevo**	**2.57**	**332**	*e*P	Pn	10 32 22.2	+0.2
	baz=148						
KEV				*e*SB	Sb	10 32 56.8	-1.2
KEV				MSG		10 32 56.8	
	comp=Z,7.5nm,0.2s						
KEV	**Kevo**	**2.57**	**332**	P	Pn	10 32 22.1	+0.1
HEF	**Hetta**	**2.70**	**292**	*e*PB	Pn	10 32 24.9	+1.1
HEF				*e*SB	Sb	10 33 00.7	-1.2
HEF				MSG		10 33 00.7	
	comp=Z,4.7nm,0.2s						
HEF	**Hetta**	**2.70**	**292**	Pb	Pn	10 32 24.9	+1.1
ARE0	**ARCESS Array S**	**2.71**	**320**	*e*P	Pn	10 32 24.2	+0.2
	baz=138						
ARE0				*e*S	Sn	10 32 56.5	-1.0
ARE0	**ARCESS Array S**	**2.71**	**320**	P	Pn	10 32 24.2	+0.2
ARE0				S	Sn	10 32 56.5	-1.0
PAJU	**Pajala**	**2.88**	**263**	*e*P	Pn	10 32 26.6	+0.2
PAJU	**Pajala**	**2.88**	**263**	P	Pn	10 32 26.5	+0.2
MASU	**Masugnsbyn**	**3.24**	**273**	*e*P	Pn	10 32 31.1	-0.1
MASU	**Masugnsbyn**	**3.24**	**273**	P	Pn	10 32 31.1	-0.2
LANU	**Lannavaara**	**3.25**	**283**	*e*P	Pn	10 32 31.0	-0.4
LANU				*e*SB	Sb	10 33 17.0	-0.7
LANU	**Lannavaara**	**3.25**	**283**	P	Pn	10 32 31.0	-0.3
KALU	**Kalix**	**3.27**	**243**	*e*SG	Sb	10 33 19.8	+1.6
ERTU	**Ertsjaerv**	**3.37**	**257**	*e*P	Pn	10 32 33.7	+0.7
ERTU				*e*S	Sn	10 33 14.4	+0.8
ERTU	**Ertsjaerv**	**3.37**	**257**	P	Pn	10 32 33.4	+0.4
ERTU				S	Sn	10 33 14.4	+0.8
KUA	**Kurravaara**	**3.86**	**281**	*e*P	Pn	10 32 40.1	+0.3
KUA	**Kurravaara**	**3.86**	**281**	P	Pn	10 32 40.1	+0.3
KIF	**Kilpisjarvi**	**3.87**	**297**	*e*P	Pn	10 32 41.5	+1.7
KIF	**Kilpisjarvi**	**3.87**	**297**	P	Pn	10 32 41.5	+1.6
HARU	**Harads**	**3.97**	**254**	*e*P	Pn	10 32 41.0	-0.2
HARU	**Harads**	**3.97**	**254**	P	Pn	10 32 41.0	-0.2
SJUU	**Sjulsmark**	**4.07**	**244**	*e*P	Pn	10 32 42.5	-0.1
SJUU	**Sjulsmark**	**4.07**	**244**	P	Pn	10 32 42.5	0.0
NIKU	**Nikkaluokta**	**4.35**	**280**	*e*P	Pn	10 32 46.5	0.0
NIKU	**Nikkaluokta**	**4.35**	**280**	P	Pn	10 32 46.5	0.0
SALU	**Saltoluokta**	**4.59**	**274**	*e*P	Pn	10 32 50.2	+0.4
SALU	**Saltoluokta**	**4.59**	**274**	P	Pn	10 32 50.2	+0.4
JOF	**Joensuu**	**4.64**	**175**	*e*S	Sn	10 33 42.9	-2.0
JOF	**Joensuu**	**4.64**	**175**	S	Sn	10 33 42.8	-2.1
BURU	**Burvik**	**4.72**	**236**	*e*P	Pn	10 32 52.4	+0.9
BURU	**Burvik**	**4.72**	**236**	P	Pn	10 32 52.4	+0.9
LILU	**Lilltraesk**	**4.80**	**247**	*e*P	Pn	10 32 52.4	-0.3
LILU	**Lilltraesk**	**4.80**	**247**	P	Pn	10 32 52.4	-0.3
UMAU	**Umeaa**	**5.43**	**232**	*e*P	Pn	10 33 01.4	+0.2
UMAU	**Umeaa**	**5.43**	**232**	P	Pn	10 33 01.4	+0.2

*ISCJB **10** 10:31:56.8±1.7,1°.40S±0°.04×97°.63E±0°.05,h26km±12km, mb4.2/13,MS3.3/3,Error ellipse: s-maj=9.2km s-min=5.7km az=143.8*

*DJA **10** 10:31:58.4±0.5,1°.S±3°.×9°.8E±°,h10km,M4.9/23,mb5.0/15, mB5.4/6,MLv4.8/23,Mw(mB)4.8/6*

*BJI **10** 10:31:58.6,1°.30S×97°.70E,h35km,mB4.8/6,mb4.6/4, Ms4.4/2,Ms7 4.1/2*

*IDC **10** 10:31:59.6±1.0,1°.41S×97°.46E,h32km±4km,mb3.9/9, mb1 4.1/12,mb1mx3.7/48,mbtmp4.2/12,ML4.2/3,MS3.3/4, Ms1 3.3/4,ms1mx2.7/42,Error ellipse: s-maj=30.2km s-min=15.0km az=48.0*

*KLM **10** 10:32:00.7,1°.56S×97°.87E,h35km,mb4.3,ML4.4,MS5.1*

*NEIC **10** 10:32:00.3±0.5,1°.32S×97°.64E,h35km,mb4.3/3,Error ellipse: s-maj=10.8km s-min=6.2km az=50.0*

ISC 10 10:31:59.8±0.7,1°.47S±0°.07×97°.61E±0°.08,h34km±1km, h34km:pP-P,n77,σ1°32/76,mb4.3/13,MS3.2/3,3C-6D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**2.90**	**79**	P	**Pn**	**10 32 42.9**	**-0.7**
PDSI				S	**Sn**	**10 33 14.9**	**-2.4**
MNSI	**Mandailing Nat**	**2.98**	**41**	P	**Pn**	**10 32 43.6**	**-1.1**
MNSI				S	**Sn**	**10 33 17.4**	**-1.9**
SDSI	**Sungai Dareh**	**3.85**	**82**	P	**Pn**	**10 32 56.5**	**-0.1**
BKNI	**Bangkinang**	**3.86**	**63**	P	**Pn**	**10 32 55.2**	**-1.6**
BKNI	**Bangkinang**	**3.86**	**63**	*e*Pn	**Pn**	**10 32 55.6**	**-1.2**
SNSI	**Sinabang, Aceh**	**4.06**	**342**	P	**Pn**	**10 32 58.7**	**-0.8**
TPTI		**4.71**	**355**	P	**Pn**	**10 33 06.5**	**-2.0**
MASI	**Maura Aman, Be**	**4.91**	**110**	P	**Pn**	**10 33 12.4**	**+1.1**
KCSI	**Kotacane, Aceh**	**4.96**	**2**	P	**Pn**	**10 33 10.7**	**-1.2**
KCSI				S	Sn	10 34 02.1	-6.0
TSI	**Tuntungan**	**5.02**	**11**	P	**Pn**	**10 33 10.7**	**-2.1**
JMBI	**JAMBI**	**6.03**	**92**	P	**Pn**	**10 33 27.2**	**+0.6**
	253nm,0.7s,1.7nm						
MNAI	**Manna**	**6.06**	**118**	P	**Pn**	**10 33 27.3**	**+0.3**
	1μm,0.6s,21μm5.9nm						
MNAI	**Manna**	**6.06**	**118**	Pn	**Pn**	**10 33 26.7**	**-0.4**
	892nm,0.6s						
MNAI				*e*Sn	**Sn**	**10 34 33.0**	**-2.3**
FRIM	**Kepong**	**6.16**	**41**	⇓P	**Pn**	**10 33 28.6**	**+0.2**
LHSI	**Lahat**	**6.35**	**112**	P	**Pn**	**10 33 32.3**	**+1.3**
	270nm,0.9s,3μm0.9nm						
KGM	**Kluang**	**6.67**	**59**	⇓P	**Pn**	**10 33 35.2**	**-0.2**
IPM	**Ipoh**	**6.82**	**30**	⇓P	**Pn**	**10 33 38.0**	**+0.5**
IPM	**Ipoh**	**6.82**	**30**	*e*Pn	**Pn**	**10 33 36.6**	**-0.9**
	20nm,0.8s						
MYKOM	**Kota Tinggi**	**7.02**	**63**	⇑P	**Pn**	**10 33 40.7**	**+0.5**
DSRI	**Dabo**	**7.03**	**82**	P	**Pn**	**10 33 40.1**	**-0.3**
	124nm,0.8s,0.8nm						
MDSI	**Maura Dua**	**7.21**	**115**	P	**Pn**	**10 33 43.7**	**+0.9**
	64nm,0.8s,820nm0.2nm						
TPRI	**Tanjung Pinang**	**7.31**	**71**	P	**Pn**	**10 33 44.1**	**-0.1**
	69nm,0.7s,0.7nm						
LWLI	**Liwa**	**7.34**	**119**	P	**Pn**	**10 33 45.8**	**+1.1**
	250nm,0.7s,1.1nm						
KULM	**Kulim**	**7.36**	**24**	⇓P	**Pn**	**10 33 46.2**	**+1.2**
KULM	**Kulim**	**7.36**	**24**	*e*Pn	**Pn**	**10 33 43.0**	**-2.0**
	11nm,0.6s						
KASI	**Kota Agung**	**7.96**	**121**	P	**Pn**	**10 33 53.2**	**0.0**
	126nm,0.7s,2μm0.4nm						
KLI	**Kotabumi**	**7.98**	**115**	P	**Pn**	**10 33 53.9**	**+0.5**
	125nm,0.7s,6μm0.6nm						
KTGM	**Kuala Trenggan**	**8.71**	**39**	⇑P	**Pn**	**10 34 02.1**	**-1.4**
TRTT	**Trang**	**9.47**	**13**	P	Pn	10 34 19.3	+5.4
	11nm,0.7s,3μm						
CGJI	**Cibinong**	**9.54**	**123**	P	**Pn**	**10 34 13.3**	**-1.6**
LEM	**Lembang**	**11.31**	**118**	Pn	**Pn**	**10 34 41.2**	**+2.0**
	6.8nm,0.3s,baz=150,slow=20,SNR=2.0						
CISI	**Cisompet, Garu**	**11.83**	**121**	P	Pn	10 34 43.5	-2.8
CISI	**Cisompet, Garu**	**11.83**	**121**	*e*Pn	Pn	10 34 43.3	-3.0
	48nm,0.4s						
CISI				*e*Sn	Sn	10 36 47.5	-10
KPJI	**Karang Pucung**	**12.70**	**118**	P	**Pn**	**10 34 57.5**	**-0.5**
KSM	**Kuching**	**13.02**	**77**	⇓P	Pn	10 34 59.3	-3.3
PBKT	**Sadao Pong**	**18.22**	**10**	P	**P**	**10 36 13.7**	**+3.6**
	21nm,1.5s						
PALK	**Pallekele**	**18.98**	**297**	P	**P**	**10 36 18.1**	**-0.5**
	0.3nm,0.3s,baz=117,slow=14,SNR=4.0						
PALK				LR	LR	10 42 38.9	
	comp=Z,108nm,18.4s,baz=72,slow=34						
UTTA	**Uttaradit**	**19.31**	**9**	P	**Pn**	**10 36 25.6**	**+2.3**
	1.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.84**	**4**	P	**P**	**10 36 28.6**	**+0.7**
	0.2nm,0.3s,baz=193,slow=10.0,SNR=16						
SDKM	**Sandakan**	**20.79**	**70**	⇓P	**P**	**10 36 38.4**	**0.0**
KDM	**Kudat**	**20.91**	**66**	⇑P	**P**	**10 36 38.0**	**-1.6**
CRAI	**Chiangrai**	**21.73**	**7**	P	**P**	**10 36 49.9**	**+1.6**
	20nm,0.8s						
H08S2	**Diego Garcia H**	**25.77**	**255**	T	T	11 05 04.0	
	baz=76,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**25.78**	**255**	T	T	11 05 21.8	
	baz=76,slow=75,SNR=21						
H08S1	**Diego Carcia H**	**25.79**	**255**	T	T	11 05 00.8	
	baz=76,slow=75,SNR=21						
BATI	**Baumata**	**27.31**	**110**	L

FINES	**FINESS Array B**	**82.54**	**333**	pP	pP	10 44 28.1	-1.6
	1.3nm,0.7s,baz=125,slow=5.8,SNR=3.9						
ARCES	**ARCESS Array B**	**85.17**	**340**	pP	pP	10 44 40.9	-2.2
	2.1nm,0.9s,baz=97,slow=4.6,SNR=2.1						
HFS	**Hagfors**	**88.22**	**330**	pP	pP	10 44 55.5	-2.7
	1.3nm,0.7s,baz=105,slow=9.5,SNR=2.7						
NOA	**NORSAR Array B**	**89.52**	**331**	LR	LR	11 27 19.3	
	comp=Z,7.2nm,20.1s,baz=270,slow=37						
TXAR	**Lajitas Array**	**145.66**	**34**	PKPbc	**PKPdf**	**10 51 36.1**	**+0.5**
	0.6nm,0.6s,baz=288,slow=1.9,SNR=12						
TXAR				pPKPbc	pPKPbc	10 51 46.7	-0.3
	0.8nm,0.7s,baz=253,slow=0.9,SNR=5.8						
JCT	**Junction City**	**146.75**	**28**	*e*PKPbc	**PKPbc**	**10 51 39.3**	**+0.4**

*IDC **10** 10:41:29.0±2.9, 54°.21N×87°.47E, h0km, mb1 3.2/2, mb1mx3.0/49, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=23.6km s-min=16.7km az=47.0*
*NNC **10** 10:41:33.3±2.7, 54°.08N×86°.95E, h0km±14km, mb3.6, mpv3.2, Error ellipse: s-maj=20.0km s-min=16.2km az=3.0*
ISC 10 10:41:32.1±4.4, 54°.4N±0°.2×87°.3E±0°.2, h35km, n7, σ0s73/11, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**255**	*i*		10 50 10.0	
	baz=81,slow=334,SNR=21						
ZALV	**Zalesovo Beam**	**1.54**	**255**	Pg	**Pn**	**10 41 56.4**	**-0.6**
	11nm,0.3s,baz=81,slow=16,SNR=35						
ZALV				Lg	Lg	10 42 20.5	
	6.3nm,0.3s,baz=76,slow=22,SNR=8.9						
ZALV				Rg	Rg	10 42 35.1	
	12nm,0.7s,baz=78,slow=31,SNR=5.9						
KURK	**Kurchatov**	**6.45**	**239**	⇓Pn	**Pn**	**10 43 04.7**	**+0.2**
	2.4nm,1.4s						
KURK				⇓Sn	**Sn**	**10 44 16.8**	**-0.1**
	0.7nm,0.5s						
KURK				⇓Lg	Lg	10 44 48.5	
	6.3nm,1.0s						
KURBB	**Kurchatov Arra**	**6.55**	**239**	⇑Pn	**Pn**	**10 43 06.5**	**+0.6**
	1.5nm,0.3s						
KURBB				⇑Sn	**Sn**	**10 44 18.3**	**-1.0**
	2.3nm,0.6s						
KURBB				⇑Lg	Lg	10 44 49.9	
	9.4nm,0.7s						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	**Pn**	**10 43 07.0**	**+1.1**
	0.3nm,0.3s,baz=55,slow=14,SNR=14						
KURBB				Sn	**Sn**	**10 44 20.2**	**+0.8**
	0.1nm,0.3s,baz=51,slow=21,SNR=5.5						
KURBB				Lg	Lg	10 44 56.0	
	0.1nm,0.3s,baz=48,slow=32,SNR=5.2						
MK31	**Makanchi Array**	**8.24**	**205**	⇑Pn	**Pn**	**10 43 28.8**	**-0.3**
	0.8nm,0.8s,baz=28,slow=14,SNR=14						
MK31				Sn	**Sn**	**10 45 00.7**	**-0.1**
	0.6nm,0.5s,baz=28,slow=27,SNR=7.5						
MK31				⇑Lg	Lg	10 45 42.4	
	5.4nm,1.0s,baz=28,slow=33,SNR=6.4						
MKAR	**Makanchi Array**	**8.24**	**205**	Pn	**Pn**	**10 43 29.4**	**+0.4**
	0.2nm,0.3s,baz=27,slow=14,SNR=9.3						
MKAR				Sn	**Sn**	**10 45 00.3**	**-0.5**
	0.3nm,0.3s,baz=27,slow=26,SNR=8.2						

*IDC **10** 11:03:27.8±0.9, 38°.52N×22°.27E, h0km, mb3.6/11, mb1 3.6/16, mb1mx3.5/42, mbtmp3.5/16, ML3.2/5, MS1.8/1, Ms1 1.8/1, ms1mx1.6/42, Error ellipse: s-maj=16.9km s-min=15.7km az=54.0*
*ISCJB **10** 11:03:28.5±0.3, 38°.43N±0°.01×22°.28E±0°.02, h9km±2km, mb3.5/10, Error ellipse: s-maj=2.1km s-min=1.8km az=34.7*
*CSEM **10** 11:03:28.8±0.1, 38°.42N×22°.30E, h2km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.7km az=127.0*
*ATH **10** 11:03:28.5, 38°.43N×22°.29E, h16km, MD3.3/28, ML3.4*
*THE **10** 11:03:29.0, 38°.42N×22°.28E, h5km, ML3.3/23, Error ellipse: s-maj=0.4km s-min=0.2km az=270.0*
ISC 10 11:03:29.0±0.8, 38°.43N±0°.01×22°.29E±0°.01, h8km±5km, n191, σ0s90/288, mb3.8/10, 6C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.12**	**254**	P	**Pg**	**11 03 31.2**	**-0.5**
KALE				S	**Sg**	**11 03 33.1**	**-0.5**
KALE	**Kalithea**	**0.12**	**254**	*e*PB	**Pg**	**11 03 31.3**	**-0.5**
KALE				*e*SB	**Sg**	**11 03 35.2**	**+1.6**
KALE	**Kalithea**	**0.12**	**254**	P	**Pg**	**11 03 31.2**	**-0.5**
KALE				S	**Sg**	**11 03 33.1**	**-0.5**
KALE				*e*Sb	**Sg**	**11 03 35.2**	**+1.6**
EFP	**Efpalio**	**0.30**	**270**	P	**Pg**	**11 03 34.6**	**-0.3**
EFP				S	**Sg**	**11 03 39.2**	**+0.3**
EFP	**Efpalio**	**0.30**	**270**	*e*PB	**Pg**	**11 03 34.6**	**-0.3**
EFP				*e*SB	**Sg**	**11 03 40.1**	**+1.2**
EFP	**Efpalio**	**0.30**	**270**	P	**Pg**	**11 03 34.5**	**-0.3**
EFP				S	**Sg**	**11 03 38.1**	**-0.8**
EFP				*e*Sb	**Sg**	**11 03 40.1**	**+1.2**
KLV	**Kalavryta, Ach**	**0.40**	**196**	P	**Pg**	**11 03 36.3**	**-0.4**
KLV				S	**Sg**	**11 03 42.4**	**+0.5**
KLV	**Kalavryta, Ach**	**0.40**	**196**	*e*PB	**Pg**	**11 03 36.3**	**-0.4**
KLV	**Kalavryta, Ach**	**0.40**	**196**	P	**Pg**	**11 03 36.3**	**-0.4**
KLV				S	**Sg**	**11 03 42.1**	**+0.2**
UPR	**University Cam**	**0.42**	**250**	P	**Pg**	**11 03 37.1**	**-0.1**
UPR				S	**Sg**	**11 03 42.4**	**-0.2**
UPR	**University Cam**	**0.42**	**250**	P	**Pg**	**11 03 37.0**	**-0.1**
UPR				S	**Sg**	**11 03 42.4**	**-0.2**
AXAR	**Agios Charalam**	**0.45**	**40**	P	**Pg**	**11 03 37.6**	**-0.1**
AXAR				S	**Sg**	**11 03 44.8**	**+1.2**
AXAR	**Agios Charalam**	**0.45**	**40**	*e*PB	**Pg**	**11 03 37.5**	**-0.1**
AXAR	**Agios Charalam**	**0.45**	**40**	P	**Pg**	**11 03 37.5**	**-0.1**
AXAR				S	**Sg**	**11 03 44.8**	**+1.2**
GUR	**Goura**	**0.49**	**175**	P	**Pg**	**11 03 38.1**	**-0.4**
GUR				S	**Sg**	**11 03 45.6**	**+0.7**
GUR	**Goura**	**0.49**	**175**	*e*PB	**Pg**	**11 03 37.9**	**-0.6**
GUR				*e*SB	**Sg**	**11 03 45.0**	**+0.1**
GUR	**Goura**	**0.49**	**175**	P	**Pg**	**11 03 38.1**	**-0.4**
GUR				S	**Sg**	**11 03 44.7**	**-0.2**
GUR				*e*Sb	**Sg**	**11 03 45.0**	**+0.1**
AGG	**Agios Georgios**	**0.60**	**3**	P	**Pg**	**11 03 40.0**	**-0.5**
AGG				S	**Sg**	**11 03 48.8**	**+0.5**
AGG	**Agios Georgios**	**0.60**	**3**	*e*PN	**Pg**	**11 03 40.0**	**-0.5**
AGG	**Agios Georgios**	**0.60**	**3**	P	**Pg**	**11 03 40.0**	**-0.5**
AGG				S	**Sg**	**11 03 48.8**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.60**	**348**	P	**Pg**	**11 03 40.5**	**-0.1**
MAKR				S	**Sg**	**11 03 49.1**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.60**	**348**	*e*PN	**Pg**	**11 03 40.5**	**-0.1**
MAKR				*e*SN	**Sg**	**11 03 48.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.60**	**348**	P	**Pg**	**11 03 40.5**	**-0.1**
MAKR				*e*Sn	**Sg**	**11 03 48.2**	**-0.2**
MAKR				S	**Sg**	**11 03 49.1**	**+0.7**
LKR	**Lokris**	**0.60**	**68**	P	**Pg**	**11 03 40.3**	**-0.3**
LKR				S	**Sg**	**11 03 49.1**	**+0.6**
LKR	**Lokris**	**0.60**	**68**	*e*PN	**Pg**	**11 03 39.7**	**-0.9**
LKR				*e*SN	**Sg**	**11 03 48.2**	**-0.3**
LKR	**Lokris**	**0.60**	**68**	*e*Pn	**Pg**	**11 03 39.7**	**-0.9**
LKR	**Lokris**	**0.60**	**68**	P	**Pg**	**11 03 40.3**	**-0.3**
LKR				*e*Sn	**Sg**	**11 03 48.2**	**-0.3**
LKR				S	**Sg**	**11 03 49.1**	**+0.6**
EVR	**Evrytania**	**0.62**	**323**	P	**Pg**	**11 03 40.6**	**-0.3**
EVR				S	**Sg**	**11 03 50.0**	**+1.0**
EVR	**Evrytania**	**0.62**	**323**	*e*PN	**Pg**	**11 03 40.6**	**-0.3**
EVR	**Evrytania**	**0.62**	**323**	P	**Pg**	**11 03 40.6**	**-0.3**
EVR				S	**Sg**	**11 03 50.0**	**+1.0**
PVO	**Paravola**	**0.63**	**288**	P	**Pg**	**11 03 40.8**	**-0.3**
PVO				S	**Sg**	**11 03 50.2**	**+0.9**
DRO	**Drossia**	**0.66**	**224**	P	**Pg**	**11 03 41.1**	**-0.5**
DRO				S	**Sg**	**11 03 50.8**	**+0.6**
DRO	**Drossia**	**0.66**	**224**	*e*PB	**Pg**	**11 03 41.0**	**-0.5**
DRO	**Drossia**	**0.66**	**224**	P	**Pg**	**11 03 41.1**	**-0.5**
DRO				S	**Sg**	**11 03 50.8**	**+0.6**
LTK	**Loutraki**	**0.67**	**127**	P	**Pg**	**11 03 41.6**	**-0.3**
LTK				S	**Sb**	**11 03 51.6**	**-0.7**
LTK	**Loutraki**	**0.67**	**127**	*e*PN	**Pg**	**11 03 41.5**	**-0.3**
LTK				*e*SN	**Sg**	**11 03 50.9**	**+0.3**
LTK	**Loutraki**	**0.67**	**127**	*e*Pn	**Pg**	**11 03 41.5**	**-0.3**
LTK				*e*Sn	**Sg**	**11 03 50.9**	**+0.3**
LTK				S	**Sb**	**11 03 51.6**	**-0.7**
RLS	**Riolos of Patr**	**0.74**	**241**	P	**Pg**	**11 03 42.9**	**-0.4**
RLS				S	**Sg**	**11 03 53.4**	**+0.5**
RLS	**Riolos of Patr**	**0.74**	**241**	*e*PN	**Pg**	**11 03 42.8**	**-0.5**
RLS				*e*SN	**Sb**	**11 03 54.4**	**-0.1**
RLS	**Riolos of Patr**	**0.74**	**241**	P	**Pg**	**11 03 42.9**	**-0.4**
RLS				S	**Sg**	**11 03 53.4**	**+0.5**
RLS				*e*Sn	**Sb**	**11 03 54.4**	**-0.1**
SMIA	**Simia**	**0.85**	**58**	P	**Pg**	**11 03 45.0**	**-0.3**
SMIA				S	**Sb**	**11 03 57.8**	**+0.2**
SMIA	**Simia**	**0.85**	**58**	*e*PN	**Pg**	**11 03 45.1**	**-0.3**
SMIA				*e*SN	**Sg**	**11 03 56.7**	**+0.3**
SMIA	**Simia**	**0.85**	**58**	P	**Pg**	**11 03 45.0**	**-0.3**
SMIA				*e*Sn	**Sg**	**11 03 56.7**	**+0.3**
SMIA				S	**Sb**	**11 03 57.8**	**+0.2**
PDO	**Prodromos**	**0.88**	**282**	P	**Pg**	**11 03 45.8**	**-0.2**
PDO				S	**Sb**	**11 03 58.3**	**-0.2**
PDO	**Prodromos**	**0.88**	**282**	*e*PN	**Pg**	**11 03 45.9**	**-0.1**
PDO	**Prodromos**	**0.88**	**282**	P	**Pg**	**11 03 45.8**	**-0.2**
PDO				S	**Sb**	**11 03 58.3**	**-0.2**
AMT	**Artemida-Makis**	**1.00**	**207**	P	**Pg**	**11 03 47.5**	**-0.7**
AMT				S	**Sb**	**11 04 02.1**	**+0.2**
AMT	**Artemida-Makis**	**1.00**	**207**	*e*PN	**Pg**	**11 03 47.5**	**-0.7**
AMT	**Artemida-Makis**	**1.00**	**207**	P	**Pg**	**11 03 47.5**	**-0.7**
AMT				S	**Sb**	**11 04 02.1**	**+0.2**
MRKA	**Markates**	**1.06**	**74**	P	**Pg**	**11 03 49.1**	**-0.2**
MRKA				S	**Sn**	**11 04 04.5**	**-0.5**
MRKA	**Markates**	**1.06**	**74**	*e*PN	**Pg**	**11 03 48.9**	**-0.4**
MRKA	**Markates**	**1.06**	**74**	P	**Pg**	**11 03 49.1**	**-0.2**
MRKA				S	**Sn**	**11 04 04.5**	**-0.5**
VLX	**Vlachokerasia**	**1.06**	**176**	P	**Pg**	**11 03 48.9**	**-0.3**
VLX				S	**Sb**	**11 04 04.3**	**+0.7**
VLX	**Vlachokerasia**	**1.06**	**176**	*e*PN	**Pg**	**11 03 48.7**	**-0.5**
VLX				*e*SN	**Sb**	**11 04 04.1**	**+0.5**
VLX	**Vlachokerasia**	**1.06**	**176**	P	**Pg**	**11 03 48.9**	**-0.3**
VLX				*e*Sn	**Sb**	**11 04 04.1**	**+0.5**
NEO	**Neokhori**	**1.14**	**39**	P	**Pg**	**11 03 50.3**	**-0.6**
NEO				S	**Sn**	**11 04 07.0**	**-0.2**
NEO	**Neokhori**	**1.14**	**39**	*e*PN	**Pg**	**11 03 49.7**	**-1.2**
NEO				*e*SN	**Sg**	**11 03 49.7**	**-1.2**
NEO	**Neokhori**	**1.14**	**39**	*e*Pn	**Pg**	**11 03 49.7**	**-1.2**
NEO	**Neokhori**	**1.14**	**39**	P	**Pg**	**11 03 50.3**	**-0.6**
NEO				*e*Sn	**Sg**	**11 04 05.8**	**0.0**
NEO				S	**Sn**	**11 04 07.0**	**-0.2**
THL	**Klokotos Trika**	**1.16**	**349**	P	**Pn**	**11 03 53.3**	**+1.8**
THL				S	**Sn**	**11 04 11.1**	**+3.6**
THL	**Klokotos Trika**	**1.16**	**349**	P	**Pn**	**11 03 53.3**	**+1.8**
NAIG	**Nisos Aigina**	**1.16**	**125**	*e*PN	**Pb**	**11 03 51.3**	**+0.1**
NAIG	**Nisos Aigina**	**1.16**	**125**	*e*Pn	**Pb**	**11 03 51.3**	**+0.1**
DSL	**Palaion Diasel**	**1.17**	**308**	P	**Pg**	**11 03 50.8**	**-0.6**
DSL				S	**Sn**	**11 04 08.1**	**+0.2**
DSL	**Palaion Diasel**	**1.17**	**308**	P	**Pg**	**11 03 50.8**	**-0.6**
DSL				S	**Sn**	**11 04 08.1**	**+0.2**
XOR	**Xorichti**	**1.18**	**37**	P	**Pb**	**11 03 51.1**	**-0.5**
XOR				S	**Sn**	**11 04 08.0**	**0.0**
XOR	**Xorichti**	**1.18**	**37**	*e*PN	**Pb**	**11 03 50.2**	**-1.4**
XOR				*e*SN	**Sg**	**11 04 06.5**	**-0.3**
XOR	**Xorichti**	**1.18**	**37**	*e*Pn	**Pb**	**11 03 50.2**	**-1.4**
XOR	**Xorichti**	**1.18**	**37**	P	**Pb**	**11 03 51.1**	**-0.5**
XOR				*e*Sn	**Sg**	**11 04 06.5**	**-0.3**
XOR				S	**Sn**	**11 04 08.0**	**0.0**
SKIA	**Skiathos**	**1.18**	**51**	P	**Pb**	**11 03 51.6**	**0.0**
SKIA				S	**Sn**	**11 04 08.1**	**0.0**
SKIA	**Skiathos**	**1.18**	**51**	*e*PN	**Pb**	**11 03 51.6**	**0.0**
SKIA				*e*SN	**Sb**	**11 04 07.5**	**+0.4**
SKIA	**Skiathos**	**1.18**	**51**	P	**Pb**	**11 03 51.6**	**0.0**
SKIA				*e*Sn	**Sb**	**11 04 07.5**	**+0.4**
SKIA				S	**Sn**	**11 04 08.1**	**0.0**
ATH	**Athens Observa**	**1.21**	**111**	P	**Pb**	**11 03 52.1**	**-0.1**
ATH				S	**Sn**	**11 04 09.4**	**+0.6**
ATH	**Athens Observa**	**1.21**	**111**	*e*PN	**Pn**	**11 03 52.2**	**0.0**
ATH				*e*SN	**Sb**	**11 04 07.9**	**-0.1**
ATH	**Athens Observa**	**1.21**	**111**	P	**Pb**	**11 03 52.1**	**-0.1**
ATH				*e*Sn	**Sb**	**11 04 07.9**	**-0.1**
ATH				S	**Sn**	**11 04 09.4**	**+0.6**
KFL	**Anninata**	**1.22**	**256**	P	**Pb**	**11 03 51.6**	**-0.7**
KFL				S	**Sn**	**11 04 09.4**	**+0.3**
KFL	**Anninata**	**1.22**	**256**	P	**Pb**	**11 03 51.6**	**-0.7**
KFL				S	**Sn**	**11 04 09.4**	**+0.3**
ITM	**Ithomi**	**1.28**	**193**	P	**Pn**	**11 03 52.3**	**-0.8**
ITM				S	**Sn**	**11 04 11.0**	**+0.6**
ITM	**Ithomi**	**1.28**	**193**	*e*PN	**Pn**	**11 03 52.0**	**-1.1**
ITM	**Ithomi**	**1.28**	**193**	*e*Pn	**Pn**	**11 03 52.0**	**-1.1**
ITM	**Ithomi**	**1.28**	**193**	P	**Pn**	**11 03 52.3**	**-0.8**
ITM				S	**Sn**	**11 04 11.0**	**+0.6**
PTL	**Penteli**	**1.30**	**106**	P	**Pn**	**11 03 53.3**	**-0.1**
PTL				S	**Sn**	**11 04 11.4**	**+0.4**
PTL	**Penteli**	**1.30**	**106**	*e*PN	**Pn**	**11 03 53.4**	**0.0**
PTL	**Penteli**	**1.30**	**106**	P	**Pn**	**11 03 53.3**	**-0.1**
PTL				S	**Sn**	**11 04 11.4**	**+0.4**
VLS	**Valsamata**	**1.36**	**260**	*e*PN	**Pn**	**11 03 53.5**	**-0.8**
VLS				*e*SN	**Sg**	**11 04 13.2**	**+0.5**
VLS	**Valsamata**	**1.36**	**260**	*e*Pn	**Pn**	**11 03 53.5**	**-0.8**
VLS				*e*Sn	**Sg**	**11 04 13.2**	**+0.5**
AOS	**Alonnisos**	**1.45**	**59**	P	**Pn**	**11 03 54.9**	**-0.6**
AOS				S	**Sg**	**11 04 15.4**	**-0.2**
AOS	**Alonnisos**	**1.45**	**59**	*e*PN	**Pn**	**11 03 54.9**	**-0.6**
AOS				*e*SN	**Sb**	**11 04 15.0**	**+0.2**
AOS	**Alonnisos**	**1.45**	**59**	P	**Pn**	**11 03 54.9**	**-0.6**
AOS				*e*Sn	**Sb**	**11 04 15.0**	**+0.2**
AOS				S	**Sg**	**11 04 15.4**	**-0.2**
PYL	**PYLOS**	**1.59**	**196**	*e*PN	**Pb**	**11 03 58.7**	**+0.1**
PYL	**PYLOS**	**1.59**	**196**	*e*Pn	**Pb**	**11 03 58.7**	**+0.1**
JAN	**Janina**	**1.66**	**318**	*e*PN	**Pb**	**11 03 59.6**	**-0.3**
JAN	**Janina**	**1.66**	**318**	*e*Pn	**Pb**	**11 03 59.6**	**-0.3**
LIT	**Litokhoron**	**1.68**	**5**	P	**Pn**	**11 03 58.4**	**-0.3**
LIT				S	**Sn**	**11 04 21.0**	**+0.5**
LIT	**Litokhoron**	**1.68**	**5**	*e*PN	**Pn**	**11 03 58.9**	**+0.2**
LIT				*e*SN	**Sb**	**11 04 21.8**	**+0.3**
LIT	**Litokhoron**	**1.68**	**5**	P	**Pn**	**11 03 58.4**	**-0.3**
LIT	**Litokhoron**	**1.68**	**5**	*e*Pn	**Pn**	**11 03 58.9**	**+0.2**
LIT				S	**Sn**	**11 04 21.0**	**+0.5**
LIT				*e*Sn	**Sb**	**11 04 21.8**	**+0.3**
VLI	**Veliai**	**1.78**	**163**	P	**Pn**	**11 03 59.6**	**-0.4**
VLI				S	**Sb**	**11 04 23.8**	**-0.5**
VLI	**Veliai**	**1.78**	**163**	*e*PB	**Pn**	**11 04 00.0**	**0.0**
VLI	**Veliai**	**1.78**	**163**	P	**Pn**	**11 03 59.6**	**-0.4**
VLI	**Veliai**	**1.78**	**163**	*e*Pb	**Pn**	**11 04 00.0**	**0.0**
VLI				S	**Sb**	**11 04 23.8**	**-0.5**
PAIG	**Paliouri**	**1.85**	**35**	P	**Pn**	**11 04 00.6**	**-0.4**
PAIG				S	**Sn**	**11 04 25.3**	**+0.8**
PAIG	**Paliouri**	**1.85**	**35**	*e*PB	**Pn**	**11 04 00.6**	**-0.4**
PAIG	**Paliouri**	**1.85**	**35**	P	**Pn**	**11 04 00.6**	**-0.4**
PAIG				S	**Sn**	**11 04 25.3**	**+0.8**
IGT	**Igoumenitsa**	**1.88**	**307**	*e*PN	**Pn**	**11 04 02.2**	**+0.7**
IGT	**Igoumenitsa**	**1.88**	**307**	*e*Pn	**Pn**	**11 04 02.2**	**+0.7**
KZN	**Kozani**	**1.92**	**348**	P	**Pn**	**11 04 01.6**	**-0.5**
KZN				S	**Sn**	**11 04 27.1**	**+0.6**
KZN	**Kozani**	**1.92**	**348**	*e*PN	**Pn**	**11 04 03.2**	**+1.1**
KZN	**Kozani**	**1.92**	**348**	P	**Pn**	**11 04 01.6**	**-0.5**
KZN	**Kozani**	**1.92**	**348**	*e*Pn	**Pn**	**11 04 03.2**	**+1.1**
KZN				S	**Sn**	**11 04 27.1**	**+0.6**
PLG	**Polygyros**	**2.14**	**24**	*e*PB	**Pn**	**11 04 04.7**	**-0.4**
PLG	**Polygyros**	**2.14**	**24**	*e*Pb	**Pn**	**11 04 04.7**	**-0.4**
NEST	**Nestorio**	**2.21**	**335**	*e*PN	**Pn**	**11 04 06.9**	**+0.9**
NEST	**Nestorio**	**2.21**	**335**	*e*Pn	**Pn**	**11 04 06.9**	**+0.9**
HORT	**Hortiatis**	**2.26**	**16**	*e*PB	**Pn**	**11 04 06.6**	**-0.1**
HORT	**Hortiatis**	**2.26**	**16**	*e*Pb	**Pn**	**11 04 06.6**	**-0.1**
THE	**Thessaloniki**	**2.27**	**13**	*e*PB	**Pn**	**11 04 06.5**	**-0.2**
THE	**Thessaloniki**	**2.27**	**13**	*e*Pb	**Pn**	**11 04 06.5**	**-0.2**
OUR	**Ouranopolis**	**2.31**	**34**	P	**Pn**	**11 04 07.3**	**-0.1**
OUR				S	**Sn**	**11 04 37.1**	**+1.1**
OUR	**Ouranopolis**	**2.31**	**34**	*e*PB	**Pn**	**11 04 07.2**	**-0.1**
OUR	**Ouranopolis**	**2.31**	**34**	P	**Pn**	**11 04 07.3**	**-0.1**
OUR				S	**Sn**	**11 04 37.1**	**+1.1**
KEK	**Kerkira**	**2.33**	**304**	*e*PN	**Pn**	**11 04 08.2**	**+0.7**
KEK	**Kerkira**	**2.33**	**304**	*e*Pn	**Pn**	**11 04 08.2**	**+0.7**
FNA	**Florina**	**2.46**	**344**	*e*PB	**Pn**	**11 04 10.7**	**+1.3**
FNA	**Florina**	**2.46**	**344**	*e*Pb	**Pn**	**11 04 10.7**	**+1.3**
SOH	**Sokhos**	**2.53**	**19**	*e*PN	**Pn**	**11 04 11.1**	**+0.7**
SOH	**Sokhos**	**2.53**	**19**	*e*Pn	**Pn**	**11 04 11.1**	**+0.7**
ANKY	**Antikythira Is**	**2.68**	**162**	*e*PB	**Pn**	**11 04 13.9**	**+1.5**
ANKY	**Antikythira Is**	**2.68**	**162**	*e*Pb	**Pn**	**11 04 13.9**	**+1.5**
LIA	**Limnos Island**	**2.69**	**56**	*e*PN	**Pn**	**11 04 12.1**	**-0.4**
LIA	**Limnos Island**	**2.69**	**56**	*e*Pn	**Pn**	**11 04 12.1**	**-0.4**
KNT	**Kendrikon**	**2.77**	**10**	*e*PN	**Pn**	**11 04 14.5**	**+0.8**
KNT	**Kendrikon**	**2.77**	**10**	*e*Pn	**Pn**	**11 04 14.5**	**+0.8**
SRS	**Serrai**	**2.87**	**20**	P	**Pn**	**11 04 15.2**	**+0.2**
SRS				S	**Sn**	**11 04 50.5**	**+0.7**
SRS	**Serrai**	**2.87**	**20**	*e*PN	**Pn**	**11 04 15.3**	**+0.2**
SRS	**Serrai**	**2.87**	**20**	*e*Pn	**Pn**	**11 04 15.3**	**+0.2**
SRS				S	**Sn**	**11 04 50.5**	**+0.7**
SIGR	**SIGRI**	**2.90**	**73**	*e*PN	**Pn**	**11 04 16.4**	**+1.1**
SIGR	**SIGRI**	**2.90**	**73**	*e*Pn	**Pn**	**11 04 16.4**	**+1.1**
VAY	**Valandovo**	**2.90**	**4**	*e*Pn	**Pn**	**11 04 16.3**	**+0.8**
VAY	**Valandovo**	**2.90**	**4**	*e*Pn	**Pn**	**11 04 16.2**	**+0.8**
APE	**Apeiranthos**	**2.91**	**117**	*e*PN	**Pn**	**11 04 16.5**	**+0.9**
APE	**Apeiranthos**	**2.91**	**117**	⇑*i*P	**Sg**	**11 05 07.6**	**+5.3**
APE	**Apeiranthos**	**2.91**	**117**	*e*Pn	**Pn**	**11 04 16.5**	**+0.9**
CHOS	**Chios island**	**2.96**	**90**	*e*PN	**Pn**	**11 04 17.0**	**+0.7**
CHOS	**Chios island**	**2.96**	**90**	*e*Pn	**Pn**	**11 04 17.0**	**+0.7**
NVR	**Nevrokopi**	**3.16**	**22**	*e*PN	**Pn**	**11 04 20.2**	**+1.1**
NVR	**Nevrokopi**	**3.16**	**22**	*e*Pn	**Pn**	**11 04 20.2**	**+1.1**
KARN	**Karanos**	**3.29**	**156**	*e*PN	**Pn**	**11 04 22.4**	**+1.6**
KARN	**Karanos**	**3.29**	**156**	*e*Pn	**Pn**	**11 04 22.4**	**+1.6**
VAM	**Vamos**	**3.38**	**152**	*e*PN	**Pn**	**11 04 24.2**	**+2.2**
VAM	**Vamos**	**3.38**	**152**	*e*Pn	**Pn**	**11 04 24.2**	**+2.2**
SMG	**Samos**	**3.66**	**100**	*e*PN	**Pn**	**11 04 27.2**	**+1.3**
SMG	**Samos**	**3.66**	**100**	*e*Pn	**Pn**	**11 04 27.2**	**+1.3**
IDI	**Anoyia**	**3.76**	**146**	Pn	**Pn**	**11 04 27.3**	**-0.1**
	0.7nm,0.3s,baz=343,slow=14,SNR=4.1						
IDI				Sn	**Sn**	**11 05 13.6**	**+1.7**
	1.9nm,0.3s,baz=42,slow=12,SNR=4.4						
ALN	**Alexandroupoli**	**3.81**	**48**	*e*PN	**Pn**	**11 04 28.0**	**+0.1**
ALN	**Alexandroupoli**	**3.81**	**48**	*e*Pn	**Pn**	**11 04 28.0**	**+0.1**
SIVA	**Sivas**	**3.96**	**148**	*e*PN	**Pn**	**11 04 31.7**	**+1.7**
SIVA	**Sivas**	**3.96**	**148**	*e*Pn	**Pn**	**11 04 31.7**	**+1.7**
NPS	**Neapolis**	**4.13**	**139**	*e*PN	**Pn**	**11 04 33.4**	**+1.0**
NPS	**Neapolis**	**4.13**	**139**	*e*Pn	**Pn**	**11 04 33.4**	**+1.0**
LAST	**Lasithi**	**4.14**	**141**	*e*PN	**Pn**	**11 04 33.7**	**+1.1**
LAST	**Lasithi**	**4.14**	**141**	*e*Pn	**Pn**	**11 04 33.7**	**+1.1**
VTS	**Vitosha**	**4.22**	**9**	⇑*i*P	**Sn**	**11 05 26.5**	**+3.2**
IVAS	**Ivanjica**	**5.39**	**343**	*i* Pn	**Pn**	**11 04 51.0**	**+1.2**
GRUS	**Gruza**	**5.58**	**348**	⇑*i*Pn	**Pn**	**11 04 54.2**	**+1.9**
DIVS	**Divibare**	**5.92**	**344**	⇑*i*Pn	**Pn**	**11 04 58.2**	**+1.1**
GZR	**Gura Zlata**	**6.97**	**3**	⇑*i*P	**Pn**	**11 05 15.8**	**+4.4**
VOIR		**7.30**	**15**	⇓*i*P	**Pn**	**11 05 17.6**	**+1.6**
VOIR		**7.30**	**15**	⇓*i*P	**Pn**	**11 05 17.6**	**+1.6**
MLR	**Muntele Rosu**	**7.57**	**20**	⇓*i*P	**Pn**	**11 05 19.2**	**-0.5**
MLR	**Muntele Rosu**	**7.57**	**20**	Pn	**Pn**	**11 05 18.8**	**-0.8**
	0.1nm,0.3s,baz=175,slow=11,SNR=3.0						
MLR				LR	LR	11 08 52.6	
	comp=Z,7.6nm,20.7s,baz=144,slow=43						
MLR	**Muntele Rosu**	**7.57**	**20**	⇓

NWEZ	**Newall Road**	**1.08**	**261**	PN	Pn	11 28 46.2	-0.2
PNHZ	**Pukenui**	**1.10**	**138**	PN	Pn	11 28 46.8	0.0
TSZ	**Takapari Road**	**1.11**	**150**	⇑PN	Pn	11 28 46.8	+0.1
TSZ				AML	AML	11 29 06.3	
TSZ				AML	AML	11 29 06.6	
MCHZ	**McNeill Hill**	**1.18**	**107**	PN	Pn	11 28 48.1	+0.6
NMHZ	**Naumai**	**1.22**	**90**	⇓PN	Pn	11 28 48.4	+0.5
WPHZ	**Waipukurau**	**1.34**	**136**	⇑PN	Pn	11 28 49.0	+0.1
POWZ	**Post Office Ro**	**1.35**	**162**	PN	Pn	11 28 48.8	-0.2
ARHZ	**Aropaoanui**	**1.38**	**97**	PN	Pn	11 28 49.3	0.0
DVHZ	**Dannevirke**	**1.39**	**149**	⇑PN	Pn	11 28 49.2	-0.3
KAHZ	**Kahuranaki**	**1.45**	**119**	PN	Pn	11 28 50.3	+0.2
RAHZ	**Arahi**	**1.45**	**83**	PN	Pn	11 28 49.9	-0.3
CKHZ	**Cape Kidnapper**	**1.53**	**112**	SN	Sn	11 29 12.8	-0.9
PRWZ	**Pori Road**	**1.56**	**159**	⇑PN	Pn	11 28 51.1	-0.1
PXZ	**Pawanui**	**1.56**	**127**	AML	AML	11 29 14.0	
PXZ				AML	AML	11 29 15.1	
MRZ	**Mangatainoka R**	**1.58**	**170**	PN	Pn	11 28 50.9	-0.5
MRZ				AML	AML	11 29 15.3	
PRHZ	**Porangahau**	**1.58**	**138**	⇑PN	Pn	11 28 51.5	0.0
ANWZ	**Angora Road**	**1.66**	**145**	⇑PN	Pn	11 28 52.3	0.0
SNGZ	**Shannon Statio**	**1.67**	**80**	PN	Pn	11 28 51.0	-1.6
URZ	**Urewera**	**1.69**	**61**	⇓PN	Pn	11 28 50.9	-1.7
URZ				AML	AML	11 29 13.4	
URZ				AML	AML	11 29 13.8	
OGWZ	**Otaki Gorge**	**1.71**	**182**	⇑PN	Pn	11 28 52.6	-0.3
TIWZ	**Tintock**	**1.74**	**164**	⇑PN	Pn	11 28 52.8	-0.5
TIWZ				AML	AML	11 29 17.9	
BFZ	**Birch Farm**	**1.76**	**154**	⇓PN	Pn	11 28 52.9	-0.5
KIW	**Kapiti Island**	**1.77**	**188**	⇑PN	Pn	11 28 52.8	-0.7
KIW				AML	AML	11 29 16.9	
KIW				AML	AML	11 29 19.7	
HOWZ	**Holdsworth Sta**	**1.80**	**173**	⇑PN	Pn	11 28 53.3	-0.7
KNZ	**Kokohu**	**1.90**	**88**	PN	Pn	11 28 54.1	-0.8
CPWZ	**Castlepoint**	**1.95**	**158**	PN	Pn	11 28 55.6	0.0
MWZ	**Matawai**	**1.95**	**68**	PN	Pn	11 28 54.1	-1.6
DUWZ	**D'Urville Isla**	**1.97**	**210**	⇓PN	Pn	11 28 55.0	-0.9
CAW	**Cannon Point**	**2.00**	**184**	PN	Pn	11 28 55.4	-0.8
CAW				AML	AML	11 29 22.7	
CAW				AML	AML	11 29 23.4	
RIGZ	**Rimuhau**	**2.01**	**79**	PN	Pn	11 28 55.5	-0.9
MTW	**Mount Morrison**	**2.06**	**174**	PN	Pn	11 28 55.9	-1.0
TMWZ	**Te Maipa**	**2.06**	**166**	⇑PN	Pn	11 28 56.1	-0.8
PRGZ	**Paritu Road**	**2.07**	**86**	⇑PN	Pn	11 28 56.3	-0.8
MHGZ	**Mahia Peninsul**	**2.08**	**92**	PN	Pn	11 28 56.5	-0.7
TKGZ	**Te Karaka**	**2.15**	**73**	PN	Pn	11 28 57.0	-1.0
WEL	**Wellington**	**2.21**	**189**	PN	Pn	11 28 57.5	-1.1
TCW	**Tory Channel**	**2.23**	**199**	⇑PN	Pn	11 28 57.9	-1.0
TCW				AML	AML	11 29 27.5	
TCW				AML	AML	11 29 27.8	
PAWZ	**Paruwai Farm**	**2.28**	**176**	⇑PN	Pn	11 28 58.3	-1.2
MSWZ	**Moikau Station**	**2.31**	**180**	⇑PN	Pn	11 28 58.7	-1.2
MSWZ				AML	AML	11 29 59.3	
MSWZ				AML	AML	11 29 59.5	
BHW	**Baring Head**	**2.32**	**187**	⇑PN	Pn	11 28 58.7	-1.2
BHW				AML	AML	11 29 29.2	
BHW				AML	AML	11 29 29.7	
TRWZ	**Traveller**	**2.32**	**172**	PN	Pn	11 28 58.9	-1.1
TWGZ	**Tauwhareparae**	**2.34**	**68**	PN	Pn	11 28 58.2	-2.2
CNGZ	**Carnagh Statio**	**2.40**	**76**	PN	Pn	11 29 00.3	-0.7
HAZ	**Te Kaha**	**2.41**	**57**	⇓PN	Pn	11 28 58.7	-2.4
PLWZ	**Palliser**	**2.46**	**180**	⇑PN	Pn	11 29 00.3	-1.5
TUWZ	**Tuamarina**	**2.52**	**203**	PN	Pn	11 29 00.9	-1.5
TUWZ				AML	AML	11 29 34.1	
TUWZ				AML	AML	11 29 34.2	
NNZ	**Nelson**	**2.55**	**213**	⇑PN	Pn	11 29 01.2	-1.5
PUZ	**Puketiti**	**2.58**	**167**	PN	Pn	11 29 01.3	-2.0
QRZ	**Quartz Range**	**2.70**	**230**	PN	Pn	11 29 02.5	-2.2
BSWZ	**Blackbirch Sta**	**2.81**	**201**	⇓PN	Pn	11 29 04.7	-1.3
WMGZ	**Waiomatatini S**	**2.81**	**64**	PN	Pn	11 29 03.9	-2.1
MXZ	**Matakaoa Point**	**2.86**	**58**	⇓PN	Pn	11 29 04.9	-1.8
THZ	**Tophouse**	**3.20**	**213**	PN	Pn	11 29 09.2	-1.8
DSZ	**Denniston Nort**	**3.72**	**224**	PN	Pn	11 29 15.0	-2.8
LTZ	**Lake Taylor**	**4.31**	**211**	*e*PN	Pn	11 29 22.7	-2.7
OXZ	**Oxford**	**4.86**	**209**	PN	Pn	11 29 29.2	-3.4
MQZ	**McQueen's Vall**	**4.99**	**202**	⇓PN	Pn	11 29 30.5	-3.8
ODZ	**Otahua Downs**	**6.85**	**208**	PN	Pn	11 29 55.7	-3.4

*ISCJB **10** 11:34:03.7±0.3,3°.88N±0°.05×122°.87E±0°.08, h573km, mb3.8/19, Error ellipse: s-maj=11.6km s-min=5.1km az=152.5*

*IDC **10** 11:34:05.3±1.3,3°.89N×122°.87E, h580km±15km, mb3.4/19, mb1 3.5/20, mb1mx3.1/48, mbtmp4.3/20, Error ellipse: s-maj=22.1km s-min=8.6km az=64.0*

*DJA **10** 11:34:10.0±1.2,3°.N±12°×12°.3E±°, h520km±16km, M4.2/7, mb4.2/4, mB4.5/3, MLv4.3/7, Mw(mB)3.7/3*

ISC 10 11:34:04.7±0.5,3°.86N±0°.08×122°.9E±0°.1, h573km, n47, σ1§09/55, mb3.8/19, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**3.20**	**177**	P	**P**	**11 35 20.7**	**-2.2**
MRSI	**Marisa**	**3.48**	**195**	P	**P**	**11 35 23.4**	**-1.3**
MPSI	**Mapaga**	**4.58**	**220**	P	**P**	**11 35 32.5**	**-0.1**
LUWI	**Luwuk**	**4.87**	**181**	P	**P**	**11 35 33.4**	**-1.5**
LUWI	**Luwuk** baz=4.7,SNR=5.0	**4.87**	**181**	P	**P**	**11 35 34.2**	**-0.7**
LUWI				S	**S**	**11 36 44.6**	**-3.9**
	baz=4.7,SNR=7.3						
APSI	**Ampana**	**4.89**	**194**	P	**P**	**11 35 34.6**	**-0.5**
TNTI	**Ternate**	**5.45**	**124**	P	**P**	**11 35 39.1**	**-0.6**
	169nm,1.0s,2µm0.7nm						
LBMI	**Labuha**	**6.44**	**134**	P	**P**	**11 35 48.2**	**-0.3**
	47nm,0.6s,886nm0.5nm						
SANI	**Sanana**	**6.65**	**152**	P	**P**	**11 35 49.6**	**-0.8**
	33nm,0.7s,571nm0.3nm						
SANI				S	S	11 37 10.0	-6.8
	33nm,0.7s,571nm0.3nm						
SPSI	**Sidrap Palu**	**8.36**	**202**	P	**P**	**11 36 07.9**	**+1.2**
FAKI	**Fak Fak**	**11.55**	**126**	P	**P**	**11 36 39.3**	**+0.5**
	baz=12,SNR=3.7						
FAKI				S	**S**	**11 38 46.8**	**+1.2**
	baz=12,SNR=4.8						
BATI	**Baumata**	**13.99**	**177**	P	**P**	**11 37 04.3**	**+0.4**
	15nm,0.3s,baz=313,slow=0.8,SNR=12						
MTN	**Manton Dam**	**18.52**	**154**	P	**P**	**11 37 43.7**	**-2.6**
	baz=18,SNR=6.8						
JAY	**Jayapura**	**18.93**	**109**	P	**P**	**11 37 51.2**	**+1.0**
	1.0nm,0.3s,baz=179,slow=2.3,SNR=5.6						
KDU	**Kakadu**	**19.01**	**150**	P	**P**	**11 37 51.2**	**+0.4**
	baz=19,SNR=14						
KNRA	**Kununurra**	**20.27**	**163**	P	**P**	**11 38 03.0**	**+0.8**
	baz=20,SNR=5.3						
WRA	**Warramunga Arr**	**26.21**	**155**	P	**P**	**11 38 55.0**	**0.0**
	4.9nm,0.4s,baz=337,slow=9.6,SNR=90						
WRA				ScP	**ScP**	**11 44 48.9**	**+0.4**
	1.1nm,0.5s,baz=341,slow=3.1,SNR=18						
CMAR	**Chiang Mai Arr**	**27.52**	**304**	P	**P**	**11 39 07.7**	**+1.1**
	1.0nm,0.5s,baz=129,slow=9.4,SNR=8.2						
WRKA	**Warakurna**	**29.20**	**170**	P	**P**	**11 39 22.0**	**+0.9**
	baz=29,SNR=4.5						
QIS	**Mount Isa**	**29.31**	**147**	P	**P**	**11 39 23.4**	**+1.3**
	baz=29,SNR=7.9						
ASAR	**Alice Springs**	**29.40**	**159**	P	**P**	**11 39 23.8**	**+0.9**
	4.0nm,0.7s,baz=342,slow=7.1,SNR=94						
ASAR				S	**S**	**11 43 37.3**	**-0.1**
	0.7nm,0.8s,baz=353,slow=22,SNR=4.6						
ASAR				ScP	**ScP**	**11 44 58.9**	**+0.4**
	1.2nm,0.7s,baz=342,slow=2.5,SNR=12						
MEEK	**Meekatharra**	**30.59**	**187**	P	**P**	**11 39 33.5**	**+0.5**
	baz=30,SNR=3.8						
QLP	**Quilpie**	**36.65**	**147**	P	**P**	**11 40 25.5**	**+1.6**
	baz=37,SNR=3.9						
USRK	**Ussuriysk Ar.**	**40.98**	**10**	P	**P**	**11 40 58.5**	**+0.1**
	1.7nm,0.5s,baz=212,slow=4.1,SNR=4.6						
JIRN	**Jiri**	**42.20**	**308**	*e*P	**P**	**11 41 09.4**	**+0.6**
	3.0nm,0.2s						
GUN	**Gumba**	**42.56**	**308**	*e*P	**P**	**11 41 11.9**	**+0.3**
	19nm,0.7s						
PKI	**Pulchoki**	**42.78**	**307**	*e*P	**P**	**11 41 13.8**	**+0.5**
PKIN	**Phulchoki**	**42.79**	**307**	*e*P	**P**	**11 41 14.8**	**+1.5**
	4.0nm,0.4s						
ASAJ	**Asahikawa**	**43.72**	**21**	P	**P**	**11 41 20.0**	**+0.2**
	2.5nm,0.8s,baz=246,slow=11,SNR=5.4						
KOLN	**Koldanda**	**44.31**	**307**	*e*P	**P**	**11 41 25.8**	**+0.8**
	26nm,0.7s						
DANN	**Dangsing**	**44.43**	**307**	*e*P	**P**	**11 41 26.5**	**+0.5**
	24nm,0.7s						
PYUN	**Piuthan**	**44.94**	**307**	*e*P	**P**	**11 41 30.8**	**+1.0**
	53nm,0.6s						
SONM	**Songino Array**	**46.05**	**345**	P	**P**	**11 41 37.9**	**+0.1**
	2.1nm,0.7s,baz=162,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**55.30**	**327**	P	**P**	**11 42 45.4**	**+0.5**
	3.6nm,0.3s,baz=124,slow=7.5,SNR=135						
MKAR				PcP	**PcP**	**11 43 36.7**	**-0.1**
	1.4nm,0.5s,baz=127,slow=3.9,SNR=11						
MKAR				ScP	**ScP**	**11 46 40.7**	**-0.4**
	0.3nm,0.7s,baz=131,slow=4.4,SNR=3.2						
AAK	**Ala-Archa**	**57.70**	**319**	P	**P**	**11 43 02.3**	**+0.7**
	1.0nm,0.5s,baz=118,slow=2.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**58.77**	**335**	P	**P**	**11 43 06.8**	**-1.6**
	1.4nm,0.6s,baz=113,slow=5.1,SNR=8.0						
ZALV				PcP	**PcP**	**11 43 48.8**	**-1.6**
	0.4nm,0.4s,baz=83,slow=4.6,SNR=2.5						
KURBB	**Kurchatov Arra**	**59.59**	**329**	P	**P**	**11 43 14.2**	**+0.3**
	2.9nm,0.6s,baz=129,slow=6.3,SNR=18						
BVAR	**Borovoye Array**	**65.14**	**328**	P	**P**	**11 43 49.5**	**-0.2**
	0.7nm,0.3s,baz=150,slow=6.8,SNR=8.3						
GEYT	**Alibeck**	**67.81**	**309**	P	**P**	**11 44 06.8**	**+0.2**
	1.4nm,0.3s,baz=268,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**71.17**	**322**	P	**P**	**11 44 26.0**	**-0.3**
	1.8nm,0.3s,baz=107,slow=9.7,SNR=9.8						
KBZ	**Khabaz**	**80.09**	**314**	P	**P**	**11 45 16.2**	**+0.6**
	2.1nm,0.9s,baz=78,slow=4.2,SNR=3.8						
ASF	**Jabal al Asfar**	**84.54**	**302**	P	**P**	**11 45 38.6**	**0.0**
	1.0nm,0.4s,baz=22,slow=0.7,SNR=4.0						
ARCES	**ARCESS Array B**	**88.99**	**340**	P	**P**	**11 45 57.2**	**-1.4**
	2.8nm,1.0s,baz=90,slow=7.6,SNR=5.2						
SPITS	**Spitsberger Ar**	**89.60**	**349**	P	**P**	**11 46 00.7**	**-0.6**
	8.9nm,0.9s,baz=95,slow=5.9,SNR=8.5						
FINES	**FINESS Array B**	**89.88**	**332**	P	**P**	**11 46 01.6**	**-1.4**
	0.9nm,0.6s,baz=72,slow=6.2,SNR=8.1						
MLR	**Muntele Rosu**	**92.12**	**316**	P	**P**	**11 46 13.6**	**-0.2**
	0.2nm,0.4s,baz=176,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**119.20**	**287**	PKP	**PKPdf**	**11 51 49.6**	**-0.7**
	0.4nm,0.6s,baz=87,slow=1.6,SNR=6.9						

IDC 10 11:39:24.9±2.3,4°.60S×145°.53E, h0km, mb3.1/2, mb1 3.5/5, mb1mx3.3/28, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=54.3km s-min=26.3km az=78.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.04**	**161**	Pn	Pn	11 40 40.7	-1.0
	2.1nm,0.3s,baz=333,slow=16,SNR=7.9						
PMG				Sn	Sn	11 41 36.5	-4.2
	1.8nm,0.3s,baz=170,slow=19,SNR=5.3						
JAY	**Jayapura**	**5.24**	**293**	Pn	Pn	11 40 43.4	-1.2
	0.6nm,0.3s,baz=76,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**18.74**	**215**	P	Pn	11 43 46.0	+0.2
	0.1nm,0.3s,baz=37,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.02**	**210**	P	P	11 44 21.2	+0.1
	0.4nm,0.6s,baz=30,slow=14,SNR=7.8						
MKAR	**Makanchi Array**	**75.50**	**321**	P	P	11 51 11.4	+0.3
	0.1nm,0.6s,baz=94,slow=4.6,SNR=2.5						

*ISCJB **10** 12:01:30.2±0.6,32°.61S±0°.04×70°.98W±0°.06, h95km±8km, Error ellipse: s-maj=8.7km s-min=5.2km az=29.9*

*NEIC **10** 12:01:31.2,32°.54S×70°.87W, h80km, MG4.1(GUC), After GUC.*

NEIC Felt [IV] at Puchuncavi; [III] at La Ligua, Los Andes, Quillota, Valparaiso and Villa Alemana; [II] at Santiago.

*SJA **10** 12:01:31.0±1.2,32°.63S×70°.87W, h93km±18km, ML4.1, MW4.7*

*GUC **10** 12:01:31.2±0.5,32°.54S×70°.87W, h80km±5km, ML4.1*

ISC 10 12:01:31.1±1.3,32°.61S±0°.04×70°.96W±0°.06, h86km±11km, n31, σ0§90/45, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.58**	**156**	*e*P	**Pn**	**12 01 45.7**	**-0.5**
PEL				*e*S	**Sn**	**12 01 57.0**	**-0.4**
PEL				AML	AML	12 01 57.7	
	comp=E,22µm,0.3s						
PEL	**Peldehue**	**0.58**	**156**	⇑*e*P	**Pn**	**12 01 45.7**	**-0.5**
PEL				*e*S	**Sn**	**12 01 57.0**	**-0.4**
IHA	**Instituto Hidr**	**0.71**	**234**	⇑*e*P	**Pn**	**12 01 47.9**	**+0.6**
IHA	**Instituto Hidr**	**0.71**	**234**	⇓*e*P	**Pn**	**12 01 47.9**	**+0.6**
CLCH	**Cerro Calan**	**0.86**	**156**	⇓*e*P	**Pn**	**12 01 49.0**	**0.0**
CLCH				*e*S	**Sn**	**12 02 02.5**	**+0.1**
CLCH				AML	AML	12 02 07.0	
	comp=N,5µm,0.4s						
LACH	**Col Las Americ**	**0.92**	**157**	*e*P	**Pn**	**12 01 49.4**	**-0.1**
LACH				*e*S	**Sn**	**12 02 03.6**	**+0.2**
LACH	**Col Las Americ**	**0.92**	**157**	*e*P	**Pn**	**12 01 49.4**	**-0.1**
LACH				*e*S	**Sn**	**12 02 03.6**	**+0.2**
YECH	**El Yeso**	**1.28**	**145**	*e*P	**Pn**	**12 01 55.2**	**+1.0**
YECH				*e*S	**Sn**	**12 02 12.8**	**+1.2**
YECH				AML	AML	12 02 14.0	
	comp=N,5µm,0.8s						
YECH	**El Yeso**	**1.28**	**145**	*e*P	**Pn**	**12 01 55.2**	**+1.0**
YECH				*e*S	**Sn**	**12 02 12.8**	**+1.2**
AUSP	**Uspallata**	**1.39**	**74**	*e*P	**Pn**	**12 01 56.4**	**+1.0**
AUSP				*e*S	**Sn**	**12 02 14.8**	**+1.0**
RTLS	**Leoncito**	**1.63**	**61**	*e*P	**Pn**	**12 01 59.6**	**+1.1**
NICH	**Los Niches**	**2.40**	**185**	*e*P	**Pn**	**12 02 09.5**	**+1.1**
NICH	**Los Niches**	**2.40**	**185**	*e*P	**Pn**	**12 02 09.5**	**+1.1**
RTLL	**Cerro Villicun**	**2.47**	**60**	*e*P	**Pn**	**12 02 10.3**	**+0.8**
RTLL				*e*S	**Sn**	**12 02 40.0**	**+1.1**
CFAA	**Coronel Fontan**	**2.52**	**67**	*e*P	**Pn**	**12 02 10.6**	**+0.5**
CFAA				*e*S	**Sn**	**12 02 40.5**	**+0.5**
AMOG	**MOGNA**	**2.68**	**52**	*e*P	**Pn**	**12 02 13.2**	**+0.9**
AMOG				*e*S	**Sn**	**12 02 44.6**	**+0.6**
TALC	**Talca**	**2.84**	**191**	*e*P	**Pn**	**12 02 14.8**	**+0.5**
TALC	**Talca**	**2.84**	**191**	P	**Pn**	**12 02 14.8**	**+0.5**
ACAN	**Cantantal**	**3.21**	**85**	*e*P	**Pn**	**12 02 19.9**	**+0.6**
ACAN				*e*S	**Sn**	**12 02 55.8**	**-0.8**
LNCH	**Linares**	**3.27**	**189**	*e*P	**Pn**	**12 02 20.3**	**+0.2**
LNCH	**Linares**	**3.27**	**189**	P	**Pn**	**12 02 20.3**	**+0.2**
AVFE	**Valle Fertil**	**3.57**	**58**	*e*P	**Pn**	**12 02 24.7**	**+0.5**
AVFE				*e*S	**Sn**	**12 03 03.4**	**-2.0**
LCO	**Las Campanas**	**3.59**	**4**	*e*Pn	**Pn**	**12 02 24.2**	**-0.6**
LCO				*e*Sn	**Sn**	**12 03 05.8**	**-0.6**
LCO	**Las Campanas**	**3.59**	**4**	*e*S	**Sn**	**12 03 07.6**	**+1.3**
LCO				AML	AML	12 03 32.1	
	comp=N,309nm,0.5s						
VACH	**Vallenar**	**4.03**	**3**	*e*P	**Pn**	**12 02 29.9**	**-0.6**
VACH	**Vallenar**	**4.03**	**3**	*e*P	**Pn**	**12 02 29.9**	**-0.6**
APLL	**PUNTA DE LOS L**	**4.38**	**61**	*e*P	**Pn**	**12 02 35.8**	**+0.5**
PLCA	**Paso Flores**	**8.11**	**178**	*e*Pn	**Pn**	**12 03 26.7**	**+0.5**
TRQA	**Tornquist**	**9.13**	**129**	*e*Pn	**Pn**	**12 03 40.1**	**+0.2**
	comp=N,8.2nm,0.9s						
TRQA				*e*Sn	**Sn**	**12 05 18.3**	**-2.7**
LVC	**Limon Verde**	**10.12**	**11**	Pn	Pn	12 03 48.8	-5.0
LPAZ	**La Paz**	**16.45**	**10**	*e*Pn	**Pn**	**12 05 16.2**	**-1.1**
	comp=N,6.1nm,1.6s						

*IDC **10** 12:09:33.8±1.4,1°.77N×127°.42E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/34, mbtmp3.6/5, Error ellipse: s-maj=137.6km s-min=19.0km az=69.0*

*ISCJB **10** 12:09:47.3±0.8,1°.47N±0°.08×127°.13E±0°.07, h128km, mb3.5/5, Error ellipse: s-maj=11.3km s-min=9.3km az=30.6*

*DJA **10** 12:09:56.5±0.3,1°.N±4°×12°.7E±°, h10km, M4.3/12, mb4.7/1, mB4.9/1, MLv4.1/12, Mw(mB)4.2/1*

ISC 10 12:09:48.0±1.0,1°.35N±0°.08×127°.16E±0°.07, h128km, n14, σ2§05/18, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.61**	**160**	P	**Pn**	**12 10 08.8**	**+1.2**
TNTI				S	**Sn**	**12 10 19.2**	**-3.2**
LBMI	**Labuha**	**2.01**	**170**	P	**Pn**	**12 10 23.9**	**+1.9**
KMSI	**Cibinong**	**3.27**	**256**	P	**Pn**	**12 10 40.1**	**+2.0**
KMSI				S	**Sn**	**12 11 15.0**	**-1.8**
SANI	**Sanana**	**3.58**	**199**	P	**Pn**	**12 10 43.1**	**+0.9**
SANI				S	**Sn**	**12 11 22.7**	**-1.4**
GTOI	**Gorontalo**	**4.21**	**260**	P	**Pn**	**12 10 53.2**	**+2.7**
NLAI	**Namlea**	**4.56**	**181**	P	**Pn**	**12 10 56.1**	**+0.9**
LUWI	**Luwuk**	**4.99**	**242**	P	**Pn**	**12 11 02.2**	**+1.2**
LUWI				S	**Sn**	**12 11 54.6**	**-3.2**
MRSI	**Marisa**	**5.29**	**261**	P	**Pn**	**12 11 06.4**	**+1.4**
APSI	**Ampana**	**5.95**	**248**	P	**Pn**	**12 11 15.2**	**+1.3**
WRA	**Warramunga Arr**	**22.31**	**162**	P	**P**	**12 14 35.6**	**+0.5**
	0.3nm,0.3s,baz=342,slow=12,SNR=16						
ASAR	**Alice Springs**	**25.72**	**166**	P	**P**	**12 15 10.1**	**+3.4**
	0.2nm,0.3s,baz=345,slow=12,SNR=8.0						
SONM	**Songino Array**	**49.67**	**342**	P	**P**	**12 18 25.4**	**-1.5**
	0.6nm,0.6s,baz=151,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**59.74**	**326**	P	**P**	**12 19 39.3**	**-0.1**
	0.8nm,0.5s,baz=118,slow=8.1,SNR=17						
KURBB	**Kurchatov Arra**	**63.96**	**328**	P	**P**	**12 20 07.1**	**-0.4**
	1.0nm,0.6s,baz=126,slow=5.9,SNR=12						

IDC 10 12:12:24.9±2.7,53°.58N×86°.73E, h0km, mb1 2.4/1, mb1mx2.4/40, mbtmp2.4/1, ML2.4/1, Error ellipse: s-maj=23.6km s-min=13.2km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**289**	*i*		12 20 48.3	
	baz=105,slow=336,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.19**	**289**	Pg	Pg	12 12 47.1	-0.6
	0.4nm,0.3s,baz=112,slow=11,SNR=17						
ZALV				Lg	Lg	12 13 04.0	
	0.7nm,0.3s,baz=111,slow=29,SNR=8.7						
MKAR	**Makanchi Array**	**7.37**	**205**	Pn	Pn	12 14 15.2	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=5.9						
MKAR				Lg	Lg	12 16 19.2	
	0.0nm,0.3s,baz=24,slow=31,SNR=2.8						

WEL 10 12:26:00.4±0.7,35°.80S×178°.40E, h195km±8km, ML3.8/13, 1C, Error ellipse: s-maj=11.2km s-min=8.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.76**	**182**	PN	Pn	12 26 35.7	-0.4
MXZ				SN	Sn	12 27 02.6	-1.3
HAZ	**Te Kaha**	**2.01**	**194**	PN	Pn	12 26 38.3	-0.3
HAZ				SN	Sn	12 27 07.7	-0.8
WMGZ	**Waiomatatini S**	**2.01**	**180**	PN	Pn	12 26 39.0	+0.4
WMGZ				SN	Sn	12 27 08.6	0.0
PUZ	**Puketiti**	**2.27**	**183**	PN	Pn	12 26 41.0	-0.4
PUZ				SN	Sn	12 27 13.1	-0.5
PUZ				AML	AML	12 27 13.4	
TWGZ	**Tauwhareparae**	**2.39**	**188**	PN	Pn	12 26 43.4	+0.6
TWGZ				SN	Sn	12 27 16.1	+0.1
OPRZ	**Ohinepanea**	**2.52**	**215**	PN	Pn	12 26 45.5	+1.4
MWZ	**Matawai**	**2.62**	**195**	PN	Pn	12 26 45.7	+0.3
MWZ				AML	AML	12 27 34.3	
URZ	**Urewera**	**2.66**	**202**	PN	Pn	12 26 45.9	+0.1
URZ				AML	AML	12 27 29.5	
TKGZ	**Te Karaka**	**2.67**	**189**	⇑PN	Pn	12 26 46.0	+0.2
CNGZ	**Carnagh Statio**	**2.68**	**183**	PN	Pn	12 26 46.6	+0.6
RIGZ	**Rimuhau**	**2.94**	**190**	PN	Pn	12 26 49.0	-0.1
SNGZ	**Shannon Statio**	**3.09**	**196**	PN	Pn	12 26 51.2	+0.3
PRGZ	**Paritu Road**	**3.14**	**187**	PN	Pn	12 26 51.3	-0.2
KNZ	**Kokohu**	**3.27**	**190**	PN	Pn	12 26 52.2	-0.7
RAHZ	**Arahi**	**3.28**	**198**	PN	Pn	12 26 53.1	-0.1
MHGZ	**Mahia Peninsul**	**3.37**	**187**	PN	Pn	12 26 53.9	-0.3
WHHZ	**Waihua**	**3.40**	**195**	PN	Pn	12 26 54.7	+0.2
NMHZ	**Naumai**	**3.53**	**201**	PN	Pn	12 26 56.2	0.0
ARHZ	**Aropaoanui**	**3.63**	**197**	PN	Pn	12 26 57.0	-0.3
BKZ	**Black Stump Fm**	**3.69**	**204**	PN	Pn	12 26 57.9	-0.3
MCHZ	**McNeill Hill**	**3.88**	**200**	PN	Pn	12 27 00.1	-0.3
BHHZ	**Black Hill Sta**	**4.12**	**206**	PN	Pn	12 27 02.8	-0.7
FWVZ	**Far West T-bar**	**4.12**	**212**	PN	Pn	12 27 03.7	-0.1
KRHZ	**Kereru**	**4.16**	**202**	PN	Pn	12 27 02.9	-1.0
TRVZ	**Turoa**	**4.16**	**212**	PN	Pn	12 27 03.4	-0.9
WNVZ	**Wahianoa**	**4.16**	**211**	PN	Pn	12 27 04.0	-0.2
**

comp=E,5.2nm,0.4s
DZET ⇓S **Sn** **12 29 59.9 -4.0**
comp=E,17nm,0.6s
KKN Kakani 9.05 122 *e*Pn **Pn** **12 28 33.4 +1.2**
PKIN Phulchoki 9.26 122 *e*Pn **Pn** **12 28 36.2 +1.1**
PKIN *e*Sn **Sn** **12 30 15.1 -4.1**
comp=E,35nm,0.4s
PKI Pulchoki 9.27 122 *e*Pn **Pn** **12 28 35.9 +0.6**
PKI *e*Sn **Sn** **12 30 16.0 -3.5**
comp=E,39nm,0.4s
GUN Gumba 9.42 119 *e*Pn **Pn** **12 28 37.7 +0.4**
GUN *e*Sn **Sn** **12 30 19.1 -4.0**
comp=E,42nm,0.6s
JIRN Jiri 9.79 119 *e*Pn **Pn** **12 28 42.7 +0.3**
JIRN *e*Sn Sn 12 30 27.0 -5.2
comp=E,39nm,0.3s
AAK Ala-Archa 9.90 351 ⇑P **Pn** **12 28 45.4 +1.7**
comp=E,2.4nm,0.6s
AAK ⇑S **Sn** **12 30 35.8 +1.2**
comp=E,13nm,1.0s
AAK Ala-Archa 9.90 351 Pn **Pn** **12 28 45.1 +1.4**
comp=E,0.5nm,0.3s,baz=164,slow=5.0,SNR=4.6
AAK Sn **Sn** **12 30 36.3 +1.7**
comp=E,0.5nm,0.3s,baz=262,slow=10.0,SNR=4.3
TKM2 Tokmak 2 10.07 356 ⇑P **Pn** **12 28 48.6 +2.4**
comp=E,3.4nm,0.9s
TKM2 ⇑S **Sn** **12 30 40.7 +1.7**
comp=E,5.5nm,0.9s
MNAS Manas 10.14 343 ⇑P **Pn** **12 28 49.1 +2.2**
comp=E,2.6nm,0.4s
MNAS ⇑S **Sn** **12 30 38.9 -1.6**
comp=E,10nm,0.6s
RAMN Ramite 10.49 122 *e*Pn **Pn** **12 28 52.2 +0.2**
RAMN *e*Sn Sn 12 30 44.2 -5.2
comp=E,30nm,0.3s
PDGK Podgornoye 10.70 11 ⇑P Pn 12 28 58.6 +4.2
comp=E,3.2nm,0.6s
PDGK ⇑S **Sn** **12 30 57.2 +3.4**
comp=E,10nm,0.9s
KK31 Karatay Array 11.29 337 ⇑P **Pn** **12 29 02.9 +0.3**
comp=E,1.4nm,0.4s,baz=154,slow=12,SNR=9.6
KK31 ⇑S **Sn** **12 31 05.5 -3.0**
comp=E,3.3nm,0.4s,baz=165,slow=24,SNR=11
MK31 Makanchi Array 14.58 16 ⇑P **Pn** **12 29 49.0 +1.3**
comp=E,1.1nm,0.7s,baz=201,slow=14,SNR=44
MK31 S Sn 12 32 23.2 -5.7
comp=E,5.1nm,1.1s,baz=194,slow=18,SNR=13
MKAR Makanchi Array 14.58 16 Pn **Pn** **12 29 48.7 +1.1**
comp=E,0.4nm,0.3s,baz=198,slow=13,SNR=25
MKAR Sn Sn 12 32 24.2 -4.7
comp=E,0.2nm,0.3s,baz=199,slow=21,SNR=9.6
GEYT Alibeck 15.88 294 Pn **Pn** **12 30 02.2 -2.7**
comp=E,0.5nm,0.3s,baz=110,slow=16,SNR=2.8
KURBB Kurchatov Arra 17.81 4 Pn **Pn** **12 30 27.7 -1.2**
comp=E,0.1nm,0.3s,baz=189,slow=11,SNR=9.3
AB31 Akbulak array 20.56 328 P **P** **12 30 59.7 -0.1**
comp=E,1.4nm,0.5s,baz=134,slow=11,SNR=25
BVA0 Borovoye Array 20.64 349 ⇑P **P** **12 31 01.6 +0.9**
comp=E,3.0nm,0.8s,baz=0.0,slow=0.1,SNR=8.4
BVAR Borovoye Array 20.64 349 P **P** **12 31 00.2 -0.5**
comp=E,0.9nm,0.5s,baz=156,slow=11,SNR=7.5
ZALV Zalesovo Beam 21.88 13 P **P** **12 31 14.4 +0.4**
comp=E,1.7nm,0.6s,baz=209,slow=9.1,SNR=11
AKTO Aktyubinsk 22.28 328 ⇑P **P** **12 31 18.0 -0.3**
comp=E,9.0nm,1.1s
AKTO Aktyubinsk 22.28 328 P **P** **12 31 18.0 -0.3**
comp=E,7.3nm,0.9s,baz=126,slow=9.2,SNR=20
CMAR Chiang Mai Arr 24.66 120 P **P** **12 31 43.3 +1.2**
comp=E,0.8nm,0.6s,baz=303,slow=9.5,SNR=5.2
SONM Songino Array 26.99 48 P **P** **12 32 05.2 +2.1**
comp=E,0.7nm,0.6s,baz=258,slow=7.0,SNR=4.0
BRTR Keskin Array B 35.03 294 P **P** **12 33 13.8 -0.3**
comp=E,1.5nm,0.7s,baz=100,slow=9.6,SNR=7.8
FINES FINESS Array B 43.05 327 P **P** **12 34 19.8 -0.8**
comp=E,0.9nm,0.6s,baz=119,slow=1.1,SNR=8.0
ARCES ARCESS Array B 46.25 338 P **P** **12 34 46.2 +0.1**
comp=E,0.9nm,0.5s,baz=108,slow=7.8,SNR=12
NB2 NORSAR Subarra 50.03 325 P **P** **12 35 14.8 -0.7**
comp=Z,0.4nm,0.4s,baz=94,slow=7.9
NOA NORSAR Array B 50.03 325 P **P** **12 35 14.7 -0.7**
comp=Z,0.5nm,0.7s,baz=94,slow=7.5,SNR=3.9
TORD Torodi Ar. Bea 70.38 273 P P 12 37 32.5 -3.1
comp=Z,0.5nm,0.8s,baz=55,slow=4.2,SNR=5.9
WRA Warramunga Arr 76.15 125 P **P** **12 38 08.8 -0.6**
comp=Z,0.2nm,0.5s,baz=323,slow=6.2,SNR=6.4
ILAR Eielson Array 76.93 18 P **P** **12 38 13.8 +0.6**
comp=Z,0.7nm,0.9s,baz=310,slow=5.0,SNR=8.0
ASAR Alice Springs 78.39 128 P **P** **12 38 20.9 -1.1**
comp=Z,0.2nm,0.9s,baz=309,slow=4.8,SNR=2.5
YKA Yellowknife Ar 84.55 5 P **P** **12 38 54.1 +0.1**
comp=Z,1.2nm,0.6s,baz=343,slow=5.2,SNR=30

*IDC **10** 12:44:10.0±1.6,2˚.76N×93˚.64E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/36, mbtmp3.6/7, ML3.9/1, Error ellipse: s-maj=59.2km s-min=20.5km az=54.0*
*DJA **10** 12:44:16.4±1.9,3˚N±19˚×9˚4E±1˚8, h151km±28km, M4.3/6, mb4.6/1, mB5.0/1, MLv4.2/6, Mw(mB)4.3/1*
ISC 10 12:44:12.5±1.0,3.0N±0.2×93.82E±0.09, h18km, n16, σ1§69/13, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SNSI	**Sinabang, Aceh**	**2.57**	**103**	P		**Pn**	**12 44 54.4**	**+1.2**
TPTI		**3.36**	**85**	P		**Pn**	**12 45 04.1**	**0.0**
TPTI				S		**Sn**	**12 45 40.7**	**-2.9**
KCSI	**Kotacane, Aceh**	**3.98**	**82**	P		**Pn**	**12 45 13.1**	**+0.5**
TSI	**Tuntungan**	**4.76**	**84**	P		Pn	12 45 18.8	-4.6
MNSI	**Mandailing Nat**	**6.15**	**111**	P		**Pn**	**12 45 42.2**	**-0.3**
PALK	**Pallekele**	**13.74**	**289**	Pn		**Pn**	**12 47 24.1**	**-2.5**
PALK	0.6nm,0.3s,baz=114,slow=12,SNR=2.3			Sn		Sn	12 49 44.4	-15
	1.1nm,0.3s,baz=65,slow=14,SNR=3.5							
CMAR	**Chiang Mai Arr**	**16.17**	**18**	Pn		**P**	**12 48 01.4**	**-0.7**
	baz=212,slow=11,SNR=5.7							
H08S2	**Diego Garcia H**	**23.76**	**243**	T		T	13 14 44.0	
	baz=63,slow=75,SNR=14							
H08S3	**Diego Garcia H**	**23.76**	**244**	T		T	13 14 51.5	
	baz=63,slow=75,SNR=18							
H08S1	**Diego Garcia H**	**23.78**	**244**	T		T	13 14 45.0	
	baz=63,slow=75,SNR=15							
MKAR	**Makanchi Array**	**44.77**	**349**	P		**P**	**12 52 26.9**	**+1.8**
	0.6nm,0.5s,baz=165,slow=8.4,SNR=12							
WRA	**Warramunga Arr**	**45.84**	**122**	P		**P**	**12 52 34.3**	**+0.4**
	0.6nm,0.5s,baz=299,slow=8.7,SNR=12							
ASAR	**Alice Springs**	**47.16**	**126**	P		**P**	**12 52 44.6**	**+0.4**
	0.3nm,0.5s,baz=292,slow=7.3,SNR=5.7							
KURBB	**Kurchatov Arra**	**49.19**	**347**	P		**P**	**12 53 01.1**	**+1.7**
	0.3nm,0.6s,baz=158,slow=7.9,SNR=4.8							
ZALV	**Zalesovo Beam**	**51.33**	**353**	P		**P**	**12 53 17.5**	**+1.9**
	0.5nm,0.4s,baz=165,slow=7.8,SNR=2.8							
TXAR	**Lajitas Array**	**143.75**	**26**	PKP		**PKPdf**	**13 03 48.5**	**+1.1**
	0.3nm,0.9s,baz=296,slow=2.9,SNR=2.7							

*ISCJB **10** 12:46:32.3±0.9,32˚.01N±0˚.03×115˚.08W±0˚.04, h15km±7km, Error ellipse: s-maj=6.8km s-min=4.7km az=36.0*
*NEIC **10** 12:46:32.6±0.6,31˚.94N×115˚.01W, h10km, MD3.6(MEX), Error ellipse: s-maj=7.3km s-min=7.0km az=59.0*
NEIC Felt at Mexicali and Tijuana. Also felt in parts of southern California.
*MEX **10** 12:46:37.0±0.6,31˚.98N×115˚.12W, h16km±7km, MD3.6*
ISC 10 12:46:33.3±1.4,31.93N±0˚.03×115.12W±0˚.03, h18km±7km, n22, σ1§45/37, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MBIG	**Mexicali**	**0.48**	**352**	*i* P		**Pb**	**12 46 44.0**	**+0.7**
MBIG				*i* S		**Sb**	**12 46 49.8**	**-0.3**
CPBX	**Cerro Prieto**	**0.51**	**342**	*i* P		**Pn**	**12 46 44.8**	**-1.0**
CPBX				*i* S		**Sb**	**12 46 50.7**	**-0.3**
SPIG	**San Pedro Mart**	**0.93**	**199**	*e*P		**Pb**	**12 46 52.4**	**+1.2**
SPIG				*i* S		**Sb**	**12 47 04.2**	**+0.9**
SPIG	**San Pedro Mart**	**0.93**	**199**	*e*P		**Pb**	**12 46 52.4**	**+1.2**
SPIG				*i* S		**Sb**	**12 47 04.2**	**+0.9**
SPX	**San Pedro Mart**	**0.93**	**199**	*e*P		**Pb**	**12 46 52.3**	**+1.1**
SPX				*i* S		**Sb**	**12 47 03.9**	**+0.6**
GLA	**Glamis**	**1.15**	**12**	*e*Pg		**Pg**	**12 46 56.1**	**+0.6**
GLA				*e*Sg		**Sb**	**12 47 07.0**	**-2.2**
CBX	**Cerro Bola**	**1.37**	**287**	*e*P		**Pn**	**12 46 57.5**	**-0.2**
CBX				*e*S		**Sn**	**12 47 13.5**	**-1.9**
CBX	**Cerro Bola**	**1.37**	**287**	*e*P		**Pn**	**12 46 57.5**	**-0.2**
CBX				*e*S		**Sn**	**12 47 13.5**	**-1.9**
BAR	**Barrett**	**1.52**	**300**	Pg		**Pg**	**12 47 04.0**	**+1.4**
BAR				*e*Sg		**Sg**	**12 47 22.7**	**+0.4**
214A	**Organ Pipe Nat**	**1.96**	**89**	*e*Pn		**Pn**	**12 47 03.4**	**-2.3**
PFO	**Pinyon Flats O**	**2.02**	**326**	*e*Pn		**Pn**	**12 47 05.6**	**-1.0**
LDFC	**Landfair**	**3.14**	**0**	*e*Pn		**Pn**	**12 47 21.9**	**-0.1**
LDFC				*e*Pg		**Pg**	**12 47 35.0**	**+1.4**
MWC	**Mount Wilson**	**3.37**	**314**	*e*Pg		**Pg**	**12 47 37.3**	**-0.6**
MWC				*e*Sg		**Sg**	**12 48 20.2**	**-1.4**
GSC	**Goldstone, Bar**	**3.65**	**338**	*e*Pn		**Pn**	**12 47 28.0**	**-1.0**
TUC	**Tucson**	**3.69**	**83**	*e*Pn		**Pn**	**12 47 26.6**	**-3.1**
TUC				*e*Sg		**Sb**	**12 48 23.8**	**+1.1**
SHPR	**Sheep Range**	**4.56**	**360**	*e*Pn		**Pn**	**12 47 42.6**	**+0.9**
SHPR				*e*Sg		**Sb**	**12 48 52.2**	**+4.4**
ISA	**Isabella, Lake**	**4.66**	**324**	*e*Pg		**Pg**	**12 48 02.3**	**-0.2**
ISA				*e*Sg		**Sg**	**12 49 01.8**	**-1.0**
WUAZ	**Wupatki**	**4.75**	**40**	*e*Pn		**Pn**	**12 47 44.7**	**+0.5**
WUAZ				*e*Sn		**Sn**	**12 48 39.9**	**+1.0**
W18A	**Petrified Fore**	**5.50**	**53**	*e*Pn		**Pn**	**12 47 54.9**	**+0.3**
CCUT	**Cedar City**	**5.79**	**14**	*e*Pn		**Pn**	**12 47 58.5**	**-0.1**
CCUT				*e*Sg		Sg	12 49 32.8	-6.4
ARUT	**Antelope Range**	**6.00**	**13**	*e*Pn		**Pn**	**12 48 01.8**	**+0.3**
121A	**Cookes Peak, D**	**6.24**	**83**	*e*Pn		**Pn**	**12 48 03.6**	**-1.1**

*NIED **10** 12:55:00,25˚.50N×141˚.20E, h59km, Mw4.2 Best double couple: M₀2.23000×10¹⁵ NP1:φ₁257.00000°, δ15.00000°, λ143.00000°. NP2:φ₂24.00000°, δ81.00000°, λ78.00000°.*
*ISCJB **10** 12:55:35.1±0.7,25˚.25N±0˚.06×141˚.02E±0˚.09, h100km, mb3.8/14, Error ellipse: s-maj=12.1km s-min=6.6km az=27.4*
*IDC **10** 12:55:39.7±0.8,25˚.45N×141˚.38E, h132km±7km, mb3.4/11, mb1 3.5/14, mb1mx3.4/28, mbtmp3.8/14, Error ellipse: s-maj=23.1km s-min=11.4km az=105.0*
*JMA **10** 12:55:41.7±0.2,25˚.50N×141˚.23E, h97km, M4.7*
ISC 10 12:55:37.0±0.8,25.34N±0˚.08×141˚.1E±0˚.1, h100km, n36, σ1§74/34, mb3.9/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.62**	**37**	P		**Pn**	**12 56 07.0**	**+2.3**
JHHJ				S		**Sn**	**12 56 26.0**	**+0.3**
CBIJ	**Chichi jima**	**2.01**	**29**	P		**Pn**	**12 56 11.9**	**+2.3**
CBIJ				*e*S		**Sn**	**12 56 35.1**	**+0.5**
JCJ	**Chichijima**	**2.01**	**29**	P		**Pn**	**12 56 12.0**	**+2.4**
	baz=259,slow=10							
JCJ				S		**Sn**	**12 56 35.0**	**+0.4**
	baz=253,slow=19							
JMY	**Miyakejima3**	**8.81**	**351**	P		Pn	12 57 45.2	+3.7
JMY				*e*S		**Sn**	**12 59 18.9**	**-0.1**
BSO3	**Boso 3**	**9.45**	**357**	P		**Pn**	**12 57 51.3**	**+1.5**
JIM2	**Oshima 3**	**9.46**	**352**	P		Pn	12 57 53.7	+3.5
BSO4	**Boso 4**	**9.64**	**356**	P		**Pn**	**12 57 54.1**	**+1.5**
TATJ	**Tateyama 2**	**9.72**	**354**	P		**Pn**	**12 57 54.7**	**+1.0**
TATJ				*e*S		**Sn**	**12 59 38.4**	**-2.6**
HMMJ	**Hamamatsu 2**	**9.92**	**344**	P		Pn	12 58 00.4	+3.9
JOD2	**Odawara 2**	**10.04**	**351**	P		**Pn**	**12 58 00.6**	**+2.4**
JRY	**Ryogami san**	**10.81**	**351**	P		**Pn**	**12 58 09.3**	**+0.7**
MJAR	**Matsushiro Arr**	**11.44**	**348**	P		**Pn**	**12 58 17.8**	**+0.7**
	1.0nm,0.3s,baz=159,slow=10,SNR=13							
MAT	**Matsushiro**	**11.44**	**348**	P		**Pn**	**12 58 17.5**	**+0.4**
KSRS	**Korea Array**	**16.48**	**320**	P		**P**	**12 59 25.3**	**+2.4**
	0.3nm,0.3s,baz=135,slow=12,SNR=12							
ASAJ	**Asahikawa**	**18.77**	**3**	P		**P**	**12 59 48.5**	**+0.3**
	1.0nm,0.3s,baz=232,slow=12,SNR=12							
H11N2	**WAKE ISLAND Hy**	**24.46**	**98**	T		T	13 25 38.7	
	baz=287							
H11N1	**WAKE ISLAND Hy**	**24.46**	**98**	T		T	13 25 36.8	
	baz=287							
H11N3	**WAKE ISLAND Hy**	**24.48**	**98**	T		T	13 25 35.6	
	baz=287							
H11S3	**WAKE ISLAND Hy**	**24.68**	**101**	T		T	13 26 34.8	
	baz=291							
H11S1	**WAKE ISLAND Hy**	**24.69**	**101**	T		T	13 26 35.4	
	baz=291							
H11S2	**WAKE ISLAND Hy**	**24.70**	**101**	T		T	13 26 37.3	
	baz=291							
SEY	**Seymchan**	**38.33**	**8**	P		**P**	**13 02 47.5**	**-0.2**
	0.9nm,0.5s,baz=75,slow=23,SNR=4.9							
CMAR	**Chiang Mai Arr**	**39.58**	**269**	P		**P**	**13 03 00.6**	**+2.0**
	0.4nm,0.4s,baz=63,slow=8.2,SNR=3.7							
WRA	**Warramunga Arr**	**45.48**	**189**	P		**P**	**13 03 46.9**	**+0.5**
	13nm,0.5s,baz=9.9,slow=8.7,SNR=246							
ASAR	**Alice Springs**	**49.21**	**189**	P		**P**	**13 04 15.3**	**+0.1**
	0.5nm,0.5s,baz=18,slow=12,SNR=7.8							
ZALV	**Zalesovo Beam**	**50.18**	**320**	P		**P**	**13 04 22.5**	**+0.2**
	0.3nm,0.4s,baz=103,slow=4.6,SNR=2.8							
MKAR	**Makanchi Array**	**50.85**	**311**	P		**P**	**13 04 27.7**	**+0.2**
	0.4nm,0.6s,baz=97,slow=6.8,SNR=4.8							
ILAR	**Eielson Array**	**59.72**	**28**	P		**P**	**13 05 28.6**	**-2.2**
	0.7nm,0.8s,baz=257,slow=5.9,SNR=9.3							
ILAR				pP		**pP**	**13 05 58.5**	**+3.1**
	1.1nm,0.8s,baz=259,slow=5.7,SNR=4.6							
INK	**Inuvik**	**65.03**	**24**	P		**P**	**13 06 04.3**	**-1.7**
	0.2nm,0.4s,baz=296,slow=1.7,SNR=3.0							
INK				pP		**PcP**	**13 06 37.5**	**-0.7**
	1.0nm,0.8s,baz=226,slow=8.8,SNR=3.1							
YKA	**Yellowknife Ar**	**74.15**	**28**	P		**P**	**13 07 00.4**	**-1.8**
	0.3nm,0.8s,baz=288,slow=5.8,SNR=5.1							
YKA				pP		pP	13 07 33.3	+5.6
	0.7nm,0.8s,baz=295,slow=5.7,SNR=6.9							
ARCES	**ARCESS Array B**	**74.87**	**341**	P		**P**	**13 07 04.8**	**-1.6**
	2.6nm,1.0s,baz=59,slow=4.7,SNR=3.9							
JOF	**Joensuu**	**76.21**	**334**	*e*p		**P**	**13 07 11.5**	**-2.6**
	1.1nm,0.6s							
KAF	**Kangasniemi**	**78.62**	**334**	*e*p		**P**	**13 07 25.4**	**-2.1**
	1.5nm,0.5s							
FINES	**FINESS Array B**	**79.08**	**334**	P		**P**	**13 07 28.4**	**-1.6**
	1.2nm,0.4s,baz=82,slow=5.1,SNR=18							
NB2	**NORSAR Subarra**	**84.87**	**338**	P		**P**	**13 07 58.0**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=53,slow=5.1							
NOA	**NORSAR Array B**	**84.87**	**338**	P		**P**	**13 07 58.1**	**-2.3**
	comp=Z,1.2nm,0.6s,baz=46,slow=4.8,SNR=5.4							

*GUC **10** 13:06:34.2±0.5, 19˚.58S×70˚.68W, h40km±1km, ML3.9*
*NEIC **10** 13:06:35.9±0.8, 19˚.68S×70˚.76W, h35km, mb4.2/2, Error ellipse: s-maj=20.7km s-min=15.9km az=104.0*
*IDC **10** 13:06:43.2±5.5, 19˚.42S×70˚.23W, h96km±41km, mb3.8/4, mb1 3.9/6, mb1mx3.5/34, mbtmp4.1/6, MS3.0/2, Ms1 3.1/2, ms1mx2.8/23, Error ellipse: s-maj=52.6km s-min=32.9km az=30.0*
ISC 10 13:06:33.0±1.4, 19.58S±0.05×70.76W±0.07, h19km±4km, n27, σ1§24/28, mb4.3/5, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PSGC	**Pisagua**	**0.60**	**92**	*i* P		**Pg**	**13 06 45.0**	**0.0**
PSGC				*i* S		**Sg**	**13 06 53.2**	**+0.1**
PSGC				AML		AML	13 06 53.9	
	comp=N,9μm,0.4s							
HMBC	**Humberstone**	**1.07**	**131**	*i* P		**Pb**	**13 06 52.9**	**-0.2**
HMBC				*i* S		**Sb**	**13 07 06.9**	**+0.1**
HMBC				AML		AML	13 07 12.4	
	comp=N,5μm,1.0s							
MNMC	**Minimini**	**1.18**	**68**	*i* P		**Pn**	**13 06 54.6**	**-0.1**
MNMC				*i* S		**Sb**	**13 07 09.6**	**-0.4**
MNMC				AML		AML	13 07 13.6	
	comp=E,11μm,0.3s							
PATCX	**Punta Patache**	**1.36**	**156**	*i* P		**Pb**	**13 06 57.4**	**-0.5**
PATCX				*i* S		**Sb**	**13 07 15.5**	**+0.5**
PATCX				AML		AML	13 07 18.8	
	comp=E,2μm,0.4s							
PB01	**IPOC Station P**	**1.88**	**141**	*i* P		**Pn**	**13 07 05.0**	**+0.7**
PB01				*i* S		**Sn**	**13 07 28.4**	**+0.9**
PB01				AML		AML	13 07 34.3	
	comp=E,1μm,0.5s							
PB07	**IPOC Station P**	**2.29**	**159**	*i* P		**Pn**	**13 07 10.7**	**+0.8**
PB07				*e*S		**Sn**	**13 07 38.0**	**+0.3**
PB07				AML		AML	13 07 46.8	
	comp=E,1μm,0.6s							
PB09	**IPOC Station P**	**2.62**	**148**	*i* P		**Pn**	**13 07 16.0**	**+1.5**
PB09				*e*S		**Sn**	**13 07 46.8**	**+0.9**
PB06	**IPOC Station P**	**3.30**	**161**	*e*P		**Pn**	**13 07 23.8**	**-0.1**
PB06				*e*S		**Sn**	**13 08 00.7**	**-2.0**
PB06				AML		AML	13 08 21.1	
	comp=N,543nm,0.5s							
LVC	**Limon Verde**	**3.48**	**151**	*e*Pn		**Pn**	**13 07 28.1**	**+1.8**
LVC				*e*Sn		**Sb**	**13 08 13.5**	**-2.6**
LPAZ	**La Paz**	**4.12**	**38**	P		Pn	13 07 40.0	+4.5
	comp=N,3.2nm,0.3s,baz=228,slow=4.7,SNR=66							
LPAZ				LR		LR	13 09 22.4	
	comp=N,220nm,20.6s,baz=232,slow=43							
SIV	**San Ignacio**	**9.89**	**70**	P		**Pn**	**13 08 54.4**	**+0.2**
	comp=N,1.2nm,0.3s,baz=263,slow=13,SNR=11							
PTGA	**Pitinga**	**21.51**	**31**	P		**P**	**13 11 19.4**	**-1.5**
	comp=N,11nm,0.3s,baz=197,slow=19,SNR=34							
PTGA	**Pitinga**	**21.51**	**31**	*e*P		**P**	**13 11 18.4**	**-2.5**
	comp=N,4.9nm,0.4s							
ROSC	**El Rosal**	**24.53**	**351**	LR		LR	13 22 01.8	
	comp=N,35nm,18.8s,baz=208,slow=38							
QSPA	**South Pole Qui**	**70.60**	**180**	P		**P**	**13 17 45.9**	**-1.1**
	comp=N,3.3nm,1.3s							
PDAR	**Pinedale Array**	**71.59**	**331**	P		**P**	**13 17 55.5**	**+2.2**
	comp=N,0.3nm,0.7s,baz=148,slow=7.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**78.36**	**71**	P		**P**	**13 18 31.3**	**-1.4**
	comp=N,2.5nm,0.7s,baz=251,slow=5.5,SNR=16							
YKA	**Yellowknife Ar**	**88.81**	**341**	P		**P**	**13 19 25.5**	**+0.3**
	comp=N,0.8nm,0.7s,baz=133,slow=4.7,SNR=19							
H11S2	**WAKE ISLAND Hy**	**25.89**	**279**	T		T	15 44 42.6	
	baz=101,slow=75,SNR=46							
H11S1	**WAKE ISLAND Hy**	**25.90**	**279**	T		T	15 44 41.9	
	baz=101,slow=75,SNR=49							
H11S3	**WAKE ISLAND Hy**	**25.91**	**279**	T		T	15 44 42.9	
	baz=101,slow=75,SNR=39							
H11N3	**WAKE ISLAND Hy**	**25.93**	**281**	T		T	15 44 44.3	
	baz=100,slow=74,SNR=29							
H11N2	**WAKE ISLAND Hy**	**25.95**	**281**	T		T	15 44 47.5	
	baz=100,slow=74,SNR=51							
H11N1	**WAKE ISLAND Hy**	**25.95**	**281**	T		T	15 44 44.6	
	baz=100,slow=74,SNR=23							
ASAR	**Alice Springs**	**130.75**	**210**	PKP		**PKPdf**	**13 25 43.8**	**0.0**
	comp=N,0.3nm,0.6s,baz=130,slow=1.4,SNR=4.5							
WRA	**Warramunga Arr**	**133.66**	**213**	PKP		**PKPdf**	**13 25 49.7**	**+0.4**
	comp=N,0.3nm,0.7s,baz=154,slow=1.6,SNR=5.1							
MKAR	**Makanchi Array**	**145.03**	**33**	PKP		**PKPab**	**13 26 08.6**	**+0.2**
	comp=N,2.1nm,0.7s,baz=323,slow=3.8,SNR=25							

*IDC **10** 13:09:19.3±1.4,6˚.60S×129˚.30E, h0km, mb3.8/5, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML4.3/3, Error ellipse: s-maj=47.1km s-min=26.1km az=78.0*
ISC 10 13:09:21.1±1.1, 6.7S±0.1×129.3E±0.1, h10km, n15, σ1§60/13, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FAKI	**Fak Fak**	**4.79**	**39**	P		Pg	13 11 00.6	+7.8
	baz=5.9,SNR=6.1							
FAKI				S		Sg	13 12 02.6	+7.7
	baz=5.9,SNR=12							
MTN	**Manton Dam**	**6.40**	**163**	P		Pn	13 11 02.3	+6.9
	baz=5.9,SNR=206							
MTN				S		**Sn**	**13 12 07.3**	**-1.3**
	baz=5.9,SNR=8.7							
BATI	**Baumata**	**6.54**	**237**	Pn		**Pn**	**13 10 59.2**	**+1.7**
	6.0nm,0.3s,baz=72,slow=9.6,SNR=18							
BATI				Sn		Sn	13 11 59.9	-12
	13nm,0.3s,baz=18,slow=16,SNR=10							
KDU	**Kakadu**	**6.76**	**152**	P		Pb	13 11 09.6	-9.2
	baz=6.5,SNR=269							
KDU				S		**Sn**	**13 12 18.1**	**+0.5**
	baz=6.5,SNR=9.2							
KNRA	**Kununurra**	**8.95**	**183**	P		**Pn**	**13 11 31.4**	**+0.9**
	baz=8.2,SNR=74							
KNRA				S		Sn	13 12 56.7	-15
	baz=8.2,SNR=13							
WRA	**Warramunga Arr**	**14.08**	**160**	Pn		**Pn**	**13 12 40.7**	**-0.1**
	1.6nm,0.3s,baz=339,slow=13,SNR=73							
WRA				Sn		Sn	13 15 05.0	-12
	1.3nm,0.3s,baz=332,slow=21,SNR=8.0							
COEN	**Coen**	**15.48**	**119**	P		P	13 13 12.1	+7.9
	baz=16,SNR=5.7							
QIS	**Mount Isa**	**17.06**	**145**	P		**P**	**13 13 24.3**	**+2.6**
	baz=17,SNR=3.7							
ASAR	**Alice Springs**	**17.47**	**166**	P		**P**	**13 13 25.1**	**-1.1**
	1.1nm,0.3s,baz=335,slow=10,SNR=72							
ASAR				S		Sn	13 16 26.7	-13
	0.4nm,0.3s,baz=345,slow=21,SNR=5.8							
WRKA	**Warakurna**	**18.27**	**183**	P		**Pn**	**13 13 31.6**	**-3.3**
	baz=18,SNR=16							
CMAR	**Chiang Mai Arr**	**38.96**	**310**	P		**P**	**13 16 47.6**	**-0.1**
	0.3nm,0.4s,baz=145,slow=6.6,SNR=3.1							
MKAR	**Makanchi Array**	**67.56**	**327**	P		**P**	**13 20 17.9**	**+0.2**
	0.8nm,0.6s,baz=126,slow=6.8,SNR=16							
ZALV	**Zalesovo Beam**	**70.97**	**334**	P		**P**	**13 20 38.3**	**-0.4**
	0.6nm,0.5s,baz=149,slow=6.1,SNR=4.6							
KURBB	**Kurchatov Arra**	**71.85**	**329**	P		**P**	**13 20 43.2**	**-0.9**
	0.6nm,0.5s,baz=132,slow=4.9,SNR=9.3							
BVAR	**Borovoye Array**	**77.40**	**328**	P		**P**	**13 21 15.8**	**-0.5**
	0.5nm,0.5s,baz=131,slow=7.9,SNR=4.7							

INK	**Inuvik**	**73.74**	**9**	P	**P**	**13 29 34.0**	**+0.3**
	1.7nm,1.1s,baz=344,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**81.05**	**2**	P	**P**	**13 30 13.7**	**-0.5**
	0.1nm,0.8s,baz=353,slow=5.1,SNR=4.0						

*DJA **10** 13:20:29.3±1.9,4°S±10°×10°0E±1°,7,h44km±63km,M3.6/6, MLv3.6/6*

*IDC **10** 13:20:29.1±2.4,3°07S×100°87E,h0km,mb3.5/8, mb1 3.6/8,mb1mx3.4/45,mbtmp3.5/8,MS2.9/1,Ms1 2.9/1, ms1mx2.4/21,Error ellipse: s-maj=106.8km s-min=18.4km az=55.0*

ISC 10 13:20:32.7±1.3,3°2S±0°1×100°7E±0°1,h29km,n23,
σ1§08/17,mb3.6/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.55**	**89**	P	**Pb**	**13 21 01.0**	**+0.2**
PDSI	**Padang**	**2.26**	**354**	P	**Pn**	**13 21 08.9**	**+0.8**
PDSI				S	**Sb**	**13 21 41.3**	**+1.0**
SDSI	**Sungai Dareh**	**2.35**	**18**	P	**Pb**	**13 21 12.5**	**-1.8**
MNAI	**Manna**	**2.55**	**118**	P	**Pn**	**13 21 11.9**	**-0.2**
LHSI	**Lahat**	**2.90**	**103**	P	**Pn**	**13 21 18.4**	**+1.4**
MDSI	**Maura Dua**	**3.72**	**111**	P	**Pn**	**13 21 28.0**	**-0.2**
LWLI	**Liwa**	**3.83**	**119**	P	**Pn**	**13 21 29.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**21.56**	**355**	P	**P**	**13 25 19.4**	**-0.6**
	0.2nm,0.4s,baz=178,slow=8.1,SNR=4.0						
TGY	**Tagaytay City**	**26.41**	**49**	LR	LR	13 37 07.2	
	comp=Z,24nm,18.9s,baz=126,slow=38						
H08S2	**Diego Garcia H**	**28.41**	**260**	T	T	13 55 39.8	
	baz=83,slow=75,SNR=150						
H08S3	**Diego Garcia H**	**28.42**	**260**	T	T	13 55 42.9	
	baz=83,slow=75,SNR=136						
H08S1	**Diego Carcia H**	**28.43**	**260**	T	T	13 55 43.7	
	baz=83,slow=75,SNR=157						
H01W3	**Cape Leeuwin H**	**33.94**	**160**	T	T	14 02 35.8	
	baz=333						
H01W2	**Cape Leeuwin H**	**33.95**	**160**	T	T	14 02 36.7	
	baz=333						
H01W1	**Cape Leeuwin H**	**33.95**	**160**	T	T	14 02 36.2	
	baz=333						
WRA	**Warramunga Arr**	**36.81**	**120**	P	**P**	**13 27 36.9**	**-1.6**
	0.2nm,0.4s,baz=296,slow=8.3,SNR=8.6						
ASAR	**Alice Springs**	**38.01**	**125**	P	**P**	**13 27 49.9**	**+1.3**
	0.4nm,0.4s,baz=300,slow=7.9,SNR=10						
SONM	**Songino Array**	**51.04**	**5**	P	**P**	**13 29 31.5**	**-0.8**
	1.0nm,0.7s,baz=180,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**52.34**	**344**	P	**P**	**13 29 43.0**	**+1.1**
	0.6nm,0.8s,baz=134,slow=6.9,SNR=6.8						
KURBB	**Kurchatov Arra**	**56.86**	**343**	P	**P**	**13 30 15.4**	**+0.8**
	0.5nm,0.9s,baz=162,slow=7.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**58.44**	**349**	P	**P**	**13 30 26.6**	**+0.9**
	0.4nm,0.5s,baz=129,slow=4.7,SNR=4.3						
BVAR	**Borovoye Array**	**61.52**	**340**	P	**P**	**13 30 46.4**	**-0.4**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.9						
TXAR	**Lajitas Array**	**145.19**	**39**	PKPbc	**PKPab**	**13 40 08.7**	**+0.7**
	0.6nm,0.7s,baz=305,slow=1.8,SNR=7.9						

*ISCJB **10** 13:21:52.6±0.3,32°66N×0°03×115°75W±0°02,h12km, Error ellipse: s-maj=4.0km s-min=2.6km az=27.5*

*NEIC **10** 13:21:53.8,32°67N×115°81W,h2km,MD3.6(MEX), ML3.6(PAS),After PAS.*

*MEX **10** 13:21:56.2±0.5,32°69N×115°76W,h16km±8km,MD3.6*

ISC 10 13:21:53.3±0.8,32°63N±0°03×115°76W±0°02,h12km,n18,
σ1§37/39,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.44**	**119**	*e*P	**Pb**	**13 22 03.4**	**+0.4**
CPBX				*i* S	**Sb**	**13 22 12.1**	**+2.5**
MBIG	**Mexicali**	**0.52**	**115**	*i* P	**Pb**	**13 22 05.3**	**+0.8**
MBIG				*e*S	**Sb**	**13 22 12.3**	**+0.3**
BAR	**Barrett**	**0.77**	**274**	*e*Pg	**Pg**	**13 22 07.8**	**-0.5**
BAR				*e*Sg	**Sb**	**13 22 19.8**	**+0.6**
CBX	**Cerro Bola**	**0.83**	**248**	*e*P	**Pb**	**13 22 09.5**	**-0.2**
CBX				*i* S	**Sg**	**13 22 19.6**	**-0.6**
CBX	**Cerro Bola**	**0.83**	**248**	*e*P	**Pb**	**13 22 09.5**	**-0.2**
CBX				*i* S	**Sg**	**13 22 19.6**	**-0.6**
GLA	**Glamis**	**0.89**	**61**	*e*Pg	**Pg**	**13 22 09.7**	**-0.8**
GLA				*e*Sg	**Sg**	**13 22 21.2**	**-1.0**
PFO	**Pinyon Flats O**	**1.14**	**329**	*e*Pn	**Pb**	**13 22 12.8**	**-2.2**
PFO				*e*Sn	**Sb**	**13 22 26.8**	**-3.1**
SPIG	**San Pedro Mart**	**1.60**	**171**	*e*P	**Pn**	**13 22 21.8**	**0.0**
SPIG				*i* S	**Sn**	**13 22 40.8**	**-1.6**
SPIG	**San Pedro Mart**	**1.60**	**171**	*e*P	**Pn**	**13 22 21.8**	**0.0**
SPIG				*i* S	**Sn**	**13 22 40.8**	**-1.6**
SPX	**San Pedro Mart**	**1.60**	**171**	*e*P	**Pn**	**13 22 21.9**	**+0.2**
SPX				*i* S	**Sn**	**13 22 40.7**	**-1.8**
MWC	**Mount Wilson**	**2.50**	**310**	*e*Pn	**Pb**	**13 22 37.1**	**-1.1**
MWC				*e*Sn	**Sn**	**13 23 03.1**	**-1.3**
LDFC	**Landfair**	**2.50**	**12**	*e*Sn	**Sn**	**13 23 04.8**	**+0.3**
PASC	**Pasadena Art C**	**2.55**	**308**	*e*Pn	**Pn**	**13 22 35.6**	**+1.1**
PASC				*e*Pg	**Pg**	**13 22 44.3**	**+2.1**
PASC				*e*Sn	**Sn**	**13 23 05.0**	**-0.5**
PASC				*e*Sg	**Sg**	**13 23 16.5**	**+1.3**
214A	**Organ Pipe Nat**	**2.58**	**104**	*e*Pn	**Pn**	**13 22 33.2**	**-1.8**
214A				*e*Sn	**Sn**	**13 23 06.3**	**-0.1**
ISA	**Isabella, Lake**	**3.77**	**324**	*e*Pn	**Pn**	**13 22 53.6**	**+2.2**
ISA				*e*Pg	**Pg**	**13 23 07.1**	**+1.5**
ISA				*e*Sn	**Sn**	**13 23 37.3**	**+1.5**
DAC	**Darwin (Calif)**	**3.94**	**338**	Pn	**Pn**	**13 22 53.5**	**-0.3**
DAC				*e*Pg	**Pg**	**13 23 11.1**	**+2.2**
DAC				*e*Sn	**Sn**	**13 23 39.8**	**-0.3**
TUC	**Tucson**	**4.22**	**93**	*e*Pn	**Pn**	**13 22 56.2**	**-1.4**
TUC				*e*Sn	**Sn**	**13 23 48.1**	**+1.4**
121A	**Cookes Peak, D**	**6.73**	**89**	*e*Pn	**Pn**	**13 23 32.6**	**+0.4**
	12nm,0.4s						
121A				*e*Sn	**Sn**	**13 24 50.1**	**+1.3**

NSSC 10 13:30:36.7±0.9,34°40N×36°63E,h21km±4km,ML2.0,
Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARH	**Ras Al Marh**	**0.40**	**198**	*e*P	Pb	13 30 45.0	-0.3
MARH				*i* S	Sb	13 30 51.7	+0.5
MARH				AML	AML	13 30 59.0	
	comp=E,228nm,0.5s						
MARH	**Ras Al Marh**	**0.40**	**198**	*e*P	Pb	13 30 45.0	-0.3
MARH				*i* S	Sb	13 30 51.6	+0.4
MARH				AML	AML	13 30 59.0	
	comp=E,228nm,0.5s						
RABH	**Abou Rabah**	**0.47**	**86**	*e*P	Pb	13 30 47.2	+0.8
RABH	**Abou Rabah**	**0.47**	**86**	*e*P	Pb	13 30 46.8	+0.3
RABH				*i* S	Sb	13 30 53.1	+0.1
RABH				AML	AML	13 30 58.2	
	comp=E,112nm,0.3s						
BIDA	**Albida**	**0.66**	**337**	*e*P	Pb	13 30 49.5	-0.3
BIDA				*i* S	Sb	13 30 59.4	+0.8
BIDA				AML	AML	13 31 04.3	
	comp=N,125nm,0.3s						
BRBR	**Barbar**	**1.14**	**210**	*e*P	Pn	13 30 54.6	-3.2
BRBR				*i* S	Sb	13 31 12.1	-0.5
BRBR				AML	AML	13 31 17.6	
	comp=N,23nm,0.4s						
ZALF	**Zalf**	**1.59**	**158**	*e*P	Pb	13 31 05.0	-0.4
ZALF				*i* S	Sb	13 31 26.4	+1.2
ZALF				AML	AML	13 31 36.1	
	comp=N,12nm,0.5s						
ZALF	**Zalf**	**1.59**	**158**	*e*P	Pn	13 31 04.5	+0.8
ZALF				*i* S	Sn	13 31 23.8	+0.1
SALA	**Sala**	**1.69**	**177**	*e*P	Pn	13 31 05.8	+0.5
SALA				*i* S	Sn	13 31 27.0	+0.6
SALA				AML	AML	13 31 39.6	
	comp=N,30nm,0.4s						
SALA	**Sala**	**1.69**	**177**	*e*P	Pn	13 31 04.9	-0.3
SALA				*i* S	Sn	13 31 26.0	-0.5
SALA				AML	AML	13 31 32.2	
	comp=E,5.8nm,0.5s						

*IDC **10** 13:30:37.2±1.5,16°80S×177°12W,h0km,mb4.3/8, mb1 4.5/9,mb1mx4.2/22,mbtmp4.3/9,ML3.2/1,MS3.7/8, Ms1 3.7/8,ms1mx3.3/25,Error ellipse: s-maj=82.0km s-min=19.2km az=156.0*

*ISCJB **10** 13:30:38.0±0.9,17°3S±0°3×176°9W±0°1,h24km,mb4.2/8, MS3.7/7,Error ellipse: s-maj=44.5km s-min=13.9km az=163.1*

ISC 10 13:30:39.2±0.9,17°4S±0°3×176°7W±0°1,h24km,n19,
σ1§68/13,mb4.3/8,MS3.6/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.50**	**251**	*e*P	**P**	**13 34 34.1**	**+2.3**
	51nm,1.4s						
DZM				*e*LR	LR	13 38 24.2	
	642nm,25.2s						
DZM	**Mont Dzumac**	**16.50**	**251**	Pn	**Pn**	**13 34 29.3**	**-0.1**
	0.1nm,0.3s,baz=102,slow=19,SNR=3.0						
DZM				LR	LR	13 39 30.7	
	comp=Z,387nm,21.1s,baz=69,slow=33						
URZ	**Urewera**	**21.48**	**193**	LR	LR	13 42 37.6	
	comp=Z,250nm,20.1s,baz=38,slow=33						
PPT2	**Papeete2**	**25.90**	**95**	*e*S	**S**	**13 40 35.7**	**-2.9**
	60nm,24.5s						
PPT2				*e*LR	LR	13 42 38.0	
	450nm,27.0s						
PPT	**Papeete**	**25.90**	**95**	LR	LR	13 43 33.4	
	comp=Z,146nm,21.8s,baz=294,slow=30						
TBI	**Tubuai**	**26.23**	**108**	*e*LR	LR	13 42 54.5	
	450nm,28.2s						
CTA	**Charters Tower**	**35.11**	**260**	P	**P**	**13 37 30.2**	**-0.8**
	4.3nm,0.8s,baz=96,slow=10.0,SNR=9.7						
RKT	**Rikitea**	**39.49**	**105**	*e*LR	LR	13 48 58.9	
	364nm,30.0s						
JAY	**Jayapura**	**44.31**	**285**	P	**P**	**13 38 46.2**	**-1.4**
	6.9nm,0.8s,baz=163,slow=10,SNR=4.0						
JAY				LR	LR	13 55 44.3	
	comp=Z,78nm,21.0s,slow=34						
ASAR	**Alice Springs**	**46.47**	**254**	P	**P**	**13 39 04.3**	**-0.4**
	8.5nm,0.7s,baz=88,slow=8.3,SNR=109						
ASAR				LR	LR	13 57 19.4	
	comp=Z,184nm,20.1s,baz=98,slow=35						
JNU	**Nakatsue**	**70.88**	**315**	LR	LR	14 07 18.2	
	comp=Z,23nm,19.4s,slow=31						
NVAR	**Mina Array Bea**	**77.95**	**43**	P	**P**	**13 42 36.7**	**+1.0**
	1.2nm,0.8s,baz=227,slow=10.0,SNR=9.0						
TXAR	**Lajitas Array**	**84.37**	**57**	P	**P**	**13 43 12.3**	**+2.4**
	1.0nm,0.9s,baz=235,slow=4.4,SNR=7.7						
ANMO	**Albuquerque**	**84.53**	**51**	P	**P**	**13 43 12.6**	**+1.9**
	0.7nm,0.4s,baz=180,slow=13,SNR=3.9						
ILAR	**Eielson Array**	**85.03**	**12**	P	**P**	**13 43 10.9**	**-1.4**
	4.1nm,1.0s,baz=228,slow=5.9,SNR=25						
ILAR				LR	LR	14 12 38.5	
	comp=Z,39nm,20.0s,baz=218,slow=30						
YKA	**Yellowknife Ar**	**93.20**	**24**	P	**P**	**13 43 51.0**	**-0.1**
	0.1nm,0.8s,baz=240,slow=4.7,SNR=4.1						
ULM	**Lac du Bonnet**	**97.49**	**40**	LR	LR	14 21 35.1	
	comp=Z,38nm,18.4s,baz=256,slow=31						
BRTR	**Keskin Array B**	**145.53**	**316**	PKP	**PKPab**	**13 50 16.0**	**-0.2**
	2.6nm,0.9s,baz=64,slow=2.9,SNR=11						
GERES	**GERESS Array B**	**147.49**	**347**	PKPbc	**PKPbc**	**13 50 21.2**	**-0.2**
	0.2nm,0.3s,baz=80,slow=3.3,SNR=4.1						

*CSEM **10** 13:32:17.7±0.2,77°06N×18°83E,h5km,ML2.6,Error ellipse: s-maj=5.5km s-min=3.4km az=39.0*

*ISCJB **10** 13:32:18.5±0.7,76°98N±0°10×18°6E±0°2,h16km,Error ellipse: s-maj=14.2km s-min=5.7km az=14.6*

*NAO **10** 13:32:18.9±1.2,77°02N×18°60E,h13km±11km,ML2.6*

*BER **10** 13:32:21.3±2.8,77°07N×18°50E,h18km±16km,MD2.3, ML2.6,ML2.6(NAO)*

ISC 10 13:32:17.6±0.8,76°97N±0°04×18°31E±0°04,h16km,n19,
σ1§85/29,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.63**	**275**	Pg	**Pn**	**13 32 32.5**	**+0.7**
HSP				Lg	Lg	13 32 40.9	
HSP	**Hornsund**	**0.63**	**275**	*e*P	**Pn**	**13 32 32.4**	**+0.7**
HSP				*e*S	**Sn**	**13 32 41.1**	**-0.3**
HSP	**Hornsund**	**0.63**	**275**	Pg	**Pn**	**13 32 32.5**	**+0.7**
HSPB	**Hornsund (broa**	**0.63**	**275**	*e*P	**Pn**	**13 32 32.4**	**+0.6**
HSPB				Lg	Lg	13 32 40.9	
HSPB	**Hornsund (broa**	**0.63**	**275**	*e*P	**Pn**	**13 32 32.4**	**+0.6**
	SNR=98						
HSPB				Lg	Lg	13 32 40.9	
	SNR=100						
SPA0	**Spitsbergen Ar**	**1.29**	**342**	Pn	**Pb**	**13 32 41.9**	**+0.4**
	baz=148,slow=22						
SPA0				Lg	Lg	13 32 58.4	
	baz=146,slow=37						
SPA0	**Spitsbergen Ar**	**1.29**	**342**	Pn	**Pb**	**13 32 41.9**	**+0.4**
	baz=148,slow=22						
SPA0				Lg	Lg	13 32 58.4	
	baz=146,slow=37						
SPA0	**Spitsbergen Ar**	**1.29**	**342**	Pn	**Pb**	**13 32 41.8**	**+0.4**
	SNR=55						
SPA0				Lg	Lg	13 32 58.4	
HOPEN	**Hopen**	**1.61**	**103**	Pn	**Pn**	**13 32 46.1**	**+0.8**
HOPEN				Sn	**Sn**	**13 33 05.4**	**-0.3**
HOPEN				Lg	Lg	13 33 09.2	
HOPEN	**Hopen**	**1.61**	**103**	*e*P	**Pn**	**13 32 45.9**	**+0.6**
HOPEN				*e*S	**Sb**	**13 33 06.6**	**-0.4**
HOPEN				IAML		13 33 11.8	
	comp=Z,174nm,0.5s						
HOPEN	**Hopen**	**1.61**	**103**	*e*P	**Pn**	**13 32 45.9**	**+0.6**
	SNR=55						
HOPEN				Sn	**Sn**	**13 33 05.4**	**-0.3**
HOPEN				*e*S	**Sb**	**13 33 06.6**	**-0.4**
	SNR=55						
HOPEN				Lg	Lg	13 33 09.2	
KBS	**Kingsbay**	**2.38**	**329**	Pn	**Pn**	**13 32 56.8**	**+1.0**
KBS				Pg	**Pg**	**13 33 02.5**	**-0.7**
KBS				Lg	Lg	13 33 31.9	
KBS	**Kingsbay**	**2.38**	**329**	*e*P	**Pn**	**13 32 56.8**	**+1.0**
KBS				*e*Pg	**Pg**	**13 33 02.4**	**-0.7**
KBS				Lg	Lg	13 33 31.9	
KBS				IAML		13 33 39.0	
	comp=Z,84nm,0.3s						
KBS	**Kingsbay**	**2.38**	**329**	*e*P	**Pn**	**13 32 56.8**	**+1.0**
	SNR=55						
BJO	**Bjornoya**	**2.48**	**175**	*e*Pg	**Pg**	**13 33 05.9**	**+0.7**
BJO				*e*Sg	**Sg**	**13 33 38.4**	**+1.1**
BJO				IAML		13 33 43.0	
	comp=Z,35nm,0.2s						
BJO	**Bjornoya**	**2.48**	**175**	*e*Pg	**Pg**	**13 33 05.9**	**+0.7**
	SNR=91						
BJO				Lg	Lg	13 33 37.9	
ARA0	**ARCESS Array S**	**7.75**	**161**	Pn	**Pn**	**13 34 12.1**	**+2.6**
	slow=10						
ARA0				Sn	**Sn**	**13 35 31.3**	**-5.4**
	slow=22						
ARA0	**ARCESS Array S**	**7.75**	**161**	P	**Pn**	**13 34 12.1**	**+2.6**
	slow=10						
ARA0				S	**Sn**	**13 35 31.3**	**-5.4**
	slow=22						
ARA0	**ARCESS Array S**	**7.75**	**161**	P	**Pn**	**13 34 12.1**	**+2.6**
	SNR=51						

*ISCJB **10** 13:33:23.2±0.4,0°43N±0°04×123°86E±0°04,h150km, mb3.7/11,Error ellipse: s-maj=6.3km s-min=5.3km az=10.3*

*DJA **10** 13:33:25.9±0.4,0°N±3°×12°4E±°,h130km±7km,M4.5/21, mb4.6/6,mB4.8/5,MLv4.5/21,Mw(mB)4.1/5*

*IDC **10** 13:33:26.1±2.2,0°41N×123°70E,h170km±18km,mb3.4/10, mb1 3.5/10,mb1mx3.4/21,mbtmp3.8/10,MS2.9/2, Ms1 2.9/2,ms1mx2.5/17,Error ellipse: s-maj=27.2km s-min=13.1km az=74.0*

ISC 10 13:33:23.6±0.5,0°38N±0°06×123°85E±0°06,h150km,n37,
σ1§56/42,mb3.6/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.24**	**34**	P	**Pn**	**13 33 47.1**	**+3.1**
GTOI	**Gorontalo**	**0.88**	**287**	P	Pn	13 33 51.1	+3.7
LUWI	**Luwuk**	**1.77**	**217**	P	**Pn**	**13 33 56.9**	**+0.8**
LUWI				S	**Sn**	**13 34 20.0**	**-1.1**
LUWI	**Luwuk**	**1.77**	**217**	P	**Pn**	**13 33 57.0**	**+0.9**
	baz=1.8,SNR=29						
LUWI				S	**Sn**	**13 34 20.3**	**-0.8**
	baz=1.8,SNR=14						
MRSI	**Marisa**	**1.91**	**273**	P	**Pn**	**13 33 58.4**	**+0.7**
APSI	**Ampana**	**2.54**	**240**	P	**Pn**	**13 34 06.6**	**+1.4**
SANI	**Sanana**	**3.22**	**138**	P	**Pn**	**13 34 13.6**	**-0.2**
TNTI	**Ternate**	**3.54**	**84**	P	**Pn**	**13 34 19.4**	**+1.5**
SGSI	**Sangihe**	**3.69**	**27**	P	**Pn**	**13 34 22.0**	**+2.1**
LBMI	**Labuha**	**3.79**	**105**	P	**Pn**	**13 34 22.6**	**+1.4**
MPSI	**Mapaga**	**3.95**	**269**	P	**Pn**	**13 34 24.9**	**+1.7**
PCI	**Palu**	**4.21**	**252**	P	**Pn**	**13 34 27.5**	**+0.9**
KDI	**Kendari**	**4.47**	**196**	P	**Pn**	**13 34 29.9**	**-0.2**
NLAI	**Namlea**	**4.84**	**138**	P	**Pn**	**13 34 35.8**	**+0.8**
NLAI				S	**Sn**	**13 35 31.0**	**+0.3**
TTSI	**Tana Toraja**	**5.27**	**230**	P	**Pn**	**13 34 40.4**	**-0.2**
	154nm,0.8s,1µm0.5nm						
SPSI	**Sidrap Palu**	**5.93**	**223**	P	**Pn**	**13 34 52.1**	**+2.7**
	51nm,0.9s,0.2nm						
BNSI	**Bone**	**6.04**	**218**	P	**Pn**	**13 34 52.3**	**+1.4**
	27nm,0.7s,697nm0.1nm						
BNDI	**Bandanaira**	**7.76**	**129**	P	Pn	13 35 19.9	+6.0
KBKI	**Kotabaru**	**8.50**	**245**	P	**Pn**	**13 35 26.1**	**+2.4**
FAKI	**Fak Fak**	**9.01**	**111**	P	**Pn**	**13 35 31.6**	**+1.0**
	baz=8.5,SNR=5.8						
FAKI				S	**Sn**	**13 37 08.4**	**-2.3**
	baz=8.5,SNR=6.5						
JAGI	**Jajag, Banyuwa**	**13.06**	**227**	P	P	13 36 35.3	+6.9
	baz=13,SNR=5.4						
MTN	**Manton Dam**	**14.99**	**151**	P	**Pn**	**13 36 49.7**	**+1.7**
	baz=15,SNR=3.6						
KNRA	**Kununurra**	**16.67**	**163**	P	**Pn**	**13 37 11.8**	**+3.1**
	baz=16,SNR=5.9						
WRA	**Warramunga Arr**	**22.66**	**154**	P	**P**	**13 38 13.2**	**+0.9**
	0.8nm,0.5s,baz=334,slow=9.9,SNR=20						
WRA				PcP	**PcP**	**13 41 59.8**	**-0.1**
	0.3nm,0.5s,baz=320,slow=2.2,SNR=5.7						
WRA				ScP	**ScP**	**13 45 21.7**	**-2.1**
	0.4nm,0.8s,baz=325,slow=2.7,SNR=4.7						
ASAR	**Alice Springs**	**25.82**	**158**	P	**P**	**13 38 43.9**	**+2.8**
	0.2nm,0.4s,baz=340,slow=14,SNR=5.9						
ASAR				PcP	**PcP**	**13 42 07.2**	**+0.3**
	0.7nm,0.4s,baz=350,slow=2.2,SNR=13						
ASAR				ScP	**ScP**	**13 45 31.2**	**-1.3**
	0.4nm,0.7s,baz=351,slow=2.7,SNR=6.8						
CMAR	**Chiang Mai Arr**	**30.35**	**308**	P	**P**	**13 39 20.7**	**-0.7**
	0.4nm,0.5s,baz=143,slow=7.3,SNR=5.0						
JCJ	**Chichijima**	**31.88**	**32**	LR	LR	13 51 17.1	
	comp=Z,29nm,22.0s,baz=98,slow=34						
KSRS	**Korea Array**	**37.09**	**5**	P	**P**	**13 40 20.4**	**+1.0**
	0.5nm,0.6s,baz=189,slow=9.3,SNR=3.0						
MJAR	**Matsushiro Arr**	**38.37**	**19**	P	**P**	**13 40 30.4**	**+0.2**
	2.7nm,0.8s,baz=190,slow=9.8,SNR=10						
USRK	**Ussuriysk Ar.**	**44.23**	**8**	P	**P**	**13 41 18.8**	**+0.9**
	2.5nm,0.4s,baz=196,slow=7.3,SNR=10						
SONM	**Songino Array**	**49.65**	**345**	P	**P**	**13 42 00.5**	**+0.5**
	0.9nm,0.8s,baz=160,slow=9.6,SNR=4.4						
MKAR	**Makanchi Array**	**58.74**	**328**	P	**P**	**13 43 05.7**	**-0.2**
	3.1nm,0.8s,baz=122,slow=8.4,SNR=29						
MKAR				PcP	**PcP**	**13 43 53.3**	**-0.6**
	0.9nm,0.4s,baz=145,slow=3.1,SNR=15						
MKAR				ScP	**ScP**	**13 47 37.5**	**-3.0**
	0.3nm,0.7s,baz=108,slow=4.7,SNR=3.6						
PETK	**Petropavlovsk-**	**59.61**	**23**	LR	LR	14 08 26.4	
	comp=Z,9.3nm,21.4s,baz=103,slow=35						
ILAR	**Eielson Array**	**89.35**	**25**	P	**P**	**13 46 01.3**	**-1.5**
	0.2nm,0.6s,baz=266,slow=5.2,SNR=5.1						
FINES	**FINESS Array B**	**93.40**	**332**	P	**P**	**13 46 20.1**	**-1.4**
	0.9nm,0.7s,baz=60,slow=4.6,SNR=5.7						
BOSA	**Boshof**	**97.72**	**241**	P	**P**	**13 46 41.2**	**-1.0**
	3.8nm,0.7s,baz=152,slow=11,SNR=5.9						
TORD	**Torodi Ar. Bea**	**121.12**	**286**	PKP	**PKPdf**	**13 51 59.0**	**-0.6**
	0.4nm,0.3s,baz=94,slow=1.6,SNR=14						

*IDC **10** 13:34:24.1±1.0,36°62S×73°06W,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.8/34,mbtmp3.8/9,ML3.8/2,MS3.4/3, Ms1 3.4/3,ms1mx3.0/18,Error ellipse: s-maj=30.4km s-min=18.0km az=75.0*

*ISCJB **10** 13:34:27.0±0.5,36°69S±0°04×72°82W±0°06,h25km, mb4.0/7,MS3.3/2,Error ellipse: s-maj=6.8km s-min=5.1km az=13.8*

*GUC **10** 13:34:28.0±0.3,36°65S×72°94W,h12km±8km,ML3.9*

*NEIC **10** 13:34:29.2±0.7,36°59S×72°98W,h35km,mb4.7/1,Error ellipse: s-maj=17.5km s-min=10.9km az=85.0*

ISC 10 13:34:27.8±0.7,36°63S±0°04×73°03W±0°07,h25km,n27,
σ1§04/27,mb3.9/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.23**	**196**	*i* P	**Pb**	**13 34 33.6**	**-0.2**
CCSP				*i* S	**Sb**	**13 34 37.9**	**0.0**
CCSP				AML	AML	13 34 38.6	
	comp=N,82µm,0.2s						
COCH	**Cobquecura**	**0.53**	**22**	*i* P	**Pb**	**13 34 39.0**	**+0.5**
COCH				*i* S	**Sn**	**13 34 47.3**	**-0.5**
COCH				AML	AML	13 34 48.9	
	comp=E,8µm,0.5s						
LNCH	**Linares**	**1.39**	**57**	*i* P	**Pb**	**13 34 53.3**	**+0.2**
LNCH				*i* S	**Sb**	**13 35 12.2**	**+1.8**
TALC	**Talca**	**1.67**	**43**	*e*P	**Pn**	**13 34 54.8**	**-0.6**
TALC				*e*S	**Sb**	**13 35 17.3**	**-1.1**
PLCA	**Paso Flores**	**4.54**	**155**	Pn	**Pn**	**13 35 35.4**	**+0.5**
	comp=E,2.2nm,0.3s,baz=319,slow=12,SNR=55						
PLCA				Lg	Lg	13 36 47.3	
	comp=E,7.3nm,0.3s,baz=62,slow=19,SNR=4.9						
PLCA				LR	LR	13 37 27.9	
	comp=E,406nm,19.1s,baz=295,slow=40						
PLCA	**Paso Flores**	**4.54**	**155**	*e*Pn	**Pn**	**13 35 35.7**	**+0.8**
PLCA				*e*Sn	**Sn**	**13 36 25.4**	**-1.5**
PLCA				Lg	Lg	13 36 47.3	
CFAA	**Coronel Fontan**	**6.39**	**40**	Pn	**Pn**	**13 36 00.2**	**-0.2**
	comp=E,0.4nm,0.3s,baz=213,slow=11,SNR=11						
CFAA				Sn	**Sn**	**13 37 12.7**

ISC 10 13:40:45.9±1.7, 13°62N±0.07×87°82W±0.07, h24km±13km, n117, σ1§72/95, mb4.2/20, MS3.2/8, 36C-35D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.34**	**182**	⇑*i*P	**Pn**	**13 40 55.2**	**-0.2**
CAHU	**Cacacuatique**	**0.41**	**292**	⇓*i*P	Pb	13 40 52.1	-2.6
VSM	**San Miguel**	**0.48**	**247**	⇓*i*P	**Pb**	**13 40 55.6**	**-0.2**
LBRS	**Las Brisas**	**1.19**	**276**	*e*P	**Pn**	**13 41 05.8**	**-1.3**
LFRS	**El Faro**	**1.21**	**271**	⇑*i*P	**Pn**	**13 41 06.5**	**-0.8**
SNET	**Serv Nac Est T**	**1.37**	**273**	*e*P	**Pn**	**13 41 08.9**	**-0.7**
SNET				*e*S	**Sb**	**13 41 27.2**	**-0.9**
SNET				AML	AML	13 41 33.0	
	comp=Z,6μm,0.5s						
BOQS	**Boqueron**	**1.42**	**275**	*e*P	**Pn**	**13 41 09.7**	**-0.7**
BOQS				*e*S	**Sb**	**13 41 29.1**	**-0.5**
SNJE	**San Jose**	**1.75**	**278**	*e*P	**Pn**	**13 41 14.8**	**-0.1**
SBLS	**San Blas**	**1.76**	**277**	*e*P	**Pn**	**13 41 14.9**	**-0.3**
SBLS				*e*S	**Sb**	**13 41 38.8**	**-0.7**
RTR	**El Retiro**	**1.79**	**279**	*e*P	**Pn**	**13 41 15.0**	**-0.5**
RTR				*e*S	**Sn**	**13 41 38.6**	**+0.9**
MRL	**Marmol**	**2.31**	**309**	*e*P	**Pn**	**13 41 21.6**	**-1.1**
MRL				*e*S	**Sb**	**13 41 54.4**	**-0.9**
NBG	**Las Nubes**	**2.63**	**292**	*e*P	**Pb**	**13 41 30.5**	**-2.1**
NBG				*e*S	**Sb**	**13 42 05.7**	**+1.1**
APG	**El Apazote**	**2.91**	**299**	Pn	Pn	13 41 27.7	-3.2
	comp=Z,33nm,0.3s,baz=116,slow=10,SNR=185						
APG				Sn	**Sn**	**13 42 05.7**	**+0.4**
	comp=Z,386nm,0.3s,baz=38,slow=20,SNR=19						
JAT	**Jato**	**3.77**	**281**	*e*P	**Pb**	**13 41 54.0**	**+2.3**
JTS	**JuntasAbangare**	**4.34**	**139**	Pg	**Pn**	**13 41 52.9**	**+2.6**
	comp=Z,5.9nm,0.3s,baz=317,slow=16,SNR=16						
JTS				LR	LR	13 43 46.5	
	comp=Z,412nm,19.2s,baz=285,slow=44						
CMIG	**Matias Romero**	**7.64**	**298**	Pn	**Pn**	**13 42 35.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=93,slow=8.6,SNR=9.0						
CMIG				Lg	Lg	13 44 38.4	
	comp=Z,3.7nm,0.3s,baz=74,slow=12,SNR=4.9						
CMIG				LR	LR	13 45 48.5	
	comp=Z,350nm,21.4s,baz=133,slow=39						
ROSC	**El Rosal**	**15.90**	**122**	LR	LR	13 51 04.9	
	comp=Z,89nm,18.8s,baz=17,slow=40						
035A	**Encino**	**16.38**	**326**	⇓P	**Pn**	**13 44 35.9**	**+1.6**
	baz=16						
034A	**Hebbronville**	**16.80**	**324**	⇑P	**P**	**13 44 41.4**	**-0.2**
	baz=17						
934A	**Benavides**	**17.13**	**326**	⇓P	**Pn**	**13 44 44.1**	**+0.4**
	baz=17						
SDV	**Santo Domingo**	**17.50**	**104**	Pn	**Pn**	**13 44 48.0**	**-0.7**
	comp=Z,21nm,1.1s						
933A	**Laredo**	**17.56**	**324**	⇑P	**Pn**	**13 44 49.4**	**+0.4**
	baz=18						
636A	**Smothers Creek**	**17.96**	**333**	⇑P	**P**	**13 44 56.8**	**+2.4**
	baz=18						
833A	**Chaparral WMA,**	**18.17**	**325**	⇓P	**P**	**13 44 57.5**	**+0.7**
	baz=18						
733A	**Divot King Ran**	**18.43**	**326**	⇑P	**Pn**	**13 45 01.6**	**+1.8**
	baz=18						
832A	**Faith Ranch, C**	**18.47**	**324**	⇓P	**Pn**	**13 45 00.6**	**+0.3**
	baz=18						
732A	**Laxson Ranch,**	**18.80**	**325**	⇑P	**Pn**	**13 45 05.0**	**+0.7**
	baz=19						
633A	**Saathoff Ranch**	**18.95**	**328**	⇑P	**Pn**	**13 45 06.4**	**+0.2**
	baz=19						
534A	**Blanco**	**19.07**	**331**	⇑P	**Pn**	**13 45 12.1**	**+4.5**
	baz=19,SNR=5.6						
239A	**Gary**	**19.30**	**343**	⇓P	Pn	13 45 19.1	+8.8
	baz=19						
435B	**Jarrell**	**19.31**	**334**	⇓P	**Pn**	**13 45 11.9**	**+1.5**
	baz=19						
533A	**Kerrville**	**19.38**	**329**	⇓P	**Pn**	**13 45 12.5**	**+1.1**
	baz=19						
336A	**Riesel**	**19.54**	**336**	⇑P	**Pn**	**13 45 13.8**	**+0.7**
	baz=20,SNR=6.2						
434A	**Burnet**	**19.64**	**332**	⇑P	**Pn**	**13 45 14.1**	**-0.3**
	baz=20						
335A	**Moody**	**19.68**	**335**	⇓P	**Pn**	**13 45 14.8**	**0.0**
	baz=20						
532A	**Rocksprings**	**19.87**	**328**	⇓P	**P**	**13 45 16.5**	**+1.0**
	baz=20						
433A	**Art**	**19.97**	**330**	⇓P	**P**	**13 45 17.7**	**+1.2**
	baz=20						
334A	**Lometa**	**20.07**	**333**	⇓P	Pn	13 45 19.1	-0.4
	baz=20,SNR=5.2						
JCT	**Junction City**	**20.10**	**329**	⇓P	**P**	**13 45 19.0**	**+1.1**
	baz=20						
JCT	**Junction City**	**20.10**	**329**	*e*P	**P**	**13 45 18.3**	**+0.3**
	comp=Z,7.2nm,0.8s						
531A	**Rocksprings**	**20.23**	**327**	⇓P	**P**	**13 45 19.6**	**+0.2**
	baz=20,SNR=9.6						
WHTX	**Lake Whitney,**	**20.31**	**336**	⇓P	Pn	13 45 23.5	+1.2
	baz=20						
WHTX	**Lake Whitney,**	**20.31**	**336**	*e*P	**P**	**13 45 20.3**	**+0.1**
	comp=Z,21nm,0.8s						
333A	**Richland Sprin**	**20.40**	**332**	⇓P	**P**	**13 45 21.9**	**+0.7**
	baz=20						
432A	**Menard**	**20.41**	**329**	⇑P	**P**	**13 45 22.0**	**+0.6**
	baz=20,SNR=7.4						
234A	**Clairette**	**20.60**	**334**	⇓P	Pn	13 45 27.8	+2.1
	baz=21						
530A	**J-C Ranch, Com**	**20.66**	**325**	⇑P	**P**	**13 45 24.6**	**+0.6**
	baz=21,SNR=9.5						
431A	**Sonora**	**20.67**	**327**	⇑P	**P**	**13 45 25.1**	**+0.9**
	baz=21						
135A	**Vickery Place,**	**20.79**	**337**	⇓P	Pn	13 45 32.2	+4.2
	baz=21						
332A	**Millersview**	**20.80**	**330**	⇓P	**P**	**13 45 26.6**	**+1.0**
	baz=21,SNR=7.6						
233A	**Rising Star**	**20.94**	**333**	⇓P	Pn	13 45 30.7	+0.9
	baz=21						
134A	**White-Moore Ra**	**21.07**	**335**	⇓P	P	13 45 33.9	+5.5
	baz=21						
331A	**San Angelo**	**21.08**	**329**	⇓P	**P**	**13 45 29.6**	**+1.0**
	baz=21						
430A	**Baggett Ranch,**	**21.09**	**326**	⇑P	**P**	**13 45 29.1**	**+0.3**
	baz=21						
529A	**Stev Forest Ra**	**21.14**	**323**	⇓P	**P**	**13 45 28.9**	**-0.4**
	baz=21,SNR=5.3						
SJG	**San Juan**	**21.32**	**75**	LR	LR	13 54 17.5	
	comp=Z,122nm,19.1s,baz=270,slow=38						
429A	**Davenport Ranc**	**21.33**	**325**	⇑P	**P**	**13 45 32.1**	**+0.8**
	baz=21,SNR=6.6						
Z35A	**Perchaven, San**	**21.43**	**338**	⇓P	P	13 45 39.8	+7.5
	baz=22						
133A	**Hamilton Ranch**	**21.45**	**334**	⇓P	P	13 45 37.4	+4.8
	baz=22,SNR=6.3						
TXAR	**Lajitas Array**	**21.45**	**319**	P	**P**	**13 45 33.5**	**+0.7**
	comp=Z,13nm,0.8s,baz=142,slow=10,SNR=120						
TXAR				LR	LR	13 54 48.1	
	comp=Z,55nm,18.6s,baz=0.0,slow=39						
MIAR	**Mount Ida**	**21.48**	**347**	*e*P	**P**	**13 45 32.0**	**-0.8**
	comp=Z,11nm,1.0s						
231A	**Bronte**	**21.53**	**330**	⇑P	**P**	**13 45 37.1**	**+3.6**
	baz=22						
330A	**Mertzon**	**21.54**	**327**	⇑P	**P**	**13 45 34.3**	**+0.7**
	baz=22						
Z34A	**Collier Ranch,**	**21.71**	**337**	⇑P	P	13 45 41.9	+6.6
	baz=22						
ABTX	**Abilene, Hawle**	**21.79**	**332**	*e*P	**P**	**13 45 35.9**	**-0.3**
230A	**Sterling City**	**21.89**	**328**	⇓P	**P**	**13 45 39.4**	**+2.1**
	baz=22						
Z33A	**Whitaker Ranch**	**21.98**	**335**	⇑P	P	13 45 44.4	+6.3
	baz=22						
329A	**Wagon Wheel Ra**	**22.04**	**326**	⇑P	**P**	**13 45 41.0**	**+2.1**
	baz=22						
Y34A	**Reagan Ranch,**	**22.17**	**338**	⇑P	P	13 45 47.0	+6.7
	baz=22						
131A	**Roby**	**22.18**	**331**	⇑P	P	13 45 45.7	+5.4
	baz=22						
TKL	**Tuckaleechee C**	**22.25**	**9**	P	**P**	**13 45 42.0**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=149,slow=14,SNR=2.2						
Z32A	**Haskell**	**22.29**	**334**	⇑P	**P**	**13 45 45.8**	**+4.2**
	baz=22						
Z31A	**Sharp Cattle R**	**22.60**	**332**	⇑P	**P**	**13 45 48.4**	**+3.6**
	baz=23						
ATAH	**Atahualpa**	**22.64**	**155**	P	**P**	**13 45 44.7**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=253,slow=20,SNR=2.3						
ATAH				LR	LR	13 53 02.4	
	comp=Z,126nm,18.5s,baz=333,slow=33						
X34A	**Smith Ranch, M**	**22.77**	**338**	⇓P	P	13 45 53.8	+7.1
	baz=23						
228A	**UT Block 9, Go**	**22.85**	**326**	⇓P	**P**	**13 45 50.1**	**+2.5**
	baz=23						
129A	**Stewart Farms,**	**22.87**	**328**	⇓P	**P**	**13 45 51.0**	**+3.3**
	baz=23						
Y32A	**R-V Farms, Ver**	**22.88**	**335**	⇓P	P	13 45 54.0	+6.2
	baz=23						
X33A	**Lawton**	**22.97**	**337**	⇑P	P	13 45 55.5	+6.8
	baz=23						
Z30A	**Sanderson Ranc**	**23.03**	**330**	⇓P	**P**	**13 45 54.1**	**+4.7**
	baz=23						
X32A	**Elmer**	**23.17**	**335**	⇓P	P	13 45 56.7	+5.9
	baz=23						
128A	**Castleberry Fa**	**23.18**	**327**	⇑P	**P**	**13 45 53.5**	**+2.5**
	baz=23						
Y31A	**Rekieta Farm,**	**23.19**	**333**	⇑P	**P**	**13 45 55.3**	**+4.3**
	baz=23						
Z29A	**Hungry Hill Ra**	**23.29**	**329**	⇑P	**P**	**13 45 55.4**	**+3.3**
	baz=23						
W34A	**Bridge Creek,**	**23.32**	**339**	⇑P	P	13 45 59.4	+7.1
	baz=23						
TUL1	**Leonard**	**23.33**	**343**	⇑P	P	13 46 01.9	+10
	baz=23						
TUL1	**Leonard**	**23.33**	**343**	*e*P	**P**	**13 45 49.7**	**-2.6**
	comp=Z,19nm,1.0s						
Y30A	**Stafford Cattl**	**23.41**	**332**	⇑P	**P**	**13 45 57.1**	**+3.9**
	baz=23						
W33A	**Caddo, Fort Co**	**23.50**	**338**	⇑P	P	13 46 01.4	+7.4
	baz=24						
X31A	**McDonald Ranch**	**23.64**	**334**	⇓P	P	13 46 01.2	+5.7
	baz=24						
Z28A	**Tucker Farm, M**	**23.66**	**328**	⇑P	**P**	**13 45 57.9**	**+2.2**
	baz=24						
LPIG	**La Paz**	**23.66**	**299**	LR	LR	13 56 02.1	
	comp=Z,91nm,20.1s,baz=123,slow=39						
Y29A	**Porterfield Fa**	**23.76**	**330**	⇑P	**P**	**13 45 59.5**	**+2.9**
	baz=24						
X30A	**Coker Ranch, T**	**23.87**	**333**	⇑P	**P**	**13 46 01.5**	**+3.8**
	baz=24						
MNTX	**Cornudas Mount**	**24.16**	**321**	⇓P	**P**	**13 46 00.5**	**+0.2**
	baz=24,SNR=6.6						
AMTX	**Amarillo**	**24.60**	**332**	*e*P	**P**	**13 46 03.0**	**-1.5**
	comp=Z,6.9nm,0.6s						
ANMO	**Albuquerque**	**27.10**	**325**	LR	LR	13 58 44.6	
	comp=Z,26nm,19.6s,baz=134,slow=40						
PDAR	**Pinedale Array**	**34.58**	**331**	P	**P**	**13 47 33.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=153,slow=10,SNR=3.5						
PDAR				LR	LR	14 05 12.5	
	comp=Z,28nm,18.0s,baz=196,slow=42						
LPAZ	**La Paz**	**35.52**	**146**	LR	LR	14 02 52.7	
	comp=Z,37nm,19.2s,baz=308,slow=38						
NVAR	**Mina Array Bea**	**36.60**	**318**	P	**P**	**13 47 52.3**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=136,slow=8.4,SNR=14						
DGMT	**Dagmar**	**37.31**	**342**	*e*P	**P**	**13 47 55.1**	**-1.1**
	comp=Z,16nm,1.0s						
MCMT	**McKenzie Canyo**	**37.70**	**331**	*e*P	**P**	**13 48 00.4**	**+0.6**
	comp=Z,3.5nm,0.7s						
LRM	**Limekiln Ridge**	**38.26**	**332**	*e*P	**P**	**13 48 03.1**	**-1.4**
	comp=Z,52nm,1.0s						
BDFB	**Brasilia**	**48.94**	**125**	LR	LR	14 14 18.3	
	comp=Z,73nm,19.8s,baz=303,slow=41						
YKA	**Yellowknife Ar**	**52.40**	**345**	P	**P**	**13 49 55.9**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=143,slow=7.3,SNR=46						
DLBC	**Dease Lake**	**54.71**	**334**	*e*P	**P**	**13 50 13.8**	**+0.7**
	comp=Z,3.9nm,0.7s						
PLCA	**Paso Flores**	**56.39**	**164**	P	**P**	**13 50 25.1**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=64,slow=15,SNR=2.6						
ILAR	**Eielson Array**	**64.81**	**336**	P	**P**	**13 51 22.6**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=166,slow=5.2,SNR=11						
ESDC	**Sonseca Array**	**76.76**	**52**	P	**P**	**13 52 35.7**	**0.0**
	comp=Z,3.3nm,0.7s,baz=285,slow=5.5,SNR=12						
NB2	**NORSAR Subarra**	**82.53**	**29**	P	**P**	**13 53 06.8**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=283,slow=5.1						
NOA	**NORSAR Array B**	**82.53**	**29**	P	**P**	**13 53 07.2**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=285,slow=5.1,SNR=5.7						
ARCES	**ARCESS Array B**	**85.21**	**19**	P	**P**	**13 53 19.7**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=302,slow=7.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**86.51**	**77**	P	**P**	**13 53 25.4**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=294,slow=5.0,SNR=9.6						
GERES	**GERESS Array B**	**87.29**	**40**	P	**P**	**13 53 30.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=291,slow=4.1,SNR=4.9						
WRA	**Warramunga Arr**	**139.23**	**255**	PKP	**PKPdf**	**14 00 11.9**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=88,slow=2.0,SNR=5.7						
ASAR	**Alice Springs**	**139.35**	**250**	PKP	**PKPdf**	**14 00 10.6**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=116,slow=3.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**147.44**	**348**	PKPbc	**PKPbc**	**14 00 28.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=334,slow=3.4,SNR=4.9						

*IDC **10** 13:41:39.4±1.6, 34°56S×71°83W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.6/30, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=42.6km s-min=31.0km az=84.0*
*ISCJB **10** 13:41:40.2±2.1, 34°56S±0.03×71°87W±0.09, h15km±15km, mb3.6/2, Error ellipse: s-maj=12.9km s-min=4.9km az=4.8*
*GUC **10** 13:41:40.9±0.4, 34°55S×71°87W, h1km±4km, ML4.1*

ISC 10 13:41:40.5±3.3, 34°59S±0.04×71°7W±0°1, h10km±22km, n16, σ1§16/22, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.56**	**137**	*e*P	**Pb**	**13 41 53.3**	**+0.8**
NICH				*e*S	**Sn**	**13 42 02.9**	**-1.1**
TALC	**Talca**	**0.81**	**177**	*e*P	**Pb**	**13 41 56.1**	**-0.5**
TALC				*e*S	**Sb**	**13 42 07.5**	**-0.2**
TACH	**Talagante**	**1.12**	**34**	*e*P	**Pn**	**13 42 00.6**	**-1.8**
LNCH	**Linares**	**1.26**	**177**	*e*P	**Pn**	**13 42 03.4**	**-0.8**
LNCH				*e*S	**Sb**	**13 42 20.1**	**-0.5**
SAN	**Santiago**	**1.42**	**37**	*e*P	**Pn**	**13 42 06.0**	**-0.4**
SAN				*e*S	**Sn**	**13 42 25.2**	**0.0**
CLCH	**Cerro Calan**	**1.53**	**39**	*e*P	**Pn**	**13 42 07.7**	**-0.2**
CLCH				*e*P	**Pb**	**13 42 08.0**	**-1.0**
CLCH				*e*S	**Sn**	**13 42 28.4**	**+0.5**
CLCH				*e*S	**Sb**	**13 42 28.6**	**+0.1**
CLCH				AML	AML	13 42 34.8	
	comp=N,4μm,0.6s						
CLCH				AML	AML	13 42 35.4	
	comp=N,5μm,0.6s						
PEL	**Peldehue**	**1.67**	**30**	*e*P	**Pn**	**13 42 09.5**	**-0.4**
PEL				*e*S	**Sn**	**13 42 31.6**	**+0.3**
PEL				AML	AML	13 42 39.3	
	comp=N,3μm,0.4s						
ROCH	**El Roble**	**1.71**	**20**	*e*P	**Pn**	**13 42 10.3**	**-0.3**
ROCH				*e*S	**Sn**	**13 42 32.6**	**0.0**
CFAA	**Coronel Fontan**	**4.15**	**45**	Pn	**Pn**	**13 42 46.6**	**+2.6**
	comp=N,0.4nm,0.3s,baz=219,slow=14,SNR=13						
PLCA	**Paso Flores**	**6.20**	**172**	Pn	**Pn**	**13 43 14.9**	**+2.8**
	comp=N,0.4nm,0.3s,baz=339,slow=14,SNR=9.5						
PLCA				Lg	Lg	13 44 53.7	
	comp=N,0.3nm,0.3s,baz=72,slow=20,SNR=3.9						
LPAZ	**La Paz**	**18.50**	**11**	P	**Pn**	**13 45 59.0**	**+1.4**
	comp=N,0.1nm,0.3s,baz=190,slow=6.1,SNR=4.0						
TXAR	**Lajitas Array**	**70.39**	**331**	P	**P**	**13 52 54.8**	**-0.1**
	comp=N,0.4nm,0.5s,baz=158,slow=8.8,SNR=10						
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P	**P**	**13 54 11.8**	**-0.3**
	comp=N,0.4nm,0.7s,baz=248,slow=4.1,SNR=2.7						
H11S2	**WAKE ISLAND Hyl**	**26.05**	**269**	T	T	16 19 03.3	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	**26.06**	**269**	T	T	16 19 05.5	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	**26.06**	**269**	T	T	16 19 07.9	
	baz=118						

IDC 10 13:47:12.7±2.5, 7°04S×129°03E, h0km, mb3.3/1, mb1 3.1/3, mb1mx3.0/26, mbtmp2.9/3, ML3.0/2, Error ellipse: s-maj=200.1km s-min=33.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.83**	**159**	Pn	Pn	13 50 29.8	-0.4
	0.1nm,0.3s,baz=332,slow=14,SNR=9.5						
WRA				Sn	Sn	13 52 48.8	-16
	0.1nm,0.3s,baz=330,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**17.19**	**165**	Pn	Pn	13 51 14.8	+0.3
	0.0nm,0.3s,baz=347,slow=9.1,SNR=4.3						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	13 58 12.1	0.0
	0.1nm,0.6s,baz=127,slow=7.5,SNR=4.5						

*IDC **10** 14:03:21.7±1.2, 15°67N×144°32E, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.6/29, mbtmp3.5/9, Error ellipse: s-maj=41.3km s-min=18.5km az=86.0*
*ISCJB **10** 14:03:24.8±1.1, 15°7N±0°1×144°3E±0°3, h33km, mb3.4/9, Error ellipse: s-maj=37.0km s-min=15.4km az=176.1*

ISC 10 14:03:27.0±1.3, 15°7N±0°1×144°3E±0°3, h35km, n15, σ1§18/9, mb3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**21.49**	**346**	P	**P**	**14 08 11.7**	**-1.0**
	1.8nm,1.1s,baz=166,slow=10,SNR=3.4						
H11S3	**WAKE ISLAND Hy**	**21.56**	**79**	T	T	14 29 55.3	
	baz=265,slow=75,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**21.57**	**79**	T	T	14 29 55.5	
	baz=265,slow=75,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**21.58**	**79**	T	T	14 29 56.5	
	baz=265,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**21.87**	**76**	T	T	14 30 20.6	
	baz=264,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**21.88**	**76**	T	T	14 30 21.7	
	baz=264,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**21.89**	**76**	T	T	14 30 21.8	
	baz=264,slow=75,SNR=19						
KSRS	**Korea Array**	**26.11**	**329**	P	**P**	**14 08 56.5**	**-1.0**
	1.2nm,0.8s,baz=149,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**36.73**	**196**	P	**P**	**14 10 30.4**	**-0.7**
	1.3nm,0.8s,baz=19,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**40.40**	**195**	P	**P**	**14 11 01.6**	**-0.3**
	0.3nm,0.9s,baz=25,slow=7.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**43.39**	**280**	P	**P**	**14 11 28.0**	**+1.5**
	0.4nm,0.3s,baz=71,slow=7.3,SNR=4.7						
SONM	**Songino Array**	**44.74**	**324**	P	**P**	**14 11 37.1**	**0.0**
	0.3nm,0.7s,baz=116,slow=9.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**59.64**	**324**	P	**P**	**14 13 28.1**	**+0.6**
	0.4nm,0.4s,baz=98,slow=8.9,SNR=2.2						
MKAR	**Makanchi Array**	**59.64**	**315**	P	**P**	**14 13 26.2**	**-1.6**
	0.1nm,0.6s,baz=101,slow=7.6,SNR=2.8						
YKA	**Yellowknife Ar**	**81.27**	**27**	P	**P**	**14 15 40.2**	**+0.9**
	0.3nm,1.0s,baz=280,slow=4.3,SNR=3.0						

MEX 10 14:09:20.6±0.9, 32°04N×114°96W, h10km, MD3.6, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.42**	**331**	*e*P	**Pg**	**14 09 28.9**	**0.0**
MBIG				*e*S	**Sg**	**14 09 34.6**	**+0.2**
SPIG	**San Pedro Mart**	**1.08**	**204**	*i*P	**Pg**	**14 09 38.1**	**-3.7**
SPIG				*i*S	**Sg**	**14 09 51.4**	**-4.7**
CBX	**Cerro Bola**	**1.47**	**281**	*e*P	**Pn**	**14 09 44.4**	**-3.0**
CBX				*e*S	**Sn**	**14 10 01.6**	**-5.2**

*ATH **10** 14:28:33.6, 41°80N×25°17E, h10km±1km, MD3.2/8*
*SOF **10** 14:28:33.9, 41°80N×25°14E, h5km, MD2.6*
*THE **10** 14:28:34.2, 41°79N×25°14E, h2km±1km, ML2.4/7, Error ellipse: s-maj=1.8km s-min=0.5km az=40.0*
*CSEM **10** 14:28:34.4±0.1, 41°79N×25°12E, h2km, MD2.6, Error ellipse: s-maj=3.9km s-min=2.6km az=17.0*
*ISK **10** 14:28:37.8, 41°67N×25°44E, h5km, MD2.8*

ISC 10 14:28:34.1±1.1, 41°78N±0°02×25°14E±0°01, h3km±10km, n67, σ0§48/107, 3C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDZ	**Kurdzhali**	**0.25**	**122**	⇓*i*P	**Pg**	**14 28 38.6**	**-0.2**
KDZ				*i*S	**Sg**	**14 28 41.6**	**-0.4**
KDZ	**Kurdzhali**	**0.25**	**122**	*i*P	**Pg**	**14 28 38.6**	**-0.2**
KDZ	**Kurdzhali**	**0.25**	**122**	*i*P	**Pg**	**14 28 38.6**	**-0.2**
RZN	**Rozhen**	**0.33**	**254**	*i*P	**Pg**	**14 28 40.6**	**+0.2**
RZN	**Rozhen**	**0.33**	**254**	*i*P	**Pg**	**14 28 40.6**	**+0.2**
DIM	**Dimitrovgrad**	**0.40**	**48**	*i*P	**Pg**	**14 28 42.1**	**+0.3**
DIM	**Dimitrovgrad**	**0.40**	**48**	*i*P	**Pg**	**14 28 42.1**	**+0.3**
PLD	**Plovdiv**	**0.46**	**315**	P	**Pg**	**14 28 42.9**	**+0.1**
PLD				S	**Sg**	**14 28 49.2**	**+0.4**
PLD	**Plovdiv**	**0.46**	**315**	*i*P	**Pg**	**14 28 43.0**	**+0.1**
PLD	**Plovdiv**	**0.46**	**315**	P	**Pg**	**14 28 42.9**	**+0.1**
PLD				S	**Sg**	**14 28 49.2**	**+0.4**
RDO	**Rodhopi**	**0.70**	**154**	P	**Pg**	**14 28 47.5**	**0.0**
RDO				S	**Sg**	**14 28 57.4**	**+0.8**
RDO	**Rodhopi**	**0.70**	**154**	*e*PB	**Pg**	**14 28 47.5**	**0.0**
RDO				*e*SB	**Sg**	**14 28 56.5**	**-0.1**
RDO	**Rodhopi**	**0.70**	**154**	P	**Pg**	**14 28 47.5**	**0.0**
RDO				*e*Sb	**Sg**	**14 28 56.5**	**-0.1**
RDO				S	**Sg**	**14 28 57.4**	**+0.8**
NVR	**Nevrokopi**	**1.05**	**246**	P	**Pg**	**14 28 53.9**	**-0.3**
NVR				S	**Sg**	**14 29 08.8**	**+1.0**
NVR	**Nevrokopi**	**1.05**	**246**	*e*PG	**Pg**	**14 28 53.9**	**-0.3**
NVR				*e*SB	**Sg**	**14 29 08.7**	**+1.0**
NVR	**Nevrokopi**	**1.05**	**246**	P	**Pg**	**14 28 53.9**	**-0.3**
NVR				*e*Sb	**Sg**	**14 29 08.7**	**+1.0**
PGB	**Panagyurishte**	**1.05**	**317**	*i*P	**Pg**	**14 28 53.3**	**-1.0**
**PG

*KRSC **10** 14:38:43.0±0.8, 54˚.55N×162˚.24E, h40km±8km, ML3.9*
*ISCJB **10** 14:38:44.7±0.5, 54˚.58N±0˚.02×162˚.23E±0˚.05, h41km±6km, mb3.5/9, Error ellipse: s-maj=5.8km s-min=3.2km az=28.5*
*MOS **10** 14:38:44.9±1.8, 54˚.65N×162˚.04E, h49km, mb4.1/4, Error ellipse: s-maj=15.4km s-min=8.7km az=74.8*
*IDC **10** 14:38:47.7±2.7, 54˚.76N×161˚.85E, h50km±27km, mb3.3/9, mb1 3.5/10, mb1mx3.3/35, mbtmp3.5/10, ML2.2/1, Error ellipse: s-maj=27.6km s-min=15.1km az=136.0*

ISC 10 14:38:44.4±1.0, 54˚.59N±0˚.03×162˚.22E±0˚.04, h29km±7km, n65, σ1§08/88, mb3.6/9, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.29**	**265**	PN	**Pb**	**14 38 51.7**	**+0.1**
MKZ	**Mys Kozlova**	**0.29**	**265**	*eP*	**Pb**	**14 38 51.6**	**0.0**
MKZ				*eS*	**Sb**	**14 38 56.3**	**-0.1**
KZV	**Kizimen**	**1.23**	**296**	*eP*	**Pn**	**14 39 05.2**	**-0.7**
TUMR	**Tumrok**	**1.39**	**301**	*eP*	**Pn**	**14 39 07.8**	**-0.1**
TUMR				*eS*	**Sn**	**14 39 24.6**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.61**	**328**	*eP*	**Pn**	**14 39 12.2**	**+1.1**
KMNR	**Kamenistaya**	**1.64**	**317**	*eP*	**Pn**	**14 39 11.7**	**+0.4**
KMNR				*eS*	**Sn**	**14 39 31.4**	**-0.1**
ZLN	**Zelenaya**	**1.65**	**331**	*eP*	**Pn**	**14 39 12.3**	**+0.8**
KBTR	**Krutoberegovo**	**1.66**	**12**	PN	**Pn**	**14 39 12.4**	**+0.8**
KBTR				S	**Sn**	**14 39 32.9**	**+0.9**
KBTR	**Krutoberegovo**	**1.66**	**12**	*eP*	**Pn**	**14 39 12.4**	**+0.8**
KBTR				*eS*	**Sn**	**14 39 32.9**	**+0.9**
BZMR	**Bezymyannaya**	**1.68**	**324**	*eP*	**Pn**	**14 39 12.8**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.70**	**325**	*eP*	**Pn**	**14 39 13.4**	**+1.1**
KII	**Karymskiy**	**1.71**	**252**	*eP*	**Pn**	**14 39 12.8**	**+0.4**
KII				*eS*	**Sn**	**14 39 33.1**	**-0.3**
KIRR	**Kirishev**	**1.74**	**323**	*eP*	**Pn**	**14 39 13.3**	**+0.4**
KIRR				*eS*	**Sn**	**14 39 34.3**	**+0.1**
KPT	**Kopyto**	**1.80**	**321**	*eP*	**Pn**	**14 39 14.2**	**+0.7**
KPT				*eS*	**Sn**	**14 39 35.7**	**+0.3**
KLY	**Klyuchi**	**1.95**	**333**	PN	**Pn**	**14 39 16.0**	**+0.4**
KLY				S	**Sn**	**14 39 39.4**	**+0.4**
KLY	**Klyuchi**	**1.95**	**333**	*eP*	**Pn**	**14 39 15.9**	**+0.4**
KLY				*eS*	**Sn**	**14 39 39.4**	**+0.4**
SPN	**Mys Shipunski**	**1.98**	**222**	PN	**Pn**	**14 39 16.0**	**+0.1**
SPN	**Mys Shipunski**	**1.98**	**222**	*eP*	**Pn**	**14 39 16.0**	**+0.1**
KOZR	**Kozyr**	**1.99**	**319**	PN	**Pn**	**14 39 17.1**	**+0.9**
KOZR				S	**Sn**	**14 39 40.9**	**+0.7**
KOZ	**Kozyrevsk**	**2.00**	**319**	*eP*	**Pn**	**14 39 17.1**	**+0.9**
KOZ				*eS*	**Sn**	**14 39 40.9**	**+0.7**
SRKR	**Sorokina**	**2.16**	**344**	*eP*	**Pn**	**14 39 21.2**	**+2.7**
NLC	**Nalytchevo**	**2.21**	**231**	PN	**Pn**	**14 39 19.0**	**-0.2**
NLC				S	**Sn**	**14 39 44.1**	**-1.4**
NLC	**Nalytchevo**	**2.21**	**231**	*eP*	**Pn**	**14 39 19.0**	**-0.2**
NLC				*eS*	**Sn**	**14 39 44.1**	**-1.4**
SRDR	**Sredinnyy**	**2.25**	**322**	*eP*	**Pn**	**14 39 20.1**	**+0.4**
BKI	**Bering**	**2.25**	**72**	PN	**Pn**	**14 39 19.8**	**+0.1**
BKI				S	**Sn**	**14 39 45.4**	**-1.1**
BKI	**Bering**	**2.25**	**72**	*eP*	**Pn**	**14 39 19.8**	**+0.1**
BKI				*eS*	**Sn**	**14 39 45.4**	**-1.1**
SDLR	**Sedlovina**	**2.37**	**238**	*eP*	**Pn**	**14 39 22.3**	**+0.9**
SDLR				*eS*	**Sn**	**14 39 49.9**	**+0.4**
SMAR	**Somma**	**2.42**	**238**	*eP*	**Pn**	**14 39 23.2**	**+1.0**
SMAR				*eS*	**Sn**	**14 39 51.5**	**+0.6**
KRER	**Koryakskii**	**2.42**	**239**	*eP*	**Pn**	**14 39 23.5**	**+1.3**
KRER				*eS*	**Sn**	**14 39 52.3**	**+1.3**
ESO	**Esso**	**2.42**	**305**	PN	**Pn**	**14 39 22.9**	**+0.8**
ESO	**Esso**	**2.42**	**305**	*eP*	**Pn**	**14 39 22.9**	**+0.8**
UGLR	**Uglovaya**	**2.44**	**237**	*eP*	**Pn**	**14 39 23.4**	**+1.0**
UGLR				*eS*	**Sn**	**14 39 51.4**	**+0.2**
KRX	**Arik**	**2.44**	**241**	*eP*	**Pn**	**14 39 23.6**	**+1.1**
KRX				*eS*	**Sn**	**14 39 52.2**	**+0.8**
AVH	**Avacha**	**2.45**	**239**	*eP*	**Pn**	**14 39 23.9**	**+1.4**
AVH				*eS*	**Sn**	**14 39 52.8**	**+1.3**
KOK	**Koryaka**	**2.48**	**240**	*eP*	**Pn**	**14 39 24.6**	**+1.6**
KOK				*eS*	**Sn**	**14 39 53.4**	**+1.0**
PET	**Petropavlovsk**	**2.63**	**235**	*ePN*	**Pn**	**14 39 28.8**	**+3.9**
PET				*eS*	**Sn**	**14 39 55.7**	**-0.1**
PET				smax	smax		
	comp=N,234nm,0.7s						
PET	**Petropavlovsk**	**2.63**	**235**	*eP*	**Pn**	**14 39 26.1**	**+1.2**
PET				*eS*	**Sn**	**14 39 56.2**	**+0.4**
GNL	**Ganaly**	**2.67**	**252**	*eP*	**Pn**	**14 39 26.7**	**+1.1**
PETK	**Petropavlovsk-**	**3.06**	**243**	PN	**Pn**	**14 39 32.1**	**+1.3**
PETK				S	**Sn**	**14 40 07.2**	**+0.7**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**3.06**	**243**	P	**Pn**	**14 39 32.1**	**+1.3**
	comp=N,1.7nm,0.3s,baz=72,slow=15,SNR=28						
PETK				S	**Sn**	**14 40 07.2**	**+0.7**
	comp=N,2.6nm,0.3s,baz=77,slow=20,SNR=3.8						
RUS	**Russkaya**	**3.09**	**227**	PN	**Pn**	**14 39 32.4**	**+1.2**
RUS				S	**Sn**	**14 40 07.4**	**+0.3**
RUS	**Russkaya**	**3.09**	**227**	*eP*	**Pn**	**14 39 32.4**	**+1.2**
RUS				*eS*	**Sn**	**14 40 07.4**	**+0.3**
MTVR	**Mutnovka**	**3.20**	**231**	*eP*	**Pn**	**14 39 34.7**	**+1.8**
MTVR				*eS*	**Sn**	**14 40 11.5**	**+1.4**
YAK	**Yakutsk**	**18.48**	**307**	*eP*	**P**	**14 42 54.2**	**-3.5**
HIA	**Hailar**	**26.41**	**276‖**	*eP*	**P**	**14 44 15.7**	**-2.6**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**26.87**	**47**	P	**P**	**14 44 23.3**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=274,slow=9.5,SNR=4.2						
INK	**Inuvik**	**31.91**	**39**	P	**P**	**14 45 07.3**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**31.91**	**39**	P	**P**	**14 45 07.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=307,slow=5.1,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**34.98**	**172**	T	T	15 22 51.3	
	baz=355,slow=76,SNR=196						
H11N3	**WAKE ISLAND Hy**	**34.99**	**172**	T	T	15 22 52.5	
	baz=355,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**34.99**	**172**	T	T	15 22 50.1	
	baz=355,slow=76,SNR=154						
H11S1	**WAKE ISLAND Hy**	**36.17**	**173**	T	T	15 24 19.8	
	baz=20						
H11S3	**WAKE ISLAND Hy**	**36.19**	**173**	T	T	15 24 19.8	
	baz=20						
H11S2	**WAKE ISLAND Hy**	**36.19**	**173**	T	T	15 24 19.2	
	baz=20						
YKA	**Yellowknife Ar**	**41.21**	**44**	P	**P**	**14 46 27.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=300,slow=7.9,SNR=7.1						
MKAR	**Makanchi Array**	**48.64**	**296**	P	**P**	**14 47 23.5**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=50,slow=9.5,SNR=2.8						
FINES	**FINESS Array B**	**59.24**	**337**	*eP*	**P**	**14 48 41.1**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**59.24**	**337**	P	**P**	**14 48 42.0**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=33,slow=5.8,SNR=9.0						
NB2	**NORSAR Subarra**	**62.45**	**345**	P	**P**	**14 49 03.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**62.45**	**345**	*eP*	**P**	**14 49 04.0**	**-0.4**
NOA	**NORSAR Array B**	**62.45**	**345**	P	**P**	**14 49 03.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=20,slow=6.7,SNR=4.0						
TXAR	**Lajitas Array**	**68.91**	**69**	P	**P**	**14 49 48.5**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=300,slow=4.6,SNR=7.1						
WRA	**Warramunga Arr**	**77.97**	**207**	P	**P**	**14 50 40.2**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=20,slow=5.9,SNR=4.3						
ASAR	**Alice Springs**	**81.65**	**206**	P	**P**	**14 51 01.0**	**+1.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**81.65**	**206**	P	**P**	**14 51 00.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=17,slow=5.1,SNR=7.2						

*IDC **10** 14:54:36.4±2.0, 6˚.88S×128˚.90E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.4/30, mbtmp3.6/4, ML3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/11, Error ellipse: s-maj=55.2km s-min=30.3km az=75.0*

ISC 10 14:54:38.0±1.8, 6˚.9S±0˚.1×129˚.0E±0˚.2, h10km, n10, σ0§82/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.11**	**40**	P	Pg	14 56 20.6	+4.7
	baz=6.3,SNR=3.7						
SOEI	**Soe**	**5.46**	**238**	P	**Pn**	**14 56 00.7**	**+1.2**
	baz=4.6,SNR=10						
BATI	**Baumata**	**6.20**	**237**	Pn	**Pn**	**14 56 08.8**	**-0.9**
	8.2nm,0.3s,baz=116,slow=2.9,SNR=26						
BATI				Sn	Sn	14 57 07.3	-13
	7.0nm,0.3s,baz=114,slow=13,SNR=8.4						
MTN	**Manton Dam**	**6.32**	**160**	P	Pn	14 56 17.9	+6.6
	baz=5.5,SNR=18						
MTN				S	**Sn**	**14 57 23.2**	**-0.4**
	baz=5.5,SNR=6.3						
KDU	**Kakadu**	**6.75**	**149**	P	Pn	14 56 25.8	+8.7
	baz=6.1,SNR=31						
KDU				S	**Sn**	**14 57 34.2**	**+0.2**
	baz=6.1,SNR=11						
KNRA	**Kununurra**	**8.76**	**181**	P	**Pn**	**14 56 45.5**	**+0.7**
	baz=7.7,SNR=29						
KNRA				S	Sn	14 58 09.0	-15
	baz=7.7,SNR=14						
WRA	**Warramunga Arr**	**14.01**	**159**	Pn	**Pn**	**14 57 57.0**	**+0.2**
	0.3nm,0.3s,baz=334,slow=12,SNR=22						
WRA				Sn	Sn	15 00 19.8	-13
	0.9nm,0.3s,baz=333,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.37**	**165**	P	**Pn**	**14 58 39.9**	**-0.8**
	0.1nm,0.3s,baz=339,slow=11,SNR=16						
ASAR				S	Sn	15 01 38.9	-15
	0.2nm,0.3s,baz=350,slow=26,SNR=5.8						
JCJ	**Chichijima**	**36.11**	**20**	LR	LR	15 13 28.0	
	comp=Z,118nm,19.7s,baz=134,slow=31						
MKAR	**Makanchi Array**	**67.55**	**327**	P	**P**	**15 05 34.6**	**0.0**
	0.1nm,0.5s,baz=122,slow=6.7,SNR=2.8						

*IDC **10** 14:55:33.0±0.8, 55˚.02S×127˚.38W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/15, mbtmp3.9/6, MS3.9/2, Ms1 3.9/2, ms1mx3.4/16, Error ellipse: s-maj=36.6km s-min=24.6km az=153.0*
*ISCJB **10** 14:55:33.4±0.9, 55˚.1S±0˚.2×127˚.2W±0˚.4, h10km, mb4.0/6, MS3.9/2, Error ellipse: s-maj=34.1km s-min=23.5km az=34.0*

ISC 10 14:55:34.6±0.8, 55˚.0S±0˚.2×127˚.5W±0˚.2, h10km, n23, σ1§18/10, mb3.9/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**31.90**	**133**	LR	LR	15 11 45.7	
	comp=Z,58nm,18.4s,baz=296,slow=30						
RKT	**Rikitea**	**32.35**	**347**	*e*LR	LR	15 10 28.7	
	289nm,27.0s						
QSPA	**South Pole Qui**	**35.16**	**180**	P	**P**	**15 02 29.3**	**+1.1**
	1.0nm,0.8s,baz=193,slow=0.1,SNR=5.2						
TBI	**Tubuai**	**35.61**	**324**	*e*LR	LR	15 11 42.1	
	238nm,26.5s						
TBI	**Tubuai**	**35.61**	**324**	*e*T	T	15 40 00.4	
	15nm,0.5s						
PPT2	**Papeete2**	**41.02**	**327**	*e*LR	LR	15 14 15.3	
	289nm,26.0s						
VAH	**Vaihoa**	**42.66**	**331**	*e*T	T	15 48 48.6	
	27nm,0.3s						
LPAZ	**La Paz**	**59.36**	**74**	P	**P**	**15 05 36.9**	**-0.8**
	4.4nm,0.9s,baz=191,slow=4.1,SNR=10						
SIV	**San Ignacio**	**63.55**	**80**	P	**P**	**15 06 03.6**	**-1.7**
	3.0nm,0.9s,baz=201,slow=3.9,SNR=5.2						
WRA	**Warramunga Arr**	**78.45**	**252**	P	**P**	**15 07 34.7**	**-1.0**
	1.4nm,1.0s,baz=136,slow=5.1,SNR=5.6						
TXAR	**Lajitas Array**	**86.47**	**21**	P	**P**	**15 08 18.0**	**+0.8**
	0.4nm,0.8s,baz=186,slow=10,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**91.93**	**300**	T	T	16 50 54.9	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**91.94**	**300**	T	T	16 50 53.5	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**91.95**	**300**	T	T	16 50 55.2	
	baz=150						
H11N3	**WAKE ISLAND Hy**	**92.87**	**301**	T	T	16 51 57.1	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**92.88**	**301**	T	T	16 52 01.1	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**92.89**	**301**	T	T	16 51 57.7	
	baz=152						
NVAR	**Mina Array Bea**	**93.42**	**7**	P	**P**	**15 08 51.3**	**+1.6**
	0.1nm,0.4s,baz=202,slow=4.7,SNR=2.0						
LBTB	**Lobatse**	**97.01**	**156**	LR	LR	15 43 55.6	
	comp=Z,156nm,21.6s,baz=72,slow=30						
ILAR	**Eielson Array**	**120.39**	**351**	PKP	**PKPdf**	**15 14 24.5**	**0.0**
	0.5nm,0.9s,baz=188,slow=2.0,SNR=6.1						
SONM	**Songino Array**	**146.39**	**281**	PKPbc	**PKPab**	**15 15 15.1**	**-0.7**
	1.1nm,0.9s,baz=132,slow=2.1,SNR=5.2						
MKAR	**Makanchi Array**	**159.62**	**259**	PKPab	**PKPab**	**15 16 11.3**	**+0.1**
	0.3nm,0.2s,baz=144,slow=5.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**161.28**	**280**	PKPab	**PKPab**	**15 16 17.4**	**-0.8**
	0.4nm,0.4s,baz=125,slow=4.0,SNR=2.7						

*IDC **10** 14:58:10.5±0.7, 29˚.55S×178˚.11W, h198km±4km, mb3.4/4, mb1 3.6/5, mb1mx3.3/34, mbtmp3.9/5, Error ellipse: s-maj=29.7km s-min=17.4km az=138.0*

ISC 10 14:58:11.4±0.8, 29˚.59S±0˚.08×178˚.5W±0˚.1, h204km, n41, σ2§29/48, mb3.6/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.59**	**56**	P	**Pn**	**14 58 38.5**	**-0.8**
	538nm,0.3s,baz=114,slow=5.7,SNR=23						
RAO				S	**S**	**14 58 57.8**	**-3.2**
	717nm,0.3s,baz=198,slow=20,SNR=10.0						
MXZ	**Matakaoa Point**	**8.39**	**198**	*e*PN	**Pn**	**15 00 10.8**	**+1.1**
WMGZ	**Waiomatatini S**	**8.61**	**197**	PN	**Pn**	**15 00 13.3**	**+0.8**
HAZ	**Te Kaha**	**8.72**	**200**	*e*PN	**Pn**	**15 00 14.6**	**+0.7**
PUZ	**Puketiti**	**8.88**	**197**	*e*PN	**Pn**	**15 00 16.0**	**-0.1**
PUZ				SN	**S**	**15 01 57.3**	**+1.4**
TWGZ	**Tauwhareparae**	**9.05**	**198**	PN	**Pn**	**15 00 18.6**	**+0.2**
CNGZ	**Carnagh Statio**	**9.29**	**196**	*e*PN	**Pn**	**15 00 20.8**	**-0.4**
MWZ	**Matawai**	**9.33**	**200**	*e*PN	**Pn**	**15 00 21.5**	**-0.3**
MWZ				SN	**S**	**15 02 09.8**	**+3.2**
URZ	**Urewera**	**9.39**	**202**	P	**Pn**	**15 00 22.8**	**+0.2**
	0.8nm,0.3s,baz=27,slow=18,SNR=14						
URZ				S	**S**	**15 02 11.5**	**+3.6**
	3.4nm,0.3s,baz=352,slow=21,SNR=12						
URZ	**Urewera**	**9.39**	**202**	PN	**Pn**	**15 00 20.7**	**-1.8**
URZ				SN	**S**	**15 02 10.3**	**+2.4**
RIGZ	**Rimuhau**	**9.61**	**198**	*e*PN	**Pn**	**15 00 24.2**	**-1.2**
SNGZ	**Shannon Statio**	**9.80**	**200**	*e*PN	**Pn**	**15 00 27.2**	**-0.7**
KNZ	**Kokohu**	**9.93**	**198**	PN	**Pn**	**15 00 29.0**	**-0.6**
BKZ	**Black Stump Fm**	**10.41**	**202**	PN	**Pn**	**15 00 35.2**	**-0.7**
FWVZ	**Far West T-bar**	**10.82**	**205**	PN	**Pn**	**15 00 43.5**	**+2.2**
KAHZ	**Kahuranaki**	**10.87**	**199**	PN	**Pn**	**15 00 41.0**	**-0.8**
PXZ	**Pawanui**	**11.10**	**199**	PN	**Pn**	**15 00 43.3**	**-1.3**
TSZ	**Takapari Road**	**11.40**	**202**	PN	**Pn**	**15 00 45.8**	**-2.6**
TSZ				SN	**S**	**15 02 55.3**	**+0.2**
DVHZ	**Dannevirke**	**11.55**	**201**	SN	**S**	**15 02 58.3**	**-0.4**
BFZ	**Birch Farm**	**11.88**	**200**	PN	**Pn**	**15 00 53.4**	**-1.1**
BFZ				SN	**S**	**15 03 04.0**	**-2.4**
MRZ	**Mangatainoka R**	**12.06**	**202**	PN	Pn	15 00 53.3	-3.5
MRZ				SN	**S**	**15 03 08.8**	**-2.2**
OGWZ	**Otaki Gorge**	**12.34**	**203**	PN	**Pn**	**15 00 58.2**	**-2.1**
NNZ	**Nelson**	**13.36**	**208**	SN	**S**	**15 03 38.8**	**-2.7**
QRZ	**Quartz Range**	**13.40**	**211**	PN	**Pn**	**15 01 13.7**	**+0.1**
THZ	**Tophouse**	**14.01**	**208**	PN	**Pn**	**15 01 20.3**	**-1.0**
THZ				SN	**S**	**15 03 54.1**	**-2.8**
CTZ	**Chatham Island**	**14.20**	**174**	PN	P	15 01 32.5	+7.6
CTZ				SN	**S**	**15 04 05.0**	**+4.0**
DSZ	**Denniston Nort**	**14.46**	**210**	SN	**S**	**15 04 05.2**	**-2.0**
LTZ	**Lake Taylor**	**15.12**	**207**	*e*PN	**Pn**	**15 01 33.7**	**-1.1**
DZM	**Mont Dzumac**	**15.49**	**295**	P	Pn	15 01 47.6	+8.0
	0.4nm,0.3s,baz=100,slow=12,SNR=9.0						
OXZ	**Oxford**	**15.67**	**206**	SN	**S**	**15 04 28.7**	**-6.4**
MQZ	**McQueen's Vall**	**15.77**	**204**	SN	**S**	**15 04 30.2**	**-7.0**
CTA	**Charters Tower**	**33.26**	**278**	P	**P**	**15 04 32.3**	**+2.6**
	1.1nm,0.4s,baz=94,slow=7.0,SNR=8.5						
ASAR	**Alice Springs**	**42.74**	**266**	P	**P**	**15 05 51.0**	**+2.2**
	0.7nm,0.4s,baz=102,slow=6.5,SNR=20						
WRA	**Warramunga Arr**	**43.66**	**272**	P	**P**	**15 05 58.2**	**+2.0**
	0.9nm,0.4s,baz=110,slow=8.0,SNR=24						
NVAR	**Mina Array Bea**	**87.93**	**43**	P	**P**	**15 10 37.2**	**-1.0**
	0.5nm,0.7s,baz=217,slow=8.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**120.23**	**314**	PKP	**PKPdf**	**15 16 35.8**	**-1.9**
	0.3nm,0.5s,baz=119,slow=2.0,SNR=4.2						
ARCES	**ARCESS Array B**	**137.71**	**348**	PKP	**PKPdf**	**15 17 10.5**	**+0.2**
	2.4nm,0.9s,baz=29,slow=2.1,SNR=5.1						
FINES	**FINESS Array B**	**144.24**	**340**	PKP	**PKPab**	**15 17 20.0**	**-0.7**
	1.5nm,0.5s,baz=80,slow=2.9,SNR=20						
NB2	**NORSAR Subarra**	**147.89**	**351**	PKP	**PKPdf**	**15 17 30.8**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**147.89**	**351**	PKPbc	**PKPbc**	**15 17 31.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=15,slow=4.5,SNR=4.7						
AKASG	**Malin Array Be**	**150.40**	**323**	PKPbc	**PKPbc**	**15 17 38.2**	**0.0**
	comp=Z,1.5nm,0.5s,baz=47,slow=3.0,SNR=14						

*ISCJB **10** 15:06:29.2±1.1, 25˚.64S±0˚.02×70˚.70W±0˚.04, h19km±7km, mb5.3/177, MS4.8/138, Error ellipse: s-maj=5.8km s-min=3.3km az=168.3*

*MOS **10** 15:06:31.6±1.9, 25˚.69S×70˚.78W, h33km, mb5.5/53, MS4.7/19, Error ellipse: s-maj=10.2km s-min=5.5km az=97.0*
*LDG **10** 15:06:31.0±0.3, 24˚.71S×70˚.54W, h10km, Mb5.5/10, Ms4.8/12, Error ellipse: s-maj=27.3km s-min=15.7km az=146.0*
*GUC **10** 15:06:32.4±0.6, 25˚.71S×70˚.62W, h55km±32km, ML5.8*
*NEIC **10** 15:06:34.1±0.2, 25˚.68S×70˚.67W, mb5.3/138, MS4.8/115, MW5.5, Error ellipse: s-maj=6.4km s-min=3.9km az=80.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$0.81; $M_{r\theta}$0.73; $M_{\theta\phi}$0.44; $M_{\phi r}$-1.87; Best double couple: M_o2.20000×10^{17} NP1: ϕ_s339.00000°, δ86.00000°, λ-111.00000°. NP2: ϕ_s238.00000°, δ21.00000°, λ-12.00000°. Principal axes: T 2.2100, Plg37.0000°, Azm87.0000°; N -0.0800, Plg20.0000°, Azm340.0000°; P -2.1400, Plg45.0000°, Azm228.0000°;*
NEIC Felt [V] at El Salvador and Taltal; [IV] at Chanaral, Copiapo, Diego de Almagro and Tierra Amarilla; [III] at Antofagasta, Baquedano, Caldera and Tocopilla; [II] at Vallenar.
*IDC **10** 15:06:34.2±0.5, 25˚.68S×70˚.77W, h48km±4km, mb4.9/19, mb1 4.9/23, mb1mx4.9/27, mbtmp5.1/23, MS4.6/19, Ms1 4.6/19, ms1mx4.5/22 Error ellipse: s-maj=14.0km s-min=10.1km az=72.0*
*BJI **10** 15:06:35.1, 25˚.70S×70˚.70W, h35km, mB5.3/24, Ms5.4/21, Ms7 5.2/24*
*GCMT **10** 15:06:36.4±0.1, 25˚.75S×71˚.10W, h75km±1km, MW5.5/115, Moment Tensor Solution. s94,c156; s115,c208; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.34±.03; $M_{\theta\theta}$-0.61±.03; $M_{\phi\phi}$0.95±.04; $M_{r\theta}$0.59±.02; $M_{\theta\phi}$0.46±.03; $M_{\phi r}$-1.76±.02; Best double couple: M_o2.08100×10^{17} NP1:ϕ_s341.00000°, δ84.00000°, λ-114.00000°. NP2:ϕ_s237.00000°, δ25.00000°, λ-15.00000°. Principal axes: T 2.1810, Plg35.0000°, Azm91.0000°; N -0.2020, Plg24.0000°, Azm343.0000°; P -1.9800, Plg46.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 15:06:33.7±0.3, 25˚.66S±0˚.03×70˚.81W±0˚.05, h45km±2km, h44km:pP-P,n1066, σ1§47/1008, mb5.3/177, MS4.8/138, 231C-226D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.74**	**167**	*eP*	**Pn**	**15 07 01.7**	**+0.2**
CPCH				*eS*	**Sn**	**15 07 22.6**	**+0.1**
CPCH	**Copiapo**	**1.74**	**167**	*eP*	**Pn**	**15 07 01.7**	**+0.2**
CPCH				*eS*	**Sn**	**15 07 22.6**	**+0.1**
ANCH	**Antofagasta**	**2.00**	**10**	*eP*	Pn	15 06 59.5	-5.6
ANCH				*eS*	**Sn**	**15 07 24.1**	**-4.7**
ANCH				AML	AML	15 07 25.8	
	comp=E,72μm,0.4s						
ANCH	**Antofagasta**	**2.00**	**10**	*eP*	Pn	15 06 59.5	-5.6
ANCH				*eS*	**Sn**	**15 07 24.1**	**-4.7**
PB10	**IPOC Station P**	**2.15**	**6**	*eP*	**Pn**	**15 07 06.8**	**-0.2**
PB10				*eS*	**Sn**	**15 07 32.4**	**-0.1**
PB10				AML	AML	15 07 34.5	
	comp=N,174μm,0.5s						
CEN1	**Los Morros**	**2.32**	**14⇑**	*iP*	Pn	15 07 06.1	-3.5
CEN1				*eS*	Sn	15 07 30.5	-6.5
CEN1	**Los Morros**	**2.32**	**14⇑**	*iP*	Pn	15 07 06.1	-3.5
CEN1				S	Sn	15 07 30.5	-6.5
VACH	**Vallenar**	**2.91**	**179**	*eP*	**Pn**	**15 07 16.6**	**-0.9**
VACH				*eS*	**Sn**	**15 07 49.1**	**-2.1**
VACH	**Vallenar**	**2.91**	**179**	*eP*	**Pn**	**15 07 16.6**	**-0.9**
VACH				*eS*	**Sn**	**15 07 49.1**	**-2.1**
PB06	**IPOC Station P**	**3.15**	**21**	*eP*	**Pn**	**15 07 21.5**	**+0.5**
PB06				*eS*	**Sn**	**15 07 57.7**	**+0.3**
PB06				AML	AML	15 08 18.3	
	comp=N,18μm,0.8s						
PB06	**IPOC Station P**	**3.15

comp=Z,5.4nm,0.3s,baz=75,slow=15,SNR=4.7
PAYG Puerto Ayora 31.15 320 PFAKE 15 13 00.0 +12
PAYG LR LR
comp=Z,1µm,22.0s
SDV Santo Domingo 34.34 0 *eP* **P 15 13 13.7 -2.7**
SDV LR LR
comp=Z,1µm,19.0s
RPN Rapa Nui 34.46 259 P **P 15 13 17.8 +0.5**
comp=Z,104nm,0.8s,baz=87,slow=4.8,SNR=4.4
BCIP Isla Barro Col 35.71 345 PFAKE 15 13 40.0 +12
BCIP LR LR
comp=Z,546nm,21.0s
JTS JuntasAbangare 38.30 337⇑ *eP* **P 15 13 52.0 +1.9**
JTS pmax pmax
comp=Z,42nm,1.3s
JTS JuntasAbangare 38.30 337 P **P 15 13 51.0 +0.9**
comp=Z,6.8nm,0.6s,baz=300,slow=13,SNR=4.3
JTS JuntasAbangare 38.30 337 *eP* **P 15 13 48.2 -1.9**
JTS LR LR
comp=Z,367nm,20.0s
GRGR Grenville 38.60 14 PFAKE 15 14 00.0 +7.4
GRGR LR LR
comp=Z,1µm,20.0s
RCBR Riachuelo 38.76 65 P **P 15 13 55.0 +1.0**
comp=Z,143nm,0.9s,baz=222,slow=7.8,SNR=36
RCBR Riachuelo 38.76 65 *eP* **P 15 13 54.9 +0.9**
comp=Z,132nm,0.9s
RCBR *ep*P **pP 15 14 08.2 +2.0**
RCBR LR LR
comp=Z,760nm,19.0s
FDF Fort de France 41.23 14 P **P 15 14 12.7 -1.8**
FDF MLR MLR
comp=Z,1µm,19.0s
FDF Fort de France 41.23 14 P **P 15 14 12.7 -1.8**
FDF LR LR
comp=Z,1µm,19.0s
ICMP Isla Caja de M 43.48 6 *ep*P pP 15 14 46.2 +1.3
OBIP Obispado Ponce 43.63 6 *eP* **P 15 14 33.0 -0.9**
comp=Z,43nm,0.8s
CELP Cerrillos 43.66 6 *eP* **P 15 14 32.0 -2.2**
SJG San Juan 43.74 6 *eP* **P 15 14 32.7 -2.1**
SJG pmax pmax
comp=Z,3.0nm,0.6s
SJG San Juan 43.74 6 *eP* **P 15 14 32.6 -2.1**
comp=Z,2.8nm,0.6s
SJG LR LR
comp=Z,491nm,22.0s
MTP Monte Pirata 43.79 7 *eP* **P 15 14 33.3 -1.8**
CBYP Canovanas 43.93 7 *eP* P 15 14 33.1 -3.3
comp=Z,24nm,0.9s
ANWB Willy Bob 43.95 12 PFAKE 15 14 50.0 +14
ANWB LR LR
comp=Z,944nm,22.0s
MTDJ Mount Denham 44.11 351 PFAKE 15 14 50.0 +12
MTDJ LR LR
comp=Z,388nm,20.0s
SDDR Presa de Saban 44.37 359 PFAKE 15 14 50.0 +10
SDDR LR LR
comp=Z,781nm,19.0s
APG El Apazote 44.72 332 P P 15 14 37.4 -5.6
comp=Z,8.8nm,0.9s,baz=157,slow=5.2,SNR=7.2
GTBY Guantanamo Bay 45.50 354 *eP* **P 15 14 49.6 +0.8**
comp=Z,78nm,0.9s
GTBY LR LR
comp=Z,235nm,22.0s
GRTK Grand Turk 46.89 360 PFAKE 15 15 10.0 +10
GRTK LR LR
comp=Z,704nm,21.0s
TEIG Tepich 48.67 338 *eP* **P 15 15 14.0 +0.6**
comp=Z,165nm,1.5s
ASCN Ascension 56.41 82 PFAKE 15 16 20.0 +8.9
ASCN LR LR
comp=Z,1µm,22.0s
VNA3 Neumayer Olymp 56.74 160 P **P 15 16 12.8 +0.2**
VNA1 Neumayer--Stat 56.99 159 P **P 15 16 15.0 +0.7**
VNA2 Neumayer--Watz 57.35 160 P **P 15 16 16.8 -0.1**
RKT Rikitea 57.98 258 *eS* **S 15 24 20.8 +1.3**
comp=Z,474nm,25.0s
RKT *eLQ* LQ 15 30 58.7
RKT comp=Z,961nm,31.5s *eLR* LR 15 33 31.2
comp=Z,4µm,29.5s,baz=100
RKT Rikitea 57.98 258 *eT* T 16 18 38.1
comp=Z,2.4nm,0.3s
TIGA Tifton 58.08 347⇓ **P 15 16 22.8 +0.4**
baz=58
BRAL Brewton 58.45 344 *eP* **P 15 16 26.4 +1.3**
comp=Z,142nm,1.2s
035A Encino 58.54 331⇑ **P 15 16 27.4 +1.8**
baz=59
034A Hebbronville 58.90 331⇓ **P 15 16 30.3 +2.1**
baz=59
SNAA Sanae 58.96 160 P **P 15 16 27.9 -0.3**
comp=Z,6.0nm,0.7s,baz=273,slow=4.3,SNR=83
KVTX Kingsville 58.98 332 PFAKE 15 16 40.0 +11
KVTX LR LR
comp=Z,383nm,21.0s
NHSC New Hope 59.12 351 PFAKE 15 16 40.0 +10
NHSC LR LR
comp=Z,399nm,19.0s
934A Benavides 59.30 331⇑ **P 15 16 33.9 +2.9**
baz=60
835A Beeville 59.60 332⇑ **P 15 16 35.2 +2.2**
baz=60
933A Laredo 59.64 331⇑ **P 15 16 34.8 +1.5**
baz=60
834A Tilden 59.77 332⇑ **P 15 16 35.7 +1.6**
baz=60
GOGA Godfrey 59.97 348 *eP* **P 15 16 35.0 -0.4**
GOGA pmax pmax
comp=Z,18nm,1.0s
GOGA MLR MLR
comp=Z,399nm,21.0s
GOGA Godfrey 59.97 348 *eP* **P 15 16 35.0 -0.4**
comp=Z,18nm,1.0s
GOGA LR LR
comp=Z,399nm,21.0s
HKT Hockley 60.27 335 *eP* **P 15 16 38.4 +0.9**
HKT pmax pmax
comp=Z,108nm,1.6s
HKT Hockley 60.27 335 *eP* **P 15 16 38.4 +0.9**
comp=Z,108nm,1.6s
833A Chaparral WMA, 60.30 331⇓ **P 15 16 39.1 +1.3**
baz=61,SNR=8.6
636A Smothers Creek 60.34 334⇑ **P 15 16 39.9 +1.9**
baz=61
LRAL Lakeview Retre 60.37 344 *eP* **P 15 16 36.9 -1.3**
comp=Z,5.3nm,0.9s
734A La Parita Cree 60.40 332⇑ **P 15 16 40.3 +1.9**
baz=61
JSC Jenkinsville 60.43 350 *eP* **P 15 16 38.8 +0.2**
JSC pmax pmax
comp=Z,20nm,0.9s
JSC Jenkinsville 60.43 350 *eP* **P 15 16 38.8 +0.2**
comp=Z,20nm,0.9s
832A Faith Ranch, C 60.52 330⇓ **P 15 16 40.6 +1.3**
baz=61,SNR=8.1
635A Leesville 60.54 333⇑ **P 15 16 40.5 +1.1**
baz=61
537A Green Hill Far 60.58 335⇓ **P 15 16 40.8 +1.2**
baz=61
733A Divot King Ran 60.60 331⇑ **P 15 16 41.4 +1.6**
baz=61,SNR=5.1
634A China Grove, S 60.78 332⇓ **P 15 16 42.6 +1.5**
baz=61
438A Sam Houston St 60.86 336⇓ **P 15 16 43.5 +2.0**
baz=61
536A Bastrop 60.87 334⇓ **P 15 16 43.3 +1.6**
baz=61
732A Laxson Ranch, 60.91 331⇓ **P 15 16 43.8 +1.8**
baz=61,SNR=12
CNNC Cliffs of the 60.94 353 PFAKE 15 16 50.0 +8.0
CNNC LR LR
comp=Z,273nm,22.0s
535A Dale 61.03 333⇓ **P 15 16 43.8 +1.0**
baz=61
339A Huntington 61.05 337⇓ **P 15 16 44.6 +1.7**
baz=61
SHEL Horse Pasture 61.07 95 PFAKE 15 16 50.0 +6.5
SHEL LR LR
comp=Z,2µm,22.0s
SACV Santiago Islan 61.17 54 PFAKE 15 17 00.0 +16
SACV LR LR
comp=Z,600nm,20.0s
633A Saathoff Ranch 61.19 332⇓ **P 15 16 44.9 +1.0**
baz=62,SNR=6.4
KMSC Kings Mountain 61.28 350⇑ **P 15 16 45.4 +1.0**
baz=62
338A Crockett 61.34 336⇓ **P 15 16 46.8 +1.9**
baz=62
436A Wall Ranch, Ga 61.38 335⇓ **P 15 16 46.7 +1.7**
baz=62
534A Blanco 61.40 333⇑ **P 15 16 46.4 +1.1**
baz=62
NATX Nacogdoches 61.47 337 PFAKE 15 17 00.0 +14
NATX LR LR
comp=Z,899nm,20.0s
632A Uvalde 61.50 331⇓ **P 15 16 47.0 +1.0**
baz=62,SNR=15
337A Centerville 61.52 336⇑ **P 15 16 48.0 +2.0**
baz=62
239A Gary 61.64 337⇑ **P 15 16 48.5 +1.7**
baz=62
533A Kerrville 61.67 332⇓ **P 15 16 48.2 +1.1**
baz=62
435B Jarrell 61.70 334⇑ **P 15 16 48.7 +1.4**
baz=62
631A Perdido Creek 61.76 331⇑ **P 15 16 48.7 +1.0**
baz=62,SNR=15
238A Jacksonville 61.86 337⇑ **P 15 16 50.3 +2.0**
baz=62
336A Riesel 61.94 335⇑ **P 15 16 49.7 +0.8**
baz=62
434A Burnet 62.00 333⇓ **P 15 16 49.8 +0.4**
baz=62
335A Moody 62.08 334⇓ **P 15 16 50.6 +0.8**
baz=62
237A Washetta, Mont 62.10 336⇓ **P 15 16 51.5 +1.5**
baz=62
TKL Tuckaleechee C 62.20 348 *eP* **P 15 16 49.8 -0.8**
TKL Tuckaleechee C 62.20 348 *eP* **P 15 16 49.8 -0.8**
433A Art 62.28 333⇑ **P 15 16 52.1 +0.8**
baz=63,SNR=19
JCT Junction City 62.34 332 *eP* **P 15 16 52.0 +0.3**
JCT pmax pmax
comp=Z,51nm,0.8s
JCT MLR MLR
comp=Z,303nm,19.0s
JCT Junction City 62.34 332⇑ **P 15 16 52.6 +0.9**
baz=63,SNR=9.4
JCT Junction City 62.34 332 *eP* **P 15 16 52.0 +0.3**
comp=Z,51nm,0.8s
JCT LR LR
comp=Z,303nm,19.0s
OXF Oxford 62.39 343 *eP* **P 15 16 50.3 -1.5**
OXF *e**PP **pP 15 17 04.5 -0.2**
OXF pmax pmax
comp=Z,43nm,1.0s
OXF Oxford 62.39 343 *eP* **P 15 16 50.3 -1.5**
comp=Z,43nm,1.0s
OXF *ep*P **pP 15 17 04.5 -0.2**
531A Rocksprings 62.40 331⇓ **P 15 16 53.5 +1.5**
baz=63,SNR=19
138A Matatall Enter 62.44 337⇓ **P 15 16 52.3 +0.1**
baz=63
334A Lometa 62.44 334⇓ **P 15 16 52.8 +0.5**
baz=63,SNR=5.6
137A Heron Place, G 62.62 336⇓ **P 15 16 55.1 +1.7**
baz=63
432A Menard 62.69 332⇓ **P 15 16 54.4 +0.4**
baz=63,SNR=18
WHTX Lake Whitney, 62.72 335⇑ **P 15 16 54.6 +0.6**
baz=63
530A J-C Ranch, Com 62.73 330⇓ **P 15 16 55.5 +1.2**
baz=63,SNR=14
333A Richland Sprin 62.74 333⇑ **P 15 16 54.8 +0.6**
baz=63,SNR=14
431A Sonora 62.87 331⇓ **P 15 16 56.1 +1.0**
baz=63,SNR=10
234A Clairette 62.99 334⇓ **P 15 16 56.7 +0.8**
baz=63,SNR=5.8
332A Millersview 63.10 332⇓ **P 15 16 57.4 +0.7**
baz=64,SNR=9.2
529A Stev Forest Ra 63.11 330⇑ **P 15 16 58.3 +1.5**
baz=64,SNR=30
TXAR Lajitas Array 63.12 328 P **P 15 16 57.5 +0.6**
comp=Z,5.5nm,0.9s,baz=141,slow=8.1,SNR=33
TXAR pP **pP 15 17 10.5 +0.7**
comp=Z,5.5nm,0.6s,baz=152,slow=8.3,SNR=18
TXAR LR LR 15 41 33.2
comp=Z,160nm,19.3s,baz=0.0,slow=33
BLA Blacksburg 63.19 351 *eP* **P 15 16 56.4 -0.8**
BLA pmax pmax
comp=Z,23nm,0.9s
BLA Blacksburg 63.19 351 *eP* **P 15 16 56.4 -0.8**
comp=Z,23nm,0.9s
BLA LR LR
comp=Z,250nm,22.0s
135A Vickery Place, 63.20 335⇓ **P 15 16 58.7 +1.4**
baz=64
430A Baggett Ranch, 63.23 331⇑ **P 15 16 58.3 +0.7**
baz=64,SNR=9.7
233A Rising Star 63.31 333⇓ **P 15 16 58.8 +0.8**
baz=64,SNR=7.4
331A San Angelo 63.33 332⇑ **P 15 16 58.9 +0.7**
baz=64,SNR=6.1
JSRW J. Sargeant Re 63.37 354 *eP* **P 15 16 58.9 +0.7**
429A Davenport Ranc 63.39 330⇓ **P 15 16 59.8 +1.2**
baz=64,SNR=21
134A White-Moore Ra 63.48 334⇑ **P 15 16 59.6 +0.5**
baz=64
UALR University of 63.48 340 *eP* **P 15 16 59.0 -0.1**
comp=Z,32nm,0.9s
232A Coleman 63.50 333⇑ **P 15 17 00.4 +1.0**
baz=64
WVT Waverly 63.52 345 *eP* **P 15 16 58.4 -0.9**
WVT pmax pmax
comp=Z,31nm,0.7s
WVT Waverly 63.52 345 *eP* **P 15 16 58.4 -0.9**
comp=Z,32nm,0.7s
NVL N'lazarevskaya 63.60 158⇓ *iP* **P 15 16 57.7 -1.8**
NVL pmax pmax
comp=Z,13nm,0.8s
MIAR Mount Ida 63.65 339 *eP* **P 15 16 59.8 -0.4**
MIAR pmax pmax
comp=Z,40nm,0.9s
MIAR MLR MLR
comp=Z,240nm,19.0s
MIAR Mount Ida 63.65 339 *eP* **P 15 16 59.8 -0.4**
comp=Z,40nm,0.9s
MIAR LR LR
comp=Z,240nm,19.0s
330A Mertzon 63.74 331⇓ **P 15 17 02.0 +1.0**
baz=64,SNR=7.1
CBN Corbin Frederi 63.82 354 PFAKE 15 17 10.0 +8.8
CBN LR LR
comp=Z,321nm,21.0s
231A Bronte 63.83 332⇑ **P 15 17 02.8 +1.3**
baz=64
Z35A Perchaven, San 63.83 335⇑ **P 15 17 02.5 +1.1**
baz=64
133A Hamilton Ranch 63.84 334⇑ **P 15 17 02.3 +0.8**
baz=64,SNR=6.0
GNAR Gosnell 63.92 343 *ep*P pP 15 17 16.3 +1.5
Z34A Collier Ranch, 64.12 335⇓ **P 15 17 04.2 +0.8**
baz=64,SNR=5.9
230A Sterling City 64.12 332⇓ **P 15 17 04.4 +1.0**
baz=64
ABTX Abilene, Hawle 64.14 333⇑ **P 15 17 04.3 +0.8**
baz=64,SNR=9.3
ABTX Abilene, Hawle 64.14 333 *eP* **P 15 17 03.4 -0.1**
comp=Z,178nm,1.4s
329A Wagon Wheel Ra 64.16 331⇓ **P 15 17 04.7 +0.9**
baz=64,SNR=11
Z33A Whitaker Ranch 64.37 334⇓ **P 15 17 06.1 +1.1**
baz=65,SNR=5.6
229A Bryant Ranch, 64.49 331⇓ **P 15 17 06.9 +1.0**
baz=65,SNR=6.2
131A Roby 64.50 333⇓ **P 15 17 06.9 +1.0**
baz=65,SNR=6.0
PARMO Parma 64.51 343 *eP* **P 15 17 06.4 +0.7**
PARMO *ep*P **pP 15 17 20.6 +1.9**
QSPA South Pole Qui 64.55 180 *eP* **P 15 17 06.3 +0.3**
comp=Z,110nm,0.8s
QSPA LR LR
comp=Z,568nm,19.0s
Y34A Reagan Ranch, 64.58 335⇓ **P 15 17 07.1 +0.8**
baz=65,SNR=5.4
130A Snyder 64.67 332⇓ **P 15 17 07.8 +0.8**
baz=65,SNR=6.5
Z32A Haskell 64.67 334⇓ **P 15 17 07.6 +0.6**
baz=65,SNR=5.7
PBMO Poplar Bluff 64.80 343 *eP* **P 15 17 07.5 -0.1**
comp=Z,59nm,0.9s
Z31A Sharp Cattle R 64.95 333⇑ **P 15 17 09.7 +0.9**
baz=65,SNR=19
Y33A Hilltop Ranch, 64.95 335⇑ **P 15 17 09.6 +0.9**
baz=65
228A UT Block 9, Go 64.97 330⇓ **P 15 17 09.6 +0.6**
baz=65,SNR=11
129A Stewart Farms, 65.09 331⇑ **P 15 17 10.8 +1.1**
baz=65
X34A Smith Ranch, M 65.18 336⇓ **P 15 17 10.7 +0.5**
baz=66,SNR=6.7
WCI Wyandotte Cave 65.19 347 *eP* **P 15 17 09.2 -1.0**
WCI pmax pmax
comp=Z,29nm,0.7s
WCI Wyandotte Cave 65.19 347 *eP* **P 15 17 09.2 -1.0**
comp=Z,29nm,0.7s
Y32A R-V Farms, Ver 65.27 334⇓ **P 15 17 11.5 +0.6**
baz=66,SNR=5.3
Z30A Sanderson Ranc 65.33 332⇓ **P 15 17 11.9 +0.6**
baz=66,SNR=10
128A Castleberry Fa 65.35 331⇓ **P 15 17 12.2 +0.8**
baz=66,SNR=7.7
X33A Lawton 65.38 335⇑ **P 15 17 12.5 +1.0**
baz=66
Z29A Hungry Hill Ra 65.56 332⇓ **P 15 17 13.3 +0.5**
baz=66,SNR=6.8
Y31A Rekieta Farm, 65.56 333⇓ **P 15 17 13.5 +0.7**
baz=66,SNR=12
TUL1 Leonard 65.63 338⇓ **P 15 17 13.4 +0.4**
baz=66,SNR=6.3
TUL1 Leonard 65.63 338 *eP* **P 15 17 13.3 +0.2**
comp=Z,87nm,0.9s
WMOK Wichita Mounta 65.66 335 *eP* **P 15 17 12.8 -0.5**
WMOK pmax pmax
comp=Z,55nm,1.7s
WMOK MLR MLR
comp=Z,218nm,20.0s
WMOK Wichita Mounta 65.66 335 *eP* **P 15 17 12.8 -0.5**
comp=Z,56nm,1.7s
WMOK LR LR
comp=Z,218nm,20.0s
W34A Bridge Creek, 65.72 336⇑ **P 15 17 14.5 +0.8**
baz=66
W34A Bridge Creek, 65.72 336 *eP* **P 15 17 12.9 -0.8**
W34A *ep*P **pP 15 17 27.8 +1.1**
Y30A Stafford Cattl 65.75 333⇓ **P 15 17 15.1 +1.1**
baz=66
V35A Meyer Ranch, C 65.86 337⇑ **P 15 17 14.8 +0.2**
baz=66
Z28A Tucker Farm, M 65.87 331⇓ **P 15 17 15.4 +0.6**
baz=66
MNTX Cornudas Mount 65.91 328⇑ **P 15 17 15.2 +0.2**
baz=66,SNR=20
MNTX Cornudas Mount 65.91 328 *eP* **P 15 17 14.8 -0.2**
comp=Z,21nm,0.8s
W33A Caddo, Fort Co 65.91 335⇓ **P 15 17 15.7 +0.8**
baz=66,SNR=8.6
X31A McDonald Ranch 66.03 334⇓ **P 15 17 16.4 +0.6**
baz=66,SNR=6.0
Y29A Porterfield Fa 66.06 332⇑ **P 15 17 16.4 +0.4**
baz=66
OLIL Olney 66.07 345 *eP* **P 15 17 14.1 -1.7**
comp=Z,19nm,0.8s
BLO Bloomington 66.14 347 *eP* **P 15 17 15.0 -1.3**
BLO pmax pmax
comp=Z,18nm,0.8s
BLO Bloomington 66.14 347 *eP* **P 15 17 15.0 -1.3**
comp=Z,18nm,0.8s
V34A Guthrie 66.17 336⇑ **P 15 17 16.9 +0.3**
baz=66
V34A Guthrie 66.17 336 *eP* **P 15 17 16.5 0.0**
comp=Z,81nm,1.0s
W32A Sentinel 66.18 335⇑ **P 15 17 17.0 +0.4**
baz=66,SNR=15
X30A Coker Ranch, T 66.23 333⇑ **P 15 17 17.6 +0.5**
baz=67
SSPA Standing Stone 66.28 354 *eP* **P 15 17 17.6 +0.5**
comp=Z,21nm,0.8s
BBTS Babate 66.31 59 LR LR 15 45 33.5
comp=Z,829nm,20.7s,slow=35
Y28A McKinney Farm, 66.34 332⇓ **P 15 17 18.2 +0.3**
baz=67
V33A Losseen Ranch, 66.43 336⇓ **P 15 17 18.7 +0.4**
baz=67,SNR=12
W31A Holland Ranch, 66.50 334⇑ **P 15 17 18.8 0.0**
baz=67
ACSO Alum Creek Sta 66.52 350 PFAKE 15 17 30.0 +11
ACSO LR LR
comp=Z,269nm,19.0s
X29A Tulia 66.57 332⇓ **P 15 17 19.4 +0.1**
baz=67,SNR=7.0
MSTX Muleshoe 66.62 331⇓ **P 15 17 19.7 +0.1**
baz=67,SNR=17
MSTX Muleshoe 66.62 331 *eP* **P 15 17 20.0 +0.3**
comp=Z,72nm,1.0s
V32A Arapaho 66.63 335⇓ **P 15 17 20.3 +0.8**
baz=67
U34A Anderson Ranch 66.71 337⇓ **P 15 17 20.6 +0.5**
baz=67
U34A Anderson Ranch 66.71 337 *eP* **P 15 17 20.4 +0.3**
comp=Z,52nm,0.8s
X28A Dimmitt 66.84 332⇓ **P 15 17 21.7 +0.7**
baz=67
U33A Lingo Farm, Me 66.92 336⇓ **P 15 17 22.3 +1.0**
baz=67
AMTX Amarillo 66.94 333⇓ **P 15 17 22.8 +1.1**
baz=67
AMTX Amarillo 66.94 333 *eP* **P 15 17 21.9 +0.2**
comp=Z,186nm,1.9s
V31A Spring Creek L 66.98 335⇓ **P 15 17 22.9 +1.1**
baz=67
W29A Amarillo 67.13 333⇓ **P 15 17 23.5 +0.6**
baz=68
U32A Winter Ranch, 67.19 336⇓ **P 15 17 24.0 +0.9**
baz=68
S36A Lake Cedric, C 67.21 339⇓ **P 15 17 23.5 +0.4**
baz=68,SNR=12
V30A Spur Ranch, Mi 67.30 334⇑ **P 15 17 25.0 +1.1**
baz=68
S35A Otter Creek Ra 67.41 338⇑ **P 15 17 24.6 +0.2**
baz=68,SNR=7.6
SFIN Lafayette 67.42 347⇑ **P 15 17 25.1 +0.7**
baz=68
W28A Vega 67.48 333⇓ **P 15 17 25.9 +0.8**
baz=68,SNR=5.1
R37A Teagarden Farm 67.50 340⇓ **P 15 17 25.0 0.0**
baz=68,SNR=16
U31A Nine Bar Ranch 67.51 335⇑ **P 15 17 26.2 +1.0**
baz=68
T33A Patteson Ranc 67.54 336⇓ **P 15 17 25.8 +0.5**
baz=68
319A Douglas 67.59 325⇓ **P 15 17 27.5 +1.6**
baz=68,SNR=16
BINY Binghamton 67.69 356 PFAKE 15 17 40.0 +14
BINY LR LR
comp=Z,313nm,20.0s
S34A Willow Spring 67.70 338⇓ **P 15 17 27.4 +1.1**
baz=68
R36A Gordon, Harris 67.73 339⇑ **P 15 17 27.4 +1.0**
baz=68
V29A Stinnett 67.73 333⇑ **P 15 17 27.1 +0.5**
baz=68
121A Cookes Peak, D 67.76 327⇑ **P 15 17 28.5 +1.5**
baz=68,SNR=12
121A Cookes Peak, D 67.76 327 *eP* **P 15 17 27.8 +0.8**
comp=Z,121nm,1.7s
HRV Adam Dziewonsk 67.83 359 *eP* **P 15 17 27.5 +0.6**
HRV pmax pmax
comp=Z,50nm,1.0s
HRV Adam Dziewonsk 67.83 359 *eP* **P 15 17 27.5 +0.6**
comp=Z,50nm,1.0s
T32A Huddler Ranch, 67.88 336⇓ **P 15 17 28.4 +1.0**
baz=68,SNR=7.2
Q37A Longview Farm, 67.91 340⇓ **P 15 17 29.0 +1.5**
baz=68
S33A Kaszmaul Farm, 67.91 337⇓ **P 15 17 28.6 +1.0**
baz=68
V28A Channing 67.91 333⇑ **P 15 17 29.0 +1.2**
baz=68,SNR=8.7
U30A WK&E Inc. Balk 67.96 334⇓ **P 15 17 29.2 +1.2**
baz=68
ERPA Erie 67.97 353 PFAKE 15 17 40.0 +12
ERPA LR LR
comp=Z,483nm,20.0s
T31A Randall Ranch, 68.08 335⇑ **P 15 17 29.8 +1.0**
baz=68
TRY Troy 68.10 358 *eP* **P 15 17 29.9 +1.3**
comp=Z,88nm,1.4s

U29A **Oasis Ranch, S** 68.13 334 ⇓P P 15 17 29.9 +0.8
baz=68
V27A **Dan Oppiter Fa** 68.17 332 ⇓P P 15 17 30.8 +1.4
baz=68
S32A **Newby Ranch, P** 68.34 336 ⇑P P 15 17 31.6 +1.3
baz=69
MMNY **Mt. Morris Dam** 68.36 354 *e*P P 15 17 30.7 +0.4
comp=Z,207nm,1.4s
T30A **Plains** 68.36 335 ⇓P P 15 17 31.9 +1.4
baz=69
U28A **Mallet** 68.45 333 ⇓P P 15 17 31.8 +0.6
baz=69,SNR=5.6
S31A **Mullinville** 68.47 336 ⇑P P 15 17 32.4 +1.2
baz=69
R33A **Olander Ranch,** 68.54 337 ⇑P P 15 17 32.7 +1.1
baz=69
V26A **Tequesquite Ra** 68.61 332 ⇑P P 15 17 33.1 +0.9
baz=69,SNR=13
LPM **Los Pinos Moun** 68.65 329 *e*P P 15 17 33.2 +0.7
LPM *e*pP **pP** 15 17 47.8 +2.3
AAM **Ann Arbor** 68.65 350 PFAKE 15 17 40.0 +7.9
AAM LR LR
comp=Z,364nm,20.0s
U27A **Thompson Grove** 68.74 333 ⇑P P 15 17 33.8 +0.9
baz=69,SNR=5.8
ACCN **Adirondack Com** 68.75 358 *e*pP pP 15 17 48.2 +2.4
T29A **Hugoton** 68.75 334 ⇑P P 15 17 34.2 +1.3
baz=69
KSU1 **Kansas State U** 68.79 339 ⇑P P 15 17 34.2 +1.2
baz=69
S30A **Montezuma** 68.86 335 ⇓P P 15 17 35.2 +1.6
baz=69
R32A **Long Quarter,** 68.90 337 ⇓P P 15 17 34.9 +1.1
baz=69,SNR=6.4
V25A **Rancho No Teng** 69.00 331 ⇓P P 15 17 35.9 +1.1
baz=69,SNR=32
HNH **Hanover** 69.03 359 *e*P P 15 17 35.9 +1.5
comp=Z,60nm,1.1s
T28A **Walsh** 69.05 334 ⇓P P 15 17 35.7 +0.8
baz=69,SNR=5.4
R31A **Burdett** 69.08 336 ⇓P P 15 17 36.3 +1.3
baz=70
S29A **Ulysses** 69.09 335 ⇑P P 15 17 36.9 +1.8
baz=70
ANMO **Albuquerque** 69.09 329 *ce*P P 15 17 36.5 +1.2
ANMO pmax pmax
comp=Z,118nm,1.7s
ANMO **Albuquerque** 69.09 329 *e*P P 15 17 36.4 +1.2
comp=Z,50nm,1.4s
U26A **Atchley Ranch,** 69.10 332 ⇑P P 15 17 36.5 +1.2
baz=70,SNR=17
Q33A **Connelly Farm,** 69.11 338 ⇑P P 15 17 35.9 +0.8
baz=70
TUC **Tucson** 69.11 324 *e*P P 15 17 36.4 +1.1
TUC pmax pmax
comp=Z,85nm,1.9s
TUC MLR MLR
comp=Z,505nm,20.0s
TUC **Tucson** 69.11 324 *e*P P 15 17 36.4 +1.1
comp=Z,85nm,1.9s
TUC LR LR
comp=Z,505nm,20.0s
T27A **Campo** 69.24 333 ⇑P P 15 17 37.1 +1.0
baz=70,SNR=10.0
R30A **Dighton** 69.35 336 ⇑P P 15 17 37.9 +1.2
baz=70
Q32A **Meitler Ranch,** 69.36 337 ⇑P P 15 17 37.3 +0.7
baz=70,SNR=12
NCB **Newcomb** 69.36 357 PFAKE 15 17 50.0 +14
NCB LR LR
comp=Z,2μm,21.0s
S28A **Manter** 69.37 334 ⇓P P 15 17 37.7 +0.8
baz=70,SNR=8.1
U25A **Circle Dot Ran** 69.39 332 ⇑P P 15 17 37.8 +0.7
baz=70,SNR=25
P33A **Williams Farm,** 69.46 338 ⇑P P 15 17 38.1 +0.9
baz=70
Q31A **Ellis** 69.66 337 ⇑P P 15 17 39.7 +1.2
baz=70
T26A **Comanche Natio** 69.70 333 ⇑P P 15 17 40.7 +1.8
baz=70,SNR=14
U24A **Moreno Valley** 69.77 331 ⇑P P 15 17 41.2 +1.6
baz=70
R29A **Marienthal** 69.80 335 ⇑P P 15 17 40.6 +1.2
baz=70
214A **Organ Pipe Nat** 69.92 323 ⇑P P 15 17 42.0 +1.7
baz=70
P32A **Huiting Farm,** 69.93 337 ⇑P P 15 17 41.2 +1.0
baz=70
Q30A **Quinter** 69.94 336 ⇓P P 15 17 41.5 +1.2
baz=70
R28A **Tribune** 69.99 334 ⇑P P 15 17 41.9 +1.3
baz=70
T25A **Trinidad** 70.01 332 ⇑P P 15 17 42.5 +1.5
baz=70,SNR=10
T25A **Trinidad** 70.01 332 *e*P P 15 17 42.6 +1.6
comp=Z,92nm,1.5s
LONY **Lake Ozonia** 70.02 357 *e*P P 15 17 41.0 +0.5
comp=Z,135nm,1.9s
LONY LR LR
comp=Z,436nm,21.0s
P31A **Stockton** 70.11 337 ⇓P P 15 17 42.2 +0.9
baz=70,SNR=8.3
Q29A **Oakley** 70.14 335 ⇑P P 15 17 42.3 +0.8
baz=70,SNR=5.0
R27A **Eads** 70.33 334 ⇓P P 15 17 44.0 +1.3
baz=71
O32A **Brockman Farm,** 70.39 338 ⇓P P 15 17 44.1 +1.1
baz=71
X18A **Snowflake** 70.43 326 ⇓P P 15 17 45.2 +1.6
baz=71,SNR=6.6
P30A **Selden** 70.45 336 ⇓P P 15 17 44.3 +0.9
baz=71
S25A **Robets Cordova** 70.46 332 ⇑P P 15 17 45.1 +1.5
baz=71,SNR=19
JFWS **Jewell Farm** 70.55 345 *e*P P 15 17 43.8 0.0
JFWS pmax pmax
comp=Z,22nm,0.7s
JFWS MLR MLR
comp=Z,250nm,19.0s
JFWS **Jewell Farm** 70.55 345 *e*P P 15 17 43.8 0.0
comp=Z,22nm,0.7s
JFWS LR LR
comp=Z,250nm,19.0s
TBI **Tubuai** 70.56 253 *e*S S 15 26 57.3 +2.3
comp=Z,273nm,26.5s
TBI *e*LQ LQ 15 36 26.1
comp=Z,492nm,32.8s
TBI *e*LR LR 15 39 10.7
comp=Z,2μm,29.0s,baz=103
TBI **Tubuai** 70.56 253 *e*T T 16 34 52.5
comp=Z,6.3nm,0.2s
PKME **Peaks-Kenny Pk** 70.59 1 PFAKE 15 18 00.0 +16
PKME LR LR
comp=Z,1μm,21.0s
R26A **Arlington** 70.60 333 ⇓P P 15 17 45.8 +1.4
baz=71,SNR=7.8
Q28A **Sharon Springs** 70.62 335 ⇓P P 15 17 45.5 +1.0
baz=71
T23A **Casias Ranch,** 70.63 331 ⇑P P 15 17 46.2 +1.4
baz=71
P29A **Atwood** 70.75 336 ⇓P P 15 17 46.1 +0.9
baz=71
S24A **Houchin Ranch,** 70.78 332 ⇑P P 15 17 47.7 +2.0
baz=71,SNR=28
W18A **Petrified Fore** 70.80 327 ⇑P P 15 17 47.7 +2.0
baz=71
R25A **Fountain Ranch** 70.81 333 ⇑P P 15 17 47.3 +1.5
baz=71
N32A **Stulken Farm,** 70.85 338 ⇑P P 15 17 47.1 +1.4
baz=71
KSCO **Kaye Shedlock'** 70.88 334 ⇓P P 15 17 47.4 +1.3
baz=71
KSCO **Kaye Shedlock'** 70.88 334 *e*P P 15 17 46.4 +0.3
comp=Z,93nm,1.1s
KSCO *e*pP **pP** 15 17 59.1 -0.1
O30A **MW Ranch, Wils** 70.94 337 ⇑P P 15 17 47.6 +1.2
baz=71
SDCO **Great Sand Dun** 70.99 331 ⇑P P 15 17 48.7 +1.7
baz=71,SNR=23
SDCO **Great Sand Dun** 70.99 331 *e*P P 15 17 48.2 +1.2
comp=Z,69nm,1.4s
P28A **Saint Francis** 71.03 335 ⇑P P 15 17 48.7 +1.7
baz=71
113A **Mohawk Valley,** 71.06 323 ⇓P P 15 17 48.8 +1.7
baz=71
Z14A **Wintersburg** 71.07 324 ⇓P P 15 17 49.2 +2.0
baz=71
X16A **Lo Mia Camp, P** 71.10 325 ⇓P P 15 17 49.7 +2.1
baz=72,SNR=9.8
N31A **Bailey Ranch,** 71.13 338 ⇑P P 15 17 49.3 +1.9
baz=72
Q26A **Hugo** 71.16 334 ⇓P P 15 17 49.9 +2.1
baz=72
S23A **Nye Farm, Mont** 71.17 331 ⇓P P 15 17 49.9 +1.8
baz=72
R24A **Sanders Place,** 71.23 332 ⇑P P 15 17 50.1 +1.7
baz=72,SNR=11
LIC **Lamto** 71.23 73 *e*P P 15 17 48.4 -0.2
comp=Z,94nm,0.8s,baz=247
LIC *e*R
comp=Z,2μm,22.8s
LIC **Lamto** 71.23 73 *e*P P 15 17 48.3 -0.3
comp=Z,146nm,0.8s
LIC **Lamto** 71.23 73 *e*P P 15 17 48.4 -0.2
comp=Z,94nm,0.8s
P27A **Ficken Ranch,** 71.33 335 ⇓P P 15 17 50.4 +1.6
baz=72
BGNE **Belgrade** 71.38 339 ⇓P P 15 17 50.0 +1.1
baz=72
BGNE **Belgrade** 71.38 339 *e*P P 15 17 50.0 +1.1
comp=Z,116nm,0.9s
BGNE *e*pP **pP** 15 17 57.2 -4.9
SBA **Scott Base** 71.44 191 *e*P P 15 17 50.4 +1.6
SBA pmax pmax
comp=Z,108nm,1.4s
SBA **Scott Base** 71.44 191 *e*P P 15 17 50.4 +1.6
comp=Z,108nm,1.4s
TIC **Toumodi** 71.44 73 *e*P P 15 17 49.8 -0.1
comp=Z,103nm,0.8s
Q25A **Bedland, Calha** 71.45 333 ⇑P P 15 17 51.0 +1.4
baz=72
N30A **Hueftle Ranch,** 71.50 337 ⇑P P 15 17 51.8 +2.1
baz=72
R23A **Moffat** 71.50 332 ⇑P P 15 17 51.7 +1.6
baz=72,SNR=14
O28A **Krutsinger Ran** 71.52 335 ⇓P P 15 17 51.5 +1.6
baz=72
KIC **Kosan Boka** 71.55 73 *e*P P 15 17 50.5 0.0
comp=Z,185nm,0.7s
Y14A **Wickenburg** 71.55 324 ⇓P P 15 17 51.7 +1.6
baz=72
S22A **4UR Ranch, Cre** 71.57 331 ⇓P P 15 17 52.0 +1.5
baz=72,SNR=8.5
S22A **4UR Ranch, Cre** 71.57 331 *e*P P 15 17 51.8 +1.3
comp=Z,26nm,1.3s
DBIC **Dimbokro** 71.60 73 *e*P P 15 17 51.1 +0.2
DBIC **Dimbokro** 71.60 73 *e*P P 15 17 51.0 +0.2
DBIC pmax pmax
comp=Z,117nm,0.8s
DBIC **Dimbokro** 71.60 73 P P 15 17 50.9 +0.1
comp=Z,120nm,0.8s,baz=218,slow=5.9,SNR=100
DBIC LR LR 15 47 07.2
comp=Z,1μm,21.5s,baz=220,slow=34
DBIC **Dimbokro** 71.60 73 *e*P P 15 17 51.0 +0.2
comp=Z,117nm,0.8s
M31A **Lambtecht Ranc** 71.60 338 ⇓P P 15 17 51.6 +1.4
baz=72
P26A **Davis Ranch, A** 71.64 334 ⇑P P 15 17 52.2 +1.5
baz=72,SNR=5.6
N29A **Votaw Ranch, W** 71.71 337 ⇓P P 15 17 52.4 +1.4
baz=72
O27A **Beecher Island** 71.84 335 ⇓P P 15 17 53.5 +1.6
baz=72
GLA **Glamis** 71.86 322 ⇑P P 15 17 53.7 +1.7
baz=72
Q24A **Divide** 71.86 332 ⇓P P 15 17 53.8 +1.5
baz=72,SNR=18
Q24A **Divide** 71.86 332 *e*P P 15 17 53.5 +1.2
comp=Z,53nm,1.1s
VAH **Vaihoa** 71.88 261 *e*P P 15 17 53.5 +1.0
comp=Z,128nm,1.3s
MVCO **Mesa Verde** 71.89 329 ⇓P P 15 17 53.8 +1.4
baz=72,SNR=15
MVCO **Mesa Verde** 71.89 329 *e*P P 15 17 53.6 +1.2
comp=Z,60nm,1.4s
MVCO LR LR
comp=Z,288nm,19.0s
P25A **Willow Gulch B** 71.93 333 ⇓P P 15 17 54.4 +2.0
baz=72,SNR=6.2
WUAZ **Wupatki** 71.93 326 ⇓P P 15 17 54.4 +1.9
baz=72,SNR=14
WUAZ **Wupatki** 71.93 326 *e*P P 15 17 54.3 +1.8
comp=Z,37nm,1.0s
WUAZ LR LR
comp=Z,295nm,22.0s
M30A **Dale-Ortello V** 72.08 337 ⇑P P 15 17 55.3 +2.1
baz=72
Q23A **Hartsel** 72.10 332 ⇓P P 15 17 56.6 +2.9
baz=72
PMOR **Portiorio Ree** 72.20 262 *e*P P 15 17 55.5 +1.0
comp=Z,182nm,1.2s
O26A **Horse Wrangler** 72.21 334 ⇓P P 15 17 55.6 +1.5
baz=73
Y12C **Blythe** 72.22 323 ⇑P P 15 17 55.9 +1.8
baz=73
P24A **Kohler Place,** 72.23 333 ⇓P P 15 17 56.1 +1.8
baz=73
M29A **Burnside Ranch** 72.28 337 ⇓P P 15 17 55.9 +1.4
baz=73
L31A **Butterfield Fa** 72.30 338 ⇑P P 15 17 55.7 +1.3
baz=73,SNR=8.0
OGNE **Ogallala** 72.33 336 ⇓P P 15 17 56.0 +1.3
baz=73
OGNE **Ogallala** 72.33 336 PFAKE 15 18 10.0 +15
OGNE LR LR
comp=Z,356nm,21.0s
TVO **Taravao** 72.36 258 *e*P P 15 17 56.6 +1.1
comp=Z,24nm,1.2s
L30A **Spicer Herefo** 72.39 338 ⇑P P 15 17 56.6 +1.6
baz=73,SNR=5.8
N27A **Anderson Farm,** 72.40 335 ⇑P P 15 17 56.8 +1.6
baz=73
O25A **Wiggins** 72.42 334 ⇑P P 15 17 57.5 +2.1
baz=73
VNDA **Vanda** 72.47 190 *e*P P 15 17 56.3 +1.2
VNDA **Vanda** 72.47 190 P P 15 17 56.1 +1.0
comp=Z,22nm,1.0s,baz=133,slow=5.4,SNR=55
VNDA LR LR 15 45 43.5
comp=Z,175nm,21.4s,baz=137,slow=32
VNDA **Vanda** 72.47 190 *e*P P 15 17 56.2 +1.2
M28A **Bar X Bar Ranc** 72.48 336 ⇑P P 15 17 57.6 +2.0
baz=73
P23A **Jefferson** 72.50 332 ⇓P P 15 17 58.8 +2.7
baz=73,SNR=6.9
MONP **Monument Peak,** 72.64 321 ⇑P P 15 17 58.7 +1.8
baz=73
BC3 **Big Chuckawall** 72.66 322 ⇓P P 15 17 58.9 +2.0
baz=73
PV01 **Paradox Valley** 72.67 330 *e*P P 15 17 58.5 +1.5
N26A **Koester Ranch,** 72.68 335 ⇑P P 15 17 58.7 +1.9
baz=73
PAE **Paea** 72.70 258 *e*P P 15 17 58.2 +0.8
comp=Z,22nm,1.2s
PPT2 **Papeete2** 72.72 258 *e*P P 15 17 58.8 +1.1
comp=Z,63nm,1.4s
PPT2 *e*S S 15 27 21.7 +1.4
comp=Z,648nm,28.0s
PPT2 *e*LQ LQ 15 37 16.2
comp=Z,382nm,26.2s
PPT2 *e*LR LR 15 40 19.1
comp=Z,4μm,29.0s,baz=117
L29A **Maesberg Ranch** 72.75 337 ⇑P P 15 17 60.0 +2.8
baz=73
ISCO **Idaho Springs** 72.76 333 *e*P P 15 17 59.0 +1.4
ISCO pmax pmax
comp=Z,28nm,1.3s
ISCO **Idaho Springs** 72.76 333 ⇓P P 15 17 58.4 +0.8
baz=73,SNR=11
ISCO **Idaho Springs** 72.76 333 *e*P P 15 17 59.0 +1.4
comp=Z,28nm,1.3s
ISCO LR LR
comp=Z,116nm,20.0s
O24A **Longmont** 72.81 333 ⇓P P 15 17 59.5 +1.8
baz=73
SMCO **Snowmass** 72.82 331 *e*P P 15 17 59.6 +1.6
comp=Z,62nm,1.3s
IRM **Iron Mountain** 72.87 323 ⇓P P 15 17 60.0 +1.9
baz=73
W13A **Hualapai Mount** 72.90 324 ⇑P P 15 18 00.4 +2.0
baz=73
M27A **Reverse DX Ran** 72.97 336 ⇑P P 15 18 00.2 +1.6
baz=73
K30A **Basset** 73.00 338 ⇑P P 15 17 59.8 +1.2
baz=73,SNR=5.8
ECSD **EROS Data Cent** 73.00 341 ⇓P P 15 17 58.8 +0.3
baz=73,SNR=24
N25A **Grover** 73.00 334 ⇑P P 15 18 01.0 +2.2
baz=73
NEE2 **Needles Airpor** 73.04 323 ⇑P P 15 18 00.2 +1.3
baz=73
L28A **Connealy Angus** 73.07 337 ⇑P P 15 18 00.7 +1.6
baz=73
P22A **Eagle** 73.07 332 ⇓P P 15 18 00.7 +1.3
baz=73,SNR=7.4
U15A **North Rim** 73.10 326 ⇑P P 15 18 01.7 +2.1
baz=74,SNR=14
PFO **Pinyon Flats O** 73.19 321 ⇑P P 15 18 02.3 +2.2
baz=74
M26A **McRoberts Ranc** 73.20 335 ⇑P P 15 18 02.1 +2.2
baz=74
BELC **Belle Mtn. Jos** 73.22 322 ⇑P P 15 18 02.3 +2.1
baz=74
O23A **Lake Granby, G** 73.23 333 ⇓P P 15 18 02.1 +1.8
baz=74,SNR=18
SYO **Syowa Base** 73.24 159⇑ *e*P P 15 17 53.2 -6.5
K29A **Lazy Trails An** 73.31 338 ⇓P P 15 18 01.8 +1.3
baz=74,SNR=6.4
N24A **Carr** 73.33 334 ⇓P P 15 18 02.2 +1.4
baz=74
SPMN **Marine on St.** 73.34 344 ⇑P P 15 18 00.2 -0.2
baz=74,SNR=8.5
SPMN **Marine on St.** 73.34 344 *e*P P 15 18 00.1 -0.4
comp=Z,26nm,0.7s
O22A **Kremmling** 73.46 332 ⇑P P 15 18 03.0 +1.3
baz=74,SNR=9.9
M25A **Palm-Egli Farm** 73.52 335 ⇑P P 15 18 03.8 +1.9
baz=74
J30A **Dallas** 73.54 339 ⇓P P 15 18 02.7 +0.9
baz=74,SNR=6.0
LDFC **Landfair** 73.54 323 *e*P P 15 18 03.3 +1.2
comp=Z,41nm,1.0s
MURC **Murrieta** 73.60 321 ⇑P P 15 18 03.9 +1.5
baz=74
GMRC **Granite Mounta** 73.61 323 ⇑P P 15 18 04.6 +2.1
baz=74,SNR=5.1
K28A **Ten Mile Ranch** 73.64 337 ⇑P P 15 18 04.4 +2.0
baz=74
L26A **Underwood Farm** 73.67 336 ⇑P P 15 18 04.3 +1.6
baz=74
N23A **Red Feather La** 73.82 333 ⇓P P 15 18 05.6 +1.8
baz=74,SNR=6.8
N23A **Red Feather La** 73.82 333 *e*P P 15 18 03.9 +0.1
comp=Z,32nm,1.0s
M24A **Cheyenne** 73.85 334 ⇓P P 15 18 05.4 +1.6
baz=74,SNR=5.5
J29A **Okreek** 73.89 338 ⇑P P 15 18 04.8 +1.0
baz=74,SNR=10
BBRC **Big Bear Solar** 73.93 322 ⇓P P 15 18 05.7 +1.1
baz=74
SCI **San Clemente I** 73.93 320 ⇓P P 15 18 05.8 +1.5
baz=74
K27A **Flueckinger Fa** 73.94 336 ⇓P P 15 18 06.0 +1.8
baz=74
N22A **Wattenberg Ran** 73.95 333 ⇓P P 15 18 06.2 +1.6
baz=74,SNR=10
PHWY **Pilot Hill** 73.96 334 *e*P P 15 18 05.7 +1.0
comp=Z,41nm,1.4s
HEC **Hector,Lillow** 74.02 322 ⇑P P 15 18 06.7 +1.9
baz=74,SNR=7.4
I30A **Oacoma** 74.04 339 ⇑P P 15 18 05.5 +0.8
baz=74
L25A **Engebretsen Ra** 74.11 335 ⇑P P 15 18 06.3 +1.1
baz=74
CIS **Catalina Islan** 74.15 320 ⇑P P 15 18 07.2 +1.7
baz=74
O20A **White River Ci** 74.16 331 ⇓P P 15 18 07.6 +1.9
baz=74,SNR=7.2
O20A **White River Ci** 74.16 331 *e*P P 15 18 07.3 +1.6
comp=Z,54nm,1.0s
M23A **Laramie** 74.21 333 ⇑P P 15 18 07.8 +1.8
baz=75
J28A **Allard Ranch,** 74.22 337 ⇑P P 15 18 07.4 +1.6
baz=75,SNR=16
TUQ **Turquoise Moun** 74.25 323 ⇓P P 15 18 08.0 +1.8
baz=75,SNR=6.9
FMP **Fort Macarthur** 74.31 320 ⇑P P 15 18 08.5 +2.1
baz=75
BFSC **Mount Baldy Ra** 74.33 321 ⇑P P 15 18 08.7 +2.0
baz=75
J27A **Elkhorn Farm,** 74.33 337 ⇓P P 15 18 08.2 +1.8
baz=75,SNR=12
SRU **San Rafael Swe** 74.36 329 *e*P P 15 18 07.9 +1.0
SRU pmax pmax
comp=Z,29nm,1.0s
SRU **San Rafael Swe** 74.36 329 *e*P P 15 18 07.9 +1.0
comp=Z,29nm,1.0s
L24A **Wheatland** 74.38 334 ⇑P P 15 18 08.8 +1.9
baz=75
I29A **Vivian Onida** 74.43 338 ⇓P P 15 18 07.6 +0.7
baz=75,SNR=10
RRX **Edison Barstow** 74.43 322 ⇑P P 15 18 09.2 +2.0
baz=75
K25A **Mack Ranch, Ha** 74.46 335 ⇓P P 15 18 09.6 +2.3
baz=75
CCUT **Cedar City** 74.51 326 *e*P P 15 18 09.8 +2.0
comp=Z,39nm,0.9s
M22A **Cedar Creek Ra** 74.51 333 ⇑P P 15 18 09.4 +1.7
baz=75,SNR=8.6
GSC **Goldstone, Bar** 74.63 322 *e*P P 15 18 09.6 +1.2
GSC pmax pmax
comp=Z,22nm,1.0s
GSC **Goldstone, Bar** 74.63 322 ⇑P P 15 18 09.9 +1.5
baz=75,SNR=7.5
GSC **Goldstone, Bar** 74.63 322 *e*P P 15 18 09.6 +1.2
comp=Z,22nm,1.0s
SHPR **Sheep Range** 74.64 324 *e*P P 15 18 10.0 +1.5
MVU **Marysvale** 74.69 327 *e*P P 15 18 10.3 +1.5
comp=Z,33nm,1.1s
I28A **Midland** 74.70 338 ⇓P P 15 18 09.8 +1.3
baz=75
DECC **Green Verdugo** 74.72 321 ⇑P P 15 18 11.0 +2.1
baz=75
ARUT **Antelope Range** 74.73 326 P P 15 18 07.4 -1.6
ARUT pmax pmax
comp=Z,5.0nm,0.9s
ARUT **Antelope Range** 74.73 326 P P 15 18 07.4 -1.6
comp=Z,4.9nm,0.9s
N20A **Spence Gulch,** 74.74 331 ⇓P P 15 18 10.7 +1.6
baz=75,SNR=7.6
L23A **Garrett** 74.75 334 ⇑P P 15 18 10.2 +1.1
baz=75,SNR=6.1
J26A **Sides Ranch, S** 74.77 336 ⇓P P 15 18 10.6 +1.6
baz=75,SNR=6.7
SHOC **Shoshone, Teco** 74.78 323 ⇑P P 15 18 10.4 +1.2
baz=75
TMUT **Trail Mountain** 74.83 329 *e*P P 15 18 11.3 +1.5
comp=Z,18nm,1.1s
K24A **Anderson Ranch** 74.92 335 ⇑P P 15 18 11.6 +1.6
baz=75
H29A **Onida** 74.93 339 ⇓P P 15 18 10.5 +0.7
baz=75,SNR=13
L22A **Ellis Ranch, M** 74.97 333 ⇓P P 15 18 12.1 +1.7
baz=75
EDW2 **Edwards Air Fo** 74.98 321 ⇓P P 15 18 11.7 +1.3
baz=75,SNR=6.2
G30A **Faulkton** 75.04 340 ⇓P P 15 18 11.1 +0.6
baz=75,SNR=7.7
I27A **Quinn** 75.06 337 ⇑P P 15 18 11.8 +1.1
baz=75
J25A **Sunshine Ranch** 75.11 336 ⇓P P 15 18 12.6 +1.6
baz=76
OSI **Osito Audit: C** 75.20 321 ⇓P P 15 18 12.9 +1.2
baz=76
H28A **Mission Ridge** 75.24 338 ⇑P P 15 18 12.4 +0.8
baz=76,SNR=7.1
LRMC **Laurel Mtn Rad** 75.25 322 ⇑P P 15 18 13.5 +1.5
baz=76
K23A **Bowen Ranch, D** 75.26 334 ⇓P P 15 18 13.6 +1.7
baz=76,SNR=5.5
BSC **Santa Cruz Isl** 75.29 320 ⇓P P 15 18 12.8 +0.6
baz=76
I26A **New Underwood** 75.32 337 ⇓P P 15 18 13.5 +1.4
baz=76,SNR=6.1
G29A **Hoven** 75.34 339 ⇓P P 15 18 12.8 +0.6
baz=76
J24A **Dixon Ranch, L** 75.38 335 ⇑P P 15 18 14.5 +2.0
baz=76,SNR=6.5
FURC **Furnace Creek,** 75.52 323 ⇑P P 15 18 15.1 +1.8
baz=76,SNR=6.0
K22A **Casper** 75.53 334 ⇑P P 15 18 14.8 +1.3
baz=76,SNR=6.9
K22A **Casper** 75.53 334 *e*P P 15 18 14.5 +1.0
comp=Z,56nm,1.4s

TPNV **Topopah Spring** 75.55 324 *e*P P 15 18 15.6 +1.9
TPNV pmax pmax
comp=Z,25nm,1.0s
TPNV **Topopah Spring** 75.55 324 ⇓P P 15 18 15.4 +1.6
baz=76,SNR=9.5
TPNV **Topopah Spring** 75.55 324 *e*P P 15 18 15.6 +1.9
comp=Z,25nm,1.0s
G28A **Parade** 75.56 338 ⇑P P 15 18 14.5 +1.1
baz=76
MPMC **Manual Prospec** 75.56 322 ⇑P P 15 18 15.2 +1.4
baz=76,SNR=8.9
H27A **Howes** 75.57 337 ⇑P P 15 18 14.6 +1.0
baz=76,SNR=7.8
EYMN **Ely** 75.59 346 *e*P P 15 18 13.8 +0.2
comp=Z,14nm,0.8s
EYMN LR LR
comp=Z,356nm,22.0s
MPU **Maple Canyon** 75.60 329 *e*P P 15 18 15.5 +1.5
comp=Z,63nm,1.3s
I25A **Rochford** 75.62 336 ⇓P P 15 18 15.4 +1.4
baz=76
ARVC **Arvin** 75.63 321 ⇓P P 15 18 15.2 +1.1
baz=76
F30A **Leola** 75.64 340 ⇑P P 15 18 14.5 +0.6
baz=76,SNR=7.4
SBC **Santa Barbara** 75.65 320 ⇓P P 15 18 15.6 +1.4
baz=76
DAU **Daniels Canyon** 75.74 329 *e*P P 15 18 16.6 +1.7
DAU **Daniels Canyon** 75.74 329 *e*P P 15 18 16.6 +1.7
NLU **North Lily Min** 75.76 328 *e*P P 15 18 16.7 +1.7
comp=Z,25nm,1.2s
DAC **Darwin (Calif)** 75.78 323 *e*P P 15 18 16.4 +1.3
DAC pmax pmax
comp=Z,21nm,1.1s
DAC **Darwin (Calif)** 75.78 323 *e*P P 15 18 16.4 +1.3
comp=Z,21nm,1.1s
J23A **Dilts Ranch, B** 75.78 335 ⇑P P 15 18 16.7 +1.9
baz=76
H26A **Fairpoint** 75.80 337 ⇓P P 15 18 16.9 +2.1
baz=76
K21A **Alcova** 75.81 333 ⇓P P 15 18 16.7 +1.5
baz=76,SNR=22
I24A **Kuemmerle Ranc** 75.81 335 ⇑P P 15 18 16.5 +1.5
baz=76,SNR=5.5
ISA **Isabella, Lake** 75.82 322 *e*P P 15 18 16.9 +1.7
ISA pmax pmax
comp=Z,20nm,0.8s
ISA **Isabella, Lake** 75.82 322 ⇑P P 15 18 17.1 +1.9
baz=76,SNR=15
ISA **Isabella, Lake** 75.82 322 *e*P P 15 18 16.9 +1.7
comp=Z,20nm,0.8s
RSSD **Black Hills** 75.82 336 *e*P P 15 18 15.6 +0.4
RSSD pmax pmax
comp=Z,33nm,1.4s
RSSD **Black Hills** 75.82 336 *e*P P 15 18 15.6 +0.4
comp=Z,34nm,1.4s
F29A **Eureka** 75.88 340 ⇓P P 15 18 16.2 +0.9
baz=76,SNR=5.3
H25A **Fruitdale** 76.09 337 ⇓P P 15 18 16.0 +1.5
baz=76
J22A **Midwest** 76.15 334 ⇓P P 15 18 17.6 +0.6
baz=76,SNR=11
G27A **Dupree** 76.17 338 ⇑P P 15 18 17.7 +0.8
baz=76,SNR=6.0
GRAC **Grapevine Rang** 76.19 323 ⇑P P 15 18 19.2 +1.9
baz=76
CTU **Camp Tracy** 76.19 329 *e*P P 15 18 18.6 +1.3
comp=Z,14nm,0.9s
E30A **Jud** 76.20 340 ⇑P P 15 18 17.6 +0.6
baz=77,SNR=5.2
F28A **McLaughlin** 76.21 339 ⇑P P 15 18 18.1 +1.0
baz=77,SNR=6.5
I23A **Meade Ranch, G** 76.22 335 ⇓P P 15 18 19.0 +1.7
baz=77
R11A **Troy Canyon, C** 76.25 325 ⇑P P 15 18 19.8 +2.0
baz=77,SNR=21
R11A **Troy Canyon, C** 76.25 325 *e*P P 15 18 19.1 +1.4
comp=Z,109nm,2.2s
VES **Vestal, Richgr** 76.29 321 ⇑P P 15 18 19.5 +1.7
baz=77,SNR=5.7
DUG **Dugway, Tooele** 76.30 328 *e*P P 15 18 19.8 +1.9
DUG pmax pmax
comp=Z,30nm,1.1s
DUG **Dugway, Tooele** 76.30 328 ⇑P P 15 18 19.8 +1.9
baz=77
DUG **Dugway, Tooele** 76.30 328 *e*P P 15 18 19.8 +1.9
comp=Z,30nm,1.1s
G26A **Maurine** 76.32 337 ⇓P P 15 18 18.6 +0.8
baz=77,SNR=18
TCUT **Toone Canyon** 76.37 330 *e*P P 15 18 16.8 -1.7
comp=Z,26nm,0.9s
SMMC **Simmler** 76.43 320 ⇑P P 15 18 20.7 +2.1
baz=77,SNR=5.7
CER **Ceres** 76.44 121 *e*P P 15 18 19.4 +0.4
CER AMB AMB 15 18 29.4
comp=Z,122nm,4.1s
CER **Ceres** 76.44 121 P P 15 18 19.4 +0.4
comp=Z,122nm,4.1s
J21A **Lysite** 76.48 333 ⇑P P 15 18 20.3 +1.3
baz=77,SNR=8.0
E29A **Napoleon** 76.48 340 ⇓P P 15 18 20.0 +1.4
baz=77
G25A **Newell** 76.52 337 ⇑P P 15 18 19.8 +0.8
baz=77,SNR=7.7
H24A **Dirks Ranch, A** 76.55 336 ⇓P P 15 18 19.9 +0.8
baz=77,SNR=16
I22A **9 Mile Ranch,** 76.56 334 ⇓P P 15 18 20.1 +0.9
baz=77,SNR=11
F27A **Lemmon** 76.63 338 ⇓P P 15 18 20.5 +0.9
baz=77,SNR=18
TIN **Tinemaha, Big** 76.69 323 ⇓P P 15 18 22.3 +2.2
baz=77
D30A **Buchanan** 76.70 341 ⇑P P 15 18 20.8 +0.9
baz=77,SNR=11
H23A **Clabaugh Cattl** 76.70 335 ⇑P P 15 18 21.1 +1.1
baz=77
RCTC **Rector, Farmer** 76.72 322 ⇑P P 15 18 21.6 +1.4
baz=77
J20A **Shoshoni** 76.75 333 ⇓P P 15 18 21.7 +1.3
baz=77,SNR=12
I21A **Big Trails, Te** 76.81 334 ⇓P P 15 18 21.7 +1.0
baz=77,SNR=18
E28A **Huff** 76.82 339 ⇑P P 15 18 22.1 +1.6
baz=77
F26A **Lodgepole** 76.83 338 ⇑P P 15 18 21.9 +1.2
baz=77,SNR=5.0
BW06 **Boulder Array** 76.88 332 *e*P P 15 18 19.1 -2.2
comp=Z,17nm,1.3s
PDAR **Pinedale Array** 76.88 332 P P 15 18 21.5 +0.2
comp=Z,2.3nm,0.8s,baz=119,slow=7.7,SNR=14
PDAR LR LR 15 53 23.4
comp=Z,55nm,18.1s,baz=152,slow=36
TPH **Tonopah** 76.90 324 *e*P P 15 18 23.1 +1.6
TPH pmax pmax
comp=Z,39nm,1.3s
TPH **Tonopah** 76.90 324 *e*P P 15 18 23.1 +1.6
comp=Z,39nm,1.3s
D29A **Pettibone, Tap** 76.91 340 ⇑P P 15 18 22.1 +1.0
baz=77
E27A **Carson** 76.97 339 ⇑P P 15 18 22.7 +1.3
baz=77
BGU **Big Grassy Mou** 76.97 328 *e*P P 15 18 22.9 +1.2
AGMN **Agassiz Nation** 76.97 343 ⇑P P 15 18 21.6 +0.2
baz=77,SNR=10
AGMN **Agassiz Nation** 76.97 343 *e*P P 15 18 20.7 -0.6
comp=Z,22nm,0.8s
AGMN LR LR
comp=Z,345nm,21.0s
G24A **Alzada** 77.00 336 ⇓P P 15 18 22.8 +1.1
baz=77
J19A **Crowheart** 77.08 332 ⇑P P 15 18 23.6 +1.3
baz=77,SNR=15
H22A **Clearmont** 77.09 335 ⇑P P 15 18 23.6 +1.4
baz=78,SNR=7.1
MTUM **Tungsten Hills** 77.10 323 *e*P P 15 18 24.1 +1.6
C30A **Mose, Pekin** 77.15 341 ⇑P P 15 18 23.6 +1.2
baz=78,SNR=7.4
F25A **Bowman** 77.17 337 ⇑P P 15 18 23.8 +1.2
baz=78,SNR=7.0
G23A **Biddle** 77.25 336 ⇑P P 15 18 24.0 +0.9
baz=78,SNR=6.9
I20A **Worland** 77.26 333 ⇓P P 15 18 24.5 +1.3
baz=78,SNR=7.2
E26A **Carlson Angus** 77.31 338 ⇓P P 15 18 24.6 +1.3
baz=78
D28A **Regan** 77.33 340 ⇓P P 15 18 24.7 +1.3
baz=78
H21A **Big Horn, Sher** 77.39 334 ⇑P P 15 18 24.8 +0.9
baz=78,SNR=6.0
MLAC **Mammoth, Mammo** 77.44 323 ⇓P P 15 18 26.5 +2.0
baz=78
F24A **Ekalaka** 77.45 337 ⇑P P 15 18 25.3 +1.1
baz=78,SNR=6.3
HVU **Hansel Valley** 77.52 329 *e*P P 15 18 25.5 +0.7
HVU **Hansel Valley** 77.52 329 *e*P P 15 18 25.5 +0.7
AHID **Auburn Hatcher** 77.55 331 P P 15 18 23.1 -1.9
comp=Z,70nm,1.4s
AHID LR LR
comp=Z,225nm,20.0s
D27A **Center** 77.56 339 ⇓P P 15 18 26.4 +1.7
baz=78
G22A **Birney** 77.60 335 ⇑P P 15 18 25.7 +0.6
baz=78
MDND **Maddock** 77.62 341 ⇑P P 15 18 26.0 +1.0
baz=78
MDND **Maddock** 77.62 341 *e*P P 15 18 25.8 +0.9
comp=Z,665nm,1.2s
E25A **Miller Ranch,** 77.65 338 ⇑P P 15 18 26.5 +1.2
baz=78
H20A **Greybull** 77.65 334 ⇓P P 15 18 26.1 +0.7
baz=78,SNR=17
I19A **Meeteetse** 77.68 333 ⇑P P 15 18 27.0 +1.3
baz=78,SNR=19
F23A **Volborg** 77.69 336 ⇑P P 15 18 26.2 +0.7
baz=78,SNR=8.6
C28A **Hausauer Farms** 77.74 340 ⇑P P 15 18 26.9 +1.3
baz=78
NVAR **Mina Array Bea** 77.74 324 P P 15 18 27.3 +1.1
comp=Z,8.7nm,0.8s,baz=155,slow=6.4,SNR=54
D26A **Manning** 77.79 338 ⇓P P 15 18 27.1 +1.1
baz=78,SNR=6.6
B30A **Myrvik Farm, E** 77.79 342 ⇑P P 15 18 26.6 +0.6
baz=78,SNR=16
ELK **Elko** 77.90 327 *e*P P 15 18 28.0 +1.0
ELK pmax pmax
comp=Z,24nm,1.1s
ELK **Elko** 77.90 327 *e*P P 15 18 28.0 +1.0
comp=Z,24nm,1.1s
REDW **Red Top Meadow** 77.92 331 *e*P P 15 18 27.9 +0.8
comp=Z,37nm,1.1s
G21A **Lodge Grass** 77.95 335 ⇑P P 15 18 27.8 +0.8
baz=78,SNR=13
SUR **Sutherland** 78.00 120 P P 15 18 29.0 +1.1
comp=Z,192nm,0.7s,SNR=6.8
SUR **Sutherland** 78.00 120 *e*P P 15 18 28.9 +1.0
SUR AMB AMB 15 18 56.7
comp=Z,69nm,3.2s
SUR AMS AMS 15 45 14.5
comp=Z,858nm,7.2s
SUR **Sutherland** 78.00 120 LR LR 15 48 50.2
comp=Z,385nm,22.0s,baz=250,slow=32
SUR **Sutherland** 78.00 120 P P 15 18 28.9 +1.0
comp=Z,69nm,3.3s
LOHW **Long Hollow** 78.02 332 *e*P P 15 18 28.4 +0.8
comp=Z,61nm,1.5s
E24A **Baker** 78.02 337 ⇓P P 15 18 28.5 +1.2
baz=78,SNR=15
F22A **Rosebud** 78.06 335 ⇓P P 15 18 28.8 +1.3
baz=78
TPAW **Teton Pass** 78.07 331 *e*P P 15 18 28.8 +0.8
comp=Z,31nm,1.0s
C27A **Sayler Ranch,** 78.08 339 ⇓P P 15 18 29.2 +1.6
baz=78
B29A **Wagenman Farm,** 78.10 341 ⇑P P 15 18 28.4 +0.8
baz=78,SNR=7.3
D25A **Fairfield** 78.19 338 ⇑P P 15 18 29.7 +1.5
baz=79,SNR=10
H19A **Powell** 78.20 333 ⇓P P 15 18 29.5 +1.0
baz=79,SNR=6.1
FXWY **Fox Creek** 78.22 331 *e*P P 15 18 28.7 0.0
comp=Z,33nm,1.3s
A30A **Hart Farm,** 78.22 342 ⇓P P 15 18 29.1 +0.8
baz=79
I17A **Pilgrim Ck.** 78.25 332 ⇑P P 15 18 30.6 +1.7
baz=79,SNR=15
E23A **Ismay** 78.32 336 ⇓P P 15 18 30.2 +1.3
baz=79
G20A **Bridger** 78.34 334 ⇓P P 15 18 29.9 +0.6
baz=79,SNR=30
C26A **Wahner Farm, P** 78.37 339 ⇓P P 15 18 30.8 +1.6
baz=79,SNR=5.8
B28A **Dugan Ranch, T** 78.38 340 ⇑P P 15 18 30.6 +1.4
baz=79
IMW **Indian Meadow** 78.39 332 *e*P P 15 18 30.4 +0.7
comp=Z,40nm,1.2s
WAKR **Walker** 78.41 323 *e*P P 15 18 31.4 +1.6
WAKR *e*pP pP 15 18 45.5 +2.5
F21A **Absaloka Mine,** 78.42 335 ⇓P P 15 18 30.9 +1.3
baz=79
FLWY **Flagg Ranch** 78.44 332 *e*P P 15 18 31.0 +1.1
comp=Z,36nm,0.9s
A29A **Manning Farm,** 78.47 341 ⇑P P 15 18 30.0 +0.3
baz=79,SNR=17
H18A **Shoshone NF, C** 78.48 333 ⇑P P 15 18 31.0 +0.9
baz=79,SNR=45
D24A **Glendive** 78.50 337 ⇑P P 15 18 31.4 +1.5
baz=79
E22A **Miles City** 78.50 336 ⇑P P 15 18 31.1 +1.1
baz=79
CMB **Columbia Colle** 78.59 322 *e*P P 15 18 31.7 +1.0
CMB pmax pmax
comp=Z,17nm,1.3s
CMB **Columbia Colle** 78.59 322 *e*P P 15 18 31.7 +1.0
comp=Z,17nm,1.3s
B27A **Peters Farms,** 78.62 340 ⇑P P 15 18 32.2 +1.7
baz=79
H17A **Grant Village** 78.64 332 ⇓P P 15 18 33.2 +2.2
baz=79,SNR=5.3
BMN **Battle Mountai** 78.65 326 *e*P P 15 18 33.5 +2.4
BMN pmax pmax
comp=Z,8.0nm,0.7s
BMN **Battle Mountai** 78.65 326 *e*P P 15 18 33.5 +2.4
comp=Z,7.8nm,0.7s
C25A **Freed Ranch, W** 78.65 338 ⇓P P 15 18 33.1 +2.3
baz=79
RLMT **Red Lodge** 78.69 333 P P 15 18 29.1 -2.1
comp=Z,61nm,1.3s
A28A **Rude Farm, Bot** 78.77 341 ⇑P P 15 18 32.0 +0.7
baz=79
ULM **Lac du Bonnet** 78.78 344 P P 15 18 31.0 -0.3
ULM **Lac du Bonnet** 78.78 344 P P 15 18 30.9 -0.3
comp=Z,11nm,0.5s,baz=161,slow=5.5,SNR=35
YFT **Old Faithful** 78.79 332 *e*P P 15 18 34.4 +2.5
comp=Z,22nm,0.9s
F20A **Billings** 78.80 334 ⇑P P 15 18 33.2 +1.6
baz=79
LAO **LASA Array** 78.81 336 *e*P P 15 18 29.6 -2.1
comp=Z,30nm,0.9s
D23A **Lindsay** 78.86 337 ⇓P P 15 18 33.5 +1.6
baz=79,SNR=5.9
C24A **Savage** 78.89 338 ⇑P P 15 18 33.7 +1.6
baz=79,SNR=10
B26A **Jensen Ranch,** 78.90 339 ⇑P P 15 18 33.7 +1.6
baz=79
YNR **Norris Junctio** 78.94 332 *e*P P 15 18 33.1 +0.4
comp=Z,32nm,1.3s
E21A **Keefer Ranch,** 79.01 335 ⇑P P 15 18 34.2 +1.4
baz=79
YMR **Madison River** 79.02 332 *e*P P 15 18 35.2 +2.1
comp=Z,60nm,0.9s
A27A **Ledoux Ranch,** 79.10 340 ⇓P P 15 18 34.7 +1.6
baz=80
B25A **Knox Farm, Ray** 79.11 339 ⇓P P 15 18 34.8 +1.6
baz=80
F19A **Roth Farm, Mol** 79.16 334 ⇑P P 15 18 34.5 +0.9
baz=80,SNR=15
D22A **Cohagen** 79.19 336 ⇓P P 15 18 35.1 +1.4
baz=80,SNR=6.8
A26A **Wade Farm, Ken** 79.30 340 ⇑P P 15 18 35.1 +0.9
baz=80
QLMT **Earthquake Lak** 79.35 332 *e*P P 15 18 36.8 +1.9
E20A **Meyer Farm, Mu** 79.38 335 ⇓P P 15 18 36.0 +1.2
baz=80,SNR=19
C23A **Lambert** 79.39 337 ⇓P P 15 18 36.1 +1.3
baz=80
GCMT **Greycliff** 79.39 333 *e*P P 15 18 35.7 +0.7
comp=Z,25nm,1.0s
D21A **La Casta Ranch** 79.42 336 ⇑P P 15 18 36.3 +1.3
baz=80,SNR=8.2
C22A **Vida** 79.59 337 ⇓P P 15 18 37.0 +1.1
baz=80
E19A **Rath Farm, Rou** 79.59 334 ⇑P P 15 18 37.0 +1.0
baz=80,SNR=42
DGMT **Dagmar** 79.63 338 ⇑P P 15 18 37.4 +1.3
baz=80
DGMT **Dagmar** 79.63 338 *e*P P 15 18 37.2 +1.2
comp=Z,100nm,1.4s
DGMT LR LR
comp=Z,187nm,19.0s
HLID **Hailey** 79.67 329 ⇑P P 15 18 38.2 +1.6
baz=80,SNR=42
HLID **Hailey** 79.67 329 *e*P P 15 18 38.0 +1.4
comp=Z,42nm,1.1s
HLID LR LR
comp=Z,183nm,19.0s
A25A **Svangstu Ranch** 79.68 339 ⇓P P 15 18 37.6 +1.3
baz=80,SNR=5.8
D20A **Manuel Ranch,** 79.87 335 ⇑P P 15 18 38.4 +1.0
baz=80,SNR=14
B23A **Brockton** 79.89 338 ⇑P P 15 18 38.8 +1.3
baz=80
UPI **Upington** 79.92 117 *e*P P 15 18 38.5 +0.1
UPI AMB AMB 15 18 39.7
comp=Z,98nm,1.8s
UPI **Upington** 79.92 117 P P 15 18 38.5 +0.1
comp=Z,98nm,1.8s
A24A **Westby** 79.95 338 ⇓P P 15 18 39.2 +1.4
baz=80
MCMT **McKenzie Canyo** 79.96 331 P P 15 18 37.3 -0.9
BOZ **Bozeman (W)** 80.09 332 *e*P P 15 18 38.5 -0.3
BOZ pmax pmax
comp=Z,25nm,1.4s
BOZ MLR MLR
comp=Z,191nm,21.0s
BOZ **Bozeman (W)** 80.09 332 *e*P P 15 18 38.5 -0.3
comp=Z,25nm,1.4s
BOZ LR LR
comp=Z,191nm,21.0s
B22A **Reddig Ranch S** 80.10 337 ⇑P P 15 18 39.7 +1.1
baz=80
D19A **Cripps Ranch,** 80.21 335 ⇓P P 15 18 40.3 +1.0
baz=81
MFID **Camas Ranch** 80.22 328 *e*P P 15 18 40.5 +1.0
comp=Z,38nm,1.3s
SCHQ **Schefferville** 80.23 2 P P 15 18 38.7 -0.5
comp=Z,3.7nm,0.6s,baz=195,slow=5.8,SNR=12
SCHQ LR LR 15 57 00.9
comp=Z,54nm,18.9s,baz=148,slow=38
DLMT **Dillon** 80.27 332 *e*P P 15 18 41.1 +1.3
comp=Z,36nm,1.1s
C20A **Veseth Ranch,** 80.33 336 ⇑P P 15 18 40.5 +0.6
baz=81,SNR=7.4
TORD **Torodi Ar. Bea** 80.38 70 P P 15 18 40.8 -0.1
comp=Z,200nm,0.8s,baz=265,slow=5.2,SNR=1009
TORD pP pP 15 18 55.5 +1.4
comp=Z,52nm,0.6s,baz=263,slow=5.5,SNR=9.4
TORD LR LR 15 55 00.5
comp=Z,515nm,18.9s,baz=240,slow=36
TSUM **Tsumeb** 80.52 107 *e*P P 15 18 42.5 +0.7
TSUM **Tsumeb** 80.52 107 *e*P P 15 18 42.3 +0.5
TSUM LR LR
comp=Z,552nm,20.0s
LRM **Limekiln Ridge** 80.57 332 *e*P P 15 18 42.7 +1.2
A22A **Carney Farms,** 80.66 337 ⇓P P 15 18 42.6 +1.0
baz=81,SNR=11
C19A **Slack Wire Ran** 80.75 335 ⇓P P 15 18 42.9 +0.7
baz=81,SNR=11
WVOR **Wild Horse Val** 80.85 326 *e*P P 15 18 43.9 +1.0
WVOR pmax pmax
comp=Z,18nm,1.1s
WVOR **Wild Horse Val** 80.85 326 *e*P P 15 18 43.9 +1.0
comp=Z,18nm,1.1s
MAW **Mawson** 80.86 164 P P 15 18 42.7 +0.2
comp=Z,22nm,0.5s,baz=212,slow=6.4,SNR=43
MAW LR LR 15 54 13.4
comp=Z,361nm,20.8s,baz=233,slow=35
B20A **Solberg Farm,** 80.95 336 ⇓P P 15 18 43.9 +0.7
baz=81,SNR=7.4
A21A **Bergtoll Ranch** 81.01 337 ⇑P P 15 18 44.4 +0.9
baz=81,SNR=11
HRY **Holter Researc** 81.02 333 *e*P P 15 18 45.1 +1.4
EGMT **Eagleton** 81.26 335 ⇑P P 15 18 45.5 +0.7
baz=82
EGMT **Eagleton** 81.26 335 *e*P P 15 18 45.6 +0.7
comp=Z,28nm,1.1s
EGMT LR LR
comp=Z,197nm,20.0s
A20A **Cobblestone Ra** 81.28 336 ⇑P P 15 18 45.7 +0.7
baz=82,SNR=15
B19A **Brinkman Farms** 81.30 335 ⇓P P 15 18 46.2 +1.1
baz=82
MOD **Modoc Plateau** 81.31 325 *e*P P 15 18 46.4 +1.0
comp=Z,22nm,0.8s
WDC **Whiskeytown Da** 81.57 323 *e*P P 15 18 45.9 -0.7
WDC pmax pmax
comp=Z,13nm,0.8s
WDC **Whiskeytown Da** 81.57 323 *e*P P 15 18 45.9 -0.7
comp=Z,13nm,0.8s
A19A **Klindworth Far** 81.62 336 ⇓P P 15 18 47.4 +0.6
baz=82,SNR=6.4
CHMT **Chamberlain Mo** 81.78 332 *e*P P 15 18 49.0 +1.2
N02D **Trinity Center** 81.93 323 ⇓P P 15 18 49.3 +0.7
baz=82
BMO **Blue Mountains** 82.00 329 *e*P P 15 18 46.8 -2.1
comp=Z,41nm,1.4s
BMO LR LR
comp=Z,321nm,21.0s
MSO **Missoula** 82.00 332 ⇑P P 15 18 50.7 +1.8
baz=82
MSO **Missoula** 82.00 332 *e*P P 15 18 49.9 +1.0
comp=Z,71nm,1.9s
M04C **Macdoel** 82.03 324 ⇑P P 15 18 50.2 +1.0
baz=82
SLMT **Seeley Lake** 82.14 332 *e*P P 15 18 50.4 +0.8
K05A **Summer Lake** 82.21 325 *e*P P 15 18 51.7 +1.5
comp=Z,70nm,1.1s
M02C **Callahan** 82.30 323 ⇑P P 15 18 51.5 +1.0
baz=83
YBH **Yreka Blue Hor** 82.46 324 *e*P P 15 18 51.4 0.0
YBH pmax pmax
comp=Z,77nm,2.1s
YBH **Yreka Blue Hor** 82.46 324 *e*P P 15 18 51.4 0.0
comp=Z,77nm,2.1s
I07A **Izee** 82.49 327 *e*P P 15 18 52.9 +1.4
comp=Z,58nm,1.5s
K04D **Chiloquin, OR** 82.58 325 ⇑P P 15 18 53.1 +1.0
baz=83
J05D **Fort Rock, OR** 82.78 325 ⇑P P 15 18 54.4 +1.3
baz=83
F10A **Beach Ranch, E** 82.80 329 *e*P P 15 18 54.4 +1.3
comp=Z,18nm,0.9s
BOSA **Boshof** 83.03 118 *e*P P 15 18 54.7 -0.2
BOSA AML AML 15 18 55.0
comp=Z,20nm,0.8s
BOSA AMS AMS 15 48 22.9
comp=Z,750nm,6.0s
BOSA **Boshof** 83.03 118 P P 15 18 55.0 +0.1
comp=Z,47nm,0.8s,baz=251,slow=3.9,SNR=48
BOSA pP pP 15 19 09.2 +1.0
comp=Z,28nm,0.8s,baz=215,slow=7.4,SNR=9.2
BOSA LR LR 15 51 26.7
comp=Z,499nm,21.7s,baz=242,slow=32
G08A **Pilot Rock** 83.11 328 *e*P P 15 18 55.5 +0.9
comp=Z,43nm,1.7s
J04D **Umpqua Nationa** 83.20 325 ⇑P P 15 18 56.6 +1.3
baz=84
L02D **Cave Junction,** 83.24 323 ⇑P P 15 18 56.8 +1.5
baz=84
I05D **Terrebonne, OR** 83.59 326 ⇓P P 15 18 58.5 +1.4
baz=84
WALA **Waterton Lakes** 83.74 333 *e*P P 15 18 55.8 -2.1
comp=Z,38nm,1.1s
I04A **Tendick Farm,** 83.75 325 ⇓P P 15 18 58.9 +1.0
baz=84
I03D **Drain, OR** 84.17 325 ⇓P P 15 19 01.6 +1.7
baz=84
HAWA **Hanford** 84.19 328 *e*P P 15 19 01.1 +1.0
comp=Z,28nm,1.1s
G05D **Wamic, OR** 84.22 327 ⇓P P 15 19 02.5 +2.2
baz=85
H04A **Detroit Lake** 84.26 326 *e*P P 15 19 00.9 +0.5
comp=Z,33nm,1.4s
D08A **Wollman Farm,** 84.39 329 *e*P P 15 19 01.9 +0.8
comp=Z,63nm,1.9s
FFC **Flin Flon** 84.42 342 *e*P P 15 19 00.7 -0.3
FFC pmax pmax
comp=Z,14nm,1.1s
FFC **Flin Flon** 84.42 342 *e*P P 15 19 00.7 -0.3
comp=Z,14nm,1.1s
NEW **Newport** 84.48 331 *e*P P 15 19 01.5 0.0
NEW pmax pmax
comp=Z,34nm,1.5s
NEW MLR MLR
comp=Z,162nm,20.0s

NEW Newport 84.48 331 ⇑P **P 15 19 03.3 +1.7**
baz=85
NEW Newport 84.48 331 *e*P **P 15 19 01.5 0.0**
comp=Z,34nm,1.5s
NEW LR LR
comp=Z,162nm,20.0s
LBTB Lobatse 84.85 115 *e*P **P 15 19 04.0 -0.2**
LBTB AMB AMB 15 19 19.4
comp=Z,74nm,1.5s
LBTB AMS AMS 15 55 11.9
comp=Z,642nm,5.7s
LBTB Lobatse 84.85 115 P **P 15 19 04.0 -0.2**
LBTB pmax pmax
comp=Z,74nm,1.5s
LBTB Lobatse 84.85 115 P **P 15 19 04.0 -0.2**
comp=Z,74nm,1.5s
RTC Rabat Centre 84.85 49 PFAKE 15 19 10.0 +6.3
RTC LR LR
comp=Z,544nm,20.0s
SEK Senekal 85.03 119 *e*P **P 15 19 04.0 -1.2**
SEK AMB AMB 15 19 05.9
comp=Z,44nm,1.6s
SEK Senekal 85.03 119 P **P 15 19 04.0 -1.2**
comp=Z,44nm,1.6s
DRV Dumont d'Urvil 85.05 192 S SKSac 15 29 15.0 -10
DRV SS **SS 15 35 03.0 +0.5**
DRV L L 15 41 00.0
DRV R 15 46 00.0
PFVI Vila Bisbo 85.41 45 *i* P pP 15 19 22.6 +2.8
PRYS Parys 85.44 118 *e*P **P 15 19 06.3 -0.9**
PRYS AMB AMB 15 19 24.2
comp=Z,22nm,7.8s
PRYS Parys 85.44 118 P **P 15 19 06.3 -0.9**
comp=Z,22nm,7.8s
ETW Entiat 85.45 329 P **P 15 19 07.0 +0.5**
B08A Colville Reser 85.54 330 *e*P **P 15 19 06.8 -0.1**
comp=Z,15nm,1.4s
MORF Marmelete 85.63 45 *e*P **P 15 19 07.0 -0.6**
MORF AMS AMS 15 55 35.8
comp=Z,778nm,17.6s
MORF Marmelete 85.63 45 *e*P **P 15 19 06.9 -0.6**
comp=Z,109nm,1.4s
MORF Marmelete 85.63 45 *e*P **P 15 19 06.9 -0.6**
WDLM Western Deep L 85.71 117 *e*P **P 15 19 08.1 -0.5**
WDLM AMB AMB 15 19 09.9
comp=Z,22nm,6.3s
PTEO Sao Teotonio 85.72 45 *e*P **P 15 19 10.1 +2.2**
comp=Z,106nm,1.8s
PTEO *i* P **pP 15 19 24.5 +3.2**
PBDV Barranco-do-Ve 86.05 45 *e*P **P 15 19 11.6 +2.0**
comp=Z,116nm,1.2s
PBDV *i* P **pP 15 19 25.8 +2.8**
PNCL Nicolau / Gran 86.19 44 *e*P **P 15 19 07.7 -2.5**
comp=Z,55nm,1.5s
PNCL *i* P **pP 15 19 26.0 +2.4**
PCVE Castro Verde 86.21 45 *e*P **P 15 19 08.9 -1.5**
comp=Z,18nm,1.4s
PCVE *i* P **pP 15 19 26.4 +2.6**
MESJ Messejana 86.22 45 *e*P **P 15 19 10.4 -0.1**
MESJ AMS AMS 15 55 20.5
comp=Z,530nm,17.0s
MESJ Messejana 86.22 45 *e*P **P 15 19 11.8 +1.4**
comp=Z,84nm,1.3s
MESJ Messejana 86.22 45 *e*P **P 15 19 10.3 -0.1**
PVAQ Vaqueiros 86.28 45 *i* P pP 15 19 27.0 +2.9
PVAQ Vaqueiros 86.28 45 *e*S **S 15 29 42.2 -0.5**
PVAQ Vaqueiros 86.28 45 *e*LR LR 15 47 47.6
comp=Z,870nm,20.0s
EVOP Sao Brissos 86.69 44 *e*P **P 15 19 13.2 +0.5**
EVOP pmax pmax
comp=Z,41nm,0.9s
EVOP Sao Brissos 86.69 44 *e*P **P 15 19 13.2 +0.5**
comp=Z,41nm,0.9s
SLR Silverton 86.71 117 *e*P **P 15 19 13.0 -0.5**
SLR AMB AMB 15 19 34.8
comp=Z,50nm,2.3s
SLR AMS AMS 15 55 36.4
comp=Z,1µm,21.3s
SLR Silverton 86.71 117 P **P 15 19 13.0 -0.5**
SLR pmax pmax
comp=Z,50nm,2.3s
SLR Silverton 86.71 117 P **P 15 19 13.0 -0.5**
comp=Z,50nm,2.3s
EVO Evora 86.76 44 *e*P **P 15 19 13.2 +0.2**
comp=Z,41nm,0.9s
EVO *e*R
comp=Z,776nm,22.0s
EDM Edmonton 86.80 336 *e*P **P 15 19 12.0 -1.0**
EDM pmax pmax
comp=Z,133nm,1.3s
EDM Edmonton 86.80 336 *e*P **P 15 19 12.0 -1.0**
comp=Z,133nm,1.3s
CMW Cultus Mountai 86.87 329 P **P 15 19 13.2 -0.3**
PMTG Montargil 86.95 44 *e*P **P 15 19 14.3 +0.4**
comp=Z,56nm,1.1s
PMTG *i* P **pP 15 19 29.9 +2.5**
PTOM Tomar 87.16 43 *e*P **P 15 19 16.0 +1.0**
comp=Z,72nm,1.0s
PTOM *i* P **pP 15 19 30.8 +2.4**
PBAR Barrancos 87.17 45 *e*P **P 15 19 16.8 +1.8**
comp=Z,56nm,1.7s
PBAR *i* P **pP 15 19 31.2 +2.7**
PESTR Estremoz 87.23 44 *i* P pP 15 19 32.8 +4.0
PCAS Casmilo, Conde 87.37 43 *e*P **P 15 19 15.9 -0.1**
comp=Z,44nm,2.2s
PCAS *i* P pP 15 19 35.5 +6.1
PMRV Marv??o 87.68 44 *i* P pP 15 19 35.9 +5.0
PMRV Marv??o 87.68 44 *e*S S 15 29 47.7 -8.5
PMRV Marv??o 87.68 44 *e*LR LR 15 48 50.3
comp=Z,411nm,24.0s
PCBR Castelo Branco 87.87 44 *i* P pP 15 19 37.5 +5.7
MTE Manteigas 88.16 43 *i* P pP 15 19 39.5 +6.2
MTE Manteigas 88.16 43 *e*S **S 15 30 03.5 +2.7**
MTE Manteigas 88.16 43 *e*LR LR 15 48 40.4
comp=Z,494nm,26.0s
MTE Manteigas 88.16 43 PFAKE 15 19 30.0 +10
MTE LR LR
comp=Z,570nm,21.0s
TAM Tamanrasset 88.22 64 *e*P **P 15 19 20.9 +0.2**
TAM *e**PP **pP 15 19 35.4 +1.3**
TAM pmax pmax
comp=Z,14nm,0.9s
TAM MLR MLR
comp=Z,609nm,20.0s
TAM Tamanrasset 88.22 64 *e*P **P 15 19 20.9 +0.2**
comp=Z,14nm,0.9s
TAM *e*pP **pP 15 19 35.4 +1.3**
TAM LR LR
comp=Z,609nm,20.0s
CASY Casey 88.35 181 PFAKE 15 19 30.0 +10
CASY LR LR
comp=Z,915nm,19.0s
PVRL Vila Real 88.57 42 *i* P pP 15 19 41.8 +6.6
POLO Lamas de Olo 88.58 42 *i* P pP 15 19 41.5 +6.2
PGAV Gavieira, Arco 88.65 41 *i* P pP 15 19 38.1 +2.5
PGAV Gavieira, Arco 88.65 41 *e*S **S 15 30 08.2 +2.8**
PGAV Gavieira, Arco 88.65 41 *e*LR LR 15 48 39.3
comp=Z,542nm,24.0s
MVO Moncorvo 88.93 43 *i* P pP 15 19 42.7 +5.8
MVO Moncorvo 88.93 43 *e*S **S 15 30 09.8 +1.8**
MVO Moncorvo 88.93 43 *e*LR LR 15 48 55.6
comp=Z,550nm,22.0s
PBRG Braganca 89.48 42 *i* P pP 15 19 42.7 +3.3
MSNA Messina 89.67 115 *e*P **P 15 19 28.3 +0.9**
MSNA AMB AMB 15 19 43.2
comp=Z,38nm,1.9s
MSNA Messina 89.67 115 P **P 15 19 28.3 +0.9**
comp=Z,38nm,1.9s
PAB San Pablo 89.68 45 PFAKE 15 19 40.0 +13
PAB LR LR
comp=Z,806nm,22.0s
SNZO South Karori 89.92 223 PFAKE 15 19 40.0 +12
SNZO LR LR
comp=Z,842nm,19.0s
ESDC Sonseca Array 89.99 45 P **P 15 19 28.7 +0.3**
comp=Z,0.3nm,0.5s,baz=248,slow=4.6,SNR=7.7
ESDC LR LR 15 57 44.5
comp=Z,577nm,20.6s,baz=225,slow=34
KHZ Kahutara 90.00 222 *e*P **P 15 19 25.8 -2.7**
comp=Z,154nm,1.6s
URZ Urewera 90.09 227 P **P 15 19 27.3 -1.8**
comp=Z,7.1nm,0.9s,baz=316,slow=0.8,SNR=4.1
URZ LR LR 15 50 15.3
comp=Z,705nm,21.6s,baz=188,slow=29
LSZ Lusaka 91.34 108 *e*P **P 15 19 37.1 +1.7**
LSZ Lusaka 91.34 108 P **P 15 19 37.1 +1.7**
LSZ MLR MLR
comp=Z,816nm,21.0s
LSZ Lusaka 91.34 108 P **P 15 19 37.1 +1.7**
LSZ LR LR
comp=Z,816nm,21.0s
SJPF Ste Jean 93.59 43 *e*P **P 15 19 45.4 +0.4**
SJPF Ste Jean 93.59 43 *e*P **P 15 19 45.4 +0.4**
SJPF Ste Jean 93.59 43 *e*P **P 15 19 45.4 +0.4**
AFI Afiamalu 93.67 253 PFAKE 15 20 00.0 +14
AFI LR LR
comp=Z,1µm,22.0s
ETSF Etsaut 93.89 44 *e*P **P 15 19 47.0 +0.5**
ETSF Etsaut 93.89 44 *e*P **P 15 19 47.0 +0.5**
ETSF Etsaut 93.89 44 *e*P **P 15 19 47.0 +0.5**
EPF Esparros 94.53 44 *e*P **P 15 19 49.7 +0.4**
EPF Esparros 94.53 44 *e*P **P 15 19 49.7 +0.4**
EPF Esparros 94.53 44 *e*P **P 15 19 49.7 +0.4**
YKA Yellowknife Ar 94.53 341 P **P 15 19 48.1 -0.6**
comp=Z,3.1nm,0.6s,baz=142,slow=4.6,SNR=90
YKA PKKP PKKPdf 15 36 57.5 +7.7
comp=Z,0.3nm,0.9s,baz=327,slow=3.6,SNR=3.8
LFF La Frestale 95.75 43 *e*P **P 15 19 54.7 -0.1**
LFF La Frestale 95.75 43 *e*P **P 15 19 54.7 -0.1**
LFF La Frestale 95.75 43 *e*P **P 15 19 54.7 -0.1**
MTLF Montolieu 95.87 45 *e*P **P 15 19 55.2 -0.2**
MTLF Montolieu 95.87 45 *e*P **P 15 19 55.2 -0.2**
MTLF Montolieu 95.87 45 *e*P **P 15 19 55.2 -0.2**
MFF Saint Martin d 96.07 41 *e*P **P 15 19 56.0 -0.2**
comp=Z,19nm,1.1s
MFF Saint Martin d 96.07 41 *e*P **P 15 19 56.0 -0.2**
MFF pmax pmax
comp=Z,19nm,1.1s
MFF Saint Martin d 96.07 41 *e*P **P 15 19 56.0 -0.2**
comp=Z,19nm,1.1s
LDF La Druitiere 97.11 39 *e*P **P 15 20 00.0 -0.9**
LDF La Druitiere 97.11 39 *e*P **P 15 20 00.0 -0.9**
LDF La Druitiere 97.11 39 *e*P **P 15 20 00.0 -0.9**
KEST Kesra 97.17 54 LR LR 16 03 27.9
comp=Z,273nm,21.9s,baz=188,slow=35
LASF Ste Croix 97.26 44 *e*P **P 15 20 01.7 0.0**
LASF Ste Croix 97.26 44 *e*P **P 15 20 01.7 0.0**
TCF Toulx Ste Croi 97.32 42 *e*P **P 15 20 01.6 -0.3**
TCF Toulx Ste Croi 97.32 42 *e*P **P 15 20 01.6 -0.3**
TCF Toulx Ste Croi 97.32 42 *e*P **P 15 20 01.6 -0.3**
BGF Bois d'Agland 97.84 42 *e*P **P 15 20 03.9 -0.3**
BGF Bois d'Agland 97.84 42 *e*P **P 15 20 03.9 -0.3**
BGF Bois d'Agland 97.84 42 *e*P **P 15 20 03.9 -0.3**
VIVF Saint-Julien-l 98.15 44 *e*P Pdif 15 20 05.9 +0.2
VIVF Saint-Julien-l 98.15 44 *e*P Pdif 15 20 05.9 +0.2
VIVF Saint-Julien-l 98.15 44 *e*P Pdif 15 20 05.9 +0.2
AVF Avril sur Loir 98.26 42 *e*P **P 15 20 05.6 -0.5**
comp=Z,12nm,1.1s
AVF Avril sur Loir 98.26 42 *e*P **P 15 20 05.6 -0.5**
AVF pmax pmax
comp=Z,12nm,1.1s
AVF Avril sur Loir 98.26 42 *e*P **P 15 20 05.6 -0.5**
comp=Z,12nm,1.1s
SSB Saint Sauveur 98.27 44 PFAKE 15 20 20.0 +14
SSB LR LR
comp=Z,629nm,21.0s
SMRF Simiane la Rot 98.31 45 *e*P Pdif 15 20 07.3 +0.8
SMRF Simiane la Rot 98.31 45 *e*P Pdif 15 20 07.3 +0.8
SSF Saint Saulge 98.48 42 *e*P **P 15 20 06.3 -0.8**
SSF Saint Saulge 98.48 42 *e*P **P 15 20 06.3 -0.8**
SSF Saint Saulge 98.48 42 *e*P **P 15 20 06.3 -0.8**
SMF Signal de Mont 98.48 42 *e*P **P 15 20 07.0 -0.1**
comp=Z,24nm,1.2s
SMF Signal de Mont 98.48 42 *e*P **P 15 20 07.0 -0.1**
SMF pmax pmax
comp=Z,24nm,1.2s
SMF Signal de Mont 98.48 42 *e*P **P 15 20 07.0 -0.1**
comp=Z,24nm,1.2s
LMR La Mourre 98.62 46 *e*P Pdif 15 20 08.1 +0.3
comp=Z,56nm,1.4s
LMR La Mourre 98.62 46 *e*P Pdif 15 20 08.1 +0.3
LMR pmax pmax
comp=Z,56nm,1.4s
LMR La Mourre 98.62 46 *e*P Pdif 15 20 08.1 +0.3
comp=Z,56nm,1.4s
LOR Lormes 98.79 42 *e*P **P 15 20 07.8 -0.7**
LOR *e*R
comp=Z,580nm,21.2s
LOR Lormes 98.79 42 *e*P **P 15 20 07.8 -0.7**
LOR Lormes 98.79 42 *e*P **P 15 20 07.8 -0.7**
VSL Villasalto 98.84 50 PFAKE 15 20 20.0 +11
VSL LR LR
comp=Z,447nm,22.0s
ORIF Oris-en-Rattie 98.94 44 *e*P Pdif 15 20 10.0 +0.7
ORIF *e*R
comp=Z,1µm,22.2s
ORIF Oris-en-Rattie 98.94 44 *e*P Pdif 15 20 10.0 +0.7
ORIF Oris-en-Rattie 98.94 44 *e*P Pdif 15 20 10.0 +0.7
ESK Eskdalemuir 99.02 32 PFAKE 15 20 20.0 +11
ESK LR LR
comp=Z,218nm,21.0s
MBDF Montbardon 99.42 45 *e*P **Pdif 15 20 12.1 +0.6**
MBDF Montbardon 99.42 45 *e*P **Pdif 15 20 12.1 +0.6**
MBDF Montbardon 99.42 45 *e*P **Pdif 15 20 12.1 +0.6**
SBF Sospel 99.46 46 *e*P **Pdif 15 20 12.2 +0.6**
comp=Z,67nm,1.4s
SBF Sospel 99.46 46 *e*P **Pdif 15 20 12.2 +0.6**
SBF pmax pmax
comp=Z,67nm,1.4s
SBF Sospel 99.46 46 *e*P **Pdif 15 20 12.2 +0.6**
comp=Z,67nm,1.4s
BNI Bardonecchia 99.50 45 PFAKE 15 20 20.0 +8.1
BNI LR LR
comp=Z,1µm,21.0s
LPL La Plagne 99.75 44 *e*P **Pdif 15 20 13.7 +0.6**
LPL La Plagne 99.75 44 *e*P **Pdif 15 20 13.7 +0.6**
LPL La Plagne 99.75 44 *e*P **Pdif 15 20 13.7 +0.6**
LPG La Plagne 99.75 44 *e*P **Pdif 15 20 13.9 +0.7**
LPG La Plagne 99.75 44 *e*P **Pdif 15 20 13.9 +0.7**
LPG La Plagne 99.75 44 *e*P **Pdif 15 20 13.9 +0.7**
PGF Pioggiola 99.91 48 *e*P **Pdif 15 20 13.0 -0.7**
comp=Z,6.0nm,0.8s
PGF Pioggiola 99.91 48 *e*P **Pdif 15 20 13.0 -0.7**
PGF pmax pmax
comp=Z,6.0nm,0.8s
PGF Pioggiola 99.91 48 *e*P **Pdif 15 20 13.0 -0.7**
comp=Z,6.0nm,0.8s
SFTF Sexfontaines 99.93 41 *e*P **Pdif 15 20 14.2 +0.7**
SFTF Sexfontaines 99.93 41 *e*P **Pdif 15 20 14.2 +0.7**
MEZF Maizieres J'vi 100.07 41 *e*P **Pdif 15 20 13.8 -0.3**
MEZF Maizieres J'vi 100.07 41 *e*P **Pdif 15 20 13.8 -0.3**
BAIF Baives 100.30 39 *e*P **Pdif 15 20 15.7 +0.6**
BAIF Baives 100.30 39 *e*P **Pdif 15 20 15.7 +0.6**
BAIF Baives 100.30 39 *e*P **Pdif 15 20 15.7 +0.6**
PAGF Fort de Pagny 100.50 41 *e*P **Pdif 15 20 16.0 0.0**
PAGF Fort de Pagny 100.50 41 *e*P **Pdif 15 20 16.0 0.0**
GIVF Givet 100.67 39 *e*P **Pdif 15 20 16.5 -0.3**
GIVF Givet 100.67 39 *e*P **Pdif 15 20 16.5 -0.3**
GIVF Givet 100.67 39 *e*P **Pdif 15 20 16.5 -0.3**
CLTB Caltabellotta 100.77 54 PFAKE 15 20 30.0 +12
CLTB LR LR
comp=Z,530nm,22.0s
HINF Hinteralfeld 100.84 42 *e*P **Pdif 15 20 17.2 -0.5**
HINF Hinteralfeld 100.84 42 *e*P **Pdif 15 20 17.2 -0.5**
HINF Hinteralfeld 100.84 42 *e*P **Pdif 15 20 17.2 -0.5**
ECH Echery 101.20 42 PFAKE 15 20 30.0 +11
ECH LR LR
comp=Z,209nm,19.0s
WLF Walferdange 101.24 40 PFAKE 15 20 30.0 +11
WLF LR LR
comp=Z,453nm,21.0s
VLC Villacollemand 101.51 47 PFAKE 15 20 30.0 +9.3
VLC LR LR
comp=Z,236nm,22.0s
TUE Stuetta 101.80 44 PFAKE 15 20 30.0 +7.8
TUE LR LR
comp=Z,618nm,21.0s
BFO Black Forest 101.96 42 PFAKE 15 20 30.0 +7.4
BFO LR LR
comp=Z,231nm,19.0s
AQU L'Aquila 102.80 49 PFAKE 15 20 40.0 +13
AQU LR LR
comp=Z,327nm,21.0s
CEL Celeste 102.98 54 PFAKE 15 20 40.0 +13
CEL LR LR
comp=Z,974nm,22.0s
CUC Castrocucco 103.58 52 PFAKE 15 20 40.0 +10
CUC LR LR
comp=Z,249nm,22.0s
TIP Timpagrande 103.95 53 PFAKE 15 20 40.0 +8.3
TIP LR LR
comp=Z,429nm,22.0s
EGAK Eagle 105.02 335 PFAKE 15 25 00.0
EGAK LR LR
comp=Z,197nm,19.0s
ABPO Ambohimpanom 105.18 120 PFAKE 15 25 00.0
ABPO LR LR
comp=Z,664nm,19.0s
KHC Kasperske Hory 105.47 43 *e*PP PP 15 24 57.2 -3.6
KHC AMS AMS 16 02 30.0
comp=Z,600nm,26.9s
KMBO Kilima Mbogo 105.74 99 PFAKE 15 25 00.0
KMBO LR LR
comp=Z,616nm,22.0s
CLL Collm 105.91 40 *e*Pdif **Pdif 15 20 42.0 +2.0**
CLL *e*PP **PP 15 25 02.0 -2.0**
CLL *e*SKSac **SKSac 15 31 14.0 -2.2**
CLL *e*Sdif **Sdif 15 32 36.0 +2.0**
CLL *e*SP **SP 15 34 10.0 -5.5**
CLL *e*PS 15 34 52.0
CLL *e*PPS PPS 15 35 30.0
CLL *e* 15 45 00.0
CLL LmV 16 08 00.0
comp=Z,400nm,20.9s
PRU Pruhonice 106.36 42 AMS AMS 16 03 10.0
comp=Z,300nm,22.3s
TREC Trest 106.70 43 AMS AMS 16 04 00.0
comp=Z,400nm,21.1s
DAG Danmarks Havn 106.95 11 *i* P **Pdif 15 20 35.4 -8.7**
DZM Mont Dzumac 106.98 235 *e*PP PP 15 25 10.2 -1.7
comp=Z,91nm,30.4s
DZM *e*SP SP 15 34 29.9 +2.4
comp=Z,200nm,25.9s
DZM *e*SS **SS 15 40 18.7 +3.4**
comp=Z,170nm,23.2s
DZM Mont Dzumac 106.98 235 *e*LR LR 15 56 09.5
comp=Z,1µm,30.4s
KONO Kongsberg 107.13 32 PFAKE 15 25 10.0
KONO LR LR
comp=Z,227nm,20.0s
DPC Dobruska-Polom 107.56 42 *e*PP PP 15 25 11.5 -4.7
COLA College 107.64 334 PFAKE 15 25 10.0
COLA LR LR
comp=Z,184nm,22.0s
NOA NORSAR Array B 108.37 31 PKKP **PKKPab 15 36 19.5 +0.8**
comp=Z,0.9nm,0.8s,baz=72,slow=4.5,SNR=4.8
OKC Ostrava-Krasne 108.51 43 *e*PP PP 15 25 19.6 -3.5
OKC AMS AMS 16 07 00.0
comp=Z,300nm,20.0s
VYHS Vyhne 108.53 45 *e* PP 15 25 09.8 -13
PSZ Piszkesteto 109.03 45 PFAKE 15 25 10.0
PSZ LR LR
comp=Z,470nm,22.0s
SANT Santorini 109.50 58 PFAKE 15 25 10.0
SANT LR LR
comp=Z,370nm,21.0s
KECS Kecovo 109.57 45 *e*P **Pdif 15 20 57.4 +1.0**
KECS Kecovo 109.57 45 PDIF **Pdif 15 20 57.4 +1.0**
CRVS Cervenica-Dubn 110.31 45 *e*PP PP 15 25 34.7 -1.5
KWP Kalwaria Pacla 111.29 44 PFAKE 15 25 10.0
KWP LR LR
comp=Z,564nm,21.0s
KBS Kingsbay 113.61 12 PFAKE 15 25 20.0
KBS LR LR
comp=Z,216nm,21.0s
ISP Isparta 113.79 58 PFAKE 15 25 20.0
ISP LR LR
comp=Z,234nm,20.0s
CSS Prodhromos 115.26 62 PFAKE 15 25 20.0 +10
CSS LR LR
comp=Z,138nm,22.0s
FINES FINESS Array B 115.44 32 PKKPbc PKKPbc 15 35 43.7 -1.8
comp=Z,0.8nm,0.4s,baz=109,slow=5.4,SNR=16
KIEV Kiev 115.60 44 PFAKE 15 25 20.0 +9.4
KIEV LR LR
comp=Z,281nm,21.0s
AKASG Malin Array Be 115.61 44 PKP **PKPdf 15 25 09.8 -0.8**
comp=Z,0.5nm,0.5s,baz=264,slow=3.1,SNR=5.3
AKASG pPKP PKiKP 15 25 24.0 +13
comp=Z,0.6nm,0.4s,baz=266,slow=2.9,SNR=5.9
AKASG PP **PP 15 26 11.5 -2.4**
comp=Z,2.1nm,0.8s,baz=254,slow=6.6,SNR=9.3
AKASG PKKPbc **PKKPbc 15 35 43.7 -0.9**
comp=Z,1.0nm,0.7s,baz=66,slow=4.1,SNR=5.5
ARCES ARCESS Array B 115.98 23 PKKPbc PKKPbc 15 35 41.5 -2.3
comp=Z,1.3nm,0.4s,baz=94,slow=3.7,SNR=25
ANTO Ankara 115.99 56 PFAKE 15 25 20.0 +8.2
ANTO LR LR
comp=Z,292nm,22.0s
KEV Kevo 116.51 23 PFAKE 15 25 20.0 +8.2
KEV LR LR
comp=Z,184nm,22.0s
BRTR Keskin Array B 116.60 57 PKP **PKPdf 15 25 15.0 +1.9**
comp=Z,0.6nm,0.7s,baz=124,slow=44,SNR=4.5
BRTR PP **PP 15 26 25.4 +4.2**
comp=Z,1.8nm,0.8s,baz=231,slow=3.9,SNR=4.0
LVZ Lovozero 119.32 25 PFAKE 15 25 30.0 +13
LVZ LR LR
comp=Z,280nm,21.0s
HNR Honiara 119.56 241 PFAKE 15 25 30.0 +11
HNR LR LR
comp=Z,24nm,21.0s
MSEY Mahe Island 119.83 112 PFAKE 15 25 30.0 +10
MSEY LR LR
comp=Z,484nm,20.0s
OBN Obninsk 120.48 40 ⇓*i* PKIKP PKPdf 15 25 34.8 +15
OBN *i* 15 36 36.9
OBN *e*SS SS 15 43 14.4 +1.2
OBN pmax pmax
comp=Z,13nm,1.2s
OBN MLR MLR
comp=Z,309nm,20.0s
OBN Obninsk 120.48 40 PFAKE 15 25 30.0 +10
OBN LR LR
comp=Z,317nm,20.0s
CTAO Charters Tower 122.00 222 PFAKE 15 25 40.0 +16
CTAO LR LR
comp=Z,567nm,20.0s
KIV Kislovodsk 123.89 53 ⇓*i* PKIKP PKPdf 15 25 42.0 +15
KIV *i* PS **PS 15 37 01.0 -8.6**
KIV *i* 15 37 13.0
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,175nm,22.0s
KIV Kislovodsk 123.89 53 PFAKE 15 25 40.0 +13
KIV LR LR
comp=Z,177nm,21.0s
KBZ Khabaz 124.03 53 PKP **PKPdf 15 25 26.6 -0.4**
comp=Z,2.4nm,0.9s,baz=109,slow=5.1,SNR=6.3
ZEI Tsey 124.69 54 *i* PKIKP **PKPdf 15 25 26.2 -2.4**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
PRGR Permogore 124.77 31 *e*PKIKP **PKPdf 15 25 27.5 -0.3**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 125.09 58 PFAKE 15 25 40.0 +11
GNI LR LR
comp=Z,204nm,20.0s
AS31 Alice Springs 125.44 208 *e*PKPdf **PKPdf 15 25 29.3 -1.2**
ASAR Alice Springs 125.44 208 PKP **PKPdf 15 25 29.2 -1.3**
comp=Z,12nm,0.7s,baz=133,slow=1.8,SNR=93
ASAR PP **PP 15 27 17.7 -2.6**
comp=Z,2.6nm,1.1s,baz=158,slow=6.4,SNR=5.8
BILL Bilibino 125.70 337 ⇑*i* PKIKP **PKPdf 15 25 28.9 -0.6**
BILL *i* PS PS 15 37 13.0 -11
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 125.70 337 PFAKE 15 25 40.0 +11
BILL LR LR
comp=Z,1µm,22.0s
H11S2 WAKE ISLAND Hyl 126.57 275 T T 17 45 09.0
baz=108,slow=75,SNR=205
H11S1 WAKE ISLAND Hyl 126.58 275 T T 17 45 12.4
baz=108,slow=75,SNR=239
H11S3 WAKE ISLAND Hyl 126.59 275 T T 17 45 10.5
baz=108,slow=75,SNR=204
H11N3 WAKE ISLAND Hyl 126.77 276 T T 17 45 23.6
baz=108,slow=75,SNR=52
H11N1 WAKE ISLAND Hyl 126.78 276 T T 17 45 21.8
baz=108,slow=75,SNR=52
H11N2 WAKE ISLAND Hyl 126.78 276 T T 17 45 25.2
baz=108,slow=75,SNR=71
WB2 Warramunga Arr 128.50 211 *e*PKPdf **PKPdf 15 25 36.0 -0.4**

WRA	**Warramunga Arr**	**128.51**	**211**	PKP	**PKPdf**	**15 25 35.6**	**-0.8**
	comp=Z,25nm,0.8s,baz=155,slow=1.7,SNR=104						
WRAB	**Tennant Creek**	**128.51**	**211**	*i* PKIKP	**PKPdf**	**15 25 36.4**	**0.0**
WRAB				pmax	pmax		
	comp=Z,66nm,0.7s						
WRAB	**Tennant Creek**	**128.51**	**211**	*e*PKPdf	**PKPdf**	**15 25 36.1**	**-0.3**
WRAB				LR	LR		
	comp=Z,439nm,20.0s						
PMG	**Port Moresby**	**129.21**	**232**	PKIKP	**PKPdf**	**15 25 38.8**	**+1.0**
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
PMG	**Port Moresby**	**129.21**	**232**	PFAKE		15 25 50.0	+12
PMG				LR	LR		
	comp=Z,405nm,22.0s						
ARU	**Arti**	**132.54**	**36**	*i* PKIKP	PKPdf	15 25 59.2	+16
ARU				MLR	MLR		
	comp=Z,525nm,22.0s						
ARU	**Arti**	**132.54**	**36**	PFAKE		15 25 50.0	+7.2
ARU				LR	LR		
	comp=Z,552nm,22.0s						
TIXI	**Tiksi**	**132.66**	**352**	*e*PKIKP	**PKPdf**	**15 25 39.3**	**-3.3**
TIXI				MLR	MLR		
	comp=Z,184nm,22.0s						
TIXI	**Tiksi**	**132.66**	**352**	*e*PKPdf	**PKPdf**	**15 25 39.3**	**-3.3**
TIXI				LR	LR		
	comp=Z,184nm,22.0s						
SEY	**Seymchan**	**133.15**	**335**	*e*PKIKP	**PKPdf**	**15 25 44.3**	**+0.5**
PETK	**Petropavlovsk-**	**134.75**	**321**	PKP	**PKPdf**	**15 25 47.5**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=136,slow=1.8,SNR=8.6						
AB31	**Akbulak array**	**135.34**	**45**	PKIKP	**PKPdf**	**15 25 49.1**	**+0.8**
AB31				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GEYT	**Alibeck**	**135.40**	**61**	PKP	**PKPdf**	**15 25 49.1**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=252,slow=2.9,SNR=3.5						
YAK	**Yakutsk**	**141.11**	**345**	*e*PKIKP	**PKPdf**	**15 25 59.7**	**+1.2**
YAK	**Yakutsk**	**141.11**	**345**	PFAKE		15 26 10.0	+12
YAK				LR	LR		
	comp=Z,238nm,19.0s						
SOEI	**Soe**	**141.86**	**205**	*e*PKPdf	**PKPdf**	**15 25 58.9**	**-2.6**
DZET	**Dzherino**	**143.71**	**59**	PKIKP	PKPab	15 26 01.2	+0.3
DZET				pmax	pmax		
	comp=Z,17nm,0.9s						
FAKI	**Fak Fak**	**143.86**	**222**	*e*PKPdf	PKPbc	15 26 03.0	+0.4
KK31	**Karatay Array**	**144.02**	**51**	PKIKP	PKPbc	15 26 02.3	0.0
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**144.02**	**51**	*e*PKIKP	PKPbc	15 26 02.5	+0.2
KKAR	**Karatay Array**	**144.02**	**51**	*e*PKPdf	PKPbc	15 26 02.5	+0.2
KBL	**Kabul**	**144.34**	**66**	*e*PKIKP	**PKPab**	**15 26 03.0**	**-0.5**
KBL	**Kabul**	**144.34**	**66**	*e*PKPdf	**PKPab**	**15 26 03.0**	**-0.5**
NVS	**Novosibirsk**	**145.15**	**26**	*i* PKP2	**PKPbc**	**15 26 05.0**	**-0.5**
NVS				pmax	pmax		
	comp=Z,43nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
MNAS	**Manas**	**145.60**	**51**	PKP2	**PKPab**	**15 26 07.7**	**-0.2**
MNAS				pmax	pmax		
	comp=Z,121nm,1.1s						
KURK	**Kurchatov**	**145.73**	**35**	PKP2	**PKPbc**	**15 26 07.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,20nm,1.3s						
KURK	**Kurchatov**	**145.73**	**35**	*e*PKPdf	**PKPdf**	**15 26 06.2**	**-0.7**
KURK				LR	LR		
	comp=Z,328nm,22.0s						
JAGI	**Jajag, Banyuwa**	**145.74**	**189**	*e*PKPdf	**PKPdf**	**15 26 06.6**	**-1.6**
YSS	**Yuzh-Sakhalins**	**145.99**	**317**	*i* PKP2	**PKPdf**	**15 26 08.0**	**+0.5**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**145.99**	**317**	PFAKE		15 26 20.0	+11
YSS				LR	LR		
	comp=Z,100nm,19.0s						
ZALV	**Zalesovo Beam**	**146.44**	**26**	PKPbc	**PKPdf**	**15 26 08.6**	**+0.5**
	comp=Z,29nm,0.6s,baz=307,slow=3.7,SNR=135						
ZALV				pKPPbc	pKPPbc	15 26 23.9	+0.7
	comp=Z,100nm,0.8s,baz=312,slow=3.4,SNR=24						
EKS2	**Erkin-Say**	**146.44**	**51**	P	**PKPab**	**15 26 11.6**	**+0.6**
	SNR=17						
EKS2	**Erkin-Say**	**146.44**	**51**	*e*PKPdf	**PKPdf**	**15 26 05.9**	**-2.8**
EKS2				LR	LR		
	comp=Z,351nm,20.0s						
AML	**Almayashu**	**146.55**	**52**	P	**PKPab**	**15 26 12.1**	**+0.3**
	SNR=38						
AAK	**Ala-Archa**	**146.95**	**50**	P	**PKPab**	**15 26 13.2**	**+0.1**
	SNR=22						
AAK	**Ala-Archa**	**146.95**	**50**	*c i* PKP2	**PKPbc**	**15 26 11.4**	**-0.2**
AAK				pmax	pmax		
	comp=Z,133nm,1.2s						
AAK	**Ala-Archa**	**146.95**	**50**	*e*PKPab	**PKPbc**	**15 26 11.0**	**-0.6**
AAK				LR	LR		
	comp=Z,243nm,19.0s						
CISI	**Cisompet, Garu**	**146.96**	**177**	*e*PKPab	**PKPbc**	**15 26 11.8**	**-0.5**
FRU	**Bishkek**	**146.97**	**50**	*i* PKP2	**PKPbc**	**15 26 11.8**	**+0.4**
FRU				pmax	pmax		
	comp=Z,76nm,1.8s						
CHMS	**Chumysh**	**147.00**	**50**	P	**PKPab**	**15 26 12.8**	**-0.3**
	SNR=11						
SFK	**Sufi-Kurgan**	**147.01**	**55**	PKP2	**PKPbc**	**15 26 12.1**	**+0.2**
SFK				pmax	pmax		
	comp=Z,85nm,0.8s						
UCH	**Uchtor**	**147.10**	**51**	P	**PKPbc**	**15 26 11.9**	**-0.4**
	SNR=40						
PALK	**Pallekele**	**147.25**	**119**	*e*PKPdf	**PKPdf**	**15 26 06.9**	**-3.8**
KBK	**Karagaybulak**	**147.25**	**50**	P	**PKPab**	**15 26 13.9**	**-0.4**
	SNR=16						
ASAJ	**Asahikawa**	**147.29**	**313**	*e*PKPbc	**PKPdf**	**15 26 10.5**	**+0.7**
TKM2	**Tokmak 2**	**147.61**	**49**	P	**PKPdf**	**15 26 11.8**	**+1.1**
	SNR=15						
TKM2	**Tokmak 2**	**147.61**	**49**	PKIKP	**PKPdf**	**15 26 11.5**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,32nm,0.9s						
TKM2	**Tokmak 2**	**147.61**	**49**	*e*PKPbc	**PKPdf**	**15 26 10.9**	**+0.2**
TKM2				LR	LR		
	comp=Z,305nm,21.0s						
KZA	**Kyzart**	**147.66**	**51**	P	**PKPbc**	**15 26 14.8**	**+0.9**
	SNR=26						
ERM	**Erimo**	**147.67**	**309**	*c i* PKP2	**PKPab**	**15 26 14.9**	**-0.8**
ERM				pmax	pmax		
	comp=Z,78nm,1.2s						
ERM	**Erimo**	**147.67**	**309**	*e*PKPab	**PKPbc**	**15 26 14.3**	**+1.0**
ERM				LR	LR		
	comp=Z,261nm,22.0s						
BOD	**Bodaibo**	**147.68**	**355**	*e*PKIKP	**PKPbc**	**15 26 11.7**	**-1.1**
BOD				*e*		15 26 24.8	
BOD				pmax	pmax		
	comp=Z,15nm,0.9s						
BOD				pmax	pmax		
	comp=Z,30nm,1.0s						
KAPI	**Kappang**	**147.84**	**200**	*e*PKPab	**PKPbc**	**15 26 15.1**	**+0.5**
KAPI				LR	LR		
	comp=Z,225nm,19.0s						
URV	**Uravakonda**	**148.29**	**103**	*e*PKPbc	**PKPbc**	**15 26 14.4**	**-1.3**
URV				*e*PKiKP	**PKiKP**	**15 26 16.0**	**-1.4**
URV				*ep*PKiKP	**pPKiKP**	**15 26 30.7**	**-0.6**
ULHL	**Ulahol**	**148.30**	**50**	P	**PKPab**	**15 26 17.0**	**-1.5**
	SNR=11						
ULHL	**Ulahol**	**148.30**	**50**	*i* PKP2	**PKPab**	**15 26 16.9**	**-1.5**
KSH	**Kashi**	**148.97**	**55**	*i* PKPbc	**PKPbc**	**15 26 17.0**	**0.0**
KSH				sPKP		15 26 31.5	
KSH				PKS	**PP**	**15 29 50.3**	**+1.9**
KSH				SKS	**SKSdf**	**15 33 19.6**	**+1.9**
KSH				PPMZ			
	comp=Z,170nm,4.0s						
KSH				LN			
	comp=Z,140nm,4.5s						
KSH				LE			
	comp=Z,150nm,5.5s						
KSH				LZ			
	comp=Z,200nm,12.1s						
HABR	**Khabarovsk**	**149.53**	**325**	*ce*PKIKP	**PKPdf**	**15 26 11.8**	**-1.5**
HABR				*e*		15 26 23.6	
HABR				*e*		15 26 28.1	
HABR				*e*		15 29 50.8	
HABR				*e*PPP	PPP	15 33 11.5	
HABR				*e*		15 33 17.3	
HABR				*e*SS	SS	15 49 04.2	+2.9
HABR				*e*SSS	SSS	15 54 43.4	
HABR				pmax	pmax		
	comp=Z,35nm,2.5s						
HABR				pmax	pmax		
	comp=E,51nm,2.5s						
HABR				pmax	pmax		
	comp=N,31nm,2.5s						
SKHT	**Srikalahasti**	**149.89**	**108**	*e*PKPbc	**PKPdf**	**15 26 16.7**	**+1.8**
SKHT				*e*PKiKP	**PKPbc**	**15 26 19.9**	**+0.1**
SKHT				*e*PKPab	**PKPab**	**15 26 24.9**	**-0.5**
SKHT				*ep*PKPdf	**pPKPdf**	**15 26 30.2**	**+1.4**
SKHT				*ep*PKiKP	**pPKiKP**	**15 26 35.4**	**+0.8**
SKHT				*es*PKiKP	sPKiKP	15 26 40.4	+0.9
SKHT				*es*PKPab	**sPKPab**	**15 26 44.8**	**+0.9**
MKAR	**Makanchi Array**	**149.98**	**38**	PKPbc	**PKPbc**	**15 26 19.1**	**-0.1**
	comp=N,22nm,0.7s,baz=320,slow=2.4,SNR=188						
MKAR				pPKPbc	**pPKPbc**	**15 26 33.4**	**+0.4**
	comp=N,35nm,0.8s,baz=317,slow=2.3,SNR=16						
PDGK	**Podgornoye**	**150.05**	**46**	PKIKP	**PKPbc**	**15 26 19.3**	**0.0**
PDGK				pmax	pmax		
	comp=Z,53nm,1.3s						
LUWI	**Luwuk**	**150.39**	**208**	*e*PKPbc	**PKPdf**	**15 26 16.7**	**+0.9**
HYBB	**Hyderabad (bro**	**150.40**	**100**	*e*PKPdf	**PKPdf**	**15 26 15.0**	**-0.7**
HYBB				*e*PKPbc	**PKPbc**	**15 26 18.4**	**-2.6**
HYBB				*e*PKiKP	**PKiKP**	**15 26 20.2**	**-1.5**
HYBB				*e*PKPab	**PKPab**	**15 26 25.1**	**-2.4**
HYBB				*ep*PKPdf	**pPKPdf**	**15 26 27.6**	**-2.0**
HYBB				*e*		15 29 44.4	
NJS	**Nagarjunasagar**	**150.74**	**102**	*e*PKPbc	**PKPbc**	**15 26 19.4**	**-2.3**
NJS				*e*PKiKP	**PKiKP**	**15 26 21.4**	**-1.0**
NJS				*e*PKPab	**PKPab**	**15 26 27.7**	**-1.2**
NJS				*ep*PKPdf	**pPKPdf**	**15 26 28.5**	**-1.6**
NJS				*ep*PKiKP	**pPKiKP**	**15 26 36.9**	**+0.6**
ADKI	**Addanki**	**151.04**	**104**	*e*PKPbc	**PKPbc**	**15 26 20.3**	**-2.1**
ADKI				*e*PKiKP	**PKiKP**	**15 26 22.4**	**-0.7**
ADKI				*e*		15 26 24.1	
ADKI				*e*PKPab	**PKPab**	**15 26 28.3**	**-1.8**
RPR	**Rampur**	**151.55**	**98**	*e*PKPbc	**PKPbc**	**15 26 22.4**	**-1.2**
RPR				*e*PKiKP	**PKiKP**	**15 26 23.6**	**-0.4**
RPR				*ep*PKiKP	**pPKiKP**	**15 26 38.1**	**+0.2**
MJAR	**Matsushiro Arr**	**152.99**	**301**	PKPbc	**PKPbc**	**15 26 25.8**	**-0.5**
	comp=Z,8.4nm,0.9s,baz=253,slow=2.2,SNR=4.0						
MJAR				PKPab	**PKPab**	**15 26 38.2**	**+0.4**
	comp=Z,11nm,0.9s,baz=104,slow=2.4,SNR=10						
MAJO	**Matsushiro**	**152.99**	**301**	*e*PKIKP	**PKPbc**	**15 26 25.3**	**-1.1**
MAJO				MLR	MLR		
	comp=Z,430nm,22.0s						
MAJO	**Matsushiro**	**152.99**	**301**	*e*PKPbc	**PKPbc**	**15 26 25.3**	**-1.1**
MAJO				LR	LR		
	comp=Z,430nm,22.0s						
MAT	**Matsushiro**	**152.99**	**301**	PKP	**PKPbc**	**15 26 25.9**	**-0.5**
IRK	**Irkutsk**	**153.19**	**7**	*e*PKIKP	**PKPdf**	**15 26 22.4**	**+3.6**
IRK				*e*		15 30 10.9	
IRK				pmax	pmax		
	comp=Z,57nm,2.4s						
MOY	**Mondy**	**153.29**	**11**	*e*PKP2	**PKPab**	**15 26 39.1**	**+0.5**
CIT	**Chita**	**153.47**	**354**	*e*PKIKP	**PKPbc**	**15 26 30.9**	**+3.9**
TLY	**Talaya**	**153.67**	**8**	*i* PKIKP	**PKPdf**	**15 26 22.2**	**+2.6**
TLY				pmax	pmax		
	comp=Z,21nm,2.0s						
TLY	**Talaya**	**153.67**	**8**	PFAKE		15 26 30.0	+2.6
TLY				LR	LR		
	comp=Z,204nm,21.0s						
USRK	**Ussuriysk Ar.**	**153.85**	**321**	PKPbc	**PKPbc**	**15 26 28.1**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=325,slow=0.6,SNR=12						
USRK				PKPab	**PKPab**	**15 26 42.4**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=353,slow=1.8,SNR=6.7						
WMQ	**Urumqi**	**154.82**	**39**	*e*PKPbc	**PKPdf**	**15 26 22.8**	**+1.3**
WMQ				pPKP	**pPKPdf**	**15 26 34.0**	**-1.4**
WMQ				sPKP		15 26 37.5	
WMQ				PKPab	**PKPab**	**15 26 49.0**	**+3.6**
WMQ				PP	**PP**	**15 30 26.0**	**+5.0**
WMQ				SKS	**SKSdf**	**15 33 24.0**	**-0.5**
WMQ				SKKS	**SKKSac**	**15 37 09.0**	**+1.6**
WMQ				SS	**SS**	**15 50 03.0**	**+3.1**
WMQ				PPMZ			
	comp=Z,300nm,6.7s						
WMQ				LN			
	comp=Z,230nm,21.2s						
WMQ				LE			
	comp=Z,350nm,25.2s						
WMQ				LZ			
	comp=Z,440nm,29.8s						
ZAK	**Zakamensk**	**154.90**	**9**	*e*PKIKP	**PKPdf**	**15 26 20.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MDJ	**Mudanjiang**	**154.90**	**324**	PKPbc	**PKPdf**	**15 26 20.1**	**-1.4**
MDJ	**Mudanjiang**	**154.90**	**324**	PFAKE		15 26 30.0	-0.2
MDJ				LR	LR		
	comp=Z,353nm,19.0s						
HIA	**Hailar**	**155.04**	**343**	PFAKE		15 26 30.0	+8.4
HIA				LR	LR		
	comp=Z,217nm,19.0s						
KSM	**Kuching**	**155.93**	**183**	PFAKE		15 26 30.0	+6.2
KSM				LR	LR		
	comp=Z,262nm,22.0s						
SONM	**Songino Array**	**157.75**	**5**	PKP	**PKPdf**	**15 26 25.4**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=348,slow=0.8,SNR=12						
SONM				PKPab	**PKPab**	**15 26 57.6**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=313,slow=1.6,SNR=7.4						
ULN	**Ulaanbaatar**	**157.77**	**4**	PFAKE		15 26 40.0	+15
ULN				LR	LR		
	comp=Z,275nm,22.0s						
KULM	**Kulim**	**158.16**	**157**	PFAKE		15 26 40.0	+13
KULM				LR	LR		
	comp=Z,765nm,21.0s						
KSRS	**Korea Array**	**160.22**	**311**	PKP	**PKPdf**	**15 26 28.8**	**+0.5**
	comp=Z,5.0nm,1.1s,baz=57,slow=0.5,SNR=12						
KSRS				PKPab	**PKPab**	**15 27 09.8**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=55,slow=4.2,SNR=4.8						
KSAR	**Wonju Array Be**	**160.25**	**311**	PKIKP	**PKPdf**	**15 26 28.8**	**+0.4**
KSAR						15 27 09.8	
KSAR	**Wonju Array Be**	**160.25**	**311**	PKP	**PKPdf**	**15 26 28.8**	**+0.4**
KSAR				PKPab	**PKPab**	**15 27 09.8**	**+0.9**
INCN	**Inchon**	**161.07**	**313**	PFAKE		15 26 40.0	+11
INCN				LR	LR		
	comp=Z,405nm,19.0s						
LSA	**Lhasa**	**163.52**	**72**	PFAKE		15 26 40.0	+7.4
LSA				LR	LR		
	comp=Z,364nm,22.0s						
GTA	**Gaotai**	**164.18**	**28**	*e*PKP	**PKPdf**	**15 26 33.7**	**+1.3**
BJT	**Baijiatuan**	**164.54**	**340**	PFAKE		15 26 40.0	+7.5
BJT				LR	LR		
	comp=Z,394nm,19.0s						
HHC	**Hu-ho-hao-te**	**164.72**	**353**	*e*PKP	**PKPdf**	**15 26 36.3**	**+3.5**
HHC				PP	PP	15 31 21.1	+7.2
HHC				SKKS		15 37 58.2	
HHC				PPMZ			
	comp=Z,64nm,4.3s						
HHC				LN			
	comp=Z,200nm,17.3s						
HHC				LE			
	comp=Z,120nm,13.6s						
HHC				LZ			
	comp=Z,240nm,18.6s						
TIA	**Tai'an**	**167.48**	**329**	PKP	**PKPdf**	**15 26 35.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**168.10**	**125**	PKP	**PKPdf**	**15 26 36.5**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=267,slow=1.8,SNR=12						
CMAR				PKPab	**PKPab**	**15 27 43.1**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=241,slow=4.1,SNR=9.2						
CMAR				PP	**PP**	**15 31 34.5**	**+1.9**
	comp=Z,1.7nm,0.9s,baz=257,slow=4.5,SNR=4.7						
PBKT	**Sadao Pong**	**168.15**	**138**	PKP	**PKPdf**	**15 26 38.1**	**+2.1**
CHTO	**Chiang Mai**	**168.32**	**124**	PFAKE		15 26 50.0	+14
CHTO				LR	LR		
	comp=Z,558nm,19.0s						
CMMT	**Chiang Mai**	**168.32**	**124**	PKP	PKPdf	15 26 53.1	+17
LZH	**Lanzhou**	**168.64**	**23**	*e*PKP	**PKPdf**	**15 26 35.3**	**-0.8**
LZH				pPKP	**pPKPdf**	**15 26 46.5**	**-3.5**
LZH				sPKP		15 26 50.6	
LZH				*e*PP	**PP**	**15 31 38.3**	**+3.9**
LZH				SKKS		15 38 19.5	
LZH				PPMZ			
	comp=Z,180nm,7.3s						
LZH				LN			
	comp=Z,220nm,18.1s						
LZH				LE			
	comp=Z,230nm,18.0s						
LZH				LZ			
	comp=Z,250nm,20.2s						
TATO	**Taipei**	**168.86**	**269**	PFAKE		15 26 50.0	+14
TATO				LR	LR		
	comp=Z,435nm,21.0s						
YHNB	**Yeheng**	**168.92**	**268**	PFAKE		15 26 50.0	+14
YHNB				LR	LR		
	comp=Z,389nm,21.0s						
NJ2	**Nanjing**	**169.41**	**309**	*e*PKP	**PKPdf**	**15 26 36.3**	**-0.1**
XAN	**Xi'an**	**171.64**	**2**	PKP	**PKPdf**	**15 26 37.5**	**-0.2**
CD2	**Chengdu**	**172.91**	**41**	PKP	**PKPdf**	**15 26 36.2**	**-2.1**
CD2				pPKP	**pPKPdf**	**15 26 47.5**	**-4.8**
CD2				sPKP		15 26 51.3	
CD2				PKS	**PKSdf**	**15 30 07.0**	**-3.7**
CD2				PP	**PP**	**15 31 56.9**	**+0.8**
CD2				SKS	**SKSdf**	**15 33 33.9**	**-4.2**
CD2				SKKS	**SKKSac**	**15 38 38.6**	**-1.0**
CD2				SS	**SS**	**15 53 03.8**	**-2.4**
CD2				PPMZ			
	comp=Z,200nm,5.6s						
CD2				LN			
	comp=Z,770nm,26.4s						
CD2				LE			
	comp=Z,490nm,21.6s						
CD2				LZ			
	comp=Z,470nm,24.0s						
QIZ	**Qiongzhong**	**173.38**	**185**	PKP	**PKPdf**	**15 26 39.3**	**+0.5**
QIZ				PP	**PP**	**15 31 58.4**	**+1.0**
QIZ				SS	SS	15 53 11.4	+2.5
QIZ				PPMZ			
	comp=Z,250nm,4.1s						
QIZ				LZ			
	comp=Z,340nm,24.4s						
QIZ	**Qiongzhong**	**173.38**	**185**	PFAKE		15 26 50.0	+11
QIZ				LR	LR		
	comp=Z,424nm,19.0s						
KMI	**Kunming**	**174.14**	**94**	PKP	**PKPdf**	**15 26 39.6**	**+0.4**
KMI				pPKP	**pPKPdf**	**15 26 47.9**	**-5.3**
KMI				PP	**PP**	**15 32 04.2**	**+0.5**
KMI				SKKS		15 38 46.7	
KMI				SS	**SS**	**15 53 17.0**	**-3.8**
KMI				PPMZ			
	comp=Z,180nm,7.0s						
KMI				LN			
	comp=Z,170nm,24.5s						
KMI				LE			
	comp=Z,170nm,23.6s						
KMI				LZ			
	comp=Z,330nm,26.3s						
ENH	**Enshi**	**175.40**	**357**	PFAKE		15 26 50.0	+11
ENH				LR	LR		
	comp=Z,168nm,19.0s						
GYA	**Guiyang**	**177.59**	**70**	*e*PKP	**PKPdf**	**15 26 38.8**	**-1.0**
GYA				pPKP	**pPKPdf**	**15 26 50.2**	**-3.6**
GYA				PKPab	PKPab	15 28 27.0	+0.8
GYA				PKS	**PKSdf**	**15 30 09.4**	**-2.8**
GYA				PP	**PP**	**15 32 20.8**	**+1.1**
GYA				SKKS		15 39 02.6	
GYA				SS	**SS**	**15 53 49.0**	**-4.1**
GYA				PPMZ			
	comp=Z,150nm,8.0s						
GYA				LN			
	comp=Z,160nm,22.9s						
GYA				LE			
	comp=Z,140nm,23.2s						
GYA				LZ			
	comp=Z,180nm,21.7s						

IDC ***10*** *15:06:39.8±1.5, 4.°91N×92.°52E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.3/42, mbtmp3.4/7, MS3.5/1, Ms1 3.5/1, ms1mx2.6/29, Error ellipse: s-maj=67.2km s-min=20.8km az=56.0*

ISCJB ***10*** *15:06:42.1±1.1, 5.°0N±0.°1×92.°6E±0.°2, h27km, mb3.5/6, MS3.5/1, Error ellipse: s-maj=33.8km s-min=17.0km az=154.3*

ISC 10 15:06:44.1±1.3, 5.°0N±0.°2×92.°6E±0.°2, h27km, n10, σ0.92/8, mb3.4/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.73**	**24**	Pn	**Pn**	**15 10 10.7**	**-0.1**
	baz=212,slow=15,SNR=4.8						
H08S3	**Diego Garcia H**	**23.70**	**238**	T	T	15 36 45.8	
	baz=60,slow=75,SNR=96						
H08S2	**Diego Garcia H**	**23.70**	**238**	T	T	15 36 41.9	
	baz=60,slow=75,SNR=104						
H08S1	**Diego Garcia H**	**23.71**	**238**	T	T	15 36 45.9	
	baz=60,slow=75,SNR=95						
MKAR	**Makanchi Array**	**42.59**	**349**	P	**P**	**15 14 38.6**	**+0.7**
	0.3nm,0.5s,baz=171,slow=9.2,SNR=6.1						
MKAR				PcP	**PcP**	**15 16 31.5**	**+1.6**
	0.3nm,0.5s,baz=152,slow=1.4,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.99**	**348**	P	**P**	**15 15 12.8**	**0.0**
	0.8nm,0.7s,baz=172,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**47.90**	**122**	P	**P**	**15 15 20.1**	**-0.4**
	0.2nm,0.7s,baz=300,slow=9.3,SNR=2.5						
WRA				LR	LR	15 37 02.4	
	comp=Z,62nm,21.6s,baz=140,slow=38						
ZALV	**Zalesovo Beam**	**49.22**	**354**	P	**P**	**15 15 29.6**	**-0.4**
	1.2nm,0.5s,baz=177,slow=6.0,SNR=7.5						
ASAR	**Alice Springs**	**49.30**	**127**	P	**P**	**15 15 31.4**	**+0.1**
	0.2nm,0.7s,baz=308,slow=8.1,SNR=2.9						
GERES	**GERESS Array B**	**78.97**	**319**	P	**P**	**15 18 44.8**	**-0.9**
	0.3nm,0.5s,baz=126,slow=7.7,SNR=3.7						

ISK ***10*** *15:22:21.8, 39.°57N×31.°77E, h5km, MD2.8*

CSEM ***10*** *15:22:23.3±0.2, 39.°56N×31.°78E, h8km, MD2.8, Error ellipse: s-maj=5.3km s-min=4.4km az=146.0*

DDA ***10*** *15:22:24.4, 39.°57N×31.°82E, h7km, MD2.8*

ISC 10 15:22:23.7±1.1, 39.°56N±0.°02×31.°77E±0.°02, h3km±10km, n38, σ1.°03/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRH	**Sivrihisar-ESK**	**0.22**	**240**	*e*PG	**Pg**	**15 22 27.3**	**-0.7**
SVRH				*e*SG	**Sg**	**15 22 31.6**	**+0.7**
SVRH	**Sivrihisar-ESK**	**0.22**	**240**	*e*Pg	**Pg**	**15 22 27.3**	**-0.7**
SVRH				*e*Sg	**Sg**	**15 22 31.7**	**+0.7**
KIZT	**Kizilcal**	**0.68**	**173**	*e*PG	**Pg**	**15 22 35.8**	**-1.0**
KIZT	**Kizilcal**	**0.68**	**173**	*e*Pg	**Pg**	**15 22 35.8**	**-1.0**
ESKT	**Eskisehir**	**0.71**	**267**	*e*PG	**Pg**	**15 22 36.7**	**-0.7**
ESKT	**Eskisehir**	**0.71**	**267**	*e*Pg	**Pg**	**15 22 36.7**	**-0.7**
SEYT	**Eskypehyr**	**0.71**	**267**	*i* P	**Pg**	**15 22 36.1**	**-1.3**
SEYT				*i* S	**Sb**	**15 22 48.1**	**-1.0**
SEYT	**Eskypehyr**	**0.71**	**267**	*i* P	**Pg**	**15 22 37.5**	**+0.1**
SEYT				*i* S	**Sb**	**15 22 49.9**	**+0.8**
SEYT	**Eskypehyr**	**0.71**	**267**	*i* P	**Pg**	**15 22 36.1**	**-1.3**
SEYT				*i* S	**Sb**	**15 22 48.1**	**-1.0**
LOD	**Lodumlu**	**0.83**	**66**	*e*PG	**Pg**

TVSB	**Tavsanli**	**1.79**	**267**	*e*Pn	**Pn**	**15 22 55.0 -0.6**
ULDT	**Uludag**	**2.11**	**287**	*i* P	**Pb**	**15 23 03.2 +0.5**
ULDT				*i* S	**Sb**	**15 23 29.0 -0.4**

*ISCJB **10** 15:43:08.8±0.6,32.°26N±0.°03×115.°31W±0.°04,h9km±4km, Error ellipse: s-maj=5.6km s-min=4.3km az=179.3*
*NEIC **10** 15:43:08.8,32.°20N×115.°34W,h7km,ML3.2(PAS),After PAS.*
*MEX **10** 15:43:12.0±0.6,32.°34N×115.°27W,h15km,MD3.7*
ISC 10 15:43:08.8±0.9,32.°22N±0.°03×115.°30W±0.°03,h14km±7km, n13,σ1°03/32,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**360**	*i* P	**Pg**	**15 43 13.2**	**-0.1**
CPBX				*i* S	**Sg**	**15 43 17.0**	**+0.7**
MBIG	**Mexicali**	**0.20**	**26**	*i* P	**Pb**	**15 43 14.0**	**-0.4**
MBIG				*e*S	**Sg**	**15 43 16.9**	**+0.3**
GLA	**Glamis**	**0.92**	**26**	*e*Pg	**Pb**	**15 43 25.0**	**-1.6**
GLA				*e*Pn	**Pn**	**15 43 28.4**	**+0.9**
GLA				*e*Sg	**Sb**	**15 43 38.2**	**-0.5**
GLA				*e*Sn	**Sn**	**15 43 42.3**	**+1.8**
CBX	**Cerro Bola**	**1.16**	**275**	*e*P	**Pn**	**15 43 30.1**	**-0.7**
CBX				*i* S	**Sb**	**15 43 44.9**	**-0.7**
CBX	**Cerro Bola**	**1.16**	**275**	*e*P	**Pn**	**15 43 30.1**	**-0.7**
CBX				*i* S	**Sb**	**15 43 44.9**	**-0.7**
SPIG	**San Pedro Mart**	**1.18**	**187**	*e*P	**Pg**	**15 43 31.8**	**+0.1**
SPIG				*i* S	**Sg**	**15 43 48.3**	**+1.2**
SPIG	**San Pedro Mart**	**1.18**	**187**	*e*P	**Pg**	**15 43 31.8**	**+0.1**
SPIG				*i* S	**Sg**	**15 43 48.3**	**+1.2**
SPX	**San Pedro Mart**	**1.18**	**187**	*e*P	**Pg**	**15 43 31.8**	**+0.2**
SPX				*i* S	**Sg**	**15 43 48.0**	**+0.9**
PFO	**Pinyon Flats O**	**1.69**	**325**	*e*Pn	**Pn**	**15 43 36.1**	**-2.0**
PFO				*e*Pg	**Pg**	**15 43 41.9**	**+0.6**
PFO				*e*Sn	**Sb**	**15 44 00.5**	**-0.5**
214A	**Organ Pipe Nat**	**2.13**	**97**	*e*Pn	**Pn**	**15 43 43.6**	**-0.5**
214A				*e*Pg	**Pg**	**15 43 49.9**	**+0.1**
214A				*e*Sn	**Sb**	**15 44 12.3**	**-1.4**
LDFC	**Landfair**	**2.85**	**3**	*e*Pn	**Pn**	**15 43 55.0**	**+0.9**
LDFC				*e*Pg	**Pg**	**15 44 04.0**	**+0.5**
LDFC				*e*Sn	**Sn**	**15 44 29.6**	**+1.2**
GSC	**Goldstone, Bar**	**3.32**	**338**	*e*Pn	**Pn**	**15 44 01.1**	**+0.6**
GSC				*e*Pg	**Pg**	**15 44 12.2**	**-0.2**
GSC				*e*Sn	**Sn**	**15 44 41.1**	**+1.4**
TUC	**Tucson**	**3.83**	**88**	Pn	**Pn**	**15 44 08.5**	**+1.0**
TUC				*e*Sg	**Sg**	**15 45 10.0**	**-1.9**

*IDC **10** 15:52:54.1±0.9,1.°95N×96.°73E,h0km,mb4.1/18, mb1 4.2/19,mb1mx4.0/41,mbtmp4.1/19,ML4.2/1,MS3.7/4, Ms1 3.8/4,ms1mx3.2/32,Error ellipse: s-maj=34.8km s-min=13.5km az=46.0*
*ISCJB **10** 15:52:56.5±0.4,1.°86N±0.°05×96.°68E±0.°04,h28km, mb4.1/18,MS4.1/2,Error ellipse: s-maj=8.3km s-min=5.1km az=37.6*
*DJA **10** 15:52:58.6±0.6,2.°N±4.°×97.°7E±.°,h10km,M4.5/11,mb4.6/2, mB5.0/2,MLv4.5/11,Mw(mB)4.3/2*
*BJI **10** 15:52:58.5,2.°00N×96.°70E,h40km,mB4.8/7,mb4.5/12, Ms4.5/1,Ms7 4.1/1*
*KLM **10** 15:53:04.3,2.°05N×97.°05E,h33km,mb4.2,ML4.2,MS5.3*
ISC 10 15:52:58.6±0.6,1.°94N±0.°06×96.°74E±0.°07,h28km,n64, σ1°04/58,mb4.1/18,6C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.62**	**319**	P	**Pn**	**15 53 12.0**	**+0.4**
TPTI		**1.39**	**18**	P	**Pn**	**15 53 20.4**	**-1.7**
TPTI				S	**Sb**	**15 53 41.9**	**+0.7**
KCSI	**Kotacane, Aceh**	**1.88**	**33**	P	**Pn**	**15 53 28.5**	**-0.5**
TSI	**Tuntungan**	**2.39**	**50**	P	**Pn**	**15 53 37.3**	**+1.3**
MNSI	**Mandailing Nat**	**3.06**	**112**	P	**Pn**	**15 53 46.1**	**+1.0**
LHMI	**Lhok Sumawe**	**3.28**	**4**	P	**Pn**	**15 53 49.5**	**+1.4**
LHMI	**Lhok Sumawe** baz=3.2,SNR=11	**3.28**	**4**	P	**Pn**	**15 53 48.2**	**+0.1**
BKNI	**Bangkinang**	**4.59**	**110**	P	**Pn**	**15 54 07.0**	**+0.8**
BKNI	**Bangkinang** baz=4.4,SNR=3.9	**4.59**	**110**	P	**Pn**	**15 54 07.9**	**+1.8**
PDSI	**Padang**	**4.67**	**127**	P	Pb	15 54 27.7	+7.7
IPM	**Ipoh**	**4.97**	**59**	⇑P	**Pn**	**15 54 12.3**	**+0.9**
FRIM	**Kepong**	**5.05**	**75**	⇑P	**Pn**	**15 54 14.6**	**+2.1**
KGM	**Kluang**	**6.58**	**89**	⇓P	**Pn**	**15 54 34.4**	**+0.9**
MYKOM	**Kota Tinggi**	**7.11**	**91**	⇓P	**Pn**	**15 54 40.3**	**-0.5**
KTGM	**Kuala Trenggan**	**7.21**	**62**	⇑P	**Pn**	**15 54 43.0**	**+0.7**
MNAI	**Manna** baz=8.7,SNR=6.8	**8.81**	**135**	P	**Pn**	**15 55 06.4**	**+2.1**
MNAI				S	**Sn**	**15 56 39.9**	**-2.9**
LHSI	**Lahat**	**8.87**	**130**	P	Pn	15 55 11.3	+6.2
LEM	**Lembang** comp=Z,282nm,19.5s,baz=244,slow=43	**13.92**	**129**	LR	LR	16 02 52.6	
SBUM	**Sibu**	**15.48**	**88**	⇑P	**Pn**	**15 56 34.9**	**-0.2**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=198,slow=12,SNR=40	**16.56**	**7**	Pn	**Pn**	**15 56 47.1**	**-1.8**
CMAR	comp=Z,96nm,20.8s,baz=198,slow=40			LR	LR	16 03 49.2	
KDM	**Kudat**	**20.63**	**75**	⇑P	Pn	15 57 37.6	-0.8
SDKM	**Sandakan**	**20.73**	**79**	⇑P	**P**	**15 57 38.0**	**+0.7**
H08S2	**Diego Garcia H** baz=69,slow=75,SNR=660	**25.99**	**248**	T	T	16 25 35.7	
H08S3	**Diego Garcia H** baz=69,slow=75,SNR=666	**26.00**	**248**	T	T	16 25 33.7	
H08S1	**Diego Carcia H** baz=69,slow=75,SNR=849	**26.01**	**248**	T	T	16 25 36.7	
ODAN	**Odare** 16nm,0.7s	**26.36**	**341**	*e*P	**P**	**15 58 33.0**	**+0.2**
RAMN	**Ramite** 15nm,0.7s	**26.71**	**340**	*e*P	**P**	**15 58 37.0**	**+1.0**
TAPN	**Taplejung** 21nm,0.9s	**26.71**	**342**	*e*P	**P**	**15 58 36.6**	**+0.6**
JIRN	**Jiri** 15nm,0.7s	**27.50**	**339**	*e*P	**P**	**15 58 43.7**	**+0.5**
PKI	**Pulchoki**	**27.70**	**338**	*e*P	**P**	**15 58 45.2**	**+0.2**
PKIN	**Phulchoki**	**27.71**	**338**	*e*P	**P**	**15 58 46.3**	**+1.3**
GUN	**Gumba** 19nm,0.7s	**27.84**	**339**	*e*P	**P**	**15 58 46.8**	**+0.6**
KKN	**Kakani**	**27.95**	**338**	*e*P	**P**	**15 58 47.4**	**+0.3**
GKN	**Gorkha** 11nm,0.7s	**28.39**	**337**	*e*P	**P**	**15 58 51.2**	**+0.3**
KOLN	**Koldanda** 6.1nm,0.4s	**28.60**	**335**	*e*P	**P**	**15 58 52.9**	**0.0**
DANN	**Dangsing** 12nm,0.7s	**29.04**	**336**	*e*P	**P**	**15 58 57.2**	**+0.3**
PYUN	**Piuthan**	**29.15**	**334**	*e*P	**P**	**15 58 58.3**	**+0.6**
GTA	**Gaotai**	**37.40**	**4**	*e*P	**P**	**16 00 08.8**	**-0.6**
GTA	9.0nm,0.9s			PMZ			
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=12	**40.10**	**158**	T	T	16 43 12.5	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=14	**40.11**	**158**	T	T	16 43 13.4	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=12	**40.11**	**158**	T	T	16 43 14.6	
HHC	**Hu-ho-hao-te**	**40.99**	**17**	*e*P	**P**	**16 00 41.9**	**+2.6**
HHC				sP	**sP**	**16 00 52.5**	**+1.4**
HHC				S	**S**	**16 06 51.1**	**+1.2**
HHC				sS	**sS**	**16 07 04.5**	**+0.8**
HHC				SS	**SS**	**16 09 51.2**	**-1.4**
HHC	27nm,0.8s			PMZ			
HHC	100nm,4.4s			PMZ			
HHC	210nm,9.9s			LN			
HHC	110nm,12.3s			LE			
HHC	140nm,12.3s			LZ			
WRA	**Warramunga Arr** 1.5nm,0.6s,baz=304,slow=8.9,SNR=25	**42.81**	**122**	P	**P**	**16 00 54.2**	**-0.2**
ASAR	**Alice Springs** 1.6nm,0.9s,baz=300,slow=7.4,SNR=22	**44.20**	**127**	P	**P**	**16 01 05.5**	**-0.1**
AAK	**Ala-Archa** 0.6nm,0.5s,baz=108,slow=6.3,SNR=6.1	**45.15**	**337**	P	**P**	**16 01 12.9**	**-0.1**
KSRS	**Korea Array** 2.2nm,0.7s,baz=232,slow=8.7,SNR=11	**45.51**	**35**	P	**P**	**16 01 14.9**	**-0.8**
MKAR	**Makanchi Array** 3.1nm,0.7s,baz=153,slow=8.2,SNR=34	**46.42**	**346**	P	**P**	**16 01 22.8**	**-0.1**
SONM	**Songino Array** 1.0nm,0.4s,baz=190,slow=9.8,SNR=11	**46.48**	**9**	P	**P**	**16 01 23.1**	**-0.3**
SONM				PcP	**PcP**	**16 02 58.1**	**+0.4**
GEYT	**Alibeck** 1.9nm,0.7s,baz=167,slow=7.2,SNR=5.9	**50.36**	**320**	P	**P**	**16 01 53.9**	**+0.6**
KURBB	**Kurchatov Arra** 2.4nm,0.6s,baz=167,slow=7.0,SNR=27	**50.90**	**345**	P	**P**	**16 01 57.2**	**0.0**
PMG	**Port Moresby** 9.1nm,0.7s,baz=271,slow=4.4,SNR=6.7	**51.47**	**104**	P	**P**	**16 02 01.7**	**-0.3**
USRK	**Ussuriysk Ar.** comp=Z,197nm,18.6s,baz=46,slow=40	**52.38**	**32**	LR	LR	16 27 33.4	
ZALV	**Zalesovo Beam** 7.1nm,0.6s,baz=177,slow=7.1,SNR=40	**52.76**	**351**	P	**P**	**16 02 11.0**	**0.0**
CTA	**Charters Tower** 2.6nm,0.8s,baz=280,slow=12,SNR=4.9	**53.24**	**117**	P	**P**	**16 02 15.2**	**0.0**
QLP	**Quilpie** baz=54,SNR=3.6	**53.86**	**125**	P	**P**	**16 02 20.8**	**+1.3**
BVAR	**Borovoye Array** 2.5nm,0.6s,baz=144,slow=9.4,SNR=27	**55.41**	**341**	P	**P**	**16 02 30.1**	**-0.2**
AKTO	**Aktyubinsk** 0.6nm,0.5s,baz=115,slow=5.5,SNR=3.6	**58.37**	**332**	P	**P**	**16 02 50.0**	**-1.3**
KBZ	**Khabaz** 1.0nm,0.8s,baz=146,slow=5.4,SNR=3.7	**63.22**	**319**	P	**P**	**16 03 24.8**	**+0.3**
BRTR	**Keskin Array B** 0.3nm,0.7s,baz=140,slow=7.6,SNR=2.3	**68.28**	**312**	P	**P**	**16 03 57.7**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,75nm,20.8s,baz=49,slow=37	**71.38**	**34**	LR	LR	16 37 23.5	
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=90,slow=5.1,SNR=4.8	**74.40**	**322**	P	**P**	**16 04 33.2**	**-0.8**
FINES	**FINESS Array B** 1.4nm,0.6s,baz=107,slow=6.4,SNR=7.9	**79.14**	**333**	P	**P**	**16 04 59.4**	**-1.1**
ARCES	**ARCESS Array B** 1.7nm,0.8s,baz=101,slow=6.3,SNR=6.3	**81.69**	**340**	P	**P**	**16 05 13.6**	**-0.5**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=241,slow=3.0,SNR=2.7	**143.28**	**31**	PKP	PKPbc	16 12 29.5	+1.4

*NEIC **10** 15:53:13.9,34.°96S×71.°87W,h50km,MG4.2(GUC),After GUC.*
NEIC Felt [III] at Curico and Talca; [II] at Colbun, Constitucion, Pencahue, Rancagua, San Fernando, San Javier and Villa Alegre.
GUC 10 15:53:13.9±0.6,34.°96S×71.°87W,h50km±6km,ML4.2,4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.48**	**156**	*i*P	Pn	15 53 24.5	-0.4
TALC				*e*S	Sn	15 53 32.0	-0.7
TALC	**Talca**	**0.48**	**156**	*i*P	Pn	15 53 24.5	-0.4
TALC				*e*S	Sn	15 53 32.0	-0.7
NICH	**Los Niches**	**0.53**	**95**	*i*P	Pn	15 53 25.4	0.0
NICH				*e*S	Sn	15 53 34.0	+0.2
NICH	**Los Niches**	**0.53**	**95**	*i*P	Pn	15 53 25.4	0.0
NICH				*e*S	Sn	15 53 34.0	+0.2
LNCH	**Linares**	**0.91**	**166**	*e*P	Pn	15 53 30.6	+0.2
LNCH				*e*S	Sn	15 53 43.2	+0.6
LNCH	**Linares**	**0.91**	**166**	*e*P	Pn	15 53 30.6	+0.2
LNCH				*e*S	Sn	15 53 43.2	+0.6
CLCH	**Cerro Calan**	**1.91**	**36**	*e*P	Pn	15 53 45.3	+1.1
CLCH				*e*S	Sn	15 54 08.7	+1.6
CLCH	comp=N,4μm,0.6s			AML	AML	15 54 16.4	
YECH	**El Yeso**	**1.96**	**49**	*e*P	Pn	15 53 45.1	0.0
YECH				*e*S	Sn	15 54 11.1	+2.2
YECH	comp=N,2μm,0.5s			AML	AML	15 54 15.0	
YECH	**El Yeso**	**1.96**	**49**	P	Pn	15 53 45.1	0.0
YECH				eS	Sn	15 54 11.1	+2.2
PEL	**Peldehue**	**2.06**	**29**	*e*P	Pn	15 53 47.3	+1.1
PEL				*e*S	Sn	15 54 12.4	+1.6
PEL	comp=N,2μm,0.5s			AML	AML	15 54 25.2	
PEL	**Peldehue**	**2.06**	**29**	*e*P	Pn	15 53 47.3	+1.1
PEL				*e*S	Sn	15 54 12.4	+1.6
ROCH	**El Roble**	**2.11**	**20**	*e*P	Pn	15 53 48.3	+1.2
ROCH				*e*S	Sn	15 54 14.7	+2.4
ROCH	comp=N,2μm,0.4s			AML	AML	15 54 21.6	
ROCH	**El Roble**	**2.11**	**20**	*e*P	Pn	15 53 48.3	+1.2
ROCH				*e*S	Sn	15 54 14.7	+2.4

*ISCJB **10** 16:00:38.0±0.4,2.°98S±0.°04×127.°38E±0.°04,h42km, mb4.0/7,MS4.0/2,Error ellipse: s-maj=6.7km s-min=4.8km az=146.8*
*DJA **10** 16:00:38.3±0.2,3.°S±2.°×12.°7E±.°,h10km,M4.5/17, mb4.8/10,mB4.9/4,MLv4.6/17,Mw(mB)4.2/4*
*IDC **10** 16:00:40.4±3.0,3.°02S×127.°60E,h63km±24km,mb3.5/6, mb1 3.9/8,mb1mx3.6/33,mbtmp4.0/8,ML4.3/2,MS3.8/1, Ms1 3.8/1,ms1mx3.0/18,Error ellipse: s-maj=48.4km s-min=11.2km az=73.0*
ISC 10 16:00:39.3±0.6,2.°97S±0.°06×127.°43E±0.°07,h42km,n35, σ1°61/32,mb3.8/7,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.43**	**231**	P	Pn	16 00 43.5	-5.8
SANI	**Sanana**	**1.71**	**302**	P	Pn	16 01 02.7	-3.9
LBMI	**Labuha**	**2.31**	**2**	P	**Pn**	**16 01 15.8**	**+0.8**
LBMI				S	**Sn**	**16 01 44.6**	**+2.4**
BNDI	**Bandanaira**	**2.91**	**122**	P	**Pn**	**16 01 25.0**	**+1.8**
TNTI	**Ternate**	**3.71**	**359**	P	**Pn**	**16 01 34.7**	**+0.5**
FAKI	**Fak Fak**	**4.81**	**90**	P	**Pn**	**16 01 50.2**	**+0.9**
FAKI	**Fak Fak** baz=4.7,SNR=14	**4.81**	**90**	P	**Pn**	**16 01 50.2**	**+0.9**
KMSI	**Cibinong**	**4.93**	**315**	P	Pn	16 01 58.5	+7.6
LUWI	**Luwuk**	**5.03**	**292**	P	**Pn**	**16 01 50.6**	**-1.8**
LUWI				S	**Sn**	**16 02 50.1**	**+0.8**
LUWI	**Luwuk** baz=5.1,SNR=19	**5.03**	**292**	P	**Pn**	**16 01 51.0**	**-1.4**
APSI	**Ampana** 85nm,1.0s,1μm0.7nm	**6.13**	**289**	P	**Pn**	**16 02 07.2**	**-0.2**
SAUI	**Saumlaki** 171nm,0.8s,2μm0.6nm	**6.30**	**142**	P	Pn	16 02 13.7	+4.0
MRSI	**Marisa** 49nm,0.8s,588nm0.2nm	**6.47**	**302**	P	**Pn**	**16 02 12.0**	**-0.1**
SOEI	**Soe** 43nm,0.9s,0.2nm	**7.44**	**205**	P	**Pn**	**16 02 27.3**	**+1.7**
BNSI	**Bone**	**7.45**	**259**	P	Pn	16 02 30.8	+5.3
BKSI	**Bulukumba** 46nm,1.2s,404nm0.1nm	**7.66**	**252**	P	**Pn**	**16 02 28.9**	**+0.5**
SPSI	**Sidrap Palu** 46nm,0.6s,0.1nm	**7.71**	**262**	P	**Pn**	**16 02 29.7**	**+0.5**
PCI	**Palu**	**7.86**	**285**	P	Pn	16 02 37.7	+6.5
EDFI	**Ende, Flores** 30nm,0.7s,0.1nm	**8.10**	**225**	P	**Pn**	**16 02 37.3**	**+2.7**
BATI	**Basunta** 2.4nm,0.3s,baz=96,slow=3.1,SNR=5.7	**8.11**	**207**	P	**Pn**	**16 02 37.3**	**+2.7**
MPSI	**Mapaga** 23nm,0.8s,0.1nm	**8.21**	**293**	P	**Pn**	**16 02 38.7**	**+2.6**
MTN	**Manton Dam** baz=10,SNR=13	**10.47**	**160**	P	**Pn**	**16 03 09.2**	**+2.2**
KDU	**Kakadu** baz=11,SNR=19	**10.87**	**153**	P	**Pn**	**16 03 12.9**	**+0.5**
KNRA	**Kununurra** baz=13,SNR=7.0	**12.70**	**174**	P	**Pn**	**16 03 37.3**	**-0.1**
KSM	**Kuching** baz=18,SNR=4.8	**17.68**	**284**	P	**P**	**16 04 44.1**	**+0.9**
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=340,slow=12,SNR=58	**18.17**	**159**	P	**P**	**16 04 47.8**	**-0.8**
CISI	**Cisompet, Garu** baz=20,SNR=5.5	**20.05**	**256**	P	**P**	**16 05 07.8**	**-1.5**
ASAR	**Alice Springs** 7.1nm,0.7s,baz=346,slow=11,SNR=60	**21.51**	**164**	P	**P**	**16 05 23.9**	**-1.0**
ASAR	2.6nm,1.0s,baz=345,slow=22,SNR=10			S	**S**	**16 09 17.7**	**-3.6**
ASAR	0.7nm,0.7s,baz=342,slow=2.3,SNR=8.3			ScP	**ScP**	**16 12 58.2**	**-2.4**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=140,slow=7.1,SNR=3.6	**35.22**	**308**	P	**P**	**16 07 29.9**	**0.0**
KSRS	**Korea Array** 1.0nm,0.9s,baz=181,slow=8.8,SNR=4.2	**40.22**	**1**	P	**P**	**16 08 11.1**	**-0.8**
KSRS	comp=Z,142nm,21.6s,baz=89,slow=38			LR	LR	16 25 54.9	
HHC	**Hu-ho-hao-te**	**45.95**	**343**	*e*P	P	16 09 02.4	+4.0
HHC				S	S	16 15 48.6	+8.2
HHC	comp=Z,12nm,0.9s			pmax	pmax		
HHC	comp=Z,98nm,3.8s			pmax	pmax		
HHC	comp=N,130nm,16.0s			LR	LR		
HHC	comp=E,110nm,14.8s			LR	LR		
HHC				LR	LR		

	comp=Z,160nm,13.6s					
SONM	**Songino Array** comp=Z,0.7nm,0.8s,baz=170,slow=8.8,SNR=2.5	**53.84**	**343**	P	**P**	**16 09 58.3**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=113,slow=9.0,SNR=12	**63.47**	**327**	P	**P**	**16 11 04.8**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.4s,baz=95,slow=10,SNR=2.6	**66.86**	**334**	P	**P**	**16 11 25.7**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.8s,baz=211,slow=0.8,SNR=2.2	**125.44**	**284**	PKP	**PKPdf**	**16 19 35.1**	**-1.8**

IDC 10 16:04:30.5±3.5,1.°98N×96.°53E,h0km,mb3.4/3,mb1 3.6/4, mb1mx3.3/33,mbtmp3.4/4,ML4.1/1,Error ellipse: s-maj=137.8km s-min=27.8km az=58.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=193,slow=12,SNR=4.5	**16.55**	**8**	Pn	Pn	16 08 25.1	+0.9
H08S2	**Diego Garcia H** baz=69,slow=75,SNR=19	**25.81**	**248**	T	T	16 36 51.2	
H08S3	**Diego Garcia H** baz=69,slow=75,SNR=16	**25.82**	**248**	T	T	16 36 57.1	
H08S1	**Diego Carcia H** baz=69,slow=75,SNR=24	**25.83**	**248**	T	T	16 36 58.2	
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=301,slow=9.4,SNR=3.2	**43.01**	**122**	P	P	16 12 32.1	-0.1
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=157,slow=7.8,SNR=3.4	**46.33**	**346**	P	P	16 12 58.0	-0.3
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=156,slow=11,SNR=4.1	**52.69**	**351**	P	P	16 13 46.4	-0.3

*ISCJB **10** 16:17:09.3±0.2,62.°28N±0.°02×150.°14W±0.°05,h70km±5km, mb3.1/1,Error ellipse: s-maj=3.6km s-min=3.1km az=9.8*
*NEIC **10** 16:17:11.1,62.°26N×150.°18W,h56km,ML3.3(AEIC),After AEIC.*
*IDC **10** 16:17:13.4±5.8,62.°58N×150.°25W,h90km±61km,mb2.9/1, mb1 3.4/4,mb1mx2.9/39,mbtmp3.4/4,ML3.4/3,Error ellipse: s-maj=52.1km s-min=44.9km az=2.0*
ISC 10 16:17:10.6±0.9,62.°27N±0.°03×150.°13W±0.°04,h58km±7km, n85,σ0°70/97,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRAP	**Trapper Creek**	**0.08**	**320**	P	**Pn**	**16 17 19.1**	**-0.2**
TRAP				S	**Sn**	**16 17 26.2**	**+0.6**
SKT	**Skwentna**	**0.72**	**246**	P	**Pn**	**16 17 24.5**	**-0.4**
SKT				S	**Sn**	**16 17 35.3**	**-0.2**
HUR	**Hurricane**	**0.74**	**18**	P	**Pn**	**16 17 25.4**	**+0.1**
HUR				S	**Sn**	**16 17 36.6**	**+0.6**
PMR	**Palmer**	**0.83**	**145**	P	**Pn**	**16 17 25.9**	**-0.4**
PMR				S	**Sn**	**16 17 38.6**	**+0.7**
SUA	**Susitna One**	**0.86**	**200**	P	**Pn**	**16 17 26.4**	**-0.5**
FIB	**Fire Island**	**1.11**	**181**	P	**Pn**	**16 17 30.4**	**+0.5**
STLK	**Strandline Lak**	**1.12**	**227**	P	**Pn**	**16 17 29.4**	**-0.8**
RND	**Reindeer**	**1.28**	**27**	P	**Pn**	**16 17 32.3**	**0.0**
RND				S	**Sn**	**16 17 48.2**	**-0.4**
KTH	**Kantishna Hill**	**1.33**	**345**	*e*Pn	**Pn**	**16 17 33.1**	**+0.1**
KTH				*e*Sn	**Sn**	**16 17 50.1**	**+0.3**
SCM	**Sheep Creek Mo**	**1.39**	**107**	P	**Pn**	**16 17 34.5**	**+0.6**
CKN	**Chakachatna No**	**1.44**	**224**	P	**Pn**	**16 17 34.4**	**+0.1**
CAST	**Castle Rocks**	**1.46**	**323**	P	**Pn**	**16 17 34.5**	**-0.2**
CAST				S	**Sn**	**16 17 52.7**	**0.0**
SPBG	**Spurr Blockage**	**1.47**	**227**	P	**Pn**	**16 17 34.7**	**-0.2**
BGL	**Barrier Glacie**	**1.48**	**228**	P	**Pn**	**16 17 34.4**	**-0.6**
CKL	**Chakachamna La**	**1.51**	**225**	P	**Pn**	**16 17 34.9**	**-0.5**
DHY	**Denali Highway**	**1.51**	**56**	P	**Pn**	**16 17 35.4**	**0.0**
DHY				S	**Sn**	**16 17 56.2**	**+2.1**
SLKM	**Skilak Lake**	**1.77**	**181**	P	**Pn**	**16 17 38.7**	**-0.2**
CHUM	**Lake Minchumin**	**1.90**	**329**	P	**Pn**	**16 17 40.5**	**0.0**
BWN	**Browne**	**1.93**	**9**	P	**Pn**	**16 17 41.3**	**+0.3**
GLI	**Glacier Island**	**2.02**	**133**	P	**Pn**	**16 17 42.1**	**-0.1**
JPK	**Jack Peak**	**2.08**	**124**	P	**Pn**	**16 17 43.5**	**+0.4**
DFR	**Drift River**	**2.09**	**217**	P	**Pn**	**16 17 43.8**	**+0.5**
VLZ	**Valdez**	**2.14**	**121**	P	**Pn**	**16 17 43.4**	**-0.5**
KLU	**Klutina**	**2.15**	**110**	P	**Pn**	**16 17 43.8**	**-0.2**
RDN	**Redoubt North**	**2.17**	**217**	P	**Pn**	**16 17 45.4**	**+1.0**
NCT	**North Crescent**	**2.18**	**219**	P	**Pn**	**16 17 45.3**	**+0.8**
PS11	**TAPS Pump St11**	**2.19**	**93**	P	**Pn**	**16 17 46.0**	**+1.4**
RDWB	**Redoubt West**	**2.21**	**217**	P	**Pn**	**16 17 45.6**	**+0.6**
PAX	**Paxson**	**2.27**	**70**	P	**Pn**	**16 17 46.7**	**+1.0**
PS10	**TAPS Pump St10**	**2.31**	**58**	P	**Pn**	**16 17 46.9**	**+0.6**
HARP	**HAARP**	**2.33**	**84**	P	**Pn**	**16 17 46.3**	**-0.1**
DIV	**Divide**	**2.38**	**117**	P	**Pn**	**16 17 46.6**	**-0.6**
WRH	**Wood River Hil**	**2.39**	**22**	P	**Pn**	**16 17 47.3**	**0.0**
DDM	**Donnelly Dome**	**2.47**	**50**	P	**Pn**	**16 17 50.0**	**+1.6**
PS12	**TAPS Pump St12**	**2.50**	**107**	P	**Pn**	**16 17 48.6**	**-0.1**
BRLK	**Bradley Lake**	**2.54**	**189**	P	**Pn**	**16 17 50.3**	**+0.9**
HDA	**Harding Lake**	**2.58**	**32**	P	**Pn**	**16 17 50.1**	**+0.3**
CCB	**Clear Creek Bu**	**2.60**	**23**	P	**Pn**	**16 17 50.0**	**-0.1**
PS08	**TAPS Pump Stn8**	**2.72**	**32**	P	**Pn**	**16 17 52.0**	**+0.2**
MLY	**Manley**	**2.78**	**355**	P	**Pn**	**16 17 52.6**	**-0.1**
TT01	**Tatalina**	**2.80**	**286**	P	**Pn**	**16 17 52.0**	**-0.9**
CNPM	**China Poot**	**2.81**	**192**	P	**Pn**	**16 17 52.6**	**-0.4**
MDM	**Murphy Dome**	**2.83**	**17**	P	**Pn**	**16 17 53.3**	**+0.1**
SVW2	**Sparrevohn**	**2.85**	**248**	P	**Pn**	**16 17 52.8**	**-0.8**
IL1	**Eielson Array**	**2.90**	**29**	P	**Pn**	**16 17 54.1**	**-0.1**
ILAR	**Eielson Array** 15nm,0.3s,baz=211,slow=14,SNR=709	**2.90**	**29**	P	**Pn**	**16 17 53.9**	**-0.4**
ILAR	16nm,0.3s,baz=219,slow=18,SNR=19			S	**Sn**	**16 18 26.4**	**-1.4**
BMRM	**Bremner River**	**2.95**	**114**	P	**Pn**	**16 17 54.3**	**-0.6**

MBIG	**Mexicali**	**0.27**	**10**	*i* P	**Pb**	**16 37 56.5**	**+0.2**
MBIG				*e*S	**Sg**	**16 38 00.1**	**-0.2**
CPBX	**Cerro Prieto**	**0.28**	**351**	*i* P	**Pg**	**16 37 56.6**	**+0.3**
CPBX				*e*S	**Sg**	**16 38 00.5**	**-0.1**
SPIG	**San Pedro Mart**	**1.11**	**189**	*i* P	**Pn**	**16 38 11.4**	**+0.4**
SPIG				*e*S	**Sb**	**16 38 25.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.11**	**189**	*i* P	**Pn**	**16 38 11.4**	**+0.4**
SPIG				*e*S	**Sb**	**16 38 25.3**	**+0.1**
CBX	**Cerro Bola**	**1.21**	**278**	*e*P	**Pn**	**16 38 12.5**	**+0.3**
CBX				*e*S	**Sb**	**16 38 26.0**	**-1.8**
CBX	**Cerro Bola**	**1.21**	**278**	*e*P	**Pn**	**16 38 12.5**	**+0.3**
CBX				*e*S	**Sb**	**16 38 26.0**	**-1.8**
BAR	**Barrett**	**1.31**	**294**	*e*Pn	**Pn**	**16 38 13.7**	**+0.1**
BAR				*e*Sn	**Sn**	**16 38 31.6**	**+1.0**
PFO	**Pinyon Flats O**	**1.77**	**326**	*e*Pn	**Pn**	**16 38 18.8**	**-1.2**
214A	**Organ Pipe Nat**	**2.08**	**95**	*e*Pn	**Pn**	**16 38 22.8**	**-1.3**
214A				*e*Sn	**Sn**	**16 38 49.1**	**-0.5**
LDFC	**Landfair**	**2.93**	**2**	Pn	**Pb**	**16 38 41.5**	**-0.3**
LDFC				*e*Pg	**Pg**	**16 38 47.3**	**+1.0**
LDFC				*e*Sg	**Sg**	**16 39 24.9**	**+0.6**
MWC	**Mount Wilson**	**3.13**	**312**	Pn	**Pg**	**16 38 48.6**	**-1.6**
MWC				*e*Sn	**Sn**	**16 39 18.6**	**+2.8**
ISA	**Isabella, Lake**	**4.41**	**324**	Pn	Pn	16 38 59.6	+3.4
WUAZ	**Wupatki**	**4.66**	**43**	*e*Pn	**Pn**	**16 39 00.9**	**+1.1**
WUAZ				*e*Sg	**Sg**	**16 40 19.1**	**-0.7**
121A	**Cookes Peak, D** 7.2nm,0.3s	**6.33**	**85**	*e*Pn	**Pn**	**16 39 22.5**	**-0.2**

*ISCJB **10** 16:45:24.1±0.8,21°.81N±0'.03×121°.81E±0'.02,h8km±5km, mb3.8/13,MS4.7/2,Error ellipse: s-maj=5.7km s-min=3.4km az=170.7*
*TAP **10** 16:45:25.3,21°.82N×121°.68E,h18km,ML3.9,C*
*JMA **10** 16:45:25.9±0.2,22°.04N×121°.79E,h0km,M3.8*
*IDC **10** 16:45:25.2±0.7,21°.81N×121°.58E,h0km,mb3.7/13, mb1 3.9/14,mb1mx3.7/40,mbtmp3.7/14,ML3.0/1,MS4.7/2, Ms1 4.6/2,ms1mx3.2/41,Error ellipse: s-maj=32.2km s-min=15.5km az=70.0*

ISC 10 16:45:25.3±1.4,21°.89N±0'.04×121°.75E±0'.03,h5km±8km, n87,σ1ᵗ15/101,mb3.8/13,4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=333	**0.24**	**309**	⇓*i*P	**Pb**	**16 45 31.2**	**+1.2**
TSEB	**Hengchuen, Pin** baz=276	**0.79**	**271**	*e*P	**Pb**	**16 45 40.9**	**-0.7**
TSEB				*e*S	**Sb**	**16 45 52.3**	**-0.3**
TWK1	**Hengchun** baz=293	**0.88**	**274**	*e*P	**Pg**	**16 45 41.2**	**-1.0**
TWK1				*e*S	**Sg**	**16 45 52.9**	**-0.7**
TAW	**Tawu** baz=307	**0.92**	**301**	*e*P	**Pg**	**16 45 41.9**	**-1.1**
HEN	**Hengchun** baz=295	**0.95**	**277**	*e*P	**Pg**	**16 45 42.1**	**-1.4**
HEN				*e*S	**Sg**	**16 45 55.4**	**-0.4**
EAST	**Anshuo** baz=306	**0.97**	**301**	⇓P	**Pg**	**16 45 42.6**	**-1.4**
ECL	**Taimali** baz=319	**1.02**	**314**	*e*P	**Pg**	**16 45 43.4**	**-1.5**
TTN	**Taitung** baz=344	**1.03**	**327**	*e*P	**Pg**	**16 45 44.5**	**-0.6**
TWG	**Pinlang** baz=316	**1.12**	**326**	*e*P	**Pg**	**16 45 45.4**	**-1.4**
SCZT	**Fangliau** baz=309	**1.15**	**295**	*e*P	**Pg**	**16 45 45.9**	**-1.5**
CHKT	**Chengkung** baz=347	**1.26**	**344**	⇓*e*P	**Pg**	**16 45 47.5**	**-1.9**
SSD	**Sandimen** baz=323	**1.34**	**310**	*e*P	**Pg**	**16 45 49.4**	**-1.7**
TWP	**Hsiaoliuchiu** baz=310	**1.36**	**290**	*e*P	**Pb**	**16 45 51.7**	**+0.3**
SGLT	**Jiouru** baz=319	**1.43**	**306**	*e*P	**Pb**	**16 45 52.8**	**+0.3**
ELDTW	**Lidau** baz=325	**1.46**	**332**	*e*P	**Pn**	**16 45 50.6**	**-2.0**
TWF1	**Yuli** baz=357	**1.52**	**344**	*e*P	**Pn**	**16 45 51.9**	**-1.3**
TWM1	**Shoushan** baz=320	**1.54**	**307**	*e*P	**Pg**	**16 45 54.6**	**-0.3**
STYT	**Tauyuan** baz=337	**1.57**	**324**	*e*P	**Pn**	**16 45 52.8**	**-1.1**
SGST	**Jiashian** baz=322	**1.60**	**318**	*e*P	**Pn**	**16 45 54.6**	**+0.1**
SGST				*e*S	**Sg**	**16 46 17.6**	**+0.6**
EHY	**Hungye** baz=357	**1.66**	**346**	*e*P	**Pn**	**16 45 54.0**	**-1.2**
WTP	**Ta-pu** baz=326	**1.71**	**322**	*e*P	**Pn**	**16 45 56.0**	**+0.1**
WTP				*e*S	**Sn**	**16 46 18.1**	**-0.2**
CHN1	**Nanshi** baz=322	**1.72**	**319**	*e*P	**Pn**	**16 45 56.3**	**+0.3**
CHN1				*e*S	**Sb**	**16 46 19.8**	**+0.4**
CHN3	**Shinhua** baz=316	**1.74**	**313**	*e*P	**Pn**	**16 45 56.8**	**+0.5**
CHN3				*e*S	**Sg**	**16 46 22.1**	**+0.8**
YUS	**Yu-Shan** baz=329	**1.76**	**335**	*e*P	**Pn**	**16 45 56.3**	**-0.6**
TWK	**Hsinying** baz=323	**1.80**	**320**	*e*P	**Pn**	**16 45 57.6**	**+0.4**
CHN4	**Tsaushan** baz=327	**1.81**	**324**	*e*P	**Pn**	**16 45 57.8**	**+0.7**
CHN4				*e*S	**Sb**	**16 46 22.7**	**+0.8**
ALS	**Alishan** baz=335	**1.83**	**332**	*e*P	**Pn**	**16 45 57.9**	**0.0**
SCLT	**Jiali** baz=315	**1.93**	**312**	*e*P	**Pn**	**16 45 58.8**	**0.0**
ESL	**Shilin** baz=3.0	**1.94**	**351**	*e*P	**Pn**	**16 45 58.0**	**-1.0**
WDT	**Danda** baz=356	**1.94**	**343**	⇓*e*P	**Pn**	**16 45 59.6**	**+0.2**
CHN5	**Tsauling** baz=333	**1.97**	**330**	*e*P	**Pn**	**16 46 00.3**	**+0.8**
CHN5				*e*S	**Sb**	**16 46 27.7**	**+1.1**
CHY	**Chiayi** baz=326	**2.02**	**323**	*e*P	**Pn**	**16 46 00.2**	**+0.2**
WGK	**Gukeng** baz=331	**2.10**	**329**	*e*P	**Pn**	**16 46 02.3**	**+1.1**
SMLT	**Sun Moon Lake** baz=325	**2.13**	**339**	*e*P	**Pn**	**16 46 02.7**	**+0.9**
SMLT				*e*S	**Sn**	**16 46 30.6**	**+1.8**
TYC	**Yuchr** baz=350	**2.17**	**338**	*e*P	**Pn**	**16 46 03.1**	**+1.0**
TWD	**Chiawan** baz=358	**2.19**	**356**	*e*P	**Pn**	**16 46 01.6**	**-0.8**
WNT	**Mingjian** baz=319	**2.21**	**334**	*e*P	**Pb**	**16 46 04.5**	**-1.4**
WNT				*e*S	**Sn**	**16 46 32.4**	**+1.8**
WHF	**Hehuan Shan** baz=351	**2.29**	**349**	*e*P	**Pn**	**16 46 04.2**	**0.0**
WDGT	**Dungji** baz=308	**2.37**	**306**	*e*P	**Pn**	**16 46 03.6**	**-1.2**
WTCT	**Ta-ch'eng** baz=314	**2.39**	**326**	*e*P	**Pn**	**16 46 04.6**	**-0.5**
TWT	**Tachien** baz=357	**2.41**	**347**	*e*P	**Pn**	**16 46 06.1**	**+0.4**
TCU	**Taichung** baz=323	**2.46**	**336**	*e*P	**Pn**	**16 46 07.8**	**+1.6**
ENA	**Nanau** baz=9.0	**2.53**	**360**	*e*P	**Pn**	**16 46 07.1**	**0.0**
NNS	**Nan Shan** baz=3.0	**2.56**	**352**	*e*P	**Pn**	**16 46 09.6**	**+1.9**
TWQ1	**Liyutan** baz=327	**2.61**	**340**	*e*P	**Pn**	**16 46 09.8**	**+1.6**
PNG	**Penghu** baz=312	**2.63**	**310**	*e*P	**Pn**	**16 46 07.2**	**-1.2**
PNG				*e*S	**Sn**	**16 46 36.6**	**-4.1**
NSY	**Sanyi** baz=327	**2.68**	**340**	*e*P	**Pb**	**16 46 11.9**	**-1.8**
TWC	**Suao** baz=13	**2.71**	**2**	*e*P	**Pn**	**16 46 10.3**	**+0.7**
ENTT	**Nioudou** baz=358	**2.74**	**356**	*e*P	**Pn**	**16 46 10.9**	**+0.8**
JYNG	**Yonagunijimaku**	**2.78**	**23**	P	**Pn**	**16 46 11.4**	**+0.9**
JYNG				S	**Sn**	**16 46 44.5**	**0.0**
NSK	**Sanguang** baz=2.0	**2.80**	**353**	*e*P	**Pn**	**16 46 10.5**	**-0.3**
YOJ	**Yonaguni jima**	**2.81**	**24**	P	**Pn**	**16 46 11.7**	**+0.7**
YOJ				S	**Sn**	**16 46 45.8**	**+0.5**
NSTT	**Nanjuang** baz=332	**2.82**	**346**	*e*P	**Pn**	**16 46 12.8**	**+1.7**
NSTT	baz=332			*e*S	**Sb**	**16 46 48.6**	**-2.4**
HATJ	**Hateruma jima**	**2.87**	**41**	P	**Pn**	**16 46 12.4**	**+0.6**
HATJ				S	**Sn**	**16 46 45.9**	**-0.9**
EGS	baz=14	**2.95**	**3**	*e*P	**Pn**	**16 46 14.9**	**+2.1**
IRIF	**Iriomote-Funau**	**3.04**	**36**	P	**Pn**	**16 46 14.8**	**+0.7**
IRIF				S	**Sn**	**16 46 50.0**	**-1.0**
TWA	**Mucha** baz=9.0	**3.08**	**357**	*e*P	**Pn**	**16 46 15.7**	**+1.0**
JIJ	**Ishigaki jima**	**3.30**	**41**	P	**Pn**	**16 46 18.1**	**+0.3**
JIJ				S	**Sn**	**16 46 55.6**	**-1.9**
JISG	**Ishigakijimahi**	**3.57**	**41**	P	**Pn**	**16 46 21.4**	**0.0**
JISG				S	**Sn**	**16 47 03.1**	**-1.0**
JTJ	**Tarama**	**3.86**	**44**	P	**Pn**	**16 46 26.3**	**+0.9**
JTJ				S	**Sn**	**16 47 09.8**	**-1.3**
JIRB	**Irabujima**	**4.30**	**46**	P	**Pn**	**16 46 32.2**	**+0.8**
JIRB				S	**Sn**	**16 47 20.4**	**-1.5**
JIKM	**Ikemajima**	**4.41**	**46**	P	**Pn**	**16 46 33.9**	**+0.9**
JIKM				*e*S	**Sn**	**16 47 23.1**	**-1.7**
JKE	**Kume jima 2**	**6.38**	**45**	P	**Pn**	**16 47 00.4**	**+0.4**
JKE				*e*S	**Sn**	**16 48 10.6**	**-2.7**
KSRS	**Korea Array** 0.1nm,0.3s,baz=200,slow=12,SNR=3.5	**16.41**	**18**	Pn	**Pn**	**16 49 16.9**	**+0.6**
MJAR	**Matsushiro Arr** 1.0nm,0.7s,baz=224,slow=12,SNR=5.0	**20.44**	**41**	P	Pn	16 50 07.7	+1.9
SONM	**Songino Array** 0.6nm,0.8s,baz=161,slow=9.2,SNR=3.1	**28.68**	**338**	P	**P**	**16 51 23.2**	**-0.2**
MKAR	**Makanchi Array** 1.3nm,0.6s,baz=106,slow=9.7,SNR=14	**40.36**	**318**	P	**P**	**16 53 05.6**	**+1.5**
H11N1	**WAKE ISLAND Hy 42.14** baz=282,slow=76,SNR=47	**84**		T	T	17 38 28.1	
H11N2	**WAKE ISLAND Hy 42.14** baz=282,slow=76,SNR=58	**84**		T	T	17 38 27.9	
H11N3	**WAKE ISLAND Hy 42.16** baz=282,slow=76,SNR=36	**84**		T	T	17 38 29.0	
H11S3	**WAKE ISLAND Hy 42.20** baz=283,slow=75,SNR=397	**86**		T	T	17 38 30.5	
H11S1	**WAKE ISLAND Hy 42.21** baz=283,slow=75,SNR=303	**86**		T	T	17 38 32.1	
H11S2	**WAKE ISLAND Hy 42.22** baz=283,slow=75,SNR=303	**86**		T	T	17 38 29.8	
ZALV	**Zalesovo Beam** 2.1nm,0.8s,baz=107,slow=8.7,SNR=8.7	**42.45**	**328**	P	**P**	**16 53 20.8**	**-0.4**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=333,slow=10,SNR=7.5	**43.36**	**163**	P	**P**	**16 53 29.0**	**+0.2**
KURBB	**Kurchatov Arra** 1.0nm,0.5s,baz=117,slow=7.7,SNR=8.0	**44.21**	**321**	P	**P**	**16 53 35.2**	**-0.2**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=342,slow=6.9,SNR=14	**46.80**	**165**	P	**P**	**16 53 56.7**	**+0.5**
CTA	**Charters Tower** comp=Z,1μm,20.0s,baz=80,slow=36	**48.10**	**148**	LR	LR	17 14 08.4	
NWAO	**Narrogin (SRO)** 17nm,1.1s,baz=30,slow=6.3,SNR=4.0	**54.68**	**185**	P	**P**	**16 54 55.0**	**-0.5**
KBZ	**Khabaz** 2.1nm,0.8s,baz=81,slow=2.8,SNR=8.9	**67.33**	**310**	P	**P**	**16 56 22.0**	**+0.6**
FINES	**FINESS Array B** 0.7nm,0.6s,baz=68,slow=7.7,SNR=6.3	**73.68**	**330**	P	**P**	**16 57 00.4**	**+0.4**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=139,slow=4.6,SNR=4.4	**74.96**	**307**	P	**P**	**16 57 08.7**	**+0.7**
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.5s,baz=56,slow=6.2	**80.49**	**332**	P	**P**	**16 57 38.1**	**-0.2**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.7s,baz=62,slow=5.1,SNR=5.2	**80.49**	**332**	P	**P**	**16 57 38.4**	**+0.1**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.8s,baz=316,slow=4.9,SNR=6.1	**84.87**	**23**	P	**P**	**16 58 02.1**	**+1.1**
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=60,slow=3.5,SNR=4.2	**84.94**	**321**	P	**P**	**16 58 02.5**	**+0.7**
MAW	**Mawson** comp=Z,198nm,18.7s,baz=78,slow=34	**99.11**	**199**	LR	LR	17 41 14.0	

*SZGRF **10** 16:54:17.7,20°.86S×176°.15W,h280km, Fiji Islands region*
*MOS **10** 16:54:18.1±0.9,19°.96S×176°.20W,h220km,mb5.5/52, MS4.8/25,Error ellipse: s-maj=7.6km s-min=6.3km az=62.2*
*ISCJB **10** 16:54:19.9±0.7,20°.12S±0'.02×176°.21W±0'.02, h242km±6km,mb5.5/303,Error ellipse: s-maj=3.7km s-min=2.3km az=145.8*
*IDC **10** 16:54:23.7±0.4,20°.11S×176°.15W,h267km±3km,mb5.0/30, mb1 5.1/31,mb1mx5.0/36,mbtmp5.5/31,Error ellipse: s-maj=8.3km s-min=7.0km az=141.0*
*BJI **10** 16:54:23.4,19°.78S×176°.03W,h272km,mB5.5/56, mb5.2/67*
*GCMT **10** 16:54:24.2±0.1,20°.12S×175°.74W,h278km,MW5.9/130, Moment Tensor Solution. s130,c251; s128,c399; Duration: 2s2 Moment tensor: Scale 10¹⁷Nm; Mrr=0.14±.06; Mθθ=1.72±.07; Mφφ=1.59±.07; Mrθ=1.79±.07; Mθφ=2.55±.06; Mφr=9.06±.06; Best double couple: M=9.71100×10¹⁷ NP1:φs13.00000°,δ90.00000°, λ108.00000°. NP2:φs103.00000°,δ18.00000°,λ1.00000°. Principal axes: T 9.4310, Plg42.0000°, Azm300.0000°; N 0.5530, Plg18.0000°, Azm193.0000°; P -9.9910, Plg42.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **10** 16:54:24.2±0.1,20°.11S×176°.22W,mb5.5/191,MW5.9, MW6.0 Error ellipse: s-maj=4.0km s-min=2.5km az=146.0 Best double couple: NP1:φs128.00000°,δ20.00000°, λ28.00000°. NP2:φs12.00000°,δ81.00000°,λ108.00000°. Principal axes: T 1.0300, Plg50.0000°, Azm301.0000°; N 0.1400, Plg17.0000°, Azm188.0000°; P -1.1700, Plg33.0000°, Azm86.0000°;*
*NEIC **10** 16:54:41.3±0.0,20°.01S×175°.65W,h290km,Moment Tensor Solution. s126 Moment tensor: Scale 10¹⁷Nm; Mrr1.77; Mθθ1.72; Mφφ-3.49; Mrθ1.51; Mθφ1.73; Mφr8.19; Best double couple: M=9.00000×10¹⁷ NP1:φs124.00000°, δ18.00000°,λ24.00000°. NP2:φs11.00000°,δ83.00000°, λ106.00000°. Principal axes: T 8.4800, Plg49.0000°, Azm299.0000°; N 1.0000, Plg16.0000°, Azm188.0000°; P -9.4900, Plg35.0000°, Azm86.0000°;*

ISC 10 16:54:24.1±0.2,20°.19S±0'.03×176°.15W±0'.04, h273km±1km,h273km:pP-P,n1824,σ1ᵗ06/2188,mb5.5/301, 441C-386D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.51**	**34**	*e*P	Pn	16 56 03.7	-7.9
AFI	**Afiamalu**	**7.51**	**34**	*e*Pn	Pn	16 56 03.7	-7.9
RAO	**Raoul Island**	**9.16**	**190**	P	**Pn**	**16 56 29.7**	**-2.2**
RAO				S	**S**	**16 58 11.6**	**-4.1**
RAO	comp=Z,518nm,0.3s			pmax	pmax		
RAO	**Raoul Island** comp=Z,518nm,0.3s,baz=94,slow=19,SNR=11	**9.16**	**190**	P	**Pn**	**16 56 29.7**	**-2.2**
RAO	comp=Z,2μm,0.3s,baz=256,slow=24,SNR=21			S	**S**	**16 58 11.6**	**-4.1**
RAO	**Raoul Island** comp=Z,1μm,0.3s	**9.16**	**190**	*e*Pn	**Pn**	**16 56 29.5**	**-2.4**
RAO				*e*S	**S**	**16 58 13.2**	**-2.6**
RAR	**Rarotonga**	**15.36**	**97**	*e*P	**P**	**16 57 45.2**	**-1.4**
RAR	comp=Z,2μm,1.5s			pmax	pmax		
RAR	**Rarotonga** comp=Z,2μm,1.5s	**15.36**	**97**	*e*P	**P**	**16 57 45.2**	**-1.4**
DZM	**Mont Dzumac** comp=Z,2μm,0.8s	**16.35**	**260**	*e*P	**Pn**	**16 58 00.6**	**+1.1**
DZM	**Mont Dzumac** comp=Z,86nm,0.3s,baz=85,slow=16,SNR=275	**16.35**	**260**	P	**Pn**	**16 58 00.5**	**+1.0**
NFK	**Norfolk Island** baz=17,SNR=18	**16.93**	**236**	P	**Pn**	**16 58 07.8**	**+1.7**
NFK	baz=17,SNR=7.5			S	S	17 01 19.5	+13
OUZ	**Omahuta**	**17.49**	**209**	PN	**Pn**	**16 58 12.2**	**-0.5**
OUZ	**Omahuta** comp=Z,48nm,0.8s	**17.49**	**209**	*e*P	**Pn**	**16 58 12.1**	**-0.6**
WCZ	**Waipu Caves**	**17.78**	**206**	PN	**Pn**	**16 58 15.4**	**-0.6**
KNTN	**Kanton** comp=Z,314nm,0.6s	**17.84**	**15**	*e*Pn	**P**	**16 58 12.4**	**-1.4**
KUZ	**Kuaotunu**	**17.97**	**202**	PN	**Pn**	**16 58 17.1**	**-1.1**
MXZ	**Matakaoa Point**	**17.97**	**194**	PN	**P**	**16 58 15.3**	**+0.4**
MXZ				*e*SN	**S**	**17 01 19.9**	**-6.7**
WMGZ	**Waiomatatini S**	**18.19**	**194**	SN	**S**	**17 01 27.8**	**-3.2**
MYRZ	**Mayor Island**	**18.28**	**200**	PN	**Pn**	**16 58 21.3**	**-0.4**
HAZ	**Te Kaha**	**18.28**	**195**	PN	**P**	**16 58 17.3**	**-1.0**
HAZ				SN	**S**	**17 01 29.8**	**-3.0**
ETAZ	**East Tamaki Re**	**18.43**	**203**	PN	**Pn**	**16 58 22.1**	**-1.4**
MKAZ	**Moumakai**	**18.49**	**202**	PN	**Pn**	**16 58 22.4**	**-1.7**
WTAZ	**Waiatarua**	**18.55**	**204**	PN	**P**	**16 58 22.9**	**+1.8**
KBAZ	**Karaka Road Bo**	**18.57**	**203**	PN	**Pn**	**16 58 23.5**	**-1.7**
TWGZ	**Tauwhareparae**	**18.64**	**195**	SN	**S**	**17 01 37.5**	**-2.3**
OPRZ	**Ohinepanea**	**18.70**	**198**	PN	**P**	**16 58 23.0**	**+0.3**
MWZ	**Matawai**	**18.90**	**196**	*e*PN	**P**	**16 58 23.9**	**-1.0**
MWZ				SN	**S**	**17 01 42.9**	**-2.0**
TKGZ	**Te Karaka**	**18.92**	**195**	PN	**P**	**16 58 23.9**	**-1.2**
TOZ	**Tahuroa Road**	**18.93**	**201**	PN	**P**	**16 58 27.1**	**+1.9**
URZ	**Urewera** comp=Z,77nm,0.3s,baz=33,slow=2.2,SNR=158	**18.93**	**197**	P	**P**	**16 58 24.8**	**-0.4**
URZ				S	**S**	**17 01 47.0**	**+1.6**
URZ	**Urewera** comp=Z,31nm,0.3s,baz=116,slow=21,SNR=11	**18.93**	**197**	PN	**P**	**16 58 23.1**	**-2.1**
URZ				*e*SN	**S**	**17 01 41.3**	**-4.2**
URZ	**Urewera** comp=Z,504nm,0.7s	**18.93**	**197**	*e*P	**P**	**16 58 24.0**	**-1.2**
URZ				S	**S**	**17 01 47.0**	**+1.6**
KARZ	**Kaharoa**	**18.96**	**199**	PN	**P**	**16 58 26.3**	**+0.8**
OMRZ	**Omania**	**19.00**	**198**	*e*PN	**P**	**16 58 27.1**	**+1.1**
RIGZ	**Rimuhau**	**19.19**	**195**	*e*SN	**S**	**17 01 47.2**	**-3.3**
SNGZ	**Shannon Statio**	**19.36**	**196**	PN	**P**	**16 58 28.6**	**-1.3**
PRGZ	**Paritu Road**	**19.37**	**194**	*e*PN	**P**	**16 58 31.9**	**+2.0**
WPRZ	**Whakapapatarin**	**19.44**	**198**	PN	**P**	**16 58 31.5**	**+0.8**
TLZ	**Tolley Road**	**19.46**	**200**	PN	**P**	**16 58 31.5**	**+0.6**
RAHZ	**Arahi**	**19.56**	**196**	PN	**P**	**16 58 30.9**	**-1.1**
MHGZ	**Mahia Peninsul**	**19.58**	**194**	PN	**P**	**16 58 32.9**	**+0.7**
WHHZ	**Waihua**	**19.67**	**195**	PN	**P**	**16 58 32.7**	**-0.4**
NMHZ	**Naumai**	**19.80**	**196**	PN	**P**	**16 58 33.5**	**-1.0**
HATZ	**Hinemaiaia**	**19.81**	**198**	PN	**P**	**16 58 34.0**	**-0.6**
HIZ	**Hauiti**	**19.85**	**201**	PN	**P**	**16 58 36.6**	**+1.6**
RATZ	**Rangitukua**	**19.88**	**199**	PN	**P**	**16 58 35.1**	**-0.3**
ARHZ	**Aropaoanui**	**19.91**	**196**	PN	**P**	**16 58 34.5**	**-1.1**
BKZ	**Black Stump Fm**	**19.95**	**197**	PN	**P**	**16 58 33.7**	**-2.4**
BKZ				SN	**S**	**17 02 02.9**	**-2.2**
BKZ	**Black Stump Fm** comp=Z,169nm,0.5s	**19.95**	**197**	*e*P	**P**	**16 58 34.2**	**-1.9**
MCHZ	**McNeill Hill**	**20.16**	**199**	PN	**P**	**16 58 36.4**	**-1.8**
TUVZ	**Tukino**	**20.29**	**199**	*e*PN	**P**	**16 58 38.3**	**-1.4**
FWVZ	**Far West T-bar**	**20.30**	**199**	PN	**P**	**16 58 38.5**	**-1.5**
TRVZ	**Turoa**	**20.35**	**199**	PN	**P**	**16 58 38.7**	**-1.7**
WNVZ	**Wahianoa**	**20.36**	**199**	PN	**P**	**16 58 37.9**	**-2.6**
BHHZ	**Black Hill Sta**	**20.37**	**198**	PN	**P**	**16 58 38.5**	**-2.0**
VRZ	**Vera Road**	**20.44**	**201**	PN	**P**	**16 58 41.5**	**+0.3**
KAHZ	**Kahuranaki**	**20.44**	**196**	PN	**P**	**16 58 40.8**	**-0.5**
MTVZ	**Mangateitei**	**20.45**	**199**	PN	**P**	**16 58 40.6**	**-0.8**
PXZ	**Pawanui**	**20.67**	**195**	PN	**P**	**16 58 42.5**	**-1.1**
PREZ	**Palmer Road**	**20.83**	**202**	PN	**P**	**16 58 47.4**	**+2.1**
LREZ	**Lake Rotokare**	**20.86**	**201**	PN	**P**	**16 58 45.8**	**+0.3**
PRHZ	**Porangahau**	**20.95**	**196**	PN	**P**	**16 58 47.1**	**+0.7**
ANWZ	**Angora Road**	**21.17**	**196**	*e*PN	**P**	**16 58 49.0**	**+0.5**
ANWZ				SN	**S**	**17 02 31.2**	**+5.9**
PRWZ	**Pori Road**	**21.39**	**197**	PN	**P**	**16 58 50.5**	**-0.1**
BFZ	**Birch Farm**	**21.43**	**196**	*e*PN	**P**	**16 58 50.6**	**-0.4**
BFZ				SN	**S**	**17 02 29.6**	**0.0**
BFZ	**Birch Farm** comp=Z,222nm,0.7s	**21.43**	**196**	*e*P	**P**	**16 58 49.4**	**-1.6**
MRZ	**Mangatainoka R**	**21.60**	**197**	*e*PN	**P**	**16 58 50.1**	**-2.4**
MRZ				SN	**S**	**17 02 32.7**	**+0.4**
TIWZ	**Tintock**	**21.62**	**197**	PN	**P**	**16 58 52.4**	**-0.3**
CPWZ	**Castlepoint**	**21.66**	**196**	SN	S	17 02 41.3	+8.0
HOWZ	**Holdsworth Sta**	**21.83**	**197**	PN	**P**	**16 58 53.8**	**-0.9**
OGWZ	**Otaki Gorge**	**21.86**	**198**	PN	**P**	**16 58 53.2**	**-1.6**
KIW	**Kapiti Island**	**21.97**	**198**	SN	**S**	**17 02 44.4**	**+6.0**
MTW	**Mount Morrison**	**22.08**	**197**	PN	**P**	**16 58 56.3**	**-0.5**
CAW	**Cannon Point**	**22.16**	**198**	PN	**P**	**16 58 56.6**	**-1.0**
WEL	**Wellington**	**22.41**	**198**	PN	**P**	**16 58 59.7**	**-0.1**
SNZO	**South Karori** comp=Z,215nm,0.6s	**22.45**	**198**	*e*P	**P**	**16 59 00.3**	**+0.2**
TCW	**Tory Channel**	**22.49**	**199**	*e*PN	**P**	**16 58 60.0**	**-0.5**
PLWZ	**Palliser**	**22.53**	**197**	*e*PN	**P**	**16 59 01.0**	**0.0**
QRZ	**Quartz Range**	**22.73**	**203**	PN	**P**	**16 59 03.5**	**+0.7**
NNZ	**Nelson**	**22.78**	**201**	PN	**P**	**16 59 02.1**	**-1.1**
TUWZ	**Tuamarina**	**22.79**	**200**	PN	**P**	**16 59 02.6**	**-0.6**
THZ	**Tophouse**	**23.43**	**201**	PN	**P**	**16 59 08.9**	**-0.3**
THZ				SN	**S**	**17 03 01.2**	**-0.6**
DSZ	**Denniston Nort**	**23.80**	**203**	PN	**P**	**16 59 12.6**	**+0.1**
KHZ	**Kahutara**	**23.81**	**199**	PN	**P**	**16 59 12.8**	**+0.3**
KHZ	**Kahutara** comp=Z,227nm,0.9s	**23.81**	**199**	*e*P	**P**	**16 59 12.9**	**+0.4**
TARA	**Tarawa** comp=Z,1μm,1.1s	**23.94**	**332**	*e*P	**P**	**16 59 11.3**	**-2.8**
LTZ	**Lake Taylor**	**24.55**	**201**	PN	**P**	**16 59 18.7**	**-0.6**
LHI	**Lord Howe Isla** baz=25,SNR=15	**24.94**	**238**	P	**P**	**16 59 24.5**	**+1.6**
TBI	**Tubuai** comp=Z,556nm,1.4s	**24.97**	**102**	⇓*i*P	**P**	**16 59 22.6**	**-0.7**
TBI	comp=Z,955nm,1.4s			*e*pP	pP	17 00 07.2	-6.4
TBI	comp=Z,160nm,1.2s			*e*ScP	**ScP**	**17 06 06.5**	**+3.0**
OXZ	**Oxford**	**25.11**	**201**	PN	**P**	**16 59 23.6**	**-0.7**
CRLZ	**Canterbury Las**	**25.14**	**199**	PN	**P**	**16 59 25.3**	**+0.8**
PAE	**Paea** comp=Z,89nm,1.2s	**25.25**	**89**	⇓*i*P	**P**	**16 59 24.5**	**-1.3**
PAE	comp=Z,116nm,1.6s			*e*pP	pP	17 00 09.2	-7.4
MQZ	**McQueen's Vall**	**25.25**	**199**	PN	**P**	**16 59 26.3**	**+0.8**
PPT2	**Papeete2** comp=Z,502nm,1.3s	**25.26**	**89**	⇓*i*P	**P**	**16 59 25.0**	**-1.1**
PPT2	comp=Z,500nm,1.4s			*e*pP	pP	17 00 09.7	-7.2
PPT2	comp=Z,105nm,1.4s			*e*ScP	**ScP**	**17 06 07.9**	**+3.4**
PPT	**Papeete** comp=Z,222nm,0.6s,baz=266,slow=1.3,SNR=47	**25.27**	**89**	P	**P**	**16 59 25.1**	**-1.0**
WVZ	**Waitaha Valley**	**25.34**	**203**	PN	**P**	**16 59 25.4**	**-1.0**
WVZ				SN	S	17 03 43.1	+11

baz=31,SNR=10.0
ARMA Armidale 30.77 244 *e*P **P** **17 00 15.1 +0.4**
comp=Z,95nm,0.6s
MGCD Mangrove Creek 31.86 239 P **P** **17 00 25.4 +1.3**
baz=32,SNR=278
RMQ Roma 32.76 252 P **P** **17 00 33.1 +1.2**
baz=33,SNR=189
KWAJ Kwajalein Atol 32.94 329 *e*P **P** **17 00 31.7 -1.9**
KWAJ pmax pmax
comp=Z,284nm,0.9s
KWAJ Kwajalein Atol 32.94 329 *e*P **P** **17 00 31.7 -1.9**
comp=Z,284nm,0.9s
CNB Canberra Magne 33.84 236 P **P** **17 00 42.2 +0.9**
baz=34,SNR=276
CAN Canberra 34.13 236 *e*P **P** **17 00 44.4 +0.7**
CAN pmax pmax
comp=Z,330nm,1.1s
CAN MLR MLR
comp=Z,2µm,21.0s
CAN Canberra 34.13 236 *e*P **P** **17 00 44.4 +0.7**
comp=Z,330nm,1.1s
CAN LR LR
comp=Z,2µm,21.0s
YNG Young 34.32 238 P **P** **17 00 46.1 +0.7**
baz=34,SNR=20
MILA Mila 34.55 233 P **P** **17 00 47.9 +0.6**
baz=35,SNR=31
CTA Charters Tower 35.25 264 P **P** **17 00 54.0 +0.6**
CTA Charters Tower 35.25 264 P **P** **17 00 54.0 +0.6**
comp=Z,561nm,0.5s,baz=92,slow=11,SNR=748
CTA ScP **ScP** **17 06 40.4 +3.3**
comp=Z,22nm,1.0s,baz=88,slow=3.0,SNR=11
CTAO Charters Tower 35.25 264 *e*P **P** **17 00 53.8 +0.4**
CTAO pmax pmax
comp=Z,657nm,0.5s
CTAO MLR MLR
comp=Z,2µm,21.0s
CTAO Charters Tower 35.25 264 *e*P **P** **17 00 53.8 +0.4**
comp=Z,657nm,0.5s
CTAO LR LR
comp=Z,2µm,21.0s
CMSA Cobar Meteorol 35.98 244 P **P** **17 00 59.8 +0.3**
baz=36,SNR=159
QLP Quilpie 36.81 252 P **P** **17 01 06.3 -0.2**
baz=37,SNR=154
PMG Port Moresby 36.98 281 *c i*P **P** **17 01 08.3 +0.3**
PMG pmax pmax
comp=Z,691nm,1.2s
PMG Port Moresby 36.98 281 P **P** **17 01 08.5 +0.5**
baz=37,SNR=77
PMG Port Moresby 36.98 281 *e*P **P** **17 01 08.0 0.0**
comp=Z,250nm,1.2s
PMG LR LR
comp=Z,2µm,19.0s
TOO Toolangi 37.48 234 P **P** **17 01 12.4 +0.4**
baz=38,SNR=191
MOO Moorlands 37.96 226 P **P** **17 01 16.1 +0.2**
baz=38,SNR=7.1
TAU Tasmania Unive 38.07 225 *e*P **P** **17 01 16.8 +0.1**
TAU pmax pmax
comp=Z,56nm,0.7s
TAU Tasmania Unive 38.07 225 *e*P **P** **17 01 16.8 +0.1**
comp=Z,56nm,0.7s
RKT Rikitea 38.29 102 ⇓ *i*P **P** **17 01 18.6 -0.3**
RKT *e*pP pP 17 02 08.0 -6.0
comp=Z,92nm,1.4s
MCQ Macquarie Isla 39.13 203 P P 17 01 29.3 +3.9
baz=39,SNR=3.2
COEN Coen 39.30 272 P **P** **17 01 27.9 +0.6**
baz=39,SNR=322
COEN Coen 39.30 272 *e*P **P** **17 01 27.7 +0.4**
comp=Z,48nm,0.7s
QIS Mount Isa 41.38 262 P **P** **17 01 43.8 -0.6**
baz=41,SNR=56
QIS S S 17 07 28.5 -10
baz=41,SNR=4.7
WAKE Wake Island 42.70 336 *e*P **P** **17 01 53.6 -1.1**
comp=Z,563nm,1.1s
H11N3 WAKE ISLAND Hy 42.99 336 P **P** **17 01 57.0 +0.1**
baz=176,slow=10,SNR=6.5
H11N1 WAKE ISLAND Hy 43.00 336 P **P** **17 01 56.7 -0.2**
baz=176,slow=10,SNR=5.5
H11N2 WAKE ISLAND Hy 43.01 336 P **P** **17 01 57.0 0.0**
baz=176,slow=10,SNR=3.3
MMPI Merauke 43.57 279 P **P** **17 02 02.1 +0.3**
comp=Z,795nm,0.9s,comp=Z,27µm
BBOO Buckleboo 44.24 243 P **P** **17 02 06.5 -0.5**
baz=44,SNR=122
BBOO Buckleboo 44.24 243 *e*P **P** **17 02 06.5 -0.5**
comp=Z,15nm,1.1s
KIP Kipapa 45.00 24 ⇑ *i*P **P** **17 02 12.6 -0.3**
KIP pmax pmax
comp=Z,78nm,1.3s
KIP Kipapa 45.00 24 *e*P **P** **17 02 12.3 -0.6**
comp=Z,43nm,0.6s
JAY Jayapura 45.60 287 P **P** **17 02 19.0 +1.1**
comp=Z,3µm,0.6s,comp=Z,29µm
JAY Jayapura 45.60 287 P **P** **17 02 18.5 +0.6**
comp=Z,2µm,0.6s,baz=153,slow=3.4,SNR=978
GENI Genyem 46.05 287 P **P** **17 02 22.1 +0.7**
comp=Z,3µm,0.7s,comp=Z,39µmcomp=Z,16µm
AS31 Alice Springs 46.28 256 *e*P **P** **17 02 22.8 -0.3**
ASAR Alice Springs 46.28 256 P **P** **17 02 22.9 -0.2**
comp=Z,194nm,0.6s,baz=99,slow=7.9,SNR=1778
ASAR pP **pP** **17 03 20.4 +0.2**
comp=Z,94nm,1.1s,baz=88,slow=8.5,SNR=1.9
ASAR PcP **PcP** **17 03 54.2 +0.6**
comp=Z,35nm,0.6s,baz=102,slow=3.9,SNR=7.3
ASAR ScP **ScP** **17 07 23.2 +2.6**
comp=Z,9.9nm,1.0s,baz=124,slow=4.6,SNR=4.9
ASAR S **S** **17 08 50.0 +1.0**
comp=Z,6.7nm,0.8s,baz=92,slow=17,SNR=8.3
ASAR PKP2ab 17 34 42.8
comp=Z,1.1nm,1.2s,baz=204,slow=2.7,SNR=4.1
WB2 Warramunga Arr 46.35 261 *e*P **P** **17 02 22.9 -0.8**
WRAB Tennant Creek 46.36 261 *c i*P **P** **17 02 23.0 -0.7**
WRAB pmax pmax
comp=Z,536nm,1.4s
WRAB Tennant Creek 46.36 261 *e*P **P** **17 02 22.8 -0.9**
comp=Z,1µm,1.8s
WRAB LR LR
comp=Z,2µm,19.0s
WRA Warramunga Arr 46.36 261 P **P** **17 02 22.6 -1.2**
comp=Z,144nm,0.6s,baz=97,slow=8.9,SNR=987
WRA ScP **ScP** **17 07 24.0 +2.9**
comp=Z,6.0nm,1.0s,baz=92,slow=4.6,SNR=4.5
WRA S **S** **17 08 50.0 -0.3**
comp=Z,5.0nm,0.9s,baz=96,slow=14,SNR=4.9
SMPI Sarmi 47.62 286 P **P** **17 02 32.9 -0.6**
comp=Z,650nm,0.9s,comp=Z,9µm
KDU Kakadu 49.68 270 P **P** **17 02 48.5 -0.6**
baz=50,SNR=172
MTN Manton Dam 50.90 270 P **P** **17 02 57.4 -0.8**
baz=51,SNR=113
MTN S **S** **17 09 55.3 +1.9**
baz=51,SNR=6.4
GUMO Guam 50.96 308 *e*P **P** **17 02 57.1 -1.4**
GUMO pmax pmax
comp=Z,373nm,1.8s
GUMO MLR MLR
comp=Z,83nm,20.0s
GUMO Guam 50.96 308 *e*P **P** **17 02 57.1 -1.4**
comp=Z,373nm,1.8s
GUMO LR LR
comp=Z,83nm,20.0s
FORT Forrest 51.01 246 P **P** **17 02 58.1 -0.7**
baz=51,SNR=218
FORT Forrest 51.01 246 *e*P **P** **17 02 58.1 -0.7**
comp=Z,296nm,0.5s
WRKA Warakurna 51.22 254 P **P** **17 02 59.9 -0.6**
baz=51,SNR=572
WRKA S **S** **17 09 56.0 -1.8**
baz=51,SNR=7.1
RKPI Ransiki, Papua 51.93 285 P **P** **17 03 08.2 +2.4**
comp=Z,281nm,1.9s,comp=Z,8µm
SAUI Saumlaki 52.19 276 P **P** **17 03 08.6 +0.9**
comp=Z,522nm,1.1s,comp=Z,8µm
KNRA Kununurra 52.41 265 P **P** **17 03 09.0 -0.3**
baz=52,SNR=367
KNRA S **S** **17 10 13.6 -0.5**
baz=52,SNR=4.7
FAKI Fak Fak 53.13 282 P **P** **17 03 13.5 -1.1**
comp=Z,199nm,1.3s,comp=Z,5µm
FAKI Fak Fak 53.13 282 P **P** **17 03 14.0 -0.5**
baz=53,SNR=23
FAKI S **S** **17 10 23.2 -0.6**
baz=53,SNR=10.0
FAKI Fak Fak 53.13 282 *e*P **P** **17 03 13.1 -1.5**
comp=Z,919nm,2.1s
DRV Dumont d'Urvil 54.23 200 P P 17 03 09.0 -13
DRV S S 17 10 17.0 -20
DRV SS **SS** **17 14 22.0 -0.8**
DRV R 17 18 00.0
BNDI Bandanaira 54.69 279 P **P** **17 03 26.2 +0.4**
comp=Z,700nm,0.7s,comp=Z,13µm
MSAI Masohi 56.03 280 P **P** **17 03 36.8 +1.5**
comp=Z,84nm,0.7s,comp=Z,795nm
KMBL Kambalda 56.27 245 P **P** **17 03 36.2 -0.6**
baz=56,SNR=18
NLAI Namlea 57.76 279 P **P** **17 03 47.8 +0.4**
comp=Z,306nm,1.7s,comp=Z,4µmcomp=Z,4µm
SOEI Soe 58.23 271 P **P** **17 03 51.3 +0.5**
comp=Z,843nm,1.2s,comp=Z,10µm
SOEI Soe 58.23 271 P **P** **17 03 52.1 +1.3**
baz=58,SNR=176
SOEI Soe 58.23 271 *e*P **P** **17 03 50.4 -0.4**
comp=Z,613nm,0.8s
SBA Scott Base 58.30 184 *e*P **P** **17 03 52.1 +2.0**
SBA pmax pmax
comp=Z,112nm,0.9s
SBA Scott Base 58.30 184 *e*P **P** **17 03 52.1 +2.0**
comp=Z,112nm,0.9s
VNDA Vanda 58.38 185 *e*P **P** **17 03 53.7 +3.0**
VNDA Vanda 58.38 185 P **P** **17 03 52.8 +2.1**
comp=Z,44nm,0.8s,baz=3.2,slow=7.1,SNR=151
VNDA Vanda 58.38 185 *e*P **P** **17 03 53.7 +3.0**
LBMI Labuha 58.38 282 P **P** **17 03 51.7 0.0**
comp=Z,372nm,1.0s,comp=Z,4µm
BATI Baumata 58.66 270 P **P** **17 03 55.6 +1.9**
comp=Z,189nm,0.9s,comp=Z,3µm
BATI Baumata 58.66 270 P **P** **17 03 54.9 +1.2**
comp=Z,234nm,0.7s,baz=194,slow=1.2,SNR=113
TNTI Ternate 59.07 284 P **P** **17 03 56.4 0.0**
comp=Z,550nm,1.6s,comp=Z,9µm
TNTI Ternate 59.07 284 *e*P **P** **17 03 56.5 0.0**
comp=Z,437nm,1.0s
SANI Sanana 59.23 280 P **P** **17 03 56.6 -1.0**
comp=Z,291nm,0.8s,comp=Z,4µm
MEEK Meekatharra 59.66 250 P **P** **17 03 59.4 -0.9**
baz=60,SNR=62
NWAO Narrogin (SRO) 60.06 243 P **P** **17 04 02.8 -0.2**
comp=Z,55nm,0.6s,baz=121,slow=6.3,SNR=80
NWAO Narrogin (SRO) 60.06 243 P **P** **17 04 02.2 -0.7**
baz=60,SNR=5.3
NWAO Narrogin (SRO) 60.06 243 P **P** **17 04 02.8 -0.2**
NWAO LR LR
comp=Z,1.0nm,19.0s
RKGY Rocky Gully 60.12 241 P **P** **17 04 03.5 +0.2**
baz=60,SNR=14
BLDU Ballidu 60.77 246 P **P** **17 04 07.2 -0.5**
baz=61,SNR=187
EDFI Ende, Flores 60.96 271 P **P** **17 04 08.6 -0.7**
comp=Z,302nm,0.9s,comp=Z,4µm
MORW Morawa 61.55 247 P **P** **17 04 12.4 -0.6**
baz=62,SNR=20
BASI Baing, Sumba 61.56 269 P **P** **17 04 14.1 +0.9**
comp=Z,864nm,1.4s,comp=Z,11µm
SGSI Sangihe 61.94 286 P **P** **17 04 18.3 +2.5**
comp=Z,383nm,0.8s
CBIJ Chichi jima 61.96 318 P **P** **17 04 14.9 -0.6**
JCJ Chichijima 61.96 318 P **P** **17 04 14.9 -0.6**
comp=Z,105nm,0.7s,baz=287,slow=19,SNR=4.5
WSI Waingapu 61.98 270 P **P** **17 04 16.1 +0.1**
comp=Z,2µm,0.6s,comp=Z,17µm
WSI Waingapu 61.98 270 P **P** **17 04 16.5 +0.5**
baz=62,SNR=28
KMSI Cibinong 62.09 282 P **P** **17 04 16.7 -0.1**
comp=Z,442nm,1.3s,comp=Z,5µm
H01W1 Cape Leeuwin H 62.40 240 P **P** **17 04 20.1 +1.8**
baz=116,slow=7.6,SNR=12
H01W2 Cape Leeuwin H 62.42 240 P **P** **17 04 19.9 +1.6**
baz=116,slow=7.6,SNR=6.1
H01W3 Cape Leeuwin H 62.42 240 P **P** **17 04 20.2 +1.8**
baz=116,slow=7.6,SNR=6.9
LUWI Luwuk 62.59 280 P **P** **17 04 20.4 +0.4**
comp=Z,311nm,1.8s,comp=Z,6µm
LUWI Luwuk 62.59 280 P **P** **17 04 20.5 +0.4**
baz=63,SNR=32
LUWI Luwuk 62.59 280 *e*P **P** **17 04 20.5 +0.4**
comp=Z,1µm,1.7s
WBSI Waikabubak, Su 62.84 269 P **P** **17 04 21.5 -0.3**
comp=Z,336nm,1.4s,comp=Z,6µm
BSSI Bau Bau, Buton 62.92 273 P **P** **17 04 23.4 +1.2**
comp=Z,345nm,1.0s,comp=Z,5µm
DAV Davao City (W) 63.37 289 P **P** **17 04 25.8 +0.7**
SNR=8.8
DAV Davao City (W) 63.37 289 *e*P **P** **17 04 24.9 -0.2**
DAV LR LR
comp=Z,716nm,19.0s
BKSI Bulukumba 63.54 274 P **P** **17 04 25.4 -0.9**
comp=Z,95nm,0.9s,comp=Z,2µm
APSI Ampana 63.62 279 P **P** **17 04 27.9 +0.7**
comp=Z,377nm,1.0s,comp=Z,5µm
BNSI Bone 63.87 275 P **P** **17 04 28.2 -0.2**
comp=Z,274nm,1.2s,comp=Z,3µm
MRSI Marisa 63.93 281 P **P** **17 04 28.3 -0.5**
comp=Z,127nm,0.7s,comp=Z,2µm
KAPI Kappang 63.99 274 P **P** **17 04 29.3 +0.1**
SNR=20
KAPI Kappang 63.99 274 *e*P **P** **17 04 29.0 -0.2**
comp=Z,18nm,1.0s
KAPI LR LR
comp=Z,634nm,20.0s
GIRL Giralia 64.31 254 P **P** **17 04 32.4 +1.3**
baz=64,SNR=26
SPSI Sidrap Palu 64.33 275 P **P** **17 04 30.3 -1.1**
comp=Z,110nm,0.9s,comp=Z,2µm
TTSI Tana Toraja 64.61 276 P **P** **17 04 33.3 +0.1**
comp=Z,82nm,0.7s,comp=Z,1µm
CASY Casey 64.99 205 *e*P **P** **17 04 36.2 +1.5**
comp=Z,2µm,2.9s
CASY LR LR
comp=Z,868nm,19.0s
PCI Palu 65.36 279 P **P** **17 04 39.4 +1.3**
comp=Z,535nm,1.5s,comp=Z,7µm
MPSI Mapaga 65.77 280 P **P** **17 04 40.1 -0.5**
comp=Z,219nm,0.8s,comp=Z,3µm
DNP Denpasar 67.07 269 P **P** **17 04 49.1 +0.3**
comp=Z,767nm,0.8s,comp=Z,13µm
SRBI Singaraja 67.25 270 P **P** **17 04 49.2 -0.8**
comp=Z,386nm,0.9s,comp=Z,5µm
KBKI Kotabaru 67.93 275 P **P** **17 04 54.7 +0.5**
comp=Z,113nm,1.9s,comp=Z,3µm
JAGI Jajag, Banyuwa 68.12 269 P **P** **17 04 53.9 -1.5**
JAGI Jajag, Banyuwa 68.12 269 P **P** **17 04 54.0 -1.5**
baz=68,SNR=84
JAGI Jajag, Banyuwa 68.12 269 *e*P **P** **17 04 54.0 -1.5**
comp=Z,220nm,0.6s
ABJI Asem Bagus 68.26 269 P **P** **17 04 56.0 -0.3**
comp=Z,326nm,1.0s,comp=Z,5µm
KMMI Kalianget 68.75 270 P **P** **17 04 59.6 +0.3**
comp=Z,314nm,1.0s,comp=Z,5µm
GMJI Gumukmas 68.85 269 P **P** **17 04 59.1 -0.8**
comp=Z,296nm,0.8s,comp=Z,3µm
BLJI Banyuglugur 68.88 269 P **P** **17 04 59.6 -0.5**
comp=Z,447nm,0.8s,comp=Z,5µm
BBKI Banjar Baru 69.12 274 P **P** **17 05 02.1 +0.5**
comp=Z,406nm,1.7s,comp=Z,6µm
TSM Tawau 69.16 283 ⇓P **P** **17 05 01.7 0.0**
QSPA South Pole Qui 69.88 180 *e*P **P** **17 05 07.1 +1.7**
comp=Z,162nm,1.0s
MTKI Muara Teweh, K 69.95 277 P **P** **17 05 06.9 +0.3**
comp=Z,228nm,0.9s,comp=Z,4µm
GRJI Gresik 70.19 270 P **P** **17 05 08.3 +0.2**
comp=Z,286nm,0.8s,comp=Z,3µm
SDKM Sandakan 70.31 284 ⇓P **P** **17 05 08.8 -0.1**
BWJI Bawean 70.37 271 P P 17 05 14.6 +5.4
PWJI Pagerwojo 70.47 268 P **P** **17 05 09.3 -0.5**
comp=Z,352nm,0.8s,comp=Z,4µm
TGY Taytay City 70.62 294 P **P** **17 05 09.8 -0.8**
comp=Z,120nm,0.7s,baz=12,slow=9.4,SNR=6.5
TBJI Tambak Boyo 70.81 270 P **P** **17 05 12.2 +0.4**
comp=Z,692nm,0.8s,comp=Z,8µm
PCJI Pacitan 71.00 268 P **P** **17 05 13.0 0.0**
comp=Z,2µm,0.7s,comp=Z,16µm
MJAR Matsushiro Arr 71.01 322 P **P** **17 05 11.7 -0.8**
comp=Z,54nm,0.8s,baz=158,slow=6.3,SNR=226
MJAR pP **pP** **17 06 14.1 -0.9**
comp=Z,10nm,0.9s,baz=154,slow=6.1,SNR=2.3
MAJO Matsushiro 71.01 322 *e*P **P** **17 05 12.0 -0.5**
MAJO pmax pmax
comp=Z,71nm,0.8s
MAJO MLR MLR
comp=Z,487nm,19.0s
MAJO Matsushiro 71.01 322 *e*P **P** **17 05 12.0 -0.5**
comp=Z,71nm,0.8s
MAJO LR LR
comp=Z,487nm,19.0s
MAT Matsushiro 71.01 322 P **P** **17 05 11.8 -0.7**
MAT S **S** **17 14 03.0 -2.9**
JOW Kunigami 71.31 309 P **P** **17 05 13.6 -0.9**
baz=143,slow=8.7
WOJI Wonogiri, Jawa 71.36 268 P **P** **17 05 15.0 -0.1**
comp=Z,625nm,1.2s,comp=Z,8µm
UGM Wanagama 71.71 268 P **P** **17 05 17.0 -0.2**
comp=Z,556nm,0.6s,comp=Z,5µm
UGM Wanagama 71.71 268 P **P** **17 05 17.0 -0.2**
baz=72,SNR=92
UGM Wanagama 71.71 268 *e*P **P** **17 05 17.1 -0.1**
comp=Z,380nm,0.6s
ADK Adak 71.76 360 *e*P **P** **17 05 16.4 -0.2**
ADK Adak 71.76 360 *e*P **P** **17 05 16.4 -0.2**
BCPH Baguio City Da 71.98 296 ⇑ *i*P **P** **17 05 17.5 -1.4**
PBKI Pangkalan Bun 72.35 274 P **P** **17 05 21.8 +0.8**
comp=Z,819nm,0.9s,comp=Z,8µm
ERM Erimo 72.43 329 ⇓ *i*P **P** **17 05 21.8 +1.1**
ERM pmax pmax
comp=Z,51nm,1.2s
ERM Erimo 72.43 329 *e*P **P** **17 05 21.2 +0.5**
comp=Z,84nm,1.4s
YUK Yuzh-Kuril'sk 72.77 332 *c i*P P 17 05 15.3 -7.4
YUK *i* PPP PPP 17 09 53.6
YUK *i* S **S** **17 14 21.7 -3.7**
YUK *i* 17 15 14.0
JNU Nakatsue 73.26 316 P **P** **17 05 25.1 -0.8**
comp=Z,53nm,0.9s,baz=95,slow=1.7,SNR=21
JNU Nakatsue 73.26 316 *e*P **P** **17 05 25.6 -0.3**
comp=Z,179nm,2.0s
KPJI Karang Pucung 73.39 268 P **P** **17 05 26.7 -0.3**
comp=Z,285nm,0.7s,comp=Z,3µm
STKI Sintang 73.50 276 P **P** **17 05 28.3 +0.6**
comp=Z,193nm,1.4s,comp=Z,4µm
SBUM Sibu 73.67 279 *e*P **P** **17 05 29.3 +0.6**
comp=Z,67nm,0.9s
CMJI Cimerak 73.70 268 P **P** **17 05 28.0 -0.8**
YOJ Yonaguni jima 73.99 304 *e*P **P** **17 05 29.8 -0.4**
YOJ pmax pmax
comp=Z,84nm,0.8s
YOJ Yonaguni jima 73.99 304 *e*P **P** **17 05 29.8 -0.4**
comp=Z,84nm,0.8s
UNV Unalaska Valle 74.20 6 *e*P **P** **17 05 30.0 -0.7**
ASAJ Asahikawa 74.30 330 P **P** **17 05 32.7 +1.1**
ASAJ pmax pmax
comp=Z,49nm,0.8s
ASAJ Asahikawa 74.30 330 P **P** **17 05 32.7 +1.1**
comp=Z,49nm,0.8s,baz=216,slow=7.1,SNR=35
CISI Cisompet, Garu 74.36 268 P **P** **17 05 31.8 -1.0**
CISI Cisompet, Garu 74.36 268 P **P** **17 05 31.7 -1.0**
baz=74,SNR=21
CISI Cisompet, Garu 74.36 268 *e*P **P** **17 05 31.7 -1.0**
comp=Z,346nm,1.0s
SKR Severo-Kuril's 74.68 342 *e*P P 17 05 27.5 -6.1
SKR *e* 17 05 44.0
SKR *e* 17 14 42.0
SKR *e*PS **SKSac** **17 15 17.0 +1.8**
SKR *e* 17 15 30.0
SKR pmax pmax
comp=Z,90nm,0.7s
SKR pmax pmax
comp=Z,2µm,8.0s
SKR pmax pmax
comp=N,3µm,16.0s
SKR pmax pmax
comp=E,3µm,16.0s
SKR MLR MLR
comp=Z,2µm,18.0s
TWG Pinlang 74.69 302 *e*P **P** **17 05 32.0 -2.3**
comp=Z,579nm,0.6s
H06E1 SOCORRO T-PHAS 74.74 63 P **P** **17 05 34.7 0.0**
SNR=11
LEM Lembang 74.78 268 P **P** **17 05 35.4 +0.1**
comp=Z,782nm,1.2s,comp=Z,9µm
LEM Lembang 74.78 268 P **P** **17 05 35.7 +0.4**
comp=Z,335nm,0.7s,baz=59,slow=3.0,SNR=126
LEM Lembang 74.78 268 P **P** **17 05 35.5 +0.1**
baz=75,SNR=51
YULB Yu-li 74.79 302 *e*P **P** **17 05 32.5 -2.4**
comp=Z,52nm,0.7s
NACB Ninganchiao 74.95 303 *e*P **P** **17 05 34.8 -1.0**
comp=Z,156nm,0.8s
NACB *e*pP **pP** **17 06 39.9 +0.8**
CNJI Cibinong 75.09 268 P **P** **17 05 36.3 -0.5**
comp=Z,351nm,1.3s,comp=Z,4µm
KSM Kuching 75.09 277 P **P** **17 05 37.2 +0.3**
baz=75,SNR=135
KSM Kuching 75.09 277 *e*P **P** **17 05 37.1 +0.3**
comp=Z,190nm,0.7s
KSM LR LR
comp=Z,284nm,19.0s
SSLB Suanglung 75.26 303 *e*P **P** **17 05 35.5 -2.1**
comp=Z,62nm,0.8s
TPUB Ta-pu 75.28 302 *e*P **P** **17 05 36.1 -1.6**
comp=Z,176nm,0.6s
TPUB *e*pP **pP** **17 06 40.9 -0.1**
YHNB Yeheng 75.37 304 *e*P **P** **17 05 37.1 -1.1**
comp=Z,100nm,0.9s
YHNB *e*pP **pP** **17 06 41.8 +0.2**
YHNB LR LR
comp=Z,444nm,20.0s
TATO Taipei 75.44 304 *e*P **P** **17 05 37.5 -1.0**
comp=Z,751nm,1.7s
XMIS Christmas Isla 75.47 264 *e*P **P** **17 05 38.5 -0.5**
comp=Z,126nm,0.9s
XMIS *e*pP **pP** **17 06 43.0 +0.7**
CBJI Citeko 75.64 268 P **P** **17 05 38.8 -1.1**
comp=Z,1µm,0.8s,comp=Z,14µm
KSBUS Busan 75.72 316 P **P** **17 05 40.9 +1.1**
SNR=5.5
SKJI Sukabumi 75.72 268 P **P** **17 05 40.0 -0.4**
comp=Z,623nm,0.7s,comp=Z,5µm
PET Petropavlovsk 76.11 345 *e*P **P** **17 05 40.0 -1.7**
PET *e*S **S** **17 15 01.0 -1.1**
PET *e*SS **SS** **17 20 07.6 +5.2**
PET pmax pmax
comp=Z,800nm,4.6s
PET pmax pmax
comp=Z,500nm,12.3s
PET MLR MLR
comp=Z,400nm,19.0s
PET MLR MLR
comp=Z,700nm,20.0s
BSC Santa Cruz Isl 76.14 46 ⇓P **P** **17 05 43.0 +0.6**
baz=76,SNR=12
BSC ⇓pP **pP** **17 06 47.0 +1.2**
baz=76
SCI San Clemente I 76.28 47 ⇑P **P** **17 05 43.6 +0.5**
baz=76
SBC Santa Barbara 76.34 45 ⇑P **P** **17 05 43.5 +0.1**
baz=76
SBC ⇓pP **pP** **17 06 49.1 +2.2**
baz=76
YSS Yuzh-Sakhalins 76.41 332 *α i*P **P** **17 05 43.7 +0.2**
YSS *e* 17 05 56.0
YSS *e*S **S** **17 15 06.0 +0.4**
YSS *e* 17 15 26.0
YSS *e**SS x 17 15 58.0
YSS pmax pmax
comp=Z,230nm,1.2s
YSS Yuzh-Sakhalins 76.41 332 *e*P **P** **17 05 43.4 -0.1**
comp=Z,191nm,1.1s
SBJI Serang 76.41 268 P **P** **17 05 44.3 0.0**
comp=Z,496nm,1.6s,comp=Z,7µm
PETK Petropavlovsk- 76.43 344 P **P** **17 05 43.2 -0.3**
comp=Z,86nm,0.9s,baz=142,slow=8.3,SNR=64
SAO San Andreas Ge 76.62 42 *e*P **P** **17 05 45.8 +0.9**
SAO pmax pmax
comp=Z,14nm,0.9s
SAO San Andreas Ge 76.62 42 *e*P **P** **17 05 45.8 +0.9**
comp=Z,14nm,0.9s
CIS Catalina Islan 76.63 47 ⇑P **P** **17 05 45.4 +0.3**
baz=77,SNR=6.2
CGJI Cibinong 76.66 268 P **P** **17 05 44.7 -1.0**
SMMC Simmler 76.67 44 ⇓P **P** **17 05 46.3 +1.0**
baz=77,SNR=5.3
FMP Fort Macarthur 76.88 46 ⇑P **P** **17 05 47.2 +0.8**
baz=77
OSI Osito Audit: C 77.11 45 ⇓P **P** **17 05 49.0 +1.2**
baz=77
OSI ⇓pP **pP** **17 06 52.7 +1.3**
baz=77
OSI Osito Audit: C 77.11 45 *e*P **P** **17 05 48.1 +0.3**
comp=Z,304nm,1.8s

OSI *e*pP **pP** 17 06 51.3 -0.1
DECC Green Verdugo 77.16 46 ⇓P **P** 17 05 48.6 +0.6
baz=77
PASC Pasadena Art C 77.21 46 *e*P **P** 17 05 48.0 -0.3
comp=Z,22nm,0.7s
PASC *e*pP **pP** 17 06 51.6 -0.4
109C Camp Elliot, M 77.22 48 ⇑P **P** 17 05 49.0 +0.7
baz=77
MWC Mount Wilson 77.33 46 *e*P **P** 17 05 49.3 +0.1
MWC pmax pmax
comp=Z,38nm,0.7s
MWC Mount Wilson 77.33 46 *e*P **P** 17 05 49.2 +0.1
comp=Z,38nm,0.7s
ARVC Arvin 77.34 45 ⇑P **P** 17 05 49.8 +0.8
baz=78,SNR=7.8
ARVC ⇑pP **pP** 17 06 54.9 +2.3
baz=78
BAR Barrett 77.41 48 *e*P **P** 17 05 50.0 +0.6
comp=Z,8.1nm,1.0s
KMRM Mail Ridge 77.42 38 *e*P **P** 17 05 50.5 +1.0
comp=Z,130nm,0.8s
BLSI Bandar Lampung 77.49 269 P **P** 17 05 49.6 -0.7
KSJMJ Jumunjin 77.55 318 P **P** 17 05 51.6 +1.5
SNR=5.7
MURC Murrieta 77.56 47 ⇑P **P** 17 05 50.8 +0.6
baz=78,SNR=11
VES Vestal, Richgr 77.59 44 ⇓P **P** 17 05 50.8 +0.5
baz=78,SNR=23
VES ⇓pP **pP** 17 06 54.7 +0.7
baz=78
BFSC Mount Baldy Ra 77.61 46 ⇓P **P** 17 05 50.9 +0.3
baz=78,SNR=12
BFSC ⇓pP **pP** 17 06 53.9 -0.5
baz=78
MONP Monument Peak, 77.70 48 ⇓P **P** 17 05 51.8 +0.5
baz=78,SNR=14
MONP ⇑pP **pP** 17 06 55.9 +0.9
baz=78
QZH Quanzhou 77.70 302 ⇑*i*P **P** 17 05 51.8 +0.6
QZH pP **pP** 17 06 55.2 +0.3
QZH sP **sP** 17 07 25.5 +1.7
QZH S S 17 15 13.0 -7.4
QZH PMZ
comp=Z,150nm,0.7s
QZH PMZ
comp=Z,2μm,3.4s
QZH LZ
comp=Z,2μm,20.2s
EDW2 Edwards Air Fo 77.75 46 ⇓P **P** 17 05 52.1 +0.7
baz=78,SNR=37
LPIG La Paz 77.76 59 P **P** 17 05 51.7 +0.2
comp=Z,19nm,0.4s,baz=16,slow=5.0,SNR=7.3
RCTC Rector, Farmer 77.76 44 ⇑P **P** 17 05 51.8 +0.6
baz=78
KSRS Korea Array 77.82 318 P **P** 17 05 52.3 +0.8
KSRS pmax pmax
comp=Z,14nm,0.8s
KSRS Korea Array 77.82 318 P **P** 17 05 52.2 +0.8
comp=Z,14nm,0.8s,baz=124,slow=6.0,SNR=56
KHMM Horse Mountain 77.83 38 *e*P **P** 17 05 52.3 +0.6
comp=Z,30nm,0.8s
KSAR Wonju Array Be 77.83 318 P **P** 17 05 52.3 +0.7
KSAR Wonju Array Be 77.83 318 P **P** 17 05 52.2 +0.7
ISA Isabella, Lake 77.89 45 *e*P **P** 17 05 52.4 +0.4
ISA pmax pmax
comp=Z,420nm,2.0s
ISA Isabella, Lake 77.89 45 ⇓P **P** 17 05 53.0 +0.9
baz=78,SNR=48
ISA ⇑pP **pP** 17 06 57.0 +1.2
baz=78
ISA Isabella, Lake 77.89 45 *e*P **P** 17 05 52.4 +0.4
comp=Z,420nm,2.0s
KSSKC Sokcho 77.95 319 P **P** 17 05 53.9 +1.7
SNR=5.3
KLI Kotabumi 78.02 269 P **P** 17 05 52.9 -0.3
comp=Z,172nm,0.9s,comp=Z,3μm
KSIJA INJE 78.02 318 P **P** 17 05 53.8 +1.2
SNR=6.2
CMB Columbia Colle 78.06 42 *e*P **P** 17 05 52.9 -0.1
CMB pmax pmax
comp=Z,32nm,0.8s
CMB Columbia Colle 78.06 42 *e*P **P** 17 05 52.9 -0.1
comp=Z,32nm,0.8s
PFO Pinyon Flats O 78.08 47 *e*P **P** 17 05 53.1 -0.1
PFO Pinyon Flats O 78.08 47 P **P** 17 05 52.7 -0.5
comp=Z,11nm,0.8s,baz=237,slow=4.9,SNR=17
PFO Pinyon Flats O 78.08 47 ⇓P **P** 17 05 53.7 +0.4
baz=78,SNR=5.1
PFO ⇑pP **pP** 17 06 58.0 +1.0
baz=78
PFO Pinyon Flats O 78.08 47 *e*P **P** 17 05 53.1 -0.1
BBRC Big Bear Solar 78.13 47 ⇓P **P** 17 05 54.0 +0.4
baz=78
BBRC ⇓pP **pP** 17 06 58.3 +0.9
baz=78
KASI Kota Agung 78.14 268 P **P** 17 05 52.8 -1.1
SWSC Sam W. Stewart 78.17 48 ⇑P **P** 17 05 54.2 +0.6
baz=78,SNR=7.1
LRMC Laurel Mtn Rad 78.30 45 ⇓P **P** 17 05 55.4 +1.0
baz=78
KSSWO Suwon 78.31 317 P **P** 17 05 55.7 +1.5
SNR=5.9
WDC Whiskeytown Da 78.34 39 *e*P **P** 17 05 54.7 +0.4
WDC pmax pmax
comp=Z,172nm,1.6s
WDC Whiskeytown Da 78.34 39 *e*P **P** 17 05 54.7 +0.4
comp=Z,172nm,1.6s
RRX Edison Barstow 78.42 46 ⇑P **P** 17 05 55.7 +0.7
baz=79
KSCWO Cheorwon 78.45 318 P **P** 17 05 56.7 +1.7
SNR=7.7
N02D Trinity Center 78.49 38 ⇓P **P** 17 05 56.3 +1.1
baz=79,SNR=17
N02D ⇓pP **pP** 17 07 01.0 +1.9
baz=79
BELC Belle Mtn. Jos 78.61 47 ⇑P **P** 17 05 57.1 +0.9
baz=79,SNR=29
BELC ⇓pP **pP** 17 07 01.5 +1.5
baz=79
KSDDC Dongducheon 78.63 318 P **P** 17 05 57.3 +1.3
SNR=5.4
INCN Inchon 78.66 317 P **P** 17 05 57.5 +1.4
SNR=6.7
INCN Inchon 78.66 317 *e*P **P** 17 05 56.8 +0.6
comp=Z,161nm,1.4s
INCN LR LR
comp=Z,323nm,20.0s
M02C Callahan 78.67 38 ⇑P **P** 17 05 57.5 +1.3
baz=79,SNR=16
M02C ⇓pP **pP** 17 07 02.6 +2.5
baz=79
LWLI Liwa 78.72 269 P **P** 17 05 56.3 -0.9
L02D Cave Junction, 78.74 37 ⇑P **P** 17 05 57.7 +1.2
baz=79
L02D ⇓pP **pP** 17 07 02.3 +2.0
baz=79
MPMC Manual Prospec 78.77 45 ⇑P **P** 17 05 57.7 +0.7
baz=79,SNR=54
MPMC ⇓pP **pP** 17 07 02.4 +1.5
baz=79
MDSI Maura Dua 78.78 269 P **P** 17 05 55.7 -1.7
GSC Goldstone, Bar 78.79 46 *e*P **P** 17 05 57.2 +0.2
GSC pmax pmax
comp=Z,248nm,1.9s
GSC Goldstone, Bar 78.79 46 ⇑P **P** 17 05 57.5 +0.5
baz=79,SNR=33
GSC ⇓pP **pP** 17 07 01.2 +0.3
baz=79
GSC Goldstone, Bar 78.79 46 *e*P **P** 17 05 57.2 +0.2
comp=Z,248nm,1.9s
KEBM Edson Butte 78.80 36 *e*P **P** 17 05 57.3 +0.5
comp=Z,333nm,1.8s
BC3 Big Chuckawall 78.80 48 ⇑P **P** 17 05 57.8 +0.7
baz=79,SNR=24
BC3 ⇑pP **pP** 17 07 02.6 +1.5
baz=79
MLAC Mammoth, Mammo 78.80 43 ⇑P **P** 17 05 57.9 +0.6
baz=79
MLAC ⇓pP **pP** 17 07 02.3 +1.2
baz=79
MTUM Tungsten Hills 78.81 43 *e*P **P** 17 05 57.9 +0.6
KSMUS Musan 78.82 317 P **P** 17 05 58.0 +1.0
SNR=7.6
DAC Darwin (Calif) 78.82 45 *e*P **P** 17 05 57.6 +0.3
DAC pmax pmax
comp=Z,31nm,0.9s
DAC Darwin (Calif) 78.82 45 *e*P **P** 17 05 57.5 +0.3
comp=Z,31nm,0.9s
SSE Sheshan 78.83 309 ⇑P **P** 17 05 56.7 -0.5
SSE pP **pP** 17 07 01.1 0.0
SSE sP **sP** 17 07 30.3 +0.4
SSE S **S** 17 15 32.6 +0.4
SSE sS **sS** 17 17 25.4 +0.7
SSE PMZ
comp=Z,27nm,0.8s
SSE PMZ
comp=Z,530nm,6.9s
SSE LN
comp=Z,510nm,23.6s
SSE LE
comp=Z,190nm,23.5s
SSE LZ
comp=Z,250nm,22.7s
HEC Hector,Ludlow 78.85 46 ⇑P **P** 17 05 57.6 +0.3
baz=79,SNR=31
HEC ⇑pP **pP** 17 07 01.8 +0.6
baz=79
TIN Tinemaha, Big 78.86 44 ⇓P **P** 17 05 58.3 +0.9
baz=79,SNR=6.5
KSGAH Ganghwa 78.91 317 P **P** 17 05 58.2 +0.7
SNR=7.3
GLA Glamis 78.91 49 *e*P **P** 17 05 56.9 -0.8
GLA pmax pmax
comp=Z,109nm,1.3s
GLA Glamis 78.91 49 ⇑P **P** 17 05 58.3 +0.6
baz=79,SNR=12
GLA Glamis 78.91 49 *e*P **P** 17 05 56.9 -0.8
comp=Z,109nm,1.3s
GLA *e*pP **pP** 17 07 01.2 -0.3
WAKR Walker 78.94 42 *e*P **P** 17 05 58.3 +0.4
YBH Yreka Blue Hor 78.97 38 *e*P **P** 17 05 58.7 +0.8
YBH pmax pmax
comp=Z,37nm,0.8s
YBH Yreka Blue Hor 78.97 38 *e*P **P** 17 05 58.7 +0.8
comp=Z,37nm,0.8s
VLA Vladivostok 79.04 324 *c i*P **P** 17 05 58.2 +0.2
VLA 17 06 05.6
VLA 17 09 00.5
VLA *e* 17 06 58.7 +0.8
VLA *e*S **S** 17 15 32.4 -1.5
VLA pmax pmax
comp=Z,54nm,1.1s
GMRC Granite Mounta 79.28 47 ⇓P **P** 17 06 00.4 +0.7
baz=80,SNR=35
GMRC ⇓pP **pP** 17 07 04.2 +0.5
baz=80
IRM Iron Mountain 79.29 48 ⇓P **P** 17 06 00.4 +0.8
baz=80,SNR=37
IRM ⇓pP **pP** 17 07 04.5 +0.9
baz=80
GRAC Grapevine Rang 79.39 44 ⇑P **P** 17 06 01.1 +0.9
baz=80,SNR=8.1
GRAC ⇑pP **pP** 17 07 05.7 +1.6
baz=80
HUMO Hull Mountain 79.39 37 *e*P **P** 17 06 00.7 +0.7
comp=Z,130nm,1.8s
FURC Furnace Creek, 79.42 45 ⇑P **P** 17 06 00.8 +0.6
baz=80,SNR=7.0
FURC ⇓pP **pP** 17 07 04.9 +0.7
baz=80
OHAK Old Harbor 79.46 12 *e*P **P** 17 06 00.1 +0.2
comp=Z,51nm,0.8s
TUQ Turquoise Moun 79.46 46 ⇓P **P** 17 06 01.2 +0.5
baz=80,SNR=29
TUQ ⇑pP **pP** 17 07 05.8 +1.1
baz=80
SHOC Shoshone, Teco 79.48 46 ⇑P **P** 17 06 01.3 +0.7
baz=80
SHOC ⇓pP **pP** 17 07 05.3 +0.6
baz=80
Y12C Blythe 79.50 48 ⇑P **P** 17 06 01.5 +0.7
baz=80,SNR=14
Y12C ⇓pP **pP** 17 07 05.0 +0.2
baz=80
M04C Macdoel 79.51 38 ⇓P **P** 17 06 01.7 +0.9
baz=80,SNR=11
M04C ⇓pP **pP** 17 07 06.1 +1.3
baz=80
113A Mohawk Valley, 79.51 49 ⇓P **P** 17 06 01.3 +0.5
baz=80,SNR=16
113A ⇑pP **pP** 17 07 06.0 +1.2
baz=80
NVAR Mina Array Bea 79.61 43 P **P** 17 06 01.8 +0.3
comp=Z,31nm,0.6s,baz=224,slow=8.3,SNR=346
NVAR pP **pP** 17 07 04.3 -1.3
comp=Z,37nm,1.0s,baz=227,slow=9.2,SNR=7.2
NVAR PKKPbc **PKKPbc** 17 24 52.1 +3.0
comp=Z,0.7nm,0.6s,baz=74,slow=3.5,SNR=5.7
NVAR PKPPKP **P'P'df** 17 32 56.0 +4.9
comp=Z,0.5nm,0.8s,baz=72,slow=4.8,SNR=5.1
LHSI Lahat 79.62 270 P **P** 17 06 01.2 -0.7
USRK Ussuriysk Ar. 79.70 325 P **P** 17 06 02.7 +1.2
comp=Z,12nm,0.6s,baz=113,slow=4.4,SNR=58
NV11 Mina Array Sit 79.71 43 P **P** 17 06 01.9 -0.1
BBOR Butler Butte 79.73 37 P **P** 17 06 02.2 +0.2
214A Organ Pipe Nat 79.77 51 ⇓P **P** 17 06 03.0 +0.7
baz=80,SNR=12
214A ⇓pP **pP** 17 07 07.1 +0.7
baz=80
214A Organ Pipe Nat 79.77 51 *e*P **P** 17 06 02.6 +0.2
comp=Z,134nm,1.6s
214A *e*pP **pP** 17 07 05.6 -0.8
LDFC Landfair 79.82 47 *e*P **P** 17 06 02.7 +0.1
comp=Z,700nm,1.8s
I03D Drain, OR 79.88 36 ⇓P **P** 17 06 03.4 +0.9
baz=80,SNR=7.4
I03D ⇓pP **pP** 17 07 07.8 +1.2
baz=80
MNAI Manna 79.97 269 P **P** 17 06 04.4 +0.6
baz=80,SNR=8.3
MNAI Manna 79.97 269 *e*P **P** 17 06 02.8 -1.0
NEE2 Needles Airpor 79.99 47 ⇓P **P** 17 06 04.2 +0.9
baz=80
NEE2 ⇓pP **pP** 17 07 08.3 +0.8
baz=80
PDMCI Parker Dam,Lak 80.07 48 ⇓pP pP 17 07 08.7 +0.8
baz=80
K04D Chiloquin, OR 80.09 38 ⇓P **P** 17 06 04.4 +0.5
baz=80,SNR=5.6
K04D ⇓pP **pP** 17 07 09.5 +1.6
baz=80
TPNV Topopah Spring 80.09 45 *e*P **P** 17 06 04.4 +0.3
TPNV pmax pmax
comp=Z,34nm,0.8s
TPNV Topopah Spring 80.09 45 ⇑P **P** 17 06 04.7 +0.6
baz=80,SNR=8.7
TPNV ⇓pP **pP** 17 07 09.5 +1.3
baz=80
TPNV Topopah Spring 80.09 45 *e*P **P** 17 06 04.4 +0.3
comp=Z,34nm,0.8s
TPH Tonopah 80.10 43 *e*P **P** 17 06 04.5 +0.3
TPH pmax pmax
comp=Z,172nm,1.8s
TPH Tonopah 80.10 43 *e*P **P** 17 06 04.5 +0.3
comp=Z,172nm,1.8s
KDAK Kodiak Island 80.12 13 *ce*P **P** 17 06 04.4 +0.9
KDAK Kodiak Island 80.12 13 *e*P **P** 17 06 04.8 +1.4
comp=Z,44nm,0.7s
KDAK LR LR
comp=Z,338nm,19.0s
JMBI JAMBI 80.25 272 P **P** 17 06 06.9 +1.7
comp=Z,1μm,0.9s,comp=Z,12μm
J04D Umpqua Nationa 80.28 37 ⇑P **P** 17 06 05.6 +0.7
baz=80,SNR=23
J04D ⇑pP **pP** 17 07 10.5 +1.4
baz=80
TPRI Tanjung Pinang 80.30 275 P **P** 17 06 06.2 +0.7
comp=Z,137nm,1.3s,comp=Z,6μm
Z14A Wintersburg 80.41 49 ⇓P **P** 17 06 06.6 +1.0
baz=81,SNR=18
Z14A ⇑pP **pP** 17 07 11.1 +1.3
baz=81
I04A Tendick Farm, 80.46 36 ⇑P **P** 17 06 06.4 +0.7
baz=81,SNR=10
I04A ⇓pP **pP** 17 07 11.5 +1.6
baz=81
MOD Modoc Plateau 80.48 39 *e*P **P** 17 06 06.0 0.0
comp=Z,49nm,0.8s
SHPR Sheep Range 80.57 46 *e*P **P** 17 06 07.0 +0.4
K05A Summer Lake 80.64 38 *e*P **P** 17 06 06.8 -0.1
comp=Z,74nm,0.8s
Y14A Wickenburg 80.67 49 ⇑P **P** 17 06 07.9 +0.8
baz=81,SNR=20
Y14A ⇓pP **pP** 17 07 11.9 +0.6
baz=81
W13A Hualapai Mount 80.67 47 ⇓P **P** 17 06 07.9 +0.7
baz=81
W13A ⇑pP **pP** 17 07 11.9 +0.4
baz=81
J05D Fort Rock, OR 80.80 37 ⇑P **P** 17 06 08.4 +0.7
baz=81,SNR=66
J05D ⇓pP **pP** 17 07 13.3 +1.4
baz=81
G03D McMinnville, O 80.91 35 ⇓P **P** 17 06 08.6 +0.6
baz=81
G03D ⇑pP **pP** 17 07 12.9 +0.7
baz=81
NJ2 Nanjing 81.03 309 *e*P **P** 17 06 09.8 +0.9
NJ2 pP **pP** 17 07 14.8 +1.6
NJ2 sP **sP** 17 07 43.0 +1.1
NJ2 S **S** 17 15 56.5 +1.5
NJ2 sS **sS** 17 17 47.5 -0.7
NJ2 SS **SS** 17 21 16.5 -0.3
NJ2 PMZ
comp=Z,190nm,0.8s
NJ2 PMZ
comp=Z,2μm,8.4s
NJ2 LN
comp=Z,3μm,28.0s
NJ2 LE
comp=Z,1μm,27.3s
NJ2 LZ
comp=Z,5μm,25.7s
HABR Khabarovsk 81.05 330 *d iP* **P** 17 06 07.5 -1.1
HABR *e* 17 09 15.5
HABR PPP PPP 17 11 08.2
HABR *e*S **S** 17 15 53.2 -1.3
HABR *e*S x 17 17 11.1
HABR *e**SS **sS** 17 17 45.5 -2.1
HABR *e*SS **SS** 17 21 14.0 -2.4
HABR *e*SSS SSS 17 24 43.2
HABR pmax pmax
comp=N,45nm,1.9s
HABR pmax pmax
comp=E,27nm,1.3s
HABR pmax pmax
comp=Z,213nm,1.3s
HABR pmax pmax
comp=Z,1μm,3.3s
GZH Guangzhou 81.09 299 P **P** 17 06 10.6 +1.2
GZH PP **PP** 17 09 15.8 -3.1
GZH S S 17 16 03.0 +7.0
GZH SS **SS** 17 21 12.4 -5.6
GZH LN
comp=Z,580nm,18.6s
GZH LE
comp=Z,800nm,19.8s
H04A Detroit Lake 81.15 36 P **P** 17 06 09.3 0.0
BTDF Bukit Timah Da 81.16 275 P **P** 17 06 10.6 +0.5
baz=81,SNR=22
MYKOM Kota Tinggi 81.24 275 *e*P **P** 17 06 10.7 +0.2
comp=Z,106nm,0.8s
MDJ Mudanjiang 81.27 324 P **P** 17 06 10.9 +1.0
MDJ pP **pP** 17 07 16.0 +1.8
MDJ sP **sP** 17 07 43.7 +0.7
MDJ S **SKSac** 17 16 03.3 +0.7
MDJ sS **sS** 17 17 50.2 -0.1
MDJ PMZ
comp=Z,100nm,1.1s
MDJ PMZ
comp=Z,880nm,4.8s
MDJ Mudanjiang 81.27 324 *e*P **P** 17 06 10.5 +0.6
comp=Z,193nm,1.4s
MDJ *e*pP **pP** 17 07 14.8 +0.6
MDJ LR LR
comp=Z,330nm,19.0s
R11A Troy Canyon, C 81.32 44 ⇑P **P** 17 06 10.8 +0.3
baz=82
R11A ⇓pP **pP** 17 07 15.0 +0.1
baz=82
R11A Troy Canyon, C 81.32 44 *e*P **P** 17 06 09.8 -0.8
comp=Z,63nm,1.6s
I05D Terrebonne, OR 81.40 36 ⇓P **P** 17 06 11.3 +0.7
baz=82,SNR=17
I05D ⇓pP **pP** 17 07 15.8 +0.8
baz=82
TUC Tucson 81.43 51 *e*P **P** 17 06 11.9 +0.7
TUC pmax pmax
comp=Z,405nm,2.1s
TUC Tucson 81.43 51 *e*P **P** 17 06 11.8 +0.7
comp=Z,405nm,2.1s
BMN Battle Mountai 81.46 41 *e*P P 17 06 03.4 -7.9
BMN pmax pmax
comp=Z,316nm,2.2s
BMN Battle Mountai 81.46 41 *e*P P 17 06 03.4 -7.9
comp=Z,316nm,2.2s
F04D Rainier, OR 81.61 34 ⇑P **P** 17 06 12.5 +0.9
baz=82
F04D ⇓pP **pP** 17 07 17.2 +1.2
baz=82
GMO Grizzlie Mount 81.68 36 P **P** 17 06 12.6 +0.3
WVOR Wild Horse Val 81.79 39 *e*P **P** 17 06 13.3 +0.5
WVOR pmax pmax
comp=Z,513nm,2.4s
WVOR Wild Horse Val 81.79 39 *e*P **P** 17 06 13.2 +0.5
comp=Z,513nm,2.4s
F04A Amboy 81.83 35 *e*P **P** 17 06 13.0 +0.2
G05D Wamic, OR 81.98 36 ⇓P **P** 17 06 14.4 +0.7
baz=82,SNR=8.0
G05D ⇑pP **pP** 17 07 19.5 +1.4
baz=82
NLWA Neilton Lookou 82.03 33 *e*P **P** 17 06 14.9 +1.0
comp=Z,273nm,2.2s
X16A Lo Mia Camp, P 82.03 49 ⇓P **P** 17 06 15.3 +1.0
baz=82,SNR=87
X16A ⇑pP **pP** 17 07 19.9 +1.1
baz=82
319A Douglas 82.08 53 ⇓P **P** 17 06 15.5 +1.0
baz=82,SNR=22
319A ⇑pP **pP** 17 07 20.1 +1.1
baz=82
TDL Tradedollar La 82.21 34 P **P** 17 06 15.6 +0.7
H02S1 DAWSON INLET T 82.26 25 P **P** 17 06 14.3 -0.5
SNR=13
QIZ Qiongzhong 82.32 293 P **P** 17 06 16.4 +0.5
QIZ pP **pP** 17 07 20.4 0.0
QIZ sP **sP** 17 07 49.0 -0.1
QIZ S **S** 17 16 09.2 +0.5
QIZ sS **sS** 17 18 02.6 +0.4
QIZ PMZ
comp=Z,37nm,1.5s
QIZ PMZ
comp=Z,610nm,7.8s
QIZ Qiongzhong 82.32 293 PFAKE 17 06 30.0 +14
QIZ LR LR
comp=Z,385nm,20.0s
CCUT Cedar City 82.34 45 *e*P **P** 17 06 16.8 +0.8
comp=Z,313nm,2.2s
G06A Carlson Farm, 82.36 36 *e*P **P** 17 06 15.8 +0.2
G06A *e*pP **pP** 17 07 21.1 +1.0
ARUT Antelope Range 82.42 45 P **P** 17 06 14.8 -1.5
ARUT pmax pmax
comp=Z,6.0nm,1.2s
ARUT Antelope Range 82.42 45 P **P** 17 06 14.8 -1.5
comp=Z,6.0nm,1.2s
ARUT *e*pP **pP** 17 07 20.6 -0.2
MAW Mawson 82.44 199 P **P** 17 06 17.3 +1.7
comp=Z,28nm,0.6s,baz=132,slow=6.3,SNR=31
MAW Mawson 82.44 199 P **P** 17 06 17.1 +1.5
baz=82,SNR=16
U15A North Rim 82.47 47 ⇑P **P** 17 06 17.7 +0.9
baz=83
U15A ⇓pP **pP** 17 07 21.6 +0.3
baz=83
RSO Redoubt South 82.58 11 *e*P **P** 17 06 16.2 -0.4
HDW Hoodsport 82.61 33 P **P** 17 06 17.6 +0.7
WUAZ Wupatki 82.64 48 ⇓P **P** 17 06 18.2 +0.8
baz=83,SNR=21
WUAZ ⇓pP **pP** 17 07 22.4 +0.4
baz=83
WUAZ Wupatki 82.64 48 *e*P **P** 17 06 18.3 +0.9
comp=Z,168nm,1.4s
LON Longmire 82.68 34 *e*P **P** 17 06 17.1 -0.1
LON pmax pmax
comp=Z,129nm,1.9s
LON Longmire 82.68 34 *e*P **P** 17 06 17.1 -0.1
comp=Z,129nm,1.9s
SVW2 Sparrevohn 82.68 10 *e*P **P** 17 06 16.5 -0.4
comp=Z,9.1nm,0.7s
DL2 Dalian 82.71 316 P **P** 17 06 17.9 +0.4
DL2 pP **pP** 17 07 21.7 -0.3

DL2 S **S** 17 16 10.5 -1.3
DL2 PMZ
comp=Z,78nm,1.5s
DL2 PMZ
comp=Z,550nm,5.1s
ELK Elko 82.88 42 *e*P **P** 17 06 18.8 +0.1
ELK pmax pmax
comp=Z,303nm,2.3s
ELK Elko 82.88 42 *e*P **P** 17 06 18.8 +0.1
comp=Z,303nm,2.3s
SEW Seward 82.91 13 *e*P **P** 17 06 17.7 -0.3
comp=Z,29nm,1.0s
PGC Sidney 83.07 32 *e*pP pP 17 07 22.5 -1.1
comp=Z,25nm,0.6s
SNY Shenyang 83.10 319 ⇑P **P** 17 06 19.7 +0.3
SNY pP **pP** 17 07 24.0 0.0
SNY sP **sP** 17 07 53.2 +0.6
SNY S **SKSac** 17 16 14.5 -0.3
SNY sS **sS** 17 18 10.9 +1.5
SNY PMZ
comp=Z,60nm,1.4s
SNY LN
comp=Z,140nm,16.8s
SNY LE
comp=Z,160nm,18.3s
SNY LZ
comp=Z,210nm,15.0s
COCO West Island 83.12 260 PFAKE 17 06 30.0 +10
COCO LR LR
comp=Z,710nm,19.0s
CN2 Changchun 83.12 322 *e*P **P** 17 06 19.8 +0.3
CN2 PMZ
comp=Z,10.0nm,1.1s
CN2 PMZ
comp=Z,200nm,3.0s
X18A Snowflake 83.14 50 ⇓P **P** 17 06 20.8 +0.8
baz=83,SNR=47
X18A ⇑pP **pP** 17 07 25.6 +0.9
baz=83
NAC Naches 83.19 35 P **P** 17 06 20.1 +0.3
BKNI Bangkinang 83.36 273 P **P** 17 06 22.8 +1.4
comp=Z,151nm,1.4s,comp=Z,4µm
USHA Ushuaia 83.43 146 P **P** 17 06 22.1 +1.2
comp=Z,20nm,0.8s,baz=206,slow=6.7,SNR=11
PDSI Padang 83.48 271 P **P** 17 06 20.9 -1.2
JCW Jim Creek 83.54 33 P **P** 17 06 21.7 +0.1
W18A Petrified Fore 83.59 49 ⇑P **P** 17 06 23.2 +0.9
baz=84,SNR=17
W18A ⇑pP **pP** 17 07 28.1 +1.1
baz=84
W18A Petrified Fore 83.59 49 *e*P **P** 17 06 23.1 +0.7
comp=Z,68nm,1.0s
CMW Cultus Mountai 83.59 33 P **P** 17 06 22.4 +0.5
LTY Liberty 83.60 34 *e*P **P** 17 06 21.9 0.0
comp=Z,359nm,2.3s
E07A Sunnyside 83.61 35 P **P** 17 06 22.2 +0.3
MVU Marysvale 83.62 45 *e*P **P** 17 06 23.4 +1.0
comp=Z,172nm,1.8s
RSW Rattlesnake Hi 83.65 36 P **P** 17 06 22.8 +0.6
WHN Wuhan 83.67 306 P **P** 17 06 23.2 +0.7
WHN pP **pP** 17 07 27.9 +0.7
WHN sP **sP** 17 07 56.0 +0.1
WHN PP **PP** 17 09 36.1 -3.7
WHN S **SKSac** 17 16 16.7 -2.3
WHN PMZ
comp=Z,790nm,2.0s
WHN PMZ
comp=Z,2µm,11.8s
WHN LZ
comp=Z,2µm,46.8s
HAWA Hanford 83.68 36 *e*P **P** 17 06 22.7 +0.4
comp=Z,430nm,1.9s
HAWA LR LR
comp=Z,395nm,22.0s
121A Cookes Peak, D 83.75 52 ⇑P **P** 17 06 24.1 +1.0
baz=84
121A ⇑pP **pP** 17 07 28.9 +1.0
baz=84
121A Cookes Peak, D 83.75 52 *e*P **P** 17 06 23.8 +0.6
comp=Z,223nm,1.5s
121A *e*pP **pP** 17 07 27.9 +0.1
GAMB Gambell 83.76 2 *e*P **P** 17 06 22.9 +0.7
comp=Z,86nm,1.2s
FRIM Kepong 83.82 276 ⇑P **P** 17 06 23.8 +0.1
B06A Marblemount 83.98 33 *e*P **P** 17 06 23.6 -0.1
comp=Z,28nm,1.0s
A05A Maple Falls 83.98 32 *e*P **P** 17 06 24.1 +0.4
comp=Z,42nm,1.3s
BMO Blue Mountains 84.00 38 *e*P **P** 17 06 23.7 -0.3
comp=Z,111nm,1.5s
BMO *e*pP **pP** 17 07 28.2 -0.6
BMO LR LR
comp=Z,276nm,19.0s
MFID Camas Ranch 84.03 40 *e*P **P** 17 06 24.3 +0.1
comp=Z,34nm,0.9s
DUG Dugway, Tooele 84.13 43 *e*P **P** 17 06 25.3 +0.4
DUG pmax pmax
comp=Z,96nm,1.8s
DUG Dugway, Tooele 84.13 43 ⇓P **P** 17 06 24.9 0.0
baz=84
DUG ⇓pP **pP** 17 07 30.9 +1.3
baz=84
DUG Dugway, Tooele 84.13 43 *e*P **P** 17 06 25.3 +0.4
comp=Z,96nm,1.8s
RAGM Ragged Mountai 84.25 15 *e*P **P** 17 06 25.1 +0.2
comp=Z,71nm,1.2s
WTV Waterville 84.26 34 P **P** 17 06 25.2 0.0
PMR Palmer 84.33 13 *e*P **P** 17 06 23.7 -1.4
PMR pmax pmax
comp=Z,140nm,1.8s
PMR Palmer 84.33 13 *e*P **P** 17 06 23.6 -1.4
comp=Z,140nm,1.8s
TIA Tai'an 84.36 312 ⇑P **P** 17 06 25.9 0.0
TIA PMZ
comp=Z,60nm,1.3s
BGU Big Grassy Mou 84.38 43 *e*P **P** 17 06 26.5 +0.4
NLU North Lily Min 84.48 44 *e*P **P** 17 06 27.4 +0.7
comp=Z,107nm,2.2s
DIV Divide 84.64 14 *e*P **P** 17 06 26.9 0.0
comp=Z,80nm,0.7s
UBPT Khong Chiam 84.68 288 P **P** 17 06 28.4 +0.5
comp=Z,96nm,1.2s,comp=Z,1µm
TMUT Trail Mountain 84.70 45 *e*P **P** 17 06 28.8 +0.8
comp=Z,460nm,2.1s
F10A Beach Ranch, E 84.70 37 P **P** 17 06 27.2 -0.3
WRAK Wrangell Islan 84.75 23 *e*P **P** 17 06 27.9 +0.6
comp=Z,112nm,1.8s
BMRM Bremner River 84.78 15 *e*P **P** 17 06 27.5 0.0
comp=Z,57nm,0.6s
MPU Maple Canyon 84.80 44 *e*P **P** 17 06 28.4 +0.1
comp=Z,15nm,0.9s
MPU *e*pP **pP** 17 07 33.9 +0.8
IPM Ipoh 84.82 277 ⇓P **P** 17 06 29.5 +0.8
IPM Ipoh 84.82 277 *e*P **P** 17 06 29.3 +0.5
comp=Z,162nm,0.7s
MNSI Mandailing Nat 84.89 273 P **P** 17 06 28.2 -0.9
PPLA Purkeypile 84.94 11 *e*P **P** 17 06 27.5 -0.8
comp=Z,13nm,1.0s
HLID Hailey 84.97 40 ⇑P **P** 17 06 29.5 +0.5
baz=85,SNR=41
HLID ⇑pP **pP** 17 07 35.1 +1.2
baz=85
HLID Hailey 84.97 40 *e*P **P** 17 06 28.7 -0.3
comp=Z,49nm,1.3s
HVU Hansel Valley 85.00 42 *e*P **P** 17 06 29.3 +0.1
HVU Hansel Valley 85.00 42 *e*P **P** 17 06 29.3 +0.1
SRU San Rafael Swe 85.06 45 *e*P **P** 17 06 30.0 +0.4
SRU pmax pmax
comp=Z,317nm,1.8s
SRU San Rafael Swe 85.06 45 *e*P **P** 17 06 30.0 +0.4
comp=Z,317nm,1.8s
CTU Camp Tracy 85.08 43 *e*P **P** 17 06 30.0 +0.3
comp=Z,157nm,2.1s
LAZ Ladron 85.11 51 *e*P **P** 17 06 30.8 +0.8
comp=Z,47nm,1.5s
LAZ *e*pP **pP** 17 07 35.5 +0.6
Y22D IRIS PASSCAL I 85.11 51 ⇑P **P** 17 06 30.7 +0.7
baz=85
LENM Lemitar 85.12 51 *e*P **P** 17 06 30.7 +0.7
MNTX Cornudas Mount 85.16 54 ⇓P **P** 17 06 30.9 +0.9
baz=85
MNTX ⇑pP **pP** 17 07 36.2 +1.3
baz=85
MNTX Cornudas Mount 85.16 54 *e*P **P** 17 06 30.6 +0.6
comp=Z,54nm,0.8s
C09A Chrisman Ranch 85.22 35 *e*P **P** 17 06 30.1 +0.1
comp=Z,191nm,1.8s
DAU Daniels Canyon 85.25 44 *e*P **P** 17 06 31.5 +0.8
DAU Daniels Canyon 85.25 44 *e*P **P** 17 06 31.5 +0.8
TXAR Lajitas Array 85.43 57 P **P** 17 06 32.1 +0.6
comp=Z,28nm,0.7s,baz=218,slow=8.4,SNR=243
TXAR pP **pP** 17 07 34.6 -1.9
comp=Z,42nm,1.1s,baz=212,slow=4.4,SNR=4.8
TXAR PKKPbc **PKKPbc** 17 24 37.5 +2.6
comp=Z,0.6nm,0.6s,baz=117,slow=2.9,SNR=7.9
TXAR PKPPKP P'P'df 17 32 46.6 +6.1
comp=Z,0.5nm,1.0s,baz=90,slow=1.4,SNR=4.1
LPM Los Pinos Moun 85.44 51 *e*P **P** 17 06 32.0 +0.5
LPM *e*pP **pP** 17 07 35.4 -1.1
CAST Castle Rocks 85.44 11 *e*P **P** 17 06 29.4 -1.3
comp=Z,22nm,0.8s
KULM Kulim 85.45 277 *e*P **P** 17 06 31.8 -0.1
comp=Z,80nm,0.7s
MVCO Mesa Verde 85.49 48 ⇑P **P** 17 06 32.5 +0.7
baz=86
MVCO ⇓pP **pP** 17 07 38.2 +1.4
baz=86
MVCO Mesa Verde 85.49 48 *e*P **P** 17 06 32.2 +0.4
comp=Z,84nm,1.9s
MVCO LR LR
comp=Z,288nm,20.0s
TCUT Toone Canyon 85.52 43 *e*P **P** 17 06 31.5 -0.4
comp=Z,176nm,1.5s
TCUT *e*pP **pP** 17 07 37.2 +0.4
TNA Tin City 85.71 3 *e*P **P** 17 06 32.5 +0.6
comp=Z,31nm,0.8s
KTH Kantishna Hill 85.77 11 *e*P **P** 17 06 31.4 -0.9
comp=Z,26nm,0.9s
TRF Thorofare Moun 85.79 11 *e*P **P** 17 06 32.1 -0.5
comp=Z,75nm,0.7s
ANMO Albuquerque 85.86 51 *d i*P **P** 17 06 34.2 +0.6
ANMO pmax pmax
comp=Z,112nm,1.3s
ANMO Albuquerque 85.86 51 *e*P **P** 17 06 33.8 +0.2
comp=Z,44nm,1.2s
ANMO LR LR
comp=Z,354nm,22.0s
PV01 Paradox Valley 85.90 47 *e*P **P** 17 06 33.5 -0.3
comp=Z,2µm,0.8s
PV01 *e*pP **pP** 17 07 39.2 +0.4
SKAG Skagway 86.10 20 *e*P **P** 17 06 34.8 +0.9
comp=Z,366nm,2.6s
SKAG *e*pP **pP** 17 07 40.1 +1.1
NEW Newport 86.11 35 *e*P **P** 17 06 34.0 -0.4
NEW pmax pmax
comp=Z,101nm,1.9s
NEW MLR MLR
comp=Z,263nm,20.0s
NEW Newport 86.11 35 ⇑P **P** 17 06 34.9 +0.5
baz=86,SNR=12
NEW ⇑pP **pP** 17 07 40.4 +0.9
baz=86
NEW Newport 86.11 35 *e*P **P** 17 06 34.0 -0.4
comp=Z,101nm,1.9s
NEW LR LR
comp=Z,263nm,20.0s
SKLT Songkhla 86.14 279 P **P** 17 06 36.5 +1.3
comp=Z,144nm,1.6s,comp=Z,3µm
GDL2 Guadalupe Moun 86.16 54 *e*P **P** 17 06 35.9 +0.8
GDL2 *e*pP **pP** 17 07 40.6 +0.4
MCK McKinley 86.31 12 *e*P **P** 17 06 34.7 -0.2
MCK pmax pmax
comp=Z,64nm,0.8s
MCK McKinley 86.31 12 *e*P **P** 17 06 34.7 -0.2
comp=Z,64nm,0.8s
PAX Paxson 86.34 14 *e*P **P** 17 06 34.8 -0.4
PAX pmax pmax
comp=Z,17nm,0.8s
PAX Paxson 86.34 14 *e*P **P** 17 06 34.8 -0.4
comp=Z,17nm,0.8s
SEY Seymchan 86.48 346 *i*P **P** 17 06 35.7 0.0
CHBT CHBT 86.57 285 P **P** 17 06 38.2 +1.0
comp=Z,66nm,1.6s,comp=Z,2µm
AHID Auburn Hatcher 86.58 42 *e*P **P** 17 06 36.3 -0.6
comp=Z,4.8nm,0.7s
AHID *e*pP **pP** 17 07 40.6 -1.5
MCMT McKenzie Canyo 86.60 40 *e*P **P** 17 06 37.0 -0.1
comp=Z,6.4nm,0.6s
MCMT *e*pP **pP** 17 07 42.0 -0.2
TSI Tuntungan 86.78 275 P P 17 06 44.6 +6.3
BJT Baijiatuau 86.89 315 PFAKE 17 06 50.0 +12
BJT LR LR
comp=Z,326nm,20.0s
BJI Beijing 86.90 315 P **P** 17 06 38.5 +0.2
BJI pP **pP** 17 07 42.9 -0.5
BJI sP **sP** 17 08 12.7 +0.7
BJI SKS **SKSac** 17 16 37.9 -0.9
BJI S **S** 17 16 54.9 +2.0
BJI PMZ
comp=Z,69nm,1.6s
BJI PMZ
comp=Z,1µm,4.4s
BJI LN
comp=Z,410nm,19.4s
BJI LE
comp=Z,450nm,15.1s
BJI LZ
comp=Z,290nm,25.1s
529A Stev Forest Ra 86.91 56 ⇓P **P** 17 06 38.5 -0.2
baz=87,SNR=24
529A ⇑pP **pP** 17 07 44.0 +0.2
baz=87
S22A 4UR Ranch, Cre 86.91 48 ⇓P **P** 17 06 39.0 +0.3
baz=87
S22A ⇓pP **pP** 17 07 44.4 +0.4
baz=87
S22A 4UR Ranch, Cre 86.91 48 *e*P **P** 17 06 39.1 +0.3
comp=Z,48nm,1.3s
DLMT Dillon 87.04 39 *e*P **P** 17 06 39.3 +0.3
comp=Z,109nm,1.8s
DLMT *e*pP **pP** 17 07 44.1 -0.2
REDW Red Top Meadow 87.04 42 *e*P **P** 17 06 39.1 -0.1
comp=Z,89nm,1.8s
REDW *e*pP **pP** 17 07 44.9 +0.5
TPAW Teton Pass 87.05 41 *e*P **P** 17 06 39.4 +0.1
comp=Z,46nm,1.5s
TPAW *e*pP **pP** 17 07 44.3 -0.2
MSO Missoula 87.06 37 ⇓P **P** 17 06 39.0 0.0
baz=87,SNR=14
MSO ⇑pP **pP** 17 07 45.2 +0.9
baz=87
MSO Missoula 87.06 37 *e*P **P** 17 06 38.4 -0.6
comp=Z,87nm,1.9s
FXWY Fox Creek 87.08 41 *e*P **P** 17 06 39.3 -0.1
comp=Z,64nm,1.8s
DLBC Dease Lake 87.10 22 *e*P **P** 17 06 38.3 -0.6
comp=Z,42nm,1.5s
DLBC *e*pP **pP** 17 07 43.1 -1.0
O20A White River Ci 87.10 45 ⇓P **P** 17 06 40.1 +0.6
baz=87,SNR=6.2
O20A ⇑pP **pP** 17 07 45.3 +0.6
baz=87
O20A White River Ci 87.10 45 *e*P **P** 17 06 39.3 -0.2
comp=Z,26nm,0.8s
O20A *e*pP **pP** 17 07 47.0 +2.3
T23A Casias Ranch, 87.14 49 ⇓P **P** 17 06 40.2 +0.4
baz=87
T23A ⇓pP **pP** 17 07 45.8 +0.7
baz=87
TRTT Trang 87.24 279 P **P** 17 06 41.6 +1.1
comp=Z,195nm,1.5s,comp=Z,3µm
DOT Dot Lake 87.24 14 *e*P **P** 17 06 39.5 +0.1
comp=Z,31nm,0.8s
IMW Indian Meadow 87.27 41 *e*P **P** 17 06 40.4 +0.1
comp=Z,46nm,1.6s
ENH Enshi 87.31 303 *e*P **P** 17 06 40.4 -0.1
comp=Z,63nm,1.0s
ENH LR LR
comp=Z,126nm,20.0s
LOHW Long Hollow 87.33 41 *e*P **P** 17 06 40.5 -0.1
comp=Z,86nm,2.0s
429A Davenport Ranc 87.37 56 ⇓P **P** 17 06 40.7 -0.2
baz=88,SNR=42
429A ⇓pP **pP** 17 07 46.8 +0.7
baz=88
LRM Limekiln Ridge 87.37 39 *e*P **P** 17 06 40.5 -0.2
LRM *e*pP **pP** 17 07 45.7 -0.3
U24A Moreno Valley 87.39 50 ⇑pP pP 17 07 47.9 +1.6
baz=88
SYO Syowa Base 87.40 192 ⇓*e*P **P** 17 06 38.8 -1.4
SYO Syowa Base 87.40 192 ⇓*i*P **P** 17 06 40.4 +0.2
N20A Spence Gulch, 87.43 45 ⇓P **P** 17 06 41.3 +0.2
baz=88,SNR=21
N20A ⇓pP **pP** 17 07 47.5 +1.1
baz=88
KHON Khomkaen 87.44 288 P **P** 17 06 42.3 +1.0
comp=Z,23nm,0.9s
QLMT Earthquake Lak 87.46 40 *e*P **P** 17 06 41.9 +0.8
QLMT *e*pP **pP** 17 07 46.9 +0.6
228A UT Block 9, Go 87.47 55 ⇑P **P** 17 06 41.5 +0.2
baz=88,SNR=11
228A ⇑pP **pP** 17 07 47.0 +0.4
baz=88
S23A Nye Farm, Mont 87.47 48 ⇓pP pP 17 07 48.3 +1.6
baz=88
SMCO Snowmass 87.50 47 *e*P **P** 17 06 41.6 0.0
comp=Z,22nm,0.8s
SMCO *e*pP **pP** 17 07 48.8 +1.9
CHMT Chamberlain Mo 87.50 38 *e*P **P** 17 06 40.7 -0.6
I17A Pilgrim Ck. 87.50 41 ⇑P **P** 17 06 42.0 +0.7
baz=88,SNR=13
I17A ⇓pP **pP** 17 07 47.2 +0.6
baz=88,SNR=9.0
FLWY Flagg Ranch 87.51 41 *e*P **P** 17 06 41.8 +0.4
comp=Z,23nm,1.0s
KCSI Kotacane, Aceh 87.53 275 P **P** 17 06 41.3 -0.6
comp=Z,46nm,2.5s,comp=Z,1µm
COLA College 87.54 12 *e*P **P** 17 06 40.2 -0.5
COLA pmax pmax
comp=Z,45nm,1.1s
COLA MLR MLR
comp=Z,373nm,21.0s
COLA College 87.54 12 *e*P **P** 17 06 40.2 -0.5
comp=Z,45nm,1.1s
COLA LR LR
comp=Z,373nm,21.0s
SLMT Seeley Lake 87.54 37 *e*P **P** 17 06 40.5 -0.9
BW06 Boulder Array 87.55 43 *e*P **P** 17 06 40.7 -0.9
comp=Z,27nm,1.5s
BW06 *e*pP **pP** 17 07 45.6 -1.4
PDAR Pinedale Array 87.55 43 P **P** 17 06 40.9 -0.8
comp=Z,3.5nm,0.7s,baz=212,slow=3.1,SNR=36
PDAR pP **pP** 17 07 45.5 -1.5
comp=Z,16nm,1.0s,baz=197,slow=4.5,SNR=12
PDAR PKKPbc **PKKPbc** 17 24 29.4 -1.4
comp=Z,1.7nm,0.7s,baz=84,slow=4.0,SNR=7.4
IM04 Indian Mountai 87.56 9 *e*P **P** 17 06 40.0 -0.8
530A J-C Ranch, Com 87.61 57 ⇑P **P** 17 06 42.0 +0.1
baz=88,SNR=26
530A ⇑pP **pP** 17 07 47.9 +0.7
baz=88,SNR=8.5
YFT Old Faithful 87.62 41 *e*P **P** 17 06 43.8 +1.9
comp=Z,49nm,1.6s
YFT *e*pP **pP** 17 07 49.8 +2.5
ILAR Eielson Array 87.64 12 P **P** 17 06 40.6 -0.6
comp=Z,12nm,0.5s,baz=218,slow=5.3,SNR=156
ILAR pP **pP** 17 07 45.4 -1.1
comp=Z,55nm,1.1s,baz=219,slow=5.2,SNR=13
ILAR PKKPbc **PKKPbc** 17 24 28.8 -2.7
comp=Z,0.5nm,0.6s,baz=7.1,slow=3.1,SNR=6.2
YMR Madison River 87.65 40 *e*P **P** 17 06 42.5 +0.5
comp=Z,33nm,1.0s
YMR *e*pP **pP** 17 07 49.3 +1.9
329A Wagon Wheel Ra 87.67 55 ⇑P **P** 17 06 42.5 +0.2
baz=88,SNR=12
329A ⇓pP **pP** 17 07 47.3 -0.3
baz=88,SNR=8.9
H17A Grant Village 87.75 41 ⇑P **P** 17 06 43.2 +0.6
baz=88,SNR=7.0
H17A ⇑pP **pP** 17 07 49.4 +1.5
baz=88,SNR=6.4
H17A Grant Village 87.75 41 *e*P **P** 17 06 44.3 +1.7
comp=Z,45nm,1.8s
H17A *e*pP **pP** 17 07 50.3 +2.4
BOZ Bozeman (W) 87.77 39 P **P** 17 06 40.9 -1.6
BOZ pmax pmax
comp=Z,87nm,1.6s
BOZ MLR MLR
comp=Z,278nm,20.0s
BOZ Bozeman (W) 87.77 39 P **P** 17 06 40.9 -1.6
comp=Z,87nm,1.6s
BOZ *e*pP **pP** 17 07 47.0 -0.9
BOZ LR LR
comp=Z,278nm,20.0s
128A Castleberry Fa 87.77 54 ⇑P **P** 17 06 42.9 +0.2
baz=88,SNR=38
128A ⇑pP **pP** 17 07 48.1 0.0
baz=88,SNR=19
R23A Moffat 87.82 48 ⇑P **P** 17 06 43.5 +0.4
baz=88,SNR=13
R23A ⇓pP **pP** 17 07 49.3 +0.9
baz=88,SNR=8.0
P22A Eagle 87.84 46 ⇑P **P** 17 06 43.1 +0.1
baz=88,SNR=14
SDCO Great Sand Dun 87.84 48 ⇑P **P** 17 06 43.0 -0.2
baz=88,SNR=17
SDCO ⇓pP **pP** 17 07 49.1 +0.6
baz=88,SNR=8.3
SDCO Great Sand Dun 87.84 48 *e*P **P** 17 06 43.0 -0.2
comp=Z,14nm,1.0s
SDCO *e*pP **pP** 17 07 49.8 +1.2
YNR Norris Junctio 87.85 40 *e*P **P** 17 06 44.4 +1.3
comp=Z,57nm,1.7s
631A Perdido Creek 87.90 58 ⇑P **P** 17 06 43.3 -0.1
baz=88,SNR=39
631A ⇑pP **pP** 17 07 48.0 -0.6
baz=88,SNR=10.0
832A Faith Ranch, C 87.92 59 ⇓P **P** 17 06 43.3 -0.1
baz=88,SNR=35
832A ⇑pP **pP** 17 07 48.1 -0.7
baz=88,SNR=10.0
430A Baggett Ranch, 87.95 56 ⇑P **P** 17 06 43.9 +0.3
baz=88
430A ⇓pP **pP** 17 07 49.2 +0.3
baz=88
TPTI 87.99 274 P **P** 17 06 44.5 +0.4
comp=Z,26nm,1.0s,comp=Z,10µm
S24A Houchin Ranch, 88.00 49 ⇑P **P** 17 06 44.3 +0.4
baz=88,SNR=15
S24A ⇓pP **pP** 17 07 50.2 +0.8
baz=88,SNR=8.8
229A Bryant Ranch, 88.01 55 ⇓P **P** 17 06 43.9 +0.1
baz=88,SNR=9.6
229A ⇓pP **pP** 17 07 49.2 0.0
baz=88,SNR=11
U25A Circle Dot Ran 88.01 50 ⇑P **P** 17 06 43.9 0.0
baz=88,SNR=13
U25A ⇑pP **pP** 17 07 49.6 +0.3
baz=88
GYA Guiyang 88.01 299 ⇑*i*P **P** 17 06 44.0 0.0
GYA pP **pP** 17 07 48.9 -0.5
GYA sP **sP** 17 08 18.4 +0.5
GYA PP **PP** 17 10 15.0 -0.1
GYA SKS **SKSac** 17 16 47.1 +0.7
GYA S **S** 17 17 02.3 -2.0
GYA sS **sS** 17 18 58.8 -0.6
GYA PMZ
comp=Z,50nm,1.0s
GYA PMZ
comp=Z,470nm,8.8s
732A Laxson Ranch, 88.11 59 ⇑P **P** 17 06 44.4 +0.1
baz=88,SNR=10
732A ⇓pP **pP** 17 07 49.0 -0.7
baz=88
J19A Crowheart 88.12 42 ⇓P **P** 17 06 44.1 -0.1
baz=88,SNR=14
J19A ⇓pP **pP** 17 07 49.5 -0.1
baz=88,SNR=8.3
Z28A Tucker Farm, M 88.13 54 ⇑P **P** 17 06 44.2 -0.2
baz=88,SNR=17
Z28A ⇓pP **pP** 17 07 49.5 -0.4
baz=88,SNR=14
MSTX Muleshoe 88.14 53 ⇓P **P** 17 06 44.6 +0.1
baz=88,SNR=19
MSTX ⇓pP **pP** 17 07 49.8 0.0
baz=88,SNR=14
MSTX Muleshoe 88.14 53 *e*P **P** 17 06 44.3 -0.1
comp=Z,479nm,2.1s
MSTX *e*pP **pP** 17 07 48.8 -1.0
Q23A Hartsel 88.15 47 ⇓P **P** 17 06 44.7 0.0
baz=88
Q23A ⇓pP **pP** 17 07 50.2 +0.2
baz=88
V26A Tequesquite Ra 88.19 51 ⇓P **P** 17 06 44.7 0.0
baz=88,SNR=10
V26A ⇑pP **pP** 17 07 49.8 -0.3
baz=88
HRY Holter Researc 88.21 38 *e*P **P** 17 06 44.6 +0.1
HRY *e*pP **pP** 17 07 51.7 +1.8
933A Laredo 88.22 60 ⇑P **P** 17 06 44.9 +0.1

baz=88,SNR=12
933A ⇑pP **pP** **17 07 50.1 -0.1**
baz=88,SNR=7.8
PLCA **Paso Flores** **88.22 133** P **P** **17 06 45.8 +1.0**
PLCA pmax pmax
comp=Z,35nm,1.1s
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA **Paso Flores** **88.22 133** P **P** **17 06 45.8 +1.0**
comp=Z,35nm,1.1s,baz=238,slow=5.0,SNR=21
PLCA PKKPbc **PKKPbc** **17 24 28.8 +1.1**
comp=Z,4.6nm,0.9s,baz=223,slow=0.7,SNR=4.3
PLCA **Paso Flores** **88.22 133** *e*P **P** **17 06 45.6 +0.8**
comp=Z,80nm,1.4s
PLCA *e*pP **pP** **17 07 50.8 +0.6**
531A **Rocksprings** **88.24 57** ⇑P **P** **17 06 45.2 +0.3**
baz=88,SNR=21
531A ⇓pP **pP** **17 07 49.9 -0.4**
baz=88,SNR=10
129A **Stewart Farms,** **88.25 54** ⇓P **P** **17 06 45.1 +0.1**
baz=88,SNR=11
129A ⇓pP **pP** **17 07 50.3 0.0**
baz=88,SNR=12
O22A **Kremmling** **88.25 46** ⇓P **P** **17 06 45.0 -0.1**
baz=88,SNR=24
O22A ⇓pP **pP** **17 07 51.4 +0.9**
baz=88,SNR=9.0
330A **Mertzon** **88.26 56** ⇓P **P** **17 06 45.0 0.0**
baz=88,SNR=8.5
330A ⇓pP **pP** **17 07 50.0 -0.4**
baz=88
WALA **Waterton Lakes** **88.31 36** *e*P **P** **17 06 44.9 0.0**
VNA3 **Neumayer Olymp** **88.33 176** P **P** **17 06 45.1 +0.5**
T25A **Trinidad** **88.34 49** ⇑P **P** **17 06 45.2 -0.2**
baz=88,SNR=6.5
T25A ⇑pP **pP** **17 07 51.4 +0.5**
baz=88
T25A **Trinidad** **88.34 49** *e*P **P** **17 06 45.2 -0.2**
comp=Z,89nm,2.1s
T25A *e*pP **pP** **17 07 52.0 +1.2**
R24A **Sanders Place,** **88.34 48** ⇓P **P** **17 06 45.6 +0.1**
baz=88,SNR=9.1
R24A ⇓pP **pP** **17 07 52.1 +1.2**
baz=88,SNR=6.5
P23A **Jefferson** **88.36 47** ⇑P **P** **17 06 46.1 +0.4**
baz=88,SNR=11
P23A ⇑pP **pP** **17 07 52.2 +1.1**
baz=88,SNR=5.9
431A **Sonora** **88.40 57** ⇑P **P** **17 06 45.5 -0.2**
baz=89
431A ⇓pP **pP** **17 07 51.0 -0.1**
baz=89
833A **Chaparral WMA,** **88.41 59** ⇑P **P** **17 06 46.3 +0.6**
baz=89,SNR=11
833A ⇓pP **pP** **17 07 50.7 -0.4**
baz=89,SNR=6.2
H18A **Shoshone NF, C** **88.45 41** ⇑P **P** **17 06 45.9 +0.1**
baz=89,SNR=6.3
H18A ⇑pP **pP** **17 07 51.0 -0.2**
baz=89
034A **Hebbronville** **88.48 61** ⇓P **P** **17 06 46.4 +0.3**
baz=89,SNR=16
034A ⇓pP **pP** **17 07 51.7 +0.2**
baz=89
U26A **Atchley Ranch,** **88.49 50** ⇑P **P** **17 06 46.4 +0.2**
baz=89,SNR=19
U26A ⇑pP **pP** **17 07 51.8 +0.2**
baz=89,SNR=6.1
SNSI **Sinabang, Aceh** **88.50 273** P **P** **17 06 49.6 +3.1**
comp=Z,173nm,1.1s,comp=Z,7μm
Y28A **McKinney Farm,** **88.50 53** ⇑P **P** **17 06 46.6 +0.5**
baz=89,SNR=8.2
Y28A ⇑pP **pP** **17 07 51.5 -0.1**
baz=89,SNR=5.1
230A **Sterling City** **88.51 55** ⇑P **P** **17 06 45.9 -0.3**
baz=89,SNR=10
230A ⇑pP **pP** **17 07 50.9 -0.7**
baz=89
PKDT **Phuket** **88.51 279** P **P** **17 06 47.8 +1.3**
comp=Z,58nm,1.8s,comp=Z,2μm
I19A **Meeteetse** **88.55 42** ⇑P **P** **17 06 46.3 +0.1**
baz=89,SNR=11
I19A ⇓pP **pP** **17 07 51.8 +0.1**
baz=89,SNR=5.5
S25A **Robets Cordova** **88.56 49** ⇓P **P** **17 06 46.2 -0.2**
baz=89,SNR=12
S25A ⇓pP **pP** **17 07 51.8 -0.1**
baz=89,SNR=14
632A **Uvalde** **88.57 58** ⇑P **P** **17 06 46.6 +0.2**
baz=89,SNR=19
632A ⇑pP **pP** **17 07 50.8 -1.1**
baz=89,SNR=8.7
N22A **Wattenberg Ran** **88.62 45** ⇑P **P** **17 06 46.7 -0.1**
baz=89,SNR=22
N22A ⇓pP **pP** **17 07 51.5 -0.7**
baz=89
Z29A **Hungry Hill Ra** **88.64 54** ⇑P **P** **17 06 46.4 -0.3**
baz=89,SNR=16
Z29A ⇓pP **pP** **17 07 51.2 -1.1**
baz=89,SNR=11
733A **Divot King Ran** **88.65 59** ⇓P **P** **17 06 46.8 0.0**
baz=89,SNR=6.5
733A ⇑pP **pP** **17 07 52.1 -0.1**
baz=89,SNR=5.0
Q24A **Divide** **88.65 48** ⇑P **P** **17 06 47.3 +0.3**
baz=89,SNR=5.2
Q24A ⇓pP **pP** **17 07 52.2 -0.2**
baz=89,SNR=6.9
Q24A **Divide** **88.65 48** *e*P **P** **17 06 47.5 +0.5**
comp=Z,101nm,2.1s
Q24A *e*pP **pP** **17 07 54.3 +1.9**
DAWY **Dawson** **88.69 15** *e*P **P** **17 06 44.1 -2.1**
O23A **Lake Granby, G** **88.70 46** ⇓P **P** **17 06 47.2 0.0**
baz=89,SNR=12
O23A ⇓pP **pP** **17 07 53.5 +0.8**
baz=89,SNR=7.8
ISCO **Idaho Springs** **88.72 47** *e*P **P** **17 06 47.3 0.0**
ISCO pmax pmax
comp=Z,57nm,2.1s
ISCO **Idaho Springs** **88.72 47** ⇑P **P** **17 06 47.2 0.0**
baz=89,SNR=8.3
ISCO **Idaho Springs** **88.72 47** *e*P **P** **17 06 47.2 0.0**
comp=Z,57nm,2.1s
ISCO *e*pP **pP** **17 07 54.8 +2.1**
532A **Rocksprings** **88.73 57** ⇓P **P** **17 06 47.3 +0.1**
baz=89,SNR=22
532A ⇑pP **pP** **17 07 52.5 -0.2**
baz=89,SNR=8.3
035Z **Hargill** **88.75 61** ⇑P **P** **17 06 47.4 +0.1**
baz=89
035Z ⇑pP **pP** **17 07 51.6 -1.1**
baz=89
J20A **Shoshoni** **88.78 43** ⇑P **P** **17 06 47.6 +0.3**
baz=89,SNR=22
J20A ⇓pP **pP** **17 07 53.2 +0.4**
baz=89,SNR=5.8
VNA2 **Neumayer--Watz** **88.79 176** P **P** **17 06 47.6 +0.9**
331A **San Angelo** **88.80 56** ⇓P **P** **17 06 47.8 +0.2**
baz=89,SNR=7.6
331A ⇓pP **pP** **17 07 52.3 -0.8**
baz=89
X28A **Dimmitt** **88.80 53** ⇓P **P** **17 06 47.4 -0.1**
baz=89,SNR=5.7
X28A ⇑pP **pP** **17 07 52.6 -0.4**
baz=89
M22A **Cedar Creek Ra** **88.81 45** ⇑P **P** **17 06 47.4 -0.2**
baz=89,SNR=8.0
M22A ⇑pP **pP** **17 07 51.7 -1.4**
baz=89
934A **Benavides** **88.83 60** ⇑P **P** **17 06 47.5 -0.2**
baz=89
934A ⇓pP **pP** **17 07 52.6 -0.5**
baz=89
V27A **Dan Oppiter Fa** **88.87 51** ⇑P **P** **17 06 48.2 +0.3**
baz=89
V27A ⇑pP **pP** **17 07 52.3 -1.0**
baz=89
H19A **Powell** **88.87 41** ⇓P **P** **17 06 48.0 +0.3**
baz=89,SNR=7.4
H19A ⇓pP **pP** **17 07 53.6 +0.5**
baz=89
EGAK **Eagle** **88.87 14** *e*P **P** **17 06 47.1 +0.1**
comp=Z,32nm,0.8s
EGAK LR LR
comp=Z,260nm,19.0s
R25A **Fountain Ranch** **88.88 49** ⇑P **P** **17 06 47.9 0.0**
baz=89,SNR=7.6
R25A ⇑pP **pP** **17 07 53.3 -0.1**

baz=89,SNR=8.2
LHMI **Lhok Sumawe** **88.89 276** P **P** **17 06 50.4 +2.2**
comp=Z,133nm,1.4s,comp=Z,4μm
LHMI **Lhok Sumawe** **88.89 276** *e*P **P** **17 06 48.3 +0.1**
comp=Z,732nm,2.0s
035A **Encino** **88.91 61** ⇓P **P** **17 06 48.0 0.0**
baz=89,SNR=6.5
035A ⇓pP **pP** **17 07 53.3 -0.2**
baz=89
BILL **Bilibino** **88.92 353** ⇓*i*P **P** **17 06 46.8 -0.3**
BILL *i* 17 10 20.8
BILL pmax pmax
comp=Z,19nm,1.3s
BILL **Bilibino** **88.92 353** *e*P **P** **17 06 46.9 -0.2**
comp=Z,53nm,1.5s
BILL LR LR
comp=Z,1μm,19.0s
Y29A **Porterfield Fa** **88.92 53** ⇑P **P** **17 06 48.0 0.0**
baz=89,SNR=16
Y29A ⇑pP **pP** **17 07 53.1 -0.4**
baz=89
130A **Snyder** **88.92 55** ⇓P **P** **17 06 47.9 -0.1**
baz=89,SNR=13
130A ⇑pP **pP** **17 07 53.1 -0.4**
baz=89,SNR=14
RLMT **Red Lodge** **88.92 41** *e*P **P** **17 06 47.6 -0.3**
comp=Z,53nm,1.6s
RLMT *e*pP **pP** **17 07 54.2 +0.7**
RLMT LR LR
comp=Z,282nm,20.0s
T26A **Comanche Natio** **88.94 50** ⇑P **P** **17 06 48.7 +0.5**
baz=89,SNR=7.9
T26A ⇓pP **pP** **17 07 52.9 -0.8**
baz=89
JCT **Junction City** **88.95 57** *e*P **P** **17 06 48.2 -0.1**
JCT pmax pmax
comp=Z,55nm,1.5s
JCT **Junction City** **88.95 57** ⇑P **P** **17 06 48.5 +0.2**
baz=89,SNR=6.7
JCT ⇓pP **pP** **17 07 52.3 -1.4**
baz=89
JCT **Junction City** **88.95 57** *e*P **P** **17 06 48.2 -0.1**
comp=Z,55nm,1.5s
K21A **Alcova** **88.97 44** ⇑P **P** **17 06 48.1 -0.2**
baz=89,SNR=11
K21A ⇑pP **pP** **17 07 53.4 -0.3**
baz=89
N23A **Red Feather La** **89.00 46** ⇑P **P** **17 06 48.6 0.0**
baz=89,SNR=10.0
N23A ⇑pP **pP** **17 07 53.9 -0.1**
baz=89,SNR=6.7
N23A **Red Feather La** **89.00 46** *e*P **P** **17 06 48.6 0.0**
comp=Z,20nm,1.1s
N23A *e*pP **pP** **17 07 56.3 +2.3**
VNA1 **Neumayer--Stat** **89.01 176** P **P** **17 06 48.9 +1.2**
834A **Tilden** **89.01 60** ⇓P **P** **17 06 49.2 +0.7**
baz=89,SNR=6.5
834A ⇓pP **pP** **17 07 54.1 +0.1**
baz=89
GCMT **Greycliff** **89.02 40** *e*P **P** **17 06 48.7 +0.4**
comp=Z,57nm,1.6s
GCMT *e*pP **pP** **17 07 55.6 +1.8**
633A **Saathoff Ranch** **89.04 58** ⇓P **P** **17 06 48.8 +0.2**
baz=89,SNR=10.0
633A ⇑pP **pP** **17 07 53.6 -0.5**
baz=89,SNR=5.3
I20A **Worland** **89.05 42** ⇓P **P** **17 06 48.4 0.0**
baz=89,SNR=14
I20A ⇓pP **pP** **17 07 54.1 +0.1**
baz=89
P24A **Kohler Place,** **89.07 47** ⇓P **P** **17 06 48.0 -0.7**
baz=89
Z30A **Sanderson Ranc** **89.08 54** ⇑P **P** **17 06 48.6 -0.3**
baz=89,SNR=20
Z30A ⇓pP **pP** **17 07 54.5 +0.2**
baz=89,SNR=14
W28A **Vega** **89.11 52** ⇑P **P** **17 06 48.7 -0.3**
baz=89
W28A ⇑pP **pP** **17 07 53.7 -0.8**
baz=89
NVL **N'lazarevskaya** **89.12 183** ⇑*i*P **P** **17 06 46.5 -1.7**
NVL pmax pmax
comp=Z,50nm,1.1s
432A **Menard** **89.12 57** ⇓P **P** **17 06 49.2 +0.2**
baz=89,SNR=16
432A ⇓pP **pP** **17 07 54.0 -0.5**
baz=89,SNR=6.1
X29A **Tulia** **89.14 53** ⇑P **P** **17 06 49.3 +0.2**
baz=89
X29A ⇑pP **pP** **17 07 54.2 -0.4**
baz=89
231A **Bronte** **89.15 56** ⇓P **P** **17 06 48.9 -0.2**
baz=89,SNR=39
231A ⇓pP **pP** **17 07 53.9 -0.8**
baz=89,SNR=8.4
U27A **Thompson Grove** **89.16 51** ⇓P **P** **17 06 49.0 -0.2**
baz=89,SNR=5.9
U27A ⇑pP **pP** **17 07 54.3 -0.4**
baz=89
PBKT **Sadao Pong** **89.18 288** P **P** **17 06 50.7 +1.2**
comp=Z,67nm,1.7s,comp=Z,2μm
J21A **Lysite** **89.18 43** ⇓P **P** **17 06 49.2 0.0**
baz=89,SNR=20
J21A ⇑pP **pP** **17 07 56.0 +1.3**
baz=89
L22A **Ellis Ranch, M** **89.21 44** ⇑P **P** **17 06 49.7 +0.3**
baz=89,SNR=10
S26A **Kim** **89.22 49** ⇑P **P** **17 06 49.6 +0.1**
baz=89,SNR=15
S26A ⇓pP **pP** **17 07 53.9 -1.1**
baz=89,SNR=6.2
O24A **Longmont** **89.23 47** ⇑P **P** **17 06 50.2 +0.7**
baz=89
O24A ⇑pP **pP** **17 07 55.9 +0.9**
baz=89
Q25A **Bedland, Calha** **89.25 48** ⇓P **P** **17 06 50.8 +1.1**
baz=89,SNR=7.7
Q25A ⇓pP **pP** **17 07 55.7 +0.5**
baz=89,SNR=7.3
COLD **Coldfoot** **89.27 10** *e*P **P** **17 06 49.4 +0.6**
comp=Z,21nm,0.8s
734A **La Parita Cree** **89.29 59** ⇓P **P** **17 06 50.1 +0.3**
baz=89
734A ⇑pP **pP** **17 07 56.4 +1.1**
baz=89
V28A **Channing** **89.31 51** ⇓P **P** **17 06 50.1 +0.2**
baz=90
V28A ⇑pP **pP** **17 07 56.3 +0.8**
baz=90
XAN **Xi'an** **89.33 307** P **P** **17 06 50.7 +0.7**
XAN pP **pP** **17 07 53.7 -1.8**
XAN sP **sP** **17 08 24.3 +0.4**
XAN SKS **SKSac** **17 16 53.4 -0.3**
XAN S **S** **17 17 17.9 +1.7**
XAN PMZ
comp=Z,29nm,0.8s
XAN PMZ
comp=Z,160nm,7.7s
XAN LN
comp=Z,290nm,26.5s
XAN LE
comp=Z,100nm,29.6s
XAN LZ
comp=Z,150nm,25.5s
AMTX **Amarillo** **89.34 52** ⇓P **P** **17 06 50.3 +0.2**
baz=90
AMTX ⇑pP **pP** **17 07 56.4 +0.8**
baz=90
AMTX **Amarillo** **89.34 52** *e*P **P** **17 06 49.8 -0.2**
comp=Z,284nm,2.2s
AMTX *e*pP **pP** **17 07 56.8 +1.3**
332A **Millersview** **89.37 56** ⇑P **P** **17 06 50.3 +0.1**
baz=90,SNR=16
332A ⇓pP **pP** **17 07 56.2 +0.5**
baz=90
H20A **Greybull** **89.39 42** ⇓P **P** **17 06 50.2 +0.2**
baz=90,SNR=9.0
533A **Kerrville** **89.39 58** ⇑P **P** **17 06 50.2 -0.1**
baz=90,SNR=15
533A ⇓pP **pP** **17 07 55.6 -0.2**
baz=90,SNR=6.9
131A **Roby** **89.40 55** ⇑P **P** **17 06 50.2 -0.1**
baz=90,SNR=10.0
131A ⇑pP **pP** **17 07 56.3 +0.5**
baz=90
M23A **Laramie** **89.42 45** ⇑P **P** **17 06 50.3 -0.1**
baz=90
M23A ⇑pP **pP** **17 07 56.1 +0.2**

baz=90
K22A **Casper** **89.44 44** ⇑P **P** **17 06 51.0 +0.6**
baz=90,SNR=7.6
K22A ⇓pP **pP** **17 07 56.3 +0.3**
baz=90
K22A **Casper** **89.44 44** *e*P **P** **17 06 50.6 +0.1**
comp=Z,168nm,2.0s
HIA **Hailar** **89.46 324** *e*P **P** **17 06 49.7 -0.4**
HIA pmax pmax
comp=Z,105nm,1.5s
HIA MLR MLR
comp=Z,316nm,22.0s
HIA **Hailar** **89.46 324** *e*P **P** **17 06 49.7 -0.4**
comp=Z,105nm,1.5s
HIA LR LR
comp=Z,316nm,22.0s
W29A **Amarillo** **89.47 52** ⇓P **P** **17 06 50.4 -0.2**
baz=90,SNR=10
W29A ⇓pP **pP** **17 07 56.3 +0.2**
baz=90,SNR=5.4
F19A **Roth Farm, Mol** **89.49 40** ⇓P **P** **17 06 50.7 +0.2**
baz=90,SNR=14
F19A ⇑pP **pP** **17 07 56.8 +0.8**
baz=90
I21A **Big Trails, Te** **89.51 42** ⇑P **P** **17 06 50.9 +0.3**
baz=90,SNR=21
I21A ⇑pP **pP** **17 07 57.2 +1.0**
baz=90
Y30A **Stafford Cattl** **89.51 54** ⇑P **P** **17 06 51.0 +0.2**
baz=90,SNR=7.4
Y30A ⇓pP **pP** **17 07 57.1 +0.8**
baz=90
PHWY **Pilot Hill** **89.52 45** *e*P **P** **17 06 50.4 -0.5**
comp=Z,109nm,2.3s
PHWY *e*pP **pP** **17 07 58.1 +1.6**
T27A **Campo** **89.52 50** ⇓P **P** **17 06 50.7 -0.1**
baz=90
T27A ⇓pP **pP** **17 07 56.9 +0.5**
baz=90
R26A **Arlington** **89.54 49** ⇑P **P** **17 06 51.0 0.0**
baz=90,SNR=7.2
R26A ⇑pP **pP** **17 07 57.0 +0.6**
baz=90
P25A **Willow Gulch B** **89.58 47** ⇓P **P** **17 06 51.4 +0.3**
baz=90,SNR=12
P25A ⇑pP **pP** **17 07 57.2 +0.5**
baz=90,SNR=8.0
U28A **Mallet** **89.58 51** ⇓P **P** **17 06 51.0 -0.2**
baz=90
U28A ⇑pP **pP** **17 07 57.8 +1.2**
baz=90
G20A **Bridger** **89.62 41** ⇑P **P** **17 06 51.5 +0.4**
baz=90,SNR=7.8
G20A ⇑pP **pP** **17 07 56.1 -0.5**
baz=90
433A **Art** **89.62 57** ⇑P **P** **17 06 51.4 +0.1**
baz=90,SNR=10
433A ⇓pP **pP** **17 07 56.1 -0.8**
baz=90,SNR=6.4
232A **Coleman** **89.65 56** ⇑P **P** **17 06 51.3 -0.2**
baz=90,SNR=15
232A ⇑pP **pP** **17 07 57.1 +0.1**
baz=90,SNR=9.4
835A **Beeville** **89.66 60** ⇓P **P** **17 06 51.7 +0.2**
baz=90
835A ⇓pP **pP** **17 07 57.5 +0.4**
baz=90
S27A **Las Animas** **89.66 49** ⇑P **P** **17 06 51.5 0.0**
baz=90
N24A **Carr** **89.69 46** ⇓P **P** **17 06 51.6 0.0**
baz=90
L23A **Garrett** **89.73 45** ⇓P **P** **17 06 51.7 -0.2**
baz=90,SNR=23
L23A ⇑pP **pP** **17 07 57.9 +0.5**
baz=90,SNR=6.0
X30A **Coker Ranch, T** **89.76 53** ⇓P **P** **17 06 52.1 +0.2**
baz=90
X30A ⇑pP **pP** **17 07 57.7 +0.2**
baz=90
Q26A **Hugo** **89.77 48** ⇓P **P** **17 06 52.4 +0.4**
baz=90,SNR=6.8
Q26A ⇑pP **pP** **17 07 58.1 +0.5**
baz=90
534A **Blanco** **89.82 58** ⇓P **P** **17 06 52.5 +0.2**
baz=90,SNR=27
534A ⇑pP **pP** **17 07 58.6 +0.7**
baz=90
J22A **Midwest** **89.83 43** ⇓P **P** **17 06 52.5 +0.3**
baz=90,SNR=18
J22A ⇓pP **pP** **17 07 58.1 +0.3**
baz=90,SNR=5.2
Z31A **Sharp Cattle R** **89.85 54** ⇑P **P** **17 06 52.5 +0.2**
baz=90,SNR=28
Z31A ⇓pP **pP** **17 07 58.7 +0.8**
baz=90,SNR=15
O25A **Wiggins** **89.88 47** ⇑pP pP 17 07 59.2 +1.2
baz=90
V29A **Stinnett** **89.88 52** ⇑P **P** **17 06 52.8 +0.3**
baz=90
V29A ⇑pP **pP** **17 07 58.3 +0.2**
baz=90
E19A **Rath Farm, Rou** **89.88 40** ⇑P **P** **17 06 52.6 +0.3**
baz=90,SNR=20
E19A ⇑pP **pP** **17 07 58.7 +0.8**
baz=90
735A **Kenedy** **89.90 59** ⇑P **P** **17 06 53.1 +0.5**
baz=90
735A ⇓pP **pP** **17 07 58.9 +0.7**
baz=90
333A **Richland Sprin** **89.94 57** ⇓P **P** **17 06 52.9 +0.1**
baz=90,SNR=11
333A ⇓pP **pP** **17 07 57.8 -0.5**
baz=90
F20A **Billings** **89.94 40** ⇑P **P** **17 06 52.9 +0.3**
baz=90,SNR=6.9
F20A ⇑pP **pP** **17 07 58.0 -0.2**
baz=90
ABTX **Abilene, Hawle** **89.95 55** ⇓P **P** **17 06 52.5 -0.3**
baz=90,SNR=21
ABTX ⇑pP **pP** **17 07 58.5 +0.2**
baz=90,SNR=12
ABTX **Abilene, Hawle** **89.95 55** *e*P **P** **17 06 52.8 -0.1**
comp=Z,364nm,1.9s
ABTX *e*pP **pP** **17 07 57.9 -0.5**
UTTA **Uttaradit** **89.97 289** P **P** **17 06 54.1 +0.9**
comp=Z,12nm,1.3s,comp=Z,122nm
T28A **Walsh** **89.98 50** ⇓P **P** **17 06 52.8 -0.2**
baz=90
T28A ⇑pP **pP** **17 07 58.1 -0.4**
baz=90
R27A **Eads** **89.99 49** ⇓P **P** **17 06 52.8 -0.2**
baz=90,SNR=7.5
R27A ⇑pP **pP** **17 07 58.5 -0.1**
baz=90
M24A **Cheyenne** **90.02 45** ⇓P **P** **17 06 53.0 -0.1**
baz=90,SNR=5.5
M24A ⇓pP **pP** **17 07 59.2 +0.5**
baz=90
Y31A **Rekieta Farm,** **90.02 54** ⇓P **P** **17 06 53.1 -0.1**
baz=90,SNR=10
Y31A ⇓pP **pP** **17 07 58.9 +0.2**
baz=90
SRDT **SRDT** **90.05 285** P **P** **17 06 55.2 +1.6**
comp=Z,167nm,1.5s,comp=Z,14μm
H21A **Big Horn, Sher** **90.06 42** ⇑P **P** **17 06 53.1 -0.1**
baz=90,SNR=6.5
H21A ⇑pP **pP** **17 07 59.1 +0.4**
baz=90
I22A **9 Mile Ranch,** **90.06 43** ⇑P **P** **17 06 53.8 +0.6**
baz=90,SNR=15
I22A ⇑pP **pP** **17 07 59.8 +1.0**
baz=90
K23A **Bowen Ranch, D** **90.08 44** ⇑P **P** **17 06 53.6 +0.2**
baz=90,SNR=8.2
EGMT **Eagleton** **90.10 38** ⇓P **P** **17 06 54.0 +0.7**
baz=90,SNR=7.2
EGMT ⇓pP **pP** **17 07 59.7 +0.9**
baz=90
EGMT **Eagleton** **90.10 38** *e*P **P** **17 06 53.4 +0.2**
comp=Z,46nm,1.3s
EGMT *e*pP **pP** **17 08 00.7 +1.9**
635A **Leesville** **90.13 59** ⇑P **P** **17 06 54.2 +0.5**
baz=90
635A ⇓pP **pP** **17 08 00.0 +0.7**
baz=90
P26A **Davis Ranch, A** **90.17 48** ⇑P **P** **17 06 54.4 +0.5**
baz=90
P26A ⇑pP **pP** **17 07 59.3 -0.1**

	baz=90								
D19A	**Cripps Ranch,**	**90.18**	**39**	⇑	P		**P**	17 06 54.3	+0.7
	baz=90,SNR=21								
D19A				⇑	pP		**pP**	17 08 00.3	+1.2
	baz=90								
L24A	**Wheatland**	**90.21**	**45**	⇓	P		**P**	17 06 54.5	+0.5
	baz=90								
L24A				⇑	pP		**pP**	17 08 00.4	+0.9
	baz=90								
N25A	**Grover**	**90.22**	**46**	⇓	P		**P**	17 06 54.9	+0.8
	baz=90								
N25A				⇓	pP		**pP**	17 08 00.5	+0.9
	baz=90								
G21A	**Lodge Grass**	**90.24**	**41**	⇓	P		**P**	17 06 54.8	+0.8
	baz=90								
G21A				⇓	pP		**pP**	17 08 00.3	+0.7
	baz=90								
233A	**Rising Star**	**90.28**	**56**	⇑	P		**P**	17 06 54.8	+0.4
	baz=90,SNR=8.6								
W30A	**Crocket Farms**	**90.29**	**52**	⇑	P		**P**	17 06 54.5	+0.1
	baz=90								
W30A				⇑	pP		**pP**	17 07 59.8	-0.2
	baz=90								
434A	**Burnet**	**90.30**	**57**	⇓	P		**P**	17 06 54.3	-0.1
	baz=90,SNR=17								
434A				⇓	pP		**pP**	17 07 59.8	-0.2
	baz=90,SNR=6.0								
E20A	**Meyer Farm, Mu**	**90.30**	**40**	⇑	P		**P**	17 06 54.6	+0.4
	baz=90,SNR=9.7								
E20A				⇑	pP		**pP**	17 08 00.9	+1.1
	baz=90								
U29A	**Oasis Ranch, S**	**90.31**	**51**	⇑	P		**P**	17 06 54.3	-0.2
	baz=90								
U29A				⇓	pP		**pP**	17 08 00.6	+0.5
	baz=90								
S28A	**Manter**	**90.34**	**50**	⇓	P		**P**	17 06 54.5	-0.1
	baz=90								
S28A				⇑	pP		**pP**	17 08 00.7	+0.5
	baz=90								
Z32A	**Haskell**	**90.35**	**55**	⇑	P		**P**	17 06 54.8	+0.1
	baz=90,SNR=51								
Z32A				⇑	pP		**pP**	17 08 00.4	+0.2
	baz=90,SNR=12								
C19A	**Slack Wire Ran**	**90.36**	**38**	⇓	P		**P**	17 06 55.2	+0.7
	baz=90,SNR=17								
C19A				⇑	pP		**pP**	17 08 00.9	+0.8
	baz=90,SNR=5.7								
HHC	**Hu-ho-hao-te**	**90.39**	**314**		*e*P		**P**	17 06 55.4	+0.6
HHC					pP		**pP**	17 07 58.7	-1.6
HHC					sP		**sP**	17 08 29.2	+0.4
HHC					PP		**PP**	17 10 29.6	-4.0
HHC					SKS		**SKSac**	17 16 58.8	-0.9
HHC					S		**ScS**	17 17 28.4	-0.2
HHC					PMZ				
	comp=Z,44nm,1.1s								
HHC					PMZ				
	comp=Z,440nm,4.1s								
EFI	**East Falkland**	**90.39**	**147**	⇑	*e*P		**P**	17 06 55.1	+0.6
EFI					pmax		pmax		
	comp=Z,252nm,1.9s								
J23A	**Dilts Ranch, B**	**90.43**	**43**	⇑	P		**P**	17 06 55.3	+0.3
	baz=91								
KSCO	**Kaye Shedlock'**	**90.43**	**48**	⇓	P		**P**	17 06 55.9	+0.9
	baz=91								
KSCO				⇑	pP		**pP**	17 08 00.8	+0.2
	baz=91								
KSCO	**Kaye Shedlock'**	**90.43**	**48**		*e*P		**P**	17 06 56.2	+1.1
	comp=Z,168nm,1.5s								
KSCO					*e*pP		**pP**	17 08 03.6	+3.0
V30A	**Spur Ranch, Mi**	**90.45**	**52**	⇓	P		**P**	17 06 55.7	+0.5
	baz=91								
V30A				⇑	pP		**pP**	17 08 01.8	+1.1
	baz=91								
H22A	**Clearmont**	**90.47**	**42**	⇓	P		**P**	17 06 55.7	+0.6
	baz=91,SNR=14								
H22A				⇑	pP		**pP**	17 08 01.7	+1.0
	baz=91								
O26A	**Horse Wrangler**	**90.49**	**47**	⇓	P		**P**	17 06 55.5	+0.2
	baz=91,SNR=5.6								
O26A				⇑	pP		**pP**	17 08 01.7	+0.9
	baz=91								
133A	**Hamilton Ranch**	**90.50**	**55**	⇑	P		**P**	17 06 55.5	+0.1
	baz=91,SNR=14								
133A				⇑	pP		**pP**	17 08 01.4	+0.5
	baz=91,SNR=9.8								
X31A	**McDonald Ranch**	**90.51**	**53**	⇓	P		**P**	17 06 55.4	0.0
	baz=91,SNR=5.1								
X31A				⇑	pP		**pP**	17 08 00.5	-0.5
	baz=91								
334A	**Lometa**	**90.53**	**57**	⇓	P		**P**	17 06 55.2	-0.3
	baz=91,SNR=21								
334A				⇓	pP		**pP**	17 08 00.9	-0.2
	baz=91,SNR=7.8								
535A	**Dale**	**90.54**	**58**	⇓	P		**P**	17 06 55.7	+0.1
	baz=91								
535A				⇑	pP		**pP**	17 08 01.3	+0.1
	baz=91								
F21A	**Absaloka Mine,**	**90.58**	**41**	⇑	P		**P**	17 06 56.2	+0.7
	baz=91,SNR=5.9								
F21A				⇑	pP		**pP**	17 08 02.2	+1.1
	baz=91								
D20A	**Manuel Ranch,**	**90.58**	**39**	⇑	P		**P**	17 06 56.1	+0.6
	baz=91,SNR=21								
D20A				⇓	pP		**pP**	17 08 01.2	+0.2
	baz=91,SNR=5.8								
T29A	**Hugoton**	**90.59**	**50**	⇓	P		**P**	17 06 55.8	0.0
	baz=91								
T29A				⇓	pP		**pP**	17 08 01.2	-0.1
	baz=91								
K24A	**Anderson Ranch**	**90.59**	**44**	⇑	P		**P**	17 06 56.1	+0.4
	baz=91								
K24A				⇑	pP		**pP**	17 08 01.3	-0.1
	baz=91								
Y32A	**R-V Farms, Ver**	**90.66**	**54**	⇑	P		**P**	17 06 56.2	+0.1
	baz=91,SNR=17								
Y32A				⇓	pP		**pP**	17 08 01.5	-0.2
	baz=91,SNR=9.0								
P27A	**Ficken Ranch,**	**90.70**	**48**	⇓	P		**P**	17 06 56.1	-0.2
	baz=91								
P27A				⇓	pP		**pP**	17 08 02.4	+0.5
	baz=91								
R28A	**Tribune**	**90.72**	**49**	⇑	P		**P**	17 06 56.3	-0.1
	baz=91,SNR=15								
R28A				⇑	pP		**pP**	17 08 01.2	-0.8
	baz=91,SNR=12								
I23A	**Meade Ranch, G**	**90.74**	**43**	⇓	P		**P**	17 06 56.8	+0.4
	baz=91								
I23A				⇓	pP		**pP**	17 08 02.9	+0.9
	baz=91								
636A	**Smothers Creek**	**90.74**	**59**	⇑	P		**P**	17 06 57.2	+0.7
	baz=91								
636A				⇑	pP		**pP**	17 08 02.8	+0.7
	baz=91								
KMI	**Kunming**	**90.76**	**296**		P		**P**	17 06 58.5	+1.5
KMI					pP		**pP**	17 08 05.7	+3.1
KMI					sP		**sP**	17 08 31.2	+0.2
KMI					PP		**PP**	17 10 34.6	-2.4
KMI					SKS		**SKSac**	17 17 02.4	-0.3
KMI					S		**ScS**	17 17 33.6	+0.9
KMI					PMZ				
	comp=Z,71nm,0.9s								
KMI					PMZ				
	comp=Z,650nm,4.9s								
KMI					LN				
	comp=Z,260nm,20.3s								
KMI					LE				
	comp=Z,280nm,24.0s								
KMI					LZ				
	comp=Z,420nm,24.0s								
W31A	**Holland Ranch,**	**90.77**	**53**	⇑	P		**P**	17 06 56.9	+0.3
	baz=91,SNR=20								
B19A	**Brinkman Farms**	**90.79**	**38**	⇑	P		**P**	17 06 57.0	+0.7
	baz=91,SNR=17								
B19A				⇑	pP		**pP**	17 08 02.2	+0.2
	baz=91								
U30A	**WK&E Inc. Balk**	**90.80**	**51**	⇑	P		**P**	17 06 56.6	-0.2
	baz=91								
U30A				⇑	pP		**pP**	17 08 02.8	+0.5
	baz=91								
G22A	**Birney**	**90.81**	**42**	⇑	P		**P**	17 06 56.9	+0.3
	baz=91,SNR=6.3								
N26A	**Koester Ranch,**	**90.81**	**47**	⇑	P		**P**	17 06 57.0	+0.3
	baz=91								
N26A				⇓	pP		**pP**	17 08 02.9	+0.5
	baz=91								
435B	**Jarrell**	**90.83**	**58**	⇓	P		**P**	17 06 57.3	+0.4
	baz=91,SNR=5.6								
234A	**Clairette**	**90.87**	**56**	⇓	P		**P**	17 06 57.0	-0.1
	baz=91,SNR=12								
Z33A	**Whitaker Ranch**	**90.89**	**55**	⇑	P		**P**	17 06 57.6	+0.4
	baz=91,SNR=20								
L25A	**Engebretsen Ra**	**90.90**	**45**	⇓	P		**P**	17 06 58.0	+0.8
	baz=91								
S29A	**Ulysses**	**90.91**	**50**	⇓	P		**P**	17 06 57.2	-0.1
	baz=91								
EDM	**Edmonton**	**90.91**	**32**		*e*P		**P**	17 06 57.0	+0.2
EDM	**Edmonton**	**90.91**	**32**		*e*P		**P**	17 06 57.0	+0.2
EDM					*e*pP		**pP**	17 08 02.5	+0.1
X32A	**Elmer**	**90.95**	**54**	⇑	P		**P**	17 06 57.3	-0.2
	baz=91,SNR=18								
E21A	**Keefer Ranch,**	**90.95**	**40**	⇓	P		**P**	17 06 58.3	+1.1
	baz=91								
536A	**Bastrop**	**90.97**	**58**	⇑	P		**P**	17 06 57.9	+0.4
	baz=91								
C20A	**Veseth Ranch,**	**90.97**	**39**	⇑	P		**P**	17 06 58.0	+0.8
	baz=91,SNR=34								
J24A	**Dixon Ranch, L**	**90.97**	**44**	⇓	P		**P**	17 06 57.4	0.0
	baz=91								
Q28A	**Sharon Springs**	**91.01**	**49**	⇓	P		**P**	17 06 57.8	+0.1
	baz=91								
CRAI	**Chiangrai**	**91.02**	**291**		P		**P**	17 06 55.5	-2.5
	comp=Z,24nm,1.6s,comp=Z,1µm								
O27A	**Beecher Island**	**91.04**	**47**	⇓	P		**P**	17 06 57.6	-0.2
	baz=91								
H23A	**Clabaugh Cattl**	**91.06**	**42**	⇑	P		**P**	17 06 57.9	+0.1
	baz=91								
LAMP	**Lampang**	**91.06**	**289**		P		**P**	17 06 59.4	+1.1
	comp=Z,48nm,0.7s,comp=Z,376nm								
V31A	**Spring Creek L**	**91.08**	**52**	⇑	P		**P**	17 06 58.8	+0.8
	baz=91,SNR=10.0								
F22A	**Rosebud**	**91.09**	**41**	⇓	P		**P**	17 06 58.2	+0.4
	baz=91								
T30A	**Plains**	**91.10**	**51**	⇓	P		**P**	17 06 58.0	-0.1
	baz=91								
134A	**White-Moore Ra**	**91.14**	**56**	⇑	P		**P**	17 06 58.3	0.0
	baz=91,SNR=14								
A19A	**Klindworth Far**	**91.14**	**38**	⇓	P		**P**	17 06 58.2	+0.2
	baz=91								
335A	**Moody**	**91.14**	**57**	⇑	P		**P**	17 06 58.4	0.0
	baz=91,SNR=12								
M26A	**McRoberts Ranc**	**91.14**	**46**	⇓	P		**P**	17 06 58.4	+0.1
	baz=91								
K25A	**Mack Ranch, Ha**	**91.17**	**45**	⇓	P		**P**	17 06 58.5	+0.1
	baz=91								
R29A	**Marienthal**	**91.23**	**49**	⇓	P		**P**	17 06 58.8	0.0
	baz=91								
I24A	**Kuemmerle Ranc**	**91.23**	**43**	⇑	P		**P**	17 06 58.6	0.0
	baz=91								
W32A	**Sentinel**	**91.26**	**53**	⇓	P		**P**	17 06 58.9	0.0
	baz=91,SNR=20								
N27A	**Anderson Farm,**	**91.27**	**47**	⇓	P		**P**	17 06 58.8	-0.1
	baz=91								
P28A	**Saint Francis**	**91.28**	**48**	⇓	P		**P**	17 06 58.7	-0.2
	baz=91								
Y33A	**Hilltop Ranch,**	**91.28**	**54**	⇑	P		**P**	17 06 59.0	+0.1
	baz=91,SNR=12								
B20A	**Solberg Farm,**	**91.31**	**38**	⇓	P		**P**	17 06 59.2	+0.4
	baz=92								
U31A	**Nine Bar Ranch**	**91.32**	**52**	⇑	P		**P**	17 06 59.1	0.0
	baz=92								
BTO	**Baotou**	**91.33**	**313**		*e*P		**P**	17 06 59.2	0.0
G23A	**Biddle**	**91.36**	**42**	⇓	P		**P**	17 06 59.6	+0.4
	baz=92,SNR=7.4								
S30A	**Montezuma**	**91.39**	**50**	⇓	P		**P**	17 06 59.6	+0.1
	baz=92								
WHTX	**Lake Whitney,**	**91.40**	**56**	⇓	P		**P**	17 06 59.7	+0.2
	baz=92								
WHTX	**Lake Whitney,**	**91.40**	**56**		*e*P		**P**	17 06 59.0	-0.5
	comp=Z,19nm,0.7s								
L26A	**Underwood Farm**	**91.44**	**45**	⇑	P		**P**	17 07 00.3	+0.7
	baz=92								
436A	**Wall Ranch, Ga**	**91.45**	**58**	⇓	P		**P**	17 07 00.1	+0.4
	baz=92								
WMOK	**Wichita Mounta**	**91.46**	**54**		*e*P		**P**	17 06 59.3	-0.5
WMOK					pmax		pmax		
	comp=Z,15nm,1.0s								
WMOK	**Wichita Mounta**	**91.46**	**54**		*e*P		**P**	17 06 59.3	-0.5
	comp=Z,15nm,1.0s								
O28A	**Krutsinger Ran**	**91.50**	**48**	⇓	P		**P**	17 07 00.8	+0.9
	baz=92								
LAO	**LASA Array**	**91.54**	**40**		*e*P		**P**	17 07 00.2	+0.3
	comp=Z,118nm,1.3s								
LAO					*e*pP		**pP**	17 08 05.2	-0.3
Q29A	**Oakley**	**91.54**	**49**	⇓	P		**P**	17 07 00.3	+0.2
	baz=92,SNR=5.7								
J25A	**Sunshine Ranch**	**91.56**	**44**	⇑	P		**P**	17 07 00.4	+0.2
	baz=92,SNR=9.6								
537A	**Green Hill Far**	**91.57**	**59**	⇑	P		**P**	17 07 00.9	+0.6
	baz=92								
Z34A	**Collier Ranch,**	**91.58**	**55**	⇓	P		**P**	17 07 00.1	-0.2
	baz=92								
A20A	**Cobblestone Ra**	**91.58**	**38**	⇑	P		**P**	17 07 00.3	+0.3
	baz=92								
E22A	**Miles City**	**91.59**	**41**	⇑	P		**P**	17 07 00.5	+0.3
	baz=92								
X33A	**Lawton**	**91.59**	**54**	⇓	P		**P**	17 07 00.2	-0.2
	baz=92,SNR=7.7								
F23A	**Volborg**	**91.59**	**41**	⇑	P		**P**	17 07 00.6	+0.4
	baz=92,SNR=12								
336A	**Riesel**	**91.64**	**57**	⇑	P		**P**	17 07 00.4	-0.2
	baz=92,SNR=7.7								
135A	**Vickery Place,**	**91.65**	**56**	⇓	P		**P**	17 07 00.4	-0.3
	baz=92								
CMAR	**Chiang Mai Arr**	**91.65**	**289**		P		**P**	17 07 02.1	+1.2
	comp=Z,29nm,0.8s,baz=117,slow=2.6,SNR=170								
CMAR					PP		**PP**	17 10 47.1	+3.2
	comp=Z,2.6nm,0.7s,baz=113,slow=6.5,SNR=5.5								
CMAR					PKKPbc		**PKKPbc**	17 24 19.5	+0.6
	comp=Z,1.5nm,0.8s,baz=285,slow=5.2,SNR=9.5								
K26A	**Motz Farm, Whi**	**91.66**	**45**	⇑	P		**P**	17 07 01.0	+0.4
	baz=92,SNR=10								
OGNE	**Ogallala**	**91.67**	**47**	⇓	P		**P**	17 07 01.1	+0.4
	baz=92								
OGNE	**Ogallala**	**91.67**	**47**		PFAKE			17 07 10.0	+9.3
OGNE					LR		LR		
	comp=Z,351nm,21.0s								
M27A	**Reverse DX Ran**	**91.68**	**46**	⇓	P		**P**	17 07 00.9	+0.1
	baz=92								
H24A	**Dirks Ranch, A**	**91.68**	**43**	⇑	P		**P**	17 07 00.8	+0.1
	baz=92,SNR=30								
RSSD	**Black Hills**	**91.73**	**43**		*e*P		**P**	17 07 00.5	-0.6
RSSD					pmax		pmax		
	comp=Z,43nm,1.0s								
RSSD	**Black Hills**	**91.73**	**43**		*e*P		**P**	17 07 00.5	-0.6
	comp=Z,43nm,1.0s								
RSSD					*e*pP		**pP**	17 08 07.7	+0.9
T31A	**Randall Ranch,**	**91.74**	**51**	⇓	P		**P**	17 07 01.2	+0.1
	baz=92								
CMMT	**Chiang Mai**	**91.77**	**289**		P		**P**	17 07 02.1	+0.5
	comp=Z,98nm,0.9s,comp=Z,1µm								
CHTO	**Chiang Mai**	**91.78**	**289**		*e*P		**P**	17 07 02.5	+0.9
CHTO					pmax		pmax		
	comp=Z,50nm,0.8s								
CHTO					MLR		MLR		
	comp=Z,310nm,21.0s								
CHTO	**Chiang Mai**	**91.78**	**289**		P		**P**	17 07 02.8	+1.3
	SNR=22								
CHTO	**Chiang Mai**	**91.78**	**289**		*e*P		**P**	17 07 02.5	+0.9
	comp=Z,50nm,0.8s								
CHTO					LR		LR		
	comp=Z,310nm,21.0s								
CHTO	**Chiang Mai**	**91.78**	**289**		P		**P**	17 07 02.2	+0.6
	comp=Z,333nm,0.9s,comp=Z,5µm								
D22A	**Cohagen**	**91.78**	**40**	⇑	P		**P**	17 07 01.8	+0.8
	baz=92,SNR=5.4								
R30A	**Dighton**	**91.79**	**50**	⇓	P		**P**	17 07 01.4	+0.1
	baz=92,SNR=9.3								
W33A	**Cado, Fort Co**	**91.86**	**53**	⇓	P		**P**	17 07 02.3	+0.7
	baz=92,SNR=5.4								
P29A	**Atwood**	**91.87**	**48**	⇓	P		**P**	17 07 02.0	+0.3
	baz=92,SNR=5.9								
I25A	**Rochford**	**91.88**	**43**	⇓	P		**P**	17 07 01.9	+0.1
	baz=92,SNR=34								
B21A	**Ellsworth Farm**	**91.89**	**39**	⇓	P		**P**	17 07 02.2	+0.7
	baz=92								
N28A	**Pribbeno Ranch**	**91.90**	**47**	⇓	P		**P**	17 07 02.0	+0.3
	baz=92								
HKT	**Hockley**	**91.91**	**59**		*e*P		**P**	17 07 02.0	+0.2
HKT	**Hockley**	**91.91**	**59**		*e*P		**P**	17 07 01.9	+0.2
HKT					*e*pP		**pP**	17 08 08.0	+0.6
Y34A	**Reagan Ranch,**	**91.93**	**55**	⇓	P		**P**	17 07 02.0	+0.1
	baz=92								
U32A	**Winter Ranch,**	**91.95**	**52**	⇑	P		**P**	17 07 02.6	+0.6
	baz=92,SNR=8.0								
L27A	**T5 Ranch, Ells**	**91.97**	**46**	⇑	P		**P**	17 07 02.5	+0.5
	baz=92								
437A	**Phantom Ranch,**	**91.99**	**58**	⇓	P		**P**	17 07 02.9	+0.6
	baz=92								
J26A	**Sides Ranch, S**	**92.00**	**44**	⇑	P		**P**	17 07 02.4	+0.3
	baz=92,SNR=13								
E23A	**Ismay**	**92.01**	**41**	⇑	P		**P**	17 07 02.8	+0.7
	baz=92								
G24A	**Alzada**	**92.03**	**42**	⇑	P		**P**	17 07 02.6	+0.4
	baz=92,SNR=7.7								
Z35A	**Perchaven, San**	**92.07**	**55**	⇑	P		**P**	17 07 02.8	+0.2
	baz=92,SNR=8.5								
CMAI	**Chiengmai2**	**92.08**	**290**		P		**P**	17 07 04.9	+1.8
	comp=Z,51nm,1.0s,comp=Z,2µm								
CD2	**Chengdu**	**92.09**	**302**		P		**P**	17 07 02.3	-0.5
CD2					pP		**pP**	17 08 06.6	-1.9
CD2					sP		**sP**	17 08 36.8	-0.1
CD2					PP		**PP**	17 10 48.8	+1.7
CD2					SKS		**SKSac**	17 17 07.1	-2.5
CD2					S		**S**	17 17 37.6	-3.6
CD2					sS		**sS**	17 19 34.6	-2.9
CD2					SS		**SS**	17 23 57.6	-0.7
CD2					PMZ				
	comp=Z,30nm,0.4s								
CD2					PMZ				
	comp=Z,460nm,6.8s								
CD2					LN				
	comp=Z,810nm,15.2s								
CD2					LE				
	comp=Z,440nm,18.6s								
CD2					LZ				
	comp=Z,600nm,23.0s								
S31A	**Mullinville**	**92.09**	**51**	⇑	P		**P**	17 07 03.0	+0.3
	baz=92								
Q30A	**Quinter**	**92.11**	**49**	⇑	P		**P**	17 07 02.9	+0.2
	baz=92,SNR=14								
X34A	**Smith Ranch, M**	**92.12**	**54**	⇑	P		**P**	17 07 03.1	+0.3
	baz=92,SNR=17								
O29A	**4D Ranch, Culb**	**92.18**	**48**	⇑	P		**P**	17 07 03.1	+0.1
	baz=92								
A21A	**Bergtoll Ranch**	**92.22**	**38**	⇑	P		**P**	17 07 03.3	+0.4
	baz=92								
H25A	**Fruitdale**	**92.24**	**43**	⇓	P		**P**	17 07 03.1	-0.1
	baz=92,SNR=7.7								
C22A	**Vida**	**92.24**	**39**	⇑	P		**P**	17 07 03.5	+0.4
	baz=92								
F24A	**Ekalaka**	**92.25**	**42**	⇓	P		**P**	17 07 03.4	+0.1
	baz=92,SNR=11								
V33A	**Lossen Ranch,**	**92.26**	**53**	⇓	P		**P**	17 07 03.5	0.0
	baz=92								
538A	**Harpers Horsep**	**92.28**	**59**	⇑	P		**P**	17 07 04.5	+0.9
	baz=92								
K27A	**Flueckinger Fa**	**92.29**	**45**	⇑	P		**P**	17 07 04.0	+0.5
	baz=92								
M28A	**Bar X Bar Ranc**	**92.32**	**47**	⇑	P		**P**	17 07 03.8	+0.2
	baz=92								
T32A	**Huddler Ranch,**	**92.32**	**51**	⇓	P		**P**	17 07 03.8	0.0
	baz=92								
P30A	**Selden**	**92.33**	**49**	⇓	P		**P**	17 07 04.0	+0.3
	baz=92,SNR=8.4								
R31A	**Burdett**	**92.33**	**50**	⇑	P		**P**	17 07 03.8	0.0
	baz=92,SNR=5.6								
337A	**Centerville**	**92.38**	**58**	⇑	P		**P**	17 07 04.1	+0.1
	baz=92								
D23A	**Lindsay**	**92.38**	**40**	⇑	P		**P**	17 07 04.4	+0.6
	baz=93,SNR=9.2								
W34A	**Bridge Creek,**	**92.41**	**53**	⇑	P		**P**	17 07 04.1	-0.1
	baz=93								
W34A	**Bridge Creek,**	**92.41**	**53**		*e*P		**P**	17 07 04.7	+0.5
	comp=Z,44nm,1.1s								
W34A					*e*pP		**pP**	17 08 10.2	+0.4
B22A	**Reddig Ranch S**	**92.43**	**39**	⇑	P		**P**	17 07 04.6	+0.6
	baz=93								
I26A	**New Underwood**	**92.45**	**44**	⇓	P		**P**	17 07 04.7	+0.4
	baz=93,SNR=7.1								
MHMT	**Maesarieng**	**92.46**	**288**		P		**P**	17 07 06.5	+1.8
	comp=Z,18nm,1.2s,comp=Z,426nm								
L28A	**Connealy Angus**	**92.47**	**46**	⇓	P		**P**	17 07 05.4	+1.0
	baz=93								
YAK	**Yakutsk**	**92.48**	**338**		*c i*P		**P**	17 07 02.5	-1.3
YAK					*e*			17 10 44.6	
YAK					*e*S		**SKSac**	17 17 08.7	-1.5
YAK					*e*			17 17 35.2	
YAK					*e*SS		**SS**	17 24 08.1	+5.8
YAK					pmax		pmax		
	comp=Z,28nm,0.8s								
YAK					pmax		pmax		
	comp=E,12nm,1.2s								
YAK					pmax		pmax		
	comp=N,7.0nm,1.2s								
YAK					pmax		pmax		
	comp=Z,76nm,1.6s								
YAK					pmax		pmax		
	comp=E,72nm,2.3s								
YAK					pmax		pmax		
	comp=N,61nm,1.9s								
YAK					smax		smax		
	comp=N,211nm,2.3s								
YAK					smax		smax		
	comp=E,161nm,2.0s								
YAK	**Yakutsk**	**92.48**	**338**		*e*P		**P**	17 07 02.7	-1.0
	comp=E,50nm,0.7s								
438A	**Sam Houston St**	**92.49**	**58**	⇓	P		**P**	17 07 05.5	+0.9
	baz=93								
S32A	**Newby Ranch, P**	**92.52**	**51**	⇓	P		**P**	17 07 04.8	+0.2
	baz=93								
N29A	**Votaw Ranch, W**	**92.59**	**47**	⇓	P		**P**	17 07 05.7	+0.8
	baz=93								
G25A	**Newell**	**92.60**	**43**	⇓

H27A Howes 93.22 43 ⇓P P 17 07 08.0 +0.3
baz=93,SNR=8.8
O31A Woolen Ranch, 93.22 48 ⇓P P 17 07 07.9 +0.1
baz=93
238A Jacksonville 93.24 57 ⇓P P 17 07 08.4 +0.4
baz=93
J28A Allard Ranch, 93.26 45 ⇓P P 17 07 08.2 +0.2
baz=93,SNR=9.5
Q32A Meitler Ranch, 93.31 50 ⇓P P 17 07 08.2 0.0
baz=94,SNR=7.0
V35A Meyer Ranch, C 93.32 53 ⇓P P 17 07 08.2 -0.1
baz=94
F26A Lodgepole 93.36 42 ⇓P P 17 07 08.7 +0.4
baz=94
M30A Dale-Ortello V 93.40 47 ⇓P P 17 07 09.2 +0.6
baz=94
339A Huntington 93.44 58 ⇓P P 17 07 09.7 +0.8
baz=94
R33A Olander Ranch, 93.45 50 ⇓P P 17 07 09.4 +0.5
baz=94
138A Matatall Enter 93.50 57 ⇓P P 17 07 09.7 +0.5
baz=94
NATX Nacogdoches 93.51 58 PFAKE 17 07 20.0 +11
NATX LR LR
comp=Z,826nm,21.0s
D25A Fairfield 93.52 41 ⇓P P 17 07 09.7 +0.7
baz=94
P32A Huiting Farm, 93.52 49 ⇑P P 17 07 09.5 +0.3
baz=94
INK Inuvik 93.53 15 P P 17 07 08.3 -0.1
comp=Z,13nm,0.6s,baz=231,slow=4.3,SNR=44
I28A Midland 93.54 44 ⇑P P 17 07 09.5 +0.4
baz=94,SNR=11
DGMT Dagmar 93.58 39 ⇑P P 17 07 10.0 +0.8
baz=94
DGMT Dagmar 93.58 39 *e*P P 17 07 09.8 +0.6
comp=Z,186nm,1.6s
DGMT LR LR
comp=Z,370nm,19.0s
K29A Lazy Trails An 93.60 46 ⇑P P 17 07 09.8 +0.3
baz=94
G27A Dupree 93.63 43 ⇓P P 17 07 09.8 +0.3
baz=94,SNR=10
L30A Spencer Herefo 93.67 47 ⇑P P 17 07 09.9 +0.1
baz=94
N31A Bailey Ranch, 93.75 48 ⇑P P 17 07 10.3 +0.1
baz=94
239A Gary 93.76 57 ⇓P P 17 07 10.5 +0.2
baz=94
E26A Carlson Angus 93.76 42 ⇑P P 17 07 10.3 +0.1
baz=94
F27A Lemmon 93.78 42 ⇑P P 17 07 10.6 +0.4
baz=94,SNR=10
C25A Freed Ranch, W 93.81 40 ⇑P P 17 07 10.8 +0.5
baz=94
Q33A Connelly Farm, 93.83 50 ⇓P P 17 07 10.5 -0.1
baz=94
S34A Willow Spring 93.86 51 ⇓P P 17 07 10.8 0.0
baz=94
J29A Okreek 93.86 45 ⇓P P 17 07 11.0 +0.4
baz=94,SNR=5.3
CFAA Coronel Fontan 93.87 126 P P 17 07 11.3 +0.2
comp=Z,3.6nm,0.8s,baz=246,slow=3.9,SNR=61
M31A Lambtecht Ranc 93.94 47 ⇓P P 17 07 11.9 +0.8
baz=94,SNR=8.5
LZH Lanzhou 93.97 307 ⇑P P 17 07 12.4 +0.9
LZH pP **pP** 17 08 15.0 -2.2
LZH sP sP 17 08 40.3 -5.3
LZH PP **PP** 17 11 05.4 +3.6
LZH SKS **SKSac** 17 17 20.1 +0.2
LZH S **S** 17 17 56.0 -1.7
LZH sS sS 17 19 48.0 -6.4
LZH SS **SS** 17 24 27.3 +2.3
LZH PMZ
comp=Z,210nm,1.6s
LZH PMZ
comp=Z,430nm,4.8s
340A Bronson 94.00 58 ⇓P P 17 07 11.9 +0.4
baz=94
O32A Brockman Farm, 94.00 49 ⇑P P 17 07 12.0 +0.6
baz=94
D26A Manning 94.02 41 ⇑P P 17 07 12.0 +0.7
baz=94
K30A Basset 94.04 46 ⇓P P 17 07 12.0 +0.5
baz=94,SNR=11
P33A Williams Farm, 94.10 50 ⇓P P 17 07 12.3 +0.5
baz=94
B25A Knox Farm, Ray 94.11 40 ⇑P P 17 07 12.2 +0.5
baz=94
I29A Vivian Onida 94.12 45 ⇓P P 17 07 12.3 +0.4
baz=94,SNR=5.4
G28A Parade 94.15 43 ⇓P P 17 07 12.4 +0.4
baz=94
TUL1 Leonard 94.16 53 ⇑P P 17 07 12.4 +0.2
baz=94
TUL1 Leonard 94.16 53 *e*P P 17 07 12.2 +0.1
comp=Z,22nm,1.0s
N32A Stulken Farm, 94.19 48 ⇑P P 17 07 12.7 +0.5
baz=94
CIT Chita 94.25 324 *e*P P 17 07 12.0 -0.2
CIT pmax pmax
comp=Z,94nm,1.9s
E27A Carson 94.31 42 ⇓P P 17 07 12.8 +0.2
baz=94
L31A Butterfield Fa 94.36 47 ⇑P P 17 07 13.5 +0.5
baz=94,SNR=6.7
J30A Dallas 94.38 45 ⇓P P 17 07 13.2 +0.2
baz=94,SNR=6.8
H29A Onida 94.43 44 ⇑P P 17 07 13.3 +0.1
baz=95
S35A Otter Creek Ra 94.43 52 ⇓P P 17 07 13.4 0.0
baz=95,SNR=6.5
NNA Nana 94.46 104 PFAKE 17 07 30.0 +16
NNA LR LR
comp=Z,404nm,20.0s
BGNE Belgrade 94.54 48 ⇓P P 17 07 14.7 +0.9
baz=95,SNR=5.4
BGNE Belgrade 94.54 48 *e*P P 17 07 14.5 +0.7
comp=Z,108nm,0.8s
BGNE *e*pP **pP** 17 08 23.0 +3.5
F28A McLaughlin 94.55 43 ⇓P P 17 07 13.9 +0.2
baz=95
C26A Wahner Farm, P 94.56 41 ⇓P P 17 07 14.2 +0.4
baz=95
JTS JuntasAbangare 94.60 81 *d*/*i*P P 17 07 14.6 -0.1
JTS JuntasAbangare 94.60 81 *e*P P 17 07 15.0 +0.3
comp=Z,39nm,1.3s
JTS *e*pP **pP** 17 08 18.7 -1.7
D27A Center 94.61 41 ⇓P P 17 07 14.4 +0.4
baz=95
I30A Oacoma 94.66 45 ⇑P P 17 07 14.2 -0.1
baz=95
B26A Jensen Ranch, 94.71 40 ⇑P P 17 07 14.5 +0.1
baz=95
KSU1 Kansas State U 94.75 50 ⇑P P 17 07 15.1 +0.3
baz=95
KSU1 Kansas State U 94.75 50 PFAKE 17 07 30.0 +15
KSU1 LR LR
comp=Z,366nm,20.0s
G29A Hoven 94.84 44 ⇓P P 17 07 15.0 -0.1
baz=95
E28A Huff 94.91 42 ⇓P P 17 07 15.4 0.0
baz=95
S36A Lake Cedric, C 94.98 52 ⇑P P 17 07 15.6 -0.3
baz=95
F29A Eureka 95.16 43 ⇑P P 17 07 16.3 -0.2
baz=95
R36A Gordon, Harris 95.27 51 ⇓P P 17 07 17.1 0.0
baz=95
G30A Faulkton 95.32 44 ⇑P P 17 07 17.4 +0.2
baz=96
MIAR Mount Ida 95.36 55 *e*P P 17 07 17.6 -0.1
MIAR pmax pmax
comp=Z,57nm,1.9s
MIAR Mount Ida 95.36 55 *e*P P 17 07 17.6 -0.1
comp=Z,57nm,1.9s
MIAR *e*pP **pP** 17 08 23.2 -0.2
YKA Yellowknife Ar 95.51 24 P P 17 07 17.1 -0.5
comp=Z,4.6nm,0.7s,baz=243,slow=4.7,SNR=97
YKA pP **pP** 17 08 22.5 -0.9
comp=Z,5.1nm,0.9s,baz=238,slow=4.1,SNR=5.2
YKA PKKPbc **PKKPdf** 17 24 06.0 -4.9
comp=Z,1.4nm,0.5s,baz=42,slow=2.3,SNR=22
A27A Ledoux Ranch, 95.55 40 ⇑P P 17 07 18.5 +0.3
baz=96
E29A Napoleon 95.57 42 ⇓P P 17 07 18.4 0.0
baz=96
F30A Leola 95.68 43 ⇑P P 17 07 18.8 0.0
baz=96
R37A Teagarden Farm 95.76 51 ⇑P P 17 07 19.2 -0.2
baz=96
B28A Dugan Ranch, T 95.88 40 ⇑P P 17 07 20.2 +0.5
baz=96
E30A Jud 96.01 43 ⇓P P 17 07 20.2 -0.1
baz=96
MDND Maddock 96.11 41 ⇓P P 17 07 20.8 0.0
baz=96
A28A Rude Farm, Bot 96.12 40 ⇓P P 17 07 20.9 +0.1
baz=96
Q37A Longview Farm, 96.23 51 ⇑P P 17 07 22.1 +0.6
baz=96
ULN Ulaanbaatar 96.27 319 *c*/*i*P P 17 07 21.4 -0.3
ULN pmax pmax
comp=Z,29nm,1.3s
ULN Ulaanbaatar 96.27 319 P P 17 07 21.2 -0.4
SNR=16
ULN Ulaanbaatar 96.27 319 *e*P P 17 07 20.5 -1.1
comp=Z,62nm,1.7s
D30A Buchanan 96.34 42 ⇓P P 17 07 22.3 +0.5
baz=96
ECSD EROS Data Cent 96.47 46 ⇑P P 17 07 22.3 -0.2
baz=97
ECSD EROS Data Cent 96.47 46 *e*P P 17 07 21.9 -0.6
comp=Z,145nm,1.8s
ECSD *e*pP **pP** 17 08 29.7 +1.4
B29A Wagenman Farm, 96.50 41 ⇓P P 17 07 22.7 +0.2
baz=97
SONM Songino Array 96.67 319 P P 17 07 22.3 -1.1
comp=Z,2.7nm,0.7s,baz=132,slow=3.3,SNR=24
BOD Bodaibo 96.70 330 *e*P P 17 07 20.5 -2.6
BOD pmax pmax
comp=Z,12nm,1.7s
C30A Mose, Pekin 96.75 42 ⇑P P 17 07 23.6 0.0
baz=97
A29A Manning Farm, 96.75 40 ⇓P P 17 07 23.9 +0.2
baz=97
LVC Limon Verde 97.24 117 *e*P Pdif 17 07 29.4 +2.5
comp=Z,27nm,1.3s
LVC *e*pP pP 17 08 33.4 +0.7
OTAV Otavalo 97.31 92 PFAKE 17 07 40.0 +12
OTAV LR LR
comp=Z,440nm,20.0s
A30A Hoffart Farm, 97.33 41 ⇓P Pdif 17 07 26.9 +0.6
baz=98
FFC Flin Flon 97.52 34 *e*pP **pP** 17 08 34.1 +1.4
FFC LR LR
comp=Z,249nm,19.0s
GTA Gaotai 98.13 309 *e*P Pdif 17 07 30.2 0.0
GTA PMZ
comp=Z,9.0nm,1.6s
GTA PMZ
comp=Z,220nm,5.7s
GTA LN
comp=Z,260nm,20.0s
GTA LE
comp=Z,200nm,14.7s
GTA LZ
comp=Z,280nm,16.9s
AGMN Agassiz Nation 98.60 42 ⇑P P 17 07 32.2 +0.3
baz=99
AGMN Agassiz Nation 98.60 42 *e*pP **pP** 17 08 37.2 -0.6
AGMN LR LR
comp=Z,486nm,20.0s
TIXI Tiksi 98.90 345 ⇑*i*P Pdif 17 07 31.7 -1.0
TIXI pmax pmax
comp=Z,10.0nm,1.2s
TIXI Tiksi 98.90 345 *e*Pdif Pdif 17 07 31.5 -1.1
comp=Z,14nm,1.4s
TIXI *e*pP pP 17 08 42.7 +4.1
BCIP Isla Barro Col 98.99 84 PFAKE 17 07 50.0 +16
BCIP LR LR
comp=Z,133nm,20.0s
ULM Lac du Bonnet 99.28 40 P **Pdif** 17 07 33.9 -0.9
comp=Z,1.7nm,0.7s,baz=249,slow=6.5,SNR=3.5
ULM pP **pP** 17 08 39.2 -1.6
comp=Z,6.0nm,0.9s,baz=280,slow=7.0,SNR=5.3
ULM Lac du Bonnet 99.28 40 P **Pdif** 17 07 33.9 -0.9
ULM pP **pP** 17 08 39.2 -1.6
ULM *e*pP **pwP** 17 08 41.3 +0.5
ZAK Zakamensk 99.50 320 *e*P **Pdif** 17 07 34.3 -1.7
ZAK pmax pmax
comp=Z,5.0nm,1.5s
SPMN Marine on St. 99.54 45 ⇑P **Pdif** 17 07 36.7 +0.5
baz=100
SPMN Marine on St. 99.54 45 *e*pP pP 17 08 43.8 +1.7
TLY Talaya 99.73 322 *e*P **Pdif** 17 07 37.8 +0.9
TLY *e*PPP PPP 17 13 49.2
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY Talaya 99.73 322 PFAKE 17 07 50.0 +13
TLY LR LR
comp=Z,306nm,21.0s
LPAZ La Paz 100.57 112 P **Pdif** 17 07 43.1 +0.9
comp=Z,4.6nm,0.9s,baz=254,slow=4.3,SNR=13
LPAZ PP **PP** 17 11 52.2 -0.5
comp=Z,7.8nm,1.2s,baz=249,slow=5.2,SNR=5.2
LPAZ PKKPbc **PKKPbc** 17 23 55.7 +0.2
comp=Z,2.3nm,0.8s,baz=88,slow=2.6,SNR=7.6
JFWS Jewell Farm 100.57 48 *e*P **Pdif** 17 07 41.9 +1.1
JFWS MLR MLR
comp=Z,202nm,19.0s
JFWS Jewell Farm 100.57 48 *e*Pdif **Pdif** 17 07 41.9 +1.1
JFWS LR LR
comp=Z,202nm,19.0s
EYMN Ely 101.25 43 PFAKE 17 08 00.0 +16
EYMN LR LR
comp=Z,187nm,19.0s
LSA Lhasa 101.98 297 PFAKE 17 08 00.0 +12
LSA LR LR
comp=Z,251nm,22.0s
SFIN Lafayette 102.09 51 ⇓P **Pdif** 17 07 47.9 +0.3
baz=102
COWI Conover 102.26 45 PFAKE 17 08 00.0 +12
COWI LR LR
comp=Z,423nm,19.0s
TIGA Tifton 102.35 61 ⇓P **Pdif** 17 07 48.5 -0.5
baz=102
GOGA Godfrey 102.99 59 PFAKE 17 08 00.0 +8.2
GOGA LR LR
comp=Z,215nm,19.0s
TKL Tuckaleechee C 103.34 57 *e*P **Pdif** 17 07 54.6 +1.3
TKL Tuckaleechee C 103.34 57 *e*Pdif **Pdif** 17 07 54.6 +1.3
AAM Ann Arbor 105.09 50 PFAKE 17 12 30.0
AAM LR LR
comp=Z,273nm,20.0s
ACSO Alum Creek Sta 105.10 52 PFAKE 17 12 30.0
ACSO LR LR
comp=Z,319nm,20.0s
NHSC New Hope 105.58 60 PFAKE 17 12 30.0
NHSC LR LR
comp=Z,505nm,21.0s
BLA Blacksburg 106.35 56 *e*P **Pdif** 17 08 04.6 -2.1
BLA pmax pmax
comp=Z,33nm,0.7s
BLA MLR MLR
comp=Z,312nm,22.0s
BLA Blacksburg 106.35 56 *e*Pdif **Pdif** 17 08 04.6 -2.1
comp=Z,32nm,0.7s
BLA LR LR
comp=Z,312nm,22.0s
GTBY Guantanamo Bay 106.58 74 PFAKE 17 12 30.0
GTBY LR LR
comp=Z,186nm,19.0s
SIV San Ignacio 106.80 115 PKKPbc PKKPbc 17 23 35.6 -0.8
comp=Z,2.2nm,0.7s,baz=111,slow=5.3,SNR=5.1
SDV Santo Domingo 107.51 87 PFAKE 17 12 30.0
SDV LR LR
comp=Z,273nm,21.0s
ERPA Erie 107.71 51 PFAKE 17 12 30.0
ERPA LR LR
comp=Z,350nm,20.0s
CNNC Cliffs of the 107.91 58 PFAKE 17 12 30.0
CNNC LR LR
comp=Z,375nm,19.0s
SAML Samuel 108.00 107 PFAKE 17 12 30.0
SAML LR LR
comp=Z,389nm,19.0s
WMQ Urumqi 108.04 311 Pdif **Pdif** 17 08 15.4 +1.3
WMQ SS SS 17 27 38.8 -0.1
WMQ PPMZ
comp=Z,170nm,5.4s
WMQ LN
comp=Z,480nm,32.2s
WMQ LE
comp=Z,240nm,27.8s
WMQ LZ
comp=Z,300nm,26.0s
CBN Corbin Frederi 108.92 55 PFAKE 17 12 30.0
CBN LR LR
comp=Z,310nm,19.0s
SDDR Presa de Saban 109.81 76 PFAKE 17 12 40.0
SDDR LR LR
comp=Z,303nm,21.0s
GRTK Grand Turk 110.59 74 PFAKE 17 12 40.0
GRTK LR LR
comp=Z,371nm,20.0s
ZALV Zalesovo Beam 111.34 321 PKiKP **PKiKP** 17 12 24.5 -0.8
comp=Z,4.0nm,0.6s,baz=132,slow=0.8,SNR=19
ZALV PP **PP** 17 13 15.0 +4.6
comp=Z,0.9nm,0.5s,baz=90,slow=4.4,SNR=4.5
LONY Lake Ozonia 112.00 49 PFAKE 17 12 40.0
LONY LR LR
comp=Z,298nm,19.0s
NCB Newcomb 112.18 50 PFAKE 17 12 40.0
NCB LR LR
comp=Z,540nm,21.0s
MK31 Makanchi Array 112.25 313 *i* PKiKP **PKiKP** 17 12 26.3 -1.0
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 112.25 313 Pdiff **Pdif** 17 08 33.4 +0.7
comp=Z,1.3nm,0.7s,baz=95,slow=6.4,SNR=16
MKAR PKiKP **PKiKP** 17 12 26.4 -0.9
comp=Z,4.5nm,0.4s,baz=149,slow=0.8,SNR=75
MKAR PKKPbc **PKKPbc** 17 23 18.9 -1.1
comp=Z,1.5nm,0.7s,baz=276,slow=3.4,SNR=13
NVS Novosibirsk 112.33 322 *e*PKiKP **PKiKP** 17 12 25.4 -1.8
NVS *e* 17 18 41.4
NVS pmax pmax
comp=Z,19nm,1.4s
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.3s
PDGK Podgornoye 113.87 309 PKiKP **PKiKP** 17 12 29.1 -1.4
PDGK pmax pmax
comp=Z,25nm,1.8s
PTGA Pitinga 114.21 100 PKP PKPdf 17 12 30.3 -1.7
comp=Z,2.8nm,0.7s,baz=343,slow=3.6,SNR=5.9
SJG San Juan 114.30 79 PFAKE 17 12 40.0 +8.0
SJG LR LR
comp=Z,206nm,20.0s
POO Poona 114.41 282 ⇓*i*P PKPdf 17 12 29.0 -3.3
comp=Z,30nm,1.0s
KURK Kurchatov 114.94 317 PKiKP PKPdf 17 12 31.4 -0.9
KURK 17 13 39.4
KURK 17 23 09.0
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK pmax pmax
comp=Z,2.0nm,1.1s
KURK Kurchatov 114.94 317 P PKPdf 17 12 31.6 -0.7
SNR=5.4
KURK Kurchatov 114.94 317 *e*PKPdf PKPdf 17 12 30.7 -1.6
KURK PP **PP** 17 13 39.4 +3.4
KURK PKKPbc **PKKPbc** 17 23 09.0 -2.1
KURK LR LR
comp=Z,245nm,19.0s
KURBB Kurchatov Arra 115.00 317 PKP PKPdf 17 12 31.4 -1.0
comp=Z,5.6nm,0.7s,baz=93,slow=1.8,SNR=47
KURBB PP **PP** 17 13 39.4 +3.0
comp=Z,8.8nm,1.2s,baz=93,slow=6.6,SNR=6.9
KURBB PKKPbc **PKKPbc** 17 23 09.0 -1.9
comp=Z,1.9nm,1.1s,baz=285,slow=3.7,SNR=5.3
PKME Peaks-Kenny Pk 115.80 49 PFAKE 17 12 50.0 +16
PKME LR LR
comp=Z,1μm,22.0s
KSH Kashi 116.14 305 PKP **PKPdf** 17 12 35.7 +0.5
KSH PP PP 17 13 54.3 +9.5
KSH PKS **PKSdf** 17 16 11.3 -0.6
KSH SKS **SKSdf** 17 19 18.3 -2.8
KSH SKKS **SKKSac** 17 20 15.9 -1.4
KSH PPMZ
comp=Z,260nm,5.3s
KSH LN
comp=Z,93nm,5.9s
KSH LE
comp=Z,110nm,4.9s
KSH LZ
comp=Z,170nm,7.6s
ULHL Ulahol 116.16 308 P **PKPdf** 17 12 35.5 +0.3
SNR=6.7
TKM2 Tokmak 2 116.67 309 P **PKPdf** 17 12 35.6 -0.7
SNR=29
TKM2 Tokmak 2 116.67 309 *e*PKiKP **PKPdf** 17 12 35.5 -0.7
TKM2 *e* 17 13 47.0
TKM2 MLR MLR
comp=Z,194nm,20.0s
TKM2 Tokmak 2 116.67 309 *e*PKPdf **PKPdf** 17 12 35.5 -0.7
TKM2 *e*PP **PP** 17 13 47.0 -1.6
TKM2 LR LR
comp=Z,194nm,20.0s
KZA Kyzart 116.88 308 P **PKPdf** 17 12 36.8 -0.1
SNR=13
KBK Karagaybulak 117.14 308 P **PKPdf** 17 12 36.7 -0.3
SNR=16
CHMS Chumysh 117.30 309 P **PKPdf** 17 12 36.7 -0.5
SNR=15
FRU Bishkek 117.39 309 *e*PKiKP **PKPdf** 17 12 37.0 -0.4
FRU *i* 17 13 28.0
FRU *i* 17 19 05.0
FRU pmax pmax
comp=Z,50nm,1.8s
UCH Uchtor 117.44 308 P **PKPdf** 17 12 38.1 +0.1
SNR=21
AAK Ala-Archa 117.47 308 P **PKPdf** 17 12 37.0 -0.6
SNR=10.0
AAK Ala-Archa 117.47 308 *c*/*i*PKiKP **PKPdf** 17 12 37.6 -0.1
AAK pmax pmax
comp=Z,53nm,1.7s
AAK Ala-Archa 117.47 308 PKP **PKPdf** 17 12 37.2 -0.4
comp=Z,7.0nm,0.8s,baz=133,slow=3.9,SNR=24
AAK PKKPbc **PKKPbc** 17 23 01.7 -0.5
comp=Z,2.9nm,0.8s,baz=192,slow=3.4,SNR=7.4
AAK Ala-Archa 117.47 308 P **PKPdf** 17 12 37.9 +0.2
SNR=6.0
AAK Ala-Archa 117.47 308 PKP **PKPdf** 17 12 37.2 -0.4
AAK PKKPbc **PKKPbc** 17 23 01.7 -0.5
AAK LR LR
comp=Z,179nm,21.0s
USP Ospenovka 117.50 309 P **PKPdf** 17 12 37.5 -0.1
SNR=5.5
BDFB Brasilia 117.83 121 PKP **PKPdf** 17 12 38.5 -0.6
comp=Z,3.5nm,0.8s,baz=200,slow=12,SNR=3.4
EKS2 Erkin-Say 118.00 308 P **PKPdf** 17 12 38.5 -0.2
SNR=20
EKS2 Erkin-Say 118.00 308 *e*PKiKP **PKPdf** 17 12 38.3 -0.4
EKS2 MLR MLR
comp=Z,258nm,21.0s
EKS2 Erkin-Say 118.00 308 *e*PKPdf **PKPdf** 17 12 38.3 -0.4
EKS2 LR LR
comp=Z,258nm,21.0s
AML Almayashu 118.04 308 P **PKPdf** 17 12 39.1 0.0
SNR=25
SFK Sufi-Kurgan 118.07 305 PKIKP **PKPdf** 17 12 38.7 -0.3
SFK pmax pmax
comp=Z,21nm,0.8s
MNAS Manas 118.93 308 PKIKP **PKPdf** 17 12 39.6 -0.9
MNAS pmax pmax
comp=Z,31nm,0.9s
OTUK Ortayu 119.04 315 PKIKP **PKPdf** 17 12 39.2 -1.1
OTUK pmax pmax
comp=Z,27nm,1.3s
BVA0 Borovoye Array 119.95 320 PKIKP **PKPdf** 17 12 40.9 -1.0
BVA0 pmax pmax
comp=Z,33nm,1.3s
BVAR Borovoye Array 119.95 320 PKP **PKPdf** 17 12 41.3 -0.7
comp=Z,6.6nm,0.5s,baz=130,slow=1.6,SNR=54
KK31 Karatay Array 120.41 309 *i* PKIKP **PKPdf** 17 12 42.2 -0.9
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 120.41 309 *e*PKIKP **PKPdf** 17 12 42.6 -0.6
KKAR Karatay Array 120.41 309 *e*PKPdf **PKPdf** 17 12 42.5 -0.6
KBL Kabul 121.26 299 *e*PKIKP **PKPdf** 17 12 45.4 +0.1
KBL Kabul 121.26 299 *e*PKPdf **PKPdf** 17 12 45.4 +0.1
DZET Dzherino 121.64 304 PKIKP **PKPdf** 17 12 45.5 -0.3
DZET pmax pmax
comp=Z,70nm,1.0s

SFJD	**Kangerlussuaq**	**122.00**	**22**	*i* PKIKP	**PKPdf**	**17 12 44.2**	**-1.2**
SFJD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SFJD	**Kangerlussuaq**	**122.00**	**22**	*i* P	**PKPdf**	**17 12 44.2**	**-1.2**
	comp=Z,5.4nm,0.7s						
DAG	**Danmarks Havn**	**122.26**	**6**	*i* PKIKP	**PKPdf**	**17 12 44.2**	**-1.5**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DAG	**Danmarks Havn**	**122.26**	**6**	*i* P	**PKPdf**	**17 12 44.2**	**-1.5**
	comp=Z,5.1nm,0.8s						
SUMG	**Summit**	**122.44**	**14**	*i* PKIKP	**PKPdf**	**17 12 46.8**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SUMG	**Summit**	**122.44**	**14**	*e*PKPdf	**PKPdf**	**17 12 45.9**	**-0.8**
SUMG	**Summit**	**122.44**	**14**	*i* P	**PKPdf**	**17 12 46.8**	**+0.1**
	comp=Z,5.9nm,0.9s						
MSEY	**Mahe Island**	**123.60**	**250**	PFAKE		17 13 00.0	+10
MSEY				LR	LR		
	comp=Z,322nm,19.0s						
SVE	**Sverdlovsk**	**124.71**	**326**	*e*PKIKP	**PKPdf**	**17 12 49.6**	**-1.3**
SVE				pmax	pmax		
	comp=Z,55nm,1.5s						
SOKR	**Solikamsk**	**125.68**	**330**	*e*PKIKP	**PKPdf**	**17 12 52.8**	**+0.2**
SOKR				pmax	pmax		
	comp=Z,20nm,0.7s						
ARU	**Arti**	**125.92**	**326**	*i* PKIKP	**PKPdf**	**17 12 52.8**	**-0.4**
ARU						17 14 45.4	
ARU						17 19 29.5	
ARU				PS	**SP**	**17 24 29.6**	**+5.9**
ARU	**Arti**	**125.92**	**326**	*e*PKPdf	**PKPdf**	**17 12 53.2**	**0.0**
ARU				LR	LR		
	comp=Z,208nm,19.0s						
AB31	**Akbulak array**	**127.05**	**317**	*i* PKIKP	**PKPdf**	**17 12 54.8**	**-0.8**
AB31				pmax	pmax		
	comp=Z,50nm,1.4s						
ABKAR	**Akbulak array**	**127.05**	**317**	*e*PKPdf	**PKPdf**	**17 12 55.8**	**+0.2**
BOSA	**Boshof**	**127.26**	**204**	PKP	**PKPdf**	**17 12 58.6**	**+1.6**
	comp=Z,7.6nm,0.6s,baz=171,slow=1.6,SNR=22						
AKTO	**Aktyubinsk**	**127.98**	**319**	PKP	**PKPdf**	**17 12 56.7**	**-0.7**
	comp=Z,6.6nm,0.9s,baz=89,slow=4.7,SNR=29						
KEV	**Kevo**	**128.48**	**350**	*e*PKHKP	PKPpre	17 12 44.7	
KEV	**Kevo**	**128.48**	**350**	*e*pkp	PKPpre	17 12 44.7	
KEV	**Kevo**	**128.48**	**350**	PFAKE		17 13 10.0	+12
KEV				LR	LR		
	comp=Z,221nm,20.0s						
LVZ	**Lovozero**	**128.53**	**346**⇓	*e*PKIKP	**PKPdf**	**17 12 59.2**	**+1.2**
LVZ	**Lovozero**	**128.53**	**346**	PFAKE		17 13 10.0	+12
LVZ				LR	LR		
	comp=Z,230nm,22.0s						
ARCES	**ARCESS Array B**	**128.92**	**350**	PKP	**PKPdf**	**17 12 58.5**	**-0.1**
	comp=Z,7.9nm,0.5s,baz=9.0,slow=1.6,SNR=70						
ARCES				pPKP	**pPKPdf**	**17 14 05.8**	**-1.9**
	comp=Z,6.5nm,1.0s,baz=128,slow=2.6,SNR=2.1						
APA	**Apatity**	**129.08**	**346**⇓	*i*PKIKP	**PKPdf**	**17 13 01.0**	**+2.1**
APA				MLR	MLR		
	comp=Z,200nm,17.0s						
PRGR	**Permogore**	**129.49**	**336**	*e*PKIKP	**PKPdf**	**17 12 58.6**	**-1.3**
PRGR				*e*		17 15 08.7	
PRGR				pmax	pmax		
	comp=Z,11nm,0.8s						
JMDO	**Jabal Madar**	**129.63**	**283**	P	**PKPdf**	**17 13 02.2**	**+0.9**
	SNR=8.1						
SMDO	**Samad**	**129.77**	**284**	P	**PKPdf**	**17 13 01.5**	**-0.2**
	SNR=11						
GEYT	**Ailbeck**	**130.08**	**303**	PKP	**PKPdf**	**17 13 00.8**	**-1.0**
	comp=Z,23nm,0.7s,baz=248,slow=1.6,SNR=44						
GEYT				pPKP	**pPKPdf**	**17 14 09.9**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=72,slow=4.7,SNR=1.0						
GEYT				SKPbc	**SKPab**	**17 16 00.3**	**+1.5**
	comp=Z,28nm,0.9s,baz=288,slow=1.4,SNR=18						
BSY	**Bisya**	**130.51**	**283**	P	**PKPdf**	**17 13 03.9**	**+0.8**
	SNR=12						
HOQ	**Hoqain**	**130.51**	**284**	P	**SKPab**	**17 16 03.5**	**+2.6**
	SNR=6.7						
ARQ	**Araqi**	**131.20**	**284**	P	**PKPdf**	**17 13 04.9**	**+0.6**
	SNR=5.7						
ARQ	**Araqi**	**131.20**	**284**	P	**SKPab**	**17 16 06.0**	**+2.1**
	SNR=7.6						
BANOM	**Banah**	**131.66**	**287**⇑	*i*P	**SKPab**	**17 16 06.9**	**+1.1**
	SNR=11						
BANOM	**Banah**	**131.66**	**287**	P	**SKPab**	**17 16 07.3**	**+1.5**
	SNR=7.7						
HATD	**Hatta, Dubai**	**131.72**	**286**⇑	*i*P	**SKPab**	**17 16 06.7**	**+0.7**
	SNR=5.9						
ASHO	**Ashiyiah**	**131.77**	**285**⇓	*i*P	**SKPab**	**17 16 07.0**	**+0.7**
	SNR=8.5						
ASHO	**Ashiyiah**	**131.77**	**285**	P	**PKPdf**	**17 13 05.3**	**-0.1**
	SNR=11						
ASHO	**Ashiyiah**	**131.77**	**285**	P	**SKPab**	**17 16 07.5**	**+1.2**
	SNR=9.3						
NAZ	**Nazwa, Dubai**	**132.16**	**286**⇑	*i*P	**SKPab**	**17 16 08.4**	**+0.5**
	SNR=7.1						
FAQ	**Al Faqa, Dubai**	**132.20**	**285**⇓	*i*P	**SKPab**	**17 16 08.3**	**+0.2**
	SNR=7.1						
RBK	**Rabkut**	**132.41**	**276**	P	**PKPdf**	**17 13 07.2**	**+0.4**
	SNR=5.2						
RBK	**Rabkut**	**132.41**	**276**	P	**SKPab**	**17 16 10.6**	**+1.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**132.42**	**285**	⇑P	**SKPab**	**17 16 09.0**	**0.0**
ASUD				⇓P	**SKPab**	**17 16 09.4**	**+0.3**
RCBR	**Riachuelo**	**133.15**	**119**	PFAKE		17 13 20.0	+12
RCBR				LR	LR		
	comp=Z,268nm,20.0s						
ABTO	**Aybut**	**133.23**	**275**	P	**PKPdf**	**17 13 09.0**	**+0.6**
	SNR=5.7						
ABTO	**Aybut**	**133.23**	**275**	P	**SKPdf**	**17 16 14.0**	**-3.2**
	SNR=5.7						
JOF	**Joensuu**	**133.35**	**343**	*e*PKHKP	PKPpre	17 12 57.1	
JOF	**Joensuu**	**133.35**	**343**	*e*pkp	PKPpre	17 12 57.1	
KAF	**Kangasniemi**	**135.31**	**345**	*e*PKHKP	PKPpre	17 12 58.0	
KAF	**Kangasniemi**	**135.31**	**345**	*e*pkp	PKPpre	17 12 58.0	
FINES	**FINESS Array B**	**135.95**	**345**	PKhKP	PKPpre	17 12 59.6	
	comp=Z,2.4nm,0.6s,baz=75,slow=2.0,SNR=22						
FINES				PKP	**PKPdf**	**17 13 11.5**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=111,slow=4.8,SNR=14						
FINES				SKPbc	**SKPbc**	**17 16 16.3**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=114,slow=3.5,SNR=2.3						
MOS	**Moscow**	**136.43**	**333**	*e*PKIKP	**PKPdf**	**17 13 11.4**	**-1.7**
VRHR	**Novokhopersk**	**137.26**	**325**	*e*PKIKP	**PKPdf**	**17 13 14.4**	**-0.4**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.2s						
VRHR				pmax	pmax		
	comp=E,20nm,1.5s						
OBN	**Obninsk**	**137.29**	**333**⇓	*i*PKIKP	**PKPdf**	**17 13 14.6**	**-0.1**
OBN				*i*		17 14 28.5	
OBN				*i*		17 15 59.1	
OBN				*i* SS	SS	17 33 47.9	+1.3
OBN				pmax	pmax		
	comp=Z,55nm,1.8s						
OBN	**Obninsk**	**137.29**	**333**	PFAKE		17 13 30.0	+15
OBN				LR	LR		
	comp=Z,253nm,21.0s						
LSZ	**Lusaka**	**137.41**	**216**	*e*PKIKP	**PKPdf**	**17 13 16.6**	**+0.3**
LSZ				MLR	MLR		
	comp=Z,270nm,19.0s						
LSZ	**Lusaka**	**137.41**	**216**	*e*PKPdf	**PKPdf**	**17 13 16.6**	**+0.3**
LSZ				LR	LR		
	comp=Z,270nm,19.0s						
VSR	**Storozhevoye**	**138.49**	**327**	*e*PKIKP	**PKPdf**	**17 13 16.6**	**-0.4**
VSR				pmax	pmax		
	comp=Z,40nm,1.2s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VORD	**Divnogorie**	**138.56**	**326**	*e*PKIKP	**PKPdf**	**17 13 16.5**	**-0.7**
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,7.0nm,0.8s						
TSUM	**Tsumeb**	**138.60**	**200**	*e*PKPdf	**PKPdf**	**17 13 17.7**	**-0.8**
NB2	**NORSAR Subarra**	**138.86**	**355**	PKP	PKPpre	17 13 07.9	
	comp=Z,10nm,0.9s,baz=20,slow=4.0						
NOA	**NORSAR Array B**	**138.86**	**355**	PKHKP	PKPpre	17 13 08.4	
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA				pmax	pmax		
	comp=N,6.0nm,0.9s						
NOA	**NORSAR Array B**	**138.86**	**355**	PKhKP	PKPpre	17 13 08.3	
	comp=N,6.0nm,0.8s,baz=22,slow=2.5,SNR=19						
NOA				SKPbc	**SKiKP**	**17 16 28.3**	**-1.3**
	comp=N,5.8nm,0.9s,baz=15,slow=4.4,SNR=5.3						
DGRG	**David-gareji**	**139.02**	**311**	P	**SKPbc**	**17 16 31.1**	**+3.7**
GOF	**Gofitskoye**	**139.29**	**317**	*e*PKHKP	PKPpre	17 13 12.0	
TBLG	**Delisi**	**139.38**	**311**	P	**SKPbc**	**17 16 31.6**	**+3.2**
ZEI	**Tsey**	**139.60**	**313**	*i* PKHKP	PKPpre	17 13 13.1	
ZEI				pmax	pmax		
	comp=Z,30nm,1.3s						
GNI	**Garni**	**139.87**	**309**⇑	*i*PKIKP	**PKPdf**	**17 13 21.2**	**+1.0**
GNI	**Garni**	**139.87**	**309**	PKP	**PKPdf**	**17 13 18.1**	**-2.0**
	comp=Z,4.8nm,0.7s,baz=232,slow=5.1,SNR=3.7						
GNI	**Garni**	**139.87**	**309**	P	**PKPdf**	**17 13 21.5**	**+1.4**
	SNR=7.6						
GNI	**Garni**	**139.87**	**309**	PKP	**PKPdf**	**17 13 18.1**	**-2.0**
GNI				*e*PKPdf	**PKiKP**	**17 13 19.6**	**-3.0**
GNI				LR	LR		
	comp=Z,139nm,19.0s						
KBZ	**Khabaz**	**139.92**	**315**	PKHKP	PKPpre	17 13 11.1	
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBZ	**Khabaz**	**139.92**	**315**	PKhKP	PKPpre	17 13 11.1	
	comp=Z,4.2nm,0.8s,baz=79,slow=3.2,SNR=9.5						
KIV	**Kislovodsk**	**139.97**	**315**⇓	*i*PKIKP	**PKPdf**	**17 13 20.7**	**+0.6**
KIV				*i*		17 16 25.3	
KIV				*i* SS	SS	17 34 23.8	+4.4
KIV				pmax	pmax		
	comp=Z,39nm,2.0s						
KIV	**Kislovodsk**	**139.97**	**315**	*e*PKPdf	**PKPdf**	**17 13 19.4**	**-0.7**
KIV				LR	LR		
	comp=Z,172nm,21.0s						
ONI	**Oni**	**139.98**	**313**	P	**SKPbc**	**17 16 33.6**	**+3.7**
AKH	**Akhalkalaki**	**140.37**	**311**	P	**SKPbc**	**17 16 35.2**	**+4.0**
KONO	**Kongsberg**	**140.37**	**355**	*e*PKIKP	**PKPdf**	**17 13 20.6**	**+0.4**
KONO				MLR	MLR		
	comp=Z,212nm,19.0s						
KONO	**Kongsberg**	**140.37**	**355**	*e*PKPdf	**PKPdf**	**17 13 20.6**	**+0.4**
KONO				LR	LR		
	comp=Z,212nm,19.0s						
ISAL	**Salakas**	**140.90**	**340**	*e*P	PKPpre	17 13 15.8	
KMBO	**Kilima Mbogo**	**141.02**	**241**	*e*PKIKP	**PKPdf**	**17 13 23.4**	**+0.3**
KMBO				MLR	MLR		
	comp=Z,282nm,20.0s						
KMBO	**Kilima Mbogo**	**141.02**	**241**	PKhKP	PKPpre	17 13 18.1	
	comp=Z,8.1nm,0.8s,baz=79,slow=4.3,SNR=19						
KMBO	**Kilima Mbogo**	**141.02**	**241**	P	PKPpre	17 13 19.8	
	SNR=5.3						
KMBO	**Kilima Mbogo**	**141.02**	**241**	*e*PKPdf	**PKPdf**	**17 13 23.4**	**+0.3**
KMBO				LR	LR		
	comp=Z,282nm,20.0s						
IIGN	**Ignalina**	**141.05**	**340**	*e*P	PKPpre	17 13 15.8	
MICGM	**Minsk**	**141.17**	**338**	*e*	PKPpre	17 13 14.0	
MICGM	**Minsk**	**141.17**	**338**	*e*	pPKPdf	17 14 25.0	-5.9
MNK	**Minsk**	**141.19**	**338**	*e*PKHKP	PKPpre	17 13 14.0	
NACGM	**Naroch**	**141.23**	**339**	*e*	PKPpre	17 13 14.0	
RAYN	**Ar Rayn**	**141.29**	**283**	*e*PKPdf	**PKPdf**	**17 13 23.1**	**+0.1**
CUKT	**Cukurca**	**141.54**	**305**	*e*P	PKPpre	17 13 17.2	
BCA	**Borcka**	**141.67**	**312**	*e*P	PKPpre	17 13 16.3	
SOC	**Sochi**	**142.08**	**316**	*e*PKIKP	**PKPdf**	**17 13 22.7**	**-1.1**
SOC				*e*		17 14 38.0	
SOC				*e*		17 16 35.7	
SOC				pmax	pmax		
	comp=Z,23nm,0.9s						
KAC	**Achnashellach**	**142.13**	**8**	*e*P	PKPpre	17 13 19.2	
KPL	**Plockton**	**142.24**	**8**	*e*P	PKPpre	17 13 19.1	
MCD	**Coleburn Disti**	**142.29**	**6**	*e*P	PKPpre	17 13 18.8	
MDO	**Dochfour**	**142.31**	**7**	*e*P	PKPpre	17 13 19.2	
EZM	**Erzurum**	**142.41**	**310**	*e*P	PKPpre	17 13 21.3	
VRTB	**Varto-Mus**	**142.59**	**309**	*e*P	PKPpre	17 13 20.5	
ANN	**Anapa**	**142.94**	**319**	*i* PKHKP	PKPpre	17 13 20.8	
ANN				*e*		17 16 36.2	
ANN				pmax	pmax		
	comp=Z,68nm,0.7s						
DRUM	**Mains of Drumt**	**143.03**	**6**	*e*P	PKPab	17 13 21.5	+0.5
SVAN	**Sivan-Diyarba**	**143.11**	**307**	*e*P	PKPab	17 13 22.4	+0.4
KTUT	**Trabzon**	**143.14**	**312**	*e*P	PKPbc	17 13 23.0	-0.5
SUW	**Suwalki**	**143.14**	**341**	*e*PKPdf	PKPab	17 13 21.7	+0.1
SUW				*ep*PKPdf	pPKPdf	17 14 32.7	-1.7
SUW				*e*PP	**PP**	**17 16 36.2**	**-1.9**
SUW	**Suwalki**	**143.14**	**341**	*e*PKPdf	**PKPdf**	**17 13 25.6**	**+0.3**
BNGB	**Bing˜¶l**	**143.22**	**309**	*e*P	PKPbc	17 13 23.6	-0.4
EDU	**Dundee**	**143.34**	**6**	*e*P	PKPab	17 13 21.7	-0.6
EAB	**Aberfoyle**	**143.53**	**8**	*e*P	PKPab	17 13 22.9	-0.2
AKASG	**Malin Array Be**	**143.56**	**333**	PKhKP	PKPpre	17 13 22.8	
	comp=Z,46nm,0.6s,baz=41,slow=4.4,SNR=319						
MUD	**Monsted U'grnd**	**143.57**	**355**⇑	*i*PKIKP	PKPbc	17 13 24.7	+0.6
MUD				pmax	pmax		
	comp=Z,55nm,0.8s						
MUD	**Monsted U'grnd**	**143.57**	**355**⇑	*i* P	PKPab	17 13 22.9	-0.3
	comp=Z,42nm,0.8s						
KIEV	**Kiev**	**143.57**	**333**	*e*PKIKP	**PKPdf**	**17 13 25.3**	**-0.9**
KIEV				MLR	MLR		
	comp=Z,216nm,21.0s						
KIEV	**Kiev**	**143.57**	**333**	*e*PKPdf	**PKPdf**	**17 13 25.3**	**-0.9**
KIEV				LR	LR		
	comp=Z,216nm,21.0s						
ERZN	**Erzincan**	**143.70**	**310**	*e*P	PKPbc	17 13 25.5	+0.2
ESPY	**Espiye-Giresun**	**143.88**	**313**	*e*P	PKPab	17 13 23.9	-1.1
PGBU	**Glenifferbraes**	**143.88**	**8**	*e*P	PKPab	17 13 23.7	-0.8
MAZI	**Mazidag**	**143.89**	**306**	*e*P	PKPab	17 13 25.4	+0.1
DYBB	**Diyarbakir**	**143.96**	**307**	*e*P	PKPab	17 13 25.6	+0.1
COP	**Copenhagen**	**143.97**	**352**	*i* P	PKPab	17 13 22.9	-1.9
COP				*i*		17 13 25.3	
ESY	**Stoneypath**	**144.00**	**6**	*e*P	PKPab	17 13 23.2	-1.7
EBL	**Broad Law**	**144.09**	**7**	*e*P	**PKPab**	**17 13 25.0**	**-0.3**
BSD	**Bornholm Skovb**	**144.14**	**349**⇑	*i*P	**PKPab**	**17 13 24.7**	**-0.7**
	comp=Z,55nm,0.7s						
BSD				*i*		17 13 34.9	
PTK	**Pertek**	**144.19**	**309**	*e*P	**PKPdf**	**17 13 28.6**	**+0.6**
MZRK	**Al-Mazaregh**	**144.21**	**304**	*e*P	**PKPdf**	**17 13 27.3**	**-0.5**
SVRC	**Sivrice-ELAZID**	**144.44**	**308**	*e*P	PKPbc	17 13 27.9	+0.3
SFNV	**Sufian**	**144.46**	**305**	*e*P	PKPbc	17 13 27.7	+0.1
ESK	**Eskdalemuir**	**144.52**	**7**	*e*PKIKP	**PKPab**	**17 13 26.3**	**-0.6**
ESK	**Eskdalemuir**	**144.52**	**7**	*e*P	**PKPab**	**17 13 26.1**	**-0.8**
ESK	**Eskdalemuir**	**144.52**	**7**	*e*PKPdf	**PKPab**	**17 13 26.3**	**-0.6**
ILIC	**ilic-Erzincan**	**144.58**	**310**	*e*P	**PKPdf**	**17 13 33.2**	**+4.8**
ECK	**Cauldkaine Hil**	**144.67**	**7**	*e*P	PKPbc	17 13 25.9	-1.6
GAL1	**Galloway**	**144.77**	**9**	*e*P	PKPbc	17 13 27.1	-0.7
SIM	**Simferopol'**	**144.85**	**322**	*c i*PKIKP	**PKPdf**	**17 13 28.7**	**+0.1**
SIM						17 16 45.4	
SIM				pmax	pmax		
	comp=Z,409nm,0.8s						
SIM				pmax	pmax		
	comp=Z,350nm,9.0s						
GCD	**Castle Douglas**	**144.88**	**8**	*e*P	PKPbc	17 13 27.5	-0.7
RSDY	**Resadiye-TOKAT**	**145.07**	**313**	*e*P	**PKPab**	**17 13 30.0**	**+0.4**
XAL	**Allendale**	**145.08**	**6**	*e*P	**PKPdf**	**17 13 28.3**	**-0.4**
MALT	**Malatya**	**145.11**	**309**	*e*P	**PKPdf**	**17 13 29.4**	**0.0**
MALT	**Malatya**	**145.11**	**309**	⇓PKIKP	**PKPab**	**17 13 30.0**	**+0.1**
MALT	**Malatya**	**145.11**	**309**⇓	*i*P	**PKPab**	**17 13 30.0**	**+0.1**
URFA	**Urfa**	**145.19**	**307**	*e*P	**PKPab**	**17 13 30.2**	**+0.2**
GMM	**Mts of Mourne**	**145.19**	**10**	*e*P	**PKPdf**	**17 13 28.6**	**-0.2**
KESW	**Keswick, Cumbr**	**145.25**	**7**	*e*P	**PKPdf**	**17 13 29.1**	**+0.1**
GKP	**Gorka Klasztor**	**145.40**	**346**	*e*PKP2	**PKPbc**	**17 13 29.7**	**-0.1**
GKP	**Gorka Klasztor**	**145.40**	**346**	*e*PKPdf	**PKPbc**	**17 13 29.6**	**-0.2**
GKP				*ep*PKPdf	**pPKPdf**	**17 14 39.2**	**+0.8**
KSRV	**Kasrt alli**	**145.48**	**304**	*e*P	**PKPdf**	**17 13 29.9**	**-0.1**
SVSK	**Karacayir**	**145.50**	**312**	*e*P	**PKPab**	**17 13 31.2**	**0.0**
KVT	**Kavak**	**145.64**	**314**	*e*P	**PKPab**	**17 13 31.6**	**-0.1**
DARE	**Darende-Malaty**	**145.70**	**310**	*e*P	**PKPab**	**17 13 32.4**	**+0.2**
BEL	**Belsk**	**145.75**	**341**	*e*PKP2	**PKPab**	**17 13 31.4**	**-0.3**
BEL	**Belsk**	**145.75**	**341**	*e*PKPdf	**PKPab**	**17 13 31.3**	**-0.4**
BEL				*ep*PKPdf	**pPKPdf**	**17 14 39.9**	**+0.9**
DIKM	**Dikmen**	**145.89**	**316**	*e*P	**PKPab**	**17 13 32.4**	**-0.2**
BSEG	**Bad Segeberg**	**145.95**	**353**	*e*PKPbc	**PKPbc**	**17 13 31.7**	**+0.3**
JHLN	**Al Jahlan**	**145.97**	**304**	*e*P	**PKPdf**	**17 13 29.9**	**-0.9**
HPK	**Haverah Park**	**146.03**	**6**	*e*P	**PKPbc**	**17 13 31.4**	**-0.2**
HPK				*e*		17 14 37.4	
DSB	**Dublin**	**146.07**	**11**	*e*PKPbc	**PKPbc**	**17 13 31.8**	**0.0**
SLMH	**Al Salmeh**	**146.20**	**305**	*e*P	**PKPdf**	**17 13 27.4**	**-3.8**
WME	**Myndd Eilian**	**146.26**	**9**	*e*P	**PKPdf**	**17 13 31.5**	**+0.8**
BYBT	**Boyabat**	**146.30**	**316**	*e*P	**PKPbc**	**17 13 33.5**	**+0.7**
LVV	**L'vov**	**146.35**	**336**	*e*PKP2	**PKPbc**	**17 13 32.4**	**-0.3**
WLF1	**Llynfaes**	**146.35**	**9**	*e*P	**PKPbc**	**17 13 32.0**	**-0.6**
YRC	**Rhoscolyn**	**146.36**	**9**	*e*P	**PKPbc**	**17 13 32.1**	**-0.5**
KIS	**Kishinev**	**146.41**	**329**⇓	*a i*PKIKP	**PKPdf**	**17 13 32.0**	**+0.8**
KIS				*i*		17 14 47.0	
KIS				pmax	pmax		
	comp=Z,600nm,1.2s						
KIS				pmax	pmax		
	comp=Z,2μm,5.0s						
KIS	**Kishinev**	**146.41**	**329**⇓	*i*P	**PKPbc**	**17 13 32.8**	**-0.2**
KIS	**Kishinev**	**146.41**	**329**⇑	*i*P	**PKPdf**	**17 13 32.0**	**+0.8**
	comp=Z,600nm,1.2s						
LHO	**Holmfirth**	**146.41**	**6**	*e*P	**PKPbc**	**17 13 32.5**	**-0.3**
VAL	**Valentia**	**146.45**	**16**⇓	*i*P	**PKPbc**	**17 13 33.5**	**+0.6**
WPM1	**Penmaenmawr**	**146.45**	**8**	*e*P	**PKPbc**	**17 13 32.1**	**-0.8**
KMRS	**Kahramanmaras**	**146.53**	**308**	*e*P	**PKPbc**	**17 13 33.0**	**-0.7**
YLL	**Llanberis**	**146.53**	**9**	*e*P	**PKPdf**	**17 13 31.2**	**0.0**
BZK	**Bozkurt**	**146.54**	**317**	*e*P	**PKPbc**	**17 13 34.0**	**+0.5**
LMK	**Market Rasen**	**146.64**	**5**	*e*P	**PKPbc**	**17 13 33.2**	**-0.1**
LMK				*e*		17 14 39.9	
YRE	**Yr Eifl**	**146.65**	**9**	*e*P	**PKPdf**	**17 13 28.6**	**-2.7**
KBI1	**Birley Grange**	**146.73**	**6**	*e*P	**PKPdf**	**17 13 31.9**	**+0.4**
BNN	**Bunyan**	**146.76**	**311**	*e*P	**PKPbc**	**17 13 34.8**	**+0.4**
ASCN	**Ascension**	**146.80**	**146**	PFAKE		17 13 40.0	+3.1
ASCN				LR	LR		
	comp=Z,917nm,19.0s						
STNC	**Stoke**	**146.82**	**7**	*e*P	**PKPbc**	**17 13 34.0**	**+0.1**
STNC				*e*		17 14 40.7	
RUE	**Ruedersdorf**	**146.86**	**349**	*e*PKPbc	**PKPbc**	**17 13 33.6**	**-0.4**
IAS	**Iasi**	**146.87**	**330**	⇓PKP2	**PKPbc**	**17 13 34.9**	**+0.6**
IAS	**Iasi**	**146.87**	**330**⇓	*i*P	**PKPbc**	**17 13 34.9**	**+0.6**
FOEL	**Foel Wylfa**	**146.91**	**8**	*e*P	**PKPdf**	**17 13 32.1**	**+0.2**
KWP	**Kalwaria Pacla**	**147.00**	**337**	⇓PKP2	**PKPbc**	**17 13 34.2**	**-0.4**
KWP	**Kalwaria Pacla**	**147.00**	**337**	*e*PKPdf	**PKPbc**	**17 13 34.7**	**+0.1**
KWP	**Kalwaria Pacla**	**147.00**	**337**⇓	*i*P	**PKPbc**	**17 13 34.2**	**-0.4**
KWP	**Kalwaria Pacla**	**147.00**	**337**	PFAKE		17 13 40.0	+3.3
KWP				LR	LR		
	comp=Z,235nm,20.0s						
TOS	**Tosya**	**147.00**	**316**	*e*P	**PKPbc**	**17 13 34.9**	**-0.1**
CORM	**Corum**	**147.01**	**314**	*e*P	**PKPbc**	**17 13 35.9**	**+0.8**
LEOM	**Leova**	**147.05**	**328**	⇓PKP2	**PKPbc**	**17 13 35.5**	**+0.7**
LEOM	**Leova**	**147.05**	**328**⇓	*i*P	**PKPbc**	**17 13 35.5**	**+0.7**
HLM1	**Long Mynd**	**147.31**	**8**	*e*P	**PKPdf**	**17 13 32.9**	**+0.3**
KOZT	**Kozan**	**147.32**	**309**	*e*P	**PKPbc**	**17 13 35.9**	**+0.1**
PRAR	**RASCA**	**147.36**	**331**⇑	*i*P	**PKPbc**	**17 13 36.3**	**+0.7**
BTCH	**Batrach**	**147.38**	**306**	*e*P	**PKPbc**	**17 13 37.0**	**+0.8**
NRDL	**Niedersach Rie**	**147.39**	**353**	*e*PKPbc	**PKPbc**	**17 13 35.6**	**+0.2**
OJC	**Ojcow**	**147.47**	**341**	*e*PKP2	**PKPbc**	**17 13 35.9**	**+0.1**
OJC				*e*SS	SS	17 35 46.5	+3.1
OJC	**Ojcow**	**147.47**	**341**	*e*PKPdf	**PKPdf**	**17 13 32.5**	**-0.4**
OJC				*e*PKPbc	**PKPbc**	**17 13 36.0**	**+0.1**
OJC				*ep*PKPdf	**pPKPdf**	**17 14 46.2**	**+4.2**
CANT	**Cankiri**	**147.48**	**315**	*e*P	**PKPbc**	**17 13 36.8**	**+0.5**
LPW	**Lampeter**	**147.54**	**9**	*e*P	**PKPbc**	**17 13 35.6**	**-0.3**
CEYT	**Ceyhan**	**147.56**	**308**	*e*P	**PKPbc**	**17 13 37.1**	**+0.6**
WRDH	**Warideh**	**147.59**	**305**	*e*P	**PKPdf**	**17 13 32.8**	**-0.9**
BURAR	**Bucovina Array**	**147.62**	**333**	⇑PKIKP	**PKPbc**	**17 13 35.1**	**-1.3**
BURAR	**Bucovina Array**	**147.62**	**333**⇑	*i*P	**PKPbc**	**17 13 35.1**	**-1.3**
ZALF	**Zalf**	**147.62**	**300**	*e*P	**PKPbc**	**17 13 37.0**	**+0.2**
TLCR		**147.65**	**326**	⇑PKP2	**PKPbc**	**17 13 36.9**	**+0.5

TIRR	Tirgusor	148.35	325	⇑PKP2	PKPbc	17 13 38.5	+0.2	
TIRR	Tirgusor	148.35	325	⇑*i*P	PKPbc	17 13 38.5	+0.2	
TIRR	Tirgusor	148.35	325	*e*PKPbc	PKPbc	17 13 38.4	+0.1	
HWQ	Hawqa	148.35	303	*e*P	PKPbc	17 13 38.9	+0.1	
BRG	Berggiesshubel	148.36	348	*e*PKP	PKPdf	17 13 34.5	+0.2	
	comp=Z,21nm,1.5s							
BRG				*i*		17 13 38.4		
	comp=Z,40nm,0.7s							
BRG				*i*		17 13 45.4		
	comp=Z,50nm,1.0s							
BRG				*i* pPKP	pPKPdf	17 14 46.2	+2.7	
	comp=Z,75nm,1.1s							
BRG				*e*		17 15 15.0		
BRG				PP	PP	17 17 15.0	+6.3	
BRG				SS	SS	17 35 50.0	-3.0	
BRG	Berggiesshubel	148.36	348	*e*PKIKP	PKPdf	17 13 34.5	+0.2	
BRG				*i*		17 13 38.4		
BRG						17 17 15.0		
BRG				SS	SS	17 35 50.0	-3.0	
BRG				pmax	pmax			
	comp=Z,21nm,1.5s							
BRG	Berggiesshubel	148.36	348	*e*PKPbc	PKPbc	17 13 38.5	+0.4	
ANTO	Ankara	148.40	315	*e*P	PKPbc	17 13 39.3	+0.6	
ANTO	Ankara	148.40	315	⇑PKP2	PKPbc	17 13 39.6	+0.9	
ANTO	Ankara	148.40	315	⇑*i*P	PKPbc	17 13 39.6	+0.9	
ANTO	Ankara	148.40	315	P	PKPdf	17 13 35.6	+0.8	
	SNR=64							
ANTO	Ankara	148.40	315	*e*PKPdf	PKPdf	17 13 35.0	+0.1	
ANTO				*e*PKPbc	PKPbc	17 13 39.3	+0.6	
ANTO				LR	LR			
	comp=Z,134nm,19.0s							
LOD	Lodumlu	148.41	315	*e*P	PKPbc	17 13 39.4	+0.7	
AFSR	Af˙ar-Bala (A	148.42	314	*e*P	PKPbc	17 13 39.3	+0.6	
HARR	Harsova	148.45	326	⇓PKP2	PKPbc	17 13 39.3	+0.8	
HARR	Harsova	148.45	326	⇓*i*P	PKPbc	17 13 39.3	+0.8	
GRER		148.45	328	⇑*i*P	PKPbc	17 13 40.4	+1.9	
KRLC	Kraliky	148.46	344	*e*PKIKP	PKPdf	17 13 35.3	+0.7	
KRLC				*i*		17 13 38.8		
KRLC				*e*		17 14 49.4		
KRLC	Kraliky	148.46	344	*e*PKPDF	PKPdf	17 13 35.3	+0.7	
KRLC				⇑*i*PKP	PKPbc	17 13 38.8	+0.4	
KRLC				*ex*	x	17 13 48.5		
KRLC				*ep*PKP	pPKPdf	17 14 49.4	+5.7	
TLB	Topalu	148.46	326	⇑PKP2	PKPbc	17 13 38.9	+0.4	
TLB	Topalu	148.46	326	⇑*i*P	PKPbc	17 13 38.9	+0.4	
EFOR	EFORIE	148.48	325	⇓*i*P	PKPbc	17 13 39.9	+1.3	
KDZE	Karadeniz Ereo	148.51	318	*e*P	PKPbc	17 13 37.6	-1.2	
MERS	Mersin	148.52	308	*e*P	PKPbc	17 13 38.8	-0.3	
MORC	Moravsky Berou	148.52	343	⇑PKIKP	PKPdf	17 13 36.5	+1.8	
MORC	Moravsky Berou	148.52	343	⇑*i*P	PKPdf	17 13 36.5	+1.8	
MORC	Moravsky Berou	148.52	343	*e*PKPdf	PKPdf	17 13 34.9	+0.2	
MORC				*e*PKPbc	PKPbc	17 13 39.0	+0.3	
MORC				*e*PKPab	PKPab	17 13 42.8	-0.1	
PVCC	Panska Ves	148.56	347	*e*PKP2	PKPab	17 13 48.5	+5.6	
PVCC				*e*		17 35 54.2		
PVCC	Panska Ves	148.56	347	*ex*	x	17 13 48.5		
PVCC				*ep*PKP	pPKPdf	17 14 48.6	+4.8	
PVCC				*e*SS	SS	17 35 54.2	-1.1	
HEX	Exmoor	148.60	9	*e*P	PKPbc	17 13 38.4	-0.3	
BRBR	Barbar	148.60	301	*e*P	PKPbc	17 13 39.1	-0.4	
RCY	Rachaya	148.67	302	*e*P	PKPbc	17 13 40.3	+0.7	
MANR	Mangalia	148.68	324	⇑*i*P	PKPbc	17 13 40.3	+1.2	
WOL	Wolverton	148.68	6	*e*P	PKPbc	17 13 37.9	-1.0	
SULT	Sultanhani-AKS	148.69	311	*e*P	PKPbc	17 13 38.7	-0.8	
BHL	Bhannes	148.70	302	*e*P	PKPbc	17 13 40.1	+0.4	
BUG	Bochum--Univer	148.70	356	*e*PKPbc	PKPbc	17 13 39.5	+0.6	
BUG				*ep*PKPbc	pPKPbc	17 14 49.4	+2.0	
KECS	Kecovo	148.75	338	*e*PKP2	PKPbc	17 13 40.1	+0.9	
KECS	Kecovo	148.75	338	*e*PKP	PKPbc	17 13 40.1	+0.9	
KECS				*e*		17 14 50.2		
PGOR	Pogoanele	148.78	327	⇑*i*P	PKPbc	17 13 39.1	-0.2	
DOPR	Dopca	148.79	300	⇓*i*P	PKPdf	17 13 36.7	+1.5	
TCHB	Talchebab	148.79	300	*e*P	PKPbc	17 13 39.5	-0.4	
AMRR	Amara	148.81	327	⇑PKP2	PKPbc	17 13 41.0	+1.6	
AMRR	Amara	148.81	327	⇑*i*P	PKPbc	17 13 41.0	+1.6	
DQRL	Deir Qamar	148.82	302	*e*P	PKPbc	17 13 40.7	+0.7	
ISR	Istrita	148.85	328	⇓PKP2	PKPbc	17 13 40.4	+0.8	
ISR	Istrita	148.85	328	⇓*i*P	PKPbc	17 13 40.4	+0.8	
MLR	Muntele Rosu	148.88	329	⇑*i*P	PKPdf	17 13 34.6	-0.9	
MLR	Muntele Rosu	148.88	329	PKP	PKPdf	17 13 34.6	-0.9	
	comp=Z,3.0nm,1.1s,baz=340,slow=2.5,SNR=11							
MLR				PKPbc	PKPbc	17 13 39.4	-0.3	
	comp=Z,28nm,1.2s,baz=332,slow=8.2,SNR=65							
MSAB	Monastry St. A	148.91	325	⇑*i*P	PKPbc	17 13 40.4	+0.7	
PSN	Preselentsi	148.99	325	⇑PKP2	PKPbc	17 13 40.7	+0.8	
PSN	Preselentsi	148.99	325	⇑*i*P	PKPbc	17 13 40.7	+0.8	
PSN	Preselentsi	148.99	325	*e*P	PKPbc	17 13 35.1	-0.4	
PSN	Preselentsi	148.99	325	P	PKPbc	17 13 41.4	+1.5	
MOX	Moxa	148.99	350	*e*PKPbc	PKPbc	17 13 39.9	+0.2	
CJR	Cluj-Napoca	149.01	333	⇑PKP2	PKPbc	17 13 40.6	+0.6	
CJR	Cluj-Napoca	149.01	333	⇑*i*P	PKPbc	17 13 40.6	+0.6	
PRA	Prague	149.02	347	*i* PKP2	PKPbc	17 13 40.8	+1.0	
PRA	Prague	149.02	347	⇑*i*PKP	PKPbc	17 13 40.8	+1.0	
UBBA	Unterbreizbach	149.05	352	*e*PKPbc	PKPbc	17 13 40.1	+0.4	
PRU	Pruhonice	149.07	347	*e*PKPDF	PKPdf	17 13 36.1	+0.6	
PRU				⇑*i*PKP	PKPbc	17 13 40.4	+0.5	
PRU				*ep*PKP	pPKPdf	17 14 48.8	+4.1	
PRU				*ex*	x	17 35 50.4		
TANN	Tannenbergstha	149.07	349	*e*PKPbc	PKPbc	17 13 40.2	+0.2	
GOPC	GO Pecny, Ondr	149.09	346	⇑*e*PKP	PKPbc	17 13 40.5	+0.5	
GOPC				*ex*	x	17 13 50.1		
GOPC				*ep*PKP	pPKPdf	17 14 47.7	+3.0	
MDB	Medias	149.12	332	⇑PKP2	PKPbc	17 13 41.2	+1.0	
MDB	Medias	149.12	332	⇑*i*P	PKPbc	17 13 41.2	+1.0	
MDUB	Mudurnu	149.13	317	*e*P	PKPbc	17 13 40.2	-0.3	
SECR		149.15	328	⇓*i*P	PKPbc	17 13 40.5	+0.2	
MMAI	Mount Meron Ar	149.16	301	PKPbc	PKPbc	17 13 41.1	+0.3	
	comp=Z,138nm,0.6s,baz=71,slow=5.0,SNR=280							
VRAC	Vranov	149.21	344	⇑PKP2	PKPbc	17 13 40.7	+0.4	
VRAC	Vranov	149.21	344	⇑*i*P	PKPbc	17 13 40.7	+0.4	
PLAR	PLOIESTI	149.25	328	⇑*i*P	PKPbc	17 13 40.9	+0.4	
VYHS	Vyhne	149.29	340	*e*PKIKP	PKPdf	17 13 35.4	-0.5	
VYHS				*e*		17 14 50.5		
VYHS	Vyhne	149.29	340	*e*PKP	PKPdf	17 13 35.3	-0.6	
VYHS				*e*		17 13 41.0		
VYHS				*e*		17 14 50.5		
EREN	Erenkoy	149.30	306	*e*P	PKPbc	17 13 41.3	+0.4	
MMLI	Mount Malkishu	149.30	300	*e*P	PKPbc	17 13 40.9	-0.2	
SUR		149.31	328	⇓*i*P	PKPbc	17 13 41.4	+0.8	
DRGR		149.32	334	⇓*i*P	PKPdf	17 13 36.8	+0.7	
VOIR		149.34	330	⇓*i*P	PKPdf	17 13 36.9	+0.7	
BEBN	Eben Emael	149.42	358	PKPbc	PKPbc	17 13 41.0	+0.3	
BEBN				PPKP		17 14 47.8		
PSZ	Piszkesteto	149.44	339	⇑PKP2	PKPbc	17 13 41.4	+0.4	
PSZ	Piszkesteto	149.44	339	⇑*i*P	PKPbc	17 13 41.3	+0.3	
PSZ	Piszkesteto	149.44	339	*e*PKPdf	PKPdf	17 13 36.4	+0.2	
PSZ				*e*PKPbc	PKPbc	17 13 41.1	+0.1	
PSZ				*e*PKPab	PKPab	17 13 46.8	0.0	
PSZ				LR	LR			
	comp=Z,191nm,21.0s							
PSZ	Piszkesteto	149.44	339	⇑*e*PKPdf	PKPbc	17 13 41.2	+0.3	
HGN	Heimansgroeve	149.44	357	*e*PKPdf	PKPbc	17 13 40.8	0.0	
	comp=Z,145nm,1.8s							
HGN				*ep*PKPdf	pPKPdf	17 14 48.8	+3.6	
	comp=Z,199nm,2.2s							
UCC	Uccle	149.45	359	PKPbc	PKPbc	17 13 40.9	+0.1	
UCC				PKPab	PKPab	17 13 45.5	-1.0	
SVRH	Sivrihisar-ESK	149.46	315	*e*P	PKPbc	17 13 40.2	-1.1	
LADK	Ladik-KONYA	149.49	312	*e*P	PKPbc	17 13 41.3	-0.2	
MTUR	Matau	149.49	330	⇑*i*P	PKPbc	17 13 41.0	-0.2	
SPNC	Sapanca-Adapaz	149.57	318	*e*P	PKPbc	17 13 41.3	-0.2	
GULT	Gulveren	149.59	317	*e*P	PKPbc	17 13 41.7	+0.1	
ARR	Arges	149.59	330	⇓*i*P	PKPdf	17 13 38.6	+2.0	
MEM	Membach	149.60	357	PKPbc	PKPbc	17 13 40.6	-0.6	
MEM				PPKP		17 14 48.0		
KONT	Konya--Tatoy	149.62	312	*e*P	PKPbc	17 13 41.4	-0.3	
CIOR	Ciorogarla	149.66	328	⇓*i*P	PKPbc	17 13 44.5	+3.0	
SMOL	Smolenice	149.70	342	*e*PKP2	PKPbc	17 13 43.2	+1.7	
SMOL	Smolenice	149.70	342	*e*PKP	PKPbc	17 13 43.2	+1.7	
SMOL				*e*		17 14 53.3		
SILT	Sile	149.72	319	*e*P	PKPbc	17 13 42.1	+0.3	
PRD	Provadia	149.73	325	*e*P	PKPdf	17 13 36.7	0.0	
PRD	Provadia	149.73	325	P	PKPbc	17 13 43.3	+1.6	
SNF	Seneffe	149.74	359	PKPbc	PKPbc	17 13 41.3	-0.2	
SNF				PPKP		17 14 50.3		
ROTZ	Rotzenmuhle	149.74	349	*e*PKPbc	PKPbc	17 13 42.1	+0.5	
TNS	Taunus Mts	149.81	354	*e*PKPbc	PKPbc	17 13 42.3	+0.5	
BCLA	Clavier	149.81	358	PKPbc	PKPbc	17 13 41.2	-0.5	
BCLA				PKPab	PKPab	17 13 47.8	-0.2	
BCLA				PPKP		17 14 52.7		
ESKT	Eskisehir	149.86	316	*e*P	PKPbc	17 13 42.0	-0.4	
HRT	Hereke	149.90	319	*e*P	PKPbc	17 13 42.0	-0.3	
LOT	Lotru	149.92	331	⇑*i*P	PKPdf	17 13 39.1	+2.0	
DEV	Deva	149.96	333	⇑*i*P	PKPbc	17 13 41.8	-0.4	
GRF	Grafenberg Arr	149.98	350	*e*PKPbc	PKPbc	17 13 42.5	+0.3	
GRFO	Grafenberg	149.98	350	*e*PKP2	PKPbc	17 13 42.6	+0.4	
GRFO	Grafenberg	149.98	350	*e*PKPbc	PKPbc	17 13 42.6	+0.4	
KLYT	Kilyos	150.03	320	*e*P	PKPbc	17 13 41.7	-0.8	
HUMR	Humele	150.05	329	⇑*i*P	PKPbc	17 13 42.3	-0.2	
ADVT	Abdulvahap	150.07	318	*e*P	PKPbc	17 13 42.8	+0.2	
KHC	Kasperske Hory	150.09	347	*e*PKIKP	PKPdf	17 13 37.2	0.0	
KHC				*e*		17 14 58.5		
KHC	Kasperske Hory	150.09	347	*e*PKPDF	PKPdf	17 13 37.2	0.0	
KHC				⇑*i*PKP	PKPbc	17 13 42.5	0.0	
KHC				*e*PKPAB	PKPab	17 13 50.3	+1.0	
KHC				*ep*PKP	pPKPdf	17 14 51.2	+4.8	
KHC				*ex*	x	17 14 58.5		
KHC				*ex*	x	17 36 03.9		
KHC				*ex*	x	17 38 06.1		
KHC	Kasperske Hory	150.09	347	*e*PKPdf	PKPdf	17 13 37.3	0.0	
KHC				*e*PKPbc	PKPbc	17 13 42.4	-0.1	
KHC				*e*PKPab	PKPab	17 13 49.7	+0.4	
BUD	Budapest	150.11	339	⇑*e*PKPdf	PKPbc	17 13 42.7	+0.2	
ISK	Istanbul-Kandi	150.13	320	*e*P	PKPbc	17 13 42.2	-0.5	
CAVI	Cavuskoy	150.14	318	*e*P	PKPbc	17 13 42.5	-0.4	
CSS	Prodhromos	150.15	306	P	PKPbc	17 13 43.0	0.0	
CSS	Prodhromos	150.15	306	*e*P	PKPbc	17 13 43.2	+0.2	
CSS	Prodhromos	150.15	306	*e*PKPdf	PKPdf	17 13 37.5	-0.2	
CSS				*e*PKPbc	PKPbc	17 13 43.2	+0.2	
CSS				LR	LR			
	comp=Z,62nm,21.0s							
DOU	Dourbes	150.15	359	PKPbc	PKPbc	17 13 42.9	+0.3	
DOU				PKPab	PKPab	17 13 49.4	0.0	
DOU				PPKP		17 14 53.7		
DOU				SPKP	sPKPdf	17 15 13.8	-0.1	
HRFI	Mount Harif	150.19	295	*e*P	PKPbc	17 13 43.1	-0.2	
WET	Wettzell	150.22	348	*e*PKPbc	PKPbc	17 13 43.3	+0.5	
BGKT	Bogazkoy	150.23	320	*e*P	PKPbc	17 13 43.0	0.0	
AKDN	Akdeniz- K¯–br	150.30	307	*e*P	PKPbc	17 13 43.4	+0.1	
PKSN	Nyarlorinc	150.32	338	*e*PKPdf	PKPbc	17 13 44.3	+1.3	
GEC2	GERESS Array S	150.33	347	*e*PKPbc	PKPbc	17 13 43.3	+0.2	
GERES	GERESS Array B	150.33	347	PKP	PKPdf	17 13 37.8	+0.1	
	comp=Z,1.6nm,0.8s,baz=90,slow=1.3,SNR=12							
GERES				PKPbc	PKiKP	17 13 43.6	-0.2	
	comp=Z,42nm,0.8s,baz=25,slow=3.2,SNR=120							
GERES				pPKPbc	pPKPbc	17 14 50.8	-1.0	
	comp=Z,45nm,1.1s,baz=50,slow=2.1,SNR=3.8							
EIL	Elat	150.34	295	*e*P	PKPbc	17 13 43.8	+0.2	
CTYL	Yal??k??y-??at	150.34	321	*e*P	PKPbc	17 13 43.3	+0.1	
CTKS	Kestanelik-??a	150.36	320	*e*P	PKPbc	17 13 42.8	-0.4	
PKSG		150.40	340	⇑*e*P	PKPbc	17 13 43.1	-0.1	
GZR	Gura Zlata	150.40	332	⇓PKIKP	PKPbc	17 13 43.6	+0.2	
GZR	Gura Zlata	150.40	332	⇓*i*P	PKPbc	17 13 43.5	+0.2	
GEMT	Gemlik	150.42	319	*e*P	PKPbc	17 13 43.6	+0.1	
LEF	Lefka	150.42	306	*e*P	PKPbc	17 13 43.8	+0.1	
PKS7	Kunszentmiklos	150.44	339	⇓*e*PKPdf	PKPbc	17 13 43.8	+0.5	
CSKK	Cs˙‡kako	150.47	340	⇑*e*PKPdf	PKPbc	17 13 43.5	+0.1	
SZH	Strazhica	150.47	326	*e*P	PKPdf	17 13 37.7	-0.2	
WLF	Walferdange	150.53	357	PKPbc	PKPbc	17 13 44.3	+0.8	
WLF				PPKP		17 14 51.3		
WLF				SPKP	sPKPdf	17 15 15.8	+1.2	
WLF	Walferdange	150.53	357	*e*PKIKP	PKPbc	17 13 44.1	+0.7	
WLF				MLR	MLR			
	comp=Z,242nm,19.0s							
WLF	Walferdange	150.53	357	*e*PKPbc	PKPbc	17 13 44.2	+0.8	
WLF	Walferdange	150.53	357	*e*PKPbc	PKPbc	17 13 44.1	+0.7	
WLF				LR	LR			
	comp=Z,242nm,19.0s							
KZIT	Kziot	150.54	297	*e*P	PKPbc	17 13 44.7	+0.6	
SLVT	Silivri	150.54	321	*e*P	PKPbc	17 13 44.3	+0.6	
ARMT	Armutlu	150.54	319	*e*P	PKPbc	17 13 43.8	0.0	
SHUT	Suhut-Afyon	150.56	314	*e*P	PKPbc	17 13 44.2	+0.2	
ALT	Altintas	150.59	315	*e*P	PKPbc	17 13 44.3	+0.3	
PKST	T¯s	150.63	340	⇑*e*PKPdf	PKPbc	17 13 43.6	-0.2	
MDNY	Mudanya-Bursa	150.65	319	*e*P	PKPbc	17 13 43.5	-0.5	
CONA	Conrad Observa	150.67	343	⇑*i*PKPdf	PKPdf	17 13 36.9	-1.3	
	comp=Z,7.8nm,1.5s,SNR=24							
CONA				⇑*i*PKiKP	PKiKP	17 13 44.6	+0.1	
	comp=Z,102nm,1.1s							
JSA	Saint Aubin	150.67	8	*e*P	PKPbc	17 13 42.9	-0.8	
JMB	Yambol	150.67	324	P	PKPbc	17 13 45.8	+1.8	
JMB	Yambol	150.67	324	⇑PKIKP	PKPbc	17 13 46.2	+2.2	
JMB	Yambol	150.67	324	⇑*i*P	PKPbc	17 13 46.2	+2.2	
JMB	Yambol	150.67	324	*e*P	PKPdf	17 13 38.7	+0.5	
JMB	Yambol	150.67	324	P	PKPbc	17 13 46.7	+2.7	
PKS6	Bocsa	150.69	338	⇓*e*PKPdf	PKPbc	17 13 44.5	+0.6	
PHSR	Pinarhisar	150.69	322	*e*P	PKPbc	17 13 43.7	-0.4	
SOP	Sopron	150.70	342	⇑*e*PKPdf	PKPbc	17 13 44.3	+0.4	
BZS	Buzias	150.72	334	*e*P	PKPbc	17 13 43.9	-0.1	
BZS	Buzias	150.72	334	⇑PKIKP	PKPdf	17 13 38.8	+0.6	
BZS	Buzias	150.72	334	⇑*i*P	PKPdf	17 13 38.8	+0.6	
SRE	Strehaia	150.78	331	⇑PKIKP	PKPbc	17 13 45.9	+1.7	
SRE	Strehaia	150.78	331	⇑*i*P	PKPbc	17 13 45.9	+1.7	
TVSB	Tavsanli	150.80	317	*e*P	PKPbc	17 13 45.0	+0.4	
PKS2	Kecel	150.90	338	*e*PKPdf	PKPbc	17 13 45.6	+1.2	
ISP	Isparta	150.95	313	P	PKPbc	17 13 44.2	-0.7	
ISP	Isparta	150.95	313	*e*P	PKPbc	17 13 44.4	-0.6	
ISP	Isparta	150.95	313	*e*PKIKP	PKPbc	17 13 44.3	-0.7	
ISP				MLR	MLR			
	comp=Z,259nm,19.0s							
ISP	Isparta	150.95	313	⇓*i*P	PKPbc	17 13 44.7	-0.3	
ISP	Isparta	150.95	313	*e*PKPbc	PKPbc	17 13 44.3	-0.7	
ISP				LR	LR			
	comp=Z,259nm,19.0s							
EDRB	Edirne	150.99	323	*e*P	PKPbc	17 13 44.8	0.0	
KCTX	Karacabey (Bur	151.03	319	*e*P	PKPbc	17 13 44.8	-0.1	
BCK	Bucak	151.08	312	*e*P	PKPbc	17 13 43.3	-1.9	
BANR	Banloc	151.10	334	⇑*i*P	PKPbc	17 13 45.9	+1.0	
MOA	Molln	151.14	345	⇑*i*PKPdf	PKPdf	17 13 38.3	-0.6	
	comp=Z,3.7nm,1.2s,SNR=12							
MOA				⇑*i*PKiKP	PKPbc	17 13 45.2	+0.2	
	comp=Z,36nm,1.0s							
STU	Stuttgart	151.16	353	*e*PKIKP	PKPbc	17 13 45.7	+0.7	
STU	Stuttgart	151.16	353	*e*PKPbc	PKPbc	17 13 45.1	+0.2	
STU	Stuttgart	151.16	353	*e*PKPbc	PKPbc	17 13 45.7	+0.7	
FLN	La Foliniere	151.28	6	*e*PKIKP	PKPdf	17 13 39.0	0.0	
FLN				*e*R				
	comp=Z,249nm,22.0s							
FLN	La Foliniere	151.28	6	*e*PKIKP	PKPdf	17 13 39.0	0.0	
FLN	La Foliniere	151.28	6	*e*PKPdf	PKPdf	17 13 39.0	0.0	
EDC	Edincik	151.28	320	*e*P	PKPbc	17 13 45.0	-0.4	
MRMT	Marmara Adasi	151.29	320	*e*P	PKPbc	17 13 44.7	-0.9	
ANTB	Antalya	151.30	311	*e*P	PKPbc	17 13 44.6	-1.1	
ROSF	Rostrenen	151.34	10	*e*PKIKP	PKPdf	17 13 40.3	+1.2	
	comp=Z,17nm,0.9s							
ROSF	Rostrenen	151.34	10	*e*PKIKP	PKPdf	17 13 40.3	+1.2	
ROSF	Rostrenen	151.34	10	*e*PKPdf	PKPdf	17 13 40.3	+1.2	
PKSM	Moragy	151.34	338	⇑PKIKP	PKPdf	17 13 38.4	-0.7	
PKSM	Moragy	151.34	338	⇑*i*P	PKPdf	17 13 38.3	-0.8	
PKSM	Moragy	151.34	338	⇑*e*PKPdf	PKPdf	17 13 45.3	-0.1	
KHL	Karahalli	151.37	315	*e*P	PKPbc	17 13 46.1	+0.2	
ARSA	Arzberg	151.38	343	⇑*i*PKPdf	PKPdf	17 13 37.1	-2.1	
	comp=Z,35nm,1.5s,SNR=8.6							
FUR	Furstenfeldbru	151.45	350	*e*PKPbc	PKPbc	17 13 46.0	+0.3	
LDF	La Druitiere	151.48	6	*e*PKIKP	PKPdf	17 13 39.2	-0.1	
LDF	La Druitiere	151.48	6	*e*PKIKP	PKPdf	17 13 39.2	-0.1	
LDF	La Druitiere	151.48	6	*e*PKPdf	PKPdf	17 13 39.2	-0.1	
RKY	Sarkoy-Tekirda	151.49	321	*e*P	PKPbc	17 13 45.6	-0.4	
MPEP	Malo Peshtene	151.52	329	*e*P	PKPdf	17 13 38.4	-1.1	
MPEP	Malo Peshtene	151.52	329	P	PKPbc	17 13 47.3	+1.4	
SGMF	Saint Gilles	151.53	9	*e*PKIKP	PKPdf	17 13 40.4	+1.1	
SGMF	Saint Gilles	151.53	9	*e*PKIKP	PKPdf	17 13 40.4	+1.1	
SGMF	Saint Gilles	151.53	9	*e*PKPdf	PKPdf	17 13 40.4	+1.1	
RJOB	Jochberg	151.58	347	*e*PKPbc	PKPbc	17 13 46.7	+0.7	
KRBG	Karabiga-Canak	151.60	320	*e*P	PKPbc	17 13 45.7	-0.5	
GRR	Gorron	151.61	7	*e*PKIKP	PKPdf	17 13 39.7	+0.2	
GRR	Gorron	151.61	7	*e*PKIKP	PKPdf	17 13 39.7	+0.2	
GRR	Gorron	151.61	7	*e*PKPdf	PKPdf	17 13 39.7	+0.2	
PAGF	Fort de Pagny	151.66	357	*e*PKIKP	PKPdf	17 13 40.2	+0.6	
PAGF	Fort de Pagny	151.66	357	*e*PKPdf	PKPdf	17 13 40.2	+0.6	
BFO	Black Forest	151.69	354	*e*PKIKP	PKPdf	17 13 39.3	-0.3	
BFO				*e*		17 13 55.5		
BFO				MLR	MLR			
	comp=Z,181nm,19.0s							
BFO	Black Forest	151.69	354	*e*PKPbc	PKPbc	17 13 46.2	0.0	
BFO	Black Forest	151.69	354	*e*PKPdf	PKPdf	17 13 39.3	-0.3	
BFO				*e*PKPbc	PKPbc	17 13 46.1	0.0	
BFO				*e*PKPab	PKPab	17 13 55.5	-0.6	
BFO				LR	LR			
	comp=Z,181nm,19.0s							
BALB	Balikesir	151.70	318	*e*P	PKPbc	17 13 46.5	+0.1	
QUIF	Quistinic	151.76	10	*e*PKIKP	PKPdf	17 13 40.1	+0.4	
QUIF	Quistinic	151.76	10	*e*PKIKP	PKPdf	17 13 40.1	+0.4	
QUIF	Quistinic	151.76	10	*e*PKPdf	PKPdf	17 13 40.1	+0.4	
KULA	Kula-Manisa	151.84	316	*e*P	PKPbc	17 13 41.8	-0.4	
KDZ	Kurdzhali	151.86	324	⇑PKIKP	PKPbc	17 13 46.9	+0.1	
KDZ	Kurdzhali	151.86	324	⇑*i*P	PKPbc	17 13 46.9	+0.1	
ERIK	Erikli-Kesan	151.89	322	*e*P	PKPbc	17 13 46.7	-0.1	
PGB	Panagyurishte	151.89	327	*e*P	PKPdf	17 13 39.2	-1.0	
ELL	Elmali	151.90	311	*e*P	PKPbc	17 13 47.1	0.0	
ECH	Echery	151.91	355	*e*PKIKP	PKPbc	17 13 46.5	-0.2	
ECH				*e*		17 13 56.4		
ECH				MLR	MLR			
	comp=Z,199nm,19.0s							
ECH	Echery	151.91	355	*e*PKPbc	PKPbc	17 13 46.5	-0.2	
ECH				*e*PKPab	PKPab	17 13 56.4	-0.5	
ECH				LR	LR			
	comp=Z,199nm,19.0s							
LPK	Lapseki	151.93	321	*e*P	PKPbc	17 13 46.4	-0.6	
DENT	Denizli	152.00	314	*e*P	PKPbc	17 13 47.9	+0.6	
ALN	Alexandroupoli	152.01	322	P	PKPbc	17 13 46.4	-0.7	
ALN	Alexandroupoli	152.01	322	*e*P	PKPbc	17 13 45.9	-1.2	
SFTF	Sexfontaines	152.03	358	*e*PKIKP	PKPdf	17 13 40.4	+

BUM	**Brajici-Budva**	**154.56**	**333**	⇑ *i* PKP		**PKPdf**	**17 13 42.1**	**-1.9**
FNA	**Florina**	**154.61**	**328**	*e*P		**PKPbc**	**17 13 52.2**	**-0.6**
FNA	**Florina**	**154.61**	**328**	*e*P		**PKPbc**	**17 13 51.8**	**-1.0**
LPG	**La Plagne**	**154.65**	**355**	*e*PKIKP		**PKPdf**	**17 13 44.8**	**+0.5**
	comp=Z,14nm,1.3s							
LPG	**La Plagne**	**154.65**	**355**	*e*PKIKP		**PKPdf**	**17 13 44.8**	**+0.5**
LPG	**La Plagne**	**154.65**	**355**	*e*PKPdf		**PKPdf**	**17 13 44.8**	**+0.5**
XOR	**Xorichti**	**154.66**	**323**	P		**PKPab**	**17 14 07.7**	**-1.2**
NEO	**Neokhori**	**154.68**	**323**	P		**PKPab**	**17 14 08.7**	**-0.3**
RJF	**Les Rejaudoux**	**154.88**	**4**	*e*PKIKP		**PKPdf**	**17 13 44.5**	**+0.2**
RJF				*e*R				
	comp=Z,172nm,18.9s							
RJF	**Les Rejaudoux**	**154.88**	**4**	*e*PKIKP		**PKPdf**	**17 13 44.5**	**+0.2**
RJF	**Les Rejaudoux**	**154.88**	**4**	*e*PKPdf		**PKPdf**	**17 13 44.5**	**+0.2**
SSB	**Saint Sauveur**	**154.97**	**359**	*e*PKIKP		**PKPdf**	**17 13 44.6**	**+0.1**
SSB				MLR		MLR		
	comp=Z,182nm,21.0s							
SSB	**Saint Sauveur**	**154.97**	**359**	*e*PKPdf		**PKPdf**	**17 13 44.6**	**+0.1**
SSB				*e*PKPbc		**PKPbc**	**17 13 53.8**	**+0.4**
SSB				LR		LR		
	comp=Z,182nm,21.0s							
BNI	**Bardonecchia**	**155.09**	**355**	*e*PKIKP		PKPdf	17 13 54.7	+10
BNI				MLR		MLR		
	comp=Z,274nm,19.0s							
BNI	**Bardonecchia**	**155.09**	**355**	*e*PKPbc		PKPdf	17 13 54.7	+10
BNI				LR		LR		
	comp=Z,274nm,19.0s							
SANT	**Santorini**	**155.15**	**315**	PFAKE			17 14 00.0	-11
SANT				LR		LR		
	comp=Z,173nm,20.0s							
LKR	**Lokris**	**155.26**	**322**	P		**PKPab**	**17 14 10.8**	**-0.6**
ORIF	**Oris-en-Rattie**	**155.28**	**357**	*e*PKIKP		**PKPdf**	**17 13 45.3**	**+0.3**
ORIF				*e*R				
	comp=Z,240nm,21.0s							
ORIF	**Oris-en-Rattie**	**155.28**	**357**	*e*PKIKP		**PKPdf**	**17 13 45.3**	**+0.3**
ORIF	**Oris-en-Rattie**	**155.28**	**357**	*e*PKPdf		**PKPdf**	**17 13 45.3**	**+0.3**
CAF	**Calviac**	**155.29**	**3**	*e*PKIKP		**PKPdf**	**17 13 45.3**	**+0.4**
CAF	**Calviac**	**155.29**	**3**	*e*PKIKP		**PKPdf**	**17 13 45.3**	**+0.4**
CAF	**Calviac**	**155.29**	**3**	*e*PKPdf		**PKPdf**	**17 13 45.3**	**+0.4**
AGG	**Agios Georgios**	**155.38**	**324**	*e*P		**PKPab**	**17 14 10.5**	**-1.5**
VIVF	**Saint-Julien-l**	**155.39**	**359**	*e*PKIKP		**PKPdf**	**17 13 45.2**	**+0.2**
	comp=Z,34nm,1.5s							
VIVF	**Saint-Julien-l**	**155.39**	**359**	*e*PKIKP		**PKPdf**	**17 13 45.2**	**+0.2**
VIVF	**Saint-Julien-l**	**155.39**	**359**	*e*PKPdf		**PKPdf**	**17 13 45.2**	**+0.2**
MBDF	**Montbardon**	**155.41**	**355**	*e*PKIKP		**PKPdf**	**17 13 45.5**	**+0.3**
	comp=Z,9.1nm,0.8s							
MBDF	**Montbardon**	**155.41**	**355**	*e*PKIKP		**PKPdf**	**17 13 45.5**	**+0.3**
MBDF	**Montbardon**	**155.41**	**355**	*e*PKPdf		**PKPdf**	**17 13 45.5**	**+0.3**
DSJ	**Palaion Diasel**	**155.97**	**326**	P		**PKPab**	**17 14 14.3**	**-0.3**
PGAV	**Gavieira, Arco**	**155.99**	**23**	*e*SS		SS	17 37 22.1	+5.0
IGT	**Igoumenitsa**	**156.07**	**327**	*e*P		**PKPab**	**17 14 12.0**	**-2.9**
LASF	**Ste Croix**	**156.18**	**360**	*e*PKIKP		**PKPdf**	**17 13 46.7**	**+0.6**
	comp=Z,15nm,1.2s							
LASF	**Ste Croix**	**156.18**	**360**	*e*PKPdf		**PKPdf**	**17 13 46.7**	**+0.6**
SBF	**Sospel**	**156.20**	**354**	*e*PKIKP		**PKPdf**	**17 13 45.9**	**-0.3**
SBF	**Sospel**	**156.20**	**354**	*e*PKIKP		**PKPdf**	**17 13 45.9**	**-0.3**
SBF	**Sospel**	**156.20**	**354**	*e*PKPdf		**PKPdf**	**17 13 45.9**	**-0.3**
SMRF	**Simiane la Rot**	**156.24**	**357**	*e*PKIKP		**PKPdf**	**17 13 46.7**	**+0.5**
	comp=Z,45nm,1.6s							
SMRF	**Simiane la Rot**	**156.24**	**357**	*e*PKPdf		**PKPdf**	**17 13 46.7**	**+0.5**
MSKU	**Masuku**	**156.28**	**205**	PFAKE			17 14 00.0	+13
MSKU				LR		LR		
	comp=Z,3.0nm,22.0s							
AQU	**L'Aquila**	**156.48**	**342**	PFAKE			17 14 00.0	+13
AQU				LR		LR		
	comp=Z,235nm,21.0s							
RLS	**Riolos of Patr**	**156.54**	**323**	P		**PKPab**	**17 14 17.8**	**+0.8**
PBRG	**Braganca**	**156.66**	**20**	*e*PKPab		**PKPab**	**17 14 17.4**	**0.0**
POLO	**Lamas de Olo**	**156.68**	**23**	*e*PKPab		**PKPab**	**17 14 17.4**	**-0.2**
PVRL	**Vila Real**	**156.79**	**23**	*e*PKPab		**PKPab**	**17 14 18.1**	**+0.1**
LMR	**La Mourre**	**156.81**	**355**	*e*PKIKP		**PKPdf**	**17 13 46.9**	**0.0**
LMR	**La Mourre**	**156.81**	**355**	*e*PKIKP		**PKPdf**	**17 13 46.9**	**0.0**
LMR	**La Mourre**	**156.81**	**355**	*e*PKPdf		**PKPdf**	**17 13 46.9**	**0.0**
MTLF	**Montolieu**	**156.88**	**3**	*e*PKIKP		**PKPdf**	**17 13 47.5**	**+0.5**
MTLF	**Montolieu**	**156.88**	**3**	*e*PKIKP		**PKPdf**	**17 13 47.5**	**+0.5**
MTLF	**Montolieu**	**156.88**	**3**	*e*PKPdf		**PKPdf**	**17 13 47.5**	**+0.5**
EPF	**Esparros**	**157.03**	**7**	*e*PKIKP		**PKPdf**	**17 13 47.8**	**+0.5**
EPF	**Esparros**	**157.03**	**7**	*e*PKIKP		**PKPdf**	**17 13 47.8**	**+0.5**
EPF	**Esparros**	**157.03**	**7**	*e*PKPdf		**PKPdf**	**17 13 47.8**	**+0.5**
MVO	**Moncorvo**	**157.13**	**22**	*e*PKPdf		**PKPdf**	**17 13 48.8**	**+1.3**
MVO	**Moncorvo**	**157.13**	**22**	*e*PKPab		**PKPab**	**17 14 19.4**	**-0.1**
MVO	**Moncorvo**	**157.13**	**22**	*e*SS		SS	17 37 33.1	+3.9
PVIS	**Viseu**	**157.21**	**24**	*e*PKPab		**PKPab**	**17 14 19.8**	**0.0**
PGF	**Pioggiola**	**157.29**	**350**	*e*PKIKP		**PKPdf**	**17 13 47.5**	**-0.2**
	comp=Z,26nm,1.1s							
PGF	**Pioggiola**	**157.29**	**350**	*e*PKIKP		**PKPdf**	**17 13 47.5**	**-0.2**
PGF	**Pioggiola**	**157.29**	**350**	*e*PKPdf		**PKPdf**	**17 13 47.5**	**-0.2**
PCAS	**Casmilo, Conde**	**157.55**	**25**	*e*PKPab		**PKPab**	**17 14 21.2**	**-0.1**
MTE	**Manteigas**	**157.62**	**23**	*e*PKPdf		**PKPdf**	**17 13 48.9**	**+0.8**
MTE	**Manteigas**	**157.62**	**23**	*e*PKPab		**PKPab**	**17 14 21.5**	**-0.1**
MTE	**Manteigas**	**157.62**	**23**	*e*SS		SS	17 37 36.1	+1.7
MTE	**Manteigas**	**157.62**	**23**	PFAKE			17 14 00.0	+12
MTE				LR		LR		
	comp=Z,189nm,20.0s							
CUC	**Castrocucco**	**157.75**	**335**	PFAKE			17 14 00.0	+12
CUC				LR		LR		
	comp=Z,196nm,19.0s							
PTOM	**Tomar**	**157.95**	**26**	*e*PKPab		**PKPab**	**17 14 22.9**	**-0.1**
TIP	**Timpagrande**	**158.05**	**332**	PFAKE			17 14 00.0	+11
TIP				LR		LR		
	comp=Z,146nm,20.0s							
PMTG	**Montargil**	**158.49**	**26**	*e*PKPab		**PKPab**	**17 14 24.8**	**-0.6**
PMRV	**Marv??o**	**158.52**	**24**	*e*PKPdf		**PKPdf**	**17 13 50.0**	**+0.9**
PMRV	**Marv??o**	**158.52**	**24**	*e*PKPab		**PKPab**	**17 14 25.1**	**-0.4**
PMRV	**Marv??o**	**158.52**	**24**	*e*SS		SS	17 37 48.2	+4.3
PESTR	**Estremoz**	**158.93**	**26**	*e*PKPdf		**PKPdf**	**17 13 50.4**	**+0.8**
PESTR	**Estremoz**	**158.93**	**26**	*e*PKPab		**PKPab**	**17 14 26.7**	**-0.6**
EVOP	**Sao Brissos**	**158.99**	**27**	*e*PKIKP		**PKPdf**	**17 13 49.6**	**-0.1**
EVOP	**Sao Brissos**	**158.99**	**27**	*e*PKPdf		**PKPdf**	**17 13 49.6**	**-0.1**
EVO	**Evora**	**159.03**	**27**	*e*PKIKP		**PKPdf**	**17 13 49.6**	**-0.1**
	comp=Z,48nm,1.4s							
EVO				*e*R				
	comp=Z,297nm,22.0s							
PNCL	**Nicolau / Gran**	**159.16**	**28**	*e*PKPab		**PKPab**	**17 14 28.0**	**-0.3**
CEL	**Celeste**	**159.19**	**332**	PFAKE			17 14 00.0	+10
CEL				LR		LR		
	comp=Z,251nm,21.0s							
ESDC	**Sonseca Array**	**159.45**	**17**	PKP		**PKPdf**	**17 13 51.4**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=324,slow=2.9,SNR=8.0							
ESDC				PKPab		**PKPab**	**17 14 29.8**	**+0.2**
	comp=Z,8.1nm,0.6s,baz=329,slow=3.7,SNR=34							
ESDC				pPKPab		**pPKPab**	**17 15 35.2**	**-0.5**
	comp=Z,7.0nm,1.0s,baz=333,slow=3.9,SNR=4.3							
PAB	**San Pablo**	**159.46**	**18**	PFAKE			17 14 00.0	+10
PAB				LR		LR		
	comp=Z,238nm,21.0s							
MESJ	**Messejana**	**159.52**	**28**	*e*PKPdf		**PKPdf**	**17 13 51.9**	**+1.6**
MESJ	**Messejana**	**159.52**	**28**	*e*PKPab		**PKPab**	**17 14 29.7**	**-0.2**
PBAR	**Barrancos**	**159.74**	**25**	*e*PKPab		**PKPab**	**17 14 30.9**	**+0.1**
PVAQ	**Vaqueiros**	**160.10**	**28**	*e*SS		SS	17 38 04.0	+3.3
VSL	**Villasalto**	**160.18**	**347**	PFAKE			17 14 00.0	+9.0
VSL				LR		LR		
	comp=Z,146nm,21.0s							
CLTB	**Caltabellotta**	**160.85**	**337**	PFAKE			17 14 00.0	+8.1
CLTB				LR		LR		
	comp=Z,95nm,19.0s							
RTC	**Rabat Centre**	**163.29**	**32**	PFAKE			17 14 10.0	+16
RTC				LR		LR		
	comp=Z,221nm,19.0s							
LIC	**Lamto**	**163.66**	**147**	*e*PKIKP		**PKPdf**	**17 13 54.7**	**-0.6**
	comp=Z,50nm,1.3s							
LIC	**Lamto**	**163.66**	**147**	*e*PKPdf		**PKPdf**	**17 13 54.7**	**-0.6**
KEST	**Kesra**	**163.78**	**344**	PKPab		**PKPab**	**17 14 48.9**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=278,slow=3.4,SNR=10							
DBIC	**Dimbokro**	**164.13**	**147**	PKP		**PKPdf**	**17 13 55.4**	**-0.4**
	comp=Z,11nm,1.0s,baz=129,slow=4.0,SNR=4.4							
TORD	**Torodi Ar. Bea**	**172.70**	**163**	PKP		**PKPdf**	**17 14 00.4**	**-0.9**
	comp=Z,9.0nm,1.1s,baz=318,slow=0.9,SNR=26							
TORD				pPKP		**pPKPdf**	**17 15 09.5**	**-1.4**
	comp=Z,5.3nm,1.1s,baz=326,slow=1.2,SNR=4.4							
TORD				PKPab		**PKPab**	**17 15 28.9**	**+0.6**
	comp=Z,12nm,0.8s,baz=186,slow=2.5,SNR=14							
TORD				PP		**PP**	**17 19 23.2**	**+4.4**
	comp=Z,8.0nm,1.2s,baz=182,slow=3.9,SNR=4.3							
TAM	**Tamanrasset**	**176.98**	**329**	*e*PKIKP		**PKPdf**	**17 14 02.0**	**-0.6**
TAM				MLR		MLR		
	comp=Z,244nm,20.0s							
TAM	**Tamanrasset**	**176.98**	**329**	*e*PKPdf		**PKPdf**	**17 14 02.0**	**-0.6**
TAM				LR		LR		
	comp=Z,244nm,20.0s							

MAN 10 17:04:11, 8.96N×124.53E, h34km, mb4.9, ML3.9, MS3.9,

Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BUTP	**Butuan**	**1.08**	**89**	*e*P		Pn	17 04 30.0	+0.3
BUKP	**Musuan**	**1.20**	**154**	*e*P		Pn	17 04 30.9	-0.5
BUKP				*e*S		Sn	17 04 47.5	+0.9
PAGZ	**Pagadian**	**1.58**	**226**	*e*P		Pn	17 04 37.9	+1.2
PAGZ				*e*S		Sn	17 04 56.1	+0.1

*IDC **10** 17:25:10.4±2.9, 17.99N×146.72E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/39, mbtmp3.4/6, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/26, Error ellipse: s-maj=91.9km s-min=22.3km az=82.0*

*ISCJB **10** 17:25:15.6±2.4, 18.1N±0.1×147.0E±0.5, h66km, mb3.4/5, Error ellipse: s-maj=75.0km s-min=18.3km az=173.4*

ISC 10 17:25:17.1±2.9, 18.1N±0.2×147.0E±0.6, h66km, n7, σ1s72/6, mb3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MJAR	**Matsushiro Arr**	**19.91**	**339**	P		**Pn**	**17 29 43.8**	**-1.8**
	0.1nm,0.3s,baz=172,slow=18,SNR=2.9							
HNR	**Honiara**	**30.23**	**154**	LR		LR	17 44 15.6	
	comp=Z,118nm,18.1s,baz=114,slow=38							
WRA	**Warramunga Arr**	**39.82**	**199**	P		**P**	**17 32 43.1**	**-1.0**
	0.6nm,0.7s,baz=23,slow=9.1,SNR=5.3							
ASAR	**Alice Springs**	**43.46**	**198**	P		**P**	**17 33 14.3**	**+0.4**
	0.2nm,0.7s,baz=23,slow=12,SNR=3.1							
CMAR	**Chiang Mai Arr**	**45.51**	**278**	P		**P**	**17 33 30.1**	**-0.4**
	0.8nm,0.8s,baz=70,slow=6.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**59.21**	**323**	P		**P**	**17 35 12.6**	**+1.3**
	0.4nm,0.5s,baz=98,slow=8.9,SNR=3.1							
MKAR	**Makanchi Array**	**59.74**	**314**	P		**P**	**17 35 16.8**	**+1.6**
	0.2nm,0.4s,baz=90,slow=8.6,SNR=7.2							

IDC 10 17:26:44.6±2.3, 5.36N×125.03E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/38, mbtmp3.2/3, Error ellipse: s-maj=217.0km s-min=26.2km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**26.76**	**160**	P		P	17 32 27.4	+1.0
	0.3nm,0.7s,baz=340,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**30.12**	**164**	P		P	17 32 55.2	-1.2
	0.1nm,0.3s,baz=341,slow=7.4,SNR=4.2							
MKAR	**Makanchi Array**	**55.26**	**325**	P		P	17 36 19.7	-0.1
	0.2nm,0.4s,baz=128,slow=8.1,SNR=3.7							

*NEIC **10** 17:31:40.0, 32.63N×115.80W, h6km, ML3.6(PAS), After PAS.*

*MEX **10** 17:31:39.5±0.7, 32.92N×115.72W, h16km±18km, MD3.5*

ISC 10 17:31:39.2±1.3, 32.67N±0.04×115.85W±0.04, h11km±11km, n18, σ1s17/25, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CPBX	**Cerro Prieto**	**0.52**	**119**	*e*P		**Pg**	**17 31 49.6**	**+0.2**
CPBX				*i* S		**Sb**	**17 31 58.8**	**+0.8**
MBIG	**Mexicali**	**0.61**	**116**	*i* P		**Pg**	**17 31 50.6**	**-0.4**
MBIG				*e*S		**Sg**	**17 31 59.3**	**+0.3**
CBX	**Cerro Bola**	**0.78**	**243**	*i* P		**Pb**	**17 31 55.5**	**+0.6**
CBX				*i* S		**Sb**	**17 32 06.6**	**+1.0**
CBX	**Cerro Bola**	**0.78**	**243**	*i* P		**Pb**	**17 31 55.5**	**+0.6**
CBX				*i* S		**Sb**	**17 32 06.6**	**+1.0**
PFO	**Pinyon Flats O**	**1.06**	**331**	*e*Pg		**Pg**	**17 31 58.7**	**-1.0**
SPIG	**San Pedro Mart**	**1.66**	**169**	*e*P		**Pn**	**17 32 07.7**	**-0.8**
SPIG				*i* S		**Sn**	**17 32 29.9**	**0.0**
SPIG	**San Pedro Mart**	**1.66**	**169**	*e*P		**Pn**	**17 32 07.7**	**-0.8**
SPIG				*i* S		**Sn**	**17 32 29.9**	**0.0**
SPX	**San Pedro Mart**	**1.66**	**169**	*e*P		**Pn**	**17 32 08.0**	**-0.5**
SPX				*i* S		**Sn**	**17 32 29.7**	**-0.3**
PASC	**Pasadena Art C**	**2.46**	**308**	*e*Pn		**Pb**	**17 32 23.4**	**-0.1**
214A	**Organ Pipe Nat**	**2.67**	**105**	*e*Pn		**Pn**	**17 32 19.7**	**-2.4**
GSC	**Goldstone, Bar**	**2.74**	**343**	*e*Pn		**Pn**	**17 32 23.0**	**-0.2**
OSI	**Osito Audit: C**	**3.08**	**310**	*e*Pn		**Pn**	**17 32 28.9**	**+1.0**
ISA	**Isabella, Lake**	**3.69**	**325**	*e*Pn		**Pb**	**17 32 42.8**	**-1.7**
SHPR	**Sheep Range**	**3.86**	**8**	*e*Pg		**Pg**	**17 32 54.9**	**+1.7**
DAC	**Darwin (Calif)**	**3.87**	**339**	*e*Pn		**Pn**	**17 32 36.2**	**-2.6**
WUAZ	**Wupatki**	**4.67**	**51**	*e*P		**Pn**	**17 32 50.6**	**+0.8**
CCUT	**Cedar City**	**5.27**	**22**	*e*P		**Pn**	**17 32 59.4**	**+1.2**
121A	**Cookes Peak, D**	**6.80**	**89**	*e*P		**Pn**	**17 33 18.6**	**-0.5**

*IDC **10** 17:33:01.6±0.9, 22.45S×170.44E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/28, mbtmp4.0/11, ML4.4/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/30, Error ellipse: s-maj=28.8km s-min=21.4km az=170.0*

*ISCJB **10** 17:33:04.9±0.5, 22.48S±0.06×170.44E±0.06, h33km, mb4.2/17, MS3.8/3, Error ellipse: s-maj=8.6km s-min=7.8km az=44.8*

*NEIC **10** 17:33:08.0±2.1, 22.40S×170.38E, h44km±17km, mb4.4/9, Error ellipse: s-maj=22.2km s-min=12.7km az=165.0*

ISC 10 17:33:06.6±0.5, 22.47S±0.07×170.42E±0.07, h33km, n58, σ1s44/62, mb4.2/17, MS3.8/3, 1C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**3.71**	**275**	Pn		**Pn**	**17 34 02.3**	**+0.6**
	29nm,0.3s,baz=98,slow=7.5,SNR=874							
DZM				Sn		**Sn**	**17 34 45.1**	**+0.8**
	51nm,0.3s,baz=113,slow=6.8,SNR=15							
DZM				LR		LR	17 35 33.7	
	comp=Z,902nm,18.6s,baz=30,slow=41							
DZM	**Mont Dzumac**	**3.71**	**275**	Pn		**Pn**	**17 34 02.3**	**+0.6**
DZM				*e*Sn		**Sn**	**17 34 44.0**	**-0.3**
DZM				Sn		**Sn**	**17 34 45.1**	**+0.8**
NFK	**Norfolk Island**	**6.92**	**198**	P		**Pn**	**17 34 45.8**	**0.0**
	baz=7.2,SNR=40							
NFK				S		**Sn**	**17 36 03.4**	**0.0**
	baz=7.2,SNR=3.7							
URZ	**Urewera**	**16.76**	**161**	LR		LR	17 42 15.2	
	comp=Z,369nm,18.9s,baz=356,slow=33							
EIDS	**Eidsvold**	**17.92**	**257**	P		**Pn**	**17 37 09.0**	**-4.4**
	11nm,1.3s							
ARMA	**Armidale**	**18.59**	**241**	P		Pn	17 37 26.8	+5.3
	baz=20,SNR=4.4							
AFI	**Afiamalu**	**18.92**	**66**	P		**Pn**	**17 37 25.3**	**-0.4**
RMQ	**Roma**	**20.12**	**254**	P		Pn	17 37 42.8	+3.0
	baz=22,SNR=9.2							
CTA	**Charters Tower**	**22.64**	**271**	P		**P**	**17 38 06.0**	**+0.9**
	1.6nm,0.6s,baz=97,slow=12,SNR=5.6							
CTAO	**Charters Tower**	**22.64**	**271**	*e*P		**P**	**17 38 06.0**	**+0.9**
	4.6nm,0.9s							
CMSA	**Cobar Meteorol**	**23.77**	**242**	P		**P**	**17 38 18.8**	**+2.6**
	baz=25,SNR=14							
QLP	**Quilpie**	**24.16**	**255**	P		**P**	**17 38 21.9**	**+2.0**
	baz=26,SNR=11							
PMG	**Port Moresby**	**25.82**	**296**	*e*P		**P**	**17 38 33.4**	**-1.6**
	2.3nm,0.9s							
AS31	**Alice Springs**	**33.56**	**261**	*e*P		**P**	**17 39 43.9**	**+0.1**
ASAR	**Alice Springs**	**33.57**	**261**	P		**P**	**17 39 44.5**	**+0.6**
	1.3nm,0.7s,baz=72,slow=9.4,SNR=36							
ASAR				LR		LR	17 53 36.9	
	comp=Z,160nm,18.6s,baz=68,slow=37							
WRAB	**Tennant Creek**	**33.68**	**267**	P		**P**	**17 39 44.0**	**-0.8**
	4.4nm,1.2s							
WRA	**Warramunga Arr**	**33.69**	**267**	P		**P**	**17 39 43.3**	**-1.6**
	0.3nm,0.5s,baz=96,slow=8.5,SNR=9.9							
WRA				PcP		**PcP**	**17 42 23.7**	**-0.7**
	0.7nm,0.9s,baz=103,slow=2.1,SNR=4.8							
WRA				LR		LR	17 53 05.1	
	comp=Z,149nm,21.3s,baz=105,slow=36							
WRKA	**Warakurna**	**38.54**	**258**	P		**P**	**17 40 27.2**	**+0.8**
	baz=40,SNR=12							
MEEK	**Meekatharra**	**47.05**	**254**	P		**P**	**17 41 36.0**	**+0.6**
	baz=48,SNR=5.0							
VNDA	**Vanda**	**55.26**	**182**	LR		LR	18 03 20.5	
	comp=Z,119nm,18.5s,baz=353,slow=33							
KSM	**Kuching**	**63.19**	**284**	*e*P		**P**	**17 43 32.4**	**+0.3**
	12nm,0.9s							
MJAR	**Matsushiro Arr**	**66.11**	**332**	P		**P**	**17 43 49.2**	**-1.4**
	0.8nm,0.8s,baz=160,slow=6.2,SNR=5.0							
MAJO	**Matsushiro**	**66.11**	**332**	P		**P**	**17 43 50.0**	**-0.6**
JNU	**Nakatsue**	**66.92**	**324**	*e*P		**P**	**17 43 56.4**	**+0.5**
	2.8nm,0.6s							
QSPA	**South Pole Qui**	**67.60**	**180**	P		**P**	**17 43 59.8**	**-0.2**
	2.4nm,0.9s,baz=72,slow=2.7,SNR=6.1							
KSRS	**Korea Array**	**71.78**	**326**	P		**P**	**17 44 24.6**	**-1.1**
	1.7nm,0.9s,baz=134,slow=7.0,SNR=5.4							
KSAR	**Wonju Array Be**	**71.79**	**325**	P		**P**	**17 44 24.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**73.48**	**341**	P		P	17 44 31.5	-4.1
KULM	**Kulim**	**73.52**	**283**	*e*P		**P**	**17 44 35.8**	**-0.9**
	4.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**80.83**	**294**	P		**P**	**17 45 19.0**	**+1.4**
	3.7nm,0.9s,baz=133,slow=3.9,SNR=18							
CHTO	**Chiang Mai**	**81.00**	**295**	*e*P		**P**	**17 45 20.0**	**+1.5**
	5.2nm,0.9s							
VNA3	**Neumayer Olymp**	**86.54**	**180**	P		**P**	**17 45 45.2**	**-0.8**
VNA2	**Neumayer--Watz**	**86.85**	**181**	P		**P**	**17 45 46.8**	**-0.8**
	baz=181,slow=3.5							
VNA1	**Neumayer--Stat**	**87.14**	**180**	P		**P**	**17 45 48.8**	**-0.1**
ULN	**Ulaanbaatar**	**90.10**	**323**	*e*P		**P**	**17 46 03.0**	**-0.3**
	3.5nm,1.3s							
NVAR	**Mina Array Bea**	**90.11**	**48**	P		**P**	**17 46 05.3**	**+1.6**
	0.3nm,0.5s,baz=232,slow=8.2,SNR=4.2							
BILL	**Bilibino**	**90.29**	**358**	*e*P		**P**	**17 46 00.5**	**-3.0**
SONM	**Songino Array**	**90.45**	**323**	P		**P**	**17 46 05.1**	**+0.2**
	2.8nm,0.9s,baz=131,slow=5.2,SNR=10							
ILAR	**Eielson Array**	**92.97**	**17**	P		**P**	**17 46 17.9**	**+1.8**
	0.4nm,0.8s,baz=239,slow=4.8,SNR=5.4							
ARCES	**ARCESS Array B**	**128.46**	**345**	PKP		**PKPdf**	**17 52 08.4**	**-0.9**
	1.3nm,0.7s,baz=50,slow=1.9,SNR=8.5							
CSS	**Prodhromos**	**140.65**	**298**	*e*PKPdf		**PKPdf**	**17 52 37.8**	**+4.7**
OKC	**Ostrava-Krasne**	**145.06**	**328**	*e*PKP		**PKPdf**	**17 52 39.9**	**-0.5**
PSZ	**Piszkesteto**	**145.37**	**324**	*e*PKPdf		**PKPbc**	**17 52 40.2**	**-0.9**
KRLC	**Kraliky**	**145.55**	**330**	*e*PKP		**PKPab**	**17 52 41.6**	**-0.2**
DPC	**Dobruska-Polom**	**145.57**	**330**	*e*PKP		**PKPab**	**17 52 41.4**	**-0.5**
DPC				*e*pPKP		**pPKPdf**	**17 52 51.6**	**-0.6**
UPC	**Upice**	**145.60**	**331**	*e*PKP		**PKPab**	**17 52 41.8**	**-0.1**
PVCC	**Panska Ves**	**146.22**	**332**	*e*PKP		**PKPab**	**17 52 43.8**	**-0.4**
BRG	**Berggiesshubel**	**146.24**	**333**	*i* PKP		**PKPbc**	**17 52 43.3**	**-0.2**
	7.6nm,0.8s							
CLL	**Collm**	**146.29**	**334**	*i* PKPbc		**PKPbc**	**17 52 42.9**	**-0.8**
	comp=Z,8.0nm,0.9s							
CLL				*i* PKPab		**PKPab**	**17 52 44.0**	**-0.5**
	comp=Z,8.0nm,0.6s							
GOPC	**GO Pecny, Ondr**	**146.58**	**331**	*e*PKP		**PKPab**	**17 52 44.8**	**-0.8**
GOPC				*e*pPKP		**pPKPdf**	**17 52 54.7**	**+0.8**
PRU	**Pruhonice**	**146.63**	**331**	*e*PKP		**PKPbc**	**17 52 44.7**	**0.0**
CONA	**Conrad Observa**	**147.46**	**328**	⇓ *i* PKPab		**PKPab**	**17 52 47.8**	**-1.5**
	comp=Z,5.7nm,1.3s							
KHC	**Kas

ARCES	**ARCESS Array B** 1.2nm,0.9s,baz=90,slow=8.5,SNR=4.1	**56.41**	**335**	P	**P**	**18 33 46.0**	**-0.4**
FINES	**FINESS Array B** 0.6nm,0.7s,baz=99,slow=6.0,SNR=4.5	**56.92**	**326**	P	**P**	**18 33 50.0**	**-0.1**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=326,slow=5.1,SNR=5.4	**80.30**	**17**	P	**P**	**18 36 15.9**	**-0.1**

*IDC **10** 18:27:10.9±0.9, 17°.42S×167°.87E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.3/34, mbtmp4.5/14, ML4.7/1, MS3.8/10, Ms1 3.8/10, ms1mx3.5/29, Error ellipse: s-maj=27.0km s-min=18.1km az=112.0*

*ISCJB **10** 18:27:12.9±0.4, 17°.49S±0°.05×167°.94E±0°.07, h27km, mb4.5/19, MS3.8/9, Error ellipse: s-maj=10.3km s-min=7.5km az=16.1*

*NEIC **10** 18:27:15.5±3.4, 17°.45S×167°.92E, h32km±24km, mb4.7/13, Error ellipse: s-maj=11.1km s-min=9.7km az=73.0*

ISC 10 18:27:14.7±0.5, 17°.53S±0°.06×167°.95E±0°.10, h27km, n63, σ1§29/57, mb4.6/18, MS3.8/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 72nm,0.3s	**4.74**	**197**	*e*Pn		**Pn**		**18 28 23.7**	**-0.8**
DZM	65nm,0.2s			*e*Sn		**Sn**		**18 29 17.5**	**-1.1**
DZM	**Mont Dzumac** 30nm,0.3s,baz=33,slow=11,SNR=235	**4.74**	**197**	Pn		**Pn**		**18 28 23.6**	**-0.9**
DZM	27nm,0.3s,baz=298,slow=22,SNR=11			Sn		**Sn**		**18 29 15.2**	**-3.4**
DZM	comp=Z,339nm,21.8s,baz=64,slow=26			LR		LR		18 29 15.7	
HNR	**Honiara**	**11.19**	**315**	*e*Pn		**Pn**		**18 29 51.7**	**-1.4**
EIDS	**Eidsvold** baz=18,SNR=11	**17.52**	**241**	P		**P**		**18 31 21.5**	**+3.4**
EIDS	**Eidsvold** 54nm,1.5s	**17.52**	**241**	*e*Pn		**P**		**18 31 19.4**	**+1.2**
ARMA	**Armidale** baz=20,SNR=6.8	**19.64**	**226**	P		**Pn**		**18 31 44.6**	**+1.6**
ARMA	**Armidale** 34nm,1.4s	**19.64**	**226**	*e*P		**Pn**		**18 31 44.0**	**+1.0**
AFI	**Afiamalu** 48nm,1.0s	**19.84**	**82**	*e*P		**Pn**		**18 31 45.3**	**-0.1**
RMQ	**Roma** baz=20,SNR=10	**19.88**	**240**	P		**Pn**		**18 31 47.4**	**+1.6**
CTA	**Charters Tower** 17nm,0.9s,baz=84,slow=13,SNR=13	**20.70**	**260**	P		**P**		**18 31 53.6**	**+0.7**
CTAO	**Charters Tower** 26nm,1.0s	**20.70**	**260**	*e*P		Pn		18 31 54.7	-0.8
MGCD	**Mangrove Creek** baz=22,SNR=7.3	**21.75**	**221**	P		**P**		**18 32 08.4**	**+4.2**
PMG	**Port Moresby**	**21.76**	**289**	P		P		18 32 12.5	+8.1
URZ	**Urewera** 3.5nm,0.5s,baz=91,slow=2.5,SNR=8.2	**22.16**	**161**	P		**P**		**18 32 09.1**	**+0.7**
URZ	**Urewera** 7.7nm,0.7s	**22.16**	**161**	*e*P		**P**		**18 32 08.9**	**+0.4**
QLP	**Quilpie** baz=24,SNR=38	**23.72**	**244**	P		**P**		**18 32 25.2**	**+0.5**
YNG	**Young** baz=24,SNR=11	**24.18**	**223**	P		**P**		**18 32 30.6**	**+1.7**
CNB	**Canberra Magne** baz=24,SNR=27	**24.23**	**219**	P		**P**		**18 32 30.9**	**+1.4**
CMSA	**Cobar Meteorol** baz=25,SNR=38	**24.52**	**231**	P		**P**		**18 32 32.9**	**+0.8**
JAY	**Jayapura** comp=Z,122nm,22.0s,baz=228,slow=34	**30.63**	**296**	LR		LR		18 44 16.7	
WB2	**Warramunga Arr**	**31.88**	**260**	*e*P		**P**		**18 33 37.1**	**-0.9**
WRAB	**Tennant Creek** 7.2nm,0.8s	**31.88**	**260**	*e*P		**P**		**18 33 37.0**	**-1.0**
WRA	**Warramunga Arr** 6.1nm,0.8s,baz=83,slow=6.0,SNR=81	**31.89**	**260**	P		**P**		**18 33 37.5**	**-0.6**
WRA	0.7nm,0.9s,baz=91,slow=2.8,SNR=5.0			PcP		**PcP**		**18 36 29.8**	**+1.4**
WRA	comp=Z,143nm,18.7s,baz=105,slow=36			LR		LR		18 46 08.2	
AS31	**Alice Springs**	**32.40**	**253**	*e*P		**P**		**18 33 41.8**	**-0.7**
ASAR	**Alice Springs** 19nm,0.8s,baz=78,slow=9.1,SNR=214	**32.40**	**253**	P		**P**		**18 33 42.1**	**-0.4**
ASAR	0.9nm,0.9s,baz=94,slow=1.6,SNR=4.1			PcP		**PcP**		**18 36 31.1**	**+1.3**
ASAR	comp=Z,384nm,19.3s,baz=88,slow=36			LR		LR		18 46 30.0	
KNRA	**Kununurra** baz=38,SNR=15	**37.56**	**267**	P		**P**		**18 34 26.7**	**-0.3**
WRKA	**Warakurna** baz=38,SNR=7.8	**37.59**	**252**	P		**P**		**18 34 27.0**	**-0.3**
WRKA	**Warakurna** baz=8.5,SNR=4.3	**37.59**	**252**	P		**P**		**18 34 27.1**	**-0.2**
GUMO	**Guam**	**38.41**	**322**	P		**P**		**18 34 34.6**	**+0.5**
TBI	**Tubuai** 174nm,28.2s	**40.22**	**106**	*e*LR		LR		18 46 17.4	
PPT2	**Papeete2** 253nm,24.0s	**40.43**	**97**	*e*LR		LR		18 46 33.6	
MEEK	**Meekatharra** baz=47,SNR=9.9	**46.37**	**250**	P		**P**		**18 35 39.2**	**+0.2**
NWAO	**Narrogin (SRO)** 20nm,0.7s,baz=82,slow=5.2,SNR=14	**47.93**	**241**	P		**P**		**18 35 50.8**	**-0.2**
NWAO	**Narrogin (SRO)** baz=48,SNR=9.7	**47.93**	**241**	P		**P**		**18 35 50.9**	**-0.2**
MORW	**Morawa** baz=49,SNR=4.1	**48.70**	**247**	P		**P**		**18 35 57.0**	**0.0**
JOW	**Kunigami** comp=Z,73nm,18.8s,slow=36	**58.55**	**318**	LR		LR		19 02 05.7	
LEM	**Lembang** comp=Z,86nm,19.9s,baz=121,slow=37	**59.72**	**272**	LR		LR		19 03 49.5	
KSM	**Kuching** baz=60,SNR=4.6	**59.81**	**282**	P		**P**		**18 37 18.9**	**+0.8**
KSM	**Kuching** 10nm,0.7s	**59.81**	**282**	*e*P		**P**		**18 37 18.1**	**-0.1**
VNDA	**Vanda** comp=Z,52nm,21.5s,baz=316,slow=33	**60.09**	**182**	LR		LR		18 59 53.9	
VNDA	**Vanda** 2.1nm,1.0s	**60.09**	**182**	*e*P		**P**		**18 37 18.8**	**-0.3**
SBA	**Scott Base**	**60.35**	**180**	P		**P**		**18 37 21.7**	**+0.9**
MJAR	**Matsushiro Arr** 3.6nm,1.0s,baz=178,slow=8.7,SNR=4.2	**60.68**	**333**	P		**P**		**18 37 21.7**	**-1.9**
MAJO	**Matsushiro**	**60.68**	**333**	P		P		18 37 26.9	+3.2
ASAJ	**Asahikawa** 15nm,0.8s,baz=314,slow=18,SNR=1.8	**65.58**	**340**	P		**P**		**18 37 55.8**	**-0.2**
PETK	**Petropavlovsk-** 2.1nm,0.6s,baz=166,slow=8.7,SNR=4.6	**70.90**	**353**	P		**P**		**18 38 28.7**	**-0.4**
PETK	comp=Z,53nm,20.2s,baz=125,slow=32			LR		LR		19 05 10.2	
MDJ	**Mudanjiang** 9.8nm,1.1s	**71.05**	**332**	P		**P**		**18 38 28.2**	**-2.0**
QSPA	**South Pole Qui** 12nm,1.1s	**72.51**	**180**	*e*P		**P**		**18 38 38.6**	**-0.4**
CMAR	**Chiang Mai Arr** 0.8nm,0.8s,baz=123,slow=5.2,SNR=6.5	**76.69**	**294**	P		**P**		**18 39 03.9**	**0.0**
CHTO	**Chiang Mai** 1.9nm,0.8s	**76.83**	**295**	P		**P**		**18 39 05.3**	**+0.7**
MAW	**Mawson** comp=Z,95nm,22.0s,baz=62,slow=32	**79.55**	**202**	LR		LR		19 09 30.3	
ULN	**Ulaanbaatar** 6.6nm,0.8s	**84.77**	**324**	*e*P		**P**		**18 39 46.4**	**-0.2**
YAK	**Yakutsk** 9.5nm,0.8s,baz=27,slow=1.0,SNR=11	**84.89**	**343**	P		**P**		**18 39 46.5**	**-0.1**
YAK	**Yakutsk** 12nm,0.9s	**84.89**	**343**	*e*P		**P**		**18 39 48.0**	**+1.3**
SONM	**Songino Array** 3.3nm,0.9s,baz=143,slow=6.0,SNR=10.0	**85.13**	**324**	P		**P**		**18 39 48.3**	**-0.1**
BILL	**Bilibino**	**85.33**	**359**	P		**P**		**18 39 50.1**	**+1.3**
SYO	**Syowa Base**	**86.22**	**196**	*e*P		**P**		**18 39 51.4**	**-2.0**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=238,slow=5.1,SNR=10	**88.98**	**18**	P		**P**		**18 40 06.7**	**+0.1**
ILAR	comp=Z,65nm,19.4s,baz=205,slow=32			LR		LR		19 14 47.5	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=84,slow=7.1,SNR=4.2	**99.67**	**316**	P		**Pdif**		**18 40 55.1**	**-0.9**
ARCES	**ARCESS Array B** 2.8nm,0.9s,baz=93,slow=2.4,SNR=4.6	**123.11**	**345**	PKP		**PKPdf**		**18 46 09.1**	**+0.9**
FINES	**FINESS Array B** 1.1nm,0.9s,baz=192,slow=3.5,SNR=4.1	**128.55**	**338**	PKP		**PKPdf**		**18 46 19.9**	**+1.2**
MEM	**Membach**	**143.97**	**340**	PKP		**PKPdf**		**18 46 48.8**	**+1.2**
BFO	**Black Forest**	**145.07**	**336**	*e*PKPdf		**PKPbc**		**18 46 47.8**	**-1.2**

*ISCJB **10** 18:36:15.2±0.6, 23°.21S±0°.05×66°.52W±0°.05, h200km, mb3.3/5, Error ellipse: s-maj=7.2km s-min=6.0km az=146.1*

*IDC **10** 18:36:16.6±1.6, 23°.15S×66°.56W, h198km±16km, mb3.2/5, mb1 3.3/10, mb1mx3.2/26, mbtmp3.6/10, Error ellipse: s-maj=22.0km s-min=13.4km az=88.0*

*GUC **10** 18:36:19.7±0.3, 22°.96S×67°.38W, h274km±8km*

ISC 10 18:36:16.2±0.7, 23°.20S±0°.06×66°.50W±0°.07, h200km, n18, σ1§61/24, mb3.5/5, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.87**	**279**	*i* P		**Pn**		**18 37 06.1**	**+1.6**
PB06				*i* S		**Sn**		**18 37 42.3**	**+0.1**
PB09	**IPOC Station P**	**2.89**	**298**	*i* P		**Pn**		**18 37 06.8**	**+2.1**
PB09				*i* S		**Sn**		**18 37 43.1**	**+0.5**
PB04	**IPOC Station P**	**2.91**	**288**	*e*P		Pn		18 37 12.7	+7.9
PB04				*e*S		Sn		18 37 53.9	+11
PB07	**IPOC Station P**	**3.45**	**294**	*i* P		**Pn**		**18 37 12.5**	**+1.0**
PB07				*i* S		**Sn**		**18 37 52.5**	**-2.2**
PB01	**IPOC Station P**	**3.50**	**307**	*e*P		**Pn**		**18 37 12.7**	**+0.8**
PB01				*e*S		**Sn**		**18 37 54.2**	**-1.4**
PB10	**IPOC Station P**	**3.74**	**264**	*i* P		**Pn**		**18 37 16.1**	**+1.4**
PB10				*i* S		**Sn**		**18 37 58.4**	**-2.2**
LPAZ	**La Paz** 1.3nm,0.3s,baz=155,slow=7.9,SNR=24	**7.04**	**347**	P		**Pn**		**18 37 58.6**	**+0.9**
LPAZ	0.2nm,0.3s,baz=76,slow=24,SNR=6.4			S		**Sn**		**18 39 14.3**	**-3.7**
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=65,slow=13,SNR=15	**8.52**	**190**	P		**Pn**		**18 38 16.7**	**+0.5**
CFAA	0.1nm,0.3s,baz=277,slow=12,SNR=6.6			S		**Sn**		**18 39 48.2**	**-3.6**
SIV	**San Ignacio** 0.5nm,0.3s,baz=259,slow=19,SNR=5.0	**8.81**	**36**	P		**Pn**		**18 38 20.2**	**+0.1**
PLCA	**Paso Flores** 0.1nm,0.3s,baz=10,slow=13,SNR=2.8	**17.81**	**190**	P		**Pn**		**18 40 11.8**	**-0.2**
BDFB	**Brasilia** 0.4nm,0.3s,baz=261,slow=13,SNR=3.3	**18.98**	**70**	P		**P**		**18 40 24.0**	**+1.1**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=143,slow=7.7,SNR=3.2	**63.30**	**324**	P		**P**		**18 46 24.1**	**+0.1**
QSPA	**South Pole Qui** 1.1nm,0.9s,baz=310,slow=1.8,SNR=7.8	**67.00**	**180**	P		**P**		**18 46 48.7**	**+1.3**
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=256,slow=5.6,SNR=6.9	**75.86**	**69**	P		**P**		**18 47 41.0**	**+0.1**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=99,slow=4.7,SNR=3.7	**76.70**	**329**	P		**P**		**18 47 45.5**	**+0.1**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=130,slow=4.7,SNR=7.4	**93.53**	**340**	P		**P**		**18 49 07.7**	**-1.0**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=153,slow=1.8,SNR=4.9	**132.54**	**207**	PKP		**PKPdf**		**18 55 07.9**	**+0.2**
MKAR	**Makanchi Array** 0.8nm,0.5s,baz=337,slow=3.0,SNR=15	**145.62**	**39**	PKPbc		**PKPbc**		**18 55 31.6**	**+0.4**

*NEIC **10** 18:47:59.4, 32°.65N×115°.81W, h6km, MD3.8(MEX), ML3.7(PAS), After PAS.*

*MEX **10** 18:48:01.5±0.8, 32°.74N×115°.77W, h16km±13km, MD3.6*

ISC 10 18:47:58.9±1.3, 32°.64N±0°.04×115°.82W±0°.04, h14km±12km, n25, σ1§22/32, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.49**	**117**	*e*P		**Pb**		**18 48 09.3**	**-0.1**
CPBX				*i* S		**Sb**		**18 48 17.9**	**+1.6**
MBIG	**Mexicali**	**0.57**	**113**	*i* P		**Pb**		**18 48 11.3**	**+0.5**
MBIG				*e*S		**Sb**		**18 48 18.7**	**-0.2**
BAR	**Barrett**	**0.72**	**274**	*e*Pg		**Pg**		**18 48 12.4**	**-0.6**
BAR				*e*Sg		**Sg**		**18 48 22.0**	**-0.4**
CBX	**Cerro Bola**	**0.78**	**246**	*i* P		**Pb**		**18 48 14.8**	**+0.4**
CBX				*e*S		**Sg**		**18 48 25.3**	**+0.8**
CBX	**Cerro Bola**	**0.78**	**246**	*i* P		**Pb**		**18 48 14.8**	**+0.4**
CBX				*e*S		**Sg**		**18 48 25.3**	**+0.8**
PFO	**Pinyon Flats O**	**1.10**	**331**	*e*Pg		**Pb**		**18 48 17.9**	**-2.1**
SPIG	**San Pedro Mart**	**1.62**	**169**	*e*P		**Pn**		**18 48 27.7**	**+0.4**
SPIG				*i* S		**Sn**		**18 48 47.7**	**-0.5**
SPIG	**San Pedro Mart**	**1.62**	**169**	*e*P		**Pn**		**18 48 27.7**	**+0.4**
SPIG				*i* S		**Sn**		**18 48 47.7**	**-0.5**
SPX	**San Pedro Mart**	**1.62**	**169**	*e*P		**Pn**		**18 48 27.8**	**+0.4**
SPX				*i* S		**Sn**		**18 48 47.1**	**-1.2**
MWC	**Mount Wilson**	**2.45**	**311**	*e*Pn		**Pn**		**18 48 39.7**	**+1.0**
PASC	**Pasadena Art C**	**2.50**	**308**	*e*Pn		**Pn**		**18 48 39.6**	**+0.4**
214A	**Organ Pipe Nat**	**2.64**	**104**	*e*Pn		**Pn**		**18 48 38.8**	**-2.4**
GSC	**Goldstone, Bar**	**2.78**	**343**	*e*Pn		**Pn**		**18 48 41.8**	**-1.3**
SHPR	**Sheep Range**	**3.90**	**8**	*e*Pn		**Pn**		**18 48 58.4**	**-0.2**
DAC	**Darwin (Calif)**	**3.91**	**339**	*e*Pn		**Pn**		**18 48 57.8**	**-1.1**
TUC	**Tucson**	**4.27**	**93**	*e*Pn		**Pn**		**18 49 01.9**	**-1.8**
WUAZ	**Wupatki**	**4.68**	**51**	*e*Pn		**Pn**		**18 49 09.7**	**+0.4**
CCUT	**Cedar City** 7.0nm,0.6s	**5.30**	**22**	*e*Pn		**Pn**		**18 49 19.0**	**+1.0**
TPH	**Tonopah** 7.1nm,0.8s	**5.54**	**348**	*e*Pn		**Pn**		**18 49 22.5**	**+1.2**
W18A	**Petrified Fore** 23nm,0.8s	**5.63**	**62**	*e*Pn		**Pn**		**18 49 23.5**	**+1.0**
R11A	**Troy Canyon, C** 2.8nm,0.7s	**5.70**	**2**	Pn		**Pn**		**18 49 25.2**	**+1.8**
WAKR	**Walker** 3.6nm,0.6s	**6.55**	**334**	*e*Pg		Pg		18 49 59.6	-4.8
121A	**Cookes Peak, D** 14nm,0.5s	**6.78**	**89**	*e*Pn		**Pn**		**18 49 37.9**	**-0.4**
MVCO	**Mesa Verde** 9.5nm,0.7s	**7.55**	**51**	*e*Pn		**Pn**		**18 49 51.1**	**+2.3**
MVCO				*e*Sg		Sg		18 51 53.9	-7.3
SRU	**San Rafael Swe** 14nm,0.6s	**7.76**	**32**	*e*Pn		**Pn**		**18 49 53.8**	**+2.2**

*IDC **10** 18:50:17.8±0.5, 18°.95N×64°.99W, h0km, mb4.1/20, mb1 4.4/22, mb1mx4.2/39, mbtmp4.2/22, ML3.9/2, MS3.6/19, Ms1 3.5/19, ms1mx3.4/35, Error ellipse: s-maj=13.9km s-min=11.1km az=125.0*

*MOS **10** 18:50:21.4±1.0, 18°.89N×65°.02W, h33km, mb4.9/32, Error ellipse: s-maj=8.5km s-min=6.6km az=117.6*

*LDG **10** 18:50:22.7±0.4, 18°.84N×65°.20W, h50km, Mb4.4/13, Ms3.7/8, Error ellipse: s-maj=20.5km s-min=11.7km az=72.0*

*ISCJB **10** 18:50:24.3±0.3, 18°.82N±0°.03×65°.06W±0°.02, h56km±3km, mb4.6/98, MS3.5/18, Error ellipse: s-maj=4.9km s-min=2.4km az=5.8*

*NEIC **10** 18:50:24.5±0.3, 18°.87N×65°.06W, h46km±4km, mb4.8/73, MD4.4(RSPR), Error ellipse: s-maj=4.9km s-min=3.0km az=199.0*

NEIC Felt [IV] on Saint Thomas and [II] on Tortola. Also felt on Saint Croix and Saint John. Felt [II] at Rio Grande and San Juan, Puerto Rico. Also felt at Aguas Buenas, Caguas, Ceiba, Guaynabo, Isabela and Utuado.

*RSPR **10** 18:50:25.1, 19°.02N×65°.09W, h20km±4km, MD4.4/21*

*BJI **10** 18:50:25.1, 18°.80N×65°.10W, h47km, mB5.3/5, Ms5.2/5, Ms7 4.8/5*

ISC 10 18:50:24.7±0.6, 18°.91N±0°.04×65°.10W±0°.02, h47km±5km, n578, σ1§31/613, mb4.7/101, MS3.5/18, 153C-179D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.57**	**166**	*e*P		**Pn**		**18 50 36.2**	**-0.6**
STVI	**Saint Thomas**	**0.57**	**166**	*e*P		**Pn**		**18 50 36.3**	**-0.4**
STVI				*e*S		**Sn**		**18 50 45.7**	**+0.4**
STVI	**Saint Thomas**	**0.57**	**166**	*e*P		**Pn**		**18 50 36.2**	**-0.6**
STVI	**Saint Thomas**	**0.57**	**166**	*e*P		**Pn**		**18 50 36.3**	**-0.4**
STVI				*e*S		**Sn**		**18 50 45.5**	**+0.2**
STVI				*e*S		**Sn**		**18 50 45.7**	**+0.4**
STVI	**Saint Thomas**	**0.57**	**166**	*e*P		**Pn**		**18 50 36.2**	**-0.6**
TBVI	**Tortola**	**0.67**	**137**	*e*P		**Pn**		**18 50 36.5**	**-1.4**
TBVI	**Tortola**	**0.67**	**137**	*e*P		**Pn**		**18 50 36.5**	**-1.4**
TBVI	**Tortola**	**0.67**	**137**	*e*P		**Pn**		**18 50 36.5**	**-1.4**
ABV	**Anegada**	**0.74**	**104**	*e*P		**Pn**		**18 50 36.8**	**-2.1**
ABV	**Anegada**	**0.74**	**104**	*e*P		**Pn**		**18 50 36.8**	**-2.1**
ABV				*e*S		**Sn**		**18 50 48.3**	**-1.0**
ABVI	**Anegada Island**	**0.74**	**104**	*e*P		**Pn**		**18 50 36.8**	**-2.1**
ABVI				*e*S		**Sn**		**18 50 48.3**	**-1.0**
MTP	**Monte Pirata**	**0.92**	**208**	*e*Pn		**Pn**		**18 50 41.5**	**+0.2**
MTP				*e*Sn		**Sn**		**18 50 51.0**	**-2.5**
CBYP	**Canovanas**	**0.96**	**229**	*e*P		**Pn**		**18 50 41.4**	**-0.5**
CBYP	**Canovanas**	**0.96**	**229**	*e*P		**Pn**		**18 50 41.7**	**-0.3**
CBYP	**Canovanas**	**0.96**	**229**	*e*P		**Pn**		**18 50 41.7**	**-0.5**
CBYP	**Canovanas**	**0.96**	**229**	*e*P		**Pn**		**18 50 41.7**	**-0.3**
CBYP				*e*S		**Sn**		**18 50 54.3**	**-0.3**
CBYP	**Canovanas**	**0.96**	**229**	*e*P		**Pn**		**18 50 41.4**	**-0.5**
HUMP	**Col San Antoni**	**1.05**	**223**	*e*P		**Pn**		**18 50 43.1**	**+0.1**
HUMP				*e*S		**Sn**		**18 50 57.6**	**+1.1**
HUMP	**Col San Antoni**	**1.05**	**223**	*e*P		**Pn**		**18 50 42.9**	**-0.1**
HUMP	**Col San Antoni**	**1.05**	**223**	*e*P		**Pn**		**18 50 42.9**	**-0.1**
HUMP	**Col San Antoni**	**1.05**	**223**	*e*P		**Pn**		**18 50 43.1**	**+0.1**
HUMP				*e*S		**Sn**		**18 50 57.6**	**+1.1**
HUMP				*e*S		**Sn**		**18 50 57.7**	**+1.2**
HUMP	**Col San Antoni**	**1.05**	**223**	*e*P		**Pn**		**18 50 42.9**	**-0.1**
HUMP				*e*S		**Sn**		**18 50 57.7**	**+1.2**
CDVI	**St. Croix**	**1.19**	**165**	*e*P		**Pn**		**18 50 46.4**	**+1.3**
CDVI	**St. Croix**	**1.19**	**165**	*e*P		**Pn**		**18 50 46.5**	**+1.5**
CDVI	**St. Croix**	**1.19**	**165**	*e*P		**Pn**		**18 50 46.4**	**+1.3**
CDVI	**St. Croix**	**1.19**	**165**	*e*P		**Pn**		**18 50 46.4**	**+1.3**
SJG	**San Juan**	**1.28**	**232**	*e*P		**Pn**		**18 50 46.0**	**-0.2**
SJG	**San Juan**	**1.28**	**232**	*e*P		**Pn**		**18 50 45.9**	**-0.2**
SJG	**San Juan**	**1.28**	**232**	*e*P		**Pn**		**18 50 45.9**	**-0.2**
SJG	**San Juan**	**1.28**	**232**	*e*P		**Pn**		**18 50 46.0**	**-0.2**
SJG				*e*S		**Sn**		**18 51 01.6**	**-0.6**
SJG	**San Juan** 14nm,0.3s,baz=79,slow=20,SNR=762	**1.28**	**232**	Pn		**Pn**		**18 50 45.7**	**-0.5**
SJG	44nm,0.3s,baz=282,slow=14,SNR=23			Sn		**Sn**		**18 51 02.6**	**+0.4**
SJG	comp=Z,4µm,18.2s,baz=90,slow=54			LR		LR		18 51 32.3	
CELP	**Cerrillos**	**1.64**	**240**	*e*P		**Pn**		**18 50 51.1**	**+0.1**
CELP	**Cerrillos**	**1.64**	**240**	*e*P		**Pn**		**18 50 51.1**	**+0.1**
CELP	**Cerrillos**	**1.64**	**240**	*e*P		**Pn**		**18 50 51.1**	**+0.1**
AOPR	**Arecibo Observ**	**1.67**	**251**	*e*P		**Pn**		**18 50 51.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.67**	**251**	*e*P		**Pn**		**18 50 51.5**	**-0.1**
AOPR	**Arecibo Observ**	**1.67**	**251**	*e*P		**Pn**		**18 50 51.3**	**-0.3**
AOPR	**Arecibo Observ**	**1.67**	**251**	*e*P		**Pn**		**18 50 51.5**	**-0.1**
AOPR				*e*S		**Sn**		**18 51 13.7**	**+1.8**
AOPR	**Arecibo Observ**	**1.67**	**251**	*i* P		**Pn**		**18 50 51.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.67**	**239**	*i* P		**Pn**		**18 50 51.8**	**+0.2**
OBIP	**Obispado Ponce**	**1.67**	**239**	*i* P		**Pn**		**18 50 51.8**	**+0.2**
OBIP				*e*S		**Sn**		**18 51 12.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.67**	**239**	*i* P		**Pn**		**18 50 51.8**	**+0.2**
OBIP				*e*S		**Sn**		**18 51 12.0**	**+0.1**
ICM	**Isla Caja Muer**	**1.69**	**234**	*e*P		**Pn**		**18 50 52.5**	**+0.7**
ICM	**Isla Caja Muer**	**1.69**	**234**	*e*P		**Pn**		**18 50 52.5**	**+0.7**
ICM				*e*S		**Sn**		**18 51 15.4**	**+3.1**
ICMP	**Isla Caja de M**	**1.70**	**233**	*e*Pn		**Pn**		**18 50 52.6**	**+0.7**
LRS	**Lares**	**1.77**	**250**	*i* P		**Pn**		**18 50 52.5**	**-0.4**
LRS	**Lares**	**1.77**	**250**	*i* P		**Pn**		**18 50 52.5**	**-0.4**
LRS	**Lares**	**1.77**	**250**	*i* P		**Pn**		**18 50 52.5**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.93**	**242**	*i* P		**Pn**		**18 50 55.9**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.93**	**242**	*i* P		**Pn**		**18 50 55.9**	**+0.8**
GBPR				*e*S		**Sn**		**18 51 18.4**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.93**	**242**	*i* P		**Pn**		**18 50 55.9**	**+0.8**
GBPR				*e*S		**Sn**		**18 51 18.4**	**+0.1**
AGPR	**Aguadilla, PR**	**1.96**	**257**	*i* P		**Pn**		**18 50 55.0**	**-0.6**
AGPR	**Aguadilla, PR**	**1.96**	**257**	*i* P		**Pn**		**18 50 55.0**	**-0.6**
AGPR				*e*S		**Sn**		**18 51 18.6**	**-0.4**
AGPR	**Aguadilla, PR**	**1.96**	**257**	*i* P		**Pn**		**18 50 55.0**	**-0.6**
AGPR				*e*S		**Sn**		**18 51 18.6**	**-0.4**
AGP	**Aguadilla**	**2.00**	**256**	*e*Pn		**Pn**		**18 50 55.0**	**-1.1**
LSP	**Las Mesas**	**2.02**	**249**	*i* P		**Pn**		**18 50 56.3**	**-0.1**
LSP	**Las Mesas**	**2.02**	**249**	*i* P		**Pn**		**18 50 56.3**	**-0.1**
LSP	**Las Mesas**	**2.02**	**249**	*i* P		**Pn**		**18 50 56.3**	**-0.1**
MPR	**Mayaguez**	**2.06**	**251**	*i* P		**Pn**		**18 50 56.6**	**-0.3**
MPR	**Mayaguez**	**2.06**	**251**	*i* P		**Pn**		**18 50 56.6**	**-0.3**
MPR				*e*S		**Sn**		**18 51 22.2**	**+0.8**
MPR	**Mayaguez**	**2.06**	**251**	*i* P		**Pn**		**18 50 56.6**	**-0.3**
MPR				*e*S		**Sn**		**18 51 22.2**	**+0.8**
SMRT	**St. Maarten**	**2.10**	**114**	*i* P		**Pn**		**18 50 57.0**	**-0.4**
SMRT	**St. Maarten**	**2.10**	**114**	*e*P		**Pn**		**18 50 57.0**	**-0.4**
SMRT	**St. Maarten**	**2.10**	**114**	*i* P		**Pn**		**18 50 57.4**	**-0.1**
SMRT				*e*S		**Sn**		**18 51 22.4**	**+0.1**
SMRT	**St. Maarten**	**2.10**	**114**	*i* P		**Pn**		**18 50 57.0**	**-0.4**
SMRT				*e*S		**Sn**		**18 51 22.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.11**	**245**	*i* P		**Pn**		**18 50 57.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.11**	**245**	*i* P		**Pn**		**18 50 57.9**	**+0.3**
CRPR				*e*S		**Sn**		**18 51 21.6**	**-1.1**
CRPR	**Cabo Rojo, PR**	**2.11**	**245**	*i* P		**Pn**		**18 50 57.9**	**+0.3**
CRPR				*e*S		**Sn**		**18 51 21.6**	**-1.1**
SABA	**Saba**	**2.18**	**126**	*i* P		**Pn**		**18 50 58.6**	**+0.1**

JSRW e 18 55 25.5
GOGA Godfrey 21.87 315 eP **P** **18 55 12.3 -1.3**
GOGA e 18 55 26.2
GOGA e 18 59 01.2
GOGA pmax pmax
comp=Z,29nm,0.9s
GOGA Godfrey 21.87 315 eP **P** **18 55 12.3 -1.3**
comp=Z,29nm,0.9s
GOGA e 18 55 26.2
GOGA eSn S 18 59 01.2 -12
CBN Corbin Frederi 22.00 333 eP **P** **18 55 16.4 +1.5**
comp=Z,140nm,0.4s
CBN e 18 55 29.2
CBN eS S 18 59 00.1 -15
BLA Blacksburg 22.65 327 eP **P** **18 55 21.8 -0.1**
BLA e 18 55 39.2
BLA eS S 18 59 18.8 -7.9
BLA pmax pmax
comp=Z,66nm,0.7s
BLA Blacksburg 22.65 327 eP **P** **18 55 21.8 -0.1**
comp=Z,66nm,0.7s
BLA e 18 55 39.2
BLA eS S 18 59 18.8 -7.9
OTAV Otavalo 22.72 217 eP **P** **18 55 24.5 +1.2**
comp=Z,25nm,0.9s
SDMD Soldier's Deli 22.82 336 eP **P** **18 55 25.1 +1.4**
comp=Z,97nm,0.5s
SDMD e 18 55 39.0
SDMD eS **S** **18 59 25.2 -4.2**
MVL Millersville 23.15 338 eP P 18 55 32.3 +5.4
comp=Z,17nm,0.6s
BRNJ Basking Ridge 23.18 341 P **P** **18 55 28.8 +1.6**
comp=Z,159nm,0.6s
BRNJ e 18 55 46.1
BRNJ eS **S** **18 59 35.3 0.0**
BRAL Brewton 23.22 305 eP **P** **18 55 29.9 +2.1**
comp=Z,43nm,0.8s
PAL Palisades 23.28 343 eP P 18 55 35.2 +6.9
PAL eS **S** **18 59 36.1 -1.0**
PAL pmax pmax
comp=Z,54nm,0.5s
PAL Palisades 23.28 343 eP P 18 55 35.2 +6.9
comp=Z,54nm,0.5s
PAL eS **S** **18 59 36.1 -1.0**
YLE Yale 23.32 345 eP **P** **18 55 29.2 +0.6**
comp=Z,122nm,0.4s
TKL Tuckaleechee C 23.47 319 eP **P** **18 55 31.3 +1.1**
TKL eS **S** **18 59 41.1 +0.8**
TKL Tuckaleechee C 23.47 319 P **P** **18 55 30.0 -0.2**
comp=Z,7.6nm,0.7s,baz=134,slow=8.9,SNR=9.4
TKL S **S** **18 59 45.2 +4.9**
comp=Z,7.2nm,0.5s,baz=320,slow=18,SNR=4.4
TKL LR LR 19 06 14.3
comp=Z,110nm,18.8s,baz=72,slow=41
TKL Tuckaleechee C 23.47 319 eP **P** **18 55 31.2 +1.1**
TKL eS **S** **18 59 41.1 +0.8**
ODNJ Ogdensburg 23.55 342 eP P 18 55 36.0 +5.1
comp=Z,39nm,0.6s
ODNJ eS **S** **18 59 39.9 -1.6**
BRYW Bryant College 23.58 348 eP **P** **18 55 35.8 +4.6**
comp=Z,434nm,2.5s
BRYW eS **S** **18 59 43.2 +1.1**
QUA2 Belchertown 24.10 347 eP **P** **18 55 39.0 +3.1**
comp=Z,37nm,0.6s
QUA2 eS **S** **18 59 55.6 +5.4**
LRAL Lakeview Retre 24.13 310 eP **P** **18 55 36.6 +0.3**
comp=Z,16nm,0.9s
LRAL e 18 55 57.9
LRAL eS **S** **18 59 45.8 -5.3**
HRV Adam Dziewonsk 24.15 348 eP **P** **18 55 37.5 +1.1**
HRV eS **S** **18 59 51.4 +0.2**
HRV pmax pmax
comp=Z,33nm,0.7s
HRV Adam Dziewonsk 24.15 348 eP **P** **18 55 37.5 +1.1**
comp=Z,33nm,0.7s
HRV e 18 55 56.0
HRV eS **S** **18 59 51.4 +0.2**
SSPA Standing Stone 24.28 336 eP **P** **18 55 38.4 +0.9**
comp=Z,13nm,0.5s
SSPA e 18 55 59.6
SSPA eS S 19 00 01.7 +8.5
APG El Apazote 24.57 265 P **P** **18 55 36.2 -4.5**
comp=Z,18nm,0.8s,baz=112,slow=2.8,SNR=19
APG LR LR 19 04 49.1
comp=Z,162nm,21.5s,baz=88,slow=35
SWET Sewanee 24.58 316 eP **P** **18 55 40.5 +0.1**
comp=Z,4.4nm,0.7s
SWET e 18 56 02.8
SWET eS S 19 00 06.9 +8.6
BINY Binghamton 24.99 341 eP P 18 55 39.0 -5.1
comp=Z,16nm,0.5s
BINY e 18 56 09.2
BINY eS **S** **19 00 08.2 +3.4**
MDV Middlebury 25.92 347 P **P** **18 55 55.8 +3.4**
MDV e 18 56 23.3
MDV eS S 19 00 37.2 +18
ACSO Alum Creek Sta 26.24 328 eP **P** **18 55 55.8 +0.4**
WVT Waverly 26.37 315 eP **P** **18 55 56.2 -0.4**
WVT pmax pmax
comp=Z,13nm,0.8s
WVT Waverly 26.37 315 eP **P** **18 55 56.2 -0.4**
comp=Z,12nm,0.8s
WVT e 18 56 28.0
WCI Wyandotte Cave 26.67 321 eP **P** **18 55 59.9 +0.6**
WCI pmax pmax
comp=Z,14nm,0.9s
WCI Wyandotte Cave 26.67 321 eP **P** **18 55 59.9 +0.6**
comp=Z,14nm,0.9s
WCI e 18 56 31.8
WCI eS S 19 00 55.5 +24
USIN University of 27.34 319 eP **P** **18 56 05.0 -0.3**
comp=Z,26nm,0.9s
SAML Samuel 27.75 176 eP **P** **18 56 08.3 -0.7**
comp=Z,20nm,1.5s
SADO Sadowa 28.33 339 LR LR 19 08 35.9
comp=Z,80nm,18.8s,baz=120,slow=39
CMIG Matias Romero 28.38 271 LR LR 19 06 59.7
comp=Z,104nm,21.9s,baz=55,slow=35
SFIN Lafayette 28.55 323 P **P** **18 56 17.7 +1.6**
comp=Z,20nm,0.5s
MIAR Mount Ida 29.69 307 eP **P** **18 56 26.0 -0.3**
MIAR Mount Ida 29.69 307 eP **P** **18 56 26.0 -0.3**
PAYG Puerto Ayora 31.48 235 P **P** **18 56 39.9 -2.3**
comp=Z,15nm,0.9s
Z35A Perchaven, San 32.10 303 ⇑P **P** **18 56 48.8 +1.3**
baz=32
534A Blanco 32.23 297 ⇑P **P** **18 56 50.0 +1.3**
baz=32
R37A Teagarden Farm 32.27 313 ⇑P **P** **18 56 50.6 +1.6**
baz=32
Q37A Longview Farm, 32.28 314 ⇓P **P** **18 56 50.9 +1.8**
baz=32
334A Lometa 32.33 299 ⇓P **P** **18 56 51.1 +1.5**
baz=32
234A Clairette 32.42 300 ⇑P **P** **18 56 51.9 +1.5**
baz=32
933A Laredo 32.49 292 ⇓P **P** **18 56 52.4 +1.4**
baz=32
134A White-Moore Ra 32.53 301 ⇑P **P** **18 56 52.4 +1.1**
baz=33
S36A Lake Cedric, C 32.53 312 ⇓P **P** **18 56 52.4 +1.2**
baz=33
V35A Meyer Ranch, C 32.63 307 ⇓P **P** **18 56 53.6 +1.5**
baz=33
Z34A Collier Ranch, 32.64 303 ⇑P **P** **18 56 53.7 +1.4**
baz=33
733A Divot King Ran 32.68 294 ⇑P **P** **18 56 53.8 +1.2**
baz=33
Y34A Reagan Ranch, 32.70 304 ⇑P **P** **18 56 53.8 +1.0**
baz=33
833A Chaparral WMA, 32.70 293 ⇓P **P** **18 56 53.9 +1.1**
baz=33
633A Saathoff Ranch 32.71 295 ⇑P **P** **18 56 54.1 +1.1**
baz=33
533A Kerrville 32.71 296 ⇑P **P** **18 56 53.7 +0.7**
baz=33
R36A Gordon, Harris 32.74 313 ⇑P **P** **18 56 54.6 +1.4**
baz=33
NNA Nana 32.81 202 eP **P** **18 56 52.9 -1.0**
NNA pmax pmax
comp=Z,22nm,0.6s
NNA Nana 32.81 202 P **P** **18 56 53.0 -1.0**
baz=356,slow=4.3
NNA Nana 32.81 202 eP **P** **18 56 52.9 -1.0**
comp=Z,22nm,0.6s

433A Art 32.90 298 ⇓P **P** **18 56 56.0 +1.3**
baz=33
333A Richland Sprin 32.95 299 ⇓P **P** **18 56 56.5 +1.5**
baz=33
X34A Smith Ranch, M 32.97 305 ⇑P **P** **18 56 56.3 +1.2**
baz=33
S35A Otter Creek Ra 33.03 311 ⇑P **P** **18 56 57.3 +1.7**
baz=33
233A Rising Star 33.05 300 ⇓P **P** **18 56 57.4 +1.5**
baz=33
W34A Bridge Creek, 33.14 306 ⇓P **P** **18 56 58.4 +1.7**
baz=33
V34A Guthrie 33.16 307 ⇓P **P** **18 56 59.0 +2.1**
baz=33
832A Faith Ranch, C 33.20 293 ⇓P **P** **18 56 59.0 +1.8**
baz=33
732A Laxson Ranch, 33.27 294 ⇓P **P** **18 56 59.7 +1.9**
baz=33
Z33A Whitaker Ranch 33.29 302 ⇑P **P** **18 56 59.6 +1.6**
baz=33
Y33A Hilltop Ranch, 33.40 304 ⇑P **P** **18 57 00.3 +1.4**
baz=33
U34A Anderson Ranch 33.41 308 ⇓P **P** **18 56 59.9 +0.9**
baz=34
JCT Junction City 33.44 297 eP **P** **18 56 59.1 -0.3**
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 33.44 297 ⇑P **P** **18 56 59.8 +0.4**
baz=34
JCT Junction City 33.44 297 eP **P** **18 56 59.1 -0.3**
comp=Z,6.0nm,0.9s
532A Rocksprings 33.46 296 ⇓P **P** **18 57 00.0 +0.5**
baz=34
432A Menard 33.52 298 ⇓P **P** **18 57 01.1 +1.1**
baz=34
332A Millersview 33.59 298 ⇓P **P** **18 57 01.2 +0.5**
baz=34
COWI Conover 33.60 329 P **P** **18 57 01.2 +0.7**
S34A Willow Spring 33.61 311 ⇑P **P** **18 57 01.5 +0.8**
baz=34
232A Coleman 33.63 299 ⇑P **P** **18 57 01.6 +0.6**
baz=34
W33A Caddo, Fort Co 33.65 306 ⇑P **P** **18 57 02.2 +1.1**
baz=34
V33A Lossen Ranch, 33.74 307 ⇑P **P** **18 57 03.0 +1.2**
baz=34
ABTX Abilene, Hawle 33.81 301 ⇑P **P** **18 57 04.0 +1.5**
baz=34
U33A Lingo Farm, Me 33.84 308 ⇑P **P** **18 57 03.8 +1.1**
baz=34
Z32A Haskell 33.87 302 ⇓P **P** **18 57 04.2 +1.2**
baz=34
631A Perdido Creek 33.90 295 ⇑P **P** **18 57 03.7 +0.4**
baz=34
531A Rocksprings 34.01 296 ⇓P **P** **18 57 04.6 +0.3**
baz=34
Y32A R-V Farms, Ver 34.04 303 ⇑P **P** **18 57 05.7 +1.2**
baz=34
X32A Elmer 34.04 304 ⇑P **P** **18 57 05.5 +0.9**
baz=34
431A Sonora 34.16 297 ⇑P **P** **18 57 06.3 +0.7**
baz=34
W32A Sentinel 34.24 305 ⇓P **P** **18 57 07.1 +0.9**
baz=34
Z31A Sharp Cattle R 34.41 302 ⇓P **P** **18 57 09.3 +1.6**
baz=34
U32A Winter Ranch, 34.48 307 ⇑P **P** **18 57 10.1 +1.8**
baz=34
X31A McDonald Ranch 34.65 304 ⇓P **P** **18 57 09.7 -0.1**
baz=35
Q33A Connelly Farm, 34.67 312 ⇓P **P** **18 57 10.5 +0.5**
baz=35
Y31A Rekieta Farm, 34.68 303 ⇑P **P** **18 57 11.2 +1.2**
baz=35
530A J-C Ranch, Com 34.68 296 ⇑P **P** **18 57 10.7 +0.6**
baz=35,SNR=5.3
430A Baggett Ranch, 34.72 297 ⇑P **P** **18 57 11.2 +0.8**
baz=35
T32A Huddler Ranch, 34.72 309 ⇓P **P** **18 57 10.9 +0.6**
baz=35
P33A Williams Farm, 34.77 313 ⇑P **P** **18 57 11.5 +0.7**
baz=35
330A Mertzon 34.79 298 ⇓P **P** **18 57 11.9 +0.9**
baz=35
R32A Long Quarter, 35.05 311 ⇑P **P** **18 57 14.5 +1.2**
baz=35
LPAZ La Paz 35.10 185 eP **P** **18 57 13.6 -0.8**
LPAZ pmax pmax
comp=Z,5.0nm,0.6s
LPAZ La Paz 35.10 185 P **P** **18 57 13.7 -0.7**
comp=Z,2.2nm,0.8s,baz=335,slow=9.3,SNR=7.5
LPAZ La Paz 35.10 185 eP **P** **18 57 13.6 -0.8**
comp=Z,4.6nm,0.6s
Q32A Meitler Ranch, 35.18 312 ⇓P **P** **18 57 15.5 +1.2**
baz=35
Z30A Sanderson Ranc 35.19 301 ⇑P **P** **18 57 15.5 +1.0**
baz=35,SNR=6.4
T31A Randall Ranch, 35.25 308 ⇑P **P** **18 57 15.9 +1.0**
baz=35,SNR=5.7
W30A Crocket Farms 35.29 305 ⇑P **P** **18 57 16.1 +0.8**
baz=35
S31A Mullinville 35.30 309 ⇓P **P** **18 57 16.8 +1.4**
baz=35,SNR=5.5
529A Stev Forest Ra 35.43 296 ⇑P **P** **18 57 16.8 +0.2**
baz=36,SNR=9.2
229A Bryant Ranch, 35.44 299 ⇑P **P** **18 57 17.7 +1.0**
baz=36
329A Wagon Wheel Ra 35.48 298 ⇑P **P** **18 57 17.9 +0.8**
baz=36
P32A Huiting Farm, 35.48 313 ⇓P **P** **18 57 18.1 +1.2**
baz=36
O32A Brockman Farm, 35.54 314 ⇓P **P** **18 57 18.4 +1.0**
baz=36
V30A Spur Ranch, Mi 35.56 306 ⇑P **P** **18 57 19.0 +1.3**
baz=36
R31A Burdett 35.59 310 ⇓P **P** **18 57 19.3 +1.5**
baz=36
Z29A Hungry Hill Ra 35.65 301 ⇑P **P** **18 57 19.4 +0.9**
baz=36
Q31A Ellis 35.78 311 ⇑P **P** **18 57 21.0 +1.5**
baz=36
U30A WK&E Inc. Balk 35.78 307 ⇓P **P** **18 57 21.1 +1.5**
baz=36
N32A Stulken Farm, 35.78 315 ⇓P **P** **18 57 21.2 +1.7**
baz=36
T30A Plains 35.87 308 ⇑P **P** **18 57 22.0 +1.7**
baz=36
SCHQ Schefferville 35.88 358 LR LR 19 09 45.7
comp=Z,45nm,19.9s,baz=98,slow=33
X29A Tulia 35.96 303 ⇓P **P** **18 57 22.6 +1.5**
baz=36
P31A Stockton 35.98 312 ⇓P **P** **18 57 22.0 +0.8**
baz=36
BGNE Belgrade 35.99 316 ⇓P **P** **18 57 21.8 +0.5**
baz=36
S30A Montezuma 36.03 309 ⇓P **P** **18 57 22.6 +1.0**
baz=36,SNR=5.4
AMTX Amarillo 36.07 304 ⇑P **P** **18 57 23.3 +1.3**
baz=36
W29A Amarillo 36.11 304 ⇑P **P** **18 57 23.3 +0.9**
baz=36
228A UT Block 9, Go 36.12 299 ⇓P **P** **18 57 23.7 +1.2**
baz=36
R30A Dighton 36.13 310 ⇑P **P** **18 57 23.7 +1.2**
baz=36
ECSD EROS Data Cent 36.21 320 ⇓P **P** **18 57 24.3 +1.3**
ECSD EROS Data Cent 36.21 320 eP **P** **18 57 22.4 -0.6**
ECSD e 18 58 40.4
comp=Z,72nm,2.3s
Z28A Tucker Farm, M 36.21 301 ⇑P **P** **18 57 24.9 +1.5**
baz=36
U29A Oasis Ranch, S 36.23 306 ⇑P **P** **18 57 24.7 +1.3**
baz=36
V29A Stinnett 36.24 305 ⇓P **P** **18 57 25.2 +1.8**
baz=36
Y28A McKinney Farm, 36.26 302 ⇓P **P** **18 57 25.1 +1.4**
baz=36
N31A Bailey Ranch, 36.26 314 ⇑P **P** **18 57 24.9 +1.3**
baz=36
Q30A Quinter 36.36 311 ⇑P **P** **18 57 25.8 +1.4**
baz=36
X28A Dimmitt 36.38 303 ⇑P **P** **18 57 26.0 +1.3**
baz=36
T29A Hugoton 36.48 307 ⇓P **P** **18 57 26.5 +1.0**
baz=36
S29A Ulysses 36.51 308 ⇑P **P** **18 57 26.3 +0.6**
baz=36

M31A Lambtecht Ranc 36.51 315 ⇑P **P** **18 57 26.3 +0.6**
baz=37
TXAR Lajitas Array 36.55 294 P **P** **18 57 26.8 +0.5**
comp=Z,4.0nm,0.8s,baz=116,slow=11,SNR=46
TXAR PcP **PcP** **18 59 49.4 +0.4**
comp=Z,1.1nm,0.9s,baz=115,slow=6.1,SNR=3.4
W28A Vega 36.59 304 ⇓P **P** **18 57 27.0 +0.5**
baz=37
P30A Selden 36.60 312 ⇑P **P** **18 57 27.1 +0.6**
baz=37
MSTX Muleshoe 36.69 302 ⇓P **P** **18 57 28.5 +1.1**
baz=37
O30A MW Ranch, Wils 36.73 313 ⇓P **P** **18 57 28.3 +0.8**
baz=37
V28A Channing 36.74 305 ⇑P **P** **18 57 28.6 +0.8**
baz=37
L31A Butterfield Fa 36.81 316 ⇓P **P** **18 57 29.4 +1.2**
baz=37
R29A Marienthal 36.81 310 ⇓P **P** **18 57 29.0 +0.7**
baz=37,SNR=6.6
Q29A Oakley 36.87 310 ⇑P **P** **18 57 29.4 +0.6**
baz=37,SNR=10
U28A Mallet 36.93 306 ⇓P **P** **18 57 30.4 +1.0**
baz=37
N30A Hueftle Ranch, 37.02 314 ⇑P **P** **18 57 31.1 +1.0**
baz=37
S28A Manter 37.08 308 ⇑P **P** **18 57 31.3 +0.6**
baz=37
T28A Walsh 37.08 307 ⇓P **P** **18 57 31.5 +0.8**
baz=37
V27A Dan Oppiter Fa 37.22 305 ⇓P **P** **18 57 32.9 +1.0**
baz=37
O29A 4D Ranch, Culb 37.23 312 ⇑P **P** **18 57 32.2 +0.4**
baz=37
R28A Tribune 37.27 309 ⇑P **P** **18 57 32.9 +0.7**
baz=37,SNR=8.2
L30A Spencer Herefo 37.28 316 ⇓P **P** **18 57 33.1 +0.9**
baz=37
N29A Votaw Ranch, W 37.40 313 ⇑P **P** **18 57 34.1 +0.8**
baz=37
U27A Thompson Grove 37.41 306 ⇑P **P** **18 57 34.1 +0.6**
baz=37
T27A Campo 37.52 307 ⇓P **P** **18 57 34.8 +0.3**
baz=38
Q28A Sharon Springs 37.55 310 ⇓P **P** **18 57 35.3 +0.7**
baz=38
K30A Basset 37.55 317 ⇓P **P** **18 57 35.9 +1.4**
baz=38
J30A Dallas 37.79 318 ⇓P **P** **18 57 38.3 +1.8**
baz=38
O28A Krutsinger Ran 37.91 312 ⇑P **P** **18 57 38.4 +0.8**
baz=38
V26A Tequesquite Ra 37.97 304 ⇓P **P** **18 57 38.9 +0.7**
baz=38,SNR=8.0
R27A Eads 37.98 309 ⇓P **P** **18 57 39.2 +0.9**
baz=38
I30A Oacoma 38.04 319 ⇓P **P** **18 57 39.4 +0.8**
baz=38
U26A Atchley Ranch, 38.11 305 ⇓P **P** **18 57 40.3 +0.9**
baz=38
M28A Bar X Bar Ranc 38.15 314 ⇑P **P** **18 57 41.0 +1.4**
baz=38
T26A Comanche Natio 38.22 307 ⇓P **P** **18 57 41.5 +1.1**
baz=38
J29A Okreek 38.36 317 ⇓P **P** **18 57 42.5 +1.2**
baz=38
MNTX Cornudas Mount 38.37 297 ⇑P **P** **18 57 42.2 +0.7**
baz=38,SNR=8.3
O27A Beecher Island 38.44 312 ⇑P **P** **18 57 41.7 -0.4**
baz=38
AGMN Agassiz Nation 38.47 327 ⇑P **P** **18 57 42.3 +0.2**
baz=38
AGMN Agassiz Nation 38.47 327 eP **P** **18 57 41.6 -0.5**
comp=Z,12nm,1.0s
R26A Arlington 38.47 308 ⇑P **P** **18 57 43.3 +0.9**
baz=38
L28A Connealy Angus 38.51 315 ⇓P **P** **18 57 43.0 +0.3**
baz=39
U25A Circle Dot Ran 38.62 305 ⇓P **P** **18 57 44.8 +1.0**
baz=39,SNR=6.3
K28A Ten Mile Ranch 38.72 316 ⇓P **P** **18 57 45.7 +1.4**
baz=39
Q26A Hugo 38.73 309 ⇓P **P** **18 57 46.2 +1.6**
baz=39
F30A Leola 38.79 321 ⇓P **P** **18 57 46.6 +1.8**
baz=39
T25A Trinidad 38.84 306 ⇑P **P** **18 57 46.7 +1.1**
baz=39
T25A Trinidad 38.84 306 eP **P** **18 57 46.8 +1.1**
comp=Z,22nm,1.5s
H29A Onida 38.88 319 ⇑P **P** **18 57 47.5 +1.9**
baz=39
M27A Reverse DX Ran 38.90 314 ⇓P **P** **18 57 47.6 +1.7**
baz=39
J28A Allard Ranch, 38.95 317 ⇓P **P** **18 57 47.6 +1.3**
baz=39
G29A Hoven 38.99 320 ⇑P **P** **18 57 48.0 +1.5**
baz=39
S25A Robets Cordova 39.01 307 ⇓P **P** **18 57 48.2 +1.2**
baz=39,SNR=7.9
I28A Midland 39.18 318 ⇑P **P** **18 57 49.2 +1.1**
baz=39
N26A Koester Ranch, 39.20 312 ⇓P **P** **18 57 50.8 +2.3**
baz=39
F29A Eureka 39.26 321 ⇑P **P** **18 57 50.9 +2.1**
baz=39
Q25A Bedland, Calha 39.26 309 ⇓P **P** **18 57 50.5 +1.3**
baz=39
U24A Moreno Valley 39.30 305 ⇓P **P** **18 57 51.5 +1.9**
baz=39
D30A Buchanan 39.33 323 ⇑P **P** **18 57 51.7 +2.4**
baz=39
J27A Elkhorn Farm, 39.38 316 ⇑P **P** **18 57 50.9 +1.0**
baz=39
P25A Willow Gulch B 39.41 310 ⇑P **P** **18 57 51.9 +1.7**
baz=39
H28A Mission Ridge 39.41 319 ⇓P **P** **18 57 50.9 +0.8**
baz=40,SNR=7.1
T24B San Luis 39.56 306 ⇓P P 18 57 55.5 +3.8
baz=40,SNR=6.3
S24A Houchin Ranch, 39.59 307 ⇓P **P** **18 57 53.4 +1.4**
baz=40,SNR=5.8
R24A Sanders Place, 39.69 308 ⇓P **P** **18 57 54.4 +1.7**
baz=40,SNR=6.6
ULM Lac du Bonnet 39.72 329 eP **P** **18 57 51.9 -0.6**
ULM pmax pmax
comp=Z,7.0nm,0.6s
ULM Lac du Bonnet 39.72 329 P **P** **18 57 51.6 -0.9**
comp=Z,7.1nm,0.6s,baz=121,slow=9.3,SNR=10.0
ULM LR LR 19 16 55.8
comp=Z,68nm,18.1s,baz=242,slow=40
ULM Lac du Bonnet 39.72 329 eP **P** **18 57 51.9 -0.6**
comp=Z,6.5nm,0.6s
SDCO Great Sand Dun 39.84 307 ⇓P **P** **18 57 55.2 +1.1**
baz=40,SNR=12
BNM Barren Site 39.85 301 eP **P** **18 57 55.0 +0.9**
ANMO Albuquerque 39.88 302⇑ eP **P** **18 57 55.7 +1.4**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
Q24A Divide 39.95 309 ⇑P **P** **18 57 56.3 +1.4**
baz=40
H27A Howes 40.05 318 ⇓P **P** **18 57 56.5 +1.1**
baz=40
J26A Sides Ranch, S 40.11 316 ⇑P **P** **18 57 57.0 +1.1**
baz=40
R23A Moffat 40.22 307 ⇑P **P** **18 57 58.1 +0.9**
baz=40
L25A Engebretsen Ra 40.23 314 ⇑P **P** **18 57 58.7 +1.7**
baz=40
I26A New Underwood 40.28 317 ⇑P **P** **18 57 58.8 +1.5**
baz=40
G27A Dupree 40.31 319 ⇑P **P** **18 57 58.8 +1.3**
baz=40
K25A Mack Ranch, Ha 40.35 314 ⇓P **P** **18 57 59.5 +1.5**
baz=40
N24A Carr 40.38 311 ⇓P **P** **18 57 60.0 +1.7**
baz=40
ISCO Idaho Springs 40.55 310 eP **P** **18 58 00.4 +0.4**
ISCO pmax pmax
comp=Z,66nm,2.6s
ISCO Idaho Springs 40.55 310 ⇓P **P** **18 58 01.7 +1.8**
baz=41
ISCO Idaho Springs 40.55 310 eP **P** **18 58 00.4 +0.4**
comp=Z,66nm,2.6s
M24A Cheyenne 40.56 312 ⇑P **P** **18 58 01.6 +1.8**
baz=41
P23A Jefferson 40.58 309 ⇓P **P** **18 58 01.5 +1.3**
baz=41

F27A	**Lemmon**	**40.60**	**320**	⇑P		**P**	**18 58 01.0**	**+1.0**
	baz=41								
G26A	**Maurine**	**40.69**	**319**	⇑P		**P**	**18 58 01.3**	**+0.6**
	baz=41,SNR=11								
I25A	**Rochford**	**40.84**	**316**	⇑P		**P**	**18 58 02.6**	**+0.5**
	baz=41								
S22A	**4UR Ranch, Cre**	**40.85**	**306**	⇓P		**P**	**18 58 03.7**	**+1.3**
	baz=41								
O23A	**Lake Granby, G**	**40.91**	**310**	⇑P		**P**	**18 58 05.8**	**+3.0**
	baz=41								
PHWY	**Pilot Hill**	**40.95**	**312**	*e*P		**P**	**18 58 03.9**	**+0.7**
	comp=Z,4.9nm,0.8s								
H25A	**Fruitdale**	**41.01**	**317**	⇓P		**P**	**18 58 04.6**	**+1.2**
	baz=41,SNR=5.7								
RSSD	**Black Hills**	**41.08**	**316**	*e*P		**P**	**18 58 04.0**	**-0.1**
RSSD				*e*			18 59 57.1		
RSSD	**Black Hills**	**41.08**	**316**	*e*P		**P**	**18 58 04.0**	**-0.1**
RSSD				*e*			18 59 57.1		
G25A	**Newell**	**41.15**	**318**	⇑P		**P**	**18 58 06.0**	**+1.5**
	baz=41								
N23A	**Red Feather La**	**41.15**	**311**	⇑P		**P**	**18 58 06.4**	**+1.5**
	baz=41								
E26A	**Carlson Angus**	**41.16**	**320**	⇑P		**P**	**18 58 06.8**	**+2.2**
	baz=41								
C27A	**Sayler Ranch,**	**41.23**	**323**	⇓P		**P**	**18 58 07.5**	**+2.5**
	baz=41								
P22A	**Eagle**	**41.33**	**309**	⇓P		**P**	**18 58 07.8**	**+1.6**
	baz=41								
O22A	**Kremmling**	**41.35**	**310**	⇓P		**P**	**18 58 08.5**	**+2.0**
	baz=41								
LVC	**Limon Verde**	**41.44**	**185**	*e*P		**P**	**18 58 05.0**	**-2.3**
	comp=Z,10nm,0.8s								
N22A	**Wattenberg Ran**	**41.49**	**311**	⇓P		**P**	**18 58 09.4**	**+1.8**
	baz=42								
319A	**Douglas**	**41.62**	**296**	⇓P		**P**	**18 58 11.3**	**+2.7**
	baz=42								
M22A	**Cedar Creek Ra**	**41.79**	**312**	⇓P		**P**	**18 58 11.8**	**+1.8**
	baz=42,SNR=6.5								
I23A	**Meade Ranch, G**	**41.95**	**316**	⇓P		**P**	**18 58 12.7**	**+1.6**
	baz=42								
K22A	**Casper**	**42.17**	**313**	⇑P		**P**	**18 58 13.8**	**+0.8**
	baz=42								
K22A	**Casper**	**42.17**	**313**	*e*P		**P**	**18 58 13.2**	**+0.2**
	comp=Z,30nm,1.8s								
G23A	**Biddle**	**42.41**	**317**	⇑P		**P**	**18 58 15.7**	**+0.8**
	baz=42								
J22A	**Midwest**	**42.42**	**314**	⇓P		**P**	**18 58 15.7**	**+0.7**
	baz=42								
F23A	**Volborg**	**42.64**	**318**	⇑P		**P**	**18 58 17.6**	**+0.9**
	baz=43								
K21A	**Alcova**	**42.67**	**313**	⇑P		**P**	**18 58 18.5**	**+1.4**
	baz=43,SNR=23								
A25A	**Svangstu Ranch**	**42.78**	**323**	⇑P		**P**	**18 58 18.7**	**+1.0**
	baz=43								
PV09	**Paradox Valley**	**42.80**	**307**	*e*P		**P**	**18 58 19.4**	**+1.1**
E23A	**Ismay**	**42.92**	**319**	⇓P		**P**	**18 58 20.4**	**+1.5**
	baz=43								
G22A	**Birney**	**43.00**	**317**	⇑P		**P**	**18 58 20.7**	**+1.1**
	baz=43,SNR=10.0								
TUC	**Tucson**	**43.00**	**297**	*e*P		**P**	**18 58 21.7**	**+1.9**
TUC				pmax		pmax			
	comp=Z,14nm,1.4s								
TUC	**Tucson**	**43.00**	**297**	*e*P		**P**	**18 58 21.7**	**+1.9**
	comp=Z,14nm,1.4s								
J21A	**Lysite**	**43.05**	**314**	⇓P		**P**	**18 58 21.5**	**+1.3**
	baz=43,SNR=6.3								
I21A	**Big Trails, Te**	**43.12**	**315**	⇑P		**P**	**18 58 22.3**	**+1.6**
	baz=43								
F22A	**Rosebud**	**43.21**	**318**	⇓P		**P**	**18 58 23.1**	**+1.9**
	baz=43								
H21A	**Big Horn, Sher**	**43.26**	**316**	⇓P		**P**	**18 58 23.1**	**+1.4**
	baz=43								
E22A	**Miles City**	**43.29**	**319**	⇑P		**P**	**18 58 22.7**	**+0.8**
	baz=43,SNR=6.9								
C23A	**Lambert**	**43.43**	**321**	⇓P		**P**	**18 58 24.6**	**+1.6**
	baz=44								
J20A	**Shoshoni**	**43.49**	**314**	⇑P		**P**	**18 58 24.8**	**+1.2**
	baz=44,SNR=11								
G21A	**Lodge Grass**	**43.60**	**317**	⇓P		**P**	**18 58 25.5**	**+1.1**
	baz=44								
I20A	**Worland**	**43.73**	**315**	⇓P		**P**	**18 58 26.5**	**+0.9**
	baz=44								
D22A	**Cohagen**	**43.74**	**320**	⇓P		**P**	**18 58 27.1**	**+1.5**
	baz=44								
X16A	**Lo Mia Camp, P**	**43.82**	**300**	⇓P		**P**	**18 58 28.4**	**+1.9**
	baz=44								
WUAZ	**Wupatki**	**43.94**	**302**	⇑P		**P**	**18 58 29.5**	**+2.1**
	baz=44								
SRU	**San Rafael Swe**	**44.01**	**307**	*e*P		**P**	**18 58 29.1**	**+1.2**
SRU				pmax		pmax			
	comp=Z,3.0nm,0.7s								
SRU	**San Rafael Swe**	**44.01**	**307**	*e*P		**P**	**18 58 29.1**	**+1.2**
	comp=Z,3.4nm,0.7s								
J19A	**Crowheart**	**44.13**	**313**	⇓P		**P**	**18 58 29.9**	**+1.1**
	baz=44,SNR=15								
D21A	**La Casta Ranch**	**44.21**	**319**	⇓P		**P**	**18 58 31.1**	**+1.8**
	baz=44,SNR=9.5								
G20A	**Bridger**	**44.25**	**316**	⇓P		**P**	**18 58 29.9**	**+0.2**
	baz=44								
BW06	**Boulder Array**	**44.32**	**312**	*e*P		**P**	**18 58 30.4**	**-0.1**
	comp=Z,8.6nm,1.3s								
PDAR	**Pinedale Array**	**44.32**	**312**	P		**P**	**18 58 30.9**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=111,slow=9.0,SNR=35								
PDAR				PcP		**PP**	**19 00 14.3**	**0.0**	
	comp=Z,2.2nm,0.8s,baz=119,slow=5.6,SNR=5.6								
PDAR				LR		LR	19 18 17.4		
	comp=Z,64nm,18.9s,baz=110,slow=38								
F20A	**Billings**	**44.43**	**317**	⇓P		**P**	**18 58 32.5**	**+1.4**
	baz=44								
H19A	**Powell**	**44.56**	**315**	⇑P		**P**	**18 58 33.1**	**+0.9**
	baz=45,SNR=5.9								
TMUT	**Trail Mountain**	**44.57**	**307**	*e*P		**P**	**18 58 32.7**	**+0.1**
	comp=Z,8.0nm,0.9s								
E20A	**Meyer Farm, Mu**	**44.69**	**318**	⇑P		**P**	**18 58 34.7**	**+1.6**
	baz=45,SNR=6.0								
U15A	**North Rim**	**44.83**	**303**	⇓P		**P**	**18 58 35.6**	**+1.0**
	baz=45								
RLMT	**Red Lodge**	**44.91**	**316**	*e*P		**P**	**18 58 35.4**	**+0.3**
	comp=Z,9.8nm,1.1s								
D20A	**Manuel Ranch,**	**44.93**	**319**	⇑P		**P**	**18 58 36.3**	**+1.2**
	baz=45								
F19A	**Roth Farm, Mol**	**44.96**	**317**	⇑P		**P**	**18 58 36.7**	**+1.3**
	baz=45								
A21A	**Bergtoll Ranch**	**45.01**	**322**	⇓P		**P**	**18 58 37.1**	**+1.5**
	baz=45								
H18A	**Shoshone NF, C**	**45.02**	**315**	⇓P		**P**	**18 58 36.2**	**+0.2**
	baz=45,SNR=9.0								
Y14A	**Wickenburg**	**45.04**	**299**	⇑P		**P**	**18 58 37.4**	**+1.2**
	baz=45								
FCC	**Fort Churchill**	**45.05**	**339**	*e*P		**P**	**18 58 35.3**	**-0.4**
FCC	**Fort Churchill**	**45.05**	**339**	*e*P		**P**	**18 58 35.3**	**-0.4**
E19A	**Rath Farm, Rou**	**45.09**	**318**	⇓P		**P**	**18 58 37.6**	**+1.3**
	baz=45,SNR=8.7								
C20A	**Veseth Ranch,**	**45.10**	**320**	⇓P		**P**	**18 58 37.9**	**+1.5**
	baz=45								
LOHW	**Long Hollow**	**45.31**	**313**	*e*P		**P**	**18 58 38.9**	**+0.6**
	comp=Z,4.7nm,0.8s								
SNOW	**Snow King Moun**	**45.37**	**313**	*e*P		**P**	**18 58 36.7**	**-2.1**
	comp=Z,15nm,0.6s								
I17A	**Pilgrim Ck.**	**45.39**	**314**	⇓P		**P**	**18 58 40.0**	**+1.1**
	baz=45,SNR=9.1								
REDW	**Red Top Meadow**	**45.40**	**313**	*e*P		P	18 58 35.5	-3.6	
	comp=Z,10nm,0.6s								
HWUT	**Hardware Ranch**	**45.41**	**310**	*e*P		**P**	**18 58 39.1**	**0.0**
	comp=Z,72nm,2.6s								
B20A	**Solberg Farm,**	**45.42**	**320**	⇓P		**P**	**18 58 41.0**	**+2.1**
	baz=46								
D19A	**Cripps Ranch,**	**45.43**	**318**	⇓P		**P**	**18 58 41.0**	**+2.0**
	baz=46,SNR=6.2								
FFC	**Flin Flon**	**45.44**	**331**	*e*P		**P**	**18 58 38.2**	**-0.6**
FFC				pmax		pmax			
	comp=Z,87nm,3.0s								
FFC	**Flin Flon**	**45.44**	**331**	*e*P		**P**	**18 58 38.2**	**-0.6**
	comp=Z,87nm,3.0s								
TPAW	**Teton Pass**	**45.51**	**313**	*e*P		**P**	**18 58 39.0**	**-1.0**
	comp=Z,13nm,0.8s								
FLWY	**Flagg Ranch**	**45.52**	**314**	*e*P		**P**	**18 58 41.4**	**+1.5**
	comp=Z,112nm,3.0s								
H17A	**Grant Village**	**45.54**	**314**	⇑P		**P**	**18 58 41.9**	**+1.8**
	baz=46								
A20A	**Cobblestone Ra**	**45.55**	**321**	⇓P		**P**	**18 58 41.8**	**+1.9**
	baz=46								
FXWY	**Fox Creek**	**45.61**	**313**	*e*P		**P**	**18 58 41.4**	**+0.7**
	comp=Z,24nm,2.0s								
IMW	**Indian Meadow**	**45.63**	**313**	*e*P		**P**	**18 58 41.2**	**+0.3**
	comp=Z,4.5nm,0.6s								
YMR	**Madison River**	**45.89**	**314**	*e*P		P	18 58 46.2	+3.3	
	comp=Z,31nm,1.7s								
W13A	**Hualapai Mount**	**45.91**	**301**	⇓P		**P**	**18 58 45.3**	**+2.2**
	baz=46								
DUG	**Dugway, Tooele**	**45.98**	**308**	⇑P		**P**	**18 58 45.0**	**+1.5**
	baz=46								
B19A	**Brinkman Farms**	**45.98**	**320**	⇑P		**P**	**18 58 45.1**	**+1.8**
	baz=46								
PDMCI	**Parker Dam,Lak**	**46.02**	**300**	⇓P		**P**	**18 58 44.6**	**+0.8**
	baz=46								
A19A	**Klindworth Far**	**46.06**	**321**	⇓P		**P**	**18 58 45.4**	**+1.4**
	baz=46								
QLMT	**Earthquake Lak**	**46.26**	**315**	*e*P		**P**	**18 58 47.5**	**+1.8**
BGU	**Big Grassy Mou**	**46.31**	**309**	*e*P		**P**	**18 58 47.1**	**+1.0**
	comp=Z,3.0nm,1.0s								
EGMT	**Eagleton**	**46.31**	**319**	⇑P		**P**	**18 58 47.2**	**+1.3**
	baz=46								
EGMT	**Eagleton**	**46.31**	**319**	*e*P		**P**	**18 58 47.1**	**+1.3**
	comp=Z,12nm,1.0s								
HVU	**Hansel Valley**	**46.33**	**310**	*e*P		**P**	**18 58 47.0**	**+0.7**
HVU				pmax		pmax			
	comp=Z,5.0nm,0.8s								
HVU	**Hansel Valley**	**46.33**	**310**	*e*P		**P**	**18 58 47.0**	**+0.7**
	comp=Z,4.7nm,0.8s								
IRM	**Iron Mountain**	**46.84**	**299**	⇓P		**P**	**18 58 52.6**	**+2.3**
	baz=47								
BC3	**Big Chuckawall**	**47.04**	**299**	⇑P		**P**	**18 58 54.0**	**+2.1**
	baz=47								
HRY	**Holter Researc**	**47.14**	**317**	*e*P		**P**	**18 58 52.9**	**+0.4**
	comp=Z,4.2nm,0.6s								
DLMT	**Dillon**	**47.21**	**315**	*e*P		**P**	**18 58 54.7**	**+1.6**
DLMT				*epP*		**pP**	**18 59 05.9**	**-0.1**	
MCMT	**McKenzie Canyo**	**47.22**	**314**	*e*P		**P**	**18 58 54.5**	**+1.2**
GMRC	**Granite Mounta**	**47.32**	**300**	⇑P		**P**	**18 58 56.2**	**+2.1**
	baz=47								
BELC	**Belle Mtn. Jos**	**47.52**	**299**	⇓P		**P**	**18 58 57.7**	**+2.0**
	baz=48								
TUQ	**Turquoise Moun**	**47.61**	**301**	⇓P		**P**	**18 58 58.3**	**+2.0**
	baz=48								
MONP	**Monument Peak,**	**47.79**	**298**	⇑P		**P**	**18 59 00.2**	**+2.3**
	baz=48								
ELK	**Elko**	**47.90**	**308**	*e*P		**P**	**18 58 59.8**	**+1.1**
ELK				pmax		pmax			
	comp=Z,41nm,2.6s								
ELK	**Elko**	**47.90**	**308**	*e*P		**P**	**18 58 59.8**	**+1.1**
	comp=Z,41nm,2.6s								
HLID	**Hailey**	**47.95**	**312**	⇓P		**P**	**18 59 00.7**	**+1.8**
	baz=48								
HLID	**Hailey**	**47.95**	**312**	*e*P		**P**	**18 59 00.3**	**+1.4**
	comp=Z,2.9nm,0.8s								
GSC	**Goldstone, Bar**	**48.31**	**301**	*e*P		**P**	**18 59 03.2**	**+1.5**
GSC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
GSC	**Goldstone, Bar**	**48.31**	**301**	⇓P		**P**	**18 59 03.7**	**+2.0**
	baz=48,SNR=6.3								
GSC	**Goldstone, Bar**	**48.31**	**301**	*e*P		**P**	**18 59 03.2**	**+1.5**
	comp=Z,6.7nm,0.9s								
SLMT	**Seeley Lake**	**48.39**	**317**	*e*P		**P**	**18 59 02.4**	**+0.2**
	comp=Z,3.8nm,0.8s								
CCCA	**Chr Cany Iake**	**48.78**	**301**	*e*P		**P**	**18 59 06.9**	**+1.6**
MFID	**Camas Ranch**	**48.91**	**312**	*e*P		**P**	**18 59 07.0**	**+0.8**
	comp=Z,5.7nm,1.0s								
BFSC	**Mount Baldy Ra**	**48.92**	**299**	⇑P		**P**	**18 59 08.5**	**+2.1**
	baz=49								
MPMC	**Manual Prospec**	**48.94**	**302**	⇑P		**P**	**18 59 08.9**	**+2.3**
	baz=49								
EDW2	**Edwards Air Fo**	**49.24**	**300**	⇓P		**P**	**18 59 10.6**	**+1.8**
	baz=49,SNR=7.5								
WALA	**Waterton Lakes**	**49.26**	**319**	*e*P		**P**	**18 59 09.3**	**+0.5**
ISA	**Isaella, Lake**	**49.70**	**301**	⇓P		**P**	**18 59 13.9**	**+1.6**
	baz=50								
NVAR	**Mina Array Bea**	**49.86**	**305**	P		**P**	**18 59 13.9**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=90,slow=6.8,SNR=14								
BSC	**Santa Cruz Isl**	**50.54**	**299**	⇑P		**P**	**18 59 20.1**	**+1.5**
	baz=50								
SMMC	**Simmler**	**50.91**	**300**	⇑P		**P**	**18 59 23.6**	**+2.2**
	baz=51								
NEW	**Newport**	**51.03**	**317**	*e*P		**P**	**18 59 22.0**	**-0.2**
NEW				pmax		pmax			
	comp=Z,100nm,2.5s								
NEW	**Newport**	**51.03**	**317**	⇓P		**P**	**18 59 22.6**	**+0.5**
	baz=51								
NEW	**Newport**	**51.03**	**317**	*e*P		**P**	**18 59 22.0**	**-0.2**
	comp=Z,100nm,2.5s								
EVOP	**Sao Brissos**	**52.80**	**56**	*e*P		**P**	**18 59 35.6**	**+0.2**
EVOP				pmax		pmax			
	comp=Z,17nm,1.2s								
EVOP	**Sao Brissos**	**52.80**	**56**	*e*P		**P**	**18 59 35.6**	**+0.2**
	comp=Z,17nm,1.2s								
EVO	**Evora**	**52.89**	**56**	*e*P		**P**	**18 59 35.6**	**-0.5**
	comp=Z,17nm,1.2s								
EVO				*e*R					
	comp=Z,124nm,21.8s								
LON	**Longmire**	**53.76**	**315**	*e*P		**P**	**18 59 44.2**	**+1.7**
LON				pmax		pmax			
	comp=Z,89nm,3.0s								
LON	**Longmire**	**53.76**	**315**	*e*P		**P**	**18 59 44.2**	**+1.7**
	comp=Z,89nm,3.0s								
YKA	**Yellowknife Ar**	**55.20**	**335**	P		**P**	**18 59 51.9**	**-0.6**
	comp=Z,3.5nm,0.6s,baz=112,slow=7.5,SNR=61								
MDT	**Midelt**	**55.49**	**63**	LR		LR	19 19 01.1		
	comp=Z,90nm,21.4s,slow=31								
SUMG	**Summit**	**55.80**	**9**	P		**P**	**18 59 55.1**	**-2.0**
SUMG				pmax		pmax			
	comp=Z,13nm,1.3s								
SUMG	**Summit**	**55.80**	**9**	P		**P**	**18 59 55.1**	**-2.0**
	comp=Z,13nm,1.3s								
ESDC	**Sonseca Array**	**56.11**	**55**	P		**P**	**18 59 59.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=269,slow=7.2,SNR=11								
ESDC				LR		LR	19 18 41.5		
	comp=Z,50nm,21.8s,baz=235,slow=30								
SJPF	**Ste Jean**	**58.35**	**51**	*e*P		**P**	**19 00 16.7**	**+1.5**
SJPF	**Ste Jean**	**58.35**	**51**	*e*P		**P**	**19 00 16.7**	**+1.5**
SJPF	**Ste Jean**	**58.35**	**51**	*e*P		**P**	**19 00 16.7**	**+1.5**
GRR	**Gorron**	**59.04**	**44**	*e*P		**P**	**19 00 19.5**	**-0.4**
	comp=Z,5.9nm,0.6s								
GRR	**Gorron**	**59.04**	**44**	*e*P		**P**	**19 00 19.5**	**-0.4**
GRR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
GRR	**Gorron**	**59.04**	**44**	*e*P		**P**	**19 00 19.5**	**-0.4**
	comp=Z,5.9nm,0.6s								
EPF	**Esparros**	**59.49**	**51**	*e*P		**P**	**19 00 24.0**	**+0.8**
EPF	**Esparros**	**59.49**	**51**	*e*P		**P**	**19 00 24.0**	**+0.8**
EPF	**Esparros**	**59.49**	**51**	*e*P		**P**	**19 00 24.0**	**+0.8**
PLCA	**Paso Flores**	**59.55**	**185**	P		**P**	**19 00 22.9**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=2.1,slow=12,SNR=3.1								
DBIC	**Dimbokro**	**59.74**	**93**	LR		LR	19 24 06.2		
	comp=Z,74nm,18.9s,baz=260,slow=34								
RJF	**Les Rejaudoux**	**60.43**	**48**	*e*P		**P**	**19 00 29.5**	**-0.1**
	comp=Z,9.5nm,0.9s								
RJF				*e*R					
	comp=Z,58nm,21.0s								
RJF	**Les Rejaudoux**	**60.43**	**48**	*e*P		**P**	**19 00 29.5**	**-0.1**
RJF				pmax		pmax			
	comp=Z,10.0nm,0.9s								
RJF	**Les Rejaudoux**	**60.43**	**48**	*e*P		**P**	**19 00 29.5**	**-0.1**
	comp=Z,9.5nm,0.9s								
TCF	**Toulx Ste Croi**	**60.96**	**47**	*e*P		**P**	**19 00 33.7**	**+0.5**
TCF				*epP*		**pP**	**19 00 47.2**	**+0.7**	
TCF	**Toulx Ste Croi**	**60.96**	**47**	*e*P		**P**	**19 00 33.7**	**+0.5**
TCF				*e*'PP		**pP**	**19 00 47.2**	**+0.7**	
TCF	**Toulx Ste Croi**	**60.96**	**47**	*e*P		**P**	**19 00 33.7**	**+0.5**
TCF				*epP*		**pP**	**19 00 47.2**	**+0.7**	
DLBC	**Dease Lake**	**60.99**	**327**	*e*P		**P**	**19 00 33.8**	**+0.6**
JMIC	**Jan Mayen**	**61.63**	**18**	LR		LR	19 22 00.9		
	comp=Z,64nm,21.5s,baz=256,slow=31								
SMF	**Signal de Mont**	**62.10**	**47**	*e*P		**P**	**19 00 41.1**	**+0.3**
	comp=Z,3.4nm,0.6s								
SMF	**Signal de Mont**	**62.10**	**47**	*e*P		**P**	**19 00 41.1**	**+0.3**
SMF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
SMF	**Signal de Mont**	**62.10**	**47**	*e*P		**P**	**19 00 41.1**	**+0.3**
	comp=Z,3.4nm,0.6s								
VIVF	**Saint-Julien-l**	**62.66**	**49**	*e*P		**P**	**19 00 46.3**	**+1.7**
	comp=Z,2.2nm,0.6s								
VIVF	**Saint-Julien-l**	**62.66**	**49**	*e*P		**P**	**19 00 46.3**	**+1.7**
VIVF				pmax		pmax			
	comp=Z,2.0nm,0.6s								
VIVF	**Saint-Julien-l**	**62.66**	**49**	*e*P		**P**	**19 00 46.3**	**+1.7**
	comp=Z,2.2nm,0.6s								
SFTF	**Sexfontaines**	**62.96**	**45**	*e*P		**P**	**19 00 47.6**	**+1.1**
	comp=Z,3.3nm,0.5s								
SFTF	**Sexfontaines**	**62.96**	**45**	*e*P		**P**	**19 00 47.6**	**+1.1**
	comp=Z,3.3nm,0.5s								
MEZF	**Maizieres J'vi**	**62.98**	**45**	*e*P		**P**	**19 00 46.6**	**0.0**
	comp=Z,9.6nm,0.7s								
MEZF				*epP*		**pP**	**19 01 00.7**	**+0.7**	
MEZF	**Maizieres J'vi**	**62.98**	**45**	*e*P		**P**	**19 00 46.6**	**0.0**
	comp=Z,9.6nm,0.7s								
MEZF				*epP*		**pP**	**19 01 00.7**	**+0.7**	
LMR	**La Mourre**	**64.01**	**50**	*e*P		**P**	**19 00 54.0**	**+0.5**
	comp=Z,6.3nm,0.9s								
LMR	**La Mourre**	**64.01**	**50**	*e*P		**P**	**19 00 54.0**	**+0.5**
LMR				pmax		pmax			
	comp=Z,6.0nm,0.9s								
LMR	**La Mourre**	**64.01**	**50**	*e*P		**P**	**19 00 54.0**	**+0.5**
	comp=Z,6.3nm,0.9s								
TORD	**Torodi Ar. Bea**	**64.14**	**84**	P		**P**	**19 00 54.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=290,slow=6.8,SNR=11								
TORD				LR		LR	19 26 50.3		
	comp=Z,98nm,18.9s,baz=285,slow=34								
MBDF	**Montbardon**	**64.15**	**49**	*e*P		**P**	**19 00 55.3**	**+0.7**
	comp=Z,3.2nm,0.7s								
MBDF	**Montbardon**	**64.15**	**49**	*e*P		**P**	**19 00 55.3**	**+0.7**
MBDF				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MBDF	**Montbardon**	**64.15**	**49**	*e*P		**P**	**19 00 55.3**	**+0.7**
	comp=Z,3.2nm,0.7s								
CDF	**Champ du Feu**	**64.45**	**45**	*e*P		**P**	**19 00 56.5**	**0.0**
CDF	**Champ du Feu**	**64.45**	**45**	*e*P		**P**	**19 00 56.5**	**0.0**
CDF	**Champ du Feu**	**64.45**	**45**	*e*P		**P**	**19 00 56.5**	**0.0**
INK	**Inuvik**	**64.63**	**338**	*e*P		**P**	**19 00 56.2**	**-0.9**
INK				pmax		pmax			
	comp=Z,16nm,1.6s								
INK	**Inuvik**	**64.63**	**338**	*e*P		**P**	**19 00 56.2**	**-0.9**
	comp=Z,16nm,1.6s								
PGF	**Pioggiola**	**65.87**	**51**	*e*P		**P**	**19 01 05.8**	**0.0**
	comp=Z,8.1nm,0.7s								
PGF	**Pioggiola**	**65.87**	**51**	*e*P		**P**	**19 01 05.8**	**0.0**
PGF				pmax		pmax			
	comp=Z,8.0nm,0.7s								
PGF	**Pioggiola**	**65.87**	**51**	*e*P		**P**	**19 01 05.8**	**0.0**
	comp=Z,8.1nm,0.7s								
DAWY	**Dawson**	**66.30**	**332**	*e*P		**P**	**19 01 08.2**	**+0.1**
KEST	**Kesra**	**66.80**	**59**	P		**P**	**19 01 11.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=50,slow=4.6,SNR=5.1								
KEST				LR		LR	19 26 14.2		
	comp=Z,19nm,20.8s,baz=286,slow=32								
NB2	**NORSAR Subarra**	**67.02**	**31**	P		**P**	**19 01 13.4**	**+0.7**
	comp=Z,3.3nm,1.4s,baz=270,slow=6.9								
NOA	**NORSAR Array B**	**67.02**	**31**	P		**P**	**19 01 11.8**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=338,slow=4.7,SNR=2.7								
NOA				LR		LR	19 24 51.5		
	comp=Z,26nm,21.1s,baz=295,slow=31								
BMRM	**Bremner River**	**68.58**	**329**	*e*P		**P**	**19 01 23.0**	**+0.5**
	comp=Z,10nm,0.9s								
GERES	**GERESS Array B**	**68.69**	**44**	P		**P**	**19 01 22.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=269,slow=6.0,SNR=4.5								
ILAR	**Eielson Array**	**69.58**	**333**	P		**P**	**19 01 28.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=107,slow=4.8,SNR=15								
SPITS	**Spitsbergen Ar**	**69.87**	**13**	LR		LR	19 29 29.5		
	comp=Z,29nm,19.9s,baz=275,slow=34								
COLA	**College**	**69.99**	**333**	*i*P		**P**	**19 01 31.3**	**+0.3**
COLA				pmax		pmax			
	comp=Z,10.0nm,0.7s								
COLA	**College**	**69.99**	**333**	*e*P		**P**	**19 01 30.6**	**-0.5**
MCK	**McKinley**	**70.51**	**332**	*e*P		**P**	**19 01 33.5**	**-0.8**
MCK	**McKinley**	**70.51**	**332**	*e*P		**P**	**19 01 33.5**	**-0.8**
PMR	**Palmer**	**70.73**	**330**	*e*P		P	19 01 30.4	-5.2	
PMR	**Palmer**	**70.73**	**330**	*e*P		P	19 01 30.4	-5.2	
TRF	**Thorofare Moun**	**71.13**	**332**	*e*P		**P**	**19 01 38.3**	**0.0**
	comp=Z,12nm,0.4s								
KTH	**Kantishna Hill**	**71.41**	**332**	*e*P		**P**	**19 01 39.1**	**-0.7**
	comp=Z,13nm,0.6s								
VYHS	**Vyhne**	**72.11**	**44**	*e*P		P	19 01 50.0	+5.7	
VYHS	**Vyhne**	**72.11**	**44**	*e*		P	19 01 50.0	+5.7	
**

	4.1nm,0.6s						
ODAN	**Odare**	**46.34**	**305**	*eP*	**P**	**19 01 03.8**	**-0.2**
RAMN	**Ramite**	**47.02**	**305**	*eP*	**P**	**19 01 09.7**	**+0.4**
JIRN	**Jiri**	**47.64**	**306**	*eP*	**P**	**19 01 13.7**	**-0.4**
GUN	**Gumba**	**47.99**	**306**	*eP*	**P**	**19 01 16.4**	**-0.4**
	13nm,0.7s						
PKI	**Pulchoki**	**48.24**	**305**	*eP*	**P**	**19 01 17.8**	**-0.9**
PKIN	**Phulchoki**	**48.25**	**305**	*eP*	**P**	**19 01 18.3**	**-0.4**
	1.5nm,0.3s						
KKN	**Kakani**	**48.43**	**305**	*eP*	**P**	**19 01 19.4**	**-0.6**
SONM	**Songino Array**	**48.84**	**340**	P	**P**	**19 01 22.5**	**-0.2**
	0.4nm,0.6s,baz=150,slow=3.2,SNR=2.7						
KOLN	**Koldanda**	**49.80**	**304**	*eP*	**P**	**19 01 30.2**	**-0.2**
	9.4nm,0.5s						
DANN	**Dangsing**	**49.89**	**305**	*eP*	**P**	**19 01 30.4**	**-0.7**
	12nm,0.6s						
PYUN	**Piuthan**	**50.42**	**305**	*eP*	**P**	**19 01 34.8**	**-0.2**
	21nm,0.5s						
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**19 02 39.7**	**+0.3**
	1.0nm,0.5s,baz=116,slow=8.6,SNR=30						
ZALV	**Zalesovo Beam**	**62.36**	**332**	P	**P**	**19 02 57.7**	**-0.5**
	0.3nm,0.3s,baz=133,slow=6.9,SNR=3.0						
ARCES	**ARCESS Array B**	**92.02**	**340**	P	**P**	**19 05 42.4**	**0.0**
	1.2nm,0.8s,baz=90,slow=6.1,SNR=3.8						

KRSC 10 18:54:50.5±2.2, 51°.81N×161°.08E, h80km±25km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.44**	**334**	*eP*	Pn	18 55 16.3	+1.2
SPN				*eS*	Sn	18 55 33.3	-0.3
RUS	**Russkaya**	**1.70**	**293**	*eP*	Pn	18 55 20.0	+1.6
RUS				*eS*	Sn	18 55 39.8	+0.3
NLC	**Nalytchevo**	**1.73**	**323**	*eP*	Pn	18 55 20.8	+2.1
NLC				*eS*	Sn	18 55 41.6	+1.4
MTVR	**Mutnovka**	**1.91**	**292**	*eP*	Pn	18 55 23.3	+2.0
MTVR				*eS*	Sn	18 55 45.5	+0.7
PET	**Petropavlovsk**	**1.92**	**310**	*eS*	Sn	18 55 46.5	+1.8
UGLR	**Uglovaya**	**1.96**	**316**	*eP*	Pn	18 55 24.6	+2.5
SDLR	**Sedlovina**	**1.99**	**319**	*eP*	Pn	18 55 25.0	+2.6
SDLR				*eS*	Sn	18 55 48.0	+1.3
SMAR	**Somma**	**2.01**	**317**	P	Pn	18 55 25.5	+2.7
AVH	**Avacha**	**2.04**	**317**	*eP*	Pn	18 55 25.7	+2.7
KRER	**Koryakskii**	**2.06**	**317**	*eP*	Pn	18 55 26.5	+3.0
KRER				*eS*	Sn	18 55 51.3	+2.6
KOK	**Koryaka**	**2.10**	**316**	P	Pn	18 55 26.5	+2.6
KRX	**Arik**	**2.15**	**317**	*eP*	Pn	18 55 27.1	+2.6
KRX				*eS*	Sn	18 55 52.4	+1.9
APC	**Apacha**	**2.65**	**297**	*eS*	Sn	18 56 05.9	+3.7
PAU	**Pauzhetka**	**2.68**	**264**	*eP*	Pn	18 55 34.6	+3.1
GNL	**Ganaly**	**2.68**	**316**	*eP*	Pn	18 55 35.4	+3.7
GNL				*eS*	Sn	18 56 06.3	+3.0
MIPR	**Malaya Ipel'ka**	**2.71**	**282**	*eP*	Pn	18 55 34.6	+2.7
MKZ	**Mys Kozlova**	**2.78**	**8**	*eP*	Pn	18 55 35.2	+2.4
MKZ				*eS*	Sn	18 56 06.0	+0.7
SKR	**Severo-Kuril's**	**3.31**	**252**	*eP*	Pn	18 55 42.0	+2.0
SKR				*eS*	Sn	18 56 17.6	-0.7
TUMR	**Tumrok**	**3.52**	**351**	*eP*	Pn	18 55 47.2	+4.1
TUMR				*eS*	Sn	18 56 26.9	+3.2
BKI	**Bering**	**4.48**	**39**	*eS*	Sn	18 56 45.8	-1.0
KBTR	**Krutoberegovo**	**4.53**	**12**	*eP*	Pn	18 56 00.0	+3.5

*NEIC **10** 19:11:50.6, 32°.20N×115°.29W, h7km, ML3.0(PAS), After PAS.*
*ISCJB **10** 19:11:51.5±0.6, 32°.29N±0°.05×115°.31W±0°.05, h25km±5km, Error ellipse: s-maj=8.5km s-min=7.1km az=166.1*
*MEX **10** 19:11:51.6±0.5, 32°.38N×115°.09W, h35km±6km, MD3.5*
ISC 10 19:11:51.3±1.0, 32°.26N±0°.05×115°.29W±0°.05, h25km±7km, n13, σ0°.94/20, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**357**	*eP*	**Pb**	**19 11 55.9**	**-0.6**
CPBX				*i* S	**Sb**	**19 11 60.0**	**0.0**
MBIG	**Mexicali**	**0.17**	**29**	*i* P	**Pb**	**19 11 56.4**	**-0.2**
MBIG				*eS*	**Sb**	**19 12 00.5**	**+0.4**
GLA	**Glamis**	**0.88**	**26**	*ePg*	**Pb**	**19 12 06.8**	**-1.2**
GLA				*eSg*	**Sb**	**19 12 19.3**	**-0.1**
CBX	**Cerro Bola**	**1.16**	**273**	*i* P	**Pn**	**19 12 12.3**	**+0.2**
CBX				*i* S	**Sn**	**19 12 27.6**	**+0.3**
CBX	**Cerro Bola**	**1.16**	**273**	*i* P	**Pn**	**19 12 12.3**	**+0.2**
CBX				*i* S	**Sn**	**19 12 27.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.22**	**187**	*eP*	**Pn**	**19 12 13.0**	**-0.1**
SPIG				*i* S	**Sn**	**19 12 29.2**	**+0.3**
SPIG	**San Pedro Mart**	**1.22**	**187**	*eP*	**Pn**	**19 12 13.0**	**-0.1**
SPIG				*i* S	**Sn**	**19 12 29.2**	**+0.3**
BAR	**Barrett**	**1.24**	**290**	*eP*	**Pn**	**19 12 13.1**	**0.0**
BAR				*eS*	**Sn**	**19 12 29.2**	**+0.1**
PFO	**Pinyon Flats O**	**1.66**	**324**	Pn	**Pn**	**19 12 17.0**	**-2.0**
214A	**Organ Pipe Nat**	**2.13**	**98**	*ePn*	**Pb**	**19 12 28.4**	**-0.8**
MWC	**Mount Wilson**	**3.03**	**311**	*ePn*	**Pn**	**19 12 40.2**	**+2.2**
GSC	**Goldstone, Bar**	**3.28**	**338**	*ePg*	Pb	19 12 55.1	+6.2
WUAZ	**Wupatki**	**4.60**	**44**	*ePn*	**Pn**	**19 13 00.8**	**+1.4**

IDC 10 19:28:34.2±15.0, 18°.58S×176°.58W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.6/3, Error ellipse: s-maj=397.9km s-min=51.4km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.22**	**260**	P	P	19 37 01.6	+0.2
	0.2nm,0.3s,baz=97,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**46.28**	**255**	P	P	19 37 01.6	-0.4
	0.5nm,0.6s,baz=87,slow=8.2,SNR=18						
MJAR	**Matsushiro Arr**	**69.49**	**322**	P	P	19 39 44.5	-0.1
	1.0nm,1.1s,baz=122,slow=9.1,SNR=4.5						

IDC 10 19:38:41.2±3.4, 2°.09N×96°.55E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/28, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=134.5km s-min=27.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.44**	**8**	Pn	Pn	19 42 34.5	+1.1
	0.0nm,0.3s,baz=195,slow=12,SNR=5.7						
H08S2	**Diego Garcia H**	**25.87**	**248**	T	T	20 11 09.2	
	baz=68,slow=75,SNR=57						
H08S3	**Diego Garcia H**	**25.87**	**248**	T	T	20 11 09.2	
	baz=68,slow=75,SNR=48						
H08S1	**Diego Garcia H**	**25.89**	**248**	T	T	20 11 05.3	
	baz=68,slow=75,SNR=52						
WRA	**Warramunga Arr**	**43.06**	**122**	P	P	19 46 43.2	-0.1
	0.5nm,1.0s,baz=300,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**46.23**	**346**	P	P	19 47 08.8	+0.6
	0.7nm,0.7s,baz=160,slow=8.2,SNR=9.5						
ZALV	**Zalesovo Beam**	**52.58**	**351**	P	P	19 47 55.4	-1.2
	1.1nm,0.6s,baz=166,slow=6.9,SNR=6.6						

*ISCJB **10** 19:49:14.4±0.5, 31°.33S±0°.06×68°.28W±0°.08, h112km±5km, mb3.5/3, Error ellipse: s-maj=11.4km s-min=9.3km az=179.7*
*IDC **10** 19:49:14.3±0.9, 31°.37S×68°.36W, h102km±6km, mb3.4/3, mb1 3.6/5, mb1mx3.2/35, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/12, Error ellipse: s-maj=41.4km s-min=23.6km az=95.0*
*SJA **10** 19:49:14.2±1.4, 31°.33S×68°.32W, h108km±8km, ML3.7, MW4.3*
ISC 10 19:49:14.9±0.7, 31°.34S±0°.07×68°.30W±0°.07, h107km±6km, n19, σ0°.74/24, mb3.3/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.15**	**274**	*eP*	**Pn**	**19 49 29.7**	**-0.3**
CFAA	**Coronel Fontan**	**0.27**	**169**	P	**Pn**	**19 49 30.3**	**0.0**
	90nm,0.3s,baz=355,slow=3.1						
CFAA				S	**Sn**	**19 49 41.5**	**-0.4**
	83nm,0.3s,baz=162,slow=20,SNR=150						
CFAA	**Coronel Fontan**	**0.27**	**169**	*eP*	**Pn**	**19 49 30.5**	**+0.1**
CFAA				*eS*	**Sn**	**19 49 41.7**	**-0.2**
SJA	**San Juan**	**0.29**	**230**	*eP*	**Pn**	**19 49 30.6**	**+0.2**
SJA				AML	AML	19 49 42.7	
	comp=Z,1μm,0.1s						
AMOG	**MOGNA**	**0.43**	**337**	*eP*	**Pn**	**19 49 31.3**	**+0.1**
RTLS	**Leoncito**	**0.97**	**242**	*eP*	**Pn**	**19 49 36.5**	**+0.7**
AUSP	**Uspallata**	**1.28**	**226**	*eP*	**Pn**	**19 49 39.8**	**+0.5**
AUSP				*eS*	**Sn**	**19 49 58.1**	**+0.4**
ACAN	**Cantantal**	**1.33**	**135**	*eP*	**Pn**	**19 49 40.8**	**+1.3**
ACAN				*eS*	**Sn**	**19 49 59.0**	**+0.8**
AGUA	**GUANDACOL**	**1.85**	**355**	*eP*	**Pn**	**19 49 46.8**	**+0.7**
LCO	**Las Campanas**	**3.12**	**317**	*eP*	**Pn**	**19 50 03.0**	**+0.2**
LCO				AML	AML	19 50 42.5	
	comp=N,306nm,0.4s						
CYA	**Choya**	**3.61**	**37**	*eP*	**Pn**	**19 50 08.2**	**-0.9**
PLCA	**Paso Flores**	**9.55**	**190**	P	**Pn**	**19 51 28.1**	**-1.3**
	comp=N,0.2nm,0.3s,baz=13,slow=11,SNR=7.1						
LPAZ	**La Paz**	**14.98**	**1**	P	**Pn**	**19 52 42.0**	**+0.2**
	comp=N,0.1nm,0.3s,baz=184,slow=9.8,SNR=4.5						
USHA	**Ushuaia**	**23.48**	**180**	P	**P**	**19 54 15.5**	**+0.7**
	comp=N,7.3nm,0.8s,baz=341,slow=12,SNR=5.8						
SNAA	**Sanae**	**52.88**	**159**	LR	LR	20 19 01.9	
	comp=N,17nm,18.7s,baz=358,slow=34						
TXAR	**Lajitas Array**	**69.09**	**327**	P	**P**	**20 00 09.5**	**0.0**
	comp=N,0.2nm,0.6s,baz=148,slow=8.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**80.32**	**68**	P	**P**	**20 01 14.8**	**+0.3**
	comp=N,0.3nm,0.6s,baz=279,slow=5.3,SNR=3.7						
TORD				pP	**pP**	**20 01 41.3**	**-0.7**
	comp=N,2.4nm,1.3s,baz=217,slow=4.8,SNR=3.6						
WRA	**Warramunga Arr**	**124.57**	**206**	PKP	**PKPdf**	**20 08 00.6**	**-1.7**
	comp=N,0.5nm,1.1s,baz=164,slow=1.8,SNR=5.3						
MKAR	**Makanchi Array**	**152.64**	**47**	PKPbc	**PKPbc**	**20 08 58.6**	**-0.1**
	comp=N,0.3nm,0.7s,baz=304,slow=1.0,SNR=3.3						
MKAR				PKPab	**PKPab**	**20 09 10.2**	**+0.5**
	comp=N,0.2nm,0.4s,baz=298,slow=2.7,SNR=5.4						

*CSEM **10** 19:56:35.4, 26°.30N×56°.00E, h17km, ML2.7/2*
DSN 10 19:56:35.4±3.2, 26°.30N×56°.00E, h17km±7km, mb2.2/5, ML2.7/2, 2C-1D, Error ellipse: s-maj=34.4km s-min=18.8km az=16.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**0.46**	**145**	P	Pg	19 56 44.7	-0.1
	SNR=136						
BANOM	**Banah**	**0.46**	**145**	⇓*eP*	Pg	19 56 44.7	-0.1
	SNR=136						
HATD	**Hatta, Dubai**	**1.48**	**175**	P	Pn	19 57 01.3	+0.1
HATD	**Hatta, Dubai**	**1.48**	**175**	⇑P	Pn	19 57 01.3	+0.1
ASHO	**Ashiyiah**	**1.61**	**178**	P	Pn	19 57 02.6	-0.5
	SNR=12						
ASHO	**Ashiyiah**	**1.61**	**178**	⇑*eP*	Pn	19 57 02.6	-0.6
	SNR=12						
ASUD	**Al Ashush, Dub**	**1.78**	**200**	P	Pn	19 57 04.9	-0.4
	SNR=7.0						
ASUD	**Al Ashush, Dub**	**1.78**	**200**	*eP*	Pn	19 57 04.9	-0.5
	SNR=7.0						

*NDI **10** 19:56:53.4±1.8, 33°.05N×76°.25E, h10km, ML2.9*
*ISCJB **10** 19:56:57.8±0.6, 32°.72N±0°.04×75°.9E±0°.1, h20km, Error ellipse: s-maj=17.6km s-min=4.0km az=162.8*
*NNC **10** 19:57:04.9±2.3, 32°.83N×74°.01E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=63.5km s-min=17.7km az=84.0*
ISC 10 19:56:59.7±0.9, 32°.75N±0°.05×76°.1E±0°.1, h20km, n10, σ2°.13/18, 2C-4D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**0.24**	**208**	*eP*	**Pb**	**19 57 04.0**	**-1.6**
DLH				*eS*	**Sb**	**19 57 13.0**	**+3.5**
BHK	**Bhakra**	**1.36**	**168**	*eP*	**Pb**	**19 57 25.5**	**+1.1**
SDNR	**Sundarnagar**	**1.45**	**149**	*eP*	**Pn**	**19 57 23.0**	**-1.8**
SDNR				*eS*	**Sn**	**19 57 43.5**	**+0.3**
SMLA	**Simla**	**1.85**	**150**	*i* P	**Pn**	**19 57 29.9**	**-0.5**
SMLA				*i* S	**Sn**	**19 57 53.8**	**+0.7**
SMLA				*i* S	**Sn**	**19 57 54.2**	**+1.1**
SMLA				AML	AML	19 57 55.8	
	comp=E,214nm,0.3s						
SMLA				AML	AML	19 57 55.9	
	comp=N,246nm,0.4s						
SONA	**Sohna**	**4.56**	**169**	*ex*	**Pb**	**19 58 16.6**	**-2.5**
SONA				*eS*	**Sn**	**19 58 59.4**	**-0.7**
SONA				AML	AML	19 59 31.6	
	comp=N,6.6nm,0.5s						
SONA				AML	AML	19 59 32.6	
	comp=E,14nm,0.0s						
KUDL	**Kundal**	**4.60**	**176**	*ex*	Pb	19 58 13.3	-6.5
KUDL				*eS*	**Sn**	**19 59 01.8**	**+0.8**
KUDL				AML	AML	19 59 28.5	
	comp=E,5.7nm,1.2s						
KUDL				AML	AML	19 59 29.4	
	comp=N,6.2nm,0.4s						
KHET	**Khetri**	**4.67**	**183**	*eS*	**Sn**	**19 59 02.3**	**-0.3**
KHET				AML	AML	19 59 26.6	
	comp=E,78nm,0.1s						
KHET				AML	AML	19 59 28.9	
	comp=N,73nm,0.2s						
SFK	**Sufi-Kurgan**	**7.54**	**345**	⇓P	**Pn**	**19 58 51.2**	**+2.5**
	comp=N,0.5nm,0.2s						
SFK				⇓S	**Sn**	**20 00 15.5**	**+1.7**
	comp=N,2.1nm,0.3s						
MNAS	**Manas**	**10.13**	**345**	⇑P	**Pn**	**19 59 26.5**	**+2.5**
	comp=N,2.0nm,1.2s						
MNAS				⇑S	**Sn**	**20 01 17.2**	**+0.1**
	comp=N,1.5nm,0.6s						
KK31	**Karatay Array**	**11.23**	**339**	⇓P	**Pn**	**19 59 38.4**	**-0.7**
	comp=N,0.3nm,0.5s,baz=140,slow=12,SNR=7.8						
KK31				⇓S	**Sn**	**20 01 39.1**	**-4.9**
	comp=N,0.5nm,0.4s,baz=157,slow=23,SNR=6.4						

MAN 10 19:57:17, 9°.16N×124°.99E, h1km, mb4.6, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.66**	**106**	*eP*	Pg	19 57 30.1	+0.5
BUTP				*eS*	Sb	19 57 41.1	+0.2
CGP	**Cagayan de Oro**	**0.75**	**202**	⇑*iP*	Pg	19 57 32.0	+0.5
CGP				*i* S	Sb	19 57 43.6	-0.1
MSLP	**Maasin**	**0.98**	**353**	*eP*	Pg	19 57 36.0	+0.1
BUKP	**Musuan**	**1.27**	**177**	*eP*	Pg	19 57 41.6	+0.2
BUKP				*eS*	Sn	19 58 02.1	+2.3
PAGZ	**Pagadian**	**2.05**	**231**	*eP*	Pn	19 57 53.7	+1.1

*ISCJB **10** 20:05:42.3±0.6, 37°.50N±0°.04×72°.18E±0°.07, h200km, Error ellipse: s-maj=8.7km s-min=4.5km az=154.8*
*NNC **10** 20:05:48.2±1.1, 37°.82N×72°.01E, h176km±8km, mb2.3, mpv3.4, Error ellipse: s-maj=9.8km s-min=3.7km az=155.0*
ISC 10 20:05:42.1±1.3, 37°.53N±0°.08×72°.05E±0°.09, h200km, n17, σ1°.49/21, 11C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.73**	**24**	⇑P	**Pn**	**20 06 30.4**	**+1.7**
	9.2nm,0.3s						
SFK				⇓S	**Sn**	**20 07 04.1**	**-1.2**
	29nm,0.3s						
DZET	**Dzherino**	**2.84**	**298**	⇑P	Pn	20 06 32.9	+2.9
	21nm,0.2s						
DZET				⇓S	**Sn**	**20 07 08.3**	**+0.8**
	28nm,0.4s						
MNAS	**Manas**	**4.96**	**4**	⇑P	**Pn**	**20 06 58.5**	**+2.4**
	1.5nm,0.5s						
MNAS				⇑S	**Sn**	**20 07 53.1**	**-1.4**
	9.4nm,0.3s						
AAK	**Ala-Archa**	**5.43**	**19**	⇑P	Pn	**20 07 04.3**	**+2.2**
	4.0nm,1.1s						
AAK				⇑S	**Sn**	**20 08 05.2**	**-0.1**
	7.5nm,0.8s						
KK31	**Karatay Array**	**5.69**	**349**	P	Pn	20 07 08.0	+2.7
	1.7nm,0.4s,baz=153,slow=10,SNR=66						
KK31				⇑S	**Sn**	**20 08 09.6**	**-1.6**
	8.8nm,0.4s,baz=177,slow=24,SNR=5.0						
TKM2	**Tokmak 2**	**6.03**	**26**	⇑P	**Pn**	**20 07 11.7**	**+1.9**
	3.0nm,1.3s						
TKM2				⇑S	**Sn**	**20 08 19.0**	**-0.3**
	1.9nm,1.0s						
PYUN	**Piuthan**	**13.14**	**133**	*eP*	**Pn**	**20 08 39.8**	**-1.8**
	9.4nm,0.3s						
DANN	**Dangsing**	**13.42**	**130**	*eP*	**Pn**	**20 08 43.1**	**-2.1**
KOLN	**Koldanda**	**13.75**	**132**	*eP*	**Pn**	**20 08 48.7**	**-0.4**
GKN	**Gorkha**	**14.21**	**128**	*eP*	**Pn**	**20 08 53.9**	**-0.9**
AB31	**Akbulak array**	**14.64**	**327**	⇑P	P	20 09 04.9	+4.2
	0.5nm,0.5s,baz=136,slow=13,SNR=14						
AB31				⇑S	**S**	**20 11 39.8**	**-2.3**
	0.2nm,0.2s,baz=136,slow=25,SNR=4.7						
PKIN	**Phulchoki**	**14.99**	**128**	*eP*	**Pn**	**20 09 04.2**	**-0.2**
PKI	**Pulchoki**	**15.00**	**128**	*eP*	**Pn**	**20 09 03.9**	**-0.7**
GUN	**Gumba**	**15.06**	**126**	*eP*	**Pn**	**20 09 04.7**	**-0.8**
	7.8nm,0.4s						
JIRN	**Jiri**	**15.44**	**126**	*eP*	**Pn**	**20 09 10.5**	**+0.5**
	9.4nm,0.4s						
RAMN	**Ramite**	**16.19**	**126**	*eP*	**Pn**	**20 09 19.6**	**+0.6**
	15nm,0.7s						
TAPN	**Taplejung**	**16.64**	**123**	*eP*	**Pn**	**20 09 25.1**	**+0.7**

*IDC **10** 20:08:19.6±10.0, 19°.86S×177°.92W, h475km±97km, mb3.3/5, mb1 3.5/6, mb1mx3.1/32, mbtmp4.2/6, Error ellipse: s-maj=73.9km s-min=21.7km az=51.0*
ISC 10 20:08:26.7±2.0, 20°.2S±0°.2×177°.9W±0°.4, h569km, n8, σ1°.26/8, mb3.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.50**	**192**	P	**P**	**20 12 07.6**	**-0.4**
	1.4nm,0.3s,baz=274,slow=1.6,SNR=13						
JAY	**Jayapura**	**44.00**	**288**	P	**P**	**20 15 44.0**	**-0.8**
	7.6nm,0.6s,baz=195,slow=3.9,SNR=7.3						
ASAR	**Alice Springs**	**44.64**	**256**	P	**P**	**20 15 49.9**	**+0.2**
	2.2nm,0.6s,baz=95,slow=7.4,SNR=36						
ASAR				PcP	**PcP**	**20 17 20.5**	**+0.6**
	0.1nm,0.5s,baz=96,slow=3.7,SNR=4.3						
WRA	**Warramunga Arr**	**44.69**	**262**	P	**P**	**20 15 49.9**	**-0.1**
	1.4nm,0.3s,baz=97,slow=7.4,SNR=72						
QSPA	**South Pole Qui**	**69.87**	**180**	P	P	20 18 44.8	+4.1
	0.9nm,0.9s,baz=297,slow=2.3,SNR=5.4						
CMAR	**Chiang Mai Arr**	**90.06**	**290**	P	**P**	**20 20 28.9**	**+1.9**
	0.4nm,0.7s,baz=120,slow=3.4,SNR=4.3						
AKASG	**Malin Array Be**	**142.78**	**331**	PKP	**PKPdf**	**20 26 55.4**	**-0.2**
	1.1nm,0.4s,baz=43,slow=4.0,SNR=10.0						
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc	**PKPab**	**20 27 06.8**	**-1.7**
	0.3nm,0.5s,baz=86,slow=4.8,SNR=3.1						

GUC 10 20:10:51.0±0.4, 34°.86S×72°.67W, h49km±7km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.00**	**123**	*i* P	Pn	20 11 09.0	+0.3
TALC				*i* S	Sn	20 11 23.0	+1.3
TALC				AML	AML	20 11 27.7	
	comp=E,14μm,0.6s						
COCH	**Cobquecura**	**1.27**	**185**	*i* P	Pn	20 11 13.3	+0.9
COCH				*i* S	Sn	20 11 29.6	+1.3
LNV	**Longovilo**	**1.38**	**49**	*i* P	Pn	20 11 14.0	+0.2
CLCH	**Cerro Calan**	**2.29**	**51**	*i* P	Pn	20 11 27.6	+1.2
CLCH				*eS*	Sn	20 12 00.3	+6.8
CLCH				AML	AML	20 12 07.2	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**2.38**	**44**	*i* P	Pn	20 11 28.8	+1.2
PEL				*eS*	Sn	20 12 01.5	+5.9
PEL				AML	AML	20 12 10.1	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**2.49**	**53**	*eP*	Pn	20 11 36.8	+7.2

GUC 10 20:15:56.6±0.7, 34°.61S×72°.10W, h40km±4km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.82**	**119**	⇑*iP*	Pn	20 16 12.1	+0.5
NICH				⇑*iP*	Pn	20 16 12.2	+0.5
NICH				*i* S	Sn	20 16 23.7	+1.0
TALC	**Talca**	**0.88**	**154**	⇑*iP*	Pn	20 16 12.5	0.0
TALC				*i* S	Sn	20 16 25.1	+1.1
LNCH	**Linares**	**1.30**	**162**	*eP*	Pn	20 16 19.6	+1.3
LNCH				*i* S	Sn	20 16 38.7	+4.1
COCH	**Cobquecura**	**1.62**	**200**	*eP*	Pn	20 16 22.0	-0.7
COCH				*i* S	Sn	20 16 42.3	0.0
CLCH	**Cerro Calan**	**1.77**	**48**	*eP*	Pn	20 16 25.5	+0.6
CLCH				*i* S	Sn	20 16 48.5	+2.2
CLCH				AML	AML	20 17 02.4	
	comp=E,670nm,0.5s						
PEL	**Peldehue**	**1.88**	**39**	*eP*	Pn	20 16 27.7	+1.4
PEL				*i* S	Sn	20 16 50.8	+2.0
PEL				AML	AML	20 16 59.4	
	comp=N,1μm,0.6s						
YECH	**El Yeso**	**1.92**	**61**	*eP*	Pn	20 16 25.7	-1.5
YECH				*i* S	Sn	20 16 52.8	+2.4

MAN 10 20:25:20, 18°.26N×120°.81E, h36km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.19**	**290**	⇓*iP*	Pn	20 25 28.9	-0.1
PIP				*eS*	Sn	20 25 33.4	-4.1
APYP	**Conner**	**0.57**	**134**	*eP*	Pn	20 25 33.7	+2.0
APYP				*eS*	Sn	20 25 41.8	+1.8
ABRA	**Dolores**	**0.61**	**188**	*eP*	Pn	20 25 34.0	+1.7
ABRA				*eS*	Sn	20 25 42.5	+1.6

*ISCJB **10** 20:34:10.9±0.7, 4°.08S±0°.06×103°.82E±0°.05, h33km, mb3.4/4, Error ellipse: s-maj=9.9km s-min=6.1km az=38.5*
*DJA **10** 20:34:10.9±0.4, 4°.S±3°×107°.4E±°, h10km, M3.9/8, MLv3.9/8*
*IDC **10** 20:34:22.4±5.7, 3°.90S×104°.02E, h126km±37km, mb2.9/4, mb1 3.1/5, mb1mx2.9/28, mbtmp3.3/5, Error ellipse: s-maj=177.4km s-min=19.0km az=54.0*
ISC 10 20:34:12.4±1.0, 4°.15S±0°.09×103°.78E±0°.06, h35km, n12, σ1°.93/13, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHSI	**Lahat**	**0.41**	**322**	P	Pn	20 34 18.6	-3.2
MDSI	**Maura Dua**	**0.52**	**129**	P	Pn	20 34 20.0	-3.4
MDSI				S	**Sn**	**20 34 27.0**	**-4.0**
MNAI	**Manna**	**0.84**	**256**	P	**Pn**	**20 34 27.0**	**-0.8**
MNAI			

ILAR	**Eielson Array**	**15.92**	**32**	Pn		**Pn**	**20 52 10.2**	**-1.6**
	0.1nm,0.3s,baz=237,slow=9.6,SNR=3.8							
ILAR				LR		LR	20 59 14.8	
	comp=Z,73nm,18.3s,baz=272,slow=41							
PETK	**Petropavlovsk-**	**21.21**	**285**	P		**P**	**20 53 11.8**	**-1.3**
	2.8nm,1.0s,baz=90,slow=14,SNR=5.2							
INK	**Inuvik**	**22.32**	**33**	P		**P**	**20 53 23.0**	**-1.9**
	2.5nm,0.6s,baz=288,slow=6.2,SNR=14							
SEY	**Seymchan**	**23.59**	**312**	P		**P**	**20 53 34.4**	**-3.4**
	1.3nm,0.6s,baz=148,slow=19,SNR=4.4							
YKA	**Yellowknife Ar**	**28.95**	**49**	P		**P**	**20 54 27.0**	**+0.7**
	0.2nm,0.4s,baz=275,slow=8.3,SNR=6.5							
YKA				PcP		**PcP**	**20 57 35.8**	**+1.6**
	0.2nm,0.6s,baz=294,slow=2.0,SNR=3.6							
KSRS	**Korea Array**	**46.83**	**278**	P		**P**	**20 56 57.2**	**+0.3**
	1.3nm,0.9s,baz=46,slow=10,SNR=4.1							
KSAR	**Wonju Array Be**	**46.87**	**278**	P		**P**	**20 56 57.2**	**0.0**
TXAR	**Lajitas Array**	**51.27**	**91**	P		**P**	**20 57 32.8**	**+1.6**
	0.3nm,0.6s,baz=311,slow=5.4,SNR=7.0							
SONM	**Songino Array**	**52.42**	**302**	P		**P**	**20 57 39.5**	**0.0**
	0.4nm,0.4s,baz=46,slow=8.5,SNR=3.9							
ARCES	**ARCESS Array B**	**57.80**	**355**	P		**P**	**20 58 17.1**	**-0.8**
	1.3nm,0.9s,baz=10,slow=7.6,SNR=7.3							
JOF	**Joensuu**	**63.90**	**351**	*ep*		**P**	**20 58 58.3**	**-1.1**
	1.4nm,0.5s							
MKAR	**Makanchi Array**	**64.68**	**315**	P		**P**	**20 59 04.6**	**-0.3**
	1.0nm,0.8s,baz=47,slow=6.3,SNR=12							
KAF	**Kangasniemi**	**65.12**	**353**	*ep*		**P**	**20 59 06.5**	**-0.8**
	4.0nm,0.6s							
FINES	**FINESS Array B**	**65.80**	**353**	P		**P**	**20 59 11.8**	**+0.1**
	2.3nm,0.5s,baz=22,slow=6.8,SNR=40							
NB2	**NORSAR Subarra**	**66.67**	**1**	P		**P**	**20 59 17.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=1.9,slow=7.4							
NOA	**NORSAR Array B**	**66.67**	**1**	P		**P**	**20 59 17.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=2.1,slow=6.6,SNR=5.2							
NOA				LR		LR	21 30 22.4	
	comp=Z,7.7nm,18.3s,baz=55,slow=38							
AKASG	**Malin Array Be**	**76.14**	**349**	P		**P**	**21 00 14.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=13,slow=5.6,SNR=6.7							
GERES	**GERESS Array B**	**78.90**	**360**	P		**P**	**21 00 30.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=1.4,slow=5.3,SNR=4.0							
BRTR	**Keskin Array B**	**86.30**	**344**	P		**P**	**21 01 10.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=40,slow=3.2,SNR=3.4							

IDC ***10*** *20:54:22.6±1.6,24°.29S×66°.97W,h159km±15km,mb3.1/2, mb1 3.4/7,mb1mx3.3/22,mbtmp3.8/7,Error ellipse: s-maj=26.8km s-min=12.7km az=103.0*

ISCJB ***10*** *20:54:23.6±0.6,24°.24S±0°.04×67°.09W±0°.06,h178km, mb3.2/2,Error ellipse: s-maj=8.4km s-min=5.3km az=151.3*

GUC ***10*** *20:54:26.5±0.5,24°.01S×67°.60W,h240km±13km,ML4.9*

ISC 10 20:54:24.0±0.7,24°.30S±0°.06×67°.18W±0°.08,h178km,n21, σ1°91/30,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.71**	**305**		*eP*		**Pn**	**20 55 11.6**	**+2.4**
PB06					*eS*		**Sn**	**20 55 45.6**	**+1.3**
PB06				AML		AML		20 55 47.5	
	comp=N,3μm,0.0s								
ANCH	**Antofagasta**	**3.02**	**281**		*eP*		**Pn**	**20 55 10.1**	**-2.7**
ANCH					*eS*		**Sn**	**20 55 46.8**	**-3.9**
PB09	**IPOC Station P**	**3.13**	**322**		*eP*		**Pn**	**20 55 16.8**	**+2.4**
PB09					*eS*		**Sn**	**20 55 54.5**	**+0.9**
PB09				AML		AML		20 55 59.4	
	comp=E,2μm,3.6s								
PB07	**IPOC Station P**	**3.57**	**315**		*eP*		**Pn**	**20 55 21.4**	**+1.5**
PB07					*eS*		**Sn**	**20 56 02.5**	**-0.9**
PB07				AML		AML		20 56 04.0	
	comp=N,1μm,0.7s								
PB01	**IPOC Station P**	**3.88**	**326**		*eP*		**Pn**	**20 55 24.5**	**+0.9**
PB01					*eS*		**Sn**	**20 56 09.3**	**-0.9**
PB01				AML		AML		20 56 13.9	
	comp=E,522nm,0.4s								
HMBC	**Humberstone**	**4.72**	**327**		*eP*		**Pn**	**20 55 35.2**	**+0.7**
HMBC					*eS*		**Sn**	**20 56 27.3**	**-2.4**
HMBC				AML		AML		20 56 32.5	
	comp=N,256nm,4.7s								
PB11	**IPOC Station P**	**5.06**	**333**		*eP*		**Pn**	**20 55 38.5**	**-0.5**
PB11					*eS*		**Sn**	**20 56 34.3**	**-3.5**
PSGC	**Pisagua**	**5.42**	**329**		*eP*		**Pn**	**20 55 43.6**	**+0.1**
MNMC	**Minimini**	**5.61**	**336**		*eP*		**Pn**	**20 55 46.9**	**+0.6**
CFAA	**Coronel Fontan**	**7.34**	**187**	P			**Pn**	**20 56 09.6**	**+1.0**
	comp=N,0.2nm,0.3s,baz=22,slow=14,SNR=15								
CFAA					S		**Sn**	**20 57 27.9**	**-3.4**
	comp=N,0.2nm,0.3s,baz=293,slow=23,SNR=8.3								
LPAZ	**La Paz**	**8.02**	**353**	P			**Pn**	**20 56 18.3**	**+0.1**
	comp=N,1.0nm,0.3s,baz=140,slow=9.6,SNR=21								
LPAZ					S		**Sn**	**20 57 45.7**	**-2.8**
	comp=N,0.6nm,0.3s,baz=2.4,slow=19,SNR=8.4								
SIV	**San Ignacio**	**10.06**	**36**	P			Pn	20 56 40.4	-4.1
	comp=N,0.6nm,0.3s,baz=226,slow=14,SNR=42								
SIV					S		**Sn**	**20 58 34.7**	**-1.8**
	comp=N,0.1nm,0.3s,baz=135,slow=22,SNR=3.2								
PLCA	**Paso Flores**	**16.63**	**189**	P			**Pn**	**20 58 07.9**	**+0.9**
	comp=N,0.1nm,0.3s,baz=350,slow=12,SNR=3.4								
BDFB	**Brasília**	**19.95**	**68**	P			**P**	**20 58 41.5**	**-1.1**
	comp=N,0.5nm,0.3s,baz=241,slow=9.7,SNR=14								
VNA3	**Neumayer Olymp**	**56.93**	**161**	P			**P**	**21 03 52.2**	**+2.0**
VNA2	**Neumayer--Watz**	**57.49**	**160**	P			**P**	**21 03 56.1**	**+2.0**
	baz=287,slow=12								
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P			**P**	**21 05 55.9**	**-0.8**
	comp=N,0.6nm,0.9s,baz=268,slow=6.7,SNR=11								
YKA	**Yellowknife Ar**	**94.35**	**340**	P			**P**	**21 07 24.2**	**+1.4**
	comp=N,0.1nm,0.4s,baz=117,slow=5.6,SNR=3.3								
ASAR	**Alice Springs**	**128.12**	**205**	PKP			**PKPdf**	**21 13 10.8**	**+1.1**
	comp=N,0.5nm,0.7s,baz=94,slow=0.6,SNR=6.4								
WRA	**Warramunga Arr**	**131.29**	**207**	PKP			**PKPdf**	**21 13 16.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=152,slow=2.1,SNR=7.7								
MKAR	**Makanchi Array**	**146.86**	**40**	PKPbc			**PKPbc**	**21 13 44.8**	**-0.5**
	comp=N,0.7nm,0.8s,baz=308,slow=3.8,SNR=7.2								

ISCJB ***10*** *20:57:35.3±0.5,8°.63N±0°.07×137°.88E±0°.09,h46km, mb4.1/22,MS3.5/6,Error ellipse: s-maj=12.4km s-min=9.2km az=17.8*

NEIC ***10*** *20:57:37.6±1.5,8°.62N×137°.84E,h51km±17km,mb4.1/7, Error ellipse: s-maj=15.2km s-min=9.5km az=110.0*

IDC ***10*** *20:57:38.7±4.8,8°.52N×137°.89E,h62km±47km,mb3.7/12, mb1 3.9/13,mb1mx3.7/36,mbtmp4.0/13,ML4.3/1,MS3.5/7, Ms1 3.5/7,ms1mx3.1/31,Error ellipse: s-maj=27.0km s-min=18.2km az=81.0*

ISC 10 20:57:37.1±0.6,8°.59N±0°.06×137°.83E±0°.10,h46km,n39, σ1°26/27,mb4.1/22,MS3.5/6,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.51**	**54**	Pn			**Pn**	**20 59 37.1**	**-0.8**
GENI	**Genyem**	**11.35**	**168**	P			**Sn**	**21 02 22.3**	**0.0**
	101nm,0.8s								
JAY	**Jayapura**	**11.40**	**165**	P			**Sn**	**21 02 23.9**	**+0.4**
JAY	**Jayapura**	**11.40**	**165**	P			**Pn**	**21 00 19.4**	**+1.9**
	2.3nm,0.3s,baz=270,slow=6.4,SNR=15								
JAY					S		**Sn**	**21 02 20.3**	**-3.2**
	0.5nm,0.3s,baz=68,slow=20,SNR=4.7								
JAY				LR		LR		21 03 50.2	
	comp=Z,227nm,18.9s,baz=307,slow=33								
MRSI	**Marisa**	**17.76**	**244**	P			P	21 01 48.4	+6.9
	27nm,0.9s								
MPSI	**Mapaga**	**19.65**	**246**	P			**Pn**	**21 02 03.8**	**-0.2**
PMG	**Port Moresby**	**20.15**	**152**	LR		LR		21 09 06.5	
	comp=Z,144nm,19.5s,baz=320,slow=34								
TTSI	**Tana Toraja**	**21.35**	**238**	P			P	21 02 28.2	+7.5
	25nm,1.0s								
BNSI	**Bone**	**21.88**	**235**	P			**P**	**21 02 23.6**	**-2.7**
SPSI	**Sidrap Palu**	**21.90**	**236**	P			**P**	**21 02 28.8**	**+2.2**
BKSI	**Bulukumba**	**22.42**	**233**	P			P	21 02 37.2	+5.1
	8.4nm,0.9s								
KAPI	**Kappang**	**22.53**	**234**	P			**P**	**21 02 34.3**	**+1.0**
	13nm,1.0s								
BATI	**Baumata**	**23.40**	**217**	P			P	21 02 56.1	+14
	13nm,1.2s								
JNU	**Nakatsue**	**25.25**	**346**	LR		LR		21 13 08.5	
	comp=Z,68nm,18.7s,baz=182,slow=37								
WRA	**Warramunga Arr**	**28.56**	**187**	P			**P**	**21 03 27.7**	**-1.2**
	0.9nm,0.6s,baz=5.4,slow=9.8,SNR=22								
H11S3	**WAKE ISLAND Hy**	**29.69**	**68**	T			T	21 35 06.3	
	baz=254,slow=75,SNR=30								
H11S1	**WAKE ISLAND Hy**	**29.71**	**68**	T			T	21 35 13.2	
	baz=254,slow=75,SNR=19								
H11S2	**WAKE ISLAND Hy**	**29.71**	**68**	T			T	21 35 12.4	
	baz=254,slow=75,SNR=30								
H11N1	**WAKE ISLAND Hy**	**30.22**	**65**	T			T	21 35 46.0	
	baz=252,slow=75,SNR=6.8								
H11N2	**WAKE ISLAND Hy**	**30.23**	**65**	T			T	21 35 46.8	
	baz=252,slow=75,SNR=6.0								
H11N3	**WAKE ISLAND Hy**	**30.24**	**65**	T			T	21 35 49.0	
	baz=252,slow=75,SNR=5.4								
ASAR	**Alice Springs**	**32.29**	**187**	P			**P**	**21 04 02.0**	**+0.2**
	0.5nm,0.5s,baz=18,slow=12,SNR=30								
USRK	**Ussuriysk Ar.**	**35.84**	**353**	P			**P**	**21 04 32.6**	**+0.3**
	1.1nm,0.7s,baz=183,slow=10.0,SNR=4.1								
USRK				LR		LR		21 17 01.1	
	comp=Z,76nm,21.9s,baz=188,slow=32								
CMAR	**Chiang Mai Arr**	**38.98**	**289**	P			**P**	**21 04 59.5**	**+0.2**
	1.4nm,0.9s,baz=104,slow=7.0,SNR=12								
CHTO	**Chiang Mai**	**39.03**	**289**	P			**P**	**21 04 59.0**	**-0.8**
	1.5nm,0.9s								
ULN	**Ulaanbaatar**	**47.01**	**332**	*eP*			**P**	**21 06 04.4**	**+0.3**
	0.7nm,0.4s								
SONM	**Songino Array**	**47.30**	**331**	P			**P**	**21 06 06.2**	**-0.1**
	1.3nm,0.8s,baz=146,slow=12,SNR=4.3								
SONM				LR		LR		21 26 51.0	
	comp=Z,71nm,19.3s,baz=196,slow=37								
LSA	**Lhasa**	**48.43**	**302**	*eP*			**P**	**21 06 14.4**	**-1.4**
	2.0nm,0.6s								
SEY	**Seymchan**	**55.26**	**8**	P			**P**	**21 07 06.5**	**+1.0**
	2.4nm,0.9s,baz=187,slow=6.6,SNR=5.3								
MKAR	**Makanchi Array**	**60.51**	**319**	P			**P**	**21 07 43.5**	**+0.9**
	4.6nm,0.9s,baz=106,slow=8.9,SNR=20								
ZALV	**Zalesovo Beam**	**61.87**	**328**	P			**P**	**21 07 51.8**	**+0.1**
	1.1nm,0.6s,baz=104,slow=6.3,SNR=4.8								
ZALV				LR		LR		21 35 18.0	
	comp=Z,33nm,19.6s,baz=68,slow=36								
KURK	**Kurchatov**	**64.13**	**323**	*eP*			**P**	**21 08 06.4**	**-0.2**
	4.4nm,0.8s								
AAK	**Ala-Archa**	**64.68**	**313**	P			**P**	**21 08 09.8**	**-0.9**
	1.8nm,1.0s								
EKS2	**Erkin-Say**	**65.20**	**313**	*eP*			**P**	**21 08 14.3**	**+0.2**
	1.7nm,0.8s								
ILAR	**Eielson Array**	**76.01**	**25**	P			**P**	**21 09 18.0**	**-1.3**
	1.0nm,0.7s,baz=243,slow=5.7,SNR=6.6								
GEYT	**Alibeck**	**76.67**	**307**	P			**P**	**21 09 24.1**	**+0.5**
	2.1nm,1.0s,baz=29,slow=3.3,SNR=4.9								
INK	**Inuvik**	**81.58**	**22**	P			**P**	**21 09 49.6**	**-0.2**
	1.2nm,0.7s,baz=302,slow=4.9,SNR=4.2								
ARCES	**ARCESS Array B**	**89.61**	**341**	LR		LR		21 55 27.3	
	comp=Z,25nm,19.1s,baz=62,slow=39								
YKA	**Yellowknife Ar**	**90.41**	**26**	P			**P**	**21 10 34.4**	**+1.0**
	0.8nm,0.7s,baz=295,slow=4.9,SNR=5.6								

ISCJB ***10*** *20:58:07.3±0.4,21°.39N±0°.03×143°.01E±0°.09,h311km, mb4.0/25,Error ellipse: s-maj=12.0km s-min=4.4km az=179.4*

JMA ***10*** *20:58:10.3±0.3,21°.65N×143°.41E,h347km,M4.2*

BJI ***10*** *20:58:10.9,21°.29N×143°.32E,h373km,mB4.3/4,mb4.0/5*

IDC ***10*** *20:58:10.5±1.2,21°.52N×143°.10E,h326km±11km, mb3.7/23,mb1 3.9/26,mb1mx3.8/40,mbtmp4.4/26,Error ellipse: s-maj=13.0km s-min=7.6km az=90.0*

ISC 10 20:58:08.7±0.5,21°.49N±0°.05×143°.1E±0°.1,h311km,n63, σ1°53/76,mb4.0/25,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**5.19**	**350**			P	**Pn**	**20 59 31.1**	**+2.3**
JHHJ						S	**S**	**21 00 34.5**	**+1.2**
CBIJ	**Chichi jima**	**5.65**	**351**			P	**Pn**	**20 59 35.8**	**+1.7**
CBIJ						S	**S**	**21 00 43.8**	**+0.8**
JCJ	**Chichijima**	**5.65**	**351**			P	**Pn**	**20 59 37.1**	**+3.0**
	37nm,0.3s,baz=263,slow=20,SNR=12								
JCJ						S	**S**	**21 00 43.8**	**+0.7**
	46nm,0.3s,baz=302,slow=22,SNR=11								
BSO1	**Boso 1**	**13.25**	**352**			P	**Pn**	**21 01 07.4**	**+2.0**
BSO1						S	**S**	**21 03 30.0**	**-1.2**
BSO3	**Boso 3**	**13.46**	**351**			P	**Pn**	**21 01 09.6**	**+1.4**
BSO4	**Boso 4**	**13.67**	**350**			P	**Pn**	**21 01 12.1**	**+1.2**
BSO4						S	**S**	**21 03 36.2**	**-4.9**
JIE	**Ise**	**14.05**	**338**			P	**Pn**	**21 01 17.3**	**+1.8**
HMMJ	**Hamamatsu 2**	**14.14**	**341**			P	**Pn**	**21 01 16.5**	**-0.1**
JOD2	**Odawara 2**	**14.18**	**346**			P	**Pn**	**21 01 18.0**	**+1.0**
JOD2						S	**S**	**21 03 49.9**	**-1.9**
JNY	**Yasuok**	**14.57**	**343**			P	**Pn**	**21 01 23.1**	**+1.3**
JTO	**Tosashimizu**	**14.58**	**323**			P	Pn	21 01 25.0	+3.2
JHU	**Hanno**	**14.70**	**348**			P	**P**	**21 01 22.2**	**+0.3**
JHU						S	**S**	**21 03 57.4**	**-4.9**
JHO	**Hitachi**	**15.23**	**352**			P	**Pn**	**21 01 29.1**	**-0.3**
MJAR	**Matsushiro Arr**	**15.60**	**345**			P	**P**	**21 01 32.1**	**+0.4**
	1.4nm,0.3s,baz=155,slow=5.3,SNR=32								
MJAR						S	**S**	**21 04 19.3**	**-0.9**
	0.4nm,0.3s,baz=157,slow=10,SNR=5.0								
MJAR						ScP	**ScP**	**21 09 15.5**	**-1.9**
	0.1nm,0.3s,baz=152,slow=4.4,SNR=4.6								
MAT	**Matsushiro**	**15.60**	**345**	P			**P**	**21 01 32.6**	**+0.8**
MAT						S	**S**	**21 04 17.5**	**-2.8**
JKE	**Kume jima 2**	**15.71**	**291**	P			**Pn**	**21 01 34.0**	**+2.9**
JNU	**Nakatsue**	**15.89**	**319**	P			**Pn**	**21 01 36.3**	**-0.8**
	0.5nm,0.3s,baz=77,slow=4.0,SNR=5.6								
JHS	**Saijyo**	**16.08**	**329**	P			**Pn**	**21 01 39.1**	**-0.3**
KSRS	**Korea Array**	**20.66**	**324**	P			**P**	**21 02 25.5**	**+0.1**
	4.2nm,0.6s,baz=147,slow=9.0,SNR=23								
USRK	**Ussuriysk Ar.**	**24.46**	**340**	P			**P**	**21 03 00.7**	**+0.7**
	1.3nm,0.6s,baz=168,slow=9.5,SNR=6.5								
HHC	**Hu-ho-hao-te**	**32.94**	**313**	*eP*			**P**	**21 04 16.1**	**+1.1**
HHC					PMZ				
	17nm,1.0s								
HHC					PMZ				
	38nm,4.4s								
BATI	**Baumata**	**36.85**	**213**	P			**P**	**21 04 47.1**	**-1.2**
	18nm,0.4s,baz=158,slow=0.1,SNR=8.2								
CTA	**Charters Tower**	**41.44**	**176**	P			**P**	**21 05 27.1**	**+1.2**
	8.9nm,0.8s,baz=359,slow=9.1,SNR=14								
CMAR	**Chiang Mai Arr**	**41.55**	**274**	P			**P**	**21 05 28.6**	**+1.7**
	1.5nm,0.5s,baz=95,slow=6.0,SNR=17								
SEY	**Seymchan**	**41.89**	**6**	P			**P**	**21 05 29.4**	**+0.4**
	1.1nm,0.7s,baz=208,slow=8.3,SNR=3.8								
WRA	**Warramunga Arr**	**42.07**	**192**	P			**P**	**21 05 31.4**	**+0.5**
	18nm,0.7s,baz=17,slow=9.0,SNR=150								
WRA					S		**S**	**21 11 24.0**	**-2.5**
	0.2nm,0.6s,baz=11,slow=13,SNR=3.0								
LEM	**Lembang**	**44.79**	**235**	P			**P**	**21 05 53.9**	**+1.1**
	11nm,0.5s,baz=348,slow=17,SNR=4.1								
ASAR	**Alice Springs**	**45.78**	**192**	P			**P**	**21 06 00.3**	**+0.1**
	2.1nm,0.3s,baz=13,slow=7.2,SNR=30								
DZM	**Mont Dzumac**	**48.90**	**151**	P			**P**	**21 06 24.6**	**+0.3**
	2.4nm,0.6s,baz=296,slow=1.3,SNR=5.1								
TAPN	**Taplejung**	**50.47**	**288**	*eP*			**P**	**21 06 35.1**	**-1.2**
JIRN	**Jiri**	**51.78**	**289**	*eP*			**P**	**21 06 44.1**	**-1.9**
GUN	**Gumba**	**52.02**	**289**	*eP*			**P**	**21 06 46.4**	**-1.4**
	18nm,0.9s								
PKI	**Pulchoki**	**52.48**	**289**	*eP*			**P**	**21 06 49.8**	**-1.3**
PKIN	**Phulchoki**	**52.48**	**289**	*eP*			**P**	**21 06 49.3**	**-1.8**
KKN	**Kakani**	**52.56**	**289**	*eP*			**P**	**21 06 49.7**	**-1.9**
GKN	**Gorkha**	**53.10**	**289**	*eP*			**P**	**21 06 54.0**	**-1.4**
DANN	**Dangsing**	**53.83**	**290**	*eP*			**P**	**21 06 59.9**	**-1.0**
	17nm,0.2s								
KOLN	**Kolanda**	**54.04**	**289**	*eP*			**P**	**21 07 00.4**	**-1.9**
	2.8nm,0.3s								
ZALV	**Zalesovo Beam**	**54.34**	**322**	P			**P**	**21 07 03.5**	**-0.2**
	2.5nm,0.6s,baz=115,slow=7.7,SNR=14								
ZALV					PcP		**PcP**	**21 08 03.1**	**-0.2**
	2.5nm,0.4s,baz=115,slow=4.0,SNR=10								
PYUN	**Piuthan**	**54.54**	**290**	*eP*			**P**	**21 07 04.7**	**-1.1**
	14nm,0.5s								
MKAR	**Makanchi Array**	**54.81**	**313**	P			**P**	**21 07 07.2**	**-0.1**
	1.2nm,0.5s,baz=91,slow=8.3,SNR=22								
MKAR					PcP		**PcP**	**21 08 03.4**	**-1.9**
	1.4nm,0.6s,baz=83,slow=4.3,SNR=5.2								
MKAR					ScP		**ScP**	**21 11 32.7**	**-0.8**
	0.2nm,0.7s,baz=60,slow=5.8,SNR=2.9								
ILAR	**Eielson Array**	**62.24**	**27**	P			**P**	**21 07 56.6**	**-1.2**
	2.5nm,0.6s,baz=257,slow=5.7,SNR=41								
INK	**Inuvik**	**67.77**	**24**	P			**P**	**21 08 32.6**	**-0.5**
	2.0nm,0.6s,baz=296,slow=7.3,SNR=12								
GEYT	**Alibeck**	**73.33**	**305**	P			**P**	**21 09 07.3**	**+0.2**
	1.1nm,0.6s,baz=298,slow=3.2,SNR=4.9								
YKA	**Yellowknife Ar**	**76.66**	**28**	P			**P**	**21 09 26.0**	**+0.6**
	6.7nm,0.6s,baz=291,slow=5.8,SNR=129								
KEV	**Kevo**	**78.54**	**341**	*ep*			**P**	**21 09 34.8**	**-0.8**
	3.7nm,0.5s								
ARCES	**ARCESS Array B**	**79.10**	**342**	P			**P**	**21 09 39.3**	**+0.6**
	3.3nm,0.4s,baz=76,slow=8.6,SNR=60								
JOF	**Joensuu**	**80.48**	**334**	*ep*			**P**	**21 09 45.7**	**-0.5**
	7.9nm,0.4s								
KBZ	**Khabaz**	**82.48**	**314**	P			**P**	**21 09 57.2**	**+0.2**
	4.3nm,0.9s,baz=84,slow=3.9,SNR=10								
KAF	**Kangasniemi**	**82.89**	**335**	*ep*			**P**	**21 09 56.1**	**-2.6**
	2.3nm,0.6s								
NVAR	**Mina Array Bea**	**83.31**	**51**	P			**P**	**21 10 02.1**	**+0.5**
	2.7nm,0.7s,baz=284,slow=5.6,SNR=4.7								
FINES	**FINESS Array B**	**83.35**	**334**	P			**P**	**21 10 00.3**	**-0.7**
	3.5nm,0.5s,baz=86,slow=4.6,SNR=76								
AKASG	**Malin Array Be**	**87.65**	**324**	P			**P**	**21 10 20.9**	**-1.4**
	0.3nm,0.4s,baz=47,slow=2.8,SNR=4.1								
NB2	**NORSAR Subarra**	**89.12**	**339**	P			**P**	**21 10 27.9**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=44,slow=5.1								
NOA	**NORSAR Array B**	**89.12**	**339**	P			**P**	**21 10 28.1**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=46,slow=4.5,SNR=6.7								
BRTR	**Keskin Array B**	**90.45**	**313**	P			**P**	**21 10 34.5**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=144,slow=6.7,SNR=5.2								
VYHS	**Vyhne**	**94.43**	**327**	*eP*			**P**	**21 10 52.9**	**-0.9**
VYHS				*e*				21 47 33.5	
VNA2	**Neumayer--Watz**	**127.63**	**192**	P			**PKPdf**	**21 16 37.1**	**+0.7**
	baz=55,slow=2.5								
VNA3	**Neumayer Olymp**	**127.78**	**191**	P			**PKPdf**	**21 16 37.0**	**+0.3**
VNA1	**Neumayer--Stat**	**128.02**	**192**	P			PKPdf	21 16 45.1	+8.1
TORD	**Torodi Ar. Bea**	**128.84**	**309**	PKP			**PKPdf**	**21 16 39.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=12,slow=1.6,SNR=7.8								
PLCA	**Paso Flores**	**145.65**	**132**	PKPbc			**PKPab**	**21 17 12.5**	**+0.2**
	comp=Z,14nm,0.6s,baz=247,slow=3.6,SNR=48								
LPAZ	**La Paz**	**150.00**	**85**	PKP			**PKPdf**	**21 17 20.1**	**+1.2**
	comp=Z,10nm,0.5s,baz=256,slow=3.2,SNR=5.3								
LPAZ				PKPbc			**PKiKP**	**21 17 25.4**	**+0.4**
	comp=Z,10nm,0.5s,baz=344,slow=1.9,SNR=56								

IDC ***10*** *21:25:59.5±1.8,27°.47N×56°.24E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.4/32,mbtmp3.6/7,MS3.5/4,Ms1 3.4/4, ms1mx2.8/36,Error ellipse: s-maj=36.1km s-min=15.7km az=170.0*

CSEM ***10*** *21:26:23.5,26°.29N×56°.17E,h32km,ML2.0/1*

DSN ***10*** *21:26:23.5±99.0,26°.29N×56°.17E,h32km±2km,mb2.4/8, ML2.0/1,Error ellipse: s-maj=60.8km s-min=3.8km az=14.0*

ISC 10 21:26:01.0±0.9,27°.49N±0°.07×56°.2E±0°.2,h10km,n23, σ1°02/19,mb3.6/7,MS3.6/3,2C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.56**	**177**	P			**Pg**	**21 26 32.3**	**+1.2**
	SNR=226								
BANOM	**Banah**	**1.56**	**177**	↓	*eP*		**Pg**	**21 26 32.3**	**+1.2**
	SNR=226								
NAZ	**Nazwa, Dubai**	**2.54**	**191**	P			**Pb**	**21 26 46.3**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.54**	**191**	↑	P		**Pb**	**21 26 46.3**	**-0.4**
HATD	**Hatta, Dubai**	**2.66**	**181**	P			**Pb**	**21 26 47.4**	**-1.3**
HATD	**Hatta, Dubai**	**2.66**	**

PTGA Pitinga 36.66 21 P P 21 35 55.4 -5.5
comp=E,12nm,1.0s,baz=201,slow=8.7,SNR=10
PTGA Pitinga 36.66 21 *e*P P 21 35 55.4 -5.5
comp=E,22nm,1.2s
VNA3 Neumayer Olymp 47.95 157 P **P** **21 37 32.6 +0.4**
VNA1 Neumayer--Stat 48.27 156 P **P** **21 37 35.6 +0.8**
VNA2 Neumayer--Watz 48.61 157 P **P** **21 37 37.6 +0.3**
SNAA Sanae 50.17 157 P **P** **21 37 49.1 -0.3**
comp=E,6.3nm,1.0s,baz=280,slow=8.6,SNR=14
SNAA pP **pP** **21 37 57.0 +1.4**
comp=E,9.2nm,1.1s,baz=257,slow=6.2,SNR=9.2
APG El Apazote 53.21 338 P P 21 38 05.1 -7.7
comp=E,7.2nm,1.0s,baz=277,slow=23,SNR=4.8
QSPA South Pole Qui 54.56 180 P **P** **21 38 20.2 -1.8**
comp=E,2.7nm,0.9s,baz=109,slow=3.2,SNR=4.7
SYO Syowa Base 64.44 158‖ *e*P P 21 39 35.5 +5.6
TBI Tubuai 66.60 257 *e*S **S** **21 48 30.4 -4.6**
comp=E,211nm,26.2s
TBI Tubuai 66.60 257 *e*LR LR 21 59 25.3
comp=E,235nm,29.0s
834A Tilden 68.07 335 P P 21 39 56.8 +3.2
baz=68
833A Chaparral WMA, 68.54 335 P **P** **21 39 58.7 +2.1**
baz=68
636A Smothers Creek 68.83 337 P **P** **21 40 00.8 +2.4**
baz=68
LPIG La Paz 69.41 323 LR LR 22 04 54.2
comp=E,96nm,18.2s,baz=189,slow=31
PPT2 Papeete2 69.66 263 *e*S S 21 48 59.4 -12
comp=E,84nm,23.8s
PPT2 Papeete2 69.66 263 *e*LR LR 22 00 37.8
comp=E,228nm,25.0s
PPT Papeete 69.67 263 LR LR 22 04 13.1
comp=E,95nm,18.9s,baz=120,slow=31
631A Perdido Creek 69.95 334 P **P** **21 40 07.8 +2.5**
baz=70
533A Kerrville 70.02 336 P **P** **21 40 07.4 +1.6**
baz=70
532A Rocksprings 70.37 335 P **P** **21 40 09.7 +1.8**
baz=70
434A Burnet 70.45 337 P **P** **21 40 09.7 +1.3**
baz=70
336A Riesel 70.53 338 P **P** **21 40 10.9 +2.0**
baz=70
531A Rocksprings 70.62 334 P **P** **21 40 11.5 +2.0**
baz=70
JCT Junction City 70.65 335 P **P** **21 40 11.3 +1.6**
baz=70
JCT Junction City 70.65 335 *e*P **P** **21 40 11.0 +1.3**
comp=E,13nm,1.1s
433A Art 70.67 336 P **P** **21 40 11.2 +1.5**
baz=70
530A J-C Ranch, Com 70.89 334 P **P** **21 40 12.9 +1.8**
baz=71
334A Lometa 70.92 337 P **P** **21 40 12.9 +1.6**
baz=71
432A Menard 71.01 335 P **P** **21 40 12.9 +1.1**
baz=71
TXAR Lajitas Array 71.03 331 P P 21 40 05.0 -7.0
comp=E,1.2nm,0.8s,baz=154,slow=8.1,SNR=12
TXAR LR LR 22 06 13.8
comp=E,102nm,18.6s,baz=0.0,slow=32
431A Sonora 71.12 335 P **P** **21 40 13.9 +1.4**
baz=71
333A Richland Sprin 71.15 336 P **P** **21 40 13.9 +1.3**
baz=71
529A Stev Forest Ra 71.19 333 P **P** **21 40 14.7 +1.7**
baz=71
430A Baggett Ranch, 71.43 334 P **P** **21 40 15.8 +1.4**
baz=71
332A Millersview 71.46 336 P **P** **21 40 15.6 +1.1**
baz=71
234A Clairette 71.51 337 P **P** **21 40 16.1 +1.3**
baz=71
429A Davenport Ranc 71.52 333 P **P** **21 40 16.6 +1.6**
baz=71
331A San Angelo 71.62 335 P **P** **21 40 16.6 +1.1**
baz=71
SWET Sewanee 71.64 348 *e*P **P** **21 40 16.4 +0.8**
MAW Mawson 71.67 164 LR LR 22 12 54.5
comp=E,251nm,18.1s,baz=234,slow=37
233A Rising Star 71.77 337 P **P** **21 40 17.6 +1.3**
baz=71
232A Coleman 71.89 336 P **P** **21 40 18.2 +1.1**
baz=72
330A Mertzon 71.97 334 P **P** **21 40 18.8 +1.1**
baz=72
231A Bronte 72.16 335 P **P** **21 40 19.8 +1.0**
baz=72
133A Hamilton Ranch 72.31 337 P **P** **21 40 20.9 +1.3**
baz=72
ABTX Abilene, Hawle 72.56 336 P **P** **21 40 22.4 +1.3**
baz=72
ABTX Abilene, Hawle 72.56 336 *e*P **P** **21 40 22.4 +1.3**
comp=E,19nm,1.1s
MIAR Mount Ida 72.59 342 *e*P **P** **21 40 22.2 +1.0**
comp=E,124nm,2.8s
131A Roby 72.86 336 P **P** **21 40 24.3 +1.4**
baz=72
Z33A Whitaker Ranch 72.89 337 P **P** **21 40 24.8 +1.7**
baz=72
130A Snyder 72.98 335 P **P** **21 40 24.6 +1.0**
baz=73
228A UT Block 9, Go 73.12 334 P **P** **21 40 25.8 +1.2**
baz=73
Z32A Haskell 73.14 337 P **P** **21 40 25.7 +1.2**
baz=73
Y34A Reagan Ranch, 73.20 338 P **P** **21 40 26.1 +1.2**
baz=73
129A Stewart Farms, 73.33 334 P **P** **21 40 26.9 +1.2**
baz=73
Z31A Sharp Cattle R 73.37 336 P **P** **21 40 27.2 +1.3**
baz=73
128A Castleberry Fa 73.54 334 P **P** **21 40 28.2 +1.2**
baz=73
Z30A Sanderson Ranc 73.67 335 P **P** **21 40 28.8 +1.1**
baz=73
Y32A R-V Farms, Ver 73.77 337 P **P** **21 40 29.8 +1.6**
baz=73
MNTX Cornudas Mount 73.80 331 P **P** **21 40 29.4 +0.9**
baz=74
X34A Smith Ranch, M 73.82 338 P **P** **21 40 29.8 +1.3**
baz=74
Y31A Rekieta Farm, 74.00 336 P **P** **21 40 31.3 +1.7**
baz=74
PBMO Poplar Bluff 74.00 345 *e*P **P** **21 40 30.1 +0.6**
comp=E,25nm,1.4s
Y30A Stafford Cattl 74.13 336 P **P** **21 40 32.0 +1.7**
baz=74
TUL1 Leonard 74.47 341 P **P** **21 40 33.7 +1.5**
baz=74
TUL1 Leonard 74.47 341 *e*P **P** **21 40 32.7 +0.5**
comp=E,31nm,1.4s
X31A McDonald Ranch 74.52 337 P **P** **21 40 34.2 +1.7**
baz=74
W33A Caddo, Fort Co 74.53 338 P **P** **21 40 34.1 +1.5**
baz=74
W32A Sentinel 74.74 337 P **P** **21 40 35.2 +1.4**
baz=74
MSTX Muleshoe 74.86 334 *e*P **P** **21 40 35.7 +1.0**
comp=E,9.3nm,1.0s
X29A Tulia 74.92 335 P **P** **21 40 36.1 +1.2**
baz=75
V33A Lossen Ranch, 75.09 339 P **P** **21 40 36.2 +0.4**
baz=75
AMTX Amarillo 75.31 335 P **P** **21 40 38.5 +1.2**
baz=75
U32A Winter Ranch, 75.82 338 P **P** **21 40 41.6 +1.5**
baz=76
DBIC Dimbokro 76.05 71 P **P** **21 40 40.2 -1.7**
comp=E,8.0nm,0.8s,baz=230,slow=7.6,SNR=3.5
DBIC LR LR 22 11 57.2
comp=E,87nm,20.2s,baz=212,slow=34
S36A Lake Cedric, C 76.12 341 P **P** **21 40 42.8 +1.2**
baz=76
ACSO Alum Creek Sta 76.16 352 *e*P **P** **21 40 42.4 +0.6**
comp=E,23nm,0.8s
T33A Patterson Ranc 76.25 339 P **P** **21 40 43.3 +0.9**
baz=76
S35A Otter Creek Ra 76.27 341 P **P** **21 40 43.1 +0.5**
baz=76
R37A Teagarden Farm 76.48 342 P **P** **21 40 44.2 +0.5**
baz=76
T32A Huddler Ranch, 76.54 339 P **P** **21 40 44.8 +0.7**
baz=76
Q37A Longview Farm, 76.92 343 P **P** **21 40 47.5 +1.3**
baz=76
S32A Newby Ranch, P 77.03 339 P **P** **21 40 47.5 +0.6**
baz=77
ANMO Albuquerque 77.09 332 *e*P **P** **21 40 48.7 +1.2**
U27A Thompson Grove 77.09 335 P **P** **21 40 48.4 +1.0**
baz=77
U26A Atchley Ranch, 77.39 335 P **P** **21 40 51.0 +1.9**
baz=77
T28A Walsh 77.49 336 P **P** **21 40 51.0 +1.4**
baz=77
S29A Ulysses 77.62 337 P **P** **21 40 50.6 +0.4**
baz=77
U25A Circle Dot Ran 77.62 334 P **P** **21 40 50.5 0.0**
baz=77
R32A Long Quarter, 77.63 339 P **P** **21 40 51.3 +1.1**
baz=77
S28A Manter 77.84 336 P **P** **21 40 52.9 +1.4**
baz=78
T26A Comanche Natio 78.04 335 P **P** **21 40 53.9 +1.2**
baz=78
MMNY Mt. Morris Dam 78.19 356 *e*P **P** **21 40 52.7 -0.5**
comp=E,64nm,1.2s
T25A Trinidad 78.29 334 P **P** **21 40 56.7 +2.5**
baz=78
T25A Trinidad 78.29 334 *e*P **P** **21 40 55.6 +1.5**
comp=E,38nm,1.4s
R29A Marienthal 78.36 337 P **P** **21 40 56.4 +2.0**
baz=78
S26A Kim 78.40 335 P **P** **21 40 57.0 +2.4**
baz=78
R28A Tribune 78.50 337 P **P** **21 40 56.9 +1.8**
baz=78
Q30A Quinter 78.59 338 P **P** **21 40 57.7 +2.1**
baz=78
Q29A Oakley 78.74 338 P **P** **21 40 58.7 +2.3**
baz=78
S25A Robets Cordova 78.76 335 P **P** **21 40 58.5 +1.8**
baz=78
R27A Eads 78.77 336 P **P** **21 40 58.2 +1.5**
baz=78
R26A Arlington 79.00 336 P **P** **21 40 59.2 +1.3**
baz=79
S24A Houchin Ranch, 79.02 334 P **P** **21 41 00.0 +1.7**
baz=79
R24A Sanders Place, 79.51 334 P **P** **21 41 01.6 +0.8**
baz=79
Q26A Hugo 79.59 336 P **P** **21 41 01.0 -0.2**
baz=79
BOSA Boshof 79.60 118 P **P** **21 41 00.6 -1.1**
comp=E,16nm,1.0s,baz=227,slow=4.2,SNR=8.9
BOSA LR LR 22 12 25.3
comp=E,92nm,18.2s,baz=214,slow=33
S22A 4UR Ranch, Cre 79.70 333 P **P** **21 41 02.6 +0.6**
baz=79
S22A 4UR Ranch, Cre 79.70 333 *e*P **P** **21 41 03.0 +1.0**
comp=E,14nm,1.5s
P26A Dakes Ranch, A 80.11 336 P **P** **21 41 05.1 +1.1**
baz=80
Q24A Divide 80.18 335 P **P** **21 41 06.3 +1.7**
baz=80
P25A Willow Gulch B 80.34 336 P **P** **21 41 06.7 +1.5**
baz=80
PV01 Paradox Valley 80.70 332 *e*P **P** **21 41 08.3 +1.1**
SMCO Snowmass 81.02 334 *e*P **P** **21 41 11.4 +2.2**
comp=E,15nm,1.4s
ISCO Idaho Springs 81.09 335 *e*P **P** **21 41 11.2 +1.8**
comp=E,10.0nm,1.4s
O22A Kremmling 81.74 334 P **P** **21 41 13.3 +0.5**
baz=81
ECSD EROS Data Cent 82.04 343 P **P** **21 41 15.1 +1.1**
baz=82
CCUT Cedar City 82.14 328 *e*P **P** **21 41 17.3 +2.3**
comp=E,12nm,1.3s
ARUT Antelope Range 82.38 328 *e*P **P** **21 41 17.1 +1.0**
K22A Casper 83.94 335 P **P** **21 41 25.7 +1.7**
baz=84
DUG Dugway, Tooele 84.15 330 P **P** **21 41 26.3 +1.2**
baz=84
DUG Dugway, Tooele 84.15 330 *e*P **P** **21 41 27.2 +2.1**
comp=E,15nm,1.4s
K21A Alcova 84.17 335 P **P** **21 41 26.6 +1.4**
baz=84
BGU Big Grassy Mou 84.85 330 *e*P **P** **21 41 30.2 +1.5**
comp=E,43nm,1.7s
HWUT Hardware Ranch 84.85 332 *e*P **P** **21 41 30.2 +1.4**
comp=E,18nm,1.3s
I22A 9 Mile Ranch, 85.03 336 P **P** **21 41 31.3 +1.8**
baz=85
NVAR Mina Array Bea 85.06 326 P P 21 41 24.0 -5.9
comp=E,0.2nm,0.3s,baz=152,slow=4.1,SNR=1.8
PDAR Pinedale Array 85.10 334 P P 21 41 25.4 -4.6
comp=E,0.3nm,0.8s,baz=111,slow=4.9,SNR=1.4
PDAR LR LR 22 15 20.3
comp=E,85nm,18.2s,baz=164,slow=33
TORD Torodi Ar. Bea 85.11 70 P **P** **21 41 27.6 -2.8**
comp=E,4.9nm,0.9s,baz=250,slow=4.3,SNR=20
TORD pP **pP** **21 41 36.1 -0.9**
comp=E,5.6nm,1.1s,baz=250,slow=3.6,SNR=9.5
TORD LR LR 22 18 00.8
comp=E,109nm,19.9s,baz=220,slow=34
HVU Hansel Valley 85.47 331 *e*P **P** **21 41 33.2 +1.4**
comp=E,9.5nm,1.2s
H20A Greybull 86.06 335 P **P** **21 41 36.0 +1.4**
baz=86
G22A Birney 86.14 337 P **P** **21 41 36.0 +1.0**
baz=86
TPAW Teton Pass 86.24 333 *e*P **P** **21 41 36.9 +1.2**
comp=E,23nm,1.6s
IMW Indian Meadow 86.58 333 *e*P **P** **21 41 39.0 +1.6**
comp=E,12nm,1.4s
FLWY Flagg Ranch 86.66 333 *e*P **P** **21 41 40.3 +2.7**
comp=E,16nm,1.4s
E24A Baker 86.73 339 P **P** **21 41 40.1 +2.3**
baz=86
G20A Bridger 86.78 336 P **P** **21 41 39.3 +1.2**
baz=86
H18A Shoshone NF, C 86.80 334 P **P** **21 41 39.6 +1.3**
baz=86
E23A Ismay 86.98 338 P **P** **21 41 40.0 +1.1**
baz=87
C26A Wahner Farm, P 87.26 341 P **P** **21 41 42.4 +2.1**
baz=87
YMR Madison River 87.26 334 *e*P **P** **21 41 42.4 +1.8**
comp=E,14nm,1.1s
LAO LASA Array 87.43 337 *e*P **P** **21 41 42.7 +1.5**
comp=E,47nm,2.0s
A29A Manning Farm, 87.53 343 P **P** **21 41 42.9 +1.3**
baz=87
F19A Roth Farm, Mol 87.58 335 P **P** **21 41 43.3 +1.3**
baz=87
HLID Hailey 87.63 331 *e*P **P** **21 41 44.3 +2.0**
comp=E,51nm,2.6s
C24A Savage 87.64 339 P **P** **21 41 44.0 +1.9**
baz=87
E20A Meyer Farm, Mu 87.88 336 P **P** **21 41 45.3 +2.0**
baz=88
ULM Lac du Bonnet 88.03 345 P P 21 41 40.0 -3.7
comp=E,6.9nm,1.2s,baz=153,slow=6.8,SNR=2.0
E19A Rath Farm, Rou 88.06 336 P **P** **21 41 45.7 +1.6**
baz=88
MCMT McKenzie Canyo 88.09 333 *e*P **P** **21 41 46.6 +2.0**
C23A Lambert 88.11 339 P **P** **21 41 45.9 +1.5**
baz=88
C09A Chrisman Ranch 92.65 331 *e*P **P** **21 42 07.0 +1.5**
ILAR Eielson Array 115.53 333 pPKP **PKPdf** **21 47 37.9 +2.8**
comp=E,0.5nm,0.8s,baz=166,slow=1.9,SNR=4.3
ASAR Alice Springs 115.92 207 PKP **PKPdf** **21 47 33.2 -4.1**
comp=E,0.2nm,0.6s,baz=101,slow=0.9,SNR=2.0
ASAR pPKP **PKiKP** **21 47 40.0 +2.6**
comp=E,0.5nm,0.9s,baz=111,slow=1.3,SNR=3.9
VYHS Vyhne 116.47 48 *e*PKP **PKPdf** **21 47 42.2 +4.8**
NOA NORSAR Array B 117.62 33 pPKP **PKPdf** **21 47 42.4 +3.1**
comp=E,0.5nm,0.8s,baz=110,slow=1.0,SNR=3.5
WRA Warramunga Arr 119.13 209 PKP PKPdf 21 47 37.5 -6.1
comp=E,0.3nm,0.6s,baz=158,slow=1.5,SNR=2.5
WRA pPKP **PKiKP** **21 47 46.7 +3.1**
comp=E,1.5nm,1.0s,baz=171,slow=1.5,SNR=7.0
SUW Suwalki 121.06 43 *e*PKPdf **PKPdf** **21 47 48.7 +2.7**
BRTR Keskin Array B 122.94 62 PKP **PKPdf** **21 47 46.0 -4.3**
comp=E,0.5nm,0.8s,baz=164,slow=4.9,SNR=3.9
BRTR pPKP **pPKPdf** **21 47 54.2 -2.9**
comp=E,1.2nm,0.9s,baz=177,slow=4.6,SNR=7.1
KIEV Kiev 123.56 48 *e*PKPdf **PKPdf** **21 47 53.9 +3.0**
AKASG Malin Array Be 123.57 48 PKP **PKPdf** **21 47 45.9 -5.0**
comp=E,1.1nm,0.7s,baz=261,slow=2.6,SNR=5.3
AKASG pPKP **PKiKP** **21 47 54.4 +3.2**
comp=E,3.8nm,0.9s,baz=265,slow=2.7,SNR=6.8
FINES FINESS Array B 124.56 35 PKP **PKPdf** **21 47 47.6 -4.9**
comp=E,1.2nm,0.8s,baz=148,slow=11,SNR=2.9
FINES pPKP **PKiKP** **21 47 56.0 +3.2**
comp=E,3.0nm,0.9s,baz=97,slow=7.7,SNR=6.0
KAF Kangasniemi 124.81 34 *e*p PKPdf 21 47 47.6 -5.4
comp=E,1.5nm,0.6s
JOF Joensuu 127.23 34 *e*p **PKPdf** **21 47 52.8 -4.8**
comp=E,1.1nm,0.7s
ARU Arti 141.23 42 *e*PKPdf **PKPdf** **21 48 26.6 +2.7**
SBUM Sibu 146.65 189 *e*PKPdf **PKPab** **21 48 40.0 +2.6**
BVAR Borovoye Array 148.73 45 PKP **PKPdf** **21 48 33.1 -3.9**
comp=E,3.6nm,0.7s,baz=293,slow=4.1,SNR=6.5
BVAR PKPbc **PKPbc** **21 48 37.2 -3.6**
comp=E,3.6nm,0.7s,baz=310,slow=2.9,SNR=22
YAK Yakutsk 150.18 339 *e*PKPdf **PKPbc** **21 48 42.5 -1.5**
YAK *e*PKPbc **PKiKP** **21 48 46.9 +2.0**
KKAR Karatay Array 150.62 64 *e*PKPdf **PKPdf** **21 48 42.0 +1.6**
EKS2 Erkin-Say 153.04 65 *e*PKPdf **PKPdf** **21 48 46.3 +2.1**
AAK Ala-Archa 153.57 65 PKPbc **PKPbc** **21 48 49.2 -3.5**
comp=E,2.9nm,0.9s,baz=227,slow=5.6,SNR=11
AAK Ala-Archa 153.57 65 *e*PKPdf **PKPdf** **21 48 48.2 +3.2**
KURBB Kurchatov Arra 154.31 45 PKPbc **PKPdf** **21 48 49.6 +4.1**
comp=E,2.4nm,0.8s,baz=298,slow=2.6,SNR=11
KSH Kashi 154.77 72 PKPbc **PKPdf** **21 48 42.2 -4.5**
KSH sPKP 21 49 19.5
KSH PKS PKSdf 21 52 15.5 -5.4
KSH PPMZ
comp=E,40nm,4.4s
KSH LN
comp=E,71nm,5.3s
KSH LE
comp=E,74nm,5.6s
KSH LZ
comp=E,140nm,7.0s
ZALV Zalesovo Beam 155.82 34 PKP PKPdf 21 48 41.9 -5.6
comp=E,1.5nm,0.8s,baz=285,slow=2.3,SNR=4.9
ZALV pPKP pPKPdf 21 48 51.1 -3.2
comp=E,6.8nm,1.0s,baz=282,slow=2.7,SNR=9.5
ZALV PKPab **PKPab** **21 49 10.6 -3.7**
comp=E,6.2nm,0.9s,baz=310,slow=5.6,SNR=5.4
ZALV pPKPab pPKPab 21 49 18.4 -2.5
comp=E,9.3nm,1.0s,baz=171,slow=7.0,SNR=7.1
MKAR Makanchi Array 158.10 52 PKP **PKPdf** **21 48 46.4 -4.3**
comp=E,0.6nm,0.8s,baz=163,slow=8.9,SNR=2.5
MKAR pPKP **pPKPdf** **21 48 55.2 -2.4**
comp=E,1.6nm,0.9s,baz=329,slow=4.2,SNR=5.7
MKAR PKPab PKPab 21 49 18.9 -5.5
comp=E,1.5nm,0.8s,baz=291,slow=3.8,SNR=5.5
MKAR Makanchi Array 158.10 52 *e*PKPdf **PKPdf** **21 48 54.6 +3.9**
MDJ Mudanjiang 160.97 305 PKP PKPdf 21 48 59.6 +5.6
CMAR Chiang Mai Arr 161.23 154 pPKP **PKPdf** **21 48 57.1 +2.0**
comp=E,1.3nm,1.0s,baz=236,slow=2.8,SNR=4.4
WMQ Urumqi 162.74 56 *e*PKP **PKPdf** **21 48 55.8 -0.1**
WMQ *e*PP **PP** **21 53 28.0 -1.7**
WMQ SKS **SKSdf** **21 55 53.0 -6.5**
WMQ SKKS SKKSac 22 00 06.0 -10
WMQ SS SS 22 13 37.0 -15
WMQ PPMZ
comp=E,97nm,6.2s
WMQ LN
comp=E,130nm,21.8s
WMQ LE
comp=E,140nm,21.8s
WMQ LZ
comp=E,120nm,19.9s
SHL Shillong 163.19 123 *e*P **PKPab** **21 49 47.0 -0.4**
SONM Songino Array 167.82 4 PKPab PKPab 21 50 02.0 -5.0
comp=E,0.6nm,0.6s,baz=331,slow=3.4,SNR=3.0
SONM pPKPab pPKPab 21 50 09.8 -3.9
comp=E,4.2nm,1.0s,baz=339,slow=4.0,SNR=10
NJ2 Nanjing 169.92 252 *e*PKP PKPdf 21 49 08.0 +6.2
GTA Gaotai 172.82 56 *e*PKP **PKPdf** **21 49 07.9 +4.7**
HHC Hu-ho-hao-te 173.94 330 *e*PKP **PKPdf** **21 49 08.5 +4.9**
HHC PP **PP** **21 54 28.5 +2.5**
HHC PPMZ
comp=E,77nm,4.9s
HHC LN
comp=E,85nm,14.8s
HHC LE
comp=E,78nm,17.3s
HHC LZ
comp=E,82nm,13.5s
CD2 Chengdu 174.29 145 PKP **PKPdf** **21 49 06.0 +2.1**
CD2 pPKP pPKPdf 21 49 26.8 +16
CD2 sPKP 21 49 34.7
CD2 PKS **PKSdf** **21 52 36.8 +0.6**
CD2 PP PP **21 54 34.3 +6.6**
CD2 SKS **SKSdf** **21 56 00.1 -5.9**
CD2 SKKS **SKKSac** **22 01 11.5 -2.1**
CD2 SS **SS** **22 15 45.5 -1.0**
CD2 PPMZ
comp=E,120nm,5.8s
LZH Lanzhou 176.97 81 *e*PKP **PKPdf** **21 49 06.8 +2.2**
LZH pPKP pPKPdf 21 49 27.5 +16
LZH sPKP 21 49 35.6
LZH LN
comp=E,220nm,18.0s
LZH LE
comp=E,220nm,18.1s
LZH LZ
comp=E,250nm,20.2s

IDC 10 21:40:06.2±3.2, **3°44N**×**93°14E, h0**km, **mb3.2**/4, **mb1 3.5**/5, **mb1mx3.3**/42, **mbtmp3.3**/5, **ML3.7**/1, **Error ellipse: s-maj=109.4km s-min=25.3km az=65.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**12.95**	**288**	Pn	Pn	21 43 16.5	+4.8
	0.3nm,0.3s,baz=78,slow=14,SNR=2.0						
PALK				Sn	Sn	21 45 29.9	-6.8
	3.5nm,0.3s,baz=187,slow=23,SNR=6.7						
CMAR	**Chiang Mai Arr**	**15.97**	**20**	Pn	Pn	21 43 53.5	+1.0
	0.1nm,0.3s,baz=217,slow=12,SNR=11						
H08S2	**Diego Garcia H**	**23.36**	**242**	T	T	22 10 12.4	
	baz=62,slow=75,SNR=318						
H08S3	**Diego Garcia H**	**23.36**	**242**	T	T	22 10 14.7	
	baz=62,slow=75,SNR=327						
H08S1	**Diego Carcia H**	**23.37**	**242**	T	T	22 10 16.7	
	baz=62,slow=75,SNR=446						
H01W3	**Cape Leeuwin H**	**42.93**	**154**	T	T	22 34 00.7	
	baz=330,slow=76,SNR=29						
H01W2	**Cape Leeuwin H**	**42.94**	**154**	T	T	22 33 59.4	
	baz=330,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**42.94**	**154**	T	T	22 34 05.3	
	baz=330,slow=76,SNR=25						
MKAR	**Makanchi Array**	**44.20**	**349**	P	P	21 48 17.6	+0.5
	0.1nm,0.4s,baz=170,slow=9.7,SNR=4.6						
SONM	**Songino Array**	**45.68**	**12**	P	P	21 48 27.6	-1.3
	0.2nm,0.3s,baz=198,slow=13,SNR=1.5						
WRA	**Warramunga Arr**	**46.66**	**122**	P	P	21 48 38.0	+1.1
	0.4nm,0.6s,baz=297,slow=8.8,SNR=5.5						
ASAR	**Alice Springs**	**47.98**	**126**	P	P	21 48 46.1	-1.1
	0.1nm,0.3s,baz=292,slow=8.4,SNR=3.7						

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*ISCJB **10** 21:40:13.0±0.7, 34°82S±0°.05×69°.5W±0°.2, h10km, mb3.6/3, Error ellipse: s-maj=24.3km s-min=6.6km az=8.6*
*SJA **10** 21:40:14.2±1.1, 34°.80S×69°.59W, h69km±14km, ML4.4, MW4.1*
*IDC **10** 21:40:14.2±1.1, 34°.79S×69°.23W, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.7/25, mbtmp3.5/7, ML3.5/3, MS1.7/1, Ms1 1.7/1, ms1mx1.7/14, Error ellipse: s-maj=48.3km s-min=19.4km az=100.0*

ISC 10 21:40:15.4±0.9, **34°81S**±0°.07×**69°.5W**±0°.2, **h10**km, **n18**, σ1**92**/21, **mb3.7**/3, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**2.59**	**3**	*e*P	**Pn**	**21 40 56.6**	**-1.0**
AUSP				*e*S	**Sn**	**21 41 26.8**	**-2.4**
RTLS	**Leoncito**	**3.01**	**4**	*e*P	**Pn**	**21 41 02.5**	**-0.9**
RTLS				*e*S	**Sn**	**21 41 38.6**	**-1.1**
ACAN	**Cantantal**	**3.21**	**39**	*e*P	**Pn**	**21 41 04.8**	**-1.1**
CANA	**Caviahue**	**3.30**	**201**	*e*P	**Pn**	**21 41 05.9**	**-1.4**
CFAA	**Coronel Fontan**	**3.38**	**19**	Pn	**Pn**	**21 41 05.5**	**-2.7**
	0.8nm,0.3s,baz=197,slow=16,SNR=21						
CFAA				Lg	Lg	21 41 50.6	
	9.5nm,0.3s,baz=271,slow=8.8,SNR=14						
CFAA				LR	LR	21 42 22.7	
	comp=Z,13nm,21.7s,baz=196,slow=39						
CFAA	**Coronel Fontan**	**3.38**	**19**	*e*P4	**Pn**	**21 41 05.8**	**-2.5**
CFAA				*e*S4	**Sn**	**21 41 50.8**	**+2.3**
RTLL	**Cerro Villicun**	**3.59**	**15**	*e*P	**Pn**	**21 41 08.8**	**-2.3**
RTLL				*e*S4	**Sn**	**21 41 57.3**	**+3.7**
AMOG	**MOGNA**	**3.96**	**13**	*e*P	**Pn**	**21 41 14.5**	**-1.8**

SUCO	**SUCO**	**4.14**	**71**	AML	AML	21 42 24.4		
	comp=Z,428nm,0.4s							
AGUA	**GUANDACOL**	**5.39**	**10**	*e*P3	**Pn**	**21 41 34.6**	**-1.3**	
PLCA	**Paso Flores**	**5.96**	**187**	Pn	**Pn**	**21 41 43.0**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=343,slow=11,SNR=2.3							
PLCA				Lg	Lg	21 43 26.2		
	comp=Z,0.8nm,0.3s,baz=90,slow=22,SNR=1.5							
LPAZ	**La Paz**	**18.49**	**4**	P	**P**	**21 44 31.1**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=199,slow=6.1,SNR=7.8							
SIV	**San Ignacio**	**20.23**	**24**	P	**P**	**21 44 50.0**	**-0.7**	
	comp=Z,0.8nm,0.5s,baz=237,slow=12,SNR=2.3							
TXAR	**Lajitas Array**	**71.47**	**329**	P	**P**	**21 51 37.0**	**+0.8**	
	comp=Z,0.2nm,0.6s,baz=148,slow=12,SNR=2.5							
TORD	**Torodi Ar. Bea**	**82.57**	**68**	P	**P**	**21 52 39.0**	**+0.1**	
	comp=Z,0.8nm,0.9s,baz=283,slow=4.2,SNR=3.4							
NVAR	**Mina Array Bea**	**85.74**	**324**	P	**P**	**21 52 57.5**	**+2.7**	
	comp=Z,0.2nm,0.3s,baz=123,slow=8.0,SNR=1.9							
WRA	**Warramunga Arr**	**121.00**	**206**	PKP	**PKPdf**	**21 59 09.1**	**+0.4**	
	comp=Z,0.4nm,0.9s,baz=163,slow=1.6,SNR=2.0							
MKAR	**Makanchi Array**	**155.69**	**52**	PKPab	**PKPab**	**22 00 34.3**	**-1.3**	
	comp=Z,0.1nm,0.5s,baz=225,slow=1.8,SNR=1.7							

CASC 10 21:42:26.5±3.1, 13°32'N×90°22'W, h15km±13km, MD3.6, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.77**	**48**	⇑*i*P	Pg	21 42 42.0	+0.1
SBLS				*e*S	Sg	21 42 51.9	-0.4
RTR	**El Retiro**	**0.80**	**44**	*e*P	Pb	21 42 42.5	+0.1
SNJE	**San Jose**	**0.80**	**48**	*e*P	Pg	21 42 42.4	-0.1
SNJE				*e*S	Sg	21 42 52.3	-0.9
RBDL	**Robledal**	**0.94**	**33**	⇑*i*P	Pb	21 42 44.5	-0.2
BOQS	**Boqueron**	**1.00**	**66**	*e*P	Pb	21 42 45.1	-0.7
SNET	**Serv Nac Est T**	**1.02**	**69**	*e*P	Pb	21 42 46.1	0.0
LFU	**La Fuente**	**1.15**	**68**	*e*P	Pn	21 42 47.5	-0.8
LFRS	**El Faro**	**1.16**	**75**	*e*P	Pn	21 42 47.0	-1.5
LFRS				*e*S	Sb	21 43 02.9	-0.6
LBRS	**Las Brisas**	**1.21**	**70**	*e*P	Pn	21 42 48.2	-0.9
NBG	**Las Nubes**	**1.26**	**354**	*e*P	Pn	21 42 50.0	0.0
NBG				*e*S	Sg	21 43 07.6	-0.4
JAT	**Jato**	**1.70**	**306**	*e*P	Pn	21 42 53.9	-1.8
MRL	**Marmol**	**1.81**	**16**	*e*P	Pn	21 42 57.6	+0.3
MRL				*e*S	Sb	21 43 23.6	+1.4
VSM	**San Miguel**	**1.89**	**87**	*e*P	Pn	21 42 58.1	-0.6

IDC 10 21:54:54.8±6.7, 16°05S×177°98W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/34, mbtmp3.9/2, Error ellipse: s-maj=316.0km s-min=48.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.40**	**258**	P	P	22 03 15.6	0.0
	0.2nm,0.4s,baz=91,slow=7.1,SNR=16						
ASAR	**Alice Springs**	**45.71**	**252**	P	P	22 03 17.8	-0.3
	3.2nm,0.6s,baz=88,slow=8.2,SNR=35						
GERES	**GERESS Array B**	**145.93**	**346**	PKPbc	PKPdf	22 14 35.7	-0.2
	0.2nm,0.4s,baz=60,slow=2.4,SNR=3.2						

*ISCJB **10** 21:59:55.1±0.7, 17°.8S±0°.2×178°.5W±0°.1, h579km, mb4.1/12, Error ellipse: s-maj=27.1km s-min=10.6km az=147.0*
*IDC **10** 21:59:58.5±4.1, 17°.87S×178°.48W, h609km±48km, mb3.5/12, mb1 3.7/13, mb1mx3.4/34, mbtmp4.4/13, Error ellipse: s-maj=37.6km s-min=20.2km az=152.0*
ISC 10 21:59:55.9±0.9, 17°.8S±0°.2×178°.4W±0°.2, h579km, n28, σ0°75/30, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.86**	**251**	P	**P**	**22 03 04.1**	**+0.6**
	0.5nm,0.3s,baz=122,slow=18,SNR=8.8						
EIDS	**Eidsvold**	**29.30**	**250**	P	**P**	**22 05 12.5**	**-0.3**
	baz=33,SNR=4.0						
CTA	**Charters Tower**	**33.47**	**260**	P	**P**	**22 05 48.5**	**+0.2**
	6.2nm,0.6s,baz=90,slow=12,SNR=13						
CNB	**Canberra Magne**	**33.48**	**232**	P	**P**	**22 05 49.1**	**+0.7**
	baz=37,SNR=12						
PMG	**Port Moresby**	**34.45**	**279**	P	**P**	**22 05 58.1**	**+1.5**
	22nm,0.8s,baz=86,slow=4.9,SNR=8.0						
CMSA	**Cobar Meteorol**	**35.20**	**240**	P	**P**	**22 06 02.9**	**+0.2**
	baz=39,SNR=13						
QLP	**Quilpie**	**35.57**	**249**	P	**P**	**22 06 05.8**	**0.0**
	baz=39,SNR=13						
COEN	**Coen**	**37.11**	**270**	P	**P**	**22 06 19.7**	**+1.2**
	baz=41,SNR=50						
TOO	**Toolangi**	**37.23**	**231**	P	**P**	**22 06 19.7**	**+0.4**
	baz=40,SNR=4.8						
JAY	**Jayapura**	**42.89**	**286**	P	**P**	**22 07 05.3**	**+0.6**
	14nm,0.7s,baz=65,slow=4.8,SNR=12						
BBOO	**Buckleboo**	**43.45**	**241**	P	**P**	**22 07 08.6**	**-0.2**
	baz=47,SNR=18						
WRA	**Warramunga Arr**	**44.65**	**259**	P	**P**	**22 07 17.4**	**-0.9**
	5.4nm,0.3s,baz=95,slow=7.6,SNR=327						
WRA				PcP	**PcP**	**22 08 47.4**	**-0.9**
	0.4nm,0.3s,baz=92,slow=3.4,SNR=3.2						
ASAR	**Alice Springs**	**44.82**	**254**	P	**P**	**22 07 19.3**	**-0.2**
	26nm,0.5s,baz=86,slow=8.8,SNR=449						
ASAR				PcP	**PcP**	**22 08 48.1**	**-0.7**
	0.7nm,0.4s,baz=104,slow=4.1,SNR=3.4						
KDU	**Kakadu**	**47.56**	**269**	P	**P**	**22 07 40.1**	**-0.2**
	baz=52,SNR=10						
MTN	**Manton Dam**	**48.81**	**268**	P	**P**	**22 07 48.5**	**-1.1**
	baz=53,SNR=11						
WRKA	**Warakurna**	**49.88**	**252**	P	**P**	**22 07 56.8**	**-0.5**
	baz=54,SNR=106						
KNRA	**Kununurra**	**50.50**	**264**	P	**P**	**22 08 01.4**	**-0.5**
	baz=54,SNR=14						
MEEK	**Meekatharra**	**58.47**	**249**	P	**P**	**22 08 56.3**	**-1.3**
	baz=62,SNR=5.1						
MJAR	**Matsushiro Arr**	**67.84**	**323**	P	**P**	**22 09 56.7**	**-0.5**
	1.0nm,0.4s,baz=154,slow=6.0,SNR=7.4						
UGM	**Wanagama**	**69.66**	**268**	P	**P**	**22 10 08.2**	**-0.5**
	baz=74,SNR=7.1						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**22 11 03.4**	**+0.6**
	1.4nm,0.7s,baz=225,slow=9.2,SNR=8.0						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**22 11 33.4**	**-0.8**
	0.5nm,0.4s,baz=225,slow=5.2,SNR=11						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**22 11 37.2**	**+1.3**
	2.1nm,0.8s,baz=218,slow=6.2,SNR=21						
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**22 11 42.3**	**+0.2**
	1.1nm,0.6s,baz=215,slow=2.9,SNR=11						
CMAR	**Chiang Mai Arr**	**88.86**	**290**	P	**P**	**22 11 50.4**	**+0.7**
	1.0nm,0.7s,baz=97,slow=2.7,SNR=6.4						
YKA	**Yellowknife Ar**	**94.25**	**25**	P	**P**	**22 12 13.0**	**-0.4**
	0.2nm,0.5s,baz=237,slow=4.7,SNR=5.7						
BRTR	**Keskin Array B**	**144.73**	**315**	PKP	**PKPdf**	**22 18 27.4**	**-0.4**
	0.5nm,0.5s,baz=51,slow=4.1,SNR=5.5						
GERES	**GERESS Array B**	**147.53**	**345**	PKPbc	**PKPbc**	**22 18 35.1**	**-0.6**
	0.3nm,0.6s,baz=298,slow=5.7,SNR=3.7						

*ISCJB **10** 22:03:58.1±0.3, 32°.69N±0°.02×115°.76W±0°.02, h20km±4km, Error ellipse: s-maj=4.1km s-min=2.8km az=13.9*
*MEX **10** 22:03:58.4±0.5, 32°.88N×115°.67W, h16km±16km, MD3.5*
*NEIC **10** 22:03:58.0, 32°.65N×115°.78W, h12km, ML3.3(PAS), After PAS.*
ISC 10 22:03:57.8±0.8, 32°.71N±0°.02×115°.77W±0°.02, h17km±6km, n41, σ0°66/61, 24C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESC	**Westside Schoo**	**0.06**	**30**	⇓*i*P	**Pg**	**22 04 01.0**	**+0.1**
SGL	**Mount Signal**	**0.07**	**150**	⇑*i*P	**Pg**	**22 04 00.0**	**-1.0**
ERPC	**Ernies Place**	**0.09**	**68**	⇑P	**Pg**	**22 04 02.0**	**+0.8**
COK	**Cook Ranch**	**0.14**	**13**	⇓P	**Pb**	**22 04 03.0**	**+1.0**
YUH	**Yuha Desert**	**0.15**	**245**	⇑*i*P	**Pg**	**22 04 02.0**	**+0.2**
SWSC	**Sam W. Stewart**	**0.23**	**354**	⇓*i*P	**Pg**	**22 04 04.0**	**+0.4**
SWSC				*i* S	**Sb**	**22 04 08.0**	**+0.5**
CRR	**Carrizo Plain**	**0.25**	**316**	⇓P	**Pb**	**22 04 04.0**	**+0.2**
DREC	**Desert Rsrch C**	**0.29**	**70**	⇑*i*P	**Pb**	**22 04 05.0**	**+0.6**
ERRC	**Elmore Ranch**	**0.41**	**353**	⇓*i*P	**Pn**	**22 04 08.0**	**-0.9**
CBKC	**Canebrake**	**0.45**	**295**	⇑P	**Pb**	**22 04 08.0**	**+0.7**
CLIC	**Calipatria**	**0.48**	**25**	⇓*i*P	**Pn**	**22 04 09.0**	**-0.8**
CPBX	**Cerro Prieto**	**0.49**	**127**	*e*P	**Pb**	**22 04 08.3**	**+0.5**
CPBX				*i* S	**Sb**	**22 04 16.1**	**+1.3**
BTCC	**Brunts Corner**	**0.55**	**56**	⇑P	**Pb**	**22 04 09.0**	**0.0**
BTCC				*e*S	**Sb**	**22 04 18.0**	**+1.4**
COA	**Coachella**	**0.56**	**74**	⇑P	**Pb**	**22 04 10.0**	**+0.8**
MBIG	**Mexicali**	**0.57**	**122**	*i* P	**Pg**	**22 04 08.2**	**-0.8**
MBIG				*e*S	**Sg**	**22 04 16.3**	**-0.3**
FRK	**Frink**	**0.70**	**9**	⇑*i*P	**Pg**	**22 04 11.0**	**-0.5**
FRK				*e*S	**Sb**	**22 04 22.0**	**+1.1**
RUN	**Ruthven**	**0.71**	**68**	⇑*i*P	**Pb**	**22 04 12.0**	**+0.2**
BATC	**Bat Cave Butte**	**0.75**	**355**	⇑P	**Pb**	**22 04 13.0**	**+0.6**
BAR	**Barrett**	**0.77**	**268**	⇑*i*P	**Pg**	**22 04 13.0**	**+0.3**
BAR				*e*S	**Sg**	**22 04 22.0**	**-0.8**
BORC	**Borrego Spring**	**0.78**	**316**	⇑*i*P	**Pb**	**22 04 13.0**	**+0.1**
BORC				*i* S	**Sg**	**22 04 24.0**	**+0.6**
CBX	**Cerro Bola**	**0.85**	**243**	*i* P	**Pb**	**22 04 14.6**	**+0.4**
CBX				*i* S	**Sb**	**22 04 25.6**	**+0.2**
CBX	**Cerro Bola**	**0.85**	**243**	*i* P	**Pb**	**22 04 14.6**	**+0.4**
CBX				*i* S	**Sb**	**22 04 25.6**	**+0.2**
GLA	**Glamis**	**0.86**	**66**	⇑*i*P	**Pb**	**22 04 14.0**	**-0.3**
GLA				*i* S	**Sb**	**22 04 25.0**	**-0.6**
EML	**El Monte Cty P**	**0.93**	**282**	⇑*i*P	**Pb**	**22 04 15.0**	**-0.4**
EML				*i* S	**Sb**	**22 04 27.0**	**-0.4**
CTCC	**Cactus City**	**0.96**	**349**	*e*P	**Pb**	**22 04 15.0**	**-1.0**
LTC	**Little Chuckwa**	**0.97**	**37**	*e*P	**Pb**	**22 04 16.0**	**-0.2**
DPP	**Dos Picos Cty**	**1.03**	**287**	*e*P	**Pb**	**22 04 17.0**	**-0.2**
DPP				*e*S	**Sb**	**22 04 31.0**	**+0.5**
YMD	**Yuma Desert**	**1.04**	**98**	⇑*i*P	**Pb**	**22 04 16.0**	**-1.3**
FRD	**Ford Ranch, An**	**1.05**	**318**	⇓*i*P	**Pb**	**22 04 17.0**	**-0.6**
FRD				*i* S	**Sn**	**22 04 33.0**	**+0.8**
PFO	**Pinyon Flats O**	**1.07**	**327**	⇓*i*P	**Pb**	**22 04 17.0**	**-0.9**
PFO				*e*S	**Sn**	**22 04 33.0**	**+0.4**
SND	**San Diego**	**1.10**	**273**	⇑*i*P	**Pb**	**22 04 18.0**	**-0.3**
SND				*e*S	**Sg**	**22 04 34.0**	**+0.6**
DNR	**Dunn Ranch,Anz**	**1.12**	**320**	⇑*i*P	**Pb**	**22 04 18.0**	**-0.8**
PLM	**Palomar**	**1.12**	**305**	⇑*i*P	**Pb**	**22 04 18.0**	**-0.9**
PLM				*e*S	**Sb**	**22 04 34.0**	**+0.7**
CPE	**Camp Elliot**	**1.14**	**279**	⇑*i*P	**Pn**	**22 04 19.0**	**0.0**
CPE				*i* S	**Sb**	**22 04 34.0**	**+0.4**
CRY	**Cary Ranch**	**1.18**	**317**	⇑*i*P	**Pn**	**22 04 19.0**	**-0.6**
POB	**Polly Butte**	**1.38**	**315**	⇑*i*P	**Pn**	**22 04 22.0**	**-0.3**
BACC	**Bachelor Mtn.**	**1.40**	**310**	⇑*i*P	**Pn**	**22 04 22.0**	**-0.6**
BACC				*e*S	**Sg**	**22 04 43.0**	**0.0**
DGR	**Domenigoni Val**	**1.40**	**312**	⇑*i*P	**Pn**	**22 04 22.0**	**-0.6**
TPC	**Twentynine Pal**	**1.41**	**350**	⇑*i*P	**Pn**	**22 04 22.0**	**-0.8**
SPIG	**San Pedro Mart**	**1.68**	**171**	*e*P	**Pn**	**22 04 26.5**	**-0.2**
SPIG				*e*S	**Sn**	**22 04 48.2**	**+0.3**
SPIG	**San Pedro Mart**	**1.68**	**171**	*e*P	**Pn**	**22 04 26.5**	**-0.2**
SPIG				*e*S	**Sn**	**22 04 48.2**	**+0.3**

*IDC **10** 22:04:45.6±0.6, 7°.93S×156°.20E, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.5/20, mbtmp4.3/16, ML3.9/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/30, Error ellipse: s-maj=24.4km s-min=17.3km az=106.0*
*ISCJB **10** 22:04:46.4±0.3, 7°.92S±0°.05×156°.33E±0°.06, h18km, mb4.7/31, MS3.6/7, Error ellipse: s-maj=8.5km s-min=6.2km az=22.9*
*BJI **10** 22:04:47.3, 8°.03S×156°.89E, h41km, mB5.1/23, mb4.7/28, Ms4.9/9, Ms7 4.7/9*
*NEIC **10** 22:04:49.8±2.0, 7°.94S×156°.36E, h34km±4km, mb4.9/14, Error ellipse: s-maj=18.5km s-min=7.4km az=208.0*
NEIC Felt on Ranongga.
*DJA **10** 22:05:26.9±0.9, 9°S±5°×15°4E±°, h185km±9km, M4.5/24, mb4.5/24, mB5.5/5, MLv4.3/1, Mw(mB)5.0/5*
ISC 10 22:04:48.0±0.4, 7°.94S±0°.07×156°.36E±0°.07, h18km, n107, σ1§14/94, mb4.8/31, MS3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.85**	**113**	LR	LR	22 07 12.5	
	comp=Z,1μm,18.6s,baz=144,slow=37						
HNR	**Honiara**	**3.85**	**113**	*e*P	**Pn**	**22 05 44.0**	**-2.3**
HNR				*e*S	Sn	22 06 46.0	+15
HNR	**Honiara**	**3.85**	**113**	*e*Pn	**Pn**	**22 05 45.9**	**-0.4**
PMG	**Port Moresby**	**9.21**	**260**	Pn	Pn	22 07 05.3	+5.2
	1.1nm,0.3s,baz=92,slow=12,SNR=4.0						
PMG				LR	LR	22 10 26.6	
	comp=Z,649nm,18.1s,baz=82,slow=38						
PMG	**Port Moresby**	**9.21**	**260**	*e*Pn	**Pn**	**22 07 00.1**	**0.0**
PMG				*e*Pn	Pn	22 07 05.3	+5.2
COEN	**Coen**	**14.26**	**244**	*e*Pn	**Pn**	**22 08 09.9**	**+0.8**
CTA	**Charters Tower**	**15.54**	**218**	Pn	**Pn**	**22 08 26.5**	**+0.1**
	baz=36,slow=13,SNR=5.2						
CTAO	**Charters Tower**	**15.54**	**218**	*e*Pn	**Pn**	**22 08 26.6**	**+0.2**
	30nm,1.1s						
MMPI	**Merauke**	**15.82**	**267**	P	**P**	**22 08 34.0**	**+0.3**
	245nm,0.3s						
GENI	**Genyem**	**16.97**	**287**	P	P	22 08 56.0	+10
	34nm,1.1s,4μm						
DZM	**Mont Dzumac**	**17.08**	**146**	*e*P	**P**	**22 08 49.2**	**+1.4**
	60nm,1.1s						
DZM				*e*LR	LR	22 12 42.4	
	266nm,23.2s						
DZM	**Mont Dzumac**	**17.08**	**146**	Pn	**P**	**22 08 49.0**	**+1.2**
	0.4nm,0.3s,baz=303,slow=12,SNR=6.1						
EIDS	**Eidsvold**	**18.05**	**196**	P	**P**	**22 08 59.9**	**+1.6**
	baz=18,SNR=3.5						
EIDS	**Eidsvold**	**18.05**	**196**	*e*Pn	**Pn**	**22 08 57.3**	**-0.7**
	19nm,1.3s						
SMPI	**Sarmi**	**18.54**	**288**	P	Pn	22 09 14.3	+10
	31nm,1.1s,4μm						
RMQ	**Roma**	**19.81**	**200**	P	**Pn**	**22 09 18.9**	**-0.3**
	baz=20,SNR=16						
QIS	**Mount Isa**	**20.49**	**230**	P	**P**	**22 09 25.6**	**+0.4**
	baz=21,SNR=9.7						
QLP	**Quilpie**	**21.83**	**210**	P	**P**	**22 09 39.4**	**-0.1**
	baz=22,SNR=15						
ARMA	**Armidale**	**22.80**	**191**	*e*P	**P**	**22 09 50.3**	**+0.4**
	21nm,1.2s						
RKPI	**Ransiki, Papua**	**23.00**	**285**	P	P	22 10 00.9	+8.8
	47nm,0.8s,12μm						
KDU	**Kakadu**	**23.96**	**257**	P	**P**	**22 10 02.0**	**+0.5**
	baz=25,SNR=13						
WRAB	**Tennant Creek**	**24.42**	**239**	*e*P	**P**	**22 10 04.7**	**-1.1**
	26nm,0.8s						
WRA	**Warramunga Arr**	**24.44**	**238**	P	**P**	**22 10 05.3**	**-0.7**
	16nm,0.8s,baz=65,slow=9.0,SNR=23						
WRA				PcP	**PcP**	**22 13 45.3**	**+0.4**
	1.5nm,0.6s,baz=66,slow=2.8,SNR=9.4						
WRA				LR	LR	22 19 12.0	
	comp=Z,267nm,18.4s,baz=60,slow=36						
FAKI	**Fak Fak**	**24.51**	**280**	P	P	22 10 14.0	+7.4
	36nm,1.0s						
FAKI	**Fak Fak**	**24.51**	**280**	P	P	22 10 14.4	+7.8
	baz=26,SNR=4.3						
FAKI	**Fak Fak**	**24.51**	**280**	*e*P	**P**	**22 10 05.2**	**-1.4**
	31nm,1.0s						
SAUI	**Saumlaki**	**24.82**	**268**	P	**P**	**22 10 10.9**	**+1.5**
	80nm,0.9s						
SAUI	**Saumlaki**	**24.82**	**268**	*e*P	**P**	**22 10 08.7**	**-0.7**
	62nm,0.9s						
MTN	**Manton Dam**	**25.28**	**257**	P	**P**	**22 10 13.8**	**+0.2**
	baz=26,SNR=5.1						
BNDI	**Bandanaira**	**26.51**	**276**	P	**P**	**22 10 26.9**	**+2.1**
	53nm,1.1s						
AS12	**Alice Springs**	**26.60**	**231**	*e*P	**P**	**22 10 24.2**	**-1.3**
AS12				*e*PcP	**PcP**	**22 13 49.9**	**+0.1**
ASAR	**Alice Springs**	**26.60**	**231**	P	**P**	**22 10 24.2**	**-1.3**
	1.6nm,0.8s,baz=65,slow=8.7,SNR=8						
ASAR				PcP	**PcP**	**22 13 49.9**	**+0.1**
	0.7nm,0.9s,baz=48,slow=4.1,SNR=4.0						
ASAR				LR	LR	22 20 38.7	
	comp=Z,170nm,18.9s,baz=28,slow=36						
KNRA	**Kununurra**	**28.06**	**252**	P	**P**	**22 10 39.1**	**+0.4**
	baz=29,SNR=7.8						
NLAI	**Namlea**	**29.48**	**277**	P	P	22 11 00.6	+9.3
	16nm,1.0s,2μm						
LBMI	**Labuha**	**29.66**	**283**	P	P	22 10 57.6	+4.7
	28nm,1.0s						
SANI	**Sanana**	**30.80**	**279**	P	**P**	**22 11 02.5**	**-0.5**
WRKA	**Warakurna**	**31.72**	**234**	P	**P**	**22 11 09.4**	**-1.6**
	baz=33,SNR=3.9						
PCI	**Palu**	**37.05**	**279**	P	P	22 12 07.4	+10
	27nm,1.1s						
MPSI	**Mapaga**	**37.27**	**281**	P	P	22 11 54.4	-4.7
MEEK	**Meekatharra**	**40.34**	**238**	P	**P**	**22 12 23.8**	**-1.0**
	baz=41,SNR=3.7						
MJAR	**Matsushiro Arr**	**47.41**	**340**	P	**P**	**22 13 20.5**	**-1.0**
	1.7nm,0.5s,baz=104,slow=1.3,SNR=16						
MAJO	**Matsushiro**	**47.42**	**340**	*e*P	**P**	**22 13 20.4**	**-1.0**
	7.1nm,0.6s						
MAT	**Matsushiro**	**47.42**	**340**	P	**P**	**22 13 20.7**	**-0.8**
JNU	**Nakatsue**	**47.48**	**331**	*e*P	**P**	**22 13 21.9**	**-0.2**
	19nm,0.8s						
LEM	**Lembang**	**48.33**	**268**	P	P	22 13 33.8	+4.7
	34nm,1.5s						
KSRS	**Korea Array**	**52.40**	**331**	P	**P**	**22 13 59.1**	**-0.2**
	3.6nm,0.6s,baz=145,slow=7.3,SNR=14						
KS15	**Wonju Array Si**	**52.41**	**331**	*e*P	**P**	**22 13 59.1**	**-0.3**
QIZ	**Qiongzhong**	**53.10**	**301**	P	**P**	**22 14 04.1**	**-0.8**
QIZ				S	**S**	**22 21 31.4**	**-3.3**
PPT	**Papeete**	**53.44**	**106**	LR	LR	22 34 07.7	
	comp=Z,46nm,19.8s,baz=350,slow=33						
PPT2	**Papeete2**	**53.44**	**106**	*e*LR	LR	22 29 30.3	
	165nm,31.0s						
NJ2	**Nanjing**	**53.50**	**320**	*e*P	**P**	**22 14 08.0**	**+0.5**
NJ2				PMZ			
	20nm,0.8s						
WHN	**Wuhan**	**55.55**	**316**	P	P	22 14 28.3	+5.8
USRK	**Ussuriysk Ar.**	**56.38**	**339**	P	**P**	**22 14 29.3**	**+1.1**
	2.2nm,0.8s,baz=134,slow=8.2,SNR=7.3						
MDJ	**Mudanjiang**	**57.62**	**338**	P	**P**	**22 14 39.4**	**+2.5**
MDJ				PMZ			
	2.0nm,0.5s						
MDJ				PMZ			
	43nm,4.0s						
GYA	**Guiyang**	**59.10**	**307**	*e*P	P	22 14 51.0	+3.2
GYA				PMZ			
	10.0nm,1.0s						
PEA2	**Petropavlovsk-**	**60.82**	**1**	*e*P	**P**	**22 14 60.0**	**+1.0**
PETK	**Petropavlovsk-**	**60.82**	**1**	P	**P**	**22 14 60.0**	**+1.0**
	2.6nm,0.6s,baz=165,slow=8.5,SNR=16						
PETK				LR	LR	22 37 02.2	
	comp=Z,24nm,22.0s,baz=161,slow=32						
CM31	**Chiang Mai Arr**	**62.41**	**296**	*e*P	**P**	**22 15 10.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**62.41**	**296**	P	**P**	**22 15 10.6**	**+0.2**
	2.8nm,0.3s,baz=120,slow=5.3,SNR=7.2						
CD2	**Chengdu**	**63.45**	**310**	*e*P	**P**	**22 15 18.5**	**+1.4**
CD2				pP	pP	22 15 30.6	+7.6
CD2				sP	sP	22 15 35.6	+10
CD2				PP	**PP**	**22 17 40.5**	**+3.6**
CD2				PcS		22 19 56.5	
CD2				S	**S**	**22 23 48.3**	**-1.3**
CD2				sS	sS	22 24 08.7	+9.5
CD2				SS	**SS**	**22 27 58.0**	**+1.0**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
HHC	**Hu-ho-hao-te**	**63.65**	**323**	*e*P	P	22 15 22.3	+4.0
HHC				PMZ			
	12nm,1.0s						
HHC				PMZ			
	110nm,4.7s						
GTA	**Gaotai**	**70.35**	**317**	*e*P	**P**	**22 16 00.7**	**-0.3**
GTA				PMZ			
	2.0nm,1.1s						
ULN	**Ulaanbaatar**	**70.52**	**327**	*e*P	**P**	**22 16 01.6**	**-0.4**
	13nm,1.1s						
SEY	**Seymchan**	**70.73**	**358**	P	**P**	**22 16 03.0**	**+0.4**
	4.5nm,0.7s,baz=169,slow=8.5,SNR=14						
SONA0	**Songino Array**	**70.86**	**327**	*e*P	**P**	**22 16 05.0**	**+1.1**
SONM	**Songino Array**	**70.86**	**327**	P	**P**	**22 16 05.0**	**+1.1**
	2.5nm,0.7s,baz=139,slow=6.9,SNR=10						
WMQ	**Urumqi**	**80.43**	**317**	*e*P	**P**	**22 16 59.4**	**+0.6**
WMQ				pP	PcP	22 17 13.0	+7.2
WMQ				sP	sP	22 17 18.0	+11
WMQ				PMZ			
	7.0nm,0.7s						
WMQ				PMZ			
	110nm,6.7s						
WMQ				LZ			
	92nm,22.2s						
TIXI	**Tiksi**	**81.48**	**351**	*e*P	**P**	**22 17 02.7**	**-1.0**
	18nm,2.1s						
MCK	**McKinley**	**82.43**	**21**	*e*P	**P**	**22 17 07.8**	**-1.0**
	160nm,2.9s						
ILAR	**Eielson Array**	**83.76**	**21**	P	**P**	**22 17 15.1**	**-0.6**
	0.7nm,0.4s,baz=240,slow=5.4,SNR=7.6						
ILAR				LR	LR	22 51 41.7	
	comp=Z,31nm,20.4s,baz=302,slow=34						
ILB	**Eielson Array**	**83.76**	**21**	*e*P	**P**	**22 17 15.1**	**-0.6**
MK32	**Makanchi Array**	**85.00**	**318**	*e*P	**P**	**22 17 22.5**	**0.0**
MKAR	**Makanchi Array**	**85.00**	**318**	P	**P**	**22 17 22.5**	**0.0**
	2.7nm,0.7s,baz=96,slow=6.7,SNR=22						
MKAR	**Makanchi Array**	**85.00**	**318**	*e*P	**P**	**22 17

*IDC **10** 22:38:15.9±2.8, 22°.54S×174°.98W, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/38, mbtmp4.0/6, MS3.6/4, Ms1 3.6/4, ms1mx3.1/28, Error ellipse: s-maj=100.4km s-min=35.5km az=144.0*

*ISCJB **10** 22:38:19.9±3.0, 22°.5S±0°.6×175°.1W±0°.5, h33km, mb4.1/5, MS3.6/4, Error ellipse: s-maj=100.1km s-min=29.8km az=143.9*

ISC 10 22:38:21.2±2.4, 22°.5S±0°.5×175°.0W±0°.4, h33km, n11, σ1§16/8, mb4.1/5, MS3.5/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**38.53**	**284**	LR	LR	22 58 36.1	
	comp=Z,50nm,18.1s,baz=326,slow=32						
ASAR	**Alice Springs**	**46.82**	**258**	P	**P**	**22 46 47.9**	**-0.3**
	1.5nm,0.7s,baz=97,slow=9.0,SNR=7.4						
WRA	**Warramunga Arr**	**47.12**	**263**	P	**P**	**22 46 49.3**	**-1.3**
	1.1nm,0.6s,baz=101,slow=7.9,SNR=3.3						
JAY	**Jayapura**	**47.34**	**288**	LR	LR	23 04 28.8	
	comp=Z,164nm,20.9s,baz=264,slow=33						
MJAR	**Matsushiro Arr**	**73.50**	**322**	P	**P**	**22 49 50.0**	**-0.6**
	0.7nm,0.6s,baz=149,slow=2.6,SNR=5.7						
MJAR				LR	LR	23 15 01.8	
	comp=Z,18nm,20.5s,baz=45,slow=30						
KSRS	**Korea Array**	**80.25**	**317**	LR	LR	23 24 04.2	
	comp=Z,34nm,18.3s,baz=157,slow=34						
USRK	**Ussuriysk Ar.**	**82.21**	**325**	P	**P**	**22 50 39.3**	**+0.5**
	3.5nm,1.0s,baz=87,slow=11,SNR=5.1						
CMAR	**Chiang Mai Arr**	**93.42**	**288**	P	**P**	**22 51 35.6**	**+1.9**
	0.6nm,0.3s,baz=122,slow=4.4,SNR=4.1						
YKA	**Yellowknife Ar**	**97.18**	**24**	P	**P**	**22 51 49.3**	**-0.6**
	0.0nm,0.3s,baz=235,slow=3.1,SNR=4.5						
AKASG	**Malin Array Be**	**146.11**	**332**	PKPbc	**PKPdf**	**22 57 57.1**	**+0.4**
	1.7nm,0.7s,baz=39,slow=4.0,SNR=15						
BRTR	**Keskin Array B**	**150.26**	**312**	PKPbc	**PKPbc**	**22 58 08.8**	**-0.5**
	0.6nm,0.8s,baz=48,slow=2.1,SNR=4.4						

ISC 10 22:41:13.4±1.5, 9°.2S±0°.1×120°.66E±0°.09, h35km, n16, σ1§00/16, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBFI	**Labuhan Bajo,**	**1.07**	**315**	P	**Pn**	**22 41 33.4**	**+1.5**
BMNI	**Bima**	**2.06**	**289**	P	Pn	22 41 51.6	+6.1
BSSI	**Bau Bau, Buton**	**3.08**	**357**	P	**Pn**	**22 41 58.5**	**-1.1**
BKSI	**Bulukumba**	**3.92**	**352**	P	**Pn**	**22 42 10.6**	**-0.6**
BKSI				S	**Sn**	**22 42 55.5**	**-0.6**
KAPI	**Kappang**	**4.29**	**348**	P	**Pn**	**22 42 15.7**	**-0.5**
MTNI	**Mataram**	**4.47**	**277**	P	**Pn**	**22 42 19.6**	**+0.9**
BNSI	**Bone**	**4.84**	**353**	P	**Pn**	**22 42 24.5**	**+0.8**
KKSI	**Kolaka, Sulawe**	**5.13**	**11**	P	**Pn**	**22 42 29.1**	**+1.3**
	0.4nm3µm56nm,0.7s						
SPSI	**Sidrap Palu**	**5.31**	**350**	P	**Pn**	**22 42 30.8**	**+0.5**
	40nm,0.6s,0.1nm						
IGBI	**Denpasar**	**5.46**	**274**	P	**Pn**	**22 42 32.1**	**-0.2**
	99nm,0.8s,3µm0.6nm						
SRBI	**Singaraja**	**5.50**	**282**	P	**Pn**	**22 42 32.9**	**0.0**
	40nm,0.6s,0.1nm						
MJSI	**Majene**	**5.89**	**343**	P	**Pn**	**22 42 38.6**	**+0.4**
	0.3nm781nm50nm,0.7s						
TTSI	**Tana Toraja**	**6.21**	**352**	P	**Pn**	**22 42 44.4**	**+1.8**
UGM	**Wanagama**	**10.11**	**277**	P	**Pn**	**22 43 35.1**	**-1.1**
	baz=10,SNR=5.2						
FAKI	**Fak Fak**	**13.12**	**62**	P	**Pn**	**22 44 17.7**	**+0.3**
	baz=13,SNR=3.4						
MANU	**Manus Island**	**27.51**	**77**	P	**P**	**22 46 56.4**	**-0.5**
	baz=28,SNR=3.9						

*DJA **10** 22:41:15.7±0.5, 9°.S±4°×12°.1E±°, h69km±11km, M4.3/17, mb4.6/6, mB5.1/3, MLv4.2/14, MLv4.2/17, Mw(mB)4.5/3*

*IDC **10** 22:41:17.6±1.9, 10°.33S×120°.73E, h0km, mb3.6/1, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, ML4.2/3, Error ellipse: s-maj=43.9km s-min=14.8km az=51.0*

*ISCJB **10** 22:41:19.5±0.6, 9°.96S±0°.06×121°.04E±0°.04, h35km, mb3.6/1, Error ellipse: s-maj=8.5km s-min=4.9km az=21.0*

*NEIC **10** 22:41:22.5±1.4, 10°.29S×120°.89E, h35km, mb3.7/1, Error ellipse: s-maj=24.0km s-min=17.0km az=54.0*

NEIC Felt [III] at Waingapu.

ISC 10 22:41:21.8±0.9, 10°.10S±0°.08×120°.96E±0°.05, h35km, n24, σ1§92/29, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.39**	**252**	P	**Pn**	**22 41 33.3**	**+2.3**
WSI	**Waingapu**	**0.78**	**303**	P	Pn	22 41 31.5	-4.8
WSI	**Waingapu**	**0.78**	**303**	P	Pn	22 41 32.0	-4.3
	baz=0.7,SNR=35						
WSI				S	**Sn**	**22 41 45.0**	**-1.8**
	baz=0.7,SNR=12						
EDFI	**Ende, Flores**	**1.52**	**28**	P	Pn	22 41 37.5	-9.2
WBSI	**Waikabubak, Su**	**1.61**	**286**	P	Pn	22 41 37.9	-10
BATI	**Baumata**	**2.67**	**93**	P	**Pn**	**22 42 04.8**	**+2.5**
BATI	**Baumata**	**2.67**	**93**	Pn	Pn	22 42 06.0	+3.6
	66nm,0.3s,baz=298,slow=4.3,SNR=69						
BATI				Sn	Sn	22 42 41.5	+8.1
	33nm,0.3s,baz=246,slow=1.8,SNR=7.9						
SOEI	**Soe**	**3.28**	**84**	*e*Pn	**Pn**	**22 42 11.3**	**+0.5**
SOEI				*e*Sn	**Sn**	**22 42 51.0**	**+2.4**
KNRA	**Kununurra**	**9.41**	**127**	P	Pn	22 43 38.4	+3.4
	baz=10,SNR=31						
KNRA				S	**Sn**	**22 45 24.7**	**+5.0**
	baz=10,SNR=32						
MTN	**Manton Dam**	**10.34**	**106**	P	**Pn**	**22 43 48.4**	**+0.7**
	baz=11,SNR=14						
MTN				S	**Sn**	**22 45 41.4**	**-1.1**
	baz=11,SNR=12						
KDU	**Kakadu**	**11.58**	**104**	P	**Pn**	**22 44 03.4**	**-1.3**
	baz=12,SNR=22						
KDU				S	**Sn**	**22 46 13.3**	**+0.5**
	baz=12,SNR=4.5						
WRA	**Warramunga Arr**	**16.20**	**129**	Pn	**Pn**	**22 45 06.3**	**-0.6**
	0.7nm,0.3s,baz=305,slow=14,SNR=31						
WRA				Sn	**Sn**	**22 48 05.8**	**+0.2**
	1.5nm,0.3s,baz=303,slow=24,SNR=12						
WRAB	**Tennant Creek**	**16.20**	**129**	*e*Pn	**Pn**	**22 45 06.6**	**-0.4**
	3.1nm,0.5s						
WRAB				*e*Sn	**Sn**	**22 48 03.8**	**-1.9**
WB2	**Warramunga Arr**	**16.21**	**129**	*e*Pn	**Pn**	**22 45 06.2**	**-0.8**
WB2				*e*Sn	**Sn**	**22 48 05.4**	**-0.5**
WRKA	**Warakurna**	**16.41**	**156**	P	**P**	**22 45 14.1**	**+2.0**
	baz=18,SNR=18						
MEEK	**Meekatharra**	**16.60**	**187**	P	**P**	**22 45 15.9**	**+1.8**
	baz=18,SNR=6.3						
MEEK				S	**Sn**	**22 48 15.6**	**+0.3**
	baz=18,SNR=8.3						
AS31	**Alice Springs**	**18.30**	**139**	*e*Pn	**Pn**	**22 45 32.8**	**-0.2**
ASAR	**Alice Springs**	**18.30**	**139**	P	**Pn**	**22 45 33.4**	**+0.3**
	1.0nm,0.3s,baz=319,slow=11,SNR=89						
ASAR				S	**S**	**22 48 58.5**	**-2.0**
	0.4nm,0.3s,baz=319,slow=23,SNR=13						
MORW	**Morawa**	**19.43**	**193**	S	**S**	**22 49 21.3**	**-1.7**
	baz=20,SNR=4.1						
QIS	**Mount Isa**	**20.75**	**122**	P	**P**	**22 45 58.1**	**-1.6**
	baz=22,SNR=5.7						
QIS				S	**S**	**22 49 51.6**	**+1.9**
	baz=22,SNR=5.1						
COEN	**Coen**	**22.06**	**102**	P	**P**	**22 46 10.8**	**-3.0**
	baz=23,SNR=4.8						
BBOO	**Buckleboo**	**26.55**	**151**	P	**P**	**22 46 53.6**	**-2.9**
	baz=28,SNR=9.2						
EIDS	**Eidsvold**	**32.35**	**122**	S	**S**	**22 52 58.7**	**-1.3**
	baz=33,SNR=4.3						
MKAR	**Makanchi Array**	**66.32**	**332**	P	**P**	**22 52 08.3**	**+1.5**
	0.4nm,0.6s,baz=135,slow=7.1,SNR=4.9						

*IDC **10** 22:58:18.7±2.9, 24°.09S×179°.95E, h504km±25km, mb3.5/4, mb1 3.8/4, mb1mx3.2/17, mbtmp4.4/4, Error ellipse: s-maj=46.3km s-min=24.9km az=170.0*

*ISCJB **10** 22:58:19.9±1.9, 24°.1S±0°.6×179°.8E±0°.3, h526km, mb4.1/4, Error ellipse: s-maj=87.3km s-min=26.8km az=168.1*

ISC 10 22:58:20.6±1.3, 24°.2S±0°.4×179°.9E±0°.2, h526km, n6, σ1§74/8, mb4.1/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	**23 05 25.1**	**0.0**
	2.2nm,0.5s,baz=94,slow=7.2,SNR=34						
ASAR				ScP	**ScP**	**23 10 09.4**	**+0.6**
	1.0nm,0.9s,baz=103,slow=4.6,SNR=6.5						
WRA	**Warramunga Arr**	**42.31**	**266**	P	**P**	**23 05 27.9**	**-0.4**
	6.2nm,0.6s,baz=97,slow=8.4,SNR=91						
WRA				ScP	**ScP**	**23 10 14.0**	**+3.5**
	1.2nm,1.0s,baz=92,slow=3.8,SNR=6.0						
JAY	**Jayapura**	**43.54**	**294**	P	**P**	**23 05 38.0**	**-0.1**
	5.1nm,0.5s,baz=342,slow=1.2,SNR=6.1						
TXAR	**Lajitas Array**	**90.64**	**58**	P	**P**	**23 10 27.4**	**+0.2**
	0.6nm,0.7s,baz=223,slow=6.1,SNR=8.5						
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc	**PKPbc**	**23 17 04.8**	**-1.4**
	0.2nm,0.6s,baz=59,slow=3.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**168.91**	**189**	PKPab	**PKPab**	**23 18 41.8**	**-0.6**
	0.3nm,0.7s,baz=188,slow=4.3,SNR=3.4						

*ISCJB **10** 23:11:53.7±0.4, 32°.70N±0°.03×115°.74W±0°.03, h24km±5km, Error ellipse: s-maj=5.5km s-min=3.9km az=25.5*

*NEIC **10** 23:11:54.0, 32°.65N×115°.77W, h12km, ML3.5(PAS), After PAS.*

*MEX **10** 23:11:55.8±0.4, 32°.74N×115°.67W, h16km±8km, MD3.6*

ISC 10 23:11:53.2±1.0, 32°.70N±0°.03×115°.72W±0°.03, h19km±3km, n28, σ0§53/37, 14C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.05**	**183**	↑P	**Pg**	**23 11 56.0**	**-0.7**
ERPC	**Ernies Place**	**0.07**	**49**	↑P	**Pg**	**23 11 58.0**	**+1.2**
COK	**Cook Ranch**	**0.15**	**358**	↓P	**Pg**	**23 11 58.0**	**+0.4**
YUH	**Yuha Desert**	**0.18**	**253**	↑P	**Pg**	**23 11 58.0**	**0.0**
CRR	**Carrizo Plain**	**0.28**	**312**	↓P	**Pb**	**23 12 00.0**	**+0.5**
ERRC	**Elmore Ranch**	**0.42**	**349**	↓P	**Pb**	**23 12 03.0**	**+0.9**
CPBX	**Cerro Prieto**	**0.45**	**128**	*e*P	**Pn**	**23 12 04.3**	**-0.2**
CPBX				*e*S	**Sn**	**23 12 11.3**	**-0.9**
CLIC	**Calipatria**	**0.47**	**20**	↑P	**Pn**	**23 12 04.0**	**-0.8**
CBKC	**Canebrake**	**0.49**	**294**	↑P	**Pb**	**23 12 04.0**	**+0.8**
COA	**Coachella**	**0.53**	**72**	↑P	**Pn**	**23 12 05.0**	**-0.7**
MBIG	**Mexicali**	**0.53**	**123**	*i* P	**Pg**	**23 12 04.5**	**+0.6**
MBIG				*e*S	**Sg**	**23 12 11.2**	**+0.2**
RUN	**Ruthven**	**0.68**	**66**	↑P	**Pg**	**23 12 07.0**	**+0.3**
FRK	**Frink**	**0.70**	**6**	↓P	**Pb**	**23 12 07.0**	**+0.2**
BATC	**Bat Cave Butte**	**0.76**	**353**	↓P	**Pb**	**23 12 08.0**	**+0.2**
BAR	**Barrett**	**0.80**	**269**	↓P	**Pg**	**23 12 09.0**	**+0.1**
BAR				S	**Sb**	**23 12 18.0**	**-0.9**
BORC	**Borrego Spring**	**0.81**	**314**	P	**Pg**	**23 12 09.0**	**-0.1**
BORC				S	**Sg**	**23 12 20.0**	**0.0**
CBX	**Cerro Bola**	**0.88**	**244**	*i* P	**Pn**	**23 12 10.7**	**0.0**
CBX				*i* S	**Sb**	**23 12 21.5**	**+0.1**
CBX	**Cerro Bola**	**0.88**	**244**	*i* Pn	**Pn**	**23 12 10.7**	**0.0**
CBX				*i* S	**Sb**	**23 12 21.5**	**+0.1**
LTC	**Little Chuckwa**	**0.96**	**35**	↑P	**Pg**	**23 12 12.0**	**+0.1**
EML	**El Monte Cty P**	**0.96**	**282**	↑P	**Pb**	**23 12 11.0**	**-0.3**
CTCC	**Cactus City**	**0.98**	**347**	↑P	**Pb**	**23 12 11.0**	**-0.5**
YMD	**Yuma Desert**	**1.00**	**98**	↑P	**Pb**	**23 12 12.0**	**+0.1**
DPP	**Dos Picos Cty**	**1.07**	**286**	↑P	**Pb**	**23 12 13.0**	**0.0**
DPP				S	**Sb**	**23 12 27.0**	**+0.4**
FRD	**Ford Ranch, An**	**1.08**	**317**	↓P	**Pb**	**23 12 13.0**	**-0.4**
POB	**Polly Butte**	**1.41**	**315**	↑P	**Pn**	**23 12 18.0**	**+0.1**
BACC	**Bachelor Mtn.**	**1.43**	**310**	↑P	**Pn**	**23 12 18.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.66**	**172**	*e*P	**Pn**	**23 12 21.9**	**+0.3**
SPIG				*e*S	**Sn**	**23 12 41.8**	**-0.7**
SPIG	**San Pedro Mart**	**1.66**	**172**	*e*P	**Pn**	**23 12 21.9**	**+0.3**
SPIG				*e*S	**Sn**	**23 12 41.8**	**-0.7**

*ISCJB **10** 23:13:26.1±1.7, 17°.7S±0°.5×178°.5W±0°.3, h579km, mb3.6/4, Error ellipse: s-maj=66.3km s-min=26.6km az=155.0*

*IDC **10** 23:13:32.3±6.7, 17°.94S×178°.49W, h644km±74km, mb3.0/4, mb1 3.4/4, mb1mx2.9/29, mbtmp4.1/4, Error ellipse: s-maj=60.1km s-min=34.0km az=140.0*

ISC 10 23:13:26.3±1.5, 17°.9S±0°.4×178°.3W±0°.3, h579km, n6, σ1§03/8, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.70**	**260**	P	**P**	**23 20 49.6**	**+0.5**
	1.7nm,0.4s,baz=94,slow=7.2,SNR=91						
WRA				PcP	**PcP**	**23 22 17.3**	**-1.6**
	0.2nm,0.3s,baz=89,slow=3.7,SNR=5.5						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**23 20 51.1**	**+0.9**
	5.6nm,0.6s,baz=87,slow=8.5,SNR=76						
ASAR				PcP	**PcP**	**23 22 18.4**	**-1.0**
	0.6nm,0.5s,baz=110,slow=3.9,SNR=7.5						
MJAR	**Matsushiro Arr**	**67.97**	**323**	P	**P**	**23 23 28.5**	**+0.1**
	0.4nm,0.4s,baz=162,slow=6.4,SNR=4.1						
TXAR	**Lajitas Array**	**85.95**	**58**	P	**P**	**23 25 07.0**	**+0.7**
	0.4nm,0.7s,baz=217,slow=5.7,SNR=5.3						
BRTR	**Keskin Array B**	**144.85**	**315**	PKP	**PKPdf**	**23 31 58.3**	**-0.2**
	0.3nm,0.5s,baz=116,slow=2.4,SNR=4.4						
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKPbc**	**23 32 06.0**	**-0.5**
	0.3nm,0.4s,baz=15,slow=4.1,SNR=5.1						

*ISCJB **10** 23:15:14.9±0.3, 59°.84N±0°.03×153°.62W±0°.06, h154km±3km, mb3.7/3, Error ellipse: s-maj=5.3km s-min=3.9km az=30.9*

*IDC **10** 23:15:15.3±8.0, 59°.96N×153°.74W, h136km±62km, mb3.5/3, mb1 3.6/6, mb1mx3.1/35, mbtmp3.9/6, Error ellipse: s-maj=66.3km s-min=26.9km az=19.0*

*NEIC **10** 23:15:16.9, 59°.83N×153°.64W, h144km, MG3.4(AEIC), After AEIC.*

ISC 10 23:15:15.7±0.8, 59°.83N±0°.04×153°.63W±0°.05, h151km±6km, n99, σ0§88/114, mb3.7/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.27**	**131**	P	**Pn**	**23 15 36.5**	**+0.1**
OPT				S	**Sn**	**23 15 52.7**	**+0.7**
ILS	**Iliamna Low So**	**0.31**	**66**	P	**Pn**	**23 15 36.3**	**-0.2**
ILW	**Iliamna West**	**0.34**	**47**	P	**Pn**	**23 15 36.4**	**-0.3**
AUH	**Augustine H**	**0.48**	**168**	P	**Pn**	**23 15 37.3**	**+0.1**
AUP	**Augustine Pinn**	**0.48**	**167**	P	**Pn**	**23 15 37.5**	**+0.3**
AUI	**Augustine Isla**	**0.51**	**168**	P	**Pn**	**23 15 37.2**	**0.0**
MCNL	**McNeil River**	**0.74**	**209**	P	**Pn**	**23 15 38.2**	**-0.4**
RDWB	**Redoubt West**	**0.77**	**31**	P	**Pn**	**23 15 38.6**	**-0.3**
RDWB				S	**Sn**	**23 15 55.7**	**-1.1**
RDN	**Redoubt North**	**0.81**	**32**	P	**Pn**	**23 15 39.2**	**0.0**
NCT	**North Crescent**	**0.81**	**25**	P	**Pn**	**23 15 39.1**	**-0.1**
DFR	**Drift River**	**0.90**	**31**	P	**Pn**	**23 15 39.9**	**+0.1**
DFR				S	**Sn**	**23 15 58.3**	**0.0**
HOM	**Homer**	**1.02**	**99**	P	**Pn**	**23 15 41.2**	**+0.5**
HOM				S	**Sn**	**23 16 00.2**	**+0.4**
CNPM	**China Poot**	**1.25**	**103**	P	**Pn**	**23 15 43.0**	**+0.1**
CNPM				S	**Sn**	**23 16 02.9**	**-0.7**
BRLK	**Bradley Lake**	**1.39**	**92**	P	**Pn**	**23 15 44.5**	**+0.2**
BRLK				S	**Sn**	**23 16 05.5**	**-0.6**
CKL	**Chakachamna La**	**1.51**	**24**	P	**Pn**	**23 15 45.8**	**+0.3**
BGL	**Barrier Glacie**	**1.56**	**23**	P	**Pn**	**23 15 46.6**	**+0.6**
SPBG	**Spurr Blockage**	**1.56**	**23**	P	**Pn**	**23 15 46.5**	**+0.4**
SPBG				S	**Sn**	**23 16 09.1**	**-0.3**
CKN	**Chakachatna No**	**1.57**	**27**	P	**Pn**	**23 15 46.5**	**+0.4**
SVW2	**Sparrevohn**	**1.60**	**324**	P	**Pn**	**23 15 45.7**	**-0.6**
KVTA	**Katmai Vly 10**	**1.69**	**211**	P	**Pn**	**23 15 47.2**	**-0.2**
KELA	**Mount Kelaz**	**1.77**	**219**	P	**Pn**	**23 15 48.1**	**-0.3**
KCE	**Katmai Mt Cerb**	**1.78**	**207**	P	**Pn**	**23 15 48.8**	**+0.3**
SLKM	**Skilak Lake**	**1.83**	**67**	P	**Pn**	**23 15 49.2**	**+0.3**
KABR	**Katmai Barrier**	**1.84**	**203**	P	**Pn**	**23 15 48.9**	**-0.3**
STLK	**Strandline Lak**	**1.89**	**27**	P	**Pn**	**23 15 50.0**	**+0.3**
SEW	**Seward**	**2.12**	**81**	P	**Pn**	**23 15 52.6**	**+0.4**
SEW				S	**Sn**	**23 16 18.9**	**-1.4**
KDAK	**Kodiak Island**	**2.13**	**165**	P	**Pn**	**23 15 51.3**	**-1.0**
KDAK				S	**Sn**	**23 16 18.6**	**-1.8**
SUA	**Susitna One**	**2.17**	**40**	P	**Pn**	**23 15 53.1**	**+0.2**
SUA				S	**Sn**	**23 16 22.1**	**+0.4**
FIB	**Fire Island**	**2.17**	**50**	P	**Pn**	**23 15 53.9**	**+1.1**
FIB				S	**Sn**	**23 16 23.2**	**+1.8**
RC01	**Rabbit Creek A**	**2.31**	**55**	P	**Pn**	**23 15 54.4**	**0.0**
RC01				S	**Sn**	**23 16 23.3**	**-1.0**
SKT	**Skwentna**	**2.39**	**25**	P	**Pn**	**23 15 56.2**	**+0.7**
PTE	**Portage**	**2.51**	**64**	P	**Pn**	**23 15 56.6**	**-0.3**
PLK3	**Peulik 3**	**2.55**	**214**	P	**Pn**	**23 15 59.7**	**+2.3**
PLK1	**Peulik 1**	**2.56**	**219**	P	**Pn**	**23 16 00.1**	**+2.6**
OHAK	**Old Harbor**	**2.62**	**176**	P	**Pn**	**23 15 57.0**	**-1.4**
OHAK				S	**Sn**	**23 16 29.4**	**-1.8**
PLK4	**Peulik 4**	**2.62**	**214**	P	**Pn**	**23 16 00.6**	**+2.1**
TRAP	**Trapper Creek**	**3.00**	**32**	P	**Pn**	**23 16 03.3**	**+0.3**
CUT	**Chulitna**	**3.05**	**31**	P	**Pn**	**23 16 03.6**	**-0.1**
PPLA	**Purkeypile**	**3.15**	**12**	P	**Pn**	**23 16 06.1**	**+1.0**
SII	**Sitkinak Islan**	**3.29**	**185**	P	**Pn**	**23 16 05.6**	**-1.2**
TT01	**Tatalina**	**3.29**	**341**	P	**Pn**	**23 16 05.9**	**-0.8**
GLI	**Glacier Island**	**3.41**	**69**	P	**Pn**	**23 16 07.1**	**-1.2**
CAST	**Castle Rocks**	**3.68**	**11**	P	**Pn**	**23 16 12.2**	**+0.5**
SCM	**Sheep Creek Mo**	**3.68**	**54**	P	**Pn**	**23 16 10.9**	**-0.9**
JPK	**Jack Peak**	**3.69**	**68**	P	**Pn**	**23 16 11.4**	**-0.5**
MID	**Middleton Isla**	**3.73**	**93**	P	**Pn**	**23 16 11.8**	**-0.5**
VLZ	**Valdez**	**3.84**	**67**	P	**Pn**	**23 16 13.3**	**-0.4**
KTH	**Kantishna Hill**	**3.95**	**18**	P	**Pn**	**23 16 14.8**	**-0.4**
TRF	**Thorofare Moun**	**3.97**	**22**	P	**Pn**	**23 16 15.2**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.00**	**76**	P	**Pn**	**23 16 16.1**	**+0.3**
DIV	**Divide**	**4.10**	**68**	P	**Pn**	**23 16 16.8**	**-0.4**
KLU	**Klutina**	**4.14**	**63**	P	**Pn**	**23 16 17.3**	**-0.5**
RND	**Reindeer**	**4.25**	**30**	P	**Pn**	**23 16 19.0**	**-0.2**
DHY	**Denali Highway**	**4.43**	**40**	P	**Pn**	**23 16 21.1**	**-0.5**
MCK	**McKinley**	**4.50**	**28**	P	**Pn**	**23 16 22.7**	**+0.2**
GOAT	**Goat Mountain**	**4.51**	**77**	P	**Pn**	**23 16 23.1**	**+0.5**
RAGM	**Ragged Mountai**	**4.52**	**79**	P	**Pn**	**23 16 22.9**	**+0.2**
BMRM	**Bremner River**	**4.62**	**72**	P	**Pn**	**23 16 23.9**	**-0.1**
HARP	**HAARP**	**4.85**	**54**	P	**Pn**	**23 16 26.9**	**-0.1**
NICHA	**Nichawak Mount**	**4.86**	**81**	P	**Pn**	**23 16 27.6**	**+0.4**
BERG	**Berg Lake**	**5.00**	**79**	P	**Pn**	**23 16 29.2**	**+0.2**
PAX	**Paxson**	**5.03**	**48**	P	**Pn**	**23 16 29.1**	**-0.3**
GLB	**Gilahina Butte**	**5.10**	**67**	P	**Pn**	**23 16 30.3**	**0.0**
PS10	**TAPS Pump St10**	**5.20**	**43**	P	**Pn**	**23 16 31.5**	**-0.2**
VRDI	**Verde Repeater**	**5.22**	**70**	P	**Pn**	**23 16 32.0**	**-0.1**
KHIT	**Khitrov Hills**	**5.23**	**79**	P	**Pn**	**23 16 32.2**	**+0.1**
WRH	**Wood River Hil**	**5.33**	**27**	P	**Pn**	**23 16 32.2**	**-1.1**
MLY	**Manley**	**5.39**	**13**	P	**Pn**	**23 16 33.1**	**-1.0**
MCARA	**McCarthy VSAT**	**5.45**	**69**	P	**Pn**	**23 16 35.8**	**+0.7**
KULT	**Kultieth River**	**5.49**	**81**	P	**Pn**	**23 16 36.0**	**+0.5**
CCB	**Clear Creek Bu**	**5.54**	**27**	P	**Pn**	**23 16 35.2**	**-0.9**
HDA	**Harding Lake**	**5.56**	**31**	P	**Pn**	**23 16 35.8**	**-0.5**
BARK	**Barkley Ridge**	**5.60**	**79**	P	**Pn**	**23 16 37.7**	**+0.7**
PTPK	**Patty Peak**	**5.68**	**71**	P	**Pn**	**23 16 39.0**	**+0.8**
ISLE	**Juniper Island**	**5.68**	**77**	P	**Pn**	**23 16 38.7**	**+0.5**
KIAG	**Kiagna River**	**5.70**	**74**	P	**Pn**	**23 16 39.3**	**+0.9**
MDM	**Murphy Dome**	**5.72**	**24**	P	**Pn**	**23 16 37.9**	**-0.7**
COLA	**College**	**5.73**	**26**	P	**Pn**	**23 16 37.8**	**-0.8**
BAGL	**Bagley Icefiel**	**5.80**	**78**	P	**Pn**	**23 16 41.0**	**+1.4**
IL1	**Eielson Array**	**5.87**	**29**	P	**Pn**	**23 16 39.5**	**-0.9**
ILAR	**Eielson Array**	**5.87**	**29**	P	**Pn**	**23 16 39.5**	**-1.0**
	9.2nm,0.3s,baz=215,slow=14,SNR=276						
ILAR				S	**Sn**	**23 17 43.4**	**-3.5**
	6.1nm,0.3s,baz=217,slow=20,SNR=14						
MESA	**MESA**	**5.87**	**82**	P	**Pn**	**23 16 42.2**	**+1.5**
GLM	**Gilmore Dome**	**5.93**	**27**	P	**Pn**	**23 16 40.8**	**-0.5**
DOT	**Dot Lake**	**5.94**	**46**	P	**Pn**	**23 16 41.1**	**-0.4**
GRNC	**Granite Creek**	**5.98**	**76**	P	**Pn**	**23 16 43.0**	**+0.9**
BARN	**Barnard Glacie**	**6.05**	**73**	P	**Pn**	**23 16 44.4**	**+1.2**
SCRK	**Sand Creek**	**6.17**	**43**	P	**Pn**	**23 16 43.8**	**-0.8**
RKA	**Rock Avalanche**	**6.17**	**80**	P	**Pn**	**23 16 45.1**	**+0.4**
IM3	**Indian Mountai**	**6.18**	**360**	P	**Pn**	**23 16 44.5**	**0.0**
TABL	**Table Mountain**	**6.27**	**79**	P	**Pn**	**23 16 47.2**	**+1.1**
CHX	**Chaix Hills**	**6.29**	**82**	P	**Pn**	**23 16 46.3**	**0.0**
BCA3	**Beaver Creek A**	**6.54**	**55**	P	**Pn**	**23 16 49.2**	**-0.2**
COLD	**Coldfoot**	**7.58**	**10**	P	**Pn**	**23 17 02.9**	**-0.3**
DAWY	**Dawson**	**7.94**	**52**	P	**Pn**	**23 17 09.2**	**+1.1**
INK	**Inuvik**	**12.17**	**37**	P	**Pn**	**23 18 04.0**	**+0.2**
	0.4nm,0.3s,baz=235,slow=13,SNR=18						
YKA	**Yellowknife Ar**	**18.81**	**65**	P	**Pn**	**23 19 24.9**	**-0.6**
	0.1nm,0.3s,baz=276,slow=10.0,SNR=9.9						
YKA				P

comp=Z,0.6nm,0.5s,baz=64,slow=7.0,SNR=10
LEM Lembang 59.23 119 LR LR 00 25 38.1
comp=Z,52nm,19.3s,baz=138,slow=36
YKA Yellowknife Ar 88.48 357 P **P** **00 02 50.2 -0.6**
comp=Z,0.1nm,0.6s,baz=359,slow=4.8,SNR=5.1

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*ISCJB **10** 23:53:19.5±0.8, 8˚.9N±0˚.1×94˚.0E±0˚.2, h22km, mb3.6/11, MS3.3/1, Error ellipse: s-maj=24.3km s-min=12.0km az=146.8*
*IDC **10** 23:53:21.4±0.8, 8˚.88N×93˚.97E, h23km±3km, mb3.5/11, mb1 3.7/12, mb1mx3.4/44, mbtmp3.7/12, ML4.2/1, MS3.0/3, Ms1 3.1/3, ms1mx2.7/42, Error ellipse: s-maj=42.3km s-min=13.7km az=52.0*
ISC 10 23:53:21.3±0.9, 8˚.8N±0˚.1×93˚.9E±0˚.2, h22km, n24, σ0§80/30, mb3.7/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.76**	**26**	Pn	**Pn**	**23 55 54.8**	**+0.7**
	0.5nm,0.3s,baz=210,slow=15,SNR=3.1						
CMAR				LR	LR	00 00 03.0	
	comp=Z,41nm,20.4s,baz=229,slow=38						
PALK	**Pallekele**	**13.18**	**264**	LR	LR	00 01 13.4	
	comp=Z,109nm,21.3s,baz=78,slow=36						
ODAN	**Odare**	**18.99**	**342**	*e*P	**Pn**	**23 57 42.3**	**-0.2**
RAMN	**Ramite**	**19.33**	**340**	*e*P	**Pn**	**23 57 46.7**	**+0.1**
TAPN	**Taplejung**	**19.35**	**343**	*e*P	**P**	**23 57 46.0**	**+0.2**
JIRN	**Jiri**	**20.12**	**340**	*e*P	**P**	**23 57 54.3**	**0.0**
PKI	**Pulchoki**	**20.32**	**338**	*e*P	**P**	**23 57 56.7**	**+0.3**
PKIN	**Phulchoki**	**20.33**	**338**	*e*P	**P**	**23 57 56.6**	**+0.2**
GUN	**Gumba**	**20.46**	**339**	*e*P	**P**	**23 57 57.7**	**-0.2**
	18nm,0.7s						
KOLN	**Koldanda**	**21.23**	**334**	*e*P	**P**	**23 58 06.0**	**-0.1**
	8.5nm,0.4s						
DANN	**Dangsing**	**21.67**	**335**	*e*P	**P**	**23 58 11.0**	**+0.1**
	11nm,0.5s						
PYUN	**Piuthan**	**21.78**	**333**	*e*P	**P**	**23 58 12.3**	**+0.3**
	20nm,0.7s						
AAK	**Ala-Archa**	**37.77**	**336**	P	**P**	**00 00 36.4**	**+0.4**
	0.8nm,0.6s,baz=99,slow=3.9,SNR=4.6						
AAK				pP	**pP**	**00 00 44.0**	**+1.3**
	1.8nm,0.8s,baz=150,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**39.13**	**347**	P	**P**	**00 00 46.4**	**-0.9**
	0.7nm,0.6s,baz=164,slow=7.6,SNR=11						
GEYT	**Alibeck**	**43.37**	**318**	P	**P**	**00 01 23.2**	**+1.0**
	0.8nm,0.5s,baz=126,slow=7.3,SNR=3.7						
GEYT				pP	**pP**	**00 01 30.6**	**+1.5**
	2.0nm,0.6s,baz=120,slow=8.5,SNR=7.8						
KURBB	**Kurchatov Arra**	**43.59**	**346**	P	**P**	**00 01 23.2**	**-0.5**
	0.7nm,0.5s,baz=164,slow=7.5,SNR=8.8						
ZALV	**Zalesovo Beam**	**45.60**	**352**	P	**P**	**00 01 39.1**	**-0.7**
	1.6nm,0.5s,baz=174,slow=7.7,SNR=10						
ZALV				pP	**pP**	**00 01 45.3**	**-1.3**
	1.8nm,0.7s,baz=157,slow=7.8,SNR=5.2						
WRA	**Warramunga Arr**	**48.98**	**126**	P	**P**	**00 02 06.0**	**-0.6**
	0.3nm,0.7s,baz=305,slow=8.8,SNR=5.6						
WRA				pP	**pP**	**00 02 13.4**	**-0.1**
	0.9nm,0.7s,baz=307,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**50.68**	**130**	P	**P**	**00 02 21.1**	**+1.6**
	0.3nm,0.7s,baz=296,slow=7.1,SNR=3.7						
ASAR				pP	**pP**	**00 02 25.9**	**-0.5**
	0.5nm,0.7s,baz=300,slow=7.0,SNR=4.0						
FINES	**FINESS Array B**	**71.79**	**332**	P	**P**	**00 04 40.8**	**-1.1**
	0.7nm,0.7s,baz=102,slow=4.5,SNR=6.7						
FINES				pP	**pP**	**00 04 48.7**	**-0.3**
	1.2nm,0.8s,baz=109,slow=7.5,SNR=2.6						
ARCES	**ARCESS Array B**	**74.32**	**340**	P	**P**	**00 04 55.9**	**-0.9**
	2.7nm,1.1s,baz=90,slow=6.6,SNR=5.2						
ARCES				pP	**pP**	**00 05 04.4**	**+0.5**
	0.6nm,0.6s,baz=93,slow=6.3,SNR=1.4						
GERES	**GERESS Array B**	**76.99**	**318**	P	**P**	**00 05 12.4**	**-0.2**
	0.2nm,0.5s,baz=97,slow=5.0,SNR=3.1						
HFS	**Hagfors**		**77.54**	**330**	LR	LR	00 41 24.6
	comp=Z,13nm,19.2s,slow=37						
NOA	**NORSAR Array B**	**78.81**	**331**	P	**P**	**00 05 21.1**	**-1.3**
	0.3nm,0.7s,baz=92,slow=5.7,SNR=3.0						
NOA				pP	**pP**	**00 05 29.0**	**-0.6**
	0.4nm,0.7s,baz=92,slow=5.7,SNR=2.3						

IDC 11 00:09:18.6±6.2, 4˚.89S×134˚.18E, h0km, mb3.1/1, mb1 3.2/3, mb1mx3.1/31, mbtmp3.0/3, ML3.0/2, MS3.8/1, Ms1 4.0/1, ms1mx2.7/14, Error ellipse: s-maj=343.2km s-min=31.4km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.96**	**179**	Pn	Pn	00 12 52.1	+0.5
	0.1nm,0.3s,baz=357,slow=13,SNR=6.1						
WRA				Sn	Sn	00 15 32.5	-5.6
	0.1nm,0.3s,baz=356,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**18.67**	**181**	P	P	00 13 38.0	-0.5
	0.0nm,0.3s,baz=5.3,slow=10,SNR=3.1						
CMAR	**Chiang Mai Arr**	**41.77**	**305**	LR	LR	00 35 57.8	
	comp=Z,111nm,18.6s,baz=74,slow=38						
MKAR	**Makanchi Array**	**68.84**	**325**	P	P	00 20 25.1	+0.1
	0.2nm,0.6s,baz=111,slow=8.0,SNR=2.2						

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*NIED **11** 00:15:00, 26˚.00N×128˚.60E, h11km, Mw4.6 Best double couple: M0 7.87000×10^15 NP1:φs 350.00000°, δ77.00000°, λ178.00000°. NP2:φs 81.00000°, δ88.00000°, λ13.00000°.*
*ISCJB **11** 00:15:52.6±0.7, 25˚.93N±0˚.03×128˚.60E±0˚.03, h17km±4km, mb4.3/38, MS3.9/23, Error ellipse: s-maj=5.2km s-min=3.1km az=139.4*
*IDC **11** 00:15:52.0±0.7, 25˚.97N×128˚.50E, h0km, mb4.1/20, mb1 4.2/24, mb1mx4.1/44, mbtmp4.1/24, ML3.8/3, MS3.8/21, Ms1 3.8/21, ms1mx3.6/38, Error ellipse: s-maj=20.0km s-min=13.2km az=78.0*
*BJI **11** 00:15:53.1, 25˚.88N×128˚.61E, h23km, mB4.7/31, mb4.5/39, Ms4.4/42, Ms7 4.2/39*
*JMA **11** 00:15:54.0±0.3, 25˚.95N×128˚.63E, h36km±5km, M4.8*
*NEIC **11** 00:15:55.2±2.0, 25˚.98N×128˚.39E, h22km±5km, mb4.8/13, MW4.5(NIED), Error ellipse: s-maj=15.8km s-min=7.8km az=91.0*
NEIC Felt at Gushikawa, Okinawa and Yomitan, Okinawa.
*MOS **11** 00:15:55.5±1.3, 25˚.94N×128˚.56E, h33km, mb4.5/21, MS4.1/9, Error ellipse: s-maj=11.2km s-min=6.2km az=105.6*
ISC 11 00:15:55.6±0.4, 25˚.94N±0˚.03×128˚.61E±0˚.03, h26km±2km, h26km:pP-P, n211, σ2§22/274, mb4.3/38, MS3.8/23, 20C-17D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.78**	**317**	P	**Pb**	**00 16 08.3**	**-2.3**
JNTH				*e*S	**Sb**	**00 16 18.8**	**-2.0**
JJT2	**Tamagusuku 2**	**0.80**	**284**	P	**Pb**	**00 16 09.3**	**-1.6**
JJT2				S	**Sb**	**00 16 20.4**	**-1.0**
JOW	**Kunigami**	**0.94**	**341**	P	**Pn**	**00 16 11.0**	**-2.1**
JOW				S	**Sb**	**00 16 24.0**	**-1.3**
JOW	**Kunigami**	**0.94**	**341**	Pn	**Pn**	**00 16 11.4**	**-1.7**
	baz=162,slow=14						
JOW				Sn	**Sb**	**00 16 21.7**	**-3.6**
JIH	**Iheya**	**1.23**	**332**	P	**Pn**	**00 16 15.7**	**-1.4**
JIH				*e*S	**Sn**	**00 16 31.4**	**-1.5**
JAGN	**Aguni-jima**	**1.39**	**298**	P	**Pn**	**00 16 17.9**	**-1.4**
JAGN				*e*S	**Sn**	**00 16 35.6**	**-1.2**
JOKE	**Okinoerabujima**	**1.41**	**358**	P	**Pn**	**00 16 18.2**	**-1.5**
JOKE				*e*S	**Sn**	**00 16 35.2**	**-2.2**
JKE	**Kume jima 2**	**1.69**	**283**	P	**Pn**	**00 16 21.4**	**-2.0**
JKE				S	**Sn**	**00 16 42.3**	**-1.8**
JTK	**Tokunoshima**	**1.86**	**9**	P	**Pn**	**00 16 24.2**	**-1.6**
JTK				S	**Sn**	**00 16 45.7**	**-2.7**
JAMN	**Amaminishikomi**	**2.34**	**12**	P	**Pn**	**00 16 30.9**	**-1.5**
JMZ	**Minamidaito 2**	**2.35**	**92**	P	**Pn**	**00 16 30.2**	**-2.3**
JMZ				*e*S	**Sn**	**00 16 55.7**	**-4.9**
JAM	**Amami Oshima**	**2.61**	**20**	P	**Pn**	**00 16 34.1**	**-2.0**
JAM				S	**Sn**	**00 17 05.3**	**-1.7**
JZK	**Kikaishima**	**2.66**	**27**	P	**Pn**	**00 16 35.9**	**-0.8**
JZK				*e*S	**Sn**	**00 17 07.1**	**-0.9**
JOGS	**Gusukube**	**3.13**	**249**	P	**Pn**	**00 16 42.5**	**-0.8**
JOGS				*e*S	**Sn**	**00 17 18.0**	**-1.8**
JMJ	**Miyako jima 2**	**3.21**	**250**	P	**Pn**	**00 16 43.3**	**-1.0**
JMJ				S	**Sn**	**00 17 19.2**	**-2.4**
JIKM	**Ikemajima**	**3.21**	**252**	P	**Pn**	**00 16 42.9**	**-1.4**
JIKM				*e*S	**Sn**	**00 17 19.9**	**-1.8**
JTAJ	**Takarajima**	**3.24**	**9**	P	**Pn**	**00 16 43.4**	**-1.4**
JTAJ				S	**Sn**	**00 17 19.9**	**-2.6**
JIRB	**Irabujima**	**3.30**	**251**	P	**Pn**	**00 16 44.2**	**-1.4**
JIRB				S	**Sn**	**00 17 20.9**	**-3.2**
JTJ	**Tarama**	**3.77**	**251**	P	**Pn**	**00 16 50.0**	**-2.0**
JTJ				S	**Sn**	**00 17 32.0**	**-3.6**
JNN	**Nakanoshima**	**4.04**	**16**	P	**Pn**	**00 16 55.5**	**-0.3**
JNN				*e*S	**Sn**	**00 17 39.9**	**-2.4**
JISG	**Ishigakijimahi**	**4.12**	**252**	P	**Pn**	**00 16 54.6**	**-2.3**
JISG				S	**Sn**	**00 17 40.0**	**-4.3**
JIJ	**Ishigaki jima**	**4.35**	**250**	P	**Pn**	**00 16 57.4**	**-2.6**
JIJ				S	**Sn**	**00 17 43.9**	**-5.9**
JYAK	**Yakushimahirau**	**4.59**	**21**	P	**Pn**	**00 17 01.9**	**-1.5**
JYAK				S	**Sn**	**00 17 51.5**	**-4.4**
IRIF	**Iriomote-Funau**	**4.71**	**251**	P	**Pn**	**00 17 03.2**	**-1.7**
JKC	**Kuchinoerabu**	**4.71**	**17**	P	**Pn**	**00 17 03.9**	**-1.1**
JTN	**Tanegashima 3**	**5.14**	**23**	P	**Pn**	**00 17 10.2**	**-0.6**
JTN				*e*S	**Sn**	**00 18 05.1**	**-4.2**
YOJ	**Yonaguni jima**	**5.29**	**255**	*e*P	Pn	00 17 08.6	-4.3
YOJ	**Yonaguni jima**	**5.29**	**255**	P	**Pn**	**00 17 10.2**	**-2.7**
YOJ	**Yonaguni jima**	**5.29**	**255**	*e*Pn	Pn	00 17 08.6	-4.3
JYNG	**Yonagunijimaku**	**5.34**	**255**	P	**Pn**	**00 17 11.4**	**-2.3**
YHNB	**Yeheng**	**6.67**	**261**	*e*Pn	**Pn**	**00 17 30.1**	**-1.9**
SSLB	**Suanglung**	**7.28**	**254**	*e*Sn	Sn	00 18 55.3	-6.9
JNU	**Nakatsue**	**7.42**	**15**	Pn	**Pn**	**00 17 42.7**	**+0.5**
	5.1nm,0.3s,baz=231,slow=7.0,SNR=34						
JNU				Sn	**Sn**	**00 19 02.0**	**-3.6**
	baz=329,slow=21,SNR=1.9						
JNU				LR	LR	00 20 58.2	
	comp=Z,580nm,20.9s,baz=199,slow=41						
JNU	**Nakatsue**	**7.42**	**15**	*e*Pn	**Pn**	**00 17 42.6**	**+0.3**
JNU				*e*Sn	**Sn**	**00 19 02.1**	**-3.4**
TPUB	**Ta-pu**	**7.73**	**252**	*e*Pn	Pn	00 17 42.2	-4.3
NJ2	**Nanjing**	**10.49**	**308**	*e*P	**Pn**	**00 18 25.6**	**+1.4**
NJ2				S	**Sn**	**00 20 23.8**	**+2.9**
NJ2				PMZ			
	20nm,0.7s						
NJ2				LN			
	2μm,11.4s						
NJ2				LE			
	3μm,10.9s						
NJ2				LZ			
	8μm,11.0s						
KS15	**Wonju Array Si**	**11.48**	**357**	*e*Pn	**Pn**	**00 18 38.7**	**+0.9**
KSRS	**Korea Array**	**11.49**	**357**	Pn	**Pn**	**00 18 38.7**	**+0.7**
	0.1nm,0.3s,baz=175,slow=13,SNR=4.7						
KSRS				LR	LR	00 23 18.9	
	comp=Z,596nm,18.8s,baz=176,slow=39						
MAJO	**Matsushiro**	**13.37**	**35**	*e*P	**Pn**	**00 19 06.6**	**+2.9**
MAJO	**Matsushiro**	**13.37**	**35**	*e*Pn	**Pn**	**00 19 02.5**	**-1.1**
MAT	**Matsushiro**	**13.37**	**35**	P	**P**	**00 19 10.6**	**-2.3**
MJAR	**Matsushiro Arr**	**13.37**	**35**	Pn	**Pn**	**00 19 03.6**	**0.0**
	0.2nm,0.3s,baz=203,slow=12,SNR=4.0						
WHN	**Wuhan**	**13.38**	**293**	P	**Pn**	**00 19 02.3**	**-1.5**
WHN				S	Sn	00 21 37.9	+6.2
WHN				LN			
	1μm,13.2s						
WHN				LE			
	1μm,9.0s						
WHN				LZ			
	2μm,11.7s						
DL2	**Dalian**	**14.20**	**337**	P	**P**	**00 19 21.7**	**-0.4**
DL2				*e*S	S	00 22 02.6	-9.3
DL2				pmax	pmax		
	comp=Z,22nm,1.3s						
DL2				LR	LR		
	comp=E,610nm,16.6s						
DL2				LR	LR		
	comp=Z,350nm,14.6s						
BJI	**Beijing**	**17.48**	**327**	P	**P**	**00 19 59.5**	**+1.0**
BJI				S	**S**	**00 23 14.6**	**-4.3**
BJI				PMZ			
	comp=Z,14nm,0.6s						
BJI				LN			
	comp=Z,900nm,17.3s						
BJI				LE			
	comp=Z,1μm,16.9s						
BJI				LZ			
	comp=Z,210nm,13.8s						
CN2	**Changchun**	**18.00**	**353**	*e*P	**P**	**00 20 04.6**	**+0.4**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
TIY	**Taiyuan**	**18.04**	**314**	*e*P	P	00 20 11.3	+6.4
TIY				S	**S**	**00 23 33.9**	**+3.3**
TIY				pmax	pmax		
	comp=Z,170nm,8.1s						
TIY				LR	LR		
	comp=N,470nm,10.7s						
TIY				LR	LR		
	comp=E,510nm,12.6s						
TIY				LR	LR		
	comp=Z,670nm,11.2s						
USRK	**Ussuriysk Ar.**	**18.42**	**8**	P	**P**	**00 20 08.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=192,slow=11,SNR=3.9						
USRK				LR	LR	00 27 04.0	
	comp=Z,164nm,20.6s,baz=178,slow=36						
QIZ	**Qiongzhong**	**18.65**	**252**	P	**Pn**	**00 20 12.7**	**+0.7**
QIZ				pP	**pP**	**00 20 18.6**	**-0.1**
QIZ				sP	**sP**	**00 20 21.6**	**-0.5**
QIZ				S	**Sn**	**00 23 39.7**	**-0.2**
QIZ				sS	**sS**	**00 23 51.3**	**-2.9**
QIZ				PMZ			
	comp=Z,29nm,1.9s						
QIZ				LN			
	comp=Z,470nm,19.4s						
QIZ				LZ			
	comp=Z,610nm,19.4s						
XAN	**Xi'an**	**18.85**	**300**	P	**P**	**00 20 13.5**	**-0.2**
XAN				PP	**PnPn**	**00 20 29.2**	**+2.4**
XAN				S	Sn	00 23 35.6	-9.0
XAN				PMZ			
	comp=Z,4.0nm,1.0s						
XAN				LN			
	comp=Z,310nm,12.5s						
XAN				LE			
	comp=Z,61nm,12.5s						
XAN				LZ			
	comp=Z,93nm,11.9s						
GYA	**Guiyang**	**19.70**	**276**	P	**Pn**	**00 20 24.6**	**-0.1**
GYA				pP	**pP**	**00 20 32.4**	**+2.0**
GYA				PP	**PnPn**	**00 20 44.8**	**+6.2**
GYA				S	S	00 23 52.3	-12
GYA				SS	**SnSn**	**00 24 25.2**	**+5.4**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,4.6s						
GYA				LN			
	comp=Z,4μm,9.8s						
GYA				LE			
	comp=Z,2μm,9.6s						
GYA				LZ			
	comp=Z,4μm,9.9s						
HHC	**Hu-ho-hao-te**	**20.53**	**321**	*e*P	**P**	**00 20 32.6**	**+0.6**
HHC				pP	**pP**	**00 20 38.9**	**-0.3**
HHC				PP	**PnPn**	**00 20 54.7**	**+4.9**
HHC				S	**S**	**00 24 17.0**	**-3.5**
HHC				SS	**SnSn**	**00 24 45.5**	**+5.6**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,3.3s						
HHC				LR	LR		
	comp=N,410nm,9.3s						
HHC				LR	LR		
	comp=E,430nm,11.7s						
HHC				LR	LR		
	comp=Z,520nm,11.0s						
HHC	**Hu-ho-hao-te**	**20.53**	**321**	*e*P	Pn	00 20 34.8	+0.4
HHC				pP	pP	00 20 42.7	+3.5
HHC				sP	sP	00 20 49.3	+6.7
HHC				PP	**PnPn**	**00 20 55.9**	**+6.1**
HHC				S	**S**	**00 24 18.5**	**-2.0**
HHC				sS	sS	00 24 31.4	-0.5
HHC				SS	**SnSn**	**00 24 47.8**	**+7.9**
HHC				PMZ			
	comp=Z,16nm,0.9s						
HHC				PMZ			
	comp=Z,110nm,4.8s						
HHC				LN			
	comp=Z,450nm,11.4s						
HHC				LE			
	comp=Z,450nm,11.8s						
HHC				LZ			
	comp=Z,540nm,11.8s						
ASAJ	**Asahikawa**	**21.39**	**29**	LR	LR	00 29 03.4	
	comp=Z,312nm,20.5s,baz=108,slow=37						
CD2	**Chengdu**	**22.39**	**289**	P	**P**	**00 20 52.0**	**-0.1**
CD2				pP	**pP**	**00 21 01.0**	**+1.6**
CD2				sP	**sP**	**00 21 05.0**	**+2.3**
CD2				PP	**PnPn**	**00 21 20.0**	**+4.6**
CD2				S	**S**	**00 24 51.0**	**-5.8**
CD2				sS	**sS**	**00 25 04.4**	**-4.4**
CD2				SS	**SnSn**	**00 25 31.7**	**+6.1**
CD2				PMZ			
	comp=Z,30nm,0.5s						
CD2				PMZ			
	comp=Z,220nm,5.2s						
HABR	**Khabarovsk**	**23.05**	**11**	*e*P	P	00 21 12.5	+14
HABR				*e*		00 21 25.2	
HABR				*e*PPP	PPP	00 21 33.6	
HABR				*e*		00 24 46.8	
HABR				*e*S	**S**	**00 25 09.4**	**+1.5**
HABR				*e**SS	Sn	00 25 25.7	+0.5
HABR				*e*		00 32 08.0	
HABR				pmax	pmax		
	comp=E,53nm,1.9s						
HABR				MLR	MLR		
	comp=Z,244nm,16.0s						
KMI	**Kunming**	**23.35**	**274**	P	**P**	**00 21 01.9**	**-0.4**
KMI				pP	**pP**	**00 21 11.7**	**+2.0**
KMI				sP	**sP**	**00 21 15.0**	**+1.9**
KMI				S	**S**	**00 25 10.5**	**-3.3**
KMI				sS	**sS**	**00 25 23.3**	**-3.3**
KMI				SS	**SnSn**	**00 25 56.1**	**+6.6**
KMI				PMZ			
	comp=Z,15nm,1.5s						
KMI				PMZ			
	comp=Z,94nm,4.7s						
KMI				LN			
	comp=Z,440nm,11.8s						
KMI				LE			
	comp=Z,440nm,12.5s						
KMI				LZ			
	comp=Z,450nm,12.1s						
LZH	**Lanzhou**	**23.45**	**302**	*e*P	**P**	**00 21 02.7**	**-0.5**
LZH				pP	**pP**	**00 21 11.1**	**+0.5**
LZH				sP	**sP**	**00 21 15.1**	**+1.1**
LZH				PP	**PnPn**	**00 21 34.3**	**+4.3**
LZH				*e*S	**S**	**00 25 11.4**	**-3.8**
LZH				SS	**SnSn**	**00 25 54.3**	**+2.5**
LZH				PMZ			
	comp=Z,35nm,1.2s						
LZH				PMZ			
	comp=Z,120nm,4.3s						
LZH				LN			
	comp=Z,350nm,13.5s						
LZH				LE			
	comp=Z,320nm,12.2s						
LZH				LZ			
	comp=Z,450nm,13.7s						
YSS	**Yuzh-Sakhalins**	**23.78**	**25**	*e*P	**P**	**00 21 06.8**	**+0.8**
YSS				*e*		00 21 15.5	
YSS				pmax	pmax		
	comp=Z,130nm,1.1s						
YSS	**Yuzh-Sakhalins**	**23.78**	**25**	*e*P	**P**	**00 21 07.5**	**+1.5**
	comp=Z,134nm,1.4s						
UGL	**Uglegorsk**	**25.36**	**21**	*e*P	**P**	**00 21 20.8**	**+0.4**
UGL				*e**SP	**sP**	**00 21 34.4**	**+3.0**
UGL						00 21 57.1	
UGL				*e*S	**S**	**00 25 46.5**	**+1.3**
UGL				*e**SS	**sS**	**00 26 02.9**	**+5.0**
UGL				*e*SS	**SnSn**	**00 26 42.0**	**+4.0**
UGL				*e*SSS	SSS	00 26 56.7	
GTA	**Gaotai**	**27.58**	**306**	*e*P	**P**	**00 21 38.9**	**-1.8**
GTA				pP	**pP**	**00 21 47.8**	**-0.7**
GTA				sP	**sP**	**00 21 51.0**	**-0.7**
GTA				S	**S**	**00 26 14.2**	**-6.5**
GTA				sS	**sS**	**00 26 29.9**	**-3.6**
GTA				PMZ			
	comp=Z,12nm,1.1s						
GTA				PMZ			
	comp=Z,120nm,7.1s						
GTA				LN			
	comp=Z,390nm,11.9s						
GTA				LE			
	comp=Z,230nm,13.8s						
GTA				LZ			
	comp=Z,320nm,12.3s						
ULN	**Ulaanbaatar**	**27.68**	**328**	*i*P	**P**	**00 21 42.9**	**+1.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.68**	**328**	*e*P	**P**	**00 21 40.5**	**-1.1**
	comp=Z,7.5nm,1.0s						
SONA0	**Songino Array**	**27.98**	**327**	*e*P	**P**	**00 21 43.5**	**-0.7**
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**00 21 43.5**	**-0.7**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,107nm,18.1s						
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**00 21 43.5**	**-0.7**
	comp=Z,3.2nm,0.5s,baz=141,slow=11,SNR=24						
SONM				LR	LR	00 34 58.3	
	comp=Z,107nm,18.1s,baz=143,slow=41						
CM31	**Chiang Mai Arr**	**28.42**	**261**	*e*P	**P**	**00 21 47.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.42**	**261**	P	**P**	**00 21 47.5**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.42**	**261**	P	**P**	**00 21 47.5**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=69,slow=9.0,SNR=3.5						
JAY	**Jayapura**		**30.61**	**156**	LR	LR	00 32 21.9
	comp=Z,81nm,19.4s,slow=32						
TLY	**Talaya**		**31.93**	**330**	LR	LR	00 35 12.7
	comp=Z,114nm,19.2s,baz=135,slow=36						
PETK	**Petropavlovsk-**	**34.76**	**31**	LR	LR	00 38 21.4	
	comp=Z,88nm,18.6s,baz=223,slow=39						
YAK	**Yakutsk**	**36.09**	**1**	*e*P	**P**	**00 22 54.3**	**-0.6**
YAK				*e**PP	**pP**	**00 23 01.8**	**-0.9**
YAK				*e*S	**S**	**00 28 29.6**	**-2.8**
YAK				*e**SS	**sS**	**00 28 47.5**	**+2.2**
YAK				*e*SS	**SnSn**	**00 30 54.2**	**-4.2**
YAK				*e*		00 33 13.5	
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,130nm,4.4s						
YAK				pmax	pmax		
	comp=N,86nm,4.8s						
YAK				pmax	pmax		
	comp=E,94nm,5.4s						
YAK				smax	smax		
	comp=N,80nm,3.5s						
YAK				smax	smax		
	comp=E,68nm,3.7s						
YAK				MLR	MLR		
	comp=Z,179nm,16.0s						
YAK				MLR	MLR		
	comp=N,101nm,14.0s						
YAK				MLR	MLR		
	comp=E,70nm,16.0s						
YAK	**Yakutsk**	**36.09**	**1**	LR	LR	00 37 54.5	
	comp=E,125nm,18.9s,baz=176,slow=37						
BATI	**Baumata**	**36.25**	**188**	LR	LR	00 36 50.7	
	comp=E,52nm,21.8s,baz=339,slow=35						
TAPN	**Taplejung**	**36.47**	**282**	*e*P	**P**	**00 22 59.2**	**+0.2**
	comp=E,29nm,1.0s						
ODAN	**Odare**	**36.82**	**281**	*e*P	**P**	**00 23 01.7**	**-0.2**
	comp=E,34nm,0.8s						
RAMN	**Ramite**	**37.51**	**281**	*e*P	**P**	**00 23 07.5**	**-0.2**
	comp=E,11nm,0.7s						
WMQ	**Urumqi**	**37.56**	**309**	*e*P	**P**	**00 23 07.2**	**-0.6**
WMQ				pP	**pP**	**00 23 15.6**	**-0.1**
WMQ				sP	**sP**	**00 23 18.5**	**-0.4**
WMQ				PP	**PnPn**	**00 24 36.0**	**+1.3**
WMQ				S

	comp=E,10nm,0.5s								
PKIN	**Phulchoki**	**38.48**	**282**	*e*P		**P**	**00 23 16.1**	**+0.1**
	comp=E,10nm,0.4s								
KKN	**Kakani**	**38.55**	**283**	*e*P		**P**	**00 23 16.5**	**0.0**
	comp=E,13nm,0.4s								
GKN	**Gorkha**	**39.09**	**283**	*e*P		**P**	**00 23 20.5**	**-0.5**
PMG	**Port Moresby**	**39.50**	**150**	LR		LR	00 37 31.7		
	comp=E,111nm,21.0s,baz=335,slow=33								
DANN	**Dangsing**	**39.81**	**284**	*e*P		**P**	**00 23 26.9**	**-0.3**
	comp=E,43nm,0.7s								
KOLN	**Koldanda**	**40.03**	**283**	*e*P		**P**	**00 23 28.7**	**-0.2**
	comp=E,25nm,0.9s								
SEY	**Seymchan**	**40.20**	**17**⇑	*e*P		**P**	**00 23 32.2**	**+2.7**
PYUN	**Piuthan**	**40.52**	**284**	*e*P		**P**	**00 23 32.8**	**-0.1**
	comp=E,49nm,0.7s								
MK32	**Makanchi Array**	**41.98**	**312**	*e*P		**P**	**00 23 43.7**	**-0.8**
MKAR	**Makanchi Array**	**41.98**	**312**	*e*P		**P**	**00 23 43.1**	**-1.4**
MKAR	**Makanchi Array**	**41.98**	**312**	P		**P**	**00 23 43.7**	**-0.8**
	comp=E,2.2nm,0.5s,baz=94,slow=11,SNR=51								
MKAR				LR		LR	00 42 49.4		
	comp=E,70nm,19.5s,baz=96,slow=39								
MKAR	**Makanchi Array**	**41.98**	**312**	*e*P		**P**	**00 23 43.1**	**-1.4**
ZALV	**Zalesovo Beam**	**42.68**	**323**	P		**P**	**00 23 48.8**	**-1.2**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ZALV				MLR	MLR				
	comp=Z,93nm,21.5s								
ZALV	**Zalesovo Beam**	**42.68**	**323**	P		**P**	**00 23 48.8**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=122,slow=7.9,SNR=7.2								
ZALV				LR		LR	00 40 54.6		
	comp=Z,93nm,21.5s,baz=72,slow=35								
ZAA1	**Zalesovo Array**	**42.68**	**323**	*e*P		**P**	**00 23 48.8**	**-1.3**
KURK	**Kurchatov**	**45.26**	**317**	*e*P		**P**	**00 24 10.4**	**-0.4**
KURK	**Kurchatov**	**45.26**	**317**	*e*P		**P**	**00 24 10.3**	**-0.4**
KURBB	**Kurchatov Arra**	**45.30**	**317**	P		**P**	**00 24 10.3**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=104,slow=8.4,SNR=14								
KSH	**Kashi**	**45.70**	**301**	P		P	00 24 18.0	+3.4	
KSH				sP		sP	00 24 31.8	+6.0	
KSH				PP		**PP**	**00 26 05.6**	**+3.9**	
KSH				PcS		**PcS**	**00 29 48.9**	**+2.3**	
KSH				S		**S**	**00 30 58.7**	**+2.4**	
KSH				sS		sS	00 31 15.4	+5.9	
KSH				ScS		**ScS**	**00 34 09.1**	**-0.2**	
KSH				PMZ					
	comp=Z,20nm,1.8s								
KSH				PMZ					
	comp=Z,64nm,3.6s								
KSH				LN					
	comp=Z,200nm,7.2s								
KSH				LE					
	comp=Z,100nm,6.4s								
KSH				LZ					
	comp=Z,170nm,5.5s								
TIXI	**Tiksi**	**45.74**	**0**⇑	*i*P		**P**	**00 24 16.0**	**+1.8**
TIXI				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**45.74**	**0**	*e*P		**P**	**00 24 13.8**	**-0.5**
	comp=Z,24nm,1.7s								
WRAB	**Tennant Creek**	**45.94**	**172**⇑	*e*P		**P**	**00 24 16.6**	**+0.2**
WRAB				pmax	pmax				
	comp=Z,15nm,1.3s								
WRAB	**Tennant Creek**	**45.94**	**172**	*e*P		**P**	**00 24 16.1**	**-0.3**
	comp=Z,6.0nm,0.8s								
WRA	**Warramunga Arr**	**45.95**	**172**	P		**P**	**00 24 16.8**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=353,slow=8.4,SNR=51								
TKM2	**Tokmak 2**	**46.12**	**306**	*e*P		**P**	**00 24 16.9**	**-1.1**
TKM2				pmax	pmax				
	comp=Z,11nm,1.4s								
TKM2	**Tokmak 2**	**46.12**	**306**	*e*P		**P**	**00 24 16.9**	**-1.1**
	comp=Z,11nm,1.4s								
AAK	**Ala-Archa**	**46.92**	**305**⇑	*i*P		**P**	**00 24 24.5**	**+0.3**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
AAK	**Ala-Archa**	**46.92**	**305**	P		**P**	**00 24 23.2**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=135,slow=6.4,SNR=5.7								
BILL	**Bilibino**	**47.84**	**18**	*e*P		**P**	**00 24 31.1**	**+0.4**
BILL				*e*			00 26 00.2		
BILL				pmax	pmax				
	comp=Z,3.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,2μm,25.0s								
CTA	**Charters Tower**	**48.86**	**158**	P		**P**	**00 24 39.8**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=354,slow=8.9,SNR=3.5								
AS12	**Alice Springs**	**49.58**	**174**	*e*P		**P**	**00 24 45.5**	**+0.9**
ASAR	**Alice Springs**	**49.58**	**174**	P		**P**	**00 24 45.5**	**+0.9**
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**49.58**	**174**	P		**P**	**00 24 45.5**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=3.8,slow=14,SNR=25								
KKAR	**Karatay Array**	**49.86**	**306**	*e*P		**P**	**00 24 46.0**	**-0.6**
BVAR	**Borovoye Array**	**50.72**	**318**	P		**P**	**00 24 53.5**	**+0.6**
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BVAR				MLR	MLR				
	comp=Z,201nm,18.7s								
BVAR	**Borovoye Array**	**50.72**	**318**	P		**P**	**00 24 53.5**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=82,slow=10,SNR=3.2								
BVAR				LR		LR	00 47 53.3		
	comp=Z,201nm,18.7s,baz=94,slow=38								
KBL	**Kabul**	**51.54**	**295**	*e*P		**P**	**00 24 57.8**	**-1.9**
KBL				pmax	pmax				
	comp=Z,47nm,1.8s								
KBL	**Kabul**	**51.54**	**295**	*e*P		**P**	**00 24 57.8**	**-1.9**
	comp=Z,47nm,1.8s								
ABKAR	**Akbulak array**	**57.09**	**313**	*e*P		**P**	**00 25 38.5**	**-1.1**
ARU	**Arti**	**57.83**	**322**	*d*P		**P**	**00 25 46.1**	**+1.4**
ARU							00 27 53.9		
ARU				S		**S**	**00 33 45.9**	**+3.6**
ARU				SS		**SS**	**00 37 36.4**	**+3.6**
ARU				pmax	pmax				
	comp=Z,8.0nm,1.7s								
ARU				MLR	MLR				
	comp=Z,241nm,17.0s								
ARU	**Arti**	**57.83**	**322**	*e*P		**P**	**00 25 43.7**	**-0.9**
	comp=Z,4.9nm,1.0s								
GEYT	**Alibeck**	**59.73**	**300**	P		**P**	**00 25 59.0**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=66,slow=7.2,SNR=8.0								
GEYT				LR		LR	00 55 10.3		
	comp=Z,95nm,18.2s,baz=205,slow=40								
COLA	**College**	**64.11**	**28**⇑	*e*P		**P**	**00 26 29.2**	**+2.1**
ILAR	**Eielson Array**	**64.53**	**28**	P		**P**	**00 26 30.3**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=273,slow=7.6,SNR=5.3								
ILB	**Eielson Array**	**64.53**	**28**	*e*P		**P**	**00 26 30.3**	**+0.4**
INK	**Inuvik**	**69.02**	**23**	P		**P**	**00 26 59.3**	**+0.9**
INK				pmax	pmax				
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**69.02**	**23**	P		**P**	**00 26 59.3**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=279,slow=3.1,SNR=3.6								
INK	**Inuvik**	**69.02**	**23**	*e*P		**P**	**00 26 59.6**	**+1.2**
	comp=Z,11nm,1.4s								
ZEI	**Tsey**	**69.17**	**308**	*e*P		**P**	**00 27 00.8**	**+0.6**
ZEI				pmax	pmax				
	comp=Z,7.0nm,1.0s								
GNI	**Garni**	**69.32**	**305**⇑	*e*P		**P**	**00 27 02.6**	**+1.5**
KBZ	**Khabaz**	**69.61**	**310**	P		**P**	**00 27 03.4**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=54,slow=2.4,SNR=8.6								
KIV	**Kislovodsk**	**69.69**	**310**	*e*P		**P**	**00 27 02.6**	**-0.6**
KIV				pmax	pmax				
	comp=Z,12nm,1.1s								
KIV	**Kislovodsk**	**69.69**	**310**	*e*P		**P**	**00 27 02.6**	**-0.6**
	comp=Z,12nm,1.1s								
OBN	**Obninsk**	**70.27**	**322**	*e*P		**P**	**00 27 08.2**	**+1.9**
OBN				*e*			00 27 29.2		
OBN				pmax	pmax				
	comp=Z,3.0nm,0.9s								
OBN				MLR	MLR				
	comp=Z,182nm,23.0s								
ARCES	**ARCESS Array B**	**70.40**	**339**	LR		LR	01 01 51.7		
	comp=Z,40nm,19.3s,baz=53,slow=39								
JOF	**Joensuu**	**70.46**	**331**	*e*P		**P**	**00 27 08.0**	**+0.6**
JOF				pmax	pmax				
	comp=Z,2.0nm,0.8s								
JOF	**Joensuu**	**70.46**	**331**	*e*p		**P**	**00 27 08.0**	**+0.6**
	comp=Z,2.3nm,0.8s								
KAF	**Kangasniemi**	**72.92**	**331**	*e*P		**P**	**00 27 21.7**	**-0.5**
KAF				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KAF	**Kangasniemi**	**72.92**	**331**	*e*p		**P**	**00 27 21.7**	**-0.5**
	comp=Z,3.3nm,0.8s								
FIA0	**FINESS Array S**	**73.28**	**331**	*e*P		**P**	**00 27 24.3**	**-0.1**
FIA0	**FINESS Array S**	**73.28**	**331**	*e*P		**P**	**00 27 24.3**	**-0.1**
FINES	**FINESS Array B**	**73.28**	**331**	P		**P**	**00 27 24.3**	**-0.1**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
FINES				MLR	MLR				
	comp=Z,101nm,18.2s								
FINES	**FINESS Array B**	**73.28**	**331**	P		**P**	**00 27 24.3**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=65,slow=5.8,SNR=37								
FINES				LR		LR	01 03 33.3		
	comp=Z,101nm,18.2s,baz=74,slow=39								
RAYN	**Ar Rayn**	**74.23**	**289**	*e*P		**P**	**00 27 30.4**	**-0.3**
	comp=Z,4.7nm,1.3s								
MALT	**Malatya**	**74.55**	**305**⇓	P		**P**	**00 27 34.1**	**+1.7**
MALT	**Malatya**	**74.55**	**305**⇓	*i*P		**P**	**00 27 34.1**	**+1.7**
AKASG	**Malin Array Be**	**75.97**	**320**	P		**P**	**00 27 40.0**	**-0.2**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.5s								
AKASG				MLR	MLR				
	comp=Z,88nm,18.9s								
AKASG	**Malin Array Be**	**75.97**	**320**	P		**P**	**00 27 40.0**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=56,slow=5.9,SNR=16								
AKASG				LR		LR	01 03 07.2		
	comp=Z,88nm,18.9s,baz=45,slow=37								
AKBB	**Malin Array Si**	**75.97**	**320**	*e*P		**P**	**00 27 40.0**	**-0.2**
AKBB	**Malin Array Si**	**75.97**	**320**	*e*P		**P**	**00 27 40.0**	**-0.2**
BR101	**Keskin Array S**	**77.48**	**308**	*e*P		**P**	**00 27 49.6**	**+0.5**
BRTR	**Keskin Array B**	**77.48**	**308**	P		**P**	**00 27 49.7**	**+0.5**
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**77.48**	**308**	P		**P**	**00 27 49.6**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=87,slow=5.8,SNR=17								
SUW	**Suwalki**	**77.89**	**324**	*e*P		**P**	**00 27 52.3**	**+1.4**
SUW				*e*			00 28 01.4		
SUW	**Suwalki**	**77.89**	**324**	*e*P		**P**	**00 27 52.3**	**+1.4**
SUW				*e*			00 28 01.3		
SUW	**Suwalki**	**77.89**	**324**	*e*P		**P**	**00 27 49.1**	**-1.8**
	comp=Z,25nm,1.1s								
YKA	**Yellowknife Ar**	**78.64**	**25**	P		**P**	**00 27 55.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=300,slow=5.5,SNR=9.5								
YKB5	**Yellowknife Ar**	**78.64**	**25**	*e*P		**P**	**00 27 55.9**	**+1.0**
CFR	**Carcaliu**	**78.94**	**315**⇑	P		**P**	**00 27 58.1**	**+1.2**
CFR	**Carcaliu**	**78.94**	**315**⇑	*i*P		**P**	**00 27 58.1**	**+1.2**
TIRR	**Tirgusor**	**79.08**	**314**	⇓P		**P**	**00 28 00.8**	**+3.2**
TIRR	**Tirgusor**	**79.08**	**314**	⇓*i*P		**P**	**00 28 00.8**	**+3.2**
TLB	**Topalu**	**79.26**	**314**	⇓P		**P**	**00 27 56.4**	**-2.2**
TLB	**Topalu**	**79.26**	**314**	⇓*i*P		**P**	**00 27 56.3**	**-2.4**
TESR	**Tescani**	**79.30**	**317**	⇓*i*P		**P**	**00 27 59.0**	**+0.1**
VRI	**Vrincioaia**	**79.53**	**316**	⇓P		**P**	**00 28 00.5**	**+0.3**
VRI	**Vrincioaia**	**79.53**	**316**	⇓*i*P		**P**	**00 28 00.5**	**+0.3**
PLOR	**Plostina**	**79.59**	**316**	⇑P		**P**	**00 28 02.7**	**+2.2**
PLOR	**Plostina**	**79.59**	**316**	⇑*i*P		**P**	**00 28 02.7**	**+2.2**
BURAR	**Bucovina Array**	**79.67**	**318**	⇑P		**P**	**00 28 02.0**	**+1.0**
BURAR	**Bucovina Array**	**79.67**	**318**	⇑*i*P		**P**	**00 28 02.0**	**+1.0**
NB2	**NORSAR Subarra**	**79.72**	**334**	P		**P**	**00 28 00.2**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=54,slow=5.9								
NB200	**NORSAR Array S**	**79.72**	**334**	*e*P		**P**	**00 28 00.5**	**-0.4**
NOA	**NORSAR Array B**	**79.72**	**334**	P		**P**	**00 28 00.5**	**-0.4**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
NOA				MLR	MLR				
	comp=Z,68nm,18.6s								
NOA	**NORSAR Array B**	**79.72**	**334**	P		**P**	**00 28 00.5**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=58,slow=5.0,SNR=12								
NOA				LR		LR	01 06 48.8		
	comp=Z,68nm,18.6s,baz=55,slow=38								
MLR	**Muntele Rosu**	**80.19**	**316**	⇓P		**P**	**00 28 06.4**	**+2.5**
MLR	**Muntele Rosu**	**80.19**	**316**	⇓*i*P		**P**	**00 28 06.4**	**+2.5**
KWP	**Kalwaria Pacla**	**80.20**	**321**	*e*P		**P**	**00 28 04.9**	**+1.2**
KWP				*e*			00 28 18.0		
KWP	**Kalwaria Pacla**	**80.20**	**321**	*e*P		**P**	**00 28 04.8**	**+1.1**
KWP				*e*			00 28 18.0		
KWP	**Kalwaria Pacla**	**80.20**	**321**⇑	*i*P		**P**	**00 28 04.9**	**+1.2**
DOPR	**Dopca**	**80.32**	**316**⇑	*i*P		**P**	**00 28 05.9**	**+1.4**
VOIR		**80.78**	**316**	⇓P		P	00 28 11.1	+4.1	
VOIR		**80.78**	**316**	⇓*i*P		P	00 28 11.1	+4.1	
UZH	**Uzhgorod**	**80.93**	**320**	*e*P		P	00 28 02.2	-5.4	
STHS	**Stebnicka Huta**	**81.14**	**321**	*e*P		**P**	**00 28 09.2**	**+0.4**
STHS	**Stebnicka Huta**	**81.14**	**321**	*e*P		**P**	**00 28 09.1**	**+0.3**
HUMR	**Humele**	**81.24**	**315**⇑	*i*P		**P**	**00 28 09.8**	**+0.4**
SUMG	**Summit**	**81.34**	**356**	*e*P		**P**	**00 28 08.7**	**-1.2**
SUMG				pmax	pmax				
	comp=Z,13nm,1.2s								
SUMG	**Summit**	**81.34**	**356**	*e*P		**P**	**00 28 08.7**	**-1.2**
	comp=Z,13nm,1.2s								
SUMG	**Summit**	**81.34**	**356**	*i* P		P	00 28 15.1	+5.2	
	comp=Z,6.1nm,0.9s								
OJC	**Ojcow**	**81.55**	**322**	*e*P		**P**	**00 28 09.8**	**-1.1**
OJC				pmax	pmax				
	comp=Z,55nm,2.3s								
OJC	**Ojcow**	**81.55**	**322**	*e*P		**P**	**00 28 09.8**	**-1.1**
	comp=Z,55nm,2.3s								
DRGR		**81.57**	**318**⇑	P		**P**	**00 28 11.2**	**0.0**
DRGR		**81.57**	**318**⇑	*i*P		**P**	**00 28 11.2**	**0.0**
VYHS	**Vyhne**	**82.98**	**321**	*e*P		**P**	**00 28 20.7**	**+2.3**
VYHS	**Vyhne**	**82.98**	**321**	*e*P		**P**	**00 28 20.7**	**+2.3**
VYHS				*e*			00 28 44.7		
VTS	**Vitosha**	**83.30**	**314**⇑	P		**P**	**00 28 22.6**	**+2.2**
VTS	**Vitosha**	**83.30**	**314**⇑	*i*P		**P**	**00 28 22.6**	**+2.2**
DPC	**Dobruska-Polom**	**83.38**	**323**	*es*P		sP	00 28 32.3	+0.2	
VRAC	**Vranov**	**83.80**	**322**	⇓P		**P**	**00 28 24.1**	**+1.4**
VRAC	**Vranov**	**83.80**	**322**	⇓*i*P		**P**	**00 28 24.0**	**+1.4**
CLL	**Collm**	**84.58**	**325**	*i* P		**P**	**00 28 25.8**	**-0.7**
CLL	**Collm**	**84.58**	**325**	*i* P		**P**	**00 28 25.8**	**-0.7**
CLL				*e*PcP		**PcP**	**00 28 30.0**	**-0.1**
CLL				*es*P		**sP**	**00 28 37.0**	**-1.7**
GEC2	**GERESS Array S**	**85.64**	**323**	*e*P		**P**	**00 28 32.7**	**+0.7**
GEC2	**GERESS Array S**	**85.64**	**323**	*e*P		**P**	**00 28 32.7**	**+0.7**
GERES	**GERESS Array B**	**85.64**	**323**	P		**P**	**00 28 32.7**	**+0.7**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
GERES				MLR	MLR				
	comp=Z,180nm,18.9s								
GERES	**GERESS Array B**	**85.64**	**323**	P		**P**	**00 28 32.7**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=28,slow=4.4,SNR=4.9								
GERES				LR		LR	01 10 18.3		
	comp=Z,180nm,18.9s,baz=56,slow=38								
PPT	**Papeete**	**90.47**	**109**	LR		LR	01 03 23.8		
	comp=Z,57nm,19.1s,baz=322,slow=32								

CSEM ***11*** *00:26:18.1,37.97N×21.47E,h26km,MD2.6*
ATH 11 00:26:18.1,37.97N×21.47E,h26km±2km,MD2.6/9,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.09**	**358**	*e*PB	Pb	00 26 22.9	+0.1
RLS				*e*SB	Sb	00 26 26.4	+0.4
RLS	**Riolos of Patr**	**0.09**	**358**	*e*Pb	Pb	00 26 22.9	+0.1
RLS				*e*Sb	Sb	00 26 26.4	+0.4
DRO	**Drossia**	**0.19**	**95**	*e*PB	Pb	00 26 23.5	-0.3
DRO				*e*SB	Sb	00 26 27.3	-0.4
DRO	**Drossia**	**0.19**	**95**	*e*Pb	Pb	00 26 23.5	-0.3
DRO				*e*Sb	Sb	00 26 27.3	-0.4
AMT	**Artemida-Makis**	**0.48**	**156**	*e*PB	Pb	00 26 28.1	+0.1
AMT				*e*SB	Sn	00 26 36.2	-0.7
AMT	**Artemida-Makis**	**0.48**	**156**	*e*Pb	Pb	00 26 28.1	+0.1
AMT				*e*Sb	Sn	00 26 36.2	-0.7
KLV	**Kalavryta, Ach**	**0.54**	**82**	*e*PN	Pb	00 26 28.7	-0.5
KLV				*e*SN	Sb	00 26 36.7	0.0
KLV	**Kalavryta, Ach**	**0.54**	**82**	*e*Pn	Pb	00 26 28.7	-0.5
KLV				*e*Sn	Sb	00 26 36.7	0.0
EFP	**Efpalio**	**0.57**	**37**	*e*PN	Pb	00 26 29.5	-0.1
EFP				*e*SN	Sn	00 26 39.0	-0.1
EFP	**Efpalio**	**0.57**	**37**	*e*Pn	Pb	00 26 29.5	-0.1
EFP				*e*Sn	Sn	00 26 39.0	-0.1
PDO	**Prodromos**	**0.67**	**340**	*e*PN	Pn	00 26 32.0	+0.1
PDO	**Prodromos**	**0.67**	**340**	*e*Pn	Pn	00 26 32.0	+0.1
KALE	**Kalithea**	**0.68**	**51**	*e*PN	Pb	00 26 31.6	+0.2
KALE				*e*SN	Sn	00 26 42.1	+0.2
KALE	**Kalithea**	**0.68**	**51**	*e*Pn	Pb	00 26 31.6	+0.2
KALE				*e*Sn	Sn	00 26 42.1	+0.2
GUR	**Goura**	**0.69**	**93**	*e*PB	Pb	00 26 31.0	-0.7
GUR				*e*SN	Sn	00 26 41.9	-0.4
GUR	**Goura**	**0.69**	**93**	*e*Pb	Pb	00 26 31.0	-0.7
GUR				*e*Sn	Sn	00 26 41.9	-0.4
VLS	**Valsamata**	**0.72**	**287**	*e*PN	Pn	00 26 32.6	-0.1
VLS	**Valsamata**	**0.72**	**287**	*e*Pn	Pn	00 26 32.6	-0.1
ITM	**Ithomi**	**0.87**	**155**	*e*PN	Pn	00 26 34.8	+0.1
ITM				*e*SN	Sn	00 26 48.0	+1.5
ITM	**Ithomi**	**0.87**	**155**	*e*Pn	Pn	00 26 34.8	+0.1
ITM				*e*Sn	Sn	00 26 48.0	+1.5

ISCJB ***11*** *00:32:40.9±0.6,32.15N±0.02×115.17W±0.04,h22km±7km, Error ellipse: s-maj=6.2km s-min=3.9km az=11.3*
NEIC ***11*** *00:32:42.0,32.18N×115.19W,h10km,ML3.4(PAS),After PAS.*

ECX ***11*** *00:32:42.1±0.6,32.14N×115.19W,h8km,MD3.4,ML3.6*
MEX ***11*** *00:32:43.7±0.8,32.16N×115.17W,h15km,MD3.6*
ISC 11 00:32:40.5±1.0,32.15N±0.03×115.16W±0.04,h23km±7km,
n24,σ0.66/37,3C-9D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.17**	**203**⇓	*e*P	Pb	**00 32 44.9**	**-0.7**
EMX				*e*S	Sb	**00 32 47.7**	**-1.3**
MBIG	**Mexicali**	**0.26**	**353**	*i* P	Pb	**00 32 48.1**	**+1.3**
MBIG				*e*S	Sn	**00 32 53.4**	**-0.8**
CPBX	**Cerro Prieto**	**0.29**	**336**	*e*P	Pb	**00 32 47.9**	**+0.6**
CPBX				*e*S	Sb	**00 32 51.7**	**-0.2**
CPBX	**Cerro Prieto**	**0.29**	**336**	*e*P	Pb	**00 32 48.2**	**+0.9**
CPBX				*e*S	Sb	**00 32 52.2**	**+0.3**
YMD	**Yuma Desert**	**0.66**	**52**	⇓P	Pb	**00 32 54.0**	**+0.6**
ECBX	**El Chinero**	**0.68**	**172**	*e*P	Pb	**00 32 53.6**	**0.0**
ECBX				*e*S	Sb	**00 33 03.5**	**+0.8**
SGL	**Mount Signal**	**0.69**	**317**	⇓*i*P	Pb	**00 32 54.0**	**+0.1**
DREC	**Desert Rsrch C**	**0.70**	**340**	⇓*i*P	Pb	**00 32 54.0**	**0.0**
RDX	**Rancho Dawling**	**0.70**	**252**	*e*P	Pb	**00 32 54.6**	**+0.5**
RDX				*e*S	Sb	**00 33 03.6**	**+0.2**
COA	**Coachella**	**0.71**	**3**	⇓P	Pb	**00 32 54.0**	**-0.3**
ERPC	**Ernies Place**	**0.73**	**325**	⇑P	Pb	**00 32 55.0**	**+0.5**
WESC	**Westside Schoo**	**0.78**	**322**	⇓P	Pn	**00 32 56.0**	**0.0**
YUH	**Yuha Desert**	**0.81**	**308**	⇓P	Pb	**00 32 56.0**	**0.0**
RUN	**Ruthven**	**0.84**	**11**	⇓P	Pb	**00 32 56.0**	**-0.4**
BTCC	**Brunts Corner**	**0.86**	**357**	⇓*i*P	Pb	**00 32 56.0**	**-0.8**
RMX	**La Rumorosa**	**0.90**	**301**	*e*P	Pb	**00 32 57.3**	**-0.2**
RMX				AML	AML	00 33 10.0		
	comp=N,2μm,0.2s						
RMX				⇑*e*		00 33 10.0	
CRR	**Carrizo Plain**	**1.00**	**317**	⇑P	Pb	**00 32 59.0**	**-0.2**
SPIG	**San Pedro Mart**	**1.13**	**193**	*e*P	Pb	**00 33 01.7**	**+0.1**
SPIG				*e*S	Sb	**00 33 16.1**	**+0.2**
SPIG	**San Pedro Mart**	**1.13**	**193**	*e*P	Pb	**00 33 01.7**	**+0.1**
SPIG				*e*S	Sb	**00 33 16.1**	**+0.2**
ZAX	**El Zacaton**	**1.14**	**236**	*e*P	Pn	**00 33 01.4**	**+0.3**
ZAX				*e*S	Sn	**00 33 16.3**	**+0.2**
CBX	**Cerro Bola**	**1.28**	**278**	*e*P	Pn	**00 33 03.4**	**+0.3**
CBX				*e*S	Sn	**00 33 18.3**	**-1.4**
CBX	**Cerro Bola**	**1.28**	**278**	*e*P	Pn	**00 33 03.4**	**+0.3**
CBX				*e*S	Sn	**00 33 18.3**	**-1.4**
ECNX	**Esteban Cantu**	**1.31**	**249**	*e*P	Pn	**00 33 04.1**	**+0.5**
ECNX				*e*S	Sb	**00 33 21.6**	**+0.5**
PBX	**Punta Banda**	**1.39**	**253**	*e*P	Pn	**00 33 05.2**	**+0.7**
PBX				*e*S	Sb	**00 33 23.9**	**+0.8**

IDC 11 00:36:25.5±14.0,20.02S×177.38W,h520km±146km,
mb2.9/2,mb1 3.2/3,mb1mx2.9/28,mbtmp3.9/3,Error ellipse: s-maj=98.5km s-min=36.9km az=29.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.80**	**194**	P	P	00 40 11.9	-0.1
	1.3nm,0.3s,baz=301,slow=2.9,SNR=15						
ASAR	**Alice Springs**	**45.20**	**256**	P	P	00 43 56.1	0.0
	1.1nm,0.6s,baz=93,slow=8.0,SNR=26						
ASAR				PcP	PcP	00 45 25.4	0.0
	0.6nm,0.7s,baz=106,slow=4.3,SNR=4.9						
WRA	**Warramunga Arr**	**45.25**	**261**	P	P	00 43 56.2	-0.3
	0.4nm,0.3s,baz=97,slow=7.8,SNR=17						
VNA3	**Neumayer Olymp**	**88.58**	**176**	P	P	00 48 23.4	+1.0
VNA2	**Neumayer--Watz**	**89.03**	**177**	P	P	00 48 25.8	+1.4
	baz=194,slow=3.7						
MKAR	**Makanchi Array**	**111.29**	**313**	PKiKP	PKiKP	00 53 58.6	-1.6
	0.1nm,0.5s,baz=106,slow=1.5,SNR=2.7						
BRTR	**Keskin Array B**

s-min=16.7km az=47.0
TRN 11 00:51:38.3, 17.21N×61.63W, h10km, MD4.0
ISC 11 00:51:37.4±1.6, 17.32N±0.04×61.47W±0.05, h1km±11km, n44, σ0967/45, mb3.7/10, 7C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.46**	**319**	*iP*	**Pn**	**00 51 49.9**	**-1.3**
ANWB				*eS*	**Sb**	**00 51 56.2**	**+0.5**
BPA	**Boggy Peak**	**0.46**	**234**	⇓*iP*	**Pn**	**00 51 49.9**	**-1.4**
BPA				*i* S	**Sb**	**00 51 55.5**	**-0.3**
MBWH		**0.90**	**230**	⇑*iP*	**Pb**	**00 51 55.9**	**+0.1**
MBWH				*eS*	**Sg**	**00 52 07.0**	**+0.6**
SEG	**Port Louis**	**0.91**	**182**	*eP*	**Pb**	**00 51 56.5**	**+0.5**
H05N1	**Guadeloupe/Mar**	**1.07**	**159**	Pn	**Pb**	**00 51 58.5**	**-0.2**
H05N1				Sn	**Sg**	**00 52 11.0**	**-0.8**
DEG	**La Desirade**	**1.07**	**159**	⇑*iP*	**Pb**	**00 51 58.6**	**-0.2**
LZG	**Guadaloupe-1**	**1.21**	**194**	⇑*iP*	**Pb**	**00 52 01.1**	**0.0**
SSG	**Sans Toucher**	**1.24**	**190**	*eP*	**Pb**	**00 52 01.6**	**-0.1**
FNG	**Fond-Bernard**	**1.27**	**190**	⇑*iP*	**Pg**	**00 52 01.9**	**+0.2**
CRG	**Carmichael**	**1.27**	**188**	*eP*	**Pg**	**00 52 02.1**	**+0.3**
MLG	**Mont-d'or**	**1.27**	**191**	*eP*	**Pb**	**00 52 02.1**	**-0.1**
LKG	**Breislack**	**1.28**	**188**	*eP*	**Pg**	**00 52 02.0**	**0.0**
ECG	**Echelle**	**1.28**	**188**	*eP*	**Pb**	**00 52 02.1**	**0.0**
TAG	**Tarade**	**1.29**	**189**	*eP*	**Pb**	**00 52 02.4**	**-0.1**
DOG	**Dongo Capester**	**1.29**	**187**	*eP*	**Pb**	**00 52 02.3**	**-0.2**
SCG	**Saint Claude**	**1.30**	**189**	*eP*	**Pg**	**00 52 02.4**	**+0.1**
PHG	**Guadaloupe-2**	**1.31**	**187**	⇑*iP*	**Pg**	**00 52 02.7**	**+0.2**
HMG	**Houelmont**	**1.35**	**190**	*eP*	**Pn**	**00 52 03.4**	**-0.1**
SEUS	**St. Eustatius**	**1.46**	**277**	⇑*iP*	**Pg**	**00 52 05.5**	**+0.2**
SEUS				*eS*	**Sg**	**00 52 23.6**	**-0.6**
TBG	**Guadaloupe-3**	**1.47**	**187**	*eP*	**Pn**	**00 52 04.7**	**-0.4**
SMRT	**St. Maarten**	**1.70**	**296**	*eP*	**Pn**	**00 52 08.1**	**-0.2**
BBL	**Barber's Block**	**1.79**	**180**	*eP*	**Pn**	**00 52 09.4**	**0.0**
FDF	**Fort de France**	**2.59**	**173**	*eP*	**Pn**	**00 52 20.8**	**+0.3**
FDF	**Fort de France**	**2.59**	**173**	*eP*	**Pn**	**00 52 21.3**	**+0.8**
FDF				*eS*	**Sn**	**00 52 51.1**	**-1.6**
LPMF	**Morne Lapointe**	**2.77**	**170**	*eP*	**Pn**	**00 52 23.4**	**+0.4**
H05S1	**Guadeloupe/Mar**	**2.94**	**168**	Pn	**Pn**	**00 52 26.3**	**+1.0**
H05S1				Sn	**Sn**	**00 53 01.4**	**+0.1**
SJG	**San Juan**	**4.53**	**281**	Pn	**Pn**	**00 52 48.7**	**+1.5**
SJG	0.5nm,0.3s,baz=90,slow=17,SNR=30			Sn	**Sn**	**00 53 40.6**	**0.0**
APG	0.6nm,0.3s,baz=95,slow=21,SNR=8.6 **El Apazote**	**27.94**	**269**	LR	LR	01 09 17.8	
	comp=Z,38nm,21.0s,baz=81,slow=38						
TXAR	**Lajitas Array**	**40.35**	**295**	P	**P**	**00 59 16.6**	**-0.4**
PDAR	0.2nm,0.7s,baz=133,slow=7.9,SNR=3.3 **Pinedale Array**	**47.93**	**312**	P	**P**	**01 00 16.9**	**-0.9**
	0.6nm,0.8s,baz=107,slow=9.9,SNR=4.9						
H10N3	**ASCENSION HYDR**	**52.72**	**114**	T	T	01 57 29.0	
H10N2	baz=298,slow=74,SNR=10 **ASCENSION HYDR**	**52.72**	**114**	T	T	01 57 59.4	
H10N1	baz=298,slow=74,SNR=12 **ASCENSION HYDR**	**52.74**	**114**	T	T	01 57 31.4	
H10S3	baz=298,slow=74,SNR=12 **ASCENSION HYDR**	**53.11**	**116**	T	T	01 57 59.4	
H10S1	baz=300,slow=75,SNR=29 **ASCENSION HYDR**	**53.12**	**116**	T	T	01 57 58.4	
H10S2	baz=300,slow=75,SNR=38 **ASCENSION HYDR**	**53.13**	**116**	T	T	01 57 55.1	
NVAR	baz=300,slow=75,SNR=40 **Mina Array Bea**	**53.59**	**305**	P	**P**	**01 01 02.1**	**+1.4**
YKA	0.3nm,0.5s,baz=91,slow=10,SNR=2.4 **Yellowknife Ar**	**58.12**	**334**	P	**P**	**01 01 31.5**	**-0.9**
NOA	0.4nm,0.6s,baz=108,slow=7.5,SNR=13 **NORSAR Array B**	**66.62**	**30**	P	**P**	**01 02 29.9**	**+0.5**
GERES	0.7nm,0.8s,baz=263,slow=6.4,SNR=3.4 **GERESS Array B**	**67.44**	**44**	P	**P**	**01 02 35.4**	**+0.5**
ILAR	0.2nm,0.7s,baz=282,slow=6.2,SNR=4.0 **Eielson Array**	**72.54**	**333**	P	**P**	**01 03 06.9**	**+1.0**
ARCES	0.3nm,0.9s,baz=80,slow=5.7,SNR=4.1 **ARCESS Array B**	**72.86**	**22**	P	**P**	**01 03 07.3**	**-0.4**
FINES	1.4nm,0.7s,baz=307,slow=8.9,SNR=3.7 **FINESS Array B**	**73.79**	**30**	P	**P**	**01 03 12.9**	**-0.4**
BRTR	0.6nm,0.5s,baz=246,slow=5.8,SNR=12 **Keskin Array B**	**82.94**	**51**	P	**P**	**01 04 04.7**	**+0.1**
	0.7nm,0.7s,baz=255,slow=6.4,SNR=6.0						

SJA 11 00:55:10.7±0.7, 32.66S×71.47W, h64km±14km, ML4.3, MW4.6
ISCJB 11 00:55:12.2±1.2, 32.53S±0.06×71.43W±0.09, h19km±14km, Error ellipse: s-maj=13.2km s-min=9.2km az=158.2
GUC 11 00:55:13.3±0.6, 32.56S×71.34W, h49km±3km, ML3.3
ISC 11 00:55:11.1±3.7, 32.62S±0.05×71.38W±0.09, h5km±27km, n15, σ0940/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.47**	**208**	*eP*	**Pn**	**00 55 24.5**	**0.0**
PEL	**Peldehue**	**0.79**	**132**	*eP*	**Pn**	**00 55 28.6**	**-0.3**
PEL				*eS*	**Sn**	**00 55 40.1**	**-1.1**
PEL	comp=N,3μm,0.4s			AML	AML	00 55 42.6	
RCDM	**Rinconada Maip**	**0.99**	**151**	*eP*	**Pn**	**00 55 31.9**	**0.0**
RCDM				*eS*	**Sn**	**00 55 46.2**	**-0.1**
SAN	**Santiago**	**1.03**	**144**	*eP*	**Pn**	**00 55 32.6**	**+0.4**
SAN				*eS*	**Sn**	**00 55 47.1**	**-0.1**
CLCH	**Cerro Calan**	**1.05**	**138**	*eP*	**Pn**	**00 55 32.6**	**0.0**
CLCH				*eP*	**Pn**	**00 55 33.2**	**+0.6**
CLCH				*eS*	**Sn**	**00 55 47.4**	**-0.4**
CLCH				*eS*	**Sn**	**00 55 47.8**	**+0.1**
CLCH	comp=N,880nm,0.2s			AML	AML	00 55 49.6	
TACH	**Talagante**	**1.10**	**160**	*eP*	**Pn**	**00 55 33.8**	**+0.5**
YECH	**El Yeso**	**1.51**	**134**	*eP*	**Pb**	**00 55 39.6**	**-0.2**
YECH				*eS*	**Sb**	**00 55 59.8**	**+0.4**
AUSP	**Uspallata**	**1.73**	**77**	*eP*	**Pn**	**00 55 42.5**	**+0.4**
AUSP				*eS*	**Sn**	**00 56 04.9**	**+0.1**
RTLS	**Leoncito**	**1.94**	**66**	*eP*	**Pn**	**00 55 45.2**	**+0.1**
RTLS				*eS*	**Sn**	**00 56 10.7**	**+0.7**
RTLL	**Cerro Villicun**	**2.78**	**63**	*eP*	**Pn**	**00 55 56.2**	**-0.2**
RTLL				*eS*	**Sn**	**00 56 30.0**	**-0.4**
CFAA	**Coronel Fontan**	**2.85**	**70**	*eP*	**Pn**	**00 55 57.3**	**0.0**
CFAA				*eS*	**Sn**	**00 56 32.2**	**+0.1**
AMOG	**MOGNA**	**2.97**	**57**	*eP*	**Pn**	**00 55 58.8**	**-0.2**
ACAN	**Cantantal**	**3.56**	**86**	*eP*	**Pn**	**00 56 06.9**	**-0.2**
AGUA	**GUANDACOL**	**3.98**	**39**	*eP*	**Pn**	**00 56 12.9**	**-0.1**
CANA	**Caviahue**	**5.27**	**177**	AML	AML	00 56 11.3	
	comp=Z,146nm,0.5s						

SKO 11 01:24:34.4, 41.75N×22.78E, h9km, M0.7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.46**	**200**	*i* Pg	Pg	01 24 43.5	+0.3
VAY				*i* Sg	Sb	01 24 51.4	-0.2
VAY	comp=E,5.7nm,0.2s			*e*Lg	Lg	01 24 51.6	
VAY	comp=N,4.3nm,0.2s			*e*Lg	Lg	01 24 52.4	

IDC 11 01:28:42.8±11.0, 39.61N×141.77E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/37, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=263.9km s-min=74.8km az=161.0
ISCJB 11 01:28:48.6±0.6, 39.05N±0.04×140.94E±0.05, h24km±7km, mb3.4/2, Error ellipse: s-maj=6.9km s-min=5.9km az=168.0
JMA 11 01:28:49.3, 39.05N×140.92E, h10km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs239.00000°, δ61.00000°, λ80.00000°. NP2: φs79.00000°, δ30.00000°, λ107.00000°. Principal axes: T Plg72.0000°, Azm126.0000°; N Plg9.0000°, Azm244.0000°; P Plg16.0000°, Azm336.0000°;
ISC 11 01:28:48.8±1.0, 39.07N±0.05×140.93E±0.04, h14km±9km, n9, σ0935/15, 1C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.25**	**117**	⇓*iP*	**Pg**	**01 28 54.4**	**+0.2**
JMK				*i* S	**Sg**	**01 28 58.0**	**+0.2**
JRG	**Rokugo**	**0.40**	**325**	⇓*iP*	**Pb**	**01 28 57.5**	**-0.2**
JRG				*eS*	**Sb**	**01 29 03.3**	**-0.4**
JYK	**Kaneyama**	**0.47**	**251**	⇑*iP*	**Pg**	**01 28 58.2**	**+0.1**
JYK				*i* S	**Sg**	**01 29 04.0**	**+0.1**
JOM	**Ohasama**	**0.49**	**35**	⇓*iP*	**Pb**	**01 28 59.2**	**-0.1**
JOM				*i* S	**Sb**	**01 29 06.1**	**-0.3**
JIO	**Ouri**	**0.69**	**152**	⇓*iP*	**Pg**	**01 29 02.0**	**-0.3**
JIO				*i* S	**Sg**	**01 29 11.1**	**-0.4**
JOU	**Okura**	**0.73**	**197**	⇓*iP*	**Pg**	**01 29 02.7**	**-0.3**
JOU				*i* S	**Sg**	**01 29 12.2**	**-0.4**
MJAR	**Matsushiro Arr**	**3.32**	**221**	Pn	**Pb**	**01 29 47.7**	**+0.3**
WRA	0.2nm,0.3s,baz=39,slow=12,SNR=4.8 **Warramunga Arr**	**59.02**	**187**	P	**P**	**01 38 48.3**	**+0.1**
ASAR	0.2nm,0.6s,baz=4.6,slow=7.3,SNR=5.6 **Alice Springs**	**62.75**	**187**	P	**P**	**01 39 14.2**	**+0.6**
	0.3nm,0.8s,baz=5.7,slow=7.3,SNR=4.3						

ISCJB 11 01:45:53.0±0.8, 40.95S±0.10×91.77W±0.2, h10km, mb3.6/7, MS3.6/4, Error ellipse: s-maj=24.9km s-min=13.9km az=172.6
IDC 11 01:45:52.5±0.9, 40.96S×91.62W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.8/25, mbtmp3.6/7, MS3.7/5, Ms1 3.7/5, ms1mx3.4/20, Error ellipse: s-maj=35.1km s-min=22.7km az=86.0
ISC 11 01:45:54.2±0.9, 40.95S±0.1×91.77W±0.2, h10km, n18, σ0996/13, mb3.8/7, MS3.6/4, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**15.99**	**96**	LR	LR	01 54 21.8	
RPN	comp=Z,400nm,18.6s,baz=268,slow=32 **Rapa Nui**	**20.05**	**308**	LR	LR	01 55 59.9	
USHA	comp=Z,182nm,19.1s,baz=76,slow=30 **Ushuaia**	**20.75**	**140**	P	Pn	01 50 38.1	+0.9
CFAA	12nm,1.0s,baz=294,slow=5.2,SNR=4.4 **Coronel Fontan**	**21.02**	**71**	P	**P**	**01 50 38.8**	**+0.8**
LPAZ	0.5nm,0.7s,baz=235,slow=8.9,SNR=6.7 **La Paz**	**31.91**	**47**	P	**P**	**01 52 20.4**	**-0.2**
LPAZ	0.9nm,0.7s,baz=158,slow=7.0,SNR=4.6			LR	LR	02 02 26.0	
BDFB	comp=Z,64nm,20.2s,baz=218,slow=31 **Brasilia**	**45.34**	**69**	LR	LR	02 12 26.6	
ROSC	comp=Z,125nm,19.1s,baz=263,slow=35 **El Rosal**	**48.27**	**23**	LR	LR	02 13 08.9	
QSPA	comp=Z,69nm,18.1s,baz=1.5,slow=34 **South Pole Qui**	**49.29**	**180**	P	**P**	**01 54 43.1**	**+0.1**
VNA3	0.8nm,0.6s,baz=132,slow=2.8,SNR=8.7 **Neumayer Olymp**	**49.32**	**155**	P	**P**	**01 54 41.9**	**-1.1**
VNA1	**Neumayer--Stat**	**49.88**	**154**	P	**P**	**01 54 48.5**	**+1.4**
VNA2	**Neumayer--Watz**	**50.11**	**155**	P	**P**	**01 54 49.6**	**+0.7**
SNAA	baz=282,slow=8.5 **Sanae**	**51.38**	**156**	P	**P**	**01 54 58.3**	**-0.3**
TXAR	1.8nm,1.0s,baz=267,slow=3.1,SNR=4.7 **Lajitas Array**	**70.80**	**349**	P	**P**	**01 57 11.0**	**+0.2**
NVAR	0.2nm,0.7s,baz=163,slow=6.1,SNR=3.0 **Mina Array Bea**	**82.66**	**339**	P	**P**	**01 58 18.5**	**+0.8**
PDAR	0.3nm,0.6s,baz=152,slow=6.0,SNR=2.7 **Pinedale Array**	**84.88**	**347**	P	**P**	**01 58 29.8**	**+0.8**
GERES	0.9nm,0.6s,baz=167,slow=6.7,SNR=6.1 **GERESS Array B**	**128.52**	**54**	PKP	**PKPdf**	**02 04 60.0**	**-0.9**
KBZ	0.2nm,0.6s,baz=221,slow=1.2,SNR=3.6 **Kbaz**	**146.62**	**70**	PKPbc	**PKPdf**	**02 05 33.4**	**-0.6**
KURBB	1.3nm,0.9s,baz=301,slow=2.2,SNR=3.8 **Kurchatov Arra**	**168.16**	**32**	PKPab	**PKPab**	**02 07 06.8**	**-1.6**
	0.6nm,0.9s,baz=306,slow=5.1,SNR=5.6						

IDC 11 01:50:16.7±1.3, 15.12S×66.82E, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.5/39, mbtmp3.6/10, MS4.0/1, Ms1 4.0/1, ms1mx2.9/50, Error ellipse: s-maj=41.7km s-min=23.3km az=41.0
ISCJB 11 01:50:17.5±1.4, 15.15S±0.2×66.9E±0.2, h16km, mb3.6/10, Error ellipse: s-maj=41.8km s-min=22.3km az=43.1
ISC 11 01:50:19.2±1.5, 15.25S±0.3×66.8E±0.2, h16km, n22, σ0975/13, mb3.7/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**9.30**	**37**	T	T	02 01 53.6	
H08S2	baz=216,slow=75,SNR=47 **Diego Garcia H**	**9.31**	**37**	T	T	02 01 54.4	
H08S3	baz=216,slow=75,SNR=824 **Diego Garcia H**	**9.32**	**37**	T	T	02 01 55.1	
H08N3	baz=216,slow=75,SNR=647 **Diego Garcia H**	**9.67**	**26**	T	T	02 02 22.2	
H08N1	baz=204,slow=76,SNR=34 **Diego Garcia H**	**9.68**	**26**	T	T	02 02 24.5	
H08N2	baz=204,slow=76,SNR=673 **Diego Garcia H**	**9.69**	**26**	T	T	02 02 23.9	
OPO	baz=204,slow=76,SNR=1015 **Ambohidratompo**	**19.08**	**257**	LR	LR	02 00 11.1	
CMAR	comp=Z,504nm,21.8s,baz=6.5,slow=31 **Chiang Mai Arr**	**46.02**	**45**	P	**P**	**01 58 42.7**	**+0.4**
H01W3	0.6nm,0.3s,baz=225,slow=8.6,SNR=2.9 **Cape Leeuwin H**	**46.69**	**124**	T	T	02 48 45.5	
H01W2	baz=283,slow=75,SNR=4.5 **Cape Leeuwin H**	**46.69**	**124**	T	T	02 48 40.5	
H01W1	baz=283,slow=75,SNR=5.6 **Cape Leeuwin H**	**46.71**	**124**	T	T	02 48 42.5	
MKAR	baz=283,slow=75,SNR=5.5 **Makanchi Array**	**63.22**	**12**	P	**P**	**02 00 46.2**	**-0.4**
ASAR	0.2nm,0.7s,baz=213,slow=7.5,SNR=3.3 **Alice Springs**	**63.37**	**109**	P	**P**	**02 00 47.9**	**-0.4**
WRA	0.8nm,0.9s,baz=273,slow=6.9,SNR=6.5 **Warramunga Arr**	**64.20**	**105**	P	**P**	**02 00 53.8**	**0.0**
KURBB	1.1nm,0.8s,baz=264,slow=6.4,SNR=9.2 **Kurchatov Arra**	**66.30**	**8**	P	**P**	**02 01 05.8**	**-0.8**
BVAR	0.3nm,0.8s,baz=206,slow=6.8,SNR=4.3 **Borovoye Array**	**67.97**	**2**	P	**P**	**02 01 17.0**	**-0.2**
ZALV	0.3nm,0.5s,baz=158,slow=8.7,SNR=2.7 **Zalesovo Beam**	**70.53**	**11**	P	**P**	**02 01 32.1**	**-0.9**
SONM	0.2nm,0.4s,baz=197,slow=6.2,SNR=2.3 **Songino Array**	**71.98**	**27**	P	**P**	**02 01 43.0**	**+0.9**
AKASG	0.3nm,0.5s,baz=229,slow=6.2,SNR=2.8 **Malin Array Bs**	**73.37**	**336**	P	**P**	**02 01 50.2**	**0.0**
ESDC	0.6nm,0.8s,baz=154,slow=4.8,SNR=2.9 **Sonseca Array**	**85.39**	**313**	P	**P**	**02 02 56.7**	**+0.6**
PDAR	0.3nm,0.5s,baz=80,slow=3.3,SNR=3.8 **Pinedale Array**	**152.30**	**354**	PKPbc	**PKPbc**	**02 10 15.6**	**+0.7**
PDAR	0.4nm,0.7s,baz=76,slow=1.1,SNR=3.3			PKPab	**PKPab**	**02 10 23.2**	**-1.4**
TXAR	0.6nm,0.7s,baz=68,slow=1.5,SNR=3.5 **Lajitas Array**	**163.37**	**330**	PKPab	**PKPab**	**02 11 12.4**	**-0.2**
	0.2nm,0.7s,baz=95,slow=3.8,SNR=3.8						

ISCJB 11 02:01:27.9±0.8, 15.2S±0.1×66.8E±0.1, h14km, mb4.0/19, MS4.1/5, Error ellipse: s-maj=21.3km s-min=14.7km az=23.9
IDC 11 02:01:27.7±1.2, 15.29S×66.77E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/45, mbtmp3.8/11, MS4.2/6, Ms1 4.2/6, ms1mx3.6/56, Error ellipse: s-maj=40.8km s-min=21.9km az=38.0
NEIC 11 02:01:29.1±0.4, 15.26S×66.78E, h10km, mb4.3/8, Error ellipse: s-maj=12.9km s-min=10.2km az=13.0
ISC 11 02:01:29.7±0.8, 15.3S±0.2×66.8E±0.1, h14km, n49, σ0969/37, mb4.2/19, MS4.2/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**9.45**	**37**	T	T	02 13 05.0	
H08S2	baz=216,slow=75,SNR=656 **Diego Garcia H**	**9.46**	**37**	T	T	02 13 05.8	
H08S3	baz=216,slow=75,SNR=589 **Diego Garcia H**	**9.47**	**37**	T	T	02 13 10.4	
H08N3	baz=216,slow=75,SNR=496 **Diego Garcia H**	**9.82**	**26**	T	T	02 13 28.2	
H08N1	baz=204,slow=76,SNR=516 **Diego Garcia H**	**9.84**	**26**	T	T	02 13 29.1	
H08N2	baz=204,slow=76,SNR=541 **Diego Garcia H**	**9.84**	**26**	T	T	02 13 36.3	
OPO	baz=204,slow=76,SNR=661 **Ambohidratompo**	**19.00**	**257**	LR	LR	02 11 33.1	
PALK	comp=Z,745nm,19.6s,baz=40,slow=32 **Palkekele**	**26.34**	**33**	LR	LR	02 14 56.3	
KMBO	comp=Z,808nm,20.9s,baz=210,slow=31 **Kilima Mbogo**	**32.34**	**293**	LR	LR	02 18 02.4	
LSZ	comp=Z,185nm,21.9s,baz=121,slow=31 **Lusaka**	**37.17**	**265**	LR	LR	02 22 50.0	
LSZ	comp=Z,428nm,18.9s,baz=136,slow=34 **Lusaka**	**37.17**	**265**	*eP*	**P**	**02 08 40.6**	**-0.2**
IPM	6.2nm,1.0s **Ipm**	**39.22**	**63**	*eP*	**P**	**02 08 57.2**	**-0.8**
LBTB	**Lobatse**	**39.69**	**249**	LR	LR	02 23 44.5	
BOSA	comp=Z,323nm,18.2s,baz=110,slow=34 **Boshof**	**40.50**	**244**	LR	LR	02 22 46.2	
CMAR	comp=Z,276nm,20.4s,baz=88,slow=32 **Chiang Mai Arr**	**46.16**	**45**	P	**P**	**02 09 56.0**	**+1.7**
H01W3	0.9nm,0.5s,baz=232,slow=8.6,SNR=7.1 **Cape Leeuwin H**	**46.65**	**124**	T	T	02 59 57.5	
	baz=283,slow=75,SNR=9.0						
H01W2	**Cape Leeuwin H**	**46.65**	**124**	T	T	02 59 53.3	
H01W1	baz=283,slow=75,SNR=10 **Cape Leeuwin H**	**46.67**	**124**	T	T	02 59 58.4	
EKS2	baz=283,slow=75,SNR=9.2 **Erkin-Say**	**58.03**	**6**	*eP*	**P**	**02 11 21.9**	**-0.4**
AAK	1.1nm,0.5s **Ala-Archa**	**58.08**	**7**	P	**P**	**02 11 23.3**	**+0.5**
AAK	0.5nm,0.5s,baz=203,slow=9.1,SNR=3.3 **Ala-Archa**	**58.08**	**7**	*eP*	**P**	**02 11 22.5**	**-0.2**
TKM2	5.5nm,1.5s **Tokmak 2**	**58.50**	**8**	*eP*	**P**	**02 11 24.9**	**-0.9**
GNI	1.8nm,0.7s **Garni**	**58.84**	**340**	*eP*	**P**	**02 11 27.1**	**-1.0**
BRTR	6.5nm,0.8s **Keskin Array B**	**62.84**	**332**	P	**P**	**02 11 56.0**	**+0.6**
MK31	0.4nm,0.7s,baz=93,slow=5.2,SNR=4.3 **Makanchi Array**	**63.37**	**12**	*eP*	**P**	**02 11 58.6**	**+0.1**
MKAR	**Makanchi Array**	**63.37**	**12**	P	**P**	**02 11 57.3**	**-1.2**
ASAR	0.6nm,0.8s,baz=217,slow=5.9,SNR=5.4 **Alice Springs**	**63.37**	**109**	P	**P**	**02 11 59.0**	**-0.2**
WRA	0.9nm,0.9s,baz=262,slow=7.1,SNR=7.1 **Warramunga Arr**	**64.21**	**105**	P	**P**	**02 12 04.8**	**0.0**
WRAB	2.0nm,1.0s,baz=268,slow=5.8,SNR=13 **Tennant Creek**	**64.22**	**105**	*eP*	**P**	**02 12 04.5**	**-0.2**
ABKAR	2.4nm,0.8s **Akbulak array**	**64.55**	**355**	*eP*	**P**	**02 12 05.5**	**-0.6**
KURK	2.0nm,1.0s **Kurchatov**	**66.55**	**8**	*eP*	**P**	**02 12 18.4**	**-0.7**
ZALV	1.8nm,0.7s **Zalesovo Beam**	**70.68**	**11**	P	**P**	**02 12 44.0**	**-0.9**
SONM	0.6nm,0.6s,baz=226,slow=3.8,SNR=3.5 **Songino Array**	**72.13**	**27**	P	**P**	**02 12 54.3**	**+0.4**
AKASG	1.0nm,1.0s,baz=278,slow=4.2,SNR=2.9 **Malin Array Be**	**73.48**	**336**	P	**P**	**02 13 01.3**	**-0.4**
BRG	0.2nm,0.3s,baz=137,slow=4.9,SNR=6.5 **Berggiesshubel**	**80.40**	**329**	*eP*	**P**	**02 13 40.8**	**+0.1**
MJAR	13nm,1.9s **Matsushiro Arr**	**84.74**	**50**	P	**P**	**02 14 03.6**	**0.0**
ESDC	1.3nm,0.8s,baz=226,slow=6.5,SNR=4.1 **Sonseca Array**	**85.46**	**313**	P	**P**	**02 14 08.1**	**+0.8**
YKA	0.2nm,0.4s,baz=108,slow=4.2,SNR=3.9 **Yellowknife Ar**	**132.86**	**1**	PKP	**PKPdf**	**02 20 44.7**	**+0.6**
KMSC	0.2nm,0.8s,baz=345,slow=2.8,SNR=4.0 **Kings Mountain**	**145.24**	**311**	*e*PKPbc	**PKPdf**	**02 21 08.2**	**+0.7**
DGMT	**Dagmar**	**146.09**	**349**	*e*PKPbc	**PKPab**	**02 21 10.5**	**+0.5**
WCI	**Wyandotte Cave**	**147.04**	**319**	*e*PKPdf	**PKPdf**	**02 21 10.7**	**+0.2**
WCI				*e*PKPbc	**PKPbc**	**02 21 11.9**	**-0.6**
WVT	**Waverly**	**149.27**	**317**	*e*PKPdf	**PKPdf**	**02 21 13.9**	**-0.2**
WVT				*e*PKPbc	**PKPbc**	**02 21 18.5**	**0.0**
RSSD	**Black Hills**	**150.22**	**347**	*e*PKPbc	**PKPbc**	**02 21 20.1**	**-0.7**
LRAL	**Lakeview Retre**	**150.38**	**311**	*e*PKPbc	**PKPbc**	**02 21 21.2**	**-0.1**
TPAW	**Teton Pass**	**151.84**	**356**	*e*PKPab	**PKPab**	**02 21 32.8**	**-0.8**
PDAR	**Pinedale Array**	**152.44**	**354**	PKPbc	**PKPbc**	**02 21 26.2**	**+0.1**
PDAR	1.3nm,1.0s,baz=48,slow=2.2,SNR=6.0			PKPab	**PKPab**	**02 21 37.2**	**+1.1**
MIAR	0.4nm,0.5s,baz=50,slow=2.3,SNR=4.2 **Mount Ida**	**153.91**	**321**	*e*PKPab	**PKPab**	**02 21 42.9**	**+0.6**
MNTX	**Cornudas Mount**	**162.16**	**338**	*e*PKPdf	**PKPdf**	**02 21 30.5**	**-1.0**
TXAR	**Lajitas Array**	**163.47**	**329**	PKPab	**PKPab**	**02 22 24.4**	**+0.5**
	0.3nm,0.8s,baz=357,slow=2.5,SNR=3.8						

IDC 11 02:07:08.8±2.8, 3.02N×93.22E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.2/53, mbtmp3.5/5, Error ellipse: s-maj=106.8km s-min=23.0km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.33**	**20**	Pn	Pn	02 10 58.3	-1.4
H08S2	baz=212,slow=12,SNR=5.4 **Diego Garcia H**	**23.24**	**243**	T	T	02 37 02.3	
H08S3	baz=62 **Diego Garcia H**	**23.24**	**243**	T	T	02 37 09.7	
H08S1	baz=62 **Diego Garcia H**	**23.25**	**243**	T	T	02 37 06.3	
H01W3	baz=62 **Cape Leeuwin H**	**42.52**	**154**	T	T	03 01 01.0	
H01W2	baz=330,slow=76,SNR=3.1 **Cape Leeuwin H**	**42.53**	**154**	T	T	03 01 03.7	
H01W1	baz=330,slow=76,SNR=3.1 **Cape Leeuwin H**	**42.53**	**154**	T	T	03 01 02.3	
MKAR	baz=330,slow=76,SNR=3.4 **Makanchi Array**	**44.62**	**349**	P	P	02 15 22.9	-0.1
WRA	0.4nm,0.5s,baz=171,slow=8.5,SNR=7.5 **Warramunga Arr**	**46.37**	**121**	P	P	02 15 38.9	+1.6
ASAR	0.3nm,0.7s,baz=297,slow=9.2,SNR=3.0 **Alice Springs**	**47.67**	**126**	P	P	02 15 45.6	-1.8
ZALV	0.1nm,0.4s,baz=297,slow=8.0,SNR=4.9 **Zalesovo Beam**	**51.23**	**354**	P	P	02 16 14.2	+0.1
	1.2nm,0.5s,baz=183,slow=7.9,SNR=7.5						

ISCJB 11 02:17:14.9±0.5, 12.69N±0.06×58.28E±0.06, h10km, mb4.0/30, MS3.9/2, Error ellipse: s-maj=8.5km s-min=8.2km az=135.6
IDC 11 02:17:14.9±0.8, 12.61N×58.34E, h0km, mb4.0/19, mb1 4.1/19, mb1mx3.9/51, mbtmp4.0/19, MS3.9/2, Ms1 3.9/2, ms1mx3.2/50, Error ellipse: s-maj=19.7km s-min=15.3km az=21.0
NEIC 11 02:17:16.2±0.5, 12.58N×58.26E, h10km, mb4.2/13, Error ellipse: s-maj=11.1km s-min=8.7km az=1.0
*CSEM 11 02:17:16.7±0.3, 12.64N×58.27E, h10km, mb4

1.7nm,0.3s,baz=189,slow=3.3,SNR=3.3
KKAR Karatay Array 32.16 17 *e*P **P 02 23 45.4 +1.2**
2.1nm,0.9s
KKAR Karatay Array 32.16 17 *e*P **P 02 23 45.4 +1.2**
2.1nm,0.9s
EKS2 Erkin-Say 32.81 21 *e*P **P 02 23 52.6 +2.6**
11nm,0.9s
EKS2 Erkin-Say 32.81 21 *e*P **P 02 23 52.6 +2.6**
11nm,0.9s
AAK Ala-Archa 33.04 22 *e*P **P 02 23 54.0 +1.9**
4.0nm,1.3s
AAK Ala-Archa 33.04 22 *e*P **P 02 23 54.0 +1.9**
4.0nm,1.3s
TKM2 Tokmak 2 33.70 23 *e*P **P 02 23 57.2 -0.7**
TKM2 Tokmak 2 33.70 23 *e*P **P 02 23 57.2 -0.7**
KBZ Khabaz 33.72 340 P **P 02 23 57.8 +0.1**
2.7nm,1.0s,baz=146,slow=8.2,SNR=6.8
BR131 Keskin Array S 34.68 326 *e*P **P 02 24 06.2 -0.2**
1.0nm,0.8s
BR131 Keskin Array S 34.68 326 *e*P **P 02 24 06.2 -0.2**
1.0nm,0.8s
BRTR Keskin Array B 34.68 326 P **P 02 24 07.0 +0.6**
1.6nm,0.9s,baz=140,slow=9.7,SNR=9.6
ABKAR Akbulak array 36.55 2 *e*P **P 02 24 22.8 +0.7**
7.2nm,1.1s
ABKAR Akbulak array 36.55 2 *e*P **P 02 24 22.8 +0.7**
7.2nm,1.1s
AKTO Aktyubinsk 37.71 360 P **P 02 24 32.4 +0.5**
3.6nm,0.9s,baz=186,slow=7.9,SNR=13
CMAR Chiang Mai Arr 39.52 76 P **P 02 24 49.2 +1.6**
5.5nm,0.7s,baz=274,slow=9.0,SNR=32
CHTO Chiang Mai 39.54 76 *e*P **P 02 24 47.6 -0.2**
5.0nm,1.0s
CHTO Chiang Mai 39.54 76 *e*P **P 02 24 47.6 -0.2**
5.0nm,1.0s
MK31 Makanchi Array 39.60 26 *e*P **P 02 24 48.3 +0.3**
MK31 Makanchi Array 39.60 26 *e*P **P 02 24 48.3 +0.3**
MKAR Makanchi Array 39.60 26 P **P 02 24 48.7 +0.8**
0.7nm,0.6s,baz=210,slow=8.8,SNR=12
LSZ Lusaka 40.70 228 *e*P **P 02 24 56.8 -0.7**
4.9nm,1.0s
LSZ Lusaka 40.70 228 *e*P **P 02 24 56.8 -0.7**
4.9nm,1.0s
TLB Topalu 41.03 327 ⇓ *i*P **P 02 24 59.5 -0.2**
BVAR Borovoye Array 41.45 11 P **P 02 25 03.5 +0.4**
0.5nm,0.7s,baz=187,slow=8.5,SNR=4.6
KURK Kurchatov 41.45 19 *e*P **P 02 25 03.5 +0.4**
2.9nm,1.0s
KURK Kurchatov 41.45 19 *e*P **P 02 25 03.5 +0.4**
2.9nm,1.0s
KULM Kulim 42.42 96 *e*P **P 02 25 10.9 -0.7**
5.3nm,0.6s
KULM Kulim 42.42 96 *e*P **P 02 25 10.8 -0.7**
5.3nm,0.6s
VRI Vrincioaia 42.57 327 ⇓ *i*P **P 02 25 12.9 +0.5**
VTS Vitosha 42.59 321 ⇑ *i*P **P 02 25 11.8 -1.0**
PLOR Plostina 42.60 327 ⇑ *i*P **P 02 25 13.1 +0.4**
MLR Muntele Rosu 42.75 326 ⇓ *i*P **P 02 25 14.5 +0.5**
MLR Muntele Rosu 42.75 326 P **P 02 25 14.1 +0.2**
0.3nm,0.7s,baz=189,slow=23,SNR=4.1
TESR Tescani 43.04 328 ⇑ *i*P **P 02 25 16.0 -0.2**
VOIR 43.20 326 ⇓ *i*P **P 02 25 17.5 -0.1**
DOPR Dopca 43.35 326 ⇓ *i*P **P 02 25 18.1 -0.6**
ARR Arges 43.39 325 ⇑ *i*P **P 02 25 18.8 -0.3**
PRAR RASCA 43.82 329 ⇓ *i*P **P 02 25 21.9 -0.5**
BUR08 Bucovina Ar. S 44.53 328 *e*P **P 02 25 27.7 -0.5**
BUR08 Bucovina Ar. S 44.53 328 *e*P **P 02 25 27.7 -0.5**
AKASG Malin Array Be 44.76 334 P **P 02 25 29.1 -0.8**
1.3nm,0.8s,baz=144,slow=7.3,SNR=13
AKBB Malin Array Si 44.76 334 *e*P **P 02 25 29.0 -0.9**
AKBB Malin Array Si 44.76 334 *e*P **P 02 25 29.0 -0.9**
KIEV Kiev 44.76 334 *e*P **P 02 25 28.7 -1.2**
1.5nm,0.6s
KIEV Kiev 44.76 334 *e*P **P 02 25 28.7 -1.2**
1.5nm,0.6s
BZS Buzias 45.24 324 ⇓ *i*P P 02 25 39.3 +5.4
ZALV Zalesovo Beam 46.26 21 P **P 02 25 41.7 0.0**
3.0nm,0.6s,baz=217,slow=7.2,SNR=14
TAM Tamanrasset 51.05 289 *e*P **P 02 26 19.4 +0.1**
5.7nm,1.2s
TAM Tamanrasset 51.05 289 *e*P **P 02 26 19.4 +0.1**
5.7nm,1.2s
SONM Songino Array 53.15 39 P **P 02 26 34.4 -0.1**
0.5nm,0.7s,baz=247,slow=9.5,SNR=3.5
FINES FINESS Array B 54.04 342 P **P 02 26 39.2 -1.4**
2.4nm,0.8s,baz=224,slow=8.0,SNR=12
TOA0 Torodi Ar. Sit 55.08 277 *e*P **P 02 26 50.0 +1.1**
TOA0 Torodi Ar. Sit 55.08 277 *e*P **P 02 26 50.0 +1.1**
TORD Torodi Ar. Bea 55.08 277 P **P 02 26 48.9 -0.1**
1.5nm,0.9s,baz=85,slow=5.5,SNR=9.5
HFS Hagfors 57.60 335 LR LR 02 53 45.3
comp=Z,172nm,18.9s,slow=38
KSAR Wonju Array Be 66.27 55 P **P 02 28 05.8 +0.8**
KSAR Wonju Array Be 66.27 55 P **P 02 28 05.8 +0.8**
KSRS Korea Array 66.30 55 P **P 02 28 05.8 +0.7**
0.7nm,0.4s,baz=268,slow=6.6,SNR=3.2
WRA Warramunga Arr 81.49 113 P **P 02 29 33.5 -0.9**
1.4nm,0.9s,baz=294,slow=4.4,SNR=2.4
ASAR Alice Springs 82.19 116 P **P 02 29 36.8 -1.4**
0.7nm,0.7s,baz=296,slow=5.5,SNR=3.1

IDC ***11*** *02:19:05.6±0.5, 13.°07S×166.°55E, h0km, mb5.0/22, mb1 5.1/23, mb1mx5.1/29, mbtmp5.0/23, ML4.0/1, MS5.2/21, Ms1 5.2/21, ms1mx5.0/32, Error ellipse: s-maj=17.6km s-min=14.3km az=138.0*

NEIC ***11*** *02:19:06.8±0.2, 12.°97S×166.°52E, h10km, mb5.3/57, MS5.5/111, MW5.7, Error ellipse: s-maj=6.0km s-min=5.2km az=132.0, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁷Nm; Mrr3.98; Mθθ-0.54; Mφφ-3.44; Mrθ2.95; Mrφ-1.06; Mθφ-1.20; Best double couple: M₀5.00000×10¹⁷ NP1:φs42.00000°, δ49.00000°, λ129.00000°. NP2:φs171.00000°, δ54.00000°, λ54.00000°. Principal axes: T 5.7000, Plg61.0000°, Azm20.0000°; N -1.9000, Plg28.0000°, Azm194.0000°; P -3.8000, Plg2.0000°, Azm285.0000°;*

GCMT ***11*** *02:19:06.8±0.1, 12.°99S×166.°24E, h23km, MW5.8/126, Moment Tensor Solution. s126,c260; s125,c356; Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr5.15±.05; Mθθ0.12±.04; Mφφ-5.27±.04; Mrθ1.25±.08; Mθφ1.55±.04; Mφr-1.68±.07; Best double couple: M₀5.81500×10¹⁷ NP1:φs157.00000°, δ55.00000°, λ80.00000°. NP2:φs354.00000°, δ36.00000°, λ104.00000°. Principal axes: T 5.6040, Plg77.0000°, Azm34.0000°; N 0.4230, Plg8.0000°, Azm162.0000°; P -6.0250, Plg10.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***11*** *02:19:09.5, 12.°66S×166.°64E, h29km, mB5.7/63, mb5.5/75, Ms5.5/74, Ms7 5.2/69*

ISCJB ***11*** *02:19:09.0±0.2, 13.°04S±0.°03×166.°55E±0.°04, h33km, mb5.3/100, MS5.5/147, Error ellipse: s-maj=5.1km s-min=4.8km az=136.8*

MOS ***11*** *02:19:09.7±0.9, 12.°97S×166.°39E, h33km, mb5.5/25, MS5.3/31, Error ellipse: s-maj=9.6km s-min=7.5km az=134.5*

ISC 11 02:19:10.8±0.3, 13.°01S±0.°04×166.°56E±0.°05, h34km, h34km:pP-P, n560, σ1s54/554, mb5.3/100, MS5.5/148, 47C-23D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.39**	**298**	LR	LR	02 23 40.3	
	comp=Z,20μm,20.5s,baz=136,slow=37						
HNR	**Honiara**	**7.39**	**298**	*e*P	**Pn**	**02 20 54.0**	**-2.4**
HNR				*e*S	Sn	02 22 12.0	-7.2
DZM	**Mont Dzumac**	**9.01**	**181**	*e*Pn	**Pn**	**02 21 20.5**	**+1.8**
	985nm,1.0s						
DZM				*e*Sn	**Sn**	**02 22 54.3**	**-4.8**
	2μm,0.9s						
DZM				*e*LR	LR	02 23 23.6	
	23μm,24.1s						
DZM	**Mont Dzumac**	**9.01**	**181**	Pn	**Pn**	**02 21 20.3**	**+1.6**
	3.5nm,0.3s,baz=358,slow=14,SNR=30						
DZM				Sn	**Sn**	**02 22 59.2**	**+0.1**
	baz=162,slow=19,SNR=1.3						
DZM				LR	LR	02 23 52.7	
	comp=Z,8μm,21.5s,baz=9.0,slow=32						
DZM	**Mont Dzumac**	**9.01**	**181**	*e*Pn	**Pn**	**02 21 18.3**	**-0.4**
	259nm,0.8s						
DZM				*e*Sn	**Sn**	**02 22 59.0**	**-0.1**

TARA Tarawa 15.61 24 *e*Pn **P 02 22 51.5 -0.7**
310nm,0.9s
EIDS Eidsvold 19.07 228 *e*P **Pn 02 23 31.2 -0.3**
139nm,1.0s
PMG Port Moresby 19.36 279 *de*P **P 02 23 33.7 0.0**
PMG pmax pmax
comp=Z,156nm,1.1s
PMG Port Moresby 19.36 279 P **P 02 23 33.8 0.0**
comp=Z,1.4nm,0.3s,baz=105,slow=7.1,SNR=33
PMG LR LR 02 29 56.9
comp=Z,4μm,18.3s,baz=138,slow=34
PMG Port Moresby 19.36 279 *e*P **P 02 23 33.0 -0.7**
comp=Z,47nm,1.1s
CTA Charters Tower 20.68 247 P **P 02 23 48.0 -0.1**
CTA Charters Tower 20.68 247 P **P 02 23 48.0 -0.1**
comp=Z,72nm,1.1s,baz=71,slow=12,SNR=37
CTA LR LR 02 31 18.3
comp=Z,17μm,18.6s,baz=70,slow=36
CTAO Charters Tower 20.68 247 *e*P **P 02 23 47.4 -0.7**
CTAO MLR MLR
comp=Z,15μm,20.0s
CTAO Charters Tower 20.68 247 *e*P **P 02 23 47.4 -0.7**
CTAO LR LR
comp=Z,15μm,20.0s
AFI Afiamalu 21.09 95 *e*P **P 02 23 53.8 +1.2**
AFI MLR MLR
comp=Z,6μm,21.0s
AFI Afiamalu 21.09 95 *e*P **P 02 23 53.8 +1.2**
AFI LR LR
comp=Z,6μm,21.0s
RAO Raoul Island 21.66 141 PFAKE 02 24 10.0 +12
RAO LR LR
comp=Z,10μm,19.0s
ARMA Armidale 22.15 216 *e*P **P 02 24 04.3 +0.4**
comp=Z,104nm,1.1s
ARMA *e*PcP **PcP 02 28 00.7 +0.3**
COEN Coen 22.76 265 *e*P **P 02 24 09.6 -0.8**
OUZ Omahuta 23.01 165 *e*P **P 02 24 13.4 +0.6**
comp=Z,16nm,1.0s
URZ Urewera 26.84 161 P **P 02 24 52.9 +4.7**
comp=Z,3.9nm,0.3s,baz=71,slow=9.9,SNR=3.2
URZ S S 02 29 33.8 +11
comp=Z,10nm,0.7s,baz=163,slow=19,SNR=7.2
URZ LR LR 02 33 42.0
comp=Z,8μm,21.1s,baz=336,slow=33
URZ Urewera 26.84 161 *e*P **P 02 24 48.5 +0.3**
comp=Z,36nm,0.9s
URZ S S 02 29 33.8 +11
CAN Canberra 27.30 213 PFAKE 02 25 00.0 +7.6
CAN LR LR
comp=Z,5μm,20.0s
BKZ Black Stump Fm 27.50 163 *e*P **P 02 24 55.5 +1.4**
comp=Z,24nm,0.9s
JAY Jayapura 27.62 290 P **P 02 24 57.2 +1.7**
comp=Z,16nm,0.7s,comp=Z,5μm
JAY Jayapura 27.62 290 P **P 02 24 55.0 -0.5**
comp=Z,4.2nm,0.9s,baz=111,slow=17,SNR=2.3
GENI Genyem 28.08 289 P **P 02 25 00.2 +0.6**
comp=Z,42nm,1.2s,comp=Z,2μm
SNZO South Karori 29.08 167 PFAKE 02 25 20.0 +12
SNZO LR LR
comp=Z,15μm,19.0s
SMPI Sarmi 29.66 289 P **P 02 25 13.2 -0.4**
comp=Z,80nm,1.3s,comp=Z,4μm
RPZ Rata Peaks 30.84 174 *e*P **P 02 25 23.3 -0.5**
comp=Z,38nm,0.9s
WB2 Warramunga Arr 31.61 253 *e*P **P 02 25 28.5 -2.2**
WRAB Tennant Creek 31.61 253 P **P 02 25 28.6 -2.2**
comp=Z,90nm,1.2s,SNR=7.3
WRAB Tennant Creek 31.61 253 ⇑ *i*P **P 02 25 29.8 -1.0**
WRAB pmax pmax
comp=Z,46nm,1.2s
WRAB Tennant Creek 31.61 253 *e*P **P 02 25 28.8 -2.0**
comp=Z,26nm,1.1s
WRAB LR LR
comp=Z,10μm,20.0s
WRA Warramunga Arr 31.62 253 P **P 02 25 28.5 -2.3**
comp=Z,19nm,1.0s,baz=83,slow=8.9,SNR=40
WRA PcP **PcP 02 28 23.1 +0.3**
comp=Z,8.7nm,1.1s,baz=87,slow=2.5,SNR=6.4
WRA ScP **ScP 02 32 06.5 +2.8**
comp=Z,2.7nm,1.1s,baz=69,slow=4.6,SNR=5.1
WRA LR LR 02 38 05.3
comp=Z,11μm,18.4s,baz=80,slow=36
AS31 Alice Springs 32.68 246 *e*P **P 02 25 37.9 -2.3**
ASAR Alice Springs 32.68 246 P **P 02 25 38.0 -2.2**
comp=Z,13nm,0.7s,baz=75,slow=9.6,SNR=59
ASAR PcP **PcP 02 28 25.5 -0.2**
comp=Z,11nm,1.0s,baz=64,slow=2.7,SNR=7.3
ASAR ScP **ScP 02 32 11.2 +4.0**
comp=Z,4.9nm,0.9s,baz=91,slow=3.5,SNR=6.5
ASAR LR LR 02 38 26.1
comp=Z,13μm,19.3s,baz=71,slow=36
GUMO Guam 34.06 320 PFAKE 02 26 00.0 +7.8
GUMO LR LR
comp=Z,538nm,20.0s
BBOO Buckleboo 34.12 230 *e*P **P 02 25 51.8 -0.9**
TAU Tasmania Unive 34.12 206 PFAKE 02 26 00.0 +7.6
TAU LR LR
comp=Z,7μm,21.0s
FAKI Fak Fak 35.38 284 P **P 02 26 03.0 -0.6**
FAKI Fak Fak 35.38 284 *e*P **P 02 26 01.1 -2.5**
comp=Z,30nm,1.2s
FAKI *e*PcP **PcP 02 28 31.8 -1.7**
BNDI Bandanaira 37.15 280 P **P 02 26 19.6 +0.8**
XMAS Kiritimati 38.73 70 PFAKE 02 26 40.0 +7.9
XMAS LR LR
comp=Z,6μm,19.0s
FORT Forrest 39.61 237 *e*P **P 02 26 38.7 -0.6**
comp=Z,83nm,0.8s
NLAI Nauru 40.19 281 P **P 02 26 45.0 +0.7**
LBMI Labuha 40.60 284 P **P 02 26 49.1 +1.4**
TNTI Ternate 41.21 286 P **P** 02 27 07.1 +14
SOEI Soe 41.55 270 *e*P **P 02 26 55.4 -0.3**
comp=Z,43nm,1.0s
SANI Sanana 41.59 282 P **P 02 26 57.3 +1.4**
BATI Baumata 42.08 269 P **P** 02 27 03.9 +4.0
comp=Z,57nm,1.4s,comp=Z,953nm
BATI Baumata 42.08 269 P **P 02 27 00.1 +0.2**
comp=Z,22nm,0.6s,baz=38,slow=8.0,SNR=3.4
PPT Papeete 42.49 102 LR LR 02 42 58.6
comp=Z,2μm,18.4s,baz=276,slow=34
PPT2 Papeete2 42.49 102 *e*S S 02 33 30.9 +7.4
comp=Z,3μm,26.8s
PPT2 *e*LQ LQ 02 37 06.6
comp=Z,11μm,27.5s
PPT2 *e*LR LR 02 38 55.0
comp=Z,3μm,23.2s
TBI Tubuai 42.88 110 *e*S S 02 33 36.2 +7.2
comp=Z,3μm,27.0s
TBI *e*LQ LQ 02 37 16.9
comp=Z,6μm,29.8s
TBI *e*LR LR 02 39 08.6
comp=Z,4μm,24.5s
EDFI Ende, Flores 44.22 271 P P 02 27 30.0 +13
KMSI Cibinong 44.32 284 P **P 02 27 19.3 +1.3**
comp=Z,352nm,0.9s
LUWI Luwuk 44.96 282 P **P 02 27 25.1 +2.0**
comp=Z,63nm,1.8s,comp=Z,3μm
GTOI Gorontalo 45.26 284 P **P 02 27 27.7 +2.2**
DAV Davao City (W) 45.34 294 PFAKE 02 27 40.0 +14
DAV LR LR
comp=Z,2μm,19.0s
APSI Ampana 46.07 281 P **P 02 27 33.5 +1.6**
WBSI Waikabubak, Su 46.32 269 P **P 02 27 35.4 +1.5**
JCJ Chichijima 46.36 329 LR LR 02 44 15.0
comp=Z,2μm,21.9s,baz=144,slow=32
BNSI Bone 46.64 276 P **P 02 27 38.1 +1.7**
KAPI Kappang 46.84 275 P **P 02 27 38.9 +1.0**
comp=Z,106nm,1.3s,SNR=7.1
KAPI Kappang 46.84 275 ⇑ P **P 02 27 38.2 +0.2**
SNR=14
KAPI Kappang 46.84 275 *e*P **P 02 27 37.7 -0.2**
comp=Z,10nm,1.1s
KAPI *e*PcP **PcP 02 29 08.8 -1.9**
KAPI LR LR
comp=Z,1μm,19.0s
SPSI Sidrap Palu 47.07 277 P **P 02 27 40.1 +0.4**
PCI Palu 47.81 281 P P 02 27 56.2 +11
MPSI Mapaga 48.12 282 P **P 02 27 47.4 -0.5**
KIP Kipapa 48.79 46 PFAKE 02 28 00.0 +7.1
KIP LR LR
comp=Z,4μm,21.0s
NWAO Narrogin (SRO) 49.06 238 P **P 02 27 54.3 -0.6**
comp=Z,12nm,0.6s,baz=74,slow=5.7,SNR=10
NWAO LR LR 02 49 22.8
comp=Z,20nm,19.9s,baz=91,slow=37
POHA Pohakuloa 49.52 50 PFAKE 02 28 10.0 +11
POHA LR LR
comp=Z,7μm,20.0s
IGBI Denpasar 50.59 269 P **P 02 28 09.8 +3.0**
comp=Z,242nm,1.0s
SRBI Singaraja 50.65 270 P **P 02 28 09.3 +2.1**
comp=Z,51nm,1.9s,comp=Z,1μm
JAGI Jajag, Banyuwa 51.62 269 *e*P **P 02 28 12.2 -2.3**
comp=Z,52nm,1.0s
JOW Kunigami 54.32 317 *e*P **P 02 28 34.5 +0.3**
comp=Z,60nm,1.5s
BTM Bintulu 55.47 283 ⇑ P **P 02 28 44.2 +1.4**
SBUM Sibu 56.07 282 ⇓ P **P 02 28 48.0 +1.0**
MJAR Matsushiro Arr 56.07 333 P **P 02 28 46.4 -0.3**
comp=Z,58nm,1.0s,baz=163,slow=7.0,SNR=82
MJAR LR LR 02 53 11.9
comp=Z,622nm,19.3s,baz=160,slow=36
MAJO Matsushiro 56.07 333 *d iP* **P 02 28 46.7 +0.1**
MAJO Matsushiro 56.07 333 *e*P **P 02 28 45.3 -1.3**
comp=Z,204nm,1.3s
MAJO LR LR
comp=Z,1μm,20.0s
MAT Matsushiro 56.07 333 P **P 02 28 45.2 -1.4**
MAT S **S 02 36 32.6 -0.6**
RKT Rikitea 56.18 109 *e*S S 02 36 41.6 +6.4
comp=Z,3μm,28.2s
RKT *e*LQ LQ 02 42 56.5
comp=Z,3μm,30.5s
RKT *e*LR LR 02 45 14.9
comp=Z,2μm,25.5s
DRV Dumont d'Urvil 56.46 192 P P 02 28 32.0 -17
DRV S **S 02 36 41.0 +3.4**
DRV SS **SS 02 40 27.0 +2.1**
DRV L L 02 42 00.0
DRV R 02 45 00.0
JNU Nakatsue 57.13 324 *e*P **P 02 28 53.8 -0.5**
comp=Z,43nm,1.1s
YULB Yu-li 57.18 309 *e*P **P 02 28 53.6 -1.2**
comp=Z,32nm,1.1s
KSM Kuching 57.61 280 ⇓ P **P 02 28 59.0 +0.9**
KSM Kuching 57.61 280 *e*P **P 02 28 57.9 -0.2**
comp=Z,60nm,1.1s
KSM LR LR
comp=Z,644nm,19.0s
SSLB Suanglung 57.66 309 *e*P **P 02 28 57.8 -0.4**
comp=Z,24nm,1.0s
YHNB Yeheng 57.85 310 *e*P **P 02 28 58.8 -0.8**
comp=Z,56nm,0.8s
YHNB LR LR
comp=Z,2μm,19.0s
TATO Taipei 57.94 311 PFAKE 02 29 10.0 +10
TATO LR LR
comp=Z,3μm,19.0s
CISI Cisompet, Garu 57.95 269 *e*P **P 02 28 59.8 -0.7**
comp=Z,63nm,0.8s
LEM Lembang 58.28 270 P **P 02 29 03.0 +0.1**
comp=Z,39nm,0.6s,baz=105,slow=7.8,SNR=7.6
ERM Erimo 58.84 340 PFAKE 02 29 20.0 +14
ERM LR LR
comp=Z,3μm,21.0s
TPI Tanjungpandan 59.10 275 P **P 02 29 09.7 +1.3**
comp=Z,33nm,1.7s,comp=Z,901nm
CBJI Citeko 59.11 270 P P 02 29 19.5 +11
YUK Yuzh-Kuril'sk 59.82 343 *c iP* P 02 29 18.0 +5.3
YUK *e*S S 02 37 30.8 +8.9
QZH Quanzhou 60.09 309 ⇑ *i*P **P 02 29 15.7 +0.7**
QZH S **S 02 37 28.0 +1.9**
QZH PMZ
comp=Z,60nm,0.7s
QZH PMZ
comp=Z,1μm,3.8s
QZH LN
comp=Z,620nm,9.1s
QZH LE
comp=Z,2μm,15.6s
QZH LZ
comp=Z,2μm,16.4s
CGJI Cibinong 60.20 270 P **P 02 29 15.5 -0.5**
ASAJ Asahikawa 60.90 340 *e*P **P 02 29 20.1 0.0**
comp=Z,13nm,0.6s
TJN Taejon 61.48 325 *i* P **P 02 29 23.9 -0.3**
KASI Kota Agung 61.58 271 P **P 02 29 25.1 -0.3**
SSE Sheshan 61.81 316 ⇑ P **P 02 29 26.3 -0.2**
SSE pP **pP 02 29 38.2 +1.3**
SSE sP **sP 02 29 43.1 +2.3**
SSE S **S 02 37 49.3 +1.5**
SSE PMZ
comp=Z,75nm,0.8s
SSE PMZ
comp=Z,590nm,7.2s
SSE LN
comp=Z,890nm,18.1s
SSE LE
comp=Z,920nm,18.1s
SSE LZ
comp=Z,1μm,18.5s
KSRS Korea Array 61.94 326 P **P 02 29 28.5 +1.2**
comp=Z,28nm,1.0s,baz=142,slow=6.7,SNR=61
KSRS PcP **PcP 02 30 09.3 +1.6**
comp=Z,14nm,1.0s,baz=138,slow=4.1,SNR=6.4
KSRS LR LR 02 55 40.1
comp=Z,588nm,19.2s,baz=110,slow=35
KSAR Wonju Array Be 61.95 326 P **P 02 29 28.5 +1.1**
KSAR 02 30 09.4
KSAR Wonju Array Be 61.95 326 P **P 02 29 28.5 +1.1**
KSAR PcP **PcP 02 30 09.3 +1.5**
MDSI Maura Dua 62.10 272 P **P 02 29 28.5 -0.4**
LWLI Liwa 62.11 271 P P 02 29 44.2 +15
INCN Inchon 62.67 325 P **P 02 29 33.5 +1.3**
SNR=6.0
INCN Inchon 62.67 325 *e*P **P 02 29 32.1 -0.1**
comp=Z,50nm,0.9s
INCN LR LR
comp=Z,1μm,20.0s
LHSI Lahat 62.88 272 P P 02 29 45.4 +11
GZH Guangzhou 63.24 304 P **P 02 29 37.9 +1.6**
GZH S **S 02 38 10.8 +4.8**
GZH LN
comp=Z,950nm,18.0s
GZH LE
comp=Z,1μm,17.7s
YSS Yuzh-Sakhalins 63.39 342 *ce*P **P 02 29 37.4 +0.7**
YSS *e**PP **pP 02 29 49.0 +1.9**
YSS *e*S **S 02 38 10.0 +3.0**
YSS *e*PS **PnS 02 38 22.0 -4.7**
YSS *e*SSS SSS 02 45 06.0
YSS pmax pmax
comp=Z,100μm,1.1s
YSS pmax pmax
comp=Z,800nm,3.0s
YSS Yuzh-Sakhalins 63.39 342 *e*P **P 02 29 38.5 +1.8**
comp=Z,118nm,1.1s
YSS LR LR
comp=Z,1μm,20.0s
MYKOM Kota Tinggi 63.91 278 ⇑ P **P 02 29 42.5 +1.5**
NJ2 Nanjing 63.97 316 *e*P **P 02 29 40.7 -0.2**
NJ2 S **S 02 38 14.0 -0.8**
NJ2 PMZ
comp=Z,80nm,0.9s
NJ2 PMZ
comp=Z,1μm,9.3s
NJ2 LN
comp=Z,2μm,15.5s
NJ2 LE
comp=Z,3μm,20.1s
NJ2 LZ
comp=Z,4μm,20.0s
VLA Vladivostok 64.24 332 ⇑ *i*P **P 02 29 42.4 0.0**
VLA *i* 02 30 16.5
VLA S **S 02 38 14.7 -3.0**
VLA pmax pmax
comp=Z,70nm,1.2s
QIZ Qiongzhong 64.31 299 P **P 02 29 43.3 -0.1**
QIZ pP **pP 02 29 52.6 -1.2**
QIZ sP **sP 02 29 56.7 -1.0**
QIZ S **S 02 38 19.1 -0.4**
QIZ sS **sS 02 38 35.1 -1.5**
QIZ PMZ
comp=Z,25nm,1.4s
QIZ LN
comp=Z,820nm,22.6s
QIZ LZ
comp=Z,910nm,21.5s
QIZ Qiongzhong 64.31 299 PFAKE 02 29 50.0 +6.6

QIZ LR LR
comp=Z,763nm,19.0s
VNDA Vanda 64.56 181 P **P** **02 29 44.2 +0.2**
comp=Z,17nm,1.2s,baz=346,slow=7.3,SNR=21
VNDA LR LR 02 54 23.1
comp=Z,2μm,20.4s,baz=24,slow=33
SBA Scott Base 64.85 180 *eP* **P** **02 29 46.6 +0.6**
SBA pmax pmax
comp=Z,199nm,1.8s
SBA MLR MLR
comp=Z,3μm,19.0s
SBA Scott Base 64.85 180 *eP* **P** **02 29 46.6 +0.6**
comp=Z,199nm,1.8s
SBA LR LR
comp=Z,3μm,19.0s
CASY Casey 64.86 202 PFAKE 02 30 00.0 +14
CASY LR LR
comp=Z,3μm,20.0s
USRK Ussuriysk Ar. 65.05 333 P **P** **02 29 48.5 +0.8**
comp=Z,119nm,1.1s,baz=134,slow=6.0,SNR=135
USRK LR LR 02 56 41.4
comp=Z,1μm,20.1s,baz=127,slow=35
KTGM Kuala Trenggan 65.57 282 ⇑P **P** **02 29 52.8 +1.0**
PET Petropavlovsk 66.11 355 *eP* **P** **02 29 53.9 -0.5**
PET *eS* **S** **02 38 39.0 -1.3**
PET *eSS* **SS** **02 42 57.3 +0.5**
PET pmax pmax
comp=Z,400nm,4.7s
PET pmax pmax
comp=Z,700nm,12.3s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET Petropavlovsk 66.11 355 PFAKE 02 30 10.0 +16
PET LR LR
comp=Z,3μm,21.0s
ADK Adak 66.24 11 PFAKE 02 30 10.0 +15
ADK LR LR
comp=Z,4μm,22.0s
BKNI Bangkinang 66.26 276 P P 02 30 09.7 +14
WHN Wuhan 66.28 312 ⇑P **P** **02 29 55.5 -0.5**
WHN pP **pP** **02 30 07.7 +1.3**
WHN PP **PP** **02 32 19.3 -3.1**
WHN PMZ
comp=Z,82nm,1.2s
WHN LN
comp=Z,2μm,15.0s
WHN LE
comp=Z,2μm,17.6s
WHN LZ
comp=Z,2μm,19.4s
PETK Petropavlovsk- 66.29 354 P **P** **02 29 56.7 +1.2**
comp=Z,13nm,1.0s,baz=143,slow=8.7,SNR=8.6
PETK LR LR 02 53 34.4
comp=Z,1μm,21.8s,baz=171,slow=31
FRIM Kepong 66.44 279 ⇑P **P** **02 29 57.8 +0.4**
MDJ Mudanjiang 66.45 332 P **P** **02 29 57.6 +0.9**
MDJ pP **pP** **02 30 06.9 -0.2**
MDJ sP **sP** **02 30 10.7 -0.4**
MDJ PcP **PcP** **02 30 25.5 -0.7**
MDJ PP **PP** **02 32 24.4 +0.9**
MDJ S **S** **02 38 47.9 +3.1**
MDJ PMZ
comp=Z,120nm,1.2s
MDJ PMZ
comp=Z,780nm,4.8s
MDJ LN
comp=Z,650nm,17.9s
MDJ LE
comp=Z,580nm,17.1s
MDJ LZ
comp=Z,1μm,19.6s
MDJ Mudanjiang 66.45 332 *eP* **P** **02 29 57.7 +1.0**
comp=Z,144nm,1.1s
MDJ LR LR
comp=Z,1μm,20.0s
DL2 Dalian 66.52 323 ⇑ *iP* **P** **02 29 57.9 +0.6**
DL2 S **S** **02 38 47.5 +1.7**
DL2 PMZ
comp=Z,120nm,1.1s
DL2 PMZ
comp=Z,450nm,9.3s
DL2 LN
comp=Z,380nm,18.8s
DL2 LE
comp=Z,500nm,15.5s
DL2 LZ
comp=Z,710nm,17.8s
UBPT Khong Chiam 66.66 293 P **P** **02 30 00.6 +1.9**
comp=Z,20nm,1.6s
HABR Khabarovsk 67.29 338 *ceP* **P** **02 30 01.6 -0.4**
HABR *e**PP **pP** **02 30 17.1 +4.7**
HABR *e* 02 30 28.3
HABR *e* 02 32 29.6
HABR *e*PPP PPP 02 34 06.8
HABR S **S** **02 38 51.8 -3.0**
HABR *eS* **sS** **02 39 11.7 -0.3**
HABR *e**SS x 02 39 20.2
HABR *e* 02 39 53.2
HABR *eSS* **SS** **02 43 13.0 -2.3**
HABR pmax pmax
comp=Z,322nm,1.3s
HABR pmax pmax
comp=N,64nm,1.3s
HABR pmax pmax
comp=E,54nm,1.3s
HABR pmax pmax
comp=Z,902nm,2.7s
HABR MLR MLR
comp=Z,732nm,20.0s
IPM Ipoh 67.35 280 ⇓P **P** **02 30 04.2 +1.0**
IPM Ipoh 67.35 280 *eP* **P** **02 30 03.4 +0.2**
comp=Z,64nm,1.2s
TIA Tai'an 67.60 318 ⇑P **P** **02 30 03.8 -0.5**
TIA PP **PP** **02 32 36.8 +3.0**
TIA S **S** **02 38 57.2 -1.9**
TIA PMZ
comp=Z,60nm,1.3s
TIA LN
comp=Z,660nm,17.0s
TIA LE
comp=Z,840nm,17.0s
TIA LZ
comp=Z,1μm,17.0s
MNSI Mandailing Nat 67.79 276 P **P** **02 30 06.1 +0.2**
comp=Z,39nm,1.2s,comp=Z,2μm
COCO West Island 67.84 262 PFAKE 02 30 20.0 +14
COCO LR LR
comp=Z,2μm,19.0s
KULM Kulim 67.93 281 *eP* **P** **02 30 04.2 -2.6**
comp=Z,127nm,0.7s
SKLT Songkhla 68.49 283 P P 02 30 22.8 +12
KLR Kul'dur 69.16 336 *eP* P 02 30 08.3 -5.4
KLR *eS* **S** **02 39 11.5 -5.6**
KLR pmax pmax
comp=N,700nm,7.5s
KLR pmax pmax
comp=Z,2μm,7.5s
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s
TRTT Trang 69.57 284 P **P** **02 30 18.1 +1.1**
comp=Z,37nm,1.1s,comp=Z,963nm
ENH Enshi 69.75 309 *eP* **P** **02 30 17.3 -0.5**
comp=Z,33nm,1.3s
ENH LR LR
comp=Z,459nm,20.0s
GYA Guiyang 70.17 304 ⇑ *iP* **P** **02 30 21.2 +0.6**
GYA PP **PP** **02 32 58.9 +2.5**
GYA S **S** **02 39 31.6 +1.4**
GYA SKS **SKSac** **02 40 18.4 -1.6**
GYA SS **SS** **02 44 03.2 +2.3**
GYA PMZ
comp=Z,40nm,1.1s
GYA PMZ
comp=Z,190nm,5.2s
GYA LN
comp=Z,4μm,19.8s
GYA LE
comp=Z,4μm,20.2s
GYA LZ
comp=Z,5μm,18.9s
KCSI Kotacane, Aceh 70.22 279 P **P** **02 30 20.6 -0.5**
BJT Baijiatuau 70.49 321 *eP* **P** **02 30 22.5 +0.4**
BJT pmax pmax
comp=Z,22nm,0.7s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 70.49 321 *eP* **P** **02 30 22.5 +0.4**
comp=Z,22nm,0.7s
BJT LR LR
comp=Z,2μm,21.0s
BJI Beijing 70.50 321 P **P** **02 30 22.7 +0.6**
BJI sP **sP** **02 30 35.5 -1.1**
BJI PP **PP** **02 32 55.8 -3.0**
BJI S **S** **02 39 34.7 +1.6**
BJI sS **sS** **02 39 50.9 +0.5**
BJI PMZ
comp=Z,64nm,1.2s
BJI PMZ
comp=Z,980nm,9.7s
BJI LN
comp=Z,1μm,18.7s
BJI LE
comp=Z,1μm,20.1s
BJI LZ
comp=Z,1μm,22.9s
PKDT Phuket 70.87 283 P P 02 30 38.1 +13
PBKT Sadao Pong 71.16 293 P **P** **02 30 27.9 +1.3**
comp=Z,25nm,0.7s,comp=Z,775nm
TIY Taiyuan 71.53 317 *eP* **P** **02 30 29.4 +0.8**
TIY pP **pP** **02 30 39.2 +0.1**
TIY S **S** **02 39 44.9 -0.6**
TIY PMZ
comp=Z,110nm,1.2s
TIY PMZ
comp=Z,750nm,4.4s
TIY LN
comp=Z,760nm,14.2s
TIY LE
comp=Z,630nm,15.5s
TIY LZ
comp=Z,1μm,16.7s
UTTA Uttaradit 71.94 294 P **P** **02 30 33.1 +1.8**
comp=Z,3.3nm,1.2s,comp=Z,61nm
XAN Xi'an 72.02 312 P **P** **02 30 31.7 +0.1**
XAN pP **pP** **02 30 42.1 0.0**
XAN PP **PP** **02 33 12.6 +0.5**
XAN S **S** **02 39 49.1 -2.1**
XAN SS **SS** **02 44 26.0 -2.9**
XAN PMZ
comp=Z,11nm,1.3s
XAN PMZ
comp=Z,220nm,9.4s
XAN LN
comp=Z,530nm,17.0s
XAN LE
comp=Z,210nm,19.4s
XAN LZ
comp=Z,390nm,19.4s
SRDT SRDT 72.10 290 P **P** **02 30 34.9 +2.6**
comp=Z,118nm,1.1s,comp=Z,7μm
KMI Kunming 72.82 302 P **P** **02 30 37.8 +1.0**
KMI pP **pP** **02 30 45.5 -1.8**
KMI sP **sP** **02 30 49.1 -2.1**
KMI S **S** **02 40 01.0 0.0**
KMI sS **sS** **02 40 15.7 -2.6**
KMI SS **SS** **02 44 45.5 +3.7**
KMI PMZ
comp=Z,42nm,1.3s
KMI PMZ
comp=Z,640nm,6.6s
KMI LN
comp=Z,520nm,18.2s
KMI LE
comp=Z,860nm,19.6s
KMI LZ
comp=Z,1μm,18.2s
CRAI Chiangrai 72.98 296 P **P** **02 30 35.4 -2.1**
comp=Z,15nm,1.9s,comp=Z,450nm
LAMP Lampang 73.03 294 P **P** **02 30 39.6 +1.7**
comp=Z,9.9nm,0.7s,comp=Z,122nm
CMAR Chiang Mai Arr 73.62 294 P **P** **02 30 42.5 +1.1**
comp=Z,10nm,0.9s,baz=117,slow=4.5,SNR=39
CMMT Chiang Mai 73.74 294 P **P** **02 30 42.9 +0.8**
comp=Z,36nm,1.6s,comp=Z,866nm
CHTO Chiang Mai 73.75 294 *eP* **P** **02 30 42.0 -0.1**
CHTO pmax pmax
comp=Z,40nm,1.4s
CHTO MLR MLR
comp=Z,511nm,19.0s
CHTO Chiang Mai 73.75 294 P **P** **02 30 42.6 +0.6**
SNR=16
CHTO Chiang Mai 73.75 294 *eP* **P** **02 30 42.0 -0.1**
comp=Z,40nm,1.4s
CHTO LR LR
comp=Z,511nm,19.0s
CHTO Chiang Mai 73.75 294 P **P** **02 30 42.9 +0.8**
comp=Z,108nm,1.5s,comp=Z,3μm
HHC Hu-ho-hao-te 73.83 320 *eP* **P** **02 30 43.5 +1.2**
HHC pP **pP** **02 30 54.1 +1.3**
HHC sP **sP** **02 30 58.4 +1.7**
HHC PP PP 02 33 37.5 +10
HHC S **S** **02 40 14.2 +2.5**
HHC sS **sS** **02 40 27.3 -1.8**
HHC Hu-ho-hao-te 73.83 320 SS SS 02 45 01.0 +4.5
HHC Hu-ho-hao-te 73.83 320 *eP* **P** **02 30 42.9 +0.6**
HHC pP **pP** **02 30 53.5 +0.7**
HHC sP **sP** **02 30 58.8 +2.1**
HHC PP **PP** **02 33 32.6 +5.1**
HHC S **S** **02 40 10.9 -0.8**
HHC sS **sS** **02 40 28.2 -0.9**
HHC SS **SS** **02 44 57.0 +0.5**
HHC PMZ
comp=Z,52nm,1.2s
HHC PMZ
comp=Z,520nm,5.7s
HHC LN
comp=Z,1μm,16.2s
HHC LE
comp=Z,1μm,17.0s
HHC LZ
comp=Z,2μm,17.3s
CMAI Chiengmai2 74.04 295 P P 02 30 57.5 +14
CD2 Chengdu 74.42 307 ⇑P **P** **02 30 46.2 +0.4**
CD2 pP **pP** **02 30 57.1 +0.7**
CD2 sP **sP** **02 31 01.3 +1.0**
CD2 PP **PP** **02 33 34.7 +2.1**
CD2 S **S** **02 40 17.3 -1.2**
CD2 sS **sS** **02 40 35.2 -0.7**
CD2 SKS **SKSac** **02 40 46.7 -5.0**
CD2 SS **SS** **02 45 06.2 +0.5**
CD2 PMZ
comp=Z,50nm,0.9s
CD2 PMZ
comp=Z,1μm,8.8s
CD2 LN
comp=Z,940nm,15.3s
CD2 LE
comp=Z,1μm,16.2s
CD2 LZ
comp=Z,990nm,16.6s
HIA Hailar 74.46 330 *eP* **P** **02 30 46.1 +0.5**
HIA pmax pmax
comp=Z,159nm,1.2s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 74.46 330 *eP* **P** **02 30 46.1 +0.5**
comp=Z,159nm,1.2s
HIA LR LR
comp=Z,1μm,20.0s
BTO Baotou 74.68 319 *eP* **P** **02 30 47.4 +0.2**
SEY Seymchan 76.50 353 ⇑ *iP* **P** **02 30 57.1 +0.1**
LZH Lanzhou 76.66 312 ⇓P **P** **02 31 01.0 +2.3**
LZH pP **pP** **02 31 07.7 -1.6**
LZH sP **sP** **02 31 12.3 -0.9**
LZH PP **PP** **02 33 55.4 +3.8**
LZH S **S** **02 40 43.0 -0.3**
LZH sS **sS** **02 40 59.2 -1.6**
LZH SS **SS** **02 45 42.3 +2.6**
LZH PMZ
comp=Z,82nm,1.0s
LZH PMZ
comp=Z,370nm,4.8s
LZH LN
comp=Z,1μm,18.4s
LZH LE
comp=Z,630nm,15.0s
LZH LZ
comp=Z,1μm,17.3s
CLNS Chul'man 77.68 338 *eP* **P** **02 31 04.5 +0.7**
CLNS *e* 02 31 12.9
CLNS *e**PP pP 02 31 20.6 +6.2
CLNS *e* 02 34 03.6
CLNS *eS* S 02 41 00.9 +7.6
CLNS *e* 02 41 39.9
CLNS *eSSS* SSS 02 49 16.4
CLNS pmax pmax
comp=Z,83nm,1.2s
CLNS pmax pmax
comp=N,46nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.2s
CLNS pmax pmax
comp=N,16nm,1.6s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,16nm,1.3s
CLNS smax smax
comp=N,471nm,11.6s
CLNS smax smax
comp=E,686nm,12.3s
CLNS MLR MLR
comp=E,410nm,16.0s
CLNS MLR MLR
comp=Z,715nm,16.0s
CLNS MLR MLR
comp=N,427nm,15.0s
KDAK Kodiak Island 78.11 21 PFAKE 02 31 20.0 +14
KDAK LR LR
comp=Z,4μm,20.0s
CIT Chita 79.25 330 *eP* **P** **02 31 12.6 0.0**
CIT *e* 02 31 18.4
CIT pmax pmax
comp=Z,327nm,1.4s
YAK Yakutsk 80.19 343 *c iP* **P** **02 31 16.9 -0.5**
YAK *e**PP **pP** **02 31 27.9 -0.1**
YAK *e* 02 34 20.2
YAK *e*PPP PPP 02 36 08.6
YAK *eS* **S** **02 41 17.6 -2.1**
YAK pmax pmax
comp=Z,41nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=Z,153nm,4.6s
YAK pmax pmax
comp=N,87nm,4.3s
YAK pmax pmax
comp=E,74nm,5.3s
YAK smax smax
comp=N,93nm,3.4s
YAK smax smax
comp=E,165nm,3.7s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=E,1μm,17.0s
YAK MLR MLR
comp=N,2μm,19.0s
YAK Yakutsk 80.19 343 *eP* **P** **02 31 16.5 -0.9**
comp=N,31nm,0.8s
YAK LR LR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 80.35 324 *c iP* **P** **02 31 19.2 +0.4**
ULN pmax pmax
comp=Z,87nm,1.2s
ULN Ulaanbaatar 80.35 324 P **P** **02 31 19.5 +0.8**
SNR=52
ULN Ulaanbaatar 80.35 324 *eP* **P** **02 31 18.6 -0.1**
comp=Z,130nm,1.3s
ULN LR LR
comp=Z,986nm,20.0s
SONM Songino Array 80.71 324 P **P** **02 31 21.1 +0.4**
comp=Z,44nm,1.1s,baz=136,slow=4.1,SNR=111
SONM LR LR 03 06 21.4
comp=Z,896nm,20.3s,baz=116,slow=35
BILL Bilibino 80.83 360 *c iP* **P** **02 31 22.2 +1.5**
BILL *e* 02 31 29.1
BILL *e* 02 34 21.3
BILL pmax pmax
comp=Z,26nm,1.1s
BILL MLR MLR
comp=Z,2μm,22.0s
BILL Bilibino 80.83 360 *eP* **P** **02 31 20.4 -0.3**
comp=Z,29nm,0.9s
BILL LR LR
comp=Z,2μm,20.0s
GTA Gaotai 80.98 314 ⇑P **P** **02 31 23.4 +1.0**
GTA pP **pP** **02 31 34.0 +1.0**
GTA sP **sP** **02 31 37.7 +0.8**
GTA PP PP 02 34 33.0 +5.4
GTA S **S** **02 41 32.0 +2.7**
GTA SKS **SKSac** **02 41 35.1 -3.8**
GTA sS **ScS** **02 41 49.3 +1.5**
GTA PMZ
comp=Z,66nm,1.5s
GTA PMZ
comp=Z,950nm,7.4s
GTA LN
comp=Z,740nm,17.6s
GTA LE
comp=Z,820nm,19.0s
GTA LZ
comp=Z,850nm,17.1s
AIS Amsterdam Isla 81.36 233 P P 02 31 06.0 -18
AIS Amsterdam Isla 81.36 233 S S 02 41 27.0 -6.2
AIS SS SS 02 46 27.0 -22
AIS R 02 57 00.0
BOD Bodaibo 82.63 335 *eP* **P** **02 31 29.9 -0.5**
BOD pmax pmax
comp=Z,30nm,1.3s
DIV Divide 82.94 21 *eP* **P** **02 31 30.4 -1.6**
KTH Kantishna Hill 83.01 18 *eP* **P** **02 31 31.3 -1.1**
comp=Z,13nm,0.9s
TRF Thorofare Moun 83.12 18 *eP* **P** **02 31 33.0 -0.1**
comp=Z,14nm,0.9s
MAW Mawson 83.21 202 LR LR 03 04 38.8
comp=Z,1μm,19.6s,baz=90,slow=33
BMRM Bremner River 83.24 22 *eP* **P** **02 31 32.9 -0.7**
comp=Z,32nm,1.2s
MCK McKinley 83.74 18 *eP* **P** **02 31 35.7 -0.4**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 83.74 18 *eP* **P** **02 31 35.7 -0.4**
comp=Z,21nm,1.1s
ZAK Zakamensk 83.75 325 *eP* **P** **02 31 35.6 -0.9**
ZAK pmax pmax
comp=Z,64nm,1.3s
LSA Lhasa 84.06 302 P **P** **02 31 39.2 +0.1**
LSA Lhasa 84.06 302 *eP* **P** **02 31 40.2 +1.1**
LSA pmax pmax
comp=Z,17nm,0.9s
LSA Lhasa 84.06 302 *eP* **P** **02 31 40.2 +1.1**
comp=Z,17nm,0.9s
IRK Irkutsk 84.13 327 *eP* **P** **02 31 37.2 -1.1**
IRK pmax pmax
comp=Z,168nm,1.3s
TLY Talaya 84.19 326 P **P** **02 31 38.4 -0.2**
comp=Z,484nm,1.4s,SNR=21
TLY Talaya 84.19 326 *i* P **P** **02 31 38.0 -0.6**
TLY pmax pmax
comp=Z,112nm,1.0s
TLY MLR MLR
comp=Z,693nm,17.0s
TLY Talaya 84.19 326 P **P** **02 31 38.9 +0.2**
SNR=52
TLY Talaya 84.19 326 *eP* **P** **02 31 38.5 -0.1**
comp=Z,143nm,1.3s
TLY LR LR
comp=Z,694nm,20.0s
PAF Port-aux-Franc 84.33 221 P P 02 31 18.0 -21
PAF Port-aux-Franc 84.33 221 S S 02 42 12.0 +9.1
PAF SS SS 02 46 53.0 -40
PAF R 02 59 00.0
COLA College 84.90 18 *d iP* **P** **02 31 42.4 +0.6**
COLA pmax pmax
comp=Z,49nm,1.0s
COLA College 84.90 18 *eP* **P** **02 31 39.4 -2.4**
comp=Z,20nm,1.0s
COLA LR LR
comp=Z,2μm,19.0s

ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**02 31 41.8**	**-1.2**
	comp=Z,4.3nm,0.6s,baz=243,slow=5.0,SNR=81						
ILAR				PKKPbc	**PKKPbc**	**02 49 49.4**	**-3.4**
	comp=Z,0.3nm,0.5s,baz=358,slow=3.0,SNR=5.7						
ILAR				LR	LR	03 07 23.6	
	comp=Z,2μm,18.5s,baz=236,slow=34						
DOT	**Dot Lake**	**85.24**	**20**	*e*P	**P**	**02 31 43.1**	**-0.6**
	comp=Z,15nm,1.0s						
MOY	**Mondy**	**85.64**	**325**	*e*P	**P**	**02 31 45.5**	**-0.5**
MOY				pmax	pmax		
	comp=Z,147nm,2.9s						
WRAK	**Wrangell Islan**	**85.65**	**29**	PFAKE		02 32 00.0	+14
WRAK				LR	LR		
	comp=Z,2μm,20.0s						
BFSC	**Mount Baldy Ra**	**85.81**	**54**	P	**P**	**02 31 44.8**	**-2.6**
	baz=86						
HYT	**Haines Junctio**	**85.84**	**24**	*e*P	**P**	**02 31 46.8**	**0.0**
COLD	**Coldfoot**	**85.96**	**16**	*e*P	**P**	**02 31 47.3**	**+0.2**
	comp=Z,13nm,1.1s						
NLWA	**Neilton Lookou**	**86.16**	**40**	PFAKE		02 32 00.0	+11
NLWA				LR	LR		
	comp=Z,3μm,19.0s						
TAPN	**Taplejung**	**86.25**	**299**	*e*P	**P**	**02 31 50.2**	**+0.4**
ODAN	**Odare**	**86.38**	**298**	*e*P	**P**	**02 31 51.0**	**+0.6**
MPMC	**Manual Prospec**	**86.53**	**52**	P	**P**	**02 31 49.9**	**-0.9**
	baz=87						
PFO	**Pinyon Flats O**	**86.56**	**55**	PFAKE		02 32 00.0	+8.9
PFO				LR	LR		
	comp=Z,6μm,19.0s						
NVAR	**Mina Array Bea**	**86.68**	**50**	P	**P**	**02 31 51.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=235,slow=8.7,SNR=6.8						
NVAR				PKKPbc	**PKKPbc**	**02 49 49.4**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=91,slow=3.9,SNR=5.1						
NVAR				PKPPKP	**P'P'df**	**02 57 54.0**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=101,slow=5.5,SNR=5.1						
EGAK	**Eagle**	**86.94**	**20**	*e*P	**P**	**02 31 52.0**	**0.0**
	comp=Z,24nm,1.0s						
EGAK				LR	LR		
	comp=Z,3μm,19.0s						
RAMN	**Ramite**	**87.08**	**298**	*e*P	**P**	**02 31 53.7**	**-0.2**
	comp=Z,122nm,1.5s						
GMRC	**Granite Mounta**	**87.55**	**54**	P	**P**	**02 31 56.0**	**+0.2**
	baz=88						
PALK	**Pallekele**	**87.61**	**278**	*e*P	**P**	**02 31 56.3**	**-0.1**
PALK				pmax	pmax		
	comp=Z,27nm,1.2s						
PALK	**Pallekele**	**87.61**	**278**	*e*P	**P**	**02 31 56.3**	**-0.1**
	comp=Z,27nm,1.2s						
JIRN	**Jiri**	**87.63**	**299**	*e*P	**P**	**02 31 57.3**	**+0.7**
	comp=Z,125nm,1.4s						
IRM	**Iron Mountain**	**87.77**	**54**	P	**P**	**02 31 56.2**	**-0.6**
	baz=88						
WVOR	**Wild Horse Val**	**87.78**	**46**	*e*P	**P**	**02 31 55.5**	**-1.2**
WVOR				pmax	pmax		
	comp=Z,30nm,1.8s						
WVOR				MLR	MLR		
	comp=Z,2μm,19.0s						
WVOR	**Wild Horse Val**	**87.78**	**46**	*e*P	**P**	**02 31 55.5**	**-1.2**
	comp=Z,30nm,1.8s						
WVOR				LR	LR		
	comp=Z,2μm,19.0s						
GUN	**Gumba**	**87.96**	**299**	*e*P	**P**	**02 31 58.3**	**+0.1**
	comp=Z,145nm,1.5s						
TIXI	**Tiksi**	**88.16**	**349**	*c i*P	**P**	**02 31 56.8**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,16nm,1.3s						
TIXI	**Tiksi**	**88.16**	**349**	*e*P	**P**	**02 31 56.6**	**-1.1**
	comp=Z,20nm,1.3s						
TIXI				LR	LR		
	comp=Z,1μm,19.0s						
PKI	**Pulchoki**	**88.27**	**299**	*e*P	**P**	**02 31 59.9**	**+0.2**
	comp=Z,134nm,1.3s						
KKN	**Kakani**	**88.44**	**299**	*e*P	**P**	**02 31 59.9**	**-0.4**
	comp=Z,36nm,0.8s						
SHPR	**Sheep Range**	**88.45**	**52**	*e*P	**P**	**02 31 59.5**	**-0.6**
	comp=Z,26nm,1.6s						
HAWA	**Hanford**	**88.54**	**42**	PFAKE		02 32 10.0	+10
HAWA				LR	LR		
	comp=Z,1μm,19.0s						
PDMCI	**Parker Dam,Lak**	**88.61**	**54**	P	**P**	**02 32 00.8**	**+0.1**
	baz=89						
214A	**Organ Pipe Nat**	**89.02**	**57**	P	**P**	**02 32 02.5**	**-0.2**
	baz=89						
GKN	**Gorkha**	**89.05**	**299**	*e*P	**P**	**02 32 03.0**	**-0.1**
	comp=Z,32nm,0.7s						
BMO	**Blue Mountains**	**89.49**	**44**	*e*P	**P**	**02 32 03.7**	**-1.0**
BMO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BMO				MLR	MLR		
	comp=Z,2μm,19.0s						
BMO	**Blue Mountains**	**89.49**	**44**	*e*P	**P**	**02 32 03.7**	**-1.0**
	comp=Z,6.7nm,1.1s						
BMO				LR	LR		
	comp=Z,2μm,19.0s						
KOLN	**Koldanda**	**89.87**	**298**	*e*P	**P**	**02 32 06.8**	**-0.2**
	comp=Z,9.5nm,0.7s						
DANN	**Dangsing**	**89.88**	**299**	*e*P	**P**	**02 32 07.0**	**-0.2**
	comp=Z,39nm,0.7s						
MFID	**Camas Ranch**	**90.05**	**45**	*e*P	**P**	**02 32 07.7**	**+0.4**
	comp=Z,5.0nm,0.7s						
SYO	**Syowa Base**	**90.15**	**197**	⇓*e*P	**P**	**02 32 04.8**	**-2.4**
PYUN	**Piuthan**	**90.48**	**299**	*e*P	**P**	**02 32 09.1**	**-0.7**
	comp=Z,54nm,0.9s						
U15A	**North Rim**	**90.65**	**53**	P	**P**	**02 32 10.8**	**+0.2**
	baz=91						
NEW	**Newport**	**90.71**	**40**	P	**P**	**02 32 09.7**	**-0.5**
	baz=91						
NEW	**Newport**	**90.71**	**40**	PFAKE		02 32 20.0	+10
NEW				LR	LR		
	comp=Z,1μm,20.0s						
TUC	**Tucson**	**90.77**	**57**	*e*P	**P**	**02 32 11.7**	**+0.7**
TUC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TUC				MLR	MLR		
	comp=Z,6μm,19.0s						
TUC	**Tucson**	**90.77**	**57**	*e*P	**P**	**02 32 11.7**	**+0.7**
	comp=Z,4.2nm,0.9s						
TUC				LR	LR		
	comp=Z,6μm,19.0s						
X16A	**Lo Mia Camp, P**	**90.79**	**55**	P	**P**	**02 32 10.6**	**-0.6**
	baz=91						
WMQ	**Urumqi**	**91.03**	**315**	⇓*i*P	**P**	**02 32 12.6**	**+0.7**
WMQ				pP	**pP**	**02 32 23.5**	**+0.8**
WMQ				sP	**sP**	**02 32 27.0**	**+0.5**
WMQ				PP	**PP**	**02 35 51.5**	**+2.7**
WMQ				SKS	**SKSac**	**02 42 39.0**	**-2.6**
WMQ				S	**S**	**02 43 05.0**	**-2.3**
WMQ				SS	**SS**	**02 49 13.2**	**+1.4**
WMQ				PMZ			
	comp=Z,50nm,1.6s						
WMQ				PMZ			
	comp=Z,310nm,5.2s						
WMQ				LN			
	comp=Z,950nm,23.0s						
WMQ				LE			
	comp=Z,1μm,19.4s						
WMQ				LZ			
	comp=Z,1μm,25.0s						
HLID	**Hailey**	**91.07**	**46**	P	**P**	**02 32 11.2**	**-1.0**
	baz=91						
HLID	**Hailey**	**91.07**	**46**	PFAKE		02 32 20.0	+7.8
HLID				LR	LR		
	comp=Z,1μm,19.0s						
WUAZ	**Wupatki**	**91.12**	**54**	PFAKE		02 32 20.0	+7.4
WUAZ				LR	LR		
	comp=Z,3μm,19.0s						
DUG	**Dugway, Tooele**	**91.27**	**49**	PFAKE		02 32 20.0	+6.8
DUG				LR	LR		
	comp=Z,4μm,19.0s						
HVU	**Hansel Valley**	**91.73**	**48**	*e*P	**P**	**02 32 15.0**	**-0.3**
HVU				pmax	pmax		
	comp=Z,21nm,1.4s						
HVU	**Hansel Valley**	**91.73**	**48**	*e*P	**P**	**02 32 15.0**	**-0.3**
	comp=Z,21nm,1.4s						
319A	**Douglas**	**91.78**	**58**	P	**P**	**02 32 15.9**	**+0.2**
	baz=92						
HYB	**Hyderabad**	**91.96**	**287**	*i*P	**P**	**02 32 16.0**	**-0.7**
DGAR	**Diego Garcia**	**92.32**	**262**	PFAKE		02 32 30.0	+12
DGAR				LR	LR		
	comp=Z,1μm,21.0s						
HWUT	**Hardware Ranch**	**92.56**	**48**	PFAKE		02 32 30.0	+11
HWUT				LR	LR		
	comp=Z,2μm,19.0s						
AHID	**Auburn Hatcher**	**93.19**	**47**	PFAKE		02 32 30.0	+7.9
AHID				LR	LR		
	comp=Z,2μm,19.0s						
BOZ	**Bozeman (W)**	**93.56**	**44**	PFAKE		02 32 30.0	+6.4
BOZ				LR	LR		
	comp=Z,2μm,19.0s						
MVCO	**Mesa Verde**	**93.79**	**53**	PFAKE		02 32 40.0	+15
MVCO				LR	LR		
	comp=Z,4μm,19.0s						
LKWY	**Lake**	**94.13**	**45**	PFAKE		02 32 40.0	+14
LKWY				LR	LR		
	comp=Z,2μm,19.0s						
BW06	**Boulder Array**	**94.29**	**47**	PFAKE		02 32 40.0	+13
BW06				LR	LR		
	comp=Z,2μm,20.0s						
PDAR	**Pinedale Array**	**94.29**	**47**	P	**P**	**02 32 28.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=175,slow=2.4,SNR=5.9						
PDAR				PKKPbc	**PKKPdf**	**02 49 27.8**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=95,slow=5.0,SNR=11						
PDAR				LR	LR	03 11 15.7	
	comp=Z,2μm,18.4s,baz=276,slow=33						
ANMO	**Albuquerque**	**94.90**	**55**	PFAKE		02 32 40.0	+10
ANMO				LR	LR		
	comp=Z,4μm,19.0s						
RLMT	**Red Lodge**	**95.04**	**45**	PFAKE		02 32 40.0	+9.4
RLMT				LR	LR		
	comp=Z,2μm,19.0s						
SNAA	**Sanae**	**95.22**	**183**	*e*P	**P**	**02 32 29.4**	**-1.3**
SNAA	**Sanae**	**95.22**	**183**	*e*P	**P**	**02 32 29.4**	**-1.3**
EGMT	**Eagleton**	**95.38**	**42**	PFAKE		02 32 40.0	+8.1
EGMT				LR	LR		
	comp=Z,1μm,19.0s						
MK31	**Makanchi Array**	**95.49**	**317**	*i*P	**P**	**02 32 32.0**	**-0.3**
MK31				pmax	pmax		
	comp=Z,167nm,1.5s						
MKAR	**Makanchi Array**	**95.49**	**317**	P	**P**	**02 32 32.2**	**-0.1**
	comp=Z,14nm,0.6s,baz=95,slow=6.3,SNR=162						
MKAR				LR	LR	03 17 51.0	
	comp=Z,464nm,19.4s,baz=92,slow=37						
ZALV	**Zalesovo Beam**	**95.60**	**324**	P	**P**	**02 32 31.8**	**-0.8**
	comp=Z,19nm,0.8s,baz=108,slow=4.8,SNR=100						
ZALV				LR	LR	03 14 20.2	
	comp=Z,854nm,20.9s,baz=72,slow=35						
VNA3	**Neumayer Olymp**	**95.91**	**181**	P	**P**	**02 32 32.8**	**-1.0**
TXAR	**Lajitas Array**	**96.07**	**61**	P	**P**	**02 32 36.8**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=225,slow=4.6,SNR=11						
TXAR				LR	LR	03 10 28.8	
	comp=Z,2μm,19.0s,baz=0.0,slow=32						
VNA2	**Neumayer--Watz**	**96.17**	**182**	P	**P**	**02 32 34.1**	**-0.8**
	baz=137,slow=4.9						
YKA	**Yellowknife Ar**	**96.34**	**27**	P	**P**	**02 32 34.1**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=258,slow=4.9,SNR=33						
YKA				PKPPKP	**P'P'df**	**02 57 35.0**	**+2.1**
	comp=Z,0.3nm,0.9s,baz=58,slow=2.7,SNR=4.0						
VNA1	**Neumayer--Stat**	**96.47**	**182**	P	**P**	**02 32 36.0**	**-0.3**
ISCO	**Idaho Springs**	**96.56**	**51**	PFAKE		02 32 50.0	+12
ISCO				LR	LR		
	comp=Z,3μm,20.0s						
NVS	**Novosibirsk**	**96.71**	**325**	*e*P	**P**	**02 32 36.5**	**-1.1**
NVS				*e*		02 36 28.3	
NVS				*e*		02 43 11.8	
NVS				*e*S	S	02 43 48.0	-8.6
NVS				pmax	pmax		
	comp=Z,53nm,1.5s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,26nm,1.5s						
NVS				pmax	pmax		
	comp=Z,32nm,2.0s						
NVS				pmax	pmax		
	comp=E,26nm,2.1s						
NVS				smax	smax		
	comp=E,92nm,4.0s						
LAO	**LASA Array**	**97.45**	**44**	PFAKE		02 32 50.0	+8.7
LAO				LR	LR		
	comp=Z,2μm,19.0s						
KSH	**Kashi**	**98.59**	**309**	P	Pdif	02 32 48.3	+1.6
KSH				pP	pP	02 32 58.9	+1.5
KSH				PP	**PP**	**02 36 52.6**	**+4.8**
KSH				SKS	**SKSac**	**02 43 23.0**	**+0.5**
KSH				S	**S**	**02 44 12.4**	**-1.3**
KSH				sS	sS	02 44 30.1	-1.6
KSH				PMZ			
	comp=Z,8.0nm,1.3s						
KSH				PMZ			
	comp=Z,250nm,7.8s						
KSH				LN			
	comp=Z,310nm,13.0s						
KSH				LE			
	comp=Z,100nm,5.6s						
KSH				LZ			
	comp=Z,810nm,23.6s						
KURK	**Kurchatov**	**98.65**	**320**	*e*P	**P**	**02 32 45.3**	**-1.1**
KURK						02 36 46.4	
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK				MLR	MLR		
	comp=Z,1μm,19.0s						
KURK	**Kurchatov**	**98.65**	**320**	Pdiff	Pdif	02 32 46.4	0.0
	SNR=6.6						
KURK	**Kurchatov**	**98.65**	**320**	*e*P	**P**	**02 32 45.3**	**-1.1**
	comp=Z,8.0nm,0.9s						
KURK				PP	**PP**	**02 36 46.4**	**-1.3**
KURK				LR	LR		
	comp=Z,1μm,19.0s						
KURBB	**Kurchatov Arra**	**98.69**	**320**	P	**P**	**02 32 46.0**	**-0.5**
	comp=Z,3.0nm,0.8s						
KURBB				PP	**PP**	**02 36 46.4**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=91,slow=6.7,SNR=4.3						
DGMT	**Dagmar**	**99.11**	**42**	PFAKE		02 33 00.0	+11
DGMT				LR	LR		
	comp=Z,1μm,19.0s						
TKM2	**Tokmak 2**	**99.43**	**312**	*e*P	**Pdif**	**02 32 49.6**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TKM2				MLR	MLR		
	comp=Z,698nm,20.0s						
TKM2	**Tokmak 2**	**99.43**	**312**	*e*P	**Pdif**	**02 32 49.6**	**-0.8**
	comp=Z,3.7nm,1.3s						
TKM2				LR	LR		
	comp=Z,698nm,20.0s						
OGNE	**Ogallala**	**99.45**	**50**	PFAKE		02 33 00.0	+10
OGNE				LR	LR		
	comp=Z,6μm,19.0s						
JCT	**Junction City**	**99.57**	**61**	PFAKE		02 33 00.0	+8.9
JCT				LR	LR		
	comp=Z,2μm,20.0s						
AAK	**Ala-Archa**	**100.19**	**311**	*e*P	**Pdif**	**02 32 53.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AAK	**Ala-Archa**	**100.19**	**311**	*e*Pdif	**Pdif**	**02 32 53.6**	**-0.1**
	comp=Z,4.2nm,1.3s						
EKS2	**Erkin-Say**	**100.71**	**311**	*e*P	**Pdif**	**02 32 55.9**	**-0.1**
EKS2	**Erkin-Say**	**100.71**	**311**	*e*Pdif	**Pdif**	**02 32 55.9**	**-0.1**
KVTX	**Kingsville**	**100.75**	**64**	PFAKE		02 33 10.0	+14
KVTX				LR	LR		
	comp=Z,2μm,20.0s						
WMOK	**Wichita Mounta**	**101.08**	**57**	PFAKE		02 33 10.0	+12
WMOK				LR	LR		
	comp=Z,4μm,19.0s						
FFC	**Flin Flon**	**101.34**	**36**	PFAKE		02 33 10.0	+12
FFC				LR	LR		
	comp=Z,4μm,19.0s						
KK31	**Karatay Array**	**103.15**	**312**	*i*P	**Pdif**	**02 33 06.5**	**-0.2**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**103.15**	**312**	*e*P	**Pdif**	**02 33 06.1**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**103.15**	**312**	*e*Pdif	**Pdif**	**02 33 06.1**	**-0.6**
	comp=Z,1.0nm,0.6s						
KSU1	**Kansas State U**	**103.34**	**53**	PFAKE		02 33 20.0	+12
KSU1				LR	LR		
	comp=Z,2μm,19.0s						
ECSD	**EROS Data Cent**	**103.77**	**48**	PFAKE		02 33 20.0	+11
ECSD				LR	LR		
	comp=Z,2μm,19.0s						
BVA0	**Borovoye Array**	**103.98**	**322**	*i*P	**Pdif**	**02 33 09.7**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,13nm,1.3s						
BVAR	**Borovoye Array**	**103.98**	**322**	Pdiff	**Pdif**	**02 33 09.9**	**-0.2**
	baz=114,slow=3.5						
BVAR				PP	**PKiKP**	**02 37 27.6**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=116,slow=6.8,SNR=4.6						
NATX	**Nacogdoches**	**104.12**	**60**	PFAKE		02 33 20.0	+8.8
NATX				LR	LR		
	comp=Z,4μm,19.0s						
AGMN	**Agassiz Nation**	**104.62**	**43**	PFAKE		02 33 20.0	+6.9
AGMN				LR	LR		
	comp=Z,2μm,20.0s						
EFI	**East Falkland**	**104.89**	**153**	PFAKE		02 33 30.0	+16
EFI				LR	LR		
	comp=Z,1μm,22.0s						
MIAR	**Mount Ida**	**105.32**	**57**	PFAKE		02 37 40.0	
MIAR				LR	LR		
	comp=Z,3μm,19.0s						
SCIA	**State Center**	**106.14**	**50**	PFAKE		02 37 40.0	
SCIA				LR	LR		
	comp=Z,5μm,19.0s						
EYMN	**Ely**	**107.53**	**44**	PFAKE		02 37 50.0	
EYMN				LR	LR		
	comp=Z,2μm,19.0s						
JFWS	**Jewell Farm**	**108.37**	**49**	PFAKE		02 37 50.0	
JFWS				LR	LR		
	comp=Z,1μm,20.0s						
COWI	**Conover**	**109.16**	**46**	PFAKE		02 37 50.0	
COWI				LR	LR		
	comp=Z,2μm,19.0s						
WVT	**Waverly**	**110.10**	**56**	*e*PKIKP	**PKiKP**	**02 37 38.2**	**-1.1**
WVT	**Waverly**	**110.10**	**56**	*e*PKP	**PKiKP**	**02 37 38.2**	**-1.1**
JTS	**JuntasAbangare**	**110.11**	**84**	PFAKE		02 37 50.0	
JTS				LR	LR		
	comp=Z,2μm,19.0s						
BRAL	**Brewton**	**110.53**	**62**	PFAKE		02 37 50.0	
BRAL				LR	LR		
	comp=Z,2μm,19.0s						
AB31	**Akbulak array**	**110.58**	**318**	*i* P	**Pdif**	**02 33 39.1**	**-0.5**
ARU	**Arti**	**110.69**	**326**	*e*PKIKP	**PKiKP**	**02 37 38.2**	**-1.6**
ARU				MLR	MLR		
	comp=Z,926nm,19.0s						
ARU	**Arti**	**110.69**	**326**	*e*PKP	**PKiKP**	**02 37 38.2**	**-1.6**
ARU				LR	LR		
	comp=Z,926nm,19.0s						
LCO	**Las Campanas**	**110.72**	**128**	*e*Pdif	**Pdif**	**02 33 40.8**	**-0.3**
LCO				LR	LR		
	comp=Z,1μm,19.0s						
TRQA	**Tornquist**	**111.85**	**140**	PFAKE		02 37 50.0	
TRQA				LR	LR		
	comp=Z,1μm,19.0s						
ABPO	**Ambohimpanom**	**112.29**	**243**	PFAKE		02 38 00.0	
ABPO				LR	LR		
	comp=Z,2μm,20.0s						
KBS	**Kingsbay**	**112.94**	**355**	PFAKE		02 37 50.0	
KBS				LR	LR		
	comp=Z,972nm,21.0s						
AAM	**Ann Arbor**	**113.25**	**49**	PFAKE		02 38 00.0	
AAM				LR	LR		
	comp=Z,4μm,19.0s						
GOGA	**Godfrey**	**113.65**	**59**	PFAKE		02 38 00.0	
GOGA				LR	LR		
	comp=Z,2μm,19.0s						
ACSO	**Alum Creek Sta**	**113.87**	**52**	PFAKE		02 38 00.0	
ACSO				LR	LR		
	comp=Z,6μm,19.0s						
OTAV	**Otavalo**	**114.37**	**96**	PFAKE		02 38 00.0	+11
OTAV				LR	LR		
	comp=Z,1μm,19.0s						
BCIP	**Isla Barro Col**	**114.88**	**86**	PFAKE		02 38 00.0	+11
BCIP				LR	LR		
	comp=Z,734nm,20.0s						
LVC	**Limon Verde**	**115.15**	**123**	PFAKE		02 38 00.0	+10
LVC				LR	LR		
	comp=Z,787nm,19.0s						
ERPA	**Erie**	**115.98**	**49**	PFAKE		02 38 00.0	+10
ERPA				LR	LR		
	comp=Z,4μm,19.0s						
BLA	**Blacksburg**	**116.04**	**55**	PFAKE		02 38 00.0	+9.3
BLA				LR	LR		
	comp=Z,4μm,19.0s						
NHSC	**New Hope**	**116.41**	**59**	PFAKE		02 38 00.0	+8.5
NHSC				LR	LR		
	comp=Z,2μm,19.0s						
KEV	**Kevo**	**117.89**	**345**	PFAKE		02 38 00.0	+6.8
KEV				LR	LR		
	comp=Z,1μm,20.0s						
CNNC	**Cliffs of the**	**118.20**	**57**	PFAKE		02 38 10.0	+15
CNNC				LR	LR		
	comp=Z,3μm,19.0s						
MTDJ	**Mount Denham**	**118.31**	**76**	PFAKE		02 38 10.0	+14
MTDJ				LR	LR		
	comp=Z,702nm,20.0s						
CBN	**Corbin Frederi**	**118.37**	**54**	PFAKE		02 38 10.0	+15
CBN				LR	LR		
	comp=Z,4μm,19.0s						
ARCES	**ARCESS Array B**	**118.42**	**345**	PKP	**PKPdf**	**02 37 53.1**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=78,slow=1.9,SNR=16						
ARCES				PKKPbc	**PKKPbc**	**02 48 14.8**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=207,slow=2.6,SNR=11						
LPAZ	**La Paz**	**118.60**	**117**	*e*PKIKP	**PKPdf**	**02 37 56.8**	**-0.1**
LPAZ	**La Paz**	**118.60**	**117**	*e*PKPdf	**PKPdf**	**02 37 56.8**	**-0.1**
BINY	**Binghamton**	**118.92**	**49**	PFAKE		02 38 10.0	+14
BINY				LR	LR		
	comp=Z,5μm,20.0s						
LONY	**Lake Ozonia**	**119.51**	**46**	PFAKE		02 38 10.0	+13
LONY				LR	LR		
	comp=Z,1μm,19.0s						
NCB	**Newcomb**	**119.89**	**47**	PFAKE		02 38 10.0	+12
NCB				LR	LR		
	comp=Z,2μm,20.0s						
MAK	**Makhachkala**	**119.96**	**312**	*i* P	**Pdif**	**02 34 21.6**	**+0.2**
MAK				*e*		02 39 24.8	
MAK				*e*PPP	PPP	02 42 02.2	
MAK						02 44 51.3	
MAK				*e*PS	**PS**	**02 49 08.0**	**-4.7**
MAK				*e*SS	SS	02 55 44.6	-1.7
GTBY	**Guantanamo Bay**	**120.73**	**74**	PFAKE		02 38 10.0	+10
GTBY				LR	LR		
	comp=Z,669nm,19.0s						
LBNH	**Lisbon**	**121.45**	**46**	PFAKE		02 38 10.0	+9.1
LBNH				LR	LR		
	comp=Z,2μm,20.0s						
MOS	**Moscow**	**122.06**	**329**	*e*PKIKP	**PKPdf**	**02 38 05.0**	**+3.4**
MOS				*e*		02 39 32.9	
GNI	**Garni**	**122.51**	**309**	*d i*PKIKP	**PKPdf**	**02 38 03.8**	**+0.5**
GNI				pmax	pmax		
	comp=Z,16nm,1.7s						
GNI	**Garni**	**122.51**	**309**	PKP	**PKPdf**	**02 38 03.6**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=24,slow=3.1,SNR=5.7						
GNI	**Garni**	**122.51**	**309**	PKP	**PKPdf**	**02 38 03.6**	**+0.4**
GNI				*e*PKPdf	**PKPdf**	**02 38 03.8**	**+0.5**
ZEI	**Tsey**	**122.58**	**313**	*i*PKIKP	**PKPdf**	**02 38 02.3**	**-1.1**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OBN	**Obninsk**	**122.88**	**328**	*e*PKIKP	**PKPdf**	**02 38 03.0**	**-0.2**
OBN				*e*		02 39 40.1	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PKME	**Peaks-Kenny Pk**	**123.01**	**44**	PFAKE		02 38 20.0	+16
PKME				LR	LR		
	comp=Z,2μm,19.0s						
KIV	**Kislovodsk**	**123.16**	**314**	*i*PKIKP	**PKPdf**	**02 38 04.1**	**-0.2**
KIV				*e*		02 39 41.7	
KIV				*e*PS	**PS**	**02 49 39.5**	**-1.9**
KIV				*e*SS	SS	02 56 24.9	-2.5
KIV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIV	**Kislovodsk**	**123.16**	**314**	*e*PKPdf	**PKPdf**	**02 38 02.6**	**-1.7**
RAYN	**Ar Rayn**	**123.39**	**290**	*e*PKPdf	**PKPdf**	**02 38 04.7**	**-0.6**
SDV	**Santo Domingo**	**123.79**	**88**	*e*PKPdf	**PKPdf**	**02 38 06.6**	**+0.1**
FINES	**FINESS Array B**	**123.88**	**338**	*c i*PKIKP	**PKPdf**	**02 38 07.1**	**+2.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**123.88**	**338**	PKP	**PKPdf

KMBO	**Kilima Mbogo**	**127.80**	**258**	*c* iPKIKP	**PKPdf**	**02 38 15.0**	**+0.7**
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KMBO	**Kilima Mbogo**	**127.80**	**258**	PKP	**PKPdf**	**02 38 14.9**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=64,slow=2.4,SNR=5.8								
KMBO	**Kilima Mbogo**	**127.80**	**258**	*e*PKPdf	**PKPdf**	**02 38 14.0**	**-0.2**
SIM	**Simferopol'**	**128.65**	**318**	*e*PKIKP	**PKPdf**	**02 38 19.0**	**+4.4**
SIM				*e*		02 40 20.0			
SIM				pmax	pmax				
	comp=Z,160nm,8.5s								
NB2	**NORSAR Subarra**	**128.79**	**345**	PKPdf	**PKPdf**	**02 38 13.4**	**-1.1**
	comp=Z,9.4nm,1.4s,baz=31,slow=1.9								
NB2	**NORSAR Subarra**	**128.79**	**345**	PKPdf	**PKPdf**	**02 38 13.4**	**-1.1**
	baz=31,slow=1.9								
NOA	**NORSAR Array B**	**128.79**	**345**	PKP	**PKPdf**	**02 38 14.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=33,slow=2.0,SNR=4.2								
AKASG	**Malin Array Be**	**128.93**	**326**	*c* iPKIKP	**PKPdf**	**02 38 14.6**	**-0.3**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**128.93**	**326**	PKP	**PKPdf**	**02 38 14.7**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=52,slow=2.1,SNR=15								
AKASG				PP	**PP**	**02 40 18.8**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=51,slow=6.3,SNR=4.1								
KIEV	**Kiev**	**128.94**	**326**	⇑ *i* PKIKP	**PKPdf**	**02 38 14.4**	**-0.6**
KIEV	**Kiev**	**128.94**	**326**	*e*PKPdf	**PKPdf**	**02 38 13.6**	**-1.4**
LSZ	**Lusaka**	**130.13**	**237**	*e*PKIKP	**PKPdf**	**02 38 18.4**	**-0.1**
LSZ	**Lusaka**	**130.13**	**237**	PKP	**PKPdf**	**02 38 19.0**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=17,slow=7.7,SNR=8.9								
LSZ	**Lusaka**	**130.13**	**237**	*e*PKPdf	**PKPdf**	**02 38 18.4**	**-0.1**
KONO	**Kongsberg**	**130.40**	**345**	PFAKE		02 38 30.0	+13		
KONO				LR	LR				
	comp=Z,786nm,21.0s								
BRTR	**Keskin Array B**	**130.86**	**312**	PKP	**PKPdf**	**02 38 18.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=153,slow=6.8,SNR=4.7								
BRTR				PP	**PP**	**02 40 36.3**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=104,slow=5.2,SNR=7.3								
BRTR				SKPbc	**SKPab**	**02 41 45.7**	**+4.6**
	comp=Z,1.7nm,1.1s,baz=174,slow=5.8,SNR=4.1								
KIS	**Kishinev**	**131.06**	**322**	*e*P	**Pdif**	**02 35 12.0**	**+1.3**
KIS				*e*		02 38 19.0			
KIS				*e*PPP	PPP	02 43 24.0			
KIS				*e*PS	PS	02 50 36.0	-14		
KIS				MLR	MLR				
	comp=Z,700nm,20.0s								
KIS				MLR	MLR				
	comp=Z,700nm,22.0s								
KIS	**Kishinev**	**131.06**	**322**	*e*P	**Pdif**	**02 35 12.0**	**+1.3**
KIS	**Kishinev**	**131.06**	**322**	*e*PKP	**PKPdf**	**02 38 19.0**	**-0.1**
KIS	**Kishinev**	**131.06**	**322**	*e*PP	PP	02 40 30.0	-6.0		
KIS	**Kishinev**	**131.06**	**322**	*i* PKS	**PKSbc**	**02 41 45.0**	**+0.2**
KIS	**Kishinev**	**131.06**	**322**	*e*PS	PS	02 50 36.0	-14		
KIS				LRM	MLR	03 38 04.0			
	comp=Z,700nm,20.0s								
CFR	**Carcaliu**	**132.36**	**321**	⇑ PKIKP	PKPdf	02 38 30.4	+8.8		
CFR	**Carcaliu**	**132.36**	**321**	⇑ *i*P	PKPdf	02 38 30.4	+8.8		
BSD	**Bornholm Skovb**	**132.52**	**338**	*i* P	**PKPdf**	**02 38 24.6**	**+3.0**
BSD				*i*		02 40 46.9			
TLB	**Topalu**	**132.70**	**320**	⇑ PKIKP	PKPdf	02 38 30.9	+8.6		
TLB	**Topalu**	**132.70**	**320**	⇑ *i*P	PKPdf	02 38 30.9	+8.6		
BURAR	**Bucovina Array**	**132.82**	**325**	⇑ PKIKP	**PKPdf**	**02 38 25.7**	**+3.1**
BURAR	**Bucovina Array**	**132.82**	**325**	⇑ *i*P	**PKPdf**	**02 38 25.7**	**+3.1**
VRI	**Vrincioaia**	**132.88**	**322**	⇑ PKIKP	**PKPdf**	**02 38 21.8**	**-0.8**
VRI	**Vrincioaia**	**132.88**	**322**	⇑ *i*P	**PKPdf**	**02 38 21.8**	**-0.8**
COP	**Copenhagen**	**132.92**	**340**	*e*PKIKP	**PKPdf**	**02 38 25.1**	**+2.8**
COP				*i*		02 40 46.9			
COP				MLR	MLR				
	comp=Z,440nm,18.0s								
COP	**Copenhagen**	**132.92**	**340**	*i* P	**PKPdf**	**02 38 25.1**	**+2.8**
COP				*i*		02 40 46.9			
PLOR	**Plostina**	**132.93**	**322**	⇓ PKIKP	PKPdf	02 38 32.0	+9.2		
PLOR	**Plostina**	**132.93**	**322**	⇓ *i*P	PKPdf	02 38 32.0	+9.2		
KWP	**Kalwaria Pacla**	**132.97**	**328**	⇓ PKIKP	PKPdf	02 38 32.1	+9.4		
KWP	**Kalwaria Pacla**	**132.97**	**328**	⇓ *i*P	PKPdf	02 38 32.1	+9.4		
GRGR	**Grenville**	**132.99**	**85**	PFAKE		02 38 40.0	+16		
GRGR				LR	LR				
	comp=Z,592nm,20.0s								
PSN	**Preselentsi**	**133.04**	**319**	P	**PP**	**02 40 47.7**	**-1.2**
ANWB	**Willy Bob**	**133.25**	**78**	PFAKE		02 38 40.0	+16		
ANWB				LR	LR				
	comp=Z,702nm,20.0s								
MUD	**Monsted U'grnd**	**133.28**	**343**	*e*PKIKP	**PKPdf**	**02 38 24.6**	**+1.6**
MUD				MLR	MLR				
	comp=Z,1μm,18.0s								
MUD	**Monsted U'grnd**	**133.28**	**343**	*i* P	**PKPdf**	**02 38 23.2**	**+0.2**
MLR	**Muntele Rosu**	**133.54**	**322**	⇓ PKIKP	PKPdf	02 38 32.8	+8.7		
MLR	**Muntele Rosu**	**133.54**	**322**	⇓ *i*P	PKPdf	02 38 32.8	+8.7		
DOPR	**Dopca**	**133.62**	**323**	⇑ *i*P	**PKPdf**	**02 38 25.6**	**+1.6**
KOLS	**Kolonicke sedl**	**133.63**	**328**	*e*PKIKP	**PKPdf**	**02 38 24.5**	**+0.5**
KOLS				*e*		02 40 52.8			
KOLS	**Kolonicke sedl**	**133.63**	**328**	*e*PKP	**PKPdf**	**02 38 24.5**	**+0.5**
KOLS				*e*PP	**PP**	**02 40 52.8**	**+0.4**
PRD	**Provadia**	**133.77**	**319**	P	**PP**	**02 40 53.6**	**0.0**
UZH	**Uzhgorod**	**133.81**	**328**	*e*PKHKP	PKPpre	02 38 14.6			
UZH				*i*		02 38 23.8			
UZH				MLR	MLR				
	comp=N,380nm,21.0s								
UZH				MLR	MLR				
	comp=E,700nm,21.0s								
UZH				MLR	MLR				
	comp=Z,330nm,21.0s								
STHS	**Stebnicka Huta**	**133.85**	**329**	*e*PP	PP	02 40 55.6	+1.8		
CRVS	**Cervenica-Dubn**	**134.07**	**328**	*e*PKIKP	**PKPdf**	**02 38 26.9**	**+2.1**
CRVS				*e*		02 41 00.8			
CRVS	**Cervenica-Dubn**	**134.07**	**328**	*e*PKP	**PKPdf**	**02 38 26.8**	**+2.0**
CRVS				*e*		02 41 00.8			
CRVS	**Cervenica-Dubn**	**134.07**	**328**	⇑ *e*SKPB	**SKPbc**	**02 41 53.0**	**+1.3**
NIE	**Niedzica**	**134.31**	**330**	*e*PKIKP	**PKPdf**	**02 38 25.5**	**+0.2**
NIE				*e*		02 40 55.4			
NIE				MLR	MLR				
	comp=Z,900nm,21.0s								
NIE	**Niedzica**	**134.31**	**330**	*e*PKP	**PKPdf**	**02 38 25.3**	**0.0**
NIE				*e*		02 40 57.8			
JMB	**Yambol**	**134.64**	**318**	*e*P	**PKPdf**	**02 38 26.8**	**+0.8**
SZH	**Strazhica**	**134.68**	**319**	*e*P	**PKPdf**	**02 38 22.5**	**-3.6**
SZH	**Strazhica**	**134.68**	**319**	P	**PP**	**02 40 58.8**	**-0.5**
DRGR		**134.69**	**325**	⇑ PKIKP	**PKPdf**	**02 38 27.5**	**+1.4**
DRGR		**134.69**	**325**	⇑ *i*P	**PKPdf**	**02 38 27.5**	**+1.4**
KECS	**Kecovo**	**134.83**	**328**	*e*	**SKPbc**	**02 41 56.2**	**+2.1**
RAC	**Raciborz**	**134.88**	**332**	*e*PKIKP	**PKPdf**	**02 38 26.4**	**+0.2**
RAC				*e*		02 41 00.0			
RAC				*e*PPS	PPS	02 53 10.0			
RAC				MLR	MLR				
	comp=Z,8μm,21.7s								
OKC	**Ostrava-Krasne**	**135.07**	**331**	*e*PKIKP	**PKPdf**	**02 38 27.4**	**+0.8**
OKC				*e*		02 41 01.6			
OKC				MLR	MLR				
	comp=Z,800nm,17.8s								
OKC	**Ostrava-Krasne**	**135.07**	**331**	*e*PKPdf	**PKPdf**	**02 38 27.4**	**+0.8**
OKC				*e*PP	**PP**	**02 41 01.6**	**+0.2**
OKC				*e*SKP		02 42 00.9			
OKC				AMS	AMS	03 43 40.0			
	comp=Z,800nm,17.8s								
KSP	**Ksiaz**	**135.20**	**333**	*e*PKP	**PKPdf**	**02 38 27.0**	**+0.2**
GZR	**Gura Zlata**	**135.46**	**324**	⇑ PKIKP	**PKPdf**	**02 38 26.8**	**-0.8**
GZR	**Gura Zlata**	**135.46**	**324**	⇑ *i*P	**PKPdf**	**02 38 26.8**	**-0.8**
PSZ	**Piszkesteto**	**135.50**	**328**	*e*PKIKP	**PKPdf**	**02 38 28.2**	**+0.6**
PSZ	**Piszkesteto**	**135.50**	**328**	*e*PKPdf	**PKPdf**	**02 38 28.1**	**+0.6**
BDFB	**Brasilia**	**135.50**	**129**	PKP	**PKPdf**	**02 38 28.4**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=201,slow=2.1,SNR=2.2								
BDFB				SKPbc	**SKPab**	**02 42 02.6**	**+0.8**
	comp=Z,4.2nm,0.9s,baz=246,slow=6.4,SNR=5.3								
KRLC	**Kraliky**	**135.53**	**332**	*e*PKIKP	**PKPdf**	**02 38 27.5**	**0.0**
KRLC				*e*		02 41 03.8			
KRLC	**Kraliky**	**135.53**	**332**	*e*PKPdf	**PKPdf**	**02 38 27.5**	**0.0**
KRLC				*e*PP	**PP**	**02 41 03.8**	**-0.5**
DPC	**Dobruska-Polom**	**135.54**	**333**	*e*PKIKP	**PKPdf**	**02 38 26.8**	**-0.7**
DPC	**Dobruska-Polom**	**135.54**	**333**	*e*PKPdf	**PKPdf**	**02 38 26.8**	**-0.7**
DPC				*e*PP	**PP**	**02 40 59.3**	**-5.1**
DPC				*e*SKP		02 42 03.2			
DPC				AMS	AMS	03 38 30.0			
UPC	**Upice**	**135.56**	**333**	*e*SKP		02 42 03.2			
VYHS	**Vyhne**	**135.66**	**329**	*e*PKIKP	**PKPdf**	**02 38 31.6**	**+3.8**
VYHS				*e*		02 41 05.9			
VYHS	**Vyhne**	**135.66**	**329**	*e*PKP	**PKPdf**	**02 38 31.6**	**+3.8**
VYHS				*e*PP	**PP**	**02 41 05.9**	**+0.7**
VYHS	**Vyhne**	**135.66**	**329**	⇑ *e*PKSB	**PKSdf**	**02 42 00.5**	**-3.4**
TSUM	**Tsumeb**	**135.74**	**224**	*e*PKPdf	**PKPdf**	**02 38 28.9**	**0.0**
BZS	**Buzias**	**136.00**	**325**	⇑ PKIKP	**PKPdf**	**02 38 26.8**	**-1.7**
BZS	**Buzias**	**136.00**	**325**	⇑ *i*P	**PKPdf**	**02 38 26.8**	**-1.7**
MPEP	**Malo Peshtene**	**136.01**	**321**	P	PP	02 40 52.2	-15		
PGB	**Panagyurishte**	**136.16**	**319**	*e*P	**PKPdf**	**02 38 28.8**	**-0.1**
BRG	**Berggiesshubel**	**136.17**	**335**	*e*PKP	PKPpre	02 38 19.6			
	comp=Z,11nm,1.7s								
BRG				PP	PP	02 40 52.0	-16		
BRG				*e*		02 41 06.3			
	comp=Z,9.6nm,1.4s								
BRG				*e*SKP		02 42 01.3			
	comp=Z,12nm,1.4s								
BRG	**Berggiesshubel**	**136.17**	**335**	*e*PKHKP	PKPpre	02 38 19.6			
BRG				*e*		02 41 06.3			
BRG				pmax	pmax				
	comp=Z,11nm,1.7s								
BRG				pmax	pmax				
	comp=Z,10.0nm,1.4s								
BRG				pmax	pmax				
	comp=N,12nm,1.4s								
BRG				MLR	MLR				
	comp=N,998nm,17.6s								
BRG				MLR	MLR				
	comp=E,620nm,17.9s								
BRG				MLR	MLR				
	comp=Z,1μm,18.1s								
PVCC	**Panska Ves**	**136.17**	**334**	*e*PP	PP	02 41 08.7	+0.5		
PVCC				AMS	AMS	03 45 10.0			
	comp=Z,2μm,18.1s								
CLL	**Collm**	**136.21**	**336**	*e*PKIKP	PKPpre	02 38 24.0			
CLL				*e*		02 41 07.0			
CLL				MLR	MLR				
	comp=Z,1μm,21.0s								
CLL	**Collm**	**136.21**	**336**	*e*PKPdf	**PKPdf**	**02 38 27.0**	**-1.7**
CLL				*e*PP	**PP**	**02 41 07.0**	**-1.4**
CLL				*e*PKSdf	**PKSdf**	**02 42 01.0**	**-3.7**
CLL				*e*		02 42 58.0			
CLL				*e*PPS	PPS	02 53 17.0			
CLL				*e*PPPrev		02 54 03.0			
CLL				*e*SS	SS	02 59 00.0	-6.3		
CLL				*e*SSS	SSS	03 04 06.0			
CLL				Lm	MLR	03 41 00.0			
	comp=Z,1μm,21.0s								
PRU	**Pruhonice**	**136.59**	**334**	*e*PKIKP	**PKPdf**	**02 38 28.5**	**-0.9**
PRU				*e*		02 41 07.8			
PRU				MLR	MLR				
	comp=Z,1μm,19.4s								
PRU	**Pruhonice**	**136.59**	**334**	*e*PKPdf	**PKPdf**	**02 38 28.5**	**-0.9**
PRU				*e*PP	**PP**	**02 41 07.8**	**-3.0**
PRU				*e*SKP		02 42 03.0			
PRU				AMS	AMS	03 45 20.0			
	comp=Z,1μm,19.4s								
TREC	**Trest**	**136.68**	**333**	*e*PKIKP	**PKPdf**	**02 38 29.5**	**-0.2**
TREC				MLR	MLR				
	comp=Z,1μm,18.9s								
TREC	**Trest**	**136.68**	**333**	*e*PKPdf	**PKPdf**	**02 38 29.5**	**-0.2**
TREC				*e*PP	PP	02 41 03.3	-8.2		
TREC				AMS	AMS	03 44 40.0			
	comp=Z,1μm,18.9s								
VTS	**Vitosha**	**136.74**	**320**	⇓ PKIKP	**PKPdf**	**02 38 29.3**	**-0.9**
VTS	**Vitosha**	**136.74**	**320**	⇓ *i*P	**PKPdf**	**02 38 29.3**	**-0.9**
VTS	**Vitosha**	**136.74**	**320**	*e*P	**PKPdf**	**02 38 29.4**	**-0.8**
VTS	**Vitosha**	**136.74**	**320**	P	**PP**	**02 41 12.0**	**-0.5**
MMB	**Musomiste**	**136.93**	**318**	⇓ PKHKP	PKPpre	02 38 18.3			
MMB	**Musomiste**	**136.93**	**318**	⇓ *i*P	PKPpre	02 38 18.3			
MMB	**Musomiste**	**136.93**	**318**	P	**PP**	**02 41 09.6**	**-4.0**
KKB	**Krupnik**	**137.20**	**319**	P	**PP**	**02 41 15.1**	**-0.1**
PKSM	**Moragy**	**137.26**	**327**	⇓ PKIKP	**PKPdf**	**02 38 31.2**	**+0.4**
PKSM	**Moragy**	**137.26**	**327**	⇓ *i*P	**PKPdf**	**02 38 31.2**	**+0.4**
CONA	**Conrad Observa**	**137.49**	**331**	⇑ *i*pPKiKP	**PKPdf**	**02 38 35.6**	**+4.3**
	comp=Z,4.3nm,1.3s								
CONA				⇓ *i*sPKiKP	sPKiKP	02 38 41.4	-6.7		
	comp=Z,9.0nm,1.4s								
KHC	**Kasperske Hory**	**137.64**	**334**	*e*PKIKP	**PKPdf**	**02 38 30.2**	**-1.3**
KHC				*e*		02 41 18.0			
KHC				MLR	MLR				
	comp=Z,1μm,18.8s								
KHC	**Kasperske Hory**	**137.64**	**334**	*e*PKPpre	PKPpre	02 38 20.0			
KHC				PKPdf	**PKPdf**	**02 38 30.2**	**-1.3**
KHC				*e*PP	**PP**	**02 41 18.0**	**+0.5**
KHC				*e*SKP		02 42 07.2			
KHC				AMS	AMS	03 46 10.0			
	comp=Z,1μm,18.8s								
GERES	**GERESS Array B**	**137.81**	**333**	PKhKP	PKPpre	02 38 23.0			
	comp=Z,0.8nm,0.6s,baz=51,slow=2.6,SNR=9.4								
GERES				PKP	**PKPdf**	**02 38 31.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=85,slow=1.2,SNR=5.4								
GERES				PP	**PP**	**02 41 18.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=32,slow=8.2,SNR=4.0								
GERES				SKPbc	**SKiKP**	**02 42 06.2**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=65,slow=4.7,SNR=2.5								
GERES				SKPab	**SKPab**	**02 42 13.7**	**+2.7**
	comp=Z,1.5nm,0.9s,baz=50,slow=2.1,SNR=3.8								
VAY	**Valandovo**	**137.81**	**319**	*e*PKP	PKPpre	02 38 24.9			
VAY	**Valandovo**	**137.81**	**319**	*e*PKP	PKPpre	02 38 24.9			
WTSB	**Winterswijk**	**137.86**	**341**	*e*P	**PP**	**02 41 19.6**	**+1.1**
	comp=Z,55nm,1.8s								
SKO	**Skopje**	**138.18**	**320**	*e*PKP	**PKPdf**	**02 38 33.6**	**+1.0**
SKO	**Skopje**	**138.18**	**320**	*e*PKP	**PKPdf**	**02 38 32.2**	**-0.4**
GRF	**Grafenberg Arr**	**138.19**	**336**	*e*P	**PP**	**02 41 21.6**	**+0.8**
	comp=Z,4.0nm,1.1s								
HGN	**Heimansgroeve**	**139.17**	**341**	*e*P	**PP**	**02 41 28.1**	**+1.4**
	comp=Z,81nm,1.9s								
STU	**Stuttgart**	**139.72**	**337**	*e*PKIKP	**PKPdf**	**02 38 34.9**	**-0.3**
STU	**Stuttgart**	**139.72**	**337**	*e*PKPdf	**PKPdf**	**02 38 34.9**	**-0.3**
WLF	**Walferdange**	**140.06**	**340**	*e*PKIKP	**PKPdf**	**02 38 35.3**	**-0.5**
WLF	**Walferdange**	**140.06**	**340**	*e*PKPdf	**PKPdf**	**02 38 35.3**	**-0.5**
BFO	**Black Forest**	**140.41**	**337**	*e*PKHKP	PKPpre	02 38 28.5			
BFO	**Black Forest**	**140.41**	**337**	*e*PKPpre	PKPpre	02 38 28.5			
AQU	**L'Aquila**	**142.63**	**327**	*e*PKIKP	**PKPdf**	**02 38 38.3**	**-2.5**
AQU	**L'Aquila**	**142.63**	**327**	*e*PKPdf	**PKPdf**	**02 38 38.3**	**-2.5**
TIP	**Timpagrande**	**142.70**	**320**	*e*PKPdf	**PKPdf**	**02 38 37.8**	**-3.2**
BNI	**Bardonecchia**	**143.75**	**336**	*e*PKIKP	PKPbc	02 38 40.4	+0.1		
BNI	**Bardonecchia**	**143.75**	**336**	*e*PKPdf	PKPbc	02 38 40.4	+0.1		
CEL	**Celeste**	**143.79**	**319**	*e*PKPdf	PKPbc	02 38 40.6	0.0		
SSB	**Saint Sauveur**	**144.38**	**338**	*e*PKIKP	PKPbc	02 38 42.0	-0.1		
SSB	**Saint Sauveur**	**144.38**	**338**	*e*PKPdf	**PKPab**	**02 38 42.0**	**+0.1**
CLTB	**Caltabellotta**	**145.88**	**321**	*e*PKPbc	**PKPab**	**02 38 47.8**	**+0.1**
VSL	**Villasalto**	**146.81**	**327**	*e*PKPbc	**PKPbc**	**02 38 49.3**	**-0.5**
KEST	**Kesra**	**149.44**	**322**	PKPbc	**PKPbc**	**02 38 57.1**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=137,slow=0.7,SNR=54								
KEST	**Kesra**	**149.44**	**322**	*e*PKPbc	**PKPbc**	**02 38 56.8**	**-0.2**
KEST				*e*PKPab	**PKPab**	**02 39 02.5**	**+0.7**
CMAH	**Djebel Manchou**	**149.94**	**325**	P	**PKPbc**	**02 38 56.0**	**-2.2**
CAEH	**'Ain El Ouahch**	**150.15**	**326**	P	**PKPbc**	**02 38 56.2**	**-2.4**
ABSA	**Djebel Ababsia**	**150.16**	**325**	P	**PKPdf**	**02 38 56.2**	**+2.5**
SHEL	**Horse Pasture**	**150.23**	**195**	*e*PKIKP	**PKPbc**	**02 38 59.6**	**+0.2**
SHEL				*e*		02 39 05.8			
SHEL	**Horse Pasture**	**150.23**	**195**	*e*PKPbc	**PKPbc**	**02 38 59.6**	**+0.2**
SHEL				*e*PKPab	**PKPab**	**02 39 05.8**	**+0.4**
CKFL	**Kef-Lekhel**	**150.50**	**326**	P	**PKPdf**	**02 38 56.8**	**+2.6**
PBRG	**Braganca**	**150.72**	**350**	*e*PKPbc	**PKPbc**	**02 38 59.2**	**-0.7**
PBRG	**Braganca**	**150.72**	**350**	*e*PKPab	**PKPab**	**02 39 08.2**	**+1.4**
CASM	**Ain Smara**	**150.72**	**326**	P	**PKPbc**	**02 38 57.9**	**-2.1**
PGAV	**Gavieira, Arco**	**150.80**	**352**	*e*PKPab	**PKPab**	**02 39 06.7**	**-0.4**
PGAV	**Gavieira, Arco**	**150.80**	**352**	*e*LR	LR	03 36 50.1			
	comp=Z,1μm,18.0s								
DFRA	**Djebel Bou Aff**	**150.84**	**327**	P	**PKPbc**	**02 38 58.9**	**-1.5**
CTEI	**Djebel Teioual**	**150.91**	**326**	P	**PKPbc**	**02 38 59.1**	**-1.5**
POLO	**Lamas de Olo**	**151.31**	**351**	*e*PKPbc	**PKPbc**	**02 39 01.9**	**+0.6**
MVO	**Moncorvo**	**151.40**	**350**	*e*PKPbc	**PKPbc**	**02 39 01.6**	**+0.1**
MVO	**Moncorvo**	**151.40**	**350**	*e*PKPab	**PKPab**	**02 39 07.8**	**-1.8**
MVO	**Moncorvo**	**151.40**	**350**	*e*LR	LR	03 40 42.9			
	comp=Z,1μm,20.0s								
PVRL	**Vila Real**	**151.40**	**351**	*e*PKPbc	**PKPbc**	**02 39 02.1**	**+0.7**
CKHR	**Kef el Ahmar**	**151.44**	**327**	P	**PKPbc**	**02 39 00.0**	**-1.8**
PTO	**Porto**	**151.66**	**352**	*e*PKPbc	**PKPbc**	**02 39 02.3**	**+0.4**
PVIS	**Viseu**	**151.97**	**351**	*e*PKPdf	**PKPdf**	**02 38 54.5**	**-1.8**
PVIS	**Viseu**	**151.97**	**351**	*e*PKPbc	**PKPbc**	**02 39 02.8**	**0.0**
ESDC	**Sonseca Array**	**152.15**	**344**	PKPbc	**PKPbc**	**02 39 03.5**	**+0.3**
	comp=Z,4.0nm,1.0s,baz=17,slow=2.1,SNR=12								
ESDC				PKPab	**PKPab**	**02 39 13.4**	**+0.6**
	comp=Z,5.8nm,0.6s,baz=12,slow=4.0,SNR=38								
MTE	**Manteigas**	**152.23**	**350**	*e*PKPbc	**PKPbc**	**02 39 03.8**	**+0.4**
MTE	**Manteigas**	**152.23**	**350**	*e*LR	LR	03 34 38.5			
	comp=Z,838nm,18.0s								
MTE	**Manteigas**	**152.23**	**350**	*e*PKPbc	**PKPbc**	**02 39 03.4**	**0.0**
MTE				*e*PKPab	**PKPab**	**02 39 13.0**	**-0.1**
PCAS	**Casmilo, Conde**	**152.71**	**352**	*e*PKPbc	**PKPbc**	**02 39 04.2**	**-0.2**
PCBR	**Castelo Branco**	**152.76**	**350**	*e*PKPbc	**PKPbc**	**02 39 04.7**	**+0.2**
PTOM	**Tomar**	**153.12**	**351**	*e*PKPbc	**PKPbc**	**02 39 05.3**	**0.0**
PMRV	**Marv??o**	**153.15**	**350**	*e*PKPbc	**PKPbc**	**02 39 05.9**	**+0.5**
PMRV	**Marv??o**	**153.15**	**350**	*e*LR	LR	03 38 23.5			
	comp=Z,872nm,20.0s								
PMTG	**Montargil**	**153.63**	**351**	*e*PKPbc	**PKPbc**	**02 39 06.6**	**+0.2**
PACT	**Alcochete**	**154.02**	**352**	*e*PKPab	**PKPab**	**02 39 20.7**	**+0.2**
LIS	**Lisbon**	**154.11**	**352**	*e*P	**PKPdf**	**02 38 58.3**	**-1.0**
LIS				AMS	AMS	03 55 46.1			
	comp=E,1μm,22.8s								
LIS	**Lisbon**	**154.11**	**352**	*e*PKIKP	**PKPdf**	**02 38 58.3**	**-1.0**
EVO	**Evora**	**154.13**	**350**	*e*PKPab	**PKPab**	**02 39 20.9**	**-0.1**
PBAR	**Barrancos**	**154.30**	**348**	*e*PKPab	**PKPab**	**02 39 22.9**	**+1.1**
PNCL	**Nicolau / Gran**	**154.62**	**351**	*e*PKPdf	**PKPdf**	**02 38 57.3**	**-2.8**
MESJ	**Messejana**	**154.84**	**350**	*e*P	**PKPdf**	**02 38 59.4**	**-1.0**
MESJ				*e*PP	**PP**	**02 42 59.6**	**+1.0**
MESJ				AMS	AMS	04 00 57.1			
	comp=Z,1μm,15.4s								
MESJ	**Messejana**	**154.84**	**350**	*e*PKPab	**PKPab**	**02 39 23.3**	**-0.8**
MESJ	**Messejana**	**154.84**	**350**	*e*PKIKP	**PKPdf**	**02 38 59.3**	**-1.0**
MESJ				*e*		02 42 59.5			
PVAQ	**Vaqueiros**	**155.17**	**349**	*e*LR	LR	03 39 32.5			
	comp=Z,1μm,20.0s								
MORF	**Marmelete**	**155.43**	**351**	*e*P	**PKPdf**	**02 39 00.6**	**-0.7**
MORF				AMS	AMS	03 59 21.7			
	comp=Z,1μm,17.5s								
MORF	**Marmelete**	**155.43**	**351**	*e*PKIKP	**PKPdf**	**02 39 00.6**	**-0.7**
TAM	**Tamanrasset**	**159.52**	**301**	*e*PKIKP	**PKPdf**	**02 39 06.4**	**-0.6**
TAM	**Tamanrasset**	**159.52**	**301**	*e*PKPdf	**PKPdf**	**02 39 06.4**	**-0.6**
TAM				*e*PKPab	**PKPab**	**02 39 45.1**	**0.0**
TORD	**Torodi Ar. Bea**	**165.25**	**272**	PKP	**PKPdf**	**02 39 12.1**	**-0.5**
	comp=Z,7.7nm,1.2s,baz=42,slow=2.3,SNR=18								
TORD				PKPab	**PKPab**	**02 40 10.5**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=86,slow=5.1,SNR=9.9								
TORD				PP	**PP**	**02 43 53.9**	**-3.5**
	comp=Z,2.0nm,1.1s,baz=144,slow=8.5,SNR=3.6								
DBIC	**Dimbokro**	**169.46**	**234**	*e*PKP2	**PKPab**	**02 40 27.7**	**-1.0**
DBIC	**Dimbokro**	**169.46

OPO	**Ambohidratompo**	**19.03**	**257**	LR	LR	02 48 24.3		
	comp=Z,325nm,20.1s,baz=352,slow=30							
CMAR	**Chiang Mai Arr**	**46.07**	**45**	P	**P**	**02 47 17.6**	**+0.9**	
	0.5nm,0.3s,baz=241,slow=9.2,SNR=3.7							
H01W3	**Cape Leeuwin H**	**46.71**	**124**	T	T	03 37 16.2		
	baz=283,slow=75,SNR=7.5							
H01W2	**Cape Leeuwin H**	**46.71**	**124**	T	T	03 37 15.6		
	baz=283,slow=75,SNR=7.2							
H01W1	**Cape Leeuwin H**	**46.73**	**124**	T	T	03 37 17.0		
	baz=283,slow=75,SNR=7.7							
BATI	**Baumata**	**55.61**	**92**	LR	LR	03 11 41.7		
	comp=Z,298nm,18.4s,slow=36							
TKM2	**Tokmak 2**	**58.38**	**8**	*eP*	**P**	**02 48 47.6**	**-0.4**	
	1.7nm,0.8s							
BRTR	**Keskin Array B**	**62.74**	**332**	P	**P**	**02 49 19.2**	**+1.4**	
	0.2nm,0.7s,baz=115,slow=5.4,SNR=2.5							
MK31	**Makanchi Array**	**63.25**	**12**	*eP*	**P**	**02 49 19.5**	**-1.4**	
MKAR	**Makanchi Array**	**63.25**	**12**	P	**P**	**02 49 20.2**	**-0.7**	
	0.4nm,0.8s,baz=218,slow=9.0,SNR=5.2							
ASAR	**Alice Springs**	**63.40**	**109**	P	**P**	**02 49 21.9**	**-0.6**	
	0.8nm,0.8s,baz=265,slow=5.6,SNR=8.1							
WRA	**Warramunga Arr**	**64.24**	**105**	P	**P**	**02 49 28.1**	**+0.1**	
	1.2nm,0.8s,baz=271,slow=6.1,SNR=12							
WRAB	**Tennant Creek**	**64.25**	**105**	*eP*	**P**	**02 49 27.9**	**-0.2**	
	3.7nm,1.0s							
ABKAR	**Akbulak array**	**64.43**	**355**	*eP*	**P**	**02 49 28.1**	**-0.4**	
KURK	**Kurchatov**	**66.43**	**8**	*eP*	**P**	**02 49 41.2**	**-0.2**	
	2.8nm,0.9s							
BVAR	**Borovoye Array**	**67.99**	**2**	P	**P**	**02 49 50.2**	**-1.2**	
	1.0nm,0.8s,baz=168,slow=8.3,SNR=5.6							
ZALV	**Zalesovo Beam**	**70.56**	**11**	P	**P**	**02 50 06.5**	**-0.7**	
	1.2nm,0.8s,baz=213,slow=6.7,SNR=5.2							
SONM	**Songino Array**	**72.02**	**27**	P	**P**	**02 50 17.5**	**+1.1**	
	0.8nm,0.8s,baz=240,slow=4.8,SNR=3.8							
AKASG	**Malin Array Be**	**73.37**	**336**	P	**P**	**02 50 24.2**	**+0.1**	
	0.5nm,0.6s,baz=149,slow=4.9,SNR=6.7							
CTA	**Charters Tower**	**75.27**	**107**	P	**P**	**02 50 36.8**	**+0.7**	
	1.6nm,0.8s,baz=275,slow=9.7,SNR=3.4							
MJAR	**Matsushiro Arr**	**84.65**	**50**	P	**P**	**02 51 26.0**	**-0.4**	
	1.2nm,0.8s,baz=237,slow=5.6,SNR=4.2							
ESDC	**Sonseca Array**	**85.38**	**313**	P	**P**	**02 51 30.8**	**+0.8**	
	0.5nm,0.6s,baz=111,slow=4.7,SNR=4.2							
ILAR	**Eielson Array**	**125.42**	**17**	PKP	**PKPdf**	**02 57 53.0**	**0.0**	
	0.9nm,1.2s,baz=357,slow=1.8,SNR=4.9							
YKA	**Yellowknife Ar**	**132.73**	**1**	PKhKP	PKPpre	02 58 01.3		
	0.2nm,0.9s,baz=305,slow=2.2,SNR=3.0							
YKA				PKP	**PKPdf**	**02 58 06.5**	**-0.4**	
	0.1nm,0.7s,baz=1.0,slow=2.5,SNR=3.9							
PDAR	**Pinedale Array**	**152.32**	**354**	PKPbc	**PKPbc**	**02 58 48.5**	**-0.4**	
	0.9nm,0.7s,baz=67,slow=2.3,SNR=7.9							
PDAR				PKPab	**PKPab**	**02 58 56.4**	**-2.4**	
	0.4nm,0.7s,baz=103,slow=2.5,SNR=3.6							
TXAR	**Lajitas Array**	**163.37**	**330**	PKPab	**PKPab**	**02 59 46.6**	**0.0**	
	0.2nm,0.7s,baz=79,slow=6.5,SNR=4.1							

GUC 11 02:43:45.1±0.5, 35°.53S×72°.69W, h19km±7km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.61**	**187**	*i* P	Pb	02 43 55.7	-1.4
TALC	**Talca**	**0.87**	**82**	*i* P	Pb	02 44 00.8	-0.9
TALC				*i* S	Sb	02 44 13.0	0.0
TALC				AML	AML	02 44 16.2	
	comp=E,14μm,0.4s						
LNCH	**Linares**	**0.94**	**110**	*i* P	Pb	02 44 02.4	-0.5
LNCH				*i* S	Sg	02 44 15.6	-0.5
NICH	**Los Niches**	**1.31**	**67**	*i* P	Pn	02 44 08.1	-0.3
NICH				*i* S	Sb	02 44 25.8	+0.3
NICH				AML	AML	02 44 33.1	
	comp=E,5μm,0.4s						
CCSP	**San Pedro de C**	**1.36**	**194**	*i* P	Pn	02 44 08.9	-0.1

*NEIC **11** 03:09:58.7, 18°.96N×65°.07W, h65km, MD3.0(RSPR), After RSPR.*
RSPR 11 03:09:58.7, 18°.96N×65°.07W, h65km±8km, 20C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.62**	**170**	*eP*	Pn	03 10 12.1	-0.3
STVI	**Saint Thomas**	**0.62**	**170**	*eP*	Pn	03 10 12.8	+0.4
STVI				*eS*	Sn	03 10 21.1	-1.2
STVI	**Saint Thomas**	**0.62**	**170**	*eP*	Pn	03 10 12.1	-0.3
STVI				*eS*	Sn	03 10 21.1	-1.2
STVI	**Saint Thomas**	**0.62**	**170**	*eP*	Pn	03 10 12.1	-0.3
STVI	**Saint Thomas**	**0.62**	**170**	*eS*	Sn	03 10 21.1	-1.2
TBVI	**Tortola**	**0.69**	**142**	*eP*	Pn	03 10 12.5	-0.7
TBVI				*eS*	Sn	03 10 23.2	-0.7

0.2nm,0.5s,baz=224,slow=5.0,SNR=2.8
PDAR LR LR 04 15 37.8
comp=Z,799nm,20.0s,baz=173,slow=30
FCC Fort Churchill 117.01 19 *e*PKPdf **PKPdf 03 44 31.8 -0.6**
YKA Yellowknife Ar 118.13 7 PKP **PKPdf 03 44 33.0 -1.5**
0.4nm,0.9s,baz=177,slow=2.5,SNR=4.5
YKA PKKPbc **PKKPbc 03 54 55.2 +1.7**
0.1nm,0.7s,baz=354,slow=3.3,SNR=2.8
MCK McKinley 120.18 349 *e*PKPdf **PKPdf 03 44 38.9 +0.5**
ILAR Eielson Array 120.98 350 PKP **PKPdf 03 44 39.0 -1.0**
2.3nm,0.9s,baz=190,slow=1.5,SNR=18
COLA College 121.18 350 *e*PKPdf **PKPdf 03 44 40.7 +0.5**
MJAR Matsushiro Arr 121.73 289 PKP **PKPdf 03 44 41.4 -0.9**
1.9nm,1.0s,baz=119,slow=3.9,SNR=4.4
MAJO Matsushiro 121.73 289 *e*PKPdf **PKPdf 03 44 42.6 +0.3**
TORD Torodi Ar. Bea 122.14 116 PKP **PKPdf 03 44 43.5 -0.2**
0.6nm,0.6s,baz=220,slow=2.0,SNR=7.8
TORD PKKPab **PKKPab 03 54 42.9 +1.8**
0.5nm,0.8s,baz=11,slow=3.7,SNR=4.3
PETK Petropavlovsk- 124.73 315 PKP **PKPdf 03 44 47.7 +0.2**
1.6nm,0.4s,baz=88,slow=4.6,SNR=3.6
PALK Pallekele 127.03 215 *e*PKPdf **PKPdf 03 44 52.0 -1.2**
CMAR Chiang Mai Arr 129.32 242 PKP **PKPdf 03 44 59.4 +2.1**
1.0nm,0.3s,baz=199,slow=2.5,SNR=3.0
RES Resolute Bay 131.74 11 *e*PKPdf **PKPdf 03 45 00.2 0.0**
GYA Guiyang 131.78 256 *e*Pdif **Pdif 03 41 55.8 +0.5**
GYA PKP **PKPdf 03 45 02.0 +0.1**
GYA PP **PP 03 47 26.4 +4.0**
GYA PPMZ
120nm,8.0s
MDJ Mudanjiang 132.07 291 PKP **PKPdf 03 45 03.2 +1.5**
TAM Tamanrasset 132.18 113 *e*PKPdf **PKPdf 03 45 03.5 +0.6**
KMI Kunming 132.85 251 PKP **PKPdf 03 45 03.3 -0.8**
KMI sPKP 03 45 09.6
KMI LZ
120nm,26.6s
CN2 Changchun 133.75 287 *e*PKP **PKPdf 03 45 03.0 -1.9**
CD2 Chengdu 136.83 257 PKP **PKPdf 03 45 10.2 -1.0**
CD2 PP **PP 03 47 56.9 +2.4**
CD2 PKS **PKSdf 03 48 45.0 -2.5**
CD2 SKS **SKSdf 03 52 18.2 -3.7**
CD2 SKKS **SKKSac 03 54 46.7 -2.1**
CD2 SS **SS 04 05 59.2 +0.6**
CD2 PPMZ
140nm,5.6s
HHC Hu-ho-hao-te 139.54 274 *e*PKP **PKPdf 03 45 19.2 +3.3**
HHC PP PP 03 48 16.9 +5.5
HHC SKS **SKSdf 03 52 29.1 +3.0**
HHC LN
120nm,19.6s
HHC LE
170nm,20.6s
HHC LZ
150nm,19.4s
ESDC Sonseca Array 139.69 89 PKP **PKPdf 03 45 16.2 0.0**
0.5nm,0.7s,baz=251,slow=2.1,SNR=3.1
LZH Lanzhou 140.62 262 *e*PKP **PKPdf 03 45 16.4 -1.7**
LZH sPKP 03 45 20.9
SJPF Ste Jean 143.49 87 *e*PKIKP **PKPdf 03 45 23.2 +0.4**
28nm,1.3s
SJPF Ste Jean 143.49 87 *e*PKPdf **PKPdf 03 45 23.2 +0.4**
ETSF Etsaut 143.74 88 *e*PKIKP **PKPdf 03 45 22.5 -0.8**
ETSF Etsaut 143.74 88 *e*PKPdf **PKPdf 03 45 22.5 -0.8**
EPF Esparros 144.33 88 *e*PKIKP PKPbc 03 45 23.4 +0.7
17nm,1.1s
EPF Esparros 144.33 88 *e*PKPdf PKPbc 03 45 23.4 +0.7
KEST Kesra 144.39 105 PKP **PKPdf 03 45 24.6 -0.1**
2.1nm,0.7s,baz=193,slow=0.8,SNR=10
KEST Kesra 144.39 105 *e*PKPdf **PKPdf 03 45 24.1 -0.7**
KEST PKP PKPbc 03 45 24.6 +1.4
GTA Gaotai 145.23 262 ⇑PKPbc **PKPdf 03 45 26.8 +0.7**
GTA sPKP 03 45 33.1
GTA PP **PP 03 48 49.2 +3.3**
GTA SKS **SKSdf 03 52 34.3 -0.8**
GTA SKKS **SKKSac 03 55 38.7 +1.1**
GTA SS **SS 04 07 38.6 +1.8**
GTA PPMZ
140nm,6.9s
GTA LN
160nm,17.1s
GTA LE
230nm,17.1s
GTA LZ
220nm,17.6s
QUIF Quistinic 145.27 79 *e*PKIKP **PKPbc 03 45 25.6 +0.1**
96nm,1.4s
QUIF Quistinic 145.27 79 *e*PKPdf **PKPbc 03 45 25.6 +0.1**
ROSF Rostrenen 145.45 78 *e*PKIKP **PKPdf 03 45 25.6 -0.4**
35nm,1.1s
ROSF Rostrenen 145.45 78 *e*PKPdf **PKPdf 03 45 25.6 -0.4**
TIXI Tiksi 145.54 327 *e*PKPbc **PKPdf 03 45 24.1 -1.3**
MTLF Montolieu 145.59 89 *e*PKIKP **PKPdf 03 45 26.6 +0.2**
14nm,0.8s
MTLF Montolieu 145.59 89 *e*PKPdf **PKPdf 03 45 26.6 +0.2**
LFF La Frestale 145.74 86 *e*PKIKP **PKPbc 03 45 27.3 +0.2**
56nm,1.2s
LFF La Frestale 145.74 86 *e*PKPdf **PKPbc 03 45 27.3 +0.2**
SGMF Saint Gilles 145.80 79 *e*PKIKP **PKPdf 03 45 26.1 -0.5**
42nm,1.2s
SGMF Saint Gilles 145.80 79 *e*PKPdf **PKPdf 03 45 26.1 -0.5**
MFF Saint Martin d 146.22 83 *e*PKIKP **PKPbc 03 45 28.2 -0.3**
44nm,1.3s
MFF Saint Martin d 146.22 83 *e*PKPdf **PKPbc 03 45 28.2 -0.3**
ULN Ulaanbaatar 146.40 280 *e*PKPbc **PKPbc 03 45 28.6 -0.6**
RJF Les Rejaudoux 146.40 86 *e*PKIKP **PKPbc 03 45 29.0 -0.1**
11nm,0.8s
RJF *e*R
529nm,23.0s
RJF Les Rejaudoux 146.40 86 *e*PKPdf **PKPbc 03 45 29.0 -0.1**
CAF Calviac 146.48 87 *e*PKIKP **PKPdf 03 45 28.4 +0.5**
15nm,1.0s
CAF Calviac 146.48 87 *e*PKPdf **PKPdf 03 45 28.4 +0.5**
SONM Songino Array 146.75 279 PKPbc **PKPbc 03 45 30.5 +0.3**
6.2nm,0.7s,baz=133,slow=2.8,SNR=21
GRR Gorron 146.82 80 *e*PKIKP **PKPdf 03 45 28.7 +0.4**
41nm,1.2s
GRR Gorron 146.82 80 *e*PKPdf **PKPdf 03 45 28.7 +0.4**
LASF Ste Croix 146.98 89 *e*PKIKP **PKPdf 03 45 29.2 +0.4**
68nm,1.7s
LASF Ste Croix 146.98 89 *e*PKPdf **PKPdf 03 45 29.2 +0.4**
FLN La Foliniere 147.24 79 *e*PKIKP **PKPdf 03 45 29.0 0.0**
57nm,1.2s
FLN *e*R
374nm,20.5s
FLN La Foliniere 147.24 79 *e*PKPdf **PKPdf 03 45 29.0 0.0**
LDF La Druitiere 147.34 80 *e*PKIKP **PKPdf 03 45 30.0 +0.8**
99nm,1.8s
LDF La Druitiere 147.34 80 *e*PKPdf **PKPdf 03 45 30.0 +0.8**
TCF Toulx Ste Croi 147.37 85 *e*PKIKP **PKPdf 03 45 29.6 +0.2**
30nm,1.4s
TCF Toulx Ste Croi 147.37 85 *e*PKPdf **PKPdf 03 45 29.6 +0.2**
WME Myndd Eilian 147.46 70 *e*P **PKPbc 03 45 31.5 -0.3**
MCH1 Michaelchurch 147.50 73 *e*P **PKPab 03 45 34.3 +0.3**
RAYN Ar Rayn 147.51 167 *e*PKPbc **PKPab 03 45 34.7 -0.3**
WPM1 Penmaenmawr 147.61 70 *e*P **PKPbc 03 45 31.7 -0.5**
HLM1 Long Mynd 147.81 72 *e*P **PKPbc 03 45 33.1 +0.3**
STRD Stroud 147.85 73 *e*P **PKPbc 03 45 33.3 +0.4**
BGF Bois d'Agland 147.88 85 *e*PKIKP **PKPdf 03 45 31.4 +1.2**
29nm,1.1s
BGF Bois d'Agland 147.88 85 *e*PKPdf **PKPdf 03 45 31.4 +1.2**
SMRF Simiane la Rot 147.89 91 *e*PKIKP **PKPdf 03 45 30.8 +0.5**
29nm,1.2s
SMRF Simiane la Rot 147.89 91 *e*PKPdf **PKPdf 03 45 30.8 +0.5**
VIVF Saint-Julien-l 147.92 89 *e*PKIKP **PKPdf 03 45 31.4 +1.1**
61nm,1.7s
VIVF Saint-Julien-l 147.92 89 *e*PKPdf **PKPdf 03 45 31.4 +1.1**
LMR La Mourre 148.02 93 *e*PKIKP **PKPdf 03 45 30.7 +0.2**
LMR La Mourre 148.02 93 *e*PKPdf **PKPdf 03 45 30.7 +0.2**
FRF La Foret Royal 148.24 93 *e*PKIKP **PKPdf 03 45 30.4 -0.5**
FRF La Foret Royal 148.24 93 *e*PKPdf **PKPdf 03 45 30.4 -0.5**
AVF Avril sur Loir 148.30 85 *e*PKIKP **PKPdf 03 45 31.2 +0.4**
21nm,1.2s
AVF Avril sur Loir 148.30 85 *e*PKPdf **PKPdf 03 45 31.2 +0.4**
KPL Plockton 148.42 62 *e*P **PKPbc 03 45 34.1 -0.1**
SMF Signal de Mont 148.50 86 *e*PKIKP **PKPdf 03 45 31.7 +0.5**
35nm,1.3s
SMF Signal de Mont 148.50 86 *e*PKPdf **PKPdf 03 45 31.7 +0.5**
SSF Saint Saulge 148.54 85 *e*PKIKP **PKPdf 03 45 31.7 +0.5**
SSF Saint Saulge 148.54 85 *e*PKPdf **PKPdf 03 45 31.7 +0.5**
ORIF Oris-en-Rattie 148.64 90 *e*PKIKP **PKPdf 03 45 32.6 +1.0**
27nm,1.2s
ORIF *e*R
432nm,18.8s
ORIF Oris-en-Rattie 148.64 90 *e*PKPdf **PKPdf 03 45 32.6 +1.0**

LHO Holmfirth 148.84 71 *e*P **PKPbc 03 45 35.6 +0.2**
LOR Lormes 148.86 85 *e*PKIKP **PKPdf 03 45 32.0 +0.2**
20nm,1.1s
LOR *e*R
315nm,20.8s
LOR Lormes 148.86 85 *e*PKPdf **PKPdf 03 45 32.0 +0.2**
ESK Eskdalemuir 148.88 67 *e*PKPbc **PKPbc 03 45 35.4 -0.1**
ESK *e*PKPab **PKPab 03 45 39.3 -0.2**
SBF Sospel 148.88 93 *e*PKIKP **PKPdf 03 45 33.2 +1.2**
90nm,1.1s
SBF Sospel 148.88 93 *e*PKPdf **PKPdf 03 45 33.2 +1.2**
PGF Pioggiola 148.93 96 *e*PKIKP **PKPdf 03 45 32.8 +0.6**
71nm,1.2s
PGF Pioggiola 148.93 96 *e*PKPdf **PKPdf 03 45 32.8 +0.6**
MBDF Montbardon 149.03 91 *e*PKIKP **PKPdf 03 45 32.7 +0.4**
10nm,0.8s
MBDF Montbardon 149.03 91 *e*PKPdf **PKPdf 03 45 32.7 +0.4**
HPK Haverah Park 149.14 70 *e*P **PKPbc 03 45 36.4 +0.3**
LPG La Plagne 149.48 90 *e*PKIKP **PKPdf 03 45 33.7 +0.5**
44nm,1.2s
LPG La Plagne 149.48 90 *e*PKPdf **PKPdf 03 45 33.7 +0.5**
LPL La Plagne 149.48 90 *e*PKIKP **PKPdf 03 45 33.5 +0.4**
40nm,1.4s
LPL La Plagne 149.48 90 *e*PKPdf **PKPdf 03 45 33.5 +0.4**
CABF La Chapelle 149.75 87 *e*PKIKP **PKPdf 03 45 33.4 +0.1**
23nm,1.1s
CABF La Chapelle 149.75 87 *e*PKPdf **PKPdf 03 45 33.4 +0.1**
SFTF Sexfontaines 150.03 84 *e*PKIKP **PKPdf 03 45 33.7 +0.1**
61nm,1.4s
SFTF Sexfontaines 150.03 84 *e*PKPdf **PKPdf 03 45 33.7 +0.1**
MEZF Maizieres J'vi 150.20 83 *e*PKIKP **PKPdf 03 45 34.1 +0.3**
30nm,1.1s
MEZF Maizieres J'vi 150.20 83 *e*PKPdf **PKPdf 03 45 34.1 +0.3**
TLY Talaya 150.25 284 *e*PKPbc **PKPbc 03 45 39.0 0.0**
TLY *e*PKPab **PKPab 03 45 45.3 0.0**
BAIF Baives 150.53 80 *e*PKIKP **PKPdf 03 45 34.3 0.0**
44nm,1.3s
BAIF Baives 150.53 80 *e*PKPdf **PKPdf 03 45 34.3 0.0**
PAGF Fort de Pagny 150.61 84 *e*PKIKP **PKPdf 03 45 35.4 +0.9**
7.3nm,1.2s
PAGF Fort de Pagny 150.61 84 *e*PKPdf **PKPdf 03 45 35.4 +0.9**
HAU Haudompre 150.67 85 *e*PKIKP **PKPdf 03 45 35.1 +0.5**
HAU *e*R
279nm,20.8s
HAU Haudompre 150.67 85 *e*PKPdf **PKPdf 03 45 35.1 +0.5**
DOU Dourbes 150.76 80 PKPbc **PKPbc 03 45 41.7 +1.5**
SNF Seneffe 150.79 79 PKPbc **PKPbc 03 45 41.6 +1.3**
HINF Hinteralfeld 150.85 86 *e*PKIKP **PKPdf 03 45 35.3 +0.4**
18nm,1.0s
HINF Hinteralfeld 150.85 86 *e*PKPdf **PKPdf 03 45 35.3 +0.4**
GIVF Givet 150.89 80 *e*PKIKP **PKPdf 03 45 35.5 +0.7**
GIVF Givet 150.89 80 *e*PKPdf **PKPdf 03 45 35.5 +0.7**
TIP Timpagrande 150.93 109 *e*PKPbc **PKPbc 03 45 41.1 +0.1**
TIP *e*PKPab **PKPab 03 45 48.3 -0.3**
ECH Echery 151.24 85 *e*PKPbc **PKPbc 03 45 41.6 +0.1**
ECH *e*PKPab **PKPab 03 45 49.3 -0.3**
AQU L'Aquila 151.28 101 *e*PKPab **PKPab 03 45 49.3 -0.6**
CDF Champ du Feu 151.41 85 *e*PKIKP **PKPdf 03 45 36.3 +0.5**
9.5nm,0.9s
CDF Champ du Feu 151.41 85 *e*PKPdf **PKPdf 03 45 36.3 +0.5**
WLF Walferdange 151.42 82 *e*PKPdf **PKPdf 03 45 35.3 -0.3**
TUE Stuetta 151.52 90 *e*PKPdf **PKPdf 03 45 36.1 -0.1**
TUE *e*PKPbc **PKPbc 03 45 42.6 +0.3**
TUE *e*PKPab **PKPab 03 45 50.9 0.0**
MEM Membach 151.80 80 PKPbc **PKPbc 03 45 43.8 +1.1**
BFO Black Forest 151.96 86 *e*PKPdf **PKPdf 03 45 36.6 0.0**
BFO *e*PKPbc **PKPbc 03 45 42.8 -0.4**
BFO *e*PKPab **PKPab 03 45 51.9 -0.7**
FETA Feichten 152.61 90 ⇓*i*PKPbc **PKPbc 03 45 45.5 +0.7**
16nm,1.0s
WMQ Urumqi 154.93 257 *e*PKPbc **PKPdf 03 45 37.9 -3.2**
WMQ pPKP **PKPbc 03 45 48.0 -1.8**
WMQ PKPab **PKPab 03 46 05.0 -0.3**
WMQ PP **PP 03 49 41.8 0.0**
WMQ SS SS 04 09 19.0 -5.6
WMQ PPMZ
200nm,8.9s
WMQ LN
270nm,22.8s
WMQ LE
190nm,18.6s
WMQ LZ
280nm,23.8s
GERES GERESS Array B 155.28 89 PKP **PKPdf 03 45 42.0 +0.6**
0.5nm,0.8s,baz=255,slow=2.6,SNR=3.8
GERES PKPbc PKPbc 03 45 50.1
1.1nm,0.8s,baz=186,slow=1.3,SNR=8.1
GERES PKPab **PKPab 03 46 06.4 -0.3**
0.7nm,0.7s,baz=204,slow=2.9,SNR=3.6
NB2 NORSAR Subarra157.70 59 PKP **PKPab 03 46 13.4 -3.3**
comp=Z,2.9nm,1.1s,baz=267,slow=4.4
KSH Kashi 157.82 233 *e*PKP **PKPdf 03 45 43.4 -1.7**
KSH PKS **PKSdf 03 49 16.4 -2.4**
KSH SKS **SKSdf 03 52 48.9 -1.8**
KSH PPMZ
comp=Z,150nm,5.0s
KSH LN
comp=Z,95nm,7.9s
KSH LE
comp=Z,110nm,6.6s
KSH LZ
comp=Z,190nm,11.4s
PSZ Piszkesteto 158.30 97 *e*PKPab **PKPab 03 46 18.2 -1.5**
BRTR Keskin Array B 159.59 133 PKP **PKPdf 03 45 48.4 +1.2**
comp=Z,1.0nm,1.0s,baz=173,slow=4.9,SNR=2.8
BRTR PKPab **PKPab 03 46 26.6 +1.0**
comp=Z,3.0nm,1.0s,baz=191,slow=3.8,SNR=8.0
MKAR Makanchi Array 159.76 257 PKPab **PKPab 03 46 26.1 +0.1**
comp=Z,4.9nm,0.7s,baz=120,slow=5.0,SNR=23
KWP Kalwaria Pacla 160.78 95 *e*PKP **PKPdf 03 45 49.1 +1.1**
KWP Kalwaria Pacla 160.78 95 *e*PKPdf **PKPdf 03 45 47.7 -0.3**
AAK Ala-Archa 160.97 236 *e*PKPdf **PKPdf 03 45 47.5 -1.2**
AAK *e*PKPab **PKPab 03 46 32.1 +0.6**
ARCES ARCESS Array B 161.39 31 PKPab **PKPab 03 46 29.1 -3.3**
comp=Z,3.0nm,0.9s,baz=277,slow=9.5,SNR=3.5
ZALV Zalesovo Beam 161.63 278 PKPab **PKPab 03 46 33.2 -0.7**
comp=Z,4.8nm,0.9s,baz=103,slow=4.7,SNR=13
KURK Kurchatov 163.91 263 *e*PKPdf **PKPdf 03 45 50.7 -0.3**
KURK *e*PKPab **PKPab 03 46 42.4 -1.6**
FINES FINESS Array B 164.84 56 PKPab **PKPab 03 46 46.7 -1.2**
comp=Z,1.2nm,0.8s,baz=256,slow=4.2,SNR=3.3

ROM 11 03:33:50.9±0.1, 42°24.N×13°52.E, h7km±1km, Md1.9/5, MI1.3/2, Error ellipse: s-maj=0.6km s-min=0.4km az=56.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.05**	**65**	Pg	Pg	03 33 52.8	+0.2
FAGN	966nm,0.2s			Sg	Sg	03 33 54.1	+0.2
T0106	**Roio Piano**	**0.12**	**302**	Pg	Pg	03 33 54.1	+0.4
T0106	114nm,0.3s			Sg	Sg	03 33 56.0	+0.4
AQU	**L'Aquila**	**0.14**	**322**	Pg	Pg	03 33 54.3	+0.3
AQU	71nm,0.3s			Sg	Sg	03 33 56.9	+0.8
T0104	**Madonna delle**	**0.18**	**311**	Pg	Pg	03 33 55.0	+0.4
T0104				Sg	Sg	03 33 58.2	+1.0
PTQR	**Pietraquaria**	**0.24**	**202**	Pg	Pg	03 33 56.3	+0.5
PTQR	3.0nm,0.2s			Sg	Sg	03 34 00.5	+1.5

*ATH **11** 03:40:19.4, 39.05N×21.75E, h17km±3km, MD2.9/15*
*CSEM **11** 03:40:19.3±0.1, 39.06N×21.75E, h13km±1km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.6km az=168.0*
*THE **11** 03:40:19.8, 39.06N×21.77E, h6km±1km, ML2.6/7, Error ellipse: s-maj=1.1km s-min=0.4km az=353.0*

ISC 11 03:40:19.4±0.9, 39.06N±0.02×21.75E±0.02, h12km±5km, n48, σ0.942/84, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.14**	**162**	P	**Pg**	**03 40 23.0**	**+0.1**
EVR				S	**Sg**	**03 40 25.3**	**-0.2**
EVR	**Evrytania**	**0.14**	**162**	*e*PB	**Pg**	**03 40 23.1**	**+0.1**
EVR				*e*SB	**Sg**	**03 40 25.8**	**+0.3**
EVR	**Evrytania**	**0.14**	**162**	*e*Pb	**Pg**	**03 40 23.1**	**+0.1**
EVR				S	**Sg**	**03 40 25.3**	**-0.2**
EVR				*e*Sb	**Sg**	**03 40 25.8**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.30**	**98**	P	**Pg**	**03 40 25.5**	**0.0**
MAKR				S	**Sg**	**03 40 29.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.30**	**98**	*e*PB	**Pg**	**03 40 25.6**	**0.0**
MAKR				*e*SB	**Sb**	**03 40 30.8**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.30**	**98**	P	**Pg**	**03 40 25.5**	**0.0**
MAKR				S	**Sg**	**03 40 29.9**	**+0.3**
MAKR				*e*Sb	**Sb**	**03 40 30.8**	**-0.8**
AGG	**Agios Georgios**	**0.45**	**94**	P	**Pg**	**03 40 28.2**	**-0.1**
AGG				S	**Sg**	**03 40 35.0**	**+0.6**
AGG	**Agios Georgios**	**0.45**	**94**	P	**Pg**	**03 40 28.2**	**-0.1**
AGG				S	**Sg**	**03 40 35.0**	**+0.6**
PVO	**Paravola**	**0.47**	**202**	P	**Pg**	**03 40 28.9**	**+0.2**
PVO				S	**Sb**	**03 40 36.2**	**-0.3**
PVO	**Paravola**	**0.47**	**202**	P	**Pg**	**03 40 28.9**	**+0.2**
PVO				S	**Sb**	**03 40 36.2**	**-0.3**
DSL	**Palaion Diasel**	**0.52**	**279**	P	**Pg**	**03 40 29.3**	**-0.2**
DSL				S	**Sb**	**03 40 37.9**	**0.0**
DSL	**Palaion Diasel**	**0.52**	**279**	P	**Pg**	**03 40 29.3**	**-0.2**
DSL				S	**Sb**	**03 40 37.9**	**0.0**
THL	**Klokotos Trika**	**0.55**	**22**	P	**Pb**	**03 40 31.0**	**+0.1**
THL				S	**Sb**	**03 40 39.2**	**+0.4**
THL	**Klokotos Trika**	**0.55**	**22**	P	**Pb**	**03 40 31.0**	**+0.1**
THL				S	**Sb**	**03 40 39.2**	**+0.4**
PDO	**Prodromos**	**0.64**	**224**	P	**Pb**	**03 40 32.2**	**-0.2**
PDO				S	**Sb**	**03 40 41.2**	**-0.1**
PDO	**Prodromos**	**0.64**	**224**	*e*PN	**Pb**	**03 40 32.7**	**+0.3**
PDO				*e*SN	**Sg**	**03 40 40.6**	**+0.4**
PDO	**Prodromos**	**0.64**	**224**	P	**Pb**	**03 40 32.2**	**-0.2**
PDO	**Prodromos**	**0.64**	**224**	*e*Pn	**Pb**	**03 40 32.7**	**+0.3**
PDO				*e*Sn	**Sg**	**03 40 40.6**	**+0.4**
PDO				S	**Sb**	**03 40 41.2**	**-0.1**
EFP	**Efpalio**	**0.64**	**169**	P	**Pg**	**03 40 31.6**	**-0.2**
EFP				S	**Sb**	**03 40 40.9**	**-0.4**
EFP	**Efpalio**	**0.64**	**169**	*e*PN	**Pg**	**03 40 31.8**	**0.0**
EFP				*e*SN	**Sg**	**03 40 39.6**	**-0.6**
EFP	**Efpalio**	**0.64**	**169**	P	**Pg**	**03 40 31.6**	**-0.2**
EFP				*e*Sn	**Sg**	**03 40 39.6**	**-0.6**
EFP				S	**Sb**	**03 40 40.9**	**-0.4**
KALE	**Kalithea**	**0.73**	**155**	P	**Pg**	**03 40 33.2**	**-0.3**
KALE				S	**Sb**	**03 40 44.2**	**+0.2**
KALE	**Kalithea**	**0.73**	**155**	*e*PN	**Pg**	**03 40 33.0**	**-0.5**
KALE				*e*SN	**Sb**	**03 40 44.5**	**+0.5**
KALE	**Kalithea**	**0.73**	**155**	P	**Pg**	**03 40 33.2**	**-0.3**
KALE				S	**Sb**	**03 40 44.2**	**+0.2**
KALE				*e*Sn	**Sb**	**03 40 44.5**	**+0.5**
AXAR	**Agios Charalam**	**0.77**	**112**	P	**Pg**	**03 40 33.8**	**-0.4**
AXAR				S	**Sb**	**03 40 45.0**	**0.0**
AXAR	**Agios Charalam**	**0.77**	**112**	*e*PN	**Pg**	**03 40 33.9**	**-0.3**
AXAR				*e*SN	**Sg**	**03 40 44.5**	**+0.3**
AXAR	**Agios Charalam**	**0.77**	**112**	P	**Pg**	**03 40 33.8**	**-0.4**
AXAR				*e*Sn	**Sg**	**03 40 44.5**	**+0.3**
AXAR				S	**Sb**	**03 40 45.0**	**0.0**
JAN	**Janina**	**0.92**	**311**	*e*PN	**Pb**	**03 40 36.8**	**-0.5**
JAN	**Janina**	**0.92**	**311**	*e*Pn	**Pb**	**03 40 36.8**	**-0.5**
RLS	**Riolos of Patr**	**1.02**	**193**	*e*PN	**Pn**	**03 40 39.4**	**-0.1**
RLS	**Riolos of Patr**	**1.02**	**193**	*e*Pn	**Pn**	**03 40 39.4**	**-0.1**
LKR	**Lokris**	**1.05**	**112**	*e*PN	**Pb**	**03 40 39.4**	**-0.2**
LKR	**Lokris**	**1.05**	**112**	*e*Pn	**Pb**	**03 40 39.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.06**	**163**	P	**Pb**	**03 40 39.3**	**-0.4**
KLV				S	**Sn**	**03 40 55.2**	**+0.5**
KLV	**Kalavryta, Ach**	**1.06**	**163**	*e*PN	**Pb**	**03 40 39.1**	**-0.6**
KLV	**Kalavryta, Ach**	**1.06**	**163**	P	**Pb**	**03 40 39.3**	**-0.4**
KLV				S	**Sn**	**03 40 55.2**	**+0.5**
DRO	**Drossia**	**1.10**	**182**	*e*PN	**Pb**	**03 40 40.4**	**0.0**
DRO	**Drossia**	**1.10**	**182**	*e*Pn	**Pb**	**03 40 40.4**	**0.0**
SMIA	**Simia**	**1.15**	**98**	*e*PN	**Pn**	**03 40 41.2**	**-0.1**
SMIA	**Simia**	**1.15**	**98**	*e*Pn	**Pn**	**03 40 41.2**	**-0.1**
GUR	**Goura**	**1.21**	**157**	P	**Pg**	**03 40 42.8**	**+0.1**
GUR				S	**Sg**	**03 41 00.0**	**+1.6**
GUR	**Goura**	**1.21**	**157**	*e*PN	**Pn**	**03 40 42.0**	**-0.2**
GUR	**Goura**	**1.21**	**157**	*e*Pn	**Pn**	**03 40 42.0**	**-0.2**
GUR	**Goura**	**1.21**	**157**	P	**Pg**	**03 40 42.8**	**+0.1**
GUR				S	**Sg**	**03 41 00.0**	**+1.6**
VLS	**Valsamata**	**1.26**	**226**	*e*PN	**Pn**	**03 40 42.5**	**-0.4**
VLS	**Valsamata**	**1.26**	**226**	*e*Pn	**Pn**	**03 40 42.5**	**-0.4**
LTK	**Loutraki**	**1.40**	**137**	*e*PN	**Pb**	**03 40 45.2**	**-0.3**
LTK	**Loutraki**	**1.40**	**137**	*e*Pn	**Pb**	**03 40 45.2**	**-0.3**

*DHMR **11** 03:57:49.6±0.8, 11.79N×43.50E, h10km±17km, ML5.2*
*ISN **11** 03:57:52.9±2.2, 11.80N×45.69E, h0km±21km, ML4.2*
*BJI **11** 03:57:54.9, 12.58N×43.23E, h5km, mb4.4/5*
*ISCJB **11** 03:57:55.6±0.4, 11.99N±0.05×43.68E±0.05, h10km, mb4.2/41, MS4.1/12, Error ellipse: s-maj=8.1km s-min=6.2km az=140.3*
*IDC **11** 03:57:55.9±0.8, 12.03N×43.61E, h0km, mb4.0/21, mb1 4.1/22, mb1mx4.0/49, mbtmp4.0/22, ML2.9/1, MS4.1/12, Ms1 4.1/12, ms1mx3.7/52, Error ellipse: s-maj=18.3km s-min=15.8km az=156.0*
*MOS **11** 03:57:55.6±1.4, 11.95N×43.68E, h10km, mb4.5/14, Error ellipse: s-maj=12.1km s-min=6.5km az=90.0*
*CSEM **11** 03:57:56.3±0.3, 12.01N×43.67E, h2km, mb4.4/18, Error ellipse: s-maj=11.3km s-min=9.0km az=119.0*
*NEIC **11** 03:57:57.1±0.4, 11.96N×43.65E, h10km, mb4.4/15, Error ellipse: s-maj=8.9km s-min=7.6km az=130.0*

ISC 11 03:57:57.6±0.4, 12.07N±0.04×43.66E±0.07, h10km, n139, σ1.956/144, mb4.2/40, MS4.1/12, 5C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**1.91**	**9**	⇑*i*P	**Pn**	**03 58 28.1**	**-2.2**
UDYN				*i* S	**Sg**	**03 58 58.6**	**-0.3**
UDYN				AML	AML	03 59 03.8	
	comp=Z,25μm,0.6s						
UDYN	**Al 'Udayn**	**1.91**	**9**	*i* S	**Sg**	**03 58 58.6**	**-0.3**
	comp=Z,13μm,0.6s						
DHBB	**Dhamar BB**	**2.58**	**16**	⇓*i*P	**Pn**	**03 58 38.6**	**-1.1**
DHBB				*i* S	**Sb**	**03 59 17.5**	**+1.4**
DHBB				AML	AML	03 59 31.9	
	comp=N,24μm,0.8s						
DAMY	**Dhamar**	**2.58**	**16**	*e*Pn	**Pn**	**03 58 38.4**	**-1.4**
DAMY				*e*Sn	**Sn**	**03 59 11.5**	**+0.1**
DAMY	**Dhamar**	**2.58**	**16**	*e*Pn	**Pn**	**03 58 38.4**	**-1.4**
DAMY				*e*Sn	**Sn**	**03 59 11.5**	**+0.1**
MUKL	**Al Mukalla**	**5.75**	**65**	*i* P	**Pn**	**03 59 20.8**	**-2.3**
MUKL				*i* S	**Sn**	**04 00 30.9**	**+1.8**
RAYN	**Ar Rayn**	**11.52**	**8**	Pn	**Pn**	**04 00 40.7**	**-1.6**
RAYN	**Ar Rayn**	**11.52**	**8**	Pn	**Pn**	**04 00 40.7**	**-1.6**
KMBO	**Kilima Mbogo**	**14.58**	**206**	*e*P	**Pn**	**04 01 22.3**	**-2.0**
KMBO						04 04 08.7	
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KMBO	**Kilima Mbogo**	**14.58**	**206**	Pn	**Pn**	**04 01 23.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=8.1						
KMBO				Sn	**Sn**	**04 04 08.7**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=43,slow=19,SNR=2.4						
KMBO				Lg	Lg	04 05 36.2	
	comp=Z,1.2nm,0.3s,baz=142,slow=19,SNR=9.1						
KMBO				LR	LR	04 06 47.1	
	comp=Z,764nm,20.0s,baz=41,slow=37						
KMBO	**Kilima Mbogo**	**14.58**	**206**	*e*Pn	**Pn**	**04 01 22.3**	**-2.0**
	comp=Z,3.0nm,1.4s						
KMBO	**Kilima Mbogo**	**14.58**	**206**	*e*Pn	**Pn**	**04 01 22.3**	**-2.0**
	comp=Z,3.0nm,1.4s						
KMBO				Sn	**Sn**	**04 04 08.7**	**+2.5**
KMBO				*e*Lg	Lg	04 05 27.1

GNI	**Garni**	**27.98**	**2**	LR	LR	04 16 39.5			
	comp=Z,210nm,20.1s,baz=210,slow=40								
GNI	**Garni**	**27.98**	**2**	*eP*	**P**	**04 03 49.7**	**+1.0**		
	comp=Z,10.0nm,1.6s								
GNI	**Garni**	**27.98**	**2**	*eP*	**P**	**04 03 49.8**	**+1.0**		
	comp=Z,12nm,1.0s								
GEYT	**Alibeck**	**28.81**	**24**	LR	LR	04 17 07.6			
	comp=Z,667nm,18.9s,baz=235,slow=40								
BRTR	**Keskin Array B**	**28.93**	**344**	*ce*P	**P**	**04 03 59.5**	**+2.3**		
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BRTR	**Keskin Array B**	**28.93**	**344**	P	**P**	**04 03 58.6**	**+1.4**		
	comp=Z,1.6nm,0.7s,baz=149,slow=10,SNR=17								
BRTR				LR	LR	04 14 30.5			
	comp=Z,352nm,18.4s,baz=160,slow=34								
BR131	**Keskin Array S**	**28.94**	**344**	*eP*	**P**	**04 03 58.8**	**+1.6**		
	comp=Z,5.9nm,1.0s								
BR131	**Keskin Array S**	**28.94**	**344**	*eP*	**P**	**04 03 58.8**	**+1.6**		
	comp=Z,5.9nm,1.0s								
ZEI	**Tsey**	**30.60**	**0**	*e*P	P	**04 04 13.9**	**+1.9**		
ZEI				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KBZ	**Khabaz**	**31.55**	**359**	P	**P**	**04 04 20.8**	**+0.7**		
	comp=Z,2.0nm,0.8s,baz=152,slow=7.4,SNR=8.0								
KBZ				LR	LR	04 17 59.2			
	comp=Z,229nm,18.7s,baz=262,slow=38								
SOC	**Sochi**	**31.58**	**355**	*eP*	P	04 04 16.4	-3.9		
SOC				MLR	MLR				
	comp=Z,495nm,11.0s								
KIV	**Kislovodsk**	**31.78**	**359**	*eP*	**P**	**04 04 24.0**	**+1.8**		
KIV				pmax	pmax				
	comp=Z,18nm,1.0s								
KIV	**Kislovodsk**	**31.78**	**359**	*eP*	**P**	**04 04 24.0**	**+1.8**		
	comp=Z,18nm,1.0s								
KIV	**Kislovodsk**	**31.78**	**359**	*eP*	**P**	**04 04 23.9**	**+1.8**		
	comp=Z,18nm,1.0s								
MLR	**Muntele Rosu**	**36.57**	**339**	P	**P**	**04 05 04.9**	**+1.1**		
	comp=Z,0.6nm,0.9s,baz=184,slow=12,SNR=3.3								
MLR				LR	LR	04 22 52.1			
	comp=Z,99nm,18.1s,baz=205,slow=41								
PALK	**Pallekele**	**36.80**	**94**	*eP*	**P**	**04 05 05.3**	**-0.8**		
PALK	**Pallekele**	**36.80**	**94**	*eP*	**P**	**04 05 05.3**	**-0.8**		
PALK	**Pallekele**	**36.80**	**94**	*eP*	**P**	**04 05 05.3**	**-0.8**		
TAM	**Tamanrasset**	**37.81**	**292**	*eP*	**P**	**04 05 14.6**	**-0.1**		
TAM				pmax	pmax				
	comp=Z,2.0nm,1.1s								
TAM	**Tamanrasset**	**37.81**	**292**	*eP*	**P**	**04 05 14.6**	**-0.1**		
	comp=Z,2.4nm,1.1s								
TAM	**Tamanrasset**	**37.81**	**292**	*eP*	**P**	**04 05 14.6**	**-0.1**		
	comp=Z,2.4nm,1.1s								
KKAR	**Karatay Array**	**38.68**	**32**	*eP*	**P**	**04 05 21.1**	**-0.5**		
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KKAR	**Karatay Array**	**38.68**	**32**	*eP*	**P**	**04 05 21.1**	**-0.5**		
	comp=Z,0.7nm,0.6s								
KKAR	**Karatay Array**	**38.68**	**32**	*eP*	**P**	**04 05 21.1**	**-0.5**		
	comp=Z,0.7nm,0.6s								
BUR08	**Bucovina Ar. S**	**38.69**	**340**	*eP*	**P**	**04 05 21.3**	**-0.4**		
BUR08	**Bucovina Ar. S**	**38.69**	**340**	*eP*	**P**	**04 05 21.3**	**-0.4**		
ABKAR	**Akbulak array**	**39.45**	**17**	*eP*	**P**	**04 05 28.7**	**+0.8**		
	comp=Z,5.7nm,0.9s								
ABKAR	**Akbulak array**	**39.45**	**17**	*eP*	**P**	**04 05 28.7**	**+0.8**		
	comp=Z,5.7nm,0.9s								
AKTK	**Aktyubinsk**	**40.02**	**14**	P	**P**	**04 05 35.5**	**+2.9**		
AKTO	**Aktyubinsk**	**40.02**	**14**	P	**P**	**04 05 35.5**	**+2.8**		
	comp=Z,4.6nm,1.0s,baz=203,slow=7.5,SNR=8.2								
AKTO				LR	LR	04 24 32.2			
	comp=Z,293nm,20.8s,baz=222,slow=40								
EKS2	**Erkin-Say**	**40.14**	**35**	*eP*	P	**04 05 34.1**	**+0.2**		
EKS2				pmax	pmax				
	comp=Z,3.0nm,0.9s								
EKS2	**Erkin-Say**	**40.14**	**35**	*eP*	**P**	**04 05 34.1**	**+0.2**		
	comp=Z,2.8nm,0.9s								
EKS2	**Erkin-Say**	**40.14**	**35**	*eP*	**P**	**04 05 34.1**	**+0.2**		
	comp=Z,2.8nm,0.9s								
KIEV	**Kiev**	**40.29**	**346**	*i* P	P	04 05 39.7	+4.9		
AKASG	**Malin Array Be**	**40.29**	**346**	*ce*P	**P**	**04 05 37.5**	**+2.7**		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**40.29**	**346**	P	**P**	**04 05 34.7**	**-0.1**		
	comp=Z,1.2nm,0.5s,baz=162,slow=6.8,SNR=8.4								
AAK	**Ala-Archa**	**40.53**	**36**	*ce*P	P	04 05 42.9	+5.7		
AAK				pmax	pmax				
	comp=Z,14nm,1.0s								
AAK	**Ala-Archa**	**40.53**	**36**	P	**P**	**04 05 38.4**	**+1.3**		
	comp=Z,0.5nm,0.4s,baz=204,slow=7.8,SNR=3.1								
AAK				LR	LR	04 25 53.9			
	comp=Z,188nm,18.3s,baz=236,slow=41								
AAK	**Ala-Archa**	**40.53**	**36**	*eP*	**P**	**04 05 38.1**	**+0.9**		
	comp=Z,5.4nm,0.9s								
AAK	**Ala-Archa**	**40.53**	**36**	*eP*	**P**	**04 05 38.1**	**+0.9**		
	comp=Z,5.4nm,0.9s								
KOLS	**Kolonicke sedl**	**40.81**	**338**	*eP*	**P**	**04 05 41.1**	**+1.9**		
KOLS				*e*		04 05 45.2			
KOLS	**Kolonicke sedl**	**40.81**	**338**	*eP*	**P**	**04 05 41.1**	**+1.9**		
KOLS	**Kolonicke sedl**	**40.81**	**338**	*eP*	**P**	**04 05 41.1**	**+1.9**		
KOLS				*es*P	**sP**	**04 05 45.2**	**+1.6**		
PSZ	**Piszkesteto**	**40.89**	**336**	*eP*	**P**	**04 05 39.9**	**-0.1**		
PSZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
PSZ	**Piszkesteto**	**40.89**	**336**	*eP*	**P**	**04 05 39.9**	**-0.1**		
	comp=Z,8.1nm,0.9s								
PSZ	**Piszkesteto**	**40.89**	**336**	*eP*	**P**	**04 05 39.9**	**-0.1**		
	comp=Z,8.1nm,0.9s								
TOA0	**Torodi Ar. Sit**	**40.94**	**276**	*eP*	**P**	**04 05 40.0**	**-0.7**		
TOA0	**Torodi Ar. Sit**	**40.94**	**276**	*eP*	**P**	**04 05 40.0**	**-0.7**		
TORD	**Torodi Ar. Bea**	**40.94**	**276**	P	**P**	**04 05 39.5**	**-1.2**		
	comp=Z,1.7nm,0.8s,baz=93,slow=4.1,SNR=9.7								
KECS	**Kecovo**	**41.11**	**337**	*ep*P	pP	04 05 46.9	+2.1		
TKM2	**Tokmak 2**	**41.34**	**36**	*eP*	**P**	**04 05 44.7**	**+0.8**		
TKM2				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TKM2	**Tokmak 2**	**41.34**	**36**	*eP*	**P**	**04 05 44.7**	**+0.8**		
	comp=Z,1.9nm,0.8s								
TKM2	**Tokmak 2**	**41.34**	**36**	*eP*	**P**	**04 05 44.7**	**+0.8**		
	comp=Z,1.9nm,0.8s								
VYHS	**Vyhne**	**41.78**	**335**	*eP*	**P**	**04 05 47.4**	**+0.2**		
VYHS				*e*		04 05 52.7			
VYHS	**Vyhne**	**41.78**	**335**	*eP*	**P**	**04 05 47.4**	**+0.2**		
VYHS				*es*P	**sP**	**04 05 52.7**	**+1.2**		
OKC	**Ostrava-Krasne**	**43.12**	**336**	*eP*	P	04 06 10.9	+13		
OKC	**Ostrava-Krasne**	**43.12**	**336**	*eP*	P	04 06 10.9	+13		
OBN	**Obninsk**	**43.30**	**354**	*eP*	**P**	**04 06 02.2**	**+2.9**		
OBN				*e*		04 07 40.3			
OBN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
OBN				MLR	MLR				
	comp=Z,295nm,20.0s								
OBN	**Obninsk**	**43.30**	**354**	LR	LR	04 27 16.0			
	comp=Z,237nm,18.6s,baz=262,slow=41								
VRAC	**Vranov**	**43.35**	**334**	P	**P**	**04 06 02.6**	**+2.7**		
	comp=Z,3.0nm,0.8s,baz=157,slow=3.9,SNR=5.2								
DPC	**Dobruska-Polom**	**44.26**	**335**	*eP*	P	04 06 12.6	+5.3		
DPC	**Dobruska-Polom**	**44.26**	**335**	*eP*	P	04 06 12.6	+5.3		
GERES	**GERESS Array B**	**44.29**	**332**	P	**P**	**04 06 07.3**	**-0.3**		
	comp=Z,0.8nm,0.9s,baz=132,slow=6.0,SNR=11								
KHC	**Kasperske Hory**	**44.55**	**332**	*eP*	**P**	**04 06 07.8**	**-1.8**		
KHC	**Kasperske Hory**	**44.55**	**332**	*eP*	**P**	**04 06 07.8**	**-1.8**		
PRU	**Pruhonice**	**44.74**	**333**	*eP*	**P**	**04 06 12.3**	**+1.2**		
PRU	**Pruhonice**	**44.74**	**333**	*eP*	**P**	**04 06 12.3**	**+1.2**		
PRU	**Pruhonice**	**44.74**	**333**	*eP*	**P**	**04 06 12.3**	**+1.2**		
SUW	**Suwalki**	**44.88**	**343**	*eP*	**P**	**04 06 12.4**	**+0.3**		
SUW				pmax	pmax				
	comp=Z,32nm,1.0s								
SUW	**Suwalki**	**44.88**	**343**	*eP*	**P**	**04 06 12.4**	**+0.3**		
	comp=Z,32nm,1.0s								
SUW	**Suwalki**	**44.88**	**343**	*eP*	**P**	**04 06 12.3**	**+0.3**		
	comp=Z,32nm,1.0s								
ARU	**Arti**	**45.74**	**12**	*d iP*	P	04 06 22.6	+3.7		
ARU						04 08 03.6			
ARU				S	**S**	**04 12 56.5**	**-5.6**		
ARU				SS	**ScS**	**04 16 10.5**	**-4.6**		
ARU				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ARU	**Arti**	**45.74**	**12**	*eP*	**P**	**04 06 19.8**	**+0.9**		
	comp=Z,5.2nm,0.8s								
ARU	**Arti**	**45.74**	**12**	*eP*	**P**	**04 06 19.8**	**+0.9**		
	comp=Z,5.2nm,0.8s								
BVAR	**Borovoye Array**	**46.10**	**22**	P	**P**	**04 06 22.6**	**+0.7**		
	comp=Z,1.0nm,0.6s,baz=214,slow=7.2,SNR=8.1								
BVAR				LR	LR	04 29 41.7			
	comp=Z,330nm,18.1s,baz=232,slow=41								
MK31	**Makanchi Array**	**47.47**	**36**	*eP*	**P**	**04 06 32.6**	**0.0**		
MK31	**Makanchi Array**	**47.47**	**36**	*eP*	**P**	**04 06 32.6**	**0.0**		
MK31	**Makanchi Array**	**47.47**	**36**	*eP*	**P**	**04 06 32.6**	**0.0**		
MKAR	**Makanchi Array**	**47.47**	**36**	P	**P**	**04 06 32.8**	**+0.2**		
	comp=Z,3.4nm,0.8s,baz=224,slow=6.5,SNR=38								
MKAR				LR	LR	04 30 27.4			
	comp=Z,218nm,18.6s,baz=266,slow=41								
KURBB	**Kurchatov Arra**	**47.82**	**29**	P	**P**	**04 06 36.1**	**+0.8**		
	comp=Z,3.7nm,1.0s,baz=231,slow=7.7,SNR=20								
KURK	**Kurchatov**	**47.93**	**29**	*eP*	**P**	**04 06 35.9**	**-0.2**		
KURK				pmax	pmax				
	comp=Z,7.0nm,1.1s								
KURK	**Kurchatov**	**47.93**	**29**	*eP*	**P**	**04 06 35.9**	**-0.2**		
	comp=Z,6.9nm,1.1s								
KURK	**Kurchatov**	**47.93**	**29**	*eP*	**P**	**04 06 35.9**	**-0.2**		
	comp=Z,6.9nm,1.1s								
DBIC	**Dimbokro**	**48.12**	**268**	P	**P**	**04 06 38.2**	**+0.1**		
	comp=Z,5.0nm,1.0s,baz=60,slow=9.7,SNR=4.9								
PRGR	**Permogore**	**49.50**	**1**	*eP*	**P**	**04 06 47.7**	**-0.3**		
PRGR				pmax	pmax				
	comp=Z,23nm,0.9s								
PRGR	**Permogore**	**49.50**	**1**	*eP*	**P**	**04 06 47.7**	**-0.3**		
	comp=Z,23nm,0.9s								
ESDC	**Sonseca Array**	**50.14**	**312**	P	**P**	**04 06 52.2**	**-1.1**		
	comp=Z,0.1nm,0.2s,baz=110,slow=6.9,SNR=3.6								
FINES	**FINESS Array B**	**50.93**	**349**	P	**P**	**04 06 58.5**	**-0.3**		
	comp=Z,3.6nm,1.1s,baz=160,slow=8.0,SNR=8.1								
NVS	**Novosibirsk**	**52.72**	**28**	*eP*	**P**	**04 07 15.1**	**+2.8**		
NVS	**Novosibirsk**	**52.72**	**28**	*eP*	**P**	**04 07 15.1**	**+2.8**		
HFS	**Hagfors**	**52.84**	**342**	P	**P**	**04 07 12.5**	**-0.6**		
	comp=Z,1.3nm,0.7s,baz=104,slow=9.2,SNR=2.5								
ZALV	**Zalesovo Beam**	**52.92**	**29**	P	**P**	**04 07 13.4**	**-0.4**		
	comp=Z,2.6nm,0.7s,baz=240,slow=6.0,SNR=14								
ZALV				LR	LR	04 32 54.8			
	comp=Z,460nm,18.2s,baz=248,slow=40								
CMAR	**Chiang Mai Arr**	**53.54**	**76**	P	**P**	**04 07 18.6**	**-0.4**		
	comp=Z,4.3nm,0.8s,baz=272,slow=8.5,SNR=32								
NAO01	**NORSAR Array S**	**54.27**	**341**	*eP*	**P**	**04 07 23.0**	**-0.6**		
	comp=Z,4.7nm,0.9s								
NAO01	**NORSAR Array S**	**54.27**	**341**	*eP*	**P**	**04 07 23.0**	**-0.6**		
	comp=Z,4.7nm,0.9s								
NB2	**NORSAR Subarra**	**54.32**	**341**	P	**P**	**04 07 22.9**	**-1.1**		
	comp=Z,4.7nm,1.1s,baz=137,slow=7.9								
NB2	**NORSAR Subarra**	**54.32**	**341**	P	**P**	**04 07 22.9**	**-1.1**		
	comp=Z,4.7nm,1.1s,SNR=5.9								
NOA	**NORSAR Array B**	**54.32**	**341**	P	**P**	**04 07 24.5**	**+0.5**		
	comp=Z,2.6nm,1.0s,baz=138,slow=7.6,SNR=5.3								
GTA	**Gaotai**	**56.39**	**51**	*eP*	**P**	**04 07 40.0**	**+0.5**		
GTA				pP	**pP**	**04 07 44.9**	**+2.2**		
GTA				sP	**sP**	**04 07 47.1**	**+3.2**		
GTA				PMZ					
	comp=Z,4.0nm,0.8s								
ARCES	**ARCESS Array B**	**58.57**	**353**	P	**P**	**04 07 53.4**	**-0.8**		
	comp=Z,1.2nm,0.8s,baz=163,slow=9.4,SNR=3.9								
SONM	**Songino Array**	**62.90**	**42**	P	**P**	**04 08 24.5**	**+0.2**		
	comp=Z,3.3nm,1.0s,baz=257,slow=4.6,SNR=10								
BOD	**Bodaibo**	**69.41**	**33**	*eP*	**P**	**04 09 03.3**	**-2.4**		
BOD				pmax	pmax				
	comp=Z,3.0nm,1.9s								
SUMG	**Summit**	**76.20**	**342**	*eP*	**P**	**04 09 46.9**	**+0.7**		
SUMG				pmax	pmax				
	comp=Z,7.0nm,1.0s								
SUMG	**Summit**	**76.20**	**342**	*eP*	**P**	**04 09 46.9**	**+0.7**		
	comp=Z,6.7nm,1.0s								
SUMG	**Summit**	**76.20**	**342**	*eP*	**P**	**04 09 46.9**	**+0.7**		
	comp=Z,6.7nm,1.0s								
WRA	**Warramunga Arr**	**94.67**	**109**	P	**P**	**04 11 21.1**	**+1.5**		
	comp=Z,0.8nm,0.9s,baz=299,slow=3.2,SNR=4.6								
ASAR	**Alice Springs**	**94.98**	**113**	P	**P**	**04 11 20.2**	**-0.8**		
	comp=Z,0.5nm,0.8s,baz=267,slow=3.8,SNR=4.4								
TPAW	**Teton Pass**	**120.04**	**339**	*e*PKIKP	**PKPdf**	**04 16 49.2**	**-0.1**		
TPAW	**Teton Pass**	**120.04**	**339**	*e*PKPdf	**PKPdf**	**04 16 49.2**	**-0.1**		
OTAV	**Otavalo**	**121.27**	**278**	*e*PKIKP	**PKPdf**	**04 16 52.1**	**-0.5**		
OTAV	**Otavalo**	**121.27**	**278**	*e*PKPdf	**PKPdf**	**04 16 52.1**	**-0.5**		
DUG	**Dugway, Tooele**	**123.60**	**338**	*e*PKIKP	**PKPdf**	**04 16 55.4**	**-0.6**		
DUG	**Dugway, Tooele**	**123.60**	**338**	*e*PKPdf	**PKPdf**	**04 16 55.4**	**-0.6**		
NVAR	**Mina Array Bea**	**127.00**	**342**	PKP	**PKPdf**	**04 17 02.7**	**0.0**		
	comp=Z,0.3nm,0.8s,baz=286,slow=6.5,SNR=2.3								
MNTX	**Cornudas Mount**	**127.33**	**327**	*e*PKPdf	**PKPdf**	**04 17 01.7**	**-1.5**		
TXAR	**Lajitas Array**	**128.15**	**323**	PKP	**PKPdf**	**04 17 05.1**	**+0.1**		
	comp=Z,0.4nm,0.8s,baz=35,slow=3.3,SNR=2.8								

*ISCJB **11** 04:04:50.0±1.2, 33°.33S±0°.04×72°.51W±0°.05, h20km±9km, mb3.9/7, Error ellipse: s-maj=7.2km s-min=6.3km az=145.6*

*IDC **11** 04:04:49.7±1.0, 33°.37S×72°.35W, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/28, mbtmp3.8/7, ML3.9/2, MS2.4/1, Ms1 2.4/1, ms1mx2.4/19, Error ellipse: s-maj=25.0km s-min=16.2km az=110.0*

*NEIC **11** 04:04:50.9±3.8, 33°.29S×72°.65W, h13km±23km, mb4.2/4, Error ellipse: s-maj=17.9km s-min=6.7km az=86.0*

*GUC **11** 04:04:51.4±0.6, 33°.38S×72°.43W, h36km±3km, ML4.0*

ISC 11 04:04:49.7±2.1, 33°.33S±0°.05×72°.45W±0°.06, h5km±13km, n29, σ0s95/36, mb4.1/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
IHA	**Instituto Hidr**	**0.74**	**66**	*i* P	**Pb**	**04 05 05.5**	**+0.3**	
LNV	**Longovilo**	**1.06**	**126**	*i* P	**Pg**	**04 05 09.7**	**-0.4**	
PEL	**Peldehue**	**1.49**	**83**	*i* P	**Pn**	**04 05 17.1**	**-0.1**	
PEL				*i* S	**Sb**	**04 05 36.7**	**-0.5**	
PEL				AML	AML	04 05 41.4		
	comp=E,7μm,0.4s							
CLCH	**Cerro Calan**	**1.60**	**93**	*i* P	**Pn**	**04 05 18.5**	**-0.3**	
CLCH				*i* S	**Sn**	**04 05 39.1**	**-0.7**	
CLCH				AML	AML	04 05 46.9		
	comp=E,3μm,0.7s							
CLCH				AML	AML	04 05 47.4		
	comp=E,4μm,0.8s							
LACH	**Col Las Americ**	**1.61**	**95**	*i* P	**Pn**	**04 05 18.5**	**-0.4**	
LACH				*i* S	**Sn**	**04 05 39.2**	**-0.8**	
CHCH	**Chadas Angostu**	**1.61**	**112**	*i* P	**Pn**	**04 05 18.2**	**-0.7**	
SJCH	**San Jose de Ma**	**1.78**	**101**	*i* P	**Pn**	**04 05 20.6**	**-0.6**	
SJCH				*i* S	**Sn**	**04 05 43.2**	**-1.1**	
SJCH				AML	AML	04 05 48.7		
	comp=E,1μm,1.1s							
YECH	**El Yeso**	**2.00**	**100**	*i* P	**Pn**	**04 05 24.6**	**+0.1**	
YECH				*i* S	**Sn**	**04 05 49.9**	**-0.3**	
YECH				AML	AML	04 06 01.9		
	comp=N,2μm,0.4s							
TALC	**Talca**	**2.17**	**162**	*i* P	**Pn**	**04 05 26.1**	**-0.3**	
TALC				*i* S	**Sn**	**04 05 51.4**	**-2.3**	
CFAA	**Coronel Fontan**	**3.95**	**65**	Pn	**Pn**	**04 05 52.7**	**+1.6**	
	comp=N,0.2nm,0.3s,baz=238,slow=9.5,SNR=18							
CFAA				Sn	**Sn**	**04 06 38.1**	**+0.2**	
	comp=N,0.5nm,0.3s,baz=248,slow=19,SNR=2.5							
CFAA				Lg	Lg	04 06 54.2		
	comp=N,1.0nm,0.3s,baz=107,slow=13,SNR=3.1							
CFAA				LR	LR	04 07 29.1		
	comp=N,57nm,21.7s,baz=322,slow=41							
LCO	**Las Campanas**	**4.56**	**20**	*e*Pn	**Pn**	**04 05 59.2**	**-0.4**	
LCO				*es*Sn	**Sn**	**04 06 50.4**	**-2.8**	
PLCA	**Paso Flores**	**7.54**	**169**	Pn	**Pn**	**04 06 40.6**	**+0.2**	
	comp=N,0.4nm,0.3s,baz=332,slow=11,SNR=14							
PLCA				Lg	Lg	04 08 49.0		
	comp=N,0.1nm,0.3s,baz=249,slow=20,SNR=3.0							
TRQA	**Tornquist**	**9.73**	**122**	*e*Pn	Pn	04 07 14.2	+3.8	
	comp=N,17nm,1.1s							
LVC	**Limon Verde**	**11.13**	**17**	*e*Pn	**Pn**	**04 07 29.8**	**0.0**	
LPAZ	**La Paz**	**17.41**	**1**	P	**P**	**04 08 55.2**	**-0.3**	
	comp=N,0.2nm,0.3s,baz=194,slow=6.5,SNR=12							
SIV	**San Ignacio**	**20.10**	**34**	P	**P**	**04 09 24.9**	**+0.5**	
	comp=N,3.8nm,0.9s,baz=208,slow=13,SNR=9.8							
SAML	**Samuel**	**25.73**	**21**	*eP*	**P**	**04 10 21.1**	**-0.1**	
	comp=N,1.9nm,0.8s							
SDV	**Santo Domingo**	**42.02**	**3**	*eP*	**P**	**04 12 42.3**	**-0.1**	
	comp=N,3.2nm,0.8s							
BCIP	**Isla Barro Col**	**42.84**	**349**	*eP*	**P**	**04 12 48.3**	**-0.7**	
SNAA	**Sanae**	**52.33**	**158**	P	**P**	**04 14 02.4**	**+0.3**	
	comp=N,0.9nm,0.8s,baz=256,slow=5.9,SNR=3.1							
QSPA	**South Pole Qui**	**56.90**	**180**	P	**P**	**04 14 36.1**	**+0.6**	
	comp=N,1.6nm,0.9s,baz=117,slow=2.1,SNR=3.1							
QSPA	**South Pole Qui**	**56.90**	**180**	*eP*	**P**	**04 14 36.0**	**+0.5**	
	comp=N,2.6nm,0.8s							
TXAR	**Lajitas Array**	**68.99**	**331**	P	**P**	**04 15 58.6**	**+2.4**	
	comp=N,0.6nm,1.0s,baz=147,slow=7.4,SNR=4.5							
WVT	**Waverly**	**70.59**	**347**	*eP*	**P**	**04 16 05.6**	**-0.2**	
	comp=N,1.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**04 17 22.9**	**-0.2**	
	comp=N,1.1nm,0.9s,baz=227,slow=5.0,SNR=5.3							
KURBB	**Kurchatov Arra**	**152.61**	**42**	PKPbc	**PKPbc**	**04 24 46.4**	**-0.5**	
	comp=N,0.4nm,0.8s,baz=298,slow=2.6,SNR=5.5							
KURK	**Kurchatov**	**152.62**	**42**	PKPbc	**PKPbc**	**04 24 46.4**	**-0.6**	
TKM2	**Tokmak 2**	**153.24**	**60**	*e*PKPbc	**PKPbc**	**04 24 48.4**	**-0.5**	
ZALV	**Zalesovo Beam**	**153.84**	**31**	PKPbc	**PKPbc**	**04 24 49.9**	**+0.3**	
	comp=N,0.8nm,0.6s,baz=293,slow=1.1,SNR=4.8							

*IDC **11** 04:07:54.6±0.7, 15°.02S×66°.81E, h0km, mb4.1/22, mb1 4.2/22, mb1mx3.9/58, mbtmp4.1/22, MS4.0/4, Ms1 4.1/4, ms1mx3.6/35, Error ellipse: s-maj=20.2km s-min=16.8km az=141.0*

*ISCJB **11** 04:07:55.6±0.5, 14°.97S±0°.09×66°.90E±0°.09, h16km, mb4.1/31, MS4.0/4, Error ellipse: s-maj=14.9km s-min=10.1km az=40.3*

*NEIC **11** 04:07:56.1±0.3, 15°.02S×66°.90E, h10km, mb4.3/9, Error ellipse: s-maj=11.0km s-min=7.8km az=141.0*

ISC 11 04:07:57.3±0.5, 15°.05S±0°.1×66°.9E±0°.1, h16km, n72, σ0s81/68, mb4.2/31, MS4.1/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
H08S1	**Diego Carcia H**	**9.16**	**37**	T	T	04 19 29.6		
	baz=216,slow=75,SNR=669							
H08S2	**Diego Garcia H**	**9.17**	**38**	T	T	04 19 31.2		
	baz=216,slow=75,SNR=769							
H08S3	**Diego Garcia H**	**9.18**	**37**	T	T	04 19 31.1		
	baz=216,slow=75,SNR=574							
H08N3	**Diego Garcia H**	**9.53**	**26**	T	T	04 19 55.4		
	baz=204,slow=76,SNR=1494							
H08N1	**Diego Garcia H**	**9.54**	**26**	T	T	04 19 54.6		
	baz=204,slow=76,SNR=963							
H08N2	**Diego Garcia H**	**9.55**	**26**	T	T	04 19 57.1		
	baz=204,slow=76,SNR=1751							
PALK	**Pallekele**	**26.05**	**33**	LR	LR	04 21 10.7		
	comp=Z,560nm,21.5s,baz=190,slow=30							
PALK	**Pallekele**	**26.05**	**33**	*eP*	**P**	**04 13 29.6**	**-0.7**	
	4.6nm,0.8s							
KMBO	**Kilima Mbogo**	**32.34**	**293**	P	**P**	**04 14 27.5**	**+1.0**	
	1.5nm,0.8s,baz=108,slow=6.7,SNR=4.4							
KMBO	**Kilima Mbogo**	**32.34**	**293**	*eP*	**P**	**04 14 27.9**	**+1.4**	
	0.6nm,0.9s							
LSZ	**Lusaka**	**37.30**	**264**	*eP*	**P**	**04 15 10.2**	**+0.9**	
	13nm,1.1s							
LBTB	**Lobatse**	**39.89**	**249**	P	**P**	**04 15 29.3**	**-1.6**	
	3.2nm,0.7s,baz=116,slow=7.9,SNR=6.4							
LBTB	**Lobatse**	**39.89**	**249**	*eP*	**P**	**04 15 31.3**	**+0.4**	
	16nm,1.3s							
BOSA	**Boshof**	**40.72**	**244**	P	**P**	**04 15 36.4**	**-1.4**	
	2.1nm,0.8s,baz=100,slow=11,SNR=3.4							
LEM	**Lembang**	**40.77**	**83**	LR	LR	04 29 24.2		
	comp=Z,96nm,20.4s,baz=205,slow=32							
CMAR	**Chiang Mai Arr**	**45.89**	**45**	P	**P**	**04 16 18.4**	**-1.0**	
	0.7nm,0.5s,baz=234,slow=9.4,SNR=5.9							
CMAR				LR	LR	04 34 42.8		
	comp=Z,229nm,19.7s,baz=205,slow=35							
H01W3	**Cape Leeuwin H**

DJA ***11*** *04:09:14.2±0.3,5°S±3°×13°1E±°, h91km±15km, M5.2/12, mb5.2/7, mB5.6/6, MLv5.2/12, Mw(mB)5.1/6*

ISC 11 04:09:10.8±0.4, 5°60S±0°05×131°53E±0°05, h54km, n68, σ1ᵍ45/70, mb4.3/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.94**	**303**	P	**Pn**	**04 09 43.6**	**+2.1**
BNDI				S	**Sn**	**04 10 06.5**	**+1.8**
SAUI	**Saumlaki**	**2.38**	**186**	P	Pn	04 09 52.6	+5.1
SAUI				S	Sn	04 10 23.9	+8.4
FAKI	**Fak Fak**	**2.75**	**15**	P	**Pn**	**04 09 54.5**	**+1.9**
FAKI				S	**Sn**	**04 10 24.0**	**-0.7**
FAKI	**Fak Fak**	**2.75**	**15**	*e*Pn	**Pn**	**04 09 53.9**	**+1.3**
FAKI				*e*Sn	**Sn**	**04 10 22.2**	**-2.5**
RKPI	**Ransiki, Papua**	**4.84**	**33**	P	**Pn**	**04 10 24.4**	**+3.2**
RKPI				S	**Sn**	**04 11 15.7**	**-0.3**
NLAI	**Namlea**	**5.00**	**298**	P	**Pn**	**04 10 24.6**	**+1.2**
NLAI				S	**Sn**	**04 11 20.5**	**+0.5**
LBMI	**Labuha** 258nm,0.7s,4μm0.9nm	**6.36**	**321**	P	**Pn**	**04 10 42.2**	**+0.1**
SANI	**Sanana** 57nm,0.5s,1μm0.3nm	**6.56**	**302**	P	**Pn**	**04 10 45.3**	**+0.5**
SANI	57nm,0.5s,1μm0.3nm			S	Sn	04 11 52.1	-6.2
TNTI	**Ternate** 102nm,0.7s,0.8nm	**7.57**	**327**	P	**Pn**	**04 11 00.2**	**+1.5**
TNTI	**Ternate** 91nm,0.3s	**7.57**	**327**	*e*Pn	**Pn**	**04 11 00.2**	**+1.5**
SOEI	**Soe** 167nm,0.6s	**8.30**	**240**	*e*Pn	**Pn**	**04 11 11.0**	**+2.2**
SOEI				*e*Sn	**Sn**	**04 12 45.1**	**+3.8**
BATI	**Baumata** 95nm,0.4s,1μm	**9.04**	**239**	P	**Pn**	**04 11 20.8**	**+2.0**
BATI	**Baumata** 58nm,0.3s,baz=153,slow=4.4,SNR=25	**9.04**	**239**	P	**Pn**	**04 11 20.6**	**+1.8**
BATI	12nm,0.3s,baz=83,slow=18,SNR=3.4			S	**Sn**	**04 12 56.4**	**-2.9**
GENI	**Genyem**	**9.11**	**71**	P	Pn	04 11 23.1	+3.3
JAY	**Jayapura** 1.8nm,0.3s,baz=236,slow=13,SNR=8.2	**9.64**	**72**	P	**Pn**	**04 11 29.6**	**+2.5**
JAY	0.5nm,0.3s,baz=115,slow=19,SNR=3.5			S	**Sn**	**04 13 16.0**	**+1.9**
KAPI	**Kappang** 30nm,0.9s	**11.75**	**272**	*e*Pn	**Pn**	**04 11 58.7**	**+2.9**
COEN	**Coen** 10nm,0.5s	**14.16**	**127**	*e*Pn	**Pn**	**04 12 28.8**	**+0.2**
COEN				*e*Sn	Sn	04 14 53.0	-11
WRAB	**Tennant Creek** 42nm,0.6s	**14.51**	**169**	*e*Pn	Pn	04 12 30.1	-3.2
WRAB				*e*Sn	Sn	04 15 03.5	-9.4
WRA	**Warramunga Arr** 7.2nm,0.3s,baz=355,slow=13,SNR=144	**14.52**	**169**	P	**Pn**	**04 12 30.4**	**-2.9**
WRA	9.0nm,0.3s,baz=350,slow=22,SNR=16			S	Sn	04 15 04.0	-9.1
WB2	**Warramunga Arr**	**14.52**	**169**	*e*Pn	**Pn**	**04 12 30.5**	**-2.9**
WB2				*e*Sn	Sn	04 15 04.2	-9.0
PMG	**Port Moresby** comp=Z,147nm,20.2s,baz=152,slow=41	**15.95**	**105**	LR	LR	04 20 02.9	
PMG	**Port Moresby** 1.6nm,0.6s	**15.95**	**105**	*e*P	**Pn**	**04 12 50.2**	**-1.6**
AS31	**Alice Springs**	**18.11**	**173**	*e*Pn	**P**	**04 13 18.2**	**-0.2**
ASAR	**Alice Springs** 5.4nm,0.3s,baz=350,slow=8.1,SNR=255	**18.11**	**173**	P	**P**	**04 13 18.6**	**+0.1**
ASAR	2.5nm,0.3s,baz=354,slow=27,SNR=9.9			S	Sn	04 16 31.5	-8.6
CTA	**Charters Tower** 1.2nm,0.3s,baz=298,slow=14,SNR=3.9	**20.30**	**137**	P	Pn	04 13 43.9	-1.0
CTAO	**Charters Tower** 11nm,0.8s	**20.30**	**137**	*e*P	**P**	**04 13 42.9**	**+0.4**
FORT	**Forrest** 34nm,0.7s	**25.26**	**187**	*e*P	**P**	**04 14 33.3**	**+1.3**
NWAO	**Narrogin (SRO)** 5.9nm,0.5s,baz=39,slow=6.1,SNR=8.8	**30.28**	**204**	P	**P**	**04 15 17.6**	**+0.6**
JNU	**Nakatsue** 9.0nm,0.9s,baz=41,slow=3.7,SNR=5.4	**38.51**	**359**	P	**P**	**04 16 28.4**	**+0.4**
CMAR	**Chiang Mai Arr** 2.6nm,0.7s,baz=138,slow=7.2,SNR=16	**40.05**	**307**	P	**P**	**04 16 40.9**	**-0.2**
CHTO	**Chiang Mai** 3.3nm,0.6s	**40.25**	**308**	*e*P	**P**	**04 16 42.4**	**-0.4**
MJAR	**Matsushiro Arr** 7.6nm,0.8s,baz=189,slow=7.8,SNR=26	**42.38**	**8**	P	**P**	**04 16 59.1**	**-0.9**
MAJO	**Matsushiro** 19nm,0.8s	**42.38**	**8**	*e*P	**P**	**04 16 59.1**	**-0.9**
MAT	**Matsushiro**	**42.38**	**8**	P	**P**	**04 16 59.0**	**-1.0**
ERM	**Erimo** 36nm,0.8s	**48.56**	**12**	*e*P	**P**	**04 17 49.1**	**+0.4**
USRK	**Ussuriysk Ar.** 1.3nm,0.5s,baz=205,slow=6.4,SNR=3.6	**49.57**	**0**	P	**P**	**04 17 56.9**	**+0.5**
PALK	**Pallekele**	**52.30**	**284**	*e*P	**P**	**04 18 15.5**	**-2.1**
TAPN	**Taplejung** 18nm,0.4s	**53.53**	**310**	*e*P	**P**	**04 18 25.8**	**-0.9**
RAMN	**Ramite** 20nm,0.4s	**54.18**	**309**	*e*P	**P**	**04 18 30.8**	**-0.6**
JIRN	**Jiri** 7.3nm,0.3s	**54.85**	**309**	*e*P	**P**	**04 18 35.4**	**-1.0**
PKIN	**Phulchoki** 4.7nm,0.5s	**55.42**	**309**	*e*P	**P**	**04 18 39.5**	**-0.9**
GKN	**Gorkha** 19nm,0.5s	**56.21**	**309**	*e*P	**P**	**04 18 45.1**	**-0.9**
KOLN	**Koldanda** 20nm,0.6s	**56.91**	**308**	*e*P	**P**	**04 18 50.2**	**-0.8**
DANN	**Dangsing**	**57.06**	**309**	*e*P	**P**	**04 18 50.9**	**-1.2**
PYUN	**Piuthan** 54nm,0.6s	**57.54**	**308**	*e*P	**P**	**04 18 54.7**	**-0.7**
SONM	**Songino Array** 0.4nm,0.6s,baz=164,slow=7.5,SNR=3.1	**57.62**	**340**	P	**P**	**04 18 55.7**	**+0.1**
PETK	**Petropavlovsk-** 3.2nm,0.7s,baz=197,slow=3.0,SNR=3.5	**62.53**	**17**	P	**P**	**04 19 30.7**	**+1.8**
MK31	**Makanchi Array**	**67.91**	**326**	*e*P	**P**	**04 20 03.4**	**-0.5**
MKAR	**Makanchi Array** 2.5nm,0.4s,baz=114,slow=7.8,SNR=63	**67.91**	**326**	P	**P**	**04 20 04.0**	**+0.1**
TKM2	**Tokmak 2** 2.2nm,0.7s	**69.89**	**320**	*e*P	**P**	**04 20 16.0**	**-0.6**
AAK	**Ala-Archa**	**70.47**	**319**	*e*P	**P**	**04 20 20.1**	**0.0**
EKS2	**Erkin-Say**	**70.96**	**319**	*e*P	**P**	**04 20 23.5**	**+0.5**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=132,slow=5.6,SNR=3.9	**71.02**	**333**	P	**P**	**04 20 22.4**	**-0.5**
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=126,slow=5.0,SNR=20	**72.13**	**328**	P	**P**	**04 20 29.5**	**-0.2**
KURK	**Kurchatov** 5.3nm,1.1s	**72.14**	**328**	*e*P	**P**	**04 20 29.0**	**-0.6**
VNDA	**Vanda** 1.2nm,0.7s,baz=307,slow=7.7,SNR=5.2	**73.65**	**173**	P	**P**	**04 20 39.4**	**+1.1**
VNDA	**Vanda** 2.0nm,0.9s	**73.65**	**173**	*e*P	**P**	**04 20 38.4**	**+0.1**
BVAR	**Borovoye Array** 0.8nm,0.5s,baz=126,slow=8.0,SNR=3.9	**77.71**	**327**	P	**P**	**04 21 01.3**	**-0.5**
GEYT	**Alibeck** 0.8nm,0.4s,baz=78,slow=6.6,SNR=3.0	**80.48**	**310**	P	**P**	**04 21 17.5**	**+0.2**
ABKAR	**Akbulak array** 0.4nm,0.4s	**82.37**	**321**	*e*P	**P**	**04 21 25.6**	**-1.4**
OPO	**Ambohidratompo** 5.7nm,0.6s,baz=70,slow=4.3,SNR=12	**82.90**	**252**	P	**P**	**04 21 30.5**	**-0.2**
AKTO	**Aktyubinsk** 1.0nm,0.5s,baz=99,slow=7.6,SNR=5.2	**83.91**	**322**	P	**P**	**04 21 33.8**	**-1.1**
QSPA	**South Pole Qui** 2.9nm,0.6s,baz=180,slow=1.4,SNR=16	**84.37**	**180**	P	**P**	**04 21 37.7**	**+0.5**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=273,slow=5.3,SNR=4.0	**91.44**	**25**	P	**P**	**04 22 09.4**	**-1.5**
SNAA	**Sanae** 4.1nm,1.1s	**97.37**	**193**	*e*P	Pdif	04 22 40.9	+2.7
EKA	**Eskdalemuir Ar** 0.2nm,0.4s,baz=31,slow=3.4,SNR=5.5	**118.65**	**332**	PKP	**PKPdf**	**04 27 52.0**	**-0.7**
TORD	**Torodi Ar. Bea** 1.3nm,0.7s,baz=85,slow=2.1,SNR=13	**130.02**	**282**	PKP	**PKPdf**	**04 28 15.0**	**-0.6**
LPAZ	**La Paz** 5.2nm,1.1s,baz=110,slow=1.2,SNR=12	**150.82**	**138**	PKPbc	**PKPbc**	**04 29 00.9**	**+1.8**

IDC 11 04:10:50.0±17.0, 26°48S×176°97W, h250km±144km, mb3.8/2, mb1 3.8/3, mb1mx3.2/32, mbtmp4.3/3, Error ellipse: s-maj=102.3km s-min=51.1km az=119.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=108,slow=19,SNR=5.9	**15.74**	**283**	P	P	04 14 17.4	-0.9
ASAR	**Alice Springs** 3.9nm,0.5s,baz=121,slow=8.9,SNR=2.6	**44.37**	**262**	P	P	04 18 36.8	+0.6
MJAR	**Matsushiro Arr** 3.0nm,0.6s,baz=158,slow=5.7,SNR=12	**75.57**	**324**	P	P	04 22 06.9	-0.4
FINES	**FINESS Array B** 0.7nm,0.8s,baz=82,slow=2.9,SNR=7.9	**141.74**	**342**	PKhKP	**PKPpre**	04 29 47.2	
FINES	0.9nm,0.8s,baz=64,slow=3.2,SNR=7.8			PKP	PKPdf	04 29 49.4	-1.7
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.7s,baz=14,slow=2.5	**145.00**	**353**	PKP	PKPab	04 29 57.8	+0.7
NOA	**NORSAR Array B** comp=Z,0.5nm,0.8s,baz=345,slow=1.9,SNR=4.9	**145.00**	**353**	PKPbc	PKPab	04 29 57.6	+0.5
HFS	**Hagfors** comp=Z,2.0nm,0.7s,baz=76,slow=2.9,SNR=8.4	**145.56**	**351**	PKPbc	PKPbc	04 29 58.5	0.0
AKASG	**Malin Array Be** comp=Z,1.4nm,0.5s,baz=44,slow=3.5,SNR=12	**148.61**	**327**	PKPbc	PKPbc	04 30 06.4	-0.7
EKA	**Eskdalemuir Ar** comp=Z,0.3nm,0.5s,baz=300,slow=1.4,SNR=5.4	**150.82**	**7**	PKPbc	PKPbc	04 30 12.0	-0.4
BRTR	**Keskin Array B** comp=Z,0.4nm,0.4s,baz=102,slow=3.1,SNR=4.0	**151.31**	**305**	PKPbc	PKPbc	04 30 12.2	-2.1
BRTR	comp=Z,0.9nm,0.9s,baz=100,slow=3.1,SNR=4.1			PKPab	PKPab	04 30 22.2	-1.1

MAN 11 04:19:02, 11°11N×124°66E, h7km, mb4.4, ML3.3, MS3.1, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.08**	**223**	*e*P	Pg	04 19 05.1	+1.2
OCLP				*e*S	Sg	04 19 07.8	+2.5
PLP	**Palo**	**0.32**	**80**	⇑*i*P	Pb	04 19 09.3	-0.7
PLP				*i* S	Sb	04 19 15.6	+0.2
MSLP	**Maasin**	**0.99**	**169**	*e*P	Pn	04 19 21.9	-0.4
MSLP				*e*S	Sn	04 19 37.8	+1.2
CNP	**Catarman**	**1.39**	**0**	*e*P	Pn	04 19 27.5	-0.4
RCP	**Roxas**	**1.93**	**284**	⇑*e*P	Pn	04 19 36.4	+1.0
RCP				*e*S	Sn	04 20 00.9	+1.0
GUIM	**Jordan**	**2.09**	**257**	*e*P	Pn	04 19 37.9	+0.4
PAGZ	**Pagadian**	**3.48**	**201**	*e*P	Pn	04 19 58.2	+1.6

MAN 11 04:47:57, 11°04N×124°70E, h1km, mb4.4, ML3.2, MS3.1, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.09**	**275**	*e*P	Pg	04 47 59.1	+0.3
OCLP				*e*S	Sg	04 48 01.5	+1.6
PLP	**Palo**	**0.30**	**66**	⇑*e*P	Pg	04 48 03.2	+0.4
PLP				*i* S	Sb	04 48 08.7	-1.9
MSLP	**Maasin**	**0.92**	**170**	*e*P	Pb	04 48 15.8	+0.1
MSLP				*e*S	Sn	04 48 32.2	+1.3
RCP	**Roxas**	**1.98**	**285**	⇑*e*P	Pn	04 48 32.5	+0.7

IDC 11 04:49:41.5±1.2, 13°33N×92°65E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.1/46, mbtmp3.3/4, Error ellipse: s-maj=139.4km s-min=25.9km az=38.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H** baz=43,slow=76,SNR=3.7	**28.89**	**225**	T	T	05 25 46.3	
H08S2	**Diego Garcia H** baz=43,slow=76,SNR=4.0	**28.89**	**225**	T	T	05 25 42.7	
H08S1	**Diego Carcia H** baz=43,slow=76,SNR=6.4	**28.91**	**225**	T	T	05 25 52.1	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=305,slow=9.7,SNR=7.5	**52.69**	**128**	P	P	04 58 57.9	-0.2
ASAR	**Alice Springs** 0.2nm,0.6s,baz=308,slow=6.2,SNR=4.9	**54.58**	**132**	P	P	04 59 12.1	+0.1
GERES	**GERESS Array B** 0.2nm,0.6s,baz=90,slow=5.6,SNR=2.8	**72.83**	**317**	P	P	05 01 11.9	-0.3
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=88,slow=6.2,SNR=3.0	**87.94**	**283**	P	P	05 02 34.4	+0.4

NIED ***11*** *04:57:00, 23°.40N×122°.10E, h35km, Mw5.3 Best double couple: M₀9.22000×10¹⁶ NP1:φ±212.00000°, δ38.00000°, λ104.00000°. NP2:φ±14.00000°, δ54.00000°, λ79.00000°.*

SZGRF ***11*** *04:57:24.9, 23°.06N×122°.60E, h33km, mb5.3, MS4.9, Taiwan region*

BJI ***11*** *04:57:27.6, 23°.40N×122°.02E, h7km, mB5.0/56, mb4.8/64, ML5.2/9, Ms5.1/84, Ms7 4.9/78*

JMA ***11*** *04:57:29.3±0.2, 23°.30N×122°.07E, h26km, M5.2*

JMA Felt I J1.

BKK ***11*** *04:57:29.2±0.3, 23°N±4°×12°2E±°, h10km, M5.2/41, mB5.6/24, mb5.2/41, MLv6.0/1, Mw(mB)5.1/24*

MOS ***11*** *04:57:29.4±1.1, 23°.29N×122°.06E, h33km, mb5.6/74, MS4.7/34, Error ellipse: s-maj=7.1km s-min=4.0km az=114.6*

ISCJB ***11*** *04:57:30.3±0.2, 23°.26N±0°.01×122°.13E±0°.01, h42km±1km, mb5.2/264, MS4.7/148, Error ellipse: s-maj=2.1km s-min=1.7km az=41.3*

TAP ***11*** *04:57:30.5, 23°.27N×122°.10E, h30km, ML5.4, C*

NEIC ***11*** *04:57:31.0±1.0, 23°.25N×122°.02E, h35km±7km, mb5.5/104, MS4.7/110, ML5.5(TAP), Error ellipse: s-maj=3.9km s-min=3.1km az=106.0*

NEIC Felt [II] at Taipei. Felt in much of Taiwan. Recorded [3 TAP] in Hua-lien, I-lan and T'ai-tung; [2 TAP] in Chang-hua, Chia-i, Nan-t'ou, T'ai-chung, T'ai-nan and Yun-lin. Recorded [1 JMA] on Iriomote-jima, Ryukyu Islands.

IDC ***11*** *04:57:31.5±2.4, 23°.29N×122°.10E, h38km±19km, mb4.6/38, mb1 4.7/42, mb1mx4.6/48, mbtmp4.8/42, ML4.2/4, MS4.5/30, Ms1 4.5/30, ms1mx4.3/52, Error ellipse: s-maj=11.5km s-min=9.7km az=76.0*

GCMT ***11*** *04:57:31.0±0.2, 23°.26N×122°.09E, h30km, MW5.3/99, Moment Tensor Solution. s60,c99; s99,c167; Duration: 1ˢ0 Moment tensor: Scale 10¹⁷Nm; Mrr0.66±.03; Mθθ0.15±.02; Mφφ-0.80±.02; Mrθ-0.21±.03; Mθφ-0.45±.01; Mφr0.37±.03; Best double couple: M₀0.96000×10¹⁷ NP1:φ±356.00000°, δ61.00000°, λ56.00000°. NP2: φ±230.00000°, δ44.00000°, λ135.00000°. Principal axes: T 0.8900, Plg59.0000°, Azm215.0000°; N 0.1390, Plg29.0000°, Azm14.0000°; P -1.0300, Plg9.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 04:57:30.6±0.3, 23°27N±0°.02×122°11E±0°.02, h31km±1km, h31km:pP-P, n923, σ1ᵍ46/1016, mb5.3/261, MS4.7/150, 154C-45D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village** baz=311	**0.68**	**310**	P	**Pn**	**04 57 43.5**	**-0.6**
TEGC	baz=311			*e*S	**Sb**	**04 57 52.7**	**-0.6**
CHKT	**Chengkung** baz=256	**0.71**	**256**	⇑*i*P	**Pn**	**04 57 42.7**	**-1.7**
TWF1	**Yuli** baz=269	**0.75**	**276**	⇑*i*P	**Pn**	**04 57 43.7**	**-1.3**
YULB	**Yu-li**	**0.76**	**279**	*e*Pg	**Pn**	**04 57 43.2**	**-2.0**
YULB				*e*Sg	**Sn**	**04 57 53.8**	**-1.8**
EHY	**Hungye** baz=289	**0.76**	**288**	⇑*i*P	**Pn**	**04 57 43.8**	**-1.4**
ESF	**Shoufeng Towns** baz=317	**0.81**	**317**	*e*P	**Pn**	**04 57 45.3**	**-0.6**
ESF	baz=317			*e*S	**Sn**	**04 57 55.2**	**-1.7**
ESL	**Shilin** baz=312	**0.82**	**311**	⇑*i*P	**Pn**	**04 57 44.5**	**-1.5**
HWA	**Hwalien** baz=327	**0.84**	**327**	⇑*i*P	**Pn**	**04 57 45.2**	**-1.1**
TWD	**Chiawan** baz=330	**0.93**	**330**	⇑*i*P	**Pn**	**04 57 46.4**	**-1.2**
TWD	baz=330			S	**Sn**	**04 57 57.9**	**-2.0**
ELDTW	**Lidau** baz=266	**1.01**	**266**	⇑*i*P	**Pn**	**04 57 47.3**	**-1.4**
NACB	**Ninganchiao**	**1.01**	**332**	*e*Pn	**Pn**	**04 57 47.2**	**-1.4**
NACB				*e*Sn	**Sn**	**04 57 58.9**	**-3.0**
WDT	**Danda** baz=299	**1.02**	**298**	⇑*i*P	**Pn**	**04 57 48.2**	**-0.8**
TTN	**Taitung** baz=240	**1.03**	**240**	⇑P	**Pn**	**04 57 47.6**	**-1.2**
TWG	**Pinlang** baz=238	**1.06**	**245**	⇑P	**Pn**	**04 57 48.1**	**-1.1**
TWG	baz=238			*e*S	**Sn**	**04 58 00.7**	**-2.2**
TWG	**Pinlang**	**1.06**	**245**	*e*Pn	**Pn**	**04 57 47.6**	**-1.7**
TWG				*e*Sn	**Sn**	**04 57 58.6**	**-4.3**
YUS	**Yu-Shan** baz=282	**1.09**	**282**	⇑*i*P	**Pn**	**04 57 49.6**	**-0.5**
EHP	**Heping Village** baz=341	**1.09**	**342**	*e*P	**Pn**	**04 57 49.8**	**+0.1**
EHP	baz=341			*e*S	**Sb**	**04 58 04.0**	**-0.8**
WHF	**Hehuan Shan** baz=318	**1.17**	**318**	⇑*i*P	**Pn**	**04 57 50.2**	**-0.9**
SSLB				*e*Pn	**Pn**	**04 57 49.5**	**-1.5**
SSLB				*e*Sn	**Sn**	**04 58 04.5**	**-1.5**
ENA	**Nanau** baz=343	**1.20**	**344**	⇑*i*P	**Pn**	**04 57 50.9**	**-0.3**
ALS	**Alishan** baz=282	**1.22**	**281**	⇑*i*P	**Pn**	**04 57 51.9**	**+0.1**
ALS	baz=282			*e*S	**Sn**	**04 58 07.3**	**-0.1**
ECL	**Taimali** baz=251	**1.26**	**238**	⇑P	**Pn**	**04 57 50.7**	**-1.4**
SMLT	**Sun Moon Lake** baz=299	**1.27**	**299**	⇑*i*P	**Pn**	**04 57 52.2**	**-0.1**
TWT	**Tachien** baz=318	**1.30**	**319**	⇑*i*P	**Pn**	**04 57 52.9**	**+0.1**
TWT	baz=318			S	**Sn**	**04 58 07.7**	**-1.5**
TYC	**Yuchr** baz=299	**1.31**	**299**	⇑*i*P	**Pn**	**04 57 52.8**	**0.0**
LAY	**Lan-yu** baz=203	**1.33**	**203**	⇓*i*P	**Pn**	**04 57 51.4**	**-1.7**
NNS	**Nan Shan** baz=330	**1.34**	**330**	⇑*i*P	**Pn**	**04 57 53.2**	**-0.2**
TWC	**Suao** baz=1.0	**1.35**	**350**	P	**Pn**	**04 57 53.8**	**+0.4**
CHN5	**Tsauling** baz=284	**1.36**	**284**	⇑*i*P	**Pn**	**04 57 54.3**	**+0.9**
TPUB	**Ta-pu**	**1.36**	**272**	*e*Pn	**Pn**	**04 57 53.5**	**0.0**
TPUB				*e*Sn	**Sn**	**04 58 08.8**	**-1.7**
TPUB				*e*Sg	**Sb**	**04 58 11.4**	**-1.2**
WTP	**Ta-pu** baz=262	**1.38**	**269**	⇑*i*P	**Pn**	**04 57 54.4**	**+0.6**
CHN4	**Tsaushan** baz=274	**1.40**	**274**	⇑*i*P	**Pn**	**04 57 54.9**	**+0.9**
JYNG	**Yonaguni jima**	**1.40**	**33**	P	**Pn**	**04 57 54.4**	**+0.4**
JYNG				S	**Sn**	**04 58 11.3**	**-0.1**
SGST	**Jiashian** baz=263	**1.42**	**263**	⇑*i*P	**Pn**	**04 57 55.0**	**+0.8**
SGST	baz=263			*e*S	**Sn**	**04 58 12.5**	**+0.6**
WNT	**Mingjian** baz=295	**1.44**	**295**	⇑*i*P	**Pb**	**04 57 55.8**	**-1.1**
WNT	baz=295			*e*S	**Sn**	**04 58 12.4**	**0.0**
YOJ	**Yonaguni jima**	**1.44**	**35**	*e*P	**Pn**	**04 57 55.0**	**+0.4**
YOJ	**Yonaguni jima**	**1.44**	**35**	P	**Pn**	**04 57 54.9**	**+0.4**
YOJ				S	**Sn**	**04 58 12.1**	**-0.3**
YOJ	**Yonaguni jima**	**1.44**	**35**	*e*Pn	**Pn**	**04 57 55.0**	**+0.4**
TAW	**Tawu** baz=242	**1.44**	**231**	⇑*i*P	**Pn**	**04 57 53.6**	**-1.0**
TAW	baz=242			*e*S	**Sn**	**04 58 10.5**	**-1.9**
ENTT	**Nioudou** baz=339	**1.45**	**340**	⇑*i*P	**Pn**	**04 57 54.8**	**+0.1**
CHN1	**Nanshi** baz=261	**1.46**	**267**	⇑*i*P	**Pn**	**04 57 55.9**	**+1.1**
CHN1	baz=261			*e*S	**Sn**	**04 58 13.2**	**+0.3**
SSD	**Sandimen** baz=250	**1.46**	**249**	⇑*i*P	**Pn**	**04 57 54.3**	**-0.5**
EAST	**Anshuo** baz=242	**1.46**	**233**	⇑P	**Pn**	**04 57 53.9**	**-1.0**
WGK	**Gukeng** baz=287	**1.48**	**286**	⇑*i*P	**Pn**	**04 57 56.3**	**+1.2**
TWK	**Hsinying** baz=271	**1.49**	**270**	⇑*i*P	**Pn**	**04 57 56.3**	**+1.0**
TWK	baz=271			*e*S	**Sn**	**04 58 14.6**	**+0.9**
ILA	**Ilan** baz=346	**1.52**	**347**	*e*P	**Pn**	**04 57 56.4**	**+0.7**
ILA	baz=346			*e*S	**Sn**	**04 58 15.5**	**+1.0**
CHN2	**Minshiung** baz=280	**1.52**	**280**	*e*P	**Pb**	**04 57 57.4**	**-0.8**
YHNB	**Yeheng**	**1.55**	**334**	*e*Pn	**Pn**	**04 57 55.7**	**-0.4**
YHNB				*e*Sn	**Sn**	**04 58 14.2**	**-0.9**
NSK	**Sanguang** baz=333	**1.56**	**334**	⇑*i*P	**Pn**	**04 57 56.5**	**+0.3**
NSK	baz=333			S	**Sn**	**04 58 14.5**	**-0.9**
CHY	**Chiayi** baz=290	**1.57**	**279**	⇑*i*P	**Pb**	**04 57 57.7**	**-1.2**
CHY	baz=290			*e*S	**Sn**	**04 58 16.1**	**+0.6**
EGS	baz=4.0	**1.57**	**354**	P	**Pn**	**04 57 57.6**	**+1.2**
EGS	baz=4.0			*e*S	**Sn**	**04 58 16.0**	**+0.3**
TCU	**Taichung** baz=303	**1.58**	**304**	⇑*i*P	**Pb**	**04 57 57.9**	**-1.2**
TCU	baz=303			S	**Sb**	**04 58 18.0**	**-0.7**
SGLT	**Jiouru** baz=246	**1.59**	**250**	⇑P	**Pn**	**04 57 58.0**	**+1.5**
TWM1	**Shoushan** baz=255	**1.62**	**254**	⇑*i*P	**Pb**	**04 57 59.2**	**-0.6**
CHN3	**Shinhua** baz=264	**1.62**	**263**	*e*P	**Pb**	**04 57 59.2**	**-0.6**
CHN3	baz=264			*e*S	**Sb**	**04 58 20.2**	**+0.4**
TWQ1	**Liyutan** baz=311	**1.63**	**311**	⇑*i*P	**Pb**	**04 57 58.9**	**-1.1**
TWQ1	baz=311			*e*S	**Sb**	**04 58 19.4**	**-0.7**
SCZT	**Fangliau** baz=244	**1.64**	**237**	⇑*e*P	**Pn**	**04 57 57.1**	**-0.2**
NSY	**Sanyi** baz=326	**1.68**	**313**	⇑*i*P	**Pb**	**04 57 59.6**	**-1.3**
NSY	baz=326			*e*S	**Sn**	**04 58 19.1**	**+0.7**
NSTT	**Nanjuang** baz=322	**1.69**	**323**	⇑*i*P	**Pn**	**04 57 59.4**	**+1.4**
NSTT	baz=322			*e*S	**Sn**	**04 58 18.5**	**-0.1**
TWB1	**Santiao Chiao** baz=355	**1.73**	**356**	⇓*i*P	**Pn**	**04 57 59.2**	**+0.7**
HATJ	**Hateruma jima**	**1.74**	**63**	P	**Pn**	**04 57 59.0**	**+0.4**
HATJ				S	**Sn**	**04 58 19.5**	**-0.2**
CHN8	**Yiju** baz=273	**1.75**	**273**	⇑*e*P	**Pn**	**04 57 59.9**	**+1.2**
CHN8	baz=273			*e*S	**Sn**	**04 58 21.7**	**+1.7**
TAI1	**Yung-k'ang** baz=263	**1.75**	**263**	⇑*i*P	**Pb**	**04 58 00.6**	**-1.4**
TAI1	baz=263			*e*S	**Sn**	**04 58 21.6**	**+1.6**
TSEB	**Hengchuen, Pin** baz=221	**1.77**	**220**	*e*P	**Pn**	**04 57 58.5**	**-0.5**
SCLT	**Jiali** baz=267	**1.77**	**267**	*e*P	**Pn**	**04 58 00.3**	**+1.3**
SCLT	baz=267			*e*S	**Sb**	**04 58 23.0**	**-1.1**
TWA	**Mucha** baz=332	**1.77**	**344**	⇑*i*P	**Pn**	**04 58 00.3**	**+1.3**
TWA	baz=332			*e*S	**Sn**	**04 58 21.6**	**+1.0**
WSF	**Szhu** baz=282	**1.77**	**282**	⇑*e*P	**Pn**	**04 58 00.0**	**+0.9**
WSF	baz=282			*e*S	**Sn**	**04 58 20.9**	**+0.3**
WTCT	**Ta-ch'eng** baz=290	**1.78**	**290**	*e*P	**Pn**	**04 58 00.0**	**+0.8**
WTCT	baz=290			*e*S	**Sn**	**04 58 22.5**	**+1.7**
HEN	**Hengchun** baz=219	**1.79**	**225**	*e*P	**Pn**	**04 57 59.4**	**+0.1**
HEN	baz=219			*e*S	**Sn**	**04 58 20.9**	**-0.1**
TATO	**Taipei** SNR=78	**1.79**	**342**	P	**Pn**	**04 58 00.4**	**+1.1**
TATO	**Taipei**	**1.79

IRIF	**Iriomote-Funau**	**1.82**	**54**	P	**Pn**	**04 58 00.2**	**+0.4**
IRIF				S	**Sn**	**04 58 22.9**	**+1.1**
TAP1	**Taipei**	**1.84**	**343**⇑	*e*P	**Pn**	**04 58 00.9**	**+0.9**
	baz=342						
TAP	**Taipei**	**1.84**	**343**⇑	*e*P	**Pn**	**04 58 01.0**	**+0.9**
	baz=330						
TAP				*e*S	**Sn**	**04 58 22.8**	**+0.4**
	baz=330						
HSN	**Hsinchu**	**1.85**	**326**⇑	*e*P	**Pn**	**04 58 01.8**	**+1.6**
	baz=325						
HSN				*e*S	**Sn**	**04 58 24.0**	**+1.6**
	baz=325						
TWP	**Hsiaoliuchiu**	**1.86**	**241**	*e*P	**Pb**	**04 58 03.4**	**-0.5**
	baz=227						
NCU	**National Centr**	**1.89**	**334**	*e*P	**Pn**	**04 58 02.0**	**+1.3**
	baz=332						
NCU				*e*S	**Sn**	**04 58 24.4**	**+0.8**
	baz=332						
TWS1	**Kuangyinshan**	**1.93**	**341**	*e*P	**Pn**	**04 58 02.4**	**+1.2**
	baz=339						
TWS1				*e*S	**Sn**	**04 58 25.5**	**+1.0**
	baz=339						
TWY	**Chenhua**	**2.05**	**347**⇑	*e*P	**Pn**	**04 58 04.0**	**+1.1**
	baz=331						
JIJ	**Ishigaki jima**	**2.15**	**59**	P	**Pn**	**04 58 04.3**	**-0.1**
WDGT	**Dungji**	**2.25**	**270**⇑	*i*P	**Pn**	**04 58 06.2**	**+0.5**
	baz=270						
WDGT				*e*S	**Sn**	**04 58 31.4**	**-1.0**
	baz=270						
PCYT	**Pengchaiyu**	**2.35**	**359**	*e*P	**Pn**	**04 58 07.3**	**+0.3**
	baz=358						
PNG	**Penghu**	**2.37**	**278**⇑	*i*P	**Pn**	**04 58 07.8**	**+0.6**
	baz=264						
PNG				*e*S	**Sn**	**04 58 34.1**	**-1.2**
	baz=264						
JISG	**Ishigakijimahi**	**2.40**	**57**	P	**Pn**	**04 58 07.5**	**-0.2**
JISG				S	**Sn**	**04 58 36.0**	**-0.1**
JTJ	**Tarama**	**2.73**	**60**	P	**Pn**	**04 58 12.8**	**+0.5**
JIRB	**Irabujima**	**3.20**	**60**	P	**Pn**	**04 58 18.2**	**-0.5**
JIRB				S	**Sn**	**04 58 55.2**	**-0.6**
JMJ	**Miyako jima 2**	**3.29**	**62**	P	**Pn**	**04 58 20.6**	**+0.6**
JMJ				S	**Sn**	**04 58 57.8**	**-0.2**
JIKM	**Ikemajima**	**3.31**	**60**	P	**Pn**	**04 58 20.2**	**0.0**
JIKM				S	**Sn**	**04 58 58.1**	**-0.3**
JOGS	**Gusukube**	**3.36**	**63**	P	**Pn**	**04 58 21.4**	**+0.5**
JOGS				S	**Sn**	**04 59 00.2**	**+0.5**
KNM	**Kinmen**	**3.56**	**289**⇑	*e*P	**Pn**	**04 58 25.0**	**+1.4**
	baz=288						
QZH	**Quanzhou**	**3.62**	**298**⇓	*i*Pn	**Pn**	**04 58 24.4**	**-0.1**
QZH				Sn	**Sn**	**04 59 04.3**	**-1.9**
QZH				SMN			
	9μm,0.8s						
QZH				SME			
	4μm,0.6s						
QZH				LN			
	19μm,11.4s						
QZH				LE			
	19μm,7.5s						
QZH				LZ			
	24μm,10.5s						
SGCP	**Mt. Cagua**	**5.00**	**181**	*e*P	**Pn**	**04 58 42.8**	**-0.7**
SGCP				*e*S	**Pb**	**04 58 58.0**	**+0.5**
PIP	**Pasuquin**	**5.12**	**196**⇑	*i*P	**Pn**	**04 58 45.8**	**+0.7**
JKE	**Kume jima 2**	**5.22**	**53**	P	**Pn**	**04 58 45.6**	**-1.0**
JKE				S	**Sn**	**04 59 42.2**	**-3.6**
APYP	**Conner**	**5.44**	**189**	*e*P	**Pn**	**04 58 50.7**	**+1.1**
APYP				*e*S	Pb	04 59 12.8	+7.9
SIPP	**Brgy, Tapao**	**5.54**	**197**⇓	*i*P	**Pn**	**04 58 52.4**	**+1.4**
JAGN	**Aguni-jima**	**5.71**	**54**	P	**Pn**	**04 58 52.4**	**-0.8**
JAGN				*e*S	**Sn**	**04 59 56.2**	**-1.5**
ABRA	**Dolores**	**5.75**	**193**	*e*P	**Pn**	**04 58 55.4**	**+1.6**
JNTH	**Nagotoyohara**	**6.26**	**58**	P	**Pn**	**04 58 59.3**	**-1.6**
JNTH				*e*S	**Sn**	**05 00 08.0**	**-3.4**
JIH	**Iheya**	**6.50**	**54**	P	**Pn**	**04 59 02.3**	**-1.7**
JIH				S	**Sn**	**05 00 12.0**	**-5.1**
JOW	**Kunigami**	**6.62**	**56**	P	**Pn**	**04 59 03.7**	**-2.0**
JOW				S	**Sn**	**05 00 17.6**	**-2.5**
JOW	**Kunigami**	**6.62**	**56**	Pn	**Pn**	**04 59 03.4**	**-2.4**
	2.7nm,0.3s,baz=226,slow=9.3,SNR=48						
JOW				Sn	**Sn**	**05 00 16.4**	**-3.7**
	1.6nm,0.3s,baz=130,slow=18,SNR=2.9						
JOKE	**Okinoerabujima**	**7.12**	**54**	P	**Pn**	**04 59 10.6**	**-2.1**
JOKE				*e*S	**Sn**	**05 00 26.9**	**-5.7**
BOLP	**Bolinao**	**7.16**	**197**	*e*P	**Pn**	**04 59 14.6**	**+1.4**
BALP	**Baler**	**7.51**	**184**	*e*P	Pn	04 59 21.3	+3.3
JTK	**Tokunoshima**	**7.64**	**53**	P	**Pn**	**04 59 17.0**	**-2.7**
JTK				S	Sn	05 00 37.9	-7.3
SSE	**Sheshan**	**7.84**	**354**	*e*P	**Pn**	**04 59 24.0**	**+1.6**
SSE				S	**Sn**	**05 00 47.9**	**-2.2**
SSE				PMZ			
	31nm,0.8s						
SSE				SMN			
	170nm,1.7s						
SSE				SME			
	220nm,1.5s						
SSE				LN			
	2μm,17.1s						
SSE				LE			
	5μm,17.1s						
SSE				LZ			
	7μm,12.3s						
JAMN	**Amaminishikomi**	**8.06**	**51**	P	Pn	04 59 22.4	-3.2
JAMN				S	Sn	05 00 48.3	-7.4
GZH	**Guangzhou**	**8.07**	**270**	P	Pn	04 59 22.2	-3.4
GZH				SMN			
	3μm,1.1s						
GZH				SME			
	1μm,1.0s						
JAM	**Amami Oshima**	**8.47**	**51**	P	**Pn**	**04 59 28.4**	**-2.7**
JAM				*e*S	**Sn**	**05 00 59.8**	**-5.9**
JTAJ	**Takarajima**	**8.65**	**46**	P	**Pn**	**04 59 32.7**	**-0.9**
JMZ	**Minamidaito 2**	**8.67**	**71**	P	Pn	04 59 30.2	-3.7
JMZ				*e*S	Sn	05 01 00.0	-11
TGY	**Tagaytay City**	**9.19**	**187**	Pn	Pn	04 59 32.8	-8.3
	83nm,0.3s,baz=342,slow=3.2,SNR=6.4						
TGY				Sn	**Sn**	**05 01 28.6**	**+5.1**
	27nm,0.3s,baz=104,slow=12,SNR=2.6						
NJ2	**Nanjing**	**9.21**	**342**	*e*P	**Pn**	**04 59 41.4**	**+0.1**
NJ2				pP		04 59 48.3	
NJ2				sP		04 59 51.3	
NJ2				S	**Sn**	**05 01 26.0**	**+2.2**
NJ2				sS		05 01 32.0	
NJ2				PMZ			
	140nm,1.0s						
NJ2				PMZ			
	460nm,4.2s						
NJ2				SMN			
	1μm,1.2s						
NJ2				SME			
	520nm,0.8s						
NJ2				LN			
	16μm,7.3s						
NJ2				LE			
	11μm,12.2s						
NJ2				LZ			
	10μm,13.0s						
WHN	**Wuhan**	**10.02**	**318**	P	**Pn**	**04 59 50.8**	**-1.6**
WHN				S	**Sn**	**05 01 37.7**	**-6.0**
WHN				LN			
	8μm,10.3s						
WHN				LE			
	16μm,11.6s						
WHN				LZ			
	14μm,11.5s						
QIZ	**Qiongzhong**	**12.20**	**252**	P	**Pn**	**05 00 21.8**	**-0.5**
QIZ				PP	**PnPn**	**05 00 30.4**	**+0.3**
QIZ				S	**Sn**	**05 02 38.5**	**+1.2**
QIZ				LN			
	6μm,21.0s						
QIZ				LZ			
	7μm,15.2s						
QIZ	**Qiongzhong**	**12.20**	**252**	*e*Pn	**Pn**	**05 00 20.2**	**-2.1**
	67nm,0.9s						
JNU	**Nakatsue**	**12.49**	**36**	Pn	**Pn**	**05 00 26.8**	**+0.6**
	0.3nm,0.3s,baz=184,slow=13,SNR=2.9						
JNU				LR	LR	05 06 12.3	
	comp=Z,3μm,19.9s,baz=208,slow=42						
JNU	**Nakatsue**	**12.49**	**36**	*e*Pn	**Pn**	**05 00 27.0**	**+0.8**
	21nm,1.1s						
ENH	**Enshi**	**13.25**	**304**	*e*Pn	**Pn**	**05 00 35.4**	**-1.3**
	61nm,1.2s						
TIA	**Tai'an**	**13.60**	**343**	*e*P	Pn	05 00 44.8	+3.5
TIA				S	**Sn**	**05 03 16.7**	**+5.3**
TIA				PMZ			
	20nm,1.1s						
TIA				LN			
	2μm,14.0s						
TIA				LE			
	3μm,13.0s						
TIA				LZ			
	3μm,14.0s						
TJN	**Taejon**	**13.83**	**18**	*i*P	Pn	05 00 47.8	+3.4
GYA	**Guiyang**	**14.38**	**286**⇓	*i*P	**Pn**	**05 00 52.3**	**+0.2**
GYA				PP	**PnPn**	**05 01 03.8**	**+3.7**
GYA				S	**Sn**	**05 03 31.3**	**+0.7**
GYA				SS	**S**	**05 03 49.2**	**-0.8**
GYA				PMZ			
	50nm,1.2s						
GYA				PMZ			
	160nm,4.9s						
GYA				LN			
	2μm,9.3s						
GYA				LE			
	3μm,9.3s						
GYA				LZ			
	5μm,9.8s						
INCN	**Inchon**	**14.69**	**14**	*e*Pn	**Pn**	**05 00 55.8**	**-0.4**
KSAR	**Wonju Array Be**	**14.97**	**18**	P	**Pn**	**05 01 01.9**	**+1.9**
KSAR	**Wonju Array Be**	**14.97**	**18**	Pn	**Pn**	**05 01 01.9**	**+1.9**
KSRS	**Korea Array**	**14.99**	**18**	Pn	**Pn**	**05 01 01.9**	**+1.6**
	3.1nm,0.3s,baz=196,slow=11,SNR=50						
KSRS				LR	LR	05 07 33.6	
	comp=Z,653nm,20.1s,baz=182,slow=40						
DL2	**Dalian**	**15.59**	**359**	*e*P	**P**	**05 01 13.1**	**+1.1**
DL2				PMZ			
	78nm,1.3s						
DL2				PMZ			
	580nm,6.3s						
DL2				LE			
	3μm,16.1s						
DL2				LZ			
	2μm,12.2s						
XAN	**Xi'an**	**15.77**	**316**	P	**Pn**	**05 01 10.8**	**+0.4**
XAN				PP	**pP**	**05 01 23.7**	**+1.4**
XAN				S	**Sn**	**05 04 04.9**	**+0.7**
XAN				SS	**S**	**05 04 22.0**	**+3.8**
XAN				PMZ			
	21nm,1.3s						
XAN				LN			
	2μm,14.5s						
XAN				LE			
	510nm,9.6s						
XAN				LZ			
	1μm,14.1s						
DAV	**Davao City (W)**	**16.45**	**168**⇑	*e*P	P	05 01 27.2	+5.5
TIY	**Taiyuan**	**16.62**	**332**	*e*P	**P**	**05 01 24.1**	**+0.6**
TIY				sP	sP	05 01 30.0	-5.8
TIY				S	**S**	**05 04 31.7**	**-3.9**
TIY				SS	**SnSn**	**05 04 44.2**	**+5.8**
TIY				PMZ			
	680nm,6.2s						
TIY				LN			
	3μm,12.4s						
TIY				LE			
	4μm,11.2s						
TIY				LZ			
	3μm,13.5s						
KDM	**Kudat**	**17.04**	**198**	⇓P	**P**	**05 01 28.7**	**+0.5**
BJT	**Baijiatuau**	**17.44**	**345**	*e*P	**P**	**05 01 32.2**	**-0.2**
BJT				pmax	pmax		
	comp=Z,33nm,0.9s						
BJT	**Baijiatuau**	**17.44**	**345**	*e*Pn	**P**	**05 01 32.2**	**-0.2**
	comp=Z,33nm,0.9s						
BJI	**Beijing**	**17.46**	**345**	P	P	05 01 37.3	+4.7
BJI				S	**S**	**05 04 57.3**	**+4.8**
BJI				pmax	pmax		
	comp=Z,16nm,1.1s						
BJI				pmax	pmax		
	comp=Z,540nm,5.8s						
BJI				LR	LR		
	comp=N,3μm,17.5s						
BJI				LR	LR		
	comp=E,2μm,11.8s						
BJI				LR	LR		
	comp=Z,1μm,18.6s						
UBPT	**Khong Chiam**	**17.59**	**246**	P	**P**	**05 01 36.9**	**+2.6**
	comp=Z,68nm,1.4s,comp=Z,2μm						
KMI	**Kunming**	**17.77**	**280**	P	**P**	**05 01 38.0**	**+1.5**
KMI				pP	**pP**	**05 01 45.1**	**+0.3**
KMI				sP	**sP**	**05 01 48.4**	**-0.3**
KMI				PP	**PnPn**	**05 01 53.5**	**+6.7**
KMI				S	**Sn**	**05 04 55.3**	**+2.1**
KMI				PMZ			
	comp=Z,33nm,1.9s						
KMI				PMZ			
	comp=Z,270nm,4.6s						
KMI				LN			
	comp=Z,2μm,10.5s						
KMI				LE			
	comp=Z,2μm,13.2s						
KMI				LZ			
	comp=Z,2μm,12.4s						
CD2	**Chengdu**	**18.01**	**299**	⇓P	**P**	**05 01 39.2**	**+0.3**
CD2				pP	**pP**	**05 01 43.2**	**-4.0**
CD2				sP	**sP**	**05 01 46.7**	**-4.5**
CD2				PP	**PnPn**	**05 01 54.1**	**+4.2**
CD2				S	**Sn**	**05 04 56.8**	**-1.9**
CD2				sS	**S**	**05 05 03.2**	**-0.9**
CD2				SS	**SnSn**	**05 05 19.7**	**+7.2**
CD2				PMZ			
	comp=Z,120nm,0.8s						
CD2				PMZ			
	comp=Z,460nm,6.2s						
CD2				LN			
	comp=Z,5μm,9.8s						
CD2				LE			
	comp=Z,5μm,11.4s						
CD2				LZ			
	comp=Z,6μm,10.6s						
SDKM	**Sandakan**	**18.16**	**196**	⇑P	**P**	**05 01 41.7**	**+1.1**
CBIJ	**Chichi jima**	**18.56**	**74**	P	**P**	**05 01 44.9**	**0.0**
CBIJ				*e*Pn	**Pn**	**05 01 47.2**	**+1.9**
JCJ	**Chichijima**	**18.56**	**74**	P	**P**	**05 01 44.9**	**0.0**
	comp=Z,6.1nm,0.3s,baz=204,slow=19,SNR=3.8						
JCJ				LR	LR	05 08 23.5	
	comp=Z,777nm,19.4s,baz=296,slow=35						
MAJO	**Matsushiro**	**19.19**	**43**	*i*P	**Pn**	**05 01 53.8**	**+0.9**
MAJO	**Matsushiro**	**19.19**	**43**	*e*P	**Pn**	**05 01 54.5**	**+1.6**
	comp=Z,40nm,1.1s						
MAT	**Matsushiro**	**19.19**	**43**	P	**Pn**	**05 01 53.6**	**+0.7**
MAT				S	**Sn**	**05 05 25.2**	**-1.8**
MJAR	**Matsushiro Arr**	**19.19**	**43**	P	**P**	**05 01 52.0**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=226,slow=10,SNR=15						
MJAR				LR	LR	05 10 01.7	
	comp=Z,1μm,20.2s,baz=215,slow=39						
TSM	**Tawau**	**19.31**	**193**	⇓P	**Pn**	**05 01 54.5**	**+0.2**
KHON	**Khomkaen**	**19.40**	**253**	P	**Pn**	**05 01 57.5**	**+2.0**
	comp=Z,32nm,0.9s,comp=Z,2μm						
HHC	**Hu-ho-hao-te**	**19.65**	**336**	*e*P	**Pn**	**05 01 59.5**	**+1.1**
HHC				pP	**pP**	**05 02 03.9**	**-1.3**
HHC				sP	**sP**	**05 02 10.2**	**+1.1**
HHC				PP	**PnPn**	**05 02 19.4**	**+7.0**
HHC				S	**Sn**	**05 05 38.4**	**+0.3**
HHC				sS		05 05 44.4	-5.8
HHC				SS	SnSn	05 06 02.8	+10
HHC				PMZ			
	comp=Z,36nm,0.9s						
HHC				PMZ			
	comp=Z,390nm,5.2s						
HHC				LN			
	comp=Z,3μm,12.4s						
HHC				LE			
	comp=Z,2μm,14.9s						
HHC				LZ			
	comp=Z,2μm,14.7s						
BTO	**Baotou**	**20.06**	**332**	*e*P	**P**	**05 02 02.1**	**+0.7**
LZH	**Lanzhou**	**20.33**	**313**	⇓P	Pn	05 02 06.9	+0.3
LZH				pP	pP	05 02 11.5	-1.2
LZH				sP	sP	05 02 13.9	-2.8
LZH				PP	**PnPn**	**05 02 28.2**	**+6.5**
LZH				S	**S**	**05 05 52.2**	**+1.4**
LZH				sS	Sn	05 05 59.0	+4.2
LZH				SS	**SnSn**	**05 06 16.0**	**+6.5**
LZH				PMZ			
	comp=Z,160nm,1.2s						
LZH				PMZ			
	comp=Z,530nm,4.0s						
LZH				LN			
	comp=Z,2μm,11.4s						
LZH				LE			
	comp=Z,4μm,9.2s						
LZH				LZ			
	comp=Z,5μm,11.5s						
CRAI	**Chiangrai**	**20.41**	**266**	P	**P**	**05 02 05.1**	**-0.2**
	comp=Z,42nm,1.2s						
CN2	**Changchun**	**20.66**	**7**	*e*P	**P**	**05 02 08.4**	**+0.7**
CN2				*e*sP	**sP**	**05 02 17.5**	**-2.5**
CN2				*e*S	**S**	**05 05 53.9**	**-3.0**
CN2				PMZ			
	comp=Z,20nm,0.7s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,2μm,17.0s						
CN2				LE			
	comp=Z,4μm,17.0s						
CN2				LZ			
	comp=Z,4μm,18.0s						
UTTA	**Uttaradit**	**20.92**	**259**	P	Pn	05 02 13.9	+0.6
	comp=Z,5.5nm,0.9s						
PBKT	**Sadao Pong**	**20.95**	**255**	P	Pn	05 02 13.2	-0.5
	comp=Z,94nm,1.3s,comp=Z,1μm						
VLA	**Vladivostok**	**21.39**	**20**⇑	*e*P	**P**	**05 02 14.8**	**-0.7**
VLA				S	**S**	**05 06 12.6**	**+1.3**
VLA				pmax	pmax		
	comp=Z,22nm,1.3s						
VLA				smax	smax		
	comp=N,488nm,0.7s						
CHBT	**CHBT**	**21.50**	**244**	P	**P**	**05 02 19.9**	**+3.0**
	comp=N,47nm,1.2s						
LAMP	**Lampang**	**21.52**	**262**	P	**P**	**05 02 19.6**	**+2.4**
	comp=N,31nm,1.0s,comp=N,249nm						
BTM	**Bintulu**	**21.78**	**205**	⇓P	**P**	**05 02 19.9**	**-0.1**
TOLI	**Toli-Toli**	**22.05**	**184**	*e*P	**P**	**05 02 22.8**	**-0.1**
	comp=N,231nm,1.0s						
CMMT	**Chiang Mai**	**22.06**	**263**	P	**P**	**05 02 24.5**	**+1.5**
	comp=N,119nm,1.3s,comp=N,1μm						
CHTO	**Chiang Mai**	**22.07**	**263**	*e*P	**P**	**05 02 23.6**	**+0.6**
CHTO				*e*		05 06 20.7	
CHTO				pmax	pmax		
	comp=Z,135nm,1.3s						
CHTO				MLR	MLR		
	comp=Z,963nm,20.0s						
CHTO	**Chiang Mai**	**22.07**	**263**	P	**P**	**05 02 24.9**	**+1.9**
	SNR=50						
CHTO	**Chiang Mai**	**22.07**	**263**	*e*P	**P**	**05 02 23.6**	**+0.6**
	comp=Z,136nm,1.3s						
CHTO				*e*PcP	**PcP**	**05 06 20.7**	**+0.3**
CHTO				LR	LR		
	comp=Z,963nm,20.0s						
CHTO	**Chiang Mai**	**22.07**	**263**	P	**P**	**05 02 24.6**	**+1.5**
	comp=Z,508nm,1.0s,comp=Z,5μm						
MDJ	**Mudanjiang**	**22.16**	**14**	P	**P**	**05 02 25.2**	**+1.4**
MDJ				pP	**pP**	**05 02 28.2**	**-4.0**
MDJ				sP	sP	05 02 29.5	-6.7
MDJ				PcP	**PcP**	**05 06 21.4**	**+1.4**
MDJ				S	**S**	**05 06 29.4**	**+3.3**
MDJ				ScP	**ScP**	**05 09 58.9**	**+3.7**
MDJ				PcS	**PcS**	**05 10 00.4**	**+1.9**
MDJ				ScS	**ScS**	**05 13 43.9**	**+3.9**
MDJ				PMZ			
	comp=Z,140nm,6.6s						
MDJ				LN			
	comp=Z,2μm,15.4s						
MDJ				LE			
	comp=Z,4μm,16.6s						
MDJ				LZ			
	comp=Z,3μm,13.0s						
MDJ	**Mudanjiang**	**22.16**	**14**	*e*P	**P**	**05 02 23.3**	**-0.5**
	comp=Z,32nm,1.1s						
MDJ				LR	LR		
	comp=Z,1μm,20.0s						
CMAR	**Chiang Mai Arr**	**22.16**	**262**	P	**P**	**05 02 25.2**	**+1.1**
	comp=Z,37nm,1.0s,baz=63,slow=8.1,SNR=132						
CMAR				PcP	**PcP**	**05 06 20.9**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=52,slow=0.8,SNR=22						
CMAR				LR	LR	05 12 30.1	
	comp=Z,834nm,18.7s,baz=80,slow=41						
USRK	**Ussuriysk Ar.**	**22.40**	**19**	P	**P**	**05 02 25.5**	**-0.9**
	comp=Z,6.0nm,0.6s,baz=206,slow=10,SNR=14						
USRK				LR	LR	05 12 37.3	
	comp=Z,1μm,18.5s,baz=180,slow=40						
GTOI	**Gorontalo**	**22.52**	**178**	P	**P**	**05 02 26.4**	**-1.5**
	comp=Z,388nm,1.1s,comp=Z,3μm						
KMSI	**Cibinong**	**22.63**	**175**	P	P	05 02 36.3	+7.2
MRSI	**Marisa**	**22.66**	**180**	P	**P**	**05 02 29.9**	**+0.5**
	comp=Z,202nm,1.7s,comp=Z,2μm						
SBUM	**Sibu**	**22.81**	**206**	⇑P	**P**	**05 02 30.7**	**-0.3**
SBUM	**Sibu**	**22.81**	**206**	*e*P	**P**	**05 02 30.3**	**-0.7**
	comp=Z,223nm,1.7s						
MPSI	**Mapaga**	**22.90**	**186**	P	P	05 02 30.1	-1.8
TNTI	**Ternate**	**22.94**	**166**	P	**P**	**05 02 33.8**	**+1.5**
	comp=Z,234nm,1.2s						
TNTI	**Ternate**	**22.94**	**166**	*e*P	**P**	**05 02 31.6**	**-0.7**
MHMT	**Maesarieng**	**23.16**	**262**	P	**P**	**05 02 36.3**	**+1.7**
	comp=Z,35nm,1.4s,comp=Z,594nm						
SRDT	**SRDT**	**23.48**	**252**	P	**P**	**05 02 39.2**	**+1.5**
	comp=Z,170nm,1.5s,comp=Z,12μm						
GUMO	**Guam**	**23.61**	**110**	PFAKE		05 02 50.0	+11
GUMO				LR	LR		
	comp=Z,227nm,20.0s						
APSI	**Ampana**	**24.04**	**181**	P	**P**	**05 02 44.2**	**+1.2**
PCI	**Palu**	**24.13**	**186**	P	**P**	**05 02 45.5**	**+1.6**
	comp=Z,236nm,1.3s,comp=Z,3μm						
LUWI	**Luwuk**	**24.18**	**178**	P	**P**	**05 02 43.6**	**-0.7**
	comp=Z,327nm,1.2s,comp=Z,4μm						
LUWI	**Luwuk**	**24.18**	**178**	*e*P	**P**	**05 02 42.8**	**-1.5**
	comp=Z,468nm,1.2s						
LBMI	**Labuha**	**24.34**	**167**	P	P	05 02 53.0	+7.2
KSM	**Kuching**	**24.51**	**210**	⇑P	**P**	**05 02 47.0**	**-0.3**
KSM	**Kuching**	**24.51**	**210**	*e*P	**P**	**05 02 46.6**	**-0.7**
	comp=Z,182nm,1.5s						
GTA	**Gaotai**	**24.83**	**316**	⇑P	**P**	**05 02 50.7**	**+0.5**
GTA				pP	**pP**	**05 02 56.0**	**-3.2**
GTA				sP	**sP**	**05 02 59.1**	**-4.0**
GTA				PcP	**PcP**	**05 06 26.8**	**+0.8**
GTA				S	**S**	**05 07 11.9**	**+0.8**
GTA				sS	sS	05 07 18.5	-7.5
GTA				ScP	**ScP**	**05 10 01.6**	**-1.1**
GTA				PcS	**PcS**	**05 10 05.7**	**-0.5**
GTA				PMZ			
	comp=Z,150nm,4.0s						
GTA				LN			
	comp=Z,1μm,14.3s						
GTA				LE			
	comp=Z,2μm,13.1s						
GTA				LZ			
	comp=Z,3μm,14.7s						
BKB	**Balikpapan**	**24.91**	**192**	P	**P**	**05 02 53.2**	**+2.3**
	comp=Z,721nm,1.0s,comp=Z,8μm						
MTKI	**Muara Teweh, K**	**25.07**	**197**	P	**P**	**05 02 52.7**	**+0.3**
	comp=Z,589nm,1.1s,comp=Z,7μm						
STKI	**Sintang**	**25.28**	**206**	P	**P**	**05 02 55.5**	**+1.2**
	comp=Z,85nm,1.7s,comp=Z,12μm						
SANI	**Sanana**	**25.45**	**171**	P	**P**	**05 02 53.8**	**-2.0**
	comp=Z,60nm,1.2s,comp=Z,860nm						
KTGM	**Kuala Trenggan**	**25.56**	**229**	⇑P	**P**	**05 02 58.0**	**+1.1**
ERM	**Erimo**	**25.64**	**38**	PFAKE		05 03 10.0	+13
ERM				LR	LR		
	comp=Z,2μm,22.0s						
HIA	**Hailar**	**26.01**	**356**	*e*P	**P**	**05 03 01.5**	**+0.8**
HIA				pmax	pmax		
	comp=Z,23nm,0.8s						
HIA				MLR	MLR		
	comp=Z,1μm,19.0s						
HIA	**Hailar**	**26.01**	**356**	*e*P	**P**	**05 03 01.5**	**+0.8**
	comp=Z,23nm,0.8s						
HIA				LR	LR		
	comp=Z,1μm,19.0s						
SKLT	**Songkhla**	**26.13**	**236**	P	**P**	**05 03 03.6**	**+1.5**
	comp=Z,37nm,1.4s,comp=Z,1μm						
TTSI	**Tana Toraja**	**26.25**	**185**	P	**P**	**05 03 04.1**	**+1.0**
	comp=Z,105nm,1.0s,comp=Z,1μm						
TRTT	**Trang**	**26.43**	**238**	P	**P**	**05 03 06.3**	**+1.5**
	comp=Z,25nm,1.2s						
ASAJ	**Asahikawa**	**26.75**	**34**	P	**P**	**05 03 07.2**	**-0.2**
	comp=Z,7.5nm,0.4s,baz=344,slow=33,SNR=7.5						
NLAI	**Namlea**	**26.80**	**169**	P	**P**	**05 03 09.3**	**+1.3**
	comp=Z,193nm,0.8s,comp=Z,2μm						
KLR	**Kul'dur**	**27.00**	**14**	*e*P	P	05 03 16.5	+6.9
KLR				MLR	MLR		
	comp=E,1μm,15.0s						
KLR				MLR	MLR		
	comp=E,700nm,12.0s						
KLR				ML

KBKI Kotabaru 27.04 193 P **P** **05 03 14.9 +4.7**
comp=Z,52nm,1.4s
SPSI Sidrap Palu 27.17 185 P **P** **05 03 10.8 -0.5**
comp=Z,80nm,1.1s,comp=Z,2µm
HABR Khabarovsk 27.17 19 *e*P **P** **05 03 10.8 -0.3**
HABR *e**PP **pP** **05 03 20.2 +0.1**
HABR *e**SP **sP** **05 03 24.5 +0.6**
HABR *e* 05 03 55.2
HABR PPP PPP 05 04 03.7
HABR *e* 05 06 29.8
HABR *e*S **S** **05 07 48.5 +0.9**
HABR *e**SS **sS** **05 08 05.1 +2.5**
HABR *e*SS **SnSn** **05 08 59.0 +2.6**
HABR *e*SSS SSS 05 09 14.2
HABR *e* 05 13 59.2
HABR pmax pmax
comp=Z,70nm,1.9s
HABR MLR MLR
comp=Z,1µm,20.0s
RKPI Ransiki, Papua 27.29 153 P P 05 03 23.3 +11
ULN Ulaanbaatar 27.33 338*c* *i*P **P** **05 03 12.3 -0.4**
ULN pmax pmax
comp=Z,31nm,1.7s
ULN Ulaanbaatar 27.33 338 P **P** **05 03 12.8 +0.1**
SNR=14
ULN Ulaanbaatar 27.33 338 *e*P **P** **05 03 11.5 -1.3**
ULN *e*PcP **PcP** **05 06 31.7 +0.1**
ULN LR LR
comp=Z,2µm,20.0s
KULM Kulim 27.35 232 ⇑P **P** **05 03 13.8 +0.8**
KULM Kulim 27.35 232 *e*P **P** **05 03 13.8 +0.8**
comp=Z,123nm,1.5s
KULM *e*PcP **PcP** **05 06 31.5 -0.5**
KULM LR LR
comp=Z,1µm,19.0s
PKDT Phuket 27.47 240 P **P** **05 03 16.1 +2.0**
comp=Z,34nm,1.8s,comp=Z,8µm
BBKI Banjar Baru 27.50 196 P **P** **05 03 15.0 +0.6**
comp=Z,224nm,1.4s
SONM Songino Array 27.54 337 P **P** **05 03 14.0 -0.6**
comp=Z,7.7nm,0.9s,baz=152,slow=8.6,SNR=35
SONM PcP **PcP** **05 06 31.7 -0.3**
comp=Z,2.9nm,0.8s,baz=144,slow=2.8,SNR=4.6
SONM LR LR 05 15 26.1
comp=Z,2µm,18.2s,baz=148,slow=39
BNSI Bone 27.57 184 P **P** **05 03 15.0 0.0**
comp=Z,52nm,1.9s,comp=Z,861nm
SHL Shillong 27.59 281 *e*P **P** **05 03 15.0 -0.4**
IPM Ipoh 27.64 231 ⇓P **P** **05 03 16.2 +0.5**
IPM Ipoh 27.64 231 *e*P **P** **05 03 15.6 0.0**
comp=Z,88nm,0.9s
IPM *e*PcP **PcP** **05 06 32.6 -0.1**
MYKOM **Kota Tinggi 27.74 222** ⇓P **P** **05 03 17.2 +0.6**
MYKOM **Kota Tinggi 27.74 222** *e*P **P** **05 03 16.4 -0.2**
comp=Z,136nm,1.0s
FAKI Fak Fak 27.84 158 P **P** **05 03 17.2 -0.3**
comp=Z,134nm,1.1s,comp=Z,1µm
FAKI Fak Fak 27.84 158 *e*P **P** **05 03 16.6 -0.9**
comp=Z,168nm,1.2s
FAKI *e*PcP **PcP** **05 06 33.2 0.0**
KGM Kluang 27.90 223 ⇓P **P** **05 03 18.8 +0.8**
TPRI Tanjung Pinang 28.02 220 P **P** **05 03 19.6 +0.6**
comp=Z,202nm,0.9s,comp=Z,6µm
FRIM Kepong 28.10 228 ⇑P **P** **05 03 20.5 +0.7**
KAPI Kappang 28.21 185 P **P** **05 03 19.1 -1.6**
comp=Z,144nm,1.1s,SNR=6.3
KAPI Kappang 28.21 185 P **P** **05 03 20.2 -0.5**
SNR=15
KAPI Kappang 28.21 185 *e*P **P** **05 03 19.9 -0.8**
comp=Z,42nm,2.1s
KAPI LR LR
comp=Z,614nm,20.0s
LSA Lhasa 28.39 290 P **P** **05 03 25.5 +2.7**
LSA S S 05 08 15.8 +7.6
LSA PMZ
comp=Z,20nm,1.1s
LSA LN
comp=Z,450nm,19.2s
LSA LE
comp=Z,1µm,20.0s
LSA LZ
comp=Z,2µm,19.2s
LSA Lhasa 28.39 290 *e*P **P** **05 03 23.0 +0.2**
LSA pmax pmax
comp=Z,31nm,0.7s
LSA MLR MLR
comp=Z,2µm,19.0s
LSA Lhasa 28.39 290 *e*P **P** **05 03 23.0 +0.2**
comp=Z,31nm,0.7s
LSA LR LR
comp=Z,2µm,19.0s
BKSI Bulukumba 28.48 184 P P 05 03 28.2 +5.1
comp=Z,22nm,1.2s
YSS Yuzh-Sakhalins 28.87 30 *e*P P 05 03 31.2 +4.9
YSS *e* 05 03 43.0
YSS *e*S **S** **05 08 20.0 +5.5**
YSS MLR MLR
comp=N,1µm,16.0s
YSS MLR MLR
comp=Z,1µm,16.0s
YSS MLR MLR
comp=E,1µm,18.0s
YSS Yuzh-Sakhalins 28.87 30 *e*P **P** **05 03 26.5 +0.2**
comp=E,25nm,0.9s
YSS LR LR
comp=Z,406nm,20.0s
DSRI Dabo 29.12 218 P **P** **05 03 29.5 +0.7**
comp=Z,132nm,1.3s,comp=Z,7µm
TPI Tanjungpandan 29.46 210 P **P** **05 03 32.3 +0.5**
comp=Z,62nm,1.4s,comp=Z,789nm
TSI Tuntungan 30.08 233 P **P** **05 03 39.7 +2.3**
comp=Z,126nm,1.2s
JMBI JAMBI 30.60 218 P **P** **05 03 44.7 +2.8**
comp=Z,786nm,1.1s,comp=Z,8µm
BKNI Bangkinang 30.65 225 P **P** **05 03 43.8 +1.4**
comp=Z,174nm,1.2s,comp=Z,5µm
BKNI Bangkinang 30.65 225 *e*P **P** **05 03 43.5 +1.1**
comp=Z,285nm,1.3s
KCSI Kotacane, Aceh 30.65 234 P **P** **05 03 43.2 +0.8**
comp=Z,37nm,1.7s,comp=Z,622nm
ZAK Zakamensk 30.79 336 *e*P **P** **05 03 41.8 -1.6**
ZAK *e* 05 06 39.9
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KMMI Kalianget 31.17 196 P **P** **05 03 48.0 +1.1**
comp=Z,63nm,1.4s,comp=Z,1µm
MNSI Mandailing Nat 31.27 228 P **P** **05 03 48.0 +0.2**
comp=Z,164nm,1.1s,comp=Z,2µm
TAPN Taplejung 31.30 285 *e*P **P** **05 03 49.7 +1.3**
comp=Z,130nm,1.1s
GRJI Gresik 31.44 199 P P 05 03 53.3 +4.0
comp=Z,53nm,1.1s
TBJI Tambak Boyo 31.54 200 P **P** **05 03 51.4 +1.2**
comp=Z,302nm,1.1s,comp=Z,3µm
ODAN Odare 31.59 284 *e*P **P** **05 03 51.7 +0.8**
comp=Z,47nm,0.8s
TLY Talaya 31.73 338 *e*P **P** **05 03 52.1 +0.4**
TLY *e* 05 04 53.1
TLY *e*S S 05 08 51.8 -7.6
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,2µm,25.0s
TLY Talaya 31.73 338 P **P** **05 03 51.3 -0.3**
comp=Z,5.9nm,0.7s,baz=121,slow=19,SNR=11
TLY PcP **PcP** **05 06 42.5 -0.1**
comp=Z,2.8nm,0.8s,baz=189,slow=5.3,SNR=4.6
TLY Talaya 31.73 338 P **P** **05 03 52.0 +0.4**
SNR=8.4
TLY Talaya 31.73 338 *e*P **P** **05 03 52.8 +1.1**
comp=Z,8.6nm,0.9s
TLY *e*PcP **PcP** **05 06 42.8 +0.2**
TLY LR LR
comp=Z,1µm,19.0s
ABJI Asem Bagus 31.82 195 P **P** **05 03 54.5 +1.8**
comp=Z,60nm,1.7s
EDFI Ende, Flores 31.83 181 P **P** **05 03 51.9 -0.9**
SRBI Singaraja 31.89 193 P **P** **05 03 54.4 +1.2**
comp=Z,38nm,1.8s
BLJI Banyuglugur 31.93 196 P **P** **05 03 53.9 +0.3**
comp=Z,107nm,1.1s
PDSI Padang 31.96 224 P **P** **05 03 54.5 +0.5**
comp=Z,35nm,1.1s,comp=Z,576nm
IRK Irkutsk 32.00 339 *e*P **P** **05 03 52.3 -1.6**
IRK pmax pmax
comp=Z,48nm,1.9s

RAMN Ramite 32.30 284 *e*P **P** **05 03 58.0 +0.9**
comp=Z,105nm,1.1s
DNP Denpasar 32.46 193 P **P** **05 03 59.5 +1.2**
comp=Z,508nm,1.2s
LHSI Lahat 32.47 216 P **P** **05 03 59.8 +1.4**
comp=Z,91nm,1.1s
JAGI Jajag, Banyuwa 32.49 195 P **P** **05 04 01.6 +3.0**
comp=Z,26nm,1.1s
IGBI Denpasar 32.61 193 P **P** **05 04 00.2 +0.6**
comp=Z,313nm,1.2s
MASI Maura Aman, Be 32.63 219 P **P** **05 04 01.8 +2.0**
comp=Z,354nm,1.1s,comp=Z,4µm
KLI Kotabumi 32.65 213 P P 05 04 03.5 +3.6
comp=Z,84nm,1.2s,comp=Z,8µm
JIRN Jiri 32.65 285 *e*P **P** **05 04 01.2 +0.8**
comp=Z,161nm,1.3s
MDSI Maura Dua 32.67 215 P **P** **05 04 00.4 +0.2**
comp=Z,59nm,1.2s,comp=Z,1µm
MOY Mondy 32.69 335 *e*P **P** **05 04 01.2 +1.1**
PWJI Pagerwojo 32.70 199 P **P** **05 03 59.9 -0.4**
comp=Z,185nm,1.0s,comp=Z,2µm
WOJI Wonogiri, Jawa 32.80 201 P **P** **05 04 01.5 +0.3**
comp=Z,484nm,1.1s,comp=Z,6µm
WBSI Waikabubak, Su 32.82 185 P **P** **05 04 00.5 -0.9**
comp=Z,40nm,0.9s,comp=Z,9µm
SOEI Soe 32.89 176 *e*P **P** **05 03 59.9 -2.3**
comp=Z,53nm,1.0s
GUN Gumba 32.92 286 *e*P **P** **05 04 03.5 +0.8**
comp=Z,147nm,1.1s
UGM Wanagama 33.00 201 P **P** **05 04 04.1 +1.1**
comp=Z,284nm,1.2s
UGM Wanagama 33.00 201 *e*P **P** **05 04 03.8 +0.7**
comp=Z,304nm,1.1s
KPJI Karang Pucung 33.03 205 P **P** **05 04 04.8 +1.5**
comp=Z,112nm,1.4s,comp=Z,2µm
PCJI Pacitan 33.05 200 P P 05 04 06.8 +3.4
comp=Z,90nm,1.2s
LEM Lembang 33.10 207 P **P** **05 04 06.0 +1.9**
comp=Z,98nm,1.1s
LEM Lembang 33.10 207 P **P** **05 04 04.6 +0.6**
comp=Z,58nm,0.9s,baz=41,slow=7.8,SNR=12
LWLI Liwa 33.19 214 P **P** **05 04 06.1 +1.3**
comp=Z,79nm,0.8s
BATI Baumata 33.31 177 P **P** **05 04 04.7 -1.0**
comp=Z,44nm,1.0s
BATI Baumata 33.31 177 P **P** **05 04 03.1 -2.6**
comp=Z,66nm,0.9s,baz=185,slow=23,SNR=8.1
PKI Pulchoki 33.34 285 *e*P **P** **05 04 06.6 +0.2**
comp=Z,98nm,1.4s
PKIN Phulchoki 33.36 285 *e*P **P** **05 04 07.6 +1.2**
comp=Z,46nm,1.0s
KKN Kakani 33.46 286 *e*P **P** **05 04 07.6 +0.4**
comp=Z,73nm,1.1s
CISI Cisompet, Garu 33.68 206 P P **05 04 11.6 +2.6**
comp=Z,123nm,1.2s
CISI Cisompet, Garu 33.68 206 *e*P **P** **05 04 08.1 -0.9**
comp=Z,180nm,1.3s
GKN Gorkha 34.02 286 *e*P **P** **05 04 12.2 +0.1**
comp=Z,99nm,1.2s
DANN Dangsing 34.79 287 *e*P **P** **05 04 19.3 +0.4**
comp=Z,96nm,1.1s
WMQ Urumqi 34.90 314 P **P** **05 04 20.1 +0.7**
WMQ pP **pP** **05 04 25.4 -3.1**
WMQ sP **sP** **05 04 29.5 -2.8**
WMQ PP **PnPn** **05 05 37.5 +1.1**
WMQ S **S** **05 09 50.0 +1.3**
WMQ ScS **ScS** **05 14 36.0 -2.5**
WMQ PMZ
comp=Z,19nm,1.3s
WMQ PMZ
comp=Z,170nm,7.7s
WMQ LN
comp=Z,2µm,12.8s
WMQ LE
comp=Z,2µm,12.0s
WMQ LZ
comp=Z,1µm,13.0s
KOLN Koldanda 34.95 286 *e*P **P** **05 04 20.5 +0.4**
comp=Z,46nm,1.0s
BOD Bodaibo 35.01 352 *e*P **P** **05 04 18.6 -1.4**
BOD pmax pmax
comp=Z,6.0nm,1.3s
PYUN Piuthan 35.48 286 *e*P **P** **05 04 25.3 +0.6**
comp=Z,82nm,0.9s
CHLP Challavanipeta 35.80 270 *e*P **P** **05 04 28.5 +1.2**
CHLP *e*S **S** **05 10 02.1 -0.8**
LGTI Lohaghat 37.86 288 *e*P **P** **05 04 45.1 +0.4**
SKR Severo-Kuril's 37.99 35 *e*P P 05 04 52.5 +7.0
YAK Yakutsk 39.08 6 *e*P **P** **05 04 54.8 +0.3**
YAK *e**PP **pP** **05 05 05.6 +1.9**
YAK *e* 05 06 27.0
YAK *e* 05 07 02.0
YAK *e*S **S** **05 10 49.4 -2.4**
YAK *e**SS **sS** **05 11 04.4 -2.5**
YAK *e*SS **SS** **05 13 40.4 -4.3**
YAK *e* 05 15 01.2
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,61nm,2.8s
YAK pmax pmax
comp=N,35nm,2.3s
YAK pmax pmax
comp=E,40nm,3.0s
YAK smax smax
comp=N,61nm,1.8s
YAK smax smax
comp=E,59nm,2.3s
YAK MLR MLR
comp=Z,1µm,18.0s
YAK MLR MLR
comp=N,675nm,15.0s
YAK MLR MLR
comp=E,781nm,14.0s
YAK Yakutsk 39.08 6 P **P** **05 04 54.0 -0.5**
comp=E,17nm,0.5s,baz=241,slow=1.8,SNR=6.0
YAK Yakutsk 39.08 6 *e*P **P** **05 04 54.2 -0.3**
YAK LR LR
comp=Z,842nm,20.0s
MK31 Makanchi Array 39.58 316 P **P** **05 04 59.0 0.0**
MK31 pmax pmax
comp=Z,27nm,1.0s
MKAR Makanchi Array 39.58 316 P **P** **05 04 59.2 +0.2**
comp=Z,12nm,0.7s,baz=110,slow=9.4,SNR=80
MKAR PcP **PcP** **05 07 04.8 -1.1**
comp=Z,11nm,0.8s,baz=92,slow=6.1,SNR=9.1
MKAR ScP **ScP** **05 10 51.8 -0.6**
comp=Z,2.3nm,1.1s,baz=110,slow=5.3,SNR=4.7
AGRA Agra 39.99 285 *e*P **P** **05 05 01.7 -0.9**
AGRA AMB AMB 05 05 04.9
comp=Z,19nm,0.5s
RPR Rampur 40.09 272 *e*P **P** **05 05 04.2 +0.7**
RPR *e*S **S** **05 11 05.9 -2.1**
PETK Petropavlovsk- 40.16 33 P **P** **05 05 04.0 +0.4**
comp=Z,5.3nm,0.8s,baz=80,slow=0.7,SNR=4.8
PETK LR LR 05 22 59.7
comp=Z,618nm,19.3s,baz=227,slow=38
ADKI Addanki 40.28 267 *e*P **P** **05 05 06.5 +1.3**
ADKI *e*PP **PP** **05 06 36.4 -1.7**
ADKI *e*ScP **ScP** **05 10 50.9 -4.7**
ADKI *e*S **S** **05 11 07.2 -3.6**
PDGK Podgornoye 40.33 310 P **P** **05 05 05.8 +0.6**
PDGK pmax pmax
comp=Z,70nm,1.1s
NDI New Delhi 40.54 287 *e*P **P** **05 05 06.0 -1.1**
PET Petropavlovsk 40.59 34 PFAKE 05 05 20.0 +13
PET LR LR
comp=Z,626nm,20.0s
AYAN Aya Nagar 40.63 287 *e*P **P** **05 05 06.7 -1.2**
SONA Sohna 40.68 287 *e*P **P** **05 05 07.6 -0.7**
NJS Nagarjunasagar 40.68 269 *e*P **P** **05 05 09.2 +0.7**
NJS *e*PcP **PcP** **05 07 09.6 -0.2**
PMG Port Moresby 40.69 140 *e*P **P** **05 05 09.2 +0.8**
PMG pmax pmax
comp=Z,4.0nm,0.8s
PMG MLR MLR
comp=Z,648nm,19.0s
PMG Port Moresby 40.69 140 P **P** **05 05 09.3 +0.8**
comp=Z,12nm,0.9s,baz=353,slow=8.1,SNR=5.1
PMG Port Moresby 40.69 140 *e*P **P** **05 05 09.2 +0.8**
comp=Z,4.0nm,0.8s
PMG LR LR
comp=Z,648nm,19.0s
BHGR Bahadurgarh 40.78 287 *e*P **P** **05 05 08.0 -1.2**
KKR Kurukshetra 40.83 289 *e*P **P** **05 05 09.3 -0.2**
KKR AMB AMB 05 05 11.7
comp=Z,55nm,0.1s
HYB Hyderabad 41.14 270 *i* P **P** **05 05 10.0 -2.3**
HYBB Hyderabad (bro 41.14 270 *e*P **P** **05 05 12.8 +0.6**
HYBB *e*pP **pP** **05 05 20.0 -1.6**
HYBB *e*PP **PP** **05 06 44.4 -3.1**
HYBB *e*PcP **PcP** **05 07 08.6 -2.8**
HYBB *e*ScP ScP 05 10 51.7 -7.4
HYBB *e*S **S** **05 11 22.9 -0.8**
ZALV Zalesovo Beam 41.47 327 P **P** **05 05 13.5 -0.9**
comp=Z,7.8nm,0.6s,baz=111,slow=8.1,SNR=37
ZALV PcP **PcP** **05 07 10.5 -1.3**
comp=Z,6.9nm,0.9s,baz=108,slow=4.8,SNR=4.4
ZALV LR LR 05 23 48.7
comp=Z,705nm,18.2s,baz=82,slow=38
H11N1 WAKE ISLAND Hy 41.70 86 T T 05 50 33.2
baz=283,slow=74,SNR=74
H11N2 WAKE ISLAND Hy 41.70 86 T T 05 50 39.8
baz=283,slow=74,SNR=95
H11N3 WAKE ISLAND Hy 41.71 86 T T 05 50 40.9
baz=283,slow=74,SNR=54
H11S3 WAKE ISLAND Hy 41.80 88 T T 05 50 56.5
baz=284,slow=75,SNR=104
H11S1 WAKE ISLAND Hy 41.81 88 T T 05 50 50.2
baz=284,slow=75,SNR=57
H11S2 WAKE ISLAND Hy 41.81 88 T T 05 50 57.3
baz=284,slow=75,SNR=66
KHET Khetri 41.82 287 *e*P **P** **05 05 16.9 -0.8**
KSH Kashi 42.11 304 P **P** **05 05 23.1 +3.0**
KSH pP **pP** **05 05 27.6 -1.7**
KSH sP **sP** **05 05 29.8 -3.3**
KSH PP PP 05 07 03.8 +6.0
KSH PcS **PcS** **05 11 08.2 +2.0**
KSH S **S** **05 11 42.5 +4.7**
KSH ScS **ScS** **05 15 22.6 +2.2**
KSH PMZ
comp=Z,30nm,1.2s
KSH PMZ
comp=Z,130nm,4.6s
KSH LN
comp=Z,2µm,15.3s
KSH LE
comp=Z,370nm,12.3s
KSH LZ
comp=Z,990nm,15.9s
COEN Coen 42.35 149 *e*P **P** **05 05 23.4 +1.4**
COEN *e*PcP **PcP** **05 07 16.1 +0.8**
ULHL Ulahol 42.39 308 P **P** **05 05 23.4 +1.0**
SNR=34
ULHL Ulahol 42.39 308 *i* P **P** **05 05 23.4 +1.0**
NVS Novosibirsk 42.73 328 *e*P **P** **05 05 22.3 -2.4**
NVS *e* 05 07 09.5
NVS *e*S **S** **05 11 46.1 -0.1**
NVS pmax pmax
comp=Z,22nm,1.5s
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,14nm,1.4s
NVS smax smax
comp=E,16nm,1.7s
PALK Pallekele 42.81 255 *e*P **P** **05 05 27.4 +1.5**
PALK pmax pmax
comp=Z,21nm,1.2s
PALK Pallekele 42.81 255 *e*P **P** **05 05 27.4 +1.5**
comp=Z,21nm,1.2s
TKM2 Tokmak 2 42.99 309 P **P** **05 05 28.5 +1.1**
SNR=51
TKM2 Tokmak 2 42.99 309 *e*P **P** **05 05 28.4 +1.1**
TKM2 *e* 05 07 16.8
TKM2 pmax pmax
comp=Z,43nm,1.0s
TKM2 MLR MLR
comp=Z,423nm,20.0s
TKM2 Tokmak 2 42.99 309 *e*P **P** **05 05 28.4 +1.1**
comp=Z,43nm,1.0s
TKM2 *e*PcP **PcP** **05 07 16.8 -0.5**
TKM2 LR LR
comp=Z,423nm,20.0s
URV Uravakonda 43.04 267 *e*P **P** **05 05 28.6 +0.8**
URV *e* 05 11 44.1
URV *e*S **S** **05 11 49.3 -2.5**
COCO West Island 43.06 218 PFAKE 05 05 40.0 +12
COCO LR LR
comp=Z,477nm,21.0s
KZA Kyzart 43.08 307 P **P** **05 05 29.9 +1.7**
SNR=21
KZA Kyzart 43.08 307 *i* P **P** **05 05 29.9 +1.7**
KURK Kurchatov 43.33 320 P **P** **05 05 29.8 +0.2**
comp=Z,57nm,0.9s,SNR=19
KURK Kurchatov 43.33 320 P **P** **05 05 29.2 -0.5**
KURK pmax pmax
comp=Z,21nm,1.4s
KURK Kurchatov 43.33 320 P **P** **05 05 29.6 0.0**
SNR=18
KURK Kurchatov 43.33 320 *e*P **P** **05 05 29.2 -0.5**
comp=Z,101nm,1.8s
KURK PcP **PcP** **05 07 16.8 -1.2**
KURK LR LR
comp=Z,484nm,20.0s
KURBB Kurchatov Arra 43.35 320 P **P** **05 05 29.6 -0.1**
comp=Z,8.2nm,0.8s,baz=117,slow=7.2,SNR=60
KURBB PcP **PcP** **05 07 16.8 -1.2**
comp=Z,6.5nm,1.0s,baz=109,slow=3.7,SNR=6.2
KBK Karagaybulak 43.41 308 P **P** **05 05 31.8 +1.1**
SNR=12
KBK Karagaybulak 43.41 308 *i* P **P** **05 05 31.8 +1.1**
CHMS Chumysh 43.62 309 P **P** **05 05 33.0 +0.8**
SNR=19
CHMS Chumysh 43.62 309 *i* P **P** **05 05 32.9 +0.8**
UCH Uchtor 43.65 307 P **P** **05 05 34.5 +1.6**
SNR=49
UCH Uchtor 43.65 307 *i* P **P** **05 05 34.5 +1.6**
FRU Bishkek 43.68 308 *e*P **P** **05 05 34.0 +1.3**
FRU *e* 05 07 19.0
FRU pmax pmax
comp=Z,50nm,1.4s
AAK Ala-Archa 43.73 308 P **P** **05 05 34.9 +1.7**
comp=Z,71nm,1.0s,SNR=9.0
AAK Ala-Archa 43.73 308 P **P** **05 05 34.3 +1.0**
SNR=8.3
AAK Ala-Archa 43.73 308 *e*P **P** **05 05 34.2 +1.0**
AAK *e* 05 07 20.1
AAK pmax pmax
comp=Z,11nm,0.9s
AAK MLR MLR
comp=Z,631nm,22.0s
AAK Ala-Archa 43.73 308 P **P** **05 05 34.2 +1.0**
comp=Z,8.0nm,0.9s,baz=105,slow=5.6,SNR=24
AAK PcP **PcP** **05 07 19.7 -0.1**
comp=Z,6.2nm,0.8s,baz=55,slow=1.9,SNR=5.0
AAK LR LR 05 23 54.9
comp=Z,568nm,21.5s,baz=78,slow=36
AAK Ala-Archa 43.73 308 P **P** **05 05 34.5 +1.3**
SNR=8.7
AAK Ala-Archa 43.73 308 *e*P **P** **05 05 34.2 +1.0**
comp=Z,11nm,0.9s
AAK *e*PcP **PcP** **05 07 20.1 +0.3**
AAK LR LR
comp=Z,631nm,22.0s
USP Ospenovka 43.85 309 P **P** **05 05 34.7 +0.7**
SNR=11
USP Ospenovka 43.85 309 *i* P **P** **05 05 34.7 +0.7**
AML Almayashu 44.23 307 P **P** **05 05 38.9 +1.4**
SNR=46
AML Almayashu 44.23 307 *i* P **P** **05 05 38.9 +1.4**
EKS2 Erkin-Say 44.26 308 P **P** **05 05 38.5 +1.0**
SNR=7.4
EKS2 Erkin-Say 44.26 308 *e*P **P** **05 05 38.4 +1.0**
EKS2 *e* 05 07 22.2
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 MLR MLR
comp=Z,612nm,22.0s
EKS2 Erkin-Say 44.26 308 *e*P **P** **05 05 38.4 +1.0**
comp=Z,12nm,0.9s
EKS2 *e*PcP **PcP** **05 07 22.2 +0.7**
EKS2 LR LR
comp=Z,612nm,22.0s
SEY Seymchan 44.55 19 P **P** **05 05 39.7 +0.5**
comp=Z,3.7nm,0.9s,baz=221,slow=20,SNR=3.2
SEY PcP **PcP** **05 07 22.0 +0.1**
comp=Z,4.7nm,0.7s,baz=179,slow=2.5,SNR=5.0

WRAB Tennant Creek 44.57 163 P **P** **05 05 39.9 0.0**
comp=Z,175nm,1.0s,SNR=14
WRAB Tennant Creek 44.57 163*c i*P **P** **05 05 39.2 -0.7**
WRAB pmax pmax
comp=Z,170nm,1.7s
WRAB Tennant Creek 44.57 163 *e*P **P** **05 05 39.0 -0.8**
WRAB *e*PcP **PcP** **05 07 21.7 -1.0**
WRAB LR LR
comp=Z,538nm,19.0s
WRA Warramunga Arr 44.58 164 P **P** **05 05 39.1 -0.8**
comp=Z,18nm,0.9s,baz=345,slow=8.7,SNR=90
WRA PcP **PcP** **05 07 21.9 -0.7**
comp=Z,7.9nm,0.9s,baz=340,slow=3.5,SNR=8.3
MNAS Manas 45.16 307 P **P** **05 05 45.6 +1.0**
MNAS pmax pmax
comp=Z,54nm,1.2s
POO Poona 45.17 273⇑ *i*P **P** **05 05 44.0 -0.9**
comp=Z,80nm,1.0s
JASL Jaisalmer 46.27 286 *e*P **P** **05 05 52.7 -0.6**
KK31 Karatay Array 46.70 308 *i* P **P** **05 05 57.1 +0.5**
KK31 pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 46.70 308 *e*P **P** **05 05 57.0 +0.4**
KKAR *e* 05 07 29.7
KKAR pmax pmax
comp=Z,29nm,1.0s
KKAR Karatay Array 46.70 308 *e*P **P** **05 05 57.0 +0.4**
comp=Z,29nm,1.0s
KKAR *e*PcP **PcP** **05 07 29.7 -0.2**
KBL Kabul 47.32 296 *e*P **P** **05 06 03.0 +1.2**
KBL pmax pmax
comp=Z,64nm,1.1s
KBL Kabul 47.32 296 *e*P **P** **05 06 03.0 +1.2**
comp=Z,64nm,1.1s
ASAR Alice Springs 48.04 165 P **P** **05 06 07.0 -0.2**
comp=Z,9.7nm,0.9s,baz=344,slow=6.6,SNR=66
ASAR PcP **PcP** **05 07 34.2 -0.5**
comp=Z,7.9nm,0.9s,baz=349,slow=3.1,SNR=8.4
TIXI Tiksi 48.56 3 *e*P **P** **05 06 09.8 -0.7**
TIXI MLR MLR
comp=Z,1μm,20.0s
TIXI Tiksi 48.56 3 *e*P **P** **05 06 09.8 -0.7**
TIXI LR LR
comp=Z,1μm,20.0s
BVAR Borovoye Array 48.91 321 LR LR 05 26 13.8
comp=Z,369nm,20.4s,baz=102,slow=35
BRVK Borovoye 48.98 321 P **P** **05 06 14.3 +0.2**
comp=Z,149nm,0.9s,SNR=14
CTAO Charters Tower 49.11 149 *e*P **P** **05 06 16.9 +1.5**
CTAO *e* 05 07 39.3
CTAO pmax pmax
comp=Z,52nm,1.1s
CTAO MLR MLR
comp=Z,723nm,21.0s
CTAO Charters Tower 49.11 149 *e*P **P** **05 06 16.9 +1.5**
comp=Z,52nm,1.1s
CTAO *e*PcP **PcP** **05 07 39.3 +0.6**
CTAO LR LR
comp=Z,723nm,21.0s
BILL Bilibino 52.26 19⇓ *i*P **P** **05 06 39.9 +1.4**
BILL *e* 05 06 54.9
BILL *e* 05 08 36.6
BILL pmax pmax
comp=Z,52nm,1.2s
BILL MLR MLR
comp=Z,1μm,22.0s
BILL Bilibino 52.26 19 *e*P **P** **05 06 39.5 +1.0**
comp=Z,53nm,1.2s
BILL LR LR
comp=Z,1μm,20.0s
FORT Forrest 54.04 174 *e*P **P** **05 06 50.8 -1.2**
comp=Z,58nm,1.0s
IMYA Miami 54.53 299 *e*P **P** **05 06 57.3 +1.3**
AB31 Akbulak array 54.68 315 *i* P **P** **05 06 56.8 +0.2**
AB31 pmax pmax
comp=Z,26nm,0.7s
ABKAR Akbulak array 54.68 315 *e*P **P** **05 06 56.9 +0.2**
ABKAR *e*PcP **PcP** **05 07 58.3 -0.9**
ISRO Mashad 55.04 299 *e*P **P** **05 07 01.1 +1.4**
IMOG Moghan 55.16 299 *e*P **P** **05 07 01.6 +0.9**
SVE Sverdlovsk 55.28 324*d i*P **P** **05 07 01.0 +0.2**
SVE pmax pmax
comp=Z,62nm,1.4s
SVE MLR MLR
comp=Z,1μm,16.0s
IPAY Payeh 55.41 299 *e*P **P** **05 07 04.0 +1.6**
IAKL Akhelmad 55.59 299 *e*P **P** **05 07 04.8 +1.0**
IKRD Kardeh 55.77 300 *e*P P 05 07 01.1 -3.9
EIDS Eidsvold 55.91 148 *e*P **P** **05 07 05.8 +0.1**
comp=Z,16nm,1.0s
GEYT Alibeck 55.99 301 P **P** **05 07 06.9 +0.6**
comp=Z,24nm,0.9s,baz=62,slow=3.5,SNR=26
GEYT PcP **PcP** **05 08 03.8 -0.7**
comp=Z,17nm,1.0s,baz=288,slow=1.4,SNR=5.4
ITEG Tejag 56.00 295 *e*P **P** **05 07 06.6 -0.1**
AKTO Aktyubinsk 56.02 316 P **P** **05 07 06.3 +0.1**
comp=Z,14nm,0.9s,baz=89,slow=8.5,SNR=4.3
AKTO LR LR 05 30 59.0
comp=Z,454nm,19.2s,baz=92,slow=36
NWAO Narrogin (SRO) 56.08 185 P **P** **05 07 06.7 0.0**
comp=Z,21nm,1.0s,baz=344,slow=8.4,SNR=4.8
ISFR Sfrayin 56.16 300 *e*P **P** **05 07 08.8 +1.0**
ARU Arti 56.34 323 P **P** **05 07 08.6 +0.1**
comp=Z,266nm,0.6s,SNR=15
ARU Arti 56.34 323*c i*P **P** **05 07 07.9 -0.6**
ARU 05 08 02.9
ARU 05 09 12.0
ARU PPP PPP 05 10 27.2
ARU S **S** **05 14 57.1 +0.5**
ARU 05 16 48.0
ARU pmax pmax
comp=Z,86nm,1.7s
ARU MLR MLR
comp=Z,448nm,16.0s
ARU Arti 56.34 323 *e*P **P** **05 07 07.4 -1.0**
comp=Z,78nm,1.1s
ARU LR LR
comp=Z,358nm,20.0s
BBOO Buckleboo 57.34 166 *e*P **P** **05 07 14.8 -0.8**
SOKR Solikamsk 57.76 327*c i*P **P** **05 07 17.0 -1.3**
SOKR pmax pmax
comp=Z,40nm,1.5s
SOKR MLR MLR
comp=Z,660nm,14.0s
IGLO Ghaloghah 59.54 300 *e*P **P** **05 07 32.5 +1.0**
IANJ Anjilo 59.62 299 *e*P **P** **05 07 32.6 +0.5**
IKIA Kiasar 59.70 299 *e*P **P** **05 07 33.8 +1.1**
ISHM Shahmirzad 60.07 299 *e*P **P** **05 07 35.9 +0.7**
ARMA Armidale 60.44 151 *e*P **P** **05 07 38.8 +1.3**
comp=Z,49nm,1.3s
TNA Tin City 60.77 27 *e*P **P** **05 07 39.5 +0.4**
comp=Z,27nm,1.4s
IPAR Pars 61.31 292 *e*P **P** **05 07 43.1 -0.7**
IZEF Zefreh 61.33 296 *e*P **P** **05 07 43.4 -0.5**
ISRV Sarvestan 61.35 292 *e*P **P** **05 07 43.7 -0.4**
IVRN Varamin 61.46 298 *e*P **P** **05 07 47.1 +2.7**
IKLH Kolahrood 61.88 296 *e*P **P** **05 07 48.2 +0.7**
IKAZ Kazeroun 62.35 293 *e*P **P** **05 07 50.5 -0.4**
DZM Mont Dzumac 62.39 133 *e*P **P** **05 07 51.4 +0.6**
comp=Z,80nm,1.4s
DZM *e*S **S** **05 16 10.9 -4.9**
comp=Z,434nm,30.2s
DZM Mont Dzumac 62.39 133 *e*LR LR 05 26 16.9
comp=Z,536nm,23.1s
DZM Mont Dzumac 62.39 133 *e*P **P** **05 07 51.7 +0.9**
comp=Z,49nm,1.4s
IGZV Ghazvin 62.44 300 *e*P **P** **05 07 51.9 +0.7**
IPIR Pirpir 62.56 296 *e*P **P** **05 07 51.5 -0.7**
IRAZ Razeghan 62.84 299 *e*P **P** **05 07 54.1 +0.2**
PRGR Permogore 63.40 329 *e*P **P** **05 07 54.8 -2.0**
PRGR pmax pmax
comp=Z,40nm,0.7s
MAK Makhachkala 63.52 308 *e*P **P** **05 07 56.8 -1.1**
MAK *e*S **S** **05 16 26.8 -2.5**
MAK pmax pmax
comp=Z,38nm,0.8s
MAK MLR MLR
comp=Z,762nm,14.0s
DGRG David-gareji 65.31 306 P **P** **05 08 10.8 +1.0**
TBLG Delisi 65.73 307 P **P** **05 08 13.0 +0.5**
IDHR Dehrash 65.83 299 *e*P **P** **05 08 12.9 -0.6**
GNI Garni 66.02 305*c i*P **P** **05 08 15.8 +1.3**
GNI pmax pmax
comp=Z,55nm,1.7s
GNI Garni 66.02 305 LR LR 05 39 49.2
comp=Z,242nm,21.4s,baz=96,slow=38
GNI Garni 66.02 305 P **P** **05 08 15.8 +1.3**
SNR=11
GNI Garni 66.02 305 *e*P **P** **05 08 15.0 +0.5**
comp=Z,53nm,1.4s
GNI LR LR
comp=Z,244nm,21.0s
ZEI Tsey 66.16 308 *e*P **P** **05 08 13.3 -2.1**
ZEI pmax pmax
comp=Z,50nm,1.4s
VRHR Novokhopersk 66.38 317 *e*P **P** **05 08 15.0 -1.4**
VRHR *e**PP **pP** **05 08 27.8 +1.7**
VRHR pmax pmax
comp=Z,90nm,1.0s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,90nm,0.8s
GOF Gofitskoye 66.38 311 *e*P P 05 08 05.5 -11
ONI Oni 66.52 308 P **P** **05 08 18.7 +1.1**
AKH Akhalkalaki 66.71 307 P **P** **05 08 20.2 +1.3**
KBZ Khabaz 66.71 309 P **P** **05 08 19.0 +0.4**
comp=E,22nm,0.9s,baz=115,slow=4.6,SNR=53
KBZ LR LR 05 40 33.6
comp=E,254nm,18.9s,baz=70,slow=39
TMCR Tamitsa 66.75 332 *e*P **P** **05 08 18.1 -0.4**
TMCR *e* 05 10 46.4
TMCR pmax pmax
comp=Z,61nm,1.2s
KIV Kislovodsk 66.82 309 P **P** **05 08 19.1 -0.4**
comp=Z,301nm,1.1s,SNR=9.4
KIV Kislovodsk 66.82 309 *e*P **P** **05 08 19.9 +0.4**
KIV *e* 05 08 51.0
KIV *e*S **S** **05 17 10.7 +0.6**
KIV pmax pmax
comp=Z,67nm,1.1s
KIV pmax pmax
comp=Z,30nm,5.5s
KIV MLR MLR
comp=Z,256nm,17.0s
KIV Kislovodsk 66.82 309 P **P** **05 08 20.3 +0.8**
SNR=20
KIV Kislovodsk 66.82 309 *e*P **P** **05 08 19.4 -0.1**
comp=Z,117nm,1.4s
KIV LR LR
comp=Z,338nm,20.0s
PPLA Purkeypile 67.62 30 *e*P **P** **05 08 25.5 +1.2**
comp=Z,164nm,1.4s
RSO Redoubt South 67.67 32 *e*P **P** **05 08 25.4 +0.6**
comp=Z,104nm,1.0s
LVZ Lovozero 67.72 336*ce*P **P** **05 08 25.3 +0.6**
LVZ pmax pmax
comp=Z,26nm,1.2s
LVZ Lovozero 67.72 336 PFAKE 05 08 40.0 +15
LVZ LR LR
comp=Z,407nm,19.0s
VORD Divnogorie 67.85 317 *e*P **P** **05 08 24.7 -1.0**
VORD *e**PP **pP** **05 08 37.9 +2.4**
VORD pmax pmax
comp=Z,30nm,1.0s
VORD pmax pmax
comp=N,4.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.0s
VSR Storozhevoye 67.89 318 *e*P **P** **05 08 25.0 -1.0**
VSR *e**PP **pP** **05 08 38.7 +3.0**
VSR pmax pmax
comp=Z,50nm,0.9s
VSR pmax pmax
comp=N,30nm,1.3s
VSR pmax pmax
comp=E,80nm,1.3s
COLD Coldfoot 67.89 25 *e*P **P** **05 08 27.1 +1.4**
comp=E,148nm,1.6s
MOS Moscow 68.04 323 *e*P **P** **05 08 24.9 -1.9**
MOS *i* 05 08 39.0
MOS pmax pmax
comp=Z,132nm,1.3s
MOS pmax pmax
comp=Z,200nm,1.4s
MOS MLR MLR
comp=Z,900nm,18.0s
KTH Kantishna Hill 68.10 29 *e*P **P** **05 08 27.9 +0.7**
comp=Z,48nm,1.1s
KDAK Kodiak Island 68.16 35 *e*P **P** **05 08 29.7 +2.1**
KDAK pmax pmax
comp=Z,249nm,1.8s
KDAK Kodiak Island 68.16 35 *e*P **P** **05 08 29.7 +2.1**
comp=Z,249nm,1.8s
APA Apatity 68.24 336⇑ *i*P **P** **05 08 28.4 +0.5**
APA *i* 05 08 47.4
APA pmax pmax
comp=Z,47nm,1.2s
APA MLR MLR
comp=Z,800nm,14.0s
TRF Thorofare Moun 68.39 29 *e*P **P** **05 08 30.3 +1.1**
comp=Z,205nm,1.8s
OBN Obninsk 68.74 322*c i*P **P** **05 08 30.4 -0.8**
OBN *i* 05 08 43.0
OBN pmax pmax
comp=Z,125nm,1.7s
OBN MLR MLR
comp=Z,220nm,20.0s
OBN Obninsk 68.74 322 LR LR 05 42 37.2
comp=Z,292nm,18.5s,baz=84,slow=39
OBN Obninsk 68.74 322 *e*P **P** **05 08 30.1 -1.1**
comp=Z,138nm,1.4s
OBN LR LR
comp=Z,366nm,21.0s
MCK McKinley 68.94 28 *e*P **P** **05 08 32.7 +0.3**
MCK pmax pmax
comp=Z,235nm,1.5s
MCK McKinley 68.94 28 *e*P **P** **05 08 32.7 +0.3**
comp=Z,235nm,1.5s
RC01 Rabbit Creek A 69.04 31 *e*P **P** **05 08 32.6 -0.4**
comp=Z,100nm,1.7s
COLA College 69.21 27⇓ *i*P **P** **05 08 35.4 +1.4**
COLA pmax pmax
comp=Z,46nm,0.9s
COLA College 69.21 27 *e*P **P** **05 08 34.6 +0.7**
comp=Z,204nm,1.8s
COLA LR LR
comp=Z,309nm,21.0s
SEW Seward 69.36 32 *e*P **P** **05 08 34.7 -0.3**
comp=Z,99nm,1.2s
RAYN Ar Rayn 69.43 287 P **P** **05 08 35.5 -0.6**
comp=Z,74nm,1.3s,SNR=6.2
RAYN Ar Rayn 69.43 287 *e*P **P** **05 08 35.6 -0.6**
comp=Z,54nm,1.8s
ILAR Eielson Array 69.63 27 P **P** **05 08 36.5 -0.2**
comp=Z,1.1nm,0.4s,baz=266,slow=5.5,SNR=14
ILAR LR LR 05 41 04.1
comp=Z,263nm,20.1s,baz=316,slow=38
JOF Joensuu 69.92 331 *e*P **P** **05 08 37.3 -1.1**
JOF pmax pmax
comp=Z,18nm,0.7s
JOF Joensuu 69.92 331 *ep* **P** **05 08 37.3 -1.1**
comp=Z,18nm,0.7s
KEV Kevo 70.14 338 *e*P **P** **05 08 39.5 -0.1**
KEV pmax pmax
comp=Z,8.0nm,0.9s
KEV Kevo 70.14 338 *ep* **P** **05 08 39.5 -0.1**
comp=Z,8.3nm,0.9s
KEV Kevo 70.14 338 PFAKE 05 08 50.0 +10
KEV LR LR
comp=Z,424nm,19.0s
ANN Anapa 70.33 311 *e**PP **P** **05 08 41.1 -0.1**
ANN pmax pmax
comp=Z,32nm,1.1s
ANN MLR MLR
comp=N,248nm,19.0s
ANN MLR MLR
comp=Z,396nm,19.0s
ANN MLR MLR
comp=E,288nm,19.0s
MSEY Mahe Island 70.62 256 PFAKE 05 08 50.0 +6.4
MSEY LR LR
comp=Z,368nm,21.0s
PAX Paxson 70.63 29 *e*P **P** **05 08 43.3 +0.4**
PAX pmax pmax
comp=Z,73nm,1.3s
PAX Paxson 70.63 29 *e*P **P** **05 08 43.3 +0.4**
comp=Z,73nm,1.3s
ARCES ARCESS Array B 70.70 338 P **P** **05 08 41.2 -1.9**
comp=Z,8.4nm,1.0s,baz=87,slow=6.2,SNR=11
ARCES LR LR 05 43 43.8
comp=Z,283nm,18.9s,baz=62,slow=39
DIV Divide 70.91 31 *e*P **P** **05 08 45.5 +0.8**
comp=Z,90nm,1.2s
DOT Dot Lake 71.08 28 *e*P **P** **05 08 46.1 +0.5**
comp=Z,62nm,1.2s
KBS Kingsbay 71.09 349 PFAKE 05 09 00.0 +15
KBS LR LR
comp=Z,560nm,21.0s
MALT Malatya 71.21 304⇓ *i*P **P** **05 08 48.3 +1.4**
BMRM Bremner River 71.50 31 *e*P **P** **05 08 48.7 +0.6**
comp=Z,219nm,1.8s
EGAK Eagle 72.01 27 *e*P **P** **05 08 51.2 +0.1**
comp=Z,36nm,1.0s
EGAK LR LR
comp=Z,349nm,20.0s
KAF Kangasniemi 72.36 331 *e*P **P** **05 08 52.4 -0.8**
KAF pmax pmax
comp=Z,13nm,0.7s
KAF Kangasniemi 72.36 331 *ep* **P** **05 08 52.4 -0.8**
comp=Z,13nm,0.7s
SIM Simferopol' 72.58 312 *e*P **P** **05 08 54.0 -0.8**
SIM *e*S **S** **05 18 17.0 -0.5**
SIM pmax pmax
comp=Z,37nm,0.7s
FINES FINESS Array B 72.66 330 P **P** **05 08 54.5 -0.5**
comp=Z,27nm,0.8s,baz=91,slow=7.6,SNR=112
FINES LR LR 05 43 54.8
comp=Z,852nm,19.1s,baz=75,slow=38
DAWY Dawson 72.96 27 *e*P **P** **05 08 57.5 +0.7**
VSU Vasula 73.21 327*c i*P **P** **05 08 58.2 -0.1**
VSU pmax pmax
comp=Z,317nm,1.4s
INK Inuvik 73.75 22 *e*P **P** **05 09 01.6 +0.3**
INK pmax pmax
comp=Z,140nm,1.2s
INK Inuvik 73.75 22 P **P** **05 09 01.8 +0.5**
comp=Z,11nm,0.8s,baz=296,slow=5.7,SNR=29
INK Inuvik 73.75 22 *e*P **P** **05 09 01.6 +0.3**
comp=Z,140nm,1.2s
MNK Minsk 73.79 323 *e*P **P** **05 09 00.0 -1.8**
AKASG Malin Array Be 74.11 319 P **P** **05 09 02.7 -1.0**
comp=Z,9.6nm,0.8s,baz=60,slow=5.7,SNR=54
AKASG LR LR 05 43 21.2
comp=Z,270nm,19.2s,baz=80,slow=37
KIEV Kiev 74.12 319*c i*P **P** **05 09 02.7 -1.1**
KIEV Kiev 74.12 319 *e*P **P** **05 09 02.5 -1.3**
comp=Z,88nm,1.8s
KIEV LR LR
comp=Z,299nm,21.0s
NAGGM Naroch 74.26 323 *e*P **P** **05 09 02.0 -2.5**
ALE Alert 74.39 1 P **P** **05 09 05.2 +0.3**
comp=Z,165nm,1.2s,SNR=10
BRTR Keskin Array B 74.40 307 P **P** **05 09 06.0 +0.1**
BRTR Keskin Array B 74.40 307 P **P** **05 09 06.0 +0.1**
comp=Z,15nm,1.1s,baz=101,slow=6.4,SNR=57
BRTR LR LR 05 45 59.0
comp=Z,112nm,21.0s,baz=55,slow=39
ISAL Salakas 74.40 324 *e*P **P** **05 09 05.1 -0.2**
ISAL AMB AMB 05 09 07.2
comp=Z,31nm,1.1s
IIGN Ignalina 74.42 324 *e*P **P** **05 09 05.2 -0.2**
IIGN AMB AMB 05 09 06.2
comp=Z,23nm,1.0s
ANTO Ankara 74.97 307 *e*P **P** **05 09 08.6 -0.5**
ANTO pmax pmax
comp=Z,30nm,1.3s
ANTO MLR MLR
comp=Z,193nm,21.0s
ANTO Ankara 74.97 307⇑ *i*P **P** **05 09 08.9 -0.2**
ANTO Ankara 74.97 307 P **P** **05 09 09.4 +0.3**
SNR=6.7
ANTO Ankara 74.97 307 *e*P **P** **05 09 08.6 -0.5**
comp=Z,30nm,1.3s
ANTO LR LR
comp=Z,193nm,21.0s
MMAI Mount Meron Ar 75.08 300 LR LR 05 46 27.4
comp=Z,131nm,18.2s,baz=65,slow=39
KIS Kishinev 75.51 315 *e*P **P** **05 09 15.0 +3.1**
KIS *e* 05 09 26.0
KIS *e* 05 18 46.0
KIS *e* 05 19 08.0
KIS Kishinev 75.51 315 *e*P **P** **05 09 15.0 +3.1**
KIS Kishinev 75.51 315 *e*PcP **PcP** **05 09 26.0 +1.2**
KIS LRM MLR 05 48 32.0
comp=Z,500nm,18.0s
TLCR 76.09 313⇓ *i*P **P** **05 09 15.4 +0.1**
CSS Prodhromos 76.10 302 *e*P **P** **05 09 14.9 -0.6**
comp=Z,6.7nm,0.9s
CSS LR LR
comp=Z,43nm,19.0s
SUW Suwalki 76.53 323 *e*P **P** **05 09 17.0 -0.6**
SUW *e* 05 09 22.7
SUW *e* 05 09 30.2
SUW Suwalki 76.53 323 *e*P **P** **05 09 17.0 -0.6**
SUW *e* 05 09 22.7
SUW *e* 05 09 30.1
SUW Suwalki 76.53 323 *e*P **P** **05 09 16.7 -0.9**
comp=Z,172nm,0.9s
CFR Carcaliu 76.55 313⇓ *i*P **P** **05 09 17.6 -0.2**
TIRR Tirgusor 76.60 313 *e*P **P** **05 09 17.4 -0.8**
TIRR pmax pmax
comp=Z,18nm,0.9s
TIRR Tirgusor 76.60 313⇑ *i*P **P** **05 09 18.1 -0.1**
TIRR Tirgusor 76.60 313 *e*P **P** **05 09 17.4 -0.8**
comp=Z,18nm,0.9s
TLB Topalu 76.81 313⇓ *i*P **P** **05 09 19.5 +0.2**
PETR Petresti 76.97 314⇓ *i*P **P** **05 09 21.5 +1.3**
PSN Preselentsi 77.02 312⇓ *i*P **P** **05 09 21.2 +0.7**
PSN Preselentsi 77.02 312 *i* P **P** **05 09 20.5 0.0**
PRAR RASCA 77.06 316⇑ *i*P **P** **05 09 20.7 0.0**
TESR Tescani 77.08 315⇓ *i*P **P** **05 09 20.8 -0.1**
MSAB Monastry St. A 77.12 313⇓ *i*P **P** **05 09 21.6 +0.5**
VRI Vrincioaia 77.25 314⇑ *i*P **P** **05 09 23.0 +1.2**
PLOR Plostina 77.30 315⇓ *i*P **P** **05 09 22.6 +0.4**
ISP Isparta 77.31 306 PFAKE 05 09 30.0 +7.5
ISP LR LR
comp=Z,266nm,21.0s
DAG Danmarks Havn 77.39 351 *i* P **P** **05 09 19.4 -2.6**
DAG pmax pmax
comp=Z,10.0nm,1.3s
DAG Danmarks Havn 77.39 351 *i* P **P** **05 09 19.4 -2.6**
comp=Z,5.2nm,1.3s
LVV L'vov 77.55 319 *e*P **P** **05 09 23.0 -0.4**
BURAR Bucovina Array 77.61 317⇑ *i*P **P** **05 09 23.9 0.0**
ISR Istrita 77.63 314⇓ *i*P **P** **05 09 25.2 +1.2**
PRD Provadia 77.72 312 *i* P **P** **05 09 24.4 -0.1**
MLR Muntele Rosu 77.89 314⇑ *i*P **P** **05 09 26.2 +0.6**
SECR 77.97 314⇑ *i*P **P** **05 09 27.3 +1.4**
DOPR Dopca 78.09 315⇓ *i*P **P** **05 09 27.0 +0.5**
KWP Kalwaria Pacla 78.42 319 *e*P **P** **05 09 28.4 +0.1**
KWP *e* 05 09 41.6
KWP Kalwaria Pacla 78.42 319 *e*P **P** **05 09 28.3 0.0**
KWP *e* 05 09 41.5
KWP Kalwaria Pacla 78.42 319⇓ *i*P **P** **05 09 28.7 +0.4**
KWP Kalwaria Pacla 78.42 319 *e*P **P** **05 09 28.1 -0.2**
comp=Z,78nm,1.1s
KWP LR LR
comp=Z,421nm,19.0s
VOIR 78.50 315⇓ *i*P **P** **05 09 28.5 -0.4**
JMB Yambol 78.54 311⇓ *i*P **P** **05 09 30.9 +1.9**
BMR Baia Mare 78.67 317⇓ *i*P **P** **05 09 30.1 +0.4**
BEL Belsk 78.69 322 *e*P **P** **05 09 29.7 0.0**
BEL *e* 05 09 35.2
BEL *e* 05 09 43.0
BEL Belsk 78.69 322 *e*P **P** **05 09 29.7 0.0**
BEL *e* 05 09 35.2
BEL *e* 05 09 42.9
SZH Strazhica 78.70 312 *i* P **P** **05 09 29.2 -0.7**
ARR Arges 78.80 315⇓ *i*P **P** **05 09 30.9 +0.4**
HUMR Humele 78.88 314⇓ *i*P **P** **05 09 30.5 -0.4**
KOLS Kolonicke sedl 78.95 319 *e*P **P** **05 09 31.0 -0.2**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 78.95 319 *e*P **P** **05 09 31.0 -0.2**
CJR Cluj-Napoca 78.97 316⇓ *i*P **P** **05 09 31.1 -0.3**
UZH Uzhgorod 79.05 318*d i*P **P** **05 09 30.8 -0.9**
UZH *e* 05 09 36.8
UZH *e* 05 09 46.0
TRPA Tarpa 79.09 318⇓ *i*P **P** **05 09 32.4 +0.4**
TRPA Tarpa 79.09 318⇑ *e*P **P** **05 09 31.8 -0.2**
DLBC Dease Lake 79.30 31 P **P** **05 09 34.5 +1.5**
comp=Z,4.1nm,0.8s,baz=279,slow=5.2,SNR=9.4
DLBC Dease Lake 79.30 31 *e*P **P** **05 09 34.3 +1.3**
DLBC *e*pP **pP** **05 09 47.9 +5.0**
LOT Lotru 79.33 315⇓ *i*P **P** **05 09 33.7 +0.2**

STHS **Stebnicka Huta** 79.38 319 *e*P **P** 05 09 33.7 +0.1
STHS pmax pmax
comp=Z,11nm,1.2s
STHS Stebnicka Huta 79.38 319 *e*P **P** 05 09 33.7 +0.1
RES Resolute Bay 79.42 9 *e*P **P** 05 09 33.6 +0.4
RES pmax pmax
comp=Z,114nm,1.3s
RES Resolute Bay 79.42 9 P **P** 05 09 33.3 0.0
comp=Z,20nm,1.2s,baz=316,slow=5.5,SNR=30
RES LR LR 05 48 37.1
comp=Z,257nm,20.1s,baz=344,slow=39
RES Resolute Bay 79.42 9 *e*P **P** 05 09 33.6 +0.4
comp=Z,114nm,1.3s
NB2 NORSAR Subarra 79.42 332 P **P** 05 09 32.2 -1.4
comp=Z,27nm,1.0s,baz=59,slow=5.6
NB2 NORSAR Subarra 79.42 332 P **P** 05 09 32.2 -1.4
baz=59,slow=5.6
NOA NORSAR Array B 79.42 332 P **P** 05 09 32.6 -1.0
comp=Z,17nm,1.0s,baz=61,slow=5.5,SNR=43
NOA LR LR 05 47 06.3
comp=Z,345nm,19.8s,baz=70,slow=38
CRVS Cervenica-Dubn 79.45 319 *e*P **P** 05 09 34.0 0.0
CRVS pmax pmax
comp=Z,38nm,1.5s
CRVS Cervenica-Dubn 79.45 319 *e*P **P** 05 09 34.0 0.0
DRGR 79.50 316⇓ *i*P **P** 05 09 34.6 +0.3
KDZ Kurdzhali 79.64 311⇓ *i*P **P** 05 09 35.5 +0.3
KDZ Kurdzhali 79.64 311 *i* P **P** 05 09 35.1 -0.1
DEV Deva 79.73 316⇓ *i*P **P** 05 09 36.3 +0.8
RDO Rodhopi 79.75 310 *e*P **P** 05 09 35.0 -0.7
OJC Ojcow 79.92 320⇑ *i*P **P** 05 09 36.3 -0.1
OJC *i* *PP **PcP** 05 09 41.4 -2.5
OJC Ojcow 79.92 320 *e*P **P** 05 09 36.3 -0.1
OJC *e* 05 09 41.6
JMIC Jan Mayen 79.92 345 LR LR 05 50 18.3
comp=Z,206nm,18.6s,baz=57,slow=40
PRK Paraskevi 79.93 308 *e*P **P** 05 09 36.5 -0.2
NIE Niedzica 79.94 320⇑ *i*P **P** 05 09 37.0 +0.3
NIE Niedzica 79.94 320 *e*P **P** 05 09 36.9 +0.3
GZR Gura Zlata 80.00 315⇑ *i*P **P** 05 09 37.5 +0.4
GKP Gorka Klasztor 80.08 324 *e*P **P** 05 09 37.0 -0.2
GKP *e* 05 09 42.3
GKP Gorka Klasztor 80.08 324 *e*P **P** 05 09 37.0 -0.2
GKP *e* 05 09 42.3
RZN Rozhen 80.12 311 *i*P **P** 05 09 37.4 -0.5
MPEP Malo Peshtene 80.15 313 *i*P **P** 05 09 37.9 +0.1
KECS Kecovo 80.21 319 *e*P **P** 05 09 38.1 0.0
KECS pmax pmax
comp=Z,14nm,1.2s
KECS Kecovo 80.21 319 *e*P **P** 05 09 38.1 0.0
BZS Buzias 80.66 316⇓ *i*P **P** 05 09 40.0 -0.5
VTS Vitosha 80.80 312⇓ *i*P **P** 05 09 42.1 +0.5
VTS Vitosha 80.80 312 *i* P **P** 05 09 39.7 -1.9
PSZ Piszkesteto 80.81 318 *e*P **P** 05 09 40.8 -0.6
PSZ pmax pmax
comp=Z,45nm,1.4s
PSZ MLR MLR
comp=Z,355nm,19.0s
PSZ Piszkesteto 80.81 318⇓ *i*P **P** 05 09 41.5 +0.1
PSZ Piszkesteto 80.81 318 *e*P **P** 05 09 40.8 -0.6
comp=Z,45nm,1.4s
PSZ LR LR
comp=Z,355nm,19.0s
PSZ Piszkesteto 80.81 318⇑ *e*P **P** 05 09 41.2 -0.2
KONO Kongsberg 80.81 332 PFAKE 05 09 50.0 +8.9
KONO LR LR
comp=Z,696nm,21.0s
NVR Nevrokopi 80.84 311 *e*P **P** 05 09 41.0 -0.6
MMB Musomiste 80.84 311⇑ *i*P **P** 05 09 41.7 +0.1
MMB Musomiste 80.84 311 *i* P **P** 05 09 40.6 -1.0
RAC Raciborz 80.91 321⇑ *i*P P 05 09 45.9 +4.1
RAC *e* *PP pP 05 09 57.8 +6.1
RAC MLR MLR
comp=Z,3µm,18.9s
OKC Ostrava-Krasne 81.04 320 *e*P **P** 05 09 42.5 0.0
OKC *e* 05 09 54.1
OKC MLR MLR
comp=Z,300nm,15.2s
OKC Ostrava-Krasne 81.04 320⇑ *e*P **P** 05 09 42.5 0.0
OKC *e*PCP **PcP** 05 09 47.9 -0.9
OKC *e*pP **pP** 05 09 54.1 +1.7
OKC AMS AMS 05 48 30.0
comp=Z,300nm,15.2s
KKB Krupnik 81.17 312 *i* P **P** 05 09 41.8 -1.6
VYHS Vyhne 81.21 319 *e*P **P** 05 09 43.6 +0.2
VYHS pmax pmax
comp=Z,32nm,1.1s
VYHS Vyhne 81.21 319 *e*P **P** 05 09 43.6 +0.2
PLG Polygyros 81.51 310 *e*P **P** 05 09 44.0 -1.2
BUD Budapest 81.52 318⇑ *e*P **P** 05 09 45.3 +0.2
SANT Santorini 81.61 306 *e*P **P** 05 09 44.0 -1.8
SANT Santorini 81.61 306 PFAKE 05 10 00.0 +14
SANT LR LR
comp=Z,138nm,20.0s
HORT Hortiatis 81.66 311 *e*P **P** 05 09 44.5 -1.6
KSP Ksiaz 81.67 322 *e*P **P** 05 09 45.9 +0.1
KSP *e* 05 09 51.6
KSP *e* 05 09 58.0
DPC Dobruska-Polom 81.87 321⇑ *i*P **P** 05 09 47.3 +0.4
DPC *e* 05 09 56.6
DPC Dobruska-Polom 81.87 321⇑ *e*P **P** 05 09 47.3 +0.4
DPC *e*pP **pP** 05 09 56.6 -0.3
DPC AMS AMS 05 49 40.0
NPS Neapolis 81.92 305 *e*P **P** 05 09 47.0 -0.4
PKSG 81.95 318⇑ *e*P **P** 05 09 47.0 -0.3
UPC Upice 81.98 322 *e*P **P** 05 09 47.6 +0.2
UPC Upice 81.98 322⇑ *e*P **P** 05 09 47.6 +0.2
CSKK Cs˘ˇtkako 82.04 318⇑ *e*P **P** 05 09 47.6 -0.2
SMOL Smolenice 82.04 319 *e*P **P** 05 09 48.9 +1.1
SMOL Smolenice 82.04 319 *e*P **P** 05 09 48.9 +1.1
LAST Lasithi 82.06 305 *e*P **P** 05 09 46.5 -1.8
NEO Neokhori 82.09 309 *e*P P 05 09 53.0 +4.7
VRAC Vranov 82.18 320⇓ *i*P **P** 05 09 49.3 +0.7
PKST T˘s 82.22 318⇑ *e*P **P** 05 09 48.3 -0.5
SMIA Simia 82.27 309 *e*P **P** 05 09 50.5 +1.3
PKSM Moragy 82.30 317⇓ *i*P **P** 05 09 49.3 +0.1
PKSM Moragy 82.30 317⇑ *e*P **P** 05 09 48.8 -0.4
KULLO Kullorsuaq 82.39 360⇑ *i*P **P** 05 09 48.8 -0.3
KULLO pmax pmax
comp=Z,22nm,1.0s
KULLO Kullorsuaq 82.39 360⇑ *i*P **P** 05 09 48.8 -0.3
comp=Z,22nm,0.9s
LKR Lokris 82.51 309 *e*P P 05 09 47.0 -3.4
MUD Monsted U'grnd 82.66 329 *i* P **P** 05 09 50.9 +0.1
MUD pmax pmax
comp=Z,18nm,0.9s
MUD MLR MLR
comp=Z,630nm,15.0s
MUD Monsted U'grnd 82.66 329 *i* P **P** 05 09 50.9 +0.1
comp=Z,18nm,0.9s
comp=Z,630nm,15.0s
KZN Kozani 82.71 311 *e*P **P** 05 09 50.0 -1.6
PVCC Panska Ves 82.79 322 *e*P **P** 05 09 51.4 -0.3
PVCC *e* 05 10 05.7
PVCC MLR MLR
comp=Z,500nm,17.4s
PVCC Panska Ves 82.79 322⇑ *e*P **P** 05 09 51.4 -0.3
PVCC *e*pP **pP** 05 10 05.7 +4.1
PVCC AMS AMS 05 51 30.0
comp=Z,500nm,17.4s
TREC Trest 82.84 321⇑ *e*pP **pP** 05 10 05.7 +3.8
TREC AMS AMS 05 50 00.0
comp=Z,500nm,16.9s
THL Klokotos Trika 82.84 310 *e*P **P** 05 09 51.5 -0.6
VAM Vamos 82.92 305 *e*P **P** 05 09 50.0 -2.7
SOP Sopron 82.94 319⇑ *e*P **P** 05 09 52.4 -0.1
GOPC GÖ Pecny, Ondr 82.95 322⇑ *e*P **P** 05 09 52.6 0.0
GOPC *e*pP **pP** 05 10 06.6 +4.1
BRG Berggiesshubel 82.98 323 *i* P **P** 05 09 52.4 -0.3
comp=Z,24nm,1.2s
BRG *i* 05 10 05.7
comp=Z,28nm,1.4s
BRG *e*PKPPKP P'P'df 05 36 16.6 -7.3
comp=Z,9.4nm,1.7s
comp=N,464nm,19.4s
comp=E,506nm,15.1s
comp=Z,648nm,16.3s
BRG Berggiesshubel 82.98 323 *e*P **P** 05 09 52.2 -0.4
comp=Z,24nm,1.2s
BRG Berggiesshubel 82.98 323 *i* P **P** 05 09 52.3 -0.3
BRG *i* 05 10 05.7
BRG pmax pmax
comp=Z,24nm,1.2s
BRG pmax pmax
comp=Z,29nm,1.4s
MAKR Makrakomi, Fth 82.98 309 *e*P **P** 05 09 51.0 -2.0
PRU Pruhonice 83.06 322⇑ *i*P **P** 05 09 53.1 0.0
PRU *e* 05 10 05.1
PRU MLR MLR
comp=Z,400nm,14.9s
PRU Pruhonice 83.06 322⇑ *i*P **P** 05 09 53.1 0.0
PRU *e*PCP **PcP** 05 09 58.5 +0.8
PRU *e*pP **pP** 05 10 05.1 +2.1
PRU AMS AMS 05 50 20.0
comp=Z,400nm,14.9s
PRA Prague 83.08 322⇑ *e*pP pP 05 10 06.9 +3.8
KARN Karanos 83.14 305 *e*P **P** 05 09 53.0 -0.8
KALE Kalithea 83.23 309 *e*P **P** 05 09 53.0 -1.3
CONA Conrad Observa 83.24 319 *i* P **P** 05 09 54.5 +0.3
comp=Z,37nm,1.3s,SNR=21
EVR Evrytania 83.25 309 *e*P P 05 09 50.0 -4.4
GUR Goura 83.27 308 *e*P P 05 09 51.0 -3.6
CLL Collm 83.29 323 *e*P **P** 05 09 53.7 -0.5
comp=Z,37nm,1.1s
CLL Collm 83.29 323⇑ *i*P **P** 05 09 53.6 -0.6
CLL *i* 05 10 07.0
CLL pmax pmax
comp=Z,46nm,1.1s
CLL Collm 83.29 323⇑ *i*P **P** 05 09 53.6 -0.6
comp=Z,46nm,1.1s
CLL *i* PcP **PcP** 05 09 59.3 +0.7
CLL *i* sP **sP** 05 10 07.0 -0.8
CLL Lmax 05 51 00.0
KLV Kalavryta, Ach 83.37 308 *e*P **P** 05 09 53.5 -1.5
BSEG Bad Segeberg 83.40 326 *e*P **P** 05 09 54.5 -0.2
comp=Z,22nm,1.2s
YKA Yellowknife Ar 83.47 23 P **P** 05 09 55.2 +0.3
comp=Z,6.3nm,0.8s,baz=317,slow=4.8,SNR=77
YKA PKKPbc **PKKPbc** 05 28 11.2 -3.5
comp=Z,0.5nm,0.8s,baz=126,slow=2.3,SNR=7.2
SUMG Summit 83.49 354 *e*P **P** 05 09 54.4 -1.0
SUMG *e* *PP **pP** 05 10 08.9 +3.6
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 83.49 354 *e*P **P** 05 09 54.4 -1.0
comp=Z,22nm,1.0s
SUMG *e*pP **pP** 05 10 08.9 +3.6
SUMG Summit 83.49 354 *i* P **P** 05 09 55.4 0.0
comp=Z,16nm,0.9s
JAN Janina 83.62 310 *e*P **P** 05 09 55.5 -0.7
DRO Drossia 83.72 309 *e*P **P** 05 09 56.5 -0.3
ARSA Arzberg 83.76 319⇑ *i*P **P** 05 09 56.3 -0.4
comp=Z,18nm,1.4s,SNR=5.9
PDO Prodromos 83.83 309 *e*P **P** 05 09 56.0 -1.3
RLS Riolos of Patr 83.85 309 *e*P **P** 05 09 56.5 -0.9
ITM Ithomi 83.89 308 *e*P **P** 05 09 55.5 -2.1
KHC Kasperske Hory 84.02 321⇑ *i*P **P** 05 09 57.4 -0.7
KHC *e* 05 10 02.4
KHC *e* 05 10 09.6
KHC MLR MLR
comp=Z,500nm,17.1s
KHC Kasperske Hory 84.02 321⇑ *i*P **P** 05 09 57.4 -0.7
KHC *e*PCP **PcP** 05 10 02.4 +0.4
KHC *e*pP **pP** 05 10 09.6 +1.6
KHC AMS AMS 05 52 10.0
comp=Z,500nm,17.1s
KHC Kasperske Hory 84.02 321 *e*P **P** 05 09 57.2 -0.9
comp=Z,35nm,1.4s
TANN Tannenbergstha 84.03 323 *e*P **P** 05 09 57.7 -0.4
comp=Z,20nm,1.2s
GEC2 GERESS Array S 84.08 321 *e*P **P** 05 09 58.3 -0.2
comp=Z,31nm,1.1s
GERES **GERESS Array B** 84.08 321 P **P** 05 09 58.0 -0.5
comp=Z,16nm,0.9s,baz=57,slow=4.9,SNR=110
GERES LR LR 05 50 59.7
comp=Z,376nm,18.0s,baz=53,slow=38
MOA Molln 84.23 320⇑ *i*P **P** 05 09 59.2 0.0
comp=Z,39nm,1.3s,SNR=15
NRDL Niedersach Rie 84.25 325 *e*P **P** 05 09 59.0 0.0
comp=Z,30nm,1.3s
ABPO Ambohimpanom 84.28 247 *e*P **P** 05 09 59.8 -0.2
ABPO pmax pmax
comp=Z,110nm,1.2s
ABPO Ambohimpanom 84.28 247 *e*P **P** 05 09 59.8 -0.2
comp=Z,110nm,1.2s
PERS Pernice 84.29 319 *i* P **P** 05 09 59.0 -0.5
PERS *e* 05 10 12.4
SOKA Soboth 84.32 319 *i* P **P** 05 09 59.5 -0.2
comp=Z,24nm,1.0s,SNR=8.9
MOX Moxa 84.38 323 *e*P **P** 05 09 59.5 -0.3
comp=Z,23nm,1.1s
MOX *e*L L 05 51 44.0
comp=Z,559nm,18.3s
WET Wettzell 84.41 321 *e*P **P** 05 09 59.8 -0.3
comp=Z,28nm,1.4s
VLS Valsamata 84.43 309 *e*P **P** 05 09 59.0 -1.4
CLZ Clausthal 84.44 325 *e*P **P** 05 10 00.1 -0.1
comp=Z,40nm,1.1s
ROTZ Rotzenmuhle 84.49 322 *e*P **P** 05 10 00.3 -0.1
comp=Z,31nm,1.1s
PDKS Podkum 84.63 318 *e*P **P** 05 10 01.0 -0.3
LJU Ljubljana 84.93 318 *i*P **P** 05 10 02.4 -0.3
GRF Grafenberg Arr 85.08 322 *e*P **P** 05 10 03.2 -0.2
comp=Z,37nm,1.3s
GRF *e*L L 05 52 19.1
comp=Z,517nm,19.1s
GRFO Grafenberg 85.08 322 *e*P **P** 05 10 03.0 -0.4
GRFO pmax pmax
comp=Z,44nm,1.3s
GRFO Grafenberg 85.08 322 *e*P **P** 05 10 03.0 -0.4
comp=Z,44nm,1.3s
RJOB Jochberg 85.15 320 *e*P **P** 05 10 03.4 -0.5
comp=Z,19nm,1.1s
UBBA Unterbreizbach 85.17 324 *e*P **P** 05 10 03.3 -0.4
comp=Z,24nm,1.5s
IBBN Ibbenburen 85.57 326 *e*P **P** 05 10 05.4 -0.3
comp=Z,53nm,1.0s
KMBO Kilima Mbogo 85.72 267 *i* P **P** 05 10 08.6 +1.1
KMBO pmax pmax
comp=Z,29nm,0.9s
KMBO Kilima Mbogo 85.72 267 P **P** 05 10 08.6 +1.1
comp=Z,29nm,0.9s,baz=49,slow=7.3,SNR=54
KMBO Kilima Mbogo 85.72 267 P **P** 05 10 08.8 +1.3
SNR=18
KMBO Kilima Mbogo 85.72 267 *e*P **P** 05 10 08.2 +0.7
comp=Z,9.8nm,1.0s
KMBO LR LR
comp=Z,204nm,21.0s
FUR Furstenfeldbru 85.82 321 *e*P **P** 05 10 07.0 -0.1
comp=Z,57nm,1.4s
WTTA Wattenberg 86.07 320⇑ *i*P **P** 05 10 07.6 -1.0
comp=Z,23nm,1.0s,SNR=5.2
BUG Bochum--Univer 86.30 325 *e*P **P** 05 10 08.9 -0.4
comp=Z,50nm,1.3s
TNS Taunus Mts 86.33 324 *e*P **P** 05 10 09.2 -0.4
comp=Z,28nm,1.3s
TIP Timpagrande 86.68 311 *e*P **P** 05 10 11.1 -0.5
comp=Z,14nm,1.2s
STU Stuttgart 86.69 322 *e*P **P** 05 10 10.7 -0.7
comp=Z,14nm,1.1s
STU Stuttgart 86.69 322 *e*P **P** 05 10 11.3 -0.1
STU pmax pmax
comp=Z,15nm,1.0s
STU Stuttgart 86.69 322 *e*P **P** 05 10 11.3 -0.1
comp=Z,15nm,1.0s
FETA Feichten 86.72 320⇑ *i*P **P** 05 10 11.0 -0.8
comp=Z,13nm,1.1s
CUC Castrocucco 86.95 312 PFAKE 05 10 20.0 +7.1
CUC LR LR
comp=Z,169nm,22.0s
BFO Black Forest 87.41 322 *e*P **P** 05 10 14.2 -0.7
comp=Z,22nm,1.9s
BFO Black Forest 87.41 322 *e*P **P** 05 10 14.0 -0.9
BFO pmax pmax
comp=Z,13nm,1.3s
BFO MLR MLR
comp=Z,512nm,21.0s
BFO Black Forest 87.41 322 *e*P **P** 05 10 14.0 -0.9
comp=Z,13nm,1.3s
BFO LR LR
comp=Z,512nm,21.0s
AQU L'Aquila 87.42 315 *e*P **P** 05 10 14.2 -0.9
AQU pmax pmax
comp=Z,44nm,1.1s
AQU MLR MLR
comp=Z,296nm,19.0s
AQU L'Aquila 87.42 315 *e*P **P** 05 10 14.2 -0.9
comp=Z,44nm,1.1s
AQU LR LR
comp=Z,296nm,19.0s
MEM Membach 87.42 325 P **P** 05 10 14.7 -0.2
comp=Z,14nm,1.7s
CEL Celeste 87.70 311 PFAKE 05 10 30.0 +13
CEL LR LR
comp=Z,209nm,21.0s
BORG Borgarnes 87.82 345 LR LR 05 52 30.6
comp=Z,309nm,20.9s,baz=36,slow=38
TUE Stuetta 87.82 320 *e*P **P** 05 10 15.2 -2.0
comp=Z,42nm,1.8s
TUE LR LR
comp=Z,623nm,21.0s
WLF Walferdange 87.88 324 P **P** 05 10 16.7 -0.4
comp=Z,37nm,1.5s
WLF Walferdange 87.88 324 *e*P **P** 05 10 16.9 -0.2
comp=Z,40nm,1.2s
WLF Walferdange 87.88 324 *e*P **P** 05 10 16.6 -0.4
WLF pmax pmax
comp=Z,64nm,1.4s
WLF MLR MLR
comp=Z,393nm,21.0s
WLF Walferdange 87.88 324 *e*P **P** 05 10 16.6 -0.5
comp=Z,64nm,1.4s
WLF LR LR
comp=Z,393nm,21.0s
BCLA Clavier 87.90 325 P **P** 05 10 16.2 -0.9
comp=Z,17nm,1.8s
CDF Champ du Feu 87.96 323⇑ *i*P **P** 05 10 16.9 -0.7
comp=Z,92nm,1.7s
CDF Champ du Feu 87.96 323⇑ *i*P **P** 05 10 16.9 -0.7
CDF pmax pmax
comp=Z,92nm,1.7s
CDF Champ du Feu 87.96 323⇑ *i*P **P** 05 10 16.9 -0.7
comp=Z,92nm,1.7s
ECH Echery 88.13 323 PFAKE 05 10 30.0 +12
ECH LR LR
comp=Z,254nm,20.0s
SNF Seneffe 88.38 326 P **P** 05 10 19.2 -0.2
VLC Villacollemand 88.41 318 PFAKE 05 10 30.0 +10
VLC LR LR
comp=Z,364nm,20.0s
DOU Dourbes 88.46 325 P **P** 05 10 19.2 -0.6
comp=Z,6.3nm,1.1s
DOU E 05 10 33.0
CMW Cultus Mountai 88.47 37 P **P** 05 10 21.9 +1.9
HINF Hinteralfeld 88.52 322⇑ *i*P **P** 05 10 19.1 -1.2
comp=Z,29nm,1.5s
HINF Hinteralfeld 88.52 322⇑ *i*P **P** 05 10 19.1 -1.2
HINF pmax pmax
comp=Z,29nm,1.5s
HINF Hinteralfeld 88.52 322⇑ *i*P **P** 05 10 19.1 -1.2
comp=Z,29nm,1.5s
BAIF Baives 88.68 325⇑ *i*P **P** 05 10 20.2 -0.7
comp=Z,35nm,1.3s
BAIF Baives 88.68 325⇑ *i*P **P** 05 10 20.2 -0.7
BAIF pmax pmax
comp=Z,35nm,1.3s
BAIF Baives 88.68 325⇑ *i*P **P** 05 10 20.2 -0.7
comp=Z,35nm,1.3s
HAU Haudompre 88.70 323⇑ *i*P **P** 05 10 20.0 -1.1
comp=Z,15nm,1.0s
HAU *e*R
comp=Z,674nm,18.2s
HAU Haudompre 88.70 323⇑ *i*P **P** 05 10 20.0 -1.1
HAU pmax pmax
comp=Z,15nm,1.0s
HAU Haudompre 88.70 323⇑ *i*P **P** 05 10 20.0 -1.1
comp=Z,15nm,1.0s
PAGF Fort de Pagny 88.73 323⇑ *i*P **P** 05 10 20.7 -0.5
comp=Z,11nm,1.2s
PAGF Fort de Pagny 88.73 323⇑ *i*P **P** 05 10 20.7 -0.5
comp=Z,11nm,1.2s
EKA Eskdalemuir Ar 88.91 332 LR LR 05 54 29.2
comp=Z,586nm,19.0s,baz=340,slow=38
ESK Eskdalemuir 88.94 332 *e*P **P** 05 10 20.7 -1.3
ESK pmax pmax
comp=Z,5.0nm,1.0s
ESK MLR MLR
comp=Z,513nm,19.0s
ESK Eskdalemuir 88.94 332 *e*P **P** 05 10 20.7 -1.3
comp=Z,5.3nm,1.0s
ESK LR LR
comp=Z,513nm,19.0s
MEZF Maizieres J'vi 89.13 324⇑ *i*P **P** 05 10 22.6 -0.4
comp=Z,48nm,1.1s
MEZF Maizieres J'vi 89.13 324⇑ *i*P **P** 05 10 22.6 -0.4
comp=Z,48nm,1.1s
HPK Haverah Park 89.13 331 *e*P **P** 05 10 22.1 -0.8
HPK AMB AMB 05 10 28.5
comp=Z,31nm,1.8s
SFTF Sexfontaines 89.31 323⇑ *i*P **P** 05 10 23.1 -0.8
comp=Z,98nm,1.3s
SFTF Sexfontaines 89.31 323⇑ *i*P **P** 05 10 23.1 -0.8
comp=Z,98nm,1.3s
CASY Casey 89.70 185 PFAKE 05 10 40.0 +15
CASY LR LR
comp=Z,1µm,19.0s
SFJD Kangerlussuaq 89.84 357 *i* P **P** 05 10 25.4 -0.5
SFJD pmax pmax
comp=Z,6.0nm,0.8s
SFJD Kangerlussuaq 89.84 357 PFAKE 05 10 40.0 +14
SFJD LR LR
comp=Z,303nm,20.0s
SFJD Kangerlussuaq 89.84 357 *i* P **P** 05 10 25.4 -0.5
comp=Z,5.8nm,0.8s
LPG La Plagne 89.87 321⇑ *i*P **P** 05 10 26.4 -0.5
comp=Z,49nm,1.2s
LPG La Plagne 89.87 321⇑ *i*P **P** 05 10 26.4 -0.5
LPG pmax pmax
comp=Z,49nm,1.2s
LPG La Plagne 89.87 321⇑ *i*P **P** 05 10 26.4 -0.5
comp=Z,49nm,1.2s
LPL La Plagne 89.87 321⇑ *i*P **P** 05 10 26.3 -0.6
comp=Z,43nm,1.2s
LPL La Plagne 89.87 321⇑ *i*P **P** 05 10 26.3 -0.6
LPL pmax pmax
comp=Z,43nm,1.2s
LPL La Plagne 89.87 321⇑ *i*P **P** 05 10 26.3 -0.6
comp=Z,43nm,1.2s
CLTB Caltabellotta 89.89 311 PFAKE 05 10 40.0 +13
CLTB LR LR
comp=Z,118nm,19.0s
ETW Entiat 89.92 37 P **P** 05 10 28.0 +1.1
EDM Edmonton 89.98 30 *e*P **P** 05 10 27.7 +0.7
EDM Edmonton 89.98 30 *e*P **P** 05 10 27.6 +0.7
WTV Waterville 90.08 37 P **P** 05 10 28.4 +0.8
BNI Bardonecchia 90.16 320 *e*P **P** 05 10 26.9 -1.2
BNI pmax pmax
comp=Z,11nm,1.2s
BNI MLR MLR
comp=Z,598nm,20.0s
BNI Bardonecchia 90.16 320 *e*P **P** 05 10 26.9 -1.2
comp=Z,11nm,1.2s
BNI LR LR
comp=Z,598nm,20.0s
LOR Lormes 90.50 323⇑ *i*P **P** 05 10 28.5 -1.0
comp=Z,62nm,1.3s
LOR *e*R
comp=Z,600nm,19.0s
LOR Lormes 90.50 323⇑ *i*P **P** 05 10 28.5 -1.0
LOR pmax pmax
comp=Z,62nm,1.3s
LOR Lormes 90.50 323⇑ *i*P **P** 05 10 28.5 -1.0
comp=Z,62nm,1.3s
FOEL Foel Wylfa 90.55 330 *e*P **P** 05 10 28.6 -1.0
FOEL AMB AMB 05 10 29.6
comp=Z,24nm,2.3s
HLM1 Long Mynd 90.65 330 *e*P **P** 05 10 28.5 -1.6
HLM1 AMB AMB 05 10 30.3
comp=Z,29nm,3.2s
WLF1 Llynfaes 90.82 331 *e*P **P** 05 10 29.9 -0.8
WLF1 AMB AMB 05 10 31.3
comp=Z,17nm,1.3s
SSF Saint Saulge 90.82 323⇑ *i*P **P** 05 10 30.1 -0.8
comp=Z,35nm,1.1s
SSF Saint Saulge 90.82 323⇑ *i*P **P** 05 10 30.1 -0.8
SSF pmax pmax
comp=Z,35nm,1.1s
SSF Saint Saulge 90.82 323⇑ *i*P **P** 05 10 30.1 -0.8
comp=Z,35nm,1.1s
SMF Signal de Mont 90.88 323⇑ *i*P **P** 05 10 30.4 -0.8
comp=Z,90nm,1.1s
SMF Signal de Mont 90.88 323⇑ *i*P **P** 05 10 30.4 -0.8
SMF pmax pmax
comp=Z,90nm,1.1s
SMF Signal de Mont 90.88 323⇑ *i*P **P** 05 10 30.4 -0.8
comp=Z,90nm,1.1s

I04A Tendick Farm, 90.89 41 P **P** 05 10 31.2 -0.2
baz=91
GBB Gable Butte 90.89 37 P **P** 05 10 33.0 +1.7
OD2 Odessa Site #2 90.94 36 P **P** 05 10 32.8 +1.3
MCH1 Michaelchurch 91.05 330 *e*P **P** 05 10 30.4 -1.5
MCH1 AMB AMB 05 10 35.6
comp=Z,23nm,2.6s
AVF Avril sur Loir 91.06 323 ⇑*i*P **P** 05 10 31.2 -0.9
comp=Z,79nm,1.3s
AVF Avril sur Loir 91.06 323 ⇑*i*P **P** 05 10 31.2 -0.9
AVF pmax pmax
comp=Z,79nm,1.3s
AVF Avril sur Loir 91.06 323 ⇑*i*P **P** 05 10 31.2 -0.9
comp=Z,79nm,1.3s
NEW Newport 91.26 35 *e*P **P** 05 10 34.0 +1.0
NEW pmax pmax
comp=Z,35nm,1.4s
NEW Newport 91.26 35 P **P** 05 10 34.2 +1.2
comp=Z,2.9nm,0.6s,baz=352,slow=2.1,SNR=8.0
NEW Newport 91.26 35 P **P** 05 10 34.1 +1.0
baz=91
NEW Newport 91.26 35 *e*P **P** 05 10 34.0 +1.0
comp=Z,35nm,1.4s
SSB Saint Sauveur 91.28 321 PFAKE 05 10 40.0 +6.8
SSB LR LR
comp=Z,181nm,22.0s
J04D Umpqua Nationa 91.38 41 P **P** 05 10 34.2 +0.3
baz=91
VIVF Saint-Julien-l 91.45 321 *e*P **P** 05 10 33.1 -0.8
comp=Z,58nm,1.6s
VIVF Saint-Julien-l 91.45 321 *e*P **P** 05 10 33.1 -0.8
VIVF pmax pmax
comp=Z,58nm,1.6s
VIVF Saint-Julien-l 91.45 321 *e*P **P** 05 10 33.1 -0.8
comp=Z,58nm,1.6s
BGF Bois d'Agland 91.48 323 *e*P **P** 05 10 33.2 -0.8
comp=Z,40nm,1.3s
BGF Bois d'Agland 91.48 323 *e*P **P** 05 10 33.2 -0.8
BGF pmax pmax
comp=Z,40nm,1.3s
BGF Bois d'Agland 91.48 323 *e*P **P** 05 10 33.2 -0.8
comp=Z,40nm,1.3s
VSL Villasalto 91.50 314 PFAKE 05 10 50.0 +16
VSL LR LR
comp=Z,134nm,20.0s
J05D Fort Rock, OR 91.88 41 P **P** 05 10 37.1 +0.9
baz=92
TCF Toulx Ste Croi 92.00 323 *e*P **P** 05 10 36.0 -0.5
comp=Z,82nm,1.5s
TCF Toulx Ste Croi 92.00 323 *e*P **P** 05 10 36.0 -0.5
TCF pmax pmax
comp=Z,82nm,1.5s
TCF Toulx Ste Croi 92.00 323 *e*P **P** 05 10 36.0 -0.5
comp=Z,82nm,1.5s
M04C Macdoel 92.36 42 P **P** 05 10 39.4 +1.0
baz=92
LASF Ste Croix 92.38 321 *e*P **P** 05 10 36.6 -1.6
comp=Z,52nm,1.5s
LASF Ste Croix 92.38 321 *e*P **P** 05 10 36.6 -1.6
comp=Z,52nm,1.5s
WALA Waterton Lakes 92.42 33 *e*P **P** 05 10 39.0 +0.5
comp=Z,56nm,1.4s
CAF Calviac 92.90 322 ⇑*i*P **P** 05 10 40.6 -0.1
comp=Z,54nm,1.2s
CAF Calviac 92.90 322 ⇑*i*P **P** 05 10 40.6 -0.1
CAF pmax pmax
comp=Z,55nm,1.2s
CAF Calviac 92.90 322 ⇑*i*P **P** 05 10 40.6 -0.1
comp=Z,54nm,1.2s
FCC Fort Churchill 92.95 18 *e*P **P** 05 10 39.4 -1.1
FCC pmax pmax
comp=Z,15nm,1.0s
FCC Fort Churchill 92.95 18 *e*P **P** 05 10 39.4 -1.1
comp=Z,15nm,1.0s
RJF Les Rejaudoux 92.98 323 ⇑*i*P **P** 05 10 40.8 -0.2
comp=Z,112nm,1.3s
RJF *e*R
comp=Z,401nm,21.2s
RJF Les Rejaudoux 92.98 323 ⇑*i*P **P** 05 10 40.8 -0.2
RJF pmax pmax
comp=Z,112nm,1.3s
RJF Les Rejaudoux 92.98 323 ⇑*i*P **P** 05 10 40.8 -0.2
comp=Z,112nm,1.3s
MOD Modoc Plateau 93.24 42 *e*P **P** 05 10 43.0 +0.6
comp=Z,71nm,1.9s
MOD *e*pP **pP** 05 10 57.0 +4.5
BMO Blue Mountains 93.25 38 PFAKE 05 10 50.0 +7.6
BMO LR LR
comp=Z,262nm,19.0s
KEST Kesra 93.50 311 P **P** 05 10 42.8 -0.9
comp=Z,1.9nm,0.9s,baz=26,slow=1.6,SNR=7.0
KEST LR LR 06 00 22.4
comp=Z,35nm,18.4s,baz=330,slow=40
KEST Kesra 93.50 311 *e*P **P** 05 10 42.6 -1.1
FFC Flin Flon 93.62 24 P **P** 05 10 43.6 -0.1
comp=Z,76nm,1.0s,SNR=7.6
FFC Flin Flon 93.62 24 *e*P **P** 05 10 43.8 +0.1
FFC *e**PP **pP** 05 10 57.5 +3.7
FFC pmax pmax
comp=Z,48nm,1.3s
FFC MLR MLR
comp=Z,319nm,21.0s
FFC Flin Flon 93.62 24 *e*P **P** 05 10 43.8 +0.1
comp=Z,48nm,1.3s
FFC *e*pP **pP** 05 10 57.5 +3.7
FFC LR LR
comp=Z,319nm,21.0s
SLMT Seeley Lake 93.81 34 *e*P **P** 05 10 45.4 +0.4
comp=Z,15nm,1.1s
MSO Missoula 93.84 35 P **P** 05 10 45.4 +0.3
baz=94
WVOR Wild Horse Val 93.93 40 PFAKE 05 11 00.0 +14
WVOR LR LR
comp=Z,235nm,19.0s
HRY Holter Researc 95.01 34 *e*P **P** 05 10 51.0 +0.5
comp=Z,8.3nm,1.0s
EGMT Eagleton 95.17 32 P **P** 05 10 51.1 +0.1
baz=95
EGMT Eagleton 95.17 32 PFAKE 05 11 00.0 +8.9
EGMT LR LR
comp=Z,309nm,20.0s
PPT Papeete 95.28 107 LR LR 05 45 13.2
comp=Z,247nm,21.3s,baz=295,slow=30
PPT2 Papeete2 95.29 107 *e*LR LR 05 41 36.1
comp=Z,596nm,23.0s
HLID Hailey 95.68 38 P **P** 05 10 54.2 +0.5
baz=96
HLID Hailey 95.68 38 PFAKE 05 11 10.0 +16
HLID LR LR
comp=Z,181nm,21.0s
C19A Slack Wire Ran 95.71 32 P **P** 05 10 54.0 +0.4
baz=96
MCMT McKenzie Canyo 95.72 36 *e*P **P** 05 10 54.2 +0.3
A21A Bergtoll Ranch 95.83 30 P **P** 05 10 53.9 -0.1
baz=96
BOZ Bozeman (W) 95.83 35 PFAKE 05 11 10.0 +16
BOZ LR LR
comp=Z,268nm,20.0s
D19A Cripps Ranch, 96.19 32 P **P** 05 10 56.3 +0.5
baz=96
C20A Veseth Ranch, 96.23 31 P **P** 05 10 55.8 -0.1
baz=96
NVAR Mina Array Bea 96.51 43 P **P** 05 10 58.5 +0.9
comp=Z,1.2nm,0.8s,baz=289,slow=5.4,SNR=8.4
D20A Manuel Ranch, 96.60 32 P **P** 05 10 58.4 +0.8
baz=96
ELK Elko 96.98 40 P **P** 05 10 59.6 -0.1
comp=Z,0.5nm,0.6s,baz=90,slow=20,SNR=2.7
A24A Westby 97.19 29 P Pdif 05 11 00.7 +0.4
baz=97
LKWY Lake 97.20 35 PFAKE 05 11 10.0 +9.3
LKWY LR LR
comp=Z,375nm,20.0s
TPH Tonopah 97.41 43 *e*P Pdif 05 11 02.7 +1.0
TPH pmax pmax
comp=Z,4.0nm,1.2s
TPH Tonopah 97.41 43 *e*P Pdif 05 11 02.7 +1.0
comp=Z,4.4nm,1.2s
DGMT Dagmar 97.44 29 *e*P Pdif 05 11 02.0 +0.6
comp=Z,25nm,1.2s
DGMT LR LR
comp=Z,238nm,20.0s
TBI Tubuai 97.56 112 *e*LR LR 05 42 35.0
comp=Z,224nm,24.0s
LAO LASA Array 97.81 31 PFAKE 05 11 10.0 +6.9
LAO LR LR
comp=Z,294nm,19.0s

AHID Auburn Hatcher 98.03 37 PFAKE 05 11 20.0 +16
AHID LR LR
comp=Z,281nm,19.0s
HWUT Hardware Ranch 98.55 38 PFAKE 05 11 20.0 +13
HWUT LR LR
comp=Z,249nm,21.0s
DUG Dugway, Tooele 98.76 39 PFAKE 05 11 20.0 +12
DUG LR LR
comp=Z,262nm,22.0s
BW06 Boulder Array 98.87 36 PFAKE 05 11 20.0 +12
BW06 LR LR
comp=Z,257nm,22.0s
PDAR Pinedale Array 98.87 36 P Pdif 05 11 08.2 0.0
comp=Z,0.4nm,0.7s,baz=307,slow=4.7,SNR=3.2
PDAR PKKPbc **PKKPbc** 05 27 33.5 -2.2
comp=Z,0.7nm,0.9s,baz=205,slow=3.1,SNR=5.0
LSZ Lusaka 99.42 257 *e*P **Pdif** 05 11 08.8 -2.0
LSZ pmax pmax
comp=Z,9.0nm,1.1s
LSZ MLR MLR
comp=Z,304nm,19.0s
LSZ Lusaka 99.42 257 *e*P **Pdif** 05 11 08.8 -2.0
comp=Z,9.0nm,1.1s
LSZ LR LR
comp=Z,304nm,19.0s
ULM Lac du Bonnet 99.44 24 P **Pdif** 05 11 11.3 +1.1
comp=Z,1.7nm,0.9s,baz=245,slow=14,SNR=2.8
ULM LR LR 06 00 41.1
comp=Z,193nm,18.1s,baz=6.5,slow=38
PAB San Pablo 99.99 321 PFAKE 05 11 20.0 +7.0
PAB LR LR
comp=Z,257nm,21.0s
PFO Pinyon Flats O 100.59 46 PFAKE 05 11 30.0 +14
PFO LR LR
comp=Z,259nm,19.0s
AGMN Agassiz Nation 101.05 25 PFAKE 05 11 30.0 +13
AGMN LR LR
comp=Z,245nm,19.0s
MTE Manteigas 101.22 323 PFAKE 05 11 30.0 +12
MTE LR LR
comp=Z,276nm,20.0s
WUAZ Wupatki 102.66 42 PFAKE 05 11 40.0 +15
WUAZ LR LR
comp=Z,213nm,21.0s
EYMN Ely 102.95 22 PFAKE 05 11 40.0 +14
EYMN LR LR
comp=Z,380nm,19.0s
ISCO Idaho Springs 103.07 36 PFAKE 05 11 40.0 +13
ISCO LR LR
comp=Z,173nm,19.0s
TAM Tamanrasset 103.21 302 PFAKE 05 11 40.0 +12
TAM LR LR
comp=Z,143nm,21.0s
OGNE Ogallala 104.09 33 PFAKE 05 11 40.0 +8.8
OGNE LR LR
comp=Z,273nm,20.0s
ECSD EROS Data Cent 104.44 28 PFAKE 05 11 40.0 +7.4
ECSD LR LR
comp=Z,302nm,21.0s
TUC Tucson 105.12 44 PFAKE 05 16 00.0
TUC LR LR
comp=Z,226nm,20.0s
RTC Rabat Centre 105.18 318 PFAKE 05 16 00.0
RTC LR LR
comp=Z,240nm,22.0s
COWI Conover 105.36 22 PFAKE 05 16 00.0
COWI LR LR
comp=Z,351nm,22.0s
ANMO Albuquerque 106.02 40 PFAKE 05 16 00.0
ANMO LR LR
comp=Z,159nm,20.0s
SCIA State Center 107.38 27 PFAKE 05 16 10.0
SCIA LR LR
comp=Z,267nm,22.0s
JFWS Jewell Farm 107.71 24 PFAKE 05 16 10.0
JFWS LR LR
comp=Z,327nm,19.0s
KSU1 Kansas State U 108.15 31 PFAKE 05 16 10.0
KSU1 LR LR
comp=Z,248nm,19.0s
RKT Rikitea 110.04 107 *e*LR LR 05 48 25.9
comp=Z,392nm,25.0s
WMOK Wichita Mounta 110.47 35 PFAKE 05 16 10.0
WMOK LR LR
comp=Z,192nm,19.0s
AAM Ann Arbor 110.55 20 PFAKE 05 16 10.0
AAM LR LR
comp=Z,507nm,22.0s
LONY Lake Ozonia 110.73 13 PFAKE 05 16 10.0
LONY LR LR
comp=Z,303nm,19.0s
PKME Peaks-Kenny Pk 111.01 9 PFAKE 05 16 10.0
PKME LR LR
comp=Z,531nm,20.0s
TORD Torodi Ar. Bea 111.39 296 PKiKP **PKiKP** 05 16 00.8 -1.6
comp=Z,1.3nm,0.9s,baz=50,slow=0.8,SNR=5.2
TORD PKKPbc **PKKPbc** 05 26 55.9 -0.9
comp=Z,1.2nm,0.8s,baz=258,slow=2.3,SNR=7.9
NCB Newcomb 111.43 13 PFAKE 05 16 10.0
NCB LR LR
comp=Z,426nm,22.0s
TXAR Lajitas Array 111.63 42 PKiKP **PKiKP** 05 16 02.5 -0.2
comp=Z,0.6nm,0.8s,baz=200,slow=2.7,SNR=5.6
TXAR PKKPbc **PKKPbc** 05 26 56.4 -0.2
comp=Z,0.6nm,0.9s,baz=67,slow=3.3,SNR=4.6
ERPA Erie 111.80 18 PFAKE 05 16 10.0
ERPA LR LR
comp=Z,290nm,20.0s
ACSO Alum Creek Sta 112.63 21 PFAKE 05 16 20.0
ACSO LR LR
comp=Z,406nm,22.0s
BINY Binghamton 112.74 14 PFAKE 05 16 20.0
BINY LR LR
comp=Z,295nm,21.0s
QSPA South Pole Qui 113.06 180 PKiKP **PKiKP** 05 16 02.7 -1.4
comp=Z,1.8nm,0.9s,baz=251,slow=1.3,SNR=6.0
JCT Junction City 113.11 39 PFAKE 05 16 20.0
JCT LR LR
comp=Z,197nm,20.0s
MIAR Mount Ida 113.25 32 PFAKE 05 16 20.0
MIAR LR LR
comp=Z,322nm,19.0s
NATX Nacogdoches 114.94 34 PFAKE 05 16 20.0 +11
NATX LR LR
comp=Z,2µm,19.0s
CBN Corbin Frederi 116.17 17 PFAKE 05 16 20.0 +9.0
CBN LR LR
comp=Z,367nm,20.0s
BLA Blacksburg 116.20 20 PFAKE 05 16 20.0 +8.8
BLA LR LR
comp=Z,332nm,19.0s
GOGA Godfrey 118.59 24 PFAKE 05 16 30.0 +14
GOGA LR LR
comp=Z,304nm,21.0s
CNNC Cliffs of the 118.80 19 PFAKE 05 16 30.0 +14
CNNC LR LR
comp=Z,395nm,20.0s
DBIC Dimbokro 120.26 293 *e*PKIKP **PKPdf** 05 16 18.4 -1.1
DBIC Dimbokro 120.26 293 PKP **PKPdf** 05 16 18.6 -0.9
comp=Z,13nm,1.1s,baz=24,slow=4.7,SNR=3.8
DBIC Dimbokro 120.26 293 *e*PKPdf **PKPdf** 05 16 18.4 -1.1
DBIC PKP **PKPdf** 05 16 18.6 -0.9
VNA2 Neumayer--Watz 124.29 198 P **PKPdf** 05 16 25.0 -0.5
baz=36,slow=3.1
VNA1 Neumayer--Stat 124.68 198 P **PKPdf** 05 16 26.0 -0.2
VNA3 Neumayer Olymp 124.75 197 P **PKPdf** 05 16 25.5 -0.9
GRTK Grand Turk 133.66 17 PFAKE 05 17 00.0 +15
GRTK LR LR
comp=Z,178nm,20.0s
GTBY Guantanamo Bay 133.89 23 PFAKE 05 17 00.0 +15
GTBY LR LR
comp=Z,189nm,21.0s
ASCN Ascension 135.59 283 PFAKE 05 17 00.0 +11
ASCN LR LR
comp=Z,946nm,22.0s
SDDR Presa de Saban 136.01 18 PFAKE 05 17 00.0 +11
SDDR LR LR
comp=Z,261nm,19.0s
JTS JuntasAbangare 137.41 41 *e*PKIKP **PKPdf** 05 16 53.8 +1.7
JTS MLR MLR
comp=Z,421nm,19.0s
JTS JuntasAbangare 137.41 41 *e*PKPdf **PKPdf** 05 16 53.8 +1.7
JTS LR LR
comp=Z,421nm,19.0s
SJG San Juan 138.09 12 PFAKE 05 17 00.0 +6.9
SJG LR LR
comp=Z,198nm,20.0s
BCIP Isla Barro Col 141.26 36 *e*PKPdf **PKPdf** 05 16 59.3 +0.3
SDV Santo Domingo 145.69 23 *e*PKPbc **PKPdf** 05 17 06.7 -0.4
SDV LR LR
comp=Z,246nm,20.0s
PCRV Puerto La Cruz 146.11 12 PKPbc **PKPdf** 05 17 06.9 -0.7
comp=Z,34nm,1.0s,baz=58,slow=1.7,SNR=3.7
USHA Ushuaia 147.51 169 PKPbc **PKPbc** 05 17 10.4 -0.8
comp=Z,8nm,1.0s,baz=208,slow=1.5,SNR=10
ROSC El Rosal 147.76 32 PKPbc **PKPdf** 05 17 11.9 +1.1
comp=Z,13nm,0.8s,baz=312,slow=3.0,SNR=17
OTAV Otavalo 149.25 43 *e*PKPdf **PKPdf** 05 17 14.5 +1.2
OTAV *e*PKPbc **PKPbc** 05 17 17.9 +0.3
RCBR Riachuelo 152.62 306 *e*PKPdf **PKPdf** 05 17 18.4 +0.4
RCBR *e*PKPbc **PKPbc** 05 17 24.6 -0.4
RCBR *e*PKPab **PKPab** 05 17 35.2 -0.3
ATAH Atahualpa 154.59 54 PKPbc **PKPbc** 05 17 30.3 +0.6
comp=Z,8.8nm,1.0s,baz=303,slow=4.1,SNR=4.0
ATAH PKPab **PKPab** 05 17 43.8 -0.5
comp=Z,6.1nm,0.6s,baz=275,slow=2.0,SNR=4.1
PTGA Pitinga 157.50 5 PKP **PKPdf** 05 17 23.6 -1.0
comp=Z,2.4nm,0.9s,baz=343,slow=20,SNR=3.8
PTGA PKPab **PKPab** 05 17 55.0 -1.1
comp=Z,1.2nm,0.5s,baz=357,slow=8.6,SNR=5.3
TRQA Tornquist 164.85 168 *e*PKPdf **PKPdf** 05 17 30.9 -0.8
TRQA *e*PKPab **PKPab** 05 18 27.3 -0.3
SAML Samuel 164.88 20 *e*PKPdf **PKPdf** 05 17 31.9 -0.5
SAML *e*PKPab **PKPab** 05 18 27.1 -1.2
CFAA Coronel Fontan 167.62 134 PKP **PKPdf** 05 17 33.5 -0.6
comp=Z,0.4nm,1.1s,baz=277,slow=5.1,SNR=3.9
CFAA PKPab **PKPab** 05 18 38.6 -1.7
comp=Z,0.4nm,0.7s,baz=198,slow=3.6,SNR=6.0
BDFB Brasilia 167.99 307 PKP **PKPdf** 05 17 34.2 -0.6
comp=Z,2.8nm,0.9s,baz=44,slow=7.3,SNR=3.8
BDFB PKPab **PKPab** 05 18 42.0 -0.3
comp=Z,5.6nm,0.8s,baz=26,slow=7.4,SNR=5.7
LPAZ La Paz 168.12 56 PKP **PKPdf** 05 17 35.9 +0.3
comp=Z,8.2nm,1.2s,baz=36,slow=2.6,SNR=17
LPAZ La Paz 168.12 56 PKP **PKPdf** 05 17 35.9 +0.3
LPAZ *e*PKPdf PKPdf 05 17 36.0 +0.4
SIV San Ignacio 172.16 23 PKP **PKPdf** 05 17 37.2 +0.1
comp=Z,1.8nm,0.8s,baz=133,slow=0.9,SNR=4.5
SIV PKPab **PKPab** 05 18 58.6 -1.9
comp=Z,2.1nm,0.9s,baz=18,slow=2.0,SNR=3.1

WEL 11 05:12:10.5±0.3, 38.79S×175.39E, h211km±2km, ML3.5/8, 7C-3D, Error ellipse: s-maj=3.1km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.28**	**172**	PN	Pn	05 12 37.9	-0.5
WTVZ	**West Tongariro**	**0.36**	**154**	PN	Pn	05 12 38.2	-0.3
WPVZ	**Whakapapa**	**0.43**	**163**	PN	Pn	05 12 38.6	-0.2
FWVZ	**Far West T-bar**	**0.48**	**165**	PN	Pn	05 12 38.7	-0.3
TUVZ	**Tukino**	**0.52**	**157**	PN	Pn	05 12 39.0	0.0
TRVZ	**Turoa**	**0.53**	**166**	⇑PN	Pn	05 12 39.0	-0.2
TRVZ				SN	S	05 13 01.4	-0.3
WNVZ	**Wahianoa**	**0.56**	**163**	⇑PN	Pn	05 12 39.1	-0.1
MOVZ	**Moawhango**	**0.68**	**155**	PN	Pn	05 12 39.2	-0.4
MOVZ				SN	S	05 13 01.0	-1.4
BHHZ	**Black Hill Sta**	**0.88**	**143**	⇑PN	Pn	05 12 40.4	-0.3
BKZ	**Black Stump Fm**	**0.94**	**114**	PN	Pn	05 12 40.7	-0.3
BKZ				SN	S	05 13 03.8	-0.9
WAZ	**Wanganui**	**1.01**	**198**	⇑PN	Pn	05 12 41.3	-0.1
KRHZ	**Kereru**	**1.15**	**138**	PN	Pn	05 12 42.4	+0.1
MCHZ	**McNeill Hill**	**1.21**	**123**	PN	Pn	05 12 43.6	+0.8
PNHZ	**Pukenui**	**1.29**	**151**	PN	Pn	05 12 43.5	+0.1
TSZ	**Takapari Road**	**1.34**	**161**	PN	Pn	05 12 43.8	-0.1
WPHZ	**Waipukurau**	**1.51**	**148**	PN	Pn	05 12 45.4	+0.2
KAHZ	**Kahuranaki**	**1.53**	**131**	PN	Pn	05 12 45.9	+0.5
DVHZ	**Dannevirke**	**1.62**	**158**	PN	Pn	05 12 45.9	-0.3
POWZ	**Post Office Ro**	**1.63**	**170**	PN	Pn	05 12 45.9	-0.3
PXZ	**Pawanui**	**1.69**	**138**	PN	Pn	05 12 46.7	0.0
PXZ				SN	S	05 13 15.0	+0.2
PRHZ	**Porangahau**	**1.76**	**147**	PN	Pn	05 12 47.5	+0.1
KNZ	**Kokohu**	**1.80**	**98**	PN	Pn	05 12 47.6	-0.2
PRWZ	**Pori Road**	**1.82**	**166**	PN	Pn	05 12 47.8	-0.2
RIGZ	**Rimuhau**	**1.86**	**88**	PN	Pn	05 12 47.8	-0.6
ANWZ	**Angora Road**	**1.87**	**154**	⇓PN	Pn	05 12 48.5	0.0
MRZ	**Mangatainoka R**	**1.88**	**176**	⇑PN	Pn	05 12 47.8	-0.7
MRZ				SN	S	05 13 17.3	-0.8
BFZ	**Birch Farm**	**2.00**	**161**	PN	Pn	05 12 49.3	-0.5
TIWZ	**Tintock**	**2.02**	**169**	PN	Pn	05 12 49.3	-0.7
OGWZ	**Otaki Gorge**	**2.03**	**185**	⇑PN	Pn	05 12 49.4	-0.6
KIW	**Kapiti Island**	**2.10**	**190**	PN	Pn	05 12 49.6	-1.2
HOWZ	**Holdsworth Sta**	**2.11**	**177**	⇑PN	Pn	05 12 49.8	-1.0
HAZ	**Te Kaha**	**2.15**	**62**	PN	Pn	05 12 48.9	-2.3
DUWZ	**D'Urville Isla**	**2.31**	**209**	PN	Pn	05 12 51.3	-1.6
CAW	**Cannon Point**	**2.33**	**186**	PN	Pn	05 12 52.0	-1.2
TMWZ	**Te Maipa**	**2.35**	**171**	PN	Pn	05 12 52.3	-1.1
MTW	**Mount Morrison**	**2.37**	**178**	⇓PN	Pn	05 12 52.2	-1.3
TCW	**Tory Channel**	**2.57**	**199**	PN	Pn	05 12 54.3	-1.4
MXZ	**Matakaoa Point**	**2.61**	**63**	PN	Pn	05 12 54.2	-2.0
PLWZ	**Palliser**	**2.78**	**182**	PN	Pn	05 12 56.4	-1.8
TUWZ	**Tuamarina**	**2.86**	**202**	⇓PN	Pn	05 12 57.4	-1.6
NNZ	**Nelson**	**2.88**	**212**	PN	Pn	05 12 56.6	-2.5
QRZ	**Quartz Range**	**3.00**	**226**	PN	Pn	05 12 57.0	-3.6
MQZ	**McQueen's Vall**	**5.33**	**202**	PN	Pn	05 13 25.1	-4.0

IDC 11 05:17:40.4±5.9, 18.82S×69.19W, h154km±37km, mb3.4/4, mb1 3.4/5, mb1mx3.0/35, mbtmp3.8/5, Error ellipse: s-maj=61.5km s-min=33.2km az=34.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.71**	**22**	P	Pn	05 18 24.3	-0.8
	1.8nm,0.3s,baz=207,slow=3.0,SNR=46						
LPAZ				S	Sn	05 18 59.9	+0.3
	0.7nm,0.3s,baz=227,slow=19,SNR=2.4						
SIV	**San Ignacio**	**8.24**	**71**	P	Pn	05 19 32.5	-4.6
	0.9nm,0.3s,baz=262,slow=10,SNR=8.4						
PTGA	**Pitinga**	**20.12**	**28**	P	P	05 22 02.0	-0.4
	2.7nm,0.3s,baz=213,slow=21,SNR=7.5						
BDFB	**Brasilia**	**20.47**	**84**	P	P	05 22 07.0	+0.7
	1.5nm,0.5s,baz=258,slow=8.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.72**	**71**	P	P	05 29 14.8	-0.3
	0.6nm,0.4s,baz=255,slow=5.6,SNR=11						
YKA	**Yellowknife Ar**	**88.58**	**341**	P	P	05 30 15.6	+0.4
	0.4nm,0.6s,baz=136,slow=4.8,SNR=10.0						

IDC 11 05:22:54.4±3.1, 54.22N×87.30E, h0km, mb1 2.9/2, mb1mx2.7/45, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.5km s-min=16.4km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA 1.48 260** *i*					05 31 50.0	
	baz=79,slow=338,SNR=1.9						
ZALV	**Zalesovo Beam 1.48 260**			Pg	Pn	05 23 20.3	-2.1
	2.2nm,0.3s,baz=79,slow=17,SNR=29						
ZALV				Lg	Lg	05 23 42.2	
	1.8nm,0.3s,baz=78,slow=25,SNR=7.7						
KURBB	**Kurchatov Arra 6.46 240**			Pn	Pn	05 24 31.0	+0.3
	0.1nm,0.3s,baz=54,slow=14,SNR=3.3						
MKAR	**Makanchi Array 8.09 205**			Pn	Pn	05 24 55.1	+2.0
	0.1nm,0.3s,baz=26,slow=15,SNR=4.4						
MKAR				Sn	Sn	05 26 24.4	-0.9
	0.1nm,0.3s,baz=21,slow=25,SNR=2.8						
MKAR				Lg	Lg	05 27 10.8	
	0.1nm,0.3s,baz=27,slow=32,SNR=3.1						

ISCJB ***11*** *05:25:25.7±1.0, 23.25±0.1×114.0W±0.2, h10km, mb4.0/11, Error ellipse: s-maj=34.1km s-min=17.6km az=156.1*
IDC ***11*** *05:25:25.8±0.8, 23.18S×113.93W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.0/30, mbtmp4.1/7, Error ellipse: s-maj=33.6km s-min=22.0km az=71.0*
NEIC ***11*** *05:25:27.1±0.5, 23.22S×113.97W, h10km, mb4.6/4, Error ellipse: s-maj=20.6km s-min=13.4km az=69.0*

ISC 11 05:25:27.3±0.8, 23.2S±0.2×113.9W±0.2, h10km, n26, s0 977/20, mb4.1/11, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan 41.19 112**			P	**P**	**05 33 12.0**	**-0.4**
	0.3nm,0.8s,baz=259,slow=8.7,SNR=3.8						
LPAZ	**La Paz 43.52 90**			P	**P**	**05 33 32.6**	**+0.5**
	2.7nm,1.1s,baz=281,slow=7.6,SNR=5.7						
TXAR	**Lajitas Array 53.16 11**			P	**P**	**05 34 46.3**	**+0.7**

0.3nm,0.6s,baz=216,slow=6.2,SNR=4.0
JCT Junction City 55.07 15 *e*P **P 05 35 00.0 +0.5**
9.9nm,0.9s
LAZ Ladron 57.65 7 *e*P **P 05 35 17.9 -0.1**
2.3nm,1.1s
NVAR Mina Array Bea 61.44 356 P **P 05 35 45.5 +1.3**
1.6nm,0.8s,baz=187,slow=9.7,SNR=10
PDAR Pinedale Array 65.76 4 P **P 05 36 11.9 -0.7**
0.7nm,0.6s,baz=166,slow=6.1,SNR=7.7
QSPA South Pole Qui 66.95 180 P **P 05 36 20.6 +0.6**
6.5nm,1.1s,baz=85,slow=3.2,SNR=8.0
QSPA South Pole Qui 66.95 180 *e*P **P 05 36 20.4 +0.4**
8.5nm,1.1s
CHMT Chamberlain Mo 69.79 1 *e*P **P 05 36 37.5 -0.4**
4.0nm,1.3s
DLBC Dease Lake 82.42 352 P **P 05 37 49.3 -0.1**
4.1nm,1.0s,baz=184,slow=7.4,SNR=6.1
YKA Yellowknife Ar 85.40 360 P **P 05 38 04.0 -0.4**
1.4nm,1.0s,baz=176,slow=4.8,SNR=17
H11S2 WAKE ISLAND Hy 87.83 291 T T 07 15 26.6
baz=116,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 87.85 291 T T 07 15 28.6
baz=116,slow=75,SNR=33
H11S3 WAKE ISLAND Hy 87.85 291 T T 07 15 28.2
baz=116,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 88.18 292 T T 07 15 52.4
baz=116,slow=75,SNR=22
H11N1 WAKE ISLAND Hy 88.19 292 T T 07 15 52.8
baz=116,slow=75,SNR=9.6
H11N2 WAKE ISLAND Hy 88.20 292 T T 07 15 53.1
baz=116,slow=75,SNR=36
ZALV Zalesovo Beam 146.19 340 PKPbc **PKPdf 05 45 06.4 -0.2**
1.6nm,0.7s,baz=352,slow=3.0,SNR=4.0
BRTR Keskin Array B 148.03 51 PKPbc **PKPbc 05 45 12.4 -1.1**
1.0nm,0.9s,baz=0.0,slow=0.1,SNR=5.5
CMAR Chiang Mai Arr 148.95 267 PKPbc **PKPbc 05 45 17.2 +0.9**
1.9nm,1.0s,baz=55,slow=1.5,SNR=10
BVAR Borovoye Array 150.04 355 PKPbc **PKPbc 05 45 17.4 -0.6**
2.0nm,0.9s,baz=12,slow=2.9,SNR=3.8
KURK Kurchatov 150.84 344 PKPbc **PKPbc 05 45 18.9 -1.0**
KURBB Kurchatov Arra 150.95 344 PKPbc **PKPbc 05 45 18.9 -1.3**
2.6nm,0.8s,baz=28,slow=1.6,SNR=5.6
KBZ Khabaz 152.01 37 PKPbc **PKPbc 05 45 22.6 -0.2**
2.3nm,0.8s,baz=263,slow=3.9,SNR=4.4
MKAR Makanchi Array 153.07 335 PKPbc **PKPbc 05 45 24.2 -0.9**
1.0nm,0.8s,baz=57,slow=4.5,SNR=4.8

*RSPR **11** 05:28:03.2, 19.41N×64.58W, h89km±5km, MD3.6/11*
*NEIC **11** 05:28:07.4±3.7, 19.30N×64.91W, h35km, ML3.6(RSPR), Error ellipse: s-maj=45.3km s-min=12.2km az=216.0*
ISC 11 05:28:04.0±2.1, 19.4N±0.1×64.7W±0.0, h23km, n24, σ0.59/29, 4C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.82**	**149**	↑*e*P		**Pb**	**05 28 18.9**	**-0.6**
ABV	**Anegada**	**0.82**	**149**	*e*S		**Sn**	**05 28 31.9**	**+0.4**
TBVI	**Tortola**	**1.02**	**172**	↓*e*P		**Pn**	**05 28 22.2**	**-0.8**
TBVI				*e*S		**Sn**	**05 28 37.2**	**+0.6**
STVI	**Saint Thomas**	**1.09**	**189**	*e*Pn		**Pn**	**05 28 23.5**	**-0.4**
STVI				*e*Sn		**Sb**	**05 28 37.5**	**-0.5**
STVI	**Saint Thomas**	**1.09**	**189**	↓*e*P		**Pn**	**05 28 23.6**	**-0.3**
STVI	**Saint Thomas**	**1.09**	**189**	*e*S		**Sn**	**05 28 39.3**	**+1.0**
HUMP	**Col San Antoni**	**1.64**	**219**	↓*e*P		**Pn**	**05 28 31.4**	**-0.1**
HUMP	**Col San Antoni**	**1.64**	**219**	*e*S		**Sb**	**05 28 53.6**	**-0.3**
CDVI	**St. Croix**	**1.68**	**180**	*e*Pn		**Pn**	**05 28 33.0**	**+1.0**
CDVI				*e*Sn		**Sb**	**05 28 55.9**	**+1.1**
CPD	**Cerro la Pandu**	**1.76**	**218**	↑*e*P		**Pn**	**05 28 33.4**	**+0.2**
CPD	**Cerro la Pandu**	**1.76**	**218**	*e*S		**Sb**	**05 28 56.5**	**-1.0**
SJG	**San Juan**	**1.85**	**225**	*e*Pn		**Pn**	**05 28 33.8**	**-0.6**
SJG	**San Juan**	**1.85**	**225**	↓*e*P		**Pn**	**05 28 34.2**	**-0.2**
AOPR	**Arecibo Observ**	**2.17**	**240**	↓*e*P		**Pn**	**05 28 39.2**	**+0.5**
CELP	**Cerrillos**	**2.18**	**232**	*e*Pn		**Pn**	**05 28 38.9**	**0.0**
CELP				*e*Sn		**Sb**	**05 29 09.3**	**-0.1**
CELP	**Cerrillos**	**2.18**	**232**	↓*i*P		**Pn**	**05 28 39.3**	**+0.3**
OBIP	**Obispado Ponce**	**2.22**	**232**	*e*Pn		**Pn**	**05 28 39.4**	**-0.1**
OBIP	**Obispado Ponce**	**2.22**	**232**	↓*e*P		**Pn**	**05 28 39.8**	**+0.3**
ICMP	**Isla Caja de M**	**2.27**	**227**	*e*Pn		**Pn**	**05 28 40.5**	**+0.4**
LRS	**Lares**	**2.27**	**240**	*e*Pn		**Pn**	**05 28 39.3**	**-0.9**
LRS	**Lares**	**2.27**	**240**	↑*e*P		**Pn**	**05 28 40.6**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.47**	**234**	↑*e*P		**Pn**	**05 28 43.4**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.63**	**238**	*e*Pn		**Pn**	**05 28 45.1**	**0.0**
SDDR	**Presa de Saban**	**6.17**	**267**	*e*Pn		**Pn**	**05 29 34.4**	**+0.5**
SDDR				*e*Sn		**Sn**	**05 30 43.9**	**+0.1**

*ISCJB **11** 05:36:10.7±0.4, 36.85N±0.02×71.64E±0.04, h112km±5km, mb4.0/37, Error ellipse: s-maj=6.0km s-min=3.5km az=161.5*
*MOS **11** 05:36:11.4±1.0, 36.92N×71.56E, h119km, mb4.1/21, Error ellipse: s-maj=10.3km s-min=4.6km az=82.6*
*IDC **11** 05:36:12.9±0.8, 36.78N×71.61E, h120km±6km, mb3.7/24, mb1 3.8/26, mb1mx3.6/55, mbtmp4.1/26, Error ellipse: s-maj=13.8km s-min=10.4km az=10.0*
*NNC **11** 05:36:15.0±2.7, 37.20N×71.20E, h151km±23km, mb3.8, mpv4.8, Error ellipse: s-maj=25.5km s-min=11.5km az=165.0*
ISC 11 05:36:12.8±0.5, 36.89N±0.04×71.70E±0.05, h120km±5km, h119km: pP-P, n150, σ1.55/170, mb4.0/37, 12C-13D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.97**	**311**	↓P		**Pn**	**05 36 56.0**	**-2.7**
	38nm,0.3s							
DZET				↓S		Sn	05 37 28.1	-6.1
	728nm,0.3s							
DZET	**Dzherino**	**2.97**	**311**	PN		**Pn**	**05 36 56.0**	**-2.7**
DZET				pmax	pmax			
	comp=Z,39nm,0.3s							
CEP	**Cherat**	**3.07**	**177**	↑P		**Pn**	**05 37 01.7**	**+1.5**
CEP				S		**Sn**	**05 37 39.0**	**+2.4**
SFK	**Sufi-Kurgan**	**3.42**	**24**	↓P		**Pn**	**05 37 06.1**	**+1.2**
	comp=Z,140nm,0.4s							
SFK				↑S		**Sn**	**05 37 47.9**	**+2.8**
	comp=Z,77nm,0.3s							
SFK	**Sufi-Kurgan**	**3.42**	**24**	PN		**Pn**	**05 37 06.0**	**+1.2**
SFK							05 37 47.9	
SFK				pmax	pmax			
	comp=Z,140nm,0.4s							
SFK				smax	smax			
	comp=N,108nm,0.3s							
CHCP	**Chirah Chowk**	**3.47**	**158**	P		**Pn**	**05 37 07.8**	**+2.4**
THW	**Thamme Wali**	**4.09**	**179**	P		**Pn**	**05 37 14.3**	**+0.7**
SARP	**Sargodha**	**5.03**	**170**	P		**Pn**	**05 37 25.9**	**-0.2**
AML	**Almayashu**	**5.45**	**16**	P		**Pn**	**05 37 32.0**	**-0.2**
	SNR=924							
AML	**Almayashu**	**5.45**	**16**	*i* PN		**Pn**	**05 37 32.0**	**-0.2**
DLH	**Dalhousie**	**5.59**	**140**	*e*P		**Pn**	**05 37 36.0**	**+2.1**
DLH				*ex*		**Sn**	**05 38 37.0**	**0.0**
MNAS	**Manas**	**5.62**	**6**	↓P		**Pn**	**05 37 33.5**	**-0.7**
	comp=N,92nm,0.7s							
MNAS				↓S		**Sn**	**05 38 34.5**	**-3.1**
	comp=N,29nm,0.3s							
MNAS	**Manas**	**5.62**	**6**	PN		**Pn**	**05 37 33.5**	**-0.7**
MNAS				pmax	pmax			
	comp=Z,136nm,0.8s							
UCH	**Uchtor**	**5.75**	**21**	P		**Pn**	**05 37 36.2**	**-0.1**
	SNR=133							
UCH	**Uchtor**	**5.75**	**21**	*i* PN		**Pn**	**05 37 36.2**	**-0.1**
KZA	**Kyzart**	**5.86**	**27**	P		**Pn**	**05 37 37.6**	**-0.1**
	SNR=109							
KZA	**Kyzart**	**5.86**	**27**	*i* PN		**Pn**	**05 37 37.6**	**-0.1**
EKS2	**Erkin-Say**	**5.98**	**15**	P		**Pn**	**05 37 39.7**	**+0.6**
	SNR=61							
EKS2	**Erkin-Say**	**5.98**	**15**	*i* PN		**Pn**	**05 37 39.6**	**+0.6**
PONG	**Pong**	**6.05**	**143**	*e*S		**Sn**	**05 38 45.5**	**-2.4**
AAK	**Ala-Archa**	**6.12**	**20**	↑P		**Pn**	**05 37 41.4**	**+0.3**
	comp=Z,128nm,0.5s							
AAK				↓S		**Sn**	**05 38 50.1**	**+0.3**
	comp=Z,98nm,0.9s							
AAK	**Ala-Archa**	**6.12**	**20**	P		**Pn**	**05 37 41.5**	**+0.5**
	SNR=56							
AAK	**Ala-Archa**	**6.12**	**20**	P		**Pn**	**05 37 41.5**	**+0.5**
	comp=Z,42nm,0.3s,baz=190,slow=8.6,SNR=668							
AAK				S		**Sn**	**05 38 47.7**	**-2.1**
	comp=Z,3.0nm,0.3s,baz=332,slow=18,SNR=7.4							
KK31	**Karatay Array**	**6.27**	**352**	P		**Pn**	**05 37 41.6**	**-1.2**
	comp=Z,19nm,0.2s,baz=180,slow=14,SNR=1508							
KK31				S		**Sn**	**05 38 49.0**	**-4.1**
	comp=Z,12nm,0.3s,baz=181,slow=22,SNR=6.1							
KK31	**Karatay Array**	**6.27**	**352**	PN		**Pn**	**05 37 41.6**	**-1.2**
KK31				pmax	pmax			
	comp=Z,55nm,0.2s							
KBK	**Karagaybulak**	**6.28**	**23**	P		**Pn**	**05 37 43.7**	**+0.6**
	SNR=25							
KBK	**Karagaybulak**	**6.28**	**23**	*i* PN		**Pn**	**05 37 43.7**	**+0.6**
FRU	**Bishkek**	**6.34**	**20**	↓*i*PN		**Pn**	**05 37 44.0**	**+0.1**
FRU				pmax	pmax			
	comp=Z,200nm,1.4s							
ULHL	**Ulahol**	**6.39**	**32**	P		**Pn**	**05 37 44.7**	**0.0**
	SNR=24							
ULHL	**Ulahol**	**6.39**	**32**	*i* PN		**Pn**	**05 37 44.7**	**0.0**
CHMS	**Chumysh**	**6.53**	**20**	P		**Pn**	**05 37 46.7**	**+0.3**
	SNR=87							
CHMS	**Chumysh**	**6.53**	**20**	*i* PN		**Pn**	**05 37 46.7**	**+0.3**
USP	**Ospenovka**	**6.72**	**18**	P		**Pn**	**05 37 49.9**	**+1.0**
	SNR=14							
USP	**Ospenovka**	**6.72**	**18**	*i* PN		**Pn**	**05 37 49.9**	**+1.0**
BHK	**Bhakra**	**6.72**	**143**	*e*P		Pn	05 37 54.0	+5.0
BHK				*e*S		**Sn**	**05 39 03.2**	**-0.9**
TKM2	**Tokmak 2**	**6.72**	**25**	↓P		**Pn**	**05 37 49.0**	**-0.1**
	comp=Z,109nm,0.7s							
TKM2	**Tokmak 2**	**6.72**	**25**	P		**Pn**	**05 37 49.5**	**+0.3**
	SNR=33							
TKM2	**Tokmak 2**	**6.72**	**25**	*i* PN		**Pn**	**05 37 49.4**	**+0.3**
SDNR	**Sundarnagar**	**6.93**	**139**	*e*P		**Pn**	**05 37 53.0**	**+1.1**
SDNR				*e*S		**Sn**	**05 39 04.5**	**-4.8**
SMLA	**Simla**	**7.33**	**140**	*i* P		**Pn**	**05 37 57.6**	**+0.4**
SMLA				*i* S		**Sn**	**05 39 14.9**	**-3.9**
SMLA				AML	AML		05 39 18.6	
	comp=N,420nm,0.2s							
SMLA				AML	AML		05 39 19.1	
	comp=E,559nm,0.3s							
PDGK	**Podgornoye**	**8.77**	**40**	↓P		**Pn**	**05 38 16.1**	**-0.4**
	comp=E,21nm,0.8s							
NDI	**New Delhi**	**9.41**	**149**	*e*P		**Pn**	**05 38 24.0**	**-1.4**
NDI				*e*S		Sn	05 40 02.0	-7.4
KHET	**Khetri**	**9.45**	**157**	*e*P		**Pn**	**05 38 23.8**	**-2.1**
KHET				*e*S		Sn	05 40 01.4	-9.0
KHET				AML	AML		05 40 06.7	
	comp=E,406nm,0.3s							
KHET				AML	AML		05 40 06.9	
	comp=N,271nm,0.1s							
SONA	**Sohna**	**9.74**	**151**	*e*P		**Pn**	**05 38 27.9**	**-1.9**
SONA				*e*S		Sn	05 40 09.3	-8.0
SONA				AML	AML		05 40 13.5	
	comp=N,30nm,0.6s							
SONA				AML	AML		05 40 15.2	
	comp=E,83nm,0.2s							
AJM	**Ajmer**	**10.68**	**166**	*e*P		**Pn**	**05 38 41.0**	**-1.6**
GEYT	**Alibeck**	**10.85**	**280**	P		Pn	05 38 39.9	-4.9
	comp=E,2.3nm,0.3s,baz=121,slow=8.5,SNR=11							
GEYT				S		Sn	05 40 34.1	-10
	comp=E,7.4nm,0.3s,baz=359,slow=24,SNR=8.3							
AGRA	**Agra**	**10.99**	**149**	*e*P		**Pn**	**05 38 45.3**	**-1.4**
AGRA				*e*S		Sn	05 40 39.0	-8.6
AGRA				AML	AML		05 41 03.7	
	comp=E,76nm,0.4s							
AGRA				AML	AML		05 41 06.5	
	comp=N,84nm,0.9s							
MK31	**Makanchi Array**	**12.65**	**35**	P		**Pn**	**05 39 07.0**	**-1.4**
	comp=N,14nm,1.1s,baz=210,slow=12,SNR=64							
MK31	**Makanchi Array**	**12.65**	**35**	*i* P		**Pn**	**05 39 06.9**	**-1.4**
MK31				pmax	pmax			
	comp=Z,4.0nm,0.6s							
MKAR	**Makanchi Array**	**12.65**	**35**	P		**Pn**	**05 39 07.1**	**-1.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**12.65**	**35**	P		**Pn**	**05 39 07.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=222,slow=11,SNR=60							
PYUN	**Piuthan**	**12.94**	**129**	*e*P		**Pn**	**05 39 10.4**	**-2.1**
	comp=Z,115nm,0.4s							
PYUN				*e*S		Sn	05 41 23.5	-12
DANN	**Dangsing**	**13.26**	**127**	*e*P		**Pn**	**05 39 15.2**	**-1.5**
	comp=Z,16nm,0.2s							
KOLN	**Koldanda**	**13.55**	**129**	*e*P		**Pn**	**05 39 19.2**	**-1.3**
	comp=Z,34nm,0.5s							
GKN	**Gorkha**	**14.06**	**125**	*e*P		**Pn**	**05 39 25.1**	**-1.8**
	comp=Z,33nm,0.4s							
KURBB	**Kurchatov Arra**	**14.57**	**18**	↓P		**P**	**05 39 37.4**	**+1.2**
	comp=Z,11nm,0.7s							
KURBB	**Kurchatov Arra**	**14.57**	**18**	P		Pn	05 39 29.3	-3.8
	comp=Z,0.0nm,0.3s,baz=213,slow=12,SNR=7.4							
KKN	**Kakani**	**14.62**	**124**	*e*P		**Pn**	**05 39 31.9**	**-2.2**
	comp=Z,20nm,0.4s							
KURK	**Kurchatov**	**14.68**	**18**	↓P		**P**	**05 39 37.0**	**-0.4**
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**14.68**	**18**	P		Pn	05 39 29.3	-5.1
PKIN	**Phulchoki**	**14.84**	**125**	*e*P		**Pn**	**05 39 36.2**	**-0.7**
	comp=Z,18nm,0.3s							
PKI	**Pulchoki**	**14.85**	**125**	*e*P		**Pn**	**05 39 35.9**	**-1.2**
	comp=Z,33nm,0.5s							
GUN	**Gumba**	**14.94**	**123**	*e*P		**Pn**	**05 39 36.7**	**-1.6**
	comp=Z,75nm,0.6s							
AB31	**Akbulak array**	**15.02**	**329**	P		**Pn**	**05 39 35.0**	**-3.7**
	comp=Z,3.6nm,0.5s,baz=137,slow=14,SNR=131							
AB31				↓S		Sn	05 42 08.9	-16
	comp=Z,9.6nm,0.8s,baz=339,slow=16,SNR=6.2							
AB31	**Akbulak array**	**15.02**	**329**	P		**Pn**	**05 39 35.0**	**-3.7**
AB31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
JIRN	**Jiri**	**15.31**	**123**	*e*P		**Pn**	**05 39 41.4**	**-1.6**
	comp=Z,101nm,0.7s							
RAMN	**Ramite**	**16.06**	**124**	*e*P		**Pn**	**05 39 51.6**	**-0.4**
	comp=Z,37nm,0.6s							
BVA0	**Borovoye Array**	**16.16**	**357**	P		**Pn**	**05 39 50.4**	**-2.5**
	comp=Z,8.0nm,1.2s,baz=179,slow=11,SNR=25							
BVA0	**Borovoye Array**	**16.16**	**357**	*i* P		**Pn**	**05 39 50.3**	**-2.5**
BVA0				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BVAR	**Borovoye Array**	**16.16**	**357**	P		**Pn**	**05 39 50.4**	**-2.4**
BVAR				S		**S**	**05 42 54.2**	**-1.6**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR	**Borovoye Array**	**16.16**	**357**	P		**Pn**	**05 39 50.4**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=159,slow=13,SNR=20							
BVAR				S		**S**	**05 42 54.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=176,slow=26,SNR=3.0							
TAPN	**Taplejung**	**16.55**	**121**	*e*P		**P**	**05 39 58.9**	**+0.3**
	comp=Z,31nm,0.5s							
ODAN	**Odare**	**16.64**	**122**	*e*P		**P**	**05 39 59.8**	**+0.2**
	comp=Z,33nm,0.7s							
AKTO	**Aktyubinsk**	**16.73**	**328**	↑P		**Pn**	**05 39 57.4**	**-2.4**
	comp=Z,11nm,0.8s							
AKTO				↑S		Sn	05 42 52.9	-13
	comp=Z,8.7nm,0.8s							
AKTO	**Aktyubinsk**	**16.73**	**328**	P		**Pn**	**05 39 57.8**	**-2.0**
AKTO				S		Sn	05 42 50.4	-15
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.73**	**328**	P		**Pn**	**05 39 57.8**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=135,slow=12,SNR=32							
AKTO				S		Sn	05 42 50.4	-15
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=4.9							
ZALV	**Zalesovo Beam**	**19.33**	**24**	P		**P**	**05 40 28.3**	**-0.2**
ZALV				S		**S**	**05 43 59.3**	**-1.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZALV	**Zalesovo Beam**	**19.33**	**24**	P		**P**	**05 40 28.3**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=222,slow=10,SNR=34							
ZALV				S		**S**	**05 43 59.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=213,slow=18,SNR=2.1							
NVS	**Novosibirsk**	**19.62**	**20**	*e*P		**P**	**05 40 32.2**	**+0.6**
NVS				*e*S		**S**	**05 44 03.6**	**-2.7**
NVS				pmax	pmax			
	comp=Z,15nm,1.0s							
NVS				pmax	pmax			
	comp=N,10.0nm,1.1s							
NVS				pmax	pmax			
	comp=E,6.0nm,0.8s							
NVS				smax	smax			
	comp=N,10.0nm,1.4s							
SHL	**Shillong**	**20.58**	**118**	*ex*		Pn	05 40 44.5	-1.4
SVE	**Sverdlovsk**	**21.27**	**343**	*e*P		**P**	**05 40 48.6**	**-0.8**
GNI	**Garni**	**21.31**	**287**	*ce*P		**P**	**05 40 53.4**	**+3.3**
GNI				pmax	pmax			
	comp=Z,8.0nm,1.2s							
ARU	**Arti**	**21.45**	**340**	*d* iP		**P**	**05 40 51.5**	**+0.2**
ARU							05 41 18.7	
ARU				S		**S**	**05 44 41.3**	**-0.7**
ARU				SS		**SnSn**	**05 45 23.5**	**+6.5**
ARU				pmax	pmax			
	comp=Z,12nm,1.7s							
KIV	**Kislovodsk**	**23.11**	**297**	*e*P		**P**	**05 41 06.5**	**-1.8**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ZAK	**Zakamensk**	**26.31**	**49**	*e*P		**P**	**05 41 38.6**	**+1.4**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**27.65**	**56**	P		**P**	**05 41 51.5**	**+2.2**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**27.65**	**56**	P		**P**	**05 41 51.5**	**+2.2**
	comp=Z,2.3nm,0.8s,baz=262,slow=9.7,SNR=16							
ULN	**Ulaanbaatar**	**28.09**	**56**	↑*e*P		**P**	**05 41 55.1**	**+1.8**
BRTR	**Keskin Array B**	**29.85**	**287**	*ce*P		**P**	**05 42 10.1**	**+1.2**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**29.85**	**287**	P		**P**	**05 42 09.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=98,slow=9.2,SNR=11							
OBN	**Obninsk**	**30.01**	**319**	*e*P		**P**	**05 42 11.1**	**+1.2**
OBN				*e*			05 43 12.5	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.16**	**120**	*ce*P		**P**	**05 42 14.3**	**+2.6**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**30.16**	**120**	P		**P**	**05 42 13.3**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=301,slow=8.7,SNR=6.8							
AKASG	**Malin Array Be**	**33.14**	**308**	*ce*P		**P**	**05 42 38.2**	**+0.8**
AKASG	**Malin Array Be**	**33.14**	**308**	P		**P**	**05 42 37.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=81,slow=6.6,SNR=4.5							
AKASG				pP		**pP**	**05 43 03.8**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=80,slow=7.1,SNR=4.1							
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**05 43 14.7**	**+0.4**
FINES				*PP		**pP**	**05 43 42.2**	**+1.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**05 43 14.7**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=126,slow=10.0,SNR=21							
FINES				pP		**pP**	**05 43 42.2**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=108,slow=6.2,SNR=4.2							
ARCES	**ARCESS Array B**	**41.00**	**337**	P		**P**	**05 43 44.2**	**+0.6**
ARCES				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ARCES	**ARCESS Array B**	**41.00**	**337**	P		**P**	**05 43 44.1**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=116,slow=8.2,SNR=6.9							
GERES	**GERESS Array B**	**43.16**	**305**	P		**P**	**05 44 01.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=89,slow=12,SNR=3.0							
NB2	**NORSAR Subarra**	**44.40**	**323**	P		**P**	**05 44 10.7**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.40**	**323**	P		**P**	**05 44 11.1**	**-0.1**
NOA				*PP		**pP**	**05 44 38.8**	**+0.2**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**44.40**	**323**	P		**P**	**05 44 11.1**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=96,slow=7.8,SNR=15							
NOA				pP		**pP**	**05 44 38.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=96,slow=8.0,SNR=2.8							
TIXI	**Tiksi**	**45.20**	**22**	↑*i* P		**P**	**05 44 17.5**	**+0.2**
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.5s							
USRK	**Ussuriysk Ar.**	**45.49**	**61**	P		**P**	**05 44 22.1**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=283,slow=8.7,SNR=3.2							
DAVOX	**Davos/Dischmat**	**46.02**	**303**	P		**P**	**05 44 24.4**	**0.0**
DAVOX				pmax	pmax			
	comp=Z,2.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**46.02**	**303**	P		**P**	**05 44 24.4**	**0.0**
	comp=Z,2.2nm,0.7s,baz=90,slow=13,SNR=4.1							
SPITS	**Spitsbergen Ar**	**47.24**	**347**	P		**P**	**05 44 35.2**	**+2.0**
SPITS				pmax	pmax			
	comp=Z,8.0nm,1.0s							
SPITS	**Spitsbergen Ar**	**47.24**	**347**	P		**P**	**05 44 35.2**	**+2.0**
	comp=Z,7.5nm,1.0s,baz=111,slow=7.9,SNR=3.6							
SBF	**Sospel**	**48.35**	**299**	*e*P		**P**	**05 44 44.8**	**+2.5**
	comp=Z,71nm,1.1s							
LPG	**La Plagne**	**48.42**	**302**	*e*P		**P**	**05 44 43.6**	**+0.5**
LPG				*ep*P		**pP**	**05 45 12.1**	**+1.2**
LPL	**La Plagne**	**48.43**	**302**	*e*P		**P**	**05 44 43.9**	**+0.8**
	comp=Z,8.5nm,0.9s							
CABF	**La Chapelle**	**48.60**	**303**	*e*P		**P**	**05 44 45.6**	**+1.3**
MEZF	**Maizieres J'vi**	**48.87**	**306**	*e*P		**P**	**05 44 46.9**	**+0.8**
FRF	**La Foret Royal**	**48.98**	**299**	*e*P		**P**	**05 44 47.2**	**+0.1**
	comp=Z,8.5nm,0.7s							
BAIF	**Baives**	**49.09**	**308**	*e*P		**P**	**05 44 48.7**	**+0.9**
ORIF	**Oris-en-Rattie**	**49.16**	**301**	*e*P		**P**	**05 44 49.2**	**+0.7**
KEST	**Kesra**	**49.44**	**288**	P		**P**	**05 44 51.9**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=52,slow=12,SNR=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**267**	*e*PG	Pg	05 40 37.4	+0.7
OKC				*e*SG	Sg	05 40 40.2	+0.1
	comp=Z,5.4nm,0.4s						
KRLC	**Kraliky**	**1.16**	**282**	*e*PG	Pg	05 40 52.9	-1.2
KRLC				*e*SG	Sg	05 41 08.5	-0.8
DPC	**Dobruska-Polom**	**1.52**	**290**	*e*PG	Pn	05 40 59.8	-0.4
DPC				*e*SG	Sg	05 41 20.0	-0.7

IDC ***11*** *05:44:11.2±1.2,2°.05S×153°.25E, h0km, mb3.7/8, mb1 3.9/9,mb1mx3.7/33, mbtmp3.7/9, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=52.0km s-min=19.2km az=112.0*

ISCJB ***11*** *05:44:14.4±1.0,2°.1S±0°.1×153°.2E±0°.3, h33km, mb3.6/8, Error ellipse: s-maj=44.0km s-min=14.2km az=19.5*

ISC 11 05:44:16.3±1.2,2°.1S±0°.2×153°.3E±0°.4, h35km, n17, σ0.953/10, mb3.7/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**12.55**	**268**	LR	LR	05 51 01.0	
	comp=Z,145nm,20.4s,baz=94,slow=33						
CTA	**Charters Tower**	**19.13**	**200**	P	**Pn**	**05 48 37.5**	**-0.2**
	0.3nm,0.3s,baz=348,slow=9.3,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**24.37**	**32**	T	T	06 15 08.7	
	baz=220,slow=74,SNR=45						
H11S2	**WAKE ISLAND Hy**	**24.38**	**32**	T	T	06 15 08.9	
	baz=220,slow=74,SNR=20						
H11S1	**WAKE ISLAND Hy**	**24.39**	**32**	T	T	06 15 09.4	
	baz=220,slow=74,SNR=19						
H11N1	**WAKE ISLAND Hy**	**25.49**	**31**	T	T	06 16 33.6	
	baz=224,slow=76,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**25.50**	**31**	T	T	06 16 45.0	
	baz=224,slow=76,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**25.51**	**31**	T	T	06 16 45.6	
	baz=224,slow=76,SNR=16						
WRA	**Warramunga Arr**	**25.61**	**225**	P	**P**	**05 49 42.7**	**0.0**
	1.5nm,0.6s,baz=47,slow=9.4,SNR=42						
ASAR	**Alice Springs**	**28.46**	**220**	P	**P**	**05 50 08.5**	**+0.2**
	0.4nm,0.8s,baz=47,slow=8.3,SNR=4.2						
PETK	**Petropavlovsk-**	**55.15**	**3**	P	**P**	**05 53 45.0**	**-0.2**
	2.8nm,0.8s,baz=168,slow=8.0,SNR=6.3						
SONM	**Songino Array**	**64.33**	**327**	P	**P**	**05 54 49.0**	**+0.4**
	0.3nm,0.4s,baz=148,slow=6.3,SNR=2.7						
MKAR	**Makanchi Array**	**78.63**	**319**	P	**P**	**05 56 14.8**	**+0.1**
	0.3nm,0.6s,baz=97,slow=5.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**79.19**	**326**	P	**P**	**05 56 17.3**	**-0.3**
	0.5nm,0.4s,baz=115,slow=5.3,SNR=2.9						
ILAR	**Eielson Array**	**79.52**	**22**	P	**P**	**05 56 18.5**	**-0.7**
	0.4nm,1.0s,baz=244,slow=6.8,SNR=3.7						
YKA	**Yellowknife Ar**	**92.85**	**28**	P	**P**	**05 57 26.2**	**+1.0**
	0.2nm,0.7s,baz=268,slow=5.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.81**	**293**	PKPbc	**PKPbc**	**06 04 03.4**	**-0.4**
	0.1nm,0.4s,baz=49,slow=1.5,SNR=3.1						

IDC ***11*** *05:50:54.5±2.0, 1°.24N×96°.12E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/33, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=78.6km s-min=21.1km az=58.0*

ISCJB ***11*** *05:50:59.4±0.8, 1°.57N±0°.06×96°.47E±0°.07, h33km, mb3.6/6, Error ellipse: s-maj=10.6km s-min=8.0km az=2.1*

DJA ***11*** *05:51:01.4±0.8, 2°.1N±4°×97°.7E±1°.6, h16km±22km, M3.4/6, MLv3.4/6*

ISC 11 05:51:01.1±1.1, 1°.60N±0°.08×96°.44E±0°.10, h35km, n15, σ1.917/16, mb3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.81**	**352**	P	**Pn**	**05 51 15.5**	**-0.6**
SNSI				S	**Sn**	**05 51 24.7**	**-2.2**
TPTI		**1.81**	**24**	P	**Pn**	**05 51 29.3**	**-0.5**
TPTI				S	**Sn**	**05 51 50.5**	**-1.0**
KCSI	**Kotacane, Aceh**	**2.33**	**35**	P	**Pn**	**05 51 37.3**	**+0.4**
KCSI				S	**Sn**	**05 52 02.5**	**-1.9**
TSI	**Tuntungan**	**2.84**	**48**	P	**Pn**	**05 51 44.1**	**+0.1**
TSI				S	**Sn**	**05 52 17.3**	**+0.3**
MNSI	**Mandailing Nat**	**3.24**	**104**	P	**Pn**	**05 51 48.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.94**	**8**	P	**P**	**05 54 58.2**	**+1.1**
	0.2nm,0.3s,baz=181,slow=11,SNR=3.5						
H08S2	**Diego Garcia H**	**25.59**	**249**	T	T	06 22 51.1	
	baz=69,slow=74,SNR=138						
H08S3	**Diego Garcia H**	**25.59**	**249**	T	T	06 22 51.9	
	baz=69,slow=74,SNR=137						
H08S1	**Diego Carcia H**	**25.61**	**249**	T	T	06 22 51.8	
	baz=69,slow=74,SNR=174						
WRA	**Warramunga Ar**	**42.89**	**122**	P	**P**	**05 58 55.8**	**-0.8**
	0.9nm,0.8s,baz=302,slow=9.0,SNR=8.9						
ASAR	**Alice Springs**	**44.24**	**127**	P	**P**	**05 59 06.3**	**-1.1**
	0.2nm,0.5s,baz=305,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**46.68**	**347**	P	**P**	**05 59 27.7**	**+1.3**
	0.3nm,0.5s,baz=164,slow=8.6,SNR=5.3						
SONM	**Songino Array**	**46.86**	**9**	P	**P**	**05 59 29.2**	**+1.3**
	0.4nm,0.5s,baz=187,slow=8.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**53.05**	**351**	P	**P**	**06 00 15.4**	**+0.8**
	0.9nm,0.6s,baz=179,slow=8.2,SNR=4.6						
FINES	**FINESS Array B**	**79.30**	**333**	P	**P**	**06 03 02.4**	**-0.5**
	1.2nm,0.9s,baz=158,slow=5.6,SNR=4.6						

IDC ***11*** *05:54:51.0±1.4, 35°.19S×72°.47W, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.6/23, mbtmp3.5/7, ML3.4/3, Error ellipse: s-maj=38.6km s-min=29.1km az=91.0*

GUC ***11*** *05:54:56.0±0.6, 34°.75S×72°.49W, h15km±999km, ML3.7*

ISC 11 05:54:55.4±1.6, 34°.86S±0°.05×72°.51W±0°.08, h15km±12km, n17, σ0.981/25, mb3.7/4, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.90**	**127**	↑*i*P	**Pn**	**05 55 13.1**	**-0.3**
TALC				*i* S	**Sn**	**05 55 25.9**	**-0.3**
NICH	**Los Niches**	**1.06**	**98**	↓*i*P	**Pn**	**05 55 15.8**	**+0.1**
NICH				*i* S	**Sn**	**05 55 29.8**	**-0.4**
LNCH	**Linares**	**1.24**	**143**	↓*i*P	**Pg**	**05 55 18.8**	**-0.4**
LNCH				*i* S	**Sn**	**05 55 35.9**	**+1.4**
COCH	**Cobquecura**	**1.29**	**190**	↓*i*P	**Pg**	**05 55 19.7**	**-0.5**
COCH				*i* S	**Sg**	**05 55 38.2**	**+1.1**
TACH	**Talagante**	**1.77**	**48**	*e*P	**Pn**	**05 55 24.3**	**-1.2**
CHCH	**Chadas Angostu**	**1.79**	**60**	*e*P	**Pn**	**05 55 25.7**	**-0.1**
SJCH	**San Jose de Ma**	**2.16**	**56**	*e*P	**Pn**	**05 55 30.2**	**-0.6**
SJCH				*e*S	**Sn**	**05 55 57.1**	**-0.3**
SJCH				AML	AML	05 56 05.7	
	comp=N,731nm,0.3s						
CLCH	**Cerro Calan**	**2.19**	**49**	↓*i*P	**Pn**	**05 55 31.3**	**0.0**
CLCH				*i* S	**Sn**	**05 55 58.0**	**-0.2**
CLCH				AML	AML	05 56 09.6	
	comp=N,729nm,0.7s						
PEL	**Peldehue**	**2.29**	**42**	↑*i*P	**Pn**	**05 55 33.2**	**+0.6**
PEL				*e*S	**Sn**	**05 56 00.8**	**+0.3**
PEL				AML	AML	05 56 12.5	
	comp=N,745nm,0.2s						
YECH	**El Yeso**	**2.34**	**60**	*e*P	**Pn**	**05 55 34.6**	**+1.1**
YECH				*e*S	**Sn**	**05 56 03.7**	**+1.6**
CFAA	**Coronel Fontan**	**4.83**	**49**	Pn	**Pn**	**05 56 08.5**	**+0.9**
	comp=N,0.2nm,0.3s,baz=223,slow=14,SNR=67						
CFAA				Sn	**Sn**	**05 57 04.3**	**+1.0**
	comp=N,0.2nm,0.3s,baz=66,slow=20,SNR=2.0						
PLCA	**Paso Flores**	**6.07**	**166**	Pn	Pn	05 56 16.4	-8.2
	comp=N,0.5nm,0.3s,baz=265,slow=19,SNR=16						
PLCA				Lg	Lg	05 57 58.2	
	comp=N,0.2nm,0.3s,baz=195,slow=12,SNR=1.8						
LPAZ	**La Paz**	**18.91**	**13**	P	**Pn**	**05 59 17.2**	**+0.5**
	comp=N,0.1nm,0.3s,baz=198,slow=12,SNR=4.6						
SIV	**San Ignacio**	**21.41**	**32**	P	**P**	**05 59 41.8**	**-0.9**
	comp=N,2.5nm,0.8s,baz=203,slow=9.7,SNR=5.3						
TXAR	**Lajitas Array**	**70.29**	**331**	P	**P**	**06 06 08.5**	**+0.3**
	comp=N,0.3nm,0.5s,baz=155,slow=9.1,SNR=3.7						
PDAR	**Pinedale Array**	**84.35**	**334**	P	**P**	**06 07 26.5**	**-0.3**
	comp=N,0.2nm,0.9s,baz=132,slow=5.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.87**	**70**	P	**P**	**06 07 29.3**	**-0.5**
	comp=N,0.7nm,0.9s,baz=245,slow=4.3,SNR=3.4						

ISCJB ***11*** *05:57:09.8±0.5, 41°.58N±0°.04×142°.05E±0°.05, h68km±5km, mb3.5/6, Error ellipse: s-maj=7.4km s-min=4.8km az=140.3*

JMA ***11*** *05:57:10.3±0.1, 41°.57N×142°.06E, h64km±2km, M3.3*

JMA Felt I J1.

IDC ***11*** *05:57:21.6±8.4, 40°.83N×142°.21E, h212km±160km, mb3.1/6, mb1 3.1/7, mb1mx2.9/37, mbtmp3.5/7, Error ellipse: s-maj=184.8km s-min=22.9km az=171.0*

ISC 11 05:57:10.6±1.0, 41°.57N±0°.04×142°.05E±0°.04, h61km±10km, n21, σ0.955/30, mb3.7/6, 1C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.78**	**256**	P	**Pn**	**05 57 25.9**	**+0.1**
JOT				*e*S	**Sn**	**05 57 37.6**	**+0.6**
JKB	**Kayabe**	**0.83**	**293**	↓P	**Pn**	**05 57 26.2**	**-0.2**
JKB				*e*S	**Sn**	**05 57 37.8**	**-0.2**
JEM	**Erimo**	**0.94**	**61**	P	**Pn**	**05 57 27.3**	**-0.5**
JEM				*e*S	**Sn**	**05 57 40.0**	**-0.6**
JTM	**Tenmabayashi**	**1.08**	**224**	↓P	**Pn**	**05 57 30.1**	**+0.4**
JTM				*e*S	**Sn**	**05 57 44.3**	**+0.4**
JNB	**Noboribetsu**	**1.17**	**320**	P	**Pn**	**05 57 30.4**	**-0.5**
JNB				*e*S	**Sn**	**05 57 45.3**	**-0.7**
JBT2	**Biratori 2**	**1.23**	**11**	P	**Pn**	**05 57 31.7**	**+0.1**
JSR	**Shiriuchi**	**1.23**	**269**	P	**Pn**	**05 57 32.0**	**+0.4**
JANG	**Nango**	**1.27**	**199**	↑P	**Pn**	**05 57 32.0**	**-0.1**
JANG				*e*S	**Sn**	**05 57 47.7**	**-0.5**
JEW	**Eniwo**	**1.34**	**341**	↓P	**Pn**	**05 57 33.5**	**+0.3**
JEW				*e*S	**Sn**	**05 57 50.7**	**+0.6**
JYM2	**Yakumo 2**	**1.37**	**294**	↓P	**Pn**	**05 57 34.1**	**+0.6**
JCH	**Churui**	**1.43**	**43**	P	**Pn**	**05 57 34.8**	**+0.5**
JCH				*e*S	**Sn**	**05 57 53.3**	**+1.2**
JFR	**Furan**	**1.64**	**14**	P	**Pn**	**05 57 37.2**	**0.0**
JOSM	**Okushiri--Mats**	**1.99**	**286**	P	**Pn**	**05 57 41.8**	**-0.1**
JOSM				*e*S	**Sn**	**05 58 05.0**	**-0.8**
JAR	**Ashorobuto**	**2.14**	**36**	P	**Pn**	**05 57 44.3**	**+0.3**
JAR				*e*S	**Sn**	**05 58 08.9**	**-0.5**
MJAR	**Matsushiro Arr**	**5.84**	**212**	P	Pn	05 58 40.1	+5.4
	0.2nm,0.3s,baz=34,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**39.35**	**308**	P	**P**	**06 04 34.5**	**+0.8**
	0.5nm,0.4s,baz=68,slow=8.4,SNR=3.4						
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**	**06 04 58.0**	**+0.1**
	0.2nm,0.5s,baz=72,slow=9.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**43.72**	**304**	P	**P**	**06 05 09.5**	**+0.1**
	0.5nm,0.3s,baz=78,slow=8.9,SNR=7.0						
ILAR	**Eielson Array**	**45.44**	**35**	P	**P**	**06 05 23.6**	**+0.6**
	0.4nm,0.8s,baz=263,slow=5.1,SNR=4.9						
INK	**Inuvik**	**50.15**	**29**	P	**P**	**06 05 58.9**	**-0.4**
	0.8nm,0.8s,baz=316,slow=10,SNR=3.8						
FINES	**FINESS Array B**	**65.05**	**332**	P	**P**	**06 07 43.3**	**-0.7**
	1.6nm,0.8s,baz=48,slow=8.5,SNR=8.0						

BJI ***11*** *05:59:27.0, 5°.60S×101°.70E, h10km, mB5.2/53, mb5.3/78, Ms5.4/87, Ms7 5.2/78*

IDC ***11*** *05:59:27.5±0.4, 5°.48S×101°.79E, h0km, mb4.8/30, mb1 4.9/30, mb1mx4.8/33, mbtmp4.8/30, MS4.5/25, Ms1 4.5/25, ms1mx4.4/37, Error ellipse: s-maj=13.6km s-min=10.5km az=43.0*

KLM ***11*** *05:59:28.7, 5°.61S×101°.52E, h11km, mb5.3, ML5.3, MS6.2*

ISCJB ***11*** *05:59:28.8±0.7, 5°.56S±0°.03×101°.72E±0°.02, h20km±4km, mb5.2/106, MS4.6/45, Error ellipse: s-maj=4.8km s-min=2.8km az=31.6*

GCMT ***11*** *05:59:29.2±0.2, 5°.66S×101°.64E, h18km±1km, MW5.2/102, Moment Tensor Solution. s64,c87; s102,c172; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=1.96±.18; Mθθ=3.03±.16; Mϕϕ 4.99±.18; Mrθ 1.06±.39; Mθϕ=6.99±.15; Mϕr=2.92±.45; Best double couple: M=8.48800×10^16 NP1:ϕ=195.00000°, δ=85.00000°, λ=15.00000°. NP2:ϕ=104.00000°, δ=75.00000°, λ=174.00000°. Principal axes: T 9.8330, Plg15.0000°, Azm260.0000°; N -2.6890, Plg74.0000°, Azm214.0000°; P -7.1430, Plg7.0000°, Azm329.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***11*** *05:59:29.6±1.8, 5°.56S×101°.73E, h14km±10km, mb5.5/26, MW5.2 Error ellipse: s-maj=6.1km s-min=4.2km az=49.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^16 Nm; Mrr=4.26; Mθθ=6.02; Mϕϕ 1.76; Mrθ=0.88; Mθϕ=7.16; Mϕr=0.03; Best double couple: M=9.00000×10^16 NP1: ϕ=15.00000°, δ=78.00000°, λ=8.00000°. NP2:ϕ=283.00000°, δ=82.00000°, λ=168.00000°. Principal axes: T 6.1000, Plg14.0000°, Azm238.0000°; N 4.2000, Plg75.0000°, Azm70.0000°; P -10.3000, Plg2.0000°, Azm329.0000°;*

NEIC Felt at Bengkulu.

DJA ***11*** *05:59:31.6±0.6, 6°.5±2°×101°.2E±°, h22km±5km, M5.5/93, mb5.7/93, mB5.9/72, MLv5.9/15, Mw(mB)5.5/72, Mwp6.1/1*

MOS ***11*** *05:59:32.1±1.1, 5°.21S×101°.93E, h33km, mb5.4/38, MS4.8/13, Error ellipse: s-maj=8.5km s-min=5.4km az=115.1*

ISC 11 05:59:30.1±0.3, 5°.57S±0°.03×101°.72E±0°.03, h18km±1km, h18km:pP-P, n907, σ1.931/926, mb5.3/106, MS4.7/46, 246C-210D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.72**	**46**	P	**Pb**	**06 00 00.5**	**-0.6**
MNAI				S	**Sg**	**06 00 24.4**	**-1.2**
MNAI	**Manna**	**1.72**	**46**	*e*Pn	**Pn**	**06 00 00.0**	**+0.9**
MNAI				*e*Sn	**Sb**	**06 00 23.8**	**+1.4**
LWLI	**Liwa**	**2.39**	**77**	P	**Pn**	**06 00 10.3**	**+1.8**
MASI	**Maura Aman, Be**	**2.47**	**12**	P	**Pn**	**06 00 10.4**	**+0.9**
LHSI	**Lahat**	**2.49**	**46**	P	**Pn**	**06 00 12.1**	**+2.3**
LHSI				S	**Sb**	**06 00 44.8**	**+0.1**
MDSI	**Maura Dua**	**2.67**	**66**	P	**Pn**	**06 00 14.3**	**+2.1**
MDSI				S	**Sn**	**06 00 45.9**	**+1.8**
KASI	**Kota Agung**	**2.76**	**89**	P	**Pn**	**06 00 15.0**	**+1.5**
KASI				S	**Sn**	**06 00 45.4**	**-0.9**
KLI	**Kotabumi**	**3.20**	**77**	P	**Pn**	**06 00 21.6**	**+2.1**
BLSI	**Bandar Lampung**	**3.51**	**87**	P	**Pn**	**06 00 25.6**	**+1.8**
CGJI	**Cibinong**	**4.08**	**105**	P	**Pn**	**06 00 32.0**	**+1.0**
JMBI	**JAMBI**	**4.35**	**26**	P	**Pn**	**06 00 36.5**	**+1.1**
SBJI	**Serang**	**4.42**	**97**	P	**Pn**	**06 00 38.0**	**+1.7**
SDSI	**Sungai Dareh**	**4.62**	**356**	P	**Pn**	**06 00 39.7**	**+0.7**
PDSI	**Padang**	**4.79**	**345**	P	**Pn**	**06 00 40.8**	**-0.7**
TNG	**Tangerang**	**4.93**	**97**	P	**Pn**	**06 00 44.7**	**+1.3**
TNG				P	**Pn**	**06 00 45.4**	**+2.0**
SKJI	**Sukabumi**	**5.01**	**107**	P	**Pn**	**06 00 46.1**	**+1.7**
CBJI	**Citeko**	**5.17**	**100**	P	Pn	06 00 51.6	+5.0
RGRI	**Rengat**	**5.22**	**7**	P	**Pn**	**06 00 48.9**	**+1.6**
CNJI	**Cibinong**	**5.64**	**108**	P	**Pn**	**06 00 53.1**	**0.0**
DSRI	**Dabo**	**5.80**	**29**	P	**Pn**	**06 00 56.5**	**+1.2**
	1µm,1.2s,14µm5.0nm						
BKNI	**Bangkinang**	**5.90**	**353**	P	**Pn**	**06 00 56.2**	**-0.4**
	906nm,0.9s,9µm5.5nm						
BKNI	**Bangkinang**	**5.90**	**353**	*e*Pn	**Pn**	**06 00 56.1**	**-0.4**
LEM	**Lembang**	**5.99**	**102**	P	**Pn**	**06 01 00.1**	**+2.0**
	2µm,0.9s,24µm14nm						
LEM	**Lembang**	**5.99**	**102**	Pn	**Pn**	**06 01 00.9**	**+2.9**
	136nm,0.3s,baz=219,slow=5.9,SNR=62						
LEM				Sn	**Sn**	**06 02 05.9**	**-0.5**
	80nm,0.3s,baz=16,slow=13,SNR=7.8						
LEM				LR	LR	06 03 31.9	
	comp=Z,5µm,19.6s,baz=291,slow=41						
XMIS	**Christmas Isla**	**6.24**	**142**	*e*Pn	Pn	06 00 55.4	-5.9
XMIS				*e*Sn	Sn	06 02 01.3	-11
CISI	**Cisompet, Garu**	**6.37**	**108**	P	**Pn**	**06 01 03.0**	**-0.1**
CISI	**Cisompet, Garu**	**6.37**	**108**	*e*Pn	**Pn**	**06 01 02.4**	**-0.7**
	2µm,0.6s						
CISI				*e*Sn	Sn	06 02 07.0	-8.4
TPI	**Tanjungpandan**	**6.54**	**65**	P	**Pn**	**06 01 06.9**	**+1.4**
	218nm,0.7s,2µm2.0nm						
JCJI	**Jatiwangi**	**6.57**	**98**	P	**Pn**	**06 01 08.5**	**+2.6**
	794nm,0.8s,12µm6.2nm						
MNSI	**Mandailing Nat**	**6.68**	**341**	P	**Pn**	**06 01 06.1**	**-1.2**
	472nm,0.9s,6µm1.8nm						
TPRI	**Tanjung Pinang**	**7.03**	**24**	P	**Pn**	**06 01 13.7**	**+1.6**
	408nm,1.0s,8µm2.1nm						
CMJI	**Cimerak**	**7.03**	**109**	P	**Pn**	**06 01 12.7**	**+0.5**
KPJI	**Karang Pucung**	**7.37**	**104**	P	**Pn**	**06 01 19.1**	**+2.2**
	669nm,0.7s,7µm2.7nm						
MYKOM	**Kota Tinggi**	**7.61**	**16**	↓P	**Pn**	**06 01 21.7**	**+1.5**
KGM	**Kluang**	**7.70**	**12**	↓P	**Pn**	**06 01 23.1**	**+1.7**
COCO	**West Island**	**8.16**	**216**	Pn	**Pn**	**06 01 25.7**	**-2.0**
	7µm,1.1s,SNR=13						
COCO	**West Island**	**8.16**	**216**	*e*P	**Pn**	**06 01 25.0**	**-2.7**
COCO	**West Island**	**8.16**	**216**	*e*Pn	**Pn**	**06 01 25.0**	**-2.7**
FRIM	**Kepong**	**8.75**	**359**	↓P	**Pn**	**06 01 35.0**	**-0.8**
UGM	**Wanagama**	**9.04**	**105**	P	**Pn**	**06 01 40.3**	**+0.4**
UGM	**Wanagama**	**9.04**	**105**	*e*Pn	**Pn**	**06 01 39.6**	**-0.3**
WOJI	**Wonogiri, Jawa**	**9.41**	**104**	P	**Pn**	**06 01 46.1**	**+1.2**
TSI	**Tuntungan**	**9.55**	**341**	P	**Pn**	**06 01 46.9**	**+0.2**
	237nm,1.1s,5µm						
SNSI	**Sinabang, Aceh**	**9.59**	**326**	P	**Pn**	**06 01 47.3**	**0.0**
PCJI	**Pacitan**	**9.74**	**106**	P	**Pn**	**06 01 49.8**	**+0.4**
KCSI	**Kotacane, Aceh**	**9.86**	**336**	P	**Pn**	**06 01 50.3**	**-0.7**
	93nm,0.8s,2µm						
TPTI		**9.88**	**333**	P	**Pn**	**06 01 51.9**	**+0.6**
	175nm,0.6s						
IPM	**Ipoh**	**10.01**	**356**	↓P	**Pn**	**06 01 53.6**	**+0.5**
IPM	**Ipoh**	**10.01**	**356**	*e*Pn	**Pn**	**06 01 54.8**	**+1.7**
TBJI	**Tambak Boyo**	**10.14**	**98**	P	**Pn**	**06 01 57.1**	**+2.2**
	605nm,0.9s,5µm						
PWJI	**Pagerwojo**	**10.30**	**104**	P	**Pn**	**06 01 57.2**	**+0.1**
	664nm,0.7s,5µm						
PBKI	**Pangkalan Bun**	**10.32**	**74**	P	**Pn**	**06 01 59.9**	**+2.5**
	849nm,1.0s,8µm						
GRJI	**Gresik**	**10.78**	**98**	P	**Pn**	**06 02 06.2**	**+2.6**
	662nm,0.8s,5µm						
KULM	**Kulim**	**10.84**	**354**	↓P	**Pn**	**06 02 05.4**	**+0.9**
KULM	**Kulim**	**10.84**	**354**	*e*Pn	**Pn**	**06 02 03.4**	**-1.1**
KTGM	**Kuala Trenggan**	**10.92**	**7**	↓P	**Pn**	**06 02 07.0**	**+1.4**
KSM	**Kuching**	**11.07**	**51**	↓P	**Pn**	**06 02 10.4**	**+2.8**
KSM	**Kuching**	**11.07**	**51**	*e*Pn	**Pn**	**06 02 08.8**	**+1.2**
STKI	**Sintang**	**11.23**	**60**	P	Pn	06 02 13.4	+3.5
	587nm,1.1s,16µm						
LHMI	**Lhok Sumawe**	**11.74**	**336**	P	**Pn**	**06 02 16.9**	**+0.1**
	153nm,1.0s,3µm						
LHMI	**Lhok Sumawe**	**11.74**	**336**	*e*Pn	**Pn**	**06 02 16.6**	**-0.1**
GMJI	**Gumukmas**	**11.94**	**104**	P	**Pn**	**06 02 21.5**	**+2.0**
	188nm,0.7s,2µm						
BLJI	**Banyuglugur**	**11.99**	**101**	P	**Pn**	**06 02 22.5**	**+2.3**
	313nm,0.9s,3µm						
KMMI	**Kalianget**	**12.26**	**98**	P	**Pn**	**06 02 25.3**	**+1.4**
	409nm,1.1s,4µm						
ABJI	**Asem Bagus**	**12.62**	**101**	P	**Pn**	**06 02 30.5**	**+1.6**
	703nm,0.9s,6µm						
JAGI	**Jajag, Banyuwa**	**12.67**	**104**	P	**Pn**	**06 02 31.2**	**+1.7**
	382nm,0.7s,4µm						
JAGI	**Jajag, Banyuwa**	**12.67**	**104**	*e*Pn	**Pn**	**06 02 29.7**	**+0.2**
	249nm,0.6s						
SKLT	**Songkhla**	**12.70**	**355**	P	**Pn**	**06 02 28.2**	**-1.8**
	98nm,1.2s,1µm						
SBUM	**Sibu**	**13.17**	**53**	*e*Pn	Pn	06 02 40.0	+3.7
BBKI	**Banjar Baru**	**13.24**	**81**	P	**Pn**	**06 02 39.7**	**+2.3**
	381nm,1.1s,5µm						
TRTT	**Trang**	**13.47**	**351**	P	**Pn**	**06 02 37.7**	**-2.8**
	38nm,0.9s,687nm						
SRBI	**Singaraja**	**13.62**	**101**	P	**Pn**	**06 02 43.5**	**+0.9**
	328nm,0.8s,3µm						
IGBI	**Denpasar**	**13.70**	**104**	P	**Pn**	**06 02 43.9**	**+0.3**
	606nm,0.7s,7µm						
DNP	**Denpasar**	**13.73**	**104**	P	**Pn**	**06 02 44.9**	**+0.9**
	630nm,0.8s,35µm						
MTKI	**Muara Teweh, K**	**13.93**	**71**	P	**Pn**	**06 02 48.7**	**+2.0**
	477nm,1.1s,7µm						
BTM	**Bintulu**	**14.30**	**53**	↑P	**Pn**	**06 02 55.1**	**+3.2**
KBKI	**Kotabaru**	**14.57**	**82**	P	**Pn**	**06 02 57.3**	**+1.7**
	208nm,1.0s,3µm						
SURT	**Suratani**	**14.72**	**349**	P	**P**	**06 03 01.2**	**-2.4**
BKB	**Balikpapan**	**15.74**	**75**	P	**P**	**06 03 17.9**	**+3.0**
KAPI	**Kappang**	**17.96**	**89**	Pn	**Pn**	**06 03 38.6**	**-0.5**
	224nm,0.7s,SNR=11						
KAPI	**Kappang**	**17.96**	**89**	P	**Pn**	**06 03 38.0**	**-1.0**
	SNR=29						
KAPI	**Kappang**	**17.96**	**89**	*e*Pn	**Pn**	**06 03 37.5**	**-1.5**
	18nm,0.9s						
WBSI	**Waikabubak, Su**	**17.97**	**104**	P	**P**	**06 03 40.1**	**+0.4**
	411nm,0.6s						
SPSI	**Sidrap Palu**	**18.05**	**86**	P	**Pn**	**06 03 39.4**	**-0.8**
	108nm,1.4s,2µm						
TTSI	**Tana Toraja**	**18.22**	**83**	P	**P**	**06 03 43.2**	**+0.8**
	484nm,1.1s,5µm						
BKSI	**Bulukumba**	**18.32**	**90**	P	**Pn**	**06 03 42.4**	**-1.1**
	273nm,1.1s,2µm						
BNSI	**Bone**	**18.35**	**87**	P	**P**	**06 03 43.9**	**+0.1**
	545nm,1.3s,6µm						
PCI	**Palu**	**18.66**	**76**	P	**Pn**	**06 03 49.2**	**+1.5**
	1µm,1.5s,12µm						
BSSI	**Bau Bau, Buton**	**18.68**	**93**	P	Pn	06 03 57.9	+10
TSM	**Tawau**	**18.87**	**59**	↑P

ADKI				*e*			06 05 51.1		
ADKI				*eS*	**S**		**06 10 41.0**	**+1.4**	
KMI	**Kunming**	**30.52**	**2**	P	**P**		**06 05 44.4**	**+1.7**	
KMI				pP	pP		06 05 54.0	+5.6	
KMI				S	**S**		**06 10 44.8**	**+1.0**	
KMI				SS	**ScP**		**06 12 27.9**	**+4.3**	
KMI				PMZ					
	comp=Z,50nm,1.0s								
KMI				PMZ					
	comp=Z,220nm,3.1s								
KMI				LN					
	comp=Z,2μm,15.8s								
KMI				LE					
	comp=Z,4μm,16.2s								
KMI				LZ					
	comp=Z,2μm,14.7s								
FAKI	**Fak Fak**	**30.55**	**86**	P	**P**		**06 05 41.4**	**-1.5**	
	comp=Z,106nm,1.0s,comp=Z,1μm								
FAKI	**Fak Fak**	**30.55**	**86**	*eP*	**P**		**06 05 41.5**	**-1.5**	
	comp=Z,94nm,0.9s								
H08N1	**Diego Carcia H**	**30.55**	**267**	T	T		06 37 57.6		
	baz=157,slow=77,SNR=40								
H08N2	**Diego Garcia H**	**30.57**	**267**	T	T		06 38 07.8		
	baz=157,slow=77,SNR=34								
H08N3	**Diego Garcia H**	**30.57**	**267**	T	T		06 38 09.2		
	baz=157,slow=77,SNR=35								
GZH	**Guangzhou**	**30.66**	**21**	P	P		06 05 49.9	+6.2	
GZH				PP	**PP**		**06 06 56.2**	**+3.0**	
GZH				S	S		06 10 57.2	+12	
GZH				LR	LR				
	comp=N,4μm,14.6s								
GZH				LR	LR				
	comp=E,5μm,14.4s								
NWAO	**Narrogin (SRO)**	**30.82**	**154**	P	**P**		**06 05 45.1**	**0.0**	
	comp=E,21nm,1.0s,baz=340,slow=9.6,SNR=7.2								
NWAO				LR	LR		06 17 19.7		
	comp=E,6.6nm,20.5s,baz=332,slow=35								
NJS	**Nagarjunasagar**	**31.22**	**315**	*eP*	**P**		**06 05 48.7**	**0.0**	
NJS				*e*			06 05 58.9		
NJS				*e*			06 10 51.4		
NJS				*eS*	**S**		**06 10 55.4**	**+1.0**	
H01W3	**Cape Leeuwin H**	**31.34**	**160**	T	T		06 38 50.6		
	baz=338,slow=76,SNR=115								
H01W2	**Cape Leeuwin H**	**31.36**	**160**	T	T		06 38 56.1		
	baz=338,slow=76,SNR=94								
H01W1	**Cape Leeuwin H**	**31.36**	**160**	T	T		06 39 03.0		
	baz=338,slow=76,SNR=105								
GYA	**Guiyang**	**32.20**	**8⇑**	*iP*	**P**		**06 05 56.8**	**-0.5**	
GYA				PP	**PnPn**		**06 07 06.2**	**+2.6**	
GYA				PcP	**PcP**		**06 08 47.3**	**+1.3**	
GYA				S	**S**		**06 11 13.2**	**+3.5**	
GYA				ScP	**ScP**		**06 12 30.0**	**+1.0**	
GYA				SS	**SnSn**		**06 13 08.6**	**+7.4**	
GYA				PMZ					
	comp=E,50nm,0.9s								
GYA				PMZ					
	comp=E,160nm,4.8s								
GYA				LN					
	comp=E,5μm,15.4s								
GYA				LE					
	comp=E,3μm,14.2s								
GYA				LZ					
	comp=E,6μm,14.7s								
HYB	**Hyderabad**	**32.34**	**315**	*i* P	**P**		**06 05 58.0**	**-0.6**	
HYBB	**Hyderabad (bro**	**32.34**	**315**	*eP*	**P**		**06 05 58.9**	**+0.3**	
HYBB				*eS*	**S**		**06 11 14.3**	**+2.4**	
SHL	**Shillong**	**32.39**	**343**	*ex*	**P**		**06 05 59.0**	**-0.2**	
SHL				*ex*	**S**		**06 11 11.0**	**-1.9**	
RPR	**Rampur**	**32.83**	**318**	*eP*	**P**		**06 06 03.7**	**+0.9**	
RPR				*eS*	**S**		**06 11 22.3**	**+2.8**	
TPUB	**Ta-pu**	**34.12**	**32**	*eP*	**P**		**06 06 14.5**	**+0.4**	
	comp=E,44nm,0.8s								
QZH	**Quanzhou**	**34.49**	**28**	P	**P**		**06 06 16.7**	**-0.5**	
QZH				S	**S**		**06 11 45.7**	**+0.7**	
QZH				LN					
	comp=E,3μm,21.3s								
QZH				LE					
	comp=E,4μm,15.0s								
QZH				LZ					
	comp=E,2μm,15.4s								
YULB	**Yu-li**	**34.55**	**33**	*eP*	**P**		**06 06 18.1**	**+0.2**	
	comp=E,29nm,0.8s								
SSLB	**Suanglung**	**34.69**	**32**	*eP*	**P**		**06 06 18.8**	**-0.2**	
	comp=E,30nm,0.9s								
WRA	**Warramunga Arr**	**34.77**	**117**	P	**P**		**06 06 20.1**	**+0.3**	
	comp=E,107nm,0.8s,baz=290,slow=10,SNR=417								
WRA				S	**S**		**06 11 49.6**	**-0.2**	
	comp=E,6.5nm,1.1s,baz=290,slow=16,SNR=6.1								
WRA				LR	LR		06 22 42.5		
	comp=E,679nm,19.6s,baz=290,slow=40								
WRAB	**Tennant Creek**	**34.78**	**117**	P	**P**		**06 06 20.9**	**+1.0**	
	comp=E,969nm,0.8s,SNR=80								
WRAB	**Tennant Creek**	**34.78**	**117**	*diP*	**P**		**06 06 20.4**	**+0.5**	
WRAB				pmax	pmax				
	comp=Z,349nm,0.8s								
WRAB	**Tennant Creek**	**34.78**	**117**	*eP*	**P**		**06 06 20.3**	**+0.4**	
	comp=Z,141nm,0.8s								
WRAB				LR	LR				
	comp=Z,925nm,20.0s								
ODAN	**Odare**	**35.10**	**337**	*eP*	**P**		**06 06 24.0**	**+1.2**	
	comp=Z,463nm,0.9s								
FORT	**Forrest**	**35.23**	**139**	*eP*	**P**		**06 06 23.5**	**-0.1**	
	comp=Z,38nm,0.7s								
NACB	**Ninganchiao**	**35.34**	**32**	*eP*	**P**		**06 06 24.8**	**+0.1**	
	comp=Z,66nm,1.0s								
TAPN	**Taplejung**	**35.42**	**338**	*eP*	**P**		**06 06 26.8**	**+1.2**	
	comp=Z,946nm,0.9s								
RAMN	**Ramite**	**35.49**	**336**	*eP*	**P**		**06 06 27.5**	**+1.4**	
	comp=Z,362nm,1.0s								
YHNB	**Yeheng**	**35.63**	**32**	*eP*	**P**		**06 06 26.5**	**-0.6**	
	comp=Z,52nm,0.9s								
ASAR	**Alice Springs**	**35.82**	**123**	P	**P**		**06 06 29.4**	**+0.5**	
	comp=Z,57nm,0.8s,baz=299,slow=7.9,SNR=360								
ASAR				S	**S**		**06 12 03.5**	**-2.3**	
	comp=Z,8.2nm,1.1s,baz=291,slow=16,SNR=7.8								
ASAR				LR	LR		06 23 04.3		
	comp=Z,1μm,20.0s,baz=298,slow=40								
JIRN	**Jiri**	**36.28**	**336**	*eP*	**P**		**06 06 34.2**	**+1.1**	
	comp=Z,523nm,0.9s								
CD2	**Chengdu**	**36.33**	**3**	⇑P	**P**		**06 06 32.8**	**-0.2**	
CD2				pP	**pP**		**06 06 37.3**	**-1.4**	
CD2				sP	**sP**		**06 06 39.9**	**-1.1**	
CD2				PP	**PP**		**06 07 57.1**	**+1.2**	
CD2				PcP	**PcP**		**06 08 56.6**	**-1.1**	
CD2				S	**S**		**06 12 11.0**	**-2.3**	
CD2				sS	**sS**		**06 12 21.7**	**-0.9**	
CD2				PcS	**PcS**		**06 12 43.3**	**-2.2**	
CD2				SS	**SnSn**		**06 14 40.6**	**-0.6**	
CD2				PMZ					
	comp=Z,140nm,0.7s								
CD2				PMZ					
	comp=Z,260nm,4.2s								
CD2				LN					
	comp=Z,3μm,14.5s								
CD2				LE					
	comp=Z,5μm,23.7s								
CD2				LZ					
	comp=Z,4μm,14.1s								
LSA	**Lhasa**	**36.51**	**344**	P	**P**		**06 06 35.7**	**+0.6**	
LSA				LN					
	comp=Z,390nm,24.8s								
LSA				LE					
	comp=Z,1μm,28.0s								
LSA				LZ					
	comp=Z,900nm,23.7s								
PKI	**Pulchoki**	**36.52**	**335**	*eP*	**P**		**06 06 36.1**	**+1.0**	
	comp=Z,212nm,1.3s								
PKIN	**Phulchoki**	**36.53**	**335**	*eP*	**P**		**06 06 36.7**	**+1.6**	
	comp=Z,116nm,1.2s								
GUN	**Gumba**	**36.63**	**336**	*eP*	**P**		**06 06 37.2**	**+1.2**	
	comp=Z,255nm,0.7s								
KKN	**Kakani**	**36.77**	**335**	*eP*	**P**		**06 06 37.9**	**+0.8**	
	comp=Z,273nm,1.0s								
SMPI	**Sarmi**	**37.07**	**86**	P	**P**		**06 06 40.1**	**+0.5**	
	comp=Z,70nm,1.1s								
GKN	**Gorkha**	**37.23**	**335**	*eP*	**P**		**06 06 42.0**	**+1.1**	
	comp=Z,548nm,1.1s								
KOLN	**Koldanda**	**37.48**	**333**	*eP*	**P**		**06 06 44.2**	**+1.1**	
	comp=Z,167nm,0.7s								
WHN	**Wuhan**	**37.89**	**18**	⇑P	**P**		**06 06 46.7**	**+0.5**	
WHN				LN					
	comp=Z,3μm,16.2s								
WHN				LE					
	comp=Z,11μm,19.4s								
WHN				LZ					
	comp=Z,5μm,14.8s								
DANN	**Dangsing**	**37.91**	**334**	*eP*	**P**		**06 06 47.8**	**+1.0**	
	comp=Z,369nm,1.1s								
PYUN	**Piuthan**	**38.04**	**333**	*eP*	**P**		**06 06 49.0**	**+1.2**	
	comp=Z,250nm,0.6s								
GENI	**Genyem**	**38.45**	**87**	P	**P**		**06 06 50.9**	**-0.4**	
	comp=Z,82nm,0.8s,comp=Z,5μm								
JAY	**Jayapura**	**38.99**	**87**	P	**P**		**06 06 54.8**	**-1.2**	
	comp=Z,14nm,0.8s,baz=90,slow=19,SNR=3.8								
XAN	**Xi'an**	**39.98**	**9**	P	**P**		**06 07 03.4**	**-0.4**	
XAN				sP	**sP**		**06 07 10.9**	**-0.8**	
XAN				PP	**PnPn**		**06 08 39.4**	**+0.1**	
XAN				S	**S**		**06 13 06.9**	**-1.6**	
XAN				SS	SS		06 15 54.6	-11	
XAN				PMZ					
	comp=Z,46nm,1.0s								
XAN				PMZ					
	comp=Z,40nm,5.9s								
XAN				LN					
	comp=Z,2μm,14.2s								
XAN				LE					
	comp=Z,660nm,12.3s								
XAN				LZ					
	comp=Z,920nm,13.5s								
NJ2	**Nanjing**	**40.82**	**22**	*eP*	**P**		**06 07 11.6**	**+0.9**	
NJ2				pP	**pP**		**06 07 13.5**	**-2.9**	
NJ2				sP	**sP**		**06 07 15.0**	**-3.6**	
NJ2				PP	**PP**		**06 08 46.5**	**+1.5**	
NJ2				S	**S**		**06 13 20.0**	**-0.9**	
NJ2				PMZ					
	comp=Z,130nm,1.0s								
NJ2				PMZ					
	comp=Z,220nm,9.0s								
NJ2				LN					
	comp=Z,2μm,14.9s								
NJ2				LE					
	comp=Z,5μm,13.4s								
NJ2				LZ					
	comp=Z,6μm,11.9s								
SSE	**Sheshan**	**40.93**	**26**	⇑P	**P**		**06 07 12.5**	**+0.9**	
SSE				pP	**pP**		**06 07 16.0**	**-1.3**	
SSE				S	**S**		**06 13 23.3**	**+0.6**	
SSE				PMZ					
	comp=Z,120nm,0.8s								
SSE				PMZ					
	comp=Z,57nm,3.5s								
SSE				LN					
	comp=Z,2μm,15.2s								
SSE				LE					
	comp=Z,410nm,15.1s								
SSE				LZ					
	comp=Z,2μm,13.4s								
JOW	**Kunigami**	**41.21**	**37**	P	**P**		**06 07 12.5**	**-1.5**	
	comp=Z,4.8nm,0.8s,baz=250,slow=8.6,SNR=14								
JOW	**Kunigami**	**41.21**	**37**	*eP*	**P**		**06 07 14.3**	**+0.2**	
NDI	**New Delhi**	**41.43**	**327**	*ex*	**P**		**06 07 16.0**	**+0.2**	
NDI				*ex*	x		06 13 40.0		
COEN	**Coen**	**41.63**	**105**	*eP*	**P**		**06 07 17.9**	**+0.2**	
	comp=Z,81nm,0.9s								
TIA	**Tai'an**	**44.00**	**18**	⇑P	**P**		**06 07 35.9**	**-0.6**	
TIA				PMZ					
	comp=Z,30nm,1.1s								
TIA				LN					
	comp=Z,2μm,17.8s								
TIA				LE					
	comp=Z,4μm,17.8s								
TIA				LZ					
	comp=Z,640nm,21.4s								
TIY	**Taiyuan**	**44.20**	**12**	*eP*	**P**		**06 07 37.9**	**-0.3**	
TIY				PP	**PcP**		**06 09 23.7**	**+0.9**	
TIY				S	**S**		**06 14 09.7**	**-1.1**	
TIY				ScS	**ScS**		**06 17 34.8**	**-1.4**	
TIY				PMZ					
	comp=Z,59nm,0.9s								
TIY				PMZ					
	comp=Z,250nm,6.4s								
TIY				LN					
	comp=Z,1μm,11.9s								
TIY				LE					
	comp=Z,350nm,11.3s								
TIY				LZ					
	comp=Z,2μm,14.6s								
GTA	**Gaotai**	**44.79**	**358**	⇑P	**P**		**06 07 43.7**	**+0.7**	
GTA				pP	**pP**		**06 07 48.3**	**-0.4**	
GTA				sP	**sP**		**06 07 50.8**	**-0.2**	
GTA				PcP	**PcP**		**06 09 26.3**	**+1.4**	
GTA				S	**S**		**06 14 19.6**	**+0.1**	
GTA				sS	**sS**		**06 14 27.2**	**-1.7**	
GTA				SS	ScS		06 17 31.3	-8.7	
GTA				PMZ					
	comp=Z,37nm,0.9s								
GTA				PMZ					
	comp=Z,160nm,4.3s								
GTA				LN					
	comp=Z,2μm,15.7s								
GTA				LE					
	comp=Z,2μm,15.7s								
GTA				LZ					
	comp=Z,2μm,15.7s								
PMG	**Port Moresby**	**45.18**	**98**	*ciP*	**P**		**06 07 46.1**	**-0.3**	
PMG				pmax	pmax				
	comp=Z,63nm,0.7s								
PMG	**Port Moresby**	**45.18**	**98**	P	**P**		**06 07 46.1**	**-0.3**	
	comp=Z,54nm,0.6s,baz=290,slow=18,SNR=31								
PMG				LR	LR		06 30 13.6		
	comp=Z,399nm,18.7s,baz=280,slow=41								
PMG	**Port Moresby**	**45.18**	**98**	*eP*	**P**		**06 07 46.4**	**0.0**	
CTA	**Charters Tower**	**45.59**	**113**	P	**P**		**06 07 50.2**	**+0.7**	
	comp=Z,24nm,1.1s,baz=284,slow=9.3,SNR=28								
CTAO	**Charters Tower**	**45.59**	**113**	*eP*	**P**		**06 07 50.2**	**+0.7**	
CTAO				pmax	pmax				
	comp=Z,225nm,1.1s								
CTAO	**Charters Tower**	**45.59**	**113**	*eP*	**P**		**06 07 50.2**	**+0.7**	
	comp=Z,225nm,1.1s								
BTO	**Baotou**	**46.58**	**9**	*eP*	**P**		**06 07 56.9**	**-0.2**	
HHC	**Hu-ho-hao-te**	**47.07**	**10**	*eP*	**P**		**06 08 01.9**	**+1.0**	
HHC				PP	**PP**		**06 09 52.7**	**+0.9**	
HHC				S	**S**		**06 14 54.4**	**+2.2**	
HHC				SS	**SS**		**06 18 17.5**	**-2.0**	
HHC				PMZ					
	comp=Z,62nm,1.2s								
HHC				PMZ					
	comp=Z,310nm,5.7s								
HHC				LN					
	comp=Z,2μm,14.4s								
HHC				LE					
	comp=Z,2μm,14.7s								
HHC				LZ					
	comp=Z,2μm,13.8s								
BJI	**Beijing**	**47.30**	**15**	P	**P**		**06 08 02.8**	**+0.3**	
BJI				S	**S**		**06 14 53.4**	**-1.8**	
BJI				PMZ					
	comp=Z,62nm,0.6s								
BJI				PMZ					
	comp=Z,290nm,4.1s								
BJI				LN					
	comp=Z,2μm,20.2s								
BJI				LE					
	comp=Z,4μm,20.2s								
BJI				LZ					
	comp=Z,2μm,17.4s								
JNU	**Nakatsue**	**47.39**	**34**	P	**P**		**06 08 01.4**	**-2.0**	
	comp=Z,31nm,0.8s,baz=169,slow=6.3,SNR=12								
JNU	**Nakatsue**	**47.39**	**34**	*eP*	**P**		**06 08 02.8**	**-0.7**	
DL2	**Dalian**	**47.94**	**21**	P	**P**		**06 08 07.2**	**-0.4**	
DL2				S	**S**		**06 15 04.3**	**-0.1**	
DL2				PMZ					
	comp=Z,48nm,1.5s								
DL2				PMZ					
	comp=Z,320nm,5.4s								
DL2				LN					
	comp=Z,470nm,19.8s								
DL2				LE					
	comp=Z,860nm,16.7s								
DL2				LZ					
	comp=Z,630nm,17.8s								
TJN	**Taejon**	**48.15**	**28**	*eP*	**P**		**06 08 08.1**	**-1.1**	
KSAR	**Wonju Array Be**	**49.25**	**28**	P	**P**		**06 08 18.0**	**+0.3**	
KSAR	**Wonju Array Be**	**49.25**	**28**	P	**P**		**06 08 17.9**	**+0.3**	
KSRS	**Korea Array**	**49.28**	**28**	P	**P**		**06 08 17.9**	**0.0**	
	comp=Z,30nm,0.7s,baz=226,slow=7.0,SNR=83								
KSRS				LR	LR		06 29 10.4		
	comp=Z,321nm,21.3s,baz=350,slow=36								
WMQ	**Urumqi**	**50.77**	**347⇑**	*iP*	**P**		**06 08 30.2**	**+1.0**	
WMQ				pP	**pP**		**06 08 35.7**	**+0.7**	
WMQ				sP	**sP**		**06 08 39.7**	**+2.4**	
WMQ				PcP	**PcP**		**06 09 47.0**	**+0.9**	
WMQ				ScP	**ScP**		**06 13 41.4**	**-0.2**	
WMQ				S	**S**		**06 15 44.0**	**-0.1**	
WMQ				ScS	**ScS**		**06 18 18.0**	**-1.3**	
WMQ				SS	**SS**		**06 19 17.0**	**-2.0**	
WMQ				PMZ					
	comp=Z,170nm,0.8s								
WMQ				PMZ					
	comp=Z,400nm,3.6s								
WMQ				LN					
	comp=Z,1μm,13.6s								
WMQ				LE					
	comp=Z,2μm,17.7s								
WMQ				LZ					
	comp=Z,1μm,24.1s								
KSH	**Kashi**	**50.77**	**334**	P	**P**		**06 08 27.8**	**-1.6**	
KSH				pP	**pP**		**06 08 32.2**	**-3.0**	
KSH				sP	**sP**		**06 08 34.9**	**-2.6**	
KSH				ScP	**ScP**		**06 13 40.3**	**-1.5**	
KSH				PcS	**PcS**		**06 13 42.0**	**-1.8**	
KSH				S	**S**		**06 15 39.3**	**-5.2**	
KSH				ScS	**ScS**		**06 18 15.4**	**-4.3**	
KSH				SS	SS		06 19 10.3	-9.1	
KSH				PMZ					
	comp=Z,42nm,1.0s								
KSH				LN					
	comp=Z,700nm,18.2s								
KSH				LE					
	comp=Z,240nm,9.9s								
KSH				LZ					
	comp=Z,720nm,20.7s								
EIDS	**Eidsvold**	**51.13**	**118**	*eP*	**P**		**06 08 33.0**	**+0.8**	
	comp=Z,61nm,1.2s								
SMDO	**Samad**	**51.28**	**305**	P	P		06 08 44.7	+11	
	SNR=5.9								
BSY	**Bisya**	**51.83**	**305**	P	P		06 08 48.8	+11	
	SNR=7.3								
CAN	**Canberra**	**52.57**	**131**	*eP*	**P**		**06 08 43.9**	**+1.0**	
CAN				pmax	pmax				
	comp=Z,270nm,1.9s								
CAN	**Canberra**	**52.57**	**131**	*eP*	**P**		**06 08 43.9**	**+1.0**	
	comp=Z,270nm,1.9s								
ULHL	**Ulahol**	**52.95**	**336**	P	**P**		**06 08 43.8**	**-1.9**	
	SNR=9.9								
ULHL	**Ulahol**	**52.95**	**336**	*i* P	**P**		**06 08 43.7**	**-1.9**	
ARMA	**Armidale**	**52.96**	**124**	*eP*	**P**		**06 08 47.7**	**+1.8**	
	comp=Z,21nm,0.8s								
KZA	**Kyzart**	**53.21**	**336**	P	**P**		**06 08 48.5**	**+0.7**	
	SNR=11								
KZA	**Kyzart**	**53.21**	**336**	*i* P	**P**		**06 08 48.5**	**+0.7**	
SONM	**Songino Array**	**53.34**	**4**	P	**P**		**06 08 49.3**	**+1.0**	
	comp=Z,42nm,0.8s,baz=182,slow=8.9,SNR=183								
SONM				LR	LR		06 31 52.8		
	comp=Z,766nm,21.4s,baz=176,slow=36								
ULN	**Ulaanbaatar**	**53.41**	**4**	*ciP*	**P**		**06 08 48.5**	**-0.4**	
ULN				pmax	pmax				
	comp=Z,49nm,1.2s								
ULN	**Ulaanbaatar**	**53.41**	**4**	P	**P**		**06 08 50.1**	**+1.2**	
	SNR=37								
ULN	**Ulaanbaatar**	**53.41**	**4**	*eP*	**P**		**06 08 49.7**	**+0.8**	
	comp=Z,62nm,1.0s								
ULN				LR	LR				
	comp=Z,2μm,21.0s								
CN2	**Changchun**	**53.61**	**21**	⇑P	**P**		**06 08 49.7**	**-0.5**	
CN2				*es*P	**sP**		**06 08 56.0**	**-2.3**	
CN2				*eS*	**S**		**06 16 23.0**	**+0.1**	
CN2				PMZ					
	comp=Z,90nm,0.8s								
CN2				PMZ					
	comp=Z,200nm,4.0s								
CN2				LN					
	comp=Z,2μm,16.0s								
CN2				LE					
	comp=Z,4μm,16.0s								
CN2				LZ					
	comp=Z,6μm,17.0s								
UCH	**Uchtor**	**53.64**	**335**	P	**P**		**06 08 51.6**	**+0.5**	
	SNR=9.4								
UCH	**Uchtor**	**53.64**	**335**	*i* P	**P**		**06 08 51.6**	**+0.5**	
TKM2	**Tokmak 2**	**53.77**	**336**	P	**P**		**06 08 52.2**	**+0.5**	
	SNR=22								
TKM2	**Tokmak 2**	**53.77**	**336**	*eP*	**P**		**06 08 51.7**	**0.0**	
TKM2				pmax	pmax				
	comp=Z,45nm,0.8s								
TKM2				MLR	MLR				
	comp=Z,573nm,20.0s								
TKM2	**Tokmak 2**	**53.77**	**336**	*eP*	**P**		**06 08 51.7**	**0.0**	
	comp=Z,45nm,0.8s								
TKM2				LR	LR				
	comp=Z,573nm,20.0s								
KBK	**Karagaybulak**	**53.81**	**336**	P	P		06 09 02.5	+10	
	SNR=6.0								
AML	**Almayashu**	**53.91**	**334**	P	**P**		**06 08 53.5**	**+0.5**	
	SNR=12								
AML	**Almayashu**	**53.91**	**334**	*i* P	**P**		**06 08 53.5**	**+0.5**	
AAK	**Ala-Archa**	**53.98**	**335**	P	**P**		**06 08 53.9**	**+0.7**	
	comp=Z,100nm,1.2s,SNR=5.1								
AAK	**Ala-Archa**	**53.98**	**335**	*ciP*	**P**		**06 08 53.3**	**+0.1**	
AAK				pmax	pmax				
	comp=Z,15nm,1.2s								
AAK	**Ala-Archa**	**53.98**	**335**	P	**P**		**06 08 53.4**	**+0.1**	
	comp=Z,3.3nm,0.8s,baz=151,slow=6.2,SNR=12								
AAK	**Ala-Archa**	**53.98**	**335**	P	P		06 08 59.9	+6.7	
	SNR=16								
AAK	**Ala-Archa**	**53.98**	**335**	P	**P**		**06 08 53.4**	**+0.1**	
AAK				LR	LR				
	comp=Z,805nm,21.0s								
MAJO	**Matsushiro**	**54.03**	**36**	*eP*	**P**		**06 08 51.7**	**-1.8**	
MAJO				pmax	pmax				
	comp=Z,41nm,0.8s								
MAJO	**Matsushiro**	**54.03**	**36**	*eP*	**P**		**06 08 51.7**	**-1.8**	
	comp=Z,41nm,0.8s								
MJAR	**Matsushiro Arr**	**54.03**	**36**	P	**P**		**06 08 51.6**	**-1.9**	
	comp=Z,17nm,0.8s,baz=216,slow=7.3,SNR=63								
MJAR				LR	LR		06 32 42.2		
	comp=Z,190nm,19.7s,baz=240,slow=37								
FRU	**Bishkek**	**54.09**	**336**	*eP*	P		06 08 58.0	+4.1	
EKS2	**Erkin-Say**	**54.30**	**335**	P	**P**		**06 08 56.0**	**+0.4**	
	SNR=17								
EKS2	**Erkin-Say**	**54.30**	**335**	*i* P	**P**		**06 08 55.9**	**+0.4**	
EKS2	**Erkin-Say**	**54.30**	**335**	*eP*	**P**		**06 08 56.0**	**+0.4**	
	comp=Z,87nm,0.8s								
OPO	**Ambohidratompo**	**54.67**	**251**	P	**P**		**06 09 00.1**	**+1.4**	
	comp=Z,3.0nm,0.8s,baz=45,slow=4.8,SNR=3.9								
MKAR	**Makanchi Array**	**54.91**	**344**	P	**P**		**06 09 00.2**	**+0.4**	
	comp=Z,23nm,0.7s,baz=153,slow=8.1,SNR=146								
MKAR				LR	LR		06 36 54.7		
	comp=Z,307nm,19.5s,baz=142,slow=41								
VLA	**Vladivostok**	**55.63**	**26⇑**	*iP*	**P**		**06 09 04.4**	**-0.5**	
VLA				*e*			06 10 01.8		
VLA				S	**S**		**06 16 46.2**	**-3.9**	
VLA				pmax	pmax				
	comp=Z,44nm,0.9s								
ZAK	**Zakamensk**	**55.74**	**1**	*eP*	**P**		**06 09 05.6**	**-0.1**	
ZAK				pmax	pmax				
	comp=Z,11nm,1.3s								
MDJ	**Mudanjiang**	**55.88**	**24**	P	**P**		**06 09 06.5**	**-0.2**	
MDJ				pP	**pP**		**06 09 09.6**	**-3.0**	
MDJ				PcP	**PcP**		**06 10 05.1**	**-0.3**	
MDJ				PP	**PP**		**06 11 11.5**	**-0.1**	
MDJ				ScP	**ScP**		**06 14 04.2**	**+0.4**	
MDJ				PcS	**PcS**		**06 14 05.7**	**+0.2**	
MDJ				S	**S**		**06 16 57.9**	**+4.5**	
MDJ

HVS	**Khovu-Aksy**	**56.90**	**354**	*d*	iP		**P**		**06 09 13.8**	**-0.2**
HVS						pmax	pmax			
	comp=Z,77nm,1.3s									
MOY	**Mondy**	**57.02**	**359**		*e*P		**P**		**06 09 15.7**	**+0.9**
MOY						pmax	pmax			
	comp=Z,58nm,2.9s									
TLY	**Talaya**	**57.05**	**1**		P		**P**		**06 09 16.4**	**+1.5**
	comp=Z,100nm,0.8s,SNR=6.0									
TLY	**Talaya**	**57.05**	**1**		*i* P		**P**		**06 09 16.0**	**+1.0**
TLY					*e*				06 10 11.2	
TLY						pmax	pmax			
	comp=Z,33nm,0.9s									
TLY						MLR	MLR			
	comp=Z,2μm,15.0s									
TLY	**Talaya**	**57.05**	**1**		P		**P**		**06 09 16.0**	**+1.0**
	comp=Z,8.9nm,0.8s,baz=198,slow=7.9,SNR=21									
TLY	**Talaya**	**57.05**	**1**		P		**P**		**06 09 16.4**	**+1.5**
	SNR=23									
TLY	**Talaya**	**57.05**	**1**		*e*P		**P**		**06 09 15.7**	**+0.8**
	comp=Z,27nm,0.9s									
IMYA	**Miami**	**57.05**	**320**		*e*P		**P**		**06 09 14.1**	**-1.3**
IMOG	**Moghan**	**57.40**	**320**		*e*P		**P**		**06 09 17.6**	**-0.4**
ISRO	**Mashad**	**57.44**	**320**		*e*P		P		06 09 14.4	-3.7
IBAF	**Bafgh**	**57.45**	**313**		*e*P		**P**		**06 09 17.8**	**-0.5**
IRK	**Irkutsk**	**57.63**	**2**		*e*P		**P**		**06 09 18.9**	**-0.1**
IRK						pmax	pmax			
	comp=Z,66nm,2.2s									
IPAY	**Payeh**	**57.83**	**320**		*e*P		**P**		**06 09 20.6**	**-0.4**
ISRV	**Sarvestan**	**58.18**	**310**		*e*P		**P**		**06 09 24.6**	**+0.9**
CIT	**Chita**	**58.25**	**9**		*e*P		P		06 09 30.2	+6.8
CIT					*e*				06 09 42.1	
IKRD	**Kardeh**	**58.33**	**320**		*e*P		P		06 09 20.2	-4.4
IPAR	**Pars**	**58.45**	**310**		*e*P		**P**		**06 09 27.6**	**+2.1**
ISAD	**Sadrabad**	**58.98**	**312**		*e*P		**P**		**06 09 27.3**	**-2.0**
CRZF	**Crozet Islands**	**59.11**	**218**		S		S		06 17 29.0	-6.9
CRZF					R				06 26 00.0	
GEYT	**Alibeck**	**59.28**	**321**		P		**P**		**06 09 30.3**	**-0.5**
	comp=Z,14nm,1.1s,baz=145,slow=5.4,SNR=16									
GEYT					LR		LR		06 38 49.5	
	comp=Z,372nm,18.2s,baz=95,slow=40									
IKAZ	**Kazeroun**	**59.34**	**309**		*e*P		**P**		**06 09 29.8**	**-2.1**
KURBB	**Kurchatov Arra**	**59.44**	**343**		P		**P**		**06 09 31.3**	**-0.3**
	comp=Z,15nm,0.9s,baz=158,slow=6.7,SNR=110									
KURK	**Kurchatov**	**59.50**	**343**		P		**P**		**06 09 31.7**	**-0.3**
	comp=Z,190nm,1.1s,SNR=16									
KURK	**Kurchatov**	**59.50**	**343**		*e*P		**P**		**06 09 31.7**	**-0.3**
KURK						MLR	MLR			
	comp=Z,732nm,22.0s									
KURK	**Kurchatov**	**59.50**	**343**		P		**P**		**06 09 32.2**	**+0.2**
	SNR=34									
KURK	**Kurchatov**	**59.50**	**343**		*e*P		**P**		**06 09 31.7**	**-0.3**
KURK						LR	LR			
	comp=Z,732nm,22.0s									
ERM	**Erimo**	**60.54**	**34**		*e*P		**P**		**06 09 37.7**	**-1.7**
ERM						pmax	pmax			
	comp=Z,70nm,1.6s									
IANJ	**Anjilo**	**60.66**	**316**		*e*P		**P**		**06 09 39.8**	**-0.9**
ZALV	**Zalesovo Beam**	**60.98**	**349**		P		**P**		**06 09 41.8**	**-0.3**
	comp=Z,26nm,0.6s,baz=180,slow=4.4,SNR=134									
ZALV						LR	LR		06 40 16.5	
	comp=Z,521nm,18.4s,baz=166,slow=40									
IKIA	**Kiasar**	**61.22**	**317**		*e*P		**P**		**06 09 43.5**	**-0.9**
HABR	**Khabarovsk**	**61.22**	**25**		*e*P		**P**		**06 09 41.1**	**-2.7**
HABR					*e**PP		**pP**		**06 09 50.9**	**+1.2**
HABR					*e**SP		**sP**		**06 09 55.1**	**+3.1**
HABR					*e*				06 10 23.4	
HABR					*e*				06 11 55.5	
HABR					S		**S**		**06 17 58.9**	**-3.9**
HABR					*e*S		S		06 18 11.1	+8.3
HABR					*e**SS		**sS**		**06 18 15.8**	**+3.3**
HABR					*e*				06 19 29.8	
HABR					*e*SS		**SS**		**06 21 59.1**	**-4.2**
HABR						pmax	pmax			
	comp=Z,49nm,1.8s									
HABR						MLR	MLR			
	comp=Z,1μm,20.0s									
IKLH	**Kolahrood**	**61.23**	**313**		*e*P		**P**		**06 09 44.8**	**+0.3**
IPIR	**Pirpir**	**61.42**	**312**		*e*P		**P**		**06 09 44.8**	**-1.2**
ASAJ	**Asahikawa**	**61.63**	**32**		LR		LR		06 38 06.1	
	comp=Z,211nm,18.0s,baz=178,slow=38									
KRAR	**Krasnoyarsk**	**61.80**	**354**		*e*P		**P**		**06 09 45.9**	**-1.7**
KRAR						pmax	pmax			
	comp=Z,31nm,1.4s									
NVS	**Novosibirsk**	**62.14**	**348**		*e*P		**P**		**06 09 48.0**	**-1.9**
NVS					*e*S		**S**		**06 18 14.1**	**-0.1**
NVS					*e*PS		**PnS**		**06 18 36.8**	**+6.6**
NVS						pmax	pmax			
	comp=Z,58nm,1.3s									
NVS						pmax	pmax			
	comp=N,42nm,1.5s									
NVS						pmax	pmax			
	comp=E,29nm,1.2s									
NVS						smax	smax			
	comp=E,35nm,1.9s									
IR3	**Iran Long-Peri**	**62.69**	**315**		*e*P		**P**		**06 09 51.6**	**-2.5**
IRAZ	**Razeghan**	**63.43**	**314**		*e*P		**P**		**06 09 58.7**	**-0.6**
YSS	**Yuzh-Sakhalins**	**63.63**	**30**	⇑	*i*P		**P**		**06 09 59.2**	**-0.8**
YSS					*e*				06 10 09.2	
YSS						pmax	pmax			
	comp=Z,140nm,1.0s									
YSS	**Yuzh-Sakhalins**	**63.63**	**30**		*e*P		**P**		**06 10 00.0**	**0.0**
	comp=Z,176nm,1.0s									
BOD	**Bodaibo**	**63.96**	**7**		*i* P		**P**		**06 10 01.5**	**-0.4**
BOD						pmax	pmax			
	comp=Z,28nm,1.2s									
BRVK	**Borovoye**	**64.17**	**340**		P		**P**		**06 10 02.9**	**-0.6**
	comp=Z,176nm,0.8s,SNR=7.6									
KMBO	**Kilima Mbogo**	**64.48**	**271**		*ce*P		**P**		**06 10 09.0**	**+2.4**
KMBO						pmax	pmax			
	comp=Z,2.0nm,0.7s									
KMBO	**Kilima Mbogo**	**64.48**	**271**		P		**P**		**06 10 08.1**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=85,slow=4.7,SNR=4.4									
DZM	**Mont Dzumac**	**64.51**	**112**		*e*P		P		06 10 13.0	+6.5
	comp=Z,34nm,1.1s									
DZM	**Mont Dzumac**	**64.51**	**112**		*e*LR		LR		06 29 16.3	
	comp=Z,738nm,22.2s									
CLNS	**Chul'man**	**65.02**	**14**		*e*P		P		06 10 13.8	+4.8
CLNS						pmax	pmax			
	comp=N,15nm,1.0s									
CLNS						pmax	pmax			
	comp=E,13nm,1.1s									
CLNS						pmax	pmax			
	comp=Z,2μm,14.4s									
MAW	**Mawson**	**67.29**	**195**		LR		LR		06 35 12.9	
	comp=Z,577nm,18.6s,baz=43,slow=32									
IMRD	**Marand**	**67.97**	**316**		*e*P		**P**		**06 10 28.6**	**+0.2**
MAK	**Makhachkala**	**68.79**	**320**		P		**P**		**06 10 31.8**	**-1.4**
MAK					*e*PPP		PPP		06 14 49.3	
MAK					*e*S		**S**		**06 19 34.1**	**-2.0**
MAK					*e*SS		SS		06 23 53.2	-8.3
MAK						pmax	pmax			
	comp=Z,20nm,0.5s									
GNI	**Garni**	**69.28**	**317**		*e*P		**P**		**06 10 36.7**	**+0.1**
GNI						pmax	pmax			
	comp=Z,9.0nm,1.4s									
DGRG	**David-gareji**	**69.45**	**318**		P		**P**		**06 10 35.4**	**-2.1**
TBLG	**Delisi**	**70.00**	**318**		P		**P**		**06 10 41.8**	**+0.9**
SVE	**Sverdlovsk**	**70.62**	**337**	⇑	*i*P		**P**		**06 10 44.7**	**+0.5**
SVE					*e*				06 13 15.1	
SVE					*e*PPP		PPP		06 15 09.1	
SVE					*e*S		**S**		**06 19 55.0**	**-2.1**
SVE						pmax	pmax			
	comp=Z,80nm,1.0s									
SVE						MLR	MLR			
	comp=Z,589nm,18.0s									
YAK	**Yakutsk**	**70.76**	**14**		*e*P		**P**		**06 10 43.6**	**-1.4**
YAK					*e**PP		**pP**		**06 10 53.8**	**+2.8**
YAK					*e*				06 11 04.7	
YAK					*e*				06 13 23.1	
YAK					*e*PPP		PPP		06 15 04.7	
YAK					*e*S		**S**		**06 19 55.4**	**-3.2**
YAK					*e**SS		**sS**		**06 20 13.4**	**+5.0**
YAK					*e*				06 20 42.9	
YAK						pmax	pmax			
	comp=Z,32nm,0.9s									
YAK						pmax	pmax			
	comp=E,10.0nm,1.3s									
YAK						pmax	pmax			
	comp=N,10.0nm,1.1s									
YAK						pmax	pmax			
	comp=Z,106nm,3.7s									
YAK						pmax	pmax			
	comp=N,57nm,3.8s									
YAK						pmax	pmax			
	comp=E,75nm,4.0s									
YAK						smax	smax			
	comp=E,45nm,2.2s									
YAK						smax	smax			
	comp=N,33nm,2.4s									
YAK						MLR	MLR			
	comp=Z,2μm,15.0s									
YAK						MLR	MLR			
	comp=E,995nm,14.0s									
YAK						MLR	MLR			
	comp=N,542nm,13.0s									
YAK	**Yakutsk**	**70.76**	**14**		LR		LR		06 45 01.9	
	comp=N,574nm,18.3s,baz=214,slow=39									
ZEI	**Tsey**	**71.04**	**319**		*e*P		**P**		**06 10 47.3**	**0.0**
ZEI						pmax	pmax			
	comp=Z,19nm,0.8s									
ARU	**Arti**	**71.14**	**336**		P		**P**		**06 10 47.3**	**-0.1**
	comp=Z,206nm,1.1s,SNR=5.2									
ARU	**Arti**	**71.14**	**336**	*c*	*i*P		**P**		**06 10 46.1**	**-1.3**
ARU									06 13 23.4	
ARU						PPP	PPP		06 15 03.7	
ARU						S	**S**		**06 20 02.0**	**-1.2**
ARU						pmax	pmax			
	comp=Z,20nm,1.2s									
ARU						MLR	MLR			
	comp=N,466nm,22.0s									
ONI	**Oni**	**71.24**	**318**		P		P		06 10 57.7	+9.3
KBZ	**Khabaz**	**72.12**	**319**		P		**P**		**06 10 53.4**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=106,slow=5.9,SNR=16									
KIV	**Kislovodsk**	**72.35**	**319**		*e*P		**P**		**06 10 55.9**	**+0.8**
KIV					*e*S		**S**		**06 20 17.7**	**-0.2**
KIV						pmax	pmax			
	comp=Z,29nm,1.0s									
KIV						MLR	MLR			
	comp=Z,150nm,18.0s									
KIV	**Kislovodsk**	**72.35**	**319**		P		P		06 11 01.9	+6.8
	SNR=8.3									
LSZ	**Lusaka**	**72.69**	**256**		P		P		06 11 02.3	+4.6
LSZ						pmax	pmax			
	comp=Z,30nm,1.4s									
LSZ	**Lusaka**	**72.69**	**256**		P		P		06 11 02.3	+4.6
	comp=Z,30nm,1.4s									
SKR	**Severo-Kuril's**	**72.89**	**33**		*e*P		P		06 10 54.0	-3.9
SKR					*e*				06 11 04.5	
SKR						pmax	pmax			
	comp=Z,130nm,1.0s									
SOKR	**Solikamsk**	**74.02**	**338**	⇑	*i*P		P		06 11 11.4	+7.0
SOKR						pmax	pmax			
	comp=Z,50nm,1.4s									
SOKR						MLR	MLR			
	comp=Z,590nm,22.0s									
PETK	**Petropavlovsk-**	**75.00**	**31**		P		**P**		**06 11 09.8**	**-0.5**
	comp=Z,17nm,0.8s,baz=204,slow=3.3,SNR=14									
PETK						LR	LR		06 46 49.3	
	comp=Z,267nm,19.4s,baz=245,slow=38									
SYO	**Syowa Base**	**75.07**	**199**	⇑	*e*P		P		06 11 20.7	+10
PET	**Petropavlovsk**	**75.45**	**32**		*e*P		**P**		**06 11 12.4**	**-0.4**
PET						pmax	pmax			
	comp=Z,73nm,0.6s									
PET	**Petropavlovsk**	**75.45**	**32**		*e*P		**P**		**06 11 12.4**	**-0.4**
	comp=Z,73nm,0.6s									
BOSA	**Boshof**	**75.48**	**242**		P		**P**		**06 11 15.5**	**+1.7**
	comp=Z,5.1nm,1.0s,baz=121,slow=7.1,SNR=4.4									
BOSA						LR	LR		06 38 33.6	
	comp=Z,519nm,19.4s,baz=94,slow=31									
VRHR	**Novokhopersk**	**76.23**	**326**		*e*P		**P**		**06 11 16.6**	**-0.8**
VRHR						pmax	pmax			
	comp=Z,10.0nm,0.6s									
VRHR						pmax	pmax			
	comp=N,8.0nm,0.5s									
VRHR						pmax	pmax			
	comp=E,20nm,1.2s									
BRTR	**Keskin Array B**	**76.99**	**313**	*ce*	P		**P**		**06 11 21.7**	**-0.5**
BRTR						pmax	pmax			
	comp=Z,3.0nm,0.6s									
BRTR	**Keskin Array B**	**76.99**	**313**		P		**P**		**06 11 21.2**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=138,slow=6.8,SNR=18									
BRTR						LR	LR		06 47 39.5	
	comp=Z,330nm,18.4s,baz=107,slow=38									
VORD	**Divnogorie**	**77.49**	**325**		*e*P		**P**		**06 11 25.7**	**+1.2**
VORD						pmax	pmax			
	comp=Z,4.0nm,0.8s									
VORD						pmax	pmax			
	comp=N,5.0nm,0.6s									
VORD						pmax	pmax			
	comp=E,10.0nm,0.7s									
VSR	**Storozhevoye**	**77.67**	**325**		*e*P		**P**		**06 11 26.3**	**+0.8**
VSR						pmax	pmax			
	comp=Z,9.0nm,0.7s									
VSR						pmax	pmax			
	comp=N,9.0nm,1.1s									
VSR						pmax	pmax			
	comp=E,7.0nm,0.6s									
SEY	**Seymchan**	**78.29**	**21**	⇑	*i*P		**P**		**06 11 28.8**	**+0.1**
VNDA	**Vanda**	**78.35**	**169**		P		**P**		**06 11 28.8**	**-0.1**
	comp=E,20nm,1.0s,baz=294,slow=5.7,SNR=41									
VNDA						LR	LR		06 41 38.0	
	comp=E,71nm,21.1s,baz=308,slow=32									
SIM	**Simferopol'**	**78.38**	**318**		*e*P		P		06 11 38.0	+8.4
SIM						pmax	pmax			
	comp=Z,21nm,0.7s									
TIXI	**Tiksi**	**79.10**	**8**	*c*	*i*P		**P**		**06 11 31.8**	**-1.2**
TIXI						pmax	pmax			
	comp=Z,31nm,1.2s									
PRGR	**Permogore**	**79.61**	**336**		*e*P		**P**		**06 11 35.1**	**-0.8**
PRGR									06 11 43.6	
PRGR					*e**PP		**PcP**		**06 11 45.6**	**+1.9**
PRGR						pmax	pmax			
	comp=Z,22nm,0.8s									
MOS	**Moscow**	**80.42**	**329**		*e*P		**P**		**06 11 40.7**	**+0.2**
MOS					*e*				06 11 49.6	
OBN	**Obninsk**	**80.71**	**328**		*e*P		**P**		**06 11 41.8**	**-0.2**
OBN					*e*				06 11 48.3	
OBN					*e*				06 14 45.7	
OBN						pmax	pmax			
	comp=Z,31nm,1.2s									
OBN						MLR	MLR			
	comp=Z,314nm,24.0s									
KIS	**Kishinev**	**82.53**	**319**		*e*P		P		06 12 00.0	+8.1
KIS	**Kishinev**	**82.53**	**319**		*e*P		P		06 12 00.0	+8.1
KIS						LRM	MLR		06 58 40.0	
	comp=Z,300nm,20.0s									
AKASG	**Malin Array Be**	**83.34**	**322**		P		**P**		**06 11 55.5**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=90,slow=4.7,SNR=17									
AKASG						LR	LR		06 53 55.5	
	comp=Z,202nm,19.3s,baz=95,slow=39									
KIEV	**Kiev**	**83.35**	**322**		*e*P		**P**		**06 11 55.6**	**-0.4**
VRI	**Vrincioaia**	**83.62**	**317**	⇑	P		**P**		**06 11 58.7**	**+1.1**
VRI	**Vrincioaia**	**83.62**	**317**	⇑	*i*P		**P**		**06 11 58.7**	**+1.1**
PLOR	**Plostina**	**83.67**	**317**	⇑	P		**P**		**06 12 00.1**	**+2.2**
PLOR	**Plostina**	**83.67**	**317**	⇑	*i*P		**P**		**06 12 00.1**	**+2.2**
TESR	**Tescani**	**83.84**	**318**	⇑	*i*P		**P**		**06 11 59.4**	**+0.7**
TMCR	**Tamitsa**	**83.88**	**337**		*e*P		**P**		**06 11 58.3**	**-0.1**
TMCR					*e*				06 15 09.5	
TMCR						pmax	pmax			
	comp=Z,18nm,1.1s									
MLR	**Muntele Rosu**	**84.06**	**317**	⇑	P		**P**		**06 12 00.2**	**+0.2**
MLR	**Muntele Rosu**	**84.06**	**317**	⇑	*i*P		**P**		**06 12 00.2**	**+0.2**
NVL	**N'lazarevskaya**	**84.75**	**199**		*e*P		**P**		**06 12 02.3**	**-0.5**
NVL						pmax	pmax			
	comp=Z,18nm,1.0s									
ARR	**Arges**	**84.93**	**316**	⇓	*i*P		**P**		**06 12 04.3**	**0.0**
BURAR	**Bucovina Array**	**85.06**	**319**	⇓	P		**P**		**06 12 06.1**	**+1.2**
BURAR	**Bucovina Array**	**85.06**	**319**	⇓	*i*P		**P**		**06 12 06.1**	**+1.2**
MICGM	**Minsk**	**85.23**	**326**		*e*		P		06 12 10.0	+4.5
MNK	**Minsk**	**85.25**	**326**		*e*P		P		06 12 10.0	+4.4
VTS	**Vitosha**	**85.33**	**313**	⇑	P		**P**		**06 12 06.8**	**+0.3**
VTS	**Vitosha**	**85.33**	**313**	⇑	*i*P		**P**		**06 12 06.8**	**+0.3**
BILL	**Bilibino**	**85.90**	**20**		*e*P		**P**		**06 12 07.8**	**-0.7**
BILL					*e*				06 12 16.5	
BILL					*e*				06 15 27.3	
BILL						pmax	pmax			
	comp=Z,14nm,1.2s									
NACGM	**Naroch**	**85.95**	**326**		*e*		**P**		**06 12 12.0**	**+3.0**
GZR	**Gura Zlata**	**86.21**	**316**	⇑	P		**P**		**06 12 12.7**	**+2.0**
GZR	**Gura Zlata**	**86.21**	**316**	⇑	*i*P		**P**		**06 12 12.7**	**+2.0**
LVV	**L'vov**	**86.33**	**321**		*e*P		**P**		**06 12 12.2**	**+1.1**
IIGN	**Ignalina**	**86.38**	**326**		*e*P		**P**		**06 12 10.8**	**-0.3**
IIGN						AMB	AMB		06 12 23.6	
	comp=Z,12nm,1.4s									
ISAL	**Salakas**	**86.49**	**327**		*e*P		**P**		**06 12 11.3**	**-0.4**
ISAL						AMB	AMB		06 12 20.8	
	comp=Z,14nm,1.4s									
DRGR		**86.54**	**317**	⇓	P		**P**		**06 12 13.0**	**+0.7**
DRGR		**86.54**	**317**	⇓	*i*P		**P**		**06 12 13.0**	**+0.7**
LVZ	**Lovozero**	**86.70**	**340**		*e*P		**P**		**06 12 13.0**	**+0.4**
LVZ						pmax	pmax			
	comp=Z,13nm,1.3s									
TRPA	**Tarpa**	**86.93**	**319**	⇑	*i*P		**P**		**06 12 16.2**	**+2.2**
VSU	**Vasula**	**86.93**	**329**		*e*P		**P**		**06 12 14.0**	**+0.2**
VSU						pmax	pmax			
	comp=Z,36nm,1.3s									
APA	**Apatity**	**87.01**	**339**		*i* P		P		06 12 24.6	+11
APA						MLR	MLR			
	comp=Z,600nm,23.0s									
BZS	**Buzias**	**87.06**	**316**	⇑	P		P		06 12 09.7	-5.0
BZS	**Buzias**	**87.06**	**316**	⇑	*i*P		P		06 12 09.7	-5.0
KWP	**Kalwaria Pacla**	**87.13**	**320**		P		**P**		**06 12 15.0**	**0.0**
KWP						pmax	pmax			
	comp=Z,40nm,1.3s									
KWP	**Kalwaria Pacla**	**87.13**	**320**		*e*P		**P**		**06 12 17.0**	**+2.0**
KWP	**Kalwaria Pacla**	**87.13**	**320**		P		**P**		**06 12 15.0**	**0.0**
	comp=Z,40nm,1.3s									
UZH	**Uzhgorod**	**87.19**	**319**		*e*P		**P**		**06 12 13.0**	**-2.3**
UZH					*e*				06 12 22.0	
UZH					*e*				06 12 29.8	
UZH					*e*				06 15 34.8	
UZH					*e*S		**S**		**06 22 49.0**	**-5.2**
UZH					*e*PS		**PnS**		**06 23 58.4**	**+2.9**
KOLS	**Kolonicke sedl**	**87.27**	**320**		*e*P		**P**		**06 12 16.7**	**+1.0**
KOLS	**Kolonicke sedl**	**87.27**	**320**		*e*P		**P**		**06 12 16.7**	**+1.0**
SUW	**Suwalki**	**87.77**	**325**		*e*P		**P**		**06 12 18.3**	**+0.3**
SUW	**Suwalki**	**87.77**	**325**		*e*P		**P**		**06 12 18.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**87.79**	**319**		*e*P		pP		06 12 24.1	-0.2
CRVS	**Cervenica-Dubn**	**87.79**	**319**		*ep*P		pP		06 12 24.1	-0.2
STHS	**Stebnicka Huta**	**88.02**	**320**		*e*P		**P**		**06 12 20.3**	**+1.0**
STHS	**Stebnicka Huta**	**88.02**	**320**		*e*P		**P**		**06 12 20.3**	**+1.0**
FINES	**FINESS Array B**	**88.05**	**332**		*i* P		**P**		**06 12 19.3**	**+0.2**
FINES						pmax	pmax			
	comp=Z,4.0nm,0.6s									
FINES	**FINESS Array B**	**88.05**	**332**		P		**P**		**06 12 19.4**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=119,slow=5.3,SNR=34									
FINES					LR		LR		06 55 43.0	
	comp=Z,177nm,20.0s,baz=108,slow=38									
KECS	**Kecovo**	**88.34**	**319**		*e*P		**P**		**06 12 22.1**	**+1.3**
KECS	**Kecovo**	**88.34**	**319**		*e*P		**P**		**06 12 22.1**	**+1.3**
NIE	**Niedzica**	**88.62**	**320**		*e*P		**P**		**06 12 22.9**	**+0.7**
PSZ	**Piszkesteto**	**88.64**	**318**	⇑	P		P		06 12 28.9	+6.6
PSZ	**Piszkesteto**	**88.64**	**318**	⇑	*i*P		P		06 12 28.9	+6.6
BEL	**Belsk**	**88.75**	**322**		*e*P		P		06 12 29.3	+6.6
BEL	**Belsk**	**88.75**	**322**		*e*P		P		06 12 29.3	+6.6
OJC	**Ojcow**	**89.09**	**320**		*e*P		**P**		**06 12 25.6**	**+1.3**
PKSM	**Moragy**	**89.20**	**316**	⇑	P		**P**		**06 12 25.6**	**+0.7**
PKSM	**Moragy**	**89.20**	**316**	⇑	*i*P		**P**		**06 12 25.6**	**+0.7**
VYHS	**Vyhne**	**89.43**	**319**		*e*P		**P**		**06 12 26.9**	**+0.9**
VYHS	**Vyhne**	**89.43**	**319**		*e*P		**P**		**06 12 26.9**	**+0.9**
OKC	**Ostrava-Krasne**	**90.08**	**320**		*e*P		**P**		**06 12 29.2**	**+0.3**
OKC					*e*				06 12 37.9	
OKC						MLR	MLR			
	comp=Z,200nm,21.4s									
OKC	**Ostrava-Krasne**	**90.08**	**320**		*e*P		**P**		**06 12 29.2**	**+0.3**
OKC					*ex*		x		06 12 37.9	
OKC						AMS	AMS		07 02 10.0	
	comp=Z,200nm,21.4s									
RAC	**Raciborz**	**90.08**	**320**		*e*P		P		06 12 34.7	+5.8
ARCES	**ARCESS Array B**	**90.39**	**340**		P		**P**		**06 12 30.4**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=111,slow=5.5,SNR=11									
ARCES						LR	LR		06 58 20.4	
	comp=Z,365nm,18.8s,baz=96,slow=39									
VNA2	**Neumayer--Watz**	**90.92**	**198**		P		**P**		**06 12 33.9**	**+1.4**
	baz=79,slow=3.4									
KRLC	**Kraliky**	**90.98**	**320**		*e*P		**P**		**06 12 32.8**	**-0.4**
KRLC	**Kraliky**	**90.98**	**320**		*e*P		**P**		**06 12 32.8**	**-0.4**
VNA1	**Neumayer--Stat**	**91.29**	**198**		P		**P**		**06 12 36.2**	**+2.0**
DPC	**Dobruska-Polom**	**91.31**	**320**		*e*P		**P**		**06 12 36.0**	**+1.3**
DPC					*e*				06 12 44.6	
DPC	**Dobruska-Polom**	**91.31**	**320**		*e*P		**P**		**06 12 36.0**	**+1.3**
DPC					*ex*		x		06 12 44.6	
DPC						AMS	AMS		07 02 20.0	
VNA3	**Neumayer Olymp**	**91.50**	**198**		P		**P**		**06 12 35.4**	**+0.1**
TREC	**Trest**	**91.72**	**319**		AMS		AMS		07 05 00.0	
	comp=Z,300nm,21.5s									
PRU	**Pruhonice**	**92.41**	**320**		*e*P		P		06 12 52.4	+13

WVOR	Wild Horse Val	128.78	38	ePKPdf	PKPdf	06 18 38.3	+1.4
CHMT	Chamberlain Mo	129.00	30	ePKPdf	PKPdf	06 18 36.1	-1.3
A19A	Klindworth Far baz=130	129.66	26	⇑PKiKP	PKiKP	06 18 39.3	+0.2
HRY	Holter Researc	129.85	30	ePKPdf	PKPdf	06 18 40.0	+1.2
MFID	Camas Ranch	129.87	35	ePKPdf	PKPdf	06 18 41.1	+2.1
EGMT	Eagleton baz=130	129.89	27	⇑PKiKP	PKiKP	06 18 39.7	+0.1
B19A	Brinkman Farms baz=130	129.93	26	⇑PKiKP	PKiKP	06 18 39.7	0.0
A20A	Cobblestone Ra baz=130	130.05	25	⇓PKiKP	PKiKP	06 18 39.8	-0.1
B20A	Solberg Farm, baz=130	130.35	26	⇓PKiKP	PKiKP	06 18 40.6	+0.1
A21A	Bergtoll Ranch baz=130	130.38	24	⇓PKiKP	PKiKP	06 18 40.2	-0.3
C19A	Slack Wire Ran baz=130	130.42	27	⇓PKiKP	PKiKP	06 18 40.5	-0.1
HLID	Hailey baz=130	130.58	34	⇑PKiKP	PKiKP	06 18 41.2	-0.1
MCMT	McKenzie Canyo	130.61	32	ePKPdf	PKPdf	06 18 41.9	+1.4
BOZ	Bozeman (W)	130.69	31	ePKIKP	PKPdf	06 18 41.4	+0.9
BOZ	Bozeman (W)	130.69	31	ePKPdf	PKPdf	06 18 41.4	+0.9
B21A	Ellsworth Farm baz=131	130.78	25	⇑PKiKP	PKiKP	06 18 42.1	+0.7
A22A	Carney Farms, baz=131	130.79	24	⇓PKiKP	PKiKP	06 18 41.6	+0.2
C20A	Veseth Ranch, baz=131	130.91	26	⇓PKiKP	PKiKP	06 18 41.8	+0.2
D19A	Cripps Ranch, baz=131	130.92	27	⇓PKiKP	PKiKP	06 18 41.6	-0.1
NVAR	Mina Array Bea comp=Z,1.4nm,0.7s,baz=264,slow=2.1,SNR=11	131.17	42	PKP	PKPdf	06 18 43.2	+1.4
NVAR	comp=Z,2.4nm,0.9s,baz=276,slow=3.0,SNR=6.0			SKPbc	SKPab	06 22 06.8	+0.7
MLAC	Mammoth, Mammo baz=131	131.22	43	⇑PKiKP	PKPdf	06 18 42.0	+0.1
A23A	Redstone baz=131	131.23	23	⇓PKiKP	PKiKP	06 18 42.4	+0.1
QLMT	Earthquake Lak	131.35	31	ePKPdf	PKPdf	06 18 44.2	+2.3
E19A	Rath Farm, Rou baz=131	131.49	28	⇓PKiKP	PKiKP	06 18 43.2	+0.3
GCMT	Greycliff	131.56	29	ePKPdf	PKPdf	06 18 41.8	-0.4
B23A	Brockton baz=131	131.58	24	⇑PKiKP	PKiKP	06 18 43.4	+0.4
YMR	Madison River	131.70	31	PKPdf	PKPdf	06 18 43.6	+1.0
E20A	Meyer Farm, Mu baz=132	131.76	27	⇓PKiKP	PKiKP	06 18 44.2	+0.8
C22A	Vida baz=132	131.79	25	⇓PKiKP	PKiKP	06 18 44.1	+0.7
D21A	La Casta Ranch baz=132	131.84	26	⇑PKiKP	PKiKP	06 18 44.9	+1.3
F19A	Roth Farm, Mol baz=132	131.86	29	⇑PKiKP	PKiKP	06 18 43.4	-0.3
DGMT	Dagmar baz=132	131.89	23	⇓PKiKP	PKiKP	06 18 43.7	+0.1
VES	Vestal, Richgr baz=132	131.94	46	⇓PKiKP	PKiKP	06 18 44.1	+0.1
C23A	Lambert baz=132	132.03	24	⇓PKiKP	PKiKP	06 18 44.0	+0.1
TPH	Tonopah	132.08	42	ePKIKP	PKPdf	06 18 43.6	+0.2
TPH	Tonopah	132.08	42	ePKPdf	PKPdf	06 18 43.6	+0.2
H17A	Grant Village baz=132	132.09	31	⇓PKiKP	PKiKP	06 18 44.7	+0.3
D22A	Cohagen baz=132	132.13	26	⇓PKiKP	PKiKP	06 18 44.4	+0.3
SBC	Santa Barbara baz=132	132.14	48	⇑PKiKP	PKiKP	06 18 45.2	+0.7
E21A	Keefer Ranch, baz=132	132.21	27	⇑PKiKP	PKiKP	06 18 45.8	+1.5
F20A	Billings baz=132	132.27	28	⇑PKiKP	PKiKP	06 18 45.5	+1.0
A26A	Wade Farm, Ken baz=132	132.34	21	⇑PKiKP	PKiKP	06 18 45.2	+0.7
H18A	Shoshone NF, C baz=132	132.36	30	⇓PKiKP	PKiKP	06 18 44.7	-0.2
BSC	Santa Cruz Isl baz=132	132.41	48	⇑PKiKP	PKiKP	06 18 44.6	-0.5
I17A	Pilgrim Ck. baz=132	132.42	32	⇓PKiKP	PKiKP	06 18 44.8	-0.3
B25A	Knox Farm, Ray baz=132	132.45	22	⇑PKiKP	PKiKP	06 18 45.3	+0.6
ISA	Isabella, Lake baz=132	132.46	45	⇓PKiKP	PKiKP	06 18 44.9	-0.2
ARVC	Arvin baz=132	132.46	46	⇑PKiKP	PKiKP	06 18 46.0	+0.9
D23A	Lindsay baz=132	132.53	25	⇓PKiKP	PKiKP	06 18 45.5	+0.6
GRAC	Grapevine Rang baz=132	132.55	43	⇓PKiKP	PKiKP	06 18 45.2	-0.1
C24A	Savage baz=132	132.56	24	⇑PKiKP	PKiKP	06 18 45.8	+0.9
A27A	Ledoux Ranch, baz=132	132.58	20	⇓PKiKP	PKiKP	06 18 46.4	+1.5
HVU	Hansel Valley	132.65	35	ePKIKP	PKPdf	06 18 44.6	+0.2
HVU	Hansel Valley	132.65	35	ePKPdf	PKPdf	06 18 44.6	+0.2
G20A	Bridger baz=132	132.67	29	⇑PKiKP	PKiKP	06 18 45.1	-0.3
H19A	Powell baz=133	132.70	30	⇑PKiKP	PKiKP	06 18 45.6	+0.1
B26A	Jensen Ranch, baz=133	132.71	22	⇑PKiKP	PKiKP	06 18 45.3	0.0
F21A	Absaloka Mine, baz=133	132.73	27	⇑PKiKP	PKiKP	06 18 45.4	0.0
E22A	Miles City baz=133	132.78	26	⇓PKiKP	PKiKP	06 18 45.3	-0.2
OSI	Osito Audit: C baz=133	132.78	47	⇓PKiKP	PKiKP	06 18 45.5	-0.4
C25A	Freed Ranch, W baz=133	132.88	23	⇑PKiKP	PKiKP	06 18 45.4	-0.2
D24A	Glendive baz=133	132.93	24	⇑PKiKP	PKiKP	06 18 45.3	-0.5
A28A	Rude Farm, Bot baz=133	132.95	20	⇑PKiKP	PKiKP	06 18 45.3	-0.4
MPMC	Manual Prospec baz=133	132.95	44	⇓PKiKP	PKiKP	06 18 45.8	-0.5
R11A	Troy Canyon, C baz=133	133.00	41	⇑PKiKP	PKPdf	06 18 45.3	+0.2
R11A	Troy Canyon, C	133.00	41	ePKPdf	PKPdf	06 18 46.4	+1.2
E23A	Ismay baz=133	133.02	25	⇓PKiKP	PKiKP	06 18 45.8	-0.1
B27A	Peters Farms, baz=133	133.04	21	⇓PKiKP	PKiKP	06 18 45.4	-0.5
ULM	Lac du Bonnet comp=Z,3.6nm,0.8s,baz=339,slow=4.4,SNR=9.7	133.08	15	PKP	PKPdf	06 18 44.8	+0.1
LRMC	Laurel Mtn Rad baz=133	133.10	45	⇑PKiKP	PKPdf	06 18 45.3	0.0
G21A	Lodge Grass baz=133	133.15	28	⇑PKiKP	PKiKP	06 18 46.0	-0.3
I19A	Meeteetse baz=133	133.15	30	⇑PKiKP	PKPdf	06 18 45.6	+0.3
F22A	Rosebud baz=133	133.16	27	⇑PKiKP	PKPdf	06 18 45.6	+0.5
FURC	Furnace Creek, baz=133	133.18	44	⇑PKiKP	PKiKP	06 18 46.0	-0.5
EDW2	Edwards Air Fo baz=133	133.19	46	⇓PKiKP	PKPdf	06 18 45.2	-0.2
C26A	Wahner Farm, P baz=133	133.22	22	⇑PKiKP	PKiKP	06 18 45.9	-0.3
DECC	Green Verdugo baz=133	133.24	47	⇓PKiKP	PKPdf	06 18 45.9	+0.3
A29A	Manning Farm, baz=133	133.28	19	⇓PKiKP	PKPdf	06 18 45.7	+0.6
D25A	Fairfield baz=133	133.31	23	⇑PKiKP	PKiKP	06 18 46.3	-0.3
B28A	Dugan Ranch, T baz=133	133.31	20	⇑PKiKP	PKiKP	06 18 46.3	-0.1
H20A	Greybull baz=133	133.32	29	⇑PKiKP	PKiKP	06 18 46.3	-0.4
TPNV	Topopah Spring baz=133	133.34	43	⇑PKiKP	PKiKP	06 18 46.6	-0.4
E24A	Baker baz=133	133.39	25	⇑PKiKP	PKiKP	06 18 46.6	-0.1
HWUT	Hardware Ranch	133.45	35	ePKPdf	PKPdf	06 18 45.3	-0.6
FMP	Fort Macarthur baz=134	133.52	48	⇑PKiKP	PKiKP	06 18 47.4	+0.1
C27A	Sayler Ranch, baz=133	133.53	22	⇓PKiKP	PKiKP	06 18 46.5	-0.5
A30A	Hoffart Farm, baz=133	133.56	18	⇓PKiKP	PKiKP	06 18 46.9	0.0
G22A	Birney baz=133	133.57	27	⇓PKiKP	PKiKP	06 18 47.2	0.0
F23A	Volborg baz=133	133.58	26	⇑PKPdiff	PKPdf	06 18 44.6	-1.3
CIS	Catalina Islan baz=134	133.59	48	⇑PKiKP	PKiKP	06 18 47.4	-0.1
DUG	Dugway, Tooele	133.63	37	ePKIKP	PKPdf	06 18 46.1	-0.1
DUG	Dugway, Tooele baz=134	133.63	37	⇓PKiKP	PKiKP	06 18 47.4	-0.1
DUG	Dugway, Tooele	133.63	37	ePKPdf	PKPdf	06 18 46.1	-0.1
B29A	Wagenman Farm, baz=134	133.64	19	⇓PKiKP	PKiKP	06 18 47.3	+0.2
I20A	Worland baz=134	133.65	30	⇓PKiKP	PKiKP	06 18 47.4	0.0
H21A	Big Horn, Sher baz=134	133.67	28	⇓PKiKP	PKiKP	06 18 47.4	0.0
J19A	Crowheart baz=134	133.67	31	⇑PKiKP	PKiKP	06 18 47.1	-0.4
BFSC	Mount Baldy Ra baz=134	133.74	47	⇑PKiKP	PKiKP	06 18 47.4	-0.5
D26A	Manning baz=134	133.75	23	⇓PKiKP	PKiKP	06 18 47.1	-0.3
PDAR	Pinedale Array comp=Z,0.6nm,0.9s,baz=107,slow=1.5,SNR=3.6	133.76	32	PKP	PKPdf	06 18 47.0	+0.5
E25A	Miller Ranch, baz=134	133.81	24	⇑PKiKP	PKiKP	06 18 47.6	0.0
GSC	Goldstone, Bar baz=134	133.82	45	⇓PKiKP	PKiKP	06 18 47.6	-0.4
SHOC	Shoshone, Teco baz=134	133.87	44	⇑PKiKP	PKiKP	06 18 47.8	-0.2
RRX	Edison Barstow baz=134	133.89	46	⇑PKiKP	PKiKP	06 18 48.0	0.0
F24A	Ekalaka baz=134	133.90	25	⇓PKiKP	PKiKP	06 18 47.3	-0.5
C28A	Hausauer Farms baz=134	133.93	21	⇑PKiKP	PKiKP	06 18 47.7	0.0
B30A	Myrvik Farm, E baz=134	133.98	18	⇑PKiKP	PKiKP	06 18 48.2	+0.5
G23A	Biddle baz=134	133.99	27	⇓PKiKP	PKiKP	06 18 48.7	+0.7
H22A	Clearmont baz=134	134.02	28	⇑PKiKP	PKiKP	06 18 48.8	+0.7
D27A	Center baz=134	134.03	22	⇑PKiKP	PKiKP	06 18 48.4	+0.4
MDND	Maddock baz=134	134.09	20	⇓PKiKP	PKiKP	06 18 48.5	+0.5
J20A	Shoshoni baz=134	134.10	30	⇑PKiKP	PKiKP	06 18 48.1	-0.2
I21A	Big Trails, Te baz=134	134.16	29	⇑PKiKP	PKiKP	06 18 48.6	+0.1
E26A	Carlson Angus baz=134	134.21	23	⇑PKiKP	PKiKP	06 18 48.1	-0.3
F25A	Bowman baz=134	134.25	24	⇓PKiKP	PKPdf	06 18 47.8	+0.7
SHPR	Sheep Range	134.31	43	ePKPdf	PKPdf	06 18 44.6	-3.1
D28A	Regan baz=134	134.31	21	⇓PKiKP	PKiKP	06 18 48.1	-0.4
TUQ	Turquoise Moun baz=134	134.36	44	⇑PKiKP	PKiKP	06 18 49.1	-0.1
MURC	Murrieta baz=134	134.38	47	⇓PKiKP	PKiKP	06 18 49.6	+0.5
HEC	Hector,Ludlow baz=134	134.39	45	⇑PKiKP	PKiKP	06 18 48.7	-0.5
J21A	Lysite baz=134	134.43	30	⇓PKiKP	PKPdf	06 18 48.3	+0.6
I22A	9 Mile Ranch, baz=134	134.49	29	⇓PKiKP	PKiKP	06 18 49.3	+0.2
E27A	Carson baz=134	134.59	23	⇑PKiKP	PKiKP	06 18 48.7	-0.4
C30A	Mose, Pekin baz=134	134.59	19	⇑PKiKP	PKiKP	06 18 48.6	-0.5
F26A	Lodgepole baz=134	134.63	24	⇓PKiKP	PKiKP	06 18 48.6	-0.6
H24A	Dirks Ranch, A baz=135	134.72	26	⇑PKiKP	PKiKP	06 18 49.2	-0.3
D29A	Pettibone, Tap baz=135	134.77	20	⇑PKiKP	PKiKP	06 18 48.9	-0.5
109C	Camp Elliot, M baz=135	134.79	48	⇓PKiKP	PKiKP	06 18 49.2	-0.7
J22A	Midwest baz=135	134.85	29	⇓PKiKP	PKPdf	06 18 49.1	+0.6
G25A	Newell baz=135	134.85	25	⇑PKiKP	PKiKP	06 18 49.1	-0.7
AGMN	Agassiz Nation baz=135	134.86	17	⇑PKiKP	PKiKP	06 18 49.1	-0.4
F27A	Lemmon baz=135	134.87	23	⇑PKiKP	PKiKP	06 18 49.2	-0.5
GMRC	Granite Mounta baz=135	134.89	45	⇓PKiKP	PKiKP	06 18 50.8	+0.6
PFO	Pinyon Flats O baz=135	134.92	47	⇑PKiKP	PKiKP	06 18 50.9	+0.7
D30A	Buchanan baz=135	135.02	20	⇓PKiKP	PKiKP	06 18 50.2	+0.3
K21A	Alcova baz=135	135.04	30	⇑PKiKP	PKPdf	06 18 49.6	+0.7
BELC	Belle Mtn. Jos baz=135	135.05	46	⇑PKiKP	PKiKP	06 18 50.8	+0.2
G26A	Maurine baz=135	135.11	24	⇓PKPdiff	PKPdf	06 18 47.6	-1.1
H25A	Fruitdale baz=135	135.23	26	⇓PKPdiff	PKPdf	06 18 48.1	-0.9
G27A	Dupree baz=135	135.31	24	⇓PKPdiff	PKPdf	06 18 49.4	+0.3
F28A	McLaughlin baz=135	135.36	22	⇓PKPdiff	PKPdf	06 18 49.5	+0.4
I24A	Kuemmerle Ranc baz=135	135.38	27	⇑PKPdiff	PKPdf	06 18 48.1	-1.2
K22A	Casper baz=135	135.39	30	⇓PKPdiff	PKPdf	06 18 48.3	-1.2
K22A	Casper	135.39	30	ePKPdf	PKPdf	06 18 49.4	-0.1
RSSD	Black Hills	135.44	26	PKIKP	PKPdf	06 18 48.8	-0.8
RSSD	Black Hills	135.44	26	PKPdf	PKPdf	06 18 48.8	-0.8
E30A	Jud baz=135	135.49	20	⇓PKPdiff	PKPdf	06 18 49.1	-0.3
IRM	Iron Mountain baz=136	135.57	45	⇑PKiKP	PKiKP	06 18 50.9	-0.6
H26A	Fairpoint baz=136	135.59	25	⇑PKPdiff	PKPdf	06 18 48.6	-1.1
BC3	Big Chuckawall baz=136	135.62	46	⇑PKiKP	PKPdf	06 18 50.8	+0.7
NEE2	Needles Airpor baz=136	135.62	44	⇓PKiKP	PKPdf	06 18 50.7	+0.7
I25A	Rochford baz=136	135.65	26	⇓PKiKP	PKPdf	06 18 50.8	+0.8
SRU	San Rafael Swe	135.68	36	ePKIKP	PKPdf	06 18 50.5	+0.3
SRU	San Rafael Swe	135.68	36	ePKPdf	PKPdf	06 18 50.5	+0.3
SWSC	Sam W. Stewart baz=136	135.73	47	⇓PKiKP	PKPdf	06 18 50.9	+0.8
F29A	Eureka baz=136	135.74	22	⇓PKPdiff	PKPdf	06 18 48.5	-1.3
K23A	Bowen Ranch, D baz=136	135.76	29	⇓PKPdiff	PKPdf	06 18 49.0	-1.2
N20A	Spence Gulch, baz=136	135.80	33	⇓PKPdiff	PKPdf	06 18 49.0	-1.4
H27A	Howes baz=136	135.87	24	⇓PKiKP	PKiKP	06 18 51.5	-0.2
L22A	Ellis Ranch, M baz=136	135.90	30	⇓PKPdiff	PKPdf	06 18 49.2	-1.4
W13A	Hualapai Mount baz=136	135.95	43	⇓PKPdiff	PKPdf	06 18 48.8	-2.1
G28A	Parade baz=136	135.97	23	⇓PKPdiff	PKPdf	06 18 49.3	-1.1
I26A	New Underwood baz=136	136.02	26	⇑PKPdiff	PKPdf	06 18 49.3	-1.3
F30A	Leola baz=136	136.03	21	⇑PKPdiff	PKPdf	06 18 49.5	-0.9
J25A	Sunshine Ranch baz=136	136.12	27	⇑PKPdiff	PKPdf	06 18 48.9	-1.9
L23A	Garrett baz=136	136.20	30	⇓PKPdiff	PKPdf	06 18 49.7	-1.4
PDMCI	Parker Dam,Lak baz=136	136.21	44	⇑PKPdiff	PKPdf	06 18 49.9	-1.2
Y12C	Blythe baz=136	136.23	45	⇑PKPdiff	PKPdf	06 18 49.8	-1.3
G29A	Hoven baz=136	136.25	22	⇓PKPdiff	PKPdf	06 18 49.9	-0.9
U15A	North Rim baz=136	136.25	41	⇓PKPdiff	PKPdf	06 18 49.9	-1.6
H28A	Mission Ridge baz=136	136.26	24	⇑PKPdiff	PKPdf	06 18 49.7	-1.2
M22A	Cedar Creek Ra baz=136	136.28	31	⇓PKPdiff	PKPdf	06 18 49.7	-1.6
O20A	White River Ci baz=136	136.30	34	⇑PKPdiff	PKPdf	06 18 50.0	-1.3
I27A	Quinn baz=136	136.34	25	⇑PKPdiff	PKPdf	06 18 50.3	-0.8
GLA	Glamis baz=136	136.37	46	⇓PKPdiff	PKPdf	06 18 49.9	-1.6
J26A	Sides Ranch, S baz=136	136.50	26	⇑PKPdiff	PKPdf	06 18 50.4	-1.0
G30A	Faulkton baz=136	136.59	22	⇓PKPdiff	PKPdf	06 18 50.4	-1.0
H29A	Onida baz=136	136.62	23	⇓PKPdiff	PKPdf	06 18 50.6	-0.9
L24A	Wheatland	136.63	29	⇑PKPdiff	PKPdf	06 18 50.5	-1.3
I28A	Midland baz=136	136.76	24	⇓PKPdiff	PKPdf	06 18 50.4	-1.4
N22A	Wattenberg Ran baz=137	136.79	32	⇑PKPdiff	PKPdf	06 18 50.8	-1.5
N23A	Red Feather La baz=137	136.98	31	⇓PKPdiff	PKPdf	06 18 51.0	-1.7
L25A	Engebretsen Ra baz=137	137.01	28	⇓PKPdiff	PKPdf	06 18 51.1	-1.3
J27A	Elkhorn Farm, baz=137	137.02	26	⇓PKPdiff	PKPdf	06 18 51.1	-1.3
I29A	Vivian Onida baz=137	137.09	23	⇑PKPdiff	PKPdf	06 18 51.5	-1.0
M24A	Cheyenne baz=137	137.12	30	⇑PKPdiff	PKPdf	06 18 51.5	-1.2
Y14A	Wickenburg baz=137	137.19	44	⇑PKPdiff	PKPdf	06 18 51.7	-1.2
O22A	Kremmling baz=137	137.20	32	⇓PKPdiff	PKPdf	06 18 51.0	-2.1
J28A	Allard Ranch, baz=137	137.20	25	⇓PKPdiff	PKPdf	06 18 51.9	-0.8
BRSD	Miller baz=137	137.25	22	⇑PKPdiff	PKPdf	06 18 51.4	-1.3
BRSD	Miller	137.25	22	ePKPdf	PKPdf	06 18 52.6	-0.1
WUAZ	Wupatki baz=137	137.39	41	⇑PKPdiff	PKPdf	06 18 51.9	-1.5
PV01	Paradox Valley	137.48	36	ePKPdf	PKPdf	06 18 52.6	-1.0
P22A	Eagle baz=137	137.49	33	⇑PKPdiff	PKPdf	06 18 52.1	-1.5
O23A	Lake Granby, G baz=137	137.50	32	⇑PKPdiff	PKPdf	06 18 51.5	-2.1
L26A	Underwood Farm baz=137	137.51	28	⇑PKPdiff	PKPdf	06 18 51.5	-1.9
M25A	Palm-Egli Farm baz=137	137.52	29	⇓PKPdiff	PKPdf	06 18 51.6	-1.9
I30A	Oacoma baz=137	137.52	23	⇑PKPdiff	PKPdf	06 18 52.0	-1.2
Z14A	Wintersburg baz=138	137.55	45	⇓PKPdiff	PKPdf	06 18 52.1	-1.4
N24A	Carr baz=137	137.57	30	⇑PKPdiff	PKPdf	06 18 52.0	-1.6
J29A	Okreek baz=137	137.59	24	⇑PKPdiff	PKPdf	06 18 52.3	-1.1
K28A	Ten Mile Ranch baz=138	137.73	25	⇓PKPdiff	PKPdf	06 18 52.4	-1.3
L27A	T5 Ranch, Ells baz=138	137.82	27	⇓PKPdiff	PKPdf	06 18 52.5	-1.5
M26A	McRoberts Ranc baz=138	137.93	28	⇑PKPdiff	PKPdf	06 18 52.5	-1.7
ISCO	Idaho Springs baz=138	137.96	32	⇑PKPdiff	PKPdf	06 18 53.0	-1.5
X16A	Lo Mia Camp, P baz=138	137.99	43	⇑PKPdiff	PKPdf	06 18 52.8	-1.8
J30A	Dallas baz=138	137.99	23	⇑PKPdiff	PKPdf	06 18 52.7	-1.5
O24A	Longmont baz=138	138.00	31	⇑PKPdiff	PKPdf	06 18 52.5	-1.9
K29A	Lazy Trails An baz=138	138.13	24	⇑PKPdiff	PKPdf	06 18 53.3	-1.1
MVCO	Mesa Verde baz=138	138.13	37	⇑PKPdiff	PKPdf	06 18 53.0	-1.8
P23A	Jefferson baz=138	138.15	33	⇑PKPdiff	PKPdf	06 18 53.1	-1.8
M27A	Reverse DX Ran baz=138	138.23	27	⇑PKPdiff	PKPdf	06 18 53.7	-1.0
L28A	Connealy Angus baz=138	138.24	26	⇓PKPdiff	PKPdf	06 18 53.2	-1.5
N26A	Koester Ranch, baz=138	138.38	29	⇑PKPdiff	PKPdf	06 18 53.3	-1.7
214A	Organ Pipe Nat baz=138	138.40	47	⇑PKPdiff	PKPdf	06 18 53.7	-1.5
Q23A	Hartsel baz=138	138.49	33	⇑PKPdiff	PKPdf	06 18 53.7	-1.8
K30A	Basset baz=138	138.49	24	⇑PKPdiff	PKPdf	06 18 53.7	-1.4
O25A	Wiggins baz=138	138.49	30	⇓PKPdiff	PKPdf	06 18 53.1	-2.2
SPMN	Marine on St. baz=138	138.52	16	⇑PKPdiff	PKPdf	06 18 53.6	-1.4
P24A	Kohler Place, baz=138	138.53	32	⇓PKPdiff	PKPdf	06 18 53.5	-2.0
L29A	Maesberg Ranch baz=138	138.64	25	⇑PKPdiff	PKPdf	06 18 53.7	-1.7
W18A	Petrified Fore baz=139	138.70	40	⇑PKPdiff	PKPdf	06 18 54.3	-1.5
ECSD	EROS Data Cent baz=139	138.70	20	eP	PKPdf	06 18 55.1	-0.2
N27A	Anderson Farm, baz=139	138.73	28	⇑PKPdiff	PKPdf	06 18 54.3	-1.3
S22A	4UR Ranch, Cre baz=139	138.75	35	⇑PKPdiff	PKPdf	06 18 54.0	-2.1
OGNE	Ogallala baz=139	138.85	28	⇑PKPdiff	PKPdf	06 18 54.1	-1.8
X18A	Snowflake baz=139	138.92	41	⇑PKPdiff	PKPdf	06 18 54.2	-2.1
P25A	Willow Gulch B baz=139	138.92	31	⇑PKPdiff	PKPdf	06 18 54.4	-1.8
R23A	Moffat baz=139	139.00	34	⇓PKPdiff	PKPdf	06 18 54.6	-1.9
L30A	Spencer Herefo baz=139	139.05	25	⇓PKPdiff	PKPdf	06 18 54.5	-1.6
M29A	Burnside Ranch baz=139	139.06	26	⇓PKPdiff	PKPdf	06 18 54.9	-1.3
L31A	Butterfield Fa baz=139	139.22	24	⇓PKPdiff	PKPdf	06 18 54.9	-1.5
O27A	Beecher Island baz=139	139.24	29	⇓PKPdiff	PKPdf	06 18 55.2	-1.4
S23A	Nye Farm, Mont baz=139	139.25	34	⇑PKPdiff	PKPdf	06 18 55.4	-1.5
N28A	Pribbeno Ranch baz=139	139.28	27	⇑PKPdiff	PKPdf	06 18 55.3	-1.4
P26A	Davis Ranch, A baz=139	139.30	30	⇑PKPdiff	PKPdf	06 18 54.7	-2.1
Q25A	Bedland, Calha baz=139	139.32	32	⇓PKPdiff	PKPdf	06 18 55.1	-1.8
R24A	Sanders Place, baz=139	139.37	33	⇑PKPdiff	PKPdf	06 18 55.5	-1.6
SDCO	Great Sand Dun baz=139	139.50	34	⇓PKPdiff	PKPdf	06 18 55.0	-2.4
N29A	Votaw Ranch, W baz=140	139.59	26	⇑PKPdiff	PKPdf	06 18 55.7	-1.5
O28A	Krutsinger Ran baz=140	139.62	28	⇓PKPdiff	PKPdf	06 18 56.4	-0.8
P27A	Ficken Ranch, baz=140	139.68	29	⇓PKPdiff	PKPdf	06 18 56.0	-1.4
Q26A	Hugo baz=140	139.69	31	⇓PKPdiff	PKPdf	06 18 56.0	-1.5
T23A	Casias Ranch, baz=140	139.69	35	⇑PKPdiff	PKPdf	06 18 56.2	-1.6
S24A	Houchin Ranch, baz=140	139.73	34	⇓PKPdiff	PKPdf	06 18 56.2	-1.7
N30A	Hueftle Ranch, baz=140	139.84	26	⇑PKPdiff	PKPdf	06 18 56.0	-1.7
M31A	Lambtecht Ranc baz=140	139.86	24	⇑PKPdiff	PKPdf	06 18 56.2	-1.4
R25A	Fountain Ranch baz=140	139.87	32	⇑PKPdiff	PKPdf	06 18 56.6	-1.3
T24B	San Luis baz=140	140.05	35	⇓PKPdiff	PKPdf	06 18 56.4	-2.0
P28A	Saint Francis baz=140	140.07	29	⇓PKPdiff	PKPdf	06 18 56.6	-1.5
KSCO	Kaye Shedlock' baz=140	140.08	30	⇑PKPdiff	PKPdf	06 18 56.7	-1.5
BGNE	Belgrade baz=140	140.14	24	⇑PKPdiff	PKPdf	06 18 56.8	-1.3
S25A	Robets Cordova baz=140	140.15	33	⇓PKPdiff	PKPdf	06 18 57.0	-1.5
R26A	Arlington baz=140	140.20	32	⇑PKPdiff	PKPdf	06 18 57.3	-1.2
N31A	Bailey Ranch, baz=140	140.31	25	⇓PKPdiff	PKPdf	06 18 57.1	-1.4
P29A	Atwood baz=140	140.43	28	⇓PKPdiff	PKPdf	06 18 57.3	-1.4
T25A	Trinidad baz=140	140.54	34	⇑PKPdiff	PKPdf	06 18 57.3	-1.9
R27A	Eads baz=140	140.54	31	⇓PKPdiff	PKPdf	06 18 57.3	-1.8
U24A	Moreno Valley baz=140	140.57	35	⇑PKPdiff	PKPdf	06 18 57.6	-1.8
N32A	Stulken Farm, baz=140	140.63	24	⇑PKPdiff	PKPdf	06 18 57.5	-1.5
S26A	Kim baz=141	140

LAZ	Ladron	140.80	39	ePKPdf	PKPdf	06 18 59.8	0.0
T26A	Comanche Natio baz=141	140.96	33	⇓PKPdiff	PKPdf	06 18 58.2	-1.7
Q29A	Oakley baz=141	140.97	29	⇑PKPdiff	PKPdf	06 18 58.4	-1.4
R28A	Tribune baz=141	141.00	30	⇓PKPdiff	PKPdf	06 18 58.0	-1.8
O32A	Brockman Farm, baz=141	141.06	25	⇑PKPdiff	PKPdf	06 18 58.6	-1.2
U25A	Circle Dot Ran baz=141	141.07	34	⇓PKPdiff	PKPdf	06 18 58.4	-1.8
Y22D	IRIS PASSCAL I baz=141	141.15	39	⇑PKiKP	PKPdf	06 18 59.6	-0.7
P31A	Stockton baz=141	141.20	26	⇓PKPdiff	PKPdf	06 18 58.5	-1.6
319A	Douglas baz=141	141.23	45	⇑PKPdiff	PKPdf	06 18 59.1	-1.4
Q30A	Quinter baz=141	141.26	28	⇑PKPdiff	PKPdf	06 18 58.8	-1.4
R29A	Marienthal baz=141	141.26	29	⇑PKPdiff	PKPdf	06 18 58.8	-1.5
U26A	Atchley Ranch, baz=141	141.44	34	⇑PKPdiff	PKPdf	06 18 59.4	-1.5
P32A	Huiting Farm, baz=141	141.46	26	⇑PKPdiff	PKPdf	06 18 58.5	-2.0
T27A	Campo baz=141	141.51	32	⇑PKiKP	PKPdf	06 19 01.7	+0.9
S28A	Manter baz=141	141.53	31	⇓PKPdiff	PKPdf	06 18 59.1	-1.7
121A	Cookes Peak, D baz=142	141.56	42	⇓PKiKP	PKiKP	06 19 02.7	-1.2
Q31A	Ellis baz=142	141.62	27	⇑PKiKP	PKPdf	06 19 01.9	+1.1
T28A	Walsh baz=142	141.78	31	⇑PKPdiff	PKPdf	06 18 59.9	-1.4
R30A	Dighton baz=142	141.79	28	⇑PKPdiff	PKPdf	06 18 59.6	-1.6
V26A	Tequesquite Ra baz=142	141.85	35	⇓PKPdiff	PKPdf	06 18 60.0	-1.5
U27A	Thompson Grove baz=142	141.93	33	⇑PKPdiff	PKPdf	06 18 60.0	-1.7
P33A	Williams Farm, baz=142	142.00	25	⇓PKPdiff	PKPdf	06 18 59.7	-1.8
Q32A	Meitler Ranch, baz=142	142.00	26	⇑PKPdiff	PKPdf	06 18 59.4	-2.1
R31A	Burdett baz=142	142.14	28	⇑PKPdiff	PKPdf	06 18 59.6	-2.2
T29A	Hugoton baz=142	142.18	31	⇑PKPdiff	PKPdf	06 19 00.2	-1.8
S30A	Montezuma baz=142	142.21	29	⇑PKPdiff	PKPdf	06 18 59.9	-2.1
U28A	Mallet baz=142	142.28	32	⇑PKPdiff	PKPdf	06 19 00.3	-1.9
Q33A	Connelly Farm, baz=142	142.31	25	⇓PKPdiff	PKPdf	06 19 00.4	-1.7
R32A	Long Quarter, baz=142	142.40	27	⇓PKPdiff	PKPdf	06 18 60.0	-2.3
V27A	Dan Oppiter Fa baz=142	142.41	34	⇑PKPdiff	PKPdf	06 19 00.3	-2.2
U29A	Oasis Ranch, S baz=143	142.73	31	⇓PKPdiff	PKPdf	06 19 00.9	-2.1
V28A	Channing baz=143	142.75	33	⇓PKPdiff	PKPdf	06 19 00.7	-2.4
R33A	Olander Ranch, baz=143	142.82	26	⇑PKPdiff	PKPdf	06 19 00.4	-2.6
S32A	Newby Ranch, P baz=143	142.89	28	⇑PKPdiff	PKPdf	06 19 00.9	-2.2
U30A	WK&E Inc. Balk baz=143	142.99	31	⇓PKPdiff	PKPdf	06 19 01.7	-1.8
T31A	Randall Ranch, baz=143	143.02	29	⇓PKPdiff	PKPbc	06 19 01.2	+1.1
V29A	Stinnett baz=143	143.04	32	⇓PKPdiff	PKPbc	06 19 01.5	+1.2
T32A	Huddler Ranch, baz=143	143.31	28	⇑PKPdiff	PKPbc	06 19 02.4	+1.4
BDFB	Brasilia	143.36	234	PKiKP	PKPdf	06 19 07.0	+2.3
BDFB	Brasilia comp=Z,3.3nm,0.8s,baz=203,slow=3.0,SNR=4.1	143.36	234	PKP	PKPdf	06 19 07.0	+2.3
S33A	Kaszmaul Farm, baz=143	143.40	27	⇓PKPdiff	PKPbc	06 19 02.4	+1.3
U31A	Nine Bar Ranch baz=143	143.51	30	⇑PKPdiff	PKPbc	06 19 02.6	+1.0
W29A	Amarillo baz=143	143.53	33	⇑PKPdiff	PKPbc	06 19 02.5	+0.8
V30A	Spur Ranch, Mi baz=143	143.56	31	⇑PKPdiff	PKPbc	06 19 02.7	+0.9
MNTX	Cornudas Mount baz=144	143.67	41	⇓PKPdiff	PKPbc	06 19 03.3	+1.1
X28A	Dimmitt baz=144	143.67	34	⇑PKPdiff	PKPbc	06 19 02.8	+0.7
AMTX	Amarillo baz=144	143.69	33	⇓PKPdiff	PKPbc	06 19 02.6	+0.5
AMTX	Amarillo	143.69	33	ePKPdf	PKPbc	06 19 03.2	+1.1
S34A	Willow Spring baz=144	143.70	26	⇑PKPdiff	PKPbc	06 19 02.6	+0.6
T33A	Patterson Ranc baz=144	143.71	27	⇑PKPdiff	PKPbc	06 19 02.9	+0.9
MSTX	Muleshoe	143.74	36	ePKPdf	PKPdf	06 19 04.6	-0.3
R36A	Gordon, Harris baz=144	143.83	23	⇓PKPdiff	PKPbc	06 19 02.7	+0.3
U32A	Winter Ranch, baz=144	143.92	29	⇓PKPdiff	PKPbc	06 19 02.7	0.0
V31A	Spring Creek L baz=144	143.98	31	⇓PKPdiff	PKPbc	06 19 03.5	+0.6
X29A	Tulia baz=144	144.01	34	⇑PKPdiff	PKPbc	06 19 03.4	+0.2
S35A	Otter Creek Ra baz=144	144.05	25	⇓PKPdiff	PKPbc	06 19 03.1	0.0
Y28A	McKinney Farm, baz=144	144.09	35	⇓PKPdiff	PKPbc	06 19 03.7	+0.3
R37A	Teagarden Farm baz=144	144.10	22	⇑PKPdiff	PKPbc	06 19 03.1	-0.1
U33A	Lingo Farm, Me baz=144	144.30	28	⇑PKPdiff	PKPbc	06 19 03.8	-0.1
S36A	Lake Cedric, C baz=144	144.31	24	⇑PKPdiff	PKPbc	06 19 03.8	-0.1
W31A	Holland Ranch, baz=144	144.39	31	⇑PKPdiff	PKPbc	06 19 04.3	+0.1
V32A	Arapaho baz=144	144.43	30	⇑PKPdiff	PKPbc	06 19 04.4	+0.1
SFIN	Lafayette baz=144	144.45	12	⇑PKPdiff	PKPbc	06 19 04.2	0.0
SFIN	Lafayette	144.45	12	ePKPdf	PKPbc	06 19 04.2	0.0
Y29A	Porterfield Fa baz=144	144.45	35	⇓PKPdiff	PKPbc	06 19 04.7	+0.2
Z28A	Tucker Farm, M baz=144	144.45	36	⇓PKPdiff	PKPab	06 19 04.1	-0.2
X30A	Coker Ranch, T baz=144	144.46	33	⇓PKPdiff	PKPab	06 19 04.4	+0.1
U34A	Anderson Ranch baz=144	144.56	27	⇓PKPdiff	PKPbc	06 19 05.1	+0.4
U34A	Anderson Ranch	144.56	27	ePKPdf	PKPbc	06 19 05.0	+0.3
V33A	Lossen Ranch, baz=145	144.71	29	⇓PKPdiff	PKPab	06 19 05.0	-0.1
W32A	Sentinel baz=145,SNR=15	144.79	31	⇑PKiKP	PKPbc	06 19 05.7	+0.2
X31A	McDonald Ranch baz=145,SNR=22	144.80	32	⇓PKiKP	PKPbc	06 19 05.8	+0.3
128A	Castleberry Fa baz=145,SNR=7.1	144.87	37	⇓PKiKP	PKPbc	06 19 06.2	+0.3
Z29A	Hungry Hill Ra baz=145,SNR=48	144.87	35	⇑PKiKP	PKPdf	06 19 06.8	0.0
Y30A	Stafford Cattl baz=145,SNR=5.6	144.87	34	⇑PKiKP	PKPdf	06 19 06.8	0.0
V34A	Guthrie baz=145,SNR=30	145.06	28	⇑PKiKP	PKPdf	06 19 06.9	-0.1
V34A	Guthrie	145.06	28	ePKPbc	PKPdf	06 19 06.9	-0.1
SSPA	Standing Stone	145.09	359	ePKPbc	PKPbc	06 19 05.8	-0.4
228A	UT Block 9, Go baz=145,SNR=9.3	145.15	38	⇑PKiKP	PKPdf	06 19 07.6	+0.3
Y31A	Rekieta Farm, baz=145	145.16	33	⇑PKPdiff	PKPbc	06 19 05.5	-1.2
W33A	Caddo, Fort Co baz=145,SNR=20	145.16	30	⇑PKiKP	PKPdf	06 19 07.7	+0.5
Z30A	Sanderson Ranc baz=145,SNR=45	145.18	35	⇑PKiKP	PKPdf	06 19 07.5	+0.2
129A	Stewart Farms, baz=145,SNR=13	145.23	36	⇓PKiKP	PKPdf	06 19 07.9	+0.4
ACSO	Alum Creek Sta	145.23	6	ePKPbc	PKPbc	06 19 06.5	-0.2
X32A	Elmer baz=145,SNR=10	145.32	31	⇓PKiKP	PKPdf	06 19 07.5	0.0
WMOK	Wichita Mounta	145.33	30	ePKIKP	PKPdf	06 19 07.8	+0.3
WMOK	Wichita Mounta	145.33	30	ePKPbc	PKPdf	06 19 07.8	+0.3
W34A	Bridge Creek, baz=145,SNR=7.9	145.43	29	⇑PKiKP	PKPab	06 19 08.0	+0.3
W34A	Bridge Creek,	145.43	29	ePKPbc	PKPab	06 19 08.6	+0.8
V35A	Meyer Ranch, C baz=145,SNR=12	145.44	27	⇓PKiKP	PKPab	06 19 07.9	+0.2
Y32A	R-V Farms, Ver baz=145,SNR=11	145.56	32	⇑PKiKP	PKPbc	06 19 08.2	+0.1
X33A	Lawton baz=146	145.63	30	⇓PKiKP	PKPab	06 19 09.4	+1.0
Z31A	Sharp Cattle R baz=146,SNR=37	145.71	34	⇓PKiKP	PKPab	06 19 08.9	+0.1
229A	Bryant Ranch, baz=146,SNR=6.1	145.73	37	⇑PKiKP	PKPdf	06 19 07.5	-0.8
TUL1	Leonard baz=146,SNR=15	145.78	26	⇑PKiKP	PKPab	06 19 09.6	+0.6
TUL1	Leonard	145.78	26	ePKPbc	PKPab	06 19 09.2	+0.3
130A	Snyder baz=146,SNR=14	145.78	35	⇓PKiKP	PKPdf	06 19 07.6	-0.7
OLIL	Olney	145.81	14	ePKPbc	PKPab	06 19 09.5	+0.6
X34A	Smith Ranch, M baz=146,SNR=6.1	145.91	30	⇓PKiKP	PKPab	06 19 09.9	+0.4
329A	Wagon Wheel Ra baz=146,SNR=18	145.97	38	⇓PKiKP	PKPbc	06 19 09.6	+0.2
Y33A	Hilltop Ranch, baz=146	145.99	31	⇓PKPab	PKPdf	06 19 08.4	-0.2
131A	Roby baz=146	146.05	35	⇓PKiKP	PKPdf	06 19 09.2	+0.4
Z32A	Haskell baz=146,SNR=15	146.08	33	⇑PKiKP	PKPbc	06 19 09.6	-0.1
230A	Sterling City baz=146,SNR=12	146.20	36	⇓PKiKP	PKPab	06 19 10.5	-0.3
SDMD	Soldier's Deli	146.29	358	ePKPbc	PKPbc	06 19 09.7	-0.3
TXAR	Lajitas Array comp=Z,19nm,0.7s,baz=262,slow=1.1,SNR=145	146.32	42	PKPbc	PKPab	06 19 11.8	+0.5
Y34A	Reagan Ranch, baz=146,SNR=8.7	146.47	30	⇓PKiKP	PKPbc	06 19 10.7	0.0
Z33A	Whitaker Ranch baz=146,SNR=5.1	146.47	32	⇑PKiKP	PKPbc	06 19 11.0	+0.2
SIUC	Southern Illin	146.48	16	ePKPab	PKPab	06 19 12.1	+0.6
ABTX	Abilene, Hawle baz=146	146.50	34	⇓PKPab	PKPdf	06 19 10.3	+0.7
ABTX	Abilene, Hawle	146.50	34	ePKPab	PKPab	06 19 12.1	+0.2
330A	Mertzon baz=146	146.51	37	⇑PKPab	PKPbc	06 19 10.5	-0.6
429A	Davenport Ranc baz=146	146.62	39	⇑PKPab	PKPdf	06 19 10.6	+0.7
231A	Bronte baz=146	146.63	35	⇓PKPab	PKPbc	06 19 10.7	-0.6
USIN	University of	146.64	14	ePKPdf	PKPdf	06 19 09.0	-0.6
WCI	Wyandotte Cave	146.68	12	ePKP2	PKPbc	06 19 11.1	-0.2
WCI	Wyandotte Cave	146.68	12	ePKPbc	PKPbc	06 19 11.1	-0.2
WCI				ePKPab	PKPab	06 19 12.8	+0.4
529A	Stev Forest Ra baz=147	146.75	40	⇓PKPab	PKPbc	06 19 11.2	-0.6
Z34A	Collier Ranch, baz=147	146.85	31	⇓PKPab	PKPbc	06 19 11.7	-0.2
430A	Baggett Ranch, baz=147	146.91	38	⇓PKPbc	PKPdf	06 19 10.7	+0.4
133A	Hamilton Ranch baz=147	146.92	33	⇓PKPbc	PKPdf	06 19 10.3	0.0
331A	San Angelo baz=147	147.03	36	⇑PKPbc	PKPdf	06 19 10.6	+0.1
Z35A	Perchaen, San baz=147	147.22	30	⇓PKdiff	PKPdf	06 19 09.2	-1.5
530A	J-C Ranch, Com baz=147	147.29	39	⇓PKPbc	PKPdf	06 19 11.4	+0.5
PARMO	Parma	147.31	17	ePKPbc	PKPbc	06 19 13.5	+0.4
PARMO				ePKPab	PKiKP	06 19 15.2	-0.1
431A	Sonora baz=147	147.37	37	⇓PKiKP	PKPbc	06 19 14.2	+0.7
332A	Millersview baz=147	147.37	35	⇓PKiKP	PKPbc	06 19 14.4	+0.9
233A	Rising Star baz=147	147.37	34	⇑PKiKP	PKPbc	06 19 14.4	+0.9
432A	Menard baz=148	147.71	36	⇑PKPbc	PKPbc	06 19 14.1	-0.4
531A	Rocksprings baz=148	147.77	38	⇓PKiKP	PKiKP	06 19 15.7	-0.9
GLAT	Glass	147.82	17	ePKPab	PKPab	06 19 17.2	+0.4
333A	Richland Sprin baz=148	147.85	35	⇑PKiKP	PKPbc	06 19 15.6	+0.9
MIAR	Mount Ida	147.88	24	ePKP2	PKPbc	06 19 15.1	+0.4
MIAR	Mount Ida	147.88	24	ePKPbc	PKPbc	06 19 15.1	+0.4
MIAR				ePKPab	PKPab	06 19 17.9	+0.8
JCT	Junction City	148.00	37	ePKP2	PKPbc	06 19 16.3	+1.1
JCT	Junction City baz=148	148.00	37	⇑PKiKP	PKiKP	06 19 16.2	-0.9
JCT	Junction City	148.00	37	ePKPbc	PKPbc	06 19 16.3	+1.1
JSRW	J. Sargeant Re	148.02	359	ePKPbc	PKPbc	06 19 15.3	+0.3
HALT	Halls	148.14	17	ePKPbc	PKPbc	06 19 15.5	+0.2
HALT				ePKPab	PKPab	06 19 18.5	+0.5
UALR	University of	148.16	22	ePKPdf	PKPdf	06 19 11.5	-0.7
WHTX	Lake Whitney, baz=148	148.17	32	⇑PKiKP	PKiKP	06 19 17.9	+0.6
532A	Rocksprings baz=148	148.19	37	⇓PKiKP	PKPbc	06 19 16.5	+0.8
433A	Art baz=148	148.21	36	⇑PKiKP	PKPab	06 19 18.2	-0.5
334A	Lometa baz=148	148.26	34	⇑PKiKP	PKiKP	06 19 16.9	-0.6
631A	Perdido Creek baz=148	148.28	39	⇑PKiKP	PKiKP	06 19 17.0	-0.6
WVT	Waverly	148.34	15	ePKP2	PKPbc	06 19 15.9	0.0
WVT	Waverly	148.34	15	ePKPbc	PKPbc	06 19 15.9	0.0
WVT				ePKPab	PKPab	06 19 19.1	+0.1
VWCC	Virginia Weste	148.43	3	ePKPbc	PKPbc	06 19 15.5	-0.6
VWCC				ePKPab	PKPab	06 19 18.9	-0.4
BLA	Blacksburg	148.45	3	ePKP2	PKPbc	06 19 15.6	-0.6
BLA	Blacksburg	148.45	3	ePKPbc	PKPbc	06 19 15.6	-0.6
137A	Heron Place, G baz=148	148.55	29	⇓PKiKP	PKiKP	06 19 18.5	+0.4
434A	Burnet baz=148	148.63	34	⇓PKiKP	PKiKP	06 19 18.4	+0.1
632A	Uvalde baz=149	148.70	38	⇓PKiKP	PKPbc	06 19 17.4	+0.4
335A	Moody baz=149	148.74	33	⇑PKiKP	PKPbc	06 19 17.7	+0.6
533A	Kerrville baz=149	148.75	36	⇓PKiKP	PKPbc	06 19 17.8	+0.6
138A	Matatall Enter baz=149	148.81	28	⇓PKiKP	PKPbc	06 19 17.5	+0.3
336A	Riesel baz=149	148.97	32	⇓PKiKP	PKiKP	06 19 18.5	-0.5
435B	Jarrell baz=149	149.04	34	⇓PKiKP	PKPbc	06 19 18.5	+0.7
534A	Blanco baz=149	149.10	36	⇓PKiKP	PKPbc	06 19 18.3	+0.3
633A	Seathoff Ranch baz=149	149.10	37	⇓PKiKP	PKiKP	06 19 19.0	-0.4
732A	Laxson Ranch, baz=149	149.13	39	⇓PKiKP	PKiKP	06 19 19.2	-0.2
OXF	Oxford	149.41	18	ePKP2	PKPbc	06 19 18.5	-0.1
OXF	Oxford	149.41	18	ePKPbc	PKPbc	06 19 18.5	-0.1
832A	Faith Ranch, C baz=149	149.44	40	⇑PKiKP	PKPbc	06 19 19.1	+0.3
436A	Wall Ranch, Ga baz=149	149.48	33	⇓PKiKP	PKPbc	06 19 19.2	+0.3
337A	Centerville baz=149	149.52	31	⇓PKiKP	PKiKP	06 19 20.5	+0.4
733A	Divot King Ran baz=150	149.56	38	⇑PKiKP	PKPbc	06 19 19.3	+0.1
535A	Dale baz=150	149.62	35	⇓PKiKP	PKPbc	06 19 19.4	+0.1
239A	Gary baz=150	149.64	28	⇓PKiKP	PKPbc	06 19 19.4	+0.2
338A	Crockett baz=150	149.78	30	⇑PKiKP	PKPbc	06 19 19.7	0.0
833A	Chaparral WMA, baz=150	149.78	39	⇑PKiKP	PKPbc	06 19 20.1	+0.3
536A	Bastrop baz=150	149.87	34	⇑PKiKP	PKPbc	06 19 19.9	0.0
734A	La Parita Cree baz=150	149.92	37	⇑PKiKP	PKPbc	06 19 19.9	-0.2
635A	Leesville baz=150	149.99	36	⇑PKiKP	PKiKP	06 19 21.8	+0.7
339A	Huntington baz=150	150.16	29	⇑PKiKP	PKiKP	06 19 22.0	+0.5
438A	Sam Houston St baz=150	150.19	31	⇓PKiKP	PKiKP	06 19 21.8	+0.4
537A	Green Hill Far baz=150	150.28	33	⇓PKiKP	PKPbc	06 19 21.1	+0.2
636A	Smothers Creek baz=150	150.33	35	⇓PKiKP	PKPbc	06 19 21.4	+0.4
933A	Laredo baz=150	150.35	40	⇓PKPbc	PKPdf	06 19 18.0	+2.1
340A	Bronson baz=150	150.41	28	⇓PKiKP	PKPbc	06 19 20.0	-1.2
KMSC	Kings Mountain baz=150	150.44	5	⇓PKiKP	PKPbc	06 19 20.0	-1.2
KMSC	Kings Mountain	150.44	5	ePKPbc	PKPbc	06 19 20.9	-0.2
KMSC				ePKPab	PKPab	06 19 27.2	-0.3
834A	Tilden	150.44	38	⇓PKPbc	PKPbc	06 19 19.1	-2.3
	baz=150						
CNNC	Cliffs of the	150.47	359	ePKPdf	PKPdf	06 19 16.2	+0.4
CNNC				ePKPbc	PKiKP	06 19 22.4	+0.4
CNNC				ePKPab	PKPab	06 19 28.2	+0.7
LVC	Limon Verde	150.53	198	ePKPbc	PKPbc	06 19 22.9	+0.8
LVC				ePKPab	PKPab	06 19 29.8	+1.3
HKT	Hockley	150.63	32	ePKIKP	PKPbc	06 19 22.9	+1.3
HKT	Hockley	150.63	32	ePKPbc	PKPbc	06 19 22.9	+1.3
835A	Beeville baz=151	150.76	37	⇓PKiKP	PKPbc	06 19 21.9	-0.2
934A	Benavides baz=151	150.83	39	⇑PKiKP	PKiKP	06 19 23.3	+0.4
034A	Hebbronville baz=151	151.10	40	⇓PKiKP	PKPbc	06 19 22.4	-0.5
LRAL	Lakeview Retre	151.49	15	ePKPbc	PKPbc	06 19 23.7	+0.1
LRAL				ePKPab	PKPab	06 19 31.7	-0.2
GOGA	Godfrey	151.88	9	ePKIKP	PKPbc	06 19 24.9	+0.3
GOGA				e		06 19 33.3	
GOGA	Godfrey	151.88	9	ePKPbc	PKPbc	06 19 24.9	+0.3
GOGA				ePKPab	PKPab	06 19 33.3	-0.1
035Z	Hargill baz=152	151.92	40	⇑PKiKP	PKPbc	06 19 23.6	-1.2
BRAL	Brewton	153.38	17	ePKPab	PKPab	06 19 41.1	+1.2
TIGA	Tifton baz=154	153.79	10	⇓PKiKP	PKPbc	06 19 28.1	-0.7
LPAZ	La Paz comp=Z,1.7nm,0.9s,baz=37,slow=1.9,SNR=5.3	156.07	205	PKP	PKPdf	06 19 25.7	+0.4
LPAZ	comp=Z,6.0nm,1.0s,baz=74,slow=6.8,SNR=7.1			PKPab	PKPab	06 19 53.2	+0.8
LPAZ	La Paz	156.07	205	ePKPdf	PKPdf	06 19 25.4	+0.2
LPAZ				PKP	PKPdf	06 19 25.7	+0.4
LPAZ				PKPab	PKPab	06 19 53.2	+0.8
SAML	Samuel	159.16	226	ePKPdf	PKPdf	06 19 28.7	+0.3
OTAV	Otavalo	174.70	178	ePKPdf	PKPdf	06 19 40.4	-0.2

MEX 11 06:02:25.5±0.7, 32°.41N×115°.30W, h13km±87km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.08	92	*i* P			Pg	06 02 28.2	0.0
MBIG				*e*S			Sg	06 02 29.4	-0.8
CBX	Cerro Bola	1.16	266	*e*P			Pb	06 02 44.2	-3.5
CBX				*e*S			Sb	06 02 57.9	-4.9
SPIG	San Pedro Mart	1.37	186	*e*P			Pn	06 02 46.8	-4.0
SPIG				*i* S			Sn	06 03 03.8	-5.3

GUC 11 06:07:45.4±0.6, 35°.20S×72°.89W, h27km±4km, ML3.5, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.93	175	⇑*i*P			Pb	06 08 03.5	+0.5
COCH				*i* S			Sn	06 08 16.3	+1.1
TALC	Talca	1.04	101	⇑*i*P			Pn	06 08 04.5	+0.3
TALC				*i* S			Sb	06 08 19.8	+1.6
LNCH	Linares	1.23	122	⇑*i*P			Pb	06 08 08.0	0.0
NICH	Los Niches	1.37	82	⇓*i*P			Pn	06 08 08.7	-0.2
NICH				*i* S			Sb	06 08 27.7	+0.1
CLCH	Cerro Calan	2.65	48	*e*P			Pn	06 08 29.2	+2.7
CLCH				*i* S			Sb	06 09 03.1	-1.4
CLCH	comp=N,215nm,0.4s				AML		AML	06 09 16.1	

CASC 11 06:28:55.1±2.9, 9°.02N×83°.99W, h11km±18km, MD4.0, 5C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
QCR	Quepos	0.43	336	⇑*e*P			Pb	06 29 05.6	+0.8
BUS	Buena Vista	0.57	23	*e*P			Pg	06 29 07.3	+0.3
URSC	Urasca	0.83	14	⇑*i*P			Pg	06 29 11.0	-0.4
ACR	Cerro Adams	0.89	114	⇑*i*P			Pg	06 29 11.6	-0.8
ACR				*e*S			Sg	06 29 23.3	-0.8
SJS	Escuela Geolog	0.91	356	⇑*e*P			Pg	06 29 12.6	-0.3
SJS				*e*S			Sg	06 29 24.4	-0.5
CGA2	Cerro Gallo 2	1.09	335	⇑*i*P			Pb	06 29 15.3	-0.9
JCR	Jicaral	1.38	307	*e*P			Pn	06 29 18.2	-2.2
JCR				*e*S			Sn	06 29 35.5	-3.2
CASO	Castillo	1.58	332	*i* P			Pn	06 29 23.0	-0.2
FORC	Fortuna	1.58	335	*i* P			Pn	06 29 23.0	-0.1
FORC				*i* S			Sg	06 29 45.3	-0.8
PTEN	Parque Tenorio	1.95	330	*i* P			Pn	06 29 27.9	-0.4
CUI	Cuipilapa	1.99	325	*i* P			Pn	06 29 28.4	-0.5
CUI				*i* S			Sb	06 29 57.0	+0.6
COLC	Colonia	2.02	324	*i* P			Pn	06 29 28.7	-0.5
LIM1	Limonal	2.08	323	*i* P			Pn	06 29 29.6	-0.4
MESS	Mesas	2.08	325	*i* P			Pn	06 29 29.4	-0.6
LAPC	Finca la Perla	2.24	321	*i* P			Pn	06 29 31.1	-1.1

ISCJB ***11*** *06:36:47.5±0.8, 43°.19N±0°.06×138°.54E±0°.06, h10km, mb3.5/3, Error ellipse: s-maj=8.1km s-min=6.4km az=10.2*
IDC ***11*** *06:36:47.7±1.2, 43°.24N×138°.53E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/45, mbtmp3.4/5, ML2.8/2, Error ellipse: s-maj=31.3km s-min=24.5km az=160.0*
JMA ***11*** *06:36:50.1±0.2, 43°.18N×138°.60E, h31km, M3.2*
ISC 11 06:36:48.4±0.9, 43°.14N±0°.07×138°.55E±0°.04, h10km, n9, σ1°38/15, mb3.5/3, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSH	Shimam	1.20	114	P			Pb	06 37 10.8	-0.4
JSH				*e*S			Sb	06 37 25.7	-1.1
JOSM	Okushiri--Mats	1.26	147	P			Pn	06 37 12.1	+0.1
JOSM				*e*S			Sb	06 37 28.0	-0.4
JSK	Shakotan	1.42	81	P			Pn	06 37 13.6	-0.6
JSK				*e*S			Sb	06 37 31.2	-1.9
JHR	Hokuryu	2.39	74	P			Pn	06 37 28.4	+0.9
JHR				*e*S			Sn	06 37 57.0	+0.2
ASAJ	Asahikawa 1.9nm,0.3s,baz=181,slow=6.2,SNR=27	3.09	70	Pn			Pn	06 37 38.3	+1.1
ASAJ				Sn			Sn	06 38 14.3	0.0
USRK	2.6nm,0.3s,baz=287,slow=14,SNR=5.4 Ussuriysk Ar.	4.88	285	Pn			Pn	06 38 03.1	+1.3
USRK	0.7nm,0.3s,baz=96,slow=14,SNR=11			Sn			Sn	06 38 55.1	-3.2
YKA	0.5nm,0.3s,baz=89,slow=16,SNR=3.9 Yellowknife Ar	59.67	31	P			P	06 46 53.3	+1.0
FINES	0.1nm,0.5s,baz=302,slow=6.7,SNR=5.4 FINESS Array B	62.41	330	P			P	06 47 10.2	-0.8
WRA	0.7nm,0.7s,baz=46,slow=5.8,SNR=4.9 Warramunga Arr	62.89	184	P			P	06 47 16.1	+1.

baz=146,slow=74,SNR=9.1
ASAR Alice Springs 25.59 14 P **P** **06 49 31.9 +0.9**
5.4nm,0.9s,baz=186,slow=9.4,SNR=32
WRA Warramunga Arr 29.30 14 P **P** **06 50 04.0 -0.3**
1.5nm,0.9s,baz=194,slow=9.5,SNR=7.3
VNDA Vanda 31.76 166 P **P** **06 50 25.4 -0.1**
1.4nm,0.9s,baz=327,slow=8.5,SNR=5.3
QSPA South Pole Qui 41.37 180 P **P** **06 51 47.6 -0.1**
1.7nm,0.8s,baz=78,slow=0.9,SNR=13
SNAA Sanae 54.81 197 P **P** **06 53 31.6 +0.3**
0.8nm,0.9s,baz=148,slow=19,SNR=2.8
CMAR Chiang Mai Arr 71.51 332 P **P** **06 55 22.4 -0.2**
0.9nm,0.8s,baz=180,slow=5.5,SNR=7.4

IDC 11 06:44:29.7±1.9, 1.84N×127.50E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/37, mbtmp3.6/3, Error ellipse: s-maj=141.6km s-min=24.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**163**	P	P		06 49 33.4	+0.6
	1.1nm,0.5s,baz=343,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.11**	**167**	P	P		06 50 04.6	-0.9
	0.3nm,0.6s,baz=344,slow=10,SNR=4.4							
MKAR	**Makanchi Array**	**59.54**	**326**	P	P		06 54 35.2	+0.1
	0.4nm,0.4s,baz=116,slow=8.2,SNR=12							

WEL 11 06:56:55.3±0.3, 37.19S×176.59E, h195km±2km, ML3.5/10, 5C-2D, Error ellipse: s-maj=3.6km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.11**	**121**		PN	Pn	06 57 25.3	+0.1
HAZ					SN	Sn	06 57 48.1	-0.5
URZ	**Urewera**	**1.15**	**159**	⇑P	PN	Pn	06 57 25.7	+0.1
URZ					SN	Sn	06 57 49.8	+0.5
MWZ	**Matawai**	**1.37**	**147**	⇑P	PN	Pn	06 57 27.3	-0.2
MXZ	**Matakaoa Point**	**1.42**	**106**	P	PN	Pn	06 57 28.0	+0.2
TWGZ	**Tauwhareparae**	**1.48**	**132**	P	PN	Pn	06 57 29.1	+0.6
WMGZ	**Waiomatatini S**	**1.59**	**114**	P	PN	Pn	06 57 29.6	+0.3
PUZ	**Puketiti**	**1.59**	**124**	P	PN	Pn	06 57 29.5	0.0
PUZ					SN	Sn	06 57 54.7	-1.4
TKGZ	**Te Karaka**	**1.60**	**142**	P	PN	Pn	06 57 29.6	+0.2
SNGZ	**Shannon Statio**	**1.70**	**160**	P	PN	Pn	06 57 30.5	0.0
RIGZ	**Rimuhau**	**1.78**	**149**	P	PN	Pn	06 57 31.6	+0.3
CNGZ	**Carnagh Statio**	**1.82**	**136**	⇓P	PN	Pn	06 57 32.3	+0.7
NMHZ	**Naumai**	**1.92**	**175**	P	PN	Pn	06 57 33.1	+0.4
WHHZ	**Waihua**	**1.96**	**165**	P	PN	Pn	06 57 33.0	0.0
BKZ	**Black Stump Fm**	**1.98**	**182**	⇑P	PN	Pn	06 57 32.6	-0.6
PRGZ	**Paritu Road**	**2.02**	**150**	P	PN	Pn	06 57 33.6	0.0
KNZ	**Kokohu**	**2.02**	**155**	⇑P	PN	Pn	06 57 33.2	-0.4
ARHZ	**Aropaoanui**	**2.10**	**171**	⇓P	PN	Pn	06 57 34.4	0.0
TUVZ	**Tukino**	**2.21**	**199**	P	PN	Pn	06 57 35.7	-0.1
FWVZ	**Far West T-bar**	**2.22**	**201**	P	PN	Pn	06 57 35.6	-0.4
MHGZ	**Mahia Peninsul**	**2.22**	**153**	P	PN	Pn	06 57 35.3	-0.5
MCHZ	**McNeill Hill**	**2.26**	**178**	P	PN	Pn	06 57 36.0	-0.1
WNVZ	**Wahianoa**	**2.28**	**200**	⇑P	PN	Pn	06 57 36.2	-0.3
BHHZ	**Black Hill Sta**	**2.34**	**190**	P	PN	Pn	06 57 36.3	-0.8
MTVZ	**Mangateitei**	**2.37**	**201**	P	PN	Pn	06 57 37.3	-0.1
KRHZ	**Kereru**	**2.46**	**184**	P	PN	Pn	06 57 37.6	-0.9
CKHZ	**Cape Kidnapper**	**2.50**	**171**	P	PN	Pn	06 57 38.0	-0.8
KAHZ	**Kahuranaki**	**2.62**	**175**	P	PN	Pn	06 57 39.4	-0.8
PNHZ	**Pukenui**	**2.74**	**186**	P	PN	Pn	06 57 40.3	-1.3
PXZ	**Pawanui**	**2.85**	**176**	P	PN	Pn	06 57 41.3	-1.5
PXZ					SN	Sn	06 58 17.0	-3.2
TSZ	**Takapari Road**	**2.91**	**189**	P	PN	Pn	06 57 42.2	-1.4
DVHZ	**Dannevirke**	**3.13**	**186**	P	PN	Pn	06 57 44.0	-2.1
POWZ	**Post Office Ro**	**3.27**	**191**	P	PN	Pn	06 57 45.8	-2.0
ANWZ	**Angora Road**	**3.27**	**181**	P	PN	Pn	06 57 46.2	-1.6
PRWZ	**Pori Road**	**3.40**	**188**	P	PN	Pn	06 57 47.5	-2.0
BFZ	**Birch Farm**	**3.50**	**184**	P	PN	Pn	06 57 48.3	-2.4
MRZ	**Mangatainoka R**	**3.56**	**192**	P	PN	Pn	06 57 48.6	-2.7
MRZ					SN	Sn	06 58 30.8	-4.7
OGWZ	**Otaki Gorge**	**3.79**	**196**	P	PN	Pn	06 57 51.4	-2.8
HOWZ	**Holdsworth Sta**	**3.80**	**192**	P	PN	Pn	06 57 51.1	-3.3
KIW	**Kapiti Island**	**3.90**	**199**	P	PN	Pn	06 57 52.5	-3.1
MTW	**Mount Morrison**	**4.06**	**192**	P	PN	Pn	06 57 54.0	-3.6
CAW	**Cannon Point**	**4.09**	**196**	P	PN	Pn	06 57 54.5	-3.5
TCW	**Tory Channel**	**4.40**	**203**		AML	AML	06 58 36.5	
PLWZ	**Palliser**	**4.50**	**193**	P	PN	Pn	06 57 59.3	-3.9
QRZ	**Quartz Range**	**4.82**	**220**	*e*P	PN	Pn	06 58 04.3	-2.9
THZ	**Tophouse**	**5.39**	**211**	*e*P	PN	Pn	06 58 11.9	-2.6

GUC 11 07:10:20.3±0.6, 35.62S×73.54W, h30km±5km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.79**	**130**	*e*P	Pb		07 10 36.0	+0.4
COCH				*e*S	Sn		07 10 47.2	+0.9
CCSP	**San Pedro de C**	**1.27**	**164**	*e*P	Pb		07 10 43.1	-0.4
CCSP				*e*S	Sb		07 11 00.5	+1.0
CCSP				AML	AML		07 11 08.5	
	comp=E,2μm,0.3s							
TALC	**Talca**	**1.57**	**82**	*e*P	Pb		07 10 47.6	-1.1
TALC				*e*S	Sb		07 11 09.1	+0.9
LNCH	**Linares**	**1.59**	**99**	*e*P	Pb		07 10 48.0	-1.1
LNCH				*e*S	Sb		07 11 09.6	+0.7
NICH	**Los Niches**	**1.99**	**73**	*e*P	Pb		07 10 54.8	-1.0
NICH				*e*S	Sb		07 11 20.5	+0.3

*NEIC **11** 07:18:02.2±1.4, 18.52S×174.87W, h88km±13km, mb4.6/2, Error ellipse: s-maj=19.5km s-min=10.4km az=140.0*
*IDC **11** 07:18:16.0±4.0, 19.02S×174.83W, h215km±33km, mb3.8/5, mb1 3.9/6, mb1mx3.4/33, mbtmp4.3/6, Error ellipse: s-maj=28.2km s-min=14.4km az=104.0*
ISC 11 07:18:08.7±0.8, 18.9S±0.1×174.8W±0.2, h147km, n18, σ1§47/20, mb4.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.75**	**31**	*e*Pn	Pn		07 19 21.2	-11
	119nm,0.6s							
AFI				*e*S	Sn		07 20 16.7	-21
DZM	**Mont Dzumac**	**17.85**	**257**	P	**Pn**		**07 22 10.5**	**+2.5**
	0.3nm,0.3s,baz=76,slow=19,SNR=5.9							
URZ	**Urewera**	**20.54**	**198**	P	**P**		**07 22 36.8**	**+1.3**
	4.8nm,0.5s,baz=293,slow=5.9,SNR=8.8							
URZ				S	**S**		**07 26 13.8**	**-3.4**
	1.3nm,0.5s,baz=96,slow=19,SNR=3.3							
CTA	**Charters Tower**	**36.67**	**262**	P	**P**		**07 25 02.1**	**+0.5**
	5.0nm,0.5s,baz=90,slow=11,SNR=17							
CTAO	**Charters Tower**	**36.67**	**262**	*e*P	**P**		**07 25 01.8**	**+0.2**
	5.3nm,0.6s							
WB2	**Warramunga Arr**	**47.81**	**260**	*e*P	**P**		**07 26 31.0**	**-0.7**
WRAB	**Tennant Creek**	**47.81**	**260**	*e*P	**P**		**07 26 31.0**	**-0.7**
	4.1nm,0.4s							
WRA	**Warramunga Arr**	**47.82**	**260**	P	**P**		**07 26 31.1**	**-0.7**
	4.1nm,0.4s,baz=97,slow=7.6,SNR=132							
WRA				PcP	**PcP**		**07 27 58.8**	**+0.4**
	0.2nm,0.3s,baz=94,slow=2.7,SNR=4.1							
AS31	**Alice Springs**	**47.83**	**255**	*e*P	**P**		**07 26 31.5**	**-0.3**
ASAR	**Alice Springs**	**47.83**	**255**	P	**P**		**07 26 31.6**	**-0.2**
	4.1nm,0.5s,baz=91,slow=8.0,SNR=49							
ASAR				PcP	**PcP**		**07 27 57.4**	**-1.0**
	0.6nm,0.6s,baz=93,slow=4.9,SNR=3.3							
ILAR	**Eielson Array**	**86.12**	**12**	P	**P**		**07 30 31.6**	**-1.0**
	0.4nm,0.9s,baz=224,slow=5.7,SNR=8.6							
LVC	**Limon Verde**	**96.69**	**117**	*e*P	**P**		**07 31 25.7**	**+2.6**
	8.9nm,0.4s							
MKAR	**Makanchi Array**	**112.29**	**314**	PKiKP	**PKiKP**		**07 36 26.0**	**-1.0**
	0.1nm,0.5s,baz=70,slow=2.4,SNR=3.3							
FINES	**FINESS Array B**	**135.03**	**346**	PKhKP	PKPpre		07 37 06.2	
	0.8nm,0.9s,baz=41,slow=1.8,SNR=2.2							
FINES				PKP	**PKPdf**		**07 37 09.9**	**0.0**
	0.3nm,0.5s,baz=343,slow=2.0,SNR=3.4							
AKASG	**Malin Array Be**	**142.97**	**335**	PKP	**PKPdf**		**07 37 22.4**	**-2.3**
	0.6nm,0.5s,baz=24,slow=3.0,SNR=3.0							
CLL	**Collm**	**147.08**	**351**	*i* PKPbc	**PKPbc**		**07 37 34.2**	**+0.1**
	comp=Z,5.0nm,1.1s							
BRTR	**Keskin Array B**	**147.88**	**316**	PKPbc	**PKPbc**		**07 37 37.0**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=140,slow=1.0,SNR=4.9							
GERES	**GERESS Array B**	**149.35**	**349**	PKPbc	**PKPbc**		**07 37 40.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=45,slow=2.3,SNR=5.7							

*ISCJB **11** 07:35:20.6±1.0, 15.1S±0.2×70.7W±0.1, h189km, mb3.7/5, Error ellipse: s-maj=27.9km s-min=12.7km az=34.7*

*IDC **11** 07:35:24.0±1.1, 15.21S×70.41W, h206km±10km, mb3.5/5, mb1 3.6/7, mb1mx3.1/35, mbtmp3.9/7, Error ellipse: s-maj=24.6km s-min=15.2km az=28.0*
ISC 11 07:35:22.3±1.0, 15.1S±0.2×70.6W±0.2, h189km, n9, σ1§06/9, mb3.8/5, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.63**	**116**	P	**Pn**		**07 36 08.8**	**+1.2**
	3.4nm,0.3s,baz=307,slow=11,SNR=214							
LPAZ				S	**Sn**		**07 36 43.4**	**+0.5**
	1.7nm,0.3s,baz=175,slow=19,SNR=19							
NNA	**Nana**	**6.84**	**296**	P	Pn		07 37 04.6	+4.2
	2.6nm,0.3s,baz=156,slow=8.8,SNR=5.4							
PLCA	**Paso Flores**	**25.50**	**180**	P	**P**		**07 40 32.7**	**-0.6**
	2.4nm,1.1s,baz=341,slow=11,SNR=7.5							
TXAR	**Lajitas Array**	**54.53**	**324**	P	**P**		**07 44 31.7**	**+0.7**
	0.5nm,1.0s,baz=147,slow=7.2,SNR=3.0							
DBIC	**Dimbokro**	**68.64**	**77**	P	**P**		**07 46 04.3**	**-1.3**
	3.6nm,0.7s,baz=243,slow=9.5,SNR=3.2							
TORD	**Torodi Ar. Bea**	**76.85**	**72**	P	**P**		**07 46 52.8**	**-1.1**
	2.1nm,0.6s,baz=266,slow=4.9,SNR=25							
YKA	**Yellowknife Ar**	**84.68**	**341**	P	**P**		**07 47 34.7**	**+0.4**
	0.3nm,0.4s,baz=135,slow=5.0,SNR=12							
WRA	**Warramunga Arr**	**137.38**	**216**	PKP	**PKPdf**		**07 54 23.7**	**-0.5**
	0.7nm,1.2s,baz=135,slow=1.5,SNR=2.3							
SONM	**Songino Array**	**147.30**	**4**	PKPbc	**PKPbc**		**07 54 44.7**	**+1.1**
	0.8nm,0.6s,baz=326,slow=2.7,SNR=5.1							

IDC 11 07:59:36.8±2.6, 11.64S×114.08E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/42, mbtmp3.5/3, Error ellipse: s-maj=119.1km s-min=26.8km az=45.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.16**	**115**	P	P		08 04 23.6	-0.2
	1.0nm,0.6s,baz=289,slow=12,SNR=17							
WRA				S	S		08 08 09.8	-10
	0.3nm,0.8s,baz=286,slow=25,SNR=3.5							
ASAR	**Alice Springs**	**22.32**	**125**	P	P		08 04 36.4	0.0
	0.9nm,0.9s,baz=298,slow=9.2,SNR=9.1							
ASAR				S	S		08 08 38.8	-4.2
	0.5nm,0.7s,baz=301,slow=23,SNR=5.5							
MKAR	**Makanchi Array**	**64.75**	**336**	P	P		08 10 17.1	+0.1
	0.5nm,0.5s,baz=159,slow=8.3,SNR=5.4							

IDC 11 08:00:10.7±3.1, 13.47S×167.09E, h218km±29km, mb3.4/10, mb1 3.5/11, mb1mx3.4/33, mbtmp3.9/11, Error ellipse: s-maj=25.5km s-min=18.9km az=116.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.57**	**184**	P	Pn		08 02 13.0	+1.5
	1.0nm,0.3s,baz=322,slow=22,SNR=24							
DZM				S	S		08 03 47.4	-0.9
	baz=323,slow=20,SNR=2.0							
CTA	**Charters Tower**	**20.99**	**249**	P	P		08 04 38.7	+1.1
	1.3nm,0.4s,baz=80,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**31.98**	**254**	P	P		08 06 15.4	-1.3
	0.3nm,0.5s,baz=81,slow=8.9,SNR=4.5							
WRA				PcP	PcP		08 09 01.2	-0.1
	0.5nm,0.8s,baz=64,slow=2.9,SNR=3.4							
ASAR	**Alice Springs**	**32.97**	**247**	P	P		08 06 24.1	-1.3
	0.5nm,0.4s,baz=74,slow=9.0,SNR=18							
ASAR				PcP	PcP		08 09 03.9	-0.3
	0.4nm,0.5s,baz=71,slow=1.8,SNR=7.6							
MJAR	**Matsushiro Arr**	**56.72**	**332**	P	P		08 09 30.8	-1.0
	0.6nm,0.5s,baz=168,slow=7.1,SNR=4.3							
ASAJ	**Asahikawa**	**61.51**	**340**	P	P		08 10 05.1	+0.6
	5.0nm,0.7s,baz=192,slow=7.7,SNR=5.2							
PETK	**Petropavlovsk-**	**66.80**	**354**	P	P		08 10 38.3	-0.4
	3.8nm,1.0s,baz=136,slow=12,SNR=3.3							
CMAR	**Chiang Mai Arr**	**74.28**	**294**	P	P		08 11 25.7	+1.1
	1.4nm,0.7s,baz=131,slow=4.4,SNR=6.8							
SONM	**Songino Array**	**81.39**	**324**	P	P		08 12 03.8	+0.5
	0.2nm,0.3s,baz=132,slow=5.7,SNR=3.8							
ILAR	**Eielson Array**	**85.39**	**18**	P	P		08 12 21.6	-1.5
	0.4nm,0.6s,baz=238,slow=4.5,SNR=11							
MKAR	**Makanchi Array**	**96.18**	**317**	P	P		08 13 14.2	+0.3
	0.7nm,0.5s,baz=85,slow=5.6,SNR=10							
ARCES	**ARCESS Array B**	**119.00**	**346**	PKP	PKPdf		08 18 32.2	-0.6
	0.7nm,0.3s,baz=72,slow=2.0,SNR=25							
FINES	**FINESS Array B**	**124.50**	**338**	PKP	PKPdf		08 18 43.2	-0.3
	1.7nm,1.0s,baz=88,slow=2.8,SNR=7.3							
NOA	**NORSAR Array B**	**129.37**	**345**	PKP	PKPdf		08 18 52.7	-0.2
	0.3nm,0.6s,baz=45,slow=1.7,SNR=2.2							
MSKU	**Masuku**	**149.70**	**242**	PKPbc	PKPbc		08 19 35.7	0.0
	10nm,0.3s,baz=169,slow=10,SNR=4.1							
KEST	**Kesra**	**150.13**	**322**	PKPbc	PKPbc		08 19 36.5	+0.3
	1.2nm,0.8s,baz=252,slow=5.5,SNR=4.7							

GUC 11 08:01:15.5±0.4, 34.59S×71.72W, h17km±7km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.81**	**175**	*e*P	Pg		08 01 31.3	+0.1
TALC				*e*S	Sn		08 01 43.5	-0.1
LNCH	**Linares**	**1.25**	**176**	*e*P	Pb		08 01 38.7	0.0
LNCH				*e*S	Sg		08 01 56.2	0.0
SJCH	**San Jose de Ma**	**1.48**	**50**	*e*P	Pb		08 01 42.5	-0.1
SJCH				*e*S	Sg		08 02 03.3	-0.2
CCSP	**San Pedro de C**	**2.51**	**206**	*e*P	Pb		08 01 58.1	-2.0
CCSP				AML	AML		08 02 20.2	
	comp=E,1μm,0.5s							

WEL 11 08:08:19.5±0.3, 39.58S×174.35E, h257km±2km, ML3.7/11, 17C-2D, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.13**	**17**	P	PN	Pn	08 08 52.3	-0.2
LREZ				S	SN	S	08 09 17.2	-1.3
PREZ	**Palmer Road**	**0.28**	**328**	P	PN	Pn	08 08 52.4	-0.3
NEZ	**North Egmont**	**0.37**	**327**	P	PN	Pn	08 08 52.9	-0.1
KHEZ	**Kahui Hut**	**0.39**	**317**	⇑P	PN	Pn	08 08 52.8	-0.2
KHEZ				S	SN	S	08 09 18.5	-0.9
NMEZ	**Namu Road**	**0.41**	**294**	⇑P	PN	Pn	08 08 52.8	-0.1
DREZ	**Durham Road**	**0.41**	**343**	P	PN	Pn	08 08 52.5	-0.5
PKE	**Pukeiti**	**0.48**	**323**	*e*P	PN	Pn	08 08 53.0	-0.2
NWEZ	**Newall Road**	**0.48**	**309**	P	PN	Pn	08 08 53.0	-0.2
WAZ	**Wanganui**	**0.52**	**110**	⇑P	PN	Pn	08 08 53.6	+0.4
WAZ				S	SN	S	08 09 19.2	-0.6
VRZ	**Vera Road**	**0.55**	**35**	*e*P	PN	Pn	08 08 52.4	-0.9
PKVZ	**Pokaka**	**0.82**	**70**	P	PN	Pn	08 08 53.9	-0.5
MTVZ	**Mangateitei**	**0.89**	**78**	P	PN	Pn	08 08 54.4	-0.3
TRVZ	**Turoa**	**0.97**	**74**	⇑P	PN	Pn	08 08 54.9	-0.4
FWVZ	**Far West T-bar**	**0.98**	**71**	⇑P	PN	Pn	08 08 55.0	-0.4
WNVZ	**Wahianoa**	**0.99**	**76**	⇑P	PN	Pn	08 08 55.0	-0.4
COVZ	**Chateau Observ**	**1.00**	**68**	P	PN	Pn	08 08 55.2	-0.2
WPVZ	**Whakapapa**	**1.00**	**68**	P	PN	Pn	08 08 55.1	-0.3
WHVZ	**Whangaehu Hut**	**1.00**	**73**	P	PN	Pn	08 08 55.2	-0.4
NGZ	**Ngauruhoe**	**1.05**	**68**	P	PN	Pn	08 08 55.4	-0.3
TUVZ	**Tukino**	**1.05**	**73**	P	PN	Pn	08 08 55.5	-0.2
WTVZ	**West Tongariro**	**1.06**	**65**	P	PN	Pn	08 08 55.4	-0.4
MOVZ	**Moawhango**	**1.10**	**81**	P	PN	Pn	08 08 55.2	-0.7
KRVZ	**Karewarewa**	**1.11**	**65**	P	PN	Pn	08 08 55.5	-0.6
HIZ	**Hauiti**	**1.13**	**20**	⇓P	PN	Pn	08 08 54.9	-1.2
KATZ	**Kakaramea**	**1.20**	**60**	P	PN	Pn	08 08 56.3	-0.3
DUWZ	**D'Urville Isla**	**1.27**	**195**	⇑P	PN	Pn	08 08 56.6	-0.1
BHHZ	**Black Hill Sta**	**1.32**	**87**	P	PN	Pn	08 08 56.7	-0.5
TSZ	**Takapari Road**	**1.33**	**112**	⇑P	PN	Pn	08 08 57.2	0.0
TSZ				*e*S	SN	S	08 09 25.3	-1.7
KIW	**Kapiti Island**	**1.35**	**162**	P	PN	Pn	08 08 57.3	0.0
KIW					AML	AML	08 09 27.2	
KIW					AML	AML	08 09 27.3	
POWZ	**Post Office Ro**	**1.36**	**127**	P	PN	Pn	08 08 57.3	0.0
OGWZ	**Otaki Gorge**	**1.39**	**153**	⇑P	PN	Pn	08 08 57.7	+0.1
MRZ	**Mangatainoka R**	**1.43**	**139**	⇑P	PN	Pn	08 08 57.8	-0.1
MRZ					SN	S	08 09 26.4	-1.9
MRZ					AML	AML	08 09 29.1	
PNHZ	**Pukenui**	**1.46**	**104**	P	PN	Pn	08 08 58.2	+0.1
KRHZ	**Kereru**	**1.56**	**93**	⇑P	PN	Pn	08 08 58.9	0.0
DVHZ	**Dannevirke**	**1.57**	**118**	P	PN	Pn	08 08 58.9	0.0
PRWZ	**Pori Road**	**1.58**	**129**	P	PN	Pn	08 08 59.3	+0.4
HOWZ	**Holdsworth Sta**	**1.59**	**146**	P	PN	Pn	08 08 58.9	-0.1
CAW	**Cannon Point**	**1.62**	**161**	P	PN	Pn	08 08 59.3	0.0
CAW					AML	AML	08 09 29.9	
CAW					AML	AML	08 09 32.1	
TCW	**Tory Channel**	**1.63**	**182**	P	PN	Pn	08 08 59.2	-0.1
TCW					AML	AML	08 09 30.9	
TCW					AML	AML	08 09 31.1	
TIWZ	**Tintock**	**1.68**	**136**	P	PN	Pn	08 08 59.9	+0.1
TIWZ					AML	AML	08 09 31.3	
TIWZ					AML	AML	08 09 32.3	
WPHZ	**Waipukurau**	**1.68**	**107**	⇑P	PN	Pn	08 09 00.0	+0.3
BKZ	**Black Stump Fm**	**1.71**	**77**	P	PN	Pn	08 08 59.7	-0.4
WEL	**Wellington**	**1.73**	**170**	⇓P	PN	Pn	08 09 00.1	0.0
NNZ	**Nelson**	**1.80**	**204**	⇓P	PN	Pn	08 09 00.4	-0.2
NNZ					SN	S	08 09 31.0	-2.3
MTW	**Mount Morrison**	**1.81**	**151**	⇑P	PN	Pn	08 09 00.7	-0.1
MTW					AML	AML	08 09 33.7	
MTW					AML	AML	08 09 33.8	
MCHZ	**McNeill Hill**	**1.82**	**86**	P	PN	Pn	08 09 01.5	+0.6
BFZ	**Birch Farm**	**1.82**	**128**	P	PN	Pn	08 09 00.9	0.0
BFZ					SN	S	08 09 31.3	-2.4
ANWZ	**Angora Road**	**1.85**	**119**	P	PN	Pn	08 09 01.5	+0.4
BHW	**Baring Head**	**1.87**	**168**	P	PN	Pn	08 09 01.1	-0.2
BHW					AML	AML	08 09 33.8	
QRZ	**Quartz Range**	**1.87**	**228**	P	PN	Pn	08 09 00.5	-0.9
TUWZ	**Tuamarina**	**1.88**	**189**	P	PN	Pn	08 09 01.0	-0.3
TUWZ					AML	AML	08 09 34.3	
TUWZ					AML	AML	08 09 34.3	
PRHZ	**Porangahau**	**1.88**	**112**	P	PN	Pn	08 09 01.7	+0.3
TMWZ	**Te Maipa**	**1.93**	**143**	P	PN	Pn	08 09 01.8	0.0
MSWZ	**Moikau Station**	**1.96**	**160**	P	PN	Pn	08 09 01.9	-0.1
MSWZ					AML	AML	08 09 35.3	
MSWZ					AML	AML	08 09 36.4	
KAHZ	**Kahuranaki**	**1.96**	**97**	P	PN	Pn	08 09 02.8	+0.6
NMHZ	**Naumai**	**1.96**	**77**	P	PN	Pn	08 09 02.2	0.0
PAWZ	**Paruwai Farm**	**1.98**	**156**	P	PN	Pn	08 09 02.2	0.0
PAWZ					AML	AML	08 09 35.7	
PAWZ					AML	AML	08 09 37.0	
PXZ	**Pawanui**	**1.98**	**104**	P	PN	Pn	08 09 02.5	+0.2
ARHZ	**Aropaoanui**	**2.07**	**82**	P	PN	Pn	08 09 03.5	+0.4
TRWZ	**Traveller**	**2.08**	**151**	P	PN	Pn	08 09 03.3	+0.1
TRWZ					AML	AML	08 09 38.2	
TRWZ					AML	AML	08 09 38.8	
PLWZ	**Palliser**	**2.10**	**161**	P	PN	Pn	08 09 03.3	-0.1
BSWZ	**Blackbirch Sta**	**2.16**	**190**	P	PN	Pn	08 09 03.6	-0.3
THZ	**Tophouse**	**2.44**	**206**	⇑P	PN	Pn	08 09 06.1	-0.6
SNGZ	**Shannon Statio**	**2.45**	**72**	P	PN	Pn	08 09 06.3	-0.5
URZ	**Urewera**	**2.52**	**59**	⇑P	PN	Pn	08 09 05.8	-1.6
KNZ	**Kokohu**	**2.63**	**79**	P	PN	Pn	08 09 08.3	-0.2
MWZ	**Matawai**	**2.77**	**64**	P	PN	Pn	08 09 08.9	-1.1
RIGZ	**Rimuhau**	**2.79**	**73**	P	PN	Pn	08 09 09.7	-0.5
KHZ	**Kahutara**	**2.90**	**192**	P	PN	Pn	08 09 10.7	-0.5
DSZ	**Denniston Nort**	**2.91**	**221**	P	PN	Pn	08 09 10.3	-1.0
TKGZ	**Te Karaka**	**2.95**	**68**	P	PN	Pn	08 09 11.3	-0.5
TWGZ	**Tauwhareparae**	**3.16**	**65**	*e*P	PN	Pn	08 09 14.1	0.0
HAZ	**Te Kaha**	**3.24**	**57**	P	PN	Pn	08 09 12.6	-2.4
PUZ	**Puketiti**	**3.40**	**65**	P	PN	Pn	08 09 15.9	-0.9
WMGZ	**Waiomatatini S**	**3.63**	**62**	P	PN	Pn	08 09 17.9	-1.5
OXZ	**Oxford**	**4.13**	**204**	P	PN	Pn	08 09 23.2	-1.7
CRLZ	**Canterbury Las**	**4.20**	**197**	P	PN	Pn	08 09 25.1	-0.6
MQZ	**McQueen's Vall**	**4.32**	**197**	P	PN	Pn	08 09 25.0	-2.2
WVZ	**Waitaha Valley**	**4.43**	**217**

AGCH	**Angol**	**0.49**	**112**	*e*P		Pg	08 27 47.4	-0.6
AGCH				*e*S		Sg	08 27 54.3	-0.2
CCSP	**San Pedro de C**	**0.79**	**9**	*e*P		Pg	08 27 52.5	-1.3
CCSP				*e*S		Sg	08 28 03.3	-0.8
CCSP				AML		AML	08 28 04.1	
	comp=E,4μm,0.4s							
VLCH	**Valdivia**	**2.17**	**180**	*e*P		Pn	08 28 14.6	-0.1
VLCH				*e*S		Sn	08 28 41.9	+0.2

ISCJB ***11*** *08:42:20.3±0.6,51°.19N±0°.07×178°.23W±0°.06,h45km,*
mb4.1/31, Error ellipse: s-maj=10.2km s-min=5.2km
az=172.1
NEIC ***11*** *08:42:22.0,51°.18N×177°.83W,h8km,mb4.3/24,*
ML4.6(AEIC), After AEIC.
IDC ***11*** *08:42:26.6±3.0,51°.64N×178°.01W,h68km±22km,mb3.6/15,*
mb1 3.8/17,mb1mx3.6/55,mbtmp3.9/17, Error ellipse:
s-maj=34.7km s-min=13.1km az=11.0
ISC 11 08:42:22.6±0.8,51°.3N±0°.1×178°.14W±0°.05,h45km,n85,
σ1§32/87,mb4.2/30,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.50**	**17**	P	**Pn**	**08 42 34.5**	**+0.9**
TASE	**Tanaga Southea**	**0.56**	**6**	P	**Pn**	**08 42 35.7**	**+1.2**
GALAA	**Gareloi Lava P**	**0.63**	**321**	P	**Pn**	**08 42 38.1**	**+2.9**
TAFP	**Tanaga Falls P**	**0.63**	**9**	P	**Pn**	**08 42 36.0**	**+0.7**
GAEA	**Gareloi East**	**0.63**	**323**	P	**Pn**	**08 42 38.1**	**+2.7**
KIKV	**Kanaga Island**	**0.85**	**45**	P	**Pn**	**08 42 38.0**	**-0.2**
KIRH	**Kanaga Island**	**0.90**	**46**	P	**Pn**	**08 42 38.8**	**-0.1**
KINC	**Kanaga Island**	**0.91**	**43**	P	**Pn**	**08 42 38.7**	**-0.2**
ADK	**Adak**	**1.09**	**56**	*e*Pg	**Pn**	**08 42 40.8**	**-0.6**
ADK				*e*Sg	**Sn**	**08 42 53.3**	**-2.0**
ADK				S	**Sn**	**08 42 53.7**	**-1.6**
ADAG	**Mount Adagdak**	**1.19**	**53**	P	**Pn**	**08 42 43.1**	**+0.3**
ETKA	**Kagalaska Isla**	**1.23**	**61**	P	**Pn**	**08 42 42.8**	**-0.6**
GSCK	**Great Sitkin C**	**1.43**	**58**	P	**Pn**	**08 42 46.0**	**-0.1**
GSTD	**Great Sitkin T**	**1.46**	**57**	P	**Pn**	**08 42 46.4**	**-0.2**
GSMY	**Great Sitkin M**	**1.50**	**59**	P	**Pn**	**08 42 46.8**	**-0.3**
GSTR	**Great Sitkin T**	**1.53**	**57**	*e*Pn	**Pn**	**08 42 47.8**	**+0.3**
KOKL	**Mount Kliuchef**	**2.66**	**65**	P	**Pn**	**08 43 04.2**	**+1.2**
KOKL				S	**Sn**	**08 43 34.4**	**+0.4**
KOFP	**Korovin Flat P**	**2.70**	**67**	P	**Pn**	**08 43 04.9**	**+1.3**
SMY	**Shemya**	**5.01**	**290**	P	Pn	08 43 40.1	+4.9
SMY				S	Sn	08 44 42.9	+11
NIKH	**Nikolski High**	**5.96**	**70**	P	**Pn**	**08 43 48.9**	**+0.7**
NIKH				S	**Sn**	**08 44 58.4**	**+3.2**
OKFG	**Magazine Ridge**	**6.62**	**67**	P	**Pn**	**08 43 58.9**	**+1.6**
OKFG				S	**Sn**	**08 45 15.5**	**+4.2**
MSOM	**Makushin Julie**	**7.28**	**65**	P	**Pn**	**08 44 07.3**	**+1.0**
MREP	**Makushin Rep't**	**7.39**	**66**	P	**Pn**	**08 44 09.2**	**+1.3**
MSW	**Makushin Switc**	**7.40**	**65**	P	**Pn**	**08 44 09.8**	**+1.9**
SPIA	**Saint Paul Isl**	**7.50**	**35**	P	**Pn**	**08 44 11.9**	**+2.6**
UNV	**Unalaska Valle**	**7.54**	**66**	P	**Pn**	**08 44 10.7**	**+0.8**
UNV				S	**Sn**	**08 45 37.8**	**+3.9**
AKRB	**Akutan Reef Bi**	**7.87**	**64**	P	**Pn**	**08 44 16.5**	**+2.2**
ZRO	**Akutan Zero**	**7.91**	**64**	P	**Pn**	**08 44 16.1**	**+1.2**
AKSA	**Akutan Strait**	**8.08**	**64**	P	**Pn**	**08 44 19.4**	**+2.1**
WESN	**West Dahl Nort**	**8.82**	**63**	P	**Pn**	**08 44 29.0**	**+1.5**
FALS	**False Pass**	**9.56**	**62**	P	**Pn**	**08 44 38.8**	**+1.4**
GAMB	**Gambell**	**12.99**	**13**	*e*Pn	**Pn**	**08 45 26.4**	**+2.1**
PETK	**Petropavlovsk-**	**14.92**	**286**	P	**P**	**08 45 54.9**	**-0.3**
	0.1nm,0.3s,baz=85,slow=16,SNR=5.4						
RSO	**Redoubt South**	**16.85**	**47**	*e*P	**Pn**	**08 46 15.6**	**+0.4**
	38nm,0.8s						
PPLA	**Purkeypile**	**18.12**	**40**	P	**Pn**	**08 46 31.4**	**+0.6**
	7.6nm,0.7s						
RC01	**Rabbit Creek A**	**18.45**	**47**	*e*P	**P**	**08 46 34.0**	**-0.2**
PMR	**Palmer**	**18.90**	**46**	*e*P	**Pn**	**08 46 40.0**	**0.0**
	19nm,1.2s						
KTH	**Kantishna Hill**	**18.93**	**39**	*e*P	**P**	**08 46 39.6**	**+0.1**
	10nm,0.5s						
TRF	**Thorofare Moun**	**19.14**	**40**	*e*P	**P**	**08 46 41.7**	**-0.2**
	16nm,0.8s						
SEY	**Seymchan**	**19.60**	**318**	P	**Pn**	**08 46 48.4**	**+0.1**
	0.4nm,0.3s,baz=114,slow=12,SNR=23						
MCK	**McKinley**	**19.81**	**40**	*e*P	**Pn**	**08 46 50.4**	**-0.5**
	7.9nm,0.8s						
COLA	**College**	**20.74**	**37**	*e*P	**P**	**08 47 00.2**	**+1.2**
	8.9nm,0.8s						
BMRM	**Bremner River**	**20.82**	**49**	*e*P	Pn	08 47 01.9	-1.1
	6.1nm,0.5s						
PAX	**Paxson**	**20.97**	**44**	*e*P	**P**	**08 47 01.1**	**-0.6**
	7.1nm,0.6s						
ILAR	**Eielson Array**	**21.06**	**38**	P	**P**	**08 47 01.4**	**-1.1**
	1.0nm,0.4s,baz=234,slow=9.2,SNR=33						
ILAR				PcP	**PcP**	**08 51 08.8**	**+1.4**
	0.3nm,0.5s,baz=290,slow=2.1,SNR=4.7						
ILAR				ScP	**ScP**	**08 54 38.1**	**-2.0**
	0.5nm,0.9s,baz=260,slow=2.5,SNR=4.3						
COLD	**Coldfoot**	**21.13**	**30**	*e*P	**P**	**08 47 03.7**	**+0.5**
	8.1nm,0.9s						
DOT	**Dot Lake**	**21.79**	**42**	*e*P	**P**	**08 47 09.8**	**-0.6**
	7.7nm,0.7s						
EGAK	**Eagle**	**23.35**	**41**	*e*P	**P**	**08 47 24.8**	**-1.8**
	6.3nm,0.8s						
INK	**Inuvik**	**27.30**	**35**	P	**P**	**08 48 03.0**	**+0.5**
	0.9nm,0.6s,baz=262,slow=11,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**33.62**	**206**	T	T	09 25 40.2	
	baz=18,slow=76,SNR=381						
H11N3	**WAKE ISLAND Hy**	**33.63**	**206**	T	T	09 25 38.2	
	baz=18,slow=76,SNR=302						
H11N1	**WAKE ISLAND Hy**	**33.64**	**206**	T	T	09 25 46.7	
	baz=18,slow=76,SNR=352						
H11S1	**WAKE ISLAND Hy**	**34.84**	**206**	T	T	09 26 19.5	
	baz=18						
H11S2	**WAKE ISLAND Hy**	**34.85**	**206**	T	T	09 27 12.7	
	baz=18,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.85**	**206**	T	T	09 26 46.0	
	baz=18,slow=74						
YKA	**Yellowknife Ar**	**35.00**	**46**	P	**P**	**08 49 08.8**	**-1.4**
	1.2nm,0.6s,baz=287,slow=9.5,SNR=43						
YKA				PcP	**PcP**	**08 51 42.4**	**+1.0**
	0.2nm,0.5s,baz=288,slow=3.2,SNR=4.2						
YKA				ScP	**ScP**	**08 55 21.0**	**-1.9**
	0.1nm,0.5s,baz=289,slow=3.5,SNR=5.6						
HAWA	**Hanford**	**37.99**	**74**	*e*P	**P**	**08 49 36.6**	**+0.7**
	6.6nm,0.9s						
EDM	**Edmonton**	**38.50**	**61**	*e*P	**P**	**08 49 39.9**	**-0.3**
NEW	**Newport**	**38.53**	**70**	P	**P**	**08 49 40.7**	**+0.2**
	5.9nm,0.7s,baz=296,slow=7.7,SNR=16						
NEW	**Newport**	**38.53**	**70**	*e*P	**P**	**08 49 40.2**	**-0.2**
	4.8nm,0.7s						
WVOR	**Wild Horse Val**	**40.61**	**78**	*e*P	**P**	**08 49 58.7**	**+0.7**
	5.3nm,1.0s						
HRY	**Holter Researc**	**42.41**	**69**	*e*P	**P**	**08 50 12.6**	**0.0**
	3.4nm,0.6s						
MCMT	**McKenzie Canyo**	**42.81**	**72**	*e*P	**P**	**08 50 15.7**	**-0.4**
	2.2nm,0.9s						
BOZ	**Bozeman (W)**	**43.09**	**70**	*e*P	**P**	**08 50 18.0**	**-0.2**
	2.9nm,0.6s						
NVAR	**Mina Array Bea**	**43.15**	**83**	P	**P**	**08 50 19.7**	**+0.8**
	1.6nm,0.8s,baz=293,slow=8.8,SNR=7.9						
H17A	**Grant Village**	**44.41**	**71**	*e*P	**P**	**08 50 30.3**	**+1.4**
	8.4nm,1.2s						
LKWY	**Lake**	**44.42**	**71**	*e*P	**P**	**08 50 29.4**	**+0.5**
	4.1nm,0.8s						
RLMT	**Red Lodge**	**44.78**	**70**	*e*P	**P**	**08 50 31.7**	**-0.1**
	2.0nm,0.4s						
DUG	**Dugway, Tooele**	**45.48**	**77**	*e*P	**P**	**08 50 37.3**	**-0.1**
	10nm,1.4s						
BW06	**Boulder Array**	**45.94**	**73**	*e*P	**P**	**08 50 40.9**	**-0.2**
	8.7nm,1.2s						
PDAR	**Pinedale Array**	**45.94**	**73**	P	**P**	**08 50 41.0**	**0.0**
	3.3nm,0.7s,baz=311,slow=3.1,SNR=23						
SRU	**San Rafael Swe**	**47.55**	**77**	*e*P	**P**	**08 50 54.6**	**+1.0**
	2.5nm,0.6s						
O20A	**White River Ci**	**48.31**	**75**	*e*P	**P**	**08 50 59.4**	**-0.1**
	3.0nm,0.5s						
TXAR	**Lajitas Array**	**58.26**	**82**	P	**P**	**08 52 12.4**	**-0.2**
	1.1nm,0.5s,baz=306,slow=5.3,SNR=27						
ARCES	**ARCESS Array B**	**58.26**	**350**	P	**P**	**08 52 09.8**	**-2.1**
	4.3nm,1.0s,baz=24,slow=9.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**59.50**	**314**	P	**P**	**08 52 20.9**	**+0.2**
	0.3nm,0.5s,baz=42,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**60.42**	**309**	P	**P**	**08 52 26.6**	**-0.6**
	0.1nm,0.3s,baz=45,slow=6.5,SNR=3.8						
BVAR	**Borovoye Array**	**61.23**	**320**	P	**P**	**08 52 32.9**	**+0.4**
	0.8nm,0.3s,baz=57,slow=5.9,SNR=8.0						
FINES	**FINESS Array B**	**65.97**	**348**	P	**P**	**08 53 02.1**	**-1.5**
	0.3nm,0.4s,baz=50,slow=3.0,SNR=6.7						
NOA	**NORSAR Array B**	**67.78**	**355**	P	**P**	**08 53 13.7**	**-1.5**
	0.4nm,0.8s,baz=358,slow=6.6,SNR=4.1						
AKTO	**Aktyubinsk**	**68.01**	**325**	P	**P**	**08 53 16.6**	**-0.1**
	1.5nm,0.6s,baz=30,slow=6.1,SNR=8.2						

AKASG	**Malin Array Be**	**75.77**	**342**	P		**P**	**08 54 02.9**	**-0.4**
	0.5nm,0.4s,baz=19,slow=6.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**115.85**	**0**	PKP		**PKPdf**	**09 01 00.0**	**-0.4**
	0.2nm,0.4s,baz=12,slow=2.5,SNR=4.8							
TSUM	**Tsumeb**	**145.67**	**333**	PKPbc		**PKPbc**	**09 01 56.6**	**+0.1**
	1.4nm,0.5s,baz=253,slow=19,SNR=4.9							
LBTB	**Lobatse**	**148.09**	**316**	PKPbc		**PKPbc**	**09 02 04.2**	**+1.0**
	1.5nm,0.4s,baz=41,slow=3.3,SNR=6.1							
BOSA	**Boshof**	**151.35**	**313**	PKPbc		**PKPbc**	**09 02 10.8**	**-0.4**
	1.9nm,0.7s,baz=311,slow=2.3,SNR=4.1							

IDC ***11*** *08:45:10.7±3.0,5°.19S×152°.39E,h27km±19km,mb5.1/31,*
mb1 5.1/32,mb1mx5.1/36,mbtmp5.3/32,ML4.3/1,MS4.5/15,
Ms1 4.5/15,ms1mx4.4/22,Error ellipse: s-maj=14.1km
s-min=8.6km az=73.0
MOS ***11*** *08:45:11.0±0.9,5°.04S×152°.27E,h33km,mb5.8/33,*
MS4.6/5, Error ellipse: s-maj=8.3km s-min=6.1km az=99.8
NEIC ***11*** *08:45:12.3±0.1,5°.20S×152°.43E,h41km,mb5.5/75,*
MW5.4, Error ellipse: s-maj=4.5km s-min=3.5km az=127.0,
Moment Tensor Solution. s19 Moment tensor: Scale
10^{17}Nm; M_{rr}1.16; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-1.27; $M_{r\theta}$0.77; $M_{\theta\phi}$0.16;
$M_{r\phi}$0.69; Best double couple: $M_0$1.60000×10^{17} NP1:
ϕ_s151.00000°,δ37.00000°,λ46.00000°. NP2:ϕ_s21.00000°,
δ65.00000°,λ117.00000°. Principal axes: T 1.7300,
Plg60.0000°, Azm332.0000°; N -0.2800, Plg24.0000°,
Azm188.0000°; P -1.4500, Plg15.0000°, Azm91.0000°;
NEIC Felt at Kokopo. Also felt at Alotau, New Guinea.
GCMT ***11*** *08:45:12.3±0.1,5°.40S×152°.55E,h63km,MW5.4/110,*
Moment Tensor Solution. s106,c193; s110,c195;
Duration: 1§2 Moment tensor: Scale 10^{17}Nm;
M_{rr}1.06±.02; $M_{\theta\theta}$0.26±.02; $M_{\phi\phi}$-1.32±.02; $M_{r\theta}$0.69±.02;
$M_{\theta\phi}$-0.38±.02; $M_{r\phi}$0.56±.02; Best double couple:
$M_0$1.54500×10^{17} NP1:ϕ_s36.00000°,δ64.00000°,
λ116.00000°. NP2:ϕ_s168.00000°,δ36.00000°,λ48.00000°.
Principal axes: T 1.4890, Plg62.0000°, Azm346.0000°;
N 0.1100, Plg23.0000°, Azm204.0000°; P -1.6010,
Plg15.0000°, Azm107.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI ***11*** *08:45:13.7,5°.14S×152°.66E,h76km,mB5.3/51,mb5.3/70,*
Ms5.0/65,Ms7 4.8/61
ISCJB ***11*** *08:45:16.0±0.1,5°.26S±0°.03×152°.25E±0°.02,h82km,*
mb5.3/159, Error ellipse: s-maj=4.3km s-min=2.9km
az=157.8
DJA ***11*** *08:45:21.4±0.8,5°.5±4°×15°.2E±°,h111km±7km,M5.5/64,*
mb5.4/64,mB5.9/34,Mw(mB)5.5/34,Mwp6.1/1
SZGRF ***11*** *08:45:32.2,1°.72S×147°.47E,h64km,Admiralty Islands,*
Papua New Guinea, region
ISC 11 08:45:17.1±0.3,5°.31S±0°.03×152°.34E±0°.04,h83km±1km,
h83km:pP-P,n773,σ1§25/887,mb5.4/158,114C-117D,
New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.56**	**231**	*e*P	**Pn**	**08 46 50.7**	**-0.4**
PMG				*e*		08 48 05.2	
PMG				pmax	pmax		
	comp=Z,638nm,0.9s						
PMG	**Port Moresby**	**6.56**	**231**	Pn	**Pn**	**08 46 50.6**	**-0.4**
	comp=Z,78nm,0.3s,baz=32,slow=10,SNR=195						
PMG				Sn	**Sn**	**08 48 04.6**	**+0.2**
	comp=Z,73nm,0.3s,baz=156,slow=19,SNR=17						
PMG	**Port Moresby**	**6.56**	**231**	*e*Pn	**Pn**	**08 46 50.7**	**-0.4**
	comp=Z,638nm,0.9s						
PMG				Sn	**Sn**	**08 48 04.6**	**+0.2**
PMG				*e*Sn	Sn	08 48 05.2	+0.8
HNR	**Honiara**	**8.58**	**119**	LR	LR	08 50 54.6	
	comp=Z,5μm,20.9s,baz=288,slow=40						
HNR	**Honiara**	**8.58**	**119**	*e*P	**Pn**	**08 47 16.0**	**-2.7**
HNR				*e*S	Sn	08 48 42.0	-12
JAY	**Jayapura**	**11.94**	**283**	P	**Pn**	**08 48 06.5**	**+2.1**
	comp=Z,123nm,1.5s,comp=Z,5μm						
JAY	**Jayapura**	**11.94**	**283**	Pn	**Pn**	**08 48 02.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=180,slow=1.7,SNR=10						
JAY				LR	LR	08 52 03.6	
	comp=Z,4μm,21.3s,baz=82,slow=34						
MMPI	**Merauke**	**12.28**	**255**	P	**Pn**	**08 48 09.2**	**+0.2**
	comp=Z,720nm,0.8s						
GENI	**Genyem**	**12.44**	**282**	P	**Pn**	**08 48 11.8**	**+0.6**
	comp=Z,479nm,2.0s,comp=Z,11μm						
COEN	**Coen**	**12.47**	**226**	*e*Pn	**Pn**	**08 48 10.7**	**-0.9**
COEN				*e*Sn	**Sn**	**08 50 27.8**	**-0.9**
SMPI	**Sarmi**	**14.00**	**283**	P	**Pn**	**08 48 32.6**	**+0.8**
	comp=Z,282nm,1.6s,comp=Z,5μm						
CTA	**Charters Tower**	**15.84**	**201**	Pn	**Pn**	**08 48 55.5**	**0.0**
	comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=36						
CTA				Sn	**Sn**	**08 51 47.4**	**-3.1**
	baz=287,slow=19,SNR=3.1						
CTA				LR	LR	08 55 18.0	
	comp=Z,1μm,18.0s,baz=22,slow=38						
CTAO	**Charters Tower**	**15.84**	**201**	*e*P	**Pn**	**08 48 55.3**	**-0.1**
CTAO				*e*		08 51 59.6	
CTAO	**Charters Tower**	**15.84**	**201**	*e*Pn	**Pn**	**08 48 55.3**	**-0.1**
CTAO				*e*Sn	**S**	**08 51 59.6**	**-0.3**
RKPI	**Ransiki, Papua**	**18.52**	**281**	P	**Pn**	**08 49 28.0**	**-0.3**
	comp=Z,156nm,1.0s,comp=Z,15μm						
EIDS	**Eidsvold**	**19.99**	**183**	*e*P	**P**	**08 49 42.5**	**-0.5**
	comp=Z,120nm,1.4s						
FAKI	**Fak Fak**	**20.18**	**276**	P	**P**	**08 49 46.0**	**+0.7**
	comp=Z,73nm,1.1s,comp=Z,3μm						
FAKI	**Fak Fak**	**20.18**	**276**	*e*Pn	Pn	08 49 47.3	-0.6
	comp=Z,700nm,2.5s						
GUMO	**Guam**	**20.19**	**338**	*e*P	**P**	**08 49 46.4**	**+1.2**
GUMO				pmax	pmax		
	comp=Z,54nm,1.1s						
GUMO	**Guam**	**20.19**	**338**	*e*P	**P**	**08 49 46.4**	**+1.2**
	comp=Z,54nm,1.1s						
SAUI	**Saumlaki**	**21.07**	**262**	P	**P**	**08 49 55.5**	**+0.7**
	comp=Z,339nm,1.1s,comp=Z,6μm						
SAUI	**Saumlaki**	**21.07**	**262**	*e*P	**P**	**08 49 56.7**	**+1.8**
DZM	**Mont Dzumac**	**21.54**	**142**	*e*P	**P**	**08 49 58.9**	**-1.0**
	comp=Z,465nm,1.1s						
DZM				*e*LR	LR	08 55 06.0	
	comp=Z,11μm,26.7s						
DZM	**Mont Dzumac**	**21.54**	**142**	P	**P**	**08 49 58.9**	**-1.0**
	comp=Z,149nm,0.9s,baz=318,slow=9.9,SNR=98						
DZM				S	**S**	**08 53 57.9**	**+3.6**
	comp=Z,2.6nm,0.7s,baz=90,slow=20,SNR=4.4						
DZM				LR	LR	08 57 09.6	
	comp=Z,4μm,21.8s,baz=310,slow=33						
DZM	**Mont Dzumac**	**21.54**	**142**	*e*P	**P**	**08 49 58.8**	**-1.0**
	comp=Z,148nm,0.8s						
DZM				S	**S**	**08 53 57.9**	**+3.6**
TARA	**Tarawa**	**21.59**	**73**	*e*P	**P**	**08 50 01.0**	**+0.6**
	comp=Z,166nm,0.8s						
BNDI	**Bandanaira**	**22.37**	**271**	P	P	08 50 17.2	+8.5
WRAB	**Tennant Creek**	**22.76**	**229**	P	**P**	**08 50 12.6**	**-0.2**
	comp=Z,1μm,1.1s						
WRAB	**Tennant Creek**	**22.76**	**229**	*c i*P	**P**	**08 50 11.4**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,958nm,1.7s						
WRAB	**Tennant Creek**	**22.76**	**229**	*e*P	**P**	**08 50 12.1**	**-0.7**
WB2	**Warramunga Arr**	**22.76**	**229**	*e*P	**P**	**08 50 10.5**	**-2.3**
WB2				*e*S	**S**	**08 54 14.7**	**-0.9**
WRA	**Warramunga Arr**	**22.77**	**229**	P	**P**	**08 50 12.2**	**-0.8**
	comp=Z,95nm,0.8s,baz=53,slow=9.2,SNR=177						
WRA				PcP	**PcP**	**08 54 03.0**	**+1.1**
	comp=Z,9.6nm,0.9s,baz=56,slow=2.1,SNR=5.1						
WRA				S	**S**	**08 54 16.1**	**+0.4**
	comp=Z,24nm,1.1s,baz=55,slow=17,SNR=10.0						
WRA				LR	LR	08 59 38.4	
	comp=Z,1μm,19.4s,baz=60,slow=38						
ARMA	**Armidale**	**24.99**	**181**	*e*P	**P**	**08 50 34.0**	**+0.7**
LBMI	**Labuha**	**25.23**	**280**	P	**P**	**08 50 39.0**	**+3.4**
	comp=Z,201nm,1.4s,comp=Z,3μm						
NLAI	**Namlea**	**25.26**	**274**	P	**P**	**08 50 38.4**	**+2.6**
	comp=Z,42nm,0.7s,comp=Z,696nm						
ASAR	**Alice Springs**	**25.47**	**222**	P	**P**	**08 50 37.5**	**-0.2**
	comp=Z,49nm,0.5s,baz=56,slow=9.0,SNR=78						
ASAR				PcP	**PcP**	**08 54 09.6**	**+1.8**
	comp=Z,4.4nm,0.6s,baz=100,slow=2.3,SNR=4.3						
ASAR				S	S	08 55 07.8	+8.7
	comp=Z,15nm,1.1s,baz=44,slow=18,SNR=6.6						
ASAR				LR	LR	09 00 18.6	
	comp=Z,976nm,22.0s,baz=51,slow=36						
ASAR				P3KPbc		09 23 35.0	
	comp=Z,0.4nm,0.7s,baz=210,slow=4.7,SNR=6.1						
TNTI	**Ternate**	**25.67**	**283**	P	**P**	**08 50 40.5**	**+1.0**
TNTI	**Ternate**	**25.67**	**283**	*e*P	**P**	**08 50 40.5**	**+1.0**
	comp=Z,248nm,1.1s						
SANI	**Sanana**	**26.50**	**276**	P	**P**	**08 50 46.3**	**-0.7**
	comp=Z,47nm,1.0s,comp=Z,2μm						
SOEI	**Soe**	**28.17**	**259**	*e*P	**P**	**08 51 02.1**	**-0.1**
	comp=Z,156nm,1.0s						
BATI	**Baumata**	**28.82**	**259**	P	**P**	**08 51 08.4**	**+0.6**
	comp=Z,117nm,1.0s,comp=Z,1μm						
BATI	**Baumata**	**28.82**	**259**	P	**P**	**08 51 08.1**	**+0.2**
	comp=Z,114nm,0.8s,baz=70,slow=0.6,SNR=17						
BATI				LR	LR	09 05 02.4	
	comp=Z,4μm,21.7s,baz=108,slow=41						
LUWI	**Luwuk**	**29.82**	**277**	P	**P**	**08 51 16.9**	**+0.3**
	comp=Z,85nm,1.2s						
LUWI	**Luwuk**	**29.82**	**277**	*e*P	**P**	**08 51 17.0**	**+0.3**
GTOI	**Gorontalo**	**29.88**	**281**	P	**P**	**08 51 17.4**	**+0.2**
	comp=Z,62nm,1.0s,comp=Z,892nm						
EDFI	**Ende, Flores**	**30.61**	**262**	P	**P**	**08 51 22.9**	**-0.9**
	comp=Z,123nm,1.0s,comp=Z,1μm						
MRSI	**Marisa**	**30.90**	**280**	P	**P**	**08 51 24.6**	**-1.6**
	comp=Z,34nm,1.0s						
APSI	**Ampana**	**30.95**	**277**	P	**P**	**08 51 25.4**	**-1.3**
	comp=Z,70nm,1.1s,comp=Z,828nm						
BBOO	**Buckleboo**	**31.30**	**207**	*e*P	**P**	**08 51 29.2**	**-0.3**
BASI	**Baing, Sumba**	**31.84**	**259**	P	**P**	**08 51 35.1**	**+0.7**
WSI	**Waingapu**	**32.06**	**260**	P	**P**	**08 51 36.8**	**+0.4**
	comp=Z,579nm,1.1s,comp=Z,7μm						
BNSI	**Bone**	**32.13**	**270**	P	**P**	**08 51 36.5**	**-0.5**
	comp=Z,26nm,1.2s						
KAPI	**Kappang**	**32.46**	**269**	*e*P	**P**	**08 51 39.9**	**-0.1**
SPSI	**Sidrap Palu**	**32.49**	**271**	P	**P**	**08 51 41.9**	**+1.7**
	comp=Z,12nm,0.9s						
TTSI	**Tana Toraja**	**32.51**	**273**	P	P	08 51 50.6	+10
PCI	**Palu**	**32.74**	**277**	P	P	08 51 46.4	+4.0
	comp=Z,153nm,1.1s,comp=Z,1μm						
MPSI	**Mapaga**	**32.88**	**279**	P	**P**	**08 51 42.2**	**-1.4**
	comp=Z,40nm,0.9s,comp=Z,6μm						
WBSI	**Waikabubak, Su**	**32.94**	**261**	P	**P**	**08 51 44.1**	**-0.1**
	comp=Z,231nm,0.9s,comp=Z,4μm						
CBIJ	**Chichi jima**	**33.68**	**344**	P	**P**	**08 51 47.5**	**-2.8**
JCJ	**Chichijima**	**33.68**	**344**	P	**P**	**08 51 47.5**	**-2.8**
	comp=Z,38nm,0.5s,baz=255,slow=20,SNR=3.9						
JCJ				LR	LR	09 04 27.8	
	comp=Z,746nm,21.6s,baz=172,slow=34						
FORT	**Forrest**	**34.11**	**219**	*e*P	**P**	**08 51 53.7**	**-0.3**
	comp=Z,144nm,0.8s						
SDKM	**Sandakan**	**36.74**	**287**	⇓P	**P**	**08 52 17.1**	**+0.2**
BBKI	**Banjar Baru**	**37.43**	**271**	P	P	08 52 25.9	+3.2
	comp=Z,50nm,1.0s						
KDM	**Kudat**	**37.46**	**289**	⇑P	**P**	**08 52 23.2**	**+0.3**
JAGI	**Jajag, Banyuwa**	**38.03**	**263**	P	**P**	**08 52 26.9**	**-0.9**
	comp=Z,79nm,1.2s						
JAGI	**Jajag, Banyuwa**	**38.03**	**263**	*e*P	**P**	**08 52 25.9**	**-1.9**
	comp=Z,71nm,0.9s						
JOW	**Kunigami**	**39.54**	**325**	*e*P	**P**	**08 52 40.2**	**0.0**
	comp=Z,60nm,1.1s						
JOW				*e*PcP	**PcP**	**08 54 47.6**	**+1.4**
URZ	**Urewera**	**39.79**	**149**	P	**P**	**08 52 41.8**	**-0.2**
	comp=Z,6.4nm,0.6s,baz=256,slow=2.9,SNR=10						
URZ				PcP	**PcP**	**08 54 45.6**	**-1.3**
	comp=Z,19nm,0.7s,baz=325,slow=1.6,SNR=6.9						
URZ	**Urewera**	**39.79**	**149**	P	**P**	**08 52 41.8**	**-0.2**
URZ				*e*PcP	**PcP**	**08 54 45.4**	**-1.4**
URZ				PcP	**PcP**	**08 54 45.5**	**-1.3**
PWJI	**Pagerwojo**	**40.34**	**264**	P	**P**	**08 52 46.6**	**-0.5**
	comp=Z,64nm,0.9s						
PBKI	**Pangkalan Bun**	**40.65**	**272**	P	**P**	**08 52 51.5**	**+1.9**
	comp=Z,166nm,1.0s						

QIZ				sS	**sS**	**09 01 19.0**	**-0.8**	
QIZ				PMZ				
	comp=Z,38nm,1.1s							
QIZ				PMZ				
	comp=Z,270nm,3.6s							
QIZ				LN				
	comp=Z,610nm,24.7s							
QIZ				LE				
	comp=Z,350nm,20.6s							
QIZ				LZ				
	comp=Z,1μm,27.4s							
INCN	**Inchon**	**48.85 333**	*e*P	P	**P**	**08 53 54.7**	**+0.3**	
	comp=Z,50nm,0.9s							
MYKOM	**Kota Tinggi**	**48.95 277**	⇓P	P	**P**	**08 53 56.2**	**+0.6**	
NJ2	**Nanjing**	**48.95 322**	*e*P	P	**P**	**08 53 55.8**	**+0.6**	
NJ2			pP	P	**pP**	**08 54 12.2**	**-3.4**	
NJ2			sP	P	**sP**	**08 54 21.1**	**-3.9**	
NJ2			S	P	**S**	**09 00 54.0**	**+0.7**	
NJ2			sS	P	sS	09 01 22.0	-6.1	
NJ2			PMZ					
	comp=Z,40nm,1.4s							
NJ2			LE					
	comp=Z,870nm,18.0s							
NJ2			LZ					
	comp=Z,3μm,24.0s							
YUK	**Yuzh-Kuril'sk**	**49.46 354***c i*P		P		08 53 51.5	-7.4	
YUK		*e*				09 03 37.8		
KGM	**Kluang**	**49.51 277**	⇑P	**P**	**P**	**08 54 00.9**	**+1.1**	
ASAJ	**Asahikawa**	**49.97 351**	P	**P**	**P**	**08 54 02.3**	**-0.5**	
	comp=Z,13nm,0.6s,baz=306,slow=29,SNR=12							
KTGM	**Kuala Trenggan**	**50.26 281**	⇓P	**P**	**P**	**08 54 06.4**	**+0.9**	
UBPT	**Khong Chiam**	**50.73 295**	P	**P**	**P**	**08 54 10.1**	**+1.1**	
	comp=Z,27nm,1.0s							
WHN	**Wuhan**	**50.91 317**	⇓P	**P**	**P**	**08 54 11.1**	**+1.0**	
WHN			pP	**pP**	**pP**	**08 54 29.8**	**-0.8**	
WHN			S	**S**	**S**	**09 01 21.2**	**+0.6**	
WHN			PMZ					
	comp=Z,300nm,1.6s							
WHN			LN					
	comp=Z,1μm,17.5s							
WHN			LE					
	comp=Z,2μm,19.6s							
WHN			LZ					
	comp=Z,3μm,24.4s							
SDSI	**Sungai Dareh**	**51.01 273**	P	**P**	**P**	**08 54 11.5**	**+0.3**	
	comp=Z,95nm,1.0s,comp=Z,9μm							
FRIM	**Kepong**	**51.37 278**	⇑P	**P**	**P**	**08 54 14.2**	**+0.3**	
VLA	**Vladivostok**	**51.64 341**	⇑*i*P		**P**	**08 54 14.9**	**-0.4**	
VLA			*i*			08 55 28.5		
VLA						08 56 10.0		
VLA			*e*S		**S**	**09 01 27.7**	**-2.6**	
VLA			pmax	pmax				
	comp=Z,47nm,1.5s							
PDSI	**Padang**	**51.97 273**	P	**P**	**P**	**08 54 17.2**	**-1.2**	
IPM	**Ipoh**	**52.17 280**	⇓P	**P**	**P**	**08 54 19.7**	**-0.2**	
IPM	**Ipoh**	**52.17 280**	*e*P	**P**	**P**	**08 54 18.8**	**-1.0**	
	comp=Z,45nm,1.0s							
DL2	**Dalian**	**52.38 330**	P	**P**	**P**	**08 54 20.5**	**-0.4**	
DL2			S	**S**	**S**	**09 01 41.5**	**+1.0**	
DL2			PMZ					
	comp=Z,48nm,1.2s							
DL2			PMZ					
	comp=Z,240nm,6.7s							
USRK	**Ussuriysk Ar.**	**52.58 342**	P	**P**	**P**	**08 54 22.0**	**-0.3**	
	comp=Z,9.4nm,0.6s,baz=179,slow=8.5,SNR=36							
USRK			PcP	**PcP**	**PcP**	**08 55 31.9**	**+0.4**	
	comp=Z,16nm,1.1s,baz=156,slow=5.2,SNR=7.5							
USRK			LR	LR		09 15 31.9		
	comp=Z,184nm,19.3s,baz=151,slow=35							
KULM	**Kulim**	**52.68 281**	⇓P	**P**	**P**	**08 54 23.5**	**-0.1**	
KULM	**Kulim**	**52.68 281**	*e*P	**P**	**P**	**08 54 23.0**	**-0.6**	
	comp=Z,14nm,0.8s							
YSS	**Yuzh-Sakhalins**	**52.72 352**	*e*P	**P**	**P**	**08 54 22.0**	**-1.3**	
YSS			*e*			08 55 32.0		
CHBT	**CHBT**	**52.83 290**	P	**P**	**P**	**08 54 25.3**	**+0.6**	
	comp=Z,38nm,1.4s,comp=Z,4μm							
SKLT	**Songkhla**	**53.08 283**	P	**P**	**P**	**08 54 26.7**	**+0.2**	
	comp=Z,30nm,1.6s,comp=Z,870nm							
KHON	**Khomkaen**	**53.49 295**	P	**P**	**P**	**08 54 30.7**	**+1.2**	
	comp=Z,18nm,0.8s							
MDJ	**Mudanjiang**	**53.73 340**	P	**P**	**P**	**08 54 29.6**	**-1.2**	
MDJ			pP	**pP**	**pP**	**08 54 48.9**	**-2.5**	
MDJ			sP	**sP**	**sP**	**08 54 58.5**	**-2.2**	
MDJ			PcP	**PcP**	**PcP**	**08 55 36.5**	**+0.6**	
MDJ			ScP	**ScP**	**ScP**	**08 59 24.9**	**-1.6**	
MDJ			PcS	**PcS**	**PcS**	**08 59 35.2**	**+0.2**	
MDJ			S	**S**	**S**	**09 02 01.9**	**+3.1**	
MDJ			ScS	**ScS**	**ScS**	**09 04 13.1**	**+0.8**	
MDJ			SS	**SKiKP**	**SKiKP**	**09 05 38.6**	**+1.5**	
MDJ			PMZ					
	comp=Z,21nm,1.1s							
MDJ			PMZ					
	comp=Z,160nm,6.9s							
MDJ			LN					
	comp=Z,350nm,35.1s							
MDJ			LE					
	comp=Z,360nm,29.9s							
MDJ			LZ					
	comp=Z,650nm,30.8s							
MDJ	**Mudanjiang**	**53.73 340**	*e*P	**P**	**P**	**08 54 29.8**	**-1.0**	
	comp=Z,11nm,0.8s							
TRTT	**Trang**	**54.12 284**	P	**P**	**P**	**08 54 33.5**	**-0.6**	
	comp=Z,31nm,1.2s,comp=Z,704nm							
ENH	**Enshi**	**54.17 313**	*e*P	**P**	**P**	**08 54 34.3**	**+0.1**	
	comp=Z,18nm,0.8s							
ENH			*e*PcP	**PcP**	**PcP**	**08 55 39.6**	**+1.7**	
GYA	**Guiyang**	**54.34 308**	⇑*i*P		**P**	**08 54 35.9**	**+0.2**	
GYA			pP	**pP**	**pP**	**08 54 56.8**	**+0.4**	
GYA			sP	**sP**	**sP**	**08 55 06.0**	**+0.3**	
GYA			PP	**PP**	**PP**	**08 56 41.4**	**+2.8**	
GYA			S	**S**	**S**	**09 02 07.3**	**-0.5**	
GYA			sS	**sS**	**sS**	**09 02 41.9**	**-1.3**	
GYA			SS	**SS**	**SS**	**09 05 51.0**	**-0.3**	
GYA			PMZ					
	comp=Z,20nm,1.0s							
GYA			PMZ					
	comp=Z,140nm,5.2s							
GYA			LN					
	comp=Z,670nm,19.0s							
GYA			LE					
	comp=Z,590nm,20.0s							
GYA			LZ					
	comp=Z,720nm,19.4s							
CN2	**Changchun**	**54.57 336**	*e*P	P		08 54 41.8	+4.9	
CN2			PMZ					
	comp=Z,10.0nm,0.7s							
SURT	**Suratani**	**55.23 285**	P	**P**	**P**	**08 54 42.1**	**-0.1**	
	comp=Z,11nm,1.8s,comp=Z,181nm							
PBKT	**Sadao Pong**	**55.24 294**	P	**P**	**P**	**08 54 43.0**	**+0.8**	
	comp=Z,27nm,1.7s,comp=Z,1μm							
KIP	**Kipapa**	**55.43 60**	*e*P	**P**	**P**	**08 54 44.8**	**+1.4**	
KIP			pmax	pmax				
	comp=Z,69nm,1.3s							
PKDT	**Phuket**	**55.45 283**	P	**P**	**P**	**08 54 44.2**	**+0.5**	
	comp=Z,44nm,1.3s,comp=Z,6μm							
HABR	**Khabarovsk**	**55.66 346***de*P			**P**	**08 54 41.5**	**-3.1**	
HABR			*e**PP		pP	08 54 57.3	-8.1	
HABR						08 55 41.6		
HABR			*e*			08 56 45.6		
HABR			*e*PPP		PPP	08 57 58.4		
HABR			*e*S		**S**	**09 02 21.6**	**-2.8**	
HABR			*e**SS		sS	09 02 48.6	-11	
HABR			*e*			09 04 25.3		
HABR			*e*SS		**SS**	**09 06 08.0**	**-3.0**	
HABR			pmax	pmax				
	comp=N,130nm,2.5s							
HABR			pmax	pmax				
	comp=Z,258nm,2.5s							
HABR			pmax	pmax				
	comp=E,62nm,2.5s							
HABR			MLR	MLR				
	comp=Z,197nm,18.0s							
UTTA	**Uttaradit**	**56.00 295**	P	**P**	**P**	**08 54 48.8**	**+1.2**	
	comp=Z,19nm,0.9s,comp=Z,173nm							
BJT	**Baijiatuau**	**56.05 327**	*e*P	**P**	**P**	**08 54 47.5**	**-0.1**	
BJT			*e*			08 55 45.6		
BJT			pmax	pmax				
	comp=Z,47nm,1.5s							
BJT	**Baijiatuau**	**56.05 327**	*e*P	**P**	**P**	**08 54 47.5**	**-0.1**	
	comp=Z,46nm,1.5s							
BJT			*e*PcP	**PcP**	**PcP**	**08 55 45.6**	**+0.7**	
BJI	**Beijing**	**56.06 327**	P	**P**	**P**	**08 54 47.5**	**-0.1**	
BJI			pP	**pP**	**pP**	**08 55 11.0**	**+2.6**	
BJI			sP	**sP**	**sP**	**08 55 19.7**	**+2.0**	
BJI			PcP	**PcP**	**PcP**	**08 55 46.5**	**+1.6**	
BJI			S	**S**	**S**	**09 02 31.3**	**+1.2**	
BJI			PMZ					
	comp=Z,22nm,1.8s							
BJI			PMZ					
	comp=Z,270nm,6.3s							
BJI			LN					
	comp=Z,560nm,20.8s							
BJI			LE					
	comp=Z,460nm,24.6s							
BJI			LZ					
	comp=Z,890nm,26.9s							
SRDT	**SRDT**	**56.28 291**	P	**P**	**P**	**08 54 50.8**	**+1.2**	
	comp=Z,157nm,1.2s,comp=Z,14μm							
TIY	**Taiyuan**	**56.65 322**	*e*P	**P**	**P**	**08 54 51.6**	**-0.4**	
TIY			SS	**SS**	**SS**	**09 06 31.6**	**+4.4**	
TIY			PMZ					
	comp=Z,180nm,3.7s							
TIY			LN					
	comp=Z,1μm,21.3s							
TIY			LE					
	comp=Z,310nm,14.5s							
TIY			LZ					
	comp=Z,940nm,25.0s							
XAN	**Xi'an**	**56.67 317**	P	**P**	**P**	**08 54 51.6**	**-0.6**	
XAN			pP	**pP**	**pP**	**08 55 16.3**	**+3.2**	
XAN			sP	**sP**	**sP**	**08 55 26.0**	**+3.7**	
XAN			PP	**PP**	**PP**	**08 57 00.0**	**+0.8**	
XAN			S	**S**	**S**	**09 02 34.8**	**-3.8**	
XAN			SS	**SS**	**SS**	**09 06 23.0**	**-4.7**	
XAN			PMZ					
	comp=Z,23nm,0.9s							
XAN			PMZ					
	comp=Z,64nm,12.3s							
XAN			LN					
	comp=Z,430nm,23.7s							
XAN			LE					
	comp=Z,250nm,26.9s							
XAN			LZ					
	comp=Z,310nm,24.7s							
KMI	**Kunming**	**56.89 304**	P	**P**	**P**	**08 54 55.1**	**+1.0**	
KMI			PcP	**PcP**	**PcP**	**08 55 49.1**	**+0.3**	
KMI			PP	PP		08 57 08.8	+7.3	
KMI			S	**S**	**S**	**09 02 43.6**	**+1.5**	
KMI			PMZ					
	comp=Z,49nm,1.5s							
KMI			PMZ					
	comp=Z,320nm,4.7s							
KMI			LN					
	comp=Z,320nm,23.6s							
KMI			LE					
	comp=Z,500nm,24.1s							
KMI			LZ					
	comp=Z,800nm,26.1s							
CRAI	**Chiangrai**	**57.01 298**	P	**P**	**P**	**08 54 52.6**	**-2.2**	
	comp=Z,50nm,1.1s,comp=Z,493nm							
LAMP	**Lampang**	**57.09 296**	P	**P**	**P**	**08 54 56.9**	**+1.6**	
	comp=Z,25nm,0.9s,comp=Z,218nm							
CMAR	**Chiang Mai Arr**	**57.68 296**	P	**P**	**P**	**08 54 60.0**	**+0.4**	
	comp=Z,37nm,1.0s,baz=110,slow=5.3,SNR=130							
CMAR			PcP	**PcP**	**PcP**	**08 55 52.4**	**+0.6**	
	comp=Z,11nm,0.8s,baz=131,slow=2.4,SNR=8.3							
CMAR			LR	LR		09 17 56.8		
	comp=Z,203nm,21.4s,baz=112,slow=34							
CMAR			PKP2bc			09 24 59.3		
	comp=Z,0.5nm,0.3s,baz=282,slow=3.5,SNR=5.6							
CMMT	**Chiang Mai**	**57.79 296**	P	**P**	**P**	**08 55 00.7**	**+0.4**	
	comp=Z,63nm,1.2s,comp=Z,777nm							
PPT	**Papeete**	**58.01 107**	LR	LR		09 14 49.0		
	comp=Z,148nm,20.1s,baz=285,slow=31							
PPT2	**Papeete2**	**58.01 107**	*e*S		**S**	**09 03 01.5**	**+4.9**	
	comp=Z,644nm,25.8s							
PPT2			*e*LQ		LQ	09 09 37.8		
	comp=Z,699nm,30.5s							
PPT2			*e*LR		LR	09 12 14.9		
	comp=Z,723nm,25.8s							
CMAI	**Chiengmai2**	**58.08 297**	P	**P**	**P**	**08 55 03.7**	**+1.2**	
	comp=Z,35nm,1.5s							
PET	**Petropavlovsk**	**58.35 4**	*e*P		**P**	**08 55 02.6**	**-0.9**	
PET			*e*			08 55 51.8		
PET			*e*S		**S**	**09 03 00.9**	**+1.2**	
PET			*e*SS		**SS**	**09 06 58.5**	**+5.2**	
PET			pmax	pmax				
	comp=Z,200nm,14.6s							
PET			MLR	MLR				
	comp=Z,300nm,15.0s							
PET			MLR	MLR				
	comp=Z,500nm,15.0s							
PET	**Petropavlovsk**	**58.35 4**	*e*P		**P**	**08 55 02.8**	**-0.7**	
	comp=Z,29nm,0.7s							
PET			*e*PcP		**PcP**	**08 55 54.3**	**+0.7**	
PETK	**Petropavlovsk-**	**58.37 4**	P		**P**	**08 55 02.9**	**-0.8**	
	comp=Z,20nm,0.4s,baz=169,slow=8.9,SNR=158							
PETK			LR	LR		09 16 30.2		
	comp=Z,353nm,22.0s,baz=193,slow=32							
MHMT	**Maesarieng**	**58.50 295**	P		**P**	**08 55 06.6**	**+1.3**	
	comp=Z,18nm,0.8s,comp=Z,783nm							
CD2	**Chengdu**	**58.72 311**	⇑P		**P**	**08 55 07.0**	**+0.4**	
CD2			pP		**pP**	**08 55 28.9**	**+1.3**	
CD2			sP		**sP**	**08 55 38.9**	**+2.1**	
CD2			PP		**PP**	**08 57 19.7**	**+2.2**	
CD2			PcS		**PcS**	**08 59 55.8**	**-1.8**	
CD2			S		**S**	**09 03 03.7**	**-1.7**	
CD2			sS		**sS**	**09 03 41.5**	**+0.3**	
CD2			SS		**SS**	**09 07 00.9**	**+0.9**	
CD2			PMZ					
	comp=Z,110nm,0.6s							
CD2			PMZ					
	comp=Z,290nm,4.5s							
CD2			LN					
	comp=Z,580nm,19.1s							
CD2			LE					
	comp=Z,1μm,23.0s							
CD2			LZ					
	comp=Z,1μm,23.0s							
TBI	**Tubuai**	**58.77 114**	*e*S		**S**	**09 03 09.5**	**+3.3**	
	comp=Z,746nm,28.0s							
TBI			*e*LQ		LQ	09 09 54.3		
	comp=Z,1μm,32.5s							
TBI			*e*LR		LR	09 12 29.5		
	comp=Z,3μm,29.2s,baz=285							
HHC	**Hu-ho-hao-te**	**59.19 325**	*e*P		**P**	**08 55 09.9**	**+0.1**	
HHC			pP		**pP**	**08 55 33.6**	**+2.8**	
HHC			sP		**sP**	**08 55 41.6**	**+1.6**	
HHC			PP		**PP**	**08 57 22.2**	**+0.7**	
HHC			S		**S**	**09 03 09.0**	**-2.3**	
HHC			SS		**SS**	**09 07 10.4**	**+3.2**	
HHC			PMZ					
	comp=Z,37nm,1.2s							
HHC			PMZ					
	comp=Z,130nm,6.9s							
HHC			LN					
	comp=Z,370nm,17.1s							
HHC			LE					
	comp=Z,450nm,17.9s							
HHC			LZ					
	comp=Z,510nm,19.8s							
BTO	**Baotou**	**59.94 324**	*e*P		**P**	**08 55 14.4**	**-0.5**	
LZH	**Lanzhou**	**61.28 316**	⇓P		**P**	**08 55 25.6**	**+1.4**	
LZH			pP		**pP**	**08 55 47.0**	**+1.7**	
LZH			sP		**sP**	**08 55 56.9**	**+2.4**	
LZH			PP		**PP**	**08 57 45.0**	**+4.9**	
LZH			*e*S		**S**	**09 03 35.0**	**-3.3**	
LZH			*e*SS		**SS**	**09 07 39.1**	**-1.1**	
LZH			PMZ					
	comp=Z,200nm,1.4s							
LZH			PMZ					
	comp=Z,590nm,4.3s							
LZH			LN					
	comp=Z,360nm,13.5s							
LZH			LE					
	comp=Z,580nm,17.3s							
LZH			LZ					
	comp=Z,990nm,18.9s							
HIA	**Hailar**	**61.31 336**	*e*P		**P**	**08 55 23.1**	**-0.8**	
HIA			pmax	pmax				
	comp=Z,21nm,1.0s							
HIA	**Hailar**	**61.31 336**	*e*P		**P**	**08 55 23.1**	**-0.8**	
	comp=Z,21nm,1.0s							
DRV	**Dumont d'Urvil**	**61.85 186**	S		S	09 03 38.0	-6.1	
DRV			R			09 14 00.0		
ADK	**Adak**	**62.80 21**	*e*P		**P**	**08 55 33.2**	**-0.6**	
ADK			pmax	pmax				
	comp=Z,90nm,0.6s							
ADK	**Adak**	**62.80 21**	*e*P		**P**	**08 55 33.1**	**-0.6**	
	comp=Z,90nm,0.6s							
GTA	**Gaotai**	**65.72 318**	⇑P		**P**	**08 55 53.9**	**+0.5**	
GTA			pP		**pP**	**08 56 15.4**	**+0.7**	
GTA			sP		**sP**	**08 56 25.7**	**+1.9**	
GTA			PP		**PP**	**08 58 23.8**	**+4.8**	
GTA			S		**S**	**09 04 36.0**	**+2.7**	
GTA			sS		**sS**	**09 05 09.3**	**-0.4**	
GTA			PMZ					
	comp=Z,36nm,1.3s							
GTA			PMZ					
	comp=Z,390nm,6.0s							
GTA			LN					
	comp=Z,290nm,22.8s							
GTA			LE					
	comp=Z,440nm,21.9s							
GTA			LZ					
	comp=Z,640nm,22.8s							
ULN	**Ulaanbaatar**	**66.19 328***c i*P			**P**	**08 55 56.0**	**-0.2**	
ULN			pmax	pmax				
	comp=Z,93nm,2.5s							
ULN	**Ulaanbaatar**	**66.19 328**	*e*P		**P**	**08 55 56.7**	**+0.5**	
	comp=Z,44nm,1.3s							
SONM	**Songjino Array**	**66.51 328**	P		**P**	**08 55 58.3**	**+0.1**	
	comp=Z,13nm,0.5s,baz=144,slow=5.7,SNR=55							
SONM			LR	LR		09 23 34.7		
	comp=Z,619nm,20.9s,baz=115,slow=35							
SONM			PKP2bc			09 24 33.3		
	comp=Z,1.9nm,0.9s,baz=301,slow=1.7,SNR=7.9							
SEY	**Seymchan**	**68.05 0**	P		**P**	**08 56 06.8**	**-0.7**	
	comp=Z,6.6nm,0.3s,baz=188,slow=6.2,SNR=54							
LSA	**Lhasa**	**68.15 305**	P		**P**	**08 56 09.6**	**+0.2**	
LSA	**Lhasa**	**68.15 305**	*e*P		**P**	**08 56 09.3**	**-0.1**	
LSA			pmax	pmax				
	comp=Z,28nm,0.6s							
LSA	**Lhasa**	**68.15 305**	*e*P		**P**	**08 56 09.3**	**-0.1**	
	comp=Z,28nm,0.6s							
UNV	**Unalaska Valle**	**68.27 25**	*e*P		**P**	**08 56 08.1**	**-0.9**	
	comp=Z,66nm,0.5s							
UNV			*e*PP		**PP**	**08 58 38.3**	**-2.4**	
YAK	**Yakutsk**	**69.38 349***c i*P			**P**	**08 56 14.7**	**-1.0**	
YAK			*e**PP		**PcP**	**08 56 40.2**	**+1.6**	
YAK			*e*			08 58 43.9		
YAK			*e*PPP		PPP	09 00 27.2		
YAK			*e*S		**S**	**09 05 10.8**	**-5.1**	
YAK			*e**SS		**sS**	**09 05 53.0**	**+0.4**	
YAK			*e*			09 06 06.6		
YAK			*e*SS		**SS**	**09 09 41.5**	**-3.2**	
YAK			pmax	pmax				
	comp=Z,35nm,1.4s							
YAK			pmax	pmax				
	comp=N,17nm,1.3s							
YAK			pmax	pmax				
	comp=E,6.0nm,1.4s							
YAK			pmax	pmax				
	comp=Z,107nm,4.0s							
YAK			pmax	pmax				
	comp=E,64nm,4.0s							
YAK			pmax	pmax				
	comp=N,32nm,1.9s							
YAK			smax	smax				
	comp=N,108nm,4.7s							
YAK			smax	smax				
	comp=E,44nm,3.1s							
YAK	**Yakutsk**	**69.38 349**	P		**P**	**08 56 14.7**	**-1.0**	
	comp=E,17nm,0.4s,baz=157,slow=3.1,SNR=11							
YAK	**Yakutsk**	**69.38 349**	*e*P		**P**	**08 56 14.8**	**-1.0**	
	comp=E,90nm,1.2s							
ZAK	**Zakamensk**	**69.69 329**	*e*P		**P**	**08 56 17.1**	**-0.9**	
ZAK			pmax	pmax				
	comp=Z,29nm,1.4s							
BOD	**Bodaibo**	**70.10 339**	*e*P		**P**	**08 56 18.7**	**-1.6**	
BOD			*e*			08 56 39.9		
BOD			pmax	pmax				
	comp=Z,19nm,1.5s							
BOD			pmax	pmax				
	comp=Z,15nm,1.5s							
TAPN	**Taplejung**	**70.28 301**	*e*P		**P**	**08 56 22.4**	**0.0**	
	comp=Z,88nm,0.8s							
TLY	**Talaya**	**70.29 330**	*e*P		**P**	**08 56 22.4**	**+0.8**	
TLY			*e*			09 05 47.8		
TLY			pmax	pmax				
	comp=Z,33nm,2.0s							
TLY			MLR	MLR				
	comp=Z,370nm,19.0s							
TLY	**Talaya**	**70.29 330**	*e*P		**P**	**08 56 21.3**	**-0.3**	
	comp=Z,4.0nm,0.6s							
IRK	**Irkutsk**	**70.33 331**	*e*P		**P**	**08 56 21.2**	**-0.6**	
IRK			pmax	pmax				
	comp=Z,57nm,2.6s							
ODAN	**Odare**	**70.41 301**	*e*P		**P**	**08 56 22.9**	**-0.2**	
	comp=Z,165nm,0.9s							
RAMN	**Ramite**	**71.11 301**	*e*P		**P**	**08 56 27.9**	**+0.5**	
	comp=Z,26nm,0.5s							
CHLP	**Challavanipeta**	**71.30 291**	*e*P		**P**	**08 56 28.7**	**+0.4**	
MOY	**Mondy**	**71.61 329**	*e*P		**P**	**08 56 29.8**	**+0.1**	
MOY			pmax	pmax				
	comp=Z,99nm,3.0s							
JIRN	**Jiri**	**71.66 301**	*e*P		**P**	**08 56 30.7**	**-0.1**	
	comp=Z,46nm,0.7s							
GUN	**Gumba**	**71.99 301**	*e*P		**P**	**08 56 33.0**	**+0.2**	
	comp=Z,115nm,0.7s							
RKT	**Rikitea**	**72.02 112**	*e*S		**S**	**09 05 51.8**	**+3.7**	
	comp=Z,358nm,32.8s							
RKT	**Rikitea**	**72.02 112**	*e*LR		LR	09 18 39.3		
	comp=Z,2μm,32.8s							
PKI	**Pulchoki**	**72.30 301**	*e*P		**P**	**08 56 34.6**	**0.0**	
	comp=Z,180nm,1.2s							
PKIN	**Phulchoki**	**72.31 301**	*e*P		**P**	**08 56 35.1**	**+0.5**	
	comp=Z,35nm,0.8s							
VNDA	**Vanda**	**72.34 178**	P		**P**	**08 56 33.8**	**+0.3**	
VNDA			pmax	pmax				
	comp=Z,9.0nm,1.4s							
VNDA	**Vanda**	**72.34 178**	P		**P**	**08 56 33.8**	**+0.3**	
	comp=Z,10nm,0.9s,baz=332,slow=6.1,SNR=33							
VNDA	**Vanda**	**72.34 178**	P		**P**	**08 56 33.8**	**+0.3**	
	comp=Z,9.3nm,1.4s							
KKN	**Kakani**	**72.47 301**	*e*P		**P**	**08 56 35.4**	**-0.1**	
	comp=Z,51nm,0.6s							
GKN	**Gorkha**	**73.08 301**	*e*P		**P**	**08 56 38.7**	**-0.3**	
	comp=Z,168nm,0.9s							
BILL	**Bilibino**	**73.83 5***c i*P			**P**	**08 56 42.0**	**-0.4**	
BILL			*e*			08 56 55.8		
BILL			*e*			08 59 27.3		
BILL			pmax	pmax				
	comp=Z,68nm,1.3s							
BILL			MLR	MLR				
	comp=Z,210nm,20.0s							
BILL	**Bilibino**	**73.83 5**	*e*P		**P**	**08 56 41.9**	**-0.4**	
	comp=Z,52nm,0.8s							
KOLN	**Koldanda**	**73.90 301**	*e*P		**P**	**08 56 43.9**	**0.0**	
	comp=Z,72nm,0.7s							
DANN	**Dangsing**	**73.91 301**	*e*P		**P**	**08 56 43.9**	**-0.2**	
	comp=Z,254nm,1.4s							
PYUN	**Piuthan**	**74.51 301**	*e*P		**P**	**08 56 46.6**	**-0.8**	
	comp=Z,261nm,0.8s							
SKHT	**Srikalahasti**	**74.51 286**	*e*P		**P**	**08 56 46.9**	**-0.5**	
SKHT			*e*pP		**PcP**	**08 56 58.7**	**-2.8**	
SKHT			*e*			08 59 18.7		
ADKI	**Addanki**	**74.62 288**	*e*P		**P**	**08 56 47.5**	**-0.4**	
ADKI			*e*sP		**PcP**	**08 57 04.9**	**+2.9**	
HVS	**Khovu-Aksy**	**75.22 326***c i*P			**P**	**08 56 50.8**	**-0.1**	
HVS			pmax	pmax				
	comp=Z,236nm,1.3s							
NJS	**Nagarjunasagar**	**75.37 289**	*e*P		**P**	**08 56 51.4**	**-0.9**	
NJS			*e*			08 57 02.0		
NJS			*e*PcP		**PcP**	**08 57 05.0**	**-0.2**	
RPR	**Rampur**	**75.79 291**	*e*P		**P**	**08 56 54.1**	**-0.6**	
RPR			*e*			08 57 03.7		
WMQ	**Urumqi**	**75.81 318**	⇓*i*P		**P**	**08 56 55.5**	**+1.1**	
WMQ			PcP		**PcP**	**08 57 08.0**	**+1.3**	
WMQ			pP		**pP**	**08 57 16.6**	**+0.4**	
WMQ			sP		**sP**	**08 57 27.3**	**+2.0**	
WMQ			PP		**PP**	**

HYBB ePcP PcP 08 57 08.4 -0.6
HYBB e 08 58 24.1
TNA Tin City 76.41 16 eP P 08 56 56.9 -0.3
comp=Z,134nm,1.6s
KDAK Kodiak Island 76.83 27 i P P 08 57 00.3 +0.6
URV Uravakonda 77.04 287 eP P 08 57 01.3 -0.6
URV epP PcP 08 57 12.8 +0.2
KRAR Krasnoyarsk 77.99 330⇑ iP P 08 57 04.9 -1.4
KRAR pmax pmax
comp=Z,13nm,0.8s
RSO Redoubt South 78.23 24 eP P 08 57 07.0 -0.8
comp=Z,45nm,0.5s
TIXI Tiksi 78.34 353c iP P 08 57 06.8 -1.1
TIXI pmax pmax
comp=Z,45nm,2.5s
TIXI Tiksi 78.34 353 eP P 08 57 06.9 -0.9
comp=Z,15nm,0.9s
H08S2 Diego Garcia H 79.28 263 P P 08 57 15.8 +1.8
baz=34,slow=5.8,SNR=8.5
H08S3 Diego Garcia H 79.29 263 P P 08 57 15.6 +1.6
baz=34,slow=5.8,SNR=5.7
H08S1 Diego Garcia H 79.30 263 P P 08 57 15.8 +1.7
baz=34,slow=5.8,SNR=5.7
DGAR Diego Garcia 79.33 263 eP P 08 57 14.3 -0.3
SEW Seward 79.44 26 P P 08 57 13.4 -0.7
comp=Z,97nm,1.1s
PPLA Purkeypile 79.81 23 eP P 08 57 16.0 -0.3
comp=Z,240nm,1.7s
RC01 Rabbit Creek A 79.82 25 eP P 08 57 15.9 -0.3
comp=Z,71nm,0.5s
MK31 Makanchi Array 80.41 319 i P P 08 57 20.2 +0.5
MK31 pmax pmax
comp=Z,35nm,0.9s
MKAR Makanchi Array 80.41 319 P P 08 57 19.8 +0.1
comp=Z,20nm,0.8s,baz=99,slow=3.9,SNR=94
MKAR PKKPbc PKKPbc 09 16 01.3 -1.9
comp=Z,0.4nm,0.6s,baz=245,slow=2.3,SNR=5.0
MKAR PKPPKP P'P'df 09 24 06.2 +1.1
comp=Z,1.2nm,1.1s,baz=270,slow=2.4,SNR=5.5
KTH Kantishna Hill 80.65 22 eP P 08 57 19.4 -1.3
comp=Z,63nm,0.8s
POO Poona 80.83 290⇓ iP P 08 57 20.0 -2.6
TRF Thorofare Moun 80.84 23 eP P 08 57 20.6 -1.2
comp=Z,31nm,0.5s
PDGK Podgornoye 81.29 315 P P 08 57 24.3 -0.1
PDGK pmax pmax
comp=Z,30nm,1.1s
ZALV Zalesovo Beam 81.32 326 P P 08 57 23.5 -0.8
comp=Z,23nm,0.6s,baz=118,slow=5.6,SNR=69
ZALV PKKPbc PKKPbc 09 16 00.1 -1.3
comp=Z,0.5nm,0.3s,baz=353,slow=4.9,SNR=4.3
MCK McKinley 81.50 23 eP P 08 57 24.0 -1.2
MCK pmax pmax
comp=Z,105nm,0.8s
MCK McKinley 81.50 23 eP P 08 57 24.0 -1.2
comp=Z,106nm,0.8s
DIV Divide 81.52 26 eP P 08 57 24.8 -0.6
comp=Z,37nm,0.7s
BMRM Bremner River 81.96 26 eP P 08 57 27.4 -0.2
comp=Z,191nm,1.6s
COLA College 82.49 22c iP P 08 57 29.5 -0.7
COLA pmax pmax
comp=Z,372nm,1.6s
COLA College 82.49 22 eP P 08 57 28.2 -2.0
comp=Z,65nm,0.8s
PAX Paxson 82.50 24 eP P 08 57 30.6 +0.1
PAX pmax pmax
comp=Z,25nm,0.9s
PAX Paxson 82.50 24 eP P 08 57 30.6 +0.1
comp=Z,25nm,0.9s
NVS Novosibirsk 82.50 327 i P P 08 57 29.3 -1.2
NVS eS S 09 07 41.0 +0.5
NVS pmax pmax
comp=N,47nm,1.7s
NVS pmax pmax
comp=Z,155nm,1.7s
NVS pmax pmax
comp=E,90nm,1.6s
NVS smax smax
comp=E,58nm,2.5s
ILAR Eielson Array 82.80 22 P P 08 57 30.1 -1.7
comp=E,34nm,0.6s,baz=248,slow=5.1,SNR=372
ILAR PKKPbc PKKPbc 09 15 55.5 -3.0
comp=E,0.3nm,0.7s,baz=346,slow=1.7,SNR=6.4
COLD Coldfoot 82.88 19 eP P 08 57 32.2 -0.1
comp=E,177nm,1.7s
KSH Kashi 82.92 311⇑ iP P 08 57 34.9 +1.6
KSH pP pP 08 58 00.3 +4.9
KSH PP PP 09 00 49.1 +4.2
KSH S S 09 07 45.2 -0.5
KSH SS SS 09 13 14.8 +4.0
KSH PMZ
comp=E,61nm,1.1s
KSH PMZ
comp=E,510nm,2.6s
KSH LN
comp=E,170nm,5.6s
KSH LE
comp=E,100nm,6.4s
KSH LZ
comp=E,290nm,15.1s
DOT Dot Lake 83.37 24 eP P 08 57 33.8 -1.2
comp=E,144nm,1.3s
KURK Kurchatov 83.89 322 P P 08 57 37.7 -0.1
comp=E,268nm,1.2s,SNR=42
KURK Kurchatov 83.89 322 eP P 08 57 37.2 -0.6
KURK pmax pmax
comp=Z,165nm,1.3s
KURK Kurchatov 83.89 322 eP P 08 57 37.2 -0.6
comp=Z,165nm,1.3s
KURK epP pP 08 57 57.8 -2.2
TKM2 Tokmak 2 83.95 314 eP P 08 57 38.6 0.0
TKM2 pmax pmax
comp=Z,166nm,1.2s
TKM2 Tokmak 2 83.95 314 eP P 08 57 38.6 0.0
comp=Z,166nm,1.2s
KBK Karagaybulak 84.36 314 P P 08 57 42.7 +2.1
SNR=17
KBK Karagaybulak 84.36 314 eP P 08 57 42.7 +2.1
FRU Bishkek 84.64 314⇓ iP P 08 57 42.0 +0.2
FRU pmax pmax
comp=Z,480nm,1.6s
QSPA South Pole Qui 84.66 180 P P 08 57 41.6 0.0
comp=Z,29nm,0.9s,baz=348,slow=1.0,SNR=120
QSPA South Pole Qui 84.66 180 P P 08 57 41.6 0.0
comp=Z,24nm,1.2s
AAK Ala-Archa 84.68 314 P P 08 57 43.6 +1.4
comp=Z,590nm,0.7s,SNR=69
AAK Ala-Archa 84.68 314 P P 08 57 43.6 +1.4
SNR=77
AAK Ala-Archa 84.68 314 eP P 08 57 42.2 -0.1
AAK pmax pmax
comp=Z,162nm,1.2s
AAK Ala-Archa 84.68 314 P P 08 57 42.4 +0.1
comp=Z,49nm,0.7s,baz=110,slow=4.5,SNR=117
AAK Ala-Archa 84.68 314 eP P 08 57 42.2 -0.1
comp=Z,162nm,1.2s
MAW Mawson 84.93 203 P P 08 57 43.2 +0.5
comp=Z,24nm,1.0s,baz=349,slow=3.8,SNR=3.7
EGAK Eagle 85.00 23 eP P 08 57 43.0 -0.1
comp=Z,51nm,1.0s
HYT Haines Junctio 85.09 28 eP P 08 57 44.0 +0.2
comp=Z,50nm,0.7s
AML Almayashu 85.16 313 P P 08 57 46.6 +1.7
SNR=6.6
AML Almayashu 85.16 313 eP P 08 57 46.6 +1.7
EKS2 Erkin-Say 85.21 313 eP P 08 57 45.4 +0.6
EKS2 pmax pmax
comp=Z,238nm,1.4s
EKS2 Erkin-Say 85.21 313 eP P 08 57 45.4 +0.6
comp=Z,238nm,1.4s
WRAK Wrangell Islan 86.33 33 P P 08 57 49.6 -0.3
comp=Z,68nm,1.4s
KBL Kabul 87.47 305 eP P 08 57 55.1 -1.1
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 87.47 305 eP P 08 57 55.1 -1.1
comp=Z,16nm,0.9s
KK31 Karatay Array 87.65 313 P P 08 57 57.0 +0.4
KK31 pmax pmax
comp=Z,32nm,0.7s
KKAR Karatay Array 87.65 313 eP P 08 57 56.2 -0.4
KKAR pmax pmax
comp=Z,16nm,0.6s
KKAR Karatay Array 87.65 313 eP P 08 57 56.2 -0.4
comp=Z,16nm,0.6s
DLBC Dease Lake 88.05 31 P P 08 57 58.4 +0.2
comp=Z,74nm,1.3s
BVA0 Borovoye Array 89.37 323 P P 08 58 03.6 -0.9
BVA0 pmax pmax
comp=Z,49nm,0.7s
BVAR Borovoye Array 89.37 323 P P 08 58 03.8 -0.6
comp=Z,32nm,0.6s,baz=111,slow=5.7,SNR=136
BRVK Borovoye 89.44 323 P P 08 58 04.4 -0.4
comp=Z,294nm,0.9s,SNR=12
I03D Drain, OR 89.52 46 ⇓P P 08 58 06.3 +0.9
baz=89
M02C Callahan 89.58 49 ⇓P P 08 58 07.8 +2.0
baz=90
N02D Trinity Center 89.64 49 ⇓P P 08 58 07.7 +1.6
baz=90
NLWA Neilton Lookou 89.67 42 P P 08 58 06.3 +0.3
G03D McMinnville, O 89.78 45 ⇑P P 08 58 08.1 +1.6
baz=90
I04A Tendick Farm, 90.20 46 ⇑P P 08 58 09.7 +1.1
baz=90
J04D Umpqua Nationa 90.36 47 ⇑P P 08 58 10.5 +1.0
baz=90,SNR=5.7
M04C Macdoel 90.38 48 ⇓P P 08 58 09.9 +0.3
baz=90
K04D Chiloquin, OR 90.54 47 ⇓P P 08 58 10.7 +0.3
baz=90
J05D Fort Rock, OR 91.00 47 ⇓P P 08 58 13.3 +0.8
baz=91,SNR=15
I05D Terrebonne, OR 91.04 46 ⇑P P 08 58 13.4 +0.9
baz=91,SNR=6.1
SMMC Simmler 91.12 55 ⇓P P 08 58 13.8 +0.8
baz=91
G05D Wamic, OR 91.15 45 ⇑P P 08 58 13.1 +0.1
baz=91
SBC Santa Barbara 91.27 56 ⇑P P 08 58 14.4 +0.7
baz=91
BSC Santa Cruz Isl 91.29 56 ⇑P P 08 58 14.1 +0.2
baz=91
CIS Catalina Islan 92.26 57 ⇓P P 08 58 19.7 +1.3
baz=92
MLAC Mammoth, Mammo 92.27 53 ⇓P P 08 58 20.0 +1.4
baz=92
FMP Fort Macarthur 92.38 57 ⇑P P 08 58 20.1 +1.2
baz=92
ISA Isabella, Lake 92.39 55 ⇓P P 08 58 19.9 +0.9
baz=92,SNR=5.4
DECC Green Verdugo 92.39 56 ⇓P P 08 58 19.9 +0.9
baz=92
MWC Mount Wilson 92.62 56 eP P 08 58 21.0 +0.8
MWC Mount Wilson 92.62 56 eP P 08 58 21.0 +0.8
TIN Tinemaha, Big 92.70 53 ⇑P P 08 58 21.6 +1.2
baz=93
EDW2 Edwards Air Fo 92.72 55 ⇑P P 08 58 21.7 +1.1
baz=93,SNR=5.4
NVAR Mina Array Bea 92.75 52 P P 08 58 21.2 +0.4
comp=Z,4.5nm,0.8s,baz=259,slow=5.5,SNR=22
WVOR Wild Horse Val 92.82 48 eP P 08 58 20.9 0.0
WVOR pmax pmax
comp=Z,66nm,1.8s
WVOR Wild Horse Val 92.82 48 eP P 08 58 20.9 0.0
comp=Z,66nm,1.8s
BFSC Mount Baldy Ra 92.95 56 ⇑P P 08 58 22.4 +0.7
baz=93,SNR=6.0
LRMC Laurel Mtn Rad 93.02 55 ⇑P P 08 58 23.2 +1.2
baz=93
SYO Syowa Base 93.04 199⇓ eP P 08 58 19.8 -1.4
MPMC Manual Prospec 93.22 54 ⇑P P 08 58 24.8 +1.8
baz=93,SNR=8.2
MURC Murrieta 93.28 57 ⇑P P 08 58 25.1 +2.0
baz=93
109C Camp Elliot, M 93.31 57 ⇓P P 08 58 25.0 +1.8
baz=93
CRZF Crozet Islands 93.38 223 SS x 09 14 46.0
CRZF R 09 30 00.0
GSC Goldstone, Bar 93.72 55 ⇓P P 08 58 26.9 +1.7
baz=94
FURC Furnace Creek, 93.76 54 ⇑P P 08 58 26.3 +1.2
baz=94,SNR=6.4
PFO Pinyon Flats O 93.90 57 eP P 08 58 23.1 -3.0
PFO pmax pmax
comp=Z,8.0nm,1.2s
PFO Pinyon Flats O 93.90 57 ⇑P P 08 58 26.7 +0.6
baz=94
PFO Pinyon Flats O 93.90 57 eP P 08 58 23.1 -3.0
comp=Z,7.8nm,1.2s
BMO Blue Mountains 93.95 45 eP P 08 58 24.6 -1.4
BMO pmax pmax
comp=Z,41nm,1.5s
BMO Blue Mountains 93.95 45 eP P 08 58 24.6 -1.4
comp=Z,41nm,1.5s
BMO epP pP 08 58 46.0 -2.4
HEC Hector,Ludlow 94.08 56 ⇑P P 08 58 28.0 +1.2
baz=94
SHOC Shoshone, Teco 94.19 54 ⇑P P 08 58 28.3 +1.1
baz=94,SNR=7.5
NEW Newport 94.28 42 eP P 08 58 27.0 -0.3
NEW pmax pmax
comp=Z,3.0nm,0.5s
NEW Newport 94.28 42 ⇑P P 08 58 28.0 +0.7
baz=94
NEW Newport 94.28 42 eP P 08 58 27.0 -0.3
comp=Z,3.2nm,0.5s
TPNV Topopah Spring 94.28 53 ⇑P P 08 58 28.4 +0.6
baz=94
BELC Belle Mtn. Jos 94.31 56 ⇑P P 08 58 28.2 +0.3
baz=94
TUQ Turquoise Moun 94.45 55 ⇓P P 08 58 29.0 +0.4
baz=94
GMRC Granite Mounta 94.63 56 ⇑P P 08 58 30.0 +0.6
baz=94,SNR=5.3
BC3 Big Chuckawall 94.74 57 ⇑P P 08 58 30.5 +0.6
baz=95,SNR=5.3
R11A Troy Canyon, C 94.88 52 ⇑P P 08 58 31.2 +0.6
baz=95,SNR=8.5
IRM Iron Mountain 95.02 56 ⇓P P 08 58 32.1 +1.0
baz=95,SNR=6.6
SHPR Sheep Range 95.13 54 eP P 08 58 32.9 +1.2
comp=Z,78nm,2.1s
GLA Glamis 95.23 57 ⇑P P 08 58 32.5 +0.4
baz=95
SVE Sverdlovsk 95.34 327⇑ eP P 08 58 30.6 -1.3
SVE pmax pmax
comp=Z,37nm,1.8s
SVE MLR MLR
comp=Z,555nm,20.0s
NEE2 Needles Airpor 95.48 56 ⇑P P 08 58 34.0 +0.8
baz=95
Y12C Blythe 95.52 57 ⇓P P 08 58 34.4 +1.1
baz=95
AB31 Akbulak array 95.55 319 P P 08 58 31.4 -1.7
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR **Akbulak array** 95.55 319 eP P 08 58 31.5 -1.5
comp=Z,4.9nm,0.7s
PDMCI Parker Dam,Lak 95.86 56 ⇓P P 08 58 35.7 +0.9
baz=96
HLID Hailey 95.97 47 ⇑P P 08 58 35.9 +0.5
baz=96
YKA Yellowknife Ar 96.08 28 P P 08 58 35.1 -0.1
comp=Z,9.7nm,0.6s,baz=270,slow=4.8,SNR=124
YKA PKKPbc PKKPbc 09 15 21.9 -3.2
comp=Z,0.3nm,0.7s,baz=89,slow=2.9,SNR=7.7
W13A Hualapai Mount 96.10 55 ⇓P P 08 58 36.6 +0.3
baz=96,SNR=5.9
113A Mohawk Valley, 96.11 58 ⇑P P 08 58 36.7 +0.7
baz=96
MSO Missoula 96.38 44 ⇓P P 08 58 37.7 +0.6
baz=96
WALA Waterton Lakes 96.43 41 eP P 08 58 37.3 0.0
comp=Z,94nm,1.8s
WALA epP pP 08 58 58.4 -1.3
ARU Arti 96.48 326 P P 08 58 35.0 -2.1
comp=Z,143nm,1.1s,SNR=5.7
ARU Arti 96.48 326 eP P 08 58 35.0 -2.1
ARU pmax pmax
comp=Z,28nm,1.0s
ARU Arti 96.48 326 eP P 08 58 35.0 -2.1
comp=Z,28nm,1.0s
GEYT Alibeck 96.56 307 P P 08 58 37.5 -0.5
comp=Z,7.2nm,0.8s,baz=48,slow=2.2,SNR=12
Y14A Wickenburg 96.79 57 ⇓P P 08 58 39.9 +0.8
baz=97
EDM Edmonton 96.80 37 eP P 08 58 38.9 +0.1
EDM pmax pmax
comp=Z,21nm,0.8s
EDM Edmonton 96.80 37 eP P 08 58 38.9 +0.1
comp=Z,21nm,0.8s
AKTO Aktyubinsk 96.81 320 P P 08 58 37.6 -1.2
comp=Z,5.6nm,0.9s,baz=80,slow=5.0,SNR=20
Z14A Wintersburg 96.82 57 ⇑P P 08 58 40.6 +1.3
baz=97
CHMT Chamberlain Mo 96.85 44 eP P 08 58 39.1 -0.2
comp=Z,6.9nm,1.5s
214A Organ Pipe Nat 96.89 59 ⇓P P 08 58 40.4 +0.8
baz=97
DUG Dugway, Tooele 97.09 50 ⇓P Pdif 08 58 41.0 +0.4
baz=97
MCMT McKenzie Canyo 97.12 46 eP Pdif 08 58 41.1 +0.3
comp=Z,0.6nm,0.5s
U15A North Rim 97.44 54 ⇓P Pdif 08 58 42.8 +0.4
baz=97
BOZ Bozeman (W) 97.98 45 eP P 08 58 44.2 -0.2
BOZ pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 97.98 45 eP P 08 58 44.2 -0.2
comp=Z,2.4nm,0.7s
X16A Lo Mia Camp, P 98.09 56 ⇑P P 08 58 45.2 -0.1
baz=98
WUAZ Wupatki 98.17 55 ⇑P Pdif 08 58 45.7 +0.2
baz=98
H17A Grant Village 98.75 46 ⇑P Pdif 08 58 48.4 +0.4
baz=99
H17A Grant Village 98.75 46 eP P 08 58 45.3 -2.7
comp=Z,4.5nm,0.9s
I17A Pilgrim Ck. 98.75 47 ⇓P Pdif 08 58 48.2 +0.2
baz=99
EGMT Eagleton 99.21 42 ⇑P Pdif 08 58 51.1 +1.4
baz=99
EGMT Eagleton 99.21 42 eP Pdif 08 58 49.1 -0.6
comp=Z,33nm,1.5s
X18A Snowflake 99.33 56 ⇑P Pdif 08 58 51.4 +0.6
baz=99
H18A Shoshone NF, C 99.39 46 ⇓P Pdif 08 58 51.2 +0.3
baz=99
W18A Petrified Fore 99.50 55 ⇓P Pdif 08 58 52.0 +0.5
baz=99
PDAR Pinedale Array 99.52 48 P Pdif 08 58 50.9 -0.6
comp=Z,2.7nm,0.9s,baz=262,slow=3.0,SNR=16
C19A Slack Wire Ran 99.69 43 ⇓P Pdif 08 58 52.7 +0.8
baz=100
B19A Brinkman Farms 99.73 42 ⇓P Pdif 08 58 53.2 +1.2
baz=100
A19A Klindworth Far 99.83 41 ⇑P Pdif 08 58 53.1 +0.6
baz=100
D19A Cripps Ranch, 99.84 43 ⇑P Pdif 08 58 53.2 +0.7
baz=100
F19A Roth Farm, Mol 99.85 45 ⇓P Pdif 08 58 53.4 +0.7
baz=100
H19A Powell 99.87 46 ⇓P Pdif 08 58 53.1 +0.2
baz=100
J19A Crowheart 99.88 47 ⇑P Pdif 08 58 53.3 +0.3
baz=100
319A Douglas 99.88 59 ⇑P Pdif 08 58 53.8 +0.6
baz=100
I19A Meeteetse 99.89 46 ⇑P Pdif 08 58 53.6 +0.5
baz=100
E19A Rath Farm, Rou 99.93 44 ⇓P Pdif 08 58 53.0 0.0
baz=100
B20A Solberg Farm, 100.34 42 ⇓P Pdif 08 58 55.2 +0.5
baz=100
D20A Manuel Ranch, 100.35 43 ⇓P Pdif 08 58 55.1 +0.3
baz=100
A20A Cobblestone Ra 100.38 41 ⇓P Pdif 08 58 55.5 +0.6
baz=100
E20A Meyer Farm, Mu 100.39 44 ⇑P Pdif 08 58 55.5 +0.5
baz=100
G20A Bridger 100.40 45 ⇓P Pdif 08 58 55.7 +0.5
baz=100
C20A Veseth Ranch, 100.40 43 ⇑P Pdif 08 58 55.8 +0.8
baz=100
F20A Billings 100.41 45 ⇑P Pdif 08 58 55.4 +0.2
baz=100
MVCO Mesa Verde 100.48 53 ⇑P Pdif 08 58 56.4 +0.5
baz=100
I20A Worland 100.52 46 ⇓P Pdif 08 58 55.3 -0.4
baz=100
N20A Spence Gulch, 100.55 50 ⇓P Pdif 08 58 56.2 +0.1
baz=100
J20A Shoshoni 100.58 47 ⇓P Pdif 08 58 55.9 -0.2
baz=100
H20A Greybull 100.59 46 ⇑P Pdif 08 58 56.0 0.0
baz=100
O20A White River Ci 100.59 50 ⇑P Pdif 08 58 56.1 -0.1
baz=100
B21A Ellsworth Farm 101.01 42 ⇑P Pdif 08 58 58.2 +0.5
baz=101
A21A Bergtoll Ranch 101.03 41 ⇑P Pdif 08 58 58.5 +0.7
baz=101
J21A Lysite 101.05 47 ⇓P Pdif 08 58 58.3 +0.1
baz=101
G21A Lodge Grass 101.11 45 ⇓P Pdif 08 58 58.6 +0.4
baz=101
D21A La Casta Ranch 101.13 43 ⇑P Pdif 08 58 58.7 +0.5
baz=101
I21A Big Trails, Te 101.13 47 ⇓P Pdif 08 58 58.5 0.0
baz=101
121A Cookes Peak, D 101.15 58 ⇑P Pdif 08 58 58.9 0.0
baz=101
K21A Alcova 101.23 48 ⇓P Pdif 08 58 59.7 +0.6
baz=101
H21A Big Horn, Sher 101.26 46 ⇓P Pdif 08 58 59.9 +0.9
baz=101
D22A Cohagen 101.67 43 ⇓P Pdif 08 59 01.2 +0.6
baz=102
A22A Carney Farms, 101.69 41 ⇓P Pdif 08 59 01.0 +0.3
baz=102
I22A 9 Mile Ranch, 101.71 46 ⇑P Pdif 08 59 01.5 +0.5
baz=102
F22A Rosebud 101.73 44 ⇓P Pdif 08 59 01.5 +0.5
baz=102
J22A Midwest 101.75 47 ⇓P Pdif 08 59 01.5 +0.2
baz=102
G22A Birney 101.75 45 ⇓P Pdif 08 59 01.4 +0.3
baz=102
H22A Clearmont 101.75 46 ⇓P Pdif 08 59 02.1 +0.9
baz=102
P22A Eagle 101.76 51 ⇑P Pdif 08 59 01.8 +0.3
baz=102
K22A Casper 101.76 48 ⇓P Pdif 08 59 01.6 +0.2
baz=102
M22A Cedar Creek Ra 101.78 49 ⇓P Pdif 08 59 01.6 0.0
baz=102
S22A 4UR Ranch, Cre 101.79 53 ⇓P Pdif 08 59 01.5 -0.2
baz=102
C22A Vida 101.82 42 ⇑P Pdif 08 59 01.9 +0.6
baz=102
Y22D IRIS PASSCAL I 101.84 56 ⇑P Pdif 08 59 01.9 +0.1
baz=102
L22A Ellis Ranch, M 101.87 48 ⇑P Pdif 08 59 01.9 0.0
baz=102
O22A Kremmling 101.89 50 ⇓P Pdif 08 59 02.6 +0.5
baz=102
E22A Miles City 101.89 44 ⇓P Pdif 08 59 02.1 +0.4
baz=102
N22A Wattenberg Ran 101.93 50 ⇓P Pdif 08 59 02.5 +0.2
baz=102
C23A Lambert 102.29 42 ⇑P Pdif 08 59 03.4 0.0
baz=102
N23A Red Feather La 102.31 49 ⇓P Pdif 08 59 03.8 -0.1
baz=102
E23A Ismay 102.33 44 ⇑P Pdif 08 59 03.4 -0.2
baz=102
F23A Volborg 102.33 44 ⇓P Pdif 08 59 04.0 +0.3
baz=102
D23A Lindsay 102.33 43 ⇑P Pdif 08 59 03.9 +0.3
baz=102
B23A Brockton 102.35 42 ⇑P Pdif 08 59 03.8 +0.2
baz=102
O23A Lake Granby, G 102.37 50 ⇓P Pdif 08 59 04.3 0.0
baz=102
G23A Biddle 102.39 45 ⇑P Pdif 08 59 04.3 +0.4
baz=102
L23A Garrett 102.41 48 ⇓P Pdif 08 59 03.7 -0.6
baz=102
K23A Bowen Ranch, D 102.42 48 ⇑P Pdif 08 59 04.0 -0.2
baz=102
H23A Clabaugh Cattl 102.44 46 ⇓P Pdif 08 59 05.3 +1.1

baz=102
M23A Laramie 102.44 49 ⇓P Pdif 08 59 04.8 +0.3
baz=102
S23A Nye Farm, Mont 102.44 53 ⇓P Pdif 08 59 04.2 -0.5
baz=102
R23A Moffat 102.56 52 ⇑P Pdif 08 59 05.7 +0.5
baz=102
PRGR Permogore 102.56 332 P Pdif 08 59 00.2 -4.0
PRGR pmax pmax
comp=Z,23nm,1.2s
ISCO Idaho Springs 102.63 51 ⇑P Pdif 08 59 05.9 +0.4
baz=102
C24A Savage 102.83 43 ⇑P Pdif 08 59 06.3 +0.5
baz=103
SDCO Great Sand Dun 102.84 53 ⇓P Pdif 08 59 06.6 +0.2
baz=103
DGMT Dagmar 102.88 42 ⇓P Pdif 08 59 06.5 +0.6
baz=103
D24A Glendive 102.94 43 ⇑P Pdif 08 59 06.8 +0.5
baz=103
A24A Westby 102.95 41 ⇑P Pdif 08 59 06.4 +0.1
baz=103
T24B San Luis 102.97 53 ⇓P Pdif 08 59 07.1 +0.1
baz=103
L24A Wheatland 102.98 48 ⇓P Pdif 08 59 07.0 +0.2
baz=103
F24A Ekalaka 102.99 44 ⇑P Pdif 08 59 07.2 +0.5
baz=103
E24A Baker 103.01 44 ⇓P Pdif 08 59 07.1 +0.4
baz=103
O24A Longmont 103.02 50 ⇓P Pdif 08 59 06.8 -0.1
baz=103
H24A Dirks Ranch, A 103.02 45 ⇓P Pdif 08 59 06.2 -0.6
baz=103
Q24A Divide 103.04 51 ⇓P Pdif 08 59 06.9 -0.4
baz=103
G24A Alzada 103.06 45 ⇑P Pdif 08 59 07.1 +0.1
baz=103
J24A Dixon Ranch, L 103.07 47 ⇑P Pdif 08 59 07.4 +0.3
baz=103
U24A Moreno Valley 103.09 54 ⇓P Pdif 08 59 07.7 +0.1
baz=103
M24A Cheyenne 103.11 49 ⇑P Pdif 08 59 08.1 +0.7
baz=103
N24A Carr 103.11 49 ⇓P Pdif 08 59 07.2 -0.2
baz=103
R24A Sanders Place, 103.12 52 ⇑P Pdif 08 59 07.9 +0.3
baz=103
P24A Kohler Place, 103.19 51 ⇑P Pdif 08 59 08.0 +0.2
baz=103
MNTX Cornudas Mount 103.21 59 ⇓P Pdif 08 59 08.4 +0.5
baz=103
A25A Svangstu Ranch 103.53 41 ⇓P Pdif 08 59 09.8 +0.9
baz=103
B25A Knox Farm, Ray 103.58 42 ⇓P Pdif 08 59 10.0 +0.8
baz=103
C25A Freed Ranch, W 103.59 42 ⇑P Pdif 08 59 10.2 +1.0
baz=104
D25A Fairfield 103.62 43 ⇑P Pdif 08 59 10.1 +0.8
baz=104
I25A Rochford 103.68 46 ⇓P Pdif 08 59 09.9 0.0
baz=104
S25A Robets Cordova 103.69 53 ⇓P Pdif 08 59 10.1 +0.1
baz=104
J25A Sunshine Ranch 103.69 47 ⇓P Pdif 08 59 10.1 +0.3
baz=104
H25A Fruitdale 103.71 45 ⇑P Pdif 08 59 10.1 +0.2
baz=104
P25A Willow Gulch B 103.76 51 ⇑P Pdif 08 59 10.7 +0.3
baz=104
G25A Newell 103.78 45 ⇓P Pdif 08 59 10.1 0.0
baz=104
F26A Lodgepole 104.22 44 ⇓P Pdif 08 59 12.8 +0.7
baz=104
J26A Sides Ranch, S 104.23 47 ⇓P Pdif 08 59 12.7 +0.6
baz=104
D26A Manning 104.23 43 ⇓P Pdif 08 59 12.5 +0.4
baz=104
A26A Wade Farm, Ken 104.24 41 ⇓P Pdif 08 59 12.5 +0.5
baz=104
E26A Carlson Angus 104.29 43 ⇓P Pdif 08 59 12.9 +0.6
baz=104
H26A Fairpoint 104.30 45 ⇑P Pdif 08 59 13.0 +0.5
baz=104
I26A New Underwood 104.30 46 ⇑P Pdif 08 59 12.9 +0.4
baz=104
Q26A Hugo 104.31 51 ⇑P Pdif 08 59 13.1 +0.3
baz=104
U26A Atchley Ranch, 104.33 54 ⇓P Pdif 08 59 13.2 +0.3
baz=104
V26A Tequesquite Ra 104.33 55 ⇑P Pdif 08 59 12.9 0.0
baz=104
G26A Maurine 104.34 45 ⇑P Pdif 08 59 12.5 -0.1
baz=104
C26A Wahner Farm, P 104.35 42 ⇓P Pdif 08 59 13.1 +0.5
baz=104
O26A Horse Wrangler 104.36 50 ⇓P Pdif 08 59 12.8 -0.1
baz=104
M26A McRoberts Ranc 104.37 49 ⇑P Pdif 08 59 13.0 +0.1
baz=104
N26A Koester Ranch, 104.37 49 ⇓P Pdif 08 59 13.3 +0.4
baz=104
P26A Davis Ranch, A 104.39 51 ⇓P Pdif 08 59 13.3 +0.2
baz=104
S26A Kim 104.45 53 ⇓P Pdif 08 59 13.1 -0.3
baz=104
F27A Lemmon 104.67 44 ⇓P Pdif 08 59 14.3 +0.3
baz=104
A27A Ledoux Ranch, 104.75 41 ⇑P Pdif 08 59 14.8 +0.5
baz=105
C27A Sayler Ranch, 104.76 42 ⇑P Pdif 08 59 15.1 +0.7
baz=105
TXAR Lajitas Array 104.77 61 PKiKP PKiKP 09 03 30.5 +0.4
comp=Z,0.3nm,0.9s,baz=204,slow=2.7,SNR=3.8
TXAR PKKPbc PKKPbc 09 14 59.9 +0.8
comp=Z,1.1nm,0.8s,baz=124,slow=4.2,SNR=12
H27A Howes 104.79 45 ⇑P Pdif 08 59 14.9 +0.3
baz=105
G27A Dupree 104.80 45 ⇑P Pdif 08 59 14.8 +0.2
baz=105
B27A Peters Farms, 104.82 41 ⇓P Pdif 08 59 14.8 +0.2
baz=105
D27A Center 104.84 43 ⇑P Pdif 08 59 15.2 +0.5
baz=105
I27A Quinn 104.88 46 ⇑P Pdif 08 59 15.3 +0.3
baz=105
E27A Carson 104.91 43 ⇓P Pdif 08 59 15.7 +0.6
baz=105
K27A Flueckinger Fa 104.91 47 ⇑P Pdif 08 59 15.5 +0.3
baz=105
R27A Eads 104.93 52 ⇓P Pdif 08 59 15.9 +0.4
baz=105
P27A Ficken Ranch, 104.98 51 ⇑P PKiKP 09 03 30.5 +0.3
baz=105
KSCO Kaye Shedlock' 105.00 51 ⇓P PKiKP 09 03 30.5 +0.2
baz=105
J27A Elkhorn Farm, 105.01 47 ⇓P PKiKP 09 03 30.0 -0.2
baz=105
TMCR Tamitsa 105.20 336 *e*P Pdif 08 59 15.0 -0.8
TMCR pmax pmax
comp=Z,25nm,1.3s
A28A Rude Farm, Bot 105.39 41 ⇓P PKiKP 09 03 30.7 +0.1
baz=105
H28A Mission Ridge 105.53 45 ⇓P PKiKP 09 03 31.3 +0.3
baz=105
O28A Krutsinger Ran 105.54 50 ⇑P PKiKP 09 03 30.9 -0.3
baz=105
ARCES ARCESS Array B 107.22 343 Pdiff Pdif 08 59 23.4 -1.4
comp=Z,3.6nm,1.0s,baz=44,slow=6.6,SNR=4.5
ARCES PKiKP PKiKP 09 03 33.5 +0.2
comp=Z,2.8nm,0.6s,baz=119,slow=1.0,SNR=16
ARCES PKKPab PKKPdf 09 15 05.0 -0.1
comp=Z,3.4nm,1.0s,baz=270,slow=3.6,SNR=3.7
RAYN Ar Rayn 107.53 293 *e*Pdif Pdif 08 59 26.5 -0.7
comp=Z,1.9nm,1.0s
JOF Joensuu 108.46 336 *e*P Pdif 08 59 29.5 -0.9
JOF Joensuu 108.46 336 *e*p Pdif 08 59 29.5 -0.9
JOF Joensuu 108.46 336 *e*p PKiKP 09 03 36.2 +0.4
OBN Obninsk 108.90 327 *e*P Pdif 08 59 32.4 -0.1
OBN *e* 09 04 04.3
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,475nm,24.0s
KAF Kangasniemi 110.89 336 *e*PKiKP PKiKP 09 03 40.8 +0.4
KAF Kangasniemi 110.89 336 *e*p Pdif 08 59 40.0 -1.2
KAF Kangasniemi 110.89 336 *e*p PKiKP 09 03 40.8 +0.4
ANN Anapa 111.29 316 *i* PKiKP PKiKP 09 03 40.4 -1.2
ANN *e* 09 04 21.9
ANN *e* 09 10 13.7
ANN pmax pmax
comp=Z,22nm,1.3s
FINES FINESS Array B 111.32 335 Pdiff Pdif 08 59 42.4 -0.8
comp=Z,1.7nm,0.5s,baz=78,slow=4.6,SNR=32
FINES PKiKP PKiKP 09 03 41.7 +0.5
comp=Z,3.0nm,0.8s,baz=108,slow=6.2,SNR=12
AKASG Malin Array Be 114.64 324 PKP PKPdf 09 03 47.8 -0.1
comp=Z,2.5nm,0.8s,baz=64,slow=2.2,SNR=9.8
AKASG PP PP 09 04 47.0 +1.0
comp=Z,0.2nm,0.3s,baz=60,slow=6.8,SNR=6.9
AKASG PKKPbc PKKPbc 09 14 25.2 -2.8
comp=Z,1.1nm,0.6s,baz=261,slow=3.8,SNR=6.7
BRTR Keskin Array B 115.30 312 PKP PKPdf 09 03 49.3 -0.4
comp=Z,1.2nm,0.8s,baz=134,slow=3.6,SNR=5.5
NB2 NORSAR Subarra 117.23 340 PKPdf PKPdf 09 03 52.0 -0.6
comp=Z,5.4nm,0.7s,baz=40,slow=1.9
NB2 NORSAR Subarra 117.23 340 PKPdf PKPdf 09 03 52.0 -0.6
baz=40,slow=1.9
NOA NORSAR Array B 117.23 340 PKP PKPdf 09 03 52.4 -0.3
comp=Z,4.0nm,0.7s,baz=48,slow=1.9,SNR=24
KOLS Kolonicke sedl 119.46 325 *e*PKIKP PKPdf 09 03 58.5 +1.2
KOLS Kolonicke sedl 119.46 325 *e*PKP PKPdf 09 03 58.5 +1.2
UZH Uzhgorod 119.59 324 *e*PKIKP PKPdf 09 04 06.4 +8.9
UZH *e* 09 04 14.0
PLCA Paso Flores 119.65 143 PKKPbc PKKPbc 09 14 10.3 +0.3
comp=Z,2.6nm,0.8s,baz=93,slow=3.1,SNR=5.4
STHS Stebnicka Huta 119.81 325 *e*PKIKP PKPdf 09 03 59.0 +1.1
STHS Stebnicka Huta 119.81 325 *e*PKP PKPdf 09 03 59.0 +1.1
CRVS Cervenica-Dubn 119.94 325 *e*PKIKP PKPdf 09 03 59.1 +0.9
CRVS Cervenica-Dubn 119.94 325 *e*PKP PKPdf 09 03 59.0 +0.9
OJC Ojcow 120.19 327 *e*PKIKP PKPdf 09 03 59.2 +0.6
OJC Ojcow 120.19 327 *e*PKP PKPdf 09 03 59.3 +0.6
NIE Niedzica 120.33 326 *e*PKIKP PKPdf 09 04 00.3 +1.4
NIE Niedzica 120.33 326 *e*PKP PKPdf 09 04 00.3 +1.4
TKL Tuckaleechee C 120.36 52 *e*PKIKP PKPdf 09 03 59.5 +0.1
TKL Tuckaleechee C 120.36 52 *e*PKPdf PKPdf 09 03 59.5 +0.1
RAC Raciborz 121.14 327 *e*PKIKP PKPdf 09 04 02.5 +2.1
RAC *e* 09 05 35.0
OKC Ostrava-Krasne 121.30 327 *e*PKIKP PKPdf 09 04 01.9 +1.2
OKC Ostrava-Krasne 121.30 327 *e*PKPdf PKPdf 09 04 01.9 +1.2
VYHS Vyhne 121.64 325 *e*PKIKP PKPdf 09 04 01.5 0.0
VYHS Vyhne 121.64 325 *e*PKP PKPdf 09 04 01.5 0.0
KSP Ksiaz 121.71 329 *e*PKP PKPdf 09 04 02.4 +0.9
KRLC Kraliky 121.89 328 *e*PKIKP PKPdf 09 04 02.6 +0.6
KRLC Kraliky 121.89 328 *e*PKPdf PKPdf 09 04 02.6 +0.6
DPC Dobruska-Polom 121.98 328 *e*PKIKP PKPdf 09 04 03.4 +1.3
DPC *e* 09 04 08.9
DPC Dobruska-Polom 121.98 328 *e*PKPdf PKPdf 09 04 03.4 +1.3
DPC ex x 09 04 08.9
UPC Upice 122.05 329 *e*PKIKP PKPdf 09 04 01.0 -1.2
UPC Upice 122.05 329 *e*PKPdf PKPdf 09 04 01.0 -1.2
BSEG Bad Segeberg 122.56 334 *e*PKPdf PKPdf 09 04 04.7 +1.7
VAY Valandovo 122.70 317 *e*P PKPdf 09 04 03.3 -0.4
PVCC Panska Ves 122.78 329 *e*PKIKP PKPdf 09 04 04.6 +1.0
PVCC Panska Ves 122.78 329 *e*PKPdf PKPdf 09 04 04.6 +1.0
BRG Berggiesshubel 122.88 330 *e*PKP PKPdf 09 04 04.4 +0.7
comp=Z,16nm,1.0s
BRG Berggiesshubel 122.88 330 *e*PKPdf PKPdf 09 04 05.1 +1.4
BRG Berggiesshubel 122.88 330 *e*PKIKP PKPdf 09 04 04.4 +0.7
BRG pmax pmax
comp=Z,16nm,1.0s
SSPA Standing Stone 122.98 44 *e*PKPdf PKPdf 09 04 04.1 -0.2
CLL Collm 123.07 331 *e*PKPdf PKPdf 09 04 05.2 +1.1
CLL Collm 123.07 331 *i* PKIKP PKPdf 09 04 03.2 -0.9
CLL *i* 09 04 19.5
CLL pmax pmax
comp=Z,21nm,1.3s
CLL Collm 123.07 331 *i* PKPdf PKPdf 09 04 03.2 -0.9
comp=Z,21nm,1.3s
CLL *e* 09 04 08.0
CLL *i* (pPKPdf) 09 04 19.5
CLL *e*PP PP 09 05 40.0 -3.9
CLL *e*PS PS 09 15 34.0 -7.5
CLL *e*PPS PPS 09 17 05.0
CLL *e*(SS) 09 23 00.0
PRU Pruhonice 123.11 329 *e*PKIKP PKPdf 09 04 04.2 0.0
PRU *e* 09 15 39.3
PRU Pruhonice 123.11 329 *e*PKPdf PKPdf 09 04 04.2 0.0
PRU *e*PS PS 09 15 39.3 -2.7
CONA Conrad Observa 123.61 326 PKPdf 09 04 05.7 +0.3
comp=Z,5.8nm,0.7s
NRDL Niedersach Rie 123.64 333 *e*PKPdf PKPdf 09 04 06.8 +1.8
TANN Tannenbergstha 123.90 330 *e*PKPdf PKPdf 09 04 07.2 +1.4
CLZ Clausthal 123.96 333 *e*PKPdf PKPdf 09 04 07.6 +1.7
KHC Kasperske Hory 124.13 328 *e*PKIKP PKPdf 09 04 06.2 -0.1
KHC Kasperske Hory 124.13 328 *e*PKPdf PKPdf 09 04 06.2 -0.1
KHC Kasperske Hory 124.13 328 *e*PKPdf PKPdf 09 04 06.3 +0.1
JSRW J. Sargeant Re 124.15 47 *e*PKPdf PKPdf 09 04 06.8 +0.2
MOX Moxa 124.17 331 *e*PKPdf PKPdf 09 04 07.4 +1.1
GEC2 GERESS Array S 124.24 328 *e*PKPdf PKPdf 09 04 07.7 +1.1
GERES GERESS Array B 124.24 328 PKP PKPdf 09 04 07.0 +0.5
comp=Z,5.0nm,0.6s,baz=75,slow=1.6,SNR=46
GERES PKKPbc PKKPbc 09 13 52.6 -0.1
comp=Z,0.8nm,0.8s,baz=194,slow=2.8,SNR=5.0
ROTZ Rotzenmuhle 124.44 330 *e*PKPdf PKPdf 09 04 08.3 +1.5
ROTZ *ep*PKPdf pPKPdf 09 04 26.9 -3.2
WET Wettzell 124.49 329 *e*PKPdf PKPdf 09 04 08.4 +1.5
SOKA Soboth 124.79 325 ⇑ *i*PKiKP PKPdf 09 04 07.5 -0.1
comp=Z,12nm,1.4s
IBBN Ibbenburen 124.81 334 *e*PKPdf PKPdf 09 04 09.0 +1.6
UBBA Unterreizbach 124.83 332 *e*PKPdf PKPdf 09 04 09.1 +1.8
GCIS Gornji Cirnik 124.91 324 *e*PKPdf PKPdf 09 04 08.4 +0.6
GRF Grafenberg Arr 124.98 330 *e*PKPdf PKPdf 09 04 09.3 +1.5
BOJS Bojanci 125.33 324 *i* PKPdf PKPdf 09 04 09.4 +0.8
RJOB Jochberg 125.40 328 *e*PKPdf PKPdf 09 04 09.5 +0.7
LJU Ljubljana 125.44 325 *e*PKPdf PKPdf 09 04 09.5 +0.7
FUR Furstenfeldbru 125.93 329 *e*PKPdf PKPdf 09 04 11.0 +1.3
TNS Taunus Mts 125.96 332 *e*PKPdf PKPdf 09 04 11.2 +1.4
ABTA Abfaltersbach 126.15 327 ⇑ *i*PKiKP PKPdf 09 04 10.4 +0.1
comp=Z,11nm,0.9s
WATA Walderalm 126.30 328 ⇓ *i*PKiKP PKPdf 09 04 10.8 +0.2
comp=Z,5.6nm,0.6s,SNR=5.9
WTTA Wattenberg 126.31 328 ⇑ *i*PKPdf PKPdf 09 04 09.9 -0.8
comp=Z,24nm,1.0s,SNR=7.4
ESK Eskdalemuir 126.41 343 *i* PKIKP PKPdf 09 04 12.6 +2.2
MOTA Moosalm 126.54 328 ⇓ *i*PKiKP PKPdf 09 04 11.0 -0.1
comp=Z,9.4nm,0.7s,SNR=7.9
STU Stuttgart 126.59 330 *e*PKPdf PKPdf 09 04 12.4 +1.5
STU Stuttgart 126.59 330 *e*PKIKP PKPdf 09 04 11.9 +1.0
STU Stuttgart 126.59 330 *e*PKPdf PKPdf 09 04 11.9 +1.0
CFAA Coronel Fontan 126.68 136 PKP PKPdf 09 04 11.9 +0.2
comp=Z,1.5nm,0.7s,baz=234,slow=4.2,SNR=4.8
MEM Membach 126.79 334 PKP PKPdf 09 04 12.8 +1.6
FETA Feichten 126.94 328 *i* PKiKP PKiKP 09 04 12.5 +0.1
comp=Z,19nm,1.1s,SNR=6.8
BCLA Clavier 127.23 334 PKP PKPdf 09 04 12.9 +0.8
BFO Black Forest 127.31 330 *e*PKPdf PKPdf 09 04 13.6 +1.2
BFO Black Forest 127.31 330 *i* PKIKP PKPdf 09 04 13.6 +1.2
WLF Walferdange 127.41 333 PKP PKPdf 09 04 14.2 +1.8
WLF Walferdange 127.41 333 *e*PKPdf PKPdf 09 04 14.7 +2.2
WLF Walferdange 127.41 333 *e*PKIKP PKPdf 09 04 13.5 +1.1
WLF Walferdange 127.41 333 *e*PKPdf PKPdf 09 04 13.5 +1.1
GIVF Givet 127.68 334 *e*PKIKP PKPdf 09 04 13.2 +0.2
comp=Z,63nm,1.2s
GIVF Givet 127.68 334 *e*PKIKP PKPdf 09 04 13.2 +0.2
GIVF Givet 127.68 334 *e*PKPdf PKPdf 09 04 13.2 +0.2
CDF Champ du Feu 127.76 331 *e*PKIKP PKPdf 09 04 12.9 -0.4
CDF Champ du Feu 127.76 331 *e*PKIKP PKPdf 09 04 12.9 -0.4
CDF Champ du Feu 127.76 331 *e*PKPdf PKPdf 09 04 12.9 -0.4
DOU Dourbes 127.78 334 PKP PKPdf 09 04 14.8 +1.6
ATAH Atahualpa 127.88 103 PKP PKPdf 09 04 17.4 +2.5
comp=Z,10nm,0.9s,baz=252,slow=3.7,SNR=6.7
ECH Echery 127.96 331 *e*PKIKP PKPdf 09 04 13.9 +0.3
ECH Echery 127.96 331 *e*PKPdf PKPdf 09 04 13.9 +0.3
BAIF Baives 127.97 334 *e*PKIKP PKPdf 09 04 13.8 +0.3
comp=Z,18nm,1.0s
BAIF Baives 127.97 334 *e*PKIKP PKPdf 09 04 13.8 +0.3
BAIF Baives 127.97 334 *e*PKPdf PKPdf 09 04 13.8 +0.3
TUE Stuetta 128.02 328 *e*PKPdf PKPdf 09 04 14.4 +0.4
HINF Hinteralfeld 128.38 331 *e*PKPdf PKPdf 09 04 14.1 -0.4
comp=Z,67nm,1.3s
HINF Hinteralfeld 128.38 331 *e*PKIKP PKPdf 09 04 14.1 -0.4
HINF Hinteralfeld 128.38 331 *e*PKPdf PKPdf 09 04 14.1 -0.4
PAGF Fort de Pagny 128.40 332 *e*PKIKP PKPdf 09 04 14.5 +0.1
PAGF Fort de Pagny 128.40 332 *e*PKPdf PKPdf 09 04 14.5 +0.1
HAU Haudompre 128.49 331 *e*PKIKP PKPdf 09 04 14.5 -0.1
comp=Z,38nm,1.0s
HAU Haudompre 128.49 331 *e*PKIKP PKPdf 09 04 14.5 -0.1
HAU Haudompre 128.49 331 *e*PKPdf PKPdf 09 04 14.5 -0.1
MEZF Maizieres J'vi 128.75 333 *e*PKIKP PKPdf 09 04 15.4 +0.4
MEZF Maizieres J'vi 128.75 332 *e*PKPdf PKPdf 09 04 15.4 +0.4
SFTF Sexfontaines 128.97 332 *e*PKIKP PKPdf 09 04 15.7 +0.2
SFTF Sexfontaines 128.97 332 *e*PKPdf PKPdf 09 04 15.7 +0.2
OTAV Otavalo 129.04 94 *e*PKPdf PKPdf 09 04 17.6 +0.4
TSUM Tsumeb 129.24 240 PKP PKPdf 09 04 18.8 +1.8
comp=Z,2.7nm,1.0s,baz=73,slow=9.3,SNR=3.9
CABF La Chapelle 129.59 330 *e*PKIKP PKPdf 09 04 17.3 +0.4
comp=Z,27nm,1.1s
CABF La Chapelle 129.59 330 *e*PKIKP PKPdf 09 04 17.3 +0.4
CABF La Chapelle 129.59 330 *e*PKPdf PKPdf 09 04 17.3 +0.4
LPL La Plagne 130.02 329 *e*PKIKP PKPdf 09 04 18.0 +0.1
LPL La Plagne 130.02 329 *e*PKPdf PKPdf 09 04 18.0 +0.1
LPL La Plagne 130.02 329 *e*PKPdf PKPdf 09 04 18.0 +0.1
LPG La Plagne 130.03 329 *e*PKIKP PKPdf 09 04 18.1 +0.1
comp=Z,10nm,0.7s
LPG La Plagne 130.03 329 *e*PKIKP PKPdf 09 04 18.1 +0.1
LPG La Plagne 130.03 329 *e*PKPdf PKPdf 09 04 18.1 +0.1
LOR Lormes 130.19 332 *e*PKPdf PKPdf 09 04 18.0 +0.1
comp=Z,29nm,1.1s
LOR Lormes 130.19 332 *e*PKIKP PKPdf 09 04 18.0 +0.1
LOR Lormes 130.19 332 *e*PKPdf PKPdf 09 04 18.0 +0.1
SSF Saint Saulge 130.51 332 *e*PKIKP PKPdf 09 04 18.6 +0.1
comp=Z,20nm,0.9s
SSF Saint Saulge 130.51 332 *e*PKIKP PKPdf 09 04 18.6 +0.1
SSF Saint Saulge 130.51 332 *e*PKPdf PKPdf 09 04 18.6 +0.1
MBDF Montbardon 130.53 328 *e*PKIKP PKPdf 09 04 18.3 -0.5
MBDF Montbardon 130.53 328 *e*PKIKP PKPdf 09 04 18.3 -0.5
MBDF Montbardon 130.53 328 *e*PKPdf PKPdf 09 04 18.3 -0.5
SMF Signal de Mont 130.66 332 *e*PKIKP PKPdf 09 04 18.9 +0.1
comp=Z,47nm,1.3s
SMF Signal de Mont 130.66 332 *e*PKIKP PKPdf 09 04 18.9 +0.1
SMF Signal de Mont 130.66 332 *e*PKPdf PKPdf 09 04 18.9 +0.1
PGF Pioggiola 130.71 324 *e*PKIKP PKPdf 09 04 18.6 -0.5
PGF Pioggiola 130.71 324 *e*PKIKP PKPdf 09 04 18.6 -0.5
PGF Pioggiola 130.71 324 *e*PKPdf PKPdf 09 04 18.6 -0.5
SBF Sospel 130.75 327 *e*PKIKP PKPdf 09 04 18.5 -0.6
SBF Sospel 130.75 327 *e*PKIKP PKPdf 09 04 18.5 -0.6
SBF Sospel 130.75 327 *e*PKPdf PKPdf 09 04 18.5 -0.6
AVF Avril sur Loir 130.78 332 *e*PKIKP PKPdf 09 04 18.7 -0.3
AVF Avril sur Loir 130.78 332 *e*PKIKP PKPdf 09 04 18.7 -0.3
AVF Avril sur Loir 130.78 332 *e*PKPdf PKPdf 09 04 18.7 -0.3
ORIF Oris-en-Rattie 130.87 329 *e*PKIKP PKPdf 09 04 19.4 +0.1
comp=Z,18nm,0.9s
ORIF Oris-en-Rattie 130.87 329 *e*PKIKP PKPdf 09 04 19.4 +0.1
ORIF Oris-en-Rattie 130.87 329 *e*PKPdf PKPdf 09 04 19.4 +0.1
LDF La Druitiere 130.91 336 *e*PKIKP PKPdf 09 04 19.1 -0.1
comp=Z,24nm,0.9s
LDF La Druitiere 130.91 336 *e*PKIKP PKPdf 09 04 19.1 -0.1
LDF La Druitiere 130.91 336 *e*PKPdf PKPdf 09 04 19.1 -0.1
FLN La Foliniere 130.92 336 *e*PKIKP PKPdf 09 04 19.1 -0.1
comp=Z,28nm,0.9s
FLN La Foliniere 130.92 336 *e*PKIKP PKPdf 09 04 19.1 -0.1
FLN La Foliniere 130.92 336 *e*PKPdf PKPdf 09 04 19.1 -0.1
BGF Bois d'Agland 131.19 332 *e*PKIKP PKPdf 09 04 19.8 0.0
comp=Z,22nm,0.8s
BGF Bois d'Agland 131.19 332 *e*PKIKP PKPdf 09 04 19.8 0.0
BGF Bois d'Agland 131.19 332 *e*PKPdf PKPdf 09 04 19.8 0.0
GRR Gorron 131.37 336 *e*PKIKP PKPdf 09 04 20.2 +0.2
comp=Z,56nm,1.1s
GRR Gorron 131.37 336 *e*PKIKP PKPdf 09 04 20.2 +0.2
GRR Gorron 131.37 336 *e*PKPdf PKPdf 09 04 20.2 +0.2
FRF La Foret Royal 131.38 327 *e*PKIKP PKPdf 09 04 19.8 -0.4
FRF La Foret Royal 131.38 327 *e*PKIKP PKPdf 09 04 19.8 -0.4
FRF La Foret Royal 131.38 327 *e*PKPdf PKPdf 09 04 19.8 -0.4
VIVF Saint-Julien-l 131.53 329 *e*PKIKP PKPdf 09 04 20.9 +0.4
VIVF Saint-Julien-l 131.53 329 *e*PKIKP PKPdf 09 04 20.9 +0.4
VIVF Saint-Julien-l 131.53 329 *e*PKPdf PKPdf 09 04 20.9 +0.4
LMR La Mourre 131.61 327 *e*PKIKP PKPdf 09 04 20.6 0.0
comp=Z,16nm,0.8s
LMR La Mourre 131.61 327 *e*PKIKP PKPdf 09 04 20.6 0.0
LMR La Mourre 131.61 327 *e*PKPdf PKPdf 09 04 20.6 0.0
SMRF Simiane la Rot 131.68 328 *e*PKIKP PKPdf 09 04 20.8 0.0
SMRF Simiane la Rot 131.68 328 *e*PKPdf PKPdf 09 04 20.8 0.0
TCF Toulx Ste Croi 131.68 332 *e*PKIKP PKPdf 09 04 21.1 +0.4
comp=Z,25nm,0.9s
TCF Toulx Ste Croi 131.68 332 *e*PKIKP PKPdf 09 04 21.1 +0.4
TCF Toulx Ste Croi 131.68 332 *e*PKPdf PKPdf 09 04 21.1 +0.4
SGMF Saint Gilles 132.14 338 *e*PKIKP PKPdf 09 04 22.0 +0.5
comp=Z,37nm,0.8s
SGMF Saint Gilles 132.14 338 *e*PKIKP PKPdf 09 04 22.0 +0.5
SGMF Saint Gilles 132.14 338 *e*PKPdf PKPdf 09 04 22.0 +0.5
ROSF Rostrenen 132.34 338 *e*PKIKP PKPdf 09 04 21.6 -0.3
ROSF Rostrenen 132.34 338 *e*PKIKP PKPdf 09 04 21.6 -0.3
ROSF Rostrenen 132.34 338 *e*PKPdf PKPdf 09 04 21.6 -0.3
MFF Saint Martin d 132.49 334 *e*PKIKP PKPdf 09 04 22.1 -0.1
comp=Z,12nm,0.7s
MFF Saint Martin d 132.49 334 *e*PKIKP PKPdf 09 04 22.1 -0.1
MFF Saint Martin d 132.49 334 *e*PKPdf PKPdf 09 04 22.1 -0.1
LASF Ste Croix 132.50 329 *e*PKIKP PKPdf 09 04 22.6 +0.3
comp=Z,49nm,1.2s
LASF Ste Croix 132.50 329 *e*PKPdf PKPdf 09 04 22.6 +0.3
RJF Les Rejaudoux 132.74 332 *e*PKIKP PKPdf 09 04 23.6 +0.9
RJF Les Rejaudoux 132.74 332 *e*PKIKP PKPdf 09 04 23.6 +0.9
RJF Les Rejaudoux 132.74 332 *e*PKPdf PKPdf 09 04 23.6 +0.9
CAF Calviac 132.76 331 *e*PKIKP PKPdf 09 04 23.0 +0.2
CAF Calviac 132.76 331 *e*PKIKP PKPdf 09 04 23.0 +0.2
CAF Calviac 132.76 331 *e*PKPdf PKPdf 09 04 23.0 +0.2
LFF La Frestale 133.38 332 *e*PKIKP PKPdf 09 04 24.3 +0.4
LFF La Frestale 133.38 332 *e*PKIKP PKPdf 09 04 24.3 +0.4
LFF La Frestale 133.38 332 *e*PKPdf PKPdf 09 04 24.3 +0.4
ROSC El Rosal 133.52 88 PKP PKPdf 09 04 26.4 +0.8
comp=Z,5.8nm,0.5s,baz=261,slow=23,SNR=7.3
MTLF Montolieu 133.85 330 *e*PKIKP PKPdf 09 04 24.6 -0.3
MTLF Montolieu 133.85 330 *e*PKIKP PKPdf 09 04 24.6 -0.3
MTLF Montolieu 133.85 330 *e*PKPdf PKPdf 09 04 24.6 -0.3
KEST Kesra 134.46 317 PKP PKPdf 09 04 26.7 +0.4
comp=Z,2.9nm,1.0s,baz=293,slow=6.2,SNR=5.5
KEST SKPbc SKPab 09 07 54.0 +1.7
comp=Z,1.3nm,0.8s,baz=251,slow=8.4,SNR=4.3
KEST Kesra 134.46 317 PKP PKPdf 09 04 26.7 +0.4
KEST *e*PKIKP PKiKP 09 04 27.5 -0.2
KEST SKPbc SKPab 09 07 54.0 +1.7
LPAZ La Paz 134.58 119 PKIKP PKPdf 09 04 28.0 +0.2
LPAZ La Paz 134.58 119 PKP PKPdf 09 04 28.0 +0.2
comp=Z,5.4nm,0.9s,baz=336,slow=1.4,SNR=16
LPAZ La Paz 134.58 119 PKP PKPdf 09 04 28.0 +0.2
LPAZ *e*PKIKP PKiKP 09 04 29.1 -0.1
EPF Esparros 135.01 331 *e*PKIKP PKPdf 09 04 27.1 0.0
EPF Esparros 135.01 331 *e*PKIKP PKPdf 09 04 27.1 0.0
EPF Esparros 135.01 331 *e*PKPdf PKPdf 09 04 27.1 0.0
ETSF Etsaut 135.54 331 *e*PKIKP PKPdf 09 04 28.3 +0.1
comp=Z,12nm,0.7s
ETSF Etsaut 135.54 331 *e*PKIKP PKPdf 09 04 28.3 +0.1
ETSF Etsaut 135.54 331 *e*PKPdf PKPdf 09 04 28.3 +0.1
SJPF Ste Jean 135.69 332 *e*PKIKP PKPdf 09 04 28.1 -0.2
comp=Z,11nm,0.7s
SJPF Ste Jean 135.69 332 *e*PKIKP PKPdf 09 04 28.1 -0.2
SJPF Ste Jean 135.69 332 *e*PKPdf PKPdf 09 04 28.1 -0.2
SDV Santo Domingo 137.22 83 *e*PKPdf PKPdf 09 04 33.0 +0.7
CRPR Cabo Rojo, PR 139.46 68 *e*PKPdf PKPdf 09 04 36.5 +0.6
ESDC Sonseca Array 139.66 331 PKP PKPdf 09 04 36.3 +0.5
comp=Z,1.2nm,0.8s,baz=1.5,slow=3.6,SNR=4.5
ESDC PP PP 09 07 30.8 0.0
comp=Z,0.2nm,0.3s,baz=47,slow=5.2,SNR=4.1
PCAB Cabril 139.74 337 PKPdf PKPdf 09 04 37.0 +1.1
MVO Moncorvo 139.81 336 PKPdf PKPdf 09 04 38.1 +2.0
POLO Lamas de Olo 139.94 337 PKPdf PKPdf 09 04 37.6 +1.3
PVRL Vila Real 139.99 336 PKPdf PKPdf 09 04 37.8 +1.4
SJG San Juan 140.32 68 *e*PKIKP PKPdf 09 04 36.9 -0.6
SJG San Juan 140.32 68 *e*PKPdf PKPdf 09 04 36.9 -0.6
MTE Manteigas 140.66 336 PKPdf PKPdf 09 04 39.0 +1.4
SIV San Ignacio 140.74 123 PKP PKPdf 09 04 40.2 +1.8
comp=Z,3.

PTGA				*e*PKPbc	**PKPab**	**09 04 53.2**	**-0.6**
SHEL	**Horse Pasture**	**149.72**	**225**	*i* PKP2	**PKPab**	**09 05 01.7**	**-2.2**
TORD	**Torodi Ar. Bea**	**150.03**	**287**	PKPbc	**PKPbc**	**09 04 58.6**	**-0.6**
	comp=Z,28nm,0.8s,baz=36,slow=2.2,SNR=41						
PMPS	**Porto Santo**	**150.44**	**340**	PKPdf	**PKPbc**	**09 05 01.9**	**+2.2**
PMOZ	**Porto Moniz, M**	**150.94**	**342**	PKPdf	**PKPdf**	**09 04 51.8**	**-3.5**
PMAR	**Madeira**	**150.94**	**341**	PKPdf	**PKPbc**	**09 05 02.7**	**+1.5**
BDFB	**Brasilia**	**151.03**	**136**	PKP	**PKPdf**	**09 04 56.7**	**+0.8**
	comp=Z,6.8nm,1.0s,baz=167,slow=6.0,SNR=7.3						
BDFB				PKPbc	**PKiKP**	**09 05 02.5**	**+0.2**
	comp=Z,25nm,0.8s,baz=251,slow=1.4,SNR=32						
BDFB				PKPab	**PKPab**	**09 05 10.7**	**+1.4**
	comp=Z,14nm,0.7s,baz=291,slow=12,SNR=13						
KIC	**Kosan Boka**	**157.18**	**274**	*e*PKP1	**PKPab**	**09 05 36.0**	**+0.4**
	comp=Z,242nm,1.1s						
DBIC	**Dimbokro**	**157.28**	**275**	PKPab	**PKPab**	**09 05 36.5**	**+0.4**
	comp=Z,52nm,0.8s,baz=66,slow=5.2,SNR=31						
TIC	**Toumodi**	**157.45**	**275**	*e*PKP1	**PKPab**	**09 05 37.0**	**+0.2**
	comp=Z,64nm,0.7s						
LIC	**Lamto**	**157.47**	**273**	*e*PKP2	**PKPab**	**09 05 37.0**	**+0.2**
	comp=Z,125nm,1.1s						
LIC	**Lamto**	**157.47**	**273**	*e*PKP1	**PKPab**	**09 05 37.1**	**+0.2**
	comp=Z,154nm,1.1s						
LIC	**Lamto**	**157.47**	**273**	*e*PKPab	**PKPab**	**09 05 37.0**	**+0.2**

*ISCJB **11** 08:50:12.4±0.4, 32°.35N±0°.03×115°.35W±0°.03, h18km±4km, Error ellipse: s-maj=4.7km s-min=4.2km az=149.2*
*ECX **11** 08:50:13.8±0.6, 32°.36N×115°.41W, h6km, MD3.5, ML3.7*
*NEIC **11** 08:50:13.0, 32°.38N×115°.41W, h4km, MD3.4(MEX), MD3.6(ECX), ML3.6(PAS), After ECX.*
*MEX **11** 08:50:14.8±0.4, 32°.37N×115°.35W, h10km, MD3.4*

ISC 11 08:50:12.2±0.8, 32°.32N±0°.02×115°.39W±0°.02, h17km±6km, n23, σ0s.74/41, 10C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.12**	**36**	⇑*e*P		**Pb**	**08 50 15.9**	**-0.1**
CPBX				*e*S		**Sb**	**08 50 17.5**	**-1.1**
CPBX	**Cerro Prieto**	**0.12**	**36**	*e*P		**Pb**	**08 50 16.1**	**+0.1**
CPBX				*i* S		**Sg**	**08 50 19.0**	**+0.5**
MBIG	**Mexicali**	**0.18**	**61**	*i* P		**Pb**	**08 50 17.8**	**+0.7**
MBIG				*e*S		**Sg**	**08 50 19.5**	**-0.4**
EMX	**El Mayor**	**0.35**	**160**	⇑*e*P		**Pg**	**08 50 19.0**	**-0.5**
EMX				*e*S		**Sg**	**08 50 24.7**	**+0.1**
YUH	**Yuha Desert**	**0.56**	**306**	⇑*i* P		**Pg**	**08 50 22.9**	**-0.4**
RDX	**Rancho Dawling**	**0.61**	**231**	⇑*e*P		**Pg**	**08 50 24.4**	**0.0**
RDX				*e*S		**Sb**	**08 50 34.1**	**+1.2**
RMX	**La Rumorosa**	**0.65**	**296**	⇑*e*P		**Pg**	**08 50 24.6**	**-0.4**
RMX				*e*S		**Sg**	**08 50 33.0**	**-0.8**
YMD	**Yuma Desert**	**0.75**	**72**	⇓*i* P		**Pg**	**08 50 27.2**	**+0.3**
ECBX	**El Chinero**	**0.89**	**161**	⇑*e*P		**Pb**	**08 50 28.3**	**-0.9**
ECBX				*e*S		**Sb**	**08 50 41.1**	**+0.4**
CBX	**Cerro Bola**	**1.08**	**270**	*e*P		**Pg**	**08 50 32.7**	**-0.5**
CBX				*i* S		**Sn**	**08 50 46.4**	**-0.8**
CBX	**Cerro Bola**	**1.08**	**270**	⇑*e*P		**Pg**	**08 50 32.6**	**-0.5**
CBX				*e*S		**Sn**	**08 50 46.7**	**-0.6**
CBX				⇑*e*			08 50 49.1	
CBX				AML		AML	08 50 49.1	
	comp=E,2μm,0.4s							
CBX	**Cerro Bola**	**1.08**	**270**	*e*P		**Pg**	**08 50 32.7**	**-0.5**
CBX				*i* S		**Sn**	**08 50 46.4**	**-0.8**
ZAX	**El Zacaton**	**1.10**	**223**	⇑*e*P		**Pg**	**08 50 33.4**	**-0.1**
ZAX				*e*S		**Sg**	**08 50 48.2**	**+0.2**
ZAX				⇓*e*			08 50 51.8	
ZAX				AML		AML	08 50 51.8	
	comp=E,2μm,0.3s							
ECNX	**Esteban Cantu**	**1.22**	**238**	⇑*e*P		**Pg**	**08 50 35.5**	**-0.3**
ECNX				*e*S		**Sg**	**08 50 51.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.27**	**183**	*e*P		**Pn**	**08 50 36.0**	**+0.6**
SPIG				*e*S		**Sn**	**08 50 52.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.27**	**183**	*e*P		**Pn**	**08 50 36.0**	**+0.6**
SPIG				*e*S		**Sn**	**08 50 52.1**	**-0.1**
SPX	**San Pedro Mart**	**1.27**	**183**	*e*P		**Pn**	**08 50 35.9**	**+0.5**
SPX				*e*S		**Sn**	**08 50 52.3**	**+0.1**
PBX	**Punta Banda**	**1.27**	**243**	*e*P		**Pb**	**08 50 36.1**	**+0.4**
PBX				*e*S		**Sg**	**08 50 53.2**	**-0.3**
214A	**Organ Pipe Nat**	**2.21**	**99**	*e*Pn		**Pn**	**08 50 48.0**	**-0.1**
PASC	**Pasadena Art C**	**2.98**	**309**	*e*Pg		**Pb**	**08 51 05.1**	**+0.2**
TUC	**Tucson**	**3.90**	**89**	*e*Pn		**Pn**	**08 51 11.0**	**-0.3**
TUC				*e*Sg		**Sg**	**08 52 16.1**	**-1.2**
SHPR	**Sheep Range**	**4.18**	**2**	*e*Pn		**Pn**	**08 51 16.6**	**+1.3**
SHPR				*e*Sg		**Sg**	**08 52 25.1**	**-1.2**
WUAZ	**Wupatki**	**4.61**	**45**	*e*Pn		**Pn**	**08 51 23.6**	**+2.4**

*ISCJB **11** 08:52:19.5±0.6, 32°.10N±0°.03×115°.04W±0°.03, h10km±4km, Error ellipse: s-maj=5.1km s-min=4.0km az=25.2*
*NEIC **11** 08:52:21.0, 32°.09N×115°.10W, h10km, ML3.4(PAS), After PAS.*
*ECX **11** 08:52:21.6±0.4, 32°.10N×115°.10W, h5km, MD3.5, ML3.7*

ISC 11 08:52:19.7±1.0, 32°.10N±0°.03×115°.07W±0°.03, h12km±8km, n24, σ0s.66/36, 1C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.18**	**233**	⇓*e*P		**Pg**	**08 52 23.8**	**+0.1**
EMX				*e*S		**Sg**	**08 52 26.3**	**-0.3**
CPBX	**Cerro Prieto**	**0.38**	**328**	*e*P		**Pb**	**08 52 28.2**	**-0.1**
CPBX				*e*S		**Sb**	**08 52 33.6**	**-0.4**
CPBX				⇓*e*			08 52 35.3	
CPBX				AML		AML	08 52 35.3	
	comp=E,30μm,0.2s							
ECBX	**El Chinero**	**0.63**	**179**	⇓*e*P		**Pb**	**08 52 32.5**	**0.0**
ECBX				*e*S		**Sb**	**08 52 41.3**	**+0.1**
YMD	**Yuma Desert**	**0.64**	**44**	⇑*i* P		**Pb**	**08 52 33.3**	**+0.6**
EMSC	**East Mesa**	**0.64**	**6**	⇓*i* P		**Pb**	**08 52 33.2**	**+0.4**
RDX	**Rancho Dawling**	**0.76**	**257**	*e*P		**Pb**	**08 52 34.8**	**-0.1**
RDX				*e*S		**Sg**	**08 52 44.7**	**+0.2**
COA	**Coachella**	**0.76**	**357**	⇓*i* P		**Pg**	**08 52 34.7**	**+0.2**
DREC	**Desert Rsrch C**	**0.77**	**336**	*e*P		**Pb**	**08 52 35.2**	**+0.2**
SGL	**Mount Signal**	**0.78**	**315**	⇓*i* P		**Pg**	**08 52 35.0**	**+0.2**
ERPC	**Ernies Place**	**0.81**	**322**	*e*P		**Pb**	**08 52 36.1**	**+0.3**
WESC	**Westside Schoo**	**0.86**	**320**	*e*P		**Pb**	**08 52 36.6**	**0.0**
WESC				*e*S		**Sb**	**08 52 48.9**	**+0.8**
YUH	**Yuha Desert**	**0.91**	**307**	*e*P		**Pb**	**08 52 36.9**	**-0.4**
YUH				*e*S		**Sb**	**08 52 48.4**	**-0.9**
GLA	**Glamis**	**0.97**	**12**	*e*Pg		**Pb**	**08 52 38.0**	**-0.5**
GLA				*e*Sg		**Sb**	**08 52 51.1**	**-0.2**
RMX	**La Rumorosa**	**0.99**	**301**	*e*P		**Pb**	**08 52 38.2**	**-0.6**
RMX				*e*S		**Sb**	**08 52 51.8**	**-0.1**
RMX				AML		AML	08 52 52.2	
	comp=N,2μm,0.4s							
RMX				⇓*e*			08 52 52.2	
ZAX	**El Zacaton**	**1.18**	**241**	*e*P		**Pn**	**08 52 41.8**	**-0.3**
ZAX				*e*S		**Sb**	**08 52 57.3**	**0.0**
CBKC	**Canebrake**	**1.28**	**309**	*e*P		**Pb**	**08 52 43.8**	**+0.1**
ECNX	**Esteban Cantu**	**1.37**	**252**	*e*P		**Pn**	**08 52 45.0**	**+0.3**
ECNX				*e*S		**Sb**	**08 53 03.0**	**+0.2**
PBX	**Punta Banda**	**1.45**	**256**	*e*P		**Pn**	**08 52 45.9**	**+0.2**
PBX				*e*S		**Sb**	**08 53 05.7**	**+0.6**
BAR	**Barrett**	**1.48**	**294**	*e*Pn		**Pn**	**08 52 45.6**	**-0.4**
BAR				*e*Sn		**Sn**	**08 53 05.1**	**-0.1**
PFO	**Pinyon Flats O**	**1.91**	**323**	*e*Pn		**Pn**	**08 52 49.7**	**-2.4**
214A	**Organ Pipe Nat**	**1.92**	**94**	*e*Pn		**Pn**	**08 52 51.4**	**-0.8**
MWC	**Mount Wilson**	**3.28**	**311**	*e*Pg		**Pb**	**08 53 19.1**	**+1.1**
GSC	**Goldstone, Bar**	**3.51**	**336**	*e*Pn		**Pn**	**08 53 15.5**	**+1.4**
TUC	**Tucson**	**3.64**	**86**	*e*Pn		**Pn**	**08 53 15.8**	**-0.1**

*KRNET **11** 09:01:55.8±0.1, 39°.74N×73°.89E, h2km, mb3.6*
*NNC **11** 09:02:00.7±2.8, 39°.83N×73°.78E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=25.1km s-min=10.7km az=12.0*
*ISCJB **11** 09:02:01.1±1.1, 39°.81N±0°.06×73°.76E±0°.06, h10km, Error ellipse: s-maj=9.6km s-min=5.8km az=152.7*

ISC 11 09:01:57.6±1.7, 39°.84N±0°.07×73°.82E±0°.05, h10km, n12, σ1s.98/18, 9C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.30**	**306**	⇑*e*P		**Pb**	**09 02 04.8**	**-0.4**
SFK				⇑S		**Sg**	**09 02 10.4**	**+2.5**
SALK	**Salom-Alik**	**1.04**	**0**	*e*P		**Pb**	**09 02 17.2**	**-0.6**
	baz=357							
SALK				*e*S		**Sn**	**09 02 34.5**	**+1.3**
	baz=357							
CHVK	**Chauvay**	**1.27**	**284**	*e*P		**Pg**	**09 02 21.8**	**-0.1**
	baz=288							
CHVK				*e*S		**Sg**	**09 02 41.4**	**+3.0**
DRK	**Karamyk**	**1.60**	**258**	*e*P		**Pb**	**09 02 27.0**	**-0.4**
	baz=262							
DRK				*e*S		**Sg**	**09 02 50.3**	**+1.2**
	baz=262							
ARLS	**Aral**	**2.06**	**11**	*i* P		**Pg**	**09 02 36.9**	**-0.2**
	baz=9.0							
ARLS				*e*S		**Sg**	**09 03 07.6**	**+3.8**
	baz=9.0							
NRN	**Naryn**	**2.30**	**45**	*e*P		**Pg**	**09 02 40.8**	**-0.9**
	baz=43							
BTK	**Batken**	**2.32**	**276**	*e*P		**Pb**	**09 02 40.1**	**+0.6**
	baz=279							
BTK				*e*S		**Sg**	**09 03 13.4**	**+1.3**
	baz=279							
MNAS	**Manas**	**2.83**	**340**	⇑Pn		**Pb**	**09 02 46.8**	**-1.4**
	5.4nm,0.5s							
MNAS				⇑Lg		Lg	09 03 32.1	
	18nm,0.4s							
AAK	**Ala-Archa**	**2.84**	**10**	⇓Pn		**Pb**	**09 02 49.7**	**+1.2**
	14nm,0.8s							
AAK				⇑Lg		Lg	09 03 27.9	
	34nm,0.7s							
TKM2	**Tokmak 2**	**3.36**	**23**	⇓Pn		**Pb**	**09 02 56.3**	**-1.0**
	2.8nm,0.5s							
TKM2				⇓Lg		Lg	09 03 47.0	
	25nm,0.7s							
KK31	**Karatay Array**	**4.10**	**324**	⇑Pn		Pn	09 03 04.6	+4.2
	0.6nm,0.3s,baz=144,slow=14,SNR=7.7							
KK31				⇑Pg		**Pg**	**09 03 14.5**	**-1.7**
	1.5nm,0.4s,baz=145,slow=16,SNR=15							
KK31				⇓Sn		**Sb**	**09 03 55.8**	**-3.8**
	1.6nm,0.3s,baz=166,slow=29,SNR=3.6							
KK31				⇑Lg		Lg	09 04 11.0	
	4.1nm,0.4s,baz=142,slow=30,SNR=6.0							
PDGK	**Podgornoye**	**5.50**	**49**	⇑Pg		Pg	09 03 37.4	-5.4
	3.3nm,0.8s							
PDGK				⇓Lg		Lg	09 04 51.5	
	4.2nm,0.6s							

*IDC **11** 09:22:24.0±1.0, 34°.60S×72°.13W, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/21, mbtmp3.7/7, ML3.5/3, Error ellipse: s-maj=31.2km s-min=19.9km az=128.0*
*ISCJB **11** 09:22:25.7±2.0, 34°.58S±0°.06×72°.10W±0°.10, h18km±15km, mb3.8/4, Error ellipse: s-maj=15.8km s-min=5.6km az=33.4*
*GUC **11** 09:22:27.3±0.6, 34°.60S×72°.03W, h35km±4km, ML4.1*

ISC 11 09:22:25.7±2.2, 34°.60S±0°.05×72°.08W±0°.09, h10km±14km, n19, σ0s.88/27, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.81**	**121**	*e*P		**Pg**	**09 22 41.3**	**+0.1**
NICH				*e*S		**Sg**	**09 22 51.8**	**0.0**
TALC	**Talca**	**0.88**	**156**	*e*P		**Pg**	**09 22 42.5**	**-0.2**
TALC				*e*S		**Sg**	**09 22 54.0**	**-0.1**
LNCH	**Linares**	**1.31**	**163**	*e*P		**Pn**	**09 22 50.0**	**0.0**
LNCH				*e*S		**Sb**	**09 23 07.0**	**-0.2**
TACH	**Talagante**	**1.33**	**45**	*e*P		**Pn**	**09 22 49.3**	**-1.0**
SAN	**Santiago**	**1.64**	**46**	*e*P		**Pn**	**09 22 54.9**	**+0.3**
SAN				*e*S		**Sn**	**09 23 15.7**	**+0.1**
COCH	**Cobquecura**	**1.64**	**201**	*e*P		**Pn**	**09 22 54.5**	**-0.1**
COCH				*e*S		**Sn**	**09 23 15.5**	**-0.1**
CLCH	**Cerro Calan**	**1.75**	**47**	*e*P		**Pn**	**09 22 56.0**	**-0.1**
CLCH				*e*S		**Sn**	**09 23 17.3**	**-1.2**
CLCH				AML		AML	09 23 29.0	
	comp=N,3μm,0.6s							
PEL	**Peldehue**	**1.85**	**39**	*e*P		**Pn**	**09 22 57.6**	**+0.1**
PEL				*e*S		**Sn**	**09 23 20.0**	**-1.0**
PEL				AML		AML	09 23 29.2	
	comp=E,3μm,0.5s							
CFAA	**Coronel Fontan**	**4.39**	**48**	Pn		**Pn**	**09 23 33.7**	**+1.3**
	comp=E,0.3nm,0.3s,baz=246,slow=2.3,SNR=17							
CFAA				Sn		**Sn**	**09 24 26.1**	**+2.6**
	comp=E,0.5nm,0.3s,baz=210,slow=20,SNR=2.5							
CFAA				Lg		Lg	09 24 44.3	
	comp=E,0.7nm,0.3s,baz=115,slow=23,SNR=6.5							
PLCA	**Paso Flores**	**6.25**	**169**	Pn		**Pn**	**09 23 59.5**	**+1.5**
	comp=E,0.7nm,0.3s,baz=342,slow=10.0,SNR=24							
PLCA				Lg		Lg	09 25 36.0	
	comp=E,0.7nm,0.3s,baz=283,slow=17,SNR=5.1							
LPAZ	**La Paz**	**18.57**	**12**	P		**Pn**	**09 26 44.5**	**+0.9**
	comp=E,0.1nm,0.3s,baz=213,slow=6.0,SNR=7.3							
SIV	**San Ignacio**	**21.00**	**31**	P		**P**	**09 27 08.6**	**-0.8**
	comp=E,1.4nm,0.8s,baz=244,slow=8.7,SNR=4.8							
TXAR	**Lajitas Array**	**70.24**	**331**	P		**P**	**09 33 39.5**	**+0.5**
	comp=E,0.4nm,0.7s,baz=152,slow=8.7,SNR=4.1							
PDAR	**Pinedale Array**	**84.28**	**333**	P		**P**	**09 34 57.0**	**-0.6**
	comp=E,0.3nm,0.7s,baz=197,slow=2.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P		**P**	**09 34 58.5**	**-0.3**
	comp=E,1.1nm,0.9s,baz=288,slow=6.5,SNR=6.0							
ULM	**Lac du Bonnet**	**87.06**	**345**	P		**P**	**09 35 11.6**	**+0.7**
	comp=E,0.9nm,0.6s,baz=190,slow=6.1,SNR=2.9							
WRA	**Warramunga Arr**	**120.23**	**209**	PKP		**PKPdf**	**09 41 16.6**	**-0.9**
	comp=E,0.3nm,0.4s,baz=155,slow=1.7,SNR=6.4							
KURBB	**Kurchatov Arra**	**153.32**	**44**	PKPbc		**PKPbc**	**09 42 23.8**	**+0.3**
	comp=E,0.8nm,0.6s,baz=295,slow=2.9,SNR=9.1							
ZALV	**Zalesovo Beam**	**154.74**	**33**	PKPbc		**PKPbc**	**09 42 26.1**	**-0.3**
	comp=E,0.4nm,0.3s,baz=96,slow=4.3,SNR=3.7							

DJA 11 09:33:14.3±0.5, 0°.N±5°.×12°.4E±°, h193km±6km, M3.9/10, MLv3.9/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.45**	**1**	P		Pn	09 33 40.4	0.0
KMSI				S		Sn	09 34 02.9	+2.1
KMSI	**Cibinong**	**0.45**	**1**	P		Pn	09 33 39.8	-0.6
	436nm,0.7s,7μm2.2nm							
GTOI	**Gorontalo**	**1.09**	**298**	P		Pn	09 33 45.3	+1.3
	218nm,0.8s,7μm1.1nm							
LUWI	**Luwuk**	**1.66**	**226**	P		Pn	09 33 49.6	+0.7
LUWI				S		Sn	09 34 16.8	+1.0
LUWI	**Luwuk**	**1.66**	**226**	P		Sn	09 34 06.7	-9.1
	23μm844nm,0.3s							
MRSI	**Marisa**	**2.06**	**280**	P		Pn	09 33 52.2	-0.7
MRSI				S		Sn	09 34 20.0	-2.9
MRSI	**Marisa**	**2.06**	**280**	P		Pn	09 33 52.5	-0.4
	110nm,0.5s,2μm0.5nm							
APSI	**Ampana**	**2.54**	**246**	P		Pn	09 33 58.0	-0.2
SANI	**Sanana**	**2.95**	**137**	P		Pn	09 34 03.7	+0.7
SANI				S		Sn	09 34 40.3	-0.8
SANI	**Sanana**	**2.95**	**137**	P		Pn	09 34 03.7	+0.7
	31nm,0.5s,3μm0.5nm							
TNTI	**Ternate**	**3.46**	**79**	P		Pn	09 34 09.0	-0.1
LBMI	**Labuha**	**3.61**	**102**	P		Pn	09 34 11.8	+0.8
LBMI				S		Sn	09 34 55.5	+0.1
MPSI	**Mapaga**	**4.08**	**273**	P		Pn	09 34 15.8	-1.0
MPSI	**Mapaga**	**4.08**	**273**	P		Pn	09 34 17.4	+0.6
	22nm,0.8s,3μm0.2nm							
PCI	**Palu**	**4.26**	**256**	P		Pn	09 34 18.5	-0.6

*IDC **11** 09:40:22.3±0.3, 10°.84S×161°.20E, h0km, mb6.2/34, mb1 6.2/36, mb1mx6.2/37, mbtmp6.2/36, ML5.5/2, MS6.8/25, Ms1 6.8/25, ms1mx6.8/28, Error ellipse: s-maj=13.5km s-min=9.7km az=70.0*
*GCMT **11** 09:40:25.6±0.1, 11°.04S×161°.18E, h36km, MW6.9/142, Moment Tensor Solution. s139,c366; s142,c583; Duration: 6s5 Moment tensor: Scale 10^19Nm; Mrr1.98±.01; Mθθ-2.03±.01; Mφφ0.04±.01; Mrθ0.27±.02; Mθφ1.41±.01; Mφr-0.27±.02; Best double couple: M0 2.39500×10^19 NP1:φs122.00000°, δ50.00000°, λ97.00000°. NP2:φs291.00000°, δ41.00000°, λ82.00000°. Principal axes: T 2.0180, Plg83.0000°, Azm77.0000°; N 0.7440, Plg5.0000°, Azm297.0000°; P -2.7720, Plg4.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **11** 09:40:25.6±0.8, 10°.92S±0°.02×161°.09E±0°.02, h29km±5km, mb6.6/329, MS6.9/221 Error ellipse: s-maj=3.2km s-min=2.4km az=20.7*
*NEIC **11** 09:40:25.6±0.1, 10°.88S×161°.12E, h21km, mb6.6/204, ME6.7, MS7.0/164, MW6.8, MW6.8, Error ellipse: s-maj=3.8km s-min=3.2km az=146.0 Broadband fault plane solution: P waves. NP1:φs119.00000°, δ35.00000°, λ97.00000°. NP2:φs290.00000°, δ55.00000°, λ85.00000°. Principal axes: T Plg79.0000°, Azm181.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm24.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by a larger event about 3 seconds later. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Felt [III] at Honiara. Also felt at Auki.
*MOS **11** 09:40:26.1±0.9, 10°.81S×161°.07E, h33km, mb6.8/80, MS6.9/87 Error ellipse: s-maj=6.9km s-min=5.8km az=82.7*
*BJI **11** 09:40:29.4, 10°.54S×161°.35E, h62km, mB6.9/69, mb6.4/85, Ms6.9/95, Ms7 6.7/84*
*NEIC **11** 09:40:30.0±0.0, 10°.71S×160°.73E, h50km Best double couple: NP1:φs302.00000°, δ45.00000°, λ95.00000°. NP2:φs114.00000°, δ44.00000°, λ84.00000°. Principal axes: T 1.7000, Plg85.0000°, Azm289.0000°; N 0.6700, Plg4.0000°, Azm118.0000°; P -2.3700, Plg0.0000°, Azm28.0000°;*
*NEIC **11** 09:40:49.5±0.0, 10°.74S×161°.07E, h38km, Moment Tensor Solution. s150 Moment tensor: Scale 10^19Nm; Mrr1.84; Mθθ-1.90; Mφφ0.06; Mrθ0.07; Mθφ1.40; Mφr-0.17; Best double couple: M0 2.20000×10^19 NP1:φs291.00000°, δ44.00000°, λ81.00000°. NP2:φs124.00000°, δ47.00000°, λ99.00000°. Principal axes: T 1.8600, Plg83.0000°, Azm101.0000°; N 0.7700, Plg6.0000°, Azm297.0000°; P -2.6300, Plg1.0000°, Azm207.0000°;*

ISC 11 09:40:29.9±0.2, 10°.93S±0°.03×161°.17E±0°.03, h54km±1km, h54km:pP-P, n2095, σ1s48/2362, mb6.6/321, MS7.0/234, 469C-262D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.91**	**321**	*e*P		**Pn**	**09 41 01.5**	**+1.5**
HNR	**Honiara**	**1.91**	**321**	LR		LR	09 41 55.0	
	comp=Z,934μm,20.2s,baz=128,slow=50							
HNR	**Honiara**	**1.91**	**321**	*i* P		**Pn**	**09 40 59.3**	**-0.7**
HNR				*i* S		**Sn**	**09 41 18.1**	**-4.9**
HNR	**Honiara**	**1.91**	**321**	*e*Pn		**Pn**	**09 41 01.5**	**+1.5**
DZM	**Mont Dzumac**	**12.18**	**156**	*e*Pn		**Pn**	**09 43 19.9**	**-0.9**
	7μm,1.6s							
DZM				*e*Sn		**Sn**	**09 45 34.2**	**-0.9**
	2μm,1.1s							
DZM				*e*LR		LR	09 46 18.3	
	973μm,21.2s							
DZM	**Mont Dzumac**	**12.18**	**156**	Pn		**Pn**	**09 43 19.1**	**-1.6**
	34nm,0.3s,baz=315,slow=3.9,SNR=371							
DZM				Sn		**Sn**	**09 45 33.6**	**-1.5**
	58nm,0.3s,baz=293,slow=19,SNR=3.7							
DZM				LR		LR	09 47 35.4	
	comp=Z,1050μm,19.1s,baz=322,slow=35							
DZM	**Mont Dzumac**	**12.18**	**156**	*e*Pn		**Pn**	**09 43 20.6**	**-0.1**
	3μm,0.8s							
DZM				Sn		**Sn**	**09 45 33.6**	**-1.5**
I22FR	**PORTLAGUERRE I1**	**2.44**	**155**	*i*			10 59 50.0	
	baz=339,slow=324,SNR=1.1							
PMG	**Port Moresby**	**13.87**	**275**	*c i*P		**Pn**	**09 43 45.7**	**+1.9**
PMG				pmax		pmax		
	comp=Z,1μm,1.2s							
PMG				MLR		MLR		
	comp=Z,1231μm,21.0s							
PMG	**Port Moresby**	**13.87**	**275**	Pn		**Pn**	**09 43 44.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=97,slow=11,SNR=14							
PMG	**Port Moresby**	**13.87**	**275**	*e*P		**P**	**09 43 48.1**	**-2.4**
	comp=Z,602nm,1.2s							
TARA	**Tarawa**	**16.90**	**44**	*e*P		**Pn**	**09 44 23.3**	**+0.5**
CTA	**Charters Tower**	**17.00**	**236**	P		**Pn**	**09 44 24.4**	**+0.3**
	comp=Z,11nm,0.3s,baz=62,slow=15,SNR=134							
CTA				S		**Sn**	**09 47 30.2**	**-2.1**
	comp=Z,10nm,0.3s,baz=66,slow=20,SNR=3.3							
CTAO	**Charters Tower**	**17.00**	**236**	*e*P		**P**	**09 44 24.8**	**-0.4**
CTAO				pmax		pmax		
	comp=Z,8μm,1.2s							
CTAO	**Charters Tower**	**17.00**	**236**	*e*P		**P**	**09 44 24.8**	**-0.4**
	comp=Z,8μm,1.2s							
EIDS	**Eidsvold**	**17.25**	**212**	*e*P		**Pn**	**09 44 26.9**	**-0.2**
	comp=Z,7μm,1.1s							
COEN	**Coen**	**17.82**	**258**	*e*P		**P**	**09 44 36.4**	**+2.0**
	comp=Z,548nm,1.3s							
KWAJ	**Kwajalein Atol**	**20.62**	**18**	*e*P		**P**	**09 45 05.8**	**+0.9**
KWAJ	**Kwajalein Atol**	**20.62**	**18**	*e*P		**P**	**09 45 05.8**	**+0.9**
	comp=Z,16μm,1.8s							
MMPI	**Merauke**	**20.63**	**275**	P		Pn	09 45 06.7	-1.1
ARMA	**Armidale**	**21.33**	**203**	*e*P		**P**	**09 45 13.6**	**+1.1**
	comp=Z,3μm,1.2s							
JAY	**Jayapura**	**21.96**	**291**	P		**P**	**09 45 18.9**	**-0.4**
JAY	**Jayapura**	**21.96**	**291**	*e*P		**P**	**09 45 18.5**	**-0.8**
	comp=Z,701nm,0.8s,baz=125,slow=4.6,SNR=67							
JAY				S		**S**	**09 49 20.1**	**+1.1**
	comp=Z,76nm

comp=Z,11nm,0.8s,baz=244,slow=3.8,SNR=32
MKAZ Moumakai 28.96 156 PN **P** **09 46 25.7 +1.5**
MKAZ PcP **PcP** **09 49 33.4 +1.4**
GUMO Guam 29.24 326 *e*P **P** **09 46 26.1 -0.7**
GUMO pmax pmax
comp=Z,226nm,1.4s
GUMO Guam 29.24 326 *e*P **P** **09 46 26.1 -0.7**
comp=Z,226nm,1.4s
GUMO LR LR
comp=Z,18µm,22.0s
SAUI Saumlaki 29.60 273 P **P** **09 46 30.4 +0.3**
comp=Z,1µm,1.8s,comp=Z,41µmcomp=Z,240µm
SAUI Saumlaki 29.60 273 *e*P **P** **09 46 31.5 +1.4**
TOZ Tahuroa Road 29.63 157 PN **P** **09 46 31.7 +1.6**
TOZ PcP **PcP** **09 49 35.5 +1.8**
H11S2 WAKE ISLAND Hy 29.74 11 P **P** **09 46 33.6 +2.6**
baz=240,slow=6.4,SNR=7.5
H11S3 WAKE ISLAND Hy 29.74 11 P **P** **09 46 32.7 +1.7**
baz=240,slow=6.4,SNR=6.1
H11S1 WAKE ISLAND Hy 29.75 11 P **P** **09 46 33.9 +2.7**
baz=240,slow=6.4,SNR=5.2
FAKI Fak Fak 29.76 283 P **P** **09 46 30.5 -1.1**
comp=Z,334nm,1.4s,comp=Z,15µmcomp=Z,139µm
FAKI Fak Fak 29.76 283 *e*P **P** **09 46 30.7 -0.9**
comp=Z,635nm,1.2s
TGRZ Tauranga 29.93 156 *e*PN **P** **09 46 34.0 +1.2**
HIZ Hauiti 30.08 158 PN **P** **09 46 35.9 +1.8**
HIZ PcP **PcP** **09 49 35.1 +0.3**
HAZ Te Kaha 30.60 154 *e*PN **P** **09 46 39.3 +0.6**
HAZ PcS **PcS** **09 53 19.2 -0.7**
RATZ Rangitukua 30.73 157 PN **P** **09 46 41.6 +1.8**
URZ Urewera 30.73 155 P **P** **09 46 40.5 +0.7**
comp=Z,268nm,1.0s,baz=3.9,slow=3.7,SNR=66
URZ PcP **PcP** **09 49 37.2 +0.6**
comp=Z,117nm,0.8s,baz=346,slow=3.3,SNR=4.5
URZ LR LR 09 57 45.1
comp=Z,261µm,18.4s,baz=330,slow=34
URZ Urewera 30.73 155 PN **P** **09 46 40.5 +0.7**
URZ PcP **PcP** **09 49 35.8 -0.8**
URZ PcS **PcS** **09 53 16.6 -3.8**
URZ Urewera 30.73 155 *e*P **P** **09 46 40.6 +0.7**
comp=Z,2µm,1.9s
URZ PcP **PcP** **09 49 37.1 +0.6**
COVZ Chateau Observ 30.93 158 PN **P** **09 46 43.3 +1.6**
NGZ Ngauruhoe 30.93 158 *e*PN **P** **09 46 43.4 +1.6**
WPVZ Whakapapa 30.94 158 PN **P** **09 46 43.8 +1.9**
H11N1 WAKE ISLAND Hy 30.97 11 P **P** **09 46 43.7 +1.8**
baz=204,slow=12,SNR=9.0
H11N3 WAKE ISLAND Hy 30.97 11 P **P** **09 46 43.8 +1.9**
baz=204,slow=12,SNR=9.3
MWZ Matawai 30.97 155 *e*PN **P** **09 46 42.3 +0.3**
MWZ PcP **PcP** **09 49 37.2 -0.1**
MWZ PcS **PcS** **09 53 19.8 -1.6**
H11N2 WAKE ISLAND Hy 30.98 11 P **P** **09 46 43.7 +1.7**
baz=204,slow=12,SNR=6.5
FWVZ Far West T-bar 30.99 158 PN **P** **09 46 43.9 +1.6**
FWVZ PcP **PcP** **09 49 34.6 -3.0**
TWGZ Tauwhareparae 31.04 154 *e*PN **P** **09 46 43.4 +0.8**
PUZ Puketiti 31.07 153 *e*PN **P** **09 46 42.9 0.0**
PUZ PcP **PcP** **09 49 41.0 +3.5**
BKZ Black Stump Fm 31.26 157 PN **P** **09 46 45.0 +0.4**
BKZ PcP **PcP** **09 49 37.0 -1.1**
BKZ Black Stump Fm 31.26 157 *e*P **P** **09 46 45.2 +0.6**
SNGZ Shannon Statio 31.27 155 PN **P** **09 46 45.2 +0.6**
SNGZ *e*SN **S** **09 51 48.7 +1.1**
SNGZ PcS **PcS** **09 53 20.8 -1.5**
NMHZ Naumai 31.33 156 *e*PN **P** **09 46 46.5 +1.3**
BHHZ Black Hill Sta 31.38 158 *e*PN **P** **09 46 46.0 +0.4**
RIGZ Rimuhau 31.39 155 *e*PN **P** **09 46 46.2 +0.6**
RIGZ *e*SN **S** **09 51 53.4 +4.0**
RIGZ PcS **PcS** **09 53 22.8 +0.1**
QRZ Quartz Range 31.43 163 *e*PN **P** **09 46 47.3 +1.1**
MCHZ McNeill Hill 31.58 157 *e*PN **P** **09 46 48.4 +1.1**
BNDI Bandanaira 31.61 279 P **P** **09 46 47.3 -0.5**
comp=Z,10µm,1.5s,comp=Z,99µmcomp=Z,124µm
KNZ Kokohu 31.61 155 *e*PN **P** **09 46 47.8 +0.2**
BBOO Buckleboo 31.74 223 *e*P **P** **09 46 49.1 +0.2**
comp=Z,79nm,1.1s
PNHZ Pukenui 31.80 158 *e*PN **P** **09 46 49.6 +0.3**
TSZ Takapari Road 31.84 158 PN **P** **09 46 50.1 +0.4**
NNZ Nelson 32.03 162 *e*PN **P** **09 46 51.4 +0.2**
DSZ Denniston Nort 32.09 165 *e*PN **P** **09 46 52.5 +0.7**
DSZ PcP **PcP** **09 49 37.1 -3.0**
PXZ Pawanui 32.16 157 PN **P** **09 46 52.5 +0.1**
PXZ PcP **PcP** **09 49 41.5 +1.2**
OGWZ Otaki Gorge 32.24 160 *e*PN **P** **09 46 53.2 +0.1**
MRZ Mangatainoka R 32.24 159 *e*PN **P** **09 46 52.8 -0.3**
MRZ PcP **PcP** **09 49 40.9 +0.4**
ANWZ Angora Road 32.38 158 *e*PN **P** **09 46 54.3 0.0**
THZ Tophouse 32.40 163 PN **P** **09 46 54.5 0.0**
THZ PcP **PcP** **09 49 43.4 +2.3**
BFZ Birch Farm 32.49 158 *e*PN **P** **09 46 54.8 -0.5**
BFZ Birch Farm 32.49 158 *e*P **P** **09 46 55.2 -0.1**
comp=Z,988nm,1.3s
SNZO South Karori 32.52 161 *e*P **P** **09 46 56.0 +0.5**
comp=Z,1µm,1.5s
SNZO LR LR
comp=Z,168µm,19.0s
TMWZ Te Maipa 32.74 159 *e*PN **P** **09 46 57.3 -0.3**
MSAI Masohi 32.84 281 P **P** **09 46 58.2 -0.5**
comp=Z,345nm,1.2s,comp=Z,4µmcomp=Z,21µm
WVZ Waitaha Valley 33.09 167 *e*PN **P** **09 47 00.9 +0.4**
KHZ Kahutara 33.18 163 *e*P **P** **09 47 00.7 -0.6**
comp=Z,572nm,1.0s
FOZ Fox Glacier 33.35 169 *e*PN **P** **09 47 03.1 +0.4**
FOZ PcP **PcP** **09 49 44.0 +0.4**
JCZ Jackson Bay 33.67 170 *e*PN **P** **09 47 06.6 +0.9**
RPZ Rata Peaks 33.77 167 *e*PN **P** **09 47 05.9 -0.6**
RPZ Rata Peaks 33.77 167 *e*P **P** **09 47 06.2 -0.3**
comp=Z,3µm,1.7s
TAU Tasmania Unive 34.07 198 P **P** **09 47 10.7 +1.7**
comp=Z,3µm,1.2s,SNR=13
TAU Tasmania Unive 34.07 198 *e*P **P** **09 47 09.5 +0.5**
TAU pmax pmax
comp=Z,1µm,1.5s
TAU MLR MLR
comp=Z,135µm,21.0s
TAU Tasmania Unive 34.07 198 *e*P **P** **09 47 09.5 +0.5**
comp=Z,1µm,1.5s
TAU LR LR
comp=Z,135µm,21.0s
MQZ McQueen's Vall 34.14 165 *e*PN **P** **09 47 09.4 -0.3**
MQZ PcP **PcP** **09 49 49.2 +3.4**
LBZ Lake Benmore 34.24 168 *e*PN **P** **09 47 09.4 -1.0**
WKZ Wanaka 34.45 170 *e*PN **P** **09 47 12.4 0.0**
NLAI Namlea 34.63 280 P **P** **09 47 14.2 0.0**
comp=Z,2µm,1.8s,comp=Z,30µmcomp=Z,83µm
MLZ Mavora Lakes 34.82 171 *e*PN **P** **09 47 15.5 -0.1**
ODZ Otahua Downs 34.96 168 *e*PN **P** **09 47 15.9 -0.8**
ODZ Otahua Downs 34.96 168 *e*P **P** **09 47 16.5 -0.2**
comp=Z,664nm,1.4s
LBMI Labuha 34.97 285 P **P** **09 47 18.1 +0.9**
comp=Z,3µm,1.4s,comp=Z,56µmcomp=Z,106µm
WHZ Wether Hill Ro 35.33 172 *e*P **P** **09 47 19.6 -0.2**
comp=Z,818nm,1.3s
TNTI Ternate 35.56 287 P **P** **09 47 22.1 -0.1**
comp=Z,2µm,1.4s,comp=Z,37µmcomp=Z,148µm
TNTI Ternate 35.56 287 *e*P **P** **09 47 22.9 +0.7**
comp=Z,15µm,2.0s
TUZ Tuapeka 35.65 170 *e*PN **P** **09 47 21.6 -1.0**
SANI Sanana 36.01 282 P **P** **09 47 25.7 -0.4**
comp=Z,3µm,1.2s,comp=Z,54µmcomp=Z,155µm
SYZ Scrubby Hill 36.13 171 *e*PN **P** **09 47 26.0 -0.7**
APZ The Paps 36.25 172 *e*PN **P** **09 47 26.8 -1.0**
SOEI Soe 36.30 268 P **P** **09 47 30.0 +1.2**
comp=Z,1µm,1.3s,comp=Z,24µmcomp=Z,142µm
SOEI Soe 36.30 268 *e*P **P** **09 47 29.5 +0.7**
comp=Z,1µm,1.0s
FORT Forrest 36.49 232 *e*P **P** **09 47 29.9 -0.2**
comp=Z,5µm,1.6s
BATI Baumata 36.86 268 P **P** **09 47 34.6 +1.2**
comp=Z,2µm,1.3s,comp=Z,23µmcomp=Z,5µm
SGSI Sangihe 38.32 290 P **P** **09 47 46.7 +1.0**
comp=Z,3µm,1.9s,comp=Z,62µm
BBSI Bau Bau 38.56 275 P **P** **09 47 49.7 +2.0**
comp=Z,2µm,1.1s,comp=Z,38µmcomp=Z,85µm
KMSI Cibinong 38.69 285 P **P** **09 47 49.5 +0.7**
RAR Rarotonga 38.80 110 PFAKE 09 48 00.0 +10
RAR LR LR
comp=Z,3.0nm,20.0s
EDFI Ende, Flores 38.94 270 P **P** **09 47 49.1 -1.9**
comp=Z,1µm,1.4s,comp=Z,18µmcomp=Z,74µm
MATI Mati 39.02 296 *e*P **P** **09 47 50.4 -1.2**
LUWI Luwuk 39.38 282 P **P** **09 47 54.8 +0.2**
comp=Z,5µm,1.2s,comp=Z,67µmcomp=Z,142µm
LUWI Luwuk 39.38 282 *e*P **P** **09 47 55.5 +0.9**
comp=Z,13µm,1.5s
GTOI Gorontalo 39.63 284 P **P** **09 47 58.2 +1.5**
comp=Z,6µm,1.4s,comp=Z,74µmcomp=Z,118µm
DAV Davao City (W) 39.68 295 P **P** **09 47 57.7 +0.6**
SNR=19
DAV Davao City (W) 39.68 295 *e*P **P** **09 47 57.4 +0.4**
comp=Z,688nm,0.9s
DAV LR LR
comp=Z,71µm,19.0s
GSPH General Santos 39.82 293 ⇓*i*P **P** **09 47 57.1 -1.3**
BASI Baing, Sumba 39.88 267 P **P** **09 47 59.0 +0.2**
comp=Z,3µm,1.5s,comp=Z,33µm
WSI Waingapu 40.21 268 P **P** **09 48 01.5 0.0**
comp=Z,3µm,1.4s,comp=Z,35µmcomp=Z,117µm
BSSI Bau Bau, Buton 40.48 273 P **P** **09 48 04.0 +0.3**
comp=Z,2µm,1.2s,comp=Z,28µm
APSI Ampana 40.49 282 P **P** **09 48 04.3 +0.5**
comp=Z,4µm,1.4s,comp=Z,48µmcomp=Z,93µm
BUKP Musuan 40.50 296 *e*P **P** **09 48 04.0 +0.1**
BUTP Butuan 40.51 298 *e*P **P** **09 48 04.7 +0.7**
MRSI Marisa 40.60 284 P **P** **09 48 03.7 -1.1**
comp=Z,2µm,1.3s,comp=Z,21µm
CTBH Cotabato--PC H 40.93 295⇑*e*P **P** **09 48 07.0 -0.4**
BKSI Bulukumba 40.98 274 P **P** **09 48 07.1 -0.8**
comp=Z,614nm,1.1s,comp=Z,17µmcomp=Z,78µm
SCPH Surigao 41.02 299 *e*P **P** **09 48 09.0 +0.9**
CGP Cagayan de Oro 41.08 297⇓*e*P **P** **09 48 09.9 +1.2**
WBSI Waikabubak, Su 41.10 268 P **P** **09 48 07.8 -1.1**
comp=Z,2µm,1.1s,comp=Z,26µm
BNSI Bone 41.17 276 P **P** **09 48 09.5 +0.1**
comp=Z,2µm,1.4s,comp=Z,26µmcomp=Z,95µm
KAPI Kappang 41.40 275 P **P** **09 48 11.3 0.0**
comp=Z,13µm,1.3s
KAPI Kappang 41.40 275 P **P** **09 48 12.0 +0.7**
SNR=1271
KAPI Kappang 41.40 275 *e*P **P** **09 48 11.3 0.0**
comp=Z,8µm,1.6s
KAPI LR LR
comp=Z,54µm,22.0s
SPSI Sidrap Palu 41.59 276 P **P** **09 48 11.6 -1.3**
comp=Z,909nm,1.3s,comp=Z,18µmcomp=Z,76µm
MSLP Maasin 41.73 299 *e*P **P** **09 48 14.4 +0.5**
TTSI Tana Toraja 41.74 278 P **P** **09 48 14.4 +0.3**
comp=Z,817nm,1.4s,comp=Z,25µmcomp=Z,84µm
TOLI Toli-Toli 41.89 284 *e*P **P** **09 48 15.2 -0.1**
comp=Z,1µm,0.8s
PAGZ Pagadian 41.97 295 *e*P **P** **09 48 17.3 +1.3**
JCJ Chichijima 42.05 334 P **P** **09 48 14.3 -2.0**
comp=Z,652nm,0.8s,baz=249,slow=5.6,SNR=14
JCJ S **S** **09 54 30.8 -1.0**
comp=Z,88nm,1.0s,baz=198,slow=20,SNR=3.7
CBIJ Chichi jima 42.05 334 *e*P **P** **09 48 13.9 -2.4**
comp=Z,633nm,0.8s
CBIJ S **S** **09 54 30.8 -1.0**
PLP Palo 42.13 300⇑*i*P **P** **09 48 16.0 -1.2**
PCI Palu 42.24 281 P **P** **09 48 19.8 +1.6**
comp=Z,3µm,1.3s,comp=Z,45µmcomp=Z,108µm
DCPH Dipolog City 42.32 296⇑*e*P **P** **09 48 19.0 +0.2**
OCLP Ormoc 42.39 300 *e*P **P** **09 48 19.6 +0.3**
MPSI Mapaga 42.52 283 P **P** **09 48 19.5 -0.9**
comp=Z,842nm,2.0s,comp=Z,23µmcomp=Z,66µm
IPIL Ipil 42.67 294 *e*P **P** **09 48 22.0 +0.3**
XMAS Kiritimati 43.14 75 *e*P **P** **09 48 25.5 0.0**
comp=Z,426nm,1.0s
XMAS LR LR
comp=Z,72µm,19.0s
MCQ Macquarie Isla 43.50 182 *e*P **P** **09 48 27.0 -0.7**
MCQ Macquarie Isla 43.50 182 *e*P **P** **09 48 27.0 -0.7**
GUIM Jordan 43.92 298 *e*P **P** **09 48 31.9 +0.2**
PVCP Virac 44.07 303⇑*i*P **P** **09 48 30.7 -2.1**
PVCP *i* S Px 09 48 50.5
RCP Roxas 44.23 299⇑*e*P **P** **09 48 34.7 +0.5**
KALP Kalibo 44.64 299 *e*P P 09 48 45.5 +8.1
BKB Balikpapan 44.99 279 P **P** **09 48 43.0 +2.7**
comp=Z,3µm,1.1s,comp=Z,53µmcomp=Z,216µm
AUQP San Andres 45.16 301 *e*P **P** **09 48 43.8 +2.3**
KBKI Kotabaru 45.24 276 P **P** **09 48 42.9 +0.6**
comp=Z,866nm,1.6s,comp=Z,21µmcomp=Z,140µm
DNP Denpasar 45.31 269 P **P** **09 48 42.9 +0.1**
comp=Z,4µm,1.2s,comp=Z,49µmcomp=Z,161µm
IGBI Denpasar 45.36 268 P **P** **09 48 42.6 -0.6**
comp=Z,7µm,1.3s,comp=Z,69µmcomp=Z,119µm
SRBI Singaraja 45.38 269 P **P** **09 48 42.2 -1.2**
comp=Z,2µm,1.3s,comp=Z,32µmcomp=Z,81µm
GQP Guinayangan 45.65 302⇑*e*P **P** **09 48 45.8 +0.4**
TSM Tawau 45.67 287 ⇓P **P** **09 48 46.4 +0.8**
NWAO Narrogin (SRO) 45.84 234 P **P** **09 48 47.5 +0.7**
comp=Z,402nm,0.8s,baz=70,slow=8.4,SNR=51
JAGI Jajag, Banyuwa 46.37 269 P **P** **09 48 49.6 -1.6**
comp=Z,3µm,1.1s,comp=Z,25µmcomp=Z,107µm
JAGI Jajag, Banyuwa 46.37 269 *e*P **P** **09 48 49.7 -1.6**
comp=Z,2µm,0.9s
ABJI Asem Bagus 46.38 270 P **P** **09 48 50.9 -0.3**
comp=Z,2µm,1.3s,comp=Z,31µm
BBKI Banjar Baru 46.51 276 P **P** **09 48 52.6 +0.3**
comp=Z,3µm,1.3s,comp=Z,33µmcomp=Z,114µm
KMMI Kalianget 46.74 271 P **P** **09 48 54.3 +0.2**
comp=Z,985nm,1.3s,comp=Z,21µmcomp=Z,167µm
SDKM Sandakan 46.76 288 ⇓P **P** **09 48 55.0 +0.7**
PPR Puerto Princes 46.95 294⇑*e*P **P** **09 48 57.7 +2.0**
ENPP El Nido 46.95 297 *e*P **P** **09 48 56.9 +1.2**
TGY Tagaytay City 47.01 301 P **P** **09 48 56.4 +0.2**
comp=Z,220nm,0.3s,baz=11,slow=4.6
MTKI Muara Teweh, K 47.01 279 P **P** **09 48 56.4 +0.2**
comp=Z,970nm,1.3s,comp=Z,24µm
BLJI Banyuglugur 47.01 270 P **P** **09 48 55.4 -0.8**
comp=Z,2µm,1.2s,comp=Z,20µm
GMJI Gumukmas 47.09 269 P **P** **09 48 55.4 -1.4**
comp=Z,1000nm,1.1s,comp=Z,16µmcomp=Z,76µm
BALP Bale' 47.31 305 *e*P **P** **09 48 59.2 +0.8**
KDM Kudat 47.55 290⇑P **P** **09 49 01.5 +1.1**
PCPH Palayan 47.61 303⇑*e*P **P** **09 49 00.2 -0.6**
PAE Paea 48.09 104 *e*P **P** **09 49 04.8 +0.3**
comp=Z,51nm,0.7s
PPT Papeete 48.09 104 P **P** **09 49 05.7 +1.2**
comp=Z,267nm,0.9s,baz=320,slow=1.0,SNR=16
PPT LR LR 10 04 45.1
comp=Z,90µm,21.7s,baz=272,slow=30
PPT2 Papeete2 48.09 104 *e*P **P** **09 49 05.2 +0.6**
comp=Z,287nm,0.8s
PPT2 *e*S **S** **09 56 04.2 +4.5**
comp=Z,28µm,24.2s
PPT2 *e*LQ LQ 10 00 51.8
comp=Z,314µm,28.5s
PPT2 *e*LR LR 10 02 55.6
comp=Z,143µm,22.2s,baz=279
CVP Callao Caves 48.16 306 *e*P **P** **09 49 04.6 -0.4**
BWJI Bawean 48.21 272 P **P** **09 49 07.6 +2.1**
comp=Z,401nm,1.4s,comp=Z,5µm
GRJI Gresik 48.22 270 P **P** **09 49 07.0 +1.4**
comp=Z,358nm,1.5s,comp=Z,3µm
JHJ2 Mitsune 48.30 336 *e*P **P** **09 49 05.1 -0.7**
comp=Z,806nm,0.9s
TIAR Tiarei 48.31 104 *e*P **P** **09 49 06.9 +0.6**
comp=Z,95nm,0.7s
TVO Taravao 48.40 104 *e*P **P** **09 49 07.7 +0.7**
comp=Z,113nm,0.8s
BCPH Baguio City Da 48.46 303⇑*i*P **P** **09 49 07.5 -0.1**
TBI Tubuai 48.55 111 *e*P **P** **09 49 09.0 +1.0**
comp=Z,2µm,1.1s
TBI *e*S **S** **09 56 10.7 +4.8**
comp=Z,31µm,25.0s
TBI *e*LQ LQ 10 01 05.3
comp=Z,131µm,31.5s
TBI *e*LR LR 10 03 09.6
comp=Z,135µm,32.2s,baz=274
APYP Conner 48.71 306 *e*P **P** **09 49 09.5 +0.3**
PWJI Pagerwojo 48.73 269 P **P** **09 49 09.4 -0.1**
comp=Z,1µm,0.9s,comp=Z,20µmcomp=Z,76µm
TBJI Tambak Boyo 48.86 270 P **P** **09 49 10.9 +0.4**
comp=Z,626nm,1.8s,comp=Z,16µmcomp=Z,77µm
H01W1 Cape Leeuwin H 48.88 233 P **P** **09 49 12.2 +2.1**
baz=90,slow=7.3,SNR=60
H01W3 Cape Leeuwin H 48.89 233 P **P** **09 49 12.7 +2.5**
baz=90,slow=7.3,SNR=39
H01W2 Cape Leeuwin H 48.89 233 P **P** **09 49 12.9 +2.7**
baz=90,slow=7.3,SNR=63
BOLP Bolinao 49.01 303 *e*P **P** **09 49 10.3 -1.2**
ABRA Dolores 49.02 305 *e*P **P** **09 49 11.0 -0.6**
JOW Kunigami 49.28 320 P **P** **09 49 14.3 +0.8**
comp=Z,56nm,0.8s,baz=137,slow=6.9,SNR=42
JOW Kunigami 49.28 320 *e*P **P** **09 49 13.9 +0.4**
comp=Z,300nm,1.0s
PCJI Pacitan 49.33 269 P **P** **09 49 13.9 -0.2**
comp=Z,5µm,1.2s,comp=Z,44µmcomp=Z,80µm
SIPP Brgy, Tapao 49.37 305⇑*e*P **P** **09 49 13.4 -0.9**
MEH Mehetia 49.53 104 *e*P **P** **09 49 16.2 +0.6**
comp=Z,193nm,1.1s
WOJI Wonogiri, Jawa 49.62 269 P **P** **09 49 16.0 -0.3**
comp=Z,2µm,1.7s,comp=Z,30µm
PMOR Pomariorio Ree 49.72 100 *e*P **P** **09 49 18.0 +0.9**
comp=Z,2µm,1.3s
PBKI Pangkalan Bun 49.76 276 P **P** **09 49 19.0 +1.6**
comp=Z,4µm,1.2s,comp=Z,35µmcomp=Z,110µm
BTM Bintulu 49.86 284 ⇓P **P** **09 49 19.6 +1.4**
VAH Vaihoa 49.97 101 *e*P **P** **09 49 19.7 +0.7**
comp=Z,1µm,1.3s
UGM Wanagama 50.01 269 P **P** **09 49 19.5 +0.2**
comp=Z,2µm,1.2s,comp=Z,29µm
SBUM Sibu 50.47 282 ⇓P **P** **09 49 24.0 +1.2**
STKI Sintang 50.57 279 P **P** **09 49 24.7 +1.2**
comp=Z,2µm,1.3s,comp=Z,29µmcomp=Z,85µm
YOJ Yonaguni jima 51.23 314 *e*P **P** **09 49 28.3 0.0**
YOJ pmax pmax
comp=Z,355nm,0.8s
YOJ Yonaguni jima 51.23 314 *e*P **P** **09 49 28.2 0.0**
comp=Z,355nm,0.8s
HON Honolulu 51.34 51 *e*P **P** **09 49 29.8 +0.7**
HON Honolulu 51.34 51 *e*P **P** **09 49 29.8 +0.7**
KIP Kipapa 51.38 51 *e*P **P** **09 49 28.3 -1.2**
KIP pmax pmax
comp=Z,2µm,1.7s
KIP MLR MLR
comp=Z,38µm,17.0s
KIP Kipapa 51.38 51 *e*P **P** **09 49 30.1 +0.7**
comp=Z,636nm,0.8s
KIP LR LR
comp=Z,135µm,21.0s
TWG Pinlang 51.64 311 *e*P **P** **09 49 31.4 0.0**
comp=Z,4µm,1.4s
KPJI Karang Pucung 51.65 269 P **P** **09 49 31.9 +0.3**
comp=Z,1µm,1.3s,comp=Z,25µm
YULB Yu-li 51.81 311 *e*P **P** **09 49 31.8 -0.9**
comp=Z,700nm,0.8s
MJAR Matsushiro Arr 51.93 336 P **P** **09 49 32.0 -1.3**
MJAR Matsushiro Arr 51.93 336 P **P** **09 49 32.0 -1.3**
comp=Z,97nm,0.7s,baz=162,slow=6.7,SNR=98
MJAR LR LR 10 10 53.0
comp=Z,61µm,20.6s,baz=155,slow=35
MAJO Matsushiro 51.93 336*c i*P **P** **09 49 31.9 -1.4**
MAJO pmax pmax
comp=Z,3µm,1.1s
MAJO Matsushiro 51.93 336 *e*P **P** **09 49 32.0 -1.4**
comp=Z,2µm,1.5s
MAJO LR LR
comp=Z,82µm,20.0s
MAT Matsushiro 51.93 336 P **P** **09 49 32.3 -1.0**
MAT S S 09 56 43.2 -9.3
KSM Kuching 52.05 281 ⇓P **P** **09 49 35.2 +0.6**
KSM Kuching 52.05 281 *e*P **P** **09 49 34.7 +0.1**
comp=Z,1µm,1.0s
KSM LR LR
comp=Z,45µm,22.0s
CMJI Cimerak 52.06 269 P **P** **09 49 34.0 -0.7**
comp=Z,2µm,1.2s,comp=Z,22µmcomp=Z,73µm
NACB Ninganchiao 52.07 312 *e*P **P** **09 49 34.5 -0.1**
comp=Z,1µm,1.0s
TPUB Ta-pu 52.26 311 *e*P **P** **09 49 35.2 -0.8**
comp=Z,2µm,1.0s
SSLB Suanglung 52.30 312 *e*P **P** **09 49 35.8 -0.5**
comp=Z,1µm,1.1s
POHA Pohakuloa 52.42 55 *e*P **P** **09 49 38.1 +0.6**
comp=Z,2µm,1.0s
POHA LR LR
comp=Z,146µm,20.0s
JCJI Jatiwangi 52.42 270 P **P** **09 49 37.8 +0.4**
comp=Z,5µm,1.2s,comp=Z,49µm
JNU Nakatsue 52.47 328 P **P** **09 49 37.3 -0.1**
comp=Z,598nm,1.1s,baz=117,slow=2.6,SNR=47
JNU S **S** **09 57 01.4 +1.5**
comp=Z,7.4nm,1.0s,baz=232,slow=20,SNR=3.0
JNU Nakatsue 52.47 328 *e*P **P** **09 49 37.2 -0.1**
comp=Z,230nm,0.8s
JNU S **S** **09 57 01.4 +1.5**
YHNB Yeheng 52.53 313 *e*P **P** **09 49 38.2 +0.1**
comp=Z,2µm,1.3s
YHNB LR LR
comp=Z,104µm,22.0s
STCH Steam Cracks 52.55 55 *e*P **P** **09 49 39.0 +0.7**
comp=Z,2µm,0.9s
TATO Taipei 52.63 313 P **P** **09 49 39.2 +0.5**
SNR=22
TATO Taipei 52.63 313 *e*P **P** **09 49 38.5 -0.2**
comp=Z,3µm,1.4s
TATO LR LR
comp=Z,55µm,22.0s
CISI Cisompet, Garu 52.71 269 P **P** **09 49 39.0 -0.6**
comp=Z,2µm,1.7s,comp=Z,26µmcomp=Z,114µm
CISI Cisompet, Garu 52.71 269 *e*P **P** **09 49 38.6 -1.0**
comp=Z,3µm,1.3s
LEM Lembang 53.01 270 P **P** **09 49 42.6 +0.7**
comp=Z,3µm,1.6s,comp=Z,37µmcomp=Z,155µm
CNJI Cibinong 53.42 269 P **P** **09 49 43.8 -0.9**
comp=Z,2µm,1.3s,comp=Z,21µmcomp=Z,75µm
TPI Tanjungpandan 53.68 275 P **P** **09 49 46.8 +0.2**
comp=Z,1µm,1.2s,comp=Z,21µmcomp=Z,141µm
CBJI Citeko 53.83 270 P **P** **09 49 46.5 -1.2**
comp=Z,6µm,1.4s,comp=Z,79µmcomp=Z,344µm
SKJI Sukabumi 54.03 269 P **P** **09 49 48.8 -0.4**
comp=Z,2µm,1.2s,comp=Z,27µm
TNG Tangerang 54.06 270 P **P** **09 49 50.3 +0.8**
comp=Z,257µmcomp=Z,47µmcomp=Z,3µm,1.6s
TNG P **P** **09 49 50.2 +0.8**
comp=Z,30µmcomp=Z,2µm,1.6s
XMIS Christmas Isla 54.48 265 *e*P **P** **09 49 53.2 +0.7**
comp=Z,2µm,1.3s
SBJI Serang 54.58 270 P **P** **09 49 53.2 0.0**
comp=Z,1µm,1.4s,comp=Z,16µm
QZH Quanzhou 54.72 311⇑*i*P **P** **09 49 54.6 +0.6**
QZH S **S** **09 57 32.0 +1.3**
QZH PMZ
comp=Z,2µm,1.0s
QZH PMZ
comp=Z,39µm,9.1s
QZH LN
comp=Z,43µm,15.2s
QZH LE
comp=Z,51µm,20.4s
QZH LZ
comp=Z,92µm,22.3s
CGJI Cibinong 54.93 270 P **P** **09 49 54.9 -0.9**
comp=Z,4µm,1.3s,comp=Z,36µmcomp=Z,82µm
KSJJU Jeju 55.07 325 P P 09 50 02.1 +5.7
SNR=12
ERM Erimo 55.22 344 P **P** **09 49 58.7 +1.5**
comp=Z,2µm,1.1s,SNR=9.3
ERM Erimo 55.22 344*d i*P **P** **09 49 55.8 -1.4**
ERM pmax pmax
comp=Z,437nm,1.1s
ERM MLR MLR
comp=Z,213µm,19.0s
ERM Erimo 55.22 344 *e*P **P** **09 49 57.6 +0.4**
comp=Z,716nm,1.1s
ERM LR LR
comp=Z,208µm,20.0s
KSDAG Daegu 55.55 328 P **P** **09 50 00.4 +0.7**
SNR=9.1
BLSI Bandar Lampung 55.57 271 P **P** **09 49 59.3 -1.1**
comp=Z,532nm,1.5s,comp=Z,11µmcomp=Z,65µm
KSPHA Pohang 55.63 329 P **P** **09 50 01.0 +0.6**
SNR=45
KSWAN Wando 55.69 325 P **P** **09 50 01.6 +0.8**
SNR=8.1
KSULL Ulleungdo 55.89 331 P **P** **09 50 03.0 +0.8**
SNR=8.5
KSHAN Haenam 55.90 326 P **P** **09 50 02.9 +0.7**
SNR=8.8
KSMOK Mokpo 55.94 326 P **P** **09 50 02.8 +0.2**
SNR=12
KSJDO Jindo 55.96 325 P **P** **09 50 02.9 +0.1**
SNR=8.8
KSULJ Uljin 56.01 329 P **P** **09 50 03.7 +0.7**
SNR=30
KLI Kotabumi 56.03 271 P **P** **09 50 02.6 -1.1**
comp=Z,659nm,1.5s,comp=Z,14µm
KASI Kota Agung 56.28 271 P **P** **09 50 04.1 -1.3**
comp=Z,2µm,1.2s,comp=Z,19µmcomp=Z,71µm
KSCPR CHUPUNGNYEONG 56.38 328 P **P** **09 50 06.1 +0.5**
SNR=53
KSJEU Jeongeup 56.38 327 P **P** **09 50 06.4 +0.7**
SNR=11
YUK Yuzh-Kuril'sk 56.44 347*c i*P **P** **09 50 05.4 -0.6**

YUK 09 51 05.7
YUK *i* 09 52 18.7
YUK *i* PPP PPP 09 53 28.2
YUK *i* S **S** **09 57 53.9 +1.0**
YUK pmax pmax
comp=Z,23μm,9.4s
YUK pmax pmax
comp=N,3μm,1.6s
YUK pmax pmax
comp=E,749nm,1.6s
YUK pmax pmax
comp=Z,2μm,1.6s
KSJEO Jeonju 56.52 327 P **P** **09 50 07.4 +0.7**
SNR=23
KSTBA Taebaek 56.57 329 P **P** **09 50 07.9 +0.8**
SNR=55
KSHUK Heuksando 56.60 325 P **P** **09 50 07.7 +0.4**
SNR=14
KSBON Boeun 56.68 328 P **P** **09 50 08.3 +0.5**
SNR=21
HKC Hong Kong Obse 56.68 306⇑ *i*P **P** **09 50 10.0 +1.9**
SSE Sheshan 56.72 319⇑ P **P** **09 50 07.9 -0.3**
SSE sP **sP** **09 50 31.3 +2.2**
SSE S **S** **09 57 56.7 -0.4**
SSE sS **sS** **09 58 24.1 +2.3**
SSE PMZ
comp=Z,210nm,1.1s
SSE PMZ
comp=Z,2μm,3.9s
SSE LN
comp=Z,17μm,20.6s
SSE LE
comp=Z,39μm,20.7s
SSE LZ
comp=Z,43μm,18.3s
MDSI Maura Dua 56.76 272 P **P** **09 50 07.3 -1.6**
comp=Z,987nm,1.6s,comp=Z,14μmcomp=Z,70μm
LWLI Liwa 56.79 271 P **P** **09 50 08.1 -1.1**
comp=Z,1μm,1.1s,comp=Z,14μm
TJN Taejon 56.81 328 *i* P **P** **09 50 06.9 -1.8**
KSYOW Yeongwol 56.86 329 P **P** **09 50 09.7 +0.6**
SNR=48
KSGUS GUNSAN 56.87 327 P **P** **09 50 09.4 +0.2**
SNR=27
KSCHJ Chungju 56.87 328 P **P** **09 50 09.7 +0.5**
SNR=20
KSDGY Daegwallycong 57.15 330 P **P** **09 50 12.0 +0.8**
SNR=40
DSRI Dabo 57.16 277 P **P** **09 50 12.0 +0.3**
comp=Z,2μm,1.2s,comp=Z,35μmcomp=Z,598μm
KUR Kuril'sk 57.17 349*c* *i*P **P** **09 50 08.7 -2.4**
KUR *i* S **S** **09 58 02.7 +0.1**
KUR pmax pmax
comp=E,89nm,0.8s
KUR pmax pmax
comp=Z,2μm,1.6s
KUR pmax pmax
comp=N,976nm,1.6s
KUR pmax pmax
comp=Z,9μm,3.6s
KUR MLR MLR
comp=E,35μm,20.0s
KUR MLR MLR
comp=Z,29μm,20.0s
KSCEA Cheonan 57.20 328 P **P** **09 50 11.8 +0.3**
SNR=26
KSWJU Wonju 57.24 329 P **P** **09 50 12.0 +0.2**
SNR=52
KSJMJ Jumunjin 57.26 330 P **P** **09 50 12.7 +0.8**
SNR=136
ASAJ Asahikawa 57.32 344 P **P** **09 50 13.0 +0.8**
comp=Z,600nm,0.8s,baz=212,slow=7.2,SNR=98
ASAJ LR LR 10 12 23.0
comp=Z,249μm,21.6s,baz=187,slow=34
ASAJ Asahikawa 57.32 344 *e*P **P** **09 50 12.8 +0.6**
comp=Z,900nm,1.1s
KSRS Korea Array 57.34 329 P **P** **09 50 12.5 0.0**
comp=Z,172nm,0.9s,baz=146,slow=7.2,SNR=238
KSRS PKiKP **PKiKP** **09 57 33.4 +1.0**
comp=Z,3.1nm,0.8s,baz=204,slow=0.8,SNR=4.4
KSRS LR LR 10 13 13.8
comp=Z,48μm,20.6s,baz=126,slow=34
KSRS PKPPKP **P'P'df** **10 19 57.1 -1.5**
comp=Z,6.6nm,1.1s,baz=278,slow=4.5,SNR=5.5
KSAR Wonju Array Be 57.35 329 P **P** **09 50 12.5 -0.1**
KSAR Wonju Array Be 57.35 329 P **P** **09 50 12.5 -0.1**
KSAR PKiKP **PKiKP** **09 57 33.4 +0.9**
KSAR P'P' 10 19 57.1
KSICN Icheon 57.48 328 P **P** **09 50 13.8 +0.4**
SNR=48
DRV Dumont d'Urvil 57.48 190 P Px 09 49 41.0
DRV S S 09 57 58.0 -8.1
DRV SS SS 10 01 48.0 -8.4
DRV L L 10 04 00.0
DRV R 10 06 00.0
TPRI Tanjung Pinang 57.52 278 P **P** **09 50 14.3 +0.1**
comp=Z,724nm,1.6s,comp=Z,27μmcomp=Z,84μm
LHSI Lahat 57.52 272 P **P** **09 50 13.3 -1.0**
comp=Z,985nm,1.3s,comp=Z,19μmcomp=Z,77μm
KSSES Seosan 57.60 327 P **P** **09 50 14.8 +0.5**
SNR=19
KSCHC Chuncheon 57.65 329 P **P** **09 50 15.3 +0.6**
SNR=17
KSIJA INJE 57.66 329 P **P** **09 50 15.6 +0.9**
SNR=81
KSSKC Sokcho 57.69 330 P **P** **09 50 15.4 +0.5**
SNR=82
KSSWO Suwon 57.69 328 P **P** **09 50 15.3 +0.3**
SNR=77
GZH Guangzhou 57.74 306 P **P** **09 50 16.7 +1.2**
GZH ScP **ScP** **09 55 00.6 -2.9**
GZH PcS **PcS** **09 55 04.9 -4.5**
GZH PMZ
comp=Z,7μm,2.2s
GZH LN
comp=Z,37μm,19.2s
GZH LE
comp=Z,69μm,19.2s
TAOE Nuku Hiva Isla 57.78 94 *e*P **P** **09 50 16.3 +0.2**
comp=Z,1μm,1.1s
TAOE *e*S **S** **09 58 14.0 +2.2**
comp=Z,19μm,22.9s
TAOE *e*LQ LQ 10 04 46.3
comp=Z,74μm,29.1s
TAOE *e*LR LR 10 07 22.5
comp=Z,120μm,23.5s
SEHB SEOHWA 57.80 330 P **P** **09 50 16.8 +1.0**
SNR=21
JMBI JAMBI 57.83 275 P **P** **09 50 18.2 +1.8**
comp=Z,3μm,1.6s,comp=Z,55μmcomp=Z,184μm
KSSEO Seoul 57.88 328 P **P** **09 50 17.1 +0.8**
SNR=20
MNAI Manna 57.99 272 P **P** **09 50 17.4 -0.1**
comp=Z,1μm,1.5s,comp=Z,24μmcomp=Z,111μm
MNAI Manna 57.99 272 *e*P **P** **09 50 16.7 -0.9**
comp=Z,2μm,1.3s
INCN Inchon 58.03 328 P **P** **09 50 17.9 +0.5**
SNR=107
INCN Inchon 58.03 328 *e*P **P** **09 50 17.2 -0.1**
comp=Z,2μm,1.1s
INCN LR LR
comp=Z,65μm,19.0s
KSCWO Cheorwon 58.03 329 P **P** **09 50 18.2 +0.8**
SNR=52
KSDDC Dongducheon 58.12 329 P **P** **09 50 18.7 +0.7**
SNR=46
KSMUS Musan 58.27 328 P **P** **09 50 19.3 +0.3**
SNR=51
KSGAH Ganghwa 58.30 328 P **P** **09 50 19.9 +0.7**
SNR=22
YNCB YEONCHEON 58.30 329 P **P** **09 50 20.0 +0.8**
SNR=31
MYKOM Kota Tinggi 58.38 279⇑ P **P** **09 50 21.0 +0.7**
QIZ Qiongzhong 58.70 300 P **P** **09 50 22.7 +0.4**
QIZ pP **pP** **09 50 37.3 +0.2**
QIZ sP **sP** **09 50 45.2 +1.9**
QIZ PP **PP** **09 52 33.2 +0.4**
QIZ S **S** **09 58 23.2 -0.2**
QIZ PMZ
comp=Z,650nm,1.3s
QIZ PMZ
comp=Z,23μm,14.0s
QIZ LN
comp=Z,22μm,22.9s
QIZ LE
comp=Z,17μm,24.6s
QIZ LZ
comp=Z,85μm,27.3s
QIZ Qiongzhong 58.70 300 *e*P **P** **09 50 23.4 +1.1**
comp=Z,1μm,1.2s
QIZ LR LR
comp=Z,46μm,20.0s
NJ2 Nanjing 58.85 318 *e*P **P** **09 50 23.8 +0.6**
NJ2 pP **pP** **09 50 38.0 0.0**
NJ2 sP **sP** **09 50 46.0 +1.9**
NJ2 PP **PP** **09 52 33.0 -0.9**
NJ2 S **S** **09 58 22.0 -3.0**
NJ2 sS **sS** **09 58 50.0 +0.1**
NJ2 PMZ
comp=Z,500nm,0.8s
NJ2 PMZ
comp=Z,32μm,11.0s
NJ2 LN
comp=Z,67μm,21.0s
NJ2 LE
comp=Z,104μm,27.0s
NJ2 LZ
comp=Z,182μm,18.0s
KGM Kluang 58.95 279⇓ P **P** **09 50 24.9 +0.7**
RGRI Rengat 59.38 276 P **P** **09 50 28.2 +1.0**
comp=Z,2μm,1.5s,comp=Z,75μmcomp=Z,97μm
KSBAR Backryungdo 59.41 327 P **P** **09 50 27.2 +0.3**
SNR=24
YSS Yuzh-Sakhalins 59.92 346α *i*P **P** **09 50 30.0 -0.2**
YSS *e* 09 51 11.5
YSS *e*PPP PPP 09 54 17.0
YSS *e*S **S** **09 58 39.0 +0.7**
YSS *e*PS **PnS** **09 58 54.0 -4.1**
YSS *e*PPS PPS 09 59 06.0
YSS pmax pmax
comp=Z,990nm,1.1s
YSS pmax pmax
comp=N,11μm,10.0s
YSS pmax pmax
comp=Z,18μm,10.0s
YSS MLR MLR
comp=Z,241μm,19.0s
YSS MLR MLR
comp=N,164μm,18.0s
YSS Yuzh-Sakhalins 59.92 346 *e*P **P** **09 50 30.4 +0.2**
comp=N,1μm,1.1s
YSS LR LR
comp=Z,85μm,19.0s
KTGM Kuala Trenggan 59.98 283⇓ P **P** **09 50 32.3 +1.0**
VLA Vladivostok 60.07 336*c* *i*P **P** **09 50 31.1 -0.2**
VLA *e* 09 51 14.8
VLA *e* 09 52 41.8
VLA *e*S **S** **09 58 38.0 -2.3**
VLA pmax pmax
comp=Z,2μm,1.7s
VLA MLR MLR
comp=E,1033μm,17.0s
SDSI Sungai Dareh 60.14 275 P **P** **09 50 32.5 +0.1**
comp=E,927nm,1.0s,comp=E,30μm
BKNI Bangkinang 60.78 277 P **P** **09 50 37.1 +0.3**
comp=E,4μm,1.2s,comp=E,40μmcomp=E,164μm
BKNI Bangkinang 60.78 277 *e*P **P** **09 50 37.4 +0.6**
comp=E,5μm,1.2s
FRIM Kepong 60.89 280⇑ P **P** **09 50 38.4 +0.9**
USRK Ussuriysk Ar. 60.93 336 P **P** **09 50 37.5 +0.3**
comp=E,399nm,0.9s,baz=147,slow=6.7,SNR=414
USRK LR LR 10 15 42.4
comp=E,94μm,19.9s,baz=133,slow=35
USRK PKPPKP **P'P'df** **10 19 52.5 -0.1**
comp=E,23nm,1.0s,baz=292,slow=3.3,SNR=13
I45RU USSURIYSK INFR 60.93 336 P **P** **09 50 37.2 0.0**
baz=164,slow=8.3
UBPT Khong Chiam 61.00 294 P **P** **09 50 38.6 +0.4**
comp=E,951nm,1.4s,comp=E,24μm
WHN Wuhan 61.01 314 P **P** **09 50 37.7 -0.3**
WHN sP **sP** **09 50 56.9 -2.1**
WHN S **S** **09 58 53.4 +0.6**
WHN LN
comp=E,92μm,18.5s
WHN LE
comp=E,45μm,17.0s
WHN LZ
comp=E,124μm,24.1s
PDSI Padang 61.09 275 P **P** **09 50 37.1 -1.8**
comp=E,305nm,0.9s,comp=E,16μmcomp=E,67μm
SKR Severo-Kuril's 61.51 356 *e*P P 09 50 34.0 -6.9
SKR *e*S S 09 58 52.0 -6.3
SKR *e*SSS SSS 10 05 45.0
SKR pmax pmax
comp=N,11μm,10.0s
SKR pmax pmax
comp=E,5μm,10.0s
SKR pmax pmax
comp=Z,19μm,10.0s
SKR pmax pmax
comp=N,270nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,540nm,1.0s
SKR smax smax
comp=E,22μm,18.0s
SKR smax smax
comp=N,21μm,14.0s
SKR MLR MLR
comp=N,21μm,18.0s
SKR MLR MLR
comp=E,40μm,18.0s
SKR MLR MLR
comp=Z,50μm,18.0s
DL2 Dalian 61.76 326 P **P** **09 50 43.0 +0.1**
DL2 S **S** **09 59 03.5 +1.5**
DL2 PMZ
comp=Z,1μm,0.8s
DL2 PMZ
comp=Z,14μm,11.6s
DL2 LN
comp=Z,20μm,16.7s
DL2 LE
comp=Z,19μm,22.7s
DL2 LZ
comp=Z,30μm,21.3s
IPM Ipoh 61.78 281⇑ P **P** **09 50 44.2 +0.6**
IPM Ipoh 61.78 281 *e*P **P** **09 50 43.9 +0.3**
comp=Z,2μm,1.3s
RKT Rikitea 61.84 110 *e*P **P** **09 50 44.1 +0.3**
comp=Z,375nm,1.1s
RKT *e*S **S** **09 59 07.5 +3.7**
comp=Z,46μm,27.5s
RKT *e*LQ LQ 10 06 42.3
comp=Z,57μm,29.8s
RKT *e*LR LR 10 09 20.3
comp=Z,115μm,30.8s
MDJ Mudanjiang 62.24 335 P **P** **09 50 46.4 +0.4**
MDJ pP **pP** **09 51 02.4 +1.5**
MDJ sP **sP** **09 51 09.4 +2.3**
MDJ PcP **PcP** **09 51 25.6 +0.1**
MDJ PP **PP** **09 53 03.2 -0.5**
MDJ S **S** **09 59 10.0 +2.1**
MDJ PMZ
comp=Z,510nm,1.3s
MDJ PMZ
comp=Z,19μm,11.8s
MDJ LN
comp=Z,77μm,21.0s
MDJ LE
comp=Z,81μm,22.1s
MDJ LZ
comp=Z,94μm,17.5s
MDJ Mudanjiang 62.24 335 *e*P **P** **09 50 46.0 0.0**
comp=Z,2μm,1.2s
MDJ LR LR
comp=Z,97μm,20.0s
MNSI Mandailing Nat 62.31 277 P **P** **09 50 46.2 -0.9**
comp=Z,2μm,0.9s,comp=Z,22μm
KULM Kulim 62.35 282 *e*P **P** **09 50 47.4 +0.1**
comp=Z,978nm,1.2s
KULM LR LR
comp=Z,31μm,21.0s
TIA Tai'an 62.60 321⇑ P **P** **09 50 47.7 -0.9**
TIA PP **PP** **09 53 12.2 +5.2**
TIA S **S** **09 59 12.7 -0.1**
TIA PMZ
comp=Z,130nm,1.0s
TIA PMZ
comp=Z,10μm,9.8s
TIA LN
comp=Z,21μm,19.6s
TIA LE
comp=Z,12μm,19.0s
TIA LZ
comp=Z,39μm,22.7s
SKLT Songkhla 62.88 284 P **P** **09 50 51.1 +0.2**
comp=Z,1μm,1.1s,comp=Z,23μm
COCO West Island 62.91 262 P **P** **09 50 52.3 +1.3**
comp=Z,5μm,1.6s,SNR=16
COCO West Island 62.91 262 *e*P **P** **09 50 53.0 +2.0**
COCO pmax pmax
comp=Z,1μm,1.2s
COCO MLR MLR
comp=Z,44μm,22.0s
COCO West Island 62.91 262 P **P** **09 50 53.3 +2.2**
SNR=19
COCO West Island 62.91 262 *e*P **P** **09 50 53.0 +2.0**
comp=Z,1μm,1.2s
COCO LR LR
comp=Z,44μm,22.0s
CHBT CHBT 62.97 290 P **P** **09 50 51.8 +0.4**
comp=Z,863nm,1.5s,comp=Z,27μm
CN2 Changchun 63.42 332⇑ P **P** **09 50 54.1 +0.2**
CN2 *e*sP **sP** **09 51 17.0 +2.0**
CN2 *e*S **S** **09 59 21.7 -1.0**
CN2 PMZ
comp=Z,60nm,0.9s
CN2 PMZ
comp=Z,2μm,8.0s
CN2 LN
comp=Z,55μm,17.0s
CN2 LE
comp=Z,47μm,17.0s
CN2 LZ
comp=Z,60μm,18.0s
HABR Khabarovsk 63.50 341*c* *i*P **P** **09 50 54.3 +0.1**
HABR *e**PP **pP** **09 51 05.9 -3.3**
HABR *e**SP **sP** **09 51 11.7 -3.6**
HABR *e* 09 51 28.1
HABR *e* 09 53 11.2
HABR PPP PPP 09 54 40.4
HABR *e*S **S** **09 59 22.7 -0.7**
HABR *e**SS **sS** **09 59 44.9 -3.6**
HABR *e* 10 00 39.7
HABR *e*SS **SS** **10 03 28.7 -3.0**
HABR pmax pmax
comp=Z,1μm,1.7s
HABR pmax pmax
comp=N,294nm,1.7s
HABR pmax pmax
comp=E,130nm,1.7s
HABR pmax pmax
comp=Z,3μm,1.6s
HABR MLR MLR
comp=Z,86μm,17.0s
HABR MLR MLR
comp=N,67μm,21.0s
HABR MLR MLR
comp=E,51μm,17.0s
PET Petropavlovsk 63.73 358*c* *i*P **P** **09 50 55.1 -0.6**
PET *e**PP **pP** **09 51 09.0 -1.6**
PET *e*S **S** **09 59 22.9 -3.2**
PET pmax pmax
comp=Z,11μm,8.4s
PET pmax pmax
comp=Z,435nm,1.5s
PET pmax pmax
comp=Z,16μm,13.4s
PET Petropavlovsk 63.73 358 *e*P **P** **09 50 54.8 -0.9**
comp=Z,950nm,1.3s
PET LR LR
comp=Z,64μm,21.0s
KHON Khomkaen 63.75 294 P **P** **09 50 57.2 +0.6**
comp=Z,253nm,1.0s,comp=Z,2μm
PETK Petropavlovsk- 63.85 358 P **P** **09 50 56.1 -0.4**
comp=Z,62nm,0.7s,baz=159,slow=8.4,SNR=66
PETK LR LR 10 14 44.1
comp=Z,62μm,21.4s,baz=173,slow=32
PETK PKPPKP **P'P'df** **10 19 49.6 +2.4**
comp=Z,13nm,0.9s,baz=35,slow=8.0,SNR=4.0
TSI Tuntungan 63.92 279 P **P** **09 50 57.5 -0.3**
comp=Z,1μm,1.1s,comp=Z,22μm
TRTT Trang 63.95 284 P **P** **09 50 58.0 0.0**
comp=Z,594nm,1.7s,comp=Z,23μm
ENH Enshi 64.38 311 *e*P **P** **09 51 00.0 -0.5**
comp=Z,189nm,0.9s
ENH LR LR
comp=Z,20μm,21.0s
GYA Guiyang 64.67 306⇑ *i*P **P** **09 51 03.2 +0.6**
GYA pP **pP** **09 51 21.0 +3.4**
GYA sP **sP** **09 51 27.2 +3.5**
GYA PcP **PcP** **09 51 39.4 +3.3**
GYA PP **PP** **09 53 29.6 +4.0**
GYA ScP 09 55 32.8
GYA S **S** **09 59 40.9 +1.8**
GYA sS **sS** **10 00 06.8 +2.5**
GYA SKS **SKSac** **10 00 49.5 -3.5**
GYA SS **SS** **10 03 51.2 0.0**
GYA PMZ
comp=Z,360nm,1.0s
GYA PMZ
comp=Z,17μm,11.8s
GYA LN
comp=Z,24μm,18.9s
GYA LE
comp=Z,38μm,21.0s
GYA LZ
comp=Z,43μm,22.8s
KCSI Kotacane, Aceh 64.69 279 P **P** **09 51 01.2 -1.7**
comp=Z,918nm,0.8s,comp=Z,15μmcomp=Z,63μm
CASY Casey 64.90 200 *e*P **P** **09 51 03.1 -0.1**
comp=Z,453nm,1.4s
CASY LR LR
comp=Z,82μm,20.0s
SURT Suratani 65.11 285 P **P** **09 51 06.1 +0.5**
comp=Z,239nm,1.0s,comp=Z,10μm
TPTI 65.20 279 P **P** **09 51 05.3 -0.9**
comp=Z,198nm,1.1s,comp=Z,27μm
KLR Kul'dur 65.25 339⇓ *i*P P 09 51 02.0 -3.8
KLR pmax pmax
comp=N,5μm,11.0s
KLR pmax pmax
comp=E,5μm,11.0s
KLR pmax pmax
comp=Z,4μm,11.0s
PKDT Phuket 65.26 284 P **P** **09 51 06.7 +0.2**
comp=Z,654nm,1.3s,comp=Z,20μm
ADK Adak 65.42 15 *e*P **P** **09 51 07.5 +0.8**
ADK pmax pmax
comp=Z,2μm,1.2s
ADK MLR MLR
comp=Z,64μm,21.0s
ADK Adak 65.42 15 *e*P **P** **09 51 07.5 +0.8**
comp=Z,2μm,1.2s
ADK LR LR
comp=Z,64μm,21.0s
PBKT Sadao Pong 65.50 294 P **P** **09 51 08.5 +0.5**
comp=Z,610nm,1.9s,comp=Z,23μm
BJT Baijiatuau 65.63 323 *e*P **P** **09 51 08.1 -0.3**
BJT pmax pmax
comp=Z,502nm,1.0s
BJT MLR MLR
comp=Z,68μm,21.0s
BJT Baijiatuau 65.63 323 *e*P **P** **09 51 08.1 -0.3**
comp=Z,502nm,1.0s
BJT LR LR
comp=Z,68μm,21.0s
BJI Beijing 65.64 323 P **P** **09 51 07.9 -0.5**
BJI S **S** **09 59 49.1 -1.0**
BJI SS **SS** **10 04 02.2 -3.2**
BJI PMZ
comp=Z,170nm,1.4s
BJI PMZ
comp=Z,19μm,11.6s
BJI LN
comp=Z,53μm,20.3s
BJI LE
comp=Z,46μm,18.1s
BJI LZ
comp=Z,51μm,21.7s
GSTR Great Sitkin T 65.77 15 *e*P **P** **09 51 10.2 +1.1**
comp=Z,756nm,1.0s
SNSI Sinabang, Aceh 65.84 278 P **P** **09 51 10.7 +0.4**
comp=Z,1μm,1.1s,comp=Z,28μm
LHMI Lhok Sumawe 65.90 281 P **P** **09 51 11.4 +0.7**
comp=Z,952nm,1.2s,comp=Z,25μmcomp=Z,141μm
LHMI Lhok Sumawe 65.90 281 *e*P **P** **09 51 10.3 -0.4**
comp=Z,1μm,1.2s

PTCN Pitcairn Islan 66.28 113 PFAKE 09 51 30.0 +17
PTCN LR LR
comp=Z,37µm,20.0s
UTTA Uttaradit 66.28 295 P **P** **09 51 13.4 +0.4**
comp=Z,151nm,1.2s,comp=Z,1µm
SRDT SRDT 66.43 291 P **P** **09 51 15.0 +1.0**
comp=Z,2µm,1.4s,comp=Z,64µm
TIY Taiyuan 66.48 319 *e*P **P** **09 51 13.9 -0.1**
TIY sP **sP** **09 51 37.4 +2.2**
TIY S **S** **09 59 57.6 -3.1**
TIY sS **sS** **10 00 25.1 -1.0**
TIY PMZ
comp=Z,180nm,1.2s
TIY PMZ
comp=Z,14µm,10.1s
TIY LN
comp=Z,13µm,14.2s
TIY LE
comp=Z,39µm,18.8s
TIY LZ
comp=Z,58µm,18.7s
VNDA Vanda 66.58 180 *e*P **P** **09 51 14.5 +0.6**
VNDA pmax pmax
comp=Z,214nm,1.0s
VNDA Vanda 66.58 180 P **P** **09 51 14.6 +0.6**
comp=Z,157nm,0.9s,baz=342,slow=7.1,SNR=7.4
VNDA LR LR 10 17 12.7
comp=Z,55µm,18.2s,baz=360,slow=33
VNDA PKPPKP **P'P'df** **10 19 44.2 -2.0**
comp=Z,4.1nm,1.0s,baz=202,slow=3.3,SNR=6.5
VNDA Vanda 66.58 180 *e*P **P** **09 51 14.5 +0.6**
comp=Z,214nm,1.0s
VNDA P'P' 10 19 44.2
XAN Xi'an 66.77 314 P **P** **09 51 15.2 -0.7**
XAN pP **pP** **09 51 31.5 +0.5**
XAN PP **PP** **09 53 45.0 +1.3**
XAN S **S** **10 00 02.4 -1.9**
XAN PMZ
comp=Z,110nm,1.3s
XAN PMZ
comp=Z,5µm,13.5s
XAN LN
comp=Z,30µm,23.8s
XAN LE
comp=Z,10µm,21.8s
XAN LZ
comp=Z,15µm,22.6s
SBA Scott Base 66.98 179 *e*P **P** **09 51 17.6 +1.2**
SBA pmax pmax
comp=Z,1µm,1.7s
SBA MLR MLR
comp=Z,48µm,19.0s
SBA Scott Base 66.98 179 *e*P **P** **09 51 17.6 +1.2**
comp=Z,1µm,1.7s
SBA LR LR
comp=Z,48µm,19.0s
KMI Kunming 67.26 303 P **P** **09 51 20.8 +1.4**
KMI pP **pP** **09 51 33.9 -0.6**
KMI sP **sP** **09 51 38.6 -2.0**
KMI PP **PP** **09 53 51.4 +3.1**
KMI S **S** **10 00 15.5 +4.7**
KMI PMZ
comp=Z,1µm,1.3s
KMI PMZ
comp=Z,18µm,11.8s
KMI LN
comp=Z,6µm,12.8s
KMI LE
comp=Z,33µm,21.5s
KMI LZ
comp=Z,49µm,24.4s
CRAI Chiangrai 67.34 297 P **P** **09 51 17.2 -2.5**
comp=Z,606nm,1.1s,comp=Z,11µm
LAMP Lampang 67.38 295 P **P** **09 51 20.8 +0.8**
comp=Z,298nm,1.0s,comp=Z,2µm
CMAR Chiang Mai Arr 67.97 295 P **P** **09 51 24.6 +0.9**
comp=Z,154nm,1.0s,baz=113,slow=4.2,SNR=346
CMAR PKPPKP P'P'df 10 19 38.5 -5.8
comp=Z,12nm,1.1s,baz=286,slow=3.6,SNR=9.1
CMAR LR LR 10 22 03.9
comp=Z,20µm,19.1s,baz=112,slow=37
CMMT Chiang Mai 68.08 295 P **P** **09 51 24.6 +0.1**
comp=Z,810nm,1.4s,comp=Z,23µm
CMAI Chiengmai2 68.39 297 P **P** **09 51 26.9 +0.3**
comp=Z,358nm,1.3s,comp=Z,12µm
MHMT Maesarieng 68.77 294 P **P** **09 51 29.3 +0.6**
comp=Z,150nm,1.3s,comp=Z,7µm
HHC Hu-ho-hao-te 68.89 322 *i* P **P** **09 51 29.8 +0.6**
HHC pP **pP** **09 51 46.4 +2.1**
HHC sP **sP** **09 51 50.8 +0.4**
HHC PP **PP** **09 54 00.1 -2.0**
HHC S **S** **10 00 26.8 -2.7**
HHC sS **sS** **10 00 56.2 +1.2**
HHC SS **SS** **10 04 54.9 -1.2**
HHC PMZ
comp=Z,190nm,1.1s
HHC PMZ
comp=Z,16µm,7.7s
HHC LN
comp=Z,22µm,17.0s
HHC LE
comp=Z,38µm,19.8s
HHC LZ
comp=Z,44µm,18.4s
CD2 Chengdu 69.00 309⇑ *i*P **P** **09 51 30.2 +0.2**
CD2 pP **pP** **09 51 44.8 -0.3**
CD2 sP **sP** **09 51 50.8 -0.4**
CD2 PcP **PcP** **09 51 54.0 +0.1**
CD2 PP **PP** **09 54 05.7 +2.6**
CD2 PcS 09 55 57.7
CD2 S **S** **10 00 30.5 -0.6**
CD2 sS **sS** **10 00 55.2 -1.3**
CD2 ScS **SKSac** **10 01 22.8 -2.7**
CD2 SS **SS** **10 04 59.2 +1.2**
CD2 PMZ
comp=Z,630nm,1.2s
CD2 PMZ
comp=Z,23µm,9.0s
CD2 LN
comp=Z,30µm,21.5s
CD2 LE
comp=Z,38µm,20.6s
CD2 LZ
comp=Z,56µm,23.0s
CMBY CAMPBELL BAY 69.25 282 *e*P **P** **09 51 30.2 -1.6**
BTO Baotou 69.70 321 *e*P **P** **09 51 34.5 +0.3**
HIA Hailar 70.12 333*c* *i*P **P** **09 51 36.3 -0.2**
HIA pmax pmax
comp=Z,1µm,1.1s
HIA Hailar 70.12 333 *e*P **P** **09 51 36.4 0.0**
comp=Z,849nm,0.8s
HIA LR LR
comp=Z,69µm,21.0s
UNV Unalaska Valle 70.12 20 *e*P **P** **09 51 35.3 -1.0**
comp=Z,760nm,1.2s
LZH Lanzhou 71.39 314⇑ P **P** **09 51 45.8 +1.1**
LZH pP **PcP** **09 52 03.5 -0.6**
LZH sP **sP** **09 52 08.1 +2.1**
LZH PP **PP** **09 54 26.1 +2.3**
LZH S **S** **10 01 01.1 +2.0**
LZH sS sS 10 01 30.0 +5.3
LZH SS **SS** **10 05 36.0 +1.1**
LZH PMZ
comp=Z,1µm,1.5s
LZH PMZ
comp=Z,10µm,8.6s
LZH LN
comp=Z,30µm,17.6s
LZH LE
comp=Z,32µm,18.5s
LZH LZ
comp=Z,64µm,19.0s
PBA Port Blair 71.58 286 *e*P P 09 51 44.2 -1.8
DGPR DIGLIPUR 71.82 288 *e*P **P** **09 51 46.2 -1.2**
FALS False Pass 72.00 21 *e*P **P** **09 51 47.6 0.0**
comp=Z,358nm,1.0s
CLNS Chul'man 73.87 340 *e*P **P** **09 51 59.5 +0.7**
CLNS *e* 09 52 14.7
CLNS *e* 09 54 47.0
CLNS *e*S **S** **10 01 30.7 +4.5**
CLNS *e*SS **SS** **10 06 08.3 -3.4**
CLNS pmax pmax
comp=Z,674nm,1.2s
CLNS pmax pmax
comp=N,360nm,1.2s
CLNS pmax pmax
comp=E,162nm,1.3s
CLNS pmax pmax
comp=Z,132nm,1.5s
CLNS pmax pmax
comp=E,66nm,1.1s
CLNS pmax pmax
comp=N,188nm,1.4s
CLNS smax smax
comp=N,9µm,14.0s
CLNS smax smax
comp=E,9µm,13.8s
CLNS MLR MLR
comp=Z,29µm,19.0s
CLNS MLR MLR
comp=E,27µm,16.0s
CLNS MLR MLR
comp=N,9µm,16.0s
SEY Seymchan 73.95 356 P **P** **09 51 59.0 0.0**
comp=N,95nm,0.8s,baz=161,slow=5.5,SNR=206
IMP Imphal 74.52 300 *e*P **P** **09 52 02.0 -1.3**
IMP *ex* x 09 57 58.0
CIT Chita 74.87 332 *e*P **P** **09 52 05.3 +0.6**
CIT *e* 09 52 18.9
CIT *e*S **S** **10 01 40.0 +2.4**
CIT pmax pmax
comp=Z,3µm,1.6s
ULN Ulaanbaatar 75.62 326*c* *i*P **P** **09 52 08.8 -0.4**
ULN pmax pmax
comp=Z,1µm,1.7s
ULN MLR MLR
comp=Z,56µm,19.0s
ULN Ulaanbaatar 75.62 326 P **P** **09 52 09.4 +0.2**
SNR=831
ULN Ulaanbaatar 75.62 326 *e*P **P** **09 52 09.8 +0.6**
comp=Z,2µm,1.2s
ULN LR LR
comp=Z,56µm,19.0s
GTA Gaotai 75.78 315⇑ P **P** **09 52 11.1 +0.8**
GTA pP **pP** **09 52 24.9 -0.7**
GTA sP **sP** **09 52 30.0 -1.7**
GTA PP **PP** **09 55 05.2 +4.2**
GTA S **S** **10 01 51.5 +3.1**
GTA sS **sS** **10 02 13.3 -0.9**
GTA PMZ
comp=Z,390nm,1.9s
GTA PMZ
comp=Z,14µm,10.2s
GTA LN
comp=Z,39µm,22.3s
GTA LE
comp=Z,23µm,21.4s
GTA LZ
comp=Z,30µm,21.4s
SONM Songino Array 75.97 325 P **P** **09 52 11.6 +0.4**
comp=Z,340nm,0.7s,baz=136,slow=6.0,SNR=656
SONM PKKPbc **PKKPbc** **10 11 28.5 -1.2**
comp=Z,6.9nm,1.0s,baz=273,slow=2.9,SNR=7.1
SONM LR LR 10 24 48.8
comp=Z,44µm,21.4s,baz=111,slow=35
SHL Shillong 76.53 300 *i* PCN 09 52 15.0
SHL *i* S **S** **10 01 59.0 +1.7**
YAK Yakutsk 76.78 345 P **P** **09 52 15.0 -0.2**
comp=Z,1µm,0.7s,baz=136,slow=1.8,SNR=179
YAK Yakutsk 76.78 345 *e*P **P** **09 52 14.9 -0.3**
comp=Z,2µm,0.8s
YAK LR LR
comp=Z,109µm,21.0s
GAMB Gambell 77.32 12 *e*P **P** **09 52 18.7 +0.4**
comp=Z,783nm,1.5s
KDAK Kodiak Island 78.18 23 P **P** **09 52 23.6 +0.4**
comp=Z,3µm,1.1s,SNR=29
KDAK Kodiak Island 78.18 23 *e*P **P** **09 52 23.2 0.0**
KDAK pmax pmax
comp=Z,658nm,0.9s
KDAK MLR MLR
comp=Z,79µm,20.0s
KDAK Kodiak Island 78.18 23 *e*P **P** **09 52 23.1 0.0**
comp=Z,658nm,0.9s
KDAK LR LR
comp=Z,79µm,20.0s
AIS Amsterdam Isla 78.36 233 P Px 09 51 50.0
AIS Amsterdam Isla 78.36 233 S S 10 02 01.0 -15
AIS SS **SS** **10 07 18.0 -1.9**
AIS L L 10 13 00.0
AIS R 10 17 00.0
LSA Lhasa 78.51 303 P **P** **09 52 27.0 +0.7**
LSA pP **pP** **09 52 41.1 -0.6**
LSA sP **sP** **09 52 47.2 -0.5**
LSA PP **PP** **09 55 29.5 +4.9**
LSA S S 10 02 04.3 -15
LSA PMZ
comp=Z,220nm,1.9s
LSA LN
comp=Z,9µm,30.5s
LSA LE
comp=Z,17µm,25.7s
LSA LZ
comp=Z,31µm,28.9s
LSA Lhasa 78.51 303 *e*P **P** **09 52 26.8 +0.5**
LSA pmax pmax
comp=Z,663nm,1.4s
LSA MLR MLR
comp=Z,26µm,22.0s
LSA Lhasa 78.51 303 *e*P **P** **09 52 26.8 +0.5**
comp=Z,663nm,1.4s
LSA LR LR
comp=Z,26µm,22.0s
BOD Bodaibo 78.56 336 *i* P **P** **09 52 24.4 -0.9**
BOD *e*S **S** **10 02 18.3 +0.7**
BOD pmax pmax
comp=Z,365nm,1.4s
BILL Bilibino 78.85 2*c* *i*P **P** **09 52 26.4 -0.3**
BILL *i* 09 52 35.0
BILL *i* *P **pP** **09 52 41.0 -1.1**
BILL *e* 09 55 23.9
BILL *i* S **S** **10 02 18.4 -1.9**
BILL *i* SS **SS** **10 07 32.1 +5.7**
BILL pmax pmax
comp=Z,842nm,1.2s
BILL Bilibino 78.85 2 *e*P **P** **09 52 26.3 -0.4**
comp=Z,1µm,1.3s
BILL LR LR
comp=Z,44µm,21.0s
ZAK Zakamensk 79.07 326⇓ *i*P **P** **09 52 28.0 -0.4**
ZAK *e* 10 02 21.1
ZAK pmax pmax
comp=Z,513nm,1.2s
QSPA South Pole Qui 79.07 180 P **P** **09 52 28.5 +0.2**
comp=Z,268nm,1.1s,baz=16,slow=2.1
QSPA South Pole Qui 79.07 180 *e*P **P** **09 52 28.4 +0.1**
comp=Z,138nm,1.0s
QSPA LR LR
comp=Z,51µm,20.0s
IRK Irkutsk 79.56 328⇑ *i*P **P** **09 52 30.2 -0.7**
IRK *e*S **S** **10 02 30.2 +1.8**
IRK pmax pmax
comp=Z,1µm,1.4s
TLY Talaya 79.58 328 P **P** **09 52 31.6 +0.6**
comp=Z,4µm,0.9s
TLY Talaya 79.58 328 *i* P **P** **09 52 30.9 -0.1**
TLY *e* 09 55 38.5
TLY *e*PPP PPP 09 57 18.5
TLY *i* S **S** **10 02 30.6 +1.9**
TLY *e* 10 02 47.2
TLY pmax pmax
comp=Z,923nm,1.1s
TLY Talaya 79.58 328 P **P** **09 52 31.0 -0.1**
comp=Z,150nm,0.7s,baz=158,slow=4.5,SNR=171
TLY Talaya 79.58 328 P **P** **09 52 30.9 -0.1**
SNR=513
TLY Talaya 79.58 328 *e*P **P** **09 52 30.9 -0.1**
comp=Z,841nm,1.0s
TLY LR LR
comp=Z,44µm,19.0s
TNA Tin City 79.67 13 *e*P **P** **09 52 31.0 -0.2**
comp=Z,379nm,1.1s
GTK Tadong 79.86 300 *e*P **P** **09 52 30.5 -2.9**
RSO Redoubt South 79.98 21 *e*P **P** **09 52 32.8 -0.5**
comp=Z,733nm,0.9s
TAPN Taplejung 80.64 300 *e*P **P** **09 52 38.2 +0.5**
comp=Z,2µm,1.3s
ODAN Odare 80.77 300 *e*P **P** **09 52 38.6 +0.3**
comp=Z,2µm,1.1s
SEW Seward 80.95 23 *e*P **P** **09 52 38.7 +0.5**
comp=Z,484nm,1.0s
MOY Mondy 80.97 327 *e*P **P** **09 52 38.3 -0.4**
MOY pmax pmax
comp=Z,794nm,1.8s
CHLP Challavanipeta 81.46 291 *e*P **P** **09 52 42.8 +1.0**
CHLP *e*S **S** **10 02 52.0 +2.4**
CHLP *e*SKSac **SKSac** **10 02 58.1 +0.7**
CHLP *e*SS **SS** **10 08 07.6 +0.2**
RAMN Ramite 81.47 300 *e*P **P** **09 52 42.0 0.0**
comp=Z,624nm,1.1s
RC01 Rabbit Creek A 81.50 22 *e*P **P** **09 52 40.6 -0.5**
comp=Z,2µm,1.7s
MID Middleton Isla 81.73 24 *e*P **P** **09 52 42.5 +0.2**
MID pmax pmax
comp=Z,707nm,1.2s
MID Middleton Isla 81.73 24 *e*P **P** **09 52 42.5 +0.2**
comp=Z,707nm,1.2s
PPLA Purkeypile 81.87 20 *e*P **P** **09 52 42.5 -0.7**
comp=Z,387nm,0.5s
VIS Vishakhapatnam 81.94 290 *e*P **P** **09 52 42.8 -1.6**
JIRN Jiri 82.02 300 *e*P **P** **09 52 45.3 +0.2**
comp=Z,2µm,1.6s
PMR Palmer 82.05 22 *e*P **P** **09 52 43.6 -0.3**
PMR Palmer 82.05 22 *e*P **P** **09 52 43.6 -0.3**
comp=Z,28nm,0.8s
PALK Pallekele 82.08 279 P **P** **09 52 47.9 +2.6**
comp=Z,5µm,1.1s,SNR=91
PALK Pallekele 82.08 279 *e*P **P** **09 52 46.9 +1.6**
PALK pmax pmax
comp=Z,1µm,1.1s
PALK Pallekele 82.08 279⇑ P **P** **09 52 47.1 +1.8**
PALK Pallekele 82.08 279 P **P** **09 52 47.3 +2.0**
SNR=127
PALK Pallekele 82.08 279 *e*P **P** **09 52 46.9 +1.6**
comp=Z,1µm,1.1s
GUN Gumba 82.35 300 *e*P **P** **09 52 47.0 +0.2**
comp=Z,3µm,1.6s
PAF Port-aux-Franc 82.43 221 *e*P **P** **09 52 46.5 +0.2**
PAF pmax pmax
comp=Z,860nm,1.1s
PAF MLR MLR
comp=Z,129µm,20.0s
PAF Port-aux-Franc 82.43 221 P P 09 52 24.0 -22
PAF Port-aux-Franc 82.43 221 S S 10 02 35.0 -24
PAF SS SS 10 08 08.0 -12
PAF L L 10 14 00.0
PAF R 10 20 00.0
PAF Port-aux-Franc 82.43 221 *e*P **P** **09 52 46.5 +0.2**
comp=Z,860nm,1.1s
PAF LR LR
comp=Z,129µm,20.0s
PKI Pulchoki 82.66 300 *e*P **P** **09 52 48.5 +0.1**
comp=Z,1µm,1.2s
PKIN Phulchoki 82.67 300 *e*P **P** **09 52 48.8 +0.4**
comp=Z,570nm,1.1s
KTH Kantishna Hill 82.74 20 *e*P **P** **09 52 46.2 -1.5**
comp=Z,73nm,0.8s
KKN Kakani 82.83 300 *e*P **P** **09 52 49.1 0.0**
comp=Z,2µm,1.5s
TRF Thorofare Moun 82.88 20 *e*P **P** **09 52 47.3 -1.2**
comp=Z,9µm,1.1s
DIV Divide 83.01 23 *e*P **P** **09 52 48.9 -0.1**
comp=Z,810nm,1.2s
MAW Mawson 83.13 202 P **P** **09 52 50.4 +0.8**
comp=Z,865nm,1.3s,baz=90,slow=7.3,SNR=33
MAW LR LR 10 24 24.8
comp=Z,86µm,21.9s,baz=88,slow=32
BMRM Bremner River 83.36 23 *e*P **P** **09 52 50.8 -0.1**
comp=Z,227nm,1.4s
GKN Gorkha 83.44 300 *e*P **P** **09 52 52.1 -0.1**
comp=Z,3µm,1.2s
MCK McKinley 83.52 20 *e*P **P** **09 52 50.7 -0.9**
MCK pmax pmax
comp=Z,114nm,0.9s
MCK McKinley 83.52 20 *e*P **P** **09 52 50.7 -0.9**
comp=Z,114nm,0.9s
MDRS Chennai 83.76 285 *e*P **P** **09 52 52.5 -1.4**
PAX Paxson 84.25 22 *e*P **P** **09 52 54.8 -0.7**
PAX pmax pmax
comp=Z,997nm,1.9s
PAX Paxson 84.25 22 *e*P **P** **09 52 54.8 -0.7**
comp=Z,997nm,1.9s
KOLN Koldanda 84.26 300 *e*P **P** **09 52 56.0 -0.4**
comp=Z,1µm,1.0s
DANN Dangsing 84.27 300 *e*P **P** **09 52 55.9 -0.7**
comp=Z,3µm,1.3s
SKHT Srikalahasti 84.42 285 *i* P **P** **09 52 58.1 +1.0**
SKHT *e*pP **PcP** **09 53 03.2 +2.5**
SKHT *e*PP **PP** **09 56 14.3 +1.3**
SKHT *e*SKSac **S** **10 03 22.2 +2.4**
SKHT IAMs_20 IAMs_20 10 32 58.5
comp=Z,42µm,22.5s
COLA College 84.62 19 *e*P **P** **09 52 56.2 -1.0**
COLA pmax pmax
comp=Z,623nm,1.1s
COLA MLR MLR
comp=Z,106µm,21.0s
COLA College 84.62 19 *e*P **P** **09 52 56.1 -1.0**
comp=Z,623nm,1.1s
COLA LR LR
comp=Z,106µm,21.0s
ADKI Addanki 84.63 287 *i* P **P** **09 52 58.7 +0.4**
ADKI *e*PP **PP** **09 56 14.9 +0.1**
ADKI *e*SKSac **SKSac** **10 03 18.1 -0.3**
ADKI *e*SS **SS** **10 08 56.0 +1.4**
ADKI IAMs_20 IAMs_20 10 25 59.8
comp=Z,40µm,29.9s
RPN Rapa Nui 84.66 116 LR LR 10 23 55.9
comp=Z,27µm,20.1s,baz=266,slow=31
HVS Khovu-Aksy 84.78 324*c* *i*P **P** **09 52 57.7 -0.7**
HVS pmax pmax
comp=Z,3µm,1.2s
HVS MLR MLR
comp=Z,115µm,20.0s
PYUN Piuthan 84.86 300 *e*P **P** **09 52 58.6 -0.9**
comp=Z,2µm,1.0s
ILAR Eielson Array 84.88 20 P **P** **09 52 57.2 -1.2**
comp=Z,50nm,1.0s,baz=252,slow=4.0,SNR=118
ILAR PP **PP** **09 56 16.1 +0.4**
comp=Z,43nm,1.1s,baz=240,slow=7.3,SNR=5.0
ILAR PKKPbc **PKKPbc** **10 11 06.8 -3.1**
comp=Z,34nm,1.1s,baz=347,slow=1.3,SNR=28
ILAR PKPPKP **P'P'df** **10 19 06.2 -4.6**
comp=Z,3.5nm,1.0s,baz=324,slow=2.5,SNR=9.3
ILAR LR LR 10 27 09.0
comp=Z,94µm,20.0s,baz=224,slow=33
TIXI Tiksi 85.16 350*c* *i*P **P** **09 52 58.4 -1.3**
TIXI pmax pmax
comp=Z,441nm,1.7s
TIXI Tiksi 85.16 350 *e*P **P** **09 52 58.6 -1.1**
comp=Z,369nm,1.2s
TIXI LR LR
comp=Z,32µm,20.0s
DOT Dot Lake 85.17 21 *e*P **P** **09 53 00.0 0.0**
comp=Z,248nm,0.9s
NJS Nagarjunasagar 85.41 288 *i* P **P** **09 53 02.3 +0.1**
NJS *e*pP **PcP** **09 53 08.5 +3.4**
NJS *e*PP **PP** **09 56 19.9 -1.2**
NJS *e*SKSac **SKSac** **10 03 26.0 +2.7**
NJS *e* 10 08 50.6
COLD Coldfoot 85.46 17 *e*P **P** **09 53 01.7 +0.4**
comp=Z,139nm,0.8s
CRAG Craig 85.69 31 *e*P **P** **09 53 03.1 +0.5**
comp=Z,210nm,1.4s
KCPM Cahto Peak 85.81 48 *e*P **P** **09 53 04.9 +1.1**
comp=Z,705nm,1.5s
WMQ Urumqi 85.86 316⇑ *i*P **P** **09 53 03.4 -0.5**
WMQ pP **pP** **09 53 16.6 -2.9**
WMQ sP **sP** **09 53 26.6 +1.1**
WMQ PP **PP** **09 56 25.7 +1.5**
WMQ SKS **SKSac** **10 03 23.0 -2.2**
WMQ S **SKKSac** **10 03 30.8 -1.7**
WMQ SS **SS** **10 09 11.0 -0.7**
WMQ PMZ
comp=Z,310nm,1.5s
WMQ PMZ
comp=Z,10µm,11.0s
WMQ LN
comp=Z,30µm,19.2s
WMQ LE
comp=Z,30µm,24.8s
WMQ LZ
comp=Z,50µm,25.0s
MCCM Marconi Confer 85.87 50 *e*P **P** **09 53 05.0 +1.0**
comp=Z,2µm,1.5s
KIPM Iron Peak 85.92 48 *e*P **P** **09 53 05.2 +0.8**
comp=Z,1µm,1.5s

RPR Rampur 85.93 290 *i* P **P** 09 53 04.2 -0.5
RPR *e*pP **PcP** 09 53 10.5 +3.1
RPR *e*PP **PP** 09 56 23.1 -2.2
RPR *e*SKSac **SKSac** 10 03 30.4 +3.9
RPR *e* 10 08 46.0
RPR *e*SS **SS** 10 09 11.8 -1.8
TRD Trivandrum 85.97 279 *e*P **P** 09 53 04.0 -1.0
TRD AMB AMB 09 53 07.4
comp=Z,699nm,1.6s
HOPS Hopland Field 85.97 49 *e*P **P** 09 53 05.4 +0.9
comp=Z,461nm,1.8s
SAC San Andreas 86.05 51 *e*P **P** 09 53 06.2 +1.3
SAC pmax pmax
comp=Z,907nm,1.5s
SAC San Andreas 86.05 51 *e*P **P** 09 53 06.2 +1.3
comp=Z,908nm,1.5s
KHMM Horse Mountain 86.06 47 *e*P **P** 09 53 06.4 +1.3
comp=Z,691nm,1.2s
KBO Bosley Butte 86.12 46 *e*P **P** 09 53 06.3 +1.0
comp=Z,869nm,1.3s
HYT Haines Junctio 86.18 26 *e*P **P** 09 53 05.8 +0.6
KEBM Easton Butte 86.26 45 *e*P **P** 09 53 07.0 +1.1
comp=Z,553nm,1.2s
HYB Hyderabad 86.30 288 *i* P **P** 09 53 06.0 -0.6
HYB *e* 09 54 04.0
HYB *e*PP **PP** 09 56 28.0 -0.4
HYB *e* 09 57 48.0
HYB *e*SKS **SKSac** 10 03 28.0 -1.0
HYB *e*S **S** 10 03 38.0 -0.4
HYB *e*PS **PnS** 10 04 50.0 +7.4
HYB *e*SS **SS** 10 09 24.0 +4.9
HYB Hyderabad 86.30 288 *e*P **P** 09 53 05.1 -1.5
HYB AMB AMB 09 53 07.4
comp=Z,356nm,0.7s
HYBB Hyderabad (bro 86.30 288 *e*P **P** 09 53 06.2 -0.4
HYBB *e*pP **PcP** 09 53 12.5 +3.4
HYBB *e*SKSac **SKSac** 10 03 32.8 +3.8
HYBB *e*SS **SS** 10 09 21.4 +2.2
HYBB IAMs_20 IAMs_20 10 26 00.4
comp=Z,40µm,35.8s
SKAG Skagway 86.46 27 *e*P **P** 09 53 06.1 -0.3
comp=Z,4µm,2.4s
WRAK Wrangell Islan 86.50 31 *e*P **P** 09 53 06.2 -0.5
comp=Z,191nm,1.1s
WRAK LR LR
comp=Z,121µm,20.0s
L02D Cave Junction, 86.55 46 ⇑P **P** 09 53 08.4 +1.1
baz=87,SNR=32
SAO San Andreas Ge 86.56 52 *e*P **P** 09 53 08.1 +0.6
SAO pmax pmax
comp=Z,151nm,1.3s
SAO San Andreas Ge 86.56 52 *e*P **P** 09 53 08.1 +0.6
comp=Z,151nm,1.3s
NGP Nagpur 86.66 292 *e*P **P** 09 53 07.8 -0.5
NGP *ex* x 10 03 42.3
N02D Trinity Center 86.83 47 ⇑P **P** 09 53 09.4 +0.6
baz=87,SNR=80
WDC Whiskeytown Da 86.83 48 *e*P **P** 09 53 09.4 +0.7
WDC pmax pmax
comp=Z,600nm,1.4s
WDC Whiskeytown Da 86.83 48 *e*P **P** 09 53 09.4 +0.7
comp=Z,600nm,1.4s
M02C Callahan 86.85 47 ⇓P **P** 09 53 09.5 +0.6
baz=87,SNR=116
EGAK Eagle 86.86 21 *e*P **P** 09 53 08.8 +0.6
EGAK comp=Z,558nm,0.6s LR LR
comp=Z,139µm,22.0s
URV Uravakonda 86.99 286 *i* P **P** 09 53 10.0 -0.1
URV *e*pP **PcP** 09 53 16.3 +4.1
URV *e*PP **PP** 09 56 32.7 -1.3
URV *e*SKSac **SKSac** 10 03 34.2 +0.9
URV *e* 10 03 47.2
URV IAMs_20 IAMs_20 10 34 44.6
comp=Z,25µm,21.1s
RNO Roman Nose 87.00 44 P **P** 09 53 10.8 +1.3
YBH Yreka Blue Hor 87.05 47 *e*P **P** 09 53 10.6 +0.7
YBH pmax pmax
comp=Z,243nm,1.1s
YBH Yreka Blue Hor 87.05 47 LR LR 10 24 16.7
comp=Z,52µm,21.6s,baz=287,slow=30
YBH Yreka Blue Hor 87.05 47 *e*P **P** 09 53 10.6 +0.7
comp=Z,243nm,1.1s
HUMO Hull Mountain 87.14 46 *e*P **P** 09 53 11.3 +1.1
comp=Z,489nm,1.1s
I03D Drain, OR 87.20 45 ⇑P **P** 09 53 10.8 +0.4
baz=87,SNR=27
KRAR Krasnoyarsk 87.24 329 *e*P **P** 09 53 08.9 -1.4
KRAR pmax pmax
comp=Z,77nm,0.8s
KRAR MLR MLR
comp=Z,28µm,20.0s
BSC Santa Cruz Isl 87.25 55 ⇓P **P** 09 53 11.7 +0.8
baz=87,SNR=37
H08S2 Diego Garcia H 87.28 263 P **P** 09 53 12.6 +1.4
baz=39,slow=6.3,SNR=26
H08S3 Diego Garcia H 87.29 263 P **P** 09 53 13.2 +1.9
baz=39,slow=6.3,SNR=20
SBC Santa Barbara 87.30 54 ⇑P **P** 09 53 12.1 +1.1
baz=87
SMMC Simmler 87.30 53 ⇓P **P** 09 53 12.7 +1.5
baz=87,SNR=59
H08S1 Diego Carcia H 87.30 263 P **P** 09 53 12.9 +1.7
baz=39,slow=6.3,SNR=22
DGAR Diego Garcia 87.36 263 P **P** 09 53 12.1 +0.3
comp=Z,2µm,2.0s,SNR=7.6
DGAR Diego Garcia 87.36 263 *c i*P **P** 09 53 10.9 -0.9
DGAR Diego Garcia 87.36 263 P **P** 09 53 12.5 +0.7
SNR=8.6
DGAR Diego Garcia 87.36 263 *e*P **P** 09 53 11.9 0.0
comp=Z,878nm,1.4s
DGAR LR LR
comp=Z,38µm,19.0s
COR Corvallis 87.50 44 *e*P **P** 09 53 12.9 +1.1
COR pmax pmax
comp=Z,1µm,1.7s
COR Corvallis 87.50 44 *e*P **P** 09 53 12.9 +1.1
comp=Z,1µm,1.7s
LGTI Lohaghat 87.53 300 *e*P **P** 09 53 14.1 +1.8
PTH Pithoragarh 87.58 301 *e*P **P** 09 53 10.4 -2.4
PTH *ex* x 09 56 14.2
M04C Macdoel 87.69 47 ⇓P **P** 09 53 14.0 +1.0
baz=88,SNR=97
G03D McMinnville, O 87.72 43 ⇓P **P** 09 53 13.8 +1.0
baz=88,SNR=38
CMB Columbia Colle 87.72 51 *e*P **P** 09 53 13.4 +0.3
CMB pmax pmax
comp=Z,250nm,1.0s
CMB Columbia Colle 87.72 51 *e*P **P** 09 53 13.3 +0.3
comp=Z,250nm,1.0s
SCI San Clemente I 87.87 56 ⇑P **P** 09 53 14.8 +1.0
baz=88,SNR=26
I04A Tendick Farm, 87.88 45 ⇑P **P** 09 53 14.4 +0.7
baz=88,SNR=59
J04D Umpqua Nationa 87.92 45 ⇑P **P** 09 53 14.6 +0.4
baz=88,SNR=82
K04D Chiloquin, OR 88.00 46 ⇑P **P** 09 53 15.5 +1.1
baz=88,SNR=13
NLWA Neilton Lookou 88.00 41 *e*P **P** 09 53 14.3 +0.1
comp=Z,2µm,2.3s
NLWA LR LR
comp=Z,100µm,21.0s
CIS Catalina Islan 88.09 56 ⇓P **P** 09 53 15.3 +0.3
baz=88,SNR=48
OSI Osito Audit: C 88.13 54 ⇓P **P** 09 53 15.7 +0.6
baz=88,SNR=60
RCTC Rector, Farmer 88.15 53 ⇑P **P** 09 53 15.6 +0.5
baz=88,SNR=58
VES Vestal, Richgr 88.15 53 ⇓P **P** 09 53 15.7 +0.5
baz=88,SNR=97
F04D Rainier, OR 88.16 42 ⇓P **P** 09 53 15.5 +0.6
baz=88,SNR=16
ARVC Arvin 88.17 54 ⇑P **P** 09 53 15.9 +0.7
baz=88,SNR=94
FMP Fort Macarthur 88.25 55 ⇑P **P** 09 53 16.6 +1.0
baz=88,SNR=23
DECC Green Verdugo 88.36 55 ⇑P **P** 09 53 16.9 +0.8
baz=88,SNR=21
PASC Pasadena Art C 88.45 55 *e*P **P** 09 53 17.1 +0.5
comp=Z,1µm,1.5s
DLBC Dease Lake 88.48 29 *e*P **P** 09 53 15.6 -0.7
J05D Fort Rock, OR 88.55 46 ⇑P **P** 09 53 18.6 +1.6
baz=89,SNR=205
MWC Mount Wilson 88.57 55 *e*P **P** 09 53 17.9 +0.5
MWC pmax pmax
comp=Z,1µm,1.1s
MWC Mount Wilson 88.57 55 *e*P **P** 09 53 17.9 +0.5
comp=Z,1µm,1.1s
WAKR Walker 88.57 50 *e*P **P** 09 53 17.8 +0.5
comp=Z,1µm,1.6s
WAKR *e*PP **PP** 09 56 47.0 +0.6
ISA Isabella, Lake 88.59 53 ⇓P **P** 09 53 18.2 +0.9
baz=89,SNR=151
BHPL Bhopal 88.59 294 *e*P **P** 09 53 16.5 -1.1
K05A Summer Lake 88.63 46 P **P** 09 53 18.6 +1.1
PGC Sidney 88.66 40 *e*P **P** 09 53 17.2 0.0
comp=Z,321nm,1.0s
STD Studebaker Rid 88.72 42 P **P** 09 53 18.7 +0.9
TDL Tradedollar La 88.76 42 P **P** 09 53 18.8 +0.8
I05D Terrebonne, OR 88.77 44 ⇓P **P** 09 53 18.6 +0.6
baz=89,SNR=89
EDW2 Edwards Air Fo 88.78 54 ⇓P **P** 09 53 19.3 +1.1
baz=89,SNR=125
MLAC Mammoth, Mammo 88.80 51 ⇓P **P** 09 53 19.6 +1.1
baz=89,SNR=37
MOD Modoc Plateau 88.83 47 *e*P **P** 09 53 19.1 +0.7
comp=Z,288nm,1.0s
VLL Laurance Lake 88.86 43 P **P** 09 53 19.1 +0.7
BFSC Mount Baldy Ra 88.89 55 ⇑P **P** 09 53 19.6 +0.8
baz=89,SNR=107
MNGI Mangalore 88.90 283 *ex* x 09 53 08.2
MNGI *ex* **S** 10 03 58.8 -4.5
H08N1 Diego Carcia H 88.96 264 P P 09 53 22.7 +3.6
baz=170,slow=3.5,SNR=5.9
VFP Flag Point 88.97 44 P **P** 09 53 19.5 +0.5
H08N2 Diego Garcia H 88.98 264 P P 09 53 22.9 +3.8
baz=170,slow=3.5,SNR=6.0
H08N3 Diego Garcia H 88.98 264 P P 09 53 24.3 +5.1
baz=170,slow=3.5,SNR=4.6
109C Camp Elliot, M 89.02 56 ⇑P **P** 09 53 20.4 +1.1
baz=89,SNR=79
G05D Wamic, OR 89.04 44 ⇓P **P** 09 53 20.6 +1.4
baz=89,SNR=29
MURC Murrieta 89.11 56 ⇑P **P** 09 53 20.5 +0.7
baz=89,SNR=82
TIN Tinemaha, Big 89.13 52 ⇑P **P** 09 53 20.9 +1.1
baz=89,SNR=73
LON Longmire 89.15 42 *e*P **P** 09 53 20.3 +0.6
LON pmax pmax
comp=Z,168nm,1.2s
LON Longmire 89.15 42 *e*P **P** 09 53 20.2 +0.6
comp=Z,168nm,1.2s
LRMC Laurel Mtn Rad 89.17 54 ⇓P **P** 09 53 21.9 +1.8
baz=89,SNR=42
NVAR Mina Array Bea 89.41 51 P **P** 09 53 22.1 +0.8
comp=Z,108nm,0.7s,baz=236,slow=5.5,SNR=298
NVAR PKKPbc **PKKPbc** 10 10 56.0 -1.9
comp=Z,6.3nm,0.8s,baz=87,slow=2.6,SNR=9.6
NVAR PKPPKP **P'P'df** 10 19 01.9 -3.1
comp=Z,13nm,1.1s,baz=67,slow=1.6,SNR=11
NVAR LR LR 10 25 03.7
comp=Z,20µm,21.5s,baz=99,slow=30
DAC Darwin (Calif) 89.43 53 *e*P **P** 09 53 22.2 +0.8
DAC pmax pmax
comp=Z,845nm,1.2s
DAC Darwin (Calif) 89.43 53 *e*P **P** 09 53 22.2 +0.8
comp=Z,845nm,1.2s
MPMC Manual Prospec 89.46 53 ⇑P **P** 09 53 22.7 +1.1
baz=90,SNR=390
JCW Jim Creek 89.49 41 P **P** 09 53 21.5 +0.3
BBRC Big Bear Solar 89.49 55 ⇑P **P** 09 53 22.1 +0.3
baz=90
NV11 Mina Array Sit 89.52 51 *e*P **P** 09 53 22.6 +0.8
RRX Edison Barstow 89.57 54 ⇓P **P** 09 53 22.8 +1.0
baz=90,SNR=23
MONP Monument Peak, 89.58 57 ⇓P **P** 09 53 23.9 +1.7
baz=90
PFO Pinyon Flats O 89.72 56 P P 09 53 18.0 -4.7
comp=Z,2µm,1.9s,SNR=13
PFO Pinyon Flats O 89.72 56 *e*P **P** 09 53 23.5 +0.8
PFO pmax pmax
comp=Z,764nm,1.4s
PFO Pinyon Flats O 89.72 56 LR LR 10 25 15.1
comp=Z,126µm,21.5s,baz=304,slow=30
PFO Pinyon Flats O 89.72 56 ⇑P **P** 09 53 24.9 +2.2
baz=90
PFO Pinyon Flats O 89.72 56 *e*P **P** 09 53 23.5 +0.8
comp=Z,764nm,1.4s
MNCY Minicoy 89.73 278 *ex* x 09 53 40.0
GRAC Grapevine Rang 89.78 52 ⇑P **P** 09 53 24.2 +1.3
baz=90,SNR=54
GSC Goldstone, Bar 89.83 54 *e*P **P** 09 53 23.8 +0.7
GSC *e* 09 57 00.7
GSC pmax pmax
comp=Z,593nm,1.4s
GSC Goldstone, Bar 89.83 54 ⇑P **P** 09 53 24.0 +0.9
baz=90,SNR=142
GSC Goldstone, Bar 89.83 54 *e*P **P** 09 53 23.8 +0.7
comp=Z,593nm,1.4s
GSC *e*PP **PP** 09 57 00.7 +4.3
NDI New Delhi 89.94 299 *i* P **P** 09 53 22.0 -1.7
NDI *ex* x 10 04 04.0
FURC Furnace Creek, 90.05 53 ⇑P **P** 09 53 25.2 +1.2
baz=90,SNR=251
HEC Hector,Ludlow 90.10 55 ⇓P **P** 09 53 25.4 +1.0
baz=90,SNR=264
TPH Tonopah 90.15 51 *e*P **P** 09 53 25.4 +0.7
TPH pmax pmax
comp=Z,628nm,1.1s
TPH Tonopah 90.15 51 *e*P **P** 09 53 25.4 +0.7
comp=Z,628nm,1.1s
WVOR Wild Horse Val 90.16 47 *e*P **P** 09 53 25.6 +1.0
WVOR MLR MLR
comp=Z,53µm,22.0s
WVOR Wild Horse Val 90.16 47 *e*P **P** 09 53 25.6 +1.0
comp=Z,5µm,0.8s
WVOR LR LR
comp=Z,53µm,22.0s
BELC Belle Mtn. Jos 90.18 56 ⇓P **P** 09 53 25.8 +0.9
baz=90,SNR=123
GOA Goa 90.35 286 *e*P **P** 09 53 24.1 -1.7
ETW Entiat 90.36 42 P **P** 09 53 25.7 +0.3
SHOC Shoshone, Teco 90.38 54 ⇓P **P** 09 53 26.4 +0.8
baz=90,SNR=187
MKAR Makanchi Array 90.38 318 P **P** 09 53 24.7 -0.7
comp=Z,101nm,0.6s,baz=94,slow=5.7,SNR=428
MKAR PP **PP** 09 57 01.6 +1.2
comp=Z,12nm,0.8s,baz=90,slow=8.7,SNR=2.5
MKAR PKiKP **PKiKP** 09 58 20.8 +0.5
comp=Z,22nm,1.0s,baz=91,slow=0.7,SNR=3.8
MKAR PKKPbc **PKKPbc** 10 10 54.0 -1.6
comp=Z,15nm,0.8s,baz=267,slow=2.3,SNR=9.8
MKAR PKPPKP **P'P'df** 10 19 04.6 +2.3
comp=Z,13nm,1.0s,baz=292,slow=1.8,SNR=11
MKAR LR LR 10 35 03.6
comp=Z,19µm,20.7s,baz=86,slow=36
SMLA Simla 90.51 301 *i* P **P** 09 53 26.2 0.0
BC3 Big Chuckawall 90.54 56 ⇓P **P** 09 53 27.9 +1.3
baz=91
SYO Syowa Base 90.55 198 ‖ *i*P **P** 09 53 24.0 -1.7
SYO Syowa Base 90.55 198 ‖ *i*PcP **PcP** 09 53 28.8 +2.0
TUQ Turquoise Moun 90.56 54 ⇓P **P** 09 53 27.4 +0.8
baz=91,SNR=116
HAWA Hanford 90.56 43 *e*P **P** 09 53 26.8 +0.7
comp=Z,712nm,1.5s
HAWA LR LR
comp=Z,54µm,20.0s
GMRC Granite Mounta 90.62 55 ⇑P **P** 09 53 27.9 +1.0
baz=91,SNR=151
WTV Waterville 90.63 42 P **P** 09 53 26.6 +0.1
TPNV Topopah Spring 90.64 53 ⇑P **P** 09 53 27.6 +0.6
baz=91,SNR=357
BMN Battle Mountai 90.71 49 *e*P **P** 09 53 28.0 +0.8
BMN pmax pmax
comp=Z,1µm,1.3s
BMN Battle Mountai 90.71 49 *e*P **P** 09 53 28.0 +0.8
comp=Z,1µm,1.3s
SDNR Sundarnagar 90.75 302 *e*P **P** 09 53 27.0 -0.5
ZALV Zalesovo Beam 90.85 325 P **P** 09 53 25.6 -1.7
comp=Z,74nm,0.7s,baz=114,slow=5.5,SNR=105
ZALV PKiKP **PKiKP** 09 58 21.5 +0.7
comp=Z,7.1nm,0.7s,baz=115,slow=1.3,SNR=4.5
ZALV PKKPbc **PKKPdf** 10 10 52.7 +1.5
comp=Z,8.0nm,0.5s,baz=283,slow=2.4,SNR=29
ZALV PKPPKP **P'P'df** 10 19 04.5 +3.7
comp=Z,10nm,1.0s,baz=276,slow=2.8,SNR=10.0
ZALV LR LR 10 34 38.6
comp=Z,34µm,20.7s,baz=102,slow=36
IRM Iron Mountain 90.90 56 ⇑P **P** 09 53 29.4 +1.2
baz=91
POO Poona 90.91 289 *e*P **P** 09 53 27.6 -0.8
POO *i* PCP **PcP** 09 53 29.0 -0.5
SAW Saint Andrews 90.99 42 P **P** 09 53 28.3 +0.1
LDFC Landfair 91.13 55 *e*P **P** 09 53 30.2 +0.9
comp=Z,1µm,1.3s
BHK Bhakra 91.19 302 *e*P **P** 09 53 30.8 +1.3
INK Inuvik 91.28 20 P **P** 09 53 28.6 -0.3
comp=Z,56nm,0.9s,baz=247,slow=6.8,SNR=47
INK PKKPbc **PKKPdf** 10 10 49.8 -1.0
comp=Z,36nm,1.1s,baz=49,slow=3.5,SNR=5.4
INK LR LR 10 30 01.9
comp=Z,118µm,20.8s,baz=240,slow=33
OD2 Odessa Site #2 91.36 42 P **P** 09 53 30.3 +0.4
SHPR Sheep Range 91.40 53 *e*P **P** 09 53 31.5 +1.0
comp=Z,65nm,1.3s
NEE2 Needles Airpor 91.46 55 ⇓P **P** 09 53 31.9 +1.3
baz=92,SNR=28
DHRM DHARAMSHALA 91.46 302 *e*P **P** 09 53 29.3 -1.7
DHRM AMB AMB 09 53 29.9
comp=Z,430nm,1.0s
R11A Troy Canyon, C 91.47 51 ⇓P **P** 09 53 31.6 +0.8
baz=92,SNR=336
R11A Troy Canyon, C 91.47 51 *e*P **P** 09 53 31.3 +0.5
comp=Z,603nm,1.3s
R11A *e*PP **PP** 09 57 09.9 +0.5
BMO Blue Mountains 91.69 45 *e*P **P** 09 53 32.0 +0.4
BMO pmax pmax
comp=Z,692nm,1.3s
BMO MLR MLR
comp=Z,51µm,19.0s
BMO Blue Mountains 91.69 45 *e*P **P** 09 53 32.0 +0.4
comp=Z,692nm,1.3s
BMO LR LR
comp=Z,51µm,19.0s
AJM Ajmer 91.73 296 *ex* **P** 09 53 31.0 -1.1
PDMCI Parker Dam,Lak 91.75 56 ⇓P **P** 09 53 32.9 +0.9
baz=92,SNR=79
DLH Dalhousie 91.80 303 *e*P **P** 09 53 32.0 -0.6
BOM Bombay 91.94 289 *ex* P 09 53 24.1 -9.1
NVS Novosibirsk 92.00 326 *i* P **P** 09 53 30.4 -2.2
NVS *e* 10 03 59.0
NVS *e*S S 10 04 23.8 -6.3
NVS pmax pmax
comp=Z,497nm,1.3s
NVS pmax pmax
comp=N,166nm,1.6s
NVS pmax pmax
comp=E,332nm,1.5s
NVS smax smax
comp=N,204nm,2.9s
W13A Hualapai Mount 92.11 55 ⇑P **P** 09 53 34.8 +0.8
baz=92
214A Organ Pipe Nat 92.37 58 ⇓P **P** 09 53 36.1 +1.1
baz=92
214A Organ Pipe Nat 92.37 58 *e*P **P** 09 53 36.8 +1.9
MFID Camas Ranch 92.40 46 *e*P **P** 09 53 35.8 +0.8
comp=N,639nm,1.4s
Z14A Wintersburg 92.53 57 ⇓P **P** 09 53 36.3 +0.7
baz=93,SNR=25
Y14A Wickenburg 92.59 56 ⇑P **P** 09 53 36.8 +0.8
baz=93,SNR=8.7
NEW Newport 92.61 41 *e*P **P** 09 53 35.7 0.0
NEW pmax pmax
comp=Z,560nm,1.2s
NEW MLR MLR
comp=Z,52µm,20.0s
NEW Newport 92.61 41 ⇓P **P** 09 53 36.2 +0.5
baz=93,SNR=197
NEW Newport 92.61 41 *e*P **P** 09 53 35.7 0.0
comp=Z,560nm,1.2s
NEW LR LR
comp=Z,52µm,20.0s
ARUT Antelope Range 93.01 52 *e*P **P** 09 53 38.9 +1.0
ARUT pmax pmax
comp=Z,66nm,1.3s
ARUT Antelope Range 93.01 52 *e*P **P** 09 53 38.9 +1.0
comp=Z,66nm,1.3s
CCUT Cedar City 93.02 53 *e*P **P** 09 53 39.2 +1.1
comp=Z,292nm,0.9s
LPIG La Paz 93.06 66 LR LR 10 28 10.9
comp=Z,25µm,19.8s,baz=258,slow=31
KSH Kashi 93.19 309 ⇑ *i*P **P** 09 53 39.8 +1.1
KSH pP **pP** 09 53 56.8 +2.4
KSH sP **sP** 09 54 03.8 +3.4
KSH PP **PP** 09 57 26.7 +3.8
KSH SKS **SKSac** 10 04 07.2 -1.4
KSH S **S** 10 04 38.8 -3.0
KSH sS **sS** 10 05 08.6 +0.2
KSH SS **SS** 10 10 59.8 +1.4
KSH PMZ
comp=Z,79nm,0.9s
KSH PMZ
comp=Z,7µm,10.6s
KSH LN
comp=Z,22µm,17.8s
KSH LE
comp=Z,30µm,18.2s
KSH LZ
comp=Z,33µm,20.0s
AAA Alma-Ata 93.23 313 *e*P **P** 09 53 37.9 -0.8
AAA *e*S **SKSac** 10 04 14.3 +5.8
AAA pmax pmax
comp=Z,12µm,11.2s
AAA MLR MLR
comp=Z,28µm,20.0s
HLID Hailey 93.44 46 ⇑P **P** 09 53 40.8 +1.0
baz=94
HLID Hailey 93.44 46 *e*P **P** 09 53 40.9 +1.0
comp=Z,219nm,0.7s
HLID *e*PP **PP** 09 57 25.1 +0.4
HLID LR LR
comp=Z,58µm,20.0s
U15A North Rim 93.64 54 ⇑P **P** 09 53 41.6 +0.5
baz=94
KURK Kurchatov 93.69 321 P **P** 09 53 39.9 -0.6
comp=Z,782nm,1.5s,SNR=67
KURK Kurchatov 93.69 321 *e*P **P** 09 53 39.0 -1.5
KURK 09 57 25.6
KURK pmax pmax
comp=Z,542nm,1.4s
KURK MLR MLR
comp=Z,70µm,19.0s
KURK Kurchatov 93.69 321 P **P** 09 53 39.1 -1.5
SNR=192
KURK Kurchatov 93.69 321 *e*P **P** 09 53 39.0 -1.5
comp=Z,542nm,1.4s
KURK PP **PP** 09 57 25.6 -0.7
KURK PKiKP **PKiKP** 09 58 25.6 -0.1
KURK LR LR
comp=Z,70µm,19.0s
KURBB Kurchatov Arra 93.73 321 P **P** 09 53 39.2 -1.5
comp=Z,64nm,0.8s,baz=104,slow=3.5,SNR=135
KURBB PP **PP** 09 57 25.6 -1.0
comp=Z,20nm,1.0s,baz=96,slow=7.5,SNR=6.4
KURBB PKiKP **PKiKP** 09 58 25.6 -0.2
comp=Z,11nm,0.8s,baz=116,slow=1.5,SNR=5.0
BGU Big Grassy Mou 93.92 49 *e*P **P** 09 53 42.6 +0.5
comp=Z,453nm,1.3s
BGU *e*PP **PP** 09 57 28.7 +0.1
DUG Dugway, Tooele 93.95 50 *e*P **P** 09 53 42.6 +0.4
DUG MLR MLR
comp=Z,35µm,19.0s
DUG Dugway, Tooele 93.95 50 ⇑P **P** 09 53 43.0 +0.8
baz=94
DUG Dugway, Tooele 93.95 50 *e*P **P** 09 53 42.6 +0.4
comp=Z,5µm,0.8s
DUG LR LR
comp=Z,35µm,19.0s
X16A Lo Mia Camp, P 93.96 56 ⇓P **P** 09 53 43.4 +1.0
baz=94,SNR=46
MVU Marysvale 94.09 52 *e*P **P** 09 53 44.5 +1.5
comp=Z,399nm,1.6s
TUC Tucson 94.12 58 *e*P **P** 09 53 43.8 +0.7
TUC *e* 09 57 27.1
TUC pmax pmax
comp=Z,114nm,0.9s
TUC MLR MLR
comp=Z,34µm,19.0s
TUC Tucson 94.12 58 *e*P **P** 09 53 43.8 +0.7
comp=Z,114nm,0.9s
TUC *e*PP **PP** 09 57 27.1 -3.2
TUC LR LR
comp=Z,34µm,19.0s
TKM2 Tokmak 2 94.13 313 *e*P **P** 09 53 41.7 -1.4
TKM2 pmax pmax
comp=Z,279nm,1.6s
TKM2 MLR MLR
comp=Z,31µm,21.0s
TKM2 Tokmak 2 94.13 313 *e*P **P** 09 53 41.7 -1.4

comp=Z,279nm,1.6s
TKM2 ePKPdf **PKiKP** 09 58 30.0 +2.9
TKM2 LR LR
comp=Z,31µm,21.0s
WUAZ **Wupatki** 94.21 55 ⇑P **P** 09 53 44.7 +1.2
baz=94,SNR=31
WUAZ **Wupatki** 94.21 55 eP **P** 09 53 44.3 +0.7
comp=Z,89nm,0.8s
WUAZ ePP **PP** 09 57 30.4 -0.6
WUAZ LR LR
comp=Z,122µm,21.0s
MSO **Missoula** 94.41 43 ⇓P **P** 09 53 44.8 +0.6
baz=94,SNR=47
NLU **North Lily Min** 94.46 50 eP **P** 09 53 45.3 +0.7
comp=Z,180nm,1.3s
MCMT **McKenzie Canyo** 94.78 45 eP **P** 09 53 46.7 +0.6
comp=Z,160nm,1.3s
SLMT **Seeley Lake** 94.79 43 eP **P** 09 53 44.9 -1.0
comp=Z,138nm,1.0s
MPU **Maple Canyon** 94.81 50 eP **P** 09 53 47.2 +1.0
comp=Z,502nm,1.7s
FRU **Bishkek** 94.82 313 i P **P** 09 53 44.0 -2.0
FRU pmax pmax
comp=Z,290nm,2.0s
CTU **Camp Tracy** 94.84 50 eP **P** 09 53 46.8 +0.5
comp=Z,173nm,1.3s
WALA **Waterton Lakes** 94.86 41 eP **P** 09 53 46.3 +0.1
comp=Z,455nm,1.4s
AAK **Ala-Archa** 94.88 312 P **P** 09 53 45.9 -0.5
comp=Z,303nm,1.4s,SNR=18
AAK **Ala-Archa** 94.88 312 c iP **P** 09 53 45.6 -0.8
AAK pmax pmax
comp=Z,161nm,1.5s
AAK **Ala-Archa** 94.88 312 P **P** 09 53 45.7 -0.8
comp=Z,7.7nm,1.0s,baz=88,slow=4.5,SNR=32
AAK **Ala-Archa** 94.88 312 P **P** 09 53 46.1 -0.4
SNR=48
AAK **Ala-Archa** 94.88 312 eP **P** 09 53 45.4 -1.0
comp=Z,101nm,1.4s
AAK ePKPdf **PKKPdf** 10 10 43.5 -0.5
AAK LR LR
comp=Z,30µm,20.0s
CHMT **Chamberlain Mo** 94.89 43 eP **P** 09 53 45.9 -0.6
comp=Z,587nm,1.3s
TMUT **Trail Mountain** 95.00 51 eP **P** 09 53 48.6 +1.3
comp=Z,122nm,1.0s
CRZF **Crozet Islands** 95.08 221 P P 09 53 36.0 -11
CRZF PP **PP** 09 57 35.0 -1.8
CRZF S **SKSac** 10 04 19.0 +0.6
CRZF SS SS 10 10 54.0 -30
CRZF L L 10 18 00.0
CRZF R 10 25 00.0
HWUT **Hardware Ranch** 95.14 49 eP **P** 09 53 47.5 -0.1
comp=Z,480nm,2.0s
HWUT LR LR
comp=Z,46µm,21.0s
DAU **Daniels Canyon** 95.16 50 eP **P** 09 53 48.5 +0.5
DAU **Daniels Canyon** 95.16 50 eP **P** 09 53 48.5 +0.5
comp=Z,28nm,1.9s
TCUT **Toone Canyon** 95.17 49 eP **P** 09 53 49.0 +1.1
comp=Z,138nm,0.9s
X18A **Snowflake** 95.19 56 ⇑P **P** 09 53 49.0 +0.9
baz=95,SNR=143
319A **Douglas** 95.22 59 ⇓P **P** 09 53 48.8 +0.6
baz=95
LRM **Limekiln Ridge** 95.24 44 eP **P** 09 53 48.2 +0.1
comp=Z,2µm,1.3s
EKS2 **Erkin-Say** 95.40 312 eP **P** 09 53 47.9 -0.9
EKS2 pmax pmax
comp=Z,91nm,1.3s
EKS2 MLR MLR
comp=Z,35µm,21.0s
EKS2 **Erkin-Say** 95.40 312 eP **P** 09 53 47.9 -0.9
comp=Z,91nm,1.3s
EKS2 LR LR
comp=Z,35µm,21.0s
W18A **Petrified Fore** 95.46 55 ⇑P **P** 09 53 50.2 +0.9
baz=96,SNR=40
W18A **Petrified Fore** 95.46 55 eP **P** 09 53 50.4 +1.1
comp=Z,217nm,0.9s
SRU **San Rafael Swe** 95.50 51 eP **P** 09 53 49.6 +0.2
SRU pmax pmax
comp=Z,221nm,1.2s
SRU **San Rafael Swe** 95.50 51 eP **P** 09 53 49.6 +0.2
comp=Z,221nm,1.2s
BHJ **Bhuj** 95.61 293 eP **P** 09 53 49.0 -1.0
AHID **Auburn Hatcher** 95.67 48 eP **P** 09 53 50.9 +0.8
comp=Z,422nm,1.9s
AHID ePP **PP** 09 57 44.6 +2.4
AHID LR LR
comp=Z,51µm,20.0s
BOZ **Bozeman (W)** 95.78 45 eP **P** 09 53 50.9 +0.5
BOZ pmax pmax
comp=Z,273nm,1.4s
BOZ MLR MLR
comp=Z,38µm,19.0s
BOZ **Bozeman (W)** 95.78 45 eP **P** 09 53 50.9 +0.5
comp=Z,273nm,1.4s
BOZ LR LR
comp=Z,38µm,19.0s
QLMT **Earthquake Lak** 95.78 46 eP **P** 09 53 51.6 +1.1
comp=Z,31nm,1.2s
QLMT ePP **PP** 09 57 44.7 +1.7
HRY **Holter Researc** 95.82 44 eP **P** 09 53 50.7 +0.2
comp=Z,103nm,0.9s
NVL **N'lazarevskaya** 95.87 190 ⇑ i P **P** 09 53 47.7 -2.5
NVL e 09 57 39.7
NVL pmax pmax
comp=Z,91nm,1.0s
EDM **Edmonton** 95.97 37 eP **P** 09 53 50.3 -0.7
EDM **Edmonton** 95.97 37 eP **P** 09 53 50.2 -0.7
YMR **Madison River** 96.08 46 eP **P** 09 53 53.1 +1.1
comp=Z,295nm,1.2s
YFT **Old Faithful** 96.14 46 eP **P** 09 53 54.8 +2.5
comp=Z,191nm,1.2s
I17A **Pilgrim Ck.** 96.23 47 ⇑P **P** 09 53 53.7 +1.1
baz=96,SNR=80
YNR **Norris Junctio** 96.29 46 eP **P** 09 53 55.2 +2.3
comp=Z,176nm,1.3s
H17A **Grant Village** 96.31 46 ⇓P **P** 09 53 55.0 +1.9
baz=96,SNR=104
H17A **Grant Village** 96.31 46 eP **P** 09 53 55.1 +2.0
comp=Z,158nm,1.1s
LKWY **Lake** 96.46 46 eP **P** 09 53 55.5 +1.8
LKWY pmax pmax
comp=Z,103nm,1.1s
LKWY MLR MLR
comp=Z,69µm,19.0s
LKWY **Lake** 96.46 46 eP **P** 09 53 55.5 +1.8
comp=Z,103nm,1.1s
LKWY LR LR
comp=Z,69µm,19.0s
PV10 **Paradox Valley** 96.53 52 eP **P** 09 53 54.7 +0.5
comp=Z,1µm,0.8s
121A **Cookes Peak, D** 96.66 58 ⇑P **P** 09 53 55.3 +0.5
baz=97,SNR=43
121A **Cookes Peak, D** 96.66 58 eP **P** 09 53 54.8 0.0
comp=Z,256nm,1.5s
MVCO **Mesa Verde** 96.78 54 ⇑P **P** 09 53 56.0 +0.7
baz=97,SNR=35
MVCO **Mesa Verde** 96.78 54 eP **P** 09 53 56.0 +0.7
comp=Z,4µm,1.4s
MVCO ePP **PP** 09 57 52.0 +1.1
MVCO LR LR
comp=Z,126µm,21.0s
BW06 **Boulder Array** 96.79 48 eP **P** 09 53 54.7 -0.6
comp=Z,76nm,1.2s
BW06 ePP **PP** 09 57 49.8 -1.1
BW06 LR LR
comp=Z,46µm,20.0s
PDAR **Pinedale Array** 96.79 48 P **P** 09 53 55.1 -0.1
comp=Z,30nm,1.0s,baz=246,slow=1.6,SNR=60
PDAR PP **PP** 09 57 52.4 +1.4
comp=Z,28nm,1.2s,baz=267,slow=6.4,SNR=3.2
PDAR PKKPbc PKKPbc 10 10 31.4 -7.4
comp=Z,2.9nm,0.8s,baz=105,slow=5.2,SNR=5.5
PDAR PKPPKP **P'P'df** 10 18 46.9 -4.2
comp=Z,2.9nm,1.1s,baz=84,slow=2.7,SNR=6.7
PDAR LR LR 10 32 06.3
comp=Z,37µm,20.2s,baz=288,slow=32
PV01 **Paradox Valley** 96.86 53 eP **P** 09 53 56.2 +0.6
comp=Z,4µm,1.3s
SNAA **Sanae** 96.89 185 P **P** 09 53 54.4 -0.5
comp=Z,72nm,1.2s,baz=178,slow=3.8,SNR=5.5
YKA **Yellowknife Ar** 96.95 28 P **P** 09 53 54.1 -1.0
comp=Z,54nm,0.8s,baz=258,slow=4.7,SNR=245
YKA PP **PP** 09 57 48.8 -2.4
comp=Z,13nm,1.1s,baz=262,slow=7.2,SNR=4.2
YKA PKKPbc **PKKPbc** 10 10 33.7 -5.1
comp=Z,1.8nm,0.7s,baz=76,slow=2.7,SNR=9.9
YKA PKPPKP **P'P'df** 10 18 46.7 -2.1
comp=Z,2.1nm,1.1s,baz=96,slow=2.0,SNR=6.0
H18A **Shoshone NF, C** 97.00 46 ⇑P **P** 09 53 55.7 -0.4
baz=97,SNR=50
GCMT **Griffi** 97.16 45 eP Pdif 09 53 57.5 +0.8
comp=Z,519nm,0.6s
GCMT ePP **PP** 09 57 56.0 +2.4
J19A **Crowheart** 97.23 47 ⇑P Pdif 09 53 57.3 +0.1
baz=97,SNR=18
PMSA **Palmer Station** 97.26 162 PFAKE 09 54 10.0 +13
PMSA LR LR
comp=Z,42µm,19.0s
RLMT **Red Lodge** 97.34 46 eP Pdif 09 53 58.4 +0.6
comp=Z,89nm,0.6s
RLMT ePP **PP** 09 57 58.6 +3.5
RLMT LR LR
comp=Z,49µm,19.0s
I19A **Meeteetse** 97.38 47 ⇑P **P** 09 53 57.8 0.0
baz=98,SNR=35
O20A **White River Ci** 97.39 51 ⇑P **P** 09 53 58.0 0.0
baz=98,SNR=22
O20A **White River Ci** 97.39 51 eP Pdif 09 53 58.8 +0.7
comp=Z,241nm,1.5s
EGMT **Eagleton** 97.41 43 ⇑P Pdif 09 53 58.6 +0.8
baz=98,SNR=211
EGMT **Eagleton** 97.41 43 eP **P** 09 53 57.8 0.0
comp=Z,437nm,1.1s
EGMT LR LR
comp=Z,43µm,20.0s
LAZ **Ladron** 97.47 56 eP Pdif 09 53 59.2 +0.7
comp=Z,41nm,1.1s
H19A **Powell** 97.47 46 ⇓P Pdif 09 53 58.9 +0.7
baz=98,SNR=54
N20A **Spruce Gulch,** 97.48 50 ⇑P Pdif 09 53 59.1 +0.6
baz=98,SNR=24
LENM **Lemitar** 97.57 57 eP Pdif 09 53 59.5 +0.5
comp=Z,39nm,0.9s
Y22D **IRIS PASSCAL I** 97.60 57 ⇓P Pdif 09 54 00.2 +1.1
baz=98,SNR=16
F19A **Roth Farm, Mol** 97.67 45 ⇓P Pdif 09 53 59.8 +0.8
baz=98,SNR=72
VNA3 **Neumayer Olymp** 97.78 183 P **P** 09 53 58.0 -0.9
VNA3 **Neumayer Olymp** 97.78 183 PKiKP PKiKP 09 58 41.2 +8.8
KBL **Kabul** 97.84 304 eP **P** 09 53 58.6 -1.5
KBL pmax pmax
comp=Z,146nm,1.4s
KBL **Kabul** 97.84 304 eP **P** 09 53 58.5 -1.5
comp=Z,146nm,1.4s
C19A **Slack Wire Ran** 97.84 43 ⇑P Pdif 09 54 00.2 +0.5
baz=98,SNR=117
KKAR **Karatay Array** 97.84 312 eP **P** 09 53 58.6 -1.1
KKAR pmax pmax
comp=Z,19nm,0.8s
KKAR **Karatay Array** 97.84 312 eP **P** 09 53 58.6 -1.1
comp=Z,19nm,0.8s
KKAR ePKPdf **PKiKP** 09 58 38.5 +5.2
E19A **Rath Farm, Rou** 97.86 44 ⇑P Pdif 09 54 00.1 +0.3
baz=98,SNR=268
D19A **Cripps Ranch,** 97.88 44 ⇓P Pdif 09 54 00.4 +0.5
baz=98,SNR=191
J20A **Shoshoni** 97.94 47 ⇑P **P** 09 54 00.3 0.0
baz=98,SNR=25
VNA2 **Neumayer--Watz** 97.97 184 P **P** 09 53 59.1 -0.6
baz=163,slow=4.2
VNA2 **Neumayer--Watz** 97.97 184 PKiKP **PKiKP** 09 58 36.5 +3.7
baz=70,slow=0.6
I20A **Worland** 97.99 47 ⇓P Pdif 09 54 00.8 +0.3
baz=98,SNR=18
B19A **Brinkman Farms** 98.01 42 ⇓P Pdif 09 54 00.9 +0.5
baz=98,SNR=146
G20A **Bridger** 98.09 46 ⇑P **P** 09 54 00.8 -0.1
baz=98,SNR=47
ANMO **Albuquerque** 98.10 56 c iP **P** 09 53 59.3 -2.0
ANMO pmax pmax
comp=Z,142nm,1.2s
ANMO MLR MLR
comp=Z,47µm,19.0s
ANMO **Albuquerque** 98.10 56 eP **P** 09 54 01.1 -0.1
comp=Z,100nm,1.1s
ANMO ePP **PP** 09 57 59.3 -1.8
ANMO LR LR
comp=Z,43µm,22.0s
H20A **Greybull** 98.15 46 ⇑P Pdif 09 54 01.5 +0.3
baz=98,SNR=23
S22A **4UR Ranch, Cre** 98.17 53 ⇓P **P** 09 54 00.9 -0.7
baz=98,SNR=38
A19A **Klindworth Far** 98.20 42 ⇓P Pdif 09 54 01.4 +0.2
baz=98,SNR=142
F20A **Billings** 98.21 45 ⇓P Pdif 09 54 02.0 +0.6
baz=98,SNR=48
VNA1 **Neumayer--Stat** 98.29 184 P **P** 09 54 00.9 -0.2
VNA1 **Neumayer--Stat** 98.29 184 PKiKP PKiKP 09 58 40.5 +7.2
E20A **Meyer Farm, Mu** 98.31 44 ⇑P Pdif 09 54 02.6 +0.8
baz=98,SNR=321
D20A **Manuel Ranch,** 98.38 44 ⇓P Pdif 09 54 02.4 +0.3
baz=98,SNR=151
J21A **Lysite** 98.41 47 ⇑P **P** 09 54 01.8 -0.6
baz=98,SNR=103
P22A **Eagle** 98.45 51 ⇓P **P** 09 54 02.6 -0.3
baz=98,SNR=28
K21A **Alcova** 98.46 48 ⇑P **P** 09 54 02.4 -0.3
baz=98,SNR=33
C20A **Veseth Ranch,** 98.54 43 ⇑P Pdif 09 54 02.9 +0.2
baz=99,SNR=128
MNTX **Cornudas Mount** 98.56 59 ⇑P Pdif 09 54 03.2 0.0
baz=99,SNR=60
I21A **Big Trails, Te** 98.57 47 ⇑P Pdif 09 54 03.2 +0.1
baz=99,SNR=35
B20A **Solberg Farm,** 98.61 42 ⇑P **P** 09 54 02.9 -0.2
baz=99,SNR=24
O22A **Kremmling** 98.69 51 ⇓P **P** 09 54 03.8 -0.2
baz=99,SNR=24
T23A **Casias Ranch,** 98.70 54 ⇑P Pdif 09 54 04.2 +0.1
baz=99,SNR=34
A20A **Cobblestone Ra** 98.73 42 ⇓P Pdif 09 54 03.8 +0.2
baz=99,SNR=120
M22A **Cedar Creek Ra** 98.80 50 ⇓P **P** 09 54 03.9 -0.4
baz=99,SNR=8.8
G21A **Lodge Grass** 98.80 46 ⇑P Pdif 09 54 05.3 +1.3
baz=99,SNR=25
S23A **Nye Farm, Mont** 98.81 53 ⇑P **P** 09 54 04.5 0.0
baz=99
N22A **Wattenberg Ran** 98.83 50 ⇑P **P** 09 54 03.7 -0.8
baz=99,SNR=8.9
H21A **Big Horn, Sher** 98.85 46 ⇑P **P** 09 54 03.9 -0.4
baz=99,SNR=22
F21A **Absaloka Mine,** 98.92 45 ⇓P Pdif 09 54 04.6 +0.1
baz=99,SNR=16
L22A **Ellis Ranch, M** 98.99 49 ⇓P **P** 09 54 04.6 -0.5
baz=99,SNR=7.8
K22A **Casper** 99.00 48 ⇑P **P** 09 54 04.9 -0.1
baz=99,SNR=14
K22A **Casper** 99.00 48 eP **P** 09 54 04.9 -0.1
comp=Z,178nm,1.5s
K22A ePP **PP** 09 58 09.0 +1.3
R23A **Moffat** 99.01 53 ⇑P **Pdif** 09 54 04.8 -0.6
baz=99
E21A **Keefer Ranch,** 99.04 44 ⇓P **Pdif** 09 54 04.8 -0.2
baz=99,SNR=60
Q23A **Hartsel** 99.08 52 ⇑P **Pdif** 09 54 05.2 -0.5
baz=99
BVAR **Borovoye Array** 99.10 322 P **Pdif** 09 54 03.4 -1.6
comp=Z,28nm,0.8s,baz=114,slow=3.6,SNR=77
BVAR PP **PP** 09 58 03.0 -5.0
comp=Z,25nm,1.0s,baz=87,slow=8.0,SNR=3.8
J22A **Midwest** 99.11 48 ⇑P **Pdif** 09 54 05.8 +0.2
baz=99,SNR=57
P23A **Jefferson** 99.14 52 ⇓P **Pdif** 09 54 05.3 -0.7
baz=99,SNR=23
D21A **La Casta Ranch** 99.15 44 ⇓P **Pdif** 09 54 05.5 0.0
baz=99,SNR=28
I22A **9 Mile Ranch,** 99.16 47 ⇑P **Pdif** 09 54 05.6 -0.2
baz=99,SNR=38
O23A **Lake Granby, G** 99.17 51 ⇑P **Pdif** 09 54 05.8 -0.2
baz=99,SNR=21
SDCO **Great Sand Dun** 99.21 53 ⇑P **Pdif** 09 54 06.0 -0.3
baz=99,SNR=26
T24B **San Luis** 99.23 54 ⇑P **Pdif** 09 54 06.1 -0.3
baz=99,SNR=24
N23A **Red Feather La** 99.23 50 ⇓P **Pdif** 09 54 05.7 -0.6
baz=99,SNR=21
U24A **Moreno Valley** 99.23 55 ⇑P **Pdif** 09 54 05.5 -1.0
baz=99,SNR=44
B21A **Ellsworth Farm** 99.28 42 ⇑P **Pdif** 09 54 06.1 +0.1
baz=99,SNR=107
H22A **Clearmont** 99.33 46 ⇓P **Pdif** 09 54 07.2 +0.7
baz=99,SNR=24
ISCO **Idaho Springs** 99.36 51 eP **Pdif** 09 54 07.1 +0.2
ISCO e 09 58 11.4
ISCO pmax pmax
comp=Z,109nm,0.7s
ISCO MLR MLR
comp=Z,91µm,20.0s
ISCO **Idaho Springs** 99.36 51 ⇓P **Pdif** 09 54 07.1 +0.2
baz=99,SNR=5.4
ISCO **Idaho Springs** 99.36 51 eP **Pdif** 09 54 07.1 +0.2
comp=Z,109nm,0.7s
ISCO ePP **PP** 09 58 11.4 +0.7
ISCO LR LR
comp=Z,91µm,20.0s
A21A **Bergtoll Ranch** 99.40 42 ⇑P **Pdif** 09 54 06.0 -0.6
baz=100,SNR=192
S24A **Houchin Ranch,** 99.43 53 ⇓P **Pdif** 09 54 06.5 -0.7
baz=100,SNR=28
G22A **Birney** 99.44 46 ⇓P **Pdif** 09 54 07.9 +1.0
baz=100,SNR=29
M23A **Laramie** 99.46 50 ⇑P **Pdif** 09 54 07.8 +0.6
baz=100
F22A **Rosebud** 99.52 45 ⇓P **Pdif** 09 54 08.0 +0.8
baz=100,SNR=61
L23A **Garrett** 99.54 49 ⇓P **Pdif** 09 54 07.7 +0.1
baz=100,SNR=19
R24A **Sanders Place,** 99.58 53 ⇑P **Pdif** 09 54 08.5 +0.7
baz=100,SNR=16
Q24A **Divide** 99.62 52 ⇑P **Pdif** 09 54 08.7 +0.5
baz=100,SNR=20
LAO **LASA Array** 99.64 44 eP **Pdif** 09 54 08.4 +0.7
comp=Z,452nm,1.1s
LAO LR LR
comp=Z,29µm,19.0s
K23A **Bowen Ranch, D** 99.67 48 ⇑P **Pdif** 09 54 08.6 +0.6
baz=100
D22A **Cohagen** 99.71 44 ⇓P **Pdif** 09 54 08.8 +0.9
baz=100,SNR=104
TXAR **Lajitas Array** 99.73 62 P **Pdif** 09 54 08.6 0.0
comp=Z,5.7nm,0.8s,baz=235,slow=5.0,SNR=25
TXAR PP **PP** 09 58 13.7 +0.1
comp=Z,11nm,1.1s,baz=246,slow=5.3,SNR=5.7
TXAR PKKPbc **PKKPbc** 10 10 31.5 +1.6
comp=Z,11nm,0.6s,baz=106,slow=3.7,SNR=20
TXAR PKPPKP **P'P'df** 10 18 44.5 -1.9
comp=Z,6.9nm,1.2s,baz=85,slow=2.6,SNR=7.6
TXAR LR LR 10 30 25.4
comp=Z,61µm,21.9s,baz=0.0,slow=30
J23A **Dilts Ranch, B** 99.78 48 ⇓P **Pdif** 09 54 08.1 -0.4
baz=100
E22A **Miles City** 99.80 44 ⇑P **Pdif** 09 54 08.2 -0.2
baz=100,SNR=70
O24A **Longmont** 99.81 51 ⇑P **Pdif** 09 54 08.4 -0.3
baz=100
P24A **Kohler Place,** 99.87 52 ⇑P **Pdif** 09 54 08.7 -0.4
baz=100
I23A **Meade Ranch, G** 99.90 47 ⇓P **Pdif** 09 54 08.6 -0.4
baz=100
U25A **Circle Dot Ran** 99.93 55 ⇓P **Pdif** 09 54 08.6 -0.8
baz=100,SNR=49
B22A **Reddig Ranch S** 99.94 43 ⇑P **Pdif** 09 54 09.0 0.0
baz=100,SNR=36
C22A **Vida** 99.97 43 ⇑P **Pdif** 09 54 08.7 -0.4
baz=100,SNR=26
H23A **Clabaugh Cattl** 100.01 46 ⇓P **Pdif** 09 54 09.9 +0.5
baz=100
T25A **Trinidad** 100.01 54 ⇑P **Pdif** 09 54 09.3 -0.4
baz=100,SNR=36
N24A **Carr** 100.02 50 ⇓P **Pdif** 09 54 10.2 +0.5
baz=100
S25A **Robets Cordova** 100.04 53 ⇓P **Pdif** 09 54 10.3 +0.4
baz=100,SNR=64
A22A **Carney Farms,** 100.06 42 ⇓P **Pdif** 09 54 09.7 +0.2
baz=100,SNR=136
G23A **Biddle** 100.07 46 ⇓P **Pdif** 09 54 09.8 +0.1
baz=100,SNR=51
L24A **Wheatland** 100.10 49 ⇓P **Pdif** 09 54 10.2 +0.2
baz=100
F23A **Volborg** 100.11 45 ⇑P **Pdif** 09 54 10.2 +0.4
baz=100,SNR=68
M24A **Cheyenne** 100.13 50 ⇓P **Pdif** 09 54 11.1 +0.9
baz=100
RER **Riviere de l'E** 100.15 246 PFAKE 09 54 20.0 +9.4
RER LR LR
comp=Z,41µm,20.0s
R25A **Fountain Ranch** 100.21 53 ⇑P **Pdif** 09 54 10.9 +0.3
baz=100,SNR=15
E23A **Ismay** 100.25 44 ⇑P **Pdif** 09 54 11.2 +0.8
baz=100,SNR=70
K24A **Anderson Ranch** 100.25 48 ⇓P **Pdif** 09 54 11.3 +0.6
baz=100
Q25A **Bedland, Calha** 100.32 52 ⇓P **Pdif** 09 54 10.9 -0.2
baz=100,SNR=44
V26A **Tequesquite Ra** 100.36 55 ⇑P **Pdif** 09 54 10.7 -0.6
baz=100,SNR=27
D23A **Lindsay** 100.38 44 ⇑P **Pdif** 09 54 12.0 +1.0
baz=100,SNR=102
J24A **Dixon Ranch, L** 100.42 48 ⇑P **Pdif** 09 54 12.0 +0.7
baz=100,SNR=6.0
P25A **Willow Gulch B** 100.44 52 ⇓P **Pdif** 09 54 12.1 +0.5
baz=100,SNR=10
C23A **Lambert** 100.44 43 ⇑P **Pdif** 09 54 12.1 +0.9
baz=100,SNR=65
U26A **Atchley Ranch,** 100.46 55 ⇑P **Pdif** 09 54 12.1 +0.3
baz=100,SNR=41
I24A **Kuemmerle Ranc** 100.50 47 ⇑P **Pdif** 09 54 11.9 +0.2
baz=101
O25A **Wiggins** 100.53 51 ⇓P **Pdif** 09 54 12.3 +0.3
baz=101
N25A **Grover** 100.62 50 ⇓P **Pdif** 09 54 12.7 +0.3
baz=101
B23A **Brockton** 100.62 43 ⇑P **Pdif** 09 54 12.9 +0.9
baz=101,SNR=63
H24A **Dirks Ranch, A** 100.62 46 ⇓P **Pdif** 09 54 12.5 +0.3
baz=101,SNR=29
T26A **Comanche Natio** 100.66 54 ⇓P **Pdif** 09 54 13.1 +0.4
baz=101,SNR=20
M25A **Palm-Egli Farm** 100.70 50 ⇓P **Pdif** 09 54 12.7 0.0
baz=101
A23A **Redstone** 100.74 42 ⇑P **Pdif** 09 54 13.0 +0.5
baz=101,SNR=11
G24A **Alzada** 100.77 46 ⇓P **Pdif** 09 54 13.1 +0.3
baz=101,SNR=18
F24A **Ekalaka** 100.79 45 ⇓P **Pdif** 09 54 13.6 +0.7
baz=101,SNR=27
S26A **Kim** 100.80 54 ⇑P **Pdif** 09 54 12.6 -0.6
baz=101,SNR=64
L25A **Engebretsen Ra** 100.83 49 ⇑P **Pdif** 09 54 12.8 -0.4
baz=101
R26A **Arlington** 100.88 53 ⇓P **Pdif** 09 54 13.6 +0.1
baz=101,SNR=70
Q26A **Hugo** 100.88 52 ⇓P **Pdif** 09 54 13.8 +0.3
baz=101,SNR=30
C24A **Savage** 100.93 43 ⇑P **Pdif** 09 54 14.2 +0.8
baz=101,SNR=38
K25A **Mack Ranch, Ha** 100.94 49 ⇓P **Pdif** 09 54 14.1 +0.4
baz=101
E24A **Baker** 100.94 44 ⇑P **Pdif** 09 54 14.1 +0.6
baz=101,SNR=49
RSSD **Black Hills** 100.94 47 eP **Pdif** 09 54 14.1 +0.3
RSSD pmax pmax
comp=Z,177nm,1.6s
RSSD **Black Hills** 100.94 47 ePdif **Pdif** 09 54 14.1 +0.3
comp=Z,177nm,1.6s
228A **UT Block 9, Go** 100.97 59 ⇑P **Pdif** 09 54 14.0 0.0
baz=101
D24A **Glendive** 100.97 44 ⇑P **Pdif** 09 54 14.6 +1.0
baz=101,SNR=38
MSTX **Muleshoe** 101.01 57 ⇑P **Pdif** 09 54 14.6 +0.4
baz=101,SNR=26
MSTX **Muleshoe** 101.01 57 ePdif **Pdif** 09 54 13.8 -0.3
comp=Z,34nm,0.8s
MSTX ePP **PP** 09 58 24.4 +1.2
J25A **Sunshine Ranch** 101.05 48 ⇓P **Pdif** 09 54 14.6 +0.5
baz=101,SNR=16
529A **Stev Forest Ra** 101.07 61 ⇓P **Pdif** 09 54 14.1 -0.4
baz=101,SNR=19
P26A **Davis Ranch, A** 101.07 52 ⇑P **Pdif** 09 54 15.1 +0.7
baz=101,SNR=8.0
128A **Castleberry Fa** 101.11 59 ⇓P **Pdif** 09 54 14.2 -0.4
baz=101,SNR=12
V27A **Dan Oppiter Fa** 101.13 56 ⇓P **Pdif** 09 54 14.5 -0.2
baz=101
DGMT **Dagmar** 101.15 43 ⇓P **Pdif** 09 54 15.4 +1.1
baz=101,SNR=61
DGMT **Dagmar** 101.15 43 ePdif **Pdif** 09 54 14.5 +0.1
comp=Z,334nm,1.1s

DGMT LR LR
comp=Z,48µm,20.0s
I25A Rochford 101.15 47 ⇑P Pdif 09 54 14.6 -0.1
baz=101,SNR=8.7
O26A Horse Wrangler 101.16 51 ⇓P Pdif 09 54 15.3 +0.6
baz=101
U27A Thompson Grove 101.20 55 ⇑P Pdif 09 54 15.2 +0.3
baz=101,SNR=20
S27A Las Animas 101.26 54 ⇑P Pdif 09 54 15.1 -0.1
baz=101
Z28A Tucker Farm, M 101.26 58 ⇑P Pdif 09 54 14.7 -0.6
baz=101
N26A Koester Ranch, 101.28 50 ⇓P Pdif 09 54 14.9 -0.3
baz=101
H25A Fruitdale 101.29 46 ⇑P Pdif 09 54 15.9 +0.7
baz=101,SNR=62
A24A Westby 101.31 42 ⇓P Pdif 09 54 15.5 +0.5
baz=101,SNR=56
T27A Campo 101.34 54 ⇑P Pdif 09 54 15.7 +0.1
baz=101,SNR=26
M26A McRoberts Ranc 101.39 50 ⇑P Pdif 09 54 16.1 +0.4
baz=102
R27A Eads 101.39 53 ⇓P Pdif 09 54 15.4 -0.3
baz=102,SNR=24
429A Davenport Ranc 101.41 61 ⇑P Pdif 09 54 15.5 -0.4
baz=102,SNR=16
329A Wagon Wheel Ra 101.42 60 ⇓P Pdif 09 54 16.2 +0.2
baz=102,SNR=6.4
Y28A McKinney Farm, 101.44 57 ⇓P Pdif 09 54 15.7 -0.4
baz=102
K26A Motz Farm, Whi 101.46 48 ⇑P Pdif 09 54 15.9 0.0
baz=102
G25A Newell 101.46 46 ⇑P Pdif 09 54 16.2 +0.3
baz=102,SNR=28
L26A Underwood Farm 101.48 49 ⇑P Pdif 09 54 16.3 +0.2
baz=102
F25A Bowman 101.48 45 ⇓P Pdif 09 54 16.1 +0.1
baz=102,SNR=28
X28A Dimmitt 101.53 57 ⇑P Pdif 09 54 16.3 -0.2
baz=102
E25A Miller Ranch, 101.56 45 ⇑P Pdif 09 54 16.2 -0.1
baz=102,SNR=33
J26A Sides Ranch, S 101.58 48 ⇓P Pdif 09 54 16.3 -0.2
baz=102,SNR=43
KSCO Kaye Shedlock' 101.58 52 ⇓P Pdif 09 54 16.3 -0.3
baz=102,SNR=7.4
KSCO Kaye Shedlock' 101.58 52 ePdif Pdif 09 54 18.2 +1.6
comp=Z,83nm,1.3s
KSCO ePP PP 09 58 26.9 -0.5
W28A Vega 101.59 56 ⇑P Pdif 09 54 16.6 -0.2
baz=102
229A Bryant Ranch, 101.61 59 ⇓P Pdif 09 54 16.4 -0.4
baz=102
V28A Channing 101.62 56 ⇑P Pdif 09 54 16.7 -0.2
baz=102
129A Stewart Farms, 101.63 59 ⇑P Pdif 09 54 17.2 +0.2
baz=102
D25A Fairfield 101.66 44 ⇑P Pdif 09 54 16.2 -0.5
baz=102,SNR=34
P27A Ficken Ranch, 101.67 52 ⇑P Pdif 09 54 16.7 -0.3
baz=102,SNR=7.2
U28A Mallet 101.68 55 ⇓P Pdif 09 54 17.4 +0.3
baz=102
C25A Freed Ranch, W 101.73 43 ⇑P Pdif 09 54 18.0 +1.0
baz=102,SNR=53
I26A New Underwood 101.78 47 ⇓P Pdif 09 54 18.0 +0.7
baz=102,SNR=45
O27A Beecher Island 101.79 51 ⇑P Pdif 09 54 17.6 +0.2
baz=102
N27A Anderson Farm, 101.79 50 ⇓P Pdif 09 54 17.6 +0.2
baz=102
Z29A Hungry Hill Ra 101.82 58 ⇑P Pdif 09 54 14.5 -3.2
baz=102
B25A Knox Farm, Ray 101.83 43 ⇓P Pdif 09 54 18.4 +1.1
baz=102,SNR=71
T28A Walsh 101.83 54 ⇑P Pdif 09 54 18.2 +0.5
baz=102,SNR=28
530A J-C Ranch, Com 101.83 61 ⇓P Pdif 09 54 17.9 0.0
baz=102
H26A Fairpoint 101.88 47 ⇑P Pdif 09 54 18.4 +0.7
baz=102,SNR=6.8
A25A Svangstu Ranch 101.90 42 ⇑P Pdif 09 54 18.5 +0.9
baz=102,SNR=61
Y29A Porterfield Fa 101.91 58 ⇓P Pdif 09 54 18.0 -0.2
baz=102,SNR=32
X29A Tulia 101.94 57 ⇑P Pdif 09 54 18.3 0.0
baz=102,SNR=26
M27A Reverse DX Ran 101.96 50 ⇑P Pdif 09 54 18.6 +0.4
baz=102
430A Baggett Ranch, 101.99 61 ⇑P Pdif 09 54 18.5 0.0
baz=102
AMTX Amarillo 101.99 57 ⇑P Pdif 09 54 18.8 +0.3
baz=102
AMTX Amarillo 101.99 57 ePdif Pdif 09 54 18.2 -0.3
comp=Z,108nm,0.9s
F26A Lodgepole 102.03 45 ⇓P Pdif 09 54 18.7 +0.3
baz=102,SNR=39
W29A Amarillo 102.04 56 ⇓P Pdif 09 54 18.5 -0.2
baz=102
S28A Manter 102.04 54 ⇑P Pdif 09 54 19.0 +0.3
baz=102,SNR=18
G26A Maurine 102.05 46 ⇑P Pdif 09 54 19.4 +1.0
baz=102,SNR=52
L27A T5 Ranch, Ells 102.05 49 ⇑P Pdif 09 54 18.6 0.0
baz=102
330A Mertzon 102.10 60 ⇓P Pdif 09 54 19.3 +0.3
baz=102
K27A Flueckinger Fa 102.15 49 ⇓P Pdif 09 54 18.4 -0.6
baz=102,SNR=8.7
R28A Tribune 102.17 53 ⇑P Pdif 09 54 19.7 +0.5
baz=102,SNR=16
OGNE Ogallala 102.18 50 ⇑P Pdif 09 54 19.8 +0.6
baz=102
OGNE Ogallala 102.18 50 PFAKE 09 54 30.0 +11
OGNE LR LR
comp=Z,80µm,20.0s
230A Sterling City 102.20 60 ⇓P Pdif 09 54 19.8 +0.4
baz=102
V29A Stinnett 102.20 56 ⇑P Pdif 09 54 19.5 +0.1
baz=102
Q28A Sharon Springs 102.21 52 ⇑P Pdif 09 54 20.2 +0.8
baz=102,SNR=5.8
E26A Carlson Angus 102.21 45 ⇓P Pdif 09 54 20.0 +0.9
baz=102,SNR=43
D26A Manning 102.25 44 ⇓P Pdif 09 54 19.0 -0.2
baz=102,SNR=25
P28A Saint Francis 102.30 52 ⇑P Pdif 09 54 19.5 -0.3
baz=102
Z30A Sanderson Ranc 102.31 58 ⇓P Pdif 09 54 19.5 -0.4
baz=102,SNR=11
O28A Krutsinger Ran 102.33 51 ⇑P Pdif 09 54 20.2 +0.4
baz=102
J27A Elkhorn Farm, 102.35 48 ⇓P Pdif 09 54 19.9 0.0
baz=102
I27A Quinn 102.36 47 ⇓P Pdif 09 54 20.4 +0.5
baz=102,SNR=40
H27A Howes 102.38 47 ⇓P Pdif 09 54 20.4 +0.5
baz=102,SNR=58
130A Snyder 102.39 59 ⇑P Pdif 09 54 20.1 -0.2
baz=102
USHA Ushuaia 102.39 153 P Pdif 09 54 21.5 +1.8
comp=Z,12nm,1.0s,baz=173,slow=11,SNR=2.5
631A Perdido Creek 102.42 62 ⇓P Pdif 09 54 20.2 -0.2
baz=102,SNR=17
B26A Jensen Ranch, 102.45 43 ⇑P Pdif 09 54 21.0 +0.8
baz=102
U29A Oasis Ranch, S 102.45 55 ⇓P Pdif 09 54 20.0 -0.5
baz=102
F27A Lemmon 102.48 45 ⇑P Pdif 09 54 20.7 +0.3
baz=102,SNR=45
T29A Hugoton 102.49 54 ⇑P Pdif 09 54 20.9 +0.3
baz=103,SNR=20
431A Sonora 102.51 61 ⇓P Pdif 09 54 21.3 +0.4
baz=103,SNR=6.0
531A Rocksprings 102.52 61 ⇑P Pdif 09 54 21.4 +0.5
baz=103,SNR=8.5
G27A Dupree 102.52 46 ⇑P Pdif 09 54 21.1 +0.5
baz=103,SNR=36
C26A Wahner Farm, P 102.52 43 ⇑P Pdif 09 54 19.8 -0.7
baz=103,SNR=69
N28A Pribbeno Ranch 102.54 51 ⇑P Pdif 09 54 20.7 -0.1
baz=103
Y30A Stafford Cattl 102.55 58 ⇓P Pdif 09 54 21.6 +0.7
baz=103
A26A Wade Farm, Ken 102.60 42 ⇑P Pdif 09 54 21.4 +0.6
baz=103,SNR=30
X30A Coker Ranch, T 102.62 57 ⇑P Pdif 09 54 21.9 +0.7
baz=103,SNR=17
S29A Ulysses 102.66 54 ⇑P Pdif 09 54 21.9 +0.5
baz=103
R29A Marienthal 102.70 53 ⇓P Pdif 09 54 22.3 +0.8
baz=103
M28A Bar X Bar Ranc 102.71 50 ⇓P Pdif 09 54 22.3 +0.8
baz=103
331A San Angelo 102.73 60 ⇑P Pdif 09 54 21.2 -0.6
baz=103
K28A Ten Mile Ranch 102.79 49 ⇑P Pdif 09 54 21.6 -0.2
baz=103
FFC Flin Flon 102.79 36 eP Pdif 09 54 20.2 -1.2
FFC e 09 58 36.6
FFC pmax pmax
comp=Z,50nm,1.3s
FFC MLR MLR
comp=Z,41µm,20.0s
FFC Flin Flon 102.79 36 ePdif Pdif 09 54 20.2 -1.2
comp=Z,50nm,1.3s
FFC ePP PP 09 58 36.5 +0.7
FFC ePKKPbc PKKPbc 10 10 17.3 -4.6
FFC LR LR
comp=Z,41µm,20.0s
E27A Carson 102.83 45 ⇓P Pdif 09 54 22.0 +0.1
baz=103,SNR=50
832A Faith Ranch, C 102.84 63 ⇑P Pdif 09 54 21.2 -1.0
baz=103
Q29A Oakley 102.86 52 ⇓P Pdif 09 54 21.9 -0.3
baz=103,SNR=20
V30A Spur Ranch, Mi 102.87 56 ⇓P Pdif 09 54 22.4 +0.1
baz=103
231A Bronte 102.88 60 ⇓P Pdif 09 54 22.2 -0.2
baz=103
131A Roby 102.88 59 ⇑P Pdif 09 54 22.2 -0.2
baz=103
D27A Center 102.88 44 ⇓P Pdif 09 54 22.6 +0.6
baz=103,SNR=6.2
732A Laxson Ranch, 102.88 63 ⇑P Pdif 09 54 23.1 +0.7
baz=103
C27A Sayler Ranch, 102.92 43 ⇓P Pdif 09 54 23.0 +0.8
baz=103,SNR=43
W30A Crocket Farms 102.92 56 ⇑P Pdif 09 54 23.1 +0.5
baz=103
J28A Allard Ranch, 102.92 48 ⇑P Pdif 09 54 22.8 +0.4
baz=103,SNR=21
P29A Atwood 102.94 52 ⇓P Pdif 09 54 22.5 0.0
baz=103,SNR=12
U30A WK&E Inc. Balk 102.96 55 ⇑P Pdif 09 54 22.6 -0.1
baz=103
I28A Midland 103.00 47 ⇑P Pdif 09 54 23.2 +0.5
baz=103,SNR=19
532A Rocksprings 103.07 61 ⇓P Pdif 09 54 23.1 -0.2
baz=103
O29A 4D Ranch, Culb 103.07 51 ⇑P Pdif 09 54 23.5 +0.4
baz=103
Y31A Rekieta Farm, 103.08 58 ⇓P Pdif 09 54 23.8 +0.5
baz=103
T30A Plains 103.09 54 ⇓P Pdif 09 54 23.4 +0.2
baz=103
B27A Peters Farms, 103.10 43 ⇓P Pdif 09 54 23.5 +0.5
baz=103,SNR=19
632A Uvalde 103.12 62 ⇑P Pdif 09 54 23.6 +0.1
baz=103,SNR=6.3
A27A Ledoux Ranch, 103.13 42 ⇑P Pdif 09 54 23.1 0.0
baz=103,SNR=30
Z31A Sharp Cattle R 103.13 58 ⇑P Pdif 09 54 23.9 +0.4
baz=103,SNR=14
H28A Mission Ridge 103.13 47 ⇑P Pdif 09 54 23.5 +0.3
baz=103,SNR=11
S30A Montezuma 103.18 54 ⇑P Pdif 09 54 24.1 +0.5
baz=103,SNR=25
JCT Junction City 103.19 61 eP Pdif 09 54 23.0 -0.8
JCT e 09 58 38.1
JCT pmax pmax
comp=Z,30nm,1.0s
JCT MLR MLR
comp=Z,77µm,22.0s
JCT Junction City 103.19 61 ⇑P Pdif 09 54 23.6 -0.3
baz=103
JCT Junction City 103.19 61 ePdif Pdif 09 54 23.0 -0.8
comp=Z,30nm,1.0s
JCT ePP PP 09 58 38.0 -1.5
JCT LR LR
comp=Z,77µm,22.0s
G28A Parade 103.22 46 ⇓P Pdif 09 54 24.3 +0.7
baz=103,SNR=33
M29A Burnside Ranch 103.23 50 ⇑P Pdif 09 54 24.6 +0.8
baz=103
432A Menard 103.23 61 ⇓P Pdif 09 54 23.8 -0.3
baz=103,SNR=12
N29A Votaw Ranch, W 103.24 51 ⇑P Pdif 09 54 24.1 +0.2
baz=103
332A Millersview 103.32 60 ⇓P Pdif 09 54 24.1 -0.2
baz=103,SNR=9.9
F28A McLaughlin 103.33 45 ⇑P Pdif 09 54 24.6 +0.5
baz=103,SNR=42
833A Chaparral WMA, 103.35 63 ⇑P Pdif 09 54 24.3 -0.2
baz=103
R30A Dighton 103.37 53 ⇑P Pdif 09 54 24.7 +0.2
baz=103,SNR=7.1
X31A McDonald Ranch 103.37 57 ⇑P Pdif 09 54 24.8 +0.3
baz=103,SNR=18
933A Laredo 103.39 64 ⇑P Pdif 09 54 24.9 +0.1
baz=104,SNR=5.4
L29A Massberg Ranch 103.41 49 ⇓P Pdif 09 54 24.9 +0.3
baz=104
E28A Huff 103.43 45 ⇑P Pdif 09 54 24.8 +0.3
baz=104,SNR=27
W31A Holland Ranch, 103.44 56 ⇑P Pdif 09 54 25.4 +0.5
baz=104,SNR=8.9
232A Coleman 103.44 60 ⇓P Pdif 09 54 24.9 0.0
baz=104
Q30A Quinter 103.45 52 ⇑P Pdif 09 54 25.4 +0.6
baz=104
P30A Selden 103.46 52 ⇑P Pdif 09 54 25.4 +0.5
baz=104,SNR=8.8
733A Divot King Ran 103.47 63 ⇓P Pdif 09 54 25.1 0.0
baz=104,SNR=13
ABTX Abilene, Hawle 103.50 59 ⇑P Pdif 09 54 25.3 +0.1
baz=104
ABTX Abilene, Hawle 103.50 59 ePdif Pdif 09 54 25.6 +0.4
comp=Z,100nm,1.4s
ABTX ePP PP 09 58 42.6 +0.8
D28A Regan 103.53 44 ⇓P Pdif 09 54 25.5 +0.6
baz=104,SNR=23
V31A Spring Creek L 103.56 56 ⇓P Pdif 09 54 25.5 +0.1
baz=104,SNR=26
K29A Lazy Trails An 103.56 49 ⇑P Pdif 09 54 25.6 +0.4
baz=104,SNR=17
J29A Okreek 103.58 48 ⇑P Pdif 09 54 25.6 +0.3
baz=104,SNR=23
U31A Nine Bar Ranch 103.59 55 ⇑P Pdif 09 54 25.3 -0.2
baz=104
I29A Vivian Onida 103.62 47 ⇑P Pdif 09 54 25.5 0.0
baz=104,SNR=27
N30A Hueftle Ranch, 103.64 51 ⇓P Pdif 09 54 25.7 +0.1
baz=104
633A Saathoff Ranch 103.64 62 ⇓P Pdif 09 54 25.4 -0.5
baz=104
O30A MW Ranch, Wils 103.64 51 ⇓P Pdif 09 54 25.6 -0.1
baz=104
C28A Hausauer Farms 103.67 43 ⇑P Pdif 09 54 26.1 +0.5
baz=104,SNR=28
Z32A Haskell 103.69 58 ⇑P Pdif 09 54 25.9 0.0
baz=104,SNR=18
B28A Dugan Ranch, T 103.70 43 ⇓P Pdif 09 54 26.2 +0.5
baz=104,SNR=56
H29A Onida 103.71 47 ⇓P Pdif 09 54 25.6 -0.2
baz=104,SNR=8.7
Y32A R-V Farms, Ver 103.77 58 ⇓P Pdif 09 54 26.1 -0.2
baz=104,SNR=15
A28A Rude Farm, Bot 103.77 42 ⇓P Pdif 09 54 26.3 +0.3
baz=104,SNR=45
T31A Randall Ranch, 103.77 54 ⇑P Pdif 09 54 26.8 +0.5
baz=104,SNR=6.5
533A Kerrville 103.81 62 ⇑P Pdif 09 54 26.3 -0.3
baz=104
433A Art 103.82 61 ⇑P Pdif 09 54 26.8 +0.1
baz=104,SNR=9.3
034A Hebbronville 103.86 65 ⇓P Pdif 09 54 27.0 +0.2
baz=104
X32A Elmer 103.92 57 ⇑P Pdif 09 54 27.1 +0.2
baz=104
G29A Hoven 103.93 46 ⇓P Pdif 09 54 27.0 +0.2
baz=104
S31A Mullinville 103.96 54 ⇓P Pdif 09 54 27.4 +0.3
baz=104,SNR=6.5
R31A Burdett 103.96 53 ⇓P Pdif 09 54 27.4 +0.3
baz=104
333A Richland Sprin 103.96 60 ⇓P Pdif 09 54 27.4 +0.2
baz=104
W32A Sentinel 104.00 56 ⇓P Pdif 09 54 27.6 +0.3
baz=104,SNR=15
F29A Eureka 104.01 45 ⇑P Pdif 09 54 27.9 +0.8
baz=104,SNR=23
934A Benavides 104.06 64 ⇓P Pdif 09 54 28.0 +0.3
baz=104
834A Tilden 104.07 64 ⇑P Pdif 09 54 27.8 +0.1
baz=104
K30A Basset 104.08 49 ⇑P Pdif 09 54 28.1 +0.6
baz=104
233A Rising Star 104.08 60 ⇑P Pdif 09 54 28.1 +0.3
baz=104,SNR=6.5
Q31A Ellis 104.10 52 ⇓P Pdif 09 54 28.0 +0.4
baz=104
133A Hamilton Ranch 104.11 59 ⇑P Pdif 09 54 28.4 +0.6
baz=104
734A La Parita Cree 104.13 63 ⇑P Pdif 09 54 28.5 +0.5
baz=104
P31A Stockton 104.13 52 ⇓P Pdif 09 54 28.1 +0.3
baz=104
RES Resolute Bay 104.15 15 PKKPbc PKKPbc 10 10 15.3 -3.0
comp=Z,8.2nm,0.8s,baz=129,slow=4.2,SNR=10
E29A Napoleon 104.16 45 ⇓P Pdif 09 54 28.5 +0.8
baz=104
J30A Dallas 104.19 48 ⇓P Pdif 09 54 28.4 +0.4
baz=104,SNR=20
D29A Pettibone, Tap 104.20 44 ⇑P Pdif 09 54 28.5 +0.6
baz=104,SNR=20
O31A Woolen Ranch, 104.20 51 ⇑P Pdif 09 54 28.3 +0.2
baz=104
MDND Maddock 104.20 43 ⇓P Pdif 09 54 28.1 +0.2
baz=104,SNR=20
MDND Maddock 104.20 43 ePdif Pdif 09 54 28.4 +0.5
comp=Z,164nm,1.4s
MDND ePP PKiKP 09 58 41.6 -3.0
V32A Arapaho 104.20 56 ⇓P Pdif 09 54 28.6 +0.4
baz=104
I30A Oacoma 104.25 47 ⇑P Pdif 09 54 28.1 -0.1
baz=104
U32A Winter Ranch, 104.27 55 ⇑P Pdif 09 54 28.2 -0.4
baz=104
Z33A Whitaker Ranch 104.28 58 ⇑P Pdif 09 54 28.3 -0.3
baz=104,SNR=14
534A Blanco 104.30 62 ⇑P Pdif 09 54 28.3 -0.5
baz=104
634A China Grove, S 104.35 62 ⇑P Pdif 09 54 28.7 -0.3
baz=104
035Z Hargill 104.36 65 ⇓P Pdif 09 54 29.1 +0.1
baz=104
WMOK Wichita Mounta 104.36 57 eP Pdif 09 54 30.6 +1.6
WMOK pmax pmax
comp=Z,19nm,1.4s
WMOK MLR MLR
comp=Z,47µm,20.0s
WMOK Wichita Mounta 104.36 57 ePdif Pdif 09 54 30.6 +1.6
comp=Z,19nm,1.4s
WMOK LR LR
comp=Z,47µm,20.0s
035A Encino 104.37 65 ⇑P Pdif 09 54 29.3 +0.2
baz=104
B29A Wagenman Farm, 104.37 43 ⇑P Pdif 09 54 28.5 -0.1
baz=104,SNR=6.4
T32A Huddler Ranch, 104.38 54 ⇑P Pdif 09 54 29.4 +0.4
baz=104
S32A Newby Ranch, P 104.39 54 ⇑P Pdif 09 54 29.3 +0.3
baz=104
MSEY Mahe Island 104.44 262 PFAKE 09 54 40.0 +10
MSEY LR LR
comp=Z,43µm,19.0s
Y33A Hilltop Ranch, 104.44 58 ⇑P Pdif 09 54 29.8 +0.5
baz=104
A29A Manning Farm, 104.45 42 ⇓P Pdif 09 54 29.8 +0.8
baz=104,SNR=44
G30A Faulkton 104.48 46 ⇑P Pdif 09 54 29.7 +0.5
baz=104,SNR=8.0
M31A Lambtecht Ranc 104.51 50 ⇑P Pdif 09 54 29.8 +0.3
baz=105
N31A Bailey Ranch, 104.51 51 ⇓P Pdif 09 54 29.4 -0.1
baz=105
434A Burnet 104.53 61 ⇑P Pdif 09 54 30.2 +0.4
baz=105,SNR=7.3
F30A Leola 104.57 45 ⇓P Pdif 09 54 30.2 +0.6
baz=105
X33A Lawton 104.58 57 ⇑P Pdif 09 54 30.1 +0.2
baz=105
334A Lometa 104.59 60 ⇓P Pdif 09 54 29.7 -0.4
baz=105,SNR=9.2
BRSD Miller 104.60 47 ⇑P Pdif 09 54 29.8 0.0
baz=105,SNR=6.4
BRSD Miller 104.60 47 ePdif Pdif 09 54 30.5 +0.7
comp=Z,174nm,1.4s
BRSD ePP PP 09 58 48.7 -0.9
R32A Long Quarter, 104.60 53 ⇓P Pdif 09 54 29.5 -0.4
baz=105
KVTX Kingsville 104.61 64 PFAKE 09 54 40.0 +10
KVTX LR LR
comp=Z,22µm,22.0s
L31A Butterfield Fa 104.64 49 ⇓P Pdif 09 54 30.5 +0.5
baz=105
W33A Caddo, Fort Co 104.64 56 ⇑P Pdif 09 54 30.3 +0.2
baz=105
E30A Jud 104.66 45 ⇓P Pdif 09 54 30.4 +0.5
baz=105,SNR=15
835A Beeville 104.72 64 ⇑P Pdif 09 54 30.2 -0.4
baz=105
234A Clairette 104.73 60 ⇓P Pdif 09 54 30.5 -0.1
baz=105
P32A Huiting Farm, 104.74 52 ⇓P Pdif 09 54 30.7 +0.2
baz=105,SNR=16
Q32A Meitler Ranch, 104.75 52 ⇑P Pdif 09 54 31.0 +0.5
baz=105
D30A Buchanan 104.77 44 ⇓P Pdif 09 54 31.1 +0.7
baz=105,SNR=40
735A Kenedy 104.78 63 ⇑P Pdif 09 54 31.0 +0.1
baz=105
134A White-Moore Ra 104.81 59 ⇑P Pdif 09 54 31.1 +0.1
baz=105
V33A Lossen Ranch, 104.82 56 ⇑P Pdif 09 54 31.5 +0.5
baz=105
SVE Sverdlovsk 104.83 326 deP Pdif 09 54 28.9 -1.5
SVE eS SKSac 10 05 04.0 -1.8
SVE e 10 07 52.6
SVE eSS SS 10 13 36.0 -4.0
SVE pmax pmax
comp=Z,55nm,1.5s
635A Leesville 104.86 62 ⇑P Pdif 09 54 31.3 +0.1
baz=105
T33A Patterson Ranc 104.92 54 ⇓P Pdif 09 54 31.6 +0.3
baz=105
C30A Mose, Pekin 104.96 43 ⇑P Pdif 09 54 31.3 0.0
baz=105
U33A Lingo Farm, Me 104.99 55 ⇑P PKiKP 09 58 47.2 +0.8
baz=105
Z34A Collier Ranch, 105.00 58 ⇓P PKiKP 09 58 46.6 +0.1
baz=105
N32A Stulken Farm, 105.01 51 ⇑P PKiKP 09 58 46.7 +0.4
baz=105
O32A Brockman Farm, 105.01 51 ⇓P PKiKP 09 58 47.0 +0.7
baz=105
B30A Myrvik Farm, E 105.06 43 ⇓P PKiKP 09 58 46.8 +0.7
baz=105
A30A Hoffart Farm, 105.07 42 ⇑P PKiKP 09 58 46.8 +0.7
baz=105
535A Dale 105.08 62 ⇓P PKiKP 09 58 45.9 -0.8
baz=105
936A North Padre Is 105.11 64 ⇓P PKiKP 09 58 46.6 -0.2
baz=105
435B Jarrell 105.12 61 ⇑P PKiKP 09 58 46.8 0.0
baz=105
S33A Kaszmaul Farm, 105.13 54 ⇑P PKiKP 09 58 47.3 +0.7
baz=105
BGNE Belgrade 105.13 50 ⇑P PKiKP 09 58 46.9 +0.4
baz=105
BGNE Belgrade 105.13 50 ePdif Pdif 09 54 34.9 +2.7
comp=Z,48nm,0.9s
BGNE ePKPdf PKiKP 09 58 43.7 -2.8
X34A Smith Ranch, M 105.13 57 ⇑P PKiKP 09 58 47.3 +0.6
baz=105
Y34A Reagan Ranch, 105.16 58 ⇓P PKiKP 09 58 47.5 +0.8
baz=105
R33A Olander Ranch, 105.17 53 ⇓P PKiKP 09 58 46.9 +0.2
baz=105
W34A Bridge Creek, 105.21 56 ⇑P PKiKP 09 58 47.2 +0.3
baz=105
W34A Bridge Creek, 105.21 56 ePdif Pdif 09 54 33.7 +1.0
comp=Z,25nm,1.1s

IMYA **Miami** 105.27 305 *e*P **Pdif** 09 54 32.9 -0.2
335A **Moody** 105.28 60 ⇓P **PKiKP** 09 58 47.6 +0.5
baz=105
WHTX **Lake Whitney,** 105.30 60 ⇑P **PKiKP** 09 58 47.6 +0.5
baz=105
WHTX **Lake Whitney,** 105.30 60 *e*PKPdf **PKiKP** 09 58 47.0 -0.1
WHTX *e*PP **PP** 09 58 58.3 +3.0
Q33A **Connelly Farm,** 105.31 52 ⇓P **PKiKP** 09 58 47.6 +0.7
baz=105
135A **Vickery Place,** 105.38 59 ⇓P **PKiKP** 09 58 47.8 +0.6
baz=105
P33A **Williams Farm,** 105.43 52 ⇓P **PKiKP** 09 58 47.9 +0.8
baz=106
V34A **Guthrie** 105.45 56 ⇑P **PKiKP** 09 58 47.5 +0.2
baz=106
U34A **Anderson Ranch** 105.46 55 ⇑P **PKiKP** 09 58 47.9 +0.6
baz=106
U34A **Anderson Ranch** 105.46 55 *e*Pdif **Pdif** 09 54 35.0 +1.2
comp=Z,35nm,1.0s
U34A *e*PP **PP** 09 58 57.0 +0.7
636A **Smothers Creek** 105.48 62 ⇑P **PKiKP** 09 58 48.6 +1.2
baz=106
ABKAR **Akbulak array** 105.52 318 *e*Pdif **Pdif** 09 54 31.8 -1.8
comp=Z,13nm,0.8s
ABKAR *e*PKPdf **PKiKP** 09 58 46.9 0.0
536A **Bastrop** 105.52 62 ⇓P **PKiKP** 09 58 48.1 +0.6
baz=106
Z35A **Perchaven, San** 105.55 58 ⇓P **PKiKP** 09 58 48.7 +1.2
baz=106
ISRO **Mashad** 105.77 305 *e*P **Pdif** 09 54 34.3 -1.0
336A **Riesel** 105.79 60 ⇑P **PKiKP** 09 58 48.8 +0.8
baz=106
436A **Wall Ranch, Ga** 105.79 61 ⇑P **PKiKP** 09 58 47.9 -0.1
baz=106
S34A **Willow Spring** 105.84 54 ⇓P **PKiKP** 09 58 49.8 +1.9
baz=106
IMOG **Moghan** 105.87 305 *e*P **Pdif** 09 54 34.6 -1.4
V35A **Meyer Ranch, C** 106.00 56 ⇓P **PKiKP** 09 58 49.2 +0.9
baz=106
ARU **Arti** 106.00 326*c* *i*P **Pdif** 09 54 33.4 -2.2
ARU S **SKSac** 10 05 08.7 -2.3
ARU PS PS 10 08 07.7 -10
ARU pmax pmax
comp=Z,34nm,1.7s
ARU MLR MLR
comp=Z,47µm,20.0s
ARU **Arti** 106.00 326 *e*Pdif **Pdif** 09 54 33.2 -2.5
comp=Z,62nm,1.3s
ARU *e*PKPdf **PKiKP** 09 58 48.0 +0.4
ARU *e*PKKPbc **PKKPbc** 10 10 10.4 -1.8
ARU LR LR
comp=Z,50µm,20.0s
IPAY **Payeh** 106.16 305 *e*P **Pdif** 09 54 36.6 -0.6
537A **Green Hill Far** 106.17 62 ⇓P **PKiKP** 09 58 49.4 +0.7
baz=106
KSU1 **Kansas State U** 106.27 52 ⇓P **PKiKP** 09 58 49.0 +0.3
baz=106
KSU1 **Kansas State U** 106.27 52 *e*Pdif **Pdif** 09 54 39.1 +1.8
KSU1 LR LR
comp=Z,120µm,20.0s
ECSD **EROS Data Cent** 106.29 48 ⇑P **PKiKP** 09 58 49.8 +1.3
baz=106
ECSD **EROS Data Cent** 106.29 48 *e*Pdif **Pdif** 09 54 38.0 +0.7
comp=Z,93nm,1.4s
ECSD LR LR
comp=Z,72µm,20.0s
S35A **Otter Creek Ra** 106.47 54 ⇓P **PKiKP** 09 58 51.3 +2.2
baz=106
IKRD **Kardeh** 106.56 305 *e*P **Pdif** 09 54 35.7 -3.3
HKT **Hockley** 106.58 62 *e*P **Pdif** 09 54 39.6 +0.9
HKT *e* 09 59 02.7
HKT pmax pmax
comp=Z,90nm,1.9s
HKT **Hockley** 106.58 62 *e*Pdif **Pdif** 09 54 39.6 +0.9
comp=Z,90nm,1.9s
HKT *e*PP **PP** 09 59 02.7 -1.9
337A **Centerville** 106.60 61 ⇓P PKiKP 09 58 55.8 +6.3
baz=107
ULM **Lac du Bonnet** 106.61 41 Pdiff **Pdif** 09 54 37.5 -1.0
comp=Z,42nm,1.0s,baz=284,slow=5.6,SNR=24
ULM PKPPKP **P'P'df** 10 18 27.6 -3.9
comp=Z,1.4nm,0.6s,baz=148,slow=6.5,SNR=3.3
SOKR **Solikamsk** 106.63 329*c* *i*P **Pdif** 09 54 36.4 -1.9
SOKR 09 59 10.2
SOKR 10 05 21.4
SOKR PS **PS** 10 08 27.0 +2.9
SOKR SS SS 10 14 06.2 +2.0
237A **Washetta, Mont** 106.70 60 ⇓P **PKiKP** 09 58 54.0 +4.4
baz=107
AGMN **Agassiz Nation** 106.70 43 ⇓P PKiKP 09 58 54.4 +5.2
baz=107
AGMN **Agassiz Nation** 106.70 43 *e*Pdif **Pdif** 09 54 37.5 -1.4
comp=Z,21nm,1.2s
AGMN *e*PKPdf **PKiKP** 09 58 51.5 +2.3
AGMN LR LR
comp=Z,52µm,20.0s
AKTO **Aktyubinsk** 106.72 319 Pdiff **Pdif** 09 54 37.1 -1.9
comp=Z,5.3nm,0.9s,baz=84,slow=5.2,SNR=16
AKTO PKiKP **PKiKP** 09 58 49.4 +0.3
comp=Z,40nm,1.0s,baz=95,slow=3.6,SNR=7.5
AKTO PKKPbc **PKKPbc** 10 10 07.8 -2.0
comp=Z,12nm,1.0s,baz=294,slow=1.6,SNR=9.3
137A **Heron Place, G** 106.77 59 ⇑P **PKiKP** 09 58 49.4 -0.3
baz=107
TUL1 **Leonard** 106.85 56 ⇑P **PKiKP** 09 58 53.8 +4.0
baz=107
TUL1 **Leonard** 106.85 56 *e*Pdif **Pdif** 09 54 40.7 +0.7
comp=Z,18nm,1.0s
TUL1 *e*PP **PP** 09 59 06.3 -0.2
538A **Harpers Horsep** 106.89 62 ⇑P **PKiKP** 09 58 54.7 +4.7
baz=107
GEYT **Allbeck** 106.90 306 Pdiff **Pdif** 09 54 40.3 +0.1
comp=Z,1.6nm,0.5s,baz=347,slow=4.6,SNR=9.9
GEYT PKiKP **PKiKP** 09 58 51.0 +1.1
comp=Z,26nm,0.8s,baz=232,slow=1.7,SNR=10
GEYT PKKPbc **PKKPbc** 10 10 06.7 -2.2
comp=Z,7.6nm,0.8s,baz=270,slow=4.4,SNR=6.0
438A **Sam Houston St** 106.93 61 ⇓P **PKiKP** 09 58 49.5 -0.6
baz=107
ISFR **Sfrayin** 106.98 305 *e*P **Pdif** 09 54 40.2 -0.6
S36A **Lake Cedric, C** 107.05 54 ⇓P PKiKP 09 58 57.1 +7.0
baz=107
338A **Crockett** 107.10 60 ⇑P **PKiKP** 09 58 54.4 +4.0
baz=107
R36A **Gordon, Harris** 107.12 53 ⇑P **PKiKP** 09 58 53.5 +3.2
baz=107
238A **Jacksonville** 107.29 60 ⇑P **PKiKP** 09 58 53.3 +2.6
baz=107
138A **Matatall Enter** 107.34 59 ⇓P PKiKP 09 58 57.6 +6.7
baz=107
R37A **Teagarden Farm** 107.65 53 ⇑P **PKiKP** 09 58 55.2 +4.0
baz=108
NATX **Nacogdoches** 107.67 60 PFAKE 09 59 00.0
NATX LR LR
comp=Z,81µm,20.0s
339A **Huntington** 107.74 61 ⇑P **PKiKP** 09 58 53.2 +1.6
baz=108
239A **Gary** 107.84 60 ⇓P **PKiKP** 09 58 53.7 +1.9
baz=108
Q37A **Longview Farm,** 107.95 53 ⇑P **PKiKP** 09 58 55.5 +3.7
baz=108
BANOM **Banah** 107.99 294 ⇑P **Pdif** 09 54 43.8 -1.5
HATD **Hatta, Dubai** 108.07 293 ⇓P **Pdif** 09 54 44.2 -1.4
PAYG **Puerto Ayora** 108.07 94 PFAKE 09 59 00.0
PAYG LR LR
comp=Z,18µm,19.0s
ASHO **Ashiyiah** 108.12 292 ⇑P **Pdif** 09 54 44.7 -1.2
340A **Bronson** 108.31 60 ⇑P **PKiKP** 09 58 56.5 +3.8
baz=108
ABPO **Ambohimpanom** 108.42 246 *e*PKPdf **PKiKP** 09 58 52.3 -1.2
ABPO LR LR
comp=Z,38µm,20.0s
FAQ **Al Faqa, Dubai** 108.55 293 ⇑P **Pdif** 09 54 46.4 -1.3
OPO **Ambohidratompo** 108.60 246 PKiKP **PKiKP** 09 58 54.1 +0.3
comp=Z,49nm,1.3s,baz=93,slow=11,SNR=6.3
OPO PKKPbc **PKKPbc** 10 10 03.8 +0.7
comp=Z,26nm,1.1s,baz=266,slow=2.6,SNR=9.4
MIAR **Mount Ida** 108.64 57 *e*P **Pdif** 09 54 47.4 -0.5
MIAR *e* 09 59 21.7
MIAR pmax pmax
comp=Z,23nm,1.2s
MIAR MLR MLR
comp=Z,75µm,22.0s
MIAR **Mount Ida** 108.64 57 *e*Pdif **Pdif** 09 54 47.4 -0.5
comp=Z,23nm,1.2s
MIAR *e*PP **PP** 09 59 21.7 +2.0
MIAR LR LR
comp=Z,75µm,22.0s
ASUD **Al Ashush, Dub** 108.78 292 ⇑P **Pdif** 09 54 49.5 +0.8
SCIA **State Center** 108.83 49 *e*Pdif **Pdif** 09 54 49.9 +1.3
comp=Z,71nm,1.4s
SCIA *e*PP **PP** 09 59 22.3 +1.5
SCIA LR LR
comp=Z,79µm,22.0s
SPMN **Marine on St.** 108.96 46 ⇑P PKiKP 09 59 01.8 +8.3
baz=109
SPMN **Marine on St.** 108.96 46 *e*Pdif **Pdif** 09 54 50.4 +1.3
comp=Z,34nm,1.1s
EFI **East Falkland** 109.05 155 *e*PKPdf **PKiKP** 09 58 53.9 +0.5
EFI LR LR
comp=Z,17µm,22.0s
EYMN **Ely** 109.65 43 *e*Pdif **Pdif** 09 54 52.5 +0.4
EYMN LR LR
comp=Z,38µm,20.0s
PLCA **Paso Flores** 109.87 141 PKKPbc PKKPbc 10 09 59.0 -0.6
comp=Z,43nm,1.0s,baz=35,slow=3.2,SNR=16
IANJ **Anjilo** 110.28 304 *e*P **Pdif** 09 54 55.1 -0.4
KBS **Kingsbay** 110.36 354 *e*P **Pdif** 09 54 56.2 +1.6
KBS *e* 09 58 22.3
KBS *i* 10 08 53.8
KBS IVMs_BB IVMs_BB 10 38 00.9
comp=Z,11µm,25.8s
KBS **Kingsbay** 110.36 354 PFAKE 09 59 10.0
KBS LR LR
comp=Z,31µm,22.0s
HOPEN **Hopen** 110.45 350 *e*PP PP 09 59 30.2 -1.1
HOPEN IVMs_BB IVMs_BB 10 49 29.1
comp=Z,15µm,20.3s
HOPEN IAMs_20 IAMs_20 10 49 34.0
comp=Z,49µm,20.1s
SPITS **Spitsbergen Ar** 110.47 353 PKiKP **PKiKP** 09 58 55.7 +0.2
comp=Z,21nm,0.7s,baz=77,slow=5.3,SNR=11
SPITS PKKPbc **PKKPbc** 10 09 56.1 -2.4
comp=Z,26nm,1.1s,baz=158,slow=5.2,SNR=14
ISAD **Sadrabad** 110.48 300 *e*P **Pdif** 09 54 53.9 -2.6
ISHM **Shahmirzad** 110.78 304 *e*P **Pdif** 09 54 56.4 -1.4
JFWS **Jewell Farm** 110.96 48 *e*P **Pdif** 09 55 00.1 +2.0
JFWS MLR MLR
comp=Z,26µm,20.0s
JFWS **Jewell Farm** 110.96 48 *e*Pdif **Pdif** 09 55 00.1 +2.0
JFWS LR LR
comp=Z,26µm,20.0s
COWI **Conover** 111.44 45 *e*Pdif **Pdif** 09 55 01.0 +0.9
HSPB **Hornsund (broa** 111.53 352 *e*P **Pdif** 09 54 59.4 -0.4
HSPB *e* 09 58 24.8
HSPB *e*PP **PP** 09 59 36.8 -2.2
HSPB *i* 10 08 59.2
HSPB *e*SS SS 10 15 10.8 +1.6
HSPB IVMs_BB IVMs_BB 10 39 45.8
comp=Z,11µm,24.1s
GNAR **Gosnell** 111.54 56 *e*PKPdf **PKiKP** 09 58 59.0 +0.4
PRGR **Permogore** 111.57 332 *e*P **Pdif** 09 54 58.4 -1.9
PRGR *e* 09 58 56.1
PRGR pmax pmax
comp=Z,34nm,1.2s
OXF **Oxford** 112.08 57 *e*P **Pdif** 09 55 03.9 +0.7
OXF **Oxford** 112.08 57 *e*Pdif **Pdif** 09 55 03.9 +0.7
SIUC **Southern Illin** 112.10 54 *e*Pdif **Pdif** 09 55 03.8 +0.5
SIUC *e*PP **PP** 09 59 44.7 +0.3
KULLO **Kullorsuaq** 112.80 10 *i* PKiKP PKiKP 09 59 06.0 +6.1
KULLO *i* 09 59 50.1
KULLO MLR MLR
comp=Z,35µm,21.0s
KULLO **Kullorsuaq** 112.80 10 *i* P PKiKP 09 59 06.0 +6.1
KULLO *i* 09 59 50.1
LVZ **Lovozero** 113.30 341 *i* PKiKP **PKiKP** 09 59 00.5 -0.6
LVZ **Lovozero** 113.30 341 *e*PKPdf **PKiKP** 09 58 59.7 -1.4
LVZ LR LR
comp=Z,7µm,22.0s
HOPE **Hope Point** 113.34 169 PFAKE 09 59 10.0
HOPE LR LR
comp=Z,41µm,20.0s
SFIN **Lafayette** 113.54 51 ⇓P **PKiKP** 09 59 05.7 +3.4
baz=114
TMCR **Tamitsa** 113.86 336 *e*P **Pdif** 09 55 08.2 -2.2
TMCR *e* 09 59 52.6
TMCR pmax pmax
comp=Z,28nm,1.3s
APA **Apatity** 113.87 341 ⇓*i*PKiKP **PKiKP** 09 59 02.0 -0.1
APA *i* PS **PS** 10 09 28.0 -5.6
APA *i* SS SS 10 15 48.0 +7.4
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,59µm,21.0s
BLO **Bloomington** 114.10 52 *e*PKIKP PKPdf 09 59 02.0 -1.4
BLO **Bloomington** 114.10 52 *e*PKPdf PKPdf 09 59 02.0 -1.4
LRAL **Lakeview Retre** 114.14 59 *e*PKPdf PKPdf 09 59 02.7 -1.0
BRAL **Brewton** 114.17 61 PFAKE 09 59 20.0 +16
BRAL LR LR
comp=Z,56µm,20.0s
DAG **Danmarks Havn** 114.17 360 *e*PKIKP PKPdf 09 59 03.0 +0.5
DAG *i* 09 59 58.4
DAG pmax pmax
comp=Z,13nm,1.2s
DAG MLR MLR
comp=Z,18µm,19.0s
DAG **Danmarks Havn** 114.17 360 *i* P PKPdf 09 59 03.0 +0.5
comp=Z,8.2nm,1.2s
DAG *i* 09 59 58.4
DAG *i* 10 09 44.6
comp=Z,17µm,19.0s
WCI **Wyandotte Cave** 114.36 53 *e*PKIKP PKPdf 09 59 02.5 -1.5
WCI **Wyandotte Cave** 114.36 53 *e*PKPdf PKPdf 09 59 02.5 -1.5
KEV **Kevo** 114.50 344 *e*PKIKP PKPdf 09 59 02.2 -1.0
KEV MLR MLR
comp=Z,29µm,19.0s
KEV **Kevo** 114.50 344 *e*p PKPdf 09 59 02.4 -0.8
KEV **Kevo** 114.50 344 *e*PKPdf PKPdf 09 59 02.1 -1.1
KEV LR LR
comp=Z,29µm,19.0s
MAK **Makhachkala** 114.66 312 *i* P **Pdif** 09 55 12.5 -2.0
MAK *i* 09 59 03.2
MAK *e* 10 00 02.3
MAK *e*PPP PPP 10 02 26.9
MAK *e* 10 05 50.2
MAK *e*SP SP 10 09 33.4 -1.4
MAK *e*PS **PS** 10 09 42.4 +0.6
MAK pmax pmax
comp=Z,263nm,1.0s
MAK pmax pmax
comp=E,162nm,0.6s
MAK pmax pmax
comp=N,88nm,0.6s
SWET **Sewanee** 114.90 56 *e*PKPdf PKPdf 09 59 07.8 +2.7
SWET *e*PP **PP** 10 00 06.6 +2.1
ARCES **ARCESS Array B** 115.05 344 PKP **PKPdf** 09 59 04.0 -0.4
comp=N,35nm,0.7s,baz=74,slow=1.2,SNR=66
ARCES PKKPbc PKKPbc 10 09 37.4 -5.6
comp=N,16nm,0.9s,baz=348,slow=0.6,SNR=11
JTS **JuntasAbangare** 115.13 84 *i* PKIKP **PKPdf** 09 59 04.9 -1.2
JTS MLR MLR
comp=Z,29µm,17.0s
JTS **JuntasAbangare** 115.13 84 PFAKE 09 59 20.0 +14
JTS LR LR
comp=Z,44µm,20.0s
AAM **Ann Arbor** 115.86 48 *e*PKIKP **PKPdf** 09 59 06.2 -0.5
AAM MLR MLR
comp=Z,81µm,20.0s
AAM **Ann Arbor** 115.86 48 *e*PKPdf **PKPdf** 09 59 06.2 -0.5
AAM LR LR
comp=Z,81µm,20.0s
KTK1 **Kautokeino** 116.00 344 *e* PP 10 00 16.1 +5.3
KTK1 *i* **PKKPbc** 10 09 36.8 -3.0
LCO **Las Campanas** 116.12 130 *e*PKPdf **PKPdf** 09 59 08.2 +0.2
LCO LR LR
comp=Z,21µm,19.0s
DGRG **David-gareji** 116.45 311 P **Pdif** 09 55 27.7 +5.2
DGRG **David-gareji** 116.45 311 P **PKPdf** 09 59 08.7 +0.7
CFAA **Coronel Fontan** 116.56 134 PKP **PKPdf** 09 59 07.8 -0.7
comp=Z,6.5nm,1.1s,baz=249,slow=2.2,SNR=21
CFAA PKKPbc **PKKPbc** 10 09 36.0 -0.8
comp=Z,2.3nm,1.0s,baz=102,slow=1.3,SNR=4.2
TKL **Tuckaleechee C** 116.62 56 *e*PKIKP **PKPdf** 09 59 07.8 -0.6
TKL **Tuckaleechee C** 116.62 56 PKKPbc PKKPbc 10 09 38.9 +2.3
comp=Z,29nm,1.3s,baz=46,slow=4.7,SNR=2.8
TKL **Tuckaleechee C** 116.62 56 *e*PKPdf **PKPdf** 09 59 07.8 -0.6
TKL PKKPbc **PKKPab** 10 09 38.9 -0.9
TRO **Tromso** 116.63 346 *e*PP PP 10 00 13.3 -1.8
TRO *i* 10 09 18.2
TRO IAMs_20 IAMs_20 10 42 43.0
comp=Z,55µm,26.1s
ACSO **Alum Creek Sta** 116.68 50 *e*PKPdf **PKPdf** 09 59 07.7 -0.7
ACSO *e*PP **PP** 10 00 17.1 +0.4
ACSO *e*PKKPbc **PKKPbc** 10 09 34.6 -1.9
ACSO *e*PKKPab **PKKPab** 10 09 40.4 +1.1
ACSO LR LR
comp=Z,92µm,20.0s
TRQA **Tornquist** 116.75 143 *e*PKPdf **PKPdf** 09 59 08.4 -0.2
TRQA *e*PKKPbc **PKKPbc** 10 09 35.5 -0.8
TRQA LR LR
comp=Z,31µm,19.0s
VRHR **Novokhopersk** 116.84 322 *e*PKIKP **PKPdf** 09 59 07.7 -0.6
VRHR *e* 10 00 18.3
VRHR *e*S **SP** 10 09 54.5 +0.5
VRHR pmax pmax
comp=Z,110nm,1.1s
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,5µm,7.5s
VRHR pmax pmax
comp=N,2µm,9.2s
VRHR pmax pmax
comp=E,2µm,9.2s
TBLG **Delisi** 116.88 311 *e*P **PKPdf** 09 59 09.2 +0.5
TBLG **Delisi** 116.88 311 P **Pdif** 09 55 29.5 +5.1
TBLG **Delisi** 116.88 311 P **PKPdf** 09 59 08.7 0.0
GOGA **Godfrey** 117.08 58 *e*PKIKP **PKPdf** 09 59 08.1 -1.2
GOGA MLR MLR
comp=Z,79µm,20.0s
GOGA **Godfrey** 117.08 58 *e*PKPdf **PKPdf** 09 59 08.1 -1.2
GOGA LR LR
comp=Z,79µm,20.0s
JOF **Joensuu** 117.10 337 *e*PKIKP **PKPdf** 09 59 07.7 -0.7
JOF pmax pmax
comp=Z,70nm,0.9s
JOF **Joensuu** 117.10 337 *e*p **PKPdf** 09 59 07.7 -0.7
comp=Z,70nm,0.9s
JOF **Joensuu** 117.10 337 *e*p **PKKPbc** 10 09 32.8 -2.9
TIGA **Tifton** 117.11 60 ⇑P **PKPdf** 09 59 13.2 +3.8
baz=117
TIGA **Tifton** 117.11 60 *e*PKPdf **PKPdf** 09 59 09.6 +0.1
TIGA *e*PP **PP** 10 00 22.1 +2.0
GNI **Garni** 117.13 310 *i* PKIKP **PKPdf** 09 59 08.3 -1.1
GNI **Garni** 117.13 310 PKP **PKPdf** 09 59 09.6 +0.2
comp=Z,72nm,1.1s,baz=154,slow=3.4,SNR=14
GNI PKKPbc **PKKPbc** 10 09 34.2 -0.9
comp=Z,3.0nm,0.3s,baz=39,slow=22,SNR=3.8
GNI **Garni** 117.13 310 PKPdf **PKPdf** 09 59 09.8 +0.4
SNR=16
GNI **Garni** 117.13 310 PKP **PKPdf** 09 59 09.6 +0.2
GNI *e*PKPdf **PKiKP** 09 59 09.9 +0.5
GNI PKKPbc **PKKPbc** 10 09 34.2 -0.9
GNI LR LR
comp=Z,23µm,20.0s
SUMG **Summit** 117.28 7 *i* PKIKP **PKPdf** 09 59 09.2 +0.1
SUMG *i* 10 00 20.0
SUMG *e* 10 09 57.6
SUMG pmax pmax
comp=Z,25nm,1.1s
SUMG MLR MLR
comp=Z,25µm,25.0s
SUMG **Summit** 117.28 7 *e*PKPdf **PKPdf** 09 59 08.8 -0.3
SUMG **Summit** 117.28 7 *i* P **PKPdf** 09 59 09.2 +0.1
comp=Z,25nm,1.1s
SUMG *i* 10 00 20.0
SUMG *e* 10 09 57.6
comp=Z,25µm,24.0s
ZEI **Tsey** 117.30 313 *i* PKIKP **PKPdf** 09 59 08.5 -1.2
ZEI pmax pmax
comp=Z,87nm,1.0s
GOF **Gofitskoye** 117.45 315 *e*PKIKP **PKPdf** 09 59 09.4 -0.3
MOS **Moscow** 117.53 328 *e*P **Pdif** 09 55 23.9 -3.0
MOS *e* 10 00 18.6
MOS *e*PS **PKKPdf** 10 10 02.4 +0.7
MOS *e*PPS PPS 10 11 23.7
MOS MLR MLR
comp=Z,44µm,20.0s
MOS MLR MLR
comp=N,36µm,21.0s
MOS MLR MLR
comp=E,33µm,21.0s
ONI **Oni** 117.66 312 P **Pdif** 09 55 27.4 -0.6
ONI **Oni** 117.66 312 P **PKPdf** 09 59 09.0 -1.3
RAYN **Ar Rayn** 117.72 291 *e*Pdif **Pdif** 09 55 28.5 -0.1
RAYN *e*PKPdf **PKiKP** 09 59 11.0 +0.1
RAYN *e*PP **PP** 10 00 20.7 -3.9
KBZ **Khabaz** 117.83 314 PKP **PKPdf** 09 59 10.6 +0.2
comp=E,22nm,0.8s,baz=73,slow=4.1,SNR=12
KBZ PKKPbc **PKKPbc** 10 09 32.5 +0.1
comp=E,10.0nm,0.9s,baz=209,slow=4.1,SNR=8.0
KBZ PKPPKP **P'P'df** 10 18 09.6 -0.9
comp=E,3.0nm,0.9s,baz=185,slow=6.7,SNR=4.5
AKH **Akhalkalaki** 117.85 311 *e*P **PKPdf** 09 59 11.1 +0.3
AKH **Akhalkalaki** 117.85 311 P **PKPdf** 09 59 11.1 +0.3
CLDR **Caldiran** 117.91 309 *e*P **PKPdf** 09 59 09.5 -1.6
KIV **Kislovodsk** 117.94 314 *i* P **Pdif** 09 55 28.4 -0.8
KIV *i* 09 59 10.4
KIV *e* 10 00 24.2
KIV *e* 10 05 57.7
KIV *e*PS **PS** 10 10 12.9 +1.1
KIV *e*SS SS 10 16 36.4 +0.9
KIV *e*SSS SSS 10 21 01.8
KIV pmax pmax
comp=Z,130nm,1.0s
KIV MLR MLR
comp=Z,30µm,20.0s
KIV **Kislovodsk** 117.94 314 ⇓*i*P **Pdif** 09 55 28.0 -1.1
SNR=20
KIV **Kislovodsk** 117.94 314 PKPdf **PKPdf** 09 59 10.5 -0.2
SNR=19
KIV **Kislovodsk** 117.94 314 *e*PKPdf **PKPdf** 09 59 10.8 0.0
KIV *e*PP **PP** 10 00 25.4 -0.1
KIV *e*PKKPab **PKKPab** 10 09 34.1 +0.3
KIV LR LR
comp=Z,33µm,22.0s
KSD **Kokstad** 117.97 227 P **PKPdf** 09 59 08.1 -3.2
NNA **Nana** 118.05 110 *e*PKIKP **PKPdf** 09 59 11.6 -0.2
NNA MLR MLR
comp=Z,21µm,22.0s
NNA **Nana** 118.05 110 *e*PKPdf **PKPdf** 09 59 11.6 -0.2
NNA LR LR
comp=Z,21µm,22.0s
ATAH **Atahualpa** 118.07 104 PKKPbc PKKPbc 10 09 36.3 +4.9
comp=Z,34nm,1.2s,baz=135,slow=6.8,SNR=7.1
VOR **Voronezh** 118.09 323 ⇓*i*PKIKP **PKPdf** 09 59 07.0 -3.7
VOR pmax pmax
comp=Z,480nm,1.0s
ILULI **Ilulissat** 118.19 12 ⇑*i*PKIKP **PKPdf** 09 59 09.3 -1.1
ILULI *i* 10 00 26.3
ILULI pmax pmax
comp=Z,54nm,1.0s
ILULI MLR MLR
comp=Z,40µm,25.0s
ILULI **Ilulissat** 118.19 12 ⇑*i*P **PKPdf** 09 59 09.3 -1.1
comp=Z,54nm,1.0s
ILULI *i* 10 00 26.3
comp=Z,40µm,25.0s
VSR **Storozhevoye** 118.28 323 *e*PKIKP **PKPdf** 09 59 10.1 -0.9
VSR *e* 10 00 27.6
VSR *e*S **SP** 10 10 07.2 +0.2
VSR pmax pmax
comp=Z,70nm,0.8s
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,8µm,10.8s
VSR pmax pmax
comp=N,3µm,10.6s
VSR pmax pmax
comp=E,4µm,10.2s
HKR **Hakkari** 118.28 307 *e*P **PKPdf** 09 59 11.1 -0.7
VORD **Divnogorie** 118.28 322 *e*PKIKP **PKPdf** 09 59 10.5 -0.6
VORD *e* 10 00 30.1
VORD *e*S **SP** 10 10 08.1 +1.1
VORD pmax pmax
comp=Z,50nm,0.9s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax

VORD pmax pmax
comp=Z,6µm,7.7s
VORD pmax pmax
comp=N,2µm,10.8s
VORD pmax pmax
comp=E,5µm,11.6s
KARS Kars 118.30 310 *e*P **PKPdf** 09 59 12.7 +1.1
OBN Obninsk 118.33 328 *d*iPKIKP **PKPdf** 09 59 09.7 -1.3
OBN *e* 09 59 24.3
OBN *i* 10 00 27.7
OBN *e*SS SS 10 16 34.8 -4.6
OBN pmax pmax
comp=Z,147nm,1.2s
OBN Obninsk 118.33 328 PKP **PKPdf** 09 59 10.5 -0.5
comp=Z,63nm,0.9s,baz=50,slow=2.8,SNR=19
OBN PKKPbc **PKKPbc** 10 09 29.6 -1.4
comp=Z,46nm,1.2s,baz=204,slow=2.0,SNR=8.2
OBN Obninsk 118.33 328 PKP **PKPdf** 09 59 10.5 -0.5
OBN *e*PKPdf **PKiKP** 09 59 10.8 -0.2
OBN *e*PKKPbc **PKKPbc** 10 09 29.6 -1.4
OBN LR LR
comp=Z,60µm,21.0s
GRM Grahamstown 118.36 223 PKIKP **PKPdf** 09 59 10.0 -1.9
GRM Grahamstown 118.36 223 P **PKPdf** 09 59 10.0 -1.9
DAMY Dhamar 118.39 281 *e*PKPdf **PKPdf** 09 59 14.3 +1.6
DAMY *e*PP **PP** 10 00 29.1 -0.7
CUKT Cukurca 118.43 306 *e*P **PKPdf** 09 59 11.6 -0.4
AGRB Hanur-Agry 118.55 309 *e*P **PKPdf** 09 59 12.7 +0.5
ALLY Alegheny Colle 118.56 48 *e*PKPdf **PKPdf** 09 59 10.1 -1.8
ALLY *e*PP **PP** 10 00 29.7 0.0
ERPA Erie 118.58 48 *e*PKPdf **PKPdf** 09 59 11.0 -0.9
ERPA *e*PP **PP** 10 00 28.1 -1.7
ERPA LR LR
comp=Z,115µm,20.0s
SADO Sadowa 118.60 45 PKKPbc PKKPbc 10 09 29.7 0.0
comp=Z,9.5nm,0.8s,baz=161,slow=4.4,SNR=4.7
CHVG Ch'k'valeri 118.63 313 *e*P **PKPdf** 09 59 10.9 -1.2
CHVG Ch'k'valeri 118.63 313 P **PKPdf** 09 59 12.6 +0.6
KMSC Kings Mountain 118.66 56 ⇑P **PKPdf** 09 59 13.0 +0.7
baz=119
KMSC Kings Mountain 118.66 56 *e*PKPdf **PKPdf** 09 59 11.9 -0.4
BLA Blacksburg 119.11 53 *e*PKIKP **PKPdf** 09 59 12.0 -1.2
BLA MLR MLR
comp=Z,43µm,20.0s
BLA Blacksburg 119.11 53 *e*PKPdf **PKPdf** 09 59 12.0 -1.2
BLA LR LR
comp=Z,43µm,20.0s
PUL Pulkovo 119.18 334 *i* PKIKP **PKPdf** 09 59 12.8 +0.3
PUL pmax pmax
comp=Z,296nm,1.0s
PUL MLR MLR
comp=Z,78µm,22.0s
BCA Borcka 119.23 311 *e*P **PKPdf** 09 59 11.6 -1.6
KAF Kangasniemi 119.47 337 *e*PKIKP **PKPdf** 09 59 12.2 -0.8
KAF pmax pmax
comp=Z,68nm,0.9s
KAF Kangasniemi 119.47 337 *e*p **PKPdf** 09 59 12.2 -0.8
comp=Z,68nm,0.9s
KAF Kangasniemi 119.47 337 *e*p PKKPab 10 09 20.9 -5.6
JMIC Jan Mayen 119.64 356 *e*P **Pdif** 09 55 37.4 +1.4
JMIC *e* 09 59 11.7
JMIC *e*PP PP 10 00 28.3 -7.6
EZM Erzurum 119.72 310 *e*P **PKPdf** 09 59 16.0 +1.4
VRTB Varto-Mus 119.79 309 *e*P **PKPdf** 09 59 14.9 +0.3
OTAV Otavalo 119.83 96 *e*PKPdf **PKPdf** 09 59 15.8 0.0
OTAV *e*PKKPab **PKKPab** 10 09 26.9 -0.4
OTAV LR LR
comp=Z,21µm,19.0s
BTMT Batman 119.94 308 *e*P **PKPdf** 09 59 14.3 -0.4
FINES FINESS Array B 119.96 337 PKP **PKPdf** 09 59 13.4 -0.6
comp=Z,151nm,1.2s,baz=103,slow=6.1,SNR=27
FINES PKKPbc **PKKPab** 10 09 23.3 -1.0
comp=Z,12nm,0.9s,baz=211,slow=5.5,SNR=8.6
BCIP Isla Barro Col 119.99 86 *e*PKPdf **PKPdf** 09 59 16.3 +0.9
BCIP LR LR
comp=Z,27µm,22.0s
SFJD Kangerlussuaq 120.08 14 *e*PKIKP **PKPdf** 09 59 12.4 -1.7
SFJD *e* 10 00 37.4
SFJD MLR MLR
comp=Z,40µm,21.0s
SFJD Kangerlussuaq 120.08 14 PKKPbc PKKPbc 10 09 22.6 -2.3
comp=Z,37nm,1.1s,baz=141,slow=3.8,SNR=6.8
SFJD Kangerlussuaq 120.08 14 *e*PKPdf **PKPdf** 09 59 12.4 -1.7
SFJD *e*PP **PP** 10 00 37.4 -1.7
SFJD PKKPbc **PKKPab** 10 09 22.6 -1.1
SFJD LR LR
comp=Z,40µm,21.0s
SFJD Kangerlussuaq 120.08 14 *i* P **PKPdf** 09 59 13.0 -1.1
comp=Z,27nm,1.2s
SFJD *i* 10 00 39.8
SFJD *i* 10 10 30.2
comp=Z,28µm,20.0s
SOC Sochi 120.11 314 *e*P **Pdif** 09 55 34.9 -3.8
SOC *i* 09 59 13.9
SOC *e* 10 00 38.6
SOC *e*PPP PPP 10 03 17.0
SOC *e*PS **PS** 10 10 25.0 -6.2
SOC *e*SS SS 10 17 03.3 0.0
SOC *e*SSS SSS 10 21 27.3
SOC pmax pmax
comp=Z,140nm,1.5s
BNGB Bing ¶ll 120.42 309 *e*P **PKPdf** 09 59 15.4 -0.3
SSPA Standing Stone 120.43 49 *e*PKPdf **PKPdf** 09 59 14.4 -1.1
KONS Konsvik 120.44 346 *e*P **PKPdf** 09 59 14.6 -0.1
SEK Senekal 120.50 226 P **PKPdf** 09 59 15.8 -0.5
STOK Stokkvaagen 120.60 346 *e* **SP** 10 10 18.5 -8.2
LVC Limon Verde 120.69 125 *e*PKPdf **PKPdf** 09 59 17.6 +0.6
LVC *e*PP **PP** 10 00 43.9 -0.8
LVC *e*PKKPab **PKKPab** 10 09 25.4 +1.5
LVC LR LR
comp=Z,24µm,22.0s
KTUT Trabzon 120.69 311 *e*P **PKPdf** 09 59 15.4 -0.6
MAZI Mazidag 120.88 307 *e*P **PKPdf** 09 59 16.0 -0.7
KBSD Kabsdagh 120.89 307 *e*P **PKPdf** 09 59 16.7 +0.1
MZRK Al-Mazaregh 121.00 305 *e*P **PKPdf** 09 59 16.4 -0.4
JSRW J. Sargeant Re 121.03 53 *e*PKPdf **PKPdf** 09 59 16.0 -0.8
JSRW *e*PP **PP** 10 00 48.0 +1.3
ERZN Erzincan 121.03 310 *e*P **PKPdf** 09 59 16.5 -0.4
DYBB Diyarbakir 121.03 308 *e*P **PKPdf** 09 59 14.9 -2.0
ERPM east rand prop 121.13 230 P **PKPdf** 09 59 17.2 -0.4
CBN Corbin Frederi 121.32 52 *e*PKPdf **PKPdf** 09 59 16.5 -0.8
CBN LR LR
comp=Z,124µm,22.0s
SFNV Sufian 121.33 306 *e*P **PKPdf** 09 59 17.4 -0.1
ANN Anapa 121.37 316 *e*P **Pdif** 09 55 46.5 +2.3
ANN *i* 09 59 15.4
ANN *e* 09 59 30.8
ANN *i* 10 00 44.0
ANN *e*PPP PPP 10 03 30.8
ANN *e* 10 06 09.0
ANN *i* PS **PS** 10 10 41.1 -1.2
ANN *e*SS SS 10 17 18.1 -1.1
ANN pmax pmax
comp=Z,277nm,1.2s
ANN pmax pmax
comp=N,94nm,1.3s
ANN pmax pmax
comp=E,41nm,1.3s
PTK Pertek 121.42 309 *e*P **PKPdf** 09 59 19.2 +1.4
SLR Silverton 121.43 231 PKIKP **PKPdf** 09 59 18.3 +0.1
SLR Silverton 121.43 231 P **PKPdf** 09 59 18.3 +0.1
CNNC Cliffs of the 121.44 55 *e*PKPdf **PKPdf** 09 59 17.4 -0.3
CNNC *e*PP **PP** 10 00 50.2 +0.6
CNNC LR LR
comp=Z,46µm,19.0s
VSU Vasula 121.44 334 *c i*PKIKP **PKPdf** 09 59 16.1 -0.8
BINY Binghamton 121.46 47 *e*PKPdf **PKPdf** 09 59 16.1 -1.4
BINY LR LR
comp=Z,43µm,20.0s
ESPY Espiye-Giresun 121.47 311 *e*P **PKPdf** 09 59 16.0 -1.6
PRYS Parys 121.48 229 P **PKPdf** 09 59 17.6 -0.7
SVRC Sivrice-ELAZID 121.59 308 *e*P **PKPdf** 09 59 17.1 -1.0
KLOF Kloof 121.61 230 P **PKPdf** 09 59 18.7 +0.1
LONY Lake Ozonia 121.77 44 *e*PKPdf **PKPdf** 09 59 17.1 -0.9
LONY *e*PP **PP** 10 00 52.9 +1.3
LONY LR LR
comp=Z,35µm,20.0s
ELIM Elim 121.80 217 P **PKPdf** 09 59 18.7 +0.2
MSNA Messina 121.81 235 P **PKPdf** 09 59 18.8 0.0
ILIC ilic-Erzincan 121.93 310 *e*P **PKPdf** 09 59 23.0 +4.4
BOSA Boshof 122.04 226 PKP **PKPdf** 09 59 19.3 +0.1
comp=Z,84nm,0.8s,baz=141,slow=1.6,SNR=84
BOSA PKKPbc **PKKPbc** 10 09 15.8 -1.0
comp=Z,30nm,0.9s,baz=315,slow=2.5,SNR=13
URFA Urfa 122.16 307 *e*P **PKPdf** 09 59 19.5 +0.4
NCB Newcomb 122.21 45 *e*PKPdf **PKPdf** 09 59 17.6 -1.3
NCB LR LR
comp=Z,51µm,20.0s
SCHQ Schefferville 122.26 31 PKP **PKPdf** 09 59 17.4 -1.2
comp=Z,22nm,0.8s,baz=242,slow=2.6,SNR=9.8
SCHQ PKKPbc **PKKPab** 10 09 13.3 -1.2
comp=Z,20nm,1.0s,baz=140,slow=2.6,SNR=13
MALT Malatya 122.28 308 *e*P **PKPdf** 09 59 18.8 -0.5
MALT Malatya 122.28 308 ⇑PKIKP **PKPdf** 09 59 19.4 +0.1
MALT Malatya 122.28 308 ⇑*i*P **PKPdf** 09 59 19.4 +0.1
KSRV Kasrt alli 122.31 306 *e*P **PKPdf** 09 59 18.4 -1.0
NSS Namsos 122.32 345 *e*P **PKPdf** 09 59 16.2 -2.2
NSS *e*PP **PP** 10 00 53.8 -0.5
RSDY Resadiye-TOKAT 122.63 311 *e*P **PKPdf** 09 59 18.1 -1.7
SUR Sutherland 122.65 220 PKP **PKPdf** 09 59 21.4 +1.0
comp=Z,202nm,1.1s,baz=116,slow=2.2,SNR=25
SUR Sutherland 122.65 220 PKPdf **PKPdf** 09 59 22.0 +1.6
SNR=9.2
SUR Sutherland 122.65 220 *e*PKPdf **PKPdf** 09 59 21.1 +0.7
SUR PKP **PKPdf** 09 59 21.4 +1.0
SUR LR LR
comp=Z,58µm,20.0s
ACCN Adirondack Com 122.77 45 *e*PKPdf **PKPdf** 09 59 19.0 -0.9
ACCN *e*PP **PP** 10 00 57.4 -1.0
JHLN Al Jahlan 122.80 305 *e*P **PKPdf** 09 59 19.4 -0.9
BRNJ Basking Ridge 122.88 48 *e*PKPdf **PKPdf** 09 59 21.0 +0.8
CER Ceres 122.92 218 P **PKPdf** 09 59 21.6 +0.9
MTDJ Mount Denham 122.92 75 *e*PKPdf **PKPdf** 09 59 22.2 +1.2
MTDJ LR LR
comp=Z,11µm,19.0s
MDV Middlebury 122.92 44 *e*PKPdf **PKPdf** 09 59 19.7 -0.5
DARE Darende-Malaty 122.95 309 *e*P **PKPdf** 09 59 21.4 +0.8
KMBO Kilima Mbogo 122.97 261 *e*PKIKP **PKPdf** 09 59 21.8 +0.3
KMBO *e* 10 00 57.7
KMBO MLR MLR
comp=Z,40µm,22.0s
KMBO Kilima Mbogo 122.97 261 PKP **PKPdf** 09 59 22.1 +0.6
comp=Z,66nm,1.1s,baz=54,slow=2.4,SNR=54
KMBO PKKPbc **PKKPab** 10 09 15.2 +1.6
comp=Z,7.4nm,1.0s,baz=270,slow=5.6,SNR=3.4
KMBO Kilima Mbogo 122.97 261 PKPdf **PKPdf** 09 59 22.1 +0.6
SNR=46
KMBO Kilima Mbogo 122.97 261 *e*PKPdf **PKPdf** 09 59 21.8 +0.3
KMBO PKP **PKPdf** 09 59 22.1 +0.6
KMBO *e*PP **PP** 10 00 57.7 -3.3
KMBO *e*PKKPab **PKKPab** 10 09 14.6 +1.0
KMBO PKKPbc **PKKPab** 10 09 15.2 +1.6
KMBO LR LR
comp=Z,40µm,22.0s
SVSK Karacayir 123.00 311 *e*P **PKPdf** 09 59 20.3 -0.1
MICGM Minsk 123.07 330 ⇓*e*PKP **PKPdf** 09 59 17.0 -3.2
MNK Minsk 123.10 330 ⇓*e*PKIKP **PKPdf** 09 59 17.0 -3.2
MNK *e* 09 59 30.0
MNK *e* 10 01 08.0
MNK *e* 10 06 10.0
MNK *e*PS **PS** 10 10 50.0 -7.1
MNK *e*SS SS 10 17 34.0 -6.4
MNK pmax pmax
comp=Z,460nm,1.5s
MNK MLR MLR
comp=N,66µm,26.0s
MNK MLR MLR
comp=E,51µm,20.0s
MNK MLR MLR
comp=Z,85µm,20.0s
ISAL Salakas 123.35 331 *e*P **PKPdf** 09 59 19.8 -0.8
ISAL AMB AMB 09 59 26.3
comp=Z,116nm,1.1s
FURI Furi 123.38 273 P **PKPdf** 09 59 24.0 +1.6
FURI S **SKKSac** 10 07 58.1 -0.7
KVT Kavak 123.39 312 *e*P **PKPdf** 09 59 20.9 -0.4
NACGM Naroch 123.40 330 *e*P **Pdif** 09 56 00.0 +6.9
IIGN Ignalina 123.42 331 *e*P **PKPdf** 09 59 20.3 -0.5
IIGN AMB AMB 09 59 27.5
comp=Z,164nm,0.9s
SIM Simferopol' 123.56 317 *c e*P **Pdif** 09 55 58.0 +4.0
SIM *i* 09 59 21.0
SIM *e* 10 01 07.0
SIM *e*PPP PPP 10 03 39.0
SIM *e*PS **PS** 10 10 54.0 -7.7
SIM pmax pmax
comp=Z,4µm,10.6s
KMRS Kahramanmaras 123.64 308 *e*P **PKPdf** 09 59 21.4 -0.5
LBNH Lisbon 123.70 44 *e*PKIKP **PKPdf** 09 59 21.2 -0.6
LBNH *e* 10 01 01.7
LBNH MLR MLR
comp=Z,69µm,22.0s
LBNH Lisbon 123.70 44 *e*PKPdf **PKPdf** 09 59 21.1 -0.6
LBNH *e*PP **PP** 10 01 01.7 -2.9
LBNH LR LR
comp=Z,69µm,22.0s
TBLU Trondheim 123.80 345 *e*P PKPdf 09 59 33.2 +12
TBLU *e*PP **PP** 10 01 02.3 -2.0
TBLU IAMs_20 IAMs_20 10 50 34.3
comp=Z,62µm,23.1s
LBTB Lobatse 123.86 230 PKP **PKPdf** 09 59 22.8 0.0
comp=Z,84nm,0.8s,baz=165,slow=3.5,SNR=36
LBTB PKKPbc **PKKPbc** 10 09 08.7 -1.0
comp=Z,22nm,0.9s,baz=302,slow=5.4,SNR=9.8
ROOS tl_alroos 124.00 304 *e*P **PKPdf** 09 59 22.5 -0.2
RABH Abou Rabah 124.02 304 *e*P **PKPdf** 09 59 22.8 0.0
BNN Bunyan 124.13 310 *e*P **PKPdf** 09 59 23.0 +0.1
ZALF Zalf 124.18 302 *e*P **PKPdf** 09 59 24.4 +1.4
KFRA Kufra 124.20 305 *e*P **PKPdf** 09 59 22.4 -0.6
LPAZ La Paz 124.23 118 PKP **PKPdf** 09 59 24.4 +0.1
comp=Z,125nm,1.0s,baz=314,slow=1.0,SNR=57
AKASG Malin Array Be 124.25 325 PKP **PKPdf** 09 59 21.8 -0.7
comp=Z,152nm,0.7s,baz=46,slow=2.7,SNR=142
AKASG PP **PP** 10 01 08.2 +0.3
comp=Z,60nm,1.1s,baz=52,slow=7.0,SNR=4.1
AKASG PKKPbc **PKKPab** 10 09 05.6 -0.6
comp=Z,8.0nm,0.8s,baz=252,slow=4.1,SNR=18
KIEV Kiev 124.26 325 *c i*PKIKP **PKPdf** 09 59 21.5 -1.1
KIEV Kiev 124.26 325 *e*PKPdf **PKPdf** 09 59 21.3 -1.2
KIEV *e*PP **PP** 10 01 08.5 +0.5
KIEV *e*PKKPab **PKKPab** 10 09 06.5 +0.4
KIEV LR LR
comp=Z,52µm,19.0s
BTCH Batrach 124.30 306 *e*P **PKPdf** 09 59 23.9 +0.7
WRDH Warideh 124.45 306 *e*P **PKPdf** 09 59 23.0 -0.5
HRV Adam Dziewonsk 124.52 46 *e*PKIKP **PKPdf** 09 59 22.9 -0.4
HRV Adam Dziewonsk 124.52 46 *e*PKPdf **PKPdf** 09 59 22.9 -0.4
BIDA Albida 124.62 305 *e*P **PKPdf** 09 59 25.5 +1.6
HAWK Haweek 124.65 304 *e*P **PKPdf** 09 59 24.1 +0.1
ASF Jabal al Asfar 124.67 302 PKP **PKPdf** 09 59 24.9 +0.8
comp=Z,84nm,0.8s,baz=298,slow=0.5,SNR=26
ASF SKKPbc SKKPbc 10 12 57.8 +4.7
comp=Z,7.4nm,1.0s,baz=201,slow=3.2,SNR=5.8
MARH Ras Al Marh 124.69 304 *e*P **PKPdf** 09 59 23.4 -0.9
FKH Fakeheh 124.70 304 *e*P **PKPdf** 09 59 23.4 -0.7
SALA Sala 124.71 302 *e*P **PKPdf** 09 59 24.7 +0.5
ARNB Al Arnab 124.72 306 *e*P **PKPdf** 09 59 23.4 -0.7
ROSC El Rosal 124.76 92 PKP **PKPdf** 09 59 24.9 -0.3
comp=Z,40nm,0.9s,baz=98,slow=6.5,SNR=17
TOTH TOTAH 124.85 303 *e*P **PKPdf** 09 59 25.4 +1.1
QASN Qassioun 124.94 303 *e*P **PKPdf** 09 59 22.7 -1.9
UPI Upington 124.97 224 P **PKPdf** 09 59 24.8 0.0
MOL Molde 125.06 345 *e*P PKPdf 09 59 29.5 +5.8
MOL *e*PP **PP** 10 01 13.9 +1.2
MOL *i* 10 11 11.8
MOL IVMs_BB IVMs_BB 10 51 30.0
comp=Z,16µm,24.5s
HWQ Hawqa 125.07 304 *e*P **PKPdf** 09 59 24.7 -0.2
PKME Peaks-Kenny Pk 125.09 42 *e*PKPdf **PKPdf** 09 59 24.1 -0.2
PKME LR LR
comp=Z,56µm,21.0s
GTBY Guantanamo Bay 125.23 73 *e*PKPdf **PKPdf** 09 59 26.2 +0.9
GTBY LR LR
comp=Z,11µm,21.0s
BRBR Barbar 125.23 303 *e*P **PKPdf** 09 59 25.3 0.0
HFS Hagfors 125.27 341 PKP **PKPdf** 09 59 22.9 -1.3
comp=Z,36nm,0.8s,baz=143,slow=0.7,SNR=25
HFS PKKPbc **PKKPab** 10 09 02.3 +0.8
comp=Z,13nm,0.9s,baz=156,slow=4.0,SNR=13
RCY Rachaya 125.31 303 *e*P **PKPdf** 09 59 26.1 +0.7
NB2 NORSAR Subarra 125.33 343 PKPdf **PKPdf** 09 59 23.3 -1.1
comp=Z,39nm,1.0s,baz=39,slow=1.9
NB2 NORSAR Subarra 125.33 343 PKPdf **PKPdf** 09 59 23.3 -1.1
baz=39,slow=1.9
NOA NORSAR Array B 125.33 343 PKP **PKPdf** 09 59 23.1 -1.2
comp=Z,61nm,1.1s,baz=155,slow=20,SNR=14
NOA PP **PP** 10 01 13.6 -1.0
comp=Z,9.9nm,0.8s,baz=27,slow=5.9,SNR=3.3
NOA PKKPbc **PKKPab** 10 09 02.8 +1.4
comp=Z,11nm,0.9s,baz=217,slow=4.2,SNR=14
NOA SKKPbc SKKPbc 10 12 52.6 +0.3
comp=Z,6.5nm,1.0s,baz=221,slow=5.2,SNR=5.4
TCHB Talchebab 125.36 302 *e*P **PKPdf** 09 59 26.0 +0.7
BHL Bhannes 125.38 304 *e*P **PKPdf** 09 59 25.4 0.0
DQRL Deir Qamar 125.49 304 *e*P **PKPdf** 09 59 26.0 +0.4
AKN Aaknes 125.53 345 *e*P **PKPdf** 09 59 24.2 -0.5
AKN *i* 10 01 17.1
AKN IVMs_BB IVMs_BB 10 51 55.2
comp=Z,15µm,23.1s
BRTR Keskin Array B 125.54 311 PKP **PKPdf** 09 59 25.1 -0.4
comp=Z,91nm,1.0s,baz=126,slow=2.1,SNR=58
BRTR PP **PP** 10 01 19.1 +1.8
comp=Z,37nm,1.0s,baz=76,slow=5.2,SNR=4.4
BRTR SKKPbc SKKPbc 10 12 51.1 +0.5
comp=Z,8.7nm,1.0s,baz=228,slow=4.8,SNR=4.1
SUW Suwalki 125.64 331 *e*PKIKP **PKPdf** 09 59 24.7 -0.3
SUW *e* 10 01 12.7
SUW *e*SP SP 10 11 12.4 +0.5
SUW *e*SS **SS** 10 18 14.8 +2.5
SUW MLR MLR
comp=Z,73µm,22.2s
SUW Suwalki 125.64 331 *e*Pdiff **Pdif** 09 56 06.2 +3.2
SUW *e*PKPdf **PKPdf** 09 59 24.6 -0.5
SUW *e*PP **PP** 10 01 12.7 -4.3
SUW *e*SP SP 10 11 12.4 +0.5
SUW *e*SS **SS** 10 18 14.8 +2.5
SUW LMZ LR 10 54 54.2
SUW Suwalki 125.64 331 *e*PKPdf **PKPdf** 09 59 24.8 -0.3
MMAI Mount Meron Ar 125.76 303 PKP **PKPdf** 09 59 26.6 +0.5
comp=Z,400nm,1.1s,baz=57,slow=3.1,SNR=23
ANTO Ankara 126.12 312 ⇓PKIKP **PKPdf** 09 59 27.3 +0.7
ANTO Ankara 126.12 312 ⇓*i*P **PKPdf** 09 59 27.3 +0.7
ANTO Ankara 126.12 312 PKPdf **PKPdf** 09 59 26.4 -0.2
SNR=75
ANTO Ankara 126.12 312 *e*PKPdf **PKPdf** 09 59 26.0 -0.6
ANTO *e*PP **PP** 10 01 19.9 -1.1
ANTO LR LR
comp=Z,12µm,19.0s
KIS Kishinev 126.17 321 *e*P **Pdif** 09 56 10.0 +4.4
KIS *e* 09 59 25.0
KIS *i* 10 01 20.0
KIS pmax pmax
comp=Z,3µm,14.0s
KIS pmax pmax
comp=Z,6µm,12.0s
KIS Kishinev 126.17 321 *e*P **Pdif** 09 56 10.0 +4.4
KIS Kishinev 126.17 321 *i* PKP **PKPdf** 09 59 25.0 -1.3
KIS Kishinev 126.17 321 *i* PP PP 10 01 20.0 -0.8
comp=Z,3µm,14.0s
KIS *i* SKP 10 02 44.0
KIS Kishinev 126.17 321 *i* PKS **SKPdf** 10 02 51.0 -6.3
KIS *e*SKS SKSac 10 06 06.0 -21
KIS *e*SKKS **SKKSac** 10 08 20.0 +5.6
KIS *i* SKSP 10 12 40.0
KIS LRM MLR 11 01 20.0
comp=Z,38µm,20.0s
BORG Borgarnes 126.23 1 PFAKE 09 59 40.0 +14
BORG LR LR
comp=Z,24µm,22.0s
OSL Oslo 126.36 342 *e*P **PKPdf** 09 59 28.9 +2.7
OSL *e*PP **PP** 10 01 22.2 +0.8
OSL IAMs_20 IAMs_20 10 53 45.8
comp=Z,58µm,22.5s
KOMG Komaggas 126.49 220 P **PKPdf** 09 59 27.1 -0.5
FOO Floro 126.50 346 *e*P **PKPdf** 09 59 30.7 +4.2
FOO *e*PP **PP** 10 01 22.9 +0.6
FOO *e*SS SS 10 18 22.5 +0.3
FOO IAMs_20 IAMs_20 10 56 51.4
comp=Z,11µm,21.0s
FOO IVMs_BB IVMs_BB 10 56 55.6
comp=Z,3µm,21.9s
HYA Hoyanger 126.59 345 *e*P **PKPdf** 09 59 28.5 +1.8
HYA IAMs_20 IAMs_20 10 52 45.3
comp=Z,43µm,24.0s
LSZ Lusaka 126.64 242 *e*PKIKP **PKPdf** 09 59 28.5 +0.2
LSZ MLR MLR
comp=Z,62µm,22.0s
LSZ Lusaka 126.64 242 PKP **PKPdf** 09 59 28.8 +0.4
comp=Z,234nm,1.2s,baz=46,slow=10.0,SNR=73
LSZ Lusaka 126.64 242 P **PKPdf** 09 59 28.9 +0.6
SNR=77
LSZ Lusaka 126.64 242 *e*PKPdf **PKPdf** 09 59 28.5 +0.2
LSZ PKP **PKPdf** 09 59 28.8 +0.4
LSZ LR LR
comp=Z,62µm,22.0s
LEOM Leova 126.75 321 ⇓PKIKP **PKPdf** 09 59 27.8 +0.4
LEOM Leova 126.75 321 ⇓*i*P **PKPdf** 09 59 27.8 +0.4
KONO Kongsberg 126.93 342 *e*PKIKP **PKPdf** 09 59 26.9 -0.5
KONO MLR MLR
comp=Z,46µm,20.0s
KONO Kongsberg 126.93 342 *e* **Pdif** 09 56 07.6 -1.0
KONO *e* 09 59 27.8
KONO *e*PP **PP** 10 01 26.4 +1.2
KONO IVMs_BB IVMs_BB 10 57 06.9
comp=Z,15µm,20.3s
KONO IAMs_20 IAMs_20 10 57 14.3
comp=Z,50µm,21.1s
KONO Kongsberg 126.93 342 *e*PKPdf **PKPdf** 09 59 26.9 -0.5
KONO LR LR
comp=Z,46µm,20.0s
CSS Prodhromos 127.03 306 *e*PKPdf **PKPdf** 09 59 27.6 -0.8
CSS *e*PP **PP** 10 01 26.0 -1.2
CSS LR LR
comp=Z,6µm,19.0s
SUE Sulen 127.04 346 *e*P **PKPdf** 09 59 30.2 +2.7
SUE *e* 10 01 09.3
GIUM Giurgiulesti 127.21 320 ⇑*i*P **PKPdf** 09 59 29.2 +0.8
CFR Carcaliu 127.38 319 ⇑PKIKP **PKPdf** 09 59 28.7 0.0
CFR Carcaliu 127.38 319 ⇑*i*P **PKPdf** 09 59 28.7 0.0
ASK Askoy 127.43 345 *e*P **PKPdf** 09 59 26.5 -1.8
ASK *e*PP **PP** 10 01 27.4 -1.1
RUND Rundenannen 127.45 345 *e*P **PKPdf** 09 59 28.1 -0.4
BER Bergen 127.48 345 *e*P **PKPdf** 09 59 30.1 +1.6
BER *e*PP **PP** 10 01 30.0 +1.3
BER *i* 10 12 51.8
TIRR Tirgusor 127.51 318 *e*PKIKP **PKPdf** 09 59 28.5 -0.5
TIRR Tirgusor 127.51 318 *e*PKPdf **PKPdf** 09 59 28.5 -0.5
EFOR EFORIE 127.52 318 ⇓*i*P **PKPdf** 09 59 30.4 +1.4
ODD1 Odda 127.55 344 *e*P **PKPdf** 09 59 32.7 +4.0
ODD1 *e*PP **PP** 10 01 31.9 +2.6
LVV L'vov 127.57 326 *e*PKIKP **PKPdf** 09 59 29.2 +0.2
LVV *e* 10 01 33.0
LVV *e* 10 11 30.4
LVV *e* 10 13 08.2
PETR Petresti 127.72 320 ⇓*i*P **PKPdf** 09 59 30.4 +1.1
HARR Harsova 127.72 319 ⇑PKIKP **PKPdf** 09 59 29.7 +0.3
HARR Harsova 127.72 319 ⇑*i*P **PKPdf** 09 59 29.7 +0.3
PSN Preselentsi 127.98 318 ⇓PKIKP **PKPdf** 09 59 30.6 +0.7
PSN Preselentsi 127.98 318 ⇓*i*P **PKPdf** 09 59 30.6 +0.7
PSN Preselentsi 127.98 318 *i* P **PKPdf** 09 59 29.4 -0.5
BLS5 Blasjo 128.01 344 *e*P **PKPdf** 09 59 34.3 +4.8
BLS5 *e*PP **PP** 10 01 32.6 +0.2
PLOR Plostina 128.02 321 ⇓PKIKP **PKPdf** 09 59 29.9 -0.1
PLOR Plostina 128.02 321 ⇓*i*P **PKPdf** 09 59 29.9 -0.1
GRER 128.03 320 ⇓*i*P **PKPdf** 09 59 34.8 +4.8
BURAR Bucovina Array 128.04 323 ⇑PKIKP **PKPdf** 09 59 32.9 +2.8
BURAR Bucovina Array 128.04 323 ⇑*i*P **PKPdf** 09 59 30.1 0.0
MSAB Monastry St. A 128.05 318 ⇑*i*P **PKPdf** 09 59 31.1 +1.1
BEL Belsk 128.10 330 *e*PKIKP **PKPdf** 09 59 30.0 +0.1
BEL *e*SS SS 10 18 47.1 +4.1
BEL Belsk 128.10 330 *e*Pdiff **Pdif** 09 56 19.4 +5.4
BEL *e*PKPdf **PKPdf** 09 59 30.0 +0.1
BEL *e*PP PP 10 01 27.3 -6.0
BEL *e*SS SS 10 18 47.1 +4.1
BEL LMZ LR 10 51 37.4
AMRR Amara 128.14 319 ⇑PKIKP **PKPdf** 09 59 32.1 +1.9
AMRR Amara 128.14 319 ⇑*i*P **PKPdf** 09 59 32.1 +1.9
HOMB Homborsund 128.38 342 *e*P **PKPdf** 09 59 27.8 -2.4
HOMB *e*PP **PP** 10 01 37.9 +3.1
HOMB IVMs_BB IVMs_BB 10 57 17.5
comp=Z,14µm,21.2s
HOMB IAMs_20 IAMs_20 10 57 23.9
comp=Z,45µm,21.4s
KWP Kalwaria Pacla 128.39 327 *e*PKIKP **PKPdf** 09 59 30.4 -0.1
KWP *e* 10 01 34.5
KWP *e*SP SP 10 11 42.5 +6.2
KWP *e*SS **SS** 10 18 51.8 +4.8
KWP MLR MLR
comp=Z,59µm,23.9s

KWP	**Kalwaria Pacla**	**128.39**	**327**	*e*Pdiff		**Pdif**	09 56 17.2	+1.8
KWP				*e*PKPdf		**PKPdf**	09 59 30.4	-0.1
KWP				*e*PP		**PP**	10 01 34.5	-0.9
KWP				*e*SP		SP	10 11 42.5	+6.2
KWP				*e*SS		**SS**	10 18 51.7	+4.8
KWP				LMZ		LR	10 54 43.2	
KWP	**Kalwaria Pacla**	**128.39**	**327**	⇓*i*P		**PKPdf**	**09 59 31.1**	**+0.6**
KWP	**Kalwaria Pacla**	**128.39**	**327**	*e*PKPdf		**PKPdf**	**09 59 30.7**	**+0.1**
KWP				LR		LR		
	comp=Z,58µm,22.0s							
ISR	**Istrita**	**128.42**	**320**	⇑PKIKP		**PKPdf**	**09 59 31.1**	**+0.3**
ISR	**Istrita**	**128.42**	**320**	⇑*i*P		**PKPdf**	**09 59 31.1**	**+0.3**
ISP	**Isparta**	**128.43**	**310**	⇓PKIKP		**PKPdf**	**09 59 30.6**	**-0.5**
ISP	**Isparta**	**128.43**	**310**	⇓*i*P		**PKPdf**	**09 59 29.7**	**-1.4**
ISP	**Isparta**	**128.43**	**310**	*e*PKPdf		**PKPdf**	**09 59 29.5**	**-1.6**
ISP				*e*PP		**PP**	**10 01 33.2**	**-3.2**
ISP				LR		LR		
	comp=Z,25µm,20.0s							
KMY	**Karmoy**	**128.52**	**344**	*e*P		PKPdf	09 59 35.9	+5.5
KMY				*e*PP		**PP**	**10 01 38.9**	**+3.3**
KMY				*e*			10 11 27.8	
BSD	**Bornholm Skovb**	**128.56**	**336**	⇑*i*P		**PKPdf**	**09 59 30.2**	**-0.4**
	comp=Z,114nm,1.1s							
BSD				*i*			10 01 29.1	
	comp=Z,37µm,21.0s							
MLR	**Muntele Rosu**	**128.63**	**321**	⇑PKIKP		**PKPdf**	**09 59 31.6**	**+0.3**
MLR	**Muntele Rosu**	**128.63**	**321**	⇑*i*P		**PKPdf**	**09 59 31.6**	**+0.3**
MLR	**Muntele Rosu**	**128.63**	**321**	PKP		**PKPdf**	**09 59 30.6**	**-0.7**
	comp=Z,51nm,1.2s,baz=17,slow=2.6,SNR=66							
PRD	**Provadia**	**128.70**	**317**	*i* P		**PKPdf**	**09 59 32.4**	**+1.1**
SNART	**Snartemo**	**128.71**	**343**	*e*P		PKPdf	09 59 36.7	+5.9
SNART				*e*			10 01 43.1	
DOPR	**Dopca**	**128.75**	**321**	⇑*i*P		**PKPdf**	**09 59 32.6**	**+1.2**
SULR		**128.80**	**320**	⇓*i*P		**PKPdf**	**09 59 32.7**	**+1.3**
SDDR	**Presa de Saban**	**128.85**	**74**	*e*PKPdf		**PKPdf**	**09 59 32.8**	**+0.5**
SDDR				LR		LR		
	comp=Z,36µm,19.0s							
GKP	**Gorka Klasztor**	**128.86**	**333**	*e*PKIKP		**PKPdf**	**09 59 31.3**	**0.0**
GKP				MLR		MLR		
	comp=Z,132µm,22.4s							
GKP	**Gorka Klasztor**	**128.86**	**333**	*e*Pdiff		**Pdif**	**09 56 16.0**	**-1.4**
GKP				*e*PKPdf		**PKPdf**	**09 59 31.3**	**0.0**
GKP				*e*PP		PP	10 01 32.2	-5.9
GKP				*e*SS		SS	10 18 43.4	-8.8
GKP				LMZ		LR	10 56 47.7	
GRTK	**Grand Turk**	**128.90**	**71**	PFAKE			09 59 40.0	+7.7
GRTK				LR		LR		
	comp=Z,27µm,20.0s							
SDV	**Santo Domingo**	**128.98**	**87**	*e*PKPdf		**PKPdf**	**09 59 32.0**	**-0.9**
SDV				*e*SKPdf		SKPdf	10 02 56.0	-7.9
SDV				LR		LR		
	comp=Z,20µm,19.0s							
BMR	**Baia Mare**	**129.01**	**324**	⇑PKIKP		**PKPdf**	**09 59 32.8**	**+1.0**
BMR	**Baia Mare**	**129.01**	**324**	⇑*i*P		**PKPdf**	**09 59 32.8**	**+1.0**
KOLS	**Kolonicke sedl**	**129.02**	**326**	*e*PKIKP		**PKPdf**	**09 59 29.9**	**-1.9**
KOLS				*e*			10 11 39.1	
KOLS				*e*SS		SS	10 18 52.2	-2.5
KOLS				MLR		MLR		
	comp=Z,32µm,21.9s							
KOLS	**Kolonicke sedl**	**129.02**	**326**	*e*PKP		**PKPdf**	**09 59 29.9**	**-1.9**
KOLS				*e*PP		PP	10 01 31.5	-8.0
KOLS				*e*			10 11 39.1	
KOLS				*e*SS		SS	10 18 52.2	-2.5
COP	**Copenhagen**	**129.10**	**338**	*i* PKIKP		**PKPdf**	**09 59 31.0**	**-0.6**
COP				*i*			10 01 43.9	
COP				pmax		pmax		
	comp=Z,70nm,1.0s							
COP				MLR		MLR		
	comp=Z,17µm,24.0s							
COP	**Copenhagen**	**129.10**	**338**	*i* P		**PKPdf**	**09 59 31.0**	**-0.6**
	comp=Z,70nm,0.9s							
COP				*i*			10 01 43.9	
	comp=Z,17µm,24.0s							
UZH	**Uzhgorod**	**129.18**	**326**	*e*PKHKP		PKPpre	09 59 19.4	
UZH				*i*			09 59 32.0	
UZH				*e*			09 59 37.8	
UZH				*i*			10 01 40.6	
UZH				*i*			10 11 48.4	
UZH				MLR		MLR		
	comp=N,17µm,20.0s							
UZH				MLR		MLR		
	comp=E,25µm,20.0s							
UZH				MLR		MLR		
	comp=Z,9µm,20.0s							
STHS	**Stebnicka Huta**	**129.30**	**327**	*e*PKIKP		**PKPdf**	**09 59 33.0**	**+0.7**
STHS	**Stebnicka Huta**	**129.30**	**327**	*e*PKP		**PKPdf**	**09 59 33.0**	**+0.7**
TRPA	**Tarpa**	**129.31**	**325**	⇑*e*PKPdf		**PKPdf**	**09 59 31.8**	**-0.5**
LLD	**Lille Linde**	**129.44**	**338**	*i* PKIKP		**PKPdf**	**09 59 31.6**	**-0.7**
LLD				pmax		pmax		
	comp=Z,190nm,1.1s							
LLD	**Lille Linde**	**129.44**	**338**	*i* P		**PKPdf**	**09 59 31.6**	**-0.7**
	comp=Z,188nm,1.1s							
CJR	**Cluj-Napoca**	**129.45**	**323**	⇑PKIKP		**PKPdf**	**09 59 33.6**	**+0.9**
CJR	**Cluj-Napoca**	**129.45**	**323**	⇑*i*P		**PKPdf**	**09 59 33.6**	**+0.9**
CRVS	**Cervenica-Dubn**	**129.48**	**326**	*e*PKIKP		**PKPdf**	**09 59 32.8**	**+0.2**
CRVS				*e*			10 11 50.5	
CRVS				*e*SS		SS	10 19 35.7	+35
CRVS				MLR		MLR		
	comp=Z,31µm,24.6s							
CRVS	**Cervenica-Dubn**	**129.48**	**326**	*e*PKP		**PKPdf**	**09 59 32.8**	**+0.2**
CRVS				*e*PP		PP	10 01 34.7	-7.8
CRVS				*e*SP		SP	10 11 50.4	+4.7
CRVS				*e*SS		SS	10 19 35.7	+35
ARR	**Arges**	**129.50**	**321**	⇑*i*P		**PKPdf**	**09 59 34.0**	**+1.1**
GOLR		**129.54**	**320**	⇑*i*P		**PKPdf**	**09 59 33.2**	**+0.3**
JMB	**Yambol**	**129.55**	**317**	⇑PKIKP		**PKPdf**	**09 59 34.6**	**+1.6**
JMB	**Yambol**	**129.55**	**317**	⇑*i*P		**PKPdf**	**09 59 34.6**	**+1.6**
JMB	**Yambol**	**129.55**	**317**	*i* P		**PKPdf**	**09 59 34.5**	**+1.6**
OJC	**Ojcow**	**129.58**	**329**	*i* PKIKP		**PKPdf**	**09 59 32.4**	**-0.4**
OJC				*e*			10 01 43.2	
OJC				*e*PS		**PS**	**10 11 54.9**	**+0.8**
OJC				*e*SS		SS	10 19 06.5	+5.1
OJC				MLR		MLR		
	comp=Z,62µm,21.6s							
OJC	**Ojcow**	**129.58**	**329**	*e*PKPdf		**PKPdf**	**09 59 32.6**	**-0.2**
OJC				*e*PP		PP	10 01 34.7	-8.3
OJC				*e*SP		SP	10 11 44.5	-2.0
OJC				*e*SS		**SS**	**10 19 07.4**	**+6.0**
OJC				LMZ		LR	10 52 31.2	
SZH	**Strazhica**	**129.64**	**318**	*i* P		**PKPdf**	**09 59 32.0**	**-1.1**
MUD	**Monsted U'grnd**	**129.65**	**340**	⇑*i*PKIKP		**PKPdf**	**09 59 30.2**	**-2.4**
MUD				pmax		pmax		
	comp=Z,110nm,1.1s							
MUD				MLR		MLR		
	comp=Z,37µm,22.0s							
MUD	**Monsted U'grnd**	**129.65**	**340**	*i* P		**PKPdf**	**09 59 32.5**	**-0.1**
	comp=Z,62nm,1.0s							
MUD				*i*			10 01 47.2	
	comp=Z,54µm,20.0s							
HUMR	**Humele**	**129.68**	**320**	⇑*i*P		**PKPdf**	**09 59 33.3**	**+0.2**
NIE	**Niedzica**	**129.79**	**328**	*i* PKIKP		**PKPdf**	**09 59 33.4**	**+0.1**
NIE	**Niedzica**	**129.79**	**328**	*e*Pdiff		**Pdif**	**09 56 30.9**	**+9.2**
NIE				*e*PKPdf		**PKPdf**	**09 59 33.6**	**+0.3**
NIE				*e*PP		PP	10 01 36.7	-7.8
NIE				*e*SS		SS	10 19 12.4	+8.2
NIE				LMZ		LR	11 01 54.6	
DRGR		**129.93**	**324**	⇓PKIKP		**PKPdf**	**09 59 34.1**	**+0.4**
DRGR		**129.93**	**324**	⇓*i*P		**PKPdf**	**09 59 34.1**	**+0.4**
LOT	**Lotru**	**129.99**	**322**	⇑*i*P		**PKPdf**	**09 59 34.0**	**+0.1**
PVL	**Pavlikeni**	**130.06**	**318**	*i* P		**PKPdf**	**09 59 33.7**	**-0.2**
KECS	**Kecovo**	**130.25**	**326**	*e*PKIKP		**PKPdf**	**09 59 33.8**	**-0.3**
KECS	**Kecovo**	**130.25**	**326**	*e*PKP		**PKPdf**	**09 59 33.8**	**-0.3**
DEV	**Deva**	**130.29**	**322**	⇑PKIKP		**PKPdf**	**09 59 35.1**	**+0.8**
DEV	**Deva**	**130.29**	**322**	⇑*i*P		**PKPdf**	**09 59 35.1**	**+0.8**
SIV	**San Ignacio**	**130.37**	**122**	PKP		**PKPdf**	**09 59 35.9**	**+0.5**
	comp=Z,182nm,1.1s,baz=242,slow=2.7,SNR=60							
LANS	**Liptovska Anna**	**130.40**	**328**	*e*PKIKP		**PKPdf**	**09 59 35.9**	**+1.5**
RAC	**Raciborz**	**130.48**	**329**	*e*PKIKP		**PKPdf**	**09 59 35.2**	**+0.7**
RAC				*e*			09 59 40.9	
RAC				*e*			10 01 48.0	
RAC				*e*SP		SP	10 11 52.0	-2.1
RAC				*e*SS		**SS**	**10 19 14.2**	**+1.9**
ALN	**Alexandroupoli**	**130.57**	**315**	*e*P		**PKPdf**	**09 59 34.0**	**-0.9**
GZR	**Gura Zlata**	**130.62**	**322**	⇑PKIKP		**PKPdf**	**09 59 35.9**	**+0.9**
GZR	**Gura Zlata**	**130.62**	**322**	⇑*i*P		**PKPdf**	**09 59 35.9**	**+0.9**
OKC	**Ostrava-Krasne**	**130.66**	**329**	*e*P		**Pdif**	**09 56 34.8**	**+9.3**
OKC				*e*			09 59 35.2	
OKC				*e*			09 59 40.5	
OKC				*e*			10 01 50.7	
OKC				MLR		MLR		
	comp=Z,41µm,20.5s							
OKC	**Ostrava-Krasne**	**130.66**	**329**	*e*pP		**Pdif**	**09 56 34.8**	**+9.3**
OKC				*e*PKPdf		**PKPdf**	**09 59 35.2**	**+0.4**
OKC				*e*pPKP		**PKiKP**	**09 59 40.5**	**+4.8**
OKC				*e*PP		**PP**	**10 01 50.7**	**+0.7**
OKC				*e*SKP			10 03 05.5	
OKC				AMS		AMS	10 59 50.0	
	comp=Z,41µm,20.5s							
KDZ	**Kurdzhali**	**130.69**	**316**	⇑PKIKP		**PKPdf**	**09 59 36.3**	**+1.1**
KDZ	**Kurdzhali**	**130.69**	**316**	⇑*i*P		**PKPdf**	**09 59 36.3**	**+1.1**
KDZ	**Kurdzhali**	**130.69**	**316**	*i* P		**PKPdf**	**09 59 34.1**	**-1.1**
ARG	**Arkhangelos**	**130.76**	**309**	*e*P		**PKPdf**	**09 59 37.0**	**+1.6**
RDO	**Rodhopi**	**130.82**	**316**	*e*P		**PKPdf**	**09 59 36.0**	**+0.6**
PSZ	**Piszkesteto**	**130.90**	**326**	⇑PKIKP		**PKPdf**	**09 59 36.2**	**+0.7**
PSZ	**Piszkesteto**	**130.90**	**326**	⇑*i*P		**PKPdf**	**09 59 36.2**	**+0.7**
PSZ	**Piszkesteto**	**130.90**	**326**	*e*PKPdf		**PKPdf**	**09 59 35.4**	**0.0**
PSZ				LR		LR		
	comp=Z,71µm,22.0s							
PSZ	**Piszkesteto**	**130.90**	**326**	⇑*e*PKPdf		**PKPdf**	**09 59 35.1**	**-0.4**
KSP	**Ksiaz**	**130.91**	**331**	*e*Pdiff		**Pdif**	**09 56 29.5**	**+2.9**
KSP				*e*PKPdf		**PKPdf**	**09 59 35.3**	**0.0**
KSP				*e*PP		PP	10 01 43.3	-8.3
KSP				*e*SS		SS	10 19 20.6	+3.0
KSP				LMZ		LR	10 57 38.4	
RUE	**Ruedersdorf**	**130.92**	**334**	*e*PKPdf		**PKPdf**	**09 59 35.9**	**+0.8**
MPEP	**Malo Peshtene**	**131.02**	**319**	*i* P		**PKPdf**	**09 59 34.9**	**-0.8**
PRK	**Paraskevi**	**131.07**	**313**	*e*P		**PKPdf**	**09 59 37.0**	**+1.1**
SMTH	**Samothraki Isl**	**131.10**	**315**	*e*P		**PKPdf**	**09 59 36.5**	**+0.5**
PGB	**Panagyurishte**	**131.12**	**318**	*i* P		**PKPdf**	**09 59 34.1**	**-1.9**
VYHS	**Vyhne**	**131.13**	**327**	*e*PKIKP		**PKPdf**	**09 59 35.7**	**-0.1**
VYHS				MLR		MLR		
	comp=Z,29µm,25.6s							
VYHS	**Vyhne**	**131.13**	**327**	*e*PKP		**PKPdf**	**09 59 35.7**	**-0.1**
VYHS				*e*PP		PP	10 01 44.1	-9.0
VYHS				*e*			10 11 47.0	
VYHS				*e*SS		SS	10 19 58.9	+38
RZN	**Rozhen**	**131.14**	**317**	*i* P		**PKPdf**	**09 59 34.9**	**-1.4**
KRLC	**Kraliky**	**131.18**	**330**	*e*PKIKP		**PKPdf**	**09 59 35.4**	**-0.5**
KRLC				*e*			10 01 58.2	
KRLC	**Kraliky**	**131.18**	**330**	*e*PKPdf		**PKPdf**	**09 59 35.4**	**-0.5**
KRLC				*e*PP		**PP**	**10 01 58.2**	**+4.8**
BZS	**Buzias**	**131.20**	**323**	⇓PKIKP		**PKPdf**	**09 59 37.5**	**+1.5**
BZS	**Buzias**	**131.20**	**323**	⇓*i*P		**PKPdf**	**09 59 37.5**	**+1.5**
SMG	**Samos**	**131.22**	**311**	*e*P		**PKPdf**	**09 59 36.0**	**-0.3**
DPC	**Dobruska-Polom**	**131.22**	**331**	*e*P		**Pdif**	**09 56 33.9**	**+5.8**
DPC				*e*			09 59 36.0	
DPC				*e*			09 59 41.5	
DPC				*e*			10 01 58.8	
DPC	**Dobruska-Polom**	**131.22**	**331**	*e*PDIFF		**Pdif**	**09 56 33.9**	**+5.8**
DPC				*e*PKPpre		PKPpre	09 59 28.5	
DPC				*e*PKPdf		**PKPdf**	**09 59 36.0**	**0.0**
DPC				*e*pPKP		**PKiKP**	**09 59 41.5**	**+4.6**
DPC				*e*PP		**PP**	**10 01 58.8**	**+5.1**
DPC				*e*SKP			10 03 02.2	
DPC				AMS		AMS	10 57 40.0	
BSEG	**Bad Segeberg**	**131.23**	**337**	*e*PKPdf		**PKPdf**	**09 59 35.7**	**0.0**
BSEG	**Bad Segeberg**	**131.23**	**337**	*e*PKPbc		**PKPdf**	**09 59 35.8**	**0.0**
UPC	**Upice**	**131.27**	**331**	*e*PKPpre		PKPpre	09 59 28.5	
UPC				*e*PKPdf		**PKPdf**	**09 59 36.3**	**+0.3**
UPC				*e*pPKP		**PKiKP**	**09 59 41.6**	**+4.7**
UPC				*e*PP		PP	10 01 59.8	+5.9
SIGR	**SIGRI**	**131.38**	**313**	*e*P		**PKPdf**	**09 59 36.0**	**-0.5**
PKSN	**Nyarlorinc**	**131.50**	**325**	⇓*e*PKPdf		**PKPdf**	**09 59 37.3**	**+0.8**
CHOS	**Chios island**	**131.55**	**312**	*e*P		**PKPdf**	**09 59 35.0**	**-2.0**
LIA	**Limnos Island**	**131.58**	**314**	*e*P		**PKPdf**	**09 59 36.5**	**-0.4**
BANR	**Banloc**	**131.61**	**323**	⇑*i*P		**PKPdf**	**09 59 34.8**	**-1.9**
BUD	**Budapest**	**131.63**	**326**	⇑*e*PKPdf		**PKPdf**	**09 59 36.4**	**-0.3**
SAML	**Samuel**	**131.66**	**112**	*e*PKPpre		PKPpre	09 59 30.8	
SAML				*e*PKPdf		**PKPdf**	**09 59 37.4**	**-0.4**
SAML				*e*PP		**PP**	**10 01 57.3**	**-0.5**
SAML				*e*SKP			10 03 01.9	
SAML				LR		LR		
	comp=Z,18µm,20.0s							
VTS	**Vitosha**	**131.73**	**318**	*i* P		**PKPdf**	**09 59 35.8**	**-1.5**
VRAC	**Vranov**	**131.77**	**329**	PKIKP		**PKPdf**	**09 59 37.0**	**0.0**
VRAC	**Vranov**	**131.77**	**329**	PKP		**PKPdf**	**09 59 37.0**	**0.0**
	comp=Z,71nm,1.2s,baz=66,slow=1.4,SNR=44							
PKS7	**Kunszentmiklos**	**131.81**	**326**	⇓*e*PKPdf		**PKPdf**	**09 59 37.4**	**+0.3**
PKS6	**Bocsa**	**131.85**	**325**	⇓*e*PKPdf		**PKPdf**	**09 59 37.8**	**+0.7**
MMB	**Musomiste**	**131.85**	**317**	⇓PKIKP		**PKPdf**	**09 59 38.7**	**+1.3**
MMB	**Musomiste**	**131.85**	**317**	⇓*i*P		**PKPdf**	**09 59 38.7**	**+1.3**
MMB	**Musomiste**	**131.85**	**317**	*i* P		**PKPdf**	**09 59 34.9**	**-2.5**
SMOL	**Smolenice**	**131.85**	**328**	*e*PKIKP		**PKPdf**	**09 59 39.1**	**+2.0**
SMOL	**Smolenice**	**131.85**	**328**	*e*PKP		**PKPdf**	**09 59 39.1**	**+2.0**
NVR	**Nevrokopi**	**131.87**	**317**	*e*P		**PKPdf**	**09 59 37.0**	**-0.4**
NVR	**Nevrokopi**	**131.87**	**317**	*e*P		**PKPdf**	**09 59 37.0**	**-0.4**
PVCC	**Panska Ves**	**131.93**	**332**	*e*PKIKP		**PKPdf**	**09 59 37.6**	**+0.4**
PVCC				*e*			10 02 02.8	
PVCC				MLR		MLR		
	comp=Z,86µm,19.6s							
PVCC	**Panska Ves**	**131.93**	**332**	*e*PKPdf		**PKPdf**	**09 59 37.6**	**+0.4**
PVCC				*e*pPKP		**PKiKP**	**09 59 41.6**	**+3.3**
PVCC				*e*PP		**PP**	**10 02 02.8**	**+4.7**
PVCC				AMS		AMS	11 00 30.0	
	comp=Z,86µm,19.6s							
BRG	**Berggiesshubel**	**131.98**	**333**	PDIFF		**Pdif**	**09 56 33.0**	**+1.7**
BRG	**Berggiesshubel**	**131.98**	**333**	*e*PKP		**PKPdf**	**09 59 37.4**	**0.0**
	comp=Z,311nm,1.5s							
BRG				*i* pPKP		PKiKP	09 59 43.6	+5.2
	comp=Z,252nm,1.2s							
BRG				PP		PP	10 01 50.0	-8.4
BRG				*i* SKP			10 03 02.4	
	comp=Z,221nm,1.6s							
	comp=N,64µm,21.2s							
	comp=E,29µm,21.9s							
	comp=Z,92µm,21.0s							
BRG	**Berggiesshubel**	**131.98**	**333**	*e*PKPdf		**PKPdf**	**09 59 37.3**	**0.0**
BRG	**Berggiesshubel**	**131.98**	**333**	*e*PKPbc		**PKPdf**	**09 59 37.3**	**0.0**
BRG	**Berggiesshubel**	**131.98**	**333**	P		**Pdif**	**09 56 33.0**	**+1.7**
BRG				*e*			09 59 37.4	
BRG				*i*			09 59 43.6	
BRG				pmax		pmax		
	comp=Z,311nm,1.5s							
BRG				MLR		MLR		
	comp=N,64µm,21.2s							
BRG				MLR		MLR		
	comp=E,29µm,21.9s							
BRG				MLR		MLR		
	comp=Z,92µm,21.0s							
PKSG		**132.03**	**326**	⇓*e*		**PKPdf**	**09 59 36.7**	**-0.8**
CLL	**Collm**	**132.09**	**334**	*e*PKPbc		**PKPdf**	**09 59 37.2**	**-0.2**
CLL	**Collm**	**132.09**	**334**	⇑*e*PKHKP		PKPpre	09 59 27.0	
CLL				*i*			09 59 37.3	
CLL				*i*			09 59 43.2	
CLL				*e*			10 01 58.0	
CLL				pmax		pmax		
	comp=Z,464nm,2.1s							
CLL				pmax		pmax		
	comp=Z,319nm,1.8s							
CLL				MLR		MLR		
	comp=Z,53µm,20.5s							
CLL	**Collm**	**132.09**	**334**	*e*PKPpre		PKPpre	09 59 27.0	
CLL				⇑*i*PKPdf		**PKPdf**	**09 59 37.3**	**-0.2**
	comp=Z,464nm,2.1s							
CLL				*i* pPKPdf		**PKiKP**	**09 59 43.2**	**+4.7**
	comp=Z,182nm,1.0s							
CLL				*e*			10 01 47.0	
CLL				*e*PP		**PP**	**10 01 58.0**	**-1.1**
CLL				*e*pPP			10 02 06.0	
CLL				*i*			10 02 20.5	
CLL				*i* SKPbc		**SKPab**	**10 03 02.6**	**+2.3**
	comp=Z,319nm,1.8s							
CLL				*i* (pPKSbc)			10 03 09.2	
CLL				*e*PKSdf		**PKSdf**	**10 03 13.0**	**-0.7**
CLL				*e*SKKSac		**SKKSac**	**10 08 54.0**	**+3.0**
CLL				*e*PSKS			10 12 08.0	
CLL				*e*(PPS)			10 13 43.0	
CLL				*e*PPPrev			10 15 48.0	
CLL				*e*SS		**SS**	**10 19 32.0**	**+0.2**
CLL				*e*			10 21 06.0	
CLL				*e*SSS		SSS	10 24 36.0	
CLL				*e*			10 25 42.0	
CLL				Lmax			10 58 00.0	
CLL				LmH			10 58 00.0	
	comp=N,46µm,21.9s							
CLL				LmH			10 58 00.0	
	comp=E,25µm,21.8s							
CLL				LmV			11 01 00.0	
	comp=Z,53µm,20.5s							
PKS2	**Kecel**	**132.11**	**325**	⇓*e*PKPdf		**PKPdf**	**09 59 38.4**	**+0.8**
CSKK	**Cs˙‡kako**	**132.12**	**326**	⇑*e*PKPdf		**PKPdf**	**09 59 37.3**	**-0.4**
KKB	**Krupnik**	**132.15**	**318**	*i* P		**PKPdf**	**09 59 36.2**	**-1.7**
SRS	**Serrai**	**132.15**	**317**	*e*P		**PKPdf**	**09 59 38.0**	**0.0**
SRS	**Serrai**	**132.15**	**317**	*e*P		**PKPdf**	**09 59 38.0**	**0.0**
GOPC	**GO Pecny, Ondr**	**132.25**	**331**	*e*PKPdf		**PKPdf**	**09 59 37.8**	**-0.1**
GOPC				*e*pPKP		**PKiKP**	**09 59 43.5**	**+4.5**
PKST	**T˜'s**	**132.30**	**326**	⇓*e*PKPdf		**PKPdf**	**09 59 37.8**	**-0.3**
PRA	**Prague**	**132.31**	**331**	*e*P		**Pdif**	**09 56 37.9**	**+5.1**
PRA				*e*			09 59 38.4	
PRA				*e*			10 02 04.8	
PRA	**Prague**	**132.31**	**331**	*e*PDIFF		**Pdif**	**09 56 37.9**	**+5.1**
PRA				*e*PKPdf		**PKPdf**	**09 59 38.4**	**+0.5**
PRA				*e*PP		**PP**	**10 02 04.8**	**+4.2**
PRA				*e*SKP			10 03 06.8	
PRU	**Pruhonice**	**132.32**	**331**	*e*P		**Pdif**	**09 56 34.0**	**+1.1**
PRU				*e*			09 59 37.4	
PRU				*e*			09 59 43.0	
PRU				*e*			10 02 04.6	
PRU				MLR		MLR		
	comp=Z,93µm,21.3s							
PRU	**Pruhonice**	**132.32**	**331**	*e*PDIFF		**Pdif**	**09 56 34.0**	**+1.1**
PRU				*e*PKPpre		PKPpre	09 59 28.2	
PRU				*e*PKPdf		**PKPdf**	**09 59 37.4**	**-0.6**
PRU				*e*pPKP		**PKiKP**	**09 59 43.0**	**+4.0**
PRU				*e*PP		**PP**	**10 02 04.6**	**+4.0**
PRU				*e*SKP			10 03 06.2	
PRU				AMS		AMS	10 58 50.0	
	comp=Z,93µm,21.3s							
TREC	**Trest**	**132.33**	**330**	*e*PKIKP		**PKPdf**	**09 59 38.4**	**+0.4**
TREC				MLR		MLR		
	comp=Z,96µm,22.3s							
TREC	**Trest**	**132.33**	**330**	*e*PKPdf		**PKPdf**	**09 59 38.4**	**+0.4**
TREC				AMS		AMS	10 58 20.0	
	comp=Z,96µm,22.3s							
NRDL	**Niedersach Rie**	**132.42**	**336**	*e*PKPdf		**PKPdf**	**09 59 37.8**	**-0.2**
NRDL	**Niedersach Rie**	**132.42**	**336**	*e*PKPbc		**PKPdf**	**09 59 38.4**	**+0.4**
APE	**Apeiranthos**	**132.43**	**311**	⇑PKIKP		**PKPdf**	**09 59 41.1**	**+2.5**
APE	**Apeiranthos**	**132.43**	**311**	*e*P		**PKPdf**	**09 59 38.0**	**-0.6**
APE	**Apeiranthos**	**132.43**	**311**	⇑*i*P		**PKPdf**	**09 59 41.1**	**+2.5**
PLG	**Polygyros**	**132.58**	**316**	*e*P		**PKPdf**	**09 59 38.0**	**-0.8**
ZKR	**Zakros**	**132.58**	**308**	*e*P		**PKPdf**	**09 59 40.5**	**+1.6**
PKSM	**Moragy**	**132.59**	**325**	⇑PKIKP		**PKPdf**	**09 59 38.5**	**-0.1**
PKSM	**Moragy**	**132.59**	**325**	⇑*i*P		**PKPdf**	**09 59 38.5**	**-0.1**
PKSM	**Moragy**	**132.59**	**325**	⇑*e*PKPdf		**PKPdf**	**09 59 38.3**	**-0.3**
KNT	**Kendrikon**	**132.60**	**317**	*e*P		**PKPdf**	**09 59 36.0**	**-2.8**
HORT	**Hortiatis**	**132.72**	**316**	*e*P		**PKPdf**	**09 59 36.5**	**-2.6**
SANT	**Santorini**	**132.73**	**310**	*e*P		**PKPdf**	**09 59 39.0**	**-0.2**
SANT	**Santorini**	**132.73**	**310**	*e*PKPdf		**PKPdf**	**09 59 38.7**	**-0.5**
SANT				LR		LR		
	comp=Z,16µm,21.0s							
BBSR	**BB Station**	**132.77**	**56**	PFAKE			09 59 50.0	+11
BBSR				LR		LR		
	comp=Z,35µm,21.0s							
THE	**Thessaloniki**	**132.80**	**316**	*e*P		**PKPdf**	**09 59 38.5**	**-0.6**
CLZ	**Clausthal**	**132.81**	**336**	*e*PKPdf		**PKPdf**	**09 59 39.2**	**+0.3**
CLZ	**Clausthal**	**132.81**	**336**	*e*PKPbc		**PKPdf**	**09 59 38.9**	**0.0**
SOP	**Sopron**	**132.83**	**328**	⇑*e*PKPdf		**PKPdf**	**09 59 38.8**	**-0.2**
CRPR	**Cabo

ESK LR LR
comp=Z,42µm,22.0s
GRF Grafenberg Arr 134.05 333 *e*PKPdf **PKPdf 09 59 41.9 +0.6**
GRF Grafenberg Arr 134.05 333 *e*PKPbc **PKPdf 09 59 41.4 +0.1**
GRFO Grafenberg 134.05 333 *e*PKPpre PKPpre 09 59 34.2
GRFO *e*PKPdf **PKiKP 09 59 42.2 -0.4**
GRFO *e*PP **PP 10 02 09.7 -2.0**
WTSB Winterswijk 134.09 338 *e*PKPdf **PKPdf 09 59 40.8 -0.3**
comp=Z,733nm,2.6s
WTSB *e*PP **PP 10 02 10.6 -1.1**
MAKR Makrakomi, Fth 134.09 315 *e*P **PKPdf 09 59 41.5 -0.2**
UPM Unac-Piva 134.14 321 ⇓*i*P **PKPdf 09 59 41.4 -0.5**
KARN Karanos 134.25 309 *e*P **PKPdf 09 59 43.5 +1.4**
PERS Pernice 134.25 328 *e*PKPdf **PKPdf 09 59 41.1 -0.7**
SOKA Soboth 134.27 328 ⇓*i*PKPdf **PKPdf 09 59 41.1 -0.8**
comp=Z,185nm,1.0s,SNR=6.8
NKY Niksic 134.29 321 ⇓*i*P **PKPdf 09 59 42.6 +0.5**
BUG Bochum--Univer 134.34 337 *e*PKPdf **PKPdf 09 59 42.6 +0.9**
BUG Bochum--Univer 134.34 337 *e*PKPbc **PKPdf 09 59 41.4 -0.3**
TTG Podgorica 134.34 320 ⇓*i*P **PKPdf 09 59 41.6 -0.4**
NKME Niksic 134.34 321 ⇓*i*P **PKPdf 09 59 42.1 0.0**
KALE Kalithea 134.36 314 *e*P **PKPdf 09 59 42.5 +0.2**
EVR Evrytania 134.36 315 *e*P **PKPdf 09 59 39.0 -3.3**
GUR Goura 134.41 313 *e*P **PKPdf 09 59 42.0 -0.4**
VLI Veliai 134.48 311 *e*P **PKPdf 09 59 43.0 +0.6**
KLV Kalavryta, Ach 134.50 313 *e*P **PKPdf 09 59 42.5 0.0**
EFP Efpalio 134.51 314 *e*P **PKPdf 09 59 44.5 +2.1**
DRME Dracevica, Mon 134.51 320 ⇓*i*P **PKPdf 09 59 38.3 -4.0**
ULC Ulcinj 134.59 320 ⇓*i*P **PKPdf 09 59 42.3 -0.2**
VLX Vlachokerasia 134.62 312 *e*P **PKPdf 09 59 45.0 +2.2**
BUM Brajici-Budva 134.63 320 *e*P **PKPdf 09 59 42.1 -0.6**
OBKA Obir 134.64 328 ⇑*i*PKPdf **PKPdf 09 59 42.5 0.0**
comp=Z,95nm,1.0s,SNR=5.5
JAN Janina 134.68 316 *e*P **PKPdf 09 59 38.0 -4.8**
RJOB Jochberg 134.70 330 *e*PKPdf **PKPdf 09 59 42.9 +0.3**
RJOB Jochberg 134.70 330 *e*PKPbc **PKPdf 09 59 43.4 +0.8**
HCY Herceg Novi 134.80 321 ⇓*i*P **PKPdf 09 59 42.5 -0.4**
TNS Taunus Mts 134.83 335 *e*PKPdf **PKPdf 09 59 42.9 +0.1**
TNS Taunus Mts 134.83 335 *e*PKPbc **PKPdf 09 59 42.9 +0.1**
DRO Drossia 134.85 314 *e*P **PKPdf 09 59 45.0 +1.9**
KBA Koelnbreinsper 134.88 329 ⇑*i*PKiKP **PKiKP 09 59 44.2 -0.4**
comp=Z,201nm,0.9s,SNR=12
BOJS Bojanci 134.90 326 *e*PKPdf **PKPdf 09 59 42.6 -0.3**
PDO Prodromos 134.94 315 *e*P **PKPdf 09 59 43.5 +0.3**
LJU Ljubljana 134.95 327 *e*PKPdf **PKPdf 09 59 42.7 -0.3**
LJU *e*PP **PP 10 02 19.8 +2.3**
LJU *e* 10 03 21.4
LJU *e* 10 12 26.4
LJU *e* 10 14 23.7
LJU *e* 10 15 41.5
LJU *e* 10 22 14.2
LJU *e* 10 35 23.0
LJU *e* 10 37 20.9
RLS Riolos of Patr 134.98 314 *e*P **PKPdf 09 59 40.0 -3.3**
MYKA Terra Mystica 135.03 328 ⇑*i*PKPdf **PKPdf 09 59 43.2 -0.1**
comp=Z,113nm,1.1s,SNR=7.6
ITM Ithomi 135.03 312 *e*P PKPdf 09 59 38.0 -5.5
AMT Artemida-Makis 135.04 313 *e*P **PKPdf 09 59 44.0 +0.5**
IGT Igoumenitsa 135.09 316 *e*P PKPdf 09 59 37.5 -6.0
FUR Furstenfeldbru 135.13 332 *e*PKPdf **PKPdf 09 59 43.3 0.0**
FUR Furstenfeldbru 135.13 332 *e*PKPbc **PKPdf 09 59 46.0 +2.7**
CADS Cadrg 135.25 328 *e*PKPdf **PKPdf 09 59 42.7 -1.0**
PYL PYLOS 135.28 312 *e*P **PKPdf 09 59 44.5 +0.6**
HGN Heimansgroeve 135.38 338 *e*PKPdf **PKPdf 09 59 43.3 -0.3**
comp=Z,104nm,1.4s
HGN *e*PP **PP 10 02 19.9 0.0**
BEBN Eben Emael 135.45 338 PKP **PKPdf 09 59 43.8 0.0**
MEM Membach 135.48 338 PKP **PKPdf 09 59 43.4 -0.5**
VLS Valsamata 135.55 314 *e*P **PKPdf 09 59 40.0 -4.4**
TRI Trieste 135.57 327 *e*PKIKP **PKPdf 09 59 44.1 -0.1**
TRI Trieste 135.57 327 *e*PKPdf **PKPdf 09 59 44.1 -0.1**
WATA Walderalm 135.57 331 ⇑*i*PKiKP **PKPdf 09 59 44.7 +0.3**
comp=Z,145nm,0.8s,SNR=24
WTTA Wattenberg 135.60 330 ⇓*i*PKiKP **PKPdf 09 59 44.6 +0.2**
comp=Z,234nm,0.9s,SNR=16
STU Stuttgart 135.62 334 *e*PKPdf **PKPdf 09 59 44.7 +0.5**
STU Stuttgart 135.62 334 *e*PKPbc **PKPdf 09 59 45.9 +1.7**
STU Stuttgart 135.62 334 *e*PKIKP **PKPdf 09 59 39.3 -4.9**
STU *e* 09 59 46.1
STU Stuttgart 135.62 334 *e*PKPpre **PKPdf 09 59 39.3 -4.9**
STU *e*PKPdf **PKiKP 09 59 46.0 +0.3**
SFD Strofades 135.66 313 *e*P **PKPdf 09 59 48.5 +3.9**
MOTA Moosalm 135.79 331 ⇓*i*PKiKP **PKPdf 09 59 45.0 +0.2**
comp=Z,138nm,0.8s,SNR=12
RETA Reutte 135.85 331 ⇑*i*PKPdf **PKPdf 09 59 42.9 -1.9**
comp=Z,74nm,0.9s,SNR=10
BCLA Clavier 135.90 338 PKP **PKPdf 09 59 44.5 -0.1**
UCC Uccle 135.93 339 PKP **PKPdf 09 59 46.8 +2.2**
WLF Walferdange 136.19 337 PKP **PKPdf 09 59 46.4 +1.2**
WLF Walferdange 136.19 337 *e*PKPdf **PKPdf 09 59 45.9 +0.7**
WLF Walferdange 136.19 337 *e*PKPbc **PKPdf 09 59 46.6 +1.4**
WLF Walferdange 136.19 337 *e*PKHKP PKPpre 09 59 36.3
WLF *e* 09 59 46.2
WLF MLR MLR
comp=Z,41µm,20.0s
WLF Walferdange 136.19 337 *e*PKPpre PKPpre 09 59 36.2
WLF *e*PKPdf **PKiKP 09 59 46.1 -0.7**
WLF LR LR
comp=Z,41µm,20.0s
SNF Seneffe 136.19 339 PKP **PKPdf 09 59 43.2 -2.0**
FETA Feichten 136.21 331 ⇓*i*PKPdf **PKPdf 09 59 45.1 -0.4**
comp=Z,347nm,1.0s,SNR=10.0
BFO Black Forest 136.33 334 *e*PKPdf **PKPdf 09 59 45.5 -0.1**
BFO Black Forest 136.33 334 *e*PKPbc **PKPdf 09 59 47.1 +1.5**
BFO Black Forest 136.33 334 *e*PKHKP PKPpre 09 59 33.8
BFO *e* 09 59 45.0
BFO *e* 10 02 25.9
BFO MLR MLR
comp=Z,33µm,21.0s
BFO Black Forest 136.33 334 *e*PKPpre PKPpre 09 59 33.8
BFO *e*PKPdf **PKPdf 09 59 45.0 -0.6**
BFO *e*PP **PP 10 02 25.9 -0.2**
BFO LR LR
comp=Z,33µm,21.0s
GIVF Givet 136.33 338 ⇑*i*PKIKP **PKPdf 09 59 45.4 -0.1**
comp=Z,523nm,1.1s
GIVF Givet 136.33 338 ⇑*i*PKIKP **PKPdf 09 59 45.4 -0.1**
GIVF Givet 136.33 338 ⇑*i*PKPdf **PKPdf 09 59 45.4 -0.1**
DAVA Damuels 136.41 332 ⇓*i*PKiKP **PKPdf 09 59 46.7 +0.8**
comp=Z,154nm,1.1s
DOU Dourbes 136.42 338 PKP **PKPdf 09 59 45.5 -0.2**
BAIF Baives 136.59 338 *e*PKIKP **PKPdf 09 59 44.9 -1.1**
comp=Z,467nm,1.3s
BAIF Baives 136.59 338 *e*PKIKP **PKPdf 09 59 44.9 -1.1**
BAIF Baives 136.59 338 *e*PKPdf **PKPdf 09 59 44.9 -1.1**
DSB Dublin 136.62 349 *e*PKPpre PKPpre 09 59 36.7
DSB *e*PKPdf **PKPdf 09 59 45.7 -0.2**
DSB *e*PP **PP 10 02 27.2 -0.2**
CDF Champ du Feu 136.72 335 ⇑*i*PKIKP **PKPdf 09 59 45.4 -1.0**
comp=Z,178nm,1.1s
CDF Champ du Feu 136.72 335 ⇑*i*PKIKP **PKPdf 09 59 45.4 -1.0**
CDF Champ du Feu 136.72 335 ⇑*i*PKPdf **PKPdf 09 59 45.4 -1.0**
DAVOX Davos/Dischmat 136.78 331 PKHKP PKPpre 09 59 39.1
DAVOX 09 59 47.0
DAVOX pmax pmax
comp=Z,35nm,1.0s
DAVOX pmax pmax
comp=Z,179nm,1.0s
DAVOX Davos/Dischmat 136.78 331 PKhKP PKPpre 09 59 39.1
comp=Z,35nm,1.0s,baz=240,slow=3.5,SNR=17
DAVOX PKP **PKPdf 09 59 47.0 +0.3**
comp=Z,179nm,1.0s,baz=163,slow=11,SNR=26
ECH Echery 136.92 335 *e*PKHKP PKPpre 09 59 39.2
ECH *e* 09 59 45.2
ECH *e* 10 02 29.4
ECH MLR MLR
comp=Z,45µm,21.0s
ECH Echery 136.92 335 *e*PKPpre PKPpre 09 59 39.2
ECH *e*PKPdf **PKPdf 09 59 45.2 -1.5**
ECH *e*PP **PP 10 02 29.4 -0.3**
ECH LR LR
comp=Z,45µm,21.0s
PAGF Fort de Pagny 137.24 336 ⇑*i*PKIKP **PKPdf 09 59 45.7 -1.5**
comp=Z,82nm,1.2s
PAGF Fort de Pagny 137.24 336 ⇑*i*PKPdf **PKPdf 09 59 45.7 -1.5**
TUE Stuetta 137.26 331 *e*PKPpre PKPpre 09 59 43.6
TUE LR LR
comp=Z,74µm,20.0s
HINF Hinteralfeld 137.36 334 ⇑*i*PKIKP **PKPdf 09 59 46.9 -0.6**
comp=Z,187nm,1.0s
HINF Hinteralfeld 137.36 334 ⇑*i*PKIKP **PKPdf 09 59 46.9 -0.6**
HINF Hinteralfeld 137.36 334 ⇑*i*PKPdf **PKPdf 09 59 46.9 -0.6**

HAU Haudompre 137.43 335 ⇑*i*PKIKP **PKPdf 09 59 46.7 -0.9**
comp=Z,293nm,1.1s
HAU *e*R
comp=Z,87µm,22.5s
HAU Haudompre 137.43 335 ⇑*i*PKIKP **PKPdf 09 59 46.7 -0.9**
HAU Haudompre 137.43 335 ⇑*i*PKPdf **PKPdf 09 59 46.7 -0.9**
PTGA Pitinga 137.50 103 PKhKP PKPpre 09 59 41.4
comp=Z,11nm,0.8s,baz=245,slow=4.5,SNR=10
PTGA PKP **PKPdf 09 59 49.0 +0.2**
comp=Z,139nm,1.1s,baz=256,slow=4.1,SNR=22
PTGA Pitinga 137.50 103 PKPpre PKPpre 09 59 41.4
PTGA *e*PKPpre PKPpre 09 59 41.9
PTGA PKP **PKPdf 09 59 49.0 +0.2**
PTGA *e*PKPdf **PKiKP 09 59 49.3 -1.4**
PTGA LR LR
comp=Z,18µm,22.0s
MEZF Maizieres J'vi 137.55 336 ⇑*i*PKIKP **PKPdf 09 59 46.8 -1.0**
comp=Z,525nm,1.0s
MEZF Maizieres J'vi 137.55 336 ⇑*i*PKPdf **PKPdf 09 59 46.8 -1.0**
TIP Timpagrande 137.67 318 *e*PKPpre PKPpre 09 59 37.7
TIP *e*PKPdf **PKPdf 09 59 47.7 -0.7**
TIP LR LR
comp=Z,30µm,22.0s
SFTF Sexfontaines 137.80 336 ⇑*i*PKIKP **PKPdf 09 59 47.3 -1.0**
comp=Z,552nm,1.2s
SFTF Sexfontaines 137.80 336 ⇑*i*PKPdf **PKPdf 09 59 47.3 -1.0**
CUC Castrocucco 137.84 319 PFAKE 10 00 00.0 +11
CUC LR LR
comp=Z,28µm,20.0s
ANWB Willy Bob 137.92 76 *e*P **PKPdf 09 59 48.7 -0.6**
ANWB Willy Bob 137.92 76 *e*PKPdf **PKPdf 09 59 52.0 +2.7**
ANWB LR LR
comp=Z,20µm,21.0s
AQU L'Aquila 137.92 324 *e*PKPpre PKPpre 09 59 42.4
AQU *e*PKPdf **PKiKP 09 59 50.1 -0.6**
AQU LR LR
comp=Z,63µm,21.0s
MLG Mont-d'or 138.05 78 *e*P **PKPdf 09 59 47.5 -2.1**
GRGR Grenville 138.06 84 PFAKE 10 00 00.0 +10
GRGR LR LR
comp=Z,12µm,20.0s
LKG Breislack 138.10 78 *e*P **PKPdf 09 59 53.8 +3.8**
VLC Villacollemand 138.39 328 PFAKE 10 00 00.0 +10
VLC LR LR
comp=Z,57µm,21.0s
SVB Belmont 138.49 82 *e*P **PKPdf 09 59 49.3 -1.2**
VAL Valentia 138.51 352 *e*P PKPpre 09 59 38.5
VAL *e*PP PP 10 02 46.6 +7.5
FDF Fort de France 138.61 80 *e*PKHKP PKPpre 09 59 43.8
FDF MLR MLR
comp=Z,24µm,22.0s
FDF Fort de France 138.61 80 *e*P PKPpre 09 59 45.5
FDF Fort de France 138.61 80 *e*PKPpre PKPpre 09 59 43.8
FDF LR LR
comp=Z,24µm,22.0s
CABF La Chapelle 138.63 334 ⇑*i*PKIKP **PKPdf 09 59 50.0 0.0**
comp=Z,919nm,1.1s
CABF La Chapelle 138.63 334 ⇑*i*PKIKP **PKPdf 09 59 50.0 0.0**
CABF La Chapelle 138.63 334 ⇑*i*PKPdf **PKPdf 09 59 50.0 0.0**
CEL Celeste 138.73 317 *e*PKPpre PKPpre 09 59 41.1
CEL LR LR
comp=Z,24µm,22.0s
LOR Lormes 139.02 336 *e*PKIKP **PKPdf 09 59 49.4 -1.2**
comp=Z,448nm,1.3s
LOR *e*R
comp=Z,85µm,22.8s
LOR Lormes 139.02 336 *e*PKIKP **PKPdf 09 59 49.4 -1.2**
LOR Lormes 139.02 336 *e*PKPdf **PKPdf 09 59 49.4 -1.2**
TOSP Speyside 139.10 85 *e*P **PKPdf 09 59 52.2 +0.6**
LPL La Plagne 139.19 332 ⇑*i*PKIKP **PKPdf 09 59 50.4 -0.8**
comp=Z,235nm,0.9s
LPL La Plagne 139.19 332 ⇑*i*PKIKP **PKPdf 09 59 50.4 -0.8**
LPL La Plagne 139.19 332 ⇑*i*PKPdf **PKPdf 09 59 50.4 -0.8**
LPG La Plagne 139.19 332 ⇑*i*PKPdf **PKPdf 09 59 50.4 -0.9**
comp=Z,374nm,1.0s
LPG La Plagne 139.19 332 ⇑*i*PKIKP **PKPdf 09 59 50.4 -0.9**
LPG La Plagne 139.19 332 ⇑*i*PKPdf **PKPdf 09 59 50.4 -0.9**
FLN La Foliniere 139.29 341 *e*PKIKP **PKPdf 09 59 50.5 -0.5**
comp=Z,511nm,1.2s
FLN *e*R
comp=Z,43µm,21.0s
FLN La Foliniere 139.29 341 *e*PKIKP **PKPdf 09 59 50.5 -0.5**
FLN La Foliniere 139.29 341 *e*PKPdf **PKPdf 09 59 50.5 -0.5**
LDF La Druitiere 139.32 341 ⇑*i*PKIKP **PKPdf 09 59 50.1 -0.9**
comp=Z,456nm,1.3s
LDF La Druitiere 139.32 341 ⇑*i*PKIKP **PKPdf 09 59 50.1 -0.9**
LDF La Druitiere 139.32 341 ⇑*i*PKPdf **PKPdf 09 59 50.1 -0.9**
SSF Saint Saulge 139.33 336 ⇑*i*PKIKP **PKPdf 09 59 50.1 -1.0**
comp=Z,442nm,1.2s
SSF Saint Saulge 139.33 336 ⇑*i*PKIKP **PKPdf 09 59 50.1 -1.0**
SSF Saint Saulge 139.33 336 ⇑*i*PKPdf **PKPdf 09 59 50.1 -1.0**
HYF Humbligny 139.49 337 ⇑*i*PKIKP **PKPdf 09 59 50.2 -1.2**
HYF Humbligny 139.49 337 ⇑*i*PKPdf **PKPdf 09 59 50.2 -1.2**
SMF Signal de Mont 139.54 336 ⇑*i*PKIKP **PKPdf 09 59 50.7 -0.8**
comp=Z,286nm,1.1s
SMF Signal de Mont 139.54 336 ⇑*i*PKIKP **PKPdf 09 59 50.7 -0.8**
SMF Signal de Mont 139.54 336 ⇑*i*PKPdf **PKPdf 09 59 50.7 -0.8**
BNI Bardonecchia 139.56 332 *e*PKHKP PKPpre 09 59 44.4
BNI *e* 09 59 52.1
BNI MLR MLR
comp=Z,41µm,21.0s
BNI Bardonecchia 139.56 332 *e*PKPpre PKPpre 09 59 44.4
BNI *e*PKPdf **PKPdf 09 59 52.1 +0.3**
BNI LR LR
comp=Z,41µm,21.0s
AVF Avril sur Loir 139.61 336 ⇑*i*PKIKP **PKPdf 09 59 50.7 -0.9**
comp=Z,225nm,1.1s
AVF Avril sur Loir 139.61 336 ⇑*i*PKIKP **PKPdf 09 59 50.7 -0.9**
AVF Avril sur Loir 139.61 336 ⇑*i*PKPdf **PKPdf 09 59 50.7 -0.9**
GRR Gorron 139.74 341 ⇑*i*PKIKP **PKPdf 09 59 51.0 -0.8**
comp=Z,459nm,1.2s
GRR Gorron 139.74 341 ⇑*i*PKIKP **PKPdf 09 59 51.0 -0.8**
GRR Gorron 139.74 341 ⇑*i*PKPdf **PKPdf 09 59 51.0 -0.8**
MBDF Montbardon 139.77 332 ⇑*i*PKIKP **PKPdf 09 59 50.4 -1.8**
comp=Z,354nm,1.3s
MBDF Montbardon 139.77 332 ⇑*i*PKIKP **PKPdf 09 59 50.4 -1.8**
MBDF Montbardon 139.77 332 ⇑*i*PKPdf **PKPdf 09 59 50.4 -1.8**
BGF Bois d'Agland 140.00 337 ⇑*i*PKIKP **PKPdf 09 59 52.1 -0.3**
comp=Z,278nm,1.0s
BGF Bois d'Agland 140.00 337 ⇑*i*PKIKP **PKPdf 09 59 52.1 -0.3**
BGF Bois d'Agland 140.00 337 ⇑*i*PKPdf **PKPdf 09 59 52.1 -0.3**
ORIF Oris-en-Rattie 140.03 332 ⇑*i*PKIKP **PKPdf 09 59 51.5 -1.1**
comp=Z,237nm,0.9s
ORIF *e*R
comp=Z,64µm,22.2s
ORIF Oris-en-Rattie 140.03 332 ⇑*i*PKIKP **PKPdf 09 59 51.5 -1.1**
ORIF Oris-en-Rattie 140.03 332 ⇑*i*PKPdf **PKPdf 09 59 51.5 -1.1**
SBF Sospel 140.09 330 ⇑*i*PKIKP **PKPdf 09 59 51.4 -1.3**
comp=Z,810nm,1.2s
SBF Sospel 140.09 330 ⇑*i*PKIKP **PKPdf 09 59 51.4 -1.3**
SBF Sospel 140.09 330 ⇑*i*PKPdf **PKPdf 09 59 51.4 -1.3**
BBGH Gun Hill 140.14 83 PFAKE 10 00 10.0 +17
BBGH LR LR
comp=Z,27µm,21.0s
PGF Pioggiola 140.24 327 ⇑*i*PKIKP **PKPdf 09 59 52.2 -0.8**
comp=Z,758nm,1.1s
PGF Pioggiola 140.24 327 ⇑*i*PKIKP **PKPdf 09 59 52.2 -0.8**
PGF Pioggiola 140.24 327 ⇑*i*PKPdf **PKPdf 09 59 52.2 -0.8**
SSB Saint Sauveur 140.34 334 *e*PKHKP PKPpre 09 59 45.6
SSB *e* 09 59 53.7
SSB MLR MLR
comp=Z,51µm,20.0s
SSB Saint Sauveur 140.34 334 *e*PKPpre PKPpre 09 59 45.6
SSB *e*PKPdf **PKPdf 09 59 53.7 +0.6**
SSB LR LR
comp=Z,51µm,20.0s
SGMF Saint Gilles 140.37 343 ⇑*i*PKIKP **PKPdf 09 59 51.7 -1.2**
comp=Z,445nm,1.3s
SGMF Saint Gilles 140.37 343 ⇑*i*PKIKP **PKPdf 09 59 51.7 -1.2**
SGMF Saint Gilles 140.37 343 ⇑*i*PKPdf **PKPdf 09 59 51.7 -1.2**
TCF Toulx Ste Croi 140.47 337 ⇑*i*PKIKP **PKPdf 09 59 51.9 -1.4**
comp=Z,534nm,1.2s
TCF Toulx Ste Croi 140.47 337 ⇑*i*PKIKP **PKPdf 09 59 51.9 -1.4**
TCF Toulx Ste Croi 140.47 337 ⇑*i*PKPdf **PKPdf 09 59 51.9 -1.4**
ROSF Rostrenen 140.50 344 ⇑*i*PKIKP **PKPdf 09 59 52.0 -1.2**
comp=Z,271nm,1.2s
ROSF Rostrenen 140.50 344 ⇑*i*PKIKP **PKPdf 09 59 52.0 -1.2**
ROSF Rostrenen 140.50 344 ⇑*i*PKPdf **PKPdf 09 59 52.0 -1.2**
VIVF Saint-Julien-l 140.62 333 ⇑*i*PKIKP **PKPdf 09 59 52.3 -1.3**
comp=Z,454nm,1.2s
VIVF Saint-Julien-l 140.62 333 ⇑*i*PKIKP **PKPdf 09 59 52.3 -1.3**
VIVF Saint-Julien-l 140.62 333 ⇑*i*PKPdf **PKPdf 09 59 52.3 -1.3**
FRF La Foret Royal 140.70 330 ⇑*i*PKIKP **PKPdf 09 59 52.3 -1.4**
comp=Z,816nm,1.4s
FRF La Foret Royal 140.70 330 ⇑*i*PKIKP **PKPdf 09 59 52.3 -1.4**
FRF La Foret Royal 140.70 330 ⇑*i*PKPdf **PKPdf 09 59 52.3 -1.4**
QUIF Quistinic 140.85 343 ⇑*i*PKIKP **PKPdf 09 59 53.0 -0.8**
comp=Z,232nm,1.3s
QUIF Quistinic 140.85 343 ⇑*i*PKIKP **PKPdf 09 59 53.0 -0.8**
QUIF Quistinic 140.85 343 ⇑*i*PKPdf **PKPdf 09 59 53.0 -0.8**
BDFB Brasilia 140.86 132 PKhKP PKPpre 09 59 46.4
comp=Z,15nm,0.6s,baz=326,slow=1.3,SNR=10
CLTB Caltabellotta 140.87 318 *e*PKPdf **PKPdf 09 59 52.2 -2.1**
CLTB LR LR
comp=Z,25µm,20.0s
SMRF Simiane la Rot 140.89 332 ⇑*i*PKIKP **PKPdf 09 59 53.1 -1.0**
comp=Z,872nm,1.3s
SMRF Simiane la Rot 140.89 332 ⇑*i*PKPdf **PKPdf 09 59 53.1 -1.0**
WDD Wield Dalam 140.91 315 *e*PKPdf **PKPdf 09 59 55.4 +1.2**
WDD LR LR
comp=Z,27µm,22.0s
LMR La Mourre 140.94 330 ⇑*i*PKIKP **PKPdf 09 59 53.3 -0.8**
comp=Z,838nm,1.2s
LMR La Mourre 140.94 330 ⇑*i*PKIKP **PKPdf 09 59 53.3 -0.8**
LMR La Mourre 140.94 330 ⇑*i*PKPdf **PKPdf 09 59 53.3 -0.8**
MFF Saint Martin d 141.07 339 ⇑*i*PKIKP **PKPdf 09 59 53.4 -0.9**
comp=Z,494nm,1.3s
MFF Saint Martin d 141.07 339 ⇑*i*PKIKP **PKPdf 09 59 53.4 -0.9**
MFF Saint Martin d 141.07 339 ⇑*i*PKPdf **PKPdf 09 59 53.4 -0.9**
RJF Les Rejaudoux 141.56 337 ⇑*i*PKIKP **PKPdf 09 59 53.6 -1.6**
comp=Z,334nm,1.3s
RJF *e*R
comp=Z,53µm,22.8s
RJF Les Rejaudoux 141.56 337 ⇑*i*PKIKP **PKPdf 09 59 53.6 -1.6**
RJF Les Rejaudoux 141.56 337 ⇑*i*PKPdf **PKPdf 09 59 53.6 -1.6**
LASF Ste Croix 141.59 333 ⇑*i*PKIKP **PKPdf 09 59 54.3 -1.0**
comp=Z,418nm,1.0s
LASF Ste Croix 141.59 333 ⇑*i*PKPdf **PKPdf 09 59 54.3 -1.0**
CAF Calviac 141.66 336 ⇑*i*PKPdf **PKPdf 09 59 54.0 -1.4**
comp=Z,557nm,1.5s
CAF Calviac 141.66 336 ⇑*i*PKIKP **PKPdf 09 59 54.0 -1.4**
CAF Calviac 141.66 336 ⇑*i*PKPdf **PKPdf 09 59 54.0 -1.4**
VSL Villasalto 142.09 323 PFAKE 10 00 10.0 +14
VSL LR LR
comp=Z,30µm,20.0s
LFF La Frestale 142.17 337 ⇑*i*PKIKP **PKPdf 09 59 54.5 -1.8**
LFF La Frestale 142.17 337 ⇑*i*PKIKP **PKPdf 09 59 54.5 -1.8**
LFF La Frestale 142.17 337 ⇑*i*PKPdf **PKPdf 09 59 54.5 -1.8**
MTLF Montolieu 142.89 334 ⇑*i*PKIKP **PKPdf 09 59 56.7 -0.9**
comp=Z,313nm,1.0s
MTLF Montolieu 142.89 334 ⇑*i*PKIKP **PKPdf 09 59 56.7 -0.9**
MTLF Montolieu 142.89 334 ⇑*i*PKPdf **PKPdf 09 59 56.7 -0.9**
EPF Esparros 143.93 336 *e*PKIKP PKPbc 09 59 57.8 +0.4
comp=Z,798nm,1.5s
EPF Esparros 143.93 336 *e*PKIKP PKPbc 09 59 57.8 +0.4
EPF Esparros 143.93 336 *e*PKPdf PKPbc 09 59 57.8 +0.4
ETSF Etsaut 144.39 337 ⇑*i*PKIKP PKPbc 09 59 59.4 +0.5
comp=Z,2µm,1.4s
ETSF Etsaut 144.39 337 ⇑*i*PKIKP PKPbc 09 59 59.4 +0.5
ETSF Etsaut 144.39 337 ⇑*i*PKPdf PKPbc 09 59 59.4 +0.5
SJPF Ste Jean 144.46 338 ⇑*i*PKIKP PKPbc 09 59 59.1 +0.1
comp=Z,1µm,1.5s
SJPF Ste Jean 144.46 338 ⇑*i*PKIKP PKPbc 09 59 59.1 +0.1
SJPF Ste Jean 144.46 338 ⇑*i*PKPdf PKPbc 09 59 59.1 +0.1
KEST Kesra 144.47 319 PKP PKPbc 09 59 59.3 -0.1
comp=Z,258nm,1.2s,baz=356,slow=1.5,SNR=4.8
CMAH Djebel Manchou 145.13 322 P **PKPbc 10 00 01.4 0.0**
ABSA Djebel Ababsia 145.32 321 P **PKPdf 10 00 02.2 0.0**
CAEH 'Ain El Ouahch 145.37 322 P **PKPbc 10 00 01.8 -0.3**
MSKU Masuku 145.39 251 PKPbc **PKPab 10 00 03.5 +0.5**
comp=Z,4µm,1.0s,baz=114,slow=2.4,SNR=126
CKFL Kef-Lekhel 145.70 322 P **PKPbc 10 00 03.4 +0.1**
CASM Ain Smara 145.93 322 P **PKPab 10 00 04.5 0.0**
DFRA Djebel Bou Aff 146.11 323 P **PKPab 10 00 05.5 +0.3**
CTEI Djebel Teioual 146.12 322 P **PKPbc 10 00 04.3 -0.3**
CKHR Kef el Ahmar 146.69 323 P **PKPbc 10 00 06.3 0.0**
PBRG Braganca 147.46 343 *e*PKPdf **PKPdf 10 00 05.4 -0.2**
PGAV Gavieira, Arco 147.72 345 *e*PKPdf **PKPdf 10 00 06.0 -0.1**
PGAV Gavieira, Arco 147.72 345 *e*PKPbc **PKPbc 10 00 09.0 +0.1**
PGAV Gavieira, Arco 147.72 345 *e*LR LR 10 54 29.1
comp=Z,33µm,18.0s
PCAB Cabril 147.90 345 *e*PKPdf **PKPdf 10 00 05.7 -0.6**
PCAB Cabril 147.90 345 *e*PKPab **PKPbc 10 00 09.6 +0.3**
MVO Moncorvo 148.14 343 *e*PKPdf **PKPdf 10 00 06.6 -0.2**
MVO Moncorvo 148.14 343 *e*PKPbc **PKPbc 10 00 10.1 +0.1**
MVO Moncorvo 148.14 343 *e*LR LR 10 55 23.1
comp=Z,31µm,22.0s
POLO Lamas de Olo 148.16 344 *e*PKPdf **PKPdf 10 00 06.2 -0.6**
POLO Lamas de Olo 148.16 344 *e*PKPbc **PKPbc 10 00 10.2 +0.1**
PVRL Vila Real 148.23 344 *e*PKPdf **PKPdf 10 00 06.1 -0.8**
PVRL Vila Real 148.23 344 *e*PKPbc **PKPbc 10 00 10.4 +0.2**
ESDC Sonseca Array 148.47 338 PKPbc **PKPbc 10 00 10.8 -0.1**
comp=Z,151nm,1.1s,baz=356,slow=2.6,SNR=72
ESDC PP **PP 10 03 37.7 -1.6**
comp=Z,26nm,1.0s,baz=29,slow=6.9,SNR=4.6
PTO Porto 148.59 345 *e*PKPbc **PKPbc 10 00 10.7 -0.4**
PAB San Pablo 148.72 338 *e*PKIKP **PKPdf 10 00 08.2 +0.4**
PAB *e* 10 00 11.5
PAB *e* 10 03 41.8
PAB MLR MLR
comp=Z,49µm,22.0s
PAB San Pablo 148.72 338 *e*PKPdf **PKPdf 10 00 08.2 +0.4**
PAB *e*PKPbc **PKPbc 10 00 11.5 -0.1**
PAB *e* 10 03 41.8
PAB LR LR
comp=Z,49µm,22.0s
PVIS Viseu 148.80 344 *e*PKPdf **PKPdf 10 00 07.5 -0.3**
PVIS Viseu 148.80 344 *e*PKPbc **PKPbc 10 00 11.8 +0.1**
MTE Manteigas 148.99 343 *e*PKPdf **PKPdf 10 00 07.9 -0.3**
MTE Manteigas 148.99 343 *e*PKPbc **PKPbc 10 00 12.6 +0.3**
MTE Manteigas 148.99 343 *e*LR LR 10 53 51.6
comp=Z,32µm,20.0s
MTE Manteigas 148.99 343 *e*PKPdf **PKPdf 10 00 08.4 +0.2**
MTE *e*PKPbc **PKiKP 10 00 12.9 -0.6**
MTE LR LR
comp=Z,33µm,20.0s
PCBR Castelo Branco 149.49 343 *e*PKPdf **PKPdf 10 00 08.9 0.0**
PCBR Castelo Branco 149.49 343 *e*PKPbc **PKPbc 10 00 13.2 -0.2**
PCAS Casmilo, Conde 149.58 344 *e*PKPdf **PKPdf 10 00 05.3 -3.8**
PCAS Casmilo, Conde 149.58 344 *e*PKPbc **PKPbc 10 00 13.4 -0.2**
H07S1 FLORES T-PHASB 149.60 19 *e*PKP **PKPdf 10 00 08.3 -0.8**
H07S1 FLORES T-PHASB 149.60 19 *e*LR LR 10 52 23.6
OJGS Djebel Guires 149.75 327 P PKPdf 10 00 01.0 -8.6
PMRV Marv??o 149.84 342 *e*PKPdf **PKPdf 10 00 09.3 -0.2**
PMRV Marv??o 149.84 342 *e*PKPbc **PKPbc 10 00 14.5 +0.2**
PMRV Marv??o 149.84 342 *e*PKPab **PKPab 10 00 19.6 -0.2**
PMRV Marv??o 149.84 342 *e*LR LR 10 54 11.5
comp=Z,39µm,20.0s
PTOM Tomar 149.96 344 *e*PKPdf **PKPdf 10 00 09.5 -0.2**
PTOM Tomar 149.96 344 *e*PKPbc **PKPbc 10 00 14.8 +0.2**
PTOM Tomar 149.96 344 *e*PKPab **PKPab 10 00 20.0 -0.2**
USTO Oran 150.25 329 P PKPdf 10 00 04.0 -6.2
SHEL Horse Pasture 150.31 206 *e*PKPdf **PKPdf 10 00 12.3 +1.4**
SHEL *e* 10 00 18.1
SHEL MLR MLR
comp=Z,36µm,20.0s
SHEL Horse Pasture 150.31 206 *e*PKPdf **PKPdf 10 00 12.3 +1.4**
SHEL *e*PKPbc **PKiKP 10 00 18.1 +1.1**
SHEL LR LR
comp=Z,36µm,20.0s
PESTR Estremoz 150.42 342 *e*PKPdf **PKPdf 10 00 10.0 -0.4**
PESTR Estremoz 150.42 342 *e*PKPbc **PKPbc 10 00 15.5 -0.2**
PMTG Montargil 150.42 343 *e*PKPdf **PKPdf 10 00 09.8 -0.6**
**PMTG Montargil

LIS	**Lisbon**	**151.00**	**344**	*e*P	**PKPdf**	**10 00 10.6**	**-0.7**
LIS				*e*SS	SS	10 23 13.5	+2.4
LIS				AMS	AMS	11 12 57.0	
	comp=Z,42µm,22.3s						
LIS	**Lisbon**	**151.00**	**344**	*e*PKIKP	**PKPdf**	**10 00 10.6**	**-0.7**
PCED	**Cedros**	**151.04**	**16**	*e*PKP	**PKPbc**	**10 00 14.5**	**-2.7**
OLHC	**Oulhaca**	**151.07**	**330**	P	PKPdf	10 00 02.0	-10
ROSA	**Rosais**	**151.07**	**15**	*e*PKP	**PKPdf**	**10 00 10.3**	**-1.1**
ROSA	**Rosais**	**151.07**	**15**	*e*LR	LR	10 52 23.1	
	comp=Z,2µm,17.8s						
CALA	**Caldeira**	**151.08**	**16**	*e*PKP	**PKPbc**	**10 00 16.6**	**-0.8**
HOR	**Horta**	**151.15**	**16**	*e*PKP	**PKPbc**	**10 00 15.7**	**-1.7**
PMAN	**Manadas**	**151.20**	**15**	*e*PKP	**PKPdf**	**10 00 10.3**	**-1.3**
PICO	**Pico**	**151.23**	**16**	*e*PKP	**PKPdf**	**10 00 12.0**	**+0.2**
PCAN	**Candelaria**	**151.25**	**16**	*e*PKP	**PKPdf**	**10 00 10.7**	**-1.0**
TOPO	**Topo**	**151.28**	**15**	*e*PKP	**PKPdf**	**10 00 11.2**	**-0.6**
ADH	**Angra Heroismo**	**151.38**	**14**	*e*PKP	**PKPdf**	**10 00 12.2**	**+0.3**
PNCL	**Nicolau / Gran**	**151.40**	**343**	*e*PKPdf	**PKPdf**	**10 00 11.4**	**-0.5**
PNCL	**Nicolau / Gran**	**151.40**	**343**	*e*PKPbc	**PKPbc**	**10 00 18.4**	**+0.4**
PNCL	**Nicolau / Gran**	**151.40**	**343**	*e*PP	PP	10 04 00.0	+4.0
MESJ	**Messejana**	**151.56**	**342**	*e*P	**PKPdf**	**10 00 11.8**	**-0.3**
MESJ				*e*SS	SS	10 23 20.0	+2.7
MESJ				AMS	AMS	11 15 44.2	
	comp=Z,35µm,18.7s						
MESJ	**Messejana**	**151.56**	**342**	*e*PKPdf	**PKPdf**	**10 00 12.3**	**+0.1**
MESJ	**Messejana**	**151.56**	**342**	*e*PKPbc	**PKPbc**	**10 00 19.1**	**+0.7**
MESJ	**Messejana**	**151.56**	**342**	*e*PKIKP	**PKPdf**	**10 00 11.8**	**-0.3**
PCVE	**Castro Verde**	**151.69**	**342**	*e*PKPdf	**PKPdf**	**10 00 12.6**	**+0.2**
PCVE	**Castro Verde**	**151.69**	**342**	*e*PKPbc	**PKPbc**	**10 00 19.3**	**+0.6**
PCVE	**Castro Verde**	**151.69**	**342**	*e*PP	PP	10 04 01.6	+3.8
PVAQ	**Vaqueiros**	**151.80**	**341**	*e*PKPdf	**PKPdf**	**10 00 12.8**	**+0.2**
PVAQ	**Vaqueiros**	**151.80**	**341**	*e*PKPbc	**PKPbc**	**10 00 19.5**	**+0.5**
PVAQ	**Vaqueiros**	**151.80**	**341**	*e*PP	PP	10 04 01.9	+3.5
PVAQ	**Vaqueiros**	**151.80**	**341**	*e*LR	LR	10 57 35.1	
	comp=Z,42µm,22.0s						
PTEO	**Sao Teotonio**	**151.98**	**343**	*e*PKPdf	**PKPdf**	**10 00 12.5**	**-0.3**
PTEO	**Sao Teotonio**	**151.98**	**343**	*e*PP	PP	10 04 00.4	+1.0
PBDV	**Barranco-do-Ve**	**152.02**	**341**	*e*PKPdf	**PKPdf**	**10 00 13.3**	**+0.4**
PBDV	**Barranco-do-Ve**	**152.02**	**341**	*e*PKPbc	**PKPbc**	**10 00 19.4**	**-0.1**
PBDV	**Barranco-do-Ve**	**152.02**	**341**	*e*PP	PP	10 04 03.2	+3.5
MORF	**Marmelete**	**152.18**	**342**	*e*P	**PKPdf**	**10 00 12.9**	**-0.3**
MORF				*e*SS	SS	10 23 26.6	+2.4
MORF				AMS	AMS	11 14 35.0	
	comp=Z,31µm,24.2s						
MORF	**Marmelete**	**152.18**	**342**	*e*PKPdf	**PKPdf**	**10 00 13.2**	**0.0**
MORF	**Marmelete**	**152.18**	**342**	*e*PKPbc	**PKPbc**	**10 00 20.2**	**+0.3**
MORF	**Marmelete**	**152.18**	**342**	*e*PP	PP	10 04 01.8	+1.2
MORF	**Marmelete**	**152.18**	**342**	*e*PKIKP	**PKPdf**	**10 00 12.9**	**-0.3**
PFVI	**Vila Bisbo**	**152.39**	**343**	*e*PKPdf	**PKPdf**	**10 00 13.0**	**-0.4**
PSET	**Sete Cidades**	**152.51**	**12**	*e*PKP	**PKPdf**	**10 00 12.6**	**-1.1**
PSET	**Sete Cidades**	**152.51**	**12**	*e*LR	LR	10 52 23.6	
	comp=Z,2µm,16.6s						
PDA	**Ponta Delgada**	**152.60**	**12**	*e*PKP	**PKPdf**	**10 00 09.9**	**-3.8**
BART	**Pico Bartolome**	**152.67**	**11**	*e*PKP	**PKPdf**	**10 00 13.3**	**-0.6**
PSMA	**Santa Maria**	**153.43**	**11**	*e*PKP	**PKPdf**	**10 00 14.1**	**-0.9**
PSMN	**Pico do Norte,**	**153.44**	**11**	*e*PKP	**PKPdf**	**10 00 14.0**	**-1.0**
PSMN	**Pico do Norte,**	**153.44**	**11**	*e*LR	LR	10 52 23.2	
	comp=Z,2µm,17.8s						
TAM	**Tamanrasset**	**153.92**	**300**	*e*PKIKP	**PKPdf**	**10 00 16.7**	**+0.4**
TAM				MLR	MLR		
	comp=Z,46µm,19.0s						
TAM	**Tamanrasset**	**153.92**	**300**	*e*PKPdf	**PKPdf**	**10 00 16.6**	**+0.4**
TAM				LR	LR		
	comp=Z,46µm,19.0s						
RTC	**Rabat Centre**	**154.56**	**336**	*e*PKPdf	**PKPdf**	**10 00 17.8**	**+1.1**
RTC				*e*PKPbc	**PKiKP**	**10 00 26.1**	**+1.0**
RTC				LR	LR		
	comp=Z,29µm,19.0s						
MDT	**Midelt**	**154.59**	**331**	PKP	**PKPdf**	**10 00 16.5**	**-0.4**
	comp=Z,70nm,1.2s,baz=41,slow=2.4,SNR=7.0						
MDT				PKPbc	**PKiKP**	**10 00 26.2**	**+0.8**
	comp=Z,204nm,1.1s,baz=15,slow=2.9,SNR=9.1						
MDT				PKPab	**PKPab**	**10 00 38.7**	**-1.3**
	comp=Z,82nm,1.1s,baz=121,slow=1.3,SNR=5.5						
RCBR	**Riachuelo**	**156.22**	**134**	PKP	**PKPdf**	**10 00 19.7**	**+0.2**
	comp=Z,80nm,1.1s,baz=261,slow=1.8,SNR=12						
RCBR	**Riachuelo**	**156.22**	**134**	*e*PKPdf	**PKPdf**	**10 00 19.6**	**0.0**
RCBR				PKP	**PKPdf**	**10 00 19.7**	**+0.2**
RCBR				LR	LR		
	comp=Z,29µm,21.0s						
PMPS	**Porto Santo**	**157.85**	**354**	*e*PKPdf	**PKPdf**	**10 00 20.2**	**-0.8**
PMAR	**Madeira**	**158.24**	**356**	*e*PKPdf	**PKPdf**	**10 00 21.5**	**-0.2**
PMAR	**Madeira**	**158.24**	**356**	*e*PKPab	**PKPab**	**10 00 56.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**159.80**	**278**	PKP	**PKPdf**	**10 00 22.9**	**-0.9**
	comp=Z,68nm,1.1s,baz=35,slow=0.7,SNR=112						
TORD				PKPab	**PKPab**	**10 01 03.6**	**+0.7**
	comp=Z,54nm,1.0s,baz=77,slow=1.9,SNR=11						
TORD				PP	**PP**	**10 04 49.7**	**+4.6**
	comp=Z,58nm,1.1s,baz=103,slow=3.6,SNR=6.4						
ASCN	**Ascension**	**160.74**	**194**	*e*PKPdf	**PKPdf**	**10 00 25.6**	**+0.7**
ASCN				LR	LR		
	comp=Z,31µm,22.0s						
KIC	**Kosan Boka**	**165.35**	**253**	*e*PKIKP	**PKPdf**	**10 00 28.2**	**-1.1**
	comp=Z,701nm,1.4s						
DBIC	**Dimbokro**	**165.56**	**254**	*e*PKIKP	**PKPdf**	**10 00 28.3**	**-1.2**
DBIC				*e*		10 01 28.4	
DBIC	**Dimbokro**	**165.56**	**254**	PKP	**PKPdf**	**10 00 28.9**	**-0.6**
	comp=Z,44nm,1.1s,baz=76,slow=1.8,SNR=22						
DBIC				PKPab	**PKPab**	**10 01 28.6**	**+0.3**
	comp=Z,24nm,0.7s,baz=100,slow=8.5,SNR=6.4						
DBIC	**Dimbokro**	**165.56**	**254**	*e*PKPdf	**PKPdf**	**10 00 28.2**	**-1.2**
DBIC				PKP	**PKPdf**	**10 00 28.9**	**-0.6**
DBIC				*e*PKPab	**PKPab**	**10 01 28.4**	**+0.1**
DBIC				PKPab	PKPab	10 01 28.6	+0.3
LIC	**Lamto**	**165.57**	**252**	*e*PKIKP	**PKPdf**	**10 00 28.6**	**-0.9**
	comp=Z,539nm,1.7s						
LIC				*e*R			
	comp=Z,91µm,21.8s						
LIC	**Lamto**	**165.57**	**252**	*e*PKIKP	**PKPdf**	**10 00 28.2**	**-1.3**
	comp=Z,397nm,1.7s						
LIC	**Lamto**	**165.57**	**252**	*e*PKPdf	**PKPdf**	**10 00 28.6**	**-0.9**
TIC	**Toumodi**	**165.70**	**254**	*e*PKIKP	**PKPdf**	**10 00 28.5**	**-1.1**
	comp=Z,339nm,1.5s						
SACV	**Santiago Islan**	**173.85**	**49**	*e*PKPdf	**PKPdf**	**10 00 33.5**	**-0.8**
SACV				*e*PKPab	**PKPab**	**10 02 04.0**	**-0.8**
SACV				LR	LR		
	comp=Z,38µm,20.0s						
BBTS	**Babate**	**175.66**	**329**	PKP	**PKPdf**	**10 00 35.4**	**+0.6**
	comp=Z,715nm,1.1s,baz=109,slow=0.4,SNR=18						

IDC 11 09:41:20.2±15.0, 20°45N×143°90E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.4/38, mbtmp3.6/5, Error ellipse: s-maj=311.9km s-min=70.0km az=125.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**40.73**	**321**	P	P	09 49 02.1	-0.8
	0.8nm,0.8s,baz=118,slow=8.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**42.34**	**275**	P	P	09 49 16.0	-0.4
	0.3nm,0.5s,baz=62,slow=7.3,SNR=5.1						
MKAR	**Makanchi Array**	**56.03**	**313**	P	P	09 51 02.2	+1.2
	0.2nm,0.6s,baz=94,slow=8.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**58.89**	**317**	P	P	09 51 21.3	+0.3
	0.7nm,0.9s,baz=99,slow=6.6,SNR=6.4						
BVAR	**Borovoye Array**	**64.05**	**320**	P	P	09 51 55.0	-0.9
	0.6nm,0.6s,baz=99,slow=7.8,SNR=4.8						

DDA 11 09:42:11.7, 39°41N×27°73E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.34**	**345**	*i* P	Pg	09 42 17.4	-1.1
BALY				*i* S	Sb	09 42 28.5	+2.5
AKHS	**Akhisar**	**0.53**	**173**	*i* P	Pg	09 42 22.4	+0.3
AKHS				*i* S	Sg	09 42 29.9	+0.9
DEMI	**Demirci**	**0.85**	**115**	*i* P	Pg	09 42 27.4	-0.7
DEMI				*i* S	Sb	09 42 40.7	+0.2

CSEM 11 09:44:58.6, 35°92N×6°32E, h0km, ML3.8
CRAAG 11 09:44:58.6, 35°92N×6°32E, Ml3.8, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTEI	**Djebel Teioual**	**0.16**	**27**	P	Pg	09 45 03.0	+1.1
CTEI	**Djebel Teioual**	**0.16**	**27**	P	Pg	09 45 03.0	+1.1
CASM	**Ain Smara**	**0.36**	**23**	P	Pb	09 45 08.0	-0.1
CASM	**Ain Smara**	**0.36**	**23**	P	Pb	09 45 08.0	-0.1
CKFL	**Kef-Lekhel**	**0.58**	**34**	P	Pb	09 45 12.8	+1.0
CKFL	**Kef-Lekhel**	**0.58**	**34**	P	Pb	09 45 12.8	+1.0
CKHR	**Kef el Ahmar**	**0.66**	**278**	P	Pg	09 45 11.8	+0.3
CKHR	**Kef el Ahmar**	**0.66**	**278**	P	Pg	09 45 11.8	+0.3
DFRA	**Djebel Bou Aff**	**0.72**	**330**	P	Pg	09 45 11.8	+0.3
DFRA	**Djebel Bou Aff**	**0.72**	**330**	P	Pn	09 45 15.2	-1.0
DFRA	**Djebel Bou Aff**	**0.72**	**330**	P	Pn	09 45 15.2	-1.0
SET	**Setif**	**0.79**	**291**	P	Pn	09 45 17.0	-0.2
SET	**Setif**	**0.79**	**291**	P	Pn	09 45 17.0	-0.2
CAEH	**'Ain El Ouahch**	**0.96**	**27**	P	Pn	09 45 19.8	+0.4
CAEH	**'Ain El Ouahch**	**0.96**	**27**	P	Pn	09 45 19.8	+0.4
ABSA	**Djebel Ababsia**	**1.00**	**69**	P	Pg	09 45 17.7	-0.3
ABSA	**Djebel Ababsia**	**1.00**	**69**	P	Pg	09 45 17.7	-0.3
CMAH	**Djebel Manchou**	**1.13**	**51**	P	Pn	09 45 29.4	+7.5
CMAH	**Djebel Manchou**	**1.13**	**51**	P	Pn	09 45 29.4	+7.5
EMHD	**Djebel Mahouad**	**2.74**	**277**	P	Pb	09 45 47.4	-1.3
EMHD	**Djebel Mahouad**	**2.74**	**277**	P	Pb	09 45 47.4	-1.3

ISCJB 11 09:52:51.8±0.4, 32°33N±0°.03×115°.31W±0°.04, h12km±4km, Error ellipse: s-maj=5.6km s-min=4.2km az=159.7
NEIC 11 09:52:52.9, 32°.37N×115°.30W, h0km, MD3.5(ECX), MD3.7(MEX), ML3.4(PAS), After ECX.
ECX 11 09:52:53.4±0.6, 32°.35N×115°.33W, h5km, MD3.4, ML3.5
MEX 11 09:52:54.1±0.8, 32°.35N×115°.26W, h10km, MD3.7
ISC 11 09:52:51.4±0.8, 32°32N±0°.02×115°29W±0°.03, h16km±5km, n25, σ0°58/45, 9C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.10**	**354**	⇑*e*P	**Pg**	**09 52 54.7**	**0.0**
CPBX				*e*S	**Sg**	**09 52 56.5**	**-0.5**
CPBX				AML	AML	09 52 59.2	
	comp=N,100µm,0.4s						
CPBX				⇓*e*		09 52 59.2	
CPBX				⇓*e*		09 53 03.3	
CPBX				AML	AML	09 53 03.3	
	comp=E,64µm,0.3s						
CPBX	**Cerro Prieto**	**0.10**	**354**	*i* P	**Pg**	**09 52 55.0**	**+0.3**
CPBX				*i* S	**Sg**	**09 52 57.1**	**+0.2**
MBIG	**Mexicali**	**0.12**	**43**	*i* P	**Pb**	**09 52 55.9**	**+0.7**
MBIG				*e*S	**Sb**	**09 52 57.7**	**-0.1**
EMX	**El Mayor**	**0.34**	**173**	⇑*e*P	**Pb**	**09 52 58.7**	**-0.3**
EMX				*e*S	**Sb**	**09 53 03.8**	**-0.3**
EMX	**El Mayor**	**0.34**	**173**	*e*P	**Pb**	**09 52 58.7**	**-0.3**
EMX				*e*S	**Sb**	**09 53 03.8**	**-0.3**
COK	**Cook Ranch**	**0.64**	**325**	*e*P	**Pb**	**09 53 04.3**	**+0.1**
YMD	**Yuma Desert**	**0.67**	**70**	*e*P	**Pn**	**09 53 05.7**	**-0.5**
RDX	**Rancho Dawling**	**0.68**	**235**	⇑*e*P	**Pb**	**09 53 05.0**	**+0.1**
RDX				*e*S	**Sb**	**09 53 15.3**	**+1.1**
RDX	**Rancho Dawling**	**0.68**	**235**	*e*P	**Pb**	**09 53 05.0**	**+0.1**
RDX				*e*S	**Sb**	**09 53 15.3**	**+1.1**
RMX	**La Rumorosa**	**0.72**	**293**	⇓*e*P	**Pg**	**09 53 05.4**	**-0.1**
RMX				*e*S	**Sg**	**09 53 14.7**	**-0.4**
RMX				AML	AML	09 53 16.9	
	comp=N,3µm,0.4s						
RMX				⇑*e*		09 53 16.9	
RMX	**La Rumorosa**	**0.72**	**293**	*e*P	**Pg**	**09 53 05.4**	**-0.1**
RMX				*e*S	**Sg**	**09 53 14.7**	**-0.4**
GLA	**Glamis**	**0.83**	**28**	*e*Pg	**Pg**	**09 53 07.8**	**+0.3**
GLA				*e*Sg	**Sg**	**09 53 18.5**	**+0.1**
ECBX	**El Chinero**	**0.87**	**166**	⇑*e*P	**Pg**	**09 53 08.6**	**+0.2**
ECBX				*e*S	**Sn**	**09 53 20.9**	**-0.4**
ZAX	**El Zacaton**	**1.16**	**226**	⇓*e*P	**Pg**	**09 53 13.6**	**-0.1**
ZAX				*e*S	**Sn**	**09 53 28.8**	**+0.2**
ZAX				AML	AML	09 53 33.7	
	comp=E,761nm,0.5s						
ZAX				⇑*e*		09 53 33.7	
CBX	**Cerro Bola**	**1.16**	**270**	*e*P	**Pb**	**09 53 13.4**	**+0.2**
CBX				*e*S	**Sb**	**09 53 27.2**	**-0.8**
CBX	**Cerro Bola**	**1.16**	**270**	⇑*e*P	**Pb**	**09 53 13.3**	**+0.2**
CBX				*e*S	**Sb**	**09 53 28.3**	**+0.3**
CBX				AML	AML	09 53 29.5	
	comp=E,2µm,0.3s						
CBX				⇓*e*		09 53 29.5	
CBX	**Cerro Bola**	**1.16**	**270**	*e*P	**Pb**	**09 53 13.3**	**+0.2**
CBX				*e*S	**Sb**	**09 53 27.2**	**-0.8**
CBX				*e*S	**Sb**	**09 53 28.3**	**+0.3**
BAR	**Barrett**	**1.22**	**287**	*e*Pn	**Pb**	**09 53 14.2**	**+0.1**
BAR				*e*Sg	**Sb**	**09 53 29.5**	**-0.1**
SPIG	**San Pedro Mart**	**1.28**	**187**	*e*P	**Pb**	**09 53 15.5**	**+0.2**
SPIG				*e*S	**Sb**	**09 53 31.2**	**-0.5**
SPIG	**San Pedro Mart**	**1.28**	**187**	*e*P	**Pn**	**09 53 14.9**	**0.0**
SPIG				*i* S	**Sb**	**09 53 31.2**	**-0.5**
SPX	**San Pedro Mart**	**1.28**	**187**	⇓*e*	**Sg**	**09 53 34.8**	**+1.9**
SPX				AML	AML	09 53 34.8	
	comp=E,470nm,0.5s						
SPX	**San Pedro Mart**	**1.28**	**187**	*e*P	**Pn**	**09 53 14.9**	**0.0**
SPX				*i* S	**Sb**	**09 53 30.0**	**-1.7**
ECNX	**Esteban Cantu**	**1.29**	**239**	⇑*e*P	**Pb**	**09 53 15.7**	**+0.3**
PBX	**Punta Banda**	**1.35**	**245**	⇑*e*P	**Pb**	**09 53 16.4**	**+0.1**
PBX	**Punta Banda**	**1.35**	**245**	*e*P	**Pb**	**09 53 16.4**	**+0.1**

ISCJB 11 09:57:39.4±0.6, 35°.49N±0°.06×6°.37E±0°.06, h10km, mb4.2/7, Error ellipse: s-maj=8.6km s-min=6.6km az=161.5
IDC 11 09:57:39.5±0.9, 35°.56N×6°.46E, h0km, mb4.2/8, mb1 4.2/11, mb1mx3.9/68, mbtmp4.2/11, ML4.0/3, Error ellipse: s-maj=20.8km s-min=14.5km az=176.0
CRAAG 11 09:57:40.4, 35°.71N×6°.38E, Ml4.2
CSEM 11 09:57:40.4, 35°.71N×6°.38E, h0km, ML4.2
ISC 11 09:57:40.7±0.8, 35°64N±0°.07×6°34E±0°.05, h10km, n39, σ1°18/36, mb4.4/7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTEI	**Djebel Teioual**	**0.42**	**8**	P	**Pb**	**09 57 49.1**	**-1.3**
CTEI	**Djebel Teioual**	**0.42**	**8**	P	**Pb**	**09 57 49.1**	**-1.3**
CKHR	**Kef el Ahmar**	**0.77**	**299**	P	**Pn**	**09 57 58.4**	**+0.7**
CKHR	**Kef el Ahmar**	**0.77**	**299**	P	**Pn**	**09 57 58.4**	**+0.7**
CKFL	**Kef-Lekhel**	**0.82**	**22**	P	**Pn**	**09 57 58.2**	**-0.2**
CKFL	**Kef-Lekhel**	**0.82**	**22**	P	**Pn**	**09 57 58.2**	**-0.2**
SET	**Setif**	**0.94**	**306**	P	**Pn**	**09 58 00.0**	**-0.1**
SET	**Setif**	**0.94**	**306**	P	**Pn**	**09 58 00.0**	**-0.1**
DFRA	**Djebel Bou Aff**	**0.97**	**338**	P	**Pn**	**09 58 01.5**	**+0.9**
DFRA	**Djebel Bou Aff**	**0.97**	**338**	P	**Pn**	**09 58 01.5**	**+0.9**
ABSA	**Djebel Ababsia**	**1.12**	**55**	P	**Pn**	**09 58 03.1**	**+0.6**
ABSA	**Djebel Ababsia**	**1.12**	**55**	P	**Pn**	**09 58 03.1**	**+0.6**
CAEH	**'Ain El Ouahch**	**1.21**	**20**	P	**Pn**	**09 58 04.4**	**+0.7**
CAEH	**'Ain El Ouahch**	**1.21**	**20**	P	**Pn**	**09 58 04.4**	**+0.7**
CMAH	**Djebel Manchou**	**1.31**	**41**	P	**Pg**	**09 58 05.8**	**-0.2**
CMAH	**Djebel Manchou**	**1.31**	**41**	P	**Pg**	**09 58 05.8**	**-0.2**
KEST	**Kesra**	**2.45**	**87**	Pn	**Pn**	**09 58 21.6**	**+0.7**
	6.9nm,0.3s,baz=234,slow=1.8,SNR=176						
KEST				Lg	Lg	09 58 53.7	
	6.5nm,0.3s,baz=181,slow=23,SNR=6.6						
EMHD	**Djebel Mahouad**	**2.80**	**282**	P	**Pb**	**09 58 28.4**	**-2.5**
EMHD	**Djebel Mahouad**	**2.80**	**282**	P	**Pb**	**09 58 28.4**	**-2.5**
ABA	**Alger-Bouzarea**	**2.91**	**294**	P	**Pn**	**09 58 27.5**	**+0.4**
ABA	**Alger-Bouzarea**	**2.91**	**294**	P	**Pn**	**09 58 27.5**	**+0.4**
EBNR	**Beni Rached**	**3.95**	**281**	P	**Pb**	**09 58 48.6**	**-1.9**
EBNR	**Beni Rached**	**3.95**	**281**	P	**Pb**	**09 58 48.6**	**-1.9**
ECHA	**Ech Chlef**	**4.07**	**279**	P	**Pb**	**09 58 54.0**	**+1.6**
ECHA	**Ech Chlef**	**4.07**	**279**	P	**Pb**	**09 58 54.0**	**+1.6**
ETRT	**Tiaret**	**4.12**	**268**	P	**Pn**	**09 58 42.6**	**-1.2**
ETRT	**Tiaret**	**4.12**	**268**	P	**Pn**	**09 58 42.6**	**-1.2**
EANR	**'Ain N'Sour**	**4.27**	**276**	P	Pb	09 58 51.6	-4.3
EANR	**'Ain N'Sour**	**4.27**	**276**	P	Pb	09 58 51.6	-4.3
ESDC	**Sonseca Array**	**9.10**	**299**	Pn	**Pn**	**09 59 53.5**	**+1.4**
	0.8nm,0.3s,baz=108,slow=13,SNR=13						
MDT	**Midelt**	**9.49**	**256**	Pn	**Pn**	**09 59 59.5**	**+1.8**
	2.3nm,0.3s,baz=75,slow=17,SNR=80						
EKA	**Eskdalemuir Ar**	**20.75**	**345**	P	Pn	10 02 23.7	-0.1
	4.6nm,0.9s,baz=45,slow=6.1,SNR=4.7						
AKASG	**Malin Array Be**	**22.34**	**41**	P	**P**	**10 02 39.2**	**+0.6**
	3.4nm,0.6s,baz=241,slow=8.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**22.79**	**192**	P	**P**	**10 02 42.7**	**-0.8**
	14nm,0.7s,baz=5.6,slow=10,SNR=9.6						
ZALV	**Zalesovo Beam**	**55.66**	**45**	P	**P**	**10 07 16.2**	**-0.5**
	2.1nm,0.7s,baz=279,slow=6.9,SNR=3.9						
MKAR	**Makanchi Array**	**56.13**	**53**	P	**P**	**10 07 19.9**	**-0.4**
	2.5nm,0.6s,baz=290,slow=5.8,SNR=12						
BOSA	**Boshof**	**66.36**	**162**	P	**P**	**10 08 29.8**	**0.0**
	1.9nm,0.6s,baz=337,slow=9.8,SNR=3.1						
ULM	**Lac du Bonnet**	**70.48**	**318**	P	**P**	**10 08 56.7**	**+1.4**
	3.2nm,0.8s,baz=78,slow=5.6,SNR=3.4						
YKA	**Yellowknife Ar**	**71.38**	**335**	P	**P**	**10 09 01.2**	**+0.7**
	1.5nm,0.9s,baz=50,slow=5.9,SNR=14						

IDC 11 09:58:44.6±0.8, 37°.92S×73°.61W, h0km, mb4.5/6, mb1 4.6/9, mb1mx4.3/40, mbtmp4.5/9, ML4.1/3, MS5.2/1, Ms1 5.2/1, ms1mx4.0/23, Error ellipse: s-maj=30.2km s-min=16.5km az=97.0
ISCJB 11 09:58:47.6±1.6, 37°.99S±0°.03×73°.6W±0°.1, h31km±10km, mb4.6/9, MS5.1/1, Error ellipse: s-maj=14.8km s-min=4.7km az=10.0
GUC 11 09:58:47.2±0.6, 38°.03S×73°.67W, h43km±3km, ML4.9
NEIC 11 09:58:49.2±3.0, 37°.90S×73°.57W, h31km±20km, mb4.8/6, Error ellipse: s-maj=19.5km s-min=7.7km az=85.0
ISC 11 09:58:46.7±3.6, 37°.98S±0°.04×73°.73W±0°.08, h16km±21km, n44, σ1°08/53, mb4.8/9, 7C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGCH	**Angol**	**0.83**	**79**	⇑*i* P	**Pb**	**09 59 02.7**	**-0.2**
AGCH				*i* S	**Sb**	**09 59 13.7**	**-0.1**
CCSP	**San Pedro de C**	**1.24**	**24**	⇑*i* P	**Pn**	**09 59 09.0**	**-0.3**
CCSP				*i* S	**Sn**	**09 59 25.6**	**-0.1**
CCSP				AML	AML	09 59 32.0	
	comp=N,40µm,0.6s						
VLCH	**Valdivia**	**1.86**	**168**	⇑*i* P	**Pn**	**09 59 16.6**	**-1.3**
VLCH				*i* S	**Sn**	**09 59 38.9**	**-2.3**
COCH	**Cobquecura**	**1.99**	**22**	⇑*i* P	**Pn**	**09 59 19.4**	**-0.3**
COCH				*e*S	**Sn**	**09 59 44.0**	**-0.4**
LNCH	**Linares**	**2.73**	**39**	⇑*i* P	**Pn**	**09 59 29.6**	**-0.2**
LNCH				*e*S	**Sn**	**10 00 01.6**	**-0.9**
TALC	**Talca**	**3.08**	**34**	⇑*i* P	**Pn**	**09 59 34.5**	**-0.2**
TALC				*e*S	**Sn**	**10 00 12.9**	**+1.7**
PMCH	**Puerto Montt**	**3.56**	**170**	*e*P	**Pn**	**09 59 39.9**	**-1.4**
NICH	**Los Niches**	**3.59**	**35**	*e*P	**Pn**	**09 59 41.3**	**-0.4**
NICH				*e*S	**Sn**	**10 00 22.5**	**-1.3**
PLCA	**Paso Flores**	**3.69**	**139**	Pn	**Pn**	**09 59 44.0**	**+0.8**
	comp=N,6.4nm,0.3s,baz=321,slow=9.0,SNR=91						
PLCA				Lg	Lg	10 00 36.2	
	comp=N,46nm,0.3s,baz=235,slow=17,SNR=5.2						
PLCA	**Paso Flores**	**3.69**	**139**	*e*Pn	**Pn**	**09 59 43.8**	**+0.6**
PLCA				Lg	Lg	10 00 36.2	
PLCA				*e*Sg	**Sb**	**10 00 37.0**	**+0.8**
CLCH	**Cerro Calan**	**5.26**	**31**	⇑*i* P	**Pn**	**10 00 04.0**	**-0.8**
CFAA	**Coronel Fontan**	**7.80**	**37**	Pn	**Pn**	**10 00 38.6**	**-1.0**
	comp=N,0.7nm,0.3s,baz=126,slow=0.4,SNR=27						
CFAA				Sn	**Sn**	**10 02 05.5**	**-2.2**
	comp=N,0.8nm,0.3s,baz=315,slow=20,SNR=3.9						
CFAA				Lg	Lg	10 02 48.2	
	baz=279,slow=19,SNR=3.7						
TRQA	**Tornquist**	**9.27**	**94**	*e*Pn	**Pn**	**10 01 00.3**	**+0.5**
LCO	**Las Campanas**	**9.29**	**17**	*e*Pn	**Pn**	**10 00 58.6**	**-1.7**
LVC	**Limon Verde**	**15.87**	**16**	*e*P	**Pn**	**10 02 28.2**	**-1.5**
	comp=N,3.6nm,0.

FSR eS Sn 10 28 57.8 +2.6
CLCH Cerro Calan 1.78 37⇑ iP Pn 10 28 36.0 +0.9
CLCH i S Sn 10 28 59.0 +2.3
CLCH AML AML 10 29 05.0
comp=N,52µm,0.7s
IHA Instituto Hidr 1.80 5⇑ iP Pn 10 28 35.6 +0.3
IHA Instituto Hidr 1.80 5⇓ iP Pn 10 28 35.6 +0.3
YECH El Yeso 1.85 52⇓ iP Pn 10 28 37.9 +1.6
YECH eS Sn 10 29 02.4 +3.7
YECH AML AML 10 29 05.3
comp=N,22µm,0.5s
YECH El Yeso 1.85 52⇓ iP Pn 10 28 37.9 +1.6
YECH eS Sn 10 29 02.4 +3.7
PEL Peldehue 1.93 30⇓ iP Pn 10 28 38.0 +0.9
PEL i S Sn 10 29 02.5 +2.4
PEL AML AML 10 29 07.0
comp=N,61µm,0.5s
PEL Peldehue 1.93 30⇓ iP Pn 10 28 38.0 +0.9
PEL i S Sn 10 29 02.5 +2.4
CFAA Coronel Fontan 4.40 44 P Pn 10 29 11.9 +0.8
comp=N,3.9nm,0.3s,baz=13,slow=5.6,SNR=214
CFAA S Sn 10 30 04.7 +3.5
comp=N,5.7nm,0.3s,baz=322,slow=5.0,SNR=3.3
LCO Las Campanas 5.87 10 eP Pn 10 29 30.8 -0.8
LCO eSn Sn 10 30 38.6 +0.9
PLCA Paso Flores 5.99 171 P Pn 10 29 35.3 +2.4
comp=N,10nm,0.3s,baz=336,slow=11,SNR=256
PLCA Paso Flores 5.99 171 eP Pn Pn 10 29 35.9 +3.0
TRQA Tornquist 8.57 115 eP Pn Pn 10 30 09.6 +1.3
LVC Limon Verde 12.43 13 eP Pn Pn 10 31 00.9 -0.4
LPAZ La Paz 18.75 11 P Pn 10 32 23.7 +0.1
comp=N,2.7nm,0.3s,baz=186,slow=6.9,SNR=58
LPAZ La Paz 18.75 11 eP Pn 10 32 23.6 0.0
comp=N,18nm,0.7s
USHA Ushuaia 20.15 174 P P 10 32 38.4 +1.2
comp=N,7.2nm,0.8s,baz=343,slow=9.0,SNR=8.2
SIV San Ignacio 21.09 30 P P 10 32 46.6 -1.2
comp=N,58nm,0.9s,baz=220,slow=10,SNR=130
NNA Nana 23.18 347 P P 10 33 09.7 -0.3
comp=N,7.0nm,0.5s,baz=193,slow=14,SNR=4.3
NNA Nana 23.18 347 eP P 10 33 09.6 -0.4
comp=N,28nm,0.9s
SAML Samuel 26.95 19 eP P 10 33 43.5 -0.8
comp=N,5.8nm,1.0s
BDFB Brasilia 28.67 54 P P 10 33 57.6 -2.3
comp=N,9.0nm,0.5s,baz=219,slow=7.7,SNR=12
OTAV Otavalo 35.42 349 eP P 10 35 00.9 +1.5
comp=N,5.5nm,0.9s
PTGA Pitinga 35.68 21 LR LR 10 49 44.8
comp=N,16µm,21.0s,baz=274,slow=36
PTGA Pitinga 35.68 21 eP P 10 34 59.7 -1.4
comp=N,49nm,0.8s
ROSC El Rosal 39.53 356 P P 10 35 33.2 -1.0
comp=N,12nm,0.5s,baz=90,slow=20,SNR=1.9
ROSC El Rosal 39.53 356 eP P 10 35 33.4 -0.7
SDV Santo Domingo 43.48 2 eP P 10 36 05.7 -0.5
comp=N,12nm,0.6s
RCBR Riachuelo 43.94 57 eP P 10 36 08.9 -0.9
comp=N,8.6nm,0.6s
RCBR e 10 36 25.7
GRGR Grenville 47.68 14 eP P 10 36 38.5 -0.7
comp=N,152nm,0.9s
VNA3 Neumayer Olymp 48.54 158 P P 10 36 46.1 +0.8
VNA2 Neumayer--Watz 49.19 157 P P 10 36 50.8 +0.5
baz=284,slow=8.7
SNAA Sanae 50.76 158 P P 10 37 02.3 +0.1
comp=N,2.2nm,0.6s,baz=295,slow=7.3,SNR=19
SNAA Sanae 50.76 158 eP P 10 37 04.3 +2.1
comp=N,12nm,0.7s
CRPR Cabo Rojo, PR 52.73 6 eP P 10 37 16.0 -1.3
comp=N,28nm,0.7s
OBIP Obispado Ponce 52.81 6 eP P 10 37 16.6 -1.3
comp=N,51nm,1.2s
CELP Cerrillos 52.84 6 eP P 10 37 16.9 -1.3
SJG San Juan 52.92 7 eP P 10 37 17.4 -1.3
QSPA South Pole Qui 55.42 180 eP P 10 37 37.9 +1.2
comp=N,17nm,1.1s
QSPA e 10 37 50.2
VNDA Vanda 63.33 191 P P 10 38 31.4 +0.4
comp=N,1.2nm,0.7s,baz=114,slow=2.3,SNR=6.1
SYO Syowa Base 65.04 158⇓ eP P 10 38 40.9 -1.3
SYO Syowa Base 65.04 158⇑ epP pP 10 38 50.0 -4.5
034A Hebbronville 66.59 334 ⇓P P 10 38 54.7 +2.0
baz=67
933A Laredo 67.30 334 ⇓P P 10 38 58.7 +1.5
baz=68
834A Tilden 67.51 335 ⇓P P 10 39 00.5 +2.1
baz=68
735A Kenedy 67.92 336 ⇓P P 10 39 02.4 +1.4
baz=68
833A Chaparral WMA, 67.99 334 ⇓P P 10 39 02.8 +1.3
baz=68
832A Faith Ranch, C 68.17 333 ⇑P P 10 39 03.8 +1.2
baz=68
734A La Parita Cree 68.17 335 ⇓P P 10 39 04.0 +1.3
baz=68
636A Smothers Creek 68.25 336 ⇑P P 10 39 04.1 +1.1
baz=68,SNR=7.3
733A Divot King Ran 68.32 334 ⇓P P 10 39 04.8 +1.2
baz=69
635A Leesville 68.40 336 ⇓P P 10 39 05.0 +0.9
baz=69
538A Harpers Horsep 68.43 338 ⇓P P 10 39 05.3 +1.1
baz=69
537A Green Hill Far 68.56 337 ⇑P P 10 39 06.3 +1.3
baz=69
732A Laxson Ranch, 68.57 334 ⇓P P 10 39 06.5 +1.3
baz=69,SNR=15
GOGA Godfrey 68.75 350 eP P 10 39 05.4 -0.8
comp=N,11nm,0.7s
536A Bastrop 68.80 337 ⇓P P 10 39 07.5 +1.0
baz=69
535A Dale 68.92 336 ⇓P P 10 39 08.2 +0.9
baz=69
438A Sam Houston St 68.92 338 ⇓P P 10 39 08.9 +1.6
baz=69
633A Saathoff Ranch 68.95 335 ⇓P P 10 39 08.5 +1.0
baz=69
VBMS Vicksburg 68.96 343 eP P 10 39 08.1 +0.6
comp=N,21nm,0.9s
LRAL Lakeview Retre 68.98 346 eP P 10 39 07.0 -0.6
comp=N,6.9nm,0.9s
340A Bronson 69.08 340 ⇑P P 10 39 09.1 +0.9
baz=69
339A Huntington 69.19 339 ⇓P P 10 39 10.2 +1.3
baz=69,SNR=5.8
632A Uvalde 69.21 334 ⇓P P 10 39 10.2 +1.1
baz=69,SNR=5.6
534A Blanco 69.22 335 ⇑P P 10 39 10.0 +0.8
baz=70
436A Wall Ranch, Ga 69.35 337 ⇑P P 10 39 11.4 +1.5
baz=70
631A Perdido Creek 69.41 333 ⇓P P 10 39 11.5 +1.1
baz=70
338A Crockett 69.44 339 ⇓P P 10 39 12.2 +1.7
baz=70
533A Kerrville 69.46 335 ⇓P P 10 39 11.7 +1.0
baz=70,SNR=11
337A Centerville 69.57 338 ⇑P P 10 39 12.3 +1.0
baz=70
435B Jarrell 69.62 336 ⇑P P 10 39 12.6 +1.0
baz=70
239A Gary 69.81 340 ⇑P P 10 39 14.3 +1.5
baz=70
532A Rocksprings 69.81 334 ⇑P P 10 39 13.9 +1.0
baz=70,SNR=19
434A Burnet 69.88 336 ⇓P P 10 39 14.0 +0.8
baz=70,SNR=11
336A Riesel 69.94 337 ⇓P P 10 39 14.6 +1.1
baz=70
238A Jacksonville 69.98 339 ⇑P P 10 39 15.1 +1.3
baz=70
335A Moody 70.03 337 ⇓P P 10 39 15.1 +1.0
baz=70
531A Rocksprings 70.08 334 ⇑P P 10 39 15.7 +1.2
baz=70,SNR=9.3
JCT Junction City 70.10 334 ⇑P P 10 39 15.5 +0.9
baz=70,SNR=7.2
JCT Junction City 70.10 334 eP P 10 39 15.4 +0.9
comp=N,10nm,0.8s
JCT e 10 39 27.6
433A Art 70.10 335 ⇓P P 10 39 15.3 +0.7
baz=70,SNR=13
KMSC Kings Mountain 70.17 352 ⇓P P 10 39 14.5 -0.3
baz=70
KMSC Kings Mountain 70.17 352 eP P 10 39 14.0 -0.9
comp=N,17nm,1.1s
237A Washetta, Mont 70.19 338 ⇓P P 10 39 16.1 +1.0
baz=70
334A Lometa 70.34 336 ⇑P P 10 39 17.0 +0.9
baz=71,SNR=7.1
530A J-C Ranch, Com 70.36 333 ⇓P P 10 39 17.4 +1.2
baz=71,SNR=10.0
432A Menard 70.45 335 ⇑P P 10 39 17.6 +0.8
baz=71,SNR=5.7
TXAR Lajitas Array 70.53 331 P P 10 39 18.0 +0.6
comp=N,2.5nm,0.6s,baz=158,slow=8.7,SNR=77
TXAR pP pP 10 39 30.1 +0.3
comp=N,3.6nm,0.5s,baz=154,slow=6.1,SNR=24
431A Sonora 70.57 334 ⇓P P 10 39 18.5 +1.0
baz=71,SNR=9.8
333A Richland Sprin 70.58 336 ⇓P P 10 39 18.0 +0.5
baz=71,SNR=9.8
138A Matatall Enter 70.59 339 ⇓P P 10 39 19.2 +1.7
baz=71
529A Stev Forest Ra 70.67 332 ⇑P P 10 39 19.3 +1.2
baz=71,SNR=12
WHTX Lake Whitney, 70.69 337 ⇓P P 10 39 19.0 +0.9
baz=71
WHTX Lake Whitney, 70.69 337 eP P 10 39 18.3 +0.2
comp=N,12nm,0.7s
WHTX e 10 39 30.8
137A Heron Place, G 70.73 339 ⇑P P 10 39 19.7 +1.3
baz=71
430A Baggett Ranch, 70.89 333 ⇑P P 10 39 19.9 +0.4
baz=71,SNR=12
332A Millersview 70.90 335 ⇓P P 10 39 19.9 +0.4
baz=71,SNR=5.5
OXF Oxford 70.91 345 eP P 10 39 18.8 -0.6
comp=N,22nm,0.6s
234A Clairette 70.92 337 ⇓P P 10 39 20.1 +0.5
baz=71
429A Davenport Ranc 70.99 333 ⇓P P 10 39 21.0 +1.0
baz=71,SNR=5.5
TKL Tuckaleechee C 71.00 350 P P 10 39 19.2 -0.7
comp=N,7.8nm,0.7s,baz=164,slow=7.4,SNR=14
TKL Tuckaleechee C 71.00 350 eP P 10 39 18.7 -1.2
331A San Angelo 71.07 334 ⇑P P 10 39 21.2 +0.7
baz=71,SNR=17
233A Rising Star 71.19 336 ⇑P P 10 39 21.8 +0.6
baz=71,SNR=9.6
135A Vickery Place, 71.20 337 ⇓P P 10 39 22.0 +0.8
baz=72
232A Coleman 71.33 335 ⇑P P 10 39 22.8 +0.7
baz=72,SNR=8.1
134A White-Moore Ra 71.43 337 ⇑P P 10 39 23.0 +0.4
baz=72
330A Mertzon 71.43 334 ⇑P P 10 39 23.4 +0.7
baz=72,SNR=8.8
231A Bronte 71.60 335 ⇑P P 10 39 24.0 +0.3
baz=72,SNR=10.0
133A Hamilton Ranch 71.74 336 ⇑P P 10 39 25.1 +0.7
baz=72,SNR=6.4
329A Wagon Wheel Ra 71.80 333 ⇑P P 10 39 25.7 +0.8
baz=72,SNR=7.1
230A Sterling City 71.84 334 ⇑P P 10 39 26.1 +0.9
baz=72
Z35A Perchaven, San 71.87 338 ⇑P P 10 39 25.7 +0.5
baz=72,SNR=9.7
MIAR Mount Ida 71.94 341 eP P 10 39 25.2 -0.4
comp=N,5.1nm,0.6s
ABTX Abilene, Hawle 72.00 336 ⇑P P 10 39 26.8 +0.7
baz=72
ABTX Abilene, Hawle 72.00 336 eP P 10 39 26.0 0.0
comp=N,10nm,0.8s
ABTX e 10 39 38.5
VWCC Virginia Weste 72.10 353 eP P 10 39 25.7 -0.8
Z34A Collier Ranch, 72.11 337 ⇓P P 10 39 27.0 +0.3
baz=72,SNR=9.3
WVT Waverly 72.15 346 eP P 10 39 26.3 -0.5
comp=N,52nm,0.7s
229A Brant Ranch, 72.17 334 ⇓P P 10 39 27.9 +0.8
baz=72
131A Roby 72.30 335 ⇓P P 10 39 28.5 +0.6
baz=72
Z33A Whitaker Ranch 72.31 337 ⇓P P 10 39 28.4 +0.6
baz=73,SNR=13
MAW Mawson 72.35 163 P P 10 39 27.4 -0.3
comp=N,18nm,0.9s,baz=236,slow=7.3,SNR=3.7
JSRW J. Sargeant Re 72.37 355 eP P 10 39 28.1 0.0
JSRW e 10 39 40.8
130A Snyder 72.43 334 ⇑P P 10 39 29.2 +0.5
baz=73
Z32A Haskell 72.56 336 ⇓P P 10 39 29.8 +0.4
baz=73,SNR=12
228A UT Block 9, Go 72.59 333 ⇑P P 10 39 30.3 +0.6
baz=73,SNR=5.3
Y34A Reagan Ranch, 72.60 338 ⇑P P 10 39 30.1 +0.5
baz=73
129A Stewart Farms, 72.78 334 ⇓P P 10 39 31.5 +0.7
baz=73
Z31A Sharp Cattle R 72.80 335 ⇓P P 10 39 31.5 +0.6
baz=73,SNR=8.9
Y33A Hilltop Ranch, 72.93 337 ⇓P P 10 39 32.1 +0.6
baz=73
128A Castleberry Fa 73.00 333 ⇓P P 10 39 32.7 +0.5
baz=73,SNR=6.1
Z30A Sanderson Ranc 73.11 335 ⇓P P 10 39 32.9 +0.2
baz=73,SNR=5.5
Y32A R-V Farms, Ver 73.19 336 ⇑P P 10 39 33.8 +0.7
baz=73,SNR=12
X34A Smith Ranch, M 73.22 338 ⇓P P 10 39 33.9 +0.6
baz=74,SNR=6.7
Z29A Hungry Hill Ra 73.29 334 ⇓P P 10 39 34.0 +0.2
baz=74,SNR=9.2
MNTX Cornudas Mount 73.31 331 ⇓P P 10 39 33.7 -0.2
baz=74,SNR=12
MNTX Cornudas Mount 73.31 331 eP P 10 39 33.4 -0.4
comp=N,5.5nm,0.7s
PBMO Poplar Bluff 73.31 344 eP P 10 39 33.3 -0.4
comp=N,18nm,0.5s
X33A Lawton 73.38 337 ⇓P P 10 39 34.3 +0.1
baz=74
Y31A Rekieta Farm, 73.42 336 ⇓P P 10 39 35.0 +0.5
baz=74,SNR=13
X32A Elmer 73.52 337 ⇓P P 10 39 35.5 +0.5
baz=74
Z28A Tucker Farm, M 73.56 334 ⇓P P 10 39 35.9 +0.4
baz=74
Y30A Stafford Cattl 73.57 335 ⇑P P 10 39 36.2 +0.8
baz=74
W34A Bridge Creek, 73.79 338 ⇑P P 10 39 36.9 +0.3
baz=74
W34A Bridge Creek, 73.79 338 eP P 10 39 35.8 -0.8
comp=N,9.1nm,0.5s
Y29A Porterfield Fa 73.82 334 ⇓P P 10 39 37.3 +0.4
baz=74,SNR=9.4
TUL1 Leonard 73.83 340 ⇑P P 10 39 37.1 +0.3
baz=74,SNR=9.4
TUL1 Leonard 73.83 340 eP P 10 39 36.3 -0.5
comp=N,19nm,0.8s
TUL1 e 10 39 48.6
USIN University of 73.90 347 eP P 10 39 36.5 -0.6
comp=N,18nm,0.6s
WCI Wyandotte Cave 73.91 348 eP P 10 39 36.0 -1.2
comp=N,6.1nm,0.8s
W33A Caddo, Fort Co 73.93 338 ⇓P P 10 39 38.3 +0.9
baz=74,SNR=10.0
X31A McDonald Ranch 73.94 336 ⇑P P 10 39 38.0 +0.5
baz=74,SNR=12
SIUC Southern Illin 73.95 346 eP P 10 39 37.0 -0.4
comp=N,14nm,0.6s
V35A Meyer Ranch, C 74.00 339 ⇑P P 10 39 37.8 0.0
baz=74,SNR=11
Y28A McKinney Farm, 74.07 334 ⇓P P 10 39 38.7 +0.3
baz=74,SNR=5.4
X30A Coker Ranch, T 74.07 335 ⇑P P 10 39 39.1 +0.7
baz=74
W32A Sentinel 74.15 337 ⇓P P 10 39 39.1 +0.4
baz=74,SNR=15
V34A Guthrie 74.27 339 ⇓P P 10 39 39.7 +0.3
baz=74,SNR=5.4
V34A Guthrie 74.27 339 eP P 10 39 39.2 -0.2
comp=N,12nm,0.6s
V34A e 10 39 51.6
MSTX Muleshoe 74.32 334 ⇑P P 10 39 40.3 +0.4
baz=75,SNR=7.6
MSTX Muleshoe 74.32 334 eP P 10 39 39.5 -0.3
comp=N,8.3nm,0.8s
MSTX e 10 39 52.2
X29A Tulia 74.36 335 ⇓P P 10 39 40.8 +0.8
baz=75,SNR=10
W31A Holland Ranch, 74.44 336 ⇓P P 10 39 41.0 +0.6
baz=75
V33A Lossen Ranch, 74.49 338 ⇑P P 10 39 41.0 +0.3
baz=75,SNR=12
X28A Dimmitt 74.60 334 ⇑P P 10 39 42.5 +1.0
baz=75
V32A Arapaho 74.63 337 ⇓P P 10 39 42.6 +1.1
baz=75
319A Douglas 74.68 327 ⇑P P 10 39 43.1 +1.1
baz=75
AMTX Amarillo 74.75 335 ⇓P P 10 39 43.1 +0.8
baz=75
AMTX Amarillo 74.75 335 eP P 10 39 42.5 +0.2
comp=N,4.3nm,0.5s
AMTX e 10 39 54.9
U34A Anderson Ranch 74.83 339 ⇑P P 10 39 43.1 +0.4
baz=75
U34A Anderson Ranch 74.83 339 eP P 10 39 42.2 -0.4
comp=N,28nm,1.0s
BLO Bloomington 74.87 348 eP P 10 39 41.7 -1.1
comp=N,12nm,0.6s
LIC Lamto 74.88 71 eP P 10 39 42.7 -0.7
comp=N,37nm,0.6s
V31A Spring Creek L 74.94 337 ⇑P P 10 39 44.7 +1.4
baz=75
W29A Amarillo 74.95 335 ⇓P P 10 39 44.2 +0.7
baz=75,SNR=7.2
U33A Lingo Farm, Me 75.00 338 ⇓P P 10 39 43.8 +0.2
baz=75
121A Cookes Peak, D 75.03 329 ⇑P P 10 39 45.9 +1.9
baz=75,SNR=8.4
121A Cookes Peak, D 75.03 329 eP P 10 39 44.8 +0.7
comp=N,12nm,0.9s
121A e 10 39 57.9
TIC Toumodi 75.14 71 eP P 10 39 44.2 -0.8
comp=N,28nm,0.9s
KIC Kosan Boka 75.18 71 eP P 10 39 44.6 -0.6
comp=N,66nm,0.8s
V30A Spur Ranch, Mi 75.21 336 ⇑P P 10 39 46.9 +2.0
baz=76
U32A Winter Ranch, 75.23 338 ⇑P P 10 39 45.6 +0.7
baz=76,SNR=11
DBIC Dimbokro 75.28 71 P P 10 39 45.4 -0.4
comp=N,20nm,0.7s,baz=212,slow=5.4,SNR=25
DBIC Dimbokro 75.28 71 eP P 10 39 44.8 -0.9
comp=N,17nm,0.7s
DBIC e 10 40 03.4
ACSO Alum Creek Sta 75.39 351 eP P 10 39 45.3 -0.5
comp=N,35nm,0.9s
S36A Lake Cedric, C 75.48 341 ⇓P P 10 39 46.4 +0.1
baz=76,SNR=8.2
S35A Otter Creek Ra 75.64 340 ⇑P P 10 39 47.8 +0.6
baz=76,SNR=7.7
T33A Patterson Ranc 75.64 338 ⇑P P 10 39 48.0 +0.8
baz=76
R37A Teagarden Farm 75.83 342 ⇑P P 10 39 48.1 -0.1
baz=76
S34A Willow Spring 75.88 340 ⇓P P 10 39 50.4 +1.8
baz=76
U30A WK&E Inc. Balk 75.89 336 ⇑P P 10 39 50.0 +1.2
baz=76,SNR=5.3
T32A Huddler Ranch, 75.94 338 ⇓P P 10 39 49.9 +0.9
baz=76
V27A Dan Oppiter Fa 75.94 334 ⇑P P 10 39 50.4 +1.2
baz=76
R36A Gordon, Harris 76.02 341 ⇓P P 10 39 49.5 +0.2
baz=76
S33A Kaszmaul Farm, 76.04 339 ⇓P P 10 39 50.1 +0.5
baz=76
LPM Los Pinos Moun 76.10 331 eP P 10 39 51.4 +1.2
comp=N,4.2nm,0.8s
LPM e 10 40 03.5
SFIN Lafayette 76.14 348 ⇑P P 10 39 49.3 -0.7
baz=76
Q37A Longview Farm, 76.26 342 ⇓P P 10 39 50.4 -0.3
baz=76
U28A Mallet 76.29 335 ⇑P P 10 39 51.6 +0.5
baz=76
V26A Tequesquite Ra 76.32 334 ⇑P P 10 39 52.2 +0.9
baz=77
T30A Plains 76.33 337 ⇑P P 10 39 52.5 +1.2
baz=77
S32A Newby Ranch, P 76.42 338 ⇓P P 10 39 52.9 +1.2
baz=77
S31A Mullinville 76.52 338 ⇑P P 10 39 53.3 +1.0
baz=77
U27A Thompson Grove 76.54 335 ⇑P P 10 39 53.6 +1.1
baz=77
ANMO Albuquerque 76.58 331 eP P 10 39 54.0 +1.1
comp=N,4.8nm,1.0s
ANMO e 10 40 06.0
T29A Hugoton 76.68 336 ⇓P P 10 39 54.2 +1.0
baz=77,SNR=6.1
R33A Olander Ranch, 76.70 339 ⇑P P 10 39 54.0 +0.8
baz=77
214A Organ Pipe Nat 76.79 325 ⇓P P 10 39 55.4 +1.5
baz=77
U26A Atchley Ranch, 76.84 334 ⇓P P 10 39 55.6 +1.3
baz=77
S30A Montezuma 76.85 337 ⇑P P 10 39 55.4 +1.2
baz=77,SNR=6.1
T28A Walsh 76.92 336 ⇑P P 10 39 55.5 +0.8
baz=77,SNR=7.7
R32A Long Quarter, 77.02 339 ⇑P P 10 39 55.9 +0.8
baz=77,SNR=5.7
S29A Ulysses 77.04 337 ⇓P P 10 39 56.1 +0.9
baz=77,SNR=9.0
T27A Campo 77.08 335 ⇓P P 10 39 56.8 +1.2
baz=77
U25A Circle Dot Ran 77.08 334 ⇑P P 10 39 56.6 +0.9
baz=77,SNR=7.9
R31A Burdett 77.14 338 ⇓P P 10 39 56.6 +0.8
baz=77,SNR=5.5
S28A Manter 77.27 336 ⇑P P 10 39 57.1 +0.5
baz=78,SNR=11
Q33A Connelly Farm, 77.29 340 ⇓P P 10 39 57.0 +0.5
baz=78
R30A Dighton 77.37 337 ⇑P P 10 39 58.0 +0.9
baz=78
U24A Moreno Valley 77.42 333 ⇓P P 10 39 58.5 +0.8
baz=78
T26A Comanche Natio 77.48 334 ⇓P P 10 39 59.0 +1.1
baz=78,SNR=5.5
Q32A Meitler Ranch, 77.50 339 ⇑P P 10 39 58.1 +0.3
baz=78,SNR=5.8
X18A Snowflake 77.66 329 ⇑P P 10 40 01.1 +2.1
baz=78
T25A Trinidad 77.74 334 ⇑P P 10 40 01.1 +1.7
baz=78,SNR=12
T25A Trinidad 77.74 334 eP P 10 40 00.6 +1.2
comp=N,15nm,0.8s
Q31A Ellis 77.76 338 ⇑P P 10 40 00.3 +1.0
baz=78
R29A Marienthal 77.78 337 ⇑P P 10 40 00.4 +1.0
baz=78
S26A Kim 77.84 335 ⇓P P 10 40 01.0 +1.2
baz=78,SNR=11
R28A Tribune 77.92 336 ⇑P P 10 40 01.1 +0.8
baz=78,SNR=7.1
Q30A Quinter 77.99 338 ⇑P P 10 40 01.9 +1.3
baz=78
T24B San Luis 78.03 333 ⇓P P 10 40 03.0 +1.9
baz=78,SNR=5.6
W18A Petrified Fore 78.07 329 ⇑P P 10 40 03.0 +1.8
baz=78
W18A Petrified Fore 78.07 329 eP P 10 40 02.8 +1.6
comp=N,7.6nm,1.0s
P32A Huiting Farm, 78.09 339 ⇑P P 10 40 02.1 +1.1
baz=78
Q29A Oakley 78.15 337 ⇓P P 10 40 02.2 +0.8
baz=78
R27A Eads 78.20 336 ⇑P P 10 40 02.7 +0.9
baz=78,SNR=12
S25A Robets Cordova 78.22 334 ⇓P P 10 40 03.2 +1.2
baz=78
X16A Lo Mia Camp, P 78.22 327 ⇓P P 10 40 04.0 +2.0
baz=78,SNR=5.6
P31A Stockton 78.23 339 ⇓P P 10 40 02.4 +0.5
baz=78,SNR=6.0
T23A Casias Ranch, 78.25 333 ⇓P P 10 40 03.6 +1.3
baz=78
R26A Arlington 78.44 335 ⇑P P 10 40 04.1 +1.0
baz=79
S24A Houchin Ranch, 78.48 334 ⇑P P 10 40 05.3 +1.7
baz=79,SNR=6.3
Y14A Wickenburg 78.52 326 ⇑P P 10 40 05.3 +1.7
baz=79
Q28A Sharon Springs 78.58 337 ⇑P P 10 40 05.2 +1.4
baz=79
O32A Brockman Farm, 78.59 340 ⇓P P 10 40 04.4 +0.7
baz=79,SNR=5.3

R25A **Fountain Ranch** 78.60 334 ⇑P P 10 40 05.0 +1.0
baz=79
SDCO **Great Sand Dun** 78.68 333 ⇓P P 10 40 05.7 +1.0
baz=79,SNR=5.5
SDCO **Great Sand Dun** 78.68 333 eP P 10 40 05.8 +1.1
comp=N,42nm,2.3s
P29A **Atwood** 78.78 337 ⇓P P 10 40 06.1 +1.2
baz=79,SNR=9.6
O31A **Woolen Ranch,** 78.80 339 ⇑P P 10 40 05.9 +1.0
baz=79
KSCO **Kaye Shedlock'** 78.80 336 ⇑P P 10 40 06.3 +1.2
baz=79
KSCO **Kaye Shedlock'** 78.80 336 eP P 10 40 06.3 +1.2
comp=N,5.9nm,0.5s
KSCO e 10 40 17.7
TSUM **Tsumeb** 78.83 106 eP P 10 40 06.3 +0.4
comp=N,11nm,1.0s
S23A **Nye Farm, Mont** 78.83 333 ⇑P P 10 40 06.6 +1.1
baz=79
SCIA **State Center** 78.84 344 eP P 10 40 05.1 0.0
comp=N,13nm,0.9s
R24A **Sanders Place,** 78.97 334 ⇑P P 10 40 07.8 +1.6
baz=79,SNR=9.1
P28A **Saint Francis** 79.02 337 ⇑P P 10 40 07.8 +1.6
baz=79
Q26A **Hugo** 79.02 335 ⇓P P 10 40 08.2 +1.8
baz=79
SWSC **Sam W. Stewart** 79.03 324 ⇓P P 10 40 08.1 +1.8
baz=79
O30A **MW Ranch, Wils** 79.04 338 ⇑P P 10 40 06.9 +0.6
baz=79,SNR=5.0
Y12C **Blythe** 79.08 325 ⇓P P 10 40 08.3 +1.8
baz=79
WUAZ **Wupatki** 79.11 328 ⇓P P 10 40 08.6 +1.7
baz=79
JFWS **Jewell Farm** 79.17 346 eP P 10 40 06.5 -0.4
comp=N,17nm,1.0s
S22A **4UR Ranch, Cre** 79.18 332 ⇓P P 10 40 08.9 +1.5
baz=79
R23A **Moffat** 79.19 333 ⇑P P 10 40 08.8 +1.3
baz=79
MONP **Monument Peak,** 79.29 323 ⇑P P 10 40 09.5 +1.4
baz=80
PDMCI **Parker Dam,Lak** 79.35 325 ⇑P P 10 40 10.3 +2.3
baz=80
MVCO **Mesa Verde** 79.36 331 ⇓P P 10 40 09.3 +0.9
baz=80
MVCO **Mesa Verde** 79.36 331 eP P 10 40 08.6 +0.2
comp=N,54nm,2.0s
BC3 **Big Chuckawall** 79.44 324 ⇑P P 10 40 10.3 +1.6
baz=80
SADO **Sadowa** 79.50 355 P P 10 40 08.0 -0.6
comp=N,9.9nm,0.8s,baz=245,slow=3.9,SNR=6.5
O28A **Krutsinger Ran** 79.53 337 ⇓P P 10 40 10.2 +1.2
baz=80
P26A **Davis Ranch, A** 79.53 336 ⇑P P 10 40 10.7 +1.6
baz=80
BOSA **Boshof** 79.54 117 P P 10 40 09.4 -0.2
comp=N,30nm,0.8s,baz=244,slow=3.3,SNR=62
BGNE **Belgrade** 79.62 340 ⇑P P 10 40 09.9 +0.6
baz=80
BGNE **Belgrade** 79.62 340 eP P 10 40 09.6 +0.2
comp=N,20nm,0.4s
Q24A **Divide** 79.63 334 ⇑P P 10 40 11.0 +1.2
baz=80,SNR=5.7
IRM **Iron Mountain** 79.71 325 ⇑P P 10 40 11.8 +1.8
baz=80
P25A **Willow Gulch B** 79.77 335 ⇑P P 10 40 12.0 +1.6
baz=80,SNR=5.2
M31A **Lambtecht Ranc** 79.79 340 ⇓P P 10 40 11.4 +1.1
baz=80,SNR=6.4
N29A **Votaw Ranch, W** 79.80 338 ⇓P P 10 40 12.0 +1.5
baz=80
O27A **Beecher Island** 79.81 337 ⇑P P 10 40 12.2 +1.6
baz=80
W13A **Hualapai Mount** 79.89 326 ⇓P P 10 40 12.8 +1.6
baz=80
PFO **Pinyon Flats O** 79.89 323 ⇓P P 10 40 12.9 +1.8
baz=80
N28A **Pribbeno Ranch** 79.96 337 ⇑P P 10 40 13.1 +1.7
baz=80
P24A **Kohler Place,** 80.03 335 ⇑P P 10 40 13.9 +2.0
baz=80
O26A **Horse Wrangler** 80.14 336 ⇑P P 10 40 14.1 +1.7
baz=80
PV01 **Paradox Valley** 80.19 331 eP P 10 40 14.0 +1.1
P23A **Jefferson** 80.24 334 ⇑P P 10 40 14.4 +1.2
baz=80
MURC **Murrieta** 80.25 323 ⇑P P 10 40 14.5 +1.5
baz=80
U15A **North Rim** 80.28 328 ⇓P P 10 40 14.5 +1.1
baz=80
O25A **Wiggins** 80.29 335 ⇓P P 10 40 14.9 +1.7
baz=81
N27A **Anderson Farm,** 80.39 337 ⇑P P 10 40 14.6 +0.9
baz=81,SNR=5.3
M29A **Burnside Ranch** 80.39 338 ⇓P P 10 40 14.6 +1.0
baz=81
GMRC **Granite Mounta** 80.46 325 ⇑P P 10 40 16.1 +1.9
baz=81
SMCO **Snowmass** 80.49 333 eP P 10 40 15.5 +0.9
comp=N,5.9nm,0.8s
L31A **Butterfield Fa** 80.52 340 ⇑P P 10 40 15.6 +1.4
baz=81,SNR=12
ISCO **Idaho Springs** 80.54 334 ⇑P P 10 40 15.8 +1.1
baz=81
ISCO **Idaho Springs** 80.54 334 eP P 10 40 15.1 +0.4
comp=N,2.5nm,0.8s
M28A **Bar X Bar Ranc** 80.56 338 ⇓P P 10 40 15.9 +1.4
baz=81
L30A **Spencer Herefo** 80.57 339 ⇓P P 10 40 15.5 +0.9
baz=81
PV10 **Paradox Valley** 80.58 331 eP P 10 40 15.4 +0.4
comp=N,112nm,0.8s
PV10 e 10 40 27.7
O24A **Longmont** 80.63 335 ⇑P P 10 40 16.3 +1.3
baz=81
CIS **Catalina Islan** 80.70 322 ⇓P P 10 40 16.9 +1.5
baz=81
P22A **Eagle** 80.77 333 ⇑P P 10 40 17.4 +1.5
baz=81
HEC **Hector,Ludlow** 80.82 324 ⇓P P 10 40 18.2 +2.2
baz=81
L29A **Maesberg Ranch** 80.90 339 ⇑P P 10 40 17.3 +1.0
baz=81
BFSC **Mount Baldy Ra** 80.99 323 ⇑P P 10 40 18.5 +1.4
baz=81
O23A **Lake Granby, G** 81.01 334 ⇑P P 10 40 18.9 +1.6
baz=81,SNR=8.7
O22A **Kremmling** 81.19 334 ⇓P P 10 40 19.2 +1.0
baz=81,SNR=7.5
K30A **Basset** 81.20 340 ⇑P P 10 40 18.7 +0.8
baz=82,SNR=12
ECSD **EROS Data Cent** 81.38 342 ⇑P P 10 40 19.0 +0.3
baz=82,SNR=22
ECSD **EROS Data Cent** 81.38 342 eP P 10 40 18.6 -0.1
comp=N,22nm,1.0s
ECSD e 10 40 30.8
GSC **Goldstone, Bar** 81.43 324 ⇑P P 10 40 20.7 +1.4
baz=82
M25A **Palm-Egli Farm** 81.45 336 ⇓P P 10 40 20.6 +1.2
baz=82
K29A **Lazy Trails An** 81.49 339 ⇑P P 10 40 20.3 +0.9
baz=82,SNR=11
N23A **Red Feather La** 81.62 335 ⇑P P 10 40 21.8 +1.3
baz=82
SHPR **Sheep Range** 81.63 326 eP P 10 40 21.4 +0.9
comp=N,9.4nm,1.3s
EDW2 **Edwards Air Fo** 81.67 323 ⇓P P 10 40 21.8 +1.2
baz=82
L26A **Underwood Farm** 81.68 337 ⇓P P 10 40 22.4 +1.9
baz=82
CCUT **Cedar City** 81.69 328 eP P 10 40 22.5 +1.7
comp=N,3.9nm,0.9s
CCUT e 10 40 35.2
N22A **Wattenberg Ran** 81.72 334 ⇑P P 10 40 22.4 +1.4
baz=82
M24A **Cheyenne** 81.74 336 ⇓P P 10 40 22.2 +1.2
baz=82
K28A **Ten Mile Ranch** 81.76 338 ⇑P P 10 40 22.5 +1.6
baz=82,SNR=14
J30A **Dallas** 81.77 340 ⇓P P 10 40 21.3 +0.4
baz=82,SNR=8.5
O20A **White River Ci** 81.80 333 ⇑P P 10 40 22.3 +1.0
baz=82
O20A **White River Ci** 81.80 333 eP P 10 40 21.8 +0.5
comp=N,4.4nm,0.7s
O20A e 10 40 36.9

LBTB **Lobatse** 81.81 115 eP P 10 40 21.3 -0.5
comp=N,24nm,0.8s
SRU **San Rafael Swe** 81.81 331 eP P 10 40 22.0 +0.7
comp=N,4.7nm,0.8s
SRU e 10 40 34.2
PHWY **Pilot Hill** 81.81 335 eP P 10 40 22.4 +0.9
comp=N,6.5nm,1.0s
OSI **Osito Audit: C** 81.82 323 ⇓P P 10 40 23.3 +1.9
baz=82
SPMN **Marine on St.** 81.91 345 ⇑P P 10 40 21.1 -0.4
baz=82,SNR=9.6
SPMN **Marine on St.** 81.91 345 eP P 10 40 20.6 -0.9
comp=N,9.6nm,0.4s
K27A **Flueckinger Fa** 82.01 338 ⇓P P 10 40 23.2 +1.0
baz=82
M23A **Laramie** 82.05 335 ⇑P P 10 40 23.7 +1.1
baz=82
L25A **Engebretsen Ra** 82.07 336 ⇓P P 10 40 23.9 +1.3
baz=82
J29A **Okreek** 82.08 339 ⇑P P 10 40 23.1 +0.6
baz=82,SNR=17
TMUT **Trail Mountain** 82.25 330 eP P 10 40 24.4 +0.6
comp=N,5.4nm,0.9s
TMUT e 10 40 36.1
I30A **Oacoma** 82.29 340 ⇑P P 10 40 23.8 +0.2
baz=83,SNR=19
M22A **Cedar Creek Ra** 82.30 334 ⇓P P 10 40 25.4 +1.5
baz=83
J28A **Allard Ranch,** 82.36 339 ⇑P P 10 40 24.8 +0.8
baz=83,SNR=7.0
MPMC **Manual Prospec** 82.37 324 ⇓P P 10 40 25.7 +1.3
baz=83
N20A **Spence Gulch,** 82.41 333 ⇓P P 10 40 26.2 +1.7
baz=83
J27A **Elkhorn Farm,** 82.44 338 ⇑P P 10 40 26.2 +1.7
baz=83,SNR=5.8
TPNV **Topaah Spring** 82.50 326 ⇑P P 10 40 26.6 +1.6
baz=83
ISA **Isabella, Lake** 82.53 323 ⇓P P 10 40 26.5 +1.4
baz=83
ISA **Isabella, Lake** 82.53 323 eP P 10 40 26.8 +1.7
comp=N,1.7nm,0.5s
ISA e 10 40 38.5
L23A **Garrett** 82.62 335 ⇑P P 10 40 26.2 +0.7
baz=83
I29A **Vivian Onida** 82.64 340 ⇓P P 10 40 25.6 +0.2
baz=83,SNR=5.2
BRSD **Miller** 82.65 341 ⇑P P 10 40 26.1 +0.7
baz=83
L22A **Ellis Ranch, M** 82.80 335 ⇓P P 10 40 28.0 +1.5
baz=83
J26A **Sides Ranch, S** 82.83 338 ⇓P P 10 40 27.5 +1.1
baz=83
K24A **Anderson Ranch** 82.86 336 ⇑P P 10 40 28.0 +1.3
baz=83
I28A **Midland** 82.87 339 ⇑P P 10 40 27.2 +0.6
baz=83,SNR=13
VES **Vestal, Richgr** 82.97 323 ⇓P P 10 40 29.1 +1.8
baz=83
SMMC **Simmler** 83.01 322 ⇑P P 10 40 29.0 +1.5
baz=83
MPU **Maple Canyon** 83.03 330 eP P 10 40 27.9 +0.2
comp=N,5.8nm,0.9s
MPU e 10 40 40.5
J25A **Sunshine Ranch** 83.12 337 ⇑P P 10 40 29.2 +1.2
baz=83
K23A **Bowen Ranch, D** 83.16 336 ⇓P P 10 40 29.4 +1.2
baz=83
H29A **Onida** 83.17 340 ⇓P P 10 40 28.4 +0.3
baz=83,SNR=9.9
I27A **Quinn** 83.20 339 ⇑P P 10 40 29.1 +0.8
baz=84,SNR=5.3
R11A **Troy Canyon, C** 83.34 327 ⇓P P 10 40 31.0 +1.6
baz=84
R11A **Troy Canyon, C** 83.34 327 eP P 10 40 29.7 +0.4
comp=N,4.3nm,1.0s
R11A e 10 40 43.1
G30A **Faulkton** 83.34 341 ⇓P P 10 40 29.3 +0.4
baz=84
J24A **Dixon Ranch, L** 83.35 337 ⇑P P 10 40 30.4 +1.2
baz=84
K22A **Casper** 83.38 335 ⇑P P 10 40 30.0 +0.6
baz=84
K22A **Casper** 83.38 335 eP P 10 40 29.9 +0.5
comp=N,20nm,1.5s
K22A e 10 40 42.2
I26A **New Underwood** 83.41 338 ⇑P P 10 40 30.2 +0.8
baz=84
H28A **Mission Ridge** 83.44 340 ⇓P P 10 40 29.9 +0.3
baz=84,SNR=7.6
G29A **Hoven** 83.61 340 ⇑P P 10 40 30.9 +0.6
baz=84
K21A **Alcova** 83.62 335 ⇑P P 10 40 31.7 +1.0
baz=84,SNR=8.1
DUG **Dugway, Tooele** 83.67 330 ⇓P P 10 40 32.3 +1.4
baz=84
DUG **Dugway, Tooele** 83.67 330 eP P 10 40 31.5 +0.6
comp=N,4.3nm,1.0s
I25A **Rochford** 83.67 337 ⇓P P 10 40 31.8 +0.9
baz=84,SNR=6.2
H27A **Howes** 83.72 339 ⇑P P 10 40 31.0 +0.1
baz=84,SNR=8.4
G28A **Parade** 83.78 340 ⇓P P 10 40 31.1 -0.1
baz=84,SNR=9.8
I24A **Kuemmerle Ranc** 83.81 337 ⇓P P 10 40 32.1 +0.6
baz=84
RSSD **Black Hills** 83.86 337 eP P 10 40 32.4 +0.5
comp=N,6.3nm,1.0s
RSSD e 10 40 44.1
TPH **Tonopah** 83.86 326 eP P 10 40 32.8 +0.7
comp=N,9.6nm,1.5s
TPH e 10 40 45.2
TCUT **Toone Canyon** 83.87 331 eP P 10 40 31.4 -0.7
comp=N,14nm,0.7s
F30A **Leola** 83.96 341 ⇓P P 10 40 32.1 -0.1
baz=84
J22A **Midwest** 84.03 335 ⇓P P 10 40 32.6 -0.1
baz=84
H25A **Fruitdale** 84.17 338 ⇑P P 10 40 33.6 +0.4
baz=84
F29A **Eureka** 84.17 341 ⇑P P 10 40 33.6 +0.3
baz=84,SNR=8.3
TORD **Torodi Ar. Bea** 84.33 70 P P 10 40 34.0 -0.7
comp=N,13nm,0.8s,baz=256,slow=4.1,SNR=58
TORD pP pP 10 40 47.3 -0.1
comp=N,13nm,0.8s,baz=262,slow=4.2,SNR=16
HWUT **Hardware Ranch** 84.35 331 eP P 10 40 34.3 -0.1
comp=N,4.7nm,0.5s
HWUT e 10 40 47.2
G27A **Dupree** 84.35 339 ⇑P P 10 40 34.4 +0.3
baz=85
F28A **McLaughlin** 84.46 340 ⇑P P 10 40 35.3 +0.6
baz=85,SNR=5.5
I22A **9 Mile Ranch,** 84.46 336 ⇑P P 10 40 35.2 +0.3
baz=85,SNR=6.1
G26A **Maurine** 84.47 339 ⇓P P 10 40 35.2 +0.4
baz=85,SNR=6.1
J20A **Shoshoni** 84.54 334 ⇑P P 10 40 36.7 +1.4
baz=85,SNR=8.3
E30A **Jud** 84.55 342 ⇓P P 10 40 35.5 +0.5
baz=85
BW06 **Boulder Array** 84.57 333 eP P 10 40 36.1 +0.6
comp=N,2.3nm,0.8s
PDAR **Pinedale Array** 84.57 333 P P 10 40 35.4 -0.2
comp=N,1.8nm,0.8s,baz=147,slow=5.8,SNR=16
PDAR pP pP 10 40 48.0 -0.2
comp=N,1.6nm,0.7s,baz=137,slow=6.5,SNR=6.8
H24A **Dirks Ranch, A** 84.58 337 ⇓P P 10 40 35.6 +0.2
baz=85,SNR=5.6
G25A **Newell** 84.63 338 ⇑P P 10 40 36.4 +0.8
baz=85,SNR=11
NVAR **Mina Array Bea** 84.65 325 P P 10 40 37.5 +1.4
comp=N,1.8nm,0.8s,baz=154,slow=4.6,SNR=12
NVAR pP pP 10 40 50.0 +1.2
comp=N,1.3nm,0.7s,baz=157,slow=6.3,SNR=5.9
I21A **Big Trails, Te** 84.66 335 ⇑P P 10 40 36.3 +0.4
baz=85
E29A **Napoleon** 84.80 341 ⇑P P 10 40 36.6 +0.2
baz=85
J19A **Crowheart** 84.81 334 ⇓P P 10 40 37.3 +0.6
baz=85,SNR=7.7
F27A **Lemmon** 84.83 339 ⇑P P 10 40 36.8 +0.3
baz=85,SNR=8.5
HVU **Hansel Valley** 84.98 331 eP P 10 40 38.1 +0.6
comp=N,4.6nm,0.6s
F26A **Lodgepole** 85.00 339 ⇑P P 10 40 38.0 +0.6
baz=85
H22A **Clearmont** 85.03 336 ⇓P P 10 40 38.1 +0.4
baz=85
G24A **Alzada** 85.06 338 ⇓P P 10 40 38.8 +1.0
baz=85
D30A **Buchanan** 85.07 342 ⇓P P 10 40 38.2 +0.5
baz=85,SNR=5.5
I20A **Worland** 85.08 335 ⇓P P 10 40 39.1 +1.2
baz=85
E28A **Huff** 85.09 340 ⇑P P 10 40 38.4 +0.5
baz=85
ELK **Elko** 85.15 328 P P 10 40 39.0 +0.4
comp=N,2.6nm,0.7s,baz=222,slow=2.9,SNR=13
ELK pP pP 10 40 51.7 +0.5
comp=N,2.2nm,0.8s,baz=312,slow=1.7,SNR=5.5
E27A **Carson** 85.20 340 ⇑P P 10 40 39.1 +0.7
baz=86
D29A **Pettibone, Tap** 85.25 341 ⇓P P 10 40 38.9 +0.3
baz=86
G23A **Biddle** 85.25 337 ⇓P P 10 40 39.2 +0.4
baz=86
H21A **Big Horn, Sher** 85.30 336 ⇓P P 10 40 38.7 -0.3
baz=86,SNR=5.0
F25A **Bowman** 85.30 338 ⇑P P 10 40 39.8 +0.9
baz=86
I19A **Meeteetse** 85.46 334 ⇓P P 10 40 40.7 +0.8
baz=86,SNR=6.8
AGMN **Agassiz Nation** 85.49 344 ⇑P P 10 40 40.0 +0.3
baz=86
AGMN **Agassiz Nation** 85.49 344 eP P 10 40 39.4 -0.4
comp=N,89nm,2.6s
AGMN e 10 40 51.6
E26A **Carlson Angus** 85.50 339 ⇑P P 10 40 40.1 +0.2
baz=86
H20A **Greybull** 85.50 335 ⇓P P 10 40 40.5 +0.5
baz=86,SNR=15
F24A **Ekalaka** 85.53 338 ⇓P P 10 40 40.3 +0.2
baz=86
C30A **Mose, Pekin** 85.55 342 ⇑P P 10 40 40.6 +0.6
baz=86,SNR=14
G22A **Birney** 85.56 336 ⇓P P 10 40 40.6 +0.3
baz=86
D28A **Regan** 85.63 341 ⇓P P 10 40 41.1 +0.6
baz=86
F23A **Volborg** 85.72 337 ⇓P P 10 40 41.6 +0.5
baz=86,SNR=9.2
E25A **Miller Ranch,** 85.80 339 ⇓P P 10 40 41.9 +0.5
baz=86
G21A **Lodge Grass** 85.88 336 ⇑P P 10 40 42.2 +0.4
baz=86
I17A **Pilgrim Ck.** 85.94 333 ⇑P P 10 40 43.6 +1.2
baz=86,SNR=6.6
MDND **Maddock** 85.97 342 ⇓P P 10 40 42.5 +0.4
baz=86,SNR=5.0
MDND **Maddock** 85.97 342 eP P 10 40 42.3 +0.2
comp=N,11nm,0.5s
MDND e 10 40 54.6
D26A **Manning** 86.00 340 ⇓P P 10 40 43.0 +0.6
baz=86
H19A **Powell** 86.01 334 ⇑P P 10 40 43.0 +0.4
baz=86,SNR=6.8
F22A **Rosebud** 86.05 337 ⇑P P 10 40 42.8 +0.1
baz=86,SNR=8.3
IMW **Indian Meadow** 86.06 333 eP P 10 40 43.8 +0.7
comp=N,40nm,2.1s
FLWY **Flagg Ranch** 86.13 333 eP P 10 40 43.9 +0.7
comp=N,9.1nm,0.7s
E24A **Baker** 86.13 338 ⇑P P 10 40 43.6 +0.6
baz=86
B30A **Myrvik Farm, E** 86.21 343 ⇓P P 10 40 43.8 +0.5
baz=86,SNR=18
G20A **Bridger** 86.22 335 ⇓P P 10 40 43.5 -0.1
baz=86,SNR=10.0
H18A **Shoshone NF, C** 86.26 334 ⇑P P 10 40 44.2 +0.3
baz=86,SNR=29
C27A **Sayler Ranch,** 86.36 340 ⇑P P 10 40 44.9 +0.8
baz=87
D25A **Fairfield** 86.36 339 ⇑P P 10 40 45.2 +1.0
baz=87
E23A **Ismay** 86.38 338 ⇓P P 10 40 44.3 +0.1
baz=87,SNR=5.2
B29A **Wagenman Farm,** 86.48 342 ⇓P P 10 40 45.4 +0.8
baz=87
RLMT **Red Lodge** 86.50 334 eP P 10 40 45.1 0.0
comp=N,5.5nm,0.5s
C26A **Wahner Farm, P** 86.62 340 ⇓P P 10 40 46.3 +0.9
baz=87
D24A **Glendive** 86.63 338 ⇓P P 10 40 46.2 +0.7
baz=87,SNR=5.2
A30A **Hoffart Farm,** 86.66 343 ⇑P P 10 40 45.6 0.0
baz=87,SNR=6.7
YMR **Madison River** 86.72 333 eP P 10 40 47.0 +0.8
comp=N,14nm,0.8s
B28A **Dugan Ranch, T** 86.73 341 ⇓P P 10 40 46.5 +0.7
baz=87,SNR=5.6
C25A **Freed Ranch, W** 86.85 339 ⇑P P 10 40 47.6 +1.1
baz=87
A29A **Manning Farm,** 86.87 342 ⇑P P 10 40 46.6 0.0
baz=87
D23A **Lindsay** 86.95 338 ⇓P P 10 40 47.9 +0.9
baz=87,SNR=11
F19A **Roth Farm, Mol** 87.02 335 ⇑P P 10 40 47.2 -0.3
baz=87
C24A **Savage** 87.03 339 ⇓P P 10 40 48.1 +0.7
baz=87,SNR=28
QLMT **Earthquake Lak** 87.04 333 eP P 10 40 49.5 +1.8
comp=N,0.2nm,0.3s
HLID **Hailey** 87.13 330 ⇑P P 10 40 49.4 +1.2
baz=87
HLID **Hailey** 87.13 330 eP P 10 40 49.1 +0.9
comp=N,78nm,2.9s
D22A **Cohagen** 87.24 337 ⇓P P 10 40 49.1 +0.7
baz=88
E20A **Meyer Farm, Mu** 87.31 336 ⇑P P 10 40 49.4 +0.6
baz=88,SNR=12
ULM **Lac du Bonnet** 87.33 345 P P 10 40 48.2 -0.5
comp=N,3.6nm,0.6s,baz=179,slow=2.9,SNR=10
A27A **Ledoux Ranch,** 87.42 341 ⇑P P 10 40 50.2 +1.0
baz=88
D21A **La Casta Ranch** 87.42 337 ⇓P P 10 40 50.0 +0.6
baz=88,SNR=6.7
E19A **Rath Farm, Rou** 87.49 335 ⇑P P 10 40 50.0 +0.3
baz=88,SNR=9.6
C23A **Lambert** 87.51 338 ⇑P P 10 40 50.4 +0.7
baz=88,SNR=9.4
MCMT **McKenzie Canyo** 87.57 332 eP P 10 40 50.9 +0.6
comp=N,2.1nm,0.9s
MCMT e 10 41 03.9
A26A **Wade Farm, Ken** 87.58 341 ⇓P P 10 40 50.3 +0.3
baz=88
C22A **Vida** 87.67 338 ⇓P P 10 40 50.8 +0.3
baz=88
DGMT **Dagmar** 87.81 339 ⇑P P 10 40 52.0 +0.9
baz=88,SNR=9.9
DGMT **Dagmar** 87.81 339 eP P 10 40 51.6 +0.5
comp=N,37nm,1.1s
DGMT e 10 41 04.0
D20A **Manuel Ranch,** 87.82 336 ⇑P P 10 40 51.6 +0.4
baz=88,SNR=6.5
A25A **Svangstu Ranch** 87.92 340 ⇓P P 10 40 52.2 +0.6
baz=88
B23A **Brockton** 88.04 339 ⇓P P 10 40 52.9 +0.7
baz=88
D19A **Cripps Ranch,** 88.14 336 ⇑P P 10 40 53.9 +1.1
baz=88
A24A **Westby** 88.16 339 ⇑P P 10 40 53.0 +0.3
baz=88
B22A **Reddig Ranch S** 88.20 338 ⇓P P 10 40 53.0 0.0
baz=88
C20A **Veseth Ranch,** 88.32 337 ⇑P P 10 40 54.2 +0.6
baz=89
MOD **Modoc Plateau** 88.34 326 eP P 10 40 54.7 +0.8
comp=N,5.7nm,0.9s
MOD e 10 41 07.7
B21A **Ellsworth Farm** 88.63 337 ⇑P P 10 40 55.6 +0.6
baz=89
C19A **Slack Wire Ran** 88.69 336 ⇑P P 10 40 56.1 +0.8
baz=89
N02D **Trinity Center** 88.75 324 ⇓P P 10 40 56.3 +0.5
baz=89
A22A **Carney Farms,** 88.79 338 ⇓P P 10 40 56.5 +0.7
baz=89,SNR=6.5
M04C **Macdoel** 88.96 325 ⇑P P 10 40 57.7 +0.9
baz=89
A21A **Bergtoll Ranch** 89.10 338 ⇓P P 10 40 58.0 +0.7
baz=89
K05A **Summer Lake** 89.26 326 eP P 10 41 00.1 +1.8
comp=N,360nm,3.0s
B19A **Brinkman Farms** 89.28 336 ⇑P P 10 40 58.5 +0.4
baz=90

A20A	**Cobblestone Ra**	**89.32**	**337**	⇓P		**P**		**10 40 58.7**	**+0.4**
	baz=90								
A19A	**Klindworth Far**	**89.62**	**337**	⇓P		**P**		**10 40 59.8**	**+0.1**
	baz=90								
J05D	**Fort Rock, OR**	**89.85**	**326**	⇑P		**P**		**10 41 02.5**	**+1.5**
	baz=90								
J04D	**Umpqua Nationa**	**90.22**	**326**	⇑P		**P**		**10 41 03.5**	**+0.7**
	baz=90								
I05D	**Terrebonne, OR**	**90.72**	**327**	⇓P		**P**		**10 41 06.1**	**+1.2**
	baz=91								
FCC	**Fort Churchill**	**95.07**	**349**	*e*P		**P**		**10 41 23.6**	**-0.8**
	comp=N,2.0nm,0.7s								
YKA	**Yellowknife Ar**	**102.89**	**341**	P		**Pdif**		**10 41 59.1**	**-0.4**
	comp=N,0.3nm,0.7s,baz=138,slow=4.3,SNR=10								
YKA				pP				10 42 11.0	
	comp=N,0.4nm,0.8s,baz=138,slow=4.5,SNR=4.6								
SKAG	**Skagway**	**107.53**	**331**	*e*Pdif		**Pdif**		**10 42 21.6**	**+1.4**
ILAR	**Eielson Array**	**115.00**	**333**	PKP		PKPdf		10 46 41.6	-0.6
	comp=N,0.5nm,0.7s,baz=189,slow=1.1,SNR=7.6								
ASAR	**Alice Springs**	**116.91**	**207**	PKP		**PKPdf**		**10 46 45.9**	**-1.5**
	comp=N,0.3nm,0.5s,baz=136,slow=1.5,SNR=9.3								
WRA	**Warramunga Arr**	**120.13**	**209**	PKP		**PKPdf**		**10 46 52.8**	**-0.8**
	comp=N,0.8nm,0.5s,baz=158,slow=1.5,SNR=35								
WRA				pPKP		**pPKPdf**		**10 47 06.0**	**-0.7**
	comp=N,0.7nm,0.5s,baz=166,slow=1.5,SNR=6.0								
WRAB	**Tennant Creek**	**120.13**	**209**	*e*PKPdf		**PKPdf**		**10 46 52.4**	**-1.2**
WRAB				*e*				10 47 06.3	
BRTR	**Keskin Array B**	**122.08**	**61**	PKP		**PKPdf**		**10 46 56.4**	**-0.4**
	comp=N,1.5nm,0.7s,baz=188,slow=2.5,SNR=8.2								
AKASG	**Malin Array Be**	**122.62**	**48**	PKP		**PKPdf**		**10 46 56.0**	**-1.2**
	comp=N,0.3nm,0.4s,baz=257,slow=2.2,SNR=4.1								
SPITS	**Spitsbergen Ar**	**123.43**	**14**	PKP		**PKPdf**		**10 46 57.9**	**-0.3**
	comp=N,16nm,1.1s,baz=260,slow=5.1,SNR=6.2								
ARCES	**ARCESS Array B**	**124.69**	**25**	PKP		**PKPdf**		**10 47 00.3**	**-0.4**
	comp=N,2.5nm,0.9s,baz=242,slow=1.9,SNR=2.7								
H11N3	**WAKE ISLAND Hy**	**126.36**	**270**	T		T		13 06 00.1	
	baz=121,slow=76,SNR=9.3								
H11N1	**WAKE ISLAND Hy**	**126.37**	**270**	T		T		13 06 07.0	
	baz=121,slow=76,SNR=14								
H11N2	**WAKE ISLAND Hy**	**126.37**	**270**	T		T		13 06 07.4	
	baz=121,slow=76,SNR=10								
ABKAR	**Akbulak array**	**142.05**	**53**	*e*PKPdf		PKPdf		10 47 27.7	-6.1
POO	**Poona**	**145.52**	**109**	⇓*i*P		**PKPdf**		**10 47 38.0**	**-2.8**
	comp=N,40nm,1.0s								
BVAR	**Borovoye Array**	**147.76**	**44**	PKPbc		**PKPbc**		**10 47 46.5**	**+0.1**
	comp=N,1.7nm,0.5s,baz=304,slow=5.5,SNR=6.2								
IPM	**Ipoh**	**149.09**	**166**	*e*PKPdf		**PKPbc**		**10 47 50.6**	**-0.4**
YAK	**Yakutsk**	**149.56**	**340**	PKPbc		**PKPbc**		**10 47 50.5**	**-0.2**
	comp=N,32nm,0.5s,baz=64,slow=0.4,SNR=12								
KKAR	**Karatay Array**	**149.78**	**63**	*e*PKPbc		**PKPbc**		**10 47 51.3**	**-0.7**
EKS2	**Erkin-Say**	**152.20**	**63**	*e*PKPbc		**PKPbc**		**10 47 57.9**	**+0.2**
AAK	**Ala-Archa**	**152.73**	**63**	PKPbc		**PKPbc**		**10 47 59.4**	**+0.4**
	comp=N,14nm,0.7s,baz=194,slow=3.0,SNR=55								
KURBB	**Kurchatov Arra**	**153.34**	**45**	PKPbc		**PKPbc**		**10 47 59.6**	**-0.2**
	comp=N,2.2nm,0.6s,baz=306,slow=3.0,SNR=32								
KURBB				pPKPbc		**PKPab**		**10 48 13.7**	**+1.6**
	comp=N,2.0nm,0.6s,baz=295,slow=3.0,SNR=4.9								
KURK	**Kurchatov**	**153.35**	**44**	*e*PKPbc		**PKPbc**		**10 47 59.5**	**-0.3**
KURK				pPKPbc		**PKPab**		**10 48 13.7**	**+1.6**
TKM2	**Tokmak 2**	**153.51**	**62**	*e*PKPbc		**PKPbc**		**10 48 00.4**	**-0.3**
TKM2				*e*PKPab		**PKPab**		**10 48 12.7**	**-0.6**
KSH	**Kashi**	**154.00**	**70**	P		**PKPbc**		**10 48 01.1**	**-0.7**
KSH	**Kashi**	**154.00**	**70**	*e*PKPbc		**PKPdf**		**10 47 49.8**	**-3.9**
KSH				pPKP		**PKPbc**		**10 48 00.7**	**-1.1**
KSH				SKS		**SKSdf**		**10 54 52.5**	**-4.8**
ZALV	**Zalesovo Beam**	**154.82**	**33**	PKP		**PKPdf**		**10 47 53.8**	**-0.4**
	comp=N,0.3nm,0.3s,baz=308,slow=3.6,SNR=3.7								
ZALV				PKPbc		**PKPbc**		**10 48 02.5**	**-0.4**
	comp=N,1.9nm,0.5s,baz=276,slow=2.9,SNR=9.1								
ZALV				pPKPbc		**PKPab**		**10 48 17.5**	**-0.7**
	comp=N,4.0nm,0.7s,baz=310,slow=5.0,SNR=6.8								
MKAR	**Makanchi Array**	**157.16**	**51**	PKP		**PKPdf**		**10 47 57.0**	**-0.7**
	comp=N,0.7nm,0.9s,baz=211,slow=1.4,SNR=5.4								
MKAR				PKPab		**PKPab**		**10 48 26.9**	**-1.6**
	comp=N,3.4nm,0.8s,baz=298,slow=2.6,SNR=16								
MDJ	**Mudanjiang**	**160.88**	**307**	PKP		**PKPdf**		**10 48 03.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**161.75**	**151**	PKPab		**PKPab**		**10 48 48.5**	**-0.5**
	comp=N,0.9nm,0.6s,baz=228,slow=6.2,SNR=5.9								
WMQ	**Urumqi**	**161.83**	**54**	*e*PKP		**PKPdf**		**10 48 04.7**	**+1.6**
WMQ				pPKP		**pPKPdf**		**10 48 15.5**	**-0.8**
WMQ				sPKP				10 48 20.0	
CN2	**Changchun**	**163.92**	**309**	*e*PKP		**PKPdf**		**10 48 09.0**	**+4.0**
SONM	**Songino Array**	**166.93**	**5**	PKPab		**PKPab**		**10 49 11.5**	**+0.3**
	comp=N,1.1nm,0.8s,baz=307,slow=3.0,SNR=6.3								
KMI	**Kunming**	**169.25**	**153**	PKP		**PKPdf**		**10 48 13.6**	**+3.6**
NJ2	**Nanjing**	**170.65**	**256**	*e*PKP		**PKPdf**		**10 48 11.7**	**+1.4**
GYA	**Guiyang**	**171.56**	**171**	*e*PKP		**PKPdf**		**10 48 11.0**	**-0.1**
GYA				pPKP		**pPKPdf**		**10 48 22.0**	**-2.3**
GYA				PKPab		**PKPab**		**10 49 33.6**	**+1.4**
GYA				PKS		**PKSdf**		**10 51 40.0**	**-3.7**
GYA				PP		**PP**		**10 53 26.5**	**+4.4**
GYA				PPMZ					
	comp=N,120nm,8.2s								
HHC	**Hu-ho-hao-te**	**173.41**	**337**	*e*PKP		**PKPdf**		**10 48 12.6**	**+1.1**
HHC				pPKP		**pPKPdf**		**10 48 22.8**	**-1.9**
HHC				PP		**PP**		**10 53 34.5**	**+3.0**
HHC				SKS		**SKSdf**		**10 55 09.8**	**-1.5**
HHC				SKKS		**SKKSac**		**11 00 16.1**	**+1.1**
HHC				SS		**SS**		**11 14 46.3**	**+2.6**
CD2	**Chengdu**	**174.62**	**135**	PKP		**PKPdf**		**10 48 11.7**	**-0.4**
CD2				pPKP		**pPKPdf**		**10 48 23.0**	**-2.3**
CD2				sPKP				10 48 26.8	
CD2				PKS		**PKSdf**		**10 51 42.5**	**-1.9**
CD2				PP		**PP**		**10 53 41.1**	**+3.2**
CD2				SKS		**SKSdf**		**10 55 09.3**	**-2.6**
CD2				SKKS		**SKKSac**		**11 00 21.8**	**+0.6**
CD2				SS		**SS**		**11 14 56.4**	**0.0**
CD2				PPMZ					
	comp=N,140nm,6.2s								
LZH	**Lanzhou**	**176.25**	**69**	*e*PKP		**PKPdf**		**10 48 13.7**	**+1.2**
LZH				pPKP		**pPKPdf**		**10 48 23.2**	**-2.6**
LZH				sPKP				10 48 28.0	

CSEM ***11*** *10:40:11.0,35.71N×6.33E,h0km,ML3.9*
CRAAG 11 10:40:11.0,35.71N×6.33E,MI3.9,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTEI	**Djebel Teioual**	**0.36**	**10**	P	Pb	10 40 19.4	-1.1
CTEI	**Djebel Teioual**	**0.36**	**10**	P	Pb	10 40 19.4	-1.1
CASM	**Ain Smara**	**0.57**	**13**	P	Pb	10 40 25.1	+1.1
CASM	**Ain Smara**	**0.57**	**13**	P	Pb	10 40 25.1	+1.1
CKHR	**Kef el Ahmar**	**0.73**	**295**	P	Pn	10 40 28.9	+0.1
CKHR	**Kef el Ahmar**	**0.73**	**295**	P	Pn	10 40 28.9	+0.1
CKFL	**Kef-Lekhel**	**0.76**	**25**	P	Pn	10 40 29.7	+0.5
CKFL	**Kef-Lekhel**	**0.76**	**25**	P	Pn	10 40 29.7	+0.5
SET	**Setif**	**0.90**	**303**	P	Pn	10 40 32.0	+0.9
SET	**Setif**	**0.90**	**303**	P	Pn	10 40 32.0	+0.9
DFRA	**Djebel Bou Aff**	**0.91**	**337**	P	Pn	10 40 32.2	+0.9
DFRA	**Djebel Bou Aff**	**0.91**	**337**	P	Pn	10 40 32.2	+0.9
ABSA	**Djebel Ababsia**	**1.09**	**58**	P	Pn	10 40 34.0	+0.3
ABSA	**Djebel Ababsia**	**1.09**	**58**	P	Pn	10 40 34.0	+0.3
CAEH	**'Ain El Ouahch**	**1.15**	**21**	P	Pn	10 40 35.6	+1.2
CAEH	**'Ain El Ouahch**	**1.15**	**21**	P	Pn	10 40 35.6	+1.2
CMAH	**Djebel Manchou**	**1.27**	**44**	P	Pn	10 40 36.2	0.0
CMAH	**Djebel Manchou**	**1.27**	**44**	P	Pn	10 40 36.2	0.0

ISCJB ***11*** *10:40:32.7±0.3,58.74S±0.05×25.6W±0.1,h38km, mb4.9/39, Error ellipse: s-maj=8.8km s-min=6.2km az=150.3*
IDC ***11*** *10:40:35.8±1.5,58.74S×25.66W,h51km±12km,mb4.6/18, mb1 4.7/20,mb1mx4.5/27,mbtmp4.9/20,ML5.4/2, Error ellipse: s-maj=15.2km s-min=11.1km az=48.0*
BJI ***11*** *10:40:41.9,58.70S×25.70W,h106km,mB5.2/2*
AWI ***11*** *10:40:41.0,58.73S×25.72W*
NEIC ***11*** *10:40:41.3±1.3,58.75S×25.72W,h101km±11km,mb4.9/25, Error ellipse: s-maj=8.1km s-min=6.4km az=61.0*
ISC 11 10:40:34.1±0.3,58.75S±0.07×25.56W±0.07,h38km,n369,
σ0 94/379,mb4.9/37,122C-93D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.52**	**302**	*e*Pn	Pn	10 42 28.2	+7.2
	783nm,1.3s						
VNA1	**Neumayer--Stat**	**13.96**	**156**	P	**Pn**	**10 43 49.1**	**+0.1**
VNA1	**Neumayer--Stat**	**13.96**	**156**	S	Sn	10 46 12.9	-10
VNA3	**Neumayer Olymp**	**14.15**	**159**	P	**Pn**	**10 43 51.5**	**-0.1**
VNA3	**Neumayer Olymp**	**14.15**	**159**	S	Sn	10 46 16.4	-11
VNA2	**Neumayer--Watz**	**14.36**	**156**	P	**Pn**	**10 43 53.8**	**-0.6**
	baz=316,slow=16						
VNA2	**Neumayer--Watz**	**14.36**	**156**	S	Sn	10 46 16.3	-16
	baz=315,slow=20						
SNAA	**Sanae**	**15.92**	**154**	P	**Pn**	**10 44 15.0**	**0.0**
	3.3nm,0.3s,baz=321,slow=15,SNR=201						
SNAA				S	Sn	10 46 57.9	-12
	0.5nm,0.3s,baz=338,slow=19,SNR=5.2						
PMSA	**Palmer Station**	**18.94**	**235**	P	**Pn**	**10 44 52.9**	**+0.6**
	4.1nm,0.3s,baz=85,slow=4.9,SNR=5.4						
PMSA	**Palmer Station**	**18.94**	**235**	*e*P	**Pn**	**10 44 52.8**	**+0.5**
	102nm,1.0s						
EFI	**East Falkland**	**19.70**	**277**	*e*P	**Pn**	**10 45 01.2**	**-0.3**
	67nm,0.8s						
H09N1	**TRISTAN DA CUN**	**23.35**	**28**	T	T	11 11 26.5	
	SNR=9.7						
USHA	**Ushuaia**	**23.50**	**261**	P	**P**	**10 45 40.8**	**+0.6**
	60nm,0.7s,baz=80,slow=7.9,SNR=53						
TRQA	**Tornquist**	**31.24**	**295**	*e*P	**P**	**10 46 50.5**	**+0.7**
	23nm,0.8s						
QSPA	**South Pole Qui**	**31.50**	**180**	P	**P**	**10 46 53.2**	**+1.2**
	21nm,0.6s,baz=212,slow=2.2,SNR=236						
QSPA	**South Pole Qui**	**31.50**	**180**	*e*P	**P**	**10 46 53.0**	**+0.9**
	25nm,0.6s						
PLCA	**Paso Flores**	**33.40**	**283**	P	**P**	**10 47 08.9**	**+0.1**
	16nm,0.8s,baz=150,slow=6.8,SNR=34						
PLCA	**Paso Flores**	**33.40**	**283**	*e*P	**P**	**10 47 09.1**	**+0.3**
	18nm,0.8s						
MAW	**Mawson**	**37.47**	**141**	P	**P**	**10 47 43.3**	**-0.1**
	9.9nm,0.9s,baz=220,slow=7.9,SNR=4.1						
CFAA	**Coronel Fontan**	**39.46**	**294**	P	**P**	**10 47 59.9**	**-0.7**
	3.8nm,0.6s,baz=154,slow=8.3,SNR=43						
LCO	**Las Campanas**	**42.79**	**294**	*e*P	**P**	**10 48 28.1**	**-0.1**
	16nm,0.8s						
SBA	**Scott Base**	**43.44**	**184**	*e*P	**P**	**10 48 34.3**	**+1.8**
	8.2nm,0.6s						
VNDA	**Vanda**	**43.91**	**182**	P	**P**	**10 48 38.0**	**+1.6**
	22nm,0.6s,baz=186,slow=6.8,SNR=160						
VNDA				PcP	**PcP**	**10 50 23.0**	**+1.4**
	3.9nm,0.5s,baz=216,slow=2.6,SNR=5.8						
BOSA	**Boshof**	**45.88**	**72**	P	**P**	**10 48 53.5**	**+0.8**
	4.2nm,0.7s,baz=215,slow=7.3,SNR=9.7						
BDFB	**Brasilia**	**46.14**	**329**	P	**P**	**10 48 55.7**	**+0.9**
	7.7nm,0.6s,baz=148,slow=6.7,SNR=12						
LBTB	**Lobatse**	**49.04**	**69**	*e*P	**P**	**10 49 18.0**	**+0.7**
	7.6nm,0.9s						
SIV	**San Ignacio**	**50.07**	**313**	P	**P**	**10 49 23.6**	**-1.4**
	3.4nm,0.5s,baz=180,slow=8.1,SNR=14						
TSUM	**Tsumeb**	**50.32**	**57**	*e*P	**P**	**10 49 28.6**	**+1.5**
	4.8nm,0.7s						
H10S2	**ASCENSION HYDR**	**50.37**	**14**	T	T	11 43 58.5	
	baz=188,slow=75,SNR=27						
H10S3	**ASCENSION HYDR**	**50.38**	**14**	T	T	11 43 59.8	
	baz=188,slow=75,SNR=30						
H10S1	**ASCENSION HYDR**	**50.39**	**14**	T	T	11 44 01.0	
	baz=188,slow=75,SNR=31						
H10N1	**ASCENSION HYDR**	**51.49**	**14**	T	T	11 45 20.2	
	baz=186,slow=76,SNR=9.5						
H10N3	**ASCENSION HYDR**	**51.49**	**14**	T	T	11 45 19.1	
	baz=186,slow=76,SNR=21						
H10N2	**ASCENSION HYDR**	**51.51**	**14**	T	T	11 45 22.5	
	baz=186,slow=76,SNR=11						
LPAZ	**La Paz**	**52.66**	**305**	P	**P**	**10 49 44.8**	**-0.3**
	5.3nm,0.6s,baz=133,slow=5.3,SNR=28						
LPAZ	**La Paz**	**52.66**	**305**	*e*P	**P**	**10 49 44.3**	**-0.8**
	5.2nm,0.6s						
RCBR	**Riachuelo**	**53.39**	**347**	*e*P	**P**	**10 49 50.8**	**+1.0**
	13nm,0.9s						
SAML	**Samuel**	**57.33**	**314**	*e*P	**P**	**10 50 16.6**	**-1.5**
	3.2nm,0.7s						
LSZ	**Lusaka**	**58.60**	**66**	*e*P	**P**	**10 50 28.2**	**+1.0**
PTGA	**Pitinga**	**63.84**	**321**	P	**P**	**10 51 00.7**	**-1.7**
	2.7nm,0.7s,baz=224,slow=4.8,SNR=4.6						
ATAH	**Atahualpa**	**65.30**	**299**	P	**P**	**10 51 13.9**	**+1.4**
	7.9nm,0.8s,baz=121,slow=18,SNR=2.8						
LIC	**Lamto**	**66.83**	**22**	*e*P	**P**	**10 51 22.6**	**+0.8**
	44nm,0.7s						
KIC	**Kosan Boka**	**67.02**	**23**	*e*P	**P**	**10 51 23.8**	**+0.8**
	37nm,0.8s						
TIC	**Toumodi**	**67.24**	**22**	*e*P	**P**	**10 51 25.3**	**+0.9**
	35nm,0.5s						
DBIC	**Dimbokro**	**67.29**	**22**	P	**P**	**10 51 25.7**	**+1.0**
	15nm,0.7s,baz=172,slow=7.1,SNR=18						
DBIC	**Dimbokro**	**67.29**	**22**	*e*P	**P**	**10 51 25.3**	**+0.6**
	14nm,0.7s						
OTAV	**Otavalo**	**71.88**	**303**	*e*P	**P**	**10 51 54.0**	**+0.4**
	4.9nm,0.8s						
ROSC	**El Rosal**	**74.30**	**309**	P	**P**	**10 52 08.7**	**+0.9**
	6.3nm,0.6s,baz=133,slow=18,SNR=4.5						
TORD	**Torodi Ar. Bea**	**75.01**	**28**	P	**P**	**10 52 12.6**	**+1.2**
	20nm,0.7s,baz=194,slow=6.2,SNR=127						
PCRV	**Puerto La Cruz**	**75.60**	**320**	P	**P**	**10 52 13.9**	**-1.0**
	12nm,0.7s,baz=176,slow=4.0,SNR=7.4						
ODZ	**Otahua Downs**	**75.71**	**192**	*e*P	**P**	**10 52 15.9**	**+0.8**
	8.1nm,0.6s						
SDV	**Santo Domingo**	**76.53**	**314**	*e*P	**P**	**10 52 20.8**	**+0.4**
	6.8nm,0.7s						
RPZ	**Rata Peaks**	**76.97**	**192**	*e*P	**P**	**10 52 22.7**	**+0.3**
	26nm,0.9s						
KHZ	**Kahutara**	**77.96**	**194**	*e*P	**P**	**10 52 28.2**	**+0.4**
	8.8nm,0.6s						
SNZO	**South Karori**	**78.89**	**195**	*e*P	**P**	**10 52 33.2**	**+0.2**
	39nm,0.6s						
BKZ	**Black Stump Fm**	**80.73**	**197**	*e*P	**P**	**10 52 44.2**	**+1.1**
	10nm,0.6s						
URZ	**Urewera**	**81.52**	**198**	*e*P	**P**	**10 52 47.1**	**-0.1**
	9.8nm,0.6s						
H08N3	**Diego Garcia H**	**88.02**	**99**	T	T	12 32 16.5	
	baz=216,slow=76,SNR=4.9						
H08N1	**Diego Garcia H**	**88.03**	**99**	T	T	12 32 19.9	
	baz=216,slow=76,SNR=4.7						
H08N2	**Diego Garcia H**	**88.04**	**99**	T	T	12 32 21.8	
	baz=216,slow=76,SNR=5.6						
FORT	**Forrest**	**88.14**	**158**	*e*P	**P**	**10 53 20.8**	**+0.1**
	29nm,0.6s						
ARMA	**Armidale**	**91.14**	**178**	*e*P	**P**	**10 53 34.9**	**0.0**
	3.1nm,0.7s						
ASAR	**Alice Springs**	**96.15**	**161**	P	**P**	**10 53 57.1**	**-0.8**
	6.6nm,0.6s,baz=182,slow=4.2,SNR=194						
ASAR				PP	PP	10 57 40.9	-9.2
	0.9nm,1.0s,baz=184,slow=4.7,SNR=4.5						
ASAR				PKiKP	**PKiKP**	**10 58 35.0**	**-1.1**
	0.4nm,0.7s,baz=166,slow=1.0,SNR=6.7						
ASAR				PKKP	**PKKPbc**	**11 10 43.5**	**+1.9**
	2.3nm,0.5s,baz=12,slow=2.3,SNR=62						
AS31	**Alice Springs**	**96.15**	**161**	*e*P	**P**	**10 53 56.7**	**-1.2**
FITZ	**Fitzroy Crossi**	**99.85**	**152**	*e*Pdif	**Pdif**	**10 54 14.8**	**+0.3**
	17nm,1.0s						
WRA	**Warramunga Arr**	**99.86**	**161**	P	**Pdif**	**10 54 13.7**	**-0.9**
	1.1nm,0.6s,baz=193,slow=4.3,SNR=18						
WRA				PP	**PP**	**10 58 16.2**	**-2.4**
	0.5nm,0.7s,baz=188,slow=6.1,SNR=3.6						
WRA				PKiKP	**PKiKP**	**10 58 42.3**	**-0.4**
	0.4nm,0.7s,baz=219,slow=1.6,SNR=6.5						
WRA				PKKP	**PKKPdf**	**11 10 33.6**	**-0.7**
	2.3nm,0.7s,baz=356,slow=2.9,SNR=26						
WB2	**Warramunga Ar**	**99.87**	**161**	*e*Pdif	**Pdif**	**10 54 13.4**	**-1.2**
WRAB	**Tennant Creek**	**99.88**	**161**	*e*Pdif	**Pdif**	**10 54 13.6**	**-1.0**
CTAO	**Charters Tower**	**101.17**	**172**	*e*Pdif	**Pdif**	**10 54 18.2**	**-2.2**
TXAR	**Lajitas Array**	**108.79**	**296**	PKiKP	**PKiKP**	**10 58 58.6**	**-0.1**
	0.2nm,0.8s,baz=158,slow=3.6,SNR=5.2						
BRTR	**Keskin Array B**	**109.71**	**45**	PKiKP	**PKiKP**	**10 59 00.1**	**-0.1**
	0.5nm,0.5s,baz=148,slow=5.5,SNR=3.3						
BRTR				PP	**PP**	**10 59 30.2**	**-2.6**
	0.6nm,0.7s,baz=179,slow=12,SNR=3.7						
BRTR				PKKPbc	**PKKPbc**	**11 10 01.9**	**-0.8**
	0.9nm,0.7s,baz=73,slow=4.1,SNR=4.4						
GERES	**GERESS Array B**	**111.96**	**27**	PKiKP	**PKiKP**	**10 59 03.9**	**-0.1**
	0.3nm,0.5s,baz=235,slow=4.7,SNR=3.7						
MLR	**Muntele Rosu**	**112.22**	**36**	PKiKP	**PKiKP**	**10 59 04.1**	**-0.6**
	0.3nm,0.6s,baz=196,slow=7.4,SNR=4.9						
SADO	**Sadowa**	**112.24**	**322**	PKiKP	**PKiKP**	**10 59 03.3**	**-1.3**
	4.6nm,0.9s,baz=306,slow=0.7,SNR=3.1						
121A	**Cookes Peak, D**	**113.40**	**294**	⇑P	**PKiKP**	**10 59 07.4**	**0.0**
	baz=114						
U30A	**WK&E Inc. Balk**	**113.43**	**302**	⇑P	**PKiKP**	**10 59 07.2**	**0.0**
	baz=114						
R33A	**Olander Ranch,**	**113.76**	**305**	⇑P	**PKiKP**	**10 59 07.5**	**-0.2**
	baz=114						
R32A	**Long Quarter,**	**114.17**	**305**	⇓P	PKPdf	10 59 08.4	-0.1
	baz=114						
V26A	**Tequesquite Ra**	**114.23**	**299**	⇓P	PKPdf	10 59 09.1	+0.3
	baz=114						
Q33A	**Connelly Farm,**	**114.27**	**305**	⇓P	PKPdf	10 59 08.3	-0.3
	baz=114						
S30A	**Montezuma**	**114.28**	**303**	⇓P	PKPdf	10 59 08.7	-0.1
	baz=114						
U27A	**Thompson Grove**	**114.31**	**300**	⇑P	PKPdf	10 59 09.4	+0.4
	baz=114						
R31A	**Burdett**	**114.41**	**304**	⇑P	PKPdf	10 59 09.0	0.0
	baz=115						
S29A	**Ulysses**	**114.55**	**302**	⇓P	PKPdf	10 59 09.6	+0.2
	baz=115						
R30A	**Dighton**	**114.73**	**303**	⇑P	PKPdf	10 59 09.8	+0.2
	baz=115						
T27A	**Campo**	**114.80**	**301**	⇑P	PKPdf	10 59 10.1	+0.2
	baz=115						
U25A	**Circle Dot Ran**	**115.01**	**299**	⇑P	**PKPdf**	**10 59 10.5**	**+0.1**
	baz=115						
P32A	**Huiting Farm,**	**115.12**	**305**	⇑P	**PKPdf**	**10 59 10.7**	**+0.4**
	baz=115						
Q30A	**Quinter**	**115.28**	**304**	⇑P	**PKPdf**	**10 59 11.0**	**+0.4**
	baz=116						
T26A	**Comanche Natio**	**115.28**	**300**	⇓P	**PKPdf**	**10 59 11.1**	**+0.2**
	baz=116						
P31A	**Stockton**	**115.37**	**305**	⇑P	**PKPdf**	**10 59 10.9**	**+0.1**
	baz=116						
U24A	**Moreno Valley**	**115.42**	**298**	⇓P	**PKPdf**	**10 59 11.2**	**-0.1**
	baz=116						
T25A	**Trinidad**	**115.62**	**300**	⇑P	**PKPdf**	**10 59 11.7**	**+0.1**
	baz=116						
R27A	**Eads**	**115.84**	**301**	⇓P	**PKPdf**	**10 59 12.1**	**+0.3**
	baz=116						
O31A	**Woolen Ranch,**	**115.87**	**305**	⇓P	**PKPdf**	**10 59 12.2**	**+0.4**
	baz=116						
T24B	**San Luis**	**116.00**	**299**	⇑P	**PKPdf**	**10 59 12.5**	**0.0**
	baz=116						
S25A	**Robets Cordova**	**116.06**	**300**	⇓P	**PKPdf**	**10 59 12.5**	**+0.1**
	baz=116						
X18A	**Snowflake**	**116.07**	**294**	⇑P	**PKPdf**	**10 59 12.6**	**+0.1**
	baz=116						
P29A	**Atwood**	**116.11**	**304**	⇓P	**PKPdf**	**10 59 12.3**	**+0.1**
	baz=116						
R26A	**Arlington**	**116.14**	**301**	⇓P	**PKPdf**	**10 59 12.5**	**+0.1**
	baz=116						
N31A	**Bailey Ranch,**	**116.27**	**306**	⇑P	**PKPdf**	**10 59 12.9**	**+0.4**
	baz=116						
T23A	**Casias Ranch,**	**116.28**	**298**	⇓P	**PKPdf**	**10 59 12.9**	**0.0**
	baz=116						
R25A	**Fountain Ranch**	**116.39**	**300**	⇑P	**PKPdf**	**10 59 13.0**	**+0.1**
	baz=117						
P28A	**Saint Francis**	**116.44**	**303**	⇑P	**PKPdf**	**10 59 13.3**	**+0.4**
	baz=117						
SDCO	**Great Sand Dun**	**116.61**	**299**	⇓P	**PKPdf**	**10 59 13.7**	**+0.1**
	baz=117						
KBZ	**Khabaz**	**116.68**	**49**	PKP	**PKPdf**	**10 59 13.0**	**0.0**
	0.8nm,0.6s,baz=349,slow=5.2,SNR=3.2						
X16A	**Lo Mia Camp, P**	**116.69**	**293**	⇑P	**PKPdf**	**10 59 14.0**	**+0.2**
	baz=117						
P27A	**Ficken Ranch,**	**116.79**	**302**	⇓P	**PKPdf**	**10 59 14.1**	**+0.4**
	baz=117						
R24A	**Sanders Place,**	**116.83**	**300**	⇓P	**PKPdf**	**10 59 14.

I27A	Quinn	120.24	306	⇑P		PKPdf	10 59 20.7	+0.7
	baz=120								
L23A	Garrett	120.25	302	⇓P		PKPdf	10 59 20.5	+0.1
	baz=120								
EDW2	Edwards Air Fo	120.26	288	⇑P		PKPdf	10 59 20.7	+0.3
	baz=120								
G29A	Hoven	120.27	308	⇓P		PKPdf	10 59 20.3	+0.3
	baz=120								
H28A	Mission Ridge	120.30	307	⇓P		PKPdf	10 59 20.5	+0.4
	baz=120,SNR=8.6								
N20A	Spence Gulch,	120.37	299	⇑P		PKPdf	10 59 20.9	+0.2
	baz=120								
F30A	Leola	120.42	309	⇓P		PKPdf	10 59 20.7	+0.4
	baz=121								
J25A	Sunshine Ranch	120.44	304	⇑P		PKPdf	10 59 20.5	0.0
	baz=121								
L22A	Ellis Ranch, M	120.50	301	⇓P		PKPdf	10 59 21.0	+0.2
	baz=121								
I26A	New Underwood	120.55	305	⇑P		PKPdf	10 59 20.4	-0.3
	baz=121								
G28A	Parade	120.58	307	⇑P		PKPdf	10 59 20.7	0.0
	baz=121,SNR=8.5								
H27A	Howes	120.71	306	⇑P		PKPdf	10 59 20.7	-0.3
	baz=121,SNR=5.7								
ARVC	Arvin	120.88	288	⇑P		PKPdf	10 59 21.3	-0.2
	baz=121								
E30A	Jud	120.92	310	⇑P		PKPdf	10 59 21.1	-0.1
	baz=121								
I25A	Rochford	120.92	305	⇓P		PKPdf	10 59 21.2	-0.3
	baz=121								
MPMC	Manual Prospec	120.95	289	⇑P		PKPdf	10 59 21.3	-0.5
	baz=121								
H26A	Fairpoint	120.99	306	⇓P		PKPdf	10 59 21.4	-0.1
	baz=121,SNR=12								
K22A	Casper	121.04	302	⇑P		PKPdf	10 59 21.5	-0.3
	baz=121								
TPNV	Topopah Spring	121.05	291	⇓P		PKPdf	10 59 21.5	-0.4
	baz=121								
ISA	Isabella, Lake	121.12	288	⇑P		PKPdf	10 59 22.7	+0.6
	baz=121								
RSSD	Black Hills	121.13	304	*e*PKPdf		PKPdf	10 59 21.4	-0.6
F28A	McLaughlin	121.16	308	⇑P		PKPdf	10 59 21.5	-0.2
	baz=121,SNR=6.4								
I24A	Kuemmerle Ranc	121.17	304	⇓P		PKPdf	10 59 21.6	-0.4
	baz=121								
AGMN	Agassiz Nation	121.19	313	⇓P		PKPdf	10 59 21.2	-0.5
	baz=121								
AGMN	Agassiz Nation	121.19	313	*e*PKPdf		PKPdf	10 59 20.6	-1.0
G27A	Dupree	121.25	307	⇓P		PKPdf	10 59 21.6	-0.3
	baz=121,SNR=17								
E29A	Napoleon	121.27	309	⇓P		PKPdf	10 59 22.0	+0.1
	baz=122								
H25A	Fruitdale	121.34	305	⇓P		PKPdf	10 59 21.8	-0.4
	baz=122,SNR=13								
K21A	Alcova	121.35	301	⇓P		PKPdf	10 59 22.3	-0.1
	baz=122								
D30A	Buchanan	121.35	310	⇑P		PKPdf	10 59 22.0	0.0
	baz=122								
G26A	Maurine	121.46	306	⇓P		PKPdf	10 59 21.8	-0.5
	baz=122,SNR=14								
VES	Vestal, Richgr	121.57	288	⇓P		PKPdf	10 59 22.9	+0.1
	baz=122								
J22A	Midwest	121.63	302	⇑P		PKPdf	10 59 22.5	-0.3
	baz=122								
D29A	Pettibone, Tap	121.65	309	⇓P		PKPdf	10 59 22.4	-0.2
	baz=122								
F27A	Lemmon	121.68	307	⇑P		PKPdf	10 59 22.4	-0.3
	baz=122								
E28A	Huff	121.70	308	⇓P		PKPdf	10 59 22.6	-0.1
	baz=122								
C30A	Mose, Pekin	121.72	311	⇑P		PKPdf	10 59 22.5	-0.2
	baz=122								
G25A	Newell	121.73	306	⇑P		PKPdf	10 59 22.4	-0.5
	baz=122,SNR=9.0								
R11A	Troy Canyon, C	121.83	292	⇑P		PKPdf	10 59 23.5	0.0
	baz=122								
H24A	Dirks Ranch, A	121.85	305	⇓P		PKPdf	10 59 22.9	-0.2
	baz=122								
F26A	Lodgepole	121.94	307	⇑P		PKPdf	10 59 23.0	-0.2
	baz=122,SNR=6.3								
E27A	Carson	121.94	308	⇑P		PKPdf	10 59 23.3	+0.1
	baz=122								
DUG	Dugway, Tooele	121.97	296	⇓P		PKPdf	10 59 23.9	+0.3
	baz=122								
J21A	Lysite	122.00	302	⇑P		PKPdf	10 59 23.3	-0.3
	baz=122								
I22A	9 Mile Ranch,	122.01	303	⇑P		PKPdf	10 59 23.3	-0.2
	baz=122								
H23A	Clabaugh Cattl	122.07	304	⇑P		PKPdf	10 59 23.5	-0.1
	baz=122								
TIN	Tinemaha, Big	122.10	289	⇑P		PKPdf	10 59 23.6	-0.3
	baz=122								
D28A	Regan	122.15	309	⇑P		PKPdf	10 59 23.6	+0.1
	baz=122								
G24A	Alzada	122.26	305	⇓P		PKPdf	10 59 23.8	-0.2
	baz=122								
B30A	Myrvik Farm, E	122.27	311	⇑P		PKPdf	10 59 23.7	-0.1
	baz=122								
MDND	Maddock	122.29	310	⇓P		PKPdf	10 59 23.8	0.0
	baz=122								
J20A	Shoshoni	122.29	301	⇑P		PKPdf	10 59 23.8	-0.3
	baz=122								
I21A	Big Trails, Te	122.30	302	⇑P		PKPdf	10 59 23.7	-0.5
	baz=122								
F25A	Bowman	122.33	306	⇓P		PKPdf	10 59 24.0	0.0
	baz=122								
E26A	Carlson Angus	122.35	307	⇑P		PKPdf	10 59 23.7	-0.3
	baz=122,SNR=13								
D27A	Center	122.47	308	⇑P		PKPdf	10 59 24.4	+0.2
	baz=123								
PDAR	Pinedale Array	122.49	300	PKP		PKPdf	10 59 24.1	-0.6
	1.3nm,0.5s,baz=124,slow=5.3,SNR=25								
PDAR					PKKPab	PKKPbc	11 09 18.1	+0.2
	0.3nm,0.9s,baz=247,slow=3.1,SNR=4.1								
BW06	Boulder Array	122.49	300	*e*PKPdf		PKPdf	10 59 23.9	-0.8
C28A	Hausauer Farms	122.50	309	⇑P		PKPdf	10 59 24.3	+0.1
	baz=123								
H22A	Clearmont	122.51	303	⇓P		PKPdf	10 59 24.3	-0.1
	baz=123								
G23A	Biddle	122.58	304	⇑P		PKPdf	10 59 24.2	-0.3
	baz=123								
A30A	Hoffart Farm,	122.65	312	⇑P		PKPdf	10 59 24.3	-0.1
	baz=123								
J19A	Crowheart	122.66	300	⇓P		PKPdf	10 59 24.5	-0.4
	baz=123								
F24A	Ekalaka	122.68	305	⇑P		PKPdf	10 59 24.9	+0.1
	baz=123								
B29A	Wagenman Farm,	122.68	311	⇓P		PKPdf	10 59 24.8	+0.2
	baz=123								
E25A	Miller Ranch,	122.76	307	⇑P		PKPdf	10 59 25.0	+0.2
	baz=123,SNR=8.3								
D26A	Manning	122.78	308	⇑P		PKPdf	10 59 24.9	+0.1
	baz=123								
I20A	Worland	122.78	302	⇓P		PKPdf	10 59 24.9	-0.1
	baz=123								
ULM	Lac du Bonnet	122.79	314	PKP		PKPdf	10 59 23.6	-1.0
	12nm,0.6s,baz=131,slow=1.0,SNR=34								
NB2	NORSAR Subarra	122.83	20	PKPdf		PKPdf	10 59 23.9	-0.5
	comp=Z,2.5nm,0.9s,baz=202,slow=1.9								
NOA	NORSAR Array B	122.83	20	PKP		PKPdf	10 59 24.4	0.0
	comp=Z,2.7nm,0.8s,baz=194,slow=1.7,SNR=9.1								
NOA					PKKPbc	PKKPbc	11 09 16.7	0.0
	comp=Z,0.4nm,0.6s,baz=16,slow=5.4,SNR=3.6								
H21A	Big Horn, Sher	122.84	303	⇓P		PKPdf	10 59 24.7	-0.4
	baz=123								
C27A	Sayler Ranch,	122.94	309	⇓P		PKPdf	10 59 25.3	+0.3
	baz=123								
G22A	Birney	122.98	304	⇓P		PKPdf	10 59 25.0	-0.3
	baz=123								
F23A	Volborg	122.99	305	⇓P		PKPdf	10 59 25.0	-0.3
	baz=123								
A29A	Manning Farm,	123.00	311	⇑P		PKPdf	10 59 24.7	-0.4
	baz=123								
B28A	Dugan Ranch, T	123.07	310	⇑P		PKPdf	10 59 24.9	-0.3
	baz=123								
PYUN	Piuthan	123.12	90	*e*P		PKPdf	10 59 25.7	-0.6
	comp=Z,32nm,0.6s								
H20A	Greybull	123.15	302	⇓P		PKPdf	10 59 25.1	-0.6
	baz=123								
KOLN	Koldanda	123.17	90	*e*P		PKPdf	10 59 25.5	-0.9
	comp=Z,16nm,0.6s								
E24A	Baker	123.19	306	⇓P		PKPdf	10 59 25.6	0.0
	baz=123								
NVAR	Mina Array Bea	123.22	290	PKP		PKPdf	10 59 27.0	+0.8
	comp=Z,2.6nm,0.6s,baz=136,slow=2.9,SNR=20								
I19A	Meeteetse	123.24	301	⇑P		PKPdf	10 59 26.1	+0.1
	baz=123								
D25A	Fairfield	123.25	307	⇓P		PKPdf	10 59 26.0	+0.3
	baz=123								
C26A	Wahner Farm, P	123.28	308	⇑P		PKPdf	10 59 25.9	+0.2
	baz=124								
CMAR	Chiang Mai Arr	123.29	111	PKP		PKPdf	10 59 26.3	-0.4
	comp=Z,6.5nm,0.7s,baz=221,slow=3.9,SNR=34								
A28A	Rude Farm, Bot	123.40	310	⇑P		PKPdf	10 59 25.8	-0.1
	baz=124								
F22A	Rosebud	123.41	304	⇑P		PKPdf	10 59 25.9	-0.2
	baz=124								
E23A	Ismay	123.56	305	⇓P		PKPdf	10 59 26.3	0.0
	baz=124								
D24A	Glendive	123.64	306	⇑P		PKPdf	10 59 26.2	-0.2
	baz=124,SNR=17								
C25A	Freed Ranch, W	123.66	308	⇑P		PKPdf	10 59 26.9	+0.4
	baz=124								
DANN	Dangsing	123.72	90	*e*P		PKPdf	10 59 26.7	-0.9
	comp=Z,27nm,0.7s								
H19A	Powell	123.73	302	⇓P		PKPdf	10 59 27.1	+0.2
	baz=124								
B26A	Jensen Ranch,	123.77	309	⇓P		PKPdf	10 59 27.1	+0.4
	baz=124								
E22A	Miles City	123.79	305	⇓P		PKPdf	10 59 26.7	-0.1
	baz=124,SNR=8.1								
F21A	Absaloka Mine,	123.81	304	⇑P		PKPdf	10 59 26.9	0.0
	baz=124								
G20A	Bridger	123.82	302	⇑P		PKPdf	10 59 26.9	-0.1
	baz=124								
A27A	Ledoux Ranch,	123.83	310	⇑P		PKPdf	10 59 26.9	+0.2
	baz=124								
I17A	Pilgrim Ck.	123.86	300	⇑P		PKPdf	10 59 27.9	+0.6
	baz=124								
GKN	Gorkha	123.90	91	*e*P		PKPdf	10 59 27.0	-0.7
	comp=Z,16nm,0.7s								
OBN	Obninsk	123.94	38	PKP		PKPdf	10 59 26.6	0.0
	comp=Z,22nm,0.4s,baz=134,slow=8.2,SNR=6.5								
PKI	Pulchoki	123.95	92	*e*P		PKPdf	10 59 27.4	-0.7
C24A	Savage	124.01	307	⇑P		PKPdf	10 59 27.6	+0.5
	baz=124,SNR=11								
H18A	Shoshone NF, C	124.04	301	⇑P		PKPdf	10 59 27.3	-0.2
	baz=124								
D23A	Lindsay	124.05	306	⇑P		PKPdf	10 59 27.7	+0.4
	baz=124,SNR=8.8								
KKN	Kakani	124.06	92	*e*P		PKPdf	10 59 27.6	-0.5
	comp=Z,6.3nm,0.3s								
B25A	Knox Farm, Ray	124.07	308	⇓P		PKPdf	10 59 27.8	+0.5
	baz=124								
RAMN	Ramite	124.07	94	*e*P		PKPdf	10 59 28.1	-0.1
	comp=Z,32nm,0.7s								
A26A	Wade Farm, Ken	124.10	309	⇑P		PKPdf	10 59 28.0	+0.7
	baz=124								
H17A	Grant Village	124.23	300	⇓P		PKPdf	10 59 28.8	+0.9
	baz=124								
ODAN	Odare	124.41	94	*e*P		PKPdf	10 59 28.7	-0.1
	comp=Z,10nm,0.4s								
JIRN	Jiri	124.43	93	*e*P		PKPdf	10 59 28.7	-0.3
	comp=Z,27nm,0.6s								
D22A	Cohagen	124.45	305	⇓P		PKPdf	10 59 28.4	+0.4
	baz=125,SNR=11								
GUN	Gumba	124.47	92	*e*P		PKPdf	10 59 28.4	-0.7
	comp=Z,19nm,0.7s								
C23A	Lambert	124.54	306	⇑P		PKPdf	10 59 28.5	+0.4
	baz=125								
A25A	Svangstu Ranch	124.57	309	⇓P		PKPdf	10 59 28.5	+0.3
	baz=125								
F19A	Roth Farm, Mol	124.63	302	⇑P		PKPdf	10 59 28.6	+0.1
	baz=125								
DGMT	Dagmar	124.65	308	⇓P		PKPdf	10 59 28.6	+0.3
	baz=125								
D21A	La Casta Ranch	124.73	305	⇓P		PKPdf	10 59 28.6	0.0
	baz=125,SNR=5.4								
E20A	Meyer Farm, Mu	124.78	303	⇑P		PKPdf	10 59 28.6	-0.1
	baz=125								
C22A	Vida	124.79	306	⇓P		PKPdf	10 59 29.0	+0.3
	baz=125,SNR=18								
A24A	Westby	124.92	308	⇑P		PKPdf	10 59 29.2	+0.4
	baz=125								
TAPN	Taplejung	124.97	94	*e*P		PKPdf	10 59 29.6	-0.4
B23A	Brockton	124.97	307	⇑P		PKPdf	10 59 29.2	+0.3
	baz=125								
E19A	Rath Farm, Rou	125.04	303	⇓P		PKPdf	10 59 29.4	+0.2
	baz=125								
D20A	Manuel Ranch,	125.24	304	⇑P		PKPdf	10 59 29.5	0.0
	baz=125,SNR=17								
B22A	Reddig Ranch S	125.27	306	⇑P		PKPdf	10 59 29.9	+0.3
	baz=126								
HLID	Hailey	125.34	297	⇑P		PKPdf	10 59 30.1	+0.1
	baz=126								
D19A	Cripps Ranch,	125.62	304	⇑P		PKPdf	10 59 30.5	+0.2
	baz=126,SNR=8.1								
C20A	Veseth Ranch,	125.67	305	⇑P		PKPdf	10 59 30.4	+0.1
	baz=126,SNR=13								
A22A	Carney Farms,	125.77	307	⇓P		PKPdf	10 59 30.7	+0.2
	baz=126								
B21A	Ellsworth Farm	125.80	306	⇓P		PKPdf	10 59 31.4	+0.9
	baz=126								
C19A	Slack Wire Ran	126.13	304	⇑P		PKPdf	10 59 31.6	+0.3
	baz=126,SNR=11								
A21A	Bergtoll Ranch	126.19	306	⇑P		PKPdf	10 59 31.8	+0.5
	baz=126								
B20A	Solberg Farm,	126.23	305	⇓P		PKPdf	10 59 31.8	+0.4
	baz=126								
FINES	FINESS Array B	126.36	28	PKP		PKPdf	10 59 30.8	-0.3
	comp=Z,7.1nm,0.5s,baz=165,slow=3.3,SNR=95								
FRB	Frobisher Bay	126.49	338	PKP		PKPdf	10 59 31.1	-0.1
	comp=Z,20nm,0.8s,baz=301,slow=20,SNR=6.9								
A20A	Cobblestone Ra	126.53	305	⇓P		PKPdf	10 59 32.1	+0.2
	baz=127,SNR=12								
HRY	Holter Researc	126.57	301	*e*PKPdf		PKPdf	10 59 32.7	+0.5
B19A	Brinkman Farms	126.64	305	⇑P		PKPdf	10 59 32.5	+0.3
	baz=127,SNR=9.8								
EGMT	Eagleton	126.66	304	⇑P		PKPdf	10 59 32.5	+0.2
	baz=127,SNR=6.3								
EGMT	Eagleton	126.66	304	*e*PKPdf		PKPdf	10 59 32.6	+0.3
A19A	Klindworth Far	126.92	305	⇓P		PKPdf	10 59 33.0	+0.3
	baz=127,SNR=7.3								
KAF	Kangasniemi	126.99	28	*e*pkp		PKPdf	10 59 32.0	-0.3
N02D	Trinity Center	127.34	289	⇑P		PKPdf	10 59 34.6	+0.8
	baz=128								
M04C	Macdoel	127.53	290	⇑P		PKPdf	10 59 34.9	+0.7
	baz=128								
MSO	Missoula	127.61	300	⇓P		PKPdf	10 59 34.9	+0.7
	baz=128								
BMO	Blue Mountains	127.67	296	*e*PKPdf		PKPdf	10 59 34.4	0.0
M02C	Callahan	127.73	289	⇑P		PKPdf	10 59 35.4	+0.9
	baz=128								
ABKAR	Akbulak array	128.16	56	*e*PKPdf		PKPdf	10 59 34.5	-0.5
AKTO	Aktyubinsk	128.22	54	PKP		PKPdf	10 59 35.0	0.0
	comp=Z,6.5nm,0.6s,baz=167,slow=1.6,SNR=33								
J05D	Fort Rock, OR	128.36	292	⇑P		PKPdf	10 59 36.9	+1.1
	baz=128								
KKAR	Karatay Array	128.42	68	*e*PKPdf		PKPdf	10 59 35.3	-0.4
KSH	Kashi	128.42	75	*e*PKP		PKPdf	10 59 35.6	-0.4
KSH				PP		PP	11 01 40.8	-1.1
KSH				SKS		SKSac	11 06 35.9	-4.4
KSH				SS		SS	11 18 39.8	-15
KSH				LN				
	comp=Z,210nm,8.4s								
KSH				LE				
	comp=Z,180nm,7.7s								
KSH				LZ				
	comp=Z,410nm,13.8s								
FFC	Flin Flon	128.61	314	*e*PKPdf		PKPdf	10 59 35.5	-0.1
J04D	Umpqua Nationa	128.75	291	⇑P		PKPdf	10 59 37.5	+0.9
	baz=129								
JOF	Joensuu	128.92	30	*e*pkp		PKPdf	10 59 35.8	-0.1
I05D	Terrebonne, OR	129.20	293	⇓P		PKPdf	10 59 38.3	+1.1
	baz=129								
I04A	Tendick Farm,	129.31	292	⇑P		PKPdf	10 59 37.6	+0.2
	baz=129								
AAK	Ala-Archa	130.02	72	PKP		PKPdf	10 59 39.3	+0.3
	comp=Z,6.7nm,0.7s,baz=155,slow=5.7,SNR=17								
SUMG	Summit	131.34	355	*i* P		PKPdf	10 59 43.1	+2.3
	comp=Z,1.9nm,0.8s								
ARCES	ARCESS Array B	133.12	22	PKhKP		PKPpre	10 59 30.0	
	comp=Z,2.6nm,0.8s,baz=198,slow=3.6,SNR=6.4								
ARCES				PKP		PKPdf	10 59 43.4	-0.3
	comp=Z,1.4nm,0.5s,baz=224,slow=2.8,SNR=5.4								
ARCES				SKPbc		SKPbc	11 03 08.4	+0.1
	comp=Z,2.3nm,0.7s,baz=187,slow=4.5,SNR=4.0								
GYA	Guiyang	133.81	113	*e*Pdif		Pdif	10 56 44.2	-1.1
GYA				PKP		PKPdf	10 59 45.6	-1.0
GYA				sPKP			11 00 26.7	
GYA				PP		PP	11 02 21.3	+4.8
GYA				PPMZ				
	comp=Z,90nm,7.6s								
DAG	Danmarks Havn	135.33	2	*i* P		PKPdf	10 59 47.7	0.0
	comp=Z,5.8nm,0.7s								
BVAR	Borovoye Array	135.45	59	PKP		PKPdf	10 59 48.9	+0.2
	comp=Z,7.0nm,0.5s,baz=218,slow=2.5,SNR=26								
CD2	Chengdu	136.06	107	PKP		PKPdf	10 59 49.0	-1.6
CD2				sPKP			11 00 30.0	
CD2				PP		PP	11 02 34.3	+3.6
CD2				PKS		PKSdf	11 03 23.9	-3.0
CD2				SKS		SKSac	11 06 47.2	-14
CD2				SKKS		SKKSac	11 09 13.2	-8.9
CD2				SS		SS	11 20 23.8	-3.9
CD2				PPMZ				
	comp=Z,140nm,6.4s								
MKAR	Makanchi Array	136.87	73	PKP		PKPdf	10 59 51.5	0.0
	comp=Z,2.5nm,0.8s,baz=307,slow=4.2,SNR=3.6								
MKAR				SKPbc		SKPbc	11 03 19.6	-1.4
	comp=Z,0.8nm,0.9s,baz=250,slow=4.9,SNR=4.4								
WMQ	Urumqi	137.54	80	*e*PKP		PKPdf	10 59 55.2	+2.3
WMQ				LN				
	comp=Z,1μm,20.8s								
WMQ				LE				
	comp=Z,1μm,20.8s								
WMQ				LZ				
	comp=Z,1μm,23.6s								
KURBB	Kurchatov Arra	137.62	66	PKP		PKPdf	10 59 54.5	+1.9
	comp=Z,4.2nm,0.7s,baz=235,slow=2.7,SNR=7.2								
KURBB				SKPbc		SKPbc	11 03 20.8	-2.2
	comp=Z,0.1nm,0.4s,baz=212,slow=2.2,SNR=4.4								
KURK	Kurchatov	137.72	66	PKP		PKPdf	10 59 54.5	+1.7
KURK				SKPbc		SKPbc	11 03 20.8	-2.5
YKA	Yellowknife Ar	138.74	315	PKP		PKPdf	10 59 54.6	+0.3
	comp=Z,26nm,0.6s,baz=130,slow=2.3,SNR=278								
YKA				SKP			11 03 22.8	
	comp=Z,0.3nm,0.8s,baz=132,slow=3.4,SNR=3.7								
YKA				PKKP		PKKPdf	11 09 22.9	-0.8
	comp=Z,0.2nm,0.6s,baz=323,slow=1.9,SNR=6.2								
LZH	Lanzhou	140.22	102	*e*PKP		PKPdf	10 59 59.2	+1.0
LZH				sPKP			11 00 39.4	
GTA	Gaotai	140.66	95	*e*PKP		PKPdf	11 00 01.1	+2.3
GTA				sPKP			11 00 38.6	
RES	Resolute Bay	140.69	337	PKhKP		PKPpre	10 59 50.1	
	comp=Z,2.9nm,0.6s,baz=144,slow=5.8,SNR=9.0								
RES				PKP		PKPdf	10 59 58.8	+1.2
	comp=Z,7.6nm,0.8s,baz=116,slow=5.8,SNR=14								
RES				SKP			11 03 27.9	
	comp=Z,2.0nm,1.0s,baz=197,slow=11,SNR=2.4								
ZALV	Zalesovo Beam	142.71	66	PKhKP		PKPpre	10 59 57.4	
	comp=Z,2.1nm,0.4s,baz=228,slow=4.5,SNR=8.5								
NJ2	Nanjing	144.17	122	*e*PKP		PKPdf	11 00 05.2	+0.1
HYT	Haines Junctio	147.07	303	*e*PKPdf		PKPdf	11 00 07.6	-1.8
CBIJ	Chichi jima	147.23	160	PKPbc		PKPdf	11 00 10.6	+0.1
JCJ	Chichijima	147.23	160	PKPbc		PKPdf	11 00 10.6	+0.1
	comp=Z,114nm,0.8s,baz=317,slow=22,SNR=4.6								
HHC	Hu-ho-hao-te	147.76	105	*e*PKPbc		PKPdf	11 00 11.7	+0.6
HHC				pPKP		pPKPdf	11 00 35.4	+12
HHC				PP		PP	11 03 44.7	+2.9
HHC				SKS		SKSdf	11 07 07.6	-8.7
HHC				SKKS		SKKSac	11 10 24.8	-4.8
HHC				SS		SS	11 22 45.2	+1.6
INK	Inuvik	148.42	318	PKP		PKPdf	11 00 09.1	-2.0
	comp=Z,3.6nm,0.8s,baz=94,slow=1.8,SNR=10								
INK				PKPbc		PKPbc	11 00 14.8	+0.1
	comp=Z,26nm,0.6s,baz=79,slow=3.0,SNR=90								
DAWY	Dawson	149.21	308	*e*PKPbc		PKPbc	11 00 15.7	-1.2
BJI	Beijing	149.44	111	PKPbc		PKPbc	11 00 19.2	+1.0
JNU	Nakatsue	149.90	138	PKPbc		PKPbc	11 00 19.4	-0.3
	comp=Z,15nm,0.9s,baz=157,slow=2.0,SNR=5.3								
SONM	Songino Array	149.93	90	PKP		PKPdf	11 00 13.4	-1.0
	comp=Z,1.1nm,0.7s,baz=206,slow=2.8,SNR=5.9								
SONM				PKPbc		PKPbc	11 00 19.4	+0.1
	comp=Z,11nm,0.6s,baz=216,slow=2.2,SNR=45								
EGAK	Eagle	150.17	309	*e*PKPdf		PKPdf	11 00 11.4	-2.6
EGAK				*e*PKPbc		PKPbc	11 00 18.9	-0.3
ULN	Ulaanbaatar	150.29	90	*e*PKPbc		PKPbc	11 00 20.1	-0.2
TLY	Talaya	150.80	81	PKPbc		PKPbc	11 00 20.0	-1.1
	comp=Z,8.1nm,0.7s,baz=242,slow=7.8,SNR=5.5								
DOT	Dot Lake	151.01	306	*e*PKPbc		PKPbc	11 00 21.6	+0.4
PAX	Paxson	151.38	304	*e*PKPbc		PKPbc	11 00 22.2	0.0
ILAR	Eielson Array	152.52	308	PKPbc		PKPbc	11 00 24.1	-0.5
	comp=Z,9.5nm,0.6s,baz=286,slow=0.5,SNR=138								
KSAR	Wonju Array Be	152.60	129	PKP		PKPdf	11 00 20.4	+1.8
KSAR				PKPbc		PKPbc	11 00 25.2	-0.4

SNGZ	Shannon Statio	2.70	192	PN	Pn	11 11 43.5 +0.3
PRGZ	Paritu Road	2.79	183	PN	Pn	11 11 43.7 -0.5
RAHZ	Arahi	2.88	195	PN	Pn	11 11 45.6 +0.2
KNZ	Kokohu	2.90	186	⇑PN	Pn	11 11 44.8 -0.7
WHHZ	Waihua	3.01	193	PN	Pn	11 11 47.0 +0.1
MHGZ	Mahia Peninsul	3.01	182	PN	Pn	11 11 46.7 -0.3
NMHZ	Naumai	3.12	198	PN	Pn	11 11 48.8 +0.4
ARHZ	Aropaoanui	3.23	195	PN	Pn	11 11 49.5 -0.1
BKZ	Black Stump Fm	3.27	202	PN	Pn	11 11 50.5 +0.3
MCHZ	McNeill Hill	3.48	198	PN	Pn	11 11 52.5 -0.2
FWVZ	Far West T-bar	3.70	212	PN	Pn	11 11 55.9 +0.1
BHHZ	Black Hill Sta	3.70	205	PN	Pn	11 11 54.9 -0.7
WNVZ	Wahianoa	3.74	211	PN	Pn	11 11 55.9 -0.3
KRHZ	Kereru	3.77	201	PN	Pn	11 11 55.3 -0.9
KAHZ	Kahuranaki	3.77	194	PN	Pn	11 11 55.6 -0.9
PXZ	Pawanui	4.00	193	PN	Pn	11 11 57.7 -1.7
PXZ				SN	Sn	11 12 45.3 -1.8
PNHZ	Pukenui	4.05	201	PN	Pn	11 11 58.8 -1.2
TSZ	Takapari Road	4.25	202	PN	Pn	11 12 00.9 -1.7
PRHZ	Porangahau	4.28	195	PN	Pn	11 12 01.3 -1.6
DVHZ	Dannevirke	4.42	199	PN	Pn	11 12 02.8 -1.9
ANWZ	Angora Road	4.50	196	PN	Pn	11 12 04.0 -1.7
MRZ	Mangatainoka R	4.92	203	PN	Pn	11 12 09.0 -2.2
MRZ				SN	Sn	11 13 05.2 -3.2
HOWZ	Holdsworth Sta	5.16	202	PN	Pn	11 12 11.5 -2.8
OGWZ	Otaki Gorge	5.20	205	PN	Pn	11 12 12.4 -2.4
KIW	Kapiti Island	5.33	207	PN	Pn	11 12 14.1 -2.4
MTW	Mount Morrison	5.40	201	PN	Pn	11 12 14.4 -3.0
CAW	Cannon Point	5.49	204	PN	Pn	11 12 15.7 -2.9
THZ	Tophouse	6.91	214	PN	Pn	11 12 35.3 -2.0
CTZ	Chatham Island	8.61	153	PN	Pn	11 13 05.6 +6.0

NNC ***11*** *11:17:54.8±8.1,54.˚38N×86.˚95E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=61.8km s-min=53.4km az=10.0*

IDC 11 11:17:55.5±3.3, 54.˚53N×86.˚47E, h0km, mb1 3.2/2, mb1mx3.0/36, mbtmp3.2/2, ML2.6/2, 5D, Error ellipse: s-maj=25.2km s-min=14.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**240**	*i*		11 25 35.0	
	baz=60,slow=330,SNR=8.2						
ZALV	**Zalesovo Beam**	**1.13**	**240**	Pg	Pg	11 18 15.9	-1.2
	1.3nm,0.3s,baz=56,slow=17,SNR=14						
ZALV				Lg	Lg	11 18 32.2	
	1.6nm,0.3s,baz=59,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.22**	**234**	⇓Pn	Pn	11 19 29.7	+1.3
	0.7nm,0.3s						
KURBB				⇓Sn	Sn	11 20 42.8	+2.6
	2.7nm,0.7s						
KURBB				⇓Lg	Lg	11 21 20.7	
	7.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.22**	**234**	Pn	Pn	11 19 29.7	+1.3
	0.1nm,0.3s,baz=50,slow=14,SNR=4.9						
KURBB				Lg	Lg	11 21 13.9	
	0.1nm,0.3s,baz=46,slow=33,SNR=4.7						
MK31	**Makanchi Array**	**8.19**	**201**	⇓Pn	Pn	11 19 55.3	-0.2
	baz=27,slow=15,SNR=4.4						
MK31				Sn	Sn	11 21 28.2	-0.4
	0.1nm,0.3s,baz=31,slow=28,SNR=4.7						
MK31				⇓Lg	Lg	11 22 17.5	
	baz=28,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**8.19**	**201**	Pn	Pn	11 19 55.8	+0.3
	0.1nm,0.3s,baz=17,slow=11,SNR=4.2						
MKAR				Sn	Sn	11 21 29.2	+0.6
	0.1nm,0.3s,baz=27,slow=27,SNR=9.7						
MKAR				Lg	Lg	11 22 15.5	
	0.1nm,0.3s,baz=21,slow=32,SNR=4.2						

ISCJB ***11*** *11:36:42.7±0.3, 7.˚23S±0.˚03×130.˚01E±0.˚03, h104km, mb4.2/18, Error ellipse: s-maj=4.6km s-min=4.2km az=158.5*

IDC ***11*** *11:36:43.8±1.8, 7.˚05S×129.˚95E, h112km±17km, mb3.9/8, mb1 4.1/13, mb1mx3.8/33, mbtmp4.4/13, Error ellipse: s-maj=15.7km s-min=13.3km az=1.0*

NEIC ***11*** *11:36:44.4±0.7, 7.˚08S×129.˚94E, h117km±8km, mb4.2/11, Error ellipse: s-maj=8.1km s-min=6.9km az=72.0*

DJA ***11*** *11:36:47.6±0.4, 7.˚5±3.˚3×13.˚0E±.˚1, h133km±8km, M4.9/13, mb4.9/9, mB5.4/4, MLv5.0/13, Mw(mB)4.9/4*

ISC 11 11:36:43.0±0.4, 7.˚21S±0.˚05×130.˚07E±0.˚05, h104km, n44, σ2§11/52, mb4.2/18, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.45**	**122**	P	Pn	11 37 18.3	+9.4
SAUI				S	Sn	11 37 41.5	+13
BNDI	**Bandanaira**	**2.67**	**357**	P	Pn	11 37 28.0	+3.4
BNDI				S	**Sn**	**11 38 01.5**	**+5.1**
MSAI	**Masohi**	**4.00**	**344**	P	Pn	11 37 45.6	+3.3
FAKI	**Fak Fak**	**4.78**	**27**	P	**Pn**	**11 37 53.9**	**+1.0**
FAKI				S	**Sn**	**11 38 45.4**	**-1.8**
FAKI	**Fak Fak**	**4.78**	**27**	*e*Pn	**Pn**	**11 37 53.8**	**+0.9**
FAKI				*e*Sn	**Sn**	**11 38 45.5**	**-1.7**
NLAI	**Namlea**	**4.92**	**323**	P	Pn	11 38 00.0	+5.2
SOEI	**Soe**	**6.27**	**246**	P	**Pn**	**11 38 15.0**	**+1.9**
	313nm,0.9s,1.4nm						
SOEI	**Soe**	**6.27**	**246**	*e*Pn	**Pn**	**11 38 15.4**	**+2.3**
	287nm,0.9s						
SOEI				*e*Sn	**Sn**	**11 39 24.8**	**+1.3**
SANI	**Sanana**	**6.54**	**321**	P	**Pn**	**11 38 18.7**	**+2.0**
	20nm,0.9s,0.9nm						
RKPI	**Ransiki, Papua**	**6.99**	**36**	P	**Pn**	**11 38 25.3**	**+2.5**
	274nm,0.6s,2.0nm						
BATI	**Baumata**	**7.00**	**244**	P	**Pn**	**11 38 24.7**	**+1.7**
	149nm,0.8s,2μm0.6nm						
BATI	**Baumata**	**7.00**	**244**	P	**Pn**	**11 38 24.6**	**+1.7**
	53nm,0.3s,baz=133,slow=2.7,SNR=69						
BATI				S	**Sn**	**11 39 39.9**	**-1.2**
	20nm,0.3s,baz=90,slow=21,SNR=17						
LBMI	**Labuha**	**7.01**	**338**	P	**Pn**	**11 38 25.1**	**+2.0**
	152nm,0.9s,0.4nm						
APSI	**Ampana**	**10.46**	**306**	P	Pn	11 39 13.9	+3.8
	28nm,1.1s,2μm						
MRSI	**Marisa**	**11.13**	**313**	P	**Pn**	**11 39 21.4**	**+2.3**
JAY	**Jayapura**	**11.58**	**67**	P	**Pn**	**11 39 26.4**	**+1.2**
	0.3nm,0.3s,baz=78,slow=19,SNR=2.2						
JAY				S	**Sn**	**11 41 36.4**	**+3.8**
	0.7nm,0.3s,baz=81,slow=19,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.66**	**201**	*e*Pn	**Pn**	**11 39 26.4**	**+0.3**
	43nm,0.4s						
WRAB	**Tennant Creek**	**13.32**	**162**	*e*Pn	**Pn**	**11 39 49.3**	**+1.3**
	22nm,0.5s						
WRAB				*e*Sn	**Sn**	**11 42 13.6**	**-1.1**
WRA	**Warramunga Arr**	**13.32**	**162**	P	**Pn**	**11 39 49.7**	**+1.6**
	4.5nm,0.3s,baz=331,slow=13,SNR=156						
WRA				S	**Sn**	**11 42 11.4**	**-3.4**
	12nm,0.3s,baz=334,slow=23,SNR=14						
WB2	**Warramunga Arr**	**13.33**	**162**	*e*Pn	**Pn**	**11 39 49.1**	**+1.0**
WB2				*e*Sn	**Sn**	**11 42 12.2**	**-2.7**
COEN	**Coen**	**14.52**	**119**	*e*Pn	**P**	**11 40 08.5**	**+1.2**
	5.6nm,0.5s						
COEN				*e*Sn	**Sn**	**11 42 41.7**	**-2.2**
AS31	**Alice Springs**	**16.77**	**168**	*e*P	**P**	**11 40 34.5**	**+2.2**
ASAR	**Alice Springs**	**16.78**	**168**	P	**P**	**11 40 34.9**	**+2.6**
	2.2nm,0.3s,baz=342,slow=8.4,SNR=270						
ASAR				S	**Sn**	**11 43 34.5**	**-3.8**
	2.1nm,0.3s,baz=346,slow=25,SNR=7.4						
ASAR				ScP	**ScP**	**11 48 35.8**	**-4.0**
	baz=348,slow=2.0,SNR=4.5						
PMG	**Port Moresby**	**17.05**	**99**	P	**P**	**11 40 37.8**	**+2.4**
	0.3nm,0.3s,baz=278,slow=14,SNR=2.0						
PMG				S	**Sn**	**11 43 43.3**	**-1.7**
	1.0nm,0.3s,baz=193,slow=19,SNR=5.3						
KSM	**Kuching**	**21.52**	**293**	*e*P	**P**	**11 41 22.7**	**-1.2**
	15nm,1.0s						
FORT	**Forrest**	**23.53**	**184**	*e*P	**P**	**11 41 46.1**	**+2.2**
	10nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.91**	**310**	P	**P**	**11 44 05.0**	**-2.3**
	2.7nm,0.6s,baz=136,slow=6.9,SNR=16						
CHTO	**Chiang Mai**	**40.13**	**311**	*e*P	**P**	**11 44 06.3**	**-2.7**
	5.2nm,1.0s						
CN2	**Changchun**	**50.94**	**356**	*e*P	**P**	**11 45 36.0**	**+2.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**58.48**	**342**	*e*P	**P**	**11 46 27.3**	**-1.1**
	comp=Z,1.1nm,0.6s						
SONM	**Songino Array**	**58.66**	**342**	P	**P**	**11 46 28.3**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=141,slow=5.5,SNR=3.7						
PETK	**Petropavlovsk-**	**64.50**	**18**	P	**P**	**11 47 08.8**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=178,slow=6.1,SNR=7.3						
MKAR	**Makanchi Array**	**68.43**	**327**	P	**P**	**11 47 32.7**	**-1.1**
	comp=Z,5.2nm,0.5s,baz=115,slow=8.5,SNR=84						
AAK	**Ala-Archa**	**70.74**	**320**	*e*P	**P**	**11 47 47.8**	**-0.4**
	comp=Z,2.8nm,1.0s						
ZALV	**Zalesovo Beam**	**71.80**	**334**	P	**P**	**11 47 51.8**	**-2.4**
	comp=Z,1.7nm,0.5s,baz=118,slow=5.7,SNR=10						
SEY	**Seymchan**	**72.00**	**11**	P	**P**	**11 47 54.8**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=17,slow=19,SNR=6.4						
VNDA	**Vanda**	**72.24**	**173**	P	**P**	**11 47 58.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=333,slow=7.7,SNR=6.4						
KURK	**Kurchatov**	**72.73**	**329**	*e*P	**P**	**11 47 58.2**	**-1.5**
	comp=Z,3.4nm,0.8s						
KKAR	**Karatay Array**	**73.54**	**319**	*e*P	**P**	**11 48 03.1**	**-1.6**
	comp=Z,0.9nm,0.5s						
GEYT	**Alibeck**	**80.39**	**310**	P	**P**	**11 48 42.0**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=217,slow=3.7,SNR=4.1						
ABKAR	**Akbulak array**	**82.71**	**322**	*e*P	**P**	**11 48 53.4**	**-1.8**
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**82.77**	**180**	*e*P	**P**	**11 48 56.0**	**+0.6**
	comp=Z,2.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**128.91**	**281**	PKP	**PKPdf**	**11 55 38.7**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=343,slow=1.8,SNR=4.2						
LPAZ	**La Paz**	**150.52**	**142**	PKPbc	**PKPbc**	**11 56 25.7**	**+1.3**
	comp=Z,2.9nm,0.4s,baz=18,slow=2.3,SNR=34						

DJA 11 11:39:24.0±3.4, 0.˚0N±6.˚2×12.˚5E±.˚, h15km±31km, M4.0/9, MLv4.0/9, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.56**	**290**	P	Pn	11 39 50.2	-1.0
TNTI	**Ternate**	**2.06**	**69**	P	Pn	11 39 58.4	+0.3
SANI	**Sanana**	**2.14**	**165**	P	Pn	11 39 57.3	-1.9
LUWI	**Luwuk**	**2.87**	**248**	P	Pn	11 40 11.7	+2.4
MRSI	**Marisa**	**3.53**	**277**	P	Pn	11 40 15.8	-2.5
NLAI	**Namlea**	**3.65**	**153**	P	Pn	11 40 19.4	-0.5
APSI	**Ampana**	**3.91**	**256**	P	Pn	11 40 23.7	+0.2

IDC 11 12:02:57.4±1.5, 17.˚11S×132.˚58E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.6/25, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=23.9km s-min=14.8km az=66.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**3.27**	**150**	Pn	Pn	12 03 51.1	+1.1
	14nm,0.3s,baz=331,slow=13,SNR=699						
WRA				Pg	Pg	12 03 58.6	-1.6
	14nm,0.3s,baz=330,slow=17,SNR=51						
WRA				Sn	Sn	12 04 29.5	-0.3
	23nm,0.3s,baz=327,slow=24,SNR=8.1						
WRA				Lg	Lg	12 04 39.6	
	58nm,0.3s,baz=328,slow=30,SNR=17						
ASAR	**Alice Springs**	**6.64**	**169**	Pn	Pn	12 04 37.0	+0.7
	0.9nm,0.3s,baz=358,slow=8.0,SNR=78						
ASAR				Sn	Sn	12 05 53.6	+0.8
	3.8nm,0.3s,baz=360,slow=28,SNR=7.3						
ASAR				Lg	Lg	12 06 27.6	
	6.6nm,0.3s,baz=353,slow=30,SNR=15						
MKAR	**Makanchi Array**	**78.04**	**327**	P	P	12 14 57.6	-0.3
	1.0nm,0.7s,baz=126,slow=6.3,SNR=12						

IDC 11 12:09:48.0±2.1, 2.˚68N×126.˚02E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.4/3, Error ellipse: s-maj=182.6km s-min=26.2km az=65.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.92**	**160**	P	P	12 15 03.3	-0.5
	1.0nm,0.3s,baz=339,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.29**	**164**	P	P	12 15 35.5	+1.0
	0.4nm,0.4s,baz=346,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**58.01**	**326**	P	P	12 19 42.2	-0.5
	0.1nm,0.4s,baz=124,slow=7.2,SNR=4.7						

IDC 11 12:15:53.6±2.1, 1.˚52N×126.˚48E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, Error ellipse: s-maj=181.9km s-min=24.4km az=66.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**161**	P	P	12 20 56.7	-0.3
	0.8nm,0.4s,baz=339,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.06**	**164**	P	P	12 21 29.2	+0.2
	0.2nm,0.5s,baz=346,slow=10.0,SNR=9.9						
MKAR	**Makanchi Array**	**59.23**	**326**	P	P	12 25 56.8	-0.1
	0.2nm,0.5s,baz=114,slow=6.6,SNR=3.0						

IDC 11 12:27:46.0±7.1, 30.˚38S×177.˚89W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/36, mbtmp3.2/2, Error ellipse: s-maj=299.3km s-min=55.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.20**	**267**	P	P	12 35 48.3	-0.8
	0.2nm,0.7s,baz=104,slow=7.4,SNR=6.4						
WRA	**Warramunga Arr**	**44.19**	**272**	P	P	12 35 57.4	+0.4
	0.2nm,0.3s,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	12 47 23.5	-0.8
	0.4nm,0.4s,baz=49,slow=3.0,SNR=9.4						

KLM ***11*** *12:32:01.9, 2.˚39N×96.˚14E, h645km, mb3.9, ML4.0, MS5.0*

IDC ***11*** *12:32:18.3±2.1, 1.˚43N×97.˚37E, h0km, mb4.1/8, mb1 4.0/9, mb1mx3.7/50, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=66.6km s-min=19.5km az=62.0*

DJA ***11*** *12:32:28.3±3.1, 2.˚N±4.˚×97.˚E±1.˚0, h30km±49km, M4.0/10, mb4.5/1, MLv3.8/10*

ISC 11 12:32:23.1±0.9, 1.˚61N±0.˚06×97.˚24E±0.˚06, h28km, n27, σ1§50/19, mb4.2/8, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.21**	**311**	P	**Pb**	**12 32 46.9**	**+1.5**
SNSI				S	**Sb**	**12 32 59.4**	**-1.3**
TPTI		**1.64**	**358**	P	**Pb**	**12 32 51.7**	**-1.0**
TPTI				S	**Sb**	**12 33 12.2**	**-0.8**
KCSI	**Kotacane, Aceh**	**1.97**	**16**	P	**Pb**	**12 32 58.0**	**-0.4**
KCSI				S	**Sb**	**12 33 23.2**	**+0.7**
TSI	**Tuntungan**	**2.30**	**35**	P	**Pb**	**12 33 03.3**	**-0.6**
MNSI	**Mandailing Nat**	**2.47**	**109**	P	**Pb**	**12 33 08.8**	**+2.0**
PDSI	**Padang**	**4.08**	**128**	P	**Pb**	**12 33 32.6**	**-1.6**
KULM	**Kulim**	**4.99**	**43**	⇑P	Pn	12 33 40.1	+3.9
MYKOM	**Kota Tinggi**	**6.61**	**88**	⇑P	**Pn**	**12 34 00.9**	**+2.5**
KLI	**Kotabumi**	**9.96**	**130**	P	Pn	12 35 10.6	+26
CMAR	**Chiang Mai Arr**	**16.83**	**6**	Pn	**Pn**	**12 36 15.4**	**-1.4**
	0.1nm,0.3s,baz=186,slow=13,SNR=5.5						
H08S2	**Diego Garcia H**	**26.34**	**249**	T	T	13 04 49.7	
	baz=71,slow=76,SNR=1281						
H08S3	**Diego Garcia H**	**26.35**	**249**	T	T	13 04 46.9	
	baz=71,slow=76,SNR=1388						
H08S1	**Diego Garcia H**	**26.36**	**249**	T	T	13 04 51.1	
	baz=71,slow=76,SNR=1655						
H08N1	**Diego Garcia H**	**27.35**	**253**	T	T	13 06 59.8	
	baz=146,slow=75,SNR=3.5						
H08N2	**Diego Garcia H**	**27.36**	**253**	T	T	13 07 00.2	
	baz=146,slow=75,SNR=3.0						
H08N3	**Diego Garcia H**	**27.37**	**253**	T	T	13 06 55.6	
	baz=146,slow=75,SNR=4.6						
H01W3	**Cape Leeuwin H**	**39.60**	**158**	T	T	13 21 22.7	
	baz=333,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**39.62**	**158**	T	T	13 21 25.5	
	baz=333,slow=76,SNR=6.2						
H01W1	**Cape Leeuwin H**	**39.62**	**158**	T	T	13 21 27.1	
	baz=333,slow=76,SNR=5.8						
WRA	**Warramunga Arr**	**42.22**	**122**	P	**P**	**12 40 11.7**	**-2.4**
	1.0nm,0.6s,baz=301,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**43.61**	**127**	P	**P**	**12 40 22.8**	**-2.5**
	0.5nm,0.8s,baz=296,slow=8.0,SNR=7.8						
KSRS	**Korea Array**	**45.49**	**35**	P	**P**	**12 40 40.1**	**+0.1**
	2.2nm,0.8s,baz=227,slow=8.5,SNR=7.4						
SONM	**Songino Array**	**46.72**	**8**	P	**P**	**12 40 50.9**	**+1.2**
	2.2nm,0.7s,baz=187,slow=8.6,SNR=11						
MKAR	**Makanchi Array**	**46.86**	**346**	P	**P**	**12 40 51.7**	**+1.0**
	1.4nm,0.7s,baz=160,slow=8.4,SNR=16						
USRK	**Ussuriysk Ar.**	**52.40**	**31**	P	**P**	**12 41 32.8**	**-0.2**
	3.7nm,0.8s,baz=224,slow=6.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**53.16**	**351**	P	**P**	**12 41 39.1**	**+0.7**
	3.0nm,0.5s,baz=180,slow=6.9,SNR=24						
YAK	**Yakutsk**	**65.02**	**16**	P	**P**	**12 43 00.5**	**+0.1**
	6.5nm,0.6s,baz=250,slow=1.2,SNR=4.7						

IDC ***11*** *12:34:24.7±1.7, 36.˚12S×73.˚46W, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.6/28, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=39.3km s-min=20.7km az=76.0*

ISCJB ***11*** *12:34:25.5±1.8, 36.˚12S±0.˚08×73.˚69W±0.˚09, h20km±13km, mb3.5/1, Error ellipse: s-maj=14.9km s-min=9.8km az=142.3*

GUC ***11*** *12:34:26.6±0.3, 36.˚15S×73.˚64W, h31km±2km, ML3.9*

ISC 11 12:34:26.9±3.9, 36.˚15S±0.˚06×73.˚53W±0.˚09, h15km±27km, n9, σ0§92/15, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**89**	⇓*e*P	**Pb**	**12 34 39.3**	**+0.3**
COCH				*e*S	**Sn**	**12 34 49.4**	**-0.8**
CCSP	**San Pedro de C**	**0.78**	**154**	*e*P	**Pb**	**12 34 41.5**	**-0.5**
CCSP				*e*S	**Sb**	**12 34 52.7**	**+0.4**
CCSP				AML	AML	12 34 57.8	
	comp=E,9μm,0.5s						
LNCH	**Linares**	**1.59**	**80**	*e*P	**Pn**	**12 34 53.8**	**-0.7**
LNCH				*e*S	**Sb**	**12 35 15.3**	**-0.5**
TALC	**Talca**	**1.71**	**65**	*e*P	**Pn**	**12 34 56.8**	**+0.7**
TALC				*e*S	**Sb**	**12 35 19.6**	**+0.3**
NICH	**Los Niches**	**2.19**	**59**	*e*P	**Pn**	**12 35 03.4**	**+0.6**
NICH				*e*S	**Sn**	**12 35 31.2**	**+1.6**
PLCA	**Paso Flores**	**5.14**	**154**	Pn	**Pn**	**12 35 44.5**	**+1.2**
	comp=E,0.8nm,0.3s,baz=333,slow=12,SNR=29						
PLCA				Lg	Lg	12 37 06.4	
	comp=E,0.3nm,0.3s,baz=270,slow=18,SNR=2.0						
CFAA	**Coronel Fontan**	**6.31**	**46**	Pn	**Pn**	**12 35 58.3**	**-1.1**
	comp=E,0.3nm,0.3s,baz=214,slow=15,SNR=17						
CFAA				Sn	**Sn**	**12 37 10.2**	**-1.1**
	comp=E,0.3nm,0.3s,baz=314,slow=2.1,SNR=3.6						
CFAA				Lg	Lg	12 37 33.2	
	comp=E,0.1nm,0.3s,baz=64,slow=6.7,SNR=5.3						
LPAZ	**La Paz**	**20.35**	**15**	P	**P**	**12 39 03.6**	**+0.2**
	comp=E,1.2nm,0.7s,baz=200,slow=9.5,SNR=5.0						
TXAR	**Lajitas Array**	**71.04**	**332**	P	**P**	**12 45 44.1**	**0.0**
	comp=E,0.4nm,0.6s,baz=152,slow=9.3,SNR=6.0						

ISCJB ***11*** *12:49:13.8±0.5, 32.˚11N±0.˚02×115.˚14W±0.˚03, h8km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=176.6*

ECX ***11*** *12:49:16.3±0.6, 32.˚12N×115.˚17W, h8km, MD3.3, ML3.5*

NEIC ***11*** *12:49:16.3, 32.˚13N×115.˚18W, h9km, MD3.7(MEX), ML3.3(PAS), ML3.9(ECX), After ECX.*

MEX ***11*** *12:49:18.2±1.1, 32.˚13N×115.˚19W, h10km, MD3.6*

ISC 11 12:49:14.9±0.8, 32.˚06N±0.˚02×115.˚18W±0.˚02, h11km±5km, n34, σ1§40/56, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.09**	**217**	⇓*e*P	**Pg**	**12 49 16.8**	**-0.6**
EMX				*e*S	**Sg**	**12 49 19.5**	**+0.2**
EMX	**El Mayor**	**0.09**	**217**	*e*P	**Pg**	**12 49 16.8**	**-0.6**
EMX				*e*S	**Sg**	**12 49 19.5**	**+0.2**
MBIG	**Mexicali**	**0.35**	**357**	*i* P	**Pg**	**12 49 22.5**	**+0.6**
MBIG				*i* S	**Sb**	**12 49 28.3**	**-0.4**
CPBX	**Cerro Prieto**	**0.38**	**344**	*e*P	**Pg**	**12 49 22.4**	**0.0**
CPBX				*e*S	**Sg**	**12 49 26.3**	**-1.1**
CPBX				⇓*e*		12 49 32.3	
CPBX				AML	AML	12 49 32.3	
	comp=N,14μm,0.3s						
CPBX	**Cerro Prieto**	**0.38**	**344**	*i* P	**Pg**	**12 49 22.4**	**0.0**
CPBX				*e*S	**Sg**	**12 49 27.8**	**+0.3**
ECBX	**El Chinero**	**0.59**	**169**	*e*P	**Pg**	**12 49 25.4**	**-1.1**
ECBX				*e*S	**Sg**	**12 49 34.5**	**+0.2**
RDX	**Rancho Dawling**	**0.66**	**259**	*i* P	**Pg**	**12 49 28.9**	**+0.4**
RDX				*e*S	**Sb**	**12 49 38.2**	**+0.3**
RDX	**Rancho Dawling**	**0.66**	**259**	*e*P	**Pb**	**12 49 29.0**	**+0.4**
RDX				*e*S	**Sb**	**12 49 38.2**	**+0.3**
YMD	**Yuma Desert**	**0.73**	**47**	⇑*i*P	**Pg**	**12 49 28.2**	**-0.9**
SGL	**Mount Signal**	**0.75**	**322**	⇓*i*P	**Pg**	**12 49 29.0**	**-0.5**
COA	**Coachella**	**0.81**	**3**	⇓*i*P	**Pg**	**12 49 29.1**	**-1.4**
YUH	**Yuha Desert**	**0.86**	**313**	⇓*i*P	**Pg**	**12 49 30.5**	**-1.0**
RMX	**La Rumorosa**	**0.94**	**306**	⇑*e*P	**Pg**	**12 49 31.9**	**-1.1**
RMX				*e*S	**Sg**	**12 49 44.4**	**-0.8**
RMX	**La Rumorosa**	**0.94**	**306**	*e*P	**Pg**	**12 49 31.9**	**-1.1**
RMX				*e*S	**Sg**	**12 49 44.4**	**-0.8**
GLA	**Glamis**	**1.04**	**17**	*e*Pg	**Pg**	**12 49 32.4**	**-2.5**
SPX	**San Pedro Mart**	**1.04**	**194**	⇓*e*P	**Pg**	**12 49 35.4**	**+0.4**
SPX

CHOS	**Chios island**	**0.91**	**331**	*e*PN	**Pg**	**12 51 23.7**	**-0.6**
CHOS				*e*SN	**Sg**	**12 51 36.4**	**+0.3**
CHOS	**Chios island**	**0.91**	**331**	P	**Pg**	**12 51 23.9**	**-0.4**
CHOS				*e*Sn	**Sg**	**12 51 36.4**	**+0.3**
CHOS				S	**Sb**	**12 51 36.9**	**-0.2**
IZM	**Izmir**	**0.95**	**33**	*e*PG	**Pg**	**12 51 24.5**	**-0.7**
IZM				*e*SG	**Sg**	**12 51 37.7**	**+0.1**
IZM	**Izmir**	**0.95**	**33**	*e*Pg	**Pg**	**12 51 24.5**	**-0.7**
IZM				*e*Sg	**Sg**	**12 51 37.7**	**+0.1**
APE	**Apeiranthos**	**1.01**	**239**	P	**Pg**	**12 51 26.2**	**0.0**
APE				S	**Sb**	**12 51 40.3**	**+0.3**
APE	**Apeiranthos**	**1.01**	**239**	*e*PG	**Pn**	**12 51 28.7**	**+1.4**
APE	**Apeiranthos**	**1.01**	**239**	*e*PN	**Pg**	**12 51 26.1**	**-0.1**
APE				*e*SN	**Sb**	**12 51 40.8**	**+0.8**
APE	**Apeiranthos**	**1.01**	**239**	P	**Pg**	**12 51 26.2**	**0.0**
APE	**Apeiranthos**	**1.01**	**239**	*e*Pg	**Pn**	**12 51 28.7**	**+1.4**
APE				S	**Sb**	**12 51 40.3**	**+0.3**
APE				*e*Sn	**Sb**	**12 51 40.8**	**+0.8**
AYDN	**Tasoluk**	**1.01**	**86**	*i* P	**Pb**	**12 51 26.6**	**-0.1**
AYDN				*i* S	**Sn**	**12 51 41.9**	**0.0**
AYDN	**Tasoluk**	**1.01**	**86**	*i* P	**Pb**	**12 51 26.6**	**-0.1**
AYDN				*i* S	**Sn**	**12 51 41.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**70**	*e*PG	**Pg**	**12 51 27.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**70**	*e*Pg	**Pg**	**12 51 27.2**	**-0.3**
YER	**Yerkesik**	**1.41**	**108**	*e*PN	**Pg**	**12 51 34.0**	**+0.1**
YER	**Yerkesik**	**1.41**	**108**	*e*Pn	**Pg**	**12 51 34.0**	**+0.1**
SANT	**Santorini**	**1.53**	**217**	*e*PN	**Pn**	**12 51 33.8**	**-0.7**
SANT				*e*SN	**Sn**	**12 51 55.0**	**+0.4**
SANT	**Santorini**	**1.53**	**217**	*e*Pn	**Pn**	**12 51 33.8**	**-0.7**
SANT				*e*Sn	**Sn**	**12 51 55.0**	**+0.4**
THR5	**Thira Island,**	**1.55**	**221**	*e*PN	**Pg**	**12 51 37.3**	**+0.7**
THR5	**Thira Island,**	**1.55**	**221**	*e*Pn	**Pg**	**12 51 37.3**	**+0.7**
AKHS	**Akhisar**	**1.59**	**36**	*i* P	**Pb**	**12 51 36.3**	**-0.3**
AKHS				*i* S	**Sg**	**12 51 59.4**	**+1.2**
AKHS	**Akhisar**	**1.59**	**36**	*i* P	**Pb**	**12 51 36.3**	**-0.3**
AKHS				*i* S	**Sg**	**12 51 59.4**	**+1.2**
AKS	**Akhisar**	**1.59**	**36**	*e*PN	**Pb**	**12 51 36.1**	**-0.5**
AKS	**Akhisar**	**1.59**	**36**	*e*Pn	**Pb**	**12 51 36.1**	**-0.5**
PRK	**Paraskevi**	**1.67**	**351**	P	**Pn**	**12 51 35.8**	**-0.7**
PRK				S	**Sn**	**12 51 57.7**	**-0.4**
PRK	**Paraskevi**	**1.67**	**351**	*e*PN	**Pn**	**12 51 35.7**	**-0.7**
PRK				*e*SN	**Sn**	**12 51 57.1**	**-1.0**
PRK	**Paraskevi**	**1.67**	**351**	P	**Pn**	**12 51 35.8**	**-0.7**
PRK				*e*Sn	**Sn**	**12 51 57.1**	**-1.0**
PRK				S	**Sn**	**12 51 57.7**	**-0.4**
AYVA	**Ayvalik**	**1.71**	**2**	*i* P	**Pb**	**12 51 38.9**	**+0.3**
AYVA				*i* S	**Sg**	**12 52 02.8**	**+0.9**
AYVA	**Ayvalik**	**1.71**	**2**	*i* P	**Pb**	**12 51 38.9**	**+0.3**
AYVA				*i* S	**Sg**	**12 52 02.8**	**+0.9**
SIGR	**SIGRI**	**1.72**	**340**	*e*PN	**Pn**	**12 51 37.6**	**+0.5**
SIGR	**SIGRI**	**1.72**	**340**	*e*PN	**Pn**	**12 51 36.8**	**-0.3**
SIGR				*e*SN	**Sn**	**12 51 59.0**	**-0.3**
SIGR	**SIGRI**	**1.72**	**340**	*e*Pn	**Pn**	**12 51 36.8**	**-0.3**
SIGR				*e*Sn	**Sn**	**12 51 59.0**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.81**	**115**	*e*PN	**Pb**	**12 51 39.9**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.81**	**115**	*e*Pn	**Pb**	**12 51 39.9**	**-0.3**
ARG	**Arkhangelos**	**1.83**	**138**	*e*PN	**Pn**	**12 51 37.8**	**-0.9**
ARG	**Arkhangelos**	**1.83**	**138**	*e*Pn	**Pn**	**12 51 37.8**	**-0.9**
KULA	**Kula-Manisa**	**1.86**	**60**	*e*PN	**Pn**	**12 51 39.9**	**+0.7**
KULA	**Kula-Manisa**	**1.86**	**60**	*e*Pn	**Pn**	**12 51 39.9**	**+0.7**
DENT	**Denizli**	**1.93**	**85**	*e*PN	**Pb**	**12 51 41.1**	**-1.2**
DENT	**Denizli**	**1.93**	**85**	*e*Pn	**Pb**	**12 51 41.1**	**-1.2**
KARP	**Karpathos**	**2.09**	**168**	*e*PN	**Pn**	**12 51 41.7**	**-0.6**
KARP	**Karpathos**	**2.09**	**168**	*e*Pn	**Pn**	**12 51 41.7**	**-0.6**
FETY	**Fethiye**	**2.20**	**115**	*e*PN	**Pb**	**12 51 45.4**	**-1.5**
FETY	**Fethiye**	**2.20**	**115**	*e*Pn	**Pb**	**12 51 45.4**	**-1.5**
DEMI	**Demirci**	**2.20**	**48**	*i* P	**Pg**	**12 51 48.2**	**-0.9**
DEMI	**Demirci**	**2.20**	**48**	*i* P	**Pg**	**12 51 48.2**	**-0.9**
DEMI				*i* S	**Sg**	**12 52 17.6**	**0.0**
PTL	**Penteli**	**2.22**	**283**	*e*PN	**Pn**	**12 51 43.5**	**-0.5**
PTL				*e*SN	**Sn**	**12 52 10.9**	**-0.8**
PTL	**Penteli**	**2.22**	**283**	*e*Pn	**Pn**	**12 51 43.5**	**-0.5**
PTL				*e*Sn	**Sn**	**12 52 10.9**	**-0.8**
EZN	**Ezine**	**2.24**	**354**	*e*PN	**Pn**	**12 51 45.9**	**+1.6**
EZN	**Ezine**	**2.24**	**354**	*e*Pn	**Pn**	**12 51 45.9**	**+1.6**
BALB	**Balikesir**	**2.27**	**26**	*e*PN	**Pn**	**12 51 45.8**	**+1.1**
BALB	**Balikesir**	**2.27**	**26**	*e*Pn	**Pn**	**12 51 45.8**	**+1.1**
BOZC	**Bozcaada**	**2.29**	**349**	*i* P	**Pb**	**12 51 48.5**	**+0.1**
BOZC				*i* S	**Sb**	**12 52 18.6**	**+1.8**
ATH	**Athens Observa**	**2.32**	**280**	*e*PN	**Pn**	**12 51 45.0**	**-0.4**
ATH	**Athens Observa**	**2.32**	**280**	*e*Pn	**Pn**	**12 51 45.0**	**-0.4**
KHL	**Karahalli**	**2.42**	**72**	*e*PN	**Pn**	**12 51 48.0**	**+1.2**
KHL	**Karahalli**	**2.42**	**72**	*e*Pn	**Pn**	**12 51 48.0**	**+1.2**
NPS	**Neapolis**	**2.46**	**199**	*e*PN	**Pn**	**12 51 47.2**	**-0.1**
NPS				*e*SN	**Sn**	**12 52 16.9**	**-0.7**
NPS	**Neapolis**	**2.46**	**199**	*e*Pn	**Pn**	**12 51 47.2**	**-0.1**
NPS				*e*Sn	**Sn**	**12 52 16.9**	**-0.7**
ZKR	**Zakros**	**2.49**	**187**	*e*PN	**Pn**	**12 51 47.3**	**-0.5**
ZKR				*e*SN	**Sn**	**12 52 17.9**	**-0.5**
ZKR	**Zakros**	**2.49**	**187**	*e*Pn	**Pn**	**12 51 47.3**	**-0.5**
ZKR				*e*Sn	**Sn**	**12 52 17.9**	**-0.5**
DST	**Dursunbey**	**2.55**	**37**	*e*PN	**Pn**	**12 51 49.7**	**+1.1**
DST	**Dursunbey**	**2.55**	**37**	*e*Pn	**Pn**	**12 51 49.7**	**+1.1**
LAST	**Lasithi**	**2.59**	**201**	*e*PN	**Pn**	**12 51 48.2**	**-1.0**
LAST	**Lasithi**	**2.59**	**201**	*e*Pn	**Pn**	**12 51 48.2**	**-1.0**
ELL	**Elmali**	**2.77**	**107**	*e*PN	**Pn**	**12 51 53.6**	**+2.0**
ELL	**Elmali**	**2.77**	**107**	*e*Pn	**Pn**	**12 51 53.6**	**+2.0**
TVSB	**Tavsanli**	**2.91**	**49**	*e*PN	**Pn**	**12 51 55.1**	**+1.6**
TVSB	**Tavsanli**	**2.91**	**49**	*e*Pn	**Pn**	**12 51 55.1**	**+1.6**
LTK	**Loutraki**	**2.92**	**280**	*e*PN	**Pn**	**12 51 53.3**	**-0.3**
LTK	**Loutraki**	**2.92**	**280**	*e*Pn	**Pn**	**12 51 53.3**	**-0.3**
VAM	**Vamos**	**2.92**	**222**	*e*PN	**Pn**	**12 51 53.5**	**-0.1**
VAM	**Vamos**	**2.92**	**222**	*e*Pn	**Pn**	**12 51 53.5**	**-0.1**
SIVA	**Sivas**	**2.95**	**210**	*e*PN	**Pn**	**12 51 54.9**	**+0.8**
SIVA	**Sivas**	**2.95**	**210**	*e*Pn	**Pn**	**12 51 54.9**	**+0.8**
SMTH	**Samothraki Isl**	**2.99**	**344**	*e*PN	**Pn**	**12 51 54.2**	**-0.5**
SMTH	**Samothraki Isl**	**2.99**	**344**	*e*Pn	**Pn**	**12 51 54.2**	**-0.5**
KARN	**Karanos**	**3.08**	**226**	*e*PN	**Pn**	**12 51 56.1**	**+0.2**
KARN	**Karanos**	**3.08**	**226**	*e*Pn	**Pn**	**12 51 56.1**	**+0.2**
ALT	**Altintas**	**3.12**	**61**	*e*PN	**Pn**	**12 51 58.0**	**+1.6**
ALT	**Altintas**	**3.12**	**61**	*e*Pn	**Pn**	**12 51 58.0**	**+1.6**
ALN	**Alexandroupoli**	**3.33**	**353**	*e*PN	**Pn**	**12 51 58.3**	**-0.9**
ALN	**Alexandroupoli**	**3.33**	**353**	*e*Pn	**Pn**	**12 51 58.3**	**-0.9**
VLX	**Vlachokerasia**	**3.37**	**267**	*e*PN	**Pn**	**12 51 59.4**	**-0.5**
VLX	**Vlachokerasia**	**3.37**	**267**	*e*Pn	**Pn**	**12 51 59.4**	**-0.5**
KALE	**Kalithea**	**3.62**	**284**	*e*PN	**Pn**	**12 52 03.5**	**+0.2**
KALE	**Kalithea**	**3.62**	**284**	*e*Pn	**Pn**	**12 52 03.5**	**+0.2**
RDO	**Rodhopi**	**3.64**	**347**	*e*PN	**Pn**	**12 52 03.0**	**-0.6**
RDO	**Rodhopi**	**3.64**	**347**	*e*Pn	**Pn**	**12 52 03.0**	**-0.6**
ITM	**Ithomi**	**3.75**	**265**	*e*PN	**Pn**	**12 52 05.9**	**+0.8**
ITM	**Ithomi**	**3.75**	**265**	*e*Pn	**Pn**	**12 52 05.9**	**+0.8**
DRO	**Drossia**	**3.90**	**277**	*e*PN	**Pn**	**12 52 08.0**	**+0.9**
DRO	**Drossia**	**3.90**	**277**	*e*Pn	**Pn**	**12 52 08.0**	**+0.9**
BRTR	**Keskin Array B**	**5.90**	**67**	Pn	**Pn**	**12 52 37.6**	**+2.9**
	0.1nm,0.3s,baz=244,slow=15,SNR=3.8						
TORD	**Torodi Ar. Bea**	**32.96**	**229**	P	**P**	**12 57 42.0**	**-0.1**
	0.3nm,0.5s,baz=38,slow=8.6,SNR=5.1						
MKAR	**Makanchi Array**	**41.49**	**59**	P	P	12 58 57.9	+3.5
	0.3nm,0.5s,baz=271,slow=8.9,SNR=4.3						

NIED ***11*** *13:02:00,29˚.60N×130˚.40E,h29km,Mw5.2 Best double couple: M0:6.41000×1016 NP1:ϕs=12.00000°,δ7.00000°, λ-92.00000°. NP2:ϕs=195.00000°,δ83.00000°, λ-90.00000°.*

IDC ***11*** *13:02:07.5±0.5,29˚.58N×130˚.42E,h0km,mb4.9/25, mb1 5.0/28,mb1mx4.9/35,mbtmp4.9/28,ML4.2/3,MS4.7/16, Ms1 4.7/16,ms1mx4.4/48,Error ellipse: s-maj=14.6km s-min=13.0km az=73.0*

BJI ***11*** *13:02:10.6,29˚.32N×130˚.69E,h45km,mB5.1/35,mb4.9/58, Ms5.0/77,Ms7 4.9/72*

MOS ***11*** *13:02:11.5±0.9,29˚.57N×130˚.43E,h37km,mb5.4/70, MS4.9/21,Error ellipse: s-maj=8.0km s-min=4.2km az=109.6*

JMA ***11*** *13:02:12.0±0.2,29˚.55N×130˚.50E,h33km±4km,M4.9 JMA Felt II J1.*

ISCJB ***11*** *13:02:13.1±0.3,29˚.56N±0˚.02×130˚.31E±0˚.02,h40km±2km, mb5.1/212,MS5.0/35,Error ellipse: s-maj=3.4km s-min=2.3km az=35.3*

NEIC ***11*** *13:02:14.1±0.5,29˚.51N×130˚.40E,h46km±4km,mb5.3/110, MS4.8/6,MW5.1(NIED),Error ellipse: s-maj=4.5km s-min=3.6km az=133.0*

NEIC Recorded [2 JMA] on Akuseki-jima, Kuchino-shima, Nakano-shima and Suwanose-jima; [1 JMA] on Amami-oshima, Kuchinoerabu-jima, Tanega-shima and Yaku-shima. Also recorded [1 JMA] in Kagoshima, Kyushu.

SZGRF ***11*** *13:02:17.1,30˚.48N×130˚.97E,h33km,mb4.9,Kyushu, Japan*

ISC 11 13:02:14.2±0.4,29˚.57N±0˚.03×130˚.53E±0˚.03,h47km±2km, h46km;pP-P,n834,σ1§55/907,mb5.2/217,MS5.0/35, 154C-150D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.63**	**296**	P	**Pn**	**13 02 24.0**	**-3.0**
JNN				S	**Sn**	**13 02 33.7**	**-2.5**
JYAK	**Yakushimahirau**	**0.67**	**358**	P	**Pn**	**13 02 25.0**	**-2.4**
JYAK				S	**Sn**	**13 02 34.6**	**-2.3**
JKC	**Kuchinoerabu**	**0.94**	**342**	P	**Pn**	**13 02 29.1**	**-1.9**
JKC				S	**Sn**	**13 02 42.3**	**-1.0**
JTN	**Tanegashima 3**	**1.15**	**20**	P	**Pn**	**13 02 33.4**	**-0.5**
JTN				*e*S	**Sn**	**13 02 50.8**	**+2.3**
JTAJ	**Takarajima**	**1.23**	**251**	P	**Pn**	**13 02 32.7**	**-2.3**
JTAJ				*e*S	**Sn**	**13 02 51.1**	**+0.6**
JZK	**Kikaishima**	**1.34**	**202**	P	**Pn**	**13 02 35.8**	**-0.7**
JAM	**Amami Oshima**	**1.41**	**215**	P	**Pn**	**13 02 35.9**	**-1.6**
JAM				*e*S	**Sn**	**13 02 55.0**	**+0.1**
JTSR	**Tashiro 2**	**1.63**	**12**	P	**Pn**	**13 02 39.9**	**-0.6**
JTSR				*e*S	**Sn**	**13 02 59.8**	**-0.5**
JAMN	**Amaminishikomi**	**1.78**	**222**	P	**Pn**	**13 02 40.5**	**-2.0**
JAMN				S	**Sn**	**13 03 03.0**	**-0.9**
JTK	**Tokunoshima**	**2.25**	**218**	P	**Pn**	**13 02 47.5**	**-1.6**
JOKE	**Okinoerabujima**	**2.80**	**219**	P	**Pn**	**13 02 55.0**	**-1.5**
JOW	**Kunigami**	**3.38**	**217**	P	**Pn**	**13 03 02.3**	**-2.2**
JOW				*e*S	**Sn**	**13 03 41.1**	**-2.2**
JOW	**Kunigami**	**3.38**	**217**	*e*Pn	**Pn**	**13 03 02.2**	**-2.3**
JIH	**Iheya**	**3.39**	**222**	P	**Pn**	**13 03 02.7**	**-1.9**
JIH				*e*S	**Sn**	**13 03 40.5**	**-3.1**
JNU	**Nakatsue**	**3.56**	**5**	Pn	**Pn**	**13 03 07.8**	**+0.8**
	30nm,0.3s,baz=189,slow=4.8,SNR=523						
JNU				Sn	**Sn**	**13 03 50.1**	**+2.4**
	33nm,0.3s,baz=222,slow=16,SNR=3.6						
JNU				LR	LR	13 03 53.6	
	comp=Z,1μm,19.4s,baz=184,slow=30						
JNTH	**Nagotoyohara**	**3.76**	**217**	P	**Pn**	**13 03 07.9**	**-1.8**
JNTH				S	**Sn**	**13 03 49.6**	**-3.2**
JAGN	**Aguni-jima**	**4.15**	**225**	P	**Pn**	**13 03 13.3**	**-1.8**
JAGN				*e*S	**Sn**	**13 04 01.2**	**-1.2**
JJT2	**Tamagusuku 2**	**4.21**	**216**	P	**Pn**	**13 03 15.4**	**-0.5**
JJT2				*e*S	**Sn**	**13 04 02.2**	**-1.7**
JKE	**Kume jima 2**	**4.63**	**227**	P	**Pn**	**13 03 19.6**	**-2.0**
JKE				S	**Sn**	**13 04 12.0**	**-2.1**
TJN	**Taejon**	**7.29**	**339**	*i* P	**Pn**	**13 03 58.4**	**+0.3**
KSAR	**Wonju Array Be**	**8.16**	**345**	P	**Pn**	**13 04 11.8**	**+1.8**
KSAR	**Wonju Array Be**	**8.16**	**345**	Pn	**Pn**	**13 04 11.8**	**+1.8**
KSAR				Lg	Lg	13 06 23.5	
KSRS	**Korea Array**	**8.16**	**345**	Pn	**Pn**	**13 04 11.8**	**+1.7**
	1.4nm,0.3s,baz=161,slow=14,SNR=66						
KSRS				Lg	Lg	13 06 23.5	
	0.5nm,0.3s,baz=169,slow=28,SNR=4.6						
KSRS				LR	LR	13 07 32.8	
	comp=Z,4μm,21.1s,baz=163,slow=40						
INCN	**Inchon**	**8.54**	**339**	Pn	Pn	13 04 20.0	+4.8
	SNR=5.2						
INCN	**Inchon**	**8.54**	**339**	*e*Pn	**Pn**	**13 04 17.0**	**+1.7**
	106nm,0.9s						
TATO	**Taipei**	**9.25**	**243**	P	**Pn**	**13 04 24.3**	**-0.8**
	583nm,1.6s						
MAJO	**Matsushiro**	**9.48**	**41**	*e*P	**Pn**	**13 04 27.5**	**-0.6**
MAJO	**Matsushiro**	**9.48**	**41**	*e*P	**Pn**	**13 04 27.9**	**-0.2**
	37nm,0.8s						
MAT	**Matsushiro**	**9.48**	**41**	P	**Pn**	**13 04 28.4**	**+0.3**
MAT				*e*S	**Sn**	**13 06 12.4**	**-0.8**
MJAR	**Matsushiro Arr**	**9.48**	**41**	Pn	**Pn**	**13 04 28.1**	**0.0**
	3.5nm,0.3s,baz=248,slow=14,SNR=54						
YHNB	**Yeheng**	**9.50**	**241**	*e*P	**Pn**	**13 04 27.3**	**-1.2**
	86nm,0.8s						
NACB	**Ninganchiao**	**9.62**	**238**	*e*P	**Pn**	**13 04 30.4**	**+0.4**
	314nm,1.6s						
YULB	**Yu-li**	**10.30**	**236**	*e*P	Pn	13 04 34.2	-5.3
	137nm,1.4s						
SSLB	**Suanglung**	**10.32**	**238**	*e*P	Pn	13 04 36.2	-3.5
	260nm,1.3s						
NJ2	**Nanjing**	**10.34**	**287**	*e*P	**Pn**	**13 04 39.8**	**-0.1**
NJ2				S	**Sn**	**13 06 33.5**	**-0.9**
NJ2				PMZ			
	10.0nm,0.9s						
NJ2				LN			
	9μm,17.0s						
NJ2				LE			
	10μm,21.0s						
NJ2				LZ			
	20μm,16.0s						
CBIJ	**Chichi jima**	**10.56**	**101**	Pn	**Pn**	**13 04 41.4**	**-1.5**
JCJ	**Chichijima**	**10.56**	**101**	Pn	**Pn**	**13 04 41.4**	**-1.5**
	6.8nm,0.3s,baz=155,slow=19,SNR=4.8						
JCJ				LR	LR	13 08 10.3	
	comp=Z,3μm,20.1s,baz=230,slow=34						
TPUB	**Ta-pu**	**10.85**	**237**	*e*P	**Pn**	**13 04 44.7**	**-2.2**
	269nm,1.3s						
QZH	**Quanzhou**	**11.58**	**249**	⇑*i*P	**Pn**	**13 04 57.5**	**+0.7**
QZH				*e*S	**Sn**	**13 07 05.9**	**+1.2**
QZH				LN			
	3μm,11.6s						
QZH				LE			
	5μm,12.4s						
QZH				LZ			
	8μm,20.0s						
DL2	**Dalian**	**11.87**	**324**	P	**Pn**	**13 05 03.8**	**+3.0**
DL2				*e*S	Sn	13 07 18.2	+6.5
DL2				PMZ			
	39nm,1.1s						
DL2				PMZ			
	610nm,8.9s						
DL2				LN			
	2μm,12.5s						
DL2				LE			
	2μm,13.4s						
DL2				LZ			
	4μm,13.1s						
TIA	**Tai'an**	**13.06**	**304**	*e*P	**Pn**	**13 05 16.9**	**-0.2**
TIA				S	S	13 07 54.4	-10
TIA				PMZ			
	40nm,1.6s						
TIA				LN			
	4μm,13.1s						
TIA				LE			
	6μm,14.0s						
TIA				LZ			
	7μm,17.4s						
WHN	**Wuhan**	**14.05**	**278**	P	**Pn**	**13 05 30.8**	**+0.2**
WHN				pP	**P**	**13 05 39.7**	**+2.5**
WHN				S	**Sn**	**13 08 09.4**	**+4.3**
WHN				LN			
	4μm,11.2s						
WHN				LE			
	6μm,13.9s						
WHN				LZ			
	8μm,16.0s						
USRK	**Ussuriysk Ar.**	**14.65**	**4**	Pn	**P**	**13 05 41.8**	**-2.1**
	0.8nm,0.3s,baz=171,slow=10,SNR=19						
USRK				LR	LR	13 11 51.3	
	comp=Z,2μm,18.4s,baz=174,slow=40						
CN2	**Changchun**	**14.77**	**345**	⇑P	**P**	**13 05 43.6**	**-1.6**
CN2				*e*S	**Sn**	**13 08 27.0**	**+4.5**
CN2				PMZ			
	200nm,3.0s						
CN2				LN			
	5μm,15.0s						
CN2				LE			
	5μm,15.0s						
CN2				LZ			
	4μm,17.0s						
MDJ	**Mudanjiang**	**15.04**	**357**	P	**Pn**	**13 05 45.3**	**+1.7**
MDJ				S	**Sn**	**13 08 31.8**	**+2.8**
MDJ				PcP	**PcP**	**13 10 49.9**	**+0.5**
MDJ				ScP	**ScP**	**13 14 20.7**	**+1.1**
MDJ				PcS	**PcS**	**13 14 25.1**	**+0.6**
MDJ				ScS	**ScS**	**13 17 58.7**	**+1.2**
MDJ				PMZ			
	320nm,9.3s						
MDJ				LN			
	2μm,18.3s						
MDJ				LE			
	1μm,16.1s						
MDJ				LZ			
	2μm,18.3s						
MDJ	**Mudanjiang**	**15.04**	**357**	*e*P	**Pn**	**13 05 45.8**	**+2.2**
	9.3nm,0.8s						
BJT	**Baijiatuao**	**15.72**	**315**	P	**Pn**	**13 05 52.6**	**+0.1**
BJT				pmax	pmax		
	comp=Z,80nm,0.8s						
BJT	**Baijiatuao**	**15.72**	**315**	P	**Pn**	**13 05 52.6**	**+0.1**
	comp=Z,80nm,0.8s						
BJI	**Beijing**	**15.73**	**315**	P	**P**	**13 05 55.3**	**-0.6**
BJI				PMZ			
	comp=Z,61nm,1.6s						
BJI				PMZ			
	comp=Z,1μm,7.6s						
BJI				LN			
	comp=Z,4μm,14.1s						
BJI				LE			
	comp=Z,3μm,13.4s						
BJI				LZ			
	comp=Z,3μm,18.7s						
TIY	**Taiyuan**	**17.10**	**303**	*e*P	**P**	**13 06 11.8**	**+0.6**
TIY				pP	**pP**	**13 06 18.9**	**-3.1**
TIY				PP	**pwP**	**13 06 24.5**	**+2.5**
TIY				LN			
	comp=Z,3μm,11.9s						
TIY				LE			
	comp=Z,3μm,15.9s						
TIY				LZ			
	comp=Z,4μm,15.7s						
ASAJ	**Asahikawa**	**17.41**	**30**	P	**Pn**	**13 06 11.5**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,21.5s						
ASAJ	**Asahikawa**	**17.41**	**30**	P	**Pn**	**13 06 11.5**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=214,slow=9.2,SNR=12						
ASAJ				LR	LR	13 13 06.5	
	comp=Z,3μm,21.5s,baz=228,slow=38						
ASAJ	**Asahikawa**	**17.41**	**30**	*e*P	**Pn**	**13 06 11.2**	**-2.5**
	comp=Z,13nm,0.8s						
ENH	**Enshi**	**18.26**	**277**	*e*P	**Pn**	**13 06 24.9**	**+0.7**
	comp=Z,41nm,0.8s						
XAN	**Xi'an**	**18.89**	**289**	P	**P**	**13 06 30.5**	**-0.4**
XAN				S	**Sn**	**13 09 57.1**	**-5.4**
XAN				LN			
	comp=Z,1μm,13.3s						
XAN				LE			
	comp=Z,690nm,13.3s						
XAN				LZ			
	comp=Z,760nm,12.1s						
HHC	**Hu-ho-hao-te**	**19.11**	**311**	*e*P	**Pn**	**13 06 35.6**	**+1.1**
HHC				pP	**pP**	**13 06 44.8**	**+0.6**
HHC				sP	**sP**	**13 06 51.6**	**+1.5**
HHC				PP	PnPn	13 06 56.2	+8.1
HHC				S	**S**	**13 10 02.3**	**-5.3**
HHC				sS	sS	13 10 18.3	-6.9
HHC				SS	SnSn	13 10 34.4	+12
HHC				PMZ			
	comp=Z,85nm,1.0s						
HHC				PMZ			
	comp=Z,480nm,4.8s						
HHC				LN			
	comp=Z,2μm,11.8s						
HHC				LE			
	comp=Z,3μm,16.4s						
HHC				LZ			
	comp=Z,3μm,14.9s						
HABR	**Khabarovsk**	**19.20**	**9**	*e*P	**P**	**13 06 31.4**	**-2.6**
HABR				*e*S	**S**	**13 10 07.1**	**-1.8**
HABR				pmax	pmax		
	comp=N,27nm,2.0s						
HABR				pmax	pmax		
	comp=E,18nm,2.0s						
HABR				pmax	pmax		
	comp=Z,58nm,2.0s						
HABR				MLR	MLR		
	comp=Z,2μm,16.0s						
KLR	**Kul'dur**	**19.66**	**2**	*e*P	**P**	**13 06 35.8**	**-3.3**
KLR				MLR	MLR		
	comp=E,1μm,12.0s						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s						
YSS	**Yuzh-Sakhalins**	**19.79**	**25**	*e*P	**Pn**	**13 06 42.6**	**+0.2**
YSS				pmax	pmax		
	comp=Z,100nm,1.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**19.79**	**25**	*e*P	**P**	**13 06 40.1**	**-0.4**
	comp=Z,139nm,1.1s						
BTO	**Baotou**	**20.03**	**309**	*e*P	**P**	**13 06 43.0**	**-0.3**
GYA	**Guiyang**	**21.29**	**267**	⇑*i*P	**P**	**13 06 57.6**	**+0.5**
GYA				pP	**pP**	**13 07 07.6**	**-0.5**
GYA				sP	**sP**	**13 07 15.0**	**+1.0**
GYA				PP	**PnPn**	**13 07 21.6**	**+3.6**
GYA				S	**S**	**13 10 44.3**	**-6.9**
GYA				sS	Sn	13 11 02.8	+2.4
GYA				SS	**SnSn**	**13 11 20.5**	**+4.7**
GYA				PMZ			
	comp=Z,60nm,1.2s						
GYA				PMZ			
	comp=Z,140nm,4.6s						
GYA				LN			
	comp=Z,2μm,14.5s						
GYA				LE			
	comp=Z,3μm,14.9s						
GYA				LZ			
	comp=Z,4μm,14.5s						
HIA	**Hailar**	**21.32**	**340**	*e*P	**P**	**13 06 56.0**	**-1.1**
HIA				pmax	pmax		
	comp=Z,18nm,1.2s						
HIA	**Hailar**	**21.32**	**340**	P

ULN **Ulaanbaatar** 25.71 322 P **P** 13 07 41.1 +0.9
SNR=15
ULN Ulaanbaatar 25.71 322 *e*P **P** 13 07 39.2 -1.0
comp=Z,31nm,0.9s
ULN LR LR
comp=Z,2μm,20.0s
CIT Chita 25.73 335 *e*P **P** 13 07 40.5 +0.3
CIT *e* 13 07 58.2
KDM Kudat 25.97 212 ⇑P **P** 13 07 42.7 +0.1
SONM Songino Array 26.05 321 P **P** 13 07 42.2 -1.0
comp=Z,18nm,0.7s,baz=138,slow=9.4,SNR=44
SONM LR LR 13 19 18.6
comp=Z,3μm,18.8s,baz=120,slow=40
SDKM Sandakan 26.93 210 ⇓P **P** 13 07 51.8 +0.4
GTA Gaotai 27.04 300 ⇓P **P** 13 07 52.5 +0.2
GTA pP **pP** 13 08 03.9 -0.6
GTA sP **sP** 13 08 09.7 -0.4
GTA PcP **PcP** 13 11 14.2 +1.6
GTA S **S** 13 12 26.5 -0.5
GTA sS **sS** 13 12 46.7 -0.8
GTA SS **SnSn** 13 13 44.7 +8.3
GTA PcS **PcS** 13 14 54.1 -0.1
GTA ScS **ScS** 13 18 37.3 -3.0
GTA PMZ
comp=Z,26nm,1.6s
GTA PMZ
comp=Z,380nm,5.0s
GTA LN
comp=Z,2μm,13.3s
GTA LE
comp=Z,3μm,13.3s
GTA LZ
comp=Z,3μm,18.1s
UBPT Khong Chiam 27.10 244 P **P** 13 07 53.5 +0.7
comp=Z,35nm,1.3s
TSM Tawau 27.85 208 ⇑P **P** 13 07 59.8 +0.3
KHON Khomkaen 28.62 249 P **P** 13 08 06.9 +0.5
comp=Z,8.4nm,0.7s
TNTI Ternate 28.80 187 P **P** 13 08 10.0 +2.1
ZAK Zakamensk 29.19 323 *e*P **P** 13 08 09.6 -1.7
ZAK *e* 13 11 14.1
ZAK pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 29.78 325 *e*P **P** 13 08 16.9 +0.5
TLY *e*S S 13 13 02.6 -6.9
TLY pmax pmax
comp=Z,36nm,1.6s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY Talaya 29.78 325 P **P** 13 08 16.4 0.0
comp=Z,5.9nm,0.6s,baz=155,slow=8.0,SNR=7.0
TLY LR LR 13 21 26.9
comp=Z,1μm,20.2s,baz=129,slow=39
TLY Talaya 29.78 325 P **P** 13 08 17.8 +1.5
SNR=11
TLY Talaya 29.78 325 *e*P **P** 13 08 16.9 +0.5
UTTA Uttaradit 29.79 253 P **P** 13 08 17.2 +0.5
comp=Z,4.3nm,0.7s
IRK Irkutsk 29.82 327 *e*P **P** 13 08 15.2 -1.5
IRK pmax pmax
comp=Z,62nm,1.5s
PBKT Sadao Pong 30.02 251 P **P** 13 08 18.8 0.0
comp=Z,8.0nm,0.8s,comp=Z,604nm
MRSI Marisa 30.07 197 P **P** 13 08 18.4 -0.8
comp=Z,16nm,1.8s
CMAI Chiengmai2 30.08 259 P P 13 08 23.5 +4.0
comp=Z,19nm,1.6s
BOD Bodaibo 30.49 343 *e*P P 13 08 19.1 -3.4
BOD *e* 13 11 20.1
BOD pmax pmax
comp=Z,6.0nm,1.1s
BOD pmax pmax
comp=Z,6.0nm,1.3s
CMMT Chiang Mai 30.64 257 P **P** 13 08 23.9 -0.4
comp=Z,30nm,0.9s
PETK Petropavlovsk- 30.80 33 P **P** 13 08 26.0 +0.7
PETK Petropavlovsk- 30.80 33 P **P** 13 08 25.9 +0.7
comp=Z,10nm,0.9s,baz=200,slow=3.9,SNR=5.8
CMAR Chiang Mai Arr 30.81 256 P **P** 13 08 25.4 -0.4
comp=Z,1.4nm,0.5s,baz=75,slow=5.4,SNR=9.3
CMAR PcP **PcP** 13 11 23.9 +1.7
comp=Z,5.0nm,0.8s,baz=39,slow=1.1,SNR=20
CMAR LR LR 13 22 27.6
comp=Z,2μm,18.1s,baz=75,slow=40
BTM Bintulu 31.01 216 ⇓P **P** 13 08 29.1 +1.5
CHBT CHBT 31.05 243 P **P** 13 08 28.2 +0.3
comp=Z,84nm,1.0s,comp=Z,4μm
MOY Mondy 31.11 324 *e*P **P** 13 08 28.4 +0.2
PET Petropavlovsk 31.20 33 *e*P **P** 13 08 27.0 -1.8
PET pmax pmax
comp=Z,40nm,1.3s
APSI Ampana 31.47 197 P **P** 13 08 31.1 -0.5
comp=Z,20nm,1.1s
SANI Sanana 31.74 189 P **P** 13 08 31.8 -2.1
SMPI Sarmi 32.34 165 P **P** 13 08 38.2 -1.0
comp=Z,28nm,1.5s
FAKI Fak Fak 32.34 177 P **P** 13 08 39.2 0.0
comp=Z,92nm,1.3s
FAKI Fak Fak 32.34 177 *e*P **P** 13 08 38.7 -0.5
comp=Z,159nm,1.3s
YAK Yakutsk 32.47 359 *e*P P 13 08 36.2 -3.7
YAK *e**PP pP 13 08 45.3 -6.9
YAK *e*PPP PPP 13 09 56.0
YAK *e* 13 11 25.3
YAK *e*S **S** **13 13 51.5 +0.3**
YAK *e**SS sS 13 14 09.9 -2.0
YAK *e*SS **SnSn** **13 15 43.8 -3.9**
YAK *e*SSS SSS 13 16 07.4
YAK *e* 13 18 59.9
YAK pmax pmax
comp=Z,10.0nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK smax smax
comp=N,30nm,2.2s
YAK smax smax
comp=E,47nm,2.2s
YAK MLR MLR
comp=Z,478nm,19.0s
YAK MLR MLR
comp=N,432nm,18.0s
YAK MLR MLR
comp=E,240nm,18.0s
NLAI Namlea 32.79 186 P **P** 13 08 42.8 -0.3
comp=E,27nm,1.1s
BNDI Bandanaira 33.90 181 P P 13 09 02.3 +10
KSM Kuching 33.93 218 ⇓P **P** 13 08 53.3 +0.2
LSA Lhasa 34.12 280 P **P** 13 08 55.8 +0.5
LSA Lhasa 34.12 280 *e*P **P** 13 08 55.7 +0.5
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 34.12 280 *e*P **P** 13 08 55.7 +0.5
comp=Z,8.8nm,0.7s
LSA LR LR
comp=Z,2μm,19.0s
SHL Shillong 34.39 273 *ex* **P** 13 08 57.0 -0.2
HVS Khovu-Aksy 34.86 319 *e*P **P** 13 09 01.3 +0.4
HVS pmax pmax
comp=Z,103nm,1.2s
KTGM Kuala Trenggan 35.37 232 ⇑P **P** 13 09 05.3 -0.2
SURT Suratani 36.10 242 P **P** 13 09 12.8 +0.9
comp=Z,15nm,1.3s
BBKI Banjar Baru 36.12 207 P **P** 13 09 12.6 +0.6
comp=Z,45nm,1.1s
TRTT Trang 36.14 239 P **P** 13 09 12.9 +0.7
comp=Z,29nm,1.3s
SEY Seymchan 36.25 17 *e*P **P** 13 09 13.1 +0.6
WMQ Urumqi 36.76 305 *e*P **P** 13 09 18.4 +1.1
WMQ pP **pP** 13 09 30.5 +0.8
WMQ sP **sP** 13 09 36.0 +0.8
WMQ PP **PnPn** 13 10 44.0 +2.2
WMQ *e*S **S** 13 14 58.0 0.0
WMQ SS **SnSn** 13 17 29.0 -3.1
WMQ PMZ
comp=Z,12nm,0.7s
WMQ PMZ
comp=Z,280nm,8.1s
WMQ LN
comp=Z,1μm,16.8s
WMQ LE
comp=Z,1μm,17.5s
WMQ LZ
comp=Z,2μm,18.8s
PKDT Phuket 37.13 241 P P 13 09 24.7 +4.1
comp=Z,48nm,1.4s,comp=Z,2μm
KULM Kulim 37.14 235 ⇓P **P** 13 09 20.4 -0.3
KULM Kulim 37.14 235 *e*P **P** 13 09 20.6 -0.1
comp=Z,23nm,0.7s
IPM Ipoh 37.44 234 ⇑P **P** 13 09 23.3 +0.1
IPM Ipoh 37.44 234 *e*P **P** 13 09 23.0 -0.2
comp=Z,82nm,1.3s
KRAR Krasnoyarsk 37.48 326 *e*P **P** 13 09 21.4 -1.7
KRAR pmax pmax
comp=Z,20nm,1.3s
MYKOM Kota Tinggi 37.51 227 ⇑P **P** 13 09 24.9 +1.1
TAPN Taplejung 37.56 277 *e*P **P** 13 09 24.6 +0.1
comp=Z,41nm,1.1s
KGM Kluang 37.68 228 ⇑P **P** 13 09 25.2 -0.1
FRIM Kepong 37.91 232 ⇓P **P** 13 09 27.4 +0.2
ODAN Odare 37.95 277 *e*P **P** 13 09 27.8 0.0
comp=Z,57nm,0.7s
RAMN Ramite 38.62 277 *e*P **P** 13 09 33.2 -0.2
comp=Z,34nm,0.6s
JIRN Jiri 38.80 278 *e*P **P** 13 09 35.3 +0.3
comp=Z,112nm,0.9s
TPI Tanjungpandan 38.90 218 P **P** 13 09 37.0 +1.5
comp=Z,40nm,1.0s
GUN Gumba 39.01 279 *e*P **P** 13 09 36.9 +0.1
comp=Z,324nm,0.8s
PKI Pulchoki 39.49 278 *e*P **P** 13 09 40.8 0.0
comp=Z,170nm,1.0s
KKN Kakani 39.55 279 *e*P **P** 13 09 41.0 -0.2
comp=Z,194nm,0.9s
SOEI Soe 39.56 190 P **P** 13 09 40.3 -0.8
comp=Z,77nm,1.1s
SOEI Soe 39.56 190 *e*P **P** 13 09 39.0 -2.0
comp=Z,89nm,1.1s
KMMI Kalianget 39.74 206 P **P** 13 09 44.2 +1.7
comp=Z,34nm,1.6s
GKN Gorka 40.05 279 *e*P **P** 13 09 44.6 -0.7
comp=Z,92nm,0.7s
BATI Baumata 40.09 191 P **P** 13 09 44.3 -1.1
comp=Z,36nm,1.1s
BATI Baumata 40.09 191 P **P** 13 09 43.5 -1.9
comp=Z,50nm,0.8s,baz=307,slow=1.8,SNR=12
SRBI Singaraja 40.24 204 P **P** 13 09 47.8 +1.2
comp=Z,25nm,1.3s
ABJI Asem Bagus 40.32 205 P **P** 13 09 49.0 +1.7
comp=Z,33nm,1.0s
KCSI Kotacane, Aceh 40.43 236 P **P** 13 09 48.2 -0.1
comp=Z,28nm,0.9s
DANN Dangsing 40.73 280 *e*P **P** 13 09 51.4 +0.4
comp=Z,242nm,0.7s
ZALV Zalesovo Beam 40.92 320 P **P** 13 09 51.5 -0.4
comp=Z,13nm,0.5s,baz=107,slow=7.9,SNR=71
ZALV PcP **PcP** 13 11 50.6 -0.9
comp=Z,13nm,0.9s,baz=90,slow=4.4,SNR=13
MKAR Makanchi Array 40.94 309 *ce*P **P** 13 09 51.7 -0.5
MKAR pmax pmax
comp=Z,12nm,0.5s
MKAR Makanchi Array 40.94 309 P **P** 13 09 51.8 -0.4
comp=Z,12nm,0.5s,baz=90,slow=10,SNR=157
MKAR PcP **PcP** 13 11 51.8 0.0
comp=Z,6.8nm,0.7s,baz=76,slow=2.4,SNR=10
MKAR ScP **ScP** 13 15 40.5 +2.8
comp=Z,0.4nm,0.6s,baz=107,slow=2.0,SNR=4.3
MKAR LR LR 13 27 07.5
comp=Z,702nm,20.4s,baz=92,slow=37
KOLN Koldanda 41.00 279 *e*P **P** 13 09 52.9 -0.2
comp=Z,86nm,0.8s
MNSI Mandailing Nat 41.08 232 P **P** 13 09 53.5 -0.1
comp=Z,51nm,1.0s
PYUN Piuthan 41.45 280 *e*P **P** 13 09 57.1 +0.3
comp=Z,349nm,0.8s
WOJI Wonogiri, Jawa 41.70 210 P P 13 10 02.2 +3.6
PDSI Padang 41.75 229 P P 13 10 06.0 +6.9
PMG Port Moresby 41.93 155 P **P** 13 09 59.6 -0.9
PMG pmax pmax
comp=Z,8.0nm,1.3s
PMG MLR MLR
comp=Z,779nm,21.0s
PMG Port Moresby 41.93 155 P **P** 13 09 59.6 -0.9
comp=Z,8.1nm,1.3s
PMG LR LR
comp=Z,779nm,21.0s
NVS Novosibirsk 42.08 321 ⇑*i*P **P** 13 10 00.1 -1.2
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=Z,18nm,1.1s
NVS pmax pmax
comp=E,7.0nm,0.6s
TIXI Tiksi 42.14 359 *e*P **P** 13 10 00.2 -1.4
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 42.14 359 *e*P **P** 13 10 00.1 -1.4
comp=Z,9.2nm,0.8s
TIXI LR LR
comp=Z,1μm,22.0s
KPJI Karang Pucung 42.16 213 P **P** 13 10 03.6 +1.2
comp=Z,152nm,1.2s,comp=Z,3μm
MDSI Maura Dua 42.26 221 P **P** 13 10 05.1 +1.9
comp=Z,41nm,1.8s,comp=Z,712nm
LEM Lembang 42.37 215 P **P** 13 10 05.9 +1.6
comp=Z,238nm,0.9s,comp=Z,3μm
CBJI Citeko 42.41 216 P **P** 13 10 07.4 +3.0
comp=Z,250nm,1.5s
CGJI Cibinong 43.18 218 P **P** 13 10 12.0 +1.3
BILL Bilibino 43.87 18 *e*P **P** 13 10 15.4 -0.3
BILL *e* 13 10 32.1
BILL *e* 13 12 00.3
BILL pmax pmax
comp=Z,23nm,1.0s
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 43.87 18 *e*P **P** 13 10 15.2 -0.5
comp=Z,52nm,1.3s
KURK Kurchatov 43.89 314 P **P** 13 10 15.5 -0.6
comp=Z,209nm,0.5s,SNR=30
KURK Kurchatov 43.89 314 *e*P **P** 13 10 14.1 -2.0
KURK pmax pmax
comp=Z,76nm,0.9s
KURK MLR MLR
comp=Z,3μm,21.0s
KURK Kurchatov 43.89 314 P **P** 13 10 16.4 +0.4
SNR=28
KURK Kurchatov 43.89 314 *e*P **P** 13 10 14.1 -2.0
comp=Z,76nm,0.9s
KURK LR LR
comp=Z,3μm,21.0s
KSH Kashi 45.42 298 P P 13 10 31.8 +3.2
KSH pP pP 13 10 44.2 +2.9
KSH PcP **PcP** **13 12 09.8 +2.6**
KSH PcS **PcS** **13 16 02.6 +1.3**
KSH S **S** **13 17 09.9 +3.2**
KSH sS sS 13 17 31.0 +3.0
KSH ScS **ScS** **13 20 21.3 0.0**
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,170nm,8.5s
KSH LN
comp=Z,740nm,14.5s
KSH LE
comp=Z,1μm,15.7s
KSH LZ
comp=Z,2μm,19.3s
TKM2 Tokmak 2 45.51 303 *e*P **P** 13 10 29.2 -0.2
TKM2 pmax pmax
comp=Z,18nm,0.9s
TKM2 Tokmak 2 45.51 303 *e*P **P** 13 10 29.2 -0.2
comp=Z,18nm,0.9s
NDI New Delhi 46.23 283 *ex* **P** 13 10 34.0 -1.0
AAK Ala-Archa 46.33 302 *e*P **P** 13 10 35.3 -0.5
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 46.33 302 *e*P **P** 13 10 35.3 -0.5
comp=Z,4.8nm,0.7s
AAK LR LR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 46.86 302 *e*P **P** 13 10 39.3 -0.6
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 46.86 302 *e*P **P** 13 10 39.3 -0.6
comp=Z,3.5nm,0.8s
FITZ Fitzroy Crossi 47.63 186 *e*P **P** 13 10 45.6 -0.1
comp=Z,28nm,1.3s
HYB Hyderabad 48.82 268 *i*P **P** 13 10 53.5 -1.8
BVAR Borovoye Array 49.21 316 P **P** 13 10 56.2 -1.6
comp=Z,29nm,0.6s,baz=97,slow=9.1,SNR=144
BVAR PcP **PcP** 13 12 20.1 -0.2
comp=Z,11nm,0.7s,baz=113,slow=3.8,SNR=7.4
BVAR LR LR 13 33 32.7
comp=Z,2μm,18.1s,baz=96,slow=38
KKAR Karatay Array 49.22 303 *e*P **P** 13 10 57.8 -0.2
KKAR pmax pmax
comp=Z,24nm,0.7s
KKAR Karatay Array 49.22 303 *e*P **P** 13 10 57.8 -0.2
comp=Z,24nm,0.7s
BRVK Borovoye 49.28 316 P **P** 13 10 58.9 +0.7
comp=Z,486nm,0.6s,SNR=27
WRAB Tennant Creek 49.35 175 P **P** 13 10 58.0 -1.0
comp=Z,94nm,1.2s,SNR=13
WRAB Tennant Creek 49.35 175 *e*P **P** 13 10 58.7 -0.3
WRAB pmax pmax
comp=Z,60nm,1.2s
WRAB Tennant Creek 49.35 175 *e*P **P** 13 10 57.8 -1.3
comp=Z,11nm,0.8s
WRA Warramunga Arr 49.36 175 *i*P **P** 13 10 58.5 -0.7
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 49.36 175 P **P** 13 10 58.4 -0.7
comp=Z,4.8nm,0.6s,baz=354,slow=8.2,SNR=88
WB2 Warramunga Arr 49.36 175 *e*P **P** 13 10 58.5 -0.7
CTAO Charters Tower 51.64 161 *e*P **P** 13 11 16.4 +0.1
CTAO pmax pmax
comp=Z,56nm,1.8s
CTAO Charters Tower 51.64 161 *e*P **P** 13 11 16.4 +0.1
comp=Z,56nm,1.8s
KBL Kabul 51.66 292 *e*P **P** 13 11 16.4 -0.3
KBL pmax pmax
comp=Z,21nm,0.9s
KBL Kabul 51.66 292 *e*P **P** 13 11 16.4 -0.3
comp=Z,21nm,0.9s
TNA Tin City 51.75 28 *e*P **P** 13 11 17.9 +1.3
comp=Z,100nm,1.5s
POO Poona 52.48 271 *ex* P 13 11 19.0 -3.8
AS31 Alice Springs 53.03 176 *e*P **P** 13 11 25.8 -0.8
ASAR Alice Springs 53.03 176 P **P** 13 11 26.2 -0.4
comp=Z,2.4nm,0.6s,baz=10,slow=13,SNR=167
ASAR PcP **PcP** 13 12 35.8 +1.1
comp=Z,5.3nm,0.9s,baz=2.6,slow=3.9,SNR=6.5
SVE Sverdlovsk 54.92 321 *d*i*P* **P** 13 11 40.6 +0.6
SVE pmax pmax
comp=Z,71nm,0.9s
SVE MLR MLR
comp=Z,3μm,17.0s
ABKAR Akbulak array 55.90 312 *e*P **P** 13 11 46.9 -0.3
ARU Arti 56.08 320 P **P** 13 11 48.9 +0.5
comp=Z,527nm,0.9s,SNR=28
ARU Arti 56.08 320 *d*i*P* **P** 13 11 48.1 -0.3
ARU 13 12 43.9
ARU 13 13 48.1
ARU PPP PPP 13 15 10.3
ARU S **S** **13 19 34.3 +0.7**
ARU pmax pmax
comp=Z,158nm,1.7s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 56.08 320 *e*P **P** 13 11 47.6 -0.8
comp=Z,80nm,0.9s
SOKR Solikamsk 56.85 324 *c i*P **P** 13 11 53.8 0.0
SOKR pmax pmax
comp=Z,80nm,1.2s
SOKR MLR MLR
comp=Z,1μm,19.0s
PPLA Purkeypile 58.38 32 *e*P **P** 13 12 06.1 +1.4
comp=Z,81nm,1.3s
KDAK Kodiak Island 58.64 38 *i*P **P** 13 12 07.9 +1.6
KTH Kantishna Hill 58.91 31 *e*P **P** 13 12 09.4 +1.1
comp=Z,74nm,1.5s
COLD Coldfoot 58.98 27 *e*P **P** 13 12 09.8 +1.2
comp=Z,34nm,1.4s
TRF Thorofare Moun 59.20 31 *e*P **P** 13 12 11.6 +1.1
comp=Z,11nm,1.0s
GEYT Alibeck 59.43 299 P **P** 13 12 12.4 +0.1
comp=Z,5.6nm,0.6s,baz=72,slow=4.8,SNR=13
GEYT LR LR 13 42 16.1
comp=Z,730nm,19.0s,baz=165,slow=41
RC01 Rabbit Creek A 59.70 34 *e*P **P** 13 12 14.8 +1.1
comp=Z,51nm,1.4s
MCK McKinley 59.77 31 *e*P **P** 13 12 14.6 +0.4
MCK pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 59.77 31 *e*P **P** 13 12 14.6 +0.4
comp=Z,38nm,1.0s
SEW Seward 59.96 35 *e*P **P** 13 12 15.7 +0.2
comp=Z,50nm,1.0s
COLA College 60.12 29 ⇑*i*P **P** 13 12 15.7 -0.8
COLA pmax pmax
comp=Z,38nm,0.8s
COLA College 60.12 29 *e*P **P** 13 12 17.7 +1.2
comp=Z,16nm,0.9s
ILAR Eielson Array 60.54 29 P **P** 13 12 19.2 -0.2
comp=Z,5.0nm,0.7s,baz=268,slow=5.4,SNR=76
ILAR PcP **PcP** 13 13 03.1 -0.4
comp=Z,1.5nm,0.6s,baz=276,slow=4.9,SNR=4.2
PAX Paxson 61.42 31 *e*P **P** 13 12 25.7 +0.2
PAX pmax pmax
comp=Z,60nm,1.7s
PAX Paxson 61.42 31 *e*P **P** 13 12 25.7 +0.2
comp=Z,60nm,1.7s
DIV Divide 61.60 33 *e*P **P** 13 12 27.4 +0.7
comp=Z,46nm,1.3s
DOT Dot Lake 61.93 30 *e*P **P** 13 12 28.9 +0.1
comp=Z,28nm,0.8s
PRGR Permogore 62.08 327 *e*P **P** 13 12 27.3 -2.5
PRGR pmax pmax
comp=Z,22nm,1.0s
BMRM Bremner River 62.19 33 *e*P **P** 13 12 31.3 +0.7
comp=Z,54nm,1.2s
EGAK Eagle 62.96 29 *e*P **P** 13 12 36.0 +0.4
comp=Z,8.0nm,0.7s
DAWY Dawson 63.87 29 *e*P **P** 13 12 42.6 +0.9
comp=Z,14nm,0.9s
TMCR Tamitsa 64.87 331 *e*P **P** 13 12 46.2 -2.0
TMCR pmax pmax
comp=Z,61nm,1.5s
INK Inuvik 65.03 24 *e*P **P** 13 12 49.3 +0.1
INK pmax pmax
comp=Z,24nm,1.0s
INK Inuvik 65.03 24 *e*P **P** 13 12 49.2 +0.1
comp=Z,24nm,1.0s
HYT Haines Junctio 65.58 33 *e*P **P** 13 12 54.6 +1.5
comp=Z,33nm,1.2s
APA Apatity 65.68 335 ⇓*i*P **P** 13 12 52.6 -0.8
APA pmax pmax
comp=Z,2.0nm,0.8s
APA MLR MLR
comp=Z,1μm,18.0s
MAK Makhachkala 65.73 307 *e*P **P** 13 12 54.3 +0.2
MAK S **S** **13 21 40.0 +3.0**
MAK pmax pmax
comp=Z,68nm,0.6s
MAK MLR MLR
comp=Z,760nm,18.0s
ARCES ARCESS Array B 67.66 338 P **P** 13 13 04.3 -1.7
comp=Z,8.5nm,0.9s,baz=64,slow=8.2,SNR=10
ARCES LR LR 13 47 24.9
comp=Z,1μm,21.0s,baz=48,slow=40
MOS Moscow 67.67 322 *e*P **P** 13 13 03.3 -3.0
MOS *e* 13 13 13.2
MOS pmax pmax
comp=Z,61nm,1.6s
MOS pmax pmax
comp=Z,100nm,1.8s
MOS MLR MLR
comp=Z,2μm,16.0s
DGRG David-gareji 67.73 306 P **P** 13 13 07.1 +0.2
ALE Alert 67.97 2 P **P** 13 13 08.3 +0.5
comp=Z,64nm,1.0s,SNR=6.0
GOF Gofitskoye 68.08 310 *e*P **P** 13 13 08.9 -0.1
ZEI Tsey 68.28 308 *e*P **P** 13 13 07.8 -2.9
ZEI pmax pmax
comp=Z,21nm,0.6s
OBN Obninsk 68.45 322 *e*P **P** 13 13 10.1 -1.1
OBN pmax pmax
comp=Z,39nm,1.7s
GNI Garni 68.63 305 *c i*P **P** 13 13 12.3 -0.5
GNI pmax pmax
comp=Z,47nm,1.7s
GNI Garni 68.63 305 P **P** 13 13 14.2 +1.4
SNR=9.0

GNI **Garni** 68.63 305 *e*P P 13 13 14.0 +1.1
comp=Z,73nm,1.5s
KBZ **Khabaz** 68.64 309 P P 13 13 12.4 -0.2
comp=Z,23nm,0.8s,baz=81,slow=4.3,SNR=82
KBZ LR LR 13 48 59.9
comp=Z,398nm,18.8s,baz=61,slow=41
ONI **Oni** 68.67 308 P P 13 13 13.8 +0.9
KIV **Kislovodsk** 68.70 309 P P 13 13 13.3 +0.2
comp=Z,297nm,1.6s,SNR=8.9
KIV **Kislovodsk** 68.70 309 *e*P P 13 13 13.3 +0.2
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,394nm,17.0s
KIV **Kislovodsk** 68.70 309 P P 13 13 13.9 +0.8
SNR=21
KIV **Kislovodsk** 68.70 309 *e*P P 13 13 12.9 -0.2
comp=Z,87nm,1.2s
CRAG **Craig** 69.59 37 *e*P P 13 13 19.1 +0.9
comp=Z,48nm,1.4s
PUL **Pulkovo** 69.80 328 *e*P P 13 13 19.3 -0.1
PUL pmax pmax
comp=Z,67nm,1.0s
SOC **Sochi** 70.84 310 *e*P P 13 13 25.0 -1.1
SOC *e**PP **pP** 13 13 37.5 -2.0
SOC *e*S **S** 13 22 41.7 +3.9
SOC *e*SS **SS** 13 27 08.0 -2.3
SOC pmax pmax
comp=Z,37nm,0.7s
SOC MLR MLR
comp=Z,844nm,20.0s
FINES **FINESS Array B** 70.97 331 P P 13 13 25.0 -1.6
comp=Z,6.9nm,0.7s,baz=79,slow=5.5,SNR=33
FINES PP **PP** 13 15 59.2 -4.6
comp=Z,1.0nm,0.7s,baz=76,slow=12,SNR=3.3
FINES LR LR 13 47 48.5
comp=Z,857nm,20.3s,baz=48,slow=39
RES **Resolute Bay** 71.89 11 *e*P P 13 13 32.2 +0.3
RES pmax pmax
comp=Z,36nm,0.8s
RES **Resolute Bay** 71.89 11 *e*P P 13 13 32.2 +0.3
comp=Z,36nm,0.8s
VSU **Vasula** 72.03 328 *c i*P P 13 13 32.3 -0.7
VSU pmax pmax
comp=Z,76nm,0.9s
DAG **Danmarks Havn** 72.22 353 *i* P P 13 13 32.5 -1.3
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG **Danmarks Havn** 72.22 353 *i* P P 13 13 32.5 -1.3
comp=Z,8.8nm,0.9s
KEMA **Kemaliye** 73.42 306 *i* P P 13 13 42.8 +1.1
NACGM **Naroch** 73.67 324 *e* P 13 13 39.0 -3.8
ISAL **Salakas** 73.68 325 *e*P P 13 13 43.0 +0.2
IIGN **Ignalina** 73.74 325 *e*P P 13 13 43.3 +0.1
MALT **Malatya** 73.86 305 ⇑*i*P P 13 13 45.4 +1.0
SIM **Simferopol'** 73.95 313 *e*P P 13 13 44.0 -0.6
SIM pmax pmax
comp=Z,19nm,1.0s
AKASG **Malin Array Be** 74.32 320 *c e*P P 13 13 45.7 -1.0
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG **Malin Array Be** 74.32 320 P P 13 13 45.3 -1.4
comp=Z,14nm,0.7s,baz=53,slow=6.3,SNR=45
AKASG LR LR 13 49 01.5
comp=Z,735nm,20.9s,baz=10.0,slow=38
KIEV **Kiev** 74.33 320 *d i*P P 13 13 45.4 -1.3
KIEV **Kiev** 74.33 320 *e*P P 13 13 45.1 -1.6
comp=Z,22nm,1.0s
YKA **Yellowknife Ar** 74.65 26 P P 13 13 49.1 +0.8
comp=Z,7.0nm,0.8s,baz=303,slow=5.7,SNR=114
RAYN **Ar Rayn** 74.69 289 P P 13 13 49.0 -0.4
comp=Z,186nm,1.1s,SNR=11
RAYN **Ar Rayn** 74.69 289 *e*P P 13 13 48.6 -0.8
comp=Z,50nm,1.2s
GZT **Gaziantep** 74.89 304 *i* P P 13 13 50.8 +0.4
SUW **Suwalki** 75.94 324 *e*P P 13 13 55.5 -0.4
SUW **Suwalki** 75.94 324 *e*P P 13 13 55.4 -0.4
SUW **Suwalki** 75.94 324 *e*P P 13 13 55.5 -0.4
comp=Z,37nm,0.9s
BRTR **Keskin Array B** 76.59 308 P P 13 14 00.0 -0.1
comp=Z,22nm,0.8s,baz=99,slow=4.6,SNR=90
ANTO **Ankara** 77.10 309 *e*P P 13 14 02.9 0.0
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO **Ankara** 77.10 309 *e*P P 13 14 02.9 0.0
comp=Z,15nm,0.8s
NB2 **NORSAR Subarra** 77.22 334 P P 13 14 01.2 -1.9
comp=Z,13nm,0.7s,baz=48,slow=5.9
NB2 **NORSAR Subarra** 77.22 334 P P 13 14 01.2 -1.9
baz=48,slow=5.9
NOA **NORSAR Array B** 77.22 334 P P 13 14 01.2 -1.9
comp=Z,15nm,0.8s,baz=50,slow=5.5,SNR=60
NOA PP **PP** 13 16 54.0 -2.8
comp=Z,1.2nm,0.8s,baz=41,slow=7.0,SNR=4.0
CFR **Carcaliu** 77.60 315 ⇓*i*P P 13 14 04.2 -1.2
LVV **L'vov** 77.66 321 *e*P P 13 14 05.4 -0.3
TIRR **Tirgusor** 77.78 314 ⇑*i*P P 13 14 06.2 -0.3
TESR **Tescani** 77.84 317 ⇑*i*P P 13 14 06.6 -0.2
SUMG **Summit** 77.85 357 *e*P P 13 14 06.8 0.0
SUMG pmax pmax
comp=Z,12nm,0.7s
SUMG **Summit** 77.85 357 *e*P P 13 14 06.8 0.0
comp=Z,12nm,0.7s
SUMG **Summit** 77.85 357 *i* P P 13 14 06.9 0.0
comp=Z,9.4nm,0.7s
VRI **Vrincioaia** 78.11 316 ⇓*i*P P 13 14 09.4 +1.0
BURAR **Bucovina Array** 78.12 318 ⇓*i*P P 13 14 08.5 0.0
PLOR **Plostina** 78.17 316 ⇑*i*P P 13 14 08.7 0.0
BEL **Belsk** 78.32 323 *e*P P 13 14 09.8 +0.4
BEL **Belsk** 78.32 323 *e*P P 13 14 09.7 +0.4
KWP **Kalwaria Pacla** 78.49 321 *e*P P 13 14 10.6 +0.2
KWP **Kalwaria Pacla** 78.49 321 *e*P P 13 14 10.5 +0.2
KWP **Kalwaria Pacla** 78.49 321 ⇑*i*P P 13 14 10.9 +0.6
KWP **Kalwaria Pacla** 78.49 321 *e*P P 13 14 10.8 +0.4
comp=Z,42nm,1.0s
MLR **Muntele Rosu** 78.78 316 ⇑*i*P P 13 14 12.9 +0.7
JCW **Jim Creek** 79.09 41 P P 13 14 15.2 +1.5
KOLS **Kolonicke sedl** 79.10 320 *e*P P 13 14 13.7 0.0
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS **Kolonicke sedl** 79.10 320 *e*P P 13 14 13.7 0.0
UZH **Uzhgorod** 79.25 320 *e*P P 13 14 15.4 +0.9
UZH *i* 13 14 21.6
UZH *e* 13 14 25.8
UZH *e*S **S** 13 24 09.6 -1.5
UZH MLR MLR
comp=N,350nm,16.0s
UZH MLR MLR
comp=E,600nm,16.0s
UZH MLR MLR
comp=Z,340nm,16.0s
VOIR 79.34 316 ⇑*i*P P 13 14 16.7 +1.5
TRPA **Tarpa** 79.38 320 ⇑*i*P P 13 14 15.8 +0.5
TRPA **Tarpa** 79.38 320 ⇑*e*P P 13 14 15.7 +0.5
HTW **Haystack Looko** 79.39 41 P P 13 14 16.7 +1.3
STHS **Stebnicka Huta** 79.41 321 *e*P P 13 14 15.7 +0.3
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS **Stebnicka Huta** 79.41 321 *e*P P 13 14 15.7 +0.3
CRVS **Cervenica-Dubn** 79.57 321 *e*P P 13 14 16.5 +0.2
CRVS pmax pmax
comp=Z,20nm,1.7s
CRVS **Cervenica-Dubn** 79.57 321 *e*P P 13 14 16.5 +0.2
ARR **Arges** 79.63 316 ⇓*i*P P 13 14 17.5 +0.7
ISP **Isparta** 79.64 308 ⇑*i*P P 13 14 17.3 +0.3
DAMY **Dhamar** 79.66 281 *e*P P 13 14 18.8 +1.2
comp=Z,6.6nm,0.6s
OJC **Ojcow** 79.74 322 *e*P P 13 14 16.8 -0.4
OJC **Ojcow** 79.74 322 *e*P P 13 14 17.2 0.0
G03D **McMinnville, O** 79.90 44 ⇑P P 13 14 18.3 +0.2
baz=80
NIE **Niedzica** 79.91 322 *e*P P 13 14 18.6 +0.5
NIE **Niedzica** 79.91 322 *e*P P 13 14 18.7 +0.6
TDL **Tradedollar La** 79.91 42 P P 13 14 19.7 +1.4
JMB **Yambol** 79.93 313 ⇑*i*P P 13 14 18.4 +0.1
LOT **Lotru** 80.11 317 ⇑*i*P P 13 14 19.4 0.0
URZ **Urewera** 80.29 145 *e*P P 13 14 18.2 -1.9
comp=Z,39nm,1.4s
ETW **Entiat** 80.32 40 P P 13 14 21.5 +1.0
KECS **Kecovo** 80.34 321 *e*P P 13 14 20.6 +0.2
KECS pmax pmax
comp=Z,11nm,1.8s
KECS **Kecovo** 80.34 321 *e*P P 13 14 20.6 +0.2
EBG **Ellensburg** 80.56 41 P P 13 14 23.2 +1.5
I03D **Drain, OR** 80.64 45 ⇑P P 13 14 22.5 +0.4
baz=80
RAC **Raciborz** 80.67 323 ⇓*e*P P 13 14 24.5 +2.4
RAC MLR MLR
comp=Z,6μm,18.8s
EDM **Edmonton** 80.70 33 *e*P P 13 14 23.2 +0.9
EDM pmax pmax
comp=Z,71nm,1.3s
EDM **Edmonton** 80.70 33 *e*P P 13 14 23.2 +0.9
comp=Z,71nm,1.3s
VLL **Laurance Lake** 80.71 43 P P 13 14 25.1 +2.5
GZR **Gura Zlata** 80.72 317 ⇓*i*P P 13 14 22.2 -0.4
SAW **Saint Andrews** 80.79 40 P P 13 14 24.2 +1.3
OKC **Ostrava-Krasne** 80.83 323 *e*P P 13 14 22.6 -0.4
OKC MLR MLR
comp=Z,800nm,19.5s
OKC **Ostrava-Krasne** 80.83 323 ⇑*e*P P 13 14 22.6 -0.4
OKC *e*PCP **PcP** 13 14 26.9 -2.6
OKC AMS AMS 13 53 30.0
comp=Z,800nm,19.5s
PSZ **Piszkesteto** 80.98 320 *e*P P 13 14 24.0 0.0
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ **Piszkesteto** 80.98 320 ⇓*i*P P 13 14 24.2 +0.2
PSZ **Piszkesteto** 80.98 320 *e*P P 13 14 23.9 0.0
comp=Z,13nm,1.0s
PSZ **Piszkesteto** 80.98 320 ⇑*e*P P 13 14 24.5 +0.5
G05D **Wamic, OR** 81.04 43 ⇓P P 13 14 24.9 +0.6
baz=81
I04A **Tendick Farm,** 81.17 44 ⇓P P 13 14 25.2 +0.2
baz=81
KSP **Ksiaz** 81.20 324 *e*P P 13 14 24.7 -0.3
VYHS **Vyhne** 81.24 321 *e*P P 13 14 26.0 +0.8
VYHS pmax pmax
comp=Z,13nm,1.2s
VYHS **Vyhne** 81.24 321 *e*P P 13 14 26.0 +0.8
MPEP **Malo Peshtene** 81.24 315 *i* P P 13 14 25.1 -0.3
BZS **Buzias** 81.29 318 ⇓*i*P P 13 14 25.5 0.0
L02D **Cave Junction,** 81.30 46 ⇓P P 13 14 26.2 +0.5
baz=81
KRLC **Kraliky** 81.41 323 ⇑*i*P P 13 14 26.3 +0.1
KRLC **Kraliky** 81.41 323 ⇑*i*P P 13 14 26.3 +0.1
KRLC *e*PCP **PcP** 13 14 29.7 -2.4
HAWA **Hanford** 81.44 41 *e*P P 13 14 27.6 +1.3
comp=Z,26nm,1.0s
DPC **Dobruska-Polom** 81.48 324 *e*P P 13 14 26.8 +0.2
DPC **Dobruska-Polom** 81.48 324 *e*P P 13 14 26.8 +0.2
DPC *e*PCP **PcP** 13 14 30.5 -2.0
DPC AMS AMS 13 53 50.0
I05D **Terrebonne, OR** 81.52 44 ⇓P P 13 14 27.7 +0.8
baz=81
UPC **Upice** 81.55 324 *e*P P 13 14 27.1 +0.3
UPC **Upice** 81.55 324 ⇑*e*P P 13 14 27.1 +0.3
KTRM **Thompson Ridge** 81.58 46 P P 13 14 29.1 +1.7
J04D **Umpqua Nationa** 81.65 45 ⇑P P 13 14 28.5 +0.8
baz=82
NEW **Newport** 81.72 39 *e*P P 13 14 28.6 +0.7
NEW pmax pmax
comp=Z,17nm,1.0s
NEW **Newport** 81.72 39 ⇑P P 13 14 28.7 +0.9
baz=82
NEW **Newport** 81.72 39 *e*P P 13 14 28.6 +0.7
comp=Z,17nm,1.0s
VRAC **Vranov** 81.96 323 ⇑*i*P P 13 14 30.1 +1.0
VTS **Vitosha** 81.98 315 *i* P P 13 14 29.7 +0.2
YBH **Yreka Blue Hor** 82.09 46 *e*P P 13 14 30.9 +0.9
YBH pmax pmax
comp=Z,19nm,1.4s
YBH **Yreka Blue Hor** 82.09 46 *e*P P 13 14 30.9 +0.9
comp=Z,19nm,1.4s
PKSG 82.12 321 ⇑*e*P P 13 14 30.3 +0.4
BSEG **Bad Segeberg** 82.14 329 *e*P P 13 14 29.9 +0.1
comp=Z,9.0nm,0.8s
J05D **Fort Rock, OR** 82.16 44 ⇓P P 13 14 31.3 +0.9
baz=82,SNR=20
M02C **Callahan** 82.19 47 ⇓P P 13 14 31.8 +1.3
baz=82,SNR=6.5
MMB **Musomiste** 82.20 314 P P 13 14 29.3 -1.2
K04D **Chiloquin, OR** 82.21 45 ⇓P P 13 14 31.5 +0.8
baz=82,SNR=5.5
SMG **Samos** 82.22 309 *e*P P 13 14 46.0 +15
NVR **Nevrokopi** 82.24 313 *e*P P 13 14 31.0 +0.3
PVCC **Panska Ves** 82.27 325 ⇑AMS AMS 13 55 30.0
comp=Z,1μm,17.2s
BRG **Berggiesshubel** 82.37 325 *e*P P 13 14 31.3 +0.1
comp=Z,7.8nm,1.1s
BRG **Berggiesshubel** 82.37 325 *e*P P 13 14 31.2 +0.1
comp=Z,3.0nm,0.8s
BRG **Berggiesshubel** 82.37 325 *e*P P 13 14 31.3 +0.1
BRG pmax pmax
comp=Z,8.0nm,1.1s
PKST T"'s 82.39 321 ⇑*e*P P 13 14 31.3 -0.1
N02D **Trinity Center** 82.50 47 ⇓P P 13 14 33.4 +1.2
baz=82
GOPC **GO Pecny, Ondr** 82.53 324 *e*P P 13 14 32.3 +0.3
SRS **Serrai** 82.54 313 *e*P P 13 14 31.0 -1.2
TREC **Trest** 82.55 323 ⇑AMS AMS 13 57 40.0
comp=Z,1μm,17.8s
CLL **Collm** 82.56 326 *e*P P 13 14 32.0 -0.1
comp=Z,12nm,0.9s
CLL **Collm** 82.56 326 ⇓*i*P P 13 14 31.8 -0.3
CLL pmax pmax
comp=Z,18nm,0.8s
CLL MLR MLR
comp=Z,1μm,18.4s
CLL **Collm** 82.56 326 ⇓*i*P P 13 14 31.8 -0.3
comp=Z,18nm,0.8s
CLL *i* 13 14 34.5
CLL *e*PP **PP** 13 17 40.0 -1.3
CLL Lm MLR 13 54 00.0
comp=N,900nm,18.6s
CLL Lm MLR 13 54 00.0
comp=E,700nm,19.6s
CLL Lm MLR 13 54 00.0
comp=Z,1μm,18.4s
M04C **Macdoel** 82.61 46 ⇓P P 13 14 33.7 +0.9
baz=82
PRU **Pruhonice** 82.61 324 *e*P P 13 14 32.8 +0.4
PRU MLR MLR
comp=Z,1μm,15.3s
PRU **Pruhonice** 82.61 324 ⇑*e*P P 13 14 32.8 +0.4
PRU *e*PCP **PcP** 13 14 35.0 -2.4
PRU AMS AMS 13 54 30.0
comp=Z,1μm,15.3s
PRA **Prague** 82.62 324 *e*P P 13 14 33.0 +0.6
PRA **Prague** 82.62 324 ⇑*e*P P 13 14 33.0 +0.6
PKSM **Moragy** 82.66 319 ⇓*i*P P 13 14 32.4 -0.3
PKSM **Moragy** 82.66 319 ⇓*e*P P 13 14 32.2 -0.5
KNT **Kendrikon** 82.95 314 *e*P P 13 14 36.5 +2.1
WALA **Waterton Lakes** 82.96 37 *e*P P 13 14 35.4 +1.0
comp=Z,27nm,1.3s
PLG **Polygyros** 83.04 313 *e*P P 13 14 35.0 +0.1
KARP **Karpathos** 83.11 307 *e*P P 13 14 40.0 +4.6
HORT **Hortiatis** 83.14 313 *e*P P 13 14 35.0 -0.4
CONA **Canmore Observa** 83.18 322 ⇑*i*PcP P 13 14 36.3 +0.8
comp=Z,22nm,1.0s,SNR=9.2
NRDL **Niedersach Rie** 83.18 328 *e*P P 13 14 35.4 +0.2
comp=Z,3.0nm,0.8s
TANN **Tannenbergstha** 83.39 325 *e*P P 13 14 36.9 +0.4
comp=Z,5.0nm,1.1s
CLZ **Clausthal** 83.48 327 *e*P P 13 14 37.5 +0.6
comp=Z,24nm,1.0s
MOD **Modoc Plateau** 83.50 45 *e*P P 13 14 38.3 +0.9
comp=Z,44nm,1.3s
BMO **Blue Mountains** 83.61 42 *e*P P 13 14 38.2 +0.4
BMO pmax pmax
comp=Z,35nm,1.3s
BMO **Blue Mountains** 83.61 42 *e*P P 13 14 38.2 +0.4
comp=Z,35nm,1.3s
KHC **Kasperske Hory** 83.64 324 *e*P P 13 14 37.3 -0.5
KHC MLR MLR
comp=Z,1μm,16.7s
KHC **Kasperske Hory** 83.64 324 *e*P P 13 14 37.3 -0.5
KHC AMS AMS 13 54 50.0
comp=Z,1μm,16.7s
KHC **Kasperske Hory** 83.64 324 *e*P P 13 14 37.3 -0.5
comp=Z,7.1nm,0.8s
MOX **Moxa** 83.66 326 *e*P P 13 14 38.1 +0.3
comp=Z,6.0nm,0.9s
SFJD **Kangerlussuaq** 83.73 0 *i* P P 13 14 37.6 -0.2
SFJD pmax pmax
comp=Z,12nm,0.9s
SFJD **Kangerlussuaq** 83.73 0 *e*P P 13 14 38.0 +0.2
comp=Z,23nm,1.3s
SFJD **Kangerlussuaq** 83.73 0 *i* P P 13 14 37.6 -0.2
comp=Z,12nm,0.8s
GEC2 **GERESS Array S** 83.75 324 *e*P P 13 14 38.5 0.0
comp=Z,6.0nm,0.8s
GERES **GERESS Array B** 83.75 324 P P 13 14 38.5 0.0
comp=Z,7.1nm,0.8s,baz=44,slow=4.2,SNR=44
GERES PP **PP** 13 17 51.4 +0.1
comp=Z,1.0nm,0.9s,baz=76,slow=5.6,SNR=4.1
NEO **Neokhori** 83.76 312 *e*P P 13 14 50.0 +11
ARSA **Arzberg** 83.77 322 ⇑*i*PcP P 13 14 39.5 +1.0
comp=Z,16nm,1.1s,SNR=5.4
MRKA **Markates** 83.85 311 *e*P P 13 14 50.0 +11
ROTZ **Rotzenmuhle** 83.93 325 *e*P P 13 14 40.0 +0.8
comp=Z,11nm,0.8s
WET **Wettzell** 83.99 324 *e*P P 13 14 39.9 +0.3
comp=Z,5.0nm,1.0s
MOA **Molln** 84.08 323 *i* PcP P 13 14 40.7 +0.7
comp=Z,23nm,1.0s,SNR=8.7
FNA **Florina** 84.12 314 *e*P P 13 14 39.0 -1.5
ATH **Athens Observa** 84.17 310 *e*P P 13 14 36.0 -4.6
WVOR **Wild Horse Val** 84.22 44 *e*P P 13 14 42.3 +1.3
WVOR pmax pmax
comp=Z,54nm,1.6s
WVOR **Wild Horse Val** 84.22 44 *e*P P 13 14 42.3 +1.3
comp=Z,54nm,1.6s
LKR **Lokris** 84.27 311 *e*P P 13 14 37.5 -3.6
SLMT **Seeley Lake** 84.30 38 *e*P P 13 14 42.0 +0.6
comp=Z,31nm,1.1s
MSO **Missoula** 84.31 39 ⇓P P 13 14 42.1 +0.7
baz=84,SNR=9.4
UBBA **Unterbreizbach** 84.33 327 *e*P P 13 14 41.3 +0.2
comp=Z,7.0nm,0.7s
NPS **Neapolis** 84.34 307 *e*P P 13 14 40.0 -1.6
IBBN **Ibbenburen** 84.38 329 *e*P P 13 14 41.3 -0.1
comp=Z,19nm,0.8s
SOKA **Soboth** 84.39 321 ⇓*i*PcP P 13 14 41.9 +0.2
comp=Z,32nm,0.9s,SNR=11
AXAR **Agios Charalam** 84.43 312 *e*P P 13 14 42.5 +0.5
GRF **Grafenberg Arr** 84.47 325 *e*P P 13 14 42.6 +0.6
comp=Z,20nm,0.9s
GRFO **Grafenberg** 84.47 325 *e*P P 13 14 40.7 -1.3
GRFO pmax pmax
comp=Z,28nm,1.1s
GRFO **Grafenberg** 84.47 325 *e*P P 13 14 40.7 -1.3
comp=Z,28nm,1.1s
LAST **Lasithi** 84.49 307 *e*P P 13 14 40.0 -2.4
AGG **Agios Georgios** 84.50 312 *e*P P 13 14 40.0 -2.4
FCC **Fort Churchill** 84.50 22 *e*P P 13 14 42.3 +0.4
FCC pmax pmax
comp=Z,64nm,1.1s
FCC **Fort Churchill** 84.50 22 *e*P P 13 14 42.3 +0.4
comp=Z,64nm,1.1s
CHMT **Chamberlain Mo** 84.63 38 P P 13 14 42.0 -1.2
comp=Z,4.9nm,1.2s
MAKR **Makrakomi, Fth** 84.63 312 *e*P P 13 14 41.0 -2.0
FFC **Flin Flon** 84.70 28 P P 13 14 43.0 0.0
comp=Z,157nm,0.8s,SNR=9.4
FFC **Flin Flon** 84.70 28 *e*P P 13 14 43.3 +0.3
FFC pmax pmax
comp=Z,22nm,0.8s
FFC **Flin Flon** 84.70 28 *e*P P 13 14 43.3 +0.3
comp=Z,22nm,0.8s
OBKA **Obir** 84.75 321 ⇑*i*PcP P 13 14 43.8 +0.2
comp=Z,15nm,0.8s
EVR **Evrytania** 84.89 312 *e*P P 13 14 44.0 -0.4
RJOB **Jochberg** 84.92 323 *e*P P 13 14 44.7 +0.3
comp=Z,6.0nm,0.9s
KALE **Kalithea** 84.97 312 *e*P P 13 14 43.5 -1.3
SIVA **Sivas** 85.03 308 *e*P P 13 14 41.0 -4.0
KBA **Koelnbreinsper** 85.05 322 *i* PcP P 13 14 45.3 +0.2
comp=Z,18nm,0.7s,SNR=9.2
LJU **Ljubljana** 85.05 321 *e*P P 13 14 45.2 +0.2
EFP **Efpalio** 85.11 312 *e*P P 13 14 47.5 +2.1
KLV **Kalavryta, Ach** 85.16 311 *e*P P 13 14 45.0 -0.7
MYKA **Terra Mystica** 85.17 322 ⇑*i*P P 13 14 45.2 -0.4
comp=Z,10nm,0.6s
CRNS **Crni Vrh** 85.18 321 *e*P P 13 14 45.4 -0.2
BUG **Bochum--Univer** 85.19 328 *e*P P 13 14 45.4 -0.1
comp=Z,7.0nm,0.8s
MFID **Camas Ranch** 85.32 42 *e*P P 13 14 46.4 -0.1
comp=Z,15nm,0.8s
VLX **Vlachokerasia** 85.38 311 *e*P P 13 14 47.5 +0.6
FUR **Furstenfeldbru** 85.43 324 *e*P P 13 14 47.6 +0.8
comp=Z,11nm,1.0s
KARN **Karanos** 85.43 308 *e*P P 13 14 50.0 +2.9
TNS **Taunus Mts** 85.47 327 *e*P P 13 14 47.2 +0.2
comp=Z,8.0nm,0.8s
PDO **Prodromos** 85.48 312 *e*P P 13 14 46.0 -1.2
IGT **Igoumenitsa** 85.49 313 *e*P P 13 14 46.5 -0.8
DRO **Drossia** 85.50 311 *e*P P 13 14 49.5 +2.1
HRY **Holter Researc** 85.52 38 *e*P P 13 14 48.6 +1.2
comp=Z,19nm,0.9s
RLS **Riolos of Patr** 85.60 312 *e*P P 13 14 41.0 -6.8
CMB **Columbia Colle** 85.62 48 *e*P P 13 14 48.8 +0.7
CMB pmax pmax
comp=Z,19nm,0.6s
CMB **Columbia Colle** 85.62 48 *e*P P 13 14 48.8 +0.7
comp=Z,19nm,0.6s
A19A **Klindworth Far** 85.67 35 ⇑P P 13 14 48.7 +0.6
baz=86,SNR=15
ABTA **Abfaltersbach** 85.70 322 ⇓*i*P P 13 14 47.5 -0.8
comp=Z,9.1nm,0.8s
AMT **Artemida-Makis** 85.73 311 *e*P P 13 14 49.5 +0.9
LRM **Limekiln Ridge** 85.74 39 *e*P P 13 14 49.6 +0.8
comp=Z,399nm,1.5s
EGMT **Eagleton** 85.75 36 ⇓P P 13 14 49.3 +0.8
baz=86,SNR=12
EGMT **Eagleton** 85.75 36 *e*P P 13 14 49.3 +0.8
comp=Z,38nm,1.1s
ITM **Ithomi** 85.79 311 *e*P P 13 14 47.0 -1.8
B19A **Brinkman Farms** 85.88 35 ⇑P P 13 14 50.2 +1.1
baz=86,SNR=20
WAKR **Walker** 85.97 48 *e*P P 13 14 51.3 +1.4
comp=Z,19nm,0.8s
HLID **Hailey** 86.05 41 ⇑P P 13 14 51.1 +0.9
baz=86
HLID **Hailey** 86.05 41 *e*P P 13 14 51.5 +1.4
comp=Z,20nm,0.9s
PYL **PYLOS** 86.07 310 *e*P P 13 14 50.5 +0.3
STU **Stuttgart** 86.08 326 *e*P P 13 14 50.0 0.0
comp=Z,14nm,1.2s
STU **Stuttgart** 86.08 326 *e*P P 13 14 49.8 -0.2
STU **Stuttgart** 86.08 326 *e*P P 13 14 49.8 -0.2
VLS **Valsamata** 86.10 312 *e*P P 13 14 51.0 +0.7
A20A **Cobblestone Ra** 86.11 34 ⇑P P 13 14 51.1 +0.9
baz=86,SNR=6.7
MCMT **McKenzie Canyo** 86.15 40 *e*P P 13 14 51.4 +0.6
comp=Z,1.4nm,0.9s
BMN **Battle Mountai** 86.25 45 *e*P P 13 14 52.7 +1.5
BMN pmax pmax
comp=Z,31nm,1.3s
BMN **Battle Mountai** 86.25 45 *e*P P 13 14 52.7 +1.5
comp=Z,31nm,1.3s
BOZ **Bozeman (W)** 86.30 38 *e*P P 13 14 52.5 +1.1
BOZ pmax pmax
comp=Z,24nm,1.4s
BOZ **Bozeman (W)** 86.30 38 *e*P P 13 14 52.5 +1.1
comp=Z,24nm,1.4s
C19A **Slack Wire Ran** 86.30 36 ⇓P P 13 14 51.7 +0.4
baz=86,SNR=12
MEM **Membach** 86.34 328 P P 13 14 50.9 -0.3
B20A **Solberg Farm,** 86.35 35 ⇓P P 13 14 52.9 +1.4
baz=86,SNR=11
A21A **Bergtoll Ranch** 86.52 34 ⇓P P 13 14 53.9 +1.7
baz=86,SNR=16
ESK **Eskdalemuir** 86.64 336 *e*P P 13 14 51.0 -1.6
ESK pmax pmax
comp=Z,23nm,1.2s
ESK **Eskdalemuir** 86.64 336 *e*P P 13 14 51.0 -1.6
comp=Z,22nm,1.2s
NVAR **Mina Array Bea** 86.74 47 P P 13 14 55.2 +1.4
comp=Z,11nm,0.7s,baz=298,slow=5.6,SNR=53
D19A **Cripps Ranch,** 86.77 36 ⇓P P 13 14 55.2 +1.6
baz=87,SNR=15
BFO **Black Forest** 86.80 326 *e*P P 13 14 53.1 -0.5
comp=Z,2.0nm,0.8s
BFO **Black Forest** 86.80 326 *i* P P 13 14 53.7 +0.1
C20A **Veseth Ranch,** 86.85 35 ⇓P P 13 14 54.8 +0.9
baz=87,SNR=13
B21A **Ellsworth Farm** 86.86 34 ⇓P P 13 14 55.0 +1.2
baz=87
MLAC **Mammoth, Mammo** 86.86 48 ⇓P P 13 14 55.1 +0.7
baz=87
QLMT **Earthquake Lak** 86.93 39 *e*P P 13 14 55.3 +0.8
comp=Z,1.8nm,1.2s
WLF **Walferdange** 86.93 328 P P 13 14 54.5 +0.4
comp=Z,26nm,1.9s
WLF **Walferdange** 86.93 328 *e*P P 13 14 54.6 +0.4

comp=Z,9.0nm,1.0s
A22A Carney Farms, 87.00 33 ⇓P P 13 14 55.2 +0.5
baz=87,SNR=15
D20A Manuel Ranch, 87.19 36 ⇓P P 13 14 56.3 +0.7
baz=87,SNR=14
SNF Seneffe 87.19 329 P P 13 14 54.9 -0.5
GIVF Givet 87.24 328 eP P 13 14 54.8 -0.8
GIVF Givet 87.24 328 eP P 13 14 54.8 -0.8
GIVF Givet 87.24 328 eP P 13 14 54.8 -0.8
GCMT Greycliff 87.26 37 eP P 13 14 57.3 +1.3
comp=Z,20nm,1.2s
CDF Champ du Feu 87.26 326 eP P 13 14 55.0 -0.9
CDF Champ du Feu 87.26 326 eP P 13 14 55.0 -0.9
CDF Champ du Feu 87.26 326 eP P 13 14 55.0 -0.9
E19A Rath Farm, Rou 87.28 37 ⇓P P 13 14 57.5 +1.4
baz=87,SNR=20
YMR Madison River 87.29 39 eP P 13 14 57.2 +0.9
comp=Z,34nm,1.2s
DOU Dourbes 87.35 329 P P 13 14 55.1 -1.1
RCTC Rector, Farmer 87.36 49 ⇓P P 13 14 57.8 +1.4
baz=87
YNR Norris Junctio 87.41 39 eP P 13 14 59.3 +2.3
comp=Z,23nm,1.3s
SMMC Simmler 87.42 51 ⇑P P 13 14 58.7 +1.8
baz=87
B22A Reddig Ranch S 87.44 34 ⇑P P 13 14 58.4 +1.6
baz=87
YFT Old Faithful 87.50 39 eP P 13 15 00.5 +3.2
comp=Z,18nm,1.0s
A23A Redstone 87.52 33 ⇓P P 13 14 59.0 +1.9
baz=87
TUE Stuetta 87.53 324 eP P 13 14 56.3 -1.2
comp=Z,6.7nm,0.6s
BAIF Baives 87.55 329 eP P 13 14 56.2 -0.9
comp=Z,19nm,1.1s
BAIF Baives 87.55 329 eP P 13 14 56.2 -0.9
BAIF pmax pmax
comp=Z,19nm,1.1s
BAIF Baives 87.55 329 eP P 13 14 56.2 -0.9
comp=Z,19nm,1.1s
TIN Tinemaha, Big 87.59 48 ⇑P P 13 14 59.9 +2.1
baz=88
E20A Meyer Farm, Mu 87.59 36 ⇓P P 13 14 58.9 +1.4
baz=87,SNR=9.7
F19A Roth Farm, Mol 87.60 37 ⇑P P 13 14 59.1 +1.5
baz=88,SNR=10
TPH Tonopah 87.64 47 eP P 13 14 59.2 +1.1
TPH pmax pmax
comp=Z,39nm,1.4s
TPH Tonopah 87.64 47 eP P 13 14 59.2 +1.1
comp=Z,39nm,1.4s
LKWY Lake 87.66 39 eP P 13 15 01.0 +2.8
LKWY pmax pmax
comp=Z,29nm,1.1s
LKWY Lake 87.66 39 eP P 13 15 01.0 +2.8
comp=Z,29nm,1.1s
H17A Grant Village 87.68 39 ⇓P P 13 14 59.7 +1.5
baz=88
H17A Grant Village 87.68 39 eP P 13 15 00.9 +2.7
comp=Z,46nm,1.3s
VES Vestal, Richgr 87.73 50 ⇑P P 13 14 59.8 +1.5
baz=88
D21A La Casta Ranch 87.79 35 ⇑P P 13 15 00.4 +2.0
baz=88,SNR=9.0
B23A Brockton 87.81 33 ⇑P P 13 15 00.4 +1.9
baz=88,SNR=10
HINF Hinteralfeld 87.87 326 eP P 13 14 57.4 -1.4
comp=Z,9.8nm,0.8s
HINF Hinteralfeld 87.87 326 eP P 13 14 57.4 -1.4
HINF pmax pmax
comp=Z,10.0nm,0.8s
HINF Hinteralfeld 87.87 326 eP P 13 14 57.4 -1.4
comp=Z,9.8nm,0.8s
C22A Vida 87.88 34 ⇓P P 13 15 00.5 +1.6
baz=88
PAGF Fort de Pagny 87.91 327 eP P 13 14 58.3 -0.6
comp=Z,5.4nm,0.7s
PAGF Fort de Pagny 87.91 327 eP P 13 14 58.3 -0.6
comp=Z,5.4nm,0.7s
RLMT Red Lodge 87.91 38 eP P 13 15 00.6 +1.3
comp=Z,37nm,1.3s
A24A Westby 87.96 33 ⇓P P 13 15 00.7 +1.5
baz=88,SNR=7.4
I17A Pilgrim Ck. 87.98 39 ⇑P P 13 15 02.6 +2.9
baz=88,SNR=18
H18A Shoshone NF, C 87.99 38 ⇑P P 13 15 01.9 +2.2
baz=88,SNR=13
HAU Haudompre 87.99 326 eP P 13 14 58.0 -1.3
HAU eR
comp=Z,1μm,17.2s
HAU Haudompre 87.99 326 eP P 13 14 58.0 -1.3
HAU Haudompre 87.99 326 eP P 13 14 58.0 -1.3
F20A Billings 88.05 37 ⇓P P 13 15 01.8 +2.0
baz=88
HVU Hansel Valley 88.10 42 eP P 13 15 01.9 +1.7
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 88.10 42 eP P 13 15 01.9 +1.7
comp=Z,11nm,0.8s
E21A Keefer Ranch, 88.10 36 ⇑P P 13 15 01.8 +1.9
baz=88
SBC Santa Barbara 88.11 51 ⇑P P 13 15 02.6 +2.6
baz=88
D22A Cohagen 88.14 35 ⇓P P 13 15 02.1 +2.0
baz=88,SNR=14
GRAC Grapevine Rang 88.18 48 ⇓P P 13 15 02.7 +2.2
baz=88
C23A Lambert 88.18 34 ⇓P P 13 15 02.7 +2.4
baz=88
DGMT Dagmar 88.19 33 ⇑P P 13 15 02.6 +2.3
baz=88
ISA Isabella, Lake 88.23 50 ⇓P P 13 15 02.8 +2.0
baz=88
MEZF Maizieres J'vi 88.26 327 eP P 13 15 00.0 -0.6
MEZF Maizieres J'vi 88.26 327 eP P 13 15 00.0 -0.6
ARVC Arvin 88.31 50 ⇓P P 13 15 03.7 +2.6
baz=88
H19A Powell 88.36 38 ⇓P P 13 15 03.7 +2.4
baz=88,SNR=9.6
A25A Svangstu Ranch 88.36 32 ⇑P P 13 15 03.4 +2.3
baz=88,SNR=8.3
G20A Bridger 88.40 37 ⇓P P 13 15 02.8 +1.3
baz=88,SNR=8.6
BSC Santa Cruz Isl 88.42 51 ⇓P P 13 15 03.7 +2.1
baz=88
SFTF Sexfontaines 88.48 327 eP P 13 15 00.7 -0.9
comp=Z,40nm,1.0s
SFTF Sexfontaines 88.48 327 eP P 13 15 00.7 -0.9
comp=Z,40nm,1.0s
F21A Absaloka Mine, 88.57 36 ⇓P P 13 15 03.9 +1.7
baz=88
D23A Lindsay 88.61 34 ⇓P P 13 15 04.4 +2.1
baz=88
OSI Osito Audit: C 88.67 50 ⇑P P 13 15 04.5 +1.6
baz=89
C24A Savage 88.74 34 ⇑P P 13 15 04.4 +1.5
baz=89
E22A Miles City 88.74 35 ⇑P P 13 15 04.6 +1.6
baz=89
I19A Meeteetse 88.77 38 ⇑P P 13 15 05.6 +2.3
baz=89,SNR=5.4
B25A Knox Farm, Ray 88.81 33 ⇑P P 13 15 05.7 +2.5
baz=89,SNR=5.5
FURC Furnace Creek, 88.82 48 ⇑P P 13 15 05.4 +2.0
baz=89
A26A Wade Farm, Ken 88.89 32 ⇑P P 13 15 05.4 +1.9
baz=89
HWUT Hardware Ranch 88.91 42 eP P 13 15 05.4 +1.3
comp=Z,34nm,1.2s
G21A Lodge Grass 88.93 37 ⇓P P 13 15 05.6 +1.7
baz=89
TPNV Topopah Spring 88.93 47 ⇑P P 13 15 05.8 +1.6
baz=89
H20A Greybull 89.01 38 ⇓P P 13 15 06.0 +1.7
baz=89,SNR=14
E23A Ismay 89.02 35 ⇑P P 13 15 06.1 +1.8
baz=89
CEL Celeste 89.03 314 eP P 13 15 03.0 -1.5
comp=Z,25nm,1.0s
F22A Rosebud 89.04 36 ⇓P P 13 15 06.1 +1.7
baz=89
DUG Dugway, Tooele 89.07 43 ⇑P P 13 15 06.2 +1.4
baz=89
D24A Glendive 89.08 34 ⇑P P 13 15 05.7 +1.2
baz=89
CABF La Chapelle 89.09 325 eP P 13 15 04.1 -0.5
CABF La Chapelle 89.09 325 eP P 13 15 04.1 -0.5
DECC Green Verdugo 89.15 51 ⇑P P 13 15 07.0 +1.9
baz=89
C25A Freed Ranch, W 89.17 33 ⇓P P 13 15 06.2 +1.3
baz=89
B26A Jensen Ranch, 89.17 32 ⇓P P 13 15 05.8 +0.8
baz=89
A27A Ledoux Ranch, 89.21 31 ⇓P P 13 15 07.2 +2.2
baz=89
J19A Crowheart 89.25 39 ⇓P P 13 15 07.5 +2.0
baz=89,SNR=13
I20A Worland 89.30 38 ⇓P P 13 15 07.9 +2.2
baz=89,SNR=7.0
PDAR Pinedale Array 89.30 40 P P 13 15 06.7 +0.8
comp=Z,5.6nm,0.8s,baz=308,slow=0.8,SNR=38
TCUT Toone Canyon 89.31 42 eP P 13 15 07.5 +1.5
comp=Z,43nm,1.6s
G22A Birney 89.41 36 ⇓P P 13 15 08.3 +2.1
baz=89,SNR=5.8
H21A Big Horn, Sher 89.42 37 ⇑P P 13 15 08.5 +2.3
baz=89
FMP Fort Macarthur 89.49 51 ⇑P P 13 15 09.3 +2.7
baz=89
F23A Volborg 89.51 35 ⇓P P 13 15 08.4 +1.8
baz=89,SNR=9.3
LPL La Plagne 89.52 324 eP P 13 15 06.5 -0.3
LPL La Plagne 89.52 324 eP P 13 15 06.5 -0.3
LPL La Plagne 89.52 324 eP P 13 15 06.5 -0.3
LPG La Plagne 89.52 324 eP P 13 15 06.8 -0.1
LPG La Plagne 89.52 324 eP P 13 15 06.8 -0.1
LPG La Plagne 89.52 324 eP P 13 15 06.8 -0.1
SHOC Shoshone, Teco 89.53 48 ⇑P P 13 15 09.3 +2.5
baz=89
D25A Fairfield 89.54 33 ⇑P P 13 15 09.1 +2.4
baz=89
GSC Goldstone, Bar 89.55 49 ⇑P P 13 15 09.5 +2.5
baz=90
CIS Catalina Islan 89.59 51 ⇑P P 13 15 09.9 +2.8
baz=90
B27A Peters Farms, 89.60 32 ⇑P P 13 15 09.3 +2.4
baz=89
BFSC Mount Baldy Ra 89.61 50 ⇓P P 13 15 09.6 +2.2
baz=90
C26A Wahner Farm, P 89.63 32 ⇓P P 13 15 09.7 +2.6
baz=90
RRX Edison Barstow 89.67 49 ⇑P P 13 15 09.6 +2.1
baz=90
A28A Rude Farm, Bot 89.67 31 ⇑P P 13 15 09.6 +2.4
baz=90,SNR=9.0
LOR Lormes 89.70 327 eP P 13 15 06.8 -0.6
comp=Z,12nm,1.0s
LOR eR
comp=Z,853nm,22.2s
LOR Lormes 89.70 327 eP P 13 15 06.8 -0.6
LOR pmax pmax
comp=Z,12nm,1.0s
LOR Lormes 89.70 327 eP P 13 15 06.8 -0.6
comp=Z,12nm,1.0s
J20A Shoshoni 89.72 39 ⇓P P 13 15 09.9 +2.2
baz=90,SNR=6.9
SCI San Clemente I 89.74 52 ⇓P P 13 15 10.1 +2.3
baz=90
H22A Clearmont 89.80 37 ⇓P P 13 15 10.0 +1.9
baz=90
I21A Big Trails, Te 89.84 38 ⇓P P 13 15 10.6 +2.3
baz=90,SNR=7.2
G23A Biddle 89.88 36 ⇑P P 13 15 10.7 +2.3
baz=90
MPU Maple Canyon 89.88 43 eP P 13 15 08.4 -0.3
comp=Z,30nm,1.5s
SHPR Sheep Range 89.89 47 eP P 13 15 09.7 +1.0
comp=Z,3.6nm,0.9s
F24A Ekalaka 89.91 35 ⇓P P 13 15 11.0 +2.5
baz=90
E25A Miller Ranch, 89.96 34 ⇑P P 13 15 10.9 +2.2
baz=90
B28A Dugan Ranch, T 89.97 31 ⇓P P 13 15 10.8 +2.2
baz=90,SNR=7.4
C27A Sayler Ranch, 89.99 32 ⇑P P 13 15 11.2 +2.5
baz=90
SSF Saint Saulge 90.02 327 eP P 13 15 07.6 -1.3
SSF Saint Saulge 90.02 327 eP P 13 15 07.6 -1.3
SSF Saint Saulge 90.02 327 eP P 13 15 07.6 -1.3
TUQ Turquoise Moun 90.05 48 ⇓P P 13 15 12.0 +2.6
baz=90
D26A Manning 90.05 33 ⇑P P 13 15 11.4 +2.4
baz=90
J21A Lysite 90.07 38 ⇓P P 13 15 11.6 +2.2
baz=90
BBRC Big Bear Solar 90.09 50 ⇑P P 13 15 11.3 +1.6
baz=90
A29A Manning Farm, 90.12 30 ⇑P P 13 15 11.2 +1.9
baz=90
HEC Hector,Ludlow 90.14 49 ⇓P P 13 15 11.8 +2.0
baz=90
SMF Signal de Mont 90.16 326 eP P 13 15 08.3 -1.2
comp=Z,24nm,1.1s
SMF Signal de Mont 90.16 326 eP P 13 15 08.3 -1.2
SMF pmax pmax
comp=Z,24nm,1.1s
SMF Signal de Mont 90.16 326 eP P 13 15 08.3 -1.2
comp=Z,24nm,1.1s
I22A 9 Mile Ranch, 90.21 37 ⇓P P 13 15 12.2 +2.2
baz=90,SNR=8.1
G24A Alzada 90.28 35 ⇑P P 13 15 12.3 +2.0
baz=90
AVF Avril sur Loir 90.29 327 eP P 13 15 08.8 -1.3
comp=Z,14nm,1.0s
AVF Avril sur Loir 90.29 327 eP P 13 15 08.8 -1.3
AVF pmax pmax
comp=Z,14nm,1.0s
AVF Avril sur Loir 90.29 327 eP P 13 15 08.8 -1.3
comp=Z,14nm,1.0s
MURC Murrieta 90.29 51 ⇓P P 13 15 12.2 +1.8
baz=90
H23A Clabaugh Cattl 90.32 36 ⇓P P 13 15 11.5 +1.1
baz=90
ORIF Oris-en-Rattie 90.37 324 eP P 13 15 10.1 -0.6
ORIF eR
comp=Z,1μm,22.5s
ORIF Oris-en-Rattie 90.37 324 eP P 13 15 10.1 -0.6
ORIF Oris-en-Rattie 90.37 324 eP P 13 15 10.1 -0.6
B29A Wagenman Farm, 90.41 31 ⇓P P 13 15 12.3 +1.6
baz=90
D27A Center 90.42 33 ⇑P P 13 15 12.4 +1.7
baz=90
E26A Carlson Angus 90.44 34 ⇓P P 13 15 12.2 +1.3
baz=90
A30A Hoffart Farm, 90.52 30 ⇑P P 13 15 12.8 +1.7
baz=90,SNR=9.3
ULM Lac du Bonnet 90.53 28 P P 13 15 11.8 +0.7
comp=Z,13nm,0.8s,baz=314,slow=4.7,SNR=29
J22A Midwest 90.54 38 ⇓P P 13 15 13.4 +1.8
baz=90,SNR=18
LDF La Druitiere 90.55 330 eP P 13 15 10.1 -1.2
comp=Z,24nm,0.9s
LDF La Druitiere 90.55 330 eP P 13 15 10.1 -1.2
LDF pmax pmax
comp=Z,24nm,0.9s
LDF La Druitiere 90.55 330 eP P 13 15 10.1 -1.2
comp=Z,24nm,0.9s
FLN La Foliniere 90.58 330 eP P 13 15 10.7 -0.7
comp=Z,17nm,0.7s
FLN eR
comp=Z,1μm,20.0s
FLN La Foliniere 90.58 330 eP P 13 15 10.7 -0.7
FLN pmax pmax
comp=Z,17nm,0.7s
FLN La Foliniere 90.58 330 eP P 13 15 10.7 -0.7
comp=Z,17nm,0.7s
GMRC Granite Mounta 90.61 49 ⇑P P 13 15 12.4 +0.4
baz=90
H24A Dirks Ranch, A 90.62 36 ⇑P P 13 15 13.2 +1.3
baz=90
K21A Alcova 90.66 39 ⇓P P 13 15 13.7 +1.6
baz=90,SNR=13
I23A Meade Ranch, G 90.70 37 ⇑P P 13 15 13.2 +0.9
baz=90
MDND Maddock 90.76 31 ⇓P P 13 15 14.2 +1.9
baz=91
F26A Lodgepole 90.78 34 ⇓P P 13 15 14.0 +1.5
baz=91
PFO Pinyon Flats O 90.79 50 ⇑P P 13 15 14.3 +1.4
baz=91
LDFC Landfair 90.79 48 eP P 13 15 12.4 -0.4
comp=Z,24nm,1.1s
D28A Regan 90.80 32 ⇑P P 13 15 14.5 +2.0
baz=91
BELC Belle Mtn. Jos 90.86 50 ⇑P P 13 15 14.7 +1.5
baz=91
B30A Myrvik Farm, E 90.87 30 ⇑P P 13 15 14.0 +1.2
baz=91,SNR=8.0
G25A Newell 90.88 35 ⇓P P 13 15 14.7 +1.7
baz=91
E27A Carson 90.89 33 ⇓P P 13 15 14.4 +1.4
baz=91
GRR Gorron 91.03 330 eP P 13 15 12.6 -0.9
comp=Z,22nm,0.9s
GRR Gorron 91.03 330 eP P 13 15 12.6 -0.9
GRR pmax pmax
comp=Z,22nm,0.9s
GRR Gorron 91.03 330 eP P 13 15 12.6 -0.9
comp=Z,22nm,0.9s
K22A Casper 91.04 38 ⇑P P 13 15 15.4 +1.5
baz=91
J23A Dilts Ranch, B 91.04 37 ⇓P P 13 15 15.3 +1.4
baz=91
F27A Lemmon 91.08 34 ⇓P P 13 15 15.8 +1.9
baz=91
SRU San Rafael Swe 91.12 43 eP P 13 15 14.9 +0.5
SRU pmax pmax
comp=Z,18nm,1.0s
SRU San Rafael Swe 91.12 43 eP P 13 15 14.8 +0.5
comp=Z,18nm,1.0s
SMRF Simiane la Rot 91.18 324 eP P 13 15 14.4 0.0
SMRF Simiane la Rot 91.18 324 eP P 13 15 14.4 0.0
H25A Fruitdale 91.19 35 ⇑P P 13 15 16.1 +1.6
baz=91
TCF Toulx Ste Croi 91.20 327 eP P 13 15 13.4 -1.0
TCF Toulx Ste Croi 91.20 327 eP P 13 15 13.4 -1.0
TCF Toulx Ste Croi 91.20 327 eP P 13 15 13.4 -1.0
E28A Huff 91.20 33 ⇓P P 13 15 16.1 +1.7
baz=91
I24A Kuemmerle Ranc 91.21 36 ⇓P P 13 15 16.3 +1.7
baz=91
G26A Maurine 91.21 34 ⇑P P 13 15 16.5 +2.0
baz=91
MONP Monument Peak, 91.24 51 ⇑P P 13 15 16.8 +1.7
baz=91
NEE2 Needles Airpor 91.30 48 ⇓P P 13 15 17.0 +1.9
baz=91
N20A Spence Gulch, 91.30 40 ⇑P P 13 15 17.1 +1.8
baz=91,SNR=10.0
IRM Iron Mountain 91.32 49 ⇑P P 13 15 17.1 +1.8
baz=91
RSSD Black Hills 91.33 36 eP P 13 15 16.3 +1.0
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD Black Hills 91.33 36 eP P 13 15 16.3 +1.0
comp=Z,14nm,0.9s
D29A Pettibone, Tap 91.35 32 ⇓P P 13 15 16.4 +1.3
baz=91
C30A Mose, Pekin 91.37 31 ⇑P P 13 15 17.4 +2.3
baz=91
G27A Dupree 91.48 34 ⇑P P 13 15 18.3 +2.6
baz=91
L22A Ellis Ranch, M 91.51 39 ⇓P P 13 15 18.5 +2.4
baz=91
I25A Rochford 91.55 36 ⇓P P 13 15 17.8 +1.5
baz=91
J24A Dixon Ranch, L 91.56 37 ⇑P P 13 15 18.0 +1.8
baz=91
W13A Hualapai Mount 91.57 48 ⇑P P 13 15 18.7 +2.1
baz=92,SNR=5.8
H26A Fairpoint 91.61 35 ⇓P P 13 15 18.2 +1.8
baz=92
SWSC Sam W. Stewart 91.63 50 ⇓P P 13 15 18.7 +2.1
baz=92
F28A McLaughlin 91.68 33 ⇓P P 13 15 18.6 +2.0
baz=92
E29A Napoleon 91.69 32 ⇓P P 13 15 18.8 +2.1
baz=92
D30A Buchanan 91.69 31 ⇑P P 13 15 18.8 +2.2
baz=92
U15A North Rim 91.76 46 ⇓P P 13 15 19.1 +1.5
baz=92,SNR=12
O20A White River Ci 91.78 41 ⇑P P 13 15 18.9 +1.4
baz=92
L23A Garrett 91.85 38 ⇑P P 13 15 19.2 +1.5
baz=92,SNR=12
M22A Cedar Creek Ra 91.85 39 ⇑P P 13 15 19.0 +1.2
baz=92
SGMF Saint Gilles 91.86 331 eP P 13 15 16.5 -0.9
comp=Z,84nm,1.3s
SGMF Saint Gilles 91.86 331 eP P 13 15 16.5 -0.9
SGMF pmax pmax
comp=Z,85nm,1.3s
SGMF Saint Gilles 91.86 331 eP P 13 15 16.5 -0.9
comp=Z,84nm,1.3s
PDMCI Parker Dam,Lak 91.90 48 ⇓P P 13 15 19.4 +1.6
baz=92
K24A Anderson Ranch 91.90 37 ⇑P P 13 15 18.9 +1.1
baz=92
H27A Howes 91.95 35 ⇑P P 13 15 19.4 +1.5
baz=92
J25A Sunshine Ranch 91.96 36 ⇑P P 13 15 19.4 +1.3
baz=92
Y12C Blythe 91.98 49 ⇑P P 13 15 19.7 +1.4
baz=92
I26A New Underwood 91.99 35 ⇓P P 13 15 19.7 +1.5
baz=92
AGMN Agassiz Nation 92.05 29 ⇓P P 13 15 19.6 +1.4
baz=92
MFF Saint Martin d 92.06 328 eP P 13 15 17.6 -0.7
comp=Z,9.3nm,0.7s
MFF Saint Martin d 92.06 328 eP P 13 15 17.6 -0.7
MFF pmax pmax
comp=Z,9.0nm,0.7s
MFF Saint Martin d 92.06 328 eP P 13 15 17.6 -0.7
comp=Z,9.3nm,0.7s
E30A Jud 92.08 32 ⇓P P 13 15 20.3 +1.8
baz=92
ROSF Rostrenen 92.10 331 eP P 13 15 17.7 -0.8
comp=Z,34nm,0.8s
ROSF Rostrenen 92.10 331 eP P 13 15 17.7 -0.8
ROSF pmax pmax
comp=Z,34nm,0.8s
ROSF Rostrenen 92.10 331 eP P 13 15 17.7 -0.8
comp=Z,34nm,0.8s
F29A Eureka 92.15 33 ⇓P P 13 15 20.5 +1.7
baz=92
G28A Parade 92.19 34 ⇓P P 13 15 20.9 +1.9
baz=92
CAF Calviac 92.26 326 eP P 13 15 18.6 -0.7
CAF Calviac 92.26 326 eP P 13 15 18.6 -0.7
CAF Calviac 92.26 326 eP P 13 15 18.6 -0.7
M23A Laramie 92.28 39 ⇑P P 13 15 21.8 +2.1
baz=92,SNR=5.3
N22A Wattenberg Ran 92.33 40 ⇓P P 13 15 22.2 +2.1
baz=92
I27A Quinn 92.36 35 ⇓P P 13 15 21.9 +2.0
baz=92
QUIF Quistinic 92.38 331 eP P 13 15 18.8 -1.0
QUIF Quistinic 92.38 331 eP P 13 15 18.8 -1.0
QUIF Quistinic 92.38 331 eP P 13 15 18.8 -1.0
J26A Sides Ranch, S 92.39 36 ⇑P P 13 15 22.7 +2.7
baz=92
H28A Mission Ridge 92.43 34 ⇑P P 13 15 22.4 +2.2
baz=92
K25A Mack Ranch, Ha 92.47 37 ⇓P P 13 15 22.9 +2.4
baz=92
F30A Leola 92.53 32 ⇓P P 13 15 22.6 +2.0
baz=92
N23A Red Feather La 92.55 39 ⇓P P 13 15 23.1 +2.0
baz=92,SNR=8.6
O22A Kremmling 92.72 40 ⇑P P 13 15 24.0 +2.0
baz=93,SNR=8.4
L25A Engebretsen Ra 92.75 37 ⇑P P 13 15 23.0 +1.2
baz=93
M24A Cheyenne 92.77 38 ⇑P P 13 15 24.5 +2.5
baz=93
I28A Midland 92.85 35 ⇓P P 13 15 24.3 +2.2
baz=93
H29A Onida 92.86 34 ⇓P P 13 15 23.9 +1.8
baz=93
WUAZ Wupatki 92.91 46 ⇓P P 13 15 25.6 +2.9
baz=93,SNR=7.6
WUAZ Wupatki 92.91 46 eP P 13 15 24.5 +1.8
comp=Z,28nm,1.3s
PV01 Paradox Valley 92.92 43 eP P 13 15 24.2 +1.4
comp=Z,2μm,1.2s
J27A Elkhorn Farm, 92.98 36 ⇑P P 13 15 25.2 +2.5
baz=93
P22A Eagle 92.98 41 ⇓P P 13 15 25.5 +2.4
baz=93,SNR=13

G30A	**Faulkton**	**93.00**	**33**	⇑P		**P**		**13 15 24.8 +2.0**
	baz=93							
O23A	**Lake Granby, G**	**93.04**	**40**	⇑P		**P**		**13 15 25.9 +2.6**
	baz=93,SNR=7.6							
113A	**Mohawk Valley,**	**93.09**	**49**	⇓P		**P**		**13 15 26.4 +3.0**
	baz=93							
M25A	**Palm-Egli Farm**	**93.20**	**38**	⇑P		**P**		**13 15 26.5 +2.5**
	baz=93							
K27A	**Flueckinger Fa**	**93.25**	**36**	⇓P		**P**		**13 15 26.3 +2.2**
	baz=93							
Z14A	**Wintersburg**	**93.26**	**49**	⇓P		**P**		**13 15 26.8 +2.7**
	baz=93							
I29A	**Vivian Onida**	**93.26**	**34**	⇓P		**P**		**13 15 26.6 +2.6**
	baz=93							
L26A	**Underwood Farm**	**93.30**	**37**	⇑P		**P**		**13 15 26.6 +2.3**
	baz=93							
KMBO	**Kilima Mbogo**	**93.41**	**271**	*e*P		**P**		**13 15 25.5 +0.1**
KMBO	**Kilima Mbogo**	**93.41**	**271**	*e*P		**P**		**13 15 25.5 +0.1**
ISCO	**Idaho Springs**	**93.49**	**40**	⇑P		**P**		**13 15 27.4 +1.9**
	baz=93							
X16A	**Lo Mia Camp, P**	**93.56**	**47**	⇓P		**P**		**13 15 28.5 +2.7**
	baz=94,SNR=9.9							
O24A	**Longmont**	**93.57**	**39**	⇑P		**P**		**13 15 28.1 +2.5**
	baz=93							
MVCO	**Mesa Verde**	**93.57**	**43**	⇑P		**P**		**13 15 28.6 +2.8**
	baz=93,SNR=7.9							
ABPO	**Ambohimpanom**	**93.61**	**250**	*e*P		**P**		**13 15 25.5 -0.6**
ABPO					pmax	pmax		
	comp=Z,8.0nm,0.9s							
ABPO	**Ambohimpanom**	**93.61**	**250**	*e*P		**P**		**13 15 25.5 -0.6**
	comp=Z,7.6nm,0.9s							
N25A	**Grover**	**93.62**	**38**	⇑P		**P**		**13 15 28.7 +2.8**
	baz=94							
P23A	**Jefferson**	**93.66**	**40**	⇑P		**P**		**13 15 26.7 +0.4**
	baz=94							
J29A	**Okreek**	**93.70**	**35**	⇓P		**P**		**13 15 28.1 +2.1**
	baz=94							
M27A	**Reverse DX Ran**	**94.02**	**37**	⇓P		**P**		**13 15 28.6 +1.0**
	baz=94							
EYMN	**Ely**	**94.11**	**27**	*e*P		**P**		**13 15 28.1 +0.3**
	comp=Z,17nm,1.2s							
J30A	**Dallas**	**94.17**	**34**	⇓P		**P**		**13 15 29.4 +1.2**
	baz=94							
K29A	**Lazy Trails An**	**94.18**	**35**	⇓P		**P**		**13 15 29.8 +1.5**
	baz=94							
S22A	**4UR Ranch, Cre**	**94.20**	**42**	⇓P		**P**		**13 15 30.3 +1.5**
	baz=94							
X18A	**Snowflake**	**94.44**	**46**	⇑P		**P**		**13 15 31.7 +1.9**
	baz=94							
N27A	**Anderson Farm,**	**94.46**	**37**	⇑P		**P**		**13 15 31.6 +2.0**
	baz=94							
R23A	**Moffat**	**94.47**	**41**	⇓P		**P**		**13 15 31.3 +1.3**
	baz=94							
P25A	**Willow Gulch B**	**94.49**	**39**	⇑P		**P**		**13 15 31.8 +1.9**
	baz=94							
K30A	**Basset**	**94.60**	**35**	⇓P		**P**		**13 15 32.0 +1.9**
	baz=94							
SCHQ	**Schefferville**	**94.62**	**10**	P		**P**		**13 15 29.8 -0.2**
	comp=Z,4.5nm,0.8s,baz=342,slow=2.6,SNR=3.7							
OGNE	**Ogallala**	**94.62**	**37**	⇑P		**P**		**13 15 32.7 +2.3**
	baz=94							
S23A	**Nye Farm, Mont**	**94.70**	**42**	⇑P		**P**		**13 15 32.7 +1.6**
	baz=95							
R24A	**Sanders Place,**	**94.86**	**41**	⇑P		**P**		**13 15 33.5 +1.8**
	baz=95							
Q25A	**Bedland, Calha**	**94.87**	**40**	⇑P		**P**		**13 15 33.4 +1.8**
	baz=95							
P26A	**Davis Ranch, A**	**94.91**	**39**	⇑P		**P**		**13 15 32.9 +1.1**
	baz=95							
M29A	**Burnside Ranch**	**94.96**	**36**	⇓P		**P**		**13 15 33.4 +1.5**
	baz=95							
SDCO	**Great Sand Dun**	**94.97**	**41**	⇑P		**P**		**13 15 34.0 +1.7**
	baz=95							
N28A	**Pribbeno Ranch**	**95.07**	**37**	⇓P		**P**		**13 15 33.8 +1.4**
	baz=95							
L30A	**Spencer Herefo**	**95.08**	**35**	⇓P		**P**		**13 15 34.1 +1.7**
	baz=95							
ECSD	**EROS Data Cent**	**95.24**	**32**	⇓P		**P**		**13 15 34.3 +1.3**
	baz=95							
Q26A	**Hugo**	**95.26**	**39**	⇑P		**P**		**13 15 34.8 +1.4**
	baz=95							
P27A	**Ficken Ranch,**	**95.33**	**38**	⇓P		**P**		**13 15 35.2 +1.5**
	baz=95							
L31A	**Butterfield Fa**	**95.35**	**35**	⇓P		**P**		**13 15 35.2 +1.6**
	baz=95							
O28A	**Krutsinger Ran**	**95.35**	**38**	⇓P		**P**		**13 15 35.6 +1.9**
	baz=95							
R25A	**Fountain Ranch**	**95.38**	**40**	⇓P		**P**		**13 15 36.2 +2.3**
	baz=95							
N29A	**Votaw Ranch, W**	**95.45**	**36**	⇓P		**P**		**13 15 36.4 +2.2**
	baz=95							
T24B	**San Luis**	**95.50**	**42**	⇑P		**P**		**13 15 37.5 +2.7**
	baz=95							
S25A	**Robets Cordova**	**95.64**	**41**	⇑P		**P**		**13 15 37.9 +2.7**
	baz=96							
KSCO	**Kaye Shedlock'**	**95.69**	**39**	⇓P		**P**		**13 15 37.8 +2.4**
	baz=96							
R26A	**Arlington**	**95.74**	**40**	⇓P		**P**		**13 15 37.5 +1.9**
	baz=96							
SPMN	**Marine on St.**	**95.77**	**29**	⇓P		**P**		**13 15 36.5 +1.1**
	baz=96							
O29A	**4D Ranch, Culb**	**95.87**	**37**	⇑P		**P**		**13 15 38.7 +2.7**
	baz=96							
M31A	**Lambtecht Ranc**	**95.90**	**35**	⇓P		**P**		**13 15 38.7 +2.5**
	baz=96							
T25A	**Trinidad**	**96.01**	**41**	⇑P		**P**		**13 15 37.8 +0.9**
	baz=96							
Q28A	**Sharon Springs**	**96.09**	**38**	⇑P		**P**		**13 15 38.8 +1.7**
	baz=96							
R27A	**Eads**	**96.11**	**39**	⇑P		**P**		**13 15 39.9 +2.6**
	baz=96							
ANMO	**Albuquerque**	**96.31**	**44**	*e*P		**P**		**13 15 37.6 -0.7**
ANMO					pmax	pmax		
	comp=Z,9.0nm,1.4s							
U25A	**Circle Dot Ran**	**96.53**	**42**	⇓P		**P**		**13 15 40.6 +1.3**
	baz=96							
Q29A	**Oakley**	**96.67**	**38**	⇑P		**P**		**13 15 41.4 +1.7**
	baz=96							
U26A	**Atchley Ranch,**	**96.91**	**41**	⇓P		**P**		**13 15 43.0 +2.0**
	baz=97							
ESDC	**Sonseca Array**	**99.15**	**326**	P		**Pdif**		**13 15 49.8 -1.0**
	comp=Z,0.5nm,0.6s,baz=23,slow=4.4,SNR=4.7							
ESDC					LR	LR		14 04 10.2
	comp=Z,388nm,21.2s,baz=115,slow=38							
TXAR	**Lajitas Array**	**101.87**	**46**	P		**Pdif**		**13 16 04.8 +1.6**
	comp=Z,1.1nm,0.8s,baz=295,slow=3.3,SNR=11							
TORD	**Torodi Ar. Bea**	**114.91**	**303**	PKP		PKPdf		13 20 50.5 -0.1
	comp=Z,1.4nm,0.8s,baz=11,slow=2.5,SNR=6.6							
TORD				PP		**PP**		**13 21 45.6 -3.6**
	comp=Z,0.7nm,0.7s,baz=40,slow=5.6,SNR=2.5							
TORD				PKKPbc		**PKKPbc**		**13 31 28.7 +2.4**
	comp=Z,0.6nm,0.8s,baz=245,slow=1.8,SNR=3.1							
QSPA	**South Pole Qui**	**119.33**	**180**	*e*PKPdf		**PKPdf**		**13 20 57.4 -0.3**
DBIC	**Dimbokro**	**124.01**	**303**	PKP		**PKPdf**		**13 21 08.5 +0.4**
	comp=Z,6.0nm,0.9s,baz=31,slow=3.7,SNR=5.0							
LIC	**Lamto**	**124.44**	**302**	*e*PKIKP		**PKPdf**		**13 21 08.6 -0.4**
	comp=Z,23nm,1.1s							
LIC				*e*R				
	comp=Z,892nm,20.5s							
LIC	**Lamto**	**124.44**	**302**	*e*PKPdf		**PKPdf**		**13 21 08.6 -0.4**
VNA2	**Neumayer--Watz**	**132.55**	**197**	P		**PKPdf**		**13 21 24.3 +1.6**
	baz=88,slow=1.8							
VNA3	**Neumayer Olymp**	**132.93**	**196**	P		**PKPdf**		**13 21 24.7 +1.3**
VNA1	**Neumayer--Stat**	**132.95**	**197**	P		**PKPdf**		**13 21 25.5 +2.1**
SDV	**Santo Domingo**	**136.67**	**31**	*e*PKPdf		**PKPdf**		**13 21 32.7 +0.3**
PTGA	**Pitinga**	**149.63**	**21**	*e*PKPdf		**PKPdf**		**13 21 55.3 +0.5**
PTGA				*e*PKPbc		**PKPbc**		**13 21 59.9 +0.4**
LPAZ	**La Paz**	**158.36**	**56**	PKPab		**PKPab**		**13 22 41.5 -0.7**
	comp=Z,4.9nm,0.8s,baz=351,slow=5.6,SNR=10							
BDFB	**Brasilia**	**166.07**	**354**	PKP		**PKPdf**		**13 22 15.2 +0.3**
	comp=Z,3.1nm,0.8s,baz=16,slow=4.5,SNR=4.1							
BDFB				PKPab		**PKPab**		**13 23 14.8 -0.3**
	comp=Z,2.8nm,0.7s,baz=5.7,slow=10,SNR=3.3							

*DJA **11** 13:13:42.0±1.8,3°S±45°×14°2E±1°3,h10km,M3.4/3, MLv3.4/3*

*IDC **11** 13:13:45.2±1.3,2°64S×141°58E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.5/29,mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=26.1km s-min=20.6km az=178.0*

*ISCJB **11** 13:13:48.3±1.0,2°7S±0°1×141°55E±0°09,h35km,mb3.4/4, Error ellipse: s-maj=17.0km s-min=12.0km az=17.2*

ISC 11 13:13:49.9±1.2,2°8S±0°1×141°6E±0°1,h35km,n12, σ2§31/9,mb3.5/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.91**	**286**	P	Pn	13 14 02.1	-4.1
JAY	**Jayapura**	**0.91**	**286**	Pg	Pn	13 14 02.0	-4.3
	22nm,0.3s,baz=135,slow=5.1,SNR=79						
GENI	**Genyem**	**1.42**	**277**	P	**Pn**	**13 14 10.6**	**-2.6**
GENI				S	**Sn**	**13 14 30.9**	**+0.2**
SMPI	**Sarmi**	**2.97**	**285**	P	**Pn**	**13 14 31.7**	**-2.8**
SMPI				S	**Sn**	**13 15 12.8**	**+3.8**
WRA	**Warramunga Arr**	**18.48**	**202**	P	**Pn**	**13 18 03.7**	**+0.4**
	0.1nm,0.3s,baz=22,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**22.06**	**199**	P	**P**	**13 18 42.6**	**+0.7**
	0.4nm,0.8s,baz=27,slow=11,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**32.52**	**49**	T	T	13 54 35.4	
	baz=232,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**32.53**	**49**	T	T	13 54 35.4	
	baz=232,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**32.54**	**49**	T	T	13 54 37.1	
	baz=232,slow=75,SNR=73						
MKAR	**Makanchi Array**	**71.60**	**321**	P	**P**	**13 25 08.3**	**+0.5**
	0.2nm,0.6s,baz=117,slow=7.5,SNR=4.1						
BVAR	**Borovoye Array**	**81.01**	**325**	P	**P**	**13 26 02.1**	**+1.1**
	0.5nm,0.4s,baz=116,slow=6.7,SNR=5.4						
ILAR	**Eielson Array**	**84.71**	**24**	P	**P**	**13 26 19.6**	**-0.4**
	0.6nm,1.0s,baz=260,slow=5.4,SNR=3.9						

*IDC **11** 13:20:45.5±1.5,34°38S×73°62W,h0km,mb4.3/4, mb1 4.2/5,mb1mx3.9/29,mbtmp4.2/5,ML4.1/1,Error ellipse: s-maj=60.6km s-min=25.5km az=103.0*

*ISCJB **11** 13:20:49.2±0.9,34°63S±0°06×73°66W±0°08,h33km, mb4.3/4,Error ellipse: s-maj=9.6km s-min=7.8km az=163.7*

*GUC **11** 13:20:49.4±0.4,34°67S×73°61W,h28km±2km,ML4.0*

ISC 11 13:20:51.1±0.9,34°63S±0°08×73°61W±0°09,h35km,n14, σ1§01/19,mb4.3/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.64**	**156**	*e*P	**Pn**	**13 21 16.0**	**-1.4**
COCH				*e*S	**Sn**	**13 21 36.3**	**-1.0**
TALC	**Talca**	**1.79**	**116**	*e*P	**Pn**	**13 21 18.6**	**-0.9**
TALC				*e*S	**Sn**	**13 21 40.8**	**-0.2**
NICH	**Los Niches**	**1.99**	**101**	*e*P	**Pn**	**13 21 21.9**	**-0.3**
NICH				*e*S	**Sn**	**13 21 46.8**	**+0.8**
LNCH	**Linares**	**2.04**	**127**	*e*P	**Pn**	**13 21 22.3**	**-0.7**
LNCH				*e*S	**Sn**	**13 21 47.3**	**+0.1**
CCSP	**San Pedro de C**	**2.25**	**170**	*e*P	**Pn**	**13 21 24.8**	**-0.9**
CCSP				*e*S	**Sn**	**13 21 51.5**	**-0.7**
CCSP				AML	AML	13 21 52.4	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**6.55**	**159**	Pn	**Pn**	**13 22 26.0**	**+1.0**
	comp=E,0.9nm,0.3s,baz=330,slow=11,SNR=22						
PLCA				Sn	Sn	13 23 52.4	+14
	baz=245,slow=19,SNR=2.0						
LPAZ	**La Paz**	**18.92**	**16**	P	**P**	**13 25 09.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=218,slow=4.8,SNR=5.0						
SNAA	**Sanae**	**51.50**	**158**	P	**P**	**13 29 54.1**	**+1.3**
	comp=E,1.4nm,0.6s,baz=270,slow=7.1,SNR=33						
QSPA	**South Pole Qui**	**55.61**	**180**	P	**P**	**13 30 25.0**	**+1.9**
	comp=E,2.3nm,0.5s,baz=175,slow=1.6,SNR=25						
DBIC	**Dimbokro**	**76.61**	**72**	P	**P**	**13 32 37.5**	**-0.9**
	comp=E,4.3nm,1.0s,baz=210,slow=5.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**85.64**	**71**	P	**P**	**13 33 26.2**	**-0.2**
	comp=E,1.2nm,0.7s,baz=235,slow=5.1,SNR=9.8						
WRA	**Warramunga Arr**	**119.57**	**210**	PKP	**PKPdf**	**13 39 36.8**	**-0.9**
	comp=E,0.1nm,0.6s,baz=159,slow=1.8,SNR=6.5						
BVAR	**Borovoye Array**	**148.63**	**43**	PKPbc	**PKPbc**	**13 40 34.1**	**+0.3**
	comp=E,0.8nm,0.5s,baz=313,slow=2.0,SNR=7.8						
MKAR	**Makanchi Array**	**158.16**	**49**	PKPab	**PKPab**	**13 41 16.6**	**-1.4**
	comp=E,0.4nm,0.6s,baz=294,slow=4.9,SNR=7.2						

MEX 11 13:21:13.0±1.1,16°16N×97°62W,h10km±12km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.54**	**296**	*e*P	Pg	13 21 22.2	-1.4
PNIG				*i* S	Sg	13 21 29.9	-0.9
VHO	**Vista Hermosa**	**1.24**	**43**	*i* P	Pn	13 21 32.1	-4.7
VHO				*i* S	Sb	13 21 47.6	-5.6
HUIG	**Huatulco**	**1.50**	**105**	*e*P	Pn	13 21 36.8	-3.3
HUIG				*i* S	Sn	13 21 55.1	-4.7
TLIG	**Tlapa**	**1.67**	**327**	*e*P	Pn	13 21 39.3	-3.2
TLIG				*e*S	Sn	13 21 59.4	-4.6

*IDC **11** 13:23:10.4±2.6,1°95N×96°90E,h0km,mb3.4/5,mb1 3.5/6, mb1mx3.3/39,mbtmp3.4/6,MS4.3/1,Ms1 4.3/1, ms1mx3.5/33,Error ellipse: s-maj=117.4km s-min=21.0km az=57.0*

*ISCJB **11** 13:23:12.8±0.9,1°90N±0°07×96°94E±0°07,h28km, mb3.5/5,Error ellipse: s-maj=10.1km s-min=8.7km az=135.0*

*DJA **11** 13:23:14.5±1.3,2°N±10°×9°7E±1°3,h64km±22km,M3.6/6, mb4.0/1,mB4.9/1,MLv3.5/6,Mw(mB)4.2/1*

ISC 11 13:23:15.8±1.0,2°12N±0°07×96°92E±0°07,h28km,n15, σ1§17/14,mb3.4/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.66**	**296**	P	**Pn**	**13 23 30.2**	**+0.8**
SNSI				S	**Sn**	**13 23 38.5**	**-0.4**
TPTI		**1.17**	**13**	P	**Pn**	**13 23 35.9**	**-0.4**
TPTI				S	**Sb**	**13 23 53.0**	**+0.9**
KCSI	**Kotacane, Aceh**	**1.63**	**31**	P	**Pn**	**13 23 43.1**	**+0.3**
KCSI				S	**Sb**	**13 24 06.5**	**+1.0**
TSI	**Tuntungan**	**2.14**	**50**	P	**Pb**	**13 23 53.9**	**0.0**
MNSI	**Mandailing Nat**	**2.96**	**116**	P	**Pb**	**13 24 09.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**16.36**	**7**	Pn	**Pn**	**13 27 04.8**	**+1.1**
	baz=190,slow=14,SNR=3.3						
PALK	**Pallekele**	**16.95**	**288**	LR	LR	13 32 24.9	
	comp=Z,1μm,19.6s,baz=61,slow=33						
H08S2	**Diego Garcia H**	**26.23**	**248**	T	T	13 56 04.5	
	baz=69,slow=76,SNR=84						
H08S3	**Diego Garcia H**	**26.23**	**248**	T	T	13 56 04.8	
	baz=69,slow=76,SNR=69						
H08S1	**Diego Carcia H**	**26.25**	**248**	T	T	13 56 06.0	
	baz=69,slow=76,SNR=89						
WRA	**Warramunga Arr**	**42.76**	**123**	P	**P**	**13 31 08.8**	**-2.4**
	0.2nm,0.4s,baz=302,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**44.17**	**128**	P	**P**	**13 31 21.1**	**-1.4**
	0.2nm,0.5s,baz=296,slow=7.4,SNR=8.1						
MKAR	**Makanchi Array**	**46.29**	**346**	P	**P**	**13 31 38.7**	**-0.3**
	0.2nm,0.4s,baz=156,slow=9.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	**P**	**13 32 27.1**	**0.0**
	0.8nm,0.4s,baz=185,slow=8.8,SNR=7.2						
BVAR	**Borovoye Array**	**55.30**	**341**	P	**P**	**13 32 46.7**	**-0.1**
	0.4nm,0.6s,baz=125,slow=7.2,SNR=4.0						

*ISCJB **11** 13:29:06.8±0.5,32°09N±0°02×115°02W±0°03,h5km±4km, Error ellipse: s-maj=4.8km s-min=3.6km az=30.1*

*ECX **11** 13:29:09.5±0.5,32°08N×115°07W,h10km,MD3.6,ML3.8*

*MEX **11** 13:29:09.8±0.6,32°09N×114°94W,h10km,MD3.6*

*NEIC **11** 13:29:09.2,32°10N×115°09W,h10km,MD3.7(MEX), ML3.7(PAS),After PAS.*

ISC 11 13:29:08.7±0.9,32°04N±0°02×115°14W±0°03,h13km±6km, n36,σ1§27/56,7C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.10**	**239**	⇑*e*P	**Pg**	**13 29 10.9**	**-0.7**
EMX				*e*S	**Sg**	**13 29 13.7**	**-0.1**
MBIG	**Mexicali**	**0.37**	**352**	*i* P	**Pg**	**13 29 16.3**	**+0.1**
MBIG				*i* S	**Sb**	**13 29 23.3**	**+0.5**
CPBX	**Cerro Prieto**	**0.40**	**340**	*e*P	**Pg**	**13 29 16.8**	**+0.1**
CPBX				*e*S	**Sg**	**13 29 22.6**	**+0.4**
CPBX				⇓*e*		13 29 25.6	
CPBX				AML	AML	13 29 25.6	
	comp=N,33μm,0.4s						
CPBX	**Cerro Prieto**	**0.40**	**340**	*e*P	**Pg**	**13 29 16.7**	**0.0**
ECBX	**El Chinero**	**0.57**	**172**	⇓*e*P	**Pg**	**13 29 19.0**	**-0.9**
ECBX				*e*S	**Sg**	**13 29 27.6**	**+0.1**
RDX	**Rancho Dawling**	**0.69**	**261**	⇑*e*P	**Pb**	**13 29 23.1**	**+0.4**
RDX				*e*S	**Sn**	**13 29 33.0**	**-1.4**
YMD	**Yuma Desert**	**0.72**	**44**	⇑*i*P	**Pg**	**13 29 21.0**	**-1.7**
SGL	**Mount Signal**	**0.78**	**321**	⇑*i*P	**Pg**	**13 29 23.2**	**-0.6**
COA	**Coachella**	**0.82**	**1**	⇓*i*P	**Pg**	**13 29 22.9**	**-1.7**
RMX	**La Rumorosa**	**0.97**	**306**	⇑*e*P	**Pg**	**13 29 26.6**	**-0.9**
RMX				*e*		13 29 41.7	
RMX				AML	AML	13 29 41.7	
	comp=N,2μm,0.2s						
SPIG	**San Pedro Mart**	**1.03**	**196**	*e*P	**Pb**	**13 29 28.5**	**-0.1**
SPIG				*i* S	**Sg**	**13 29 42.5**	**+0.4**
SPIG	**San Pedro Mart**	**1.03**	**196**	*e*P	**Pb**	**13 29 28.5**	**-0.1**
SPIG				*i* S	**Sg**	**13 29 42.5**	**+0.4**
SPX	**San Pedro Mart**	**1.03**	**196**	*e*P	**Pb**	**13 29 28.4**	**-0.1**
ZAX	**El Zacaton**	**1.10**	**242**	*e*P	**Pg**	**13 29 29.9**	**0.0**
ECNX	**Esteban Cantu**	**1.30**	**253**	⇓*e*P	**Pn**	**13 29 32.9**	**+0.3**
CBX	**Cerro Bola**	**1.32**	**282**	*e*P	**Pn**	**13 29 32.5**	**-0.4**
CBX				*i* S	**Sn**	**13 29 50.8**	**+0.3**
CBX	**Cerro Bola**	**1.32**	**282**	*e*P	**Pn**	**13 29 32.8**	**-0.1**
CBX				*e*S	**Sg**	**13 29 51.5**	**+0.2**
CBX				⇑*e*		13 29 53.4	
CBX				AML	AML	13 29 53.4	
	comp=N,2μm,0.5s						
CBX				AML	AML	13 29 54.5	
	comp=E,2μm,0.4s						
CBX				⇑*e*		13 29 54.5	
CBX	**Cerro Bola**	**1.32**	**282**	*e*P	**Pn**	**13 29 32.5**	**-0.4**
CBX				*i* S	**Sn**	**13 29 50.8**	**+0.3**
PBX	**Punta Banda**	**1.38**	**258**	*e*P	**Pn**	**13 29 34.1**	**+0.5**
PFO	**Pinyon Flats O**	**1.92**	**325**	*e*Pn	**Pn**	**13 29 38.9**	**-2.3**
LDFC	**Landfair**	**3.03**	**0**	*e*Pn	**Pn**	**13 29 55.6**	**-0.8**
LDFC				*e*Pg	**Pg**	**13 30 07.2**	**+0.5**
PASC	**Pasadena Art C**	**3.32**	**311**	*e*Pg	**Pb**	**13 30 09.8**	**+2.3**
GSC	**Goldstone, Bar**	**3.54**	**337**	*e*Pn	**Pn**	**13 30 04.8**	**+1.3**
TUC	**Tucson**	**3.70**	**85**	*e*Pn	**Pn**	**13 30 04.9**	**-0.8**
TUC				*e*Pg	**Pg**	**13 30 18.6**	**-1.1**
TUC				*e*Sg	**Sb**	**13 31 01.4**	**+2.6**
OSI	**Osito Audit: C**	**3.95**	**312**	*e*Pg	**Pg**	**13 30 21.8**	**-2.5**
SHPR	**Sheep Range**	**4.46**	**360**	*e*Pn	**Pn**	**13 30 16.1**	**0.0**
SHPR				*e*Pg	**Pg**	**13 30 32.8**	**-1.2**
ISA	**Isabella, Lake**	**4.55**	**323**	Pn	**Pn**	**13 30 14.9**	**-2.5**
ISA				*e*Pg	**Pg**	**13 30 33.0**	**-2.9**
DAC	**Darwin (Calif)**	**4.69**	**335**	*e*Pn	**Pn**	**13 30 21.0**	**+1.7**
DAC				*e*Pg	**Pg**	**13 30 38.4**	**-0.2**
CCUT	**Cedar City**	**5.69**	**14**	*e*Pn	**Pn**	**13 30 33.4**	**+0.3**
	comp=E,33nm,1.0s						
CCUT				*e*Pg	**Pg**	**13 30 57.2**	**-0.4**
CCUT				*e*Sg	**Sg**	**13 32 09.8**	**-1.5**
ARUT	**Antelope Range**	**5.90**	**13**	Pn	**Pn**	**13 30 35.6**	**-0.3**
	comp=E,4.7nm,1.0s						
ARUT				*e*Pg	**Pg**	**13 30 59.0**	**-2.7**
121A	**Cookes Peak, D**	**6.25**	**84**	*e*Pn	**Pn**	**13 30 39.6**	**-1.1**
	comp=E,17nm,0.8s						
TPH	**Tonopah**	**6.26**	**345**	*e*Pg	**Pg**	**13 31 09.2**	**+0.7**
	comp=E,11nm,1.0s						
R11A	**Troy Canyon, C**	**6.30**	**357**	*e*Pn	**Pn**	**13 30 40.8**	**-0.7**
	comp=E,5.3nm,0.9s						
R11A				Pg	**Pg**	**13 31 06.5**	**-2.9**
MVCO	**Mesa Verde**	**7.52**	**45**	Pn	**Pn**	**13 30 59.4**	**+1.1**
	comp=E,12nm,0.8s						
ANMO	**Albuquerque**	**7.81**	**66**	Pg	**Pg**	**13 31 39.7**	**+1.5**
	comp=E,4.5nm,1.0s						
PV01	**Paradox Valley**	**8.12**	**40**	Pn	**Pn**	**13 31 07.9**	**+1.4**
	comp=E,543nm,0.7s						

*IDC **11** 13:49:08.0±1.0,28°29N×57°10E,h0km,mb3.6/13, mb1 3.7/13,mb1mx3.6/42,mbtmp3.6/13,Error ellipse: s-maj=24.4km s-min=19.5km az=176.0*

*ISCJB **11** 13:49:12.7±0.4,28°40N±0°03×57°16E±0°06,h31km, mb3.6/12,Error ellipse: s-maj=7.4km s-min=4.4km az=16.1*

*THR **11** 13:49:13.3±0.4,28°53N×56°88E,h14km±3km,ML3.8*

*TEH **11** 13:49:14.9,28°38N×57°05E,h18km,ML3.8*

*CSEM **11** 13:49:14.3±0.2,28°39N×56°92E,h15km,ML3.8,Error ellipse: s-maj=7.9km s-min=4.7km az=107.0*

*DSN **11** 13:49:38.8±15.0,26°74N×55°99E,h10km,mb2.9/8, ML3.4/3,Error ellipse: s-maj=8.9km s-min=2.8km az=28.0*

ISC 11 13:49:13.5±0.6,28°39N±0°04×57°06E±0°06,h31km,n62, σ1§65/65,mb3.6/12,3C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**1.04**	**206**	*e*Pg	**Pb**	**13 49 33.6**	**+0.7**
IBND				*e*		13 50 00.8	
	comp=Z,61μm,0.2s						
IBND	**Bandar-abas**	**1.04**	**206**	*e*Pg	**Pb**	**13 49 33.6**	**+0.7**
BNDS	**Bandar-Abbas**	**1.26**	**219**	*e*Pg	**Pb**	**13 49 37.0**	**+0.2**
BNDS				*e*Sg	**Sb**	**13 49 54.6**	**+2.0**
BNDS				AML	AML	13 50 02.8	
	comp=N,2μm,0.4s						
BNDS				A

SLWS		**6.76**	**240**	S		**Sn**	**13 52 04.8**	**-1.8**
SLWS		**6.76**	**240**	P		**Pn**	**13 50 50.9**	**+0.3**
IPIR	**Pirpir**	**6.83**	**310**	*e*Pn		**Pn**	**13 50 52.7**	**+0.8**
IPIR				*e*Sn		**Sn**	**13 52 06.1**	**-2.6**
IPIR				*e*			13 52 12.3	
	comp=Z,221nm,0.1s							
IPIR	**Pirpir**	**6.83**	**310**	*e*Pn		**Pn**	**13 50 52.7**	**+0.8**
IPIR				*e*Sn		**Sn**	**13 52 06.1**	**-2.6**
BTHS		**7.06**	**234**	P		**Pn**	**13 50 55.0**	**+0.3**
BTHS		**7.06**	**234**	P		**Pn**	**13 50 54.6**	**-0.1**
BOQSS		**7.29**	**252**	P		**Pn**	**13 50 58.0**	**+0.1**
BOQSS				S		**Sn**	**13 52 18.0**	**-1.7**
GEYT	**Alibeck**	**9.56**	**5**	Pn		**Pn**	**13 51 31.1**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=188,slow=8.7,SNR=6.3							
KBZ	**Khabaz**	**19.08**	**327**	P		**Pn**	**13 53 37.3**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=130,slow=17,SNR=3.4							
AAK	**Ala-Archa**	**20.03**	**40**	P		**P**	**13 53 44.2**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=180,slow=16,SNR=3.1							
AKTO	**Aktyubinsk**	**22.03**	**2**	P		**P**	**13 54 05.3**	**0.0**
	comp=Z,2.2nm,0.7s,baz=185,slow=10,SNR=4.4							
BRTR	**Keskin Array B**	**22.39**	**306**	P		**P**	**13 54 10.5**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=127,slow=12,SNR=15							
BVAR	**Borovoye Array**	**26.52**	**18**	P		**P**	**13 54 47.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=206,slow=9.9,SNR=7.9							
MKAR	**Makanchi Array**	**26.97**	**40**	P		**P**	**13 54 51.5**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=225,slow=8.4,SNR=5.0							
ZALV	**Zalesovo Beam**	**32.61**	**31**	P		**P**	**13 55 39.9**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=235,slow=5.2,SNR=4.2							
GERES	**GERESS Array B**	**38.90**	**314**	P		**P**	**13 56 35.3**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=110,slow=10,SNR=4.4							
FINES	**FINESS Array B**	**38.95**	**337**	P		**P**	**13 56 37.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=126,slow=9.3,SNR=4.7							
SONM	**Songino Array**	**42.58**	**49**	P		**P**	**13 57 06.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=255,slow=8.8,SNR=2.6							
TORD	**Torodi Ar. Bea**	**53.51**	**266**	P		**P**	**13 58 30.1**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=62,slow=7.1,SNR=12							
WRA	**Warramunga Arr**	**88.73**	**113**	P		**P**	**14 02 03.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=318,slow=3.5,SNR=5.5							
YKA	**Yellowknife Ar**	**89.19**	**356**	P		**P**	**14 02 05.0**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=1.3,slow=5.5,SNR=4.0							
ASAR	**Alice Springs**	**98.18**	**117**	P		**P**	**14 02 11.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=308,slow=4.7,SNR=17							

*IDC **11** 14:00:30.4±0.8,36.04N×69.16E, h0km, mb3.7/14, mb1 3.9/20,mb1mx3.7/43,mbtmp3.8/20,ML3.9/6,Error ellipse: s-maj=18.2km s-min=15.3km az=3.0*
*ISCJB **11** 14:00:34.4±0.4, 36.26N±0.03×69.19E±0.06, h35km, mb3.6/14,Error ellipse: s-maj=6.9km s-min=3.7km az=158.6*
*NNC **11** 14:00:36.2±2.9, 36.49N×69.03E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=22.5km s-min=16.4km az=27.0*

ISC 11 14:00:35.6±0.6, 36°21N±0.05×69°00E±0.05, h35km, n52, σ1°77/63, mb3.7/14, 8C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.60**	**357**	⇑Pn		**Pn**	**14 01 16.6**	**+1.3**
	120nm,0.4s							
DZET				⇑Sn		**Sn**	**14 01 46.5**	**+0.8**
	326nm,0.4s							
CEP	**Cherat**	**3.37**	**134**	P		Pn	14 01 31.5	+5.6
CEP				S		Sn	14 02 14.0	+9.3
CHCP	**Chirah Chowk**	**4.33**	**125**	P		Pn	14 01 44.3	+5.4
SFK	**Sufi-Kurgan**	**5.20**	**42**	⇓Pn		**Pn**	**14 01 53.3**	**+2.2**
	14nm,0.3s							
SFK				⇓Sn		**Sn**	**14 02 54.5**	**+4.5**
	40nm,0.3s							
MNAS	**Manas**	**6.83**	**22**	⇑Pn		**Pn**	**14 02 14.7**	**+1.2**
	14nm,0.3s							
MNAS				⇓Sn		**Sn**	**14 03 29.9**	**-0.1**
	36nm,0.7s							
KK31	**Karatay Array**	**6.99**	**9**	⇑Pn		**Pn**	**14 02 16.2**	**+0.8**
	7.6nm,0.4s,baz=185,slow=12,SNR=6.0							
KK31				⇑Sn		**Sn**	**14 03 31.4**	**-2.2**
	8.6nm,0.3s,baz=186,slow=21,SNR=6.4							
KK31				Lg		Lg	14 04 14.7	
	7.8nm,0.4s,baz=199,slow=33,SNR=4.2							
AAK	**Ala-Archa**	**7.70**	**32**	⇑Pn		**Pn**	**14 02 26.7**	**+1.4**
	12nm,0.5s							
AAK				⇓Sn		**Sn**	**14 03 51.7**	**+0.4**
	12nm,0.4s							
AAK	**Ala-Archa**	**7.70**	**32**	Pn		**Pn**	**14 02 26.8**	**+1.4**
	8.4nm,0.3s,baz=189,slow=7.0,SNR=72							
AAK				Sn		**Sn**	**14 03 50.1**	**-1.2**
	4.0nm,0.3s,baz=129,slow=22,SNR=9.4							
TKM2	**Tokmak 2**	**8.42**	**35**	⇑Pn		**Pn**	**14 02 36.0**	**+0.8**
	6.2nm,0.4s							
TKM2				⇓Sn		**Sn**	**14 04 07.3**	**-1.8**
	4.0nm,0.4s							
SMLA	**Simla**	**8.48**	**124**	*i* P		**Pn**	**14 02 38.4**	**+2.4**
SMLA				*e*S		**Sn**	**14 04 09.7**	**-0.7**
SMLA				AML	AML		14 05 12.7	
	comp=E,77nm,0.1s							
SMLA				AML	AML		14 05 13.5	
	comp=N,99nm,0.2s							
GEYT	**Alibeck**	**8.87**	**284**	Pn		**Pn**	**14 02 40.5**	**-0.8**
	comp=N,2.7nm,0.3s,baz=117,slow=7.3,SNR=16							
GEYT				Sn		**Sn**	**14 04 18.3**	**-1.7**
	comp=N,2.1nm,0.3s,baz=106,slow=11,SNR=4.9							
KHET	**Khetri**	**9.95**	**143**	*e*P		**Pn**	**14 02 58.1**	**+2.1**
KHET				*e*S		**Sn**	**14 04 44.3**	**-2.2**
KHET				AML	AML		14 06 04.7	
	comp=E,55nm,0.4s							
KHET				AML	AML		14 06 05.7	
	comp=N,31nm,0.4s							
NDI	**New Delhi**	**10.21**	**135**	*e*P		**Pn**	**14 03 02.0**	**+2.3**
NDI				*e*S		**Sn**	**14 04 51.0**	**-2.0**
SONA	**Sohna**	**10.47**	**137**	*e*P		**Pn**	**14 03 05.3**	**+2.1**
SONA				*e*S		**Sn**	**14 04 56.0**	**-3.3**
SONA				AML	AML		14 05 02.4	
	comp=E,40nm,0.6s							
SONA				AML	AML		14 05 02.9	
	comp=N,16nm,0.3s							
PDGK	**Podgornoye**	**10.75**	**45**	⇓Pn		**Pn**	**14 03 07.1**	**+0.1**
	comp=N,3.4nm,0.7s							
PYUN	**Piuthan**	**14.33**	**120**	*e*P		**Pn**	**14 03 55.2**	**-1.0**
	comp=N,59nm,0.3s							
MK31	**Makanchi Array**	**14.50**	**39**	P		**Pn**	**14 03 55.7**	**-2.5**
	comp=N,0.5nm,0.6s,baz=194,slow=5.1,SNR=12							
MKAR	**Makanchi Array**	**14.50**	**39**	Pn		**Pn**	**14 03 55.8**	**-2.5**
	comp=N,0.1nm,0.3s,baz=227,slow=15,SNR=14							
AB31	**Akbulak array**	**14.63**	**336**	⇓P		**Pn**	**14 03 57.2**	**-2.7**
	comp=N,6.0nm,0.5s,baz=165,slow=13,SNR=6.5							
AB31				S		**Sn**	**14 06 36.8**	**-3.8**
	comp=N,0.6nm,0.3s,baz=155,slow=24,SNR=4.0							
DANN	**Dangsing**	**14.73**	**118**	*e*P		**Pn**	**14 04 00.0**	**-1.6**
	comp=N,21nm,0.3s							
KOLN	**Koldanda**	**14.96**	**120**	*e*P		**Pn**	**14 04 03.3**	**-1.4**
	comp=N,17nm,0.5s							
GKN	**Gorkha**	**15.56**	**117**	*e*P		**Pn**	**14 04 10.4**	**-2.1**
	comp=N,57nm,0.7s							
KURBB	**Kurchatov Arra**	**15.96**	**23**	⇑P		**P**	**14 04 21.3**	**+0.7**
	comp=N,4.2nm,0.7s							
KURBB	**Kurchatov Arra**	**15.96**	**23**	Pn		**Pn**	**14 04 14.9**	**-2.5**
	comp=N,0.1nm,0.3s,baz=215,slow=12,SNR=3.6							
KURK	**Kurchatov**	**16.07**	**23**	⇓P		**Pn**	**14 04 18.6**	**-0.2**
	comp=N,0.6nm,0.6s							
KKN	**Kakani**	**16.14**	**117**	*e*P		**Pn**	**14 04 18.4**	**-1.7**
	comp=N,29nm,0.6s							
AKTO	**Aktyubinsk**	**16.29**	**334**	Pn		**Pn**	**14 04 20.9**	**-0.6**
	comp=N,0.5nm,0.3s,baz=141,slow=14,SNR=18							
PKIN	**Phulchoki**	**16.35**	**117**	*e*P		**Pn**	**14 04 21.7**	**-1.0**
	comp=N,26nm,0.5s							
PKI	**Pulchoki**	**16.36**	**117**	*e*P		**Pn**	**14 04 21.5**	**-1.5**
	comp=N,41nm,0.6s							
GUN	**Gumba**	**16.51**	**115**	*e*P		**Pn**	**14 04 23.3**	**-1.5**
	comp=N,24nm,0.5s							
BVA0	**Borovoye Array**	**16.84**	**3**	⇓P		**Pn**	**14 04 26.8**	**-1.8**
	comp=N,1.5nm,0.5s,baz=156,slow=9.6,SNR=5.7							
BVAR	**Borovoye Array**	**16.84**	**3**	Pn		**Pn**	**14 04 26.0**	**-2.6**
	comp=N,0.4nm,0.3s,baz=179,slow=14,SNR=16							
JIRN	**Jiri**	**16.88**	**115**	*e*P		**Pn**	**14 04 28.3**	**-1.2**
	comp=N,42nm,0.4s							
RAMN	**Ramite**	**17.58**	**117**	*e*P		**Pn**	**14 04 36.9**	**-1.3**
	comp=N,18nm,0.3s							
TAPN	**Taplejung**	**18.17**	**114**	*e*P		**Pn**	**14 04 44.0**	**-1.4**
	comp=N,32nm,0.6s							
ODAN	**Odare**	**18.21**	**116**	*e*P		**P**	**14 04 45.4**	**-0.5**
	comp=N,28nm,0.6s							
ZALV	**Zalesovo Beam**	**20.88**	**27**	P		**P**	**14 05 14.2**	**-0.3**
	comp=N,3.8nm,0.3s,baz=215,slow=8.9,SNR=12							
KBZ	**Khabaz**	**21.31**	**299**	P		**P**	**14 05 19.9**	**+0.6**
	comp=N,1.2nm,0.6s,baz=156,slow=7.8,SNR=4.7							
SONM	**Songino Array**	**29.83**	**55**	P		**P**	**14 06 38.4**	**-1.0**
	comp=N,0.7nm,0.6s,baz=266,slow=8.9,SNR=6.1							

CMAR	**Chiang Mai Arr**	**31.75**	**116**	P		**P**	**14 06 57.5**	**+1.0**
	comp=N,0.5nm,0.7s,baz=308,slow=9.1,SNR=5.6							
AKASG	**Malin Array Be**	**31.88**	**310**	P		**P**	**14 06 58.3**	**+1.0**
	comp=N,1.0nm,0.5s,baz=109,slow=8.2,SNR=6.6							
FINES	**FINESS Array B**	**36.84**	**327**	P		**P**	**14 07 41.4**	**+1.4**
	comp=N,1.3nm,0.6s,baz=130,slow=11,SNR=7.7							
ARCES	**ARCESS Array B**	**40.81**	**338**	P		**P**	**14 08 16.1**	**+2.9**
	comp=N,2.0nm,0.9s,baz=103,slow=5.2,SNR=5.6							
NB2	**NORSAR Subarra**	**43.65**	**323**	P		**P**	**14 08 37.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=99,slow=8.6							
NOA	**NORSAR Array B**	**43.65**	**323**	P		**P**	**14 08 37.9**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=100,slow=8.1,SNR=8.1							
KSRS	**Korea Array**	**46.50**	**70**	P		**P**	**14 08 59.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=278,slow=7.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**64.10**	**268**	P		**P**	**14 11 07.7**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=46,slow=6.1,SNR=6.6							
INK	**Inuvik**	**74.44**	**9**	P		**P**	**14 12 11.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=344,slow=4.6,SNR=5.4							
ILAR	**Eielson Array**	**75.49**	**15**	P		**P**	**14 12 16.8**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=318,slow=4.9,SNR=4.7							
YKA	**Yellowknife Ar**	**81.60**	**2**	P		**P**	**14 12 51.5**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=348,slow=6.2,SNR=7.1							
WRA	**Warramunga Arr**	**83.22**	**121**	P		**P**	**14 12 57.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=325,slow=4.9,SNR=12							
ASAR	**Alice Springs**	**85.42**	**124**	P		**P**	**14 13 09.1**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=315,slow=4.6,SNR=15							

*FUNV **11** 14:08:18.7, 6.69N×73.16W, h164km, MW2.9*
*ISCJB **11** 14:08:19.3±0.7, 6.92N±0.08×73.09W±0.10, h161km, mb3.2/1, Error ellipse: s-maj=15.9km s-min=6.3km az=35.7*
*IDC **11** 14:08:21.0±7.0, 6.73N×75.91W, h118km±80km, mb2.9/1, mb1 3.2/2, mb1mx2.8/36, mbtmp3.3/2, ML2.0/1, Error ellipse: s-maj=155.6km s-min=41.3km az=77.0*

ISC 11 14:08:19.7±1.2, 6.88N±0.09×73.1W±0.1, h161km, n10, σ0°72/14, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**37**	*e*P		**Pn**	**14 08 48.4**	**+0.6**
CAPV				*e*S		**Sn**	**14 09 09.8**	**+0.4**
ROSC	**El Rosal**	**2.37**	**212**	P		Pn	14 09 00.5	+0.2
	6.9nm,0.3s,baz=106,slow=3.6,SNR=32							
ROSC				S		**Sn**	**14 09 31.3**	**-0.2**
	16nm,0.3s,baz=65,slow=18,SNR=15							
VIGV	**El Vigia**	**2.58**	**41**	*e*P		**Pn**	**14 09 03.1**	**+0.7**
VIGV				*e*S		**Sn**	**14 09 35.1**	**-0.4**
SOCV	**Socops**	**2.60**	**57**	*e*P		**Pn**	**14 09 03.5**	**+0.9**
SOCV				*e*S		**Sn**	**14 09 35.8**	**0.0**
VIRV	**Villa del Rosa**	**3.66**	**10**	*e*P		**Pn**	**14 09 15.3**	**-0.6**
VIRV				*e*S		**Sn**	**14 09 59.2**	**-0.6**
CURV	**Curarigua**	**4.37**	**44**	*e*P		**Pn**	**14 09 25.4**	**+0.1**
TEPV	**Terepaima**	**4.91**	**51**	*e*P		**Pn**	**14 09 32.4**	**+0.2**
BAUV	**El Baul**	**5.38**	**67**	*e*P		**Pn**	**14 09 37.0**	**-1.4**
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**14 18 31.2**	**+0.6**
	0.2nm,0.6s,baz=134,slow=6.7,SNR=7.4							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**	**14 27 52.5**	**-0.6**
	0.2nm,0.7s,baz=107,slow=2.8,SNR=5.1							

*ISCJB **11** 14:14:07.6±0.6, 32.08N±0.03×115.06W±0.05, h18km±6km, Error ellipse: s-maj=7.5km s-min=4.7km az=172.3*
*ECX **11** 14:14:09.3±0.4, 32.10N×115.06W, h10km, MD3.0, ML3.2*
*MEX **11** 14:14:10.7±0.8, 32.10N×115.06W, h15km, MD3.6*
*NEIC **11** 14:14:11.8, 32.14N×115.36W, h33km, ML3.0(PAS), After PAS.*

ISC 11 14:14:08.4±1.0, 32°03N±0°03×115°21W±0°06, h15km±6km, n24, σ0°89/30, 6C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.05**	**214**	⇑*e*P		**Pg**	**14 14 10.7**	**-0.6**
EMX				*e*S		**Sg**	**14 14 13.8**	**+0.7**
MBIG	**Mexicali**	**0.38**	**1**	*e*P		**Pg**	**14 14 16.1**	**0.0**
MBIG				*i* S		**Sg**	**14 14 21.9**	**+0.6**
CPBX	**Cerro Prieto**	**0.39**	**348**	⇑*e*P		**Pg**	**14 14 16.5**	**0.0**
CPBX				*e*			14 14 21.9	
CPBX				AML	AML		14 14 21.9	
	comp=N,15μm,0.3s							
CPBX	**Cerro Prieto**	**0.39**	**348**	*e*P		**Pg**	**14 14 16.4**	**0.0**
CPBX				*e*S		**Sg**	**14 14 19.5**	**-2.3**
ECBX	**El Chinero**	**0.57**	**167**	⇓*e*P		**Pg**	**14 14 18.4**	**-1.3**
ECBX				*e*S		**Sg**	**14 14 26.8**	**-0.5**
RDX	**Rancho Dawling**	**0.63**	**261**	⇑*e*P		**Pn**	**14 14 22.9**	**-0.1**
RDX				*e*S		**Sn**	**14 14 33.6**	**+0.6**
RMX	**La Rumorosa**	**0.93**	**308**	⇑*e*P		**Pb**	**14 14 26.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.01**	**193**	*e*P		**Pn**	**14 14 28.9**	**+0.5**
SPIG				*e*S		**Sg**	**14 14 41.5**	**+0.2**
SPIG	**San Pedro Mart**	**1.01**	**193**	*e*P		**Pn**	**14 14 28.9**	**+0.5**
SPIG				*e*S		**Sg**	**14 14 41.5**	**+0.2**
SPX	**San Pedro Mart**	**1.01**	**193**	⇓*e*P		**Pn**	**14 14 28.8**	**+0.4**
SPX	**San Pedro Mart**	**1.01**	**193**	*e*P		**Pn**	**14 14 28.7**	**+0.4**
ZAX	**El Zacaton**	**1.04**	**241**	*e*P		**Pn**	**14 14 29.5**	**+0.8**
ZAX				⇑*e*			14 14 54.8	
ZAX				AML	AML		14 14 54.8	
	comp=E,320nm,0.6s							
GLA	**Glamis**	**1.07**	**17**	*e*Pn		Pb	14 14 25.6	-3.1
CBX	**Cerro Bola**	**1.27**	**283**	*e*P		**Pb**	**14 14 32.7**	**+0.6**
CBX				*e*S		**Sb**	**14 14 47.9**	**-0.4**
CBX	**Cerro Bola**	**1.27**	**283**	*e*P		**Pb**	**14 14 33.0**	**+0.9**
CBX				⇑*e*			14 14 52.9	
CBX				AML	AML		14 14 53.2	
	comp=N,380nm,0.5s							
CBX	**Cerro Bola**	**1.27**	**283**	*e*P		**Pb**	**14 14 32.7**	**+0.6**
CBX				*e*S		**Sb**	**14 14 47.9**	**-0.4**
PBX	**Punta Banda**	**1.32**	**258**	*e*P		**Pb**	**14 14 33.8**	**+0.8**
BAR	**Barrett**	**1.40**	**298**	*e*Pn		**Pb**	**14 14 35.1**	**+0.8**
BAR				*e*Sg		**Sn**	**14 14 50.1**	**-1.5**
PFO	**Pinyon Flats O**	**1.89**	**327**	*e*Pn		**Pn**	**14 14 39.7**	**-0.6**
214A	**Organ Pipe Nat**	**2.04**	**91**	*e*Pn		Pn	14 14 38.1	-4.1
LDFC	**Landfair**	**3.04**	**2**	*e*Pn		**Pn**	**14 14 58.0**	**+1.9**
MWC	**Mount Wilson**	**3.24**	**313**	Pn		Pn	14 14 56.2	-2.7
SHPR	**Sheep Range**	**4.46**	**0**	*e*Pn		**Pn**	**14 15 15.3**	**-0.4**
WUAZ	**Wupatki**	**4.72**	**42**	Pn		Pn	14 15 22.8	+3.5

*MEX **11** 14:29:04.9±0.8, 32.50N×114.91W, h15km, MD3.2*
*NEIC **11** 14:29:05.6, 32.16N×115.38W, h4km, MD3.5(MEX), ML3.3(PAS), After PAS.*
*ISCJB **11** 14:29:06.5±0.4, 32.31N±0.02×115.32W±0.04, h12km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=5.2*
*ECX **11** 14:29:08.2±0.7, 32.30N×115.36W, h6km, MD2.7, ML2.9*

ISC 11 14:29:06.5±0.9, 32°27N±0°03×115°35W±0°03, h13km±7km, n27, σ0°77/40, 4C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**14**	⇑*e*P		**Pg**	**14 29 16.4**	**+0.2**
CPBX				*e*S		**Sg**	**14 29 12.9**	**+0.1**
CPBX				AML	AML		14 29 15.6	
	comp=N,13μm,0.2s							
CPBX				*e*			14 29 15.6	
CPBX				⇑*e*			14 29 19.4	
CPBX				AML	AML		14 29 19.4	
	comp=E,13μm,0.1s							
CPBX	**Cerro Prieto**	**0.15**	**14**	*e*P		**Pg**	**14 29 10.3**	**+0.2**
MBIG	**Mexicali**	**0.18**	**43**	*i* P		**Pg**	**14 29 09.2**	**-1.5**
MBIG				*e*S		**Sg**	**14 29 14.2**	**+0.6**
EMX	**El Mayor**	**0.30**	**162**	*e*P		Pg	14 29 13.4	+0.7
EMX				*e*S		**Sg**	**14 29 18.1**	**+1.3**
SGL	**Mount Signal**	**0.49**	**320**	⇓*i*P		**Pg**	**14 29 16.3**	**+0.1**
RDX	**Rancho Dawling**	**0.61**	**236**	⇓*e*P		**Pb**	**14 29 19.0**	**-0.1**
RDX				*e*S		**Sb**	**14 29 27.8**	**+0.1**
YUH	**Yuha Desert**	**0.61**	**308**	⇓*i*P		**Pg**	**14 29 18.3**	**-0.2**
COA	**Coachella**	**0.62**	**18**	⇓*i*P		**Pg**	**14 29 19.0**	**+0.4**
COK	**Cook Ranch**	**0.66**	**331**	⇑*i*P		**Pg**	**14 29 19.8**	**+0.5**
RMX	**La Rumorosa**	**0.70**	**298**	*e*P		**Pg**	**14 29 19.9**	**-0.2**
RMX				*e*S		**Sg**	**14 29 29.5**	**+0.1**
YMD	**Yuma Desert**	**0.73**	**67**	⇓*i*P		**Pg**	**14 29 21.0**	**+0.2**
CRR	**Carrizo Plain**	**0.81**	**320**	⇓*i*P		**Pg**	**14 29 21.9**	**-0.2**
ECBX	**El Chinero**	**0.84**	**162**	*e*P		**Pn**	**14 29 23.4**	**-0.5**
ECBX				*e*S		**Sn**	**14 29 35.0**	**-1.0**
GLA	**Glamis**	**0.89**	**29**	*e*Pg		**Pg**	**14 29 22.9**	**-0.9**
GLA				*e*Sg		**Sg**	**14 29 35.4**	**-0.1**
ZAX	**El Zacaton**	**1.09**	**226**	*e*P		**Pn**	**14 29 27.9**	**+0.4**
ZAX				*e*S		**Sn**	**14 29 42.3**	**-0.2**
ZAX				AML	AML		14 29 44.2	
	comp=N,242nm,0.6s							
ZAX				⇑*e*			14 29 45.3	
CBX	**Cerro Bola**	**1.11**	**272**	*e*P		**Pb**	**14 29 27.6**	**0.0**
CBX				*i* S		**Sn**	**14 29 45.3**	**+2.2**
CBX	**Cerro Bola**	**1.11**	**272**	*e*P		**Pb**	**14 29 27.7**	**0.0**
CBX				*e*S		**Sb**	**14 29 42.6**	**+0.5**
CBX	**Cerro Bola**	**1.11**	**272**	*e*P		**Pb**	**14 29 27.6**	**0.0**
CBX				*e*S		Sn	14 30 05.3	+22
BAR	**Barrett**	**1.19**	**290**	*e*P		**Pg**	**14 29 28.3**	**-1.2**
BAR				*e*S		**Sg**	**14 29 43.5**	**-1.5**
ECNX	**Esteban Cantu**	**1.23**	**240**	⇓*e*P		**Pn**	**14 29 30.0**	**+0.6**
ECNX				*e*S		**Sn**	**14 29 46.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.23**	**185**	*e*P		**Pn**	**14 29 28.8**	**-0.8**
SPIG				*i* S		**Sn**	**14 29 46.4**	**+0.2**
SPIG	**San Pedro Mart**	**1.23**	**185**	*e*P		**Pn**	**14 29 28.8**	**-0.8**
SPIG				*i* S		**Sn**	**14 29 46.4**	**+0.2**
SPX	**San Pedro Mart**	**1.23**	**185**	*e*P		**Pn**	**14 29 29.7**	**+0.1**
PFO	**Pinyon Flats O**	**1.63**	**325**	*e*Pn		**Pn**	**14 29 33.6**	**-1.3**
214A	**Organ Pipe Nat**	**2.17**	**98**	*e*Pn		**Pn**	**14 29 41.6**	**-0.8**
LDFC	**Landfair**	**2.81**	**4**	*e*Pn		**Pn**	**14 29 51.8**	**+0.7**
TUC	**Tucson**	**3.87**	**88**	*e*Pg		**Pg**	**14 30 21.2**	**+0.7**

*ISCJB **11** 14:47:44.3±0.7, 18.40S±0.08×16.03E±0.09, h10km, mb3.6/4, Error ellipse: s-maj=13.9km s-min=9.2km az=146.0*
*NEIC **11** 14:47:45.9±0.6, 18.38S×15.96E, h10km, ML4.0(PRE), Error ellipse: s-maj=15.4km s-min=8.8km az=55.0*
*IDC **11** 14:47:48.9±5.5, 18.35S×15.93E, h26km±36km, mb3.5/4, mb1 3.9/7, mb1mx3.6/28, mbtmp3.9/7, ML4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/33, Error ellipse: s-maj=31.6km s-min=22.2km az=67.0*

ISC 11 14:47:46.5±0.7, 18°37S±0°10×15°91E±0°07, h10km, n30, σ1°56/31, mb3.8/4, 1D, Namibia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I35NA	**TSUMEB INFRASO**	**1.78**	**118**	Pn		**Pb**	**14 48 20.0**	**+0.7**
	baz=288,slow=27,SNR=0.5							
I35NA				Lg		Lg	14 48 46.1	
TSUM	**Tsumeb**	**1.79**	**118**	Pn		**Pb**	**14 48 19.4**	**0.0**
	65nm,0.3s,baz=312,slow=8.9,SNR=2511							
TSUM				Sn		**Sn**	**14 48 39.8**	**-0.7**
	377nm,0.3s,baz=276,slow=19,SNR=20							
TSUM				Lg		Lg	14 48 46.0	
	2μm,0.3s,baz=210,slow=20,SNR=62							
TSUM				LR		LR	14 49 13.4	
	comp=Z,494nm,19.2s,baz=262,slow=48							
TSUM	**Tsumeb**	**1.79**	**118**	⇓*i*P		**Pb**	**14 48 19.5**	**0.0**
TSUM				*e*Pb		**Pg**	**14 48 23.5**	**+2.6**
TSUM				*e*Pg		Pn	14 48 26.1	+8.5
TSUM				*e*S		**Sb**	**14 48 41.9**	**-0.1**
TSUM				*e*Sb		**Sg**	**14 48 45.8**	**+1.6**
TSUM				*e*Sg		Sn	14 48 48.0	+7.5
TSUM				*e*Lg		Lg	14 48 53.2	
UPI	**Upington**	**11.09**	**155**	*e*P		**Pn**	**14 50 24.0**	**-1.3**
UPI				*e*S		Sn	14 52 18.1	-11
LBTB	**Lobatse**	**11.17**	**128**	Pn		**Pn**	**14 50 25.3**	**-1.1**
	1.7nm,0.3s,baz=312,slow=

comp=N,0.3nm,0.3s,baz=344,slow=15,SNR=9.6
PLCA Paso Flores 7.97 171 *e*Pn **Pn 14 52 34.1 +0.4**
TRQA Tornquist 9.82 125 *e*P **Pn 14 53 00.2 +1.2**
LVC Limon Verde 10.62 17 *e*P **Pn 14 53 09.2 -1.1**
LPAZ La Paz 16.91 14 Pn **Pn 14 54 35.8 +0.7**
comp=N,0.1nm,0.3s,baz=180,slow=8.9,SNR=7.8
LPAZ La Paz 16.91 14 *e*P **Pn 14 54 35.5 +0.4**
comp=N,7.5nm,0.8s
SIV San Ignacio 19.59 34 P **Pn 14 55 08.0 +0.5**
comp=N,0.2nm,0.3s,baz=223,slow=9.4,SNR=5.0
SAML Samuel 25.22 21 P **P 14 56 03.5 -0.2**
comp=N,3.4nm,0.9s
BDFB Brasilia 27.83 58 P **P 14 56 26.8 -0.7**
comp=N,2.3nm,0.7s,baz=210,slow=16,SNR=3.0
PMSA Palmer Station 32.33 173 *e*P **P 14 57 06.0 -0.6**
PTGA Pitinga 33.98 22 *e*P **P 14 57 21.6 +0.1**
SNAA Sanae 52.69 158 P **P 14 59 52.4 +0.5**
comp=N,0.8nm,0.8s,baz=292,slow=11,SNR=3.6
TXAR Lajitas Array 68.67 331 P **P 15 01 41.4 0.0**
comp=N,1.0nm,0.7s,baz=150,slow=7.7,SNR=13
PDAR Pinedale Array 82.69 333 P **P 15 03 02.5 +1.0**
comp=N,0.8nm,1.0s,baz=156,slow=9.9,SNR=4.7
NVAR Mina Array Bea 82.87 325 P **P 15 03 03.0 +0.5**
comp=N,0.8nm,0.8s,baz=150,slow=4.4,SNR=4.4
TORD Torodi Ar. Bea 83.96 70 P **P 15 03 08.3 -0.1**
comp=N,1.1nm,0.8s,baz=261,slow=4.8,SNR=6.7
ULM Lac du Bonnet 85.36 345 P **P 15 03 14.2 -0.4**
comp=N,1.5nm,0.9s,baz=141,slow=2.3,SNR=3.5
YKA Yellowknife Ar 100.94 341 P **Pdif 15 04 25.9 -0.5**
comp=N,0.1nm,0.6s,baz=143,slow=4.0,SNR=4.6
WRA Warramunga Arr 121.68 210 PKP **PKPdf 15 09 31.6 -0.7**
comp=N,0.3nm,0.9s,baz=155,slow=1.8,SNR=4.3
H11S2 WAKE ISLAND Hyl 25.64 270 T T 17 29 32.2
baz=118,slow=74,SNR=7.4
H11S1 WAKE ISLAND Hyl 25.65 270 T T 17 29 22.3
baz=118,slow=74,SNR=6.3
H11S3 WAKE ISLAND Hyl 25.65 270 T T 17 29 34.2
baz=118,slow=74,SNR=3.7
BVAR Borovoye Array 146.54 42 PKPbc **PKPdf 15 10 17.8 +0.6**
comp=N,0.6nm,0.6s,baz=253,slow=1.5,SNR=5.3
KURBB Kurchatov Arra 152.13 42 PKPbc **PKPbc 15 10 32.6 -0.2**
comp=N,0.5nm,0.6s,baz=300,slow=3.0,SNR=12
KURK Kurchatov 152.14 42 *e*PKPbc **PKPbc 15 10 32.9 0.0**
ZALV Zalesovo Beam 153.33 31 PKPbc **PKPbc 15 10 35.4 0.0**
comp=N,1.2nm,0.7s,baz=298,slow=3.2,SNR=6.2
MKAR Makanchi Array 156.11 47 PKPab **PKPab 15 10 59.9 +0.2**
comp=N,0.9nm,0.8s,baz=300,slow=4.9,SNR=9.0

*ISCJB **11** 14:51:19.2±1.0, 32.80S±0.06×72.24W±0.09, h15km, mb4.1/1, Error ellipse: s-maj=12.4km s-min=7.1km az=150.2*
*NEIC **11** 14:51:20.5, 32.99S×72.20W, h6km, mb4.1/2, ML4.4(GUC), After GUC.*
NEIC Felt [II] at Quillota and San Antonio.
*GUC **11** 14:51:20.5±0.4, 32.99S×72.20W, h6km±2km, ML4.4*
ISC 11 14:51:20.2±1.3, 32.98S±0.07×72.22W±0.08, h15km, n12, σ0.54/16, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.49**	**96**	⇓	*i*P	**Pg**	**14 51 29.8**	**-0.2**
IHA					*i*S	**Sb**	**14 51 37.3**	**-0.2**
IHA	**Instituto Hidr**	**0.49**	**96**	⇓	*i*P	**Pg**	**14 51 29.8**	**-0.2**
IHA					*i*S	**Sb**	**14 51 37.3**	**-0.2**
PEL	**Peldehue**	**1.30**	**98**	*e*	P	**Pn**	**14 51 43.7**	**-0.2**
PEL					*i*S	**Sn**	**14 52 01.1**	**0.0**
PEL				AML		AML	14 52 07.8	
	comp=N,16μm,0.5s							
PEL	**Peldehue**	**1.30**	**98**	*e*	P	**Pn**	**14 51 43.7**	**-0.2**
PEL					*i*S	**Sn**	**14 52 01.1**	**0.0**
CLCH	**Cerro Calan**	**1.47**	**107**	⇓	*i*P	**Pn**	**14 51 46.6**	**+0.4**
CLCH					*i*S	**Sb**	**14 52 06.3**	**+0.4**
CLCH				AML		AML	14 52 14.6	
	comp=E,9μm,0.7s							
NICH	**Los Niches**	**2.18**	**158**	P		**Pb**	**14 52 00.0**	**+0.6**
NICH				*e*S		**Sb**	**14 52 25.7**	**-0.5**
LCO	**Las Campanas**	**4.17**	**19**	Pn		Pn	14 52 19.5	-4.1
TRQA	**Tornquist**	**9.76**	**124**	*e*P		Pn	14 53 44.1	+4.0
LVC	**Limon Verde**	**10.73**	**17**	*e*P		**Pn**	**14 53 54.6**	**+0.9**
LPAZ	**La Paz**	**17.03**	**14**	*e*P		**P**	**14 55 20.3**	**0.0**
	comp=E,7.9nm,0.8s							
SAML	**Samuel**	**25.33**	**21**	P		**P**	**14 56 45.4**	**-1.1**
	comp=E,6.6nm,1.1s							
DBIC	**Dimbokro**	**75.00**	**72**	P		**P**	**15 03 00.7**	**-0.7**

*MEX **11** 14:56:17.5±0.7, 32.18N×114.70W, h9km±36km, MD3.8*
*ISCJB **11** 14:56:18.2±0.6, 32.10N±0.02×115.04W±0.03, h14km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=18.1*
*NEIC **11** 14:56:19.0, 32.10N×115.06W, h3km, ML3.3(ECX), ML3.3(PAS), After ECX.*
*ECX **11** 14:56:19.8±0.5, 32.09N×115.08W, h10km, MD3.5, ML3.7*
ISC 11 14:56:18.3±0.9, 32.07N±0.02×115.08W±0.03, h14km±7km, n35, σ0.71/50, 7C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EMX	**El Mayor**	**0.16**	**239**	⇑	*e*P	**Pg**	**14 56 21.9**	**-0.4**
EMX					*e*S	**Sg**	**14 56 24.8**	**-0.2**
MBIG	**Mexicali**	**0.35**	**343**		*i*P	**Pg**	**14 56 25.9**	**+0.5**
MBIG					*e*S	**Sb**	**14 56 32.7**	**+1.0**
CPBX	**Cerro Prieto**	**0.39**	**331**	⇑	*e*P	**Pg**	**14 56 26.6**	**+0.3**
CPBX					*e*S	**Sg**	**14 56 32.2**	**+0.6**
CPBX				⇑	*e*		14 56 35.4	
CPBX				AML		AML	14 56 35.4	
	comp=N,23μm,0.3s							
CPBX	**Cerro Prieto**	**0.39**	**331**		*e*P	**Pg**	**14 56 26.5**	**+0.3**
CPBX					*i*S	**Sb**	**14 56 33.8**	**+0.7**
ECBX	**El Chinero**	**0.60**	**178**	⇓	*e*P	**Pb**	**14 56 30.5**	**-0.1**
ECBX					*e*S	**Sb**	**14 56 39.3**	**+0.3**
YMD	**Yuma Desert**	**0.66**	**43**	⇑	*i*P	**Pg**	**14 56 31.4**	**+0.2**
RDX	**Rancho Dawling**	**0.75**	**259**	⇑	*e*P	**Pg**	**14 56 33.0**	**+0.1**
RDX					*e*S	**Sb**	**14 56 44.0**	**+0.5**
COA	**Coachella**	**0.79**	**357**	⇑	*i*P	**Pg**	**14 56 32.8**	**-0.9**
SGL	**Mount Signal**	**0.79**	**316**	⇓	*i*P	**Pg**	**14 56 33.4**	**-0.4**
YUH	**Yuha Desert**	**0.92**	**309**	⇓	*i*P	**Pg**	**14 56 35.4**	**-0.7**
GLA	**Glamis**	**1.00**	**12**		*e*P	**Pb**	**14 56 35.9**	**-1.6**
RMX	**La Rumorosa**	**1.00**	**302**	⇓	*e*P	**Pb**	**14 56 37.1**	**-0.5**
RMX					*e*S	**Sg**	**14 56 50.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.08**	**198**		*e*P	**Pg**	**14 56 39.0**	**-0.2**
SPIG					*i*S	**Sn**	**14 56 54.5**	**+0.2**
SPIG	**San Pedro Mart**	**1.08**	**198**		*e*P	**Pg**	**14 56 39.0**	**-0.2**
SPIG					*i*S	**Sn**	**14 56 54.5**	**+0.2**
SPX	**San Pedro Mart**	**1.08**	**198**	⇓	*e*P	**Pg**	**14 56 39.0**	**-0.2**
SPX	**San Pedro Mart**	**1.08**	**198**		*e*P	**Pg**	**14 56 39.0**	**-0.2**
SPX					*e*S	**Sb**	**14 56 52.6**	**-0.5**
ZAX	**El Zacaton**	**1.16**	**242**	⇓	*e*P	**Pb**	**14 56 40.1**	**-0.2**
ZAX				AML		AML	14 56 60.0	
	comp=E,1μm,0.6s							
ZAX				⇓	*e*		14 56 60.0	
ECNX	**Esteban Cantu**	**1.36**	**253**	⇓	*e*P	**Pn**	**14 56 42.9**	**-0.1**
ECNX					*e*S	**Sb**	**14 57 01.1**	**+0.2**
CBX	**Cerro Bola**	**1.37**	**280**		*e*P	**Pn**	**14 56 43.5**	**+0.3**
CBX					*e*S	**Sg**	**14 57 03.4**	**+1.0**
CBX	**Cerro Bola**	**1.37**	**280**		*e*P	**Pn**	**14 56 43.5**	**+0.3**
CBX					*e*S	**Sn**	**14 57 01.7**	**+0.5**
CBX				⇑	*e*		14 57 03.8	
CBX				AML		AML	14 57 03.8	
	comp=N,2μm,0.5s							
CBX	**Cerro Bola**	**1.37**	**280**		*e*P	**Pn**	**14 56 43.5**	**+0.3**
CBX					*e*S	**Sn**	**14 57 00.8**	**-0.4**
PBX	**Punta Banda**	**1.44**	**257**	⇓	*e*P	**Pn**	**14 56 44.2**	**+0.1**
BAR	**Barrett**	**1.48**	**295**		*e*Pn	**Pn**	**14 56 44.7**	**0.0**
BAR					*e*Sn	**Sn**	**14 57 02.4**	**-1.4**
PFO	**Pinyon Flats O**	**1.92**	**323**		*e*Pn	Pn	14 56 47.9	-3.0
214A	**Organ Pipe Nat**	**1.93**	**93**		*e*Pn	**Pn**	**14 56 49.5**	**-1.3**
LDFC	**Landfair**	**3.00**	**359**		*e*Pn	**Pn**	**14 57 05.8**	**+0.2**
MWC	**Mount Wilson**	**3.29**	**311**		Pn	**Pn**	**14 57 10.9**	**+1.2**
GSC	**Goldstone, Bar**	**3.53**	**336**		*e*Pg	**Pg**	**14 57 24.3**	**-1.6**
TUC	**Tucson**	**3.65**	**85**		*e*Pn	**Pn**	**14 57 15.3**	**+0.8**
TUC					*e*S	Sn	14 57 26.8	-31
SHPR	**Sheep Range**	**4.42**	**359**		*e*Pn	**Pn**	**14 57 25.9**	**+0.7**
ISA	**Isabella, Lake**	**4.56**	**323**		*e*Pg	**Pg**	**14 57 45.5**	**-0.2**
WUAZ	**Wupatki**	**4.62**	**41**		*e*Pn	**Pn**	**14 57 28.7**	**+0.8**
DAC	**Darwin (Calif)**	**4.68**	**334**		*e*Pn	**Pn**	**14 57 29.3**	**+0.5**
DAC					*e*Pg	**Pg**	**14 57 47.6**	**-0.5**
W18A	**Petrified Fore**	**5.39**	**54**		Pn	**Pn**	**14 57 40.3**	**+1.8**
	comp=N,12nm,0.6s							
121A	**Cookes Peak, D**	**6.19**	**84**		*e*Pn	**Pn**	**14 57 50.6**	**+1.0**
	comp=N,7.4nm,0.7s							

*IDC **11** 15:17:05.0±0.6, 1.03S×120.49E, h0km, mb4.1/15, mb1 4.2/16, mb1mx4.0/37, mbtmp4.1/16, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/38, Error ellipse: s-maj=30.3km s-min=13.0km az=69.0*
*DJA **11** 15:17:08.1±0.2, 1.5±2.2×12.0E±.°, h10km, M4.6/16, mb4.7/7, mB4.9/3, MLv4.6/16, Mw(mB)4.2/3*
*ISCJB **11** 15:17:10.0±0.3, 1.10S±0.03×120.46E±0.04, h49km, mb4.1/21, MS3.8/1, Error ellipse: s-maj=5.3km s-min=4.7km az=179.7*
*NEIC **11** 15:17:09.5±2.7, 1.04S×120.50E, h30km±20km, mb4.2/6, Error ellipse: s-maj=11.5km s-min=6.4km az=79.0*
ISC 11 15:17:11.9±0.5, 1.03S±0.05×120.41E±0.05, h49km, n66, σ1.9/63/66, mb4.1/21, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APSI	**Ampana**	**1.24**	**85**	P		**Pn**	**15 17 31.4**	**-1.5**
APSI				S		**Sn**	**15 17 50.9**	**+2.4**
MPSI	**Mapaga**	**1.45**	**339**	P		Pn	15 17 30.0	-5.8
TTSI	**Tana Toraja**	**2.09**	**197**	P		**Pn**	**15 17 43.5**	**-1.0**
MRSI	**Marisa**	**2.14**	**46**	P		**Pn**	**15 17 43.9**	**-1.3**
MRSI				S		**Sn**	**15 18 12.6**	**+2.0**
TOLI	**Toli-Toli**	**2.17**	**10**	*e*	P	**Pn**	**15 17 42.8**	**-2.9**
LUWI	**Luwuk**	**2.36**	**90**		P	**Pn**	**15 17 46.8**	**-1.4**
LUWI	**Luwuk**	**2.36**	**90**	*e*	P	**Pn**	**15 17 46.4**	**-1.8**
SPSI	**Sidrap Palu**	**2.98**	**192**		P	**Pn**	**15 17 55.0**	**-1.8**
GTOI	**Gorontalo**	**3.08**	**58**		P	**Pn**	**15 17 55.9**	**-2.2**
BNSI	**Bone**	**3.36**	**185**		P	**Pn**	**15 18 01.1**	**-0.9**
BKB	**Balikpapan**	**3.52**	**266**		P	**Pn**	**15 18 01.9**	**-2.3**
KMSI	**Cibinong**	**3.91**	**66**		P	**Pn**	**15 18 09.4**	**-0.1**
KAPI	**Kappang**	**4.01**	**189**	*e*	Pn	**Pn**	**15 18 09.5**	**-1.4**
BKSI	**Bulukumba**	**4.27**	**184**		P	**Pn**	**15 18 12.1**	**-2.4**
BSSI	**Bau Bau, Buton**	**5.08**	**179**		P	**Pn**	**15 18 23.8**	**-1.8**
	173nm,0.6s,0.6nm							
MTKI	**Muara Teweh, K**	**5.52**	**271**		P	**Pn**	**15 18 28.6**	**-3.0**
SANI	**Sanana**	**5.66**	**100**		P	**Pn**	**15 18 35.4**	**+1.8**
	30nm,0.6s,1μm0.1nm							
BBKI	**Banjar Baru**	**6.07**	**246**		P	**Pn**	**15 18 37.3**	**-1.9**
	100nm,0.6s,2μm0.7nm							
LBMI	**Labuha**	**7.10**	**87**		P	**Pn**	**15 18 50.6**	**-2.7**
SRBI	**Singaraja**	**8.71**	**216**		P	**Pn**	**15 19 15.1**	**-0.4**
	48nm,0.6s							
STKI	**Sintang**	**9.00**	**277**		P	**Pn**	**15 19 16.4**	**-3.0**
	24nm,0.7s							
SOEI	**Soe**	**9.48**	**156**		P	Pn	15 19 41.0	+15
BATI	**Baumata**	**9.67**	**161**		P	**Pn**	**15 19 30.2**	**+1.6**
BATI	**Baumata**	**9.67**	**161**		Pn	Pn	15 19 24.3	-4.3
	1.0nm,0.3s,baz=100,slow=12,SNR=2.5							
BATI					LR	LR	15 24 07.2	
	comp=Z,198nm,19.6s,baz=76,slow=44							
FAKI	**Fak Fak**	**11.98**	**99**	*e*	P	**Pn**	**15 19 57.6**	**-2.5**
CBJI	**Citeko**	**14.55**	**248**		P	P	15 20 45.1	+4.6
CGJI	**Cibinong**	**15.70**	**249**		P	**P**	**15 20 56.5**	**+3.3**
MDSI	**Maura Dua**	**16.57**	**258**		P	**P**	**15 21 05.6**	**+2.6**
FITZ	**Fitzroy Crossi**	**17.73**	**163**	*e*	P	**Pn**	**15 21 14.4**	**-0.9**
PDSI	**Padang**	**19.95**	**270**		P	**Pn**	**15 21 42.7**	**+0.5**
WRAB	**Tennant Creek**	**23.21**	**145**	*e*	P	**P**	**15 22 12.8**	**-2.1**
	5.6nm,0.8s							
WRA	**Warramunga Arr**	**23.22**	**145**		P	**P**	**15 22 13.1**	**-1.8**
	1.8nm,0.5s,baz=322,slow=11,SNR=37							
WRA					PcP	**PcP**	**15 26 02.0**	**+0.2**
	0.2nm,0.5s,baz=330,slow=1.9,SNR=4.9							
WB2	**Warramunga Arr**	**23.22**	**145**	*e*	P	**P**	**15 22 12.5**	**-2.5**
AS31	**Alice Springs**	**26.03**	**151**	*e*	P	**P**	**15 22 41.0**	**+0.3**
ASAR	**Alice Springs**	**26.03**	**151**		P	**P**	**15 22 39.8**	**-1.0**
	1.2nm,0.5s,baz=316,slow=7.5,SNR=27							
ASAR					PcP	**PcP**	**15 26 08.2**	**+0.2**
	1.3nm,0.5s,baz=338,slow=2.2,SNR=20							
CMAR	**Chiang Mai Arr**	**28.65**	**314**		P	**P**	**15 23 06.0**	**+1.7**
	1.7nm,0.7s,baz=136,slow=7.2,SNR=17							
NWAO	**Narrogin (SRO)**	**31.87**	**185**		P	**P**	**15 23 33.1**	**+0.6**
	4.8nm,0.6s,baz=358,slow=12,SNR=5.3							
SHL	**Shillong**	**38.21**	**316**	*ex*		**P**	**15 24 30.0**	**+2.5**
LSA	**Lhasa**	**41.40**	**320**		P	**P**	**15 24 54.3**	**+0.1**
	5.0nm,0.6s							
TAPN	**Taplejung**	**42.25**	**314**	*e*	P	**P**	**15 25 01.9**	**+0.8**
	24nm,0.5s							
RAMN	**Ramite**	**42.82**	**313**	*e*	P	**P**	**15 25 07.6**	**+1.9**
	56nm,1.2s							
JIRN	**Jiri**	**43.53**	**314**	*e*	P	**P**	**15 25 13.2**	**+1.7**
	19nm,0.7s							
GUN	**Gumba**	**43.90**	**314**	*e*	P	**P**	**15 25 15.9**	**+1.5**
	55nm,0.8s							
PKI	**Pulchoki**	**44.05**	**313**	*e*	P	**P**	**15 25 16.9**	**+1.3**
	10nm,0.6s							
KKN	**Kakani**	**44.26**	**313**	*e*	P	**P**	**15 25 18.6**	**+1.4**
GKN	**Gorkha**	**44.85**	**313**	*e*	P	**P**	**15 25 23.4**	**+1.5**
	12nm,0.4s							
KOLN	**Kolanda**	**45.49**	**312**	*e*	P	**P**	**15 25 28.3**	**+1.3**
	18nm,0.6s							
DANN	**Dangsing**	**45.69**	**313**	*e*	P	**P**	**15 25 29.9**	**+1.3**
	36nm,0.6s							
PYUN	**Piuthan**	**46.12**	**312**	*e*	P	**P**	**15 25 33.5**	**+1.5**
	114nm,0.7s							
USRK	**Ussuriysk Ar.**	**46.20**	**12**		P	**P**	**15 25 31.9**	**-0.1**
	1.4nm,0.5s,baz=231,slow=7.3,SNR=5.0							
ASAJ	**Asahikawa**	**49.12**	**21**		P	**P**	**15 25 54.2**	**-0.5**
	5.7nm,0.7s,baz=180,slow=11,SNR=4.6							
ULN	**Ulaanbaatar**	**50.07**	**348**	*e*	P	**P**	**15 26 01.5**	**-0.6**
SONM	**Songino Array**	**50.18**	**348**		P	**P**	**15 26 03.3**	**+0.4**
	0.7nm,0.6s,baz=164,slow=9.5,SNR=6.8							
MK31	**Makanchi Array**	**58.17**	**330**	*e*	P	**P**	**15 27 01.1**	**+0.2**
MKAR	**Makanchi Array**	**58.17**	**330**		P	**P**	**15 27 01.4**	**+0.5**
	1.7nm,0.5s,baz=129,slow=8.1,SNR=22							
KBL	**Kabul**	**59.66**	**312**	*e*	P	**P**	**15 27 11.7**	**-0.1**
	3.9nm,0.5s							
ZALV	**Zalesovo Beam**	**62.21**	**337**		P	**P**	**15 27 27.4**	**-1.0**
	1.5nm,0.7s,baz=120,slow=5.8,SNR=9.1							
PETK	**Petropavlovsk-**	**62.27**	**24**		P	**P**	**15 27 28.9**	**+0.1**
	3.5nm,0.9s,baz=223,slow=9.9,SNR=2.8							
KKAR	**Karatay Array**	**62.65**	**321**	*e*	P	**P**	**15 27 32.3**	**+0.7**
	1.2nm,0.7s							
BVAR	**Borovoye Array**	**68.05**	**330**		P	**P**	**15 28 05.4**	**-0.9**
	1.2nm,0.8s,baz=134,slow=11,SNR=8.2							
GEYT	**Alibeck**	**69.11**	**311**		P	**P**	**15 28 12.7**	**-0.5**
	1.8nm,0.8s,baz=298,slow=3.2,SNR=5.1							
ABKAR	**Akbulak array**	**71.98**	**323**	*e*	P	**P**	**15 28 30.0**	**-0.5**
	2.8nm,0.8s							
TIXI	**Tiksi**	**72.76**	**3**	*e*	P	**P**	**15 28 33.3**	**-1.4**
	1.0nm,0.6s							
VNDA	**Vanda**	**79.60**	**172**		P	**P**	**15 29 13.9**	**+0.4**
	0.9nm,0.8s,baz=301,slow=8.5,SNR=4.3							
KBZ	**Khabaz**	**81.70**	**314**		P	**P**	**15 29 26.2**	**+0.9**
	1.2nm,0.8s,baz=137,slow=2.2,SNR=4.1							
BRTR	**Keskin Array B**	**88.17**	**310**		P	**P**	**15 29 57.6**	**-0.5**
	1.3nm,0.8s,baz=133,slow=8.6,SNR=6.1							
BRTR					LR	LR	16 14 57.3	
	comp=Z,42nm,21.4s,baz=116,slow=39							

*ISCJB **11** 15:21:46.0±0.2, 24.97N±0.03×122.68E±0.02, h140km±2km, mb3.3/10, Error ellipse: s-maj=4.4km s-min=2.2km az=158.9*
*JMA **11** 15:21:47.1±0.2, 24.88N×122.64E, h136km±2km, M3.6*
*TAP **11** 15:21:47.8, 24.93N×122.70E, h131km±1km, ML4.5, D*
*IDC **11** 15:21:51.9±4.5, 25.08N×122.54E, h187km±43km, mb3.1/10, mb1 3.2/11, mb1mx3.0/47, mbtmp3.6/11, MS3.5/1, Ms1 3.5/1, ms1mx2.5/19, Error ellipse: s-maj=28.4km s-min=13.4km az=71.0*
ISC 11 15:21:46.8±0.7, 24.96N±0.04×122.67E±0.02, h139km±5km, n95, σ1.9/10/154, mb3.5/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	**Yonagunijimaku**	**0.56**	**154**		P	**Pn**	**15 22 07.2**	**-0.1**
JYNG					S	**Sn**	**15 22 22.4**	**-0.4**
YOJ	**Yonaguni jima**	**0.58**	**148**		P	**Pn**	**15 22 07.4**	**0.0**
YOJ					S	**Sn**	**15 22 22.9**	**-0.1**
TWB1	**Santiao Chiao**	**0.62**	**274**		P	**Pn**	**15 22 07.9**	**+0.3**
	baz=276							
TWB1					S	**Sn**	**15 22 22.9**	**-0.5**
	baz=276							
EGS		**0.68**	**260**		P	**Pn**	**15 22 08.6**	**+0.6**
	baz=262							
NWF	**Wu-fen Shan**	**0.82**	**278**	*e*	P	**Pn**	**15 22 09.5**	**+0.4**
	baz=279							
NWF					*e*S	**Sn**	**15 22 25.9**	**0.0**
	baz=279							
TWC	**Suao**	**0.83**	**245**		P	**Pn**	**15 22 08.9**	**-0.1**
	baz=247							
TWC					S	**Sn**	**15 22 24.4**	**-1.5**
	baz=247							
PCYT	**Pengchaiyu**	**0.86**	**321**		P	**Pn**	**15 22 10.3**	**+1.0**
	baz=321							
PCYT					S	**Sn**	**15 22 27.0**	**+0.5**
	baz=321							
ILA	**Ilan**	**0.86**	**257**	*e*	S	**Sn**	**15 22 26.0**	**-0.4**
	baz=258							
TWE	**Neicheng**	**0.94**	**256**	*e*	P	**Pn**	**15 22 10.4**	**+0.4**
	baz=257							
TWE					*e*S	**Sn**	**15 22 26.3**	**-1.4**
	baz=257							
TWA	**Mucha**	**0.99**	**271**		P	**Pn**	**15 22 10.5**	**+0.1**
	baz=272							
TWA					S	**Sn**	**15 22 27.7**	**-0.7**
	baz=272							
ENA	**Nanau**	**1.00**	**238**	*e*	P	**Pn**	**15 22 10.9**	**+0.4**
	baz=239							
ENA					*e*S	**Sn**	**15 22 28.2**	**-0.4**
	baz=239							
TWY	**Chenhua**	**1.02**	**288**	*e*	P	**Pn**	**15 22 11.2**	**+0.5**
	baz=289							
TWY					*e*S	**Sn**	**15 22 28.5**	**-0.4**
	baz=289							
ENTT	**Nioudou**	**1.05**	**253**	*e*	P	**Pn**	**15 22 11.5**	**+0.5**
	baz=253							
ENTT					*e*S	**Sn**	**15 22 29.8**	**+0.3**
	baz=253							
TAP	**Taipei**	**1.06**	**274**	*e*	P	**Pn**	**15 22 11.1**	**+0.1**
	baz=275							
TAP					*e*S	**Sn**	**15 22 28.6**	**-0.9**
	baz=275							
TWS1	**Kuangyinshan**	**1.15**	**277**	*e*	P	**Pn**	**15 22 12.1**	**+0.3**
	baz=278							
TWS1					*e*S	**Sn**	**15 22 30.6**	**-0.3**
	baz=278							
IRIF	**Iriomote-Funau**	**1.15**	**123**		P	**Pn**	**15 22 11.9**	**0.0**
IRIF					S	**Sn**	**15 22 30.5**	**-0.5**
NSK	**Sanguang**	**1.23**	**257**	*e*	P	**Pn**	**15 22 13.0**	**+0.2**
	baz=258							
NSK					*e*S	**Sn**	**15 22 31.7**	**-0.8**
	baz=258							
NNS	**Nan Shan**	**1.29**	**247**	*e*	P	**Pn**	**15 22 13.9**	**+0.4**
	baz=247							
NNS					*e*S	**Sn**	**15 22 32.6**	**-1.1**
	baz=247							
NCU	**National Centr**	**1.35**	**271**	*e*	P	**Pn**	**15 22 15.4**	**+1.5**
	baz=271							
NCU					*e*S	**Sn**	**15 22 35.2**	**+0.6**
	baz=271							
HATJ	**Hateruma jima**	**1.37**	**131**		P	**Pn**	**15 22 14.5**	**+0.4**
HATJ					S	**Sn**	**15 22 34.9**	**-0.1**
JIJ	**Ishigaki jima**	**1.46**	**114**		P	**Pn**	**15 22 15.2**	**+0.1**
JIJ					S	**Sn**	**15 22 35.3**	**-1.5**
WHF	**Hehuan Shan**	**1.52**	**238**		P	**Pn**	**15 22 16.6**	**+0.4**
	baz=238							
WHF					*e*S	**Sn**	**15 22 37.4**	**-1.1**
	baz=238							
TWT	**Tachien**	**1.53**	**243**		P	**Pn**	**15 22 17.2**	**+1.1**
	baz=244							
TWT					S	**Sn**	**15 22 37.9**	**-0.5**
	baz=244							
JISG	**Ishigakijimahi**	**1.54**	**104**		P	**Pn**	**15 22 16.3**	**+0.4**
JISG					S	**Sn**	**15 22 37.6**	**-0.5**
HSN	**Hsinchu**	**1.55**	**265**	*e*	P	**Pn**	**15 22 16.2**	**+0.1**
	baz=266							
HSN					*e*S	**Sn**	**15 22 37.8**	**-0.7**
	baz=266							
NSTT	**Nanjuang**	**1.55**	**258**	*e*	P	**Pn**	**15 22 16.3**	**+0.2**
	baz=258							
NSTT					*e*S	**Sn**	**15 22 37.6**	**-0.9**
	baz=258							
ESL	**Shilin**	**1.61**	**225**	*e*	P	**Pn**	**15 22 16.1**	**-0.6**
	baz=225							
NSY	**Sanyi**	**1.82**	**253**	*e*	P	**Pn**	**15 22 20.0**	**+0.9**
	baz=253							
NSY					*e*S	**Sn**	**15 22 43.7**	**-0.3**
	baz=253							
TWQ1	**Liyutan**	**1.83**	**251**	*e*	P	**Pn**	**15 22 19.8**	**+0.6**
	baz=251							
TWQ1					*e*S	**Sn**	**15 22 43.3**	**-0.9**
	baz=251							
WDT	**Danda**	**1.85**	**230**		P	**Pn**	**15 22 20.0**	**+0.2**
	baz=230							
WDT					S	**Sn**	**15 22 43.3**	**-1.7**
	baz=230							
JTJ	**Tarama**	**1.87**	**99**		P	**Pn**	**15 22 20.5**	**+0.8**
JTJ					S	**Sn**	**15 22 44.4**	**-0.5**
EHY	**Hungye

baz=213
TWK Hsinying 2.61 230 P **Pn** 15 22 29.3 +0.4
baz=230
TWK S **Sn** 15 23 00.9 -0.3
baz=230
CHN1 Nanshi 2.64 228 P **Pn** 15 22 29.1 0.0
baz=228
CHN1 S **Sn** 15 23 01.5 -0.3
baz=228
SGST Jiashian 2.67 226 P **Pn** 15 22 30.6 +1.0
baz=226
SGST S **Sn** 15 23 02.7 +0.2
baz=226
CHN3 Shinhua 2.82 229 eS **Sn** 15 23 07.3 +1.4
baz=229
ECL Taimali 2.83 214 eP **Pn** 15 22 30.9 -0.6
baz=214
SCLT Jiali 2.88 232 eS **Sn** 15 23 07.5 +0.3
baz=232
SSD Sandimen 2.89 221 eP **Pn** 15 22 34.5 +2.2
baz=220
SSD eS **Sn** 15 23 07.5 +0.1
baz=220
TAI1 Yung-k'ang 2.94 230 eS **Sn** 15 23 09.1 +0.5
baz=230
TWM1 Shoushan 2.96 225 eS **Sn** 15 23 10.1 +0.9
baz=224
SGLT Jiouru 2.99 222 eS **Sn** 15 23 13.9 +4.1
baz=222
EAST Anshuo 3.06 213 eP **Pn** 15 22 34.3 -0.3
baz=213
EAST eS **Sn** 15 23 09.5 -2.0
baz=213
LAY Lan-yu 3.09 200 eP **Pn** 15 22 34.2 -0.6
baz=199
LAY eS **Sn** 15 23 09.8 -2.3
baz=199
PNG Penghu 3.17 245 eP **Pn** 15 22 35.0 -0.8
baz=244
PNG eS **Sn** 15 23 11.1 -2.6
baz=244
SCZT Fangliau 3.19 217 eP **Pn** 15 22 37.8 +1.6
baz=216
SCZT eS **Sn** 15 23 16.0 +1.6
baz=216
WDGT Dungji 3.23 239 eS **Sn** 15 23 12.2 -3.1
baz=238
TWP Hsiaoliuchiu 3.36 220 eS **Sn** 15 23 19.9 +1.7
baz=219
HEN Hengchun 3.44 212 eS **Sn** 15 23 23.3 +3.2
baz=211
TWK1 Hengchun 3.46 210 eS **Sn** 15 23 21.4 +0.8
baz=210
JKE Kume jima 2 3.95 69 P **Pn** 15 22 46.5 +0.4
JKE eS **Sn** 15 23 33.3 +1.1
JAGN Aguni-jima 4.43 68 P **Pn** 15 22 52.3 0.0
JAGN eS **Sn** 15 23 42.7 -0.7
JJT2 Tamagusuku 2 4.73 75 P **Pn** 15 22 56.6 +0.2
JNTH Nagotoyohara 5.07 71 P **Pn** 15 23 00.2 -0.7
JIH Iheya 5.19 65 P **Pn** 15 23 02.0 -0.5
JOW Kunigami 5.38 69 P **Pn** 15 23 04.0 -1.0
JOKE Okinoerabujima 5.81 64 P **Pn** 15 23 09.5 -1.4
JTK Tokunoshima 6.29 62 P **Pn** 15 23 15.5 -1.8
JAMN Amaminishikomi 6.67 59 P **Pn** 15 23 20.3 -2.1
KSRS Korea Array 13.23 19 P **Pn** 15 24 51.5 +2.3
0.1nm,0.3s,baz=201,slow=13,SNR=4.4
CMAR Chiang Mai Arr 22.96 258 P **P** 15 26 39.5 +0.3
0.4nm,0.7s,baz=58,slow=7.3,SNR=4.2
SONM Songino Array 26.21 335 P **P** 15 27 08.4 -0.2
1.4nm,0.7s,baz=146,slow=10.0,SNR=7.6
MKAR Makanchi Array 38.74 315 P **P** 15 28 56.7 -0.7
0.4nm,0.4s,baz=99,slow=10.0,SNR=4.5
ZALV Zalesovo Beam 40.35 326 P **P** 15 29 09.2 -1.3
1.5nm,0.5s,baz=115,slow=8.8,SNR=6.8
WRA Warramunga Arr 46.05 165 P **P** 15 29 57.3 +0.6
0.1nm,0.5s,baz=347,slow=8.9,SNR=8.1
ASAR Alice Springs 49.55 166 P **P** 15 30 25.6 +2.0
0.3nm,1.1s,baz=354,slow=13,SNR=3.9
ASAR PcP **PcP** 15 31 43.2 -0.1
0.4nm,0.8s,baz=342,slow=4.0,SNR=5.2
GEYT Alibeck 55.58 300 LR LR 15 59 18.1
comp=Z,40nm,20.1s,baz=215,slow=40
FINES FINESS Array B 71.46 330 P **P** 15 32 50.2 -1.5
0.9nm,0.5s,baz=67,slow=4.7,SNR=11
HFS Hagfors 77.55 331 P **P** 15 33 26.3 -0.7
0.7nm,0.6s,baz=79,slow=7.5,SNR=4.2
NB2 NORSAR Subarra 78.17 332 P **P** 15 33 28.9 -1.5
comp=Z,1.0nm,0.7s,baz=54,slow=5.3
NOA NORSAR Array B 78.17 332 P **P** 15 33 29.3 -1.1
comp=Z,0.6nm,0.6s,baz=54,slow=5.2,SNR=4.5
YKA Yellowknife Ar 81.73 23 P **P** 15 33 49.1 -0.4
comp=Z,0.1nm,0.4s,baz=310,slow=4.8,SNR=4.4

*ISCJB **11** 15:27:41.1±0.7, 18°.25S±0°.08×169°.0E±0°.1, h201km, mb3.8/12, Error ellipse: s-maj=20.2km s-min=9.9km az=20.3*
*IDC **11** 15:27:43.5±2.6, 18°.37S×169°.00E, h213km±26km, mb3.6/11, mb1 3.7/12, mb1mx3.5/38, mbtmp4.1/12, MS3.7/2, Ms1 3.7/2, ms1mx2.9/23, Error ellipse: s-maj=22.6km s-min=18.1km az=12.0*
ISC 11 15:27:42.1±0.9, 18°.36S±0°.10×169°.0E±0°.2, h201km, n21, σ1s50/20, mb3.9/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAYA	**Yate Dam**	**4.28**	**208**	*eP*		**Pn**	**15 28 47.7**	**+0.3**
DZM	**Mont Dzumac**	**4.42**	**213**	P		**Pn**	**15 28 50.1**	**+0.9**
	9.4nm,0.3s,baz=296,slow=11,SNR=154							
DZM				S		**S**	**15 29 44.4**	**+2.8**
	5.6nm,0.3s,baz=257,slow=23,SNR=3.1							
DZM	**Mont Dzumac**	**4.42**	**213**	*eP*		**Pn**	**15 28 49.3**	**+0.1**
DZM				*eS*		**S**	**15 29 37.3**	**-4.3**
URZ	**Urewera**	**21.05**	**162**	P		**P**	**15 32 11.4**	**+0.9**
	4.8nm,0.6s,baz=302,slow=3.3,SNR=11							
CTA	**Charters Tower**	**21.57**	**262**	P		**P**	**15 32 16.2**	**+0.1**
	0.8nm,0.4s,baz=82,slow=7.1,SNR=3.5							
WRA	**Warramunga Arr**	**32.77**	**262**	P		**P**	**15 33 55.7**	**-0.8**
	0.4nm,0.3s,baz=81,slow=6.3,SNR=6.8							
ASAR	**Alice Springs**	**33.15**	**255**	P		**P**	**15 33 59.5**	**-0.3**
	1.9nm,0.3s,baz=82,slow=8.7,SNR=47							
JOW	**Kunigami**	**59.84**	**318**	LR		LR	15 59 32.7	
	comp=Z,54nm,20.5s,baz=285,slow=32							
LEM	**Lembang**	**60.77**	**272**	LR		LR	16 05 00.8	
	comp=Z,70nm,18.9s,baz=227,slow=37							
MJAR	**Matsushiro Arr**	**61.88**	**332**	P		**P**	**15 37 39.8**	**-0.4**
	1.3nm,0.7s,baz=151,slow=5.7,SNR=5.1							
PETK	**Petropavlovsk-**	**71.84**	**353**	P		**P**	**15 38 43.6**	**+0.9**
	3.2nm,0.7s,baz=148,slow=7.4,SNR=12							
CMAR	**Chiang Mai Arr**	**77.96**	**294**	P		**P**	**15 39 19.9**	**+1.4**
	0.8nm,0.7s,baz=131,slow=4.0,SNR=8.7							
SEY	**Seymchan**	**82.07**	**352**	P		**P**	**15 39 39.7**	**+0.2**
	1.0nm,0.6s,baz=174,slow=4.3,SNR=8.2							
YAK	**Yakutsk**	**85.97**	**343**	P		**P**	**15 39 58.9**	**-0.2**
	2.9nm,0.4s,baz=325,slow=1.8,SNR=5.0							
SONM	**Songino Array**	**86.40**	**323**	P		**P**	**15 40 02.5**	**+0.7**
	1.5nm,0.7s,baz=164,slow=3.8,SNR=13							
ILAR	**Eielson Array**	**89.45**	**17**	P		**P**	**15 40 13.9**	**-1.8**
	0.6nm,0.7s,baz=236,slow=4.9,SNR=9.6							
YKA	**Yellowknife Ar**	**99.98**	**27**	P		**Pdif**	**15 41 03.8**	**+0.1**
	0.3nm,0.7s,baz=253,slow=4.8,SNR=9.8							
MKAR	**Makanchi Array**	**100.97**	**316**	P		**Pdif**	**15 41 09.2**	**+0.6**
	0.3nm,0.6s,baz=90,slow=5.9,SNR=4.2							
ARCES	**ARCESS Array B**	**124.17**	**345**	PKP		**PKPdf**	**15 46 14.7**	**-1.4**
	4.2nm,1.0s,baz=64,slow=2.1,SNR=4.7							
GERES	**GERESS Array B**	**143.62**	**332**	PKP		PKPbc	15 46 51.5	+0.5
	0.4nm,0.7s,baz=49,slow=6.1,SNR=3.4							
DAVOX	**Davos/Dischmat**	**146.86**	**333**	PKPbc		**PKPbc**	**15 47 00.7**	**-0.2**
	1.4nm,0.7s,baz=240,slow=8.1,SNR=5.0							

*ISCJB **11** 15:28:40.2±0.7, 7°.49S±0°.06×128°.87E±0°.06, h150km, mb3.0/1, Error ellipse: s-maj=9.9km s-min=7.9km az=42.8*
*DJA **11** 15:28:40.6±1.0, 7°.5±5°×12°.9E±°, h215km±20km, M4.0/2, mb4.1/2, mB4.2/1, MLv4.0/2, Mw(mB)3.3/1*
*IDC **11** 15:28:44.3±8.3, 7°.66S×128°.66E, h173km±90km, mb2.8/1, mb1 3.2/4, mb1mx2.8/39, mbtmp3.6/4, Error ellipse: s-maj=88.3km s-min=25.9km az=37.0*
ISC 11 15:28:40.7±1.0, 7°.4S±0°.1×128°.9E±0°.1, h150km, n9, σ1s95/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.45**	**103**	P		Pn	15 29 27.3	+6.0
BNDI	**Bandanaira**	**3.06**	**19**	P		**Pn**	**15 29 31.0**	**+2.2**
SOEI	**Soe**	**5.12**	**243**	P		**Pn**	**15 29 56.1**	**+0.2**
SOEI				S		**Sn**	**15 30 54.0**	**-0.5**
FAKI	**Fak Fak**	**5.59**	**37**	P		**Pn**	**15 30 01.8**	**-0.2**
	18nm,0.5s,491nm							
FAKI				S		**Sn**	**15 31 02.6**	**-2.9**
	18nm,0.5s,491nm							
BATI	**Baumata**	**5.86**	**241**	P		**Pn**	**15 30 05.4**	**-0.1**
BATI	**Baumata**	**5.86**	**241**	P		**Pn**	**15 30 06.7**	**+1.1**
	14nm,0.3s,baz=129,slow=1.9,SNR=38							
BATI				S		**Sn**	**15 31 08.7**	**-3.2**
	8.7nm,0.3s,baz=258,slow=21,SNR=7.4							
WRA	**Warramunga Arr**	**13.52**	**158**	P		**Pn**	**15 31 45.9**	**-0.8**
	0.2nm,0.3s,baz=328,slow=14,SNR=20							
WRA				S		Sn	15 34 06.1	-10
	0.6nm,0.3s,baz=333,slow=22,SNR=14							
ASAR	**Alice Springs**	**16.85**	**164**	P		**Pn**	**15 32 29.5**	**+1.6**
	0.3nm,0.3s,baz=339,slow=10,SNR=48							
ASAR				S		S	15 35 28.1	-7.3
	0.2nm,0.3s,baz=348,slow=26,SNR=5.7							
MKAR	**Makanchi Array**	**67.98**	**327**	P		**P**	**15 39 25.0**	**+1.4**
	0.1nm,0.3s,baz=120,slow=7.4,SNR=4.3							

IDC 11 15:39:49.3±2.8, 22°.09N×142°.96E, h214km±27km, mb3.1/8, mb1 3.3/10, mb1mx3.0/37, mbtmp3.6/10, Error ellipse: s-maj=34.0km s-min=14.4km az=102.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.04**	**352**	P		Pn	15 41 03.9	-0.6
	7.2nm,0.3s,baz=346,slow=10,SNR=12							
JCJ				S		S	15 41 59.8	-4.0
	2.8nm,0.3s,baz=248,slow=19,SNR=1.8							
MJAR	**Matsushiro Arr**	**14.98**	**345**	P		P	15 43 12.0	+0.9
	0.2nm,0.3s,baz=174,slow=12,SNR=3.8							
SEY	**Seymchan**	**41.32**	**7**	P		P	15 47 14.9	+1.2
	0.5nm,0.5s,baz=240,slow=24,SNR=4.3							
WRA	**Warramunga Arr**	**42.61**	**192**	P		P	15 47 24.8	+0.1
	0.5nm,0.6s,baz=12,slow=8.7,SNR=8.4							
ASAR	**Alice Springs**	**46.32**	**192**	P		P	15 47 53.7	-0.3
	0.4nm,1.0s,baz=9.5,slow=7.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**53.78**	**322**	P		P	15 48 49.1	-0.4
	0.4nm,0.4s,baz=107,slow=5.0,SNR=2.9							
ILAR	**Eielson Array**	**61.79**	**27**	P		P	15 49 44.5	-0.5
	0.7nm,0.6s,baz=260,slow=5.2,SNR=11							
INK	**Inuvik**	**67.30**	**24**	P		P	15 50 20.2	-0.4
	0.4nm,0.5s,baz=288,slow=3.2,SNR=3.2							
YKA	**Yellowknife Ar**	**76.21**	**28**	P		P	15 51 13.8	+0.1
	0.3nm,0.5s,baz=291,slow=6.0,SNR=9.1							
NVAR	**Mina Array Bea**	**83.06**	**51**	P		P	15 51 51.8	+0.4
	0.6nm,0.8s,baz=297,slow=2.8,SNR=3.2							

*IDC **11** 15:54:26.7±1.6, 38°.25S×73°.71W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/27, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=47.3km s-min=19.1km az=56.0*
*ISCJB **11** 15:54:28.6±1.6, 38°.1S±0°.1×73°.5W±0°.3, h18km, mb3.5/3, Error ellipse: s-maj=34.8km s-min=17.8km az=165.6*
ISC 11 15:54:30.1±1.5, 38°.2S±0°.1×73°.6W±0°.2, h18km, n7, σ1s30/7, mb3.4/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**3.48**	**138**	P		**Pn**	**15 55 24.0**	**+0.6**
	1.6nm,0.3s,baz=295,slow=8.8,SNR=20							
PLCA				Lg		Lg	15 56 17.8	
	6.0nm,0.3s,baz=255,slow=21,SNR=3.8							
CFAA	**Coronel Fontan**	**7.89**	**35**	Pn		**Pn**	**15 56 23.5**	**-0.5**
	0.1nm,0.3s,baz=208,slow=10,SNR=6.4							
LPAZ	**La Paz**	**22.33**	**14**	P		**P**	**15 59 29.6**	**+2.1**
	1.0nm,0.6s,baz=214,slow=9.7,SNR=2.9							
TXAR	**Lajitas Array**	**72.81**	**333**	P		**P**	**16 05 57.5**	**-0.1**
	0.2nm,0.7s,baz=161,slow=9.6,SNR=2.6							
DBIC	**Dimbokro**	**77.71**	**71**	P		**P**	**16 06 25.7**	**-0.3**
	1.8nm,0.7s,baz=190,slow=10,SNR=3.2							
BVAR	**Borovoye Array**	**151.11**	**47**	PKPbc		**PKPbc**	**16 14 21.1**	**-0.4**
	0.7nm,0.6s,baz=309,slow=4.7,SNR=6.1							
MKAR	**Makanchi Array**	**160.30**	**56**	PKPab		**PKPab**	**16 15 07.6**	**-1.2**
	0.4nm,0.8s,baz=271,slow=5.9,SNR=3.5							

*IDC **11** 15:56:33.4±1.4, 32°.20S×72°.22W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/27, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=50.2km s-min=28.5km az=179.0*
*GUC **11** 15:56:38.9±0.5, 31°.97S×72°.05W, h35km±5km, ML3.8*
ISC 11 15:56:36.3±1.1, 32°.14S±0°.09×72°.2W±0°.1, h17km, n11, σ0s88/15, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PEL	**Peldehue**	**1.64**	**128**	*i* P		**Pg**	**15 57 07.1**	**-0.7**
PEL				*eS*		**Sg**	**15 57 28.9**	**-0.3**
PEL				IAML			15 57 30.9	
	comp=E,2μm,0.6s							
CLCH	**Cerro Calan**	**1.90**	**132**	*i* P		**Pb**	**15 57 11.0**	**+0.5**
CLCH				*i* S		**Sg**	**15 57 35.9**	**-1.5**
CLCH				IAML			15 57 44.4	
	comp=E,1μm,0.6s							
FCH	**Farellones**	**2.02**	**127**	*i* P		**Pb**	**15 57 13.4**	**+0.7**
FCH				*i* S		**Sb**	**15 57 37.8**	**+0.2**
FCH				IAML			15 57 41.6	
	comp=E,580nm,0.4s							
CHCH	**Chadas Angostu**	**2.22**	**144**	*eP*		**Pb**	**15 57 16.8**	**+0.7**
CHCH				*i* S		**Sb**	**15 57 44.7**	**+1.4**
YECH	**El Yeso**	**2.36**	**131**	IAML			15 57 57.7	
	comp=N,975nm,0.5s							
CFAA	**Coronel Fontan**	**3.43**	**82**	Pn		**Pn**	**15 57 29.2**	**+0.1**
	comp=N,1.0nm,0.3s,baz=265,slow=2.2,SNR=26							
CFAA				Sn		**Sn**	**15 58 10.2**	**+0.8**
	comp=N,1.2nm,0.3s,baz=26,slow=3.1,SNR=6.3							
SIV	**San Ignacio**	**19.00**	**35**	P		**Pn**	**16 00 58.6**	**+0.5**
	comp=N,0.3nm,0.3s,baz=216,slow=10,SNR=3.8							
TXAR	**Lajitas Array**	**68.04**	**331**	P		**P**	**16 07 35.0**	**+0.1**
	comp=N,0.3nm,0.8s,baz=153,slow=8.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**83.73**	**70**	P		**P**	**16 09 03.3**	**-1.4**
	comp=N,1.0nm,0.9s,baz=241,slow=4.1,SNR=4.1							
WRA	**Warramunga Arr**	**122.30**	**210**	PKP		**PKPdf**	**16 15 31.6**	**+0.5**
	comp=N,0.3nm,0.4s,baz=157,slow=1.8,SNR=6.2							
ZALV	**Zalesovo Beam**	**152.72**	**30**	PKPbc		**PKPbc**	**16 16 31.5**	**-0.1**
	comp=N,1.3nm,0.4s,baz=310,slow=3.7,SNR=8.9							

GUC 11 16:07:38.4±0.4, 34°.84S×71°.57W, h55km±4km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.56**	**186**	*eP*		Pn	16 07 51.6	+0.9
TALC				*eS*		Sn	16 08 01.0	+1.4
SJCH	**San Jose de Ma**	**1.56**	**40**	*eP*		Pn	16 08 05.5	+1.5
SJCH				*eS*		Sn	16 08 26.1	+2.9
SJCH				AML		AML	16 08 30.5	
	comp=N,659nm,0.4s							
COCH	**Cobquecura**	**1.63**	**217**	*eP*		Pn	16 08 06.0	+1.3
COCH				*eS*		Sn	16 08 27.3	+2.7
CLCH	**Cerro Calan**	**1.67**	**31**	*eP*		Pn	16 08 07.0	+1.6
CLCH				*eS*		Sn	16 08 28.7	+2.8
CLCH				AML		AML	16 08 33.5	
	comp=E,1μm,0.2s							
FCH	**Farellones**	**1.84**	**35**	*eP*		Pn	16 08 10.4	+2.4
FCH				*eS*		Sn	16 08 34.4	+3.8
FCH				AML		AML	16 08 39.3	
	comp=N,670nm,0.3s							

WEL 11 16:08:07.7±0.4, 36°.65S×177°.28E, h139km±5km, ML3.7/15, 2C-5D, Error ellipse: s-maj=5.6km s-min=5.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HAZ	**Te Kaha**	**1.18**	**160**	PN		Pn	16 08 33.3	+0.3
HAZ				SN		Sn	16 08 51.8	-0.6
MXZ	**Matakaoa Point**	**1.23**	**138**	PN		Pn	16 08 33.4	-0.1
MXZ				SN		Sn	16 08 53.7	+0.4
WMGZ	**Waiomatatini S**	**1.48**	**143**	PN		Pn	16 08 35.9	-0.3
WMGZ				SN		Sn	16 08 57.7	-0.2
URZ	**Urewera**	**1.61**	**185**	PN		Pn	16 08 38.0	+0.4
URZ				SN		Sn	16 09 01.0	+0.4
URZ				AML		AML	16 09 01.6	
PUZ	**Puketiti**	**1.62**	**152**	PN		Pn	16 08 37.4	-0.4
PUZ				AML		AML	16 09 00.6	
TWGZ	**Tauwhareparae**	**1.62**	**160**	⇓PN		Pn	16 08 38.2	+0.3
TWGZ				SN		Sn	16 09 00.7	-0.3
MWZ	**Matawai**	**1.69**	**173**	PN		Pn	16 08 38.5	-0.2
MWZ				AML		AML	16 09 03.4	
MWZ				AML		AML	16 09 03.5	
TKGZ	**Te Karaka**	**1.84**	**166**	PN		Pn	16 08 39.9	-0.4
CNGZ	**Carnagh Statio**	**1.98**	**158**	PN		Pn	16 08 41.4	-0.4
RIGZ	**Rimuhau**	**2.09**	**170**	PN		Pn	16 08 42.4	-0.9
SNGZ	**Shannon Statio**	**2.13**	**179**	PN		Pn	16 08 43.0	-0.7
RAHZ	**Arahi**	**2.27**	**184**	PN		Pn	16 08 44.8	-0.6
PRGZ	**Paritu Road**	**2.32**	**168**	PN		Pn	16 08 44.6	-1.5
KNZ	**Kokohu**	**2.39**	**173**	⇓PN		Pn	16 08 45.4	-1.4
WHHZ	**Waihua**	**2.42**	**181**	PN		Pn	16 08 46.5	-0.9
NMHZ	**Naumai**	**2.47**	**189**	PN		Pn	16 08 47.7	-0.3
MHGZ	**Mahia Peninsul**	**2.55**	**169**	PN		Pn	16 08 47.3	-1.6
BKZ	**Black Stump Fm**	**2.59**	**194**	⇓PN		Pn	16 08 48.3	-1.2
ARHZ	**Aropaoanui**	**2.62**	**185**	PN		Pn	16 08 48.0	-1.7
MCHZ	**McNeill Hill**	**2.83**	**189**	PN		Pn	16 08 51.3	-1.1
TUVZ	**Tukino**	**2.92**	**206**	PN		Pn	16 08 53.3	-0.4
FWVZ	**Far West T-bar**	**2.94**	**207**	⇓PN		Pn	16 08 53.8	-0.4
TRVZ	**Turoa**	**2.98**	**207**	PN		Pn	16 08 54.1	-0.6
WNVZ	**Wahianoa**	**2.99**	**206**	⇑PN		Pn	16 08 53.9	-0.7
BHHZ	**Black Hill Sta**	**2.99**	**198**	PN		Pn	16 08 53.1	-1.5
MOVZ	**Moawhango**	**3.01**	**203**	PN		Pn	16 08 53.4	-1.4
KRHZ	**Kereru**	**3.08**	**193**	PN		Pn	16 08 53.5	-2.1
MTVZ	**Mangateitei**	**3.08**	**207**	PN		Pn	16 08 55.4	-0.4
KAHZ	**Kahuranaki**	**3.16**	**186**	PN		Pn	16 08 54.6	-2.0
PNHZ	**Pukenui**	**3.37**	**194**	PN		Pn	16 08 56.9	-2.5
PXZ	**Pawanui**	**3.39**	**185**	⇑PN		Pn	16 08 57.0	-2.7
TSZ	**Takapari Road**	**3.56**	**197**	⇓PN		Pn	16 08 59.1	-2.8
PRHZ	**Porangahau**	**3.65**	**188**	PN		Pn	16 09 00.2	-2.8
DVHZ	**Dannevirke**	**3.75**	**193**	PN		Pn	16 09 01.1	-3.3
ANWZ	**Angora Road**	**3.86**	**189**	PN		Pn	16 09 02.6	-3.1
POWZ	**Post Office Ro**	**3.92**	**197**	PN		Pn	16 09 03.5	-3.1
PRWZ	**Pori Road**	**4.03**	**194**	PN		Pn	16 09 05.0	-3.1
MRZ	**Mangatainoka R**	**4.22**	**198**	PN		Pn	16 09 06.7	-3.9
MRZ				SN		Sn	16 09 53.2	-6.2
TIWZ	**Tintock**	**4.26**	**194**	PN		Pn	16 09 07.3	-3.8
HOWZ	**Holdsworth Sta**	**4.46**	**197**	PN		Pn	16 09 09.5	-4.3
OGWZ	**Otaki Gorge**	**4.48**	**201**	PN		Pn	16 09 10.2	-3.8
TMWZ	**Te Maipa**	**4.58**	**193**	PN		Pn	16 09 11.0	-4.4
KIW	**Kapiti Island**	**4.60**	**203**	PN		Pn	16 09 11.6	-4.0
MTW	**Mount Morrison**	**4.71**	**197**	PN		Pn	16 09 12.3	-4.7
CAW	**Cannon Point**	**4.78**	**201**	PN		Pn	16 09 13.4	-4.5
TCW	**Tory Channel**	**5.12**	**206**	PN		Pn	16 09 17.8	-4.7
PLWZ	**Palliser**	**5.16**	**197**	PN		Pn	16 09 17.7	-5.4
TUWZ	**Tuamarina**	**5.44**	**208**	PN		Pn	16 09 21.8	-4.8
NNZ	**Nelson**	**5.48**	**212**	PN		Pn	16 09 22.9	-4.3
QRZ	**Quartz Range**	**5.59**	**220**	*e*PN		Pn	16 09 24.6	-4.1
THZ	**Tophouse**	**6.13**	**212**	PN		Pn	16 09 31.6	-4.5
KHZ	**Kahutara**	**6.45**	**206**	PN		Pn	16 09 34.6	-5.6
MQZ	**McQueen's Vall**	**7.89**	**205**	PN		Pn	16 09 52.1	-7.4
ODZ	**Otahua Downs**	**9.78**	**209**	PN		Pn	16 10 18.1	-6.7

*NSSC **11** 16:10:56.8±1.3, 39°.22N×40°.26E, h12km±421km, MD1.7, ML3.6*
*DDA **11** 16:10:56.9, 39°.07N×40°.81E, h18km, ML4.2*
*CSEM **11** 16:10:57.5±0.3, 39°.05N×40°.78E, h2km, ML4.2, Error ellipse: s-maj=7.7km s-min=5.3km az=17.0*
*AZER **11** 16:10:58.2±6.9, 40°.28N×40°.04E, h2km, Error ellipse: s-maj=75.5km s-min=58.0km az=175.0*
*ISN **11** 16:11:10.3±2.0, 39°.13N×45°.83E, h0km±10km, ML4.2*
ISC 11 16:10:57.1±1.1, 39°.09N±0°.02×40°.84E±0°.02, h6km±8km, n66, σ1s49/103, 4C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNGL	**BINGOL**	**0.28**	**118**	*i* P		**Pg**	**16 11 03.2**	**+0.6**
BNGL				*i* S		**Sb**	**16 11 08.4**	**-1.3**
ERZM	**Erzurum**	**0.92**	**26**	*i* P		**Pg**	**16 11 14.9**	**+0.2**
ERZM	**Erzurum**	**0.92**	**26**	*i* P		**Pg**	**16 11 14.9**	**+0.2**
KOPT	**Kop Dagi**	**0.97**	**344**	*i* P		**Pg**	**16 11 15.8**	**+0.1**
KOPT				*i* S		**Sn**	**16 11 32.9**	**+1.2**
KOPT	**Kop Dagi**	**0.97**	**344**	*i* P		**Pg**	**16 11 15.8**	**+0.1**
KOPT				*i* S		**Sn**	**16 11 32.9**	**+1.2**
EKAR	**Karacoban**	**0.97**	**79**	*i* P		**Pb**	**16 11 16.2**	**-0.3**
EKAR				*i* S		**Sn**	**16 11 33.3**	**+1.6**
EKAR	**Karacoban**	**0.97**	**79**	*i* P		**Pb**	**16 11 16.2**	**-0.3**
EKAR				*i* S		**Sn**	**16 11 33.3**	**+1.6**
EUZM	**Uzumlu**	**1.08**	**306**	*i* P		**Pg**	**16 11 17.1**	**-0.7**
EUZM				*i* S		**Sb**	**16 11 32.3**	**-0.4**
EUZM	**Uzumlu**	**1.08**	**306**	*i* P		**Pg**	**16 11 17.1**	**-0.7**
EUZM				*i* S		**Sb**	**16 11 32.3**	**-0.4**
BEST	**Besiri**	**1.24**	**164**	*i* P		**Pg**	**16 11 20.6**	**-0.3**
BEST				*i* S		**Sn**	**16 11 38.1**	**0.0**
TATV	**Tatvan**	**1.26**	**117**	*i* P		**Pn**	**16 11 20.3**	**-1.1**
TATV				*i* S		**Sg**	**16 11 37.1**	**-0.5**
TATV	**Tatvan**	**1.26**	**117**	*i* P		**Pn**	**16 11 20.3**	**-1.1**
TATV				*i* S		**Sg**	**16 11 37.1**	**-0.5**
HOMI	**Horasan**	**1.27**	**40**	*i* P		**Pg**	**16 11 21.6**	**+0.1**
HOMI				*i* S		**Sn**	**16 11 39.8**	**+0.8**
EATA	**Eleskirt**	**1.50**	**58**	*i* P		**Pg**	**16 11 24.6**	**-0.2**
EATA				*i* S		**Sg**	**16 11 47.1**	**+1.8**
EATA	**Eleskirt**	**1.50**	**58**	*i* P		**Pn**	**16 11 24.6**	**-0.2**
EATA				*i* S		**Sg**	**16 11 47.1**	**+1.8**
ELZG	**Elazig**	**1.56**	**249**	*i* P		**Pn**	**

comp=Z,562nm,0.4s
SFNV AML AML 16 12 30.5
comp=E,676nm,0.4s
AKH Akhalkalaki 3.09 40 P **Pb** **16 11 53.3 +0.7**
AKH S Sg 16 12 41.9 +5.7
MSL Mosul 3.23 145 *e*PN Pg 16 12 06.6 +7.6
MSL *e*SN **Sg** **16 12 46.1 +5.3**
MZRK Al-Mazaregh 3.25 183 *e*P **Pn** **16 11 50.2 +1.4**
MZRK *e*S **Sn** **16 12 28.4 +0.6**
MZRK AML AML 16 12 44.9
comp=E,566nm,0.5s
MZRK AML AML 16 12 49.5
comp=Z,485nm,0.5s
MZRK AML AML 16 12 52.9
comp=N,200nm,0.5s
KSRV Kasrt alli 3.53 205 *e*P **Pb** **16 11 58.8 -1.2**
KSRV *e*S **Sb** **16 12 45.7 +2.6**
NAX Nakhchivan 3.62 87 ⇑P **Pg** **16 12 05.0 -1.6**
SNR=11
NAX ⇓S **Sg** **16 12 57.9 +4.4**
NAX Nakhchivan 3.62 87 P **Pg** **16 12 05.0 -1.6**
SNR=11
NAX S **Sg** **16 12 57.9 +4.4**
QZX Qazax, Azerbai 4.00 59 ⇑P **Pn** **16 12 01.2 +2.3**
SNR=8.1
QZX ⇓S **Sb** **16 12 52.0 -4.6**
QZX Qazax, Azerbai 4.00 59 P **Pn** **16 12 01.2 +2.3**
SNR=8.1
QZX S **Sb** **16 12 52.0 -4.6**
DGRG David-gareji 4.20 54 P Pn 16 12 04.8 +3.1
GANJ Ganja 4.50 68 ⇓P Pn 16 12 10.6 +4.8
SNR=5.2
GANJ ⇑S **Sb** **16 13 10.5 -0.5**
GANJ Ganja 4.50 68 P Pn 16 12 10.6 +4.8
SNR=5.2
GANJ S **Sb** **16 13 10.5 -0.5**
IKRK Kirkuk 4.62 142 *e*PN Pn 16 12 11.2 +3.7
IKRK *e*SN Sn 16 12 54.9 -6.5
ZKTA Zakatala 5.10 58 ⇓P **Pn** **16 12 14.1 0.0**
SNR=4.1
ZKTA ⇓S **Sn** **16 13 16.3 +3.0**
ZKT Zaqatala 5.14 58 P **Pn** **16 12 14.1 -0.5**
SNR=4.1
ZKT S **Sn** **16 13 16.3 +2.0**
LRK Lerik 5.87 92 ⇓P Pb 16 12 35.7 -4.3
LRK Lerik 5.87 92 P Pb 16 12 35.7 -4.3
GLBA Clilabad 5.88 86 ⇓P Pb 16 12 34.5 -5.4
GLBA Clilabad 5.88 86 P Pb 16 12 34.5 -5.4
RTB Rutbah 6.06 184 *e*PN Pg 16 13 02.7 +10
RTB *e*SN Sg 16 14 22.1 +10
LKRN Lenkeran, Azer 6.21 91 ⇑P Pb 16 12 40.2 -5.4
LKRN Lenkeran, Azer 6.21 91 P Pb 16 12 40.2 -5.4
BHD Baghdad 6.47 153 *e*PN Pb 16 12 41.9 -8.2
BHD *e*SN **Sn** **16 13 45.6 -1.4**
IBDR Badra 7.25 144 *e*PG Pg 16 13 23.9 +8.0
IBDR *e*SG Sg 16 14 56.9 +7.1

*NEIC **11** 16:23:40.2,32.17N×115.39W,h34km,MD3.5(MEX),*
ML3.1(PAS),After PAS.
NEIC Felt at El Centro, Escondido and San Diego, California.
*ISCJB **11** 16:23:41.0±0.4,32.31N±0.02×115.37W±0.03,h14km,*
Error ellipse: s-maj=3.8km s-min=3.1km az=18.6
*ECX **11** 16:23:42.7±0.6,32.28N×115.36W,h6km,MD3.1,ML3.3*
*MEX **11** 16:23:44.0±1.1,32.33N×115.34W,h20km±159km,MD3.6*
ISC 11 16:23:40.5±0.8,32°30N±0°02×115°38W±0°02,h14km,n24,
σ0§79/38,4C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**29**		*e*P	**Pb**	**16 23 45.1**	**+0.3**
CPBX					*e*S	**Sb**	**16 23 48.3**	**+0.6**
CPBX					AML	AML	16 23 52.5	
	comp=N,29μm,0.3s							
CPBX				⇑*e*			16 23 52.5	
CPBX					AML	AML	16 23 52.6	
	comp=E,36μm,0.3s							
CPBX				⇑*e*			16 23 52.6	
MBIG	**Mexicali**	**0.19**	**55**		*e*P	**Pb**	**16 23 46.5**	**+0.8**
MBIG					*e*S	**Sb**	**16 23 50.6**	**+1.4**
EMX	**El Mayor**	**0.33**	**159**		*e*P	**Pg**	**16 23 47.6**	**+0.4**
EMX					*e*S	**Sg**	**16 23 52.3**	**+0.5**
SGL	**Mount Signal**	**0.45**	**320**	⇑	*i*P	**Pb**	**16 23 50.8**	**+0.5**
COA	**Coachella**	**0.60**	**21**	⇓	*e*P	**Pb**	**16 23 53.4**	**+0.6**
RDX	**Rancho Dawling**	**0.60**	**232**		*e*P	**Pb**	**16 23 53.6**	**+0.7**
RDX					*e*S	**Sb**	**16 24 01.9**	**+0.6**
COK	**Cook Ranch**	**0.62**	**332**	⇓	*e*P	**Pb**	**16 23 54.0**	**+0.9**
RMX	**La Rumorosa**	**0.66**	**297**		*e*P	**Pb**	**16 23 54.4**	**+0.5**
RMX					AML	AML	16 24 05.5	
	comp=N,805nm,0.1s							
RMX				⇓*e*			16 24 05.5	
YMD	**Yuma Desert**	**0.75**	**70**	⇓	*i*P	**Pg**	**16 23 55.2**	**+0.2**
ECBX	**El Chinero**	**0.87**	**161**		*e*P	**Pb**	**16 23 57.3**	**0.0**
ECBX					*e*S	**Sg**	**16 24 08.7**	**-0.1**
GLA	**Glamis**	**0.88**	**32**		*e*Pn	**Pb**	**16 23 56.6**	**-1.0**
GLA					*e*Sn	**Sg**	**16 24 09.0**	**-0.2**
CBX	**Cerro Bola**	**1.09**	**271**		*e*P	**Pg**	**16 24 02.0**	**+0.5**
CBX					*i* S	**Sb**	**16 24 14.2**	**-1.0**
CBX	**Cerro Bola**	**1.09**	**271**		*e*P	**Pg**	**16 24 01.8**	**+0.3**
CBX	**Cerro Bola**	**1.09**	**271**		*e*P	**Pg**	**16 24 01.7**	**+0.3**
CBX					*i* S	**Sb**	**16 24 14.2**	**-1.0**
ZAX	**El Zacaton**	**1.09**	**224**		*e*P	**Pg**	**16 24 01.9**	**+0.3**
ZAX				⇑	*e*		16 24 19.8	
ZAX					AML	AML	16 24 19.8	
	comp=E,744nm,0.7s							
BAR	**Barrett**	**1.16**	**290**		*e*Pn	**Pn**	**16 24 02.4**	**+0.2**
BAR					*e*Sn	**Sn**	**16 24 17.7**	**-0.2**
ECNX	**Esteban Cantu**	**1.22**	**239**		*e*P	**Pg**	**16 24 04.2**	**+0.3**
ECNX					*e*S	**Sg**	**16 24 20.4**	**+0.7**
SPIG	**San Pedro Mart**	**1.25**	**183**		*e*P	**Pn**	**16 24 03.8**	**-0.1**
SPIG					*i* S	**Sb**	**16 24 19.6**	**-0.5**
SPIG	**San Pedro Mart**	**1.25**	**183**		*e*P	**Pn**	**16 24 03.8**	**-0.1**
SPIG					*i* S	**Sn**	**16 24 21.3**	**+0.6**
SPX	**San Pedro Mart**	**1.25**	**183**		*e*P	**Pn**	**16 24 03.9**	**0.0**
SPX	**San Pedro Mart**	**1.25**	**183**		*e*P	**Pn**	**16 24 03.8**	**-0.1**
SPX					*e*S	**Sb**	**16 24 17.6**	**-2.6**
PBX	**Punta Banda**	**1.27**	**244**		*e*P	**Pg**	**16 24 04.8**	**-0.1**
PBX					*e*S	**Sg**	**16 24 22.0**	**+0.5**
PFO	**Pinyon Flats O**	**1.59**	**326**		*e*Pn	**Pn**	**16 24 07.4**	**-0.9**
PFO					*e*Sn	**Sn**	**16 24 26.9**	**-1.8**
214A	**Organ Pipe Nat**	**2.21**	**98**		*e*Pn	Pn	16 24 13.5	-3.2

IDC 11 16:28:40.6±2.2,55.77S×146.14E,h0km,mb3.6/3,
mb1 3.9/3,mb1mx3.6/25,mbtmpg3.7/3,MS3.7/2,Ms1 3.6/2,
ms1mx3.0/22,Error ellipse: s-maj=182.6km
s-min=25.4km az=78.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.54**	**171**		P	P	16 33 42.4	+0.7
	1.4nm,0.8s,baz=325,slow=9.7,SNR=4.7							
H01W1	**Cape Leeuwin H**	**30.25**	**300**		T	T	17 07 18.3	
	baz=142,slow=75,SNR=14							
H01W2	**Cape Leeuwin H**	**30.26**	**300**		T	T	17 07 18.7	
	baz=142,slow=75,SNR=16							
H01W3	**Cape Leeuwin H**	**30.27**	**300**		T	T	17 07 19.5	
	baz=142,slow=75,SNR=14							
ASAR	**Alice Springs**	**33.31**	**339**		P	P	16 35 20.1	+0.2
	0.8nm,0.8s,baz=163,slow=9.5,SNR=14							
WRA	**Warramunga Arr**	**36.86**	**341**		P	P	16 35 50.7	+0.2
	1.4nm,0.7s,baz=165,slow=7.5,SNR=26							
MAW	**Mawson**	**38.06**	**218**		LR	LR	16 49 08.5	
	comp=Z,112nm,20.1s,baz=245,slow=32							
H08S2	**Diego Garcia H**	**74.53**	**279**		T	T	18 02 41.5	
	baz=173,slow=75,SNR=6.7							
H08S1	**Diego Carcia H**	**74.54**	**279**		T	T	18 02 36.9	
	baz=173							
H08S3	**Diego Garcia H**	**74.55**	**279**		T	T	18 02 38.1	
	baz=173,slow=75,SNR=7.4							
RPN	**Rapa Nui**	**75.65**	**117**		LR	LR	17 04 40.3	
	comp=Z,50nm,21.7s,baz=40,slow=28							
H08N1	**Diego Carcia H**	**76.43**	**279**		T	T	18 05 03.0	
	baz=134							
H08N3	**Diego Garcia H**	**76.44**	**279**		T	T	18 05 05.6	
	baz=134							
H08N2	**Diego Garcia H**	**76.45**	**279**		T	T	18 05 05.7	
	baz=134							
GERES	**GERESS Array B**	**150.61**	**277**		PKPbc	PKPbc	16 48 32.2	-1.3
	0.2nm,0.6s,baz=180,slow=2.0,SNR=2.6							

SKHL 11 16:30:43.8±1.0,53.89N×142.52E,h10km,mb3.9/4,1D,
Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.42**	**144**		*e*Pg	Pg	16 30 50.5	-1.5
OKH				⇓	*i*Pg	Pg	16 30 50.5	-1.5
OKH					AMB	AMB	16 30 51.1	
	4μm,0.5s							
OKH					*e*Sg	Sg	16 30 54.6	-3.0
OKH					A	A	16 30 56.6	
	9μm,0.5s							
NKL	**Nikolayevsk**	**1.32**	**237**		*i* Pg	Pg	16 31 10.2	+1.0
NKL					AMB	AMB	16 31 10.5	
	9.0nm,0.4s							
NKL					*e*Sg	Sg	16 31 29.5	+3.1
NKL					A	A	16 31 33.8	
	380nm,0.4s							
TYV	**Tymovskoe**	**3.03**	**178**		*e*Pg	Pg	16 31 44.0	+2.1
TYV					AMB	AMB	16 31 48.8	
	6.0nm,0.6s							
TYV					*e*Sg	Sg	16 32 26.0	+4.8
TYV					A	A	16 32 27.2	
	8.0nm,0.5s							
TYV					A	A	16 32 27.2	
	9.0nm,0.5s							
GRNR	**Gornyy**	**4.87**	**233**		*e*Pg	Pg	16 32 20.0	+2.9
GRNR					*e*Sg	Sg	16 33 23.5	+3.2
GRNR					A	A	16 33 24.5	
	10.0nm,0.4s							
EKMR	**Ekimchan**	**5.77**	**266**		*e*Pg	Pg	16 32 37.5	+3.1
EKMR					AMB	AMB	16 32 50.6	
	3.0nm,0.4s							
EKMR					*e*Sg	Sg	16 33 57.0	+7.8
EKMR					A	A	16 33 59.5	
	14nm,0.5s							
EKMR					A	A	16 33 59.5	
	5.0nm,0.5s							
EKMR					A	A	16 33 59.5	
	4.0nm,0.5s							
YASR	**Yasnyy**	**8.67**	**272**		*e*Sg	Sg	16 35 23.0	+1.0
YASR					A	A	16 35 24.5	
	4.0nm,0.5s							
KROS	**Kirovskiy**	**9.14**	**280**		*e*Sg		16 35 45.0	
KROS					A	A	16 35 49.5	
	6.0nm,0.8s							

*JSN **11** 16:32:18.8±0.4,21.95N×74.47W,h15km,MD4.8*
*ISCJB **11** 16:32:23.2±0.5,18.33N±0.08×72.70W±0.04,h6km,Error*
ellipse: s-maj=12.0km s-min=5.0km az=174.7
*NEIC **11** 16:32:24.8±0.6,18.44N×72.78W,h10km,ML3.6,Error*
ellipse: s-maj=10.5km s-min=6.8km az=171.0
NEIC Felt at Leogane.
ISC 11 16:32:24.5±1.1,18.4N±0.1×72.78W±0.06,h6km,n15,
σ1§78/17,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.52**	**68**		*e*Pn	**Pn**	**16 32 50.6**	**-1.7**
GTBY	**Guantanamo Bay**	**2.66**	**305**		*e*Pn	**Pn**	**16 33 07.0**	**-0.9**
SMN1	**Samana, DR**	**3.41**	**77**		*e*Pn	**Pn**	**16 33 18.8**	**+0.5**
GRTK	**Grand Turk**	**3.44**	**26**		*e*Pn	**Pn**	**16 33 18.8**	**+0.1**
GWJ	**Greenwich**	**3.77**	**265**		*e*P	**Pn**	**16 33 24.3**	**+1.1**
GWJ					*i* S	**Sb**	**16 34 13.2**	**-4.3**
HOJ	**Hope**	**3.79**	**264**		*e*P	**Pn**	**16 33 24.9**	**+1.4**
STH	**Stony Hill**	**3.84**	**266**		*i* P	**Pn**	**16 33 24.5**	**+0.3**
STH					*i* S	**Sn**	**16 34 13.7**	**+4.0**
MTDJ	**Mount Denham**	**4.52**	**268**		*e*Pn	**Pn**	**16 33 33.5**	**-0.1**
AGPR	**Aguadilla, PR**	**5.38**	**89**		Pn	**Pn**	**16 33 45.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**5.41**	**93**		*e*Pn	**Pn**	**16 33 45.5**	**-0.2**
OBIP	**Obispado Ponce**	**5.88**	**93**		*e*Pn	**Pn**	**16 33 51.0**	**-1.2**
CELP	**Cerrillos**	**5.90**	**92**		*e*Pn	**Pn**	**16 33 52.7**	**+0.2**
MTP	**Monte Pirata**	**6.88**	**92**		Pn	**Pn**	**16 34 06.5**	**+0.6**
SDV	**Santo Domingo**	**9.71**	**167**		*e*Pn	**Pn**	**16 34 44.3**	**-0.6**
SDV					*e*Sn	Sn	16 36 28.9	-5.6
BCIP	**Isla Barro Col**	**11.47**	**218**		P	**Pn**	**16 35 09.7**	**+0.8**

*ISCJB **11** 16:42:02.8±0.3,32.32N±0.02×115.26W±0.02,h14km±2km,*
mb4.2/10,MS3.8/16,Error ellipse: s-maj=2.6km
s-min=2.3km az=0.2
*NEIC **11** 16:42:04.0,32.33N×115.31W,h6km,mb4.4/5,*
ML4.6(PAS),ML4.7(ECX),After ECX.
NEIC Felt [III] at Mexicali. Also felt at Guadalupe Victoria. Felt [II]
at San Luis Rio Colorado, Sonora. Felt [IV] at El Centro,
[III] at Calexico and [II] at Chula Vista, El Cajon, Lakeside,
La Mesa, Lemon Grove, San Diego, Santee and Spring
Valley, California. Felt in many parts of southern
California. Felt [II] at Yuma, Arizona. Also felt at Somerton.
*IDC **11** 16:42:04.3±1.4,32.18N×115.14W,h0km,mb4.0/7,*
mb1 4.2/12,mb1mx3.8/47,mbtmp4.0/12,ML3.8/5,MS3.7/21,
Ms1 3.7/21,ms1mx3.5/42,Error ellipse: s-maj=29.9km
s-min=12.2km az=46.0
*ECX **11** 16:42:04.6±0.6,32.32N×115.33W,h8km,MD4.5,ML4.7*
*MEX **11** 16:42:05.2±0.9,32.33N×115.28W,h5km,MD3.8*
ISC 11 16:42:03.2±0.9,32°27N±0°02×115°32W±0°02,h8km±6km,
n124,σ1§44/141,mb4.2/10,MS3.8/16,25C-26D,
California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**5**	⇓	*e*P	**Pg**	**16 42 06.3**	**-0.1**
CPBX					*e*S	**Sg**	**16 42 09.1**	**+0.6**
CPBX	**Cerro Prieto**	**0.15**	**5**		*e*P	**Pg**	**16 42 06.5**	**+0.1**
CPBX					*i* S	**Sg**	**16 42 09.1**	**+0.6**
MBIG	**Mexicali**	**0.17**	**37**		*e*P	**Pg**	**16 42 07.3**	**+0.5**
MBIG					*e*S	**Sg**	**16 42 09.7**	**+0.5**
EMX	**El Mayor**	**0.29**	**167**	⇓	*e*P	**Pb**	**16 42 10.0**	**-0.7**
EMX					*e*S	**Sb**	**16 42 14.6**	**-1.0**
SGL	**Mount Signal**	**0.51**	**318**	⇑	*i*P	**Pg**	**16 42 13.0**	**-0.2**
COA	**Coachella**	**0.61**	**16**	⇑	*i*P	**Pg**	**16 42 14.7**	**-0.4**
RDX	**Rancho Dawling**	**0.63**	**237**	⇑	*e*P	**Pb**	**16 42 16.3**	**-0.3**
RDX					*e*S	**Sg**	**16 42 24.9**	**+1.2**
YUH	**Yuha Desert**	**0.64**	**306**	⇑	*i*P	**Pg**	**16 42 15.0**	**-0.5**
COK	**Cook Ranch**	**0.67**	**329**	⇑	*i*P	**Pg**	**16 42 15.7**	**-0.5**
YMD	**Yuma Desert**	**0.71**	**66**	⇑	*i*P	**Pg**	**16 42 16.7**	**-0.3**
RMX	**La Rumorosa**	**0.72**	**297**	⇑	*e*P	**Pg**	**16 42 16.7**	**-0.5**
RMX					*e*S	**Sg**	**16 42 26.1**	**+0.5**
SWSC	**Sam W. Stewart**	**0.78**	**329**	⇑	P	**Pg**	**16 42 17.0**	**-1.2**
	baz=0.7							
SWSC				⇑	S	**Sg**	**16 42 27.1**	**-1.3**
	baz=0.7							
ECBX	**El Chinero**	**0.83**	**164**	⇓	*e*P	**Pg**	**16 42 18.8**	**-0.3**
ECBX					*e*S	**Sb**	**16 42 31.0**	**-0.2**
GLA	**Glamis**	**0.88**	**28**	⇓	P	**Pg**	**16 42 18.6**	**-1.6**
	baz=0.8							
GLA				⇓	S	**Sg**	**16 42 30.5**	**-1.2**
	baz=0.8							
ZAX	**El Zacaton**	**1.11**	**227**	⇑	*e*P	**Pg**	**16 42 24.6**	**+0.1**
ZAX					*e*S	**Sb**	**16 42 40.0**	**+0.6**
MONP	**Monument Peak,**	**1.12**	**304**	⇑	P	**Pg**	**16 42 22.9**	**-1.8**
	baz=1.1							
MONP				⇓	S	**Sg**	**16 42 37.9**	**-1.3**
	baz=1.1							
CBX	**Cerro Bola**	**1.14**	**272**		*e*P	**Pg**	**16 42 24.3**	**-0.9**
CBX					*i* S	**Sg**	**16 42 39.6**	**-0.3**
CBX	**Cerro Bola**	**1.14**	**272**	⇑	*e*P	**Pg**	**16 42 24.6**	**-0.5**
CBX					*e*S	**Sg**	**16 42 39.6**	**-0.3**
CBX					AML	AML	16 42 44.3	
	comp=N,18μm,0.5s							
CBX				⇓	*e*		16 42 44.3	
CBX	**Cerro Bola**	**1.14**	**272**		*e*P	**Pg**	**16 42 24.3**	**-0.9**
CBX					*i* S	**Sg**	**16 42 39.6**	**-0.3**
BAR	**Barrett**	**1.22**	**290**		*e*P	**Pg**	**16 42 24.7**	**-1.8**
BAR					*e*S	**Sg**	**16 42 40.8**	**-1.5**
SPIG	**San Pedro Mart**	**1.23**	**186**		*e*P	**Pb**	**16 42 26.2**	**-0.7**
SPIG					*i* S	**Sg**	**16 42 42.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.23**	**186**		*e*P	**Pb**	**16 42 26.2**	**-0.7**
SPIG					*i* S	**Sg**	**16 42 42.4**	**-0.3**
SPX	**San Pedro Mart**	**1.23**	**186**	⇓	*e*P	**Pb**	**16 42 26.5**	**-0.4**
SPX				⇑	*e*		16 42 46.6	
SPX					AML	AML	16 42 46.6	
	comp=N,10μm,0.3s							
SPX	**San Pedro Mart**	**1.23**	**186**		*e*P	**Pb**	**16 42 26.4**	**-0.4**
SPX					*i* S	**Sg**	**16 42 43.4**	**+0.6**
ECNX	**Esteban Cantu**	**1.25**	**241**	⇑	*e*P	**Pn**	**16 42 26.6**	**-0.5**
ECNX					*e*S	**Sg**	**16 42 43.5**	**+0.1**
PBX	**Punta Banda**	**1.31**	**247**	⇑	*e*P	**Pn**	**16 42 27.4**	**-0.5**
BC3	**Big Chuckawall**	**1.39**	**355**	⇓	P	**Pn**	**16 42 26.0**	**-3.0**
	baz=1.3							
113A	**Mohawk Valley,**	**1.40**	**69**	⇓	P	**Pn**	**16 42 27.1**	**-2.0**
	baz=1.4							
113A				⇑	S	**Sb**	**16 42 45.0**	**-2.7**
	baz=1.4							
Y12C	**Blythe**	**1.62**	**24**	⇓	P	**Pn**	**16 42 29.5**	**-2.6**
	baz=1.6							
109C	**Camp Elliot, M**	**1.63**	**293**	⇓	P	**Pn**	**16 42 30.3**	**-2.0**
	baz=1.6							
109C				⇓	Sb	**Sn**	**16 42 53.3**	**-0.2**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.64**	**325**		Pn	**Pn**	**16 42 29.8**	**-2.8**
	comp=N,56nm,0.3s,baz=138,slow=12,SNR=208							
PFO					Lg	Lg	16 42 54.1	
	comp=N,275nm,0.3s,baz=231,slow=9.2,SNR=10							
PFO	**Pinyon Flats O**	**1.64**	**325**	⇓	P	**Pn**	**16 42 29.8**	**-2.8**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.64**	**325**		*e*Pn	**Pn**	**16 42 29.6**	**-3.0**
PFO					*e*Pg	**Pg**	**16 42 35.1**	**+0.4**
PFO					Lg	Lg	16 42 54.1	
BELC	**Belle Mtn. Jos**	**1.82**	**342**	⇑	P	**Pn**	**16 42 32.5**	**-2.5**
	baz=1.8							
IRM	**Iron Mountain**	**1.89**	**4**	⇓	P	**Pn**	**16 42 33.3**	**-2.6**
	baz=1.8							
MURC	**Murrieta**	**2.06**	**310**	⇓	P	**Pn**	**16 42 35.9**	**-2.3**
	baz=2.0							
MURC				⇑	Sb	**Sb**	**16 43 06.5**	**-0.3**
	baz=2.0							
214A	**Organ Pipe Nat**	**2.15**	**98**	⇓	P	**Pn**	**16 42 37.4**	**-2.1**
	baz=2.1							
214A				⇑	S	**Sn**	**16 43 04.0**	**-2.3**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.15**	**98**		*e*Pn	**Pn**	**16 42 37.4**	**-2.1**
214A					*e*Sg	**Sb**	**16 43 10.5**	**+1.2**
PDMCI	**Parker Dam,Lak**	**2.25**	**26**	⇓	P	**Pn**	**16 42 38.7**	**-2.1**
	baz=2.2							
PDMCI				⇑	Sb	**Sb**	**16 43 11.2**	**-1.0**
	baz=2.2							
Z14A	**Wintersburg**	**2.27**	**61**	⇑	P	**Pn**	**16 42 39.3**	**-1.9**
	baz=2.2							
BBRC	**Big Bear Solar**	**2.40**	**326**	⇓	P	**Pn**	**16 42 40.5**	**-2.6**
	baz=2.4							
GMRC	**Granite Mounta**	**2.52**	**354**	⇑	P	**Pn**	**16 42 42.2**	**-2.4**
	baz=2.5							
Y14A	**Wickenburg**	**2.56**	**49**	⇓	P	**Pn**	**16 42 43.7**	**-1.4**
	baz=2.5							
HEC	**Hector,Ludlow**	**2.69**	**342**	⇓	P	**Pn**	**16 42 44.8**	**-2.1**
	baz=2.6							
HEC				⇓	S	**Sn**	**16 43 17.2**	**-2.5**
	baz=2.6							
BFSC	**Mount Baldy Ra**	**2.77**	**316**	⇑	P	**Pn**	**16 42 46.4**	**-1.8**
	baz=2.7							
BFSC				⇑	Sb	**Sb**	**16 43 27.7**	**+0.3**
	baz=2.7							
LDFC	**Landfair**	**2.81**	**3**		*e*Pn	**Pn**	**16 42 47.8**	**-0.7**
LDFC					*e*Pg	**Pg**	**16 42 59.4**	**+2.3**
SCI	**San Clemente I**	**2.81**	**285**	⇓	Sb	**Sb**	**16 43 27.1**	**-1.3**
	baz=2.8							
CIS	**Catalina Islan**	**2.83**	**294**	⇓	Sb	**Sb**	**16 43 28.8**	**-0.2**
	baz=2.8							
FMP	**Fort Macarthur**	**2.88**	**301**	⇑	Sb	**Sb**	**16 43 29.9**	**-0.5**
	baz=2.9							
MWC	**Mount Wilson**	**3.01**	**311**		*e*Pn	**Pn**	**16 42 51.5**	**+0.1**
MWC					P*	**Pb**	**16 42 56.7**	**-0.5**
MWC					Pg	**Pg**	**16 43 00.2**	**-0.7**
PASC	**Pasadena Art C**	**3.06**	**309**		*e*Pn	**Pn**	**16 42 52.7**	**+0.7**
PASC					*e*P*	**Pb**	**16 42 57.7**	**-0.2**
PASC					*e*Pg	**Pg**	**16 43 01.0**	**-0.9**
PASC					*e*Sg	**Sb**	**16 43 36.7**	**+1.2**
W13A	**Hualapai Mount**	**3.06**	**23**	⇓	S	**Sn**	**16 43 27.1**	**-2.1**
	baz=3.0							
DECC	**Green Verdugo**	**3.20**	**309**	⇓	Sb	**Sb**	**16 43 40.9**	**+1.3**
	baz=3.2							
OSI	**Osito Audit: C**	**3.68**	**310**		*e*Pn	**Pn**	**16 42 59.1**	**-1.5**
OSI					*e*Pg	**Pb**	**16 43 09.5**	**+0.8**
TUC	**Tucson**	**3.84**	**88**		*e*Pn	**Pn**	**16 43 00.8**	**-1.9**
TUC					*e*Pg	**Pg**	**16 43 17.2**	**+0.4**
TUC					*i* S	**Sb**	**16 44 00.0**	**+2.0**
TUC					*e*Sg	**Sg**	**16 44 02.1**	**-4.5**
SHPR	**Sheep Range**	**4.23**	**2**		*e*Pn	**Pn**	**16 43 07.2**	**-0.9**
ISA	**Isabella, Lake**	**4.28**	**323**		*e*Pn	**Pn**	**16 43 07.2**	**-1.6**
DAIC	**Darwin (Calif)**	**4.42**	**335**		*e*Pn	**Pn**	**16 43 10.4**	**-0.3**
WUAZ	**Wupatki**	**4.61**	**44**		*e*P	**Pn**	**16 43 13.4**	**+0.1**
W18A	**Petrified Fore**	**5.45**	**57**		*e*Pn	**Pn**	**16 43 25.1**	**+0.1**
	comp=N,147nm,0.5s							
CCUT	**Cedar City**	**5.51**	**16**		*e*Pn	**Pn**	**16 43 25.5**	**-0.2**
	comp=N,0.8nm,0.5s							
ARUT	**Antelope Range**	**5.72**	**15**		*e*Pn	**Pn**	**16 43 29.1**	**+0.6**
	comp=N,18nm,0.7s							
TPH	**Tonopah**	**6.00**	**345**		Pn	**Pn**	**16 43 35.0**	**+2.5**
	comp=N,57nm,0.8s							
R11A	**Troy Canyon, C**	**6.07**	**358**		*e*Pn	**Pn**	**16 43 33.5**	**0.0**
	comp=N,24nm,0.6s							
121A	**Cookes Peak, D**	**6.38**	**86**		*e*Pn	**Pn**	**16 43 37.4**	**-0.3**
	comp=N,76nm,0.3s							
121A					*e*Sg	**Sg**	**16 45 27.1**	**-0.8**
NV11	**Mina Array Sit**	**6.57**	**340**		*e*Pg	**Pg**	**16 44 07.8**	**-1.2**
NVAR	**Mina Array Bea**	**6.61**	**339**		Pn	Pn	16 43 45.2	+4.3
	comp=N,0.3nm,0.3s,baz=166,slow=15,SNR=4.1							
MVU	**Marysvale**	**6.72**	**21**		Pn	**Pn**	**16 43 42.8**	**+0.4**
	comp=N,60nm,0.7s							
WAKR	**Walker**	**7.07**	**333**		*e*Pn	**Pn**	**16 43 49.8**	**+2.6**
	comp=N,24nm,1.7s							
CMB	**Columbia Colle**	**7.09**	**326**		*e*Pn	**Pn**	**16 43 49.1**	**+1.8**

NEW	**Newport**	**16.03**	**356**	Pn		**P**		**16 45 53.8**	**+1.2**
	comp=N,0.2nm,0.3s,baz=183,slow=12,SNR=14								
NEW				LR		LR		16 52 40.2	
	comp=N,202nm,21.6s,baz=180,slow=39								
NEW	**Newport**	**16.03**	**356**	*e*P		**P**		**16 45 52.6**	**+0.1**
	comp=N,23nm,1.2s								
WALA	**Waterton Lakes**	**16.80**	**3**	P		**Pn**		**16 45 57.4**	**-1.6**
	comp=N,14nm,1.3s								
MIAR	**Mount Ida**	**18.29**	**77**	*e*P		**Pn**		**16 46 16.5**	**-0.9**
	comp=N,12nm,1.1s								
EDM	**Edmonton**	**20.99**	**3**	*e*P		**P**		**16 46 48.1**	**+1.2**
AGMN	**Agassiz Nation**	**21.73**	**37**	*e*P		**P**		**16 46 55.5**	**+0.6**
	comp=N,36nm,1.5s								
BBB	**Bella Bella**	**21.98**	**339**	LR		LR		16 55 26.9	
	comp=N,250nm,21.9s,baz=216,slow=36								
ULM	**Lac du Bonnet**	**23.04**	**33**	P		**P**		**16 47 09.8**	**+1.0**
	comp=N,1.4nm,0.6s,baz=215,slow=11,SNR=3.3								
ULM				LR		LR		16 56 15.3	
	comp=N,226nm,22.0s,baz=228,slow=37								
CMIG	**Matias Romero**	**23.88**	**124**	LR		LR		16 57 34.4	
	comp=N,402nm,20.8s,baz=294,slow=39								
DLBC	**Dease Lake**	**28.01**	**343**	P		P		16 47 59.1	+4.6
	comp=N,2.6nm,0.5s,baz=193,slow=11,SNR=11								
DLBC				LR		LR		16 59 28.9	
	comp=N,242nm,18.8s,baz=144,slow=37								
APG	**El Apazote**	**28.42**	**121**	LR		LR		17 00 07.4	
	comp=N,130nm,19.7s,baz=270,slow=38								
YKA	**Yellowknife Ar**	**30.24**	**1**	P		**P**		**16 48 15.5**	**+1.3**
	comp=N,0.6nm,0.9s,baz=176,slow=9.0,SNR=5.2								
INK	**Inuvik**	**37.58**	**349**	P		**P**		**16 49 18.8**	**+1.0**
	comp=N,11nm,1.3s								
ILAR	**Eielson Array**	**37.87**	**339**	P		**P**		**16 49 23.0**	**+2.7**
	comp=N,2.6nm,0.9s,baz=153,slow=7.1,SNR=21								
ILAR				LR		LR		17 06 13.4	
	comp=N,80nm,20.5s,baz=135,slow=38								
SCHQ	**Scheffer ville**	**40.62**	**42**	LR		LR		17 07 18.3	
	comp=N,94nm,20.9s,baz=64,slow=37								
PPT2	**Papeete2**	**59.45**	**219**	*e*LR		LR		17 09 31.8	
	comp=N,150nm,25.2s								
TBI	**Tubuai**	**64.22**	**215**	*e*LR		LR		17 11 39.2	
	comp=N,121nm,27.5s								
SIV	**San Ignacio**	**70.69**	**124**	P		**P**		**16 53 19.8**	**-0.2**
	comp=N,1.5nm,0.7s,baz=11,slow=5.9,SNR=3.3								
NOA	**NORSAR Array B**	**77.36**	**24**	LR		LR		17 27 53.0	
	comp=N,52nm,20.0s,baz=330,slow=36								
FINES	**FINESS Array B**	**81.50**	**18**	P		P		16 54 25.2	+4.4
	comp=N,4.0nm,0.9s,baz=325,slow=2.3,SNR=8.5								
FINES				LR		LR		17 30 29.2	
	comp=N,27nm,18.6s,baz=312,slow=36								
ESDC	**Sonseca Array**	**84.27**	**46**	LR		LR		17 29 27.1	
	comp=N,65nm,21.1s,baz=100,slow=34								
GERES	**GERESS Array B**	**87.33**	**31**	LR		LR		17 34 41.0	
	comp=N,70nm,18.5s,baz=274,slow=36								
AKASG	**Malin Array Be**	**91.65**	**22**	P		P		16 55 14.3	+3.4
	comp=N,0.7nm,0.7s,baz=324,slow=4.3,SNR=6.3								
AKASG				LR		LR		17 36 37.2	
	comp=N,59nm,19.3s,baz=10.0,slow=36								
SONM	**Songino Array**	**91.92**	**333**	LR		LR		17 37 45.8	
	comp=N,33nm,19.1s,baz=187,slow=36								
KEST	**Kesra**	**94.77**	**42**	LR		LR		17 38 01.2	
	comp=N,28nm,18.5s,baz=266,slow=35								
AKTO	**Aktyubinsk**	**97.44**	**4**	LR		LR		17 43 26.6	
	comp=N,50nm,18.3s,slow=38								
NJ2	**Nanjing**	**98.08**	**316**	*e*P		**P**		**16 55 40.2**	**-0.4**
NJ2				pmax		pmax			
	comp=Z,40nm,1.3s								
MKAR	**Makanchi Array**	**99.71**	**348**	LR		LR		17 48 50.1	
	comp=Z,28nm,18.4s,baz=359,slow=40								
KSH	**Kashi**	**107.81**	**351**	SKS		**SKSdf**		**17 07 47.0**	**+3.0**

*DJA **11** 16:43:03.6±1.0,2°S±26″×14°0E±°, h107km±12km, M4.5/5, mb4.8/1, mB5.8/1, MLv4.4/5, Mw(mB)5.3/1*
*IDC **11** 16:43:08.0±1.8,2°33S×141°30E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/28, mbtmp3.6/3, ML3.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/20, Error ellipse: s-maj=31.2km s-min=13.8km az=164.0*

ISC 11 16:43:00.9±2.3,1°5S±0°.1×140°3E±0°.1, h10km, n13, σ1s24/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.09**	**161**	P	**Pn**	**16 43 21.7**	**-0.6**
JAY				S	**Sn**	**16 43 36.5**	**-1.0**
JAY	**Jayapura**	**1.09**	**161**	Pg	**Pb**	**16 43 21.4**	**-0.5**
	362nm,0.3s,baz=282,slow=6.4,SNR=1895						
JAY				Lg	Lg	16 43 27.2	
	2μm,0.3s,baz=126,slow=19,SNR=130						
JAY				LR	LR	16 43 39.1	
	comp=Z,392nm,18.1s,baz=40,slow=50						
GENI	**Genyem**	**1.12**	**189**	P	**Pn**	**16 43 23.4**	**+0.7**
GENI				S	**Sb**	**16 43 36.0**	**-1.0**
SMPI	**Sarmi**	**1.71**	**253**	P	**Pb**	**16 43 31.9**	**-0.6**
SMPI				S	**Sb**	**16 43 54.3**	**+0.2**
SRPI	**Serui, Papua**	**4.12**	**265**	P	**Pn**	**16 44 03.5**	**-0.5**
RKPI	**Ransiki, Papua**	**6.17**	**270**	P	**Pn**	**16 44 31.3**	**-0.8**
WRA	**Warramunga Arr**	**19.27**	**197**	P	**Pn**	**16 47 27.1**	**+0.2**
	0.4nm,0.3s,baz=22,slow=12,SNR=39						
WRA				S	Sn	16 50 45.3	-18
	0.1nm,0.3s,baz=13,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**22.92**	**195**	P	**P**	**16 48 08.1**	**+2.8**
	1.0nm,0.5s,baz=26,slow=10,SNR=46						
ASAR				LR	LR	16 57 12.1	
	comp=Z,98nm,19.1s,baz=26,slow=38						
H11S3	**WAKE ISLAND Hy**	**32.64**	**51**	T	T	17 24 50.5	
	baz=232,slow=76,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**32.65**	**51**	T	T	17 24 45.8	
	baz=232,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**32.66**	**51**	T	T	17 24 47.3	
	baz=232,slow=76,SNR=4.2						
ASAJ	**Asahikawa**	**45.44**	**2**	LR	LR	17 10 38.3	
	comp=Z,19nm,19.0s,baz=158,slow=36						
MKAR	**Makanchi Array**	**69.83**	**322**	P	P	16 54 27.8	+16
	0.3nm,0.7s,baz=111,slow=6.8,SNR=4.1						

IDC 11 17:18:47.5±4.4, 62°54S×153°15E, h0km, mb3.6/2, mb1 4.3/3, mb1mx3.9/23, mbtmp4.0/3, ML4.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/12, Error ellipse: s-maj=315.8km s-min=41.2km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.30**	**173**	Pn	Pn	17 22 24.7	+0.3
	3.4nm,0.3s,baz=340,slow=14,SNR=93						
VNDA				Sn	Sn	17 25 02.5	-12
	1.4nm,0.3s,baz=223,slow=17,SNR=7.1						
NWAO	**Narrogin (SRO)**	**37.34**	**306**	LR	LR	17 36 55.3	
	comp=Z,19nm,21.7s,baz=30,slow=29						
ASAR	**Alice Springs**	**40.98**	**333**	P	P	17 26 31.5	-0.4
	0.7nm,0.8s,baz=167,slow=8.9,SNR=8.5						
WRA	**Warramunga Arr**	**44.53**	**334**	P	P	17 27 00.5	+0.1
	0.7nm,0.7s,baz=164,slow=6.8,SNR=6.6						

GUC 11 17:19:22.7±0.5, 36°25S×72°92W, h13km±1km, ML3.5,1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.16**	**41⇑**	*e*P	Pg	17 19 26.0	-0.4
COCH				*e*S	Sg	17 19 29.0	0.0
CCSP	**San Pedro de C**	**0.61**	**195**	*e*P	Pg	17 19 33.6	-1.1
CCSP				*e*S	Sg	17 19 42.4	-0.4
CCSP				AML	AML	17 19 44.6	
	comp=E,5μm,0.3s						
LNCH	**Linares**	**1.14**	**70**	*e*P	Pb	17 19 42.0	-2.3
LNCH				*e*S	Sb	17 19 56.8	-2.2
TALC	**Talca**	**1.34**	**51**	*e*P	Pn	17 19 43.7	-3.5
TALC				*e*S	Sb	17 20 01.1	-3.8
CLCH	**Cerro Calan**	**3.45**	**35**	*e*P	Pn	17 20 16.7	+0.3
CLCH				*e*S	Sn	17 20 57.9	+0.7
CLCH				AML	AML	17 21 15.7	
	comp=N,134nm,0.7s						

*IDC **11** 17:19:21.6±0.9,0°.77S×119°.72E, h0km, mb3.7/11, mb1 3.7/11, mb1mx3.6/41, mbtmp3.7/11, Error ellipse: s-maj=86.3km s-min=17.9km az=57.0*
*DJA **11** 17:19:24.8±0.8,1°S±3″×12°0E±°, h24km±11km, M4.2/16, mb4.3/1, MLv4.2/16*
*ISCJB **11** 17:19:25.5±0.4,0°.60S±0°.04×119°.85E±0°.04, h45km, mb3.6/11, Error ellipse: s-maj=6.0km s-min=5.5km az=171.7*

ISC 11 17:19:27.5±0.7,0°.54S±0°.05×119°.86E±0°.04, h45km, n23, σ1s88/27, mb3.9/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.87**	**3**	P	**Pn**	**17 19 41.0**	**-2.5**
APSI	**Ampana**	**1.83**	**102**	P	**Pn**	**17 19 55.9**	**-0.6**
APSI				S	**Sn**	**17 20 15.9**	**-2.6**
MRSI	**Marisa**	**2.32**	**64**	P	**Pn**	**17 20 01.9**	**-1.3**
MRSI				S	**Sn**	**17 20 26.0**	**-4.5**
TTSI	**Tana Toraja**	**2.49**	**181**	P	**Pn**	**17 20 04.0**	**-1.6**
TTSI				S	**Sn**	**17 20 34.4**	**-0.3**
LUWI	**Luwuk**	**2.96**	**100**	P	**Pn**	**17 20 11.4**	**-0.6**
BKB	**Balikpapan**	**3.05**	**256**	P	**Pn**	**17 20 10.4**	**-2.8**
BKB				S	**Sn**	**17 20 46.2**	**-2.3**
GTOI	**Gorontalo**	**3.36**	**70**	P	**Pn**	**17 20 15.9**	**-1.7**
SPSI	**Sidrap Palu**	**3.40**	**181**	P	**Pn**	**17 20 16.6**	**-1.5**
BNSI	**Bone**	**3.84**	**176**	P	**Pn**	**17 20 22.6**	**-1.6**
KMSI	**Cibinong**	**4.27**	**75**	P	**Pn**	**17 20 29.6**	**-0.4**
BKSI	**Bulukumba**	**4.76**	**177**	P	**Pn**	**17 20 35.3**	**-1.4**
BBKI	**Banjar Baru**	**5.79**	**240**	P	**Pn**	**17 20 48.9**	**-2.1**
WRA	**Warramunga Arr**	**23.93**	**145**	P	**P**	**17 24 36.5**	**-1.2**
	1.0nm,0.9s,baz=324,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**26.73**	**150**	P	**P**	**17 25 02.1**	**-0.8**
	0.3nm,0.9s,baz=327,slow=9.6,SNR=6.6						
CMAR	**Chiang Mai Arr**	**27.91**	**314**	P	**P**	**17 25 14.9**	**+1.3**
	0.1nm,0.5s,baz=156,slow=6.6,SNR=4.6						
SONM	**Songino Array**	**49.59**	**348**	P	**P**	**17 28 16.1**	**+1.8**
	0.3nm,0.4s,baz=162,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**57.47**	**330**	P	**P**	**17 29 13.9**	**+1.9**
	1.4nm,0.9s,baz=134,slow=6.2,SNR=8.7						
AAK	**Ala-Archa**	**59.19**	**322**	P	**P**	**17 29 26.2**	**+1.9**
	0.4nm,0.4s,baz=152,slow=8.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**61.55**	**337**	P	**P**	**17 29 40.4**	**+0.5**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**61.90**	**332**	P	**P**	**17 29 44.0**	**+1.7**
	0.8nm,0.6s,baz=136,slow=6.5,SNR=9.6						
BVAR	**Borovoye Array**	**67.35**	**330**	P	**P**	**17 30 19.4**	**+1.4**
	1.1nm,0.8s,baz=127,slow=6.2,SNR=5.3						
GEYT	**Alibeck**	**68.37**	**311**	P	**P**	**17 30 24.7**	**0.0**
	1.3nm,0.9s,baz=120,slow=5.2,SNR=3.5						
AKTO	**Aktyubinsk**	**72.87**	**324**	P	**P**	**17 30 52.7**	**+0.9**
	1.0nm,0.8s,baz=135,slow=5.7,SNR=4.4						

*ISCJB **11** 17:36:34.9±1.1,7°.7S±0°.2×122°.4E±0°.1, h450km, mb2.8/1, Error ellipse: s-maj=21.6km s-min=12.4km az=19.5*
*IDC **11** 17:36:35.9±2.3,7°.45S×122°.91E, h437km±32km, mb2.5/1, mb1 3.0/4, mb1mx2.6/22, mbtmp3.6/4, Error ellipse: s-maj=197.0km s-min=24.3km az=56.0*
*DJA **11** 17:36:37.8±1.4,8°S±23″×12°2E±°, h419km±20km, M3.9/6, MLv3.9/6*

ISC 11 17:36:35.7±1.3,7°.8S±0°.2×122°.4E±0°.1, h450km, n9, σ1s21/12, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.21**	**217**	P	**P**	**17 37 31.4**	**-1.4**
SOEI	**Soe**	**2.68**	**137**	P	**P**	**17 37 39.9**	**-0.7**
SOEI				S	**S**	**17 38 31.6**	**-1.6**
BATI	**Baumata**	**2.70**	**153**	P	**P**	**17 37 40.9**	**+0.2**
BATI	**Baumata**	**2.70**	**153**	P	**P**	**17 37 40.9**	**+0.2**
	20nm,0.3s,baz=328,slow=1.4,SNR=43						
BATI				S	**S**	**17 38 33.8**	**+0.5**
	52nm,0.3s,baz=319,slow=20,SNR=19						
BASI	**Baing, Sumba**	**3.03**	**217**	P	**P**	**17 37 44.3**	**+1.3**
WBSI	**Waikabubak, Su**	**3.52**	**238**	P	**P**	**17 37 46.7**	**-0.2**
WBSI				S	**S**	**17 38 42.8**	**-1.9**
WRA	**Warramunga Arr**	**16.72**	**138**	P	**P**	**17 40 04.5**	**-0.6**
	0.5nm,0.3s,baz=312,slow=12,SNR=38						
ASAR	**Alice Springs**	**19.25**	**146**	P	**P**	**17 40 31.6**	**+1.3**
	0.2nm,0.3s,baz=325,slow=8.4,SNR=58						
MKAR	**Makanchi Array**	**64.99**	**331**	P	**P**	**17 46 30.9**	**+0.9**
	0.1nm,0.4s,baz=124,slow=6.1,SNR=2.6						

*IDC **11** 17:56:51.6±2.3,24°.36S×179°.86E, h489km±23km, mb3.4/7, mb1 3.6/8, mb1mx3.3/26, mbtmp4.2/8, Error ellipse: s-maj=23.3km s-min=19.4km az=58.0*
*ISCJB **11** 17:56:52.6±0.9,24°.44S±0°.09×179°.9W±0°.2, h517km, mb3.8/7, Error ellipse: s-maj=18.9km s-min=11.8km az=169.2*

ISC 11 17:56:53.5±0.9,24°.5S±0°.1×180°.0W±0°.1, h517km, n11, σ1s47/15, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.72**	**278**	P	**P**	**17 59 40.8**	**+1.0**
	0.6nm,0.3s,baz=43,slow=21,SNR=8.9						
DZM				S	**S**	**18 01 57.7**	**+0.9**
	0.1nm,0.3s,baz=99,slow=6.5,SNR=6.6						
URZ	**Urewera**	**13.91**	**190**	P	**P**	**17 59 51.9**	**0.0**
	1.1nm,0.3s,baz=310,slow=1.3,SNR=10						
URZ				S	**S**	**18 02 17.6**	**-1.3**
	0.6nm,0.3s,baz=85,slow=21,SNR=12						
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**18 03 58.0**	**-1.1**
	2.2nm,0.5s,baz=92,slow=6.7,SNR=142						
ASAR				ScP	**ScP**	**18 08 45.0**	**+1.4**
	0.3nm,0.6s,baz=109,slow=4.6,SNR=5.1						
WRA	**Warramunga Arr**	**42.40**	**267**	P	**P**	**18 04 00.9**	**-1.6**
	6.2nm,0.3s,baz=99,slow=8.3,SNR=217						
WRA				ScP	**ScP**	**18 08 47.3**	**+1.9**
	1.9nm,0.8s,baz=100,slow=3.8,SNR=12						
QSPA	**South Pole Qui**	**65.55**	**180**	P	**P**	**18 06 46.9**	**+1.4**
	2.9nm,0.6s,baz=342,slow=0.6,SNR=26						
MJAR	**Matsushiro Arr**	**72.43**	**326**	P	**P**	**18 07 25.6**	**-1.6**
	1.0nm,0.8s,baz=174,slow=7.0,SNR=5.0						
KSRS	**Korea Array**	**78.75**	**320**	P	**P**	**18 08 01.6**	**-0.6**
	0.8nm,0.7s,baz=133,slow=6.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**18 08 58.3**	**+1.2**
	1.0nm,0.9s,baz=99,slow=2.8,SNR=4.3						
TXAR	**Lajitas Array**	**90.74**	**58**	P	**P**	**18 09 02.1**	**+0.7**
	0.9nm,0.7s,baz=210,slow=5.5,SNR=8.2						
AKASG	**Malin Array Be**	**145.51**	**327**	PKPbc	**PKPdf**	**18 15 31.7**	**-0.6**
	0.6nm,0.4s,baz=46,slow=3.7,SNR=7.2						
BRTR	**Keskin Array B**	**147.98**	**306**	PKPbc	**PKPab**	**18 15 43.0**	**-2.4**
	0.7nm,0.6s,baz=91,slow=3.9,SNR=5.6						

*ISCJB **11** 18:17:50.1±0.3,59°.86N±0°.03×153°.31W±0°.06, h132km±2km, mb3.7/5, Error ellipse: s-maj=4.8km s-min=4.1km az=35.2*
*NEIC **11** 18:17:52.0,59°.84N×153°.31W, h122km, mb4.2/4, After AEIC.*
*IDC **11** 18:17:54.0±5.2,60°.24N×153°.41W, h134km±49km, mb3.5/5, mb1 3.4/9, mb1mx3.0/52, mbtmp3.7/9, Error ellipse: s-maj=43.3km s-min=29.9km az=30.0*

ISC 11 18:17:51.1±0.8,59°.87N±0°.04×153°.30W±0°.05, h126km±5km, n108, σ0s81/118, mb3.8/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.15**	**52**	P	**Pn**	**18 18 08.3**	**-0.2**
ILW	**Iliamna West**	**0.21**	**23**	P	**Pn**	**18 18 08.3**	**-0.5**
OPT	**Oil Point**	**0.22**	**171**	P	**Pn**	**18 18 08.4**	**-0.2**
AUL	**Augustine Lava**	**0.49**	**188**	P	**Pn**	**18 18 09.6**	**-0.1**
AUL				S	**Sn**	**18 18 23.6**	**-0.1**
AUH	**Augustine H**	**0.51**	**188**	P	**Pn**	**18 18 09.7**	**-0.2**
AUP	**Augustine Pinn**	**0.51**	**187**	P	**Pn**	**18 18 09.7**	**-0.2**
AUI	**Augustine Isla**	**0.54**	**187**	P	**Pn**	**18 18 09.7**	**-0.3**
RSO	**Redoubt South**	**0.66**	**24**	*e*Pn	**Pn**	**18 18 10.9**	**-0.1**
RSO				*e*Sn	**Sn**	**18 18 25.5**	**-0.5**
RDWB	**Redoubt West**	**0.66**	**20**	P	**Pn**	**18 18 10.7**	**-0.3**
RDWB				S	**Sn**	**18 18 25.8**	**-0.3**
RDN	**Redoubt North**	**0.70**	**22**	P	**Pn**	**18 18 11.2**	**0.0**
NCT	**North Crescent**	**0.72**	**15**	P	**Pn**	**18 18 11.3**	**-0.1**
DFR	**Drift River**	**0.79**	**23**	P	**Pn**	**18 18 11.8**	**-0.1**
HOM	**Homer**	**0.86**	**103**	P	**Pn**	**18 18 12.6**	**+0.2**
HOM				S	**Sn**	**18 18 29.6**	**+1.0**
MCNL	**McNeil River**	**0.86**	**218**	P	**Pn**	**18 18 11.8**	**-0.6**
CNPM	**China Poot**	**1.10**	**107**	P	**Pn**	**18 18 14.3**	**-0.3**
CNPM				S	**Sn**	**18 18 31.7**	**-0.8**
BRLK	**Bradley Lake**	**1.22**	**94**	P	**Pn**	**18 18 15.7**	**-0.2**
BRLK				S	**Sn**	**18 18 34.2**	**-0.5**
NKA	**Nikishka**	**1.35**	**49**	P	**Pn**	**18 18 19.1**	**+1.9**
CKL	**Chakachamna La**	**1.42**	**19**	P	**Pn**	**18 18 18.4**	**+0.4**
CKN	**Chakachatna No**	**1.47**	**22**	P	**Pn**	**18 18 19.1**	**+0.5**
BGL	**Barrier Glacie**	**1.47**	**17**	P	**Pn**	**18 18 19.2**	**+0.6**
SPBG	**Spurr Blockage**	**1.47**	**18**	P	**Pn**	**18 18 19.2**	**+0.5**
SPBG				S	**Sn**	**18 18 40.6**	**+1.0**
SLKM	**Skilak Lake**	**1.67**	**66**	P	**Pn**	**18 18 20.8**	**-0.1**
SVW2	**Sparrevohn**	**1.67**	**319**	P	**Pn**	**18 18 20.3**	**-0.6**
STLK	**Strandline Lak**	**1.79**	**23**	P	**Pn**	**18 18 22.7**	**+0.4**
KVTA	**Katmai Vly 10**	**1.81**	**215**	P	**Pn**	**18 18 22.3**	**-0.3**
KCE	**Katmai Mt Cerb**	**1.90**	**212**	P	**Pn**	**18 18 24.3**	**+0.7**
KELA	**Mount Kelaz**	**1.91**	**222**	P	**Pn**	**18 18 24.4**	**+0.6**
KABR	**Katmai Barrier**	**1.94**	**207**	P	**Pn**	**18 18 23.8**	**-0.5**
SEW	**Seward**	**1.95**	**81**	P	**Pn**	**18 18 24.0**	**-0.2**
SEW				S	**Sn**	**18 18 48.5**	**-1.0**
FIB	**Fire Island**	**2.02**	**49**	P	**Pn**	**18 18 26.4**	**+1.4**
SUA	**Susitna One**	**2.04**	**37**	P	**Pn**	**18 18 25.8**	**+0.4**
SUA				S	**Sn**	**18 18 52.2**	**+0.5**
KDAK	**Kodiak Island**	**2.12**	**170**	P	**Pn**	**18 18 25.0**	**-1.4**
KDAK				S	**Sn**	**18 18 52.3**	**-1.1**
RC01	**Rabbit Creek A**	**2.15**	**54**	P	**Pn**	**18 18 26.6**	**-0.1**
SKT	**Skwentna**	**2.29**	**21**	P	**Pn**	**18 18 28.8**	**+0.4**
PTE	**Portage**	**2.35**	**63**	P	**Pn**	**18 18 29.4**	**+0.3**
OHAK	**Old Harbor**	**2.65**	**180**	P	**Pn**	**18 18 31.2**	**-1.8**
PMR	**Palmer**	**2.68**	**48**	P	**Pn**	**18 18 33.4**	**0.0**
CUT	**Chulitna**	**2.94**	**29**	P	**Pn**	**18 18 36.9**	**+0.2**
PPLA	**Purkeypile**	**3.09**	**10**	P	**Pn**	**18 18 40.2**	**+1.4**
GLI	**Glacier Island**	**3.25**	**69**	P	**Pn**	**18 18 40.7**	**0.0**
TT01	**Tatalina**	**3.32**	**338**	P	**Pn**	**18 18 41.2**	**-0.5**
SCM	**Sheep Creek Mo**	**3.52**	**53**	P	**Pn**	**18 18 43.6**	**-0.8**
JPK	**Jack Peak**	**3.53**	**67**	P	**Pn**	**18 18 45.0**	**+0.6**
MID	**Middleton Isla**	**3.56**	**94**	P	**Pn**	**18 18 44.7**	**-0.1**
CAST	**Castle Rocks**	**3.61**	**9**	P	**Pn**	**18 18 46.5**	**+0.9**
VLZ	**Valdez**	**3.67**	**67**	P	**Pn**	**18 18 46.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.83**	**76**	P	**Pn**	**18 18 48.5**	**+0.1**
KTH	**Kantishna Hill**	**3.87**	**16**	P	**Pn**	**18 18 48.8**	**-0.1**
TRF	**Thorofare Moun**	**3.87**	**20**	P	**Pn**	**18 18 48.9**	**-0.2**
DIV	**Divide**	**3.93**	**68**	P	**Pn**	**18 18 50.2**	**+0.4**
KLU	**Klutina**	**3.98**	**63**	P	**Pn**	**18 18 49.6**	**-0.9**
CHUM	**Lake Minchumin**	**4.06**	**6**	P	**Pn**	**18 18 51.9**	**+0.6**
RND	**Reindeer**	**4.13**	**29**	P	**Pn**	**18 18 52.3**	**-0.2**
DHY	**Denali Highway**	**4.29**	**39**	P	**Pn**	**18 18 54.9**	**+0.2**
GOAT	**Goat Mountain**	**4.33**	**77**	P	**Pn**	**18 18 55.5**	**+0.3**
RAGM	**Ragged Mountai**	**4.35**	**79**	P	**Pn**	**18 18 55.2**	**-0.1**
MCK	**McKinley**	**4.40**	**26**	P	**Pn**	**18 18 56.3**	**+0.3**
BMRM	**Bremner River**	**4.45**	**72**	P	**Pn**	**18 18 56.7**	**0.0**
BWN	**Browne**	**4.68**	**21**	P	**Pn**	**18 19 00.2**	**+0.4**
NICHA	**Nichawak Mount**	**4.69**	**81**	P	**Pn**	**18 19 00.5**	**+0.5**
HARP	**HAARP**	**4.70**	**54**	P	**Pn**	**18 19 00.6**	**+0.6**
SUCK	**Suckling Hills**	**4.79**	**83**	P	**Pn**	**18 19 01.6**	**+0.3**
BERG	**Berg Lake**	**4.83**	**80**	P	**Pn**	**18 19 01.9**	**+0.1**
PAX	**Paxson**	**4.88**	**47**	P	**Pn**	**18 19 02.3**	**-0.2**
GLB	**Gilahina Butte**	**4.93**	**67**	P	**Pn**	**18 19 04.0**	**+0.9**
VRDI	**Verde Repeater**	**5.05**	**70**	P	**Pn**	**18 19 05.1**	**+0.2**
KHIT	**Khitrov Hills**	**5.05**	**79**	P	**Pn**	**18 19 04.7**	**-0.2**
WRH	**Wood River Hil**	**5.22**	**26**	P	**Pn**	**18 19 06.3**	**-0.6**
MCARA	**McCarthy VSAT**	**5.28**	**69**	P	**Pn**	**18 19 08.3**	**+0.5**
KULT	**Kultieth River**	**5.32**	**81**	P	**Pn**	**18 19 08.6**	**+0.3**
MLY	**Manley**	**5.32**	**12**	P	**Pn**	**18 19 07.6**	**-0.7**
BARK	**Barkley Ridge**	**5.43**	**80**	P	**Pn**	**18 19 10.2**	**+0.3**
CCB	**Clear Creek Bu**	**5.44**	**26**	P	**Pn**	**18 19 09.0**	**-0.8**
HDA	**Harding Lake**	**5.44**	**30**	P	**Pn**	**18 19 08.7**	**-1.1**
ISLE	**Juniper Island**	**5.51**	**78**	P	**Pn**	**18 19 11.1**	**0.0**
PTPK	**Patty Peak**	**5.51**	**71**	P	**Pn**	**18 19 11.8**	**+0.8**
KIAG	**Kiagna River**	**5.53**	**74**	P	**Pn**	**18 19 11.4**	**+0.1**
PS08	**TAPS Pump Stn8**	**5.58**	**30**	P	**Pn**	**18 19 11.3**	**-0.5**
MDM	**Murphy Dome**	**5.62**	**23**	P	**Pn**	**18 19 12.0**	**-0.4**
COLA	**College**	**5.63**	**24**	P	**Pn**	**18 19 11.8**	**-0.5**
BAGL	**Bagley Icefiel**	**5.63**	**79**	P	**Pn**	**18 19 13.4**	**+1.0**
MESA	**MESA**	**5.70**	**82**	P	**Pn**	**18 19 14.1**	**+0.5**
IL1

CLCH eS Sn 18 59 03.2 +1.6
CLCH AML AML 18 59 09.9
comp=E,842nm,0.3s
PEL Peldehue 1.64 53 eP Pn 18 58 43.5 +1.0
PEL eS Sn 18 59 03.8 +1.5
PEL AML AML 18 59 17.6
comp=N,1μm,0.7s
LNCH Linares 1.77 163 eP Pn 18 58 45.0 +0.7
LNCH eS Sn 18 59 07.1 +1.5
FCH Farellones 1.82 64 eP Pn 18 58 46.2 +0.9
FCH eS Sn 18 59 09.3 +1.9
FCH AML AML 18 59 14.3
comp=N,533nm,0.3s
YECH El Yeso 1.85 76 eP Pn 18 58 45.2 -0.7
YECH eS Sn 18 59 08.7 +0.4
COCH Cobquecura 2.03 193 eP Pn 18 58 48.4 +0.6

IDC 11 19:05:10.9±7.2, 18°10'S×175°07'W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/34, mbtmp3.2/2, Error ellipse: s-maj=327.0km s-min=65.9km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.72**	**259**	P	P	19 13 49.9	-0.1
	0.1nm,0.4s,baz=96,slow=7.4,SNR=6.1						
ASAR	**Alice Springs**	**47.80**	**254**	P	P	19 13 50.4	-0.2
	0.2nm,0.5s,baz=89,slow=8.2,SNR=9.9						
BRTR	**Keskin Array B**	**147.13**	**317**	PKPbc	PKPbc	19 24 55.6	-0.8
	0.8nm,0.8s,baz=18,slow=5.2,SNR=4.2						

*IDC **11** 19:09:39.3±1.9, 4°.04S×127°.98E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/35, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=127.5km s-min=27.7km az=67.0*
ISC 11 19:09:35.5±0.9, 3°.56S±0°.07×127°.13E±0°.05, h10km, n15, σ3°.24/11, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.81**	**83**	P	**Sg**	**19 10 38.2**	**+4.3**
SANI	**Sanana**	**1.88**	**323**	P	**Sg**	**19 10 41.6**	**+5.5**
LBMI	**Labuha**	**2.93**	**7**	P	Pg	19 10 43.3	+12
BNDI	**Bandanaira**	**2.93**	**109**	P	**Pb**	**19 10 28.3**	**+0.4**
TNTI	**Ternate**	**4.31**	**3**	P	**Pb**	**19 10 50.1**	**-1.4**
TNTI				S	**Sn**	**19 11 28.**	**-3.5**
KDI	**Kendari**	**4.51**	**265**	P	**Pb**	**19 10 54.1**	**-0.8**
LUWI	**Luwuk**	**5.02**	**300**	P	Pb	19 10 59.3	-4.2
LUWI				S	Sn	19 11 31.4	-18
FAKI	**Fak Fak**	**5.16**	**83**	P	**Pn**	**19 10 51.7**	**-1.1**
APSI	**Ampana**	**6.07**	**296**	P	**Pn**	**19 11 07.1**	**+1.7**
MRSI	**Marisa**	**6.55**	**308**	P	Pn	19 11 05.3	-6.7
BNSI	**Bone**	**7.05**	**263**	P	**Pn**	**19 11 21.7**	**+2.8**
TTSI	**Tana Toraja**	**7.31**	**274**	P	**Pn**	**19 11 20.5**	**-2.0**
WRA	**Warramunga Arr**	**17.74**	**157**	Pn	Pn	19 13 37.9	-4.9
	0.1nm,0.3s,baz=337,slow=13,SNR=7.2						
ASAR	**Alice Springs**	**21.03**	**162**	P	**P**	**19 14 17.5**	**-2.2**
	0.7nm,0.6s,baz=349,slow=12,SNR=17						
MKAR	**Makanchi Array**	**63.80**	**327**	P	P	19 20 19.0	+11
	0.3nm,0.5s,baz=127,slow=7.9,SNR=7.5						

*ISCJB **11** 19:13:47.0±0.4, 32°.07N±0°.02×115°.00W±0°.02, h10km±3km, Error ellipse: s-maj=3.4km s-min=2.7km az=157.9*
*NEIC **11** 19:13:49.0, 32°.07N×115°.05W, h9km, ML4.2(PAS), ML4.5(ECX), After ECX.*
*ECX **11** 19:13:49.4±0.5, 32°.08N×115°.07W, h8km, MD4.1, ML4.3*
*MEX **11** 19:13:49.6±0.6, 32°.10N×114°.90W, h10km, MD3.6*
ISC 11 19:13:47.5±0.9, 32°.04N±0°.02×115°.05W±0°.02, h11km±7km, n49, σ0°.87/81, 17C-24D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.17**	**253**	↑*e*P	**Pg**	**19 13 51.3**	**-0.1**
EMX				*e*S	**Sg**	**19 13 54.1**	**+0.1**
MBIG	**Mexicali**	**0.39**	**341**	*i*P	**Pb**	**19 13 56.4**	**0.0**
MBIG				*i*S	**Sb**	**19 14 03.7**	**+1.3**
CPBX	**Cerro Prieto**	**0.44**	**330**	*e*P	**Pg**	**19 13 56.7**	**+0.5**
CPBX				*e*S	**Sg**	**19 14 02.1**	**+0.1**
CPBX				AML	AML	19 14 12.4	
	comp=N,80μm,0.3s						
CPBX				↑*e*		19 14 12.4	
CPBX	**Cerro Prieto**	**0.44**	**330**	*i*P	**Pb**	**19 13 57.0**	**-0.2**
CPBX				*i*S	**Sg**	**19 14 02.9**	**+0.9**
ECBX	**El Chinero**	**0.56**	**180**	↓*e*P	**Pg**	**19 13 59.0**	**+0.4**
ECBX				*e*S	**Sb**	**19 14 07.3**	**-0.2**
YMD	**Yuma Desert**	**0.67**	**39**	↑*i*P	**Pg**	**19 14 00.9**	**+0.4**
RDX	**Rancho Dawling**	**0.77**	**262**	↑*e*P	**Pb**	**19 14 03.3**	**+0.3**
RDX				*e*S	**Sb**	**19 14 13.4**	**-0.2**
COA	**Coachella**	**0.82**	**356**	↓*i*P	**Pg**	**19 14 03.1**	**-0.4**
SGL	**Mount Signal**	**0.84**	**317**	↓*i*P	**Pg**	**19 14 03.2**	**-0.5**
YUH	**Yuha Desert**	**0.96**	**310**	↓*i*P	**Pg**	**19 14 05.1**	**-0.9**
GLA	**Glamis**	**1.03**	**10**	*e*Pg	**Pg**	**19 14 06.0**	**-1.4**
GLA				*e*Sg	**Sg**	**19 14 19.9**	**-0.9**
RMX	**La Rumorosa**	**1.04**	**303**	↓*e*P	**Pb**	**19 14 06.7**	**-0.9**
RMX				*e*S	**Sg**	**19 14 20.7**	**-0.4**
SPIG	**San Pedro Mart**	**1.05**	**200**	*e*P	**Pn**	**19 14 08.3**	**-0.2**
SPIG				*i*S	**Sb**	**19 14 22.2**	**+0.4**
SPIG	**San Pedro Mart**	**1.05**	**200**	*e*P	**Pn**	**19 14 08.3**	**-0.2**
SPIG				*i*S	**Sb**	**19 14 22.2**	**+0.4**
SPX	**San Pedro Mart**	**1.05**	**200**	*e*P	**Pn**	**19 14 08.4**	**-0.2**
SPX				AML	AML	19 14 25.1	
	comp=N,6μm,0.6s						
SPX				↑*e*		19 14 25.1	
SPX	**San Pedro Mart**	**1.05**	**200**	*e*P	**Pn**	**19 14 08.2**	**-0.3**
SPX				*i*S	**Sn**	**19 14 22.8**	**-0.5**
ZAX	**El Zacaton**	**1.17**	**244**	↑*e*P	**Pb**	**19 14 09.7**	**0.0**
ZAX				↓*e*		19 14 30.0	
ZAX				AML	AML	19 14 30.0	
	comp=E,6μm,0.5s						
113A	**Mohawk Valley,** baz=1.3	**1.30**	**56**	↑P	**Pn**	**19 14 10.6**	**-1.0**
113A				↓S	**Sb**	**19 14 27.1**	**-1.6**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.37**	**254**	↑*e*P	**Pn**	**19 14 12.6**	**-0.1**
CBX	**Cerro Bola**	**1.40**	**282**	*e*P	**Pn**	**19 14 12.5**	**-0.6**
CBX				*i*S	**Sn**	**19 14 31.3**	**-0.3**
CBX	**Cerro Bola**	**1.40**	**282**	*e*P	**Pn**	**19 14 13.2**	**+0.1**
CBX				*e*S	**Sn**	**19 14 31.9**	**+0.3**
CBX	**Cerro Bola**	**1.40**	**282**	*e*P	**Pn**	**19 14 12.5**	**-0.6**
CBX				*i*S	**Sn**	**19 14 31.3**	**-0.3**
MONP	**Monument Peak,** baz=1.4	**1.44**	**307**	↓P	**Pn**	**19 14 12.6**	**-1.2**
MONP				↓S	**Sn**	**19 14 32.1**	**-0.6**
	baz=1.4						
PBX	**Punta Banda**	**1.46**	**259**	*e*P	**Pn**	**19 14 14.1**	**+0.3**
BAR	**Barrett**	**1.52**	**295**	*e*Pn	**Pn**	**19 14 14.3**	**-0.3**
BAR				*e*Sn	**Sn**	**19 14 35.0**	**+0.6**
Y12C	**Blythe** baz=1.7	**1.76**	**14**	↑P	**Pn**	**19 14 16.8**	**-1.2**
Y12C				↓Sb	**Sg**	**19 14 43.9**	**-0.4**
	baz=1.7						
214A	**Organ Pipe Nat** baz=1.9	**1.90**	**92**	↓P	**Pn**	**19 14 18.9**	**-1.1**
214A				↑S	**Sn**	**19 14 43.2**	**-0.6**
	baz=1.9						
214A	**Organ Pipe Nat**	**1.90**	**92**	*e*Pn	**Pn**	**19 14 18.8**	**-1.1**
214A				*e*Sn	**Sb**	**19 14 46.1**	**+0.1**
109C	**Camp Elliot, M** baz=1.9	**1.94**	**297**	↑P	**Pn**	**19 14 19.6**	**-0.7**
109C				↑Sb	**Sb**	**19 14 47.3**	**+0.3**
	baz=1.9						
PFO	**Pinyon Flats O** baz=1.9	**1.96**	**323**	↑P	**Pn**	**19 14 19.4**	**-1.5**
PFO	**Pinyon Flats O**	**1.96**	**323**	*e*Pn	**Pn**	**19 14 19.2**	**-1.7**
PFO				*e*Sn	**Sn**	**19 14 46.6**	**+1.1**
Z14A	**Wintersburg** baz=2.2	**2.21**	**53**	↓P	**Pn**	**19 14 23.7**	**-0.5**
Z14A				↓S	**Sn**	**19 14 52.2**	**+0.8**
	baz=2.2						
Y14A	**Wickenburg** baz=2.5	**2.56**	**42**	↓P	**Pn**	**19 14 28.6**	**-0.4**
Y14A				↓S	**Sn**	**19 15 00.8**	**+0.8**
	baz=2.5						
TUC	**Tucson**	**3.62**	**85**	*e*Pn	**Pn**	**19 14 42.6**	**-1.1**
TUC				*e*Sn	**Sn**	**19 15 27.9**	**+1.4**
X16A	**Lo Mia Camp, P** baz=3.8	**3.84**	**51**	↑P	**Pn**	**19 14 47.0**	**+0.2**
X16A				↑S	**Sn**	**19 15 31.5**	**-0.4**
	baz=3.8						
SHPR	**Sheep Range**	**4.46**	**359**	*e*P	**Pn**	**19 14 56.4**	**+1.3**
ISA	**Isabella, Lake**	**4.60**	**323**	P	**Pn**	**19 15 00.3**	**+3.2**
WUAZ	**Wupatki** baz=4.6	**4.62**	**40**	↓P	**Pn**	**19 14 58.9**	**+1.4**
WUAZ				↑S	**Sn**	**19 15 52.3**	**+1.0**
	baz=4.6						
U15A	**North Rim** baz=4.9	**4.94**	**27**	↓P	**Pn**	**19 15 02.9**	**+1.0**
X18A	**Snowflake** baz=4.9	**4.94**	**58**	↓P	**Pn**	**19 15 02.3**	**+0.5**
319A	**Douglas** baz=5.0	**4.96**	**96**	↓P	**Pn**	**19 15 02.3**	**+0.2**
W18A	**Petrified Fore** baz=5.4	**5.39**	**54**	↑P	**Pn**	**19 15 08.9**	**+0.8**
W18A				↓S	**Sn**	**19 16 10.1**	**-0.1**
	baz=5.4						
W18A	**Petrified Fore** comp=E,43nm,0.4s	**5.39**	**54**	*e*P	**Pn**	**19 15 09.9**	**+1.9**
CCUT	**Cedar City** comp=E,42nm,0.9s	**5.67**	**14**	*e*Pn	**Pn**	**19 15 12.3**	**+0.4**
CCUT				*e*Pg	**Pg**	**19 15 37.0**	**+0.9**
CCUT				*e*Sn	**Sn**	**19 16 16.8**	**-0.3**
121A	**Cookes Peak, D** baz=6.2,SNR=47	**6.17**	**84**	↓P	**Pn**	**19 15 18.7**	**0.0**
121A				↓S	**Sn**	**19 16 27.9**	**-1.4**
	baz=6.2						
121A	**Cookes Peak, D** comp=E,42nm,0.4s	**6.17**	**84**	*e*Pn	**Pn**	**19 15 18.6**	**-0.1**
121A				*e*Sn	**Sn**	**19 16 28.5**	**-0.8**
Y22D	**IRIS PASSCAL I** baz=7.1	**7.12**	**71**	↓P	**Pn**	**19 15 32.3**	**+0.6**
ANMO	**Albuquerque** comp=E,9.1nm,0.9s	**7.74**	**66**	*e*P	**Pn**	**19 15 41.6**	**+1.4**
MNTX	**Cornudas Mount** baz=8.2,SNR=6.0	**8.23**	**90**	↓P	**Pn**	**19 15 47.5**	**+0.7**

*IDC **11** 19:26:45.5±1.2, 36°.35S×74°.31W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.7/29, mbtmp3.6/5, ML3.4/2, MS2.4/2, Ms1 2.5/2, ms1mx2.4/24, Error ellipse: s-maj=38.7km s-min=23.1km az=96.0*
*ISCJB **11** 19:26:48.4±1.1, 36°.37S±0°.09×74°.1W±0°.2, h33km, mb3.7/2, MS3.9/1, Error ellipse: s-maj=20.5km s-min=10.8km az=25.8*
ISC 11 19:26:50.6±1.2, 36°.4S±0°.1×74°.2W±0°.2, h35km, n7, σ0°.91/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.20**	**148**	Pn	**Pn**	**19 28 05.8**	**-0.1**
	0.6nm,0.3s,baz=321,slow=11,SNR=12						
PLCA				Sn	Sn	19 29 14.1	+9.5
	1.3nm,0.3s,baz=217,slow=20,SNR=2.7						
PLCA				LR	LR	19 29 33.4	
	comp=Z,114nm,20.6s,baz=357,slow=32						
CFAA	**Coronel Fontan**	**6.85**	**48**	Pn	**Pn**	**19 28 27.7**	**-1.0**
	0.2nm,0.3s,baz=219,slow=14,SNR=11						
CFAA				Sn	**Sn**	**19 29 46.1**	**+0.7**
	0.1nm,0.3s,baz=69,slow=17,SNR=3.4						
CFAA				LR	LR	19 30 31.4	
	comp=Z,13nm,21.1s,baz=243,slow=33						
LPAZ	**La Paz**	**20.72**	**17**	P	**P**	**19 31 29.6**	**+1.0**
	2.1nm,1.0s,baz=199,slow=7.5,SNR=3.5						
RPN	**Rapa Nui**	**31.14**	**277**	LR	LR	19 42 09.8	
	comp=Z,232nm,18.2s,baz=14,slow=30						
QSPA	**South Pole Qui**	**53.86**	**180**	P	**P**	**19 36 10.1**	**+0.2**
	1.6nm,0.9s,baz=188,slow=1.0,SNR=5.2						
TXAR	**Lajitas Array**	**71.00**	**333**	P	**P**	**19 38 04.2**	**-0.6**
	0.4nm,0.7s,baz=157,slow=9.5,SNR=6.3						
MKAR	**Makanchi Array**	**159.62**	**52**	PKP	**PKPdf**	**19 46 46.0**	**+0.8**
	0.3nm,0.9s,baz=270,slow=2.5,SNR=2.8						

*ISCJB **11** 19:27:19.8±0.8, 2°.45N±0°.07×128°.2E±0°.1, h200km, mb3.6/7, Error ellipse: s-maj=20.9km s-min=9.5km az=10.9*
*IDC **11** 19:27:20.3±7.1, 2°.58N×128°.60E, h189km±73km, mb3.4/7, mb1 3.6/7, mb1mx3.2/37, mbtmp3.9/7, Error ellipse: s-maj=36.5km s-min=13.4km az=74.0*
*DJA **11** 19:27:28.3±2.4, 2°.N±10'×12°.8E±2°.6, h194km±32km, M3.9/2, mb4.0/1, MLv3.8/2*
ISC 11 19:27:22.0±1.0, 2°.41N±0°.09×128°.1E±0°.2, h200km, n10, σ1°.53/11, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**205**	P	**Pn**	**19 28 00.8**	**+2.4**
TNTI				S	Sn	19 28 03.8	-23
SANI	**Sanana**	**4.91**	**206**	P	**Pn**	**19 28 36.2**	**+0.9**
SANI				S	**Sn**	**19 29 31.0**	**-2.0**
LUWI	**Luwuk**	**6.34**	**237**	P	**Pn**	**19 28 53.6**	**-0.1**
WRA	**Warramunga Arr**	**23.04**	**165**	P	**P**	**19 32 09.4**	**-0.4**
	6.0nm,0.6s,baz=344,slow=10.0,SNR=56						
ASAR	**Alice Springs**	**26.52**	**168**	P	**P**	**19 32 41.1**	**-0.2**
	0.5nm,0.4s,baz=352,slow=7.7,SNR=23						
ASAR				PcP	**PcP**	**19 36 00.4**	**-0.4**
	0.3nm,0.6s,baz=358,slow=2.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**32.73**	**301**	P	**P**	**19 33 38.3**	**+2.2**
	0.7nm,0.8s,baz=113,slow=6.9,SNR=5.8						
KSRS	**Korea Array**	**34.88**	**360**	P	**P**	**19 33 52.8**	**-1.5**
	0.8nm,0.5s,baz=171,slow=8.0,SNR=4.4						
MJAR	**Matsushiro Arr**	**35.23**	**14**	P	P	19 33 53.4	-4.0
	0.4nm,0.4s,baz=180,slow=10.0,SNR=4.3						
SONM	**Songino Array**	**48.99**	**341**	P	**P**	**19 35 47.9**	**-0.6**
	0.8nm,0.7s,baz=154,slow=9.0,SNR=8.3						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**19 37 03.5**	**-0.1**
	1.2nm,0.4s,baz=116,slow=7.9,SNR=31						

IDC 11 19:31:24.5±19.0, 18°.76S×177°.19W, h429km±167km, mb2.7/3, mb1 3.0/3, mb1mx2.7/42, mbtmp3.5/3, Error ellipse: s-maj=223.4km s-min=51.2km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.62**	**260**	P	P	19 39 04.2	-0.9
	0.2nm,0.5s,baz=96,slow=7.4,SNR=5.8						
ASAR	**Alice Springs**	**45.68**	**255**	P	P	19 39 06.0	+0.4
	0.5nm,0.3s,baz=93,slow=8.0,SNR=13						
ASAR				PcP	PcP	19 40 34.2	-0.9
	0.2nm,0.5s,baz=90,slow=4.3,SNR=4.5						
ILAR	**Eielson Array**	**86.45**	**13**	P	P	19 43 19.8	-0.1
	0.2nm,0.4s,baz=222,slow=4.7,SNR=4.1						
BRTR	**Keskin Array B**	**146.20**	**315**	PKPbc	PKPbc	19 50 15.8	-0.4
	0.3nm,0.4s,baz=76,slow=2.3,SNR=3						
GERES	**GERESS Array B**	**148.72**	**346**	PKPbc	PKPbc	19 50 21.7	-0.7
	0.4nm,0.5s,baz=20,slow=3.2,SNR=4.1						

*ISCJB **11** 19:35:26.4±1.6, 22°.2S±0°.2×65°.8W±0°.2, h262km, mb3.2/3, Error ellipse: s-maj=30.2km s-min=15.8km az=142.9*
*IDC **11** 19:35:29.2±5.5, 21°.94S×65°.75W, h271km±39km, mb3.1/3, mb1 3.3/5, mb1mx2.9/33, mbtmp3.6/5, Error ellipse: s-maj=67.6km s-min=24.3km az=19.0*
ISC 11 19:35:28.0±1.2, 22°.1S±0°.2×65°.9W±0°.2, h262km, n8, σ0°.91/9, mb3.4/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.13**	**339**	P	**Pn**	**19 36 59.5**	**+0.9**
	0.4nm,0.3s,baz=130,slow=5.6,SNR=8.3						
LPAZ				S	**S**	**19 38 09.8**	**-1.4**
	0.1nm,0.3s,baz=9.4,slow=22,SNR=7.1						
SIV	**San Ignacio**	**7.54**	**38**	P	**Pn**	**19 37 16.4**	**+0.8**
	0.6nm,0.3s,baz=234,slow=11,SNR=26						
TORD	**Torodi Ar. Bea**	**74.88**	**69**	P	**P**	**19 46 39.7**	**-0.9**
	0.3nm,0.3s,baz=260,slow=5.7,SNR=12						
PDAR	**Pinedale Array**	**76.04**	**328**	P	**P**	**19 46 47.3**	**+0.5**
	0.2nm,0.4s,baz=129,slow=8.7,SNR=2.7						
YKA	**Yellowknife Ar**	**92.67**	**340**	P	**P**	**19 48 10.1**	**+0.5**
	0.2nm,0.5s,baz=128,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**130.66**	**204**	PKP	**PKPdf**	**19 54 08.1**	**-0.4**
	0.5nm,1.0s,baz=145,slow=2.3,SNR=3.0						
WRA	**Warramunga Arr**	**133.83**	**207**	PKP	**PKPdf**	**19 54 14.3**	**-0.3**
	0.2nm,0.4s,baz=151,slow=1.5,SNR=6.5						
MKAR	**Makanchi Array**	**144.35**	**38**	PKP	**PKPab**	**19 54 31.3**	**-0.4**
	0.6nm,0.7s,baz=319,slow=3.3,SNR=6.2						

IDC 11 19:39:00.1±2.4, 6°.44S×133°.30E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/25, mbtmp3.6/4, ML3.7/3, MS2.3/1, Ms1 2.3/1, ms1mx2.1/19, Error ellipse: s-maj=65.7km s-min=32.0km az=82.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**10.25**	**248**	Pn	Pn	19 41 28.3	-0.3
	1.6nm,0.3s,baz=117,slow=2.8,SNR=4.6						
BATI				Sn	Sn	19 43 18.7	-5.6
	0.9nm,0.3s,baz=90,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**13.46**	**176**	Pn	Pn	19 42 11.1	-1.5
	0.3nm,0.3s,baz=359,slow=13,SNR=12						
WRA				Sn	Sn	19 44 37.2	-5.9
	0.1nm,0.3s,baz=1.9,slow=22,SNR=3.3						
ASAR	**Alice Springs**	**17.14**	**178**	Pn	P	19 43 02.7	-0.3
	0.2nm,0.3s,baz=356,slow=12,SNR=9.9						
ASAR				Sn	Sn	19 46 09.8	-2.8
	0.1nm,0.3s,baz=354,slow=26,SNR=4.2						
TGY	**Tagaytay City**	**23.81**	**329**	LR	LR	19 56 31.1	
	comp=Z,6.8nm,18.5s,baz=298,slow=44						
MKAR	**Makanchi Array**	**69.60**	**325**	P	P	19 50 11.2	0.0
	0.2nm,0.7s,baz=114,slow=8.0,SNR=3.4						

*IDC **11** 19:46:24.1±2.9, 3°.67N×93°.50E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/27, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=103.7km s-min=23.1km az=62.0*
ISC 11 19:46:29.1±2.6, 4°.0N±0°.3×94°.0E±0°.5, h19km, n12, σ0°.73/6, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.15**	**18**	Pn	**P**	**19 50 06.6**	**-0.6**
	0.1nm,0.3s,baz=215,slow=12,SNR=9.6						
H08S2	**Diego Garcia H**	**24.42**	**242**	T	T	20 16 15.7	
	baz=62,slow=75,SNR=36						
H08S3	**Diego Garcia H**	**24.42**	**242**	T	T	20 16 12.8	
	baz=62,slow=75,SNR=43						
H08S1	**Diego Carcia H**	**24.43**	**242**	T	T	20 16 17.0	
	baz=62,slow=75,SNR=42						
H01W3	**Cape Leeuwin H**	**43.05**	**156**	T	T	20 40 04.5	
	baz=330,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**43.06**	**156**	T	T	20 40 07.9	
	baz=330,slow=76,SNR=4.5						
H01W1	**Cape Leeuwin H**	**43.06**	**156**	T	T	20 40 07.9	
	baz=330,slow=76,SNR=5.6						
MKAR	**Makanchi Array**	**43.83**	**348**	P	**P**	**19 54 33.9**	**-0.1**
	0.8nm,0.8s,baz=327,slow=2.5,SNR=6.2						
SONM	**Songino Array**	**44.95**	**12**	P	**P**	**19 54 43.9**	**+0.9**
	0.6nm,0.9s,baz=188,slow=8.7,SNR=5.5						
WRA	**Warramunga Arr**	**46.19**	**123**	P	**P**	**19 54 53.3**	**+0.2**
	0.5nm,0.8s,baz=299,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**47.59**	**127**	P	**P**	**19 55 03.8**	**-0.3**
	0.2nm,0.7s,baz=303,slow=7.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**50.36**	**353**	P	**P**	**19 55 24.3**	**-0.5**
	0.6nm,0.6s,baz=152,slow=7.4,SNR=5.6						

*IDC **11** 19:53:31.0±1.6, 9°.79S×161°.03E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/26, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=45.6km s-min=29.5km az=122.0*
*ISCJB **11** 19:53:33.7±1.1, 10°.1S±0°.1×161°.8E±0°.1, h35km, mb3.4/4, Error ellipse: s-maj=20.8km s-min=8.7km az=135.4*
ISC 11 19:53:35.8±1.5, 10°.1S±0°.2×161°.7E±0°.2, h35km, n12, σ3°.15/5, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**291**	*e*P	**Pn**	**19 54 07.0**	**+2.1**
HNR				*e*S	**Sn**	**19 54 27.0**	**0.0**
DZM	**Mont Dzumac**	**12.75**	**160**	Pn	P	19 56 41.9	-3.5
	0.2nm,0.3s,baz=30,slow=8.0,SNR=8.7						
DZM				Sn	**Sn**	**19 58 57.0**	**+1.4**
	0.1nm,0.3s,baz=287,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**28.13**	**246**	P	**P**	**19 59 21.2**	**-3.6**
	0.5nm,0.5s,baz=74,slow=9.5,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.83**	**10**	T	T	20 28 28.2	
	baz=194,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.83**	**10**	T	T	20 28 34.5	
	baz=194,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.85**	**10**	T	T	20 28 29.5	
	baz=194						
ASAR	**Alice Springs**	**29.74**	**239**	P	P	19 59 34.9	-4.3
	0.2nm,0.8s,baz=64,slow=9.5,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**30.06**	**10**	T	T	20 30 23.4	
	baz=193						
H11N3	**WAKE ISLAND Hy**	**30.07**	**10**	T	T	20 30 09.3	
	baz=193						
H11N2	**WAKE ISLAND Hy**	**30.08**	**10**	T	T	20 30 24.9	
	baz=193						
SONM	**Songino Array**	**75.58**	**325**	P	P	20 05 15.3	-1.8
	0.4nm,0.6s,baz=143,slow=5.6,SNR=4.2						
ILAR	**Eielson Array**	**83.92**	**20**	P	**P**	**20 06 01.5**	**-0.3**
	0.2nm,0.4s,baz=245,slow=5.1,SNR=5.6						

*MEX **11** 20:05:42.7±0.9, 33°.08N×115°.66W, h16km±32km, MD3.6*
*ISCJB **11** 20:05:45.7±0.4, 32°.66N±0°.02×115°.75W±0°.02, h3km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=43.3*
*ECX **11** 20:05:47.8±0.6, 32°.60N×115°.79W, h4km, MD3.4, ML3.5*
*NEIC **11** 20:05:47.0, 32°.64N×115°.74W, h5km, ML3.3(ECX), ML3.4(PAS), After ECX.*
ISC 11 20:05:46.2±1.1, 32°.63N±0°.02×115°.74W±0°.02, h6km±10km, n25, σ0°.73/46, 8C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.29**	**265**	↑*e*P	**Pg**	**20 05 52.4**	**+0.5**
RMX				*e*S	**Sg**	**20 05 56.4**	**+0.7**
CPBX	**Cerro Prieto**	**0.42**	**120**	*e*P	**Pb**	**20 05 55.5**	**-0.7**
CPBX				*e*S	**Sb**	**20 06 02.7**	**0.0**
CPBX				AML	AML	20 06 04.6	
	comp=N,9μm,0.3s						
CPBX				↑*e*		20 06 04.6	
CPBX				*e*		20 06 04.8	
CPBX				AML	AML	20 06 04.8	
	comp=E,10μm,0.2s						
CPBX	**Cerro Prieto**	**0.42**	**120**	*e*P	**Pg**	**20 05 54.9**	**+0.6**
CPBX				*i*S	**Sb**	**20 06 03.7**	**+1.0**
MBIG	**Mexicali**	**0.51**	**116**	*e*P	**Pg**	**20 05 54.7**	**-1.3**
MBIG				*i*S	**

mb1 4.1/9,mb1mx3.8/38,mbtmp3.8/9,ML3.5/3,MS3.6/16, Ms1 3.6/16,ms1mx3.4/31,Error ellipse: s-maj=37.9km s-min=21.5km az=52.0
NEIC ***11*** *20:16:41.6±1.0, 14.80N×102.63W,h10km,mb4.5/15, Error ellipse: s-maj=16.9km s-min=11.4km az=50.0*
ISCJB ***11*** *20:16:42.3±1.1, 14.68N±0.09×102.56W±0.08,h33km, mb4.2/13,MS3.6/11,Error ellipse: s-maj=14.4km s-min=10.8km az=29.2*

ISC 11 20:16:43.9±1.5, 14.7N±0.2×102.6W±0.1,h35km,n117, σ0.9 97/95,mb4.4/13,MS3.6/11,31C-27D,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**7.83**	**71**	Pn		**Pn**	**20 18 35.0**	**-0.3**
	0.4nm,0.3s,baz=251,slow=14,SNR=3.6							
CMIG				Sn		Sn	20 20 21.7	+19
	0.2nm,0.3s,baz=353,slow=17,SNR=4.8							
CMIG				LR		LR	20 21 20.9	
	comp=Z,465nm,19.4s,baz=236,slow=35							
H06E1	**SOCORRO T-PHAS**	**8.92**	**298**	T		T	20 27 30.4	
	SNR=16							
APG	**El Apazote**	**11.77**	**87**	Pn		**Pn**	**20 19 29.4**	**-0.1**
	0.4nm,0.3s,baz=312,slow=17,SNR=6.5							
APG				LR		LR	20 23 28.0	
	comp=Z,357nm,19.9s,baz=282,slow=34							
LPIG	**La Paz**	**11.83**	**323**	LR		LR	20 22 41.6	
	comp=Z,125nm,18.3s,baz=144,slow=31							
832A	**Faith Ranch, C**	**13.75**	**10**	⇓P		**Pn**	**20 19 56.5**	**+0.1**
	baz=14							
833A	**Chaparral WMA,**	**13.89**	**12**	⇓P		**Pn**	**20 19 58.6**	**+0.3**
	baz=14,SNR=5.9							
732A	**Laxson Ranch,**	**14.18**	**10**	⇓P		**Pn**	**20 20 02.8**	**+0.5**
	baz=14							
733A	**Divot King Ran**	**14.30**	**12**	⇑P		**Pn**	**20 20 04.5**	**+0.7**
	baz=14							
734A	**La Parita Cree**	**14.58**	**14**	P		**Pn**	**20 20 08.1**	**+0.4**
	baz=14							
TXAR	**Lajitas Array**	**14.60**	**356**	Pn		**Pn**	**20 20 08.6**	**+0.5**
	0.1nm,0.3s,baz=184,slow=13,SNR=12							
TXAR				LR		LR	20 25 42.2	
	comp=Z,229nm,18.1s,baz=0.0,slow=37							
631A	**Perdido Creek**	**14.77**	**7**	⇓P		**Pn**	**20 20 10.9**	**+0.6**
	baz=15,SNR=12							
632A	**Uvalde**	**14.97**	**10**	P		**Pn**	**20 20 13.2**	**+0.2**
	baz=15							
530A	**J-C Ranch, Com**	**15.43**	**4**	⇑P		**Pn**	**20 20 20.1**	**+1.1**
	baz=15,SNR=15							
531A	**Rocksprings**	**15.52**	**7**	⇓P		**Pn**	**20 20 21.2**	**+1.0**
	baz=16,SNR=12							
532A	**Rocksprings**	**15.56**	**9**	⇓P		**Pn**	**20 20 21.0**	**+0.2**
	baz=16,SNR=10							
533A	**Kerrville**	**15.66**	**12**	⇑P		**P**	**20 20 23.3**	**-2.5**
	baz=16							
534A	**Blanco**	**15.73**	**13**	⇑P		**Pn**	**20 20 23.4**	**+0.4**
	baz=16,SNR=5.7							
429A	**Davenport Ranc**	**15.87**	**2**	⇑P		**P**	**20 20 25.9**	**-2.2**
	baz=16,SNR=6.2							
JCT	**Junction City**	**15.93**	**9**	*e*Pn		**Pn**	**20 20 22.3**	**-3.1**
	21nm,1.4s							
535A	**Dale**	**15.96**	**16**	⇑P		**P**	**20 20 26.8**	**-2.2**
	baz=16							
431A	**Sonora**	**16.02**	**6**	⇓P		**Pn**	**20 20 27.3**	**+0.7**
	baz=16,SNR=11							
430A	**Baggett Ranch,**	**16.07**	**4**	⇑P		**P**	**20 20 28.6**	**-1.7**
	baz=16,SNR=15							
432A	**Menard**	**16.32**	**9**	⇑P		**P**	**20 20 31.6**	**-1.5**
	baz=16							
331A	**San Angelo**	**16.66**	**7**	⇓P		**P**	**20 20 36.0**	**-0.9**
	baz=17							
330A	**Mertzon**	**16.69**	**4**	⇓P		**P**	**20 20 36.6**	**-0.5**
	baz=17,SNR=9.6							
329A	**Wagon Wheel Ra**	**16.73**	**2**	⇑P		**P**	**20 20 36.4**	**-1.2**
	baz=17,SNR=8.7							
332A	**Millersview**	**16.82**	**9**	⇓P		**P**	**20 20 37.4**	**-1.2**
	baz=17,SNR=14							
333A	**Richland Sprin**	**16.89**	**11**	⇑P		**Pn**	**20 20 37.0**	**-0.6**
	baz=17							
334A	**Lometa**	**17.04**	**13**	⇑P		**P**	**20 20 39.8**	**-1.2**
	baz=17,SNR=15							
MNTX	**Cornudas Mount**	**17.11**	**352**	⇑P		**P**	**20 20 41.2**	**-0.6**
	baz=17,SNR=11							
230A	**Sterling City**	**17.17**	**4**	⇓P		**P**	**20 20 41.6**	**-1.0**
	baz=17							
231A	**Bronte**	**17.29**	**7**	⇑P		**P**	**20 20 43.3**	**-0.6**
	baz=17,SNR=6.7							
232A	**Coleman**	**17.33**	**9**	⇑P		**P**	**20 20 43.6**	**-0.7**
	baz=17,SNR=10							
233A	**Rising Star**	**17.58**	**11**	⇑P		**P**	**20 20 46.7**	**-0.3**
	baz=18,SNR=18							
319A	**Douglas**	**17.69**	**341**	⇑P		**Pn**	**20 20 47.2**	**-0.5**
	baz=18							
234A	**Clairette**	**17.71**	**13**	⇑P		**P**	**20 20 48.3**	**-0.2**
	baz=18							
JTS	**JuntasAbangare**	**17.80**	**102**	LR		LR	20 26 08.6	
	comp=Z,275nm,18.9s,baz=340,slow=32							
128A	**Castleberry Fa**	**17.85**	**0**	⇓P		**P**	**20 20 49.9**	**-0.1**
	baz=18,SNR=20							
WHTX	**Lake Whitney,**	**17.86**	**14**	*e*P		**P**	**20 20 49.6**	**-0.4**
	50nm,1.9s							
130A	**Snyder**	**17.89**	**5**	⇓P		**P**	**20 20 50.4**	**0.0**
	baz=18							
131A	**Roby**	**18.02**	**6**	⇑P		**P**	**20 20 51.7**	**-0.2**
	baz=18							
ABTX	**Abilene, Hawle**	**18.06**	**8**	⇓P		**P**	**20 20 52.0**	**-0.2**
	baz=18							
ABTX	**Abilene, Hawle**	**18.06**	**8**	*e*P		**Pn**	**20 20 50.5**	**-1.6**
	71nm,1.7s							
Z29A	**Hungry Hill Ra**	**18.50**	**2**	⇓P		**Pn**	**20 20 57.1**	**-0.5**
	baz=18							
Z28A	**Tucker Farm, M**	**18.51**	**1**	⇑P		**Pn**	**20 20 57.1**	**-0.6**
	baz=18							
Z30A	**Sanderson Ranc**	**18.56**	**4**	⇓P		**Pn**	**20 20 58.1**	**-0.2**
	baz=18,SNR=24							
Z31A	**Sharp Cattle R**	**18.68**	**7**	⇑P		**Pn**	**20 20 59.4**	**-0.3**
	baz=19,SNR=11							
Z32A	**Haskell**	**18.75**	**8**	⇑P		**Pn**	**20 21 00.4**	**-0.1**
	baz=19,SNR=11							
Z34A	**Collier Ranch,**	**19.08**	**12**	⇑P		**Pn**	**20 21 05.0**	**+0.5**
	baz=19							
Y29A	**Porterfield Fa**	**19.10**	**2**	⇓P		**Pn**	**20 21 05.1**	**+0.3**
	baz=19,SNR=6.5							
Y28A	**McKinney Farm,**	**19.13**	**1**	⇓P		**Pn**	**20 21 05.0**	**-0.2**
	baz=19							
Y30A	**Stafford Cattl**	**19.16**	**4**	⇑P		**Pn**	**20 21 05.3**	**-0.2**
	baz=19							
MSTX	**Muleshoe**	**19.19**	**360**	⇑P		**Pn**	**20 21 06.2**	**+0.3**
	baz=19							
MSTX	**Muleshoe**	**19.19**	**360**	*e*P		**Pn**	**20 21 05.3**	**-0.6**
	17nm,1.0s							
Y31A	**Rekieta Farm,**	**19.30**	**6**	⇑P		**Pn**	**20 21 07.3**	**+0.1**
	baz=19,SNR=6.7							
Y32A	**R-V Farms, Ver**	**19.44**	**8**	⇓P		**Pn**	**20 21 08.6**	**-0.2**
	baz=19,SNR=5.4							
Y33A	**Hilltop Ranch,**	**19.57**	**10**	⇑P		**Pn**	**20 21 11.2**	**+0.9**
	baz=20							
X29A	**Tulia**	**19.68**	**2**	⇓P		**Pn**	**20 21 12.4**	**+0.7**
	baz=20,SNR=6.2							
X30A	**Coker Ranch, T**	**19.73**	**4**	⇓P		**Pn**	**20 21 12.5**	**+0.2**
	baz=20,SNR=13							
X32A	**Elmer**	**19.87**	**8**	⇓P		**Pn**	**20 21 13.9**	**-0.1**
	baz=20,SNR=11							
X31A	**McDonald Ranch**	**20.00**	**6**	⇓P		**Pn**	**20 21 14.4**	**-1.0**
	baz=20							
LAZ	**Ladron**	**20.04**	**349**	P		**Pn**	**20 21 15.1**	**-1.0**
	7.3nm,1.4s							
X33A	**Lawton**	**20.11**	**10**	⇓P		Pn	20 21 15.6	-1.1
	baz=20							
AMTX	**Amarillo**	**20.12**	**2**	P		Pn	20 21 15.5	-1.4
	27nm,1.3s							
WMOK	**Wichita Mounta**	**20.26**	**9**	*e*P		**P**	**20 21 15.1**	**-1.2**
	60nm,1.8s							
X34A	**Smith Ranch, M**	**20.29**	**11**	⇑P		Pn	20 21 17.9	-0.9
	baz=20							
ANMO	**Albuquerque**	**20.46**	**351**	P		Pn	20 21 20.2	-0.8
	4.5nm,1.0s,baz=166,slow=10,SNR=8.0							
ANMO				LR		LR	20 29 11.0	
	comp=Z,195nm,18.4s,baz=182,slow=37							
W28A	**Vega**	**20.48**	**1**	⇑P		Pn	20 21 19.5	-1.7
	baz=20							
W31A	**Holland Ranch,**	**20.55**	**6**	⇓P		Pn	20 21 20.6	-1.2
	baz=20							
W32A	**Sentinel**	**20.57**	**8**	⇓P		**P**	**20 21 20.3**	**+0.6**
	baz=21,SNR=20							
113A	**Mohawk Valley,**	**20.65**	**333**	P		Pn	20 21 21.7	-1.3
	baz=21							
V28A	**Channing**	**20.97**	**1**	P		Pn	20 21 25.5	-1.4
	baz=21							
V27A	**Dan Oppiter Fa**	**20.98**	**360**	P		Pn	20 21 25.1	-1.9
	baz=21							
V26A	**Tequesquite Ra**	**21.04**	**357**	⇑P		**P**	**20 21 25.2**	**+0.3**
	baz=21,SNR=6.1							
V31A	**Spring Creek L**	**21.14**	**6**	P		**P**	**20 21 26.8**	**+0.9**
	baz=21							
Y14A	**Wickenburg**	**21.34**	**336**	P		**P**	**20 21 28.1**	**+0.1**
	baz=21							
MIAR	**Mount Ida**	**21.39**	**21**	*e*P		**P**	**20 21 29.0**	**+0.4**
	23nm,1.5s							
V33A	**Lossen Ranch,**	**21.40**	**10**	P		**P**	**20 21 29.2**	**+0.6**
	baz=21							
V34A	**Guthrie**	**21.55**	**11**	P		**P**	**20 21 30.8**	**+0.6**
	baz=22							
V34A	**Guthrie**	**21.55**	**11**	*e*P		**P**	**20 21 30.3**	**+0.1**
	17nm,0.9s							
U28A	**Mallet**	**21.60**	**1**	⇑P		**P**	**20 21 31.3**	**+0.4**
	baz=22							
V35A	**Meyer Ranch, C**	**21.61**	**13**	P		**P**	**20 21 31.8**	**+0.9**
	baz=22							
U26A	**Atchley Ranch,**	**21.63**	**358**	P		**P**	**20 21 32.1**	**+0.8**
	baz=22							
U25A	**Circle Dot Ran**	**21.68**	**356**	⇑P		**P**	**20 21 33.2**	**+1.5**
	baz=22,SNR=8.3							
U30A	**WK&E Inc. Balk**	**21.82**	**4**	P		**P**	**20 21 33.3**	**+0.2**
	baz=22							
TUL1	**Leonard**	**22.00**	**15**	P		**P**	**20 21 35.5**	**+0.4**
	baz=22							
TUL1	**Leonard**	**22.00**	**15**	*e*P		**P**	**20 21 34.1**	**-1.0**
	56nm,1.5s							
U34A	**Anderson Ranch**	**22.13**	**11**	P		**P**	**20 21 36.9**	**+0.5**
	baz=22							
U34A	**Anderson Ranch**	**22.13**	**11**	*e*P		**P**	**20 21 35.9**	**-0.6**
	102nm,1.5s							
T27A	**Campo**	**22.28**	**360**	P		**P**	**20 21 38.7**	**+0.5**
	baz=22							
T28A	**Walsh**	**22.34**	**1**	P		**P**	**20 21 39.4**	**+0.6**
	baz=22							
T26A	**Comanche Natio**	**22.41**	**358**	⇓P		**P**	**20 21 41.3**	**+1.7**
	baz=22							
T25A	**Trinidad**	**22.41**	**356**	P		**P**	**20 21 39.8**	**+0.1**
	baz=22							
T31A	**Randall Ranch,**	**22.47**	**6**	P		**P**	**20 21 40.9**	**+0.8**
	baz=22							
LRAL	**Lakeview Retre**	**23.14**	**35**	*e*P		**P**	**20 21 47.1**	**0.0**
	5.0nm,0.8s							
R27A	**Eads**	**23.50**	**360**	P		**P**	**20 21 52.0**	**+1.3**
	baz=24							
R26A	**Arlington**	**23.52**	**358**	P		**P**	**20 21 53.2**	**+2.2**
	baz=24							
R28A	**Tribune**	**23.57**	**2**	P		**P**	**20 21 52.2**	**+0.9**
	baz=24							
S35A	**Otter Creek Ra**	**23.57**	**13**	P		**P**	**20 21 52.9**	**+1.6**
	baz=24							
KSCO	**Kaye Shedlock'**	**24.22**	**0**	*e*P		**P**	**20 21 56.5**	**-1.1**
	20nm,1.1s							
WAKR	**Walker**	**27.98**	**331**	P		**P**	**20 22 28.8**	**-2.8**
	6.3nm,0.6s							
ELK	**Elko**	**28.19**	**339**	LR		LR	20 33 07.5	
	comp=Z,100nm,18.0s,baz=84,slow=35							
PDAR	**Pinedale Array**	**28.60**	**349**	P		**P**	**20 22 38.0**	**+0.9**
	2.0nm,1.2s,baz=172,slow=8.7,SNR=7.2							
ROSC	**El Rosal**	**29.52**	**106**	LR		LR	20 31 58.8	
	comp=Z,110nm,21.3s,baz=202,slow=31							
AGMN	**Agassiz Nation**	**33.97**	**8**	*e*P		**P**	**20 23 24.7**	**+0.7**
	5.9nm,0.8s							
ULM	**Lac du Bonnet**	**35.88**	**7**	LR		LR	20 39 06.2	
	comp=Z,73nm,18.7s,baz=132,slow=38							
PCRV	**Puerto La Cruz**	**37.34**	**92**	LR		LR	20 39 56.2	
	comp=Z,92nm,18.4s,baz=270,slow=37							
LPAZ	**La Paz**	**45.92**	**131**	P		P	20 25 08.2	+3.9
	2.0nm,1.0s,baz=322,slow=7.1,SNR=6.7							
LPAZ				LR		LR	20 42 17.9	
	comp=Z,81nm,19.0s,baz=304,slow=33							
YKA	**Yellowknife Ar**	**48.49**	**353**	P		**P**	**20 25 24.3**	**+1.4**
	0.4nm,0.9s,baz=163,slow=7.0,SNR=3.3							
INK	**Inuvik**	**57.13**	**347**	LR		LR	20 51 37.3	
	comp=Z,42nm,18.3s,baz=16,slow=37							
ILAR	**Eielson Array**	**58.35**	**339**	P		**P**	**20 26 35.1**	**-0.1**
	1.6nm,0.8s,baz=156,slow=4.9,SNR=17							
BDFB	**Brasilia**	**61.81**	**117**	LR		LR	20 51 12.3	
	comp=Z,74nm,18.5s,baz=228,slow=33							
SEY	**Seymchan**	**83.70**	**334**	P		**P**	**20 29 09.3**	**+0.4**
	0.4nm,0.3s,baz=75,slow=2.3,SNR=4.1							
NOA	**NORSAR Array B**	**88.29**	**26**	LR		LR	21 09 35.1	
	comp=Z,13nm,19.1s,baz=330,slow=36							
ARCES	**ARCESS Array B**	**88.52**	**16**	LR		LR	21 09 29.8	
	comp=Z,36nm,18.5s,baz=240,slow=36							
FINES	**FINESS Array B**	**94.00**	**22**	LR		LR	21 12 10.7	
	comp=Z,20nm,20.0s,baz=311,slow=35							
WRA	**Warramunga Arr**	**125.57**	**256**	PKP		**PKPdf**	**20 35 42.0**	**-0.4**
	0.4nm,1.0s,baz=83,slow=2.6,SNR=3.3							

IDC 11 20:33:39.8±2.2, 6.20S×129.85E,h0km,mb3.4/1, mb1 3.6/3,mb1mx3.3/27,mbtmp3.4/3,ML3.7/2,Error ellipse: s-maj=142.8km s-min=30.7km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.34**	**163**	Pn		Pn	20 37 03.2	-1.1
	0.4nm,0.3s,baz=346,slow=13,SNR=22							
ASAR	**Alice Springs**	**17.80**	**168**	P		P	20 37 49.9	-0.2
	0.2nm,0.3s,baz=346,slow=9.0,SNR=15							
MKAR	**Makanchi Array**	**67.48**	**327**	P		P	20 44 37.6	0.0
	0.2nm,0.5s,baz=116,slow=5.6,SNR=2.8							

DJA 11 20:41:25.4±0.4, 3.S±6.×13.8E±.,h126km±11km,M4.3/9, mb4.3/8,MLv4.3/9,MLv4.3/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMPI	**Sarmi**	**1.65**	**34**	P		Pn	20 41 54.2	-0.7
SRPI	**Serui, Papua**	**2.16**	**314**	P		Pn	20 42 02.1	+1.0
SRPI				S		Sn	20 42 23.5	-5.0
GENI	**Genyem**	**2.49**	**72**	P		Pn	20 42 05.9	+0.6
GENI				S		Sn	20 42 36.9	+1.0
JAY	**Jayapura**	**3.02**	**74**	P		Pn	20 42 13.7	+1.4
RKPI	**Ransiki, Papua**	**4.06**	**297**	P		Pn	20 42 25.2	-0.7
FAKI	**Fak Fak**	**5.56**	**274**	P		Pn	20 42 46.5	+0.5
	31nm,0.6s,0.1nm							
SAUI	**Saumlaki**	**7.93**	**234**	P		Pn	20 43 17.3	-0.6
	116nm,0.8s,0.4nm0.4nm							
BNDI	**Bandanaira**	**7.96**	**261**	P		Pn	20 43 17.1	-1.3
	45nm,1.1s,0.3nm0.3nm							
SANI	**Sanana**	**11.87**	**276**	P		Pn	20 44 07.8	-3.0
	9.9nm,0.8s							
SOEI	**Soe**	**14.86**	**244**	P		Pn	20 44 47.0	-2.5

IDC ***11*** *20:41:20.1±4.9, 10.89N×126.07E,h0km,mb3.9/7, mb1 4.0/7,mb1mx3.6/41,mbtmp3.9/7,MS2.9/1,Ms1 2.9/1, ms1mx2.2/39,Error ellipse: s-maj=108.2km s-min=56.3km az=151.0*
ISCJB ***11*** *20:41:26.3±0.7, 11.43N±0.04×125.98E±0.07,h33km, mb3.8/7,MS2.9/1,Error ellipse: s-maj=10.2km s-min=5.7km az=12.1*
MAN ***11*** *20:41:27, 11.36N×125.92E,h18km,mb4.8,ML3.7,MS3.7*

ISC 11 20:41:28.0±0.9, 11.34N±0.05×125.88E±0.07,h33km,n29, σ1.9 43/32,mb3.9/7,2C-2D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.90**	**259**	⇓*e*P		**Pn**	**20 41 43.1**	**-1.3**
PLP				*i* S		**Sn**	**20 41 55.7**	**-0.5**
OCLP	**Ormoc**	**1.27**	**257**	*e*P		**Pb**	**20 41 50.9**	**-0.6**
OCLP				*e*S		**Sb**	**20 42 08.1**	**+0.4**
MSLP	**Maasin**	**1.56**	**220**	*e*P		**Pb**	**20 41 55.1**	**-1.2**
SCPH	**Surigao**	**1.60**	**194**	*e*P		**Pn**	**20 41 54.4**	**+0.5**
SCPH				*e*S		**Sb**	**20 42 15.1**	**-1.7**
CNP	**Catarman**	**1.66**	**315**	*e*P		**Pb**	**20 41 56.0**	**-2.0**
PVCP	**Virac**	**2.80**	**323**	⇑*e*P		**Pn**	**20 42 12.0**	**+1.5**
RCP	**Roxas**	**3.08**	**274**	⇓*e*P		**Pn**	**20 42 17.0**	**+2.6**
CGP	**Cagayan de Oro**	**3.10**	**202**	⇑*e*P		Pb	20 42 42.9	+20
CGP				*e*S		**Sn**	**20 42 53.2**	**+2.7**
SNPH	**Sibulan**	**3.27**	**233**	*e*P		**Pn**	**20 42 14.1**	**-2.9**
SNPH				*e*S		**Sb**	**20 43 07.8**	**+3.0**
GUIM	**Jordan**	**3.30**	**258**	*e*P		**Pn**	**20 42 18.9**	**+1.4**
BUKP	**Musuan**	**3.53**	**193**	*e*P		**Pn**	**20 42 22.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**26.95**	**288**	P		**P**	**20 47 06.3**	**-0.4**
	0.9nm,0.8s,baz=105,slow=8.9,SNR=7.9							
ASAJ	**Asahikawa**	**35.70**	**21**	LR		LR	21 05 12.7	
	comp=Z,18nm,18.2s,baz=164,slow=40							
TAPN	**Taplejung**	**39.18**	**300**	*e*P		**P**	**20 48 53.2**	**-0.3**
	4.4nm,0.5s							
ODAN	**Odare**	**39.32**	**299**	*e*P		**P**	**20 48 53.6**	**-1.0**
	14nm,0.7s							
SONM	**Songino Array**	**39.88**	**339**	P		**P**	**20 48 59.9**	**+1.0**
	0.4nm,0.6s,baz=156,slow=8.4,SNR=5.8							
RAMN	**Ramite**	**40.02**	**299**	*e*P		**P**	**20 48 59.4**	**-1.1**
	8.1nm,0.7s							
JIRN	**Jiri**	**40.56**	**299**	*e*P		**P**	**20 49 04.5**	**-0.6**
	14nm,0.6s							
GUN	**Gumba**	**40.90**	**300**	*e*P		**P**	**20 49 07.3**	**-0.5**
	12nm,0.7s							
PKI	**Pulchoki**	**41.21**	**299**	*e*P		**P**	**20 49 09.2**	**-1.2**
	6.0nm,0.6s							
PKIN	**Phulchoki**	**41.22**	**299**	*e*P		**P**	**20 49 09.0**	**-1.4**
	3.9nm,0.6s							
KOLN	**Koldanda**	**42.81**	**299**	*e*P		**P**	**20 49 22.5**	**-0.8**
	5.5nm,0.5s							
DANN	**Dangsing**	**42.82**	**300**	*e*P		**P**	**20 49 22.7**	**-0.7**
	10nm,0.5s							
PYUN	**Piuthan**	**43.41**	**299**	*e*P		**P**	**20 49 27.6**	**-0.6**
	17nm,0.6s							
MKAR	**Makanchi Array**	**50.95**	**322**	P		**P**	**20 50 27.1**	**+0.7**
	0.6nm,0.3s,baz=119,slow=7.8,SNR=13							
ZALV	**Zalesovo Beam**	**53.51**	**331**	P		**P**	**20 50 45.0**	**-0.2**
	0.7nm,0.5s,baz=122,slow=7.0,SNR=4.9							
GEYT	**Ailbeck**	**65.60**	**307**	P		**P**	**20 52 09.0**	**0.0**
	1.1nm,1.0s,baz=50,slow=4.5,SNR=3.0							
ARCES	**ARCESS Array B**	**83.06**	**340**	P		**P**	**20 53 50.0**	**0.0**
	5.8nm,1.0s,baz=69,slow=4.9,SNR=3.3							
FINES	**FINESS Array B**	**84.77**	**332**	P		**P**	**20 53 58.3**	**-0.5**
	0.3nm,0.4s,baz=91,slow=5.8,SNR=10							

SJA ***11*** *20:47:55.5±0.5, 36.33S×70.27W,h20km±299km,ML3.1, MW3.1*
ISCJB ***11*** *20:48:05.1±1.1, 34.40S±0.04×72.33W±0.09,h10km,Error ellipse: s-maj=11.0km s-min=5.1km az=16.8*
GUC ***11*** *20:48:06.6±0.6, 34.40S×72.28W,h36km±4km,ML3.2*

ISC 11 20:48:05.3±1.6, 34.41S±0.05×72.32W±0.10,h10km,n10, σ1.9 97/15,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**1.07**	**124**	⇑*i*P		**Pg**	**20 48 25.2**	**-0.7**
NICH				*i* S		**Sg**	**20 48 39.8**	**0.0**
TALC	**Talca**	**1.13**	**151**	⇑*i*P		**Pb**	**20 48 26.8**	**-0.2**
TALC				*i* S		**Sb**	**20 48 41.8**	**+0.1**
COCH	**Cobquecura**	**1.76**	**193**	*e*P		**Pn**	**20 48 36.2**	**+0.4**
COCH				*e*S		**Sn**	**20 48 58.4**	**+0.1**
CLCH	**Cerro Calan**	**1.79**	**56**	⇑*i*P		**Pn**	**20 48 36.1**	**-0.3**
CLCH				*i* S		**Sn**	**20 48 58.8**	**-0.4**
CLCH				AML		AML	20 49 10.0	
	comp=E,311nm,0.7s							
CLCH				AML		AML	20 49 10.0	
	comp=E,377nm,0.4s							
PEL	**Peldehue**	**1.86**	**47**	⇑*i*P		**Pn**	**20 48 36.9**	**-0.3**
PEL				*i* S		**Sn**	**20 48 59.6**	**-1.2**
PEL				AML		AML	20 49 08.1	
	comp=E,545nm,0.5s							
AUSP	**Uspallata**	**3.28**	**49**	*e*P		**Pb**	**20 49 01.6**	**-2.2**
RTLS	**Leoncito**	**3.63**	**45**	*e*P		**Pb**	**20 49 08.5**	**-1.3**
CFAA	**Coronel Fontan**	**4.42**	**52**	*e*P		**Pn**	**20 49 13.3**	**+0.8**
RTLL	**Cerro Villicun**	**4.46**	**47**	*e*P		**Pn**	**20 49 16.0**	**+3.0**
AVFE	**Valle Fertil**	**5.55**	**49**	*e*S		**Sn**	**20 50 37.3**	**+5.3**
AVFE				AML		AML	20 50 42.5	
	comp=Z,5.8nm,0.7s							

IDC 11 20:48:51.8±6.2, 10.06S×160.86E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.6/30,mbtmp3.7/4,MS3.6/2,Ms1 3.6/2, ms1mx2.8/23,Error ellipse: s-maj=180.0km s-min=35.8km az=118.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.10**	**305**	*e*P		Pn	20 49 23.0	+8.5
HNR				*e*S		Sn	20 49 46.0	+16
WRA	**Warramunga Arr**	**27.40**	**246**	P		P	20 54 38.4	-1.0
	0.7nm,0.7s,baz=75,slow=9.7,SNR=5.4							
ASAR	**Alice Springs**	**29.06**	**239**	P		P	20 54 55.2	+1.0
	0.2nm,0.6s,baz=64,slow=10,SNR=2.9							
ASAR				LR		LR	21 05 01.8	
	comp=Z,65nm,18.4s,baz=130,slow=33							
LEM	**Lembang**	**52.72**	**269**	LR		LR	21 23 29.1	
	comp=Z,72nm,18.6s,baz=236,slow=39							
SONM	**Songino Array**	**75.09**	**325**	P		P	21 00 36.9	+1.0
	0.5nm,0.6s,baz=139,slow=4.8,SNR=6.1							
MKAR	**Makanchi Array**	**89.55**	**318**	P		P	21 01 49.9	-1.4
	0.3nm,0.6s,baz=113,slow=5.7,SNR=2.7							

IDC ***11

MIPR	**Malaya Ipel'ka**	**2.74**	**296**	*e*P	Pn	21 07 44.0 +2.1
MIPR				*e*S	Sn	21 08 16.6 +2.6
GNL	**Ganaly**	**3.07**	**327**	*e*P	Pn	21 07 49.9 +3.3
MKZ	**Mys Kozlova**	**3.45**	**9**	*e*P	Pn	21 07 54.1 +2.6
MKZ				*e*S	Sn	21 08 33.1 +1.9
TUMR	**Tumrok**	**4.15**	**355**	*e*P	Pn	21 08 02.9 +1.7
KBTR	**Krutoberegovo**	**5.20**	**13**	*e*P	Pn	21 08 19.2 +3.8

ISCJB ***11*** *21:19:55.3±0.5, 13°.16N±0°.05×124°.07E±0°.08, h100km, mb3.7/11, Error ellipse: s-maj=11.3km s-min=5.9km az=153.7*

IDC ***11*** *21:19:56.9±0.8, 12°.93N×124°.01E, h119km±8km, mb3.5/11, mb1 3.6/12, mb1mx3.3/52, mbtmp3.9/12, MS2.4/1, Ms1 2.4/1, ms1mx2.1/27, Error ellipse: s-maj=24.9km s-min=12.5km az=70.0*

MAN ***11*** *21:19:56, 13°.05N×124°.10E, h97km, mb4.6, ML3.5, MS3.4*

ISC 11 21:19:56.0±0.6, 13°.03N±0°.05×124°.03E±0°.07, h100km, n22, σ18°76/27, mb3.7/11, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.57**	**12**	*i* P		**Pn**	**21 20 14.1**	**+1.7**
PVCP				*i* S		**Sn**	**21 20 26.9**	**+2.3**
CNP	**Catarman**	**0.81**	**130**	*e*P		**Pn**	**21 20 15.8**	**+1.3**
CNP				*e*S		**Sn**	**21 20 30.7**	**+2.4**
AUQP	**San Andres**	**1.35**	**283**	*e*P		**Pn**	**21 20 23.6**	**+3.2**
GQP	**Guinayangan**	**1.77**	**300**	*e*P		**Pn**	**21 20 26.2**	**+0.7**
RCP	**Roxas**	**1.93**	**221**	*e*P		**Pn**	**21 20 29.0**	**+1.4**
PLP	**Palo**	**2.08**	**153**	*e*P		**Pn**	**21 20 30.0**	**+0.4**
PLP				*i* S		**Sn**	**21 20 55.7**	**+0.4**
GUIM	**Jordan**	**2.77**	**211**	*e*P		**Pn**	**21 20 40.4**	**+1.6**
MSLP	**Maasin**	**2.99**	**164**	*e*P		**Pn**	**21 20 44.3**	**+2.6**
TGY	**Tagaytay City**	**3.19**	**290**	P		**Pn**	**21 20 45.5**	**+1.2**
	42nm,0.3s,baz=141,slow=13,SNR=7.3							
BUKP	**Musuan**	**5.22**	**169**	*e*P		Pn	21 21 14.6	+2.8
KSRS	**Korea Array**	**24.57**	**7**	P		**P**	**21 25 06.7**	**+0.2**
	1.9nm,0.8s,baz=184,slow=9.7,SNR=6.5							
KSRS					LR	LR	21 36 10.9	
	comp=Z,7.5nm,18.5s,baz=145,slow=40							
CMAR	**Chiang Mai Arr**	**24.73**	**286**	pP		pP	21 25 34.2	+3.9
	0.5nm,0.9s,baz=96,slow=8.4,SNR=3.0							
USRK	**Ussuriysk Ar.**	**31.80**	**11**	P		**P**	**21 26 10.3**	**-0.7**
	1.5nm,0.5s,baz=202,slow=6.2,SNR=4.4							
WRA	**Warramunga Arr**	**34.30**	**163**	P		**P**	**21 26 30.2**	**-2.8**
	0.2nm,0.4s,baz=350,slow=9.1,SNR=6.5							
WRA				pP		**pP**	**21 26 57.7**	**+2.0**
	0.4nm,0.7s,baz=334,slow=11,SNR=2.2							
SONM	**Songino Array**	**37.69**	**340**	P		**P**	**21 27 01.1**	**-0.7**
	0.7nm,0.7s,baz=157,slow=9.5,SNR=7.7							
ASAR	**Alice Springs**	**37.73**	**165**	P		**P**	**21 27 00.4**	**-1.9**
	0.7nm,0.5s,baz=12,slow=10,SNR=20							
ASAR				pP		**pP**	**21 27 27.9**	**+2.7**
	0.4nm,0.6s,baz=4.5,slow=7.9,SNR=3.2							
PALK	**Pallekele**	**42.99**	**267**	P		**P**	**21 27 44.5**	**-1.3**
	4.2nm,0.7s,baz=156,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**48.51**	**322**	P		**P**	**21 28 29.5**	**+0.7**
	0.1nm,0.4s,baz=103,slow=6.5,SNR=2.9							
MKAR				pP		**pP**	**21 28 55.1**	**+2.5**
	0.6nm,0.8s,baz=120,slow=8.4,SNR=4.1							
MKAR				PcP		**PcP**	**21 29 52.4**	**-1.0**
	0.3nm,0.6s,baz=121,slow=3.0,SNR=3.7							
ZALV	**Zalesovo Beam**	**51.16**	**331**	P		**P**	**21 28 47.6**	**-1.1**
	0.2nm,0.3s,baz=126,slow=3.3,SNR=3.6							
SPITS	**Spitsbergen Ar**	**80.89**	**349**	P		**P**	**21 31 57.9**	**-0.8**
	9.0nm,1.0s,baz=343,slow=1.5,SNR=5.7							
FINES	**FINESS Array B**	**82.43**	**331**	P		**P**	**21 32 06.3**	**-0.7**
	1.0nm,0.8s,baz=41,slow=6.1,SNR=6.1							
YKA	**Yellowknife Ar**	**92.13**	**23**	P		**P**	**21 32 53.6**	**-0.4**
	0.2nm,0.6s,baz=305,slow=4.3,SNR=6.7							

IDC ***11*** *21:30:13.1±3.3, 32°.65S×179°.08W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/27, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=72.8km s-min=47.5km az=110.0*

ISCJB ***11*** *21:30:17.3±2.0, 32°.92S±0°.08×179°.2W±0°.3, h35km, mb3.1/2, Error ellipse: s-maj=39.7km s-min=10.5km az=8.8*

ISC 11 21:30:19.4±2.3, 32°.9S±0°.1×179°.3W±0°.3, h35km, n10, σ0s63/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.09**	**202**	*e*PN		**Pn**	**21 31 33.1**	**-0.1**
MXZ				*e*SN		**Sn**	**21 32 31.4**	**+0.6**
WMGZ	**Waiomatatini S**	**5.29**	**200**	*e*PN		**Pn**	**21 31 35.8**	**-0.2**
HAZ	**Te Kaha**	**5.44**	**205**	*e*PN		**Pn**	**21 31 37.0**	**-1.0**
HAZ				*e*SN		**Sn**	**21 32 39.8**	**+0.4**
CNGZ	**Carnagh Statio**	**5.97**	**199**	*e*PN		**Pn**	**21 31 45.3**	**0.0**
MWZ	**Matawai**	**6.05**	**204**	*e*PN		**Pn**	**21 31 45.2**	**-1.2**
MWZ				*e*SN		**Sn**	**21 32 54.3**	**-0.1**
URZ	**Urewera**	**6.14**	**208**	Pn		**Pn**	**21 31 48.3**	**+0.8**
	0.9nm,0.3s,baz=277,slow=3.5,SNR=8.8							
URZ				Sn		**Sn**	**21 32 56.7**	**+0.2**
	1.2nm,0.3s,baz=155,slow=17,SNR=3.9							
URZ	**Urewera**	**6.14**	**208**	*e*PN		**Pn**	**21 31 46.9**	**-0.6**
ASAR	**Alice Springs**	**41.95**	**270**	P		**P**	**21 38 07.1**	**+0.1**
	0.2nm,0.6s,baz=108,slow=7.9,SNR=4.2							
WRA	**Warramunga Arr**	**43.16**	**275**	P		**P**	**21 38 16.9**	**0.0**
	0.3nm,0.5s,baz=115,slow=7.7,SNR=6.9							
FINES	**FINESS Array B**	**147.03**	**338**	PKPbc		**PKPdf**	**21 49 55.9**	**+0.3**
	1.4nm,0.8s,baz=64,slow=6.3,SNR=3.4							

IDC ***11*** *21:38:41.1±1.5, 19°.19N×64°.63W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.4/35, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/40, Error ellipse: s-maj=31.0km s-min=22.5km az=122.0*

ISCJB ***11*** *21:38:43.5±0.8, 19°.15N±0°.04×64°.64W±0°.02, h28km±6km, mb3.6/5, MS2.9/1, Error ellipse: s-maj=6.9km s-min=3.7km az=179.6*

RSPR ***11*** *21:38:47.0, 19°.03N×64°.65W, h18km±1km, MD3.7/14*

NEIC ***11*** *21:38:47.0, 19°.03N×64°.65W, h18km, MD3.7(RSPR), After RSPR.*

ISC 11 21:38:44.8±1.4, 19°.07N±0°.07×64°.65W±0°.03, h27km±11km, n59, σ0s91/74, mb3.5/5, 14C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.45**	**138**	*e*P		**Pb**	**21 38 54.2**	**-0.2**
ABV	**Anegada**	**0.45**	**138**	*e*S		**Sb**	**21 39 01.3**	**+0.4**
TBVI	**Tortola**	**0.65**	**177**	*e*P		**Pb**	**21 38 57.2**	**-0.5**
STVI	**Saint Thomas**	**0.77**	**202**	*e*P		**Pb**	**21 38 57.8**	**-1.9**
STVI				*e*S		**Sb**	**21 39 09.6**	**-0.2**
STVI	**Saint Thomas**	**0.77**	**202**	*e*P		**Pb**	**21 38 59.2**	**-0.4**
MTP	**Monte Pirata**	**1.29**	**222**	*e*Pn		**Pn**	**21 39 06.9**	**-0.2**
MTP				*e*S		**Sb**	**21 39 25.7**	**+0.9**
MTP	**Monte Pirata**	**1.29**	**222**	*e*S		**Sn**	**21 39 22.4**	**-1.2**
MTP	**Monte Pirata**	**1.29**	**222**	*e*P		**Pn**	**21 39 07.1**	**-0.1**
CDVI	**St. Croix**	**1.32**	**185**	*e*Pn		**Pn**	**21 39 08.0**	**+0.5**
CDVI				*e*Sn		**Sb**	**21 39 26.9**	**+1.5**
CBYP	**Canovanas**	**1.39**	**235**	*e*Pn		**Pn**	**21 39 08.0**	**-0.6**
CBYP				*e*Sn		**Sb**	**21 39 28.1**	**+0.5**
CBYP	**Canovanas**	**1.39**	**235**	*e*P		**Pn**	**21 39 08.6**	**0.0**
HUMP	**Col San Antoni**	**1.47**	**231**	*e*S		**Sn**	**21 39 27.0**	**-0.8**
HUMP	**Col San Antoni**	**1.47**	**231**	*e*P		**Pn**	**21 39 09.6**	**0.0**
CPD	**Cerro la Pandu**	**1.58**	**230**	*e*P		**Pn**	**21 39 11.5**	**+0.3**
CPD	**Cerro la Pandu**	**1.58**	**230**	*e*S		**Sn**	**21 39 29.6**	**-1.2**
SJG	**San Juan**	**1.71**	**236**	Pn		**Pn**	**21 39 12.9**	**0.0**
	1.9nm,0.3s,baz=66,slow=13,SNR=94							
SJG				Sn		**Sb**	**21 39 36.4**	**-0.4**
	4.5nm,0.3s,baz=273,slow=18,SNR=23							
SJG				LR		LR	21 40 03.7	
	comp=Z,472nm,18.3s,baz=90,slow=46							
SJG	**San Juan**	**1.71**	**236**	*e*P		**Pn**	**21 39 12.9**	**0.0**
SJG				*e*S		**Sn**	**21 39 33.4**	**-0.6**
SMRT	**St. Maarten**	**1.81**	**124**	*e*P		**Pn**	**21 39 14.1**	**-0.1**
SMRT	**St. Maarten**	**1.81**	**124**	*e*P		**Pn**	**21 39 14.2**	**-0.1**
SMRT	**St. Maarten**	**1.81**	**124**	*e*S		**Sn**	**21 39 35.9**	**-0.4**
SABA	**Saba**	**1.97**	**137**	*e*P		**Pn**	**21 39 16.4**	**-0.1**
SABA	**Saba**	**1.97**	**137**	*e*S		**Sn**	**21 39 39.3**	**-1.0**
CELP	**Cerrillos**	**2.08**	**242**	*e*Pn		**Pn**	**21 39 18.0**	**0.0**
CELP				*e*Sn		**Sn**	**21 39 44.7**	**+1.6**
CELP	**Cerrillos**	**2.08**	**242**	*e*P		**Pn**	**21 39 18.4**	**+0.4**
CELP				*e*S		**Sn**	**21 39 42.2**	**-0.9**
OBIP	**Obispado Ponce**	**2.12**	**241**	*e*Pn		**Pn**	**21 39 18.8**	**+0.3**
OBIP				*e*Sn		**Sn**	**21 39 46.2**	**+2.2**
OBIP	**Obispado Ponce**	**2.12**	**241**	*e*P		**Pn**	**21 39 18.8**	**+0.3**
OBIP	**Obispado Ponce**	**2.12**	**241**	*e*S		**Sn**	**21 39 43.5**	**-0.5**
AOPR	**Arecibo Observ**	**2.12**	**250**	*e*P		**Pn**	**21 39 18.5**	**0.0**
AOPR	**Arecibo Observ**	**2.12**	**250**	*e*S		**Sn**	**21 39 43.8**	**-0.3**
ICM	**Isla Caja Muer**	**2.13**	**237**	*e*P		**Pn**	**21 39 19.1**	**+0.4**
ICMP	**Isla Caja de M**	**2.14**	**237**	*e*Pn		**Pn**	**21 39 19.1**	**+0.4**
ICMP				*e*Sn		**Sb**	**21 39 49.0**	**+0.1**
LRS	**Lares**	**2.22**	**250**	*e*Pn		**Pn**	**21 39 19.9**	**0.0**
LRS				*e*Sn		**Sn**	**21 39 48.8**	**+2.2**
LRS	**Lares**	**2.22**	**250**	*e*P		**Pn**	**21 39 20.4**	**+0.4**
LRS				*e*S		**Sn**	**21 39 46.8**	**+0.2**
GBPR	**Guanica, Bosqu**	**2.38**	**243**	*e*P		**Pn**	**21 39 23.2**	**+1.1**
AGPR	**Aguadilla, PR**	**2.41**	**256**	*e*Pn		**Pn**	**21 39 22.7**	**+0.2**
AGPR				*e*Sn		**Sn**	**21 39 52.8**	**+1.6**
AGPR	**Aguadilla, PR**	**2.41**	**256**	*e*P		**Pn**	**21 39 22.6**	**+0.2**
AGPR	**Aguadilla, PR**	**2.41**	**256**	*e*S		**Sn**	**21 39 51.0**	**-0.1**
LSP	**Las Mesas**	**2.48**	**249**	*e*Pn		**Pn**	**21 39 23.5**	**0.0**
LSP				*e*Sn		**Sn**	**21 39 54.8**	**+1.9**
LSP	**Las Mesas**	**2.48**	**249**	*e*P		**Pn**	**21 39 24.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.56**	**246**	*e*Pn		**Pn**	**21 39 24.8**	**+0.2**
CRPR				*e*Sn		**Sn**	**21 39 56.8**	**+1.9**
CRPR	**Cabo Rojo, PR**	**2.56**	**246**	*e*P		**Pn**	**21 39 25.2**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.56**	**246**	*e*S		**Sn**	**21 39 54.5**	**-0.5**
IDE	**Isla Desecheo**	**2.76**	**256**	*e*P		**Pn**	**21 39 27.6**	**+0.2**
IDE	**Isla Desecheo**	**2.76**	**256**	*e*S		**Sn**	**21 39 59.8**	**-0.1**
MBWH		**3.29**	**134**	*e*P		**Pn**	**21 39 36.4**	**+1.7**
SEG	**Port Louis**	**4.00**	**131**	*e*P		**Pn**	**21 39 44.6**	**+0.1**
MLG	**Mont-d'or**	**4.10**	**136**	*e*P		**Pn**	**21 39 47.3**	**+1.4**
FNG	**Fond-Bernard**	**4.12**	**136**	*e*P		**Pn**	**21 39 47.6**	**+1.4**
HMG	**Houelmont**	**4.17**	**137**	*e*P		**Pn**	**21 39 47.9**	**+1.1**
H05N1	**Guadeloupe/Mar**	**4.39**	**128**	Pn		**Pn**	**21 39 50.9**	**+1.1**
BBL	**Barber's Block**	**4.65**	**139**	*e*P		**Pn**	**21 39 54.4**	**+1.0**
SDDR	**Presa de Saban**	**6.28**	**270**	*e*Pn		**Pn**	**21 40 16.9**	**+1.1**
	32nm,0.6s							
SDDR				*e*Sn		**Sn**	**21 41 27.6**	**+0.8**
SDV	**Santo Domingo**	**11.67**	**211**	*e*Pn		**Pn**	**21 41 30.0**	**+0.1**
	6.5nm,0.5s							
SADO	**Sadowa**	**28.33**	**338**	LR		LR	21 54 42.5	
	comp=Z,29nm,20.3s,baz=348,slow=34							
SCHQ	**Schefferville**	**35.74**	**358**	P		**P**	**21 45 40.0**	**-1.2**
	3.3nm,0.8s,baz=230,slow=16,SNR=4.7							
TXAR	**Lajitas Array**	**36.88**	**294**	P		**P**	**21 45 52.7**	**+1.3**
	0.4nm,0.7s,baz=122,slow=12,SNR=4.9							
PDAR	**Pinedale Array**	**44.52**	**312**	P		**P**	**21 46 55.3**	**+0.8**
	0.9nm,0.7s,baz=114,slow=9.1,SNR=6.9							
YKA	**Yellowknife Ar**	**55.24**	**334**	P		**P**	**21 48 14.1**	**-1.2**
	0.3nm,0.6s,baz=109,slow=7.4,SNR=6.8							
ILAR	**Eielson Array**	**69.62**	**333**	P		**P**	**21 49 50.9**	**-0.6**
	0.2nm,0.5s,baz=95,slow=4.5,SNR=4.1							

CSEM ***11*** *21:46:34.2±0.3, 49°.88N×18°.49E, h1km, ML2.4/7, Error ellipse: s-maj=6.5km s-min=3.2km az=28.0*

IPEC ***11*** *21:46:34.9±0.2, 49°.83N×18°.58E, h0km, ML1.7/2, Error ellipse: s-maj=2.2km s-min=1.1km az=159.0*

PRU 11 21:46:36.0, 49°.86N×18°.44E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.19**	**263**	*e*PG		Pg	21 46 39.7	0.0
OKC				*e*SG		Sg	21 46 42.9	+0.7
	comp=Z,21nm,0.5s							
OKC	**Ostrava-Krasne**	**0.19**	**263**	Pg		Pg	21 46 39.7	0.0
OKC				Sg		Sg	21 46 42.9	+0.7
	21nm,0.5s							
OJC	**Ojcow**	**0.95**	**67**	*e*Pg		Pg	21 46 52.0	-2.2
OJC				*e*Sg		Sg	21 47 04.2	-2.3
LANS	**Liptovska Anna**	**0.98**	**136**	*e*Sg		Sg	21 47 06.4	-1.1
KRLC	**Kraliky**	**1.09**	**282**	*e*PG		Pg	21 46 56.0	-1.0
KRLC				*e*SG		Sg	21 47 11.7	+0.4
KRLC	**Kraliky**	**1.09**	**282**	Pg		Pg	21 46 56.0	-1.0
KRLC				Sg		Sg	21 47 11.7	+0.4
NIE	**Niedzica**	**1.29**	**109**	*e*Pg		Pg	21 46 59.0	-1.9
NIE				*e*Sg		Sg	21 47 16.3	-1.5
VRAC	**Vranov**	**1.32**	**246**	*e*Pg		Pg	21 47 00.7	-0.7
	baz=67							
VRAC				*e*Sg		Sg	21 47 18.6	0.0
	7.9nm,0.3s,baz=67							
VYHS	**Vyhne**	**1.39**	**169**	*e*Pn		Pn	21 47 00.5	-2.2
VYHS				*e*Sn		Sg	21 47 19.6	-1.2
VYHS	**Vyhne**	**1.39**	**169**	*e*PN		Pn	21 47 00.5	-2.2
VYHS				*e*SN		Sg	21 47 19.6	-1.3
DPC	**Dobruska-Polom**	**1.45**	**291**	*e*PG		Sg	21 47 02.2	-1.4
DPC				*e*SG		Sg	21 47 22.8	+0.1
DPC	**Dobruska-Polom**	**1.45**	**291**	Pg		Pn	21 47 02.2	-1.4
DPC				Sg		Sg	21 47 22.8	+0.1
KRUC	**Moravsky**	**1.56**	**240**	*e*Pg		Pn	21 47 04.2	-0.7
	baz=61							
KRUC				*e*Sg		Sn	21 47 25.7	-0.1
	4.9nm,0.2s,baz=61							
UPC	**Upice**	**1.69**	**293**	*e*PG		Pn	21 47 06.7	-0.1
UPC				*e*SG		Sg	21 47 30.5	+0.1
	comp=Z,1.4nm,0.3s							
UPC	**Upice**	**1.69**	**293**	Pg		Pn	21 47 06.7	-0.1
UPC				Sg		Sg	21 47 30.5	+0.1
	1.4nm,0.3s							
STHS	**Stebnicka Huta**	**1.88**	**103**	*e*Pn		Pn	21 47 10.1	+0.7
STHS	**Stebnicka Huta**	**1.88**	**103**	*e*PN		Pn	21 47 10.1	+0.7
STHS				*e*SN		Sg	21 47 36.1	-0.3
TREC	**Trest**	**2.00**	**255**	*e*PG		Pb	21 47 13.3	-0.1
TREC				*e*SG		Sb	21 47 39.4	+0.5
	comp=Z,2.2nm,0.3s							
TREC	**Trest**	**2.00**	**255**	Pg		Pb	21 47 13.3	-0.1
TREC				Sg		Sb	21 47 39.4	+0.5
	2.2nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.36**	**273**	*e*SG		Sg	21 47 51.0	-1.0
GOPC	**GO Pecny, Ondr**	**2.36**	**273**	Sg		Sg	21 47 51.0	-1.0
PRU	**Pruhonice**	**2.52**	**274**	*e*SG		Sg	21 47 55.9	-1.2
	comp=Z,1.2nm,0.4s							
PRU	**Pruhonice**	**2.52**	**274**	Sg		Sg	21 47 55.9	-1.2
	1.2nm,0.4s							
PVCC	**Panska Ves**	**2.58**	**287**	*e*PG		Pb	21 47 23.5	+0.4
PVCC				*e*SG		Sg	21 47 58.4	-0.4
	comp=Z,2.6nm,0.2s							
PVCC	**Panska Ves**	**2.58**	**287**	Pg		Pb	21 47 23.5	+0.4
PVCC				Sg		Sg	21 47 58.4	-0.4
	2.6nm,0.2s							
KHC	**Kasperske Hory**	**3.25**	**259**	*e*PN		Pn	21 47 27.1	-1.2
KHC				*e*PG		Pb	21 47 35.7	+1.0
KHC				*e*SN		Sn	21 48 05.9	-1.9
KHC				*e*SG		Sg	21 48 19.3	-1.3
	comp=Z,1.4nm,0.4s							
KHC	**Kasperske Hory**	**3.25**	**259**	Pn		Pn	21 47 27.1	-1.2

DDA ***11*** *21:58:48.5, 36°.15N×26°.32E, h4km, MD2.8*

ISCJB ***11*** *21:58:57.6±0.9, 36°.46N±0°.06×26°.59E±0°.06, h115km±14km, Error ellipse: s-maj=10.6km s-min=5.7km az=148.9*

ATH ***11*** *21:58:57.0, 36°.48N×26°.60E, h117km±2km, ML3.2*

CSEM ***11*** *21:58:58.2±0.3, 36°.46N×26°.60E, h109km±4km, ML3.2, Error ellipse: s-maj=4.5km s-min=2.8km az=145.0*

ISC 11 21:58:58.5±1.5, 36°.46N±0°.05×26°.60E±0°.04, h110km±13km, n56, σ0s45/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.91**	**48**	*i* P		**Pn**	**21 59 18.4**	**-0.3**
BDRM	**Kayabasi**	**0.91**	**48**	*i* P		**Pn**	**21 59 18.4**	**-0.3**
SANT	**Santorini**	**0.92**	**265**	*e*P		**Pn**	**21 59 19.1**	**+0.2**
SANT	**Santorini**	**0.92**	**265**	*e*P		**Pn**	**21 59 19.1**	**+0.2**
KARP	**Karpathos**	**1.02**	**153**	*e*P		**Pn**	**21 59 19.3**	**-0.6**
KARP	**Karpathos**	**1.02**	**153**	*e*P		**Pn**	**21 59 19.3**	**-0.6**
APE	**Apeiranthos**	**1.05**	**306**	*e*P		**Pn**	**21 59 20.3**	**+0.1**
APE	**Apeiranthos**	**1.05**	**306**	*e*P		**Pn**	**21 59 20.3**	**+0.1**
ARG	**Arkhangelos**	**1.26**	**101**	*e*P		**Pn**	**21 59 22.4**	**0.0**
ARG				*e*S		**Sn**	**21 59 40.9**	**+0.3**
ARG	**Arkhangelos**	**1.26**	**101**	*e*P		**Pn**	**21 59 22.4**	**0.0**
ARG				*e*S		**Sn**	**21 59 40.9**	**+0.3**
SMG	**Samos**	**1.26**	**9**	*e*P		**Pn**	**21 59 22.0**	**-0.5**
SMG	**Samos**	**1.26**	**9**	*e*P		**Pn**	**21 59 22.0**	**-0.5**
ZKR	**Zakros**	**1.38**	**193**	*e*P		**Pn**	**21 59 24.4**	**+0.5**
ZKR				*e*S		**Sn**	**21 59 43.6**	**+0.5**
ZKR	**Zakros**	**1.38**	**193**	*e*P		**Pn**	**21 59 24.4**	**+0.5**
ZKR				*e*S		**Sn**	**21 59 43.6**	**+0.5**
NPS	**Neapolis**	**1.44**	**214**	*e*P		**Pn**	**21 59 24.1**	**-0.5**
NPS				*e*S		**Sn**	**21 59 44.0**	**-0.4**
NPS	**Neapolis**	**1.44**	**214**	*e*P		**Pn**	**21 59 24.1**	**-0.5**
NPS				*e*S		**Sn**	**21 59 44.0**	**-0.4**
AYDN	**Tasoluk**	**1.58**	**40**	*i* P		**Pn**	**21 59 27.1**	**+0.9**
AYDN	**Tasoluk**	**1.58**	**40**	*i* P		**Pn**	**21 59 27.1**	**+0.9**
AYDN				*i* S		Sn	21 59 56.8	+9.4
LAST	**Lasithi**	**1.58**	**215**	*e*P		**Pn**	**21 59 26.1**	**-0.3**
LAST				*e*S		**Sn**	**21 59 47.4**	**-0.2**
LAST	**Lasithi**	**1.58**	**215**	*e*P		**Pn**	**21 59 26.1**	**-0.3**
LAST				*e*S		**Sn**	**21 59 47.4**	**-0.2**
TURN	**Turunc**	**1.66**	**75**	*i* P		Pn	21 59 23.0	-4.2
TURN	**Turunc**	**1.66**	**75**	*i* P		Pn	21 59 23.0	-4.2
TURN				*i* S		Sn	21 59 40.6	-8.5
SIVA	**Sivas**	**2.05**	**226**	*e*P		**Pn**	**21 59 32.5**	**+0.5**
SIVA				*e*S		**Sn**	**21 59 57.7**	**0.0**
SIVA	**Sivas**	**2.05**	**226**	*e*P		**Pn**	**21 59 32.5**	**+0.5**
SIVA				*e*S		**Sn**	**21 59 57.7**	**0.0**
VAM	**Vamos**	**2.21**	**242**	*e*P		**Pn**	**21 59 34.7**	**+0.6**
VAM	**Vamos**	**2.21**	**242**	*e*P		**Pn**	**21 59 34.7**	**+0.6**
DNZL	**Cakiroluk**	**2.31**	**57**	*i* P		**Pn**	**21 59 35.2**	**-0.4**
DNZL	**Cakiroluk**	**2.31**	**57**	*i* P		**Pn**	**21 59 35.2**	**-0.4**
KARN	**Karanos**	**2.42**	**245**	*e*P		**Pn**	**21 59 37.0**	**+0.2**
KARN	**Karanos**	**2.42**	**245**	*e*P		**Pn**	**21 59 37.0**	**+0.2**
GOLH	**Golhisar**	**2.50**	**71**	*i* P		**Pn**	**21 59 37.8**	**-0.2**
GOLH	**Golhisar**	**2.50**	**71**	*i* P		**Pn**	**21 59 37.8**	**-0.2**
PTL	**Penteli**	**2.69**	**307**	*e*P		**Pn**	**21 59 40.5**	**+0.1**
PTL	**Penteli**	**2.69**	**307**	*e*P		**Pn**	**21 59 40.5**	**+0.1**
ANKY	**Antikythira Is**	**2.73**	**258**	*e*P		**Pn**	**21 59 41.3**	**+0.4**
ANKY	**Antikythira Is**	**2.73**	**258**	*e*P		**Pn**	**21 59 41.3**	**+0.4**
ATH	**Athens Observa**	**2.75**	**304**	*e*P		**Pn**	**21 59 41.2**	**+0.1**
ATH	**Athens Observa**	**2.75**	**304**	*e*P		**Pn**	**21 59 41.2**	**+0.1**
KYTH	**Kithira**	**2.88**	**267**	*e*P		**Pn**	**21 59 42.4**	**-0.5**
KYTH	**Kithira**	**2.88**	**267**	*e*P		**Pn**	**21 59 42.4**	**-0.5**
VLI	**Veliai**	**2.96**	**276**	*e*P		**Pn**	**21 59 43.0**	**-0.8**
VLI	**Veliai**	**2.96**	**276**	*e*P		**Pn**	**21 59 43.0**	**-0.8**
LKR	**Lokris**	**3.60**	**308**	*e*P		**Pn**	**21 59 52.0**	**-0.4**
LKR	**Lokris**	**3.60**	**308**	*e*P		**Pn**	**21 59 52.0**	**-0.4**
ITM	**Ithomi**	**3.81**	**282**	*e*P		**Pn**	**21 59 55.2**	**-0.1**
ITM	**Ithomi**	**3.81**	**282**	*e*P		**Pn**	**21 59 55.2**	**-0.1**
AGG	**Agios Georgios**	**4.24**	**308**	*e*P		**Pn**	**22 00 01.7**	**+0.7**
AGG	**Agios Georgios**	**4.24**	**308**	*e*P		**Pn**	**22 00 01.7**	**+0.7**
HORT	**Hortiatis**	**4.96**	**327**	*e*P		**Pn**	**22 00 10.8**	**+0.1**
HORT	**Hortiatis**	**4.96**	**327**	*e*P		**Pn**	**22 00 10.8**	**+0.1**
VLS	**Valsamata**	**5.08**	**291**	*e*P		**Pn**	**22 00 11.5**	**-0.9**
VLS	**Valsamata**	**5.08**	**291**	*e*P		**Pn**	**22 00 11.5**	**-0.9**
IGT	**Igoumenitsa**	**5.82**	**304**	*e*P		**Pn**	**22 00 22.3**	**0.0**
IGT	**Igoumenitsa**	**5.82**	**304**	*e*P		**Pn**	**22 00 22.3**	**0.0**
FNA	**Florina**	**5.94**	**318**	*e*P		Pn

de Henares, Badajoz, Ciudad Real, Cordoba, Cuenca, Gandia, Guadalajara, Hondon de las Nieves, Jerez, Manilva, Melilla, Palma de Gandia, San Fernando, Sevilla, Torremolinos, Torrevieja, Trujillo and Villa del Prado. Felt in Gibraltar and at 'Ain el Turk, Mostaganem, Oran and Sidi Bel Abbes, Algeria. Felt [III] at Tangier and Tetouan and [II] at Fes and Kenitra, Morocco. Also felt at Al Hoceima, Casablanca, El Aioun, Nador and Ouazzane. Felt at Beja, Portugal.

IGIL ***11*** *22:08:12.4, 36°.97N×3°.54W, h610km, ML5.4*

SFS ***11*** *22:08:12.0, 36°.96N×3°.54W, h0km*

GCMT ***11*** *22:08:12.8±0.1, 37°.10N×3°.69W, h616km, MW6.3/129, Moment Tensor Solution. s129,c321; s108,c158; Duration: 3s6 Moment tensor: Scale 10^18Nm; Mrr=2.16±.02; Mθθ=0.54±.03; Mφφ=1.62±.03; Mrθ=0.01±.03; Mθφ=1.75±.03; Mφr=3.23±.03; Best double couple: M=4.15700×10^18 NP1:φs189.00000°,δ73.00000°, λ=-112.00000°. NP2:φs63.00000°,δ28.00000°, λ=-39.00000°. Principal axes: T 4.1350, Plg25.0000°, Azm296.0000°; N 0.0410, Plg21.0000°, Azm196.0000°; P =4.1800, Plg56.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

STR ***11*** *22:08:13.5±0.6, 36°.96N×3°.32W, h600km, Ml5.9 Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

NEIC ***11*** *22:08:24.7±0.0, 37°.13N×3°.67W, h624km, Moment Tensor Solution. s140 Moment tensor: Scale 10^18Nm; Mrr=1.97; Mθθ=0.42; Mφφ=1.55; Mrθ=-0.20; Mθφ=1.72; Mφr=3.01; Best double couple: M=3.90000×10^18 NP1:φs186.00000°, δ73.00000°,λ=-114.00000°. NP2:φs64.00000°,δ30.00000°, λ=-34.00000°. Principal axes: T 3.8600, Plg24.0000°, Azm295.0000°; N 0.1000, Plg23.0000°, Azm193.0000°; P =3.9600, Plg54.0000°, Azm65.0000°;*

ISC 11 22:08:11.3±0.2, 37°.01N±0°.02×3°.48W±0°.02, h620km±1km, h619km:pP-P, n3642, σ1s25/4771, mb6.0/377, 411C-520D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGUA	**Guajares**	**0.19**	**202**	P	**P**	**22 09 23.6**	**0.0**
EGUA				S	**S**	**22 10 21.7**	**-0.5**
EGUA	**Guajares**	**0.19**	**202**	⇓P	**P**	**22 09 23.6**	**0.0**
	607nm,0.7s,SNR=18						
EGUA				S	**S**	**22 10 21.7**	**-0.5**
	SNR=7.9						
EGUA				ScS	**ScS**	**22 21 34.4**	**-1.9**
	SNR=7.9						
EGUA	**Guajares**	**0.19**	**202**	P	**P**	**22 09 23.6**	**0.0**
EGUA				S	**S**	**22 10 21.7**	**-0.5**
EGUA	**Guajares**	**0.19**	**202**	P	**P**	**22 09 23.6**	**0.0**
EGUA				S	**S**	**22 10 21.7**	**-0.5**
EQUE	**Quentar**	**0.20**	**8**	⇓P	**P**	**22 09 23.5**	**+0.1**
	2μm,0.3s,SNR=18						
EQUE				S	**S**	**22 10 20.9**	**-1.7**
	48μm,0.8s,SNR=16						
EQUE				ScS	**ScS**	**22 21 34.0**	**-2.6**
	SNR=14						
EQUE	**Quentar**	**0.20**	**8**	P	**P**	**22 09 23.5**	**+0.1**
	2μm,0.3s,SNR=18						
EQUE				S	**S**	**22 10 20.9**	**-1.7**
	48μm,0.8s,SNR=16						
ERON	**Agron**	**0.26**	**272**	P	**P**	**22 09 23.6**	**0.0**
	SNR=7.9						
ERON				ScS	ScS	22 21 34.3	-2.3
	SNR=7.9						
ERON	**Agron**	**0.26**	**272**	P	**P**	**22 09 23.6**	**0.0**
ERON	**Agron**	**0.26**	**272**	P	**P**	**22 09 23.6**	**0.0**
ECOG	**Cogollos-Vega**	**0.28**	**345**	P	**P**	**22 09 23.4**	**-0.1**
ECOG				S	S	22 10 16.2	-6.5
ECOG	**Cogollos-Vega**	**0.28**	**345**	⇑P	**P**	**22 09 23.4**	**-0.1**
	537nm,0.5s,SNR=18						
ECOG				S	S	22 10 16.2	-6.5
	738nm,0.4s,SNR=6.8						
ECOG				ScS	**ScS**	**22 21 34.5**	**-2.1**
	SNR=15						
ECOG	**Cogollos-Vega**	**0.28**	**345**	P	**P**	**22 09 23.4**	**-0.1**
ECOG				S	S	22 10 16.2	-6.5
	738nm,0.4s,SNR=6.8						
ECOG	**Cogollos-Vega**	**0.28**	**345**	P	**P**	**22 09 23.4**	**-0.1**
ECOG				S	S	22 10 16.2	-6.5
SELV	**Sierra Elvira**	**0.31**	**319**	⇓P	**P**	**22 09 23.6**	**+0.1**
	3μm,0.7s,SNR=18						
SELV				S	**S**	**22 10 20.6**	**-1.9**
	32μm,1.3s,SNR=7.9						
SELV				ScS	**ScS**	**22 21 33.6**	**-2.8**
	SNR=7.9						
SELV	**Sierra Elvira**	**0.31**	**319**	P	**P**	**22 09 23.6**	**+0.1**
SELV				S	**S**	**22 10 20.6**	**-1.9**
SELV	**Sierra Elvira**	**0.31**	**319**	P	**P**	**22 09 23.6**	**+0.1**
SELV				S	**S**	**22 10 20.6**	**-1.9**
EBER	**Berja**	**0.48**	**103**	P	**P**	**22 09 24.3**	**+0.4**
	5μm,0.4s,SNR=3151						
EBER				S	**S**	**22 10 22.3**	**-0.7**
	28μm,1.1s,SNR=18						
EBER				ScS	**ScS**	**22 21 35.5**	**-1.2**
	SNR=4.9						
EBER	**Berja**	**0.48**	**103**	P	**P**	**22 09 24.3**	**+0.4**
EBER				S	**S**	**22 10 22.3**	**-0.7**
EBER	**Berja**	**0.48**	**103**	P	**P**	**22 09 24.3**	**+0.4**
EBER				S	**S**	**22 10 22.3**	**-0.7**
GORA	**Gorafe**	**0.59**	**36**	P	**P**	**22 09 24.1**	**+0.3**
	7μm,0.4s,SNR=7.9						
GORA				S	**S**	**22 10 21.2**	**-1.9**
	80μm,0.8s,SNR=7.9						
GORA				ScS	**ScS**	**22 21 34.3**	**-2.2**
	SNR=7.9						
GORA	**Gorafe**	**0.59**	**36**	P	**P**	**22 09 24.1**	**+0.3**
	7μm,0.4s,SNR=7.9						
GORA				S	**S**	**22 10 21.2**	**-1.9**
	80μm,0.8s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.80**	**253**	⇓P	**P**	**22 09 24.0**	**-0.1**
EMAL				S	**S**	**22 10 21.3**	**-2.0**
EMAL	**Malaga-Limoner**	**0.80**	**253**	*i* P	**P**	**22 09 24.0**	**-0.1**
EMAL				*e*S	**S**	**22 10 21.3**	**-2.0**
ELUQ	**Luque**	**0.84**	**311**	P	**P**	**22 09 24.4**	**+0.3**
ELUQ				S	**S**	**22 10 23.4**	**-0.3**
ELUQ	**Luque**	**0.84**	**311**	⇓P	**P**	**22 09 24.4**	**+0.3**
	348nm,0.5s,SNR=18						
ELUQ				S	**S**	**22 10 23.4**	**-0.3**
	SNR=7.9						
ELUQ				ScS	**ScS**	**22 21 36.1**	**-0.4**
	SNR=7.9						
ELUQ	**Luque**	**0.84**	**311**	P	**P**	**22 09 24.4**	**+0.3**
ELUQ				S	**S**	**22 10 23.4**	**-0.3**
ELUQ	**Luque**	**0.84**	**311**	P	**P**	**22 09 24.4**	**+0.3**
ELUQ				S	**S**	**22 10 23.4**	**-0.3**
EQES	**Quesada**	**0.86**	**22**	P	**P**	**22 09 24.4**	**+0.2**
	8μm,0.8s						
EQES				S	**S**	**22 10 22.1**	**-1.8**
	16μm,0.9s,SNR=14						
EQES				ScS	**ScS**	**22 21 34.9**	**-1.8**
	SNR=7.9						
EQES	**Quesada**	**0.86**	**22**	P	**P**	**22 09 24.4**	**+0.2**
EQES				S	**S**	**22 10 22.1**	**-1.8**
EQES	**Quesada**	**0.86**	**22**	P	**P**	**22 09 24.4**	**+0.2**
EQES				S	**S**	**22 10 22.1**	**-1.8**
ENIJ	**Nijar**	**1.02**	**92**	P	**P**	**22 09 25.1**	**+0.6**
ENIJ	**Nijar**	**1.02**	**92**	⇑P	**P**	**22 09 25.1**	**+0.6**
	216nm,0.2s,SNR=18						
ENIJ				ScS	ScS	22 21 33.6	-2.9
	SNR=7.9						
ENIJ	**Nijar**	**1.02**	**92**	P	**P**	**22 09 25.1**	**+0.6**
ENIJ	**Nijar**	**1.02**	**92**	P	**P**	**22 09 25.1**	**+0.6**
EHUE	**Huescar**	**1.07**	**41**	P	**P**	**22 09 25.0**	**+0.4**
EHUE				S	**S**	**22 10 23.2**	**-1.4**
EHUE	**Huescar**	**1.07**	**41**	P	**P**	**22 09 25.0**	**+0.4**
	337nm,0.3s,SNR=7.9						
EHUE				S	**S**	**22 10 23.2**	**-1.4**
	SNR=7.9						
EHUE	**Huescar**	**1.07**	**41**	P	**P**	**22 09 25.0**	**+0.4**
EHUE				S	**S**	**22 10 23.2**	**-1.4**
EHUE	**Huescar**	**1.07**	**41**	P	**P**	**22 09 25.0**	**+0.4**
EHUE				S	**S**	**22 10 23.2**	**-1.4**
EMIJ	**Mijas**	**1.13**	**247**	P	**P**	**22 09 24.3**	**-0.5**
	4μm,0.3s,SNR=3139						
EMIJ				S	**S**	**22 10 22.8**	**-1.8**
	7μm,0.4s,SNR=6.7						
EMIJ				ScS	**ScS**	**22 21 33.9**	**-2.6**
	SNR=12						
EMIJ	**Mijas**	**1.13**	**247**	P	**P**	**22 09 24.3**	**-0.5**
EMIJ				S	**S**	**22 10 22.8**	**-1.8**
EMIJ	**Mijas**	**1.13**	**247**	P	**P**	**22 09 24.3**	**-0.5**
EMIJ				S	**S**	**22 10 22.8**	**-1.8**
EBAN	**Banos Encina**	**1.18**	**348**	P	**P**	**22 09 25.3**	**+0.6**
EBAN				S	**S**	**22 10 24.8**	**-0.1**
EBAN	**Banos Encina**	**1.18**	**348**	⇓P	**P**	**22 09 25.3**	**+0.6**
	128nm,0.2s,SNR=18						
EBAN				S	**S**	**22 10 24.8**	**-0.1**
	2μm,1.1s,SNR=7.9						
EBAN	**Banos Encina**	**1.18**	**348**	P	**P**	**22 09 25.3**	**+0.6**
EBAN				S	**S**	**22 10 24.8**	**-0.1**
EBAN	**Banos Encina**	**1.18**	**348**	P	**P**	**22 09 25.3**	**+0.6**
EBAN				S	**S**	**22 10 24.8**	**-0.1**
SESP	**Santiago Espad**	**1.33**	**33**	P	**P**	**22 09 26.1**	**+0.8**
	2μm,0.5s,SNR=7.9						
SESP				S	**S**	**22 10 25.0**	**-0.9**
	20μm,1.0s,SNR=7.9						
SESP				ScS	**ScS**	**22 21 35.3**	**-1.5**
	SNR=7.9						
SESP	**Santiago Espad**	**1.33**	**33**	P	**P**	**22 09 26.1**	**+0.8**
SESP				S	**S**	**22 10 25.0**	**-0.9**
SESP	**Santiago Espad**	**1.33**	**33**	P	**P**	**22 09 26.1**	**+0.8**
SESP				S	**S**	**22 10 25.0**	**-0.9**
EADA	**Adamuz**	**1.45**	**323**	P	**P**	**22 09 26.0**	**+0.6**
	9μm,0.6s,SNR=9145						
EADA				S	**S**	**22 10 25.1**	**-1.1**
	3μm,0.9s,SNR=7.9						
EADA				ScS	**ScS**	**22 21 36.0**	**-0.6**
	SNR=6.7						
EADA	**Adamuz**	**1.45**	**323**	P	**P**	**22 09 26.0**	**+0.6**
EADA				S	**S**	**22 10 25.1**	**-1.1**
EADA	**Adamuz**	**1.45**	**323**	P	**P**	**22 09 26.0**	**+0.6**
EADA				S	**S**	**22 10 25.1**	**-1.1**
EMEL	**Melilla**	**1.75**	**166**	P	**P**	**22 09 27.3**	**+0.7**
	22μm,0.3s,SNR=379						
EMEL				S	**S**	**22 10 26.8**	**-0.9**
	467μm,2.0s,SNR=8.9						
EMEL				ScS	**ScS**	**22 21 35.4**	**-1.3**
	SNR=7.9						
EMLI	**Melilla**	**1.76**	**166**	P	**P**	**22 09 27.3**	**+0.7**
	22μm,0.3s,SNR=379						
EMLI				S	**S**	**22 10 26.8**	**-0.9**
	467μm,2.0s,SNR=8.9						
MELI	**Melilla**	**1.77**	**165**	*i* P	**P**	**22 09 27.3**	**+0.7**
MELI				*i* S	**S**	**22 10 27.2**	**-0.6**
EVIA	**Vianos**	**1.80**	**25**	ScS	ScS	22 21 36.0	-0.9
	SNR=7.9						
ECAB	**El Cabril**	**1.88**	**305**	P	**P**	**22 09 27.3**	**+0.5**
	19μm,1.0s,SNR=3921						
ECAB				S	**S**	**22 10 27.3**	**-1.4**
	95μm,3.3s,SNR=7.9						
ECAB				ScS	**ScS**	**22 21 35.9**	**-0.8**
	SNR=7.9						
ECAB	**El Cabril**	**1.88**	**305**	P	**P**	**22 09 27.3**	**+0.5**
ECAB				S	**S**	**22 10 27.3**	**-1.4**
ECAB	**El Cabril**	**1.88**	**305**	P	**P**	**22 09 27.3**	**+0.5**
ECAB				S	**S**	**22 10 27.3**	**-1.4**
ESPR	**Espera**	**1.91**	**267**	P	**P**	**22 09 27.8**	**+0.8**
	63μm,1.1s,SNR=5.7						
ESPR				S	**S**	**22 10 27.7**	**-1.1**
	41μm,1.3s,SNR=7.9						
ESPR				ScS	**ScS**	**22 21 33.8**	**-2.8**
	SNR=4.5						
ESPR	**Espera**	**1.91**	**267**	P	**P**	**22 09 27.8**	**+0.8**
ESPR				S	**S**	**22 10 27.7**	**-1.1**
ESPR	**Espera**	**1.91**	**267**	P	**P**	**22 09 27.8**	**+0.8**
ESPR				S	**S**	**22 10 27.7**	**-1.1**
EMUR	**La Murta**	**1.96**	**64**	P	**P**	**22 09 27.9**	**+0.7**
	3μm,0.5s,SNR=3902						
EMUR				S	**S**	**22 10 28.5**	**-0.8**
	20μm,1.6s,SNR=7.6						
EMUR				ScS	**ScS**	**22 21 34.8**	**-2.0**
	SNR=5.1						
EMUR	**La Murta**	**1.96**	**64**	P	**P**	**22 09 27.9**	**+0.7**
EMUR				S	**S**	**22 10 28.5**	**-0.8**
EMUR	**La Murta**	**1.96**	**64**	P	**P**	**22 09 27.9**	**+0.7**
EMUR				S	**S**	**22 10 28.5**	**-0.8**
TOU	**Touzarine**	**2.05**	**186**	P	**P**	**22 09 28.0**	**+0.1**
TOU				S	**S**	**22 10 30.0**	**0.0**
TOU	**Touzarine**	**2.05**	**186**	*i* P	**P**	**22 09 28.0**	**+0.1**
TOU				*i* S	**S**	**22 10 30.0**	**0.0**
CART	**Cartagena**	**2.06**	**73**	⇑P	**P**	**22 09 27.5**	**0.0**
CART				S	**S**	**22 10 27.8**	**-2.0**
CART	**Cartagena**	**2.06**	**73**	*i* P	**P**	**22 09 27.5**	**0.0**
CART				*i* S	**S**	**22 10 27.8**	**-2.0**
ZAI	**Zaio**	**2.12**	**164**	P	**P**	**22 09 28.5**	**+0.4**
ZAI				S	**S**	**22 10 32.0**	**+1.6**
ZAI	**Zaio**	**2.12**	**164**	*i* P	**P**	**22 09 28.5**	**+0.4**
ZAI				*i* S	**S**	**22 10 32.0**	**+1.6**
DKH	**Dar Kharkhour**	**2.15**	**226**	P	**P**	**22 09 28.5**	**+0.2**
DKH				S	**S**	**22 10 31.0**	**+0.2**
DKH	**Dar Kharkhour**	**2.15**	**226**	*i* P	**P**	**22 09 28.5**	**+0.2**
DKH				*i* S	**S**	**22 10 31.0**	**+0.2**
ETOB	**Tobarra**	**2.24**	**42**	P	**P**	**22 09 29.7**	**+1.4**
	7μm,1.1s,SNR=1784						
ETOB				S	**S**	**22 10 31.3**	**-0.1**
	42μm,1.6s,SNR=6.5						
ETOB				ScS	**ScS**	**22 21 36.8**	**-0.1**
	SNR=7.9						
ETOB	**Tobarra**	**2.24**	**42**	P	**P**	**22 09 29.7**	**+1.4**
ETOB				S	**S**	**22 10 31.3**	**-0.1**
ETOB	**Tobarra**	**2.24**	**42**	P	**P**	**22 09 29.7**	**+1.4**
ETOB				S	**S**	**22 10 31.3**	**-0.1**
SFS	**San Fernando**	**2.26**	**257**	⇓P	**P**	**22 09 29.2**	**+0.8**
SFS				S	**S**	**22 10 31.1**	**-0.2**
SFS	**San Fernando**	**2.26**	**257**	*i* P	**P**	**22 09 29.2**	**+0.8**
SFS				*i* S	**S**	**22 10 31.1**	**-0.2**
OLHC	**Oulhaca**	**2.42**	**136**	P	P	22 09 36.0	+6.7
OLHC	**Oulhaca**	**2.42**	**136**	P	P	22 09 36.0	+6.7
TSY	**Tnine Yamani**	**2.59**	**232**	P	**P**	**22 09 30.0**	**0.0**
TSY				S	**S**	**22 10 35.0**	**+0.9**
TSY	**Tnine Yamani**	**2.59**	**232**	*i* P	**P**	**22 09 30.0**	**0.0**
TSY				*i* S	**S**	**22 10 35.0**	**+0.9**
PAB	**San Pablo**	**2.63**	**345**	*e*P	**P**	**22 09 30.6**	**+0.5**
PAB				*e*S	**S**	**22 10 33.4**	**-1.3**
PAB	**San Pablo**	**2.63**	**345**	P	**P**	**22 09 31.1**	**+1.1**
	17μm,0.8s,SNR=7.9						
PAB				S	**S**	**22 10 33.4**	**-1.3**
	6μm,1.5s,SNR=7.9						
PAB				ScS	**ScS**	**22 21 36.1**	**-1.0**
	SNR=7.9						
PAB	**San Pablo**	**2.63**	**345**	*e*P	**P**	**22 09 30.6**	**+0.5**
PAB				*e*S	**S**	**22 10 33.4**	**-1.3**
PAB	**San Pablo**	**2.63**	**345**	*e*P	**P**	**22 09 30.6**	**+0.5**
PAB				*e*S	**S**	**22 10 33.4**	**-1.3**
EMIN	**Mina Concepcio**	**2.66**	**288**	P	**P**	**22 09 30.3**	**0.0**
	27μm,0.8s						
EMIN				S	**S**	**22 10 33.2**	**-1.5**
	20μm,1.7s,SNR=7.9						
EMIN				ScS	**ScS**	**22 21 35.8**	**-1.2**
	SNR=7.9						
EMIN	**Mina Concepcio**	**2.66**	**288**	P	**P**	**22 09 30.2**	**0.0**
EMIN				S	**S**	**22 10 33.2**	**-1.5**
EMIN	**Mina Concepcio**	**2.66**	**288**	P	**P**	**22 09 30.2**	**0.0**
EMIN				S	**S**	**22 10 33.2**	**-1.5**
USTO	**Oran**	**2.68**	**117**	P	**P**	**22 09 33.0**	**+2.6**
USTO	**Oran**	**2.68**	**117**	P	**P**	**22 09 33.0**	**+2.6**
USTO	**Oran**	**2.68**	**117**	P	**P**	**22 09 33.0**	**+2.6**
ESDC	**Sonseca Array**	**2.69**	**352**	P	**P**	**22 09 31.8**	**+1.5**
	2μm,0.6s,baz=169,slow=5.1						
ESDC				S	**S**	**22 10 34.2**	**-1.0**
	282nm,0.8s,baz=171,slow=9.2,SNR=7.9						
ESDC				ScS	**ScS**	**22 21 35.9**	**-1.2**
	baz=153,slow=0.5,SNR=7.9						
ESDC	**Sonseca Array**	**2.69**	**352**	P	**P**	**22 09 31.5**	**+1.1**
	3μm,0.3s,baz=175,slow=5.1						
ESDC				S	**S**	**22 10 33.8**	**-1.4**
	baz=176,slow=9.3,SNR=1.5						
ESDC	**Sonseca Array**	**2.69**	**352**	S	**S**	**22 10 34.2**	**-1.0**
	282nm,0.8s,SNR=7.9						
ESDC	**Sonseca Array**	**2.69**	**352**	P	**P**	**22 09 31.5**	**+1.1**
ESDC				S	**S**	**22 10 33.8**	**-1.4**
ESDC				S	S	22 10 34.2	-1.0
PBAR	**Barrancos**	**3.06**	**293**	*i* P	**P**	**22 09 32.5**	**+0.2**
PBAR				*e*S	**S**	**22 10 36.6**	**-2.0**
PBAR				A	A	22 10 41.3	
	859nm,0.7s						
PBAR	**Barrancos**	**3.06**	**293**	⇓P	**P**	**22 09 32.5**	**+0.2**
PBAR				S	**S**	**22 10 36.6**	**-2.0**
	859nm,0.7s						
EBEN	**Beniarda**	**3.08**	**56**	P	**P**	**22 09 33.4**	**+0.9**
	3μm,0.7s,SNR=1654						
EBEN				S	**S**	**22 10 38.6**	**-0.3**
	30μm,1.6s						
EBEN				ScS	**ScS**	**22 21 34.9**	**-2.4**
	SNR=5.7						
EBEN	**Beniarda**	**3.08**	**56**	P	**P**	**22 09 33.4**	**+0.9**
EBEN				S	**S**	**22 10 38.6**	**-0.3**
EBEN	**Beniarda**	**3.08**	**56**	P	**P**	**22 09 33.4**	**+0.9**
EBEN				S	**S**	**22 10 38.6**	**-0.3**
ODJA	**Bouhanifia**	**3.17**	**121**	P	**P**	**22 09 35.0**	**+1.8**
ODJA	**Bouhanifia**	**3.17**	**121**	P	**P**	**22 09 35.0**	**+1.8**
ODJA	**Bouhanifia**	**3.17**	**121**	P	**P**	**22 09 35.0**	**+1.8**
TGT	**Taghat**	**3.20**	**204**	P	**P**	**22 09 33.0**	**-0.4**
TGT				S	**S**	**22 10 40.0**	**-0.2**
TGT	**Taghat**	**3.20**	**204**	*i* P	**P**	**22 09 33.0**	**-0.4**
TGT				*i* S	**S**	**22 10 40.0**	**-0.2**
EGRO	**El Granado**	**3.24**	**281**	P	**P**	**22 09 33.2**	**-0.1**
	26μm,1.1s,SNR=7.9						
EGRO				S	**S**	**22 10 39.7**	**-0.7**
	26μm,1.9s,SNR=7.9						
EGRO				ScS	**ScS**	**22 21 36.7**	**-0.6**
	SNR=7.9						
EGRO	**El Granado**	**3.24**	**281**	P	**P**	**22 09 33.2**	**-0.1**
EGRO				S	**S**	**22 10 39.7**	**-0.7**
EGRO	**El Granado**	**3.24**	**281**	P	**P**	**22 09 33.2**	**-0.1**
EGRO				S	**S**	**22 10 39.7**	**-0.7**
ECHE	**Chera**	**3.25**	**37**	P	**P**	**22 09 34.9**	**+1.5**
ECHE	**Chera**	**3.25**	**37**	P	**P**	**22 09 34.9**	**+1.5**
	447nm,0.4s,SNR=90						
ECHE	**Chera**	**3.25**	**37**	P	**P**	**22 09 34.9**	**+1.5**
ECHE	**Chera**	**3.25**	**37**	P	**P**	**22 09 34.9**	**+1.5**
EBAD	**Badajoz**	**3.30**	**303**	P	**P**	**22 09 33.8**	**+0.1**
	27μm,0.8s						
EBAD				S	**S**	**22 10 40.7**	**-0.4**
	25μm,1.9s,SNR=7.9						
EBAD				ScS	**ScS**	**22 21 36.0**	**-1.3**
	SNR=4.1						
EBAD	**Badajoz**	**3.30**	**303**	P	**P**	**22 09 33.8**	**+0.1**
EBAD				S	**S**	**22 10 40.7**	**-0.4**
EBAD	**Badajoz**	**3.30**	**303**	P	**P**	**22 09 33.8**	**+0.1**
EBAD				S	**S**	**22 10 40.7**	**-0.4**
OJBR	**Djebel Berber**	**3.40**	**114**	P	P	22 09 38.0	+3.5
OJBR	**Djebel Berber**	**3.40**	**114**	P	P	22 09 38.0	+3.5
OJBR	**Djebel Berber**	**3.40**	**114**	P	P	22 09 38.0	+3.5
PVAQ	**Vaqueiros**	**3.41**	**278**	*i* P	**P**	**22 09 34.4**	**0.0**
PVAQ				*e*S	**S**	**22 10 40.7**	**-1.5**
PVAQ				A	A	22 10 43.3	
	288nm,0.5s						
PVAQ	**Vaqueiros**	**3.41**	**278**	⇓P	**P**	**22 09 34.4**	**0.0**
PVAQ				S	**S**	**22 10 40.7**	**-1.5**
	288nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.57**	**275**	*i* P	**P**	**22 09 35.6**	**+0.2**
PBDV				*e*S	**S**	**22 10 43.5**	**-0.6**
PBDV				A	A	22 10 49.3	
	400nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.57**	**275**	⇓P	**P**	**22 09 35.6**	**+0.2**
PBDV				S	**S**	**22 10 43.5**	**-0.6**
	400nm,0.7s						
GUD	**Guadarrama**	**3.67**	**352**	P	**P**	**22 09 37.0**	**+0.9**
GUD				S	**S**	**22 10 44.3**	**-1.2**
GUD	**Guadarrama**	**3.67**	**352**	P	**P**	**22 09 37.0**	**+0.9**
	7μm,0.9s,SNR=4485						
GUD				S	**S**	**22 10 44.3**	**-1.2**
	27μm,1.8s,SNR=7.9						
GUD				ScS	**ScS**	**22 21 37.9**	**+0.1**
	SNR=7.9						
GUD	**Guadarrama**	**3.67**	**352**	P	**P**	**22 09 37.0**	**+0.9**
GUD				S	**S**	**22 10 44.3**	**-1.2**
GUD	**Guadarrama**	**3.67**	**352**	P	**P**	**22 09 37.0**	**+0.9**
GUD				S	**S**	**22 10 44.3**	**-1.2**
EPLA	**Plasencia**	**3.67**	**327**	P	**P**	**22 09 36.8**	**+0.8**
EPLA				S	**S**	**22 10 44.3**	**-1.0**
EPLA	**Plasencia**	**3.67**	**327**	P	**P**	**22 09 36.8**	**+0.8**
	23μm,0.9s,SNR=7.9						
EPLA				S	**S**	**22 10 44.3**	**-1.0**
	24μm,1.8s,SNR=7.9						
EPLA				ScS	**ScS**	**22 21 37.1**	**-0.4**
	SNR=6.7						
EPLA	**Plasencia**	**3.67**	**327**	P	**P**	**22 09 36.8**	**+0.8**
EPLA				S	**S**	**22 10 44.3**	**-1.0**
EPLA	**Plasencia**	**3.67**	**327**	P	**P**	**22 09 36.8**	**+0.8**
EPLA				S	**S**	**22 10 44.3**	**-1.0**
PCVE	**Castro Verde**	**3.69**	**281**	*i* P	**P**	**22 09 36.3**	**+0.2**
PCVE				*e*S	**S**	**22 10 44.5**	**-0.9**
PCVE				A	A	22 10 47.3	
	35nm,0.8s						
PCVE	**Castro Verde**	**3.69**	**281**	⇓P	**P**	**22 09 36.3**	**+0.2**
PCVE				S	**S**	**22 10 44.5**	**-0.9**
	35nm,0.8s						
OJGS	**Djebel Guires**	**3.73**	**112**	P	**P**	**22 09 37.0**	**+0.4**
OJGS	**Djebel Guires**	**3.73**	**112**	P	**P**	**22 09 37.0**	**+0.4**
OJGS	**Djebel Guires**	**3.73**	**112**	P	**P**	**22 09 37.0**	**+0.4**
PESTR	**Estremoz**	**3.75**	**301**	*i* P	**P**	**22 09 37.0**	**+0.6**
PESTR				*e*S	**S**	**22 10 45.9**	**-0.2**
PESTR				A	A	22 10 56.3	
	323nm,0.5s						
EANR	**'Ain N'Sour**	**3.84**	**105**	P	**P**	**22 09 38.5**	**+1.3**
EANR	**'Ain N'Sour**	**3.84**	**105**	P	**P**	**22 09 38.5**	**+1.3**
EANR	**'Ain N'Sour**	**3.84**	**105**	P	**P**	**22 09 38.5**	**+1.3**
MESJ	**Messejana**	**3.87**	**284**	*e*P	**P**	**22 09 37.4**	**+0.1**
MESJ				AML	AML	22 09 40.6	
	comp=Z,7μm,0.7s						
MESJ				*e*S	**S**	**22 10 47.1**	**-0.4**
MESJ	**Messejana**	**3.87**	**284**	*i* P	**P**	**22 09 37.6**	**+0.4**
MESJ				*e*S	**S**	**22 10 46.9**	**-0.6**
MESJ				A	A	22 10 49.1	
	comp=Z,495nm,0.8s						
MESJ	**Messejana**	**3.87**	**284**	*e*P	**P**	**22 09 37.3**	**+0.1**
MESJ				*e*S	**S**	**22 10 47.1**	**-0.4**
MESJ	**Messejana**	**3.87**	**284**	⇓P	**P**	**22 09 37.6**	**+0.4**
MESJ				S	**S**	**22 10 46.9**	**-0.6**
	comp=Z,495nm,0.8s						
MESJ	**Messejana**	**3.87**	**284**	*e*P	**P**	**22 09 37.3**	**+0.1**
MESJ				*e*S	**S**	**22 10 47.1**	**-0.4**
MIF	**

EMOS ScS **ScS** 22 21 37.8 -0.4
SNR=7.9
EMOS Mosqueruela 4.09 34 P **P** 22 09 40.6 +1.7
EMOS S **S** 22 10 51.2 +0.5
EMOS Mosqueruela 4.09 34 P **P** 22 09 40.6 +1.7
EMOS S **S** 22 10 51.2 +0.5
MORF Marmelete 4.14 276 *eP* **P** 22 09 39.1 -0.1
MORF AML AML 22 09 40.9
comp=Z,2μm,0.4s
MORF *eS* **S** 22 10 50.4 -0.7
MORF Marmelete 4.14 276 *i* P **P** 22 09 39.2 0.0
MORF *eS* **S** 22 10 50.0 -1.0
MORF A A 22 10 57.8
comp=Z,270nm,0.5s
MORF Marmelete 4.14 276 *eP* **P** 22 09 39.1 -0.1
MORF *eS* **S** 22 10 50.3 -0.7
MORF Marmelete 4.14 276 ⇓P **P** 22 09 39.2 0.0
MORF S **S** 22 10 50.0 -1.0
comp=Z,270nm,0.5s
MORF Marmelete 4.14 276 *eP* **P** 22 09 39.1 -0.1
MORF *eS* **S** 22 10 50.3 -0.7
PNCL Nicolau / Gran 4.16 287 *i* P **P** 22 09 39.5 +0.3
PNCL *eS* **S** 22 10 50.7 -0.4
PNCL A A 22 10 53.4
comp=Z,382nm,0.6s
ETRT Tiaret 4.19 111 P **P** 22 09 41.5 +1.8
ETRT Tiaret 4.19 111 P **P** 22 09 41.5 +1.8
ETRT Tiaret 4.19 111 P **P** 22 09 41.5 +1.8
PTEO Sao Teotonio 4.22 279 *eP* **P** 22 09 39.9 +0.3
PTEO *eS* **S** 22 10 51.0 -0.8
PTEO A A 22 10 57.9
comp=Z,459nm,0.7s
PTEO Sao Teotonio 4.22 279 ⇓P **P** 22 09 39.9 +0.3
PTEO S **S** 22 10 51.0 -0.8
comp=Z,230nm,0.7s
PTEO Sao Teotonio 4.22 279 *eS* **S** 22 10 51.0 -0.8
comp=Z,459nm,0.7s
PCBR Castelo Branco 4.23 313 *i* P **P** 22 09 39.9 +0.3
PCBR *eS* **S** 22 10 50.9 -1.0
PCBR A A 22 10 52.8
comp=Z,410nm,0.8s
PCBR Castelo Branco 4.23 313 ⇓P **P** 22 09 39.9 +0.3
PCBR S **S** 22 10 50.9 -1.0
comp=Z,205nm,0.8s
PMTG Montargil 4.28 300 *i* P **P** 22 09 40.4 +0.4
PMTG *eS* **S** 22 10 52.3 -0.2
PMTG A A 22 11 02.0
comp=Z,292nm,0.8s
PFVI Vila Bisbo 4.28 273 *i* P **P** 22 09 40.3 +0.2
PFVI *eS* **S** 22 10 51.8 -0.8
PFVI A A 22 10 59.7
comp=Z,525nm,0.7s
PFVI Vila Bisbo 4.28 273 P **P** 22 09 39.9 -0.2
comp=Z,74μm,1.1s,SNR=7.9
PFVI S **S** 22 10 51.4 -1.2
comp=Z,14μm,1.4s,SNR=7.9
PFVI ScS **ScS** 22 21 37.1 -1.0
SNR=7.9
PFVI Vila Bisbo 4.28 273 P **P** 22 09 39.9 -0.2
PFVI *eS* **S** 22 10 51.8 -0.8
comp=Z,525nm,0.7s
PFVI Vila Bisbo 4.28 273 P **P** 22 09 39.9 -0.2
PFVI S **S** 22 10 51.4 -1.2
MDT Midelt 4.28 193 P **P** 22 09 40.7 +0.2
comp=Z,797nm,0.3s,baz=15,slow=5.6,SNR=3331
MDT S **S** 22 10 54.1 +1.1
baz=250,slow=21,SNR=13
EIBI Ibiza 4.31 61 P **P** 22 09 41.5 +1.3
comp=Z,6μm,0.6s,SNR=1502
EIBI S **S** 22 10 54.0 +1.1
comp=Z,46μm,3.6s
EIBI ScS **ScS** 22 21 36.9 -1.1
SNR=7.9
EIBI Ibiza 4.31 61 P **P** 22 09 41.5 +1.3
EIBI S **S** 22 10 54.0 +1.1
comp=Z,46μm,3.6s
EIBI Ibiza 4.31 61 P **P** 22 09 41.5 +1.3
EIBI S **S** 22 10 54.0 +1.1
PACT Alcochete 4.59 294 *i* P **P** 22 09 44.0 +1.8
PACT *eS* **S** 22 10 59.0 +2.4
PACT A A 22 11 08.4
comp=Z,1μm,0.5s
MTE Manteigas 4.65 318 *i* P **P** 22 09 43.1 +0.4
MTE *eS* **S** 22 10 54.7 -2.8
MTE A A 22 11 08.3
comp=Z,467nm,0.7s
MTE Manteigas 4.65 318 ⇓P **P** 22 09 43.1 +0.4
MTE S **S** 22 10 54.7 -2.8
comp=Z,234nm,0.7s
MTE Manteigas 4.65 318 *eP* **P** 22 09 43.1 +0.4
MTE *eS* **S** 22 10 54.7 -2.8
comp=Z,467nm,0.7s
MTE Manteigas 4.65 318 *eP* **P** 22 09 43.1 +0.4
MTE *eS* **S** 22 10 53.5 -4.0
PTOM Tomar 4.67 305 *eP* **P** 22 09 43.0 +0.2
PTOM *eS* **S** 22 10 57.7 -0.1
PTOM A A 22 11 01.8
comp=Z,587nm,0.8s
PTOM Tomar 4.67 305 ⇓P **P** 22 09 43.0 +0.2
PTOM S **S** 22 10 57.7 -0.1
comp=Z,293nm,0.8s
PTOM Tomar 4.67 305 *eS* **S** 22 10 57.7 -0.1
comp=Z,587nm,0.8s
LIS Lisbon 4.80 293 *eP* **P** 22 09 44.0 +0.2
LIS AML AML 22 09 47.5
comp=Z,3μm,0.7s
LIS *eS* **S** 22 10 59.6 +0.1
LIS Lisbon 4.80 293 *i* P **P** 22 09 44.6 +0.8
LIS *eS* **S** 22 10 56.1 -3.4
LIS Lisbon 4.80 293 *eP* **P** 22 09 44.0 +0.2
LIS *eS* **S** 22 10 59.5 +0.1
LIS Lisbon 4.80 293 ⇓P **P** 22 09 44.6 +0.8
LIS S **S** 22 10 56.1 -3.4
INMG Instituto de M 4.80 293 *eP* **P** 22 09 45.1 +1.3
INMG Instituto de M 4.80 293 P **P** 22 09 45.1 +1.3
INMG Instituto de M 4.80 293 *eP* **P** 22 09 45.1 +1.3
PMST Lisbon--Monsan 4.83 293 *i* P **P** 22 09 44.5 +0.5
PMST *eS* **S** 22 11 00.7 +0.8
PMST A A 22 11 10.0
comp=Z,408nm,0.9s
KIB El Ksiba 4.90 206 P **P** 22 09 45.0 +0.1
KIB S **S** 22 11 02.0 +0.9
KIB El Ksiba 4.90 206 *i* P **P** 22 09 45.0 +0.1
KIB *i* S **S** 22 11 02.0 +0.9
ERTA Horta de San J 4.94 36 P **P** 22 09 45.9 +1.1
comp=Z,10μm,1.8s,SNR=515
ERTA S **S** 22 11 01.5 +0.1
comp=Z,13μm,1.9s,SNR=7.9
ERTA ScS **ScS** 22 21 36.7 -1.8
SNR=7.9
ERTA Horta de San J 4.94 36 P **P** 22 09 45.9 +1.1
ERTA S **S** 22 11 01.5 +0.1
comp=Z,13μm,1.9s,SNR=7.9
ERTA Horta de San J 4.94 36 P **P** 22 09 45.9 +1.1
ERTA S **S** 22 11 01.5 +0.1
PCAS Casmilo, Conde 4.97 309 *i* P **P** 22 09 45.4 +0.3
PCAS *eS* **S** 22 10 57.3 -4.6
PCAS A A 22 11 06.0
comp=Z,353nm,0.7s
PMAFR Mafra 4.98 295 *i* P **P** 22 09 45.7 +0.5
PMAFR *eS* **S** 22 11 02.0 0.0
PMAFR A A 22 11 04.8
comp=Z,459nm,0.6s
PMAFR Mafra 4.98 295 P **P** 22 09 45.3 +0.1
comp=Z,19μm,0.8s,SNR=7.9
PMAFR ScS ScS 22 21 37.7 -0.9
SNR=7.9
PMAFR Mafra 4.98 295 P **P** 22 09 45.2 +0.1
PMAFR *eS* **S** 22 11 02.0 0.0
comp=Z,459nm,0.6s
PMAFR Mafra 4.98 295 P **P** 22 09 45.2 +0.1
MVO Moncorvo 4.99 327 *i* P **P** 22 09 46.0 +0.8
MVO *eS* **S** 22 10 58.0 -4.2
MVO A A 22 11 02.3
comp=Z,320nm,0.7s
MVO Moncorvo 4.99 327 P **P** 22 09 45.8 +0.6
comp=Z,9μm,0.7s,SNR=1812
MVO S **S** 22 11 01.7 -0.5
comp=Z,4μm,1.1s,SNR=7.9
MVO ScS **ScS** 22 21 38.8 +0.1
SNR=7.9
MVO Moncorvo 4.99 327 P **P** 22 09 45.8 +0.6
MVO S **S** 22 11 01.7 -0.5
MVO Moncorvo 4.99 327 P **P** 22 09 45.8 +0.6

MVO S **S** 22 11 01.7 -0.5
ZFT Errachidia 5.01 189 P **P** 22 09 45.5 -0.4
ZFT S **S** 22 11 03.0 0.0
ZFT Errachidia 5.01 189 *i* P **P** 22 09 45.5 -0.4
ZFT *i* S **S** 22 11 03.0 0.0
PVIS Viseu 5.06 318 *i* P **P** 22 09 46.0 +0.2
PVIS *eS* **S** 22 11 03.1 -0.1
PVIS A A 22 11 05.3
comp=Z,275nm,0.7s
PVIS Viseu 5.06 318 ⇓P **P** 22 09 46.0 +0.2
PVIS S **S** 22 11 03.1 -0.1
comp=Z,138nm,0.7s
ABA Alger-Bouzarea 5.22 90 P **P** 22 09 47.7 +0.6
ABA Alger-Bouzarea 5.22 90 P **P** 22 09 47.7 +0.6
ABA Alger-Bouzarea 5.22 90 P **P** 22 09 47.7 +0.6
EMHD Djebel Mahouad 5.24 97 P **P** 22 09 48.9 +1.5
EMHD Djebel Mahouad 5.24 97 P **P** 22 09 48.9 +1.5
EMHD Djebel Mahouad 5.24 97 P **P** 22 09 48.9 +1.5
PVRL Vila Real 5.39 324 *eP* **P** 22 09 48.8 +0.5
PVRL *eS* **S** 22 11 07.6 -0.3
PVRL A A 22 11 11.2
comp=Z,183nm,0.6s
PVRL Vila Real 5.39 324 ⇓P **P** 22 09 48.8 +0.5
PVRL S **S** 22 11 07.6 -0.3
comp=Z,91nm,0.6s
PBRG Braganca 5.42 333 *i* P **P** 22 09 49.4 +0.8
PBRG *eS* **S** 22 11 07.6 -0.7
PBRG A A 22 11 11.4
comp=Z,251nm,0.7s
PBRG Braganca 5.42 333 ⇓P **P** 22 09 49.4 +0.8
PBRG S **S** 22 11 07.6 -0.7
comp=Z,126nm,0.7s
TZC Tazercounte 5.45 208 P **P** 22 09 49.0 -0.3
TZC S **S** 22 11 09.0 -0.2
TZC Tazercounte 5.45 208 *i* P **P** 22 09 49.0 -0.3
TZC *i* S **S** 22 11 09.0 -0.2
POLO Lamas de Olo 5.50 324 *i* P **P** 22 09 49.8 +0.5
POLO *eS* **S** 22 11 09.2 -0.4
POLO A A 22 11 11.8
comp=Z,106nm,0.5s
ECAL Calabor 5.54 334 P **P** 22 09 50.1 +0.6
comp=Z,2μm,0.4s,SNR=693
ECAL S **S** 22 11 10.1 0.0
comp=Z,4μm,1.6s,SNR=7.9
ECAL ScS **ScS** 22 21 38.7 -0.5
SNR=7.9
ECAL Calabor 5.54 334 P **P** 22 09 50.1 +0.6
ECAL S **S** 22 11 10.1 0.0
comp=Z,4μm,1.6s,SNR=7.9
ECAL Calabor 5.54 334 P **P** 22 09 50.1 +0.6
ECAL S **S** 22 11 10.1 0.0
EPOB Poblet 5.60 38 P **P** 22 09 51.2 +1.1
comp=Z,2μm,0.7s,SNR=471
EPOB S **S** 22 11 10.6 -0.4
comp=Z,13μm,2.3s
EPOB ScS **ScS** 22 21 36.9 -2.3
SNR=7.9
EPOB Poblet 5.60 38 P **P** 22 09 51.2 +1.1
EPOB S **S** 22 11 10.6 -0.4
EPOB Poblet 5.60 38 P **P** 22 09 51.2 +1.1
EPOB S **S** 22 11 10.6 -0.4
ADJB Djebel Djouab 5.63 97 P **P** 22 09 51.3 +0.8
ADJB Djebel Djouab 5.63 97 P **P** 22 09 51.3 +0.8
ADJB Djebel Djouab 5.63 97 P **P** 22 09 51.3 +0.8
ETOS Mallorca 5.66 59 P **P** 22 09 51.5 +1.0
comp=Z,3μm,0.6s,SNR=1113
ETOS S **S** 22 11 12.3 +0.5
comp=Z,7μm,1.8s,SNR=5.6
ETOS ScS **ScS** 22 21 36.3 -3.0
SNR=7.9
ETOS Mallorca 5.66 59 P **P** 22 09 51.5 +1.0
ETOS S **S** 22 11 12.3 +0.5
ETOS Mallorca 5.66 59 P **P** 22 09 51.5 +1.0
ETOS S **S** 22 11 12.3 +0.5
PTO Porto 5.74 318 *eP* **P** 22 09 51.7 +0.6
PTO *eS* **S** 22 11 12.5 -0.4
PTO Porto 5.74 318 P **P** 22 09 51.7 +0.6
PTO S **S** 22 11 12.5 -0.4
PTO Porto 5.74 318 *eP* **P** 22 09 51.7 +0.6
PTO *eS* **S** 22 11 12.5 -0.4
YNAR Nardues-Alduna 5.85 15 ⇑P **P** 22 09 53.8 +1.7
comp=Z,61nm,0.3s,SNR=18
PCAB Cabril 5.87 325 *i* P **P** 22 09 52.7 +0.4
PCAB *eS* **S** 22 11 15.4 +0.3
PCAB A A 22 11 21.4
comp=Z,241nm,0.6s
PCAB Cabril 5.87 325 ⇓P **P** 22 09 52.7 +0.4
PCAB S **S** 22 11 15.4 +0.3
comp=Z,120nm,0.6s
IUNC Unciti 5.94 14 ⇑P **P** 22 09 54.8 +1.9
comp=Z,400nm,0.3s,SNR=18
EARA Aranguren 5.94 14 P **P** 22 09 54.5 +1.7
comp=Z,699nm,0.7s,SNR=138
EARA S **S** 22 11 16.6 +0.5
comp=Z,8μm,2.1s,SNR=7.9
EARA ScS **ScS** 22 21 37.3 -2.2
SNR=7.9
AKET Djebel Ketaf 6.00 97 P **P** 22 09 54.8 +1.1
AKET Djebel Ketaf 6.00 97 P **P** 22 09 54.8 +1.1
AKET Djebel Ketaf 6.00 97 P **P** 22 09 54.8 +1.1
IEPA Eparoz 6.01 16 ⇑P **P** 22 09 55.1 +1.7
comp=Z,629nm,0.6s,SNR=18
ELOB Lobios 6.01 325 P **P** 22 09 53.9 +0.3
comp=Z,3μm,0.6s,SNR=1139
ELOB ScS ScS 22 21 38.7 -1.0
SNR=4.9
ELOB Lobios 6.01 325 P **P** 22 09 53.8 +0.3
ELOB Lobios 6.01 325 P **P** 22 09 53.9 +0.3
IZUN Zunzarren 6.05 14 ⇑P **P** 22 09 55.5 +1.7
comp=Z,780nm,0.9s,SNR=18
IZUN S **S** 22 11 18.8 +1.0
SNR=7.9
IELO Elcoad 6.08 16 P **P** 22 09 55.5 +1.5
comp=Z,815nm,0.7s,SNR=7.9
IELO S **S** 22 11 17.8 -0.5
comp=Z,2μm,1.3s,SNR=7.9
IELO ScS **ScS** 22 21 38.2 -1.5
SNR=7.9
IUSE Utxeti 6.11 13 P **P** 22 09 56.0 +1.7
comp=Z,33nm,0.2s,SNR=7.9
IUSE S **S** 22 11 21.7 +2.9
SNR=7.9
PGAV Gavieira, Arco 6.18 325 *i* P **P** 22 09 55.4 +0.4
PGAV *eS* **S** 22 11 17.0 -3.0
PGAV A A 22 11 26.0
comp=Z,144nm,0.8s
ELAN Lanestosa 6.22 0 P **P** 22 09 56.2 +1.1
comp=Z,2μm,0.8s,SNR=680
ELAN S **S** 22 11 19.5 -0.7
comp=Z,6μm,1.2s,SNR=7.9
ELAN ScS **ScS** 22 21 39.6 0.0
SNR=7.9
ELAN Lanestosa 6.22 0 P **P** 22 09 56.2 +1.1
ELAN S **S** 22 11 19.5 -0.7
ELAN Lanestosa 6.22 0 P **P** 22 09 56.2 +1.1
ELAN S **S** 22 11 19.5 -0.7
EMIR Miracle 6.24 37 P **P** 22 09 56.3 +0.8
comp=Z,3μm,0.7s,SNR=1234
EMIR S **S** 22 11 19.8 -1.0
comp=Z,12μm,2.3s,SNR=5.8
EMIR ScS **ScS** 22 21 37.6 -2.3
SNR=7.9
EMIR Miracle 6.24 37 P **P** 22 09 56.3 +0.8
EMIR S **S** 22 11 19.8 -1.0
EMIR Miracle 6.24 37 P **P** 22 09 56.3 +0.8
EMIR S **S** 22 11 19.8 -1.0
ETSF Etsaut 6.30 20 ⇑*eP* **P** 22 09 57.3 +1.4
ETSF ⇓*iS* **S** 22 11 20.9 -0.8
ETSF Etsaut 6.30 20 ⇑*eP* **P** 22 09 57.3 +1.4
ETSF *iS* **S** 22 11 20.9 -0.8
ETSF Etsaut 6.30 20 P **P** 22 09 57.3 +1.4
ETSF S **S** 22 11 20.9 -0.8
ETSF Etsaut 6.30 20 ⇑*eP* **P** 22 09 57.3 +1.4
ETSF *iS* **S** 22 11 20.9 -0.8
ETSF Etsaut 6.30 20 ⇑*eP* **P** 22 09 57.3 +1.4
ETSF *iS* **S** 22 11 20.9 -0.8
LARF Larrau 6.32 17 P **P** 22 09 57.6 +1.6
LARF S **S** 22 11 24.0 +2.0
ELIZ Elizondo 6.33 13 P **P** 22 09 57.4 +1.3
ELIZ S **S** 22 11 22.5 +0.5
ELIZ Elizondo 6.33 13 P **P** 22 09 57.4 +1.3
comp=Z,491nm,0.6s,SNR=264
ELIZ S **S** 22 11 22.5 +0.5
comp=Z,3μm,1.6s

ELIZ Elizondo 6.33 13 P **P** 22 09 57.4 +1.3
ELIZ S **S** 22 11 22.5 +0.5
ELIZ Elizondo 6.33 13 P **P** 22 09 57.4 +1.3
ELIZ S **S** 22 11 22.5 +0.5
SJPF Ste Jean 6.34 15 ⇑*eP* **P** 22 09 57.7 +1.5
SJPF ⇓*iS* **S** 22 11 23.0 +0.8
SJPF Ste Jean 6.34 15 ⇑*eP* **P** 22 09 57.7 +1.5
SJPF *iS* **S** 22 11 23.0 +0.8
SJPF Ste Jean 6.34 15 P **P** 22 09 57.7 +1.5
SJPF S **S** 22 11 23.0 +0.8
SJPF Ste Jean 6.34 15 ⇑*eP* **P** 22 09 57.7 +1.5
SJPF *iS* **S** 22 11 23.0 +0.8
SJPF Ste Jean 6.34 15 ⇑*eP* **P** 22 09 57.7 +1.5
SJPF *iS* **S** 22 11 23.0 +0.8
EALK Alkurruntz 6.39 13 P **P** 22 09 57.7 +1.2
comp=Z,305nm,0.4s,SNR=127
EALK S **S** 22 11 22.7 -0.2
comp=Z,5μm,1.7s
EALK ScS **ScS** 22 21 38.8 -1.0
SNR=7.9
EALK Alkurruntz 6.39 13 P **P** 22 09 57.7 +1.2
EALK S **S** 22 11 22.7 -0.2
EALK Alkurruntz 6.39 13 P **P** 22 09 57.7 +1.2
EALK S **S** 22 11 22.7 -0.2
EARI Arriondas 6.42 349 P **P** 22 09 57.9 +0.9
comp=Z,2μm,0.8s,SNR=937
EARI S **S** 22 11 24.5 +0.9
comp=Z,10μm,2.3s,SNR=7.9
EARI ScS **ScS** 22 21 40.5 +0.5
SNR=7.9
EARI Arriondas 6.42 349 P **P** 22 09 57.9 +0.9
EARI S **S** 22 11 24.5 +0.9
EARI Arriondas 6.42 349 P **P** 22 09 57.9 +0.9
EARI S **S** 22 11 24.5 +0.9
CSOR Sort 6.43 32 P **P** 22 09 58.1 +1.0
comp=Z,2μm,0.6s,SNR=1524
CSOR S **S** 22 11 22.5 -1.4
comp=Z,19μm,2.0s
CSOR ScS **ScS** 22 21 36.9 -3.3
SNR=7.9
CSOR Sort 6.43 32 P **P** 22 09 58.1 +1.0
CSOR S **S** 22 11 22.5 -1.4
CSOR Sort 6.43 32 P **P** 22 09 58.1 +1.0
CSOR S **S** 22 11 22.5 -1.4
ATE Arette 6.43 18 P **P** 22 09 58.6 +1.6
comp=Z,782nm,0.3s,SNR=7.9
ATE S **S** 22 11 23.4 -0.3
comp=Z,7μm,1.7s,SNR=7.9
ATE ScS **ScS** 22 21 37.6 -2.4
SNR=7.9
ATE Arette 6.43 18 P **P** 22 09 58.6 +1.6
ATE S **S** 22 11 24.7 +1.0
ATE Arette 6.43 18 P **P** 22 09 58.6 +1.6
ATE S **S** 22 11 23.4 -0.3
ATE Arette 6.43 18 P **P** 22 09 58.6 +1.6
ATE S **S** 22 11 23.4 -0.3
VIEF Viey 6.46 24 P **P** 22 09 58.6 +1.3
VIEF S **S** 22 11 25.1 +0.9
VIEF Viey 6.46 24 P **P** 22 09 58.6 +1.3
OSSF Osses 6.47 15 P **P** 22 09 58.4 +1.1
OSSF Osses 6.47 15 P **P** 22 09 58.4 +1.1
ORDF Ordiarp 6.50 17 P **P** 22 09 58.7 +1.2
ORDF S **S** 22 11 25.6 +0.9
ORDF Ordiarp 6.50 17 P **P** 22 09 58.7 +1.2
REYF Montagne du Re 6.50 20 P **P** 22 09 59.2 +1.5
CFON Fontmartina 6.59 42 P **P** 22 09 59.2 +0.7
comp=Z,893nm,0.3s,SNR=1151
CFON S **S** 22 11 25.6 -0.9
comp=Z,10μm,2.5s
CFON ScS **ScS** 22 21 38.0 -2.4
SNR=7.9
CFON Fontmartina 6.59 42 P **P** 22 09 59.2 +0.7
CFON S **S** 22 11 25.6 -0.9
CFON Fontmartina 6.59 42 P **P** 22 09 59.2 +0.7
CFON S **S** 22 11 25.6 -0.9
LABF Labassere 6.62 23 P **P** 22 10 00.2 +1.5
LABF S **S** 22 11 27.6 +0.9
EPF Esparros 6.69 25 ⇑*eP* **P** 22 10 00.8 +1.5
EPF ⇓*iS* **S** 22 11 28.1 +0.2
EPF Esparros 6.69 25 ⇑*eP* **P** 22 10 00.8 +1.5
EPF *iS* **S** 22 11 28.1 +0.2
EPF Esparros 6.69 25 P **P** 22 10 00.8 +1.5
EPF S **S** 22 11 28.1 +0.2
EPF Esparros 6.69 25 ⇑*eP* **P** 22 10 00.8 +1.5
EPF *iS* **S** 22 11 28.1 +0.2
EPF Esparros 6.69 25 ⇑*eP* **P** 22 10 00.8 +1.5
EPF *iS* **S** 22 11 28.1 +0.2
MELF Melles 6.70 28 P **P** 22 10 01.0 +1.6
MELF Melles 6.70 28 P **P** 22 10 01.0 +1.6
MAHO Mahon 6.72 62 ⇑P **P** 22 10 00.6 +1.0
MAHO S **S** 22 11 28.5 +0.2
MAHO Mahon 6.72 62 *iP* **P** 22 10 00.6 +1.0
MAHO *i* S **S** 22 11 28.5 +0.2
EAGO Agolada(Pontev 6.79 330 P **P** 22 10 00.6 +0.5
comp=Z,1μm,0.5s,SNR=7.9
EAGO S **S** 22 11 28.2 -1.2
comp=Z,22μm,3.6s,SNR=7.9
EAGO ScS **ScS** 22 21 40.0 -0.5
SNR=7.9
EAGO Agolada(Pontev 6.79 330 P **P** 22 10 00.6 +0.5
comp=Z,1μm,0.5s,SNR=7.9
EAGO S **S** 22 11 28.2 -1.2
comp=Z,22μm,3.6s,SNR=7.9
OUK Oukaimeden 6.83 213 P **P** 22 10 03.0 +1.8
OUK S **S** 22 11 32.0 +1.1
OUK Oukaimeden 6.83 213 *i* P **P** 22 10 03.0 +1.8
OUK *i* S **S** 22 11 32.0 +1.1
VALF Valcebollere 6.85 36 P **P** 22 10 02.0 +1.1
VALF S **S** 22 11 32.5 +1.8
VALF Valcebollere 6.85 36 P **P** 22 10 02.0 +1.1
CLLI Llivia 6.89 36 P **P** 22 10 02.2 +1.0
comp=Z,1μm,0.8s,SNR=924
CLLI S **S** 22 11 30.1 -1.2
comp=Z,11μm,2.4s
CLLI ScS **ScS** 22 21 38.3 -2.6
SNR=7.9
CLLI Llivia 6.89 36 P **P** 22 10 02.2 +1.0
CLLI S **S** 22 11 30.1 -1.2
CLLI Llivia 6.89 36 P **P** 22 10 02.2 +1.0
CLLI S **S** 22 11 30.1 -1.2
EPON Pontenova 6.91 337 P **P** 22 10 01.8 +0.6
comp=Z,641nm,0.6s,SNR=186
EPON S **S** 22 11 28.6 -2.7
comp=Z,2μm,1.6s,SNR=7.9
EPON ScS **ScS** 22 21 39.9 -0.7
SNR=7.9
EPON Pontenova 6.91 337 P **P** 22 10 01.8 +0.6
EPON S **S** 22 11 28.6 -2.7
comp=Z,2μm,1.6s,SNR=7.9
EPON Pontenova 6.91 337 P **P** 22 10 01.8 +0.6
EPON S **S** 22 11 28.6 -2.7
CIA Chichaoua 6.97 220 P **P** 22 10 03.5 +1.5
CIA S **S** 22 11 34.0 +1.4
CIA Chichaoua 6.97 220 *i* P **P** 22 10 03.5 +1.5
CIA *eS* **S** 22 11 34.0 +1.4
STS Santiago 7.05 328 P **P** 22 10 02.7 +0.3
STS S **S** 22 11 32.5 -1.0
STS Santiago 7.05 328 P **P** 22 10 02.7 +0.3
comp=Z,364nm,0.5s,SNR=7.9
STS S **S** 22 11 32.5 -1.0
comp=Z,522nm,0.8s,SNR=7.9
STS Santiago 7.05 328 P **P** 22 10 02.7 +0.3
STS S **S** 22 11 32.5 -1.0
STS Santiago 7.05 328 P **P** 22 10 02.7 +0.3
STS S **S** 22 11 32.5 -1.0
CARF Carcanieres 7.13 35 P **P** 22 10 04.5 +1.2
CARF S **S** 22 11 36.7 +1.5
CARF Carcanieres 7.13 35 P **P** 22 10 04.5 +1.2
SET Setif 7.18 94 P **P** 22 10 05.5 +1.6
SET Setif 7.18 94 P **P** 22 10 05.5 +1.6
SET Setif 7.18 94 P **P** 22 10 05.5 +1.6
FILF Fillols 7.23 38 P **P** 22 10 04.4 +0.2
FILF Fillols 7.23 38 P **P** 22 10 04.4 +0.2
EMAZ Mazaricos 7.28 326 P **P** 22 10 04.5 0.0
comp=Z,905nm,0.6s,SNR=7.9
EMAZ S **S** 22 11 36.7 -0.7
comp=Z,12μm,2.7s,SNR=7.9
EMAZ ScS **ScS** 22 21 39.6 -1.5
SNR=7.9
EMAZ Mazaricos 7.28 326 P **P** 22 10 04.5 0.0
EMAZ S **S** 22 11 36.7 -0.7
EMAZ Mazaricos 7.28 326 P **P** 22 10 04.5 0.0
EMAZ S **S** 22 11 36.7 -0.7

CKHR **Kef el Ahmar** 7.31 95 P P 22 10 05.6 +0.5
CKHR **Kef el Ahmar** 7.31 95 P P 22 10 05.6 +0.5
CKHR **Kef el Ahmar** 7.31 95 P P 22 10 05.6 +0.5
EJON **La Jonquera** 7.32 40 P P 22 10 05.5 +0.6
comp=Z,668nm,0.7s,SNR=224
EJON S S 22 11 37.2 -0.9
comp=Z,25µm,3.6s,SNR=7.9
EJON ScS ScS 22 21 40.0 -1.2
SNR=7.9
EJON **La Jonquera** 7.32 40 P P 22 10 05.5 +0.6
EJON S S 22 11 37.2 -0.9
EJON **La Jonquera** 7.32 40 P P 22 10 05.5 +0.6
EJON S S 22 11 37.2 -0.9
SJAF **Saint Jean de** 7.34 40 P P 22 10 05.7 +0.6
comp=Z,1µm,0.6s,SNR=7.9
SJAF S S 22 11 37.6 -0.8
comp=Z,4µm,2.2s,SNR=7.9
SJAF ScS ScS 22 21 38.8 -2.4
SNR=7.9
SJAF **Saint Jean de** 7.34 40 P P 22 10 05.7 +0.6
SJAF **Saint Jean de** 7.34 40 P P 22 10 05.7 +0.6
SJAF S S 22 11 37.6 -0.8
SJAF **Saint Jean de** 7.34 40 P P 22 10 05.7 +0.6
SJAF S S 22 11 37.6 -0.8
LRDF **Laroque-de-Fa** 7.51 36 P P 22 10 07.5 +0.9
LRDF **Laroque-de-Fa** 7.51 36 P P 22 10 07.5 +0.9
DFRA **Djebel Bou Aff** 7.52 91 P P 22 10 08.2 +1.2
DFRA **Djebel Bou Aff** 7.52 91 P P 22 10 08.2 +1.2
DFRA **Djebel Bou Aff** 7.52 91 P P 22 10 08.2 +1.2
MTLF **Montolieu** 7.68 33⇑*iP* P 22 10 08.5 +0.3
MTLF **Montolieu** 7.68 33⇑*iP* P 22 10 08.5 +0.3
MTLF **Montolieu** 7.68 33 P P 22 10 08.5 +0.3
MTLF **Montolieu** 7.68 33⇑*iP* P 22 10 08.5 +0.3
MTLF **Montolieu** 7.68 33⇑*iP* P 22 10 08.5 +0.3
CTEI **Djebel Teioual** 8.01 94 P P 22 10 12.0 +0.4
CTEI **Djebel Teioual** 8.01 94 P P 22 10 12.0 +0.4
CTEI **Djebel Teioual** 8.01 94 P P 22 10 12.0 +0.4
CASM **Ain Smara** 8.05 92 P P 22 10 13.7 +1.9
CASM **Ain Smara** 8.05 92 P P 22 10 13.7 +1.9
CASM **Ain Smara** 8.05 92 P P 22 10 13.7 +1.9
AFS **Agadir Fac de** 8.27 219 P P 22 10 19.0 +5.1
AFS S S 22 11 57.0 +2.7
CAEH **'Ain El Ouahch** 8.28 88 P P 22 10 14.4 +0.5
CAEH **'Ain El Ouahch** 8.28 88 P P 22 10 14.4 +0.5
CAEH **'Ain El Ouahch** 8.28 88 P P 22 10 14.4 +0.5
LFF **La Frestale** 8.54 21⇓*iP* P 22 10 17.2 +1.1
LFF **La Frestale** 8.54 21⇓*iP* P 22 10 17.2 +1.1
LFF **La Frestale** 8.54 21 P P 22 10 17.2 +1.1
LFF **La Frestale** 8.54 21⇓*iP* P 22 10 17.2 +1.1
LFF **La Frestale** 8.54 21⇓*iP* P 22 10 17.2 +1.1
YBT **Youssef Ben Ta** 8.73 217 P P 22 10 20.0 +1.6
YBT S S 22 12 05.0 +2.6
YBT **Youssef Ben Ta** 8.73 217 *iP* P 22 10 20.0 +1.6
YBT *iS* S 22 12 05.0 +2.6
CMAH **Djebel Manchou** 8.75 89 P P 22 10 18.0 -0.4
CMAH **Djebel Manchou** 8.75 89 P P 22 10 18.0 -0.4
CMAH **Djebel Manchou** 8.75 89 P P 22 10 18.0 -0.4
ABSA **Djebel Ababsia** 8.84 91 P P 22 10 19.0 -0.3
ABSA **Djebel Ababsia** 8.84 91 P P 22 10 19.0 -0.3
CABS **Djebel Ababsia** 8.84 91 P P 22 10 19.0 -0.3
LASF **Ste Croix** 9.00 36⇓*iP* P 22 10 21.3 +0.7
LASF **Ste Croix** 9.00 36 P P 22 10 21.3 +0.7
LASF **Ste Croix** 9.00 36⇓*iP* P 22 10 21.3 +0.7
LASF **Ste Croix** 9.00 36⇓*iP* P 22 10 21.3 +0.7
RJF **Les Rejaudoux** 9.10 23⇓*iP* P 22 10 21.8 +0.3
RJF ⇓*iS* S 22 12 08.3 -0.2
RJF *eR*
comp=Z,4µm,16.5s
RJF **Les Rejaudoux** 9.10 23⇓*iP* P 22 10 21.8 +0.3
RJF *iS* S 22 12 08.3 -0.2
RJF **Les Rejaudoux** 9.10 23 P P 22 10 21.8 +0.3
RJF S S 22 12 08.3 -0.2
RJF **Les Rejaudoux** 9.10 23⇓*iP* P 22 10 21.8 +0.3
RJF *iS* S 22 12 08.3 -0.2
RJF **Les Rejaudoux** 9.10 23⇓*iP* P 22 10 21.8 +0.3
RJF *iS* S 22 12 08.3 -0.2
LBL **Lubilhac** 9.65 30 P P 22 10 28.6 +1.6
SMRF **Simiane la Rot** 9.79 42⇓*iP* P 22 10 29.4 +1.1
SMRF *eS* S 22 12 19.1 -1.7
SMRF *eSn* x 22 12 44.6
comp=Z,1µm,1.4s
SMRF **Simiane la Rot** 9.79 42 P P 22 10 29.4 +1.1
SMRF S S 22 12 19.1 -1.7
SMRF **Simiane la Rot** 9.79 42⇓*iP* P 22 10 29.4 +1.1
SMRF *eS* S 22 12 19.1 -1.7
SMRF **Simiane la Rot** 9.79 42⇓*iP* P 22 10 29.4 +1.1
SMRF *eS* S 22 12 19.1 -1.7
SMRF *eSn* x 22 12 44.6
LCHF **La Chataignera** 9.87 11 P P 22 10 29.8 +0.9
LCHF S S 22 12 23.9 +1.9
LCHF **La Chataignera** 9.87 11 P P 22 10 29.8 +0.9
LMR **La Mourre** 9.91 47 *eP* P 22 10 29.8 +0.4
LMR *eS* S 22 12 22.0 -0.9
LMR *eSn* x 22 12 44.2
comp=Z,2µm,1.7s
LMR **La Mourre** 9.91 47 *eP* P 22 10 29.8 +0.4
LMR *eS* S 22 12 22.0 -0.9
LMR **La Mourre** 9.91 47 P P 22 10 29.8 +0.4
LMR S S 22 12 22.0 -0.9
LMR **La Mourre** 9.91 47 *eP* P 22 10 29.8 +0.4
LMR *eS* S 22 12 22.0 -0.9
LMR **La Mourre** 9.91 47 *eP* P 22 10 29.8 +0.4
LMR *eS* S 22 12 22.0 -0.9
PYM **Petit Puy Mans** 10.00 27 P P 22 10 32.2 +1.9
FRF **La Foret Royal** 10.13 47⇓*iP* P 22 10 31.9 +0.4
FRF **La Foret Royal** 10.13 47⇓*iP* P 22 10 31.9 +0.4
FRF **La Foret Royal** 10.13 47 P P 22 10 31.9 +0.4
FRF **La Foret Royal** 10.13 47⇓*iP* P 22 10 31.9 +0.4
FRF **La Foret Royal** 10.13 47⇓*iP* P 22 10 31.9 +0.4
TCF **Toulx Ste Croi** 10.20 23⇓*iP* P 22 10 32.4 +0.2
TCF **Toulx Ste Croi** 10.20 23⇓*iP* P 22 10 32.4 +0.2
TCF **Toulx Ste Croi** 10.20 23 P P 22 10 32.4 +0.2
TCF **Toulx Ste Croi** 10.20 23⇓*iP* P 22 10 32.4 +0.2
TCF **Toulx Ste Croi** 10.20 23⇓*iP* P 22 10 32.4 +0.2
SSB **Saint Sauveur** 10.23 34⇓*iP* P 22 10 33.0 +0.4
SSB *eS* S 22 12 30.4 +1.7
SSB pmax pmax
comp=Z,424nm,0.6s
SSB **Saint Sauveur** 10.23 34 P P 22 10 33.1 +0.4
SSB **Saint Sauveur** 10.23 34⇓*iP* P 22 10 33.0 +0.4
comp=Z,424nm,0.6s
SSB *eS* S 22 12 30.4 +1.7
SSB **Saint Sauveur** 10.23 34⇓*iP* P 22 10 33.0 +0.4
comp=Z,424nm,0.6s
SSB *eS* S 22 12 30.4 +1.7
AGO **Saint Agoulin** 10.30 27 P P 22 10 34.9 +1.7
CALN **Calern** 10.38 46 P P 22 10 34.2 0.0
CALN **Calern** 10.38 46 P P 22 10 34.2 0.0
VSL **Villasalto** 10.41 72 *eP* P 22 10 34.9 +0.5
VSL *eS* S 22 12 27.4 -4.6
VSL **Villasalto** 10.41 72 *eP* P 22 10 34.9 +0.5
VSL *eS* S 22 12 27.4 -4.6
VSL *eScP* ScP 22 18 11.3 +0.2
VSL *eScS* ScS 22 21 50.2 +4.0
PLDF **La Plantade** 10.41 28 P P 22 10 36.0 +1.6
PLDF **La Plantade** 10.41 28 P P 22 10 36.0 +1.6
KEST **Kesra** 10.42 93 P P 22 10 34.2 -0.4
comp=Z,53nm,0.3s,baz=206,slow=3.2,SNR=552
KEST S S 22 12 33.5 +1.1
comp=Z,9.6nm,0.3s,baz=303,slow=23,SNR=16
KEST **Kesra** 10.42 93 *eP* P 22 10 34.2 -0.4
KEST *eS* S 22 12 27.0 -5.3
KEST **Kesra** 10.42 93 *eP* P 22 10 34.2 -0.4
KEST *eS* S 22 12 27.0 -5.3
MVIF **Mont Vial** 10.62 46 P P 22 10 36.8 +0.2
MVIF **Mont Vial** 10.62 46 P P 22 10 36.8 +0.2
REVF **Revere** 10.65 48 P P 22 10 36.9 +0.1
REVF **Revere** 10.65 48 P P 22 10 36.9 +0.1
LUCF **Luceram** 10.73 47 P P 22 10 38.0 +0.4
LUCF **Luceram** 10.73 47 P P 22 10 38.0 +0.4
TOUF **Mont Tournerai** 10.75 46 P P 22 10 38.4 +0.5
TOUF **Mont Tournerai** 10.75 46 P P 22 10 38.4 +0.5
GRN **Grenoble** 10.77 37 P P 22 10 39.1 +1.2
GRN **Grenoble** 10.77 37 P P 22 10 39.1 +1.2
SURF **Saint Ours** 10.79 43 P P 22 10 39.5 +1.2
SURF **Saint Ours** 10.79 43 P P 22 10 39.5 +1.2
AUTN **L'Aution** 10.84 47 P P 22 10 39.0 +0.2
AUTN **L'Aution** 10.84 47 P P 22 10 39.0 +0.2
QUIF **Quistinic** 10.90 1⇑*iP* P 22 10 38.8 -0.3
QUIF **Quistinic** 10.90 1⇑*iP* P 22 10 38.8 -0.3
QUIF **Quistinic** 10.90 1 P P 22 10 38.8 -0.3
QUIF **Quistinic** 10.90 1⇑*iP* P 22 10 38.8 -0.3
SAOF **Saorge** 10.91 47 P P 22 10 39.5 +0.2
SAOF **Saorge** 10.91 47 P P 22 10 39.5 +0.2
GDM **Grand'Maison** 10.92 38 P P 22 10 40.4 +0.9
GDM S S 22 12 42.3 +1.2
GDM **Grand'Maison** 10.92 38 P P 22 10 40.4 +0.9
PGF **Pioggiola** 11.08 56⇓*iP* P 22 10 40.8 -0.2
PGF **Pioggiola** 11.08 56⇓*iP* P 22 10 40.8 -0.2
PGF **Pioggiola** 11.08 56 P P 22 10 40.8 -0.2
PGF **Pioggiola** 11.08 56⇓*iP* P 22 10 40.8 -0.2
PGF **Pioggiola** 11.08 56⇓*iP* P 22 10 40.8 -0.2
BNI **Bardonecchia** 11.10 40 *eP* P 22 10 42.5 +1.2
BNI *eS* S 22 12 40.8 -3.5
BNI **Bardonecchia** 11.10 40 *eP* P 22 10 42.5 +1.2
BNI *eS* S 22 12 40.8 -3.5
BNI **Bardonecchia** 11.10 40 *eP* P 22 10 42.5 +1.2
BNI *eS* S 22 12 40.8 -3.5
BNI *eScS* ScS 22 21 52.6 +4.9
HYF **Humbligny** 11.21 22⇓*iP* P 22 10 42.6 +0.5
HYF **Humbligny** 11.21 22 P P 22 10 42.6 +0.5
HYF **Humbligny** 11.21 22⇓*iP* P 22 10 42.6 +0.5
HYF **Humbligny** 11.21 22⇓*iP* P 22 10 42.6 +0.5
SGMF **Saint Gilles** 11.26 3⇑*iP* P 22 10 42.7 +0.1
SGMF **Saint Gilles** 11.26 3⇑*iP* P 22 10 42.7 +0.1
SGMF **Saint Gilles** 11.26 3 P P 22 10 42.7 +0.1
SGMF **Saint Gilles** 11.26 3⇑*iP* P 22 10 42.7 +0.1
SGMF **Saint Gilles** 11.26 3⇑*iP* P 22 10 42.7 +0.1
SSF **Saint Saulge** 11.30 25⇓*iP* P 22 10 43.6 +0.6
SSF **Saint Saulge** 11.30 25⇓*iP* P 22 10 43.6 +0.6
SSF **Saint Saulge** 11.30 25 P P 22 10 43.6 +0.6
SSF **Saint Saulge** 11.30 25⇓*iP* P 22 10 43.6 +0.6
SSF **Saint Saulge** 11.30 25⇓*iP* P 22 10 43.6 +0.6
ROSF **Rostrenen** 11.32 1⇑*iP* P 22 10 43.0 -0.2
ROSF **Rostrenen** 11.32 1⇑*iP* P 22 10 43.0 -0.2
ROSF **Rostrenen** 11.32 1 P P 22 10 43.0 -0.2
ROSF **Rostrenen** 11.32 1⇑*iP* P 22 10 43.0 -0.2
ROSF **Rostrenen** 11.32 1⇑*iP* P 22 10 43.0 -0.2
EFAM **Famara** 11.52 230 P P 22 10 45.4 -0.1
comp=Z,17µm,1.9s,SNR=7.9
EFAM S S 22 12 51.6 -0.3
comp=Z,69µm,3.6s,SNR=7.9
EFAM ScS ScS 22 21 50.7 +1.9
SNR=7.9
EFAM **Famara** 11.52 230 P P 22 10 45.4 -0.1
EFAM S S 22 12 51.6 -0.3
EFAM **Famara** 11.52 230 P P 22 10 45.4 -0.1
EFAM S S 22 12 51.6 -0.3
LOR **Lormes** 11.60 26⇓*iP* P 22 10 46.4 +0.4
baz=207
LOR **Lormes** 11.60 26⇓*iP* P 22 10 46.4 +0.4
LOR **Lormes** 11.60 26 P P 22 10 46.4 +0.4
LOR **Lormes** 11.60 26⇓*iP* P 22 10 46.4 +0.4
LOR **Lormes** 11.60 26⇓*iP* P 22 10 46.4 +0.4
LDF **La Druitiere** 11.84 11⇓*iP* P 22 10 48.2 0.0
LDF **La Druitiere** 11.84 11⇓*iP* P 22 10 48.2 0.0
LDF **La Druitiere** 11.84 11⇓*iP* P 22 10 48.2 0.0
LDF **La Druitiere** 11.84 11⇓*iP* P 22 10 48.2 0.0
EMV **Vieux Emosson** 11.92 37⇓*iP* P 22 10 49.9 +0.6
comp=Z,956nm,0.6s
EMV **Vieux Emosson** 11.92 37⇓*iP* P 22 10 49.9 +0.6
comp=Z,956nm,0.6s
CABF **La Chapelle** 11.95 34⇓*iP* P 22 10 49.8 +0.4
CABF **La Chapelle** 11.95 34⇓*iP* P 22 10 49.8 +0.4
CABF **La Chapelle** 11.95 34 P P 22 10 49.8 +0.4
CABF **La Chapelle** 11.95 34⇓*iP* P 22 10 49.8 +0.4
CABF **La Chapelle** 11.95 34⇓*iP* P 22 10 49.8 +0.4
FLN **La Foliniere** 11.95 10 *eP* P 22 10 49.2 -0.1
baz=197
FLN *eR*
comp=Z,4µm,22.2s
FLN **La Foliniere** 11.95 10 *eP* P 22 10 49.2 -0.1
FLN **La Foliniere** 11.95 10 P P 22 10 49.2 -0.1
FLN **La Foliniere** 11.95 10 *eP* P 22 10 49.2 -0.1
FLN **La Foliniere** 11.95 10 *eP* P 22 10 49.2 -0.1
GIMEL **St. Georges /** 11.97 34⇓*iP* P 22 10 50.0 +0.4
comp=Z,1µm,0.8s
GIMEL **St. Georges /** 11.97 34⇓*iP* P 22 10 50.0 +0.4
comp=Z,1µm,0.8s
SALAN **Lac Salanfe** 12.01 37⇓*iP* P 22 10 50.7 +0.5
comp=Z,2µm,1.0s
SALAN **Lac Salanfe** 12.01 37⇓*iP* P 22 10 50.7 +0.5
comp=Z,8µm,1.0s
CFUE **Fuerteventura** 12.11 230 P P 22 10 51.0 -0.2
comp=Z,8µm,1.7s,SNR=7.9
CFUE S S 22 13 04.7 +2.3
comp=Z,26µm,4.0s,SNR=7.9
CFUE ScS ScS 22 21 51.0 +0.9
SNR=7.9
CFUE **Fuerteventura** 12.11 230 P P 22 10 51.0 -0.2
comp=Z,8µm,1.7s,SNR=7.9
CFUE S S 22 13 04.7 +2.3
comp=Z,26µm,4.0s,SNR=7.9
AIGLE **Aigle** 12.14 37⇓*iP* P 22 10 51.6 +0.3
comp=Z,3µm,0.9s
AIGLE **Aigle** 12.14 37⇓*iP* P 22 10 51.6 +0.3
comp=Z,3µm,0.9s
GRYON **Gryon** 12.15 37⇓*iP* P 22 10 51.8 +0.3
comp=Z,2µm,1.0s
GRYON **Gryon** 12.15 37⇓*iP* P 22 10 51.8 +0.3
comp=Z,2µm,1.0s
JSA **Saint Aubin** 12.21 4⇑*eP* P 22 10 51.6 -0.2
JSA **Saint Aubin** 12.21 4⇑*eP* P 22 10 51.6 -0.2
SENIN **Lac Senin/Sane** 12.33 37⇓*iP* P 22 10 53.5 +0.3
comp=Z,907nm,0.7s
SENIN **Lac Senin/Sane** 12.33 37⇓*iP* P 22 10 53.5 +0.3
comp=Z,907nm,0.7s
SENIN *eS* S 22 13 07.8 +1.7
SENIN **Lac Senin/Sane** 12.33 37 *eP* P 22 10 53.6 +0.3
SENIN *eS* S 22 13 07.8 +1.7
BRANT **Les Verrieres** 12.37 34⇓*iP* P 22 10 53.6 +0.1
comp=Z,2µm,1.0s
BRANT **Les Verrieres** 12.37 34⇓*iP* P 22 10 53.6 +0.1
comp=Z,2µm,1.0s
CFTV **Fuerteventura** 12.37 229 P P 22 10 53.2 -0.6
comp=Z,488nm,1.0s,SNR=7.9
CFTV S S 22 13 05.9 -1.1
comp=Z,8µm,2.4s,SNR=7.9
CFTV **Fuerteventura** 12.37 229 P P 22 10 53.2 -0.6
CFTV S S 22 13 05.9 -1.1
CFTV **Fuerteventura** 12.37 229 P P 22 10 53.2 -0.6
CFTV S S 22 13 05.9 -1.1
MMK **Mattmark** 12.44 40⇓*iP* P 22 10 54.5 +0.1
comp=Z,3µm,1.0s
MMK **Mattmark** 12.44 40⇓*iP* P 22 10 54.5 +0.1
comp=Z,3µm,1.0s
TORNY **Torny/Romont** 12.46 35⇓*iP* P 22 10 55.2 +0.8
comp=Z,2µm,0.5s
TORNY **Torny/Romont** 12.46 35⇓*iP* P 22 10 55.2 +0.8
comp=Z,2µm,0.5s
LKBD **Leukerbad** 12.50 38⇓*iP* P 22 10 55.3 +0.4
comp=Z,3µm,1.1s
LKBD **Leukerbad** 12.50 38⇓*iP* P 22 10 55.3 +0.4
comp=Z,3µm,1.1s
WIMIS **Wimmis** 12.70 37⇓*iP* P 22 10 56.9 +0.2
comp=Z,2µm,0.9s
WIMIS **Wimmis** 12.70 37⇓*iP* P 22 10 56.9 +0.2
comp=Z,2µm,0.9s
VLC **Villacollemand** 12.72 52 *eP* P 22 10 55.6 -1.3
VLC *eS* S 22 13 08.2 -4.6
VLC **Villacollemand** 12.72 52 *eP* P 22 10 55.6 -1.3
VLC *eS* S 22 13 08.2 -4.6
VLC *eScS* ScS 22 21 53.1 +2.0
SFTF **Sexfontaines** 12.82 27⇓*iP* P 22 10 58.1 +0.4
baz=201
SFTF **Sexfontaines** 12.82 27 P P 22 10 58.1 +0.4
SFTF **Sexfontaines** 12.82 27⇓*iP* P 22 10 58.1 +0.4
SFTF **Sexfontaines** 12.82 27⇓*iP* P 22 10 58.1 +0.4
LOMF **Lomont** 12.84 33 P P 22 10 57.7 -0.4
LOMF **Lomont** 12.84 33 P P 22 10 57.7 -0.4
MUGIO **Muggio** 12.93 43⇓*iP* P 22 10 58.4 -0.5
comp=Z,3µm,0.5s
MUGIO **Muggio** 12.93 43⇓*iP* P 22 10 58.4 -0.5
comp=Z,3µm,0.5s
HASLI **Hasliberg/Brie** 13.02 38⇓*iP* P 22 10 59.7 -0.2
comp=Z,2µm,0.7s
HASLI **Hasliberg/Brie** 13.02 38⇓*iP* P 22 10 59.7 -0.2
comp=Z,2µm,0.7s
BOURR **Bourrignon** 13.05 34⇓*iP* P 22 10 59.9 -0.2
comp=Z,2µm,1.1s
BOURR **Bourrignon** 13.05 34⇓*iP* P 22 10 59.9 -0.2
comp=Z,2µm,1.1s
FUSIO **Fusio** 13.07 40⇓*iP* P 22 11 00.6 +0.2
comp=Z,6µm,1.5s
FUSIO **Fusio** 13.07 40⇓*iP* P 22 11 00.6 +0.2
comp=Z,6µm,1.5s
THEF **They Montfort** 13.19 29 P P 22 11 01.4 0.0
THEF **They Montfort** 13.19 29 P P 22 11 01.4 0.0
BALST **Balsthal** 13.22 35⇓*iP* P 22 11 01.5 -0.3
comp=Z,3µm,0.9s
BALST **Balsthal** 13.22 35⇓*iP* P 22 11 01.5 -0.3
comp=Z,3µm,0.9s
BBS **Basel-Blauen** 13.23 34 P P 22 11 01.6 -0.2
CCA1 **Carnmenellis** 13.23 355 *eP* P 22 11 01.7 -0.1
CCA1 AMB AMB 22 11 05.1
comp=Z,449nm,0.9s
CCA1 **Carnmenellis** 13.23 355 *eP* P 22 11 01.7 -0.1
BNALP **Bannalp** 13.24 38⇓*iP* P 22 11 01.9 -0.1
comp=Z,3µm,1.4s
BNALP **Bannalp** 13.24 38⇓*iP* P 22 11 01.9 -0.1
comp=Z,3µm,1.4s
CLTB **Caltabellotta** 13.31 83 *eP* P 22 11 02.7 -0.1
CLTB *eS* S 22 13 15.7 -7.6
CLTB **Caltabellotta** 13.31 83 *eP* P 22 11 02.7 -0.1
CLTB *eS* S 22 13 15.7 -7.6
CLTB *eScP* ScP 22 18 17.2 +1.6
MOF **Molkenrain** 13.36 32 P P 22 11 02.7 -0.5
MOF **Molkenrain** 13.36 32 P P 22 11 02.7 -0.5
PAGF **Fort de Pagny** 13.36 27⇓*iP* P 22 11 03.5 +0.4
PAGF **Fort de Pagny** 13.36 27⇓*iP* P 22 11 03.5 +0.4
PAGF **Fort de Pagny** 13.36 27⇓*iP* P 22 11 03.5 +0.4
MUO **Muotathal** 13.41 38⇓*iP* P 22 11 03.6 -0.2
comp=Z,2µm,0.5s
MUO **Muotathal** 13.41 38⇓*iP* P 22 11 03.6 -0.2
comp=Z,2µm,0.5s
DYA **Yadsworthy** 13.43 359 *eP* P 22 11 03.2 -0.5
DYA AMB AMB 22 11 06.0
comp=Z,527nm,1.8s
DYA **Yadsworthy** 13.43 359 *eP* P 22 11 03.5 -0.1
DYA *eScP* ScP 22 18 14.9 -0.5
DYA **Yadsworthy** 13.43 359 *eP* P 22 11 03.5 -0.1
DYA *eScP* ScP 22 18 14.9 -0.5
TUE **Stuetta** 13.44 41 *eP* P 22 11 03.3 -0.8
TUE *eS* S 22 13 23.5 -2.1
TUE **Stuetta** 13.44 41 *eP* P 22 11 03.4 -0.8
TUE *eS* S 22 13 23.5 -2.1
VDL **Val di Lei** 13.50 41⇓*iP* P 22 11 04.1 -0.6
comp=Z,3µm,0.5s
LLS **Linth-Limmern** 13.51 39⇓*iP* P 22 11 04.4 -0.4
comp=Z,2µm,0.5s
LLS **Linth-Limmern** 13.51 39⇓*iP* P 22 11 04.4 -0.4
comp=Z,2µm,0.5s
EOSO **Osorio** 13.52 232 P P 22 11 04.0 -1.1
comp=Z,2µm,1.0s,SNR=7.9
EOSO S S 22 13 28.0 +0.7
comp=Z,20µm,3.8s,SNR=7.9
EOSO ScS ScS 22 21 55.0 +1.5
SNR=7.9
EOSO **Osorio** 13.52 232 P P 22 11 04.0 -1.1
EOSO S S 22 13 28.0 +0.7
EOSO **Osorio** 13.52 232 P P 22 11 04.0 -1.1
EOSO S S 22 13 28.0 +0.7
SULZ **Cheisacher** 13.55 36⇓*iP* P 22 11 04.6 -0.4
comp=Z,2µm,0.6s
SULZ **Cheisacher** 13.55 36⇓*iP* P 22 11 04.6 -0.4
comp=Z,2µm,0.6s
ECH **Echery** 13.65 32 P P 22 11 05.5 -0.4
ECH **Echery** 13.65 32 P P 22 11 05.5 -0.4
ZUR **Degenried** 13.66 37⇓*iP* P 22 11 05.7 -0.4
comp=Z,3µm,0.6s
ZUR **Degenried** 13.66 37⇓*iP* P 22 11 05.7 -0.4
comp=Z,3µm,0.6s
EBAJ **Bajamar** 13.72 236 P P 22 11 05.1 -1.8
comp=Z,298nm,0.7s,SNR=7.9
EBAJ S S 22 13 31.6 +1.1
comp=Z,29µm,2.3s,SNR=7.9
EBAJ **Bajamar** 13.72 236 P P 22 11 05.1 -1.8
EBAJ S S 22 13 31.6 +1.1
EBAJ **Bajamar** 13.72 236 P P 22 11 05.1 -1.8
EBAJ S S 22 13 31.6 +1.1
FELD **Feldberg im Sc** 13.76 34 P P 22 11 07.6 +0.5
BERNI **Berninapass** 13.77 43⇓*iP* P 22 11 06.9 -0.4
comp=Z,3µm,0.5s
BERNI **Berninapass** 13.77 43⇓*iP* P 22 11 06.9 -0.4
comp=Z,3µm,0.5s
LIBD **Limburg** 13.79 33 P P 22 11 06.8 -0.4
FLACH **Flaach** 13.80 36⇓*iP* P 22 11 07.0 -0.4
comp=Z,4µm,0.9s
FLACH **Flaach** 13.80 36⇓*iP* P 22 11 07.0 -0.4
comp=Z,4µm,0.9s
PLONS **Plons/SG** 13.84 40⇓*iP* P 22 11 07.0 -0.8
comp=Z,1µm,0.6s
PLONS **Plons/SG** 13.84 40⇓*iP* P 22 11 07.0 -0.8
comp=Z,1µm,0.6s
WILA **Wila** 13.85 37⇓*iP* P 22 11 07.5 -0.4
comp=Z,5µm,0.9s
WILA **Wila** 13.85 37⇓*iP* P 22 11 07.5 -0.4
comp=Z,5µm,0.9s
SLE **Schleitheim** 13.90 36⇓*iP* P 22 11 07.8 -0.6
comp=Z,4µm,1.1s
SLE **Schleitheim** 13.90 36⇓*iP* P 22 11 07.8 -0.6
comp=Z,4µm,1.1s
TRULL **Truellikon** 13.91 36⇓*iP* P 22 11 07.9 -0.5
comp=Z,5µm,1.0s
TRULL **Truellikon** 13.91 36⇓*iP* P 22 11 07.9 -0.5
comp=Z,5µm,1.0s
DAVOX **Davos/Dischmat** 13.92 41⇓*iP* P 22 11 08.2 -0.6
comp=Z,2µm,0.8s
DAVOX **Davos/Dischmat** 13.92 41 P P 22 11 08.2 -0.6
baz=219,slow=8.6
DAVOX S S 22 13 34.0 +0.3
comp=Z,16nm,0.3s,baz=35,slow=15,SNR=9.4
DAVOX ScP ScP 22 18 16.4 -0.3
comp=Z,3.6nm,0.3s,baz=166,slow=9.6,SNR=5.7
DAVOX ScS ScS 22 21 53.9 -0.3
comp=Z,1.1nm,0.3s,baz=91,slow=21,SNR=33
WEIN **Weingarten** 13.97 37⇓*iP* P 22 11 08.6 -0.4
comp=Z,9µm,1.5s
WEIN **Weingarten** 13.97 37⇓*iP* P 22 11 08.6 -0.4
comp=Z,9µm,1.5s
HTL **Hartland** 14.00 357 *eP* P 22 11 09.3 +0.1
HTL AMB AMB 22 11 11.5
comp=Z,696nm,0.7s
HTL **Hartland** 14.00 357 *eP* P 22 11 09.3 +0.1
STEIN **Stein am Rhein** 14.01 37⇓*iP* P 22 11 09.0 -0.4
comp=Z,4µm,0.8s
STEIN **Stein am Rhein** 14.01 37⇓*iP* P 22 11 09.0 -0.4
comp=Z,4µm,0.8s
FUORN **Ofenpass-Fuorn** 14.03 42⇓*iP* P 22 11 09.2 -0.6
comp=Z,6µm,2.0s
FUORN **Ofenpass-Fuorn** 14.03 42 *eP* P 22 11 09.2 -0.6
FUORN *eS* S 22 13 32.8 -2.8
FUORN **Ofenpass-Fuorn** 14.03 42 *eP* P 22 11 09.2 -0.6
FUORN *eS* S 22 13 32.8 -2.8
FUORN *eScS* ScS 22 21 51.1 -3.5
AQU **L'Aquila** 14.05 62 *eP* P 22 11 10.5 +0.6
AQU *eS* S 22 13 34.1 -1.6
AQU **L'Aquila** 14.05 62 *eP* P 22 11 10.5 +0.6
AQU *eS* S 22 13 34.1 -1.6
AQU **L'Aquila** 14.05 62 *eP* P 22 11 10.5 +0.6
AQU *eS* S 22 13 34.1 -1.6
HEX **Exmoor** 14.06 359⇑*eP* P 22 11 09.5 -0.2
HEX **Exmoor** 14.06 359⇑*eP* P 22 11 09.5 -0.2
CRAJ **Montana Rajada** 14.07 235 P P 22 11 09.2 -1.4
comp=Z,2µm,1.0s,SNR=7.9
CRAJ S S 22 13 37.5 +0.6
comp=Z,37µm,2.8s,SNR=7.9
CICO **Icod de los Vi** 14.10 236 P P 22 11 10.5 -0.1
comp=Z,23nm,0.5s,SNR=7.9
CICO S S 22 13 37.7 +0.7
comp=Z,24nm,0.8s,SNR=7.9
CICO **Icod de los Vi** 14.10 236 P P 22 11 10.5 -0.1
comp=Z,23nm,0.5s,SNR=7.9
CCAN **Las Canadas** 14.10 235 P P 22 11 10.5 -0.3
comp=Z,2µm,1.0s,SNR=7.9
CCAN S S 22 13 37.6 +0.2
comp=Z,6µm,2.2s,SNR=7.9
CCAN **Las Canadas** 14.10 235 P P 22 11 10.5 -0.3
CCAN S S 22 13 37.6 +0.2
CCAN **Las Canadas** 14.10 235 P P 22 11 10.5 -0.3
CCAN S S 22 13 37.6 +0.2
HMNX **Herstmonceux** 14.12 10 *eP* P 22 11 11.1 +0.8
HMNX AMB AMB 22 11 13.0
comp=Z,3µm,2.5s
HMNX **Herstmonceux** 14.12 10 *eP* P 22 11 11.1 +0.8
STR **Strasbourg** 14.19 32 P P 22 11 11.1 +0.1
STR **Strasbourg** 14.19 32 P P 22 11 11.1 +0.1
BFO **Black Forest** 14.24 34 *eP* P 22 11 11.1 -0.5
comp=Z,848nm,1.1s

BFO	**Black Forest**	14.24	34	*e*P		P		22 11 09.9	-1.7
BFO	**Black Forest**	14.24	34	*e*P		P		22 11 11.1	-0.5
	comp=Z,848nm,1.1s								
BFO	**Black Forest**	14.24	34	*e*P		P		22 11 09.9	-1.7
DAVA	**Damuels**	14.25	40	*i* P		P		22 11 10.8	-1.0
	comp=Z,1µm,0.7s,SNR=638								
DAVA	**Damuels**	14.25	40	P		P		22 11 10.8	-1.0
	comp=Z,1µm,0.7s,SNR=638								
SPAK	**Spaichingen-Ko**	14.28	35	P		P		22 11 11.7	-0.3
DOU	**Dourbes**	14.32	21	P		P		22 11 12.3	0.0
DOU	**Dourbes**	14.32	21	SCP		ScP		22 18 16.7	-0.3
DOU	**Dourbes**	14.32	21	P		P		22 11 12.2	0.0
WOL	**Wolverton**	14.39	6	*e*P		P		22 11 13.1	+0.3
WOL				AMB		AMB		22 11 16.1	
	comp=Z,2µm,1.6s								
WOL	**Wolverton**	14.39	6	*e*P		P		22 11 13.1	+0.3
WLF	**Walferdange**	14.44	26	P		P		22 11 13.5	+0.1
WLF				SCP		ScP		22 18 18.2	+1.0
WLF	**Walferdange**	14.44	26	*e*P		P		22 11 14.3	+0.9
	comp=Z,3µm,0.9s								
WLF	**Walferdange**	14.44	26	*e*P		P		22 11 13.0	-0.4
WLF	**Walferdange**	14.44	26	P		P		22 11 13.4	+0.1
WLF	**Walferdange**	14.44	26	*e*P		P		22 11 13.0	-0.4
BATH	**Bath**	14.46	3	*e*P		P		22 11 13.9	+0.5
BATH				AMB		AMB		22 11 15.5	
	comp=Z,2µm,2.4s								
BATH	**Bath**	14.46	3	*e*P		P		22 11 13.9	+0.5
ELSH	**Elham, Standar**	14.52	12	*e*P		P		22 11 14.7	+0.8
ELSH				AMB		AMB		22 11 16.6	
	comp=Z,3µm,1.4s								
ELSH	**Elham, Standar**	14.52	12	P		P		22 11 14.7	+0.8
	SNR=1.0								
LANF	**Langenberg**	14.52	31	P		P		22 11 14.3	+0.2
LANF	**Langenberg**	14.52	31	P		P		22 11 14.3	+0.2
FETA	**Feichten**	14.52	42	*i* P		P		22 11 13.5	-0.8
	comp=Z,3µm,0.6s,SNR=1630								
FETA	**Feichten**	14.52	42	P		P		22 11 13.5	-0.8
	comp=Z,3µm,0.6s,SNR=1000								
WDD	**Wield Dalam**	14.54	89	*e*P		P		22 11 15.1	+0.7
WDD				*e*ScP		ScP		22 18 17.5	-0.1
WDD	**Wield Dalam**	14.54	89	*e*P		P		22 11 15.1	+0.7
WDD				*e*ScP		ScP		22 18 17.5	-0.1
EGOM	**La Gomera**	14.54	237	P		P		22 11 14.9	+0.3
	comp=Z,4µm,1.4s,SNR=7.9								
EGOM				S		S		22 13 45.4	+1.3
	comp=Z,6µm,3.2s,SNR=7.9								
EGOM	**La Gomera**	14.54	237	P		P		22 11 14.9	+0.3
EGOM				S		S		22 13 45.4	+1.3
EGOM	**La Gomera**	14.54	237	P		P		22 11 14.9	+0.3
EGOM				S		S		22 13 45.4	+1.3
SWN1	**Swindon**	14.55	4⇑	*e*P		P		22 11 14.9	+0.6
SWN1				AMB		AMB		22 11 16.7	
	comp=Z,2µm,1.7s								
SWN1	**Swindon**	14.55	4⇑	*e*P		P		22 11 14.9	+0.6
SNF	**Seneffe**	14.60	20	P		P		22 11 14.5	-0.3
SNF				SCP		ScP		22 18 16.2	-1.2
SNF	**Seneffe**	14.60	20	P		P		22 11 14.4	-0.3
OLDB	**Oldbury-Upon-S**	14.67	2	*e*P		P		22 11 15.9	+0.6
OLDB				AMB		AMB		22 11 18.8	
	comp=Z,1µm,1.7s								
OLDB	**Oldbury-Upon-S**	14.67	2	*e*P		P		22 11 15.9	+0.6
EHIG	**Higuera**	14.69	239	P		P		22 11 16.4	+0.3
	comp=Z,5µm,1.4s,SNR=7.9								
EHIG				S		S		22 13 47.2	+0.5
	comp=Z,10µm,2.4s,SNR=7.9								
EHIG	**Higuera**	14.69	239	P		P		22 11 16.4	+0.3
EHIG				S		S		22 13 47.2	+0.5
EHIG	**Higuera**	14.69	239	P		P		22 11 16.4	+0.3
EHIG				S		S		22 13 47.2	+0.5
STRD	**Stroud**	14.80	3	*e*P		P		22 11 16.9	+0.4
STRD				AMB		AMB		22 11 19.0	
	comp=Z,2µm,0.7s								
STRD	**Stroud**	14.80	3	*e*P		P		22 11 16.9	+0.4
RUP	**Ruppelstein**	14.80	28	P		P		22 11 17.0	+0.3
	SNR=1.0								
BCLA	**Clavier**	14.82	22	P		P		22 11 16.5	-0.2
	comp=Z,885nm,1.6s								
BCLA				SCP		ScP		22 18 17.4	-0.4
BCLA	**Clavier**	14.82	22	P		P		22 11 16.5	-0.2
	comp=Z,885nm,1.6s								
RETA	**Reutte**	14.84	41	*i* P		P		22 11 16.1	-1.0
	comp=Z,2µm,1.1s,SNR=1022								
RETA	**Reutte**	14.84	41	P		P		22 11 16.1	-1.0
	comp=Z,2µm,1.1s,SNR=1000								
MONM	**Monmouth**	14.84	2	*e*P		P		22 11 17.3	+0.5
MONM				AMB		AMB		22 11 19.4	
	comp=Z,1µm,2.0s								
MONM	**Monmouth**	14.84	2	*e*P		P		22 11 17.3	+0.5
UCC	**Uccle**	14.88	20	P		P		22 11 17.3	0.0
UCC				SCP		ScP		22 18 18.1	+0.1
UCC	**Uccle**	14.88	20	*e*P		P		22 11 17.1	-0.2
UCC				*e*S		S		22 13 44.1	-4.8
UCC	**Uccle**	14.88	20	*e*P		P		22 11 17.1	-0.2
UCC				*e*S		S		22 13 44.1	-4.8
UCC	**Uccle**	14.88	20	*e*P		P		22 11 17.1	-0.2
UCC				*e*S		S		22 13 44.0	-4.8
KTD	**Kalmit**	14.90	31	P		P		22 11 17.6	+0.1
	SNR=1.0								
MOTA	**Moosalm**	14.93	42	*i* P		P		22 11 16.8	-1.2
	comp=Z,2µm,1.2s,SNR=897								
MOTA	**Moosalm**	14.93	42	P		P		22 11 16.8	-1.2
	comp=Z,2µm,1.2s,SNR=897								
STU	**Stuttgart**	14.96	34	*e*P		P		22 11 17.8	-0.2
	comp=Z,1µm,0.7s								
STU	**Stuttgart**	14.96	34	*e*P		P		22 11 17.2	-0.8
STU	**Stuttgart**	14.96	34	*e*P		P		22 11 17.8	-0.2
	comp=Z,1µm,0.7s								
STU				*e*ScP		ScP		22 18 18.5	+0.3
STU	**Stuttgart**	14.96	34	*e*P		P		22 11 17.2	-0.8
STU				*e*ScP		ScP		22 18 18.5	+0.3
MCH1	**Michaelchurch**	14.99	1⇑	*e*P		P		22 11 18.4	+0.1
MCH1				AMB		AMB		22 11 20.8	
	comp=Z,1µm,1.5s								
MCH1	**Michaelchurch**	14.99	1⇑	*e*P		P		22 11 18.4	+0.1
LPW	**Lampeter**	15.11	359	*e*P		P		22 11 19.1	-0.2
LPW				AMB		AMB		22 11 22.1	
	comp=Z,2µm,1.9s								
LPW	**Lampeter**	15.11	359	*e*P		P		22 11 19.1	-0.2
ABH	**Aiteburg**	15.13	28	P		P		22 11 20.3	+0.7
WTTA	**Wattenberg**	15.16	43	*i* P		P		22 11 19.2	-1.0
	comp=Z,4µm,1.3s,SNR=1157								
WTTA	**Wattenberg**	15.16	43	P		P		22 11 19.2	-1.0
	comp=Z,4µm,1.2s,SNR=1000								
WATA	**Walderalm**	15.17	42	*i* P		P		22 11 19.0	-1.2
	comp=Z,5µm,1.3s,SNR=652								
WATA	**Walderalm**	15.17	42	P		P		22 11 19.0	-1.2
	comp=Z,5µm,1.3s,SNR=652								
MEM	**Membach**	15.20	24	P		P		22 11 20.1	0.0
MEM				SCP		ScP		22 18 18.4	-0.2
MEM	**Membach**	15.20	24	*e*P		P		22 11 20.2	0.0
MEM				pmax		pmax			
	comp=Z,2µm,1.4s								
MEM	**Membach**	15.20	24	*e*P		P		22 11 20.2	0.0
	comp=Z,2µm,1.4s								
MEM	**Membach**	15.20	24	*e*P		P		22 11 20.2	0.0
	comp=Z,2µm,1.4s								
BEBN	**Eben Emael**	15.26	23	P		P		22 11 20.7	-0.1
BEBN				SCP		ScP		22 18 18.6	-0.1
BEBN	**Eben Emael**	15.26	23	P		P		22 11 20.6	-0.1
HGN	**Heimansgroeve**	15.31	23	*e*P		P		22 11 21.3	+0.1
	comp=Z,2µm,1.6s								
HGN				*e*S		S		22 13 57.5	+1.6
HGN				*e*ScP		ScP		22 18 18.9	+0.1
CHIE	**El Hierro**	15.33	237	P		P		22 11 21.9	+0.2
	comp=Z,522nm,0.8s,SNR=7.9								
CHIE				S		S		22 13 58.1	+1.2
	comp=Z,626nm,1.6s,SNR=7.9								
CHIE	**El Hierro**	15.33	237	P		P		22 11 21.9	+0.2
CHIE				S		S		22 13 58.1	+1.2
CHIE	**El Hierro**	15.33	237	P		P		22 11 21.9	+0.2
CHIE				S		S		22 13 58.1	+1.2
ABTA	**Abfaltersbach**	15.35	46	*i*P		P		22 11 21.4	-0.4
	comp=Z,3µm,0.7s,SNR=1677								
ABTA	**Abfaltersbach**	15.35	46	P		P		22 11 21.4	-0.4
	comp=Z,3µm,0.7s,SNR=1000								
CUC	**Castrocucco**	15.40	73	*e*P		P		22 11 22.3	0.0
	comp=Z,3µm,1.1s								
CUC	**Castrocucco**	15.40	73	*e*P		P		22 11 22.3	0.0
	comp=Z,3µm,1.1s								
CUC				*e*ScS		ScS		22 21 59.3	+1.2
CEL	**Celeste**	15.40	79	*e*P		P		22 11 20.8	-1.5
	comp=Z,904nm,0.8s								
CEL	**Celeste**	15.40	79	*e*P		P		22 11 20.8	-1.5
	comp=Z,904nm,0.8s								
CEL				*e*ScS		ScS		22 21 55.2	-2.9
TOD	**Tromm**	15.41	31	P		P		22 11 22.8	+0.6
HLM1	**Long Mynd**	15.52	1⇑	*e*P		P		22 11 23.0	-0.1
HLM1				AMB		AMB		22 11 25.0	
	comp=Z,484nm,0.9s								
HLM1	**Long Mynd**	15.52	1	P		P		22 11 23.0	-0.1
	SNR=1.0								
FUR	**Furstenfeldbru**	15.54	40	*e*P		P		22 11 23.2	-0.2
	comp=Z,1µm,0.8s								
FUR	**Furstenfeldbru**	15.54	40	P		P		22 11 23.2	-0.2
	comp=Z,1µm,0.8s,SNR=1.0								
TRI	**Trieste**	15.57	51	*e*P		P		22 11 23.3	-0.3
TRI				pmax		pmax			
	comp=Z,4µm,1.0s								
TRI	**Trieste**	15.57	51	*e*P		P		22 11 23.3	-0.3
	comp=Z,4µm,1.0s								
TRI	**Trieste**	15.57	51	*e*P		P		22 11 23.3	-0.3
	comp=Z,4µm,1.0s								
SKDS	**Skadanscina**	15.65	52	*e*P		P		22 11 24.2	-0.2
SKDS				*e*S		S		22 14 01.3	-0.4
SKDS				*e*ScP		ScP		22 18 19.8	+0.2
SKDS				*e*ScS		ScS		22 21 59.0	+0.5
SKDS	**Skadanscina**	15.65	52	*e*P		P		22 11 24.2	-0.2
SKDS				*e*S		S		22 14 01.3	-0.4
ROBS	**Robic**	15.67	49	*i* P		P		22 11 24.5	-0.1
ROBS	**Robic**	15.67	49	*i* P		P		22 11 24.5	-0.1
VAL	**Valentia**	15.68	344⇑	*i*P		P		22 11 24.4	-0.1
VAL	**Valentia**	15.68	344⇓	*i*S		S		22 14 00.0	-1.8
VAL	**Valentia**	15.68	344⇓	*i*S		S		22 14 00.0	-1.8
TNS	**Taunus Mts**	15.75	29	*e*P		P		22 11 25.7	+0.4
	comp=Z,1µm,0.6s								
TNS	**Taunus Mts**	15.75	29	P		P		22 11 25.7	+0.4
	comp=Z,1µm,0.6s,SNR=1.0								
NVLJ	**Novalja**	15.79	56	*i* P		P		22 11 24.8	-0.9
NVLJ	**Novalja**	15.79	56	*i* P		P		22 11 24.8	-0.9
VOJS	**Vojsko**	15.79	50	*e*P		P		22 11 25.9	+0.2
VOJS	**Vojsko**	15.79	50	*e*P		P		22 11 26.0	+0.2
CADS	**Cadrg**	15.80	49	*i* P		P		22 11 25.7	-0.1
CADS				*i* S		S		22 14 04.0	-0.2
CADS				*e*ScP		ScP		22 18 21.0	+1.1
CADS				*e*ScS		ScS		22 21 59.7	+0.8
CADS	**Cadrg**	15.80	49	*i* P		P		22 11 25.7	-0.1
CADS				*i* S		S		22 14 04.0	-0.2
CDT	**Castel del Mon**	15.87	69	*e*P		P		22 11 25.4	-1.1
FOEL	**Foel Wylfa**	15.88	1	*e*P		P		22 11 26.5	+0.1
FOEL	**Foel Wylfa**	15.88	1	P		P		22 11 26.5	+0.1
	SNR=1.0								
MYKA	**Terra Mystica**	15.95	48	*i* P		P		22 11 27.2	0.0
	comp=Z,3µm,1.2s,SNR=839								
MYKA	**Terra Mystica**	15.95	48	P		P		22 11 27.2	0.0
	comp=Z,3µm,1.2s,SNR=839								
YRE	**Yr Eifl**	15.99	358⇑	*e*P		P		22 11 27.5	+0.2
YRE	**Yr Eifl**	15.99	358⇑	*e*P		P		22 11 27.5	+0.2
KBA	**Koelnbreinsper**	16.01	46⇓	*i*P		P		22 11 27.2	-0.7
	comp=Z,2µm,1.2s,SNR=599								
KBA	**Koelnbreinsper**	16.01	46	P		P		22 11 27.2	-0.7
	comp=Z,2µm,1.2s,SNR=599								
RJOB	**Jochberg**	16.08	43	*e*P		P		22 11 27.8	-0.5
	comp=Z,5µm,0.5s								
RJOB	**Jochberg**	16.08	43	P		P		22 11 27.8	-0.5
	comp=Z,5µm,0.5s,SNR=1.0								
TIP	**Timpagrande**	16.08	76	*e*P		P		22 11 26.3	-2.2
	comp=Z,490nm,0.7s								
TIP	**Timpagrande**	16.08	76	*e*P		P		22 11 26.3	-2.2
	comp=Z,490nm,0.7s								
TIP				*e*ScS		ScS		22 21 56.5	-3.6
STNC	**Stoke**	16.11	3	*e*P		P		22 11 28.6	+0.2
STNC	**Stoke**	16.11	3	P		P		22 11 28.6	+0.2
	SNR=1.0								
YLL	**Llanberis**	16.14	358	*e*P		P		22 11 28.8	+0.1
YLL	**Llanberis**	16.14	358	P		P		22 11 28.8	+0.1
	SNR=1.0								
SG1	**Sgolgore (BA)**	16.14	70	*e*P		P		22 11 28.7	-0.3
LJU	**Ljubljana**	16.20	51	*e*P		P		22 11 29.5	+0.1
LJU				*e*S		S		22 14 10.2	-0.4
LJU				*e*ScS		ScS		22 22 00.1	+0.1
LJU	**Ljubljana**	16.20	51	*e*P		P		22 11 29.5	+0.1
LJU				*e*S		S		22 14 10.2	-0.4
WPM1	**Penmaenmawr**	16.25	359	*e*P		P		22 11 29.3	-0.4
WPM1	**Penmaenmawr**	16.25	359	P		P		22 11 29.3	-0.4
	SNR=1.0								
YRC	**Rhoscolyn**	16.26	358⇑	*e*P		P		22 11 29.7	-0.1
YRC	**Rhoscolyn**	16.26	358	P		P		22 11 29.7	-0.1
	SNR=1.0								
MOZS	**Mozjanca**	16.26	50	*e*ScP		ScP		22 18 21.7	+0.9
WLF1	**Llynfaes**	16.30	358	*e*P		P		22 11 29.6	-0.5
WLF1				AMB		AMB		22 11 32.7	
	comp=Z,202nm,0.9s								
WLF1	**Llynfaes**	16.30	358	P		P		22 11 29.6	-0.5
	SNR=1.0								
KBI1	**Birley Grange**	16.30	4⇑	*e*P		P		22 11 30.4	+0.2
KBI1	**Birley Grange**	16.30	4⇑	*e*P		P		22 11 30.4	+0.2
BAI	**Bari**	16.33	69	*e*P		P		22 11 30.1	-0.5
BUG	**Bochum--Univer**	16.33	25	*e*P		P		22 11 31.3	+0.9
	comp=Z,725nm,1.3s								
BUG	**Bochum--Univer**	16.33	25	*e*P		P		22 11 31.3	+0.9
	comp=Z,725nm,1.3s								
DSB	**Dublin**	16.36	354	*e*P		P		22 11 30.1	-0.7
	comp=Z,320nm,0.7s								
DSB	**Dublin**	16.36	354	*e*P		P		22 11 30.1	-0.7
	comp=Z,320nm,0.7s								
UDBI	**Udbina**	16.38	57	*i* P		P		22 11 31.2	0.0
UDBI	**Udbina**	16.38	57	*i* P		P		22 11 31.2	0.0
WME	**Myndd Eilian**	16.40	358	*e*P		P		22 11 30.9	-0.2
WME	**Myndd Eilian**	16.40	358	P		P		22 11 30.9	-0.2
	SNR=1.0								
OBKA	**Obir**	16.43	49	⇓*i*P		P		22 11 31.7	+0.1
	comp=Z,407nm,0.6s,SNR=114								
OBKA	**Obir**	16.43	49	P		P		22 11 31.7	+0.1
	comp=Z,407nm,0.6s,SNR=114								
PDKS	**Podkum**	16.50	51	*e*P		P		22 11 32.4	+0.2
PDKS				*e*S		S		22 14 14.0	-1.6
PDKS				*e*ScS		ScS		22 22 01.1	+0.2
PDKS				*e*				22 23 30.9	
PDKS	**Podkum**	16.50	51	*e*P		P		22 11 32.3	+0.2
PDKS				*e*S		S		22 14 14.0	-1.6
GRFO	**Grafenberg**	16.54	35	*e*P		P		22 11 32.3	-0.2
GRFO				pmax		pmax			
	comp=Z,1µm,0.6s								
GRFO	**Grafenberg**	16.54	35	*e*P		P		22 11 32.3	-0.2
	comp=Z,1µm,0.6s								
GRFO	**Grafenberg**	16.54	35	*e*P		P		22 11 32.2	-0.2
	comp=Z,1µm,0.6s								
GRA1	**Grafenberg Arr**	16.54	35	*e*P		P		22 11 32.8	+0.3
	comp=Z,652nm,0.9s								
GRF	**Grafenberg Arr**	16.54	35	*e*P		P		22 11 32.8	+0.3
	comp=Z,652nm,0.9s								
LHO	**Holmfirth**	16.58	3⇑	*e*P		P		22 11 33.2	+0.5
LHO	**Holmfirth**	16.58	3⇑	*e*P		P		22 11 33.2	+0.5
WTSB	**Winterswijk**	16.63	23	*e*P		P		22 11 34.0	+0.8
	comp=Z,1µm,1.3s								
WTSB				*e*X				22 11 48.2	
WTSB				*e*S		S		22 14 17.6	+0.2
WTSB				*e*ScP		ScP		22 18 21.7	+0.4
WTSB				*e*ScS		ScS		22 22 03.8	+2.9
WTSB	**Winterswijk**	16.63	23	*e*P		P		22 11 34.0	+0.8
	comp=Z,1µm,1.3s								
WTSB				S		S		22 14 17.6	+0.2
	SNR=1.0								
WTSB				*e*ScS		ScS		22 22 03.8	+2.9
PE1	**Pezze di Greco**	16.70	70	*e*P		P		22 11 34.1	+0.1
SOKA	**Soboth**	16.80	49	*i* P		P		22 11 35.0	0.0
	comp=Z,481nm,0.7s,SNR=300								
SOKA	**Soboth**	16.80	49	P		P		22 11 35.0	0.0
	comp=Z,481nm,0.7s,SNR=300								
PERS	**Pernice**	16.84	49	*i* P		P		22 11 35.0	-0.3
PERS				*e*ScP		ScP		22 18 22.9	+0.9
PERS				*e*ScS		ScS		22 22 00.8	-1.2
PERS				*e*				22 22 36.8	
PERS				*e*				22 23 21.2	
PERS	**Pernice**	16.84	49	*i* P		P		22 11 35.0	-0.3
UBBA	**Unterbreizbach**	16.84	31	*e*P		P		22 11 35.3	+0.3
	comp=Z,120nm,0.6s								
UBBA	**Unterbreizbach**	16.84	31	*e*P		P		22 11 35.3	+0.3
	comp=Z,120nm,0.6s								
MOA	**Molln**	16.96	45	*i* P		P		22 11 35.3	-1.0
	comp=Z,989nm,0.8s,SNR=637								
MOA	**Molln**	16.96	45	P		P		22 11 35.3	-1.0
	comp=Z,989nm,0.8s,SNR=637								
WET	**Wettzell**	16.98	39	*e*P		P		22 11 36.4	-0.1
	comp=Z,386nm,0.7s								
WET	**Wettzell**	16.98	39	*e*P		P		22 11 36.4	-0.1
	comp=Z,386nm,0.7s								
HPK	**Haverah Park**	17.00	4	*e*P		P		22 11 36.9	+0.3
HPK				AMB		AMB		22 11 40.5	
	comp=Z,336nm,0.6s								
HPK	**Haverah Park**	17.00	4	*e*P		P		22 11 36.9	+0.3
ROTZ	**Rotzenmuhle**	17.06	37	*e*P		P		22 11 37.1	-0.1
	comp=Z,304nm,0.7s								
ROTZ	**Rotzenmuhle**	17.06	37	*e*P		P		22 11 37.1	-0.1
	comp=Z,304nm,0.7s								
SISC	**Sisak**	17.12	54	*i* P		P		22 11 38.0	+0.2
SISC	**Sisak**	17.12	54	*i* P		P		22 11 38.0	+0.2
GEC2	**GERESS Array S**	17.22	41	*e*P		P		22 11 38.9	+0.1
	comp=Z,2µm,0.6s								
GEC2	**GERESS Array S**	17.22	41	*e*P		P		22 11 38.8	0.0
GEC2	**GERESS Array S**	17.22	41	*e*P		P		22 11 38.9	+0.1
	comp=Z,2µm,0.6s								
GEC2				*e*ScP		ScP		22 18 22.9	+0.1
GEC2	**GERESS Array S**	17.22	41	*e*P		P		22 11 38.8	0.0
GEC2				*e*ScP		ScP		22 18 22.9	+0.1
GERES	**GERESS Array B**	17.22	41	P		P		22 11 38.7	-0.1
	comp=Z,514nm,0.3s,baz=233,slow=8.1,SNR=3224								
GERES				S		S		22 14 26.8	-0.6
	comp=Z,12nm,0.3s,baz=222,slow=12,SNR=14								
GERES				ScP		ScP		22 18 22.7	-0.1
	comp=Z,2.0nm,0.3s,baz=215,slow=1.6,SNR=23								
GERES				P3KPbc				22 46 10.2	
	comp=Z,0.1nm,0.3s,baz=50,slow=4.2,SNR=11								
GERES				P3KP				22 46 41.7	
	baz=78,slow=1.4,SNR=4.1								
IBBN	**Ibbenburen**	17.23	24	*e*P		P		22 11 39.6	+1.0
	comp=Z,438nm,0.8s								
IBBN	**Ibbenburen**	17.23	24	*e*P		P		22 11 39.6	+1.0
	comp=Z,438nm,0.8s								
PSMN	**Pico do Norte,**	17.25	277	*e*P		P		22 11 38.4	-0.7
	comp=Z,467nm,0.4s								
PSMN				*e*ScP		ScP		22 18 23.5	+0.5
PSMN	**Pico do Norte,**	17.25	277	*e*P		P		22 11 38.4	-0.7
	comp=Z,467nm,0.4s								
STON	**Ston**	17.25	64	*i* P		P		22 11 37.1	-1.9
BART	**Pico Bartolome**	17.26	279	*e*P		P		22 11 38.3	-1.0
	comp=Z,261nm,0.6s								
BART				*e*ScP		ScP		22 18 23.3	+0.2
BART	**Pico Bartolome**	17.26	279	*e*P		P		22 11 38.3	-1.0
	comp=Z,261nm,0.6s								
PSMA	**Santa Maria**	17.30	276	*e*P		P		22 11 38.9	-0.7
	comp=Z,470nm,0.6s								
PSMA				*e*ScP		ScP		22 18 24.2	+1.2
KHC	**Kasperske Hory**	17.33	40	⇓*i*P		P		22 11 39.1	-0.6
KHC				*e*S		S		22 14 21.7	-7.3
KHC	**Kasperske Hory**	17.33	40	⇓*i*P		P		22 11 39.1	-0.6
KHC				*ex*		x		22 11 41.3	
KHC				*ex*		x		22 14 21.7	
KHC				*e*SCP		ScP		22 18 22.1	-0.8
KHC				*e*SCS		ScS		22 22 00.5	-2.8
KHC	**Kasperske Hory**	17.33	40	*e*P		P		22 11 39.1	-0.6
	comp=Z,1µm,0.9s								
KHC	**Kasperske Hory**	17.33	40	*e*P		P		22 11 39.1	-0.6
	comp=Z,1µm,0.9s								
ARSA	**Arzberg**	17.37	48	*i* P		P		22 11 38.5	-1.6
	comp=Z,290nm,0.8s,SNR=166								
ARSA	**Arzberg**	17.37	48	P		P		22 11 38.5	-1.6
	comp=Z,290nm,0.8s,SNR=166								
MOX	**Moxa**	17.40	34	*e*P		P		22 11 40.7	+0.4
	comp=Z,114nm,0.8s								
MOX	**Moxa**	17.40	34	*e*P		P		22 11 40.7	+0.4
	comp=Z,114nm,0.8s								
GRON	**Grota Negra**	17.55	279	*e*P		P		22 11 40.5	-1.4
	comp=Z,340nm,0.8s								
KESW	**Keswick, Cumbr**	17.59	1	*e*P		P		22 11 42.1	+0.2
KESW				AMB		AMB		22 11 44.7	
	comp=Z,455nm,1.5s								
KESW	**Keswick, Cum

TREC				*ex*	x	22 11 51.5		
TREC				*es*P	**sP**	**22 14 24.8**	**+3.3**	
TREC				*es*	**S**	**22 14 44.3**	**-2.5**	
TREC				*es*CP	**ScP**	**22 18 25.4**	**+0.1**	
TREC				*es*CS	**ScS**	**22 22 06.6**	**-0.2**	
TREC	**Trest**	**18.44**	**42**	*i* P	**P**	**22 11 49.5**	**-0.3**	
KEK	**Kerkira**	**18.44**	**74**	P	**P**	**22 11 49.0**	**-1.0**	
KEK	**Kerkira**	**18.44**	**74**	*e*P	**PcP**	**22 15 48.5**	**+0.8**	
KEK	**Kerkira**	**18.44**	**74**	*e*P	**ScP**	**22 18 25.5**	**0.0**	
KEK	**Kerkira**	**18.44**	**74**	P	**P**	**22 11 49.0**	**-1.0**	
CLL	**Collm**	**18.49**	**34**	*e*P	**P**	**22 11 50.2**	**0.0**	
	comp=Z,121nm,0.7s							
CLL	**Collm**	**18.49**	**34**	*e*P	**P**	**22 11 50.2**	**0.0**	
CLL				pmax	pmax			
	comp=Z,2µm,1.7s							
CLL	**Collm**	**18.49**	**34**	⇓*i*P	**P**	**22 11 50.2**	**0.0**	
	comp=Z,280nm,0.8s							
CLL				*e*Pmax		22 11 51.0		
CLL				*e*Plp		22 11 52.0		
	comp=Z,2µm,23.4s							
CLL				*i*		22 11 54.0		
	comp=Z,484nm,1.1s							
CLL				*es*PP		22 14 24.0		
CLL				*es*PPP		22 14 32.0		
CLL				*e*S	**S**	**22 14 51.0**	**+3.5**	
	comp=N,9µm,23.0s							
CLL				*e*S	**S**	**22 14 51.0**	**+3.5**	
	comp=E,16µm,20.7s							
CLL				*e*S	**S**	**22 14 51.0**	**+3.5**	
	comp=Z,12µm,24.7s							
CLL				*i* ScP	**ScP**	**22 18 25.5**	**+0.2**	
	comp=Z,241nm,1.1s							
CLL				*i*		22 18 28.8		
CLL				*i* ScS	**ScS**	**22 22 06.6**	**-0.2**	
CLL				*es*ScP		22 22 40.0		
CLL	**Collm**	**18.49**	**34**	*e*P	**P**	**22 11 50.2**	**0.0**	
	comp=Z,2µm,1.7s							
CLL				*e*ScP	**ScP**	**22 18 25.5**	**+0.2**	
CLL	**Collm**	**18.49**	**34**	*e*P	**P**	**22 11 50.2**	**0.0**	
	comp=Z,2µm,1.7s							
CLL				*e*ScP	**ScP**	**22 18 25.5**	**+0.2**	
PLE	**Pljevlja**	**18.55**	**63**	⇓*i*P	**P**	**22 11 51.5**	**+0.5**	
PLE	**Pljevlja**	**18.55**	**63**	⇓*i*P	**P**	**22 11 51.5**	**+0.5**	
SRN	**Sarande**	**18.60**	**74**	P	**P**	**22 11 50.7**	**-0.7**	
SRN	**Sarande**	**18.60**	**74**	P	**P**	**22 11 50.7**	**-0.7**	
BRG	**Berggiesshubel**	**18.63**	**36**	*i* P	**P**	**22 11 51.5**	**+0.1**	
	comp=Z,580nm,1.1s							
BRG				pP		22 14 19.0		
BRG				S	S	22 14 33.0	-17	
BRG				*i* PCP	**PcP**	**22 15 48.7**	**+1.0**	
	comp=Z,275nm,1.8s							
BRG				*i* SCP	**ScP**	**22 18 26.3**	**+0.6**	
	comp=Z,204nm,1.2s							
BRG				*i* SCS	**ScS**	**22 22 07.3**	**0.0**	
	comp=Z,116nm,2.4s							
BRG	**Berggiesshubel**	**18.63**	**36**	*e*P	**P**	**22 11 51.4**	**0.0**	
	comp=Z,184nm,0.7s							
BRG	**Berggiesshubel**	**18.63**	**36**	*i* P	**P**	**22 11 51.5**	**+0.1**	
BRG				pmax	pmax			
	comp=Z,580nm,1.1s							
BRG				pmax	pmax			
	comp=N,204nm,1.2s							
BRG				MLR	MLR			
	comp=N,5µm,13.2s							
BRG				MLR	MLR			
	comp=E,10µm,11.3s							
BRG				MLR	MLR			
	comp=Z,13µm,10.2s							
BRG	**Berggiesshubel**	**18.63**	**36**	*i* P	**P**	**22 11 51.5**	**+0.1**	
	comp=Z,13µm,10.2s							
BBLS	**Lazići**	**18.68**	**61**	⇓*i*P	**P**	**22 11 52.7**	**+0.5**	
PVCC	**Panska Ves**	**18.71**	**38**	*e*P	**P**	**22 11 51.9**	**-0.3**	
PVCC				*es*	**S**	**22 14 48.3**	**-2.7**	
PVCC	**Panska Ves**	**18.71**	**38**	⇓*e*P	**P**	**22 11 51.9**	**-0.3**	
PVCC				*ex*	x	22 11 54.1		
PVCC				*ex*	x	22 14 30.7		
PVCC				*es*	**S**	**22 14 48.3**	**-2.7**	
PVCC				*es*CP	**ScP**	**22 18 26.4**	**+0.5**	
PVCC	**Panska Ves**	**18.71**	**38**	*e*P	**P**	**22 11 51.9**	**-0.3**	
PVCC				*e*S	**S**	**22 14 48.3**	**-2.7**	
PGBU	**Glenifferbraes**	**18.82**	**358**	⇑*e*P	**P**	**22 11 52.7**	**-0.4**	
BEY	**Berane**	**18.83**	**65**	⇓*i*P	**P**	**22 11 54.0**	**+0.5**	
IVA	**Berane**	**18.83**	**65**	⇓*i*P	**P**	**22 11 54.0**	**+0.5**	
PVY	**Plav**	**18.83**	**66**	⇓*i*P	**P**	**22 11 54.1**	**+0.6**	
ADH	**Angra Heroismo**	**18.83**	**282**	*e*P	**P**	**22 11 53.2**	**-0.3**	
	comp=Z,300nm,0.6s							
ADH	**Angra Heroismo**	**18.83**	**282**	*e*P	**P**	**22 11 53.2**	**-0.3**	
	comp=Z,300nm,0.6s							
IGT	**Igoumenitsa**	**18.85**	**75**	P	**P**	**22 11 53.0**	**-0.7**	
IGT	**Igoumenitsa**	**18.85**	**75**	*e*P	PcP	22 15 40.5	-7.9	
IGT	**Igoumenitsa**	**18.85**	**75**	P	**P**	**22 11 53.0**	**-0.7**	
PKSM	**Moragy**	**18.87**	**54**	⇑*i*P	**P**	**22 11 54.1**	**+0.4**	
PKSM	**Moragy**	**18.87**	**54**	⇑*i*P	**ScP**	**22 18 24.9**	**-1.4**	
PKSM	**Moragy**	**18.87**	**54**	P	**P**	**22 11 53.7**	**0.0**	
	SNR=1.0							
PKSM	**Moragy**	**18.87**	**54**	⇓*e*	**P**	**22 11 53.7**	**0.0**	
PKST	**T^'s**	**18.90**	**50**	⇓*e*P	**P**	**22 11 54.0**	**0.0**	
PKST	**T^'s**	**18.90**	**50**	⇓*e*	**P**	**22 11 54.0**	**0.0**	
ESY	**Stoneypath**	**18.93**	**1**	⇑*e*P	**P**	**22 11 53.4**	**-0.7**	
ESY				*e*P	P	22 11 54.1	+0.1	
ESY	**Stoneypath**	**18.93**	**1**	⇑*e*P	**P**	**22 11 53.4**	**-0.7**	
TEKS	**Tekeris**	**18.94**	**59**	P	**P**	**22 11 55.0**	**+0.6**	
	SNR=1.0							
VRAC	**Vranov**	**19.05**	**43**	P	**P**	**22 11 55.0**	**-0.3**	
VRAC	**Vranov**	**19.05**	**43**	⇑*i*P	**P**	**22 11 55.3**	**0.0**	
VRAC	**Vranov**	**19.05**	**43**	⇓*i*P	**ScP**	**22 18 27.5**	**+0.8**	
VRAC	**Vranov**	**19.05**	**43**	P	**P**	**22 11 55.0**	**-0.3**	
	comp=Z,84nm,0.3s,baz=242,slow=9.0,SNR=197							
VRAC				ScP	**ScP**	**22 18 26.6**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=219,slow=2.9,SNR=3.8							
VRAC				ScS	**ScS**	**22 22 10.0**	**+1.2**	
	comp=Z,0.2nm,0.3s,baz=124,slow=23,SNR=12							
VRAC	**Vranov**	**19.05**	**43**	P	**P**	**22 11 55.0**	**-0.3**	
VRAC				*es*	**S**	**22 14 55.1**	**-1.4**	
VRAC				ScP	**ScP**	**22 18 26.6**	**-0.1**	
PHP	**Peshkopia**	**19.06**	**68**	P	**P**	**22 11 55.6**	**0.0**	
PHP	**Peshkopia**	**19.06**	**68**	P	**P**	**22 11 55.6**	**0.0**	
CSKK	**Cs^ŧkako**	**19.08**	**50**	⇓*e*P	**P**	**22 11 55.5**	**-0.1**	
CSKK	**Cs^ŧkako**	**19.08**	**50**	⇓*e*	**P**	**22 11 55.5**	**-0.1**	
VLS	**Valsamata**	**19.10**	**79**	P	**P**	**22 11 55.9**	**-0.1**	
VLS	**Valsamata**	**19.10**	**79**	*e*P	**PcP**	**22 15 49.0**	**+0.1**	
VLS	**Valsamata**	**19.10**	**79**	P	**P**	**22 11 55.9**	**-0.1**	
SMOL	**Smolenice**	**19.11**	**46**	*e*P	**P**	**22 11 55.4**	**-0.5**	
SMOL				*es*	**S**	**22 14 58.5**	**+1.0**	
SMOL	**Smolenice**	**19.11**	**46**	*e*P	**P**	**22 11 55.4**	**-0.5**	
SMOL				*es*	**S**	**22 14 58.5**	**+1.0**	
SMOL	**Smolenice**	**19.11**	**46**	*e*P	**P**	**22 11 55.4**	**-0.5**	
SMOL				*es*	**S**	**22 14 58.5**	**+1.0**	
SMOL				*es*CP	**ScP**	**22 18 27.4**	**+0.5**	
IVAS	**Ivanjica**	**19.15**	**63**	*i* P	**P**	**22 11 56.7**	**+0.3**	
DIVS	**Divibare**	**19.15**	**61**	P	**P**	**22 11 56.9**	**+0.5**	
	SNR=1.0							
PKSG		**19.18**	**50**	⇓*e*P	**P**	**22 11 56.7**	**+0.2**	
PKSG		**19.18**	**50**	⇓*e*	**P**	**22 11 56.7**	**+0.2**	
EAB	**Aberfoyle**	**19.20**	**359**	⇑*e*P	**P**	**22 11 56.2**	**-0.3**	
EAB				*e*P	P	22 11 56.2	-0.2	
EAB	**Aberfoyle**	**19.20**	**359**	*e*P	**P**	**22 11 56.2**	**-0.3**	
KBN	**Korca**	**19.23**	**72**	P	**P**	**22 11 57.6**	**+0.4**	
KBN	**Korca**	**19.23**	**72**	P	**P**	**22 11 57.6**	**+0.4**	
JAN	**Janina**	**19.25**	**75**	P	**P**	**22 11 57.7**	**+0.3**	
JAN	**Janina**	**19.25**	**75**	P	**P**	**22 11 57.7**	**+0.3**	
KFL	**Anninata**	**19.26**	**79**	P	**P**	**22 11 57.6**	**+0.2**	
KFL	**Anninata**	**19.26**	**79**	P	**P**	**22 11 57.6**	**+0.2**	
FGSL	**Fruska Gora**	**19.30**	**58**	⇓*i*P	**P**	**22 11 57.8**	**+0.1**	
PKS2	**Kecel**	**19.34**	**54**	⇓*e*P	**P**	**22 11 58.3**	**+0.3**	
PKS2	**Kecel**	**19.34**	**54**	⇓*e*	**P**	**22 11 58.3**	**+0.3**	
TOPO	**Topo**	**19.37**	**282**	*e*P	**P**	**22 11 58.3**	**-0.1**	
TOPO	**Topo**	**19.37**	**282**	*e*P	**P**	**22 11 58.3**	**-0.1**	
PGRA	**Graciosa**	**19.40**	**283**	*e*P	**P**	**22 11 59.1**	**+0.5**	
	comp=Z,277nm,0.5s							
PGRA	**Graciosa**	**19.40**	**283**	*e*P	**P**	**22 11 59.1**	**+0.5**	
	comp=Z,277nm,0.5s							
UPC	**Upice**	**19.42**	**40**	⇓*i*P	**P**	**22 11 58.5**	**-0.1**	
UPC	**Upice**	**19.42**	**40**	⇓*i*P	**P**	**22 11 58.5**	**-0.1**	
UPC				*ex*	x	22 12 00.4		
UPC				*es*CP	**ScP**	**22 18 28.0**	**+0.5**	
UPC	**Upice**	**19.42**	**40**	*i* P	**P**	**22 11 58.5**	**-0.1**	
BSEG	**Bad Segeberg**	**19.44**	**25**	*e*P	**P**	**22 11 58.9**	**+0.2**	
	comp=Z,164nm,0.8s							
BSEG	**Bad Segeberg**	**19.44**	**25**	*e*P	**P**	**22 11 58.9**	**+0.2**	
	comp=Z,164nm,0.8s							
DSL	**Palaion Diasel**	**19.45**	**76**	P	**P**	**22 11 59.2**	**+0.1**	
DSL	**Palaion Diasel**	**19.45**	**76**	P	**P**	**22 11 59.2**	**+0.1**	
TRUS	**Trudelj**	**19.47**	**61**	P	**P**	**22 11 58.8**	**-0.4**	
	SNR=1.0							
DPC	**Dobruska-Polom**	**19.49**	**41**	⇓*i*P	**P**	**22 11 59.1**	**-0.2**	
DPC				*es*	**S**	**22 15 00.4**	**-3.1**	
DPC	**Dobruska-Polom**	**19.49**	**41**	⇓*i*P	**P**	**22 11 59.1**	**-0.2**	
DPC				*ex*	x	22 12 00.8		
DPC				*es*P	**sP**	**22 14 38.0**	**+4.8**	
DPC				*es*	**S**	**22 15 00.4**	**-3.1**	
DPC				*es*CP	**ScP**	**22 18 28.3**	**+0.5**	
DPC				*es*CS	**ScS**	**22 22 10.3**	**-0.1**	
DPC	**Dobruska-Polom**	**19.49**	**41**	*i* P	**P**	**22 11 59.1**	**-0.2**	
DPC				*e*S	**S**	**22 15 00.4**	**-3.1**	
DPC	**Dobruska-Polom**	**19.49**	**41**	*e*P	**P**	**22 11 58.9**	**-0.4**	
	comp=Z,4µm,1.0s							
PMAN	**Manadas**	**19.50**	**282**	*e*P	**P**	**22 11 59.7**	**+0.2**	
	comp=Z,336nm,0.7s							
PMAN				*es*CP	**ScP**	**22 18 29.4**	**+1.5**	
PMAN	**Manadas**	**19.50**	**282**	*e*P	**P**	**22 11 59.7**	**+0.2**	
	comp=Z,336nm,0.7s							
PMAN				*es*CP	**ScP**	**22 18 29.4**	**+1.5**	
PKS7	**Kunszentmiklos**	**19.52**	**52**	⇓*e*P	**P**	**22 11 59.3**	**-0.2**	
PKS7	**Kunszentmiklos**	**19.52**	**52**	⇓*e*	**P**	**22 11 59.3**	**-0.2**	
PKS7				⇓*e*		22 12 00.1		
SFD	**Strofades**	**19.52**	**82**	P	**P**	**22 12 00.6**	**+0.9**	
SFD	**Strofades**	**19.52**	**82**	*e*P	**PcP**	**22 15 48.0**	**-1.6**	
SFD	**Strofades**	**19.52**	**82**	P	**P**	**22 12 00.6**	**+0.9**	
PDO	**Prodromos**	**19.54**	**78**	P	**P**	**22 12 00.2**	**+0.3**	
PDO	**Prodromos**	**19.54**	**78**	*e*P	**PcP**	**22 15 50.0**	**+0.3**	
PDO	**Prodromos**	**19.54**	**78**	*e*P	**PcP**	**22 15 50.0**	**+0.3**	
PDO	**Prodromos**	**19.54**	**78**	P	**P**	**22 12 00.2**	**+0.3**	
EDU	**Dundee**	**19.55**	**1**	⇑*e*P	**P**	**22 11 59.2**	**-0.5**	
EDU				*e*P	P	22 11 59.9	+0.3	
EDU	**Dundee**	**19.55**	**1**	⇑*e*P	**P**	**22 11 59.2**	**-0.5**	
KRLC	**Kraliky**	**19.57**	**42**	*e*P	**P**	**22 12 00.3**	**+0.2**	
KRLC	**Kraliky**	**19.57**	**42**	⇓*e*P	**P**	**22 12 00.3**	**+0.2**	
KRLC				*ex*	x	22 12 02.2		
KRLC				*es*CP	**ScP**	**22 18 28.7**	**+0.7**	
KRLC	**Kraliky**	**19.57**	**42**	*e*P	**P**	**22 12 00.3**	**+0.2**	
VTN	**Vitineika**	**19.59**	**80**	P	**P**	**22 12 02.3**	**+2.0**	
VTN	**Vitineika**	**19.59**	**80**	P	**P**	**22 12 02.3**	**+2.0**	
BUD	**Budapest**	**19.61**	**51**	⇓*e*P	**P**	**22 12 00.2**	**-0.1**	
BUD	**Budapest**	**19.61**	**51**	⇓*e*	**P**	**22 12 00.2**	**-0.1**	
PKS6	**Bocsa**	**19.61**	**54**	⇓*e*P	**P**	**22 12 00.5**	**+0.1**	
PKS6	**Bocsa**	**19.61**	**54**	⇓*e*	**P**	**22 12 00.5**	**+0.1**	
GRUS	**Gruza**	**19.61**	**62**	P	**P**	**22 12 01.2**	**+0.7**	
	SNR=1.0							
ROSA	**Rosais**	**19.62**	**283**	*e*P	**P**	**22 12 00.6**	**0.0**	
	comp=Z,352nm,0.6s							
ROSA				*es*CP	**ScP**	**22 18 29.3**	**+1.1**	
ROSA	**Rosais**	**19.62**	**283**	*e*P	**P**	**22 12 00.6**	**0.0**	
	comp=Z,352nm,0.6s							
ROSA				*es*CP	**ScP**	**22 18 29.3**	**+1.1**	
RUE	**Ruedersdorf**	**19.66**	**33**	*e*P	**P**	**22 12 01.1**	**+0.4**	
	comp=Z,506nm,0.7s							
RUE				*es*CP	**ScP**	**22 18 28.3**	**+0.3**	
RUE	**Ruedersdorf**	**19.66**	**33**	*e*P	**P**	**22 12 01.1**	**+0.4**	
	comp=Z,506nm,0.7s							
RUE				*es*CP	**ScP**	**22 18 28.3**	**+0.3**	
BEO	**Beograd**	**19.66**	**59**	⇓*i*P	**P**	**22 11 59.9**	**-1.0**	
FNA	**Florina**	**19.69**	**71**	P	**P**	**22 12 01.3**	**0.0**	
FNA	**Florina**	**19.69**	**71**	*e*P	**PcP**	**22 15 50.5**	**+0.5**	
FNA	**Florina**	**19.69**	**71**	*e*P	**ScP**	**22 18 28.0**	**-0.4**	
FNA	**Florina**	**19.69**	**71**	P	**P**	**22 12 01.3**	**0.0**	
KSP	**Ksiaz**	**19.77**	**39**	*e*P	**P**	**22 12 01.3**	**-0.4**	
KSP				*es*P	sP	22 14 46.5	+10	
KSP				*es*	**S**	**22 15 06.9**	**-0.9**	
KSP	**Ksiaz**	**19.77**	**39**	⇓*i*P	**P**	**22 12 01.3**	**-0.4**	
KSP				*e*S	**S**	**22 15 06.4**	**-1.4**	
PICO	**Pico**	**19.77**	**282**	*e*P	**P**	**22 12 03.0**	**+0.9**	
PICO	**Pico**	**19.77**	**282**	*e*P	**P**	**22 12 03.0**	**+0.9**	
SELS	**Selova**	**19.77**	**64**	⇓*i*P	**P**	**22 12 02.2**	**+0.2**	
RLS	**Riolos of Patr**	**19.80**	**79**	P	**P**	**22 12 03.1**	**+0.9**	
RLS	**Riolos of Patr**	**19.80**	**79**	*e*P	**PcP**	**22 15 52.5**	**+2.4**	
RLS	**Riolos of Patr**	**19.80**	**79**	P	**P**	**22 12 03.1**	**+0.9**	
PCAN	**Candelaria**	**19.82**	**282**	*e*P	**P**	**22 12 03.0**	**+0.5**	
	comp=Z,337nm,0.8s							
PCAN	**Candelaria**	**19.82**	**282**	*e*P	**P**	**22 12 03.0**	**+0.5**	
	comp=Z,337nm,0.8s							
PKSN	**Nyarlorinc**	**19.91**	**53**	⇓*e*P	**P**	**22 12 03.6**	**+0.5**	
PKSN	**Nyarlorinc**	**19.91**	**53**	⇓*e*	**P**	**22 12 03.6**	**+0.5**	
DRUM	**Mains of Drumt**	**19.93**	**2**	*e*P	**P**	**22 12 03.0**	**0.0**	
DRUM	**Mains of Drumt**	**19.93**	**2**	*e*P	**P**	**22 12 03.0**	**0.0**	
VYHS	**Vyhne**	**19.93**	**48**	*e*P	**P**	**22 12 02.4**	**-0.9**	
VYHS	**Vyhne**	**19.93**	**48**	*e*P	**P**	**22 12 02.4**	**-0.9**	
VYHS	**Vyhne**	**19.93**	**48**	*e*P	**P**	**22 12 02.4**	**-0.9**	
VYHS				*e*		22 14 35.4		
VYHS				*es*CP	**ScP**	**22 18 29.0**	**+0.2**	
HOR	**Horta**	**19.93**	**282**	*e*P	**P**	**22 12 04.1**	**+0.7**	
HOR	**Horta**	**19.93**	**282**	*e*P	**P**	**22 12 04.1**	**+0.7**	
KZN	**Kozani**	**19.97**	**73**	P	**P**	**22 12 04.0**	**+0.1**	
KZN	**Kozani**	**19.97**	**73**	*e*P	**PcP**	**22 15 49.0**	**-1.6**	
KZN	**Kozani**	**19.97**	**73**	*e*P	**ScP**	**22 18 29.0**	**-0.1**	
KZN	**Kozani**	**19.97**	**73**	P	**P**	**22 12 04.0**	**+0.1**	
PCED	**Cedros**	**19.98**	**282**	*e*P	**P**	**22 12 04.8**	**+0.9**	
	comp=Z,273nm,0.7s							
PCED	**Cedros**	**19.98**	**282**	*e*P	**P**	**22 12 04.8**	**+0.9**	
	comp=Z,273nm,0.7s							
CALA	**Caldeira**	**19.98**	**282**	*e*P	**P**	**22 12 07.4**	**+3.4**	
DRO	**Drossia**	**20.00**	**80**	P	**P**	**22 12 05.5**	**+1.4**	
DRO	**Drossia**	**20.00**	**80**	P	**P**	**22 12 05.5**	**+1.4**	
EVR	**Evrytania**	**20.01**	**77**	P	**P**	**22 12 05.5**	**+1.2**	
EVR	**Evrytania**	**20.01**	**77**	*e*P	**PcP**	**22 15 52.0**	**+1.3**	
EVR	**Evrytania**	**20.01**	**77**	P	**P**	**22 12 05.5**	**+1.2**	
UPR	**University Cam**	**20.03**	**79**	P	**P**	**22 12 07.2**	**+2.9**	
UPR	**University Cam**	**20.03**	**79**	P	**P**	**22 12 07.2**	**+2.9**	
AMT	**Artemida-Makis**	**20.04**	**81**	P	**P**	**22 12 04.8**	**+0.3**	
AMT	**Artemida-Makis**	**20.04**	**81**	P	**P**	**22 12 04.8**	**+0.3**	
EFP	**Efpalio**	**20.11**	**78**	P	**P**	**22 12 06.2**	**+1.1**	
EFP	**Efpalio**	**20.11**	**78**	*e*P	**PcP**	**22 15 52.0**	**+1.3**	
EFP	**Efpalio**	**20.11**	**78**	P	**P**	**22 12 06.2**	**+1.1**	
PYL	**PYLOS**	**20.14**	**83**	P	**P**	**22 12 05.4**	**0.0**	
PYL	**PYLOS**	**20.14**	**83**	*e*P	**PcP**	**22 15 48.5**	**-2.3**	
PYL	**PYLOS**	**20.14**	**83**	P	**P**	**22 12 05.4**	**0.0**	
THL	**Klokotos Trika**	**20.15**	**75**	P	**P**	**22 12 07.9**	**+2.5**	
THL	**Klokotos Trika**	**20.15**	**75**	*e*P	**PcP**	**22 15 52.0**	**+1.2**	
THL	**Klokotos Trika**	**20.15**	**75**	P	**P**	**22 12 07.9**	**+2.5**	
OKC	**Ostrava-Krasne**	**20.19**	**44**	⇓*i*P	**P**	**22 12 05.2**	**-0.3**	
OKC				*es*	**S**	**22 15 13.6**	**-0.8**	
OKC				*e*		22 22 13.2		
OKC	**Ostrava-Krasne**	**20.19**	**44**	⇓*i*P	**P**	**22 12 05.2**	**-0.3**	
OKC				*ex*	x	22 12 07.1		
OKC				*es*P	**sP**	**22 14 44.3**	**+3.4**	
OKC				*es*	**S**	**22 15 13.6**	**-0.8**	
OKC				*es*CP	**ScP**	**22 18 29.8**	**+0.5**	
OKC				*es*CS	**ScS**	**22 22 13.2**	**+0.5**	
OKC	**Ostrava-Krasne**	**20.19**	**44**	*i* P	**P**	**22 12 05.2**	**-0.3**	
OKC				*e*S	**S**	**22 15 13.6**	**-0.8**	
OKC				*e*ScS	**ScS**	**22 22 13.2**	**+0.5**	
BARS	**Barje**	**20.21**	**65**	⇓*i*P	**P**	**22 12 06.6**	**+0.7**	
ITM	**Ithomi**	**20.25**	**82**	P	**P**	**22 12 06.9**	**+0.5**	
ITM	**Ithomi**	**20.25**	**82**	P	**P**	**22 12 06.9**	**+0.5**	
KSB	**Sheil Bridge**	**20.25**	**357**	*e*P	**P**	**22 12 05.7**	**-0.3**	
KSB	**Sheil Bridge**	**20.25**	**357**	*e*P	**P**	**22 12 05.7**	**-0.3**	
BANR	**Banloc**	**20.27**	**58**	⇓*i*P	**P**	**22 12 07.4**	**+1.1**	
BANR	**Banloc**	**20.27**	**58**	⇑*i*P	**ScP**	**22 18 30.3**	**+0.7**	
BANR	**Banloc**	**20.27**	**58**	⇓*i*P	**P**	**22 12 07.4**	**+1.1**	
MME1	**Meikle Cairn**	**20.32**	**1**	⇑*e*P	**P**	**22 12 06.2**	**-0.4**	
MME1	**Meikle Cairn**	**20.32**	**1**	⇑*e*P	**P**	**22 12 06.2**	**-0.4**	
PSZ	**Piszkesteto**	**20.32**	**50**	*e*P	**P**	**22 12 06.3**	**-0.6**	
PSZ				pmax	pmax			
	comp=Z,408nm,1.0s							
PSZ	**Piszkesteto**	**20.32**	**50**	⇑*i*P	**P**	**22 12 07.1**	**+0.2**	
PSZ	**Piszkesteto**	**20.32**	**50**	⇑*i*P	**ScP**	**22 18 30.6**	**+0.8**	
PSZ	**Piszkesteto**	**20.32**	**50**	⇓*e*P	**P**	**22 12 06.6**	**-0.3**	
PSZ	**Piszkesteto**	**20.32**	**50**	*e*P	**P**	**22 12 06.3**	**-0.6**	
	comp=Z,408nm,1.0s							
PSZ	**Piszkesteto**	**20.32**	**50**	⇓*e*	**P**	**22 12 06.6**	**-0.3**	
KLV	**Kalavryta, Ach**	**20.34**	**79**	P	**P**	**22 12 08.2**	**+1.0**	
KLV	**Kalavryta, Ach**	**20.34**	**79**	*e*P	**PcP**	**22 15 53.0**	**+1.7**	
KLV	**Kalavryta, Ach**	**20.34**	**79**	P	**P**	**22 12 08.2**	**+1.0**	
RAC	**Raciborz**	**20.34**	**43**	*e*P	**P**	**22 12 07.1**	**+0.2**	
RAC				*es*	**S**	**22 15 16.0**	**-0.9**	
RAC				*e*		22 22 12.6		
RAC	**Raciborz**	**20.34**	**43**	*e*P	**P**	**22 12 07.1**	**+0.2**	
RAC				*es*	**S**	**22 15 16.0**	**-0.9**	
RAC				*e*ScS	**ScS**	**22 22 12.6**	**-0.6**	
KPL	**Plockton**	**20.39**	**357**	*e*P	**P**	**22 12 07.5**	**+0.3**	
KPL				AMB	AMB	22 12 09.9		
	comp=Z,224nm,1.6s							
KPL	**Plockton**	**20.39**	**357**	*e*P	**P**	**22 12 07.5**	**+0.3**	
AGG	**Agios Georgios**	**20.41**	**76**	P	**P**	**22 12 08.5**	**+0.6**	
AGG	**Agios Georgios**	**20.41**	**76**	*e*P	**P**	**22 12 08.4**	**+0.6**	
AGG	**Agios Georgios**	**20.41**	**76**	*e*P	**PcP**	**22 15 52.5**	**+1.1**	
AGG	**Agios Georgios**	**20.41**	**76**	*e*P	**P**	**22 12 08.4**	**+0.6**	
TIM	**Timisoara**	**20.42**	**57**	⇑*i*P	**P**	**22 12 08.9**	**+1.2**	
TIM	**Timisoara**	**20.42**	**57**	⇑*i*P	**ScP**	**22 18 31.3**	**+1.3**	
TIM	**Timisoara**	**20.42**	**57**	⇑*i*P	**P**	**22 12 08.9**	**+1.2**	
MDO	**Dochfour**	**20.45**	**359**	⇑*e*P	**P**	**22 12 07.3**	**-0.5**	
MDO	**Dochfour**	**20.45**	**359**	⇑*e*P	**P**	**22 12 07.3**	**-0.5**	
BOLS	**Boljevac**	**20.48**	**63**	P	**P**	**22 12 07.2**	**-1.1**	
	SNR=1.0							
GUR	**Goura**	**20.50**	**80**	P	**P**	**22 12 09.3**	**+0.6**	
GUR	**Goura**	**20.50**	**80**	*e*P	**PcP**	**22 15 53.0**	**+1.3**	
GUR	**Goura**	**20.50**	**80**	P	**P**	**22 12 09.3**	**+0.6**	
LIT	**Litokhoron**	**20.52**	**73**	P	**P**	**22 12 08.5**	**-0.2**	
LIT	**Litokhoron**	**20.52**	**73**	*e*P	S	22 15 27.5	+7.5	
LIT	**Litokhoron**	**20.52**	**73**	P	**P**	**22 12 08.5**	**-0.2**	
KAC	**Achnashellach**	**20.54**	**357**	*e*P	**P**	**22 12 08.2**	**-0.4**	
KAC	**Achnashellach**	**20.54**	**357**	*e*P	**P**	**22 12 08.2**	**-0.4**	
MCD	**Coleburn Disti**	**20.59**	**0**	⇑*e*P	**P**	**22 12 08.7**	**-0.3**	
MCD	**Coleburn Disti**	**20.59**	**0**	⇑*e*P	**P**	**22 12 08.7**	**-0.3**	
VLX	**Vlachokerasia**	**20.59**	**81**	P	**P**	**22 12 10.6**	**+1.1**	
VLX	**Vlachokerasia**	**20.59**	**81**	*e*P	**PcP**	**22 15 54.5**	**+2.7**	
VLX	**Vlachokerasia**	**20.59**	**81**	P	**P**	**22 12 10.6**	**+1.1**	
LANS	**Liptovska Anna**	**20.60**	**47**	*e*P	**P**	**22 12 10.0**	**+0.7**	
LANS	**Liptovska Anna**	**20.60**	**47**	*e*P	**P**	**22 12 10.0**	**+0.7**	
BZS	**Buzias**	**20.65**	**58**	⇑*i*P	**P**	**22 12 10.8**	**+1.0**	
BZS	**Buzias**	**20.65**	**58**	⇑*i*P	**ScP**	**22 18 30.8**	**+0.2**	
BZS	**Buzias**	**20.65**	**58**	⇑*i*P	**P**	**22 12 10.8**	**+1.0**	
AXAR	**Agios Charalam**	**20.68**	**77**	*e*P	**PcP**	**22 15 53.0**	**+1.1**	
AXAR

ANKY	Antikythira Is	21.55	85	eP		S	22 15 41.5	+5.1
ANKY	Antikythira Is	21.55	85	eP		ScP	22 18 34.0	+1.0
ANKY	Antikythira Is	21.55	85	P		P	22 12 19.9	+1.9
COP	Copenhagen	21.57	25	⇓iP		P	22 12 18.5	+0.7
COP				iS		S	22 15 35.8	-0.3
COP					pmax	pmax		
	comp=Z,210nm,0.8s							
COP	Copenhagen	21.57	25	iP		P	22 12 18.5	+0.7
	comp=Z,210nm,0.8s							
COP				iS		S	22 15 35.8	-0.3
COP	Copenhagen	21.57	25	⇓iP		P	22 12 18.5	+0.7
	comp=Z,210nm,0.8s							
COP				iS		S	22 15 35.8	-0.3
ATH	Athens Observa	21.57	79	P		P	22 12 19.8	+1.7
ATH	Athens Observa	21.57	79	eP		S	22 15 44.0	+7.3
ATH	Athens Observa	21.57	79	eP		ScP	22 18 32.5	-0.5
ATH	Athens Observa	21.57	79	P		P	22 12 19.8	+1.7
DEV	Deva	21.59	57	⇑iP		P	22 12 19.2	+1.0
DEV	Deva	21.59	57	⇑iP		ScP	22 18 32.9	0.0
DEV	Deva	21.59	57	⇑iP		P	22 12 19.2	+1.0
NVR	Nevrokopi	21.59	70	P		P	22 12 19.0	+0.7
NVR	Nevrokopi	21.59	70	eP		PcP	22 15 54.0	+0.3
NVR	Nevrokopi	21.59	70	eP		ScP	22 18 33.0	-0.1
NVR	Nevrokopi	21.59	70	P		P	22 12 19.0	+0.7
CRVS	Cervenica-Dubn	21.67	49	eP		P	22 12 19.2	+0.3
CRVS				e			22 14 58.1	
CRVS	Cervenica-Dubn	21.67	49	eP		P	22 12 19.2	+0.3
CRVS	Cervenica-Dubn	21.67	49	eP		P	22 12 19.2	+0.3
CRVS				e			22 14 58.1	
CRVS					eSCP	ScP	22 18 33.0	-0.1
MPEP	Malo Peshtene	21.68	65	P		P	22 12 19.9	+0.9
MPEP	Malo Peshtene	21.68	65	P		P	22 12 19.9	+0.9
	SNR=1.0							
PTL	Penteli	21.68	79	P		P	22 12 19.6	+0.4
PTL	Penteli	21.68	79	eP		ScP	22 18 33.0	-0.4
PTL	Penteli	21.68	79	P		P	22 12 19.6	+0.4
DRGR		21.72	55	⇓iP		P	22 12 20.0	+0.6
DRGR		21.72	55	⇑iP		ScP	22 18 34.5	+1.1
DRGR		21.72	55	⇓iP		P	22 12 20.0	+0.6
GKP	Gorka Klasztor	21.73	35	eP		P	22 12 19.8	+0.5
GKP				e*SP		sP	22 14 59.8	+1.9
GKP				eS		S	22 15 40.7	+2.0
GKP					pmax	pmax		
	comp=Z,2μm,1.4s							
GKP	Gorka Klasztor	21.73	35	eP		P	22 12 19.8	+0.5
GKP					esP	sP	22 14 59.8	+1.9
GKP				eS		S	22 15 40.7	+2.0
GKP	Gorka Klasztor	21.73	35	eP		P	22 12 19.8	+0.5
	comp=Z,2μm,1.4s							
GKP				eS		S	22 15 40.7	+2.0
STHS	Stebnicka Huta	21.76	47	eP		P	22 12 19.9	+0.3
STHS	Stebnicka Huta	21.76	47	eP		P	22 12 19.9	+0.3
STHS	Stebnicka Huta	21.76	47	eP		P	22 12 19.9	+0.3
CRAR	CRAIOVA	21.88	62	⇑iP		P	22 12 23.2	+2.5
CRAR	CRAIOVA	21.88	62	⇑iP		P	22 12 23.2	+2.5
H07S1	FLORES T-PHASE	21.89	285	eP		P	22 12 21.5	+0.5
PGB	Panagyurishte	21.90	67	P		P	22 12 22.2	+1.1
PGB	Panagyurishte	21.90	67	P		P	22 12 22.2	+1.1
BSD	Bornholm Skovb	22.03	29	⇓iP		P	22 12 22.0	+0.1
	comp=Z,303nm,0.8s,SNR=54							
BSD				iS		S	22 15 41.9	-1.5
BSD	Bornholm Skovb	22.03	29	⇓iP		P	22 12 22.0	+0.1
	comp=Z,302nm,0.8s							
BSD				i			22 15 01.9	
BSD				iS		S	22 15 41.9	-1.5
TRPA	Tarpa	22.04	52	⇓iP		P	22 12 22.2	+0.1
TRPA	Tarpa	22.04	52	⇑iP		ScP	22 18 35.5	+1.5
TRPA	Tarpa	22.04	52	⇓eP		P	22 12 22.2	+0.1
TRPA	Tarpa	22.04	52	⇓e		P	22 12 22.2	+0.1
UZH	Uzhgorod	22.07	50	eP		P	22 12 21.6	-0.8
UZH				i*PP		x	22 14 58.4	
UZH				iS		S	22 15 42.8	-1.4
UZH					ePS	PcP	22 15 57.6	+3.2
UZH					MLR	MLR		
	comp=N,4μm,11.0s							
UZH					MLR	MLR		
	comp=E,6μm,11.0s							
UZH					MLR	MLR		
	comp=Z,4μm,11.0s							
UZH	Uzhgorod	22.07	50	eP		P	22 12 21.6	-0.8
UZH				iS		S	22 15 42.8	-1.4
UZH	Uzhgorod	22.07	50	ePcP		PcP	22 15 57.6	+3.2
LOT	Lotru	22.08	59	⇑iP		P	22 12 23.8	+1.1
LOT	Lotru	22.08	59	⇑iP		P	22 12 23.8	+1.1
KARN	Karanos	22.14	86	eP		S	22 15 45.5	-0.2
KARN	Karanos	22.14	86	eP		ScP	22 18 34.5	-0.1
KOLS	Kolonicke sedl	22.18	49	eP		P	22 12 23.4	0.0
KOLS				e			22 15 02.9	
KOLS	Kolonicke sedl	22.18	49	eP		P	22 12 23.4	0.0
KOLS	Kolonicke sedl	22.18	49	eP		P	22 12 23.4	0.0
KOLS				e			22 15 02.9	
KOLS					eSCP	ScP	22 18 35.1	+0.7
RZN	Rozhen	22.25	69	P		P	22 12 25.3	+1.0
RZN	Rozhen	22.25	69	P		P	22 12 25.3	+1.0
	SNR=1.0							
PLD	Plovdiv	22.26	68	P		P	22 12 25.5	+1.3
PLD	Plovdiv	22.26	68	P		P	22 12 25.5	+1.3
CJR	Cluj-Napoca	22.28	56	⇑iP		P	22 12 25.3	+1.0
CJR	Cluj-Napoca	22.28	56	⇑iP		ScP	22 18 35.1	+0.3
CJR	Cluj-Napoca	22.28	56	⇑iP		P	22 12 25.3	+1.0
VAM	Vamos	22.36	86	P		P	22 12 25.0	-0.2
VAM	Vamos	22.36	86	eP		S	22 15 54.5	+5.3
VAM	Vamos	22.36	86	eP		ScP	22 18 33.5	-1.7
VAM	Vamos	22.36	86	P		P	22 12 25.0	-0.2
SNART	Snartemo	22.47	15	eP		P	22 12 25.8	+0.1
SNART				i			22 14 59.3	
SNART	Snartemo	22.47	15	eP		P	22 12 25.8	+0.1
	SNR=53							
BMR	Baia Mare	22.50	53	⇑iP		P	22 12 26.8	+0.6
BMR	Baia Mare	22.50	53	⇑iP		ScP	22 18 36.9	+1.6
BMR	Baia Mare	22.50	53	⇑iP		P	22 12 26.8	+0.6
LIA	Limnos Island	22.59	74	P		P	22 12 28.0	+0.9
LIA	Limnos Island	22.59	74	eP		ScP	22 18 34.0	-1.6
LIA	Limnos Island	22.59	74	P		P	22 12 28.0	+0.9
MDB	Medias	22.66	58	⇑iP		P	22 12 29.0	+1.4
MDB	Medias	22.66	58	⇑iP		P	22 12 29.0	+1.4
ARR	Arges	22.66	60	⇓iP		P	22 12 29.3	+1.6
ARR	Arges	22.66	60	⇑iP		ScP	22 18 36.0	+0.2
ARR	Arges	22.66	60	⇓iP		P	22 12 29.3	+1.6
BEL	Belsk	22.66	41	eP		P	22 12 27.7	+0.2
BEL				e*SP		sP	22 15 11.5	+3.4
BEL				eS		S	22 15 52.0	-1.4
BEL					pmax	pmax		
	comp=Z,2μm,1.8s							
BEL	Belsk	22.66	41	eP		P	22 12 27.6	+0.1
BEL				esP		sP	22 15 11.5	+3.4
BEL				eS		S	22 15 51.9	-1.4
BEL	Belsk	22.66	41	eP		P	22 12 27.7	+0.2
	comp=Z,2μm,1.8s							
BEL				eS		S	22 15 52.0	-1.4
HOMB	Homborsund	22.69	17	eP		P	22 12 28.1	+0.4
HOMB				esP		sP	22 15 08.3	0.0
HOMB	Homborsund	22.69	17	eP		P	22 12 28.1	+0.4
	SNR=53							
KWP	Kalwaria Pacla	22.72	48	eP		P	22 12 28.2	+0.1
KWP				e*SP		sP	22 15 12.7	+3.9
KWP				eS		S	22 15 52.9	-1.5
KWP					pmax	pmax		
	comp=Z,400nm,0.9s							
KWP	Kalwaria Pacla	22.72	48	eP		P	22 12 28.2	+0.1
KWP				esP		sP	22 15 12.6	+3.8
KWP				eS		S	22 15 52.9	-1.5
KWP	Kalwaria Pacla	22.72	48	⇑iP		P	22 12 28.8	+0.7
KWP	Kalwaria Pacla	22.72	48	⇓iP		ScP	22 18 36.3	+0.5
KWP	Kalwaria Pacla	22.72	48	eP		P	22 12 28.2	+0.1
	comp=Z,400nm,0.9s							
KWP				eS		S	22 15 52.9	-1.5
HUMR	Humele	22.75	62	⇑iP		P	22 12 29.9	+1.5
HUMR	Humele	22.75	62	⇑iP		P	22 12 29.9	+1.5
KDZ	Kurdzhali	22.77	69	⇑iP		P	22 12 29.9	+1.1
KDZ	Kurdzhali	22.77	69	⇑iP		ScP	22 18 34.6	-1.6
KDZ	Kurdzhali	22.77	69	P		P	22 12 30.6	+1.8
KDZ	Kurdzhali	22.77	69	⇑iP		P	22 12 29.9	+1.1
GOLR		22.79	61	⇑iP		P	22 12 30.8	+2.0
GOLR		22.79	61	⇑iP		P	22 12 30.8	+2.0
PVL	Pavlikeni	22.82	65	P		P	22 12 28.8	-0.3
PVL	Pavlikeni	22.82	65	P		P	22 12 28.8	-0.3
	SNR=1.0							
SMTH	Samothraki Isl	22.84	72	P		P	22 12 30.2	+0.8
SMTH	Samothraki Isl	22.84	72	eP		S	22 15 57.0	+0.4
SMTH	Samothraki Isl	22.84	72	eP		ScP	22 18 36.5	+0.1
SMTH	Samothraki Isl	22.84	72	P		P	22 12 30.2	+0.8
	SNR=1.0							
RDO	Rodhopi	22.85	71	P		P	22 12 30.5	+1.1
RDO	Rodhopi	22.85	71	eP		S	22 15 57.0	+0.4
RDO	Rodhopi	22.85	71	eP		ScP	22 18 36.5	+0.2
RDO	Rodhopi	22.85	71	P		P	22 12 30.5	+1.1
	SNR=1.0							
DIM	Dimitrovgrad	22.88	68	P		P	22 12 30.9	+1.3
DIM	Dimitrovgrad	22.88	68	P		P	22 12 30.9	+1.3
	SNR=1.0							
ZIMR		22.89	64	⇓iP		P	22 12 31.0	+1.2
ZIMR		22.89	64	⇓iP		P	22 12 31.0	+1.2
MTUR	Matau	22.93	60	⇑iP		P	22 12 31.3	+1.2
MTUR	Matau	22.93	60	⇑iP		P	22 12 31.3	+1.2
KMY	Karmoy	22.93	12	eP		P	22 12 29.1	-0.8
KMY					esP	sP	22 15 11.2	+0.1
KMY					eS	S	22 15 55.7	-1.7
KMY	Karmoy	22.93	12	eP		P	22 12 29.0	-0.8
	SNR=53							
KMY					eS	S	22 15 55.7	-1.7
	SNR=51							
SIVA	Sivas	22.94	86	eP		S	22 15 53.0	-5.2
SIVA	Sivas	22.94	86	eP		ScP	22 18 38.5	+1.8
IDI	Anoyia	22.94	86	P		P	22 12 32.0	+1.6
	comp=Z,2μm,0.4s,baz=323,slow=11,SNR=754							
IDI					S	S	22 15 57.2	-1.2
	comp=Z,178nm,0.8s,baz=330,slow=7.4,SNR=12							
IDI					ScP	ScP	22 18 36.4	-0.4
	comp=Z,158nm,0.9s,baz=288,slow=3.4,SNR=7.7							
IDI					ScS	ScS	22 22 24.5	+0.7
	comp=Z,50nm,0.9s,baz=192,slow=23,SNR=18							
VOIR		22.96	60	⇓iP		P	22 12 31.2	+0.8
VOIR		22.96	60	⇓iP		P	22 12 31.2	+0.8
APE	Apeiranthos	23.12	81	P		P	22 12 32.5	+0.5
APE	Apeiranthos	23.12	81	eP		P	22 12 32.4	+0.4
APE	Apeiranthos	23.12	81	d iP		P	22 12 32.3	+0.4
APE					pmax	pmax		
	comp=Z,1μm,1.2s							
APE	Apeiranthos	23.12	81	eP		S	22 15 57.5	-3.7
APE	Apeiranthos	23.12	81	eP		ScP	22 18 37.0	-0.2
APE	Apeiranthos	23.12	81	⇑iP		P	22 12 32.9	+1.0
APE	Apeiranthos	23.12	81	⇑iP		ScP	22 18 37.3	+0.1
APE	Apeiranthos	23.12	81	eP		P	22 12 32.4	+0.5
SIGR	SIGRI	23.14	76	P		P	22 12 33.2	+1.2
SIGR	SIGRI	23.14	76	eP		P	22 12 33.0	+1.0
SIGR	SIGRI	23.14	76	eP		ScP	22 18 37.5	+0.4
SIGR	SIGRI	23.14	76	eP		P	22 12 33.0	+1.0
THR2	Thira island,	23.15	83	P		P	22 12 34.8	+2.7
THR2	Thira island,	23.15	83	P		P	22 12 34.8	+2.7
SANT	Santorini	23.18	83	eP		S	22 15 57.5	-4.6
SANT	Santorini	23.18	83	eP		ScP	22 18 37.0	-0.4
SANT	Santorini	23.18	83	eP		P	22 12 31.7	-0.8
	comp=Z,5μm,1.5s							
SANT					eS	S	22 15 57.8	-4.3
SANT	Santorini	23.18	83	eP		P	22 12 31.7	-0.8
	comp=Z,5μm,1.5s							
SANT					eS	S	22 15 57.8	-4.3
THR1	Thera Island	23.18	83	eP		P	22 12 32.5	+0.1
THR1	Thera Island	23.18	83	eP		P	22 12 32.6	+0.1
LRW	Lerwick	23.19	3	⇑eP		P	22 12 31.5	-0.6
LRW	Lerwick	23.19	3	⇑eP		P	22 12 31.5	-0.6
ALN	Alexandroupoli	23.23	71	P		P	22 12 33.9	+1.1
ALN	Alexandroupoli	23.23	71	eP		P	22 12 34.1	+1.3
ALN	Alexandroupoli	23.23	71	eP		PcP	22 15 58.0	+0.9
ALN	Alexandroupoli	23.23	71	eP		ScP	22 18 38.0	+0.6
ALN	Alexandroupoli	23.23	71	P		P	22 12 33.9	+1.1
	SNR=1.0							
BOZC	Bozcaada	23.26	74	iP		P	22 12 34.4	+1.3
SZH	Strazhica	23.26	65	P		P	22 12 33.9	+0.8
SZH	Strazhica	23.26	65	P		P	22 12 33.9	+0.8
DOPR	Dopca	23.30	58	⇑iP		P	22 12 34.4	+1.0
DOPR	Dopca	23.30	58	⇑iP		P	22 12 34.4	+1.0
ENEZ	Enez	23.31	72	eP		P	22 12 34.6	+1.1
ENEZ	Enez	23.31	72	P		P	22 12 34.6	+1.1
	SNR=1.0							
BLS5	Blasjo	23.34	13	iP		P	22 12 33.5	+0.1
BLS5					esP	sP	22 15 17.6	+2.1
BLS5	Blasjo	23.34	13	iP		P	22 12 33.5	+0.1
	SNR=53							
CHOS	Chios island	23.37	78	P		P	22 12 36.4	+2.3
CHOS	Chios island	23.37	78	eP		P	22 12 36.0	+1.8
CHOS	Chios island	23.37	78	eP		PcP	22 15 58.5	+1.0
CHOS	Chios island	23.37	78	eP		ScP	22 18 38.5	+0.6
CHOS	Chios island	23.37	78	eP		P	22 12 36.0	+1.8
CIOR	Ciorogarla	23.37	62	⇑iP		P	22 12 36.3	+2.4
CIOR	Ciorogarla	23.37	62	⇑iP		P	22 12 36.3	+2.4
LAST	Lasithi	23.44	86	eP		PcP	22 15 58.0	+0.2
LAST	Lasithi	23.44	86	eP		ScP	22 18 38.0	-0.2
BUC1	Bucharest	23.46	63	⇑iP		P	22 12 36.0	+1.3
BUC1	Bucharest	23.46	63	⇑iP		P	22 12 36.0	+1.3
PRK	Paraskevi	23.46	75	P		P	22 12 36.2	+1.3
PRK	Paraskevi	23.46	75	eP		PcP	22 15 57.5	-0.1
PRK	Paraskevi	23.46	75	eP		ScP	22 18 38.5	+0.5
PRK	Paraskevi	23.46	75	P		P	22 12 36.2	+1.3
EZN	Ezine	23.47	74	eP		P	22 12 36.8	+1.9
EZN	Ezine	23.47	74	P		P	22 12 36.8	+1.9
	SNR=1.0							
NPS	Neapolis	23.52	85	P		P	22 12 36.6	+1.1
NPS	Neapolis	23.52	85	eP		S	22 16 09.0	+1.6
NPS	Neapolis	23.52	85	eP		ScP	22 18 33.0	-5.3
NPS	Neapolis	23.52	85	P		P	22 12 36.6	+1.1
BAPR	Bucharest-Chil	23.53	62	⇑iP		P	22 12 37.0	+1.6
BAPR	Bucharest-Chil	23.53	62	⇑iP		P	22 12 37.0	+1.6
PLAR	PLOIESTI	23.54	61	⇓iP		P	22 12 36.7	+1.2
PLAR	PLOIESTI	23.54	61	⇓iP		P	22 12 36.7	+1.2
GELI	Tayfur-Gelibol	23.56	73	eP		P	22 12 36.9	+1.1
GELI	Tayfur-Gelibol	23.56	73	P		P	22 12 36.9	+1.1
	SNR=1.0							
LVV	L'vov	23.58	48	iP		P	22 12 35.6	-0.1
LVV					eS	sP	22 15 15.0	-3.2
LVV					MLR	MLR		
	comp=Z,2μm,10.0s							
LVV					MLR	MLR		
	comp=N,2μm,9.0s							
LVV					MLR	MLR		
	comp=E,2μm,9.0s							
LVV	L'vov	23.58	48	iP		P	22 12 35.6	-0.1
	comp=E,2μm,10.0s							
MLR	Muntele Rosu	23.59	60	⇑iP		P	22 12 37.7	+1.7
MLR	Muntele Rosu	23.59	60	P		P	22 12 36.8	+0.8
	comp=E,74nm,0.6s,baz=270,slow=5.1							
MLR					ScP	ScP	22 18 38.6	+0.1
	comp=E,17nm,0.9s,baz=258,slow=3.3,SNR=9.3							
MLR					ScS	ScS	22 22 25.1	-1.0
	comp=E,6.2nm,0.8s,baz=77,slow=22,SNR=13							
ERIK	Erikli-Kesan	23.59	72	eP		P	22 12 35.7	-0.2
ERIK	Erikli-Kesan	23.59	72	P		P	22 12 35.7	-0.2
	SNR=1.0							
BURAR	Bucovina Array	23.59	54	⇑iP		P	22 12 37.2	+1.2
BURAR	Bucovina Array	23.59	54	⇑iP		P	22 12 37.2	+1.2
SECR		23.59	61	⇑iP		P	22 12 37.2	+1.2
SECR		23.59	61	⇑iP		P	22 12 37.2	+1.2
SULR		23.67	62	⇑iP		P	22 12 38.0	+1.4
SULR		23.67	62	⇑iP		P	22 12 38.0	+1.4
JMB	Yambol	23.68	67	⇓iP		P	22 12 40.2	+3.5
JMB	Yambol	23.68	67	⇑iP		ScP	22 18 40.8	+2.2
JMB	Yambol	23.68	67	P		P	22 12 40.7	+4.0
EDRB	Edirne	23.77	69	eP		P	22 12 37.7	+0.1
EDRB	Edirne	23.77	69	P		P	22 12 37.7	+0.1
	SNR=1.0							
AYVA	Ayvalik	23.78	75	iP		P	22 12 39.3	+1.6
AYVA	Ayvalik	23.78	75	iP		P	22 12 39.3	+1.6
LPK	Lapseki	23.78	73	eP		P	22 12 39.3	+1.6
LPK	Lapseki	23.78	73	P		P	22 12 39.3	+1.6
	SNR=1.0							
ODD1	Odda	23.83	13	eP		P	22 12 38.3	+0.5
ODD1					esP	sP	22 15 23.4	+2.6
ODD1	Odda	23.83	13	eP		P	22 12 38.3	+0.5
	SNR=53							
ISR	Istrita	23.94	61	⇑iP		P	22 12 39.8	+0.7
ISR	Istrita	23.94	61	⇑iP		P	22 12 39.8	+0.7
ZKR	Zakros	24.04	86	eP		S	22 16 10.0	-5.5
ZKR	Zakros	24.04	86	eP		ScP	22 18 40.5	+0.8
SMG	Samos	24.06	79	eP		ScP	22 18 40.0	+0.2
BER	Bergen	24.06	11	eP		P	22 12 39.8	0.0
BER					esP	sP	22 15 21.0	-2.4
BER					eS	S	22 16 16.6	+1.5
BER	Bergen	24.06	11	eP		P	22 12 39.8	0.0
	SNR=53							
BER					eS	S	22 16 16.6	+1.5
	SNR=51							
RKY	Sarkoy-Tekirda	24.09	72	eP		P	22 12 41.2	+0.7
RKY	Sarkoy-Tekirda	24.09	72	eP		P	22 12 41.2	+0.7
RUND	Rundenannen	24.10	11	eP		P	22 12 39.6	-0.6
RUND				e			22 43 52.3	
RUND	Rundenannen	24.10	11	eP		P	22 12 39.6	-0.6
	SNR=53							
ASK	Askoy	24.14	11	eP		P	22 12 40.5	0.0
ASK				esP		sP	22 15 24.7	+0.6
BLCB	Balcova	24.14	77	eP		P	22 12 42.3	+1.5
BLCB	Balcova	24.14	77	eP		P	22 12 42.3	+1.5
PLOR	Plostina	24.14	59	⇑iP		P	22 12 41.5	+0.7
PLOR	Plostina	24.14	59	⇑iP		P	22 12 41.5	+0.7
KONO	Kongsberg	24.18	16	eP		P	22 12 40.8	0.0
KONO					pmax	pmax		
	comp=Z,650nm,1.6s							
KONO	Kongsberg	24.18	16	eP		P	22 12 42.4	+1.5
KONO				esP		sP	22 15 22.2	-2.4
KONO				esP		sP	22 15 24.0	-0.6
KONO				eS		S	22 16 19.1	+2.1
KONO	Kongsberg	24.18	16	eP		P	22 12 40.8	0.0
	comp=Z,650nm,1.6s							
KONO				eS		S	22 16 19.1	+2.1
	SNR=51							
KONO	Kongsberg	24.18	16	eP		P	22 12 40.8	0.0
	comp=Z,650nm,1.6s							
PRAR	RASCA	24.18	55	⇑iP		P	22 12 41.9	+0.7
PRAR	RASCA	24.18	55	⇑iP		P	22 12 41.9	+0.7
KRBG	Karabiga-Canak	24.19	72	eP		P	22 12 41.5	+0.2
KRBG	Karabiga-Canak	24.19	72	eP		P	22 12 41.5	+0.2
VRI	Vrincioaia	24.20	59	⇑iP		P	22 12 42.0	+0.7
VRI	Vrincioaia	24.20	59	⇑iP		P	22 12 42.0	+0.7
TORD	Torodi Ar. Bea	24.21	168	P		P	22 12 41.2	-0.5
	comp=Z,222nm,0.5s,baz=347,slow=8.6,SNR=3088							
TORD					S	S	22 16 17.1	-1.4
	comp=Z,147nm,0.8s,baz=352,slow=16,SNR=7.6							
TORD					ScP	ScP	22 18 39.6	-0.9
	comp=Z,111nm,0.8s,baz=324,slow=2.8,SNR=9.4							
TORD					PKiKP	PKiKP	22 23 39.2	-1.9
	comp=Z,3.9nm,0.7s,baz=0.4,slow=2.4,SNR=11							
TORD					P3KPbc		22 45 28.2	
	comp=Z,0.3nm,0.5s,baz=166,slow=2.0,SNR=7.3							
TORD					P4KP		22 54 46.1	
	comp=Z,1.5nm,0.8s,baz=346,slow=5.5,SNR=7.8							
PGOR	Pogoanele	24.21	61	⇑iP		P	22 12 42.0	+0.6
PGOR	Pogoanele	24.21	61	⇑iP		P	22 12 42.0	+0.6
TESR	Tescani	24.27	57	⇑iP		P	22 12 42.5	+0.6
TESR	Tescani	24.27	57	⇑iP		P	22 12 42.5	+0.6
GRER		24.28	60	⇓iP		P	22 12 43.3	+1.3
GRER		24.28	60	⇓iP		P	22 12 43.3	+1.3
ROIA	ROIAK	24.30	66	P		P	22 12 43.9	+1.7
ROIA	ROIAK	24.30	66	P		P	22 12 43.9	+1.7
IZM	Izmir	24.31	77	eP		P	22 12 43.9	+1.5
IZM	Izmir	24.31	77	eP		P	22 12 43.9	+1.5
PRD	Provadia	24.33	66	P		P	22 12 43.2	+0.8
PRD	Provadia	24.33	66	P		P	22 12 43.2	+0.8
PHSR	Pinarhisar	24.35	69	eP		P	22 12 43.9	+1.2
PHSR	Pinarhisar	24.35	69	P		P	22 12 43.9	+1.2
	SNR=1.0							
TKR	Tekirdag	24.36	71	eP		P	22 12 43.7	+0.9
TKR	Tekirdag	24.36	71	P		P	22 12 43.7	+0.9
	SNR=1.0							
GCAM	G?zelcaml?	24.37	79	iP		P	22 12 44.3	+1.4
GCAM	G?zelcaml?	24.37	79	iP		P	22 12 44.3	+1.4
MRMT	Marmara Adasi	24.41	72	eP		P	22 12 42.5	-0.8
MRMT	Marmara Adasi	24.41	72	eP		P	22 12 42.5	-0.8
AMRR	Amara	24.42	62	⇑iP		P	22 12 43.7	+0.5
AMRR	Amara	24.42	62	⇑iP		P	22 12 43.7	+0.5
BALY	Balya	24.47	74	P		P	22 12 44.8	+1.0
	SNR=1.0							
BALY	Balya	24.47	74	iP		P	22 12 44.8	+1.0
CRLT	Corlu	24.51	71	eP		P	22 12 46.5	+2.4
CRLT	Corlu	24.51	71	P		P	22 12 46.5	+2.4
	SNR=1.0							
PETR	Petresti	24.52	60	⇑iP		P	22 12 44.4	+0.4
PETR	Petresti	24.52	60	⇑iP		P	22 12 44.4	+0.4
BODT	Bodrum	24.53	80	eP		P	22 12 44.9	+0.6
BODT	Bodrum

FOO Floro 25.19 10 eP P 22 12 50.5 +0.8
FOO esP sP 22 15 30.7 -4.8
FOO eS S 22 16 36.4 +3.8
FOO Floro 25.19 10 eP P 22 12 50.5 +0.8
SNR=52
MANR Mangalia 25.23 64⇑ iP P 22 12 51.1 +0.7
MANR Mangalia 25.23 64⇑ iP ScP 22 18 43.8 +0.9
MANR Mangalia 25.23 64⇑ iP P 22 12 51.1 +0.7
DST Dursunbey 25.25 74 eP P 22 12 51.5 +0.8
DST Dursunbey 25.25 74 eP P 22 12 51.5 +0.8
YER Yerkesik 25.28 80 eP P 22 12 52.2 +1.2
YER Yerkesik 25.28 80 eP P 22 12 52.3 +1.2
EFOR EFORIE 25.29 64⇑ iP P 22 12 51.5 +0.6
EFOR EFORIE 25.29 64⇑ iP P 22 12 51.5 +0.6
BGKT Bogazkoy 25.29 71 eP P 22 12 52.2 +1.2
BGKT Bogazkoy 25.29 71 eP P 22 12 52.2 +1.2
ARG Arkhangelos 25.32 82 eP PcP 22 16 02.5 +0.6
ARG Arkhangelos 25.32 82 eP ScP 22 18 44.0 +0.6
DEMI Demirci 25.37 76 P P 22 12 53.2 +1.4
SNR=1.0
DEMI Demirci 25.37 76 i P P 22 12 53.2 +1.4
ARMT Armutlu 25.38 72 eP P 22 12 52.5 +0.7
ARMT Armutlu 25.38 72 P P 22 12 52.5 +0.7
SNR=1.0
KULA Kula-Manisa 25.39 77 eP P 22 12 51.9 -0.1
KULA Kula-Manisa 25.39 77 eP P 22 12 51.9 -0.1
MDNY Mudanya-Bursa 25.40 72 eP P 22 12 53.6 +1.6
MDNY Mudanya-Bursa 25.40 72 P P 22 12 53.6 +1.6
SNR=1.0
KLYT Kilyos 25.49 70 eP P 22 12 54.7 +2.0
KLYT Kilyos 25.49 70 eP P 22 12 54.7 +2.0
ISK Istanbul-Kandi 25.51 71 eP P 22 12 54.0 +1.1
ISK Istanbul-Kandi 25.51 71 eP P 22 12 54.0 +1.1
TLCR 25.54 61⇑ iP P 22 12 52.4 -0.7
TLCR 25.54 61⇑ iP P 22 12 52.4 -0.7
BUY Buyukada 25.56 71 i P P 22 12 54.0 +0.6
BUY Buyukada 25.56 71 i P P 22 12 54.0 +0.6
NC602 NORSAR Array S 25.59 17 eP P 22 12 54.4 +1.1
NC602 esP sP 22 15 38.2 -1.6
NC602 NORSAR Array S 25.59 17 eP P 22 12 54.4 +1.1
SNR=52
HFS Hagfors 25.62 20 P P 22 12 53.4 -0.2
comp=Z,196nm,0.4s,baz=206,slow=8.6,SNR=575
HFS ScP ScP 22 18 42.9 -0.9
comp=Z,15nm,0.6s,baz=174,slow=2.9,SNR=4.2
HFS ScS ScS 22 22 32.8 -1.1
comp=Z,28nm,1.1s,baz=227,slow=5.9,SNR=7.5
DALY Dalyan (Mu¨la 25.63 81 eP P 22 12 54.4 +0.4
DALY Dalyan (Mu¨la 25.63 81 eP P 22 12 54.4 +0.4
GEMT Gemlik 25.63 72 eP P 22 12 55.0 +1.0
GEMT Gemlik 25.63 72 P P 22 12 55.0 +1.0
SNR=1.0
DENT Denizli 25.78 78 eP P 22 12 56.7 +1.4
DENT Denizli 25.78 78 eP P 22 12 56.7 +1.4
NB2 NORSAR Subarra 25.79 16 P P 22 12 54.8 -0.2
comp=Z,760nm,1.4s,baz=208,slow=9.3
NB2 NORSAR Subarra 25.79 16 P P 22 12 54.8 -0.2
baz=208,slow=9.3
NB2 NORSAR Subarra 25.79 16 P P 22 12 54.8 -0.2
comp=Z,760nm,1.4s,SNR=94
NOA NORSAR Array B 25.79 16 P P 22 12 54.9 -0.2
comp=Z,73nm,0.6s,baz=221,slow=7.4,SNR=214
NOA PcP PcP 22 16 04.0 +1.5
comp=Z,29nm,0.7s,baz=211,slow=2.6,SNR=3.9
NOA P3KPbc 22 45 31.2
comp=Z,1.8nm,1.0s,baz=28,slow=3.4,SNR=4.8
NOA P4KP 22 54 54.6
comp=Z,1.9nm,1.0s,baz=201,slow=5.2,SNR=4.3
DNZL Cakiroluk 25.80 79 i P P 22 12 57.1 +1.4
DNZL Cakiroluk 25.80 79 i P P 22 12 57.1 +1.4
KIS Kishinev 25.83 57κ iP P 22 12 54.0 -1.6
KIS i 22 15 40.0
KIS i S S 22 16 41.0 -2.2
KIS pmax pmax
comp=N,600nm,1.0s
KIS pmax pmax
comp=Z,3μm,1.0s
KIS pmax pmax
comp=E,2μm,1.2s
KIS pmax pmax
comp=N,2μm,2.0s
KIS pmax pmax
comp=E,4μm,2.0s
KIS pmax pmax
comp=Z,5μm,2.0s
KIS MLR MLR
comp=Z,9μm,14.0s
KIS MLR MLR
comp=N,4μm,13.0s
KIS MLR MLR
comp=E,6μm,13.0s
KIS MLR MLR
comp=Z,9μm,16.0s
KIS Kishinev 25.83 57⇑ iP P 22 12 54.8 -0.8
KIS Kishinev 25.83 57⇓ iP P 22 12 54.0 -1.6
comp=Z,3μm,1.0s
KIS i pP pP 22 14 30.0 -0.6
KIS Kishinev 25.83 57 i PcP sP 22 15 40.0 -2.4
KIS i S S 22 16 41.0 -2.2
KIS i sS sS 22 19 42.0 +0.8
KIS LRM MLR 22 22 20.0
comp=Z,4μm,13.0s
KIS Kishinev 25.83 57 i P P 22 12 54.0 -1.6
KIS i S S 22 16 41.0 -2.2
comp=Z,9μm,16.0s
TVSB Tavsanli 25.91 74 eP P 22 12 57.7 +1.1
TVSB Tavsanli 25.91 74 eP P 22 12 57.7 +1.1
SILT Sile 25.95 71 eP P 22 12 58.3 +1.6
SILT Sile 25.95 71 eP P 22 12 58.3 +1.6
GDZ Gediz 25.96 75 i P P 22 12 58.7 +1.6
GDZ Gediz 25.96 75 i P P 22 12 58.7 +1.6
HRT Hereke 25.98 71 eP P 22 12 58.1 +1.0
HRT Hereke 25.98 71 eP P 22 12 58.1 +1.0
FETY Fethiye 26.00 81 eP P 22 12 57.7 +0.4
FETY Fethiye 26.00 81 eP P 22 12 57.7 +0.4
AKN Aaknes 26.03 11 eP P 22 12 57.4 +0.3
AKN i 22 15 36.9
AKN eS S 22 16 48.6 +2.8
AKN Aaknes 26.03 11 eP P 22 12 57.4 +0.3
SNR=52
ADVT Abdulvahap 26.05 72 eP P 22 12 57.5 -0.2
ADVT Abdulvahap 26.05 72 eP P 22 12 57.5 -0.2
KHL Karahalli 26.08 77 eP P 22 12 58.9 +0.8
KHL Karahalli 26.08 77 eP P 22 12 58.9 +0.8
CAVI Cavuskoy 26.15 73 eP P 22 12 57.7 -0.8
CAVI Cavuskoy 26.15 73 eP P 22 12 57.7 -0.8
DOMB Dombas 26.25 13 eP P 22 13 00.2 +1.1
DOMB Dombas 26.25 13 eP P 22 13 00.2 +1.1
SNR=52
GOLH Golhisar 26.27 79 i P P 22 13 01.4 +1.6
GOLH Golhisar 26.27 79 i P P 22 13 01.4 +1.6
ALT Altintas 26.45 75 eP P 22 13 02.4 +1.1
ALT Altintas 26.45 75 eP P 22 13 02.4 +1.1
SPNC Sapanca-Adapaz 26.47 72 eP P 22 13 03.7 +2.4
SPNC Sapanca-Adapaz 26.47 72 eP P 22 13 03.7 +2.4
MOL Molde 26.48 11 eP P 22 13 01.5 +0.5
MOL esP sP 22 15 48.2 -0.8
MOL eS S 22 16 55.1 +2.3
MOL Molde 26.48 11 eP P 22 13 01.5 +0.5
SNR=52
KSL Kastellorizon 26.49 82 eP ScP 22 18 44.0 -2.8
ELL Elmali 26.63 80 eP P 22 13 04.5 +1.5
ELL Elmali 26.63 80 eP P 22 13 04.5 +1.5
BORA Eskisehir 26.64 73 i P P 22 13 03.9 +1.0
BORA Eskisehir 26.64 73 i P P 22 13 03.9 +1.0
GULT Gulveren 26.64 72 eP P 22 13 04.5 +1.5
GULT Gulveren 26.64 72 eP P 22 13 04.5 +1.5
SHUT Suhut-Afyon 26.85 76 eP P 22 13 06.8 +2.0
SHUT Suhut-Afyon 26.85 76 eP P 22 13 06.8 +2.0
HENT Hendek 26.91 71 i P P 22 13 06.1 +0.9
HENT Hendek 26.91 71 i P P 22 13 06.1 +0.9
ISP Isparta 26.93 78 eP P 22 13 04.9 -0.6
ISP Isparta 26.93 78 eP P 22 13 05.9 +0.4
ISP e 22 22 43.7
ISP pmax pmax
comp=Z,2μm,2.6s
ISP Isparta 26.93 78⇑ iP P 22 13 06.3 +0.8
ISP Isparta 26.93 78⇑ iP ScP 22 18 49.4 +1.1
ISP Isparta 26.93 78 eP P 22 13 05.9 +0.4
comp=Z,2μm,2.6s
ISP eScS ScS 22 22 43.7 +3.0
ISP Isparta 26.93 78 eP P 22 13 05.9 +0.4
comp=Z,2μm,2.6s
ISP eScS ScS 22 22 43.7 +3.0
KORT Korkueli 26.93 80 i P P 22 13 07.4 +1.8
KORT Korkueli 26.93 80 i P P 22 13 07.4 +1.8
ESKT Eskisehir 26.98 74 eP P 22 13 06.9 +1.0
ESKT Eskisehir 26.98 74 eP P 22 13 06.9 +1.0
KIEV Kiev 27.00 49 d iP P 22 13 04.4 -1.4
KIEV Kiev 27.00 49 i P P 22 13 04.4 -1.4
KIEV Kiev 27.00 49 eP P 22 13 04.2 -1.6
comp=Z,290nm,0.8s
BTAS Taskesti 27.00 72 i P P 22 13 06.7 +0.6
BTAS Taskesti 27.00 72 i P P 22 13 06.7 +0.6
AKASG Malin Array Be 27.01 49 P P 22 13 04.4 -1.5
comp=Z,118nm,0.5s,baz=249,slow=10,SNR=143
AKASG PcP PcP 22 16 05.1 -0.5
comp=Z,36nm,0.5s,baz=263,slow=3.0,SNR=8.2
AKASG S S 22 16 57.5 -3.9
comp=Z,13nm,0.7s,baz=244,slow=19,SNR=4.4
AKASG ScP ScP 22 18 48.1 0.0
comp=Z,95nm,0.9s,baz=261,slow=3.7,SNR=25
AKASG ScS ScS 22 22 41.1 +0.8
comp=Z,6.6nm,0.9s,baz=254,slow=6.7,SNR=4.7
AKASG PKiKP PKiKP 22 23 40.5 -1.3
comp=Z,1.1nm,0.3s,baz=292,slow=0.6,SNR=9.0
AKASG P3KPbc 22 45 25.0
comp=Z,2.2nm,0.8s,baz=53,slow=5.0,SNR=20
AKASG P3KP 22 46 07.2
comp=Z,1.2nm,0.9s,baz=145,slow=2.3,SNR=4.6
AKASG P4KP 22 54 59.0
comp=Z,0.3nm,0.6s,baz=261,slow=4.7,SNR=5.2
BCK Bucak 27.04 79 eP P 22 13 07.9 +1.4
BCK Bucak 27.04 79 eP P 22 13 07.9 +1.4
BOLV Bolvadin 27.14 76 i P P 22 13 08.8 +1.4
BOLV Bolvadin 27.14 76 i P P 22 13 08.8 +1.4
MDUB Mudurnu 27.16 72 eP P 22 13 08.2 +0.7
MDUB Mudurnu 27.16 72 eP P 22 13 08.2 +0.7
ANTB Antalya 27.19 80 eP P 22 13 09.5 +1.8
ANTB Antalya 27.19 80 eP P 22 13 09.5 +1.8
IIGN Ignalina 27.24 38 eP P 22 13 08.4 +0.6
IIGN AMB AMB 22 13 10.8
comp=Z,594nm,0.8s
IIGN Ignalina 27.24 38 eP P 22 13 08.4 +0.6
comp=Z,594nm,0.8s
KDZE Karadeniz Ereo 27.30 70 eP P 22 13 07.9 -0.7
KDZE Karadeniz Ereo 27.30 70 eP P 22 13 07.9 -0.7
NACGM Naroch 27.30 39⇓ iP P 22 13 09.0 -2.3
ISAL Salakas 27.30 38 eP P 22 13 08.8 +0.5
ISAL AMB AMB 22 13 11.1
comp=Z,565nm,0.6s
ISAL Salakas 27.30 38 eP P 22 13 08.8 +0.5
comp=Z,565nm,0.6s
SVRH Sivrihisar-ESK 27.50 74 eP P 22 13 11.4 +1.0
SVRH Sivrihisar-ESK 27.50 74 eP P 22 13 11.4 +1.0
TBLU Trondheim 27.59 13 eP P 22 13 12.8 +2.2
TBLU eS S 22 17 18.1 +8.0
TBLU Trondheim 27.59 13 eP P 22 13 12.8 +2.2
SNR=51
MNK Minsk 27.66 41⇓ iP P 22 13 08.0 -3.4
MNK e 22 15 58.0
MNK eS S 22 17 06.0 -5.4
MNK pmax pmax
comp=E,2μm,1.5s
MNK pmax pmax
comp=N,2μm,1.0s
MNK pmax pmax
comp=Z,3μm,1.5s
MNK smax smax
comp=N,8μm,8.0s
MNK smax smax
comp=E,10μm,7.0s
MNK MLR MLR
comp=Z,8μm,16.0s
MICGM Minsk 27.68 41⇓ iP P 22 13 08.0 -3.6
BCAM Yenicaga 27.80 71 i P P 22 13 14.1 +1.1
BCAM Yenicaga 27.80 71 i P P 22 13 14.1 +1.1
KIZT Kizilcal 27.84 75 eP P 22 13 14.9 +1.5
KIZT Kizilcal 27.84 75 eP P 22 13 14.9 +1.5
KDHN Kadinhani 28.07 76 i P P 22 13 16.6 +1.1
KDHN Kadinhani 28.07 76 i P P 22 13 16.6 +1.1
LADK Ladik-KONYA 28.31 77 eP P 22 13 18.1 +0.6
LADK Ladik-KONYA 28.31 77 eP P 22 13 18.1 +0.6
SACV Santiago Islan 28.33 225 eP P 22 13 17.8 0.0
comp=Z,231nm,1.1s
SACV eScP ScP 22 18 54.0 +1.1
SACV Santiago Islan 28.33 225 eP P 22 13 17.8 0.0
comp=Z,231nm,1.1s
SACV eScP ScP 22 18 54.0 +1.1
ANTO Ankara 28.43 73 eP P 22 13 19.6 +1.1
ANTO pmax pmax
comp=Z,1μm,1.1s
ANTO Ankara 28.43 73⇑ iP P 22 13 20.0 +1.5
ANTO Ankara 28.43 73⇑ iP ScP 22 18 53.7 +0.8
ANTO Ankara 28.43 73 eP P 22 13 19.6 +1.1
comp=Z,1μm,1.1s
ANTO eScP ScP 22 18 53.9 +1.0
ANTO Ankara 28.43 73 P P 22 13 20.0 +1.5
SNR=137
ANTO Ankara 28.43 73 eP P 22 13 19.6 +1.1
comp=Z,1μm,1.1s
ANTO eScP ScP 22 18 53.9 +1.0
BBAL Bala 28.72 74 i P P 22 13 22.3 +1.3
BBAL Bala 28.72 74 i P P 22 13 22.3 +1.3
ELDT Eldivan 28.86 72 i P P 22 13 22.8 +0.6
ELDT Eldivan 28.86 72 i P P 22 13 22.8 +0.6
ERMK Ermenek 29.02 80 i P P 22 13 23.9 +0.1
ERMK Ermenek 29.02 80 i P P 22 13 23.9 +0.1
ILGA Ilgaz 29.03 70 i P P 22 13 24.7 +0.9
ILGA Ilgaz 29.03 70 i P P 22 13 24.7 +0.9
NSS Namsos 29.07 14 eP P 22 13 22.8 -0.6
NSS Namsos 29.07 14 eP P 22 13 22.8 -0.6
SNR=51
BRTR Keskin Array B 29.09 73 P P 22 13 25.0 +0.7
comp=Z,134nm,0.4s,baz=256,slow=7.6,SNR=556
BRTR PcP PcP 22 16 12.7 +1.3
comp=Z,30nm,0.9s,baz=249,slow=3.7,SNR=3.8
BRTR ScP ScP 22 18 55.2 +0.1
comp=Z,179nm,1.1s,baz=242,slow=2.7,SNR=26
BRTR P3KPbc 22 45 17.2
comp=Z,2.1nm,0.7s,baz=117,slow=5.6,SNR=12
VSU Vasula 29.14 33 d iP P 22 13 23.8 -0.3
VSU pmax pmax
comp=Z,3μm,1.3s
VSU Vasula 29.14 33 i P P 22 13 23.8 -0.3
comp=Z,3μm,1.3s
KAST KASTAMONU 29.16 69 i P P 22 13 25.7 +1.0
KAST KASTAMONU 29.16 69 i P P 22 13 25.7 +1.0
SIM Simferopol' 29.26 62 d iP P 22 13 26.0 +0.6
SIM e 22 16 13.0
SIM i S S 22 17 37.0 +0.6
SIM pmax pmax
comp=Z,332nm,1.2s
SIM Simferopol' 29.26 62 i P P 22 13 26.0 +0.6
comp=Z,332nm,1.2s
SIM Simferopol' 29.26 62 ePcP PcP 22 16 13.0 +1.5
SIM i S S 22 17 37.0 +0.6
CDAG Cicekdag 29.67 73 i P P 22 13 30.3 +1.1
CDAG Cicekdag 29.67 73 i P P 22 13 30.3 +1.1
BSTP Nigde 29.71 77 i P P 22 13 31.1 +1.5
CSS Prodhromos 29.74 83 eP P 22 13 30.4 +0.7
comp=Z,159nm,0.8s
CSS eS S 22 17 48.5 +4.4
CSS Prodhromos 29.74 83 eP P 22 13 30.4 +0.7
comp=Z,159nm,0.8s
CSS eS S 22 17 48.5 +4.4
BORG Borgarnes 29.74 345 eP P 22 13 31.5 +2.2
BORG pmax pmax
comp=Z,844nm,1.6s
BORG Borgarnes 29.74 345 P P 22 13 30.3 +1.0
comp=Z,156nm,0.5s,baz=122,slow=3.9,SNR=60
BORG ScP ScP 22 18 57.5 +1.0
comp=Z,70nm,1.0s,baz=158,slow=3.2,SNR=4.6
BORG Borgarnes 29.74 345 eP P 22 13 31.5 +2.2
comp=Z,844nm,1.6s
BORG ScP ScP 22 18 57.5 +1.0
BORG Borgarnes 29.74 345 eP P 22 13 31.5 +2.2
comp=Z,844nm,1.6s
BORG ScP ScP 22 18 57.5 +1.0
CTKT Corum 29.88 71 i P P 22 13 32.6 +1.6
CTKT Corum 29.88 71 i P P 22 13 32.6 +1.6
BOYT Boyabat 29.89 70 i P P 22 13 32.0 +1.0
BOYT Boyabat 29.89 70 i P P 22 13 32.0 +1.0
KIZK Mersin 30.02 79 i P P 22 13 32.6 +0.5
KIZK Mersin 30.02 79 i P P 22 13 32.6 +0.5
DBIC Dimbokro 30.22 183 eP P 22 13 33.7 -0.3
DBIC Dimbokro 30.22 183 P P 22 13 34.0 -0.1
DBIC S S 22 17 49.3 -2.6
DBIC pmax pmax
comp=Z,177nm,0.5s
DBIC smax smax
comp=N,107nm,0.9s
DBIC Dimbokro 30.22 183 P P 22 13 34.0 -0.1
comp=N,177nm,0.5s,baz=350,slow=7.6,SNR=416
DBIC S S 22 17 49.3 -2.6
comp=N,107nm,0.9s,baz=335,slow=11,SNR=8.9
DBIC P3KPbc 22 45 11.6
comp=N,5.3nm,1.0s,baz=142,slow=4.3,SNR=8.1
DBIC Dimbokro 30.22 183 P P 22 13 34.0 -0.1
comp=N,177nm,0.5s
DBIC Dimbokro 30.22 183 eP P 22 13 33.6 -0.5
comp=N,199nm,0.6s
DBIC S S 22 17 49.3 -2.6
TIC Toumodi 30.25 183 eP P 22 13 34.2 -0.2
comp=N,457nm,0.5s
KIC Kosan Boka 30.53 182 eP P 22 13 36.5 -0.2
comp=N,346nm,0.6s
FINES FINESS Array B 30.66 28 P P 22 13 37.3 +0.2
comp=N,384nm,0.6s,baz=213,slow=7.4,SNR=574
FINES PcP PcP 22 16 15.8 +0.9
comp=N,58nm,0.5s,baz=195,slow=4.3,SNR=3.8
FINES ScP ScP 22 18 59.0 -0.7
comp=N,100nm,0.8s,baz=211,slow=4.9,SNR=10
FINES P3KPbc 22 45 08.9
comp=N,2.7nm,0.8s,baz=72,slow=4.5,SNR=16
LIC Lamto 30.67 183 ⇓ iP P 22 13 37.6 -0.3
comp=N,169nm,0.5s,baz=11
LIC ⇓ ipP pP 22 15 12.7 -3.0
LIC eR
comp=N,3μm,19.7s
LIC Lamto 30.67 183 eP P 22 13 37.6 -0.3
comp=N,294nm,0.5s
LIC Lamto 30.67 183 ⇓ iP P 22 13 37.6 -0.3
comp=N,169nm,0.5s
LIC Lamto 30.67 183 ⇓ iP P 22 13 37.6 -0.3
comp=N,169nm,0.5s
LIC ⇓ ipP pP 22 15 12.7 -3.0
KUK Kukurantumi 30.81 174 i P P 22 13 36.4 -2.6
STOK Stokkvaagen 30.89 13 eP P 22 13 39.3 +0.3
STOK i 22 18 00.2
STOK Stokkvaagen 30.89 13 eP P 22 13 39.3 +0.3
SNR=50
KONS Konsvik 31.05 13 eP P 22 13 40.8 +0.4
KONS Konsvik 31.05 13 eP P 22 13 40.8 +0.4
SNR=50
KAF Kangasniemi 31.17 27 eP P 22 13 41.7 +0.2
KAF pmax pmax
comp=E,850nm,1.0s
KAF Kangasniemi 31.17 27 ep P 22 13 41.7 +0.2
comp=E,850nm,1.0s
KAF Kangasniemi 31.17 27 eP P 22 13 41.7 +0.2
comp=E,850nm,1.0s
PUL Pulkovo 31.40 33 d iP P 22 13 43.3 -0.1
PUL pmax pmax
comp=Z,1μm,1.4s
PUL Pulkovo 31.40 33 i P P 22 13 43.3 -0.1
comp=Z,1μm,1.4s
ANDN Andirin 31.52 77 i P P 22 13 45.6 +0.6
ANDN Andirin 31.52 77 i P P 22 13 45.6 +0.6
ARNB Al Arnab 31.61 80 eP P 22 13 46.6 +0.9
ARNB Al Arnab 31.61 80 eP S 22 18 10.2 -2.6
ANN Anapa 31.62 63 d iP P 22 13 45.2 -0.3
ANN i 22 16 17.3
ANN eS S 22 18 11.6 -0.8
ANN i 22 23 03.9
ANN pmax pmax
comp=Z,3μm,1.5s
ANN pmax pmax
comp=N,738nm,1.5s
ANN pmax pmax
comp=E,817nm,1.5s
ANN smax smax
comp=E,5μm,5.2s
ANN smax smax
comp=N,2μm,5.2s
ANN Anapa 31.62 63 i P P 22 13 45.2 -0.3
comp=N,3μm,1.5s
ANN Anapa 31.62 63 i PcP PcP 22 16 17.3 -0.5
ANN eS S 22 18 11.6 -0.8
comp=N,2μm,5.2s
ANN i ScS ScS 22 23 03.9 +1.0
NAQL Naqoura 31.70 85 eP P 22 13 48.3 +1.9
NAQL Naqoura 31.70 85 eP P 22 13 48.3 +1.9
KAMA Osmaniye 31.85 77 i P P 22 13 48.4 +0.6
DQRL Deir Qamar 31.86 84 eP P 22 13 49.0 +1.1
DQRL Deir Qamar 31.86 84 eP P 22 13 49.0 +1.1
BHL Bhannes 31.87 84 eP P 22 13 48.8 +0.8
BHL Bhannes 31.87 84 eP P 22 13 48.8 +0.8
MMAI Mount Meron Ar 31.94 85 ScP ScP 22 19 05.2 +0.5
comp=N,53nm,0.6s,baz=356,slow=2.6,SNR=14
MMAI PKiKP PKiKP 22 23 44.7 -1.0
comp=N,0.9nm,0.3s,baz=286,slow=1.1,SNR=4.1
BTCH Batrach 31.95 80 eP P 22 13 50.0 +1.5
HWQ Hawqa 32.00 83 eP P 22 13 50.6 +1.5
HWQ Hawqa 32.00 83 eP P 22 13 50.6 +1.5
WRDH Warideh 32.04 80 eP P 22 13 51.6 +2.2
BIDA Albida 32.10 81 eP P 22 13 52.1 +2.3
BIDA Albida 32.10 81 eP S 22 18 20.6 +0.4
RCY Rachaya 32.14 84 eP P 22 13 51.2 +0.9
RCY Rachaya 32.14 84 eP P 22 13 51.2 +0.9
BRBR Barbar 32.26 84 eP P 22 13 54.2 +2.8
HAWK Haweek 32.30 82 eP P 22 13 54.1 +2.6
HAWK Haweek 32.30 82 eP S 22 18 22.7 -0.6
KFRA Kufra 32.42 81 eP P 22 13 56.0 +3.4
KFRA Kufra 32.42 81 eP S 22 18 29.1 +4.0
GRSN GIRESUNGRSN 32.47 70 i P P 22 13 53.5 +0.7
GRSN GIRESUNGRSN 32.47 70 i P P 22 13 53.5 +0.7
QASN Qassioun 32.48 84 eP P 22 13 56.8 +3.7
QASN Qassioun 32.48 84 eP S 22 18 25.3 -0.8
MARH Ras Al Marh 32.50 83 eP P 22 13 58.3 +4.8
MARH Ras Al Marh 32.50 83 eP S 22 18 24.3 -2.5
TCHB Talchebab 32.50 86 eP P 22 13 57.9 +4.6
TCHB Talchebab 32.50 86 eP S 22 18 29.5 +3.2
GZT Gaziantep 32.52 77 i P P 22 13 54.7 +1.3
OBN Obninsk 32.58 43 d iP P 22 13 53.4 -0.1
OBN i 22 16 20.9
OBN i *SP sP 22 16 41.4 -2.7
OBN i S S 22 18 23.5 -3.2
OBN pmax pmax
comp=Z,2μm,1.1s
OBN MLR MLR
comp=Z,2μm,14.0s
OBN Obninsk 32.58 43 S S 22 18 26.9 +0.2
comp=Z,124nm,0.8s,baz=296,slow=20,SNR=3.7
OBN ScS ScS 22 23 04.8 -2.7
comp=Z,52nm,1.0s,baz=160,slow=23,SNR=13
OBN Obninsk 32.58 43 i P P 22 13 53.4 -0.1
comp=Z,2μm,1.1s
OBN Obninsk 32.58 43 i PcP PcP 22 16 20.9 +0.6
OBN S S 22 18 26.9 +0.2
OBN Obninsk 32.58 43 eP P 22 13 53.3 -0.1
comp=Z,4μm,1.4s
OBN S S 22 18 26.9 +0.2
OBN ScS ScS 22 23 04.8 -2.7
LOF Lofoten 32.60 12 eP P 22 13 54.6 +1.2
LOF eS S 22 18 30.9 +4.3
LOF Lofoten 32.60 12 eP P 22 13 54.6 +1.2
SNR=49
AKCD Akcadag 32.61 75 i P P 22 13 55.1 +0.9
AKCD Akcadag 32.61 75 i P P 22 13 55.1 +0.9
TOTH TOTAH 32.65 84 eP P 22 14 00.1 +5.6
TOTH TOTAH 32.65 84 eP S 22 18 29.2 +0.6
STEI Steigen 32.71 13 eP P 22 13 54.8 +0.5
STEI Steigen 32.71 13 eP P 22 13 54.8 +0.5
SNR=49
KEMA Kemaliye 32.88 73 i P P 22 13 57.2 +0.8
KEMA Kemaliye 32.88 73 i P P 22 13 57.2 +0.8
RABH Abou Rabah 32.95 82 eP P 22 14 00.6 +3.5
RABH Abou Rabah 32.95 82 eP S 22 18 34.8 +1.6
MALT Malatya 33.00 75 ⇓ iP P 22 13 58.7 +1.3
MALT Malatya 33.00 75⇑ iP ScP 22 19 09.5 +1.1
MALT Malatya 33.00 75 ⇓ iP P 22 13 58.7 +1.3
SLMH Al Salmeh 33.06 79 eP P 22 14 01.4 +3.5
SLMH Al Salmeh 33.06 79 eP S 22 18 31.4 -3.3
ATAB Bozova 33.06 76 i P P 22 13 58.4 +0.5
ATAB Bozova 33.06 76 i P P 22 13 58.4 +0.5
ROOS tl_alroos 33.10 83 eP P 22 14 02.5 +4.2
ROOS tl_alroos 33.10 83 eP S 22 18 37.6 +2.3
SALA Sala 33.10 85 eP P 22 14 01.5 +3.1
SALA Sala 33.10 85 eP S 22 18 40.6 +5.0
VSR Storozhevoye 33.25 51 eP P 22 13 59.5 +0.3

VSR eS **S** **22 18 36.3 -0.6**
VSR e 22 23 09.1
VSR pmax pmax
comp=Z,4μm,1.4s
VSR pmax pmax
comp=N,500nm,1.7s
VSR pmax pmax
comp=E,2μm,1.7s
VSR smax smax
comp=N,2μm,9.6s
VSR smax smax
comp=Z,2μm,7.3s
VSR smax smax
comp=E,2μm,6.2s
VSR Storozhevoye 33.25 51 eP **P** **22 13 59.5 +0.3**
comp=E,4μm,1.4s
VSR eS **S** **22 18 36.3 -0.6**
comp=E,2μm,7.3s
VORD Divnogorie 33.29 51 eP **P** **22 14 00.3 +0.8**
VORD eS **S** **22 18 36.3 -1.3**
VORD e 22 23 09.6
VORD pmax pmax
comp=Z,860nm,0.6s
VORD pmax pmax
comp=N,410nm,0.5s
VORD pmax pmax
comp=E,1μm,0.9s
VORD smax smax
comp=E,3μm,7.7s
VORD smax smax
comp=Z,1μm,5.3s
VORD smax smax
comp=N,1μm,10.1s
VORD Divnogorie 33.29 51 eP **P** **22 14 00.3 +0.8**
comp=N,410nm,0.5s
VORD eS **S** **22 18 36.3 -1.3**
comp=N,1μm,10.1s
VORD eScS **ScS** **22 23 09.6 -1.9**
SOC Sochi 33.30 65*d* iP **P** **22 14 00.2 +0.5**
SOC eS **S** **22 18 36.3 -1.6**
SOC pmax pmax
comp=Z,1μm,0.8s
SOC Sochi 33.30 65 *i* P **P** **22 14 00.2 +0.5**
comp=Z,1μm,0.8s
SOC eS **S** **22 18 36.3 -1.6**
KELT Kelkit 33.32 71 *i* P **P** **22 14 00.8 +0.6**
KELT Kelkit 33.32 71 *i* P **P** **22 14 00.8 +0.6**
MOS Moscow 33.34 43k *i*P **P** **22 14 00.1 +0.3**
MOS e*SP **sP** **22 16 48.3 -2.5**
MOS *i* S **S** **22 18 36.1 -2.1**
MOS *i* 22 23 08.3
MOS pmax pmax
comp=Z,2μm,0.9s
MOS pmax pmax
comp=Z,6μm,1.5s
MOS smax smax
comp=N,2μm,2.2s
MOS smax smax
comp=E,2μm,2.2s
MOS Moscow 33.34 43 *i* P **P** **22 14 00.1 +0.3**
comp=E,6μm,1.5s
MOS *i* S **S** **22 18 36.1 -2.1**
VOR Voronezh 33.35 50 eP **P** **22 13 59.0 -1.0**
VOR eS **S** **22 18 38.0 -0.4**
VOR pmax pmax
comp=Z,4μm,1.2s
VOR Voronezh 33.35 50 eP **P** **22 13 59.0 -1.0**
comp=Z,4μm,1.2s
VOR eS **S** **22 18 38.0 -0.4**
ELZG Elazig 33.39 74 *i* P **P** **22 14 02.0 +1.2**
ELZG Elazig 33.39 74 *i* P **P** **22 14 02.0 +1.2**
ASF Jabal al Asfar 33.41 86 P **P** **22 14 02.6 +1.7**
comp=Z,588nm,0.9s,baz=242,slow=4.9,SNR=170
ASF ScP **ScP** **22 19 11.8 +1.9**
comp=Z,179nm,1.1s,baz=254,slow=2.0,SNR=16
ZALF Zalf 33.51 85 eP P 22 14 05.7 +4.0
ZALF Zalf 33.51 85 eP **S** **22 18 38.3 -3.3**
JOF Joensuu 33.51 28 eP **P** **22 14 01.7 +0.5**
JOF pmax pmax
comp=Z,666nm,0.7s
JOF Joensuu 33.51 28 *e*p **P** **22 14 01.7 +0.5**
comp=Z,666nm,0.7s
JOF Joensuu 33.51 28 eP **P** **22 14 01.7 +0.5**
comp=Z,666nm,0.7s
JHLN Al Jahlan 33.60 79 eP **P** **22 14 04.8 +2.4**
JHLN Al Jahlan 33.60 79 eP **S** **22 18 45.4 +2.7**
EUZM Uzumlu 33.72 72 *i* P **P** **22 14 05.0 +1.5**
EUZM Uzumlu 33.72 72 *i* P **P** **22 14 05.0 +1.5**
KSRV Kasrt alli 33.99 79 eP **S** **22 18 50.3 +1.7**
JMIC Jan Mayen 34.15 357 eP **P** **22 14 08.4 +2.1**
JMIC e*pP **PP** **22 15 49.2 -0.5**
JMIC eS **S** **22 18 54.3 +4.3**
JMIC eSS **SS** **22 22 10.7 +6.3**
JMIC Jan Mayen 34.15 357 P **P** **22 14 06.5 +0.2**
comp=Z,145nm,0.6s,baz=137,slow=4.2,SNR=4.5
JMIC ScP **ScP** **22 19 12.2 +0.5**
comp=Z,136nm,0.7s,baz=93,slow=6.4,SNR=4.3
KOPT Kop Dagi 34.28 71 *i* P **P** **22 14 10.4 +2.1**
KOPT Kop Dagi 34.28 71 *i* P **P** **22 14 10.4 +2.1**
SFNV Sufian 34.72 78 eP **P** **22 14 14.5 +2.8**
SFNV Sufian 34.72 78 eP **ScP** **22 19 14.6 +0.1**
VRHR Novokhopersk 34.77 52 eP **P** **22 14 13.1 +1.3**
VRHR eS **S** **22 18 59.3 -0.4**
VRHR eSS **SS** **22 22 13.8 -1.4**
VRHR *e* 22 23 18.0
VRHR pmax pmax
comp=Z,1μm,0.8s
VRHR pmax pmax
comp=N,750nm,0.9s
VRHR pmax pmax
comp=E,2μm,1.0s
VRHR smax smax
comp=E,2μm,7.1s
VRHR smax smax
comp=Z,2μm,8.2s
VRHR smax smax
comp=N,790nm,6.6s
VRHR Novokhopersk 34.77 52 eP **P** **22 14 13.1 +1.3**
comp=N,750nm,0.9s
VRHR eS **S** **22 18 59.3 -0.4**
comp=N,790nm,6.6s
VRHR eScS **ScS** **22 23 18.0 -1.5**
TRO Tromso 34.86 13 eP **P** **22 14 14.7 +2.4**
TRO *e* 22 16 14.4
TRO esP **sP** **22 17 03.9 -0.2**
TRO eS **S** **22 19 02.9 +2.3**
TRO Tromso 34.86 13 eP **P** **22 14 14.7 +2.4**
SNR=48
TRO eS **S** **22 19 02.9 +2.3**
SNR=47
KBSD Kabsdagh 34.92 76 eP **P** **22 14 14.7 +1.4**
KBSD Kabsdagh 34.92 76 eP **ScP** **22 19 11.6 -3.6**
ERZM Erzurum 34.96 71 *i* P **P** **22 14 15.7 +1.8**
ERZM Erzurum 34.96 71 *i* P **P** **22 14 15.7 +1.8**
DBOC Borcka 34.96 69 *i* P **P** **22 14 13.8 +0.2**
DBOC Borcka 34.96 69 *i* P **P** **22 14 13.8 +0.2**
BNGL BINGOL 34.97 73 *i* P **P** **22 14 15.6 +1.7**
DBAD Bademkaya 35.03 69 *i* P **P** **22 14 15.1 +0.8**
DBAD Bademkaya 35.03 69 *i* P **P** **22 14 15.1 +0.8**
DDEM Demirkent 35.09 69 *i* P **P** **22 14 15.7 +0.9**
DDEM Demirkent 35.09 69 *i* P **P** **22 14 15.7 +0.9**
CHVG Ch'k'valeri 35.10 66 P **P** **22 14 16.0 +1.3**
CHVG S S 22 19 17.6 +13
ARTV Artvin 35.18 69 *i* P **P** **22 14 16.2 +0.5**
ARTV Artvin 35.18 69 *i* P **P** **22 14 16.2 +0.5**
DAGI Agillar 35.18 69 *i* P **P** **22 14 16.3 +0.8**
KTK1 Kautokeino 35.24 16 eP **P** **22 14 15.5 0.0**
KTK1 *i* 22 19 05.5
KTK1 *e* 22 22 15.7
KTK1 Kautokeino 35.24 16 eP **P** **22 14 15.5 0.0**
SNR=48
BEST Besiri 35.28 75 *i* P **P** **22 14 17.5 +1.1**
MZRK Al-Mazaregh 35.29 78 eP **P** **22 14 19.3 +2.8**
MZRK Al-Mazaregh 35.29 78 eP **S** **22 19 09.4 +1.3**
HOMI Horasan 35.34 71 *i* P **P** **22 14 18.4 +1.4**
KIV Kislovodsk 35.42 64 eP **P** **22 14 18.1 +0.7**
KIV *e* 22 16 30.3
KIV eS **S** **22 19 12.2 +2.4**
KIV pmax pmax
comp=Z,114nm,0.5s
KIV pmax pmax
comp=Z,2μm,4.6s
KIV Kislovodsk 35.42 64 eP **P** **22 14 17.8 +0.4**
KIV Kislovodsk 35.42 64 ePcP **PcP** **22 16 30.3 +1.2**
KIV eS **S** **22 19 12.2 +2.4**
KIV Kislovodsk 35.42 64 *i* P **P** **22 14 18.3 +0.9**
SNR=21
KIV Kislovodsk 35.42 64 P **P** **22 14 18.5 +1.1**
SNR=144
KIV Kislovodsk 35.42 64 eP **P** **22 14 17.8 +0.4**
NEY Neytrino 35.51 65 *i* P **P** **22 14 19.7 +1.4**
NEY Neytrino 35.51 65 *i* P **P** **22 14 19.7 +1.4**
KBZ Khabaz 35.59 64 P **P** **22 14 20.0 +1.4**
comp=Z,512nm,1.1s,baz=276,slow=6.4,SNR=203
KBZ PcP **PcP** **22 16 31.1 +1.7**
comp=Z,175nm,1.1s,baz=125,slow=3.2,SNR=4.0
KBZ ScP **ScP** **22 19 18.8 +1.4**
comp=Z,231nm,1.2s,baz=247,slow=3.6,SNR=15
KBZ P3KPbc 22 44 48.0
comp=Z,1.5nm,0.9s,baz=171,slow=8.6,SNR=4.1
GOF Gofitskoye 35.59 62 eP **P** **22 14 19.0 +0.3**
GOF *i* S **S** **22 19 12.6 +0.4**
GOF Gofitskoye 35.59 62 eP **P** **22 14 19.0 +0.3**
GOF *i* S **S** **22 19 12.6 +0.4**
EKAR Karacoban 35.61 72 *i* P **P** **22 14 21.3 +2.1**
EKAR Karacoban 35.61 72 *i* P **P** **22 14 21.3 +2.1**
EATA Eleskirt 35.82 71 *i* P **P** **22 14 22.4 +1.3**
EATA Eleskirt 35.82 71 *i* P **P** **22 14 22.4 +1.3**
NCK Nalchik 36.12 65*d* iP **P** **22 14 24.7 +1.6**
NCK Nalchik 36.12 65 *i* P **P** **22 14 24.7 +1.6**
ONI Oni 36.12 66 P **P** **22 14 23.9 +0.8**
ONI S **S** **22 19 20.9 +0.7**
ARCES ARCESS Array B 36.16 17 P **P** **22 14 22.7 -0.3**
comp=Z,100nm,0.4s,baz=213,slow=11,SNR=619
ARCES PcP **PcP** **22 16 31.5 +0.7**
comp=Z,56nm,0.5s,baz=198,slow=2.6,SNR=8.5
ARCES ScP **ScP** **22 19 18.7 -0.4**
comp=Z,188nm,1.0s,baz=249,slow=3.4,SNR=20
ARCES ScS **ScS** **22 23 26.4 -0.4**
comp=Z,31nm,1.2s,baz=174,slow=3.3,SNR=4.0
ARCES PKiKP **PKiKP** **22 23 47.0 -0.7**
comp=Z,3.9nm,0.6s,baz=262,slow=0.7,SNR=5.6
ARCES P3KPbc 22 44 45.1
comp=Z,3.7nm,0.8s,baz=58,slow=5.6,SNR=7.7
ARE0 ARCESS Array S 36.16 17 eP **P** **22 14 22.5 -0.5**
ARE0 e*pP **PP** **22 16 06.6 -1.7**
ARE0 ARCESS Array S 36.16 17 eP **P** **22 14 22.5 -0.5**
SNR=48
AKH Akhalkalaki 36.31 68 P **P** **22 14 25.5 +0.6**
AKH S **S** **22 19 25.3 +1.9**
ZEI Tsey 36.42 66 eP **P** **22 14 27.0 +1.2**
ZEI eS **S** **22 19 22.4 -2.6**
ZEI eSS **SS** **22 22 37.6 -6.0**
ZEI pmax pmax
comp=Z,1μm,1.5s
ZEI pmax pmax
comp=N,666nm,1.0s
ZEI pmax pmax
comp=E,855nm,1.1s
ZEI Tsey 36.42 66 eP **P** **22 14 27.0 +1.2**
comp=E,666nm,1.0s
EAK Akyaka 36.51 69 *i* P **P** **22 14 27.6 +1.1**
EAK Akyaka 36.51 69 *i* P **P** **22 14 27.6 +1.1**
GEVA Gevas 36.56 73 *i* P **P** **22 14 28.1 +1.1**
GEVA Gevas 36.56 73 *i* P **P** **22 14 28.1 +1.1**
KEV Kevo 36.68 17 eP **P** **22 14 27.1 -0.1**
KEV *e* 22 19 21.5
KEV pmax pmax
comp=Z,556nm,0.6s
KEV Kevo 36.68 17 e*p* **P** **22 14 27.1 -0.1**
comp=Z,611nm,0.7s
KEV Kevo 36.68 17 eP **P** **22 14 27.1 -0.1**
comp=Z,556nm,0.6s
KEV eScP **ScP** **22 19 21.5 +0.5**
KEV Kevo 36.68 17 eP **P** **22 14 27.1 -0.1**
comp=Z,556nm,0.6s
KEV eScP **ScP** **22 19 21.5 +0.5**
TMCR Tamitsa 36.74 29 eP **P** **22 14 28.0 +0.3**
TMCR eS **S** **22 19 29.9 +1.3**
TMCR pmax pmax
comp=Z,2μm,1.3s
TMCR Tamitsa 36.74 29 eP **P** **22 14 28.0 +0.3**
comp=Z,2μm,1.3s
TMCR eS **S** **22 19 29.9 +1.3**
APA Apatity 36.95 23⇑ iP **P** **22 14 30.6 +1.2**
APA *i* 22 16 35.4
APA *i* S **S** **22 19 32.0 +0.4**
APA pmax pmax
comp=Z,184nm,1.2s
APA MLR MLR
comp=Z,3μm,13.0s
APA Apatity 36.95 23 *i* P **P** **22 14 30.6 +1.2**
comp=Z,184nm,1.2s
APA Apatity 36.95 23 *i* PcP **PcP** **22 16 35.4 +2.2**
APA *i* S **S** **22 19 32.0 +0.4**
comp=Z,3μm,13.0s
KZR Kazreti 37.00 68 P **P** **22 14 30.7 +0.3**
TBLG Delisi 37.18 67 P **P** **22 14 32.6 +0.8**
TBLG S S 22 19 28.3 -7.6
TBLG Delisi 37.18 67 P **P** **22 14 32.6 +0.8**
SEAG Tbilisi Sea 37.23 67 P **P** **22 14 32.3 +0.1**
HAKT HAKKARI 37.23 74 *i* P **P** **22 14 33.8 +1.2**
HAKT HAKKARI 37.23 74 *i* P **P** **22 14 33.8 +1.2**
GNI Garni 37.46 70*d* iP **P** **22 14 35.1 +0.8**
GNI pmax pmax
comp=Z,1μm,1.2s
GNI Garni 37.46 70 P **P** **22 14 35.0 +0.8**
comp=Z,248nm,0.6s,baz=209,slow=1.3,SNR=133
GNI ScP **ScP** **22 19 25.8 +0.9**
comp=Z,139nm,1.0s,baz=110,slow=2.2,SNR=8.2
GNI Garni 37.46 70 eP **P** **22 14 34.7 +0.4**
comp=Z,2μm,1.4s
GNI ScP **ScP** **22 19 25.8 +0.9**
GNI Garni 37.46 70 *i* P **P** **22 14 35.2 +0.8**
SNR=191
GNI Garni 37.46 70 P **P** **22 14 35.5 +1.2**
SNR=131
GNI Garni 37.46 70 eP **P** **22 14 34.7 +0.4**
comp=Z,2μm,1.4s
GNI ScP **ScP** **22 19 25.8 +0.9**
LVZ Lovozero 37.53 23*d* iP **P** **22 14 34.3 +0.1**
LVZ pmax pmax
comp=Z,833nm,1.2s
LVZ Lovozero 37.53 23 *i* P **P** **22 14 34.3 +0.1**
comp=Z,833nm,1.2s
LVZ Lovozero 37.53 23 eP **P** **22 14 34.0 -0.2**
comp=Z,829nm,1.0s
DGRG David-gareji 37.70 68 P **P** **22 14 37.0 +1.0**
DGRG S **S** **22 19 39.2 -4.4**
IMRD Marand 38.49 72 eP **P** **22 14 42.5 -0.1**
IMRD Marand 38.49 72 eP **P** **22 14 42.5 -0.1**
ITBZ Tabriz 38.95 73 eP **P** **22 14 46.2 0.0**
ITBZ Tabriz 38.95 73 eP **P** **22 14 46.2 0.0**
IAZR Azarshahr 38.95 74 eP **P** **22 14 46.8 +0.4**
IAZR Azarshahr 38.95 74 eP **P** **22 14 46.8 +0.4**
MAK Makhachkala 39.02 65*d* iP **P** **22 14 46.6 +0.1**
MAK *i* 22 16 33.9
MAK *e* 22 16 44.1
MAK e*SP **sP** **22 17 39.0 -1.3**
MAK eS **S** **22 20 01.6 -1.0**
MAK e*SS **sS** **22 23 15.4 +2.3**
MAK *e* 22 23 44.1
MAK pmax pmax
comp=Z,5μm,1.7s
MAK pmax pmax
comp=Z,3μm,1.7s
MAK pmax pmax
comp=N,2μm,0.9s
MAK pmax pmax
comp=E,2μm,1.5s
MAK smax smax
comp=E,6μm,3.8s
MAK smax smax
comp=N,3μm,4.1s
MAK MLR MLR
comp=E,3μm,20.0s
MAK MLR MLR
comp=Z,3μm,18.0s
MAK MLR MLR
comp=N,2μm,17.0s
MAK Makhachkala 39.02 65 *i* P **P** **22 14 46.6 +0.1**
comp=N,2μm,0.9s
MAK eS **S** **22 20 01.6 -1.0**
comp=N,3μm,4.1s
MAK eScS **ScS** **22 23 44.1 -0.2**
comp=N,2μm,17.0s
PRGR Permogore 39.03 35⇓ iP **P** **22 14 46.7 +0.4**
PRGR e*PP **PP** **22 16 32.9 -1.7**
PRGR *e* 22 16 40.9
PRGR *i* S **S** **22 20 04.2 +2.0**
PRGR *i* 22 23 42.6
PRGR pmax pmax
comp=Z,4μm,1.3s
PRGR Permogore 39.03 35 *i* P **P** **22 14 46.7 +0.4**
comp=Z,4μm,1.3s
PRGR Permogore 39.03 35 ePcP **PcP** **22 16 40.9 +1.1**
PRGR *i* S **S** **22 20 04.2 +2.0**
PRGR *i* ScS **ScS** **22 23 42.6 -1.1**
IFTB Fath-abad 39.19 73 eP **P** **22 14 48.2 -0.1**
IFTB Fath-abad 39.19 73 eP **P** **22 14 48.2 -0.1**
IHRS Heris 39.61 72 eP **P** **22 14 51.4 -0.2**
IHRS Heris 39.61 72 eP **P** **22 14 51.4 -0.2**
SUMG Summit 39.73 344⇑ iP **P** **22 14 52.5 +0.3**
SUMG *i* S **S** **22 20 12.8 -0.1**
SUMG pmax pmax
comp=Z,500nm,0.8s
SUMG MLR MLR
comp=Z,2μm,12.0s
SUMG Summit 39.73 344 *i* P **P** **22 14 52.5 +0.3**
comp=Z,500nm,0.8s
SUMG eScP **ScP** **22 19 33.4 +0.2**
SUMG *i* S **S** **22 20 12.8 -0.1**
comp=Z,2μm,12.0s
SUMG Summit 39.73 344 eP **P** **22 14 52.4 +0.2**
comp=Z,558nm,0.7s
SUMG eScP **ScP** **22 19 33.4 +0.2**
SUMG Summit 39.73 344⇑ iP **P** **22 14 52.5 +0.3**
comp=Z,502nm,0.8s
SUMG *i* S **S** **22 20 12.8 -0.1**
SFJD Kangerlussuaq 40.09 333⇑ iP **P** **22 14 53.5 -1.1**
SFJD pmax pmax
comp=Z,220nm,0.8s
SFJD MLR MLR
comp=Z,2μm,14.0s
SFJD Kangerlussuaq 40.09 333 P **P** **22 14 54.0 -0.6**
comp=Z,252nm,0.5s,baz=131,slow=6.6,SNR=99
SFJD ScP **ScP** **22 19 34.2 0.0**
comp=Z,186nm,1.0s,baz=106,slow=5.3,SNR=16
SFJD S **S** **22 20 13.2 -4.2**
comp=Z,39nm,1.0s,baz=184,slow=19,SNR=4.2
SFJD ScS **ScS** **22 23 48.8 -1.1**
comp=Z,22nm,1.1s,baz=235,slow=21,SNR=15
SFJD Kangerlussuaq 40.09 333 eP **P** **22 14 53.5 -1.1**
comp=Z,1μm,1.6s
SFJD eScP **ScP** **22 19 34.2 0.0**
SFJD Kangerlussuaq 40.09 333 eP **P** **22 14 53.5 -1.1**
comp=Z,1μm,1.6s
SFJD eScP **ScP** **22 19 34.2 0.0**
SFJD eS **S** **22 20 16.2 -1.2**
SFJD ScS **ScS** **22 23 48.8 -1.1**
SFJD Kangerlussuaq 40.09 333⇑ iP **P** **22 14 53.5 -1.1**
comp=Z,215nm,0.8s
IDHR Dehrash 40.11 78 eP **P** **22 14 56.7 +1.0**
IDHR Dehrash 40.11 78 eP **P** **22 14 56.7 +1.0**
ISRB Sarab 40.21 73 eP **P** **22 14 55.9 -0.5**
ISRB Sarab 40.21 73 eP **P** **22 14 55.9 -0.5**
IGHG Ghaleghazi 40.37 78 eP **P** **22 14 58.9 +1.2**
IGHG Ghaleghazi 40.37 78 eP **P** **22 14 58.9 +1.2**
DAG Danmarks Havn 40.43 355⇑ iP **P** **22 14 57.7 +0.4**
DAG *i* S **S** **22 20 21.8 -0.4**
DAG pmax pmax
comp=Z,64nm,1.0s
DAG Danmarks Havn 40.43 355 *i* P **P** **22 14 57.7 +0.4**
comp=Z,64nm,1.0s
DAG *i* S **S** **22 20 21.8 -0.4**
DAG Danmarks Havn 40.43 355⇑ iP **P** **22 14 57.7 +0.4**
comp=Z,64nm,1.0s
DAG *i* S **S** **22 20 21.8 -0.4**
DRLN Deer Lake 40.46 305 eP **P** **22 14 57.0 -0.9**
comp=Z,1μm,0.9s
DRLN Deer Lake 40.46 305 eP **P** **22 14 57.0 -0.9**
comp=Z,1μm,0.9s
HSPB Hornsund (broa 40.97 6 eP **P** **22 15 03.0 +1.6**
HSPB e*pP **pP** **22 16 47.9 +1.4**
HSPB *e* 22 17 49.8
HSPB eS S 22 20 35.9 +6.0
HSPB Hornsund (broa 40.97 6 eP **P** **22 15 03.0 +1.6**
SNR=45
HSPB e*pP **pP** **22 16 47.8 +1.4**
SNR=129
IKOM Komasi 41.16 78 eP **P** **22 15 05.1 +1.2**
IKOM Komasi 41.16 78 eP **P** **22 15 05.1 +1.2**
ILULI Ilulissat 41.20 336⇑ iP **P** **22 15 02.3 -1.1**
ILULI *i* *SS 22 23 53.5
ILULI pmax pmax
comp=Z,410nm,0.7s
ILULI MLR MLR
comp=Z,2μm,14.0s
ILULI Ilulissat 41.20 336 *i* P **P** **22 15 02.3 -1.1**
comp=Z,410nm,0.7s
ILULI Ilulissat 41.20 336⇑ iP **P** **22 15 02.3 -1.1**
comp=Z,414nm,0.7s
IBZA Bozab 41.34 78 eP **P** **22 15 05.7 +0.3**
IBZA Bozab 41.34 78 eP **P** **22 15 05.7 +0.3**
HOPEN Hopen 41.60 10 eP **P** **22 15 07.5 +1.1**
HOPEN Hopen 41.60 10 eP **P** **22 15 07.5 +1.1**
SNR=45
MSKU Masuku 41.61 154 P **P** **22 15 07.6 +0.2**
comp=Z,91nm,0.4s,baz=25,slow=7.7,SNR=112
MSKU ScP **ScP** **22 19 40.7 -0.5**
comp=Z,190nm,0.8s,baz=338,slow=5.1,SNR=9.5
MSKU S **S** **22 20 39.0 -1.8**
comp=Z,79nm,0.7s,baz=110,slow=20,SNR=13
MSKU ScS **ScS** **22 23 57.1 -3.9**
comp=Z,59nm,0.8s,baz=150,slow=21,SNR=11
MSKU Masuku 41.61 154 eP **P** **22 15 07.7 +0.2**
comp=Z,220nm,0.9s
MSKU eScP **ScP** **22 19 40.8 -0.5**
MSKU Masuku 41.61 154 eP **P** **22 15 07.7 +0.2**
comp=Z,220nm,0.9s
MSKU eScP **ScP** **22 19 40.8 -0.5**
MSKU eS **S** **22 20 40.7 -0.2**
MSKU eScS **ScS** **22 23 57.3 -3.8**
IKFM Kafar-mosalman 41.64 79 eP **P** **22 15 08.6 +1.2**
IKFM Kafar-mosalman 41.64 79 eP **P** **22 15 08.6 +1.2**
SPA0 Spitsbergen Ar 42.12 6 eP **P** **22 15 12.1 +1.5**
SPA0 esP **sP** **22 18 05.8 -0.4**
SPA0 eScP **ScP** **22 19 44.2 +1.9**
SPA0 eS **S** **22 20 49.5 +3.0**
SPA0 Spitsbergen Ar 42.12 6 eP **P** **22 15 12.1 +1.5**
SNR=45
SPA0 eScP **ScP** **22 19 44.2 +1.9**
SNR=12
SPITS Spitsbergen Ar 42.12 6 P **P** **22 15 11.5 +0.9**
comp=Z,32nm,0.6s,baz=164,slow=9.1,SNR=54
SPITS ScP **ScP** **22 19 42.6 +0.3**
comp=Z,283nm,1.1s,baz=147,slow=14,SNR=15
KBS Kingsbay 42.51 4 eP **P** **22 15 15.4 +1.9**
KBS pmax pmax
comp=Z,29nm,0.7s
KBS Kingsbay 42.51 4 eP **P** **22 15 15.3 +1.9**
KBS esP **sP** **22 18 06.0 -3.3**
KBS eS **S** **22 20 55.2 +3.4**
KBS eS S 22 20 55.6 +3.8
KBS Kingsbay 42.51 4 eP **P** **22 15 15.3 +1.9**
SNR=44
KBS Kingsbay 42.51 4 eP **P** **22 15 15.3 +1.9**
comp=Z,29nm,0.7s
IRAZ Razeghan 42.65 75 eP **P** **22 15 16.2 +0.7**
IRAZ Razeghan 42.65 75 eP **P** **22 15 16.2 +0.7**
IMHD Mahdasht 43.13 75 eP **P** **22 15 19.6 +0.4**
IMHD Mahdasht 43.13 75 eP **P** **22 15 19.6 +0.4**
RAYN Ar Rayn 43.94 94 eP **P** **22 15 25.7 +0.2**
comp=Z,152nm,0.7s
RAYN Ar Rayn 43.94 94 eP **P** **22 15 25.7 +0.2**
comp=Z,152nm,0.7s
IVRN Varamin 44.17 75 eP **P** **22 15 27.8 +0.6**
IVRN Varamin 44.17 75 eP **P** **22 15 27.8 +0.6**
IPRN Peran 44.24 73 eP **P** **22 15 27.5 -0.2**
IPIR Pirpir 44.33 79 eP **P** **22 15 28.3 -0.3**
IPIR Pirpir 44.33 79 eP **P** **22 15 28.3 -0.3**
QAM Ghamsar 44.37 77 eP **P** **22 15 29.4 +0.6**
IKLH Kolahrood 44.63 78 eP **P** **22 15 31.6 +0.7**
IKLH Kolahrood 44.63 78 eP **P** **22 15 31.6 +0.7**
IALA Alasht 44.66 73 eP **P** **22 15 31.2 +0.1**
IALA Alasht 44.66 73 eP **P** **22 15 31.2 +0.1**
IFIR Firoozkooh 44.76 74 eP **P** **22 15 31.4 -0.4**
IFIR Firoozkooh 44.76 74 eP **P** **22 15 31.4 -0.4**
ILAS Lasjerd 45.00 74 eP **P** **22 15 33.0 -0.7**
ILAS Lasjerd 45.00 74 eP **P** **22 15 33.0 -0.7**
ARU Arti 45.02 44*d* iP **P** **22 15 33.0 -0.1**
ARU 22 17 00.8
ARU 22 17 25.6

ARU					*SP	**sP**	22 18 27.7	-2.5		
ARU					S	**S**	22 21 29.8	+2.0		
ARU							22 24 20.2			
ARU					*SS	**sS**	22 24 43.7	-0.8		
ARU					SS	**SS**	22 25 02.9	+1.3		
ARU					pmax	pmax				
	comp=Z,3μm,1.2s									
ARU	**Arti**	45.02	44	*i* P	**P**	22 15 33.0	-0.1			
	comp=Z,3μm,1.2s									
ARU	**Arti**	45.02	44	PcP	**PcP**	22 17 00.8	+0.5			
ARU				*e*S	**S**	22 21 27.9	0.0			
ARU				ScS	**ScS**	22 24 20.2	-1.4			
ARU	**Arti**	45.02	44	*e*P	**P**	22 15 31.9	-1.2			
	comp=Z,1μm,0.5s									
ARU				*e*S	**S**	22 21 27.9	0.0			
ISHM	**Shahmirzad**	45.12	74	*e*P	**P**	22 15 34.1	-0.5			
ISHM	**Shahmirzad**	45.12	74	*e*P	**P**	22 15 34.1	-0.5			
KULLO	**Kullorsuaq**	45.24	342	⇑*i*P	**P**	22 15 34.4	-0.1			
KULLO				pmax	pmax					
	comp=Z,550nm,0.7s									
KULLO				MLR	MLR					
	comp=Z,2μm,16.0s									
KULLO	**Kullorsuaq**	45.24	342	⇑*i*P	**P**	22 15 34.5	-0.1			
	SNR=44									
KULLO	**Kullorsuaq**	45.24	342	⇑*i*P	**P**	22 15 34.4	-0.1			
	comp=Z,549nm,0.7s									
IGLO	**Ghaloghah**	45.30	73	*e*P	**P**	22 15 36.5	+0.6			
IZEF	**Zefreh**	45.38	78	*e*P	**P**	22 15 36.5	-0.1			
IZEF	**Zefreh**	45.38	78	*e*P	**P**	22 15 36.5	-0.1			
IANJ	**Anjilo**	45.70	74	*e*P	**P**	22 15 38.6	-0.4			
IANJ	**Anjilo**	45.70	74	*e*P	**P**	22 15 38.6	-0.4			
SCHQ	**Schefferville**	45.85	314	P	**P**	22 15 38.3	-1.2			
	comp=Z,775nm,0.9s,baz=83,slow=6.9,SNR=317									
SCHQ				S	**S**	22 21 37.0	-2.5			
	comp=Z,131nm,1.1s,baz=196,slow=18,SNR=13									
SCHQ	**Schefferville**	45.85	314	*e*P	**P**	22 15 38.3	-1.2			
	comp=Z,1μm,0.9s									
SCHQ				S	**S**	22 21 37.0	-2.5			
SCHQ	**Schefferville**	45.85	314	*e*P	**P**	22 15 38.3	-1.2			
	comp=Z,1μm,0.9s									
SCHQ				S	**S**	22 21 37.0	-2.5			
SVE	**Sverdlovsk**	46.15	43	*c i*P	**P**	22 15 42.0	+0.3			
SVE				*e*		22 17 39.7				
SVE				*e*		22 18 38.0				
SVE				*i* S	**S**	22 21 43.1	-0.4			
SVE				*e*SS	SS	22 25 05.4	-14			
SVE				pmax	pmax					
	comp=Z,2μm,1.1s									
SVE				pmax	pmax					
	comp=Z,2μm,10.3s									
SVE	**Sverdlovsk**	46.15	43	*i* P	**P**	22 15 42.0	+0.3			
	comp=Z,2μm,10.3s									
SVE				*i* S	**S**	22 21 43.1	-0.4			
IKAZ	**Kazeroun**	46.20	82	*e*P	**P**	22 15 43.5	+0.6			
IKAZ	**Kazeroun**	46.20	82	*e*P	**P**	22 15 43.5	+0.6			
ABKAR	**Akbulak array**	46.57	54	*e*P	**P**	22 15 45.4	+0.4			
ABKAR	**Akbulak array**	46.57	54	*e*P	**P**	22 15 45.4	+0.4			
ISAD	**Sadrabad**	46.81	79	*e*P	**P**	22 15 47.5	+0.1			
ISAD	**Sadrabad**	46.81	79	*e*P	**P**	22 15 47.5	+0.1			
IPAR	**Pars**	47.13	81	*e*P	**P**	22 15 51.6	+1.7			
IPAR	**Pars**	47.13	81	*e*P	**P**	22 15 51.6	+1.7			
ICHK	**Chekchek**	47.24	78	*e*P	**P**	22 15 50.1	-0.5			
ICHK	**Chekchek**	47.24	78	*e*P	**P**	22 15 50.1	-0.5			
ISRV	**Sarvestan**	47.37	82	*e*P	**P**	22 15 53.2	+1.6			
ISRV	**Sarvestan**	47.37	82	*e*P	**P**	22 15 53.2	+1.6			
IMEH	**Mehriz**	47.74	79	*e*P	**P**	22 15 54.5	+0.2			
IMEH	**Mehriz**	47.74	79	*e*P	**P**	22 15 54.5	+0.2			
EMMW	**East Machias**	47.89	300	*e*P	**P**	22 15 54.4	-0.4			
	comp=Z,1μm,1.0s									
EMMW				*e*ScP	**ScP**	22 20 07.9	+1.1			
EMMW	**East Machias**	47.89	300	*e*P	**P**	22 15 54.4	-0.4			
	comp=Z,1μm,1.0s									
EMMW				*e*ScP	**ScP**	22 20 07.9	+1.1			
ISHV	**Shirvan**	47.90	70	*e*P	**P**	22 15 56.0	+0.6			
ISHV	**Shirvan**	47.90	70	*e*P	**P**	22 15 56.0	+0.6			
DAMY	**Dhamar**	47.95	105	*e*P	**P**	22 15 57.8	+1.7			
	comp=Z,900nm,1.3s									
DAMY	**Dhamar**	47.95	105	*e*P	**P**	22 15 57.8	+1.7			
	comp=Z,900nm,1.3s									
DHBB	**Dhamar BB**	47.95	105	*e*P	**P**	22 15 58.0	+1.9			
DHBB	**Dhamar BB**	47.95	105	*e*P	**P**	22 15 58.0	+1.9			
GEYT	**Alibeck**	48.09	69	P	**P**	22 15 56.8	+0.3			
	comp=Z,194nm,0.4s,baz=280,slow=7.1,SNR=302									
GEYT				ScP	**ScP**	22 20 08.1	+0.2			
	comp=Z,28nm,1.1s,baz=258,slow=7.1,SNR=4.6									
GEYT				P3KPbc		22 43 55.1				
	comp=Z,2.3nm,1.0s,baz=102,slow=6.1,SNR=3.5									
GEYT				PKP2bc		22 47 00.1				
	comp=Z,1.8nm,0.9s,baz=50,slow=2.3,SNR=5.4									
ISFR	**Sfrayin**	48.29	70	*e*P	**P**	22 15 59.1	+0.8			
ISFR	**Sfrayin**	48.29	70	*e*P	**P**	22 15 59.1	+0.8			
IBAF	**Bafgh**	48.41	78	*e*P	**P**	22 15 59.2	0.0			
IBAF	**Bafgh**	48.41	78	*e*P	**P**	22 15 59.2	0.0			
IKRD	**Kardeh**	48.77	70	*e*P	P	22 16 08.6	+6.7			
PKME	**Peaks-Kenny Pk**	49.01	301	*e*P	**P**	22 16 03.1	0.0			
	comp=Z,550nm,0.9s									
PKME	**Peaks-Kenny Pk**	49.01	301	*e*P	**P**	22 16 03.1	0.0			
	comp=Z,550nm,0.9s									
IAKL	**Akhelmad**	49.01	71	*e*P	**P**	22 16 04.9	+1.2			
IPAY	**Payeh**	49.24	71	*e*P	**P**	22 16 06.4	+1.1			
IPAY	**Payeh**	49.24	71	*e*P	**P**	22 16 06.4	+1.1			
WVL	**Waterville**	49.44	301	*e*P	**P**	22 16 06.1	-0.2			
	comp=Z,2μm,1.5s									
WVL	**Waterville**	49.44	301	*e*P	**P**	22 16 06.1	-0.2			
	comp=Z,2μm,1.5s									
ALE	**Alert**	49.57	352	P	**P**	22 16 06.0	-0.7			
	comp=Z,2μm,0.6s									
ISRO	**Mashad**	49.65	71	*e*P	**P**	22 16 08.8	+0.7			
ISRO	**Mashad**	49.65	71	*e*P	**P**	22 16 08.8	+0.7			
BBSR	**BB Station**	49.80	284	*e*P	**P**	22 16 09.3	+0.2			
	comp=Z,1μm,1.3s									
BBSR	**BB Station**	49.80	284	*e*P	**P**	22 16 09.3	+0.2			
	comp=Z,1μm,1.3s									
IMYA	**Miami**	50.12	70	*e*P	**P**	22 16 13.1	+1.5			
IMYA	**Miami**	50.12	70	*e*P	**P**	22 16 13.1	+1.5			
ITEG	**Tejag**	50.37	75	*e*P	**P**	22 16 14.3	+0.8			
ITEG	**Tejag**	50.37	75	*e*P	**P**	22 16 14.3	+0.8			
IKOO	**Kooshah**	50.76	76	*e*P	**P**	22 16 16.3	-0.1			
IKOO	**Kooshah**	50.76	76	*e*P	**P**	22 16 16.3	-0.1			
IBND	**Bandar-abas**	50.93	83	*e*P	**P**	22 16 16.6	-0.7			
IBND				*e*P	P	22 16 17.5	+0.2			
IBND	**Bandar-abas**	50.93	83	*e*P	**P**	22 16 16.6	-0.7			
LBNH	**Lisbon**	51.09	301	*e*P	**P**	22 16 18.5	+0.2			
LBNH				pmax	pmax					
	comp=Z,1μm,1.1s									
LBNH	**Lisbon**	51.09	301	*e*P	**P**	22 16 18.5	+0.2			
	comp=Z,1μm,1.1s									
LBNH	**Lisbon**	51.09	301	*e*P	**P**	22 16 18.5	+0.2			
	comp=Z,1μm,1.1s									
ASUD	**Al Ashush, Dub**	51.27	86	P	**P**	22 16 20.0	+0.2			
	SNR=852									
ASUD	**Al Ashush, Dub**	51.27	86	⇓*i*P	**P**	22 16 20.0	+0.2			
	SNR=852									
IDAH	**Dahanechah**	51.30	75	*e*P	**P**	22 16 20.4	+0.1			
IDAH	**Dahanechah**	51.30	75	*e*P	**P**	22 16 20.4	+0.1			
HRV	**Adam Dziewonsk**	51.36	299	*e*P	**P**	22 16 20.4	+0.2			
HRV				pmax	pmax					
	comp=Z,1μm,1.4s									
HRV	**Adam Dziewonsk**	51.36	299	*e*P	**P**	22 16 20.4	+0.2			
	comp=Z,1μm,1.4s									
HRV	**Adam Dziewonsk**	51.36	299	*e*P	**P**	22 16 20.4	+0.2			
	comp=Z,1μm,1.4s									
NAZ	**Nazwa, Dubai**	51.36	86	P	**P**	22 16 20.1	-0.4			
	SNR=336									
NAZ	**Nazwa, Dubai**	51.36	86	⇑*i*P	**P**	22 16 20.1	-0.4			
	SNR=336									
FAQ	**Al Faqa, Dubai**	51.42	86	P	**P**	22 16 20.4	-0.6			
	SNR=84									
FAQ	**Al Faqa, Dubai**	51.42	86	⇓*i*P	**P**	22 16 20.4	-0.6			
	SNR=84									
BANOM	**Banah**	51.43	84	P	**P**	22 16 20.4	-0.7			
	SNR=124									
BANOM	**Banah**	51.43	84	⇑*i*P	**P**	22 16 20.4	-0.7			
	SNR=124									
BANOM	**Banah**	51.43	84	P	**P**	22 16 20.9	-0.2			
	SNR=56									
BANOM	**Banah**	51.43	84	P	**P**	22 16 20.6	-0.5			
	SNR=100									
HNH	**Hanover**	51.50	300	*e*P	**P**	22 16 21.8	+0.6			
	comp=Z,708nm,1.4s									
HNH				*e*ScP	**ScP**	22 20 24.0	+1.6			
HNH	**Hanover**	51.50	300	*e*P	**P**	22 16 21.8	+0.6			
	comp=Z,708nm,1.4s									
HNH				*e*ScP	**ScP**	22 20 24.0	+1.6			
BRYW	**Bryant College**	51.53	298	*e*P	**P**	22 16 21.0	-0.5			
	comp=Z,421nm,1.0s									
BRYW	**Bryant College**	51.53	298	*e*P	**P**	22 16 21.0	-0.5			
	comp=Z,421nm,1.0s									
MUKL	**Al Mukalla**	51.63	101	*e*P	**P**	22 16 23.9	+1.4			
HATD	**Hatta, Dubai**	51.81	86	P	**P**	22 16 23.3	-0.5			
	SNR=349									
HATD	**Hatta, Dubai**	51.81	86	⇓*i*P	**P**	22 16 23.3	-0.5			
	SNR=349									
ASHO	**Ashiyiah**	51.82	86	P	**P**	22 16 23.2	-0.7			
	SNR=1000									
ASHO	**Ashiyiah**	51.82	86	⇑*i*P	**P**	22 16 23.3	-0.7			
	SNR=1468									
ASHO	**Ashiyiah**	51.82	86	P	**P**	22 16 23.5	-0.3			
	SNR=166									
ASHO	**Ashiyiah**	51.82	86	P	**P**	22 16 23.2	-0.7			
	SNR=1468									
QUA2	**Belchertown**	51.99	299	*e*P	**P**	22 16 25.2	+0.5			
	comp=Z,492nm,0.8s									
QUA2	**Belchertown**	51.99	299	*e*P	**P**	22 16 25.2	+0.5			
	comp=Z,492nm,0.8s									
MDV	**Middlebury**	52.03	301	*e*P	**P**	22 16 25.0	0.0			
MDV	**Middlebury**	52.03	301	*e*P	**P**	22 16 25.0	0.0			
BVAR	**Borovoye Array**	52.26	47	P	**P**	22 16 26.9	+0.3			
	comp=Z,213nm,0.6s,baz=280,slow=7.0,SNR=335									
RCBR	**Riachuelo**	52.28	222	P	**P**	22 16 28.4	+1.2			
	comp=Z,175nm,0.7s,baz=13,slow=9.7,SNR=132									
RCBR				ScP	**ScP**	22 20 27.8	+1.6			
	comp=Z,64nm,1.3s,baz=28,slow=8.3,SNR=5.8									
RCBR	**Riachuelo**	52.28	222	*e*P	**P**	22 16 25.9	-1.3			
	comp=Z,193nm,0.8s									
RCBR				ScP	**ScP**	22 20 27.8	+1.6			
RCBR	**Riachuelo**	52.28	222	*e*P	**P**	22 16 25.9	-1.3			
	comp=Z,193nm,0.8s									
RCBR				ScP	**ScP**	22 20 27.8	+1.6			
ACCN	**Adirondack Com**	52.56	300	*e*P	**P**	22 16 29.0	+0.2			
	comp=Z,3μm,2.4s									
ACCN	**Adirondack Com**	52.56	300	*e*P	**P**	22 16 29.0	+0.2			
	comp=Z,3μm,2.4s									
YLE	**Yale**	52.72	298	*e*P	**P**	22 16 30.0	+0.1			
	comp=Z,2μm,1.5s									
YLE	**Yale**	52.72	298	*e*P	**P**	22 16 30.0	+0.1			
	comp=Z,2μm,1.5s									
SHEL	**Horse Pasture**	52.72	183	*e*P	**P**	22 16 31.4	+1.2			
SHEL				pmax	pmax					
	comp=Z,140nm,0.8s									
SHEL	**Horse Pasture**	52.72	183	*e*P	**P**	22 16 31.4	+1.2			
	comp=Z,140nm,0.8s									
SHEL	**Horse Pasture**	52.72	183	*e*P	**P**	22 16 31.4	+1.2			
	comp=Z,140nm,0.8s									
TRY	**Troy**	52.76	299	*e*P	**P**	22 16 31.0	+0.8			
	comp=Z,2μm,1.8s									
TRY	**Troy**	52.76	299	*e*P	**P**	22 16 31.0	+0.8			
	comp=Z,2μm,1.8s									
LONY	**Lake Ozonia**	52.80	302	*e*P	**P**	22 16 30.0	-0.5			
	comp=Z,1μm,1.3s									
LONY	**Lake Ozonia**	52.80	302	*e*P	**P**	22 16 30.0	-0.5			
	comp=Z,1μm,1.3s									
ARQ	**Araqi**	52.84	87	P	**P**	22 16 31.2	+0.1			
	SNR=382									
ARQ	**Araqi**	52.84	87	P	**P**	22 16 31.2	+0.1			
	SNR=382									
ARQ	**Araqi**	52.84	87	P	**P**	22 16 31.2	+0.1			
	SNR=371									
HOQ	**Hoqain**	53.35	86	P	**P**	22 16 33.7	-1.0			
	SNR=234									
HOQ	**Hoqain**	53.35	86	P	**P**	22 16 33.7	-1.0			
	SNR=234									
ABTO	**Aybut**	53.37	95	P	**P**	22 16 34.7	-0.3			
	SNR=1.0									
ABTO	**Aybut**	53.37	95	P	**P**	22 16 34.7	-0.3			
	SNR=232									
KMBO	**Kilima Mbogo**	53.50	126	P	**P**	22 16 37.9	+1.7			
	comp=Z,379nm,0.9s,baz=324,slow=7.1,SNR=384									
KMBO				PKPPKP	**P'P'df**	22 46 39.5	-4.7			
	comp=Z,1.4nm,0.9s,baz=2.9,slow=2.0,SNR=4.4									
KMBO	**Kilima Mbogo**	53.50	126	*e*P	**P**	22 16 37.7	+1.6			
	comp=Z,134nm,1.0s									
KMBO	**Kilima Mbogo**	53.50	126	P	**P**	22 16 38.1	+2.0			
	SNR=165									
KMBO	**Kilima Mbogo**	53.50	126	*e*P	**P**	22 16 37.7	+1.6			
	comp=Z,134nm,1.0s									
KMBO				P'P'		22 46 39.5				
PAL	**Palisades**	53.51	298	*e*P	**P**	22 16 34.9	-0.6			
PAL				pmax	pmax					
	comp=Z,1μm,1.2s									
PAL	**Palisades**	53.51	298	*e*P	**P**	22 16 34.9	-0.6			
	comp=Z,1μm,1.2s									
PAL	**Palisades**	53.51	298	*e*P	**P**	22 16 34.9	-0.6			
	comp=Z,1μm,1.2s									
BSY	**Bisya**	53.68	87	P	**P**	22 16 36.6	-0.4			
	SNR=478									
BSY	**Bisya**	53.68	87	P	**P**	22 16 36.4	-0.6			
	SNR=92									
BSYO	**Bisya**	53.72	87	P	**P**	22 16 36.4	-0.9			
	SNR=92									
ODNJ	**Ogdensburg**	53.98	298	*e*P	**P**	22 16 38.6	-0.2			
	comp=Z,770nm,1.0s									
ODNJ				*e*S	**S**	22 23 30.2	+0.9			
ODNJ	**Ogdensburg**	53.98	298	*e*P	**P**	22 16 38.6	-0.2			
	comp=Z,770nm,1.0s									
ODNJ				*e*S	**S**	22 23 30.2	+0.9			
RBK	**Rabkut**	54.02	95	P	**P**	22 16 38.7	-0.8			
	SNR=129									
RBK	**Rabkut**	54.02	95	P	**P**	22 16 38.7	-0.8			
	SNR=129									
BRNJ	**Basking Ridge**	54.09	297	*e*P	**P**	22 16 40.0	+0.4			
	comp=Z,2μm,0.9s									
BRNJ	**Basking Ridge**	54.09	297	*e*P	**P**	22 16 40.0	+0.4			
	comp=Z,2μm,0.9s									
SMDO	**Samad**	54.20	87	P	**P**	22 16 40.0	-0.8			
	SNR=252									
SMDO	**Samad**	54.20	87	P	**P**	22 16 40.0	-0.8			
	SNR=252									
MAUS	**Longido**	54.38	128	*i* P	**P**	22 16 43.4	+1.2			
ANWB	**Willy Bob**	54.43	266	*e*P	**P**	22 16 42.8	+0.5			
	comp=Z,2μm,1.4s									
ANWB	**Willy Bob**	54.43	266	*e*P	**P**	22 16 42.8	+0.5			
	comp=Z,2μm,1.4s									
BINY	**Binghamton**	54.56	300	*e*P	**P**	22 16 42.9	0.0			
	comp=Z,516nm,0.8s									
BINY	**Binghamton**	54.56	300	*e*P	**P**	22 16 42.9	0.0			
	comp=Z,516nm,0.8s									
JMDO	**Jal Madar**	54.59	87	P	**P**	22 16 42.7	-0.7			
	SNR=506									
JMDO	**Jabal Madar**	54.59	87	P	**P**	22 16 42.7	-0.7			
	SNR=506									
KSPA	**Keystone Colle**	54.63	299	*e*P	**P**	22 16 43.5	+0.1			
	comp=Z,564nm,1.0s									
KSPA				*e*ScP	**ScP**	22 20 37.8	+1.6			
KSPA	**Keystone Colle**	54.63	299	*e*P	**P**	22 16 43.5	+0.1			
	comp=Z,564nm,1.0s									
KSPA				*e*ScP	**ScP**	22 20 37.8	+1.6			
SHAO	**Shalim**	54.87	93	P	**P**	22 16 45.0	-0.4			
	SNR=16									
SHAO	**Shalim**	54.87	93	P	**P**	22 16 45.0	-0.4			
	SNR=16									
SEG	**Port Louis**	54.90	264	*e*P	**P**	22 16 46.6	+1.0			
TAS	**Tashkent**	55.05	61	*e*P	**P**	22 16 47.2	+0.9			
RES	**Resolute Bay**	55.08	341	*e*P	**P**	22 16 45.5	-0.4			
RES				pmax	pmax					
	comp=Z,153nm,0.9s									
RES	**Resolute Bay**	55.08	341	P	**P**	22 16 45.5	-0.4			
	comp=Z,198nm,1.0s,baz=64,slow=7.9,SNR=158									
RES	**Resolute Bay**	55.08	341	*e*P	**P**	22 16 45.5	-0.4			
	comp=Z,154nm,0.9s									
RES	**Resolute Bay**	55.08	341	*e*P	**P**	22 16 45.5	-0.4			
	comp=Z,154nm,0.9s									
WBK	**Wadi Bani Khal**	55.16	87	P	**P**	22 16 47.2	-0.2			
	SNR=237									
WBK	**Wadi Bani Khal**	55.16	87	P	**P**	22 16 47.2	-0.2			
	SNR=237									
DOG	**Dongo Capester**	55.20	264	*e*P	**P**	22 16 48.5	+0.9			
SSG	**Sans Toucher**	55.21	264	*e*P	**P**	22 16 48.6	+0.7			
BBGH	**Gun Hill**	55.21	260	*e*P	**P**	22 16 50.1	+2.4			
BBGH	**Gun Hill**	55.21	260	*e*P	P	22 16 51.1	+3.3			
	comp=Z,3μm,1.4s									
CRG	**Carmichael**	55.22	264	*e*P	**P**	22 16 48.7	+0.7			
ECG	**Echelle**	55.22	264	*e*P	**P**	22 16 48.8	+0.8			
LKG	**Breislack**	55.22	264	*e*P	**P**	22 16 48.6	+0.6			
PHG	**Guadaloupe-2**	55.22	264	*e*P	**P**	22 16 48.8	+0.9			
TAG	**Tarade**	55.23	264	*e*P	**P**	22 16 48.7	+0.7			
SMRT	**St. Maarten**	55.25	267	*e*P	**P**	22 16 48.3	+0.3			
SMRT	**St. Maarten**	55.25	267	*e*P	**P**	22 16 48.6	+0.5			
	comp=Z,282nm,0.6s									
MLG	**Mont-d'or**	55.25	264	*e*P	**P**	22 16 48.8	+0.7			
KKAR	**Karatay Array**	55.26	59	*e*P	**P**	22 16 47.3	-0.5			
KKAR	**Karatay Array**	55.26	59	*e*P	**P**	22 16 47.3	-0.5			
HMG	**Houelmont**	55.29	264	*e*P	**P**	22 16 49.3	+0.9			
DLPL	**La Plaine**	55.29	263	*e*P	**P**	22 16 49.9	+1.6			
TBG	**Guadaloupe-3**	55.32	264	*e*P	**P**	22 16 49.4	+0.9			
BBL	**Barber's Block**	55.36	263	*e*P	**P**	22 16 49.8	+1.0			
MVM	**Montagne Vaucl**	55.45	262	*e*P	**P**	22 16 50.3	+0.8			
SEUS	**St. Eustatius**	55.48	266	*e*P	**P**	22 16 51.1	+1.5			
SEUS	**St. Eustatius**	55.48	266	*e*P	**P**	22 16 50.9	+1.3			
	comp=Z,966nm,1.0s									
BVM	**Bellevue**	55.48	262	*e*P	**P**	22 16 50.8	+1.1			
LPMF	**Morne Lapointe**	55.50	262	*e*P	**P**	22 16 50.7	+0.9			
SVN	**Savane Anatole**	55.51	263	*e*P	**P**	22 16 50.9	+1.0			
ZAM	**Aeronautique**	55.55	262	*e*P	**P**	22 16 51.2	+1.2			
FDF	**Fort de France**	55.55	262	*e*P	**P**	22 16 50.8	+0.6			
FDF	**Fort de France**	55.55	262	*e*P	**P**	22 16 51.0	+0.8			
TRMF	**Trois Ilets**	55.59	262	*e*P	**P**	22 16 51.5	+1.1			
MVL	**Millersville**	55.61	297	*e*P	**P**	22 16 50.0	-0.1			
	comp=Z,2μm,1.1s									
BIM	**Bigot**	55.61	262	*e*P	**P**	22 16 52.5	+1.9			
SABA	**Saba**	55.62	267	*e*P	**P**	22 16 50.9	+0.3			
SABA	**Saba**	55.62	267	*e*P	**P**	22 16 51.6	+1.0			
	comp=Z,2μm,1.3s									
MMNY	**Mt. Morris Dam**	55.70	301	*e*P	**P**	22 16 50.6	-0.1			
	comp=Z,4μm,1.2s									
SSPA	**Standing Stone**	56.46	298	P	**P**	22 16 55.7	-0.3			
	comp=Z,974nm,1.1s,SNR=1.0									
SSPA	**Standing Stone**	56.46	298	*e*P	**P**	22 16 55.6	-0.3			
	comp=Z,974nm,1.1s									
DODT	**Dodoma, Tanzan**	56.47	131	*i* P	**P**	22 16 56.7	+0.2			
SVB	**Belmont**	56.47	261	*e*P	**P**	22 16 57.2	+0.7			
STVI	**Saint Thomas**	56.59	269	*e*P	**P**	22 16 57.8	+0.6			
	comp=Z,2μm,1.6s									
CDVI	**St. Croix**	56.76	268	*e*P	**P**	22 16 59.2	+0.8			
	comp=Z,2μm,0.9s									
CBN	**Corbin Frederi**	57.04	296	*e*P	**P**	22 17 00.3	+0.4			
	comp=Z,2μm,1.3s									
TOSP	**Speyside**	57.07	259	*e*P	**P**	22 17 02.2	+1.7			
GRSS	**Sisters**	57.33	260	*e*	**P**	22 17 05.0	+2.8			
TPR	**Prospect**	57.33	259	*e*	**P**	22 17 04.5	+2.2			
ERPA	**Erie**	57.36	301	*e*P	**P**	22 17 01.7	-0.

comp=Z,569nm,0.6s
NVS pmax pmax
comp=E,361nm,1.0s
NVS pmax pmax
comp=Z,519nm,1.7s
NVS pmax pmax
comp=N,33nm,1.1s
NVS pmax pmax
comp=E,126nm,1.3s
NVS Novosibirsk 58.97 42 *i* P **P 22 17 12.3 -0.3**
comp=E,569nm,0.6s
NVS Novosibirsk 58.97 42 *i* PcP **PcP 22 17 53.3 -0.1**
comp=E,519nm,1.7s
NVS *i* S **S 22 24 32.0 -0.7**
NVS *i* ScS **ScS 22 26 00.7 +0.5**
PCDR Punta Cana, DR 59.25 271 *eP* **P 22 17 16.5 +1.4**
PCDR Punta Cana, DR 59.25 271 *eP* **P 22 17 16.4 +1.4**
VWCC Virginia Weste 59.32 296 *eP* **P 22 17 15.0 -0.3**
VWCC Virginia Weste 59.32 296 *eP* **P 22 17 15.0 -0.3**
TSUM Tsumeb 59.33 157 *eP* **P 22 17 16.3 +0.6**
TSUM Tsumeb 59.33 157 *eP* **P 22 17 16.0 +0.3**
comp=E,449nm,0.8s
TSUM Tsumeb 59.33 157 *eP* **P 22 17 16.0 +0.3**
comp=E,449nm,0.8s
ITZ Itezhi-Tezhi 59.38 147 *i* P **P 22 17 13.5 -2.5**
FCC Fort Churchill 59.53 323 *eP* **P 22 17 15.3 -1.0**
FCC Fort Churchill 59.53 323 *eP* **P 22 17 15.3 -1.0**
FCC Fort Churchill 59.53 323 *eP* **P 22 17 15.3 -1.0**
AAA Alma-Ata 59.56 57 *eP* **P 22 17 17.6 +0.7**
AAA *eS* S 22 24 34.0 -6.6
AAA pmax pmax
comp=Z,7μm,3.2s
AAA smax smax
comp=N,2μm,7.5s
AAA Alma-Ata 59.56 57 *eP* **P 22 17 17.6 +0.7**
comp=N,7μm,3.2s
SMN1 Samana, DR 59.60 272 *eP* **P 22 17 18.4 +0.9**
SMN1 Samana, DR 59.60 272 *eP* **P 22 17 18.4 +0.9**
BLA Blacksburg 59.65 296 *eP* **P 22 17 17.1 -0.4**
BLA pmax pmax
comp=Z,607nm,0.8s
BLA Blacksburg 59.65 296 *eP* **P 22 17 17.1 -0.4**
comp=Z,607nm,0.8s
BLA Blacksburg 59.65 296 *eP* **P 22 17 17.1 -0.4**
comp=Z,607nm,0.8s
AAM Ann Arbor 59.79 302 *eP* **P 22 17 18.3 -0.1**
AAM pmax pmax
comp=Z,341nm,0.6s
AAM Ann Arbor 59.79 302 *eP* **P 22 17 18.2 -0.1**
comp=Z,341nm,0.6s
AAM Ann Arbor 59.79 302 *eP* **P 22 17 18.2 -0.1**
comp=Z,341nm,0.6s
GRTK Grand Turk 59.88 275 *eP* **P 22 17 19.5 +0.3**
GRTK Grand Turk 59.88 275 *eP* **P 22 17 19.5 +0.3**
LSZ Lusaka 59.96 144 *eP* **P 22 17 20.7 +0.9**
LSZ Lusaka 59.96 144 *eP* **P 22 17 19.9 +0.1**
LSZ *eS* **S 22 24 48.8 +2.6**
LSZ Lusaka 59.96 144 P **P 22 17 20.3 +0.5**
SNR=132
LSZ *eS* **S 22 24 48.8 +2.6**
LSZ Lusaka 59.96 144 P **P 22 17 20.3 +0.5**
SNR=132
LSZ Lusaka 59.96 144 *eP* **P 22 17 19.9 +0.1**
LSZ *eS* **S 22 24 48.8 +2.6**
ZALV Zalesovo Beam 60.16 43 P **P 22 17 20.5 -0.1**
comp=Z,288nm,0.5s,baz=296,slow=7.4,SNR=364
ZALV PP PP 22 19 37.1 -6.4
comp=Z,30nm,0.5s,baz=284,slow=13,SNR=4.0
ZALV S **S 22 24 50.0 +2.4**
comp=Z,11nm,0.8s,baz=266,slow=14,SNR=4.4
ZALV P3KP 22 46 04.9
comp=Z,5.1nm,0.8s,baz=101,slow=4.7,SNR=20
ACSO Alum Creek Sta 60.19 300 *eP* **P 22 17 20.7 -0.3**
comp=Z,2μm,0.7s
ACSO *eS* **S 22 24 50.0 +1.7**
ACSO Alum Creek Sta 60.19 300 *eP* **P 22 17 20.7 -0.3**
comp=Z,2μm,0.7s
ACSO *eS* **S 22 24 50.0 +1.7**
KSH Kashi 60.45 61 ⇓ *i* P **P 22 17 23.1 +0.2**
KSH pP **pP 22 19 20.5 -1.1**
KSH PP **PP 22 19 48.9 +2.4**
KSH sP **sP 22 20 23.0 -4.2**
KSH PcS **PcS 22 22 03.0 -0.3**
KSH S **S 22 24 52.1 +0.2**
KSH ScS SKSac 22 26 11.6 -0.6
KSH sS sS 22 28 18.3 -6.1
KSH PMZ
comp=Z,2μm,1.1s
KMSC Kings Mountain 61.22 294 *eP* **P 22 17 27.6 -0.2**
comp=Z,705nm,1.0s
KMSC Kings Mountain 61.22 294 ⇑ P **P 22 17 27.8 -0.1**
baz=61
KMSC S **S 22 25 01.9 +0.6**
baz=61
KMSC Kings Mountain 61.22 294 *eP* **P 22 17 27.6 -0.2**
comp=Z,705nm,1.0s
CSU Charleston Sou 61.27 291 *eP* **P 22 17 29.0 +0.9**
CSU Charleston Sou 61.27 291 *eP* **P 22 17 29.0 +0.9**
SDDR Presa de Saban 61.32 273 *eP* **P 22 17 29.1 +0.3**
comp=Z,2μm,1.2s
SDDR Presa de Saban 61.32 273 *eP* **P 22 17 29.1 +0.3**
comp=Z,2μm,1.2s
RGRS Roger Stewart 61.39 291 *eP* **P 22 17 29.5 +0.5**
RGRS Roger Stewart 61.39 291 *eP* **P 22 17 29.5 +0.5**
JSC Jenkinsville 61.56 293 *eP* **P 22 17 29.9 -0.1**
JSC pmax pmax
comp=Z,872nm,1.1s
JSC Jenkinsville 61.56 293 *eP* **P 22 17 29.9 -0.1**
comp=Z,872nm,1.1s
JSC Jenkinsville 61.56 293 *eP* **P 22 17 29.9 -0.1**
comp=Z,872nm,1.1s
MKAR Makanchi Array 61.57 51 *eP* **P 22 17 30.0 +0.1**
MKAR Makanchi Array 61.57 51 P **P 22 17 30.0 +0.1**
comp=Z,291nm,0.4s,baz=306,slow=4.6,SNR=1330
MKAR P3KP 22 46 00.3
comp=Z,11nm,1.1s,baz=114,slow=5.9,SNR=39
MKAR PKP2bc 22 46 34.3
comp=Z,2.5nm,1.0s,baz=127,slow=3.8,SNR=3.6
MKAR P4KPbc 22 54 28.5
comp=Z,2.8nm,1.0s,baz=298,slow=2.6,SNR=12
MKAR Makanchi Array 61.57 51 *eP* **P 22 17 30.0 +0.1**
COWI Conover 61.80 308 *eP* **P 22 17 30.4 -1.0**
comp=Z,1μm,1.0s
COWI Conover 61.80 308 *eP* **P 22 17 30.4 -1.0**
comp=Z,1μm,1.0s
WIN Windhoek 62.35 158 *i* P **P 22 17 36.0 +0.6**
EYMN Ely 62.47 311 *eP* **P 22 17 34.5 -1.2**
EYMN *eS* **S 22 25 15.2 -0.9**
EYMN Ely 62.47 311 *eP* **P 22 17 34.5 -1.2**
EYMN *eS* **S 22 25 15.2 -0.9**
JAKH Jacmel 62.71 273 *eP* **P 22 17 38.5 +0.9**
comp=Z,534nm,0.8s
JAKH Jacmel 62.71 273 *eP* **P 22 17 38.5 +0.9**
comp=Z,534nm,0.8s
TKL Tuckaleechee C 62.76 295 *eP* **P 22 17 37.2 -0.6**
TKL Tuckaleechee C 62.76 295 *eP* **P 22 17 37.2 -0.6**
TKL Tuckaleechee C 62.76 295 *eP* **P 22 17 37.2 -0.6**
SFIN Lafayette 62.95 302 *eP* **P 22 17 37.5 -1.4**
comp=Z,445nm,0.9s
SFIN Lafayette 62.95 302 ⇑ P **P 22 17 37.6 -1.4**
baz=63
SFIN S **S 22 25 19.4 -2.8**
baz=63
SFIN Lafayette 62.95 302 *eP* **P 22 17 37.5 -1.4**
comp=Z,445nm,0.9s
BLO Bloomington 63.10 300 *eP* **P 22 17 38.8 -1.1**
BLO pmax pmax
comp=Z,718nm,1.0s
BLO Bloomington 63.10 300 *eP* **P 22 17 38.8 -1.1**
comp=Z,718nm,1.0s
BLO Bloomington 63.10 300 *eP* **P 22 17 38.8 -1.1**
comp=Z,718nm,1.0s
BHJ Bhuj 63.33 80 *eP* **P 22 17 42.6 +1.1**
BHJ AMB AMB 22 17 42.7
comp=Z,777nm,0.0s
WCI Wyandotte Cave 63.37 299 *eP* **P 22 17 40.5 -1.2**
WCI pmax pmax
comp=Z,553nm,0.9s
WCI Wyandotte Cave 63.37 299 *eP* **P 22 17 40.5 -1.2**
comp=Z,553nm,0.9s
WCI Wyandotte Cave 63.37 299 *eP* **P 22 17 40.5 -1.2**
comp=Z,553nm,0.9s
KRAR Krasnoyarsk 63.50 39 *d* P **P 22 17 41.4 -0.7**
KRAR pmax pmax
comp=Z,830nm,1.3s
KRAR Krasnoyarsk 63.50 39 *i* P **P 22 17 41.4 -0.7**
comp=Z,830nm,1.3s
GOGA Godfrey 63.59 293 *eP* **P 22 17 43.0 -0.1**
GOGA pmax pmax
comp=Z,1μm,1.3s
GOGA Godfrey 63.59 293 *eP* **P 22 17 43.0 -0.1**
comp=Z,1μm,1.3s
GOGA Godfrey 63.59 293 *eP* **P 22 17 43.0 -0.1**
comp=Z,1μm,1.3s
DLH Dalhousie 63.59 68 *eP* **P 22 17 43.0 -0.4**
DLH *ex* x 22 17 53.0
GTBY Guantanamo Bay 63.87 276 *eP* **P 22 17 45.8 +0.8**
comp=Z,1μm,1.4s
GTBY Guantanamo Bay 63.87 276 *eP* **P 22 17 45.8 +0.8**
comp=Z,1μm,1.4s
JFWS Jewell Farm 63.91 305 *eP* **P 22 17 43.4 -1.6**
JFWS pmax pmax
comp=Z,437nm,1.0s
JFWS Jewell Farm 63.91 305 *eP* **P 22 17 43.4 -1.6**
comp=Z,437nm,1.0s
JFWS Jewell Farm 63.91 305 *eP* **P 22 17 43.4 -1.6**
comp=Z,437nm,1.0s
DHRM DHARAMSHALA 63.98 68 AMB AMB 22 17 47.9
comp=Z,2μm,1.9s
DHRM *eP* **P 22 17 48.5 +2.6**
ULM Lac du Bonnet 64.02 314 P **P 22 17 43.9 -1.6**
comp=Z,820nm,0.9s,baz=67,slow=6.2,SNR=348
ULM pP **pP 22 19 46.0 -0.3**
comp=Z,147nm,1.2s,baz=89,slow=21,SNR=3.6
ULM PKP2bc 22 46 29.8
comp=Z,6.7nm,1.0s,baz=286,slow=5.5,SNR=3.1
ULM Lac du Bonnet 64.02 314 *eP* **P 22 17 43.8 -1.7**
comp=Z,637nm,0.8s
ULM pP **pP 22 19 46.0 -0.3**
ULM ⇑ *e* 22 46 29.8
PTGA Pitinga 64.26 248 *eP* **P 22 17 47.2 -0.3**
comp=Z,511nm,0.9s
PTGA Pitinga 64.26 248 *eP* **P 22 17 47.2 -0.3**
comp=Z,511nm,0.9s
PTGA *epP* pP 22 19 54.7 +6.1
OLIL Olney 64.40 300 *eP* **P 22 17 46.5 -1.6**
comp=Z,2μm,1.3s
OLIL Olney 64.40 300 *eP* **P 22 17 46.5 -1.6**
comp=Z,2μm,1.3s
USIN University of 64.45 299 *eP* **P 22 17 46.9 -1.6**
comp=Z,2μm,1.2s
USIN *eS* **S 22 25 38.0 -2.3**
USIN University of 64.45 299 *eP* **P 22 17 46.9 -1.6**
comp=Z,2μm,1.2s
USIN *eS* **S 22 25 38.0 -2.3**
BHK Bhakra 64.47 69 *eP* **P 22 17 50.2 +1.5**
BHK *ex* x 22 18 33.4
SPMN Marine on St. 64.49 308 *eP* **P 22 17 47.3 -1.2**
comp=Z,800nm,0.6s
SPMN Marine on St. 64.49 308 ⇓ P **P 22 17 47.3 -1.2**
baz=64
SPMN S **S 22 25 38.2 -2.2**
baz=64
SPMN Marine on St. 64.49 308 *eP* **P 22 17 47.3 -1.2**
comp=Z,800nm,0.6s
SWET Sewanee 64.53 296 *eP* **P 22 17 48.2 -0.8**
SWET Sewanee 64.53 296 *eP* **P 22 17 48.2 -0.8**
TIGA Tifton 64.62 291 *eP* **P 22 17 49.9 +0.3**
comp=Z,1μm,0.8s
TIGA *epP* **pP 22 19 52.7 +1.9**
TIGA Tifton 64.62 291 ⇓ P **P 22 17 48.7 -0.9**
baz=64
TIGA S **S 22 25 44.8 +2.3**
baz=64
TIGA Tifton 64.62 291 *eP* **P 22 17 49.9 +0.3**
comp=Z,1μm,0.8s
TIGA *epP* **pP 22 19 52.7 +1.9**
TIGA *eS* **S 22 25 40.2 -2.3**
AGMN Agassiz Nation 64.92 313 *eP* **P 22 17 49.9 -1.3**
comp=Z,537nm,0.8s
AGMN Agassiz Nation 64.92 313 ⇓ P **P 22 17 49.9 -1.3**
baz=65,SNR=300
AGMN S **S 22 25 41.7 -3.7**
baz=65
AGMN Agassiz Nation 64.92 313 *eP* **P 22 17 49.9 -1.3**
comp=Z,537nm,0.8s
SMLA Simla 65.17 69 AMB AMB 22 17 54.5
comp=Z,13μm,0.3s
SMLA *i* P **P 22 17 55.5 +2.5**
SMLA *i* x x 22 25 47.0
FFC Flin Flon 65.19 321 *eP* **P 22 17 51.9 -0.9**
FFC pmax pmax
comp=Z,441nm,0.8s
FFC Flin Flon 65.19 321 *eP* **P 22 17 51.9 -0.9**
comp=Z,441nm,0.8s
FFC Flin Flon 65.19 321 *eP* **P 22 17 51.9 -0.9**
comp=Z,441nm,0.8s
WVT Waverly 65.44 298 *eP* **P 22 17 52.6 -2.1**
WVT Waverly 65.44 298 *eP* **P 22 17 52.6 -2.1**
WVT Waverly 65.44 298 *eP* **P 22 17 52.6 -2.1**
AJM Ajmer 65.58 74 *ex* **P 22 17 54.0 -1.7**
SIUC Southern Illin 65.66 300 *eP* **P 22 17 54.4 -1.6**
SIUC Southern Illin 65.66 300 *eP* **P 22 17 54.4 -1.6**
SLM Saint Louis 65.91 301 *eP* **P 22 17 56.5 -1.0**
SLM Saint Louis 65.91 301 *eP* **P 22 17 56.5 -1.0**
SLM Saint Louis 65.91 301 *eP* **P 22 17 56.5 -1.0**
A30A Hoffart Farm, 66.03 314 ⇑ P **P 22 17 56.8 -1.3**
baz=66,SNR=324
YHJ Yallahs 66.07 275 *i* P **P 22 18 00.3 +1.4**
UTMT University of 66.07 298 *eP* **P 22 17 57.4 -1.1**
comp=Z,2μm,1.1s
UTMT University of 66.07 298 *eP* **P 22 17 57.4 -1.1**
comp=Z,2μm,1.1s
GWJ Greenwich 66.16 275 *i* P **P 22 18 00.3 +0.8**
HOJ Hope 66.21 275 *i* P **P 22 18 00.8 +1.2**
STH Stony Hill 66.22 275 *i* P **P 22 18 00.8 +1.0**
HVS Khovu-Aksy 66.27 43 *d* iP **P 22 18 00.0 +0.4**
HVS pmax pmax
comp=Z,2μm,1.1s
HVS Khovu-Aksy 66.27 43 *i* P **P 22 18 00.0 +0.4**
comp=Z,2μm,1.1s
B30A Myrvik Farm, E 66.29 314 ⇓ P **P 22 17 58.5 -1.2**
baz=66,SNR=503
WMQ Urumqi 66.32 52 ⇓ *i* P **P 22 18 00.7 +0.7**
WMQ PcP **PcP 22 18 25.0 +1.0**
WMQ pP **pP 22 20 05.0 +2.9**
WMQ PP **PP 22 20 37.2 +0.3**
WMQ sP **sP 22 21 03.2 -3.5**
WMQ S **S 22 26 03.9 +1.6**
WMQ ScS **ScS 22 26 57.3 +0.1**
WMQ sS **sS 22 29 38.7 -1.6**
WMQ SS **SS 22 30 39.0 +4.5**
WMQ PMZ
WMQ comp=Z,730nm,1.4s PMZ
comp=Z,4μm,4.0s
SCIA State Center 66.33 305 *eP* **P 22 17 58.8 -1.2**
comp=Z,4μm,2.3s
SCIA State Center 66.33 305 *eP* **P 22 17 58.8 -1.2**
comp=Z,4μm,2.3s
LRAL Lakeview Retre 66.36 294 *eP* **P 22 17 59.2 -1.1**
comp=Z,630nm,0.7s
LRAL Lakeview Retre 66.36 294 *eP* **P 22 17 59.2 -1.1**
comp=Z,630nm,0.7s
GLAT Glass 66.41 298 *eP* **P 22 18 00.2 -0.4**
GLAT Glass 66.41 298 *eP* **P 22 18 00.2 -0.4**
BBJ Bamboo Saint A 66.42 276 *i* P **P 22 18 02.0 +1.0**
NDI New Delhi 66.43 71 *ex* **P 22 18 00.0 -0.9**
NDI *ex* x 22 29 48.0
SDV Santo Domingo 66.48 263 *eP* **P 22 18 01.0 -0.6**
comp=Z,698nm,0.8s
SDV Santo Domingo 66.48 263 *eP* **P 22 18 01.0 -0.6**
comp=Z,698nm,0.8s
TIXI Tiksi 66.57 15 *d* iP **P 22 18 01.1 +0.2**
TIXI pmax pmax
comp=Z,98nm,1.4s
TIXI Tiksi 66.57 15 *i* P **P 22 18 01.1 +0.2**
comp=Z,98nm,1.4s
TIXI Tiksi 66.57 15 *eP* P 22 17 56.9 -4.0
comp=Z,212nm,1.3s
A29A Manning Farm, 66.58 314 ⇓ P **P 22 18 00.2 -1.3**
baz=66,SNR=196
HALT Halls 66.62 298 *eP* **P 22 18 00.1 -1.8**
HALT Halls 66.62 298 *eP* **P 22 18 00.1 -1.8**
YKA Yellowknife Ar 66.62 332 P **P 22 18 00.5 -0.9**
comp=Z,187nm,0.7s,baz=58,slow=6.3,SNR=1328
YKA pP **pP 22 20 04.6 +0.9**
comp=Z,27nm,1.0s,baz=47,slow=6.2,SNR=3.0
YKA S **S 22 26 04.5 -0.5**
comp=Z,14nm,0.9s,baz=56,slow=11,SNR=11
YKA P3KP 22 45 27.6
comp=Z,2.2nm,0.8s,baz=283,slow=2.0,SNR=6.6
YKA PKP2bc 22 46 21.4
comp=Z,6.2nm,0.9s,baz=218,slow=1.6,SNR=8.7
YKA P4KPbc 22 54 46.3
comp=Z,1.1nm,1.0s,baz=46,slow=4.6,SNR=11
YKA P4KP 22 56 13.6
comp=Z,0.2nm,0.9s,baz=69,slow=3.4,SNR=3.6
PVMO Portageville 66.62 299 ⇑ *eP* **P 22 18 00.6 -1.3**
comp=Z,2μm,1.2s
PVMO Portageville 66.62 299 *eP* **P 22 18 00.6 -1.3**
comp=Z,2μm,1.2s
PCJ Portland Cotta 66.68 275 *i* P **P 22 18 03.5 +0.9**
CVJ Coleyville 66.72 276 *i* P **P 22 18 03.9 +1.0**
MTDJ Mount Denham 66.72 276 *eP* **P 22 18 03.6 +0.7**
comp=Z,1μm,0.9s
MTDJ Mount Denham 66.72 276 *eP* **P 22 18 03.6 +0.7**
comp=Z,1μm,0.9s
C30A Mose, Pekin 66.75 313 ⇑ P **P 22 18 01.3 -1.3**
baz=66,SNR=397
B29A Wagenman Farm, 66.87 314 ⇓ P **P 22 18 02.4 -0.8**
baz=67,SNR=264
PBMO Poplar Bluff 66.95 299 *eP* **P 22 18 01.8 -2.2**
comp=Z,654nm,1.0s
PBMO Poplar Bluff 66.95 299 *eP* **P 22 18 01.8 -2.2**
comp=Z,654nm,1.0s
MSNA Messina 66.96 146 *eP* **P 22 18 04.5 +0.4**
MSNA AMB AMB 22 18 06.2
comp=Z,918nm,1.0s
MCJ Malvern 67.00 276 *i* P **P 22 18 05.3 +0.7**
GNAR Gosnell 67.07 298 *eP* **P 22 18 03.1 -1.6**
GNAR Gosnell 67.07 298 *eP* **P 22 18 03.1 -1.6**
BDFB Brasilia 67.10 227 P **P 22 18 05.6 +0.4**
comp=Z,178nm,0.7s,baz=40,slow=6.6,SNR=151
BDFB pP **pP 22 20 08.5 +0.6**
comp=Z,75nm,0.9s,baz=34,slow=7.3,SNR=7.4
BDFB P3KP 22 45 35.9
comp=Z,5.9nm,0.9s,baz=174,slow=2.1,SNR=6.9
BDFB P4KPbc 22 54 32.1
comp=Z,1.3nm,0.5s,baz=199,slow=7.2,SNR=5.0
A28A Rude Farm, Bot 67.17 315 ⇓ P **P 22 18 04.3 -0.9**
baz=67,SNR=121
D30A Buchanan 67.21 312 ⇓ P **P 22 18 04.4 -0.9**
baz=67,SNR=259
MDND Maddock 67.33 313 *eP* **P 22 18 05.0 -1.1**
comp=Z,10μm,1.4s
MDND Maddock 67.33 313 ⇓ P **P 22 18 05.0 -1.1**
baz=67,SNR=41
MDND Maddock 67.33 313 *eP* **P 22 18 05.0 -1.1**
comp=Z,10μm,1.4s
OXF Oxford 67.36 297 *eP* **P 22 18 04.0 -2.5**
OXF pmax pmax
comp=Z,3μm,0.9s
OXF Oxford 67.36 297 *eP* **P 22 18 04.0 -2.5**
comp=Z,3μm,0.9s
OXF Oxford 67.36 297 *eP* **P 22 18 04.0 -2.5**
comp=Z,3μm,0.9s
BRAL Brewton 67.41 292 *eP* **P 22 18 06.6 -0.3**
comp=Z,1μm,0.9s
BRAL Brewton 67.41 292 *eP* **P 22 18 06.6 -0.3**
comp=Z,1μm,0.9s
B28A Dugan Ranch, T 67.46 314 ⇑ P **P 22 18 06.1 -0.8**
baz=67,SNR=170
LBTB Lobatse 67.50 151 *eP* **P 22 18 07.5 +0.1**
LBTB AMB AMB 22 18 09.0
comp=Z,692nm,0.9s
LBTB Lobatse 67.50 151 *eP* **P 22 18 06.8 -0.6**
LBTB *eS* **S 22 26 15.7 -0.7**
LBTB Lobatse 67.50 151 *eP* **P 22 18 06.8 -0.6**
LBTB *eS* **S 22 26 15.7 -0.7**
LBTB Lobatse 67.50 151 *eP* **P 22 18 06.8 -0.6**
LBTB *eS* **S 22 26 15.7 -0.7**
ECSD EROS Data Cent 67.60 308 *eP* **P 22 18 06.2 -1.6**
comp=Z,923nm,1.1s
ECSD EROS Data Cent 67.60 308 ⇑ P **P 22 18 06.8 -1.0**
baz=67,SNR=570
ECSD EROS Data Cent 67.60 308 *eP* **P 22 18 06.2 -1.6**
comp=Z,923nm,1.1s
E30A Jud 67.60 312 ⇑ P **P 22 18 07.1 -0.6**
baz=67,SNR=141
A27A Ledoux Ranch, 67.70 315 ⇓ P **P 22 18 07.5 -0.9**
baz=68,SNR=46
HBAR Harrisburg 67.72 298 *eP* **P 22 18 08.0 -0.7**
HBAR Harrisburg 67.72 298 *eP* **P 22 18 08.0 -0.7**
D29A Pettibone, Tap 67.72 313 ⇑ P **P 22 18 07.9 -0.6**
baz=68,SNR=31
C28A Hausauer Farms 67.85 314 ⇑ P **P 22 18 08.4 -0.9**
baz=68,SNR=43
B27A Peters Farms, 68.00 315 ⇑ P **P 22 18 09.5 -0.6**
baz=68,SNR=22
E29A Napoleon 68.00 312 ⇓ P **P 22 18 09.6 -0.6**
baz=68,SNR=73
F30A Leola 68.01 311 ⇓ P **P 22 18 09.5 -0.8**
baz=68,SNR=124
BOM Bombay 68.13 82 *ex* **P 22 18 11.3 0.0**
A26A Wade Farm, Ken 68.18 315 ⇑ P **P 22 18 10.4 -0.8**
baz=68,SNR=221
D28A Regan 68.23 313 ⇑ P **P 22 18 11.0 -0.6**
baz=68,SNR=22
PTH Pithoragarh 68.24 69 *eP* **P 22 18 09.8 -2.3**
PTH *eS* **S 22 26 22.9 -2.4**
LGTI Lohaghat 68.31 69 *eP* **P 22 18 13.8 +1.5**
G30A Faulkton 68.45 311 ⇓ P **P 22 18 12.0 -0.9**
baz=68,SNR=183
F29A Eureka 68.49 312 ⇑ P **P 22 18 12.5 -0.7**
baz=68,SNR=84
C27A Sayler Ranch, 68.50 314 ⇓ P **P 22 18 12.4 -0.7**
baz=68,SNR=89
B26A Jensen Ranch, 68.57 315 ⇓ P **P 22 18 12.8 -0.8**
baz=68,SNR=25
INK Inuvik 68.60 342 P **P 22 18 13.6 +0.3**
INK S **S 22 26 28.7 +1.0**
INK pmax pmax
comp=Z,93nm,0.7s
INK smax smax
comp=N,31nm,1.1s
INK Inuvik 68.60 342 P **P 22 18 13.6 +0.3**
comp=N,93nm,0.7s,baz=18,slow=7.1,SNR=11
INK S **S 22 26 28.7 +1.0**
comp=N,31nm,1.1s,baz=190,slow=25,SNR=18
INK PKPPKP P'P'df 22 46 14.3 -7.2
comp=N,3.7nm,0.9s,baz=178,slow=5.2,SNR=6.4
INK Inuvik 68.60 342 *eP* **P 22 18 12.1 -1.2**
comp=N,386nm,1.4s
INK S **S 22 26 28.7 +1.0**
INK *eP'P'df* P'P'df 22 46 13.3 -8.3
INK P'P' 22 46 14.3
E28A Huff 68.62 313 ⇑ P **P 22 18 13.4 -0.5**
baz=68,SNR=200
Q37A Longview Farm, 68.65 303 ⇓ P **P 22 18 13.6 -0.6**
baz=68,SNR=188
BRSD Miller 68.69 310 *eP* **P 22 18 13.6 -0.8**
BRSD Miller 68.69 310 ⇑ P **P 22 18 13.6 -0.8**
baz=68,SNR=54
BRSD Miller 68.69 310 *eP* **P 22 18 13.6 -0.8**
MSEY Mahe Island 68.72 114 *eP* **P 22 18 16.1 +1.1**
MSEY pmax pmax
comp=Z,747nm,1.3s
MSEY Mahe Island 68.72 114 *eP* **P 22 18 16.1 +1.1**
comp=Z,746nm,1.3s
MSEY Mahe Island 68.72 114 P **P 22 18 17.1 +2.1**
SNR=15
MSEY Mahe Island 68.72 114 *eP* **P 22 18 16.1 +1.1**
comp=Z,747nm,1.3s
A25A Svangstu Ranch 68.76 316 ⇓ P **P 22 18 14.2 -0.5**
baz=68,SNR=205
C26A Wahner Farm, P 68.78 314 ⇑ P **P 22 18 14.3 -0.5**
baz=68,SNR=177
D27A Center 68.83 314 ⇑ P **P 22 18 14.8 -0.4**
baz=69,SNR=60
G29A Hoven 68.89 311 ⇑ P **P 22 18 15.0 -0.5**
baz=69,SNR=36
UPI Upington 69.05 157 *eP* **P 22 18 16.9 +0.2**
UPI AMB AMB 22 18 18.3
comp=Z,832nm,1.0s
F28A McLaughlin 69.07 312 ⇑ P **P 22 18 16.4 -0.2**
baz=69,SNR=209
B25A Knox Farm, Ray 69.15 315 ⇑ P **P 22 18 17.3 +0.3**
baz=69,SNR=291
POO Poona 69.15 82 AMB AMB 22 18 19.4
comp=Z,795nm,0.8s
POO *eP* **P 22 18 19.5 +1.9**
R37A Teagarden Farm 69.20 303 ⇑ P **P 22 18 16.8 -0.7**
baz=69,SNR=548
SLR Silverton 69.20 149 *eP* **P 22 18 17.9 +0.2**
SLR AMB AMB 22 18 19.5
comp=Z,765nm,1.0s

E27A	Carson	69.21	313	⇓P		P	22 18	17.3	-0.2
	baz=69,SNR=108								
I30A	Oacoma	69.25	310	⇑P		P	22 18	17.2	-0.6
	baz=69,SNR=28								
A24A	Westby	69.27	316	⇓P		P	22 18	17.3	-0.4
	baz=69,SNR=245								
KOMG	Komaggas	69.30	161	*eP*		P	22 18	18.7	+0.6
KOMG				AMB		AMB	22 18	19.9	
	comp=Z,243nm,1.9s								
UALR	University of	69.31	298	*eP*		P	22 18	16.5	-1.7
	comp=Z,405nm,1.0s								
UALR	University of	69.31	298	*eP*		P	22 18	16.5	-1.7
	comp=Z,405nm,1.0s								
VBMS	Vicksburg	69.33	295	*eP*		P	22 18	17.8	-0.5
	comp=Z,713nm,0.8s								
VBMS	Vicksburg	69.33	295	*eP*		P	22 18	17.8	-0.5
	comp=Z,713nm,0.8s								
H29A	Onida	69.36	311	⇓P		P	22 18	17.9	-0.4
	baz=69,SNR=141								
D26A	Manning	69.40	314	⇓P		P	22 18	18.5	-0.1
	baz=69,SNR=204								
BHPL	Bhopal	69.42	76	*eP*		P	22 18	21.8	+2.7
WDLM	Western Deep L	69.47	151	*eP*		P	22 18	19.0	-0.3
WDLM				AMB		AMB	22 18	20.7	
	comp=Z,193nm,1.0s								
KLOF	Kloof	69.48	150	*eP*		P	22 18	19.7	+0.3
KLOF				AMB		AMB	22 18	20.9	
	comp=Z,675nm,0.9s								
C25A	Freed Ranch, W	69.50	315	⇓P		P	22 18	19.4	+0.2
	baz=69,SNR=156								
G28A	Parade	69.54	311	⇓P		P	22 18	19.2	-0.3
	baz=69,SNR=43								
J30A	Dallas	69.60	309	⇓P		P	22 18	19.0	-0.8
	baz=69,SNR=174								
DGMT	Dagmar	69.62	316	*eP*		P	22 18	19.5	-0.4
	comp=Z,466nm,0.8s								
DGMT	Dagmar	69.62	316	⇑P		P	22 18	19.7	-0.1
	baz=69,SNR=90								
DGMT	Dagmar	69.62	316	*eP*		P	22 18	19.5	-0.4
	comp=Z,466nm,0.8s								
R36A	Gordon, Harris	69.64	303	⇑P		P	22 18	19.3	-0.8
	baz=69,SNR=599								
E26A	Carlson Angus	69.71	313	⇑P		P	22 18	19.7	-0.8
	baz=70,SNR=208								
ERPM	east rand prop	69.73	150	*eP*		P	22 18	20.4	-0.5
ERPM				AMB		AMB	22 18	22.0	
	comp=Z,762nm,1.0s								
A23A	Redstone	69.73	316	⇑P		P	22 18	20.4	-0.1
	baz=70								
I29A	Vivian Onida	69.73	310	⇑P		P	22 18	19.6	-1.0
	baz=70,SNR=126								
BGNE	Belgrade	69.77	307	*eP*		P	22 18	19.5	-1.4
	comp=Z,4µm,0.8s								
BGNE	Belgrade	69.77	307	⇓P		P	22 18	20.0	-0.9
	baz=70,SNR=237								
BGNE	Belgrade	69.77	307	*eP*		P	22 18	19.5	-1.4
	comp=Z,4µm,0.8s								
F27A	Lemmon	69.78	313	⇓P		P	22 18	19.8	-1.0
	baz=70,SNR=207								
L31A	Butterfield Fa	69.80	308	⇑P		P	22 18	20.2	-0.8
	baz=70,SNR=63								
H28A	Mission Ridge	69.82	311	⇑P		P	22 18	20.5	-0.6
	baz=70,SNR=53								
D25A	Fairfield	69.84	314	⇓P		P	22 18	21.4	+0.1
	baz=70,SNR=191								
MOY	Mondy	69.86	40	*eP*		P	22 18	22.3	+1.0
MOY				pmax		pmax			
	comp=Z,796nm,2.6s								
MOY	Mondy	69.86	40	*eP*		P	22 18	22.3	+1.0
	comp=Z,796nm,2.6s								
PRYS	Parys	69.90	151	*eP*		P	22 18	21.2	-0.6
PRYS				AMB		AMB	22 18	23.5	
	comp=Z,91nm,3.2s								
KSU1	Kansas State U	69.97	304	*eP*		P	22 18	21.1	-1.0
	comp=Z,2µm,1.5s								
KSU1	Kansas State U	69.97	304	⇑P		P	22 18	20.7	-1.4
	baz=70,SNR=52								
KSU1	Kansas State U	69.97	304	*eP*		P	22 18	21.1	-1.0
	comp=Z,2µm,1.5s								
G27A	Dupree	69.99	312	⇓P		P	22 18	21.4	-0.8
	baz=70,SNR=215								
S36A	Lake Cedric, C	70.02	303	⇓P		P	22 18	21.3	-1.1
	baz=70,SNR=617								
K30A	Basset	70.02	309	⇓P		P	22 18	21.4	-1.0
	baz=70,SNR=372								
B23A	Brockton	70.06	316	⇑P		P	22 18	22.1	-0.4
	baz=70,SNR=230								
J29A	Okreek	70.07	310	⇓P		P	22 18	21.6	-1.0
	baz=70,SNR=304								
F26A	Lodgepole	70.17	313	⇓P		P	22 18	22.3	-0.8
	baz=70,SNR=152								
N32A	Stulken Farm,	70.20	306	⇑P		P	22 18	22.5	-1.0
	baz=70,SNR=40								
E25A	Miller Ranch,	70.24	314	⇓P		P	22 18	23.2	-0.4
	baz=70,SNR=173								
C24A	Savage	70.26	315	⇑P		P	22 18	23.2	-0.5
	baz=70,SNR=206								
I28A	Midland	70.27	311	⇑P		P	22 18	22.8	-1.0
	baz=70,SNR=145								
A22A	Carney Farms,	70.28	317	⇑P		P	22 18	23.3	-0.4
	baz=70,SNR=268								
MIAR	Mount Ida	70.29	299	*eP*		P	22 18	22.8	-1.2
MIAR				*e**PP		pP	22 20	28.9	+0.6
MIAR				pmax		pmax			
	comp=Z,983nm,0.8s								
MIAR	Mount Ida	70.29	299	*eP*		P	22 18	22.8	-1.2
	comp=Z,983nm,0.8s								
MIAR				*ep*P		pP	22 20	28.9	+0.6
MIAR	Mount Ida	70.29	299	*eP*		P	22 18	22.8	-1.2
	comp=Z,983nm,0.8s								
MIAR				*ep*P		pP	22 20	28.9	+0.6
M31A	Lambtecht Ranc	70.33	307	⇑P		P	22 18	23.4	-0.8
	baz=70,SNR=137								
K29A	Lazy Trails An	70.41	309	⇑P		P	22 18	23.7	-1.0
	baz=70,SNR=144								
G26A	Maurine	70.43	312	⇓P		P	22 18	23.5	-1.2
	baz=70,SNR=558								
D24A	Glendive	70.44	315	⇑P		P	22 18	23.8	-0.9
	baz=70,SNR=179								
O32A	Brockman Farm,	70.45	306	⇓P		P	22 18	23.8	-1.1
	baz=70,SNR=171								
L30A	Spencer Herefo	70.47	308	⇑P		P	22 18	23.8	-1.3
	baz=70,SNR=53								
H27A	Howes	70.48	311	⇑P		P	22 18	24.1	-1.0
	baz=70,SNR=142								
P33A	Williams Farm,	70.51	305	⇑P		P	22 18	24.1	-1.2
	baz=70,SNR=90								
S35A	Otter Creek Ra	70.53	303	⇑P		P	22 18	24.0	-1.4
	baz=70,SNR=368								
C23A	Lambert	70.54	316	⇓P		P	22 18	24.9	-0.4
	baz=70								
F25A	Bowman	70.59	313	⇓P		P	22 18	24.3	-1.4
	baz=70,SNR=123								
N31A	Bailey Ranch,	70.59	307	⇑P		P	22 18	24.3	-1.4
	baz=70,SNR=28								
J28A	Allard Ranch,	70.62	310	⇑P		P	22 18	25.1	-0.8
	baz=70,SNR=296								
BOSA	Boshof	70.63	153	*eP*		P	22 18	25.8	-0.3
BOSA				AMB		AMB	22 18	27.2	
	comp=Z,539nm,1.0s								
BOSA	Boshof	70.63	153	P		P	22 18	25.1	-0.9
	comp=Z,531nm,1.0s,baz=346,slow=6.0,SNR=302								
BOSA				S		S	22 26	51.6	-0.5
	comp=Z,47nm,1.3s,baz=150,slow=16,SNR=5.0								
BOSA				PKPPKP		P'P'df	22 46	15.7	+0.6
	comp=Z,5.5nm,1.1s,baz=10,slow=2.7,SNR=4.4								
B22A	Reddig Ranch S	70.71	316	⇑P		P	22 18	25.9	-0.4
	baz=70,SNR=150								
E24A	Baker	70.73	314	⇑P		P	22 18	25.2	-1.3
	baz=70,SNR=34								
I27A	Quinn	70.77	311	⇓P		P	22 18	25.7	-1.0
	baz=70,SNR=86								
M30A	Dale-Ortello V	70.79	308	⇑P		P	22 18	26.0	-0.9
	baz=71,SNR=49								
GOA	Goa	70.81	85	AMB		AMB	22 18	28.7	
	comp=Z,783nm,1.4s								
GOA				*eP*		P	22 18	30.4	+3.1
A21A	Bergtoll Ranch	70.83	317	⇓P		P	22 18	25.9	-1.1
	baz=71,SNR=250								
Q33A	Connelly Farm,	70.84	305	⇓P		P	22 18	25.8	-1.3
	baz=71,SNR=158								
L29A	Maesberg Ranch	70.89	309	⇑P		P	22 18	26.5	-1.0
	baz=71,SNR=102								
D23A	Lindsay	70.90	315	⇑P		P	22 18	27.4	-0.1
	baz=71,SNR=154								
H26A	Fairpoint	70.90	312	⇑P		P	22 18	26.3	-1.3
	baz=71,SNR=117								
C22A	Vida	70.96	316	⇑P		P	22 18	26.7	-1.1
	baz=71,SNR=293								
G25A	Newell	70.97	313	⇓P		P	22 18	26.5	-1.4
	baz=71,SNR=42								
P32A	Huiting Farm,	71.01	306	⇑P		P	22 18	26.9	-1.3
	baz=71,SNR=568								
S34A	Willow Spring	71.05	303	⇑P		P	22 18	27.3	-1.2
	baz=71,SNR=316								
PYUN	Piuthan	71.07	69	*eP*		P	22 18	29.1	+0.1
	comp=Z,728nm,0.4s								
K28A	Ten Mile Ranch	71.09	309	⇓P		P	22 18	27.8	-0.8
	baz=71,SNR=50								
TUL1	Leonard	71.11	301	*eP*		P	22 18	27.4	-1.5
	comp=Z,728nm,0.9s								
TUL1				*eS*		S	22 26	55.4	-2.0
TUL1	Leonard	71.11	301	⇓P		P	22 18	27.3	-1.5
	baz=71,SNR=117								
TUL1	Leonard	71.11	301	*eP*		P	22 18	27.4	-1.5
	comp=Z,728nm,0.9s								
TUL1				*eS*		S	22 26	55.4	-2.0
J27A	Elkhorn Farm,	71.19	310	⇓P		P	22 18	28.8	-0.5
	baz=71,SNR=106								
O31A	Woolen Ranch,	71.19	306	⇓P		P	22 18	28.0	-1.2
	baz=71,SNR=64								
TLY	Talaya	71.20	39	*i* P		P	22 18	29.9	+0.8
TLY				*e*			22 18	40.8	
TLY				*e*			22 20	36.6	
TLY				*i* S		SKiKP	22 27	01.1	-2.4
TLY				*e*			22 27	31.9	
TLY				pmax		pmax			
	comp=Z,337nm,1.0s								
TLY				MLR		MLR			
	comp=Z,2µm,18.0s								
TLY	Talaya	71.20	39	P		P	22 18	30.1	+1.0
	comp=Z,98nm,0.6s,baz=288,slow=4.4,SNR=224								
TLY				PP		PP	22 21	18.8	+0.8
	comp=Z,16nm,0.5s,baz=349,slow=7.6,SNR=5.9								
TLY				PKPPKP		P'P'df	22 46	11.6	-6.0
	comp=Z,0.7nm,0.3s,baz=91,slow=16,SNR=3.9								
TLY	Talaya	71.20	39	*i* P		P	22 18	29.9	+0.8
	comp=Z,337nm,1.0s								
TLY	Talaya	71.20	39	PP		PP	22 21	18.8	+0.8
TLY				*i* S		SKiKP	22 27	01.1	-2.4
TLY	Talaya	71.20	39	P		P	22 18	30.4	+1.4
	SNR=289								
TLY	Talaya	71.20	39	*eP*		P	22 18	30.1	+1.0
	comp=Z,674nm,1.4s								
TLY				PP		PP	22 21	18.8	+0.8
TLY				P'P'			22 46	11.6	
B21A	Ellsworth Farm	71.20	317	⇑P		P	22 18	28.6	-0.6
	baz=71,SNR=87								
F24A	Ekalaka	71.21	314	⇓P		P	22 18	28.7	-0.6
	baz=71,SNR=458								
SEK	Senekal	71.25	151	*eP*		P	22 18	29.2	-0.5
SEK				AMB		AMB	22 18	31.0	
	comp=Z,694nm,0.9s								
I26A	New Underwood	71.28	311	⇓P		P	22 18	28.6	-1.2
	baz=71,SNR=102								
R33A	Olander Ranch,	71.31	304	⇑P		P	22 18	28.8	-1.1
	baz=71,SNR=336								
Q32A	Meitler Ranch,	71.32	305	⇓P		P	22 18	28.5	-1.5
	baz=71,SNR=173								
E23A	Ismay	71.34	314	⇓P		P	22 18	28.9	-1.1
	baz=71,SNR=90								
N30A	Hueftle Ranch,	71.34	307	⇓P		P	22 18	28.8	-1.4
	baz=71,SNR=45								
LATR	Latur	71.36	81	*ex*		P	22 18	33.0	+2.5
M29A	Burnside Ranch	71.36	308	⇑P		P	22 18	28.8	-1.5
	baz=71,SNR=82								
H25A	Fruitdale	71.39	312	⇓P		P	22 18	29.0	-1.4
	baz=71,SNR=86								
A20A	Cobblestone Ra	71.44	318	⇓P		P	22 18	29.5	-1.0
	baz=71,SNR=321								
D22A	Cohagen	71.47	315	⇓P		P	22 18	30.0	-0.8
	baz=71,SNR=229								
G24A	Alzada	71.48	313	⇑P		P	22 18	30.0	-0.9
	baz=71,SNR=197								
DANN	Dangsing	71.51	68	*eP*		P	22 18	31.8	+0.2
	comp=Z,1µm,0.6s								
P31A	Stockton	71.57	306	⇑P		P	22 18	30.4	-1.1
	baz=71,SNR=456								
L28A	Connealy Angus	71.57	309	⇓P		P	22 18	30.9	-0.6
	baz=71,SNR=138								
EDM	Edmonton	71.62	323	*eP*		P	22 18	30.8	-0.7
EDM	Edmonton	71.62	323	*eP*		P	22 18	30.8	-0.7
EDM	Edmonton	71.62	323	*eP*		P	22 18	30.8	-0.7
K27A	Flueckinger Fa	71.63	310	⇓P		P	22 18	30.8	-1.0
	baz=71,SNR=39								
O30A	MW Ranch, Wils	71.65	307	⇑P		P	22 18	30.8	-1.1
	baz=71,SNR=90								
N29A	Votaw Ranch, W	71.66	308	⇓P		P	22 18	30.8	-1.2
	baz=71,SNR=177								
KOLN	Koldanda	71.70	69	*eP*		P	22 18	32.1	-0.5
S33A	Kaszmaul Farm,	71.70	303	⇓P		P	22 18	31.8	-0.4
	baz=72,SNR=239								
R32A	Long Quarter,	71.73	305	⇑P		P	22 18	31.8	-0.5
	baz=72,SNR=258								
E22A	Miles City	71.74	315	⇓P		P	22 18	31.6	-0.7
	baz=72,SNR=128								
B20A	Solberg Farm,	71.74	317	⇓P		P	22 18	31.8	-0.5
	baz=72,SNR=447								
LAO	LASA Array	71.75	315	*eP*		P	22 18	32.4	0.0
	comp=Z,668nm,0.9s								
LAO	LASA Array	71.75	315	*eP*		P	22 18	32.4	0.0
	comp=Z,668nm,0.9s								
ZAK	Zakamensk	71.78	40	*eP*		P	22 18	32.6	0.0
ZAK				pmax		pmax			
	comp=Z,198nm,1.4s								
ZAK	Zakamensk	71.78	40	*eP*		P	22 18	32.6	0.0
	comp=Z,198nm,1.4s								
J26A	Sides Ranch, S	71.81	311	⇓P		P	22 18	33.0	+0.2
	baz=72,SNR=214								
I25A	Rochford	71.81	312	⇑P		P	22 18	33.0	0.0
	baz=72,SNR=627								
NGP	Nagpur	71.81	77	*eP*		P	22 18	35.5	+2.4
NGP				*ex*		x	22 18	42.2	
M28A	Bar X Bar Ranc	71.81	308	⇑P		P	22 18	32.3	-0.7
	baz=72,SNR=33								
ROSC	El Rosal	71.82	262	P		P	22 18	33.3	-0.4
	comp=Z,186nm,0.9s,baz=80,slow=3.0,SNR=113								
ROSC				S		SKiKP	22 27	03.9	-1.9
	comp=Z,21nm,0.8s,baz=292,slow=20,SNR=13								
ROSC				PKPPKP		P'P'df	22 46	12.6	-4.1
	comp=Z,27nm,1.0s,baz=110,slow=1.2,SNR=17								
ROSC	El Rosal	71.82	262	*eP*		P	22 18	33.4	-0.4
ROSC				S		SKiKP	22 27	03.9	-1.9
ROSC				P'P'			22 46	12.6	
ROSC				⇑*e*			22 46	13.3	
F23A	Volborg	71.83	314	⇑P		P	22 18	32.8	-0.1
	baz=72,SNR=111								
A19A	Klindworth Far	71.85	318	⇑P		P	22 18	32.7	-0.3
	baz=72,SNR=453								
Q31A	Ellis	71.86	305	⇓P		P	22 18	32.6	-0.6
	baz=72,SNR=168								
H24A	Dirks Ranch, A	71.89	313	⇑P		P	22 18	32.0	-1.3
	baz=72,SNR=148								
V35A	Meyer Ranch, C	71.91	301	⇓P		P	22 18	33.2	-0.3
	baz=72,SNR=168								
RSSD	Black Hills	71.93	312	*eP*		P	22 18	32.6	-1.1
RSSD				pmax		pmax			
	comp=Z,721nm,1.1s								
RSSD	Black Hills	71.93	312	*eP*		P	22 18	32.6	-1.1
	comp=Z,721nm,1.1s								
RSSD	Black Hills	71.93	312	*eP*		P	22 18	32.5	-1.1
	comp=Z,721nm,1.1s								
RSSD				*ep*P'P'df		P'P'df	22 46	09.8	-7.0
D21A	La Casta Ranch	71.97	316	⇓P		P	22 18	33.5	-0.1
	baz=72,SNR=154								
U34A	Anderson Ranch	72.02	302	*eP*		P	22 18	33.5	-0.6
	comp=Z,1µm,0.8s								
U34A				*ep*P		pP	22 20	40.1	+1.0
U34A	Anderson Ranch	72.02	302	⇑P		P	22 18	33.7	-0.4
	baz=72,SNR=105								
U34A	Anderson Ranch	72.02	302	*eP*		P	22 18	33.5	-0.6
	comp=Z,1µm,0.8s								
U34A				*ep*P		pP	22 20	40.1	+1.0
L27A	T5 Ranch, Ells	72.02	309	⇑P		P	22 18	33.8	-0.3
	baz=72,SNR=8.1								
BOD	Bodaibo	72.02	30	*eP*		P	22 18	32.6	-1.1
BOD				*eS*		S	22 27	06.9	+0.2
BOD	Bodaibo	72.02	30	*eP*		P	22 18	32.6	-1.1
BOD				*eS*		S	22 27	06.9	+0.2
P30A	Selden	72.12	306	⇑P		P	22 18	33.6	-1.1
	baz=72,SNR=229								
G23A	Biddle	72.12	313	⇓P		P	22 18	34.2	-0.4
	baz=72,SNR=507								
T33A	Patterson Ranc	72.14	303	⇓P		P	22 18	33.9	-0.9
	baz=72,SNR=152								
O29A	4D Ranch, Culb	72.15	307	⇓P		P	22 18	33.8	-1.1
	baz=72,SNR=86								
C20A	Veseth Ranch,	72.16	317	⇑P		P	22 18	33.9	-0.8
	baz=72,SNR=183								
SAML	Samuel	72.16	244	*eP*		P	22 18	34.7	-0.5
	comp=Z,69nm,0.9s								
SAML	Samuel	72.16	244	*eP*		P	22 18	34.6	-0.5
	comp=Z,69nm,0.9s								
SAML				*eP*'P'df		P'P'df	22 46	10.3	-4.3
340A	Bronson	72.19	296	⇑P		P	22 18	33.9	-1.2
	baz=72,SNR=67								
J25A	Sunshine Ranch	72.20	311	⇓P		P	22 18	34.7	-0.4
	baz=72,SNR=48								
K26A	Motz Farm, Whi	72.21	310	⇓P		P	22 18	34.5	-0.7
	baz=72,SNR=91								
B19A	Brinkman Farms	72.23	318	⇓P		P	22 18	34.6	-0.6
	baz=72,SNR=215								
S32A	Newby Ranch, P	72.27	304	⇓P		P	22 18	34.7	-0.8
	baz=72,SNR=140								
239A	Gary	72.28	297	⇑P		P	22 18	34.9	-0.7
	baz=72,SNR=29								
F22A	Rosebud	72.29	314	⇓P		P	22 18	34.8	-0.8
	baz=72,SNR=266								
N28A	Pribbeno Ranch	72.31	308	⇑P		P	22 18	35.1	-0.7
	baz=72,SNR=247								
E21A	Keefer Ranch,	72.32	315	⇑P		P	22 18	35.1	-0.6
	baz=72								
V34A	Guthrie	72.33	302	*eP*		P	22 18	35.2	-0.7
	comp=Z,840nm,0.8s								
V34A				*ep*P		pP	22 20	42.0	+0.8
V34A	Guthrie	72.33	302	⇑P		P	22 18	34.9	-1.0
	baz=72,SNR=110								
V34A	Guthrie	72.33	302	*eP*		P	22 18	35.2	-0.7
	comp=Z,840nm,0.8s								
V34A				*ep*P		pP	22 20	42.0	+0.8
V34A				*eP*'P'df		P'P'df	22 46	09.4	-6.5
R31A	Burdett	72.34	305	⇑P		P	22 18	35.2	-0.7
	baz=72,SNR=148								
GKN	Gorkha	72.35	68	*eP*		P	22 18	36.0	-0.3
138A	Matatall Enter	72.37	298	⇓P		P	22 18	35.7	-0.4
	baz=72,SNR=89								
M27A	Reverse DX Ran	72.38	309	⇑P		P	22 18	35.5	-0.7
	baz=72,SNR=110								
U33A	Lingo Farm, Me	72.41	303	⇑P		P	22 18	35.2	-1.1
	baz=72,SNR=286								
Q30A	Quinter	72.41	306	⇓P		P	22 18	35.4	-1.0
	baz=72,SNR=276								
I24A	Kuemmerle Ranc	72.43	312	⇑P		P	22 18	35.9	-0.6
	baz=72,SNR=82								
OGNE	Ogallala	72.48	308	⇑P		P	22 18	35.8	-0.9
	baz=72,SNR=80								
H23A	Clabaugh Cattl	72.49	313	⇓P		P	22 18	35.8	-0.9
	baz=72								
L26A	Underwood Farm	72.52	310	⇓P		P	22 18	36.7	-0.3
	baz=72,SNR=66								
P29A	Atwood	72.53	307	⇓P		P	22 18	35.8	-1.2
	baz=72,SNR=60								
T32A	Huddler Ranch,	72.55	304	⇑P		P	22 18	36.4	-0.7
	baz=72,SNR=270								
D20A	Manuel Ranch,	72.59	316	⇑P		P	22 18	36.6	-0.6
	baz=72,SNR=374								
G22A	Birney	72.63	314	⇓P		P	22 18	36.6	-1.0
	baz=72,SNR=108								
SUR	Sutherland	72.67	159	*eP*		P	22 18	38.3	+0.4
SUR				AMB		AMB	22 18	39.9	
	comp=Z,362nm,1.0s								
SUR	Sutherland	72.67	159	P		P	22 18	39.0	+1.1
	SNR=15								
SUR	Sutherland	72.67	159	P		P	22 18	39.0	+1.1
	SNR=15								
SUR	Sutherland	72.67	159	*eP*		P	22 18	38.1	+0.3
	comp=Z,126nm,0.9s								
S31A	Mullinville	72.68	304	⇑P		P	22 18	37.0	-0.8
	baz=72,SNR=330								
K25A	Mack Ranch, Ha	72.68	310	⇓P		P	22 18	37.4	-0.6
	baz=72,SNR=186								
339A	Huntington	72.71	296	⇑P		P	22 18	37.3	-0.8
	baz=72,SNR=54								
C19A	Slack Wire Ran	72.72	317	⇓P		P	22 18	37.4	-0.5
	baz=72,SNR=445								
238A	Jacksonville	72.75	297	⇓P		P	22 18	37.5	-0.8
	baz=72,SNR=63								
J24A	Dixon Ranch, L	72.75	311	⇑P		P	22 18	37.9	-0.4
	baz=72,SNR=76								
F21A	Absaloka Mine,	72.76	315	⇑P		P	22 18	37.3	-1.0
	baz=72,SNR=34								
O28A	Krutsinger Ran	72.77	307	⇑P		P	22 18	37.4	-1.0
	baz=72,SNR=67								
R30A	Dighton	72.83	305	⇓P		P	22 18	38.0	-0.8
	baz=73,SNR=398								
W34A	Bridge Creek,	72.83	301	*eP*		P	22 18	38.4	-0.4
	comp=Z,3µm,2.3s								
W34A	Bridge Creek,	72.83	301	⇑P		P	22 18	38.1	-0.7
	baz=73,SNR=42								
W34A	Bridge Creek,	72.83	301	*eP*		P	22 18	38

comp=Z,492nm,1.1s
EGAK Eagle 73.27 342 *e*P P 22 18 41.0 +0.3
comp=Z,492nm,1.1s
EGAK *e*P'P'df P'P'df 22 46 04.6 -8.9
N26A Koester Ranch, 73.29 309 ⇓P P 22 18 40.8 -0.6
baz=73,SNR=36
S30A Montezuma 73.31 305 ⇑P P 22 18 40.6 -0.9
baz=73,SNR=309
R29A Marienthal 73.31 306 ⇑P P 22 18 40.7 -0.8
baz=73,SNR=154
GUN Gumba 73.32 67 *e*P P 22 18 42.1 0.0
comp=Z,648nm,0.3s
E19A Rath Farm, Rou 73.32 316 ⇓P P 22 18 40.5 -0.9
baz=73,SNR=197
W33A Caddo, Fort Co 73.36 302 ⇑P P 22 18 41.2 -0.5
baz=73,SNR=45
F20A Billings 73.36 315 ⇑P P 22 18 41.2 -0.5
baz=73,SNR=67
Q28A Sharon Springs 73.41 307 ⇑P P 22 18 41.2 -0.8
baz=73,SNR=203
ABPO Ambohimpanom 73.41 130 *e*P P 22 18 43.3 +0.9
ABPO pmax pmax
comp=Z,1μm,2.1s
ABPO Ambohimpanom 73.41 130 *e*P P 22 18 43.3 +0.9
comp=Z,1μm,2.1s
ABPO Ambohimpanom 73.41 130 *e*P P 22 18 43.3 +0.9
comp=Z,1μm,2.1s
H21A Big Horn, Sher 73.41 314 ⇑P P 22 18 41.1 -0.9
baz=73,SNR=178
DAWY Dawson 73.41 341 *e*P P 22 18 42.2 +0.6
DAWY Dawson 73.41 341 *e*P P 22 18 42.2 +0.6
DAWY *e*P'P'df P'P'df 22 46 03.9 -9.5
V32A Arapaho 73.43 302 ⇑P P 22 18 42.1 -0.1
baz=73,SNR=111
M25A Palm-Egli Farm 73.46 310 ⇓P P 22 18 42.2 -0.2
baz=73,SNR=99
HYBB Hyderabad (bro 73.48 80 *e*P P 22 18 41.4 -1.4
HYBB IAmb IAmb 22 18 43.6
comp=Z,1μm,1.5s
HYBB *e*PcP PcP 22 18 57.1 +2.2
HYBB *e*pP pP 22 20 47.5 -1.1
HYBB *e* 22 21 19.3
HYBB *e*PP PP 22 21 35.1 -3.0
HYBB *e*S S 22 27 19.4 -4.7
HYBB *e*SKSac SKSac 22 27 48.2 -3.0
HYBB *e* 22 35 32.1
HYB Hyderabad 73.48 80 *i* P P 22 18 41.0 -1.8
comp=Z,110nm,1.0s
HYB *e*PcP PcP 22 18 57.5 +2.6
HYB *e* 22 19 41.0
HYB *e*pP pP 22 20 50.0 +1.4
HYB *e*PP PP 22 21 42.0 +3.9
HYB *e*sP sP 22 21 48.0 -4.0
HYB *e*S S 22 27 20.0 -4.1
HYB *e* 22 27 48.0
HYB *e* 22 28 02.0
HYB *e*sS sS 22 31 00.0 -8.5
HYB *e*SS SS 22 32 32.0 +7.6
HYB Hyderabad 73.48 80 *e*P P 22 18 45.8 +3.0
I22A 9 Mile Ranch, 73.51 313 ⇑P P 22 18 41.5 -1.1
baz=73,SNR=285
Z35A Perchaven, San 73.52 299 ⇑P P 22 18 41.7 -1.0
baz=73,SNR=237
Y34A Reagan Ranch, 73.53 300 ⇑P P 22 18 41.1 -1.7
baz=73,SNR=60
P27A Ficken Ranch, 73.61 307 ⇑P P 22 18 42.3 -0.9
baz=73,SNR=110
U31A Nine Bar Ranch 73.61 303 ⇑P P 22 18 42.8 -0.4
baz=73,SNR=36
L24A Wheatland 73.65 310 ⇓P P 22 18 42.8 -0.6
baz=73,SNR=110
K23A Bowen Ranch, D 73.66 311 ⇑P P 22 18 43.0 -0.5
baz=73,SNR=203
337A Centerville 73.67 297 ⇑P P 22 18 43.0 -0.5
baz=74,SNR=89
O26A Horse Wrangler 73.68 308 ⇓P P 22 18 42.6 -1.0
baz=73,SNR=34
T30A Plains 73.68 304 ⇓P P 22 18 43.0 -0.6
baz=74,SNR=54
438A Sam Houston St 73.69 296 ⇑P P 22 18 43.6 -0.1
baz=74,SNR=101
JIRN Jiri 73.69 68 *e*P P 22 18 44.1 -0.1
comp=Z,1μm,0.6s
X33A Lawton 73.72 301 ⇓P P 22 18 42.5 -1.2
baz=74,SNR=79
G20A Bridger 73.73 315 ⇓P P 22 18 42.0 -1.9
baz=74,SNR=432
S29A Ulysses 73.75 305 ⇓P P 22 18 42.2 -1.8
baz=74,SNR=212
F19A Roth Farm, Mol 73.77 315 ⇑P P 22 18 43.4 -0.6
baz=74,SNR=584
J22A Midwest 73.79 312 ⇑P P 22 18 42.1 -2.2
baz=74,SNR=174
R28A Tribune 73.80 306 ⇓P P 22 18 43.2 -1.1
baz=74,SNR=227
N25A Grover 73.84 309 ⇑P P 22 18 43.9 -0.6
baz=74,SNR=6.2
URV Uravakonda 73.85 83 *e*P P 22 18 43.8 -1.0
URV IAmb IAmb 22 18 46.1
comp=Z,1μm,1.4s
URV *e*PcP PcP 22 18 57.2 +0.7
URV *e*pP pP 22 20 50.5 -0.4
URV *e*PP PP 22 21 44.6 +3.4
URV *e*S S 22 27 23.9 -4.2
URV *e* 22 27 52.8
URV *e* 22 35 56.9
URV *i* 22 57 11.3
W32A Sentinel 73.90 302 ⇑P P 22 18 44.2 -0.7
baz=74,SNR=240
M24A Cheyenne 73.92 310 ⇑P P 22 18 43.9 -1.1
baz=74,SNR=188
KSD Kokstad 73.93 151 *e*P P 22 18 46.1 +1.2
KSD AMB AMB 22 18 47.2
comp=Z,124nm,1.0s
V31A Spring Creek L 73.94 303 ⇑P P 22 18 45.1 0.0
baz=74,SNR=95
KSCO Kaye Shedlock' 73.94 307 *e*P P 22 18 44.7 -0.5
comp=Z,860nm,0.9s
KSCO Kaye Shedlock' 73.94 307 ⇑P P 22 18 44.6 -0.5
baz=74,SNR=154
KSCO Kaye Shedlock' 73.94 307 *e*P P 22 18 44.7 -0.5
comp=Z,860nm,0.9s
Z34A Collier Ranch, 73.96 300 ⇑P P 22 18 43.8 -1.4
baz=74,SNR=86
538A Harpers Horsep 73.99 296 ⇑P P 22 18 45.6 +0.2
baz=74,SNR=6.8
I21A Big Trails, Te 74.03 313 ⇑P P 22 18 44.0 -1.6
baz=74,SNR=636
H20A Greybull 74.05 314 ⇑P P 22 18 44.1 -1.5
baz=74,SNR=184
U30A WK&E Inc. Balk 74.06 304 ⇓P P 22 18 45.3 -0.5
baz=74,SNR=176
135A Vickery Place, 74.06 299 ⇓P P 22 18 44.6 -1.2
baz=74,SNR=43
L23A Garrett 74.08 311 ⇓P P 22 18 45.2 -0.7
baz=74,SNR=238
P26A Davis Ranch, A 74.09 308 ⇑P P 22 18 45.1 -0.9
baz=74,SNR=137
TEIG Tepich 74.09 283 *e*P P 22 18 45.4 -0.7
comp=Z,630nm,1.0s
TEIG Tepich 74.09 283 *e*P P 22 18 45.4 -0.7
comp=Z,630nm,1.0s
Y33A Hilltop Ranch, 74.10 301 ⇑P P 22 18 44.9 -1.1
baz=74,SNR=124
437A Phantom Ranch, 74.12 297 ⇓P P 22 18 45.7 -0.4
baz=74,SNR=50
T29A Hugoton 74.13 305 ⇑P P 22 18 45.4 -0.8
baz=74,SNR=70
GCMT Greycliff 74.22 316 *e*P P 22 18 46.1 -0.5
GCMT Greycliff 74.22 316 *e*P P 22 18 46.1 -0.5
K22A Casper 74.26 312 *e*P P 22 18 45.8 -1.1
comp=Z,760nm,0.9s
K22A Casper 74.26 312 ⇓P P 22 18 45.9 -1.0
baz=74,SNR=341
K22A Casper 74.26 312 *e*P P 22 18 45.8 -1.1
comp=Z,760nm,0.9s
K22A *e*PP PP 22 21 38.8 -5.2
K22A *e*S S 22 27 32.0 -0.2
O25A Wiggins 74.26 308 ⇓P P 22 18 46.5 -0.5
baz=74,SNR=80
S28A Manter 74.28 305 ⇓P P 22 18 46.4 -0.7
baz=74,SNR=156
MNCY Minicoy 74.31 91 *e*P P 22 18 50.1 +2.7
YAK Yakutsk 74.31 21 *e*P P 22 18 47.2 +0.7
YAK *e* 22 18 59.4
YAK *e* 22 21 41.2
YAK *e*PPP PPP 22 23 34.7
YAK *e*S S 22 27 31.7 +0.2
YAK *e* 22 27 59.4
YAK pmax pmax
comp=Z,228nm,0.9s
YAK pmax pmax
comp=N,60nm,1.0s
YAK pmax pmax
comp=E,49nm,1.0s
YAK pmax pmax
comp=Z,169nm,1.3s
YAK pmax pmax
comp=N,84nm,1.2s
YAK pmax pmax
comp=E,56nm,1.1s
YAK smax smax
comp=N,1μm,2.4s
YAK smax smax
comp=E,3μm,2.8s
YAK Yakutsk 74.31 21 P P 22 18 47.7 +1.2
comp=E,238nm,0.5s,baz=132,slow=1.3,SNR=39
YAK S S 22 27 32.6 +1.1
comp=E,14nm,0.4s,baz=88,slow=24,SNR=18
YAK Yakutsk 74.31 21 *e*P P 22 18 47.2 +0.7
comp=E,60nm,1.0s
YAK Yakutsk 74.31 21 *e*PcP PcP 22 18 59.4 +1.8
YAK S S 22 27 32.6 +1.1
YAK *e*ScS ScS 22 27 59.4 -0.5
YAK Yakutsk 74.31 21 *e*P P 22 18 46.8 +0.2
comp=E,279nm,0.6s
YAK S S 22 27 32.6 +1.1
336A Riesel 74.31 298 ⇑P P 22 18 46.2 -1.0
baz=74,SNR=66
X32A Elmer 74.32 301 ⇓P P 22 18 46.4 -0.8
baz=74,SNR=201
N24A Carr 74.32 309 ⇑P P 22 18 46.9 -0.4
baz=74,SNR=8.4
W31A Holland Ranch, 74.34 302 ⇑P P 22 18 47.1 -0.3
baz=74,SNR=145
RAMN Ramite 74.38 68 *e*P P 22 18 47.4 -0.6
HKT Hockley 74.39 296 *e*P P 22 18 46.7 -0.8
HKT *e*S S 22 27 30.5 -2.9
HKT Hockley 74.39 296 *e*P P 22 18 46.7 -0.8
HKT *e*S S 22 27 30.5 -2.9
HKT Hockley 74.39 296 *e*P P 22 18 46.6 -0.8
HKT *e*S S 22 27 30.5 -2.9
RLMT Red Lodge 74.39 315 *e*P P 22 18 47.1 -0.5
comp=E,257nm,1.1s
RLMT Red Lodge 74.39 315 *e*P P 22 18 47.1 -0.5
comp=E,257nm,1.1s
J21A Lysite 74.40 313 ⇑P P 22 18 46.5 -1.2
baz=74,SNR=366
PHWY Pilot Hill 74.40 310 *e*P P 22 18 47.4 -0.5
comp=E,908nm,1.0s
PHWY Pilot Hill 74.40 310 *e*P P 22 18 47.4 -0.5
comp=E,908nm,1.0s
WHTX Lake Whitney, 74.41 298 *e*P P 22 18 46.5 -1.2
comp=E,573nm,0.8s
WHTX Lake Whitney, 74.41 298 ⇑P P 22 18 47.3 -0.4
baz=74,SNR=210
WHTX Lake Whitney, 74.41 298 *e*P P 22 18 46.5 -1.2
comp=E,573nm,0.8s
I20A Worland 74.44 314 ⇓P P 22 18 46.6 -1.2
baz=74,SNR=546
ELIM Elim 74.45 160 *e*P P 22 18 48.5 +0.8
ELIM AMB AMB 22 18 49.8
comp=Z,557nm,1.1s
M23A Laramie 74.47 310 ⇑P P 22 18 48.0 -0.1
baz=74,SNR=420
R27A Eads 74.47 306 ⇑P P 22 18 47.2 -0.8
baz=74,SNR=153
WALA Waterton Lakes 74.48 320 *e*P P 22 18 47.4 -0.6
comp=Z,10μm,0.8s
WALA *e*pP pP 22 20 55.5 +1.3
WALA Waterton Lakes 74.48 320 *e*P P 22 18 47.4 -0.6
comp=Z,19μm,0.8s
WALA *e*pP pP 22 20 55.5 +1.3
H19A Powell 74.50 314 ⇓P P 22 18 47.8 -0.4
baz=74,SNR=316
U29A Oasis Ranch, S 74.51 304 ⇓P P 22 18 48.0 -0.3
baz=74,SNR=65
V30A Spur Ranch, Mi 74.52 303 ⇑P P 22 18 48.2 -0.2
baz=74,SNR=19
134A White-Moore Ra 74.52 299 ⇑P P 22 18 48.0 -0.3
baz=74,SNR=46
NJS Nagarjunasagar 74.56 81 *e*P P 22 18 47.5 -1.3
NJS IAmb IAmb 22 18 49.8
comp=Z,1μm,1.4s
NJS *e*PcP PcP 22 19 01.1 +1.6
NJS *e*pP pP 22 20 53.7 -1.5
NJS *e*PP PP 22 21 50.3 +3.3
NJS *e*S S 22 27 31.3 -4.5
NJS *e* 22 27 56.2
NJS *e* 22 32 19.8
NJS *e* 22 35 53.8
Q26A Hugo 74.57 307 ⇓P P 22 18 48.1 -0.6
baz=74,SNR=178
L22A Ellis Ranch, M 74.57 311 ⇓P P 22 18 48.6 -0.1
baz=74,SNR=132
ILAR Eielson Array 74.57 345 P P 22 18 48.5 +0.5
comp=Z,31nm,0.5s,baz=16,slow=4.7,SNR=362
ILAR pP pP 22 20 55.6 +1.3
comp=Z,14nm,0.8s,baz=20,slow=3.1,SNR=5.4
ILAR PKKPbc PKKPbc 22 38 06.0 -2.5
comp=Z,1.1nm,1.0s,baz=240,slow=4.1,SNR=5.3
ILAR PKP2bc 22 46 01.1
comp=Z,3.9nm,0.9s,baz=223,slow=4.8,SNR=13
ILAR PKPPKP P'P'df 22 46 10.1 -1.1
comp=Z,8.1nm,0.9s,baz=238,slow=3.1,SNR=17
Z33A Whitaker Ranch 74.60 300 ⇓P P 22 18 47.4 -1.4
baz=74,SNR=54
436A Wall Ranch, Ga 74.62 297 ⇑P P 22 18 48.5 -0.4
baz=74,SNR=120
P25A Willow Gulch B 74.64 308 ⇑P P 22 18 48.1 -1.0
baz=74,SNR=106
537A Green Hill Far 74.66 296 ⇑P P 22 18 48.8 -0.4
baz=74,SNR=32
Y32A R-V Farms, Ver 74.66 301 ⇓P P 22 18 48.8 -0.3
baz=74,SNR=98
X31A McDonald Ranch 74.67 302 ⇓P P 22 18 48.5 -0.7
baz=74,SNR=131
CRMT Chrome Mountai 74.68 316 *e*P P 22 18 48.8 -0.6
CRMT Chrome Mountai 74.68 316 *e*P P 22 18 48.8 -0.6
COLA College 74.68 345 *d*iP P 22 18 49.4 +0.8
COLA pmax pmax
comp=Z,380nm,1.3s
COLA College 74.68 345 *e*P P 22 18 49.3 +0.7
comp=Z,95nm,1.1s
COLA College 74.68 345 *e*P P 22 18 49.3 +0.7
comp=Z,95nm,1.1s
T28A Walsh 74.69 305 ⇓P P 22 18 48.8 -0.5
baz=74,SNR=160
K21A Alcova 74.70 312 ⇓P P 22 18 48.4 -1.0
baz=74,SNR=333
J20A Shoshoni 74.77 313 ⇓P P 22 18 48.7 -1.0
baz=74,SNR=872
W30A Crocket Farms 74.77 303 ⇑P P 22 18 49.6 -0.1
baz=74,SNR=18
335A Moody 74.78 298 ⇓P P 22 18 48.5 -1.3
baz=75,SNR=69
IM04 Indian Mountai 74.81 348 *e*P P 22 18 50.2 +0.9
IM04 Indian Mountai 74.81 348 *e*P P 22 18 50.2 +0.9
IM04 *e*S S 22 27 41.5 +4.7
HRY Holter Researc 74.84 317 *e*P P 22 18 49.7 -0.3
HRY Holter Researc 74.84 317 *e*P P 22 18 49.7 -0.3
O24A Longmont 74.85 309 ⇑P P 22 18 48.6 -1.7
baz=75,SNR=177
738A Farr-Stevens R 74.87 295 ⇑P P 22 18 51.9 +1.6
baz=75
R26A Arlington 74.88 307 ⇑P P 22 18 50.5 +0.1
baz=75,SNR=519
S27A Las Animas 74.88 306 ⇑P P 22 18 50.6 +0.2
baz=75,SNR=33
234A Clairette 74.88 299 ⇑P P 22 18 49.7 -0.6
baz=75
H18A Shoshone NF, C 74.89 315 ⇓P P 22 18 50.3 -0.1
baz=75,SNR=306
I19A Meeteetse 74.89 314 ⇑P P 22 18 50.2 -0.2
baz=75,SNR=404
DOT Dot Lake 74.91 343 *e*P P 22 18 51.2 +1.2
DOT Dot Lake 74.91 343 *e*P P 22 18 51.2 +1.2
DOT *e*pP pP 22 21 00.8 +4.3
N23A Red Feather La 74.94 310 *e*P P 22 18 50.6 -0.3
comp=Z,728nm,1.1s
N23A Red Feather La 74.94 310 ⇑P P 22 18 50.9 +0.1
baz=75,SNR=392
N23A Red Feather La 74.94 310 *e*P P 22 18 50.6 -0.3
comp=Z,728nm,1.1s
SONM Songino Array 74.96 41 P P 22 18 51.1 +0.5
SONM 22 21 48.7
SONM pmax pmax
comp=Z,99nm,0.5s
SONM pmax pmax
comp=Z,65nm,1.1s
SONM Songino Array 74.96 41 P P 22 18 51.1 +0.5
comp=Z,99nm,0.5s,baz=305,slow=7.1,SNR=290
SONM PP PP 22 21 48.7 -0.8
comp=Z,65nm,1.1s,baz=296,slow=9.8,SNR=5.3
TAPN Taplejung 74.98 67 *e*P P 22 18 51.0 -0.4
comp=Z,986nm,1.0s
BILL Bilibino 74.99 4 *d*iP P 22 18 50.4 +0.2
BILL *e* 22 19 02.5
BILL *e**SP sP 22 21 56.6 -3.6
BILL *i*S S 22 27 38.9 +0.2
BILL *e*SS SS 22 32 43.0 -1.0
BILL pmax pmax
comp=Z,83nm,1.4s
BILL Bilibino 74.99 4 *e*P P 22 18 51.0 +0.8
BILL Bilibino 74.99 4 *e*PcP PcP 22 19 02.5 +2.1
BILL *i*S S 22 27 38.9 +0.2
BILL Bilibino 74.99 4 *e*P P 22 18 51.0 +0.8
BILL *e*S S 22 27 38.3 -0.4
DLBC Dease Lake 74.99 334 *e*P P 22 18 51.3 +0.8
DLBC Dease Lake 74.99 334 *e*P P 22 18 51.3 +0.8
V29A Stinnett 75.01 304 ⇓P P 22 18 51.5 +0.4
baz=75,SNR=98
ODAN Odare 75.02 68 *e*P P 22 18 50.8 -0.7
comp=Z,2μm,0.9s
Q25A Bedland, Calha 75.03 308 ⇓P P 22 18 51.0 -0.4
baz=75,SNR=81
M22A Cedar Creek Ra 75.04 311 ⇑P P 22 18 51.6 +0.2
baz=75,SNR=164
Z32A Haskell 75.08 300 ⇓P P 22 18 51.2 -0.2
baz=75,SNR=498
133A Hamilton Ranch 75.08 300 ⇑P P 22 18 51.1 -0.4
baz=75,SNR=184
P24A Kohler Place, 75.10 308 ⇓P P 22 18 51.9 +0.2
baz=75,SNR=56
T27A Campo 75.12 305 ⇓P P 22 18 52.1 +0.4
baz=75,SNR=85
YMP Mirror Lake Pl 75.13 315 *e*P P 22 18 51.9 0.0
YMP Mirror Lake Pl 75.13 315 *e*P P 22 18 51.9 0.0
435B Jarrell 75.18 297 ⇑P P 22 18 52.0 0.0
baz=75,SNR=92
U28A Mallet 75.19 304 ⇓P P 22 18 52.1 0.0
baz=75,SNR=94
536A Bastrop 75.20 297 ⇑P P 22 18 52.2 0.0
baz=75,SNR=30
YJC Joseph's Coat 75.23 315 *e*P P 22 18 54.1 +1.7
YJC Joseph's Coat 75.23 315 *e*P P 22 18 54.1 +1.7
Y31A Rekieta Farm, 75.25 301 ⇑P P 22 18 52.1 -0.3
baz=75,SNR=298
ULN Ulaanbaatar 75.28 41 *d*iP P 22 18 52.8 +0.4
ULN pmax pmax
comp=Z,310nm,1.1s
ULN Ulaanbaatar 75.28 41 *i* P P 22 18 52.8 +0.4
comp=Z,310nm,1.1s
ULN Ulaanbaatar 75.28 41 P P 22 18 53.2 +0.8
SNR=187
ULN Ulaanbaatar 75.28 41 *e*P P 22 18 52.9 +0.4
YMV Mammoth Vault 75.28 315 *e*P P 22 18 52.8 +0.2
YMV Mammoth Vault 75.28 315 *e*P P 22 18 52.8 +0.2
S26A Kim 75.28 306 ⇓P P 22 18 52.5 -0.1
baz=75,SNR=312
N22A Wattenberg Ran 75.31 310 ⇓P P 22 18 52.7 -0.2
baz=75,SNR=383
O23A Lake Granby, G 75.32 309 ⇓P P 22 18 52.9 -0.2
baz=75,SNR=401
334A Lometa 75.33 298 ⇑P P 22 18 51.4 -1.4
baz=75,SNR=686
GRM Grahamstown 75.35 154 *e*P P 22 18 53.1 +0.3
GRM AMB AMB 22 18 54.8
comp=Z,311nm,1.4s
GRM Grahamstown 75.35 154 *i* P P 22 18 51.4 -1.3
ISCO Idaho Springs 75.38 309 *e*P P 22 18 53.0 -0.4
ISCO pmax pmax
comp=Z,534nm,1.1s
ISCO Idaho Springs 75.38 309 *e*P P 22 18 53.0 -0.4
comp=Z,534nm,1.1s
ISCO Idaho Springs 75.38 309 ⇓P P 22 18 52.4 -0.9
baz=75,SNR=576
ISCO Idaho Springs 75.38 309 *e*P P 22 18 53.0 -0.4
comp=Z,534nm,1.1s
J19A Crowheart 75.39 313 ⇓P P 22 18 52.2 -1.0
baz=75,SNR=213
X30A Coker Ranch, T 75.39 302 ⇓P P 22 18 52.7 -0.5
baz=75,SNR=389
BOZ Bozeman (W) 75.39 316 *e*P P 22 18 53.5 +0.4
BOZ Bozeman (W) 75.39 316 *e*P P 22 18 53.5 +0.4
BOZ Bozeman (W) 75.39 316 *e*P P 22 18 53.5 +0.4
SLMT Seeley Lake 75.41 319 *e*P P 22 18 52.0 -1.2
SLMT Seeley Lake 75.41 319 *e*P P 22 18 52.0 -1.2
233A Rising Star 75.41 299 ⇑P P 22 18 52.2 -1.1
baz=75,SNR=264
LCCM Lewis and Clar 75.41 317 *e*P P 22 18 53.3 +0.1
LCCM Lewis and Clar 75.41 317 *e*P P 22 18 53.3 +0.1
YTP The Promontory 75.41 315 *e*P P 22 18 53.2 -0.2
YTP The Promontory 75.41 315 *e*P P 22 18 53.2 -0.2
YNR Norris Junctio 75.44 315 *e*P P 22 18 54.4 +0.9
comp=Z,267nm,1.4s
YNR Norris Junctio 75.44 315 *e*P P 22 18 54.4 +0.9
comp=Z,267nm,1.4s
CHMT Chamberlain Mo 75.48 318 *e*P P 22 18 52.8 -0.9
CHMT Chamberlain Mo 75.48 318 *e*P P 22 18 52.8 -0.9
CHMT *e*P'P'df P'P'df 22 46 04.6 -5.8
ADKI Addanki 75.49 81 *i* P P 22 18 53.1 -0.8
ADKI IAmb IAmb 22 18 55.6
comp=Z,525nm,1.2s
ADKI *e*pP pP 22 20 54.4 -6.3
ADKI *e*PP PP 22 21 57.5 +2.8
ADKI *e* 22 23 40.4
ADKI *e*S S 22 27 42.1 -3.6
ADKI *e*SKSac SKSac 22 28 05.0 -0.9
ADKI *e* 22 32 44.2
ADKI *i* 22 36 29.5
YHH Holmes Hill 75.49 315 *e*P P 22 18 54.0 +0.1
YHH Holmes Hill 75.49 315 *e*P P 22 18 54.0 +0.1
R25A Fountain Ranch 75.50 307 ⇓P P 22 18 53.4 -0.5
baz=75,SNR=277
BUFB Buffelsbos 75.52 156 *e*P P 22 18 54.6 +1.0
BUFB AMB AMB 22 18 55.6
comp=Z,12nm,0.9s
W29A Amarillo 75.52 303 ⇓P P 22 18 53.9 -0.1
baz=75,SNR=52
636A Smothers Creek 75.53 296 ⇓P P 22 18 54.0 0.0
baz=75,SNR=83
HYT Haines Junctio 75.53 339 *e*P P 22 18 54.2 +0.6
HYT Haines Junctio 75.53 339 *e*P P 22 18 54.2 +0.6
Z31A Sharp Cattle R 75.53 301 ⇓P P 22 18 53.5 -0.5
baz=75,SNR=320
V28A Channing 75.55 304 ⇑P P 22 18 53.2 -0.9
baz=75,SNR=27
U27A Thompson Grove 75.56 305 ⇑P P 22 18 53.4 -0.8
baz=75,SNR=105
H17A Grant Village 75.57 315 *e*P P 22 18 55.2 +0.9
H17A Grant Village 75.57 315 ⇑P P 22 18 54.1 -0.2
baz=75,SNR=245
H17A Grant Village 75.57 315 *e*P P 22 18 55.2 +0.9
Q24A Divide 75.58 308 *e*P P 22 18 53.6 -0.9
Q24A Divide 75.58 308 ⇓P P 22 18 53.8 -0.7
baz=75,SNR=368
Q24A Divide 75.58 308 *e*P P 22 18 53.6 -0.9
YPM Purple Mountai 75.58 315 *e*P P 22 18 55.1 +0.7
YPM Purple Mountai 75.58 315 *e*P P 22 18 55.1 +0.7
ABTX Abilene, Hawle 75.58 300 *e*P P 22 18 53.1 -1.1
comp=Z,465nm,0.8s
ABTX Abilene, Hawle 75.58 300 ⇑P P 22 18 53.4 -0.9
baz=75,SNR=179
ABTX Abilene, Hawle 75.58 300 *e*P P 22 18 53.1 -1.1
comp=Z,465nm,0.8s
535A Dale 75.59 297 ⇓P P 22 18 53.6 -0.6
baz=75,SNR=65
YMC Maple Creek 75.59 315 *e*P P 22 18 54.4 +0.1
YMC Maple Creek 75.59 315 *e*P P 22 18 54.4 +0.1
BOK Bokaro 75.60 71 *e*P P 22 18 54.6 +0.1
BOK AMB AMB 22 18 59.6
comp=Z,717nm,0.0s
T26A Comanche Natio 75.62 306 ⇑P P 22 18 54.3 -0.3
baz=75,SNR=93
YMR Madison River 75.63 315 *e*P P 22 18 55.3 +0.8
comp=Z,486nm,1.1s

YMR	Madison River	75.63	315	eP		P		22 18 55.3	+0.8	
	comp=Z,486nm,1.1s									
434A	Burnet	75.64	298	⇓P		P		22 18 53.0	-1.7	
	baz=75,SNR=459									
GTK	Tadong	75.66	67	ex		P		22 18 52.0	-3.0	
AMTX	Amarillo	75.68	303	eP		P		22 18 54.5	-0.4	
	comp=Z,383nm,1.3s									
AMTX	Amarillo	75.68	303	⇑P		P		22 18 54.1	-0.8	
	baz=76									
AMTX	Amarillo	75.68	303	eP		P		22 18 54.5	-0.4	
	comp=Z,383nm,1.3s									
YFT	Old Faithful	75.69	315	eP		P		22 18 56.9	+2.0	
	comp=Z,838nm,1.2s									
YFT	Old Faithful	75.69	315	eP		P		22 18 56.9	+2.0	
	comp=Z,838nm,1.2s									
Y30A	Stafford Cattl	75.73	302	⇑P		P		22 18 54.4	-0.7	
	baz=76,SNR=93									
CIT	Chita	75.73	35	eP		P		22 18 54.8	+0.1	
CIT				e				22 19 06.5		
CIT				e				22 21 56.6		
CIT				pmax		pmax				
	comp=Z,659nm,2.5s									
CIT	Chita	75.73	35	eP		P		22 18 54.8	+0.1	
	comp=Z,659nm,2.5s									
CIT	Chita	75.73	35	ePcP		PcP		22 19 06.5	+2.5	
LRM	Limekiln Ridge	75.73	317	eP		P		22 18 55.0	-0.1	
LRM	Limekiln Ridge	75.73	317	eP		P		22 18 55.0	-0.1	
O22A	Kremmling	75.74	310	⇑P		P		22 18 54.6	-0.7	
	baz=76,SNR=912									
P23A	Jefferson	75.77	309	⇓P		P		22 18 55.5	0.0	
	baz=76,SNR=272									
QLMT	Earthquake Lak	75.79	316	eP		P		22 18 55.7	+0.3	
QLMT	Earthquake Lak	75.79	316	eP		P		22 18 55.7	+0.3	
W28A	Vega	75.82	303	⇓P		P		22 18 55.4	-0.2	
	baz=76,SNR=6.1									
PAX	Paxson	75.82	343	eP		P		22 18 56.0	+0.9	
PAX				e*PP		pP		22 21 06.5	+4.5	
PAX				pmax		pmax				
	comp=Z,64nm,1.0s									
PAX	Paxson	75.82	343	eP		P		22 18 56.0	+0.9	
	comp=Z,64nm,1.0s									
PAX	Paxson	75.82	343	eP		P		22 18 56.0	+0.9	
	comp=Z,64nm,1.0s									
PAX				epP		pP		22 21 06.5	+4.5	
FLWY	Flagg Ranch	75.84	315	eP		P		22 18 55.7	0.0	
	comp=Z,232nm,0.9s									
FLWY	Flagg Ranch	75.84	315	eP		P		22 18 55.7	0.0	
	comp=Z,232nm,0.9s									
333A	Richland Sprin	75.86	299	⇑P		P		22 18 54.5	-1.2	
	baz=76,SNR=190									
I17A	Pilgrim Ck.	75.87	315	⇑P		P		22 18 55.8	0.0	
	baz=76,SNR=269									
BGMT	Barton Gulch	75.88	316	eP		P		22 18 56.3	+0.4	
BGMT	Barton Gulch	75.88	316	eP		P		22 18 56.3	+0.4	
S25A	Robets Cordova	75.89	307	⇓P		P		22 18 55.9	-0.1	
	baz=76,SNR=880									
MSO	Missoula	75.90	318	eP		P		22 18 55.0	-0.9	
	comp=Z,416nm,1.0s									
MSO	Missoula	75.90	318	⇓P		P		22 18 55.0	-0.9	
	baz=76,SNR=367									
MSO	Missoula	75.90	318	eP		P		22 18 55.0	-0.9	
	comp=Z,416nm,1.0s									
MCK	McKinley	75.92	345	eP		P		22 18 55.5	0.0	
MCK				eS		S		22 27 47.3	-1.5	
MCK				pmax		pmax				
	comp=Z,166nm,1.0s									
MCK	McKinley	75.92	345	eP		P		22 18 55.5	0.0	
	comp=Z,166nm,1.0s									
MCK				eS		S		22 27 47.3	-1.5	
MCK	McKinley	75.92	345	eP		P		22 18 55.5	0.0	
	comp=Z,166nm,1.0s									
MCK				eS		S		22 27 47.3	-1.5	
MCK				ePKKPdf		PKKPdf		22 37 46.2	-2.9	
X29A	Tulia	75.95	303	⇑P		P		22 18 55.3	-1.0	
	baz=76,SNR=28									
V27A	Dan Oppiter Fa	75.95	304	⇓P		P		22 18 55.9	-0.4	
	baz=76,SNR=68									
SKAG	Skagway	75.96	337	eP		P		22 18 55.8	+0.1	
	comp=Z,198nm,1.3s									
SKAG	Skagway	75.96	337	eP		P		22 18 55.8	+0.1	
	comp=Z,198nm,1.3s									
SKAG				eP'P'df		P'P'df		22 46 07.2	-1.6	
R24A	Sanders Place,	75.98	307	⇓P		P		22 18 55.9	-0.7	
	baz=76,SNR=468									
BW06	Boulder Array	75.98	313	eP		P		22 18 55.5	-1.1	
BW06	Boulder Array	75.98	313	eP		P		22 18 55.5	-1.1	
PDAR	Pinedale Array	75.98	313	P		P		22 18 55.5	-1.1	
	comp=Z,506nm,0.9s,baz=64,slow=5.0,SNR=632									
PDAR				pP		pP		22 21 02.6	-0.9	
	comp=Z,32nm,1.0s,baz=96,slow=6.4,SNR=3.9									
PDAR				P3KP				22 44 54.7		
	comp=Z,1.3nm,0.8s,baz=206,slow=3.6,SNR=7.9									
PDAR				PKP2bc				22 45 58.8		
	comp=Z,1.8nm,1.0s,baz=250,slow=2.7,SNR=4.2									
232A	Coleman	76.00	299	⇑P		P		22 18 56.0	-0.6	
	baz=76,SNR=358									
Q23A	Hartsel	76.04	308	⇓P		P		22 18 56.3	-0.7	
	baz=76,SNR=31									
131A	Roby	76.07	300	⇑P		P		22 18 56.2	-0.8	
	baz=76,SNR=103									
LOHW	Long Hollow	76.07	314	eP		P		22 18 55.9	-1.1	
	comp=Z,122nm,0.9s									
LOHW	Long Hollow	76.07	314	eP		P		22 18 55.9	-1.1	
	comp=Z,122nm,0.9s									
IMW	Indian Meadow	76.09	315	eP		P		22 18 57.6	+0.5	
IMW	Indian Meadow	76.09	315	eP		P		22 18 57.6	+0.5	
635A	Leesville	76.10	296	⇓P		P		22 18 56.6	-0.5	
	baz=76,SNR=133									
DLMT	Dillon	76.10	317	eP		P		22 18 57.4	+0.4	
	comp=Z,885nm,1.0s									
DLMT				epP		pP		22 21 06.5	+2.4	
DLMT	Dillon	76.10	317	eP		P		22 18 57.4	+0.4	
	comp=Z,885nm,1.0s									
DLMT				epP		pP		22 21 06.5	+2.4	
LSA	Lhasa	76.16	63	P		P		22 18 58.4	+0.4	
LSA	Lhasa	76.16	63	eP		P		22 18 58.3	+0.3	
LSA				eS		S		22 27 54.1	+0.6	
LSA				pmax		pmax				
	comp=Z,1μm,1.5s									
LSA	Lhasa	76.16	63	eP		P		22 18 58.3	+0.3	
	comp=Z,1μm,1.5s									
LSA				eS		S		22 27 54.1	+0.6	
LSA	Lhasa	76.16	63	eP		P		22 18 58.3	+0.3	
	comp=Z,1μm,1.5s									
LSA				eS		S		22 27 54.1	+0.6	
T25A	Trinidad	76.17	306	eP		P		22 18 57.5	-0.2	
T25A	Trinidad	76.17	306	⇓P		P		22 18 57.3	-0.4	
	baz=76,SNR=155									
T25A	Trinidad	76.17	306	eP		P		22 18 57.5	-0.2	
U26A	Atchley Ranch,	76.18	305	⇑P		P		22 18 56.7	-0.9	
	baz=76,SNR=422									
P22A	Eagle	76.21	309	⇑P		P		22 18 56.9	-0.9	
	baz=76,SNR=226									
Z30A	Sanderson Ranc	76.22	301	⇑P		P		22 18 56.9	-0.9	
	baz=76,SNR=193									
534A	Blanco	76.24	297	⇑P		P		22 18 56.6	-1.3	
	baz=76,SNR=250									
X28A	Dimmitt	76.24	303	⇑P		P		22 18 57.0	-0.9	
	baz=76,SNR=71									
SNOW	Snow King Moun	76.25	314	eP		P		22 18 57.8	-0.2	
	comp=Z,297nm,0.9s									
SNOW	Snow King Moun	76.25	314	eP		P		22 18 57.8	-0.2	
	comp=Z,297nm,0.9s									
433A	Art	76.26	298	⇑P		P		22 18 57.5	-0.5	
	baz=76,SNR=186									
Y29A	Porterfield Fa	76.27	302	⇓P		P		22 18 57.6	-0.5	
	baz=76,SNR=37									
FXWY	Fox Creek	76.30	315	eP		P		22 18 57.9	-0.4	
	comp=Z,326nm,1.1s									
FXWY	Fox Creek	76.30	315	eP		P		22 18 57.9	-0.4	
	comp=Z,326nm,1.1s									
GTA	Gaotai	76.33	51	⇓P		P		22 18 58.7	+0.4	
GTA				pP		pP		22 21 06.0	+0.5	
GTA				sP		sP		22 22 02.5	-6.2	
GTA				S		S		22 27 55.0	+0.7	
GTA				SKS		SKSac		22 28 09.3	-2.3	
GTA				ScS		ScS		22 28 17.1	-0.4	
GTA				sS		sS		22 31 35.8	-5.1	
GTA				SS		SS		22 33 10.3	+4.5	
GTA				PMZ						
	comp=Z,290nm,1.2s									
GTA				PMZ						
	comp=Z,4μm,10.9s									
TPAW	Teton Pass	76.34	314	eP		P		22 18 58.2	-0.4	
	comp=Z,421nm,1.0s									
TPAW	Teton Pass	76.34	314	eP		P		22 18 58.1	-0.4	
	comp=Z,421nm,1.0s									
332A	Millersview	76.36	299	⇓P		P		22 18 58.0	-0.5	
	baz=76,SNR=360									
REDW	Red Top Meadow	76.37	314	eP		P		22 18 57.1	-1.6	
REDW	Red Top Meadow	76.37	314	eP		P		22 18 57.1	-1.6	
N20A	Spence Gulch,	76.39	311	⇓P		P		22 18 58.5	-0.3	
	baz=76,SNR=345									
S24A	Houchin Ranch,	76.39	307	⇓P		P		22 18 58.4	-0.6	
	baz=76,SNR=103									
735A	Kenedy	76.42	296	⇓P		P		22 18 58.7	-0.2	
	baz=76,SNR=27									
231A	Bronte	76.44	300	⇑P		P		22 18 58.4	-0.6	
	baz=76,SNR=271									
TRF	Thorofare Moun	76.44	345	eP		P		22 18 58.8	+0.2	
	comp=Z,361nm,1.4s									
TRF				eS		S		22 27 57.2	+2.5	
TRF	Thorofare Moun	76.44	345	eP		P		22 18 58.8	+0.2	
	comp=Z,361nm,1.4s									
TRF				eS		S		22 27 57.2	+2.5	
R23A	Moffat	76.46	308	⇓P		P		22 18 58.7	-0.6	
	baz=76,SNR=298									
KTH	Kantishna Hill	76.48	346	eP		P		22 18 59.0	+0.4	
	comp=Z,291nm,1.0s									
KTH				eS		S		22 27 56.1	+1.2	
KTH	Kantishna Hill	76.48	346	eP		P		22 18 59.0	+0.4	
	comp=Z,291nm,1.0s									
KTH				eS		S		22 27 56.1	+1.2	
SKHT	Srikalahasti	76.48	83	eP		P		22 18 59.0	-0.3	
SKHT				IAmb		IAmb		22 19 00.9		
	comp=Z,333nm,0.7s									
SKHT				ePcP		PcP		22 19 09.0	+1.2	
SKHT				epP		pP		22 21 06.8	+0.1	
SKHT				ePP		PP		22 22 02.5	-0.4	
SKHT				eS		S		22 27 53.9	-2.5	
SKHT				eSKSac		SKSac		22 28 10.8	-2.2	
SKHT				e				22 32 24.3		
130A	Snyder	76.51	301	⇓P		P		22 18 59.2	-0.2	
	baz=76,SNR=151									
634A	China Grove, S	76.52	297	⇓P		P		22 18 59.4	0.0	
	baz=76,SNR=35									
SDCO	Great Sand Dun	76.52	307	eP		P		22 18 58.8	-0.9	
	comp=Z,348nm,0.9s									
SDCO	Great Sand Dun	76.52	307	⇑P		P		22 18 59.1	-0.6	
	baz=76,SNR=538									
SDCO	Great Sand Dun	76.52	307	eP		P		22 18 58.8	-0.9	
	comp=Z,348nm,0.9s									
V26A	Tequesquite Ra	76.55	305	⇓P		P		22 18 58.8	-0.9	
	baz=76,SNR=275									
MCMT	McKenzie Canyo	76.58	316	eP		P		22 19 00.1	+0.3	
MCMT	McKenzie Canyo	76.58	316	eP		P		22 19 00.1	+0.3	
SMCO	Snowmass	76.59	309	eP		P		22 18 59.4	-0.7	
	comp=Z,658nm,1.2s									
SMCO	Snowmass	76.59	309	eP		P		22 18 59.4	-0.7	
	comp=Z,658nm,1.2s									
U25A	Circle Dot Ran	76.61	305	⇓P		P		22 18 59.7	-0.3	
	baz=76,SNR=1000									
533A	Kerrville	76.61	298	⇑P		P		22 18 59.4	-0.5	
	baz=76,SNR=113									
NEW	Newport	76.62	321	eP		P		22 18 58.8	-0.9	
NEW				pmax		pmax				
	comp=Z,293nm,0.9s									
NEW	Newport	76.62	321	eP		P		22 18 58.8	-0.9	
	comp=Z,293nm,0.9s									
NEW	Newport	76.62	321	⇑P		P		22 18 58.9	-0.9	
	baz=76									
NEW	Newport	76.62	321	eP		P		22 18 58.8	-0.9	
	comp=Z,293nm,0.9s									
Y28A	McKinney Farm,	76.63	302	⇑P		P		22 18 59.7	-0.4	
	baz=76									
Z29A	Hungry Hill Ra	76.64	302	⇓P		P		22 18 59.7	-0.4	
	baz=76,SNR=126									
432A	Menard	76.69	299	⇓P		P		22 18 59.6	-0.8	
	baz=76,SNR=259									
835A	Beeville	76.76	295	⇑P		P		22 19 01.3	+0.5	
	baz=77,SNR=59									
O20A	White River Ci	76.80	310	eP		P		22 19 00.1	-0.9	
	comp=Z,196nm,0.9s									
O20A	White River Ci	76.80	310	⇑P		P		22 19 00.5	-0.5	
	baz=76,SNR=124									
O20A	White River Ci	76.80	310	eP		P		22 19 00.1	-0.9	
	comp=Z,196nm,0.9s									
CAST	Castle Rocks	76.83	346	eP		P		22 19 01.1	+0.6	
	comp=Z,86nm,1.2s									
CAST	Castle Rocks	76.83	346	eP		P		22 19 01.1	+0.6	
	comp=Z,86nm,1.2s									
CLNS	Chul'man	76.84	26	eP		P		22 19 00.7	0.0	
CLNS				e				22 19 09.3		
CLNS				e				22 22 01.7		
CLNS				eS		S		22 27 58.0	-0.9	
CLNS				pmax		pmax				
	comp=Z,107nm,1.3s									
CLNS				pmax		pmax				
	comp=E,38nm,1.5s									
CLNS				pmax		pmax				
	comp=Z,92nm,1.5s									
CLNS				pmax		pmax				
	comp=N,67nm,1.3s									
CLNS				smax		smax				
	comp=E,2μm,11.0s									
CLNS				smax		smax				
	comp=N,1μm,11.8s									
CLNS	Chul'man	76.84	26	eP		P		22 19 00.7	0.0	
	comp=N,107nm,1.3s									
CLNS	Chul'man	76.84	26	ePcP		PcP		22 19 09.3	+0.5	
CLNS				eS		S		22 27 58.0	-0.9	
	comp=N,1μm,11.8s									
T24B	San Luis	76.85	307	⇓P		P		22 19 02.3	+0.9	
	baz=77,SNR=606									
S23A	Nye Farm, Mont	76.86	307	⇓P		P		22 19 01.7	+0.2	
	baz=77,SNR=23									
331A	San Angelo	76.88	299	⇑P		P		22 19 01.5	+0.1	
	baz=77,SNR=140									
936A	North Padre Is	76.88	294	⇑P		P		22 19 01.9	+0.6	
	baz=77									
AHID	Auburn Hatcher	76.88	314	eP		P		22 19 00.8	-0.6	
	comp=N,3μm,2.3s									
AHID	Auburn Hatcher	76.88	314	eP		P		22 19 00.8	-0.6	
	comp=N,3μm,2.3s									
HUEN		76.90	276	eP		P		22 19 03.1	+1.5	
JCT	Junction City	76.92	298	eP		P		22 19 00.7	-0.9	
JCT				pmax		pmax				
	comp=Z,453nm,0.9s									
JCT	Junction City	76.92	298	eP		P		22 19 00.7	-0.9	
	comp=Z,453nm,0.9s									
JCT	Junction City	76.92	298	⇑P		P		22 19 01.5	-0.1	
	baz=77,SNR=185									
JCT	Junction City	76.92	298	eP		P		22 19 00.7	-0.9	
	comp=Z,453nm,0.9s									
MSTX	Muleshoe	76.95	303	eP		P		22 19 01.0	-0.8	
MSTX				epP		pP		22 21 10.3	+1.0	
MSTX	Muleshoe	76.95	303	⇑P		P		22 19 01.4	-0.4	
	baz=77,SNR=124									
MSTX	Muleshoe	76.95	303	eP		P		22 19 01.0	-0.8	
MSTX				epP		pP		22 21 10.3	+1.0	
MSTX				ePKKPbc		PKKPbc		22 38 04.6	+2.1	
734A	La Parita Cree	76.97	296	⇑P		P		22 19 02.0	+0.2	
	baz=77,SNR=55									
230A	Sterling City	77.02	300	⇑P		P		22 19 02.5	+0.3	
	baz=77,SNR=125									
TNA	Tin City	77.05	353	eP		P		22 19 02.3	+0.8	
	comp=Z,445nm,1.7s									
TNA				epP		pP		22 21 11.7	+2.7	
TNA	Tin City	77.05	353	eP		P		22 19 02.3	+0.8	
	comp=Z,445nm,1.7s									
TNA				epP		pP		22 21 11.7	+2.7	
633A	Saathoff Ranch	77.06	297	⇓P		P		22 19 02.4	+0.1	
	baz=77,SNR=178									
VIS	Vishakhapatnam	77.06	78	AMB		AMB		22 19 04.7		
	comp=Z,447nm,0.9s									
VIS				eP		P		22 19 04.9	+2.4	
Z28A	Tucker Farm, M	77.08	302	⇓P		P		22 19 02.8	+0.3	
	baz=77,SNR=380									
JTS	JuntasAbangare	77.11	273	d/P		P		22 19 00.9	-1.9	
JTS				pmax		pmax				
	comp=Z,185nm,1.0s									
JTS	JuntasAbangare	77.11	273	i P		P		22 19 00.9	-1.9	
	comp=Z,185nm,1.0s									
JTS	JuntasAbangare	77.11	273	eP		P		22 19 00.8	-2.0	
	comp=Z,146nm,1.1s									
129A	Stewart Farms,	77.11	301	⇓P		P		22 19 02.6	-0.1	
	baz=77,SNR=90									
CHLP	Challavanipeta	77.19	76	eP		P		22 19 02.8	-0.4	
CHLP				IAmb		IAmb		22 19 05.1		
	comp=Z,1μm,1.4s									
CHLP				ePcP		PcP		22 19 12.3	+1.4	
CHLP				epP		pP		22 21 09.4	-1.4	
CHLP				ePP		PP		22 22 09.7	+1.1	
CHLP				eS		S		22 28 01.3	-2.3	
CHLP				eSKSac		SKSac		22 28 15.4	-2.6	
CHLP				eSS		SS		22 33 27.4	+8.0	
532A	Rocksprings	77.19	298	⇓P		P		22 19 02.8	-0.3	
	baz=77,SNR=466									
KVTX	Kingsville	77.23	295	eP		P		22 19 04.4	+1.1	
	comp=Z,562nm,0.9s									
KVTX	Kingsville	77.23	295	eP		P		22 19 04.5	+1.1	
	comp=Z,562nm,0.9s									
T23A	Casias Ranch,	77.28	307	⇓P		P		22 19 03.5	-0.2	
	baz=77,SNR=60									
MDRS	Chennai	77.29	83	eP		P		22 19 05.3	+1.5	
MDRS				AMB		AMB		22 19 06.3		
	comp=Z,645nm,0.0s									
TRD	Trivandrum	77.31	89	eP		P		22 19 06.2	+2.3	
TRD				AMB		AMB		22 19 06.5		
	comp=Z,898nm,0.4s									
PPLA	Purkeypile	77.32	346	eP		P		22 19 03.0	-0.3	
	comp=Z,387nm,1.4s									
PPLA				eS		S		22 28 04.8	+0.8	
PPLA	Purkeypile	77.32	346	eP		P		22 19 03.0	-0.3	
	comp=Z,387nm,1.4s									
PPLA				eS		S		22 28 04.8	+0.8	
BMRM	Bremner River	77.34	342	eP		P		22 19 04.1	+0.8	
BMRM	Bremner River	77.34	342	eP		P		22 19 04.1	+0.8	
BMRM				epP		pP		22 21 14.3	+3.3	
WRAK	Wrangell Islan	77.34	334	eP		P		22 19 04.3	+1.0	
	comp=Z,122nm,1.3s									
WRAK	Wrangell Islan	77.34	334	eP		P		22 19 04.3	+1.0	
	comp=Z,122nm,1.3s									
330A	Mertzon	77.34	300	⇓P		P		22 19 03.2	-0.7	
	baz=77,SNR=226									
S22A	4UR Ranch, Cre	77.36	308	eP		P		22 19 03.8	-0.4	
	comp=Z,460nm,1.0s									
S22A	4UR Ranch, Cre	77.36	308	⇓P		P		22 19 03.8	-0.4	
	baz=77,SNR=592									
S22A	4UR Ranch, Cre	77.36	308	eP		P		22 19 03.8	-0.4	
	comp=Z,460nm,1.0s									
431A	Sonora	77.37	299	⇓P		P		22 19 03.7	-0.4	
	baz=77,SNR=488									
834A	Tilden	77.38	296	⇓P		P		22 19 04.0	-0.1	
	baz=77,SNR=113									
229A	Bryant Ranch,	77.46	301	⇑P		P		22 19 04.8	+0.2	
	baz=77,SNR=55									
BMUT	Black Mountain	77.46	313	eP		P		22 19 04.0	-0.6	
BMUT	Black Mountain	77.46	313	eP		P		22 19 04.0	-0.6	
632A	Uvalde	77.47	297	⇓P		P		22 19 04.1	-0.5	
	baz=77,SNR=600									
DIV	Divide	77.49	342	eP		P		22 19 05.3	+1.2	
	comp=Z,192nm,1.1s									
DIV	Divide	77.49	342	eP		P		22 19 05.3	+1.2	
	comp=Z,192nm,1.1s									
C09A	Chrisman Ranch	77.51	321	eP		P		22 19 03.4	-1.1	
	comp=Z,241nm,1.1s									
C09A	Chrisman Ranch	77.51	321	eP		P		22 19 03.4	-1.1	
	comp=Z,241nm,1.1s									
BWNR	Bhubaneshwar	77.52	74	ex		P		22 19 09.0	+4.1	
128A	Castleberry Fa	77.54	301	⇓P		P		22 19 04.2	-0.8	
	baz=77,SNR=103									
733A	Divot King Ran	77.57	297	⇑P		P		22 19 04.6	-0.5	
	baz=77,SNR=183									
531A	Rocksprings	77.62	298	⇓P		P		22 19 04.6	-0.9	
	baz=77,SNR=157									
934A	Benavides	77.66	295	⇓P		P		22 19 06.4	+0.8	
	baz=78,SNR=11									
B08A	Colville Reser	77.66	322	P		P		22 19 04.9	-0.4	
B08A	Colville Reser	77.66	322	P		P		22 19 04.9	-0.4	
BEI	Bear River Ran	77.68	314	eP		P		22 19 05.5	-0.2	
BEI	Bear River Ran	77.68	314	eP		P		22 19 05.5	-0.2	
CNCH	Conchagua	77.68	277	eP		P		22 19 05.2	-0.9	
CAHU	Cacaquatique	77.69	278	eP		P		22 19 06.0	-0.1	
035A	Encino	77.73	294	⇓P		P		22 19 06.7	+0.7	
	baz=78,SNR=45									
430A	Baggett Ranch,	77.75	299	⇑P		P		22 19 05.6	-0.5	
	baz=78,SNR=200									
RSUT	Red Spur Mount	77.77	313	eP		P		22 19 05.7	-0.6	
RSUT	Red Spur Mount	77.77	313	eP		P		22 19 05.7	-0.6	
329A	Wagon Wheel Ra	77.86	300	⇓P		P		22 19 06.7	0.0	
	baz=78,SNR=301									
RAGM	Ragged Mountai	77.86	341	eP		P		22 19 07.1	+1.0	
	comp=Z,209nm,1.1s									
RAGM				epP		pP		22 21 17.0	+3.1	
RAGM	Ragged Mountai	77.86	341	eP		P		22 19 07.1	+1.0	
	comp=Z,209nm,1.1s									
RAGM				epP		pP		22 21 17.0	+3.1	
PMR	Palmer	77.86	344	eP		P		22 19 06.7	+0.7	
PMR	Palmer	77.86	344	eP		P		22 19 06.7	+0.7	
PMR	Palmer	77.86	344	eP		P		22 19 06.7	+0.7	
HDU	Hyde Park	77.86	313	eP		P		22 19 06.0	-0.7	
HDU	Hyde Park	77.86	313	eP		P		22 19 06.0	-0.7	
SIT	Sitka	77.87	335	eP		P		22 19 07.3	+1.2	
SIT				pmax		pmax				
	comp=Z,256nm,1.0s									
SIT	Sitka	77.87	335	eP		P		22 19 07.3	+1.2	
	comp=Z,256nm,1.0s									
SIT	Sitka	77.87	335	eP		P		22 19 07.3	+1.2

baz=78,SNR=193
E09A Wood Farm, Sta 78.30 320 *e*P P 22 19 07.8 -0.9
comp=Z,554nm,1.1s
E09A Wood Farm, Sta 78.30 320 *e*P P 22 19 07.8 -0.9
comp=Z,554nm,1.1s
832A Faith Ranch, C 78.31 297 P P 22 19 08.9 -0.2
baz=78
MTUT Morton Thiokol 78.33 314 *e*P P 22 19 08.6 -0.5
MTUT Morton Thiokol 78.33 314 *e*P P 22 19 08.6 -0.5
D08A Wollman Farm, 78.33 321 *e*P P 22 19 07.6 -1.2
comp=Z,269nm,1.1s
D08A Wollman Farm, 78.33 321 *e*P P 22 19 07.6 -1.2
comp=Z,269nm,1.1s
NLW Nelson Butte 78.34 322 P P 22 19 08.7 -0.3
NLW Nelson Butte 78.34 322 P P 22 19 08.7 -0.3
PV09 Paradox Valley 78.34 310 *e*P P 22 19 09.1 -0.4
PV09 Paradox Valley 78.34 310 *e*P P 22 19 09.1 -0.4
PV09 *e*S S 22 28 18.2 +2.3
CRAG Craig 78.36 333 *e*P P 22 19 09.9 +1.2
CRAG Craig 78.36 333 *e*P P 22 19 09.9 +1.2
PV10 Paradox Valley 78.36 309 *e*P P 22 19 09.8 +0.3
PV10 *e*pP pP 22 21 19.5 +1.9
PV10 Paradox Valley 78.36 309 *e*P P 22 19 09.8 +0.3
PV10 *e*pP pP 22 21 19.5 +1.9
PV10 *e*P'P'df P'P'df 22 45 58.8 -6.7
ARGU Argyle Ridge 78.38 311 *e*P P 22 19 09.1 -0.6
ARGU Argyle Ridge 78.38 311 *e*P P 22 19 09.1 -0.6
FPU Francis Peak 78.40 313 *e*P P 22 19 09.4 -0.3
FPU Francis Peak 78.40 313 *e*P P 22 19 09.4 -0.3
WTV Waterville 78.41 322 P P 22 19 09.0 -0.3
WTV Waterville 78.41 322 P P 22 19 09.0 -0.3
DAU Daniels Canyon 78.44 312 *e*P P 22 19 09.8 -0.2
DAU Daniels Canyon 78.44 312 *e*P P 22 19 09.8 -0.2
DAU Daniels Canyon 78.44 312 *e*P P 22 19 09.8 -0.2
RC01 Rabbit Creek A 78.44 344 *e*P P 22 19 09.9 +0.8
RC01 Rabbit Creek A 78.44 344 *e*P P 22 19 09.9 +0.8
HVU Hansel Valley 78.47 314 *e*P P 22 19 09.2 -0.7
HVU *e*S S 22 28 14.9 -1.8
HVU Hansel Valley 78.47 314 *e*P P 22 19 09.2 -0.7
HVU *e*S S 22 28 14.9 -1.8
HVU Hansel Valley 78.47 314 *e*P P 22 19 09.2 -0.7
HVU *e*S S 22 28 14.9 -1.8
DCM Dugout Coal Mi 78.49 311 *e*P P 22 19 09.5 -0.7
DCM Dugout Coal Mi 78.49 311 *e*P P 22 19 09.5 -0.7
EPU East Promontor 78.50 313 *e*P P 22 19 08.9 -1.1
EPU East Promontor 78.50 313 *e*P P 22 19 08.9 -1.1
SEY Seymchan 78.53 11 P P 22 19 10.6 +1.0
comp=Z,9,9nm,0.4s,baz=334,slow=6.3,SNR=44
RBU Red Butte Cany 78.53 313 *e*P P 22 19 09.3 -1.0
RBU Red Butte Cany 78.53 313 *e*P P 22 19 09.3 -1.0
A05A Maple Falls 78.55 324 *e*P P 22 19 08.8 -1.1
comp=Z,46nm,0.8s
A05A Maple Falls 78.55 324 *e*P P 22 19 08.8 -1.1
comp=Z,46nm,0.8s
CTU Camp Tracy 78.56 313 *e*P P 22 19 09.9 -0.5
comp=Z,296nm,0.9s
CTU *e*pP pP 22 21 19.7 +1.1
CTU Camp Tracy 78.56 313 *e*P P 22 19 09.9 -0.5
comp=Z,296nm,0.9s
CTU *e*pP pP 22 21 19.7 +1.1
BOQS Boqueron 78.56 279 *e*P P 22 19 10.4 -0.5
PV05 Paradox Valley 78.58 309 *e*P P 22 19 09.6 -1.0
PV05 *e*pP pP 22 21 18.6 -0.3
PV05 Paradox Valley 78.58 309 *e*P P 22 19 09.6 -1.0
PV05 *e*pP pP 22 21 18.6 -0.3
B06A Marblemount 78.59 323 *e*P P 22 19 09.4 -0.7
comp=Z,128nm,1.0s
B06A Marblemount 78.59 323 *e*P P 22 19 09.4 -0.7
comp=Z,128nm,1.0s
DCU Deer Creek Res 78.60 312 *e*P P 22 19 10.7 +0.1
DCU Deer Creek Res 78.60 312 *e*P P 22 19 10.7 +0.1
MHD Mile High Driv 78.61 313 *e*P P 22 19 10.1 -0.5
MHD Mile High Driv 78.61 313 *e*P P 22 19 10.1 -0.5
GMU Granite Mounta 78.64 312 *e*P P 22 19 10.2 -0.6
GMU Granite Mounta 78.64 312 *e*P P 22 19 10.2 -0.6
RBDL Robledal 78.67 279 *e*P P 22 19 10.3 -1.0
MVCO Mesa Verde 78.74 308 *e*P P 22 19 11.1 -0.4
comp=Z,551nm,1.0s
MVCO Mesa Verde 78.74 308 ⇑P P 22 19 11.1 -0.4
baz=78,SNR=322
MVCO Mesa Verde 78.74 308 *e*P P 22 19 11.1 -0.4
comp=Z,551nm,1.0s
MVCO *e*P'P'df P'P'df 22 46 05.0 +0.1
OT3 Othello 3 78.75 321 P P 22 19 11.3 +0.2
OT3 Othello 3 78.75 321 P P 22 19 11.3 +0.2
RTR El Retiro 78.76 279 *e*P P 22 19 11.3 -0.5
ANMO Albuquerque 78.81 305 *c i*P P 22 19 11.8 -0.1
ANMO pmax pmax
comp=Z,808nm,1.2s
ANMO Albuquerque 78.81 305 *e*P P 22 19 11.8 -0.1
comp=Z,228nm,1.1s
ANMO Albuquerque 78.81 305 *e*P P 22 19 11.8 -0.1
comp=Z,228nm,1.1s
ANMO *e*PP PP 22 22 23.2 +1.6
SRU San Rafael Swe 78.82 311 *e*P P 22 19 10.9 -0.9
SRU pmax pmax
comp=Z,1μm,1.5s
SRU San Rafael Swe 78.82 311 *e*P P 22 19 10.9 -0.9
comp=Z,1μm,1.5s
SRU San Rafael Swe 78.82 311 *e*P P 22 19 10.9 -0.9
comp=Z,1μm,1.5s
529A Stev Forest Ra 78.82 299 ⇓P P 22 19 11.3 -0.6
baz=79,SNR=255
SNUT Stansbury Nort 78.88 313 *e*P P 22 19 11.3 -0.8
SNUT Stansbury Nort 78.88 313 *e*P P 22 19 11.3 -0.8
MPU Maple Canyon 78.91 312 *e*P P 22 19 11.8 -0.5
comp=Z,300nm,1.1s
MPU Maple Canyon 78.91 312 *e*P P 22 19 11.8 -0.5
comp=Z,300nm,1.1s
CWU Camp Williams 78.92 313 *e*P P 22 19 12.6 +0.3
CWU Camp Williams 78.92 313 *e*P P 22 19 12.6 +0.3
BMO Blue Mountains 78.97 318 *e*P P 22 19 11.2 -1.2
BMO pmax pmax
comp=Z,862nm,1.3s
BMO Blue Mountains 78.97 318 *e*P P 22 19 11.2 -1.2
comp=Z,862nm,1.3s
BMO *e*S S 22 28 19.5 -2.2
BMO Blue Mountains 78.97 318 *e*P P 22 19 11.2 -1.2
comp=Z,862nm,1.3s
BMO *e*S S 22 28 19.5 -2.2
JCW Jim Creek 79.03 323 *e*P P 22 19 11.2 -1.4
JCW Jim Creek 79.03 323 P P 22 19 11.2 -1.4
SHL Shillong 79.06 66 AMB AMB 22 19 14.4
comp=Z,1μm,0.0s
SHL *e*P P 22 19 15.7 +2.4
SHL *ex* x 22 28 22.5
GDL2 Guadalupe Moun 79.07 302 *e*P P 22 19 13.0 -0.2
GDL2 Guadalupe Moun 79.07 302 *e*P P 22 19 13.0 -0.2
LTY Liberty 79.07 322 *e*P P 22 19 11.8 -1.0
comp=Z,169nm,0.9s
LTY Liberty 79.07 322 *e*P P 22 19 11.8 -1.0
comp=Z,169nm,0.9s
HAWA Hanford 79.09 321 *e*P P 22 19 12.4 -0.5
comp=Z,222nm,0.8s
HAWA Hanford 79.09 321 *e*P P 22 19 12.4 -0.5
comp=Z,222nm,0.8s
TMUT Trail Mountain 79.11 311 *e*P P 22 19 12.7 -0.8
comp=Z,516nm,1.0s
TMUT Trail Mountain 79.11 311 *e*P P 22 19 12.7 -0.8
comp=Z,516nm,1.0s
TMUT *e*PP PP 22 22 26.3 +2.2
GAMB Gambell 79.12 355 *e*P P 22 19 13.8 +1.2
comp=Z,402nm,1.3s
GAMB Gambell 79.12 355 *e*P P 22 19 13.8 +1.2
comp=Z,402nm,1.3s
GAMB *e*PKKPdf PKKPdf 22 37 45.3 +1.3
RSW Rattlesnake Hi 79.12 321 P P 22 19 12.6 -0.5
RSW Rattlesnake Hi 79.12 321 P P 22 19 12.6 -0.5
MFID Camas Ranch 79.13 317 *e*P P 22 19 13.3 0.0
comp=Z,315nm,1.1s
MFID Camas Ranch 79.13 317 *e*P P 22 19 13.3 0.0
comp=Z,315nm,1.1s
BGU Big Grassy Mou 79.16 313 *e*P P 22 19 12.9 -0.7
BGU *e*pP pP 22 21 23.0 +1.0
BGU Big Grassy Mou 79.16 313 *e*P P 22 19 12.8 -0.7
BGU *e*pP pP 22 21 23.0 +1.0
NLU North Lily Min 79.22 312 *e*P P 22 19 13.4 -0.5
comp=Z,230nm,1.0s
NLU North Lily Min 79.22 312 *e*P P 22 19 13.4 -0.5
comp=Z,230nm,1.0s
NLU *e*PKKPbc PKKPbc 22 38 00.5 +2.4
HTW Haystack Looko 79.23 323 P P 22 19 12.3 -1.4
HTW Haystack Looko 79.23 323 P P 22 19 12.3 -1.4
SEW Seward 79.26 343 *e*P P 22 19 14.5 +1.1
SEW Seward 79.26 343 *e*P P 22 19 14.5 +1.1
C05A Tolt Reservoir 79.27 323 P P 22 19 12.4 -1.4
C05A Tolt Reservoir 79.27 323 P P 22 19 12.4 -1.4
SNO Snow College 79.30 311 *e*P P 22 19 14.0 -0.4
SNO Snow College 79.30 311 *e*P P 22 19 14.0 -0.4
LPM Los Pinos Moun 79.31 305 *e*P P 22 19 14.4 -0.1
LPM Los Pinos Moun 79.31 305 *e*P P 22 19 14.4 -0.1
BNM Barren Site 79.41 305 *e*P P 22 19 15.1 +0.1
BNM Barren Site 79.41 305 *e*P P 22 19 15.1 +0.1
PGC Sidney 79.43 324 *e*P P 22 19 13.4 -1.2
comp=Z,4μm,0.8s
PGC Sidney 79.43 324 *e*P P 22 19 13.4 -1.2
comp=Z,4μm,0.8s
DUG Dugway, Tooele 79.50 313 *e*P P 22 19 14.8 -0.5
DUG pmax pmax
comp=Z,505nm,1.5s
DUG Dugway, Tooele 79.50 313 *e*P P 22 19 14.8 -0.5
comp=Z,505nm,1.5s
DUG Dugway, Tooele 79.50 313 ⇑P P 22 19 14.8 -0.5
baz=79
DUG Dugway, Tooele 79.50 313 *e*P P 22 19 14.8 -0.5
comp=Z,505nm,1.5s
G08A Pilot Rock 79.55 320 *e*P P 22 19 14.5 -0.9
G08A *e*S S 22 28 27.3 -0.3
G08A Pilot Rock 79.55 320 *e*P P 22 19 14.5 -0.9
G08A *e*S S 22 28 27.3 -0.3
G08A *e*P'P'df P'P'df 22 45 58.9 -4.1
LAZ Ladron 79.59 305 *e*P P 22 19 14.2 -1.8
LAZ Ladron 79.59 305 *e*P P 22 19 14.2 -1.8
LAZ *e*sP sP 22 22 29.4 +2.0
SVW2 Sparrevohn 79.62 347 *e*P P 22 19 16.3 +0.9
SVW2 Sparrevohn 79.62 347 *e*P P 22 19 16.3 +0.9
LENM Lemitar 79.62 305 *e*P P 22 19 16.2 +0.1
LENM Lemitar 79.62 305 *e*P P 22 19 16.2 +0.1
Y22D IRIS PASSCAL I 79.64 305 ⇓P P 22 19 16.4 +0.2
baz=79,SNR=23
RSO Redoubt South 79.65 345 *e*P P 22 19 15.9 +0.1
RSO Redoubt South 79.65 345 *e*P P 22 19 15.9 +0.1
TRW Toppenish Ridg 79.67 321 P P 22 19 16.1 +0.1
TRW Toppenish Ridg 79.67 321 P P 22 19 16.1 +0.1
D05A Enumclaw 79.77 322 *e*P P 22 19 16.1 -0.2
comp=Z,354nm,1.1s
D05A Enumclaw 79.77 322 *e*P P 22 19 16.1 -0.2
comp=Z,354nm,1.1s
WCU Willow Creek 79.85 311 *e*P P 22 19 16.8 -0.6
WCU Willow Creek 79.85 311 *e*P P 22 19 16.8 -0.6
MMU Miners Mountai 79.86 310 *e*P P 22 19 16.9 -0.5
MMU Miners Mountai 79.86 310 *e*P P 22 19 16.9 -0.5
LON Longmire 79.98 322 *e*P P 22 19 17.1 -0.5
LON Longmire 79.98 322 *e*P P 22 19 17.1 -0.5
LON Longmire 79.98 322 *e*P P 22 19 17.1 -0.5
MNTX Cornudas Mount 80.06 302 ⇑P P 22 19 17.6 -0.7
baz=80,SNR=183
MNTX Cornudas Mount 80.06 302 *e*P P 22 19 14.3 -3.9
comp=Z,142nm,1.0s
FSU Fish Springs 80.14 313 *e*P P 22 19 18.4 -0.3
FSU Fish Springs 80.14 313 *e*P P 22 19 18.4 -0.3
TXAR Lajitas Array 80.30 299 P P 22 19 19.9 +0.2
comp=Z,152nm,0.9s,baz=73,slow=5.1,SNR=449
TXAR PP PP 22 22 34.1 +0.3
comp=Z,11nm,0.9s,baz=60,slow=7.9,SNR=4.7
TXAR PKKP PKKPdf 22 37 41.6 -1.2
comp=Z,1.0nm,0.9s,baz=106,slow=1.3,SNR=3.6
TXAR PKKPbc PKKPbc 22 37 56.5 +1.4
comp=Z,3.2nm,0.9s,baz=186,slow=7.2,SNR=9.9
TXAR P3KP 22 44 39.0
comp=Z,1.3nm,0.9s,baz=210,slow=5.2,SNR=5.4
TXAR PKP2bc 22 45 49.8
comp=Z,3.1nm,1.1s,baz=222,slow=1.2,SNR=8.2
G06A Carlson Farm, 80.45 320 *e*P P 22 19 20.0 -0.1
comp=Z,687nm,1.6s
G06A Carlson Farm, 80.45 320 *e*P P 22 19 19.9 -0.1
comp=Z,687nm,1.6s
HIA Hailar 80.47 34 *e*P P 22 19 20.9 +0.9
HIA *e*SP sP 22 22 33.1 +1.3
HIA pmax pmax
comp=Z,613nm,1.4s
HIA Hailar 80.47 34 *e*P P 22 19 20.9 +0.9
comp=Z,612nm,1.4s
HIA Hailar 80.47 34 *e*P P 22 19 20.9 +0.9
comp=Z,612nm,1.4s
HIA *e*sP sP 22 22 33.1 +1.3
BTU Barney Top 80.49 310⇑ *e*P P 22 19 20.5 -0.3
BTU Barney Top 80.49 310 *e*P P 22 19 20.6 -0.3
NLWA Neilton Lookou 80.53 324 *e*P P 22 19 21.4 +1.1
comp=Z,481nm,1.1s
NLWA Neilton Lookou 80.53 324 *e*P P 22 19 21.4 +1.1
comp=Z,481nm,1.1s
ELK Elko 80.55 314 *e*P P 22 19 21.2 +0.3
ELK Elko 80.55 314 *e*P P 22 19 21.2 +0.3
ELK Elko 80.55 314 *e*P P 22 19 21.2 +0.3
I07A Izee 80.66 319 *e*P P 22 19 13.4 -7.8
I07A *e*PKKPbc PKKPbc 22 37 56.1 +1.2
LPAZ La Paz 80.67 242 *e*P P 22 19 20.5 -1.7
LPAZ S S 22 28 41.8 +1.1
LPAZ pmax pmax
comp=Z,150nm,0.8s
LPAZ La Paz 80.67 242 P P 22 19 20.7 -1.6
comp=Z,128nm,0.7s,baz=38,slow=2.9,SNR=391
LPAZ S S 22 28 41.8 +1.1
comp=Z,16nm,1.1s,baz=216,slow=21,SNR=10
LPAZ PKKPbc PKKPbc 22 37 56.5 +1.4
comp=Z,4.3nm,0.5s,baz=244,slow=3.4,SNR=15
LPAZ P3KP 22 44 35.9
comp=Z,5.7nm,1.1s,baz=231,slow=3.4,SNR=14
LPAZ PKP2bc 22 45 52.1
comp=Z,3.2nm,1.1s,baz=287,slow=0.9,SNR=2.6
LPAZ La Paz 80.67 242 *e*P P 22 19 20.5 -1.7
comp=Z,150nm,0.8s
LPAZ S S 22 28 41.8 +1.1
LPAZ La Paz 80.67 242 *e*P P 22 19 20.5 -1.7
comp=Z,150nm,0.8s
LPAZ S S 22 28 41.8 +1.1
LPAZ *e*PKKPbc PKKPbc 22 37 57.7 +2.5
LPAZ PKKKP 22 44 35.9
LPAZ ⇑*e* 22 45 52.1
LPAZ *e*P'P'df P'P'df 22 45 53.6 -6.5
IMU Iron Mountain 80.71 312 *e*P P 22 19 21.8 +0.1
IMU Iron Mountain 80.71 312 *e*P P 22 19 21.8 +0.1
LVP Lakeview Peak 80.76 322 P P 22 19 21.5 -0.2
LVP Lakeview Peak 80.76 322 P P 22 19 21.4 -0.2
G05D Wamic, OR 80.79 321 ⇓P P 22 19 21.7 -0.1
baz=80
VFP Flag Point 80.81 321 P P 22 19 21.9 -0.1
VFP Flag Point 80.81 321 P P 22 19 21.9 -0.1
W18A Petrified Fore 80.82 307 *e*P P 22 19 22.7 +0.3
comp=Z,556nm,1.5s
W18A Petrified Fore 80.82 307 ⇓P P 22 19 22.4 +0.1
baz=81,SNR=20
W18A Petrified Fore 80.82 307 *e*P P 22 19 22.7 +0.3
comp=Z,556nm,1.5s
F04A Amboy 80.86 322 *e*P P 22 19 21.8 -0.3
comp=Z,170nm,0.6s
F04A Amboy 80.86 322 *e*P P 22 19 21.8 -0.3
comp=Z,170nm,0.6s
LZH Lanzhou 80.88 52 ⇓P P 22 19 23.5 +0.9
LZH pP pP 22 21 35.0 +3.2
LZH sP sP 22 22 36.1 +1.7
LZH PP PP 22 22 38.5 +0.2
LZH S S 22 28 41.0 -0.6
LZH sS sS 22 32 32.3 +0.5
LZH SS SS 22 34 16.4 +3.1
LZH PMZ
comp=Z,1μm,1.4s
LZH PMZ
comp=Z,4μm,4.0s
MRIV Mauritius Mete 80.92 124 *e*P P 22 19 23.0 +0.3
MRIV Mauritius Mete 80.92 124 *e*P P 22 19 23.0 +0.3
CMIG Matias Romero 81.01 285 PKKPbc PKKPbc 22 37 53.4 +0.2
comp=Z,3.9nm,0.8s,baz=323,slow=5.1,SNR=3.2
CMIG PKPPKP P'P'df 22 46 00.0 -0.4
comp=Z,5.0nm,1.0s,baz=42,slow=4.3,SNR=4.0
IMP Imphal 81.03 66 *ex* P 22 19 24.0 +0.6
IMP *ex* S 22 28 45.0 +1.9
PALK Pallekele 81.03 88 *e*P P 22 19 23.5 -0.1
PALK *e* 22 22 38.3
PALK S S 22 28 44.2 +0.8
PALK 22 37 54.1
PALK pmax pmax
comp=Z,522nm,1.3s
PALK Pallekele 81.03 88 P P 22 19 24.0 +0.4
comp=Z,408nm,0.5s,baz=303,slow=6.4,SNR=135
PALK PP PP 22 22 37.5 -2.7
comp=Z,84nm,1.1s,baz=274,slow=15,SNR=3.9
PALK S S 22 28 44.2 +0.8
comp=Z,7.8nm,0.9s,baz=151,slow=18,SNR=6.7
PALK PKKPbc PKKPbc 22 37 54.1 +1.0
comp=Z,13nm,0.9s,baz=146,slow=5.8,SNR=4.6
PALK Pallekele 81.03 88 *e*P P 22 19 23.5 -0.1
comp=Z,522nm,1.3s
PALK Pallekele 81.03 88 ⇑*i*P P 22 19 23.4 -0.1
SNR=51
PALK Pallekele 81.03 88 P P 22 19 23.9 +0.4
SNR=69
PALK Pallekele 81.03 88 *e*P P 22 19 23.4 -0.1
comp=Z,522nm,1.3s
PALK *e*PP PP 22 22 38.3 -1.9
PALK S S 22 28 44.2 +0.8
PALK PKKPbc PKKPbc 22 37 54.1 +1.0
F04D Rainier, OR 81.04 322 ⇓P P 22 19 23.3 +0.3
baz=81
121A Cookes Peak, D 81.16 304 ⇑P P 22 19 23.9 -0.2
baz=81,SNR=246
WVOR Wild Horse Val 81.32 317 *e*P P 22 19 25.3 +0.7
WVOR *e**PP pP 22 21 35.8 +1.7
WVOR pmax pmax
comp=Z,478nm,1.0s
WVOR Wild Horse Val 81.32 317 *e*P P 22 19 25.3 +0.7
comp=Z,478nm,1.0s
WVOR *e*pP pP 22 21 35.8 +1.7
WVOR Wild Horse Val 81.32 317 *e*P P 22 19 25.3 +0.7
comp=Z,478nm,1.0s
WVOR *e*pP pP 22 21 35.8 +1.7
X18A Snowflake 81.33 307 ⇓P P 22 19 24.7 -0.2
baz=81,SNR=98
G04A Mulino 81.40 321 *e*P P 22 19 25.4 +0.6
G04A Mulino 81.40 321 *e*P P 22 19 25.4 +0.6
ARUT Antelope Range 81.42 311 *e*P P 22 19 25.3 0.0
ARUT Antelope Range 81.42 311 *e*P P 22 19 25.3 0.0
ARUT Antelope Range 81.42 311 *e*P P 22 19 25.3 0.0
I05D Terrebonne, OR 81.43 320 ⇑P P 22 19 25.1 0.0
baz=81
CCUT Cedar City 81.53 311 *e*P P 22 19 26.0 +0.1
comp=Z,296nm,1.1s
CCUT Cedar City 81.53 311 *e*P P 22 19 26.0 +0.1
comp=Z,296nm,1.1s
CCUT *e*PP PP 22 22 44.2 +0.6
CCUT *e*PKKPbc PKKPbc 22 37 55.2 +2.3
KNB Kanab 81.55 310 *e*P P 22 19 25.4 -0.6
KNB *e* 22 37 55.3
KNB pmax pmax
comp=Z,298nm,1.1s
KNB Kanab 81.55 310 *e*P P 22 19 25.4 -0.6
comp=Z,298nm,1.1s
KNB Kanab 81.55 310 *e*P P 22 19 25.4 -0.6
comp=Z,298nm,1.1s
KNB *e*PKKPbc PKKPbc 22 37 55.3 +2.5
U15A North Rim 81.60 309 ⇓P P 22 19 25.7 -0.7
baz=81
WUAZ Wupatki 81.61 308 *e*P P 22 19 27.0 +0.7
comp=Z,747nm,1.4s
WUAZ Wupatki 81.61 308 ⇓P P 22 19 26.2 -0.1
baz=81
WUAZ Wupatki 81.61 308 *e*P P 22 19 27.0 +0.7
comp=Z,747nm,1.4s
H04A Detroit Lake 81.62 321 *e*P P 22 19 25.6 -0.4
comp=Z,537nm,0.9s
H04A Detroit Lake 81.62 321 *e*P P 22 19 25.6 -0.4
comp=Z,537nm,0.9s
BTO Baotou 81.63 45 *e*P P 22 19 25.9 -0.3
G03D McMinnville, O 81.79 322 ⇓P P 22 19 26.7 -0.1
baz=82
BMN Battle Mountai 81.89 315 *e*P P 22 19 27.9 +0.3
BMN pmax pmax
comp=Z,368nm,1.0s
BMN Battle Mountai 81.89 315 *e*P P 22 19 27.9 +0.3
comp=Z,368nm,1.0s
BMN Battle Mountai 81.89 315 *e*P P 22 19 27.9 +0.3
comp=Z,368nm,1.0s
KDAK Kodiak Island 82.06 344 *e*P P 22 19 29.1 +1.2
KDAK pmax pmax
comp=Z,273nm,1.0s
KDAK Kodiak Island 82.06 344 *e*P P 22 19 29.1 +1.2
comp=Z,273nm,1.0s
KDAK Kodiak Island 82.06 344 *e*P P 22 19 29.1 +1.2
comp=Z,273nm,1.0s
J05D Fort Rock, OR 82.11 319 ⇓P P 22 19 29.2 +0.5
baz=82,SNR=497
COR Corvallis 82.25 321 *e*P P 22 19 30.2 +1.0
COR Corvallis 82.25 321 *e*P P 22 19 30.1 +1.0
COR Corvallis 82.25 321 *e*P P 22 19 30.1 +1.0
K05A Summer Lake 82.33 319 *e*P P 22 19 30.4 +0.6
comp=Z,745nm,0.9s
K05A *e*ScS S 22 29 03.7 +7.9
K05A Summer Lake 82.33 319 *e*P P 22 19 30.4 +0.6
comp=Z,745nm,0.9s
K05A *e*ScS S 22 29 03.6 +7.9
HHC Hu-ho-hao-te 82.33 44 *e*P P 22 19 30.2 +0.4
HHC pP pP 22 21 44.2 +4.6
HHC sP sP 22 22 40.6 -1.5
HHC PP PP 22 22 52.7 +3.0
HHC SKS SKSac 22 28 47.4 -5.1
HHC S S 22 28 53.0 -2.7
HHC SS SS 22 34 35.8 +1.8
HHC PMZ
comp=Z,180nm,1.7s
R11A Troy Canyon, C 82.33 313 *e*P P 22 19 29.7 -0.2
comp=Z,480nm,1.0s
R11A *e*pP pP 22 21 40.7 +0.9
R11A Troy Canyon, C 82.33 313 ⇑P P 22 19 30.0 +0.1
baz=82
R11A Troy Canyon, C 82.33 313 *e*P P 22 19 29.7 -0.2
comp=Z,480nm,1.0s
R11A *e*pP pP 22 21 40.7 +0.9
R11A *e*PKKPbc PKKPbc 22 37 52.8 +1.7
X16A Lo Mia Camp, P 82.35 307 ⇓P P 22 19 31.0 +0.9
baz=82,SNR=337
I04A Tendick Farm, 82.36 320 ⇑P P 22 19 29.7 -0.1
baz=82,SNR=107
ATAH Atahualpa 82.37 255 PKPPKP P'P'df 22 45 59.1 +1.6
comp=Z,4.6nm,0.7s,baz=347,slow=12,SNR=4.1
MOD Modoc Plateau 82.58 318 *e*P P 22 19 31.4 +0.3
comp=Z,370nm,1.0s
MOD *e*pP pP 22 21 42.7 +1.6
MOD Modoc Plateau 82.58 318 *e*P P 22 19 31.4 +0.3
comp=Z,370nm,1.0s
MOD *e*pP pP 22 21 42.7 +1.6
MOD *e*S S 22 29 00.6 +2.3
MOD *e*PKKPbc PKKPbc 22 37 51.0 +0.4
MOD *e*P'P'df P'P'df 22 45 50.5 -7.1
J04D Umpqua Nationa 82.60 320 ⇓P P 22 19 31.5 +0.3
baz=82,SNR=57
K04D Chiloquin, OR 82.85 319 ⇑P P 22 19 32.6 +0.2
baz=83,SNR=52
319A Douglas 82.88 304 ⇓P P 22 19 33.8 +1.1
baz=83,SNR=368
I03D Drain, OR 82.91 321 ⇑P P 22 19 33.4 +0.9
baz=83,SNR=50
TUC Tucson 83.27 306 *e*P P 22 19 35.0 +0.4
TUC pmax pmax
comp=Z,294nm,1.0s
TUC Tucson 83.27 306 *e*P P 22 19 35.0 +0.4
comp=Z,294nm,1.0s
TUC Tucson 83.27 306 *e*P P 22 19 35.0 +0.4
comp=Z,294nm,1.0s
SHPR Sheep Range 83.30 311 *e*P P 22 19 35.0 +0.3
SHPR Sheep Range 83.30 311 *e*P P 22 19 35.0 +0.3
DGAR Diego Garcia 83.33 104 *d i*P P 22 19 35.9 +0.9
DGAR Diego Garcia 83.33 104 *e*P P 22 19 35.1 +0.1
comp=Z,2μm,1.4s
DGAR Diego Garcia 83.33 104 *e*P P 22 19 35.1 +0.1
comp=Z,2μm,1.4s
W13A Hualapai Mount 83.44 309 ⇓P P 22 19 36.0 +0.4
baz=83
TPH Tonopah 83.47 313 *e*P P 22 19 35.6 -0.1
TPH *e**PP pP 22 21 46.9 +0.9
TPH pmax pmax
comp=Z,403nm,0.9s
TPH Tonopah 83.47 313 *e*P P 22 19 35.6 -0.1
comp=Z,403nm,0.9s
TPH *e*pP pP 22 21 46.9 +0.9
TPH Tonopah 83.47 313 *e*P P 22 19 35.6 -0.1
comp=Z,403nm,0.9s
TPH *e*pP pP 22 21 46.9 +0.9
TPH *e*PKKPbc PKKPbc 22 37 50.2 +1.7
M04C Macdoel 83.49 319 ⇓P P 22 19 35.8 +0.2
baz=83,SNR=134
HUMO Hull Mountain 83.49 320 *e*P P 22 19 35.0 -0.4
comp=Z,138nm,0.9s
HUMO *e*pP pP 22 21 46.7 +0.9

HUMO Hull Mountain 83.49 320 *e*P **P** **22 19 35.0 -0.4**
comp=Z,138nm,0.9s
HUMO *e*pP **pP** **22 21 46.7 +0.9**
HUMO *e*S **S** **22 29 03.5 -3.3**
HUMO *e*PKKPbc **PKKPbc** **22 37 49.6 +1.1**
Y14A Wickenburg 83.65 308 ⇓P **P** **22 19 37.2 +0.7**
baz=83
TPNV Topopah Spring 83.66 312 *e*P **P** **22 19 37.1 +0.6**
TPNV pmax pmax
comp=Z,158nm,1.0s
TPNV Topopah Spring 83.66 312 *e*P **P** **22 19 37.1 +0.6**
comp=Z,158nm,1.0s
TPNV Topopah Spring 83.66 312 ⇑P **P** **22 19 37.2 +0.6**
baz=83
TPNV Topopah Spring 83.66 312 *e*P **P** **22 19 37.1 +0.6**
comp=Z,158nm,1.0s
TPNV *e*PKKPbc **PKKPbc** **22 37 51.0 +3.0**
NVAR Mina Array Bea 83.86 314 P **P** **22 19 37.8 +0.2**
comp=Z,60nm,0.8s,baz=56,slow=5.6,SNR=77
NVAR PP **PP** **22 23 00.8 -1.4**
comp=Z,45nm,1.2s,baz=59,slow=7.4,SNR=4.7
NVAR PKKPbc **PKKPbc** **22 37 49.1 +1.3**
comp=Z,7.2nm,0.9s,baz=209,slow=4.2,SNR=10.0
NVAR PKP2bc 22 45 46.1
comp=Z,3.5nm,0.9s,baz=227,slow=3.6,SNR=4.5
YBH Yreka Blue Hor 83.98 319 *e*P **P** **22 19 37.1 -0.8**
YBH pmax pmax
comp=Z,117nm,1.1s
YBH Yreka Blue Hor 83.98 319 PKKPbc PKKPbc 22 37 48.3 +0.9
comp=Z,8.9nm,1.2s,baz=133,slow=0.9,SNR=6.3
YBH Yreka Blue Hor 83.98 319 *e*P **P** **22 19 37.1 -0.8**
comp=Z,117nm,1.1s
YBH Yreka Blue Hor 83.98 319 *e*P **P** **22 19 37.1 -0.8**
comp=Z,117nm,1.1s
YBH PKKPbc **PKKPbc** **22 37 48.3 +0.9**
Z14A Wintersburg 83.99 307 ⇑P **P** **22 19 38.6 +0.6**
baz=84
KEBM Edson Butte 84.00 321 *e*P P 22 19 34.2 -3.7
comp=Z,290nm,1.2s
CD2 Chengdu 84.12 56 ⇓*i*P **P** **22 19 39.2 +0.5**
CD2 pP **pP** **22 21 50.1 +0.7**
CD2 sP **sP** **22 22 50.5 -1.1**
CD2 PP **PP** **22 23 05.9 +1.6**
CD2 SKS **SKSac** **22 29 00.2 -3.9**
CD2 S **SKKSac** **22 29 10.6 -0.8**
CD2 sS **sS** **22 33 02.6 -3.5**
CD2 SS **SS** **22 35 02.6 +2.1**
CD2 PMZ
comp=Z,1μm,0.6s
CD2 PMZ
comp=Z,4μm,5.4s
L02D Cave Junction, 84.14 320 ⇑P **P** **22 19 39.4 +0.8**
baz=84,SNR=22
LDFC Landfair 84.21 310 *e*P **P** **22 19 40.8 +1.6**
comp=Z,454nm,1.1s
LDFC Landfair 84.21 310 *e*P **P** **22 19 40.8 +1.6**
comp=Z,454nm,1.1s
NNA Nana 84.23 250 *e*P **P** **22 19 39.2 -0.3**
NNA *e**PP **pP** **22 21 54.6 +4.4**
NNA *e* 22 23 04.5
NNA pmax pmax
comp=Z,127nm,1.0s
NNA Nana 84.23 250 P **P** **22 19 39.3 -0.1**
comp=Z,92nm,0.9s,baz=7.9,slow=3.2,SNR=27
NNA Nana 84.23 250 *e*P **P** **22 19 39.2 -0.3**
comp=Z,127nm,1.0s
NNA Nana 84.23 250 *e*P **P** **22 19 39.2 -0.3**
comp=Z,127nm,1.0s
NNA *e*pP **pP** **22 21 54.6 +4.4**
NNA *e*PP **PP** **22 23 04.5 -1.7**
M02C Callahan 84.30 319 ⇓P **P** **22 19 39.9 +0.4**
baz=84,SNR=16
KBO Bosley Butte 84.42 320 *e*P **P** **22 19 41.3 +1.2**
comp=Z,431nm,1.6s
KBO Bosley Butte 84.42 320 *e*P **P** **22 19 41.3 +1.2**
comp=Z,431nm,1.6s
WAKR Walker 84.45 315 *e*P **P** **22 19 40.9 +0.5**
WAKR Walker 84.45 315 *e*P **P** **22 19 40.9 +0.5**
N02D Trinity Center 84.52 318 ⇑P **P** **22 19 40.3 -0.2**
baz=84
WDC Whiskeytown Da 84.71 318 *e*P **P** **22 19 40.4 -1.0**
WDC pmax pmax
comp=Z,69nm,1.3s
WDC Whiskeytown Da 84.71 318 *e*P **P** **22 19 40.4 -1.0**
comp=Z,69nm,1.3s
WDC Whiskeytown Da 84.71 318 *e*P **P** **22 19 40.4 -1.0**
comp=Z,69nm,1.3s
Y12C Blythe 84.73 309 ⇑P **P** **22 19 42.4 +0.8**
baz=84
214A Organ Pipe Nat 84.81 306 ⇓P **P** **22 19 42.3 +0.2**
baz=85
113A Mohawk Valley, 84.90 307 ⇑P **P** **22 19 42.5 +0.1**
baz=85
TIY Taiyuan 84.97 46 *e*P **P** **22 19 42.6 -0.2**
TIY pP **pP** **22 21 53.8 0.0**
TIY sP **sP** **22 22 57.2 +1.3**
TIY SKS **SKSac** **22 29 07.0 -2.2**
TIY S **S** **22 29 19.7 -1.7**
TIY sS **sS** **22 33 12.6 -2.2**
TIY PMZ
comp=Z,530nm,1.5s
GSC Goldstone, Bar 85.09 311 *e*P **P** **22 19 44.0 +0.5**
GSC *e**PP **pP** **22 21 56.2 +1.7**
GSC *e* 22 23 10.9
GSC pmax pmax
comp=Z,49nm,0.9s
GSC Goldstone, Bar 85.09 311 *e*P **P** **22 19 44.0 +0.5**
comp=Z,49nm,0.9s
GSC *e*pP **pP** **22 21 56.2 +1.7**
GSC Goldstone, Bar 85.09 311 *e*P **P** **22 19 44.0 +0.5**
comp=Z,49nm,0.9s
GSC *e*pP **pP** **22 21 56.2 +1.7**
GSC *e*PP **PP** **22 23 10.9 -1.0**
GSC *e*PKKPbc **PKKPbc** **22 37 46.2 +1.6**
RVCM Rose Valley Ce 85.27 312 *e*P **P** **22 19 44.0 -0.3**
RVCM Rose Valley Ce 85.27 312 *e*P **P** **22 19 44.0 -0.3**
WSHM Spangler Hills 85.31 312 *e*P **P** **22 19 45.2 +0.8**
WSHM Spangler Hills 85.31 312 *e*P **P** **22 19 45.2 +0.8**
CMB Columbia Colle 85.32 315 *e*P **P** **22 19 44.6 +0.2**
CMB *e**PP **pP** **22 21 57.4 +1.8**
CMB pmax pmax
comp=Z,83nm,1.1s
CMB Columbia Colle 85.32 315 *e*P **P** **22 19 44.6 +0.2**
comp=Z,83nm,1.1s
CMB *e*pP **pP** **22 21 57.4 +1.8**
CMB Columbia Colle 85.32 315 *e*P **P** **22 19 44.6 +0.2**
comp=Z,83nm,1.1s
CMB *e*pP **pP** **22 21 57.4 +1.8**
XAN Xi'an 85.37 50 P **P** **22 19 45.0 +0.2**
XAN pP **pP** **22 21 54.6 -1.4**
XAN sP **sP** **22 22 53.5 -4.5**
XAN SKS **SKSac** **22 29 07.6 -4.2**
XAN S **S** **22 29 24.7 -0.6**
XAN PMZ
comp=Z,190nm,1.3s
XAN PMZ
comp=Z,720nm,14.0s
GLA Glamis 85.38 308 *e*P **P** **22 19 45.1 +0.3**
GLA *e* 22 23 10.8
GLA pmax pmax
comp=Z,244nm,1.1s
GLA Glamis 85.38 308 *e*P **P** **22 19 45.1 +0.3**
comp=Z,244nm,1.1s
GLA Glamis 85.38 308 *e*P **P** **22 19 45.1 +0.3**
comp=Z,244nm,1.1s
GLA *e*PP **PP** **22 23 10.8 -3.5**
GLA *e*PKKPbc **PKKPbc** **22 37 43.5 -0.3**
KLR Kul'dur 85.41 28 *e*P P 22 19 40.0 -4.5
KLR *e* 22 21 55.8
KLR *e* 22 22 56.0
KLR *e*S SKSac 22 29 04.0 -7.3
KLR *e*PS 22 29 21.0
KLR pmax pmax
comp=E,120nm,2.2s
KLR pmax pmax
comp=Z,460nm,2.2s
KLR pmax pmax
comp=Z,2μm,9.0s
KLR smax smax
comp=N,120nm,1.8s
KLR smax smax
comp=E,210nm,1.8s
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,4μm,13.0s
BJI Beijing 85.41 42 P **P** **22 19 45.7 +1.0**
BJI pP **pP** **22 21 59.5 +3.6**
BJI sP **sP** **22 22 58.0 0.0**
BJI PP **PP** **22 23 15.7 +1.6**
BJI SKS **SKSac** **22 29 11.1 -0.5**
BJI S **S** **22 29 25.5 +0.2**
BJI sS **sS** **22 33 19.7 +0.7**
BJI SS **SS** **22 35 15.7 -2.7**
BJI PMZ
comp=Z,140nm,1.2s
BJI PMZ
comp=Z,2μm,5.5s
BJT Baijiatuan 85.42 42 *e*P **P** **22 19 45.8 +1.0**
BJT *e* 22 23 12.3
BJT pmax pmax
comp=Z,382nm,1.5s
BJT Baijiatuan 85.42 42 *e*P **P** **22 19 45.8 +1.0**
comp=Z,382nm,1.5s
BJT Baijiatuan 85.42 42 *e*P **P** **22 19 45.8 +1.0**
comp=Z,382nm,1.5s
BJT *e*PP **PP** **22 23 12.3 -1.9**
LVC Limon Verde 85.50 237 *e*P **P** **22 19 45.6 -0.1**
comp=Z,153nm,0.8s
LVC Limon Verde 85.50 237 *e*P **P** **22 19 45.6 -0.1**
comp=Z,153nm,0.8s
KMRM Mail Ridge 85.59 318 *e*P **P** **22 19 47.1 +1.4**
comp=Z,167nm,0.9s
KMRM Mail Ridge 85.59 318 *e*P **P** **22 19 47.1 +1.4**
comp=Z,167nm,0.9s
FRK Frink 85.65 309 *e*PKiKP **PKiKP** **22 24 48.8 -1.7**
FRK Frink 85.65 309 *e*PKiKP **PKiKP** **22 24 48.8 -1.7**
ISA Isabella, Lake 85.85 312 *e*pP pP 22 21 59.9 +1.5
ISA Isabella, Lake 85.85 312 *e*pP **pP** **22 21 59.9 +1.5**
ISA *e*PKKPbc **PKKPbc** **22 37 44.8 +2.0**
SDPT Sand Point 85.92 347 *e*P **P** **22 19 46.3 -0.5**
SDPT Sand Point 85.92 347 *e*P **P** **22 19 46.3 -0.5**
PFO Pinyon Flats O 86.02 310 *e*P **P** **22 19 48.4 +0.5**
PFO pmax pmax
comp=Z,154nm,1.0s
PFO Pinyon Flats O 86.02 310 *e*P **P** **22 19 48.4 +0.5**
comp=Z,154nm,1.0s
PFO Pinyon Flats O 86.02 310 ⇓P **P** **22 19 48.5 +0.5**
baz=86
PFO Pinyon Flats O 86.02 310 *e*P **P** **22 19 48.4 +0.5**
comp=Z,154nm,1.0s
HOPS Hopland Field 86.13 317 *e*P **P** **22 19 49.8 +1.6**
comp=Z,76nm,1.1s
HOPS Hopland Field 86.13 317 *e*P **P** **22 19 49.8 +1.6**
comp=Z,76nm,1.1s
HOPS *e*pP **pP** **22 22 02.5 +2.8**
PLM Palomar 86.44 310 *e*PKiKP **PKiKP** **22 24 47.0 -5.0**
MONP Monument Peak, 86.48 309 ⇓P **P** **22 19 50.6 +0.3**
baz=86
MWC Mount Wilson 86.58 311 *e*P **P** **22 19 50.7 0.0**
MWC pmax pmax
comp=Z,155nm,1.0s
MWC Mount Wilson 86.58 311 *e*P **P** **22 19 50.7 0.0**
comp=Z,155nm,1.0s
MWC Mount Wilson 86.58 311 *e*P **P** **22 19 50.7 0.0**
comp=Z,155nm,1.0s
MCCM Marconi Confer 86.63 317 *e*P **P** **22 19 52.3 +1.8**
comp=Z,416nm,1.3s
MCCM Marconi Confer 86.63 317 *e*P **P** **22 19 52.3 +1.8**
comp=Z,416nm,1.3s
OSI Osito Audit: C 86.72 312 *e*P **P** **22 19 51.8 +0.7**
comp=Z,195nm,1.0s
OSI Osito Audit: C 86.72 312 *e*P **P** **22 19 51.8 +0.7**
comp=Z,195nm,1.0s
OSI *e*pP **pP** **22 22 05.9 +3.0**
BAR Barrett 86.78 309 *e*P **P** **22 19 51.6 +0.2**
BAR *e*pP **pP** **22 22 05.1 +1.9**
BAR Barrett 86.78 309 *e*P **P** **22 19 51.6 +0.2**
BAR *e*pP **pP** **22 22 05.1 +1.9**
BAR *e*PP **PP** **22 23 27.3 +2.0**
BAR *e*PKKPdf **PKKPdf** **22 37 32.3 +0.4**
SAO San Andreas Ge 86.81 315 *e*P **P** **22 19 52.6 +1.2**
SAO *e* 22 23 24.4
SAO pmax pmax
comp=Z,34nm,1.1s
SAO San Andreas Ge 86.81 315 *e*P **P** **22 19 52.6 +1.2**
comp=Z,34nm,1.1s
SAO San Andreas Ge 86.81 315 *e*P **P** **22 19 52.6 +1.2**
comp=Z,34nm,1.1s
SAO *e*PP **PP** **22 23 24.4 -0.9**
KMI Kunming 87.11 61 P **P** **22 19 53.4 +0.1**
KMI pP **pP** **22 22 02.7 -2.6**
KMI sP **sP** **22 22 05.7 -1.4**
KMI SKS **SKSac** **22 29 20.4 -2.5**
KMI S **S** **22 29 39.7 -2.6**
KMI PMZ
comp=Z,260nm,1.3s
KMI PMZ
comp=Z,3μm,7.1s
CN2 Changchun 87.18 34 ⇓P **P** **22 19 52.9 -0.1**
CN2 *e*pP **pP** **22 22 06.8 +1.8**
CN2 *e*PP **PP** **22 23 29.2 +1.3**
CN2 SKS **SKSac** **22 29 20.0 -2.2**
CN2 *e*S **S** **22 29 40.1 -1.7**
CN2 PMZ
comp=Z,50nm,0.8s
CN2 PMZ
comp=Z,1μm,7.0s
DGPR DIGLIPUR 87.20 76 *e*P **P** **22 19 55.5 +1.9**
DGPR AMB AMB 22 19 55.9
comp=Z,1μm,1.0s
HABR Khabarovsk 87.24 26 *de*P **P** **22 19 52.6 -0.5**
HABR *e* 22 23 27.7
HABR PPP PPP 22 25 28.8
HABR *e*S **SKSac** **22 29 22.5 +0.2**
HABR *e* 22 29 46.9
HABR *e*SS **SS** **22 35 46.4 +2.4**
HABR *e*SSS SSS 22 39 28.7
HABR pmax pmax
comp=Z,802nm,3.3s
HABR MLR MLR
comp=Z,2μm,22.0s
HABR Khabarovsk 87.24 26 *e*P **P** **22 19 52.6 -0.5**
comp=Z,802nm,3.3s
CMAI Chiengmai2 87.72 67 P **P** **22 19 56.4 +0.2**
comp=Z,401nm,1.1s
PAYG Puerto Ayora 87.85 268 *e*P **P** **22 19 57.1 +0.4**
comp=Z,129nm,0.9s
PAYG Puerto Ayora 87.85 268 *e*P **P** **22 19 57.1 +0.4**
comp=Z,129nm,0.9s
PBA Port Blair 87.97 77 *e*P P 22 19 59.7 +2.5
PBA AMB AMB 22 20 00.1
comp=Z,1μm,2.9s
ENH Enshi 88.26 53 *e*P **P** **22 19 58.4 0.0**
comp=Z,500nm,1.4s
ENH Enshi 88.26 53 *e*P **P** **22 19 58.4 0.0**
comp=Z,500nm,1.4s
ENH *e*PP **PP** **22 23 34.5 -2.5**
MDJ Mudanjiang 88.33 31 P **P** **22 19 57.4 -1.0**
MDJ pP **pP** **22 22 11.1 +0.4**
MDJ sP **sP** **22 23 10.3 -2.2**
MDJ PP **PP** **22 23 36.4 -0.5**
MDJ SKS **SKSac** **22 29 26.0 -2.9**
MDJ S **S** **22 29 49.7 -2.7**
MDJ SS **SS** **22 35 59.5 -0.5**
MDJ PMZ
comp=Z,37nm,1.3s
MDJ PMZ
comp=Z,940nm,11.0s
MDJ Mudanjiang 88.33 31 *e*P **P** **22 19 58.1 -0.3**
comp=Z,58nm,1.2s
MDJ *e*pP **pP** **22 22 12.8 +2.1**
MDJ Mudanjiang 88.33 31 *e*P **P** **22 19 58.1 -0.3**
comp=Z,58nm,1.2s
MDJ *e*pP **pP** **22 22 12.8 +2.1**
MDJ *e*PP **PP** **22 23 38.4 +1.5**
CMMT Chiang Mai 88.34 68 P **P** **22 19 58.7 -0.2**
comp=Z,446nm,1.3s,comp=Z,6μm
CMAR Chiang Mai Arr 88.56 68 P **P** **22 20 00.0 +0.1**
CMAR 22 23 42.4
CMAR pmax pmax
comp=Z,250nm,1.1s
CMAR pmax pmax
comp=Z,28nm,1.0s
CMAR Chiang Mai Arr 88.56 68 P **P** **22 19 60.0 +0.1**
comp=Z,250nm,1.1s,baz=307,slow=5.6,SNR=414
CMAR PP **PP** **22 23 42.4 +2.6**
comp=Z,28nm,1.0s,baz=300,slow=8.2,SNR=5.6
CMAR Chiang Mai Arr 88.56 68 P **P** **22 20 00.0 +0.1**
TIA Tai'an 88.68 44 ⇓P **P** **22 19 59.8 -0.4**
TIA pP **pP** **22 22 15.7 +3.0**
TIA PMZ
comp=Z,190nm,1.1s
TIA PMZ
comp=Z,2μm,6.2s
PETK Petropavlovsk- 88.78 11 P **P** **22 20 00.2 0.0**
PETK 22 23 43.3
PETK pmax pmax
comp=Z,14nm,0.6s
PETK pmax pmax
comp=Z,8.0nm,0.8s
PETK Petropavlovsk- 88.78 11 P **P** **22 20 00.2 0.0**
comp=Z,14nm,0.6s,baz=76,slow=1.5,SNR=12
PETK PP **PP** **22 23 43.3 +3.3**
comp=Z,8.4nm,0.8s,baz=11,slow=2.3,SNR=3.8
PETK PKKPbc **PKKPbc** **22 37 33.5 -3.2**
comp=Z,1.2nm,0.3s,baz=156,slow=7.3,SNR=6.4
GYA Guiyang 88.94 57 ⇓*i*P **P** **22 20 01.2 -0.5**
GYA pP **pP** **22 22 14.0 -0.3**
GYA sP **sP** **22 23 13.8 -2.1**
GYA PP **PP** **22 23 43.5 +0.9**
GYA SKS **SKSac** **22 29 30.6 -2.8**
GYA S **S** **22 29 55.2 -3.6**
GYA sS **sS** **22 33 50.4 -4.8**
GYA PMZ
comp=Z,220nm,1.1s
GYA PMZ
comp=Z,1μm,8.8s
PET Petropavlovsk 89.00 11 *de*P **P** **22 19 59.9 -1.4**
PET *e**PP **pP** **22 22 12.8 -1.0**
PET *e**SP **sP** **22 23 11.6 -4.0**
PET *e* 22 23 43.5
PET *i* S **S** **22 29 54.7 -3.4**
PET *e*SP **SP** **22 31 04.3 -2.4**
PET *e*SS **SS** **22 36 07.6 -1.2**
PET pmax pmax
comp=Z,49nm,0.6s
PET pmax pmax
comp=Z,200nm,18.1s
PET MLR MLR
comp=Z,1μm,20.0s
PET Petropavlovsk 89.00 11 *e*P **P** **22 20 02.5 +1.2**
comp=Z,749nm,2.1s
PET Petropavlovsk 89.00 11 *e*P **P** **22 20 02.5 +1.2**
comp=Z,749nm,2.1s
DL2 Dalian 89.10 40 ⇓*i*P **P** **22 20 02.0 0.0**
DL2 pP **pP** **22 22 16.7 +2.1**
DL2 SKS **SKSac** **22 29 32.9 -0.7**
DL2 S **SKKSac** **22 29 48.8 +0.5**
DL2 PMZ
comp=Z,180nm,1.1s
DL2 PMZ
comp=Z,2μm,5.4s
USRK Ussuriysk Ar. 89.66 30 P **P** **22 20 03.5 -1.0**
comp=Z,38nm,0.8s,baz=304,slow=3.7,SNR=54
USRK pP **pP** **22 22 17.7 +0.5**
comp=Z,16nm,1.1s,baz=263,slow=3.0,SNR=3.6
USRK PP **PP** **22 23 45.0 -2.2**
comp=Z,16nm,0.6s,baz=328,slow=4.9,SNR=10
USRK S **SKSac** **22 29 33.6 -3.0**
comp=Z,0.7nm,0.6s,baz=267,slow=10,SNR=4.0
UTTA Uttaradit 90.19 68 P **P** **22 20 07.5 +0.1**
comp=Z,16nm,0.6s,comp=Z,203nm
VLA Vladivostok 90.51 31 ⇓*i*P **P** **22 20 07.8 -0.6**
VLA *i* 22 23 53.7
VLA *e*S **SKSac** **22 29 41.7 +0.3**
VLA pmax pmax
comp=Z,34nm,0.9s
VLA Vladivostok 90.51 31 *i* P **P** **22 20 07.8 -0.6**
comp=Z,34nm,0.9s
LCO Las Campanas 91.02 234 *e*P **P** **22 20 10.8 -0.4**
comp=Z,72nm,0.9s
LCO Las Campanas 91.02 234 *e*P **P** **22 20 10.8 -0.4**
comp=Z,72nm,0.9s
LCO *e*pP **pP** **22 22 29.4 +5.1**
YSS Yuzh-Sakhalins 91.10 22 *ce*P **P** **22 20 11.0 -0.1**
YSS *e**PP **pP** **22 22 25.0 +0.9**
YSS *e**SP **sP** **22 23 23.0 -2.6**
YSS *e* 22 29 38.0
YSS *e*S **S** **22 30 14.0 -3.0**
YSS *e*SS **SS** **22 36 42.0 +3.0**
YSS pmax pmax
comp=Z,100nm,1.0s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS smax smax
comp=E,3μm,12.0s
YSS Yuzh-Sakhalins 91.10 22 *e*P **P** **22 20 11.2 +0.1**
comp=E,141nm,1.1s
YSS Yuzh-Sakhalins 91.10 22 *e*P **P** **22 20 11.2 +0.1**
comp=E,141nm,1.1s
YSS *e*pP **pP** **22 22 28.1 +4.1**
WHN Wuhan 91.11 50 P **P** **22 20 11.1 -0.3**
WHN pP **pP** **22 22 24.7 +0.2**
WHN sP **sP** **22 23 24.5 -1.4**
WHN SKS **SKSac** **22 29 40.7 -4.5**
WHN S **S** **22 30 15.2 -2.5**
WHN PMZ
comp=E,2μm,14.4s
SRDT SRDT 91.24 71 P **P** **22 20 13.0 +0.7**
comp=E,244nm,1.6s,comp=E,8μm
PBKT Sadao Pong 91.24 68 P **P** **22 20 12.4 +0.1**
comp=E,144nm,1.0s,comp=E,3μm
CMBY CAMPBELL BAY 91.70 80 *e*P **P** **22 20 16.9 +2.4**
TRQA Tornquist 92.17 222 *e*P **P** **22 20 16.8 +0.8**
comp=E,88nm,0.8s
TRQA Tornquist 92.17 222 *e*P **P** **22 20 16.8 +0.8**
comp=E,88nm,0.8s
NJ2 Nanjing 92.69 46 *e*P **P** **22 20 18.9 +0.2**
NJ2 pP **pP** **22 22 33.5 +1.6**
NJ2 sP **sP** **22 23 33.0 -0.3**
NJ2 PP **PP** **22 24 11.0 -0.2**
NJ2 SKS **SKSac** **22 29 54.0 +0.1**
NJ2 S **S** **22 30 31.5 0.0**
NJ2 PMZ
comp=E,70nm,0.7s
NJ2 PMZ
comp=E,1μm,11.0s
INCN Inchon 92.70 38 *e*P **P** **22 20 18.9 +0.2**
comp=E,125nm,1.1s
INCN Inchon 92.70 38 *e*P **P** **22 20 18.9 +0.2**
comp=E,125nm,1.1s
KHON Khomkaen 92.76 67 P **P** **22 20 20.0 +0.7**
comp=E,70nm,1.0s,comp=E,630nm
KSAR Wonju Array Be 93.34 37 P **P** **22 20 21.2 -0.3**
KSAR 22 37 24.4
KSAR Wonju Array Be 93.34 37 P **P** **22 20 21.2 -0.3**
KSAR Wonju Array Be 93.34 37 P **P** **22 20 21.2 -0.3**
KSAR PP PP 22 24 04.3 -12
KSAR PKKP **PKKPbc** **22 37 24.4 -0.3**
KSRS Korea Array 93.34 37 P **P** **22 20 21.2 -0.4**
comp=E,38nm,0.9s,baz=329,slow=4.3,SNR=64
KSRS PP PP 22 24 04.3 -12
comp=E,22nm,1.1s,baz=327,slow=6.3,SNR=8.5
KSRS PKKP **PKKPbc** **22 37 24.4 -0.3**
comp=E,1.7nm,0.7s,baz=126,slow=1.4,SNR=5.0
ASAJ Asahikawa 93.59 24 P **P** **22 20 22.8 +0.2**
ASAJ pmax pmax
comp=Z,23nm,0.6s
ASAJ Asahikawa 93.59 24 P **P** **22 20 22.8 +0.2**
comp=Z,23nm,0.6s,baz=336,slow=3.2,SNR=19
ASAJ Asahikawa 93.59 24 *e*P **P** **22 20 22.3 -0.3**
comp=Z,435nm,2.3s
ASAJ Asahikawa 93.59 24 *e*P **P** **22 20 22.3 -0.3**
comp=Z,435nm,2.3s
JKA Kamikawa-asahi 93.59 24 P **P** **22 20 22.8 +0.2**
comp=Z,23nm,0.6s
TJN Taejon 93.93 38 *i* P **P** **22 20 24.1 -0.2**
TJN Taejon 93.93 38 *i* P **P** **22 20 24.1 -0.2**
SURT Suratani 94.32 75 P **P** **22 20 26.9 +0.5**
comp=Z,37nm,1.3s,comp=Z,691nm
PKDT Phuket 94.62 77 P **P** **22 20 28.3 +0.5**
comp=Z,119nm,1.2s,comp=Z,2μm
CHBT CHBT 94.66 70 P **P** **22 20 28.9 +1.0**
comp=Z,67nm,0.9s,comp=Z,1μm
YUK Yuzh-Kuril'sk 94.67 22 *d*iP P 22 20 18.2 -9.3
YUK *i* *PP pP 22 22 35.7 -5.1
YUK *i* 22 24 27.3
YUK *i* S S 22 30 37.0 -11
YUK *i* SS **SS** **22 37 33.6 +4.3**
YUK MLR MLR
comp=N,1μm,22.0s
YUK MLR MLR
comp=E,1μm,22.0s
YUK MLR MLR

comp=Z,1μm,22.0s
SSE Sheshan 94.73 45 P **P** **22 20 26.0 -2.0**
SSE PP **PP** **22 24 28.0 +1.3**
SSE SKS **SKSac** **22 30 03.0 -1.8**
SSE S **S** **22 30 47.2 -2.0**
SSE PMZ
comp=Z,23nm,0.7s
SSE PMZ
comp=Z,490nm,9.4s
UBPT Khong Chiam 95.39 66 P **P** **22 20 31.2 0.0**
comp=Z,85nm,1.2s,comp=Z,2μm
ERM Erimo 95.66 24 *e*P **P** **22 20 32.7 +0.8**
ERM *e* 22 24 34.6
ERM pmax pmax
comp=Z,66nm,1.1s
ERM Erimo 95.66 24 *e*P **P** **22 20 32.7 +0.8**
comp=Z,66nm,1.1s
ERM Erimo 95.66 24 *e*P **P** **22 20 32.7 +0.8**
comp=Z,66nm,1.1s
ERM *e*PP **PP** **22 24 34.6 +1.4**
GZH Guangzhou 95.68 56 P P 22 20 26.8 -5.6
GZH pP pP 22 22 40.9 -5.0
GZH sP sP 22 23 38.2 -9.0
GZH PP **PP** **22 24 32.3 -1.9**
GZH SKS **SKSac** **22 30 08.9 -1.0**
GZH Guangzhou 95.68 56 S **S** **22 30 53.1 -4.4**
TRTT Trang 95.71 76 P **P** **22 20 33.0 +0.3**
comp=Z,71nm,1.7s,comp=Z,1μm
QIZ Qiongzhong 96.06 61 P **P** **22 20 32.7 -1.5**
QIZ pP **pP** **22 22 44.5 -3.2**
QIZ sP **sP** **22 23 45.0 -4.0**
QIZ PP **PP** **22 24 36.1 -1.2**
QIZ SKS **SKSac** **22 30 09.9 -2.1**
QIZ S **S** **22 30 59.9 -0.9**
QIZ sS **sS** **22 34 58.1 -3.3**
QIZ SS **SS** **22 37 48.8 -1.8**
QIZ PMZ
comp=Z,620nm,13.4s
TPTI 96.54 81 P **P** **22 20 36.4 0.0**
comp=Z,14nm,1.2s
SKLT Songkhla 96.84 76 P **P** **22 20 38.4 +0.6**
comp=Z,80nm,1.2s,comp=Z,2μm
KCSI Kotacane, Aceh 96.85 80 P **P** **22 20 37.8 0.0**
comp=Z,33nm,1.2s,comp=Z,815nm
QZH Quanzhou 97.73 51 ⇓*i*P Pdif 22 20 40.6 -0.9
QZH pP pP 22 22 52.1 -3.1
QZH sP sP 22 23 53.1 -3.4
QZH PP **PP** **22 24 51.9 +2.3**
QZH SKS **SKSac** **22 30 20.5 +0.2**
QZH S **ScS** **22 31 13.6 -1.1**
QZH PMZ
comp=Z,2μm,4.4s
JNU Nakatsue 98.26 37 P Pdif 22 20 43.5 -0.3
JNU comp=Z,11nm,0.7s,baz=304,slow=6.2,SNR=8.7
PP **PP** **22 24 51.3 -2.0**
comp=Z,86nm,1.2s,baz=30,slow=12,SNR=3.6
JNU Nakatsue 98.26 37 P Pdif 22 20 43.5 -0.3
JNU *e*PP **PP** **22 24 54.9 +1.6**
MAJO Matsushiro 98.66 30 *e*P Pdif 22 20 44.9 -0.6
MAJO *e* 22 24 56.6
MAJO pmax pmax
comp=Z,387nm,3.0s
MAJO Matsushiro 98.66 30 *e*P Pdif 22 20 44.9 -0.6
comp=Z,387nm,3.0s
MAJO Matsushiro 98.66 30 *e*Pdif Pdif 22 20 44.9 -0.6
comp=Z,387nm,3.0s
MAJO *e*PP **PP** **22 24 56.6 +0.6**
MJAR Matsushiro Arr 98.66 30 P **P** **22 20 45.6 0.0**
comp=Z,17nm,1.0s,baz=322,slow=4.4,SNR=20
MJAR PP PP 22 24 45.2 -11
comp=Z,6.1nm,1.1s,baz=318,slow=8.5,SNR=4.2
MJAR PKKPbc **PKKPbc** **22 37 10.7 -0.3**
comp=Z,1.0nm,0.4s,baz=183,slow=5.3,SNR=6.8
PLCA Paca Flores 98.78 225 P **P** **22 20 46.0 +0.2**
comp=Z,39nm,0.8s,baz=45,slow=3.4,SNR=79
PLCA pP **pP** **22 23 01.0 +1.2**
comp=Z,26nm,1.1s,baz=69,slow=6.9,SNR=12
PLCA PKKP **PKKPbc** **22 37 08.2 -2.2**
comp=Z,7.0nm,1.1s,baz=163,slow=5.0,SNR=3.0
PLCA Paso Flores 98.78 225 *e*Pdif **P** **22 20 46.8 +0.9**
comp=Z,45nm,0.8s
PLCA PKKP **PKKPbc** **22 37 08.2 -2.2**
MNSI Mandailing Nat 99.94 81 P **Pdif** **22 20 52.9 +1.4**
MYKOM **Kota Tinggi 102.69 78** *e*PKiKP **PKiKP** **22 25 20.0 -0.6**
MYKOM **Kota Tinggi 102.69 78** *e*PKiKP **PKiKP** **22 25 20.0 -0.6**
AIS Amsterdam Isla 105.49 126 R 22 32 00.0
USHA Ushuaia 107.03 213 PKiKP **PKiKP** **22 25 26.4 -0.8**
comp=Z,8.2nm,1.0s,baz=31,slow=5.9,SNR=2.5
VNA2 Neumayer--Watz 107.67 181 P **PP** **22 26 01.6 -1.0**
baz=9.4,slow=6.3
KSM Kuching 107.90 74 *e*PP PP 22 26 03.1 -1.8
KSM Kuching 107.90 74 *e*PP PP 22 26 03.1 -1.8
VNA3 Neumayer Olymp 108.04 182 P **P** **22 26 00.9 -4.4**
SBUM Sibu 108.74 72 *e*PKiKP **PKiKP** **22 25 32.9 +1.1**
SBUM Sibu 108.74 72 *e*PKiKP **PKiKP** **22 25 32.9 +1.1**
SBUM *e*PP **PP** **22 26 11.9 +1.1**
SYO Syowa Base 110.39 165 ⇓*i*P **PP** **22 26 24.2 +2.2**
LEM Lembang 110.91 83 PKiKP **PKiKP** **22 25 35.8 -0.3**
comp=Z,12nm,0.5s,baz=162,slow=21,SNR=5.1
LEM PKKP **PKKPab** **22 36 48.2 +0.8**
comp=Z,26nm,0.7s,baz=92,slow=5.7,SNR=8.0
CISI Cisompet, Garu 111.50 83 *e*PKiKP **PKiKP** **22 25 36.2 -0.9**
CISI Cisompet, Garu 111.50 83 *e*PKiKP **PKiKP** **22 25 36.1 -0.9**
CISI *e*PP **PP** **22 26 28.2 -2.4**
PMSA Palmer Station 111.90 204 PKKPbc PKKPbc 22 36 30.1 -1.1
comp=Z,29nm,0.6s,baz=150,slow=20,SNR=6.7
PWJI Pagerwojo 114.94 81 PKP PKPdf 22 25 45.0 +1.4
MAW Mawson 115.50 157 PKP **PKPdf** **22 25 42.8 -0.2**
comp=Z,14nm,1.0s,baz=285,slow=6.5,SNR=5.2
MAW SKP 22 28 21.3
comp=Z,5.0nm,0.8s,baz=318,slow=5.3,SNR=3.7
MAW Mawson 115.50 157 *e*PKiKP **PKPdf** **22 25 43.0 +0.1**
MAW Mawson 115.50 157 PKP **PKPdf** **22 25 42.8 -0.2**
MAW *e*PKPdf **PKPdf** **22 25 43.0 +0.1**
MAW SKP 22 28 21.3
LUWI Luwuk 118.95 67 *e*PKiKP **PKPdf** **22 25 50.9 -0.4**
LUWI Luwuk 118.95 67 *e*PKPdf **PKPdf** **22 25 50.9 -0.4**
KAPI Kappang 119.28 73 *e*PKiKP **PKPdf** **22 25 51.9 0.0**
KAPI Kappang 119.28 73 P **PKPdf** **22 25 52.8 +0.9**
SNR=6.1
KAPI Kappang 119.28 73 *e*PKPdf **PKPdf** **22 25 51.9 0.0**
BSSI Bau Bau, Buton 120.56 73 PKP **PKPdf** **22 25 54.2 -0.2**
WBSI Waikabubak, Su 121.88 77 PKP **PKPdf** **22 25 56.9 -0.1**
SANI Sanana 121.99 65 PKP **PKPdf** **22 25 57.3 +0.1**
LBMI Labuha 122.11 63 PKP **PKPdf** **22 25 56.5 -0.9**
WSI Waingapu 122.60 77 PKP **PKPdf** **22 25 58.1 -0.2**
EDFI Ende, Flores 123.12 75 PKP **PKPdf** **22 25 57.7 -1.7**
BASI Baing, Sumba 123.15 77 PKP **PKPdf** **22 25 58.8 -0.5**
NLAI Namlea 123.61 66 PKP **PKPdf** **22 25 59.8 -0.5**
BATI Baumata 125.54 75 PKP **PKPdf** **22 26 05.3 +1.3**
BATI Baumata 125.54 75 PKP **PKPdf** **22 26 05.6 +1.7**
comp=Z,83nm,0.9s,baz=271,slow=0.9,SNR=13
SOEI Soe 125.73 74 PKP **PKPdf** **22 26 06.1 +1.7**
SOEI Soe 125.73 74 *e*PKiKP **PKPdf** **22 26 05.5 +1.0**
SOEI Soe 125.73 74 *e*PKPdf **PKPdf** **22 26 05.5 +1.0**
BNDI Bandanaira 126.52 64 PKP **PKPdf** **22 26 06.1 +0.3**
QSPA South Pole Qui 126.89 180 PKP **PKPdf** **22 26 05.0 0.0**
comp=Z,107nm,0.6s,baz=234,slow=0.7,SNR=116
QSPA PP **PP** **22 28 12.9 -0.8**
comp=Z,6.8nm,0.8s,baz=237,slow=5.1,SNR=3.7
QSPA pPKP **pPKPdf** **22 28 25.3 -2.0**
comp=Z,104nm,0.8s,baz=258,slow=2.1,SNR=22
QSPA SKKPbc SKKPbc 22 38 28.4 -4.4
comp=Z,10nm,1.1s,baz=32,slow=3.4,SNR=3.2
QSPA South Pole Qui 126.89 180 PKIKP **PKPdf** **22 26 05.0 0.0**
FAKI Fak Fak 127.07 61 PKP **PKPdf** **22 26 06.6 -0.3**
FAKI Fak Fak 127.07 61 *e*PKiKP **PKPdf** **22 26 06.2 -0.7**
FAKI Fak Fak 127.07 61 *e*PKPdf **PKPdf** **22 26 06.2 -0.7**
FAKI *e*PP PP 22 28 07.0 -8.3
RKPI Ransiki, Papua 127.38 58 PKP **PKPdf** **22 26 07.0 -0.5**
SAUI Saumlaki 129.88 66 PKP **PKPdf** **22 26 11.6 -0.6**
SAUI Saumlaki 129.88 66 *e*PKPdf **PKPdf** **22 26 15.1 +2.9**
SAUI *e*PP PP 22 28 40.1 +6.6
NWAO Narrogin (SRO) 131.92 104 PKHKP PKPpre 22 26 05.5
NWAO 22 26 16.7
NWAO 22 28 44.5
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO pmax pmax
comp=Z,34nm,0.9s
NWAO pmax pmax
comp=N,79nm,1.0s
NWAO Narrogin (SRO) 131.92 104 PKhKP PKPpre 22 26 05.5
comp=N,15nm,0.8s,baz=118,slow=2.3,SNR=7.1
NWAO PKP **PKiKP** **22 26 16.7 +0.1**
comp=N,34nm,0.9s,baz=286,slow=2.5,SNR=9.1
NWAO SKPbc **SKPbc** **22 28 44.5 -0.2**
comp=N,79nm,1.0s,baz=295,slow=4.0,SNR=9.6
JAY Jayapura 132.42 52 PKIKP **PKPdf** **22 26 18.1 +1.0**
JAY 22 28 47.2
JAY pmax pmax
comp=Z,43nm,1.0s
JAY pmax pmax
comp=N,128nm,1.1s
JAY Jayapura 132.42 52 PKP **PKPdf** **22 26 18.1 +1.0**
comp=N,43nm,1.0s,baz=265,slow=6.0,SNR=6.5
JAY SKPbc **SKPbc** **22 28 47.2 +0.1**
comp=N,128nm,1.1s,baz=270,slow=3.5,SNR=15
CASY Casey 132.84 150 *e*PKIKP **PKPdf** **22 26 16.8 +0.6**
CASY *ep*PKPdf **pPKPdf** **22 28 42.7 +4.2**
CASY Casey 132.84 150 *e*PKPdf **PKPdf** **22 26 16.8 +0.6**
CASY *ep*PKPdf **pPKPdf** **22 28 42.7 +4.2**
RKT Rikitea 136.24 274 *e*PKIKP **PKPdf** **22 26 25.4 +1.6**
comp=N,62nm,1.1s
RKT *e*SKPdf **SKPdf** **22 29 00.8 -0.1**
comp=N,302nm,1.1s
SBA Scott Base 138.84 177 *e*PKIKP PKPpre 22 26 21.4
SBA Scott Base 138.84 177 *e*PKPpre PKPpre 22 26 21.4
SBA *e*SKPbc **SKiKP** **22 29 06.3 -1.1**
VNDA Vanda 138.89 175 PKhKP PKPpre 22 26 19.5
comp=N,6.5nm,0.7s,baz=231,slow=4.4,SNR=18
VNDA SKPbc **SKPbc** **22 29 05.0 +0.3**
comp=N,10nm,0.9s,baz=228,slow=4.2,SNR=3.9
VNDA PP **PP** **22 29 25.4 -3.1**
comp=N,18nm,0.8s,baz=145,slow=3.3,SNR=3.9
VNDA SKKPbc **SKKPbc** **22 37 45.8 -2.5**
comp=N,7.1nm,1.1s,baz=334,slow=4.7,SNR=5.0
VNDA Vanda 138.89 175 PKPpre PKPpre 22 26 19.5
VNDA *e*PKPpre PKPpre 22 26 20.0
VNDA SKPbc **SKPbc** **22 29 05.0 +0.3**
VNDA PP **PP** **22 29 25.4 -3.1**
VNDA SKKPbc **SKKPbc** **22 37 45.8 -2.5**
WRA Warramunga Arr 139.57 77 PKhKP PKPpre 22 26 21.3
comp=N,39nm,0.7s,baz=325,slow=2.9,SNR=152
WRA SKPbc **SKPbc** **22 29 07.7 -0.6**
comp=N,35nm,0.6s,baz=313,slow=2.8,SNR=23
WRA PP **PP** **22 29 31.6 -2.4**
comp=N,171nm,1.1s,baz=319,slow=5.6,SNR=21
WRA PKKP **PKKPdf** **22 35 55.4 -0.1**
comp=N,1.8nm,0.6s,baz=112,slow=2.2,SNR=7.8
WRA SKKPbc **SKKPbc** **22 37 36.8 -5.3**
comp=N,3.4nm,0.9s,baz=176,slow=3.5,SNR=5.7
WRA SKKP 22 38 28.9
comp=N,5.9nm,0.9s,baz=123,slow=3.6,SNR=5.0
WRAB Tennant Creek 139.58 77 *e*PKHKP PKPpre 22 26 21.6
WRAB Tennant Creek 139.58 77 *e*PKPpre PKPpre 22 26 21.6
FORT Forrest 139.64 96 *e*PKPpre PKPpre 22 26 22.6
ASAR Alice Springs 141.20 82 PKhKP PKPpre 22 26 26.9
comp=N,64nm,0.4s,baz=299,slow=2.7,SNR=205
ASAR SKPbc **SKPbc** **22 29 11.9 -0.5**
comp=N,45nm,0.9s,baz=320,slow=1.9,SNR=8.0
ASAR PP **PP** **22 29 44.5 +0.7**
comp=N,65nm,1.1s,baz=312,slow=5.9,SNR=10
ASAR SKKPbc **SKKPab** **22 37 39.5 +0.7**
comp=N,6.9nm,1.0s,baz=112,slow=3.5,SNR=5.7
VAH Vaihoa 141.52 295 *e*PKIKP **PKPdf** **22 26 30.6 -3.0**
comp=N,197nm,1.3s
VAH *e*SKiKP **SKiKP** **22 29 14.9 0.0**
comp=N,316nm,1.3s
PMOR Pomariorio Ree 141.56 295 *e*PKIKP **PKPdf** **22 26 30.7 -3.0**
comp=N,237nm,1.3s
PMOR *e*SKiKP **SKiKP** **22 29 15.2 +0.2**
comp=N,311nm,1.3s
PMG Port Moresby 141.78 51 *e*PKIKP PKPpre 22 26 30.5
PMG Port Moresby 141.78 51 PKhKP PKPpre 22 26 30.9
comp=N,314nm,1.1s,baz=357,slow=5.2,SNR=55
PMG SKPbc **SKPbc** **22 29 14.2 +0.1**
comp=N,154nm,1.0s,baz=5.4,slow=4.3,SNR=17
PMG Port Moresby 141.78 51 *e*PKPpre PKPpre 22 26 30.5
PMG PKPpre PKPpre 22 26 30.9
PMG SKPbc **SKPbc** **22 29 14.2 +0.1**
COEN Coen 142.45 61 *e*PKPpre PKPpre 22 26 32.4
COEN *e*SKPbc **SKiKP** **22 29 16.3 -0.6**
MEH Mehetia 143.53 292 *e*PKIKP **PKPdf** **22 26 37.1 0.0**
comp=N,296nm,1.0s
MEH *e*SKiKP **SKiKP** **22 29 19.2 +0.2**
comp=N,44nm,1.2s
DRV Dumont d'Urvil 143.71 156 PKP PKPbc 22 26 07.0 -28
DRV PP PP 22 28 53.0 -64
DRV SS SS 22 46 50.0 -62
TIAR Tiarei 144.28 294 *e*PKIKP **PKPab** **22 26 39.7 +0.7**
comp=N,286nm,1.0s
TIAR *e*SKiKP **SKiKP** **22 29 21.2 +0.6**
comp=N,37nm,1.1s
TVO Taravao 144.35 293 *e*PKIKP **PKPab** **22 26 40.2 +0.9**
comp=N,245nm,1.1s
TVO *e*SKiKP **SKiKP** **22 29 21.8 +1.0**
comp=N,70nm,1.1s
PPT Papeete 144.45 294 PKIKP **PKPab** **22 26 39.8 +0.1**
PPT pmax pmax
comp=Z,352nm,1.1s
PPT Papeete 144.45 294 PKP **PKPab** **22 26 39.8 +0.1**
comp=Z,352nm,1.1s,baz=32,slow=0.7,SNR=17
PPT Papeete 144.45 294 PKP **PKPab** **22 26 39.8 +0.1**
PPT *e*PKPdf PKPbc 22 26 40.5 +1.5
PPT2 Papeete2 144.47 294 *e*PKIKP **PKPab** **22 26 40.3 +0.5**
comp=Z,355nm,1.2s
PPT2 *e*SKiKP **SKiKP** **22 29 22.0 +1.0**
comp=Z,146nm,1.5s
PAE Paea 144.51 294 *e*PKIKP **PKPab** **22 26 40.3 +0.4**
comp=Z,84nm,1.2s
BBOO Buckleboo 146.73 95 *e*PKIKP **PKPdf** **22 26 41.9 -0.3**
BBOO Buckleboo 146.73 95 *e*PKPdf **PKPdf** **22 26 41.9 -0.3**
TBI Tubuai 147.78 285 *e*PKPbc **PKPbc** **22 26 49.6 +1.6**
comp=Z,364nm,1.1s
TBI Tubuai 147.78 285 *e*PKPab **PKPab** **22 26 54.3 +1.5**
comp=Z,615nm,1.0s
TBI *ep*PKiKP **pPKiKP** **22 29 13.1 +1.8**
comp=Z,209nm,1.3s
CTA Charters Tower 148.70 66 PKP **PKPdf** **22 26 46.3 +0.6**
comp=Z,174nm,0.8s,baz=21,slow=0.7,SNR=42
CTA PKPbc **PKPbc** **22 26 50.6 +0.2**
comp=Z,309nm,1.0s,baz=311,slow=3.1,SNR=101
CTA PP **PP** **22 30 27.1 -0.2**
comp=Z,44nm,1.0s,baz=287,slow=2.5,SNR=3.9
CTAO Charters Tower 148.70 66 *e*PKIKP **PKPdf** **22 26 46.0 +0.2**
CTAO Charters Tower 148.70 66 *e*PKPdf **PKPdf** **22 26 46.0 +0.2**
CTAO *e*PP **PP** **22 30 27.6 +0.3**
HNR Honiara 148.71 33 *e*PKP2 **PKPbc** **22 26 51.5 +0.9**
HNR Honiara 148.71 33 *e*PKPbc **PKPbc** **22 26 51.5 +0.9**
HNR Honiara 148.71 33 *e*PKPbc **PKPbc** **22 26 51.5 +0.9**
EIDS Eidsvold 155.41 69 *e*PKIKP **PKPdf** **22 26 57.8 +2.3**
EIDS Eidsvold 155.41 69 *e*PKPdf **PKPdf** **22 26 57.8 +2.3**
EIDS *e*PP **PP** **22 31 05.4 +0.4**
TAU Tasmania Unive 156.92 114 *e*PKP2 **PKPab** **22 27 32.5 +1.3**
TAU Tasmania Unive 156.92 114 *e*PKPab **PKPab** **22 27 32.5 +1.3**
TAU Tasmania Unive 156.92 114 *e*PKPab **PKPab** **22 27 32.5 +1.3**
ARMA Armidale 158.31 80 *e*PKPab **PKPab** **22 27 38.9 +1.1**
ARMA Armidale 158.31 80 *e*PKPab **PKPab** **22 27 38.9 +1.1**
DZM Mont Dzumac 162.74 33 *e*PKIKP **PKPdf** **22 27 05.7 +1.7**
comp=Z,83nm,1.1s
DZM Mont Dzumac 162.74 33 *e*PKPab **PKPab** **22 27 59.5 +2.4**
comp=Z,216nm,1.2s
DZM Mont Dzumac 162.74 33 PKP **PKPdf** **22 27 04.9 +0.9**
comp=Z,28nm,0.9s,baz=64,slow=12,SNR=14
WHZ Wether Hill Ro 169.04 147 *e*PKPab **PKPab** **22 28 24.3 -0.1**
WHZ Wether Hill Ro 169.04 147 *e*PKPab **PKPab** **22 28 24.3 -0.1**
ODZ Otahua Downs 170.83 153 *e*PKPab **PKPab** **22 28 33.2 +0.9**
ODZ Otahua Downs 170.83 153 *e*PKPab **PKPab** **22 28 33.2 +0.9**
RPZ Rata Peaks 172.11 150 *e*PKPab **PKPab** **22 28 38.8 +0.8**
RPZ Rata Peaks 172.11 150 *e*PKPab **PKPab** **22 28 38.8 +0.8**
BKZ Black Stump Fm 177.84 179 *e*PKIKP **PKPdf** **22 27 12.5 +0.9**
BKZ Black Stump Fm 177.84 179 *e*PP PP 22 32 58.0 +1.2
BKZ Black Stump Fm 177.84 179 *e*PKPdf **PKPdf** **22 27 12.5 +0.9**
BKZ *e*PP **PP** **22 32 58.0 +1.1**
URZ Urewera 178.67 200 PKP PP 22 33 01.1 +0.3
comp=Z,12nm,1.1s,baz=59,slow=0.7,SNR=3.7
URZ Urewera 178.67 200 *e*PKIKP **PKPdf** **22 27 11.4 -0.3**
URZ Urewera 178.67 200 *e*PKPdf **PKPdf** **22 27 11.4 -0.3**
URZ PP **PP** **22 33 01.1 +0.3**

GUC 11 22:13:01.3±0.3, 34.10S×71.09W, h102km±4km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJCH	**San Jose de Ma**	**0.76**	**54**	*e*P	Pn	22 13 20.3	+0.7
SJCH				*e*S	Sn	22 13 34.9	+1.5
SJCH					AML	AML	22 13 44.2
	comp=N,2μm,0.7s						
LACH	**Col Las Americ**	**0.79**	**36**	*e*P	Pn	22 13 20.7	+0.8
LACH				*e*S	Sn	22 13 35.2	+1.4
LACH					AML	AML	22 13 44.8
	comp=N,1μm,0.6s						
CLCH	**Cerro Calan**	**0.84**	**33**	*e*P	Pn	22 13 21.1	+0.7
CLCH				*e*S	Sn	22 13 36.1	+1.5
CLCH					AML	AML	22 13 48.1
	comp=N,1μm,0.5s						
YECH	**El Yeso**	**0.94**	**63**	*e*P	Pn	22 13 21.8	+0.1
YECH				*e*S	Sn	22 13 39.0	+2.0
YECH					AML	AML	22 13 45.4
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**1.01**	**20**	*e*P	Pn	22 13 22.8	+0.6
PEL				*e*S	Sn	22 13 39.0	+1.3
PEL					AML	AML	22 13 45.0
	comp=E,7μm,0.2s						
FCH	**Farellones**	**1.01**	**41**	*e*P	Pn	22 13 23.8	+1.2
FCH				*e*S	Sn	22 13 40.9	+2.4
FCH					AML	AML	22 13 48.5
	comp=E,2μm,0.2s						

IDC 11 22:13:17.5±2.1, 21.60N×143.18E, h275km±21km, mb3.5/4, mb1 3.6/5, mb1mx3.3/28, mbtmp4.2/5, Error ellipse: s-maj=54.8km s-min=17.3km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.55**	**351**	P	Pn	22 14 41.4	+0.7
	baz=127,slow=20						
JCJ				S	S	22 15 47.4	-0.1
	baz=107,slow=19						
WRA	**Warramunga Arr**	**42.18**	**192**	P	P	22 20 43.6	-0.2
	1.2nm,0.3s,baz=17,slow=9.3,SNR=47						
ASAR	**Alice Springs**	**45.89**	**192**	P	P	22 21 12.8	-0.3
	0.2nm,0.3s,baz=14,slow=7.1,SNR=6.1						
BVAR	**Borovoye Array**	**62.74**	**320**	P	P	22 23 13.9	+0.3
	5.0nm,0.8s,baz=109,slow=6.7,SNR=4.1						
FINES	**FINESS Array B**	**83.27**	**334**	P	P	22 25 12.0	-1.2
	2.7nm,0.7s,baz=97,slow=5.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**128.80**	**309**	PKP	PKPdf	22 31 52.9	-0.2
	1.1nm,1.0s,baz=29,slow=0.8,SNR=6.2						
PLCA	**Paso Flores**	**145.69**	**132**	PKPbc	PKPbc	22 32 24.0	-0.4
	1.0nm,0.4s,baz=268,slow=2.8,SNR=7.9						

CSEM 11 22:14:21.4±0.2, 48.76N×14.06E, h2km, ML1.6, Error ellipse: s-maj=4.1km s-min=2.4km az=22.0
IPEC 11 22:14:21.5±0.1, 48.74N×14.05E, h2km, ML1.6/6, Error ellipse: s-maj=1.0km s-min=0.5km az=179.0

PRU 11 22:14:21.5, 48.74N×14.06E, h0km, Tectonic Event Near Lipno Dam, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHC	**Kasperske Hory**	**0.50**	**321**	*e*PG	Pg	22 14 30.6	-0.7
KHC				*e*SG	Sg	22 14 37.3	-0.6
KHC	**Kasperske Hory**	**0.50**	**321**	Pg	Pg	22 14 30.6	-0.7
KHC				Sg	Sg	22 14 37.3	-0.6
TREC	**Trest**	**1.09**	**59**	*e*SG	Sg	22 14 56.5	-0.2
TREC	**Trest**	**1.09**	**59**	Sg	Sg	22 14 56.5	-0.2
GOPC	**GO Pecny, Ondr**	**1.27**	**22**	*e*PG	Pg	22 14 45.6	-0.3
GOPC				*e*SG	Sg	22 15 01.5	-0.9
GOPC	**GO Pecny, Ondr**	**1.27**	**22**	Pg	Pg	22 14 45.6	-0.3
GOPC				Sg	Sg	22 15 01.5	-0.9
PRU	**Pruhonice**	**1.29**	**14**	*e*PG	Pg	22 14 45.9	-0.3
PRU				*e*SG	Sg	22 15 02.9	-0.1
PRU	**Pruhonice**	**1.29**	**14**	Pg	Pg	22 14 45.9	-0.3
PRU				Sg	Sg	22 15 02.9	-0.1
KRUC	**Moravsky**	**1.57**	**77**	*e*Pn	Pn	22 14 50.6	-0.1
	baz=259						
KRUC				*e*Sg	Sn	22 15 11.1	-0.7
	3.7nm,0.1s,baz=259						
VRAC	**Vranov**	**1.76**	**70**	*e*Pn	Pn	22 14 53.2	-0.1
	baz=252						
VRAC				*e*Sg	Sb	22 15 17.0	-0.4
	6.9nm,0.2s,baz=252						
PVCC	**Panska Ves**	**1.82**	**10**	*e*PG	Pb	22 14 55.4	-0.3
PVCC				*e*SG	Sg	22 15 19.6	-0.5
PVCC	**Panska Ves**	**1.82**	**10**	Pg	Pb	22 14 55.4	-0.3
PVCC				Sg	Sg	22 15 19.6	-0.5

MAN 11 22:33:43, 8.82N×122.84E, h20km, mb4.6, ML3.5, MS3.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.55**	**115**	⇓*i*P	Pn	22 33 55.4	-0.4
DCPH				*i* S	Sn	22 34 05.8	+1.4
SNPH	**Sibulan**	**0.65**	**36**	⇑*i*P	Pb	22 33 52.0	-3.8
SNPH				*i* S	Sb	22 34 03.9	-0.6

GUC 11 22:48:02.3±0.6, 34.81S×73.87W, h20km±5km, ML3.7, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.59**	**147**	⇓*i*P	Pn	22 48 29.2	-0.2
COCH				*i* S	Sn	22 48 49.6	+0.2
COCH					AML	AML	22 48 50.4
	comp=N,845nm,0.2s						
TALC	**Talca**	**1.93**	**109**	⇑*i*P	Pn	22 48 34.8	+0.8
TALC				*i* S	Sb	22 48 59.2	-1.2
TALC					AML	AML	22 49 01.7
	comp=N,1μm,0.3s						
LNCH	**Linares**	**2.13**	**120**	⇑*i*P	Pn	22 48 38.2	+1.4
LNCH				*i* S	Sb	22 49 05.0	-1.2
NICH	**Los Niches**	**2.18**	**96**	⇓*i*P	Pn	22 48 38.2	+0.7
NICH				*i* S	Sb	22 49 06.2	-1.5
NICH					AML	AML	22 49 07.4
	comp=N,775nm,0.8s						

ISCJB 11 22:48:42.9±2.6, 32.83S±0.08×72.34W±0.09, h12km±16km, mb3.9/2, MS4.2/1, Error ellipse: s-maj=16.2km s-min=9.6km az=38.2
GUC 11 22:48:44.1±0.5, 32.96S×72.25W, h20km±5km, ML4.1
IDC 11 22:48:53.0±1.5, 31.12S×72.82W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.5/33, mbtmp3.9/3, ML3.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.2/39, Error ellipse: s-maj=58.7km s-min=43.3km az=49.0

ISC 11 22:48:44.3±2.3, 32.78S±0.07×72.17W±0.09, h7km±12km, n23, σ1.84/24, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.51**	**119**	⇑*i*P	**Pb**	**22 48 55.1**	**-0.4**
IHA				*i* S	**Sb**	**22 49 02.9**	**-0.3**
PEL	**Peldehue**	**1.30**	**107**	⇓*i*P	**Pg**	**22 49 08.6**	**-0.6**
PEL				*i* S	**Sn**	**22 49 27.1**	**+0.5**
PEL					AML	AML	22 49 33.0
	comp=E,12μm,0.4s						
CLCH	**Cerro Calan**	**1.50**	**115**	⇑*i*P	**Pn**	**22 49 11.7**	**0.0**
CLCH				*i* S	**Sg**	**22 49 32.4**	**-0.3**
CLCH					AML	AML	22 49 42.8
	comp=N,5μm,0.4s						
CLCH					AML	AML	22 49 43.3
	comp=N,6μm,0.5s						
LACH	**Col Las Americ**	**1.53**	**117**	*e*P	**Pn**	**22 49 11.6**	**-0.5**
LACH				*i* S	**Sn**	**22 49 32.6**	**+0.3**
FSR	**Penalolen**	**1.55**	**117**	*e*S	**Sn**	**22 49 33.1**	**+0.5**
FCH	**Farellones**	**1.67**	**110**	⇑*i*P	Pg	22 49 22.8	+6.5
FCH				*i* S	Sg	22 49 46.8	+8.7
FCH					AML	AML	22 49 51.9
	comp=E,2μm,0.5s						
SJCH	**San Jose de Ma**	**1.75**	**120**	⇑*i*P	**Pn**	**22 49 14.2**	**-0.9**
SJCH				*i* S	**Sn**	**22 49 37.9**	**+0.2**
SJCH					AML	AML	22 49 42.1
	comp=E,2μm,0.5s						
YECH	**El Yeso**	**1.96**	**117**	*e*P	**Pg**	**22 49 23.9**	**+2.0**
YECH				*i* S	Sg	22 49 53.1	+5.7
NICH	**Los Niches**	**2.35**	**161**	*i* S	**Sn**	**22 49 51.1**	**-1.4**
CFAA	**Coronel Fontan**	**3.53**	**72**	Pn	**Pb**	**22 49 45.2**	**-2.0**
	comp=E,1.9nm,0.3s,baz=247,slow=13,SNR=32						
CFAA				Sn	**Sg**	**22 50 38.6**	**+0.8**
	comp=E,2.4nm,0.3s,baz=115,slow=18,S

comp=E,0.3nm,0.3s,baz=220,slow=12,SNR=4.6
SNAA Sanae 52.76 158 LR LR 23 20 57.6
comp=E,206nm,20.0s,baz=32,slow=35
TXAR Lajitas Array 68.61 331 P **P 22 59 48.1 0.0**
comp=E,0.5nm,0.6s,baz=156,slow=8.9,SNR=4.2
BOSA Boshof 80.74 118 P P 23 01 16.4 +18
comp=E,2.3nm,0.8s,baz=248,slow=5.6,SNR=3.5
H11S2 WAKE ISLAND Hyl 25.67 270 T T 01 25 56.8
baz=108
H11S1 WAKE ISLAND Hyl 25.68 270 T T 01 25 57.3
baz=108
H11S3 WAKE ISLAND Hyl 25.69 270 T T 01 25 58.4
baz=108
BVAR Borovoye Array 146.45 42 PKPbc **PKPab 23 08 29.8 +3.3**
comp=E,0.5nm,0.6s,baz=297,slow=1.3,SNR=3.5
AAK Ala-Archa 152.01 60 PKPbc **PKPab 23 08 49.7 0.0**
comp=E,0.3nm,0.3s,baz=221,slow=9.3,SNR=4.4
AAK PKPab PKiKP 23 08 58.2 +18
comp=E,1.0nm,0.7s,baz=276,slow=4.8,SNR=6.1
KURBB Kurchatov Arra 152.04 42 PKP **PKPbc 23 08 39.3 -0.5**
comp=E,0.2nm,0.2s,baz=286,slow=2.8,SNR=2.3
KURBB PKPbc **PKPab 23 08 48.1 -1.1**
comp=E,0.3nm,0.2s,baz=295,slow=3.3,SNR=4.2
ZALV Zalesovo Beam 153.24 31 PKPbc **PKPab 23 08 50.1 -4.1**
comp=E,0.8nm,0.7s,baz=267,slow=6.2,SNR=3.7
MKAR Makanchi Array 156.03 47 PKPab **PKPab 23 09 11.3 +4.9**
comp=E,0.4nm,0.6s,baz=346,slow=4.0,SNR=3.7

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*BJI **11** 22:54:00.1,32.46S×67.63W,h100km,mB5.1/8*
*GUC **11** 22:54:02.8±0.3,31.84S×67.86W,h35km±7km,ML4.9*
*MOS **11** 22:54:02.7±1.0,31.95S×67.78W,h121km,mb4.9/17, Error ellipse: s-maj=19.4km s-min=8.0km az=100.9*
*NEIC **11** 22:54:03.0,31.95S×67.74W,h121km,mb4.9/61, MD4.8(SJA),After SJA.*
NEIC Felt [III] at San Juan and [II] at Mendoza. Also felt at La Rioja.
*ISCJB **11** 22:54:03.1±0.3,31.95S±0.03×67.70W±0.04,h125km±2km, mb4.8/87, Error ellipse: s-maj=5.1km s-min=4.2km az=17.4*
*SJA **11** 22:54:03.3±1.3,31.95S×67.74W,h123km±7km,ML4.8, MW4.6*
*IDC **11** 22:54:03.4±0.3,31.97S×67.75W,h118km±2km,mb4.5/28, mb1 4.6/31,mb1mx4.5/42,mbtmp4.9/31,Error ellipse: s-maj=11.3km s-min=7.5km az=56.0*
ISC 11 22:54:03.6±0.3,31.95S±0.04×67.72W±0.04,h124km±2km, h124km:pP-P,n563,σ1.20/678,mb4.8/87,170C-156D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.55**	**126**	*eP*	**Pn**	**22 54 23.4**	**+1.0**
CFAA	**Coronel Fontan**	**0.56**	**307**	P	**Pn**	**22 54 22.7**	**+0.3**
	317nm,0.3s,baz=127,slow=7.1						
CFAA				S	**Sn**	**22 54 36.2**	**-0.5**
	404nm,0.3s,baz=239,slow=22,SNR=175						
CFAA	**Coronel Fontan**	**0.56**	**307**	*eP*	**Pn**	**22 54 22.8**	**+0.3**
CFAA				*eS*	**Sn**	**22 54 36.4**	**-0.2**
RTCV	**Cerro Valdivia**	**0.71**	**277**	*eP*	**Pn**	**22 54 23.4**	**0.0**
SJA	**San Juan**	**0.83**	**300**	*eP*	**Pn**	**22 54 25.0**	**+0.5**
SJA				AML	AML	22 54 53.7	
	comp=Z,14μm,0.5s						
RTLL	**Cerro Villicun**	**0.90**	**313**	*eP*	**Pn**	**22 54 25.4**	**+0.4**
ACHE	**Chepes**	**1.19**	**49**	*eP*	**Pn**	**22 54 29.1**	**+1.0**
AMOG	**MOGNA**	**1.21**	**326**	*eP*	**Pn**	**22 54 28.9**	**+0.8**
AVFE	**Valle Fertil**	**1.30**	**10**	*eP*	**Pn**	**22 54 29.6**	**+0.4**
AVFE				*eS*	**Sn**	**22 54 48.1**	**-0.5**
AVFE				AML	AML	22 54 51.6	
	comp=Z,20μm,0.4s						
RTLS	**Leoncito**	**1.35**	**276**	*eP*	**Pn**	**22 54 30.4**	**+0.5**
AUSP	**Uspallata**	**1.45**	**259**	*eP*	**Pn**	**22 54 31.3**	**+0.3**
APLL	**PUNTA DE LOS L**	**1.85**	**34**	*eP*	**Pn**	**22 54 36.7**	**+1.2**
AGUA	**GUANDACOL**	**2.54**	**345**	*eP*	**Pn**	**22 54 45.7**	**+1.5**
ACLC	**CERRO LA CRUZ**	**2.60**	**15**	*eP*	**Pn**	**22 54 46.1**	**+1.0**
SUCO	**SUCO**	**2.77**	**121**	*eP*	**Pn**	**22 54 47.8**	**+0.8**
SUCO				AML	AML	22 55 21.5	
	comp=Z,2μm,0.6s						
CLCH	**Cerro Calan**	**2.78**	**238↑**	*eP*	**Pn**	**22 54 47.4**	**+0.2**
CLCH				*eS*	**Sn**	**22 55 21.4**	**+0.5**
CLCH				AML	AML	22 55 25.6	
	comp=E,4μm,0.7s						
SJCH	**San Jose de Ma**	**2.79**	**232**	*eP*	**Pn**	**22 54 47.8**	**+0.4**
SJCH				*eS*	**Sn**	**22 55 22.2**	**+1.1**
FSR	**Penalolen**	**2.82**	**236**	*eP*	**Pn**	**22 54 48.1**	**+0.4**
FSR				*eS*	**Sn**	**22 55 22.4**	**+0.7**
ROCH	**El Roble**	**2.97**	**249**	*eP*	**Pn**	**22 54 50.1**	**+0.3**
ROCH				*eS*	**Sn**	**22 55 26.1**	**+0.7**
ROCH				AML	AML	22 55 28.4	
	comp=N,4μm,0.7s						
PIL	**Pilar**	**3.27**	**86**	*eP*	**Pn**	**22 54 54.4**	**+0.8**
LSCH	**La Serena**	**3.65**	**303**	*eP*	**Pn**	**22 54 57.2**	**-1.3**
LSCH				*eS*	**Sn**	**22 55 38.9**	**-2.3**
LSCH				AML	AML	22 55 39.8	
	comp=N,2μm,0.4s						
CYA	**Choya**	**3.87**	**26**	*eP*	**Pn**	**22 55 01.8**	**+0.3**
CYA				*eS4*		22 55 39.3	
LCO	**Las Campanas**	**3.90**	**318**	*eSn*	**Sn**	**22 55 43.9**	**-3.6**
LCO	**Las Campanas**	**3.90**	**318**	*eP*	**Pn**	**22 55 02.8**	**+0.6**
LCO				AML	AML	22 55 50.2	
	comp=Z,3μm,0.7s						
VACH	**Vallenar**	**4.27**	**321**	*eP*	**Pn**	**22 55 05.9**	**-1.0**
VACH				*eS*	**Sn**	**22 55 54.0**	**-1.9**
CPCH	**Copiapo**	**5.12**	**333**	*eP*	**Pn**	**22 55 17.9**	**-0.3**
CPCH				*eS*	**Sn**	**22 56 14.4**	**-1.9**
CANA	**Caviahue**	**6.53**	**204**	*eP*	**Pn**	**22 55 37.1**	**-0.2**
CANA				AML	AML	22 56 36.4	
	comp=Z,71nm,0.7s						
TRQA	**Tornquist**	**7.70**	**144**	*ePn*	**Pn**	**22 55 52.1**	**-0.8**
PLCA	**Paso Flores**	**9.06**	**194**	P	**Pn**	**22 56 10.3**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=2.8,slow=11,SNR=25						
LVC	**Limon Verde**	**9.36**	**353**	*ePn*	**Pn**	**22 56 14.5**	**-1.2**
LPAZ	**La Paz**	**15.60**	**359**	*eP*	**Pn**	**22 57 37.6**	**+0.3**
LPAZ				pmax	pmax		
	comp=Z,42nm,0.8s						
LPAZ	**La Paz**	**15.60**	**359**	P	**P**	**22 57 38.4**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=160,slow=9.3,SNR=76						
LPAZ	**La Paz**	**15.60**	**359**	*ePn*	**Pn**	**22 57 37.6**	**+0.3**
	comp=Z,42nm,0.8s						
SIV	**San Ignacio**	**17.00**	**22**	P	**Pn**	**22 57 54.7**	**+0.7**
	comp=Z,4.9nm,0.3s,baz=217,slow=12,SNR=120						
EFI	**East Falkland**	**20.95**	**163**	*eP*	**P**	**22 58 36.5**	**+0.1**
EFI				pmax	pmax		
	comp=Z,150nm,1.1s						
EFI	**East Falkland**	**20.95**	**163**	*eP*	**P**	**22 58 36.5**	**+0.1**
	comp=Z,150nm,1.1s						
NNA	**Nana**	**21.57**	**335**	*eP*	**P**	**22 58 45.1**	**+1.6**
NNA				pmax	pmax		
	comp=Z,33nm,1.1s						
NNA	**Nana**	**21.57**	**335**	P	**P**	**22 58 45.7**	**+2.2**
	comp=Z,13nm,0.7s,baz=181,slow=12,SNR=8.7						
NNA	**Nana**	**21.57**	**335**	*eP*	**P**	**22 58 45.1**	**+1.6**
	comp=Z,34nm,1.1s						
USHA	**Ushuaia**	**22.88**	**181**	P	**P**	**22 58 56.5**	**+0.2**
	comp=Z,105nm,0.9s,baz=333,slow=9.4,SNR=45						
SAML	**Samuel**	**23.27**	**11**	*eP*	**P**	**22 59 01.2**	**+0.9**
	comp=Z,18nm,1.2s						
BDFB	**Brasilia**	**24.19**	**52**	P	**P**	**22 59 08.6**	**-0.2**
	comp=Z,66nm,0.7s,baz=226,slow=9.7,SNR=84						
ATAH	**Atahualpa**	**26.62**	**336**	P	**P**	**22 59 32.2**	**+1.2**
	comp=Z,3.9nm,0.6s,baz=104,slow=13,SNR=2.8						
PTGA	**Pitinga**	**31.90**	**15**	P	**P**	**23 00 17.4**	**+0.1**
	comp=Z,3.9nm,0.3s,baz=206,slow=24,SNR=14						
PTGA	**Pitinga**	**31.90**	**15**	*eP*	**P**	**23 00 18.0**	**+0.7**
ROSC	**El Rosal**	**37.14**	**349**	P	**P**	**23 01 05.0**	**+2.2**
	comp=Z,6.5nm,0.5s,baz=86,slow=16,SNR=3.8						
RCBR	**Riachuelo**	**39.48**	**56**	P	**P**	**23 01 22.6**	**+0.5**
	comp=Z,21nm,1.0s,baz=210,slow=11,SNR=10						
RCBR	**Riachuelo**	**39.48**	**56**	*eP*	**P**	**23 01 22.8**	**+0.6**
SDV	**Santo Domingo**	**40.70**	**356**	*eP*	**P**	**23 01 31.8**	**-0.5**
	comp=Z,9.4nm,1.0s						
PCRV	**Puerto La Cruz**	**41.99**	**5**	P	**P**	**23 01 43.2**	**+0.6**
	comp=Z,44nm,0.9s,baz=170,slow=5.1,SNR=10						
JTS	**JuntasAbangare**	**45.12**	**336**	*eP*	**P**	**23 02 09.3**	**+1.5**
JTS				pmax	pmax		
	comp=Z,34nm,1.3s						
JTS	**JuntasAbangare**	**45.12**	**336**	P	**P**	**23 02 09.6**	**+1.9**
	comp=Z,6.8nm,0.5s,baz=204,slow=23,SNR=5.6						
CRPR	**Cabo Rojo, PR**	**49.67**	**1**	*eP*	**P**	**23 02 42.2**	**-0.6**
OBIP	**Obispado Ponce**	**49.72**	**1**	*eP*	**P**	**23 02 42.2**	**-1.0**
	comp=Z,58nm,0.8s						
VNA3	**Neumayer Olymp**	**49.92**	**159**	P	**P**	**23 02 44.7**	**+0.5**
VNA1	**Neumayer--Stat**	**50.17**	**158**	P	**P**	**23 02 47.2**	**+1.2**
VNA2	**Neumayer--Watz**	**50.53**	**158**	P	**P**	**23 02 49.4**	**+0.7**
	baz=288,slow=9.3						
SDDR	**Presa de Saban**	**50.76**	**356**	*eP*	**P**	**23 02 53.6**	**+2.6**
	comp=Z,17nm,0.6s						
SNAA	**Sanae**	**52.14**	**159**	P	**P**	**23 03 01.0**	**+0.2**
	comp=Z,10nm,0.9s,baz=257,slow=2.6,SNR=59						
SNAA				pP	**pP**	**23 03 29.5**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=278,slow=8.6,SNR=2.8						
CMIG	**Matias Romero**	**55.28**	**328**	P	**P**	**23 03 25.2**	**+1.0**
	comp=Z,13nm,0.8s,baz=131,slow=3.7,SNR=14						
TEIG	**Tepich**	**55.49**	**336**	*eP*	**P**	**23 03 26.0**	**+0.3**
	comp=Z,62nm,1.1s						
TEIG				*epP*	**pP**	**23 03 55.8**	**+0.7**
NVL	**N'lazarevskaya**	**56.77**	**157**	*eP*	**P**	**23 03 32.3**	**-1.9**
QSPA	**South Pole Qui**	**58.28**	**180**	*eP*	**P**	**23 03 45.1**	**0.0**
	comp=Z,31nm,1.1s						
QSPA				*epP*	**pP**	**23 04 13.7**	**-1.0**
035A	**Encino**	**65.33**	**330**	⇓P	**P**	**23 04 34.0**	**+1.6**
	baz=66						
034A	**Hebbronville**	**65.69**	**330**	⇑P	**P**	**23 04 36.7**	**+1.9**
	baz=66,SNR=6.9						
934A	**Benavides**	**66.09**	**330**	⇑P	**P**	**23 04 39.9**	**+2.6**
	baz=66						
835A	**Beeville**	**66.40**	**331**	⇑P	**P**	**23 04 41.8**	**+2.5**
	baz=67						
SYO	**Syowa Base**	**66.42**	**158⇑**	*eP*	**P**	**23 04 37.4**	**-1.5**
SYO	**Syowa Base**	**66.42**	**158⇑**	*epP*	pP	23 05 08.0	-1.2
933A	**Laredo**	**66.42**	**330**	⇓P	**P**	**23 04 41.4**	**+1.9**
	baz=67,SNR=7.6						
834A	**Tilden**	**66.56**	**330**	⇓P	**P**	**23 04 42.5**	**+2.1**
	baz=67,SNR=13						
VNDA	**Vanda**	**66.79**	**190**	*eP*	**P**	**23 04 42.6**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,15nm,1.0s						
VNDA	**Vanda**	**66.79**	**190**	P	**P**	**23 04 42.6**	**+1.4**
	comp=Z,9.9nm,0.9s,baz=132,slow=6.0,SNR=29						
VNDA	**Vanda**	**66.79**	**190**	*eP*	**P**	**23 04 42.6**	**+1.4**
	comp=Z,14nm,1.0s						
833A	**Chaparral WMA,**	**67.09**	**330**	⇑P	**P**	**23 04 45.5**	**+1.8**
	baz=67,SNR=24						
HKT	**Hockley**	**67.10**	**334**	*eP*	**P**	**23 04 44.5**	**+0.9**
HKT				pmax	pmax		
	comp=Z,22nm,1.4s						
HKT	**Hockley**	**67.10**	**334**	*eP*	**P**	**23 04 44.5**	**+0.9**
	comp=Z,22nm,1.4s						
JSC	**Jenkinsville**	**67.10**	**348**	*eP*	**P**	**23 04 43.7**	**+0.1**
JSC	**Jenkinsville**	**67.10**	**348**	*eP*	**P**	**23 04 43.7**	**+0.1**
LRAL	**Lakeview Retre**	**67.15**	**342**	*eP*	**P**	**23 04 43.4**	**-0.6**
	comp=Z,6.6nm,0.9s						
636A	**Smothers Creek**	**67.15**	**332**	⇑P	**P**	**23 04 45.9**	**+1.9**
	baz=67,SNR=6.8						
734A	**La Parita Cree**	**67.20**	**331**	⇑P	**P**	**23 04 46.0**	**+1.7**
	baz=68,SNR=5.2						
635A	**Leesville**	**67.35**	**332**	⇑P	**P**	**23 04 46.7**	**+1.4**
	baz=68						
733A	**Divot King Ran**	**67.39**	**330**	⇑P	**P**	**23 04 47.1**	**+1.5**
	baz=68						
537A	**Green Hill Far**	**67.40**	**333**	⇓P	**P**	**23 04 47.0**	**+1.4**
	baz=68						
438A	**Sam Houston St**	**67.68**	**334**	⇑P	**P**	**23 04 49.3**	**+1.9**
	baz=68						
732A	**Laxson Ranch,**	**67.69**	**330**	⇑P	**P**	**23 04 48.9**	**+1.5**
	baz=68,SNR=27						
340A	**Bronson**	**67.72**	**336**	⇓P	**P**	**23 04 48.9**	**+1.3**
	baz=68,SNR=5.3						
535A	**Dale**	**67.84**	**332**	⇓P	**P**	**23 04 49.6**	**+1.2**
	baz=68						
339A	**Huntington**	**67.88**	**335**	⇑P	**P**	**23 04 49.9**	**+1.3**
	baz=68						
633A	**Saathoff Ranch**	**67.99**	**331**	⇓P	**P**	**23 04 50.5**	**+1.1**
	baz=68,SNR=14						
338A	**Crockett**	**68.17**	**335**	⇑P	**P**	**23 04 52.3**	**+1.9**
	baz=68,SNR=5.6						
436A	**Wall Ranch, Ga**	**68.20**	**333**	⇑P	**P**	**23 04 52.5**	**+1.9**
	baz=68						
534A	**Blanco**	**68.20**	**331**	⇑P	**P**	**23 04 51.3**	**+0.7**
	baz=68,SNR=5.8						
632A	**Uvalde**	**68.29**	**330**	⇑P	**P**	**23 04 52.5**	**+1.3**
	baz=69,SNR=29						
337A	**Centerville**	**68.34**	**334**	⇓P	**P**	**23 04 52.9**	**+1.4**
	baz=69						
239A	**Gary**	**68.47**	**336**	⇓P	**P**	**23 04 53.9**	**+1.6**
	baz=69						
533A	**Kerrville**	**68.47**	**331**	⇑P	**P**	**23 04 53.5**	**+1.1**
	baz=69,SNR=19						
435B	**Jarrell**	**68.51**	**333**	⇑P	**P**	**23 04 53.9**	**+1.4**
	baz=69						
631A	**Perdido Creek**	**68.55**	**329**	⇑P	**P**	**23 04 53.9**	**+1.1**
	baz=69,SNR=16						
238A	**Jacksonville**	**68.69**	**335**	⇑P	**P**	**23 04 54.7**	**+1.1**
	baz=69						
336A	**Riesel**	**68.77**	**333**	⇓P	**P**	**23 04 55.2**	**+1.1**
	baz=69,SNR=7.4						
434A	**Burnet**	**68.81**	**332**	⇓P	**P**	**23 04 55.9**	**+1.5**
	baz=69,SNR=30						
532A	**Rocksprings**	**68.88**	**330**	⇑P	**P**	**23 04 56.0**	**+1.1**
	baz=69,SNR=32						
335A	**Moody**	**68.90**	**333**	⇓P	**P**	**23 04 56.0**	**+1.1**
	baz=69						
TKL	**Tuckaleechee C**	**68.92**	**346**	P	**P**	**23 04 54.6**	**-0.4**
	comp=Z,18nm,0.8s,baz=162,slow=7.8,SNR=31						
TKL				pP	**pP**	**23 05 25.1**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=176,slow=6.4,SNR=3.4						
237A	**Washetta, Mont**	**68.93**	**335**	⇑P	**P**	**23 04 57.2**	**+2.1**
	baz=69						
433A	**Art**	**69.09**	**331**	⇑P	**P**	**23 04 57.2**	**+1.0**
	baz=69,SNR=24						
JCT	**Junction City**	**69.14**	**331**	*eP*	**P**	**23 04 57.3**	**+0.8**
JCT				*e*PP	**pP**	**23 05 28.2**	**+1.1**
JCT				pmax	pmax		
	comp=Z,23nm,0.8s						
JCT	**Junction City**	**69.14**	**331**	⇓P	**P**	**23 04 57.5**	**+0.9**
	baz=69,SNR=14						
JCT	**Junction City**	**69.14**	**331**	*eP*	**P**	**23 04 57.3**	**+0.8**
	comp=Z,23nm,0.8s						
JCT				*epP*	**pP**	**23 05 28.2**	**+1.1**
531A	**Rocksprings**	**69.18**	**330**	⇑P	**P**	**23 04 58.0**	**+1.2**
	baz=70,SNR=21						
OXF	**Oxford**	**69.19**	**341**	*eP*	**P**	**23 04 56.1**	**-0.5**
OXF				*e*PP	**pP**	**23 05 26.5**	**-0.7**
OXF				pmax	pmax		
	comp=Z,62nm,1.2s						
OXF	**Oxford**	**69.19**	**341**	*eP*	**P**	**23 04 56.1**	**-0.5**
	comp=Z,62nm,1.2s						
OXF				*epP*	**pP**	**23 05 26.5**	**-0.7**
334A	**Lometa**	**69.26**	**332**	⇓P	**P**	**23 04 58.0**	**+0.9**
	baz=70,SNR=22						
138A	**Matatall Enter**	**69.27**	**336**	⇑P	**P**	**23 04 59.0**	**+1.8**
	baz=70						
137A	**Heron Place, G**	**69.45**	**335**	⇓P	**P**	**23 04 59.6**	**+1.3**
	baz=70,SNR=7.3						
432A	**Menard**	**69.49**	**331**	⇓P	**P**	**23 04 59.7**	**+1.1**
	baz=70,SNR=9.0						
530A	**J-C Ranch, Com**	**69.51**	**329**	⇑P	**P**	**23 05 00.2**	**+1.4**
	baz=70,SNR=28						
WHTX	**Lake Whitney,**	**69.54**	**333**	⇑P	**P**	**23 04 59.8**	**+0.9**
	baz=70						
333A	**Richland Sprin**	**69.55**	**332**	⇓P	**P**	**23 04 59.8**	**+0.8**
	baz=70,SNR=20						
431A	**Sonora**	**69.66**	**330**	⇑P	**P**	**23 05 00.6**	**+0.9**
	baz=70,SNR=11						
234A	**Clairette**	**69.81**	**333**	⇑P	**P**	**23 05 01.3**	**+0.7**
	baz=70						
TXAR	**Lajitas Array**	**69.86**	**327**	P	**P**	**23 05 01.9**	**+0.8**
	comp=Z,6.9nm,0.7s,baz=147,slow=7.8,SNR=58						
TXAR				pP	**pP**	**23 05 32.0**	**+0.4**
	comp=Z,5.2nm,0.7s,baz=152,slow=7.4,SNR=8.0						
529A	**Stev Forest Ra**	**69.88**	**328**	⇓P	**P**	**23 05 02.1**	**+1.0**
	baz=70,SNR=56						
332A	**Millersview**	**69.91**	**331**	⇓P	**P**	**23 05 02.0**	**+0.8**
	baz=70,SNR=18						
JSRW	**J. Sargeant Re**	**69.93**	**351**	*eP*	**P**	**23 05 01.5**	**+0.4**
JSRW				*epP*	**pP**	**23 05 32.8**	**+1.1**
430A	**Baggett Ranch,**	**70.02**	**330**	⇓P	**P**	**23 05 03.1**	**+1.2**
	baz=70,SNR=30						
135A	**Vickery Place,**	**70.03**	**334**	⇓P	**P**	**23 05 02.5**	**+0.7**
	baz=70						
233A	**Rising Star**	**70.12**	**332**	⇓P	**P**	**23 05 03.4**	**+0.8**
	baz=70,SNR=13						
331A	**San Angelo**	**70.13**	**331**	⇓P	**P**	**23 05 03.3**	**+0.8**
	baz=70,SNR=12						
429A	**Davenport Ranc**	**70.16**	**329**	⇑P	**P**	**23 05 04.2**	**+1.4**
	baz=70,SNR=31						
134A	**White-Moore Ra**	**70.30**	**333**	⇓P	**P**	**23 05 04.3**	**+0.8**
	baz=71,SNR=6.0						
232A	**Coleman**	**70.31**	**331**	⇑P	**P**	**23 05 04.3**	**+0.7**
	baz=71,SNR=21						
MIAR	**Mount Ida**	**70.47**	**338**	*eP*	**P**	**23 05 04.8**	**+0.3**
MIAR				*e*PP	**pP**	**23 05 34.9**	**-0.3**
MIAR				pmax	pmax		
	comp=Z,25nm,1.4s						
MIAR	**Mount Ida**	**70.47**	**338**	*eP*	**P**	**23 05 04.8**	**+0.3**
	comp=Z,25nm,1.4s						
MIAR				*epP*	**pP**	**23 05 34.9**	**-0.3**
330A	**Mertzon**	**70.53**	**330**	⇑P	**P**	**23 05 05.6**	**+0.6**
	baz=71,SNR=14						
231A	**Bronte**	**70.63**	**331**	⇑P	**P**	**23 05 06.1**	**+0.6**
	baz=71,SNR=20						
133A	**Hamilton Ranch**	**70.65**	**332**	⇑P	**P**	**23 05 06.2**	**+0.5**
	baz=71,SNR=7.6						
Z35A	**Perchaven, San**	**70.66**	**334**	⇑P	**P**	**23 05 06.8**	**+1.1**
	baz=71,SNR=9.8						
LIC	**Lamto**	**70.67**	**69**	*eP*	**P**	**23 05 06.5**	**+0.3**
	comp=Z,26nm,0.7s						
230A	**Sterling City**	**70.92**	**330**	⇓P	**P**	**23 05 08.3**	**+0.9**
	baz=71						
TIC	**Toumodi**	**70.92**	**69**	*eP*	**P**	**23 05 07.7**	**-0.1**
	comp=Z,3.9nm,0.2s						
Z34A	**Collier Ranch,**	**70.94**	**334**	⇓P	**P**	**23 05 08.3**	**+0.9**
	baz=71,SNR=10						
329A	**Wagon Wheel Ra**	**70.94**	**329**	⇓P	**P**	**23 05 08.1**	**+0.6**
	baz=71,SNR=19						
ABTX	**Abilene, Hawle**	**70.95**	**332**	⇑P	**P**	**23 05 08.2**	**+0.7**
	baz=71						
ABTX	**Abilene, Hawle**	**70.95**	**332**	*eP*	**P**	**23 05 08.3**	**+0.8**
	comp=Z,33nm,1.1s						
ABTX				*epP*	**pP**	**23 05 38.9**	**+0.7**
KIC	**Kosan Boka**	**70.97**	**69**	*eP*	**P**	**23 05 08.5**	**+0.4**
	comp=Z,25nm,0.8s						
DBIC	**Dimbokro**	**71.07**	**69**	P	**P**	**23 05 09.2**	**+0.6**
	comp=Z,13nm,0.8s,baz=198,slow=4.6,SNR=17						
DBIC				pP	**pP**	**23 05 38.1**	**-1.1**
	comp=Z,6.0nm,0.7s,baz=206,slow=7.0,SNR=3.2						
Z33A	**Whitaker Ranch**	**71.19**	**333**	⇑P	**P**	**23 05 10.0**	**+1.1**
	baz=72,SNR=19						
229A	**Bryant Ranch,**	**71.28**	**330**	⇓P	**P**	**23 05 10.3**	**+0.7**
	baz=72						
131A	**Roby**	**71.30**	**331**	⇓P	**P**	**23 05 10.4**	**+0.8**
	baz=72,SNR=11						
PARMO	**Parma**	**71.30**	**341**	*eP*	**P**	**23 05 10.4**	**+0.9**
PARMO				*epP*	**pP**	**23 05 41.3**	**+1.1**
Y34A	**Reagan Ranch,**	**71.40**	**334**	⇓P	**P**	**23 05 10.7**	**+0.5**
	baz=72,SNR=9.4						
130A	**Snyder**	**71.47**	**331**	⇑P	**P**	**23 05 11.1**	**+0.5**
	baz=72,SNR=8.2						
Z32A	**Haskell**	**71.49**	**332**	⇑P	**P**	**23 05 11.4**	**+0.7**
	baz=72,SNR=13						
PBMO	**Poplar Bluff**	**71.60**	**341**	*eP*	**P**	**23 05 11.2**	**0.0**
	comp=Z,46nm,0.6s						
PBMO				*epP*	**pP**	**23 05 42.0**	**0.0**
228A	**UT Block 9, Go**	**71.75**	**329**	⇓P	**P**	**23 05 13.1**	**+0.7**
	baz=72,SNR=17						
Z31A	**Sharp Cattle R**	**71.76**	**332**	⇓P	**P**	**23 05 13.4**	**+1.0**
	baz=72,SNR=27						
Y33A	**Hilltop Ranch,**	**71.78**	**333**	⇓P	**P**	**23 05 13.3**	**+0.9**
	baz=72,SNR=7.2						
129A	**Stewart Farms,**	**71.88**	**330**	⇓P	**P**	**23 05 14.2**	**+1.1**
	baz=72						
X34A	**Smith Ranch, M**	**72.00**	**334**	⇓P	**P**	**23 05 14.7**	**+0.9**
	baz=72,SNR=11						
Y32A	**R-V Farms, Ver**	**72.09**	**333**	⇑P	**P**	**23 05 15.2**	**+0.9**
	baz=72,SNR=7.4						
128A	**Castleberry Fa**	**72.13**	**330**	⇑P	**P**	**23 05 15.4**	**+0.7**
	baz=72,SNR=14						
Z30A	**Sanderson Ranc**	**72.14**	**331**	⇓P	**P**	**23 05 15.1**	**+0.5**
	baz=72,SNR=15						
SIUC	**Southern Illin**	**72.15**	**342**	*eP*	**P**	**23 05 14.3**	**-0.2**
	comp=Z,25nm,0.6s						
X33A	**Lawton**	**72.20**	**334**	⇓P	**P**	**23 05 15.3**	**+0.4**
	baz=72						
Z29A	**Hungry Hill Ra**	**72.35**	**331**	⇑P	**P**	**23 05 16.7**	**+0.8**
	baz=73,SNR=17						
Y31A	**Rekieta Farm,**	**72.38**	**332**	⇑P	**P**	**23 05 16.5**	**+0.5**
	baz=73,SNR=12						
X32A	**Elmer**	**72.39**	**333**	⇑P	**P**	**23 05 16.5**	**+0.4**
	baz=73,SNR=5.9						
TUL1	**Leonard**	**72.46**	**336**	⇓P	**P**	**23 05 17.2**	**+0.8**
	baz=73						
TUL1	**Leonard**	**72.46**	**336**	*eP*	**P**	**23 05 16.8**	**+0.4**
	comp=Z,22nm,0.8s						
TUL1				*epP*	**pP**	**23 05 47.4**	**+0.2**
WMOK	**Wichita Mounta**	**72.48**	**334**	*eP*	**P**	**23 05 16.7**	**+0.1**
WMOK				*e*PP	**pP**	**23 05 47.3**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,13nm,1.1s						
WMOK	**Wichita Mounta**	**72.48**	**334**	*eP*	**P**	**23 05 16.7**	**+0.1**
	comp=Z,13nm,1.1s

baz=74,SNR=6.7
ALLY **Alegheny Colle** 74.12 350 *e*P P 23 05 25.6 -0.4
comp=Z,27nm,1.4s
SFIN **Lafayette** 74.17 345 ⇑P P 23 05 25.7 -0.6
baz=74,SNR=6.3
S35A **Otter Creek Ra** 74.24 337 P P 23 05 27.0 +0.2
baz=75,SNR=10
319A **Douglas** 74.26 324 ⇑P P 23 05 29.1 +1.8
baz=74,SNR=9.9
W28A **Vega** 74.29 331 ⇑P P 23 05 28.7 +1.4
baz=75
R37A **Teagarden Farm** 74.33 338 ⇑P P 23 05 27.5 +0.2
baz=75,SNR=10
U31A **Nine Bar Ranch** 74.33 334 ⇑P P 23 05 28.5 +1.0
baz=75
T33A **Patterson Ranc** 74.37 335 ⇑P P 23 05 28.9 +1.3
baz=75
121A **Cookes Peak, D** 74.47 326 ⇑P P 23 05 30.5 +1.9
baz=75,SNR=21
121A **Cookes Peak, D** 74.47 326 *e*P P 23 05 29.7 +1.2
comp=Z,36nm,0.9s
S34A **Willow Spring** 74.53 336 ⇑P P 23 05 29.1 +0.7
baz=75
R36A **Gordon, Harris** 74.55 338 ⇑P P 23 05 29.0 +0.4
baz=75,SNR=5.8
T32A **Huddler Ranch,** 74.70 335 ⇑P P 23 05 30.3 +0.7
baz=75
Q37A **Longview Farm,** 74.72 339 ⇓P P 23 05 29.7 +0.1
baz=75,SNR=6.4
S33A **Kaszmaul Farm,** 74.74 335 ⇑P P 23 05 30.5 +0.8
baz=75
U30A **WK&E Inc. Balk** 74.78 333 ⇑P P 23 05 31.2 +1.1
baz=75
T31A **Randall Ranch,** 74.91 334 ⇑P P 23 05 31.9 +1.2
baz=75
U29A **Oasis Ranch, S** 74.95 333 ⇑P P 23 05 32.2 +1.1
baz=75
V27A **Dan Oppiter Fa** 74.98 331 ⇓P P 23 05 32.6 +1.4
baz=75
T30A **Plains** 75.19 333 ⇑P P 23 05 33.7 +1.3
baz=76
S31A **Mullinville** 75.30 334 ⇓P P 23 05 33.9 +0.9
baz=76,SNR=6.0
R33A **Olander Ranch,** 75.37 336 ⇑P P 23 05 34.3 +0.9
baz=76
LPM **Los Pinos Moun** 75.40 327 *e*P P 23 05 35.2 +1.4
LPM *e*pP pP 23 06 06.3 +1.5
V26A **Tequesquite Ra** 75.41 330 ⇓P P 23 05 34.4 +0.7
baz=76,SNR=9.8
U27A **Thompson Grove** 75.54 331 ⇓P P 23 05 35.9 +1.4
baz=76
T29A **Hugoton** 75.57 333 ⇓P P 23 05 35.9 +1.3
baz=76
S30A **Montezuma** 75.68 334 ⇑P P 23 05 36.4 +1.2
baz=76
R32A **Long Quarter,** 75.73 335 ⇑P P 23 05 36.3 +0.9
baz=76,SNR=5.0
TUC **Tucson** 75.77 323 *e*P P 23 05 37.0 +1.1
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC **Tucson** 75.77 323 *e*P P 23 05 37.0 +1.1
comp=Z,4.7nm,0.9s
ANMO **Albuquerque** 75.85 328 *e*P P 23 05 37.7 +1.3
ANMO *e**PP pP 23 06 08.8 +1.4
ANMO pmax pmax
comp=Z,17nm,1.1s
ANMO **Albuquerque** 75.85 328 *e*P P 23 05 37.6 +1.3
comp=Z,17nm,1.1s
ANMO *e*pP pP 23 06 08.8 +1.4
T28A **Walsh** 75.86 332 ⇑P P 23 05 37.0 +0.8
baz=76,SNR=9.7
U26A **Atchley Ranch,** 75.90 331 ⇑P P 23 05 37.6 +0.9
baz=76,SNR=13
R31A **Burdett** 75.90 335 ⇓P P 23 05 37.2 +0.7
baz=76,SNR=5.2
S29A **Ulysses** 75.91 333 ⇓P P 23 05 38.1 +1.6
baz=76,SNR=15
Q33A **Connelly Farm,** 75.94 336 ⇑P P 23 05 37.2 +0.6
baz=76
T27A **Campo** 76.05 332 ⇑P P 23 05 38.6 +1.2
baz=76,SNR=12
R30A **Dighton** 76.18 334 ⇓P P 23 05 38.8 +0.9
baz=76,SNR=6.4
U25A **Circle Dot Ran** 76.18 330 ⇑P P 23 05 39.5 +1.2
baz=76,SNR=19
Q32A **Meitler Ranch,** 76.18 336 ⇓P P 23 05 38.6 +0.6
baz=76,SNR=6.1
S28A **Manter** 76.19 333 ⇓P P 23 05 38.9 +0.8
baz=76,SNR=19
P33A **Williams Farm,** 76.28 337 ⇓P P 23 05 39.8 +1.3
baz=77
LONY **Lake Ozonia** 76.46 355 *e*P P 23 05 40.3 +0.9
comp=Z,17nm,1.1s
Q31A **Ellis** 76.49 335 ⇑P P 23 05 40.9 +1.2
baz=77,SNR=6.3
T26A **Comanche Natio** 76.50 331 ⇓P P 23 05 41.5 +1.4
baz=77,SNR=10
214A **Organ Pipe Nat** 76.54 322 ⇓P P 23 05 42.0 +1.8
baz=77,SNR=7.8
214A **Organ Pipe Nat** 76.54 322 *e*P P 23 05 41.0 +0.9
comp=Z,29nm,1.3s
R29A **Marienthal** 76.62 334 ⇑P P 23 05 41.8 +1.3
baz=77
P32A **Huiting Farm,** 76.76 336 ⇓P P 23 05 41.8 +0.6
baz=77
Q30A **Quinter** 76.77 335 ⇑P P 23 05 42.5 +1.2
baz=77,SNR=14
R28A **Tribune** 76.81 333 ⇓P P 23 05 42.5 +0.9
baz=77,SNR=7.7
T25A **Trinidad** 76.81 331 ⇑P P 23 05 43.5 +1.7
baz=77,SNR=25
T25A **Trinidad** 76.81 331 *e*P P 23 05 43.3 +1.5
comp=Z,23nm,0.7s
T25A *e*pP pP 23 06 14.0 +1.1
S26A **Kim** 76.84 332 ⇓P P 23 05 43.3 +1.5
baz=77,SNR=19
P31A **Stockton** 76.94 335 ⇑P P 23 05 43.5 +1.2
baz=77,SNR=11
Q29A **Oakley** 76.97 334 ⇑P P 23 05 43.4 +1.0
baz=77,SNR=8.7
SADO **Sadowa** 77.06 352 P P 23 05 42.7 0.0
comp=Z,14nm,0.9s,baz=216,slow=3.8,SNR=8.7
R27A **Eads** 77.14 332 ⇑P P 23 05 44.4 +0.9
baz=77,SNR=9.8
X18A **Snowflake** 77.14 325 ⇑P P 23 05 45.7 +2.1
baz=77
T24B **San Luis** 77.16 330 ⇓P P 23 05 45.9 +2.1
baz=78,SNR=20
O32A **Brockman Farm,** 77.22 336 ⇑P P 23 05 44.7 +0.9
baz=78
S25A **Robets Cordova** 77.27 331 ⇑P P 23 05 45.9 +1.6
baz=78,SNR=7.0
P30A **Selden** 77.28 335 ⇓P P 23 05 45.2 +1.0
baz=78
R26A **Arlington** 77.41 332 ⇓P P 23 05 46.2 +1.2
baz=78,SNR=9.0
T23A **Casias Ranch,** 77.42 329 ⇓P P 23 05 47.3 +2.1
baz=78
Q28A **Sharon Springs** 77.44 333 ⇓P P 23 05 46.1 +0.9
baz=78
O31A **Woolen Ranch,** 77.49 336 ⇑P P 23 05 46.5 +1.2
baz=78
W18A **Petrified Fore** 77.52 326 ⇓P P 23 05 47.3 +1.6
baz=78
S24A **Houchin Ranch,** 77.57 330 ⇓P P 23 05 47.7 +1.6
baz=78,SNR=27
P29A **Atwood** 77.58 334 ⇓P P 23 05 47.8 +2.0
baz=78
R25A **Fountain Ranch** 77.62 331 ⇓P P 23 05 47.3 +1.2
baz=78
KSCO **Kaye Shedlock'** 77.70 333 ⇑P P 23 05 48.5 +1.9
baz=78,SNR=5.6
KSCO **Kaye Shedlock'** 77.70 333 *e*P P 23 05 48.1 +1.5
comp=Z,24nm,0.9s
KSCO *e*pP pP 23 06 19.5 +1.7
BOSA **Boshof** 77.75 116 P P 23 05 47.5 +0.1
comp=Z,12nm,0.8s,baz=245,slow=5.0,SNR=18
BOSA pP pP 23 06 17.7 -0.8
comp=Z,3.8nm,0.8s,baz=285,slow=8.2,SNR=3.2
SDCO **Great Sand Dun** 77.78 330 ⇑P P 23 05 48.7 +1.4
baz=78,SNR=19
SDCO **Great Sand Dun** 77.78 330 *e*P P 23 05 48.5 +1.2
comp=Z,9.1nm,0.8s
SDCO *e*pP pP 23 06 19.7 +1.2
X16A **Lo Mia Camp, P** 77.78 324 ⇓P P 23 05 49.4 +2.2
baz=78,SNR=25
N31A **Bailey Ranch,** 77.95 336 ⇓P P 23 05 48.6 +0.8
baz=78
Q26A **Hugo** 77.98 332 ⇓P P 23 05 50.1 +2.0
baz=78,SNR=6.1
O29A **4D Ranch, Culb** 77.99 335 ⇓P P 23 05 49.4 +1.3
baz=78
R24A **Sanders Place,** 78.03 331 ⇓P P 23 05 50.6 +2.0
baz=78,SNR=18
P27A **Ficken Ranch,** 78.16 333 ⇓P P 23 05 50.6 +1.6
baz=78
Y14A **Wickenburg** 78.19 323 ⇓P P 23 05 50.9 +1.5
baz=78
BGNE **Belgrade** 78.21 337 ⇑P P 23 05 51.3 +2.1
baz=78
Q25A **Bedland, Calha** 78.26 332 ⇓P P 23 05 51.2 +1.4
baz=79
R23A **Moffat** 78.30 330 ⇑P P 23 05 51.7 +1.6
baz=79,SNR=12
O28A **Krutsinger Ran** 78.35 334 ⇓P P 23 05 51.4 +1.3
baz=79,SNR=5.1
S22A **4UR Ranch, Cre** 78.35 329 ⇑P P 23 05 51.8 +1.4
baz=79,SNR=10
S22A **4UR Ranch, Cre** 78.35 329 *e*P P 23 05 51.6 +1.1
comp=Z,6.5nm,0.8s
S22A *e*pP pP 23 06 22.9 +1.2
M31A **Lambtecht Ranc** 78.43 336 ⇓P P 23 05 52.0 +1.6
baz=79,SNR=7.7
P26A **Davis Ranch, A** 78.46 333 ⇓P P 23 05 52.1 +1.3
baz=79
N29A **Votaw Ranch, W** 78.54 335 ⇓P P 23 05 53.1 +2.0
baz=79
WUAZ **Wupatki** 78.63 325 ⇓P P 23 05 53.4 +1.6
baz=79,SNR=5.4
MVCO **Mesa Verde** 78.65 328 ⇓P P 23 05 53.6 +1.5
baz=79,SNR=9.4
MVCO **Mesa Verde** 78.65 328 *e*P P 23 05 53.5 +1.5
comp=Z,14nm,0.9s
MVCO *e*pP pP 23 06 24.5 +1.2
O27A **Beecher Island** 78.67 334 ⇓P P 23 05 53.6 +1.7
baz=79,SNR=6.3
Q24A **Divide** 78.67 331 ⇑P P 23 05 53.4 +1.3
baz=79,SNR=23
Q24A **Divide** 78.67 331 *e*P P 23 05 53.5 +1.3
comp=Z,26nm,0.8s
Q24A *e*pP pP 23 06 24.7 +1.3
P25A **Willow Gulch B** 78.74 332 ⇓P P 23 05 54.3 +1.9
baz=79,SNR=7.3
N28A **Pribbeno Ranch** 78.75 334 ⇓P P 23 05 53.3 +1.0
baz=79
O26A **Horse Wrangler** 79.03 333 ⇑P P 23 05 55.4 +1.5
baz=79
M29A **Burnside Ranch** 79.11 335 ⇑P P 23 05 55.9 +1.6
baz=79
L31A **Butterfield Fa** 79.12 337 ⇑P P 23 05 55.6 +1.4
baz=79
OGNE **Ogallala** 79.16 334 ⇑P P 23 05 56.1 +1.6
baz=80
MONP **Monument Peak,** 79.20 320 ⇓P P 23 05 57.1 +2.0
baz=80
N27A **Anderson Farm,** 79.22 334 ⇓P P 23 05 56.8 +1.9
baz=80
O25A **Wiggins** 79.23 332 ⇓P P 23 05 57.2 +2.1
baz=80
P23A **Jefferson** 79.30 331 ⇓P P 23 05 57.7 +2.0
baz=80,SNR=5.7
M28A **Bar X Bar Ranc** 79.31 335 ⇓P P 23 05 57.3 +1.9
baz=80
ISCO **Idaho Springs** 79.57 331 *e*P P 23 05 58.2 +1.2
ISCO *e**PP pP 23 06 29.5 +1.2
ISCO pmax pmax
comp=Z,13nm,0.8s
ISCO **Idaho Springs** 79.57 331 ⇓P P 23 05 58.5 +1.4
baz=80,SNR=21
ISCO **Idaho Springs** 79.57 331 *e*P P 23 05 58.2 +1.2
comp=Z,13nm,0.8s
ISCO *e*pP pP 23 06 29.5 +1.2
PFO **Pinyon Flats O** 79.76 320 P P 23 05 58.6 +0.6
comp=Z,12nm,0.9s,baz=94,slow=4.4,SNR=5.4
U15A **North Rim** 79.80 325 ⇓P P 23 06 00.3 +1.9
baz=80,SNR=7.5
ECSD **EROS Data Cent** 79.82 339 ⇑P P 23 05 58.6 +0.7
baz=80,SNR=28
ECSD **EROS Data Cent** 79.82 339 *e*P P 23 05 58.0 +0.1
comp=Z,30nm,0.8s
ECSD *e*pP pP 23 06 27.4 -1.9
K30A **Basset** 79.83 337 ⇑P P 23 05 59.6 +1.5
baz=80
P22A **Eagle** 79.87 330 ⇑P P 23 06 00.2 +1.6
baz=80,SNR=10
O23A **Lake Granby, G** 80.04 331 ⇓P P 23 06 01.1 +1.6
baz=80,SNR=32
COWI **Conover** 80.07 345 *e*P P 23 05 58.8 -0.4
comp=Z,15nm,1.2s
TORD **Torodi Ar. Bea** 80.08 68 P P 23 06 00.4 +0.4
comp=Z,15nm,0.7s,baz=269,slow=6.1,SNR=218
TORD pP pP 23 06 31.2 -0.1
comp=Z,15nm,0.9s,baz=261,slow=5.1,SNR=9.6
TORD PKKPbc PKKPbc 23 24 43.6 +0.9
comp=Z,0.3nm,0.6s,baz=36,slow=2.4,SNR=5.0
SPMN **Marine on St.** 80.12 342 ⇑P P 23 05 59.4 -0.1
baz=80
K29A **Lazy Trails An** 80.14 336 ⇓P P 23 06 01.1 +1.3
baz=80
O22A **Kremmling** 80.26 331 ⇓P P 23 06 01.8 +1.1
baz=81,SNR=17
M25A **Palm-Egli Farm** 80.34 333 ⇓P P 23 06 02.8 +1.8
baz=81
K28A **Ten Mile Ranch** 80.47 336 ⇓P P 23 06 03.1 +1.6
baz=81,SNR=5.3
L26A **Underwood Farm** 80.49 334 ⇓P P 23 06 03.4 +1.7
baz=81
N23A **Red Feather La** 80.63 332 ⇑P P 23 06 04.0 +1.3
baz=81,SNR=12
N23A **Red Feather La** 80.63 332 *e*P P 23 06 04.0 +1.3
comp=Z,31nm,1.3s
N23A *e*pP pP 23 06 35.3 +1.3
M24A **Cheyenne** 80.67 333 ⇑P P 23 06 04.7 +1.9
baz=81,SNR=7.1
J29A **Okreek** 80.72 337 ⇓P P 23 06 04.0 +1.2
baz=81,SNR=10
N22A **Wattenberg Ran** 80.76 331 ⇑P P 23 06 05.1 +1.8
baz=81,SNR=19
PHWY **Pilot Hill** 80.78 332 *e*P P 23 06 04.5 +1.0
comp=Z,25nm,0.8s
PHWY *e*pP pP 23 06 35.8 +0.9
L25A **Engebretsen Ra** 80.93 334 ⇓P P 23 06 05.7 +1.7
baz=81
O20A **White River Ci** 80.95 330 ⇓P P 23 06 06.4 +2.1
baz=81
M23A **Laramie** 81.03 332 ⇑P P 23 06 06.0 +1.3
baz=81,SNR=7.1
J28A **Allard Ranch,** 81.04 336 ⇑P P 23 06 06.5 +2.0
baz=81
SRU **San Rafael Swe** 81.12 328 *e*P P 23 06 06.4 +1.2
SRU *e**PP pP 23 06 37.0 +0.4
SRU pmax pmax
comp=Z,14nm,0.8s
SRU **San Rafael Swe** 81.12 328 *e*P P 23 06 06.4 +1.2
comp=Z,14nm,0.8s
SRU *e*pP pP 23 06 37.0 +0.4
J27A **Elkhorn Farm,** 81.16 335 ⇑P P 23 06 07.0 +1.8
baz=82,SNR=5.1
L24A **Wheatland** 81.20 333 ⇓P P 23 06 07.3 +1.8
baz=82
CCUT **Cedar City** 81.21 325 *e*P P 23 06 07.7 +1.9
comp=Z,14nm,0.9s
CCUT *e*pP pP 23 06 39.2 +1.9
K25A **Mack Ranch, Ha** 81.29 334 ⇓P P 23 06 07.9 +2.0
baz=82
M22A **Cedar Creek Ra** 81.32 331 ⇑P P 23 06 08.7 +2.4
baz=82,SNR=7.2
I28A **Midland** 81.53 336 ⇑P P 23 06 08.1 +1.0
baz=82
N20A **Spee Gulch,** 81.54 330 ⇓P P 23 06 08.6 +1.1
baz=82,SNR=7.8
L23A **Garrett** 81.56 332 ⇑P P 23 06 08.4 +0.9
baz=82,SNR=8.4
J26A **Sides Ranch, S** 81.60 335 ⇑P P 23 06 09.7 +2.2
baz=82
K24A **Anderson Ranch** 81.74 333 ⇓P P 23 06 10.6 +2.3
baz=82,SNR=6.7
H29A **Onida** 81.76 337 ⇑P P 23 06 09.5 +1.2
baz=82
L22A **Ellis Ranch, M** 81.78 332 ⇑P P 23 06 10.8 +2.2
baz=82,SNR=6.4
J25A **Sunshine Ranch** 81.93 334 ⇑P P 23 06 11.3 +2.0
baz=82
CASY **Casey** 82.08 179 *e*P P 23 06 10.4 +0.7
comp=Z,23nm,0.9s
K23A **Bowen Ranch, D** 82.08 333 ⇓P P 23 06 11.7 +1.6
baz=82,SNR=14
J24A **Dixon Ranch, L** 82.20 334 ⇑P P 23 06 12.5 +1.8
baz=82,SNR=9.3
K22A **Casper** 82.34 332 ⇑P P 23 06 13.6 +2.0
baz=83,SNR=12
K22A **Casper** 82.34 332 *e*P P 23 06 12.6 +1.1
comp=Z,27nm,0.9s
K22A *e*pP pP 23 06 44.1 +1.1
EYMN **Ely** 82.35 344 *e*P P 23 06 10.9 -0.3
comp=Z,14nm,0.7s
EYMN *e*pP pP 23 06 42.8 +0.2
G28A **Parade** 82.39 337 ⇑P P 23 06 12.4 +0.9
baz=83
H27A **Howes** 82.39 336 ⇓P P 23 06 12.2 +0.7
baz=83,SNR=9.5
I25A **Rochford** 82.45 335 ⇑P P 23 06 13.5 +1.4
baz=83,SNR=13
K21A **Alcova** 82.62 332 ⇓P P 23 06 14.2 +1.2
baz=83,SNR=24
I24A **Kuemmerle Ranc** 82.64 334 ⇓P P 23 06 14.5 +1.5
baz=83
RSSD **Black Hills** 82.65 335 *e*P P 23 06 13.6 +0.4
RSSD *e**PP pP 23 06 45.0 +0.4
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD **Black Hills** 82.65 335 *e*P P 23 06 13.6 +0.4
comp=Z,11nm,0.9s
RSSD *e*pP pP 23 06 45.0 +0.4
F29A **Eureka** 82.71 338 ⇓P P 23 06 13.9 +0.7
baz=83
H25A **Fruitdale** 82.92 335 ⇑P P 23 06 16.6 +2.2
baz=83
R11A **Troy Canyon, C** 82.93 324 ⇑P P 23 06 17.1 +2.4
baz=83,SNR=9.3
R11A **Troy Canyon, C** 82.93 324 *e*P P 23 06 16.0 +1.3
comp=Z,14nm,1.2s
R11A *e*pP pP 23 06 47.5 +1.2
J22A **Midwest** 82.97 333 ⇓P P 23 06 15.8 +1.1
baz=83,SNR=14
G27A **Dupree** 83.00 336 ⇓P P 23 06 16.2 +1.5
baz=83
E30A **Jud** 83.02 339 ⇑P P 23 06 15.3 +0.6
baz=83
DUG **Dugway, Tooele** 83.04 327 *e*P P 23 06 16.4 +1.2
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG **Dugway, Tooele** 83.04 327 ⇑P P 23 06 16.4 +1.2
baz=83,SNR=9.1
DUG **Dugway, Tooele** 83.04 327 *e*P P 23 06 16.4 +1.2
comp=Z,8.3nm,0.8s
G26A **Maurine** 83.15 336 ⇑P P 23 06 16.1 +0.6
baz=84,SNR=6.0
J21A **Lysite** 83.29 332 ⇑P P 23 06 17.6 +1.2
baz=84,SNR=7.6
G25A **Newell** 83.35 335 ⇓P P 23 06 17.3 +0.8
baz=84,SNR=6.4
I22A **9 Mile Ranch,** 83.37 333 ⇓P P 23 06 17.6 +0.8
baz=84,SNR=22
H24A **Dirks Ranch, A** 83.38 335 ⇓P P 23 06 17.4 +0.7
baz=84,SNR=11
F27A **Lemmon** 83.46 337 ⇑P P 23 06 18.0 +1.0
baz=84,SNR=12
D30A **Buchanan** 83.52 339 ⇑P P 23 06 18.3 +1.1
baz=84,SNR=9.2
J20A **Shoshoni** 83.56 332 ⇓P P 23 06 18.9 +1.2
baz=84,SNR=14
HWUT **Hardware Ranch** 83.60 328 *e*P P 23 06 17.6 -0.5
comp=Z,5.5nm,0.6s
I21A **Big Trails, Te** 83.62 332 ⇑P P 23 06 18.6 +0.6
baz=84,SNR=14
E28A **Huff** 83.64 338 ⇓P P 23 06 19.0 +1.0
baz=84,SNR=5.1
BW06 **Boulder Array** 83.68 330 *e*P P 23 06 19.6 +1.1
comp=Z,11nm,1.1s
PDAR **Pinedale Array** 83.68 330 P P 23 06 18.6 +0.1
comp=Z,5.0nm,0.7s,baz=132,slow=6.5,SNR=33
PDAR pP pP 23 06 50.8 +0.8
comp=Z,4.1nm,0.8s,baz=127,slow=5.4,SNR=7.1
AGMN **Agassiz Nation** 83.77 342 ⇑P P 23 06 19.0 +0.5
baz=84,SNR=8.7
AGMN **Agassiz Nation** 83.77 342 *e*P P 23 06 18.6 +0.1
comp=Z,15nm,0.7s
AGMN *e*pP pP 23 06 50.1 0.0
E27A **Carson** 83.80 337 ⇑P P 23 06 19.4 +0.7
baz=84
G24A **Alzada** 83.82 335 ⇓P P 23 06 19.4 +0.4
baz=84,SNR=5.7
J19A **Crowheart** 83.88 331 ⇑P P 23 06 20.2 +0.8
baz=84,SNR=16
H22A **Clearmont** 83.92 333 ⇑P P 23 06 20.5 +1.0
baz=84,SNR=6.5
C30A **Mose, Pekin** 83.97 340 ⇑P P 23 06 20.6 +1.1
baz=84
F25A **Bowman** 84.00 336 ⇑P P 23 06 20.6 +0.8
baz=84,SNR=5.2
I20A **Worland** 84.07 332 ⇑P P 23 06 21.2 +0.9
baz=84,SNR=7.7
G23A **Biddle** 84.07 334 ⇓P P 23 06 21.2 +1.0
baz=84,SNR=7.9
E26A **Carlson Angus** 84.13 337 ⇓P P 23 06 21.4 +1.0
baz=84
H21A **Big Horn, Sher** 84.21 333 ⇓P P 23 06 21.1 +0.1
baz=84,SNR=7.4
F24A **Ekalaka** 84.28 335 ⇑P P 23 06 22.3 +1.0
baz=85,SNR=5.0
HVU **Hansel Valley** 84.28 328 *e*P P 23 06 21.1 -0.4
HVU *e**PP pP 23 06 53.4 +0.3
HVU **Hansel Valley** 84.28 328 *e*P P 23 06 21.1 -0.4
HVU *e*pP pP 23 06 53.4 +0.3
NVAR **Mina Array Bea** 84.38 322 P P 23 06 22.8 +0.6
comp=Z,6.6nm,0.8s,baz=157,slow=6.1,SNR=12
NVAR pP pP 23 06 54.5 +0.7
comp=Z,3.0nm,0.8s,baz=145,slow=5.4,SNR=3.0
G22A **Birney** 84.42 334 ⇑P P 23 06 22.7 +0.7
baz=85,SNR=6.0
MDND **Maddock** 84.43 339 ⇑P P 23 06 23.3 +1.4
baz=85
H20A **Greybull** 84.47 332 ⇓P P 23 06 23.2 +0.9
baz=85,SNR=16
E25A **Miller Ranch,** 84.48 336 ⇓P P 23 06 23.1 +0.9
baz=85
I19A **Meeteetse** 84.49 331 ⇑P P 23 06 23.3 +0.8
baz=85
F23A **Volborg** 84.52 335 ⇑P P 23 06 23.5 +1.0
baz=85
B30A **Myrvik Farm, E** 84.60 340 ⇓P P 23 06 23.3 +0.6
baz=85,SNR=28
D26A **Manning** 84.61 337 ⇑P P 23 06 24.0 +1.1
baz=85
ELK **Elko** 84.62 326 *e*P P 23 06 23.9 +0.6
ELK *e**PP pP 23 06 55.5 +0.6
ELK **Elko** 84.62 326 P P 23 06 23.8 +0.6
comp=Z,11nm,0.8s,baz=181,slow=3.3,SNR=36
ELK pP pP 23 06 54.6 -0.3
comp=Z,5.6nm,0.8s,baz=358,slow=2.0,SNR=5.3
ELK **Elko** 84.62 326 *e*P P 23 06 23.9 +0.6
ELK *e*pP pP 23 06 55.5 +0.6
G21A **Lodge Grass** 84.78 333 ⇑P P 23 06 24.6 +0.8
baz=85,SNR=6.4
E24A **Baker** 84.85 336 ⇓P P 23 06 25.1 +1.1
baz=85
F22A **Rosebud** 84.88 334 ⇑P P 23 06 25.1 +0.9
baz=85,SNR=7.8
C27A **Sayler Ranch,** 84.91 338 ⇓P P 23 06 25.9 +1.6
baz=85
B29A **Wagenman Farm,** 84.91 339 ⇓P P 23 06 25.1 +0.9
baz=85,SNR=6.4
H19A **Powell** 85.01 332 ⇓P P 23 06 25.7 +0.7
baz=85,SNR=6.0
D25A **Fairfield** 85.02 336 ⇓P P 23 06 26.1 +1.2
baz=85,SNR=5.3
A30A **Hoffart Farm,** 85.03 340 ⇓P P 23 06 25.4 +0.6
baz=85,SNR=9.2
I17A **Pilgrim Ck.** 85.05 330 ⇑P P 23 06 26.7 +1.4
baz=85,SNR=11
G20A **Bridger** 85.16 333 ⇓P P 23 06 26.2 +0.4
baz=86,SNR=15
IMW **Indian Meadow** 85.18 330 *e*P P 23 06 26.8 +0.7
comp=Z,14nm,1.0s
IMW *e*pP pP 23 06 58.8 +1.0
C26A **Wahner Farm, P** 85.20 338 ⇑P P 23 06 26.7 +1.0
baz=86
B28A **Dugan Ranch, T** 85.20 339 ⇓P P 23 06 26.3 +0.5
baz=86,SNR=6.0
A29A **Manning Farm,** 85.28 340 ⇑P P 23 06 26.7 +0.6
baz=86,SNR=12
H18A **Shoshone NF, C** 85.29 331 ⇓P P 23 06 27.1 +0.6
baz=86,SNR=36

E22A Miles City 85.33 335 ⇑P P **23 06 27.0 +0.6**
baz=86
D24A Glendive 85.33 336 ⇓P P **23 06 27.8 +1.4**
baz=86
H17A Grant Village 85.44 331 ⇑P P **23 06 29.0 +1.7**
baz=86
ULM Lac du Bonnet 85.56 342 P P **23 06 27.2 -0.2**
comp=Z,14nm,0.8s,baz=164,slow=5.1,SNR=34
ULM pP **pP 23 06 58.5 -0.6**
comp=Z,12nm,1.0s,baz=165,slow=3.3,SNR=5.6
A28A Rude Farm, Bot 85.58 339 ⇑P P **23 06 28.0 +0.3**
baz=86
D23A Lindsay 85.69 335 ⇑P P **23 06 29.3 +1.0**
baz=86
C24A Savage 85.72 336 ⇓P P **23 06 29.8 +1.4**
baz=86,SNR=5.1
F19A Roth Farm, Mol 85.97 332 ⇑P P **23 06 30.5 +0.8**
baz=86,SNR=15
D22A Cohagen 86.02 335 ⇓P P **23 06 31.2 +1.4**
baz=86,SNR=5.2
QLMT Earthquake Lak 86.14 330 *e*P P **23 06 32.4 +1.6**
QLMT *e*pP **pP 23 07 03.9 +1.4**
E20A Meyer Farm, Mu 86.20 333 ⇑P P **23 06 31.9 +1.1**
baz=86,SNR=21
C23A Lambert 86.22 336 ⇑P P **23 06 31.9 +1.1**
baz=86,SNR=11
D21A La Casta Ranch 86.24 334 ⇓P P **23 06 32.1 +1.2**
baz=87
E19A Rath Farm, Rou 86.42 333 ⇓P P **23 06 32.8 +0.9**
baz=87,SNR=50
C22A Vida 86.42 335 ⇑P P **23 06 32.8 +1.0**
baz=87
SCHQ Schefferville 86.43 1 P P **23 06 31.3 -0.3**
comp=Z,10nm,1.0s,baz=178,slow=5.2,SNR=11
HLID Hailey 86.43 328 ⇓P P **23 06 33.5 +1.3**
baz=87,SNR=31
DGMT Dagmar 86.45 337 ⇓P P **23 06 32.8 +0.9**
baz=87,SNR=7.9
DGMT Dagmar 86.45 337 *e*P P **23 06 32.8 +0.9**
comp=Z,41nm,0.9s
DGMT *e*pP **pP 23 07 03.4 -0.3**
D20A Manuel Ranch, 86.69 334 ⇑P P **23 06 34.0 +0.8**
baz=87,SNR=21
B22A Reddig Ranch S 86.93 336 ⇓P P **23 06 35.3 +1.0**
baz=87,SNR=5.7
D19A Cripps Ranch, 87.03 333 ⇓P P **23 06 35.3 +0.4**
baz=87,SNR=12
C20A Veseth Ranch, 87.16 334 ⇑P P **23 06 36.0 +0.6**
baz=88,SNR=5.2
B21A Ellsworth Farm 87.40 335 ⇑P P **23 06 37.3 +0.8**
baz=88,SNR=8.5
A22A Carney Farms, 87.49 336 ⇑P P **23 06 38.3 +1.3**
baz=88,SNR=17
C19A Slack Wire Ran 87.57 333 ⇓P P **23 06 37.8 +0.4**
baz=88,SNR=9.9
A21A Bergtoll Ranch 87.84 335 ⇑P P **23 06 39.1 +0.5**
baz=88,SNR=6.1
EGMT Eagleton 88.08 333 ⇑P P **23 06 40.2 +0.4**
baz=88
A20A Cobblestone Ra 88.11 335 ⇓P P **23 06 40.7 +0.8**
baz=88,SNR=17
B19A Brinkman Farms 88.13 334 ⇓P P **23 06 40.4 +0.5**
baz=88
A19A Klindworth Far 88.45 334 ⇑P P **23 06 42.1 +0.6**
baz=89,SNR=8.6
TAM Tamanrasset 88.66 62 *e*P P **23 06 44.8 +1.6**
TAM pmax pmax
comp=Z,2.0nm,1.1s
TAM Tamanrasset 88.66 62 *e*P P **23 06 44.8 +1.6**
comp=Z,2.3nm,1.1s
M04C Macdoel 88.68 323 ⇑P P **23 06 44.5 +1.7**
baz=89
MSO Missoula 88.80 330 ⇑P P **23 06 44.5 +1.3**
baz=89
K05A Summer Lake 88.89 324 *e*P P **23 06 45.6 +1.7**
comp=Z,22nm,0.8s
K05A *e*pP **pP 23 07 17.1 +1.3**
M02C Callahan 88.93 322 ⇓P P **23 06 45.2 +1.2**
baz=89
SLMT Seeley Lake 88.94 331 *e*P P **23 06 44.5 +0.5**
SLMT *e*pP **pP 23 07 16.3 +0.4**
YBH Yreka Blue Hor 89.09 322 P P **23 06 44.5 -0.3**
comp=Z,2.5nm,0.8s,baz=203,slow=13,SNR=4.5
J05D Fort Rock, OR 89.47 324 ⇑P P **23 06 47.7 +1.2**
baz=90,SNR=6.3
I05D Terrebonne, OR 90.28 325 ⇓P P **23 06 52.5 +2.3**
baz=91
FFC Flin Flon 91.22 341 *e*P P **23 06 54.3 +0.1**
FFC *e**PP **pP 23 07 25.5 -0.7**
FFC pmax pmax
comp=Z,13nm,1.3s
FFC Flin Flon 91.22 341 *e*P P **23 06 54.2 +0.1**
comp=Z,12nm,1.3s
FFC *e*pP **pP 23 07 25.4 -0.7**
NEW Newport 91.27 330 P P **23 06 54.7 0.0**
comp=Z,0.9nm,0.5s,baz=111,slow=8.6,SNR=3.2
ESDC Sonseca Array 92.56 44 P P **23 07 01.4 +0.5**
comp=Z,0.8nm,0.6s,baz=236,slow=3.7,SNR=7.0
FCC Fort Churchill 93.01 347 *e*P P **23 07 02.7 +0.4**
FCC Fort Churchill 93.01 347 *e*P P **23 07 02.7 +0.4**
YKA Yellowknife Ar 101.34 340 P **Pdif 23 07 39.6 -0.2**
comp=Z,1.4nm,0.6s,baz=143,slow=4.3,SNR=63
YKA pP pP 23 08 09.1 -3.0
comp=Z,0.5nm,0.7s,baz=141,slow=4.8,SNR=3.3
YKA PP **PP 23 11 48.5 -2.8**
comp=Z,0.4nm,1.0s,baz=127,slow=10,SNR=3.6
YKA PKiKP **PKiKP 23 12 04.5 +0.9**
comp=Z,0.1nm,0.7s,baz=140,slow=1.8,SNR=4.7
GERES GERESS Array B 108.15 43 PKiKP **PKiKP 23 12 16.3 -0.3**
comp=Z,0.3nm,0.4s,baz=253,slow=1.0,SNR=5.6
GERES PKKPbc **PKKPbc 23 23 28.9 -0.6**
comp=Z,0.6nm,0.8s,baz=54,slow=5.0,SNR=5.5
ILAR Eielson Array 114.04 333 PKP PKPdf 23 12 27.1 0.0
comp=Z,0.5nm,0.8s,baz=187,slow=0.7,SNR=6.7
ILAR PP **PP 23 13 20.0 -3.9**
comp=Z,0.6nm,0.9s,baz=142,slow=3.1,SNR=3.6
ILAR PKKPbc **PKKPbc 23 23 07.8 -2.6**
comp=Z,0.3nm,0.6s,baz=306,slow=6.2,SNR=4.1
BRTR Keskin Array B 117.66 59 PKP **PKPdf 23 12 35.3 +0.2**
comp=Z,1.1nm,0.7s,baz=182,slow=3.5,SNR=7.5
KIEV Kiev 118.14 46 *i* PKIKP **PKPdf 23 12 34.7 -0.7**
AKASG Malin Array Be 118.15 46 PKP **PKPdf 23 12 34.5 -1.0**
comp=Z,2.2nm,0.6s,baz=265,slow=1.9,SNR=9.1
AKASG pPKP **pPKPdf 23 13 08.1 -0.7**
comp=Z,1.8nm,0.8s,baz=261,slow=2.6,SNR=3.1
CTA Charters Tower 118.87 217 PKP **PKPdf 23 12 37.3 -0.6**
comp=Z,1.3nm,0.5s,baz=315,slow=2.9,SNR=3.8
FINES FINESS Array B 119.26 33 PKP **PKPdf 23 12 37.2 -0.1**
comp=Z,1.3nm,0.8s,baz=0.0,slow=5.6,SNR=4.4
FINES pPKP **pPKPdf 23 13 10.5 -0.1**
comp=Z,1.7nm,0.9s,baz=175,slow=23,SNR=2.6
ARCES ARCESS Array B 120.65 24 PKP **PKPdf 23 12 39.5 -0.3**
comp=Z,7.8nm,1.0s,baz=244,slow=3.8,SNR=7.8
ARCES PKKPbc **PKKPab 23 22 43.2 -1.1**
comp=Z,5.4nm,1.0s,baz=58,slow=2.6,SNR=6.3
AS31 Alice Springs 120.96 203 PKPdf **PKPdf 23 12 40.6 -1.3**
ASAR Alice Springs 120.96 203 PKP **PKPdf 23 12 41.1 -0.8**
comp=Z,3.4nm,0.8s,baz=137,slow=1.8,SNR=35
ASAR pPKP **pPKPdf 23 13 13.9 -1.4**
comp=Z,1.5nm,0.6s,baz=159,slow=2.0,SNR=5.9
OBN Obninsk 123.47 42 *i* PKIKP **PKPdf 23 12 44.1 -1.4**
OBN *e* 23 13 19.6
OBN pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 124.24 205 PKP **PKPdf 23 12 47.6 -0.7**
comp=Z,8.3nm,0.6s,baz=165,slow=1.6,SNR=150
WRA pPKP **pPKPdf 23 13 20.4 -1.3**
comp=Z,5.9nm,0.8s,baz=160,slow=1.6,SNR=9.4
WRAB Tennant Creek 124.25 205*c* *i* PKIKP **PKPdf 23 12 47.2 -1.1**
WRAB pmax pmax
comp=Z,18nm,1.0s
NEY Neytrino 125.20 57 *i* PKIKP **PKPdf 23 12 48.1 -1.4**
KIV Kislovodsk 125.33 56 *e*PKIKP **PKPdf 23 12 47.8 -1.8**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 125.43 56 PKP **PKPdf 23 12 50.3 +0.6**
comp=Z,2.8nm,1.0s,baz=119,slow=3.6,SNR=6.1
KBZ pPKP **pPKPdf 23 13 23.6 +0.6**
comp=Z,2.3nm,0.9s,baz=266,slow=0.6,SNR=3.9
NCK Nalchik 125.88 57 *i* PKIKP **PKPdf 23 12 50.3 -0.3**
ZEI Tsey 125.94 58 *e*PKIKP **PKPdf 23 12 50.2 -0.8**
ZEI pmax pmax
comp=Z,3.0nm,1.1s
PMG Port Moresby 127.06 225 *i* PKIKP **PKPdf 23 12 54.4 +0.6**
PRGR Permogore 128.57 34 *e*PKIKP **PKPdf 23 12 54.2 -0.9**
PRGR *e* 23 13 28.5
PRGR pmax pmax
comp=Z,15nm,1.1s
BILL Bilibino 132.53 336 *i* PKIKP **PKPdf 23 13 03.7 +1.2**
BILL pmax pmax
comp=Z,6.0nm,1.1s
GEYT Alibeck 135.72 67 PKP **PKPdf 23 13 09.8 +0.4**
comp=Z,2.3nm,0.6s,baz=260,slow=4.2,SNR=7.8
ARU Arti 135.83 40 *i* PKIKP **PKPdf 23 13 09.7 +0.7**
ARU Arti 135.83 40 *e*PKPdf **PKPdf 23 13 08.6 -0.4**
AKTO Aktyubinsk 136.25 49 PKP **PKPdf 23 13 10.5 +0.5**
comp=Z,1.7nm,0.6s,baz=348,slow=2.2,SNR=8.7
AKTO pPKP **pPKPdf 23 13 43.6 +0.3**
comp=Z,2.8nm,0.9s,baz=263,slow=2.6,SNR=4.0
ABKAR Akbulak array 137.57 50 *e*PKPpre PKPpre 23 13 02.0
ABKAR *e*PKPdf **PKPdf 23 13 12.8 +0.3**
TIXI Tiksi 139.25 352 *i* PKIKP **PKPdf 23 13 14.7 -0.1**
TIXI Tiksi 139.25 352 *e*PKPdf **PKPdf 23 13 14.1 -0.7**
SEY Seymchan 139.97 333 PKP **PKPdf 23 13 17.6 +1.2**
comp=Z,6.7nm,0.6s,baz=125,slow=3.2,SNR=24
PETK Petropavlovsk- 141.25 317 PKP **PKPdf 23 13 20.2 +1.2**
comp=Z,6.7nm,1.0s,baz=244,slow=4.3,SNR=3.8
BVAR Borovoye Array 143.31 42 PKhKP PKPpre 23 13 20.4
comp=Z,1.5nm,0.6s,baz=285,slow=2.7,SNR=14
KKAR Karatay Array 145.38 59 *e*PKP2 **PKPdf 23 13 26.5 -0.1**
KKAR Karatay Array 145.38 59 *e*PKPdf **PKPdf 23 13 26.5 -0.1**
HYB Hyderabad 146.27 107 *i* PKP **PKPdf 23 13 29.0 +0.1**
HYB *e* 23 14 02.0
EKS2 Erkin-Say 147.81 60 *e*PKIKP **PKPdf 23 13 31.5 +0.6**
EKS2 Erkin-Say 147.81 60 *e*PKPdf **PKPdf 23 13 31.5 +0.6**
YAK Yakutsk 147.87 345 *e*PKP2 **PKPbc 23 13 32.6 -0.7**
YAK pmax pmax
comp=Z,65nm,1.2s
YAK Yakutsk 147.87 345 PKPbc **PKPbc 23 13 33.7 +0.5**
comp=Z,58nm,0.7s,baz=196,slow=0.8,SNR=10
AAK Ala-Archa 148.34 59 ⇓*i* PKIKP **PKPdf 23 13 33.3 +1.5**
AAK pmax pmax
comp=Z,104nm,1.7s
AAK Ala-Archa 148.34 59 PKP **PKPdf 23 13 33.1 +1.2**
comp=Z,17nm,0.7s,baz=202,slow=2.8,SNR=24
AAK PKPbc **PKiKP 23 13 36.5 -0.4**
comp=Z,17nm,0.7s,baz=200,slow=4.0,SNR=85
FRU Bishkek 148.40 59 *e*PKIKP **PKPbc 23 13 34.0 -1.4**
FRU *e* 23 14 08.0
FRU pmax pmax
comp=Z,60nm,1.4s
KURBB Kurchatov Arra 148.89 43 PKP **PKPdf 23 13 33.2 +1.0**
comp=Z,21nm,0.8s,baz=296,slow=3.3,SNR=86
KURBB PKPbc **PKiKP 23 13 37.1 -0.5**
comp=Z,26nm,0.7s,baz=295,slow=3.3,SNR=119
KURK Kurchatov 148.90 43 *e*PKIKP **PKPdf 23 13 32.8 +0.6**
KURK 23 13 37.1
KURK Kurchatov 148.90 43 *e*PKPdf **PKPdf 23 13 32.8 +0.6**
KURK PKPbc **PKiKP 23 13 37.1 -0.5**
TKM2 Tokmak 2 149.10 59 *e*PKHKP **PKPdf 23 13 33.3 +0.2**
TKM2 Tokmak 2 149.10 59 *e*PKPdf **PKPdf 23 13 33.3 +0.2**
NVS Novosibirsk 149.25 33 ⇑*i*PKHKP **PKPdf 23 13 32.3 -0.3**
NVS pmax pmax
comp=Z,55nm,1.4s
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,13nm,0.9s
KSH Kashi 149.73 65 PKPbc **PKPdf 23 13 34.9 +0.8**
KSH sPKP 23 14 12.2
KSH PKS **PKSdf 23 17 08.5 -0.5**
KSH PP **PP 23 17 10.1 -3.8**
KSH SKS **SKSdf 23 20 31.4 +0.7**
KSH SKKS **SKKSac 23 23 47.8 -4.9**
KSH PPMZ
comp=E,86nm,4.9s
KSH LN
comp=E,180nm,11.6s
KSH LE
comp=E,99nm,5.6s
ZALV Zalesovo Beam 150.53 34 PKP **PKPdf 23 13 34.8 +0.1**
comp=E,1.1nm,0.5s,baz=345,slow=3.3,SNR=28
ZALV PKPbc **PKiKP 23 13 40.9 0.0**
comp=E,46nm,0.7s,baz=298,slow=2.9,SNR=179
ZALV pPKPbc **pPKPbc 23 14 10.2 -3.2**
comp=E,49nm,0.9s,baz=300,slow=2.9,SNR=5.3
MKAR Makanchi Array 152.68 48 PKP **PKPdf 23 13 38.7 +0.4**
comp=E,1.8nm,0.8s,baz=297,slow=0.8,SNR=16
MKAR PKPbc **PKiKP 23 13 45.8 +0.2**
comp=E,12nm,0.7s,baz=300,slow=1.8,SNR=76
MKAR PKPab **PKPab 23 13 56.5 -0.2**
comp=E,5.1nm,0.7s,baz=297,slow=4.6,SNR=10
MKAR pPKPbc **pPKPbc 23 14 18.4 -0.3**
comp=E,14nm,0.8s,baz=313,slow=2.3,SNR=13
ASAJ Asahikawa 153.37 306 PKPbc **PKPbc 23 13 46.7 -0.2**
comp=E,12nm,0.8s,baz=258,slow=7.5,SNR=6.3
BOD Bodaibo 154.10 358 *e*PKIKP **PKPdf 23 13 38.9 -1.0**
BOD *e* 23 14 01.3
BOD pmax pmax
comp=Z,8.0nm,0.9s
PYUN Piuthan 154.38 91 *e*P **PKPdf 23 13 41.7 +0.2**
comp=Z,19nm,0.6s
KOLN Kodanda 154.81 92 *e*P **PKPdf 23 13 42.0 -0.1**
comp=Z,9.2nm,0.7s
DANN Dangsing 155.11 91 *e*P **PKPdf 23 13 43.0 +0.4**
comp=Z,32nm,0.8s
GKN Gorkha 155.76 92 *e*P **PKPdf 23 13 43.2 -0.1**
RAMN Ramite 157.11 96 *e*P **PKPdf 23 13 45.8 +0.6**
comp=Z,19nm,0.8s
WMQ Urumqi 157.35 51 *e*PKP **PKPdf 23 13 48.2 +3.4**
WMQ pPKP **PKPab 23 14 15.0 -1.7**
WMQ sPKP 23 14 26.0
WMQ LZ
comp=Z,210nm,23.9s
ODAN Odare 157.75 97 *e*P **PKPdf 23 13 46.5 +0.5**
comp=Z,20nm,0.8s
MJAR Matsushiro Arr 158.11 289 PKPab **PKPab 23 14 20.6 +0.4**
comp=Z,4.1nm,0.9s,baz=113,slow=3.9,SNR=7.5
MJAR pPKPab **pPKPab 23 14 52.6 +0.3**
comp=Z,2.6nm,0.9s,baz=166,slow=1.7,SNR=3.1
TAPN Taplejung 158.17 96 *e*P **PKPdf 23 13 47.1 +0.5**
USRK Ussuriysk Ar. 160.30 314 PKPab **PKPab 23 14 30.0 +0.6**
comp=Z,3.0nm,0.7s,baz=53,slow=5.8,SNR=6.2
LSA Lhasa 161.71 92 *e*PKIKP **PKPdf 23 13 50.6 -0.1**
LSA Lhasa 161.71 92 *e*PKPdf **PKPdf 23 13 50.5 -0.1**
CMAR Chiang Mai Arr 161.96 135 PKP **PKPdf 23 13 51.7 +1.0**
comp=Z,3.1nm,0.9s,baz=252,slow=2.9,SNR=16
CMAR pPKP **pPKPdf 23 14 24.4 +0.2**
comp=Z,1.7nm,0.8s,baz=234,slow=2.2,SNR=2.8
SONM Songino Array 163.51 14 PKP **PKPdf 23 13 52.0 +0.5**
comp=Z,0.7nm,0.8s,baz=238,slow=1.3,SNR=7.3
SONM PKPab **PKPab 23 14 44.3 +0.9**
comp=Z,3.1nm,0.7s,baz=326,slow=4.6,SNR=18
SONM pPKPab **pPKPab 23 15 16.6 +1.0**
comp=Z,1.8nm,0.8s,baz=320,slow=4.3,SNR=5.0
KSRS Korea Array 166.02 297 PKP **PKPdf 23 13 53.8 +0.1**
comp=Z,2.1nm,0.9s,baz=297,slow=0.6,SNR=6.9
KSAR Wonju Array Be 166.05 297 PKIKP **PKPdf 23 13 53.8 0.0**
KSAR Wonju Array Be 166.05 297 PKP **PKPdf 23 13 53.8 0.0**
GTA Gaotai 167.43 50 *e*PKP **PKPdf 23 13 55.7 +0.7**
GTA PKPab **PKPab 23 15 02.4 +1.3**
HHC Hu-ho-hao-te 171.10 4 *e*PKP **PKPdf 23 14 00.9 +3.7**
HHC PP PP 23 19 13.6 +6.5
HHC SS SS 23 40 06.3 +5.5
HHC PPMZ
comp=Z,120nm,7.0s
LZH Lanzhou 171.87 57 *e*PKP **PKPdf 23 13 55.5 -2.3**
LZH pPKP **pPKPdf 23 14 27.4 -4.0**
CD2 Chengdu 172.64 96 PKP **PKPdf 23 13 56.7 -1.4**
CD2 pPKP **pPKPdf 23 14 30.6 -1.1**
CD2 PKS **PKSdf 23 17 27.6 -2.9**
CD2 PP **PP 23 19 16.7 +0.1**
CD2 SKS **SKSdf 23 20 45.7 -4.4**
CD2 SKKS **SKKSac 23 25 49.5 -1.7**
CD2 SS **SS 23 40 14.8 -4.4**
CD2 PPMZ
comp=Z,140nm,5.8s
GYA Guiyang 172.65 137 *e*PKP **PKPdf 23 13 57.0 -1.3**
GYA pPKP **pPKPdf 23 14 30.8 -1.2**
GYA PKS **PKSdf 23 17 28.3 -2.5**
GYA PP **PP 23 19 16.2 +0.5**
GYA PPMZ
comp=Z,90nm,7.8s
NJ2 Nanjing 174.42 273 *e*PKP **PKPdf 23 13 59.6 +1.0**

MEX ***11*** *22:55:08.7±1.0, 32.°90N×115.°71W, h10km, MD3.6*
ISCJB ***11*** *22:55:09.7±0.4, 32.°63N±0.°02×115.°76W±0.°02, h6km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=41.8*
ECX ***11*** *22:55:10.9±0.7, 32.°64N×115.°77W, h3km, MD3.4, ML3.6*
NEIC ***11*** *22:55:11.0, 32.°61N×115.°78W, h0km, MD3.6(MEX), ML3.6(PAS), ML3.6(ECX), After ECX.*
NEIC Felt at Carlsbad, El Centro, Imperial, Ramona and San Diego, California.

ISC 11 22:55:09.9±1.0, 32.°62N±0.°02×115.°74W±0.°02, h5km±7km, n32, σ1°11/56, 9C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.03**	**23**	⇑*i*	*i*P		**Pg**	**22 55 11.4**	**+0.4**
YUH	**Yuha Desert**	**0.16**	**281**	⇑*i*	*i*P		**Pg**	**22 55 13.2**	**+0.1**
COK	**Cook Ranch**	**0.23**	**3**	⇓*i*	*i*P		**Pg**	**22 55 15.0**	**+0.6**
RMX	**La Rumorosa**	**0.28**	**267**	⇑*e*	*e*P		**Pg**	**22 55 15.7**	**+0.1**
RMX					*e*S		**Sg**	**22 55 19.5**	**+0.2**
RMX					AML		AML	22 55 19.8	
	comp=N,11μm,0.2s								
RMX				⇑*e*				22 55 19.8	
CPBX	**Cerro Prieto**	**0.42**	**118**	*e*P			**Pg**	**22 55 19.0**	**+1.0**
CPBX				*e*S			**Sb**	**22 55 26.0**	**-0.5**
CPBX				⇑*e*				22 55 27.8	
CPBX					AML		AML	22 55 27.8	
	comp=N,13μm,0.4s								
CPBX					AML		AML	22 55 31.5	
	comp=E,16μm,0.3s								
CPBX				⇑*e*				22 55 31.5	
CPBX	**Cerro Prieto**	**0.42**	**118**	*e*P			**Pg**	**22 55 18.9**	**+0.8**
CPBX				*i* S			**Sb**	**22 55 28.6**	**+2.1**
MBIG	**Mexicali**	**0.51**	**114**	*e*P			**Pg**	**22 55 20.2**	**+0.6**
MBIG				*e*S			**Sb**	**22 55 28.9**	**0.0**
RDX	**Rancho Dawling**	**0.71**	**194**	*e*P			**Pg**	**22 55 23.3**	**-0.2**
RDX				*e*S			**Sg**	**22 55 32.8**	**+0.1**
EMX	**El Mayor**	**0.76**	**146**	⇑*e*P			**Pg**	**22 55 24.2**	**-0.3**
EMX				*e*S			**Sg**	**22 55 34.6**	**+0.3**
BAR	**Barrett**	**0.79**	**275**	*e*P			**Pg**	**22 55 24.5**	**-0.6**
BAR				*e*S			**Sg**	**22 55 34.2**	**-1.1**
CBX	**Cerro Bola**	**0.84**	**249**	*i* P			**Pg**	**22 55 25.7**	**-0.3**
CBX				*i* S			**Sg**	**22 55 36.6**	**-0.3**
CBX	**Cerro Bola**	**0.84**	**249**	⇓*e*P			**Pg**	**22 55 25.9**	**-0.1**
CBX				*e*S			**Sg**	**22 55 36.8**	**-0.1**
CBX					AML		AML	22 55 39.0	
	comp=N,3μm,0.7s								
CBX				⇓*e*				22 55 39.0	
CBX	**Cerro Bola**	**0.84**	**249**	*i* P			**Pg**	**22 55 25.7**	**-0.3**
CBX				*i* S			**Sg**	**22 55 36.6**	**-0.3**
GLA	**Glamis**	**0.88**	**60**	*e*P			**Pg**	**22 55 26.1**	**-0.8**
GLA				*e*S			**Sg**	**22 55 37.9**	**-0.5**
PFO	**Pinyon Flats O**	**1.16**	**329**	*e*P			**Pg**	**22 55 30.0**	**-2.1**
PFO				*e*S			**Sg**	**22 55 44.7**	**-2.4**
ZAX	**El Zacaton**	**1.19**	**202**	*e*P			**Pg**	**22 55 32.1**	**-0.6**
ZAX				*e*S			**Sg**	**22 55 48.0**	**-0.2**
ZAX				⇓*e*				22 55 50.2	
ZAX					AML		AML	22 55 50.2	
	comp=N,1μm,0.3s								
ECNX	**Esteban Cantu**	**1.20**	**217**	⇑*e*P			**Pg**	**22 55 32.4**	**-0.6**
PBX	**Punta Banda**	**1.21**	**224**	⇑*e*P			**Pg**	**22 55 32.5**	**-0.7**
ECBX	**El Chinero**	**1.28**	**153**	*e*P			**Pn**	**22 55 33.5**	**-1.0**
ECBX				*e*S			**Sg**	**22 55 51.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.58**	**171**	*e*P			**Pn**	**22 55 38.2**	**-0.8**
SPIG				*e*S			**Sn**	**22 56 00.0**	**0.0**
SPIG	**San Pedro Mart**	**1.58**	**171**	*e*P			**Pn**	**22 55 38.2**	**-0.8**
SPIG				*e*S			**Sn**	**22 56 00.0**	**0.0**
SPX	**San Pedro Mart**	**1.59**	**171**	⇓*e*P			**Pn**	**22 55 39.2**	**+0.2**
SPX	**San Pedro Mart**	**1.59**	**171**	*i* P			**Pn**	**22 55 39.4**	**+0.4**
SPX				*e*S			**Sn**	**22 55 59.6**	**-0.5**
MWC	**Mount Wilson**	**2.51**	**310**	*e*Pn			**Pn**	**22 55 53.0**	**+1.3**
MWC				*e*Sn			**Sn**	**22 56 23.6**	**+0.8**
214A	**Organ Pipe Nat**	**2.57**	**104**	*e*Pn			**Pn**	**22 55 49.8**	**-2.5**
214A				*e*Sn			**Sn**	**22 56 26.0**	**+2.1**
GSC	**Goldstone, Bar**	**2.82**	**342**	*e*Pn			**Pn**	**22 55 57.4**	**+1.6**
GSC				*e*Sn			**Sn**	**22 56 32.2**	**+2.0**
OSI	**Osito Audit: C**	**3.19**	**309**	*e*Pn			**Pn**	**22 56 02.0**	**+1.2**
OSI				*e*Sg			**Sg**	**22 56 51.6**	**-0.8**
ISA	**Isabella, Lake**	**3.79**	**324**	*e*Pn			**Pn**	**22 56 11.3**	**+2.2**
ISA				*e*Sn			**Sn**	**22 56 55.4**	**+1.3**
SHPR	**Sheep Range**	**3.91**	**7**	*e*Pn			**Pn**	**22 56 10.3**	**-0.5**
SHPR				*e*Sg			**Sg**	**22 57 13.5**	**-2.0**
TUC	**Tucson**	**4.20**	**93**	*e*Pn			**Pn**	**22 56 12.8**	**-1.9**
TUC				*e*Sn			**Sn**	**22 57 05.3**	**+1.0**
CCUT	**Cedar City**	**5.29**	**21**	*e*Pn			**Pn**	**22 56 30.6**	**+0.6**
	comp=N,1.9nm,0.4s								
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn			**Pn**	**22 56 48.1**	**-1.3**
	comp=N,7.9nm,0.4s								

GUC 11 23:03:08.3±0.4, 36.°32S×72.°99W, h24km±9km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.53**	**191**	*e*P			**Pb**	23 03 19.3	+0.2
CCSP				*e*S			Sb	23 03 27.5	+1.1
CCSP					AML		AML	23 03 28.8	
	comp=E,13μm,0.3s								
LNCH	**Linares**	**1.22**	**68**	*e*P			Pb	23 03 30.5	-0.1
LNCH				*e*S			Sb	23 03 47.4	+1.4
PEL	**Peldehue**	**3.69**	**32**	*e*P			Pn	23 04 06.7	+2.7

ISCJB ***11*** *23:13:23.4±0.7, 6.°97S±0.°08×129.°56E±0.°08, h139km, mb3.5/5, Error ellipse: s-maj=12.6km s-min=9.3km az=38.3*
IDC ***11*** *23:13:26.1±3.2, 7.°06S×129.°51E, h152km±26km, mb3.4/5, mb1 3.6/8, mb1mx3.4/39, mbtmp4.0/8, Error ellipse: s-maj=32.0km s-min=17.7km az=71.0*
DJA ***11*** *23:13:27.1±0.8, 7.°S±4.′×13.′3E±1.′2, h118km±23km, M4.4/3, mb4.3/2, mB5.0/1, MLv4.4/3, Mw(mB)4.4/1*

ISC 11 23:13:24.9±0.7, 6.°98S±0.°09×129.°53E±0.°08, h139km, n13, σ1°39/13, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.02**	**120**	P	Pn			23 14 03.3	+3.7
SAUI				S			**Sn**	**23 14 28.7**	**+2.4**
MSAI	**Masohi**	**3.66**	**351**	P	Sn			23 14 48.7	-15
	0.1nm9.8nm,0.7s								
FAKI	**Fak Fak**	**4.86**	**34**	P			**Pn**	**23 14 36.0**	**-0.3**
FAKI				S			Sn	23 15 20.6	-11
BATI	**Baumata**	**6.62**	**241**	P			**Pn**	**23 15 01.4**	**+1.5**
	22nm,0.3s,baz=97,slow=4.4,SNR=15								
BATI				S			**Sn**	**23 16 14.5**	**+0.2**
	28nm,0.3s,baz=119,slow=21,SNR=12								
RKPI	**Ransiki, Papua**	**7.14**	**41**	S			Sn	23 15 53.4	-33
WRA	**Warramunga Arr**	**13.71**	**161**	P			**Pn**	**23 16 31.7**	**-1.9**
	1.0nm,0.3s,baz=336,slow=12,SNR=20								
WRA				S			Sn	23 18 55.3	-10
	1.1nm,0.3s,baz=333,slow=24,SNR=7.4								
ASAR	**Alice Springs**	**17.12**	**166**	P			**Pn**	**23 17 16.6**	**+0.7**
	0.4nm,0.3s,baz=343,slow=11,SNR=17								
ASAR				S			S	23 20 12.5	-14
	0.1nm,0.3s,baz=345,slow=14,SNR=4.5								
ASAR					ScP		**ScP**	**23 25 12.3**	**-2.3**
	0.0nm,0.3s,baz=350,slow=1.4,SNR=4.8								
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P			**P**	**23 20 41.1**	**+0.1**
	1.0nm,0.4s,baz=135,slow=7.0,SNR=6.4								
SONM	**Songino Array**	**58.27**	**342**	P			**P**	**23 23 05.5**	**+0.4**
	0.2nm,0.6s,baz=163,slow=6.2,SNR=4.3								
MKAR	**Makanchi Array**	**67.95**	**327**	P			**P**	**23 24 09.6**	**+0.8**
	0.7nm,0.4s,baz=116,slow=8.6,SNR=18								
ZALV	**Zalesovo Beam**	**71.36**	**334**	P			**P**	**23 24 29.1**	**-0.3**
	0.3nm,0.3s,baz=120,slow=9.2,SNR=2.7								
QSPA	**South Pole Qui**	**83.00**	**180**	P			**P**	**23 25 33.7**	**-0.7**
	1.0nm,1.0s,baz=62,slow=7.2,SNR=5.4								
TORD	**Torodi Ar. Bea**	**128.34**	**281**	PKP			**PKPdf**	**23 32 15.6**	**-0.5**
	0.5nm,1.1s,baz=147,slow=1.5,SNR=2.5								

GUC 11 23:39:22.0±0.8, 34.°96S×72.°31W, h8km±7km, ML3.6, 2C-1D, Near coast of central Chile

| Code | Station Name | Δ° | AZ° | Phase | Op | ID |

DJA ***11*** *23:44:45.7±4.1,8˚S±7˚×107˚6E±˚, h35km±54km, M3.4/5, MLv3.4/5*

IDC ***11*** *23:44:52.0±11.0, 6˚97S×104˚79E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.5/3, Error ellipse: s-maj=227.9km s-min=168.1km az=15.0*

ISC 11 23:44:46.5±2.0, 8˚3S±0˚2×105˚6E±0.1, h35km, n8, σ1§18/10, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.59**	**39**	P	**Pn**	**23 45 11.7**	**-0.5**
SKJI				S	**Sn**	**23 45 32.2**	**+0.6**
CGJI	**Cibinong**	**1.63**	**5**	P	**Pn**	**23 45 12.1**	**-0.7**
CGJI				S	**Sn**	**23 45 32.9**	**+0.3**
CNJI	**Cibinong**	**1.82**	**59**	P	**Pn**	**23 45 14.6**	**-0.8**
SBJI	**Serang**	**2.19**	**15**	P	**Pn**	**23 45 20.1**	**-0.4**
MDSI	**Maura Dua**	**3.98**	**340**	P	**Pn**	**23 45 44.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.33**	**346**	P	**P**	**23 50 26.1**	**-2.2**
	0.4nm,0.4s,baz=184,slow=9.6,SNR=4.0						
SONM	**Songino Array**	**55.85**	**1**	P	**P**	**23 54 22.0**	**+1.4**
	0.2nm,0.6s,baz=164,slow=6.9,SNR=2.9						
MKAR	**Makanchi Array**	**58.59**	**341**	P	**P**	**23 54 40.6**	**+0.7**
	0.8nm,0.8s,baz=152,slow=7.3,SNR=5.6						

IDC ***11*** *23:46:13.6±1.2, 10˚77S×161˚34E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.2/25, mbtmp4.1/10, ML4.2/2, Error ellipse: s-maj=36.2km s-min=22.5km az=124.0*

ISCJB ***11*** *23:46:15.3±0.7, 10˚94S±0˚08×161˚5E±0˚1, h28km, mb3.9/8, Error ellipse: s-maj=18.0km s-min=10.2km az=158.0*

ISC 11 23:46:17.1±0.9, 10˚9S±0˚1×161˚4E±0˚2, h28km, n10, σ0§56/10, mb4.0/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.08**	**157**	Pn	Pn	23 49 11.1	+3.6
	2.1nm,0.3s,baz=307,slow=12,SNR=19						
DZM				Sn	**Sn**	**23 51 21.5**	**+0.1**
	0.6nm,0.3s,baz=131,slow=19,SNR=5.2						
CTA	**Charters Tower**	**17.23**	**236**	P	**P**	**23 50 17.8**	**+0.5**
	0.4nm,0.3s,baz=61,slow=11,SNR=16						
WRA	**Warramunga Arr**	**27.59**	**248**	P	**P**	**23 52 02.3**	**0.0**
	1.2nm,0.4s,baz=77,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**29.12**	**241**	P	**P**	**23 52 15.5**	**-0.4**
	0.4nm,0.4s,baz=64,slow=10.0,SNR=7.4						
USRK	**Ussuriysk Ar.**	**61.03**	**336**	P	**P**	**23 56 28.8**	**+0.6**
	1.1nm,0.6s,baz=170,slow=4.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**68.21**	**295**	P	**P**	**23 57 15.6**	**-0.1**
	0.7nm,0.4s,baz=116,slow=4.1,SNR=5.0						
SONM	**Songino Array**	**76.11**	**325**	P	**P**	**23 58 02.7**	**+0.2**
	2.5nm,0.6s,baz=142,slow=5.5,SNR=24						
ILAR	**Eielson Array**	**84.78**	**20**	P	**P**	**23 58 49.0**	**+0.5**
	0.3nm,0.9s,baz=282,slow=4.5,SNR=3.9						
MKAR	**Makanchi Array**	**90.56**	**318**	P	**P**	**23 59 15.9**	**-0.9**
	0.5nm,0.6s,baz=92,slow=6.1,SNR=7.7						
YKA	**Yellowknife Ar**	**96.81**	**28**	P	**P**	**23 59 44.6**	**-0.5**
	0.2nm,0.7s,baz=269,slow=4.5,SNR=4.2						

NIED ***12*** *00:01:00, 34˚20N×136˚20E, h44km, Mw3.7 Best double couple: M₀3.88000×10¹⁴ NP1:φ=63.00000°, δ22.00000°, λ81.00000°. NP2:φ=252.00000°, δ69.00000°, λ94.00000°.*

IDC ***12*** *00:01:32.9±1.2, 34˚03N×136˚32E, h0km, mb4.1/3, mb1 4.1/6, mb1mx3.6/44, mbtmp3.9/6, ML3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/35, Error ellipse: s-maj=27.5km s-min=19.8km az=105.0*

ISCJB ***12*** *00:01:37.0±0.5, 34˚19N±0˚03×136˚16E±0˚04, h45km±5km, mb4.1/3, MS2.7/1, Error ellipse: s-maj=6.0km s-min=4.7km az=152.2*

JMA ***12*** *00:01:37.6, 34˚19N×136˚17E, h38km, M3.8 Broadband fault plane solution: P waves. NP1:φ=243.00000°, δ79.00000°, λ78.00000°. NP2:φ=112.00000°, δ16.00000°, λ138.00000°. Principal axes: T Plg54.0000°, Azm138.0000°; N Plg12.0000°, Azm245.0000°; P Plg33.0000°, Azm343.0000°;*

JMA Felt I J1.

ISC 12 00:01:37.5±1.0, 34˚18N±0˚04×136˚17E±0˚03, h33km±4km, n25, σ0§86/30, mb4.2/3, 6C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	**Miekihoku**	**0.10**	**56**	⇑P	Pn	00 01 43.8	+2.5
JKN2				S	**Sb**	**00 01 48.2**	**+0.9**
JWY	**Kouya**	**0.48**	**275**	⇑P	**Pb**	**00 01 48.0**	**+0.1**
JWY				S	**Sn**	**00 01 55.2**	**-0.3**
JIE	**Ise**	**0.49**	**64**	⇑P	**Pb**	**00 01 48.1**	**+0.1**
JIE				S	**Sn**	**00 01 55.7**	**+0.1**
TSUJ	**Tsu 2**	**0.57**	**21**	⇑P	**Pb**	**00 01 48.8**	**-0.4**
TSUJ				S	**Sb**	**00 01 56.6**	**-0.6**
JHE	**Heguri**	**0.62**	**320**	⇑P	**Pb**	**00 01 49.6**	**-0.5**
JHE				S	**Sb**	**00 01 58.3**	**-0.3**
JWZ	**Kozaga**	**0.75**	**210**	⇓P	**Pn**	**00 01 51.7**	**-0.1**
JWZ				S	**Sb**	**00 02 02.3**	**+0.1**
JWM	**Minabe**	**0.76**	**244**	⇑P	**Pn**	**00 01 51.5**	**-0.4**
JWM				S	**Sb**	**00 02 02.1**	**-0.2**
TTO1	**TONANKAI O.B.S**	**0.76**	**137**	⇓P	**Pn**	**00 01 52.1**	**+0.5**
TTO2	**TONANKAI O.B.S**	**0.84**	**122**	P	**Pn**	**00 01 54.4**	**+0.6**
JAJ2	**Tsuna**	**1.09**	**283**	P	**Pn**	**00 01 56.7**	**+0.2**
JAJ2				S	**Sn**	**00 02 10.5**	**+0.1**
JWT	**Wachi**	**1.27**	**330**	⇓P	**Pn**	**00 01 59.0**	**+0.1**
JWT				S	**Sn**	**00 02 14.9**	**+0.1**
MAT	**Matsushiro**	**2.88**	**35**	P	**Pn**	**00 02 21.7**	**+0.5**
MAT				eS	**Sn**	**00 02 55.8**	**+1.0**
MJAR	**Matsushiro Arr**	**2.88**	**35**	Pn	**Pn**	**00 02 22.3**	**+1.1**
	4.1nm,0.3s,baz=202,slow=16,SNR=11						
MJAR				Pg	**Pb**	**00 02 26.3**	**-2.0**
	4.1nm,0.3s,baz=221,slow=16,SNR=20						
MJAR				Lg	Lg	00 03 02.5	
	8.3nm,0.3s,baz=223,slow=25,SNR=7.9						
JNU	**Nakatsue**	**4.54**	**258**	Pn	**Pn**	**00 02 45.6**	**+1.7**
	1.7nm,0.3s,baz=66,slow=5.0,SNR=12						
JNU				Sn	**Sn**	**00 03 35.6**	**0.0**
	0.6nm,0.3s,baz=353,slow=17,SNR=2.3						
KSRS	**Korea Array**	**7.45**	**298**	Pn	**Pn**	**00 03 25.9**	**+2.0**
	0.7nm,0.3s,baz=111,slow=14,SNR=5.5						
KSRS				Sn	**Sn**	**00 04 46.6**	**-0.6**
	0.5nm,0.3s,baz=118,slow=22,SNR=3.8						
TGY	**Tagaytay City**	**24.29**	**218**	LR	LR	00 14 40.3	
	comp=Z,28nm,20.6s,baz=300,slow=32						
SONM	**Songino Array**	**26.10**	**310**	P	**P**	**00 07 09.2**	**+0.9**
	0.4nm,0.6s,baz=108,slow=9.9,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**30.80**	**110**	T	T	00 40 20.2	
	baz=303,slow=75,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**30.80**	**110**	T	T	00 40 19.7	
	baz=303,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**30.82**	**110**	T	T	00 40 20.9	
	baz=303,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**31.34**	**112**	T	T	00 41 03.3	
	baz=304,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.34**	**112**	T	T	00 41 09.7	
	baz=304,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**31.36**	**112**	T	T	00 41 04.7	
	baz=304,slow=75,SNR=6.5						
WRA	**Warramunga Arr**	**53.85**	**182**	P	**P**	**00 10 56.0**	**-1.3**
	1.3nm,0.5s,baz=359,slow=7.7,SNR=33						
ASAR	**Alice Springs**	**57.57**	**182**	P	**P**	**00 11 23.7**	**-0.3**
	4.6nm,0.3s,baz=12,slow=13,SNR=6.8						

IDC ***12*** *00:03:43.8±1.4, 1˚90N×97˚02E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.8/41, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.7/39, Error ellipse: s-maj=60.8km s-min=19.2km az=54.0*

ISCJB ***12*** *00:03:45.8±0.7, 1˚74N±0˚06×96˚88E±0˚07, h28km, mb4.0/8, MS3.4/1, Error ellipse: s-maj=10.2km s-min=7.6km az=151.0*

DJA ***12*** *00:03:46.6±1.1, 2˚N±6˚×97˚7E±˚, h75km±16km, M3.7/5, MLv3.7/5*

ISC 12 00:03:48.1±0.9, 1˚90N±0˚07×96˚91E±0˚07, h28km, n20, σ0§71/17, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.77**	**311**	P	**Pn**	**00 04 03.1**	**0.0**
SNSI				S	**Sn**	**00 04 14.5**	**+0.8**
TPTI		**1.37**	**12**	P	**Pn**	**00 04 11.0**	**-0.5**
TPTI				S	**Sb**	**00 04 31.4**	**+1.0**
KCSI	**Kotacane, Aceh**	**1.82**	**28**	P	**Pn**	**00 04 18.4**	**+0.7**
KCSI				S	**Sb**	**00 04 42.9**	**-0.4**
MNSI	**Mandailing Nat**	**2.89**	**112**	P	**Pn**	**00 04 33.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.57**	**7**	Pn	**Pn**	**00 07 38.1**	**-0.6**
	baz=199,slow=12,SNR=5.2						
H08S2	**Diego Garcia H**	**26.14**	**248**	T	T	00 36 28.6	
	baz=69,slow=76,SNR=237						
H08S3	**Diego Garcia H**	**26.14**	**248**	T	T	00 36 28.8	
	baz=69,slow=76,SNR=239						
H08S1	**Diego Garcia H**	**26.15**	**248**	T	T	00 36 30.0	
	baz=69,slow=76,SNR=668						
H01W3	**Cape Leeuwin H**	**40.00**	**158**	T	T	00 53 52.5	
	baz=333						
H01W2	**Cape Leeuwin H**	**40.02**	**158**	T	T	00 54 01.1	
	baz=333						
H01W1	**Cape Leeuwin H**	**40.02**	**158**	T	T	00 53 58.2	
	baz=333						
WRA	**Warramunga Arr**	**42.66**	**122**	P	**P**	**00 11 41.7**	**-1.0**
	0.5nm,0.7s,baz=300,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**44.05**	**127**	P	**P**	**00 11 53.0**	**-1.0**
	6.2nm,0.4s,baz=294,slow=7.7,SNR=3.0						
SONM	**Songino Array**	**46.48**	**9**	P	**P**	**00 12 12.4**	**-0.6**
	0.5nm,0.5s,baz=185,slow=10.0,SNR=8.3						
SONM				PcP	**PcP**	**00 13 47.3**	**+0.1**
	0.2nm,0.4s,baz=187,slow=3.6,SNR=3.3						
MKAR	**Makanchi Array**	**46.49**	**346**	P	**P**	**00 12 12.9**	**0.0**
	1.1nm,0.5s,baz=163,slow=8.2,SNR=16						
GEYT	**Alibeck**	**50.49**	**320**	P	**P**	**00 12 44.7**	**+0.9**
	0.9nm,0.8s,baz=157,slow=7.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.82**	**351**	P	**P**	**00 13 01.2**	**+0.3**
	3.5nm,0.5s,baz=178,slow=6.6,SNR=28						
AKTO	**Aktyubinsk**	**58.48**	**332**	LR	LR	00 41 23.9	
	comp=Z,26nm,18.2s,slow=39						
FINES	**FINESS Array B**	**79.24**	**332**	P	**P**	**00 15 50.5**	**-0.1**
	1.0nm,0.8s,baz=149,slow=4.4,SNR=3.4						
ARCES	**ARCESS Array B**	**81.78**	**340**	P	**P**	**00 16 04.2**	**+0.1**
	6.1nm,1.1s,baz=85,slow=5.5,SNR=4.1						

ISK ***12*** *00:05:42.9, 40˚68N×27˚41E, h4km, MD2.7*

DDA ***12*** *00:05:42.9, 40˚63N×27˚45E, h25km, MD2.7*

ISCJB ***12*** *00:05:43.2±0.4, 40˚68N±0˚02×27˚40E±0˚03, h7km±3km, Error ellipse: s-maj=4.2km s-min=3.2km az=138.7*

CSEM ***12*** *00:05:43.3±0.1, 40˚67N×27˚42E, h5km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.9km az=149.0*

ISC 12 00:05:43.4±0.8, 40˚66N±0˚02×27˚42E±0˚02, h13km±6km, n77, σ0§73/100, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.15**	**113**	PG	**Pg**	**00 05 46.8**	**-0.3**
MRMT				SG	**Sg**	**00 05 49.5**	**-0.1**
MRMT	**Marmara Adasi**	**0.15**	**113**	*i* Pg	**Pg**	**00 05 46.8**	**-0.3**
MRMT				*i* Sg	**Sg**	**00 05 49.5**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.18**	**278**	*e*PG	**Pg**	**00 05 47.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.18**	**278**	*e*Pg	**Pg**	**00 05 47.3**	**-0.3**
KRBG	**Karabiga-Canak**	**0.28**	**199**	*e*PG	**Pg**	**00 05 49.5**	**+0.2**
KRBG	**Karabiga-Canak**	**0.28**	**199**	*e*Pg	**Pg**	**00 05 49.5**	**+0.2**
TKR	**Tekirdag**	**0.34**	**15**	*e*PG	**Pg**	**00 05 50.1**	**-0.1**
TKR				*e*SG	**Sg**	**00 05 55.3**	**+0.4**
TKR	**Tekirdag**	**0.34**	**15**	*e*Pg	**Pg**	**00 05 50.2**	**-0.1**
TKR				*e*Sg	**Sg**	**00 05 55.3**	**+0.4**
EDC	**Edincik**	**0.46**	**133**	*e*PG	**Pg**	**00 05 52.5**	**0.0**
EDC	**Edincik**	**0.46**	**133**	*e*Pg	**Pg**	**00 05 52.5**	**0.0**
BNT	**Bandirma**	**0.49**	**128**	*e*PG	**Pb**	**00 05 53.4**	**-0.5**
BNT	**Bandirma**	**0.49**	**128**	*e*Pg	**Pb**	**00 05 53.4**	**-0.5**
CRLT	**Corlu**	**0.53**	**27**	*e*PG	**Pg**	**00 05 53.5**	**-0.2**
CRLT				*e*SG	**Sb**	**00 06 01.5**	**-0.6**
CRLT	**Corlu**	**0.53**	**27**	*e*Pg	**Pg**	**00 05 53.5**	**-0.2**
CRLT				*e*Sg	**Sb**	**00 06 01.5**	**-0.6**
LPK	**Lapseki**	**0.58**	**240**	*e*PG	**Pb**	**00 05 54.8**	**-0.6**
LPK	**Lapseki**	**0.58**	**240**	*e*Pg	**Pb**	**00 05 54.8**	**-0.6**
ERIK	**Erikli-Kesan**	**0.69**	**271**	*e*PG	**Pb**	**00 05 57.1**	**-0.1**
ERIK	**Erikli-Kesan**	**0.69**	**271**	*e*Pg	**Pb**	**00 05 57.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.77**	**250**	*e*PG	**Pg**	**00 05 57.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.77**	**250**	*e*Pg	**Pg**	**00 05 57.8**	**-0.4**
KCTX	**Karacabey (Bur**	**0.82**	**119**	*e*PG	**Pb**	**00 05 59.3**	**-0.2**
KCTX	**Karacabey (Bur**	**0.82**	**119**	*e*Pg	**Pb**	**00 05 59.3**	**-0.2**
SLVT	**Silivri**	**0.83**	**46**	*e*PG	**Pb**	**00 05 59.3**	**-0.3**
SLVT	**Silivri**	**0.83**	**46**	*e*Pg	**Pb**	**00 05 59.3**	**-0.3**
ELBA	**Catalca**	**0.91**	**57**	*i* P	**Pg**	**00 05 59.9**	**-1.1**
ELBA				*i* S	**Sg**	**00 06 11.9**	**-1.0**
ELBA	**Catalca**	**0.91**	**57**	*i* P	**Pg**	**00 05 59.9**	**-1.1**
ELBA				*i* S	**Sg**	**00 06 11.9**	**-1.0**
BALY	**Balya**	**0.93**	**170**	*i* P	**Pg**	**00 06 00.5**	**-0.9**
BALY				*i* S	**Sg**	**00 06 12.5**	**-1.1**
BALY	**Balya**	**0.93**	**170**	*i* P	**Pg**	**00 06 00.5**	**-0.9**
BALY				*i* S	**Sg**	**00 06 12.5**	**-1.1**
ENEZ	**Enez**	**0.96**	**275**	*e*PG	**Pb**	**00 06 02.4**	**+0.4**
ENEZ	**Enez**	**0.96**	**275**	*e*Pg	**Pb**	**00 06 02.4**	**+0.4**
PHSR	**Pinarhisar**	**0.97**	**5**	*e*PG	**Pg**	**00 06 01.8**	**-0.4**
PHSR	**Pinarhisar**	**0.97**	**5**	*e*Pg	**Pg**	**00 06 01.8**	**-0.4**
CTYL	**Yal??k??y-??at**	**1.05**	**39**	*e*PG	**Pb**	**00 06 03.2**	**-0.2**
CTYL	**Yal??k??y-??at**	**1.05**	**39**	*e*Pg	**Pb**	**00 06 03.2**	**-0.2**
ALN	**Alexandroupoli**	**1.07**	**283**	*e*PG	**Pb**	**00 06 04.0**	**+0.3**
ALN	**Alexandroupoli**	**1.07**	**283**	*e*Pg	**Pb**	**00 06 04.1**	**+0.3**
BALB	**Balikesir**	**1.08**	**161**	*e*PN	**Pn**	**00 06 04.6**	**+0.3**
BALB	**Balikesir**	**1.08**	**161**	*e*Pn	**Pn**	**00 06 04.6**	**+0.3**
ARMT	**Armutlu**	**1.10**	**95**	*e*PN	**Pg**	**00 06 04.3**	**-0.4**
ARMT	**Armutlu**	**1.10**	**95**	*e*Pn	**Pg**	**00 06 04.3**	**-0.4**
BGKT	**Bogazkoy**	**1.15**	**63**	*e*PN	**Pn**	**00 06 05.4**	**+0.2**
BGKT	**Bogazkoy**	**1.15**	**63**	*e*Pn	**Pn**	**00 06 05.4**	**+0.2**
EZN	**Ezine**	**1.18**	**225**	*e*PN	**Pg**	**00 06 04.8**	**-1.3**
EZN	**Ezine**	**1.18**	**225**	*e*Pn	**Pg**	**00 06 04.8**	**-1.3**
EDRB	**Edirne**	**1.29**	**337**	*e*PN	**Pb**	**00 06 07.8**	**+0.3**
EDRB	**Edirne**	**1.29**	**337**	*e*Pn	**Pb**	**00 06 07.8**	**+0.3**
BUY	**Buyukada**	**1.31**	**81**	*i* P	**Pn**	**00 06 06.9**	**-0.5**
BUY				*i* S	**Sg**	**00 06 24.6**	**-0.9**
BUY	**Buyukada**	**1.31**	**81**	*i* P	**Pn**	**00 06 06.9**	**-0.5**
BUY				*i* S	**Sg**	**00 06 24.6**	**-0.9**
ISK	**Istanbul-Kandi**	**1.31**	**72**	*e*PN	**Pn**	**00 06 06.7**	**-0.7**
ISK	**Istanbul-Kandi**	**1.31**	**72**	*e*Pn	**Pn**	**00 06 06.7**	**-0.7**
BOZC	**Bozcaada**	**1.33**	**232**	*i* P	**Pn**	**00 06 07.5**	**-0.1**
BOZC				*i* S	**Sg**	**00 06 25.4**	**-0.7**
DURS	**Dursunbey**	**1.33**	**142**	*i* P	**Pn**	**00 06 07.7**	**-0.2**
DURS				*i* S	**Sb**	**00 06 25.6**	**+0.2**
DURS	**Dursunbey**	**1.33**	**142**	*i* P	**Pn**	**00 06 07.7**	**-0.2**
DURS				*i* S	**Sb**	**00 06 25.6**	**+0.2**
KLYT	**Kilyos**	**1.37**	**64**	*e*PN	**Pg**	**00 06 09.3**	**-0.3**
KLYT	**Kilyos**	**1.37**	**64**	*e*Pn	**Pg**	**00 06 09.3**	**-0.3**
DST	**Dursunbey**	**1.40**	**138**	*e*PN	**Pg**	**00 06 10.2**	**-0.1**
DST	**Dursunbey**	**1.40**	**138**	*e*Pn	**Pg**	**00 06 10.2**	**-0.1**
AYVA	**Ayvalik**	**1.46**	**203**	*i* P	**Pn**	**00 06 09.0**	**-0.5**
AYVA				*i* S	**Sn**	**00 06 29.1**	**+0.6**
AYVA	**Ayvalik**	**1.46**	**203**	*i* P	**Pn**	**00 06 09.0**	**-0.5**
AYVA				*i* S	**Sn**	**00 06 29.1**	**+0.6**
HRT	**Hereke**	**1.72**	**84**	*e*PN	**Pn**	**00 06 14.2**	**+1.1**
HRT	**Hereke**	**1.72**	**84**	*e*Pn	**Pn**	**00 06 14.2**	**+1.1**
ADVT	**Abdulvahap**	**1.78**	**97**	*e*PN	**Pb**	**00 06 15.6**	**-0.4**
ADVT	**Abdulvahap**	**1.78**	**97**	*e*Pn	**Pb**	**00 06 15.6**	**-0.4**
AKHS	**Akhisar**	**1.81**	**170**	*i* P	**Pb**	**00 06 16.8**	**+0.4**
AKHS				*i* S	**Sb**	**00 06 40.2**	**+1.3**
AKHS	**Akhisar**	**1.81**	**170**	*i* P	**Pb**	**00 06 16.8**	**+0.4**
AKHS				*i* S	**Sb**	**00 06 40.2**	**+1.3**
SIGR	**SIGRI**	**1.88**	**220**	*e*PN	**Pb**	**00 06 17.6**	**0.0**
SIGR	**SIGRI**	**1.88**	**220**	*e*Pn	**Pb**	**00 06 17.6**	**0.0**
DEMI	**Demirci**	**1.90**	**148**	*i* P	**Pn**	**00 06 15.0**	**-0.7**
DEMI				*i* S	**Sb**	**00 06 42.3**	**+0.6**
DEMI	**Demirci**	**1.90**	**148**	*i* P	**Pn**	**00 06 15.0**	**-0.7**
DEMI				*i* S	**Sb**	**00 06 42.3**	**+0.6**
TVSB	**Tavsanli**	**1.98**	**127**	*e*PN	**Pb**	**00 06 18.8**	**-0.6**
TVSB	**Tavsanli**	**1.98**	**127**	*e*Pn	**Pb**	**00 06 18.8**	**-0.6**
GDZ	**Gediz**	**2.23**	**134**	*i* P	**Pg**	**00 06 25.7**	**-0.5**
GDZ				*i* S	**Sb**	**00 06 52.6**	**+1.2**
GDZ	**Gediz**	**2.23**	**134**	*i* P	**Pg**	**00 06 25.7**	**-0.5**
GDZ				*i* S	**Sb**	**00 06 52.6**	**+1.2**
GULT	**Gulveren**	**2.37**	**95**	*e*PN	**Pn**	**00 06 24.1**	**+2.0**
GULT	**Gulveren**	**2.37**	**95**	*e*Pn	**Pn**	**00 06 24.1**	**+2.0**
ALT	**Altintas**	**2.62**	**127**	*e*PN	**Pn**	**00 06 27.8**	**+2.2**
ALT	**Altintas**	**2.62**	**127**	*e*Pn	**Pn**	**00 06 27.8**	**+2.2**

CSEM ***12*** *00:12:56.2±0.3, 50˚08N×18˚38E, h1km, ML2.3/4, Error ellipse: s-maj=9.1km s-min=4.7km az=174.0*

PRU 12 00:12:57.2, 50˚04N×18˚40E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**288**	*e*Sg	Sg	00 13 04.4	+2.7
OKC	**Ostrava-Krasne**	**0.26**	**219**	*e*PG	Pg	00 13 02.5	+0.3
OKC				*e*SG	Sg	00 13 06.4	+0.8
	comp=Z,6.1nm,0.4s						
OKC	**Ostrava-Krasne**	**0.26**	**219**	Pg	Pg	00 13 02.5	+0.3
OKC				Sg	Sg	00 13 06.4	+0.8
	6.1nm,0.4s						
OJC	**Ojcow**	**0.92**	**78**	*e*Pg	Pg	00 13 14.0	-0.8
OJC				*e*Sg	Sg	00 13 26.2	-0.6
OJC	**Ojcow**	**0.92**	**78**	*e*Pg	Pg	00 13 14.0	-0.8
OJC				*e*Sg	Sg	00 13 26.2	-0.6
KRLC	**Kraliky**	**1.04**	**273**	*e*PG	Pg	00 13 16.2	-1.1
KRLC				*e*SG	Sg	00 13 30.2	-0.7
KRLC	**Kraliky**	**1.04**	**273**	Pg	Pg	00 13 16.2	-1.1
KRLC				Sg	Sg	00 13 30.2	-0.7
DPC	**Dobruska-Polom**	**1.37**	**284**	*e*PG	Pg	00 13 22.0	-1.6
DPC				*e*SG	Sg	00 13 41.0	-0.4
DPC	**Dobruska-Polom**	**1.37**	**284**	Pg	Pg	00 13 22.0	-1.6
DPC				Sg	Sg	00 13 41.0	-0.4
VRAC	**Vranov**	**1.38**	**239**	*e*SG	Sg	00 13 41.2	-0.5
UPC	**Upice**	**1.60**	**288**	*e*SG	Sn	00 13 48.2	0.0
	comp=Z,0.8nm,0.2s						
UPC	**Upice**	**1.60**	**288**	Sg	Sn	00 13 48.2	0.0
	0.8nm,0.2s						
TREC	**Trest**	**2.03**	**250**	*e*SG	Sb	00 14 01.2	+0.2
TREC	**Trest**	**2.03**	**250**	Sg	Sb	00 14 01.2	+0.2
PRU	**Pruhonice**	**2.49**	**270**	*e*SG	Sg	00 14 16.3	-0.9
	comp=Z,1.8nm,0.4s						
PRU	**Pruhonice**	**2.49**	**270**	Sg	Sg	00 14 16.3	-0.9
	1.8nm,0.4s						
PVCC	**Panska Ves**	**2.51**	**283**	*e*SG	Sg	00 14 16.8	-0.9
	comp=Z,3.2nm,0.2s						
PVCC	**Panska Ves**	**2.51**	**283**	Sg	Sg	00 14 16.8	-0.9
	3.2nm,0.2s						
KHC	**Kasperske Hory**	**3.27**	**256**	*e*PG	Pb	00 13 56.8	+0.7
KHC				*e*SG	Sg	00 14 41.2	-1.1
	comp=Z,1.1nm,0.4s						
KHC	**Kasperske Hory**	**3.27**	**256**	Pg	Pb	00 13 56.8	+0.7
KHC				Sg	Sg	00 14 41.2	-1.1
	1.1nm,0.4s						

ISCJB ***12*** *00:22:08.5±1.0, 24˚0S±0˚1×66˚6W±0˚2, h195km, mb3.1/4, Error ellipse: s-maj=26.8km s-min=12.4km az=162.2*

IDC ***12*** *00:22:10.1±3.6, 23˚94S×66˚58W, h196km±34km, mb3.0/4, mb1 3.2/6, mb1mx3.1/33, mbtmp3.5/6, Error ellipse: s-maj=29.0km s-min=23.3km az=54.0*

ISC 12 00:22:10.0±1.0, 23˚9S±0˚1×66˚7W±0˚2, h195km, n7, σ1§10/8, mb3.3/4, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.68**	**349**	P	**Pn**	**00 24 00.7**	**+0.9**
	0.5nm,0.3s,baz=169,slow=8.4,SNR=22						
LPAZ				S	**Sn**	**00 25 25.2**	**-1.5**
	0.0nm,0.3s,baz=87,slow=18,SNR=1.3						
BDFB	**Brasilia**	**19.34**	**68**	P	**P**	**00 26 21.9**	**+0.9**
	0.2nm,0.3s,baz=217,slow=5.1,SNR=3.5						
TXAR	**Lajitas Array**	**63.76**	**324**	P	**P**	**00 32 22.4**	**+1.0**
	0.2nm,0.4s,baz=108,slow=8.6,SNR=3.1						
QSPA	**South Pole Qui**	**66.33**	**180**	P	**P**	**00 32 37.2**	**-0.3**
	0.6nm,0.7s,baz=150,slow=1.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.23**	**69**	P	**P**	**00 33 36.5**	**-0.8**
	0.1nm,0.4s,baz=254,slow=6.8,SNR=6.0						
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**00 35 05.4**	**-0.3**
	0.1nm,0.6s,baz=138,slow=4.9,SNR=5.9						
WRA

comp=Z,63nm,0.6s
SFK smax smax
comp=N,102nm,0.8s
SFK smax smax
comp=N,135nm,0.9s
SMLA Simla 6.75 114 *i* P **Pn 00 39 26.8 +1.2**
SMLA *ex* **Sn 00 40 38.5 -3.1**
SMLA AML AML 00 41 26.2
comp=E,494nm,0.7s
SMLA AML AML 00 41 26.5
comp=N,700nm,0.6s
KKR Kurukshetra 7.12 124 *eS* **Sn 00 40 49.3 -1.6**
KSH Kashi 7.22 40 Pn **Pn 00 39 29.4 -2.8**
KSH Sn Sn 00 40 46.2 -7.4
KSH pmax pmax
comp=Z,56nm,0.5s
KSH smax smax
comp=N,250nm,0.4s
KSH smax smax
comp=E,500nm,0.9s
KHET Khetri 7.81 139 *eP* **Pn 00 39 40.0 -0.2**
KHET *eS* **Sn 00 41 04.5 -3.4**
KUDL Kundal 8.14 135 *ex* x 00 39 43.6
KUDL *eS* **Sn 00 41 13.0 -3.1**
AYAN Aya Nagar 8.29 131 *eP* **Pn 00 39 47.1 +0.4**
AYAN *ex* x 00 41 12.9
MNAS Manas 8.60 13 ⇑P **Pn 00 39 51.8 +0.6**
comp=E,47nm,1.2s
MNAS ⇓S **Sn 00 41 27.4 +0.1**
comp=E,92nm,0.9s
MNAS Manas 8.60 13 P **Pn 00 39 51.7 +0.6**
MNAS pmax pmax
comp=Z,30nm,0.8s
AJM Ajmer 8.60 151 *ex* **Pn 00 39 50.0 -1.1**
KK31 Karatay Array 8.99 2 ⇑P **Pn 00 39 56.1 -0.3**
comp=Z,7.8nm,0.4s,baz=180,slow=12,SNR=269
KK31 ⇓S **Sn 00 41 35.4 -1.5**
comp=Z,77nm,0.8s,baz=189,slow=22
KK31 Karatay Array 8.99 2 *i* P **Pn 00 39 56.1 -0.3**
KK31 00 41 37.5
KK31 pmax pmax
comp=Z,7.0nm,0.2s
KK31 smax smax
comp=N,77nm,0.7s
KKAR Karatay Array 8.99 2 *eP* **Pn 00 39 56.4 0.0**
KKAR *e* 00 41 37.8
KKAR Karatay Array 8.99 2 *ePn* **Pn 00 39 56.4 0.0**
KKAR *eSn* **Sn 00 41 37.8 +0.9**
EKS2 Erkin-Say 9.04 18 *eP* **Pn 00 39 57.8 +0.6**
EKS2 *e* 00 41 38.8
EKS2 Erkin-Say 9.04 18 *ePn* **Pn 00 39 57.8 +0.6**
EKS2 *eSn* **Sn 00 41 38.8 +0.5**
AAK Ala-Archa 9.22 21 ⇑P **Pn 00 40 02.5 +2.8**
comp=N,19nm,0.7s
AAK ⇓S **Sn 00 41 42.7 +0.1**
comp=N,71nm,0.9s
AAK Ala-Archa 9.22 21 P **Pn 00 40 00.6 +1.0**
AAK 00 41 42.7
AAK pmax pmax
comp=Z,3.0nm,0.3s
AAK smax smax
comp=N,3.0nm,0.3s
AAK Ala-Archa 9.22 21 Pn **Pn 00 40 00.6 +1.0**
comp=N,2.8nm,0.3s,baz=176,slow=3.0,SNR=28
AAK Sn **Sn 00 41 42.7 +0.1**
comp=N,2.9nm,0.3s,baz=171,slow=22,SNR=6.5
AAK Ala-Archa 9.22 21 *ePn* **Pn 00 40 01.4 +1.7**
AAK *eSn* **Sn 00 41 39.0 -3.7**
FRU Bishkek 9.44 21 *eP* **Pn 00 40 05.0 +2.5**
FRU *e* 00 41 50.0
FRU pmax pmax
comp=N,290nm,1.6s
AGRA Agra 9.69 133 *eP* **Pn 00 40 06.8 +0.9**
AGRA *eS* **Sn 00 41 48.3 -5.7**
TKM2 Tokmak 2 9.83 25 ⇑P **Pn 00 40 08.3 +0.2**
comp=N,27nm,0.9s
TKM2 ⇑S **Sn 00 41 57.6 -0.2**
comp=N,17nm,0.8s
TKM2 Tokmak 2 9.83 25 *eP* **Pn 00 40 07.4 -0.7**
TKM2 *e* 00 41 53.1
TKM2 Tokmak 2 9.83 25 *ePn* **Pn 00 40 07.4 -0.7**
TKM2 *eSn* **Sn 00 41 53.1 -4.7**
LGTI Lohaghat 9.89 115 *eP* **Pn 00 40 09.8 +1.1**
GEYT Alibeck 10.34 295 Pn **Pn 00 40 14.2 -0.7**
comp=N,0.7nm,0.3s,baz=123,slow=11,SNR=14
GEYT Sn **Sn 00 42 15.5 +5.4**
comp=N,0.2nm,0.3s,baz=93,slow=16,SNR=2.5
GEYT LR LR 00 45 05.8
comp=N,430nm,18.0s,baz=115,slow=42
PDGK Podgornoye 11.81 36 ⇓P **Pn 00 40 33.6 -1.3**
comp=N,9.8nm,0.9s
PDGK ⇑S **Sn 00 42 44.1 -1.9**
comp=N,19nm,1.0s
PDGK Podgornoye 11.81 36 P **Pn 00 40 33.2 -1.8**
PDGK pmax pmax
comp=Z,9.0nm,0.7s
PYUN Piuthan 12.64 115 *eP* **Pn 00 40 43.7 -2.9**
comp=Z,154nm,0.4s
DANN Dangsing 13.10 112 *eP* **Pn 00 40 50.1 -2.9**
comp=Z,71nm,0.7s
KOLN Koldanda 13.28 115 *eP* **Pn 00 40 52.9 -2.3**
comp=Z,44nm,0.7s
GKN Gorkha 13.95 112 *eP* **Pn 00 41 01.2 -3.2**
comp=Z,56nm,0.5s
OTUK Ortayu 14.23 6 ⇑P **Pn 00 41 06.5 -1.6**
comp=Z,11nm,0.7s
OTUK ⇑S **Sn 00 43 43.4 -1.7**
comp=Z,18nm,0.9s
OTUK Ortayu 14.23 6 P **Pn 00 41 06.4 -1.6**
OTUK pmax pmax
comp=Z,12nm,0.8s
KKN Kakani 14.55 112 *eP* Pn 00 41 09.0 -3.6
comp=Z,92nm,0.7s
PKIN Phulchoki 14.74 112 *eP* Pn 00 41 11.3 -4.0
comp=Z,44nm,0.3s
PKI Pulchoki 14.76 112 *eP* Pn 00 41 12.0 -3.6
comp=Z,79nm,0.6s
GUN Gumba 14.95 110 *eP* Pn 00 41 14.4 -3.9
comp=Z,78nm,0.8s
JIRN Jiri 15.31 110 *eP* **Pn 00 41 19.1 -4.0**
comp=Z,81nm,0.6s
MK31 Makanchi Array 15.73 33 ⇓P **Pn 00 41 27.9 -0.1**
comp=Z,6.8nm,0.6s,baz=201,slow=15,SNR=67
MK31 Makanchi Array 15.73 33 *i* P **Pn 00 41 27.4 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 15.73 33 *ceP* **Pn 00 41 27.5 -0.5**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 15.73 33 Pn **Pn 00 41 26.6 -1.4**
comp=Z,0.6nm,0.3s,baz=214,slow=9.7,SNR=35
MKAR Makanchi Array 15.73 33 *ePn* **Pn 00 41 25.6 -2.5**
POO Poona 15.89 167 *eP* **Pn 00 41 30.0 -0.3**
RAMN Ramite 15.98 112 *eP* **Pn 00 41 28.1 -3.5**
comp=Z,62nm,0.6s
ODAN Odare 16.64 111 *eP* **Pn 00 41 36.9 -3.0**
comp=Z,67nm,0.9s
TAPN Taplejung 16.65 109 *eP* **Pn 00 41 36.4 -3.7**
comp=Z,34nm,0.5s
WMQ Urumqi 16.82 50 *eP* **P 00 41 45.5 +1.6**
WMQ *eS* **S 00 44 55.0 -3.2**
WMQ SS SnSn 00 45 13.0 +12
WMQ PMZ
comp=Z,22nm,0.8s
WMQ PMZ
comp=Z,140nm,6.6s
WMQ LN
comp=Z,1μm,10.6s
WMQ LE
comp=Z,690nm,15.2s
WMQ LZ
comp=Z,540nm,11.8s
AB31 Akbulak array 16.87 337 ⇑P **Pn 00 41 40.4 -2.0**
comp=Z,5.4nm,0.6s,baz=160,slow=12
AB31 ⇓S Sn 00 44 41.3 -7.8
comp=Z,8.9nm,1.0s,baz=155,slow=24
AB31 Akbulak array 16.87 337 P **Pn 00 41 41.6 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR Akbulak array 16.87 337 *ePn* **Pn 00 41 40.7 -1.7**
ABKAR *eSn* **Sn 00 44 45.8 -3.2**
RPR Rampur 17.30 149 *eP* **Pn 00 41 46.9 -1.2**
KURBB Kurchatov Arra 17.65 18 ⇑P **Pn 00 41 49.6 -2.5**
comp=Z,9.5nm,0.8s
KURBB Kurchatov Arra 17.65 18 Pn **Pn 00 41 48.0 -4.1**
comp=Z,0.1nm,0.3s,baz=207,slow=10,SNR=4.9
KURBB Sn **Sn 00 45 09.6 +1.6**
comp=Z,0.0nm,0.3s,baz=202,slow=17,SNR=3.9
KURK Kurchatov 17.76 18 ⇑P **Pn 00 41 50.9 -2.6**
comp=Z,6.1nm,1.2s
KURK Kurchatov 17.76 18 P Pn 00 41 48.1 -5.4
KURK 00 45 09.6
KURK Kurchatov 17.76 18 *ePn* **Pn 00 41 53.0 -0.5**
comp=Z,72nm,2.2s
KURK Sn **Sn 00 45 09.6 -1.0**
HYBB Hyderabad (bro 18.30 153 *eP* **P 00 41 59.2 -1.3**
HYBB *es*P **sP 00 42 13.8 +3.5**
HYBB *eS* **S 00 45 31.2 +2.7**
HYB Hyderabad 18.31 153 *i* P **Pn 00 42 02.0 +1.5**
HYB *e* 00 42 32.0
HYB *eS* **S 00 45 31.0 +2.4**
AKTO Aktyubinsk 18.53 335 ⇓P **P 00 42 02.0 -0.7**
comp=Z,12nm,0.7s
AKTO ⇑S **Sn 00 45 28.1 -1.1**
comp=Z,8.1nm,0.9s
AKTO Aktyubinsk 18.53 335 P **P 00 42 02.1 -0.5**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 18.53 335 P **P 00 42 02.1 -0.5**
comp=Z,0.7nm,0.3s,baz=156,slow=10.0,SNR=22
BVA0 Borovoye Array 18.91 1 ⇑P **P 00 42 06.1 -0.8**
comp=Z,12nm,0.8s,baz=159,slow=9.4,SNR=4.3
BVA0 ⇑S Sn 00 45 29.4 -9.1
comp=Z,12nm,1.4s,baz=164,slow=15,SNR=5.5
BVAR Borovoye Array 18.91 1 P **P 00 42 05.7 -1.2**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 18.91 1 P **P 00 42 05.7 -1.2**
comp=Z,1.1nm,0.3s,baz=167,slow=14,SNR=35
NJS Nagarjunasagar 19.38 152 *eP* **P 00 42 11.8 -0.5**
NJS *e* 00 42 19.1
NJS *epP* **pP 00 42 21.4 +2.5**
NJS *es*P **sP 00 42 24.5 +2.4**
NJS *eS* **S 00 45 47.9 -2.2**
CHLP Challavanipeta 19.98 138 *eP* **P 00 42 19.5 +0.8**
CHLP *eS* **S 00 45 57.8 -4.5**
URV Uravakonda 20.18 159 *eP* **P 00 42 21.4 +0.5**
ADKI Addanki 20.29 151 *eP* **P 00 42 21.4 -0.6**
ADKI *eS* **S 00 46 06.1 -2.4**
DGRG David-gareji 20.75 298 P **P 00 42 23.6 -3.4**
SHL Shillong 20.78 108 *eP* Pn 00 42 29.0 -1.2
GNI Garni 20.98 294 *eP* **P 00 42 30.4 +0.8**
GNI pmax pmax
comp=Z,24nm,1.0s
GNI Garni 20.98 294 P Pn 00 42 31.8 -0.5
comp=Z,14nm,0.7s,baz=328,slow=6.0,SNR=13
GNI Garni 20.98 294 *eP* Pn 00 42 31.5 -0.8
comp=Z,26nm,0.8s
TBLG Delisi 21.27 298 P **P 00 42 33.6 +0.9**
SKHT Srikalahasti 22.11 154 *eP* **P 00 42 42.0 +0.3**
SKHT *epP* **pP 00 42 51.0 +2.5**
SKHT *es*P **sP 00 42 55.0 +3.4**
SKHT *eS* **S 00 46 45.1 +0.8**
AKH Akhalkalaki 22.12 297 P **P 00 42 45.6 +3.6**
ZEI Tsey 22.13 301 *eP* **P 00 42 42.9 +0.9**
ZEI pmax pmax
comp=Z,12nm,1.3s
ONI Oni 22.40 300 P **P 00 42 48.3 +3.5**
ZALV Zalesovo Beam 22.43 23 P **P 00 42 42.1 -2.8**
ZALV S **S 00 46 47.1 -2.7**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV smax smax
comp=N,1.0nm,0.7s
ZALV MLR MLR
comp=Z,95nm,21.5s
ZALV Zalesovo Beam 22.43 23 P **P 00 42 42.1 -2.8**
comp=Z,7.9nm,0.8s,baz=221,slow=11,SNR=22
ZALV S **S 00 46 47.1 -2.7**
comp=Z,0.9nm,0.7s,baz=222,slow=21,SNR=2.9
ZALV LR LR 00 52 08.1
comp=Z,95nm,21.4s,baz=250,slow=39
NCK Nalchik 22.53 302 *eP* **P 00 42 46.8 +0.7**
NVS Novosibirsk 22.71 20 *eP* **P 00 42 45.8 -2.0**
NVS *eS* **S 00 46 53.0 -1.7**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS pmax pmax
comp=Z,14nm,0.9s
NVS smax smax
comp=N,13nm,1.4s
NVS smax smax
comp=E,8.0nm,1.5s
IMP Imphal 22.78 108 *ex* **P 00 42 53.0 +4.0**
KBZ Khabaz 23.08 303 P **P 00 42 51.7 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 23.08 303 P **P 00 42 51.7 -0.1**
comp=Z,2.9nm,0.8s,baz=151,slow=8.0,SNR=9.5
NEY Neytrino 23.08 301 *eP* **P 00 42 51.8 -0.2**
KIV Kislovodsk 23.29 303 *eP* **P 00 42 54.9 +0.9**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,70nm,15.0s
KIV Kislovodsk 23.29 303 *eP* **P 00 42 54.2 +0.2**
comp=Z,8.7nm,0.8s
SVE Sverdlovsk 23.61 347 *eP* **P 00 42 58.6 +1.7**
SVE *eS* **S 00 47 11.4 +1.7**
SVE pmax pmax
comp=Z,15nm,1.4s
SVE MLR MLR
comp=Z,671nm,15.0s
ARU Arti 23.66 344 *di* P **P 00 42 58.6 +1.1**
ARU 00 43 25.5
ARU S **S 00 47 13.1 +2.5**
ARU SS **SnSn 00 47 53.8 +4.9**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU Arti 23.66 344 *eP* **P 00 42 57.2 -0.3**
comp=Z,9.4nm,0.9s
RAYN Ar Rayn 23.85 250 *eP* **P 00 42 58.5 -1.1**
comp=Z,15nm,1.3s
HVS Khovu-Aksy 24.21 38 *eP* **P 00 43 01.8 -0.9**
HVS pmax pmax
comp=Z,58nm,1.3s
GTA Gaotai 24.41 69 *eP* **P 00 43 07.3 +2.5**
GTA pP **pP 00 43 11.7 -0.4**
GTA sP **sP 00 43 14.3 -0.8**
GTA S **S 00 47 28.0 +4.7**
GTA sS **sS 00 47 35.1 -0.1**
GTA PMZ
comp=Z,15nm,1.3s
GTA PMZ
comp=Z,75nm,5.0s
GTA LN
comp=Z,190nm,18.5s
GTA LE
comp=Z,150nm,17.6s
GTA LZ
comp=Z,140nm,17.1s
CD2 Chengdu 28.58 87 *eP* **P 00 43 42.9 +0.6**
CD2 pP **pP 00 43 47.2 -2.4**
CD2 sP **sP 00 43 49.9 -2.8**
CD2 PP **PnPn 00 44 34.8 +2.3**
CD2 S **S 00 48 30.2 +0.9**
CD2 SS **SnSn 00 49 55.2 +5.6**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
CD2 LN
comp=Z,350nm,18.1s
CD2 LE
comp=Z,400nm,11.7s
CD2 LZ
comp=Z,230nm,14.7s
ZAK Zakamensk 29.21 46 *eP* **P 00 43 47.9 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 29.46 292 *ceP* **P 00 43 50.9 +0.7**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 29.46 292 P **P 00 43 50.5 +0.3**
comp=Z,3.6nm,0.8s,baz=104,slow=8.0,SNR=25
KMI Kunming 29.75 99 P **P 00 43 53.6 +0.7**
KMI sP **sP 00 43 58.7 -4.5**
KMI PMZ
comp=Z,11nm,0.6s
KMI LN
comp=Z,200nm,18.4s
KMI LE
comp=Z,110nm,24.6s
KMI LZ
comp=Z,190nm,13.6s
CMAR Chiang Mai Arr 30.14 114 P **P 00 43 57.7 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,67nm,18.9s
CMAR Chiang Mai Arr 30.14 114 P **P 00 43 57.7 +1.5**
comp=Z,0.8nm,0.4s,baz=301,slow=9.2,SNR=7.4
CMAR LR LR 00 57 20.7
comp=Z,67nm,18.9s,baz=20,slow=39
SONM Songino Array 30.42 52 P **P 00 43 58.6 +0.1**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 30.42 52 P **P 00 43 58.6 +0.1**
comp=Z,2.5nm,1.1s,baz=255,slow=7.2,SNR=13
ULN Ulaanbaatar 30.86 52 *eP* **P 00 44 02.3 -0.1**
ULN pmax pmax
comp=Z,5.0nm,2.5s
OBN Obninsk 31.27 322 ⇓*eP* **P 00 44 06.1 +0.4**
OBN *e* 00 45 10.2
OBN *e* 00 46 59.5
OBN pmax pmax
comp=Z,11nm,1.1s
OBN MLR MLR
comp=Z,174nm,17.0s
PRGR Permogore 31.64 338 P **P 00 44 08.2 -0.7**
PRGR pmax pmax
comp=Z,31nm,1.5s
GYA Guiyang 32.45 94 *eP* **P 00 44 17.9 +1.3**
GYA PMZ
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 33.43 66 *eP* **P 00 44 27.3 +2.2**
HHC PP **PP 00 45 38.8 -2.0**
HHC S **S 00 49 48.4 +3.3**
HHC SS **SnSn 00 51 50.2 +2.8**
HHC ScS **ScS 00 54 53.0 +3.1**
HHC PMZ
comp=Z,9.0nm,0.8s
HHC PMZ
comp=Z,88nm,6.2s
HHC LN
comp=Z,120nm,16.2s
HHC LE
comp=Z,320nm,18.7s
HHC LZ
comp=Z,90nm,18.7s
TIRR Tirgusor 33.48 301 S **S 00 49 45.0 -0.4**
TLB Topalu 33.75 301 S **S 00 49 46.3 -3.3**
AKASG Malin Array Be 33.86 312 *ci* P **P 00 44 29.2 +0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 33.86 312 P **P 00 44 28.9 +0.4**
comp=Z,2.8nm,0.6s,baz=93,slow=7.3,SNR=16
AKASG LR LR 01 00 36.4
comp=Z,105nm,20.6s,baz=95,slow=40
KIEV Kiev 33.87 312 *eP* **P 00 44 28.8 +0.2**
KIEV pmax pmax
comp=Z,8.0nm,1.1s
KIEV Kiev 33.87 312 *eP* **P 00 44 28.8 +0.2**
comp=Z,7.7nm,1.1s
VRI Vrincioaia 34.76 303 ⇑P **P 00 44 38.4 +2.0**
VRI Vrincioaia 34.76 303 ⇑*i*P **P 00 44 38.4 +2.0**
TESR Tescani 34.87 304 ⇑*i*P **P 00 44 38.1 +0.8**
MLR Muntele Rosu 35.29 302 ⇑P **P 00 44 43.7 +2.6**
MLR Muntele Rosu 35.29 302 ⇑*i*P **P 00 44 43.7 +2.6**
VOIR 35.91 302 ⇓P **P 00 44 47.5 +1.1**
VOIR 35.91 302 ⇓*i*P **P 00 44 47.5 +1.1**
BURAR Bucovina Array 35.95 306 ⇓P **P 00 44 49.2 +2.5**
BURAR Bucovina Array 35.95 306 ⇓*i*P **P 00 44 49.2 +2.5**
APE Apeiranthos 36.03 288 *eP* **P 00 44 49.0 +1.5**
APE pmax pmax
comp=Z,67nm,1.3s
SANT Santorini 36.20 287 *eP* **P 00 44 48.3 -0.6**
comp=Z,112nm,1.2s
ARR Arges 36.20 302 ⇑*i*P **P 00 44 50.3 +1.4**
LVV L'vov 36.98 309 *eP* **P 00 44 58.2 +2.9**
CJR Cluj-Napoca 36.98 304 ⇓P **P 00 44 58.5 +3.0**
CJR Cluj-Napoca 36.98 304 ⇓*i*P **P 00 44 58.5 +3.0**
VTS Vitosha 37.25 297 ⇑P **P 00 44 59.4 +1.4**
VTS Vitosha 37.25 297 ⇑*i*P **P 00 44 59.4 +1.4**
JOF Joensuu 37.56 332 *eP* **P 00 45 00.1 0.0**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 37.56 332 *ep* **P 00 45 00.1 0.0**
comp=Z,2.2nm,0.4s
DRGR 37.60 304 ⇓P **P 00 45 02.5 +1.8**
DRGR 37.60 304 ⇓*i*P **P 00 45 02.5 +1.8**
KWP Kalwaria Pacla 37.81 309 ⇑P **P 00 45 04.0 +1.6**
KWP Kalwaria Pacla 37.81 309 ⇑*i*P **P 00 45 04.0 +1.6**
KWP Kalwaria Pacla 37.81 309 *eP* **P 00 45 03.5 +1.1**
comp=Z,19nm,0.9s
UZH Uzhgorod 37.99 307 *eP* **P 00 45 02.8 -1.1**
UZH *e* 00 45 08.8
KOLS Kolonicke sedl 38.02 308 *eP* **P 00 45 05.0 +0.8**
KOLS *e* 00 45 10.5
KOLS Kolonicke sedl 38.02 308 *eP* **P 00 45 05.0 +0.8**
KOLS *e* 00 45 10.5
SUW Suwalki 38.21 316 *eP* **P 00 45 07.4 +1.7**
SUW pmax pmax
comp=Z,13nm,1.0s
SUW Suwalki 38.21 316 *eP* **P 00 45 07.4 +1.7**
comp=Z,13nm,1.0s
BZS Buzias 38.33 302 ⇑P **P 00 45 07.7 +0.9**
BZS Buzias 38.33 302 ⇑*i*P **P 00 45 07.7 +0.9**
CRVS Cervenica-Dubn 38.56 308 *eP* **P 00 45 10.7 +2.0**
CRVS Cervenica-Dubn 38.56 308 *eP* **P 00 45 10.7 +2.0**
FINES FINESS Array B 39.04 328 P **P 00 45 12.0 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,216nm,18.6s
FINES FINESS Array B 39.04 328 P **P 00 45 12.0 -0.5**
comp=Z,1.8nm,0.6s,baz=134,slow=11,SNR=10
FINES LR LR 01 02 40.0
comp=Z,216nm,18.6s,baz=88,slow=38
KECS Kecovo 39.18 307 *eP* **P 00 45 16.1 +2.2**
KECS Kecovo 39.18 307 *eP* **P 00 45 16.1 +2.2**
KAF Kangasniemi 39.22 329 *eP* **P 00 45 14.1 +0.1**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 39.22 329 *ep* **P 00 45 14.1 +0.1**
comp=Z,1.8nm,0.6s
HIA Hailar 39.39 52 *eP* **P 00 45 16.2 +0.5**
HIA pmax pmax
comp=Z,4.0nm,1.4s
OJC Ojcow 39.73 309 *eP* **P 00 45 19.7 +1.2**
OJC pmax pmax
comp=Z,15nm,1.3s
OJC Ojcow 39.73 309 *eP* **P 00 45 19.7 +1.2**
comp=Z,15nm,1.3s
VYHS Vyhne 40.27 307 *eP* **P 00 45 23.9 +0.9**
VYHS Vyhne 40.27 307 *eP* **P 00 45 23.9 +0.9**
NJ2 Nanjing 40.69 79 *eP* **P 00 45 26.7 +0.1**
NJ2 PMZ
comp=Z,50nm,0.7s
OKC Ostrava-Krasne 40.77 309 *eP* **P 00 45 27.0 -0.1**
OKC Ostrava-Krasne 40.77 309 *eP* **P 00 45 27.0 -0.1**
OKC *ex* x 00 45 30.2
KRLC Kraliky 41.66 309 *eP* **P 00 45 37.3 +2.8**
KRLC Kraliky 41.66 309 *eP* **P 00 45 37.3 +2.8**
KRLC *epP* **pP 00 45 40.8 -1.2**
VRAC Vranov 41.77 308 LR LR 01 07 38.9
comp=Z,53nm,18.3s,baz=70,slow=43
DPC Dobruska-Polom 41.97 309 *eP* **P 00 45 39.9 +2.9**
DPC *e* 00 45 51.1
DPC Dobruska-Polom 41.97 309 *eP* **P 00 45 39.9 +2.9**
DPC *epP* **pP 00 45 46.0 +1.6**
DPC *es*P **sP 00 45 51.1 +3.7**
DPC Dobruska-Polom 41.97 309 *eP* **P 00 45 38.4 +1.4**
comp=Z,42nm,0.9s
UPC Upice 42.17 310 *eP* **P 00 45 41.3 +2.7**
UPC Upice 42.17 310 *eP* **P 00 45 41.3 +2.7**
TREC Trest 42.49 308 *eP* **P 00 45 44.3 +3.0**
TREC Trest 42.49 308 *eP* **P 00 45 44.3 +3.0**
TREC *epP* **pP 00 45 47.5 -1.2**
KEV Kevo 42.73 340 *eP* **P 00 45 41.9 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 42.73 340 *ep* **P 00 45 41.9 -0.9**

	comp=Z,1.0nm,0.3s						
KEV	Kevo	42.73	340	eP	P	00 45 42.5	-0.4
	comp=Z,48nm,1.4s						
GOPC	GO Pecny, Ondr	42.95	309	eP	P	00 45 48.1	+3.2
ARCES	ARCESS Array B	43.05	339	P	P	00 45 45.4	-0.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,166nm,18.2s						
ARCES	ARCESS Array B	43.05	339	P	P	00 45 45.4	-0.1
	comp=Z,4.1nm,0.7s,baz=98,slow=8.8,SNR=15						
ARCES				LR	LR	01 04 53.6	
	comp=Z,166nm,18.2s,baz=101,slow=38						
CUC	Castrocucco	43.08	294	eP	P	00 45 47.1	+0.9
	comp=Z,6.3nm,0.7s						
PRU	Pruhonice	43.11	309	eP	P	00 45 49.0	+2.8
PRU				e		00 45 56.4	
PRU	Pruhonice	43.11	309	eP	P	00 45 49.0	+2.8
PRU				epP	pP	00 45 56.4	+2.7
PRA	Prague	43.18	309	eP	P	00 45 48.1	+1.4
PRA	Prague	43.18	309	eP	P	00 45 49.7	+3.0
PRA				epP	pP	00 45 53.9	-0.3
MOA	Molln	43.34	306 ⇑	iP	P	00 45 49.1	+0.9
	comp=Z,3.5nm,0.7s						
BRG	Berggiesshubel	43.49	310	eP	P	00 45 51.7	+2.4
	comp=Z,12nm,1.4s						
BRG	Berggiesshubel	43.49	310	eP	P	00 45 51.7	+2.4
BRG				pmax	pmax		
	comp=Z,12nm,1.4s						
GEC2	GERESS Array S	43.68	307	eP	P	00 45 50.0	-0.9
GEC2	GERESS Array S	43.68	307	eP	P	00 45 50.0	-0.9
GERES	GERESS Array B	43.68	307	P	P	00 45 51.5	+0.6
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	GERESS Array B	43.68	307	P	P	00 45 51.5	+0.6
	comp=Z,1.7nm,1.0s,baz=72,slow=4.3,SNR=11						
KHC	Kasperske Hory	43.75	308	eP	P	00 45 53.2	+1.8
KHC	Kasperske Hory	43.75	308	eP	P	00 45 53.2	+1.8
CLL	Collm	44.09	311	eP	P	00 45 54.0	0.0
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	Collm	44.09	311	eP	P	00 45 54.0	0.0
	comp=Z,7.0nm,1.2s						
CLL				ePP	PcP	00 47 40.0	+1.0
CLL	Collm	44.09	311	eP	P	00 45 54.0	0.0
	comp=Z,5.3nm,1.0s						
HFS	Hagfors	44.47	324	LR	LR	01 06 23.4	
	comp=Z,188nm,18.1s,baz=90,slow=39						
FETA	Feichten	45.79	305 ⇑	iP	P	00 46 10.0	+2.1
	comp=Z,6.2nm,1.2s						
NB2	NORSAR Subarra	45.82	325	P	P	00 46 06.7	-1.0
	comp=Z,2.8nm,0.8s,baz=99,slow=7.9						
NOA	NORSAR Array B	45.82	325	P	P	00 46 07.0	-0.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,156nm,18.2s						
NOA	NORSAR Array B	45.82	325	P	P	00 46 07.0	-0.7
	comp=Z,1.9nm,0.6s,baz=100,slow=7.9,SNR=12						
NOA				LR	LR	01 06 55.4	
	comp=Z,156nm,18.2s,baz=105,slow=38						
DAVA	Damuels	46.34	305 ⇑	iP	P	00 46 13.9	+1.7
	comp=Z,1.1nm,1.1s						
KSRS	Korea Array	46.49	68	LR	LR	01 09 17.9	
	comp=Z,34nm,18.3s,baz=316,slow=41						
KMBO	Kilima Mbogo	46.61	228	ceP	P	00 46 16.3	+1.6
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	Kilima Mbogo	46.61	228	P	P	00 46 15.5	+0.7
	comp=Z,2.6nm,0.8s,baz=36,slow=11,SNR=9.4						
PGF	Pioggiola	47.67	299	eP	P	00 46 22.4	-0.2
PGF	Pioggiola	47.67	299	eP	P	00 46 22.4	-0.2
PGF	Pioggiola	47.67	299	eP	P	00 46 22.4	-0.2
CDF	Champ du Feu	47.96	307	eP	P	00 46 24.9	+0.2
	comp=Z,13nm,1.2s						
CDF	Champ du Feu	47.96	307	eP	P	00 46 24.9	+0.2
CDF	Champ du Feu	47.96	307	eP	P	00 46 24.9	+0.2
USRK	Ussuriysk Ar.	48.09	59	LR	LR	01 08 46.0	
	comp=Z,110nm,20.2s,baz=275,slow=39						
SENIN	Lac Senin/Sane	48.22	304	eP	P	00 46 26.8	-0.1
TIXI	Tiksi	48.30	21	eP	P	00 46 26.0	-0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	Tiksi	48.30	21	eP	P	00 46 26.2	-0.6
	comp=Z,3.8nm,0.9s						
HINF	Hinteralfeld	48.31	306	eP	P	00 46 27.8	+0.4
	comp=Z,7.6nm,0.9s						
HINF	Hinteralfeld	48.31	306	eP	P	00 46 27.8	+0.4
HINF	Hinteralfeld	48.31	306	eP	P	00 46 27.8	+0.4
SBF	Sospel	48.54	301	eP	P	00 46 29.2	-0.1
	comp=Z,58nm,1.1s						
SBF	Sospel	48.54	301	eP	P	00 46 29.2	-0.1
SBF	Sospel	48.54	301	eP	P	00 46 29.2	-0.1
HAU	Haudompre	48.63	307	eP	P	00 46 30.3	+0.5
	comp=Z,7.1nm,0.8s						
HAU	Haudompre	48.63	307	eP	P	00 46 30.3	+0.5
HAU	Haudompre	48.63	307	eP	P	00 46 30.3	+0.5
LPG	La Plagne	48.73	303	eP	P	00 46 30.7	-0.3
	comp=Z,9.5nm,0.8s						
LPG	La Plagne	48.73	303	eP	P	00 46 30.7	-0.3
LPG	La Plagne	48.73	303	eP	P	00 46 30.7	-0.3
LPL	La Plagne	48.74	303	eP	P	00 46 30.8	-0.2
LPL	La Plagne	48.74	303	eP	P	00 46 30.8	-0.2
LPL	La Plagne	48.74	303	eP	P	00 46 30.8	-0.2
MBDF	Montbardon	48.85	302	eP	P	00 46 32.0	+0.2
	comp=Z,7.5nm,0.8s						
MBDF	Montbardon	48.85	302	eP	P	00 46 32.0	+0.2
MBDF	Montbardon	48.85	302	eP	P	00 46 32.0	+0.2
PAGF	Fort de Pagny	48.96	307	eP	P	00 46 33.4	+1.1
	comp=Z,2.5nm,0.8s						
PAGF	Fort de Pagny	48.96	307	eP	P	00 46 33.4	+1.1
CABF	La Chapelle	49.01	305	eP	P	00 46 31.1	-1.7
	comp=Z,21nm,1.1s						
CABF	La Chapelle	49.01	305	eP	P	00 46 31.1	-1.7
CABF	La Chapelle	49.01	305	eP	P	00 46 31.1	-1.7
KEST	Kesra	49.04	290	P	P	00 46 34.6	+1.3
	comp=Z,3.3nm,0.8s,baz=80,slow=2.5,SNR=11						
KEST	Kesra	49.04	290	eP	P	00 46 34.0	+0.8
FRF	La Foret Royal	49.16	301	eP	P	00 46 33.6	-0.3
	comp=Z,30nm,1.1s						
FRF	La Foret Royal	49.16	301	eP	P	00 46 33.6	-0.3
FRF	La Foret Royal	49.16	301	eP	P	00 46 33.6	-0.3
ORIF	Oris-en-Rattie	49.44	303	eP	P	00 46 36.3	+0.1
	comp=Z,7.4nm,0.9s						
ORIF	Oris-en-Rattie	49.44	303	eP	P	00 46 36.3	+0.1
ORIF	Oris-en-Rattie	49.44	303	eP	P	00 46 36.3	+0.1
SFTF	Sexfontaines	49.47	307	eP	P	00 46 36.4	+0.2
	comp=Z,14nm,0.8s						
SFTF	Sexfontaines	49.47	307	eP	P	00 46 36.4	+0.2
BAIF	Baives	49.75	310	eP	P	00 46 39.2	+0.9
	comp=Z,26nm,1.2s						
BAIF	Baives	49.75	310	eP	P	00 46 39.2	+0.9
BAIF	Baives	49.75	310	eP	P	00 46 39.2	+0.9
SMF	Signal de Mont	50.53	305	eP	P	00 46 44.2	-0.1
	comp=Z,19nm,1.0s						
SMF	Signal de Mont	50.53	305	eP	P	00 46 44.2	-0.1
SMF	Signal de Mont	50.53	305	eP	P	00 46 44.2	-0.1
SSF	Saint Saulge	50.68	306	eP	P	00 46 45.7	+0.3
SSF	Saint Saulge	50.68	306	eP	P	00 46 45.7	+0.3
SSF	Saint Saulge	50.68	306	eP	P	00 46 45.7	+0.3
AVF	Avril sur Loir	50.83	306	eP	P	00 46 46.3	-0.2
	comp=Z,11nm,1.0s						
AVF	Avril sur Loir	50.83	306	eP	P	00 46 46.3	-0.2
AVF	Avril sur Loir	50.83	306	eP	P	00 46 46.3	-0.2
LASF	Ste Croix	51.03	302	eP	P	00 46 48.0	-0.1
LASF	Ste Croix	51.03	302	eP	P	00 46 48.0	-0.1
BGF	Bois d'Agland	51.22	305	eP	P	00 46 49.1	-0.4
BGF	Bois d'Agland	51.22	305	eP	P	00 46 49.1	-0.4
BGF	Bois d'Agland	51.22	305	eP	P	00 46 49.1	-0.4
TCF	Toulx Ste Croi	51.70	305	eP	P	00 46 54.0	+0.9
	comp=Z,16nm,1.0s						
TCF	Toulx Ste Croi	51.70	305	eP	P	00 46 54.0	+0.9
TCF	Toulx Ste Croi	51.70	305	eP	P	00 46 54.0	+0.9
LDF	La Druitiere	52.78	308	eP	P	00 47 01.9	+0.8
LDF	La Druitiere	52.78	308	eP	P	00 47 01.9	+0.8
LDF	La Druitiere	52.78	308	eP	P	00 47 01.9	+0.8
FLN	La Foliniere	52.98	309	eP	P	00 47 03.2	+0.6
	comp=Z,50nm,1.1s						
FLN	La Foliniere	52.98	309	eP	P	00 47 03.2	+0.6
FLN	La Foliniere	52.98	309	eP	P	00 47 03.2	+0.6
MJAR	Matsushiro Arr	54.63	67	P	P	00 47 14.0	-0.9
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	Matsushiro Arr	54.63	67	P	P	00 47 14.0	-0.9
	comp=Z,3.0nm,0.9s,baz=280,slow=8.3,SNR=7.6						
ROSF	Rostrenen	54.89	309	eP	P	00 47 15.7	-0.8
	comp=Z,38nm,1.2s						
ROSF	Rostrenen	54.89	309	eP	P	00 47 15.7	-0.8
ROSF	Rostrenen	54.89	309	eP	P	00 47 15.7	-0.8
ESDC	Sonseca Array	57.86	299	P	P	00 47 37.1	-0.8
	comp=Z,0.2nm,0.4s,baz=82,slow=8.4,SNR=3.9						
BILL	Bilibino	61.12	25	eP	P	00 48 00.2	+0.4
BILL				e		00 48 44.0	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SUMG	Summit	63.05	341	eP	P	00 48 13.8	+0.6
SUMG				pmax	pmax		
	comp=Z,96nm,2.6s						
SUMG	Summit	63.05	341	eP	P	00 48 13.8	+0.6
	comp=Z,96nm,2.6s						
TORD	Torodi Ar. Bea	64.84	269	P	P	00 48 23.2	-2.2
	comp=Z,1.4nm,0.6s,baz=54,slow=6.1,SNR=17						
RES	Resolute Bay	71.02	356	eP	P	00 49 04.7	+1.4
RES				pmax	pmax		
	comp=Z,59nm,2.8s						
RES	Resolute Bay	71.02	356	eP	P	00 49 04.7	+1.4
	comp=Z,58nm,2.8s						
LBTB	Lobatse	72.35	222	eP	P	00 49 13.1	+1.0
LBTB				pmax	pmax		
	comp=Z,118nm,2.6s						
LBTB	Lobatse	72.35	222	eP	P	00 49 13.1	+1.0
	comp=Z,118nm,2.6s						
DBIC	Dimbokro	73.75	267	LR	LR	01 23 49.6	
	comp=Z,44nm,20.4s,baz=99,slow=37						
FITZ	Fitzroy Crossi	74.16	125	eP	P	00 49 23.5	+0.7
	comp=Z,103nm,2.8s						
COLD	Coldfoot	74.49	15	eP	P	00 49 24.4	+0.3
	comp=Z,8.2nm,1.0s						
IM04	Indian Mountai	74.70	17	eP	P	00 49 24.4	-0.9
INK	Inuvik	76.39	9	eP	P	00 49 35.1	+0.2
INK				pmax	pmax		
	comp=Z,11nm,1.1s						
INK	Inuvik	76.39	9	eP	P	00 49 35.1	+0.2
	comp=Z,11nm,1.1s						
COLA	College	77.00	16	eP	P	00 49 38.1	-0.2
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COLA	College	77.00	16	eP	P	00 49 38.1	-0.2
	comp=Z,10nm,0.9s						
ILAR	Eielson Array	77.30	15	P	P	00 49 38.6	-1.5
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	77.30	15	P	P	00 49 38.6	-1.5
	comp=Z,3.3nm,1.0s,baz=312,slow=3.9,SNR=21						
KTH	Kantishna Hill	77.39	17	eP	P	00 49 40.0	-0.7
	comp=Z,32nm,1.8s						
PPLA	Purkeypile	77.61	18	eP	P	00 49 41.4	-0.7
	comp=Z,26nm,1.6s						
DAWY	Dawson	79.44	13	eP	P	00 49 52.6	+0.6
	comp=Z,5.0nm,1.0s						
WRA	Warramunga Arr	81.45	121	P	P	00 50 03.0	-0.4
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA	Warramunga Arr	81.45	121	P	P	00 50 03.0	-0.4
	comp=Z,4.5nm,0.8s,baz=322,slow=5.0,SNR=37						
WRAB	Tennant Creek	81.45	121	ceiP	P	00 50 04.2	+0.8
WRAB				pmax	pmax		
	comp=Z,45nm,1.7s						
ASAR	Alice Springs	83.59	124	P	P	00 50 14.4	-0.1
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	83.59	124	P	P	00 50 14.4	-0.1
	comp=Z,9nm,0.7s,baz=312,slow=5.1,SNR=28						
YKA	Yellowknife Ar	83.67	2	P	P	00 50 13.5	-0.8
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	Yellowknife Ar	83.67	2	P	P	00 50 13.5	-0.8
	comp=Z,2.9nm,0.8s,baz=348,slow=5.2,SNR=53						
PLCA	Paso Flores	148.17	246	PKP2	PKPab	00 57 33.8	-1.0
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PLCA	Paso Flores	148.17	246	PKPbc	PKPab	00 57 33.8	-1.0
	comp=Z,3.8nm,0.9s,baz=66,slow=3.8,SNR=5.7						

*ISCJB **12** 00:44:25.8±0.4,24.°62N±0.°02×121.°83E±0.°02,h67km±3km,*
Error ellipse: s-maj=4.0km s-min=2.5km az=147.7
*TAP **12** 00:44:26.0,24.°60N×121.°78E,h65km,ML3.9,B*
*JMA **12** 00:44:25.0±0.1,24.°57N×121.°78E,h70km±2km,M2.9*
ISC 12 00:44:25.9±1.2,24.°62N±0.°03×121.°81E±0.°02,h69km±5km,
n61,σ1°912/115,5C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	Suao	0.04	111	⇓iP			Pn	00 44 36.1	+0.2
	baz=71								
TWC				S			Sn	00 44 43.4	+0.2
	baz=71								
ILA	Ilan	0.15	339	eP			Pn	00 44 36.3	+0.1
	baz=346								
ILA				eS			Sn	00 44 44.9	+1.2
	baz=346								
TWE	Neicheng	0.16	307	⇓iP			Pn	00 44 36.5	+0.3
	baz=317								
TWE				eS			Sn	00 44 43.6	-0.1
	baz=317								
ENA	Nanau	0.20	197	⇓iP			Pn	00 44 36.4	0.0
	baz=195								
ENA				eS			Sn	00 44 44.6	+0.6
	baz=195								
ENTT	Nioudou	0.22	274	⇓iP			Pn	00 44 36.6	+0.1
	baz=282								
ENTT				S			Sn	00 44 43.1	-1.2
	baz=282								
EGS		0.25	27	⇓iP			Pn	00 44 37.4	+0.7
	baz=37								
EGS				iS			Sn	00 44 44.8	+0.3
	baz=37								
EHP	Heping Village	0.32	191	eP			Pn	00 44 37.2	+0.1
	baz=193								
TWA	Mucha	0.41	330	⇑iP			Pn	00 44 38.0	+0.2
	baz=327								
TWA				iS			Sn	00 44 46.3	-0.3
	baz=327								
NSK	Sanguang	0.41	277	⇑iP			Pn	00 44 37.6	-0.3
	baz=292								
NSK				S			Sn	00 44 45.8	-0.9
	baz=292								
TWB1	Santiao Chiao	0.42	23	⇓iP			Pn	00 44 38.3	+0.4
	baz=34								
TWB1				iS			Sn	00 44 47.2	+0.6
	baz=34								
NNS	Nan Shan	0.44	245	⇓iP			Pn	00 44 38.2	0.0
	baz=250								
NNS				S			Sn	00 44 46.5	-0.7
	baz=250								
NWF	Wu-fen Shan	0.45	357	⇑iP			Pn	00 44 38.6	+0.4
	baz=354								
NWF				S			Sn	00 44 47.9	+0.7
	baz=354								
TAP1	Taipei	0.49	328	iP			Pn	00 44 38.4	-0.1
	baz=323								
TAP1				S			Sn	00 44 47.4	-0.3
	baz=323								
TAP	Taipei	0.50	327	eP			Pn	00 44 38.5	0.0
	baz=323								
TAP				S			Sn	00 44 47.7	-0.1
	baz=323								
TWD	Chiawan	0.57	200	⇓P			Pn	00 44 38.4	-1.0
	baz=206								
TWD				eS			Sn	00 44 47.6	-1.6
	baz=206								
TWS1	Kuangyinshan	0.59	323	⇑iP			Pn	00 44 39.8	+0.2
	baz=320								
TWS1				S			Sn	00 44 50.0	+0.4
	baz=320								
NCU	National Centr	0.66	302	iP			Pn	00 44 40.3	0.0
	baz=304								
NCU				iS			Sn	00 44 51.0	+0.1
	baz=304								
HWA	Hwalien	0.67	196	eP			Pn	00 44 39.7	-0.7
	baz=204								
HWA				eS			Sn	00 44 50.6	-0.4
	baz=204								
TWY	Chenhua	0.68	344	P			Pn	00 44 40.9	+0.4
	baz=337								
TWY				eS			Sn	00 44 51.9	+0.7
	baz=337								
TWT	Tachien	0.68	237	⇓iP			Pn	00 44 41.2	+0.5
	baz=232								
TWT				S			Sn	00 44 51.5	-0.2
	baz=232								
WHF	Hehuan Shan	0.69	226	⇓iP			Pn	00 44 40.8	-0.2
	baz=221								
WHF				S			Sn	00 44 51.2	-1.0
	baz=221								
NSTT	Nanjuang	0.73	271	⇑iP			Pn	00 44 41.0	-0.1
	baz=281								
NSTT				iS			Sn	00 44 51.6	-0.8
	baz=281								
HSN	Hsinchu	0.78	283	eP			Pn	00 44 41.4	-0.3
	baz=287								
HSN				S			Sn	00 44 52.5	-0.8
	baz=287								
ESF	Shoufeng Towns	0.80	200	eP			Pn	00 44 43.5	+1.6
	baz=199								
ESL	Shilin	0.88	203	eP			Pn	00 44 41.1	-1.7
	baz=202								
ESL				eS			Sn	00 44 53.3	-2.0
	baz=202								
TEGC	Jichi Village	0.94	195	eP			Pn	00 44 46.3	+2.6
	baz=202								
NSY	Sanyi	0.97	258	P			Pn	00 44 44.3	+0.3
	baz=258								
NSY				S			Sn	00 44 57.7	+0.1
	baz=258								
TWQ1	Liyutan	0.98	254	eP			Pn	00 44 43.0	-1.1
	baz=254								
TWQ1				eS			Sn	00 44 55.2	-2.4
	baz=254								
PCYT	Pengchaiyu	1.03	13	eP			Pn	00 44 45.2	+0.5
	baz=14								
PCYT				eS			Sn	00 44 59.6	+0.9
	baz=14								
JYNG	Yonagunijimaku	1.05	99	P			Pn	00 44 44.6	-0.3
JYNG				S			Sn	00 44 58.6	-0.6
WDT	Danda	1.06	216	⇓iP			Pn	00 44 45.1	-0.3
	baz=208								
WDT				eS			Sn	00 45 00.1	+0.2
	baz=208								
YOJ	Yonaguni jima	1.11	98	P			Pn	00 44 45.4	-0.3
YOJ				S			Sn	00 44 59.7	-0.8
SMLT	Sun Moon Lake	1.11	229	eP			Pn	00 44 46.4	+0.6
	baz=223								
SMLT				eS			Sn	00 45 01.4	+0.7
	baz=223								
TYC	Yuchr	1.12	231	P			Pn	00 44 46.4	+0.5
	baz=230								
TYC				eS			Sn	00 45 01.3	+0.5
	baz=230								
TCU	Taichung	1.14	246	eP			Pn	00 44 47.1	+1.1
	baz=256								
TCU				eS			Sn	00 45 00.9	-0.2
	baz=256								
EHY	Hungye	1.20	202	eP			Pn	00 44 45.0	-1.9
	baz=195								
TWF1	Yuli	1.35	200	eP			Pn	00 44 47.1	-1.7
	baz=200								
TWF1				eS			Sn	00 45 04.2	-1.9
	baz=200								
YUS	Yu-Shan	1.37	215	P			Pn	00 44 50.0	+0.4
	baz=207								
YUS				eS			Sn	00 45 07.9	+0.5
	baz=207								
ALS	Alishan	1.44	220	eP			Pn	00 44 51.0	+0.7
	baz=229								
ALS				eS			Sn	00 45 09.9	+1.3
	baz=229								
CHN5	Tsauling	1.45	226	eP			Pn	00 44 50.8	+0.5
	baz=236								
CHN5				eS			Sn	00 45 09.2	+0.5
	baz=236								
CHKT	Chengkung	1.57	195	eP			Pn	00 44 51.9	+0.1
	baz=201								
CHKT				eS			Sn	00 45 11.3	0.0
	baz=201								
ELDTW	Lidau	1.60	207	eP			Pn	00 44 52.2	-0.1
	baz=200								
CHN4	Tsaushan	1.69	221	eP			Pn	00 44 54.3	+1.0
	baz=222								
CHN4				eS			Sn	00 45 15.4	+1.4
	baz=222								
CHY	Chiayi	1.69	229	eP			Pn	00 44 54.7	+1.3
	baz=239								
CHY				eS			Sn	00 45 14.5	+0.4
	baz=239								
STYT	Tauyuan	1.74	214	eP			Pn	00 44 55.8	+1.7
	baz=206								
STYT				eS			Sn	00 45 17.1	+1.6
	baz=206								
WTP	Ta-pu	1.75	219	eP			Pn	00 44 55.4	+1.1
	baz=230								
WTP				eS			Sn	00 45 17.2	+1.5
	baz=230								
IRIF	Iriomote-Funau	1.77	99	P			Pn	00 44 54.0	-0.5
IRIF				S			Sn	00 45 15.3	-0.9
TWK	Hsinying	1.81	222	eP			Pn	00 44 56.0	+1.0
	baz=222								
TWK				eS			Sn	00 45 18.4	+1.3
	baz=222								
CHN1	Nanshi	1.85	220	eP			Pn	00 44 56.4	+0.8
	baz=220								
CHN1				eS			Sn	00 45 20.6	+2.5
	baz=220								
SGST	Jiashian	1.90	216	eP			Pn	00 44 57.7	+1.5
	baz=227								
SGST				eS			Sn	00 45 20.4	+1.1
	baz=227								
HATJ	Hateruma jima	1.91	107	P			Pn	00 44 56.1	-0.2
HATJ				eS			Sn	00 45 18.6	-0.8
TWG	Pinlang	1.92	201	eP			Pn	00 44 56.1	-0.4
	baz=195								
TWG				eS			Sn	00 45 16.7	-2.9
	baz=195								
JIJ	Ishigaki jima	2.14	96	P			Pn	00 44 59.1	-0.3
JIJ				S			Sn	00 45 23.6	-1.5
SSD	Sandimen	2.16	210	eP			Pn	00 45 01.2	+1.5
	baz=220								
SSD				eS			Sn	00 45 27.1	+1.7
	baz=220								
JISG	Ishigakijimahi	2.28	90	P			Pn	00 45 01.1	-0.2
JISG				S			Sn	00 45 28.5	+0.2
PNG	Penghu	2.31	243	eP			Pn	00 45 00.3	-1.4
	baz=243								
PNG				eS			Sn	00 45 25.9	-3.2
	baz=243								
WDGT	Dungji	2.39	236	eP			Pn	00 45 04.7	+2.0
	baz=236								
SCZT	Fangliau	2.49	206	eP			Pn	00 45 05.0	+0.8
	baz=208								
SCZT				eS			Sn	00 45 35.3	+1.8
	baz=208								
JTJ	Tarama	2.63	89	P			Pn	00 45 06.8	+0.7
JTJ				eS			Sn	00 45 37.6	+0.6
QZH	Quanzhou	2.94	277	⇓iPn			Pn	00 45 09.2	-1.0
QZH				Sn			Sn	00 45 40.5	-3.9
QZH				smax	smax				
	comp=N,120nm,0.6s								
QZH				smax	smax				
	comp=E,60nm,0.4s								
KNM	Kinmen	3.08	267	eP			Pn	00 45 13.1	+1.0
	baz=267								

**GUC 12 00:45:39.5±0.3,34.°88S×72.°81W,h25km±3

PAS.

NEIC Felt at Calexico, El Cajon and Julian, California.

ISC 12 00:47:51.4±1.3, 32°11N±0°03×115°03W±0°04, h5km±12km, n20, σ0°70/29, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.33**	**334**	*eP*		**Pb**		**00 47 59.9**	**+0.1**
MBIG				*i* S		**Sg**		**00 48 03.5**	**+1.4**
CPBX	**Cerro Prieto**	**0.39**	**323**	*eP*		Pg		00 47 51.5	-7.3
CPBX				*i* S		**Sg**		**00 48 02.3**	**-1.6**
YMD	**Yuma Desert**	**0.60**	**43**	⇑*i*P		**Pn**		**00 48 06.0**	**-0.7**
COA	**Coachella**	**0.76**	**354**	⇓*i*P		**Pb**		**00 48 08.0**	**+0.9**
DREC	**Desert Rsrch C**	**0.78**	**333**	*eP*		**Pb**		**00 48 08.0**	**+0.6**
SGL	**Mount Signal**	**0.80**	**313**	*eP*		**Pb**		**00 48 08.0**	**+0.2**
ERPC	**Ernies Place**	**0.83**	**320**	*eP*		**Pb**		**00 48 09.0**	**+0.7**
RUN	**Ruthven**	**0.86**	**3**	⇓*i*P		**Pb**		**00 48 09.0**	**+0.1**
WESC	**Westside Schoo**	**0.88**	**318**	*eP*		**Pb**		**00 48 10.0**	**+0.9**
BTCC	**Brunts Corner**	**0.92**	**350**	*eP*		**Pb**		**00 48 10.0**	**+0.2**
YUH	**Yuha Desert**	**0.93**	**306**	⇑*i*P		**Pb**		**00 48 10.0**	**0.0**
YUH				*e*S		**Sg**		**00 48 22.0**	**+0.8**
GLA	**Glamis**	**0.96**	**10**	⇓*i*P		**Pg**		**00 48 09.0**	**-0.7**
GLA				*e*S		**Sg**		**00 48 23.0**	**+0.8**
CRR	**Carrizo Plain**	**1.11**	**315**	*eP*		**Pg**		**00 48 13.0**	**+0.3**
SPIG	**San Pedro Mart**	**1.12**	**199**	*i* P		**Pg**		**00 48 13.9**	**+0.4**
SPIG				*i* S		**Sn**		**00 48 30.1**	**0.0**
SPIG	**San Pedro Mart**	**1.12**	**199**	*i* P		**Pb**		**00 48 13.9**	**+0.4**
SPIG				*i* S		**Sg**		**00 48 28.0**	**+0.4**
SPX	**San Pedro Mart**	**1.12**	**199**	*eP*		**Pb**		**00 48 13.9**	**+0.4**
SPX				*i* S		**Sb**		**00 48 28.7**	**+0.1**
CBKC	**Canebrake**	**1.30**	**308**	⇑*i*P		**Pb**		**00 48 17.0**	**+0.7**
CBX	**Cerro Bola**	**1.40**	**279**	*i* P		**Pn**		**00 48 17.7**	**-0.1**
CBX				*i* S		**Sg**		**00 48 35.5**	**-1.0**
CBX	**Cerro Bola**	**1.40**	**279**	*i* P		**Pn**		**00 48 17.7**	**-0.1**
CBX				*i* S		**Sg**		**00 48 35.5**	**-1.0**
BAR	**Barrett**	**1.50**	**293**	*eP*		**Pb**		**00 48 20.0**	**+0.2**
BAR				*e*S		**Sn**		**00 48 39.0**	**-0.1**

*CSEM **12** 00:53:47.6±0.4, 50°.40N×18°.76E, h1km, Error ellipse: s-maj=17.9km s-min=5.3km az=1.0*

PRU 12 00:53:47.8, 50°.35N×18°.81E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.13**	**117**	*e*Pg		Pg		00 53 50.4	+0.1
CHZP				*e*Sg		Sg		00 53 52.3	+0.2
OJC	**Ojcow**	**0.65**	**101**	*e*Pg		Pb		00 54 01.3	-0.7
OJC				*e*Sg		Sg		00 54 08.9	+0.2
OJC	**Ojcow**	**0.65**	**101**	*e*Pg		Pb		00 54 01.3	-0.7
OJC				*e*Sg		Sg		00 54 08.9	+0.2
OKC	**Ostrava-Krasne**	**0.67**	**220**	*e*SG		Sg		00 54 09.2	-0.1
OKC	**Ostrava-Krasne**	**0.67**	**220**	Sg		Sg		00 54 09.2	-0.1
KRLC	**Kraliky**	**1.33**	**259**	*e*Pg		Pg		00 54 12.3	-1.1
KRLC				*e*SG		Sg		00 54 30.6	-0.2
KRLC	**Kraliky**	**1.33**	**259**	Pg		Pg		00 54 12.3	-1.1
KRLC				Sg		Sg		00 54 30.6	-0.2
DPC	**Dobruska-Polom**	**1.59**	**271**	*e*PG		Pn		00 54 17.0	-0.3
DPC				*e*SG		Sg		00 54 39.1	-0.1
DPC	**Dobruska-Polom**	**1.59**	**271**	Pg		Pn		00 54 17.0	-0.3
DPC				Sg		Sg		00 54 39.1	-0.1

*DJA **12** 00:56:58.9±0.9, 2°N±6°×9°6E±°, h92km±12km, M3.1/6, MLv3.1/6*

*IDC **12** 00:56:58.2±3.3, 1°.77N×96°.41E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/40, mbtmp3.4/5, ML4.0/1, Error ellipse: s-maj=117.2km s-min=27.4km az=60.0*

ISC 12 00:57:05.3±1.2, 2°.19N±0°.09×96°.58E±0°.08, h27km, n13, σ1°43/10, mb3.4/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.34**	**311**	P		**Pn**		**00 57 14.1**	**-0.3**
TPTI		**1.22**	**29**	P		**Pn**		**00 57 23.8**	**-2.8**
TPTI				S		**Sb**		**00 57 45.2**	**+2.1**
GSI	**Gunungsitoli**	**1.33**	**132**	P		**Pb**		**00 57 30.0**	**+0.4**
KCSI	**Kotacane, Aceh**	**1.78**	**42**	P		**Pn**		**00 57 34.1**	**-0.2**
KCSI				S		**Sb**		**00 58 00.4**	**+1.2**
LHMI	**Lhok Sumawe**	**3.04**	**7**	P		Pn		00 57 44.9	-6.8
CMAR	**Chiang Mai Arr**	**16.33**	**8**	Pn		**P**		**01 00 55.3**	**-0.3**
	0.2nm,0.3s,baz=201,slow=10,SNR=5.1								
H08S2	**Diego Garcia H**	**25.94**	**248**	T		T		01 29 20.4	
	baz=69,slow=76,SNR=42								
H08S3	**Diego Garcia H**	**25.94**	**248**	T		T		01 29 20.7	
	baz=69,slow=76,SNR=38								
H08S1	**Diego Carcia H**	**25.96**	**248**	T		T		01 29 26.4	
	baz=69,slow=76,SNR=40								
WRA	**Warramunga Arr**	**43.08**	**123**	P		P		01 04 59.7	-3.8
	0.3nm,0.7s,baz=300,slow=9.4,SNR=3.2								
MKAR	**Makanchi Array**	**46.14**	**346**	P		**P**		**01 05 27.1**	**-0.3**
	0.6nm,0.8s,baz=165,slow=6.0,SNR=4.4								
SONM	**Songino Array**	**46.26**	**9**	P		**P**		**01 05 28.7**	**+0.2**
	0.1nm,0.3s,baz=175,slow=8.4,SNR=2.8								
ZALV	**Zalesovo Beam**	**52.49**	**351**	P		**P**		**01 06 15.9**	**+0.1**
	0.7nm,0.6s,baz=179,slow=7.2,SNR=4.2								

*KRNET **12** 00:58:03.0±0.1, 42°.18N×77°.26E, h9km, mb3.3*

*NNC **12** 00:58:05.2±1.0, 42°.27N×77°.27E, h6km, mb3.5, mpv3.1, Error ellipse: s-maj=10.3km s-min=4.4km az=171.0*

ISC 12 00:58:04.0±1.3, 42°.20N±0°.03×77°.21E±0°.04, h2km±11km, n22, σ0°69/40, 29C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.07**	**197**	*eP*		**Pg**		**00 58 04.9**	**-0.6**
	baz=222								
KDJ				*e*S		**Sg**		**00 58 07.6**	**+1.1**
	baz=222								
ULHL	**Ulahol**	**0.72**	**274**	⇑*i*P		**Pg**		**00 58 17.8**	**0.0**
	baz=275								
ULHL				⇑*i*S		**Sg**		**00 58 28.5**	**+1.4**
	baz=275								
BOOM	**Boomskoye usch**	**0.98**	**288**	*i* P		**Pg**		**00 58 22.4**	**-0.4**
	baz=288								
BOOM				*e*S		**Sg**		**00 58 36.4**	**+0.8**
	baz=288								
KNDC	**Almaty**	**1.03**	**350**	⇓P		**Pg**		**00 58 23.7**	**-0.1**
KNDC				⇑S		**Sg**		**00 58 37.5**	**+0.4**
NRN	**Naryn**	**1.19**	**230**	*i* P		**Pg**		**00 58 26.1**	**-0.6**
	baz=232								
NRN				*e*S		**Sg**		**00 58 42.9**	**+0.9**
	baz=232								
TKM2	**Tokmak 2**	**1.39**	**302**	⇓P		**Pn**		**00 58 29.8**	**-0.9**
	8.2nm,0.3s								
TKM2				⇑S		**Sn**		**00 58 49.8**	**+0.1**
	22nm,0.2s								
TKM2	**Tokmak 2**	**1.39**	**302**	⇑*i*P		**Pn**		**00 58 30.0**	**-0.6**
	baz=302								
TKM2				⇑*i*S		**Sb**		**00 58 49.7**	**+0.6**
	baz=302								
KZA	**Kyzart**	**1.46**	**266**	⇑*i*P		**Pn**		**00 58 31.2**	**-0.6**
	baz=267								
KZA				⇑*i*S		**Sg**		**00 58 51.3**	**+0.4**
	baz=267								
KBK	**Karagaybulak**	**1.73**	**286**	⇑*i*P		**Pb**		**00 58 36.3**	**-0.4**
	baz=286								
KBK				⇑*i*S		**Sg**		**00 59 00.3**	**+0.6**
	baz=286								
CHMS	**Chumysh**	**1.98**	**295**	⇑*i*P		**Pb**		**00 58 39.8**	**-1.0**
	baz=295								
CHMS				⇑*i*S		**Sb**		**00 59 06.5**	**+0.6**
	baz=295								
UCH	**Uchtor**	**2.00**	**272**	⇑*i*P		**Pb**		**00 58 40.6**	**-0.8**
	baz=272								
UCH				⇑*i*S		**Sg**		**00 59 08.3**	**0.0**
	baz=272								
PDGK	**Podgornoye**	**2.02**	**55**	⇑Pn		**Pn**		**00 58 38.7**	**-0.3**
	18nm,0.3s								
PDGK				⇓Sn		**Sn**		**00 59 04.9**	**0.0**
	109nm,0.8s								
AAK	**Ala-Archa**	**2.06**	**283**	⇑Pn		**Pb**		**00 58 41.5**	**-0.6**
	6.6nm,0.3s								
AAK				⇑Sn		**Sg**		**00 59 10.0**	**-0.1**
	23nm,0.3s								
AAK	**Ala-Archa**	**2.06**	**283**	⇑*i*P		**Pb**		**00 58 41.5**	**-0.6**
	baz=283								
AAK				⇑*i*S		**Sg**		**00 59 09.9**	**-0.1**
	baz=283								
ARLS	**Aral**	**2.18**	**262**	*i* P		**Pb**		**00 58 43.5**	**-0.7**
	baz=262								
ARLS				*e*S		**Sb**		**00 59 13.1**	**+1.4**
	baz=262								
EKS2	**Erkin-Say**	**2.58**	**281**	⇑*i*P		**Pb**		**00 58 51.3**	**+0.2**
	baz=282								
EKS2				⇑*i*S		**Sg**		**00 59 26.7**	**-0.2**
	baz=282								
AML	**Almayashu**	**2.61**	**270**	⇑*i*P		**Pb**		**00 58 51.7**	**-0.1**
	baz=270								
AML				⇑*i*S		**Sg**		**00 59 27.6**	**-0.3**
	baz=270								
SALK	**Salom-Alik**	**2.87**	**244**	*i* P		**Pb**		**00 58 55.2**	**-0.7**
	baz=244								
SALK				*e*S		**Sb**		**00 59 33.1**	**+1.6**
	baz=244								
MNAS	**Manas**	**3.50**	**276**	⇓Pg		**Pb**		**00 59 07.2**	**+0.5**
	1.6nm,0.5s								
MNAS				⇑Lg		Lg		00 59 54.2	
	6.7nm,0.4s								
SFK	**Sufi-Kurgan**	**3.55**	**233**	⇑Pg		**Pg**		**00 59 11.6**	**-0.4**
	1.1nm,0.4s								
SFK				⇑Lg		Lg		00 59 57.2	
	6.2nm,0.5s								
KK31	**Karatay Array**	**5.02**	**283**	⇑Pg		Pb		00 59 35.9	+3.4
	1.1nm,0.5s,baz=96,slow=17,SNR=15								
KK31				⇑Lg		Lg		01 00 40.5	
	6.1nm,0.7s,baz=98,slow=31,SNR=23								
MK31	**Makanchi Array**	**5.86**	**37**	Pn		**Pn**		**00 59 32.1**	**+0.3**
	0.4nm,0.2s,baz=218,slow=15,SNR=22								
MK31				⇓Pg		Pb		00 59 50.5	+3.7
	1.5nm,0.6s,baz=216,slow=15,SNR=3.9								
MK31				⇑Sn		**Sn**		**01 00 39.2**	**-0.3**
	0.7nm,0.4s								
MK31				⇓Lg		Lg		01 01 01.8	
	1.9nm,0.6s,baz=220,slow=28,SNR=5.2								

*IDC **12** 01:00:43.0±1.2, 38°.49N×22°.12E, h0km, mb3.4/5, mb1 3.4/7, mb1mx3.2/34, mbtmp3.3/7, ML2.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/28, Error ellipse: s-maj=24.7km s-min=23.0km az=144.0*

*ISCJB **12** 01:00:43.6±0.3, 38°.39N±0°.02×22°.08E±0°.02, h9km±2km, mb3.3/5, MS3.4/1, Error ellipse: s-maj=3.0km s-min=2.5km az=20.3*

*IASPEI **12** 01:00:43.8±0.8, 38°.40N±0°.02×22°.06E±0°.02, h9km±4km, mb3.4/5, Error ellipse: s-maj=2.4km s-min=2.2km az=129.9*

*ATH **12** 01:00:43.8, 38°.41N×22°.06E, h12km±1km, MD3.0/25*

*CSEM **12** 01:00:43.9±0.1, 38°.39N×22°.07E, h5km, MD3.0, Error ellipse: s-maj=2.3km s-min=1.9km az=114.0*

*THE **12** 01:00:44.1, 38°.39N×22°.06E, h1km±1km, ML3.5/6, Error ellipse: s-maj=1.7km s-min=0.4km az=139.0*

ISC 12 01:00:44.0±0.8, 38°.40N±0°.01×22°.07E±0°.02, h8km±4km, n104, σ0°72/137, mb3.4/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.06**	**99**	P		**Pg**		**01 00 46.0**	**+0.1**
KALE				S		**Sg**		**01 00 46.5**	**-0.8**
KALE	**Kalithea**	**0.06**	**99**	*e*PG		**Pg**		**01 00 46.1**	**+0.1**
KALE				*e*SG		**Sg**		**01 00 47.7**	**+0.4**
KALE	**Kalithea**	**0.06**	**99**	P		**Pg**		**01 00 46.0**	**+0.1**
KALE				S		**Sg**		**01 00 46.5**	**-0.8**
KALE				*e*Sg		Sg		01 00 47.7	+0.3
EFP	**Efpalio**	**0.13**	**282**	P		**Pg**		**01 00 46.5**	**-0.4**
EFP				S		**Sg**		**01 00 48.7**	**-0.2**
EFP	**Efpalio**	**0.13**	**282**	*e*PG		**Pg**		**01 00 46.7**	**-0.2**
EFP				*e*SG		**Sg**		**01 00 48.8**	**-0.2**
EFP	**Efpalio**	**0.13**	**282**	*e*Pg		**Pg**		**01 00 46.7**	**-0.2**
EFP				*e*Sg		**Sg**		**01 00 48.8**	**-0.2**
UPR	**University Cam**	**0.25**	**243**	P		**Pg**		**01 00 49.1**	**+0.1**
UPR				S		**Sg**		**01 00 52.1**	**-0.3**
UPR	**University Cam**	**0.25**	**243**	P		**Pg**		**01 00 49.1**	**+0.1**
UPR				S		**Sg**		**01 00 52.1**	**-0.3**
KLV	**Kalavryta, Ach**	**0.36**	**170**	P		**Pg**		**01 00 51.0**	**-0.2**
KLV				S		**Sg**		**01 00 56.1**	**+0.2**
KLV	**Kalavryta, Ach**	**0.36**	**170**	*e*PG		**Pg**		**01 00 50.9**	**-0.2**
KLV				*e*SB		**Sg**		**01 00 57.0**	**+1.1**
KLV	**Kalavryta, Ach**	**0.36**	**170**	*e*Pg		**Pg**		**01 00 50.9**	**-0.2**
KLV				S		**Sg**		**01 00 56.1**	**+0.2**
KLV				*e*Sb		**Sg**		**01 00 57.0**	**+1.1**
PVO	**Paravola**	**0.48**	**297**	P		**Pg**		**01 00 53.2**	**-0.1**
PVO	**Paravola**	**0.48**	**297**	P		**Pg**		**01 00 53.2**	**-0.1**
PVO				S		**Sg**		**01 01 00.8**	**+1.2**
GUR	**Goura**	**0.51**	**155**	P		**Pg**		**01 00 53.5**	**-0.4**
GUR	**Goura**	**0.51**	**155**	*e*PG		**Pg**		**01 00 53.6**	**-0.4**
GUR	**Goura**	**0.51**	**155**	*e*Pg		**Pg**		**01 00 53.6**	**-0.4**
DRO	**Drossia**	**0.53**	**212**	P		**Pg**		**01 00 54.1**	**-0.2**
DRO	**Drossia**	**0.53**	**212**	*e*PB		**Pg**		**01 00 54.1**	**-0.2**
DRO				*e*SB		**Sb**		**01 01 02.5**	**-0.8**
DRO	**Drossia**	**0.53**	**212**	P		**Pg**		**01 00 54.1**	**-0.2**
DRO				S		**Sg**		**01 01 02.5**	**-0.8**
DRO				*e*Sb		**Sb**		**01 01 02.5**	**-0.8**
EVR	**Evrytania**	**0.56**	**339**	P		**Pg**		**01 00 54.5**	**-0.3**
EVR				S		**Sg**		**01 01 02.5**	**+0.5**
EVR	**Evrytania**	**0.56**	**339**	*e*PB		**Pg**		**01 00 54.7**	**-0.1**
EVR				*e*SB		**Sg**		**01 01 02.6**	**+0.5**
EVR	**Evrytania**	**0.56**	**339**	*e*Pb		**Pg**		**01 00 54.7**	**-0.1**
EVR				S		**Sg**		**01 01 02.1**	**0.0**
EVR				*e*Sb		**Sg**		**01 01 02.6**	**+0.5**
RLS	**Riolos of Patr**	**0.58**	**234**	P		**Pg**		**01 00 55.4**	**+0.1**
RLS				S		**Sg**		**01 01 03.3**	**+0.3**
RLS	**Riolos of Patr**	**0.58**	**234**	*e*PB		**Pg**		**01 00 55.4**	**+0.1**
RLS				*e*SB		**Sg**		**01 01 04.0**	**+1.0**
RLS	**Riolos of Patr**	**0.58**	**234**	P		**Pg**		**01 00 55.1**	**-0.2**
RLS	**Riolos of Patr**	**0.58**	**234**	*e*Pb		**Pg**		**01 00 55.4**	**+0.1**
RLS				S		**Sg**		**01 01 03.3**	**+0.3**
RLS				*e*Sb		**Sg**		**01 01 04.0**	**+1.0**
AXAR	**Agios Charalam**	**0.59**	**51**	P		**Pg**		**01 00 55.1**	**-0.3**
AXAR				S		**Sb**		**01 01 04.3**	**-0.8**
AXAR	**Agios Charalam**	**0.59**	**51**	*e*PB		**Pg**		**01 00 55.3**	**-0.1**
AXAR	**Agios Charalam**	**0.59**	**51**	*e*Pb		**Pg**		**01 00 55.3**	**-0.1**
AXAR				S		**Sb**		**01 01 04.3**	**-0.8**
MAKR	**Makrakomi, Fth**	**0.61**	**5**	P		**Pg**		**01 00 56.1**	**+0.1**
MAKR				S		**Sb**		**01 01 05.5**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.61**	**5**	*e*PB		**Pg**		**01 00 56.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.61**	**5**	P		**Pg**		**01 00 56.0**	**+0.1**
MAKR				S		**Sb**		**01 01 05.5**	**-0.3**
AGG	**Agios Georgios**	**0.65**	**18**	P		**Pg**		**01 00 56.3**	**-0.4**
AGG	**Agios Georgios**	**0.65**	**18**	*e*PG		**Pg**		**01 00 56.0**	**-0.7**
AGG				*e*SB		**Sg**		**01 01 05.1**	**-0.1**
AGG	**Agios Georgios**	**0.65**	**18**	*e*Pg		**Pg**		**01 00 56.0**	**-0.7**
AGG	**Agios Georgios**	**0.65**	**18**	P		**Pg**		**01 00 56.3**	**-0.4**
AGG				*e*Sb		**Sg**		**01 01 05.1**	**-0.1**
PDO	**Prodromos**	**0.72**	**286**	P		**Pg**		**01 00 57.3**	**-0.7**
PDO				S		**Sg**		**01 01 07.8**	**+0.4**
PDO	**Prodromos**	**0.72**	**286**	*e*PB		**Pg**		**01 00 57.4**	**-0.5**
PDO	**Prodromos**	**0.72**	**286**	P		**Pg**		**01 00 57.5**	**-0.5**
PDO				S		**Sg**		**01 01 07.7**	**+0.4**
LKR	**Lokris**	**0.77**	**71**	P		**Pg**		**01 00 58.2**	**-0.6**
LKR	**Lokris**	**0.77**	**71**	*e*PG		**Pg**		**01 00 58.3**	**-0.6**
LKR	**Lokris**	**0.77**	**71**	*e*Pg		**Pg**		**01 00 58.3**	**-0.6**
LTK	**Loutraki**	**0.80**	**118**	P		**Pg**		**01 00 59.4**	**0.0**
LTK	**Loutraki**	**0.80**	**118**	*e*PB		**Pb**		**01 01 00.4**	**+0.2**
LTK	**Loutraki**	**0.80**	**118**	P		**Pg**		**01 00 59.4**	**0.0**
LTK	**Loutraki**	**0.80**	**118**	*e*Pb		**Pb**		**01 01 00.4**	**+0.2**
AMT	**Artemida-Makis**	**0.91**	**198**	P		**Pg**		**01 01 01.2**	**-0.3**
AMT	**Artemida-Makis**	**0.91**	**198**	*e*PB		**Pg**		**01 01 01.2**	**-0.3**
AMT	**Artemida-Makis**	**0.91**	**198**	P		**Pg**		**01 01 01.2**	**-0.3**
AMT				S		**Sb**		**01 01 15.4**	**+1.1**
SMIA	**Simia**	**1.01**	**61**	P		**Pg**		**01 01 03.4**	**-0.1**
SMIA	**Simia**	**1.01**	**61**	*e*PN		**Pg**		**01 01 03.5**	**-0.1**
SMIA	**Simia**	**1.01**	**61**	P		**Pg**		**01 01 03.4**	**-0.1**
KFL	**Anninata**	**1.05**	**254**	P		**Pg**		**01 01 03.5**	**-0.7**
KFL	**Anninata**	**1.05**	**254**	P		**Pg**		**01 01 03.5**	**-0.7**
DSL	**Palaion Diasel**	**1.06**	**314**	P		**Pg**		**01 01 03.9**	**-0.4**
DSL	**Palaion Diasel**	**1.06**	**314**	P		**Pg**		**01 01 03.9**	**-0.4**
VLX	**Vlachokerasia**	**1.06**	**166**	P		**Pg**		**01 01 03.4**	**-0.9**
VLX	**Vlachokerasia**	**1.06**	**166**	*e*PG		**Pg**		**01 01 03.5**	**-0.9**
VLX	**Vlachokerasia**	**1.06**	**166**	*e*Pg		**Pg**		**01 01 03.5**	**-0.9**
THL	**Klokotos Trika**	**1.16**	**358**	P		**Pn**		**01 01 08.1**	**+1.5**
THL	**Klokotos Trika**	**1.16**	**358**	P		**Pn**		**01 01 08.1**	**+1.5**
VLS	**Valsamata**	**1.19**	**260**	P		**Pg**		**01 01 05.7**	**-1.1**
VLS	**Valsamata**	**1.19**	**260**	*e*PN		**Pg**		**01 01 05.2**	**-1.6**
VLS	**Valsamata**	**1.19**	**260**	*e*Pn		**Pg**		**01 01 05.2**	**-1.6**
VLS	**Valsamata**	**1.19**	**260**	P		**Pg**		**01 01 05.7**	**-1.1**
ITM	**Ithomi**	**1.22**	**185**	P		**Pg**		**01 01 06.4**	**-1.1**
ITM	**Ithomi**	**1.22**	**185**	*e*PN		**Pg**		**01 01 06.5**	**-1.1**
ITM	**Ithomi**	**1.22**	**185**	P		**Pg**		**01 01 06.4**	**-1.1**
MRKA	**Markates**	**1.23**	**75**	P		**Pg**		**01 01 07.4**	**-0.2**
MRKA	**Markates**	**1.23**	**75**	P		**Pg**		**01 01 07.4**	**-0.2**
NEO	**Neokhori**	**1.28**	**45**	P		**Pn**		**01 01 08.2**	**0.0**
NEO	**Neokhori**	**1.28**	**45**	*e*PB		**Pn**		**01 01 07.8**	**-0.4**
NEO	**Neokhori**	**1.28**	**45**	*e*Pb		**Pn**		**01 01 07.8**	**-0.4**
NEO	**Neokhori**	**1.28**	**45**	P		**Pn**		**01 01 08.2**	**0.0**
PTL	**Penteli**	**1.46**	**103**	*e*PG		**Pn**		**01 01 11.2**	**+0.6**
PTL	**Penteli**	**1.46**	**103**	*e*Pg		**Pn**		**01 01 11.2**	**+0.6**
PYL	**PYLOS**	**1.52**	**190**	P		**Pn**		**01 01 11.8**	**+0.3**
PYL	**PYLOS**	**1.52**	**190**	P		**Pn**		**01 01 11.8**	**+0.3**
JAN	**Janina**	**1.57**	**323**	P		**Pn**		**01 01 11.4**	**-0.8**
JAN	**Janina**	**1.57**	**323**	P		**Pn**		**01 01 11.4**	**-0.8**
LIT	**Litokhoron**	**1.73**	**11**	P		**Pn**		**01 01 15.0**	**+0.6**
LIT	**Litokhoron**	**1.73**	**11**	*e*PN		**Pn**		**01 01 15.3**	**+0.9**
LIT	**Litokhoron**	**1.73**	**11**	P		**Pn**		**01 01 15.0**	**+0.6**
LIT	**Litokhoron**	**1.73**	**11**	*e*Pn		**Pn**		**01 01 15.3**	**+0.9**
VLI	**Veliai**	**1.81**	**157**	*e*PN		**Pn**		**01 01 16.5**	**+1.0**
VLI	**Veliai**	**1.81**	**157**	*e*Pn		**Pn**		**01 01 16.5**	**+1.0**
KZN	**Kozani**	**1.92**	**353**	P		**Pn**		**01 01 18.1**	**+1.1**
KZN	**Kozani**	**1.92**	**353**	*e*PN		**Pn**		**01 01 18.2**	**+1.2**
KZN	**Kozani**	**1.92**	**353**	P		**Pn**		**01 01 18.1**	**+1.1**
FNA	**Florina**	**2.44**	**348**	P		**Pn**		**01 01 25.4**	**+1.2**
FNA	**Florina**	**2.44**	**348**	*e*PN		**Pn**		**01 01 25.4**	**+1.2**
FNA	**Florina**	**2.44**	**348**	P		**Pn**		**01 01 25.4**	**+1.2**
KNT	**Kendrikon**	**2.83**	**13**	*e*PN		**Pn**		**01 01 31.1**	**+1.6**
KNT	**Kendrikon**	**2.83**	**13**	*e*Pn		**Pn**		**01 01 31.1**	**+1.6**
SRS	**Serrai**	**2.96**	**23**	*e*PN		**Pn**		**01 01 31.9**	**+0.6**
SRS	**Serrai**	**2.96**	**23**	*e*Pn		**Pn**		**01 01 31.9**	**+0.6**
IDI	**Anoyia**	**3.84**	**143**	Pn		**Pn**		**01 01 44.4**	**+0.9**
	0.2nm,0.3s,baz=324,slow=18,SNR=2.9								
IDI				Sn		**Sn**		**01 02 27.8**	**-1.0**
	0.4nm,0.3s,baz=294,slow=20,SNR=3.3								
MLR	**Muntele Rosu**	**7.65**	**21**	Pn		Pn		01 02 39.9	+4.1
	baz=180,slow=17								
BRTR	**Keskin Array B**	**9.10**	**78**	Pn		**Pn**		**01 02 58.3**	**+2.6**
	0.1nm,0.3s,baz=260,slow=12,SNR=7.3								
NOA	**NORSAR Array B**	**23.66**	**347**	P		**P**		**01 05 55.5**	**-0.2**
	0.9nm,0.8s,baz=170,slow=9.9,SNR=3.9								
EKA	**Eskdalemuir Ar**	**23.97**	**323**	P		**P**		**01 05 58.2**	**-0.3**
	0.5nm,0.7s,baz=108,slow=9.0,SNR=2.8								
TORD	**Torodi Ar. Bea**	**30.98**	**221**	P		**P**		**01 07 02.9**	**+1.0**
	0.4nm,0.5s,baz=31,slow=8.8,SNR=10								
TORD				LR		LR		01 20 49.5	
	comp=Z,77nm,18.6s,baz=15,slow=39								
MKAR	**Makanchi Array**	**44.15**	**59**	P		**P**		**01 08 52.2**	**-0.7**
	0.2nm,0.5s,baz=269,slow=6.1,SNR=2.9								
ZALV	**Zalesovo Beam**	**44.63**	**48**	P		**P**		**01 08 55.6**	**-1.1**
	0.4nm,0.3s,baz=264,slow=9.6,SNR=2.9								

*ISCJB **12** 01:09:55.9±0.5, 32°.29N±0°.03×115°.33W±0°.05, h11km±5km, Error ellipse: s-maj=6.8km s-min=4.5km az=158.7*

*MEX **12** 01:09:57.0±0.7, 32°.52N×115°.16W, h18km±8km, MD3.5*

*ECX **12** 01:09:57.0±0.5, 32°.30N×115°.34W, h4km, MD2.9, ML3.1*

**ISC 12 01:09:55.6±0

0.1nm,0.3s,baz=218,slow=15,SNR=3.1
AB31 Akbulak array 14.54 327 ⇑Pn **P 01 29 26.9 +2.0**
0.3nm,0.5s,baz=143,slow=11,SNR=12
AB31 ⇓Sn **Sn 01 31 56.9 -5.8**
0.3nm,0.5s,baz=129,slow=26,SNR=7.3
AKTO Aktyubinsk 16.25 327 P **P 01 29 46.8 +2.9**
0.3nm,0.3s,baz=136,slow=12,SNR=5.7
FINES FINESS Array B 37.01 325 P **P 01 33 01.6 +2.3**
0.4nm,0.3s,baz=125,slow=9.4,SNR=8.6
FINES LR LR 01 50 17.6
comp=Z,37nm,20.5s,baz=262,slow=39
ARCES ARCESS Array B 40.45 337 P P 01 33 30.7 +2.8
1.9nm,0.8s,baz=112,slow=9.8,SNR=5.5
JMIC Jan Mayen 51.91 336 LR LR 01 57 06.9
comp=Z,20nm,18.6s,baz=96,slow=36
YKA Yellowknife Ar 80.18 3 P **P 01 37 59.6 +1.6**
0.2nm,0.6s,baz=349,slow=5.6,SNR=7.9
WRA Warramunga Arr 81.97 123 P **P 01 38 05.4 -2.8**
0.5nm,1.0s,baz=330,slow=4.9,SNR=3.0

GUC 12 01:37:34.8±0.4, 36°02'S×72°92'W, h26km±2km, ML3.8, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.15**	**135**	⇓*i*P	Pb	01 37 39.5	-0.6
COCH				*i* S	Sb	01 37 42.9	-0.8
CCSP	**San Pedro de C**	**0.83**	**190**	*e*P	Pb	01 37 49.9	-0.8
CCSP				*i* S	Sb	01 38 01.1	-0.4
CCSP				AML	AML	01 38 04.7	
	comp=E,7μm,0.2s						
TALC	**Talca**	**1.22**	**60**	⇓*i*P	Pn	01 37 55.9	-0.2
TALC				*e*S	Sb	01 38 12.2	-0.3

IDC 12 01:41:54.5±4.7, 26°10S×177°99W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/27, mbtmp3.8/3, Error ellipse: s-maj=277.0km s-min=60.5km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.36**	**273**	P	P	01 48 35.3	+0.5
	2.1nm,0.6s,baz=95,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**43.52**	**262**	P	P	01 50 00.7	+0.5
	0.2nm,0.4s,baz=96,slow=9.4,SNR=4.3						
WRA	**Warramunga Arr**	**44.12**	**268**	P	P	01 50 03.8	-1.2
	0.6nm,0.5s,baz=106,slow=8.3,SNR=5.8						
BRTR	**Keskin Array B**	**150.35**	**305**	PKPbc	PKPbc	02 01 47.8	-0.4
	0.4nm,0.8s,baz=100,slow=4.4,SNR=2.8						

*ISCJB **12** 01:49:29.9±1.4, 37°78S±0°08×73°1W±0°2, h33km, mb3.7/2, MS3.4/1, Error ellipse: s-maj=20.2km s-min=8.0km az=151.6*
*GUC **12** 01:49:29.7±0.3, 37°78S×73°09W, h41km±3km, ML3.9*
*IDC **12** 01:49:33.6±3.1, 37°51S×70°73W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.6/17, mbtmp3.6/3, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/15, Error ellipse: s-maj=139.6km s-min=17.5km az=93.0*

ISC 12 01:49:30.8±1.4, 37°72S±0°07×73°0W±0°1, h33km, n7, σ1s0°0/10, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.29**	**109**	⇑*i*P	**Pb**	**01 49 37.7**	**-0.7**
AGCH				*e*S	**Sn**	**01 49 43.6**	**+0.2**
CCSP	**San Pedro de C**	**0.87**	**356**	*e*P	**Pn**	**01 49 46.5**	**-0.2**
CCSP				*e*S	**Sb**	**01 49 59.5**	**+0.6**
CCSP				AML	AML	01 50 03.2	
	comp=E,9μm,0.5s						
COCH	**Cobquecura**	**1.59**	**7**	⇑*i*P	**Pn**	**01 49 56.6**	**-0.1**
COCH				*i* S	**Sb**	**01 50 19.3**	**-0.1**
COCH				AML	AML	01 50 24.7	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**3.58**	**148**	Pn	**Pn**	**01 50 24.9**	**+0.8**
	comp=E,1.6nm,0.3s,baz=322,slow=10,SNR=30						
PLCA				Pg	**Pb**	**01 50 32.6**	**-0.8**
	comp=E,4.6nm,0.3s,baz=321,slow=16,SNR=20						
PLCA				Lg	Lg	01 51 16.4	
	comp=E,13nm,0.3s,baz=234,slow=21,SNR=6.4						
PLCA				LR	LR	01 51 45.1	
	comp=E,391nm,21.1s,baz=276,slow=41						
LPAZ	**La Paz**	**21.78**	**13**	P	**P**	**01 54 22.4**	**+1.9**
	comp=E,1.6nm,0.9s,baz=207,slow=9.0,SNR=4.4						
BDFB	**Brasilia**	**31.18**	**52**	LR	LR	02 08 11.9	
	comp=E,80nm,19.0s,baz=226,slow=38						
TORD	**Torodi Ar. Bea**	**86.23**	**70**	P	**P**	**02 02 08.3**	**-0.9**
	comp=E,0.7nm,0.8s,baz=247,slow=5.1,SNR=3.6						

*ECX **12** 01:52:08.3±0.7, 32°27N×115°26W, h5km±6km, MD4.0, ML3.9*
*NEIC **12** 01:52:08.3, 32°27N×115°26W, h5km, ML3.9(PAS), ML3.9(ECX), After ECX.*

ISC 12 01:52:06.9±1.2, 32°24N±0°02×115°27W±0°02, h1km±12km, n24, σ1s40/48, 4C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**352**	*e*P	**Pg**	**01 52 11.2**	**+0.8**
EMX	**El Mayor**	**0.25**	**174**	⇓*e*P	**Pg**	**01 52 11.4**	**-0.2**
EMX				*e*S	**Sg**	**01 52 15.6**	**+0.8**
RDX	**Rancho Dawling**	**0.65**	**242**	⇑*e*P	**Pg**	**01 52 20.1**	**+0.9**
RDX				*e*S	**Sg**	**01 52 28.8**	**+1.2**
RMX	**La Rumorosa**	**0.77**	**298**	⇑*e*P	**Pg**	**01 52 22.0**	**+0.3**
RMX				*e*S	**Sg**	**01 52 32.1**	**+0.4**
ECBX	**El Chinero**	**0.78**	**166**	⇓*e*P	**Pg**	**01 52 21.0**	**-0.9**
ECBX				*e*S	**Sg**	**01 52 32.1**	**+0.1**
GLA	**Glamis**	**0.90**	**25**	*e*Pg	**Pg**	**01 52 24.5**	**+0.4**
GLA				*e*Sg	**Sg**	**01 52 35.1**	**-0.6**
ZAX	**El Zacaton**	**1.11**	**230**	⇓*e*P	**Pg**	**01 52 28.4**	**+0.2**
ZAX				*e*S	**Sg**	**01 52 43.4**	**+0.8**
CBX	**Cerro Bola**	**1.18**	**274**	⇑*e*P	**Pg**	**01 52 29.2**	**-0.3**
CBX				*e*S	**Sg**	**01 52 45.3**	**+0.5**
CBX				⇓*e*		01 52 46.7	
	comp=N,4μm,0.6s						
CBX				⇓*e*		01 52 48.5	
	comp=E,2μm,0.4s						
SPX	**San Pedro Mart**	**1.20**	**188**	⇓*e*P	**Pg**	**01 52 29.4**	**-0.4**
BAR	**Barrett**	**1.26**	**291**	*e*Pn	**Pg**	**01 52 30.5**	**-0.6**
BAR				*e*S	**Sg**	**01 52 46.4**	**-1.1**
ECNX	**Esteban Cantu**	**1.27**	**243**	⇑*e*P	**Pn**	**01 52 30.8**	**-1.0**
ECNX				*e*S	**Sg**	**01 52 48.0**	**+0.5**
PBX	**Punta Banda**	**1.33**	**249**	⇓*e*P	**Pn**	**01 52 31.8**	**-0.7**
PBX				*e*S	**Sb**	**01 52 49.5**	**-0.6**
PFO	**Pinyon Flats O**	**1.69**	**324**	*e*Pn	**Pn**	**01 52 35.4**	**-2.3**
PFO				*e*S	**Sn**	**01 52 59.2**	**-0.8**
GSC	**Goldstone, Bar**	**3.31**	**338**	Pn	**Pn**	**01 53 00.5**	**+0.6**
GSC				*e*Pg	**Pg**	**01 53 10.4**	**+0.1**
GSC				*e*S	**Sb**	**01 53 49.5**	**+2.2**
TUC	**Tucson**	**3.80**	**88**	*e*Pn	**Pn**	**01 53 07.1**	**+0.5**
TUC				*e*Pg	**Pg**	**01 53 18.7**	**-1.0**
TUC				*e*S	**Sb**	**01 54 05.5**	**+4.1**
SHPR	**Sheep Range**	**4.26**	**1**	*e*Pn	**Pn**	**01 53 12.6**	**-0.4**
SHPR				*e*Pg	**Pg**	**01 53 29.9**	**+1.3**
SHPR				*e*S	**Sg**	**01 54 20.3**	**-3.4**
ISA	**Isabella, Lake**	**4.33**	**323**	*e*Pn	**Pn**	**01 53 13.6**	**-0.3**
ISA				*e*Pg	**Pg**	**01 53 28.1**	**-1.8**
CCUT	**Cedar City**	**5.53**	**16**	*e*Pn	**Pn**	**01 53 31.4**	**+0.9**
	comp=E,15nm,0.8s						
CCUT				*e*Pg	**Pg**	**01 53 52.5**	**-0.3**
CCUT				*e*S	Sb	01 54 57.4	+6.1
R11A	**Troy Canyon, C**	**6.11**	**358**	Pn	**Pn**	**01 53 38.8**	**+0.5**
	comp=E,5.7nm,0.6s						
R11A				*e*Pg	Pg	01 54 01.3	-2.5
R11A				*e*S	**Sg**	**01 55 25.9**	**+3.0**
121A	**Cookes Peak, D**	**6.34**	**85**	*e*Pn	**Pn**	**01 53 40.8**	**-0.8**
	comp=E,7.9nm,0.7s						
121A				*e*S	**Sg**	**01 55 29.5**	**-1.0**
CGIG		**6.51**	**105**	P	**Pn**	**01 53 43.8**	**-0.3**
CGIG				*S*	**Sb**	**01 55 19.3**	**-0.2**
LAZ	**Ladron**	**7.14**	**70**	*e*Pn	**Pn**	**01 53 53.2**	**+0.6**
MVCO	**Mesa Verde**	**7.46**	**46**	*e*Pn	**Pn**	**01 53 59.2**	**+2.1**
MVCO				*e*S	**Sg**	**01 56 03.4**	**-3.2**
SRU	**San Rafael Swe**	**7.87**	**28**	*e*Pn	**Pn**	**01 54 01.9**	**-0.7**
SRU				*e*Pg	**Pg**	**01 54 36.0**	**-1.7**
SRU				*e*S	Sg	01 56 10.8	-8.8

*ISCJB **12** 02:04:22.9±0.4, 32°71N±0°02×115°78W±0°03, h12km±3km, Error ellipse: s-maj=4.0km s-min=3.8km az=44.1*
*ECX **12** 02:04:24.6±0.6, 32°66N×115°81W, h4km, MD3.3, ML3.5*
*NEIC **12** 02:04:24.1, 32°66N×115°81W, h13km, ML3.4(PAS), ML3.4(ECX), After PAS.*

ISC 12 02:04:23.5±0.8, 32°66N±0°02×115°78W±0°02, h14km±6km, n22, σ0s98/41, 9C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.05**	**101**	⇑*i*P	**Pg**	**02 04 26.3**	**+0.2**
YUH	**Yuha Desert**	**0.12**	**265**	⇑*i*P	**Pg**	**02 04 26.7**	**-0.2**
COK	**Cook Ranch**	**0.20**	**14**	⇓*i*P	**Pg**	**02 04 28.4**	**+0.4**
RMX	**La Rumorosa**	**0.26**	**258**	⇑*e*P	**Pg**	**02 04 29.1**	**0.0**
RMX				*e*S	**Sg**	**02 04 32.6**	**-0.3**
RMX				AML	AML	02 04 32.8	
	comp=N,9μm,0.3s						
RMX				⇑*e*		02 04 32.8	
CPBX	**Cerro Prieto**	**0.47**	**121**	*e*P	**Pb**	**02 04 33.7**	**+0.1**
CPBX				⇑*e*P	**Pg**	**02 04 33.8**	**+1.0**
CPBX				*e*S	**Sb**	**02 04 40.3**	**0.0**
CPBX				AML	AML	02 04 43.0	
	comp=N,11μm,0.1s						
CPBX				⇑*e*		02 04 43.0	
CPBX				AML	AML	02 04 44.5	
	comp=E,11μm,0.2s						
CPBX				⇑*e*		02 04 44.5	
RDX	**Rancho Dawling**	**0.74**	**191**	⇓*e*P	**Pg**	**02 04 37.8**	**-0.1**
RDX				*e*S	**Sg**	**02 04 47.6**	**-0.1**
BAR	**Barrett**	**0.75**	**272**	*e*Pg	**Pg**	**02 04 37.7**	**-0.4**
BAR				*e*S	**Sg**	**02 04 47.0**	**-1.0**
EMX	**El Mayor**	**0.81**	**145**	⇑*e*P	**Pg**	**02 04 38.6**	**-0.5**
EMX				*e*S	**Sg**	**02 04 49.6**	**-0.2**
CBX	**Cerro Bola**	**0.82**	**245**	⇑*e*P	**Pg**	**02 04 39.3**	**-0.1**
CBX				*e*S	**Sg**	**02 04 49.9**	**-0.4**
CBX				AML	AML	02 04 51.3	
	comp=N,2μm,0.3s						
CBX				⇓*e*		02 04 51.3	
GLA	**Glamis**	**0.89**	**64**	*e*Pg	**Pb**	**02 04 39.9**	**-0.9**
GLA				*e*S	**Sg**	**02 04 51.6**	**-0.9**
PFO	**Pinyon Flats O**	**1.10**	**329**	*e*Pg	**Pb**	**02 04 43.7**	**-0.8**
PFO				S	**Sb**	**02 04 56.5**	**-2.3**
ECNX	**Esteban Cantu**	**1.22**	**215**	*e*P	**Pn**	**02 04 46.1**	**-0.1**
ECNX				*e*S	**Sb**	**02 05 02.4**	**+0.5**
PBX	**Punta Banda**	**1.22**	**221**	⇓*e*P	**Pn**	**02 04 46.1**	**+0.1**
PBX				*e*S	**Sb**	**02 05 02.1**	**+0.3**
ZAX	**El Zacaton**	**1.22**	**200**	⇓*e*P	**Pn**	**02 04 46.3**	**+0.2**
ZAX				*e*S	**Sn**	**02 05 02.6**	**+0.1**
ECBX	**El Chinero**	**1.33**	**152**	*e*P	**Pn**	**02 04 47.5**	**-0.2**
ECBX				*e*S	**Sn**	**02 05 05.6**	**+0.4**
SPX	**San Pedro Mart**	**1.63**	**170**	*e*P	**Pn**	**02 04 52.9**	**+0.8**
MWC	**Mount Wilson**	**2.46**	**310**	*e*Pn	**Pn**	**02 05 04.7**	**+1.3**
MWC				*e*S	**Sb**	**02 05 38.7**	**+0.8**
214A	**Organ Pipe Nat**	**2.61**	**105**	*e*Pn	**Pn**	**02 05 04.1**	**-1.2**
GSC	**Goldstone, Bar**	**2.77**	**342**	*e*Pn	**Pn**	**02 05 08.7**	**+1.1**
GSC				*e*Pg	**Pg**	**02 05 15.0**	**-1.6**
GSC				*e*S	**Sb**	**02 05 48.9**	**+2.2**
ISA	**Isabella, Lake**	**3.74**	**324**	*e*Pn	**Pn**	**02 05 21.5**	**+0.6**
ISA				*e*S	**Sb**	**02 06 17.3**	**+2.9**
SHPR	**Sheep Range**	**3.87**	**7**	*e*Pn	**Pn**	**02 05 24.0**	**+1.3**
SHPR				*e*Pg	**Pg**	**02 05 37.5**	**-0.1**
SHPR				*e*Sg	**Sg**	**02 06 26.8**	**-1.1**
121A	**Cookes Peak, D**	**6.75**	**89**	*e*Pn	**Pn**	**02 06 02.8**	**+0.5**
	comp=N,3.5nm,0.3s						

GUC 12 02:09:20.9±0.5, 22°39S×68°67W, h130km±4km, ML3.9, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.68**	**140**	⇑*i*P	Pn	02 09 50.2	+8.8
SPCH				*i* S	Sn	02 10 03.1	+6.0
SPCH				AML	AML	02 10 05.3	
	comp=E,3μm,0.3s						
PB04	**IPOC Station P**	**0.77**	**279**	⇑*i*P	Pn	02 09 48.0	+6.2
PB04				*i* S	Sn	02 10 09.1	+12
PB04				AML	AML	02 10 10.8	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**0.79**	**318**	⇓*i*P	Pn	02 09 42.4	+0.2
PB09				*e*S	Sn	02 09 58.9	+0.5
PB09				AML	AML	02 09 59.9	
	comp=E,7μm,0.2s						
PB07	**IPOC Station P**	**1.30**	**300**	⇑*i*P	Pn	02 09 47.8	+0.7
PB07				*e*S	Sn	02 10 07.5	+0.5
PB07				AML	AML	02 10 08.7	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.54**	**330**	⇑*i*P	Pn	02 09 49.9	+0.3
PB01				*i* S	Sn	02 10 12.1	+0.7
PB01				AML	AML	02 10 15.2	
	comp=N,991nm,0.2s						
CEN1	**Los Morros**	**1.73**	**234**	⇑*i*P	Pn	02 09 54.9	+3.1
CEN1				*e*S	Sn	02 10 20.2	+4.9
ANCH	**Antofagasta**	**2.06**	**231**	⇑*i*P	Pn	02 09 50.6	-4.9
ANCH				*i* S	Sn	02 10 15.5	-6.6
PATCX	**Punta Patache**	**2.08**	**318**	*e*P	Pn	02 09 56.2	+0.2
PATCX				*e*S	Sn	02 10 23.4	+0.6
PATCX				AML	AML	02 10 30.1	
	comp=N,536nm,0.4s						
HMBC	**Humberstone**	**2.39**	**331**	⇑*i*P	Pn	02 09 59.6	-0.3
HMBC				*e*S	Sn	02 10 29.9	+0.2
HMBC				AML	AML	02 10 34.2	
	comp=N,410nm,0.7s						
MNMC	**Minimini**	**3.35**	**345**	⇑*i*P	Pn	02 10 12.4	-0.2
MNMC				*i* S	Sn	02 10 53.0	+0.6
MNMC				AML	AML	02 10 57.3	
	comp=E,366nm,0.3s						
CPCH	**Copiapo**	**5.18**	**197**	⇑*i*P	Pn	02 10 32.2	-4.2

*IDC **12** 02:11:39.0±0.5, 9°13N×126°33E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.2/34, mbtmp4.1/19, MS3.6/21, Ms1 3.6/21, ms1mx3.4/48, Error ellipse: s-maj=27.9km s-min=12.9km az=72.0*
*MAN **12** 02:11:42.9±15N×126°59E, h1km, mb5.1, ML4.1, MS4.1*
MAN INTENSITY II - CAGWAIT SURIGAO DEL SUR; INTENSITY I - BRGY ARAS-ASAN CAGWAIT SURIGAO DEL SUR.
*ISCJB **12** 02:11:44.8±0.9, 9°21N±0°04×126°66E±0°06, h59km±7km, mb4.2/27, MS3.6/20, Error ellipse: s-maj=10.4km s-min=5.1km az=157.9*
*DJA **12** 02:11:44.8±1.3, 9°N±10°×12°7E±1°1, h10km, M5.0/12, mb4.7/12, mB5.5/2, MLv5.2/2, Mw(mB)5.0/2*
*NEIC **12** 02:11:52.9±1.8, 9°06N×126°34E, h116km±16km, mb4.4/10, Error ellipse: s-maj=22.2km s-min=9.3km az=71.0*

ISC 12 02:11:46.3±1.3, 9°30N±0°05×126°59E±0°08, h49km±12km, n92, σ1s67/78, mb4.2/27, MS3.6/20, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.01**	**251**	*e*P	**Pn**	**02 12 01.1**	**-3.0**
SCPH	**Surigao**	**1.19**	**294**	⇓*i*P	**Pn**	**02 12 06.0**	**-0.5**
SCPH				*i* S	**Sn**	**02 12 24.7**	**+3.1**
CGP	**Cagayan de Oro**	**2.05**	**246**	⇑*i*P	**Pn**	**02 12 16.8**	**-1.6**
CGP				*i* S	**Sn**	**02 12 43.4**	**+0.7**
BUKP	**Musuan**	**2.07**	**227**	*e*P	**Pn**	**02 12 17.7**	**-0.9**
BUKP				*e*S	**Sn**	**02 12 43.0**	**-0.2**
MATI	**Mati**	**2.36**	**188**	*e*P	**Pn**	**02 12 21.1**	**-1.5**
DAV	**Davao City (W)**	**2.43**	**204**	*e*Pn	Pn	02 12 28.8	+5.2
DAV				*e*S	**Sn**	**02 12 56.8**	**+4.7**
PLP	**Palo**	**2.44**	**320**	⇑*e*P	**Pn**	**02 12 24.2**	**+0.5**
PLP				*e*S	Sn	02 12 59.5	+7.3
TBP	**Tagbilaran**	**2.72**	**278**	*e*P	**Pn**	**02 12 28.4**	**+0.9**
TBP				*e*S	**Sn**	**02 13 03.4**	**+4.2**
CTBH	**Cotabato--PC H**	**3.11**	**228**	⇑*i*P	**Pn**	**02 12 31.7**	**-1.1**
CTBH				*i* S	**Sn**	**02 13 12.5**	**+3.8**
DCPH	**Dipolog City**	**3.28**	**258**	⇑*e*P	**Pn**	**02 12 35.0**	**-0.2**
DCPH				*e*S	**Sn**	**02 13 10.2**	**-2.7**
SNPH	**Sibulan**	**3.31**	**271**	⇓*i*P	Pn	02 12 31.9	-3.8
SNPH				*e*S	Sn	02 13 18.1	+4.3
PAGZ	**Pagadian**	**3.48**	**246**	*e*P	**Pn**	**02 12 38.0**	**0.0**
RCP	**Roxas**	**4.40**	**301**	⇓*e*P	Pn	02 12 53.1	+2.6
GTOI	**Gorontalo**	**9.32**	**203**	P	**Pn**	**02 13 57.3**	**-0.7**
	45nm,0.8s						
GTOI				S	**Pn**	**02 13 59.2**	**+1.2**
	45nm,0.8s						
MRSI	**Marisa**	**9.91**	**208**	P	**Pn**	**02 14 07.4**	**+1.2**
	26nm,0.7s						
SANI	**Sanana**	**11.29**	**183**	P	**Pn**	**02 14 25.1**	**0.0**
	21nm,0.7s						
NLAI	**Namlea**	**12.47**	**178**	P	**Pn**	**02 14 39.6**	**-1.5**
	28nm,0.6s,2μm						
BNSI	**Bone**	**15.07**	**206**	P	**P**	**02 15 19.3**	**-1.2**
	25nm,1.2s						
SBUM	**Sibu**	**15.82**	**245**	*e*Pn	**P**	**02 15 30.6**	**+1.6**
	15nm,1.0s						
JAY	**Jayapura**	**18.32**	**129**	LR	LR	02 21 25.1	
	comp=Z,241nm,21.2s,baz=344,slow=32						
SOEI	**Soe**	**19.07**	**187**	P	**Pn**	**02 16 09.6**	**+3.5**
	46nm,1.0s						
SOEI	**Soe**	**19.07**	**187**	P	Pn	02 16 11.9	+5.8
	baz=19,SNR=4.1						
SOEI	**Soe**	**19.07**	**187**	*e*P	**Pn**	**02 16 07.8**	**+1.7**
	36nm,0.9s						
BATI	**Baumata**	**19.60**	**189**	P	**P**	**02 16 09.8**	**-0.8**
	6.2nm,0.3s,baz=334,slow=5.0,SNR=4.7						
KDU	**Kakadu**	**22.61**	**165**	P	**P**	**02 16 41.6**	**-1.4**
	baz=23,SNR=7.7						
JNU	**Nakatsue**	**24.03**	**9**	LR	LR	02 27 51.0	
	comp=Z,62nm,18.9s,baz=182,slow=40						
KNRA	**Kununurra**	**24.91**	**175**	P	**P**	**02 17 04.6**	**-0.3**
	baz=25,SNR=6.3						
CISI	**Cisompet, Garu**	**25.11**	**229**	S	**S**	**02 21 32.0**	**+3.7**
	baz=26,SNR=3.1						
FITZ	**Fitzroy Crossi**	**27.25**	**182**	*e*P	**P**	**02 17 25.4**	**-0.5**
	17nm,1.0s						
KSAR	**Wonju Array Be**	**28.04**	**2**	P	**P**	**02 17 34.8**	**+1.9**
KSRS	**Korea Array**	**28.05**	**2**	P	**P**	**02 17 34.8**	**+1.8**
	2.0nm,0.6s,baz=187,slow=9.5,SNR=6.2						
KSRS				LR	LR	02 30 53.6	
	comp=Z,115nm,18.8s,baz=195,slow=41						
CMAR	**Chiang Mai Arr**	**28.30**	**292**	P	**P**	**02 17 34.5**	**-1.0**
	1.3nm,0.7s,baz=112,slow=7.2,SNR=6.8						
CMAR				LR	LR	02 29 32.6	
	comp=Z,161nm,18.4s,baz=118,slow=38						
MJAR	**Matsushiro Arr**	**29.10**	**19**	LR	LR	02 29 27.0	
	comp=Z,58nm,18.9s,baz=210,slow=36						
WRAB	**Tennant Creek**	**30.04**	**165**	*e*P	P	02 17 47.5	-3.3
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**30.05**	**165**	P	P	02 17 47.5	-3.4
	1.2nm,0.5s,baz=348,slow=9.4,SNR=10						
WRA				LR	LR	02 32 01.3	
	comp=Z,49nm,18.6s,baz=325,slow=41						
WB2	**Warramunga Arr**	**30.05**	**165**	*e*P	**P**	**02 17 47.9**	**-3.0**
QIS	**Mount Isa**	**32.32**	**157**	P	**P**	**02 18 08.9**	**-2.0**
	baz=32,SNR=3.8						
ASAR	**Alice Springs**	**33.54**	**168**	P	**P**	**02 18 18.8**	**-2.7**
	0.7nm,0.4s,baz=17,slow=12,SNR=12						
ASAR				LR	LR	02 32 58.2	
	comp=Z,37nm,20.8s,baz=326,slow=38						
WRKA	**Warakurna**	**34.17**	**177**	P	**P**	**02 18 26.2**	**-0.8**
	baz=34,SNR=8.4						
CTA	**Charters Tower**	**35.04**	**147**	P	**P**	**02 18 35.5**	**+0.9**
	2.0nm,0.6s,baz=340,slow=10,SNR=4.2						
USRK	**Ussuriysk Ar.**	**35.08**	**7**	P	**P**	**02 18 36.4**	**+1.8**
	3.6nm,0.7s,baz=198,slow=10,SNR=8.9						
USRK				LR	LR	02 34 21.3	
	comp=Z,34nm,19.2s,baz=168,slow=39						
MEEK	**Meekatharra**	**36.55**	**192**	P	**P**	**02 18 46.1**	**-1.4**
	baz=37,SNR=4.9						
ASAJ	**Asahikawa**	**37.37**	**19**	LR	LR	02 35 06.3	
	comp=Z,74nm,19.3s,baz=142,slow=37						
HNR	**Honiara**	**38.07**	**118**	LR	LR	02 32 47.6	
	comp=Z,63nm,21.0s,baz=310,slow=33						
H11S3	**WAKE ISLAND Hy**	**39.90**	**72**	T	T	03 02 26.5	
	baz=262,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**39.92**	**72**	T	T	03 02 13.9	
	baz=262,slow=75,SNR=44						
H11S2	**WAKE ISLAND Hy**	**39.92**	**72**	T	T	03 02 19.8	
	baz=262,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**40.27**	**71**	T	T	03 02 50.6	
	baz=265,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**40.28**	**70**	T	T	03 02 58.7	
	baz=265,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**40.29**	**71**	T	T	03 02 51.8	
	baz=265,slow=74,SNR=18						
KMBL	**Kambalda**	**40.69**	**186**	P	**P**	**02 19 20.7**	**-1.4**
	baz=41,SNR=6.1						
TAPN	**Taplejung**	**40.81**	**301**	*e*P	**P**	**02 19 23.2**	**-0.4**
ODAN	**Odare**	**40.93**	**300**	*e*P	**P**	**02 19 23.3**	**-1.2**
	17nm,0.6s						
RAMN	**Ramite**	**41.63**	**300**	*e*P	**P**	**02 19 29.6**	**-0.7**
	14nm,0.7s						
SONM	**Songimo Array**	**42.03**	**340**	P	**P**	**02 19 32.5**	**-0.6**
	0.4nm,0.6s,baz=161,slow=8.7,SNR=4.4						
SONM				LR	LR	02 38 50.8	
	comp=Z,86nm,19.2s,baz=164,slow=39						
JIRN	**Jiri**	**42.19**	**301**	*e*P	**P**	**02 19 34.8**	**-0.2**
	16nm,0.6s						
GUN	**Gumba**	**42.53**	**301**	*e*P	**P**	**02 19 36.5**	**-1.2**
	15nm,0.6s						
PKI	**Pulchoki**	**42.83**	**301**	*e*P	**P**	**02 19 39.0**	**-1.1**
	8.6nm,0.7s						
BBOO	**Buckleboo**	**42.84**	**168**	P	**P**	**02 19 40.6**	**+0.9**
	baz=43,SNR=9.2						
NWAO	**Narrogin (SRO)**	**42.93**	**192**	P	**P**	**02 19 38.4**	**-2.0**
	13nm,0.9s,baz=0.8,slow=8.9,SNR=6.3						
GKN	**Gorkha**	**43.61**	**301**	*e*P	**P**	**02 19 45.9**	**-0.3**
KOLN	**Koldanda**	**44.42**	**300**	*e*P	**P**	**02 19 51.6**	**-1.2**
	16nm,0.6s						
DANN	**Dangsing**	**44.45**	**301**	*e*P	**P**	**02 19 52.4**	**-0.7**
	17nm,0.6s						
RKGY	**Rocky Gully**	**44.61**	**191**	P	**P**	**02 19 53.5**	**-0.4**
	baz=45,SNR=4.7						
PYUN	**Piuthan**	**45.03**

ISCJB **12** *02:22:39.5±0.3, 7.78S±0.03×127.67E±0.03, h150km, mb4.2/10, Error ellipse: s-maj=4.6km s-min=4.2km az=21.7*
DJA **12** *02:22:39.7±2.9, 8.3°S±4.4°×12.8°E±.°, h23km±32km, M4.5/12, mb4.9/7, mB5.2/5, MLv4.4/10, MLv4.4/12, Mw(mB)4.5/5*
NEIC **12** *02:22:40.4±0.6, 7.66S×127.61E, h133km±6km, mb4.4/9, Error ellipse: s-maj=7.1km s-min=6.0km az=209.0*
IDC **12** *02:22:42.1±2.6, 7.68S×127.52E, h146km±24km, mb3.8/6, mb1 3.8/7, mb1mx3.6/27, mbtmp4.3/7, Error ellipse: s-maj=24.2km s-min=15.7km az=46.0*

ISC 12 02:22:41.6±0.5, 7.74S±0.05×127.64E±0.04, h150km, n63, σ1ꝉ73/68, mb4.3/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.63**	**94**	S	**Sn**	**02 24 19.0**	**-1.1**
SOEI	**Soe**	**3.89**	**239**	P	**Pn**	**02 23 39.5**	**-1.1**
SOEI				S	**Sn**	**02 24 24.7**	**-1.7**
SOEI	**Soe** baz=4.1,SNR=66	**3.89**	**239**	P	**Pn**	**02 23 39.2**	**-1.4**
SOEI	**Soe**	**3.89**	**239**	*e*Pn	**Pn**	**02 23 39.1**	**-1.5**
SOEI				*e*S	**Sn**	**02 24 21.9**	**-4.5**
BNDI	**Bandanaira**	**3.91**	**35**	P	**Pn**	**02 23 39.7**	**-1.0**
NLAI	**Namlea**	**4.50**	**353**	P	**Pn**	**02 23 48.0**	**-0.5**
MSAI	**Masohi**	**4.55**	**16**	P	**Pn**	**02 23 48.1**	**-1.0**
BATI	**Baumata**	**4.63**	**238**	P	**Pn**	**02 23 49.4**	**-0.8**
BATI				S	**Sn**	**02 24 42.1**	**-1.6**
BATI	**Baumata** 502nm,0.3s,baz=114,slow=3.3,SNR=305	**4.63**	**238**	P	**Pn**	**02 23 49.2**	**-1.0**
BATI				S	**Sn**	**02 24 40.5**	**-3.2**
MMRI	**Maumere** 139nm,0.7s,3μm0.6nm	**5.42**	**260**	P	**Pn**	**02 23 59.4**	**-1.3**
MMRI	**Maumere** 76nm,0.6s	**5.42**	**260**	*e*Pn	**Pn**	**02 23 59.3**	**-1.4**
MMRI				*e*S	**Sn**	**02 25 02.5**	**+0.1**
EDFI	**Ende, Flores** 33nm,0.7s,981nm0.1nm	**5.98**	**260**	P	**Pn**	**02 24 06.3**	**-1.8**
MTN	**Manton Dam** baz=5.7,SNR=48	**6.12**	**146**	P	**Pn**	**02 24 08.0**	**-2.0**
MTN	baz=5.7,SNR=4.3			S	**Sn**	**02 25 13.5**	**-5.7**
FAKI	**Fak Fak** 64nm,0.7s,0.2nm	**6.63**	**44**	P	**Pn**	**02 24 16.4**	**-0.4**
FAKI	**Fak Fak** baz=6.6,SNR=4.7	**6.63**	**44**	P	**Pn**	**02 24 14.6**	**-2.2**
FAKI	baz=6.6,SNR=11			S	**Sn**	**02 25 27.4**	**-3.9**
FAKI	**Fak Fak** 39nm,0.6s	**6.63**	**44**	*e*Pn	**Pn**	**02 24 14.3**	**-2.4**
FAKI				*e*S	**Sn**	**02 25 28.6**	**-2.7**
KDU	**Kakadu** baz=6.4,SNR=141	**6.84**	**136**	P	**Pn**	**02 24 16.8**	**-2.8**
KDU	baz=6.4,SNR=7.0			S	Sn	02 25 28.3	-8.0
BASI	**Baing, Sumba** 196nm,0.7s,3μm0.7nm0.7nm	**7.40**	**250**	P	**Pn**	**02 24 25.0**	**-2.1**
BKSI	**Bulukumba**	**7.85**	**287**	P	**Pn**	**02 24 33.6**	**+0.6**
KNRA	**Kununurra** baz=7.7,SNR=24	**7.96**	**172**	P	**Pn**	**02 24 31.6**	**-2.9**
KNRA	baz=7.7,SNR=9.6			S	Sn	02 25 54.4	-9.0
WRAB	**Tennant Creek** 7.1nm,0.5s	**13.76**	**152**	*e*Pn	Pn	02 25 46.2	-4.3
WRAB				*e*S	Sn	02 28 10.6	-12
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=332,slow=12,SNR=30	**13.76**	**153**	P	Pn	02 25 46.2	-4.4
WRA	3.7nm,0.3s,baz=328,slow=22,SNR=10			S	Sn	02 28 07.7	-15
WB2	**Warramunga Arr**	**13.76**	**152**	*e*Pn	Pn	02 25 46.3	-4.3
WB2				*e*S	Sn	02 28 09.9	-13
COEN	**Coen** baz=16,SNR=8.5	**16.45**	**113**	P	**P**	**02 26 25.0**	**+1.0**
COEN	baz=16,SNR=6.5			S	S	02 29 14.3	-13
COEN	**Coen** 6.0nm,0.5s	**16.45**	**113**	*e*Pn	**P**	**02 26 24.6**	**+0.6**
COEN				*e*S	S	02 29 12.5	-14
AS31	**Alice Springs**	**16.94**	**160**	*e*Pn	**Pn**	**02 26 29.6**	**-0.2**
ASAR	**Alice Springs** 1.6nm,0.3s,baz=333,slow=10,SNR=57	**16.94**	**160**	P	**P**	**02 26 28.8**	**-0.6**
ASAR	0.5nm,0.3s,baz=319,slow=21,SNR=6.4			S	S	02 29 28.6	-10
WRKA	**Warakurna** baz=17,SNR=65	**17.21**	**178**	P	**Pn**	**02 26 33.7**	**+0.6**
QIS	**Mount Isa** baz=17,SNR=20	**17.21**	**139**	P	**Pn**	**02 26 33.7**	**+0.5**
PMG	**Port Moresby** 1.8nm,0.3s,baz=262,slow=7.1,SNR=6.1	**19.37**	**96**	P	**Pn**	**02 26 59.1**	**+0.4**
PMG	**Port Moresby** 3.4nm,0.8s	**19.37**	**96**	*e*P	**P**	**02 26 56.9**	**+0.9**
MEEK	**Meekatharra** baz=21,SNR=14	**20.66**	**203**	P	**P**	**02 27 11.0**	**+1.3**
MEEK	baz=21,SNR=4.4			S	S	02 30 59.6	+7.1
CTA	**Charters Tower** 3.1nm,0.4s,baz=301,slow=13,SNR=9.4	**21.81**	**126**	P	**P**	**02 27 23.3**	**+1.3**
CTAO	**Charters Tower** 12nm,1.3s	**21.81**	**126**	*e*P	**P**	**02 27 23.6**	**+1.6**
FORT	**Forrest** 7.4nm,0.5s	**22.93**	**179**	*e*P	**P**	**02 27 33.1**	**+0.4**
MORW	**Morawa** baz=24,SNR=3.3	**23.87**	**206**	P	**P**	**02 27 43.4**	**+2.1**
BLDU	**Ballidu** baz=25,SNR=7.8	**24.95**	**203**	P	**P**	**02 27 54.1**	**+2.9**
BBOO	**Buckleboo** baz=26,SNR=18	**26.14**	**164**	P	**P**	**02 28 04.0**	**+2.1**
BBOO	**Buckleboo** 11nm,0.6s	**26.14**	**164**	*e*P	**P**	**02 28 03.6**	**+1.7**
NWAO	**Narrogin (SRO)** 7.4nm,0.8s,baz=45,slow=5.7,SNR=4.0	**26.86**	**200**	P	**P**	**02 28 09.6**	**+1.3**
CMSA	**Cobar Meteorol** baz=29,SNR=7.9	**29.05**	**147**	P	**P**	**02 28 30.4**	**+2.6**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=146,slow=6.6,SNR=4.0	**38.46**	**313**	P	**P**	**02 29 49.6**	**+0.4**
ODAN	**Odare** 14nm,0.5s	**52.01**	**313**	*e*P	**P**	**02 31 36.5**	**+0.3**
TAPN	**Taplejung** 6.0nm,0.4s	**52.06**	**314**	*e*P	**P**	**02 31 36.8**	**+0.1**
RAMN	**Ramite** 8.1nm,0.5s	**52.64**	**312**	*e*P	**P**	**02 31 40.7**	**-0.1**
GUN	**Gumba** 7.4nm,0.4s	**53.71**	**313**	*e*P	**P**	**02 31 49.0**	**+0.2**
PKI	**Pulchoki** 9.0nm,0.5s	**53.86**	**312**	*e*P	**P**	**02 31 50.4**	**+0.5**
GKN	**Gorkha** 7.9nm,0.3s	**54.67**	**312**	*e*P	**P**	**02 31 55.6**	**+0.1**
KOLN	**Koldanda** 7.3nm,0.5s	**55.30**	**311**	*e*P	**P**	**02 32 00.1**	**0.0**
DANN	**Dangsing** 4.0nm,0.5s	**55.50**	**312**	*e*P	**P**	**02 31 59.9**	**-1.7**
PYUN	**Piuthan** 12nm,0.4s	**55.94**	**311**	*e*P	**P**	**02 32 03.1**	**-1.5**
SONM	**Songino Array** 0.5nm,0.5s,baz=157,slow=8.9,SNR=5.3	**58.44**	**343**	P	**P**	**02 32 22.2**	**+0.5**
MKAR	**Makanchi Array** 1.6nm,0.7s,baz=122,slow=8.3,SNR=7.9	**67.59**	**328**	P	**P**	**02 33 21.6**	**-0.4**
ZALV	**Zalesovo Beam** 2.3nm,0.5s,baz=119,slow=5.7,SNR=9.9	**71.23**	**335**	P	**P**	**02 33 44.5**	**+0.3**
KURK	**Kurchatov** 3.8nm,0.6s	**71.95**	**330**	*e*P	**P**	**02 33 48.8**	**+0.2**
QSPA	**South Pole Qui** 2.6nm,0.4s	**82.24**	**180**	*e*P	**P**	**02 34 47.6**	**+1.6**
ARCES	**ARCESS Array B** 3.6nm,0.9s,baz=48,slow=1.3,SNR=4.2	**101.45**	**339**	PKiKP	**PKiKP**	**02 40 39.2**	**+0.3**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=291,slow=1.7,SNR=7.0	**109.44**	**26**	PKiKP	**PKiKP**	**02 40 53.7**	**-0.1**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=90,slow=1.9,SNR=6.2	**111.47**	**320**	PKiKP	**PKiKP**	**02 40 58.2**	**0.0**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=211,slow=1.6,SNR=3.5	**119.07**	**45**	PKP	**PKPdf**	**02 41 13.6**	**+0.4**
ESDC	**Sonseca Array** 0.1nm,0.5s,baz=353,slow=3.5,SNR=3.2	**126.37**	**314**	PKP	**PKPdf**	**02 41 27.8**	**+0.7**
TORD	**Torodi Ar. Bea** 0.8nm,0.6s,baz=57,slow=2.5,SNR=12	**126.65**	**281**	PKP	**PKPdf**	**02 41 28.1**	**-0.1**
LPAZ	**La Paz** 1.7nm,0.4s,baz=334,slow=2.2,SNR=23	**151.47**	**147**	PKPbc	**PKPbc**	**02 42 21.4**	**+1.8**

IDC 12 02:29:58.3±1.5, 13.37N×92.56E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/37, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=51.4km s-min=29.9km az=47.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=239,slow=16,SNR=3.1	**7.95**	**50**	Pn	Pn	02 31 55.0	-0.3
CMAR	0.4nm,0.3s,baz=238,slow=28,SNR=4.9			Sn	Sn	02 33 14.9	-11
H08S3	**Diego Garcia H** baz=43,slow=76,SNR=6.7	**28.86**	**225**	T	T	03 06 23.2	
H08S2	**Diego Garcia H** baz=43,slow=76,SNR=4.5	**28.86**	**225**	T	T	03 06 23.2	
H08S1	**Diego Carcia H** baz=43,slow=76,SNR=2.8	**28.88**	**225**	T	T	03 06 24.5	
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=306,slow=8.3,SNR=6.0	**52.78**	**128**	P	P	02 39 15.3	-0.3
ASAR	**Alice Springs** 0.4nm,0.5s,baz=309,slow=7.0,SNR=9.1	**54.67**	**132**	P	P	02 39 29.4	0.0
GERES	**GERESS Array B** 0.1nm,0.4s,baz=87,slow=5.0,SNR=4.6	**72.74**	**317**	P	P	02 41 28.7	+0.2

ISCJB **12** *02:34:17.6±0.7, 4.2S±0.1×152.8E±0.1, h35km, mb3.6/8, Error ellipse: s-maj=20.7km s-min=10.2km az=40.9*
IDC **12** *02:34:21.5±4.8, 4.26S×152.80E, h56km±42km, mb3.4/8, mb1 3.6/9, mb1mx3.4/29, mbtmp3.6/9, ML2.6/1, Error ellipse: s-maj=28.4km s-min=22.6km az=68.0*

ISC 12 02:34:19.7±0.8, 4.2S±0.1×152.9E±0.1, h35km, n16, σ1ꝉ56/13, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 0.6nm,0.3s,baz=45,slow=9.7,SNR=2.1	**7.67**	**228**	P	**Pn**	**02 36 10.9**	**+1.9**
PMG	0.8nm,0.3s,baz=135,slow=20,SNR=4.0			S	**Sn**	**02 37 33.9**	**-0.9**
DZM	**Mont Dzumac** 2.2nm,0.5s,baz=355,slow=19,SNR=5.2	**22.08**	**145**	P	**P**	**02 39 12.0**	**0.0**
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=53,slow=10.0,SNR=17	**23.89**	**228**	P	**P**	**02 39 28.2**	**-2.1**
H11S3	**WAKE ISLAND Hy** baz=211,slow=76,SNR=8.1	**26.36**	**31**	T	T	03 07 21.6	
H11S2	**WAKE ISLAND Hy** baz=211,slow=76,SNR=9.8	**26.36**	**31**	T	T	03 07 25.8	
H11S1	**WAKE ISLAND Hy** baz=211,slow=76,SNR=8.6	**26.37**	**31**	T	T	03 07 23.4	
ASAR	**Alice Springs** 0.3nm,0.4s,baz=55,slow=8.8,SNR=4.2	**26.63**	**222**	P	**P**	**02 39 53.8**	**-1.5**
SONM	**Songino Array** 0.3nm,0.5s,baz=148,slow=4.4,SNR=3.0	**65.89**	**328**	P	**P**	**02 45 01.8**	**-0.3**
VNDA	**Vanda** 1.3nm,0.9s,baz=351,slow=6.6,SNR=3.7	**73.40**	**178**	P	**P**	**02 45 47.6**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=104,slow=6.1,SNR=2.3	**79.95**	**319**	P	**P**	**02 46 25.4**	**0.0**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=249,slow=6.4,SNR=7.6	**81.59**	**22**	P	P	02 46 32.0	-1.7
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=277,slow=5.1,SNR=5.5	**94.88**	**28**	P	**P**	**02 47 37.4**	**-0.5**
GERES	**GERESS Array B** 0.1nm,0.3s,baz=76,slow=0.4,SNR=4.3	**123.61**	**329**	PKP	**PKPdf**	**02 53 12.6**	**-1.3**
LPAZ	**La Paz** 1.0nm,0.6s,baz=270,slow=0.8,SNR=8.2	**134.61**	**118**	PKP	**PKPdf**	**02 53 37.0**	**+0.7**
TORD	**Torodi Ar. Bea** 0.6nm,0.3s,baz=90,slow=2.0,SNR=26	**150.20**	**289**	PKPbc	**PKPdf**	**02 54 06.3**	**+3.3**
BDFB	**Brasilia** 2.9nm,0.4s,baz=224,slow=1.0,SNR=9.6	**151.41**	**134**	PKPbc	**PKPbc**	**02 54 10.7**	**-0.4**

IDC 12 02:43:03.2±4.5, 2.40S×111.72W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.2/35, mbtmp3.7/3, MS3.9/2, Ms1 3.9/2, ms1mx2.9/30, Error ellipse: s-maj=122.7km s-min=34.1km az=80.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR** baz=24,slow=74,SNR=3.7	**6.05**	**207**	T	T	02 50 21.8	
H10N1	**ASCENSION HYDR** baz=24,slow=74,SNR=5.0	**6.07**	**207**	T	T	02 50 19.4	
H10N3	**ASCENSION HYDR** baz=24,slow=74,SNR=4.4	**6.07**	**207**	T	T	02 50 21.8	
TORD	**Torodi Ar. Bea** 0.4nm,0.3s,baz=231,slow=11,SNR=6.1	**20.40**	**40**	P	P	02 47 41.9	-0.1
BOSA	**Boshof** 1.7nm,0.9s,baz=286,slow=7.4,SNR=3.2	**43.81**	**130**	P	P	02 51 11.2	-0.1
GERES	**GERESS Array B** 0.8nm,0.7s,baz=198,slow=6.2,SNR=7.5	**55.61**	**20**	P	P	02 52 40.8	-0.1
ASF	**Jabal al Asfar** comp=Z,505nm,20.4s,baz=286,slow=37	**57.45**	**49**	LR	LR	03 18 19.4	
HFS	**Hagfors** comp=Z,19nm,18.9s,slow=37	**65.44**	**14**	LR	LR	03 23 00.3	

AZER **12** *02:43:22.6±3.6, 43.16N×43.21E, h5km, Error ellipse: s-maj=29.5km s-min=23.8km az=56.0*
IDC **12** *02:43:26.6±0.5, 42.48N×43.44E, h0km, mb3.8/18, mb1 3.9/23, mb1mx3.9/38, mbtmp3.8/23, ML3.8/4, MS3.2/9, Ms1 3.2/9, ms1mx2.8/40, Error ellipse: s-maj=9.0km s-min=7.3km az=63.0*
MOS **12** *02:43:26.1±1.2, 42.43N×43.33E, h8km, mb4.2/18, Error ellipse: s-maj=5.0km s-min=3.8km az=91.8*
TIF **12** *02:43:28.3, 42.53N×43.58E, h15km±1km*
NEIC **12** *02:43:28.3±0.3, 42.56N×43.44E, h10km, mb4.1/8, Error ellipse: s-maj=8.1km s-min=5.2km az=182.0*
CSEM **12** *02:43:28.7±0.1, 42.58N×43.42E, h10km, mb4.1/29, Ms3.4, Error ellipse: s-maj=3.2km s-min=2.8km az=150.0*
ISCJB **12** *02:43:29.5±0.3, 42.59N±0.02×43.43E±0.02, h26km±2km, mb3.9/36, MS3.3/5, Error ellipse: s-maj=2.7km s-min=2.4km az=9.2*
DDA **12** *02:43:29.6, 42.47N×43.37E, h11km, MD3.0*
ISK **12** *02:43:31.1, 42.26N×43.53E, h10km, ML3.8*
NNC **12** *02:43:34.4±4.1, 42.96N×44.37E, h0km, mb4.3, Error ellipse: s-maj=66.5km s-min=34.4km az=122.0*

ISC 12 02:43:28.8±0.7, 42.50N±0.01×43.50E±0.01, h14km±4km, n337, σ1ꝉ35/402, mb4.1/36, MS3.3/5, 31C-34D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.10**	**338**	*e*PG	**Pg**	**02 43 31.9**	**0.0**
ONI	**Oni**	**0.10**	**338**	P	**Pg**	**02 43 31.9**	**0.0**
ONI				S	**Sg**	**02 43 34.4**	**+0.3**
ONI	**Oni**	**0.10**	**338**	*e*Pg	**Pg**	**02 43 31.9**	**0.0**
DIGR	**Digorskoe uzhe**	**0.40**	**8**	⇓*i*PG	**Pg**	**02 43 35.9**	**-1.1**
DIGR				*i* S	**Sg**	**02 43 42.0**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.40**	**8**	*i* Pg	**Pg**	**02 43 35.9**	**-1.1**
DIGR				*i* Sg	**Sg**	**02 43 42.0**	**-0.5**
LACR	**Lac**	**0.67**	**61**	⇓*i*PG	**Pg**	**02 43 40.6**	**-1.3**
LACR				*e*S	**Sg**	**02 43 50.2**	**-0.6**
LACR	**Lac**	**0.67**	**61**	*e*Sg	**Sg**	**02 43 50.2**	**-0.6**
KORR	**Kora**	**0.72**	**35**	⇑*i*PG	**Pg**	**02 43 42.3**	**-0.5**
KORR				*e*S	**Sg**	**02 43 52.6**	**+0.3**
KORR	**Kora**	**0.72**	**35**	*i* Pg	**Pg**	**02 43 42.3**	**-0.5**
KORR				*e*Sg	**Sg**	**02 43 52.6**	**+0.3**
LSNR	**Lesken**	**0.81**	**17**	⇓*i*PG	**Pg**	**02 43 44.1**	**-0.5**
LSNR				*e*S	**Sg**	**02 43 55.3**	**0.0**
NEY	**Neytrino**	**0.94**	**323**	*i* PG	**Pb**	**02 43 46.1**	**-0.9**
NEY	**Neytrino**	**0.94**	**323**	*i* Pg	**Pb**	**02 43 46.1**	**-0.9**
STDR	**Stavd-Durt**	**0.96**	**25**	⇑*i*PG	**Pg**	**02 43 47.5**	**+0.1**
STDR				*e*S	**Sn**	**02 44 01.0**	**-0.4**
STDR	**Stavd-Durt**	**0.96**	**25**	*i* Pg	**Pg**	**02 43 47.5**	**+0.1**
STDR				*e*Sg	**Sn**	**02 44 01.0**	**-0.4**
NCK	**Nalchik**	**1.00**	**4**	*d*PG	**Pb**	**02 43 47.8**	**-0.1**
NCK	**Nalchik**	**1.00**	**4**	*i* Pg	**Pb**	**02 43 47.8**	**-0.1**
VLKR	**Vladikavkaz**	**1.02**	**57**	⇓*i*PG	**Pb**	**02 43 48.7**	**+0.3**
VLKR				*i* S	**Sn**	**02 44 03.1**	**+0.1**
VLKR	**Vladikavkaz**	**1.02**	**57**	*i* Pg	**Pb**	**02 43 48.7**	**+0.3**
VLKR				*i* Sg	**Sn**	**02 44 03.1**	**+0.1**
CHVG	**Ch'k'valeri**	**1.07**	**282**	*e*PG	**Pb**	**02 43 48.1**	**-1.0**
CHVG	**Ch'k'valeri**	**1.07**	**282**	P	**Pn**	**02 43 49.4**	**0.0**
CHVG				S	**Sn**	**02 44 05.3**	**+1.3**
CHVG	**Ch'k'valeri**	**1.07**	**282**	*e*Pg	**Pb**	**02 43 48.1**	**-1.0**
AKH	**Akhalkalaki**	**1.09**	**180**	*e*PG	**Pb**	**02 43 48.7**	**-0.9**
AKH	**Akhalkalaki**	**1.09**	**180**	P	**Pb**	**02 43 49.7**	**+0.1**
AKH				S	**Sn**	**02 44 05.4**	**+0.6**
AKH	**Akhalkalaki**	**1.09**	**180**	*e*Pg	**Pb**	**02 43 48.7**	**-0.9**
SNJR	**Sundja**	**1.12**	**59**	⇓*i*PG	**Pn**	**02 43 50.4**	**+0.3**
SNJR				*e*S	**Sg**	**02 44 05.7**	**+0.7**
SNJR	**Sundja**	**1.12**	**59**	*i* Pg	**Pn**	**02 43 50.4**	**+0.3**
SNJR				*e*Sg	**Sg**	**02 44 05.7**	**+0.7**
BTKR	**Batakoyurt**	**1.16**	**41**	⇓*i*PG	**Pg**	**02 43 51.9**	**+0.8**
BTKR				*e*S	**Sg**	**02 44 08.0**	**+1.8**
BTKR	**Batakoyurt**	**1.16**	**41**	*i* Pg	**Pg**	**02 43 51.9**	**+0.8**
BTKR				*e*Sg	**Sg**	**02 44 08.0**	**+1.8**
TBLG	**Delisi**	**1.20**	**129**	*e*PG	**Pn**	**02 43 50.6**	**-0.6**
TBLG				*e*SG	**Sb**	**02 44 06.5**	**-0.2**
TBLG	**Delisi**	**1.20**	**129**	*e*PG	**Pn**	**02 43 50.8**	**-0.4**
TBLG	**Delisi**	**1.20**	**129**	P	**Pn**	**02 43 50.8**	**-0.4**
TBLG				S	**Sb**	**02 44 07.4**	**+0.7**
TBLG	**Delisi**	**1.20**	**129**	*e*Pg	**Pn**	**02 43 50.6**	**-0.6**
TBLG				*e*Sg	**Sb**	**02 44 06.5**	**-0.2**
TBLG				S	**Sb**	**02 44 07.4**	**+0.7**
SEAG	**Tbilisi Sea**	**1.22**	**127**	P	**Pn**	**02 43 50.5**	**-1.0**
SEAG				S	**Sb**	**02 44 08.1**	**+0.9**
KUBR	**Kubataba**	**1.30**	**357**	⇓*e*PG	**Pg**	**02 43 53.6**	**-0.2**
KUBR				*e*S	**Sg**	**02 44 12.0**	**+1.3**
KUBR	**Kubataba**	**1.30**	**357**	*e*Pg	**Pg**	**02 43 53.6**	**-0.2**
KBZ	**Khabaz** 146nm,0.3s,baz=177,slow=9.4,SNR=1643	**1.30**	**340**	Pg	**Pb**	**02 43 52.6**	**-0.5**
KBZ	comp=Z,59nm,21.6s,baz=92,slow=20			LR	LR	02 43 53.0	
KBZ	96nm,0.3s,baz=50,slow=21,SNR=16			Lg	Lg	02 44 09.9	
KZR	**Kazreti**	**1.31**	**148**	P	**Pn**	**02 43 52.4**	**-0.4**
KZR				S	**Sb**	**02 44 10.1**	**+0.1**
PRTR	**Priterechnaya**	**1.37**	**24**	⇑*i*PG	**Pb**	**02 43 54.8**	**+0.5**
PRTR				*e*S	**Sg**	**02 44 13.5**	**+0.4**
PRTR	**Priterechnaya**	**1.37**	**24**	*i* Pg	**Pb**	**02 43 54.8**	**+0.5**
PRTR				*e*Sg	**Sg**	**02 44 13.5**	**+0.4**
TRKR	**Terskaya**	**1.52**	**36**	⇑*i*PN	**Pb**	**02 43 57.1**	**+0.3**
TRKR				*e*S	**Sg**	**02 44 17.6**	**-0.1**
TRKR	**Terskaya**	**1.52**	**36**	*i* Pn	**Pb**	**02 43 57.1**	**+0.3**
TRKR				*e*Sg	**Sg**	**02 44 17.6**	**-0.1**
PYA	**Pyatigorsk**	**1.56**	**348**	⇓*i*PN	**Pb**	**02 43 57.5**	**-0.1**
PYA				*i* S	**Sg**	**02 44 18.4**	**-0.8**
PYA	**Pyatigorsk**	**1.56**	**348**	*i* Pn	**Pb**	**02 43 57.5**	**-0.1**
PYA				*i* Sg	**Sg**	**02 44 18.4**	**-0.8**
KIV	**Kislovodsk**	**1.57**	**338**	*e*PG	**Pb**	**02 43 57.4**	**-0.3**
KIV				*e*S	**Sb**	**02 44 18.0**	**+0.5**
KIV	**Kislovodsk**	**1.57**	**338**	*e*Pg	**Pb**	**02 43 57.4**	**-0.3**
KIV				*e*Sg	**Sb**	**02 44 18.0**	**+0.5**
KIV	**Kislovodsk**	**1.57**	**338**	*e*Pn	**Pb**	**02 43 57.4**	**-0.3**
KIV				*e*S	**Sb**	**02 44 17.9**	**+0.5**
DGRG	**David-gareji**	**1.75**	**126**	*e*PN	**Pb**	**02 44 01.1**	**+0.4**
DGRG	**David-gareji**	**1.75**	**126**	P	**Pb**	**02 44 01.1**	**+0.4**
DGRG				S	**Sg**	**02 44 26.2**	**+1.2**
DGRG	**David-gareji**	**1.75**	**126**	*e*Pn	**Pb**	**02 44 01.1**	**+0.4**
BCA	**Borcka**	**1.75**	**234**	*e*PN	**Pb**	**02 44 00.2**	**-0.6**
BCA	**Borcka**	**1.75**	**234**	*e*Pn	**Pb**	**02 44 00.2**	**-0.6**
ARTV	**Artvin**	**1.76**	**222**	*i* P	**Pb**	**02 44 01.1**	**0.0**
ARTV				*i* S	**Sg**	**02 44 24.9**	**-0.7**
ARTV	**Artvin**	**1.76**	**222**	*i* P	**Pb**	**02 44 01.1**	**0.0**
ARTV				*i* S	**Sg**	**02 44 24.9**	**-0.7**
DBOC	**Borcka**	**1.79**	**230**	*i* P	**Pb**	**02 44 01.5**	**+0.1**
DBOC				*i* S	**Sg**	**02 44 25.3**	**-1.1**
DBOC	**Borcka**	**1.79**	**230**	*i* P	**Pb**	**02 44 01.5**	**+0.1**
DBOC				*i* S	**Sg**	**02 44 25.3**	**-1.1**
EAK	**Akyaka**	**1.82**	**177**	*i* P	**Pb**	**02 44 01.3**	**-0.6**
EAK	**Akyaka**	**1.82**	**177**	*i* P	**Pb**	**02 44 01.3**	**-0.6**
GRO	**Groznyy**	**1.84**	**63**	⇑*i*PN	**Pb**	**02 44 02.0**	**-0.3**
GRO	**Groznyy**	**1.84**	**63**	*i* Pn	**Pb**	**02 44 02.0**	**-0.3**
DAGI	**Agillar**	**1.85**	**220**	*i* P	**Pb**	**02 44 02.8**	**+0.3**
DAGI				*i* S	**Sg**	**02 44 27.6**	**-0.8**
KARS	**Kars**	**1.90**	**190**	*e*PN	**Pn**	**02 44 01.4**	**+0.5**
KARS	**Kars**	**1.90**	**190**	*e*Pn	**Pn**	**02 44 01.4**	**+0.5**
DBAD	**Bademkaya**	**2.00**	**223**	*i* P	**Pb**	**02 44 05.1**	**0.0**
DBAD				*i* S	**Sb**	**02 44 31.6**	**+1.6**
DBAD	**Bademkaya**	**2.00**	**223**	*i* P	**Pb**	**02 44 05.1**	**0.0**
DBAD				*i* S	**Sb**	**02 44 31.6**	**+1.6**
QZX	**Qazax, Azerbai** SNR=384	**2.01**	**135**	⇓P	**Pn**	**02 44 03.8**	**+1.4**
QZX				⇓S	**Sb**	**02 44 30.7**	**+0.6**
QZX	**Qazax, Azerbai** SNR=384	**2.01**	**135**	P	**Pn**	**02 44 03.8**	**+1.4**
QZX				S	**Sb**	**02 44 30.7**	**+0.6**
BTLR	**Botlikh**	**2.02**	**84**	*i* PN	**Pb**	**02 44 05.5**	**+0.2**
BTLR				*i* S	**Sb**	**02 44 32.0**	**+1.7**
BTLR	comp=Z,417nm,0.7s			pmax	pmax		
BTLR	**Botlikh** comp=Z,417nm,0.7s	**2.02**	**84**	*i* Pn	**Pb**	**02 44 05.5**	**+0.2**
DDEM	**Demirkent**	**2.07**	**220**	*i* P	**Pb**	**02 44 06.4**	**+0.1**
DDEM	**Demirkent**	**2.07**	**220**	*i* P	**Pb**	**02 44 06.4**	**+0.1**
DDEM				*i* S	**Sg**	**02 44 34.8**	**-0.7**
DIGO	**Kars**	**2.09**	**183**	*i* P	**Pb**	**02 44 06.0**	**-0.6**
DIGO				*i* S	**Sg**	**02 44 35.1**	**-0.8**
DIGO	**Kars**	**2.09**	**183**	*i* P	**Pb**	**02 44 06.0**	**-0.6**
DIGO				*i* S	**Sg**	**02 44 35.1**	**-0.8**
DLMR	**Dylym**	**2.37**	**75**	*e*PN	**Pb**	**02 44 10.0**	**-1.3**
DLMR				*i* S	**Sg**	**02 44 45.0**	**0.0**
DLMR	comp=Z,491nm,0.3s			pmax	pmax		
DLMR	**Dylym** comp=Z,491nm,0.3s	**2.37**	**75**	*e*Pn	**Pb**	**02 44 10.0**	**-1.3**
DLMR				*i* Sb	**Sg**	**02 44 45.0**

MACK *i* S **Sn** 02 44 57.1 +0.4
MACK Trabzon 3.20 242 *i* P **Pn** 02 44 19.0 +0.3
MACK *i* S **Sn** 02 44 57.1 +0.4
KOPT Kop Dagi 3.36 223 *i* P Pn 02 44 24.8 +3.6
KOPT Kop Dagi 3.36 223 *i* P Pn 02 44 24.8 +3.6
BRDA Brd 3.56 128 ⇓P **Pn** 02 44 26.1 +2.5
SNR=2.8
BRDA ⇓S **Sb** 02 45 18.8 +4.2
BRDA Brd 3.56 128 P **Pn** 02 44 26.1 +2.5
SNR=2.8
GUMT Gumushane 3.65 237 *e*PN **Pn** 02 44 25.9 +1.0
GUMT Gumushane 3.65 237 *e*Pn **Pn** 02 44 25.9 +1.0
NAX Nakhchivan 3.65 155 ⇑S **Sg** 02 45 22.6 -3.5
VRTB Varto-Mus 3.68 206 *e*PN **Pn** 02 44 26.6 +1.1
VRTB Varto-Mus 3.68 206 *e*Pn **Pn** 02 44 26.6 +1.1
QUBA Quba, Azerbaij 3.90 105 ⇑P **Pn** 02 44 30.5 +2.2
SNR=16
QUBA ⇑S **Sb** 02 45 22.2 -2.1
QUBA Quba, Azerbaij 3.90 105 P **Pn** 02 44 30.5 +2.2
SNR=16
IML Ismayilli 3.90 114 ⇓P **Pn** 02 44 30.5 +2.1
SNR=7.0
IML ⇑S **Sb** 02 45 24.9 +0.4
IML Ismayilli 3.90 114 P **Pn** 02 44 30.5 +2.1
SNR=7.0
KELT Kelkit 3.97 235 *i* P **Pn** 02 44 31.0 +1.5
KELT Kelkit 3.97 235 *i* P **Pn** 02 44 31.0 +1.5
EUZM Uzumlu 4.01 227 *i* P **Pn** 02 44 32.5 +2.6
EUZM Uzumlu 4.01 227 *i* P **Pn** 02 44 32.5 +2.6
ERZN Erzincan 4.08 226 *e*PN **Pn** 02 44 32.9 +2.0
BNGB Bing¶l 4.11 212 *e*PN **Pn** 02 44 32.9 +1.6
EZC Erzincan 4.17 230 *e*Pn **Pn** 02 44 32.9 +0.8
PQL Pirkuli 4.18 112 ⇑P **Pn** 02 44 34.3 +2.0
SNR=3.2
PQL ⇓S **Sb** 02 45 29.4 -3.2
PQL Pirkuli 4.18 112 P **Pn** 02 44 34.3 +2.0
SNR=3.2
GRSN GIRESUNGRSN 4.22 250 *i* P **Pn** 02 44 31.9 -0.9
GRSN GIRESUNGRSN 4.22 250 *i* P **Pn** 02 44 31.9 -0.9
BINT Bingol 4.28 213 *e*Pn **Pn** 02 44 32.9 -0.8
ATGJ Altiaghaj 4.39 110 ⇑P **Pn** 02 44 36.3 +1.2
SNR=8.0
ATGJ Altiaghaj 4.39 110 P **Pn** 02 44 36.3 +1.2
SNR=8.0
SUSE Susehri 4.60 242 *i* P **Pn** 02 44 40.4 +2.3
SUSE Susehri 4.60 242 *i* P **Pn** 02 44 40.4 +2.3
GLBA Clilabad 4.94 130 ⇑P **Pn** 02 44 44.5 +2.0
SNR=2.9
GLBA ⇓S **Sb** 02 45 52.7 -1.5
GLBA Clilabad 4.94 130 P **Pn** 02 44 44.5 +2.0
SNR=2.9
ANN Anapa 4.97 300 *e*PN **Pn** 02 44 45.3 +2.4
ANN *e*S **Sn** 02 45 44.6 +4.5
ANN pmax pmax
comp=Z,25nm,1.0s
ANN MLR MLR
comp=Z,154nm,10.0s
LRK Lerik 5.33 135 ⇑P **Pn** 02 44 50.7 +2.6
SNR=5.4
LRK ⇑S **Sb** 02 46 04.6 -1.1
LRK Lerik 5.33 135 P **Pn** 02 44 50.7 +2.6
SNR=5.4
LKRN Lenkeran, Azer 5.52 132 ⇓P **Pn** 02 44 52.3 +1.7
SNR=5.2
LKRN ⇓S **Sb** 02 46 09.2 -1.9
LKRN Lenkeran, Azer 5.52 132 P **Pn** 02 44 52.3 +1.7
SNR=5.2
SUDU Sudak 6.61 294 *e*P **Pn** 02 45 05.6 +0.1
SUDU *e*S **Sn** 02 46 19.3 -1.3
SUDU Sudak 6.61 294 *e*P **Pn** 02 45 05.6 +0.1
SUDU *e*S **Sn** 02 46 19.3 -1.3
YAL Yalta 7.08 289 *e*P **Pn** 02 45 13.1 +1.1
YAL *e*S **Sn** 02 46 32.1 -0.1
YAL Yalta 7.08 289 *e*P **Pn** 02 45 13.1 +1.1
YAL *e*S **Sn** 02 46 32.1 -0.1
SIM Simferopol' 7.22 293 *e*P Pn 02 45 18.1 +4.1
SIM *e*S **Sn** 02 46 38.0 +2.2
SEV Sevastopol' 7.43 289 *e*P **Pn** 02 45 16.7 -0.1
SEV *e*S **Sn** 02 46 37.9 -3.0
SEV Sevastopol' 7.43 289 *e*P **Pn** 02 45 16.7 -0.1
SEV *e*S **Sn** 02 46 37.9 -3.0
BRTR Keskin Array B 7.95 253 *ce*P **Pn** 02 45 26.8 +2.8
BRTR pmax pmax
comp=Z,3.0nm,0.3s
BRTR Keskin Array B 7.95 253 Pn **Pn** 02 45 25.6 +1.6
comp=Z,1.2nm,0.3s,baz=42,slow=9.9,SNR=51
BRTR Sn **Sn** 02 46 50.9 -2.9
baz=50,slow=18,SNR=2.7
VRHR Novokhopersk 8.69 352 *e*P **Pn** 02 45 33.6 -0.5
VRHR pmax pmax
comp=Z,3.0nm,1.0s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR Novokhopersk 8.69 352 *e*P **Pn** 02 45 33.6 -0.5
comp=E,3.0nm,1.0s
VORD Divnogorie 8.95 343 *e*P **Pn** 02 45 40.0 +2.5
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.4s
VSR Storozhevoye 9.21 343 *e*P **Pn** 02 45 41.1 0.0
VSR pmax pmax
comp=Z,9.0nm,0.5s
VSR pmax pmax
comp=N,5.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,1.2s
VSR Storozhevoye 9.21 343 *e*P **Pn** 02 45 41.1 0.0
comp=E,5.0nm,0.4s
TIRR Tirgusor 11.14 285 ⇓P **Pn** 02 46 05.6 -2.0
TIRR Tirgusor 11.14 285 *i*P **Pn** 02 46 05.6 -2.0
TIRR Tirgusor 11.14 285 *e*Pn **Pn** 02 46 05.2 -2.4
comp=E,11nm,0.7s
TIRR Tirgusor 11.14 285 P **Pn** 02 46 05.6 -2.0
TIRR Tirgusor 11.14 285 *e*Pn **Pn** 02 46 05.2 -2.4
comp=E,11nm,0.7s
TIRR *e*S Sn 02 48 03.6 -8.2
TLB Topalu 11.41 286 ⇑P **Pn** 02 46 08.9 -2.4
TLB Topalu 11.41 286 ⇑*i*P **Pn** 02 46 08.9 -2.4
TLB Topalu 11.41 286 P **Pn** 02 46 08.9 -2.4
CFR Carcaliu 11.42 289 ⇑P **Pn** 02 46 08.5 -2.9
CFR Carcaliu 11.42 289 ⇑*i*P **Pn** 02 46 08.5 -2.9
CFR Carcaliu 11.42 289 P **Pn** 02 46 08.5 -2.9
MSAB Monastry St. A 11.54 283 ⇑*i*P Pn 02 46 08.6 -4.4
GEYT Alibeck 12.07 107 Pn **Pn** 02 46 18.4 -2.0
comp=E,0.5nm,0.3s,baz=297,slow=16,SNR=4.7
TESR Tescani 12.68 294 ⇓*i*P **Pn** 02 46 26.0 -2.6
TESR Tescani 12.68 294 ⇓*i*P **Pn** 02 46 26.0 -2.6
AKTK Aktyubinsk 12.75 47 P **Pn** 02 46 27.5 -2.2
comp=E,1.0nm,0.3s
AKTO Aktyubinsk 12.75 47 ⇓Pn **Pn** 02 46 27.2 -2.5
comp=E,4.6nm,0.5s
AKTO ⇓Sn Sn 02 48 41.3 -10
comp=E,7.3nm,1.1s
AKTO Aktyubinsk 12.75 47 P **Pn** 02 46 27.5 -2.2
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 12.75 47 Pn **Pn** 02 46 27.5 -2.2
comp=Z,1.2nm,0.3s,baz=236,slow=11,SNR=29
AKASG Malin Array Be 12.78 315 Pn **Pn** 02 46 29.1 -0.8
comp=Z,0.3nm,0.3s,baz=119,slow=14,SNR=2.9
KIEV Kiev 12.78 315 *e*P **Pn** 02 46 31.8 +1.8
MLR Muntele Rosu 12.99 289 ⇓*i*P **Pn** 02 46 30.4 -2.6
MLR Muntele Rosu 12.99 289 Pn **Pn** 02 46 33.5 +0.5
comp=Z,0.1nm,0.3s,baz=82,slow=7.1,SNR=3.8
MLR LR LR 02 53 14.4
comp=Z,22nm,20.8s,baz=110,slow=45
AB31 Akbulak array 13.28 54 Pn **Pn** 02 46 34.8 -2.1
comp=Z,4.4nm,0.6s,baz=235,slow=9.4,SNR=120
AB31 ⇓Sn Sn 02 48 54.4 -10
comp=Z,2.6nm,0.6s,baz=241,slow=21,SNR=3.9
AB31 Akbulak array 13.28 54 *i* P **Pn** 02 46 34.7 -2.1
AB31 pmax pmax
comp=Z,3.0nm,0.3s
AB31 Akbulak array 13.28 54 Pn **Pn** 02 46 34.8 -2.1
comp=Z,4.4nm,0.6s,SNR=120
OBN Obninsk 13.41 343 *e*P **Pn** 02 46 39.8 +1.2
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,105nm,17.0s
OBN Obninsk 13.41 343 LR LR 02 52 17.4
comp=Z,93nm,21.5s,baz=268,slow=40
OBN Obninsk 13.41 343 *e*P **Pn** 02 46 39.8 +1.2
comp=Z,105nm,17.0s
VOIR 13.61 289 ⇓P Pn 02 46 30.5 -11
VOIR 13.61 289 ⇓*i*P Pn 02 46 30.5 -11
ARU Arti 16.98 30 *d*P Pn 02 47 20.4 -5.3
ARU S Sn 02 50 26.4 -7.6
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 16.98 30 *e*Pn Pn 02 47 20.8 -4.9
comp=Z,6.3nm,0.8s
SVE Sverdlovsk 18.05 32 ⇑*e*P **Pn** 02 47 36.8 -2.2
SVE pmax pmax
comp=Z,28nm,1.0s
SVE Sverdlovsk 18.05 32 *e*P **Pn** 02 47 36.8 -2.2
comp=Z,28nm,1.0s
RAYN Ar Rayn 19.00 174 *e*P **Pn** 02 47 55.5 +4.6
comp=Z,4.9nm,1.1s
PRGR Permogore 19.21 3 P **Pn** 02 47 53.0 0.0
PRGR Permogore 19.21 3 P **Pn** 02 47 53.0 0.0
KK31 Karatay Array 19.80 79 ⇑Pn **P** 02 47 59.4 +0.5
comp=Z,4.7nm,0.6s,baz=311,slow=11,SNR=50
KK31 Karatay Array 19.80 79 *i* P **P** 02 47 59.3 +0.5
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KK31 Karatay Array 19.80 79 *i* P **P** 02 47 59.3 +0.5
comp=Z,5.0nm,0.5s
KKAR Karatay Array 19.80 79 *e*P **P** 02 47 59.3 +0.5
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 19.80 79 *e*P **P** 02 47 59.3 +0.5
comp=Z,5.8nm,0.6s
KKAR Karatay Array 19.80 79 *e*P **P** 02 47 59.3 +0.5
comp=Z,5.8nm,0.6s
VRAC Vranov 19.86 299 LR LR 02 56 23.7
comp=Z,51nm,18.6s,baz=353,slow=39
DPC Dobruska-Polom 20.23 302 *e*P Pn 02 48 08.2 +2.8
DPC *e* 02 48 23.8
DPC Dobruska-Polom 20.23 302 *e*P Pn 02 48 08.2 +2.8
DPC *ex* x 02 48 23.8
BVA0 Borovoye Array 20.79 50 ⇑Pn **P** 02 48 09.4 0.0
comp=Z,13nm,0.9s,baz=244,slow=9.2,SNR=59
BVA0 Borovoye Array 20.79 50 *i* P **P** 02 48 09.4 0.0
BVA0 pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 20.79 50 P **P** 02 48 09.6 +0.1
BVAR pmax pmax
comp=Z,11nm,0.8s
BVAR Borovoye Array 20.79 50 P **P** 02 48 09.6 +0.1
comp=Z,11nm,0.8s,baz=235,slow=7.0,SNR=51
FINES FINESS Array B 21.66 337 P **P** 02 48 18.4 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 21.66 337 P **P** 02 48 18.4 -0.3
comp=Z,2.9nm,0.7s,baz=151,slow=12,SNR=4.2
JOF Joensuu 21.67 345 *e*P **P** 02 48 19.6 +0.9
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 21.67 345 *e*p **P** 02 48 19.6 +0.9
comp=Z,2.6nm,0.7s
JOF Joensuu 21.67 345 *e*P **P** 02 48 19.6 +0.9
comp=Z,3.0nm,0.7s
GERES GERESS Array B 21.68 297 P **P** 02 48 20.4 +1.3
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,36nm,18.7s
GERES GERESS Array B 21.68 297 P **P** 02 48 20.4 +1.3
comp=Z,1.2nm,0.6s,baz=104,slow=9.8,SNR=12
GERES LR LR 02 58 00.4
comp=Z,36nm,18.7s,baz=44,slow=40
KAF Kangasniemi 22.14 338 *e*P **P** 02 48 21.3 -2.5
KAF pmax pmax
comp=Z,4.0nm,0.8s
KAF Kangasniemi 22.14 338 *e*p **P** 02 48 21.3 -2.5
comp=Z,3.8nm,0.8s
KAF Kangasniemi 22.14 338 *e*P **P** 02 48 21.3 -2.5
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 22.24 79 P **P** 02 48 26.0 +0.8
SNR=6.4
EKS2 Erkin-Say 22.24 79 *i* P **P** 02 48 26.0 +0.8
EKS2 Erkin-Say 22.24 79 *e*P **P** 02 48 25.8 +0.6
comp=Z,6.5nm,0.8s
EKS2 Erkin-Say 22.24 79 *e*P **P** 02 48 25.8 +0.6
comp=Z,6.5nm,0.8s
AML Almayashu 22.28 81 P **P** 02 48 27.6 +1.6
SNR=9.4
CLL Collm 22.48 304 *e*P **P** 02 48 27.0 -0.6
CLL Collm 22.48 304 *e*P **P** 02 48 27.0 -0.6
CLL *e* 02 48 36.0
CLL Collm 22.48 304 *e*P **P** 02 48 27.0 -0.6
AAK Ala-Archa 22.77 79 *e*P **P** 02 48 31.8 +0.9
AAK pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 22.77 79 P **P** 02 48 31.7 +0.8
comp=Z,4.7nm,0.8s,baz=222,slow=5.8,SNR=14
AAK Ala-Archa 22.77 79 *e*P **P** 02 48 31.8 +0.9
comp=Z,8.9nm,1.1s
AAK Ala-Archa 22.77 79 *e*P **P** 02 48 31.8 +0.9
comp=Z,8.9nm,1.1s
WTTA Wattenberg 22.98 293 ⇑*i*pP **P** 02 48 34.2 +1.1
comp=Z,6.0nm,0.6s
WTTA Wattenberg 22.98 293 P **P** 02 48 34.2 +1.1
comp=Z,6.0nm,0.6s
KBK Karagaybulak 23.09 79 P **P** 02 48 34.6 +0.3
SNR=5.3
KBK Karagaybulak 23.09 79 *i* P **P** 02 48 34.6 +0.3
KBK Karagaybulak 23.09 79 *i* P **P** 02 48 34.6 +0.3
MOTA Moosalm 23.34 293 ⇑*i*P **P** 02 48 36.1 -0.6
comp=Z,2.2nm,0.5s
MOTA Moosalm 23.34 293 P **P** 02 48 36.1 -0.6
comp=Z,2.2nm,0.5s
KZA Kyzart 23.42 80 P **P** 02 48 40.0 +2.1
SNR=7.2
TKM2 Tokmak 2 23.52 78 P **P** 02 48 38.9 +0.3
SNR=6.5
TKM2 Tokmak 2 23.52 78 *i* P **P** 02 48 38.9 +0.3
TKM2 Tokmak 2 23.52 78 *i* P **P** 02 48 38.9 +0.3
TKM2 Tokmak 2 23.52 78 *e*P **P** 02 48 38.5 -0.1
comp=Z,8.5nm,1.2s
FETA Feichten 23.60 292 ⇑*i*pP **P** 02 48 39.6 +0.3
comp=Z,1.8nm,0.5s
FETA Feichten 23.60 292 P **P** 02 48 39.6 +0.3
comp=Z,1.8nm,0.5s
DAVA Damuels 24.18 293 ⇓*i*P **P** 02 48 44.7 0.0
comp=Z,2.4nm,0.5s
DAVA Damuels 24.18 293 P **P** 02 48 44.7 0.0
comp=Z,2.4nm,0.5s
DAVOX Davos/Dischmat 24.19 292 P **P** 02 48 45.1 +0.2
DAVOX pmax pmax
comp=Z,3.0nm,0.5s
DAVOX Davos/Dischmat 24.19 292 P **P** 02 48 45.1 +0.2
comp=Z,2.8nm,0.5s,baz=99,slow=8.9,SNR=16
KURBB Kurchatov Arra 25.23 59 P **P** 02 48 54.2 +0.1
comp=Z,4.4nm,1.0s,baz=268,slow=10,SNR=26
KURK Kurchatov 25.29 59 *e*P **P** 02 48 56.1 +1.5
comp=Z,7.3nm,1.1s
KURK Kurchatov 25.29 59 *e*P **P** 02 48 56.1 +1.5
comp=Z,7.3nm,1.1s
HFS Hagfors 25.32 324 P **P** 02 48 54.2 -0.6
HFS pmax pmax
comp=Z,5.0nm,0.8s
HFS Hagfors 25.32 324 P **P** 02 48 54.2 -0.6
comp=Z,4.5nm,0.8s,baz=132,slow=12,SNR=8.6
HINF Hinteralfeld 26.21 294 *e*P **P** 02 49 02.2 -0.9
HINF Hinteralfeld 26.21 294 *e*P **P** 02 49 02.2 -0.9
HINF Hinteralfeld 26.21 294 *e*P **P** 02 49 02.2 -0.9
HINF Hinteralfeld 26.21 294 *e*P **P** 02 49 02.2 -0.9
LPG La Plagne 26.46 289 *e*P **P** 02 49 04.7 -0.9
comp=Z,12nm,1.0s
LPG La Plagne 26.46 289 *e*P **P** 02 49 04.7 -0.9
LPG pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 26.46 289 *e*P **P** 02 49 04.7 -0.9
comp=Z,5.9nm,1.0s
LPG La Plagne 26.46 289 *e*P **P** 02 49 04.7 -0.9
comp=Z,12nm,1.0s
LPL La Plagne 26.47 289 *e*P **P** 02 49 04.6 -1.0
LPL La Plagne 26.47 289 *e*P **P** 02 49 04.6 -1.0
LPL La Plagne 26.47 289 *e*P **P** 02 49 04.6 -1.0
LPL La Plagne 26.47 289 *e*P **P** 02 49 04.6 -1.0
MBDF Montbardon 26.54 287 *e*P **P** 02 49 04.8 -1.4
comp=Z,12nm,0.8s
MBDF Montbardon 26.54 287 *e*P **P** 02 49 04.8 -1.4
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 26.54 287 *e*P **P** 02 49 04.8 -1.4
comp=Z,6.2nm,0.8s
MBDF Montbardon 26.54 287 *e*P **P** 02 49 04.8 -1.4
comp=Z,12nm,0.8s
CABF La Chapelle 26.80 292 *e*P **P** 02 49 08.5 0.0
CABF La Chapelle 26.80 292 *e*P **P** 02 49 08.5 0.0
CABF La Chapelle 26.80 292 *e*P **P** 02 49 08.5 0.0
CABF La Chapelle 26.80 292 *e*P **P** 02 49 08.5 0.0
NOA NORSAR Array B 26.84 325 P **P** 02 49 10.2 +1.6
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 26.84 325 P **P** 02 49 10.2 +1.6
comp=Z,0.8nm,0.8s,baz=123,slow=9.6,SNR=3.2
PAGF Fort de Pagny 26.94 296 *e*P **P** 02 49 08.6 -1.0
PAGF Fort de Pagny 26.94 296 *e*P **P** 02 49 08.6 -1.0
PAGF Fort de Pagny 26.94 296 *e*P **P** 02 49 08.6 -1.0
ORIF Oris-en-Rattie 27.14 288 *e*P **P** 02 49 10.6 -1.0
ORIF Oris-en-Rattie 27.14 288 *e*P **P** 02 49 10.6 -1.0
ORIF Oris-en-Rattie 27.14 288 *e*P **P** 02 49 10.6 -1.0
ORIF Oris-en-Rattie 27.14 288 *e*P **P** 02 49 10.6 -1.0
MEZF Maizieres J'vi 27.39 296 *e*P **P** 02 49 11.3 -2.3
comp=Z,34nm,1.2s
MEZF Maizieres J'vi 27.39 296 *e*P **P** 02 49 11.3 -2.3
comp=Z,17nm,1.2s
MEZF Maizieres J'vi 27.39 296 *e*P **P** 02 49 11.3 -2.3
comp=Z,34nm,1.2s
SMRF Simiane la Rot 27.51 286 *e*P **P** 02 49 12.7 -2.1
SMRF Simiane la Rot 27.51 286 *e*P **P** 02 49 12.7 -2.1
SMRF Simiane la Rot 27.51 286 *e*P **P** 02 49 12.7 -2.1
GIVF Givet 27.53 299 *e*P **P** 02 49 14.3 -0.6
GIVF Givet 27.53 299 *e*P **P** 02 49 14.3 -0.6
GIVF Givet 27.53 299 *e*P **P** 02 49 14.3 -0.6
GIVF Givet 27.53 299 *e*P **P** 02 49 14.3 -0.6
MK31 Makanchi Array 27.73 68 *e*P **P** 02 49 17.2 +0.4
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 27.73 68 *e*P **P** 02 49 17.2 +0.4
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 27.73 68 P **P** 02 49 16.9 +0.1
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,44nm,19.0s
MKAR Makanchi Array 27.73 68 P **P** 02 49 16.9 +0.1
comp=Z,1.5nm,0.5s,baz=274,slow=8.5,SNR=22
MKAR LR LR 03 02 17.9
comp=Z,44nm,19.0s,baz=194,slow=41
VIVF Saint-Julien-l 28.00 288 *e*P **P** 02 49 18.4 -0.8
VIVF Saint-Julien-l 28.00 288 *e*P **P** 02 49 18.4 -0.8
VIVF Saint-Julien-l 28.00 288 *e*P **P** 02 49 18.4 -0.8
VIVF Saint-Julien-l 28.00 288 *e*P **P** 02 49 18.4 -0.8
ARCES ARCESS Array B 28.66 347 LR LR 03 01 09.7
comp=Z,76nm,21.8s,baz=151,slow=37
AVF Avril sur Loir 28.66 293 *e*P **P** 02 49 24.0 -1.0
comp=Z,5.0nm,0.7s
AVF Avril sur Loir 28.66 293 *e*P **P** 02 49 24.0 -1.0
AVF pmax pmax
comp=Z,5.0nm,0.7s
AVF Avril sur Loir 28.66 293 *e*P **P** 02 49 24.0 -1.0
comp=Z,2.5nm,0.7s
AVF Avril sur Loir 28.66 293 *e*P **P** 02 49 24.0 -1.0
comp=Z,5.0nm,0.7s
BGF Bois d'Agland 29.03 292 *e*P **P** 02 49 27.4 -0.9
BGF Bois d'Agland 29.03 292 *e*P **P** 02 49 27.4 -0.9
BGF Bois d'Agland 29.03 292 *e*P **P** 02 49 27.4 -0.9
BGF Bois d'Agland 29.03 292 *e*P **P** 02 49 27.4 -0.9
ZALV Zalesovo Beam 29.39 53 P **P** 02 49 30.4 -1.0
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 29.39 53 P **P** 02 49 30.4 -1.0
comp=Z,0.5nm,0.6s,baz=296,slow=11,SNR=3.3
TCF Toulx Ste Croi 29.50 292 *e*P **P** 02 49 32.0 -0.5
comp=Z,33nm,1.3s
TCF Toulx Ste Croi 29.50 292 *e*P **P** 02 49 32.0 -0.5
TCF pmax pmax
comp=Z,33nm,1.3s
TCF Toulx Ste Croi 29.50 292 *e*P **P** 02 49 32.0 -0.5
comp=Z,16nm,1.3s
TCF Toulx Ste Croi 29.50 292 *e*P **P** 02 49 32.0 -0.5
comp=Z,33nm,1.3s
EKA Eskdalemuir Ar 32.60 310 P **P** 02 49 58.6 -1.1
EKA pmax pmax
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 32.60 310 P **P** 02 49 58.5 -1.1
comp=Z,1.0nm,0.8s,baz=100,slow=8.0,SNR=5.1
ROSF Rostrenen 32.93 297 *e*P **P** 02 50 02.1 -0.5
ROSF Rostrenen 32.93 297 *e*P **P** 02 50 02.1 -0.5
ROSF Rostrenen 32.93 297 *e*P **P** 02 50 02.1 -0.5
ROSF Rostrenen 32.93 297 *e*P **P** 02 50 02.1 -0.5
ESDC Sonseca Array 35.52 282 P **P** 02 50 23.9 -1.4
comp=Z,0.5nm,0.7s,baz=62,slow=7.3,SNR=5.0
GTA Gaotai 41.98 75 *e*P P 02 51 26.7 +7.2
GTA pP pP 02 51 31.5 +7.7
GTA sP sP 02 51 34.2 +8.7
GTA pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 43.58 60 P **P** 02 51 32.4 0.0
comp=Z,0.2nm,0.4s,baz=311,slow=10,SNR=3.0
SONM LR LR 03 11 56.2
comp=Z,86nm,18.6s,baz=108,slow=39
ULN Ulaanbaatar 43.99 60 *e*P **P** 02 51 35.0 -0.7
ULN pmax pmax
comp=Z,1.0nm,1.0s
ULN Ulaanbaatar 43.99 60 *e*P **P** 02 51 35.0 -0.7
comp=Z,1.0nm,1.0s
TORD Torodi Ar. Bea 46.44 244 P **P** 02 51 54.5 -0.8
comp=Z,0.8nm,0.7s,baz=44,slow=6.6,SNR=6.5
TIXI Tiksi 48.90 25 *e*P **P** 02 52 13.7 0.0
TIXI pmax pmax
comp=Z,1.0nm,1.2s
TIXI Tiksi 48.90 25 *e*P **P** 02 52 13.7 0.0
comp=Z,1.0nm,1.2s
DBIC Dimbokro 55.54 244 P **P** 02 53 03.4 -0.4
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC Dimbokro 55.54 244 P **P** 02 53 03.4 -0.4
comp=Z,4.2nm,1.0s,baz=16,slow=7.4,SNR=3.4
LIC Lamto 55.99 244 *e*P **P** 02 53 06.8 -0.2
comp=Z,2.9nm,0.6s
LIC Lamto 55.99 244 *e*P **P** 02 53 06.8 -0.2
comp=Z,1.5nm,0.6s
LIC Lamto 55.99 244 *e*P **P** 02 53 06.8 -0.2
comp=Z,2.9nm,0.6s
SEY Seymchan 60.72 30 *e*P **P** 02 53 39.7 +0.3
SEY Seymchan 60.72 30 *e*P **P** 02 53 39.7 +0.3
KSRS Korea Array 62.30 63 LR LR 03 23 50.5
comp=Z,57nm,20.1s,baz=306,slow=39
BOSA Boshof 72.73 197 P **P** 02 54 56.6 +0.1
BOSA pmax pmax
comp=Z,2.0nm,0.9s
BOSA Boshof 72.73 197 P **P** 02 54 56.6 +0.1
comp=Z,2.4nm,0.9s,baz=17,slow=6.4,SNR=3.9
ILAR Eielson Array 72.76 5 P **P** 02 54 57.3 +1.1
comp=Z,0.3nm,1.0s,baz=339,slow=6.8,SNR=3.7
YKA Yellowknife Ar 73.88 350 P **P** 02 55 01.8 -1.0
comp=Z,0.3nm,0.6s,baz=8.9,slow=6.1,SNR=12

WEL 12 02:44:58.4±0.5, 38.00S×175.93E, h182km±5km, ML3.6/7, 4C-6D, Error ellipse: s-maj=4.2km s-min=4.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
URZ	**Urewera**	**0.97**	**106**	⇓PN	Pn		02 45 25.9	0.0
URZ				SN	Sn		02 45 47.0	-0.3
URZ				AML	AML		02 45 48.9	
OTVZ	**Oturere**	**1.19**	**190**	PN	Pn		02 45 28.4	+0.5
WPVZ	**Whakapapa**	**1.25**	**194**	PN	Pn		02 45 28.5	+0.2
BKZ	**Black Stump Fm**	**1.25**	**159**	⇓PN	Pn		02 45 28.1	-0.1
BKZ				SN	Sn		02 45 50.3	-1.3
BKZ				AML	AML		02 45 51.4	
TUVZ	**Tukino**	**1.29**	**190**	PN	Pn		02 45 28.8	0.0
FWVZ	**Far West T-bar**	**1.29**	**193**	⇓PN	Pn		02 45 29.0	+0.1
RAHZ	**Arahi**	**1.29**	**136**	PN	Pn		02 45 29.0	+0.4
NMHZ	**Naumai**	**1.30**	**148**	PN	Pn		02 45 29.4	+0.7
MWZ	**Matawai**	**1.31**	**106**	PN	Pn		02 45 28.7	-0.1
MWZ				AML	AML		02 45 53.6	
MWZ				AML	AML		02 46 01.6	
WHVZ	**Whangaehu Hut**	**1.31**	**192**	PN	Pn		02 45 29.1	+0.1
WNVZ	**Wahianoa**	**1.36**	**191**	PN	Pn		02 45 29.3	-0.1
SNGZ	**Shannon Statio**	**1.36**	**126**	⇓PN	Pn		02 45 29.5	+0.3
PKVZ	**Pokaka**	**1.37**	**199**	PN	Pn		02 45 29.1	-0.3
MOVZ	**Moawhango**	**1.42**	**186**	⇑PN	Pn		02 45 29.2	-0.5

MTVZ	**Mangateitei**	**1.43**	**194**	PN	Pn	02 45 29.9	0.0
HAZ	**Te Kaha**	**1.49**	**81**	⇑PN	Pn	02 45 29.8	-0.5
BHHZ	**Black Hill Sta**	**1.50**	**176**	PN	Pn	02 45 29.7	-0.8
ARHZ	**Aropaoanui**	**1.52**	**147**	PN	Pn	02 45 30.4	-0.2
MCHZ	**McNeill Hill**	**1.57**	**158**	PN	Pn	02 45 31.4	+0.4
MCHZ				SN	Sn	02 45 56.3	-0.3
TWGZ	**Tauwhareparae**	**1.63**	**97**	PN	Pn	02 45 32.1	+0.3
KRHZ	**Kereru**	**1.68**	**168**	PN	Pn	02 45 31.8	-0.4
PRGZ	**Paritu Road**	**1.79**	**122**	PN	Pn	02 45 33.2	-0.2
PUZ	**Puketiti**	**1.84**	**93**	PN	Pn	02 45 33.5	-0.4
CNGZ	**Carnagh Statio**	**1.86**	**106**	PN	Pn	02 45 34.5	+0.5
CKHZ	**Cape Kidnapper**	**1.89**	**152**	PN	Pn	02 45 34.3	0.0
PNHZ	**Pukenui**	**1.93**	**174**	PN	Pn	02 45 33.8	-1.0
MXZ	**Matakaoa Point**	**1.93**	**78**	PN	Pn	02 45 34.8	0.0
MHGZ	**Mahia Peninsul**	**1.94**	**127**	⇓PN	Pn	02 45 34.8	0.0
KAHZ	**Kahuranaki**	**1.94**	**158**	PN	Pn	02 45 34.8	-0.2
WMGZ	**Waiomatatini S**	**1.98**	**86**	⇓PN	Pn	02 45 35.0	-0.3
TSZ	**Takapari Road**	**2.06**	**179**	⇑PN	Pn	02 45 35.1	-1.1
WPHZ	**Waipukurau**	**2.10**	**169**	PN	Pn	02 45 35.7	-0.9
PXZ	**Pawanui**	**2.16**	**161**	PN	Pn	02 45 36.5	-0.7
PXZ				AML	AML	02 46 08.1	
DVHZ	**Dannevirke**	**2.31**	**175**	PN	Pn	02 45 37.3	-1.6
PRHZ	**Porangahau**	**2.33**	**167**	PN	Pn	02 45 38.2	-1.0
POWZ	**Post Office Ro**	**2.40**	**183**	PN	Pn	02 45 38.2	-1.7
ANWZ	**Angora Road**	**2.50**	**170**	PN	Pn	02 45 39.7	-1.3
PRWZ	**Pori Road**	**2.56**	**179**	PN	Pn	02 45 40.2	-1.6
MRZ	**Mangatainoka R**	**2.68**	**186**	⇑PN	Pn	02 45 40.8	-2.4
MRZ				AML	AML	02 46 16.6	
MRZ				AML	AML	02 46 17.7	
BFZ	**Birch Farm**	**2.69**	**175**	PN	Pn	02 45 41.2	-2.2
TIWZ	**Tintock**	**2.78**	**181**	PN	Pn	02 45 42.1	-2.3
TIWZ				AML	AML	02 46 18.9	
TIWZ				AML	AML	02 46 19.5	
OGWZ	**Otaki Gorge**	**2.88**	**192**	PN	Pn	02 45 43.2	-2.4
HOWZ	**Holdsworth Sta**	**2.92**	**186**	PN	Pn	02 45 43.3	-2.8
KIW	**Kapiti Island**	**2.97**	**195**	PN	Pn	02 45 43.8	-2.9
TMWZ	**Te Maipa**	**3.11**	**181**	PN	Pn	02 45 45.6	-2.8
MTW	**Mount Morrison**	**3.18**	**186**	PN	Pn	02 45 45.9	-3.3
CAW	**Cannon Point**	**3.18**	**192**	PN	Pn	02 45 46.3	-3.0
DUWZ	**D'Urville Isla**	**3.21**	**208**	PN	Pn	02 45 47.0	-2.6
TRWZ	**Traveller**	**3.41**	**183**	PN	Pn	02 45 48.9	-3.1
MSWZ	**Moikau Station**	**3.46**	**188**	PN	Pn	02 45 49.1	-3.6
TCW	**Tory Channel**	**3.46**	**201**	PN	Pn	02 45 49.5	-3.1
TCW				AML	AML	02 46 32.8	
PLWZ	**Palliser**	**3.61**	**188**	PN	Pn	02 45 50.8	-3.7
TUWZ	**Tuamarina**	**3.76**	**203**	PN	Pn	02 45 52.9	-3.5
NNZ	**Nelson**	**3.77**	**211**	PN	Pn	02 45 53.6	-3.0
QRZ	**Quartz Range**	**3.86**	**222**	PN	Pn	02 45 54.5	-3.2
THZ	**Tophouse**	**4.42**	**211**	PN	Pn	02 46 01.6	-3.3
KHZ	**Kahutara**	**4.78**	**202**	PN	Pn	02 46 05.4	-3.9

MEX ***12*** *02:46:59.9±1.0, 32°.90N×115°.66W, h20km±49km, MD3.5*
ECX ***12*** *02:47:01.8±0.6, 32°.61N×115°.77W, h3km, MD3.0, ML3.2*
NEIC ***12*** *02:47:01.7, 32°.59N×115°.77W, h0km, MD3.5(MEX), ML3.0(ECX), ML3.0(PAS), After ECX.*

ISC 12 02:47:00.6±1.1, 32°.58N±0°.02×115°.72W±0°.02, h3km±11km, n25, σ0°90/48, 6C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.07**	**354**	⇓	*iP*		**Pg**	**02 47 02.4**	**+0.4**
COK	**Cook Ranch**	**0.27**	**358**	⇓	*iP*		**Pg**	**02 47 06.5**	**+0.7**
RMX	**La Rumorosa**	**0.31**	**275**	⇑	*eP*		**Pg**	**02 47 06.6**	**+0.1**
RMX					*eS*		**Sg**	**02 47 10.7**	**+0.1**
RMX					AML		AML	02 47 10.8	
	comp=N,6μm,0.2s								
RMX				⇑	*e*			02 47 10.8	
CRR	**Carrizo Plain**	**0.38**	**325**	⇓	*iP*		**Pg**	**02 47 07.8**	**0.0**
CPBX	**Cerro Prieto**	**0.38**	**115**		*eP*		**Pb**	**02 47 09.7**	**-0.3**
CPBX				⇑	*eP*		**Pb**	**02 47 09.8**	**-0.3**
CPBX					*eS*		**Sb**	**02 47 16.6**	**+0.2**
CPBX				⇓	*e*			02 47 23.8	
CPBX					AML		AML	02 47 23.8	
	comp=E,6μm,0.4s								
CPBX					AML		AML	02 47 24.1	
	comp=N,6μm,0.5s								
CPBX				⇑	*e*			02 47 24.1	
CPBX	**Cerro Prieto**	**0.38**	**115**		*eP*		**Pb**	**02 47 09.6**	**-0.3**
CPBX					*i S*		**Sb**	**02 47 16.8**	**+0.4**
RDX	**Rancho Dawling**	**0.68**	**197**	⇓	*eP*		**Pg**	**02 47 13.9**	**+0.3**
RDX					*eS*		**Sg**	**02 47 23.4**	**+1.1**
EMX	**El Mayor**	**0.71**	**146**	⇓	*eP*		**Pg**	**02 47 13.9**	**-0.3**
EMX					*eS*		**Sg**	**02 47 24.0**	**+0.5**
BAR	**Barrett**	**0.81**	**277**		*ePg*		**Pg**	**02 47 15.7**	**-0.5**
BAR					*eS*		**Sg**	**02 47 25.7**	**-1.1**
CBX	**Cerro Bola**	**0.84**	**252**		*eP*		**Pg**	**02 47 16.4**	**-0.3**
CBX					*i S*		**Sg**	**02 47 27.5**	**-0.1**
CBX	**Cerro Bola**	**0.84**	**252**	⇑	*eP*		**Pg**	**02 47 16.7**	**0.0**
CBX					*eS*		**Sg**	**02 47 27.6**	**-0.1**
CBX					AML		AML	02 47 32.4	
	comp=N,703nm,0.4s								
CBX				⇓	*e*			02 47 32.4	
CBX	**Cerro Bola**	**0.84**	**252**		*eP*		**Pg**	**02 47 16.5**	**-0.2**
CBX					*i S*		**Sg**	**02 47 27.3**	**-0.4**
GLA	**Glamis**	**0.89**	**57**		*ePg*		**Pg**	**02 47 17.3**	**-0.3**
GLA					*eS*		**Sg**	**02 47 28.8**	**-0.2**
ZAX	**El Zacaton**	**1.16**	**204**		*eP*		**Pg**	**02 47 22.6**	**-0.2**
ZAX					*eS*		**Sg**	**02 47 38.2**	**+0.3**
ZAX				⇓	*e*			02 47 46.9	
ZAX					AML		AML	02 47 46.9	
	comp=E,431nm,0.5s								
ECNX	**Esteban Cantu**	**1.19**	**219**		*eP*		**Pg**	**02 47 22.9**	**-0.4**
ECNX					*eS*		**Sb**	**02 47 39.3**	**-0.2**
PBX	**Punta Banda**	**1.20**	**226**		*eP*		**Pg**	**02 47 22.9**	**-0.5**
PBX					*eS*		**Sg**	**02 47 38.8**	**-0.2**
PFO	**Pinyon Flats O**	**1.20**	**329**		*ePn*		**Pg**	**02 47 22.3**	**-1.3**
PFO					*eS*		**Sg**	**02 47 36.3**	**-2.9**
ECBX	**El Chinero**	**1.24**	**153**	⇑	*eP*		**Pg**	**02 47 23.4**	**-1.0**
ECBX					*eS*		**Sg**	**02 47 40.8**	**+0.4**
SPIG	**San Pedro Mart**	**1.54**	**172**		*iP*		**Pb**	**02 47 27.6**	**-1.7**
SPIG					*i S*		**Sb**	**02 47 50.4**	**+0.4**
SPIG	**San Pedro Mart**	**1.54**	**172**		*eP*		**Pb**	**02 47 30.5**	**+0.6**
SPIG					*i S*		**Sb**	**02 47 50.4**	**+0.4**
SPX	**San Pedro Mart**	**1.54**	**172**		*eP*		**Pn**	**02 47 29.5**	**+0.2**
SPX	**San Pedro Mart**	**1.54**	**172**		*eP*		**Pn**	**02 47 28.1**	**-1.2**
SPX					*i S*		**Sb**	**02 47 50.8**	**+0.7**
MWC	**Mount Wilson**	**2.56**	**311**		*ePn*		**Pn**	**02 47 43.8**	**+0.7**
MWC					*eS*		**Sb**	**02 48 18.3**	**-0.8**
GSC	**Goldstone, Bar**	**2.86**	**342**		*ePn*		**Pn**	**02 47 48.7**	**+1.5**
GSC					*eS*		**Sg**	**02 48 31.1**	**-1.5**
ISA	**Isabella, Lake**	**3.83**	**324**		*ePn*		**Pn**	**02 48 01.4**	**+0.8**
ISA					*ePg*		**Pg**	**02 48 14.0**	**-0.1**
ISA					*eS*		**Sb**	**02 48 58.4**	**+2.6**

DDA ***12*** *03:05:11.5, 39°.25N×43°.90E, h6km, MD2.7*
CSEM ***12*** *03:05:15.7±0.6, 39°.31N×43°.70E, h2km, MD2.7, Error ellipse: s-maj=15.8km s-min=10.3km az=40.0*
ISCJB ***12*** *03:05:17.1±0.8, 39°.30N±0°.06×43°.72E±0°.07, h16km, Error ellipse: s-maj=10.2km s-min=5.4km az=41.5*

ISC 12 03:05:15.5±1.0, 39°.33N±0°.04×43°.68E±0°.05, h16km, n11, σ1°9°30/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.22**	**1**		*i S*		**Sg**	**03 05 22.0**	**-2.3**
DYDN	**Diyadin**	**0.22**	**1**		*i P*		**Pg**	**03 05 18.2**	**-2.6**
DYDN					*i S*		**Sg**	**03 05 22.0**	**-2.3**
CLDR	**Caldiran**	**0.26**	**135**		*ePG*		**Pg**	**03 05 20.8**	**-0.5**
CLDR					*eSG*		**Sb**	**03 05 27.3**	**+1.1**
CLDR	**Caldiran**	**0.26**	**135**		*ePg*		**Pg**	**03 05 20.8**	**-0.5**
CLDR					*eSg*		**Sb**	**03 05 27.3**	**+1.1**
AGRB	**Hanur-Agry**	**0.59**	**295**		*ePG*		**Pb**	**03 05 28.2**	**+0.6**
AGRB					*eSG*		**Sn**	**03 05 39.4**	**+0.5**
AGRB	**Hanur-Agry**	**0.59**	**295**		*ePg*		**Pb**	**03 05 28.2**	**+0.6**
AGRB					*eSg*		**Sn**	**03 05 39.4**	**+0.5**
TUTA	**Tutak**	**0.68**	**277**		*i P*		**Pg**	**03 05 28.1**	**-0.8**
TUTA					*i S*		**Sn**	**03 05 40.4**	**-0.7**
TUTA	**Tutak**	**0.68**	**277**		*i P*		**Pg**	**03 05 28.1**	**-0.8**
TUTA					*i S*		**Sn**	**03 05 40.4**	**-0.7**
DIGO	**Kars**	**1.11**	**348**		*i P*		**Pg**	**03 05 38.3**	**+1.2**
DIGO					*i S*		**Sg**	**03 05 52.7**	**+1.0**
DIGO	**Kars**	**1.11**	**348**		*i P*		**Pg**	**03 05 38.3**	**+1.2**
DIGO					*i S*		**Sg**	**03 05 52.7**	**+1.0**
EAK	**Akyaka**	**1.36**	**358**		*i P*		**Sg**	**03 05 58.6**	**-0.9**

IDC ***12*** *03:13:17.1±1.2, 34°.99N×23°.07E, h0km, mb3.7/7, mb1 3.6/11, mb1mx3.5/37, mbtmp3.5/11, ML3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.2/34, Error ellipse: s-maj=23.5km s-min=19.9km az=177.0*
ISCJB ***12*** *03:13:25.2±0.9, 35°.12N±0°.08×23°.44E±0°.07, h73km±5km, mb3.5/7, Error ellipse: s-maj=14.7km s-min=6.4km az=33.7*
ATH ***12*** *03:13:26.7, 35°.24N×23°.51E, h55km±7km, MD3.6/11*
CSEM ***12*** *03:13:27.2±0.4, 35°.14N×23°.45E, h40km, MD3.6, Error ellipse: s-maj=10.4km s-min=3.6km az=31.0*
THE ***12*** *03:13:28.2, 35°.21N×23°.52E, h50km±4km, ML3.1/4, Error ellipse: s-maj=5.0km s-min=1.4km az=43.0*

ISC 12 03:13:26.3±1.4, 35°.14N±0°.10×23°.49E±0°.06, h58km±9km, n57, σ1°10/65, mb3.7/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.44**	**54**		*eP*		**Pn**	**03 13 37.8**	**+0.4**
KARN	**Karanos**	**0.44**	**54**		*eP*		**Pn**	**03 13 37.8**	**+0.4**
VAM	**Vamos**	**0.64**	**65**		*P*		**Pn**	**03 13 39.9**	**+0.2**
VAM					*S*		**Sn**	**03 13 49.7**	**+0.3**
VAM	**Vamos**	**0.64**	**65**		*eP*		**Pn**	**03 13 39.2**	**-0.5**
VAM	**Vamos**	**0.64**	**65**		*P*		**Pn**	**03 13 39.9**	**+0.2**
VAM					*S*		**Sn**	**03 13 49.7**	**+0.3**
ANKY	**Antikythira Is**	**0.74**	**348**		*P*		**Pn**	**03 13 41.4**	**+0.5**
ANKY					*S*		**Sn**	**03 13 51.4**	**-0.1**
ANKY	**Antikythira Is**	**0.74**	**348**		*eP*		**Pn**	**03 13 41.0**	**+0.1**
ANKY	**Antikythira Is**	**0.74**	**348**		*P*		**Pn**	**03 13 41.4**	**+0.5**
ANKY					*S*		**Sn**	**03 13 51.4**	**-0.1**
SIVA	**Sivas**	**1.09**	**96**		*eP*		**Pn**	**03 13 46.1**	**+0.7**
SIVA	**Sivas**	**1.09**	**96**		*eP*		**Pn**	**03 13 46.1**	**+0.7**
IDI	**Anoyia**	**1.16**	**82**		Pn		**Pn**	**03 13 47.4**	**+1.1**
	20nm,0.3s,baz=273,slow=9.8,SNR=86								
IDI						LR	LR	03 14 11.1	
	comp=Z,32nm,20.0s,baz=297,slow=36								
IDI						Sn	Sn	03 14 12.4	+11
	24nm,0.3s,baz=5.4,slow=19,SNR=8.5								
KYTH	**Kithira**	**1.19**	**342**		P		**Pn**	**03 13 47.4**	**+0.6**
KYTH	**Kithira**	**1.19**	**342**		*eP*		**Pn**	**03 13 47.4**	**+0.6**
KYTH	**Kithira**	**1.19**	**342**		*eP*		**Pn**	**03 13 47.4**	**+0.6**
LAST	**Lasithi**	**1.63**	**89**		*eP*		**Pn**	**03 13 54.5**	**+1.7**
LAST	**Lasithi**	**1.63**	**89**		*eP*		**Pn**	**03 13 54.5**	**+1.7**
VLI	**Veliai**	**1.64**	**344**		*P*		**Pn**	**03 13 53.8**	**+1.1**
VLI					*S*		**Sn**	**03 14 13.5**	**+0.8**
VLI	**Veliai**	**1.64**	**344**		*eP*		**Pn**	**03 13 53.6**	**+0.9**
VLI	**Veliai**	**1.64**	**344**		*eP*		**Pn**	**03 13 53.6**	**+0.9**
VLI					*S*		**Sn**	**03 14 13.5**	**+0.8**
NPS	**Neapolis**	**1.74**	**85**		*P*		**Pn**	**03 13 56.3**	**+2.1**
NPS	**Neapolis**	**1.74**	**85**		*eP*		**Pn**	**03 13 56.3**	**+2.1**
NPS	**Neapolis**	**1.74**	**85**		*eP*		**Pn**	**03 13 56.3**	**+2.1**
PYL	**PYLOS**	**2.25**	**322**		*P*		**Pn**	**03 14 01.3**	**+0.2**
PYL					*S*		**Sn**	**03 14 30.2**	**+2.5**
PYL	**PYLOS**	**2.25**	**322**		*P*		**Pn**	**03 14 01.3**	**+0.2**
PYL					*S*		**Sn**	**03 14 30.2**	**+2.5**
APE	**Apeiranthos**	**2.54**	**40**		*P*		**Pn**	**03 14 05.5**	**+0.5**
APE					*S*		**Sn**	**03 14 35.1**	**+0.3**
APE	**Apeiranthos**	**2.54**	**40**		*eP*		**Pn**	**03 14 05.6**	**+0.5**
APE	**Apeiranthos**	**2.54**	**40**		*eP*		**Pn**	**03 14 05.6**	**+0.5**
APE					*S*		**Sn**	**03 14 35.1**	**+0.3**
NAIG	**Nisos Aigina**	**2.61**	**0**		*eP*		**Pn**	**03 14 07.1**	**+1.1**
NAIG	**Nisos Aigina**	**2.61**	**0**		*eP*		**Pn**	**03 14 07.1**	**+1.1**
AMT	**Artemida-Makis**	**2.78**	**329**		*eP*		**Pn**	**03 14 08.0**	**-0.4**
AMT	**Artemida-Makis**	**2.78**	**329**		*eP*		**Pn**	**03 14 08.0**	**-0.4**
LTK	**Loutraki**	**2.91**	**352**		*eP*		**Pn**	**03 14 10.9**	**+0.8**
LTK	**Loutraki**	**2.91**	**352**		*eP*		**Pn**	**03 14 10.9**	**+0.8**
PTL	**Penteli**	**2.92**	**6**		*P*		**Pn**	**03 14 11.4**	**+1.2**
PTL	**Penteli**	**2.92**	**6**		*P*		**Pn**	**03 14 11.4**	**+1.2**
GUR	**Goura**	**2.94**	**342**		*eP*		**Pn**	**03 14 11.0**	**+0.4**
GUR	**Goura**	**2.94**	**342**		*eP*		**Pn**	**03 14 11.0**	**+0.4**
LKR	**Lokris**	**3.52**	**354**		*P*		**Pn**	**03 14 19.6**	**+1.1**
LKR	**Lokris**	**3.52**	**354**		*P*		**Pn**	**03 14 19.6**	**+1.1**
EVR	**Evrytania**	**4.00**	**341**		*eP*		**Pn**	**03 14 26.2**	**+1.1**
EVR	**Evrytania**	**4.00**	**341**		*eP*		**Pn**	**03 14 26.2**	**+1.1**
NEO	**Neokhori**	**4.16**	**357**		*P*		**Pn**	**03 14 28.2**	**+0.9**
NEO	**Neokhori**	**4.16**	**357**		*eP*		**Pn**	**03 14 27.5**	**+0.2**
NEO	**Neokhori**	**4.16**	**357**		*P*		**Pn**	**03 14 28.2**	**+0.9**
STON	**Ston**	**8.93**	**331**		*ePn*		Pn	03 15 28.3	-4.2
STON							Sn	03 17 00.8	-11
BRTR	**Keskin Array B**	**9.28**	**57**		Pn		**Pn**	**03 15 39.6**	**+2.2**
	0.1nm,0.3s,baz=220,slow=16,SNR=3.4								
MMAI	**Mount Meron Ar**	**10.11**	**99**		Pn		**Pn**	**03 15 49.2**	**+0.5**
	1.4nm,0.3s,baz=306,slow=13,SNR=4.3								
MMAI							Sn	03 17 31.8	-8.8
	1.0nm,0.3s,baz=320,slow=24,SNR=2.3								
MLR	**Muntele Rosu**	**10.51**	**10**		Pn		**Pn**	**03 15 53.7**	**-0.5**
	0.0nm,0.3s,baz=212,slow=11,SNR=4.3								
GERES	**GERESS Array B**	**15.48**	**335**		Pn		**Pn**	**03 16 58.3**	**-2.7**
	0.2nm,0.3s,baz=146,slow=11,SNR=4.6								
AKASG	**Malin Array Be**	**16.10**	**13**		Pn		**Pn**	**03 17 09.8**	**+1.1**
	1.3nm,0.3s,baz=208,slow=9.5,SNR=8.9								
HFS	**Hagfors**	**25.80**	**349**		P		**P**	**03 18 50.3**	**-1.3**
	1.1nm,0.5s,baz=153,slow=10.0,SNR=7.2								
NOA	**NORSAR Array B**	**27.09**	**347**		P		**P**	**03 19 02.9**	**-0.4**
	0.2nm,0.6s,baz=156,slow=12,SNR=3.3								
TORD	**Torodi Ar. Bea**	**29.45**	**227**		P		P	03 19 19.8	-4.9
	0.2nm,0.6s,baz=30,slow=7.7,SNR=5.3								
ARCES	**ARCESS Array B**	**34.47**	**1**		P		**P**	**03 20 06.5**	**-1.7**
	4.6nm,1.0s,baz=197,slow=8.5,SNR=5.2								
ARCES						LR	LR	03 34 50.8	
	comp=Z,35nm,20.1s,baz=223,slow=37								
MKAR	**Makanchi Array**	**44.92**	**56**		P		**P**	**03 21 35.5**	**+0.3**
	0.6nm,0.3s,baz=266,slow=7.6,SNR=9.9								
ZALV	**Zalesovo Beam**	**46.00**	**46**		P		**P**	**03 21 43.0**	**-0.7**
	0.7nm,0.3s,baz=256,slow=9.0,SNR=3.7								
SONM	**Songino Array**	**60.55**	**50**		P		**P**	**03 23 31.4**	**+0.7**
	0.3nm,0.4s,baz=288,slow=5.9,SNR=5.2								

ROM ***12*** *03:15:31.5±0.1, 46°.23N×13°.43E, h8km, Md1.6/1, Error ellipse: s-maj=1.0km s-min=0.5km az=57.0*
VIE ***12*** *03:15:32.2±0.4, 46°.24N×13°.41E, h5km, mb0.8/1, ML1.2/2, Error ellipse: s-maj=4.5km s-min=1.1km az=77.0 13 km W of Kobarid*
CSEM ***12*** *03:15:32.0±0.1, 46°.22N×13°.44E, h10km, ML1.6/4, Error ellipse: s-maj=1.6km s-min=1.2km az=37.0*

LJU 12 03:15:32.1, 46°.23N×13°.43E, h9km, ML1.0, 16C-7D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.06**	**75**	⇑	*iPg*		**Pg**	03 15 34.0	0.0
ROBS					*i Sg*		**Sg**	03 15 35.4	-0.1
	comp=Z,103nm,0.1s								
ROBS	**Robic**	**0.06**	**75**	⇑	*iPg*		Pg	03 15 34.0	0.0
ROBS					*i Sg*		**Sg**	03 15 35.4	-0.1
	comp=Z,103nm,0.1s								
COLI	**Coloredo**	**0.10**	**201**	⇑	*iPg*		Pg	03 15 34.7	0.0
COLI					*i Sg*		**Sg**	03 15 36.5	+0.1
COLI	**Coloredo**	**0.10**	**201**	⇑	*iPg*		Pg	03 15 34.7	+0.1
COLI					*i Sg*		**Sg**	03 15 36.5	+0.1
VINO	**Villanova**	**0.11**	**284**	⇓	*ePg*		Pg	03 15 34.8	0.0
VINO					*eSg*		**Sg**	03 15 36.8	+0.1
VINO	**Villanova**	**0.11**	**284**		*Pg*		Pg	03 15 34.8	0.0
VINO					*Sg*		**Sg**	03 15 36.8	+0.1
VINO	**Villanova**	**0.11**	**284**	⇓	*ePg*		Pg	03 15 34.8	0.0
VINO					*eSg*		**Sg**	03 15 36.8	+0.1
BAD	**Bernadia**	**0.13**	**273**	⇑	*ePg*		Pg	03 15 35.2	0.0
BAD					*eSg*		**Sg**	03 15 37.5	+0.2
BAD	**Bernadia**	**0.13**	**273**	⇑	*ePg*		Pg	03 15 35.2	0.0
BAD					*eSg*		**Sg**	03 15 37.5	+0.2
DRE	**Drenchia**	**0.16**	**111**	⇑	*ePg*		Pg	03 15 35.0	-0.6
DRE					*eSg*		**Sg**	03 15 37.6	-0.4
DRE	**Drenchia**	**0.16**	**111**	⇑	*ePg*		Pg	03 15 35.0	-0.6
DRE					*eSg*		**Sg**	03 15 37.6	-0.4
PTCC	**Patocco-Chiusa**	**0.18**	**343**		*Pg*		Pg	03 15 36.1	0.0
PTCC					*Sg*		**Sg**	03 15 39.4	+0.6
PTCC	**Patocco-Chiusa**	**0.18**	**343**		*Pg*		Pg	03 15 36.1	0.0
PTCC					*Sg*		**Sg**	03 15 39.4	+0.6
GEPF	**Gemona**	**0.21**	**283**		*Pg*		Pg	03 15 36.5	+0.1
GEPF					*Sg*		**Sg**	03 15 40.1	+0.8
GEPF	**Gemona**	**0.21**	**283**		*Pg*		Pg	03 15 36.5	+0.1
GEPF					*Sg*		**Sg**	03 15 40.1	+0.8
CADS	**Cadrg**	**0.21**	**90**		*i Pg*		Pg	03 15 36.5	-0.1
CADS					*i Sg*		**Sg**	03 15 40.0	+0.4
	comp=Z,5.0nm,0.1s								
CADS	**Cadrg**	**0.21**	**90**		*i Pg*		Pg	03 15 36.5	0.0
CADS					*i Sg*		**Sg**	03 15 40.0	+0.4
	comp=Z,5.0nm,0.1s								
BOO	**Bordano**	**0.25**	**291**	⇑	*ePg*		Pg	03 15 37.1	-0.1
BOO	**Bordano**	**0.25**	**291**	⇑	*ePg*		Pg	03 15 37.1	-0.1
LSR	**Lussari**	**0.26**	**15**	⇑	*ePg*		Pg	03 15 37.5	0.0
LSR					*eSg*		**Sg**	03 15 41.6	+0.5
LSR	**Lussari**	**0.26**	**15**	⇓	*ePg*		Pg	03 15 37.5	0.0
LSR					*eSg*		**Sg**	03 15 41.7	+0.5
SABO	**M.te Sabotino**	**0.28**	**155**	⇓	*ePg*		Pg	03 15 37.8	+0.1
SABO					*eSg*		**Sg**	03 15 42.5	+1.0
SABO	**M.te Sabotino**	**0.28**	**155**		*Pg*		Pg	03 15 37.8	+0.1
SABO					*Sg*		**Sb**	03 15 42.9	-1.2
SABO	**M.te Sabotino**	**0.28**	**155**	⇓	*ePg*		Pg	03 15 37.8	+0.1
SABO					*eSg*		**Sg**	03 15 42.5	+1.0
ACOM	**Acomizza, Ital**	**0.32**	**10**	⇑	*ePg*		Pg	03 15 38.8	0.0
ACOM					*eSg*		**Sg**	03 15 44.2	+0.9
ACOM	**Acomizza, Ital**	**0.32**	**10**		*Pg*		Pg	03 15 38.8	0.0
ACOM					*Sg*		**Sg**	03 15 44.4	+1.1
ACOM	**Acomizza, Ital**	**0.32**	**10**	⇑	*ePg*		Pg	03 15 38.8	0.0
ACOM					*eSg*		**Sg**	03 15 44.2	+0.9
FUSE	**Fusea**	**0.35**	**302**	⇓	*ePg*		Pg	03 15 39.0	-0.1
FUSE	**Fusea**	**0.35**	**302**	⇓	*ePg*		Pg	03 15 39.0	-0.1
VOJS	**Vojsko**	**0.37**	**122**		*i Pg*		Pg	03 15 39.2	-0.3
VOJS					*eSg*		**Sg**	03 15 45.4	+0.8
VOJS	**Vojsko**	**0.37**	**122**		*i Pg*		Pg	03 15 39.2	-0.4
VOJS					*eSg*		**Sg**	03 15 45.4	+0.8
GORS	**Gorjuse**	**0.40**	**77**		*i Pg*		Pg	03 15 40.2	+0.1
	comp=Z,2.0nm,0.1s								
GORS	**Gorjuse**	**0.40**	**77**		*i Pg*		Pg	03 15 40.2	+0.1
	comp=Z,2.0nm,0.1s								
MYKA	**Terra Mystica**	**0.42**	**20**	⇑	*i Pg*		Pg	03 15 40.8	+0.3
MYKA				⇑	*i Sg*		Sg	03 15 46.5	+0.2
	comp=Z,1.3nm,0.1s								
MYKA	**Terra Mystica**	**0.42**	**20**		Pg		Pg	03 15 40.8	+0.2
MYKA					Sg		Sg	03 15 46.5	+0.2
	comp=Z,1.3nm,0.1s								
ZOU	**Zoufplan**	**0.46**	**316**		*ePg*		Pg	03 15 41.3	0.0
KBA	**Koelnbreinsper**	**0.85**	**356**	⇓	*iSg*		Sg	03 16 00.2	+0.2
	comp=Z,1.7nm,0.2s								
KBA	**Koelnbreinsper**	**0.85**	**356**		Sg		Sg	03 16

	152nm,29.2s							
TBI	**Tubuai**	**24.48**	**113**	*e*T	T	04 16 25.2		
	7.9nm,0.3s							
HNR	**Honiara**	**26.15**	**279**	LR	LR	04 02 16.6		
	comp=Z,40nm,18.6s,baz=58,slow=36							
RKT	**Rikitea**	**37.56**	**108**	*e*T	T	04 32 37.6		
	2.4nm,0.3s							
H11S2	**WAKE ISLAND Hy**	**38.43**	**330**	T	T	04 35 03.2		
	baz=145,slow=76,SNR=9.3							
PMG	**Port Moresby**	**38.43**	**274**	LR	LR	04 08 47.8		
	comp=Z,40nm,19.1s,baz=70,slow=34							
H11S3	**WAKE ISLAND Hy**	**38.44**	**330**	T	T	04 35 03.2		
	baz=145,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**38.44**	**330**	T	T	04 35 03.2		
	baz=145,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**39.38**	**331**	T	T	04 36 36.5		
	baz=148,slow=76,SNR=8.4							
H11N1	**WAKE ISLAND Hy**	**39.38**	**331**	T	T	04 36 33.1		
	baz=148,slow=76,SNR=8.1							
H11N2	**WAKE ISLAND Hy**	**39.40**	**331**	T	T	04 36 36.5		
	baz=148,slow=76,SNR=8.6							
WRA	**Warramunga Arr**	**49.45**	**257**	P	**P**	**03 55 38.9**		**-0.5**
	0.9nm,0.5s,baz=90,slow=7.1,SNR=18							
ASAR	**Alice Springs**	**49.76**	**252**	P	**P**	**03 55 41.8**		**+0.1**
	5.3nm,0.7s,baz=85,slow=8.4,SNR=59							
ASAR				LR	LR	04 14 47.1		
	comp=Z,56nm,21.8s,baz=97,slow=34							
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**03 57 19.2**		**-0.1**
	1.3nm,0.8s,baz=38,slow=8.1,SNR=3.7							
MJAR	**Matsushiro Arr**	**68.37**	**320**	LR	LR	04 21 47.9		
	comp=Z,33nm,21.9s,baz=285,slow=31							
ASAJ	**Asahikawa**	**71.00**	**328**	LR	LR	04 23 08.2		
	comp=Z,26nm,21.4s,baz=104,slow=31							
PETK	**Petropavlovsk-**	**72.16**	**342**	LR	LR	04 23 30.2		
	comp=Z,16nm,21.6s,baz=121,slow=30							
LPIG	**La Paz**	**73.27**	**59**	LR	LR	04 22 31.3		
	comp=Z,58nm,19.8s,baz=248,slow=29							
YBH	**Yreka Blue Hor**	**73.62**	**37**	LR	LR	04 21 45.3		
	comp=Z,75nm,21.8s,baz=225,slow=28							
NVAR	**Mina Array Bea**	**74.40**	**42**	P	**P**	**03 58 26.1**		**-0.6**
	1.5nm,0.9s,baz=229,slow=7.7,SNR=4.8							
KSRS	**Korea Array**	**75.58**	**316**	LR	LR	04 26 38.0		
	comp=Z,16nm,20.1s,baz=88,slow=32							
TXAR	**Lajitas Array**	**80.82**	**56**	P	**P**	**03 59 03.0**		**+0.5**
	0.6nm,0.9s,baz=251,slow=2.8,SNR=5.2							
TXAR				LR	LR	04 28 01.4		
	comp=Z,22nm,20.3s,baz=0.0,slow=31							
ILAR	**Eielson Array**	**82.21**	**11**	P	**P**	**03 59 08.7**		**-0.2**
	0.4nm,0.6s,baz=228,slow=6.7,SNR=8.8							
ILAR				LR	LR	04 27 07.2		
	comp=Z,42nm,20.5s,baz=201,slow=30							
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**03 59 10.3**		**0.0**
	0.3nm,0.8s,baz=255,slow=5.5,SNR=2.6							
PDAR				LR	LR	04 28 43.6		
	comp=Z,46nm,20.5s,baz=236,slow=31							
APG	**El Apazote**	**87.69**	**74**	LR	LR	04 31 46.0		
	comp=Z,32nm,20.4s,baz=1.5,slow=31							
YKA	**Yellowknife Ar**	**89.98**	**24**	P	**P**	**03 59 46.8**		**-0.3**
	0.3nm,0.8s,baz=237,slow=4.3,SNR=5.6							
PLCA	**Paso Flores**	**90.09**	**132**	LR	LR	04 31 09.2		
	comp=Z,68nm,18.5s,baz=272,slow=30							
CMAR	**Chiang Mai Arr**	**92.05**	**288**	LR	LR	04 35 48.9		
	comp=Z,7.5nm,21.8s,baz=135,slow=32							
ULM	**Lac du Bonnet**	**93.97**	**39**	LR	LR	04 36 32.9		
	comp=Z,45nm,18.0s,baz=318,slow=32							
TKL	**Tuckaleechee C**	**98.72**	**55**	LR	LR	04 41 06.5		
	comp=Z,37nm,18.8s,slow=33							
BRTR	**Keskin Array B**	**145.59**	**321**	PKPbc	**PKPab**	**04 06 28.4**		**+1.1**
	1.1nm,0.8s,baz=111,slow=1.7,SNR=5.6							

*IDC **12** 04:07:28.2±5.6, 20.°65S×178.°35W, h539km±62km, mb3.3/6, mb1 3.6/7, mb1mx3.2/32, mbtmp4.2/7, Error ellipse: s-maj=31.6km s-min=22.7km az=43.0*
*ISCJB **12** 04:07:30.9±0.9, 20.°9S±0.°2×178.°4W±0.°2, h587km, mb3.8/6, Error ellipse: s-maj=23.4km s-min=18.4km az=147.2*

ISC 12 04:07:32.0±0.8, 20.°8S±0.°2×178.°4W±0.°2, h587km, n11, σ1§30/13, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.85**	**192**	P	**P**	**04 11 04.4**	**-2.1**
	1.1nm,0.3s,baz=286,slow=2.8,SNR=7.2						
CTA	**Charters Tower**	**33.12**	**265**	P	**P**	**04 13 20.8**	**-0.3**
	5.0nm,0.5s,baz=100,slow=11,SNR=11						
ASAR	**Alice Springs**	**44.11**	**257**	P	**P**	**04 14 49.5**	**-0.1**
	3.6nm,0.5s,baz=89,slow=8.3,SNR=45						
ASAR				PcP	**PcP**	**04 16 22.8**	**+1.1**
	0.5nm,0.6s,baz=100,slow=4.5,SNR=5.4						
ASAR				S	**S**	**04 20 42.4**	**+1.4**
	0.4nm,0.7s,baz=93,slow=17,SNR=5.0						
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**04 14 49.6**	**-0.9**
	1.9nm,0.3s,baz=96,slow=7.5,SNR=69						
VNDA	**Vanda**	**57.60**	**185**	P	**P**	**04 16 27.8**	**+1.6**
	0.9nm,0.8s,baz=358,slow=5.0,SNR=3.1						
ILAR	**Eielson Array**	**88.67**	**13**	P	**P**	**04 19 22.6**	**-0.4**
	1.8nm,1.1s,baz=216,slow=5.1,SNR=12						
PDAR	**Pinedale Array**	**89.41**	**43**	P	**P**	**04 19 28.1**	**+0.8**
	0.3nm,0.6s,baz=243,slow=4.0,SNR=2.9						
ARCES	**ARCESS Array B**	**129.14**	**349**	PKP	**PKPdf**	**04 25 34.0**	**+0.5**
	4.4nm,1.0s,baz=294,slow=0.9,SNR=3.8						
AKASG	**Malin Array Be**	**143.09**	**331**	PKP	**PKPdf**	**04 25 57.5**	**-2.1**
	3.1nm,0.4s,baz=42,slow=4.2,SNR=27						
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	**PKPbc**	**04 26 09.1**	**-0.3**
	1.0nm,0.6s,baz=136,slow=5.2,SNR=6.4						
GERES	**GERESS Array B**	**150.38**	**344**	PKPbc	**PKPbc**	**04 26 18.4**	**+0.5**
	0.5nm,0.6s,baz=20,slow=1.6,SNR=4.5						

IDC 12 04:22:06.1±1.2, 7.°18N×77.°56W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/23, mbtmp3.5/3, ML2.2/1, Error ellipse: s-maj=58.5km s-min=26.6km az=51.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.95**	**126**	Pn	Pn	04 23 08.7	+0.1
	3.0nm,0.3s,baz=288,slow=20,SNR=9.2						
ROSC				Sn	Sn	04 23 56.9	+0.8
	1.9nm,0.3s,baz=286,slow=18,SNR=3.9						
YKA	**Yellowknife Ar**	**61.47**	**341**	P	P	04 32 24.1	-0.2
	0.5nm,0.7s,baz=132,slow=7.0,SNR=20						
ILAR	**Eielson Array**	**74.79**	**335**	P	P	04 33 48.4	+0.4
	0.3nm,0.7s,baz=112,slow=6.2,SNR=5.0						
ASAR	**Alice Springs**	**145.65**	**238**	PKPbc	PKPdf	04 41 47.4	-0.2
	0.3nm,0.6s,baz=104,slow=4.1,SNR=3.0						
WRA	**Warramunga Arr**	**146.57**	**244**	PKPbc	PKPdf	04 41 49.1	-0.1
	0.4nm,0.8s,baz=93,slow=3.6,SNR=5.0						

*ISCJB **12** 04:39:06.2±2.1, 24.°2S±0.°2×66.°8W±0.°3, h181km, mb3.0/2, Error ellipse: s-maj=41.1km s-min=15.0km az=151.7*
*IDC **12** 04:39:07.5±8.0, 24.°15S×66.°86W, h180km±61km, mb3.0/2, mb1 3.0/4, mb1mx2.9/20, mbtmp3.4/4, Error ellipse: s-maj=71.2km s-min=33.4km az=19.0*

ISC 12 04:39:07.0±1.5, 24.°2S±0.°1×66.°9W±0.°2, h181km, n6, σ1§08/7, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.94**	**351**	P	**Pn**	**04 41 01.5**	**+1.3**
	0.1nm,0.3s,baz=173,slow=5.6,SNR=4.6						
LPAZ				S	**Sn**	**04 42 28.2**	**-1.5**
	0.1nm,0.3s,baz=218,slow=16,SNR=4.3						
BDFB	**Brasilia**	**19.66**	**68**	P	**P**	**04 43 22.8**	**+0.4**
	0.2nm,0.3s,baz=256,slow=8.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P	**P**	**04 50 37.3**	**-0.4**
	0.1nm,0.4s,baz=250,slow=6.1,SNR=5.7						
YKA	**Yellowknife Ar**	**94.33**	**340**	P	**P**	**04 52 05.6**	**+0.2**
	0.1nm,0.4s,baz=136,slow=4.8,SNR=4.9						
WRA	**Warramunga Arr**	**131.51**	**207**	PKP	**PKPdf**	**04 57 58.2**	**-0.6**
	0.6nm,1.2s,baz=150,slow=1.9,SNR=2.6						
MKAR	**Makanchi Array**	**146.60**	**40**	PKPbc	**PKPab**	**04 58 28.3**	**-0.3**
	0.3nm,0.6s,baz=315,slow=4.0,SNR=3.0						

*IDC **12** 04:43:53.7±2.8, 37.°72S×74.°89W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.5/17, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=133.5km s-min=27.9km az=46.0*
*ISCJB **12** 04:43:56.7±1.4, 37.°86S±0.°07×75.°2W±0.°1, h33km, mb3.4/2, Error ellipse: s-maj=13.5km s-min=10.7km az=5.5*
*GUC **12** 04:43:59.5±0.3, 37.°56S×75.°13W, h31km±3km, ML3.5*

ISC 12 04:43:58.2±1.6, 37.°90S±0.°08×75.°2W±0.°1, h35km, n6, σ1§64/9, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.96**	**58**	*e*S	**Sn**	**04 44 52.1**	**-0.3**
CCSP				AML	AML	04 44 58.3	
	comp=E,428nm,0.6s						
COCH	**Cobquecura**	**2.61**	**48**	*i*P	**Pn**	**04 44 37.4**	**-0.5**
COCH				*i*S	**Sn**	**04 45 07.1**	**-1.1**
LNCH	**Linares**	**3.53**	**56**	*i*P	**Pn**	**04 44 51.0**	**+0.4**
LNCH				*i*S	**Sn**	**04 45 32.1**	**+1.0**
PLCA	**Paso Flores**	**4.58**	**130**	Pn	**Pn**	**04 45 03.0**	**-2.1**
	comp=E,0.4nm,0.3s,baz=306,slow=10,SNR=14						
PLCA				Sn	**Sn**	**04 45 59.9**	**+2.8**
	comp=E,1.7nm,0.3s,baz=22,slow=18,SNR=5.1						
TXAR	**Lajitas Array**	**71.99**	**334**	P	**P**	**04 55 19.2**	**+0.9**
	comp=E,0.1nm,0.6s,baz=153,slow=6.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**87.90**	**72**	P	**P**	**04 56 44.0**	**-0.5**
	comp=E,0.6nm,1.0s,baz=245,slow=6.2,SNR=2.8						

*CSEM **12** 04:47:49.6±0.1, 36.°64N×24.°24E, h15km, MD3.5, Error ellipse: s-maj=3.6km s-min=2.9km az=56.0*
*ISCJB **12** 04:47:50.8±0.6, 36.°63N±0.°03×24.°24E±0.°03, h63km±17km, Error ellipse: s-maj=5.3km s-min=4.0km az=39.5*
*ATH **12** 04:47:50.3, 36.°62N×24.°21E, h39km±8km, MD3.5/25*
*THE **12** 04:47:51.7, 36.°62N×24.°23E, h47km±13km, ML2.8/6, Error ellipse: s-maj=13.0km s-min=1.2km az=201.0*

ISC 12 04:47:51.6±1.3, 36.°62N±0.°03×24.°24E±0.°03, h57km±24km, n72, σ0§78/100, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.02**	**251**	P	**Pn**	**04 48 09.8**	**-0.1**
KYTH	**Kithira**	**1.02**	**251**	*e*PN	**Pn**	**04 48 10.3**	**+0.4**
KYTH	**Kithira**	**1.02**	**251**	P	**Pn**	**04 48 09.8**	**-0.1**
KYTH	**Kithira**	**1.02**	**251**	*e*Pn	**Pn**	**04 48 10.3**	**+0.4**
VLI	**Veliai**	**1.05**	**276**	P	**Pn**	**04 48 10.2**	**+0.1**
VLI				S	**Sn**	**04 48 22.7**	**-1.2**
VLI	**Veliai**	**1.05**	**276**	*e*PN	**Pn**	**04 48 10.3**	**+0.1**
VLI	**Veliai**	**1.05**	**276**	*e*Pn	**Pn**	**04 48 10.3**	**+0.1**
VLI				S	**Sn**	**04 48 22.7**	**-1.2**
ANKY	**Antikythira Is**	**1.07**	**225**	P	**Pn**	**04 48 10.7**	**+0.3**
ANKY				S	**Sn**	**04 48 24.5**	**+0.2**
ANKY	**Antikythira Is**	**1.07**	**225**	*e*PN	**Pn**	**04 48 10.9**	**+0.5**
ANKY	**Antikythira Is**	**1.07**	**225**	P	**Pn**	**04 48 10.7**	**+0.3**
ANKY				S	**Sn**	**04 48 24.5**	**+0.2**
APE	**Apeiranthos**	**1.13**	**66**	P	**Pn**	**04 48 11.6**	**+0.3**
APE				S	**Sn**	**04 48 25.4**	**-0.5**
APE	**Apeiranthos**	**1.13**	**66**	*e*PN	**Pn**	**04 48 12.0**	**+0.7**
APE	**Apeiranthos**	**1.13**	**66**	P	**Pn**	**04 48 11.6**	**+0.3**
APE	**Apeiranthos**	**1.13**	**66**	*e*Pn	**Pn**	**04 48 12.0**	**+0.7**
APE				S	**Sn**	**04 48 25.4**	**-0.5**
VAM	**Vamos**	**1.21**	**181**	P	**Pn**	**04 48 11.6**	**-0.8**
VAM				S	**Sn**	**04 48 27.2**	**-0.6**
VAM	**Vamos**	**1.21**	**181**	*e*PN	**Pn**	**04 48 11.1**	**-1.2**
VAM	**Vamos**	**1.21**	**181**	*e*Pn	**Pn**	**04 48 11.1**	**-1.2**
VAM	**Vamos**	**1.21**	**181**	P	**Pn**	**04 48 11.6**	**-0.8**
VAM				S	**Sn**	**04 48 27.2**	**-0.6**
KARN	**Karanos**	**1.24**	**192**	*e*PN	**Pn**	**04 48 13.3**	**+0.5**
KARN				*e*SN	**Sn**	**04 48 30.1**	**+1.5**
KARN	**Karanos**	**1.24**	**192**	*e*Pn	**Pn**	**04 48 13.3**	**+0.5**
KARN				*e*Sn	**Sn**	**04 48 30.1**	**+1.5**
NAIG	**Nisos Aigina**	**1.28**	**332**	*e*PN	**Pn**	**04 48 13.4**	**+0.1**
NAIG	**Nisos Aigina**	**1.28**	**332**	*e*Pn	**Pn**	**04 48 13.4**	**+0.1**
ATHU	**Athens Univers**	**1.39**	**345**	P	**Pn**	**04 48 14.7**	**0.0**
ATHU				S	**Sn**	**04 48 32.1**	**0.0**
ATHU	**Athens Univers**	**1.39**	**345**	P	**Pn**	**04 48 14.7**	**0.0**
ATHU				S	**Sn**	**04 48 32.1**	**0.0**
PTL	**Penteli**	**1.46**	**348**	*e*PB	**Pn**	**04 48 15.6**	**0.0**
PTL	**Penteli**	**1.46**	**348**	*e*Pb	**Pn**	**04 48 15.6**	**0.0**
VLX	**Vlachokerasia**	**1.66**	**297**	P	**Pn**	**04 48 18.0**	**-0.5**
VLX				S	**Sn**	**04 48 39.2**	**+0.3**
VLX	**Vlachokerasia**	**1.66**	**297**	*e*PN	**Pn**	**04 48 18.0**	**-0.5**
VLX	**Vlachokerasia**	**1.66**	**297**	P	**Pn**	**04 48 18.0**	**-0.5**
VLX				S	**Sn**	**04 48 39.2**	**+0.3**
LTK	**Loutraki**	**1.73**	**325**	P	**Pn**	**04 48 18.9**	**-0.4**
LTK	**Loutraki**	**1.73**	**325**	*e*PN	**Pn**	**04 48 18.6**	**-0.7**
LTK	**Loutraki**	**1.73**	**325**	*e*Pn	**Pn**	**04 48 18.6**	**-0.7**
LTK	**Loutraki**	**1.73**	**325**	P	**Pn**	**04 48 18.9**	**-0.4**
NPS	**Neapolis**	**1.76**	**140**	P	**Pn**	**04 48 18.7**	**-1.0**
NPS	**Neapolis**	**1.76**	**140**	*e*PN	**Pn**	**04 48 18.5**	**-1.2**
NPS				*e*SN	**Sn**	**04 48 41.2**	**+0.2**
NPS	**Neapolis**	**1.76**	**140**	P	**Pn**	**04 48 18.7**	**-1.0**
NPS				*e*Sn	**Sn**	**04 48 41.2**	**+0.2**
LAST	**Lasithi**	**1.77**	**145**	*e*PN	**Pn**	**04 48 19.5**	**-0.5**
LAST				*e*SN	**Sn**	**04 48 41.7**	**+0.2**
LAST	**Lasithi**	**1.77**	**145**	*e*Pn	**Pn**	**04 48 19.5**	**-0.5**
LAST				*e*Sn	**Sn**	**04 48 41.7**	**+0.2**
ITM	**Ithomi**	**1.93**	**287**	P	**Pn**	**04 48 22.3**	**+0.2**
ITM	**Ithomi**	**1.93**	**287**	*e*PN	**Pn**	**04 48 22.1**	**0.0**
ITM				*e*SN	**Sn**	**04 48 46.2**	**+0.9**
ITM	**Ithomi**	**1.93**	**287**	*e*Pn	**Pn**	**04 48 22.1**	**0.0**
ITM				*e*Sn	**Sn**	**04 48 46.2**	**+0.9**
GUR	**Goura**	**2.00**	**312**	P	**Pn**	**04 48 22.1**	**-1.0**
GUR				S	**Sn**	**04 48 45.9**	**-1.2**
GUR	**Goura**	**2.00**	**312**	*e*PN	**Pn**	**04 48 22.0**	**-1.0**
GUR	**Goura**	**2.00**	**312**	P	**Pn**	**04 48 22.1**	**-1.0**
GUR				S	**Sn**	**04 48 45.9**	**-1.2**
PYL	**PYLOS**	**2.02**	**279**	P	**Pn**	**04 48 23.9**	**+0.6**
PYL	**PYLOS**	**2.02**	**279**	*e*PN	**Pn**	**04 48 22.0**	**-1.3**
PYL	**PYLOS**	**2.02**	**279**	*e*Pn	**Pn**	**04 48 22.0**	**-1.3**
PYL	**PYLOS**	**2.02**	**279**	P	**Pn**	**04 48 23.9**	**+0.6**
MRKA	**Markates**	**2.14**	**346**	*e*PN	**Pn**	**04 48 24.2**	**-0.8**
MRKA	**Markates**	**2.14**	**346**	*e*Pn	**Pn**	**04 48 24.2**	**-0.8**
KLV	**Kalavryta, Ach**	**2.19**	**311**	*e*PN	**Pn**	**04 48 24.2**	**-1.4**
KLV	**Kalavryta, Ach**	**2.19**	**311**	*e*Pn	**Pn**	**04 48 24.2**	**-1.4**
AMT	**Artemida-Makis**	**2.22**	**295**	*e*PN	**Pn**	**04 48 26.2**	**+0.2**
AMT	**Artemida-Makis**	**2.22**	**295**	*e*Pn	**Pn**	**04 48 26.2**	**+0.2**
LKR	**Lokris**	**2.25**	**335**	P	**Pn**	**04 48 25.7**	**-0.7**
LKR	**Lokris**	**2.25**	**335**	P	**Pn**	**04 48 25.7**	**-0.7**
SMG	**Samos**	**2.34**	**62**	P	**Pn**	**04 48 27.3**	**-0.4**
SMG				S	**Sn**	**04 48 57.0**	**+1.7**
SMG	**Samos**	**2.34**	**62**	P	**Pn**	**04 48 27.3**	**-0.4**
SMG				S	**Sn**	**04 48 57.0**	**+1.7**
DRO	**Drossia**	**2.41**	**304**	*e*PN	**Pn**	**04 48 29.4**	**+0.8**
DRO				*e*SN	**Sn**	**04 48 58.3**	**+1.3**
DRO	**Drossia**	**2.41**	**304**	*e*Pn	**Pn**	**04 48 29.4**	**+0.8**
DRO				*e*Sn	**Sn**	**04 48 58.3**	**+1.3**
KALE	**Kalithea**	**2.43**	**317**	*e*PN	**Pn**	**04 48 27.4**	**-1.5**
KALE				*e*SN	**Sn**	**04 48 57.5**	**0.0**
KALE	**Kalithea**	**2.43**	**317**	*e*Pn	**Pn**	**04 48 27.4**	**-1.5**
KALE				*e*Sn	**Sn**	**04 48 57.5**	**0.0**
AXAR	**Agios Charalam**	**2.48**	**330**	*e*PN	**Pn**	**04 48 29.0**	**-0.6**
AXAR	**Agios Charalam**	**2.48**	**330**	*e*Pn	**Pn**	**04 48 29.0**	**-0.6**
RLS	**Riolos of Patr**	**2.63**	**304**	*e*PN	**Pn**	**04 48 32.3**	**+0.7**
RLS	**Riolos of Patr**	**2.63**	**304**	*e*Pn	**Pn**	**04 48 32.3**	**+0.7**
AGG	**Agios Georgios**	**2.83**	**328**	*e*PN	**Pn**	**04 48 33.9**	**-0.5**
AGG	**Agios Georgios**	**2.83**	**328**	*e*Pn	**Pn**	**04 48 33.9**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.91**	**326**	*e*PN	**Pn**	**04 48 35.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**2.91**	**326**	*e*Pn	**Pn**	**04 48 35.2**	**-0.3**
EVR	**Evrytania**	**2.99**	**321**	*e*PN	**Pn**	**04 48 37.5**	**+0.9**
EVR	**Evrytania**	**2.99**	**321**	*e*Pn	**Pn**	**04 48 37.5**	**+0.9**

*IDC **12** 05:08:05.8±5.3, 20.°65S×178.°52W, h524km±57km, mb3.1/6, mb1 3.4/7, mb1mx3.2/23, mbtmp4.0/7, Error ellipse: s-maj=26.9km s-min=22.4km az=34.0*
*ISCJB **12** 05:08:09.8±0.8, 20.°9S±0.°2×178.°6W±0.°2, h587km, mb3.5/6, Error ellipse: s-maj=24.4km s-min=16.3km az=142.8*

ISC 12 05:08:11.1±0.7, 20.°8S±0.°2×178.°5W±0.°2, h587km, n16, σ1§10/16, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.78**	**191**	P	**P**	**05 11 42.7**	**-2.5**
	1.0nm,0.3s,baz=256,slow=4.2,SNR=7.1						
ASAR	**Alice Springs**	**43.96**	**257**	P	**P**	**05 15 27.3**	**-0.3**
	1.6nm,0.5s,baz=92,slow=8.1,SNR=25						
ASAR				PcP	**PcP**	**05 17 01.1**	**+0.7**
	0.1nm,0.3s,baz=103,slow=3.9,SNR=4.6						
ASAR				S	**S**	**05 21 19.2**	**+1.4**
	0.5nm,0.7s,baz=90,slow=15,SNR=5.9						
WRA	**Warramunga Arr**	**44.06**	**262**	P	**P**	**05 15 27.4**	**-1.1**
	1.0nm,0.3s,baz=96,slow=7.7,SNR=84						
VNDA	**Vanda**	**57.55**	**185**	P	**P**	**05 17 06.6**	**+1.5**
	0.4nm,0.5s,baz=3.7,slow=5.5,SNR=4.8						
TXAR	**Lajitas Array**	**87.65**	**58**	P	**P**	**05 19 59.2**	**+0.8**
	0.5nm,0.8s,baz=210,slow=7.2,SNR=5.6						
ILAR	**Eielson Array**	**88.74**	**13**	P	**P**	**05 20 01.6**	**-0.9**
	0.6nm,0.7s,baz=220,slow=5.7,SNR=7.9						
PDAR	**Pinedale Array**	**89.54**	**43**	P	**P**	**05 20 07.0**	**0.0**
	0.9nm,0.6s,baz=221,slow=4.1,SNR=8.3						
BVAR	**Borovoye Array**	**119.00**	**320**	PKP	**PKPdf**	**05 25 52.6**	**-1.1**
	0.8nm,0.4s,baz=115,slow=2.4,SNR=4.0						
ARCES	**ARCESS Array B**	**129.14**	**349**	PKP	**PKPdf**	**05 26 12.6**	**0.0**
	1.5nm,0.7s,baz=310,slow=3.2,SNR=4.5						
FINES	**FINESS Array B**	**135.93**	**343**	PKP	**PKPdf**	**05 26 26.4**	**+0.9**
	0.5nm,0.7s,baz=113,slow=3.2,SNR=3.4						
HFS	**Hagfors**	**139.77**	**351**	PKhKP	PKPpre	05 26 24.5	
	1.5nm,0.8s,baz=353,slow=3.5,SNR=5.9						
AKASG	**Malin Array Be**	**143.04**	**330**	PKhKP	PKPpre	05 26 36.0	
	1.9nm,0.4s,baz=42,slow=4.2,SNR=22						
BRTR	**Keskin Array B**	**146.68**	**312**	PKPbc	**PKPbc**	**05 26 48.2**	**0.0**
	0.3nm,0.4s,baz=107,slow=2.6,SNR=4.5						
MLR	**Muntele Rosu**	**148.21**	**326**	PKPbc	**PKPbc**	**05 26 52.1**	**+0.1**
	0.2nm,0.4s,baz=97,slow=8.1,SNR=4.1						
GERES	**GERESS Array B**	**150.37**	**344**	PKPbc	**PKPbc**	**05 26 57.1**	**+0.1**
	0.5nm,0.5s,baz=38,slow=2.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**172.37**	**182**	PKPab	**PKPab**	**05 28 43.0**	**+0.3**
	0.3nm,0.8s,baz=140,slow=1.9,SNR=2.9						

IDC 12 05:21:33.3±2.6, 54.°08N×86.°42E, h0km, mb1 2.9/2, mb1mx2.8/49, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=20.7km s-min=12.5km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**263**	*i*		05 28 30.0	
	baz=83,slow=329,SNR=0.5						
ZALV	**Zalesovo Beam**	**0.95**	**263**	Pg	Pg	05 21 51.0	-0.6
	0.6nm,0.3s,baz=81,slow=18,SNR=12						
ZALV				Lg	Lg	05 22 04.4	
	0.7nm,0.3s,baz=79,slow=30,SNR=5.1						
ZALV				Rg	Rg	05 22 11.4	
	3.7nm,0.5s,baz=81,slow=26,SNR=25						
KURBB	**Kurchatov Arra**	**5.94**	**238**	Pn	Pn	05 23 03.8	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=7.5						
KURBB				Lg	Lg	05 24 43.1	
	0.1nm,0.3s,baz=57,slow=36,SNR=3.3						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	05 23 28.0	+0.6
	0.1nm,0.3s,baz=23,slow=12,SNR=4.6						
MKAR				Lg	Lg	05 25 38.5	
	0.1nm,0.3s,baz=22,slow=25,SNR=3.2						

*IDC **12** 05:29:46.2±0.9, 8.°93S×158.°13E, h0km, mb4.4/14, mb1 4.5/16, mb1mx4.3/33, mbtmp4.3/16, ML3.5/2, MS3.7/15, Ms1 3.7/15, ms1mx3.5/33, Error ellipse: s-maj=32.3km s-min=18.6km az=143.0*
*ISCJB **12** 05:29:49.0±0.3, 8.°81S±0.°05×157.°93E±0.°04, h23km, mb4.5/27, MS3.6/13, Error ellipse: s-maj=7.2km s-min=6.2km az=156.2*
*NEIC **12** 05:29:52.0±0.4, 8.°84S×157.°96E, h35km, mb4.6/14, Error ellipse: s-maj=13.3km s-min=7.0km az=132.0*
*BJI **12** 05:29:52.4, 8.°80S×157.°80E, h35km, mB5.0/13, mb4.6/20, Ms4.8/4, Ms7 4.3/8*

ISC 12 05:29:50.4±0.4, 8.°96S±0.°07×158.°10E±0.°06, h23km, n78, σ1§86/79, mb4.5/27, MS3.7/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.88**	**105**	*i*P	**Pn**	**05 30 19.4**	**-1.8**
HNR				*i*S	**Sb**	**05 30 48.4**	**+1.2**
PMG	**Port Moresby**	**

PETK	**Petropavlovsk-** comp=Z,40nm,19.2s,baz=149,slow=35	**61.82**	**360**	LR	LR	06 05 45.4			
KMI	**Kunming**	**63.66**	**304**	P	**P**	**05 40 19.3**	**-1.2**		
KMI	11nm,0.7s			PMZ					
KMI	51nm,17.2s			LZ					
CMAR	**Chiang Mai Arr** 1.1nm,0.7s,baz=125,slow=4.8,SNR=6.4	**64.40**	**295**	P	**P**	**05 40 26.4**	**+1.2**		
CMAR	comp=Z,19nm,20.5s,baz=150,slow=35			LR	LR	06 06 57.0			
CD2	**Chengdu**	**65.42**	**310**	*e*P	**P**	**05 40 32.0**	**+0.3**		
CD2				pP	**pP**	**05 40 42.5**	**+3.4**		
CD2				sP	**sP**	**05 40 46.7**	**+4.9**		
CD2				PP	**PP**	**05 42 58.3**	**+2.3**		
CD2				PcS		05 45 07.5			
CD2				S	**S**	**05 49 12.2**	**-3.0**		
CD2				sS	**sS**	**05 49 29.1**	**+1.8**		
CD2				SS	**SS**	**05 53 26.9**	**-2.2**		
CD2	10.0nm,0.5s			PMZ					
CD2	120nm,5.4s			PMZ					
HHC	**Hu-ho-hao-te**	**65.50**	**323**	*e*P	**P**	**05 40 33.5**	**+1.4**		
HHC				PP	**PP**	**05 42 59.6**	**+3.1**		
HHC				S	**S**	**05 49 13.9**	**-2.0**		
HHC				sS	**sS**	**05 49 30.9**	**+2.9**		
HHC				SS	**SS**	**05 53 29.0**	**-1.0**		
HHC	15nm,0.8s			PMZ					
HHC	95nm,8.7s			PMZ					
HHC	150nm,19.9s			LN					
HHC	460nm,19.9s			LE					
HHC	60nm,19.7s			LZ					
VNDA	**Vanda** comp=Z,105nm,18.1s,baz=310,slow=32	**68.56**	**179**	LR	LR	06 06 55.8			
GTA	**Gaotai**	**72.27**	**316**	*e*P	P	05 41 19.7	+5.4		
GTA				pP	**PcP**	**05 41 30.0**	**-2.4**		
GTA				sP	sP	05 41 34.0	+10		
GTA	2.0nm,1.1s			PMZ					
ULN	**Ulaanbaatar** 3.1nm,0.9s	**72.31**	**327**	*e*P	**P**	**05 41 11.5**	**-2.9**		
SONM	**Songino Array** 2.6nm,0.8s,baz=138,slow=5.7,SNR=20	**72.65**	**326**	P	**P**	**05 41 16.9**	**+0.5**		
TLY	**Talaya** 0.6nm,0.3s,baz=144,slow=5.0,SNR=3.4	**76.32**	**329**	P	**P**	**05 41 37.0**	**-0.5**		
TLY	comp=Z,31nm,18.4s,baz=141,slow=36			LR	LR	06 15 14.1			
BILL	**Bilibino** 5.9nm,1.0s	**77.03**	**3**	*e*P	**P**	**05 41 40.4**	**-0.7**		
QSPA	**South Pole Qui** 1.1nm,0.6s	**81.03**	**180**	*e*P	**P**	**05 42 03.4**	**0.0**		
WMQ	**Urumqi**	**82.35**	**317**	*e*P	**P**	**05 42 11.0**	**+0.3**		
WMQ				pP	**pP**	**05 42 21.5**	**+3.3**		
WMQ				sP	**sP**	**05 42 25.5**	**+4.6**		
WMQ	7.0nm,0.6s			PMZ					
WMQ	120nm,4.2s			PMZ					
WMQ	160nm,21.5s			LZ					
MCK	**McKinley** 12nm,1.0s	**82.75**	**21**	*e*P	**P**	**05 42 11.6**	**-0.7**		
COLA	**College** 8.2nm,1.2s	**83.81**	**20**	*e*P	**P**	**05 42 16.1**	**-1.5**		
ILAR	**Eielson Array** 1.0nm,0.7s,baz=250,slow=5.2,SNR=14	**84.09**	**21**	P	**P**	**05 42 17.3**	**-1.8**		
EGAK	**Eagle** 28nm,1.9s	**86.15**	**22**	*e*P	**P**	**05 42 29.4**	**0.0**		
MK31	**Makanchi Array**	**86.91**	**318**	*e*P	**P**	**05 42 32.7**	**-0.8**		
MKAR	**Makanchi Array** 2.3nm,0.6s,baz=96,slow=6.2,SNR=33	**86.91**	**318**	P	**P**	**05 42 32.8**	**-0.8**		
ZALV	**Zalesovo Beam** 1.2nm,0.5s,baz=118,slow=6.8,SNR=5.8	**87.52**	**325**	P	**P**	**05 42 34.3**	**-2.0**		
KSH	**Kashi**	**89.62**	**310**	*e*P	**P**	**05 42 46.6**	**-0.2**		
KSH				pP	**pP**	**05 42 56.9**	**+2.6**		
KSH				PP	**PP**	**05 46 20.3**	**+1.5**		
KSH				SKS	**SKSac**	**05 53 12.1**	**-4.1**		
KSH				S	**SKKSac**	**05 53 31.8**	**+3.0**		
KSH				sS	**sS**	**05 53 49.8**	**+0.3**		
KSH	90nm,4.5s			PMZ					
KSH	130nm,5.1s			LN					
KSH	73nm,5.5s			LE					
KSH	160nm,5.8s			LZ					
KURK	**Kurchatov** 1.6nm,0.3s	**90.27**	**321**	*e*P	**P**	**05 42 48.0**	**-1.3**		
KURBB	**Kurchatov Arra** 0.5nm,0.3s,baz=84,slow=4.7,SNR=3.0	**90.31**	**321**	P	**P**	**05 42 47.8**	**-1.7**		
INK	**Inuvik** 0.5nm,0.5s,baz=244,slow=5.2,SNR=3.8	**90.47**	**20**	P	**P**	**05 42 49.6**	**-0.2**		
NVAR	**Mina Array Bea** 6.0nm,0.8s,baz=244,slow=7.3,SNR=14	**90.53**	**51**	P	**P**	**05 42 51.9**	**+0.8**		
TPH	**Tonopah** 6.4nm,0.8s	**91.30**	**52**	*e*P	**P**	**05 42 55.4**	**+0.7**		
R11A	**Troy Canyon, C** 6.3nm,1.2s	**92.62**	**52**	*e*P	**P**	**05 43 01.9**	**+1.2**		
HLID	**Hailey** 4.0nm,1.3s	**94.29**	**47**	*e*P	**P**	**05 43 09.3**	**+1.0**		
BVAR	**Borovoye Array** 0.9nm,0.6s,baz=174,slow=4.5,SNR=4.7	**95.71**	**323**	P	**P**	**05 43 12.0**	**-2.4**		
YKA	**Yellowknife Ar** 1.2nm,1.1s,baz=260,slow=4.6,SNR=10	**96.62**	**28**	P	**P**	**05 43 17.2**	**-1.1**		
PDAR	**Pinedale Array** 0.8nm,0.7s,baz=242,slow=3.2,SNR=7.6	**97.72**	**48**	P	**P**	**05 43 23.6**	**-0.5**		
KECS	**Kecovo**	**126.94**	**326**	PDIF	**Pdif**	**05 45 29.6**	**-4.0**		
LPAZ	**La Paz** 0.7nm,0.7s,baz=252,slow=9.6,SNR=3.8	**127.82**	**119**	PKP	**PKPdf**	**05 48 56.1**	**+0.1**		
BDFB	**Brasilia** 5.7nm,0.8s,baz=210,slow=4.8,SNR=9.7	**144.41**	**133**	PKP	**PKPab**	**05 49 23.9**	**-0.2**		

ATH ***12*** *05:30:58.4, 38.41N×22.00E, h11km±2km, MD2.9/14*
ISCJB ***12*** *05:30:58.1±0.3, 38.41N±0.02×22.00E±0.02, h8km±2km, mb3.3/2, MS3.6/1, Error ellipse: s-maj=2.8km s-min=2.5km az=41.8*
THE ***12*** *05:30:58.6, 38.42N×22.00E, h1km±1km, ML3.5/8, Error ellipse: s-maj=1.5km s-min=0.4km az=228.0*
CSEM ***12*** *05:30:58.3±0.1, 38.41N×22.01E, h6km±1km, MD2.9, Error ellipse: s-maj=2.2km s-min=1.8km az=123.0*
IASPEI ***12*** *05:30:58.3±0.8, 38.41N±0.02×22.00E±0.02, h10km±4km, Error ellipse: s-maj=2.3km s-min=2.2km az=141.6*
IDC ***12*** *05:30:59.1±1.6, 37.35N×22.98E, h0km, mb3.4/2, mb1 3.3/4, mb1mx3.1/41, mbtmp3.2/4, ML3.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.2/29, Error ellipse: s-maj=54.0km s-min=24.1km az=132.0*

ISC 12 05:30:58.5±0.7, 38.41N±0.01×22.00E±0.02, h10km±4km, n89, σ0.955/127, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.08**	**281**	P	**Pg**	**05 31 00.4**	**-0.4**
EFP				S	**Sg**	**05 31 01.8**	**-0.6**
EFP	**Efpalio**	**0.08**	**281**	*e*Pg	**Pg**	**05 31 00.4**	**-0.4**
EFP				*e*Sg	**Sg**	**05 31 01.9**	**-0.5**
EFP	**Efpalio**	**0.08**	**281**	P	**Pg**	**05 31 00.4**	**-0.4**
EFP				*e*Sg	**Sg**	**05 31 01.9**	**-0.5**
KALE	**Kalithea**	**0.11**	**101**	P	**Pg**	**05 31 01.6**	**+0.3**
KALE				S	**Sg**	**05 31 03.2**	**-0.1**
KALE	**Kalithea**	**0.11**	**101**	*e*PG	**Pg**	**05 31 01.6**	**+0.3**
KALE				*e*SG	**Sg**	**05 31 04.4**	**+1.1**
KALE	**Kalithea**	**0.11**	**101**	P	**Pg**	**05 31 01.6**	**+0.3**
KALE				S	**Sg**	**05 31 03.6**	**+0.3**
UPR	**University Cam**	**0.21**	**233**	P	**Pg**	**05 31 03.2**	**+0.3**
UPR	**University Cam**	**0.21**	**233**	P	**Pg**	**05 31 03.2**	**+0.3**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**05 31 06.0**	**-0.1**
KLV				S	**Sg**	**05 31 11.9**	**+0.7**
KLV	**Kalavryta, Ach**	**0.39**	**162**	*e*PB	**Pg**	**05 31 06.0**	**-0.1**
KLV				*e*SG	**Sb**	**05 31 12.4**	**-1.1**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**05 31 06.0**	**-0.1**
KLV				S	**Sg**	**05 31 11.9**	**+0.7**
KLV				*e*Sg	**Sb**	**05 31 12.4**	**-1.1**
PVO	**Paravola**	**0.42**	**299**	P	**Pg**	**05 31 06.6**	**-0.2**
PVO	**Paravola**	**0.42**	**299**	P	**Pg**	**05 31 06.6**	**-0.2**
DRO	**Drossia**	**0.51**	**207**	P	**Pg**	**05 31 08.4**	**-0.1**
DRO	**Drossia**	**0.51**	**207**	*e*PB	**Pg**	**05 31 08.4**	**-0.1**
DRO	**Drossia**	**0.51**	**207**	P	**Pg**	**05 31 08.4**	**-0.1**
DRO				S	**Sg**	**05 31 15.4**	**+0.2**
EVR	**Evrytania**	**0.53**	**343**	P	**Pg**	**05 31 08.4**	**-0.3**
EVR				S	**Sg**	**05 31 15.8**	**+0.1**
EVR	**Evrytania**	**0.53**	**343**	*e*PG	**Pg**	**05 31 08.4**	**-0.3**
EVR				*e*SB	**Sg**	**05 31 16.4**	**+0.7**
EVR	**Evrytania**	**0.53**	**343**	P	**Pg**	**05 31 08.4**	**-0.3**
EVR				S	**Sg**	**05 31 15.9**	**+0.2**
EVR				*e*Sb	**Sg**	**05 31 16.4**	**+0.7**
GUR	**Goura**	**0.55**	**150**	P	**Pg**	**05 31 08.9**	**-0.2**
GUR	**Goura**	**0.55**	**150**	*e*PB	**Pg**	**05 31 08.8**	**-0.3**
GUR	**Goura**	**0.55**	**150**	P	**Pg**	**05 31 08.9**	**-0.2**
GUR				S	**Sg**	**05 31 17.1**	**+0.8**
RLS	**Riolos of Patr**	**0.55**	**230**	P	**Pg**	**05 31 09.4**	**+0.2**
RLS				S	**Sg**	**05 31 17.3**	**+0.9**
RLS	**Riolos of Patr**	**0.55**	**230**	*e*PB	**Pg**	**05 31 09.2**	**0.0**
RLS				*e*SB	**Sg**	**05 31 17.4**	**+1.0**
RLS	**Riolos of Patr**	**0.55**	**230**	P	**Pg**	**05 31 09.4**	**+0.2**
RLS				S	**Sg**	**05 31 17.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**0.61**	**10**	P	**Pg**	**05 31 10.2**	**-0.1**
MAKR				S	**Sg**	**05 31 18.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**0.61**	**10**	*e*PB	**Pg**	**05 31 10.1**	**-0.2**
MAKR				*e*SB	**Sb**	**05 31 19.6**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.61**	**10**	*e*Pb	**Pg**	**05 31 10.1**	**-0.2**
MAKR				S	**Sg**	**05 31 18.7**	**+0.4**
MAKR				*e*Sb	**Sb**	**05 31 19.6**	**-0.3**
AXAR	**Agios Charalam**	**0.62**	**55**	P	**Pg**	**05 31 10.3**	**-0.3**
AXAR				S	**Sb**	**05 31 19.6**	**-0.7**
AXAR	**Agios Charalam**	**0.62**	**55**	*e*PG	**Pg**	**05 31 10.2**	**-0.3**
AXAR				*e*SG	**Sb**	**05 31 20.4**	**+0.1**
AXAR	**Agios Charalam**	**0.62**	**55**	*e*Pg	**Pg**	**05 31 10.2**	**-0.3**
AXAR				S	**Sb**	**05 31 19.6**	**-0.7**
AXAR				*e*Sg	**Sb**	**05 31 20.4**	**+0.1**
AGG	**Agios Georgios**	**0.66**	**23**	P	**Pg**	**05 31 10.6**	**-0.7**
AGG	**Agios Georgios**	**0.66**	**23**	*e*PB	**Pg**	**05 31 10.5**	**-0.7**
AGG	**Agios Georgios**	**0.66**	**23**	P	**Pg**	**05 31 10.6**	**-0.7**
PDO	**Prodromos**	**0.67**	**286**	P	**Pg**	**05 31 11.6**	**+0.2**
PDO				S	**Sg**	**05 31 20.9**	**+0.7**
PDO	**Prodromos**	**0.67**	**286**	*e*PB	**Pg**	**05 31 11.4**	**0.0**
PDO				*e*SB	**Sb**	**05 31 21.3**	**-0.3**
PDO	**Prodromos**	**0.67**	**286**	P	**Pg**	**05 31 11.6**	**+0.2**
PDO				*e*Sb	**Sb**	**05 31 21.3**	**-0.3**
LKR	**Lokris**	**0.82**	**73**	P	**Pg**	**05 31 13.7**	**-0.5**
LKR				S	**Sb**	**05 31 26.0**	**+0.1**
LKR	**Lokris**	**0.82**	**73**	*e*PB	**Pg**	**05 31 13.3**	**-0.9**
LKR				*e*SB	**Sb**	**05 31 25.9**	**+0.1**
LKR	**Lokris**	**0.82**	**73**	*e*Pb	**Pg**	**05 31 13.3**	**-0.9**
LKR	**Lokris**	**0.82**	**73**	P	**Pg**	**05 31 13.7**	**-0.5**
LKR				*e*Sb	**Sb**	**05 31 25.9**	**+0.1**
LTK	**Loutraki**	**0.85**	**117**	P	**Pg**	**05 31 14.9**	**0.0**
LTK				S	**Sb**	**05 31 26.8**	**-0.1**
LTK	**Loutraki**	**0.85**	**117**	P	**Pg**	**05 31 14.9**	**0.0**
LTK				S	**Sb**	**05 31 26.8**	**-0.1**
AMT	**Artemida-Makis**	**0.91**	**195**	P	**Pg**	**05 31 15.8**	**-0.2**
AMT	**Artemida-Makis**	**0.91**	**195**	*e*PB	**Pg**	**05 31 15.8**	**-0.2**
AMT	**Artemida-Makis**	**0.91**	**195**	P	**Pg**	**05 31 15.8**	**-0.2**
KFL	**Anninata**	**1.00**	**253**	P	**Pg**	**05 31 17.0**	**-0.7**
KFL	**Anninata**	**1.00**	**253**	P	**Pg**	**05 31 17.0**	**-0.7**
DSL	**Palaion Diasel**	**1.01**	**316**	P	**Pg**	**05 31 18.0**	**+0.1**
DSL	**Palaion Diasel**	**1.01**	**316**	P	**Pg**	**05 31 18.0**	**+0.1**
SMIA	**Simia**	**1.05**	**63**	P	**Pg**	**05 31 18.4**	**-0.3**
SMIA	**Simia**	**1.05**	**63**	*e*PG	**Pg**	**05 31 18.2**	**-0.5**
SMIA				*e*SG	**Sn**	**05 31 33.8**	**-0.3**
SMIA	**Simia**	**1.05**	**63**	*e*Pg	**Pg**	**05 31 18.2**	**-0.5**
SMIA				*e*Sg	**Sn**	**05 31 33.8**	**-0.3**
VLX	**Vlachokerasia**	**1.08**	**164**	P	**Pg**	**05 31 18.4**	**-0.9**
VLX	**Vlachokerasia**	**1.08**	**164**	*e*PG	**Pg**	**05 31 18.3**	**-1.0**
VLX	**Vlachokerasia**	**1.08**	**164**	P	**Pg**	**05 31 18.4**	**-0.9**
VLS	**Valsamata**	**1.14**	**258**	P	**Pg**	**05 31 19.0**	**-1.3**
VLS	**Valsamata**	**1.14**	**258**	*e*PB	**Pg**	**05 31 18.8**	**-1.5**
VLS				*e*SG	**Sn**	**05 31 36.2**	**+0.1**
VLS	**Valsamata**	**1.14**	**258**	P	**Pg**	**05 31 19.0**	**-1.3**
VLS				*e*Sg	**Sn**	**05 31 36.2**	**+0.1**
THL	**Klokotos Trika**	**1.15**	**0**	P	**Pn**	**05 31 20.9**	**+0.3**
THL	**Klokotos Trika**	**1.15**	**0**	P	**Pn**	**05 31 20.9**	**+0.3**
ITM	**Ithomi**	**1.23**	**183**	P	**Pn**	**05 31 21.4**	**-0.4**
ITM	**Ithomi**	**1.23**	**183**	*e*PG	**Pn**	**05 31 21.2**	**-0.6**
ITM	**Ithomi**	**1.23**	**183**	P	**Pn**	**05 31 21.4**	**-0.4**
MRKA	**Markates**	**1.28**	**76**	P	**Pn**	**05 31 22.4**	**0.0**
MRKA	**Markates**	**1.28**	**76**	*e*PG	**Pn**	**05 31 22.2**	**-0.2**
MRKA	**Markates**	**1.28**	**76**	P	**Pn**	**05 31 22.4**	**0.0**
NEO	**Neokhori**	**1.31**	**47**	P	**Pb**	**05 31 23.2**	**+0.1**
NEO	**Neokhori**	**1.31**	**47**	*e*PG	**Pn**	**05 31 22.9**	**+0.1**
NEO	**Neokhori**	**1.31**	**47**	*e*Pg	**Pn**	**05 31 22.9**	**+0.1**
NEO	**Neokhori**	**1.31**	**47**	P	**Pb**	**05 31 23.2**	**+0.1**
SKIA	**Skiathos**	**1.37**	**56**	*e*PG	**Pn**	**05 31 23.9**	**+0.2**
SKIA				*e*SN	**Sg**	**05 31 42.8**	**+0.3**
SKIA	**Skiathos**	**1.37**	**56**	*e*Pg	**Pn**	**05 31 23.9**	**+0.2**
SKIA				*e*Sn	**Sg**	**05 31 42.8**	**+0.3**
PYL	**PYLOS**	**1.53**	**188**	P	**Pb**	**05 31 26.7**	**-0.2**
PYL	**PYLOS**	**1.53**	**188**	*e*PG	**Pn**	**05 31 26.4**	**+0.6**
PYL	**PYLOS**	**1.53**	**188**	*e*Pg	**Pn**	**05 31 26.4**	**+0.6**
PYL	**PYLOS**	**1.53**	**188**	P	**Pb**	**05 31 26.7**	**-0.2**
VLI	**Veliai**	**1.85**	**156**	P	**Pn**	**05 31 31.0**	**+0.8**
VLI	**Veliai**	**1.85**	**156**	P	**Pn**	**05 31 31.0**	**+0.8**
KYTH	**Kithira**	**2.28**	**159**	P	**Pn**	**05 31 37.0**	**+0.8**
KYTH	**Kithira**	**2.28**	**159**	P	**Pn**	**05 31 37.0**	**+0.8**
FNA	**Florina**	**2.42**	**349**	P	**Pn**	**05 31 39.5**	**+1.4**
FNA	**Florina**	**2.42**	**349**	P	**Pn**	**05 31 39.5**	**+1.4**
MLR	**Muntele Rosu** 0.1nm,0.3s,baz=203,slow=15,SNR=3.1	**7.66**	**21**	Pn	Pb	05 33 04.5	-6.9
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=256,slow=12,SNR=3.0	**9.15**	**78**	Pn	**Pn**	**05 33 10.1**	**-0.6**
GERES	**GERESS Array B** comp=Z,23nm,21.8s,baz=327,slow=40	**12.03**	**333**	LR	LR	05 39 45.5	
TORD	**Torodi Ar. Bea** 0.2nm,0.3s,baz=36,slow=9.0,SNR=5.4	**30.96**	**221**	P	**P**	**05 37 16.0**	**+0.1**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=271,slow=9.1,SNR=4.5	**44.18**	**59**	P	**P**	**05 39 07.5**	**+0.1**
SONM	**Songino Array** comp=Z,41nm,19.0s,baz=150,slow=38	**59.41**	**51**	LR	LR	06 08 50.1	

IDC 12 05:42:21.3±1.6, 3.96S×151.68E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/34, mbtmp3.5/4, Error ellipse: s-maj=124.2km s-min=24.0km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 2.0nm,0.3s,baz=45,slow=19,SNR=3.0	**7.04**	**219**	Sn	Sn	05 45 31.8	+5.3
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=52,slow=10,SNR=19	**23.20**	**225**	P	P	05 47 30.4	+0.3
ASAR	**Alice Springs** 0.1nm,0.4s,baz=49,slow=8.5,SNR=2.9	**26.05**	**220**	P	P	05 47 56.7	0.0
ILAR	**Eielson Array** 0.4nm,0.6s,baz=253,slow=5.9,SNR=6.2	**81.80**	**22**	P	P	05 54 41.5	-0.4
YKA	**Yellowknife Ar** 0.2nm,0.9s,baz=270,slow=4.8,SNR=5.0	**95.20**	**28**	P	P	05 55 46.3	-0.3
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=68,slow=2.1,SNR=5.0	**148.98**	**289**	PKPbc	PKPbc	06 02 12.3	-0.1

IGQ ***12*** *05:51:19.1±1.1, 4.88S×77.23W, h8km±156km, Mb5.2, Error ellipse: s-maj=22.8km s-min=7.4km az=12.0*
IDC ***12*** *05:51:25.0±0.5, 4.32S×77.45W, h0km, mb4.2/17, mb1 4.4/22, mb1mx4.3/37, mbtmp4.3/22, ML4.2/5, MS4.2/30, Ms1 4.2/30, ms1mx4.1/42, Error ellipse: s-maj=20.6km s-min=12.2km az=58.0*
ISCJB ***12*** *05:51:29.2±0.5, 4.49S±0.03×77.43W±0.04, h49km±3km, mb4.8/96, MS4.2/24, Error ellipse: s-maj=7.4km s-min=4.3km az=143.5*
BJI ***12*** *05:51:29.5, 4.60S×77.30W, h41km, mB5.3/13, Ms5.3/11, Ms7 4.8/13*
NEIC ***12*** *05:51:31.0±0.7, 4.42S×77.41W, h42km±6km, mb5.0/76, Error ellipse: s-maj=6.7km s-min=4.4km az=66.0*
NEIC Felt [III] at Santa Maria de Nieva and [II] at La Peca. Also felt at Bagua Grande and Barranca. Felt at Cuenca, Ecuador.

ISC 12 05:51:30.0±0.4, 4.52S±0.04×77.32W±0.06, h39km±2km, h39km:pP-P, n578, σ1.918/573, mb4.9/99, MS4.1/24, 172C-183D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**2.42**	**339**	S	**Sn**	**05 52 37.7**	**+2.0**
MACE	**Macas**	**2.42**	**339**	P	**Pn**	**05 52 04.2**	**-3.0**

ATAH	**Atahualpa** 9.2nm,0.3s,baz=31,slow=16,SNR=41	**2.80**	**202**	Pn	**Pn**	**05 52 13.3**	**+0.6**		
ATAH	167nm,0.3s,baz=356,slow=18,SNR=4.0			Lg	Lg	05 52 54.2			
ATAH	comp=Z,1μm,19.1s,baz=29,slow=46			LR	LR	05 53 39.7			
RIOE	**Riobamba**	**3.05**	**335**	⇓S	**Sn**	**05 52 56.3**	**+4.9**		
RIOE	**Riobamba**	**3.05**	**335**	⇓P	**Pn**	**05 52 15.6**	**-0.4**		
PAT1	**Patacocha**	**3.20**	**340**	P	**Pn**	**05 52 16.1**	**-2.1**		
BPAT	**Tungurahua Vol**	**3.20**	**340**	P	**Pn**	**05 52 16.1**	**-2.0**		
ARRY	**Arrayan**	**3.20**	**339**	P	**Pn**	**05 52 16.2**	**-1.9**		
BMAS	**Trigal station**	**3.22**	**339**	⇑P	**Pn**	**05 52 17.8**	**-0.5**		
ULBA	**Ulba**	**3.24**	**340**	P	**Pn**	**05 52 17.6**	**-1.1**		
RETU	**Refugio**	**3.25**	**340**	S	Sn	05 53 03.7	+7.0		
RETU	**Refugio**	**3.25**	**340**	P	**Pn**	**05 52 18.6**	**-0.3**		
BULB	**Ulba Tungurahu**	**3.25**	**340**	⇑P	**Pn**	**05 52 17.7**	**-1.1**		
BULB	**Ulba Tungurahu**	**3.25**	**340**	⇑S	Sn	05 53 04.8	+8.3		
BBIL	**Ulba Tungurahu**	**3.27**	**339**	⇓S	Sn	05 53 04.9	+8.0		
BBIL	**Ulba Tungurahu**	**3.27**	**339**	⇓P	**Pn**	**05 52 19.6**	**+0.6**		
BIL2	**Estacion Bilba**	**3.27**	**339**	P	**Pn**	**05 52 18.4**	**-0.6**		
BRUN	**Tungurahua Vol**	**3.27**	**341**	P	**Pn**	**05 52 17.3**	**-1.7**		
RUN5	**Runtun**	**3.28**	**340**	P	**Pn**	**05 52 17.1**	**-2.1**		
JUI6	**Juive**	**3.29**	**340**	P	**Pn**	**05 52 18.6**	**-0.6**		
IGUA	**Igualata**	**3.29**	**336**	P	**Pn**	**05 52 19.5**	**0.0**		
PORT	**Chimborazo Vol**	**3.37**	**335**	P	Pn	05 52 16.2	-4.4		
PISA	**Pisayambo**	**3.60**	**343**	P	**Pn**	**05 52 22.1**	**-1.7**		
TAMB	**Tambo**	**3.94**	**345**	P	**Pn**	**05 52 28.2**	**-0.3**		
MOV1	**Cotopaxi Vol s**	**3.95**	**344**	P	**Pn**	**05 52 28.1**	**-0.5**		
COV1	**Cotopaxi Volc**	**3.97**	**345**	P	**Pn**	**05 52 30.7**	**+1.8**		
BTAM	**Cotopaxi Volca**	**3.97**	**344**	P	**Pn**	**05 52 29.5**	**+0.6**		
BREF	**Cotopaxi Volca**	**3.99**	**344**	⇑P	**Pn**	**05 52 29.7**	**+0.5**		
CAMI	**Rancho Maria**	**4.00**	**343**	P	**Pn**	**05 52 29.1**	**-0.1**		
VC1	**Cotopaxi 1**	**4.00**	**344**	P	**Pn**	**05 52 28.3**	**-1.0**		
NAS2	**Nasa**	**4.02**	**343**	P	**Pn**	**05 52 30.4**	**+0.9**		
PAST	**Pastocalle**	**4.03**	**341**	P	**Pn**	**05 52 29.1**	**-0.4**		
ANTI	**Antisana**	**4.13**	**348**	P	**Pn**	**05 52 29.0**	**-2.1**		
JUA2	**San Juan 2**	**4.47**	**343**	P	Pn	05 52 42.6	+7.0		
GGP	**Refugio Guagua**	**4.50**	**344**	P	Pn	05 52 42.4	+6.2		
PINO	**Pino**	**4.52**	**343**	P	**Pn**	**05 52 36.2**	**-0.3**		
YANA	**Yana**	**4.55**	**344**	P	Pn	05 52 42.7	+5.9		
ANGU	**Angureal**	**4.59**	**351**	P	Pn	05 52 48.8	+11		
CAYA	**Cayambe**	**4.61**	**352**	P	**Pn**	**05 52 37.6**	**-0.1**		
OTAV	**Otavalo**	**4.86**	**347**	⇓P	Pn	05 52 44.2	+3.1		
OTAV	**Otavalo**	**4.86**	**347**	*e*Pn	**Pn**	**05 52 41.9**	**+0.9**		
MAG1	**Magdalena**	**5.05**	**331**	P	**Pn**	**05 52 40.2**	**-3.1**		
LITE	**Lita**	**5.40**	**349**	P	Pn	05 52 51.8	+3.7		
NNA	**Nana** 7.1nm,0.3s,baz=343,slow=11,SNR=15	**7.43**	**176**	Pn	**Pn**	**05 53 16.3**	**+0.3**		
NNA	53nm,0.3s,baz=280,slow=19,SNR=7.1			Sn	**Sn**	**05 54 38.1**	**-1.0**		
NNA	**Nana**	**7.43**	**176**	*e*Pn	**Pn**	**05 53 16.7**	**+0.8**		
NNA				Sn	**Sn**	**05 54 38.1**	**-1.0**		
NNA				*e*Sn	Sn	05 54 40.6	+1.5		
ROSC	**El Rosal** 1.7nm,0.3s,baz=133,slow=9.7,SNR=7.8	**9.79**	**18**	Pn	Pn	05 53 51.9	+3.3		
ROSC	3.7nm,0.3s,baz=76,slow=9.8,SNR=3.7			Lg	Lg	05 56 28.8			
ROSC	comp=Z,2μm,19.4s,baz=54,slow=42			LR	LR	05 58 04.2			
ROSC	**El Rosal**	**9.79**	**18**	*e*Pn	Pn	05 53 52.4	+3.8		
ROSC				Lg	Lg	05 56 28.8			
ARE	**Arequipa**	**13.17**	**155**	*e*P	Pn	05 54 39.0	+4.1		
SAML	**Samuel**	**14.71**	**108**	*e*Pn	**Pn**	**05 54 52.7**	**-2.8**		
SAML				*e*Sn	**Sn**	**05 57 40.3**	**+2.9**		
LPAZ	**La Paz** 0.2nm,0.3s,baz=310,slow=9.3,SNR=7.5	**14.77**	**143**	Pn	**Pn**	**05 54 55.1**	**-1.7**		
LPAZ	**La Paz**	**14.77**	**143**	*e*Pn	**Pn**	**05 54 55.3**	**-1.5**		
SDV	**Santo Domingo**	**14.90**	**27**	*e*Pn	**Pn**	**05 54 58.0**	**-0.2**		
SDV				*e*Sn	S	05 57 51.5	-7.6		
JTS	**JuntasAbangare** 0.2nm,0.3s,baz=179,slow=13,SNR=8.4	**16.56**	**333**	Pn	**Pn**	**05 55 18.4**	**-1.1**		
JTS	comp=Z,2μm,18.2s,baz=144,slow=35			LR	LR	06 00 51.8			
JTS	**JuntasAbangare** 80nm,1.3s	**16.56**	**333**	*e*Pn	**Pn**	**05 55 19.1**	**-0.5**		
PTGA	**Pitinga** 1.6nm,0.3s,baz=257,slow=17,SNR=12	**17.74**	**78**

	baz=39						
438A	**Sam Houston St** baz=39	39.13	335	⇑P	P	05 58 53.5	-0.4
733A	**Divot King Ran** baz=39	39.23	329	⇑P	P	05 58 54.2	-0.6
536A	**Bastrop** baz=39	39.26	332	⇓P	P	05 58 54.6	-0.4
339A	**Huntington** baz=39	39.27	336	⇓P	P	05 58 54.1	-0.9
634A	**China Grove, S** baz=39	39.30	330	⇑P	P	05 58 54.5	-0.8
535A	**Dale** baz=40	39.46	332	⇓P	P	05 58 55.9	-0.8
437A	**Phantom Ranch,** baz=40	39.49	334	⇑P	P	05 58 56.0	-0.8
338A	**Crockett** baz=40	39.59	336	⇑P	P	05 58 57.1	-0.7
732A	**Laxson Ranch,** baz=40	39.59	328	⇑P	P	05 58 57.3	-0.5
KMSC	**Kings Mountain** 2.6nm,0.2s	39.63	355	eP	P	05 58 57.8	-0.2
436A	**Wall Ranch, Ga** baz=40	39.73	333	⇑P	P	05 58 58.4	-0.5
633A	**Saathoff Ranch** baz=40	39.77	330	⇓P	P	05 58 58.5	-0.7
239A	**Gary** baz=40	39.84	337	⇓P	P	05 58 58.8	-1.0
534A	**Blanco** baz=40,SNR=7.3	39.89	331	⇓P	P	05 58 59.4	-0.8
238A	**Jacksonville** baz=40	40.08	336	⇓P	P	05 59 01.5	-0.3
435B	**Jarrell** baz=40	40.09	332	⇑P	P	05 59 01.3	-0.6
632A	**Uvalde** baz=40,SNR=12	40.12	329	⇑P	P	05 59 01.9	-0.3
533A	**Kerrville** baz=40	40.20	330	⇑P	P	05 59 02.2	-0.6
336A	**Riesel** baz=40	40.27	334	⇑P	P	05 59 02.8	-0.6
SWET	**Sewanee** 7.1nm,0.7s	40.35	349	eP	P	05 59 04.8	+0.8
237A	**Washetta, Mont** baz=40	40.36	335	⇑P	P	05 59 03.9	-0.2
TKL	**Tuckaleechee C** 2.5nm,0.9s,baz=113,slow=13,SNR=3.5	40.43	352	P	P	05 59 05.7	+1.1
434A	**Burnet** baz=40,SNR=8.3	40.44	332	⇑P	P	05 59 03.8	-1.1
335A	**Moody** baz=40	40.44	333	⇓P	P	05 59 04.2	-0.6
631A	**Perdido Creek** baz=40,SNR=16	40.46	328	⇓P	P	05 59 04.2	-0.8
138A	**Matatall Enter** baz=41	40.65	337	⇓P	P	05 59 06.2	-0.2
532A	**Rocksprings** baz=41,SNR=16	40.68	329	⇑P	P	05 59 06.4	-0.4
433A	**Art** baz=41,SNR=13	40.79	331	⇑P	P	05 59 07.1	-0.6
137A	**Heron Place, G** baz=41	40.86	336	⇓P	P	05 59 08.2	0.0
334A	**Lometa** baz=41,SNR=12	40.86	332	⇓P	P	05 59 07.2	-1.0
JCT	**Junction City** baz=41	40.91	330	⇑P	P	05 59 08.4	-0.4
JCT	**Junction City** 70nm,2.0s	40.91	330	eP	P	05 59 08.0	-0.8
531A	**Rocksprings** baz=41,SNR=16	41.04	329	⇓P	P	05 59 09.1	-0.7
WHTX	**Lake Whitney,** baz=41,SNR=5.4	41.06	334	⇑P	P	05 59 09.0	-0.8
WHTX	**Lake Whitney,** 53nm,1.3s	41.06	334	eP	P	05 59 09.8	-0.1
333A	**Richland Sprin** baz=41,SNR=7.1	41.20	331	⇓P	P	05 59 10.1	-1.1
432A	**Menard** baz=41	41.23	330	⇑P	P	05 59 10.7	-0.6
234A	**Clairette** baz=41	41.38	333	⇓P	P	05 59 12.0	-0.5
530A	**J-C Ranch, Com** baz=42,SNR=6.1	41.44	328	⇓P	P	05 59 12.5	-0.6
431A	**Sonora** baz=42,SNR=9.8	41.49	329	⇓P	P	05 59 12.5	-0.9
135A	**Vickery Place,** baz=42	41.52	334	⇑P	P	05 59 13.1	-0.6
332A	**Millersview** baz=42,SNR=11	41.62	331	⇑P	P	05 59 13.4	-1.1
233A	**Rising Star** baz=42	41.74	332	⇓P	P	05 59 14.8	-0.7
134A	**White-Moore Ra** baz=42,SNR=11	41.83	333	⇑P	P	05 59 15.3	-0.9
430A	**Baggett Ranch,** baz=42	41.89	329	⇓P	P	05 59 15.9	-1.0
331A	**San Angelo** baz=42,SNR=6.0	41.90	330	⇑P	P	05 59 15.7	-1.1
529A	**Stev Forest Ra** baz=42,SNR=7.5	41.90	327	⇑P	P	05 59 16.1	-0.8
232A	**Coleman** baz=42,SNR=8.1	41.99	331	⇓P	P	05 59 16.6	-1.0
TXAR	**Lajitas Array** 1.7nm,0.9s,baz=142,slow=8.8,SNR=17	42.11	325	P	P	05 59 17.9	-0.7
429A	**Davenport Ranc** baz=42	42.11	328	⇑P	P	05 59 18.1	-0.5
Z35A	**Perchaven, San** baz=42	42.12	335	⇑P	P	05 59 18.1	-0.4
133A	**Hamilton Ranch** baz=42,SNR=5.1	42.24	332	⇑P	P	05 59 19.0	-0.5
231A	**Bronte** baz=42	42.35	330	⇓P	P	05 59 19.5	-1.0
330A	**Mertzon** baz=42	42.35	329	⇓P	P	05 59 19.9	-0.7
Z34A	**Collier Ranch,** baz=42	42.44	334	⇓P	P	05 59 20.8	-0.3
ABTX	**Abilene, Hawle** baz=43	42.59	332	⇓P	P	05 59 22.0	-0.4
ABTX	**Abilene, Hawle** 26nm,1.3s	42.59	332	eP	P	05 59 22.4	-0.1
230A	**Sterling City** baz=43	42.71	330	⇑P	P	05 59 22.3	-1.2
Z33A	**Whitaker Ranch** baz=43,SNR=10	42.74	333	⇓P	P	05 59 23.1	-0.5
329A	**Wagon Wheel Ra** baz=43,SNR=7.1	42.84	328	⇑P	P	05 59 23.5	-1.0
Y34A	**Reagan Ranch,** baz=43,SNR=5.9	42.87	335	⇑P	P	05 59 23.9	-0.7
PBMO	**Poplar Bluff** 6.0nm,0.8s	42.87	344	eP	P	05 59 22.7	-1.9
131A	**Roby** baz=43	42.99	331	⇑P	P	05 59 24.9	-0.7
Z32A	**Haskell** baz=43,SNR=7.3	43.08	332	⇓P	P	05 59 25.9	-0.5
229A	**Bryant Ranch,** baz=43	43.13	329	⇓P	P	05 59 26.0	-0.8
130A	**Snyder** baz=43	43.21	330	⇓P	P	05 59 26.7	-0.8
Y33A	**Hilltop Ranch,** baz=43	43.29	334	⇑P	P	05 59 27.8	-0.2
Z31A	**Sharp Cattle R** baz=44,SNR=7.4	43.40	332	⇓P	P	05 59 28.4	-0.6
X34A	**Smith Ranch, M** baz=44,SNR=8.0	43.45	335	⇑P	P	05 59 28.9	-0.4
Y32A	**R-V Farms, Ver** baz=44,SNR=6.7	43.65	333	⇓P	P	05 59 30.3	-0.6
228A	**UT Block 9, Go** baz=44	43.65	328	⇑P	P	05 59 29.9	-1.2
129A	**Stewart Farms,** baz=44	43.69	330	⇑P	P	05 59 30.6	-0.7
X33A	**Lawton** baz=44,SNR=10	43.69	334	⇓P	P	05 59 30.5	-0.7
TUL1	**Leonard** baz=44	43.79	338	⇑P	P	05 59 31.2	-0.8
TUL1	**Leonard** 11nm,0.8s	43.79	338	eP	P	05 59 31.1	-1.0
Z30A	**Sanderson Ranc** baz=44	43.85	331	⇓P	P	05 59 32.0	-0.6
X32A	**Elmer** baz=44,SNR=10	43.93	334	⇓P	P	05 59 32.7	-0.5
WMOK	**Wichita Mounta** 31nm,1.5s	43.97	334	eP	P	05 59 32.9	-0.7
W34A	**Bridge Creek,** baz=44	43.97	336	⇓P	P	05 59 32.7	-0.8
W34A	**Bridge Creek,** 36nm,1.3s	43.97	336	eP	P	05 59 33.0	-0.5
Y31A	**Rekieta Farm,** baz=44,SNR=9.9	43.99	332	⇓P	P	05 59 33.4	-0.3
128A	**Castleberry Fa** baz=44	43.99	329	⇓P	P	05 59 33.0	-0.9
V35A	**Meyer Ranch, C** baz=44,SNR=5.7	44.06	337	⇓P	P	05 59 33.0	-1.2
Z29A	**Hungry Hill Ra** baz=44	44.11	330	⇓P	P	05 59 33.7	-1.1
W33A	**Caddo, Fort Co** baz=44,SNR=11	44.19	335	⇓P	P	05 59 34.8	-0.5
Y30A	**Stafford Cattl** baz=44,SNR=7.2	44.22	332	⇓P	P	05 59 35.1	-0.5
MVL	**Millersville** 73nm,2.1s	44.31	1	eP	P	05 59 37.3	+1.2
V34A	**Guthrie** baz=44	44.39	336	⇓P	P	05 59 35.6	-1.3
X31A	**McDonald Ranch** baz=44,SNR=14	44.41	333	⇑P	P	05 59 36.6	-0.5
Z28A	**Tucker Farm, M** baz=44	44.47	330	⇓P	P	05 59 36.7	-1.0
W32A	**Sentinel** baz=45,SNR=12	44.50	334	⇑P	P	05 59 37.3	-0.5
Y29A	**Porterfield Fa** baz=45,SNR=10	44.58	331	⇓P	P	05 59 37.6	-0.9
X30A	**Coker Ranch, T** baz=45,SNR=8.0	44.67	332	⇓P	P	05 59 38.6	-0.6
V33A	**Lossen Ranch,** baz=45,SNR=7.6	44.69	336	⇑P	P	05 59 38.3	-0.9
ACSO	**Alum Creek Sta** 8.4nm,0.9s	44.84	354	eP	P	05 59 39.4	-1.0
MNTX	**Cornudas Mount** baz=45,SNR=11	44.85	325	⇓P	P	05 59 39.4	-1.3
MNTX	**Cornudas Mount** 42nm,1.8s	44.85	325	eP	P	05 59 39.8	-0.9
W31A	**Holland Ranch,** baz=45	44.86	333	⇓P	P	05 59 39.8	-0.9
Y28A	**McKinney Farm,** baz=45,SNR=6.8	44.90	330	⇑P	P	05 59 39.7	-1.3
U34A	**Anderson Ranch** baz=45,SNR=5.9	44.92	337	⇓P	P	05 59 40.1	-1.0
U34A	**Anderson Ranch** 41nm,1.3s	44.92	337	eP	P	05 59 40.3	-0.7
V32A	**Arapaho** baz=45,SNR=5.4	44.92	335	⇓P	P	05 59 40.5	-0.6
SSPA	**Standing Stone** 13nm,1.2s	44.94	359	eP	P	05 59 41.8	+0.6
X29A	**Tulia** baz=45	45.06	331	⇓P	P	05 59 41.5	-0.9
W30A	**Crocket Farms** baz=45	45.14	333	⇓P	P	05 59 42.4	-0.6
U33A	**Lingo Farm, Me** baz=45	45.15	336	⇓P	P	05 59 41.9	-1.0
MSTX	**Muleshoe** baz=45	45.21	330	⇑P	P	05 59 42.7	-0.9
V31A	**Spring Creek L** baz=45,SNR=6.1	45.31	334	⇓P	P	05 59 44.0	-0.3
S36A	**Lake Cedric, C** baz=45	45.34	340	⇑P	P	05 59 43.2	-1.2
X28A	**Dimmitt** baz=45	45.36	331	⇓P	P	05 59 43.4	-1.3
AMTX	**Amarillo** baz=46	45.41	332	⇓P	P	05 59 44.3	-0.8
AMTX	**Amarillo** 19nm,1.1s	45.41	332	eP	P	05 59 44.6	-0.6
U32A	**Winter Ranch,** baz=46	45.47	335	⇓P	P	05 59 44.7	-0.7
W29A	**Amarillo** baz=46	45.59	332	⇓P	P	05 59 45.5	-1.0
U31A	**Nine Bar Ranch** baz=46	45.82	334	⇓P	P	05 59 47.9	-0.4
R36A	**Gordon, Harris** baz=46	45.85	340	⇑P	P	05 59 48.3	-0.1
S33A	**Kaszmaul Farm,** baz=46	46.11	337	⇑P	P	05 59 50.1	-0.4
T32A	**Huddler Ranch,** baz=46	46.12	336	⇓P	P	05 59 50.0	-0.6
U30A	**WK&E Inc. Balk** baz=46	46.30	334	⇓P	P	05 59 51.6	-0.4
T31A	**Randall Ranch,** baz=46	46.36	335	⇓P	P	05 59 52.1	-0.3
V28A	**Channing** baz=46	46.37	332	⇑P	P	05 59 52.2	-0.5
U29A	**Oasis Ranch, S** baz=47	46.51	333	⇑P	P	05 59 53.3	-0.5
BINY	**Binghamton** 24nm,1.2s	46.52	1	eP	P	05 59 54.6	+1.0
S32A	**Newby Ranch, P** baz=47	46.57	336	⇓P	P	05 59 53.7	-0.4
V27A	**Dan Oppiter Fa** baz=47	46.67	331	⇓P	P	05 59 54.6	-0.5
T30A	**Plains** baz=47	46.68	334	⇓P	P	05 59 54.9	-0.2
R33A	**Olander Ranch,** baz=47	46.73	338	⇓P	P	05 59 55.1	-0.3
121A	**Cookes Peak, D** baz=47,SNR=8.1	46.85	324	⇓P	P	05 59 56.4	-0.2
121A	**Cookes Peak, D** 80nm,1.9s	46.85	324	eP	P	05 59 56.7	+0.1
U28A	**Mat** baz=47	46.88	332	⇑P	P	05 59 56.2	-0.5
KSU1	**Kansas State U** baz=47	46.92	339	⇓P	P	05 59 56.0	-0.8
319A	**Douglas** baz=47	46.93	322	⇓P	P	05 59 56.6	-0.5
T29A	**Hugoton** baz=47	47.10	334	⇑P	P	05 59 58.1	-0.3
R32A	**Long Quarter,** baz=47,SNR=6.0	47.11	337	⇓P	P	05 59 57.8	-0.5
S30A	**Montezuma** baz=47	47.15	335	⇑P	P	05 59 58.4	-0.3
V26A	**Tequesquite Ra** baz=47,SNR=19	47.16	330	⇓P	P	05 59 58.4	-0.5
U27A	**Thompson Grove** baz=47	47.20	332	⇓P	P	05 59 58.5	-0.7
Q33A	**Connelly Farm,** baz=47	47.27	338	⇑P	P	05 59 59.1	-0.5
R31A	**Burdett** baz=47,SNR=5.6	47.31	336	⇑P	P	05 59 59.5	-0.5
S29A	**Ulysses** baz=48,SNR=6.3	47.41	334	⇓P	P	06 00 00.5	-0.3
T28A	**Walsh** baz=48	47.44	333	⇓P	P	06 00 00.3	-0.8
Q32A	**Meitler Ranch,** baz=48	47.54	338	⇑P	P	06 00 01.2	-0.5
P33A	**Williams Farm,** baz=48	47.61	339	⇓P	P	06 00 01.5	-0.7
R30A	**Dighton** baz=48,SNR=9.7	47.62	335	⇓P	P	06 00 01.6	-0.7
U26A	**Atchley Ranch,** baz=48,SNR=10.0	47.62	331	⇓P	P	06 00 02.0	-0.6
T27A	**Campo** baz=48,SNR=6.4	47.67	332	⇑P	P	06 00 02.2	-0.7
S28A	**Manter** baz=48,SNR=8.9	47.73	333	⇑P	P	06 00 02.4	-0.8
Q31A	**Ellis** baz=48	47.88	337	⇑P	P	06 00 04.2	-0.1
ANMO	**Albuquerque** 18nm,1.2s	47.88	327	eP	P	06 00 04.0	-0.6
U25A	**Circle Dot Ran** baz=48,SNR=10	47.95	330	⇑P	P	06 00 04.5	-0.6
R29A	**Marienthal** baz=48	48.10	335	⇓P	P	06 00 05.6	-0.4
P32A	**Huiting Farm,** baz=48	48.11	338	⇓P	P	06 00 05.4	-0.6
T26A	**Comanche Natio** baz=48	48.17	332	⇑P	P	06 00 06.3	-0.5
Q30A	**Quinter** baz=48,SNR=8.1	48.18	336	⇑P	P	06 00 06.3	-0.4
S27A	**Las Animas** baz=48	48.26	333	⇑P	P	06 00 07.0	-0.4
P31A	**Stockton** baz=48	48.32	337	⇓P	P	06 00 06.9	-0.8
R28A	**Tribune** baz=48,SNR=8.0	48.32	334	⇑P	P	06 00 07.3	-0.5
NCB	**Newcomb** 2.5nm,0.6s	48.35	3	eP	P	06 00 08.3	+0.5
Q29A	**Oakley** baz=48	48.42	335	⇑P	P	06 00 08.2	-0.4
S26A	**Kim** baz=48,SNR=10.0	48.47	332	⇓P	P	06 00 08.7	-0.3
TUC	**Tucson** 3.8nm,0.8s	48.50	321	eP	P	06 00 08.3	-1.0
T25A	**Trinidad** baz=49,SNR=12	48.53	331	⇑P	P	06 00 09.3	-0.3
T25A	**Trinidad** 29nm,1.3s	48.53	331	eP	P	06 00 09.8	+0.2
O32A	**Brockman Farm,** baz=49	48.55	339	⇑P	P	06 00 08.6	-0.9
P30A	**Selden** baz=49	48.68	336	⇓P	P	06 00 10.0	-0.5
R27A	**Eads** baz=49,SNR=5.6	48.71	333	⇑P	P	06 00 10.2	-0.6
O31A	**Woolen Ranch,** baz=49	48.84	338	⇑P	P	06 00 10.8	-0.9
Q28A	**Sharon Springs** baz=49	48.93	335	⇑P	P	06 00 11.8	-0.7
T24B	**San Luis** baz=49	48.95	330	⇓P	P	06 00 11.2	-1.7
S25A	**Robets Cordova** baz=49,SNR=15	48.96	331	⇑P	P	06 00 12.4	-0.4
LONY	**Lake Ozonia** 18nm,1.3s	48.98	3	eP	P	06 00 12.9	+0.2
N32A	**Stulken Farm,** baz=49	49.00	339	⇓P	P	06 00 11.6	-1.2
P29A	**Atwood** baz=49	49.00	336	⇑P	P	06 00 12.5	-0.5
R26A	**Arlington** baz=49	49.01	333	⇓P	P	06 00 12.9	-0.3
O30A	**MW Ranch, Wils** baz=49	49.15	337	⇑P	P	06 00 13.3	-0.8
KSCO	**Kaye Shedlock'** baz=49	49.23	334	⇑P	P	06 00 14.3	-0.5
KSCO	**Kaye Shedlock'** 4.8nm,0.4s	49.23	334	eP	P	06 00 14.9	+0.1
T23A	**Casias Ranch,** baz=49	49.26	330	⇑P	P	06 00 14.9	-0.3
R25A	**Fountain Ranch** baz=49	49.28	332	⇑P	P	06 00 15.0	-0.2
N31A	**Bailey Ranch,** baz=49	49.29	338	⇑P	P	06 00 14.1	-1.0
P28A	**Saint Francis** baz=49	49.32	335	⇑P	P	06 00 15.2	-0.3
S24A	**Houchin Ranch,** baz=49,SNR=6.7	49.32	331	⇑P	P	06 00 15.4	-0.3
O29A	**4D Ranch, Culb** baz=50	49.40	336	⇑P	P	06 00 15.7	-0.2
BGNE	**Belgrade** baz=50	49.51	339	⇑P	P	06 00 15.8	-1.0
X18A	**Snowflake** baz=50	49.53	324	⇓P	P	06 00 16.8	-0.5
SDCO	**Great Sand Dun** baz=50,SNR=20	49.54	331	⇓P	P	06 00 17.4	-0.1
SDCO	**Great Sand Dun**	49.54	331	eP	P	06 00 17.5	+0.1
214A	**Organ Pipe Nat** baz=50	49.55	320	⇑P	P	06 00 17.0	-0.3
214A	**Organ Pipe Nat** 53nm,1.8s	49.55	320	eP	P	06 00 16.4	-0.9
Q26A	**Hugo** baz=50	49.55	333	⇓P	P	06 00 17.1	-0.2
P27A	**Ficken Ranch,** baz=50	49.66	334	⇓P	P	06 00 18.1	0.0
R24A	**Sanders Place,** baz=50	49.74	331	⇓P	P	06 00 18.7	-0.1
M31A	**Lambtecht Ranc** baz=50	49.75	339	⇓P	P	06 00 18.0	-0.6
S23A	**Nye Farm, Mont** baz=50	49.76	330	⇑P	P	06 00 18.6	-0.4
O28A	**Krutsinger Ran** baz=50	49.79	335	⇑P	P	06 00 18.5	-0.5
W18A	**Petrified Fore** baz=50	49.83	325	⇑P	P	06 00 19.0	-0.5
Q25A	**Bedland, Calha** baz=50	49.88	332	⇓P	P	06 00 19.5	-0.4
N29A	**Votaw Ranch, W** baz=50	49.92	337	⇑P	P	06 00 19.6	-0.4
P26A	**Davis Ranch, A** baz=50	50.00	334	⇑P	P	06 00 20.4	-0.3
R23A	**Moffat** baz=50	50.05	331	⇑P	P	06 00 21.0	-0.3
O27A	**Beecher Island** baz=50	50.14	335	⇑P	P	06 00 21.4	-0.3
N28A	**Pribbeno Ranch** baz=50	50.17	336	⇑P	P	06 00 21.6	-0.3
S22A	**4UR Ranch, Cre** baz=50,SNR=14	50.21	329	⇓P	P	06 00 21.6	-0.9
S22A	**4UR Ranch, Cre**	50.21	329	eP	P	06 00 22.4	-0.1
M30A	**Dale-Ortello V** baz=50	50.25	338	⇑P	P	06 00 21.5	-0.9
P25A	**Willow Gulch B** baz=50	50.33	333	⇑P	P	06 00 22.9	-0.4
Q24A	**Divide** baz=50	50.34	332	⇑P	P	06 00 22.8	-0.7
X16A	**Lo Mia Camp, P** baz=50,SNR=7.3	50.34	323	⇓P	P	06 00 23.0	-0.5
L31A	**Butterfield Fa** baz=50	50.43	339	⇓P	P	06 00 23.0	-0.7
M29A	**Burnside Ranch** baz=51	50.48	337	⇑P	P	06 00 23.7	-0.5
O26A	**Horse Wrangler** baz=51	50.54	334	⇓P	P	06 00 24.4	-0.4
L30A	**Spencer Herefo** baz=51	50.55	338	⇑P	P	06 00 23.8	-0.9
Z14A	**Wintersburg** baz=51	50.56	321	⇓P	P	06 00 24.5	-0.3
OGNE	**Ogallala** baz=51	50.59	336	⇓P	P	06 00 24.5	-0.5
Q23A	**Hartsel** baz=51	50.62	331	⇑P	P	06 00 24.4	-1.2
P24A	**Kohler Place,** baz=51	50.66	332	⇑P	P	06 00 25.2	-0.6
MVCO	**Mesa Verde** baz=51	50.67	328	⇓P	P	06 00 25.1	-0.9
MVCO	**Mesa Verde** 30nm,1.7s	50.67	328	eP	P	06 00 25.6	-0.4
N27A	**Anderson Farm,** baz=51	50.68	335	⇑P	P	06 00 24.8	-0.9
113A	**Mohawk Valley,** baz=51	50.69	320	⇑P	P	06 00 25.2	-0.7
M28A	**Bar X Bar Ranc** baz=51	50.70	337	⇓P	P	06 00 25.4	-0.5
O25A	**Wiggins** baz=51	50.79	334	⇓P	P	06 00 26.2	-0.4
L29A	**Maesberg Ranch** baz=51	50.93	338	⇓P	P	06 00 27.2	-0.5
Y14A	**Wickenburg** baz=51	50.97	321	⇓P	P	06 00 27.4	-0.6
N26A	**Koester Ranch,** baz=51	50.99	335	⇓P	P	06 00 27.5	-0.6
P23A	**Jefferson** baz=51,SNR=8.2	50.99	332	⇑P	P	06 00 28.3	-0.1
WUAZ	**Wupatki** baz=51,SNR=7.5	51.06	324	⇑P	P	06 00 28.4	-0.4
WUAZ	**Wupatki** 24nm,1.1s	51.06	324	eP	P	06 00 29.1	+0.3
ECSD	**EROS Data Cent** baz=51	51.09	342	⇑P	P	06 00 28.7	0.0
ECSD	**EROS Data Cent** 10nm,1.2s	51.09	342	eP	P	06 00 26.9	-1.8
K30A	**Basset** baz=51	51.14	339	⇓P	P	06 00 28.6	-0.5
ISCO	**Idaho Springs** baz=51	51.22	332	⇑P	P	06 00 29.7	-0.4
ISCO	**Idaho Springs** 18nm,1.6s	51.22	332	eP	P	06 00 30.2	+0.1
M27A	**Reverse DX Ran** baz=51	51.22	336	⇑P	P	06 00 29.5	-0.3
O24A	**Longmont** baz=51	51.23	333	⇑P	P	06 00 29.8	-0.2
SMCO	**Snowmass**	51.38	331	eP	P	06 00 31.5	0.0
PV01	**Paradox Valley** 1µm,1.2s	51.40	328	eP	P	06 00 31.2	-0.2
SPMN	**Marine on St.** baz=52	51.42	346	⇑P	P	06 00 33.1	+1.9
SPMN	**Marine on St.**	51.42	346	eP	P	06 00 29.7	-1.4
K29A	**Lazy Trails An** baz=52	51.48	338	⇑P	P	06 00 31.1	-0.6
P22A	**Eagle** baz=52,SNR=8.3	51.60	331	⇑P	P	06 00 32.3	-0.6
J30A	**Dallas** baz=52	51.67	339	⇓P	P	06 00 32.1	-1.0
O23A	**Lake Granby, G** baz=52	51.69	332	⇓P	P	06 00 33.2	-0.4
N24A	**Carr** baz=52	51.71	333	⇑P	P	06 00 33.6	0.0
Y12C	**Blythe** baz=52	51.81	320	⇑P	P	06 00 34.0	-0.2
K28A	**Ten Mile Ranch** baz=52,SNR=7.3	51.83	338	⇓P	P	06 00 34.1	-0.2
M25A	**Palm-Egli Farm** baz=52	51.84	335	⇓P	P	06 00 34.3	-0.3
L26A	**Underwood Farm** baz=52	51.93	336	⇓P	P	06 00 34.7	-0.4
O22A	**Kremmling** baz=52,SNR=5.4	51.95	332	⇓P	P	06 00 34.6	-0.9
J29A	**Okreek** baz=52,SNR=8.2	52.04	339	⇑P	P	06 00 35.1	-0.8
K27A	**Flueckinger Fa** baz=52	52.15	337	⇓P	P	06 00 36.4	-0.4
M24A	**Cheyenne** baz=52	52.20	334	⇑P	P	06 00 37.0	-0.2
U15A	**North Rim** baz=52	52.23	324	⇓P	P	06 00 37.2	-0.4
N23A	**Red Feather La** baz=52	52.24	333	⇓P	P	06 00 37.1	-0.6

W13A **Hualapai Mount** 52.28 322 ⇓P P 06 00 37.9 -0.2
baz=52
PHWY **Pilot Hill** 52.35 333 *eP* P 06 00 38.3 -0.2
J28A **Allard Ranch,** 52.39 338 ⇓P P 06 00 38.1 -0.3
baz=52
N22A **Wattenberg Ran** 52.41 332 ⇓P P 06 00 38.3 -0.6
baz=52
J27A **Elkhorn Farm,** 52.53 337 ⇑P P 06 00 39.4 -0.1
baz=53
M23A **Laramie** 52.60 333 ⇑P P 06 00 39.6 -0.7
baz=53
L24A **Wheatland** 52.72 334 ⇓P P 06 00 40.9 -0.2
baz=53
O20A **White River Ci** 52.74 330 ⇓P P 06 00 41.0 -0.4
baz=53
I28A **Midland** 52.86 339 ⇑P P 06 00 40.9 -1.0
baz=53,SNR=6.0
M22A **Cedar Creek Ra** 52.95 333 ⇓P P 06 00 42.6 -0.2
baz=53
J26A **Sides Ranch, S** 53.00 337 ⇓P P 06 00 42.6 -0.4
baz=53,SNR=8.9
L23A **Garrett** 53.11 334 ⇑P P 06 00 43.6 -0.4
baz=53,SNR=5.0
G30A **Faulkton** 53.15 341 ⇑P P 06 00 42.5 -1.4
baz=53
SRU **San Rafael Swe** 53.15 328 *eP* P 06 00 44.0 -0.3
I27A **Quinn** 53.24 338 ⇑P P 06 00 44.3 -0.5
baz=53,SNR=9.2
N20A **Spence Gulch,** 53.29 331 ⇑P P 06 00 44.7 -0.6
baz=53,SNR=9.7
J25A **Sunshine Ranch** 53.35 336 ⇓P P 06 00 45.4 -0.2
baz=53
L22A **Ellis Ranch, M** 53.37 333 ⇓P P 06 00 45.9 0.0
baz=53
I26A **New Underwood** 53.52 337 ⇓P P 06 00 46.6 -0.2
baz=54
K23A **Bowen Ranch, D** 53.59 334 ⇑P P 06 00 47.2 -0.3
baz=54
J24A **Dixon Ranch, L** 53.66 335 ⇑P P 06 00 47.9 0.0
baz=54
H27A **Howes** 53.73 338 ⇑P P 06 00 47.5 -0.8
baz=54,SNR=5.6
I25A **Rochford** 53.85 337 ⇑P P 06 00 49.2 -0.2
baz=54,SNR=10
K22A **Casper** 53.91 334 ⇑P P 06 00 49.5 -0.2
baz=54
K22A **Casper** 53.91 334 *eP* P 06 00 49.8 0.0
H26A **Fairpoint** 53.98 338 ⇓P P 06 00 49.8 -0.3
baz=54
SHPR **Sheep Range** 53.99 322 *eP* P 06 00 50.8 +0.3
RSSD **Black Hills** 54.06 336 *eP* P 06 00 51.2 +0.3
I24A **Kuemmerle Ranc** 54.08 336 ⇑P P 06 00 50.6 -0.3
baz=54
K21A **Alcova** 54.22 333 ⇓P P 06 00 51.4 -0.7
baz=54,SNR=6.3
E30A **Jud** 54.29 342 ⇑P P 06 00 51.3 -1.1
baz=54
H25A **Fruitdale** 54.30 337 ⇓P P 06 00 52.1 -0.4
baz=54,SNR=5.4
G27A **Dupree** 54.32 339 ⇑P P 06 00 52.2 -0.4
baz=54
F28A **McLaughlin** 54.33 340 ⇓P P 06 00 52.1 -0.5
baz=54
G26A **Maurine** 54.49 338 ⇓P P 06 00 53.2 -0.7
baz=55
J22A **Midwest** 54.49 334 ⇑P P 06 00 53.1 -0.9
baz=55,SNR=16
F27A **Lemmon** 54.78 339 ⇓P P 06 00 55.6 -0.3
baz=55
H24A **Dirks Ranch, A** 54.78 336 ⇑P P 06 00 55.6 -0.4
baz=55
D30A **Buchanan** 54.78 342 ⇑P P 06 00 54.8 -1.0
baz=55
J21A **Lysite** 54.87 333 ⇑P P 06 00 56.2 -0.6
baz=55,SNR=9.5
I22A **9 Mile Ranch,** 54.88 334 ⇓P P 06 00 55.9 -0.9
baz=55,SNR=7.3
E28A **Huff** 54.93 340 ⇓P P 06 00 56.4 -0.6
baz=55
F26A **Lodgepole** 54.99 339 ⇓P P 06 00 56.8 -0.7
baz=55
D29A **Pettibone, Tap** 55.00 342 ⇑P P 06 00 57.1 -0.3
baz=55
AGMN **Agassiz Nation** 55.05 345 ⇑P P 06 00 56.4 -1.3
baz=55,SNR=5.4
AGMN **Agassiz Nation** 55.05 345 *eP* P 06 00 56.3 -1.5
9.5nm,0.6s
AGMN *epP* pP 06 01 08.5 -0.7
E27A **Carson** 55.10 340 ⇓P P 06 00 57.9 -0.3
baz=55
DUG **Dugway, Tooele** 55.15 327 ⇑P P 06 00 58.7 -0.2
baz=55,SNR=8.1
DUG **Dugway, Tooele** 55.15 327 *eP* P 06 00 58.4 -0.4
17nm,1.3s
J20A **Shoshoni** 55.16 333 ⇑P P 06 00 58.7 -0.1
baz=55,SNR=8.1
I21A **Big Trails, Te** 55.17 334 ⇑P P 06 00 57.6 -1.3
baz=55,SNR=7.7
G24A **Alzada** 55.21 337 ⇓P P 06 00 58.4 -0.7
baz=55
C30A **Mose, Pekin** 55.23 343 ⇑P P 06 00 58.6 -0.5
baz=55
PDAR **Pinedale Array** 55.39 331 P P 06 00 59.4 -1.2
3.6nm,1.0s,baz=145,slow=8.7,SNR=25
PDAR LR LR 06 26 10.6
comp=Z,127nm,18.3s,baz=126,slow=38
BW06 **Boulder Array** 55.39 331 *eP* P 06 00 59.8 -0.9
17nm,1.4s
BW06 *epP* pP 06 01 10.7 -1.3
H22A **Clearmont** 55.39 335 ⇑P P 06 00 59.8 -0.6
baz=56
D28A **Regan** 55.43 341 ⇑P P 06 01 00.1 -0.5
baz=56
E26A **Carlson Angus** 55.45 339 ⇑P P 06 01 00.3 -0.4
baz=56
R11A **Troy Canyon, C** 55.45 324 ⇑P P 06 01 00.7 -0.5
baz=56
R11A **Troy Canyon, C** 55.45 324 *eP* P 06 01 01.1 0.0
G23A **Biddle** 55.49 336 ⇓P P 06 01 00.3 -0.8
baz=56
HWUT **Hardware Ranch** 55.51 329 *eP* P 06 00 59.8 -1.7
47nm,1.6s
J19A **Crowheart** 55.54 332 ⇓P P 06 01 00.4 -1.2
baz=56,SNR=15
I20A **Worland** 55.65 333 ⇑P P 06 01 01.6 -0.7
baz=56,SNR=7.6
F24A **Ekalaka** 55.65 337 ⇓P P 06 01 01.5 -0.8
baz=56
MDND **Maddock** 55.70 342 ⇓P P 06 01 02.1 -0.4
baz=56
MDND **Maddock** 55.70 342 *eP* P 06 01 02.9 +0.4
12nm,0.5s
B30A **Myrvik Farm, E** 55.87 343 ⇓P P 06 01 02.6 -1.0
baz=56
G22A **Birney** 55.87 336 ⇑P P 06 01 03.0 -0.8
baz=56,SNR=5.7
D26A **Manning** 55.92 339 ⇓P P 06 01 03.6 -0.5
baz=56
F23A **Volborg** 55.93 337 ⇑P P 06 01 03.4 -0.8
baz=56,SNR=9.4
H20A **Greybull** 56.01 334 ⇓P P 06 01 03.6 -1.3
baz=56,SNR=18
I19A **Meeteetse** 56.11 333 ⇑P P 06 01 04.9 -0.8
baz=56,SNR=8.1
AHID **Auburn Hatcher** 56.14 330 *eP* P 06 01 04.8 -1.1
24nm,1.6s
B29A **Wagenman Farm,** 56.18 343 ⇑P P 06 01 05.7 -0.2
baz=56
E24A **Baker** 56.20 338 ⇑P P 06 01 05.7 -0.5
baz=56
G21A **Lodge Grass** 56.26 335 ⇓P P 06 01 05.8 -0.9
baz=56
A30A **Hoffart Farm,** 56.30 344 ⇑P P 06 01 05.7 -1.0
baz=56
F22A **Rosebud** 56.31 336 ⇓P P 06 01 06.1 -0.9
baz=56
REDW **Red Top Meadow** 56.46 331 *eP* P 06 01 07.8 -0.5
B28A **Dugan Ranch, T** 56.47 342 ⇑P P 06 01 07.8 -0.2
baz=57
E23A **Ismay** 56.53 337 ⇓P P 06 01 07.6 -0.8
baz=57
LOHW **Long Hollow** 56.53 331 *eP* P 06 01 08.4 -0.4
A29A **Manning Farm,** 56.55 343 ⇓P P 06 01 08.0 -0.5
baz=57,SNR=6.9
H19A **Powell** 56.59 333 ⇓P P 06 01 07.9 -1.2
baz=57
TPAW **Teton Pass** 56.60 331 *eP* P 06 01 09.2 -0.2
MTUM **Tungsten Hills** 56.63 321 *eP* P 06 01 06.0 -3.6

D24A **Glendive** 56.67 338 ⇑P P 06 01 09.2 -0.3
baz=57
G20A **Bridger** 56.69 334 ⇓P P 06 01 08.4 -1.3
baz=57,SNR=9.8
F21A **Absaloka Mine,** 56.71 335 ⇓P P 06 01 09.0 -0.8
baz=57
E22A **Miles City** 56.73 337 ⇑P P 06 01 08.9 -1.0
baz=57
I17A **Pilgrim Ck.** 56.75 332 ⇓P P 06 01 09.6 -0.7
baz=57,SNR=6.3
FXWY **Fox Creek** 56.75 331 *eP* P 06 01 10.0 -0.4
47nm,2.5s
ULM **Lac du Bonnet** 56.86 346 P P 06 01 08.7 -2.0
4.1nm,0.8s,baz=171,slow=6.4,SNR=9.0
ULM LR LR 06 26 41.3
comp=Z,313nm,21.0s,baz=106,slow=37
ELK **Elko** 56.86 326 *eP* P 06 01 11.1 -0.1
H18A **Shoshone NF, C** 56.91 333 ⇑P P 06 01 10.7 -0.7
baz=57
FLWY **Flagg Ranch** 56.93 332 *eP* P 06 01 11.5 -0.1
D23A **Lindsay** 57.05 338 ⇓P P 06 01 11.8 -0.4
baz=57,SNR=5.1
C24A **Savage** 57.06 338 ⇓P P 06 01 11.6 -0.6
baz=57
RLMT **Red Lodge** 57.07 333 *eP* P 06 01 12.0 -0.6
9.2nm,1.3s
H17A **Grant Village** 57.11 332 ⇓P P 06 01 14.1 +1.2
baz=57
H17A **Grant Village** 57.11 332 *eP* P 06 01 15.3 +2.4
2.5nm,0.7s
F20A **Billings** 57.12 335 ⇓P P 06 01 11.7 -1.0
baz=57
NVAR **Mina Array Bea** 57.14 322 P P 06 01 13.1 0.0
1.9nm,0.7s,baz=142,slow=6.6,SNR=8.0
LKWY **Lake** 57.16 332 *eP* P 06 01 13.8 +0.5
10nm,1.2s
A27A **Ledoux Ranch,** 57.19 341 ⇓P P 06 01 13.0 -0.1
baz=57
B25A **Knox Farm, Ray** 57.24 340 ⇓P P 06 01 13.2 -0.3
baz=57
E21A **Keefer Ranch,** 57.27 336 ⇑P P 06 01 13.2 -0.5
baz=57
A26A **Wade Farm, Ken** 57.40 341 ⇓P P 06 01 14.2 -0.4
baz=58
D22A **Cohagen** 57.41 337 ⇑P P 06 01 14.5 -0.1
baz=58
YMR **Madison River** 57.50 332 *eP* P 06 01 15.9 +0.3
22nm,1.4s
F19A **Roth Farm, Mol** 57.50 334 ⇑P P 06 01 14.6 -0.9
baz=58,SNR=12
C23A **Lambert** 57.57 338 ⇑P P 06 01 15.5 -0.3
baz=58
D21A **La Casta Ranch** 57.66 336 ⇓P P 06 01 16.3 -0.2
baz=58
E20A **Meyer Farm, Mu** 57.67 335 ⇓P P 06 01 16.1 -0.4
baz=58,SNR=12
DGMT **Dagmar** 57.77 339 ⇑P P 06 01 16.9 -0.3
baz=58
GCMT **Greycliff** 57.77 334 *eP* P 06 01 16.8 -0.6
33nm,1.3s
BMN **Battle Mountai** 57.78 325 *eP* P 06 01 10.6 -6.9
C22A **Vida** 57.78 338 ⇓P P 06 01 17.0 -0.3
baz=58
A25A **Svangstu Ranch** 57.79 340 ⇑P P 06 01 17.4 +0.1
baz=58
QLMT **Earthquake Lak** 57.84 332 *eP* P 06 01 18.7 +0.7
E19A **Rath Farm, Rou** 57.91 335 ⇓P P 06 01 17.7 -0.6
baz=58,SNR=12
B23A **Brockton** 58.05 339 ⇑P P 06 01 19.5 +0.3
baz=58
A24A **Westby** 58.09 340 ⇓P P 06 01 19.5 +0.1
baz=58
D20A **Manuel Ranch,** 58.14 336 ⇑P P 06 01 19.4 -0.4
baz=58,SNR=10.0
HLID **Hailey** 58.38 329 ⇓P P 06 01 21.1 -0.7
baz=58,SNR=8.9
HLID **Hailey** 58.38 329 *eP* P 06 01 21.5 -0.2
D19A **Cripps Ranch,** 58.51 335 ⇑P P 06 01 22.0 -0.5
baz=59,SNR=9.6
MCMT **McKenzie Canyo** 58.51 331 *eP* P 06 01 23.0 +0.3
12nm,1.8s
BOZ **Bozeman (W)** 58.55 332 *eP* P 06 01 21.8 -1.0
47nm,1.8s
RKT **Rikitea** 58.55 246 *e*LR LR 06 18 40.2
350nm,26.5s
C20A **Veseth Ranch,** 58.59 336 ⇓P P 06 01 22.5 -0.4
baz=59
DLMT **Dillon** 58.79 332 *eP* P 06 01 24.2 -0.3
A22A **Carney Farms,** 58.83 338 ⇑P P 06 01 24.5 -0.1
baz=59,SNR=6.6
MFID **Camas Ranch** 59.01 328 *eP* P 06 01 25.6 -0.5
29nm,1.2s
C19A **Slack Wire Ran** 59.03 336 ⇓P P 06 01 25.5 -0.6
baz=59,SNR=5.2
LRM **Limekiln Ridge** 59.06 332 *eP* P 06 01 26.1 -0.4
39nm,1.2s
A21A **Bergtoll Ranch** 59.20 338 ⇑P P 06 01 26.9 -0.2
baz=59,SNR=5.3
HRY **Holter Researc** 59.44 333 *eP* P 06 01 29.5 +0.5
A20A **Cobblestone Ra** 59.50 337 ⇑P P 06 01 28.8 -0.4
baz=60
EGMT **Eagleton** 59.55 335 ⇑P P 06 01 29.3 -0.3
baz=60
EGMT **Eagleton** 59.55 335 *eP* P 06 01 29.4 -0.2
B19A **Brinkman Farms** 59.56 336 ⇓P P 06 01 29.2 -0.4
baz=60
SCHQ **Schefferville** 59.79 7 P P 06 01 30.6 -0.5
3.2nm,0.9s,baz=209,slow=13,SNR=2.1
SCHQ LR LR 06 30 12.8
comp=Z,111nm,18.2s,baz=236,slow=39
A19A **Klindworth Far** 59.86 337 ⇓P P 06 01 31.4 -0.3
baz=60
WVOR **Wild Horse Val** 59.89 326 *eP* P 06 01 31.5 -0.6
MSO **Missoula** 60.50 332 ⇑P P 06 01 35.7 -0.5
baz=60,SNR=12
MSO **Missoula** 60.50 332 *eP* P 06 01 35.5 -0.7
24nm,1.3s
SLMT **Seeley Lake** 60.59 333 *eP* P 06 01 36.6 -0.3
K05A **Summer Lake** 61.36 325 *eP* P 06 01 43.0 +0.7
75nm,1.6s
F10A **Beach Ranch, E** 61.50 329 *eP* P 06 01 42.8 -0.2
74nm,1.9s
YBH **Yreka Blue Hor** 61.83 323 P P 06 01 43.7 -1.7
3.5nm,0.9s,baz=151,slow=13,SNR=5.2
YBH LR LR 06 27 26.1
comp=Z,110nm,18.5s,baz=115,slow=35
J05D **Fort Rock, OR** 61.91 325 ⇓P P 06 01 45.4 -0.4
baz=62
G08A **Pilot Rock** 61.94 328 *eP* P 06 01 45.8 -0.2
18nm,1.3s
FFC **Flin Flon** 62.50 344 *eP* P 06 01 48.5 -1.0
13nm,1.4s
I05D **Terrebonne, OR** 62.62 326 ⇓P P 06 01 50.5 0.0
baz=63
NEW **Newport** 63.03 331 P P 06 01 51.0 -2.2
3.9nm,0.9s,baz=136,slow=7.0,SNR=9.0
NEW LR LR 06 30 15.0
comp=Z,110nm,21.7s,baz=128,slow=37
NEW **Newport** 63.03 331 ⇓P P 06 01 53.1 -0.1
baz=63
NEW **Newport** 63.03 331 *eP* P 06 01 46.0 -7.2
NEW P P 06 01 51.0 -2.2
EDM **Edmonton** 65.03 337 *eP* P 06 02 04.6 -1.6
84nm,1.8s
FRB **Frobisher Bay** 68.41 4 LR LR 06 35 24.5
comp=Z,171nm,18.8s,baz=194,slow=39
BBB **Bella Bella** 70.96 330 LR LR 06 35 05.8
comp=Z,62nm,20.6s,baz=125,slow=37
PPT **Papeete** 71.74 253 LR LR 06 27 10.9
comp=Z,275nm,18.7s,baz=90,slow=30
PPT2 **Papeete2** 71.74 253 *e*S S 06 12 09.7 +2.9
454nm,26.8s
PPT2 **Papeete2** 71.74 253 *e*LR LR 06 24 47.2
189nm,21.8s,baz=82
TBI **Tubuai** 71.82 247 *e*S S 06 12 07.7 +0.2
319nm,28.0s
TBI **Tubuai** 71.82 247 *e*LR LR 06 24 50.9
170nm,23.5s
YKA **Yellowknife Ar** 72.61 343 P P 06 02 52.3 -0.8
1.1nm,0.8s,baz=138,slow=6.3,SNR=18
LIC **Lamto** 72.97 82 *eP* P 06 03 02.5 +6.3
59nm,1.6s
TIC **Toumodi** 73.02 82 *eP* P 06 02 58.8 +2.2
2.8nm,0.2s
DBIC **Dimbokro** 73.19 82 P P 06 02 59.7 +2.2
8.8nm,1.0s,baz=270,slow=4.0,SNR=4.0
DBIC LR LR 06 35 14.7
comp=Z,411nm,18.1s,baz=228,slow=36

DBIC **Dimbokro** 73.19 82 *eP* P 06 02 59.6 +2.2
54nm,1.5s
DBIC P P 06 02 59.7 +2.2
KIC **Kosan Boka** 73.26 82 *eP* P 06 03 00.4 +2.4
82nm,1.4s
SFJD **Kangerlussuaq** 73.86 11 LR LR 06 37 21.0
comp=Z,92nm,18.4s,baz=212,slow=37
DLBC **Dease Lake** 75.46 334 *eP* P 06 03 08.3 -1.6
12nm,1.3s
VNA3 **Neumayer Olymp** 78.65 162 P P 06 03 31.3 +3.6
VNA1 **Neumayer--Stat** 78.89 162 P P 06 03 33.0 +4.1
VNA2 **Neumayer--Watz** 79.25 162 P P 06 03 36.4 +5.5
baz=293,slow=5.5
RES **Resolute Bay** 79.80 355 P P 06 03 34.1 +0.4
1.9nm,1.1s,baz=186,slow=8.3,SNR=3.6
RES LR LR 06 42 22.2
comp=Z,251nm,18.2s,baz=160,slow=38
ESDC **Sonseca Array** 80.18 49 P P 06 03 37.7 +1.1
0.3nm,0.3s,baz=270,slow=5.9,SNR=3.6
ESDC LR LR 06 36 47.7
comp=Z,67nm,19.1s,baz=225,slow=34
TORD **Torodi Ar. Bea** 80.37 76 P P 06 03 39.3 +1.2
3.4nm,0.9s,baz=268,slow=4.4,SNR=12
TORD LR LR 06 39 47.8
comp=Z,392nm,18.3s,baz=250,slow=36
SUMG **Summit** 80.84 11 *eP* P 06 03 43.0 +3.1
21nm,1.5s
INK **Inuvik** 82.33 342 *eP* P 06 03 47.4 +0.1
12nm,1.1s
SJPF **Ste Jean** 82.99 46 *eP* P 06 03 48.7 -2.6
22nm,1.1s
SJPF **Ste Jean** 82.99 46 *eP* P 06 03 48.7 -2.6
22nm,1.1s
EGAK **Eagle** 83.25 337 *eP* P 06 03 52.3 +0.1
9.9nm,0.8s
DOT **Dot Lake** 83.94 336 *eP* P 06 03 55.7 -0.1
9.4nm,1.0s
PAX **Paxson** 84.27 335 *eP* P 06 03 58.0 +0.5
11nm,1.3s
GRR **Gorron** 84.43 41 *eP* P 06 03 56.2 -2.3
29nm,1.0s
GRR **Gorron** 84.43 41 *eP* P 06 03 56.2 -2.3
29nm,1.0s
MFF **Saint Martin d** 84.50 42 *eP* P 06 03 58.0 -1.0
MFF **Saint Martin d** 84.50 42 *eP* P 06 03 58.0 -1.0
TAM **Tamanrasset** 85.16 67 *eP* P 06 04 04.0 +1.0
22nm,1.4s
RJF **Les Rejaudoux** 85.37 44 *eP* P 06 04 01.7 -1.7
RJF **Les Rejaudoux** 85.37 44 *eP* P 06 04 01.7 -1.7
ILAR **Eielson Array** 85.50 336 P P 06 04 02.9 -0.7
1.8nm,1.1s,baz=129,slow=3.0,SNR=13
ILAR PP PP 06 07 20.4 -1.9
1.1nm,1.1s,baz=119,slow=5.5,SNR=5.4
ILAR LR LR 06 46 21.4
comp=Z,71nm,18.8s,baz=96,slow=39
QSPA **South Pole Qui** 85.56 180 *eP* P 06 04 05.4 +1.4
31nm,1.2s
TRF **Thorofare Moun** 86.49 335 *eP* P 06 04 08.6 -0.1
32nm,1.7s
PPLA **Purkeypile** 87.16 334 *eP* P 06 04 12.0 +0.1
14nm,1.1s
COLD **Coldfoot** 87.59 338 *eP* P 06 04 14.8 +1.0
4.0nm,0.9s
DAVA **Damuels** 91.39 43⇑*i*PcP P 06 04 33.7 +1.5
14nm,1.6s
FETA **Feichten** 91.95 43⇓*i*PcP P 06 04 37.1 +2.3
9.3nm,1.5s
VNDA **Vanda** 91.98 191 LR LR 06 42 31.7
comp=Z,148nm,18.5s,baz=125,slow=33
WTTA **Wattenberg** 92.58 43⇓*i*PcP P 06 04 42.3 +4.5
14nm,1.3s
NOA **NORSAR Array B** 93.22 29 LR LR 06 47 39.1
comp=Z,53nm,18.5s,baz=270,slow=36
GERES **GERESS Array B** 94.05 41 LR LR 06 47 36.0
comp=Z,62nm,18.0s,baz=264,slow=36
MOA **Molln** 94.39 42 P P 06 04 51.8 +5.9
9.6nm,1.6s
HFS **Hagfors** 94.40 30 LR LR 06 43 50.0
comp=Z,139nm,20.9s,baz=267,slow=33
SPITS **Spitsbergen Ar** 95.16 12 LR LR 06 48 50.1
comp=Z,40nm,20.2s,baz=235,slow=36
ARCES **ARCESS Array B** 98.70 20 LR LR 06 48 05.1
comp=Z,38nm,19.8s,baz=261,slow=34
BOSA **Boshof** 98.83 120 LR LR 06 46 36.1
comp=Z,111nm,20.7s,baz=246,slow=33
DZM **Mont Dzumac** 112.30 244 *e*PS PS 06 20 23.1 +0.4
78nm,24.6s
DZM **Mont Dzumac** 112.30 244 *e*LR LR 06 43 34.7
136nm,25.4s
BVAR **Borovoye Array** 124.86 23 PKP PKPdf 06 10 26.5 +0.7
0.3nm,0.5s,baz=270,slow=1.4,SNR=2.7
ZALV **Zalesovo Beam** 128.62 13 PKP PKPdf 06 10 33.6 +0.7
1.1nm,0.7s,baz=246,slow=1.4,SNR=8.3
KURK **Kurchatov** 129.73 20 PKP PKPdf 06 10 36.3 +1.2
KURBB **Kurchatov Arra** 129.78 20 PKP PKPdf 06 10 36.3 +1.1
1.0nm,0.7s,baz=321,slow=1.9,SNR=6.1
AAK **Ala-Archa** 134.54 29 PKP PKPdf 06 10 47.5 +2.8
0.8nm,0.5s,baz=227,slow=2.7,SNR=4.0
AAK SKPbc SKPab 06 14 16.8 +1.8
3.5nm,1.1s,baz=48,slow=5.6,SNR=4.4
SONM **Songino Array** 136.73 356 PKP PKPdf 06 10 48.2 -0.4
0.3nm,0.7s,baz=5.7,slow=1.4,SNR=3.1
SONM SKPbc SKiKP 06 14 22.1 -1.5
0.8nm,1.1s,baz=5.2,slow=1.6,SNR=3.4
KSH **Kashi** 137.61 31 *e*PKP PKPdf 06 10 52.0 +1.5
KSH sPKP 06 11 06.4
KSH PP PP 06 13 42.0 +5.9
KSH PKS PKSdf 06 14 26.8 0.0
KSH SKS SKSdf 06 17 56.7 -1.8
KSH SKKS SKKSac 06 20 28.2 -0.5
KSH SS SS 06 31 45.4 +3.6
KSH PPMZ
81nm,5.2s
KSH LN
110nm,6.8s
KSH LE
63nm,9.0s
KSH LZ
200nm,6.4s
ASAR **Alice Springs** 138.62 226 PKhKP PKPpre 06 10 46.5
0.3nm,0.5s,baz=146,slow=3.2,SNR=3.5
ASAR SKPbc SKPbc 06 14 26.6 +2.1
0.5nm,0.8s,baz=139,slow=6.3,SNR=5.0
WMQ **Urumqi** 138.69 16 *e*PKP PKPdf 06 10 51.8 -0.4
WMQ sPKP 06 11 06.0
WMQ *e*PP PP 06 13 47.0 +4.7
WMQ SS SS 06 31 56.0 +2.4
WMQ PPMZ
110nm,5.4s
WMQ LN
170nm,24.7s
WMQ LZ
160nm,22.4s
KSRS **Korea Array** 139.91 328 PKP PKPdf 06 10 55.1 +0.6
1.3nm,0.7s,baz=29,slow=0.9,SNR=4.1
KSAR **Wonju Array Be** 139.94 328 PKP PKPdf 06 10 55.1 +0.5
WRA **Warramunga Arr** 140.51 231 PKhKP PKPpre 06 10 47.3
0.9nm,0.9s,baz=121,slow=2.8,SNR=12
WRA SKP 06 14 31.3
0.4nm,0.9s,baz=117,slow=2.6,SNR=5.0
HHC **Hu-ho-hao-te** 142.96 349 *e*PKP PKPdf 06 11 00.0 -0.1
HHC pPKP pPKPdf 06 11 10.6 -1.9
HHC sPKP 06 11 14.4
HHC PP PP 06 14 12.8 +4.5
HHC SKS SKSdf 06 18 04.4 -2.7
HHC SS SS 06 32 44.8 +1.4
HHC PPMZ
36nm,9.9s
HHC LN
140nm,19.7s
HHC LE
340nm,18.5s
HHC LZ
71nm,18.5s
GTA **Gaotai** 145.18 4 *e*PKPbc PKPdf 06 11 04.8 +0.8
GTA pPKP pPKPdf 06 11 18.2 +1.7
GTA sPKP 06 11 24.2
GTA PP PP 06 14 26.8 +5.2
GTA SKS SKSdf 06 18 08.2 -2.4
GTA SKKS SKKSac 06 21 12.3 -0.1
GTA SS SS 06 33 11.0 +2.3
GTA PPMZ
63nm,9.0s
GTA LN
140nm,16.6s
GTA LE
160nm,18.5s

GTA				LZ				
	110nm,19.0s							
LZH	**Lanzhou**	**148.57**	**358**	*e*PKPbc	**PKPdf**	**06 11 08.0**	**-1.9**
LZH				pPKP	**pPKPdf**	**06 11 20.0**	**-2.3**
LZH				sPKP		06 11 25.2	
FAKI	**Fak Fak**	**149.54**	**256**	*e*PKPbc	**PKPbc**	**06 11 16.5**	**+0.1**
CD2	**Chengdu**	**153.73**	**358**	PKPbc	**PKPdf**	**06 11 14.9**	**-2.9**
CD2				pPKP	**pPKPdf**	**06 11 28.4**	**-1.8**
CD2				sPKP		06 11 33.2	
CD2				PKS	**PKSdf**	**06 14 47.8**	**-4.4**
CD2				PP	**PP**	**06 15 13.3**	**+2.3**
CD2				SKS	**SKSdf**	**06 18 15.6**	**-6.4**
CD2				SKKS	**SKKSac**	**06 21 55.6**	**-4.2**
CD2				SS	**SS**	**06 34 42.7**	**-1.3**
CD2				PPMZ			
	120nm,5.4s						
GYA	**Guiyang**	**157.86**	**350**	*e*PKP	**PKPdf**	**06 11 21.2**	**-2.3**
GYA				pPKP	**pPKPdf**	**06 11 36.8**	**+0.9**
GYA				PKS	**PKSdf**	**06 14 53.0**	**-4.4**
GYA				PP	**PP**	**06 15 37.6**	**+3.5**
GYA				SKKS		06 22 18.0	
GYA				PPMZ			
	120nm,7.6s						
GYA				LN			
	140nm,19.5s						
GYA				LE			
	120nm,20.9s						
GYA				LZ			
	130nm,18.8s						
KMI	**Kunming**	**159.52**	**360**	PKP	**PKPdf**	**06 11 22.7**	**-2.9**
KMI				pPKP	**pPKPdf**	**06 11 36.2**	**-1.9**
KMI				LZ			
	91nm,22.4s						
QIZ	**Qiongzhong**	**163.97**	**335**	PKP	**PKPdf**	**06 11 27.9**	**-2.2**
QIZ				PP	**PP**	**06 16 08.2**	**+1.0**
QIZ				SS	SS	06 36 32.1	-1.3
QIZ				LE			
	82nm,17.9s						
QIZ				LZ			
	210nm,17.4s						
CMAR	**Chiang Mai Arr**	**165.68**	**14**	PKP	**PKPdf**	**06 11 33.6**	**+2.0**
	0.5nm,0.5s,baz=294,slow=0.9,SNR=5.1						

GUC 12 06:00:25.8±0.7, 34°36S×72°15W, h48km±11km, ML3.8, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.99**	**130**	⇓	*i*P	Pn	06 00 44.0	+0.6
NICH					*e*S	Sn	06 00 57.7	+1.3
TALC	**Talca**	**1.12**	**158**	⇑	*i*P	Pn	06 00 45.6	+0.5
TALC					*e*S	Sn	06 01 00.7	+1.3
IHA	**Instituto Hidr**	**1.40**	**18**		*e*P	Pn	06 00 48.5	-0.4
RCDM	**Rinconada Maip**	**1.41**	**52**	⇑	*i*P	Pn	06 00 49.0	-0.2
RCDM					*i*S	Sn	06 01 08.3	+1.6
RCDM					AML	AML	06 01 13.9	
	comp=E,1μm,0.2s							
LNCH	**Linares**	**1.55**	**163**	⇓	*i*P	Pn	06 00 52.5	+1.5
LNCH					*e*S	Sn	06 01 13.7	+3.8
LNCH					AML	AML	06 01 16.6	
	comp=N,2μm,0.3s							
LACH	**Col Las Americ**	**1.62**	**57**		*e*P	Pn	06 00 53.0	+1.0
LACH					*i*S	Sn	06 01 14.0	+2.1
LACH					AML	AML	06 01 21.5	
	comp=N,713nm,0.5s							
CLCH	**Cerro Calan**	**1.65**	**55**	⇓	*i*P	Pn	06 00 53.3	+0.9
CLCH				⇑	*i*P	Pn	06 00 54.0	+1.5
CLCH					*i*S	Sn	06 01 14.5	+1.9
CLCH					*i*S	Sn	06 01 14.8	+2.2
CLCH					AML	AML	06 01 21.6	
	comp=E,1μm,0.8s							
CLCH					AML	AML	06 01 22.2	
	comp=E,2μm,0.8s							
SJCH	**San Jose de Ma**	**1.66**	**65**	⇓	*i*P	Pn	06 00 52.7	+0.1
SJCH					*e*S	Sn	06 01 14.8	+2.0
SJCH					AML	AML	06 01 16.7	
	comp=N,1μm,0.4s							
PEL	**Peldehue**	**1.72**	**46**	⇑	*i*P	Pn	06 00 54.5	+1.1
PEL					*i*S	Sn	06 01 16.5	+2.3
PEL					AML	AML	06 01 25.9	
	comp=N,2μm,0.5s							
YECH	**El Yeso**	**1.85**	**69**	⇑	*i*P	Pn	06 00 58.1	+2.6
YECH					*e*S	Sn	06 01 21.1	+3.1
YECH					AML	AML	06 01 26.2	
	comp=N,2μm,0.2s							

*ISCJB **12** 06:00:51.4±0.5, 39°.38N±0°.02×20°.58E±0°.03, h7km±4km, Error ellipse: s-maj=4.1km s-min=3.0km az=156.5*
*ATH **12** 06:00:51.9, 39°.38N×20°.63E, h17km±1km, MD3.5/29, ML3.9*
*CSEM **12** 06:00:51.4±0.2, 39°.39N×20°.66E, h2km, ML2.9, Error ellipse: s-maj=5.8km s-min=4.1km az=71.0*
*THE **12** 06:00:52.1, 39°.37N×20°.61E, h0km±1km, ML2.9/4, Error ellipse: s-maj=1.8km s-min=0.4km az=174.0*

ISC 12 06:00:52.5±0.9, 39°.38N±0°.02×20°.60E±0°.02, h11km±7km, n116, σ0°89/143, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**306**		P	**Pg**	**06 00 57.6**	**-0.3**
IGT					S	**Sg**	**06 01 02.2**	**+0.8**
IGT	**Igoumenitsa**	**0.26**	**306**		*e*PB	**Pg**	**06 00 57.6**	**-0.3**
IGT					*e*SB	**Sg**	**06 01 02.6**	**+1.2**
IGT	**Igoumenitsa**	**0.26**	**306**		P	**Pg**	**06 00 57.6**	**-0.3**
IGT					S	**Sg**	**06 01 02.2**	**+0.8**
IGT					*e*Sb	**Sg**	**06 01 02.6**	**+1.2**
JAN	**Janina**	**0.34**	**35**		P	**Pg**	**06 00 58.6**	**-0.7**
JAN					S	**Sg**	**06 01 03.6**	**-0.2**
JAN	**Janina**	**0.34**	**35**		*e*PB	**Pg**	**06 00 58.5**	**-0.7**
JAN					*e*SB	**Sg**	**06 01 04.0**	**+0.2**
JAN	**Janina**	**0.34**	**35**		*e*Pb	**Pg**	**06 00 58.5**	**-0.7**
JAN					*e*Sb	**Sg**	**06 01 04.0**	**+0.2**
DSL	**Palaion Diasel**	**0.46**	**123**		P	**Pg**	**06 01 00.4**	**-1.1**
LKD2	**Lefkada island**	**0.59**	**176**		P	**Pg**	**06 01 03.4**	**-0.7**
LKD2					S	**Sg**	**06 01 11.8**	**-0.1**
LKD2	**Lefkada island**	**0.59**	**176**		P	**Pg**	**06 01 03.4**	**-0.7**
LKD2					S	**Sg**	**06 01 11.8**	**-0.1**
SRN	**Sarande**	**0.68**	**317**		P	**Pg**	**06 01 05.0**	**-0.7**
SRN					S	**Sg**	**06 01 15.5**	**+0.8**
SRN	**Sarande**	**0.68**	**317**		P	**Pg**	**06 01 05.0**	**-0.7**
SRN					S	**Sg**	**06 01 15.5**	**+0.8**
KEK	**Kerkira**	**0.70**	**298**		P	**Pg**	**06 01 05.2**	**-1.0**
KEK	**Kerkira**	**0.70**	**298**		*e*PB	**Pg**	**06 01 05.2**	**-1.0**
KEK					*e*SN	**Sb**	**06 01 17.1**	**+0.6**
KEK	**Kerkira**	**0.70**	**298**		P	**Pg**	**06 01 05.2**	**-1.0**
KEK					*e*Sn	**Sb**	**06 01 17.1**	**+0.6**
PDO	**Prodromos**	**0.90**	**150**		P	**Pg**	**06 01 09.0**	**-0.9**
PDO	**Prodromos**	**0.90**	**150**		*e*PN	**Pg**	**06 01 08.7**	**-1.2**
PDO					*e*SN	**Sb**	**06 01 22.3**	**+0.1**
PDO	**Prodromos**	**0.90**	**150**		*e*Pn	**Pg**	**06 01 08.7**	**-1.2**
PDO	**Prodromos**	**0.90**	**150**		P	**Pg**	**06 01 09.0**	**-0.9**
PDO					*e*Sn	**Sb**	**06 01 22.3**	**+0.1**
EVR	**Evrytania**	**1.05**	**116**		P	**Pg**	**06 01 11.8**	**-0.9**
EVR	**Evrytania**	**1.05**	**116**		*e*PN	**Pg**	**06 01 11.4**	**-1.3**
EVR	**Evrytania**	**1.05**	**116**		*e*Pn	**Pg**	**06 01 11.4**	**-1.3**
EVR	**Evrytania**	**1.05**	**116**		P	**Pg**	**06 01 11.8**	**-0.9**
PVO	**Paravola**	**1.05**	**136**		P	**Pg**	**06 01 12.0**	**-0.7**
PVO	**Paravola**	**1.05**	**136**		P	**Pg**	**06 01 12.0**	**-0.7**
NEST	**Nestorio**	**1.09**	**18**		P	**Pg**	**06 01 12.5**	**-0.9**
NEST	**Nestorio**	**1.09**	**18**		*e*PN	**Pg**	**06 01 12.1**	**-1.4**
NEST	**Nestorio**	**1.09**	**18**		*e*Pn	**Pg**	**06 01 12.1**	**-1.4**
NEST	**Nestorio**	**1.09**	**18**		P	**Pg**	**06 01 12.5**	**-0.9**
THL	**Klokotos Trika**	**1.11**	**80**		P	**Pg**	**06 01 12.8**	**-1.0**
THL					S	**Sn**	**06 01 29.4**	**+0.3**
THL	**Klokotos Trika**	**1.11**	**80**		*e*PN	**Pb**	**06 01 13.7**	**+0.1**
THL	**Klokotos Trika**	**1.11**	**80**		P	**Pg**	**06 01 12.8**	**-1.0**
THL	**Klokotos Trika**	**1.11**	**80**		*e*Pn	**Pb**	**06 01 13.7**	**+0.1**
THL					S	**Sn**	**06 01 29.4**	**+0.3**
VLS	**Valsamata**	**1.20**	**180**		P	**Pb**	**06 01 14.5**	**-0.8**
VLS	**Valsamata**	**1.20**	**180**		*e*PN	**Pb**	**06 01 14.0**	**-1.3**
VLS	**Valsamata**	**1.20**	**180**		*e*Pn	**Pb**	**06 01 14.0**	**-1.3**
VLS	**Valsamata**	**1.20**	**180**		P	**Pb**	**06 01 14.5**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.24**	**107**		P	**Pn**	**06 01 15.1**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.24**	**107**		*e*PN	**Pn**	**06 01 14.7**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.24**	**107**		*e*Pn	**Pn**	**06 01 14.7**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.24**	**107**		P	**Pn**	**06 01 15.1**	**-0.7**
KFL	**Anninata**	**1.28**	**173**		P	**Pn**	**06 01 15.8**	**-0.5**
KFL	**Anninata**	**1.28**	**173**		S	**Pn**	**06 01 15.8**	**-0.5**
KZN	**Kozani**	**1.29**	**44**		P	**Pn**	**06 01 16.0**	**-0.5**
KZN	**Kozani**	**1.29**	**44**		*e*PN	**Pn**	**06 01 15.3**	**-1.2**
KZN	**Kozani**	**1.29**	**44**		*e*Pn	**Pn**	**06 01 15.3**	**-1.2**
KZN	**Kozani**	**1.29**	**44**		P	**Pn**	**06 01 16.0**	**-0.5**
AGG	**Agios Georgios**	**1.39**	**104**		P	**Pn**	**06 01 17.9**	**+0.1**
AGG	**Agios Georgios**	**1.39**	**104**		*e*PN	**Pn**	**06 01 17.0**	**-0.8**
AGG					*e*SN	**Sg**	**06 01 38.7**	**+1.5**
AGG	**Agios Georgios**	**1.39**	**104**		*e*Pn	**Pn**	**06 01 17.0**	**-0.8**
AGG	**Agios Georgios**	**1.39**	**104**		P	**Pn**	**06 01 17.9**	**+0.1**
AGG					*e*Sn	**Sg**	**06 01 38.7**	**+1.5**
EFP	**Efpalio**	**1.39**	**133**		*e*PN	**Pb**	**06 01 18.5**	**0.0**
EFP	**Efpalio**	**1.39**	**133**		*e*Pn	**Pb**	**06 01 18.5**	**0.0**
RLS	**Riolos of Patr**	**1.48**	**153**		*e*PN	**Pn**	**06 01 19.0**	**-0.1**
RLS	**Riolos of Patr**	**1.48**	**153**		*e*Pn	**Pn**	**06 01 19.0**	**-0.1**
FNA	**Florina**	**1.52**	**23**		P	**Pn**	**06 01 19.9**	**+0.2**
FNA	**Florina**	**1.52**	**23**		*e*PN	**Pn**	**06 01 19.5**	**-0.2**
FNA					*e*SN	**Sg**	**06 01 41.9**	**+0.4**
FNA	**Florina**	**1.52**	**23**		*e*Pn	**Pn**	**06 01 19.5**	**-0.2**
FNA	**Florina**	**1.52**	**23**		P	**Pn**	**06 01 19.9**	**+0.2**
FNA					*e*Sn	**Sg**	**06 01 41.9**	**+0.4**
KALE	**Kalithea**	**1.56**	**129**		*e*PN	**Pb**	**06 01 21.0**	**-0.3**
KALE	**Kalithea**	**1.56**	**129**		*e*Pn	**Pb**	**06 01 21.0**	**-0.3**
LIT	**Litokhoron**	**1.62**	**63**		P	**Pn**	**06 01 21.2**	**+0.2**
LIT	**Litokhoron**	**1.62**	**63**		*e*PN	**Pn**	**06 01 21.5**	**+0.5**
LIT					*e*SN	**Sg**	**06 01 44.3**	**-0.4**
LIT	**Litokhoron**	**1.62**	**63**		P	**Pn**	**06 01 21.2**	**+0.2**
LIT	**Litokhoron**	**1.62**	**63**		*e*Pn	**Pn**	**06 01 21.5**	**+0.5**
LIT					*e*Sn	**Sg**	**06 01 44.3**	**-0.4**
DRO	**Drossia**	**1.67**	**148**		*e*PN	**Pn**	**06 01 22.2**	**+0.5**
DRO	**Drossia**	**1.67**	**148**		*e*Pn	**Pn**	**06 01 22.2**	**+0.5**
AXAR	**Agios Charalam**	**1.71**	**110**		*e*PN	**Pb**	**06 01 23.4**	**-0.6**
AXAR					*e*SN	**Sb**	**06 01 46.3**	**+0.8**
AXAR	**Agios Charalam**	**1.71**	**110**		*e*Pn	**Pb**	**06 01 23.4**	**-0.6**
AXAR					*e*Sn	**Sb**	**06 01 46.3**	**+0.8**
KLV	**Kalavryta, Ach**	**1.80**	**137**		P	**Pn**	**06 01 23.9**	**+0.4**
KLV	**Kalavryta, Ach**	**1.80**	**137**		*e*PN	**Pb**	**06 01 24.7**	**-0.8**
KLV	**Kalavryta, Ach**	**1.80**	**137**		P	**Pn**	**06 01 23.9**	**+0.4**
KLV	**Kalavryta, Ach**	**1.80**	**137**		*e*Pn	**Pb**	**06 01 24.7**	**-0.8**
GUR	**Goura**	**1.98**	**136**		*e*PN	**Pn**	**06 01 27.0**	**+0.9**
GUR	**Goura**	**1.98**	**136**		*e*Pn	**Pn**	**06 01 27.0**	**+0.9**
LKR	**Lokris**	**2.00**	**111**		*e*PN	**Pn**	**06 01 27.1**	**+0.9**
LKR	**Lokris**	**2.00**	**111**		*e*Pn	**Pn**	**06 01 27.1**	**+0.9**
NEO	**Neokhori**	**2.03**	**91**		*e*PB	**Pn**	**06 01 26.2**	**-0.5**
NEO					*e*SN	**Sn**	**06 01 53.1**	**+1.1**
NEO	**Neokhori**	**2.03**	**91**		*e*Pb	**Pn**	**06 01 26.2**	**-0.5**
NEO					*e*Sn	**Sn**	**06 01 53.1**	**+1.1**
SMIA	**Simia**	**2.09**	**103**		*e*PN	**Pn**	**06 01 28.1**	**+0.7**
SMIA	**Simia**	**2.09**	**103**		*e*Pn	**Pn**	**06 01 28.1**	**+0.7**
SFD	**Strofades**	**2.15**	**171**		*e*PN	**Pn**	**06 01 29.9**	**+1.6**
SFD	**Strofades**	**2.15**	**171**		*e*Pn	**Pn**	**06 01 29.9**	**+1.6**
SKIA	**Skiathos**	**2.23**	**95**		*e*PB	**Pn**	**06 01 29.6**	**+0.2**
SKIA	**Skiathos**	**2.23**	**95**		*e*Pb	**Pn**	**06 01 29.6**	**+0.2**
HORT	**Hortiatis**	**2.27**	**57**		*e*PB	**Pn**	**06 01 30.4**	**+0.4**
HORT	**Hortiatis**	**2.27**	**57**		*e*Pb	**Pn**	**06 01 30.4**	**+0.4**
LTK	**Loutraki**	**2.29**	**126**		*e*PB	**Pn**	**06 01 30.3**	**+0.1**
LTK	**Loutraki**	**2.29**	**126**		*e*Pb	**Pn**	**06 01 30.3**	**+0.1**
PLG	**Polygyros**	**2.40**	**65**		*e*PB	**Pn**	**06 01 32.3**	**+0.6**
PLG	**Polygyros**	**2.40**	**65**		*e*Pb	**Pn**	**06 01 32.3**	**+0.6**
MRKA	**Markates**	**2.42**	**105**		*e*PB	**Pn**	**06 01 32.3**	**+0.3**
MRKA	**Markates**	**2.42**	**105**		*e*Pb	**Pn**	**06 01 32.3**	**+0.3**
ITM	**Ithomi**	**2.43**	**154**		*e*PB	**Pn**	**06 01 33.0**	**+0.8**
ITM	**Ithomi**	**2.43**	**154**		*e*Pb	**Pn**	**06 01 33.0**	**+0.8**
VLX	**Vlachokerasia**	**2.45**	**145**		*e*PN	**Pn**	**06 01 33.1**	**+0.7**
VLX	**Vlachokerasia**	**2.45**	**145**		*e*Pn	**Pn**	**06 01 33.1**	**+0.7**
KNT	**Kendrikon**	**2.50**	**44**		*e*PN	**Pn**	**06 01 33.7**	**+0.6**
KNT	**Kendrikon**	**2.50**	**44**		*e*Pn	**Pn**	**06 01 33.7**	**+0.6**
PYL	**PYLOS**	**2.64**	**160**		*e*PN	**Pn**	**06 01 32.4**	**-2.6**
PYL	**PYLOS**	**2.64**	**160**		*e*Pn	**Pn**	**06 01 32.4**	**-2.6**
NAIG	**Nisos Aigina**	**2.78**	**125**		*e*PN	**Pn**	**06 01 37.0**	**+0.1**
NAIG	**Nisos Aigina**	**2.78**	**125**		*e*Pn	**Pn**	**06 01 37.0**	**+0.1**
ATH	**Athens Observa**	**2.81**	**119**		*e*PB	**Pn**	**06 01 38.7**	**+1.3**
ATH	**Athens Observa**	**2.81**	**119**		*e*Pb	**Pn**	**06 01 38.7**	**+1.3**
SRS	**Serrai**	**2.87**	**52**		*e*PN	**Pn**	**06 01 38.8**	**+0.6**
SRS	**Serrai**	**2.87**	**52**		*e*Pn	**Pn**	**06 01 38.8**	**+0.6**
PTL	**Penteli**	**2.88**	**117**		*e*PB	**Pn**	**06 01 39.7**	**+1.4**
PTL	**Penteli**	**2.88**	**117**		*e*Pb	**Pn**	**06 01 39.7**	**+1.4**
VLI	**Veliai**	**3.23**	**145**		*e*PN	**Pn**	**06 01 43.9**	**+0.7**
VLI	**Veliai**	**3.23**	**145**		*e*Pn	**Pn**	**06 01 43.9**	**+0.7**
BARS	**Barje**	**3.55**	**15**		*e*Pn	**Pn**	**06 01 47.7**	**+0.2**
KYTH	**Kithira**	**3.65**	**147**		*e*PN	**Pn**	**06 01 51.1**	**+2.2**
KYTH	**Kithira**	**3.65**	**147**		*e*Pn	**Pn**	**06 01 51.1**	**+2.2**
STON	**Ston**	**4.12**	**329**		*e*Pn	**Pn**	**06 01 53.7**	**-1.5**
STON					Sn	Sn	06 02 37.3	-6.1
STON	**Ston**	**4.12**	**329**		*e*Pn	**Pn**	**06 01 53.9**	**-1.4**
DIVS	**Divibare**	**4.74**	**355**		*e*Pn	**Pn**	**06 02 03.7**	**-0.2**

*IDC **12** 06:46:57.2±1.5, 2°.72S×139°.26E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=30.6km s-min=15.6km az=164.0*
*ISCJB **12** 06:47:03.5±0.8, 2°.46S±0°.06×139°.38E±0°.05, h27km, mb3.3/2, Error ellipse: s-maj=9.5km s-min=6.2km az=17.1*
*DJA **12** 06:47:03.3±0.4, 3°S±6°×13°9E±°, h25km±20km, M3.5/4, MLv3.5/4*

ISC 12 06:47:01.7±0.9, 2°.54S±0°.07×139°.37E±0°.05, h27km, n8, σ2s30/11, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.80**	**94**		P	**Pn**	**06 47 18.3**	**+1.1**
GENI					S	**Sn**	**06 47 30.7**	**+2.6**
SMPI	**Sarmi**	**0.86**	**310**		P	**Pn**	**06 47 18.8**	**+0.7**
SMPI					S	**Sn**	**06 47 30.9**	**+1.1**
JAY	**Jayapura**	**1.33**	**89**		P	**Pb**	**06 47 26.0**	**0.0**
JAY	**Jayapura**	**1.33**	**89**		Pg	**Pn**	**06 47 24.6**	**0.0**
	5.7nm,0.3s,baz=263,slow=18,SNR=14							
JAY					Lg	Lg	06 47 43.3	
	13nm,0.3s,baz=96,slow=16,SNR=9.5							
WAMI	**Wamena**	**1.49**	**206**		P	**Pb**	**06 47 29.6**	**+0.9**
WAMI					S	**Sb**	**06 47 50.1**	**+2.9**
WRA	**Warramunga Arr**	**17.98**	**196**		P	**Pn**	**06 51 06.4**	**-3.6**
	0.2nm,0.3s,baz=19,slow=12,SNR=10							
ASAR	**Alice Springs**	**21.66**	**194**		P	**P**	**06 51 47.0**	**-3.3**
	0.6nm,0.5s,baz=22,slow=10,SNR=14							
MKAR	**Makanchi Array**	**70.06**	**322**		P	**P**	**06 58 11.7**	**+0.2**
	0.3nm,0.8s,baz=125,slow=6.1,SNR=3.7							

GUC 12 07:08:30.0±0.4, 37°.25S×73°.15W, h38km±1km, ML3.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.41**	**5**		*i*S	Sn	07 08 45.8	-0.3
CCSP					AML	AML	07 08 47.8	
	comp=E,24μm,0.3s							
AGCH	**Angol**	**0.66**	**147**	⇓	*i*P	Pn	07 08 42.9	0.0
AGCH					*i*S	Sn	07 08 52.1	0.0
COCH	**Cobquecura**	**1.16**	**15**	⇑	*i*P	Pn	07 08 50.4	+0.7
COCH					*e*S	Sn	07 09 05.8	+1.6
COCH					AML	AML	07 09 10.3	
	comp=N,927nm,0.3s							
LNCH	**Linares**	**1.88**	**42**		*e*P	Pn	07 09 01.1	+1.5
LNCH					*i*S	Sn	07 09 25.2	+3.2
LNCH					AML	AML	07 09 35.3	
	comp=N,1μm,0.5s							
TALC	**Talca**	**2.22**	**34**	⇑	*i*P	Pn	07 09 06.0	+1.7
TALC					*i*S	Sn	07 09 33.5	+3.1

*NEIC **12** 07:19:47.7, 38°.25S×177°.36E, h49km, ML4.0(WEL), After WEL.*

WEL 12 07:19:47.8±0.1, 38°.25S×177°.37E, h44km±1km, ML3.7/10, 12C-29D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.15**	**124**	⇓	PN	Pn	07 19 54.6	-0.7
MWZ					SN	Sn	07 20 00.4	-0.1
MWZ					AML	AML	07 20 00.8	
MWZ					AML	AML	07 20 00.8	
MWZ					AML	AML	07 20 00.9	
MWZ	**Matawai**	**0.15**	**124**		Pn	Pn	07 19 54.6	-0.7
MWZ					Sn	Sn	07 20 00.4	-0.1
URZ	**Urewera**	**0.20**	**268**	⇓	PN	Pn	07 19 55.0	-0.6
URZ					SN	Sn	07 20 00.8	-0.2
URZ					AML	AML	07 20 00.9	
URZ	**Urewera**	**0.20**	**268**		Pn	Pn	07 19 55.0	-0.6
URZ					Sn	Sn	07 20 00.8	-0.2
TKGZ	**Te Karaka**	**0.42**	**116**	⇓	PN	Pn	07 19 57.7	0.0
TKGZ					SN	Sn	07 20 05.7	+0.9
TWGZ	**Tauwhareparae**	**0.49**	**81**	⇓	PN	Pn	07 19 59.0	+0.3
EDRZ	**Edgecumbe**	**0.52**	**286**	⇓	PN	Pn	07 19 58.9	-0.2
EDRZ	**Edgecumbe**	**0.52**	**286**		Pn	Pn	07 19 58.9	-0.2
SNGZ	**Shannon Statio**	**0.53**	**183**	⇓	PN	Pn	07 19 59.3	+0.1
RIGZ	**Rimuhau**	**0.55**	**146**	⇓	PN	Pn	07 19 59.5	+0.1
HAZ	**Te Kaha**	**0.59**	**33**	⇑	PN	Pn	07 19 59.0	-1.0
MARZ	**Manawahe**	**0.61**	**296**	⇑	PN	Pn	07 19 59.9	-0.3
MARZ	**Manawahe**	**0.61**	**296**		Pn	Pn	07 19 59.9	-0.3
RRRZ	**Republican Roa**	**0.68**	**262**	⇓	PN	Pn	07 20 00.8	-0.3
RRRZ	**Republican Roa**	**0.68**	**262**		Pn	Pn	07 20 00.8	-0.3
TARZ	**Mount Tarawera**	**0.68**	**271**	⇓	PN	Pn	07 20 01.2	0.0
TARZ	**Mount Tarawera**	**0.68**	**271**		Pn	Pn	07 20 01.2	0.0
CNGZ	**Carnagh Statio**	**0.70**	**110**		PN	Pn	07 20 01.4	+0.1
RAHZ	**Arahi**	**0.70**	**198**		PN	Pn	07 20 01.6	+0.2
RAHZ	**Arahi**	**0.70**	**198**		Pn	Pn	07 20 01.6	+0.2
MKRZ	**Makatiti**	**0.72**	**279**		PN	Pn	07 20 01.6	-0.1
MKRZ	**Makatiti**	**0.72**	**279**		Pn	Pn	07 20 01.6	-0.1
PUZ	**Puketiti**	**0.72**	**76**	⇓	PN	Pn	07 20 01.6	-0.1
PUZ					AML	AML	07 20 15.4	
PUZ					AML	AML	07 20 17.2	
PUZ	**Puketiti**	**0.72**	**76**		Pn	Pn	07 20 01.6	-0.1
WIZ	**White Island**	**0.74**	**349**		PN	Pn	07 20 00.6	-1.2
WIZ	**White Island**	**0.74**	**349**		Pn	Pn	07 20 01.1	-0.8
OPRZ	**Ohinepanea**	**0.76**	**302**	⇓	PN	Pn	07 20 01.5	-0.7
OPRZ	**Ohinepanea**	**0.76**	**302**		Pn	Pn	07 20 01.5	-0.7
PRGZ	**Paritu Road**	**0.78**	**149**		PN	Pn	07 20 02.0	-0.5
PRGZ	**Paritu Road**	**0.78**	**149**		Pn	Pn	07 20 02.0	-0.5
OMRZ	**Omania**	**0.80**	**280**	⇓	PN	Pn	07 20 02.4	-0.3
OMRZ	**Omania**	**0.80**	**280**		Pn	Pn	07 20 02.4	-0.3
HLRZ	**Highlands Stat**	**0.80**	**270**		PN	Pn	07 20 02.5	-0.2
KNZ	**Kokohu**	**0.80**	**163**	⇑	PN	Pn	07 20 02.0	-0.7
KNZ	**Kokohu**	**0.80**	**163**		Pn	Pn	07 20 02.0	-0.7
PRRZ	**Plateau Road**	**0.81**	**252**	⇓	PN	Pn	07 20 02.3	-0.5
PRRZ	**Plateau Road**	**0.81**	**252**		Pn	Pn	07 20 02.4	-0.5
LIRZ	**Lichensteins R**	**0.82**	**287**	⇓	PN	Pn	07 20 02.6	-0.3
LIRZ	**Lichensteins R**	**0.82**	**287**		Pn	Pn	07 20 02.6	-0.3
WHHZ	**Waihua**	**0.83**	**187**	⇑	PN	Pn	07 20 03.1	0.0
ALRZ	**Allen Road**	**0.86**	**249**	⇓	PN	Pn	07 20 03.2	-0.4
ALRZ	**Allen Road**	**0.86**	**249**		Pn	Pn	07 20 03.2	-0.4
HRRZ	**Handcock Road**	**0.87**	**260**		PN	Pn	07 20 03.2	-0.4
HRRZ	**Handcock Road**	**0.87**	**260**		Pn	Pn	07 20 03.2	-0.4
KARZ	**Kaharoa**	**0.92**	**284**	⇓	PN	Pn	07 20 03.9	-0.5
KARZ	**Kaharoa**	**0.92**	**284**		Pn	Pn	07 20 03.9	-0.4
UTU	**Utuhina**	**0.93**	**274**		PN	Pn	07 20 04.7	+0.2
UTU	**Utuhina**	**0.93**	**274**		Pn	Pn	07 20 04.7	+0.2
WMGZ	**Waiomatatini S**	**0.93**	**63**	⇓	PN	Pn	07 20 04.6	+0.2
NMHZ	**Naumai**	**0.95**	**207**		PN	Pn	07 20 05.3	+0.4
NMHZ	**Naumai**	**0

Cajon, California. Also felt at Calexico, Cathedral City, Desert Hot Springs, El Centro, Escondido, Imperial, La Mesa, Long Beach, Moreno Valley, Perris, San Diego and San Marcos.

ISC 12 07:44:21.0±1.0, 32°57N±0.02×115°69W±0.02, h7km±8km, n32, σ1§25/58, 5C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.08**	**341**	⇓*i*P		**Pg**	**07 44 23.3**	**+0.2**
YUH	**Yuha Desert**	**0.21**	**292**	⇑*i*P		**Pg**	**07 44 25.1**	**-0.1**
COK	**Cook Ranch**	**0.28**	**354**	⇓*i*P		**Pg**	**07 44 26.9**	**+0.3**
RMX	**La Rumorosa**	**0.33**	**276**	⇑*e*P		**Pg**	**07 44 27.4**	**-0.1**
RMX				*e*S		**Sg**	**07 44 31.7**	**-0.2**
RMX				⇓*e*			07 44 31.9	
RMX					AML	AML	07 44 31.9	
	comp=N,14μm,0.2s							
CPBX	**Cerro Prieto**	**0.36**	**115**	*e*P		**Pb**	**07 44 29.6**	**-0.2**
CPBX				⇓*e*			07 44 39.7	
CPBX					AML	AML	07 44 39.7	
	comp=E,51μm,0.6s							
MBIG	**Mexicali**	**0.45**	**111**	*i* P		**Pb**	**07 44 31.2**	**0.0**
MBIG				*i* S		**Sb**	**07 44 38.6**	**+0.5**
RDX	**Rancho Dawling**	**0.67**	**198**	⇑*e*P		**Pg**	**07 44 34.1**	**+0.1**
RDX				*e*S		**Sg**	**07 44 43.1**	**+0.3**
EMX	**El Mayor**	**0.69**	**146**	⇓*e*P		**Pg**	**07 44 34.2**	**-0.2**
EMX				*e*S		**Sg**	**07 44 44.5**	**+1.1**
BAR	**Barrett**	**0.83**	**278**	*e*Pg		**Pg**	**07 44 36.4**	**-0.6**
BAR				*e*Sg		**Sg**	**07 44 46.8**	**-1.1**
CBX	**Cerro Bola**	**0.86**	**253**	*i* P		**Pg**	**07 44 37.1**	**-0.5**
CBX				*i* S		**Sg**	**07 44 49.1**	**+0.4**
CBX	**Cerro Bola**	**0.86**	**253**	⇑*e*P		**Pg**	**07 44 37.2**	**-0.3**
CBX				*e*S		**Sg**	**07 44 48.7**	**0.0**
CBX					AML	AML	07 44 51.4	
	comp=N,2μm,0.4s							
CBX				⇓*e*			07 44 51.4	
GLA	**Glamis**	**0.87**	**56**	*e*Pg		**Pg**	**07 44 36.9**	**-0.9**
GLA				*e*Sg		**Sg**	**07 44 48.6**	**-0.6**
ZAX	**El Zacaton**	**1.16**	**205**	*e*P		**Pg**	**07 44 42.8**	**-0.5**
ZAX				*e*S		**Sg**	**07 44 58.4**	**0.0**
ZAX					AML	AML	07 45 02.6	
	comp=N,3μm,0.5s							
ZAX				*e*			07 45 02.6	
ECNX	**Esteban Cantu**	**1.19**	**220**	*e*P		**Pg**	**07 44 43.1**	**-0.7**
ECNX				*e*S		**Sg**	**07 44 58.9**	**-0.4**
PBX	**Punta Banda**	**1.20**	**227**	⇑*e*P		**Pg**	**07 44 43.3**	**-0.8**
PBX				*e*S		**Sg**	**07 44 59.3**	**-0.4**
PFO	**Pinyon Flats O**	**1.22**	**329**	*e*Pg		**Pg**	**07 44 41.5**	**-3.0**
PFO				*e*Sg		**Sg**	**07 44 58.5**	**-1.7**
ECBX	**El Chinero**	**1.22**	**153**	⇓*e*P		**Pg**	**07 44 43.7**	**-0.8**
ECBX				*e*S		**Sb**	**07 45 00.8**	**+0.4**
SPIG	**San Pedro Mart**	**1.53**	**173**	*i* P		**Pb**	**07 44 49.7**	**-0.2**
SPIG				*e*S		**Sn**	**07 45 09.8**	**+0.4**
SPX	**San Pedro Mart**	**1.53**	**173**	*e*P		**Pn**	**07 44 49.0**	**-0.1**
214A	**Organ Pipe Nat**	**2.52**	**103**	*e*Pn		**Pn**	**07 45 00.2**	**-2.2**
214A				*e*Sn		**Sn**	**07 45 30.9**	**-2.4**
MWC	**Mount Wilson**	**2.58**	**310**	*e*Pn		**Pn**	**07 45 03.9**	**+0.6**
MWC				*e*Sn		**Sn**	**07 45 35.8**	**+0.8**
GSC	**Goldstone, Bar**	**2.88**	**342**	*e*Pn		**Pn**	**07 45 07.3**	**-0.1**
GSC				*e*Sg		**Sg**	**07 45 53.9**	**+0.4**
ISA	**Isabella, Lake**	**3.85**	**324**	*e*Pn		**Pn**	**07 45 21.6**	**+0.8**
ISA				*e*Sn		**Sn**	**07 46 08.3**	**+1.9**
SHPR	**Sheep Range**	**3.95**	**6**	*e*Pn		**Pn**	**07 45 22.2**	**-0.1**
SHPR				*e*Sn		**Sn**	**07 46 09.6**	**+0.7**
TUC	**Tucson**	**4.16**	**92**	*e*Pn		**Pn**	**07 45 23.0**	**-2.0**
TUC				*e*Sn		**Sn**	**07 46 16.9**	**+3.0**
WUAZ	**Wupatki**	**4.64**	**49**	*e*Pn		**Pn**	**07 45 31.9**	**+0.3**
WUAZ				*e*Sn		**Sn**	**07 46 27.0**	**+1.2**
CCUT	**Cedar City**	**5.32**	**20**	*e*Pn		**Pn**	**07 45 41.4**	**+0.2**
	comp=N,7.1nm,0.9s							
CCUT				*e*Sn		**Sn**	**07 46 39.3**	**-3.5**
ARUT	**Antelope Range**	**5.52**	**19**	*e*Pn		**Pn**	**07 45 45.6**	**+1.8**
	comp=N,0.7nm,0.4s							
ARUT				*e*Sn		**Sn**	**07 46 47.1**	**-0.6**
W18A	**Petrified Fore**	**5.57**	**61**	*e*Pn		**Pn**	**07 45 45.1**	**+0.6**
	comp=N,21nm,0.6s							
W18A				*e*Sn		**Sn**	**07 46 52.0**	**+3.1**
121A	**Cookes Peak, D**	**6.68**	**88**	*e*Pn		**Pn**	**07 45 59.2**	**-0.5**
	comp=N,11nm,0.3s							
MVCO	**Mesa Verde**	**7.51**	**50**	*e*Pn		**Pn**	**07 46 13.2**	**+2.1**
	comp=N,5.8nm,0.6s							
MVCO				*e*Sn		**Sn**	**07 47 37.9**	**+1.2**
SRU	**San Rafael Swe**	**7.76**	**31**	*e*Pn		**Pn**	**07 46 16.1**	**+1.6**
	comp=N,9.6nm,0.7s							
SRU				*e*Sg		**Sg**	**07 48 30.0**	**0.0**

GUC 12 07:50:09.7±0.5, 37°70S×73°13W, h14km±6km, ML3.6, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.36**	**108**	⇑*i*P		Pg	07 50 17.3	+0.2
AGCH				*i* S		Sg	07 50 22.8	+0.6
CCSP	**San Pedro de C**	**0.85**	**1**	⇑*i*P		Pb	07 50 25.9	-0.3
CCSP				*i* S		Sb	07 50 37.8	+0.3
CCSP					AML	AML	07 50 39.5	
	comp=E,3μm,0.4s							
COCH	**Cobquecura**	**1.59**	**10**	⇑*i*P		Pn	07 50 37.2	-0.1
COCH				*i* S		Sb	07 50 58.5	-0.2
LNCH	**Linares**	**2.22**	**34**	⇓*i*P		Pn	07 50 44.8	-1.2
LNCH				*e*S		Sb	07 51 16.8	-0.1
TALC	**Talca**	**2.59**	**28**	*i* S		Sb	07 51 25.8	-1.9
CLCH	**Cerro Calan**	**4.79**	**27**	⇓*i*P		Pn	07 51 19.1	-2.4
CLCH				*e*S		Sn	07 52 13.7	-3.1

BJI **12** *07:57:18.5, 76°.90N×18°.90W, h10km, mB5.0/37, mb5.0/48, Ms5.0/38, Ms7 4.6/36*

ISCJB **12** *07:57:19.2±0.5, 76°.93N±0°.01×18°.94E±0°.07, h1km±3km, mb4.9/174, MS4.2/51, Error ellipse: s-maj=3.0km s-min=1.9km az=145.0*

KOLA **12** *07:57:19.8, 77°.01N×19°.30E, h0km*

IDC **12** *07:57:20.4±0.3, 76°.89N×18°.56E, h0km, mb4.6/32, mb1 4.7/36, mb1mx4.7/40, mbtmp4.6/36, ML4.0/4, MS4.1/36, Ms1 4.1/36, ms1mx4.0/47, Error ellipse: s-maj=10.5km s-min=5.0km az=70.0*

MOS **12** *07:57:21.5±1.3, 76°.93N×18°.54E, h19km, mb5.1/79, MS4.2/33, Error ellipse: s-maj=21.3km s-min=3.2km az=90.7*

GCMT **12** *07:57:22.5±0.2, 77°.01N×19°.61E, h12km, MW4.9/71, Moment Tensor Solution. s25,c27; s71,c113; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.70±.08; Mθθ2.10±.07; Mφφ-0.39±.08; Mrθ0.84±.23; Mrφ1.31±.06; Mθφ-1.97±.27; Best double couple: M☐3.08100×10^16 NP1:φ☐34.00000°, δ57.00000°, λ-140.00000°. NP2: φ☐280.00000°, δ57.00000°, λ-40.00000°. Principal axes: T 2.6620, Plg0.0000°, Azm157.0000°; N 0.8450, Plg40.0000°, Azm67.0000°; P -3.4990, Plg50.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM **12** *07:57:22.4±0.1, 76°.90N×19°.07E, h13km, mb4.9/99, Ms3.9 Error ellipse: s-maj=3.7km s-min=2.7km az=75.0*

NEIC **12** *07:57:22.4±0.2, 76°.88N×18°.74E, h10km, mb5.0/86, Error ellipse: s-maj=5.2km s-min=3.3km az=75.0*

BER **12** *07:57:23.5, 77°.07N×19°.46E, h15km, MD3.0, ML4.6, ML4.9(NAO)*

SZGRF **12** *07:57:54.3, 73°.74N×20°.99E, h10km, mb4.7, MS4.0, Barents Sea*

ISC 12 07:57:22.8±0.3, 76°.95N±0°.02×18°.91E±0°.02, h12km±1km, h11km: pP-P, n1089, σ1§37/1154, mb4.9/174, MS4.2/52, 205C-176D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.76**	**276**	Pg		**Pg**	**07 57 36.0**	**-1.6**
HSP				Lg		Lg	07 57 45.7	
HSP	**Hornsund**	**0.76**	**276**	*i* P		**Pg**	**07 57 35.8**	**-1.8**
HSP				*i* S		**Sg**	**07 57 45.5**	**-2.1**
HSP	**Hornsund**	**0.76**	**276**	Pg		**Pg**	**07 57 36.0**	**-1.6**
HSP				Lg		Lg	07 57 45.7	
HSPB	**Hornsund (broa**	**0.77**	**276**	⇑*i*P		**Pg**	**07 57 35.9**	**-1.8**
HSPB				*e*S		**Sg**	**07 57 45.5**	**-2.1**
HSPB	**Hornsund (broa**	**0.77**	**276**	⇑*i*P		**Pg**	**07 57 35.8**	**-1.8**
	SNR=92							
HSPB				*e*S		**Sg**	**07 57 45.5**	**-2.1**
	SNR=90							
SPA0	**Spitsbergen Ar**	**1.35**	**337**	Pn		**Pn**	**07 57 44.7**	**-2.8**
	baz=147,slow=16							
SPA0				Pg		**Pn**	**07 57 45.9**	**-1.7**
	baz=147,slow=18							
SPA0				Lg		Lg	07 58 01.9	
	baz=138,slow=28							
SPA0	**Spitsbergen Ar**	**1.35**	**337**	Pn		**Pn**	**07 57 44.7**	**-2.8**
	baz=147,slow=16							
SPA0				Pg		**Pn**	**07 57 45.9**	**-1.7**
	baz=147,slow=18							
SPA0				Lg		Lg	07 58 01.9	
	baz=138,slow=28							
SPA0	**Spitsbergen Ar**	**1.35**	**337**	Pn		**Pn**	**07 57 44.7**	**-2.8**
	SNR=55							
SPA0	**Spitsbergen Ar**	**1.35**	**337**	Pg		**Pn**	**07 57 45.9**	**-1.7**
	SNR=91							
SPA0				Lg		Lg	07 58 01.9	
	SNR=92							
SPITS	**Spitsbergen Ar**	**1.35**	**337**	Pn		**Pn**	**07 57 45.1**	**-2.5**
	baz=153,slow=23							
SPITS				Lg		Lg	07 58 05.0	
	baz=150,slow=32,SNR=7.9							
HOPEN	**Hopen**	**1.48**	**104**	Pn		**Pn**	**07 57 46.7**	**-2.4**
HOPEN				Pg		**Pn**	**07 57 49.0**	**-0.2**
HOPEN				Lg		Lg	07 58 07.8	
HOPEN	**Hopen**	**1.48**	**104**	*e*P		**Pn**	**07 57 46.8**	**-2.4**
HOPEN				*e*Pg		**Pb**	**07 57 48.7**	**-1.5**
HOPEN				*e*Sg		**Sn**	**07 58 07.8**	**-0.5**
HOPEN				IAML			07 58 11.3	
	comp=Z,15μm,0.5s							
HOPEN	**Hopen**	**1.48**	**104**	Pn		**Pn**	**07 57 46.7**	**-2.4**
HOPEN	**Hopen**	**1.48**	**104**	Pg		**Pn**	**07 57 49.0**	**-0.2**
HOPEN				*e*Sg		**Sn**	**07 58 07.8**	**-0.5**
	SNR=91							
BJO	**Bjornoya**	**2.46**	**178**	Pn		**Pn**	**07 58 02.1**	**-0.6**
BJO				Pg		**Pb**	**07 58 07.4**	**+0.5**
BJO				Lg		Lg	07 58 39.1	
BJO	**Bjornoya**	**2.46**	**178**	*e*P		**Pn**	**07 58 02.1**	**-0.6**
BJO				*e*Pg		**Pb**	**07 58 07.2**	**+0.3**
BJO				*e*Sg		**Sb**	**07 58 38.3**	**+1.3**
BJO				IAML			07 58 47.0	
	comp=Z,7μm,0.6s							
BJO	**Bjornoya**	**2.46**	**178**	*e*P		**Pn**	**07 58 02.1**	**-0.6**
	SNR=55							
BJO	**Bjornoya**	**2.46**	**178**	Pg		**Pb**	**07 58 07.4**	**+0.5**
BJO				*e*Sg		**Sb**	**07 58 38.3**	**+1.3**
	SNR=91							
BJO				Lg		Lg	07 58 39.2	
KBS	**Kingsbay**	**2.47**	**327**	Pn		Pn	07 57 59.6	-3.2
KBS				Pg		**Pn**	**07 58 05.3**	**+2.5**
KBS				Lg		Lg	07 58 37.7	
KBS	**Kingsbay**	**2.47**	**327**	*e*P		Pn	07 57 59.5	-3.2
KBS	**Kingsbay**	**2.47**	**327**	*i* P		Pn	07 57 59.4	-3.4
KBS				Pg		**Pn**	**07 58 05.3**	**+2.5**
KBS				*e*Sg		**Sb**	**07 58 37.8**	**+0.5**
KBS	**Kingsbay**	**2.47**	**327**	Pn		Pn	07 57 59.6	-3.2
KBS	**Kingsbay**	**2.47**	**327**	Pg		**Pn**	**07 58 05.3**	**+2.5**
KBS				Lg		Lg	07 58 37.7	
KBS				*e*Sg		**Sg**	**07 58 41.6**	**-0.4**
KBS	**Kingsbay**	**2.47**	**327**	*e*Pn		Pn	07 57 59.5	-3.4
KBS				*e*Sg		**Sg**	**07 58 41.6**	**-0.4**
TRO	**Tromso**	**7.36**	**180**	*e*P		**Pn**	**07 59 08.1**	**-1.8**
TRO	**Tromso**	**7.36**	**180**	*e*P		**Pn**	**07 59 08.1**	**-1.8**
	SNR=51							
KEV	**Kevo**	**7.58**	**158**	*e*P		**Pn**	**07 59 11.3**	**-1.7**
KEV				*e*			08 00 36.5	
KEV	**Kevo**	**7.58**	**158**	*e*p		**Pn**	**07 59 10.3**	**-2.7**
	comp=Z,21nm,0.3s							
KEV	**Kevo**	**7.58**	**158**	*e*P		**Pn**	**07 59 11.3**	**-1.7**
KEV				*e*Sn		**Sn**	**08 00 36.5**	**-2.2**
KEV	**Kevo**	**7.58**	**158**	*e*Pn		**Pn**	**07 59 11.3**	**-1.7**
KEV				*e*Sn		**Sn**	**08 00 36.5**	**-2.2**
ARA0	**ARCESS Array S**	**7.69**	**162**	Pn		Pn	07 59 11.2	-3.2
	baz=354,slow=14							
ARA0				Sn		Sn	08 00 32.4	-8.8
	baz=0.2,slow=22							
ARA0	**ARCESS Array S**	**7.69**	**162**	P		Pn	07 59 11.2	-3.2
	baz=354,slow=14							
ARA0				S		Sn	08 00 32.4	-8.8
	baz=0.2,slow=22							
ARA0	**ARCESS Array S**	**7.69**	**162**	P		Pn	07 59 11.2	-3.2
	SNR=51							
ARCES	**ARCESS Array B**	**7.69**	**162**	P		Pn	07 59 11.2	-3.2
ARCES							08 00 34.4	
ARCES				pmax		pmax		
	comp=Z,20nm,0.3s							
ARCES				smax		smax		
	comp=N,63nm,0.3s							
ARCES				MLR		MLR		
	comp=Z,1μm,21.6s							
ARCES	**ARCESS Array B**	**7.69**	**162**	Pn		Pn	07 59 11.2	-3.2
	comp=Z,20nm,0.3s,baz=352,slow=12,SNR=83							
ARCES				Sn		Sn	08 00 34.4	-6.9
	comp=Z,63nm,0.3s,baz=346,slow=25,SNR=9.7							
ARCES				Lg		Lg	08 01 20.0	
	comp=Z,36nm,0.3s,baz=340,slow=29,SNR=3.4							
ARCES				LR		LR	08 02 18.0	
	comp=Z,1μm,21.6s,baz=344,slow=39							
ARE0	**ARCESS Array S**	**7.69**	**162**	*e*P		**Pn**	**07 59 12.0**	**-2.4**
ARE0	**ARCESS Array S**	**7.69**	**162**	*e*P		**Pn**	**07 59 12.0**	**-2.4**
	SNR=51							
KTK1	**Kautokeino**	**8.08**	**169**	*e*P		**Pn**	**07 59 18.9**	**-0.9**
KTK1	**Kautokeino**	**8.08**	**169**	*e*P		**Pn**	**07 59 18.9**	**-0.9**
	SNR=51							
DAG	**Danmarks Havn**	**8.45**	**287**	*i* P		**Pn**	**07 59 23.4**	**-1.4**
DAG	**Danmarks Havn**	**8.45**	**287**	*i* P		**Pn**	**07 59 23.4**	**-1.4**
LOF	**Lofoten**	**9.00**	**193**	*e*P		**Pn**	**07 59 31.7**	**-0.7**
LOF				*e*S		**Sn**	**08 01 08.2**	**-5.3**
LOF	**Lofoten**	**9.00**	**193**	*e*P		**Pn**	**07 59 31.7**	**-0.7**
	SNR=51							
JNW	**Jan Mayen West**	**9.49**	**246**	*e*P		**Pn**	**07 59 39.2**	**+0.1**
JNW	**Jan Mayen West**	**9.49**	**246**	*e*P		**Pn**	**07 59 39.2**	**+0.1**
	SNR=51							
JMIC	**Jan Mayen**	**9.54**	**246**	Pn		**Pn**	**07 59 40.3**	**+0.5**
	comp=Z,74nm,0.3s,baz=9.7,slow=5.1,SNR=9.1							
JMIC				LR		LR	08 02 32.0	
	comp=Z,774nm,19.7s,baz=72,slow=33							
LVZ	**Lovozero**	**10.20**	**145**	Pn		Pn	07 59 44.9	-4.0
	comp=Z,621nm,0.5s,SNR=28							
LVZ	**Lovozero**	**10.20**	**145**	*e*P		Pn	07 59 45.8	-3.1
LVZ	**Lovozero**	**10.20**	**145**	*e*P		Pn	07 59 45.8	-3.1
LVZ	**Lovozero**	**10.20**	**145**	*e*Pn		Pn	07 59 44.2	-4.7
	comp=Z,77nm,0.6s							
APA0	**Apatity Array**	**10.27**	**148**	Pn		Pn	07 59 45.0	-4.8
	baz=343,slow=12							
APA0	**Apatity Array**	**10.27**	**148**	P		Pn	07 59 45.0	-4.8
	baz=343,slow=12							
APA0	**Apatity Array**	**10.27**	**148**	P		Pn	07 59 45.0	-4.8
APA0				S		Sn	08 01 34.6	-10
APA	**Apatity**	**10.36**	**148**	⇑*i*P		Pn	07 59 46.0	-4.9
APA					pmax	pmax		
	comp=Z,99nm,1.0s							
APA	**Apatity**	**10.36**	**148**	P		Pn	07 59 46.2	-4.7
APA				S		Sn	08 01 36.7	-10
KONS	**Konsvik**	**10.65**	**193**	*e*P		**Pn**	**07 59 54.2**	**-0.7**
KONS	**Konsvik**	**10.65**	**193**	*e*P		**Pn**	**07 59 54.2**	**-0.7**
	SNR=51							
MOR8	**Moi Rana**	**10.92**	**190**	*e*Pn		**Pn**	**07 59 58.9**	**+0.2**
MOR8	**Moi Rana**	**10.92**	**190**	*e*Pn		**Pn**	**07 59 58.9**	**+0.2**
	SNR=55							
NSS	**Namsos**	**12.67**	**194**	*e*Pn		**Pn**	**08 00 23.8**	**+1.3**
NSS	**Namsos**	**12.67**	**194**	*e*Pn		**Pn**	**08 00 23.8**	**+1.3**
	SNR=55							
TBLU	**Trondheim**	**14.04**	**196**	*e*Pn		**Pn**	**08 00 43.1**	**+1.8**
ALE	**Alert**	**14.09**	**328**	Pn		Pn	08 00 37.7	-4.1
	comp=Z,127nm,1.0s,SNR=10							
TMCR	**Tamitsa**	**14.20**	**144**	*e*P		Pn	08 00 36.3	-7.0
TMCR					pmax	pmax		
	comp=Z,50nm,0.4s							
JOF	**Joensuu**	**14.66**	**157**	*e*P		Pn	08 00 40.4	-9.3
JOF					pmax	pmax		
	comp=Z,5.0nm,0.4s							
JOF	**Joensuu**	**14.66**	**157**	*e*p		Pn	08 00 40.4	-9.3
	comp=Z,5.1nm,0.4s							
SUMG	**Summit**	**15.09**	**283**	*e*P		**Pn**	**08 00 53.2**	**-2.6**
SUMG				*e*			08 03 42.1	
SUMG	**Summit**	**15.09**	**283**	*e*Pn		**Pn**	**08 00 53.2**	**-2.6**
SUMG				*e*Sn		**Sn**	**08 03 42.1**	**-0.7**
SUMG	**Summit**	**15.09**	**283**	*i* P		**Pn**	**08 00 56.0**	**+0.2**
	comp=Z,173nm,1.0s							
KAF	**Kangasniemi**	**15.11**	**167**	*e*P		Pn	08 00 50.2	-5.5
KAF					pmax	pmax		
	comp=Z,4.0nm,0.4s							
KAF	**Kangasniemi**	**15.11**	**167**	*e*p		Pn	08 00 50.2	-5.5
	comp=Z,4.0nm,0.4s							
AKN	**Aaknes**	**15.35**	**201**	*e*Pn		**P**	**08 01 01.9**	**-1.7**
FIA0	**FINESS Array S**	**15.76**	**167**	Pn		Pn	08 00 58.5	-5.8
	baz=356,slow=14							
FIA0				Sn		Sn	08 03 44.5	-14
	baz=3.6,slow=22							
FIA0	**FINESS Array S**	**15.76**	**167**	Pn		Pn	08 00 58.5	-5.8
	baz=356,slow=14							
FIA0				Sn		Sn	08 03 44.5	-14
	baz=3.6,slow=22							
FINES	**FINESS Array B**	**15.76**	**167**	Pn		Pn	08 00 58.7	-5.6
	comp=Z,1.1nm,0.3s,baz=357,slow=11,SNR=35							
FINES				Sn		Sn	08 03 47.2	-11
	comp=Z,3.0nm,0.3s,baz=3.7,slow=24,SNR=4.6							
FINES				LR		LR	08 07 07.7	
	comp=Z,963nm,20.2s,baz=352,slow=37							
FOO	**Floro**	**16.09**	**204**	*e*Pn		**P**	**08 01 10.5**	**-1.3**
FOO	**Floro**	**16.09**	**204**	*e*Pn		**P**	**08 01 10.5**	**-1.3**
	SNR=55							
NB2	**NORSAR Subarra**	**16.19**	**194**	P		**Pn**	**08 01 09.0**	**-0.9**
NB2	**NORSAR Subarra**	**16.19**	**194**	P		**Pn**	**08 01 09.0**	**-0.9**
	comp=Z,67nm,0.9s,baz=6.2,slow=11							
NB2	**NORSAR Subarra**	**16.19**	**194**	P		**Pn**	**08 01 09.0**	**-0.9**
NOA	**NORSAR Array B**	**16.19**	**194**	P		**Pn**	**08 01 09.6**	**-0.3**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.3s							
NOA				MLR		MLR		
	comp=Z,411nm,18.1s							
NOA	**NORSAR Array B**	**16.19**	**194**	Pn		**Pn**	**08 01 09.6**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=4.0,slow=13,SNR=31							
NOA				LR		LR	08 08 36.3	
	comp=Z,411nm,18.1s,baz=15,slow=42							
HYA	**Hoyanger**	**16.42**	**202**	*e*Pn		**Pn**	**08 01 12.3**	**-0.4**
HYA	**Hoyanger**	**16.42**	**202**	*e*Pn		**Pn**	**08 01 12.3**	**-0.4**
	SNR=55							
HFS	**Hagfors**	**16.99**	**189**	P		**Pn**	**08 01 18.7**	**-1.2**
	baz=15,slow=14							
HFS	**Hagfors**	**16.99**	**189**	P		**Pn**	**08 01 18.7**	**-1.2**
	baz=15,slow=14							
HFS	**Hagfors**	**16.99**	**189**	Pn		**Pn**	**08 01 15.6**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=22,slow=12,SNR=8.1							
HFS				LR		LR	08 08 21.5	
	comp=Z,537nm,18.5s,baz=2.5,slow=39							
HFS	**Hagfors**	**16.99**	**189**	P		**Pn**	**08 01 18.7**	**-1.2**
	SNR=51							
ASK	**Askoy**	**17.18**	**203**	*e*Pn		**P**	**08 01 25.4**	**+1.5**
RUND	**Rundenannen**	**17.23**	**203**	*e*		**Pn**	**08 01 20.3**	**-2.7**
OSL	**Oslo**	**17.32**	**194**	*e*		**P**	**08 01 26.1**	**+0.7**
BORG	**Borgarnes**	**17.43**	**248**	P		**Pn**	**08 01 24.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=41,slow=18,SNR=1.9							
BORG				LR		LR	08 06 04.1	
	comp=Z,187nm,21.4s,baz=31,slow=30							
ODD1	**Odda**	**17.62**	**201**	*e*P		**P**	**08 01 28.9**	**+0.1**
ODD1	**Odda**	**17.62**	**201**	*e*P		**P**	**08 01 28.9**	**+0.1**
	SNR=51							
KONO	**Kongsberg**	**17.67**	**196**	*e*P		**Pn**	**08 01 28.1**	**-0.3**
KONO					pmax	pmax		
	comp=Z,54nm,0.9s							
KONO	**Kongsberg**	**17.67**	**196**	*e*P		**Pn**	**08 01 27.6**	**-0.8**
KONO	**Kongsberg**	**17.67**	**196**	*e*P		**Pn**	**08 01 27.6**	**-0.8**
	SNR=51							
KONO	**Kongsberg**	**17.67**	**196**	*e*Pn		**Pn**	**08 01 28.1**	**-0.3**
	comp=Z,54nm,0.9s							
KONO	**Kongsberg**	**17.67**	**196**	*e*Pn		**Pn**	**08 01 28.1**	**-0.3**
	comp=Z,54nm,0.9s							
PUL	**Pulkovo**	**17.70**	**161**	*e*P		**P**	**08 01 31.0**	**+1.4**
PUL					pmax	pmax		
	comp=Z,145nm,0.4s							
PUL	**Pulkovo**	**17.70**	**161**	*e*P		**P**	**08 01 31.0**	**+1.4**
	comp=Z,145nm,0.4s							
PRGR	**Permogore**	**17.72**	**135**	⇑*i*P		**Pn**	**08 01 27.6**	**-1.4**
PRGR					pmax	pmax		
	comp=Z,2μm,1.9s							
PRGR	**Permogore**	**17.72**	**135**	*i* P		**Pn**	**08 01 27.6**	**-1.4**
	comp=Z,2μm,1.9s							
BLS5	**Blasjo**	**18.12**	**201**	*e*P		**P**	**08 01 33.8**	**-0.5**
BLS5	**Blasjo**	**18.12**	**201**	*e*P		**P**	**08 01 33.8**	**-0.5**
	SNR=51							
KMY	**Karmoy**	**18.43**	**203**	*e*P		**Pn**	**08 01 37.7**	**0.0**
KMY	**Karmoy**	**18.43**	**203**	*e*P		**Pn**	**08 01 37.7**	**0.0**
	SNR=51							
VSU	**Vasula**	**18.77**	**167**	*e*P		**Pn**	**08 01 41.8**	**-0.1**
VSU					pmax	pmax		
	comp=Z,122nm,0.6s							
VSU					MLR	MLR		
	comp=Z,2μm,8.0s							
VSU	**Vasula**	**18.77**	**167**	*e*P		**Pn**	**08 01 41.8**	**-0.1**
	comp=Z,2μm,8.0s							
HOMB	**Homborsund**	**19.11**	**197**	*e*P		**Pn**	**08 01 46.2**	**+0.2**
HOMB	**Homborsund**	**19.11**	**197**	*e*P		**Pn**

comp=Z,2µm,2.0s
MNK pmax pmax
comp=E,340nm,1.5s
MNK MLR MLR
comp=Z,3µm,8.0s
MNK MLR MLR
comp=N,4µm,8.0s
MNK Minsk 22.78 166 *i* P **P** **08 02 22.0 -2.8**
comp=N,2µm,2.0s
MICGM Minsk 22.79 166 ⇓*i*P **P** **08 02 22.0 -2.8**
OBN Obninsk 22.86 153 P **P** **08 02 25.2 -0.3**
comp=N,1µm,0.6s,SNR=10
OBN Obninsk 22.86 153 *d i*P **P** **08 02 24.5 -1.0**
OBN *e* 08 02 51.2
OBN *e* 08 06 15.3
OBN pmax pmax
comp=Z,107nm,1.2s
OBN MLR MLR
comp=Z,3µm,10.0s
OBN Obninsk 22.86 153 P **P** **08 02 24.7 -0.8**
comp=Z,72nm,0.6s,baz=323,slow=5.5,SNR=12
OBN LR LR 08 11 15.4
comp=Z,475nm,18.8s,baz=342,slow=37
OBN Obninsk 22.86 153 *i* P **P** **08 02 24.5 -1.0**
comp=Z,107nm,1.2s
OBN Obninsk 22.86 153 *e*PcP **PcP** **08 06 15.3 -0.4**
comp=Z,3µm,10.0s
OBN Obninsk 22.86 153 *e*P **P** **08 02 25.1 -0.4**
comp=Z,1µm,2.1s
SUW Suwalki 23.09 174 *e*P **P** **08 02 27.1 -0.8**
SUW *e**PP **pP** **08 02 29.7 -1.6**
SUW MLR MLR
comp=Z,600nm,21.9s
SUW Suwalki 23.09 174 *e*P **P** **08 02 27.1 -0.8**
SUW *ep*P **pP** **08 02 29.7 -1.6**
SUW LMZ LR 08 10 58.8
SUW Suwalki 23.09 174 *e*P **P** **08 02 27.1 -0.8**
SUW Suwalki 23.09 174 *e*P **P** **08 02 27.4 -0.5**
comp=Z,208nm,0.8s
EKA Eskdalemuir Ar 23.14 213 P **P** **08 02 27.3 -1.2**
EKA pmax pmax
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 23.14 213 P **P** **08 02 27.3 -1.2**
comp=Z,4.8nm,0.7s,baz=15,slow=10,SNR=11
ESK Eskdalemuir 23.16 213 *e*P **P** **08 02 28.1 -0.6**
ESK pmax pmax
comp=Z,21nm,0.9s
ESK Eskdalemuir 23.16 213 *e*P **P** **08 02 28.1 -0.6**
comp=Z,21nm,0.9s
ESK Eskdalemuir 23.16 213 *e*P **P** **08 02 28.1 -0.6**
comp=Z,21nm,0.9s
RES Resolute Bay 23.88 323 *e*P **P** **08 02 35.3 -0.3**
RES pmax pmax
comp=Z,19nm,1.1s
RES Resolute Bay 23.88 323 P **P** **08 02 33.3 -2.3**
comp=Z,5.2nm,1.0s,baz=38,slow=11,SNR=10
RES LR LR 08 11 46.3
comp=Z,413nm,18.8s,baz=68,slow=36
RES Resolute Bay 23.88 323 *e*P **P** **08 02 35.3 -0.3**
comp=Z,19nm,1.1s
RES Resolute Bay 23.88 323 *e*P **P** **08 02 35.3 -0.3**
comp=Z,19nm,1.1s
ARU Arti 24.91 123 P **P** **08 02 48.8 +3.6**
comp=Z,2µm,0.8s,SNR=13
ARU Arti 24.91 123 *c i*P **P** **08 02 47.4 +2.2**
ARU 08 03 19.9
ARU PPP PPP 08 03 29.6
ARU S **S** **08 07 12.4 +4.5**
ARU SS **SnSn** **08 08 01.9 +6.6**
ARU SSS SSS 08 08 17.1
ARU pmax pmax
comp=Z,40nm,1.7s
ARU MLR MLR
comp=Z,520nm,14.0s
ARU Arti 24.91 123 *e*P **P** **08 02 46.2 +1.0**
comp=Z,209nm,0.8s
ARU Arti 24.91 123 *e*P **P** **08 02 46.2 +1.0**
comp=Z,209nm,0.8s
BEL Belsk 25.22 177 *e*P **P** **08 02 47.8 -0.2**
BEL MLR MLR
comp=Z,600nm,22.6s
BEL Belsk 25.22 177 *e*P **P** **08 02 47.8 -0.2**
BEL LMZ LR 08 12 29.0
BEL Belsk 25.22 177 *e*P **P** **08 02 47.8 -0.2**
CLL Collm 25.84 189 ⇓*i*P **P** **08 02 56.5 +2.8**
CLL *e*S **S** **08 07 28.0 +5.3**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 25.84 189 ⇓*i*(P) **P** **08 02 56.5 +2.8**
comp=Z,16nm,1.0s
CLL *e* 08 03 09.0
CLL *e* 08 03 19.0
CLL *e*S **S** **08 07 28.0 +5.3**
comp=N,600nm,18.0s
CLL *e*S **S** **08 07 28.0 +5.3**
comp=E,200nm,17.4s
CLL *e*SSS SSS 08 08 36.0
CLL Collm 25.84 189 *e*P **P** **08 02 55.8 +2.2**
TIXI Tiksi 25.96 43 *e*P **P** **08 02 53.7 -0.8**
TIXI pmax pmax
comp=Z,55nm,1.7s
TIXI MLR MLR
comp=Z,532nm,16.0s
TIXI Tiksi 25.96 43 *e*P **P** **08 02 53.7 -0.8**
comp=Z,532nm,16.0s
TIXI Tiksi 25.96 43 *e*P **P** **08 02 53.9 -0.7**
comp=Z,42nm,1.2s
KSP Ksiaz 26.23 184 *e*P **P** **08 02 55.9 -1.3**
KSP LMZ LR 08 12 44.4
KSP Ksiaz 26.23 184 *e*P **P** **08 02 56.3 -0.9**
KSP *ep*P **pP** **08 02 59.2 -1.6**
KSP *e*S **S** **08 07 30.3 +1.5**
BRG Berggiesshubel 26.25 187 *e*P **P** **08 02 56.3 -1.1**
comp=Z,4.4nm,0.9s
BRG *e* 08 03 00.7
comp=Z,25nm,1.4s
BRG S S 08 07 45.0 +16
comp=N,478nm,11.8s
comp=E,493nm,15.7s
comp=Z,567nm,12.5s
BRG Berggiesshubel 26.25 187 *e*P **P** **08 02 56.3 -1.1**
BRG *e* 08 03 00.7
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,25nm,1.4s
BRG MLR MLR
comp=N,478nm,11.8s
BRG MLR MLR
comp=E,493nm,15.7s
BRG MLR MLR
comp=Z,567nm,12.5s
BRG Berggiesshubel 26.25 187 *e*P **P** **08 02 56.3 -1.1**
comp=Z,4.0nm,1.0s
VOR Voronezh 26.47 151 P **P** **08 03 00.0 +0.7**
VOR pmax pmax
comp=Z,300nm,1.0s
VOR Voronezh 26.47 151 P **P** **08 03 00.0 +0.7**
comp=Z,300nm,1.0s
UPC Upice 26.57 184 *e*P **P** **08 03 03.8 +3.5**
UPC *e* 08 03 07.9
UPC Upice 26.57 184 *e*P **P** **08 03 03.8 +3.5**
UPC *ep*P **pP** **08 03 07.9 +4.1**
UPC *ex* x 08 03 21.6
PVCC Panska Ves 26.58 186 *e*P **P** **08 02 59.9 -0.4**
PVCC *e* 08 03 03.6
PVCC *e*S **S** **08 07 39.4 +5.1**
PVCC MLR MLR
comp=Z,600nm,11.8s
PVCC smax smax
comp=N,9,0nm,0.3s
PVCC Panska Ves 26.58 186 *e*P **P** **08 02 59.9 -0.4**
PVCC *ep*P **pP** **08 03 03.6 -0.3**
PVCC *ex* x 08 03 15.6
PVCC *e*S **S** **08 07 39.4 +5.1**
PVCC AMS AMS 08 14 20.0
comp=N,600nm,11.8s
PVCC Panska Ves 26.58 186 P **P** **08 02 59.9 -0.4**
AKASG Malin Array Be 26.65 165 P **P** **08 02 59.0 -2.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG MLR MLR
comp=Z,577nm,21.7s
AKASG Malin Array Be 26.65 165 P **P** **08 02 59.0 -2.0**
comp=Z,2.2nm,0.4s,baz=354,slow=9.1,SNR=17
AKASG LR LR 08 13 26.7
comp=Z,577nm,21.7s,baz=345,slow=36
AKASG Malin Array Be 26.65 165 P **P** **08 02 59.0 -2.0**
comp=Z,577nm,21.7s
AKASG Malin Array Be 26.65 165 P **P** **08 02 59.0 -2.0**
KIEV Kiev 26.66 165 *e*P **P** **08 03 01.2 +0.2**
KIEV Kiev 26.66 165 *e*P **P** **08 02 59.0 -2.0**
comp=Z,47nm,0.8s
KIEV Kiev 26.66 165 *e*P **P** **08 02 59.0 -2.0**
comp=Z,47nm,0.8s
DPC Dobruska-Polom 26.72 184 *e*P **P** **08 03 00.6 -1.1**
DPC *e* 08 03 03.4
DPC *e* 08 03 09.7
DPC Dobruska-Polom 26.72 184 *e*P **P** **08 03 00.6 -1.1**
DPC *ep*P **pP** **08 03 03.4 -1.9**
DPC *es*P **sP** **08 03 09.7 +3.0**
DPC *ex* x 08 03 19.5
DPC *e*S S 08 07 46.3 +10
DPC AMS AMS 08 15 00.0
DPC Dobruska-Polom 26.72 184 P **P** **08 03 00.6 -1.1**
DPC Dobruska-Polom 26.72 184 *e*P **P** **08 03 01.0 -0.7**
OJC Ojcow 26.84 179 *e*P **P** **08 03 02.1 -0.6**
OJC Ojcow 26.84 179 *e*P **P** **08 03 02.1 -0.6**
OJC LMZ LR 08 12 37.1
OJC Ojcow 26.84 179 *e*P **P** **08 03 02.1 -0.6**
RAC Raciborz 26.97 181 *e*P P 08 02 56.3 -7.6
RAC *e**PP pP 08 02 59.2 -8.2
RAC *e*S S 08 07 30.3 -10
VSR Storozhevoye 26.97 151 *e*P **P** **08 03 04.3 +0.4**
VSR pmax pmax
comp=Z,40nm,1.3s
VSR pmax pmax
comp=N,40nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR Storozhevoye 26.97 151 *e*P **P** **08 03 04.3 +0.4**
comp=E,40nm,1.3s
KRLC Kraliky 26.99 183 *e*P **P** **08 03 03.1 -1.0**
KRLC *e* 08 03 09.1
KRLC Kraliky 26.99 183 *e*P **P** **08 03 03.1 -1.0**
KRLC *ex* x 08 03 09.1
KRLC *ex* x 08 03 22.5
KRLC Kraliky 26.99 183 P **P** **08 03 03.1 -1.0**
PRA Prague 27.04 186 *e*P P 08 03 09.0 +4.5
PRA *e* 08 03 12.1
PRA Prague 27.04 186 *e*S S 08 07 52.2 +11
PRU Pruhonice 27.12 186 *e*P **P** **08 03 08.2 +3.0**
PRU MLR MLR
comp=Z,500nm,13.1s
PRU Pruhonice 27.12 186 *e*P **P** **08 03 08.2 +3.0**
PRU *ex* x 08 03 24.1
PRU *ex* x 08 07 54.0
PRU AMS AMS 08 14 50.0
comp=Z,500nm,13.1s
GOPC GO Pecny, Ondr 27.19 186 *e*P **P** **08 03 09.0 +3.1**
GOPC *ep*P **pP** **08 03 12.1 +2.7**
OKC Ostrava-Krasne 27.22 181 *e*P **P** **08 03 05.1 -1.0**
OKC *e* 08 03 09.6
OKC MLR MLR
comp=Z,900nm,10.1s
OKC Ostrava-Krasne 27.22 181 *e*P **P** **08 03 05.1 -1.0**
OKC *ep*P **pP** **08 03 09.6 -0.1**
OKC *ex* x 08 03 23.7
OKC *e*S S 08 07 52.6 +8.2
OKC AMS AMS 08 15 10.0
comp=Z,900nm,10.1s
OKC Ostrava-Krasne 27.22 181 P **P** **08 03 05.1 -1.0**
VORD Divnogorie 27.23 151 *e*P **P** **08 03 06.5 +0.3**
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD Divnogorie 27.23 151 *e*P **P** **08 03 06.5 +0.3**
comp=E,30nm,0.9s
LVV L'vov 27.31 173 *e*P P 08 03 14.1 +7.2
LVV MLR MLR
comp=Z,600nm,12.0s
LVV MLR MLR
comp=N,500nm,11.0s
LVV MLR MLR
comp=E,700nm,11.0s
VRHR Novokhopersk 27.38 148 *e*P **P** **08 03 06.8 -0.7**
VRHR pmax pmax
comp=N,80nm,0.8s
VRHR pmax pmax
comp=Z,100nm,0.8s
VRHR pmax pmax
comp=E,30nm,1.5s
VRHR Novokhopersk 27.38 148 *e*P **P** **08 03 06.8 -0.7**
VAL Valentia 27.42 221 *e*P **P** **08 03 10.6 +2.8**
KWP Kalwaria Pacla 27.46 175 *e*P **P** **08 03 07.4 -0.9**
KWP *e**PP **pP** **08 03 11.5 -0.4**
KWP MLR MLR
comp=Z,700nm,20.8s
KWP Kalwaria Pacla 27.46 175 *e*P **P** **08 03 07.4 -0.9**
KWP *ep*P **pP** **08 03 11.4 -0.4**
KWP LMZ LR 08 13 54.4
KWP Kalwaria Pacla 27.46 175 ⇑*i*P **P** **08 03 10.6 +2.3**
KWP Kalwaria Pacla 27.46 175 *e*P **P** **08 03 07.4 -0.9**
KWP *ep*P **pP** **08 03 11.5 -0.4**
KWP Kalwaria Pacla 27.46 175 *e*P **P** **08 03 07.4 -0.9**
comp=Z,59nm,0.8s
GIVF Givet 27.50 200 *e*P **P** **08 03 09.6 +1.0**
GIVF Givet 27.50 200 *e*P **P** **08 03 09.6 +1.0**
GIVF Givet 27.50 200 *e*P **P** **08 03 09.6 +1.0**
GIVF Givet 27.50 200 *e*P **P** **08 03 09.6 +1.0**
GRF Grafenberg Arr 27.53 191 *e*P **P** **08 03 13.1 +4.2**
comp=Z,18nm,1.2s
GRF *e*L L 08 14 26.8
comp=Z,441nm,19.7s
BAIF Baives 27.59 201 *e*P **P** **08 03 10.1 +0.7**
comp=Z,29nm,1.0s
BAIF Baives 27.59 201 *e*P **P** **08 03 10.1 +0.7**
BAIF pmax pmax
comp=Z,29nm,1.0s
BAIF Baives 27.59 201 *e*P **P** **08 03 10.1 +0.7**
comp=Z,15nm,1.0s
BAIF Baives 27.59 201 *e*P **P** **08 03 10.1 +0.7**
comp=Z,29nm,1.0s
NIE Niedzica 27.64 178 *e*P **P** **08 03 09.6 -0.3**
NIE LMZ LR 08 13 18.8
STHS Stebnicka Huta 27.65 177 *e*P **P** **08 03 09.9 -0.1**
STHS Stebnicka Huta 27.65 177 *e*P **P** **08 03 09.9 -0.1**
STHS Stebnicka Huta 27.65 177 *e*P **P** **08 03 09.9 -0.1**
VRAC Vranov 27.76 183 P **P** **08 03 10.9 -0.1**
VRAC pmax pmax
comp=Z,10.0nm,0.7s
VRAC MLR MLR
comp=Z,259nm,20.8s
VRAC Vranov 27.76 183 ⇓*i*P **P** **08 03 10.2 -0.8**
VRAC Vranov 27.76 183 P **P** **08 03 10.9 -0.1**
comp=Z,9.6nm,0.7s,baz=21,slow=10,SNR=7.4
VRAC LR LR 08 14 22.3
comp=Z,259nm,20.8s,baz=356,slow=37
VRAC Vranov 27.76 183 ⇓*i*P **P** **08 03 10.2 -0.8**
TREC Trest 27.79 185 *e*P **P** **08 03 10.8 -0.5**
TREC *e* 08 03 14.5
TREC *e*S **S** **08 07 47.5 -6.0**
TREC MLR MLR
comp=Z,500nm,13.5s
TREC Trest 27.79 185 *e*P **P** **08 03 10.8 -0.5**
TREC *ep*P **pP** **08 03 14.5 -0.4**
TREC *e*S S **08 07 47.5 -6.0**
TREC AMS AMS 08 15 00.0
comp=Z,500nm,13.5s
TREC Trest 27.79 185 P **P** **08 03 10.8 -0.5**
KHC Kasperske Hory 28.00 187 *e*P **P** **08 03 13.5 +0.3**
KHC *e* 08 03 16.5
KHC *e* 08 03 19.8
KHC *e*S **S** **08 08 02.6 +5.7**
KHC *e* 08 09 13.5
KHC MLR MLR
comp=Z,500nm,12.4s
KHC Kasperske Hory 28.00 187 *e*P **P** **08 03 13.5 +0.3**
KHC *ep*P **pP** **08 03 16.5 -0.3**
KHC *es*P **sP** **08 03 19.8 +1.6**
KHC *ex* x 08 03 29.5
KHC *e*S **S** **08 08 02.6 +5.7**
KHC *ex* x 08 09 13.5
KHC AMS AMS 08 15 20.0
comp=Z,500nm,12.4s
KHC Kasperske Hory 28.00 187 *e*P **P** **08 03 13.4 +0.3**
comp=Z,7.7nm,0.8s
KHC Kasperske Hory 28.00 187 *e*P **P** **08 03 13.4 +0.2**
comp=Z,7.7nm,0.8s
KOLS Kolonicke sedl 28.15 175 *e*P **P** **08 03 13.8 -0.7**
KOLS Kolonicke sedl 28.15 175 *e*P **P** **08 03 13.8 -0.7**
KOLS Kolonicke sedl 28.15 175 *e*P **P** **08 03 13.8 -0.7**
CRVS Cervenica-Dubn 28.17 176 *e*P **P** **08 03 14.0 -0.6**
CRVS Cervenica-Dubn 28.17 176 *e*P **P** **08 03 14.0 -0.6**
CRVS Cervenica-Dubn 28.17 176 *e*P **P** **08 03 14.0 -0.6**
GEC2 GERESS Array S 28.28 187 *e*P **P** **08 03 15.7 -0.1**
GEC2 GERESS Array S 28.28 187 *e*P **P** **08 03 15.6 -0.1**
GEC2 GERESS Array S 28.28 187 *e*P **P** **08 03 15.7 -0.1**
GERES GERESS Array B 28.28 187 P **P** **08 03 15.0 -0.8**
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,131nm,21.9s
GERES GERESS Array B 28.28 187 P **P** **08 03 15.0 -0.8**
comp=Z,6.4nm,0.8s,baz=15,slow=7.6,SNR=26
GERES LR LR 08 14 31.6
comp=Z,131nm,21.9s,baz=1.0,slow=36
UZH Uzhgorod 28.45 175 *e*P **P** **08 03 15.0 -2.1**
UZH *e*S **S** **08 07 58.0 -5.9**
UZH MLR MLR
comp=N,600nm,15.0s
UZH MLR MLR
comp=E,600nm,15.0s
UZH MLR MLR
comp=Z,550nm,15.0s
UZH Uzhgorod 28.45 175 *e*P **P** **08 03 15.0 -2.1**
VYHS Vyhne 28.56 180 *e*P **P** **08 03 17.6 -0.5**
VYHS Vyhne 28.56 180 *e*P **P** **08 03 17.6 -0.5**
VYHS Vyhne 28.56 180 *e*P **P** **08 03 17.6 -0.5**
KECS Kecovo 28.58 178 *e*P **P** **08 03 18.4 +0.1**
KECS Kecovo 28.58 178 *e*P **P** **08 03 18.4 +0.1**
KECS Kecovo 28.58 178 *e*P **P** **08 03 18.4 +0.1**
FRB Frobisher Bay 28.75 293 P **P** **08 03 17.0 -2.6**
FRB pmax pmax
comp=Z,7.0nm,0.9s
FRB MLR MLR
comp=Z,310nm,18.1s
FRB Frobisher Bay 28.75 293 P **P** **08 03 17.0 -2.6**
comp=Z,6.7nm,0.9s,baz=31,slow=8.4,SNR=7.3
FRB LR LR 08 15 21.6
comp=Z,310nm,18.1s,baz=26,slow=38
TRPA Tarpa 28.96 175 ⇓*i*P **P** **08 03 21.4 -0.2**
TRPA Tarpa 28.96 175 ⇓*i*P **P** **08 03 21.4 -0.2**
TRPA Tarpa 28.96 175 *e*P **P** **08 03 22.9 +1.3**
BFO Black Forest 29.03 195 *ce*P P 08 03 25.3 +3.0
PSZ Piszkesteto 29.14 179 ⇑*i*P **P** **08 03 23.2 -0.1**
PSZ Piszkesteto 29.14 179 *e*P **P** **08 03 22.9 -0.4**
PSZ Piszkesteto 29.14 179 *e*P **P** **08 03 22.9 -0.4**
CONA Conrad Observa 29.15 184 ⇑*i*P **P** **08 03 23.4 0.0**
comp=Z,15nm,0.9s
CONA Conrad Observa 29.15 184 P **P** **08 03 23.4 0.0**
comp=Z,15nm,0.9s
ECH Echery 29.21 196 *e*P **P** **08 03 21.3 -2.6**
ECH pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 29.21 196 *e*P **P** **08 03 21.3 -2.6**
comp=Z,6.0nm,0.9s
ECH Echery 29.21 196 *e*P **P** **08 03 21.3 -2.6**
comp=Z,5.8nm,0.9s
LDF La Druitiere 29.44 206 *e*P **P** **08 03 24.4 -1.5**
comp=Z,65nm,1.2s
LDF La Druitiere 29.44 206 *e*P **P** **08 03 24.4 -1.5**
LDF pmax pmax
comp=Z,65nm,1.2s
LDF La Druitiere 29.44 206 *e*P **P** **08 03 24.4 -1.5**
comp=Z,32nm,1.2s
LDF La Druitiere 29.44 206 *e*P **P** **08 03 24.4 -1.5**
comp=Z,65nm,1.2s
BURAR Bucovina Array 29.55 171 ⇓*i*P **P** **08 03 25.5 -1.5**
BURAR Bucovina Array 29.55 171 ⇓*i*P **P** **08 03 25.5 -1.5**
PKSG 29.66 181 *e*P **P** **08 03 28.4 +0.5**
PKSG 29.66 181 *e*P **P** **08 03 28.4 +0.5**
CSKK Cs^‡kako 29.69 181 *e*P P 08 03 31.5 +3.4
PKST T^s 29.80 181 *e*P **P** **08 03 31.9 +2.8**
SGMF Saint Gilles 30.03 209 *e*P **P** **08 03 28.6 -2.5**
comp=Z,109nm,1.2s
SGMF Saint Gilles 30.03 209 *e*P **P** **08 03 28.6 -2.5**
SGMF pmax pmax
comp=Z,109nm,1.2s
SGMF Saint Gilles 30.03 209 *e*P **P** **08 03 28.6 -2.5**
comp=Z,54nm,1.2s
SGMF Saint Gilles 30.03 209 *e*P **P** **08 03 28.6 -2.5**
comp=Z,109nm,1.2s
DRGR 30.30 175 ⇑P **P** **08 03 36.1 +2.5**
DRGR 30.30 175 ⇑*i*P **P** **08 03 36.1 +2.5**
KIS Kishinev 30.32 167 *e*P **P** **08 03 35.0 +1.3**
KIS *e*S **S** **08 08 34.0 +0.8**
KIS *e*SS ScP 08 10 25.0 +10
KIS *e*Li 08 12 43.0
KIS *i* Lg1 08 13 28.0
KIS *i* Lg2 08 14 47.0
KIS LRM MLR 08 15 42.0
comp=Z,2µm,10.0s
KIS *e*Rg Rg 08 16 04.0
KIS Kishinev 30.32 167 *e*P **P** **08 03 35.0 +1.3**
KIS *e*S **S** **08 08 34.0 +0.8**
LOR Lormes 30.39 200 *e*P **P** **08 03 32.4 -2.0**
comp=Z,16nm,0.9s
LOR *e*R
comp=Z,276nm,22.8s
LOR Lormes 30.39 200 *e*P **P** **08 03 32.4 -2.0**
LOR pmax pmax
comp=Z,16nm,0.9s
LOR Lormes 30.39 200 *e*P **P** **08 03 32.4 -2.0**
comp=Z,7.8nm,0.9s
LOR Lormes 30.39 200 *e*P **P** **08 03 32.4 -2.0**
comp=Z,16nm,0.9s
PERS Pernice 30.46 185 *e*P **P** **08 03 37.8 +2.8**
PERS *i* 08 03 50.3
TESR Tescani 30.70 170 ⇓*i*P **P** **08 03 38.3 +1.2**
TESR Tescani 30.70 170 ⇓*i*P **P** **08 03 38.3 +1.2**
TUE Stuetta 30.83 193 *e*P **P** **08 03 37.9 -0.5**
comp=Z,2.9nm,0.6s
TUE Stuetta 30.83 193 *e*P **P** **08 03 37.9 -0.5**
comp=Z,2.9nm,0.6s
PKSM Moragy 30.84 180 ⇓P **P** **08 03 38.3 0.0**
PKSM Moragy 30.84 180 ⇓*i*P **P** **08 03 38.3 0.0**
PKSM Moragy 30.84 180 ⇓*i*P **P** **08 03 38.3 0.0**
PKSM Moragy 30.84 180 *e*P **P** **08 03 40.7 +2.4**
CABF La Chapelle 30.88 197 *e*P **P** **08 03 37.6 -1.2**
comp=Z,32nm,1.1s
CABF La Chapelle 30.88 197 *e*P **P** **08 03 37.6 -1.2**
CABF pmax pmax
comp=Z,32nm,1.1s
CABF La Chapelle 30.88 197 *e*P **P** **08 03 37.6 -1.2**
comp=Z,16nm,1.1s
CABF La Chapelle 30.88 197 *e*P **P** **08 03 37.6 -1.2**
comp=Z,32nm,1.1s
AVF Avril sur Loir 30.91 201 *e*P **P** **08 03 37.1 -1.8**
comp=Z,41nm,1.4s
AVF Avril sur Loir 30.91 201 *e*P **P** **08 03 37.1 -1.8**
AVF pmax pmax
comp=Z,41nm,1.4s
AVF Avril sur Loir 30.91 201 *e*P **P** **08 03 37.1 -1.8**
comp=Z,21nm,1.4s
AVF Avril sur Loir 30.91 201 *e*P **P** **08 03 37.1 -1.8**
comp=Z,41nm,1.4s
SMF Signal de Mont 31.01 200 *e*P **P** **08 03 37.8 -2.0**
SMF Signal de Mont 31.01 200 *e*P **P** **08 03 37.8 -2.0**
SMF Signal de Mont 31.01 200 *e*P **P** **08 03 37.8 -2.0**
SMF Signal de Mont 31.01 200 *e*P **P** **08 03 37.8 -2.0**
SENIN Lac Senin/Sane 31.05 196 *e*P P 08 03 45.3 +4.9
BGF Bois d'Agland 31.18 202 *e*P **P** **08 03 40.5 -0.8**
comp=Z,42nm,1.0s
BGF Bois d'Agland 31.18 202 *e*P **P** **08 03 40.5 -0.8**
BGF pmax pmax
comp=Z,42nm,1.0s
BGF Bois d'Agland 31.18 202 *e*P **P** **08 03 40.5 -0.8**
comp=Z,21nm,1.0s
BGF Bois d'Agland 31.18 202 *e*P **P** **08 03 40.5 -0.8**
comp=Z,42nm,1.0s
VISS Visnje 31.30 185 *e*P **P** **08 03 43.6 +1.3**
VISS Visnje 31.30 185 *e*P **P** **08 03 43.6 +1.3**
VRI Vrincioaia 31.35 169 ⇑P **P** **08 03 45.6 +2.8**
VRI Vrincioaia 31.35 169 ⇑*i*P **P** **08 03 45.6 +2.8**
PLOR Plostina 31.36 170 ⇑P **P** **08 03 45.2 +2.2**
PLOR Plostina 31.36 170 ⇑*i*P **P** **08 03 45.2 +2.2**
MFF Saint Martin d 31.41 206 *e*P **P** **08 03 42.7 -0.6**
comp=Z,51nm,1.2s
MFF Saint Martin d 31.41 206 *e*P **P** **08 03 42.7 -0.6**

MFF pmax pmax
comp=Z,51nm,1.2s
MFF Saint Martin d 31.41 206 *eP* **P 08 03 42.7 -0.6**
comp=Z,26nm,1.2s
MFF Saint Martin d 31.41 206 *eP* **P 08 03 42.7 -0.6**
comp=Z,51nm,1.2s
BZS Buzias 31.46 176 ⇓P **P 08 03 43.4 -0.3**
BZS Buzias 31.46 176 ⇓*i*P **P 08 03 43.4 -0.3**
BZS Buzias 31.46 176 ⇓*i*P **P 08 03 43.4 -0.3**
TCF Toulx Ste Croi 31.50 202 *eP* **P 08 03 42.6 -1.6**
comp=Z,48nm,1.1s
TCF Toulx Ste Croi 31.50 202 *eP* **P 08 03 42.6 -1.6**
TCF pmax pmax
comp=Z,48nm,1.1s
TCF Toulx Ste Croi 31.50 202 *eP* **P 08 03 42.6 -1.6**
comp=Z,24nm,1.1s
TCF Toulx Ste Croi 31.50 202 *eP* **P 08 03 42.6 -1.6**
comp=Z,48nm,1.1s
BOJS Bojanci 31.59 185 *i*P **P 08 03 47.4 +2.5**
BOJS *i* 08 03 59.4
NVS Novosibirsk 31.64 96 *eP* **P 08 03 44.4 -0.9**
NVS *i* 08 04 55.8
NVS pmax pmax
comp=Z,17nm,1.8s
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS Novosibirsk 31.64 96 *eP* **P 08 03 44.4 -0.9**
comp=E,7.0nm,1.5s
MLR Muntele Rosu 31.70 171 ⇑P **P 08 03 48.0 +2.0**
MLR Muntele Rosu 31.70 171 ⇑*i*P **P 08 03 48.0 +2.0**
GZR Gura Zlata 31.70 175 ⇑P **P 08 03 46.0 0.0**
GZR Gura Zlata 31.70 175 ⇑*i*P **P 08 03 46.0 0.0**
GZR Gura Zlata 31.70 175 ⇑*i*P **P 08 03 46.0 0.0**
VOIR 31.72 172 ⇑P **P 08 03 46.6 +0.5**
VOIR 31.72 172 ⇑*i*P **P 08 03 46.6 +0.5**
VOIR 31.72 172 ⇑*i*P **P 08 03 46.6 +0.5**
ARR Arges 31.77 172 ⇓*i*P **P 08 03 49.3 +2.7**
LPL La Plagne 31.93 196 *eP* **P 08 03 47.3 -0.9**
comp=E,18nm,1.1s
LPL La Plagne 31.93 196 *eP* **P 08 03 47.3 -0.9**
LPL pmax pmax
comp=Z,18nm,1.1s
LPL La Plagne 31.93 196 *eP* **P 08 03 47.3 -0.9**
comp=Z,8.8nm,1.1s
LPL La Plagne 31.93 196 *eP* **P 08 03 47.3 -0.9**
comp=Z,18nm,1.1s
LPG La Plagne 31.95 196 *eP* **P 08 03 47.4 -1.0**
comp=Z,44nm,1.3s
LPG La Plagne 31.95 196 *eP* **P 08 03 47.4 -1.0**
LPG pmax pmax
comp=Z,44nm,1.3s
LPG La Plagne 31.95 196 *eP* **P 08 03 47.4 -1.0**
comp=Z,22nm,1.3s
LPG La Plagne 31.95 196 *eP* **P 08 03 47.4 -1.0**
comp=Z,44nm,1.3s
ABKAR Akbulak array 32.00 126 *eP* **P 08 03 47.8 -0.7**
comp=Z,2.5nm,0.9s
ABKAR Akbulak array 32.00 126 *eP* **P 08 03 47.8 -0.7**
comp=Z,2.5nm,0.9s
RJF Les Rejaudoux 32.54 203 *eP* **P 08 03 52.7 -0.6**
RJF *eR*
comp=Z,345nm,21.2s
RJF Les Rejaudoux 32.54 203 *eP* **P 08 03 52.7 -0.6**
RJF Les Rejaudoux 32.54 203 *eP* **P 08 03 52.7 -0.6**
RJF Les Rejaudoux 32.54 203 *eP* **P 08 03 52.7 -0.6**
ORIF Oris-en-Rattie 32.58 197 *eP* **P 08 03 52.7 -1.0**
comp=Z,29nm,0.9s
ORIF *eR*
comp=Z,539nm,18.8s
ORIF Oris-en-Rattie 32.58 197 *eP* **P 08 03 52.7 -1.0**
ORIF pmax pmax
comp=Z,29nm,0.9s
ORIF Oris-en-Rattie 32.58 197 *eP* **P 08 03 52.7 -1.0**
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 32.58 197 *eP* **P 08 03 52.7 -1.0**
comp=Z,29nm,0.9s
TLB Topalu 32.69 168 ⇑P P 08 03 58.7 +4.2
TLB Topalu 32.69 168 ⇑*i*P P 08 03 58.7 +4.2
MBDF Montbardon 32.71 196 *eP* **P 08 03 53.7 -1.3**
comp=Z,17nm,0.8s
MBDF Montbardon 32.71 196 *eP* **P 08 03 53.7 -1.3**
MBDF pmax pmax
comp=Z,17nm,0.8s
MBDF Montbardon 32.71 196 *eP* **P 08 03 53.7 -1.3**
comp=Z,8.3nm,0.8s
MBDF Montbardon 32.71 196 *eP* **P 08 03 53.7 -1.3**
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 32.73 199 *eP* **P 08 03 54.0 -0.9**
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 32.73 199 *eP* **P 08 03 54.0 -0.9**
VIVF pmax pmax
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 32.73 199 *eP* **P 08 03 54.0 -0.9**
comp=Z,14nm,1.2s
VIVF Saint-Julien-l 32.73 199 *eP* **P 08 03 54.0 -0.9**
comp=Z,28nm,1.2s
ZALV Zalesovo Beam 32.83 95 P **P 08 03 55.3 -0.4**
ZALV 08 06 41.1
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV MLR MLR
comp=Z,118nm,18.8s
ZALV Zalesovo Beam 32.83 95 P **P 08 03 55.3 -0.4**
comp=Z,2.8nm,0.8s,baz=340,slow=7.8,SNR=5.6
ZALV PcP **PcP 08 06 41.1 +1.1**
comp=Z,4.7nm,0.6s,baz=318,slow=3.2,SNR=8.7
ZALV LR LR 08 18 52.4
comp=Z,118nm,18.8s,baz=70,slow=39
TIRR Tirgusor 32.83 167 ⇑P P 08 03 58.8 +3.0
TIRR Tirgusor 32.83 167 ⇑*i*P P 08 03 58.8 +3.0
CAF Calviac 32.87 202 *eP* **P 08 03 54.8 -1.4**
CAF Calviac 32.87 202 *eP* **P 08 03 54.8 -1.4**
CAF Calviac 32.87 202 *eP* **P 08 03 54.8 -1.4**
CAF Calviac 32.87 202 *eP* **P 08 03 54.8 -1.4**
ANN Anapa 33.14 156 *eP* **P 08 03 58.8 +0.3**
ANN *eS* **S 08 09 22.1 +4.9**
ANN pmax pmax
comp=Z,128nm,1.8s
ANN MLR MLR
comp=Z,1μm,15.0s
ANN Anapa 33.14 156 *eP* **P 08 03 58.8 +0.3**
comp=Z,128nm,1.8s
SMRF Simiane la Rot 33.54 198 *eP* **P 08 04 00.8 -1.2**
comp=Z,25nm,1.0s
SMRF Simiane la Rot 33.54 198 *eP* **P 08 04 00.8 -1.2**
comp=Z,13nm,1.0s
SMRF Simiane la Rot 33.54 198 *eP* **P 08 04 00.8 -1.2**
comp=Z,25nm,1.0s
LASF Ste Croix 33.57 200 *eP* **P 08 04 01.7 -0.5**
comp=Z,47nm,1.1s
LASF Ste Croix 33.57 200 *eP* **P 08 04 01.7 -0.5**
comp=Z,24nm,1.1s
LASF Ste Croix 33.57 200 *eP* **P 08 04 01.7 -0.5**
comp=Z,47nm,1.1s
MPEP Malo Peshtene 33.76 174 *eP* **P 08 04 06.1 +2.2**
BILL Bilibino 33.87 21 ⇓*i*P **P 08 04 03.3 -1.3**
BILL *e* 08 06 45.2
BILL pmax pmax
comp=Z,59nm,1.7s
BILL MLR MLR
comp=Z,462nm,16.0s
BILL Bilibino 33.87 21 *i*P **P 08 04 03.3 -1.3**
comp=Z,462nm,16.0s
BILL Bilibino 33.87 21 *eP*cP **PcP 08 06 45.2 +2.4**
INK Inuvik 33.99 342 *eP* **P 08 04 02.8 -2.8**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 33.99 342 *eP* **P 08 04 02.8 -2.8**
comp=Z,9.2nm,1.1s
MTLF Montolieu 34.43 202 *eP* **P 08 04 08.2 -1.5**
comp=Z,20nm,1.0s
MTLF Montolieu 34.43 202 *eP* **P 08 04 08.2 -1.5**
MTLF pmax pmax
comp=Z,20nm,1.0s
MTLF Montolieu 34.43 202 *eP* **P 08 04 08.2 -1.5**
comp=Z,9.9nm,1.0s
MTLF Montolieu 34.43 202 *eP* **P 08 04 08.2 -1.5**
comp=Z,20nm,1.0s
KURK Kurchatov 34.45 104 P **P 08 04 09.0 -0.8**
comp=Z,42nm,0.8s,SNR=6.9
KURK Kurchatov 34.45 104 P **P 08 04 09.9 +0.1**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 34.45 104 P **P 08 04 09.9 +0.1**
comp=Z,8.0nm,0.8s
KURK Kurchatov 34.45 104 P **P 08 04 09.9 +0.1**
KURBB Kurchatov Arra 34.52 104 P **P 08 04 09.9 -0.5**
comp=Z,8.2nm,0.8s,baz=336,slow=7.8,SNR=22
KIV Kislovodsk 34.53 149 *eP* **P 08 04 13.2 +2.5**
KIV *e* 08 06 46.7
KIV *eS* **S 08 09 44.0 +5.0**
KIV pmax pmax
comp=Z,23nm,0.9s
KIV MLR MLR
comp=Z,212nm,15.0s
KIV Kislovodsk 34.53 149 *eP*cP **PcP 08 06 46.7 +1.5**
comp=Z,212nm,15.0s
SOC Sochi 34.58 153 *eP* **P 08 04 13.1 +2.2**
SOC *e* 08 05 28.2
SOC *eS* **S 08 09 41.7 +2.3**
SOC pmax pmax
comp=Z,40nm,0.8s
SOC MLR MLR
comp=Z,836nm,13.0s
JMB Yambol 34.74 170 ⇓P **P 08 04 12.3 -0.1**
JMB Yambol 34.74 170 ⇓*i*P **P 08 04 12.3 -0.1**
JMB Yambol 34.74 170 *eP* P 08 04 17.2 +4.8
JMB Yambol 34.74 170 ⇓*i*P **P 08 04 12.3 -0.1**
PGF Pioggiola 34.76 193 *eP* **P 08 04 12.1 -0.6**
comp=Z,44nm,1.0s
PGF Pioggiola 34.76 193 *eP* **P 08 04 12.1 -0.6**
PGF pmax pmax
comp=Z,44nm,1.0s
PGF Pioggiola 34.76 193 *eP* **P 08 04 12.1 -0.6**
comp=Z,22nm,1.0s
PGF Pioggiola 34.76 193 *eP* **P 08 04 12.1 -0.6**
comp=Z,44nm,1.0s
KBZ Khabaz 34.78 149 P **P 08 04 13.1 +0.4**
KBZ pmax pmax
comp=Z,22nm,0.8s
KBZ MLR MLR
comp=Z,209nm,19.2s
KBZ Khabaz 34.78 149 P **P 08 04 13.1 +0.4**
comp=Z,22nm,0.8s,baz=26,slow=5.0,SNR=18
KBZ LR LR 08 18 40.5
comp=Z,209nm,19.2s,baz=0.5,slow=37
YAK Yakutsk 34.83 51 *eP* **P 08 04 12.1 -0.9**
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=N,22nm,1.4s
YAK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 34.83 51 LR LR 08 19 51.3
comp=Z,472nm,19.0s,baz=350,slow=39
YAK Yakutsk 34.83 51 *eP* **P 08 04 12.1 -0.9**
comp=Z,13nm,0.9s
EPF Esparros 34.90 204 *eP* **P 08 04 12.8 -1.1**
comp=Z,43nm,1.0s
EPF Esparros 34.90 204 *eP* **P 08 04 12.8 -1.1**
EPF pmax pmax
comp=Z,43nm,1.0s
EPF Esparros 34.90 204 *eP* **P 08 04 12.8 -1.1**
comp=Z,21nm,1.0s
EPF Esparros 34.90 204 *eP* **P 08 04 12.8 -1.1**
comp=Z,43nm,1.0s
SJPF Ste Jean 34.97 206 *eP* **P 08 04 12.5 -1.9**
comp=Z,24nm,1.0s
SJPF Ste Jean 34.97 206 *eP* **P 08 04 12.5 -1.9**
SJPF pmax pmax
comp=Z,24nm,1.0s
SJPF Ste Jean 34.97 206 *eP* **P 08 04 12.5 -1.9**
comp=Z,12nm,1.0s
SJPF Ste Jean 34.97 206 *eP* **P 08 04 12.5 -1.9**
comp=Z,24nm,1.0s
ETSF Etsaut 35.12 205 *eP* **P 08 04 13.9 -1.9**
comp=Z,23nm,1.0s
ETSF Etsaut 35.12 205 *eP* **P 08 04 13.9 -1.9**
ETSF pmax pmax
comp=Z,23nm,1.0s
ETSF Etsaut 35.12 205 *eP* **P 08 04 13.9 -1.9**
comp=Z,11nm,1.0s
ETSF Etsaut 35.12 205 *eP* **P 08 04 13.9 -1.9**
comp=Z,23nm,1.0s
NEY Neytrino 35.23 149 *eP* **P 08 04 18.8 +1.9**
NEY pmax pmax
comp=Z,1.0nm,0.7s
MMB Musomiste 35.52 174 ⇑P **P 08 04 18.3 -0.9**
MMB Musomiste 35.52 174 ⇑*i*P **P 08 04 18.3 -0.9**
MMB Musomiste 35.52 174 *eP* **P 08 04 17.2 -2.0**
MMB Musomiste 35.52 174 *eP* **P 08 04 17.2 -2.0**
BOD Bodaibo 35.72 66 *eP* **P 08 04 18.5 -2.2**
BOD pmax pmax
comp=Z,26nm,1.2s
BOD Bodaibo 35.72 66 *eP* **P 08 04 18.5 -2.2**
comp=Z,26nm,1.2s
ZEI Tsey 35.83 148 *eP* **P 08 04 20.9 -1.1**
ZEI pmax pmax
comp=Z,14nm,0.7s
SCHQ Schefferville 36.48 284 P **P 08 04 25.2 -2.1**
comp=Z,16nm,0.7s,baz=17,slow=9.5,SNR=19
SCHQ LR LR 08 18 43.5
comp=Z,272nm,21.7s,baz=48,slow=35
SCHQ Schefferville 36.48 284 *eP* **P 08 04 27.4 +0.2**
SCHQ Schefferville 36.48 284 *eP* **P 08 04 27.4 +0.2**
IM04 Indian Mountai 37.23 355 *eP* **P 08 04 31.6 -2.0**
SEY Seymchan 37.40 33 *eP* **P 08 04 33.5 -1.4**
SEY Seymchan 37.40 33 LR LR 08 20 52.0
comp=Z,270nm,19.0s,baz=306,slow=38
SEY Seymchan 37.40 33 *eP* **P 08 04 33.5 -1.4**
POLO Lamas de Olo 37.44 214 *eP* **P 08 04 36.1 +0.5**
comp=Z,20nm,1.7s
POLO Lamas de Olo 37.44 214 *eP* **P 08 04 36.1 +0.5**
comp=Z,20nm,1.7s
YKA Yellowknife Ar 37.83 327 P **P 08 04 38.5 -0.1**
YKA 08 06 52.9
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 37.83 327 P **P 08 04 38.5 -0.1**
comp=Z,5.7nm,1.0s,baz=12,slow=8.7,SNR=57
YKA PcP **PcP 08 06 52.9 -1.7**
comp=Z,4.9nm,0.8s,baz=6.6,slow=3.0,SNR=20
BRTR Keskin Array B 37.87 161 P **P 08 04 39.2 -0.1**
BRTR 08 06 06.8
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR MLR MLR
comp=Z,230nm,18.1s
BRTR Keskin Array B 37.87 161 P **P 08 04 39.2 -0.1**
comp=Z,2.9nm,0.7s,baz=357,slow=6.0,SNR=11
BRTR PP **PnPn 08 06 06.8 0.0**
comp=Z,5.9nm,0.9s,baz=1.4,slow=5.9,SNR=3.0
BRTR LR LR 08 22 44.4
comp=Z,230nm,18.1s,baz=334,slow=40
TIP Timpagrande 37.88 183 *eP* **P 08 04 38.3 -1.0**
TIP Timpagrande 37.88 183 *eP* **P 08 04 38.3 -1.0**
EGAK Eagle 37.97 346 *eP* **P 08 04 38.2 -1.5**
comp=Z,8.3nm,1.1s
PVIS Viseu 38.10 214 *eP* **P 08 04 40.2 -0.9**
comp=Z,30nm,1.9s
PVIS Viseu 38.10 214 *eP* **P 08 04 40.2 -0.9**
comp=Z,30nm,1.9s
COLA College 38.17 351 *eP* **P 08 04 40.9 -0.5**
COLA College 38.17 351 *eP* **P 08 04 40.9 -0.5**
COLA College 38.17 351 *eP* **P 08 04 40.9 -0.5**
ILAR Eielson Array 38.24 350 P **P 08 04 40.5 -1.5**
ILAR 08 06 53.5
ILAR pmax pmax
comp=Z,9.0nm,0.9s
ILAR pmax pmax
comp=Z,5.0nm,0.6s
ILAR MLR MLR
comp=Z,249nm,19.0s
ILAR Eielson Array 38.24 350 P **P 08 04 40.5 -1.5**
comp=Z,8.6nm,0.9s,baz=359,slow=6.8,SNR=23
ILAR PcP **PcP 08 06 53.5 -2.3**
comp=Z,4.7nm,0.6s,baz=338,slow=3.6,SNR=23
ILAR LR LR 08 20 06.8
comp=Z,249nm,19.0s,baz=7.0,slow=36
MTE Manteigas 38.36 213 *eP* **P 08 04 43.8 +0.4**
comp=Z,34nm,2.3s
MTE Manteigas 38.36 213 *eP* **P 08 04 43.8 +0.4**
comp=Z,34nm,2.3s
DAWY Dawson 38.58 345 *eP* **P 08 04 45.7 +0.8**
DAWY Dawson 38.58 345 *eP* **P 08 04 45.7 +0.8**
MOY Mondy 38.61 81 *eP* **P 08 04 46.6 +1.2**
MOY pmax pmax
comp=Z,70nm,2.0s
MOY Mondy 38.61 81 *eP* **P 08 04 46.6 +1.2**
comp=Z,70nm,2.0s
ESDC Sonseca Array 38.66 209 P **P 08 04 44.6 -1.3**
comp=Z,0.6nm,0.3s,baz=7.3,slow=8.0,SNR=7.2
CLNS Chul'man 38.82 57 *eP* **P 08 04 45.6 -1.4**
CLNS pmax pmax
comp=Z,30nm,0.9s
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS Chul'man 38.82 57 *eP* **P 08 04 45.6 -1.4**
comp=E,20nm,0.9s
PCBR Castelo Branco 38.91 213 *eP* **P 08 04 48.0 +0.2**
comp=E,33nm,1.8s
PCBR Castelo Branco 38.91 213 *eP* **P 08 04 48.0 +0.2**
comp=E,33nm,1.8s
MKAR Makanchi Array 38.96 102 P **P 08 04 47.9 -0.4**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 38.96 102 P **P 08 04 47.9 -0.4**
comp=Z,9.0nm,0.8s,baz=338,slow=5.2,SNR=38
TLY Talaya 39.19 79 *eP* **P 08 04 49.6 -0.6**
TLY *e* 08 06 21.1
TLY pmax pmax
comp=Z,23nm,1.8s
TLY Talaya 39.19 79 LR LR 08 23 06.9
comp=Z,163nm,18.9s,baz=332,slow=39
TLY Talaya 39.19 79 *eP* **P 08 04 49.6 -0.6**
comp=Z,23nm,1.8s
TLY Talaya 39.19 79 *eP* **P 08 04 52.3 +2.2**
DOT Dot Lake 39.24 348 *eP* **P 08 04 52.4 +1.9**
DOT Dot Lake 39.24 348 *eP* **P 08 04 52.4 +1.9**
PTOM Tomar 39.24 214 *eP* **P 08 04 51.1 +0.4**
comp=Z,40nm,1.6s
PTOM Tomar 39.24 214 *eP* **P 08 04 51.1 +0.4**
comp=Z,40nm,1.6s
PMRV Marv??o 39.30 213 *eP* **P 08 04 51.6 +0.4**
comp=Z,32nm,1.1s
PMRV Marv??o 39.30 213 *eP* **P 08 04 51.6 +0.4**
comp=Z,32nm,1.1s
KTH Kantishna Hill 39.59 353 *eP* **P 08 04 52.4 -1.0**
KTH Kantishna Hill 39.59 353 *eP* **P 08 04 52.4 -1.0**
MALT Malatya 39.67 156 ⇓P **P 08 04 55.1 +0.7**
MALT Malatya 39.67 156 ⇓*i*P **P 08 04 55.1 +0.7**
MALT Malatya 39.67 156 ⇓*i*P **P 08 04 55.1 +0.7**
CAST Castle Rocks 39.76 354 *eP* **P 08 04 54.4 -0.4**
CAST Castle Rocks 39.76 354 *eP* **P 08 04 54.4 -0.4**
PMTG Montargil 39.76 214 *eP* **P 08 04 54.3 -0.7**
comp=Z,22nm,1.7s
PMTG Montargil 39.76 214 *eP* **P 08 04 54.3 -0.7**
comp=Z,22nm,1.7s
PESTR Estremoz 39.88 213 *eP* **P 08 04 55.2 -0.8**
comp=Z,23nm,1.3s
PESTR Estremoz 39.88 213 *eP* **P 08 04 55.2 -0.8**
comp=Z,23nm,1.3s
KKAR Karatay Array 39.97 117 *eP* **P 08 04 57.3 +0.6**
KKAR Karatay Array 39.97 117 *eP* **P 08 04 57.3 +0.6**
KKAR Karatay Array 39.97 117 *eP* **P 08 04 57.3 +0.6**
PAX Paxson 39.98 349 *eP* **P 08 04 58.5 +1.8**
PAX Paxson 39.98 349 *eP* **P 08 04 58.5 +1.8**
PAX Paxson 39.98 349 *eP* **P 08 04 58.5 +1.8**
PPLA Purkeypile 40.29 354 *eP* **P 08 04 58.0 -1.3**
PPLA Purkeypile 40.29 354 *eP* **P 08 04 58.0 -1.3**
ZAK Zakamensk 40.33 80 *eP* **P 08 04 59.5 -0.2**
ZAK *e* 08 06 29.9
ZAK pmax pmax
comp=Z,5.0nm,1.8s
ZAK Zakamensk 40.33 80 *eP* **P 08 04 59.5 -0.2**
comp=Z,5.0nm,1.8s
PBAR Barrancos 40.49 212 *eP* **P 08 05 01.6 +0.5**
comp=Z,44nm,1.5s
PBAR Barrancos 40.49 212 *eP* **P 08 05 01.6 +0.5**
comp=Z,44nm,1.5s
PNCL Nicolau / Gran 40.74 214 *eP* **P 08 05 03.6 +0.5**
comp=Z,23nm,1.5s
PNCL Nicolau / Gran 40.74 214 *eP* **P 08 05 03.6 +0.5**
comp=Z,23nm,1.5s
MESJ Messejana 40.97 213 *eP* **P 08 05 05.6 +0.6**
MESJ AMb AMB 08 05 15.8
comp=Z,26nm,2.6s
MESJ Messejana 40.97 213 *eP* **P 08 05 05.6 +0.6**
comp=Z,27nm,2.1s
MESJ Messejana 40.97 213 *eP* **P 08 05 05.6 +0.6**
MESJ Messejana 40.97 213 *eP* **P 08 05 05.6 +0.6**
comp=Z,27nm,2.1s
PCVE Castro Verde 41.15 213 *eP* **P 08 05 07.3 +0.8**
comp=Z,11nm,2.0s
PCVE Castro Verde 41.15 213 *eP* **P 08 05 07.3 +0.8**
comp=Z,11nm,2.0s
TKM2 Tokmak 2 41.20 111 *eP* **P 08 05 07.6 +0.5**
TKM2 Tokmak 2 41.20 111 *eP* **P 08 05 07.6 +0.5**
TKM2 Tokmak 2 41.20 111 *eP* **P 08 05 07.6 +0.5**
AAK Ala-Archa 41.24 113 *eP* **P 08 05 06.7 -0.7**
AAK pmax pmax
comp=Z,27nm,2.5s
AAK Ala-Archa 41.24 113 *eP* **P 08 05 06.7 -0.7**
comp=Z,27nm,2.5s
PVAQ Vaqueiros 41.34 213 *eP* **P 08 05 08.7 +0.7**
comp=Z,26nm,2.0s
PVAQ Vaqueiros 41.34 213 *eP* **P 08 05 08.7 +0.7**
comp=Z,26nm,2.0s
PBDV Barranco-do-Ve 41.52 213 *eP* **P 08 05 10.7 +1.1**
comp=Z,46nm,1.7s
PBDV Barranco-do-Ve 41.52 213 *eP* **P 08 05 10.7 +1.1**
comp=Z,46nm,1.7s
KEST Kesra 41.54 192 P **P 08 05 09.4 -0.4**
comp=Z,7.8nm,0.8s,baz=340,slow=3.6,SNR=16
KEST LR LR 08 24 09.9
comp=Z,85nm,18.6s,baz=334,slow=39
KEST Kesra 41.54 192 *eP* **P 08 05 09.2 -0.6**
KEST Kesra 41.54 192 *eP* **P 08 05 09.2 -0.6**
MORF Marmelete 41.55 214 *eP* **P 08 05 10.3 +0.4**
MORF AMb AMB 08 05 21.5
comp=Z,54nm,1.6s
MORF Marmelete 41.55 214 *eP* **P 08 05 10.4 +0.6**
comp=Z,55nm,1.7s
MORF Marmelete 41.55 214 *eP* **P 08 05 10.2 +0.4**
MORF Marmelete 41.55 214 *eP* **P 08 05 10.2 +0.4**
HYT Haines Junctio 41.68 343 *eP* **P 08 05 10.1 -0.6**
HYT Haines Junctio 41.68 343 *eP* **P 08 05 10.2 -0.6**
SVW2 Sparrevohn 42.16 356 *eP* **P 08 05 15.9 +1.4**
comp=Z,38nm,1.6s
SVW2 Sparrevohn 42.16 356 *eP* **P 08 05 15.9 +1.4**
comp=Z,38nm,1.6s
GEYT Alibeck 42.66 132 P **P 08 05 19.0 +0.1**
GEYT LR LR 08 25 27.8
comp=Z,12nm,0.7s,baz=311,slow=9.6,SNR=16
comp=Z,274nm,18.7s,baz=325,slow=40
RSO Redoubt South 42.74 354 *eP* **P 08 05 19.8 +0.3**
RSO Redoubt South 42.74 354 *eP* **P 08 05 19.8 +0.3**
WMQ Urumqi 42.99 98 *eP* **P 08 05 22.3 +0.7**
WMQ pP **pP 08 05 27.0 +1.8**
WMQ sP **sP 08 05 30.5 +3.8**
WMQ PP **PP 08 07 04.5 +3.4**
WMQ ScP **ScP 08 10 59.0 -3.0**
WMQ *eS* **S 08 11 46.0 -0.3**
WMQ PMZ
comp=Z,10.0nm,1.2s
WMQ PMZ
comp=Z,140nm,4.3s
WMQ LN
comp=Z,2μm,12.3s
WMQ LE
comp=Z,1μm,12.3s
WMQ LZ
comp=Z,1μm,12.8s
SONM Songino Array 43.42 78 P **P 08 05 25.7 +0.6**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,401nm,18.3s
SONM Songino Array 43.42 78 P **P 08 05 25.6 +0.6**
comp=Z,3.1nm,0.8s,baz=329,slow=7.6,SNR=13
SONM LR LR 08 26 33.5
comp=Z,401nm,18.3s,baz=3.0,slow=40
FFC Flin Flon 43.48 314 *eP* **P 08 05 25.3 0.0**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 43.48 314 *eP* **P 08 05 25.3 0.0**
comp=Z,12nm,1.0s
FFC Flin Flon 43.48 314 *eP* **P 08 05 25.3 0.0**

comp=Z,12nm,1.0s
ISFR Sfrayin 43.50 133 *e*P P 08 05 21.8 -4.2
ULN Ulaanbaatar 43.54 78⇑*i*P **P 08 05 26.5 +0.4**
ULN pmax pmax
comp=Z,31nm,1.7s
ULN Ulaanbaatar 43.54 78 *e*P **P 08 05 26.4 +0.4**
comp=Z,13nm,1.0s
ULN Ulaanbaatar 43.54 78 *e*P **P 08 05 26.4 +0.4**
comp=Z,13nm,1.0s
IPAY Payeh 44.25 132 *e*P **P 08 05 31.6 -0.4**
IPAY Payeh 44.25 132 *e*P **P 08 05 31.6 -0.4**
ISRO Mashad 44.47 131 *e*P **P 08 05 31.6 -2.0**
ISRO Mashad 44.47 131 *e*P **P 08 05 31.6 -2.0**
KSH Kashi 44.54 112 *e*P P 08 05 37.2 +3.1
KSH sP sP 08 05 44.2 +5.0
KSH PP **PP 08 07 21.9 +4.1**
KSH PcS **PcS 08 11 11.9 +1.4**
KSH S **S 08 12 11.2 +2.1**
KSH sS sS 08 12 19.5 +4.3
KSH ScS **ScS 08 15 31.6 +0.2**
KSH PMZ
comp=Z,79nm,6.8s
KSH LN
comp=Z,860nm,13.6s
KSH LE
comp=Z,730nm,12.9s
KSH LZ
comp=Z,630nm,12.9s
IMYA Miami 44.55 131 *e*P **P 08 05 33.8 -0.4**
IMYA Miami 44.55 131 *e*P **P 08 05 33.8 -0.4**
HIA Hailar 44.94 66 *e*P **P 08 05 37.4 +0.3**
HIA pmax pmax
comp=Z,25nm,1.7s
HIA Hailar 44.94 66 *e*P **P 08 05 37.4 +0.3**
comp=Z,25nm,1.7s
HIA Hailar 44.94 66 *e*P **P 08 05 39.3 +2.2**
KDAK Kodiak Island 45.42 354*ce*P **P 08 05 38.5 -2.2**
OHAK Old Harbor 46.00 354 *e*P **P 08 05 46.7 +1.4**
OHAK Old Harbor 46.00 354 *e*P **P 08 05 46.7 +1.4**
EDM Edmonton 46.67 322 *e*P **P 08 05 49.2 -1.5**
EDM pmax pmax
comp=Z,49nm,1.1s
EDM Edmonton 46.67 322 *e*P **P 08 05 49.2 -1.5**
comp=Z,49nm,1.1s
ULM Lac du Bonnet 46.73 307 P **P 08 05 48.8 -2.3**
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM MLR MLR
comp=Z,381nm,18.6s
ULM Lac du Bonnet 46.73 307 P **P 08 05 48.8 -2.3**
comp=Z,9.4nm,0.8s,baz=14,slow=7.5,SNR=18
ULM LR LR 08 25 45.2
comp=Z,381nm,18.6s,baz=36,slow=36
KLR Kul'dur 47.35 55 *e*P **P 08 05 58.4 +2.4**
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,1µm,14.0s
KLR Kul'dur 47.35 55 *e*P **P 08 05 58.4 +2.4**
PETK Petropavlovsk- 47.63 33 P **P 08 05 59.3 +1.1**
PETK pmax pmax
comp=Z,10.0nm,0.8s
PETK MLR MLR
comp=Z,114nm,18.2s
PETK Petropavlovsk- 47.63 33 P **P 08 05 59.3 +1.1**
comp=Z,9.5nm,0.8s,baz=37,slow=10,SNR=5.8
PETK LR LR 08 26 44.9
comp=Z,114nm,18.2s,baz=32,slow=37
MDV Middlebury 48.08 284 *e*P **P 08 06 03.4 +1.7**
MDV Middlebury 48.08 284 *e*P **P 08 06 03.4 +1.7**
EYMN Ely 48.12 302 *e*P **P 08 06 02.0 0.0**
EYMN Ely 48.12 302 *e*P **P 08 06 02.0 0.0**
A30A Hoffart Farm, 48.42 308⇑P **P 08 06 04.5 +0.2**
baz=48
AGMN Agassiz Nation 48.60 306 *e*P **P 08 06 06.8 +1.1**
AGMN Agassiz Nation 48.60 306⇓P **P 08 06 05.6 -0.1**
baz=48,SNR=7.1
AGMN Agassiz Nation 48.60 306 *e*P **P 08 06 06.8 +1.1**
A29A Manning Farm, 48.60 309⇑P **P 08 06 05.9 +0.2**
baz=48
HABR Khabarovsk 48.68 53*ce*P **P 08 06 04.5 -1.8**
HABR *e**PP **pP 08 06 07.7 -2.3**
HABR *e**SP **sP 08 06 08.9 -2.5**
HABR *e* 08 07 29.9
HABR *e* 08 07 57.4
HABR *e*PPP PPP 08 08 46.4
HABR *e*S **S 08 13 06.9 -0.9**
HABR *e**SS **sS 08 13 12.1 -1.8**
HABR 08 15 55.4
HABR *e*SS **SS 08 16 38.4 +1.1**
HABR pmax pmax
comp=Z,28nm,1.6s
HABR MLR MLR
comp=Z,554nm,19.0s
HABR Khabarovsk 48.68 53 *e*P **P 08 06 04.5 -1.8**
comp=Z,28nm,1.6s
HABR Khabarovsk 48.68 53 *e*PcP **PcP 08 07 29.9 -1.3**
HABR *e*S **S 08 13 06.9 -0.9**
A28A Rude Farm, Bot 48.80 310⇓P **P 08 06 07.9 +0.6**
baz=49
B30A Myrvik Farm, E 48.90 308⇑P **P 08 06 08.0 0.0**
baz=49,SNR=9.3
B29A Wagenman Farm, 49.07 309⇓P **P 08 06 09.4 +0.2**
baz=49
A26A Wade Farm, Ken 49.12 312⇑P **P 08 06 10.8 +1.1**
baz=49
A24A Westby 49.42 313⇑P **P 08 06 12.4 +0.4**
baz=49
COWI Conover 49.42 299 *e*P **P 08 06 13.0 +0.9**
comp=Z,9.6nm,0.8s
COWI Conover 49.42 299 *e*P **P 08 06 13.0 +0.9**
comp=Z,9.6nm,0.8s
A22A Carney Farms, 49.66 315⇓P **P 08 06 14.2 +0.3**
baz=49,SNR=10
A21A Bergtoll Ranch 49.83 316⇓P **P 08 06 15.3 +0.2**
baz=50
DGMT Dagmar 49.89 313⇑P **P 08 06 15.6 0.0**
baz=50
GTA Gaotai 49.94 88 *e*P **P 08 06 15.9 -0.3**
GTA pP **pP 08 06 20.4 +0.5**
GTA sP **sP 08 06 22.9 +1.6**
GTA PP **PP 08 08 12.6 +1.9**
GTA ScP **ScP 08 11 30.2 -0.9**
GTA S **S 08 13 25.0 -1.0**
GTA sS **sS 08 13 32.8 +0.7**
GTA SS **SS 08 16 54.2 -4.0**
GTA PMZ
comp=Z,6.0nm,1.4s
GTA PMZ
comp=Z,76nm,4.7s
GTA LN
comp=Z,370nm,17.6s
GTA LE
comp=Z,650nm,17.6s
GTA LZ
comp=Z,410nm,16.2s
B23A Brockton 50.03 314⇑P **P 08 06 16.4 -0.3**
baz=50
A20A Cobblestone Ra 50.09 316⇑P **P 08 06 18.0 +0.8**
baz=50,SNR=6.9
C26A Wahner Farm, P 50.16 311⇓P **P 08 06 18.3 +0.6**
baz=50
C27A Sayler Ranch, 50.17 311⇑P **P 08 06 18.0 +0.3**
baz=50
A19A Klindworth Far 50.17 317⇓P **P 08 06 18.2 +0.4**
baz=50,SNR=18
D30A Buchanan 50.27 308⇑P **P 08 06 18.0 -0.4**
baz=50
B22A Reddig Ranch S 50.35 315⇓P **P 08 06 19.2 +0.1**
baz=50
BINY Binghamton 50.41 286 *e*P **P 08 06 20.5 +0.9**
comp=Z,6.6nm,0.9s
BINY Binghamton 50.41 286 *e*P **P 08 06 20.5 +0.9**
comp=Z,6.6nm,0.9s
B20A Solberg Farm, 50.54 316⇑P **P 08 06 20.7 +0.2**
baz=50
B19A Brinkman Farms 50.67 317⇓P **P 08 06 21.7 +0.2**
baz=50,SNR=7.1
C23A Lambert 50.70 314⇓P **P 08 06 22.3 +0.6**
baz=50,SNR=6.9
WALA Waterton Lakes 50.81 322 *e*P **P 08 06 22.3 -0.3**
comp=Z,25nm,1.0s
WALA Waterton Lakes 50.81 322 *e*P **P 08 06 22.3 -0.3**
comp=Z,25nm,1.0s
C24A Savage 50.84 313⇓P **P 08 06 23.3 +0.5**
baz=51
C22A Vida 50.87 314⇑P **P 08 06 23.1 +0.1**
baz=51
E30A Jud 50.88 308⇑P **P 08 06 23.4 +0.3**
baz=51
SPMN Marine on St. 50.98 302 *e*P **P 08 06 22.7 -1.1**
comp=Z,32nm,1.1s
SPMN Marine on St. 50.98 302⇓P **P 08 06 24.1 +0.3**
baz=51,SNR=12
SPMN Marine on St. 50.98 302 *e*P **P 08 06 22.7 -1.1**
comp=Z,32nm,1.1s
D26A Manning 50.99 311⇑P **P 08 06 24.5 +0.6**
baz=51
E28A Huff 51.13 310⇓P **P 08 06 25.6 +0.7**
baz=51
HHC Hu-ho-hao-te 51.21 76 *e*P **P 08 06 25.4 -0.3**
HHC PP **PP 08 08 22.8 +0.7**
HHC S **S 08 13 40.7 -2.8**
HHC sS **sS 08 13 48.3 -1.4**
HHC SS **SS 08 17 13.4 -4.8**
HHC PMZ
comp=Z,19nm,0.7s
HHC PMZ
comp=Z,84nm,6.2s
HHC LN
comp=Z,340nm,15.1s
HHC LE
comp=Z,720nm,16.4s
HHC LZ
comp=Z,130nm,17.3s
EGMT Eagleton 51.21 318⇓P **P 08 06 26.2 +0.5**
baz=51
D24A Glendive 51.23 313⇓P **P 08 06 26.6 +0.9**
baz=51
C20A Veseth Ranch, 51.24 316⇑P **P 08 06 26.3 +0.5**
baz=51,SNR=5.4
D23A Lindsay 51.32 314⇓P **P 08 06 26.7 +0.3**
baz=51,SNR=5.3
CN2 Changchun 51.33 63 *e*P **P 08 06 28.3 +1.9**
CN2 PMZ
comp=Z,20nm,0.9s
MDJ Mudanjiang 51.37 59 P **P 08 06 25.9 -0.8**
MDJ pP **pP 08 06 28.9 -1.5**
MDJ sP **sP 08 06 30.1 -1.8**
MDJ PP **PP 08 08 22.0 -1.4**
MDJ S **S 08 13 44.7 -0.7**
MDJ ScS **ScS 08 16 13.9 -2.4**
MDJ PMZ
comp=Z,19nm,1.0s
MDJ PMZ
comp=Z,59nm,7.2s
MDJ LN
comp=Z,210nm,19.6s
MDJ LE
comp=Z,270nm,17.3s
MDJ LZ
comp=Z,240nm,17.9s
C19A Slack Wire Ran 51.38 317⇑P **P 08 06 27.3 +0.4**
baz=51,SNR=15
E27A Carson 51.42 310⇑P **P 08 06 27.9 +0.8**
baz=51
YSS Yuzh-Sakhalins 51.48 47⇓*i*P **P 08 06 29.0 +1.5**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 51.48 47 *i* P **P 08 06 29.0 +1.5**
comp=Z,300nm,16.0s
D22A Cohagen 51.50 314⇑P **P 08 06 28.2 +0.5**
baz=51
E26A Carlson Angus 51.54 311⇓P **P 08 06 28.5 +0.5**
baz=51,SNR=8.0
F30A Leola 51.55 308⇓P **P 08 06 28.9 +0.8**
baz=51
E25A Miller Ranch, 51.67 312⇑P **P 08 06 29.8 +0.7**
baz=51,SNR=7.1
F29A Eureka 51.69 309⇑P **P 08 06 29.6 +0.4**
baz=52
D21A La Casta Ranch 51.71 315⇑P **P 08 06 29.7 +0.3**
baz=52,SNR=6.6
F28A McLaughlin 51.85 309⇑P **P 08 06 30.9 +0.5**
baz=52
D20A Manuel Ranch, 51.87 316⇓P **P 08 06 31.0 +0.5**
baz=52,SNR=15
D19A Cripps Ranch, 51.91 317⇑P **P 08 06 31.1 +0.2**
baz=52,SNR=24
E23A Ismay 51.99 314⇑P **P 08 06 31.8 +0.4**
baz=52
NEW Newport 52.03 324 *e*P **P 08 06 33.1 +1.4**
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 52.03 324 *e*P **P 08 06 33.1 +1.4**
comp=Z,15nm,1.1s
NEW Newport 52.03 324⇓P **P 08 06 31.8 +0.1**
baz=52,SNR=12
NEW Newport 52.03 324 *e*P **P 08 06 33.1 +1.4**
comp=Z,15nm,1.1s
F27A Lemmon 52.04 311⇓P **P 08 06 32.1 +0.3**
baz=52,SNR=12
E22A Miles City 52.15 314⇑P **P 08 06 33.0 +0.4**
baz=52
F26A Lodgepole 52.17 311⇓P **P 08 06 33.3 +0.5**
baz=52,SNR=8.4
USRK Ussuriysk Ar. 52.23 57 P **P 08 06 32.0 -1.2**
comp=Z,9.1nm,0.7s,baz=342,slow=6.7,SNR=19
USRK LR LR 08 34 10.3
comp=Z,112nm,18.1s,baz=342,slow=42
E21A Keeler Ranch, 52.23 315⇓P **P 08 06 33.5 +0.2**
baz=52
F25A Bowman 52.23 312⇓P **P 08 06 33.3 0.0**
baz=52
G30A Faulkton 52.25 308⇓P **P 08 06 33.5 +0.2**
baz=52,SNR=8.7
G29A Hoven 52.33 309⇓P **P 08 06 34.0 +0.1**
baz=52
E20A Meyer Farm, Mu 52.44 316⇓P **P 08 06 35.1 +0.3**
baz=52,SNR=6.0
F24A Ekalaka 52.48 313⇓P **P 08 06 35.4 +0.3**
baz=52
G27A Dupree 52.50 310⇑P **P 08 06 35.8 +0.5**
baz=52,SNR=8.0
SLMT Seeley Lake 52.53 321 *e*P **P 08 06 36.5 +1.0**
comp=Z,29nm,1.0s
SLMT Seeley Lake 52.53 321 *e*P **P 08 06 36.5 +1.0**
comp=Z,29nm,1.0s
E19A Rath Farm, Rou 52.58 316⇑P **P 08 06 36.4 +0.6**
baz=52,SNR=14
G28A Parade 52.62 309⇑P **P 08 06 35.6 -0.5**
baz=52
G26A Maurine 52.70 311⇓P **P 08 06 36.7 0.0**
baz=52,SNR=14
JFWS Jewell Farm 52.71 299 *e*P **P 08 06 36.8 +0.1**
JFWS pmax pmax
comp=Z,19nm,0.7s
JFWS Jewell Farm 52.71 299 *e*P **P 08 06 36.8 +0.1**
comp=Z,19nm,0.7s
JFWS Jewell Farm 52.71 299 *e*P **P 08 06 36.8 +0.1**
comp=Z,19nm,0.7s
F23A Volborg 52.76 313⇓P **P 08 06 37.5 +0.4**
baz=52,SNR=9.1
HRY Holter Researc 52.80 319 *e*P **P 08 06 35.3 -2.2**
comp=Z,35nm,0.9s
CHMT Chamberlain Mo 52.81 320 *e*P **P 08 06 35.6 -2.1**
comp=Z,16nm,1.0s
F22A Rosebud 52.84 314⇑P **P 08 06 38.0 +0.2**
baz=53
BRSD Miller 52.88 307⇓P **P 08 06 38.2 +0.2**
baz=53
H29A Onida 52.93 309⇑P **P 08 06 38.7 +0.3**
baz=53,SNR=7.3
G25A Newell 52.94 312⇑P **P 08 06 38.6 +0.1**
baz=53
F21A Absaloka Mine, 52.94 315⇓P **P 08 06 38.7 +0.2**
baz=53
G24A Alzada 52.98 312⇓P **P 08 06 39.1 +0.3**
baz=53,SNR=8.0
BJI Beijing 52.99 72 P **P 08 06 41.2 +2.4**
BJI S **S 08 14 06.6 -1.1**
BJI PMZ
comp=Z,23nm,1.0s
BJI LN
comp=Z,360nm,20.6s
BJI LE
comp=Z,760nm,19.9s
BJI LZ
comp=Z,410nm,21.9s
MSO Missoula 53.00 321⇑P **P 08 06 39.3 +0.4**
baz=53,SNR=30
H28A Mission Ridge 53.03 309⇓P **P 08 06 40.3 +1.2**
baz=53
ECSD EROS Data Cent 53.14 305⇓P **P 08 06 39.9 0.0**
baz=53,SNR=18
ECSD EROS Data Cent 53.14 305 *e*P **P 08 06 37.9 -2.0**
comp=Z,28nm,0.9s
F19A Roth Farm, Mol 53.20 316⇑P **P 08 06 40.9 +0.4**
baz=53,SNR=25
H27A Howes 53.25 310⇑P **P 08 06 40.9 +0.2**
baz=53,SNR=10
VLA Vladivostok 53.25 57⇑*i*P **P 08 06 40.1 -0.6**
VLA 08 08 39.1
VLA *e*S **S 08 14 09.8 -1.4**
VLA pmax pmax
comp=Z,57nm,1.3s
VLA Vladivostok 53.25 57 *i* P **P 08 06 40.1 -0.6**
comp=Z,57nm,1.3s
VLA *e*S **S 08 14 09.8 -1.4**
G23A Biddle 53.26 313⇓P **P 08 06 41.4 +0.5**
baz=53,SNR=7.4
H26A Fairpoint 53.39 311⇓P **P 08 06 41.9 +0.1**
baz=53
G22A Birney 53.39 314⇑P **P 08 06 42.4 +0.6**
baz=53
H25A Fruitdale 53.52 312⇑P **P 08 06 42.9 +0.1**
baz=53,SNR=14
I29A Vivian Onida 53.53 308⇑P **P 08 06 43.1 +0.3**
baz=53,SNR=12
G21A Lodge Grass 53.54 315⇓P **P 08 06 42.7 -0.2**
baz=53
H24A Dirks Ranch, A 53.56 312⇓P **P 08 06 43.2 +0.1**
baz=53,SNR=6.4
G20A Bridger 53.70 316⇓P **P 08 06 44.5 +0.3**
baz=54,SNR=13
I28A Midland 53.71 309⇓P **P 08 06 44.5 +0.4**
baz=54,SNR=21
LRM Limekiln Ridge 53.77 319 *e*P **P 08 06 45.7 +0.9**
comp=Z,170nm,1.0s
LRM Limekiln Ridge 53.77 319 *e*P **P 08 06 45.7 +0.9**
comp=Z,170nm,1.0s
I27A Quinn 53.79 310⇓P **P 08 06 44.8 0.0**
baz=54,SNR=6.3
ACSO Alum Creek Sta 53.80 292 *e*P **P 08 06 45.2 +0.5**
comp=Z,10.0nm,0.9s
ACSO Alum Creek Sta 53.80 292 *e*P **P 08 06 45.2 +0.5**
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 53.81 319 *e*P **P 08 06 45.2 +0.2**
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 53.81 319 *e*P **P 08 06 45.2 +0.2**
comp=Z,7.0nm,1.1s
BOZ Bozeman (W) 53.81 319 *e*P **P 08 06 45.2 +0.2**
comp=Z,6.9nm,1.1s
I26A New Underwood 53.97 311⇑P **P 08 06 46.6 +0.5**
baz=54,SNR=5.8
H22A Clearmont 54.01 314⇓P **P 08 06 46.9 +0.4**
baz=54,SNR=5.8
LZH Lanzhou 54.03 85 *e*P **P 08 06 47.1 +0.4**
LZH pP **pP 08 06 50.0 -0.5**
LZH sP **sP 08 06 51.5 -0.4**
LZH *e*S **S 08 14 21.3 -1.0**
LZH sS **sS 08 14 28.5 0.0**
LZH *e*SS **SKiKP 08 17 58.5 +0.3**
LZH PMZ
comp=Z,13nm,1.1s
LZH PMZ
comp=Z,90nm,4.2s
LZH LN
comp=Z,490nm,12.8s
LZH LE
comp=Z,840nm,14.6s
LZH LZ
comp=Z,680nm,15.3s
J30A Dallas 54.06 308⇓P **P 08 06 46.5 -0.2**
baz=54,SNR=12
RSSD Black Hills 54.09 312 *e*P **P 08 06 47.1 0.0**
RSSD pmax pmax
comp=Z,16nm,1.1s
RSSD Black Hills 54.09 312 *e*P **P 08 06 47.1 0.0**
comp=Z,16nm,1.1s
RSSD Black Hills 54.09 312 *e*P **P 08 06 47.1 0.0**
comp=Z,16nm,1.1s
I25A Rochford 54.13 311⇑P **P 08 06 47.3 -0.1**
baz=54,SNR=6.8
J29A Okreek 54.13 308⇑P **P 08 06 47.3 +0.1**
baz=54,SNR=8.6
HAWA Hanford 54.19 326 *e*P **P 08 06 49.1 +1.6**
comp=Z,14nm,0.9s
HAWA Hanford 54.19 326 *e*P **P 08 06 49.1 +1.6**
comp=Z,14nm,0.9s
ASAJ Asahikawa 54.22 48 LR LR 08 32 03.1
comp=Z,127nm,18.4s,baz=10.0,slow=38
SCIA State Center 54.26 302 *e*P **P 08 06 48.9 +0.8**
comp=Z,17nm,0.9s
SCIA State Center 54.26 302 *e*P **P 08 06 48.9 +0.8**
comp=Z,17nm,0.9s
J28A Allard Ranch, 54.28 309⇓P **P 08 06 48.4 0.0**
baz=54,SNR=7.0
H19A Powell 54.36 316⇓P **P 08 06 48.9 -0.1**
baz=54,SNR=8.9
H20A Greybull 54.38 315⇑P **P 08 06 49.3 +0.2**
baz=54,SNR=6.8
H18A Shoshone NF, C 54.46 317⇑P **P 08 06 50.1 +0.3**
baz=54,SNR=14
SFIN Lafayette 54.51 296 *e*P **P 08 06 50.8 +0.9**
comp=Z,11nm,0.8s
SFIN Lafayette 54.51 296⇑P **P 08 06 50.1 +0.1**
baz=54
SFIN Lafayette 54.51 296 *e*P **P 08 06 50.8 +0.9**
comp=Z,11nm,0.8s
J27A Elkhorn Farm, 54.58 310⇑P **P 08 06 50.7 +0.1**
baz=54
QLMT Earthquake Lak 54.58 318 *e*P **P 08 06 52.0 +1.3**
comp=Z,1.3nm,0.8s
QLMT Earthquake Lak 54.58 318 *e*P **P 08 06 52.0 +1.3**
comp=Z,1.3nm,0.8s
TAM Tamanrasset 54.61 195 *e*P **P 08 06 51.1 +0.1**
TAM pmax pmax
comp=Z,17nm,1.0s
TAM Tamanrasset 54.61 195 *e*P **P 08 06 51.1 +0.1**
comp=Z,17nm,1.0s
TAM Tamanrasset 54.61 195 *e*P **P 08 06 51.1 +0.1**
comp=Z,17nm,1.0s
J26A Sides Ranch, S 54.71 311⇑P **P 08 06 52.0 +0.5**
baz=54,SNR=5.9
K30A Basset 54.71 307⇑P **P 08 06 51.6 +0.1**
baz=54,SNR=14
I22A 9 Mile Ranch, 54.72 314⇑P **P 08 06 52.0 +0.4**
baz=54,SNR=9.1
K29A Lazy Trails An 54.76 308⇓P **P 08 06 52.1 +0.3**
baz=54,SNR=9.0
MCMT McKenzie Canyo 54.80 319 *e*P **P 08 06 50.9 -1.4**
comp=Z,16nm,1.1s
MCMT McKenzie Canyo 54.80 319 *e*P **P 08 06 50.9 -1.4**
comp=Z,16nm,1.1s
H17A Grant Village 54.88 317 *e*P **P 08 06 55.8 +2.9**
comp=Z,44nm,1.5s
H17A Grant Village 54.88 317⇓P **P 08 06 54.4 +1.5**
baz=55,SNR=13
H17A Grant Village 54.88 317 *e*P **P 08 06 55.8 +2.9**
comp=Z,44nm,1.5s
I21A Big Trails, Te 54.93 314⇑P **P 08 06 53.0 -0.1**
baz=55,SNR=20
I20A Worland 54.93 315⇑P **P 08 06 53.3 +0.2**
baz=55,SNR=10
J24A Dixon Ranch, L 54.96 312⇓P **P 08 06 53.4 +0.1**
baz=55,SNR=9.5
I19A Meeteetse 54.98 316⇑P **P 08 06 53.8 +0.2**
baz=55,SNR=7.8
K28A Ten Mile Ranch 54.99 309⇑P **P 08 06 53.8 +0.3**
baz=55
RAYN Ar Rayn 55.04 150 P **P 08 06 53.9 -0.1**
comp=Z,125nm,0.9s,SNR=9.0
RAYN Ar Rayn 55.04 150 *e*P **P 08 06 53.6 -0.4**
comp=Z,17nm,0.9s
RAYN Ar Rayn 55.04 150 *e*P **P 08 06 53.6 -0.4**
comp=Z,17nm,0.9s
L31A Butterfield Fa 55.06 307⇑P **P 08 06 54.4 +0.5**
baz=55
K27A Flueckinger Fa 55.15 310⇑P **P 08 06 54.8 +0.1**
baz=55
J22A Midwest 55.18 314⇓P **P 08 06 55.1 +0.2**
baz=55,SNR=18
K26A Motz Farm, Whi 55.32 311⇓P **P 08 06 56.0 +0.1**
baz=55
I17A Pilgrim Ck. 55.34 317⇑P **P 08 06 57.5 +1.3**
baz=55,SNR=11
BMO Blue Mountains 55.40 323 *e*P **P 08 06 57.4 +0.9**

comp=Z,16nm,1.3s
BMO Blue Mountains 55.40 323 *e*P P **08 06 57.4 +0.9**
comp=Z,16nm,1.3s
J21A Lysite 55.41 314 ⇑P P **08 06 57.0 +0.4**
baz=55,SNR=8.5
L30A Spencer Herefo 55.44 307 ⇓P P **08 06 56.9 +0.2**
baz=55
J20A Shoshoni 55.50 315 ⇓P P **08 06 58.3 +1.0**
baz=55,SNR=17
K25A Mack Ranch, Ha 55.52 311 ⇑P P **08 06 58.6 +1.2**
baz=55,SNR=7.4
BLO Bloomington 55.55 295 *e*P P **08 06 58.0 +0.5**
BLO pmax pmax
comp=Z,18nm,0.8s
BLO Bloomington 55.55 295 *e*P P **08 06 58.0 +0.5**
comp=Z,18nm,0.8s
BLO Bloomington 55.55 295 *e*P P **08 06 58.0 +0.5**
comp=Z,18nm,0.8s
K24A Anderson Ranch 55.58 312 ⇑P P **08 06 57.3 -0.6**
baz=55
BGNE Belgrade 55.67 306 *e*P P **08 06 59.4 +1.0**
comp=Z,63nm,1.3s
BGNE Belgrade 55.67 306 ⇓P P **08 06 58.5 +0.1**
baz=56
BGNE Belgrade 55.67 306 *e*P P **08 06 59.4 +1.0**
comp=Z,63nm,1.3s
J19A Crowheart 55.74 316 ⇑P P **08 06 59.9 +0.9**
baz=56,SNR=29
G03D McMinnville, O 55.81 328 ⇑P P **08 07 00.2 +0.9**
baz=56
M31A Lambtecht Ranc 55.89 307 ⇑P P **08 07 00.1 +0.1**
baz=56
K22A Casper 55.93 313 ⇓P P **08 07 00.2 -0.2**
baz=56,SNR=15
K22A Casper 55.93 313 *e*P P **08 06 58.7 -1.7**
comp=Z,32nm,1.0s
K21A Alcova 56.07 314 ⇓P P **08 07 01.4 0.0**
baz=56,SNR=9.9
L24A Wheatland 56.26 312 ⇓P P **08 07 02.8 +0.1**
baz=56
HLID Hailey 56.26 321 ⇑P P **08 07 03.6 +0.9**
baz=56,SNR=9.3
M28A Bar X Bar Ranc 56.27 309 ⇓P P **08 07 03.1 +0.4**
baz=56
BW06 Boulder Array 56.31 316 *e*P P **08 07 03.5 +0.3**
comp=Z,17nm,1.3s
BW06 Boulder Array 56.31 316 *e*P P **08 07 03.5 +0.3**
comp=Z,17nm,1.3s
PDAR Pinedale Array 56.31 316 P P **08 07 03.5 +0.4**
comp=Z,5.1nm,0.9s,baz=28,slow=4.2,SNR=32
PDAR LR LR 08 31 32.8
comp=Z,445nm,18.8s,baz=22,slow=36
L23A Garrett 56.32 313 ⇑P P **08 07 03.1 -0.1**
baz=56,SNR=5.4
N32A Stulken Farm, 56.33 306 ⇑P P **08 07 03.5 +0.4**
baz=56
I05D Terrebonne, OR 56.44 327 ⇓P P **08 07 04.3 +0.5**
baz=56
L22A Ellis Ranch, M 56.52 313 ⇓P P **08 07 05.3 +0.6**
baz=56,SNR=15
N30A Hueftle Ranch, 56.62 307 ⇑P P **08 07 05.5 +0.2**
baz=56
N29A Votaw Ranch, W 56.70 308 ⇑P P **08 07 06.0 +0.2**
baz=56
M25A Palm-Egli Farm 56.70 311 ⇑P P **08 07 06.2 +0.3**
baz=56
M24A Cheyenne 56.80 312 ⇑P P **08 07 07.0 +0.4**
baz=57,SNR=7.8
DANN Dangsing 56.96 108 *e*P P **08 07 06.9 -1.2**
comp=Z,48nm,0.9s
N28A Pribbeno Ranch 56.99 309 ⇑P P **08 07 08.2 +0.3**
baz=57,SNR=7.0
PYUN Piuthan 57.04 109 *e*P P **08 07 07.9 -0.6**
comp=Z,69nm,0.8s
N27A Anderson Farm, 57.05 309 ⇑P P **08 07 09.2 +0.9**
baz=57,SNR=5.8
O31A Woolen Ranch, 57.11 306 ⇓P P **08 07 08.0 -0.6**
baz=57
XAN Xi'an 57.14 81 P P **08 07 08.9 0.0**
XAN PMZ
comp=Z,6.0nm,1.1s
XAN PMZ
comp=Z,30nm,8.1s
N26A Koester Ranch, 57.15 310 ⇓P P **08 07 08.9 -0.1**
baz=57
M22A Cedar Creek Ra 57.16 313 ⇑P P **08 07 09.5 +0.2**
baz=57,SNR=12
O30A MW Ranch, Wils 57.21 307 ⇑P P **08 07 09.8 +0.4**
baz=57
O29A 4D Ranch, Culb 57.40 308 ⇑P P **08 07 10.8 +0.1**
baz=57
Q37A Longview Farm, 57.43 302 ⇓P P **08 07 10.3 -0.5**
baz=57
N24A Carr 57.43 312 ⇑P P **08 07 12.2 +1.1**
baz=57,SNR=9.6
J05D Fort Rock, OR 57.46 326 ⇑P P **08 07 13.2 +2.0**
baz=57,SNR=11
P32A Huiting Farm, 57.49 306 ⇑P P **08 07 11.6 +0.3**
baz=57,SNR=10
GKN Gorkha 57.49 107 *e*P P **08 07 10.6 -1.0**
comp=Z,25nm,0.8s
KOLN Koldanda 57.49 108 *e*P P **08 07 11.0 -0.7**
comp=Z,9.7nm,0.7s
SIUC Southern Illin 57.51 297 *e*P P **08 07 12.1 +0.7**
comp=Z,8.5nm,0.7s
SIUC Southern Illin 57.51 297 *e*P P **08 07 12.1 +0.7**
comp=Z,8.5nm,0.7s
N23A Red Feather La 57.55 313 ⇑P P **08 07 12.6 +0.6**
baz=57,SNR=12
O28A Krutsinger Ran 57.57 309 ⇑P P **08 07 11.7 -0.3**
baz=57
N22A Wattenberg Ran 57.72 313 ⇑P P **08 07 14.2 +0.9**
baz=58,SNR=14
P31A Stockton 57.73 306 ⇑P P **08 07 13.8 +0.8**
baz=58,SNR=6.5
O26A Horse Wrangler 57.73 310 ⇓P P **08 07 13.4 +0.3**
baz=58
KKN Kakani 57.84 106 *e*P P **08 07 13.5 -0.6**
comp=Z,64nm,0.9s
GUN Gumba 57.85 106 *e*P P **08 07 13.9 -0.5**
comp=Z,23nm,0.9s
P30A Selden 57.87 307 ⇓P P **08 07 14.5 +0.5**
baz=58,SNR=5.5
P29A Atwood 57.93 308 ⇑P P **08 07 15.4 +0.9**
baz=58,SNR=6.0
KSRS Korea Array 57.94 63 P P **08 07 15.5 +1.1**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS MLR MLR
comp=Z,286nm,18.0s
KSRS Korea Array 57.94 63 P P **08 07 15.5 +1.1**
comp=Z,4.2nm,0.7s,baz=347,slow=6.3,SNR=13
KSRS LR LR 08 35 09.2
comp=Z,286nm,18.0s,baz=347,slow=39
KSAR Wonju Array Be 57.95 63 P P **08 07 15.5 +1.0**
KSAR Wonju Array Be 57.95 63 P P **08 07 15.5 +1.0**
KSAR Wonju Array Be 57.95 63 P P **08 07 15.5 +1.0**
Q33A Connelly Farm, 57.95 305 ⇓P P **08 07 14.6 +0.1**
baz=58,SNR=6.6
N20A Spence Gulch, 57.99 315 ⇑P P **08 07 15.7 +0.6**
baz=58,SNR=14
O25A Wiggins 58.00 311 ⇓P P **08 07 15.9 +0.9**
baz=58,SNR=8.2
R37A Teagarden Farm 58.04 302 ⇓P P **08 07 14.5 -0.7**
baz=58,SNR=6.2
PKI Pulchoki 58.08 106 *e*P P **08 07 14.6 -1.3**
comp=Z,19nm,0.9s
Q32A Meitler Ranch, 58.09 305 ⇑P P **08 07 15.3 -0.3**
baz=58
P28A Saint Francis 58.11 308 ⇓P P **08 07 16.6 +0.8**
baz=58,SNR=5.6
O24A Longmont 58.15 312 ⇑P P **08 07 17.4 +1.2**
baz=58,SNR=7.7
JIRN Jiri 58.16 106 *e*P P **08 07 16.4 -0.2**
comp=Z,35nm,1.0s
R36A Gordon, Harris 58.16 303 ⇑P P **08 07 15.7 -0.4**
baz=58,SNR=7.1
O23A Lake Granby, G 58.21 312 ⇑P P **08 07 18.1 +1.4**
baz=58,SNR=15
Q31A Ellis 58.23 306 ⇓P P **08 07 16.6 +0.1**
baz=58
P27A Ficken Ranch, 58.27 309 ⇓P P **08 07 17.0 +0.1**
baz=58
KMSC Kings Mountain 58.34 289 *e*P P **08 07 18.5 +1.2**
comp=Z,17nm,1.3s
KMSC Kings Mountain 58.34 289 ⇓P P **08 07 17.4 +0.2**
baz=58
KMSC Kings Mountain 58.34 289 *e*P P **08 07 18.5 +1.2**
comp=Z,17nm,1.3s
O22A Kremmling 58.36 313 ⇓P P **08 07 18.7 +0.9**
baz=58,SNR=21
TKL Tuckaleechee C 58.36 291 *e*P P **08 07 17.6 +0.1**
TKL Tuckaleechee C 58.36 291 *e*P P **08 07 17.6 +0.1**
TKL Tuckaleechee C 58.36 291 *e*P P **08 07 17.6 +0.1**
P26A Davis Ranch, A 58.40 310 ⇑P P **08 07 17.8 -0.1**
baz=58
Q30A Quinter 58.41 307 ⇓P P **08 07 18.4 +0.5**
baz=58,SNR=6.3
ISCO Idaho Springs 58.56 312 ⇑P P **08 07 19.7 +0.6**
baz=58,SNR=6.8
P25A Willow Gulch B 58.59 311 ⇓P P **08 07 19.9 +0.7**
baz=58,SNR=13
Q28A Sharon Springs 58.62 308 ⇓P P **08 07 19.5 +0.2**
baz=58
Q29A Oakley 58.63 308 ⇓P P **08 07 19.8 +0.4**
baz=58
PARMO Parma 58.63 297 *e*P P **08 07 19.8 +0.5**
PARMO Parma 58.63 297 *e*P P **08 07 19.8 +0.5**
O20A White River Ci 58.67 314 *e*P P **08 07 21.2 +1.4**
comp=Z,43nm,1.1s
O20A White River Ci 58.67 314 ⇑P P **08 07 20.4 +0.7**
baz=58,SNR=14
O20A White River Ci 58.67 314 *e*P P **08 07 21.2 +1.4**
comp=Z,43nm,1.1s
R32A Long Quarter, 58.67 305 ⇓P P **08 07 18.8 -0.8**
baz=58
P24A Kohler Place, 58.72 311 ⇑P P **08 07 21.1 +1.0**
baz=58,SNR=5.7
WVT Waverly 58.76 295 *e*P P **08 07 19.9 -0.3**
WVT pmax pmax
comp=Z,6.0nm,1.1s
WVT Waverly 58.76 295 *e*P P **08 07 19.9 -0.3**
comp=Z,6.0nm,1.1s
WVT Waverly 58.76 295 *e*P P **08 07 19.9 -0.3**
comp=Z,6.5nm,1.1s
S36A Lake Cedric, C 58.76 302 ⇑P P **08 07 19.0 -1.2**
baz=58,SNR=5.2
TAPN Taplejung 58.79 104 *e*P P **08 07 20.3 -0.6**
comp=Z,30nm,1.1s
KSCO Kaye Shedlock' 58.81 309 ⇓P P **08 07 20.4 -0.3**
baz=59
RAMN Ramite 58.94 105 *e*P P **08 07 21.0 -0.8**
comp=Z,25nm,0.8s
S35A Otter Creek Ra 58.94 303 ⇑P P **08 07 21.0 -0.5**
baz=59,SNR=6.2
P22A Eagle 58.95 313 ⇓P P **08 07 23.1 +1.3**
baz=59,SNR=6.5
R31A Burdett 58.95 306 ⇓P P **08 07 21.5 -0.1**
baz=59
CD2 Chengdu 58.98 87 *e*P P **08 07 23.0 +1.1**
CD2 pP **pP 08 07 27.6 +2.0**
CD2 sP **sP 08 07 30.0 +2.9**
CD2 PcP **PcP 08 08 12.3 +1.5**
CD2 PP **PP 08 09 34.8 +2.9**
CD2 PcS **PcS 08 12 12.6 -0.2**
CD2 S **S 08 15 26.7 -1.0**
CD2 sS **sS 08 15 33.9 0.0**
CD2 ScS **ScS 08 17 09.3 -2.0**
CD2 SS **SS 08 19 21.6 +0.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LN
comp=Z,370nm,18.6s
CD2 LE
comp=Z,980nm,15.2s
CD2 LZ
comp=Z,400nm,16.4s
P23A Jefferson 59.01 312 ⇓P P **08 07 23.7 +1.4**
baz=59,SNR=5.5
M04C Macdoel 59.02 326 ⇑P P **08 07 22.7 +0.6**
baz=59
Q26A Hugo 59.05 310 ⇑P P **08 07 23.0 +0.6**
baz=59,SNR=6.8
S34A Willow Spring 59.07 304 ⇑P P **08 07 22.6 +0.3**
baz=59,SNR=6.0
R30A Dighton 59.09 307 ⇑P P **08 07 22.8 +0.2**
baz=59,SNR=7.5
R29A Marienthal 59.11 308 ⇑P P **08 07 22.6 -0.1**
baz=59
Q25A Bedland, Calha 59.19 310 ⇓P P **08 07 24.2 +0.8**
baz=59,SNR=11
ODAN Odare 59.20 105 *e*P P **08 07 23.7 +0.1**
comp=Z,63nm,1.1s
Q24A Divide 59.29 311 ⇑P P **08 07 24.1 -0.2**
baz=59
R28A Tribune 59.31 308 ⇑P P **08 07 24.3 +0.1**
baz=59
DUG Dugway, Tooele 59.33 318 *e*P P **08 07 25.4 +1.1**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 59.33 318 *e*P P **08 07 25.4 +1.1**
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 59.33 318 ⇑P P **08 07 24.1 -0.1**
baz=59
DUG Duway, Tooele 59.33 318 *e*P P **08 07 25.4 +1.1**
comp=Z,4.5nm,1.0s
S33A Kaszmaul Farm, 59.34 305 ⇑P P **08 07 24.6 +0.4**
baz=59,SNR=5.4
S32A Newby Ranch, P 59.41 305 ⇑P P **08 07 24.6 -0.1**
baz=59
R27A Eads 59.55 309 ⇑P P **08 07 25.7 0.0**
baz=59
R26A Arlington 59.64 310 ⇑P P **08 07 26.3 -0.2**
baz=59
S30A Montezuma 59.75 307 ⇑P P **08 07 27.2 +0.1**
baz=60
T33A Patterson Ranc 59.89 305 ⇓P P **08 07 28.2 +0.2**
baz=60
S29A Ulysses 59.89 307 ⇑P P **08 07 27.9 -0.2**
baz=60
T32A Huddler Ranch, 59.92 305 ⇓P P **08 07 28.1 -0.1**
baz=60
R25A Fountain Ranch 59.94 310 ⇓P P **08 07 28.5 -0.1**
baz=60
TMUT Trail Mountain 59.96 317 *e*P P **08 07 30.5 +1.6**
comp=Z,9.0nm,0.8s
TMUT Trail Mountain 59.96 317 *e*P P **08 07 30.5 +1.6**
comp=Z,9.0nm,0.8s
R24A Sanders Place, 60.00 311 ⇓P P **08 07 28.9 -0.1**
baz=60
S28A Manter 60.06 308 ⇑P P **08 07 29.2 -0.1**
baz=60
T31A Randall Ranch, 60.14 306 ⇓P P **08 07 29.7 0.0**
baz=60
R23A Moffat 60.16 312 ⇓P P **08 07 30.6 +0.4**
baz=60,SNR=8.1
S26A Kim 60.31 309 ⇑P P **08 07 30.0 -1.0**
baz=60
T29A Hugoton 60.38 307 ⇓P P **08 07 31.4 -0.1**
baz=60
U34A Anderson Ranch 60.38 304 ⇑P P **08 07 31.4 +0.1**
baz=60
S25A Robets Cordova 60.44 310 ⇓P P **08 07 32.3 +0.3**
baz=60,SNR=12
U33A Lingo Farm, Me 60.49 304 ⇓P P **08 07 32.0 -0.2**
baz=60
SDCO Great Sand Dun 60.54 311 ⇑P P **08 07 33.3 +0.5**
baz=60,SNR=8.9
T28A Walsh 60.56 308 ⇑P P **08 07 32.4 -0.4**
baz=60
TUL1 Leonard 60.56 302 *e*P P **08 07 32.7 +0.1**
comp=Z,5.3nm,0.8s
TUL1 Leonard 60.56 302 ⇓P P **08 07 32.3 -0.3**
baz=60
TUL1 Leonard 60.56 302 *e*P P **08 07 32.7 +0.1**
comp=Z,5.3nm,0.8s
S24A Houchin Ranch, 60.59 311 ⇓P P **08 07 33.0 -0.2**
baz=60
OXF Oxford 60.64 296 *e*P P **08 07 32.9 -0.3**
OXF pmax pmax
comp=Z,27nm,1.0s
OXF Oxford 60.64 296 *e*P P **08 07 32.9 -0.3**
comp=Z,27nm,1.0s
OXF Oxford 60.64 296 *e*P P **08 07 32.9 -0.3**
comp=Z,27nm,1.0s
S23A Nye Farm, Mont 60.66 312 ⇓P P **08 07 34.4 +0.8**
baz=60
PV01 Paradox Valley 60.67 314 *e*P P **08 07 35.2 +1.5**
comp=Z,2µm,1.1s
PV01 Paradox Valley 60.67 314 *e*P P **08 07 35.1 +1.5**
comp=Z,2µm,1.1s
T27A Campo 60.72 309 ⇑P P **08 07 33.2 -0.6**
baz=60
S22A 4UR Ranch, Cre 60.76 312 ⇓P P **08 07 35.4 +1.0**
baz=60,SNR=13
T26A Comanche Natio 60.77 309 ⇑P P **08 07 33.8 -0.5**
baz=61
MAT Matsushiro 60.81 54 P P **08 07 34.8 +0.5**
MJAR Matsushiro Arr 60.81 54 P P **08 07 34.7 +0.4**
MJAR pmax pmax
comp=Z,12nm,0.9s
MJAR MLR MLR
comp=Z,214nm,20.1s
MJAR Matsushiro Arr 60.81 54 P P **08 07 34.7 +0.4**
comp=Z,12nm,0.9s,baz=338,slow=6.9,SNR=20
MJAR LR LR 08 34 58.0
comp=Z,214nm,20.1s,baz=350,slow=37
U30A WK&E Inc. Balk 60.87 307 ⇑P P **08 07 34.3 -0.5**
baz=61
V35A Meyer Ranch, C 60.90 303 ⇑P P **08 07 34.7 -0.3**
baz=61
T25A Trinidad 60.94 310 ⇓P P **08 07 34.9 -0.6**
baz=61
V34A Guthrie 60.96 304 ⇓P P **08 07 35.1 -0.3**
baz=61
V33A Lossen Ranch, 61.12 304 ⇑P P **08 07 36.5 +0.1**
baz=61
T24B San Luis 61.19 311 ⇑P P **08 07 38.5 +1.3**
baz=61,SNR=6.9
NJ2 Nanjing 61.25 73 *e*P P **08 07 39.0 +1.7**
NJ2 LN
comp=Z,1µm,13.1s
NJ2 LE
comp=Z,1µm,13.7s
T23A Casias Ranch, 61.32 312 ⇑P P **08 07 38.6 +0.4**
baz=61,SNR=6.5
U27A Thompson Grove 61.36 309 ⇑P P **08 07 37.9 -0.4**
baz=61
MIAR Mount Ida 61.45 300 *e*P P **08 07 38.1 -0.5**
MIAR pmax pmax
comp=Z,26nm,1.2s
MIAR Mount Ida 61.45 300 *e*P P **08 07 38.1 -0.5**
comp=Z,26nm,1.2s
MIAR Mount Ida 61.45 300 *e*P P **08 07 38.1 -0.5**
comp=Z,26nm,1.2s
V31A Spring Creek L 61.45 306 ⇑P P **08 07 38.9 +0.1**
baz=61
R11A Troy Canyon, C 61.55 320 ⇑P P **08 07 40.1 +0.6**
baz=61,SNR=10
U26A Atchley Ranch, 61.55 309 ⇓P P **08 07 39.6 0.0**
baz=61
MVCO Mesa Verde 61.56 314 *e*P P **08 07 41.0 +1.3**
comp=Z,12nm,1.2s
MVCO Mesa Verde 61.56 314 ⇓P P **08 07 40.2 +0.5**
baz=61,SNR=6.3
MVCO Mesa Verde 61.56 314 *e*P P **08 07 41.0 +1.3**
comp=Z,12nm,1.2s
W34A Bridge Creek, 61.59 304 *e*P P **08 07 40.8 +1.2**
comp=Z,8.5nm,0.8s
W34A Bridge Creek, 61.59 304 ⇑P P **08 07 39.5 -0.2**
baz=61
W34A Bridge Creek, 61.59 304 *e*P P **08 07 40.8 +1.2**
comp=Z,8.5nm,0.8s
V30A Spur Ranch, Mi 61.62 307 ⇑P P **08 07 39.6 -0.3**
baz=61
U25A Circle Dot Ran 61.66 310 ⇓P P **08 07 41.1 +0.8**
baz=62,SNR=5.1
W33A Caddo, Fort Co 61.80 304 ⇑P P **08 07 41.3 +0.2**
baz=62
NVAR Mina Array Bea 61.85 323 P P **08 07 42.2 +0.6**
comp=Z,4.4nm,1.0s,baz=20,slow=5.8,SNR=11
W32A Sentinel 61.98 305 ⇑P P **08 07 42.3 +0.1**
baz=62
W31A Holland Ranch, 62.04 306 ⇑P P **08 07 42.6 -0.1**
baz=62
V26A Tequesquite Ra 62.14 309 ⇑P P **08 07 43.3 -0.2**
baz=62
X34A Smith Ranch, M 62.22 304 ⇓P P **08 07 44.6 +0.7**
baz=62,SNR=6.6
WMOK Wichita Mounta 62.26 305 *e*P P **08 07 44.6 +0.4**
WMOK pmax pmax
comp=Z,25nm,1.4s
WMOK Wichita Mounta 62.26 305 *e*P P **08 07 44.6 +0.4**
comp=Z,25nm,1.4s
WMOK Wichita Mounta 62.26 305 *e*P P **08 07 44.6 +0.4**
comp=Z,25nm,1.4s
X31A McDonald Ranch 62.59 306 ⇑P P **08 07 47.2 +0.8**
baz=62,SNR=6.4
AMTX Amarillo 62.66 307 ⇑P P **08 07 46.6 -0.3**
baz=62
X32A Elmer 62.66 305 ⇑P P **08 07 47.9 +1.1**
baz=62,SNR=6.0
Y34A Reagan Ranch, 62.83 303 ⇓P P **08 07 47.8 -0.1**
baz=63
U15A North Rim 62.93 317 ⇓P P **08 07 49.3 +0.3**
baz=63
X30A Coker Ranch, T 62.93 306 ⇑P P **08 07 50.1 +1.4**
baz=63,SNR=12
Y33A Hilltop Ranch, 62.94 304 ⇑P P **08 07 49.7 +1.0**
baz=63,SNR=9.3
TPNV Topopah Spring 63.02 321 ⇑P P **08 07 48.8 -0.6**
baz=63
X29A Tulia 63.09 307 ⇓P P **08 07 50.0 +0.2**
baz=63
Y32A R-V Farms, Ver 63.10 305 ⇓P P **08 07 50.2 +0.5**
baz=63
X28A Dimmitt 63.10 308 ⇓P P **08 07 50.7 +0.8**
baz=63,SNR=8.3
SHPR Sheep Range 63.29 320 *e*P P **08 07 52.3 +1.1**
comp=Z,15nm,1.3s
SHPR Sheep Range 63.29 320 *e*P P **08 07 52.3 +1.1**
comp=Z,15nm,1.3s
Y31A Rekieta Farm, 63.29 306 ⇓P P **08 07 51.9 +0.8**
baz=63,SNR=7.2
Z35A Perchaven, San 63.34 303 ⇓P P **08 07 51.1 -0.2**
baz=63
Z34A Collier Ranch, 63.43 303 ⇓P P **08 07 52.2 +0.3**
baz=63
ANMO Albuquerque 63.43 311 *ce*P P **08 07 53.4 +1.2**
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO Albuquerque 63.43 311 *e*P P **08 07 53.4 +1.2**
comp=Z,18nm,1.0s
138A Matatall Enter 63.57 301 ⇓P P **08 07 53.7 +0.8**
baz=63
Y29A Porterfield Fa 63.65 307 ⇓P P **08 07 54.4 +0.9**
baz=63,SNR=8.0
Z33A Whitaker Ranch 63.67 304 ⇓P P **08 07 54.4 +0.9**
baz=64,SNR=7.5
WUAZ Wupatki 63.68 316 ⇓P P **08 07 53.9 +0.1**
baz=64
Y28A McKinney Farm, 63.71 307 ⇓P P **08 07 54.0 +0.1**
baz=64
MSTX Muleshoe 63.74 308 *e*P P **08 07 55.3 +1.2**
comp=Z,24nm,1.0s
MSTX Muleshoe 63.74 308 ⇑P P **08 07 55.0 +0.9**
baz=64,SNR=10
MSTX Muleshoe 63.74 308 *e*P P **08 07 55.3 +1.2**
comp=Z,24nm,1.0s
137A Heron Place, G 63.76 301 ⇓P P **08 07 54.5 +0.3**
baz=64
Z32A Haskell 63.78 305 ⇓P P **08 07 55.0 +0.8**
baz=64,SNR=8.9
Z31A Sharp Cattle R 63.90 305 ⇓P P **08 07 55.7 +0.6**
baz=64,SNR=6.9
GYA Guiyang 63.93 86 *e*P P **08 07 57.0 +1.6**
GYA PP **PP 08 10 18.7 +3.1**
GYA S **S 08 16 29.4 -1.3**
GYA SKS **SKKSac 08 17 46.5 -2.2**
GYA SS **SS 08 20 39.6 +1.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.4s
GYA LN
comp=Z,540nm,19.0s
GYA LE
comp=Z,480nm,20.2s
GYA LZ
comp=Z,520nm,18.8s
Z30A Sanderson Ranc 64.11 306 ⇑P P **08 07 56.2 -0.3**
baz=64
238A Jacksonville 64.22 300 ⇑P P **08 07 57.1 0.0**
baz=64
Z29A Hungry Hill Ra 64.24 307 ⇓P P **08 07 58.0 +0.7**
baz=64,SNR=15
KMI Kunming 64.32 90 P P **08 07 59.2 +1.1**
KMI PMZ
comp=Z,14nm,0.6s
KMI LN
comp=Z,130nm,16.6s

KMI LE
comp=Z,500nm,16.6s
KMI LZ
comp=Z,230nm,16.6s
Z28A Tucker Farm, M 64.34 307 ⇓P **P 08 07 58.8 +0.8**
baz=64,SNR=6.7
237A Washetta, Mont 64.35 301 ⇓P **P 08 07 58.2 +0.2**
baz=64
133A Hamilton Ranch 64.36 304 ⇑P **P 08 07 58.8 +0.8**
baz=64,SNR=8.3
TORD Torodi Ar. Bea 64.43 199 P **P 08 07 57.2 -1.4**
comp=Z,7.7nm,0.8s,baz=0.6,slow=6.1,SNR=19
TORD LR LR 08 38 12.7
comp=Z,191nm,18.1s,baz=345,slow=38
ABTX Abilene, Hawle 64.48 305 ⇓P **P 08 07 59.1 +0.3**
baz=64
340A Bronson 64.54 299 ⇓P **P 08 07 59.9 +0.6**
baz=64,SNR=5.8
131A Roby 64.57 305 ⇓P **P 08 07 59.5 0.0**
baz=64
WHTX Lake Whitney, 64.68 303 ⇓P **P 08 07 59.9 -0.3**
baz=64
X16A Lo Mia Camp, P 64.77 316 ⇑P **P 08 08 01.8 +0.9**
baz=65,SNR=6.5
234A Clairette 64.80 303 ⇓P **P 08 08 01.1 +0.2**
baz=65
338A Crockett 64.88 300 ⇓P **P 08 08 02.0 +0.5**
baz=65
129A Stewart Farms, 64.88 307 ⇑P **P 08 08 01.6 +0.1**
baz=65
233A Rising Star 64.93 304 ⇑P **P 08 08 02.1 +0.3**
baz=65,SNR=8.4
128A Castleberry Fa 65.00 307 ⇓P **P 08 08 02.2 -0.2**
baz=65
337A Centerville 65.03 301 ⇓P **P 08 08 03.7 +1.3**
baz=65
232A Coleman 65.19 305 ⇓P **P 08 08 04.2 +0.7**
baz=65
231A Bronte 65.27 305 ⇓P **P 08 08 04.3 +0.3**
baz=65,SNR=7.3
335A Moody 65.36 302 ⇓P **P 08 08 05.0 +0.4**
baz=65
230A Sterling City 65.47 306 ⇓P **P 08 08 05.6 +0.3**
baz=65,SNR=5.1
334A Lometa 65.47 303 ⇓P **P 08 08 05.6 +0.3**
baz=65,SNR=6.4
Y14A Wickenburg 65.48 317 ⇓P **P 08 08 06.6 +1.2**
baz=65
438A Sam Houston St 65.50 300 ⇑P **P 08 08 06.1 +0.7**
baz=65
228A UT Block 9, Go 65.51 307 ⇑P **P 08 08 06.3 +0.6**
baz=65
229A Bryant Ranch, 65.52 307 ⇓P **P 08 08 06.2 +0.5**
baz=65
333A Richland Sprin 65.62 304 ⇑P **P 08 08 06.6 +0.3**
baz=65,SNR=8.6
332A Millersview 65.70 305 ⇑P **P 08 08 07.5 +0.7**
baz=66,SNR=17
435B Jarrell 65.88 302 ⇑P **P 08 08 08.9 +1.0**
baz=66
Y12C Blythe 65.90 318 ⇓P **P 08 08 09.0 +1.0**
baz=66
331A San Angelo 65.91 305 ⇓P **P 08 08 08.6 +0.4**
baz=66,SNR=11
330A Mertzon 65.95 306 ⇑P **P 08 08 08.5 0.0**
baz=66
434A Burnet 65.98 303 ⇑P **P 08 08 08.7 +0.1**
baz=66
121A Cookes Peak, D 66.02 312 ⇑P **P 08 08 09.5 +0.4**
baz=66
329A Wagon Wheel Ra 66.02 307 ⇑P **P 08 08 09.0 +0.1**
baz=66,SNR=5.8
433A Art 66.19 304 ⇑P **P 08 08 10.5 +0.5**
baz=66,SNR=9.6
432A Menard 66.21 304 ⇑P **P 08 08 10.5 +0.4**
baz=66,SNR=5.8
537A Green Hill Far 66.32 301 ⇓P **P 08 08 11.3 +0.6**
baz=66
MNTX Cornudas Mount 66.42 310 ⇑P **P 08 08 11.3 -0.1**
baz=66
431A Sonora 66.55 305 ⇑P **P 08 08 13.0 +0.7**
baz=66,SNR=18
430A Baggett Ranch, 66.56 306 ⇑P **P 08 08 12.7 +0.3**
baz=66,SNR=6.8
JCT Junction City 66.59 304 *eP* **P 08 08 13.9 +1.3**
JCT pmax pmax
comp=Z,30nm,1.3s
JCT Junction City 66.59 304 *eP* **P 08 08 13.9 +1.3**
comp=Z,30nm,1.3s
JCT Junction City 66.59 304 ⇓P **P 08 08 12.9 +0.3**
baz=66,SNR=6.1
JCT Junction City 66.59 304 *eP* **P 08 08 13.8 +1.3**
comp=Z,30nm,1.3s
TUC Tucson 66.73 315 *eP* **P 08 08 15.5 +2.0**
TUC pmax pmax
comp=Z,13nm,1.4s
TUC Tucson 66.73 315 *eP* **P 08 08 15.5 +2.0**
comp=Z,13nm,1.4s
TUC Tucson 66.73 315 *eP* **P 08 08 15.5 +2.0**
comp=Z,13nm,1.4s
534A Blanco 66.78 303 ⇑P **P 08 08 14.3 +0.5**
baz=67,SNR=12
429A Davenport Ranc 66.84 306 ⇓P **P 08 08 13.7 -0.5**
baz=67
533A Kerrville 66.85 304 ⇑P **P 08 08 14.4 +0.2**
baz=67,SNR=7.1
532A Rocksprings 66.96 304 ⇓P **P 08 08 16.0 +1.1**
baz=67,SNR=5.9
531A Rocksprings 67.04 305 ⇑P **P 08 08 15.9 +0.4**
baz=67
636A Smothers Creek 67.04 302 ⇑P **P 08 08 16.3 +0.9**
baz=67
530A J-C Ranch, Com 67.20 306 ⇑P **P 08 08 16.7 +0.2**
baz=67,SNR=15
635A Leesville 67.27 302 ⇓P **P 08 08 17.5 +0.7**
baz=67
529A Stev Forest Ra 67.39 307 ⇑P **P 08 08 18.1 +0.4**
baz=67
319A Douglas 67.40 313 ⇓P **P 08 08 18.8 +1.0**
baz=67
633A Saathoff Ranch 67.47 304 ⇑P **P 08 08 18.8 +0.7**
baz=67
632A Uvalde 67.54 304 ⇑P **P 08 08 19.1 +0.5**
baz=67
631A Perdido Creek 67.78 305 ⇑P **P 08 08 20.5 +0.4**
baz=68
735A Kenedy 67.80 302 ⇑P **P 08 08 21.0 +0.8**
baz=68
734A La Parita Cree 67.95 303 ⇓P **P 08 08 22.2 +1.1**
baz=68
733A Divot King Ran 68.21 304 ⇓P **P 08 08 23.3 +0.6**
baz=68
732A Laxson Ranch, 68.33 304 ⇑P **P 08 08 24.5 +0.9**
baz=68
835A Beeville 68.35 302 ⇑P **P 08 08 24.7 +1.1**
baz=68
TXAR Lajitas Array 68.42 308 P **P 08 08 22.1 -2.1**
TXAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR MLR MLR
comp=Z,223nm,18.1s
TXAR Lajitas Array 68.42 308 P **P 08 08 22.1 -2.1**
comp=Z,4.9nm,0.9s,baz=49,slow=5.1,SNR=36
TXAR LR LR 08 39 24.0
comp=Z,223nm,18.1s,baz=0.0,slow=37
CMAI Chiengmai2 68.49 95 P **P 08 08 26.5 +1.7**
comp=Z,19nm,1.0s
CRAI Chiangrai 68.50 94 P **P 08 08 23.0 -1.7**
comp=Z,7.7nm,1.4s
833A Chaparral WMA, 68.61 304 ⇑P **P 08 08 25.5 +0.2**
baz=68,SNR=8.3
834A Tilden 68.65 303 ⇓P **P 08 08 26.1 +0.6**
baz=68
934A Benavides 69.15 303 ⇑P **P 08 08 29.5 +0.9**
baz=69
933A Laredo 69.28 303 ⇓P **P 08 08 30.3 +0.9**
baz=69
CMMT Chiang Mai 69.55 95 P **P 08 08 30.9 -0.3**
comp=Z,16nm,1.1s
034A Hebbronville 69.70 303 ⇑P **P 08 08 33.2 +1.1**
baz=70
CMAR Chiang Mai Arr 69.89 95 *ceP* **P 08 08 32.5 -0.8**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 69.89 95 P **P 08 08 32.2 -1.1**
comp=Z,6.2nm,0.9s,baz=331,slow=7.0,SNR=18
CMAR LR LR 08 43 23.1
comp=Z,88nm,18.1s,baz=10.0,slow=40

DBIC Dimbokro 71.40 205 *eP* **P 08 08 41.8 -0.7**
DBIC Dimbokro 71.40 205 P **P 08 08 41.4 -1.1**
comp=Z,17nm,1.0s,baz=350,slow=6.1,SNR=11
DBIC LR LR 08 44 07.7
comp=Z,101nm,18.2s,baz=350,slow=39
DBIC Dimbokro 71.40 205 *eP* **P 08 08 41.8 -0.7**
DBIC Dimbokro 71.40 205 *eP* **P 08 08 41.8 -0.7**
TIC Toumodi 71.44 205 *e*PKP2 **P 08 08 44.3 +1.5**
comp=Z,7.9nm,0.2s
KIC Kosan Boka 71.69 205 *e*PKP2 **P 08 08 42.9 -1.4**
comp=Z,81nm,0.9s
QIZ Qiongzhong 71.81 85 P **P 08 08 45.5 +0.5**
QIZ S **S 08 18 05.5 +0.5**
QIZ LE
comp=Z,230nm,12.7s
QIZ LZ
comp=Z,410nm,13.5s
LIC Lamto 71.86 205 *eP* **P 08 08 43.7 -1.5**
comp=Z,52nm,0.9s,baz=4.0
LIC *eR*
comp=Z,143nm,22.2s
LIC Lamto 71.86 205 *e*PKP2 **P 08 08 43.8 -1.5**
comp=Z,73nm,0.9s
LIC Lamto 71.86 205 *eP* **P 08 08 43.7 -1.5**
comp=Z,26nm,0.9s
LIC Lamto 71.86 205 *eP* **P 08 08 43.7 -1.5**
comp=Z,52nm,0.9s
PBKT Sadao Pong 72.17 94 P **P 08 08 47.2 +0.1**
comp=Z,10nm,1.3s
UTHA Uthaitani 72.81 96 P **P 08 08 53.3 +2.4**
comp=Z,4.2nm,0.8s
KHON Khomkaen 72.82 92 P **P 08 08 53.6 +2.6**
comp=Z,8.7nm,0.9s
SRDT SRDT 73.90 96 P **P 08 08 59.8 +2.4**
KMBO Kilima Mbogo 78.66 161 *ceP* P 08 09 28.7 +4.0
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 78.66 161 P **P 08 09 25.4 +0.7**
comp=Z,1.3nm,0.3s,baz=6.0,slow=8.5,SNR=5.7
SDV Santo Domingo 81.30 272 *eP* **P 08 09 38.1 -0.9**
comp=Z,6.2nm,0.8s
SDV Santo Domingo 81.30 272 *eP* **P 08 09 38.1 -0.9**
comp=Z,6.2nm,0.8s
IPM Ipoh 83.88 97 *eP* **P 08 09 53.0 +0.8**
comp=Z,5.6nm,0.6s
IPM Ipoh 83.88 97 *eP* **P 08 09 53.0 +0.8**
comp=Z,5.6nm,0.6s
BDFB Brasilia 100.08 244 LR LR 08 50 36.8
comp=Z,90nm,18.2s,baz=30,slow=32
WRA Warramunga Arr 114.96 70 PKIKP PKPdf 08 16 02.3 -0.6
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 114.96 70 PKP PKPdf 08 16 02.3 -0.6
comp=Z,0.8nm,0.7s,baz=333,slow=2.5,SNR=13
AS31 Alice Springs 118.47 71 *e*PKPdf **PKPdf 08 16 09.7 0.0**
ASAR Alice Springs 118.47 71 PKIKP **PKPdf 08 16 09.8 +0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 118.47 71 PKP **PKPdf 08 16 09.8 +0.2**
comp=Z,2.3nm,0.7s,baz=354,slow=1.7,SNR=25
SYO Syowa Base 146.28 167 *e*PKPdf **PKPbc 08 17 00.8 -0.3**
VNA1 Neumayer--Stat 148.29 197 P **PKPab 08 17 09.4 -0.5**
VNA2 Neumayer--Watz 148.51 196 P **PKPbc 08 17 07.2 0.0**
baz=347,slow=5.3
VNA3 Neumayer Olymp 148.97 197 P **PKPbc 08 17 10.3 +1.8**
SNAA Sanae 148.98 193 P **PKPab 08 17 11.7 -1.1**

*CSEM **12** 08:02:54.4, 36°23N×21°33E, h25km, MD3.0*
ATH 12 08:02:54.4, 36°23N×21°33E, h25km±1km**, MD3.0**/3,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.74**	**26**	*e*PN	Pn	08 03 09.1	-0.2
PYL				*e*Sn	Sn	08 03 19.5	-0.3
PYL	**PYLOS**	**0.74**	**26**	*e*Pn	Pn	08 03 09.1	-0.2
PYL				*e*Sn	Sn	08 03 19.5	-0.3
ITM	**Ithomi**	**1.06**	**27**	*e*PN	Pb	08 03 14.4	+0.2
ITM				*e*SN	Sn	08 03 30.3	+2.5
ITM	**Ithomi**	**1.06**	**27**	*e*Pn	Pb	08 03 14.4	+0.2
ITM				*e*Sn	Sn	08 03 30.3	+2.5
KYTH	**Kithira**	**1.38**	**87**	*e*PN	Pb	08 03 20.1	+0.5
KYTH	**Kithira**	**1.38**	**87**	*e*Pn	Pb	08 03 20.1	+0.5
VLX	**Vlachokerasia**	**1.42**	**36**	*e*PN	Pb	08 03 20.4	+0.1
VLX				*e*SN	Sb	08 03 39.5	+1.5
VLX	**Vlachokerasia**	**1.42**	**36**	*e*Pn	Pb	08 03 20.4	+0.1
VLX				*e*Sn	Sb	08 03 39.5	+1.5
ANKY	**Antikythira Is**	**1.64**	**102**	*e*PN	Pb	08 03 23.7	-0.2
ANKY	**Antikythira Is**	**1.64**	**102**	*e*Pn	Pb	08 03 23.7	-0.2
KALE	**Kalithea**	**2.25**	**16**	*e*PB	Pb	08 03 32.7	-1.8
KALE	**Kalithea**	**2.25**	**16**	*e*Pb	Pb	08 03 32.7	-1.8
MAKR	**Makrakomi, Fth**	**2.85**	**13**	*e*PB	Pb	08 03 42.0	-2.6
MAKR	**Makrakomi, Fth**	**2.85**	**13**	*e*Pb	Pb	08 03 42.0	-2.6

*IDC **12** 08:10:27.4±1.8, 14°49S×175°58W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.7/33, mbtmp3.5/6, MS3.7/7, Ms1 3.7/7, ms1mx3.4/25, Error ellipse: s-maj=112.2km s-min=23.7km az=150.0*
*ISCJB **12** 08:10:28.4±1.6, 14°.5S±0°.6×175°.7W±0°.4, h16km, mb3.6/6, MS3.6/7, Error ellipse: s-maj=100.8km s-min=20.1km az=149.8*
ISC 12 08:10:30.0±1.8, 14°.5S±0°.7×175°.6W±0°.4, h16km**, n28, σ0s58/8, mb3.6/6, MS3.7/7, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**24.45**	**279**	LR	LR	08 24 31.3	
	comp=Z,231nm,20.5s,baz=135,slow=34						
URZ	**Urewera**	**24.52**	**194**	LR	LR	08 23 19.2	
	comp=Z,244nm,20.3s,baz=37,slow=31						
PPT	**Papeete**	**25.18**	**100**	LR	LR	08 22 30.4	
	comp=Z,74nm,19.5s,baz=258,slow=29						
PAE	**Paea**	**25.18**	**101**	*e*T	T	08 40 26.0	
	6.7nm,0.4s						
PPT2	**Papeete2**	**25.18**	**100**	*e*LQ	LQ	08 20 21.8	
	349nm,26.0s						
PPT2				*e*LR	LR	08 21 22.7	
	268nm,27.2s						
PPT2	**Papeete2**	**25.18**	**100**	*e*T	T	08 40 27.1	
	5.5nm,0.4s						
TIAR	**Tiarei**	**25.39**	**100**	*e*T	T	08 40 42.7	
	3.8nm,0.3s						
TVO	**Taravao**	**25.50**	**101**	*e*T	T	08 40 49.8	
	2.0nm,0.3s						
TBI	**Tubuai**	**26.20**	**114**	*e*LR	LR	08 21 54.3	
	368nm,27.0s						
TBI	**Tubuai**	**26.20**	**114**	*e*T	T	08 41 30.3	
	7.7nm,0.2s						
RPZ	**Rata Peaks**	**31.27**	**199**	LR	LR	08 28 42.6	
	comp=Z,210nm,18.2s,slow=35						
H11S2	**WAKE ISLAND Hy**	**37.15**	**331**	T	T	08 58 38.7	
	baz=150,slow=75,SNR=322						
H11S3	**WAKE ISLAND Hy**	**37.16**	**331**	T	T	08 58 39.7	
	baz=150,slow=75,SNR=189						
H11S1	**WAKE ISLAND Hy**	**37.16**	**331**	T	T	08 58 39.3	
	baz=150,slow=75,SNR=253						
H11N3	**WAKE ISLAND Hy**	**38.12**	**333**	T	T	08 59 50.9	
	baz=151,slow=76,SNR=111						
H11N1	**WAKE ISLAND Hy**	**38.13**	**333**	T	T	08 59 51.3	
	baz=151,slow=76,SNR=180						
H11N2	**WAKE ISLAND Hy**	**38.14**	**333**	T	T	08 59 52.3	
	baz=151,slow=76,SNR=130						
RKT	**Rikitea**	**39.28**	**109**	*e*LQ	LQ	08 27 59.3	
	182nm,28.0s						
RKT	**Rikitea**	**39.28**	**109**	*e*T	T	08 57 54.1	
	3.7nm,0.3s						
WRA	**Warramunga Arr**	**47.99**	**256**	P	P	**08 19 08.6**	**0.0**
	0.6nm,0.9s,baz=92,slow=7.9,SNR=6.0						
ASAR	**Alice Springs**	**48.38**	**251**	P	P	**08 19 11.2**	**-0.4**
	1.4nm,0.8s,baz=87,slow=8.1,SNR=24						
ASAR				LR	LR	08 38 08.3	
	comp=Z,81nm,18.1s,baz=96,slow=34						
USRK	**Ussuriysk Ar.**	**75.41**	**324**	LR	LR	08 50 08.2	
	comp=Z,39nm,20.4s,baz=352,slow=32						
TXAR	**Lajitas Array**	**81.89**	**57**	P	P	**08 22 49.1**	**-0.2**
	0.4nm,0.9s,baz=219,slow=4.2,SNR=2.9						
ILAR	**Eielson Array**	**82.00**	**12**	P	P	**08 22 49.0**	**+0.1**
	0.3nm,0.9s,baz=216,slow=5.6,SNR=3.7						
ILAR				LR	LR	08 52 58.2	
	comp=Z,33nm,19.7s,baz=2.5,slow=31						
PDAR	**Pinedale Array**	**83.03**	**43**	P	P	**08 22 55.1**	**+0.1**
	0.6nm,0.7s,baz=232,slow=2.3,SNR=5.6						
YKA	**Yellowknife Ar**	**90.14**	**24**	P	P	**08 23 28.4**	**-0.7**
	0.1nm,0.6s,baz=233,slow=4.4,SNR=3.5						
BRTR	**Keskin Array B**	**144.13**	**320**	PKP	**PKPdf**	**08 30 06.2**	**+0.6**
	1.0nm,0.8s,baz=147,slow=3.4,SNR=3.7						
GERES	**GERESS Array B**	**144.92**	**349**	PKP	**PKPdf**	**08 30 07.4**	**+0.8**
	0.3nm,0.2s,baz=279,slow=2.6,SNR=3.1						

*CSEM **12** 08:13:54.7±0.2, 50°18N×19°09E, h2km, ML2.6/4, Error ellipse: s-maj=6.1km s-min=2.6km az=10.0*
PRU 12 08:13:55.4, 50°16N×19°10E, h0km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.45**	**82**	*e*Pg	Pg	08 14 03.4	-0.7
OJC				*e*Sg	Sg	08 14 08.9	-1.1
OJC	**Ojcow**	**0.45**	**82**	*e*Pg	Pg	08 14 03.4	-0.7
OKC	**Ostrava-Krasne**	**0.69**	**243**	*e*PG	Pg	08 14 08.1	-0.6
OKC				*e*SG	Sg	08 14 18.1	+0.3
	comp=Z,11nm,0.4s						
OKC	**Ostrava-Krasne**	**0.69**	**243**	Pg	Pg	08 14 08.1	-0.6
OKC				Sg	Sg	08 14 18.1	+0.3
	11nm,0.4s						
LANS	**Liptovska Anna**	**1.04**	**167**	*e*Pg	Pg	08 14 15.1	-0.3
LANS				*e*Sg	Sg	08 14 28.0	-0.9
KRLC	**Kraliky**	**1.50**	**268**	*e*PG	Pn	08 14 22.6	-1.0
KRLC				*e*SG	Sb	08 14 43.7	0.0
KRLC	**Kraliky**	**1.50**	**268**	Pg	Pn	08 14 22.6	-1.0
KRLC				Sg	Sb	08 14 43.7	0.0
STHS	**Stebnicka Huta**	**1.58**	**117**	*e*Pn	Pn	08 14 24.7	0.0
STHS				*e*Sn	Sn	08 14 45.5	-0.3
STHS	**Stebnicka Huta**	**1.58**	**117**	*e*PN	Pn	08 14 24.7	0.0
STHS				*e*SN	Sn	08 14 45.5	-0.3
VYHS	**Vyhne**	**1.68**	**186**	*e*Pn	Pn	08 14 24.8	-1.2
VYHS	**Vyhne**	**1.68**	**186**	*e*PN	Pn	08 14 24.8	-1.2
VYHS				*e*SN	Sn	08 14 46.2	-2.0
DPC	**Dobruska-Polom**	**1.79**	**277**	*e*PG	Pn	08 14 28.1	+0.4
DPC				*e*SG	Sg	08 14 52.9	-0.3
DPC	**Dobruska-Polom**	**1.79**	**277**	Pg	Pn	08 14 28.1	+0.4
DPC				Sg	Sg	08 14 52.9	-0.3
UPC	**Upice**	**2.01**	**281**	*e*SG	Sg	08 14 59.9	-0.1
	comp=Z,1.5nm,0.2s						
UPC	**Upice**	**2.01**	**281**	Sg	Sg	08 14 59.9	-0.1
	1.5nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.79**	**267**	*e*SG	Sg	08 15 24.4	-0.8
GOPC	**GO Pecny, Ondr**	**2.79**	**267**	Sg	Sg	08 15 24.4	-0.8
PVCC	**Panska Ves**	**2.93**	**279**	*e*SG	Sg	08 15 29.0	-0.4
	comp=Z,8.7nm,0.3s						
PVCC	**Panska Ves**	**2.93**	**279**	Sg	Sg	08 15 29.0	-0.4
	8.7nm,0.3s						
PRU	**Pruhonice**	**2.94**	**268**	*e*SG	Sg	08 15 29.4	-0.5
PRU	**Pruhonice**	**2.94**	**268**	Sg	Sg	08 15 29.4	-0.5
KHC	**Kasperske Hory**	**3.73**	**256**	*e*PG	Pb	08 15 03.7	+1.4
KHC				*e*SG	Sg	08 15 54.5	-1.0
	comp=Z,1.9nm,0.4s						

*IDC **12** 08:28:56.5±1.3, 34°89N×58°35E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/30, mbtmp3.6/10, ML3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/42, Error ellipse: s-maj=27.5km s-min=21.4km az=91.0*
*TEH **12** 08:29:00.0, 35°06N×58°66E, h5km, ML3.7*
*THR **12** 08:29:02.8±1.2, 34°75N×58°56E, h35km±14km, ML4.0*
*CSEM **12** 08:29:02.2±0.2, 35°06N×58°64E, h30km, ML3.7, Error ellipse: s-maj=10.2km s-min=5.6km az=105.0*
ISC 12 08:29:01.4±1.6, 35°06N±0°03×58°60E±0°05, h27km±13km**, n44, σ1s34/51, mb3.5/6, 2C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**1.21**	**30**	⇓*e*Pg	**Pn**	**08 29 22.3**	**-0.5**
IMOG				*e*Sg	**Sn**	**08 29 39.1**	**+0.6**
IMOG				*e*		08 29 44.2	
	comp=Z,5μm,0.2s						
IMOG	**Moghan**	**1.21**	**30**	⇓*e*Pg	**Pn**	**08 29 22.3**	**-0.5**
IMOG				*e*Sg	**Sn**	**08 29 39.1**	**+0.6**
IPAY	**Payeh**	**1.43**	**13**	⇑*e*Pg	**Pn**	**08 29 24.9**	**-0.9**
IPAY				*e*Sg	**Sn**	**08 29 44.1**	**+0.3**
IPAY				*e*		08 29 48.8	
	comp=Z,8μm,0.2s						
IPAY	**Payeh**	**1.43**	**13**	⇑*e*Pg	**Pn**	**08 29 24.9**	**-0.9**
IPAY				*e*Sg	**Sn**	**08 29 44.1**	**+0.3**
ISRO	**Mashad**	**1.44**	**29**	*e*Pg	**Pn**	**08 29 25.1**	**-0.7**
ISRO				*e*Sg	**Sn**	**08 29 43.4**	**-0.5**
ISRO				*e*		08 29 51.2	
	comp=Z,9μm,0.4s						
ISRO	**Mashad**	**1.44**	**29**	*e*Pg	**Pn**	**08 29 25.1**	**-0.7**
ISRO				*e*Sg	**Sn**	**08 29 43.4**	**-0.5**
IAKL	**Akhelmad**	**1.55**	**5**	*e*	Sn	08 29 53.0	+6.2
	comp=Z,9μm,0.2s						
IKRD	**Kardeh**	**1.72**	**358**	⇓*e*Pg	**Pb**	**08 29 33.9**	**+1.5**
IKRD				*e*		08 30 05.6	
	comp=Z,6μm,0.2s						
IMYA	**Miami**	**1.77**	**43**	*e*Pg	**Pn**	**08 29 31.9**	**+1.4**
IMYA				*e*		08 30 08.7	
	comp=Z,4μm,0.2s						
IMYA	**Miami**	**1.77**	**43**	*e*Pg	**Pn**	**08 29 31.9**	**+1.4**
TABS	**Tabas**	**1.86**	**221**	*e*Pg	**Pn**	**08 29 32.3**	**+0.7**
TABS				AML	AML	08 30 02.9	
	comp=E,2μm,0.4s						
TABS				AML	AML	08 30 04.9	
	comp=N,3μm,0.5s						
TABS	**Tabas**	**1.86**	**221**	*e*Pg	**Pn**	**08 29 32.3**	**+0.7**
	comp=N,3μm,0.5s						
SHRT	**Shahrakht**	**1.99**	**135**	*e*Pg	**Pn**	**08 29 35.2**	**+1.9**
SHRT	**Shahrakht**	**1.99**	**135**	*e*Pg	**Pn**	**08 29 35.2**	**+1.9**
ISFR	**Sfrayin**	**2.05**	**347**	*e*Pn	**Pn**	**08 29 35.9**	**+1.5**
ISFR				*e*		08 29 45.6	
	comp=Z,6μm,0.2s						
ISFR				*e*Sg	**Sb**	**08 30 04.2**	**+1.0**
ISFR	**Sfrayin**	**2.05**	**347**	*e*Pn	**Pn**	**08 29 35.9**	**+1.5**
ITEG	**Tejag**	**2.16**	**177**	*e*Pn	**Pn**	**08 29 36.4**	**+0.6**
ITEG				*e*		08 30 18.3	
	comp=Z,7μm,0.2s						
ITEG	**Tejag**	**2.16**	**177**	*e*Pn	**Pn**	**08 29 36.4**	**+0.6**
IDAH	**Dahanechah**	**2.54**	**155**	*e*Pn	**Pn**	**08 29 41.7**	**+0.6**
IDAH				*e*		08 30 29.3	
	comp=Z,5μm,0.2s						
IDAH	**Dahanechah**	**2.54**	**155**	*e*Pn	**Pn**	**08 29 41.7**	**+0.6**
ISHV	**Shirvan**	**2.58**	**344**	*e*Pn	**Pn**	**08 29 42.9**	**+1.4**
ISHV				*e*		08 30 25.2	
	comp=Z,6μm,0.5s						
ISHV	**Shirvan**	**2.58**	**344**	*e*Pn	**Pn**	**08 29 42.9**	**+1.4**
IKOO	**Kooshah**	**2.65**	**173**	*e*Pn	**Pn**	**08 29 43.3**	**+0.7**
IKOO				*e*		08 30 38.6	
	comp=Z,3μm,0.3s						
IKOO	**Kooshah**	**2.65**	**173**	*e*Pn	**Pn**	**08 29 43.3**	**+0.7**
GEYT	**Alibeck**	**2.89**	**352**	Pn	**Pn**	**08 29 47.7**	**+2.0**
	comp=Z,4.3nm,0.3s,baz=162,slow=15,SNR=18						
GEYT				Sn	**Sb**	**08 30 25.2**	**-2.0**
	comp=Z,6.5nm,0.3s,baz=200,slow=28,SNR=5.9						
MRVT	**Maraveh tapeh**	**3.29**	**323**	*e*Pn	**Pb**	**08 29 57.7**	**-1.5**
IBAF	**Bafgh**	**4.29**	**217**	*e*Pn	**Pn**	**08 30 05.6**	**+0.6**
IBAF	**Bafgh**	**4.29**	**217**	*e*Pn	**Pn**	**08 30 05.6**	**+0.6**
ICHK	**Chekchek**	**4.48**	**232**	*e*Pn	**Pn**	**08 30 08.5**	**+0.7**
ICHK				*e*		08 31 28.4	
	comp=Z,4μm,0.3s						
ICHK	**Chekchek**	**4.48**	**232**	*e*Pn	**Pn**	**08 30 08.5**	**+0.7**
KRBR	**Kerman**	**5.29**	**198**	*e*Pn	**Pn**	**08 30 18.3**	**-0.7**
KRBR				AML	AML	08 32 04.2	
	comp=E,148nm,0.5s						
KRBR				AML	AML	08 32 06.2	
	comp=N,105nm,0.6s						
KRBR	**Kerman**	**5.29**	**198**	*e*Pn	**Pn**	**08 30 18.3**	**-0.7**
	comp=N,45nm,0.3s						
NASN	**Na'in**	**5.31**	**247**	*e*P	**Pn**	**08 30 19.8**	**+0.5**
NASN				AML	AML	08 32 00.4	
	comp=N,45nm,0.3s						
DAMV	**Damavand**	**5.45**	**278**	*e*Pn	**Pn**	**08 30 23.5**	**+2.5**
DAMV	**Damavand**	**5.45**	**278**	*e*Pn	**Pn**	**08 30 23.5**	**+2.5**
AAK	**Ala-Archa**	**14.50**	**54**	Pn	**Pn**	**08 32 23.2**	**-1.7**
	comp=N,0.3nm,0.3s,baz=197,slow=8.0,SNR=4.9						
AAK				LR	LR	08 38 34.6	
	comp=N,121nm,18.6s,baz=264,slow=39						
AKTO	**Aktyubinsk**	**15.37**	**359**	Pn	**Pn**	**08 32 34.7**	**-1.6**
	comp=N,0.4nm,0.3s,baz=165,slow=14,SNR=6.0						
BVAR	**Borovoye Array**	**19.81**	**21**	P	**Pn**	**08 33 30.7**	**-0.7**
	comp=N,3.6nm,0.5s,baz=201,slow=10,SNR=23						
KURBB	**Kurchatov Arra**	**21.24**	**37**	P	**P**	**08 33 47.4**	**+2.2**
	comp=N,0.7nm,0.5s,baz=234,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**21.31**	**49**	P	**P**	**08 33 48.9**	**+2.9**
	comp=N,0.5nm,0.7s,baz=242,slow=10,SNR=4.4						
CMAR	**Chiang Mai Arr**	**39.34**	**104**	P	**P**	**08 36 30.5**	**+2.0**
	comp=N,0.3nm,0.3s,baz=316,slow=41,SNR=3.2						

TORD	**Torodi Ar. Bea**	**55.55**	**262**	P	**P**	**08 38 32.7**	**-1.9**
	comp=N,0.4nm,0.9s,baz=49,slow=7.7,SNR=2.9						
WRA	**Warramunga Arr**	**90.22**	**114**	P	**P**	**08 41 58.7**	**-1.0**
	comp=N,0.2nm,0.6s,baz=320,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**92.15**	**117**	P	**P**	**08 42 07.8**	**-0.8**
	comp=N,0.3nm,0.7s,baz=312,slow=6.9,SNR=3.5						

IDC 12 08:30:06.0±2.7, 53°.77N×86°.92E, h0km, mb1 3.0/2, mb1mx2.8/29, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.5km s-min=13.5km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**279**	*i*		08 38 20.0	
	baz=100,slow=333,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.26**	**279**	Pg	Pg	08 30 29.1	-0.9
	1.3nm,0.3s,baz=96,slow=19,SNR=18						
ZALV				Lg	Lg	08 30 46.8	
	1.1nm,0.3s,baz=98,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**6.04**	**242**	Pn	Pn	08 31 37.0	+0.4
	0.1nm,0.3s,baz=58,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**7.59**	**205**	Pn	Pn	08 31 59.1	+1.3
	0.2nm,0.3s,baz=27,slow=14,SNR=10.0						
MKAR				Sn	Sn	08 33 25.0	+0.5
	0.1nm,0.3s,baz=27,slow=26,SNR=3.0						

DJA 12 08:31:10.8±0.8, 9°S±7°×117°8E±°, h53km±22km, M3.6/6, MLv3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.19**	**126**	P	Pn	08 31 30.9	-0.4
WBSI				S	Sn	08 31 46.9	+0.4
IGBI	**Denpasar**	**3.23**	**272**	P	Pn	08 32 01.4	+2.4
IGBI				S	Sn	08 32 38.1	+1.9
EDFI	**Ende, Flores**	**3.25**	**87**	P	Pn	08 31 59.2	-0.2
SRBI	**Singaraja**	**3.27**	**285**	S	Sn	08 32 38.7	+1.3
BKSI	**Bulukumba**	**3.98**	**25**	P	Pn	08 32 09.2	-0.1
JAGI	**Jajag, Banyuwa**	**4.24**	**276**	P	Pn	08 32 13.2	+0.3
JAGI				S	Sn	08 33 02.0	+0.9

IDC 12 08:34:58.5±1.3, 53°.85N×91°.03E, h0km, mb3.4/3, mb1 3.5/8, mb1mx3.4/33, mbtmp3.4/8, ML3.1/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/40, Error ellipse: s-maj=18.1km s-min=12.9km az=153.0

ISCJB 12 08:35:01.8±0.8, 53°.81N±0°.08×90°.7E±0°.1, h33km, mb3.3/2, MS3.7/1, Error ellipse: s-maj=12.5km s-min=7.2km az=152.2

NNC 12 08:35:05.0±2.7, 53°.64N×90°.29E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=22.3km s-min=19.3km az=172.0

ISC 12 08:35:04.3±1.0, 54°.0N±0°.1×90°.65E±0°.08, h35km, n15, σ1s03/16, 7C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.45**	**272**	*i*		08 57 50.0	
	baz=90,slow=332,SNR=13						
ZALV	**Zalesovo Beam**	**3.45**	**272**	Pn	**Pn**	**08 35 57.1**	**+1.7**
	3.9nm,0.3s,baz=89,slow=14,SNR=34						
ZALV				Lg	Lg	08 36 54.4	
	8.1nm,0.3s,baz=87,slow=28,SNR=12						
ZALV				LR	LR	08 37 21.4	
	comp=Z,47nm,18.2s,baz=250,slow=39						
KURK	**Kurchatov**	**8.05**	**251**	⇑Pn	**Pn**	**08 36 58.8**	**+0.2**
	5.4nm,0.9s						
KURK				⇑Sn	**Sn**	**08 38 27.9**	**-0.5**
	15nm,1.1s						
KURK				⇑Lg	Lg	08 39 12.4	
	77nm,1.2s						
KURBB	**Kurchatov Arra**	**8.15**	**251**	⇑Pn	**Pn**	**08 37 00.3**	**+0.5**
	10nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 38 30.9**	**+0.3**
	102nm,0.8s						
KURBB				⇑Lg	Lg	08 39 16.9	
	75nm,0.8s						
KURBB	**Kurchatov Arra**	**8.15**	**251**	Pn	**Pn**	**08 37 00.4**	**+0.5**
	0.5nm,0.3s,baz=64,slow=14,SNR=16						
KURBB				Sn	**Sn**	**08 38 32.2**	**+1.5**
	0.2nm,0.3s,baz=66,slow=25,SNR=6.4						
KURBB				Lg	Lg	08 39 22.4	
	0.2nm,0.3s,baz=67,slow=33,SNR=8.5						
TLY	**Talaya**	**8.19**	**101**	Pn	**Pn**	**08 37 00.9**	**+0.4**
	0.0nm,0.3s,baz=162,slow=20,SNR=2.2						
TLY				Lg	Lg	08 39 02.8	
	0.0nm,0.3s,baz=19,slow=3.9,SNR=8.7						
MK31	**Makanchi Array**	**8.94**	**220**	Pn	**Pn**	**08 37 10.6**	**-0.2**
	5.4nm,0.9s,baz=36,slow=13,SNR=29						
MK31				⇓Sn	**Sn**	**08 38 48.5**	**-1.6**
	12nm,0.8s,baz=47,slow=21,SNR=6.2						
MK31				⇑Lg	Lg	08 39 36.2	
	61nm,1.1s,baz=38,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**8.94**	**220**	Pn	**Pn**	**08 37 10.3**	**-0.4**
	0.7nm,0.3s,baz=42,slow=14,SNR=30						
MKAR				Sn	**Sn**	**08 38 50.6**	**+0.5**
	0.4nm,0.3s,baz=40,slow=18,SNR=7.6						
MKAR				Lg	Lg	08 39 38.8	
	0.3nm,0.3s,baz=37,slow=24,SNR=6.2						
SONM	**Songino Array**	**11.66**	**115**	Pn	Pn	08 37 43.0	-5.2
	0.0nm,0.3s,baz=312,slow=13,SNR=2.6						
SONM				Lg	Lg	08 40 54.8	
	0.2nm,0.3s,baz=311,slow=23,SNR=3.6						
BVAR	**Borovoye Array**	**12.10**	**274**	Pn	**Pn**	**08 37 52.8**	**-1.3**
	0.1nm,0.3s,baz=83,slow=16,SNR=2.6						
BVAR				Sn	**Sn**	**08 40 06.4**	**-1.2**
	0.3nm,0.3s,baz=78,slow=21,SNR=4.7						
BVAR				LR	LR	08 43 18.7	
	comp=Z,110nm,18.8s,baz=232,slow=41						
AAK	**Ala-Archa**	**15.58**	**230**	Lg	Lg	08 43 15.6	
	0.1nm,0.3s,baz=338,slow=21,SNR=3.7						
AKTO	**Aktyubinsk**	**20.21**	**273**	P	Pn	08 39 38.2	+0.2
	1.1nm,0.6s,baz=59,slow=4.0,SNR=5.4						
ILAR	**Eielson Array**	**53.64**	**27**	P	**P**	**08 44 20.6**	**-1.0**
	0.2nm,0.7s,baz=322,slow=3.8,SNR=4.4						
MDT	**Midelt**	**67.08**	**294**	LR	LR	09 16 43.4	
	comp=Z,43nm,18.7s,slow=37						
TORD	**Torodi Ar. Bea**	**78.89**	**277**	P	**P**	**08 47 04.7**	**+0.7**
	0.5nm,0.8s,baz=43,slow=5.2,SNR=4.3						

IDC 12 08:41:10.4±2.2, 5.70N×126.81E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/24, 1D, Error ellipse: s-maj=168.5km s-min=25.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.89**	**282**	⇓*i*	Pn	08 41 43.0	-1.1
JOW	**Kunigami**	**21.06**	**4**	LR	LR	08 52 06.4	
	comp=Z,72nm,21.2s,baz=89,slow=31						
WRA	**Warramunga Arr**	**26.54**	**164**	P	P	08 46 48.7	-1.4
	0.8nm,0.7s,baz=344,slow=10,SNR=10						
ASAR	**Alice Springs**	**30.00**	**167**	P	P	08 47 22.6	+1.6
	0.4nm,0.8s,baz=355,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**56.00**	**324**	P	P	08 50 50.7	-0.1
	0.2nm,0.3s,baz=119,slow=7.8,SNR=7.3						

CSEM 12 08:54:17.4, 34°.66N×58°.69E, h32km, ML3.6

THR 12 08:54:17.4±0.5, 34°.66N×58°.69E, h32km±6km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABS	**Tabas**	**1.65**	**233**	*e*Pg	Pb	08 54 47.2	-0.1
TABS				AML	AML	08 55 19.6	
	comp=N,485nm,0.5s						
TABS	**Tabas**	**1.65**	**233**	*e*Pg	Pb	08 54 47.2	-0.1
	comp=N,485nm,0.5s						
SHRT	**Shahrakht**	**1.67**	**127**	*e*Pg	Pb	08 54 47.5	-0.2
SHRT				AML	AML	08 55 18.2	
	comp=E,996nm,0.5s						
SHRT				AML	AML	08 55 18.3	
	comp=N,568nm,0.6s						
SHRT	**Shahrakht**	**1.67**	**127**	*e*Pg	Pb	08 54 47.5	-0.2
	comp=N,568nm,0.6s						
MRVT	**Maraveh tapeh**	**3.66**	**326**	*e*Pn	Pn	08 55 14.1	+2.3
MRVT	**Maraveh tapeh**	**3.66**	**326**	*e*Pn	Pn	08 55 14.1	+2.3
KRBR	**Kerman**	**4.94**	**200**	*e*Pn	Pn	08 55 32.0	+2.2
KRBR	**Kerman**	**4.94**	**200**	*e*Pn	Pn	08 55 32.0	+2.2
CHTH	**Charan**	**6.31**	**284**	*e*Pn	Pn	08 55 50.4	+1.9
CHTH	**Charan**	**6.31**	**284**	*e*Pn	Pn	08 55 50.4	+1.9

GUC 12 08:54:45.9±0.7, 37°.76S×73°.74W, h36km±4km, ML3.9, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGCH	**Angol**	**0.83**	**94**	⇓*i*	P	08 55 02.1	+1.0
AGCH				*i*	S	08 55 13.1	+1.0
CCSP	**San Pedro de C**	**1.04**	**29**	⇓*i*	P	08 55 04.4	+0.4
CCSP				*e*	S	08 55 18.7	+1.4
CCSP				AML	AML	08 55 23.6	
	comp=E,7μm,0.5s						
COCH	**Cobquecura**	**1.80**	**25**	⇓*i*	P	08 55 14.6	+0.3
COCH				*e*	S	08 55 39.2	+3.3
COCH				AML	AML	08 55 44.7	
	comp=E,1μm,0.5s						
VLCH	**Valdivia**	**2.08**	**169**	⇑*i*	P	08 55 20.3	+2.1
VLCH				⇓*i*	S	08 55 45.6	+2.8
LNCH	**Linares**	**2.57**	**43**	*e*	P	08 55 27.2	+2.3
LNCH				*i*	S	08 56 01.5	+6.6
OSCH	**Osorno**	**2.85**	**171**	*i*	S	08 56 04.8	+2.9

ISCJB 12 08:57:55.5±0.4, 5°.34S±0°.03×140°.57E±0°.04, h33km, mb4.0/5, MS3.4/1, Error ellipse: s-maj=6.0km s-min=4.0km az=174.8

NEIC 12 08:57:57.7±0.5, 5°.10S×140°.54E, h35km, mb4.1/4, Error ellipse: s-maj=11.2km s-min=7.6km az=65.0

DJA 12 08:57:59.9±1.8, 5°.3S±3°×14°.1E±°, h21km±20km, M4.5/13, mb4.5/13, mB4.7/1, MLv4.5/5, Mw(mB)3.9/1

IDC 12 08:57:59.1±2.2, 5°.14S×140°.68E, h51km±21km, mb3.8/5, mb1 4.0/9, mb1mx3.8/28, mbtmp4.1/9, ML3.9/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/18, Error ellipse: s-maj=29.0km s-min=11.7km az=70.0

ISC 12 08:57:57.5±0.6, 5°.29S±0°.05×140°.60E±0°.05, h35km, n47, σ2s08/52, mb4.1/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**2.71**	**351**	P	**Pn**	**08 58 39.6**	**+1.0**
GENI				S	**Sn**	**08 59 10.5**	**+0.3**
JAY	**Jayapura**	**2.75**	**2**	P	**Pn**	**08 58 38.7**	**-0.6**
JAY	**Jayapura**	**2.75**	**2**	P	**Pn**	**08 58 38.4**	**-0.9**
	36nm,0.3s,baz=206,slow=10,SNR=78						
JAY				S	**Sn**	**08 59 10.2**	**-1.1**
	28nm,0.3s,baz=300,slow=23,SNR=8.3						
JAY				LR	LR	08 59 58.1	
	comp=Z,246nm,20.4s,baz=50,slow=46						
MMPI	**Merauke**	**3.17**	**184**	P	Pn	08 58 56.5	+12
MMPI				S	Sn	08 59 42.1	+21
SMPI	**Sarmi**	**3.78**	**330**	P	**Pn**	**08 58 53.8**	**+0.5**
PMG	**Port Moresby**	**7.69**	**123**	P	**Pn**	**08 59 49.4**	**+2.4**
	2.0nm,0.3s,baz=312,slow=15,SNR=6.4						
PMG				S	**Sn**	**09 01 14.1**	**+1.2**
	1.3nm,0.3s,baz=353,slow=17,SNR=2.8						
PMG				LR	LR	09 03 22.0	
	comp=Z,129nm,18.7s,baz=36,slow=42						
PMG	**Port Moresby**	**7.69**	**123**	P	**Pn**	**08 59 49.7**	**+2.7**
	baz=7.8,SNR=4.7						
FAKI	**Fak Fak**	**8.65**	**285**	P	**Pn**	**09 00 00.9**	**+0.5**
	20nm,0.8s						
FAKI	**Fak Fak**	**8.65**	**285**	P	**Pn**	**09 00 00.1**	**-0.3**
	baz=8.5,SNR=8.9						
FAKI	**Fak Fak**	**8.65**	**285**	*e*Pn	**Pn**	**08 59 59.5**	**-0.8**
	12nm,0.6s						
FAKI				*e*Sn	**Sn**	**09 01 38.0**	**+1.1**
COEN	**Coen**	**8.98**	**164**	P	**Pn**	**09 00 07.6**	**+2.7**
	baz=9.0,SNR=19						
COEN	**Coen**	**8.98**	**164**	*e*Pn	**Pn**	**09 00 07.4**	**+2.5**
	15nm,0.6s						
COEN				*e*Sn	**Sn**	**09 01 43.2**	**-1.7**
KDU	**Kakadu**	**10.88**	**227**	P	**Pn**	**09 00 29.8**	**-1.2**
	baz=11,SNR=37						
MTN	**Manton Dam**	**11.99**	**231**	P	**Pn**	**09 00 44.7**	**-1.4**
	baz=12,SNR=7.5						
MTN				S	Sn	09 02 51.2	-7.4
	baz=12,SNR=6.2						
QIS	**Mount Isa**	**15.21**	**184**	P	**Pn**	**09 01 28.4**	**-1.5**
	baz=15,SNR=5.4						
KNRA	**Kununurra**	**15.55**	**227**	P	**Pn**	**09 01 32.0**	**-2.3**
	baz=15,SNR=4.4						
KNRA				S	Sn	09 04 15.9	-10
	baz=15,SNR=6.5						
CTA	**Charters Tower**	**15.71**	**160**	P	**P**	**09 01 40.0**	**-0.1**
	0.6nm,0.3s,baz=344,slow=12,SNR=9.7						
CTAO	**Charters Tower**	**15.71**	**160**	*e*Pn	**P**	**09 01 39.7**	**-0.3**
	11nm,1.0s						
WRAB	**Tennant Creek**	**15.78**	**202**	*e*Pn	**Pn**	**09 01 34.6**	**-2.7**
	15nm,0.6s						
WRAB				*e*Sn	**Sn**	**09 04 37.6**	**+6.5**
WB2	**Warramunga Arr**	**15.79**	**202**	*e*Pn	**Pn**	**09 01 34.7**	**-2.7**
WB2				*e*Sn	**Sn**	**09 04 29.0**	**-2.3**
WRA	**Warramunga Arr**	**15.79**	**202**	P	**Pn**	**09 01 34.9**	**-2.6**
	0.6nm,0.3s,baz=18,slow=13,SNR=24						
WRA				S	**Sn**	**09 04 27.1**	**-4.4**
	0.7nm,0.3s,baz=18,slow=22,SNR=5.2						
SOEI	**Soe**	**16.79**	**254**	P	**P**	**09 01 54.5**	**+2.4**
	48nm,0.8s						
SOEI	**Soe**	**16.79**	**254**	*e*Pn	**Pn**	**09 01 50.0**	**-0.3**
	36nm,0.8s						
SOEI				*e*Sn	**Sn**	**09 04 55.8**	**-0.1**
AS31	**Alice Springs**	**19.38**	**199**	*e*P	**Pn**	**09 02 22.6**	**+0.8**
ASAR	**Alice Springs**	**19.38**	**199**	P	**P**	**09 02 21.9**	**+1.4**
	0.8nm,0.3s,baz=31,slow=8.3,SNR=83						
ASAR				S	**S**	**09 05 52.0**	**-6.1**
	0.2nm,0.3s,baz=10,slow=29,SNR=4.1						
FITZ	**Fitzroy Crossi**	**19.39**	**228**	*e*P	**Pn**	**09 02 21.9**	**-0.1**
	0.9nm,0.5s						
APSI	**Ampana**	**19.41**	**282**	P	**Pn**	**09 02 23.9**	**+1.6**
	27nm,1.3s						
MRSI	**Marisa**	**19.50**	**287**	P	**Pn**	**09 02 23.9**	**+0.6**
	32nm,0.7s						
BKSI	**Bulukumba**	**20.39**	**269**	P	Pn	09 02 33.1	-0.7
	25nm,0.7s						
MPSI	**Mapaga**	**21.42**	**284**	P	**P**	**09 02 44.2**	**+1.5**
QLP	**Quilpie**	**21.46**	**171**	P	**P**	**09 02 46.2**	**+3.2**
	baz=22,SNR=5.5						
WRKA	**Warakurna**	**22.92**	**210**	P	**P**	**09 02 58.9**	**+0.3**
	baz=23,SNR=33						
STKA	**Stephens Creek**	**26.47**	**178**	P	P	09 03 36.8	+5.3
	baz=26,SNR=5.7						
UGM	**Wanagama**	**29.99**	**263**	S	S	09 08 49.1	-10
	baz=30,SNR=8.4						
CMAR	**Chiang Mai Arr**	**47.36**	**301**	P	**P**	**09 06 28.1**	**-0.5**
	1.7nm,0.7s,baz=122,slow=5.9,SNR=12						
SONM	**Songino Array**	**60.84**	**334**	LR	LR	09 35 52.1	
	comp=Z,24nm,18.6s,baz=180,slow=37						
MKAR	**Makanchi Array**	**72.97**	**322**	P	**P**	**09 09 23.9**	**+0.3**
	2.5nm,0.8s,baz=111,slow=7.8,SNR=25						
ZALV	**Zalesovo Beam**	**75.09**	**330**	P	**P**	**09 09 33.3**	**-2.6**
	0.6nm,0.5s,baz=135,slow=5.1,SNR=2.7						
BVAR	**Borovoye Array**	**82.49**	**325**	P	**P**	**09 10 16.8**	**+0.3**
	1.7nm,0.6s,baz=120,slow=8.8,SNR=11						
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**	**09 10 38.8**	**-2.1**
	0.7nm,0.9s,baz=243,slow=5.2,SNR=5.2						
YKA	**Yellowknife Ar**	**101.48**	**27**	P	**Pdif**	**09 11 45.2**	**-0.3**
	0.1nm,0.8s,baz=271,slow=5.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**138.74**	**284**	PKP	**PKPdf**	**09 17 19.3**	**-1.7**
	0.4nm,0.6s,baz=52,slow=2.6,SNR=3.1						
LPAZ	**La Paz**	**144.40**	**128**	PKP	**PKPdf**	**09 17 32.1**	**+0.1**
	1.0nm,0.6s,baz=219,slow=1.3,SNR=7.4						
KIC	**Kosan Boka**	**145.51**	**274**	*e*PKP1	**PKPdf**	**09 17 33.2**	**0.0**
	21nm,0.9s						
DBIC	**Dimbokro**	**145.62**	**274**	PKPbc	**PKPdf**	**09 17 33.0**	**-0.4**
	5.3nm,0.7s,baz=82,slow=4.4,SNR=8.3						
TIC	**Toumodi**	**145.78**	**274**	*e*PKP1	**PKPdf**	**09 17 34.1**	**+0.4**
	6.6nm,0.2s						
LIC	**Lamto**	**145.79**	**273**	*e*PKP1	**PKPdf**	**09 17 33.9**	**+0.2**
	18nm,0.8s						

ISCJB 12 09:08:20.9±0.4, 32°.71N±0°.03×115°.78W±0°.03, h9km±4km, Error ellipse: s-maj=4.8km s-min=3.6km az=154.4

NEIC 12 09:08:22.3, 32°.68N×115°.81W, h6km, ML3.5(PAS), After PAS.

ECX 12 09:08:22.5±0.6, 32°.67N×115°.81W, h3km, MD3.3, ML3.5

ISC 12 09:08:21.0±0.8, 32°.67N±0°.03×115°.79W±0°.03, h7km±9km, n25, σ1s10/34, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**114**	⇑*i*	**Pg**	**09 08 24.1**	**+1.4**
YUH	**Yuha Desert**	**0.12**	**258**	⇑*i*	**Pg**	**09 08 24.6**	**+1.0**
COK	**Cook Ranch**	**0.18**	**16**	⇓*i*	**Pg**	**09 08 26.0**	**+1.2**
RMX	**La Rumorosa**	**0.26**	**254**	⇑*e*	**Pg**	**09 08 27.0**	**+0.8**
RMX				*e*S	**Sg**	**09 08 30.2**	**+0.6**
RMX				⇑*e*		09 08 30.8	
RMX				AML	AML	09 08 30.8	
	comp=N,11μm,0.3s						
CPBX	**Cerro Prieto**	**0.48**	**122**	⇑*e*P	**Pb**	**09 08 31.7**	**-0.1**
BAR	**Barrett**	**0.75**	**271**	*e*Pg	**Pb**	**09 08 35.6**	**-0.7**
BAR				*e*Sg	**Sg**	**09 08 45.0**	**0.0**
RDX	**Rancho Dawling**	**0.75**	**190**	⇓*e*P	**Pg**	**09 08 35.8**	**+0.3**
RDX				*e*S	**Sg**	**09 08 45.9**	**+0.6**
CBX	**Cerro Bola**	**0.82**	**244**	⇑*e*P	**Pb**	**09 08 37.2**	**-0.5**
CBX				*e*S	**Sg**	**09 08 47.8**	**+0.3**
CBX				*e*		09 08 48.8	
CBX				AML	AML	09 08 48.8	
	comp=E,3μm,0.3s						
EMX	**El Mayor**	**0.82**	**146**	⇑*e*P	**Pg**	**09 08 37.3**	**+0.5**
EMX				*e*S	**Sg**	**09 08 48.5**	**+0.9**
GLA	**Glamis**	**0.89**	**65**	*e*Pg	**Pg**	**09 08 37.6**	**-0.5**
GLA				*e*Sg	**Sg**	**09 08 49.4**	**-0.4**
PFO	**Pinyon Flats O**	**1.09**	**329**	*e*Pg	**Pg**	**09 08 40.3**	**-1.6**
PFO				*e*Sg	**Sg**	**09 08 53.9**	**-2.2**
PBX	**Punta Banda**	**1.22**	**221**	⇓*e*P	**Pg**	**09 08 44.1**	**-0.3**
PBX				*e*S	**Sg**	**09 09 00.2**	**-0.1**
ECNX	**Esteban Cantu**	**1.22**	**214**	⇑*e*P	**Pg**	**09 08 44.3**	**-0.2**
ECNX				*e*S	**Sg**	**09 09 00.7**	**+0.3**
ZAX	**El Zacaton**	**1.23**	**200**	⇓*e*P	**Pg**	**09 08 44.4**	**-0.2**
ZAX				*e*S	**Sg**	**09 09 00.7**	**+0.2**
ZAX				AML	AML	09 09 02.4	
	comp=N,904nm,0.3s						
ZAX				*e*		09 09 02.4	
ECBX	**El Chinero**	**1.35**	**152**	*e*P	**Pn**	**09 08 46.2**	**0.0**
ECBX				*e*S	**Sg**	**09 09 04.4**	**0.0**
SPX	**San Pedro Mart**	**1.65**	**170**	*e*P	**Pn**	**09 08 52.0**	**+1.3**
214A	**Organ Pipe Nat**	**2.62**	**105**	*e*Pn	**Pn**	**09 09 01.7**	**-2.0**
GSC	**Goldstone, Bar**	**2.75**	**342**	*e*Pn	**Pg**	**09 09 12.2**	**-1.7**
OSI	**Osito Audit: C**	**3.12**	**309**	*e*Pn	Pn	09 09 13.1	+2.4
ISA	**Isabella, Lake**	**3.72**	**324**	*e*Pn	Pn	09 09 21.9	+3.0
SHPR	**Sheep Range**	**3.86**	**8**	*e*Pn	**Pn**	**09 09 23.3**	**+2.4**
TUC	**Tucson**	**4.24**	**94**	*e*Pn	**Pn**	**09 09 27.4**	**+1.2**
WUAZ	**Wupatki**	**4.63**	**51**	Pn	**Pn**	**09 09 32.9**	**+1.3**
121A	**Cookes Peak, D**	**6.75**	**89**	*e*Pn	**Pn**	**09 10 00.3**	**-0.4**
	comp=N,8.0nm,0.6s						
MVCO	**Mesa Verde**	**7.50**	**51**	*e*Pn	**Pn**	**09 10 12.7**	**+1.7**

THR 12 09:34:03.7±0.3, 34°.89N×58°.63E, h15km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABS	**Tabas**	**1.77**	**226**	*e*Pg	Pb	09 34 35.9	-0.1
TABS				*e*Sg	Sg	09 34 59.6	-1.2
TABS				AML	AML	09 35 05.0	
	comp=E,320nm,0.6s						
TABS				AML	AML	09 35 07.7	
	comp=N,475nm,0.8s						
SHRT	**Shahrakht**	**1.85**	**132**	*e*Pg	Pb	09 34 37.5	+0.1
SHRT				AML	AML	09 35 06.4	
	comp=E,2μm,0.4s						
MRVT	**Maraveh tapeh**	**3.44**	**324**	*e*Pn	Pn	09 34 58.9	+2.0

ISCJB 12 09:48:39.1±0.2, 8°.84S±0°.02×124°.19E±0°.02, h100km, mb4.6/50, Error ellipse: s-maj=3.6km s-min=2.9km az=35.6

IDC 12 09:48:40.8±0.9, 8°.76S×123°.99E, h97km±8km, mb4.4/19, mb1 4.5/21, mb1mx4.4/27, mbtmp4.8/21, MS3.3/4, Ms1 3.3/4, ms1mx2.9/29, Error ellipse: s-maj=16.7km s-min=9.2km az=88.0

BJI 12 09:48:41.6, 8°.90S×124°.00E, h111km, mB5.0/23, mb4.9/38

MOS 12 09:48:41.0±1.0, 8°.68S×124°.01E, h114km, mb4.8/20, Error ellipse: s-maj=12.0km s-min=7.1km az=115.4

NEIC 12 09:48:41.4±0.5, 8°.85S×124°.07E, h108km±4km, mb5.0/16, Error ellipse: s-maj=6.8km s-min=5.5km az=53.0

DJA 12 09:48:43.0±0.2, 9°S±2°×124°.4E±°, h88km±3km, M4.8/43, mb5.0/43, mB5.3/21, MLv5.0/19, Mw(mB)4.8/21

ISC 12 09:48:41.0±0.3, 8°.92S±0°.03×124°.11E±0°.03, h100km, n234, σ1s55/238, mb4.7/50, 8C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.84**	**170**	P	**Pn**	**09 49 01.0**	**+1.1**
SOEI				S	**Sn**	**09 49 13.9**	**-0.2**
SOEI	**Soe**	**0.84**	**170**	P	**Pn**	**09 49 00.9**	**+0.9**
	baz=0.9,SNR=1000						
SOEI				S	**Sn**	**09 49 11.4**	**-2.7**
	baz=0.9,SNR=6.0						
SOEI	**Soe**	**0.84**	**170**	*e*Pn	**Pn**	**09 49 01.4**	**+1.5**
BATI	**Baumata**	**1.35**	**199**	P	**Pn**	**09 49 06.1**	**+0.6**
BATI				S	**Sn**	**09 49 23.4**	**-0.6**
BATI	**Baumata**	**1.35**	**199**	P	**Pn**	**09 49 07.0**	**+1.5**
	2μm,0.3s,baz=34,slow=3.5,SNR=1115						
BATI				S	**Sn**	**09 49 26.3**	**+2.3**
	1μm,0.3s,baz=200,slow=22,SNR=20						
BATI				LR	LR	09 49 43.1	
	comp=Z,1μm,19.6s,baz=112,slow=42						
MMRI	**Maumere**	**1.88**	**279**	*e*Pn	**Pn**	**09 49 12.3**	**+0.4**
EDFI	**Ende, Flores**	**2.40**	**274**	P	**Pn**	**09 49 19.6**	**+0.7**
BASI	**Baing, Sumba**	**3.72**	**249**	P	**Pn**	**09 49 36.6**	**+0.2**
BBSI	**Bau Bau**	**3.

TNTI **Ternate** **10.16 19** P Pn 09 51 08.5 +4.6
115nm,0.9s
TNTI **Ternate** **10.16 19** *e*Pn **Pn** **09 51 04.2 +0.3**
KMMI **Kalianget** **10.22 280** P Pn 09 51 07.8 +3.1
90nm,1.0s
BLJI **Banyuglugur** **10.47 276** P **Pn** **09 51 10.8 +2.6**
85nm,0.8s
BBKI **Banjar Baru** **10.69 300** P Pn 09 51 14.5 +3.3
GRJI **Gresik** **11.70 279** P **Pn** **09 51 26.6 +1.9**
MTKI **Muara Teweh, K** **12.12 310** P Pn 09 51 33.4 +3.0
196nm,0.4s,20µm
MTKI S Px 09 51 46.5
20µm196nm,0.4s
PWJI **Pagerwojo** **12.21 273** P **Pn** **09 51 29.6 -1.9**
66nm,0.7s
PCJI **Pacitan** **12.81 272** P **Pn** **09 51 39.1 -0.4**
WOJI **Wonogiri, Jawa** **13.09 274** P **Pn** **09 51 44.4 +1.2**
UGM **Wanagama** **13.48 273** P Pn 09 51 45.1 -3.2
baz=13,SNR=12
UGM S **Sn** **09 54 18.0 +1.3**
baz=13,SNR=3.2
WRA **Warramunga Arr** **14.76 139** P Pn 09 52 01.6 -3.2
13nm,0.3s,baz=312,slow=12,SNR=355
WRA S Sn 09 54 34.9 -13
17nm,0.3s,baz=316,slow=24,SNR=17
WRAB **Tennant Creek** **14.76 139** *e*P Pn 09 52 01.1 -3.7
WRAB **Tennant Creek** **14.76 139** *e*Pn Pn 09 52 01.1 -3.7
WB2 **Warramunga Arr** **14.77 139** *e*Pn Pn 09 52 01.8 -3.0
KPJI **Karang Pucung** **15.11 275** P **P** **09 52 10.9 -1.2**
CMJI **Cimerak** **15.54 273** P **P** **09 52 16.0 -0.8**
95nm,0.9s
CISI **Cisompet, Garu** **16.19 274** P **Pn** **09 52 21.7 -1.1**
CISI **Cisompet, Garu** **16.19 274** P **Pn** **09 52 21.7 -1.1**
baz=16,SNR=10
CISI **Cisompet, Garu** **16.19 274** *e*Pn **Pn** **09 52 20.1 -2.7**
109nm,0.4s
LEM **Lembang** **16.47 276** P **P** **09 52 26.8 -0.5**
85nm,0.8s
LEM **Lembang** **16.47 276** P **Pn** **09 52 24.8 -1.6**
5.7nm,0.3s,baz=31,slow=6.2,SNR=9.7
LEM LR LR 09 58 20.1
comp=Z,157nm,21.9s,baz=56,slow=36
WRKA **Warakurna** **16.52 167** P **Pn** **09 52 25.1 -1.6**
baz=17,SNR=102
WRKA S Sn 09 55 17.9 -12
baz=17,SNR=8.1
GIRL **Giralia** **16.62 214** P **P** **09 52 29.9 +1.2**
baz=17,SNR=7.3
KSM **Kuching** **17.20 306** *e*P **P** **09 52 35.4 +0.2**
12nm,0.6s
AS31 **Alice Springs** **17.40 149** *e*P **P** **09 52 36.4 -1.0**
ASAR **Alice Springs** **17.40 149** P **P** **09 52 36.2 -1.1**
5.5nm,0.3s,baz=319,slow=11,SNR=473
ASAR S Sn 09 55 39.3 -12
7.3nm,0.3s,baz=312,slow=22,SNR=11
ASAR LR LR 09 59 55.6
comp=Z,127nm,20.1s,baz=314,slow=38
JAY **Jayapura** **17.68 70** P **P** **09 52 41.0 +0.4**
JAY **Jayapura** **17.68 70** P **P** **09 52 41.0 +0.4**
1.7nm,0.3s,baz=229,slow=8.2,SNR=6.4
XMIS **Christmas Isla** **18.26 264** P **P** **09 52 47.3 +0.4**
baz=18,SNR=3.8
MEEK **Meekatharra** **18.38 196** P **P** **09 52 48.9 +0.9**
baz=18,SNR=9.1
MEEK S S 09 56 03.9 -9.1
baz=18,SNR=4.4
CGJI **Cibinong** **18.39 276** P **Pn** **09 52 48.9 -0.7**
QIS **Mount Isa** **18.91 129** P **P** **09 52 55.9 +2.0**
baz=19,SNR=66
COEN **Coen** **19.34 107** P **P** **09 53 00.4 +1.8**
baz=19,SNR=39
COEN S **S** **09 56 27.7 -4.5**
baz=19,SNR=5.1
COEN **Coen** **19.34 107** *e*Pn **P** **09 53 00.7 +2.1**
10.0nm,0.8s
MDSI **Maura Dua** **20.28 281** P Pn 09 53 12.1 +0.4
14nm,1.0s,1µm
MORW **Morawa** **21.43 200** P **P** **09 53 21.2 +0.1**
baz=22,SNR=23
MORW S **S** **09 57 11.7 -1.6**
baz=22,SNR=5.6
MNAI **Manna** **21.49 281** P P 09 53 30.9 +9.0
baz=21,SNR=5.1
FORT **Forrest** **22.06 171** P **P** **09 53 28.1 +0.4**
baz=22,SNR=22
FORT **Forrest** **22.06 171** *e*P **P** **09 53 28.1 +0.4**
44nm,0.6s
KMBL **Kambalda** **22.43 185** P **P** **09 53 32.0 +0.4**
baz=22,SNR=20
BLDU **Ballidu** **22.66 197** P **P** **09 53 33.8 -0.2**
baz=23,SNR=36
PMG **Port Moresby** **22.76 93** *e*P P 09 53 40.0 +4.9
PMG pmax pmax
comp=Z,18nm,0.8s
PMG **Port Moresby** **22.76 93** P P 09 53 44.9 +10
baz=23,SNR=10
PMG **Port Moresby** **22.76 93** *e*P P 09 53 40.0 +4.9
comp=Z,18nm,0.8s
CTA **Charters Tower** **24.10 120** P **P** **09 53 49.2 +1.7**
comp=Z,15nm,0.6s,baz=299,slow=12,SNR=37
CTAO **Charters Tower** **24.10 120** *e*P **P** **09 53 49.8 +2.3**
CTAO pmax pmax
comp=Z,18nm,0.7s
CTAO **Charters Tower** **24.10 120** *e*P **P** **09 53 49.8 +2.3**
comp=Z,18nm,0.7s
MANU **Manus Island** **24.12 75** P P 09 53 55.7 +8.0
baz=24,SNR=3.2
NWAO **Narrogin (SRO)** **24.72 194** P **P** **09 53 52.8 -0.2**
comp=Z,10nm,0.3s,baz=21,slow=9.2,SNR=26
NWAO **Narrogin (SRO)** **24.72 194** P **P** **09 53 53.2 +0.2**
baz=25,SNR=18
NWAO S S 09 58 31.8 +24
baz=25,SNR=3.8
QLP **Quilpie** **25.93 135** P **P** **09 54 06.5 +2.5**
baz=26,SNR=12
BBOO **Buckleboo** **26.22 157** P **P** **09 54 07.7 +1.2**
baz=26,SNR=30
BBOO **Buckleboo** **26.22 157** *e*P **P** **09 54 07.9 +1.4**
comp=Z,1.5nm,0.6s
RKGY **Rocky Gully** **26.39 193** P **P** **09 54 09.7 +1.7**
baz=26,SNR=10
STKA **Stephens Creek** **28.02 147** P **P** **09 54 24.5 +1.8**
baz=28,SNR=34
RMQ **Roma** **29.17 130** P **P** **09 54 35.8 +2.9**
baz=29,SNR=5.6
CMSA **Cobar Meteorol** **30.15 141** P **P** **09 54 44.3 +2.8**
baz=30,SNR=16
QIZ **Qiongzhong** **31.13 333** P **P** **09 54 50.4 +0.1**
QIZ S **S** **09 59 49.7 +0.8**
QIZ LZ
comp=Z,59nm,32.4s
ARMA **Armidale** **33.43 134** P P 09 55 14.1 +3.6
baz=34,SNR=7.4
YNG **Young** **33.69 142** P **P** **09 55 15.6 +2.9**
baz=34,SNR=6.8
UTHA **Uthaitani** **34.48 315** P **P** **09 55 20.6 +1.1**
comp=Z,7.2nm,0.9s
MGCD **Mangrove Creek** **34.71 138** P P 09 55 25.2 +3.9
baz=35,SNR=5.0
CNB **Canberra Magne** **34.97 143** P P 09 55 26.8 +3.1
baz=35,SNR=9.2
CMAR **Chiang Mai Arr** **36.84 318** P **P** **09 55 39.3 -0.4**
comp=Z,4.5nm,0.7s,baz=144,slow=6.5,SNR=26
CMAR PcP **PcP** **09 57 59.7 -0.1**
comp=Z,2.0nm,0.7s,baz=171,slow=2.8,SNR=7.7
CMAR LR LR 10 11 48.6
comp=Z,49nm,21.3s,baz=172,slow=38
CMMT **Chiang Mai** **37.09 318** P **P** **09 55 42.8 +0.9**
comp=Z,16nm,1.0s
GYA **Guiyang** **39.04 335**⇑ *i*P **P** **09 55 58.1 -0.2**
GYA pP pP 09 56 26.4 +5.1
GYA sP sP 09 56 40.0 +7.3
GYA PP **PnPn** **09 57 35.8 +2.5**
GYA S **S** **10 01 51.6 +1.3**
GYA sS sS 10 02 37.4 +7.3
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
LHI **Lord Howe Isla** **39.48 130** P P 09 56 13.9 +12
baz=40,SNR=3.6
KMI **Kunming** **39.73 329** P P 09 55 42.9 -21
KMI pmax pmax
comp=Z,15nm,0.7s
KMI **Kunming** **39.73 329** P P 09 56 07.5 +3.3
KMI PMZ
comp=Z,13nm,0.9s
KMI LZ
comp=Z,42nm,28.6s
CBIJ **Chichi jima** **39.86 26** P **P** **09 56 03.7 -1.2**
JCJ **Chichijima** **39.86 26** P **P** **09 56 03.7 -1.2**
comp=Z,20nm,0.3s,baz=270,slow=20
JNU **Nakatsue** **42.30 8** LR LR 10 13 48.6
comp=Z,21nm,20.9s,baz=35,slow=36
CD2 **Chengdu** **44.16 335** *e*P **P** **09 56 41.7 +1.8**
CD2 pP **pP** **09 57 07.6 +4.2**
CD2 sP sP 09 57 20.7 +6.0
CD2 PP **PP** **09 58 28.1 +3.3**
CD2 S **S** **10 03 06.9 +1.3**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
KSAR **Wonju Array Be** **46.25 4** P **P** **09 56 55.5 -0.8**
KSAR 09 58 28.7
KSAR **Wonju Array Be** **46.25 4** P **P** **09 56 55.5 -0.8**
KSAR PcP **PcP** **09 58 28.7 -1.6**
KSRS **Korea Array** **46.27 4** P **P** **09 56 55.5 -0.9**
comp=Z,2.8nm,0.5s,baz=185,slow=8.8,SNR=11
KSRS PcP **PcP** **09 58 28.7 -1.6**
comp=Z,1.6nm,0.7s,baz=199,slow=5.1,SNR=4.4
MJAR **Matsushiro Arr** **47.12 16** P **P** **09 57 01.7 -1.5**
comp=Z,20nm,0.8s,baz=191,slow=8.8,SNR=45
MAJO **Matsushiro** **47.12 16** *e*P **P** **09 57 02.1 -1.1**
MAJO pmax pmax
comp=Z,23nm,0.8s
MAJO **Matsushiro** **47.12 16** *e*P **P** **09 57 02.0 -1.1**
comp=Z,23nm,0.8s
MAT **Matsushiro** **47.12 16** P **P** **09 57 01.6 -1.5**
LZH **Lanzhou** **48.67 338**⇑ P **P** **09 57 17.5 +2.3**
LZH pP **pP** **09 57 43.1 +4.0**
LZH sP sP 09 57 57.9 +7.6
LZH *e*S **S** **10 04 11.1 +0.9**
LZH PMZ
comp=Z,31nm,1.0s
LZH PMZ
comp=Z,74nm,6.1s
BJI **Beijing** **49.26 352** P **P** **09 57 17.8 -1.7**
BJI PMZ
comp=Z,17nm,0.9s
BJI LZ
comp=Z,24nm,17.7s
LSA **Lhasa** **49.81 322** *e*P **P** **09 57 24.5 +0.1**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA **Lhasa** **49.81 322** *e*P **P** **09 57 24.5 +0.1**
comp=Z,14nm,0.6s
ODAN **Odare** **50.34 316** *e*P **P** **09 57 27.8 -0.4**
comp=Z,51nm,0.7s
TAPN **Taplejung** **50.44 317** *e*P **P** **09 57 28.6 -0.4**
comp=Z,49nm,0.5s
HHC **Hu-ho-hao-te** **50.86 348** *e*P **P** **09 57 34.4 +2.7**
HHC pP **pP** **09 58 00.6 +4.9**
HHC sP sP 09 58 13.3 +6.4
HHC PP **PP** **09 59 33.5 +4.5**
HHC S **S** **10 04 42.1 +1.7**
HHC sS sS 10 05 27.9 +6.2
HHC SS **SS** **10 08 16.5 -0.1**
HHC PMZ
comp=Z,22nm,0.7s
HHC PMZ
comp=Z,120nm,7.4s
RAMN **Ramite** **50.94 316** *e*P **P** **09 57 32.4 -0.3**
comp=Z,119nm,0.6s
JIRN **Jiri** **51.67 316** *e*P **P** **09 57 37.6 -0.7**
comp=Z,58nm,0.6s
GUN **Gumba** **52.04 316** *e*P **P** **09 57 40.3 -0.7**
comp=Z,103nm,0.8s
PKI **Pulchoki** **52.15 315** *e*P **P** **09 57 40.8 -1.1**
comp=Z,61nm,0.5s
PKIN **Phulchoki** **52.16 315** *e*P **P** **09 57 41.1 -0.8**
comp=Z,22nm,0.5s
KKN **Kakani** **52.38 315** *e*P **P** **09 57 42.7 -0.7**
comp=Z,36nm,0.7s
GKN **Gorkha** **52.96 315** *e*P **P** **09 57 46.7 -0.9**
comp=Z,67nm,0.7s
GTA **Gaotai** **53.11 337** *e*P **P** **09 57 47.7 -0.8**
GTA pP **pP** **09 58 14.1 +1.4**
GTA sP **sP** **09 58 26.9 +3.1**
GTA PcP **PcP** **09 58 55.9 +0.4**
GTA PMZ
comp=Z,6.0nm,1.0s
USRK **Ussuriysk Ar.** **53.35 7** P **P** **09 57 49.0 -0.9**
comp=Z,18nm,0.7s,baz=193,slow=7.2,SNR=48
MDJ **Mudanjiang** **53.52 5** P **P** **09 57 50.9 -0.2**
MDJ PMZ
comp=Z,72nm,0.9s
MDJ PMZ
comp=Z,47nm,3.9s
MDJ **Mudanjiang** **53.52 5** *e*P P **09 57 50.6 -0.6**
comp=Z,64nm,0.9s
KOLN **Koldanda** **53.54 314** *e*P **P** **09 57 51.1 -0.8**
comp=Z,87nm,0.7s
DANN **Dangsing** **53.78 315** *e*P **P** **09 57 52.8 -1.0**
comp=Z,134nm,0.6s
PYUN **Piuthan** **54.17 314** *e*P **P** **09 57 55.5 -1.0**
comp=Z,200nm,0.5s
ASAJ **Asahikawa** **55.38 16** P **P** **09 58 04.4 -0.3**
comp=Z,13nm,0.8s,baz=198,slow=12,SNR=18
ASAJ **Asahikawa** **55.38 16** *e*P **P** **09 58 04.7 0.0**
HABR **Khabarovsk** **57.95 9** *de*P **P** **09 58 20.0 -2.8**
HABR *e* 09 59 11.2
HABR *e* 10 00 28.6
HABR *e*S **S** **10 06 19.6 +4.4**
HABR *e*S S 10 06 31.6 +16
HABR pmax pmax
comp=N,16nm,1.8s
HABR pmax pmax
comp=Z,16nm,1.8s
HABR pmax pmax
comp=E,29nm,1.8s
HABR MLR MLR
comp=Z,28nm,17.0s
YSS **Yuzh-Sakhalins** **58.05 15** *e*P **P** **09 58 23.0 -0.5**
ULN **Ulaanbaatar** **58.52 347** *e*P **P** **09 58 25.9 -1.1**
ULN **Ulaanbaatar** **58.52 347** *e*P **P** **09 58 25.9 -1.1**
SONM **Songino Array** **58.65 346** P **P** **09 58 26.4 -1.4**
comp=Z,4.7nm,0.7s,baz=162,slow=8.3,SNR=20
ZAK **Zakamensk** **61.78 345** *e*P **P** **09 58 47.9 -1.2**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
WMQ **Urumqi** **62.02 331** P **P** **09 58 50.4 -0.4**
WMQ pP **pP** **09 59 16.6 +1.0**
WMQ sP **sP** **09 59 29.8 +3.2**
WMQ PP **PP** **10 01 10.5 +1.9**
WMQ *e*S **S** **10 07 04.5 -3.2**
WMQ PMZ
comp=Z,14nm,0.7s
WMQ PMZ
comp=Z,170nm,4.8s
WMQ LN
comp=Z,130nm,22.3s
WMQ LZ
comp=Z,110nm,24.0s
TLY **Talaya** **62.88 346** *e*P **P** **09 58 54.6 -1.7**
TLY pmax pmax
comp=Z,9.0nm,1.5s
TLY **Talaya** **62.88 346** P **P** **09 58 55.1 -1.2**
comp=Z,1.1nm,0.4s,baz=200,slow=3.3,SNR=7.4
TLY **Talaya** **62.88 346** *e*P **P** **09 58 55.7 -0.7**
KSH **Kashi** **65.64 321** P **P** **09 59 14.4 -0.4**
KSH sP **sP** **09 59 54.2 +3.4**
KSH PP **PP** **10 01 41.8 +1.2**
KSH PcS 10 03 48.5
KSH S **S** **10 07 48.4 -4.5**
KSH PMZ
comp=Z,12nm,0.8s
KSH LN
comp=Z,100nm,5.2s
KSH LE
comp=Z,100nm,4.2s
KSH LZ
comp=Z,140nm,6.3s
PDGK **Podgornoye** **65.93 326** P **P** **09 59 15.2 -1.1**
PDGK pmax pmax
comp=Z,12nm,0.8s
MK31 **Makanchi Array** **66.80 330** *i* P **P** **09 59 20.8 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MKAR **Makanchi Array** **66.80 330** *ce*P **P** **09 59 21.1 -0.8**
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR **Makanchi Array** **66.80 330** P **P** **09 59 20.5 -1.4**
comp=Z,13nm,0.7s,baz=136,slow=8.0,SNR=75
BOD **Bodaibo** **67.02 354** *e*P **P** **09 59 22.0 -1.0**
BOD pmax pmax
comp=Z,1.0nm,1.4s
SFK **Sufi-Kurgan** **67.49 320** P **P** **09 59 25.1 -1.5**
SFK pmax pmax
comp=Z,6.0nm,1.1s
KZA **Kyzart** **67.60 323** P **P** **09 59 27.2 -0.3**
SNR=11
KZA **Kyzart** **67.60 323** *i* P **P** **09 59 27.2 -0.3**
KBL **Kabul** **67.66 313** *e*P **P** **09 59 27.1 -0.7**
KBL **Kabul** **67.66 313** *e*P **P** **09 59 27.1 -0.7**
TKM2 **Tokmak 2** **67.90 324** P **P** **09 59 28.4 -0.7**
SNR=8.2
TKM2 **Tokmak 2** **67.90 324** *e*P **P** **09 59 28.6 -0.5**
TKM2 **Tokmak 2** **67.90 324** *e*P **P** **09 59 28.6 -0.5**
PETK **Petropavlovsk-** **68.08 21** P **P** **09 59 29.4 -0.4**
comp=Z,9.8nm,0.8s,baz=207,slow=5.1,SNR=19
UCH **Uchtor** **68.13 322** P **P** **09 59 30.7 -0.3**
SNR=7.1
UCH **Uchtor** **68.13 322** *i* P **P** **09 59 30.6 -0.3**
AAK **Ala-Archa** **68.38 323** P **P** **09 59 31.7 -0.4**
SNR=11
AAK **Ala-Archa** **68.38 323** *c* *i*P **P** **09 59 31.4 -0.7**
AAK pmax pmax
comp=Z,22nm,0.6s
AAK **Ala-Archa** **68.38 323** *e*P **P** **09 59 31.6 -0.6**
AML **Almayashu** **68.57 322** P **P** **09 59 33.1 -0.5**
SNR=21
AML **Almayashu** **68.57 322** *i* P **P** **09 59 33.1 -0.5**
USP **Ospenovka** **68.75 323** P **P** **09 59 33.5 -0.7**
SNR=9.1
USP **Ospenovka** **68.75 323** *i* P **P** **09 59 33.5 -0.7**
EKS2 **Erkin-Say** **68.83 322** P **P** **09 59 34.7 -0.1**
SNR=7.7
EKS2 **Erkin-Say** **68.83 322** *i* P **P** **09 59 34.7 -0.1**
EKS2 **Erkin-Say** **68.83 322** *e*P **P** **09 59 34.7 -0.1**
YAK **Yakutsk** **70.87 3** *e*P **P** **09 59 45.1 -1.6**
YAK pmax pmax
comp=Z,61nm,1.0s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK **Yakutsk** **70.87 3** *e*P **P** **09 59 45.5 -1.1**
comp=E,72nm,0.9s
ZALV **Zalesovo Beam** **70.87 337** *i* P **P** **09 59 45.0 -1.9**
ZALV pmax pmax
comp=Z,11nm,0.8s
ZALV **Zalesovo Beam** **70.87 337** P **P** **09 59 45.0 -1.9**
comp=Z,11nm,0.8s,baz=134,slow=4.3,SNR=29
KK31 **Karatay Array** **71.06 321** *i* P **P** **09 59 46.8 -1.6**
KKAR **Karatay Array** **71.06 321** *e*P **P** **09 59 47.0 -1.3**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR **Karatay Array** **71.06 321** *e*P **P** **09 59 47.0 -1.3**
comp=Z,7.9nm,1.1s
MAW **Mawson** **71.07 201** P **P** **09 59 48.7 +0.8**
comp=Z,5.1nm,0.5s,baz=87,slow=7.5,SNR=11
KURK **Kurchatov** **71.25 331** *e*P **P** **09 59 48.0 -1.3**
KURK **Kurchatov** **71.25 331** *e*P **P** **09 59 48.0 -1.3**
VNDA **Vanda** **71.32 172** P **P** **09 59 50.6 +1.3**
comp=Z,1.4nm,0.5s,baz=313,slow=8.7,SNR=8.2
NVS **Novosibirsk** **72.15 337** *i* P P 09 59 51.4 -3.2
NVS *i* 10 00 36.9
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,5.0nm,0.9s
SEY **Seymchan** **74.86 13**⇑ *i*P **P** **10 00 09.9 -0.4**
BVA0 **Borovoye Array** **76.68 330** *i* P **P** **10 00 19.6 -1.3**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s
GEYT **Alibeck** **77.08 312** P **P** **10 00 23.1 -0.5**
comp=Z,2.8nm,0.5s,baz=145,slow=5.4,SNR=5.9
IPAR **Pars** **78.33 303** *e*Pn **P** **10 00 29.1 -1.8**
SYO **Syowa Base** **79.77 201**‖ *e*P **P** **10 00 37.4 -0.3**
TIXI **Tiksi** **80.46 2** *d* *i*P **P** **10 00 40.1 -1.1**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI **Tiksi** **80.46 2** *e*P **P** **10 00 39.5 -1.7**
AB31 **Akbulak array** **80.46 323** *i* P **P** **10 00 40.4 -1.3**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR **Akbulak array** **80.46 323** *e*P **P** **10 00 40.4 -1.3**
comp=Z,4.6nm,0.5s
QSPA **South Pole Qui** **81.07 180** *e*P **P** **10 00 46.0 +1.1**
comp=Z,5.5nm,0.7s
AKTO **Aktyubinsk** **82.09 324** P **P** **10 00 49.1 -1.2**
AKTO pmax pmax
comp=Z,19nm,0.7s
BILL **Bilibino** **82.37 15** *e*P **P** **10 00 50.5 -0.9**
BILL *e* 10 04 00.1
BILL pmax pmax
comp=Z,1.0nm,0.9s
RAYN **Ar Rayn** **83.22 295** *e*P **P** **10 00 55.1 -1.8**
comp=Z,7.2nm,0.6s
ARU **Arti** **84.31 329** *c* *i*P **P** **10 00 59.8 -1.8**
ARU 10 04 12.3
ARU S **S** **10 11 20.4 +1.4**
ARU SS SS 10 16 40.5 -11
ARU pmax pmax
comp=Z,8.0nm,1.0s
ZEI **Tsey** **88.89 313** *e*P **P** **10 01 23.2 -1.3**
ZEI pmax pmax
comp=Z,5.0nm,0.7s
KBZ **Khabaz** **89.81 314** P **P** **10 01 27.3 -1.2**
comp=Z,3.8nm,0.8s,baz=123,slow=2.4,SNR=12
SNAA **Sanae** **92.39 195** *c* *i*P P 10 01 43.9 +3.8
SNAA pmax pmax
comp=Z,23nm,0.8s
SNAA **Sanae** **92.39 195** P **P** **10 01 41.6 +1.5**
comp=Z,3.2nm,0.6s,baz=204,slow=7.8,SNR=18
VNA2 **Neumayer--Watz** **94.00 194** P **P** **10 01 49.6 +2.1**
baz=127,slow=4.5
VNA3 **Neumayer Olymp** **94.32 194** P P **10 01 50.7 +1.7**
VNA1 **Neumayer--Stat** **94.40 194** P P **10 01 51.1 +1.9**
OBN **Obninsk** **95.84 325** *e*P **P** **10 01 54.9 -1.1**
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,83nm,15.0s
BRTR **Keskin Array B** **95.99 309** P P 10 01 53.9 -3.4
comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=4.6
ILAR **Eielson Array** **97.57 26** P **P** **10 02 00.8 -2.9**
comp=Z,0.7nm,1.0s,baz=219,slow=3.3,SNR=6.8
AKASG **Malin Array Be** **99.93 320** P **Pdif** **10 02 12.0 -2.5**
comp=Z,0.6nm,0.5s,baz=75,slow=4.6,SNR=5.4
KIEV **Kiev** **99.94 320** *e*P **Pdif** **10 02 12.8 -1.7**
YKA **Yellowknife Ar** **112.00 25** PKiKP **PKiKP** **10 07 02.8 -1.4**
comp=Z,0.3nm,0.3s,baz=293,slow=1.8,SNR=13
MCMT **McKenzie Canyo** **119.44 43** *e*PKPdf **PKPdf** **10 07 17.8 -1.6**
PDAR **Pinedale Array** **122.36 45** PKP **PKPdf** **10 07 24.6 -0.4**
comp=Z,0.4nm,0.3s,baz=281,slow=0.5,SNR=5.9
TORD **Torodi Ar. Bea** **123.42 280** PKP **PKPdf** **10 07 27.0 -0.5**
comp=Z,1.9nm,0.5s,baz=53,slow=2.5,SNR=27
ANMO **Albuquerque** **127.11 53** *c* *i*PKIKP **PKPdf** **10 07 31.9 -2.4**
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ULM **Lac du Bonnet** **127.17 31** PKP **PKPdf** **10 07 32.8 -0.8**
comp=Z,0.7nm,0.4s,baz=291,slow=3.1,SNR=4.0
PLCA **Paso Flores** **128.78 166** PKP **PKPdf** **10 07 37.7 +0.5**
comp=Z,0.7nm,0.7s,baz=107,slow=1.7,SNR=3.0
DBIC **Dimbokro** **129.42 271** PKP **PKPdf** **10 07 39.5 +0.5**
comp=Z,2.6nm,0.7s,baz=239,slow=2.2,SNR=4.3
TXAR **Lajitas Array** **130.91 59** PKP **PKPdf** **10 07 42.3 +0.7**
comp=Z,0.2nm,0.4s,baz=224,slow=2.9,SNR=4.9
TXAR SKPbc **SKPbc** **10 10 56.5 -0.5**
comp=Z,1.2nm,0.8s,baz=264,slow=3.0,SNR=8.6
JCT **Junction City** **133.81 56** *e*PKIKP **PKPdf** **10 07 46.5 -0.4**
JCT **Junction City** **133.81 56** *e*PKPdf **PKPdf** **10 07 46.5 -0.4**
KMSC **Kings Mountain** **145.03 38** *e*PKPdf **PKPbc** **10 08 05.7 -1.0**
CNNC **Cliffs of the** **146.97 34** *e*PKPdf **PKPbc** **10 08 11.8 -0.6**
JTS **JuntasAbangare** **151.31 85** PKPbc **PKPbc** **10 08 25.0 +1.0**
comp=Z,5.1nm,0.4s,baz=0.1,slow=9.2,SNR=11
LPAZ **La Paz** **152.18 154** *e*PKIKP **PKPbc** **10 08 26.8 +0.1**
LPAZ **La Paz** **152.18 154** PKPbc **PKPbc** **10 08 27.8 +1.1**
comp=Z,1.4nm,0.5s,baz=43,slow=1.6,SNR=14
LPAZ PKPab **PKPab** **10 08 37.5 +1.0**
comp=Z,3.1nm,0.4s,baz=275,slow=1.0,SNR=17
LPAZ **La Paz** **152.18 154** *e*PKPbc **PKPbc** **10 08 26.8 +0.1**
LPAZ PKPab **PKPab** **10 08 37.5 +1.0**

SIV	San Ignacio	154.72	168	PKPab	PKPab	10 08 47.3	+0.8
	comp=Z,6.1nm,0.8s,baz=208,slow=5.7,SNR=9.6						

KRSC 12 09:54:48.4±2.1, 48°.98N×157°.36E, h30km±28km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.88	335	*e*P	Pn	09 55 18.4	-0.1
SKR				*e*S	Sn	09 55 41.8	+0.5
PAU	Pauzhetka	2.51	352	*e*P	Pn	09 55 29.6	+2.4
PAU				S	Sb	09 56 00.8	-2.5
RUS	Russkaya	3.53	12	*e*P	Pn	09 55 44.7	+3.5
RUS				*e*S	Sn	09 56 27.1	+5.2
MTVR	Mutnovka	3.54	8	*e*P	Pn	09 55 45.4	+3.8
UGLR	Uglovaya	4.33	12	*e*P	Pn	09 55 56.4	+4.1
AVH	Avacha	4.38	11	*e*P	Pn	09 55 58.2	+5.3
SMAR	Somma	4.38	11	*e*P	Pn	09 55 57.8	+4.6
KOK	Koryaka	4.39	10	*e*P	Pn	09 55 58.6	+5.5
SDLR	Sedlovina	4.41	12	P	Pn	09 55 57.8	+4.4
KRER	Koryakskii	4.42	11	P	Pn	09 55 58.5	+4.9
KRX	Arik	4.46	10	*e*P	Pn	09 55 59.3	+5.2
GNL	Ganaly	4.73	4	P	Pn	09 56 02.5	+4.6
MKZ	Mys Kozlova	6.21	24	P	Pn	09 56 22.7	+4.8
KBTR	Krutoberegovo	7.96	23	P	Pn	09 56 46.5	+4.5

*IDC **12** 09:57:34.3±1.1, 35°.55S×72°.29W, h0km, mb4.0/6, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, ML4.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.7/19, Error ellipse: s-maj=39.1km s-min=16.2km az=92.0*

*ISCJB **12** 09:57:36.2±0.5, 35°.50S±0°.04×72°.53W±0°.05, h20km, mb4.1/6, MS3.0/1, Error ellipse: s-maj=6.8km s-min=4.5km az=31.8*

*NEIC **12** 09:57:38.7, 35°.54S×72°.37W, h42km, MG4.7(GUC), After GUC.*

NEIC Felt [III] at Cauquenes, Constitucion, Linares, Parral, Pencahue, Romeral and Talca.

ISC 12 09:57:37.4±0.7, 35°.53S±0°.04×72°.32W±0°.06, h20km, n23, σ1§35/32, mb4.2/6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	Talca	0.57	77	*e*P	Pn	09 57 50.6	+0.2
TALC				*e*S	Sn	09 57 59.7	+0.4
LNCH	Linares	0.67	119⇓	*e*P	Pn	09 57 52.6	+0.9
LNCH				*e*S	Sn	09 58 02.5	+0.9
NICH	Los Niches	1.03	60	P	Pn	09 57 58.7	+2.0
NICH				*e*S	Sn	09 58 12.2	+1.5
CCSP	San Pedro de C	1.46	206	*e*P	Pb	09 58 03.0	-0.9
CCSP				*e*S	Sb	09 58 21.3	-0.8
FSR	Penalolen	2.52	36	P	Pb	09 58 21.1	-0.9
LACH	Col Las Americ	2.54	36	*e*P	Pn	09 58 19.3	+1.7
YECH	El Yeso	2.62	45	*e*P	Pb	09 58 21.6	-2.2
YECH				*e*S	Sb	09 58 53.4	-2.2
PEL	Peldehue	2.73	30⇑	*e*P	Pn	09 58 22.1	+1.9
PEL				*e*S	Sn	09 58 55.4	+2.6
VLCH	Valdivia	4.34	189	*e*P	Pn	09 58 43.0	+0.8
CFAA	Coronel Fontan	5.19	42	Pn	Pn	09 58 55.4	+1.4
	0.8nm,0.3s,baz=211,slow=16,SNR=23						
CFAA				Lg	Lg	10 00 07.1	
	1.8nm,0.3s,baz=32,slow=8.9,SNR=6.9						
PLCA	Paso Flores	5.38	166	Pn	Pn	09 58 57.4	+0.8
	3.4nm,0.3s,baz=334,slow=11,SNR=138						
PLCA				Lg	Lg	10 00 25.7	
	2.1nm,0.3s,baz=273,slow=15,SNR=4.0						
PLCA				LR	LR	10 00 52.5	
	comp=Z,45nm,20.4s,baz=258,slow=37						
LCO	Las Campanas	6.64	12	*e*Pn	Pn	09 59 14.6	+0.5
	20nm,0.4s						
LCO				*e*Sn	Sn	10 00 27.9	-1.4
TRQA	Tornquist	8.67	110	*e*Pn	Pn	09 59 44.8	+3.1
	16nm,0.6s						
LPAZ	La Paz	19.52	12	P	Pn	10 02 05.5	0.0
	0.3nm,0.3s,baz=189,slow=9.4,SNR=19						
LPAZ	La Paz	19.52	12	P	Pn	10 02 05.5	0.0
LPAZ				*e*Pn	P	10 02 05.6	+1.4
SIV	San Ignacio	21.90	30	P	P	10 02 29.5	+0.1
	6.3nm,0.8s,baz=225,slow=11,SNR=16						
SIV				LR	LR	10 11 41.0	
	comp=Z,60nm,20.0s,baz=173,slow=39						
SNAA	Sanae	50.27	157	P	P	10 06 31.3	-0.6
	0.5nm,0.7s,baz=302,slow=13,SNR=3.5						
QSPA	South Pole Qui	54.71	180	P	P	10 07 05.3	+0.2
	2.9nm,0.9s,baz=167,slow=1.9,SNR=6.5						
TXAR	Lajitas Array	70.95	331	P	P	10 08 54.0	+0.5
	0.4nm,0.5s,baz=150,slow=8.1,SNR=4.4						
DBIC	Dimbokro	75.89	71	P	P	10 09 22.6	-0.2
	5.0nm,0.7s,baz=194,slow=7.4,SNR=6.3						
TORD	Torodi Ar. Bea	84.95	70	P	P	10 10 10.8	-0.6
	1.5nm,0.8s,baz=254,slow=5.3,SNR=9.4						
AAK	Ala-Archa	153.40	64	PKPbc	PKPbc	10 17 34.2	0.0
	1.5nm,0.7s,baz=325,slow=3.5,SNR=4.8						
AAK				PKPab	PKPab	10 17 45.5	-1.0
	2.0nm,0.5s,baz=182,slow=3.2,SNR=7.1						
MKAR	Makanchi Array	157.91	52	PKPab	PKPab	10 18 05.5	+0.1
	0.9nm,0.7s,baz=285,slow=5.5,SNR=5.4						

*IDC **12** 09:57:58.5±1.5, 1°.94N×96°.58E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/40, mbtmp4.1/11, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/42, Error ellipse: s-maj=54.9km s-min=17.9km az=55.0*

*ISCJB **12** 09:58:01.0±0.8, 2°.0N±0°.1×96°.65E±0°.09, h28km, mb4.0/11, MS3.1/1, Error ellipse: s-maj=16.9km s-min=9.7km az=38.6*

*NEIC **12** 09:58:04.7±1.5, 2°.02N×96°.73E, h43km±13km, mb4.0/2, Error ellipse: s-maj=17.4km s-min=8.3km az=63.0*

ISC 12 09:58:02.8±1.2, 2°.0N±0°.1×96°.7E±0°.1, h28km, n22, σ0§51/19, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	1.15	127	*e*Pn	Pb	09 58 24.0	-0.1
IPM	Ipoh	5.01	60	*e*Pn	Pn	09 59 16.8	+0.6
KULM	Kulim	5.15	51	*e*Pn	Pn	09 59 18.0	-0.1
	41nm,0.8s						
KSM	Kuching	13.66	92	Pn	Pn	10 01 14.8	+0.1
CMAR	Chiang Mai Arr	16.50	8	Pn	P	10 01 54.3	-0.6
	0.3nm,0.3s,baz=197,slow=11,SNR=35						
KKM	Kota Kinabalu	19.92	78	P	P	10 02 31.9	-0.7
	10.0nm,0.9s						
H08S2	Diego Garcia H	25.94	248	T	T	10 30 59.0	
	baz=69,slow=75,SNR=88						
H08S3	Diego Garcia H	25.94	248	T	T	10 31 02.2	
	baz=69,slow=75,SNR=72						
H08S1	Diego Carcia H	25.96	248	T	T	10 31 03.3	
	baz=69,slow=75,SNR=89						
WRA	Warramunga Arr	42.92	122	P	P	10 05 59.5	0.0
	1.3nm,0.6s,baz=301,slow=9.1,SNR=12						
ASAR	Alice Springs	44.31	127	P	P	10 06 10.8	+0.1
	0.7nm,0.5s,baz=300,slow=7.8,SNR=11						
AAK	Ala-Archa	45.05	337	P	P	10 06 17.0	+0.6
	0.8nm,0.5s,baz=168,slow=20,SNR=3.2						
KSAR	Wonju Array Be	45.48	35	P	P	10 06 19.8	+0.1
KSRS	Korea Array	45.51	35	P	P	10 06 19.8	-0.1
	1.5nm,0.7s,baz=224,slow=6.8,SNR=4.7						
MKAR	Makanchi Array	46.34	346	P	P	10 06 26.9	+0.5
	5.0nm,0.7s,baz=160,slow=7.8,SNR=30						
MKAR				LR	LR	10 31 07.2	
	comp=Z,19nm,18.5s,baz=177,slow=43						
SONM	Songino Array	46.42	9	P	P	10 06 27.5	+0.4
	1.9nm,0.6s,baz=190,slow=8.7,SNR=14						
KURBB	Kurchatov Arra	50.82	345	P	P	10 07 00.1	-0.6
	1.5nm,0.6s,baz=168,slow=6.7,SNR=15						
KURK	Kurchatov	50.88	345	P	P	10 07 00.1	-1.1
ZALV	Zalesovo Beam	52.69	351	P	P	10 07 14.9	+0.3
	5.4nm,0.7s,baz=179,slow=6.8,SNR=23						
BVAR	Borovoye Array	55.32	341	P	P	10 07 33.7	-0.1
	0.7nm,0.5s,baz=134,slow=8.5,SNR=4.5						
ABKAR	Akbulak array	56.55	332	*e*P	P	10 07 42.2	-0.6
	0.4nm,0.4s						
ARCES	ARCESS Array B	81.60	340	P	P	10 10 18.2	+0.4
	1.4nm,0.8s,baz=87,slow=4.0,SNR=4.1						

IDC 12 10:04:31.4±3.2, 6°.77S×125°.82E, h496km±52km, mb3.1/3, mb1 3.3/6, mb1mx2.9/33, mbtmp4.1/6, Error ellipse: s-maj=96.8km s-min=21.4km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	3.34	207	P	P	10 05 43.9	-0.7
	baz=3.1,SNR=17						
SOEI				S	S	10 06 43.8	-0.3
	baz=3.1,SNR=5.1						
BATI	Baumata	4.03	212	P	P	10 05 48.3	-1.5
	41nm,0.3s,baz=71,slow=4.4,SNR=14						
BATI				S	S	10 06 54.9	+1.3
	14nm,0.3s,baz=102,slow=20,SNR=3.9						
MTN	Manton Dam	7.99	139	P	P	10 06 31.4	+3.9
	baz=8.9,SNR=34						
KDU	Kakadu	8.80	132	P	P	10 06 40.2	+4.2
	baz=9.8,SNR=4.4						
KNRA	Kununurra	9.31	162	P	P	10 06 42.7	+1.3
	baz=9.8,SNR=21						
WRA	Warramunga Arr	15.48	149	P	P	10 07 45.2	-1.6
	1.3nm,0.3s,baz=324,slow=11,SNR=55						
ASAR	Alice Springs	18.51	156	P	P	10 08 17.5	+0.8
	0.9nm,0.3s,baz=333,slow=8.5,SNR=62						
SONM	Songino Array	57.01	345	P	P	10 13 30.2	+0.8
	0.5nm,0.7s,baz=152,slow=6.5,SNR=2.6						
MKAR	Makanchi Array	65.82	329	P	P	10 14 26.7	-0.4
	0.8nm,0.4s,baz=129,slow=7.5,SNR=7.7						
ZALV	Zalesovo Beam	69.60	336	P	P	10 14 49.4	-0.6
	0.8nm,0.4s,baz=134,slow=4.6,SNR=4.9						

*IDC **12** 10:11:03.4±1.9, 6°.68S×128°.47E, h0km, mb3.6/1, mb1 4.1/4, mb1mx3.6/35, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=53.4km s-min=29.8km az=75.0*

ISC 12 10:11:05.0±1.7, 6.7S±0°.1×128°.3E±0°.1, h10km, n10, σ1§75/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	5.06	232	P	Pn	10 12 22.3	+1.2
	baz=3.5,SNR=15						
SOEI				S	Sn	10 13 07.5	-12
	baz=3.5,SNR=7.0						
BATI	Baumata	5.80	232	Pn	Pn	10 12 31.6	+0.3
	11nm,0.3s,baz=45,slow=1.4,SNR=8.6						
BATI				Sn	Sn	10 13 24.5	-13
	21nm,0.3s,baz=44,slow=2.4,SNR=8.2						
MTN	Manton Dam	6.73	156	P	Pb	10 12 52.1	-10
	baz=5.6,SNR=159						
MTN				S	Sn	10 14 02.8	+1.9
	baz=5.6,SNR=5.8						
KDU	Kakadu	7.25	146	P	Pb	10 13 01.4	-10
	baz=6.4,SNR=153						
KDU				S	Sn	10 14 14.6	+1.1
	baz=6.4,SNR=5.7						
KNRA	Kununurra	8.97	177	P	Pn	10 13 15.4	+0.7
	baz=7.3,SNR=29						
KNRA				S	Sn	10 14 40.4	-15
	baz=7.3,SNR=13						
WRA	Warramunga Arr	14.43	157	Pn	Pn	10 14 28.9	-0.6
	0.9nm,0.3s,baz=341,slow=12,SNR=53						
WRA				Sn	Sn	10 16 55.8	-14
	0.9nm,0.3s,baz=331,slow=21,SNR=9.4						
ASAR	Alice Springs	17.73	163	P	P	10 15 11.2	-2.0
	0.3nm,0.3s,baz=340,slow=11,SNR=34						
ASAR				S	Sn	10 18 11.2	-19
	0.4nm,0.3s,baz=320,slow=18,SNR=8.2						
WRKA	Warakurna	18.27	180	P	Pn	10 15 16.3	-2.6
	baz=17,SNR=5.7						
WRKA				S	Sn	10 18 20.2	-23
	baz=17,SNR=3.9						
MEEK	Meekatharra	21.91	204	P	P	10 15 50.3	-8.3
	baz=20,SNR=11						
MKAR	Makanchi Array	67.04	328	P	P	10 21 59.2	+0.7
	0.3nm,0.5s,baz=147,slow=6.7,SNR=2.6						

IDC 12 10:14:04.7±5.4, 57°.15S×147°.81E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/22, mbtmp3.6/2, Error ellipse: s-maj=360.1km s-min=60.4km az=81.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	34.94	337	P	P	10 20 58.3	+0.1
	0.5nm,0.8s,baz=162,slow=9.0,SNR=3.3						
WRA	Warramunga Arr	38.47	339	P	P	10 21 27.9	-0.3
	1.1nm,0.7s,baz=168,slow=7.6,SNR=8.7						
H08S2	Diego Garcia H	75.65	278	T	T	11 48 41.2	
	baz=147,slow=76,SNR=16						
H08S1	Diego Carcia H	75.67	278	T	T	11 48 40.6	
	baz=147,slow=76,SNR=17						
H08S3	Diego Garcia H	75.67	278	T	T	11 48 43.5	
	baz=147,slow=76,SNR=18						
H08N1	Diego Carcia H	77.54	278	T	T	11 51 04.2	
	baz=130						
H08N3	Diego Garcia H	77.55	278	T	T	11 51 04.8	
	baz=130						
H08N2	Diego Garcia H	77.56	278	T	T	11 51 06.8	
	baz=130						
H02S1	DAWSON INLET T	127.68	48	T	T	12 53 05.6	
	SNR=6.6						
H02N1	VAN INLET T-PH	127.69	48	T	T	12 53 07.5	
FINES	FINESS Array B	150.81	303	PKPbc	PKPbc	10 33 57.1	-0.3
	1.4nm,0.9s,baz=104,slow=5.9,SNR=2.2						

*IDC **12** 10:15:02.7±0.9, 13°.44N×89°.76W, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.5/21, mbtmp4.3/16, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/27, Error ellipse: s-maj=34.2km s-min=16.4km az=41.0*

*ISCJB **12** 10:15:04.8±0.3, 13°.00N±0°.04×90°.33W±0°.04, h35km, mb4.5/50, MS4.0/2, Error ellipse: s-maj=7.3km s-min=3.2km az=36.5*

*CASC **12** 10:15:05.6±2.3, 12°.90N×90°.34W, h19km±10km, MD4.2, ML4.2, mb4.4(NEIC)*

*NEIC **12** 10:15:12.8±1.1, 13°.27N×89°.93W, h84km±9km, mb4.5/34, MD4.4(SNET), Error ellipse: s-maj=11.3km s-min=5.5km az=224.0*

NEIC Felt [II] at Ahuachapan.

*BJI **12** 10:15:12.5, 13°.20N×90°.00W, h83km, mB4.8/1*

ISC 12 10:15:06.3±0.5, 12°.91N±0°.06×90°.34W±0°.05, h35km, n355, σ1§19/337, mb4.5/50, 112C-124D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	San Blas	1.15	37⇑	*i*P	Pn	10 15 26.5	+0.3
SNJE	San Jose	1.19	37⇑	*i*P	Pn	10 15 27.0	+0.3
RTR	El Retiro	1.19	34⇑	*i*P	Pn	10 15 27.0	+0.4
BQQS	Boqueron	1.31	51	*e*P	Pn	10 15 28.9	+0.4
SNET	Serv Nac Est T	1.32	54	*e*P	Pn	10 15 28.9	+0.5
SNET				AML	AML	10 15 30.7	
	comp=Z,5μm,0.3s						
SNET				*e*S	Sn	10 15 48.4	+3.5
LFRS	El Faro	1.43	60⇑	*i*P	Pn	10 15 30.1	+0.2
PCG	Pacaya	1.50	350⇑	*e*P	Pn	10 15 30.8	-0.2
LBRS	Las Brisas	1.50	57⇑	*i*P	Pn	10 15 31.6	+0.6
SNVI	San Vicente	1.62	64	*e*P	Pn	10 15 33.0	+0.4
NBG	Las Nubes	1.67	360	*e*P	Pn	10 15 35.4	+2.0
JAT	Jato	1.88	318	*e*P	Pn	10 15 36.1	+0.1
APG	El Apazote	2.08	357	Pn	Pn	10 15 34.1	-4.9
	comp=Z,291nm,0.3s,baz=150,slow=6.4,SNR=1642						
APG				Sn	Sn	10 16 01.2	-2.6
	comp=Z,127nm,0.3s,baz=89,slow=20,SNR=10						
MRL	Marmol	2.23	16⇓	*e*P	Pn	10 15 43.0	+2.0
CAHU	Cacacuatique	2.24	67	*e*P	Pn	10 15 41.6	+0.5
CNCH	Conchagua	2.47	81	*e*P	Pn	10 15 44.6	+0.4
VCR	Vista de Mar	5.38	120	*e*P	Pn	10 16 25.6	+1.3
JTS	JuntasAbangare	5.88	116	Pn	Pn	10 16 33.0	+1.8
	comp=Z,9.2nm,0.3s,baz=311,slow=17,SNR=56						
JTS				Lg	Lg	10 18 12.1	
	comp=Z,1.2nm,0.3s,baz=288,slow=20,SNR=3.9						
JTS				LR	LR	10 18 40.7	
	comp=Z,130nm,19.2s,baz=308,slow=39						
JCR	Jicaral	5.96	120⇑	*e*P	Pn	10 16 34.0	+1.7
CMIG	Matias Romero	6.04	314	Pn	Pn	10 16 33.5	+0.2
	comp=Z,2.4nm,0.3s,baz=104,slow=11,SNR=13						
CMIG				Sn	Sn	10 17 41.9	+0.6
	comp=Z,2.7nm,0.3s,baz=38,slow=17,SNR=2.9						
CGA2	Cerro Gallo 2	6.44	116	*e*P	Pn	10 16 41.2	+2.4
CGA2				*e*S	Sn	10 17 50.4	-0.8
QCR	Quepos	6.98	119	*e*P	Pn	10 16 48.6	+2.5
URSC	Urasca	7.12	115	*e*P	Pn	10 16 52.0	+3.7
BUS	Buena Vista	7.27	117	*e*P	Pn	10 16 54.0	+3.5
BUS				*e*S	Sn	10 18 08.3	-3.8
TEIG	Tepich	7.54	15	*e*Pn	Pn	10 16 55.7	+1.9
MTDJ	Mount Denham	13.42	65	*e*Pn	P	10 18 22.8	-0.6
933A	Laredo	16.84	332	⇑P	Pn	10 19 01.1	+1.6
	baz=17						
833A	Chaparral WMA,	17.51	333	⇓P	Pn	10 19 09.0	+1.3
	baz=17						
734A	La Parita Cree	17.61	336	⇑P	Pn	10 19 10.3	+1.3
	baz=18						
636A	Smothers Creek	17.63	340	⇓P	Pn	10 19 10.2	+1.0
	baz=18						
733A	Divot King Ran	17.80	333	⇓P	Pn	10 19 12.8	+1.3
	baz=18,SNR=6.6						
538A	Harpers Horsep	17.87	345	⇓P	Pn	10 19 12.0	-0.3
	baz=18						
537A	Green Hill Far	17.96	343	⇑P	Pn	10 19 13.5	+0.2
	baz=18						
634A	China Grove, S	18.00	337	⇑P	Pn	10 19 14.1	+0.2
	baz=18						
732A	Laxson Ranch,	18.11	332	⇓P	Pn	10 19 15.9	+0.7
	baz=18						
438A	Sam Houston St	18.38	346	⇓P	P	10 19 18.7	+0.5
	baz=18						
534A	Blanco	18.63	337	⇑P	P	10 19 21.7	+0.7
	baz=18						
632A	Uvalde	18.70	333	⇓P	P	10 19 22.7	+0.9
	baz=19						
631A	Perdido Creek	18.97	332	⇑P	P	10 19 25.4	+0.6
	baz=19,SNR=8.9						
337A	Centerville	19.02	345	⇓P	P	10 19 25.4	+0.2
	baz=19						
VBMS	Vicksburg	19.22	360	*e*Pn	Pn	10 19 29.4	+0.8
	comp=Z,34nm,0.8s						
434A	Burnet	19.26	339	⇑P	P	10 19 28.3	+0.3
	baz=19						
532A	Rocksprings	19.29	334	⇓P	P	10 19 30.0	+1.7
	baz=19,SNR=8.6						
336A	Riesel	19.34	343	⇑P	P	10 19 28.6	-0.1
	baz=19						
239A	Gary	19.39	349	⇑P	P	10 19 30.3	+0.9
	baz=19						
335A	Moody	19.41	341	⇓P	P	10 19 30.3	+0.7
	baz=19						
238A	Jacksonville	19.50	348	⇓P	P	10 19 31.1	+0.5
	baz=19						
433A	Art	19.51	337	⇑P	P	10 19 32.1	+1.4
	baz=19						
JCT	Junction City	19.55	335	⇓P	P	10 19 32.8	+1.7
	baz=20						
JCT	Junction City	19.55	335	*e*Pn	Pn	10 19 34.4	+1.7
	comp=Z,6.1nm,0.6s						
531A	Rocksprings	19.60	333	⇓P	P	10 19 32.8	+1.2
	baz=20						
237A	Washetta, Mont	19.65	346	⇓P	P	10 19 32.8	+0.6
	baz=20						
334A	Lometa	19.72	340	⇑P	P	10 19 33.5	+0.5
	baz=20						
SDV	Santo Domingo	19.75	100	*e*P	P	10 19 33.1	-0.6
	comp=Z,10nm,0.8s						
432A	Menard	19.89	335	⇓P	P	10 19 35.9	+1.0
	baz=20						
530A	J-C Ranch, Com	19.95	331	⇑P	P	10 19 37.0	+1.5
	baz=20,SNR=11						
333A	Richland Sprin	19.98	338	⇑P	P	10 19 35.4	-0.4
	baz=20,SNR=11						
431A	Sonora	20.07	333	⇓P	P	10 19 37.3	+0.5
	baz=20,SNR=12						
WHTX	Lake Whitney,	20.08	342	⇓P	P	10 19 36.9	0.0
	baz=20						
WHTX	Lake Whitney,	20.08	342	*e*P	P	10 19 37.1	+0.2
	comp=Z,13nm,0.6s						
138A	Matatall Enter	20.13	348	⇑P	P	10 19 37.2	-0.2
	baz=20						
LRAL	Lakeview Retre	20.26	8	*e*Pn	P	10 19 39.5	+0.7
	comp=Z,16nm,0.9s						
234A	Clairette	20.31	341	⇑P	P	10 19 39.9	+0.6
	baz=20						
332A	Millersview	20.32	336	⇓P	P	10 19 40.0	+0.4
	baz=20,SNR=14						
529A	Stev Forest Ra	20.36	329	⇓P	P	10 19 40.6	+0.6
	baz=20						
430A	Baggett Ranch,	20.44	332	⇓P	P	10 19 41.7	+0.9
	baz=20						
TXAR	Lajitas Array	20.50	325	P	P	10 19 43.4	+1.8
	comp=Z,7.4nm,0.8s,baz=153,slow=13,SNR=69						
TXAR				PcP	PcP	10 23 54.1	+1.5
	comp=Z,0.3nm,0.6s,baz=143,slow=4.4,SNR=3.4						
331A	San Angelo	20.53	335	⇑P	P	10 19 42.4	+0.5
	baz=20						
233A	Rising Star	20.58	339	⇓P	P	10 19 42.2	-0.1
	baz=20,SNR=14						
429A	Davenport Ranc	20.61	331	⇑P	P	10 19 42.8	+0.1
	baz=21,SNR=5.7						
H06E1	SOCORRO T-PHAS	20.64	289	T	T	10 40 55.9	
	SNR=9.8						
232A	Coleman	20.73	337	⇓P	P	10 19 43.8	-0.3
	baz=21						
134A	White-Moore Ra	20.82	341	⇑P	P	10 19 44.4	-0.5
	baz=21						
330A	Mertzon	20.94	333	⇓P	P	10 19 45.7	-0.5
	baz=21,SNR=9.3						
231A	Bronte	21.04	336	⇑P	P	10 19 46.8	-0.4
	baz=21						
133A	Hamilton Ranch	21.12	340	⇑P	P	10 19 47.5	-0.6
	baz=21,SNR=11						
Z35A	Perchaven, San	21.28	344	⇑P	P	10 19 48.4	-1.5
	baz=21						
230A	Sterling City	21.32	334	⇓P	P	10 19 50.0	-0.3
	baz=21						
GOGA	Godfrey	21.35	16	*e*P	P	10 19 50.1	-0.4
	comp=Z,68nm,2.1s						
329A	Wagon Wheel Ra	21.37	332	⇓P	P	10 19 50.2	-0.7
	baz=21,SNR=8.1						
ABTX	Abilene, Hawle	21.39	338	⇑P	P	10 19 50.3	-0.8
	baz=21						
ABTX	Abilene, Hawle	21.39	338	*e*P	P	10 19 51.0	-0.1
Z34A	Collier Ranch,	21.51	342	⇑P	P	10 19 51.1	-1.2
	baz=21						
Z33A	Whitaker Ranch	21.69	341	⇓P	P	10 19 53.6	-0.7
	baz=22,SNR=10.0						
229A	Bryant Ranch,	21.70	333	⇓P	P	10 19 54.0	-0.4
	baz=22,SNR=5.7						
131A	Roby	21.72	337	⇓P	P	10 19 53.5	-1.1
	baz=22						
MIAR	Mount Ida	21.74	353	*e*P	P	10 19 53.4	-1.3
	comp=Z,8.0nm,0.8s						
UALR	University of	21.84	356	*e*P	P	10 19 57.5	+1.7
	comp=Z,10.0nm,0.8s						
130A	Snyder	21.88	335	⇓P	P	10 19 55.5	-0.8
	baz=22,SNR=7.2						
Z32A	Haskell	21.95

baz=23
X31A **McDonald Ranch** 23.32 340 ⇑P P 10 20 10.2 -1.2
baz=23,SNR=7.6
W33A **Caddo, Fort Co** 23.33 343 ⇓P P 10 20 10.4 -1.1
baz=23
TKL **Tuckaleechee C** 23.41 14 P P 10 20 11.2 -1.0
comp=Z,7.8nm,0.6s,baz=172,slow=9.4,SNR=17
TUL1 **Leonard** 23.42 349 ⇑P P 10 20 10.4 -2.0
baz=23
TUL1 **Leonard** 23.42 349 *e*P P 10 20 11.0 -1.3
X30A **Coker Ranch, T** 23.48 338 ⇑P P 10 20 11.9 -1.0
baz=23,SNR=20
V35A **Meyer Ranch, C** 23.50 347 ⇓P P 10 20 10.9 -2.1
baz=23
W32A **Sentinel** 23.54 341 ⇓P P 10 20 11.6 -1.9
baz=23,SNR=5.9
Y28A **McKinney Farm,** 23.55 335 ⇓P P 10 20 12.3 -1.4
baz=24,SNR=7.2
KMSC **Kings Mountain** 23.58 19 ⇓P P 10 20 10.3 -3.6
baz=23
KMSC **Kings Mountain** 23.58 19 *e*P P 10 20 13.0 -0.9
comp=Z,7.7nm,0.8s
V34A **Guthrie** 23.72 345 ⇑P P 10 20 13.1 -2.2
baz=24,SNR=9.9
V34A **Guthrie** 23.72 345 *e*P P 10 20 13.4 -1.9
PBMO **Poplar Bluff** 23.77 360 *e*P P 10 20 14.5 -1.1
comp=Z,9.0nm,0.6s
X29A **Tulia** 23.79 336 ⇓P P 10 20 14.5 -1.5
baz=24,SNR=5.0
MSTX **Muleshoe** 23.82 334 ⇓P P 10 20 15.3 -1.0
baz=24,SNR=10.0
MSTX **Muleshoe** 23.82 334 *e*P P 10 20 15.6 -0.7
X28A **Dimmitt** 24.05 335 ⇓P P 10 20 17.5 -1.0
baz=24
AMTX **Amarillo** 24.17 337 ⇑P P 10 20 18.4 -1.1
baz=24
AMTX **Amarillo** 24.17 337 *e*P P 10 20 19.2 -0.3
comp=Z,8.7nm,0.6s
U34A **Anderson Ranch** 24.30 346 ⇑P P 10 20 19.1 -1.5
baz=24
U33A **Lingo Farm, Me** 24.44 345 ⇑P P 10 20 19.9 -2.0
baz=24
SIUC **Southern Illin** 24.72 2 *e*P P 10 20 23.7 -0.7
comp=Z,33nm,0.9s
USIN **University of** 25.06 5 *e*P P 10 20 26.1 -1.3
comp=Z,28nm,0.9s
V28A **Channing** 25.14 337 ⇑P P 10 20 27.0 -1.3
baz=25
S36A **Lake Cedric, C** 25.15 350 ⇓P P 10 20 26.8 -1.5
baz=25,SNR=14
121A **Cookes Peak, D** 25.23 324 ⇓P P 10 20 29.7 +0.4
baz=25,SNR=12
121A **Cookes Peak, D** 25.23 324 *e*P P 10 20 31.3 +2.0
comp=Z,20nm,0.8s
S35A **Otter Creek Ra** 25.24 349 ⇑P P 10 20 27.2 -1.9
baz=25,SNR=6.3
319A **Douglas** 25.33 320 ⇓P P 10 20 30.8 +0.6
baz=25
T32A **Huddler Ranch,** 25.36 344 ⇓P P 10 20 29.8 -0.4
baz=25
WCI **Wyandotte Cave** 25.47 7 *e*P P 10 20 30.2 -1.0
S33A **Kaszmaul Farm,** 25.52 346 ⇑P P 10 20 30.6 -1.0
baz=25
R37A **Teagarden Farm** 25.61 352 ⇓P P 10 20 31.7 -0.8
baz=25
OLIL **Olney** 25.79 4 *e*P P 10 20 32.8 -1.3
V26A **Tequesquite Ra** 25.81 334 ⇓P P 10 20 34.5 0.0
baz=26
U27A **Thompson Grove** 25.96 337 ⇑P P 10 20 34.5 -1.3
baz=26
LAZ **Ladron** 26.27 327 *e*P P 10 20 39.9 +1.1
comp=Z,1.8nm,0.9s
U26A **Atchley Ranch,** 26.30 335 ⇓P P 10 20 38.7 -0.3
baz=26,SNR=5.3
ANMO **Albuquerque** 26.35 329 *e*P P 10 20 40.8 +1.3
S29A **Ulysses** 26.42 341 ⇓P P 10 20 39.3 -0.6
baz=26
R32A **Long Quarter,** 26.48 345 ⇓P P 10 20 39.3 -1.0
baz=26
R31A **Burdett** 26.56 344 ⇑P P 10 20 40.1 -1.1
baz=26
U25A **Circle Dot Ran** 26.59 334 ⇑P P 10 20 40.9 -0.7
baz=26
R30A **Dighton** 26.77 342 ⇑P P 10 20 41.4 -1.7
baz=27
TUC **Tucson** 26.91 319 *e*P P 10 20 47.1 +2.7
comp=Z,4.1nm,0.8s
Q32A **Meitler Ranch,** 26.98 346 ⇑P P 10 20 43.8 -1.0
baz=27
R29A **Marienthal** 27.16 341 ⇓P P 10 20 46.1 -0.5
baz=27
S26A **Kim** 27.26 337 ⇑P P 10 20 46.7 -0.9
baz=27
R28A **Tribune** 27.31 340 ⇑P P 10 20 46.9 -1.0
baz=27
SFIN **Lafayette** 27.51 5 ⇓P P 10 20 47.6 -2.0
baz=27
SFIN **Lafayette** 27.51 5 *e*P P 10 20 48.2 -1.4
R27A **Eads** 27.60 338 ⇓P P 10 20 50.0 -0.5
baz=28
X18A **Snowflake** 27.92 324 ⇓P P 10 20 53.8 +0.3
baz=28,SNR=5.9
P30A **Selden** 27.93 343 ⇓P P 10 20 52.5 -1.0
baz=28
ACSO **Alum Creek Sta** 27.97 12 *e*P P 10 20 52.4 -1.3
comp=Z,17nm,1.1s
R25A **Fountain Ranch** 28.03 336 ⇑P P 10 20 54.2 -0.2
baz=28
P29A **Atwood** 28.18 342 ⇓P P 10 20 54.9 -0.8
baz=28
SDCO **Great Sand Dun** 28.19 334 ⇑P P 10 20 56.1 +0.1
baz=28
P28A **Saint Francis** 28.41 341 ⇓P P 10 20 57.0 -0.7
baz=28
Q25A **Bedland, Calha** 28.68 337 ⇓P P 10 20 59.9 -0.5
baz=29
R23A **Moffat** 28.70 334 ⇑P P 10 21 00.2 -0.4
baz=29
X16A **Lo Mia Camp, P** 28.73 322 ⇓P P 10 21 03.1 +2.3
baz=29,SNR=6.2
S22A **4UR Ranch, Cre** 28.78 332 ⇑P P 10 21 01.4 +0.1
baz=29,SNR=6.9
S22A **4UR Ranch, Cre** 28.78 332 *e*P P 10 21 02.4 +1.1
MVCO **Mesa Verde** 29.15 329 ⇑P P 10 21 05.0 +0.5
baz=29,SNR=7.5
MVCO **Mesa Verde** 29.15 329 *e*P P 10 21 05.7 +1.2
comp=Z,6.2nm,0.8s
M31A **Lambtecht Ranc** 29.31 347 ⇓P P 10 21 04.6 -1.1
baz=29
P23A **Jefferson** 29.71 335 ⇑P P 10 21 09.4 -0.2
baz=30
JFWS **Jewell Farm** 29.89 0 *e*P P 10 21 08.8 -2.0
ISCO **Idaho Springs** 29.98 336 ⇑P P 10 21 10.8 -1.2
baz=30
O24A **Longmont** 30.05 337 ⇑P P 10 21 12.6 +0.2
baz=30
L31A **Butterfield Fa** 30.08 347 ⇑P P 10 21 12.1 -0.4
baz=30
U15A **North Rim** 30.61 324 ⇑P P 10 21 18.5 +1.0
baz=31
O22A **Kremmling** 30.66 335 ⇑P P 10 21 17.9 0.0
baz=31
W13A **Hualapai Mount** 30.68 320 ⇑P P 10 21 18.7 +0.6
baz=31
K30A **Basset** 30.72 347 ⇓P P 10 21 17.4 -0.7
baz=31
N23A **Red Feather La** 31.05 337 ⇑P P 10 21 20.6 -0.7
baz=31
ECSD **EROS Data Cent** 31.18 351 ⇑P P 10 21 20.6 -1.5
baz=31,SNR=13
ECSD **EROS Data Cent** 31.18 351 *e*P P 10 21 20.5 -1.6
comp=Z,10nm,0.8s
O20A **White River Ci** 31.36 333 ⇑P P 10 21 24.6 +0.6
baz=31
SRU **San Rafael Swe** 31.63 329 *e*P P 10 21 27.9 +1.6
BINY **Binghamton** 31.73 20 *e*P P 10 21 24.6 -2.4
J28A **Allard Ranch,** 31.82 345 ⇑P P 10 21 27.1 -0.7
baz=32
I30A **Oacoma** 31.87 348 ⇑P P 10 21 27.1 -1.0
baz=32
J27A **Elkhorn Farm,** 31.87 344 ⇑P P 10 21 28.0 -0.3
baz=32
N20A **Spence Gulch,** 31.95 334 ⇑P P 10 21 29.5 +0.3
baz=32
CCUT **Cedar City** 32.01 324 *e*P P 10 21 32.6 +2.8
L23A **Garrett** 32.02 338 ⇓P P 10 21 28.7 -1.1
baz=32
I29A **Vivian Onida** 32.16 346 ⇑P P 10 21 29.7 -1.1
baz=32,SNR=9.6
SPMN **Marine on St.** 32.27 357 ⇓P P 10 21 29.4 -2.3
baz=32,SNR=13
SPMN **Marine on St.** 32.27 357 *e*P P 10 21 29.7 -2.0
comp=Z,19nm,0.9s
BRSD **Miller** 32.28 348 *e*P P 10 21 31.5 -0.3
comp=Z,25nm,0.7s
I28A **Midland** 32.35 345 ⇓P P 10 21 31.5 -0.9
baz=32
J25A **Sunshine Ranch** 32.52 342 ⇓P P 10 21 33.6 -0.4
baz=32
H29A **Onida** 32.72 347 ⇓P P 10 21 34.7 -0.9
baz=33
I26A **New Underwood** 32.82 343 ⇓P P 10 21 35.7 -0.9
baz=33
MPU **Maple Canyon** 32.87 329 *e*P P 10 21 38.5 +1.3
H28A **Mission Ridge** 32.95 346 ⇓P P 10 21 36.9 -0.7
baz=33
G30A **Faulkton** 32.97 349 ⇑P P 10 21 35.9 -1.9
baz=33,SNR=6.8
PTGA **Pitinga** 33.03 112 *e*P P 10 21 39.6 +0.9
I25A **Rochford** 33.06 342 ⇓P P 10 21 38.0 -0.9
baz=33
COWI **Conover** 33.09 2 *e*P P 10 21 36.1 -2.8
comp=Z,12nm,0.8s
H27A **Howes** 33.17 345 ⇓P P 10 21 38.3 -1.3
baz=33
RSSD **Black Hills** 33.25 342 *e*P P 10 21 40.2 -0.3
G28A **Parade** 33.30 346 ⇑P P 10 21 40.3 -0.4
baz=33
CTU **Camp Tracy** 33.44 330 *e*P P 10 21 43.7 +1.5
H25A **Fruitdale** 33.58 343 ⇑P P 10 21 43.0 -0.2
baz=34
F29A **Eureka** 33.78 348 ⇑P P 10 21 43.8 -1.1
baz=34
G27A **Dupree** 33.83 345 ⇓P P 10 21 44.3 -1.0
baz=34,SNR=6.4
R11A **Troy Canyon, C** 33.84 323 ⇓P P 10 21 45.5 -0.2
baz=34
I22A **9 Mile Ranch,** 33.85 339 ⇓P P 10 21 45.2 -0.4
baz=34
G26A **Maurine** 33.92 344 ⇓P P 10 21 45.4 -0.7
baz=34
H24A **Dirks Ranch, A** 33.97 342 ⇑P P 10 21 46.1 -0.5
baz=34,SNR=6.4
F28A **McLaughlin** 34.01 347 ⇓P P 10 21 45.5 -1.3
baz=34
G25A **Newell** 34.05 343 ⇑P P 10 21 47.2 -0.1
baz=34
HWUT **Hardware Ranch** 34.06 331 *e*P P 10 21 47.7 +0.1
comp=Z,5.7nm,0.9s
PDAR **Pinedale Array** 34.08 334 P P 10 21 47.8 0.0
comp=Z,0.8nm,0.8s,baz=133,slow=11,SNR=8.6
PDAR PcP PcP 10 24 25.9 +1.0
comp=Z,0.5nm,0.5s,baz=128,slow=6.5,SNR=6.6
BGU **Big Grassy Mou** 34.26 329 *e*P P 10 21 50.9 +1.7
J19A **Crowheart** 34.29 335 ⇓P P 10 21 49.5 0.0
baz=34
F27A **Lemmon** 34.31 345 ⇓P P 10 21 48.5 -1.0
baz=34,SNR=9.0
LONY **Lake Ozonia** 34.35 20 *e*P P 10 21 47.9 -2.0
comp=Z,12nm,1.2s
H22A **Clearmont** 34.42 340 ⇓P P 10 21 49.8 -0.7
baz=34
F26A **Lodgepole** 34.46 345 ⇓P P 10 21 49.9 -0.9
baz=34,SNR=10
G24A **Alzada** 34.46 342 ⇓P P 10 21 50.5 -0.3
baz=34
I20A **Worland** 34.50 337 ⇓P P 10 21 51.5 +0.2
baz=34
SAML **Samuel** 34.63 127 *e*P P 10 21 51.6 -0.9
comp=Z,3.8nm,0.6s
G23A **Biddle** 34.64 341 ⇑P P 10 21 52.0 -0.4
baz=34
F25A **Bowman** 34.73 344 ⇓P P 10 21 53.0 -0.2
baz=35
D30A **Buchanan** 34.81 350 ⇑P P 10 21 52.2 -1.6
baz=35
I19A **Meeteetse** 34.91 336 ⇓P P 10 21 55.2 +0.3
baz=35
H20A **Greybull** 34.91 338 ⇑P P 10 21 54.4 -0.4
baz=35
F24A **Ekalaka** 34.94 343 ⇑P P 10 21 53.9 -1.1
baz=35,SNR=7.2
EYMN **Ely** 34.94 359 *e*P P 10 21 52.2 -2.7
comp=Z,5.6nm,0.8s
G22A **Birney** 34.95 340 ⇑P P 10 21 54.5 -0.6
baz=35
E26A **Carlson Angus** 34.98 345 ⇓P P 10 21 54.3 -1.0
baz=35
F23A **Volborg** 35.11 342 ⇑P P 10 21 55.7 -0.8
baz=35
REDW **Red Top Meadow** 35.12 334 *e*P P 10 21 57.3 +0.6
LOHW **Long Hollow** 35.22 334 *e*P P 10 21 58.0 +0.4
E25A **Miller Ranch,** 35.25 344 ⇓P P 10 21 56.6 -1.0
baz=35,SNR=7.4
G21A **Lodge Grass** 35.26 339 ⇑P P 10 21 56.6 -1.2
baz=35
TPAW **Teton Pass** 35.27 334 *e*P P 10 21 58.6 +0.5
ELK **Elko** 35.28 326 *e*P P 10 22 00.0 +1.8
C30A **Mose, Pekin** 35.34 350 ⇓P P 10 21 56.6 -1.7
baz=35
D27A **Center** 35.36 347 ⇓P P 10 21 56.8 -1.7
baz=35
F22A **Rosebud** 35.43 341 ⇑P P 10 21 58.6 -0.6
baz=35
H19A **Powell** 35.44 337 ⇑P P 10 21 58.2 -1.2
baz=35
I17A **Pilgrim Ck.** 35.45 334 ⇑P P 10 21 58.5 -1.2
baz=35
D26A **Manning** 35.50 346 ⇓P P 10 21 58.2 -1.5
baz=35
NVAR **Mina Array Bea** 35.53 321 P P 10 22 01.7 +1.4
comp=Z,5.4nm,0.6s,baz=136,slow=8.1,SNR=18
NVAR PcP PcP 10 24 31.4 +2.3
comp=Z,1.0nm,0.5s,baz=121,slow=5.4,SNR=4.0
AGMN **Agassiz Nation** 35.58 354 ⇑P P 10 21 58.3 -2.0
baz=35,SNR=13
AGMN **Agassiz Nation** 35.58 354 *e*P P 10 21 58.3 -2.0
G20A **Bridger** 35.62 338 ⇓P P 10 21 59.6 -1.3
baz=36
MDND **Maddock** 35.68 349 ⇑P P 10 22 00.0 -1.2
baz=36,SNR=6.2
MDND **Maddock** 35.68 349 *e*P P 10 22 00.5 -0.8
C28A **Hausauer Farms** 35.70 348 ⇓P P 10 21 59.9 -1.5
baz=36
H18A **Shoshone NF, C** 35.71 336 ⇑P P 10 22 01.0 -0.8
baz=36,SNR=8.7
E23A **Ismay** 35.78 342 ⇓P P 10 22 01.0 -1.2
baz=36
B30A **Myrvik Farm, E** 36.05 351 ⇑P P 10 22 02.8 -1.6
baz=36,SNR=13
D24A **Glendive** 36.06 344 ⇓P P 10 22 04.0 -0.6
baz=36,SNR=15
F20A **Billings** 36.09 339 ⇓P P 10 22 04.2 -0.7
baz=36
C26A **Wahner Farm, P** 36.17 347 ⇑P P 10 22 04.1 -1.3
baz=36
BMN **Battle Mountai** 36.17 324 *e*P P 10 22 03.5 -2.2
B29A **Wagenman Farm,** 36.23 350 ⇑P P 10 22 05.1 -0.8
baz=36
C25A **Freed Ranch, W** 36.34 345 ⇑P P 10 22 06.0 -0.9
baz=36,SNR=5.8
D23A **Lindsay** 36.36 343 ⇓P P 10 22 06.2 -1.0
baz=36
LPAZ **La Paz** 36.39 142 P P 10 22 17.6 +9.3
comp=Z,0.9nm,0.5s,baz=324,slow=8.0,SNR=7.3
B28A **Dugan Ranch, T** 36.40 349 ⇓P P 10 22 06.4 -0.9
baz=36
F19A **Roth Farm, Mol** 36.42 338 ⇓P P 10 22 07.2 -0.6
baz=36
C24A **Savage** 36.47 344 ⇓P P 10 22 07.6 -0.5
baz=36
A30A **Hoffart Farm,** 36.52 351 ⇓P P 10 22 06.5 -1.9
baz=36,SNR=7.3
D22A **Cohagen** 36.63 342 ⇓P P 10 22 08.9 -0.5
baz=36,SNR=7.1
GCMT **Greycliff** 36.64 337 *e*P P 10 22 09.4 -0.3
comp=Z,2.0nm,0.6s
A29A **Manning Farm,** 36.65 350 ⇓P P 10 22 07.8 -1.7
baz=36,SNR=8.1
E20A **Meyer Farm, Mu** 36.69 339 ⇑P P 10 22 09.0 -1.0
baz=37
A28A **Rude Farm, Bot** 36.82 349 ⇑P P 10 22 09.7 -1.3
baz=37
B25A **Knox Farm, Ray** 36.83 346 ⇑P P 10 22 10.1 -1.1
baz=37
E19A **Rath Farm, Rou** 36.89 339 ⇑P P 10 22 10.8 -0.8
baz=37
HLID **Hailey** 36.91 330 ⇓P P 10 22 12.3 +0.3
baz=37
HLID **Hailey** 36.91 330 *e*P P 10 22 13.3 +1.3
C23A **Lambert** 36.93 343 ⇑P P 10 22 11.3 -0.6
baz=37
C22A **Vida** 37.08 343 ⇓P P 10 22 12.8 -0.5
baz=37
MCMT **McKenzie Canyo** 37.16 333 *e*P P 10 22 15.1 +0.9
comp=Z,3.8nm,0.8s
A26A **Wade Farm, Ken** 37.16 347 ⇓P P 10 22 12.9 -1.0
baz=37,SNR=11
D20A **Manuel Ranch,** 37.21 340 ⇓P P 10 22 13.5 -0.9
baz=37
DGMT **Dagmar** 37.27 345 ⇑P P 10 22 14.1 -0.8
baz=37,SNR=6.3
DGMT **Dagmar** 37.27 345 *e*P P 10 22 14.6 -0.3
A25A **Swangstu Ranch** 37.45 346 ⇓P P 10 22 15.7 -0.6
baz=37,SNR=7.1
B23A **Brockton** 37.48 344 ⇑P P 10 22 16.3 -0.3
baz=37
MFID **Camas Ranch** 37.49 329 *e*P P 10 22 19.8 +2.8
ULM **Lac du Bonnet** 37.51 354 P P 10 22 14.2 -2.5
comp=Z,9.4nm,0.8s,baz=168,slow=9.1,SNR=26
ULM LR LR 10 40 57.4
comp=Z,193nm,18.5s,baz=184,slow=42
D19A **Cripps Ranch,** 37.52 339 ⇑P P 10 22 16.6 -0.5
baz=37
B22A **Reddig Ranch S** 37.61 343 ⇑P P 10 22 17.2 -0.5
baz=38
A24A **Westby** 37.65 345 ⇑P P 10 22 17.7 -0.3
baz=38
C20A **Veseth Ranch,** 37.70 340 ⇑P P 10 22 18.5 0.0
baz=38
LRM **Limekiln Ridge** 37.78 335 *e*P P 10 22 19.9 +0.5
A23A **Redstone** 37.90 344 ⇓P P 10 22 20.0 -0.2
baz=38
B21A **Ellsworth Farm** 38.03 342 ⇑P P 10 22 21.2 -0.1
baz=38
C19A **Slack Wire Ran** 38.07 339 ⇓P P 10 22 21.4 -0.3
baz=38
A22A **Carney Farms,** 38.21 343 ⇑P P 10 22 22.4 -0.4
baz=38,SNR=6.5
WVOR **Wild Horse Val** 38.30 326 *e*P P 10 22 25.1 +1.4
B20A **Solberg Farm,** 38.35 341 ⇑P P 10 22 23.1 -0.8
baz=38,SNR=6.6
A21A **Bergtoll Ranch** 38.50 342 ⇓P P 10 22 25.1 -0.1
baz=38
EGMT **Eagleton** 38.57 339 ⇓P P 10 22 25.6 -0.3
baz=38
EGMT **Eagleton** 38.57 339 *e*P P 10 22 26.0 +0.2
B19A **Brinkman Farms** 38.66 340 ⇓P P 10 22 26.9 +0.3
baz=39
A20A **Cobblestone Ra** 38.71 341 ⇓P P 10 22 26.5 -0.5
baz=39,SNR=18
MSO **Missoula** 39.20 334 ⇓P P 10 22 31.2 0.0
baz=39
J04D **Umpqua Nationa** 40.77 324 ⇓P P 10 22 45.5 +1.1
baz=41
I05D **Terrebonne, OR** 41.03 326 ⇑P P 10 22 47.3 +0.9
baz=41
I04A **Tendick Farm,** 41.28 324 ⇓P P 10 22 48.8 +0.4
baz=41
G05D **Wamic, OR** 41.60 327 ⇓P P 10 22 51.7 +0.7
baz=42
I03D **Drain, OR** 41.76 324 ⇓P P 10 22 53.7 +1.5
baz=42
FFC **Flin Flon** 42.71 350 *e*P P 10 22 58.3 -1.5
comp=Z,6.8nm,0.7s
EDM **Edmonton** 44.19 340 *e*P P 10 23 10.5 -1.3
SCHQ **Schefferville** 45.70 19 P P 10 23 21.2 -2.6
comp=Z,10nm,0.4s,baz=220,slow=6.3,SNR=65
SCHQ LR LR 10 44 10.9
comp=Z,189nm,18.8s,baz=234,slow=39
FCC **Fort Churchill** 45.85 357 *e*P P 10 23 22.3 -2.5
comp=Z,6.2nm,0.8s
BDFB **Brasilia** 50.58 123 P P 10 24 03.9 +1.8
comp=Z,2.2nm,0.4s,baz=239,slow=2.2,SNR=3.9
YKA **Yellowknife Ar** 52.46 346 P P 10 24 13.8 -1.5
comp=Z,2.5nm,0.4s,baz=148,slow=7.7,SNR=102
RES **Resolute Bay** 61.81 359 *e*P P 10 25 19.0 -2.3
comp=Z,8.0nm,0.5s
ILAR **Eielson Array** 64.47 337 P P 10 25 38.1 -1.0
comp=Z,1.1nm,0.7s,baz=108,slow=5.1,SNR=16
SUMG **Summit** 66.86 15 *e*P P 10 25 52.6 -2.3
comp=Z,6.5nm,0.6s
ESDC **Sonseca Array** 79.12 52 P P 10 27 04.4 -3.3
comp=Z,1.4nm,0.6s,baz=284,slow=6.0,SNR=6.3
TIC **Toumodi** 84.00 85 *e*P P 10 27 34.6 +0.7
comp=Z,6.4nm,0.2s
LIC **Lamto** 84.08 85 *e*P P 10 27 34.5 +0.2
comp=Z,18nm,0.7s
DBIC **Dimbokro** 84.15 85 P P 10 27 34.0 -0.7
comp=Z,5.2nm,0.6s,baz=258,slow=4.0,SNR=8.9
NB2 **NORSAR Subarra** 84.32 29 P P 10 27 33.1 -1.6
comp=Z,1.8nm,0.8s,baz=288,slow=5.3
NOA **NORSAR Array B** 84.32 29 P P 10 27 33.2 -1.4
comp=Z,1.2nm,0.7s,baz=289,slow=5.0,SNR=5.6
KIC **Kosan Boka** 84.33 85 *e*P P 10 27 35.8 +0.2
comp=Z,15nm,0.7s
ARCES **ARCESS Array B** 86.65 18 P P 10 27 44.0 -2.1
comp=Z,3.0nm,0.8s,baz=331,slow=9.7,SNR=3.8
CLL **Collm** 88.19 38 *i* P P 10 27 52.0 -1.8
comp=Z,4.0nm,0.8s
TORD **Torodi Ar. Bea** 89.06 77 P P 10 27 55.9 -2.7
comp=Z,0.9nm,0.6s,baz=293,slow=3.5,SNR=8.4
GERES **GERESS Array B** 89.40 40 P P 10 27 57.6 -2.1
comp=Z,0.3nm,0.3s,baz=288,slow=1.3,SNR=7.0
FINES **FINESS Array B** 90.78 25 P P 10 28 04.0 -1.7
comp=Z,1.1nm,0.8s,baz=268,slow=4.2,SNR=2.8
ZALV **Zalesovo Beam** 113.28 3 PKiKP PKiKP 10 33 40.4 +0.1
comp=Z,0.8nm,0.5s,baz=310,slow=3.6,SNR=4.0
SONM **Songino Array** 117.71 347 PKP PKPdf 10 33 50.2 +1.0
comp=Z,0.6nm,0.7s,baz=41,slow=2.9,SNR=2.4
KSRS **Korea Array** 118.35 326 PKP PKPdf 10 33 51.8 +1.2
comp=Z,1.6nm,0.7s,baz=9.9,slow=1.6,SNR=5.8
KSAR **Wonju Array Be** 118.38 326 PKP PKPdf 10 33 51.8 +1.1
MKAR **Makanchi Array** 120.20 6 PKP PKPdf 10 33 53.7 -0.2
comp=Z,0.2nm,0.5s,baz=37,slow=4.3,SNR=3.6
BJI **Beijing** 121.84 336 PKP PKPdf 10 33 56.0 -1.2
HHC **Hu-ho-hao-te** 122.79 340 *e*PKP PKPdf 10 33 56.0 -3.2
HHC sPKP 10 34 33.4
HHC PP PP 10 35 37.8 +1.6
HHC SKS SKSdf 10 40 56.6 -12
WMQ **Urumqi** 123.51 2 *e*PKP PKPdf 10 33 57.5 -2.9
CD2 **Chengdu** 134.37 343 PKP PKPdf 10 34 19.0 -2.4
WRA **Warramunga Arr** 136.68 255 PKP PKPdf 10 34 29.7 +3.8
comp=Z,1.1nm,0.7s,baz=88,slow=2.8,SNR=5.9
CMAR **Chiang Mai Arr** 147.51 343 PKPbc PKPbc 10 34 48.4 +0.6
comp=Z,4.4nm,0.7s,baz=346,slow=3.7,SNR=28

IDC ***12*** *10:22:17.4±2.6,54.3°N×86.0°E,h0km,mb1 3.2/2, mb1mx2.9/39,mbtmp3.2/2,ML2.8/2,Error ellipse: s-maj=19.4km s-min=11.3km az=56.0*

NNC ***12*** *10:22:19.9±2.2,54.0°N×86.2°E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=20.7km s-min=16.0km az=83.0*

ISC 12 10:22:20.7±5.6,54.3°N±0.2°×86.4°E±0.3°,h35km,n7,σ0s54/7, 3C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**248**	*i*		10 28 08.5	
	baz=66,slow=324,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.98**	**248**	Pg	Pn	10 22 31.7	-6.1
	2.5nm,0.3s,baz=62,slow=18,SNR=24						
ZALV				Lg	Lg	10 22 44.6	
	7.8nm,0.3s,baz=61,slow=28,SNR=26						
KURK	**Kurchatov**	**5.94**	**236**	⇑Pn	**Pn**	**10 23 46.4**	**+0.3**
	3.1nm,1.3s						
KURK				⇓Lg	Lg	10 25 22.5	
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**6.05**	**235**	⇓Pn	**Pn**	**10 23 47.3**	**-0.2**
	1.8nm,0.4s						
KURBB				⇓Lg	Lg	10 25 25.5	
	7.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.05**	**235**	Pn	**Pn**	**10 23 47.3**	**-0.2**
	0.1nm,0.3s,baz=51,slow=14,SNR=10						
KURBB				Lg	Lg	10 25 27.3	
	0.1nm,0.3s,baz=54,slow=33,SNR=3.9						
MK31	**Makanchi Array**	**7.97**	**201**	⇑Pn	**Pn**	**10 24 13.7**	**-0.2**
	0.5nm,0.5s,baz=25,slow=13,SNR=7.3						
MK31				⇓Sn	**Sn**	**10 25 42.1**	**-0.7**
	0.4nm,0.7s						
MK31				⇑Lg	Lg	10 26 25.5	
	3.0nm,0.9s,baz=22,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**7.97**	**201**	Pn	**Pn**	**10 24 14.1**	**+0.2**

0.3nm,0.3s,baz=20,slow=14,SNR=5.0
MKAR Sn **Sn** **10 25 43.5 +0.7**
baz=16,slow=23,SNR=2.8
MKAR Lg Lg 10 26 28.2
0.1nm,0.3s,baz=23,slow=33,SNR=6.3

BJI ***12*** *10:23:10.8,57.°07S×147.°72E,h12km,mB5.8/26,mb5.6/21, Ms5.5/27,Ms7 5.3/29*
ISCJB ***12*** *10:23:10.2±2.0,56.°92S±0.°04×147.°46E±0.°09,h5km±12km, mb5.3/49,MS5.3/34,Error ellipse: s-maj=8.3km s-min=6.3km az=16.7*
IDC ***12*** *10:23:10.6±0.4,56.°87S×147.°70E,h0km,mb5.1/12, mb1 5.2/13,mb1mx5.0/21,mbtmp5.1/13,MS5.2/14, Ms1 5.2/14,ms1mx5.1/17,Error ellipse: s-maj=20.4km s-min=14.2km az=84.0*
NEIC ***12*** *10:23:12.4±0.2,56.°92S×147.°52E,h10km,mb5.6/30, MS5.5/7,MW5.7,MW5.7,Error ellipse: s-maj=6.8km s-min=5.6km az=102.0,Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁷Nm; Mrr=1.32; Mθθ-1.88; Mφφ3.19; Mrθ-1.50; Mθφ-3.08; Mφr0.40; Best double couple: M₀4.40000×10¹⁷ NP1:φs113.00000°,δ79.00000°, λ-154.00000°. NP2:φs18.00000°,δ65.00000°, λ-12.00000°. Principal axes: T 4.8100, Plg9.0000°, Azm243.0000°; N -0.9200, Plg62.0000°, Azm134.0000°; P -3.9000, Plg25.0000°, Azm337.0000°;*
AWI ***12*** *10:23:12.0,56.°93S×147.°42E*
GCMT ***12*** *10:23:12.4±0.1,56.°93S×147.°36E,h12km,MW5.7/123, Moment Tensor Solution. s112,c202; s123,c336; Duration: 1s8 Moment tensor: Scale 10¹⁷Nm; Mrr-0.28±.04; Mθθ2.36±.04; Mφφ-2.08±.04; Mrθ0.40±.12; Mθφ-4.39±.04; Mφr0.29±.12; Best double couple: M₀4.94500×10¹⁷ NP1:φs257.00000°,δ87.00000°, λ-175.00000°. NP2:φs166.00000°,δ85.00000°, λ-3.00000°. Principal axes: T 5.0660, Plg2.0000°, Azm31.0000°; N -0.2380, Plg84.0000°, Azm282.0000°; P -4.8250, Plg6.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***12*** *10:23:15.9±1.6,56.°65S×148.°27E,h33km,mb5.3/19, MS5.2/14 Error ellipse: s-maj=24.9km s-min=9.9km az=94.0*
NEIC ***12*** *10:23:33.7±0.0,56.°78S×146.°63E,h10km,Moment Tensor Solution. s123 Moment tensor: Scale 10¹⁷Nm; Mrr-0.49; Mθθ2.03; Mφφ-1.54; Mrθ1.72; Mθφ-4.27; Mφr1.78; Best double couple: M₀5.20000×10¹⁷ NP1:φs166.00000°, δ68.00000°,λ-14.00000°. NP2:φs261.00000°,δ76.00000°, λ-156.00000°. Principal axes: T 4.9100, Plg5.0000°, Azm32.0000°; N 0.6400, Plg63.0000°, Azm291.0000°; P -5.5600, Plg25.0000°, Azm124.0000°;*
ISC 12 10:23:14.0±0.5,56.°97S±0.°05×147.°61E±0.°06,h20km±1km, h19km:pP-P,n643,σ1§33/651,mb5.4/49,MS5.5/34, 148C-118D,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.87**	**74**	*e*P	Pn	10 24 47.9	-5.6
MCQ				pmax	pmax		
	comp=Z,2μm,0.8s						
MCQ	**Macquarie Isla**	**6.87**	**74**	*e*Pn	Pn	10 24 47.9	-5.6
	comp=Z,2μm,0.8s						
DRV	**Dumont d'Urvil**	**10.36**	**197**	P	Pn	10 25 08.0	-33
DRV				R		10 27 00.0	
TAU	**Tasmania Unive**	**14.08**	**359**	*e*P	**Pn**	**10 26 32.5**	**+0.3**
TAU	**Tasmania Unive**	**14.08**	**359**	*e*Pn	**Pn**	**10 26 32.5**	**+0.3**
WHZ	**Wether Hill Ro**	**16.77**	**57**	*e*Pn	**P**	**10 27 08.7**	**-1.0**
	comp=Z,535nm,1.7s						
ODZ	**Otahua Downs**	**18.67**	**60**	*e*P	**Pn**	**10 27 31.0**	**0.0**
	comp=Z,134nm,1.5s						
CASY	**Casey**	**19.62**	**227**	*e*P	**P**	**10 27 40.8**	**0.0**
	comp=Z,899nm,1.9s						
RPZ	**Rata Peaks**	**19.86**	**58**	P	**P**	**10 27 43.7**	**0.0**
RPZ				LR	LR	10 33 44.5	
	comp=Z,21μm,21.1s,slow=32						
RPZ	**Rata Peaks**	**19.86**	**58**	P	**P**	**10 27 43.7**	**0.0**
RPZ				*e*Pn	**Pn**	**10 27 45.5**	**+0.1**
VNDA	**Vanda**	**21.23**	**171**	P	**P**	**10 27 57.8**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,84nm,1.1s						
VNDA				MLR	MLR		
	comp=Z,6μm,19.8s						
VNDA	**Vanda**	**21.23**	**171**	P	**P**	**10 27 57.8**	**-0.4**
	comp=Z,84nm,1.1s,baz=338,slow=12,SNR=70						
VNDA				LR	LR	10 34 38.9	
	comp=Z,6μm,19.8s,baz=344,slow=32						
VNDA	**Vanda**	**21.23**	**171**	*e*P	**P**	**10 27 58.0**	**-0.2**
	comp=Z,2μm,1.9s						
SBA	**Scott Base**	**21.98**	**169**	*e*P	**P**	**10 28 07.4**	**+1.1**
SBA				pmax	pmax		
	comp=Z,1μm,1.7s						
SBA	**Scott Base**	**21.98**	**169**	*e*P	**P**	**10 28 07.3**	**+1.1**
	comp=Z,1μm,1.7s						
KHZ	**Kahutara**	**22.02**	**60**	*e*P	**P**	**10 28 08.6**	**+1.6**
	comp=Z,220nm,1.4s						
SNZO	**South Karori**	**23.43**	**60**	*e*P	**P**	**10 28 22.9**	**+1.1**
BFZ	**Birch Farm**	**24.66**	**61**	*e*P	**P**	**10 28 34.8**	**+1.6**
	comp=Z,129nm,1.1s						
BBOO	**Buckleboo**	**25.44**	**337**	*e*P	**P**	**10 28 39.6**	**-0.7**
	comp=Z,9.6nm,1.1s						
BKZ	**Black Stump Fm**	**25.96**	**59**	*e*P	**P**	**10 28 44.8**	**-0.3**
	comp=Z,454nm,2.0s						
ARMA	**Armidale**	**26.69**	**8**	*e*P	**P**	**10 28 52.1**	**+0.3**
	comp=Z,84nm,1.5s						
URZ	**Urewera**	**26.98**	**59**	P	**P**	**10 28 53.1**	**-1.1**
	comp=Z,128nm,1.2s,baz=246,slow=5.1,SNR=30						
URZ				LR	LR	10 38 42.8	
	comp=Z,4μm,19.6s,baz=209,slow=35						
URZ	**Urewera**	**26.98**	**59**	*e*P	**P**	**10 28 52.8**	**-1.3**
	comp=Z,152nm,1.1s						
FORT	**Forrest**	**29.52**	**324**	*e*P	**P**	**10 29 15.8**	**-1.1**
	comp=Z,148nm,1.0s						
H01W1	**Cape Leeuwin H**	**31.56**	**300**	T	T	11 02 46.8	
	baz=144,slow=75,SNR=214						
H01W2	**Cape Leeuwin H**	**31.57**	**300**	T	T	11 02 47.4	
	baz=144,slow=75,SNR=289						
H01W3	**Cape Leeuwin H**	**31.58**	**300**	T	T	11 02 48.1	
	baz=144,slow=75,SNR=220						
EIDS	**Eidsvold**	**31.68**	**6**	*e*P	**P**	**10 29 35.9**	**0.0**
	comp=Z,169nm,1.6s						
QSPA	**South Pole Qui**	**33.13**	**180**	P	**P**	**10 29 49.3**	**+0.7**
	comp=Z,23nm,0.8s,baz=355,slow=3.4,SNR=59						
QSPA	**South Pole Qui**	**33.13**	**180**	*e*P	**P**	**10 29 49.1**	**+0.5**
	comp=Z,1μm,2.9s						
ASAR	**Alice Springs**	**34.73**	**338**	P	**P**	**10 30 01.1**	**-1.7**
	comp=Z,20nm,0.9s,baz=163,slow=9.2,SNR=102						
ASAR				PcP	**PcP**	**10 32 34.5**	**-1.6**
	comp=Z,11nm,0.9s,baz=154,slow=3.2,SNR=12						
ASAR				LR	LR	10 41 50.6	
	comp=Z,4μm,21.4s,baz=160,slow=32						
ASAR				P3KPbc		11 00 58.0	
	comp=Z,0.3nm,0.9s,baz=8.6,slow=2.7,SNR=4.6						
AS31	**Alice Springs**	**34.74**	**338**	*e*P	**P**	**10 30 01.3**	**-1.5**
CTA	**Charters Tower**	**36.84**	**358**	P	**P**	**10 30 20.2**	**-0.6**
CTA				pmax	pmax		
	comp=Z,36nm,1.0s						
CTA	**Charters Tower**	**36.84**	**358**	P	**P**	**10 30 20.2**	**-0.6**
	comp=Z,36nm,1.0s,baz=185,slow=9.7,SNR=47						
CTAO	**Charters Tower**	**36.84**	**358**	*e*P	**P**	**10 30 20.6**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,98nm,1.2s						
CTAO	**Charters Tower**	**36.84**	**358**	*e*P	**P**	**10 30 20.6**	**-0.2**
	comp=Z,98nm,1.2s						
DZM	**Mont Dzumac**	**37.50**	**29**	*e*P	**P**	**10 30 26.7**	**+0.3**
	comp=Z,210nm,1.2s						
DZM				*e*S	S	10 36 23.4	+9.2
	comp=Z,1μm,23.3s						
DZM				*e*LQ	LQ	10 39 17.5	
	comp=Z,3μm,27.5s						
DZM				*e*LR	LR	10 40 43.6	
	comp=Z,26μm,25.6s						
DZM	**Mont Dzumac**	**37.50**	**29**	*e*P	**P**	**10 30 26.5**	**+0.1**
	comp=Z,86nm,1.1s						
MAW	**Mawson**	**37.62**	**219**	P	**P**	**10 30 28.0**	**+1.2**
	comp=Z,28nm,1.0s,baz=119,slow=14,SNR=10						
MAW				LR	LR	10 44 31.2	
	comp=Z,11μm,21.8s,baz=92,slow=34						
WB2	**Warramunga Arr**	**38.27**	**340**	*e*P	**P**	**10 30 30.6**	**-2.3**
WRA	**Warramunga Arr**	**38.27**	**340**	P	**P**	**10 30 30.6**	**-2.2**
WRA						10 32 47.5	
WRA				pmax	pmax		
	comp=Z,32nm,0.9s						
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,2μm,19.3s						
WRA	**Warramunga Arr**	**38.27**	**340**	P	**P**	**10 30 30.6**	**-2.2**
	comp=Z,32nm,0.9s,baz=166,slow=7.6,SNR=203						
WRA				PcP	**PcP**	**10 32 47.5**	**+0.8**
	comp=Z,8.2nm,0.8s,baz=178,slow=2.9,SNR=8.8						
WRA				LR	LR	10 46 12.1	
	comp=Z,2μm,19.3s,baz=165,slow=36						
WRAB	**Tennant Creek**	**38.27**	**340**	P	**P**	**10 30 30.4**	**-2.5**
	comp=Z,455nm,1.2s,SNR=32						
WRAB	**Tennant Creek**	**38.27**	**340**	*c* *i*P	**P**	**10 30 30.7**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,276nm,1.7s						
WRAB	**Tennant Creek**	**38.27**	**340**	*e*P	**P**	**10 30 30.4**	**-2.5**
COEN	**Coen**	**43.06**	**354**	*e*P	**P**	**10 31 12.1**	**-0.4**
SYO	**Syowa Base**	**43.99**	**210**	⇑*e*P	P	10 31 14.2	-5.1
SYO	**Syowa Base**	**43.99**	**210**	⇓*e*P	**P**	**10 31 16.8**	**-2.5**
PAF	**Port-aux-Franc**	**44.67**	**245**	S	S	10 37 48.0	-12
PAF				L	L	10 41 00.0	
PAF				R		10 43 00.0	
PMG	**Port Moresby**	**47.45**	**359**	*c* *i*P	**P**	**10 31 46.6**	**-0.7**
PMG				pmax	pmax		
	comp=Z,82nm,1.7s						
PMG	**Port Moresby**	**47.45**	**359**	LR	LR	10 50 16.6	
	comp=Z,9μm,18.7s,baz=184,slow=34						
PMG	**Port Moresby**	**47.45**	**359**	*e*P	**P**	**10 31 46.3**	**-1.0**
	comp=Z,16nm,1.2s						
NVL	**N'lazarevskaya**	**48.75**	**198**	⇑*i*P	**P**	**10 31 54.2**	**-2.5**
NVL				*e*S	**S**	**10 38 55.0**	**-2.8**
NVL				pmax	pmax		
	comp=Z,54nm,0.9s						
SNAA	**Sanae**	**49.98**	**192**	*e*P	**P**	**10 32 05.9**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,26nm,2.5s						
SOEI	**Soe**	**50.47**	**330**	*e*P	**P**	**10 32 11.8**	**+1.2**
VNA3	**Neumayer Olymp**	**51.07**	**189**	P	**P**	**10 32 14.7**	**+0.3**
VNA2	**Neumayer--Watz**	**51.17**	**190**	P	**P**	**10 32 15.6**	**+0.6**
	baz=147,slow=6.1						
VNA1	**Neumayer--Stat**	**51.52**	**190**	P	**P**	**10 32 18.2**	**+0.6**
AFI	**Afiamalu**	**52.88**	**52**	*e*P	**P**	**10 32 29.2**	**+0.7**
AFI	**Afiamalu**	**52.88**	**52**	*e*P	**P**	**10 32 29.2**	**+0.7**
FAKI	**Fak Fak**	**55.27**	**341**	P	**P**	**10 32 45.3**	**-0.5**
	comp=Z,102nm,1.7s,comp=Z,2μm						
FAKI	**Fak Fak**	**55.27**	**341**	*e*P	**P**	**10 32 45.1**	**-0.8**
	comp=Z,154nm,1.4s						
SMPI	**Sarmi**	**55.28**	**349**	P	**P**	**10 32 45.9**	**0.0**
	comp=Z,58nm,2.0s,comp=Z,2μm						
CRZF	**Crozet Islands**	**55.50**	**237**	S	S	10 40 13.0	-18
CRZF				R		10 48 00.0	
TBI	**Tubuai**	**56.03**	**81**	*e*S	**S**	**10 40 39.5**	**+0.9**
	comp=Z,2μm,27.8s						
TBI				*e*SS	**SS**	**10 44 26.9**	**+2.4**
	comp=Z,314nm,26.5s						
TBI				*e*LQ	LQ	10 46 41.8	
	comp=Z,4μm,29.2s						
TBI				*e*LR	LR	10 48 57.4	
	comp=Z,3μm,27.5s,baz=212						
PMSA	**Palmer Station**	**56.20**	**164**	PFAKE		10 33 00.0	+8.1
PMSA				LR	LR		
	comp=Z,4μm,19.0s						
KAPI	**Kappang**	**56.29**	**326**	P	**P**	**10 32 53.9**	**+0.7**
	comp=Z,329nm,1.1s,SNR=10						
KAPI	**Kappang**	**56.29**	**326**	*e*P	**P**	**10 32 52.9**	**-0.3**
	comp=Z,54nm,1.0s						
PCJI	**Pacitan**	**56.31**	**315**	P	**P**	**10 32 52.4**	**-0.9**
	comp=Z,67nm,1.2s						
KDI	**Kendari**	**56.46**	**330**	P	**P**	**10 32 53.4**	**-1.0**
LEM	**Lembang**	**58.97**	**312**	P	**P**	**10 33 13.2**	**+0.9**
LEM				pmax	pmax		
	comp=Z,57nm,0.8s						
LEM	**Lembang**	**58.97**	**312**	P	**P**	**10 33 13.2**	**+0.9**
	comp=Z,57nm,0.8s,baz=176,slow=8.6,SNR=9.8						
PPT2	**Papeete2**	**60.66**	**77**	*e*S	**S**	**10 41 41.0**	**+1.8**
	comp=Z,2μm,26.5s						
PPT2				*e*LQ	LQ	10 48 43.2	
	comp=Z,6μm,27.8s						
PPT2				*e*LR	LR	10 51 15.8	
	comp=Z,2μm,23.5s,baz=219						
PPT	**Papeete**	**60.68**	**77**	LR	LR	10 53 27.8	
	comp=Z,1μm,21.8s,baz=218,slow=30						
RKT	**Rikitea**	**64.12**	**93**	*e*S	**S**	**10 42 21.5**	**-1.0**
	comp=Z,2μm,32.8s						
RKT				*e*LQ	LQ	10 50 00.6	
	comp=Z,5μm,30.2s						
RKT				*e*LR	LR	10 52 36.5	
	comp=Z,3μm,30.5s,baz=214						
RKT	**Rikitea**	**64.12**	**93**	*e*T	T	11 43 17.2	
	comp=Z,58nm,0.3s						
USHA	**Ushuaia**	**64.77**	**158**	LR	LR	10 56 47.3	
	comp=Z,2μm,19.1s,baz=180,slow=31						
KSM	**Kuching**	**65.54**	**318**	*e*P	**P**	**10 33 54.8**	**-1.2**
	comp=Z,58nm,1.2s						
KSM				LR	LR		
	comp=Z,2μm,20.0s						
KKM	**Kota Kinabalu**	**67.83**	**326**	*e*P	**P**	**10 34 09.7**	**-1.1**
	comp=Z,62nm,1.4s						
EFI	**East Falkland**	**69.67**	**163**	*e*P	**P**	**10 34 24.1**	**+2.4**
EFI				pmax	pmax		
	comp=Z,62nm,1.0s						
IPM	**Ipoh**	**71.92**	**310**	*e*P	**P**	**10 34 34.5**	**-1.4**
	comp=Z,19nm,0.8s						
KULM	**Kulim**	**72.81**	**310**	*e*P	**P**	**10 34 39.7**	**-1.4**
	comp=Z,25nm,0.8s						
TGY	**Tagaytay City**	**74.20**	**333**	LR	LR	11 08 31.3	
	comp=Z,18nm,18.2s,baz=138,slow=37						
TRTT	**Trang**	**75.50**	**311**	P	**P**	**10 34 58.5**	**+1.7**
	comp=Z,22nm,1.5s,comp=Z,754nm						
H08S2	**Diego Garcia H**	**75.52**	**278**	T	T	11 57 45.5	
	baz=147,slow=76,SNR=434						
H08S1	**Diego Garcia H**	**75.53**	**278**	T	T	11 57 44.9	
	baz=147,slow=76,SNR=442						
H08S3	**Diego Garcia H**	**75.54**	**278**	T	T	11 57 47.0	
	baz=147,slow=76,SNR=518						
H11S2	**WAKE ISLAND Hy**	**76.86**	**19**	T	T	11 59 28.1	
	baz=188,slow=76,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**76.86**	**19**	T	T	11 59 26.3	
	baz=188,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**76.88**	**19**	T	T	11 59 29.4	
	baz=188,slow=76,SNR=9.2						
GRM	**Grahamstown**	**77.26**	**227**	*e*P	**P**	**10 35 07.1**	**+0.3**
GRM				AMB	AMB	10 35 14.1	
	comp=Z,64nm,1.9s						
GRM				AMS	AMS	11 02 51.0	
	comp=Z,4μm,16.6s						
H08N1	**Diego Garcia H**	**77.41**	**278**	T	T	12 00 10.8	
	baz=138,slow=75,SNR=45						
H08N3	**Diego Garcia H**	**77.42**	**278**	T	T	12 00 11.3	
	baz=138,slow=75,SNR=48						
H08N2	**Diego Garcia H**	**77.43**	**278**	T	T	12 00 11.9	
	baz=138,slow=75,SNR=27						
PLCA	**Paso Flores**	**77.49**	**151**	*e*P	**P**	**10 35 08.1**	**+0.2**
PLCA				pmax	pmax		
	comp=Z,133nm,1.8s						
PLCA	**Paso Flores**	**77.49**	**151**	P	**P**	**10 35 08.5**	**+0.6**
	comp=Z,14nm,0.8s,baz=212,slow=6.3,SNR=27						
PLCA				LR	LR	11 03 01.8	
	comp=Z,3μm,19.1s,baz=204,slow=31						
PLCA	**Paso Flores**	**77.49**	**151**	*e*P	**P**	**10 35 08.1**	**+0.2**
	comp=Z,133nm,1.8s						
H11N1	**WAKE ISLAND Hy**	**78.09**	**19**	T	T	12 00 57.2	
	baz=193						
H11N3	**WAKE ISLAND Hy**	**78.09**	**19**	T	T	12 00 57.2	
	baz=193						
H11N2	**WAKE ISLAND Hy**	**78.11**	**19**	T	T	12 00 57.8	
	baz=193						
KSD	**Kokstad**	**78.47**	**231**	*e*P	**P**	**10 35 14.1**	**+0.4**
KSD				AMB	AMB	10 35 43.6	
	comp=Z,20nm,5.4s						
CHBT	**CHBT**	**78.91**	**315**	P	**P**	**10 35 18.5**	**+2.7**
	comp=Z,65nm,0.9s,comp=Z,3μm						
CER	**Ceres**	**79.99**	**222**	*e*P	**P**	**10 35 19.8**	**-1.9**
PHET	**Kaeng Krachan**	**80.11**	**313**	P	**P**	**10 35 23.9**	**+1.5**
	comp=Z,67nm,0.9s						
SUR	**Sutherland**	**80.31**	**223**	P	**P**	**10 35 25.7**	**+2.0**
	comp=Z,278nm,1.4s,SNR=5.9						
SUR	**Sutherland**	**80.31**	**223**	*e*P	**P**	**10 35 24.3**	**+0.6**
SUR				AMB	AMB	10 35 38.9	
	comp=Z,59nm,4.9s						
SUR				AMS	AMS	11 06 26.2	
	comp=Z,1μm,20.8s						
SUR	**Sutherland**	**80.31**	**223**	*e*P	**P**	**10 35 24.1**	**+0.4**
	comp=Z,26nm,1.4s						
SEK	**Senekal**	**81.16**	**231**	*e*P	**P**	**10 35 28.4**	**+0.1**
SEK				AMB	AMB	10 35 41.8	
	comp=Z,37nm,1.4s						
SRDT	**SRDT**	**81.62**	**313**	P	**P**	**10 35 31.0**	**+0.6**
	comp=Z,83nm,1.5s,comp=Z,7μm						
QIZ	**Qiongzhong**	**82.05**	**324**	P	**P**	**10 35 34.2**	**+1.6**
QIZ				sP	**sP**	**10 35 39.0**	**-2.4**
QIZ				PP	**PP**	**10 38 41.8**	**+0.9**
QIZ				S	**SKSac**	**10 45 49.4**	**-2.3**
QIZ				SS	**SS**	**10 51 09.1**	**+3.4**
QIZ				PMZ			
	comp=Z,490nm,6.9s						
QIZ				LN			
	comp=Z,710nm,22.3s						
QIZ				LZ			
	comp=Z,1μm,25.3s						
TRQA	**Tornquist**	**82.08**	**157**	*e*P	**P**	**10 35 31.5**	**-1.3**
	comp=Z,12nm,0.8s						
PRYS	**Parys**	**82.50**	**231**	*e*P	**P**	**10 35 34.6**	**-0.7**
PRYS				AMB	AMB	10 35 51.8	
	comp=Z,20nm,7.6s						
ERPM	**east rand prop**	**82.63**	**232**	*e*P	**P**	**10 35 35.8**	**-0.2**
ERPM				AMB	AMB	10 35 39.1	
	comp=Z,39nm,1.8s						
PBKT	**Sadao Pong**	**82.91**	**315**	P	**P**	**10 35 37.4**	**+0.3**
	comp=Z,13nm,1.5s						
WDLM	**Western Deep L**	**82.91**	**231**	*e*P	**P**	**10 35 39.1**	**+1.6**
WDLM				AMB	AMB	10 35 39.9	
	comp=Z,24nm,1.9s						
SLR	**Silverton**	**83.14**	**232**	*e*P	**P**	**10 35 38.8**	**+0.1**
SLR				AMB	AMB	10 35 59.3	
	comp=Z,35nm,5.2s						
SLR				AMS	AMS	11 07 52.6	
	comp=Z,3μm,17.7s						
UPI	**Upington**	**83.72**	**226**	*e*P	**P**	**10 35 41.7**	**+0.1**
UPI				AMB	AMB	10 35 48.7	
	comp=Z,51nm,3.5s						
JCJ	**Chichijima**	**83.86**	**355**	LR	LR	11 12 00.8	
	comp=Z,459nm,20.2s,baz=176,slow=35						
KOMG	**Komaggas**	**83.86**	**222**	*e*P	**P**	**10 35 40.0**	**-2.1**
KOMG				AMB	AMB	10 35 59.4	
	comp=Z,37nm,1.9s						
LBTB	**Lobatse**	**84.92**	**231**	*e*P	**P**	**10 35 47.9**	**+0.2**
LBTB				AMB	AMB	10 35 48.2	
	comp=Z,49nm,5.7s						
LBTB				AMS	AMS	11 03 10.0	
	comp=Z,1μm,25.1s						
LBTB	**Lobatse**	**84.92**	**231**	*e*P	**P**	**10 35 47.7**	**0.0**
LBTB				pmax	pmax		
	comp=Z,30nm,1.2s						
LBTB	**Lobatse**	**84.92**	**231**	*e*P	**P**	**10 35 47.6**	**0.0**
	comp=Z,30nm,1.2s						
QZH	**Quanzhou**	**85.19**	**334**	⇑*i*P	**P**	**10 35 47.6**	**-1.0**
QZH				PP	**PP**	**10 39 03.4**	**-3.2**
QZH				S	**S**	**10 46 13.0**	**-4.2**
QZH				PMZ			
	comp=Z,970nm,7.4s						
QZH				LZ			
	comp=Z,2μm,14.6s						
CMAR	**Chiang Mai Arr**	**85.41**	**314**	P	**P**	**10 35 49.8**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=180,slow=4.9,SNR=15						
CMAR				PP	**PP**	**10 39 08.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=168,slow=7.4,SNR=4.2						
CMAR				LR	LR	11 11 26.8	
	comp=Z,2μm,20.8s,baz=160,slow=34						
LCO	**Las Campanas**	**88.43**	**147**	*e*P	**P**	**10 36 04.8**	**-0.3**
	comp=Z,24nm,1.0s						
GYA	**Guiyang**	**90.00**	**324**	P	**P**	**10 36 14.0**	**+2.1**
GYA				PP	**PP**	**10 39 49.7**	**+4.2**
GYA				SKS	**SKSac**	**10 46 42.4**	**+1.0**
GYA				S	**S**	**10 47 04.6**	**+1.1**
GYA				sS	**sS**	**10 47 17.0**	**+2.7**
GYA				PMZ			
	comp=Z,40nm,1.0s						
GYA				PMZ			
	comp=Z,190nm,5.8s						
GYA				LN			
	comp=Z,840nm,20.4s						
GYA				LE			
	comp=Z,680nm,21.2s						
GYA				LZ			
	comp=Z,820nm,20.8s						
KMI	**Kunming**	**90.08**	**320**	P	**P**	**10 36 13.0**	**+0.6**
KMI				pP	**pP**	**10 36 17.7**	**-1.3**
KMI				PP	**PP**	**10 39 46.2**	**-0.1**
KMI				S	**S**	**10 47 08.2**	**+3.6**
KMI				SS	**SS**	**10 53 08.4**	**+4.3**
KMI				PMZ			
	comp=Z,15nm,1.1s						
KMI				PMZ			
	comp=Z,350nm,3.8s						
KMI				LN			
	comp=Z,2μm,21.3s						
KMI				LE			
	comp=Z,810nm,22.8s						
KMI				LZ			
	comp=Z,2μm,17.7s						
SSE	**Sheshan**	**90.53**	**338**	P	**P**	**10 36 16.1**	**+2.0**
SSE				PMZ			
	comp=Z,46nm,0.7s						
SSE				PMZ			
	comp=Z,210nm,4.3s						
SSE				LN			
	comp=Z,330nm,24.5s						
SSE				LE			
	comp=Z,440nm,25.2s						
SSE				LZ			
	comp=Z,590nm,21.9s						
WHN	**Wuhan**	**91.61**	**332**	P	**P**	**10 36 17.9**	**-1.2**
WHN				S	**S**	**10 47 15.3**	**-2.5**
WHN				LZ			
	comp=Z,2μm,21.2s						
NJ2	**Nanjing**	**91.96**	**336**	*e*P	**P**	**10 36 20.7**	**0.0**
NJ2				S	**S**	**10 47 22.0**	**+1.1**
NJ2				PMZ			
	comp=Z,40nm,0.9s						
NJ2				LN			
	comp=Z,5μm,23.2s						
NJ2				LE			
	comp=Z,3μm,18.3s						
NJ2				LZ			
	comp=Z,3μm,18.2s						
LSZ	**Lusaka**	**92.32**	**237**	*e*P	**P**	**10 36 20.4**	**-2.7**
LSZ	**Lusaka**	**92.32**	**237**	*e*P	**P**	**10 36 23.3**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,22nm,1.4s						
LSZ	**Lusaka**	**92.32**	**237**	*e*P	**P**	**10 36 23.3**	**+0.2**
	comp=Z,22nm,1.4s						
MJAR	**Matsushiro Arr**	**93.49**	**352**	P	**P**	**10 36 27.3**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,363nm,18.1s						
MJAR	**Matsushiro Arr**	**93.49**	**352**	P	**P**	**10 36 27.3**	**-0.4**
	comp=Z,4.7nm,1.1s,baz=176,slow=5.2,SNR=6.6						
MJAR				LR	LR	11 19 09.5	
	comp=Z,363nm,18.1s,baz=160,slow=36						
LVC	**Limon Verde**	**94.98**	**146**	*e*P	**P**	**10 36 35.4**	**0.0**
	comp=Z,18nm,1.3s						
CD2	**Chengdu**	**95.06**	**323**	*e*P	**P**	**10 36 37.0**

LZH pP **pP** **10 37 03.8 +0.7**
LZH sP **sP** **10 37 05.7 +0.3**
LZH PP PP 10 41 08.0 +6.2
LZH SKS **SKSac** **10 47 37.0 +3.3**
LZH *e*S **S** **10 48 30.1 +1.0**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,150nm,5.7s
LZH LN
comp=Z,1µm,18.7s
LZH LE
comp=Z,610nm,17.3s
LZH LZ
comp=Z,1µm,19.9s
BJI Beijing 100.22 336 P **Pdif** **10 37 00.2 +2.2**
BJI PP **PP** **10 41 03.6 -1.0**
BJI S **Sdif** **10 48 34.1 +2.3**
BJI SS **SS** **10 55 25.7 -1.8**
BJI PMZ
comp=Z,11nm,0.7s
BJI LN
comp=Z,670nm,19.8s
BJI LE
comp=Z,680nm,20.2s
BJI LZ
comp=Z,750nm,23.2s
CN2 Changchun 102.12 344 *e*P **Pdif** **10 37 09.8 +3.5**
CN2 *e*pP 10 37 14.6
CN2 *e*S **Sdif** **10 48 49.5 +2.0**
CN2 PMZ
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 102.34 347 P **Pdif** **10 37 10.1 +2.8**
MDJ S **Sdif** **10 48 48.9 -0.4**
MDJ SS **SS** **10 55 57.4 +0.5**
MDJ PMZ
comp=Z,5.0nm,1.0s
MDJ PMZ
comp=Z,100nm,5.2s
MDJ LN
comp=Z,550nm,28.0s
MDJ LE
comp=Z,300nm,27.5s
MDJ LZ
comp=Z,670nm,22.8s
SONM Songino Array 109.92 332 PKiKP **PKiKP** **10 41 43.2 +0.2**
comp=Z,1.5nm,1.0s,baz=133,slow=0.6,SNR=4.4
SONM PKKPab **PKKPab** **10 52 56.3 +2.7**
comp=Z,0.8nm,0.7s,baz=343,slow=4.0,SNR=4.6
WMQ Urumqi 112.25 317 *e*PKP **PKiKP** **10 41 46.4 -1.0**
WMQ PP **PP** **10 42 36.4 +3.1**
WMQ PKS **PKSdf** **10 45 22.0 -2.0**
WMQ SKS **SKSdf** **10 48 54.0 -4.0**
WMQ SKKS **SKKSac** **10 49 29.8 -3.6**
WMQ PPMZ
comp=Z,200nm,7.0s
WMQ LN
comp=Z,790nm,25.8s
WMQ LE
comp=Z,500nm,18.8s
WMQ LZ
comp=Z,910nm,24.0s
ZAK Zakamensk 113.08 331 *e*PKIKP **PKiKP** **10 41 48.2 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.8s
KSH Kashi 113.38 307 *e*PKP **PKiKP** **10 41 51.7 +1.9**
KSH PKS **PKSdf** **10 45 26.5 0.0**
KSH SKS **SKSdf** **10 48 58.5 -2.0**
KSH PPMZ
comp=Z,96nm,5.2s
KSH LN
comp=Z,230nm,7.3s
KSH LE
comp=Z,290nm,12.8s
KSH LZ
comp=Z,800nm,19.0s
TLY Talaya 114.17 332 *i* PKIKP PKPdf 10 41 51.8 +1.1
TLY *e*PS PS 10 52 13.0 -10
TLY pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 116.57 308 *e*PKIKP **PKPdf** **10 41 58.0 +2.1**
MKAR Makanchi Array 116.80 316 PKIKP **PKPdf** **10 41 54.3 -1.7**
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 116.80 316 PKP **PKPdf** **10 41 54.3 -1.7**
comp=Z,3.3nm,1.0s,baz=130,slow=3.8,SNR=14
KKAR Karatay Array 118.69 306 *e*PKIKP **PKPdf** **10 41 59.3 -0.4**
KKAR Karatay Array 118.69 306 *e*PKPdf **PKPdf** **10 41 59.3 -0.4**
YAK Yakutsk 119.49 350 *e*PKIKP **PKPdf** **10 42 02.3 +1.7**
YAK pmax pmax
comp=Z,6.0nm,0.6s
SEY Seymchan 119.63 3 *e*PKIKP **PKPdf** **10 41 59.8 -1.0**
GEYT Alibeck 120.55 293 PKP **PKPdf** **10 42 03.3 -0.2**
comp=Z,2.9nm,0.6s,baz=276,slow=5.7,SNR=4.5
ZALV Zalesovo Beam 121.80 322 PKIKP **PKPdf** **10 42 02.9 -2.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 121.80 322 PKP **PKPdf** **10 42 02.9 -2.4**
comp=Z,0.9nm,0.5s,baz=132,slow=2.8,SNR=5.2
N02D Trinity Center 122.97 64 ⇑P **PKPdf** **10 42 08.7 +0.5**
baz=123
W13A Hualapai Mount 123.05 75 ⇑P **PKPdf** **10 42 09.3 +0.6**
baz=123
NVS Novosibirsk 123.06 322 *e*PKIKP **PKPdf** **10 42 05.0 -2.7**
NVS pmax pmax
comp=Z,4.0nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.7s
M02C Callahan 123.22 64 ⇓P **PKPdf** **10 42 09.2 +0.7**
baz=124
NVAR Mina Array Bea 123.27 70 PKP **PKPdf** **10 42 08.9 0.0**
comp=N,2.6nm,1.0s,baz=229,slow=2.3,SNR=5.7
X16A Lo Mia Camp, P 123.83 78 ⇓P **PKPdf** **10 42 10.6 +0.4**
baz=124
M04C Macdoel 124.01 64 ⇑P **PKPdf** **10 42 11.1 +0.9**
baz=124
HUMO Hull Mountain 124.08 63 *e*PKPdf **PKPdf** **10 42 10.3 +0.1**
TXAR Lajitas Array 124.15 88 PKP **PKPdf** **10 42 10.2 -0.6**
comp=N,1.3nm,0.8s,baz=190,slow=4.5,SNR=11
TXAR PKKPbc **PKKPab** **10 51 55.4 +0.7**
comp=N,0.4nm,0.6s,baz=70,slow=3.0,SNR=4.9
121A Cookes Peak, D 124.37 82 ⇓P **PKPdf** **10 42 11.7 +0.5**
baz=125
MOD Modoc Plateau 124.86 65 *e*PKPdf **PKPdf** **10 42 11.2 -0.6**
J04D Umpqua Nationa 124.97 63 ⇑P **PKPdf** **10 42 12.7 +0.6**
baz=125
LIC Lamto 125.00 214 *e*PKIKP **PKPdf** **10 42 12.3 -0.5**
comp=N,20nm,1.1s
LIC Lamto 125.00 214 *e*PKPdf **PKPdf** **10 42 12.3 -0.5**
MNTX Cornudas Mount 125.03 85 ⇓P **PKPdf** **10 42 12.6 +0.3**
baz=125
J05D Fort Rock, OR 125.43 64 ⇓P **PKPdf** **10 42 13.6 +0.7**
baz=126
BILL Bilibino 125.46 8 *e*PKIKP **PKPdf** **10 42 11.7 -0.2**
BILL *e* 10 42 24.3
BILL *e* 10 44 01.0
BILL pmax pmax
comp=Z,5.0nm,1.4s
BILL MLR MLR
comp=Z,464nm,18.0s
BILL Bilibino 125.46 8 *e*PKPdf **PKPdf** **10 42 11.3 -0.6**
833A Chaparral WMA, 125.70 92 ⇓P **PKPdf** **10 42 12.7 -1.0**
baz=126
631A Perdido Creek 125.90 90 ⇑P **PKPdf** **10 42 13.7 -0.3**
baz=126
530A J-C Ranch, Com 126.05 89 ⇑P **PKPdf** **10 42 14.8 +0.5**
baz=126
733A Divot King Ran 126.06 92 ⇓P **PKPdf** **10 42 14.9 +0.6**
baz=126
WVOR Wild Horse Val 126.09 66 *e*PKIKP **PKPdf** **10 42 13.9 -0.2**
WVOR Wild Horse Val 126.09 66 *e*PKPdf **PKPdf** **10 42 13.9 -0.2**
429A Davenport Ranc 126.12 88 ⇓P **PKPdf** **10 42 14.9 +0.4**
baz=126
I05D Terrebonne, OR 126.16 63 ⇓P **PKPdf** **10 42 15.5 +1.4**
baz=126
632A Uvalde 126.41 91 ⇓P **PKPdf** **10 42 15.6 +0.6**
baz=127
531A Rocksprings 126.50 90 ⇓P **PKPdf** **10 42 15.8 +0.6**
baz=127
430A Baggett Ranch, 126.60 89 ⇓P **PKPdf** **10 42 15.7 +0.3**
baz=127
633A Saathoff Ranch 126.70 91 ⇑P **PKPdf** **10 42 16.1 +0.5**
baz=127
329A Wagon Wheel Ra 126.73 87 ⇓P **PKPdf** **10 42 16.1 +0.5**
baz=127
TNA Tin City 126.75 21 *e*PKPdf **PKPdf** **10 42 14.4 0.0**

532A Rocksprings 126.82 90 ⇑P **PKPdf** **10 42 16.2 +0.4**
baz=127
431A Sonora 126.86 89 ⇓P **PKPdf** **10 42 16.3 +0.4**
baz=127
ANMO Albuquerque 126.91 81 *e*PKIKP **PKPdf** **10 42 15.1 -0.9**
330A Mertzon 127.11 88 ⇓P **PKPdf** **10 42 16.8 +0.5**
baz=127
533A Kerrville 127.25 91 ⇓P **PKPdf** **10 42 17.1 +0.5**
baz=127
128A Castleberry Fa 127.32 86 ⇑P **PKPdf** **10 42 17.3 +0.5**
baz=128
DUG Dugway, Tooele 127.42 72 *e*PKIKP **PKPdf** **10 42 16.0 -0.8**
DUG Dugway, Tooele 127.42 72 ⇑P **PKPdf** **10 42 17.5 +0.7**
baz=128
DUG Dugway, Tooele 127.42 72 *e*PKPdf **PKPdf** **10 42 16.0 -0.8**
432A Menard 127.46 90 ⇓P **PKPdf** **10 42 17.5 +0.5**
baz=128
MVCO Mesa Verde 127.50 78 ⇓P **PKPdf** **10 42 17.5 +0.4**
baz=128
230A Sterling City 127.51 88 ⇑P **PKPdf** **10 42 17.4 +0.3**
baz=128
534A Blanco 127.53 92 ⇑P **PKPdf** **10 42 17.5 +0.4**
baz=128
NLU North Lily Min 127.63 73 *e*PKPdf **PKPdf** **10 42 17.1 -0.2**
129A Stewart Farms, 127.67 87 ⇓P **PKPdf** **10 42 17.9 +0.5**
baz=128
433A Art 127.75 90 ⇓P **PKPdf** **10 42 17.7 +0.2**
baz=128
332A Millersview 127.88 89 ⇓P **PKPdf** **10 42 18.4 +0.6**
baz=128
636A Smothers Creek 127.88 93 ⇑P **PKPdf** **10 42 18.7 +0.9**
baz=128
Z28A Tucker Farm, M 127.88 86 ⇓P **PKPdf** **10 42 15.6 -2.2**
baz=128
231A Bronte 127.98 88 ⇑P **PKPdf** **10 42 18.4 +0.4**
baz=128
130A Snyder 128.13 87 ⇓P **PKPdf** **10 42 16.0 -2.2**
baz=128
ABKAR Akbulak array 128.13 304 *e*PKPdf **PKPdf** **10 42 15.8 -1.8**
MSTX Muleshoe 128.18 85 ⇓P **PKPdf** **10 42 18.5 +0.1**
baz=128
MSTX Muleshoe 128.18 85 *e*PKPdf **PKPdf** **10 42 17.9 -0.5**
MFID Camas Ranch 128.22 67 *e*PKPdf **PKPdf** **10 42 18.2 +0.1**
Z29A Hungry Hill Ra 128.23 86 ⇑P **PKPdf** **10 42 18.7 +0.2**
baz=128
434A Burnet 128.25 91 ⇑P **PKPdf** **10 42 18.6 +0.1**
baz=128
333A Richland Sprin 128.25 90 ⇑P **PKPdf** **10 42 18.9 +0.4**
baz=128
232A Coleman 128.31 89 ⇓P **PKPdf** **10 42 19.1 +0.5**
baz=128
Y28A McKinney Farm, 128.42 85 ⇓P **PKPdf** **10 42 18.9 +0.1**
baz=129
131A Roby 128.51 88 ⇑P **PKPdf** **10 42 19.3 +0.3**
baz=129
Z30A Sanderson Ranc 128.56 87 ⇑P **PKPdf** **10 42 19.2 +0.1**
baz=129
435B Jarrell 128.60 92 ⇓P **PKPdf** **10 42 19.5 +0.4**
baz=129
334A Lometa 128.66 91 ⇓P **PKPdf** **10 42 19.6 +0.3**
baz=129
T23A Casias Ranch, 128.70 80 ⇓P **PKPdf** **10 42 19.9 +0.4**
baz=129
537A Green Hill Far 128.75 93 ⇓P **PKPdf** **10 42 19.9 +0.5**
baz=129
S22A 4UR Ranch, Cre 128.79 78 ⇑P **PKPdf** **10 42 20.1 +0.4**
baz=129
233A Rising Star 128.82 90 ⇓P **PKPdf** **10 42 19.5 -0.1**
baz=129
ABTX Abilene, Hawle 128.88 88 ⇓P **PKPdf** **10 42 20.4 +0.8**
baz=129
ABTX Abilene, Hawle 128.88 88 *e*PKPdf **PKPdf** **10 42 19.7 +0.1**
X28A Dimmitt 128.91 85 ⇓P **PKPdf** **10 42 20.5 +0.7**
baz=129
V26A Tequesquite Ra 129.00 82 ⇑P **PKPdf** **10 42 20.3 +0.4**
baz=129
TIXI Tiksi 129.00 352 *e*PKIKP **PKPdf** **10 42 17.0 -1.6**
TIXI Tiksi 129.00 352 *e*PKPdf **PKPdf** **10 42 17.2 -1.4**
436A Wall Ranch, Ga 129.02 92 ⇑P **PKPdf** **10 42 20.6 +0.8**
baz=129
HLID Hailey 129.04 68 ⇑P **PKPdf** **10 42 21.1 +1.3**
baz=129
335A Moody 129.07 91 ⇑P **PKPdf** **10 42 20.5 +0.5**
baz=129
T24B San Luis 129.07 80 ⇑P **PKPdf** **10 42 21.0 +0.8**
baz=129
HWUT Hardware Ranch 129.10 72 *e*PKPdf **PKPdf** **10 42 19.2 -0.7**
U25A Circle Dot Ran 129.11 81 ⇓P **PKPdf** **10 42 21.0 +0.8**
baz=129
TORD Torodi Ar. Bea 129.12 225 PKP **PKPdf** **10 42 19.8 -0.8**
comp=Z,3.9nm,1.0s,baz=139,slow=0.6,SNR=13
TORD PP **PP** **10 44 27.0 -1.3**
comp=Z,2.8nm,1.0s,baz=161,slow=5.7,SNR=4.4
X29A Tulia 129.12 85 ⇑P **PKPdf** **10 42 20.6 +0.4**
baz=129
Z31A Sharp Cattle R 129.13 87 ⇓P **PKPdf** **10 42 20.6 +0.5**
baz=129
S23A Nye Farm, Mont 129.21 79 ⇑P **PKPdf** **10 42 20.9 +0.5**
baz=129
133A Hamilton Ranch 129.26 89 ⇓P **PKPdf** **10 42 20.8 +0.5**
baz=129
W28A Vega 129.46 84 ⇑P **PKPdf** **10 42 21.5 +0.8**
baz=130
AMTX Amarillo 129.46 85 ⇓P **PKPdf** **10 42 21.4 +0.7**
baz=130
U26A Atchley Ranch, 129.46 82 ⇓P **PKPdf** **10 42 21.2 +0.4**
baz=130
Z32A Haskell 129.48 88 ⇑P **PKPdf** **10 42 21.3 +0.6**
baz=130
V27A Dan Oppiter Fa 129.48 83 ⇑P **PKPdf** **10 42 21.3 +0.5**
baz=130
SDCO Great Sand Dun 129.51 79 ⇑P **PKPdf** **10 42 21.4 +0.4**
baz=130
Y31A Rekieta Farm, 129.55 87 ⇑P **PKPdf** **10 42 21.3 +0.4**
baz=130,SNR=7.6
X30A Coker Ranch, T 129.58 86 ⇑P **PKPdf** **10 42 21.7 +0.8**
baz=130
S24A Houchin Ranch, 129.59 80 ⇑P **PKPdf** **10 42 21.7 +0.5**
baz=130
WHTX Lake Whitney, 129.59 91 ⇑P **PKPdf** **10 42 21.5 +0.6**
baz=130
R23A Moffat 129.66 79 ⇑P **PKPdf** **10 42 21.8 +0.5**
baz=130
MCK McKinley 129.82 31 *e*PKIKP **PKPdf** **10 42 19.6 -0.8**
MCK McKinley 129.82 31 *e*PKPdf **PKPdf** **10 42 19.6 -0.8**
Z33A Whitaker Ranch 129.86 89 ⇑P **PKPdf** **10 42 22.1 +0.7**
baz=130
U27A Thompson Grove 129.98 83 ⇑P **PKPdf** **10 42 22.4 +0.7**
baz=130
S25A Robets Cordova 130.02 80 ⇑P **PKPdf** **10 42 22.5 +0.6**
baz=130
Y32A R-V Farms, Ver 130.03 87 ⇓P **PKPdf** **10 42 22.5 +0.7**
baz=130
P22A Eagle 130.18 77 ⇓P **PKPdf** **10 42 22.7 +0.5**
baz=130
X31A McDonald Ranch 130.20 86 ⇑P **PKPdf** **10 42 22.5 +0.4**
baz=130
N20A Spence Gulch, 130.27 75 ⇑P **PKPdf** **10 42 23.2 +0.9**
baz=130
U28A Mallet 130.28 83 ⇑P **PKPdf** **10 42 22.9 +0.6**
baz=130
V29A Stinnett 130.29 84 ⇓P **PKPdf** **10 42 22.6 +0.3**
baz=130
Y33A Hilltop Ranch, 130.48 88 ⇓P **PKPdf** **10 42 23.4 +0.8**
baz=131
T27A Campo 130.51 82 ⇓P **PKPdf** **10 42 23.2 +0.5**
baz=131
Q24A Divide 130.58 79 ⇓P **PKPdf** **10 42 23.0 0.0**
baz=131
W31A Holland Ranch, 130.64 86 ⇓P **PKPdf** **10 42 23.4 +0.5**
baz=131
T28A Walsh 130.88 83 ⇓P **PKPdf** **10 42 24.1 +0.7**
baz=131
Y34A Reagan Ranch, 130.91 89 ⇓P **PKPdf** **10 42 24.3 +0.9**
baz=131
ISCO Idaho Springs 130.94 78 ⇓P **PKPdf** **10 42 24.4 +0.7**
baz=131
WMOK Wichita Mounta 130.94 87 *e*PKIKP **PKPdf** **10 42 23.0 -0.5**
WMOK Wichita Mounta 130.94 87 *e*PKPdf **PKPdf** **10 42 23.0 -0.5**
X33A Lawton 130.94 88 ⇑P **PKPdf** **10 42 24.5 +1.0**
baz=131
PDAR Pinedale Array 130.97 72 PKP **PKPdf** **10 42 23.4 -0.2**
comp=Z,1.1nm,0.9s,baz=132,slow=2.2,SNR=6.2
W32A Sentinel 130.97 87 ⇑P **PKPdf** **10 42 24.5 +0.9**
baz=131
137A Heron Place, G 130.98 92 ⇑P **PKPdf** **10 42 24.6 +1.0**
baz=131
R26A Arlington 131.02 81 ⇓P **PKPdf** **10 42 24.6 +0.9**
baz=131
Q25A Bedland, Calha 131.03 79 ⇑P **PKPdf** **10 42 24.9 +1.1**
baz=131
O23A Lake Granby, G 131.07 77 ⇑P **PKPdf** **10 42 24.9 +1.0**
baz=131
ILAR Eielson Array 131.20 31 PKIKP **PKPdf** **10 42 21.6 -1.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 131.20 31 PKP **PKPdf** **10 42 21.6 -1.4**
comp=Z,1.3nm,0.8s,baz=283,slow=2.1,SNR=13
U30A WK&E Inc. Balk 131.25 84 ⇑P **PKPdf** **10 42 25.0 +0.9**
baz=131
I17A Pilgrim Ck. 131.25 70 ⇑P **PKPdf** **10 42 25.4 +1.3**
baz=132
S28A Manter 131.34 82 ⇑P **PKPdf** **10 42 25.1 +0.8**
baz=132
T29A Hugoton 131.35 83 ⇓P **PKPdf** **10 42 24.9 +0.6**
baz=132
X34A Smith Ranch, M 131.36 88 ⇑P **PKPdf** **10 42 25.4 +1.1**
baz=132
R27A Eads 131.36 81 ⇓P **PKPdf** **10 42 25.0 +0.7**
baz=132
W33A Caddo, Fort Co 131.42 87 ⇑P **PKPdf** **10 42 25.4 +1.0**
baz=132
Q26A Hugo 131.43 80 ⇑P **PKPdf** **10 42 25.4 +0.9**
baz=132
V32A Arapaho 131.52 86 ⇑P **PKPdf** **10 42 25.7 +1.1**
baz=132
N23A Red Feather La 131.54 76 ⇓P **PKPdf** **10 42 25.5 +0.7**
baz=132
MSO Missoula 131.57 65 ⇑P **PKPdf** **10 42 25.1 +0.7**
baz=132
J19A Crowheart 131.58 72 ⇑P **PKPdf** **10 42 25.6 +0.9**
baz=132
H17A Grant Village 131.59 70 ⇑P **PKPdf** **10 42 26.5 +1.8**
baz=132
S29A Ulysses 131.79 83 ⇓P **PKPdf** **10 42 26.1 +1.1**
baz=132
W34A Bridge Creek, 131.86 88 ⇓P **PKPdf** **10 42 26.1 +0.9**
baz=132
R28A Tribune 131.94 82 ⇑P **PKPdf** **10 42 26.4 +1.0**
baz=132
P26A Davis Ranch, A 131.98 79 ⇓P **PKPdf** **10 42 26.4 +0.9**
baz=132
V33A Lossen Ranch, 132.01 87 ⇓P **PKPdf** **10 42 26.8 +1.4**
baz=132
K21A Alcova 132.08 74 ⇓P **PKPdf** **10 42 26.9 +1.3**
baz=132
L22A Ellis Ranch, M 132.09 75 ⇓P **PKPdf** **10 42 26.8 +1.1**
baz=132
J20A Shoshoni 132.15 72 ⇓P **PKPdf** **10 42 27.3 +1.7**
baz=132
I19A Meeteetse 132.15 71 ⇓P **PKPdf** **10 42 27.2 +1.5**
baz=132
S30A Montezuma 132.16 83 ⇓P **PKPdf** **10 42 27.2 +1.5**
baz=132
COLD Coldfoot 132.16 28 *e*PKPdf **PKPdf** **10 42 24.9 +0.1**
T31A Randall Ranch, 132.19 85 ⇓P **PKPdf** **10 42 27.1 +1.3**
baz=132
H18A Shoshone NF, C 132.25 70 ⇓P **PKPdf** **10 42 25.1 -0.8**
baz=132
P27A Ficken Ranch, 132.39 80 ⇓P **PKPdf** **10 42 27.7 +1.5**
baz=133
Q28A Sharon Springs 132.44 81 ⇑P **PKPdf** **10 42 27.6 +1.3**
baz=133
K22A Casper 132.48 74 ⇓P **PKPdf** **10 42 27.4 +1.1**
baz=133
J21A Lysite 132.48 73 ⇑P **PKPdf** **10 42 27.5 +1.2**
baz=133
O26A Horse Wrangler 132.49 79 ⇑P **PKPdf** **10 42 27.6 +1.3**
baz=133
L23A Garrett 132.54 75 ⇑P **PKPdf** **10 42 27.9 +1.3**
baz=133
I20A Worland 132.54 72 ⇓P **PKPdf** **10 42 27.8 +1.4**
baz=133
HRY Holter Researc 132.55 67 *e*PKPdf **PKPdf** **10 42 26.4 +0.2**
M24A Cheyenne 132.55 77 ⇓P **PKPdf** **10 42 27.7 +1.1**
baz=133
H19A Powell 132.60 71 ⇑P **PKPdf** **10 42 27.7 +1.2**
baz=133
KBZ Khabaz 132.62 288 PKIKP **PKPdf** **10 42 26.4 +0.1**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
KBZ Khabaz 132.62 288 PKP **PKPdf** **10 42 26.4 +0.1**
comp=Z,0.9nm,0.3s,baz=141,slow=9.0,SNR=4.1
R30A Dighton 132.73 83 ⇓P **PKPdf** **10 42 27.8 +1.0**
baz=133
V35A Meyer Ranch, C 132.76 88 ⇓P **PKPdf** **10 42 28.1 +1.3**
baz=133
Q29A Oakley 132.78 82 ⇓P **PKPdf** **10 42 28.0 +1.1**
baz=133
P28A Saint Francis 132.85 81 ⇓P **PKPdf** **10 42 28.3 +1.3**
baz=133
U34A Anderson Ranch 132.88 87 ⇓P **PKPdf** **10 42 27.8 +0.8**
baz=133
I21A Big Trails, Te 132.88 73 ⇑P **PKPdf** **10 42 28.2 +1.2**
baz=133
EGAK Eagle 132.88 34 *e*PKPdf **PKPdf** **10 42 25.1 -1.1**
KIV Kislovodsk 132.89 288 *i* PKIKP **PKPdf** **10 42 27.8 +0.9**
KIV *e* 10 44 51.4
KIV *e*PS **PS** **10 55 08.6 -1.0**
KIV *e*SS SS 11 02 32.3 -1.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
DAWY Dawson 132.93 35 *e*PKPdf **PKPdf** **10 42 25.7 -0.6**
J22A Midwest 133.03 73 ⇑P **PKPdf** **10 42 28.6 +1.3**
baz=133
R31A Burdett 133.14 84 ⇑P **PKPdf** **10 42 28.6 +1.1**
baz=133
O28A Krutsinger Ran 133.23 80 ⇓P **PKPdf** **10 42 29.1 +1.4**
baz=133
G20A Bridger 133.37 71 ⇓P **PKPdf** **10 42 25.9 -1.9**
baz=134
F19A Roth Farm, Mol 133.43 69 ⇓P **PKPdf** **10 42 28.7 +0.8**
baz=134
P30A Selden 133.65 82 ⇑P **PKPdf** **10 42 29.2 +0.7**
baz=134
MIAR Mount Ida 133.65 92 PFAKE **10 42 40.0 +11**
MIAR LR LR
comp=Z,600nm,21.0s
OGNE Ogallala 133.67 79 ⇑P **PKPdf** **10 42 29.4 +0.9**
baz=134
OGNE Ogallala 133.67 79 PFAKE **10 42 40.0 +11**
OGNE LR LR
comp=Z,1µm,19.0s
R32A Long Quarter, 133.68 84 ⇓P **PKPdf** **10 42 29.4 +0.9**
baz=134
ARU Arti 133.68 310 *i* PKIKP **PKPdf** **10 42 29.1 +1.2**
ARU MLR MLR
comp=Z,779nm,20.0s
ARU Arti 133.68 310 *e*PKPdf **PKPdf** **10 42 27.5 -0.3**
F20A Billings 133.80 70 ⇓P **PKPdf** **10 42 29.8 +1.2**
baz=134
L26A Underwood Farm 133.88 77 ⇓P **PKPdf** **10 42 30.4 +1.5**
baz=134
H22A Clearmont 133.91 72 ⇓P **PKPdf** **10 42 29.9 +1.0**
baz=134
E19A Rath Farm, Rou 133.92 69 ⇓P **PKPdf** **10 42 30.0 +1.2**
baz=134
R33A Olander Ranch, 133.99 85 ⇓P **PKPdf** **10 42 29.9 +0.8**
baz=134
S34A Willow Spring 134.03 86 ⇑P **PKPdf** **10 42 30.1 +0.9**
baz=134
P31A Stockton 134.10 82 ⇓P **PKPdf** **10 42 30.1 +0.8**
baz=134
Q32A Meitler Ranch, 134.17 84 ⇑P **PKPdf** **10 42 29.8 +0.4**
baz=134
O30A MW Ranch, Wils 134.20 81 ⇓P **PKPdf** **10 42 30.6 +1.1**
baz=134
E20A Meyer Farm, Mu 134.28 69 ⇓P **PKPdf** **10 42 30.6 +1.1**
baz=134
N29A Votaw Ranch, W 134.34 80 ⇑P **PKPdf** **10 42 30.8 +1.0**
baz=134
D19A Cripps Ranch, 134.34 68 ⇓P **PKPdf** **10 42 30.9 +1.4**
baz=135
S35A Otter Creek Ra 134.45 87 ⇑P **PKPdf** **10 42 30.8 +0.9**
baz=135
O31A Woolen Ranch, 134.58 82 ⇑P **PKPdf** **10 42 31.1 +0.9**
baz=135
P32A Huiting Farm, 134.59 83 ⇓P **PKPdf** **10 42 31.3 +1.1**
baz=135
C19A Slack Wire Ran 134.64 67 ⇓P **PKPdf** **10 42 31.4 +1.3**
baz=135
D20A Manuel Ranch, 134.67 69 ⇑P **PKPdf** **10 42 31.6 +1.5**
baz=135
L28A Connealy Angus 134.69 78 ⇑P **PKPdf** **10 42 31.6 +1.2**
baz=135
J26A Sides Ranch, S 134.76 76 ⇑P **PKPdf** **10 42 27.2 -3.3**

F22A **Rosebud** 134.76 71 ⇓P PKPdf 10 42 31.6 +1.2
baz=135
BRTR **Keskin Array B** 134.76 277 PKIKP PKPdf 10 42 30.8 +0.1
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR **Keskin Array B** 134.76 277 PKP PKPdf 10 42 30.8 +0.1
comp=Z,2.4nm,0.9s,baz=159,slow=3.8,SNR=6.2
RSSD **Black Hills** 134.80 74 *e*PKIKP PKPdf 10 42 29.4 -1.3
RSSD **Black Hills** 134.80 74 *e*PKPdf PKPdf 10 42 29.4 -1.3
G23A **Biddle** 134.82 72 ⇑P PKPdf 10 42 31.5 +0.9
baz=135
S36A **Lake Cedric, C** 134.88 87 ⇓P PKPdf 10 42 29.3 -1.4
baz=135
I25A **Rochford** 134.90 75 ⇑P PKPdf 10 42 31.3 +0.5
baz=135
H24A **Dirks Ranch, A** 134.96 73 ⇑P PKPdf 10 42 28.2 -2.6
baz=135
C20A **Veseth Ranch,** 135.15 68 ⇑P PKPdf 10 42 30.5 -0.5
baz=135
F23A **Volborg** 135.17 72 ⇑P PKPdf 10 42 32.1 +1.0
baz=135
O32A **Brockman Farm,** 135.22 83 ⇓P PKPdf 10 42 32.6 +1.2
baz=135
D21A **La Casta Ranch** 135.24 69 ⇑P PKPdf 10 42 32.9 +1.7
baz=136
KSU1 **Kansas State U** 135.31 85 PFAKE 10 42 40.0 +8.5
KSU1 LR LR
comp=Z,991nm,19.0s
R36A **Gordon, Harris** 135.36 87 ⇓P PKPdf 10 42 32.8 +1.2
baz=136
H25A **Fruitdale** 135.37 74 ⇓P PKPdf 10 42 32.6 +1.0
baz=136
LAO **LASA Array** 135.39 70 PFAKE 10 42 40.0 +8.5
LAO LR LR
comp=Z,1μm,21.0s
G24A **Alzada** 135.42 73 ⇑P PKPdf 10 42 32.5 +0.8
baz=136
M31A **Lambtecht Ranc** 135.60 81 ⇑P PKPdf 10 42 32.6 +0.5
baz=136
B20A **Solberg Farm,** 135.62 67 ⇑P PKPdf 10 42 33.2 +1.3
baz=136
R37A **Teagarden Farm** 135.72 87 ⇑P PKPdf 10 42 33.4 +1.1
baz=136
J28A **Allard Ranch,** 135.82 77 ⇑P PKPdf 10 42 33.3 +0.9
baz=136
I27A **Quinn** 135.82 76 ⇓P PKPdf 10 42 33.5 +1.1
baz=136
A20A **Cobblestone Ra** 135.96 67 ⇑P PKPdf 10 42 33.6 +1.1
baz=136
BGNE **Belgrade** 136.09 82 ⇑P PKPdf 10 42 33.7 +0.7
baz=136
BGNE **Belgrade** 136.09 82 *e*PKPdf PKPdf 10 42 33.0 0.0
H27A **Howes** 136.19 75 ⇓P PKPdf 10 42 34.4 +1.4
baz=136
D23A **Lindsay** 136.23 70 ⇓P PKPdf 10 42 34.5 +1.4
baz=136
I28A **Midland** 136.24 77 ⇑P PKPdf 10 42 34.1 +0.9
baz=136
L31A **Butterfield Fa** 136.25 80 ⇓P PKPdf 10 42 31.9 -1.4
baz=136
J29A **Okreek** 136.29 78 ⇓P PKPdf 10 42 34.2 +0.9
baz=136
F25A **Bowman** 136.32 73 ⇑P PKPdf 10 42 34.2 +1.0
baz=136
G26A **Maurine** 136.35 74 ⇑P PKPdf 10 42 34.5 +1.2
baz=137
D24A **Glendive** 136.65 71 ⇑P PKPdf 10 42 35.1 +1.3
baz=137
J30A **Dallas** 136.68 78 ⇑P PKPdf 10 42 31.4 -2.6
baz=137
F26A **Lodgepole** 136.68 74 ⇑P PKPdf 10 42 31.4 -2.5
baz=137
I29A **Vivian Onida** 136.72 77 ⇑P PKPdf 10 42 34.8 +0.8
baz=137
E25A **Miller Ranch,** 136.73 72 ⇑P PKPdf 10 42 35.3 +1.3
baz=137
F27A **Lemmon** 137.04 74 ⇑P PKPdf 10 42 32.7 -1.9
baz=137
A22A **Carney Farms,** 137.04 68 ⇑P PKPdf 10 42 34.6 +0.2
baz=137
B23A **Brockton** 137.18 69 ⇓P PKPdf 10 42 34.2 -0.5
baz=137
E26A **Carlson Angus** 137.20 73 ⇓P PKPdf 10 42 32.3 -2.5
baz=137
INK **Inuvik** 137.51 33 *e*PKIKP PKPdf 10 42 33.4 -1.2
INK **Inuvik** 137.51 33 *e*PKPdf PKPdf 10 42 33.4 -1.2
E27A **Carson** 137.64 74 ⇓P PKPdf 10 42 37.3 +1.6
baz=138
ECSD **EROS Data Cent** 138.51 80 ⇑P PKPdf 10 42 38.4 +1.1
baz=139
TIRR **Tirgusor** 140.83 278 ⇑PKHKP PKPpre 10 42 34.7
TIRR **Tirgusor** 140.83 278 *i*P PKPpre 10 42 34.7
YKA **Yellowknife Ar** 140.85 47 PKhKP PKPpre 10 42 34.1
comp=Z,1.5nm,0.8s,baz=230,slow=2.6,SNR=24
YKA PP **PP** 10 45 39.8 -2.8
comp=Z,1.7nm,1.1s,baz=246,slow=5.8,SNR=7.4
CFR **Carcaliu** 141.45 279 ⇑PKHKP PKPpre 10 42 38.4
CFR **Carcaliu** 141.45 279 ⇑*i*P PKPpre 10 42 38.4
PRGR **Permogore** 142.13 310 PKIKP PKPdf 10 42 41.7 -1.5
KIS **Kishinev** 142.24 282 *e*PKP PKPdf 10 42 48.0 +4.1
KIS **Kishinev** 142.24 282 *e*PP PP 10 46 08.0 +17
KIS *e*SKP 10 46 24.0
KIS **Kishinev** 142.24 282 *e*PPP PPP 10 49 16.0
KIS *e*SKS SKSdf 10 50 12.0 +20
KIS *e*SKSP 10 56 08.0
FFC **Flin Flon** 142.41 63 *e*PKIKP PKPdf 10 42 43.5 -0.5
FFC **Flin Flon** 142.41 63 *e*PKPdf PKPdf 10 42 43.5 -0.5
VTS **Vitosha** 142.44 272 ⇑PKHKP PKPpre 10 42 35.2
VTS **Vitosha** 142.44 272 ⇑*i*P PKPpre 10 42 35.2
VRI **Vrincioaia** 142.65 279 ⇑PKIKP PKPdf 10 42 42.1 -2.6
VRI **Vrincioaia** 142.65 279 ⇑*i*P PKPdf 10 42 42.1 -2.6
MLR **Muntele Rosu** 142.84 278 ⇑PKHKP PKPpre 10 42 40.9
MLR **Muntele Rosu** 142.84 278 ⇑*i*P PKPpre 10 42 40.9
OBN **Obninsk** 142.92 297 *c i*PKIKP PKPdf 10 42 46.4 +1.6
OBN *e* 10 42 54.9
OBN pmax pmax
comp=Z,23nm,1.7s
ULM **Lac du Bonnet** 142.99 73 PKHKP PKPpre 10 42 39.6
ULM pmax pmax
comp=Z,9.0nm,1.0s
ULM **Lac du Bonnet** 142.99 73 PKhKP PKPpre 10 42 39.6
comp=Z,8.8nm,0.9s,baz=232,slow=3.7,SNR=16
VOIR 143.29 277 ⇑PKIKP PKPdf 10 42 46.8 +0.8
VOIR 143.29 277 ⇑*i*P PKPdf 10 42 46.8 +0.8
ACSO **Alum Creek Sta** 143.56 95 PFAKE 10 43 00.0 +14
ACSO LR LR
comp=Z,1μm,19.0s
EYMN **Ely** 143.94 79 *e*PKPdf PKPab 10 42 43.7 -0.6
COWI **Conover** 144.09 83 *e*PKPdf PKPab 10 42 44.5 -0.3
AKASG **Malin Array Be** 144.22 287 PKHKP PKPpre 10 42 43.6
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKASG **Malin Array Be** 144.22 287 PKhKP PKPpre 10 42 43.6
comp=Z,8.2nm,0.9s,baz=95,slow=2.7,SNR=24
CLTB **Caltabellotta** 144.34 257 *e*PKPdf PKPdf 10 42 47.9 -0.2
JSRW **J. Sargeant Re** 144.49 103 *e*PKPdf PKPab 10 42 46.2 -0.3
GZR **Gura Zlata** 144.50 275 ⇑*i*P PKPab 10 42 46.1 -0.4
BURAR **Bucovina Array** 144.55 280 ⇓PKIKP PKPdf 10 42 47.9 -0.2
BURAR **Bucovina Array** 144.55 280 ⇓*i*P PKPdf 10 42 47.9 -0.2
AAM **Ann Arbor** 144.61 92 *e*PKIKP PKPab 10 42 46.5 -0.4
AAM **Ann Arbor** 144.61 92 *e*PKPdf PKPab 10 42 46.5 -0.4
CJR **Cluj-Napoca** 144.88 278 ⇑PKIKP PKPdf 10 42 48.9 +0.3
CJR **Cluj-Napoca** 144.88 278 ⇑*i*P PKPdf 10 42 48.9 +0.3
KEST **Kesra** 144.98 251 PKPbc PKPdf 10 42 49.8 +0.5
comp=Z,38nm,0.9s,baz=234,slow=2.3,SNR=41
BZS **Buzias** 145.28 275 ⇓*i*P PKPbc 10 42 46.7 -2.4
DRGR 145.41 277 ⇑*i*P PKPdf 10 42 46.9 -2.7
ALLY **Alegheny Colle** 146.09 96 *e*PKPdf PKPdf 10 42 51.2 +0.3
SDMD **Soldier's Deli** 146.30 102 *e*PKPdf PKPdf 10 42 51.4 +0.2
TRPA **Tarpa** 146.31 279 ⇓*i*P PKPbc 10 42 52.1 -0.1
TRPA **Tarpa** 146.31 279 ⇓*e*PKPdf PKPdf 10 42 50.7 -0.2
TMCR **Tamitsa** 146.36 312 *e*PKIKP PKPbc 10 42 51.3 -0.5
TMCR pmax pmax
comp=Z,7.0nm,0.2s
ABSA **Djebel Ababsia** 146.36 249 P PKPab 10 42 56.4 +2.6
LVV **L'vov** 146.48 282 *e*PKIKP PKPdf 10 42 51.7 +0.5
ERPA **Erie** 146.49 96 *e*PKPdf PKPdf 10 42 51.8 +0.3
SSPA **Standing Stone** 146.61 100 *e*PKPdf PKPdf 10 42 51.8 0.0
CMAH **Djebel Manchou** 146.66 250 P PKPab 10 42 56.1 +1.2
UZH **Uzhgorod** 146.73 279 *e*PKHKP PKPpre 10 42 50.5
UZH *e* 10 42 52.3
UZH *e* 10 42 54.7
UZH *e* 10 42 58.1
UZH *e* 10 43 06.9

CTEI **Djebel Teioual** 146.74 248 P PKPab 10 43 02.5 +7.2
CKFL **Kef-Lekhel** 146.84 249 P PKPab 10 42 58.6 +2.9
CASM **Ain Smara** 146.85 248 P PKPab 10 42 56.9 +1.3
KOLS **Kolonicke sedl** 146.92 280 *e*PKIKP PKPbc 10 42 54.1 +0.1
KOLS **Kolonicke sedl** 146.92 280 *e*PKP PKPbc 10 42 54.1 +0.1
MICGM **Minsk** 146.93 292 ⇓*e*P PKPdf 10 42 50.0 -1.8
MNK **Minsk** 146.96 292 ⇓*e*PKHKP PKPdf 10 42 50.0 -1.8
MNK pmax pmax
comp=Z,90nm,1.0s
CAEH **'Ain El Ouahch** 147.07 249 P PKPab 10 42 59.2 +2.8
KWP **Kalwaria Pacla** 147.08 281 ⇓PKIKP PKPbc 10 42 54.3 -0.1
KWP **Kalwaria Pacla** 147.08 281 *e*PKP PKPbc 10 42 53.7 -0.7
KWP **Kalwaria Pacla** 147.08 281 ⇓*i*P PKPbc 10 42 54.3 -0.1
KWP **Kalwaria Pacla** 147.08 281 *e*PKPdf PKPdf 10 42 53.3 +1.0
PKSM **Moragy** 147.27 273 ⇓PKIKP PKPdf 10 42 53.3 +0.7
PKSM **Moragy** 147.27 273 ⇓*i*P PKPdf 10 42 53.3 +0.7
PKSM **Moragy** 147.27 273 ⇓*e*PKPdf PKPbc 10 42 53.8 -1.2
CRVS **Cervenica-Dubn** 147.34 279 *e*PKIKP PKPbc 10 42 54.0 -1.2
CRVS **Cervenica-Dubn** 147.34 279 *e*PKP PKPbc 10 42 54.0 -1.2
SET **Setif** 147.36 247 P PKPab 10 43 02.0 +4.3
DFRA **Djebel Bou Aff** 147.38 248 P PKPab 10 43 03.8 +6.0
PSZ **Piszkesteto** 147.62 277 ⇑PKIKP PKPbc 10 42 55.9 -0.1
PSZ **Piszkesteto** 147.62 277 ⇑*i*P PKPbc 10 42 55.9 -0.1
PSZ **Piszkesteto** 147.62 277 *e*PKPdf PKPdf 10 42 53.5 +0.3
PSZ **Piszkesteto** 147.62 277 ⇑*e*PKPdf PKPbc 10 42 54.7 -1.3
KECS **Kecovo** 147.62 278 *e*PKIKP PKPbc 10 42 55.7 -0.2
KECS **Kecovo** 147.62 278 *e*PKP PKPbc 10 42 55.7 -0.2
NACGM **Naroch** 147.69 292 *e* PKPdf 10 42 52.0 -1.0
PKSG 148.12 275 ⇓*e*PKPdf PKPbc 10 42 57.4 +0.1
FCC **Fort Churchill** 148.15 60 *e*PKP2 PKPdf 10 42 55.1 +1.5
FCC **Fort Churchill** 148.15 60 *e*PKPdf PKPdf 10 42 55.1 +1.5
IIGN **Ignalina** 148.18 292 *e*P PKPdf 10 42 53.7 -0.2
IIGN AMB AMB 10 43 14.7
comp=Z,15nm,1.1s
PKST **T"'s** 148.24 274 ⇑*e*PKPdf PKPbc 10 42 56.5 -1.1
NIE **Niedzica** 148.25 279 *e*PKP PKPdf 10 42 55.6 +1.4
ISAL **Salakas** 148.33 293 *e*P PKPdf 10 42 53.6 -0.5
ISAL AMB AMB 10 43 15.1
comp=Z,15nm,1.2s
VYHS **Vyhne** 148.53 277 *e*PKIKP PKPbc 10 42 57.4 -0.9
VYHS **Vyhne** 148.53 277 *e*PKP PKPbc 10 42 57.4 -0.9
BINY **Binghamton** 148.72 99 *e*PKPdf PKPdf 10 42 55.1 -0.1
BINY *e*PKPbc PKPbc 10 42 58.5 -0.6
JOF **Joensuu** 148.76 308 *e*pkp PKPdf 10 42 54.4 -0.1
comp=Z,10nm,0.7s
LVZ **Lovozero** 148.80 318 *e*PKPdf PKPdf 10 42 54.1 -0.4
OJC **Ojcow** 148.97 280 *e*PKP PKPbc 10 42 58.2 -1.2
SUW **Suwalki** 149.11 288 *e*PKP PKPbc 10 42 58.4 -1.2
SUW **Suwalki** 149.11 288 *e*PKPbc PKPbc 10 42 58.4 -1.2
SOP **Sopron** 149.30 274 ⇓*e*PKPdf PKPbc 10 43 01.7 +1.4
SOKA **Soboth** 149.53 271 ⇑*i*PKPdf PKPbc 10 43 00.6 -0.4
comp=Z,51nm,1.2s,SNR=9.2
ARSA **Arzberg** 149.61 272 *i* pPKPdf PKPbc 10 42 59.9 -1.2
comp=Z,55nm,1.3s,SNR=13
OKC **Ostrava-Krasne** 149.66 278 ⇑*e*PKP PKPbc 10 43 00.9 -0.2
OKC *e*pPKP PKPab 10 43 07.9 +1.5
OKC *ex* x 10 43 11.8
OKC *ex* x 10 43 16.0
OKC AMS AMS 12 02 50.0
comp=Z,600nm,22.4s
RAC **Raciborz** 149.76 279 *e*PKIKP PKPab 10 43 04.2 -2.6
CONA **Conrad Observa** 149.82 273 ⇑*i*PKPdf PKPbc 10 43 01.0 -0.7
comp=Z,15nm,0.9s
MORC **Moravsky Berou** 149.95 278 ⇑PKIKP PKPbc 10 43 02.1 +0.2
MORC **Moravsky Berou** 149.95 278 ⇑*i*P PKPbc 10 43 02.0 +0.2
MORC **Moravsky Berou** 149.95 278 *e*PKPbc PKPbc 10 43 01.5 -0.3
PGF **Pioggiola** 150.15 259 *e*PKIKP PKPdf 10 42 58.1 +0.5
comp=Z,186nm,1.5s
PGF **Pioggiola** 150.15 259 *e*PKIKP PKPdf 10 42 58.1 +0.5
PGF **Pioggiola** 150.15 259 *e*PKPdf PKPdf 10 42 58.1 +0.5
VRAC **Vranov** 150.21 276 ⇑PKIKP PKPbc 10 43 02.1 -0.4
VRAC **Vranov** 150.21 276 ⇑*i*P PKPbc 10 43 02.1 -0.4
MYKA **Terra Mystica** 150.26 270 ⇑*i*SKPdf PKPbc 10 43 02.0 -0.7
comp=Z,51nm,1.3s
KRLC **Kraliky** 150.53 278 *e*PKIKP PKPbc 10 43 03.2 -0.1
KRLC **Kraliky** 150.53 278 ⇑*e*PKP PKPbc 10 43 03.2 -0.1
FINES **FINESS Array B** 150.62 303 PKIKP PKPbc 10 43 02.2 -0.8
FINES pmax pmax
comp=Z,39nm,0.8s
FINES **FINESS Array B** 150.62 303 PKPbc PKPbc 10 43 02.2 -0.8
comp=Z,39nm,0.8s,baz=111,slow=4.3,SNR=31
MOA **Molln** 150.65 272 ⇓*i*pPKPdf PKPbc 10 43 02.4 -1.2
comp=Z,25nm,1.2s
KBA **Koelnbreinsper** 150.70 270 ⇓*i*SKPdf PKPbc 10 43 02.7 -1.2
comp=Z,39nm,1.1s
KAF **Kangasniemi** 150.72 305 *e*PKIKP PKPbc 10 43 01.3 -1.9
KAF **Kangasniemi** 150.72 305 *e*pkp PKPbc 10 43 01.3 -1.9
TREC **Trest** 150.80 275 *e*PKIKP PKPbc 10 43 02.6 -1.3
TREC *e* 10 43 13.7
TREC MLR MLR
comp=Z,900nm,19.5s
TREC **Trest** 150.80 275 ⇑*e*PKP PKPbc 10 43 02.6 -1.3
TREC *e*pPKP **pPKPdf** 10 43 05.7 +0.7
TREC *ex* x 10 43 13.7
TREC AMS AMS 11 59 40.0
comp=Z,900nm,19.5s
NCB **Newcomb** 150.87 98 *e*PKPbc PKPbc 10 43 03.4 -0.8
RES **Resolute Bay** 150.91 29 *e*PKIKP PKPbc 10 43 01.9 -1.4
RES **Resolute Bay** 150.91 29 *e*PKPbc PKPbc 10 43 01.9 -1.4
DPC **Dobruska-Polom** 150.92 278 *e*PKIKP PKPbc 10 43 03.6 -0.6
DPC *e* 10 43 08.9
DPC *e* 10 43 13.8
DPC **Dobruska-Polom** 150.92 278 ⇑*e*PKP PKPbc 10 43 03.6 -0.6
DPC *e*pPKP PKPab 10 43 08.9 -2.8
DPC *ex* x 10 43 13.8
DPC AMS AMS 12 01 00.0
ABTA **Abfaltersbach** 150.95 269 ⇓*i*SKPdf PKPbc 10 43 03.8 -0.6
comp=Z,53nm,1.5s
LONY **Lake Ozonia** 151.10 97 *e*PKPbc PKPbc 10 43 03.5 -1.3
UPC **Upice** 151.17 278 *e*PKIKP PKPbc 10 43 04.2 -0.5
UPC *e* 10 43 10.4
UPC **Upice** 151.17 278 ⇑*e*PKP PKPbc 10 43 04.2 -0.5
UPC *ex* x 10 43 10.4
KSP **Ksiaz** 151.20 279 *e*PKP PKPbc 10 43 03.8 -0.9
GOPC **GO Pecny, Ondr** 151.52 276 ⇑*e*PKP PKPbc 10 43 05.3 -0.3
GOPC *e*pPKP **pPKPdf** 10 43 09.4 +3.3
GOPC *e*PKPAB PKPab 10 43 14.7 +0.5
GERES **GERESS Array B** 151.53 273 PKIKP PKPbc 10 43 04.4 -1.3
GERES pmax pmax
comp=Z,14nm,1.0s
GERES **GERESS Array B** 151.53 273 PKPbc PKPbc 10 43 04.4 -1.3
comp=Z,14nm,1.0s,baz=141,slow=3.3,SNR=3.4
PRU **Pruhonice** 151.70 276 *e*PKIKP PKPbc 10 43 05.8 -0.1
PRU *e* 10 43 12.1
PRU *e*SS SS 11 06 10.1 -1.6
PRU MLR MLR
comp=Z,900nm,23.9s
PRU **Pruhonice** 151.70 276 ⇑*e*PKP PKPbc 10 43 05.8 -0.1
PRU *e*pPKP PKPab 10 43 12.1 -2.8
PRU *e*SS SS 11 06 10.1 -1.6
PRU *e*SKSSKS 11 12 36.6
PRU AMS AMS 12 00 20.0
comp=Z,900nm,23.9s
WTTA **Wattenberg** 151.74 269 ⇑*i*pPKPdf PKPdf 10 43 02.6 +2.6
comp=Z,46nm,1.2s
KHC **Kasperske Hory** 151.75 274 *e*PKIKP PKPbc 10 43 04.4 -1.7
KHC *e* 10 43 09.2
KHC *e* 10 43 14.0
KHC *e*SS SS 11 06 13.6 +1.2
KHC MLR MLR
comp=Z,1μm,20.0s
KHC **Kasperske Hory** 151.75 274 ⇑*e*PKP PKPbc 10 43 04.4 -1.7
KHC *e*pPKP **PKiKP** 10 43 09.2 +2.7
KHC *e*PKPAB PKPab 10 43 14.0 -1.2
KHC *ex* x 10 43 22.8
KHC *e*SS SS 11 06 13.6 +1.2
KHC AMS AMS 11 58 20.0
comp=Z,1μm,20.0s
KHC **Kasperske Hory** 151.75 274 *e*PKPbc PKPbc 10 43 04.8 -1.3
PRA **Prague** 151.80 276 *e*PKIKP PKPbc 10 43 05.3 -0.8
PRA *e* 10 43 14.7
KEV **Kevo** 151.82 321 *e*PKIKP PKPdf 10 42 59.4 +0.3
KEV *e* 10 43 04.4
KEV **Kevo** 151.82 321 *e*pkp PKPbc 10 43 03.0 -2.6
KEV **Kevo** 151.82 321 *e*PKPdf PKPdf 10 42 59.4 +0.3
KEV *e*PKPbc PKPbc 10 43 04.4 -1.1
WATA **Walderalm** 151.82 269 ⇑*i*SKPdf PKPbc 10 43 06.0 -0.5
comp=Z,27nm,1.0s
SBF **Sospel** 151.88 259 *e*PKIKP PKPdf 10 43 01.8 +1.6
comp=Z,95nm,1.0s
SBF **Sospel** 151.88 259 *e*PKIKP PKPdf 10 43 01.8 +1.6
SBF **Sospel** 151.88 259 *e*PKPdf PKPdf 10 43 01.8 +1.6

PVCC **Panska Ves** 151.97 277 *e*PKIKP PKPbc 10 43 04.6 -1.9
PVCC *e* 10 43 14.1
PVCC MLR MLR
comp=Z,1μm,19.1s
PVCC **Panska Ves** 151.97 277 *e*PKPDF PKPbc 10 43 04.6 -1.9
PVCC ⇑*e*PKP PKiKP 10 43 08.7 +1.9
PVCC *ex* x 10 43 14.1
PVCC AMS AMS 12 02 30.0
comp=Z,1μm,19.1s
MOTA **Moosalm** 152.08 269 ⇓*i*SKPdf PKPbc 10 43 04.9 -2.2
comp=Z,42nm,1.0s,SNR=13
FETA **Feichten** 152.09 268 ⇑*i*pPKPdf PKPdf 10 43 02.9 +2.4
comp=Z,72nm,1.1s,SNR=20
ARCES **ARCESS Array B** 152.33 320 PKIKP PKPbc 10 43 05.8 -1.0
ARCES pmax pmax
comp=Z,20nm,0.8s
ARCES **ARCESS Array B** 152.33 320 PKPbc PKPbc 10 43 05.8 -1.0
comp=Z,20nm,0.8s,baz=106,slow=4.4,SNR=18
RETA **Reutte** 152.35 269 ⇑*i*SKPdf PKPbc 10 43 06.5 -1.1
comp=Z,41nm,1.1s
BRG **Berggiesshubel** 152.49 277 *e*PKP PKPbc 10 43 07.2 -0.5
comp=Z,11nm,1.1s
comp=N,716nm,21.1s
comp=E,707nm,18.3s
comp=Z,1μm,19.1s
BRG **Berggiesshubel** 152.49 277 *e*PKIKP PKPbc 10 43 07.2 -0.5
BRG pmax pmax
comp=Z,11nm,1.1s
BRG MLR MLR
comp=N,716nm,21.1s
BRG MLR MLR
comp=E,707nm,18.3s
BRG MLR MLR
comp=Z,1μm,19.1s
DAVA **Damuels** 152.72 267 ⇑*i*PKPdf PKPdf 10 43 00.8 -0.6
comp=Z,32nm,1.4s
MBDF **Montbardon** 152.81 260 *e*PKIKP PKPdf 10 43 03.2 +1.6
comp=Z,35nm,0.9s
MBDF **Montbardon** 152.81 260 *e*PKIKP PKPdf 10 43 03.2 +1.6
MBDF **Montbardon** 152.81 260 *e*PKPdf PKPdf 10 43 03.2 +1.6
SMRF **Simiane la Rot** 152.96 258 *e*PKIKP PKPdf 10 43 02.1 +0.4
comp=Z,94nm,1.4s
SMRF **Simiane la Rot** 152.96 258 *e*PKPdf PKPdf 10 43 02.1 +0.4
CLL **Collm** 153.22 277 *e*PKIKP PKPbc 10 43 08.0 -1.3
CLL *e* 10 43 19.0
CLL *e* 10 50 10.0
CLL MLR MLR
comp=Z,900nm,19.0s
CLL **Collm** 153.22 277 *e*(pPKPdf) PKPbc 10 43 08.0 -1.3
CLL *e*PKPbc PKiKP 10 43 11.0 +1.6
CLL *e*(PKPab) PKPab 10 43 19.0 -2.2
comp=Z,39nm,1.7s
CLL *e*pPKPab **pPKPab** 10 43 29.0 +1.2
CLL *e* 10 46 06.0
CLL *e*SKSdf SKSdf 10 50 10.0 +2.8
CLL *e*PSKS 10 57 12.0
CLL *e*PPS PPS 11 00 00.0
CLL *e*SS SS 11 06 28.0 -0.4
CLL *e*PSS PSS 11 07 17.0
CLL *e*(SSS) 11 12 00.0
CLL *e* 11 12 54.0
CLL *e*SSSS 11 16 42.0
CLL LmV 12 06 00.0
comp=Z,900nm,19.0s
LPG **La Plagne** 153.32 261 *e*PKIKP PKPdf 10 43 03.9 +1.4
comp=Z,30nm,1.0s
LPG **La Plagne** 153.32 261 *e*PKIKP PKPdf 10 43 03.9 +1.4
LPG **La Plagne** 153.32 261 *e*PKPdf PKPdf 10 43 03.9 +1.4
LPL **La Plagne** 153.34 261 *e*PKIKP PKPdf 10 43 04.1 +1.6
comp=Z,39nm,1.1s
LPL **La Plagne** 153.34 261 *e*PKIKP PKPdf 10 43 04.1 +1.6
LPL **La Plagne** 153.34 261 *e*PKPdf PKPdf 10 43 04.1 +1.6
GRF **Grafenberg Arr** 153.35 273 *e*PKPbc PKPbc 10 43 09.9 +0.3
ORIF **Oris-en-Rattie** 153.42 260 *e*PKIKP PKPdf 10 43 03.2 +0.8
comp=Z,23nm,0.9s
ORIF **Oris-en-Rattie** 153.42 260 *e*PKIKP PKPdf 10 43 03.2 +0.8
ORIF **Oris-en-Rattie** 153.42 260 *e*PKPdf PKPdf 10 43 03.2 +0.8
VIVF **Saint-Julien-l** 154.02 258 *e*PKIKP PKPdf 10 43 05.3 +2.1
comp=Z,33nm,1.3s
VIVF **Saint-Julien-l** 154.02 258 *e*PKIKP PKPdf 10 43 05.3 +2.1
VIVF **Saint-Julien-l** 154.02 258 *e*PKPdf PKPdf 10 43 05.3 +2.1
BFO **Black Forest** 154.18 268 *e*PKIKP PKPbc 10 43 10.5 -1.0
BFO **Black Forest** 154.18 268 *e*PKPbc PKPbc 10 43 10.5 -1.0
MTLF **Montolieu** 154.30 253 *e*PKIKP PKPdf 10 43 04.3 +0.7
comp=Z,39nm,1.2s
MTLF **Montolieu** 154.30 253 *e*PKIKP PKPdf 10 43 04.3 +0.7
MTLF **Montolieu** 154.30 253 *e*PKPdf PKPdf 10 43 04.3 +0.7
CABF **La Chapelle** 154.38 263 *e*PKIKP PKPdf 10 43 04.8 +1.1
comp=Z,43nm,1.3s
CABF **La Chapelle** 154.38 263 *e*PKIKP PKPdf 10 43 04.8 +1.1
CABF **La Chapelle** 154.38 263 *e*PKPdf PKPdf 10 43 04.8 +1.1
ESDC **Sonseca Array** 154.65 239 PKPbc PKPbc 10 43 12.3 -0.5
comp=Z,1.5nm,0.6s,baz=115,slow=0.9,SNR=10.0
HINF **Hinteralfeld** 154.69 266 *e*PKIKP PKPdf 10 43 05.0 +0.9
comp=Z,37nm,1.2s
HINF **Hinteralfeld** 154.69 266 *e*PKIKP PKPdf 10 43 05.0 +0.9
HINF **Hinteralfeld** 154.69 266 *e*PKPdf PKPdf 10 43 05.0 +0.9
ECH **Echery** 154.75 267 *e*PKIKP PKPbc 10 43 11.6 -1.1
ECH **Echery** 154.75 267 *e*PKPbc PKPbc 10 43 11.6 -1.1
MORF **Marmelete** 154.78 229 *e*PKPdf PKPdf 10 43 06.3 +1.8
MORF **Marmelete** 154.78 229 *e*PKPab PKPab 10 43 29.6 +1.3
CDF **Champ du Feu** 154.80 267 *e*PKIKP PKPdf 10 43 06.0 +1.8
comp=Z,50nm,1.4s
CDF **Champ du Feu** 154.80 267 *e*PKIKP PKPdf 10 43 06.0 +1.8
CDF **Champ du Feu** 154.80 267 *e*PKPdf PKPdf 10 43 06.0 +1.8
PCVE **Castro Verde** 154.80 230 *e*PKPab PKPab 10 43 29.2 +0.9
EPF **Esparros** 155.06 250 *e*PKIKP PKPdf 10 43 05.9 +1.2
comp=Z,27nm,1.2s
EPF **Esparros** 155.06 250 *e*PKIKP PKPdf 10 43 05.9 +1.2
EPF **Esparros** 155.06 250 *e*PKPdf PKPdf 10 43 05.9 +1.2
PNCL **Nicolau / Gran** 155.41 230 *e*PKPab PKPab 10 43 31.2 +0.3
ETSF **Etsaut** 155.42 249 *e*PKIKP PKPdf 10 43 05.9 +0.6
ETSF **Etsaut** 155.42 249 *e*PKIKP PKPdf 10 43 05.9 +0.6
ETSF **Etsaut** 155.42 249 *e*PKPdf PKPdf 10 43 05.9 +0.6
CAF **Calviac** 155.46 255 *e*PKIKP PKPdf 10 43 07.5 +2.3
comp=Z,39nm,1.0s
CAF **Calviac** 155.46 255 *e*PKIKP PKPdf 10 43 07.5 +2.3
CAF **Calviac** 155.46 255 *e*PKPdf PKPdf 10 43 07.5 +2.3
SMF **Signal de Mont** 155.62 261 *e*PKIKP PKPdf 10 43 06.1 +0.8
comp=Z,20nm,1.0s
SMF **Signal de Mont** 155.62 261 *e*PKIKP PKPdf 10 43 06.1 +0.8
SMF **Signal de Mont** 155.62 261 *e*PKPdf PKPdf 10 43 06.1 +0.8
PAGF **Fort de Pagny** 155.73 266 *e*PKIKP PKPdf 10 43 06.4 +1.0
PAGF **Fort de Pagny** 155.73 266 *e*PKPdf PKPdf 10 43 06.4 +1.0
SJPF **Ste Jean** 155.92 248 *e*PKIKP PKPdf 10 43 06.9 +1.1
comp=Z,103nm,1.5s
SJPF **Ste Jean** 155.92 248 *e*PKIKP PKPdf 10 43 06.9 +1.1
SJPF **Ste Jean** 155.92 248 *e*PKPdf PKPdf 10 43 06.9 +1.1
AVF **Avril sur Loir** 155.97 260 *e*PKIKP PKPdf 10 43 07.2 +1.5
AVF **Avril sur Loir** 155.97 260 *e*PKIKP PKPdf 10 43 07.2 +1.5
AVF **Avril sur Loir** 155.97 260 *e*PKPdf PKPdf 10 43 07.2 +1.5
LOR **Lormes** 155.99 262 *e*PKIKP PKPdf 10 43 07.9 +2.1
LOR **Lormes** 155.99 262 *e*PKIKP PKPdf 10 43 07.9 +2.1
LOR **Lormes** 155.99 262 *e*PKPdf PKPdf 10 43 07.9 +2.1
PMRV **Marv??o** 156.02 234 *e*PKPab PKPab 10 43 34.0 +0.5
PMRV **Marv??o** 156.02 234 *e*LR LR 11 36 51.3
comp=Z,1μm,22.0s
SSF **Saint Saulge** 156.05 261 *e*PKIKP PKPdf 10 43 07.0 +1.1
comp=Z,69nm,1.5s
SSF **Saint Saulge** 156.05 261 *e*PKIKP PKPdf 10 43 07.0 +1.1
SSF **Saint Saulge** 156.05 261 *e*PKPdf PKPdf 10 43 07.0 +1.1
MTE **Manteigas** 156.88 235 *e*LR LR 11 37 23.6
comp=Z,1μm,20.0s
MVO **Moncorvo** 157.26 237 *e*LR LR 11 37 48.7
comp=Z,960nm,22.0s
NOA **NORSAR Array B** 157.51 299 PKP2 PKPab 10 43 39.4 0.0
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA **NORSAR Array B** 157.51 299 PKPab PKPab 10 43 39.4 0.0
comp=Z,3.2nm,0.9s,baz=94,slow=4.4,SNR=4.6
PGAV **Gavieira, Arco** 158.46 236 *e*LR LR 11 37 26.1
comp=Z,1μm,20.0s
DAG **Danmarks Havn** 159.51 351 *i* PKP2 PKPab 10 43 45.1 -2.5
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG **Danmarks Havn** 159.51 351 *i* P PKPab 10 43 45.1 -2.5
comp=Z,7.4nm,0.9s
SCHQ **Schefferville** 160.69 82 PKPab PKPab 10 43 52.3 -1.1
comp=Z,2.9nm,0.9s,baz=242,slow=15,SNR=3.0
SUMG **Summit** 164.13 7 *i* PKP2 PKPab 10 44 08.3 -0.1
SUMG pmax pmax
comp=Z,4.0nm,1.1s
SUMG **Summit** 164.13 7 *i* P PKPab 10 44 08.3 -0.1
comp=Z,4.1nm,1.1s

YARS 12 10:30:44.4±0.9, 55°21.71N±0.01′×126°29.29E±0.07′, h10km, MSV1.1, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IENR	**Iengra**	**0.96**	**303**	*eP*	Pg	10 31 01.4	-1.5
IENR				*eS*	Sg	10 31 14.2	-1.3
IENR				Sm		10 31 14.2	
	comp=N,6.0nm,0.4s						
TNDR	**Tynda**	**1.06**	**238**	*eS*	Sg	10 31 17.4	-1.2
TNDR				Sm		10 31 17.4	
	comp=N,8.0nm,0.2s						
CLNS	**Chul'man**	**1.37**	**326**	*eS*	Sb	10 31 27.0	-0.9

*ISCJB **12** 10:36:13.2±0.4, 32°.68N±0°.02×115°.77W±0°.02, h11km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=12.1*
*MEX **12** 10:36:14.2±1.2, 32°.87N×115°.72W, h16km±22km, MD3.8*
*ECX **12** 10:36:14.9±0.7, 32°.66N×115°.80W, h4km, MD3.4, ML3.6*
*NEIC **12** 10:36:14.4, 32°.66N×115°.82W, h0km, ML3.6(PAS), After PAS.*

ISC 12 10:36:13.7±1.0, 32°.63N±0°.02×115°.78W±0°.02, h11km±8km, n29, σ0°81/50, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.26**	**263**	*eP*	**Pg**	**10 36 19.1**	**+0.1**
RMX				*eS*	**Sg**	**10 36 23.1**	**+0.4**
CPBX	**Cerro Prieto**	**0.45**	**118**	*eP*	**Pb**	**10 36 23.4**	**-0.3**
CPBX				⇑*eP*	**Pg**	**10 36 23.7**	**+1.1**
CPBX				*eS*	**Sb**	**10 36 30.8**	**+0.3**
CPBX				AML	AML	10 36 37.4	
	comp=E,18μm,0.4s						
CPBX				⇓*e*		10 36 37.4	
CPBX	**Cerro Prieto**	**0.45**	**118**	*eP*	**Pb**	**10 36 23.6**	**-0.2**
CPBX				*eS*	**Sb**	**10 36 31.8**	**+1.3**
MBIG	**Mexicali**	**0.54**	**115**	*eP*	**Pb**	**10 36 25.2**	**+0.1**
MBIG				*eS*	**Sb**	**10 36 33.2**	**+0.3**
RDX	**Rancho Dawling**	**0.72**	**191**	*eP*	**Pg**	**10 36 27.4**	**-0.2**
RDX				*eS*	**Sg**	**10 36 37.1**	**+0.1**
BAR	**Barrett**	**0.76**	**274**	*eP*	**Pg**	**10 36 28.2**	**-0.2**
BAR				*eS*	**Sg**	**10 36 37.6**	**-0.7**
EMX	**El Mayor**	**0.79**	**145**	⇓*eP*	**Pg**	**10 36 28.2**	**-0.6**
EMX				*eS*	**Sg**	**10 36 39.1**	**0.0**
CBX	**Cerro Bola**	**0.82**	**247**	*i* P	**Pg**	**10 36 29.5**	**0.0**
CBX				*i* S	**Sg**	**10 36 40.4**	**+0.2**
CBX	**Cerro Bola**	**0.82**	**247**	*eP*	**Pg**	**10 36 29.5**	**0.0**
CBX				*eS*	**Sg**	**10 36 40.4**	**+0.2**
CBX				AML	AML	10 36 42.5	
	comp=N,2μm,0.5s						
CBX				⇓*e*		10 36 42.5	
CBX	**Cerro Bola**	**0.82**	**247**	*i* P	**Pg**	**10 36 29.5**	**0.0**
CBX				*i* S	**Sg**	**10 36 40.4**	**+0.2**
GLA	**Glamis**	**0.90**	**62**	*eP*	**Pg**	**10 36 30.5**	**-0.6**
GLA				*eS*	**Sg**	**10 36 42.7**	**-0.2**
PFO	**Pinyon Flats O**	**1.13**	**330**	*eP*	**Pb**	**10 36 33.8**	**-1.6**
PFO				*eS*	**Sb**	**10 36 48.5**	**-1.6**
ZAX	**El Zacaton**	**1.19**	**201**	*eP*	**Pn**	**10 36 36.1**	**-0.4**
ZAX				*eS*	**Sb**	**10 36 52.1**	**+0.2**
ZAX				⇑*e*		10 36 53.8	
ZAX				AML	AML	10 36 53.8	
	comp=N,1μm,0.5s						
ECNX	**Esteban Cantu**	**1.20**	**216**	*eP*	**Pn**	**10 36 36.2**	**-0.4**
ECNX				*eS*	**Sb**	**10 36 52.2**	**+0.2**
PBX	**Punta Banda**	**1.20**	**222**	⇓*eP*	**Pn**	**10 36 36.3**	**-0.2**
PBX				*eS*	**Sg**	**10 36 52.5**	**+0.1**
ECBX	**El Chinero**	**1.31**	**152**	*eP*	**Pn**	**10 36 36.8**	**-1.2**
ECBX				*eS*	**Sb**	**10 36 55.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.60**	**170**	*eP*	**Pn**	**10 36 42.2**	**-0.2**
SPIG				*eS*	**Sn**	**10 37 03.2**	**0.0**
SPIG	**San Pedro Mart**	**1.60**	**170**	*eP*	**Pn**	**10 36 43.1**	**+0.7**
SPIG				*eS*	**Sn**	**10 37 03.2**	**0.0**
SPX	**San Pedro Mart**	**1.60**	**170**	*eP*	**Pb**	**10 36 43.4**	**-0.2**
SPX	**San Pedro Mart**	**1.60**	**170**	*eP*	**Pn**	**10 36 42.6**	**+0.2**
SPX				*eS*	**Sn**	**10 37 03.1**	**-0.2**
MWC	**Mount Wilson**	**2.48**	**310**	*ePn*	**Pn**	**10 36 55.8**	**+1.4**
MWC				*eSn*	**Sn**	**10 37 25.8**	**+1.1**
214A	**Organ Pipe Nat**	**2.60**	**104**	*ePn*	**Pn**	**10 36 54.3**	**-1.5**
GSC	**Goldstone, Bar**	**2.80**	**342**	*ePn*	**Pb**	**10 37 02.1**	**-1.7**
OSI	**Osito Audit: C**	**3.16**	**310**	*ePn*	**Pn**	**10 37 04.5**	**+1.0**
ISA	**Isabella, Lake**	**3.76**	**324**	Pn	**Pb**	**10 37 21.3**	**+1.1**
TUC	**Tucson**	**4.23**	**93**	*ePn*	**Pn**	**10 37 17.1**	**-1.1**
CCUT	**Cedar City**	**5.29**	**21**	*ePn*	**Pn**	**10 37 33.7**	**+0.7**
	comp=N,5.9nm,0.8s						
W18A	**Petrified Fore**	**5.60**	**62**	*ePn*	**Pn**	**10 37 39.4**	**+2.2**
	comp=N,4.5nm,0.5s						
121A	**Cookes Peak, D**	**6.75**	**89**	*ePn*	**Pn**	**10 37 52.9**	**-0.1**
	comp=N,15nm,0.6s						

CSEM 12 10:40:55.2, 41°.52N×1°.94W, h0km, ML1.4, Mining explosion., Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOR	**Torete**	**0.71**	**187**	Pg	Pg	10 41 08.0	-0.9
	6.0nm,0.3s,SNR=8.8						
ETOR				Lg	Lg	10 41 18.4	
	SNR=7.9						
IELO	**Elcoad**	**1.42**	**21**	Pg	Pn	10 41 21.8	-0.6
	SNR=7.9						
IELO				Lg	Lg	10 41 39.5	
	SNR=7.9						
EMOS	**Mosqueruela**	**1.60**	**136**	Pg	Pn	10 41 24.2	-0.8
	SNR=7.9						
EMOS				Lg	Lg	10 41 46.1	
	SNR=7.9						
GUD	**Guadarrama**	**1.89**	**243**	Lg	Lg	10 41 54.7	
	4.8nm,0.7s,SNR=5.9						

*IDC **12** 10:45:48.9±1.1, 35°.44S×71°.95W, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/24, mbtmp3.9/8, ML3.6/2, MS4.8/2, Ms1 4.8/2, ms1mx3.6/30, Error ellipse: s-maj=36.1km s-min=24.8km az=84.0*
*ISCJB **12** 10:45:54.4±1.2, 35°.20S±0°.05×72°.2W±0°.1, h49km±11km, mb4.0/7, MS4.8/2, Error ellipse: s-maj=18.9km s-min=7.4km az=12.7*
*NEIC **12** 10:45:55.6, 35°.14S×72°.10W, h41km, mb4.5/2, After GUC. NEIC Felt [III] at Constitucion, Curico, Pencahue, Romeral, San Javier and Talca; [II] at Cauquenes, Linares and Parral.*
*GUC **12** 10:45:55.6±0.6, 35°.14S×72°.10W, h41km±4km, ML4.4*

ISC 12 10:45:55.5±1.5, 35°.20S±0°.04×72°.1W±0°.1, h40km±13km, n32, σ1°11/37, mb4.0/7, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.45**	**117**	⇓*iP*	**Pn**	**10 46 05.5**	**0.0**
TALC				*i* S	**Sn**	**10 46 12.4**	**-0.2**
TALC	**Talca**	**0.45**	**117**	⇓*iP*	**Pn**	**10 46 05.5**	**0.0**
TALC				*i* S	**Sn**	**10 46 12.4**	**-0.2**
NICH	**Los Niches**	**0.76**	**75**	⇓*iP*	**Pn**	**10 46 09.6**	**-0.2**
NICH				*i* S	**Sn**	**10 46 19.8**	**-0.2**
NICH	**Los Niches**	**0.76**	**75**	⇓*iP*	**Pn**	**10 46 09.6**	**-0.2**
NICH				*i* S	**Sn**	**10 46 19.8**	**-0.2**
LNCH	**Linares**	**0.78**	**147**	⇓*iP*	**Pn**	**10 46 10.3**	**+0.3**
LNCH				*i* S	**Sn**	**10 46 21.6**	**+1.2**
LNCH	**Linares**	**0.78**	**147**	⇓*iP*	**Pn**	**10 46 10.3**	**+0.3**
LNCH				*i* S	**Sn**	**10 46 21.6**	**+1.2**
CLCH	**Cerro Calan**	**2.23**	**37**	*eP*	**Pn**	**10 46 30.5**	**+0.5**
CLCH				*eS*	**Sn**	**10 46 57.6**	**+1.3**
CLCH				AML	AML	10 47 12.4	
	comp=E,4μm,0.6s						
CLCH				AML	AML	10 47 13.0	
	comp=E,4μm,0.7s						
YECH	**El Yeso**	**2.28**	**48**	⇑*iP*	**Pn**	**10 46 32.1**	**+1.3**
YECH				*i* S	**Sn**	**10 47 00.3**	**+2.5**
YECH				AML	AML	10 47 02.4	
	comp=N,2μm,0.5s						
YECH	**El Yeso**	**2.28**	**48**	⇑*iP*	**Pn**	**10 46 32.1**	**+1.3**
YECH				*i* S	**Sn**	**10 47 00.3**	**+2.5**
PEL	**Peldehue**	**2.37**	**31**	⇑*iP*	**Pn**	**10 46 32.8**	**+0.9**
PEL				AML	AML	10 47 11.3	
	comp=N,5μm,0.6s						
PEL	**Peldehue**	**2.37**	**31**	⇑*iP*	**Pn**	**10 46 32.8**	**+0.9**
CFAA	**Coronel Fontan**	**4.84**	**43**	Pn	**Pn**	**10 47 05.7**	**-0.1**
	comp=N,0.5nm,0.3s,baz=205,slow=8.5,SNR=34						
CFAA				Sn	Sn	10 48 10.4	+10
	comp=N,0.9nm,0.3s,baz=122,slow=19,SNR=6.4						
CFAA				LR	LR	10 48 58.2	
	comp=N,25nm,18.9s,baz=276,slow=38						
PLCA	**Paso Flores**	**5.66**	**168**	Pn	**Pn**	**10 47 16.8**	**-0.4**
	comp=N,0.9nm,0.3s,baz=348,slow=12,SNR=29						
PLCA				Lg	Lg	10 48 49.8	
	comp=N,0.9nm,0.3s,baz=87,slow=17,SNR=2.6						
PLCA	**Paso Flores**	**5.66**	**168**	*ePn*	**Pn**	**10 47 19.1**	**+2.0**
PLCA				Lg	Lg	10 48 49.8	
LCO	**Las Campanas**	**6.29**	**11**	*ePn*	**Pn**	**10 47 25.0**	**-0.9**
LCO				*eSn*	**Sn**	**10 48 34.7**	**-1.9**
LPAZ	**La Paz**	**19.17**	**12**	P	**Pn**	**10 50 17.7**	**+0.3**
	comp=N,0.2nm,0.3s,baz=196,slow=7.4,SNR=9.7						
SIV	**San Ignacio**	**21.54**	**30**	P	**P**	**10 50 39.3**	**-2.0**
	comp=N,3.8nm,0.6s,baz=225,slow=10,SNR=12						
SNAA	**Sanae**	**50.51**	**157**	P	P	10 54 46.0	-3.2
	comp=N,0.9nm,0.9s,baz=253,slow=17,SNR=3.2						
LPIG	**La Paz**	**69.19**	**323**	LR	LR	11 20 23.5	
	comp=N,781nm,21.0s,baz=216,slow=30						
TXAR	**Lajitas Array**	**70.75**	**331**	P	**P**	**10 57 08.4**	**+0.9**
	comp=N,0.4nm,0.6s,baz=146,slow=9.1,SNR=3.6						
TXAR				LR	LR	11 24 41.5	
	comp=N,511nm,21.3s,baz=0.0,slow=33						
WVT	**Waverly**	**72.46**	**347**	*eP*	**P**	**10 57 17.2**	**-0.3**
	comp=N,3.6nm,0.6s						
DBIC	**Dimbokro**	**75.63**	**71**	P	**P**	**10 57 35.4**	**-1.2**
	comp=N,3.4nm,0.7s,baz=208,slow=6.0,SNR=4.3						
DBIC	**Dimbokro**	**75.63**	**71**	*eP*	**P**	**10 57 35.7**	**-0.9**
	comp=N,4.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.68**	**70**	P	**P**	**10 58 24.8**	**-0.6**
	comp=N,2.0nm,0.8s,baz=232,slow=4.7,SNR=20						
PDAR	**Pinedale Array**	**84.80**	**333**	P	**P**	**10 58 26.3**	**+0.7**
	comp=N,0.3nm,0.6s,baz=165,slow=3.7,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**126.12**	**270**	T	T	13 23 35.3	
	baz=116						
H11N1	**WAKE ISLAND Hy**	**126.13**	**270**	T	T	13 23 34.1	
	baz=116						
H11N2	**WAKE ISLAND Hy**	**126.14**	**270**	T	T	13 23 36.4	
	baz=116						
BVAR	**Borovoye Array**	**148.19**	**44**	PKPbc	**PKPbc**	**11 05 36.3**	**-0.2**
	comp=N,0.7nm,0.4s,baz=243,slow=1.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**155.27**	**34**	PKPab	**PKPab**	**11 06 08.8**	**-0.2**
	comp=N,0.4nm,0.4s,baz=300,slow=3.3,SNR=3.6						
MKAR	**Makanchi Array**	**157.59**	**51**	PKPab	**PKPab**	**11 06 18.8**	**-0.4**
	comp=N,0.6nm,0.6s,baz=288,slow=4.1,SNR=5.1						
SONM	**Songino Array**	**167.32**	**5**	PKPab	**PKPab**	**11 07 02.9**	**+1.0**
	comp=N,0.6nm,0.9s,baz=346,slow=0.6,SNR=4.4						

*IDC **12** 10:47:17.3±14.0, 53°.76N×164°.95W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/46, mbtmp3.5/5, ML2.9/1, Error ellipse: s-maj=265.3km s-min=37.3km az=82.0*
*ISCJB **12** 10:47:28.3±1.8, 53°.94N±0°.07×162°.96W±0°.06, h21km±12km, mb3.5/3, Error ellipse: s-maj=12.8km s-min=5.3km az=162.3*
*NEIC **12** 10:47:29.0, 53°.99N×163°.00W, h14km, ML3.4(AEIC), After AEIC.*

ISC 12 10:47:27.1±3.2, 54°.04N±0°.07×163°.06W±0°.04, h3km±22km, n27, σ0°89/29, mb3.5/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.85**	**346**	P	**Pn**	**10 47 46.0**	**+0.2**
FALS				S	**Sn**	**10 47 58.5**	**-0.3**
ISNN	**Isanotski Nort**	**0.90**	**332**	P	**Pn**	**10 47 47.8**	**+1.2**
ISNN				S	**Sn**	**10 48 00.5**	**+0.4**
SSLN	**Shishaldin Nor**	**0.95**	**325**	P	**Pn**	**10 47 47.2**	**-0.1**
SSLW	**Shishaldin Wes**	**0.96**	**320**	P	**Pn**	**10 47 48.2**	**+0.7**
SSLW				S	**Sn**	**10 48 01.2**	**-0.5**
WESE	**West Dahl East**	**1.00**	**297**	P	**Pn**	**10 47 48.5**	**+0.6**
WESN	**West Dahl Nort**	**1.04**	**301**	P	**Pn**	**10 47 49.5**	**+1.0**
WESN				S	**Sn**	**10 48 04.9**	**+1.3**
DT1	**Dutton Round H**	**1.16**	**23**	P	**Pb**	**10 47 50.0**	**+0.2**
DTNA	**Dutton South F**	**1.21**	**23**	P	**Pb**	**10 47 50.8**	**+0.2**
AKSA	**Akutan Strait**	**1.56**	**275**	P	**Pn**	**10 47 56.1**	**+0.5**
AKSA				S	**Sn**	**10 48 16.5**	**+0.3**
ZRO	**Akutan Zero**	**1.72**	**273**	P	**Pb**	**10 47 59.1**	**-0.2**
AKGG	**Akutan Green G**	**1.73**	**277**	P	**Pb**	**10 47 59.1**	**-0.4**
SDPT	**Sand Point**	**1.99**	**48**	P	**Pn**	**10 48 02.5**	**+0.9**
SDPT				S	**Sn**	**10 48 27.7**	**+0.7**
UNV	**Unalaska Valle**	**2.04**	**266**	P	**Pn**	**10 48 03.6**	**+1.3**
UNV				S	**Sn**	**10 48 28.3**	**+0.1**
MREP	**Makushin Rep't**	**2.19**	**266**	P	**Pn**	**10 48 05.1**	**+0.7**
MSW	**Makushin Switc**	**2.20**	**268**	P	**Pn**	**10 48 05.4**	**+0.9**
MSOM	**Makushin Julie**	**2.31**	**266**	P	**Pn**	**10 48 06.3**	**+0.3**
MSOM				S	**Sn**	**10 48 35.1**	**+0.3**
ILAR	**Eielson Array**	**13.49**	**31**	Pn	**Pn**	**10 50 38.9**	**-0.3**
	0.0nm,0.3s,baz=222,slow=12,SNR=3.4						
INK	**Inuvik**	**19.88**	**33**	P	**P**	**10 51 57.0**	**-1.9**
	1.5nm,0.8s,baz=232,slow=10,SNR=5.9						
YKA	**Yellowknife Ar**	**26.25**	**52**	P	**P**	**10 53 05.0**	**+2.1**
	0.6nm,0.6s,baz=274,slow=9.4,SNR=12						
NVAR	**Mina Array Bea**	**34.02**	**99**	P	**P**	**10 54 11.8**	**-0.4**
	0.3nm,0.4s,baz=311,slow=8.2,SNR=2.0						
ULM	**Lac du Bonnet**	**40.01**	**67**	P	**P**	**10 55 01.8**	**-0.9**
	0.4nm,0.4s,baz=277,slow=8.1,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**41.24**	**226**	T	T	11 39 18.7	
	baz=26,slow=76,SNR=50						
H11N3	**WAKE ISLAND Hy**	**41.24**	**226**	T	T	11 39 18.0	
	baz=26,slow=76,SNR=63						
H11N1	**WAKE ISLAND Hy**	**41.26**	**226**	T	T	11 39 15.9	
	baz=26,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**42.41**	**225**	T	T	11 40 40.7	
	baz=26,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**42.42**	**225**	T	T	11 40 48.0	
	baz=26,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**42.43**	**225**	T	T	11 40 43.1	
	baz=26,slow=76,SNR=29						

*ISCJB **12** 10:51:22.1±0.6, 33°.06N±0°.04×139°.06E±0°.04, h10km, mb3.4/4, Error ellipse: s-maj=6.7km s-min=3.9km az=18.7*
*IDC **12** 10:51:22.6±1.5, 33°.06N×139°.03E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/28, mbtmp3.4/7, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=38.2km s-min=27.5km az=62.0*
*JMA **12** 10:51:23.1±0.1, 33°.07N×139°.17E, h52km±4km, M3.6*

ISC 12 10:51:23.2±0.8, 33°.11N±0°.05×139°.05E±0°.04, h10km, n26, σ1°35/28, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.63**	**93**	P	**Pb**	**10 51 34.7**	**-1.6**
JHCJ				S	**Sb**	**10 51 43.5**	**-1.9**
JHJ2	**Mitsune**	**0.65**	**89**	P	**Pb**	**10 51 35.0**	**-1.6**
JKO	**Kozu shima**	**1.08**	**4**	P	**Pb**	**10 51 42.2**	**-1.8**
JKO				S	**Sb**	**10 51 57.1**	**-1.1**
TK02	**Tokai 2**	**1.37**	**308**	P	**Pb**	**10 51 47.6**	**-1.1**
TK02				S	**Sg**	**10 52 06.7**	**-0.5**
TK01	**Tokai 1**	**1.39**	**299**	S	**Sg**	**10 52 06.2**	**-1.5**
TK03	**Tokai 3**	**1.39**	**320**	P	**Pb**	**10 51 48.2**	**-1.0**
TK03				S	**Sg**	**10 52 07.2**	**-0.7**
TTO4	**TONANKAI O.B.S**	**1.55**	**306**	P	**Pn**	**10 51 49.9**	**-0.7**
TTO3	**TONANKAI O.B.S**	**1.57**	**299**	P	**Pb**	**10 51 50.7**	**-1.6**
TTO3				S	**Sg**	**10 52 12.5**	**-1.3**
TTO5	**TONANKAI O.B.S**	**1.59**	**316**	P	**Pn**	**10 51 50.7**	**-0.6**
TK04	**Tokai 4**	**1.61**	**323**	P	**Pb**	**10 51 51.2**	**-1.7**
TK04				S	**Sb**	**10 52 13.1**	**-0.1**
JIZS	**Izushimoda**	**1.61**	**355**	P	**Pb**	**10 51 51.5**	**-1.6**
JIZS				S	**Sb**	**10 52 12.5**	**-1.1**
TTO2	**TONANKAI O.B.S**	**1.80**	**291**	P	**Pn**	**10 51 53.9**	**-0.2**
TTO2				S	**Sb**	**10 52 18.0**	**-0.7**
MJAR	**Matsushiro Arr**	**3.50**	**349**	Pn	**Pn**	**10 52 18.9**	**+1.2**
	1.6nm,0.3s,baz=185,slow=14,SNR=15						
MAT	**Matsushiro**	**3.50**	**349**	P	**Pn**	**10 52 19.3**	**+1.6**
MAT				S	**Sn**	**10 53 01.8**	**+2.6**
JNU	**Nakatsue**	**6.86**	**272**	Pn	**Pn**	**10 53 04.7**	**+0.9**
	1.1nm,0.3s,baz=42,slow=5.5,SNR=13						
KSRS	**Korea Array**	**10.07**	**299**	Pn	Pn	10 53 50.7	+2.8
	0.2nm,0.3s,baz=110,slow=14,SNR=3.0						
KSRS				LR	LR	10 57 41.4	
	comp=Z,109nm,22.0s,baz=190,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.17**	**111**	T	T	11 26 40.4	
	baz=304,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.18**	**111**	T	T	11 26 40.8	
	baz=304,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.19**	**111**	T	T	11 26 41.7	
	baz=304,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.71**	**114**	T	T	11 27 20.5	
	baz=309,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**28.71**	**114**	T	T	11 27 19.6	
	baz=309						
H11S2	**WAKE ISLAND Hy**	**28.73**	**114**	T	T	11 27 19.0	
	baz=309						
ZALV	**Zalesovo Beam**	**43.24**	**316**	P	**P**	**10 59 25.2**	**+0.7**
	0.3nm,0.3s,baz=90,slow=7.6,SNR=2.2						
MKAR	**Makanchi Array**	**44.67**	**305**	P	**P**	**10 59 36.1**	**0.0**
	0.4nm,0.7s,baz=91,slow=9.7,SNR=3.9						
WRA	**Warramunga Arr**	**52.94**	**186**	P	**P**	**11 00 40.4**	**+0.6**
	0.2nm,0.7s,baz=6.0,slow=7.7,SNR=3.9						
TXAR	**Lajitas Array**	**94.07**	**51**	P	**P**	**11 04 43.8**	**+1.6**
	0.1nm,0.6s,baz=332,slow=5.1,SNR=2.1						

*ISCJB **12** 10:53:12.9±0.6, 32°.02N±0°.02×114°.99W±0°.03, h8km±4km, Error ellipse: s-maj=4.8km s-min=4.0km az=173.7*
*MEX **12** 10:53:14.9±0.6, 32°.09N×114°.83W, h10km, MD3.7*
*ECX **12** 10:53:15.0±0.5, 32°.05N×115°.02W, h8km, MD3.7, ML3.9*
*NEIC **12** 10:53:15.4, 32°.12N×115°.01W, h10km, MD3.8(MEX), ML3.6(PAS), ML3.8(ECX), After PAS.*

ISC 12 10:53:13.2±1.2, 32°.03N±0°.03×115°.04W±0°.03, h5km±10km, n29, σ0°79/43, 4C-12D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.18**	**258**	⇓*eP*	**Pg**	**10 53 15.9**	**-0.9**
EMX				*eS*	**Sg**	**10 53 19.1**	**0.0**
MBIG	**Mexicali**	**0.41**	**340**	*i* P	**Pb**	**10 53 22.5**	**-0.4**
MBIG				*eS*	**Sb**	**10 53 29.8**	**+0.4**
CPBX	**Cerro Prieto**	**0.45**	**330**	⇓*eP*	**Pb**	**10 53 23.3**	**-0.5**
CPBX				⇑*e*		10 53 32.4	
CPBX				AML	AML	10 53 32.4	
	comp=E,36μm,0.4s						
CPBX				⇓*e*		10 53 32.9	
CPBX				AML	AML	10 53 32.9	
	comp=N,32μm,0.5s						
CPBX	**Cerro Prieto**	**0.45**	**330**	*eP*	**Pb**	**10 53 23.2**	**-0.6**
CPBX				*eS*	**Sb**	**10 53 30.2**	**-0.6**
ECBX	**El Chinero**	**0.55**	**181**	⇑*eP*	**Pg**	**10 53 23.1**	**-0.8**
ECBX				*eS*	**Sg**	**10 53 31.4**	**+0.4**
YMD	**Yuma Desert**	**0.67**	**38**	⇑*iP*	**Pg**	**10 53 26.2**	**+0.1**
RDX	**Rancho Dawling**	**0.78**	**263**	⇑*eP*	**Pb**	**10 53 29.3**	**-0.1**
RDX				*eS*	**Sg**	**10 53 39.6**	**+1.3**
SGL	**Mount Signal**	**0.85**	**317**	⇓*iP*	**Pg**	**10 53 29.9**	**+0.2**
YUH	**Yuha Desert**	**0.97**	**310**	⇓*iP*	**Pg**	**10 53 31.7**	**-0.2**
SPIG	**San Pedro Mart**	**1.04**	**201**	*eP*	**Pg**	**10 53 33.9**	**+0.6**
SPIG				*eS*	**Sb**	**10 53 48.5**	**+0.4**
SPIG	**San Pedro Mart**	**1.04**	**201**	*eP*	**Pg**	**10 53 33.9**	**+0.6**
SPIG				*eS*	**Sb**	**10 53 48.5**	**+0.4**
SPX	**San Pedro Mart**	**1.04**	**201**	*eP*	**Pg**	**10 53 33.9**	**+0.7**
SPX				⇓*e*		10 53 50.4	
SPX				AML	AML	10 53 50.5	
	comp=N,1μm,0.2s						
SPX	**San Pedro Mart**	**1.04**	**201**	*i* P	**Pg**	**10 53 33.9**	**+0.7**
SPX				*eS*	**Sb**	**10 53 48.7**	**+0.6**
RMX	**La Rumorosa**	**1.05**	**303**	*eP*	**Pg**	**10 53 33.5**	**0.0**
RMX				*eS*	**Sg**	**10 53 47.8**	**+0.6**
RMX				⇓*e*		10 53 48.4	
RMX				AML	AML	10 53 48.4	
	comp=N,2μm,0.2s						
ZAX	**El Zacaton**	**1.17**	**245**	⇓*eP*	**Pg**	**10 53 35.5**	**-0.1**
ZAX				⇓*e*		10 54 02.6	
ZAX				AML	AML	10 54 02.6	
	comp=N,2μm,0.6s						
ECNX	**Esteban Cantu**	**1.38**	**255**	⇓*eP*	**Pn**	**10 53 38.7**	**-0.6**
CBX	**Cerro Bola**	**1.41**	**282**	*eP*	**Pn**	**10 53 38.7**	**-1.0**
CBX				*i* S	**Sb**	**10 53 58.2**	**-0.3**
CBX	**Cerro Bola**	**1.41**	**282**	*eP*	**Pn**	**10 53 39.5**	**-0.3**
CBX				*eS*	**Sb**	**10 53 58.7**	**+0.2**
CBX				⇓*e*		10 54 02.2	
CBX				AML	AML	10 54 02.2	
	comp=E,2μm,0.3s						
CBX	**Cerro Bola**	**1.41**	**282**	*eP*	**Pn**	**10 53 38.7**	**-1.0**
CBX				*i* S	**Sb**	**10 53 58.2**	**-0.3**
PBX	**Punta Banda**	**1.47**	**259**	⇓*eP*	**Pn**	**10 53 39.9**	**-0.5**
PBX				*eS*	**Sn**	**10 53 60.0**	**0.0**
BAR	**Barrett**	**1.53**	**296**	*ePn*	**Pn**	**10 53 40.1**	**-1.2**
BAR				*eSn*	**Sn**	**10 54 01.2**	**-0.5**
214A	**Organ Pipe Nat**	**1.89**	**92**	*ePn*	**Pn**	**10 53 44.4**	**-1.8**
PFO	**Pinyon Flats O**	**1.98**	**323**	*ePn*	**Pn**	**10 53 48.6**	**+1.0**
TUC	**Tucson**	**3.62**	**84**	*ePn*	**Pn**	**10 54 10.7**	**+0.7**
OSI	**Osito Audit: C**	**4.03**	**311**	Pn	**Pn**	**10 54 16.9**	**+1.3**
SHPR	**Sheep Range**	**4.47**	**359**	*ePn*	**Pn**	**10 54 21.8**	**-0.1**
ISA	**Isabella, Lake**	**4.62**	**323**	Pn	**Pn**	**10 54 26.1**	**+2.3**
CCUT	**Cedar City**	**5

0.3nm,0.3s,baz=342,slow=19,SNR=5.8
EIDS Eidsvold 27.19 258 P **P** 11 10 46.9 +1.5
baz=27,SNR=4.6
RMQ Roma 29.30 255 P **P** 11 11 06.2 +2.5
baz=29,SNR=4.9
CNB Canberra Magne 30.20 238 P **P** 11 11 14.0 +2.6
baz=30,SNR=5.7
CTA Charters Tower 32.10 267 P **P** 11 11 28.6 +0.8
9.6nm,0.5s,baz=93,slow=11,SNR=34
CMSA Cobar Meteorol 32.39 246 P **P** 11 11 31.8 +1.8
baz=32,SNR=20
QLP Quilpie 33.35 255 P **P** 11 11 39.4 +1.2
baz=33,SNR=13
PMG Port Moresby 34.56 286 P **P** 11 11 48.6 +0.2
11nm,0.6s,baz=124,slow=9.8,SNR=6.0
STKA Stephens Creek 35.90 246 P **P** 11 12 01.2 +1.9
baz=36,SNR=21
COEN Coen 36.48 277 P **P** 11 12 05.1 +0.8
baz=36,SNR=4.8
BBOO Buckleboo 40.64 245 P **P** 11 12 38.7 +1.0
baz=40,SNR=10
ASAR Alice Springs 42.91 259 P **P** 11 12 56.4 +0.7
12nm,0.6s,baz=100,slow=8.0,SNR=160
ASAR PcP **PcP** 11 14 33.9 +0.8
2.3nm,0.6s,baz=111,slow=3.8,SNR=10
ASAR ScP **ScP** 11 17 32.5 +3.0
0.3nm,0.6s,baz=101,slow=4.3,SNR=4.1
ASAR S **S** 11 18 38.8 -0.8
1.5nm,1.0s,baz=98,slow=16,SNR=8.7
WRA Warramunga Arr 43.13 264 P **P** 11 12 57.4 -0.1
3.4nm,0.3s,baz=94,slow=8.2,SNR=359
WRA PcP **PcP** 11 14 34.0 +0.1
0.9nm,0.5s,baz=99,slow=3.6,SNR=4.2
WRA ScP **ScP** 11 17 32.6 +2.2
1.1nm,0.7s,baz=98,slow=3.9,SNR=8.3
WRA S **S** 11 18 39.6 -3.2
0.4nm,0.7s,baz=97,slow=14,SNR=3.6
JAY Jayapura 43.45 291 P **P** 11 12 59.4 -0.6
12nm,0.6s,baz=162,slow=4.2,SNR=6.0
KDU Kakadu 46.76 273 P **P** 11 13 25.1 -0.1
baz=46,SNR=13
FORT Forrest 47.45 248 P **P** 11 13 30.8 +0.6
baz=47,SNR=8.5
WRKA Warakurna 47.79 256 P **P** 11 13 33.5 +0.7
baz=48,SNR=91
WRKA S **S** 11 19 46.5 -1.2
baz=48,SNR=4.7
MTN Manton Dam 47.95 273 P **P** 11 13 33.8 -0.3
baz=48,SNR=11
KNRA Kununurra 49.31 268 P **P** 11 13 44.5 +0.4
baz=49,SNR=28
FAKI Fak Fak 50.70 285 P **P** 11 13 54.3 -0.1
baz=50,SNR=4.3
SOEI Soe 55.32 273 P **P** 11 14 29.0 +1.7
baz=55,SNR=10
VNDA Vanda 56.05 185 P P 11 14 34.4 +3.3
1.0nm,0.7s,baz=0.5,slow=7.4,SNR=8.6
MEEK Meekatharra 56.16 252 P **P** 11 14 33.1 +0.3
baz=56,SNR=8.3
BLDU Ballidu 57.19 247 P **P** 11 14 40.2 +0.5
baz=57,SNR=14
MORW Morawa 58.00 249 P **P** 11 14 46.1 +0.8
baz=58,SNR=4.3
JAGI Jajag, Banyuwa 65.12 271 P **P** 11 15 31.2 -0.7
baz=65,SNR=4.0
UGM Wanagama 68.68 270 P **P** 11 15 54.1 +0.3
baz=68,SNR=4.5
MJAR Matsushiro Arr 70.90 325 P **P** 11 16 05.7 -0.7
4.3nm,0.7s,baz=152,slow=5.5,SNR=8.5
ASAJ Asahikawa 74.69 333 P **P** 11 16 27.6 -0.3
4.9nm,0.5s,baz=224,slow=5.8,SNR=11
KSRS Korea Array 77.39 320 P **P** 11 16 40.9 -1.9
0.6nm,0.4s,baz=121,slow=5.9,SNR=3.1
PETK Petropavlovsk- 77.66 346 P **P** 11 16 43.5 -0.5
1.4nm,0.3s,baz=152,slow=6.5,SNR=7.6
USRK Ussuriysk Ar. 79.72 327 P **P** 11 16 55.6 +0.4
3.5nm,0.9s,baz=158,slow=3.8,SNR=5.8
PLCA Paso Flores 88.97 134 P **P** 11 17 40.1 -0.7
31nm,0.3s,baz=271,slow=6.8,SNR=259
CMAR Chiang Mai Arr 89.52 290 P **P** 11 17 45.7 +2.1
5.0nm,0.8s,baz=134,slow=3.3,SNR=31
ILAR Eielson Array 90.31 13 P **P** 11 17 44.9 -1.3
0.8nm,0.6s,baz=220,slow=4.3,SNR=20
PDAR Pinedale Array 91.11 44 P **P** 11 17 50.1 -0.6
0.6nm,0.8s,baz=181,slow=3.6,SNR=2.8
ZALV Zalesovo Beam 111.07 321 PKiKP **PKiKP** 11 23 13.2 -1.6
0.7nm,0.4s,baz=134,slow=4.2,SNR=3.6
MKAR Makanchi Array 111.48 313 PKiKP **PKiKP** 11 23 14.9 -0.9
0.5nm,0.5s,baz=220,slow=1.3,SNR=9.2
SPITS Spitsbergen Ar 123.54 356 PKP **PKPdf** 11 23 37.0 -1.2
26nm,1.0s,baz=69,slow=4.6,SNR=6.7
AKTO Aktyubinsk 127.52 317 PKP **PKPdf** 11 23 45.9 -0.5
1.1nm,0.6s,baz=87,slow=3.1,SNR=4.1
GEYT Alibeck 128.64 301 PKP **PKPdf** 11 23 49.7 +0.7
1.4nm,0.3s,baz=355,slow=3.6,SNR=3.6
ARCES ARCESS Array B 130.41 349 PKP **PKPdf** 11 23 50.0 -1.4
1.7nm,0.4s,baz=27,slow=1.9,SNR=16
FINES FINESS Array B 137.09 342 PKhKP PKPpre 11 23 51.7
0.9nm,0.5s,baz=69,slow=2.5,SNR=6.4
FINES PKP **PKPdf** 11 24 03.3 -0.8
1.1nm,0.4s,baz=67,slow=4.7,SNR=9.1
NOA NORSAR Array B 140.56 352 PKhKP PKPpre 11 24 03.3
1.5nm,0.7s,baz=16,slow=4.7,SNR=4.3
HFS Hagfors 141.06 350 PKhKP PKPpre 11 24 05.4
3.4nm,0.3s,baz=64,slow=3.4,SNR=22
AKASG Malin Array Be 143.91 329 PKP PKPbc 11 24 15.0 -1.0
5.7nm,0.3s,baz=42,slow=4.1,SNR=53
EKA Eskdalemuir Ar 146.86 4 PKPbc **PKPbc** 11 24 23.6 -0.9
3.3nm,0.7s,baz=336,slow=2.3,SNR=12
BRTR Keskin Array B 147.03 309 PKPbc **PKPbc** 11 24 25.3 -0.3
3.8nm,0.7s,baz=135,slow=4.6,SNR=17
MLR Muntele Rosu 148.97 324 PKPbc **PKPbc** 11 24 29.3 -1.0
0.5nm,0.3s,baz=352,slow=7.1,SNR=5.0
UPC Upice 149.35 341 *e*PKP **PKPbc** 11 24 31.4 +0.6
UPC *ex* x 11 24 38.2
DPC Dobruska-Polom 149.39 340 *e*PKP **PKPbc** 11 24 31.5 +0.5
DPC *ex* x 11 24 36.4
DPC *ex* x 11 24 38.6
CLL Collm 149.46 345⇓ *i*PKPbc **PKPbc** 11 24 31.2 +0.1
comp=Z,18nm,0.8s
CLL ⇑ *i*PKPab **PKPab** 11 24 37.8 -0.6
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 149.62 343 *e*PKP **PKPbc** 11 24 29.1 -2.3
comp=Z,2.4nm,0.6s
BRG *i* 11 24 31.7
comp=Z,13nm,0.6s
PVCC Panska Ves 149.75 342 *e*PKP **PKPbc** 11 24 32.3 +0.5
PRA Prague 150.21 342 *e*PKP **PKPbc** 11 24 33.3 +0.5
GOPC GO Pecny, Ondr 150.24 341 *e*PKP **PKPbc** 11 24 33.3 +0.3
GOPC *ex* x 11 24 41.9
PRU Pruhonice 150.25 342 *e*PKP **PKPbc** 11 24 33.2 +0.2
PRU *ex* x 11 24 41.8
TREC Trest 150.57 340 *e*PKP **PKPbc** 11 24 34.0 +0.2
KHC Kasperske Hory 151.29 342 *e*PKP **PKPbc** 11 24 34.8 -0.6
KHC *ex* x 11 24 46.0
GERES GERESS Array B 151.52 342 PKPbc **PKPbc** 11 24 35.9 -0.2
comp=Z,1.8nm,0.4s,baz=52,slow=1.7,SNR=12
GERES PKPab **PKPab** 11 24 46.8 -0.5
comp=Z,2.3nm,1.0s,baz=31,slow=3.1,SNR=5.3
VTS Vitosha 152.34 322⇓ *i*P **PKPab** 11 24 52.4 +1.3
MMB Musomiste 152.67 320⇓ *i*P **PKPab** 11 24 52.8 +0.4
MDT Midelt 168.51 23 PKP **PKPdf** 11 24 46.3 -2.0
comp=Z,1.9nm,0.4s,baz=333,slow=6.9,SNR=4.0
TORD Torodi Ar. Bea 170.87 186 PKP **PKPdf** 11 24 49.3 -0.6
comp=Z,0.5nm,0.8s,baz=213,slow=5.0,SNR=3.4

*SKHL **12** 11:08:49.5±0.4, 44.°02N×147.°79E, h50km, mb4.0/2*
*JMA **12** 11:08:50.7±0.2, 43.°84N×147.°52E, h22km, M3.3*
ISC 12 11:08:51.5±4.4, **43.9N**±0.1°×**147.6E**±0.3°, **h29**km±18km, **n13, σ0.70/17, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.54**	**266**	*e*P	**Pb**	**11 09 02.5**	**0.0**
SHO				*e*S	**Sn**	**11 09 12.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.25**	**276**	*e*P	**Pn**	**11 09 11.7**	**-1.2**
YUK				AMB	AMB	11 09 14.9	
	88nm,0.3s						
YUK				*e*S	**Sn**	**11 09 28.3**	**-0.4**
YUK				A	A	11 09 32.2	
	170nm,0.5s						
YUK				A	A	11 09 32.2	
	228nm,0.5s						
KUR	**Kuril'sk**	**1.34**	**9**	*e*P	Pn	11 09 09.0	-5.2
KUR				AMB	AMB	11 09 12.2	
	41nm,0.4s						
KUR				*e*S	Sn	11 09 24.0	-7.0
KUR				A	A	11 09 25.8	
	37nm,0.2s						
KUR				A	A	11 09 25.8	
	84nm,0.2s						
NEM2	**Nemuro 2**	**1.44**	**248**	P	**Pn**	**11 09 15.0**	**-0.6**
NEM2				*e*S	**Sn**	**11 09 32.6**	**-0.9**
JRA	**Rausu**	**1.77**	**272**	P	**Pn**	**11 09 20.5**	**+0.3**
JNK	**Nakash**	**2.10**	**262**	P	**Pn**	**11 09 24.8**	**+0.1**
JNK				*e*S	**Sn**	**11 09 49.5**	**-0.3**
JAK	**Akkeshi**	**2.29**	**247**	P	**Pn**	**11 09 27.2**	**-0.1**
JAK				*e*S	**Sn**	**11 09 53.8**	**-0.7**
JTKR	**Abashiri--Toko**	**2.65**	**273**	P	**Pn**	**11 09 32.8**	**+0.5**
JAR	**Ashorobuto**	**2.83**	**259**	P	**Pn**	**11 09 35.6**	**+0.8**
JOB	**Onbets**	**2.91**	**251**	P	**Pn**	**11 09 36.4**	**+0.6**
JMP	**Maruseppu**	**3.05**	**273**	P	**Pn**	**11 09 38.4**	**+0.6**
JCH	**Churui**	**3.34**	**249**	*e*S	**Sn**	**11 10 21.3**	**+0.8**
JNBK	**Urakawa-nobuka**	**3.89**	**247**	*e*S	**Sn**	**11 10 34.2**	**+0.2**

*CASC **12** 11:10:01.1±4.0, 17.°02N×92.°37W, h0km±233km, MD4.4, mb4.6(NEIC)*
*IDC **12** 11:10:01.8±0.7, 16.°45N×92.°38W, h206km±6km, mb3.9/17, mb1 4.1/19, mb1mx3.8/50, mbtmp4.5/19, Error ellipse: s-maj=19.4km s-min=7.0km az=55.0*
*ISCJB **12** 11:10:03.2±0.2, 16.°36N±0.°03×92.°62W±0.°04, h229km±2km, mb4.4/72, Error ellipse: s-maj=6.6km s-min=3.3km az=142.0*
*NEIC **12** 11:10:03.1±0.4, 16.°31N×92.°62W, h215km±4km, mb4.6/72, MD4.5(MEX), Error ellipse: s-maj=7.0km s-min=4.7km az=47.0*
NEIC Felt at Frontera and Oaxaca.
*MEX **12** 11:10:04.3±0.8, 16.°31N×92.°88W, h220km±9km, MD4.4*
*BJI **12** 11:10:05.6, 16.°50N×92.°50W, h231km, mB5.1/1*
ISC 12 11:10:03.1±0.5, **16.°28N**±0.°04×**92.°83W**±0.°03, **h222**km±4km, **n493, σ1$26/516, mb4.4/72, 175C-167D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.67**	**89**	*i* P	**Pn**	**11 10 33.7**	**0.0**
CCIG				*i* S	**S**	**11 10 55.5**	**-1.9**
CCIG	**Comitan**	**0.67**	**89**	*i* P	**Pn**	**11 10 33.7**	**0.0**
CCIG				*i* S	**S**	**11 10 55.5**	**-1.9**
PCIG		**0.68**	**213**	*i* P	**Pn**	**11 10 32.7**	**-0.8**
PCIG				*e*S	**S**	**11 10 55.3**	**-1.9**
PCIG		**0.68**	**213**	*i* P	**Pn**	**11 10 32.7**	**-0.8**
PCIG				*e*S	**S**	**11 10 55.3**	**-1.9**
THIG		**1.47**	**158**	*i* P	**Pn**	**11 10 38.3**	**-0.3**
THIG				*i* S	**S**	**11 11 05.7**	**-0.5**
THIG		**1.47**	**158**	*i* P	**Pn**	**11 10 38.3**	**-0.3**
THIG				*i* S	**S**	**11 11 05.7**	**-0.5**
CMIG	**Matias Romero**	**2.13**	**293**	P	**Pn**	**11 10 43.9**	**-0.7**
	38nm,0.3s,baz=120,slow=6.4,SNR=452						
CMIG				S	**S**	**11 11 14.8**	**-2.0**
	463nm,0.3s,baz=348,slow=20,SNR=79						
JAT	**Jato**	**2.26**	**149**⇓	*e*P	**Pn**	**11 10 47.2**	**+1.2**
APG	**El Apazote**	**2.61**	**119**	P	Pn	11 10 43.2	-6.7
	476nm,0.3s,baz=297,slow=6.9,SNR=1209						
APG				S	S	11 11 18.5	-7.7
	69nm,0.3s,baz=231,slow=20,SNR=43						
PCG	**Pacaya**	**2.85**	**131**	*e*P	**Pn**	**11 10 53.4**	**+0.8**
NBG	**Las Nubes**	**2.93**	**125**⇑	*e*P	**Pn**	**11 10 54.0**	**+0.5**
NBG				*e*S	**S**	**11 11 34.0**	**+1.4**
SCIG	**Sabancuy**	**3.10**	**30**	*i* P	**Pn**	**11 10 54.3**	**-0.8**
SCIG				*i* S	**S**	**11 11 33.8**	**-2.0**
SCIG	**Sabancuy**	**3.10**	**30**	*i* P	**Pn**	**11 10 54.3**	**-0.8**
SCIG				*i* S	**S**	**11 11 33.8**	**-2.0**
HUIG	**Huatulco**	**3.19**	**261**	*i* P	**Pn**	**11 10 54.4**	**-1.7**
HUIG				*i* S	**S**	**11 11 35.5**	**-2.1**
HUIG	**Huatulco**	**3.19**	**261**	*i* P	**Pn**	**11 10 54.4**	**-1.7**
HUIG				*i* S	**S**	**11 11 35.5**	**-2.1**
MRL	**Marmol**	**3.25**	**111**⇑	*e*P	**Pn**	**11 10 57.2**	**+0.1**
MRL				*e*S	**S**	**11 11 37.3**	**-1.9**
RBDL	**Robledal**	**3.72**	**125**	*e*P	**Pn**	**11 11 02.6**	**0.0**
VHO	**Vista Hermosa**	**3.82**	**282**	*i* P	**Pn**	**11 11 04.2**	**+0.4**
VHO				*i* S	**S**	**11 11 48.9**	**-2.5**
VHO	**Vista Hermosa**	**3.82**	**282**	*i* P	**Pn**	**11 11 04.1**	**+0.3**
VHO				*i* S	**S**	**11 11 50.1**	**-1.3**
SNJE	**San Jose**	**3.93**	**127**	*e*P	**Pn**	**11 11 05.1**	**-0.1**
SBLS	**San Blas**	**3.93**	**128**	*e*P	**Pn**	**11 11 05.1**	**-0.1**
BOQS	**Boqueron**	**4.26**	**126**	*e*P	**Pn**	**11 11 09.1**	**-0.1**
LFU	**La Fuente**	**4.38**	**124**	*e*P	**Pn**	**11 11 10.2**	**-0.3**
LFRS	**El Faro**	**4.50**	**125**	*e*P	**Pn**	**11 11 18.8**	**-0.2**
LFRS				*e*S	S	11 11 55.4	-11
PNIG	**Pinotepa**	**5.09**	**272**	*i* P	**Pn**	**11 11 19.1**	**-0.1**
PNIG				*e*S	**S**	**11 12 16.5**	**-2.8**
PNIG	**Pinotepa**	**5.09**	**272**	*i* P	**Pn**	**11 11 19.1**	**-0.1**
PNIG				*e*S	**S**	**11 12 16.5**	**-2.8**
CAHU	**Cacacuatique**	**5.11**	**119**	*e*P	**Pn**	**11 11 20.0**	**+0.2**
VSM	**San Miguel**	**5.24**	**122**	*e*P	**Pn**	**11 11 21.1**	**+0.2**
TLIG	**Tlapa**	**5.64**	**284**	*i* P	**Pn**	**11 11 26.9**	**+0.7**
TLIG				*e*S	**S**	**11 12 28.6**	**-3.5**
TEIG	**Tepich**	**5.84**	**47**	*e*Pn	**Pn**	**11 11 26.7**	**-2.0**
JTS	**JuntasAbangare**	**9.70**	**127**	P	**Pn**	**11 12 16.5**	**-1.9**
	18nm,0.3s,baz=323,slow=17,SNR=52						
JTS	**JuntasAbangare**	**9.70**	**127**	*e*Pn	**Pn**	**11 12 17.5**	**-0.9**
JCR	**Jicaral**	**9.87**	**129**	*e*P	**Pn**	**11 12 20.4**	**-0.1**
CGA2	**Cerro Gallo 2**	**10.25**	**126**	*e*P	**Pn**	**11 12 24.8**	**-0.7**
BUS	**Buena Vista**	**11.08**	**126**	*e*P	**Pn**	**11 12 36.0**	**-0.4**
035Z	**Hargill**	**11.25**	**335**	⇑P	**Pn**	**11 12 39.9**	**+2.0**
	baz=11						
035A	**Encino**	**11.68**	**336**	⇑P	**Pn**	**11 12 45.2**	**+1.8**
	baz=12						
034A	**Hebbronville**	**12.03**	**334**	⇑P	**P**	**11 12 50.6**	**-1.1**
	baz=12,SNR=46						
934A	**Benavides**	**12.44**	**336**	⇓P	**P**	**11 12 55.5**	**-0.8**
	baz=12,SNR=24						
933A	**Laredo**	**12.76**	**333**	⇑P	**Pn**	**11 12 58.8**	**+1.8**
	baz=13,SNR=50						
835A	**Beeville**	**12.81**	**340**	⇓P	**Pn**	**11 12 59.3**	**+1.7**
	baz=13,SNR=16						
834A	**Tilden**	**12.92**	**337**	⇓P	**Pn**	**11 13 00.4**	**+1.5**
	baz=3						
735A	**Kenedy**	**13.33**	**341**	⇑P	**Pn**	**11 13 05.0**	**+1.0**
	baz=13,SNR=8.1						
833A	**Chaparral WMA,**	**13.43**	**334**	⇓P	**Pn**	**11 13 06.4**	**+1.1**
	baz=14,SNR=27						
734A	**La Parita Cree**	**13.58**	**338**	⇑P	**Pn**	**11 13 08.3**	**+1.3**
	baz=14,SNR=21						
636A	**Smothers Creek**	**13.71**	**344**	⇑P	**Pn**	**11 13 09.8**	**+1.2**
	baz=14,SNR=36						
733A	**Divot King Ran**	**13.74**	**335**	⇑P	**P**	**11 13 10.8**	**+0.1**
	baz=14,SNR=150						
635A	**Leesville**	**13.82**	**342**	⇓P	**Pn**	**11 13 10.6**	**+0.6**
	baz=14,SNR=12						
HKT	**Hockley**	**13.89**	**349**	*e*Pn	**Pn**	**11 13 10.8**	**0.0**
634A	**China Grove, S**	**14.00**	**340**	⇑P	**Pn**	**11 13 13.5**	**+1.3**
	baz=14						
732A	**Laxson Ranch,**	**14.03**	**333**	⇓P	**Pn**	**11 13 13.3**	**+0.7**
	baz=14,SNR=95						
537A	**Green Hill Far**	**14.11**	**348**	⇓P	**Pn**	**11 13 14.2**	**+0.7**
	baz=14,SNR=19						
536A	**Bastrop**	**14.27**	**345**	⇓P	**P**	**11 13 16.9**	**+0.4**
	baz=14,SNR=10						
633A	**Saathoff Ranch**	**14.36**	**337**	⇑P	**P**	**11 13 17.8**	**+0.3**
	baz=14						
535A	**Dale**	**14.36**	**343**	⇓P	**P**	**11 13 18.0**	**+0.5**
	baz=14,SNR=26						
438A	**Sam Houston St**	**14.61**	**351**	⇑P	**Pn**	**11 13 20.4**	**+0.8**
	baz=15,SNR=13						
534A	**Blanco**	**14.63**	**340**	⇓P	**P**	**11 13 21.4**	**+0.8**
	baz=15,SNR=36						
632A	**Uvalde**	**14.64**	**335**	⇓P	**P**	**11 13 21.3**	**+0.7**
	baz=15,SNR=44						
MTDJ	**Mount Denham**	**14.74**	**80**	*e*Pn	**Pn**	**11 13 20.8**	**-0.7**
437A	**Phantom Ranch,**	**14.80**	**349**	⇓P	**P**	**11 13 23.2**	**+0.9**
	baz=15,SNR=5.9						
533A	**Kerrville**	**14.86**	**339**	⇑P	**P**	**11 13 24.6**	**+1.5**
	baz=15,SNR=148						
631A	**Perdido Creek**	**14.89**	**333**	⇓P	**Pn**	**11 13 23.9**	**+0.8**
	baz=15,SNR=162						
435B	**Jarrell**	**15.08**	**344**	⇓P	**P**	**11 13 26.5**	**+1.0**
	baz=15,SNR=15						
340A	**Bronson**	**15.10**	**357**	⇓P	**Pn**	**11 13 26.0**	**+0.4**
	baz=15,SNR=15						
338A	**Crockett**	**15.18**	**352**	⇓P	**P**	**11 13 27.5**	**+0.9**
	baz=15,SNR=8.4						
337A	**Centerville**	**15.23**	**350**	⇑P	**P**	**11 13 28.9**	**+1.8**
	baz=15						
532A	**Rocksprings**	**15.24**	**336**	⇓P	**P**	**11 13 28.8**	**+1.5**
	baz=15,SNR=63						
434A	**Burnet**	**15.30**	**342**	⇓P	**P**	**11 13 29.5**	**+1.6**
	baz=15,SNR=60						
336A	**Riesel**	**15.48**	**347**	⇑P	**Pn**	**11 13 31.0**	**+0.8**
	baz=16,SNR=11						
433A	**Art**	**15.51**	**339**	⇑P	**Pn**	**11 13 31.7**	**+1.1**
	baz=16,SNR=21						
JCT	**Junction City**	**15.51**	**337**	⇓P	**Pn**	**11 13 32.2**	**+1.6**
	baz=16,SNR=19						
JCT	**Junction City**	**15.51**	**337**	*e*P	**Pn**	**11 13 31.7**	**+1.0**
	49nm,0.8s						
335A	**Moody**	**15.52**	**345**	⇓P	**Pn**	**11 13 31.5**	**+0.8**
	baz=16,SNR=17						
531A	**Rocksprings**	**15.53**	**334**	⇑P	**Pn**	**11 13 32.6**	**+1.7**
	baz=16,SNR=90						
239A	**Gary**	**15.74**	**355**	⇓P	**P**	**11 13 33.4**	**+0.7**
	baz=16						
334A	**Lometa**	**15.78**	**343**	⇑P	**P**	**11 13 34.0**	**+0.8**
	baz=16,SNR=28						
238A	**Jacksonville**	**15.79**	**353**	⇓P	**P**	**11 13 34.1**	**+0.8**
	baz=16,SNR=6.2						
530A	**J-C Ranch, Com**	**15.86**	**332**	⇑P	**Pn**	**11 13 36.8**	**+2.0**
	baz=16,SNR=71						
432A	**Menard**	**15.86**	**338**	⇑P	**Pn**	**11 13 36.6**	**+1.7**
	baz=16,SNR=36						
237A	**Washetta, Mont**	**15.89**	**351**	⇑P	**Pn**	**11 13 35.5**	**+0.4**
	baz=16						
333A	**Richland Sprin**	**16.00**	**341**	⇑P	**P**	**11 13 36.7**	**+1.0**
	baz=16,SNR=36						
431A	**Sonora**	**16.01**	**335**	⇑P	**Pn**	**11 13 37.6**	**+1.0**
	baz=16,SNR=32						
VBMS	**Vicksburg**	**16.01**	**7**	*e*Pn	**Pn**	**11 13 37.0**	**+0.5**
	102nm,0.8s						
WHTX	**Lake Whitney,**	**16.20**	**346**	⇓P	**Pn**	**11 13 39.0**	**+0.2**
	baz=16,SNR=39						
WHTX	**Lake Whitney,**	**16.20**	**346**	*e*P	**P**	**11 13 38.8**	**+0.9**
	69nm,0.8s						
529A	**Stev Forest Ra**	**16.25**	**330**	⇓P	**Pn**	**11 13 40.5**	**+1.0**
	baz=16,SNR=93						
332A	**Millersview**	**16.30**	**338**	⇑P	**Pn**	**11 13 40.8**	**+0.7**
	baz=16,SNR=148						
430A	**Baggett Ranch,**	**16.36**	**333**	⇓P	**Pn**	**11 13 42.1**	**+1.3**
	baz=16,SNR=87						
TXAR	**Lajitas Array**	**16.38**	**324**	P	**Pn**	**11 13 42.8**	**+1.8**
	5.6nm,0.3s,baz=148,slow=11,SNR=257						
TXAR				ScP	**ScP**	**11 21 34.2**	**+1.3**
	0.0nm,0.3s,baz=148,slow=5.2,SNR=5.5						
234A	**Clairette**	**16.38**	**344**	⇓P	**Pn**	**11 13 41.2**	**+0.2**
	baz=16,SNR=57						
138A	**Matatall Enter**	**16.44**	**353**	⇓P	**P**	**11 13 41.3**	**+0.9**
	baz=16						
137A	**Heron Place, G**	**16.46**	**351**	⇑P	**Pn**	**11 13 42.1**	**+0.1**
	baz=16,SNR=7.1						
331A	**San Angelo**	**16.49**	**337**	⇑P	**Pn**	**11 13 43.4**	**+1.1**
	baz=17,SNR=142						
429A	**Davenport Ranc**	**16.51**	**331**	⇑P	**Pn**	**11 13 43.8**	**+1.2**
	baz=17,SNR=138						
233A	**Rising Star**	**16.61**	**342**	⇓P	**P**	**11 13 43.8**	**+1.3**
	baz=17,SNR=117						
232A	**Coleman**	**16.73**	**339**	⇑P	**Pn**	**11 13 45.3**	**+0.1**
	baz=17,SNR=65						
135A	**Vickery Place,**	**16.73**	**346**	⇑P	**P**	**11 13 44.5**	**+0.9**
	baz=17,SNR=8.5						
330A	**Mertzon**	**16.87**	**335**	⇓P	**Pn**	**11 13 47.2**	**+0.3**
	baz=17,SNR=93						
134A	**White-Moore Ra**	**16.91**	**345**	⇑P	**P**	**11 13 46.6**	**+1.0**
	baz=17,SNR=15						
231A	**Bronte**	**17.01**	**338**	⇓P	**P**	**11 13 48.2**	**+1.4**
	baz=17,SNR=46						
133A	**Hamilton Ranch**	**17.17**	**342**	⇑P	**P**	**11 13 49.7**	**+1.2**
	baz=17,SNR=42						
GTBY	**Guantanamo Bay**	**17.23**	**75**	*e*Pn	**P**	**11 13 49.3**	**0.0**
	184nm,0.6s						
230A	**Sterling City**	**17.27**	**336**	⇑P	**P**	**11 13 51.1**	**+1.5**
	baz=17,SNR=83						
TIGA	**Tifton**	**17.28**	**28**	⇑P	**P**	**11 13 48.2**	**-1.5**
	baz=17						
TIGA	**Tifton**	**17.28**	**28**	*e*Pn	**Pn**	**11 13 50.8**	**-0.8**
	37nm,0.6s						
329A	**Wagon Wheel Ra**	**17.29**	**333**	⇓P	**Pn**	**11 13 51.8**	**+0.1**
	baz=17,SNR=62						
ABTX	**Abilene, Hawle**	**17.41**	**340**	⇑P	**P**	**11 13 52.2**	**+1.2**
	baz=18,SNR=81						
Z35A	**Perchaven, San**	**17.44**	**348**	⇑P	**P**	**11 13 52.1**	**+0.7**
	baz=18,SNR=16						
LRAL	**Lakeview Retre**	**17.50**	**16**	*e*Pn	**P**	**11 13 52.3**	**+0.3**
	26nm,0.8s						
229A	**Bryant Ranch,**	**17.62**	**334**	⇑P	**Pn**	**11 13 55.4**	**-0.2**
	baz=18,SNR=65						
Z34A	**Collier Ranch,**	**17.63**	**346**	⇑P	**P**	**11 13 54.5**	**+1.0**
	baz=18,SNR=11						
131A	**Roby**	**17.70**	**339**	⇓P	**P**	**11 13 56.1**	**+1.7**
	baz=18,SNR=132						
Z33A	**Whitaker Ranch**	**17.77**	**344**	⇓P	**P**	**11 13 56.6**	**+1.7**
	baz=18,SNR=42						
130A	**Snyder**	**17.84**	**337**	⇑P	**P**	**11 13 57.2**	**+1.3**
	baz=18,SNR=115						
Z32A	**Haskell**	**17.99**	**342**	⇑P	**P**	**11 13 58.8**	**+1.4**
	baz=18,SNR=203						
228A	**UT Block 9, Go**	**18.09**	**332**	⇑P	**P**	**11 14 00.5**	**+1.9**
	baz=18,SNR=98						
Y34A	**Reagan Ranch,**	**18.16**	**347**	⇑P	**P**	**11 13 59.7**	**+0.5**
	baz=18,SNR=36						
MIAR	**Mount Ida**	**18.20**	**358**	*e*P	**P**	**11 13 59.8**	**+0.2**
	43nm,0.8s						
Z31A	**Sharp Cattle R**	**18.21**	**340**	⇓P	**P**	**11 14 00.9**	**+1.1**
	baz=18,SNR=106						
129A	**Stewart Farms,**	**18.23**	**335**	⇑P	**P**	**11 14 01.8**	**+1.8**
	baz=18,SNR=130						
Y33A	**Hilltop Ranch,**	**18.41**	**345**	⇑P	**P**	**11 14 02.7**	**+0.7**
	baz=18,SNR=28						
OXF	**Oxford**	**18.42**	**9**	*e*P	**P**	**11 14 01.8**	**-0.2**
	31nm,0.6s						
UALR	**University of**	**18.43**	**1**	*e*P	**P**	**11 14 02.7**	**+0.7**
	28nm,0.9s						
128A	**Castleberry Fa**	**18.48**	**333**	⇓P	**P**	**11 14 04.3**	**+1.6**
	baz=19,SNR=128						
Z30A	**Sanderson Ranc**	**18.52**	**338**	⇑P	**P**	**11 14 03.9**	**+0.7**
	baz=19,SNR=

75nm,1.0s
X29A **Tulia** 19.77 338 ⇑P P 11 14 17.1 +0.5
baz=20,SNR=74
W31A **Holland Ranch,** 19.88 343 ⇑P P 11 14 17.7 -0.1
baz=20,SNR=27
V34A **Guthrie** 19.92 349 ⇓P P 11 14 17.7 -0.4
baz=20,SNR=25
V34A **Guthrie** 19.92 349 *e*P P 11 14 17.6 -0.5
59nm,0.6s
X28A **Dimmitt** 20.02 337 ⇑P P 11 14 19.6 +0.3
baz=20,SNR=25
W30A **Crocket Farms** 20.06 341 ⇑P P 11 14 20.2 +0.5
baz=20,SNR=12
V33A **Lossen Ranch,** 20.06 347 ⇓P P 11 14 19.7 0.0
baz=20,SNR=93
V32A **Arapaho** 20.14 345 ⇓P P 11 14 20.5 -0.1
baz=20,SNR=18
AMTX **Amarillo** 20.16 338 ⇓P P 11 14 21.3 +0.5
baz=20
AMTX **Amarillo** 20.16 338 *e*P P 11 14 21.3 +0.5
104nm,0.6s
WVT **Waverly** 20.27 12 *e*P Pn 11 14 24.8 -2.1
9.2nm,0.6s
W29A **Amarillo** 20.36 339 ⇓P P 11 14 23.8 +0.9
baz=20,SNR=87
V31A **Spring Creek L** 20.40 343 ⇑P P 11 14 24.0 +0.7
baz=20,SNR=35
U34A **Anderson Ranch** 20.51 349 ⇑P P 11 14 23.2 -1.2
baz=21,SNR=19
U34A **Anderson Ranch** 20.51 349 *e*P P 11 14 23.2 -1.2
42nm,0.6s
PBMO **Poplar Bluff** 20.53 6 *e*P P 11 14 23.7 -0.9
180nm,2.3s
U33A **Lingo Farm, Me** 20.62 348 ⇓P P 11 14 24.4 -1.2
baz=21,SNR=73
V30A **Spur Ranch, Mi** 20.63 342 ⇓P P 11 14 25.9 0.0
baz=21,SNR=12
W28A **Vega** 20.68 338 ⇓P P 11 14 26.4 0.0
baz=21,SNR=9.1
U32A **Winter Ranch,** 20.76 346 ⇑P P 11 14 27.1 0.0
baz=21
TKL **Tuckaleechee C** 20.93 21 P P 11 14 26.1 -2.7
3.0nm,0.6s,baz=189,slow=10,SNR=5.3
U31A **Nine Bar Ranch** 20.96 344 ⇓P P 11 14 30.1 +0.8
baz=21
V29A **Stinnett** 21.00 340 ⇓P P 11 14 29.7 0.0
baz=21,SNR=6.1
121A **Cookes Peak, D** 21.11 323 ⇑P P 11 14 32.9 +1.9
baz=21,SNR=20
121A **Cookes Peak, D** 21.11 323 *e*P P 11 14 32.7 +1.7
35nm,1.0s
V28A **Channing** 21.13 338 ⇓P P 11 14 31.6 +0.6
baz=21,SNR=7.1
319A **Douglas** 21.23 318 ⇓P P 11 14 34.9 +2.8
baz=21,SNR=6.8
T33A **Patterson Ranc** 21.27 348 ⇓P P 11 14 31.1 -1.2
baz=21,SNR=6.6
OTAV **Otavalo** 21.34 137 *e*P P 11 14 35.5 +1.8
6.2nm,0.8s
U30A **WK&E Inc. Balk** 21.34 342 ⇑P P 11 14 33.8 +0.7
baz=21,SNR=68
V27A **Dan Oppiter Fa** 21.36 337 ⇑P P 11 14 33.8 +0.4
baz=22,SNR=8.6
KMSC **Kings Mountain** 21.42 27 ⇑P P 11 14 33.4 -0.5
baz=21
U29A **Oasis Ranch, S** 21.45 341 ⇓P P 11 14 35.0 +0.8
baz=22,SNR=9.8
S36A **Lake Cedric, C** 21.50 354 ⇑P P 11 14 34.2 -0.4
baz=22,SNR=24
T32A **Huddler Ranch,** 21.51 347 ⇓P P 11 14 34.3 -0.4
baz=22,SNR=20
S35A **Otter Creek Ra** 21.54 352 ⇑P P 11 14 34.2 -0.9
baz=22,SNR=50
SIUC **Southern Illin** 21.59 8 *e*P P 11 14 34.7 -0.8
18nm,0.9s
T31A **Randall Ranch,** 21.61 345 ⇑P P 11 14 35.3 -0.4
baz=22,SNR=23
S34A **Willow Spring** 21.67 351 ⇑P P 11 14 35.1 -1.3
baz=22,SNR=6.7
U28A **Mallet** 21.70 339 ⇓P P 11 14 36.9 +0.2
baz=22,SNR=6.7
S33A **Kaszmaul Farm,** 21.72 349 ⇑P P 11 14 35.7 -1.1
baz=22
V26A **Tequesquite Ra** 21.76 335 ⇑P P 11 14 38.2 +0.9
baz=22,SNR=43
Y22D **IRIS PASSCAL I** 21.79 327 ⇓P P 11 14 40.0 +2.3
baz=22,SNR=5.7
T30A **Plains** 21.79 343 ⇓P P 11 14 38.1 +0.6
baz=22,SNR=23
LPM **Los Pinos Moun** 21.82 328 *e*P P 11 14 40.0 +1.9
LENM **Lemitar** 21.89 327 *e*P P 11 14 41.0 +2.3
U27A **Thompson Grove** 21.94 338 ⇑P P 11 14 39.8 +0.7
baz=22,SNR=50
S32A **Newby Ranch, P** 22.01 347 ⇑P P 11 14 39.3 -0.3
baz=22,SNR=31
R37A **Teagarden Farm** 22.02 356 ⇑P P 11 14 38.6 -1.0
baz=22,SNR=6.7
S31A **Mullinville** 22.06 346 ⇓P P 11 14 40.2 +0.1
baz=22,SNR=20
R36A **Gordon, Harris** 22.09 354 ⇑P P 11 14 39.6 -0.7
baz=22,SNR=16
T29A **Hugoton** 22.11 342 ⇓P P 11 14 41.0 +0.5
baz=22,SNR=16
LAZ **Ladron** 22.16 327 *e*P P 11 14 43.0 +1.8
15nm,0.8s
ANMO **Albuquerque** 22.24 329 *e*P P 11 14 43.4 +1.4
15nm,0.7s
U26A **Atchley Ranch,** 22.26 336 ⇑P P 11 14 43.8 +1.7
baz=22,SNR=97
S30A **Montezuma** 22.32 344 ⇓P P 11 14 43.5 +1.0
baz=22,SNR=22
T28A **Walsh** 22.33 340 ⇓P P 11 14 42.6 0.0
baz=22,SNR=13
R33A **Olander Ranch,** 22.41 349 ⇑P P 11 14 43.0 -0.3
baz=22,SNR=10.0
T27A **Campo** 22.48 339 ⇓P P 11 14 44.4 +0.4
baz=23,SNR=22
S29A **Ulysses** 22.48 343 ⇑P P 11 14 45.0 +1.0
baz=23,SNR=58
U25A **Circle Dot Ran** 22.53 335 ⇓P P 11 14 46.7 +2.1
baz=23,SNR=77
Q37A **Longview Farm,** 22.56 357 ⇑P P 11 14 44.3 -0.3
baz=23,SNR=6.5
R32A **Long Quarter,** 22.66 348 ⇑P P 11 14 45.6 +0.1
baz=23,SNR=19
S28A **Manter** 22.69 341 ⇑P P 11 14 45.9 0.0
baz=23,SNR=14
R31A **Burdett** 22.71 346 ⇑P P 11 14 46.3 +0.4
baz=23,SNR=58
TUC **Tucson** 22.80 318 *e*P P 11 14 49.5 +2.6
11nm,0.9s
SDV **Santo Domingo** 22.86 106 *e*P P 11 14 46.0 -1.7
18nm,0.6s
R30A **Dighton** 22.88 345 ⇑P P 11 14 48.2 +0.7
baz=23,SNR=107
T26A **Comanche Natio** 22.89 337 ⇓P P 11 14 48.9 +1.1
baz=23,SNR=16
KSU1 **Kansas State U** 22.98 352 ⇑P P 11 14 48.2 -0.2
baz=23,SNR=8.3
KSU1 **Kansas State U** 22.98 352 *e*P P 11 14 48.4 +0.1
138nm,0.7s
Q33A **Connelly Farm,** 23.06 350 ⇑P P 11 14 48.6 -0.4
baz=23,SNR=13
S27A **Las Animas** 23.10 339 ⇑P P 11 14 50.5 +0.8
baz=23
T25A **Trinidad** 23.17 336 ⇑P P 11 14 52.5 +2.1
baz=23,SNR=11
T25A **Trinidad** 23.17 336 *e*P P 11 14 52.5 +2.1
58nm,0.8s
Q32A **Meitler Ranch,** 23.18 349 ⇑P P 11 14 50.4 +0.2
baz=23,SNR=45
R29A **Marienthal** 23.24 343 ⇑P P 11 14 51.2 +0.4
baz=23,SNR=17
S26A **Kim** 23.25 338 ⇑P P 11 14 52.1 +1.1
baz=23,SNR=16
R28A **Tribune** 23.36 342 ⇓P P 11 14 52.3 +0.4
baz=24,SNR=62
Q31A **Ellis** 23.36 347 ⇑P P 11 14 52.0 +0.2
baz=24,SNR=7.5
P33A **Williams Farm,** 23.46 351 ⇓P P 11 14 53.1 +0.4
baz=24,SNR=5.2
T24B **San Luis** 23.50 334 ⇑P P 11 14 55.3 +1.9
baz=24,SNR=23
Q30A **Quinter** 23.52 345 ⇓P P 11 14 53.9 +0.6
baz=24,SNR=56
R27A **Eads** 23.61 340 ⇑P P 11 14 54.6 +0.4
baz=24,SNR=24
Q29A **Oakley** 23.64 344 ⇓P P 11 14 54.7 +0.4
baz=24,SNR=35
S25A **Robets Cordova** 23.64 337 ⇑P P 11 14 56.2 +1.6
baz=24,SNR=34
T23A **Casias Ranch,** 23.76 333 ⇓P P 11 14 57.1 +1.3
baz=24,SNR=7.2
X18A **Snowflake** 23.80 323 ⇑P P 11 14 58.7 +2.6
baz=24,SNR=12
P32A **Huiting Farm,** 23.80 349 ⇑P P 11 14 55.8 0.0
baz=24,SNR=37
R26A **Arlington** 23.84 339 ⇓P P 11 14 57.7 +1.4
baz=24,SNR=18
P31A **Stockton** 23.86 347 ⇑P P 11 14 57.0 +0.6
baz=24,SNR=23
S24A **Houchin Ranch,** 23.93 335 ⇑P P 11 14 58.9 +1.6
baz=24,SNR=6.5
214A **Organ Pipe Nat** 23.94 314 ⇓P P 11 14 59.1 +1.9
baz=24
R25A **Fountain Ranch** 24.01 337 ⇓P P 11 14 59.3 +1.4
baz=24,SNR=20
Q28A **Sharon Springs** 24.03 343 ⇓P P 11 14 58.3 +0.3
baz=24,SNR=32
P30A **Selden** 24.07 346 ⇑P P 11 14 59.1 +0.8
baz=24,SNR=56
W18A **Petrified Fore** 24.10 324 ⇓P P 11 15 01.7 +2.9
baz=24,SNR=12
SDCO **Great Sand Dun** 24.13 335 ⇓P P 11 15 00.8 +1.6
baz=24,SNR=20
SDCO **Great Sand Dun** 24.13 335 *e*P P 11 15 00.9 +1.7
18nm,1.3s
KSCO **Kaye Shedlock'** 24.22 341 ⇑P P 11 15 00.9 +1.1
baz=24,SNR=28
KSCO **Kaye Shedlock'** 24.22 341 *e*P P 11 15 00.5 +0.7
57nm,0.7s
P29A **Atwood** 24.29 345 ⇓P P 11 15 01.6 +1.2
baz=24,SNR=28
S23A **Nye Farm, Mont** 24.31 334 ⇓P P 11 15 02.2 +1.5
baz=24,SNR=7.1
O32A **Brockman Farm,** 24.36 350 ⇑P P 11 15 01.3 +0.4
baz=24,SNR=13
R24A **Sanders Place,** 24.39 336 ⇓P P 11 15 02.9 +1.5
baz=24,SNR=15
Q26A **Hugo** 24.43 340 ⇑P P 11 15 02.9 +1.2
baz=24,SNR=8.4
O31A **Woolen Ranch,** 24.45 348 ⇓P P 11 15 02.2 +0.5
baz=24,SNR=16
P28A **Saint Francis** 24.48 343 ⇓P P 11 15 02.9 +0.7
baz=25,SNR=34
SFIN **Lafayette** 24.53 11 *ep*P pP 11 15 51.8 +7.3
X16A **Lo Mia Camp, P** 24.61 321 ⇓P P 11 15 05.8 +2.4
baz=25,SNR=6.3
O30A **MW Ranch, Wils** 24.63 347 ⇓P P 11 15 03.7 +0.3
baz=25,SNR=14
R23A **Moffat** 24.64 335 ⇓P P 11 15 05.4 +1.6
baz=25
Q25A **Bedland, Calha** 24.67 338 ⇑P P 11 15 05.3 +1.3
baz=25,SNR=16
S22A **4UR Ranch, Cre** 24.70 333 ⇓P P 11 15 06.3 +2.0
baz=25,SNR=20
S22A **4UR Ranch, Cre** 24.70 333 *e*P P 11 15 06.3 +2.0
15nm,0.9s
P27A **Ficken Ranch,** 24.71 342 ⇑P P 11 15 05.5 +1.4
baz=25,SNR=18
O29A **4D Ranch, Culb** 24.75 345 ⇑P P 11 15 05.7 +1.2
baz=25
N32A **Stulken Farm,** 24.86 350 ⇑P P 11 15 06.2 +0.8
baz=25
Z14A **Wintersburg** 24.88 317 ⇓P P 11 15 08.2 +2.5
baz=25
P26A **Davis Ranch, A** 24.95 340 ⇑P P 11 15 08.0 +1.6
baz=25,SNR=19
O28A **Krutsinger Ran** 25.00 344 ⇓P P 11 15 08.7 +1.9
baz=25,SNR=17
N31A **Bailey Ranch,** 25.03 349 ⇓P P 11 15 08.0 +1.1
baz=25
MVCO **Mesa Verde** 25.04 329 ⇓P P 11 15 09.7 +2.3
baz=25,SNR=28
MVCO **Mesa Verde** 25.04 329 *e*P P 11 15 09.3 +2.0
23nm,0.8s
Q24A **Divide** 25.05 337 ⇑P P 11 15 09.6 +2.1
baz=25
P25A **Willow Gulch B** 25.18 339 ⇑P P 11 15 10.5 +2.0
baz=25,SNR=7.6
O27A **Beecher Island** 25.26 342 ⇑P P 11 15 10.3 +1.1
baz=25
Y14A **Wickenburg** 25.27 318 ⇓P P 11 15 11.7 +2.4
baz=25
WUAZ **Wupatki** 25.32 323 ⇓P P 11 15 12.4 +2.6
baz=26
N29A **Votaw Ranch, W** 25.37 346 ⇓P P 11 15 11.7 +1.7
baz=26,SNR=6.4
BGNE **Bedrade** 25.46 351 *ep*P pP 11 15 56.1 +1.8
N28A **Pribbeno Ranch** 25.47 344 ⇓P P 11 15 11.8 +0.8
baz=26
M31A **Lambtecht Ranc** 25.54 349 ⇑P P 11 15 12.3 +0.8
baz=26
SCIA **State Center** 25.54 359 *e*P P 11 15 13.9 +2.4
29nm,0.7s
SCIA *ep*P pP 11 16 00.1 +4.9
O26A **Horse Wrangler** 25.56 341 ⇑P P 11 15 13.0 +1.1
baz=26
P23A **Jefferson** 25.67 336 ⇓P P 11 15 14.9 +1.8
baz=26,SNR=26
O25A **Wiggins** 25.70 340 ⇑P P 11 15 14.8 +1.7
baz=26
PV01 **Paradox Valley** 25.81 331 *e*P P 11 15 15.2 +1.0
794nm,1.0s
N27A **Anderson Farm,** 25.85 343 ⇑P P 11 15 15.5 +1.1
baz=26,SNR=6.2
ISCO **Idaho Springs** 25.95 337 ⇓P P 11 15 17.1 +1.5
baz=26
ISCO **Idaho Springs** 25.95 337 *e*P P 11 15 16.9 +1.3
19nm,1.8s
SMCO **Snowmass** 25.96 334 *e*P P 11 15 17.5 +1.8
16nm,1.5s
M29A **Burnside Ranch** 25.98 346 ⇑P P 11 15 17.8 +2.3
baz=26
O24A **Longmont** 26.04 338 ⇓P P 11 15 18.0 +1.9
baz=26
P22A **Eagle** 26.22 335 ⇓P P 11 15 19.2 +1.3
baz=26,SNR=6.3
L31A **Butterfield Fa** 26.32 350 ⇑P P 11 15 19.6 +1.0
baz=26
O23A **Lake Granby, G** 26.43 337 ⇓P P 11 15 20.8 +1.0
baz=26
U15A **North Rim** 26.49 323 ⇑P P 11 15 22.1 +1.7
baz=27
L29A **Maesberg Ranch** 26.53 347 ⇑P P 11 15 21.4 +1.0
baz=27
N24A **Carr** 26.60 339 ⇓P P 11 15 22.5 +1.3
baz=27
O22A **Kremmling** 26.62 336 ⇑P P 11 15 22.5 +0.9
baz=27,SNR=7.9
JFWS **Jewell Farm** 26.64 4 *e*P P 11 15 20.7 -0.6
63nm,1.8s
M25A **Palm-Egli Farm** 26.88 341 ⇓P P 11 15 24.7 +1.0
baz=27
MONP **Monument Peak,** 26.99 312 ⇓P P 11 15 26.8 +2.0
baz=27
N22A **Wattenberg Ran** 27.14 337 ⇓P P 11 15 27.5 +1.4
baz=27,SNR=9.7
L26A **Underwood Farm** 27.14 343 ⇓P P 11 15 27.8 +1.9
baz=27
M24A **Cheyenne** 27.15 340 ⇑P P 11 15 27.9 +1.8
baz=27
PHWY **Pilot Hill** 27.22 339 *e*P P 11 15 28.0 +1.1
16nm,1.5s
O20A **White River Ci** 27.29 334 ⇓P P 11 15 28.8 +1.4
baz=27
O20A **White River Ci** 27.29 334 *e*P P 11 15 29.5 +2.1
11nm,1.0s
K28A **Ten Mile Ranch** 27.34 346 ⇓P P 11 15 28.2 +0.5
baz=27
M23A **Laramie** 27.46 339 ⇓P P 11 15 30.7 +1.8
baz=28
SRU **San Rafael Swe** 27.52 329 *e*P P 11 15 31.6 +2.1
55nm,2.6s
K27A **Flueckinger Fa** 27.54 345 ⇑P P 11 15 30.3 +0.8
baz=28
ECSD **EROS Data Cent** 27.56 354 ⇓P P 11 15 28.7 -0.8
baz=28,SNR=6.8
ECSD **EROS Data Cent** 27.56 354 *e*P P 11 15 28.2 -1.2
9.1nm,1.0s
M22A **Cedar Creek Ra** 27.71 337 ⇑P P 11 15 32.9 +1.7
baz=28
J29A **Okreek** 27.79 348 ⇓P P 11 15 32.4 +0.9
baz=28
N20A **Spence Gulch,** 27.88 334 ⇓P P 11 15 34.5 +1.8
baz=28,SNR=15
CCUT **Cedar City** 27.89 323 *e*P P 11 15 36.2 +3.5
8.6nm,1.1s
J28A **Allard Ranch,** 27.99 347 ⇓P P 11 15 34.0 +0.7
baz=28,SNR=5.6
J27A **Elkhorn Farm,** 28.00 346 ⇓P P 11 15 34.2 +0.7
baz=28
L23A **Garrett** 28.02 339 ⇑P P 11 15 34.8 +0.9
baz=28,SNR=9.2
I30A **Oacoma** 28.11 350 ⇓P P 11 15 35.0 +0.6
baz=28
L22A **Ellis Ranch, M** 28.20 338 ⇓P P 11 15 36.9 +1.4
baz=28
J26A **Sides Ranch, S** 28.33 344 ⇓P P 11 15 37.1 +0.7
baz=28,SNR=5.9
I29A **Vivian Onida** 28.37 349 ⇓P P 11 15 36.6 -0.1
baz=28,SNR=7.0
MPU **Maple Canyon** 28.76 329 *ep*P pP 11 16 30.2 +5.3
K22A **Casper** 28.78 339 ⇓P P 11 15 41.6 +1.1
baz=29,SNR=6.9
K22A **Casper** 28.78 339 *e*P P 11 15 41.7 +1.1
9.7nm,0.8s
I27A **Quinn** 28.79 346 ⇓P P 11 15 40.5 +0.1
baz=29,SNR=7.1
H29A **Onida** 28.94 349 ⇑P P 11 15 42.4 +0.6
baz=29
K21A **Alcova** 29.02 338 ⇑P P 11 15 43.8 +1.1
baz=29
I25A **Rochford** 29.16 344 ⇓P P 11 15 44.4 +0.5
baz=29,SNR=6.2
G30A **Faulkton** 29.25 351 ⇓P P 11 15 43.8 -0.7
baz=29,SNR=8.2
H27A **Howes** 29.33 346 ⇓P P 11 15 45.9 +0.7
baz=29
RSSD **Black Hills** 29.34 343 *e*P P 11 15 46.2 +0.7
5.3nm,0.6s
J22A **Midwest** 29.44 340 ⇓P P 11 15 46.9 +0.6
baz=30,SNR=7.0
H26A **Fairpoint** 29.47 345 ⇑P P 11 15 47.0 +0.5
baz=30,SNR=5.1
DUG **Dugway, Tooele** 29.49 328 ⇑P P 11 15 49.0 +2.2
baz=30
G28A **Parade** 29.51 348 ⇑P P 11 15 47.4 +0.6
baz=30
H25A **Fruitdale** 29.68 344 ⇓P P 11 15 49.2 +0.9
baz=30,SNR=5.4
J21A **Lysite** 29.72 338 ⇑P P 11 15 50.1 +1.3
baz=30,SNR=10
R11A **Troy Canyon, C** 29.72 322 ⇓P P 11 15 51.4 +2.6
baz=30,SNR=6.0
R11A **Troy Canyon, C** 29.72 322 *e*P P 11 15 51.8 +2.9
25nm,1.8s
I22A **9 Mile Ranch,** 29.87 340 ⇓P P 11 15 51.1 +1.1
baz=30,SNR=6.0
J20A **Shoshoni** 29.95 337 ⇓P P 11 15 52.4 +1.5
baz=30
HWUT **Hardware Ranch** 29.96 331 *e*P P 11 15 52.1 +1.1
6.3nm,1.0s
G27A **Dupree** 30.00 347 ⇑P P 11 15 51.3 +0.2
baz=30
PDAR **Pinedale Array** 30.03 335 P P 11 15 52.2 +0.6
1.2nm,0.7s,baz=129,slow=8.8,SNR=13
PDAR PcP PcP 11 18 47.6 -0.4
0.7nm,0.5s,baz=130,slow=5.8,SNR=10
PDAR ScP ScP 11 22 09.3 +0.3
0.6nm,0.7s,baz=176,slow=4.3,SNR=5.5
F29A **Eureka** 30.05 350 ⇑P P 11 15 50.9 -0.6
baz=30
H24A **Dirks Ranch, A** 30.06 343 ⇓P P 11 15 52.7 +1.0
baz=30,SNR=8.1
I21A **Big Trails, Te** 30.07 339 ⇑P P 11 15 52.7 +0.8
baz=30
G26A **Maurine** 30.07 346 ⇓P P 11 15 51.6 -0.2
baz=30
G25A **Newell** 30.17 345 ⇓P P 11 15 53.5 +0.8
baz=30
F28A **McLaughlin** 30.23 349 ⇑P P 11 15 53.7 +0.6
baz=30
J19A **Crowheart** 30.25 336 ⇓P P 11 15 54.1 +0.6
baz=30
H22A **Clearmont** 30.45 341 ⇓P P 11 15 55.9 +0.7
baz=31
I20A **Worland** 30.49 338 ⇓P P 11 15 56.9 +1.4
baz=31,SNR=10.0
F27A **Lemmon** 30.49 347 ⇑P P 11 15 55.5 0.0
baz=31
G24A **Alzada** 30.55 344 ⇓P P 11 15 56.6 +0.6
baz=31
F26A **Lodgepole** 30.61 346 ⇓P P 11 15 56.9 +0.4
baz=31,SNR=6.3
AHID **Auburn Hatcher** 30.68 333 *e*P P 11 15 58.2 +0.9
4.4nm,0.8s
G23A **Biddle** 30.71 342 ⇓P P 11 15 57.9 +0.5
baz=31,SNR=5.3
F25A **Bowman** 30.87 345 ⇓P P 11 15 59.3 +0.6
baz=31
I19A **Meeteetse** 30.88 337 ⇓P P 11 16 00.9 +1.8
baz=31,SNR=7.5
H20A **Greybull** 30.91 339 ⇑P P 11 16 00.0 +0.9
baz=31,SNR=8.5
E28A **Huff** 30.91 349 ⇓P P 11 15 59.4 +0.3
baz=31
E27A **Carson** 30.93 348 ⇑P P 11 15 59.6 +0.4
baz=31
G22A **Birney** 31.00 341 ⇑P P 11 16 00.2 +0.3
baz=31,SNR=7.6
F24A **Ekalaka** 31.04 344 ⇓P P 11 16 00.4 +0.1
baz=31
REDW **Red Top Meadow** 31.05 334 *e*P P 11 16 01.9 +1.3
26nm,0.9s
LOHW **Long Hollow** 31.16 335 *e*P P 11 16 02.6 +1.1
7.5nm,0.8s
E26A **Carlson Angus** 31.16 347 ⇑P P 11 16 01.6 +0.4
baz=31,SNR=7.1
ELK **Elko** 31.16 326 P P 11 16 03.1 +1.5
2.5nm,0.5s,baz=187,slow=5.5,SNR=16
ELK PcP PcP 11 18 51.5 +0.5
0.5nm,0.3s,baz=180,slow=19,SNR=3.4
F23A **Volborg** 31.19 343 ⇑P P 11 16 01.8 +0.3
baz=31,SNR=5.4
TPAW **Teton Pass** 31.20 334 *e*P P 11 16 03.4 +1.4
11nm,0.8s
G21A **Lodge Grass** 31.29 340 ⇓P P 11 16 03.1 +0.6
baz=31,SNR=5.4
FXWY **Fox Creek** 31.35 334 *e*P P 11 16 04.7 +1.5
5.6nm,0.9s
E25A **Miller Ranch,** 31.40 346 ⇓P P 11 16 04.0 +0.7
baz=32,SNR=6.6
I17A **Pilgrim Ck.** 31.40 335 ⇓P P 11 16 05.1 +1.5
baz=32,SNR=10
NVAR **Mina Array Bea** 31.42 320 P P 11 16 07.1 +3.3
17nm,0.8s,baz=132,slow=8.9,SNR=74
H19A **Powell** 31.42 338 ⇑P P 11 16 05.3 +1.6
baz=32,SNR=9.1
F22A **Rosebud** 31.49 342 ⇓P P 11 16 04.5 +0.3
baz=32
IMW **Indian Meadow** 31.53 335 *e*P P 11 16 06.1 +1.3
5.5nm,1.0s
D27A **Center** 31.58 349 ⇑P P 11 15 05.0 +0.1
baz=32
FLWY **Flagg Ranch** 31.58 335 *e*P P 11 16 06.2 +1.0
5.2nm,0.8s
EYMN **Ely** 31.60 2 *e*P P 11 16 03.0 -2.0
G20A **Bridger** 31.62 339 ⇓P P 11 16 05.8 +0.3
baz=32,SNR=5.7
E24A **Baker** 31.67 345 ⇑P P 11 16 06.5 +0.7
baz=32,SNR=6.8
H18A **Shoshone NF, C** 31.68 337 ⇑P P 11 16 06.8 +0.8
baz=32,SNR=15
H17A **Grant Village** 31.79 335 ⇑P P 11 16 08.6 +1.5
baz=32
H17A **Grant Village** 31.79 335 *e*P P 11 16 09.4 +2.3
9.9nm,1.5s
E23A **Ismay** 31.88 344 ⇑P P 11 16 07.7 +0.1
baz=32,SNR=5.6
RLMT **Red Lodge** 31.91 338 *e*P P 11 16 08.0 0.0
1.7nm,0.5s
MDND **Maddock** 31.98 351 ⇓P P 11 16 08.2 -0.1
baz=32
D25A **Fairfield** 31.99 346 ⇑P P 11 16 08.9 +0.4
baz=32
E22A **Miles City** 32.00 343 ⇑P P 11 16 08.9 +0.3
baz=32,SNR=6.1
AGMN **Agassiz Nation** 32.03 356 *e*P P 11 16 09.0 +0.2
6.1nm,0.4s
BMN **Battle Mountai** 32.05 324 *e*P P 11 16 04.8 -4.5
13nm,0.8s
YMR **Madison River** 32.18 335 *e*P P 11 16 12.5 +2.1
11nm,1.0s

D24A Glendive 32.19 345 ⇓P P 11 16 10.7 +0.4
baz=32,SNR=7.5
C26A Wahner Farm, P 32.38 348 ⇓P P 11 16 12.1 +0.2
baz=32
B30A Myrvik Farm, E 32.40 353 ⇓P P 11 16 11.6 -0.5
baz=32
E21A Keefer Ranch, 32.42 342 ⇑P P 11 16 12.5 +0.2
baz=32
F19A Roth Farm, Mol 32.42 339 ⇑P P 11 16 13.0 +0.6
baz=32,SNR=5.4
D23A Lindsay 32.47 344 ⇑P P 11 16 13.0 +0.3
baz=33,SNR=5.8
QLMT Earthquake Lak 32.50 335 *e*P P 11 16 16.0 +2.8
C25A Freed Ranch, W 32.51 347 ⇑P P 11 16 13.1 +0.1
baz=33
B29A Wagenman Farm, 32.54 352 ⇑P P 11 16 13.5 +0.2
baz=33
C24A Savage 32.60 345 ⇑P P 11 16 14.7 +0.8
baz=33
B28A Dugan Ranch, T 32.67 351 ⇓P P 11 16 14.4 0.0
baz=33
D22A Cohagen 32.71 343 ⇑P P 11 16 15.7 +0.9
baz=33,SNR=12
E20A Meyer Farm, Mu 32.72 340 ⇑P P 11 16 15.9 +0.9
baz=33,SNR=9.1
HLID Hailey 32.81 330 ⇑P P 11 16 17.5 +1.6
baz=33,SNR=6.5
HLID Hailey 32.81 330 *e*P P 11 16 17.3 +1.5
8.1nm,1.4s
D21A La Casta Ranch 32.87 342 ⇓P P 11 16 16.7 +0.5
baz=33
A30A Hoffart Farm, 32.88 353 ⇑P P 11 16 15.7 -0.5
baz=33,SNR=5.8
E19A Rath Farm, Rou 32.90 340 ⇑P P 11 16 16.9 +0.5
baz=33
A29A Manning Farm, 32.98 352 ⇑P P 11 16 16.5 -0.5
baz=33,SNR=7.6
B25A Knox Farm, Ray 33.02 347 ⇓P P 11 16 18.0 +0.6
baz=33
C23A Lambert 33.05 345 ⇓P P 11 16 18.0 +0.3
baz=33
MCMT McKenzie Canyo 33.09 333 *e*P P 11 16 20.3 +2.0
6.6nm,1.0s
C22A Vida 33.18 344 ⇑P P 11 16 19.7 +0.8
baz=33
D20A Manuel Ranch, 33.24 341 ⇑P P 11 16 19.7 +0.3
baz=33,SNR=8.1
MFID Camas Ranch 33.38 329 *e*P P 11 16 24.1 +3.3
46nm,2.4s
A26A Wade Farm, Ken 33.39 349 ⇑P P 11 16 20.6 -0.1
baz=34,SNR=7.8
DGMT Dagmar 33.43 346 ⇑P P 11 16 21.5 +0.5
baz=34
DGMT Dagmar 33.43 346 *e*P P 11 16 21.4 +0.5
11nm,0.7s
D19A Cripps Ranch, 33.55 340 ⇑P P 11 16 22.5 +0.4
baz=34,SNR=11
B23A Brockton 33.61 345 ⇓P P 11 16 23.2 +0.7
baz=34
A25A Svangstu Ranch 33.64 348 ⇓P P 11 16 23.0 +0.2
baz=34
B22A Reddig Ranch S 33.72 344 ⇓P P 11 16 23.8 +0.3
baz=34
LRM Limekiln Ridge 33.72 335 *e*P P 11 16 25.3 +1.5
C20A Veseth Ranch, 33.76 341 ⇑P P 11 16 24.3 +0.5
baz=34
ULM Lac du Bonnet 33.98 357 P P 11 16 23.6 -2.0
3.3nm,0.6s,baz=182,slow=10,SNR=7.9
ULM Lac du Bonnet 33.98 357 *e*P P 11 16 24.1 -1.5
C19A Slack Wire Ran 34.10 340 ⇓P P 11 16 27.6 +0.8
baz=34
WVOR Wild Horse Val 34.17 325 *e*P P 11 16 29.8 +2.2
8.9nm,0.9s
HRY Holter Researc 34.21 337 *e*P P 11 16 29.1 +1.3
A22A Carney Farms, 34.33 345 ⇓P P 11 16 29.7 +0.9
baz=34
B20A Solberg Farm, 34.41 342 ⇑P P 11 16 30.3 +0.9
baz=34
EGMT Eagleton 34.59 340 ⇑P P 11 16 31.4 +0.4
baz=35,SNR=8.5
EGMT Eagleton 34.59 340 *e*P P 11 16 32.0 +1.1
9.1nm,0.6s
A21A Bergtoll Ranch 34.60 344 ⇑P P 11 16 32.1 +1.1
baz=35
B19A Brinkman Farms 34.70 341 ⇑P P 11 16 32.1 +0.2
baz=35,SNR=6.0
MOD Modoc Plateau 34.77 323 *e*P P 11 16 34.6 +1.9
7.0nm,0.8s
A20A Cobblestone Ra 34.78 342 ⇓P P 11 16 33.2 +0.6
baz=35
A19A Klindworth Far 35.06 342 ⇓P P 11 16 35.4 +0.4
baz=35,SNR=5.5
MSO Missoula 35.15 335 ⇑P P 11 16 36.6 +0.8
baz=35
MSO Missoula 35.15 335 *e*P P 11 16 36.8 +1.0
13nm,1.8s
M04C Macdoel 35.60 321 ⇓P P 11 16 41.6 +1.8
baz=36
I07A Izee 35.75 326 *e*P P 11 16 42.1 +1.1
14nm,1.2s
F10A Beach Ranch, E 35.94 331 *e*P P 11 16 43.6 +1.1
8.3nm,0.9s
J05D Fort Rock, OR 36.17 324 ⇑P P 11 16 46.2 +1.5
baz=36
PTGA Pitinga 36.57 114 P P 11 16 44.7 -3.4
1.5nm,0.3s,baz=308,slow=11,SNR=6.9
J04D Umpqua Nationa 36.65 323 ⇑P P 11 16 50.1 +1.4
baz=37
I05D Terrebonne, OR 36.91 325 ⇑P P 11 16 52.4 +1.7
baz=37
I04A Tendick Farm, 37.16 324 ⇓P P 11 16 54.3 +1.5
baz=37
G05D Wamic, OR 37.48 326 ⇑P P 11 16 57.2 +1.7
baz=38
H04A Detroit Lake 37.59 325 *e*P P 11 16 58.3 +1.8
24nm,0.7s
NEW Newport 37.61 333 P P 11 16 55.1 -1.4
2.2nm,0.7s,baz=164,slow=11,SNR=5.0
NEW PcP **PcP** 11 19 08.3 -1.0
1.2nm,0.5s,baz=169,slow=5.2,SNR=2.8
NEW Newport 37.61 333 ⇑P P 11 16 56.9 +0.3
baz=38
I03D Drain, OR 37.64 323 ⇑P P 11 16 58.5 +1.7
baz=38
C09A Chrisman Ranch 37.77 332 *e*P P 11 16 59.1 +1.2
8.3nm,0.6s
SAML Samuel 38.59 128 *e*P P 11 17 01.6 -3.5
3.5nm,0.7s
LON Longmire 38.74 328 *e*P P 11 17 07.8 +1.7
8.0nm,1.0s
FFC Flin Flon 39.02 352 *e*P P 11 17 07.5 -0.6
6.5nm,0.6s
B06A Marblemount 39.79 330 *e*P P 11 17 15.5 +1.0
EDM Edmonton 40.23 341 *e*P P 11 17 18.1 -0.1
LPAZ La Paz 40.51 142 P P 11 17 21.1 -0.4
7.7nm,0.6s,baz=334,slow=6.5,SNR=35
LPAZ PcP **PcP** 11 19 19.8 +0.2
0.7nm,0.3s,baz=332,slow=4.5,SNR=5.6
LPAZ La Paz 40.51 142 *e*P P 11 17 21.1 -0.4
9.0nm,0.6s
LPAZ PcP **PcP** 11 19 19.8 +0.2
SIV San Ignacio 44.83 134 P P 11 17 53.7 -1.9
11nm,0.7s,baz=310,slow=8.8,SNR=30
SIV PcP **PcP** 11 19 32.7 -0.8
1.4nm,0.5s,baz=311,slow=9.1,SNR=3.7
YKA Yellowknife Ar 48.64 347 P P 11 18 23.8 -0.5
8.4nm,0.6s,baz=150,slow=7.5,SNR=209
YKA ScP **ScP** 11 23 19.4 -0.3
0.4nm,0.7s,baz=146,slow=4.7,SNR=6.2
FRB Frobisher Bay 50.30 14 P P 11 18 35.3 -1.5
2.5nm,0.4s,baz=219,slow=7.8,SNR=4.9
CFAA Coronel Fontan 53.14 154 P P 11 18 59.4 +1.1
0.3nm,0.5s,baz=337,slow=6.2,SNR=6.2
CFAA PcP **PcP** 11 20 02.2 -1.2
0.1nm,0.4s,baz=300,slow=6.3,SNR=4.2
BDFB Brasilia 54.43 123 P P 11 19 06.0 -2.0
1.9nm,0.4s,baz=252,slow=6.4,SNR=4.0
INK Inuvik 58.04 343 P P 11 19 32.6 +0.1
5.9nm,1.0s,baz=130,slow=8.5,SNR=11
INK PcP **PcP** 11 20 23.4 +1.6
1.6nm,0.7s,baz=119,slow=6.2,SNR=3.6
PLCA Paso Flores 60.38 161 P P 11 19 50.7 +1.7
2.9nm,0.7s,baz=330,slow=8.7,SNR=3.7
ILAR Eielson Array 60.44 336 P P 11 19 49.5 +0.5
2.8nm,0.9s,baz=120,slow=5.8,SNR=32
ILAR PcP **PcP** 11 20 31.4 -0.1
0.4nm,0.7s,baz=138,slow=2.5,SNR=5.1
COLA College 60.86 336 *e*P P 11 19 52.5 +0.7

TRF Thorofare Moun 61.25 334 *e*P P 11 19 55.9 +1.1
7.0nm,0.8s
RSO Redoubt South 61.28 331 *e*P P 11 19 56.9 +1.9
HFS Hagfors 84.01 29 P P 11 22 07.5 -0.9
0.5nm,0.4s,baz=280,slow=4.2,SNR=5.8
ARCES ARCESS Array B 84.24 18 P P 11 22 08.5 -0.9
3.5nm,0.9s,baz=287,slow=4.5,SNR=3.7
HHC Hu-ho-hao-te 118.82 339 *e*PKP **PKPdf** 11 28 26.0 +0.5
HHC PP **PP** 11 29 50.6 +4.6
HHC SKS **SKSdf** 11 35 14.7 -1.8
HHC SS **SS** 11 45 46.7 +0.1
WMQ Urumqi 120.20 360 *e*PKP **PKPdf** 11 28 30.3 +2.3
KSH Kashi 123.52 10 *e*PKP **PKPdf** 11 28 32.3 -2.3
KSH sPKP 11 29 53.1
KSH SKS **SKSdf** 11 35 20.8 -4.8
KSH PPMZ
73nm,6.4s
KSH LN
65nm,4.5s
KSH LE
120nm,4.7s
KSH LZ
160nm,7.9s
CD2 Chengdu 130.45 341 PKP **PKPdf** 11 28 46.4 -1.5
WRA Warramunga Arr 135.13 258 PKP **PKPdf** 11 28 57.0 +0.1
0.4nm,0.5s,baz=85,slow=2.7,SNR=13
ASAR Alice Springs 135.62 253 PKhKP PKPpre 11 28 46.2
0.4nm,0.9s,baz=110,slow=3.7,SNR=3.3

*IDC **12** 11:42:51.0±0.7,55.°90S×26.°89W,h0km,mb4.3/5, mb1 4.3/6,mb1mx4.1/20,mbtmp4.2/6,ML3.3/1,Error ellipse: s-maj=37.9km s-min=20.0km az=82.0*
*ISCJB **12** 11:42:55.2±0.9,56.°0S±0.°1×26.°8W±0.°5,h35km,mb4.3/5, Error ellipse: s-maj=39.0km s-min=17.8km az=162.6*
ISC 12 11:42:56.3±0.8,55.°9S±0.°1×26.°9W±0.°3,h35km,n14, σ1§22/11,mb4.3/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.79**	**156**	P	**Pn**	**11 47 13.0**	**0.0**
	0.1nm,0.3s,baz=293,slow=9.2,SNR=13						
QSPA	**South Pole Qui**	**34.33**	**180**	P	**P**	**11 49 39.8**	**+0.5**
	1.5nm,0.5s,baz=212,slow=1.8,SNR=24						
VNDA	**Vanda**	**46.71**	**183**	P	**P**	**11 51 21.6**	**+0.5**
	2.6nm,0.6s,baz=188,slow=7.1,SNR=21						
H10S2	**ASCENSION HYDR**	**47.83**	**16**	T	T	12 43 59.8	
	baz=189,slow=75,SNR=7.2						
H10S3	**ASCENSION HYDR**	**47.83**	**16**	T	T	12 43 58.8	
	baz=189,slow=75,SNR=5.8						
H10S1	**ASCENSION HYDR**	**47.84**	**16**	T	T	12 44 01.9	
	baz=189,slow=75,SNR=5.2						
LPAZ	**La Paz**	**50.44**	**305**	P	**P**	**11 51 51.8**	**+0.7**
	4.2nm,0.4s,baz=155,slow=2.9,SNR=27						
TORD	**Torodi Ar. Bea**	**72.86**	**29**	P	**P**	**11 54 22.9**	**+1.5**
	2.0nm,0.6s,baz=199,slow=6.0,SNR=17						
ASAR	**Alice Springs**	**99.06**	**162**	P	**Pdif**	**11 56 31.7**	**-1.9**
	0.2nm,0.5s,baz=187,slow=4.0,SNR=9.3						
FINES	**FINESS Array B**	**124.19**	**28**	PKP	**PKPdf**	**12 01 48.7**	**-0.9**
	0.7nm,0.5s,baz=207,slow=1.6,SNR=7.2						
ARCES	**ARCESS Array B**	**130.76**	**22**	PKP	**PKPdf**	**12 02 01.1**	**-0.9**
	5.1nm,0.9s,baz=219,slow=2.3,SNR=5.3						
YKA	**Yellowknife Ar**	**136.19**	**318**	PKP	**PKPdf**	**12 02 11.0**	**-1.3**
	0.3nm,0.5s,baz=128,slow=2.6,SNR=9.0						
ILAR	**Eielson Array**	**150.16**	**312**	PKPbc	**PKPbc**	**12 02 40.7**	**-1.1**
	2.6nm,0.8s,baz=138,slow=2.5,SNR=29						
SONM	**Songino Array**	**150.55**	**86**	PKPbc	**PKPbc**	**12 02 42.8**	**-0.6**
	1.0nm,0.5s,baz=243,slow=3.3,SNR=10						

*THR **12** 11:56:30.7±1.0,35.°13N×58.°67E,h15km,ML4.6*
*IDC **12** 11:56:31.5±0.8,34.°79N×58.°65E,h0km,mb4.0/18, mb1 4.2/20,mb1mx4.0/44,mbtmp4.0/20,ML3.9/2,MS3.5/1, Ms1 3.5/1,ms1mx3.0/46,Error ellipse: s-maj=20.6km s-min=13.6km az=6.0*
*CSEM **12** 11:56:32.1±0.2,35.°03N×58.°66E,h2km,mb4.1/17,Error ellipse: s-maj=6.9km s-min=5.1km az=124.0*
*BJI **12** 11:56:32.8,35.°00N×58.°70E,h2km,mb4.3/5,Ms4.1/1, Ms7 4.2/1*
*TEH **12** 11:56:32.7,35.°06N×58.°54E,h5km,ML4.3*
*ISCJB **12** 11:56:33.6±0.9,35.°09N±0.°03×58.°87E±0.°04,h17km±7km, mb4.0/28,MS4.3/3,Error ellipse: s-maj=5.3km s-min=5.0km az=149.9*
*NEIC **12** 11:56:33.3±0.6,34.°92N×58.°72E,h10km,mb4.6/4, ML4.5(THR),Error ellipse: s-maj=14.4km s-min=9.4km az=172.0*
*MOS **12** 11:56:36.7±1.6,35.°24N×58.°89E,h33km,mb4.2/20,Error ellipse: s-maj=7.5km s-min=6.8km az=105.7*
*NNC **12** 11:56:37.1±3.5,35.°75N×58.°70E,h0km,mb4.3,Error ellipse: s-maj=34.8km s-min=23.6km az=33.0*
ISC 12 11:56:34.0±1.4,35.°09N±0.°03×58.°70E±0.°04,h12km±9km, n166,σ1§86/157,mb4.1/28,MS4.3/3,6C-5D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMOG	**Moghan**	**1.14**	**27**	*e*Pg	**Pn**	**11 56 55.1**	**-0.9**
IMOG				*e*		11 57 13.4	
	comp=Z,28μm,0.4s						
IMOG	**Moghan**	**1.14**	**27**	*e*Pg	**Pn**	**11 56 55.2**	**-0.9**
ISRO	**Mashad**	**1.37**	**27**	*e*Pg	**Pn**	**11 56 59.0**	**-0.1**
ISRO	**Mashad**	**1.37**	**27**	*e*Pg	**Pn**	**11 56 59.0**	**-0.1**
IPAY	**Payeh**	**1.38**	**10**	*e*Pg	**Pn**	**11 56 58.7**	**-0.6**
IPAY				*e*		11 57 24.2	
	comp=Z,33μm,0.2s						
IPAY	**Payeh**	**1.38**	**10**	*e*Pg	**Pn**	**11 56 58.7**	**-0.6**
IAKL	**Akhelmad**	**1.51**	**2**	*e*Pg	**Pn**	**11 57 00.1**	**-1.1**
IAKL				*e*		11 57 26.7	
	comp=Z,32μm,0.1s						
IKRD	**Kardeh**	**1.69**	**355**	*e*	Sg	11 57 38.3	+10
	comp=Z,21μm,0.4s						
IKRD				*e*Pn	**Pg**	**11 57 06.7**	**+0.2**
IMYA	**Miami**	**1.69**	**42**	*e*Sg	**Sg**	**11 57 29.1**	**+0.7**
IMYA				*e*Pn	**Pb**	**11 57 05.2**	**+0.1**
IMYA				*e*		11 57 38.4	
	comp=Z,15μm,0.3s						
TABS	**Tabas**	**1.94**	**223**	*e*Pg	**Pn**	**11 57 05.9**	**-1.0**
TABS				*e*Sg	**Sb**	**11 57 32.4**	**-1.3**
TABS				AML	AML	11 57 36.2	
	comp=E,7μm,0.5s						
TABS	**Tabas**	**1.94**	**223**	*e*Pg	**Pn**	**11 57 05.9**	**-1.0**
TABS				*e*Sg	**Sb**	**11 57 32.4**	**-1.3**
	comp=E,7μm,0.5s						
SHRT	**Shahrakht**	**1.95**	**137**	*e*Pg	**Pn**	**11 57 06.9**	**-0.1**
SHRT				AML	AML	11 57 37.5	
	comp=N,5μm,0.8s						
SHRT	**Shahrakht**	**1.95**	**137**	*e*Pg	**Pn**	**11 57 06.9**	**-0.1**
	comp=N,5μm,0.8s						
ISFR	**Sfrayin**	**2.04**	**344**	*e*	Sg	11 57 47.6	+7.9
	comp=Z,18μm,0.3s						
ISFR				*e*Pn	**Pn**	**11 57 08.4**	**0.0**
ITEG	**Tejag**	**2.19**	**179**	*e*	Sg	11 57 46.2	+1.6
	comp=Z,23μm,0.5s						
ITEG				*e*Pn	**Pn**	**11 57 09.1**	**-1.2**
IDAH	**Dahanechah**	**2.54**	**157**	*e*Pn	**Pn**	**11 57 15.0**	**-0.2**
IDAH				*e*		11 58 02.9	
	comp=Z,14μm,0.3s						
IDAH	**Dahanechah**	**2.54**	**157**	*e*Pn	**Pn**	**11 57 15.0**	**-0.2**
ISHV	**Shirvan**	**2.57**	**342**	*e*Pn	**Pn**	**11 57 16.9**	**+1.2**
ISHV				*e*		11 58 08.3	
	comp=Z,20μm,0.5s						
ISHV	**Shirvan**	**2.57**	**342**	*e*Pn	**Pn**	**11 57 16.9**	**+1.2**
IKOO	**Kooshah**	**2.67**	**174**	*e*Pn	**Pn**	**11 57 16.2**	**-0.8**
IKOO				*e*		11 58 12.1	
	comp=Z,11μm,0.4s						
IKOO	**Kooshah**	**2.67**	**174**	*e*Pn	**Pn**	**11 57 16.2**	**-0.8**
GEYT	**Alibeck**	**2.87**	**351**	Pn	**Pn**	**11 57 20.8**	**+1.1**
	comp=Z,10nm,0.3s,baz=178,slow=15,SNR=35						
GEYT				LR	LR	11 58 46.9	
	comp=Z,755nm,18.8s,baz=160,slow=43						
IANJ	**Anjilo**	**3.94**	**277**	*e*	Sg	11 58 53.2	+12
	comp=Z,5μm,0.3s						
IBAF	**Bafgh**	**4.37**	**218**	*e*Pn	**Pn**	**11 57 38.8**	**-1.5**
IBAF				*e*		11 58 53.8	
	comp=Z,11μm,0.3s						
IBAF	**Bafgh**	**4.37**	**218**	*e*Pn	**Pn**	**11 57 38.8**	**-1.5**
ICHK	**Chekchek**	**4.57**	**233**	*e*Pn	**Pn**	**11 57 42.1**	**-1.0**
ICHK				*e*		11 59 01.8	
	comp=Z,15μm,0.3s						
ICHK	**Chekchek**	**4.57**	**233**	*e*Pn	**Pn**	**11 57 42.1**	**-1.0**
KRBR	**Kerman**	**5.35**	**198**	*e*Pn	**Pn**	**11 57 53.4**	**-0.6**
KRBR				*e*Sg	**Sb**	**11 59 17.6**	**+5.7**

KRBR				AML	AML	11 59 32.1	
	comp=E,403nm,0.8s						
KRBR				AML	AML	11 59 41.1	
	comp=N,519nm,0.7s						
KRBR	**Kerman**	**5.35**	**198**	*e*Pn	**Pn**	**11 57 53.4**	**-0.6**
KRBR				*e*Sg	**Sb**	**11 59 17.6**	**+5.7**
	comp=N,519nm,0.7s						
NASN	**Na'in**	**5.41**	**247**	*e*Pn	**Pn**	**11 57 52.9**	**-1.8**
NASN				AML	AML	11 59 33.6	
	comp=N,318nm,0.6s						
NASN				AML	AML	11 59 41.6	
	comp=E,195nm,0.6s						
NASN	**Na'in**	**5.41**	**247**	*e*Pn	**Pn**	**11 57 52.9**	**-1.8**
	comp=E,195nm,0.6s						
DAMV	**Damavand**	**5.53**	**278**	*e*Pn	**Pn**	**11 57 54.9**	**-1.5**
DAMV				AML	AML	11 59 41.7	
	comp=N,121nm,0.6s						
DAMV				AML	AML	11 59 43.3	
	comp=E,164nm,0.6s						
DAMV	**Damavand**	**5.53**	**278**	*e*Pn	**Pn**	**11 57 54.9**	**-1.5**
	comp=E,164nm,0.6s						
GHVR	**GHOM**	**6.12**	**266**	*e*Pn	**Pn**	**11 58 02.8**	**-1.6**
GHVR				AML	AML	11 59 59.2	
	comp=E,238nm,0.6s						
GHVR				AML	AML	12 00 11.8	
	comp=N,162nm,0.8s						
GHVR	**GHOM**	**6.12**	**266**	*e*Pn	**Pn**	**11 58 02.8**	**-1.6**
	comp=N,238nm,0.6s						
CHTH	**Charan**	**6.23**	**280**	*e*Pn	**Pn**	**11 58 04.6**	**-1.5**
CHTH				AML	AML	12 00 11.5	
	comp=E,70nm,0.7s						
CHTH	**Charan**	**6.23**	**280**	*e*Pn	**Pn**	**11 58 04.6**	**-1.5**
IBDR	**Badra**	**10.77**	**263**	*e*Pn	x	12 01 44.1	
	baz=60						
IBDR				*i* Sn	x	12 02 27.1	
GNI	**Garni**	**12.16**	**299**	*e*P	Pn	11 59 31.1	+3.9
KK31	**Karatay Array**	**12.16**	**45**	Pn	**Pn**	**11 59 26.2**	**-0.9**
	comp=E,1.7nm,0.6s,baz=232,slow=15,SNR=14						
KK31				Sn	**Sn**	**12 01 38.2**	**-4.4**
KK31	**Karatay Array**	**12.16**	**45**	Pn	**Pn**	**11 59 26.2**	**-0.9**
	comp=E,1.7nm,0.6s,SNR=14						
AML	**Almayashu**	**13.66**	**55**	P	**Pn**	**11 59 45.7**	**-2.2**
	SNR=17						
AML	**Almayashu**	**13.66**	**55**	*i* P	**Pn**	**11 59 45.7**	**-2.2**
ZEI	**Tsey**	**13.84**	**308**	*e*P	**Pn**	**11 59 50.2**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKS2	**Erkin-Say**	**13.96**	**53**	P	**Pn**	**11 59 50.3**	**-1.3**
	SNR=21						
EKS2	**Erkin-Say**	**13.96**	**53**	*i* P	**Pn**	**11 59 50.3**	**-1.3**
EKS2	**Erkin-Say**	**13.96**	**53**	*i* P	**Pn**	**11 59 50.3**	**-1.3**
AB31	**Akbulak array**	**14.19**	**3**	⇑Pn	Pn	11 59 51.2	-3.4
	comp=Z,4.7nm,0.6s,baz=183,slow=13,SNR=25						
AB31				⇓Sn	Sn	12 02 21.2	-11
	comp=Z,1.7nm,0.6s,baz=188,slow=25						
ABKAR	**Akbulak array**	**14.19**	**3**	*e*Pn	Pn	11 59 51.4	-3.2
	comp=Z,15nm,0.9s						
UCH	**Uchtor**	**14.25**	**55**	P	**Pn**	**11 59 53.6**	**-2.5**
	SNR=12						
UCH	**Uchtor**	**14.25**	**55**	*i* P	**Pn**	**11 59 53.5**	**-2.5**
AAK	**Ala-Archa**	**14.41**	**54**	Pn	**Pn**	**11 59 56.7**	**-1.3**
AAK				Sn	**Sn**	**12 02 34.0**	**-3.8**
AAK	**Ala-Archa**	**14.41**	**54**	P	**Pn**	**11 59 56.6**	**-1.4**
	SNR=15						
AAK	**Ala-Archa**	**14.41**	**54**	*d* iP	**Pn**	**11 59 55.8**	**-2.2**
AAK				pmax	pmax		
	comp=Z,25nm,1.0s						
AAK	**Ala-Archa**	**14.41**	**54**	Pn	**Pn**	**11 59 56.8**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=231,slow=10,SNR=20						
AAK				Sn	**Sn**	**12 02 34.1**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=188,slow=10,SNR=2.9						
FRU	**Bishkek**	**14.58**	**53**	*e*P	**Pn**	**11 59 58.0**	**-2.2**
FRU				*e*S	Sn	12 02 33.0	-8.7
FRU				pmax	pmax		
	comp=Z,53nm,1.8s						
FRU				smax	smax		
	comp=N,33nm,1.4s						
FRU				pmax	pmax		
	comp=E,80nm,2.2s						
KBK	**Karagaybulak**	**14.72**	**54**	P	**Pn**	**12 00 00.9**	**-1.3**
	SNR=11						
KBK	**Karagaybulak**	**14.72**	**54**	*i* P	**Pn**	**12 00 00.9**	**-1.3**
NEY	**Neytrino**	**14.82**	**308**	*e*P	**Pn**	**12 00 05.1**	**+1.7**
KBZ	**Khabaz**	**14.94**	**310**	P	**Pn**	**12 00 04.0**	**-0.9**
KBZ	**Khabaz**	**14.94**	**310**	Pn	**Pn**	**12 00 04.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=151,slow=9.6,SNR=6.4						
KBZ	**Khabaz**	**14.94**	**310**	Pn	**Pn**	**12 00 04.0**	**-0.9**
KIV	**Kislovodsk**	**15.18**	**310**	*e*P	**Pn**	**12 00 10.8**	**+2.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KIV				MLR	MLR		
	comp=Z,147nm,14.0s						
KIV	**Kislovodsk**	**15.18**	**310**	*e*P	**Pn**	**12 00 10.8**	**+2.5**
	comp=Z,147nm,14.0s						
TKM2	**Tokmak 2**	**15.27**	**54**	P	**Pn**	**12 00 07.0**	**-2.6**
	SNR=12						
TKM2	**Tokmak 2**	**15.27**	**54**	*i* P	**Pn**	**12 00 06.9**	**-2.6**
AKTO	**Aktyubinsk**	**15.35**	**358**	Pn	Pn	12 00 05.5	-4.8
	comp=Z,12nm,0.7s						
AKTO				⇓Sn	Sn	12 02 52.1	-8.0
	comp=Z,8.0nm,1.2s						
AKTO	**Aktyubinsk**	**15.35**	**358**	P	**Pn**	**12 00 05.8**	**-4.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**15.35**	**358**	Pn	**Pn**	**12 00 05.8**	**-4.5**
	comp=Z,1.2nm,0.3s,baz=156,slow=11,SNR=15						
RAYN	**Ar Rayn**	**16.27**	**228**	*e*Pn	**Pn**	**12 00 20.1**	**-2.3**
	comp=Z,15nm,0.9s						
RAYN	**Ar Rayn**	**16.27**	**228**	*e*Pn	**Pn**	**12 00 20.1**	**-2.3**
	comp=Z,15nm,0.9s						
BVA0	**Borovoye Array**	**19.75**	**21**	⇓Pn	**P**	**12 01 03.3**	**-0.3**
	comp=Z,19nm,0.6s,baz=199,slow=10,SNR=95						
BVA0	**Borovoye Array**	**19.75**	**21**	Pn	**P**	**12 01 03.3**	**-0.3**
	comp=Z,19nm,0.6s,SNR=95						
BVAR	**Borovoye Array**	**19.75**	**21**	P	**P**	**12 01 03.3**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,19nm,0.6s						
BVAR	**Borovoye Array**	**19.75**	**21**	P	**P**	**12 01 03.3**	**-0.3**
	comp=Z,19nm,0.6s,baz=202,slow=10,SNR=64						
VRHR	**Novokhopersk**	**20.20**	**328**	*e*P	Pn	12 01 09.9	-0.5
VRHR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR	**Novokhopersk**	**20.20**	**328**	*e*P	Pn	12 01 09.9	-0.5
	comp=E,10.0nm,0.8s						
BRTR	**Keskin Array B**	**20.41**	**291**	*c*e*P*	Pn	12 01 13.8	+0.6
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**20.41**	**291**	P	**P**	**12 01 10.4**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=108,slow=12,SNR=12						
KURBB	**Kurchatov Arra**	**21.16**	**37**	P	**P**	**12 01 19.9**	**+1.0**
	comp=Z,5.1nm,0.6s,baz=235,slow=11,SNR=20						
VORD	**Divnogorie**	**21.18**	**324**	*e*P	**P**	**12 01 20.8**	**+1.7**
VORD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,8.0nm,0.6s						
VORD	**Divnogorie**	**21.18**	**324**	*e*P	**P**	**12 01 20.8**	**+1.7**
	comp=E,4.0nm,0.9s						
MK31	**Makanchi Array**	**21.23**	**49**	⇑Pn	**P**	**12 01 22.1**	**+2.4**
	comp=E,4.7nm,0.8s,baz=237,slow=8.7,SNR=27						
MK31	**Makanchi Array**	**21.23**	**49**	Pn	**P**	**12 01 22.1**	**+2.4**
	comp=E,4.7nm,0.8s,SNR=27						
MKAR	**Makanchi Array**	**21.23**	**49**	P	**P**	**12 01 20.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**21.23**	**49**	P	**P**	**12 01 20.0**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=234,slow=9.5,SNR=18						
KURK	**Kurchatov**	**21.27**	**37**	P	**P**	**12 01 19.9**	**-0.1**
KURK				pmax	pmax		
	comp=

ARU	**Arti**	**21.34**	**360**	*i* P		**P**	**12 01 20.6**	**-0.2**
	comp=Z,29nm,1.0s							
ARU	**Arti**	**21.34**	**360**	PcP		**PcP**	**12 05 26.3**	**+1.8**
ARU	**Arti**	**21.34**	**360**	*e*P		**P**	**12 01 20.2**	**-0.6**
	comp=Z,23nm,0.8s							
VSR	**Storozhevoye**	**21.41**	**325**	*e*P		**P**	**12 01 16.9**	**-4.6**
VSR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
VSR				pmax	pmax			
	comp=N,10.0nm,1.2s							
VSR				pmax	pmax			
	comp=E,10.0nm,1.1s							
PYUN	**Piuthan**	**21.80**	**102**	*e*P		**P**	**12 01 23.5**	**-2.7**
	comp=E,30nm,0.6s							
DANN	**Dangsing**	**22.32**	**101**	*e*P		**P**	**12 01 31.4**	**-0.4**
	comp=E,14nm,0.6s							
KOLN	**Koldanda**	**22.43**	**102**	*e*P		**P**	**12 01 29.5**	**-3.4**
	comp=E,12nm,0.7s							
GUN	**Gumba**	**24.20**	**100**	*e*P		**P**	**12 01 51.1**	**+0.2**
	comp=E,30nm,0.9s							
JIRN	**Jiri**	**24.56**	**100**	*e*P		**P**	**12 01 55.1**	**+0.9**
	comp=E,36nm,0.9s							
RAMN	**Ramite**	**25.19**	**101**	*e*P		**P**	**12 01 59.5**	**-0.2**
	comp=E,34nm,0.6s							
OBN	**Obninsk**	**25.20**	**329**	*ce*P		**P**	**12 02 02.1**	**+2.9**
OBN				*e*			12 02 41.4	
OBN				pmax	pmax			
	comp=Z,22nm,1.0s							
OBN				MLR	MLR			
	comp=Z,465nm,20.0s							
ODAN	**Odare**	**25.86**	**101**	*e*P		**P**	**12 02 06.7**	**+0.9**
	comp=Z,80nm,0.7s							
ZALV	**Zalesovo Beam**	**26.25**	**36**	*i* P		**P**	**12 02 12.6**	**+3.8**
ZALV				pmax	pmax			
	comp=E,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**26.25**	**36**	P		**P**	**12 02 10.8**	**+2.0**
	comp=E,1.2nm,0.5s,baz=238,slow=8.3,SNR=8.0							
AKASG	**Malin Array Be**	**26.41**	**315**	*ce*P		**P**	**12 02 13.6**	**+3.3**
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.9s							
AKASG	**Malin Array Be**	**26.41**	**315**	P		**P**	**12 02 11.9**	**+1.7**
	comp=Z,6.7nm,0.9s,baz=121,slow=9.0,SNR=17							
KIEV	**Kiev**	**26.42**	**315**	*e*P		**P**	**12 02 13.3**	**+3.0**
KIEV	**Kiev**	**26.42**	**315**	*e*P		**P**	**12 02 11.5**	**+1.2**
	comp=Z,10.0nm,0.9s							
MLR	**Muntele Rosu**	**26.89**	**303**	P		**P**	**12 02 16.4**	**+1.5**
MLR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MLR	**Muntele Rosu**	**26.89**	**303**	P		**P**	**12 02 16.4**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=80,slow=3.4,SNR=4.1							
KOLS	**Kolonicke sedl**	**30.08**	**309**	*e*P		P	12 02 46.2	+3.1
KOLS	**Kolonicke sedl**	**30.08**	**309**	*e*P		P	12 02 46.2	+3.1
VYHS	**Vyhne**	**32.22**	**307**	*e*P		P	12 03 04.9	+2.9
VYHS	**Vyhne**	**32.22**	**307**	*e*P		P	12 03 04.9	+2.9
GTA	**Gaotai**	**32.81**	**70**	*e*P		P	12 03 11.9	+4.6
GTA				pP		pP	12 03 16.2	+5.2
GTA				sP		sP	12 03 19.0	+6.5
GTA				PMZ				
	comp=Z,3.0nm,1.1s							
FINES	**FINESS Array B**	**33.51**	**332**	P		**P**	**12 03 14.5**	**+1.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**33.51**	**332**	P		**P**	**12 03 14.5**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=133,slow=7.8,SNR=3.2							
GERES	**GERESS Array B**	**35.64**	**307**	P		**P**	**12 03 32.0**	**+0.2**
GERES							12 06 01.6	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.2s							
GERES	**GERESS Array B**	**35.64**	**307**	P		**P**	**12 03 32.0**	**+0.2**
	comp=Z,0.6nm,0.2s,baz=91,slow=14,SNR=3.7							
GERES				PcP		**PcP**	**12 06 01.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=123,slow=3.6,SNR=5.2							
CLL	**Collm**	**36.39**	**311**	*e*P		P	12 03 44.0	+6.0
CLL	**Collm**	**36.39**	**311**	*es*P		sP	12 03 44.0	+0.8
SONM	**Songino Array**	**37.37**	**55**	P		**P**	**12 03 48.8**	**+2.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**37.37**	**55**	P		**P**	**12 03 48.8**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=261,slow=11,SNR=4.2							
ULN	**Ulaanbaatar**	**37.81**	**55**	*e*P		**P**	**12 03 53.0**	**+2.7**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.7s							
ULN	**Ulaanbaatar**	**37.81**	**55**	*e*P		**P**	**12 03 53.0**	**+2.7**
	comp=Z,5.0nm,1.7s							
ARCES	**ARCESS Array B**	**39.01**	**342**	P		**P**	**12 04 01.1**	**+1.2**
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARCES	**ARCESS Array B**	**39.01**	**342**	P		**P**	**12 04 01.1**	**+1.2**
	comp=Z,6.4nm,1.1s,baz=142,slow=10,SNR=7.4							
CMAR	**Chiang Mai Arr**	**39.26**	**104**	P		**P**	**12 04 02.7**	**0.0**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**39.26**	**104**	P		**P**	**12 04 02.6**	**0.0**
	comp=Z,2.0nm,0.9s,baz=300,slow=8.5,SNR=14							
HHC	**Hu-ho-hao-te**	**41.54**	**66**	*e*P		**P**	**12 04 20.3**	**-1.2**
HHC				PP		**PnPn**	**12 06 00.1**	**-2.0**
HHC				S		**S**	**12 10 33.8**	**-3.3**
HHC				PMZ				
	comp=Z,26nm,1.0s							
HHC				LN				
	comp=Z,140nm,17.3s							
HHC				LE				
	comp=Z,100nm,14.8s							
HHC				LZ				
	comp=Z,150nm,9.0s							
SMF	**Signal de Mont**	**42.27**	**303**	*e*P		**P**	**12 04 29.3**	**+2.1**
SMF	**Signal de Mont**	**42.27**	**303**	*e*P		**P**	**12 04 29.3**	**+2.1**
SMF	**Signal de Mont**	**42.27**	**303**	*e*P		**P**	**12 04 29.3**	**+2.1**
SMF	**Signal de Mont**	**42.27**	**303**	*e*P		**P**	**12 04 29.3**	**+2.1**
AVF	**Avril sur Loir**	**42.59**	**303**	*e*P		**P**	**12 04 29.8**	**0.0**
AVF	**Avril sur Loir**	**42.59**	**303**	*e*P		**P**	**12 04 29.8**	**0.0**
AVF	**Avril sur Loir**	**42.59**	**303**	*e*P		**P**	**12 04 29.8**	**0.0**
AVF	**Avril sur Loir**	**42.59**	**303**	*e*P		**P**	**12 04 29.8**	**0.0**
MFF	**Saint Martin d**	**45.01**	**303**	*e*P		P	12 04 52.0	+2.8
	comp=Z,18nm,0.9s							
MFF	**Saint Martin d**	**45.01**	**303**	*e*P		P	12 04 52.0	+2.8
MFF				pmax	pmax			
	comp=Z,18nm,0.9s							
MFF	**Saint Martin d**	**45.01**	**303**	*e*P		P	12 04 52.0	+2.8
	comp=Z,18nm,0.9s							
TIXI	**Tiksi**	**50.88**	**23**	*e*P		**P**	**12 05 35.5**	**+1.2**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TIXI				MLR	MLR			
	comp=Z,251nm,18.0s							
TIXI	**Tiksi**	**50.88**	**23**	*e*P		**P**	**12 05 35.5**	**+1.2**
	comp=Z,251nm,18.0s							
KSAR	**Wonju Array Be**	**54.66**	**66**	P		**P**	**12 06 03.1**	**+0.3**
KSAR	**Wonju Array Be**	**54.66**	**66**	P		**P**	**12 06 03.1**	**+0.3**
KSAR	**Wonju Array Be**	**54.66**	**66**	P		**P**	**12 06 03.0**	**+0.3**
KSRS	**Korea Array**	**54.69**	**66**	P		**P**	**12 06 03.1**	**+0.1**
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KSRS	**Korea Array**	**54.69**	**66**	P		**P**	**12 06 03.0**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=283,slow=7.3,SNR=7.3							
TORD	**Torodi Ar. Bea**	**55.64**	**262**	P		**P**	**12 06 07.2**	**-3.0**
	comp=Z,2.4nm,0.9s,baz=46,slow=6.3,SNR=9.5							
SEY	**Seymchan**	**61.00**	**31**	*e*P		**P**	**12 06 48.8**	**+1.9**
SEY	**Seymchan**	**61.00**	**31**	*e*P		**P**	**12 06 48.8**	**+1.9**
BILL	**Bilibino**	**64.08**	**23**	*e*P		**P**	**12 07 09.6**	**+2.2**
BILL				*e*			12 07 42.9	
BILL				*e*			12 09 25.9	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,320nm,19.0s							
BILL	**Bilibino**	**64.08**	**23**	*e*P		**P**	**12 07 09.6**	**+2.2**
	comp=Z,2.0nm,1.0s							
BILL	**Bilibino**	**64.08**	**23**	*e*PcP		**PcP**	**12 07 42.9**	**+0.4**
	comp=Z,320nm,19.0s							
COLD	**Coldfoot**	**75.66**	**11**	*e*P		**P**	**12 08 19.7**	**+1.1**
COLD	**Coldfoot**	**75.66**	**11**	*e*P		**P**	**12 08 19.7**	**+1.1**
INK	**Inuvik**	**76.51**	**5**	P		**P**	**12 08 25.1**	**+1.7**
INK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
INK	**Inuvik**	**76.51**	**5**	P		**P**	**12 08 25.1**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=22,slow=5.4,SNR=5.6							
ILAR	**Eielson Array**	**78.46**	**11**	P		**P**	**12 08 36.2**	**+1.8**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ILAR	**Eielson Array**	**78.46**	**11**	P		**P**	**12 08 36.1**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=315,slow=4.0,SNR=19							
YKA	**Yellowknife Ar**	**82.61**	**357**	P		**P**	**12 08 58.2**	**+1.5**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**82.61**	**357**	P		**P**	**12 08 58.2**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=359,slow=5.5,SNR=26							
WRA	**Warramunga Arr**	**90.15**	**114**	P		**P**	**12 09 32.8**	**-1.6**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**90.15**	**114**	P		**P**	**12 09 32.8**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=318,slow=4.2,SNR=14							
ASAR	**Alice Springs**	**92.08**	**117**	P		**P**	**12 09 41.4**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=314,slow=4.3,SNR=7.1							
SNAA	**Sanae**	**114.79**	**198**	*c* iPKIKP		PKPdf	12 15 19.2	+5.8
SNAA				pmax	pmax			
	comp=Z,39nm,2.5s							

IDC **12** *12:01:40.5±1.7, 1.°92N×96.°65E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/27, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=56.2km s-min=23.6km az=53.0*
ISCJB **12** *12:01:43.4±0.6, 1.°96N±0.°06×96.°72E±0.°06, h28km, mb4.0/10, Error ellipse: s-maj=10.1km s-min=6.2km az=136.4*
DJA **12** *12:01:44.6±0.7, 2.°N×4.°×9.°7E±.°, h10km, M3.5/4, MLv3.5/4*
NEIC **12** *12:01:47.2±0.8, 1.99N×96.°80E, h46km±9km, mb4.1/2, Error ellipse: s-maj=10.8km s-min=7.7km az=212.0*

ISC 12 12:01:45.2±0.7, 2.°05N±0.°06×96.°77E±0.°06, h28km, n32, σ0.°73/25, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.57**	**309**	P		P	**Pb**	**12 01 56.4**	**-0.4**
GSI	**Gunungsitoli**	**1.09**	**133**	P		P	**Pb**	**12 02 05.5**	**0.0**
GSI				S		S	**Sn**	**12 02 16.9**	**-2.0**
GSI	**Gunungsitoli**	**1.09**	**133**	*e*Pn			**Pb**	**12 02 05.1**	**-0.4**
TPTI		**1.27**	**19**	P		P	**Pn**	**12 02 07.4**	**+0.2**
TPTI				S		S	**Sb**	**12 02 25.2**	**+0.7**
KCSI	**Kotacane, Aceh**	**1.77**	**34**	P		P	**Pb**	**12 02 15.8**	**-1.3**
MNSI	**Mandailing Nat**	**3.07**	**114**	P		P	**Pn**	**12 02 32.8**	**+0.9**
KULM	**Kulim**	**5.03**	**50**	*e*Pn			**Pn**	**12 03 00.4**	**+1.4**
	22nm,0.8s								
KSM	**Kuching**	**13.54**	**92**	Pn			**Pn**	**12 04 55.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.45**	**7**	Pn			**P**	**12 05 36.1**	**-0.6**
	0.2nm,0.3s,baz=198,slow=12,SNR=26								
PALK	**Pallekele**	**16.83**	**288**	Pn			**P**	**12 05 40.7**	**-0.4**
KKM	**Kota Kinabalu**	**19.79**	**78**	*e*P			**P**	**12 06 14.1**	**+0.3**
	14nm,0.9s								
H08S2	**Diego Garcia H**	**26.07**	**248**	T		T	T	12 33 58.9	
	baz=69,slow=75,SNR=340								
H08S3	**Diego Garcia H**	**26.07**	**248**	T		T	T	12 33 59.1	
	baz=69,slow=75,SNR=250								
H08S1	**Diego Garcia H**	**26.08**	**248**	T		T	T	12 34 00.3	
	baz=69,slow=75,SNR=351								
H08N1	**Diego Garcia H**	**27.03**	**252**	T		T	T	12 36 10.9	
	baz=42								
H08N2	**Diego Garcia H**	**27.04**	**252**	T		T	T	12 36 10.0	
	baz=42								
H08N3	**Diego Garcia H**	**27.06**	**252**	T		T	T	12 36 05.3	
	baz=42								
H01W3	**Cape Leeuwin H**	**40.19**	**158**	T		T	T	12 52 00.9	
	baz=331								
H01W2	**Cape Leeuwin H**	**40.20**	**158**	T		T	T	12 52 06.4	
	baz=331								
H01W1	**Cape Leeuwin H**	**40.20**	**158**	T		T	T	12 52 14.4	
	baz=331								
WRA	**Warramunga Arr**	**42.85**	**122**	P		P	**P**	**12 09 41.2**	**-0.1**
	0.8nm,0.6s,baz=300,slow=9.4,SNR=16								
KSAR	**Wonju Array Be**	**45.37**	**35**	P		P	**P**	**12 10 01.2**	**0.0**
KSRS	**Korea Array**	**45.40**	**35**	P		P	**P**	**12 10 01.2**	**-0.3**
	1.0nm,0.6s,baz=246,slow=8.5,SNR=4.6								
MKAR	**Makanchi Array**	**46.32**	**346**	P		P	**P**	**12 10 08.9**	**+0.2**
	2.5nm,0.7s,baz=162,slow=7.2,SNR=20								
SONM	**Songino Array**	**46.36**	**9**	P		P	**P**	**12 10 09.8**	**+0.7**
	1.4nm,0.8s,baz=192,slow=8.5,SNR=5.8								
KURBB	**Kurchatov Arra**	**50.80**	**345**	P		P	**P**	**12 10 43.8**	**+0.8**
	0.6nm,0.2s,baz=166,slow=6.8,SNR=5.9								
KURK	**Kurchatov**	**50.87**	**345**	P		P	**P**	**12 10 43.8**	**+0.3**
ZALV	**Zalesovo Beam**	**52.66**	**351**	P		P	**P**	**12 10 57.0**	**+0.2**
	4.0nm,0.8s,baz=183,slow=5.9,SNR=17								
BVAR	**Borovoye Array**	**55.31**	**341**	P		P	**P**	**12 11 15.9**	**-0.4**
	0.8nm,0.6s,baz=130,slow=8.1,SNR=5.6								
ABKAR	**Akbulak array**	**56.57**	**332**	*e*P		P	**P**	**12 11 25.0**	**-0.3**
	0.8nm,0.7s								
FINES	**FINESS Array B**	**79.05**	**332**	P		P	**P**	**12 13 46.4**	**-0.3**
	1.0nm,0.7s,baz=113,slow=11,SNR=3.3								
ARCES	**ARCESS Array B**	**81.60**	**340**	P		P	**P**	**12 14 00.6**	**+0.3**
	3.0nm,0.9s,baz=91,slow=4.6,SNR=4.4								

IDC **12** *12:10:58.6±0.9, 16.°70S×174.°04W, h0km, mb4.2/6, mb1 4.5/6, mb1mx3.9/37, mbtmp4.2/6, Error ellipse: s-maj=48.0km s-min=20.9km az=136.0*
NEIC **12** *12:11:07.8±1.3, 16.°99S×174.°08W, h72km±11km, mb4.6/2, Error ellipse: s-maj=24.5km s-min=9.4km az=142.0*

ISC 12 12:11:05.5±0.7, 17.°12S±0.°10×174.°07W±0.°08, h35km, n22, σ1.°74/25, mb4.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.88**	**35**	*e*Pn			**Pn**	**12 12 04.6**	**+1.8**
NIUE	**Niue**	**4.40**	**117**	P		P	Pn	12 12 15.8	+6.0
	baz=3.8,SNR=121								
NIUE				S			**Sn**	**12 13 01.1**	**+1.3**
	baz=3.8,SNR=12								
MSVF	**Nonsavu**	**7.54**	**264**	*e*Pn			**Pn**	**12 12 54.3**	**+1.1**
	37nm,1.2s								
URZ	**Urewera**	**22.44**	**198**	P		P	**P**	**12 16 03.9**	**+2.5**
	7.2nm,0.3s,baz=1.9,slow=5.9,SNR=22								
URZ				S			**S**	**12 20 03.0**	**-2.6**
	1.8nm,0.8s,baz=73,slow=19,SNR=4.7								
URZ	**Urewera**	**22.44**	**198**	*e*P		P	**P**	**12 16 01.8**	**+0.5**
	7.2nm,0.4s								
URZ				P		P	**P**	**12 16 03.9**	**+2.5**
URZ				S		S	**S**	**12 20 03.0**	**-2.6**
ARMA	**Armidale**	**33.92**	**241**	P		P	**P**	**12 17 47.2**	**+1.6**
	baz=33,SNR=5.6								
RMQ	**Roma**	**35.64**	**248**	P		P	**P**	**12 18 01.9**	**+1.6**
	baz=35,SNR=6.0								
CMSA	**Cobar Meteorol**	**39.14**	**241**	P		P	**P**	**12 18 30.7**	**+0.8**
	baz=38,SNR=14								
QLP	**Quilpie**	**39.68**	**249**	P		P	**P**	**12 18 34.6**	**+0.1**
	baz=39,SNR=7.7								
STKA	**Stephens Creek**	**42.63**	**241**	P		P	**P**	**12 18 60.0**	**+1.2**
	baz=42,SNR=14								
WRAB	**Tennant Creek**	**48.83**	**258**	*e*P		P	**P**	**12 19 46.2**	**-1.7**
	21nm,2.0s								
WRA	**Warramunga Arr**	**48.84**	**258**	P		P	**P**	**12 19 47.1**	**-0.9**
	1.1nm,0.4s,baz=96,slow=7.0,SNR=77								
WRA				PcP			**PcP**	**12 21 10.1**	**-2.3**
	0.4nm,0.8s,baz=97,slow=3.5,SNR=3.0								
AS31	**Alice Springs**	**48.98**	**253**	*e*P		P	**P**	**12 19 48.6**	**-0.5**
ASAR	**Alice Springs**	**48.98**	**253**	P		P	**P**	**12 19 48.6**	**-0.4**
	19nm,0.6s,baz=88,slow=8.6,SNR=510								
ASAR				PcP			**PcP**	**12 21 11.6**	**-1.3**
	0.4nm,0.5s,baz=107,slow=3.5,SNR=2.6								
WRKA	**Warakurna**	**54.02**	**251**	P		P	**P**	**12 20 26.2**	**-0.5**
	baz=53,SNR=8.7								
SOEI	**Soe**	**60.22**	**268**	P		P	**P**	**12 21 12.4**	**+1.6**
	baz=60,SNR=4.3								
NVAR	**Mina Array Bea**	**76.03**	**42**	P		P	**P**	**12 22 46.9**	**-2.7**
	1.7nm,0.9s,baz=221,slow=9.7,SNR=7.0								
PDAR	**Pinedale Array**	**83.97**	**42**	P		P	P	12 23 28.6	-3.8
	0.8nm,0.9s,baz=196,slow=4.5,SNR=5.7								
ILAR	**Eielson Array**	**84.25**	**11**	P		P	P	12 23 29.9	-3.2
	0.3nm,0.9s,baz=221,slow=6.7,SNR=3.5								
BVAR	**Borovoye Array**	**118.83**	**322**	PKP			**PKPdf**	**12 29 47.6**	**-2.4**
	0.5nm,0.6s,baz=46,slow=4.2,SNR=2.6								
KMBO	**Kilima Mbogo**	**144.19**	**243**	PKP			**PKPab**	**12 30 36.8**	**-0.1**
	1.7nm,0.7s,baz=87,slow=4.2,SNR=3.7								
BRTR	**Keskin Array B**	**147.05**	**319**	PKPbc			**PKPdf**	**12 30 43.0**	**0.0**
	0.7nm,0.6s,baz=101,slow=4.0,SNR=5.5								

IDC 12 12:11:21.9±9.5, 29.°76S×68.°51W, h420km±86km, mb2.8/2, mb1 3.0/3, mb1mx2.6/26, mbtmp3.6/3, Error ellipse: s-maj=72.7km s-min=40.7km az=8.0, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**13.42**	**2**	P		P	P	12 14 17.6	+0.2
	0.2nm,0.3s,baz=192,slow=9.3,SNR=5.3								
TXAR	**Lajitas Array**	**67.67**	**327**	P		P	P	12 21 35.6	-0.1
	0.1nm,0.4s,baz=103,slow=5.5,SNR=3.6								
TORD	**Torodi Ar. Bea**	**79.91**	**69**	P		P	P	12 22 45.9	-0.1
	0.6nm,0.6s,baz=251,slow=5.6,SNR=8.8								
WRA	**Warramunga Arr**	**125.90**	**207**	PKP		PKP	PKPdf	12 29 35.2	-0.3
	0.2nm,0.5s,baz=160,slow=1.8,SNR=9.7								
KURBB	**Kurchatov Arra**	**147.72**	**40**	PKPbc		PKPbc		12 30 17.5	-0.3
	0.5nm,0.5s,baz=294,slow=3.0,SNR=4.1								
ZALV	**Zalesovo Beam**	**149.06**	**31**	PKPbc		PKPbc		12 30 20.4	-0.6
	1.2nm,0.5s,baz=312,slow=3.7,SNR=6.3								
MKAR	**Makanchi Array**	**151.69**	**45**	PKPbc		PKPbc		12 30 27.3	-0.2
	1.0nm,0.9s,baz=321,slow=1.7,SNR=4.8								

AZER **12** *12:16:09.0±0.1, 43.°04N×44.°91E, h2km, Error ellipse: s-maj=3.5km s-min=2.3km az=30.0*
IDC **12** *12:16:09.8±0.8, 42.°95N×44.°94E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/42, mbtmp3.5/6, ML3.8/2, Error ellipse: s-maj=12.1km s-min=10.2km az=67.0*
ISCJB **12** *12:16:12.4±0.3, 43.°12N±0.°02×45.°21E±0.°02, h3km±2km, mb3.3/5, Error ellipse: s-maj=3.5km s-min=1.9km az=10.1*
MOS **12** *12:16:12.7±1.3, 43.°14N×45.°19E, h8km, mb4.0/2, Error ellipse: s-maj=6.4km s-min=4.6km az=28.4*
CSEM **12** *12:16:12.4±0.1, 43.°17N×45.°19E, h2km, mb4.0, Error ellipse: s-maj=3.8km s-min=2.1km az=8.0*
DDA **12** *12:16:21.8, 42.°65N×44.°28E, h6km, MD3.5*
NNC **12** *12:16:29.5±3.9, 42.°98N×47.°84E, h0km, mb3.7, Error ellipse: s-maj=52.3km s-min=30.3km az=115.0*

ISC 12 12:16:13.2±1.0, 43.°05N±0.°02×45.°16E±0.°01, h10km±8km, n140, σ1.°40/202, mb3.4/5, 18C-23D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.25**	**275**	*i* Pg			**Pg**	**12 16 18.3**	**-0.1**
SNJR				*e*S			**Sb**	**12 16 23.3**	**-1.2**
SNJR	**Sundja**	**0.25**	**275**	*i* Pg			**Pg**	**12 16 18.3**	**-0.1**
SNJR				*e*Sg			**Sb**	**12 16 23.3**	**-1.2**
VLKR	**Vladikavkaz**	**0.35**	**270**	*e*Pg			**Pg**	**12 16 20.6**	**+0.4**
VLKR				*e*S			**Sb**	**12 16 26.8**	**-0.5**
VLKR	**Vladikavkaz**	**0.35**	**270**	*e*Pg			**Pg**	**12 16 20.6**	**+0.4**
VLKR				*e*Sg			**Sb**	**12 16 26.8**	**-0.5**
BTKR	**Batakoyurt**	**0.55**	**306**	*i* iPG			**Pb**	**12 16 25.6**	**+0.5**
BTKR				*e*S			**Sb**	**12 16 34.9**	**+1.8**
ARNR	**Ardon**	**0.65**	**282**	*i* iPG			**Pn**	**12 16 28.4**	**-0.2**
ARNR				*e*S			**Sn**	**12 16 38.7**	**-0.3**
LACR	**Lac**	**0.67**	**251**	*i* iPG			**Pb**	**12 16 26.6**	**-0.5**
LACR				*e*S			**Sb**	**12 16 36.7**	**+0.2**
LACR	**Lac**	**0.67**	**251**	*i* Pg			**Pb**	**12 16 26.6**	**-0.5**
LACR				*e*Sg			**Sb**	**12 16 36.7**	**+0.2**
TRKR	**Terskaya**	**0.74**	**336**	*i* iPG			**Pn**	**12 16 29.8**	**-0.1**
TRKR				*e*S			**Sn**	**12 16 41.7**	**+0.5**
KORR	**Kora**	**0.80**	**273**	*i* iPG			**Pb**	**12 16 28.8**	**-0.5**
KORR				*e*S			**Sb**	**12 16 40.8**	**+0.6**
KORR	**Kora**	**0.80**	**273**	*i* Pg			**Pb**	**12 16 28.8**	**-0.5**
KORR				*e*Sg			**Sb**	**12 16 40.8**	**+0.6**
STDR	**Stavd-Durt**	**0.86**	**292**	*i* PG			**Pn**	**12 16 32.6**	**+1.1**
STDR				*e*S			**Sn**	**12 16 45.9**	**+1.7**
BTLR	**Botlikh**	**0.87**	**116**	*i* PG			**Pb**	**12 16 30.0**	**-0.6**
BTLR				*i* S			**Sb**	**12 16 42.5**	**+0.2**
BTLR				pmax	pmax				
	comp=Z,343nm,0.3s								
BTLR	**Botlikh**	**0.87**	**116**	*i* Pg			**Pb**	**12 16 30.0**	**-0.6**
	comp=Z,343nm,0.3s								
BTLR				*i* Sg			**Sb**	**12 16 42.5**	**+0.2**
PRTR	**Priterechnaya**	**0.95**	**318**	*i* iPG			**Pn**	**12 16 33.3**	**+0.6**
PRTR				*e*S			**Sn**	**12 16 48.2**	**+1.9**
ZEI	**Tsey**	**0.96**	**255**	*i* iPG			**Pg**	**12 16 31.5**	**-0.2**
ZEI				*i* S			**Sb**	**12 16 45.3**	**+0.4**
LSNR	**Lesken**	**1.00**	**284**	*i* iPG			**Pn**	**12 16 33.4**	**0.0**
LSNR				*e*S			**Sn**	**12 16 48.6**	**+1.0**
LSNR	**Lesken**	**1.00**	**284**	*i* Pg			**Pn**	**12 16 33.4**	**0.0**
DIGR	**Digorskoe uzhe**	**1.17**	**263**	*i* iPG			**Pg**	**12 16 35.1**	**-0.5**
DIGR				*i* S			**Sb**	**12 16 51.9**	**+1.0**
DIGR	**Digorskoe uzhe**	**

comp=Z,6.8nm,0.3s,baz=111,slow=6.8,SNR=62
KBZ Lg Lg 12 17 08.6
comp=Z,26nm,0.3s,baz=321,slow=16,SNR=10
NEY Neytrino 1.79 277 *e*PN **Pn** **12 16 43.9 -0.5**
NEY Neytrino 1.79 277 *e*Pn **Pn** **12 16 43.9 -0.5**
QZX Qazax, Azerbai 1.99 175 ⇓P **Pn** **12 16 47.6 +0.5**
SNR=16
QZX ⇑S **Sg** **12 17 16.5 -0.8**
QZX Qazax, Azerbai 1.99 175 P **Pn** **12 16 47.6 +0.5**
SNR=16
QZX S **Sg** **12 17 16.5 -0.8**
KIV Kislovodsk 2.01 298 ‖ *e*PN **Pn** **12 16 48.4 +1.0**
KIV Kislovodsk 2.01 298 *e*Pn **Pn** **12 16 48.4 +1.0**
URKR Urkarakh 2.03 115 *i* PN **Pg** **12 16 51.0 -1.2**
URKR *i* S **Sg** **12 17 18.0 -0.5**
URKR pmax pmax
comp=Z,121nm,0.3s
URKR Urkarakh 2.03 115 *i* Sg **Sg** **12 17 18.0 -0.5**
AKH Akhalkalaki 2.05 218 *e*PN **Pb** **12 16 49.8 -0.9**
AKH *e*SN **Sg** **12 17 18.3 -0.8**
AKH Akhalkalaki 2.05 218 P **Pb** **12 16 49.8 -0.9**
AKH S **Sg** **12 17 18.6 -0.5**
AKH Akhalkalaki 2.05 218 *e*Pn **Pb** **12 16 49.8 -0.9**
AKH *e*Sn **Sg** **12 17 18.3 -0.8**
CHVG Ch'k'valeri 2.28 263 *e*PN **Pn** **12 16 52.6 +1.7**
CHVG Ch'k'valeri 2.28 263 P **Pg** **12 16 56.8 -0.1**
CHVG Ch'k'valeri 2.28 263 *e*Pn **Pn** **12 16 52.7 +1.7**
SEKA Sheki 2.38 140 ⇑P **Pb** **12 16 54.7 -1.6**
SNR=46
SEKA ⇓S **Sb** **12 17 26.8 +1.0**
SEKA Sheki 2.38 140 P **Pb** **12 16 54.7 -1.6**
SNR=46
GOF Gofitskoye 2.52 324 *e*PN **Pg** **12 17 03.8 +2.2**
GOF *e*S **Sg** **12 17 36.5 +2.2**
GANJ Ganja 2.55 160 ⇑P **Pn** **12 16 55.7 +0.9**
SNR=14
GANJ ⇓S **Sb** **12 17 31.2 +0.6**
GANJ Ganja 2.55 160 P **Pn** **12 16 55.7 +0.9**
SNR=14
GANJ S **Sb** **12 17 31.2 +0.6**
EAK Akyaka 2.63 207 *i* P **Pn** **12 16 57.5 +1.6**
EAK Akyaka 2.63 207 *i* P **Pn** **12 16 57.5 +1.6**
EAK *i* S **Sg** **12 17 36.3 -1.3**
GNI Garni 2.91 186 *e*PN **Pn** **12 17 01.9 +2.1**
GNI Garni 2.91 186 Pg **Pb** **12 17 03.4 -2.0**
comp=Z,15nm,0.3s,baz=319,slow=2.6,SNR=28
GNI Lg Lg 12 17 42.7
comp=Z,10nm,0.3s,baz=47,slow=23,SNR=9.7
GNI Garni 2.91 186 *e*Pn **Pn** **12 17 01.9 +2.1**
DIGO Kars 2.95 207 *i* P **Pn** **12 17 03.6 +3.2**
DIGO *i* S **Sn** **12 17 35.3 -0.7**
DIGO Kars 2.95 207 *i* P **Pn** **12 17 03.6 +3.2**
DIGO *i* S **Sn** **12 17 35.3 -0.7**
QUBA Quba, Azerbaij 3.00 123 ⇓P **Pn** **12 17 02.9 +2.0**
SNR=5.1
QUBA Quba, Azerbaij 3.00 123 P **Pn** **12 17 02.9 +2.0**
SNR=5.1
ARTV Artvin 3.04 233 *i* P **Pn** **12 17 03.0 +1.4**
ARTV Artvin 3.04 233 *i* P **Pn** **12 17 03.0 +1.4**
BCA Borcka 3.07 240 *e*PN **Pb** **12 17 07.1 -0.9**
BCA Borcka 3.07 240 *e*Pn **Pb** **12 17 07.1 -0.9**
DBOC Borcka 3.10 238 *i* P **Pb** **12 17 07.3 -1.2**
DBOC Borcka 3.10 238 *i* P **Pb** **12 17 07.3 -1.2**
DBOC *i* S **Sn** **12 17 36.0 -3.4**
DAGI Agillar 3.11 232 *i* P **Pn** **12 17 04.1 +1.5**
DAGI *i* S **Sn** **12 17 42.4 +2.5**
BRDA Brd 3.17 151 ⇓P **Pn** **12 17 04.3 +1.1**
BRDA Brd 3.17 151 P **Pn** **12 17 04.3 +1.1**
IML Ismayilli 3.19 134 ⇑P **Pn** **12 17 05.7 +2.2**
SNR=3.5
IML ⇓S **Sb** **12 17 45.7 -3.2**
IML Ismayilli 3.19 134 P **Pn** **12 17 05.7 +2.2**
SNR=3.5
DBAD Bademkaya 3.28 233 *i* P **Pn** **12 17 06.5 +1.7**
DBAD Bademkaya 3.28 233 *i* P **Pn** **12 17 06.5 +1.7**
DBAD *i* S **Sn** **12 17 39.6 -4.4**
DDEM Demirkent 3.33 231 *i* P **Pn** **12 17 07.0 +1.5**
DDEM Demirkent 3.33 231 *i* P **Pn** **12 17 07.0 +1.5**
DDEM *i* S Sn 12 17 40.2 -5.0
SIZA Siyzn 3.41 124 ⇓P **Pn** **12 17 08.6 +2.0**
SIZA Siyzn 3.41 124 P **Pn** **12 17 08.6 +2.0**
PQL Pirkuli 3.42 130 ⇑P **Pn** **12 17 09.3 +2.6**
SNR=5.8
PQL ⇓S **Sb** **12 17 52.7 -2.9**
PQL Pirkuli 3.42 130 P **Pn** **12 17 09.3 +2.6**
SNR=5.8
ATGJ Altiaghaj 3.57 126 ⇓P **Pn** **12 17 11.1 +2.3**
ATGJ ⇓S **Sn** **12 17 55.5 +4.4**
ATGJ Altiaghaj 3.57 126 P **Pn** **12 17 11.1 +2.3**
AGRB Hanur-Agry 3.83 206 *e*PN **Pn** **12 17 13.1 +0.6**
AGRB Hanur-Agry 3.83 206 *e*Pn **Pn** **12 17 13.1 +0.6**
NAX Nakhchivan 3.88 176 ⇓P **Pn** **12 17 13.6 +0.6**
NAX Nakhchivan 3.88 176 P **Pn** **12 17 13.6 +0.6**
GLBA Clilabad 4.52 146 ⇑P **Pn** **12 17 22.7 +0.9**
SNR=3.0
GLBA ⇑S **Sn** **12 18 17.6 +3.3**
GLBA Clilabad 4.52 146 P **Pn** **12 17 22.7 +0.9**
SNR=3.0
GLBA S **Sn** **12 18 17.6 +3.3**
LRK Lerik 5.02 150 ⇑P **Pn** **12 17 30.3 +1.5**
SNR=7.8
LRK Lerik 5.02 150 P **Pn** **12 17 30.3 +1.5**
SNR=7.8
ANN Anapa 5.85 290 *e*P Pn 12 17 43.2 +3.2
ANN pmax pmax
comp=Z,76nm,1.7s
VSR Storozhevoye 9.13 336 *e*P **Pn** **12 18 23.9 -1.1**
VSR Storozhevoye 9.13 336 *e*P **Pn** **12 18 23.9 -1.1**
AKTK Aktyubinsk 11.50 46 P **Pn** **12 18 56.5 -0.9**
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 11.50 46 ⇑Pn **Pn** **12 18 56.5 -0.9**
comp=Z,2.2nm,0.6s
AKTO ⇑Sn Sn 12 20 52.8 -13
comp=Z,3.3nm,0.8s
AKTO Aktyubinsk 11.50 46 P **Pn** **12 18 56.5 -0.9**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO Aktyubinsk 11.50 46 Pn **Pn** **12 18 56.5 -0.9**
comp=Z,0.5nm,0.3s,baz=232,slow=10,SNR=9.2
AKTO Aktyubinsk 11.50 46 Pn **Pn** **12 18 56.5 -0.9**
comp=Z,2.2nm,0.6s
AKTO Sn Sn 12 20 52.8 -13
comp=Z,3.3nm,0.8s
AB31 Akbulak array 11.98 54 ⇓Pn **Pn** **12 19 02.3 -1.7**
comp=Z,0.5nm,0.3s,baz=236,slow=12,SNR=33
AB31 ⇑Sn Sn 12 21 01.2 -16
comp=Z,0.7nm,0.3s,baz=237,slow=22,SNR=4.9
AB31 Akbulak array 11.98 54 Pn **Pn** **12 19 02.3 -1.7**
comp=Z,0.5nm,0.3s,SNR=33
AB31 Sn Sn 12 21 01.2 -16
comp=Z,0.7nm,0.3s,SNR=4.9
OBN Obninsk 13.31 338 *e*P **Pn** **12 19 24.5 +2.4**
OBN pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 15.91 28 *d* iP **Pn** **12 19 55.6 -1.5**
ARU S **Sn** **12 22 52.8 -0.6**
ARU pmax pmax
comp=Z,3.0nm,1.2s
CRVS Cervenica-Dubn 17.45 298 *e*P Pn 12 20 08.1 -8.5
CRVS Cervenica-Dubn 17.45 298 *e*PN Pn 12 20 08.1 -8.5
KK31 Karatay Array 18.51 81 ⇑Pn P 12 20 23.4 -6.2
comp=Z,0.5nm,0.3s,baz=283,slow=13,SNR=6.2
KK31 Karatay Array 18.51 81 Pn P 12 20 23.4 -6.2
comp=Z,0.5nm,0.3s,SNR=6.2
BVA0 Borovoye Array 19.51 50 ⇑Pn **Pn** **12 20 41.1 -0.6**
comp=Z,1.1nm,0.6s,baz=236,slow=10.0,SNR=6.3
BVA0 Borovoye Array 19.51 50 Pn **Pn** **12 20 41.1 -0.6**
comp=Z,1.1nm,0.6s,SNR=6.3
BVAR Borovoye Array 19.51 50 P **P** **12 20 39.2 -1.3**
comp=Z,0.3nm,0.3s,baz=255,slow=9.7,SNR=5.9
AAK Ala-Archa 21.47 81 *e*P **P** **12 21 05.0 +2.9**
AAK pmax pmax
comp=Z,3.0nm,1.2s
FINES FINESS Array B 21.66 335 P **P** **12 21 01.9 -1.8**
comp=Z,0.9nm,0.5s,baz=155,slow=12,SNR=5.0
KURBB Kurchatov Arra 23.90 60 P **P** **12 21 27.0 0.0**
comp=Z,0.2nm,0.4s,baz=270,slow=8.9,SNR=4.3
KURK Kurchatov 23.96 60 P **P** **12 21 27.0 -0.6**
KURK Kurchatov 23.96 60 P **P** **12 21 27.0 -0.6**
HFS Hagfors 25.61 323 P **P** **12 21 41.0 -1.4**
HFS pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 25.61 323 P **P** **12 21 41.0 -1.4**
comp=Z,2.7nm,0.8s,baz=122,slow=7.2,SNR=5.0

MKAR Makanchi Array 26.40 69 P **P** **12 21 47.6 -2.2**
comp=Z,0.1nm,0.3s,baz=273,slow=8.1,SNR=4.3

IDC 12 12:26:24.5±9.6, 30°.33S×178°.27E, h260km±86km, mb2.7/2, mb1 3.1/3, mb1mx3.0/25, mbtmp3.6/3, Error ellipse: s-maj=90.6km s-min=40.0km az=26.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.97**	**187**	P		Pn		12 28 17.4	+0.1
	3.1nm,0.3s,baz=351,slow=19,SNR=50								
URZ				S		S		12 29 48.7	+0.3
	1.2nm,0.3s,baz=275,slow=23,SNR=14								
ASAR	**Alice Springs**	**39.89**	**269**	P		P		12 33 33.5	-0.2
	0.1nm,0.4s,baz=104,slow=7.4,SNR=6.8								
WRA	**Warramunga Arr**	**40.88**	**274**	P		P		12 33 41.6	-0.1
	0.3nm,0.4s,baz=113,slow=7.6,SNR=14								
BRTR	**Keskin Array B**	**149.72**	**298**	PKPbc		PKPbc		12 45 43.3	-0.4
	0.7nm,1.0s,baz=43,slow=6.5,SNR=2.1								

*IDC **12** 12:26:33.6±1.8, 13°.90S×76°.69W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=44.6km s-min=23.8km az=50.0*

ISC 12 12:26:39.2±1.4, 13°.6S±0°.1×76°.6W±0°.2, h30km, n14, σ2§00/10, mb3.5/3, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.66**	**351**	Pn		**Pb**		**12 27 08.6**	**-0.6**
	18nm,0.3s,baz=190,slow=13,SNR=26								
NNA				Sn		**Sb**		**12 27 32.6**	**+3.0**
	49nm,0.3s,baz=185,slow=11,SNR=7.9								
ATAH	**Atahualpa**	**6.70**	**344**	Pn		**Pn**		**12 28 17.4**	**+1.4**
	0.5nm,0.3s,baz=152,slow=15,SNR=2.4								
ATAH				Sn		**Sb**		**12 29 51.0**	**-4.1**
	0.4nm,0.3s,baz=151,slow=19,SNR=2.1								
LPAZ	**La Paz**	**8.59**	**109**	Pn		**Pn**		**12 28 41.7**	**-0.4**
	0.3nm,0.3s,baz=282,slow=6.6,SNR=12								
LPAZ				Sn		Sn		12 30 27.6	+9.3
	baz=315,slow=7.1,SNR=1.6								
PTGA	**Pitinga**	**20.86**	**53**	P		**P**		**12 31 18.7**	**-0.2**
	0.6nm,0.3s,baz=307,slow=20,SNR=2.7								
TXAR	**Lajitas Array**	**50.09**	**329**	P		**P**		**12 35 31.6**	**-0.1**
	0.1nm,0.5s,baz=152,slow=10,SNR=2.1								
YKA	**Yellowknife Ar**	**81.48**	**343**	P		**P**		**12 38 53.7**	**+0.5**
	0.2nm,0.4s,baz=148,slow=5.6,SNR=7.1								
TORD	**Torodi Ar. Bea**	**81.99**	**74**	P		**P**		**12 38 56.8**	**-0.2**
	1.6nm,0.7s,baz=253,slow=4.8,SNR=10.0								
H11N3	**WAKE ISLAND Hyd**	**19.16**	**285**	T		T		14 55 41.3	
	baz=96,slow=74,SNR=21								
H11N2	**WAKE ISLAND Hyd**	**19.17**	**285**	T		T		14 55 42.6	
	baz=96,slow=74,SNR=28								
H11N1	**WAKE ISLAND Hyd**	**19.18**	**285**	T		T		14 55 42.0	
	baz=96,slow=74,SNR=13								
H11S2	**WAKE ISLAND Hyd**	**19.24**	**284**	T		T		14 55 47.2	
	baz=102,slow=73,SNR=6.1								
H11S1	**WAKE ISLAND Hyd**	**19.25**	**284**	T		T		14 55 46.0	
	baz=102,slow=73,SNR=7.2								
H11S3	**WAKE ISLAND Hyd**	**19.26**	**284**	T		T		14 55 47.8	
	baz=102,slow=73,SNR=8.1								
SONM	**Songino Array**	**145.81**	**356**	PKPbc		**PKPdf**		**12 46 15.1**	**-0.1**
	0.4nm,0.7s,baz=351,slow=2.7,SNR=3.4								

*IDC **12** 12:36:41.2±0.5, 35°.33S×105°.90W, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.4/29, mbtmp4.3/15, ML4.4/1, MS4.3/13, Ms1 4.3/13, ms1mx4.2/16, Error ellipse: s-maj=17.9km s-min=16.3km az=76.0*

*ISCJB **12** 12:36:44.3±0.3, 35°.39S±0°.06×105°.3W±0°.1, h23km, mb4.8/81, MS4.3/12, Error ellipse: s-maj=13.0km s-min=7.9km az=157.5*

*GCMT **12** 12:36:44.1±0.2, 35°.37S×105°.82W, h17km, MW5.3/109, Moment Tensor Solution. s77,c119; s109,c186; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$-0.26±.02; $M_{\phi\phi}$0.42±.02; $M_{r\theta}$0.00±.05; $M_{\theta\phi}$-1.01±.02; $M_{\phi r}$-0.18±.05; Best double couple: M_o1.08100×10^{17} NP1:$\phi_0$9.00000°, δ89.00000°, λ-10.00000°. NP2:$\phi_0$99.00000°, δ80.00000°, λ-179.00000°. Principal axes: T 1.1630, Plg6.0000°, Azm55.0000°; N -0.1640, Plg80.0000°, Azm186.0000°; P -0.9990, Plg7.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **12** 12:36:44.1±0.5, 35°.54S×105°.45W, h10km, mb4.9/67 Error ellipse: s-maj=17.0km s-min=11.4km az=52.0*

*BJI **12** 12:36:46.0, 35°.50S×105°.10W, h22km, mB5.1/13, Ms5.3/8, Ms7 5.0/13*

ISC 12 12:36:47.6±0.5, 35°.49S±0°.09×105°.08W±0°.08, h26km±3km, h25km: pP-P, n310, σ1§88/313, mb4.8/81, MS4.3/12, 90C-72D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.10**	**335**	Pn		Pn		12 38 50.0	-7.2
	4.5nm,0.3s,baz=168,slow=10,SNR=4.5								
RPN				LR		LR		12 41 18.2	
	comp=Z,4µm,20.8s,baz=143,slow=32								
PLCA	**Paso Flores**	**27.55**	**111**	P		**P**		**12 42 35.9**	**+3.5**
	8.6nm,0.8s,baz=280,slow=7.6,SNR=12								
PLCA				LR		LR		12 50 01.2	
	comp=Z,248nm,19.5s,baz=293,slow=28								
PLCA	**Paso Flores**	**27.55**	**111**	*e*P		**P**		**12 42 31.0**	**-1.3**
	16nm,0.9s								
PLCA				*e*pP		**pP**		**12 42 39.4**	**-0.6**
RKT	**Rikitea**	**28.72**	**287**	*e*S		S		12 47 08.9	-22
	199nm,30.0s								
RKT				*e*LQ		LQ		12 48 16.9	
	1µm,28.8s								
RKT				*e*LR		LR		12 49 36.8	
	483nm,29.5s								
RKT	**Rikitea**	**28.72**	**287**	*e*T		T		13 11 33.6	
	1.5nm,0.3s								
CFAA	**Coronel Fontan**	**30.84**	**93**	P		**P**		**12 43 04.3**	**+2.8**
	0.7nm,0.8s,baz=283,slow=6.9,SNR=5.3								
CFAA				LR		LR		12 52 38.9	
	comp=Z,70nm,20.8s,slow=30								
LVC	**Limon Verde**	**33.94**	**78**	*e*P		**P**		**12 43 28.4**	**-0.6**
	72nm,1.8s								
LVC				*e*pP		**pP**		**12 43 33.8**	**-3.0**
ATAH	**Atahualpa**	**37.36**	**47**	P		**P**		**12 43 57.9**	**-0.8**
	4.5nm,0.8s,baz=287,slow=6.6,SNR=2.4								
LPAZ	**La Paz**	**38.06**	**69**	P		**P**		**12 44 06.6**	**+1.8**
	1.6nm,0.4s,baz=228,slow=9.6,SNR=8.1								
LPAZ				LR		LR		12 56 54.3	
	comp=Z,354nm,19.1s,baz=240,slow=31								
LPAZ	**La Paz**	**38.06**	**69**	*e*P		P		12 44 08.0	+3.2
PMSA	**Palmer Station**	**38.18**	**153**	LR		LR		12 56 02.8	
	comp=Z,806nm,18.3s,baz=300,slow=30								
TBI	**Tubuai**	**40.20**	**275**	*e*S		S		12 50 07.7	-20
	471nm,31.0s								
TBI				*e*LQ		LQ		12 53 04.3	
	1µm,35.0s								
TBI				*e*LR		LR		12 54 41.9	
	799nm,26.0s								
TBI	**Tubuai**	**40.20**	**275**	*e*T		T		13 26 02.0	
	12nm,0.3s								
MEH	**Mehetia**	**41.85**	**283**	*e*T		T		13 28 06.9	
	27nm,0.3s								
TVO	**Taravao**	**42.85**	**283**	*e*T		T		13 29 21.3	
	1.0nm,0.3s								
TIAR	**Tiarei**	**43.05**	**283**	*e*T		T		13 29 36.1	
	5.2nm,0.2s								
PPT2	**Papeete2**	**43.21**	**283**	*e*S		S		12 50 54.9	-17
	582nm,26.8s								
PPT2				*e*LQ		LQ		12 54 19.5	
	3µm,27.5s								
PPT2				*e*LR		LR		12 56 06.8	
	530nm,24.5s,baz=119								
OTAV	**Otavalo**	**43.36**	**41**	*e*P		**P**		**12 44 48.8**	**+0.4**
	51nm,1.9s								
SIV	**San Ignacio**	**43.72**	**75**	P		**P**		**12 44 53.3**	**+2.4**
	5.3nm,0.8s,baz=259,slow=7.9,SNR=11								
SIV				LR		LR		13 00 12.1	
	comp=Z,282nm,21.0s,baz=260,slow=32								
SAML	**Samuel**	**46.42**	**66**	*e*P		**P**		**12 45 13.3**	**+1.1**
	7.0nm,1.3s								
ROSC	**El Rosal**	**49.45**	**42**	LR		LR		13 02 39.4	
	comp=Z,695nm,21.9s,baz=227,slow=31								
BDFB	**Brasilia**	**54.39**	**84**	P		**P**		**12 46 15.6**	**+2.9**
	2.5nm,0.6s,baz=233,slow=10,SNR=2.4								
BDFB				LR		LR		13 08 03.6	

comp=Z,391nm,18.2s,baz=230,slow=34
QSPA South Pole Qui 54.71 180 P **P** **12 46 13.3 -1.1**
6.1nm,0.8s,baz=143,slow=1.4,SNR=20
QSPA South Pole Qui 54.71 180 *e*P **P** **12 46 13.1 -1.3**
120nm,2.4s
SDV Santo Domingo 54.81 43 *e*P **P** **12 46 15.2 -0.5**
5.8nm,0.8s
SDV *e*pP **pP** **12 46 24.7 +1.0**
VNDA Vanda 56.31 195 P **P** **12 46 23.2 -2.3**
0.8nm,0.9s,baz=74,slow=6.1,SNR=2.9
VNDA LR LR 13 06 12.4
comp=Z,264nm,18.3s,baz=102,slow=32
VNA3 Neumayer Olymp 58.53 158 P **P** **12 46 40.7 -0.6**
VNA1 Neumayer--Stat 59.16 157 P **P** **12 46 45.4 -0.1**
VNA2 Neumayer--Watz 59.34 158 P **P** **12 46 46.6 -0.2**
baz=260,slow=6.1
933A Laredo 63.01 6 ⇑P **P** **12 47 11.1 -1.0**
baz=64
TXAR Lajitas Array 64.50 1 P **P** **12 47 19.0 -3.0**
2.6nm,0.8s,baz=185,slow=10,SNR=13
TXAR LR LR 13 10 10.7
comp=Z,174nm,19.4s,baz=0.0,slow=31
631A Perdido Creek 64.70 4 ⇓P **P** **12 47 22.0 -1.3**
baz=65
632A Uvalde 64.85 5 ⇑P **P** **12 47 23.0 -1.2**
baz=65,SNR=6.6
530A J-C Ranch, Com 65.39 4 ⇑P **P** **12 47 25.8 -2.0**
baz=66
531A Rocksprings 65.45 4 ⇓P **P** **12 47 25.9 -2.3**
baz=66
532A Rocksprings 65.45 5 ⇑P **P** **12 47 25.9 -2.3**
baz=66
533A Kerrville 65.47 6 ⇓P **P** **12 47 26.2 -2.1**
baz=66
534A Blanco 65.47 6 ⇑P **P** **12 47 26.4 -1.8**
baz=66
JCT Junction City 65.81 5 ⇓P **P** **12 47 28.4 -2.1**
baz=66
JCT Junction City 65.81 5 *e*P **P** **12 47 29.8 -0.7**
10nm,0.8s
429A Davenport Ranc 65.84 3 ⇓P **P** **12 47 28.5 -2.1**
baz=66
431A Sonora 65.96 4 ⇑P **P** **12 47 29.1 -2.4**
baz=66,SNR=6.1
430A Baggett Ranch, 66.03 4 ⇓P **P** **12 47 29.8 -2.2**
baz=66
433A Art 66.14 6 ⇓P **P** **12 47 29.7 -2.9**
baz=67,SNR=7.1
432A Menard 66.21 5 ⇑P **P** **12 47 30.6 -2.4**
baz=67
434A Burnet 66.27 6 ⇓P **P** **12 47 30.6 -2.8**
baz=67
331A San Angelo 66.59 4 ⇓P **P** **12 47 33.7 -1.8**
baz=67
319A Douglas 66.63 356 ⇑P **P** **12 47 33.7 -2.1**
baz=67
330A Mertzon 66.65 4 ⇑P **P** **12 47 33.7 -2.1**
baz=67
329A Wagon Wheel Ra 66.69 3 ⇓P **P** **12 47 33.7 -2.5**
baz=67
332A Millersview 66.71 5 ⇑P **P** **12 47 33.1 -3.1**
baz=67,SNR=9.3
333A Richland Sprin 66.71 6 ⇑P **P** **12 47 33.3 -2.9**
baz=67
334A Lometa 66.78 6 ⇓P **P** **12 47 33.5 -3.2**
baz=67
MNTX Cornudas Mount 66.84 360 ⇑P P 12 47 33.6 -3.4
baz=67
MNTX Cornudas Mount 66.84 360 *e*P **P** **12 47 34.5 -2.5**
5.2nm,1.1s
232A Coleman 67.22 5 ⇓P **P** **12 47 36.4 -3.1**
baz=68
231A Bronte 67.22 4 ⇓P P 12 47 36.3 -3.2
baz=68
GDL2 Guadalupe Moun 67.34 1 *e*P **P** **12 47 38.3 -2.0**
233A Rising Star 67.41 6 ⇓P P 12 47 37.3 -3.4
baz=68
234A Clairette 67.46 6 ⇑P **P** **12 47 37.8 -3.1**
baz=68
WHTX Lake Whitney, 67.51 7 ⇓P **P** **12 47 38.1 -3.1**
baz=68
WHTX Lake Whitney, 67.51 7 *e*P **P** **12 47 39.8 -1.5**
28nm,1.3s
TUC Tucson 67.66 355 *e*P **P** **12 47 41.8 -0.5**
7.9nm,1.0s
128A Castleberry Fa 67.80 2 ⇑P **P** **12 47 40.1 -3.1**
baz=68
131A Roby 67.95 4 ⇑P P 12 47 40.8 -3.3
baz=68
133A Hamilton Ranch 67.99 6 ⇑P **P** **12 47 41.2 -3.1**
baz=68
134A White-Moore Ra 68.03 6 ⇓P P 12 47 40.7 -3.9
baz=68
BRAL Brewton 68.29 17 *e*P **P** **12 47 46.4 +0.3**
159nm,0.5s
Z29A Hungry Hill Ra 68.47 3 ⇑P **P** **12 47 44.8 -2.6**
baz=69
Z30A Sanderson Ranc 68.52 4 ⇑P **P** **12 47 45.7 -1.9**
baz=69
Z31A Sharp Cattle R 68.61 4 ⇓P **P** **12 47 46.1 -2.1**
baz=69
Z32A Haskell 68.64 5 ⇑P **P** **12 47 45.9 -2.4**
baz=69
Z33A Whitaker Ranch 68.68 6 ⇓P **P** **12 47 45.6 -2.9**
baz=69
VBMS Vicksburg 68.73 13 *e*P **P** **12 47 51.7 +2.8**
241nm,0.3s
VBMS *e*pP pP 12 48 03.5 +6.5
Y31A Rekieta Farm, 69.24 4 ⇑P **P** **12 47 49.7 -2.4**
baz=70
LENM Lemitar 69.32 358 *e*P **P** **12 47 52.0 -0.8**
6.4nm,0.9s
Y14A Wickenburg 69.47 353 ⇓P **P** **12 47 51.9 -1.6**
baz=70
LAZ Ladron 69.56 358 *e*P **P** **12 47 52.2 -2.0**
2.8nm,0.9s
X29A Tulia 69.65 3 ⇓P **P** **12 47 52.5 -2.2**
baz=70
X16A Lo Mia Camp, P 69.81 354 ⇑P **P** **12 47 53.4 -2.3**
baz=70
X18A Snowflake 69.81 356 ⇓P **P** **12 47 53.2 -2.6**
baz=70
X31A McDonald Ranch 69.93 4 ⇓P **P** **12 47 53.9 -2.4**
baz=70
X34A Smith Ranch, M 70.06 6 ⇑P **P** **12 47 54.0 -3.1**
baz=71
AMTX Amarillo 70.09 3 ⇓P **P** **12 47 54.9 -2.4**
baz=71
ANMO Albuquerque 70.09 359 *e*P **P** **12 47 58.7 +1.2**
17nm,2.0s
W32A Sentinel 70.47 5 ⇑P **P** **12 47 57.6 -2.0**
baz=71
W31A Holland Ranch, 70.48 4 ⇑P **P** **12 47 57.9 -1.8**
baz=71
W13A Hualapai Mount 70.71 352 ⇑P **P** **12 47 59.8 -1.5**
baz=71
V26A Tequesquite Ra 70.94 1 ⇓P **P** **12 48 00.5 -2.0**
baz=71
V33A Lossen Ranch, 71.23 6 ⇑P **P** **12 48 03.3 -0.9**
baz=72
U25A Circle Dot Ran 71.53 1 ⇓P **P** **12 48 04.0 -2.2**
baz=72
U15A North Rim 71.87 354 ⇓P **P** **12 48 07.1 -1.3**
baz=72
T24B San Luis 72.19 360 ⇑P **P** **12 48 08.9 -1.4**
baz=73
T27A Campo 72.22 2 ⇓P **P** **12 48 09.0 -1.3**
baz=73
SHPR Sheep Range 72.25 351 *e*P **P** **12 48 11.7 +1.3**
14nm,1.4s
T25A Trinidad 72.27 1 ⇓P **P** **12 48 09.1 -1.6**
baz=73
T25A Trinidad 72.27 1 *e*P **P** **12 48 10.3 -0.4**
113nm,2.0s
T25A *e*pP **pP** **12 48 19.9 +0.9**
T28A Walsh 72.30 2 ⇓P P **12 48 09.2 -1.5**
baz=73
T30A Plains 72.30 4 ⇓P **P** **12 48 09.2 -1.5**
baz=73
T26A Comanche Natio 72.31 1 ⇑P **P** **12 48 09.1 -1.8**
baz=73
T31A Randall Ranch, 72.40 5 ⇑P **P** **12 48 09.5 -1.7**
baz=73
MVCO Mesa Verde 72.41 357 ⇑P **P** **12 48 08.4 -3.1**
baz=73
MVCO Mesa Verde 72.41 357 *e*P **P** **12 48 10.5 -1.1**
14nm,1.1s
T33A Patterson Ranc 72.49 6 ⇑P **P** **12 48 08.9 -2.9**

baz=73
SYO **Syowa Base** 72.58 167⇑ *e*P P 12 48 11.2 -0.8
SYO **Syowa Base** 72.58 167⇑ *es*P sP 12 48 24.4 +1.1
S26A **Kim** 72.76 1 ⇑P P 12 48 10.3 -3.2
baz=73,SNR=10
S24A **Houchin Ranch,** 72.77 360 ⇓P P 12 48 11.3 -2.4
baz=73
S25A **Robets Cordova** 72.79 1 ⇑P P 12 48 11.6 -2.2
baz=73
TPNV **Topopah Spring** 72.82 351 ⇑P P 12 48 11.7 -2.2
baz=73
TPNV **Topopah Spring** 72.82 351 *e*P P 12 48 14.4 +0.5
8.6nm,1.1s
SDCO **Great Sand Dun** 72.87 360 ⇑P P 12 48 12.2 -2.1
baz=73
SDCO **Great Sand Dun** 72.87 360 *e*P P 12 48 12.1 -2.3
68nm,2.8s
S22A **4UR Ranch, Cre** 72.89 359 ⇑P P 12 48 12.3 -2.1
baz=73
S22A **4UR Ranch, Cre** 72.89 359 *e*P P 12 48 12.4 -2.0
7.9nm,1.1s
CCUT **Cedar City** 73.08 353 *e*P P 12 48 15.5 -0.1
27nm,1.8s
S35A **Otter Creek Ra** 73.26 7 ⇑P P 12 48 14.3 -2.0
baz=74
R25A **Fountain Ranch** 73.28 1 ⇑P P 12 48 14.7 -1.9
baz=74
R23A **Moffat** 73.32 359 ⇓P P 12 48 14.8 -2.1
baz=74
PV01 **Paradox Valley** 73.33 357 *e*P P 12 48 16.0 -1.0
474nm,1.1s
R24A **Sanders Place,** 73.36 360 ⇑P P 12 48 15.1 -2.1
baz=74
R26A **Arlington** 73.44 1 ⇓P P 12 48 14.9 -2.6
baz=74,SNR=11
R27A **Eads** 73.44 2 ⇓P P 12 48 14.6 -2.8
baz=74,SNR=8.4
TKL **Tuckaleechee C** 73.52 18 *e*P P 12 48 18.1 +0.3
R28A **Tribune** 73.53 3 ⇑P P 12 48 15.9 -2.1
baz=74
R30A **Dighton** 73.55 4 ⇑P P 12 48 15.9 -2.1
baz=74
R31A **Burdett** 73.59 5 ⇑P P 12 48 16.6 -1.7
baz=74
Q25A **Bedland, Calha** 74.04 1 ⇑P P 12 48 18.9 -2.2
baz=74
TPH **Tonopah** 74.06 350 *e*P P 12 48 19.7 -1.5
42nm,1.8s
Q26A **Hugo** 74.06 1 ⇓P P 12 48 19.1 -2.0
baz=74
Q24A **Divide** 74.09 360 ⇓P P 12 48 19.5 -2.0
baz=75
Q29A **Oakley** 74.11 3 ⇑P P 12 48 19.5 -1.8
baz=75
KSCO **Kaye Shedlock'** 74.17 2 *e*P P 12 48 21.5 -0.2
14nm,0.4s
Q30A **Quinter** 74.24 4 ⇓P P 12 48 20.0 -2.1
baz=75
Q28A **Sharon Springs** 74.25 3 ⇓P P 12 48 19.9 -2.2
baz=75
SMCO **Snowmass** 74.32 358 *e*P P 12 48 21.7 -1.2
71nm,2.5s
Q32A **Meitler Ranch,** 74.36 5 ⇑P P 12 48 20.6 -2.1
baz=75
SRU **San Rafael Swe** 74.41 356 *e*P P 12 48 21.7 -1.5
9.7nm,0.9s
Q33A **Connelly Farm,** 74.42 6 ⇑P P 12 48 21.8 -1.3
baz=75
P23A **Jefferson** 74.50 359 ⇑P P 12 48 22.1 -1.8
baz=75
NVAR **Mina Array Bea** 74.57 349 P P 12 48 20.5 -3.7
2.0nm,0.7s,baz=179,slow=7.6,SNR=11
TMUT **Trail Mountain** 74.64 355 *e*P P 12 48 23.6 -1.1
9.1nm,0.9s
P26A **Davis Ranch, A** 74.70 1 ⇑P P 12 48 23.1 -1.8
baz=75
P22A **Eagle** 74.73 359 ⇑P P 12 48 22.4 -2.8
baz=75,SNR=8.5
P31A **Stockton** 74.83 5 ⇑P P 12 48 23.9 -1.6
baz=75
ISCO **Idaho Springs** 74.92 360 ⇓P P 12 48 24.3 -2.0
baz=75
ISCO **Idaho Springs** 74.92 360 *e*P P 12 48 26.0 -0.4
48nm,2.5s
O25A **Wiggins** 75.24 1 ⇓P P 12 48 26.4 -1.6
baz=76
O22A **Kremmling** 75.30 359 ⇑P P 12 48 26.7 -1.7
baz=76
O28A **Krutsinger Ran** 75.31 3 ⇓P P 12 48 26.8 -1.4
baz=76
O20A **White River Ci** 75.31 357 ⇑P P 12 48 26.9 -1.6
baz=76
O23A **Lake Granby, G** 75.34 359 ⇓P P 12 48 26.8 -1.9
baz=76
NLU **North Lily Min** 75.35 354 *e*P P 12 48 28.5 -0.2
10nm,1.0s
O30A **MW Ranch, Wils** 75.44 4 ⇓P P 12 48 27.6 -1.4
baz=76
DUG **Dugway, Tooele** 75.65 354 ⇓P P 12 48 29.0 -1.3
baz=76
DUG **Dugway, Tooele** 75.65 354 *e*P P 12 48 29.6 -0.7
6.0nm,1.1s
DAU **Daniels Canyon** 75.75 355 *e*P P 12 48 30.0 -1.1
N22A **Wattenberg Ran** 75.94 359 ⇑P P 12 48 29.8 -2.3
baz=76
N20A **Spence Gulch,** 76.01 358 ⇓P P 12 48 31.4 -1.1
baz=76
N23A **Red Feather La** 76.02 359 ⇑P P 12 48 31.7 -0.8
baz=76
N23A **Red Feather La** 76.02 359 *e*P P 12 48 32.4 -0.1
12nm,1.2s
DZM **Mont Dzumac** 76.34 253 *e*LR LR 13 11 26.0
856nm,32.3s
BMN **Battle Mountai** 76.38 350 *e*P P 12 48 34.9 +0.4
9.8nm,0.9s
PHWY **Pilot Hill** 76.42 360 *e*P P 12 48 34.9 0.0
19nm,1.5s
M22A **Cedar Creek Ra** 76.54 359 ⇓P P 12 48 34.3 -1.2
baz=77
M24A **Cheyenne** 76.59 0 ⇓P P 12 48 34.6 -1.1
baz=77
MAW **Mawson** 76.81 175 LR LR 13 19 39.4
comp=Z,173nm,19.1s,baz=176,slow=34
HWUT **Hardware Ranch** 76.96 355 *e*P P 12 48 36.6 -1.1
4.1nm,0.9s
L23A **Garrett** 77.24 360 ⇓P P 12 48 37.7 -1.6
baz=78
WDC **Whiskeytown Da** 77.39 346 *e*P P 12 48 40.8 +0.9
18nm,1.1s
WDC *ep*P pP 12 48 46.5 -1.7
K21A **Alcova** 77.78 358 ⇑P P 12 48 40.0 -2.3
baz=78
K22A **Casper** 77.78 359 ⇑P P 12 48 39.9 -2.4
baz=78
K22A **Casper** 77.78 359 *e*P P 12 48 42.3 0.0
20nm,1.0s
BW06 **Boulder Array** 78.00 357 *e*P P 12 48 40.0 -3.5
9.7nm,0.8s
PDAR **Pinedale Array** 78.00 357 P P 12 48 40.0 -3.5
2.3nm,0.7s,baz=162,slow=6.2,SNR=16
MOD **Modoc Plateau** 78.28 348 *e*P P 12 48 43.5 -1.5
9.7nm,0.8s
J26A **Sides Ranch, S** 78.45 1 ⇑P P 12 48 43.3 -2.6
baz=79
J19A **Crowheart** 78.47 357 ⇓P P 12 48 43.6 -2.5
baz=79
J21A **Lysite** 78.50 358 ⇓P P 12 48 43.7 -2.5
baz=79,SNR=5.9
J20A **Shoshoni** 78.52 358 ⇑P P 12 48 44.5 -1.8
baz=79
WVOR **Wild Horse Val** 78.54 350 *e*P P 12 48 46.9 +0.5
40nm,1.8s
J22A **Midwest** 78.54 359 ⇑P P 12 48 44.7 -1.8
baz=79
J28A **Allard Ranch,** 78.62 3 ⇓P P 12 48 45.4 -1.4
baz=79
J29A **Okreek** 78.65 4 ⇑P P 12 48 45.0 -1.9
baz=79
REDW **Red Top Meadow** 78.66 356 *e*P P 12 48 46.5 -0.8
19nm,1.3s
TPAW **Teton Pass** 78.79 356 *e*P P 12 48 46.2 -1.8
18nm,0.9s
LOHW **Long Hollow** 78.89 356 *e*P P 12 48 48.5 0.0
15nm,1.3s
FXWY **Fox Creek** 78.94 356 *e*P P 12 48 47.5 -1.3
8.3nm,1.0s
I21A **Big Trails, Te** 78.96 358 ⇓P P 12 48 46.6 -2.1
baz=79

I22A **9 Mile Ranch,** 79.02 359 ⇑P P 12 48 47.0 -2.1
baz=80
I20A **Worland** 79.12 358 ⇑P P 12 48 47.7 -1.9
baz=80
HLID **Hailey** 79.14 353 ⇑P P 12 48 47.1 -2.6
baz=80,SNR=22
HLID **Hailey** 79.14 353 *e*P P 12 48 47.2 -2.6
16nm,0.9s
I25A **Rochford** 79.15 1 ⇑P P 12 48 47.7 -2.1
baz=80
K05A **Summer Lake** 79.18 348 *e*P P 12 48 50.7 +0.7
216nm,2.5s
K05A *ep*P pP 12 48 58.2 -0.1
IMW **Indian Meadow** 79.20 356 *e*P P 12 48 50.3 +0.1
8.4nm,0.8s
I17A **Pilgrim Ck.** 79.20 356 ⇑P P 12 48 48.3 -1.9
baz=80
I28A **Midland** 79.20 3 ⇑P P 12 48 48.3 -1.6
baz=80
ECSD **EROS Data Cent** 79.23 6 ⇓P P 12 48 48.2 -1.9
baz=80
I19A **Meeteetse** 79.24 357 ⇓P P 12 48 48.3 -2.0
baz=80,SNR=6.2
I27A **Quinn** 79.24 2 ⇑P P 12 48 48.6 -1.6
baz=80
RSSD **Black Hills** 79.25 1 *e*P P 12 48 49.8 -0.6
8.7nm,0.9s
FLWY **Flagg Ranch** 79.37 356 *e*P P 12 48 48.7 -2.3
14nm,0.8s
H20A **Greybull** 79.65 358 ⇑P P 12 48 50.8 -1.7
baz=80
H22A **Clearmont** 79.72 359 ⇓P P 12 48 51.5 -1.3
baz=80
J05D **Fort Rock, OR** 79.78 348 ⇓P P 12 48 52.3 -0.9
baz=80
SSPA **Standing Stone** 79.78 21 *e*P P 12 48 52.1 -1.0
9.2nm,1.1s
H27A **Howes** 79.80 2 ⇑P P 12 48 52.1 -1.1
baz=80
H24A **Dirks Ranch, A** 79.87 0 ⇓P P 12 48 52.1 -1.5
baz=80
H18A **Shoshone NF, C** 79.91 357 ⇑P P 12 48 52.9 -1.1
baz=80
YMR **Madison River** 79.97 356 *e*P P 12 48 54.3 -0.1
40nm,1.6s
YMR *ep*P pP 12 49 02.8 +0.1
QLMT **Earthquake Lak** 80.16 355 *e*P P 12 48 54.6 -0.7
MCMT **McKenzie Canyo** 80.26 354 *e*P P 12 48 54.5 -1.4
2.9nm,0.9s
I07A **Izee** 80.28 350 *e*P P 12 48 55.7 -0.2
20nm,1.2s
G28A **Parade** 80.28 3 ⇓P P 12 48 54.8 -1.0
baz=81
RLMT **Red Lodge** 80.33 357 *e*P P 12 48 54.2 -2.0
9.4nm,1.2s
G22A **Birney** 80.35 359 ⇑P P 12 48 55.0 -1.2
baz=81
G21A **Lodge Grass** 80.37 358 ⇓P P 12 48 55.1 -1.2
baz=81
G20A **Bridger** 80.39 358 ⇓P P 12 48 55.0 -1.5
baz=81
G26A **Maurine** 80.44 2 ⇑P P 12 48 55.6 -1.1
baz=81
DLMT **Dillon** 80.77 355 *e*P P 12 48 59.3 +0.8
5.9nm,1.1s
DLMT *ep*P pP 12 49 11.4 +4.5
F23A **Volborg** 80.84 360 ⇓P P 12 48 58.1 -0.7
baz=81
F20A **Billings** 80.97 358 ⇑P P 12 48 58.8 -0.7
baz=81
BOZ **Bozeman (W)** 80.98 355 *e*P P 12 48 57.5 -2.2
6.3nm,1.0s
F27A **Lemmon** 81.04 2 ⇑P P 12 48 58.9 -1.0
baz=82
F19A **Roth Farm, Mol** 81.05 357 ⇑P P 12 48 59.8 -0.2
baz=82
F28A **McLaughlin** 81.06 3 ⇑P P 12 48 59.8 -0.1
baz=82
SPMN **Marine on St.** 81.11 9 ⇑P P 12 48 59.8 -0.3
baz=82
SPMN **Marine on St.** 81.11 9 *e*P P 12 48 59.1 -1.0
9.5nm,0.7s
G08A **Pilot Rock** 81.39 350 *e*P P 12 49 01.6 -0.2
8.5nm,1.0s
E27A **Carson** 81.61 2 ⇓P P 12 49 02.1 -0.7
baz=82
E26A **Carlson Angus** 81.63 2 ⇑P P 12 49 02.3 -0.6
baz=82
E25A **Miller Ranch,** 81.64 1 ⇑P P 12 49 02.1 -0.8
baz=82
E19A **Rath Farm, Rou** 81.65 357 ⇓P P 12 49 02.3 -0.8
baz=82
E20A **Meyer Farm, Mu** 81.67 358 ⇑P P 12 49 02.5 -0.7
baz=82
F10A **Beach Ranch, E** 81.83 351 *e*P P 12 49 08.2 +4.1
7.8nm,0.9s
HRY **Holter Researc** 82.06 355 *e*P P 12 49 06.1 +0.8
HRY *ep*P PcP 12 49 11.6 +1.0
D26A **Manning** 82.19 2 ⇓P P 12 49 04.9 -1.0
baz=83
D21A **La Casta Ranch** 82.20 359 ⇓P P 12 49 05.2 -0.8
baz=83
D24A **Glendive** 82.24 1 ⇓P P 12 49 05.3 -0.8
baz=83
D20A **Manuel Ranch,** 82.26 358 ⇓P P 12 49 05.2 -1.0
baz=83
D22A **Cohagen** 82.28 359 ⇓P P 12 49 05.5 -0.8
baz=83
D23A **Lindsay** 82.29 360 ⇑P P 12 49 05.6 -0.8
baz=83
D19A **Cripps Ranch,** 82.36 357 ⇓P P 12 49 06.5 -0.3
baz=83
CHMT **Chamberlain Mo** 82.36 354 *e*P P 12 49 07.5 +0.5
COWI **Conover** 82.48 11 *e*P P 12 49 06.6 -0.8
4.8nm,0.8s
HAWA **Hanford** 82.55 350 *e*P P 12 49 08.1 +0.4
33nm,1.9s
HAWA *ep*P pP 12 49 14.9 -1.1
SLMT **Seeley Lake** 82.71 354 *e*P P 12 49 09.6 +0.9
E07A **Sunnyside** 82.75 350 *e*P P 12 49 10.3 +1.5
68nm,2.1s
E07A *ep*P pP 12 49 16.7 -0.4
C22A **Vida** 82.87 359 ⇑P P 12 49 08.9 -0.5
baz=83
C19A **Slack Wire Ran** 82.93 357 ⇑P P 12 49 09.6 -0.1
baz=83
C26A **Wahner Farm, P** 82.99 2 ⇓P P 12 49 09.3 -0.7
baz=84
LON **Longmire** 83.24 349 *e*P P 12 49 11.1 -0.3
B23A **Brockton** 83.59 0 ⇑P P 12 49 12.5 -0.5
baz=84
C09A **Chrisman Ranch** 83.76 351 *e*P P 12 49 14.1 +0.2
45nm,1.8s
C09A *ep*P pP 12 49 21.9 -0.4
B30A **Myrvik Farm, E** 83.79 5 ⇑P P 12 49 13.3 -0.8
baz=84
NCB **Newcomb** 83.92 22 *e*P P 12 49 17.0 +2.1
20nm,1.2s
EYMN **Ely** 83.95 9 *e*P P 12 49 13.9 -1.0
5.9nm,0.9s
NEW **Newport** 84.08 352 ⇑P P 12 49 15.2 -0.4
baz=84
NEW **Newport** 84.08 352 *e*P P 12 49 15.2 -0.4
17nm,1.2s
A25A **Svangstu Ranch** 84.08 1 ⇓P P 12 49 14.9 -0.7
baz=85
A19A **Klindworth Far** 84.11 358 ⇑P P 12 49 15.8 0.0
baz=85
A22A **Carney Farms,** 84.12 359 ⇓P P 12 49 15.5 -0.3
baz=85
A29A **Manning Farm,** 84.21 4 ⇑P P 12 49 16.1 -0.1
baz=85
B08A **Colville Reser** 84.44 351 *e*P P 12 49 18.6 +1.1
18nm,1.7s
B08A *ep*P pP 12 49 23.8 -2.0
B06A **Marblemount** 84.91 349 *e*P P 12 49 21.2 +1.5
17nm,1.0s
B06A *ep*P pP 12 49 26.6 -1.5
ULM **Lac du Bonnet** 85.76 6 P P 12 49 20.0 -4.0
1.8nm,0.6s,baz=263,slow=4.0,SNR=3.5
ULM **Lac du Bonnet** 85.76 6 *e*P P 12 49 24.4 +0.4
6.4nm,0.8s
EDM **Edmonton** 88.64 355 *e*P P 12 49 39.2 +1.4
EDM *ep*P pP 12 49 44.7 -1.6
FFC **Flin Flon** 89.90 2 *e*P P 12 49 45.5 +1.9
76nm,2.7s
SCHQ **Schefferville** 95.78 21 LR LR 13 29 00.5
comp=Z,120nm,21.7s,baz=237,slow=33

YKA **Yellowknife Ar** 97.95 356 P P 12 50 16.5 -3.9
0.3nm,0.9s,baz=166,slow=4.7,SNR=5.6
ASAR **Alice Springs** 98.90 233 P P 12 50 20.3 -5.6
0.8nm,1.1s,baz=142,slow=3.3,SNR=3.3
ASAR LR LR 13 30 39.6
comp=Z,593nm,18.1s,baz=128,slow=33
H11S2 **WAKE ISLAND Hy** 99.09 286 T T 14 39 55.1
baz=130
H11S1 **WAKE ISLAND Hy** 99.11 286 T T 14 39 57.2
baz=130
H11S3 **WAKE ISLAND Hy** 99.11 286 T T 14 39 53.8
baz=130
H01W1 **Cape Leeuwin H** 100.97 212 T T 14 43 25.4
baz=145,slow=76,SNR=4.9
H01W2 **Cape Leeuwin H** 100.98 212 T T 14 43 25.6
baz=145,slow=76,SNR=3.8
H01W3 **Cape Leeuwin H** 100.99 212 T T 14 43 26.7
baz=145,slow=76,SNR=3.7
WRA **Warramunga Arr** 101.22 236 P Pdif 12 50 30.6 -5.7
0.4nm,0.9s,baz=136,slow=4.0,SNR=3.4
FUORN **Ofenpass-Fuorn** 131.27 56 *e*PKPdf PKPdf 12 56 00.0 +2.7
NOA **NORSAR Array B** 132.91 37 PKP PKPdf 12 55 59.8 +0.1
0.8nm,0.7s,baz=280,slow=1.7,SNR=3.3
VYHS **Vyhne** 137.26 54 *e*PKP PKPdf 12 56 10.4 +2.3
CRVS **Cervenica-Dubn** 139.02 54 *e*PKP PKPdf 12 56 13.0 +1.6
FINES **FINESS Array B** 139.91 34 PKP PKPdf 12 56 08.7 -3.9
1.3nm,0.9s,baz=266,slow=3.9,SNR=2.4
NJ2 **Nanjing** 143.54 277 *e*PKP PKPdf 12 56 20.1 +0.1
TIRR **Tirgusor** 143.68 61 *e*PKPdf PKPdf 12 56 20.5 +0.7
AKASG **Malin Array Be** 143.96 51 PKP PKPab 12 56 16.8 -0.6
0.8nm,0.5s,baz=279,slow=3.9,SNR=6.5
BRTR **Keskin Array B** 147.24 70 PKPbc PKPdf 12 56 26.7 +0.4
2.6nm,0.8s,baz=203,slow=4.1,SNR=9.4
BJI **Beijing** 147.28 291 PKPbc PKPdf 12 56 25.7 -0.4
BJI LZ
73nm,25.4s
MMAI **Mount Meron Ar** 147.39 83 PKPbc PKPbc 12 56 29.6 +0.4
2.4nm,0.4s,baz=194,slow=3.0,SNR=3.5
ASF **Jabal al Asfar** 148.37 85 PKPbc PKPbc 12 56 32.8 +1.0
6.5nm,0.9s,baz=160,slow=5.5,SNR=3.6
HHC **Hu-ho-hao-te** 150.84 292 *e*PKPbc PKPdf 12 56 30.6 -1.4
HHC PP PP 13 00 18.5 +3.0
HHC SKS SKSdf 13 03 33.0 -5.0
HHC SS SS 13 19 35.0 -0.7
HHC PPMZ
120nm,8.6s
HHC LN
100nm,18.5s
HHC LE
130nm,17.3s
HHC LZ
70nm,18.5s
GYA **Guiyang** 151.43 260 *e*PKPbc PKPdf 12 56 33.8 +0.4
GYA PKPab PKPab 12 56 51.6 +3.8
GYA PKS PKSdf 13 00 06.5 -1.7
GYA PP PP 13 00 23.4 +4.3
GYA SKKS 13 07 11.0
GYA SS SS 13 19 45.3 +2.8
GYA PPMZ
120nm,7.8s
GYA LN
140nm,19.8s
GYA LE
120nm,20.2s
GYA LZ
130nm,19.9s
CMAR **Chiang Mai Arr** 152.79 238 PKPbc PKPdf 12 56 38.4 +2.9
1.7nm,0.9s,baz=187,slow=2.0,SNR=8.0
ULN **Ulaanbaatar** 153.21 307 *e*PKPbc PKPdf 12 56 38.6 +3.3
SONM **Songino Array** 153.64 308 PKPbc PKPdf 12 56 38.3 +2.3
1.4nm,0.7s,baz=134,slow=4.3,SNR=3.7
KMI **Kunming** 153.93 254 PKPbc PKPdf 12 56 37.5 +0.3
KMI pPKP PKiKP 12 56 45.4 +0.1
KMI sPKP 12 56 48.4
KMI LZ
90nm,29.1s
KBZ **Khabaz** 154.12 62 PKP PKPdf 12 56 36.4 -0.2
2.4nm,0.9s,baz=270,slow=7.1,SNR=2.4
CD2 **Chengdu** 155.48 268 PKP PKPdf 12 56 38.0 -1.0
CD2 pPKP pPKPdf 12 56 49.6 +2.0
CD2 PKS PKSdf 13 00 11.6 -1.5
CD2 PP PP 13 00 46.4 +4.5
CD2 SKS SKSdf 13 03 41.2 -2.6
CD2 SKKS SKKSac 13 07 30.8 +1.1
CD2 SS SS 13 20 29.7 +2.9
CD2 PPMZ
180nm,5.8s
LZH **Lanzhou** 156.56 280 *e*PKP PKPdf 12 56 40.0 -0.4
LZH pPKP pPKPdf 12 56 48.1 -1.0
LZH sPKP 12 56 51.0
GTA **Gaotai** 159.87 289 *e*PKP PKPdf 12 56 39.7 -4.6
ZALV **Zalesovo Beam** 160.29 342 PKP PKPdf 12 56 42.3 -1.7
0.3nm,0.3s,baz=1.9,slow=4.3,SNR=3.4
ZALV PKPab PKPab 12 57 20.4 -4.2
0.9nm,0.7s,baz=27,slow=3.5,SNR=2.5
BVAR **Borovoye Array** 162.18 9 PKPab PKPab 12 57 31.5 -1.5
1.2nm,0.6s,baz=29,slow=3.4,SNR=4.3
ABKAR **Akbulak array** 162.40 34 *e*PKPdf PKPdf 12 56 47.5 +1.0
KURK **Kurchatov** 164.55 351 PKP PKPdf 12 56 47.6 -0.8
KURK PKPab PKPab 12 57 40.4 -3.0
KURBB **Kurchatov Arra** 164.65 351 PKP PKPdf 12 56 47.6 -0.9
0.2nm,0.2s,baz=66,slow=1.1,SNR=2.8
KURBB PKPab PKPab 12 57 40.4 -3.5
0.4nm,0.6s,baz=12,slow=4.4,SNR=3.7
WMQ **Urumqi** 167.12 314 *e*PKP PKPdf 12 56 49.0 -1.8
WMQ pPKP pPKPdf 12 57 00.0 +0.5
WMQ sPKP 12 57 03.0
WMQ PKPab PKPab 12 57 57.0 +1.8
WMQ *ep*P PP 13 01 45.0 +1.5
WMQ SKKS 13 08 27.0
WMQ SS SS 13 22 25.0 -2.1
WMQ PPMZ
84nm,4.5s
WMQ LN
170nm,30.0s
WMQ LE
160nm,32.0s
WMQ LZ
140nm,26.7s
MKAR **Makanchi Array** 167.43 336 PKPab PKPab 12 57 53.8 -2.5
0.1nm,0.4s,baz=46,slow=4.2,SNR=4.6
KSH **Kashi** 175.90 348 *e*PKP PKPdf 12 56 52.5 -2.8
KSH pPKP pPKPdf 12 57 03.4 -0.6
KSH PKS PKSdf 13 00 23.8 -3.7
KSH PPMZ
62nm,5.7s
KSH LN
110nm,6.1s
KSH LE
79nm,4.7s
KSH LZ
130nm,7.1s

*THE **12** 12:39:37.9,38˚.25N×20˚.48E,h12km±1km,ML2.0/2,Error ellipse: s-maj=3.2km s-min=0.9km az=247.0*
*ATH **12** 12:39:38.9,38˚.25N×20˚.53E,h9km±7km,MD2.6/5*
*CSEM **12** 12:39:38.6±0.5,38˚.26N×20˚.55E,h5km,MD2.6,Error ellipse: s-maj=9.9km s-min=6.0km az=63.0*

ISC 12 12:39:38.9±1.2,**38˚.26N**±0˚.04×**20˚.55E**±0˚.05,**h11**km±7km,
n22,**s66**/35,**Greece**

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.09**	**157**	P	**Pg**	**12 39 41.1**	**-0.4**
VLS				S	**Sg**	**12 39 43.6**	**+0.3**
VLS	**Valsamata**	**0.09**	**157**	*e*PG	**Pg**	**12 39 41.2**	**-0.3**
VLS				*e*SG	**Sg**	**12 39 43.8**	**+0.5**
VLS	**Valsamata**	**0.09**	**157**	*e*Pg	**Pg**	**12 39 41.2**	**-0.3**
VLS				S	**Sg**	**12 39 43.6**	**+0.3**
KFL	**Anninata**	**0.24**	**128**	P	**Pg**	**12 39 43.1**	**-0.8**
KFL				S	**Sg**	**12 39 47.5**	**+0.2**
KFL	**Anninata**	**0.24**	**128**	P	**Pg**	**12 39 43.1**	**-0.8**
KFL				S	**Sg**	**12 39 47.5**	**+0.2**
LKD2	**Lefkada island**	**0.54**	**9**	P	**Pg**	**12 39 48.3**	**-1.1**
LKD2				S	**Sg**	**12 39 57.0**	**+0.5**
LKD2	**Lefkada island**	**0.54**	**9**	P	**Pg**	**12 39 48.3**	**-1.1**
LKD2				S	**Sg**	**12 39 57.0**	**+0.5**
PDO	**Prodromos**	**0.60**	**56**	*e*PB	**Pg**	**12 39 49.7**	**-1.0**
PDO				*e*SB	**Sg**	**12 39 59.6**	**+0.9**
PDO	**Prodromos**	**0.60**	**56**	*e*Pb	**Pg**	**12 39 49.7**	**-1.0**
PDO				*e*Sb	**Sg**	**12 39 59.6**	**+0.9**
RLS	**Riolos of Patr**	**0.75**	**105**	*e*PB	**Pg**	**12 39 52.4**	**-1.1**
RLS	**Riolos of Patr**	**0.75**	**105**	*e*Pb	**Pg**	**12 39 52.4**	**-1.1**

DRO	**Drossia**	**0.97**	**108**	P	**Pg**	**12 39 56.9**	**-0.7**
DRO				S	**Sn**	**12 40 11.8**	**-0.5**
DRO	**Drossia**	**0.97**	**108**	*e*PG	**Pg**	**12 39 56.8**	**-0.8**
DRO				*e*SB	**Sn**	**12 40 12.6**	**+0.3**
DRO	**Drossia**	**0.97**	**108**	P	**Pg**	**12 39 56.9**	**-0.7**
DRO				S	**Sn**	**12 40 11.8**	**-0.5**
DRO				*e*Sb	**Sn**	**12 40 12.6**	**+0.3**
EFP	**Efpalio**	**1.08**	**81**	*e*PN	**Pn**	**12 40 00.2**	**+0.2**
EFP	**Efpalio**	**1.08**	**81**	*e*Pn	**Pn**	**12 40 00.2**	**+0.2**
KALE	**Kalithea**	**1.26**	**83**	*e*PB	**Pg**	**12 40 03.4**	**+0.3**
KALE	**Kalithea**	**1.26**	**83**	*e*Pb	**Pg**	**12 40 03.4**	**+0.3**
KLV	**Kalavryta, Ach**	**1.28**	**99**	*e*PB	**Pg**	**12 40 03.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.28**	**99**	*e*Pb	**Pg**	**12 40 03.8**	**+0.2**
KEK	**Kerkira**	**1.56**	**338**	*e*PB	**Pg**	**12 40 08.8**	**-0.1**
KEK	**Kerkira**	**1.56**	**338**	*e*Pb	**Pg**	**12 40 08.8**	**-0.1**

IDC ***12*** *12:50:52.3±3.5, 1°.92N×96°.61E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=138.3km s-min=30.7km az=58.0*
ISCJB ***12*** *12:50:55.0±1.2, 1°.92N±0°.08×96°.5E±0°.1, h28km, mb3.5/3, Error ellipse: s-maj=17.6km s-min=11.0km az=169.8*
DJA ***12*** *12:50:57.2±1.2, 2°.N±6°×9°.7E±1°.9, h26km±21km, M3.1/5, MLv3.1/5*
ISC 12 12:50:56.6±1.1, 2°.05N±0°.07×96°.7E±0°.1, h28km, n11, σ1°.906/9, mb3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.51**	**315**	P	**Pn**	**12 51 08.1**	**+0.1**
GSI	**Gunungsitoli**	**1.16**	**130**	P	**Pb**	**12 51 17.8**	**-0.1**
TPTI		**1.30**	**22**	P	**Pb**	**12 51 19.8**	**-0.7**
TPTI				S	**Sb**	**12 51 38.6**	**+1.8**
KCSI	**Kotacane, Aceh**	**1.82**	**36**	P	**Pb**	**12 51 28.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**16.46**	**8**	Pn	**P**	**12 54 47.1**	**-1.1**
	0.1nm,0.3s,baz=203,slow=12,SNR=4.6						
H08S2	**Diego Garcia H**	**25.98**	**248**	T	T	13 23 12.9	
	baz=69,slow=75,SNR=82						
H08S3	**Diego Garcia H**	**25.99**	**248**	T	T	13 23 15.1	
	baz=69,slow=75,SNR=52						
H08S1	**Diego Carcia H**	**26.00**	**248**	T	T	13 23 15.0	
	baz=69,slow=75,SNR=63						
WRA	**Warramunga Arr**	**42.92**	**122**	P	**P**	**12 58 52.9**	**-0.3**
	0.2nm,0.7s,baz=303,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**46.30**	**346**	P	**P**	**12 59 20.5**	**+0.6**
	0.3nm,0.4s,baz=162,slow=9.1,SNR=11						
ZALV	**Zalesovo Beam**	**52.65**	**351**	P	**P**	**13 00 08.8**	**+0.7**
	0.6nm,0.4s,baz=169,slow=6.7,SNR=4.6						

IDC ***12*** *13:29:25.7±1.7, 10°.37N×126°.94E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, MS3.8/2, Ms1 3.8/2, ms1mx2.9/26, Error ellipse: s-maj=174.3km s-min=24.1km az=68.0*
ISCJB ***12*** *13:29:38.5±0.8, 9°.76N±0°.06×125°.85E±0°.10, h102km±6km, mb3.4/4, Error ellipse: s-maj=16.2km s-min=8.4km az=162.9*
MAN ***12*** *13:29:41, 9°.76N×125°.73E, h65km, mb4.8, ML3.7, MS3.8*
ISC 12 13:29:39.3±1.0, 9.79N±0°.06×125°.81E±0°.10, h95km±7km, n18, σ1°.923/22, mb3.4/4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.32**	**269**	⇓*i*P	**Pn**	**13 29 53.8**	**+0.3**
SCPH				*i* S	**Sn**	**13 30 03.4**	**-0.6**
BUTP	**Butuan**	**0.84**	**193**	*e*P	**Pn**	**13 29 59.4**	**+1.8**
BUTP				*e*S	**Sn**	**13 30 10.1**	**-1.2**
MSLP	**Maasin**	**1.00**	**290**	*e*P	**Pn**	**13 30 00.1**	**+0.7**
MSLP				*e*S	**Sn**	**13 30 12.9**	**-1.5**
PLP	**Palo**	**1.60**	**329**	⇑*e*P	**Pn**	**13 30 07.0**	**+0.5**
PLP				*i* S	**Sn**	**13 30 29.1**	**+1.9**
OCLP	**Ormoc**	**1.73**	**317**	*e*P	**Pn**	**13 30 09.6**	**+1.4**
TBP	**Tagbilaran**	**1.93**	**267**	*e*P	**Pn**	**13 30 11.6**	**+0.9**
TBP				*e*S	**Sn**	**13 30 34.8**	**+0.1**
BUKP	**Musuan**	**2.04**	**201**	*e*P	**Pn**	**13 30 14.2**	**+1.9**
DCPH	**Dipolog City**	**2.71**	**244**	⇑*e*P	**Pn**	**13 30 21.7**	**+0.6**
PAGZ	**Pagadian**	**3.08**	**231**	*e*P	**Pn**	**13 30 27.4**	**+1.3**
GUIM	**Jordan**	**3.28**	**285**	*e*P	**Pn**	**13 30 29.5**	**+0.8**
RCP	**Roxas**	**3.49**	**301**	⇑*e*P	**Pn**	**13 30 33.6**	**+2.0**
TGY	**Tagaytay City**	**6.42**	**312**	LR	LR	13 33 28.0	
	comp=Z,5.0nm,20.5s,baz=300,slow=35						
WRA	**Warramunga Arr**	**30.71**	**164**	P	**P**	**13 35 45.0**	**-0.4**
	0.1nm,0.4s,baz=348,slow=8.8,SNR=9.3						
WRA				PcP	**PcP**	**13 38 41.1**	**-0.2**
	0.4nm,0.7s,baz=341,slow=3.0,SNR=5.1						
ASAR	**Alice Springs**	**34.18**	**167**	P	**P**	**13 36 15.8**	**0.0**
	0.4nm,0.5s,baz=351,slow=7.4,SNR=23						
ASAR				PcP	**PcP**	**13 38 51.3**	**+0.5**
	0.2nm,0.5s,baz=339,slow=2.7,SNR=3.5						
SONM	**Songino Array**	**41.31**	**340**	LR	LR	13 55 18.0	
	comp=Z,118nm,21.7s,baz=66,slow=38						
MKAR	**Makanchi Array**	**52.14**	**323**	P	**P**	**13 38 39.8**	**-0.2**
	0.1nm,0.3s,baz=111,slow=7.9,SNR=2.6						
KBZ	**Khabaz**	**78.20**	**313**	LR	LR	14 21 27.0	
	comp=Z,74nm,19.3s,baz=45,slow=40						
FINES	**FINESS Array B**	**86.10**	**332**	P	**P**	**13 42 08.1**	**-1.3**
	0.7nm,0.6s,baz=101,slow=4.4,SNR=6.2						

IDC ***12*** *13:31:34.2±1.0, 52°.00N×171°.40W, h0km, mb3.5/12, mb1 3.8/13, mb1mx3.6/32, mbtmp3.6/13, ML3.1/1, Error ellipse: s-maj=32.9km s-min=15.6km az=1.0*
ISCJB ***12*** *13:31:39.2±0.6, 52°.0N±0°.1×171°.32W±0°.06, h44km, mb3.5/12, Error ellipse: s-maj=17.0km s-min=4.0km az=167.2*
NEIC ***12*** *13:31:39.1, 52°.16N×171°.35W, h26km, ML3.5(AEIC), After AEIC.*
ISC 12 13:31:40.4±0.9, 52°.0N±0°.2×171°.33W±0°.05, h44km, n31, σ0°.989/29, mb3.5/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.72**	**279**	P	**Pn**	**13 32 09.0**	**+1.1**
NIKH	**Nikolski High**	**1.78**	**57**	P	**Pn**	**13 32 08.1**	**-0.6**
NIKH				S	**Sn**	**13 32 28.2**	**-1.8**
KOKL	**Mount Kliuchef**	**1.79**	**280**	P	**Pn**	**13 32 09.2**	**+0.3**
KOKL				S	**Sn**	**13 32 30.7**	**+0.2**
OKFG	**Magazine Ridge**	**2.49**	**55**	P	**Pn**	**13 32 19.1**	**+0.7**
OKFG				S	**Sn**	**13 32 49.0**	**+1.5**
GSMY	**Great Sitkin M**	**2.92**	**272**	P	**Pn**	**13 32 24.6**	**+0.3**
GSTR	**Great Sitkin T**	**2.92**	**273**	P	**Pn**	**13 32 25.0**	**+0.7**
GSTD	**Great Sitkin T**	**2.98**	**272**	P	**Pn**	**13 32 25.5**	**+0.4**
GSTD				S	**Sn**	**13 32 59.8**	**+0.2**
ETKA	**Kagalaska Isla**	**3.15**	**269**	P	**Pn**	**13 32 27.5**	**+0.1**
ADAG	**Mount Adagdak**	**3.26**	**271**	P	**Pn**	**13 32 30.1**	**+1.2**
MREP	**Makushin Rep't**	**3.29**	**56**	P	**Pn**	**13 32 31.1**	**+1.6**
ADK	**Adak**	**3.32**	**269**	P	**Pn**	**13 32 29.8**	**+0.1**
UNV	**Unalaska Valle**	**3.44**	**56**	P	**Pn**	**13 32 32.3**	**+0.9**
PETK	**Petropavlovsk-**	**18.79**	**286**	P	**P**	**13 35 55.5**	**-0.3**
	0.3nm,0.3s,baz=96,slow=14,SNR=9.1						
SEY	**Seymchan**	**22.02**	**314**	P	**P**	**13 36 31.1**	**+0.4**
	1.3nm,0.6s,baz=80,slow=23,SNR=9.9						
DLBC	**Dease Lake**	**24.09**	**58**	P	**P**	**13 36 53.1**	**+1.6**
	0.5nm,0.4s,baz=256,slow=7.2,SNR=5.3						
INK	**Inuvik**	**24.29**	**34**	P	**P**	**13 36 52.3**	**-0.9**
	0.4nm,0.4s,baz=260,slow=8.7,SNR=8.3						
YKA	**Yellowknife Ar**	**31.37**	**48**	P	**P**	**13 37 56.4**	**0.0**
	0.2nm,0.3s,baz=272,slow=8.0,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**36.46**	**216**	T	T	14 17 13.4	
	baz=21,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**36.47**	**216**	T	T	14 17 10.0	
	baz=21,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**36.48**	**216**	T	T	14 17 11.7	
	baz=21,slow=76,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**37.65**	**216**	T	T	14 18 46.7	
	baz=22,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**37.67**	**216**	T	T	14 18 46.7	
	baz=22,slow=76,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**37.67**	**216**	T	T	14 18 46.7	
	baz=22,slow=76,SNR=8.8						
NVAR	**Mina Array Bea**	**38.87**	**89**	P	**P**	**13 39 01.8**	**+0.3**
	0.5nm,0.6s,baz=309,slow=9.0,SNR=3.8						
PDAR	**Pinedale Array**	**41.65**	**77**	P	**P**	**13 39 25.1**	**+0.7**
	0.4nm,0.5s,baz=326,slow=8.8,SNR=6.3						
SONM	**Songino Array**	**50.43**	**300**	P	**P**	**13 40 33.2**	**-0.2**
	0.3nm,0.4s,baz=62,slow=7.6,SNR=3.6						
TXAR	**Lajitas Array**	**53.96**	**87**	P	**P**	**13 40 59.4**	**-0.3**
	0.3nm,0.6s,baz=298,slow=4.8,SNR=4.0						
MKAR	**Makanchi Array**	**63.15**	**312**	P	**P**	**13 42 01.8**	**-1.6**
	0.2nm,0.4s,baz=54,slow=6.7,SNR=3.3						
BVAR	**Borovoye Array**	**63.26**	**323**	P	**P**	**13 42 03.8**	**-0.2**
	1.0nm,0.5s,baz=52,slow=6.3,SNR=11						
CMAR	**Chiang Mai Arr**	**75.51**	**281**	P	**P**	**13 43 20.8**	**+0.7**
	0.5nm,0.5s,baz=26,slow=8.8,SNR=5.3						
ASAR	**Alice Springs**	**89.26**	**229**	P	**P**	**13 44 31.2**	**-0.3**
	0.2nm,0.5s,baz=23,slow=4.8,SNR=8.1						

MDD ***12*** *14:01:15.8±3.3, 32°.33N×7°.69W, h0km, mb3.6/4, Error ellipse: s-maj=44.4km s-min=27.9km az=89.0, PRXIMO magnitud sin solucin*
INMG ***12*** *14:01:18.1±1.2, 32°.36N×8°.16W, h17km±9km, ML2.5, Error ellipse: s-maj=10.8km s-min=4.7km az=117.0*
ISC 12 14:01:19.4±4.4, 32°.6N±0°.2×7°.6W±0°.1, h10km, n15, σ0°.953/28, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**4.78**	**350**	*e*Pn	**Pn**	**14 02 31.4**	**-0.1**
MORF				*e*Sn	**Sn**	**14 03 26.4**	**-0.5**
MORF				A	A	14 03 31.1	
	4.0nm,0.2s						
MORF	**Marmelete**	**4.78**	**350**	Pn	**Pn**	**14 02 31.4**	**-0.1**
MORF				Sn	**Sn**	**14 03 26.4**	**-0.5**
	4.0nm,0.2s						
PVAQ	**Vaqueiros**	**4.80**	**359**	*e*Pn	**Pn**	**14 02 31.5**	**-0.2**
PVAQ				*e*Sn	**Sn**	**14 03 27.6**	**+0.2**
PVAQ				A	A	14 03 30.9	
	4.2nm,0.8s						
PVAQ	**Vaqueiros**	**4.80**	**359**	Pn	**Pn**	**14 02 31.5**	**-0.2**
PVAQ				Sn	**Sn**	**14 03 27.6**	**+0.2**
	4.2nm,0.8s						
EGRO	**El Granado**	**4.93**	**1**	P	**Pn**	**14 02 34.2**	**+0.7**
	0.3nm,0.1s,SNR=5.0						
EGRO				S	**Sn**	**14 03 31.2**	**+0.7**
	0.1nm,0.1s,SNR=5.0						
PCVE	**Castro Verde**	**5.04**	**356**	*e*Pn	**Pn**	**14 02 35.1**	**+0.1**
PCVE				*e*Sn	**Sn**	**14 03 33.1**	**-0.2**
PCVE				A	A	14 03 36.1	
	0.3nm,0.6s						
PCVE	**Castro Verde**	**5.04**	**356**	Pn	**Pn**	**14 02 35.1**	**+0.1**
PCVE				Sn	**Sn**	**14 03 33.1**	**-0.2**
	0.3nm,0.6s						
EMIN	**Mina Concepcio**	**5.22**	**8**	P	**Pn**	**14 02 37.3**	**-0.2**
	0.1nm,0.1s,SNR=6.9						
EMIN				S	**Sn**	**14 03 38.0**	**+0.3**
	1.1nm,0.2s,SNR=15						
MESJ	**Messejana**	**5.25**	**355**	*e*Sn	**Sn**	**14 03 38.2**	**-0.4**
MESJ				A	A	14 03 43.4	
	3.0nm,0.3s						
MESJ	**Messejana**	**5.25**	**355**	Sn	**Sn**	**14 03 38.2**	**-0.4**
	3.0nm,0.3s						
PNCL	**Nicolau / Gran**	**5.55**	**353**	*e*Pn	**Pn**	**14 02 42.3**	**+0.2**
PNCL				*e*Sn	**Sn**	**14 03 45.5**	**-0.5**
PNCL				A	A	14 04 00.1	
	2.1nm,0.4s						
PBAR	**Barrancos**	**5.59**	**5**	*e*Pn	**Pn**	**14 02 43.1**	**+0.5**
PBAR				*e*Sn	**Sn**	**14 03 47.8**	**+1.0**
PBAR				A	A	14 03 49.0	
	6.3nm,0.3s						
PBAR	**Barrancos**	**5.59**	**5**	Pn	**Pn**	**14 02 43.1**	**+0.5**
PBAR				Sn	**Sn**	**14 03 47.8**	**+1.0**
	6.3nm,0.3s						
ECAB	**El Cabril**	**5.75**	**18**	P	**Pn**	**14 02 44.9**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**14 03 49.8**	**-1.2**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.09**	**23**	P	**Pn**	**14 02 49.7**	**+0.2**
	0.1nm,0.0s,SNR=7.9						
EADA				S	**Sn**	**14 03 58.5**	**-0.7**
	0.1nm,0.1s,SNR=7.9						

IDC ***12*** *14:12:52.8±2.8, 2°.33N×97°.07E, h0km, mb3.3/6, mb1 3.4/6, mb1mx3.3/36, mbtmp3.3/6, Error ellipse: s-maj=122.8km s-min=20.3km az=57.0*
ISCJB ***12*** *14:12:57.0±0.7, 2°.50N±0°.10×97°.4E±0°.1, h33km, mb3.4/6, Error ellipse: s-maj=18.6km s-min=12.1km az=153.1*
DJA ***12*** *14:12:59.1±0.5, 2°.N±4°×9°.7E±°, h10km, M3.0/5, MLv3.0/5*
ISC 12 14:12:57.9±0.9, 2°.35N±0°.06×97°.23E±0°.08, h33km, n13, σ0°.954/10, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.90**	**274**	P	**Pb**	**14 13 15.3**	**+0.2**
TPTI		**0.91**	**357**	P	**Pb**	**14 13 15.3**	**+0.1**
GSI	**Gunungsitoli**	**1.09**	**161**	P	**Pb**	**14 13 18.2**	**-0.1**
KCSI	**Kotacane, Aceh**	**1.29**	**25**	P	**Pb**	**14 13 21.7**	**+0.1**
H08S2	**Diego Garcia H**	**26.60**	**248**	T	T	14 45 58.6	
	baz=71						
H08S3	**Diego Garcia H**	**26.60**	**248**	T	T	14 45 58.6	
	baz=71						
H08S1	**Diego Carcia H**	**26.61**	**248**	T	T	14 46 00.2	
	baz=71						
WRA	**Warramunga Arr**	**42.63**	**123**	P	**P**	**14 20 52.3**	**+0.8**
	0.4nm,1.0s,baz=303,slow=9.3,SNR=3.4						
ASAR	**Alice Springs**	**44.07**	**128**	P	**P**	**14 21 03.5**	**+0.4**
	0.2nm,1.0s,baz=305,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**46.00**	**9**	P	**P**	**14 21 18.4**	**+0.1**
	0.3nm,0.3s,baz=190,slow=9.7,SNR=6.2						
MKAR	**Makanchi Array**	**46.14**	**346**	P	**P**	**14 21 18.6**	**-0.7**
	0.2nm,0.4s,baz=158,slow=8.4,SNR=6.1						
ZALV	**Zalesovo Beam**	**52.44**	**351**	P	**P**	**14 22 07.4**	**+0.3**
	0.4nm,0.3s,baz=166,slow=6.7,SNR=3.4						
BVAR	**Borovoye Array**	**55.18**	**341**	P	**P**	**14 22 26.5**	**-0.8**
	0.4nm,0.5s,baz=162,slow=6.8,SNR=2.9						

ISCJB ***12*** *14:17:49.4±0.4, 32°.72N±0°.03×115°.77W±0°.03, h13km±4km, Error ellipse: s-maj=5.2km s-min=3.7km az=159.8*
MEX ***12*** *14:17:49.3±1.0, 32°.97N×115°.68W, h18km±25km, MD3.6*
NEIC ***12*** *14:17:51.0, 32°.62N×115°.80W, h0km, MD3.5(MEX), ML3.1(ECV), ML3.4(PAS), After ECX.*
ECX ***12*** *14:17:51.1±0.7, 32°.65N×115°.80W, h3km, MD3.2, ML3.4*
ISC 12 14:17:50.0±0.9, 32°.66N±0°.02×115°.75W±0°.02, h12km±6km, n28, σ0°.986/45, 8C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.02**	**110**	⇑*i*P	**Pg**	**14 17 51.8**	**-0.2**
YUH	**Yuha Desert**	**0.15**	**267**	⇑*i*P	**Pg**	**14 17 53.2**	**-0.2**
COK	**Cook Ranch**	**0.19**	**5**	⇓*i*P	**Pg**	**14 17 54.9**	**+0.6**
RMX	**La Rumorosa**	**0.28**	**259**	⇑*e*P	**Pg**	**14 17 55.9**	**0.0**
RMX				*e*S	**Sg**	**14 17 59.7**	**-0.1**
CRR	**Carrizo Plain**	**0.30**	**321**	⇓*i*P	**Pg**	**14 17 56.1**	**0.0**
CPBX	**Cerro Prieto**	**0.44**	**122**	*e*P	**Pb**	**14 17 59.9**	**+0.1**
CPBX				*e*S	**Sb**	**14 18 06.8**	**+0.5**
CPBX				⇑*e*		14 18 08.9	
CPBX				AML	AML	14 18 08.9	
	comp=N,9μm,0.5s						
CPBX	**Cerro Prieto**	**0.44**	**122**	*e*P	**Pb**	**14 17 59.9**	**+0.1**
CPBX				*e*S	**Sb**	**14 18 08.0**	**+1.6**
COA	**Coachella**	**0.57**	**68**	⇑*i*P	**Pb**	**14 18 02.0**	**+0.2**
RDX	**Rancho Dawling**	**0.74**	**193**	⇓*e*P	**Pg**	**14 18 04.1**	**-0.3**
RDX				*e*S	**Sg**	**14 18 13.9**	**-0.3**
BAR	**Barrett**	**0.78**	**272**	*e*Pg	**Pg**	**14 18 04.7**	**-0.4**
BAR				*e*Sg	**Sg**	**14 18 14.3**	**-1.0**
EMX	**El Mayor**	**0.79**	**147**	*e*P	**Pg**	**14 18 04.0**	**-1.3**
EMX				*e*S	**Sg**	**14 18 15.3**	**-0.4**
CBX	**Cerro Bola**	**0.85**	**246**	*i* P	**Pg**	**14 18 06.0**	**-0.4**
CBX				*i* S	**Sg**	**14 18 17.6**	**+0.1**
CBX	**Cerro Bola**	**0.85**	**246**	⇑*e*P	**Pg**	**14 18 06.1**	**-0.2**
CBX				*e*S	**Sg**	**14 18 16.7**	**-0.7**
CBX	**Cerro Bola**	**0.85**	**246**	*i* P	**Pg**	**14 18 06.0**	**-0.4**
CBX				*e*S	**Sg**	**14 18 17.1**	**-0.3**
GLA	**Glamis**	**0.87**	**63**	*e*Pg	**Pg**	**14 18 06.2**	**-0.6**
GLA				*e*Sg	**Sg**	**14 18 17.8**	**-0.4**
PFO	**Pinyon Flats O**	**1.12**	**328**	*e*Pg	**Pg**	**14 18 09.5**	**-2.0**
PFO				*e*Sg	**Sg**	**14 18 24.0**	**-2.2**
ZAX	**El Zacaton**	**1.22**	**202**	*e*P	**Pg**	**14 18 12.8**	**-0.7**
ZAX				*e*S	**Sb**	**14 18 29.0**	**+0.1**
ZAX				AML	AML	14 18 31.2	
	comp=E,821nm,0.6s						
ZAX				⇑*e*		14 18 31.2	
ECNX	**Esteban Cantu**	**1.23**	**216**	*e*P	**Pg**	**14 18 13.0**	**-0.6**
ECNX				*e*S	**Sg**	**14 18 28.9**	**-0.7**
PBX	**Punta Banda**	**1.23**	**223**	*e*P	**Pg**	**14 18 12.5**	**-1.1**
PBX				*e*S	**Sg**	**14 18 28.7**	**-1.0**
ECBX	**El Chinero**	**1.32**	**153**	⇑*e*P	**Pg**	**14 18 14.0**	**-1.4**
ECBX				*e*S	**Sg**	**14 18 31.9**	**-0.6**
SPIG	**San Pedro Mart**	**1.62**	**171**	*e*P	**Pn**	**14 18 19.0**	**+0.3**
SPIG				*e*S	**Sb**	**14 18 41.3**	**+0.6**
SPIG	**San Pedro Mart**	**1.62**	**171**	*e*P	**Pn**	**14 18 19.0**	**+0.3**
SPIG				*e*S	**Sb**	**14 18 41.3**	**+0.6**
SPX	**San Pedro Mart**	**1.62**	**171**	*e*P	**Pn**	**14 18 18.7**	**-0.1**
SPX				*e*S	**Sn**	**14 18 41.1**	**+1.4**
LDFC	**Landfair**	**2.47**	**12**	*e*Pg	**Pg**	**14 18 37.3**	**-0.2**
214A	**Organ Pipe Nat**	**2.58**	**105**	*e*Pn	Pn	14 18 28.8	-2.9
GSC	**Goldstone, Bar**	**2.78**	**342**	Pn	**Pb**	**14 18 38.6**	**-1.1**
ISA	**Isabella, Lake**	**3.75**	**324**	*e*Pg	**Pb**	**14 18 58.1**	**+1.9**
SHPR	**Sheep Range**	**3.87**	**7**	*e*Pn	**Pn**	**14 18 49.5**	**0.0**

SKHL ***12*** *14:21:08.8±0.1, 44°.05N×147°.80E, h40km, mb4.1/2*
JMA ***12*** *14:21:09.1±0.4, 43°.86N×147°.58E, h19km, M3.0*
ISC 12 14:21:09.4±4.0, 43°.9N±0°.2×147°.7E±0°.2, h33km±11km, n10, σ0°.966/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.64**	**267**	*e*P	**Pb**	**14 21 21.8**	**-0.4**
SHO				*e*S	**Sb**	**14 21 31.5**	**+0.5**
KUR	**Kuril'sk**	**1.33**	**5**	*e*P	Pn	14 21 28.2	-3.5
KUR				AMB	AMB	14 21 29.8	
	23nm,0.3s						
KUR				*e*S	Sn	14 21 42.7	-5.7
KUR				A	A	14 21 45.5	
	57nm,0.3s						
KUR				A	A	14 21 45.5	
	41nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.34**	**276**	*e*P	**Pn**	**14 21 31.1**	**-0.8**
YUK				AMB	AMB	14 21 32.8	
	91nm,0.2s						
YUK				*e*S	**Sn**	**14 21 47.9**	**-0.7**
YUK				A	A	14 21 52.9	
	33nm,0.2s						
YUK				A	A	14 21 52.9	
	115nm,0.2s						
NEM2	**Nemuro 2**	**1.53**	**250**	P	**Pn**	**14 21 34.3**	**-0.1**
NEM2				*e*S	**Sn**	**14 21 52.8**	**-0.4**
JRA	**Rausu**	**1.87**	**272**	P	**Pn**	**14 21 39.6**	**+0.4**
JNK	**Nakash**	**2.19**	**263**	P	**Pn**	**14 21 43.9**	**+0.3**
JAK	**Akkeshi**	**2.38**	**249**	P	**Pn**	**14 21 46.3**	**+0.2**
JAK				*e*S	**Sn**	**14 22 13.7**	**-0.4**
JTKR	**Abashiri--Toko**	**2.75**	**273**	P	**Pn**	**14 21 52.0**	**+0.8**
JAR	**Ashorobuto**	**2.93**	**259**	P	**Pn**	**14 21 54.5**	**+0.8**
JAR				*e*S	**Sn**	**14 22 28.1**	**+0.4**
JMP	**Maruseppu**	**3.15**	**273**	P	**Pn**	**14 21 57.6**	**+0.9**

MEX ***12*** *14:33:49.5±0.5, 32°.96N×115°.53W, h16km±29km, MD3.6*
ISCJB ***12*** *14:33:50.1±0.5, 32°.70N±0°.04×115°.72W±0°.03, h15km±6km, Error ellipse: s-maj=6.2km s-min=4.4km az=172.6*
NEIC ***12*** *14:33:51.0, 32°.63N×115°.75W, h0km, ML2.8(ECX), ML3.1(PAS), After ECX.*
NEIC Felt at Pauma Valley, San Diego and Santee, California.
ECX ***12*** *14:33:51.7±0.8, 32°.63N×115°.75W, h3km, MD3.0, ML3.2*
ISC 12 14:33:50.5±0.9, 32°.65N±0°.02×115°.72W±0°.02, h14km±8km, n22, σ0°.980/41, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.17**	**268**	⇑*i*P	**Pg**	**14 33 54.8**	**0.0**
COK	**Cook Ranch**	**0.20**	**358**	⇓*i*P	**Pb**	**14 33 55.9**	**0.0**
RMX	**La Rumorosa**	**0.31**	**261**	⇑*e*P	**Pg**	**14 33 57.2**	**+0.1**
RMX				*e*S	**Sg**	**14 34 01.4**	**-0.1**
RMX				⇑*e*		14 34 01.9	
RMX				AML	AML	14 34 01.9	
	comp=N,2μm,0.4s						
CRR	**Carrizo Plain**	**0.32**	**318**	⇓*i*P	**Pg**	**14 33 57.5**	**+0.4**
CPBX	**Cerro Prieto**	**0.42**	**124**	*e*P	**Pb**	**14 33 59.5**	**-0.2**
CPBX				⇓*e*P	**Pg**	**14 33 59.7**	**+0.8**
CPBX				*e*S	**Sb**	**14 34 06.2**	**+0.2**
CPBX				⇑*e*		14 34 09.9	
CPBX				AML	AML	14 34 09.9	
	comp=E,8μm,0.5s						
CPBX				⇑*e*		14 34 10.8	
CPBX				AML	AML	14 34 10.8	
	comp=N,7μm,0.3s						
CPBX	**Cerro Prieto**	**0.42**	**124**	*e*P	**Pb**	**14 33 59.6**	**-0.1**
CPBX				*e*S	**Sb**	**14 34 06.0**	**+0.1**
RDX	**Rancho Dawling**	**0.75**	**195**	⇑*e*P	**Pg**	**14 34 04.6**	**-0.5**
RDX				*e*S	**Sg**	**14 34 14.0**	**-1.0**
EMX	**El Mayor**	**0.78**	**149**	⇓*e*P	**Pg**	**14 34 04.7**	**-0.9**
EMX				*e*S	**Sg**	**14 34 14.9**

ISCJB ***12*** *15:09:42.3±0.9, 41.80N±0.06×144.6E±0.1, h34km, mb3.6/5, Error ellipse: s-maj=13.8km s-min=8.1km az=1.7*
JMA ***12*** *15:09:43.5, 41.90N×144.47E, h24km±1km, M3.7*
ISC 12 15:09:43.9±1.1, 41.90N±0.06×144.6E±0.1, h34km, n17, σ0.87/14, mb3.5/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.05**	**277**	P	**Pn**	**15 10 01.6**	**-0.6**
JAK	**Akkeshi**	**1.10**	**5**	P	**Pb**	**15 10 03.3**	**-1.2**
JAK				*e*S	**Sb**	**15 10 17.8**	**-0.7**
JOB	**Onbets**	**1.14**	**332**	P	**Pb**	**15 10 03.7**	**-1.4**
JCH	**Churui**	**1.14**	**309**	P	**Pn**	**15 10 03.3**	**-0.2**
JCH				*e*S	**Sn**	**15 10 17.9**	**0.0**
ASAJ	**Asahikawa**	**2.64**	**328**	Pn	**Pn**	**15 10 24.8**	**+0.6**
	3.0nm,0.3s,baz=195,slow=13,SNR=32						
ASAJ				Sn	**Sb**	**15 11 02.8**	**+0.2**
	5.0nm,0.3s,baz=196,slow=18,SNR=6.3						
MJAR	**Matsushiro Arr**	**7.28**	**225**	Pn	**Pn**	**15 11 27.4**	**-0.5**
	0.4nm,0.3s,baz=32,slow=15,SNR=4.3						
SONM	**Songino Array**	**27.48**	**296**	P	**P**	**15 15 28.1**	**+1.1**
	1.0nm,0.9s,baz=79,slow=7.7,SNR=7.1						
H11N2	**WAKE ISLAND Hy 29.10**		**133**	T	T	15 46 19.9	
	baz=325,slow=74,SNR=49						
H11N1	**WAKE ISLAND Hy 29.11**		**133**	T	T	15 46 21.3	
	baz=325,slow=74,SNR=43						
H11N3	**WAKE ISLAND Hy 29.12**		**133**	T	T	15 46 21.4	
	baz=325,slow=74,SNR=38						
H11S1	**WAKE ISLAND Hy 29.99**		**134**	T	T	15 47 30.3	
	baz=326,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy 30.00**		**134**	T	T	15 47 29.1	
	baz=326,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy 30.01**		**134**	T	T	15 47 29.1	
	baz=326,slow=76,SNR=17						
MKAR	**Makanchi Array**	**43.77**	**298**	P	**P**	**15 17 46.8**	**+0.7**
	0.4nm,0.7s,baz=80,slow=8.6,SNR=4.7						
WRA	**Warramunga Arr**	**62.25**	**191**	P	**P**	**15 20 01.5**	**-0.9**
	0.2nm,0.3s,baz=11,slow=6.5,SNR=3.4						
FINES	**FINESS Array B**	**65.64**	**332**	P	**P**	**15 20 24.8**	**+0.6**
	1.8nm,0.9s,baz=44,slow=6.3,SNR=4.9						
ASAR	**Alice Springs**	**65.98**	**191**	P	**P**	**15 20 27.6**	**+0.8**
	0.3nm,0.8s,baz=1.5,slow=7.2,SNR=4.1						

ISCJB ***12*** *15:10:03.6±1.7, 40.33N±0.06×124.5W±0.2, h25km, Error ellipse: s-maj=22.5km s-min=7.5km az=170.7*
NEIC ***12*** *15:10:04.8, 40.31N×124.53W, h21km, MW3.9(BRK), After NCEDC.*
NEIC Felt at Ferndale, Loleta, Petrolia and Scotia.
ISC 12 15:10:04.8±1.7, 40.37N±0.07×124.5W±0.1, h25km, n16, σ0.75/17, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N02D	**Trinity Center**	**1.48**	**65**	P	**Pn**	**15 10 29.6**	**-0.2**
	baz=1.5						
WDC	**Whiskeytown Da**	**1.49**	**81**	*e*Pn	**Pn**	**15 10 29.3**	**-0.6**
KSXB	**Camp Six Broad**	**1.53**	**17**	P	**Pn**	**15 10 30.0**	**-0.6**
M02C	**Callahan**	**1.60**	**50**	P	**Pn**	**15 10 31.4**	**-0.2**
	baz=1.7						
HOPS	**Hopland Field**	**1.75**	**141**	*e*Pn	**Pn**	**15 10 31.8**	**-1.7**
KBO	**Bosley Butte**	**1.85**	**6**	*e*Pn	**Pn**	**15 10 35.5**	**+0.4**
LAMM	**Antelope Mount**	**1.87**	**48**	P	**Pn**	**15 10 35.5**	**+0.1**
L02D	**Cave Junction,**	**1.91**	**20**	P	**Pn**	**15 10 35.7**	**0.0**
	baz=2.0						
L02D				S	**Sn**	**15 10 58.0**	**-1.0**
	baz=2.0						
YBH	**Yreka Blue Hor**	**1.91**	**44**	*e*Pn	**Pn**	**15 10 35.9**	**+0.1**
M04C	**Macdoel**	**2.44**	**54**	P	**Pn**	**15 10 43.9**	**+0.7**
	baz=2.5						
KEBM	**Edson Butte**	**2.51**	**2**	*e*Pn	**Pb**	**15 10 49.7**	**+0.6**
HUMO	**Hull Mountain**	**2.51**	**27**	*e*Pn	**Pn**	**15 10 44.0**	**-0.1**
MOD	**Modoc Plateau**	**3.50**	**63**	*e*Pn	**Pn**	**15 10 57.5**	**-0.3**
WVOR	**Wild Horse Val**	**4.85**	**63**	*e*Pn	**Pn**	**15 11 15.5**	**-0.8**
ISA	**Isabella, Lake**	**6.67**	**133**	*e*Pn	**Pn**	**15 11 42.3**	**+1.1**
PFO	**Pinyon Flats O**	**9.30**	**134**	*e*Pn	**Pn**	**15 12 18.0**	**+0.6**

IDC 12 15:19:53.4±519.0, 48.55N×44.53E, h0km, Error ellipse: s-maj=181.8km s-min=155.4km az=31.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.99**	**73**	*i*		16 14 00.0	
	baz=263,slow=326,SNR=8.4						
I43RU	**DUBNA INFRASON**	**9.30**	**334**	*i*		16 17 50.0	
	baz=148,slow=330,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**25.53**	**63**	*i*		17 57 20.0	
	baz=275,slow=334,SNR=2.2						

IDC ***12*** *15:58:49.2±1.0, 43.94N×82.98E, h0km, mb3.5/5, mb1 3.5/11, mb1mx3.3/45, mbtmp3.3/11, ML3.0/5, Error ellipse: s-maj=16.6km s-min=11.8km az=87.0*
ISCJB ***12*** *15:58:50.5±0.8, 44.21N±0.06×83.0E±0.1, h10km, mb3.4/5, Error ellipse: s-maj=11.5km s-min=8.1km az=166.9*
NNC ***12*** *15:58:59.6±2.9, 44.48N×82.46E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.6km s-min=19.4km az=148.0*
ISC 12 15:58:50.9±1.0, 44.08N±0.08×83.0E±0.1, h10km, n15, σ1.30/20, mb3.5/5, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.76**	**350**	⇑Pn	**Pb**	**15 59 39.6**	**-0.8**
	3.8nm,0.2s,baz=185,slow=15,SNR=538						
MK31				⇑Pg	**Pg**	**15 59 43.5**	**-0.3**
	19nm,0.3s,baz=165,slow=16,SNR=8.7						
MK31				⇓Lg	Lg	16 00 14.3	
	724nm,0.6s,baz=174,slow=28,SNR=6.3						
MKAR	**Makanchi Array**	**2.76**	**350**	Pn	**Pb**	**15 59 39.3**	**-1.0**
	2.6nm,0.3s,baz=180,slow=14,SNR=96						
MKAR				Pg	**Pg**	**15 59 43.1**	**-0.7**
	18nm,0.3s,baz=176,slow=17,SNR=113						
MKAR				Sn	**Sb**	**16 00 14.8**	**+0.5**
	22nm,0.3s,baz=173,slow=22,SNR=12						
TKM2	**Tokmak 2**	**5.49**	**260**	⇑Pn	Pb	16 00 19.2	-7.8
AAK	**Ala-Archa**	**6.35**	**260**	Pn	Pn	16 00 27.8	+3.1
	baz=63,slow=6.8						
AAK				Lg	Lg	16 02 08.5	
	0.6nm,0.3s,baz=30,slow=20,SNR=2.7						
KURBB	**Kurchatov Arra**	**7.21**	**337**	⇑Pn	**Pn**	**16 00 37.9**	**+1.6**
	1.3nm,0.3s						
KURBB				⇑Sn	**Sn**	**16 01 57.0**	**-1.2**
	11nm,0.7s						
KURBB				⇓Lg	Lg	16 02 32.4	
	58nm,0.7s						
KURBB	**Kurchatov Arra**	**7.21**	**337**	Pn	**Pn**	**16 00 38.4**	**+2.1**
	0.1nm,0.3s,baz=214,slow=10,SNR=12						
KURBB				Sn	**Sn**	**16 01 57.9**	**-0.3**
	0.3nm,0.3s,baz=161,slow=20,SNR=6.4						
KURBB				Lg	Lg	16 02 40.3	
	0.3nm,0.3s,baz=148,slow=32,SNR=5.1						
KURK	**Kurchatov**	**7.27**	**338**	⇑Pn	**Pn**	**16 00 39.4**	**+2.3**
	0.9nm,0.8s						
KURK				⇑Sn	**Sn**	**16 01 58.4**	**-1.2**
	1.5nm,0.5s						
KURK				⇑Lg	Lg	16 02 34.1	
	5.6nm,0.6s						
ZALV	**Zalesovo Beam**	**9.96**	**6**	Pn	**Pn**	**16 01 16.3**	**+2.4**
	0.2nm,0.3s,baz=186,slow=17,SNR=3.0						
ZALV				Sn	**Sn**	**16 03 05.0**	**-0.6**
	1.1nm,0.3s,baz=183,slow=25,SNR=9.6						
BVAR	**Borovoye Array**	**12.22**	**322**	Pn	**Pn**	**16 01 46.3**	**+1.4**
	0.3nm,0.3s,baz=120,slow=14,SNR=4.0						
SONM	**Songino Array**	**16.69**	**69**	Pn	**P**	**16 02 46.3**	**-1.0**
	0.2nm,0.3s,baz=256,slow=11,SNR=2.3						
NOA	**NORSAR Array B**	**44.33**	**319**	P	**P**	**16 07 01.5**	**+0.7**
	0.3nm,0.5s,baz=80,slow=8.1,SNR=3.0						
ILAR	**Eielson Array**	**64.71**	**21**	P	**P**	**16 09 29.4**	**+0.6**
	0.3nm,0.6s,baz=309,slow=5.2,SNR=4.4						
YKA	**Yellowknife Ar**	**72.85**	**8**	P	**P**	**16 10 18.8**	**-0.6**
	0.1nm,0.6s,baz=340,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**74.75**	**274**	P	**P**	**16 10 30.5**	**-0.8**
	0.6nm,0.6s,baz=37,slow=5.9,SNR=5.7						
WRA	**Warramunga Arr**	**79.14**	**132**	P	**P**	**16 10 55.7**	**-0.1**
	0.4nm,0.8s,baz=331,slow=5.4,SNR=3.5						

ISCJB ***12*** *16:01:42.2±0.2, 36.53N±0.02×70.85E±0.04, h200km, mb3.8/24, Error ellipse: s-maj=4.4km s-min=2.9km az=153.6*
IDC ***12*** *16:01:42.0±2.0, 36.41N×70.88E, h193km±18km, mb3.6/18, mb1 3.8/24, mb1mx3.5/47, mbtmp4.3/24, Error ellipse: s-maj=14.5km s-min=9.6km az=3.0*
MOS ***12*** *16:01:43.0±0.7, 36.51N×70.92E, h214km, mb4.1/20, Error ellipse: s-maj=11.5km s-min=5.1km az=78.4*
BJI ***12*** *16:01:45.3, 36.73N×70.95E, h220km, mB4.5/6, mb4.4/10*
NNC ***12*** *16:01:50.1±1.5, 37.09N×70.94E, h222km±12km, mb3.5, mpv4.5, Error ellipse: s-maj=12.7km s-min=9.7km az=26.0*
ISC 12 16:01:43.2±0.5, 36.60N±0.05×70.86E±0.05, h200km, n126, σ1.58/134, mb4.0/24, 10C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.90**	**162**	⇓P	**Pn**	**16 02 33.9**	**+2.1**
CEP				S	**Sn**	**16 03 11.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.53**	**145**	⇓P	**Pn**	**16 02 41.4**	**+2.1**
THW	**Thamme Wali**	**3.86**	**169**	⇓P	**Pn**	**16 02 45.0**	**+1.6**
SARP	**Sargodha**	**4.90**	**162**	P	**Pn**	**16 02 57.1**	**+0.7**
KSH	**Kashi**	**4.98**	**53**	*i*P	**Pn**	**16 02 54.7**	**-2.7**
KSH				S	Sn	16 03 46.5	-9.4
KSH				SMN			
	900nm,0.4s						
KSH				SME			
	840nm,0.7s						
DLH	**Dalhousie**	**5.84**	**132**	*e*P	Pn	16 03 19.0	+10
DLH				*e*S	**Sn**	**16 04 14.0**	**-2.0**
AML	**Almayashu**	**5.95**	**21**	P	**Pn**	**16 03 11.7**	**+1.6**
	SNR=28						
AML	**Almayashu**	**5.95**	**21**	*i* PN	**Pn**	**16 03 11.7**	**+1.6**
UCH	**Uchtor**	**6.29**	**26**	P	**Pn**	**16 03 16.1**	**+1.4**
	SNR=18						
UCH	**Uchtor**	**6.29**	**26**	*i* PN	**Pn**	**16 03 16.0**	**+1.4**
KZA	**Kyzart**	**6.44**	**30**	P	**Pn**	**16 03 17.5**	**+1.0**
	SNR=28						
KZA	**Kyzart**	**6.44**	**30**	*i* PN	**Pn**	**16 03 17.5**	**+1.0**
EKS2	**Erkin-Say**	**6.46**	**19**	P	**Pn**	**16 03 18.4**	**+1.9**
	SNR=24						
EKS2	**Erkin-Say**	**6.46**	**19**	*i* PN	**Pn**	**16 03 18.4**	**+1.9**
KK31	**Karatay Array**	**6.50**	**358**	P	**Pn**	**16 03 18.0**	**+1.1**
	27nm,0.6s,baz=185,slow=12,SNR=155						
KK31				⇑S	**Sn**	**16 04 28.1**	**-3.2**
	56nm,0.4s,baz=188,slow=20,SNR=20						
KK31	**Karatay Array**	**6.50**	**358**	*e*PN	**Pn**	**16 03 18.0**	**+1.1**
KK31				pmax	pmax		
	comp=Z,10.0nm,0.2s						
AAK	**Ala-Archa**	**6.65**	**24**	⇑P	**Pn**	**16 03 20.7**	**+1.7**
	comp=Z,19nm,0.4s						
AAK				⇓S	**Sn**	**16 04 32.1**	**-2.8**
	comp=Z,56nm,0.9s						
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**16 03 20.8**	**+1.9**
	SNR=17						
AAK	**Ala-Archa**	**6.65**	**24**	PN	**Pn**	**16 03 20.7**	**+1.7**
AAK				S	**Sn**	**16 04 35.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AAK				smax	smax		
	comp=N,3.0nm,0.3s						
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**16 03 20.7**	**+1.7**
	comp=N,9.7nm,0.3s,baz=162,slow=4.9,SNR=29						
AAK				S	**Sn**	**16 04 35.2**	**+0.3**
	comp=N,3.4nm,0.3s,baz=220,slow=13,SNR=5.0						
KBK	**Karagaybulak**	**6.82**	**26**	P	**Pn**	**16 03 23.2**	**+2.0**
	SNR=9.9						
KBK	**Karagaybulak**	**6.82**	**26**	*i* PN	**Pn**	**16 03 23.3**	**+2.0**
FRU	**Bishkek**	**6.87**	**24**	*e*PN	**Pn**	**16 03 23.0**	**+1.3**
FRU				*i* S	**Sn**	**16 04 40.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,40nm,1.8s						
FRU				smax	smax		
	comp=E,105nm,1.8s						
BHK	**Bhakra**	**6.92**	**137**	*ex*	x	16 04 25.5	
ULHL	**Ulahol**	**7.01**	**35**	P	**Pn**	**16 03 24.9**	**+1.2**
	SNR=21						
ULHL	**Ulahol**	**7.01**	**35**	*i* PN	**Pn**	**16 03 24.9**	**+1.2**
CHMS	**Chumysh**	**7.06**	**24**	P	**Pn**	**16 03 25.4**	**+1.2**
	SNR=10						
CHMS	**Chumysh**	**7.06**	**24**	*i* PN	**Pn**	**16 03 25.4**	**+1.2**
SDNR	**Sundarnagar**	**7.18**	**133**	*ex*	x	16 03 28.0	
SDNR				*e*S	Sn	16 04 41.0	-6.2
USP	**Ospenovka**	**7.22**	**22**	P	**Pn**	**16 03 27.9**	**+1.5**
	SNR=12						
USP	**Ospenovka**	**7.22**	**22**	*i* PN	**Pn**	**16 03 27.8**	**+1.5**
TKM2	**Tokmak 2**	**7.29**	**29**	P	**Pn**	**16 03 28.3**	**+0.9**
	comp=E,31nm,0.7s						
TKM2				⇓S	**Sn**	**16 04 46.8**	**-3.3**
	comp=E,32nm,1.4s						
TKM2	**Tokmak 2**	**7.29**	**29**	P	**Pn**	**16 03 28.6**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**7.29**	**29**	*i* PN	**Pn**	**16 03 28.5**	**+1.2**
SMLA	**Simla**	**7.56**	**134**	*i* P	**Pn**	**16 03 30.9**	**+0.1**
SMLA				*e*S	**Sn**	**16 04 50.5**	**-5.8**
SMLA				AML	AML	16 04 54.1	
	comp=N,154nm,0.2s						
SMLA				AML	AML	16 04 57.1	
	comp=E,176nm,0.3s						
IMYA	**Miami**	**8.67**	**272**	*e*Pn	**Pn**	**16 03 43.0**	**-2.4**
RTK	**Rohtak**	**8.87**	**147**	*e*P	**Pn**	**16 03 46.6**	**-1.2**
KHET	**Khetri**	**9.47**	**152**	*e*P	**Pn**	**16 03 53.8**	**-1.8**
KHET				*e*S	Sn	16 05 30.1	-12
KHET				AML	AML	16 06 07.7	
	comp=N,74nm,0.1s						
KHET				AML	AML	16 06 07.9	
	comp=E,116nm,0.1s						
NDI	**New Delhi**	**9.53**	**144**	*e*P	**Pn**	**16 03 55.0**	**-1.5**
NDI				*e*S	Sn	16 05 35.0	-8.2
IPAY	**Payeh**	**9.55**	**273**	*e*Pn	**Pn**	**16 03 55.6**	**-1.3**
JASL	**Jaisalmer**	**9.64**	**180**	*e*P	**Pn**	**16 03 57.0**	**-0.9**
ASOR	**Ausora**	**9.74**	**141**	*e*S	Sn	16 05 39.3	-8.9
SONA	**Sohna**	**9.84**	**146**	*e*P	**Pn**	**16 03 59.4**	**-1.0**
SONA				*e*S	Sn	16 05 40.0	-10
SONA				AML	AML	16 05 54.1	
	comp=E,26nm,0.3s						
SONA				AML	AML	16 05 54.3	
	comp=N,14nm,0.4s						
IKRD	**Kardeh**	**9.92**	**275**	*e*Pn	Pn	16 03 50.2	-12
GEYT	**Alibeck**	**10.25**	**281**	P	**Pn**	**16 04 05.2**	**-0.4**
	comp=N,0.9nm,0.3s,baz=106,slow=11,SNR=6.0						
GEYT				S	**Sn**	**16 05 59.0**	**-1.1**
	comp=N,3.6nm,0.3s,baz=296,slow=43,SNR=5.8						
ISFR	**Sfrayin**	**10.32**	**276**	*e*Pn	**Pn**	**16 04 05.0**	**-1.9**
AJM	**Ajmer**	**10.59**	**161**	*e*P	**Pn**	**16 04 09.0**	**-1.1**
LGTI	**Lohaghat**	**10.62**	**129**	*e*P	**Pn**	**16 04 10.8**	**+0.4**
AGRA	**Agra**	**11.10**	**145**	*e*P	**Pn**	**16 04 15.5**	**-1.2**
AGRA				*ex*	x	16 06 15.1	
AGRA				AML	AML	16 06 22.5	
	comp=N,77nm,0.3s						
AGRA				AML	AML	16 06 22.8	
	comp=E,66nm,0.3s						
MK31	**Makanchi Array**	**13.28**	**36**	⇓P	**P**	**16 04 44.7**	**-2.3**
	comp=E,18nm,0.9s,baz=226,slow=16,SNR=38						
MK31	**Makanchi Array**	**13.28**	**36**	P	**P**	**16 04 44.6**	**-2.3**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**16 04 44.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**16 04 44.3**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=219,slow=9.3,SNR=14						
PYUN	**Piuthan**	**13.29**	**126**	*e*P	**Pn**	**16 04 42.6**	**-2.0**
	comp=Z,192nm,0.4s						
DANN	**Dangsing**	**13.63**	**123**	*e*P	**Pn**	**16 04 47.7**	**-1.2**
	comp=Z,38nm,0.3s						
KOLN	**Koldanda**	**13.91**	**126**	*e*P	**Pn**	**16 04 50.4**	**-1.9**
	comp=Z,27nm,0.3s						
GKN	**Gorkha**	**14.45**	**122**	*e*P	**Pn**	**16 04 58.2**	**-0.7**
	comp=Z,65nm,0.4s						
AB31	**Akbulak array**	**14.95**	**331**	P	**P**	**16 05 04.5**	**-0.8**
	comp=Z,11nm,0.6s,baz=144,slow=11,SNR=252						
AB31				⇓S	**S**	**16 07 48.0**	**-2.5**
	comp=Z,3.7nm,0.6s,baz=149,slow=24,SNR=4.9						
AB31	**Akbulak array**	**14.95**	**331**	*e*P	**P**	**16 05 04.5**	**-0.8**
AB31				pmax	pmax		
	comp=Z,29nm,0.6s						
KKN	**Kakani**	**15.02**	**122**	*e*P	**Pn**	**16 05 05.0**	**-0.9**
	comp=Z,53nm,0.5s						
KURBB	**Kurchatov Arra**	**15.07**	**19**	⇑P	**P**	**16 05 05.6**	**-1.0**
	comp=Z,4.7nm,0.5s						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**P**	**16 05 05.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=208,slow=11,SNR=5.8						
KURK	**Kurchatov**	**15.18**	**19**	⇓P	**Pn**	**16 05 06.7**	**-0.7**
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**15.18**	**19**	P	**Pn**	**16 05 05.7**	**-1.6**
PKIN	**Phulchoki**	**15.24**	**122**	*e*P	**Pn**	**16 05 08.1**	**-0.5**
	comp=Z,72nm,0.3s						
PKI	**Pulchoki**	**15.25**	**122**	*e*P	**Pn**	**16 05 08.3**	**-0.5**
	comp=Z,81nm,0.5s						
GUN	**Gumba**	**15.36**	**120**	*e*P	**Pn**	**16 05 09.7**	**-0.5**
	comp=Z,39nm,0.3s						
JIRN	**Jiri**	**15.73**	**120**	*e*P	**Pn**	**16 05 14.8**	**+0.1**
	comp=Z,118nm,0.4s						
BVA0	**Borovoye Array**	**16.43**	**359**	P	**Pn**	**16 05 23.0**	**+0.5**
	comp=Z,3.4nm,0.4s,baz=160,slow=10.0,SNR=46						
BVA0				⇑S	**S**	**16 08 19.8**	**-3.5**
	comp=Z,11nm,1.3s,baz=181,slow=21,SNR=7.8						
BVA0	**Borovoye Array**	**16.43**	**359**	*i* P	**Pn**	**16 05 23.5**	**+1.0**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BVAR	**Borovoye Array**	**16.43**	**359**	P	**Pn**	**16 05 23.5**	**+1.0**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR	**Borovoye Array**	**16.43**	**359**	P	**Pn**	**16 05 23.5**	**+1.0**
	comp=Z,3.4nm,0.3s,baz=161,slow=14,SNR=34						
RAMN	**Ramite**	**16.46**	**121**	*e*P	**Pn**	**16 05 23.0**	**-0.3**
	comp=Z,4.1nm,0.4s						
AKTO	**Aktyubinsk**	**16.64**	**330**	⇓P	**Pn**	**16 05 25.2**	**+0.2**
	comp=Z,34nm,0.7s						
AKTO				⇓S	**S**	**16 08 23.7**	**-3.9**
	comp=Z,6.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**Pn**	**16 05 26.0**	**+0.9**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**Pn**	**16 05 26.0**	**+0.9**
	comp=Z,3.6nm,0.3s,baz=139,slow=10,SNR=88						
TAPN	**Taplejung**	**16.99**	**118**	*e*P	**Pn**	**16 05 30.0**	**+0.3**
	comp=Z,43nm,0.4s						
ODAN	**Odare**	**17.06**	**120**	*e*P	**Pn**	**16 05 30.9**	**+0.4**
	comp=Z,71nm,0.6s						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**16 05 59.5**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,15nm,0.6s						
ZALV	**Zalesovo Beam**	**19.87**	**25**	P	**P**	**16 05 59.5**	**+0.5**
	comp=Z,15nm,0.6s,baz=217,slow=12,SNR=46						
NVS	**Novosibirsk**	**20.13**	**21**	*e*P	**P**	**16 06 01.6**	**-0.1**
NVS				*e*S	**S**	**16 09 32.4**	**-4.0**
NVS				pmax	pmax		
	comp=N,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NVS				smax	smax		
	comp=N,8.0nm,1.3s						
NVS				smax	smax		
	comp=E,8.0nm,1.3s						
GNI	**Garni**	**20.76**	**288**	*ce*P	Pn	16 06 14.5	-0.1
GNI				pmax	pmax		
	comp=Z,11nm,1.0s						
SHL	**Shillong**	**21.05**	**116**	*e*P	**P**	**16 06 14.0**	**+2.0**
ARU	**Arti**	**21.51**	**341**	*d*P	**P**	**16 06 18.6**	**+2.4**
ARU						16 06 49.0	
ARU				S	**S**	**16 10 03.5**	**+2.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**22.46**	**297**	P	**P**	**16 06 26.0**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KBZ	**Khabaz**	**22.46**	**297**	P	**P**	**16 06 26.0**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=160,slow=7.0,SNR=3.9						
GTA	**Gaotai**	**22.94**	**74**	*e*P	**P**	**16 06 32.1**	**+2.0**
GTA				PMZ			
	comp=Z,8.0nm,0.9s						
ZAK	**Zakamensk**	**27.01**	**49**	*e*P	**P**	**16 07 07.5**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**28.37**	**55**	P	**P**	**16 07 19.7**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**28.37**	**55**	P	**P**	**16 07 19.7**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=256,slow=10.0,SNR=17						
ULN	**Ulaanbaatar**	**28.81**	**56**	*ce*P	**P**	**16 07 22.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**29.30**	**288**	*ce*P	P	16 07 29.5	+2.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**29.30**	**288**	P	**P**	**16 07 28.8**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=114,slow=9.7,SNR=3.7						
OBN	**Obninsk**	**29.79**	**319**	*e*P	**P**	**16 07 32.8**	**+1.8**
OBN				*e**PP	pP	16 08 19.6	+7.9
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.60**	**119**	P	**P**	**16 07 39.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.60**	**119**	P	**P**	**16 07 39.0**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=299,slow=8.2,SNR=13						
HHC	**Hu-ho-hao-te**	**31.83**	**70**	*e*P	**P**	**16 07 49.4**	**+0.1**
HHC				pP	**pP**	**16 08 34.2**	**+4.0**
HHC				PMZ			
	comp=Z,18nm,0.8s						
HHC				PMZ			
	comp=Z,51nm,4.8s						
HHC				LN			
	comp=Z,110nm,14.8s						
HHC				LE			
	comp=Z,140nm,14.8s						
HHC				LZ			
	comp=Z,34nm,16.0s						

ASAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**16 13 51.6**	**-1.6**
	comp=Z,3.0nm,0.5s,baz=312,slow=4.8,SNR=118								
PMG	**Port Moresby**	**84.74**	**106**	*e*P	P	16 13 58.3	+3.2
PMG				pmax	pmax				
	comp=Z,15nm,1.2s								

ISCJB **12** *16:07:25.5±0.4, 39°56N±0°04×135°08E±0°05, h400km, mb3.6/9, Error ellipse: s-maj=5.6km s-min=5.4km az=167.0*

JMA **12** *16:07:25.7±0.3, 39°41N×135°23E, h431km±5km, M3.4*

IDC **12** *16:07:26.5±1.0, 39°50N×135°05E, h404km±12km, mb3.4/9, mb1 3.3/14, mb1mx3.0/44, mbtmp4.0/14, Error ellipse: s-maj=21.4km s-min=11.1km az=67.0*

ISC 12 16:07:25.9±0.7, 39°52N±0°06×135°19E±0°07, h400km, n30, σ1§61/37, mb3.7/9, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**2.68**	**140**	P	**Pn**	**16 08 28.9**	**+2.3**
JSD	**Sado**	**2.82**	**121**	P	**Pn**	**16 08 29.4**	**+1.8**
JKG	**Kaga**	**3.36**	**164**	P	**Pn**	**16 08 33.4**	**+1.2**
MJAR	**Matsushiro Arr**	**3.81**	**140**	P	**Pn**	**16 08 37.8**	**+1.5**
	0.8nm,0.3s,baz=324,slow=10,SNR=16						
JOSM	**Okushiri--Mats**	**4.14**	**50**	P	**Pn**	**16 08 41.9**	**+2.7**
JRY	**Ryogami san**	**4.56**	**139**	P	**Pn**	**16 08 45.5**	**+1.9**
JRY				*e*S	**S**	**16 09 48.2**	**+1.6**
JMK	**Ichinoseki**	**4.72**	**95**	P	**Pn**	**16 08 46.6**	**+1.7**
JMK				*e*S	**S**	**16 09 49.4**	**+0.2**
JHS	**Saijyo**	**4.80**	**201**	P	**Pn**	**16 08 46.9**	**+0.9**
JOT	**Ohata**	**4.84**	**65**	P	**Pn**	**16 08 48.5**	**+2.4**
JKB	**Kayabe**	**5.03**	**60**	P	**Pn**	**16 08 50.3**	**+2.2**
USRK	**Ussuriysk Ar.**	**5.26**	**334**	P	**Pn**	**16 08 51.2**	**+0.9**
	2.1nm,0.3s,baz=141,slow=9.2,SNR=28						
JOD2	**Odawara 2**	**5.26**	**143**	P	**Pn**	**16 08 51.7**	**+1.0**
JOD2				*e*S	**S**	**16 09 58.8**	**-0.8**
KSRS	**Korea Array**	**6.06**	**252**	P	**Pn**	**16 08 59.0**	**-0.2**
	0.7nm,0.3s,baz=71,slow=10.0,SNR=18						
JHR	**Hokuryu**	**6.46**	**47**	P	**Pn**	**16 09 06.3**	**+2.9**
BSO1	**Boso 1**	**6.70**	**135**	P	**P**	**16 09 05.6**	**-0.7**
BSO1				*e*S	**S**	**16 10 26.0**	**-1.3**
JCH	**Churui**	**6.91**	**61**	P	**P**	**16 09 09.5**	**+0.5**
JCH				S	**S**	**16 10 29.7**	**-2.4**
ASAJ	**Asahikawa**	**7.19**	**48**	P	**P**	**16 09 13.2**	**+1.1**
	6.8nm,0.3s,baz=226,slow=12,SNR=114						
JNU	**Nakatsue**	**7.27**	**210**	P	**Pn**	**16 09 12.2**	**-0.4**
	0.6nm,0.3s,baz=41,slow=4.5,SNR=8.0						
JWK2	**Keihoku**	**7.63**	**38**	P	**P**	**16 09 18.8**	**+1.9**
JTKR	**Abashiri--Toko**	**7.89**	**53**	P	**P**	**16 09 20.5**	**+0.6**
JTKR				*e*S	**S**	**16 10 50.0**	**-2.5**
NEM2	**Nemuro 2**	**8.81**	**61**	P	**P**	**16 09 30.3**	**+0.2**
NEM2				*e*S	**S**	**16 11 08.0**	**-3.9**
SONM	**Songino Array**	**22.33**	**301**	P	**P**	**16 11 51.3**	**-0.2**
	5.2nm,0.5s,baz=108,slow=9.2,SNR=39						
ZALV	**Zalesovo Beam**	**36.60**	**310**	P	**P**	**16 13 55.0**	**-0.6**
	0.3nm,0.3s,baz=98,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**38.64**	**299**	P	**P**	**16 14 11.8**	**-0.8**
	0.4nm,0.5s,baz=91,slow=9.9,SNR=4.0						
KURBB	**Kurchatov Arra**	**40.59**	**305**	P	**P**	**16 14 28.0**	**-0.3**
	1.2nm,0.2s,baz=84,slow=8.2,SNR=4.3						
WRA	**Warramunga Arr**	**59.15**	**181**	P	**P**	**16 16 46.3**	**0.0**
	2.2nm,0.5s,baz=357,slow=7.4,SNR=53						
ARCES	**ARCESS Array B**	**59.89**	**337**	P	**P**	**16 16 51.0**	**+0.2**
	3.3nm,0.9s,baz=47,slow=7.9,SNR=5.5						
ASAR	**Alice Springs**	**62.86**	**181**	P	**P**	**16 17 11.3**	**+0.4**
	1.3nm,0.7s,baz=1.1,slow=6.7,SNR=19						
FINES	**FINESS Array B**	**64.27**	**330**	P	**P**	**16 17 19.2**	**-0.3**
	1.2nm,0.7s,baz=68,slow=6.6,SNR=5.8						
AKASG	**Malin Array Be**	**69.28**	**319**	P	**P**	**16 17 50.6**	**-0.3**
	0.5nm,0.5s,baz=50,slow=6.3,SNR=5.5						

NEIC 12 16:11:42.5, 63°44N×151°39W, h10km, ML2.7 (AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.24**	**62**	P	Pg	16 11 47.8	+0.2
KTH				S	Sg	16 11 51.1	+0.2
CAST	**Castle Rocks**	**0.31**	**266**	P	Pg	16 11 48.9	0.0
CAST				S	Sg	16 11 52.8	-0.3
TRF	**Thorofare Moun**	**0.50**	**88**	P	Pg	16 11 52.4	-0.1
CHUM	**Lake Minchumin**	**0.60**	**318**	P	Pb	16 11 54.8	-0.4
CHUM				S	Sb	16 12 03.0	-0.8
PPLA	**Purkeypile**	**0.65**	**214**	P	Pg	16 11 54.9	-0.6
BWN	**Browne**	**1.13**	**49**	P	Pn	16 12 05.0	+0.6
MCK	**McKinley**	**1.14**	**74**	P	Pb	16 12 03.7	-0.7
RND	**Reindeer**	**1.14**	**91**	P	Pb	16 12 03.7	-0.8
TRAP	**Trapper Creek**	**1.23**	**154**	P	Pn	16 12 05.7	0.0
SKT	**Skwentna**	**1.47**	**183**	P	Pb	16 12 09.8	-0.2
SKT				S	Sn	16 12 28.5	+0.1
MLY	**Manley**	**1.62**	**10**	P	Pn	16 12 11.2	-0.1
WRH	**Wood River Hil**	**1.79**	**53**	P	Pn	16 12 12.6	-0.9
DHY	**Denali Highway**	**1.85**	**100**	P	Pn	16 12 15.6	+1.0
STLK	**Strandline Lak**	**1.96**	**186**	P	Pn	16 12 16.4	+0.5
CCB	**Clear Creek Bu**	**1.99**	**51**	P	Pn	16 12 15.3	-0.9
SUA	**Susitna One**	**2.01**	**171**	P	Pn	16 12 17.4	+0.7
MDM	**Murphy Dome**	**2.06**	**41**	P	Pn	16 12 16.4	-0.8
COLA	**College**	**2.12**	**46**	*e*Pn	Pn	16 12 18.2	+0.3
COLA				*e*Sn	Sb	16 12 47.9	+0.7
PMR	**Palmer**	**2.13**	**149**	P	Pn	16 12 18.8	+0.7
TT01	**Tatalina**	**2.17**	**258**	P	Pn	16 12 18.8	+0.1
BGL	**Barrier Glacie**	**2.23**	**192**	P	Pn	16 12 21.4	+1.6
SPBG	**Spurr Blockage**	**2.24**	**192**	P	Pn	16 12 21.4	+1.7
CKN	**Chakachatna No**	**2.26**	**190**	P	Pb	16 12 21.8	-1.6
CKL	**Chakachamna La**	**2.30**	**191**	P	Pn	16 12 21.5	+0.9
ILB	**Eielson Array**	**2.39**	**54**	P	Pn	16 12 20.9	-0.9
SCM	**Sheep Creek Mo**	**2.48**	**129**	P	Pn	16 12 23.8	+0.7
RC01	**Rabbit Creek A**	**2.48**	**161**	P	Pn	16 12 24.4	+1.4
PAX	**Paxson**	**2.73**	**97**	P	Pn	16 12 27.6	+1.1
IM3	**Indian Mountai**	**2.75**	**339**	P	Pn	16 12 26.8	+0.2
PTE	**Portage**	**2.81**	**156**	P	Pn	16 12 29.6	+2.1
KLU	**Klutina**	**3.21**	**125**	P	Pn	16 12 34.4	+1.3
GLI	**Glacier Island**	**3.27**	**140**	P	Pn	16 12 34.6	+0.8
JPK	**Jack Peak**	**3.28**	**135**	P	Pn	16 12 34.6	+0.6
DOT	**Dot Lake**	**3.29**	**83**	*e*Pn	Pn	16 12 35.5	+1.4
VLZ	**Valdez**	**3.31**	**132**	P	Pn	16 12 35.4	+1.1
DIV	**Divide**	**3.50**	**129**	*e*Pn	Pn	16 12 38.9	+1.8
COLD	**Coldfoot**	**3.84**	**7**	P	Pn	16 12 42.5	+0.9
CNPM	**China Poot**	**3.93**	**179**	P	Pn	16 12 43.4	+0.4
BMRM	**Bremner River**	**4.03**	**125**	*e*Pn	Pn	16 12 46.8	+2.4
GLB	**Gilahina Butte**	**4.05**	**116**	P	Pn	16 12 47.0	+2.3
VRDI	**Verde Repeater**	**4.32**	**117**	P	Pn	16 12 50.2	+1.8
BCA3	**Beaver Creek A**	**4.36**	**91**	P	Pn	16 12 49.3	+0.4
MCARA	**McCarthy VSAT**	**4.41**	**114**	P	Pn	16 12 51.3	+1.8
EGAK	**Eagle**	**4.68**	**69**	*e*Pn	Pn	16 12 53.4	+0.2
PTPK	**Patty Peak**	**4.74**	**114**	P	Pn	16 12 56.6	+2.3
KIAG	**Kiagna River**	**4.93**	**117**	P	Pn	16 12 57.9	+1.1
BARN	**Barnard Glacie**	**5.14**	**113**	P	Pn	16 13 01.1	+1.3

MOS **12** *16:29:32.6±1.2, 83°12N×7°25W, h10km, mb4.2/20, Error ellipse: s-maj=76.0km s-min=8.6km az=93.0*

ISCJB **12** *16:29:33.3±0.4, 83°13N±0°06×6°8W±0°4, h10km, mb4.0/31, MS3.2/17, Error ellipse: s-maj=9.4km s-min=6.6km az=28.6*

IDC **12** *16:29:33.7±0.6, 83°23N×6°37W, h0km, mb3.9/21, mb1 4.1/23, mb1mx3.9/39, mbtmp3.9/23, ML3.7/2, MS3.3/21, Ms1 3.3/21, ms1mx3.1/42, Error ellipse: s-maj=17.9km s-min=10.9km az=38.0*

CSEM **12** *16:29:33.1±0.2, 83°21N×6°38W, h2km, mb4.1/23, Error ellipse: s-maj=8.9km s-min=6.1km az=35.0*

NEIC **12** *16:29:35.1±0.4, 83°15N×6°46W, h10km, mb4.3/8, Error ellipse: s-maj=10.1km s-min=6.3km az=209.0*

ISC 12 16:29:34.6±0.5, 83°13N±0°06×7°21W±0°05, h10km, n88, σ1§47/86, mb4.0/31, MS3.3/17, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.14**	**135**	*e*P	**Pn**	**16 30 50.0**	**-1.4**
KBS	**Kingsbay**	**5.14**	**135**	*e*P	**Pn**	**16 30 50.0**	**-1.4**
KBS				*e*S	Sn	16 31 42.8	-7.9
KBS				IAML		16 31 46.1	
	comp=Z,16nm,0.3s						
KBS	**Kingsbay**	**5.14**	**135**	*e*P	**Pn**	**16 30 50.0**	**-1.4**
KBS	**Kingsbay**	**5.14**	**135**	*e*Pn	**Pn**	**16 30 50.0**	**-1.4**
SPA0	**Spitsbergen Ar**	**6.21**	**130**	*e*P	**Pn**	**16 31 04.5**	**-1.6**
SPA0	**Spitsbergen Ar**	**6.21**	**130**	*e*P	**Pn**	**16 31 04.4**	**-1.6**
	SNR=49						
SPITS	**Spitsbergen Ar**	**6.21**	**130**	Pn	**Pn**	**16 31 04.3**	**-1.8**
	baz=0.5,slow=10.0,SNR=85						
SPITS				Sn	Sn	16 32 08.3	-8.6
	baz=24,slow=15,SNR=1.6						
SPITS				LR	LR	16 33 17.2	
	comp=Z,295nm,19.6s,baz=325,slow=36						
DAG	**Danmarks Havn**	**6.68**	**203**	*i* P	**Pn**	**16 31 12.9**	**+0.4**
DAG				*i* S	**Sn**	**16 32 25.9**	**-2.6**
DAG	**Danmarks Havn**	**6.68**	**203**	*i* P	**Pn**	**16 31 12.9**	**+0.4**
	SNR=71						
DAG	**Danmarks Havn**	**6.68**	**203**	*i* P	**Pn**	**16 31 12.9**	**+0.4**
DAG				*i* S	**Sn**	**16 32 25.9**	**-2.6**
HSPB	**Hornsund (broa**	**7.21**	**136**	*e*P	**Pn**	**16 31 19.2**	**-0.6**
HSPB				*e*		16 32 39.1	
HSPB	**Hornsund (broa**	**7.21**	**136**	*e*P	**Pn**	**16 31 19.2**	**-0.6**
	SNR=47						
SUMG	**Summit**	**12.15**	**228**	*e*P	**Pn**	**16 32 28.0**	**+0.3**
SUMG				*i* S	**Sn**	**16 34 38.7**	**-4.4**
SUMG	**Summit**	**12.15**	**228**	*e*P	**Pn**	**16 32 28.0**	**+0.3**
SUMG	**Summit**	**12.15**	**228**	*e*P	**Pn**	**16 32 27.6**	**-0.1**
	comp=Z,8.8nm,0.8s						
SUMG	**Summit**	**12.15**	**228**	*i* P	**Pn**	**16 32 28.0**	**+0.3**
SUMG				*i* S	**Sn**	**16 34 38.7**	**-4.4**
JMIC	**Jan Mayen**	**12.22**	**182**	LR	LR	16 36 35.5	
	comp=Z,31nm,20.0s,baz=254,slow=34						
ARCES	**ARCESS Array B**	**15.22**	**134**	Pn	**Pn**	**16 33 07.2**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=340,slow=7.8,SNR=4.2						
ARCES				LR	LR	16 38 43.9	
	comp=Z,158nm,18.9s,baz=23,slow=36						
RES	**Resolute Bay**	**16.60**	**292**	Pn	**Pn**	**16 33 23.9**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=30,slow=11,SNR=20						
RES				LR	LR	16 39 58.5	
	comp=Z,131nm,20.3s,baz=42,slow=38						
RES	**Resolute Bay**	**16.60**	**292**	P	**Pn**	**16 33 23.4**	**-3.5**
	comp=Z,12nm,1.0s						
NB2	**NORSAR Subarra**	**22.66**	**156**	P	**P**	**16 34 37.3**	**+1.8**
	comp=Z,7.9nm,1.1s,baz=354,slow=11						
NB2	**NORSAR Subarra**	**22.66**	**156**	P	**P**	**16 34 37.3**	**+1.8**
	comp=Z,7.9nm,1.1s,baz=354,slow=10,SNR=5.7						
NOA	**NORSAR Array B**	**22.66**	**156**	P	**P**	**16 34 37.3**	**+1.8**
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,34nm,21.3s						
NOA	**NORSAR Array B**	**22.66**	**156**	P	**P**	**16 34 37.2**	**+1.8**
	comp=Z,3.8nm,1.0s,baz=352,slow=9.5,SNR=6.6						
NOA				LR	LR	16 41 29.9	
	comp=Z,34nm,21.3s,baz=0.0,slow=32						
FINES	**FINESS Array B**	**23.23**	**138**	P	**P**	**16 34 41.3**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,95nm,19.5s						
FINES	**FINESS Array B**	**23.23**	**138**	P	**P**	**16 34 41.3**	**0.0**
	comp=Z,2.4nm,0.9s,baz=8.5,slow=10,SNR=4.3						
FINES				LR	LR	16 43 32.6	
	comp=Z,95nm,19.5s,baz=358,slow=36						
HFS	**Hagfors**	**23.69**	**154**	P	**P**	**16 34 46.6**	**+0.6**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS				MLR	MLR		
	comp=Z,47nm,19.3s						
HFS	**Hagfors**	**23.69**	**154**	P	**P**	**16 34 46.6**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=329,slow=14,SNR=4.2						
HFS				LR	LR	16 43 22.3	
	comp=Z,47nm,19.2s,baz=329,slow=35						
FRB	**Frobisher Bay**	**23.82**	**255**	P	**P**	**16 34 49.8**	**+2.7**
FRB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FRB				MLR	MLR		
	comp=Z,62nm,18.8s						
FRB	**Frobisher Bay**	**23.82**	**255**	P	**P**	**16 34 49.8**	**+2.7**
	comp=Z,3.2nm,0.8s,baz=136,slow=1.6,SNR=3.3						
FRB				LR	LR	16 44 10.4	
	comp=Z,62nm,18.8s,baz=24,slow=37						
INK	**Inuvik**	**26.48**	**318**	P	**P**	**16 35 11.4**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**26.48**	**318**	P	**P**	**16 35 11.1**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=14,slow=15,SNR=13						
INK	**Inuvik**	**26.48**	**318**	P	**P**	**16 35 11.4**	**+0.1**
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**26.48**	**318**	P	**P**	**16 35 11.4**	**+0.1**
	comp=Z,2.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**27.96**	**175**	P	**P**	**16 35 25.6**	**+0.9**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**27.96**	**175**	P	**P**	**16 35 25.6**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=7.1,slow=10,SNR=7.4						
BILL	**Bilibino**	**28.97**	**5**	*e*P	**P**	**16 35 31.2**	**-2.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.6s						
BILL	**Bilibino**	**28.97**	**5**	*e*P	**P**	**16 35 31.2**	**-2.4**
	comp=Z,2.0nm,1.6s						
YKA	**Yellowknife Ar**	**30.40**	**299**	P	**P**	**16 35 46.9**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**30.40**	**299**	P	**P**	**16 35 46.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=31,slow=11,SNR=12						
OBN	**Obninsk**	**30.41**	**128**	*e*P	P	16 35 52.5	+6.2
OBN				*e*		16 36 45.4	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ILAR	**Eielson Array**	**30.95**	**327**	P	**P**	**16 35 51.1**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR				MLR	MLR		
	comp=Z,30nm,21.9s						
ILAR	**Eielson Array**	**30.95**	**327**	P	**P**	**16 35 51.0**	**0.0**
	comp=Z,1.4nm,1.1s,baz=7.6,slow=7.0,SNR=10						
ILAR				LR	LR	16 47 30.8	
	comp=Z,30nm,21.9s,baz=233,slow=35						
BRG	**Berggiesshubel**	**32.95**	**155**	*e*PKP	**P**	**16 36 09.9**	**+1.2**
	comp=Z,6.5nm,1.1s						
BRG	**Berggiesshubel**	**32.95**	**155**	*e*P	**P**	**16 36 09.9**	**+1.2**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRG	**Berggiesshubel**	**32.95**	**155**	*e*P	**P**	**16 36 09.9**	**+1.2**
	comp=Z,7.0nm,1.1s						
AKASG	**Malin Array Be**	**34.13**	**138**	P	**P**	**16 36 18.8**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,78nm,21.4s						
AKASG	**Malin Array Be**	**34.13**	**138**	P	**P**	**16 36 18.8**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=350,slow=9.1,SNR=9.8						
AKASG				LR	LR	16 49 44.0	
	comp=Z,78nm,21.4s,baz=355,slow=35						
GERES	**GERESS Array B**	**34.96**	**156**	P	**P**	**16 36 28.3**	**+1.9**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,21nm,20.6s						
GERES	**GERESS Array B**	**34.96**	**156**	P	**P**	**16 36 28.3**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=11,slow=7.5,SNR=15						
GERES				LR	LR	16 49 45.3	
	comp=Z,21nm,20.6s,baz=16,slow=35						
ZALV	**Zalesovo Beam**	**37.04**	**79**	P	**P**	**16 36 43.5**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,38nm,18.6s						
ZALV	**Zalesovo Beam**	**37.04**	**79**	P	**P**	**16 36 43.5**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=340,slow=8.1,SNR=6.6						
ZALV				LR	LR	16 54 18.6	
	comp=Z,38nm,18.6s,baz=68,slow=40						
ABKAR	**Akbulak array**	**38.69**	**105**	*e*P	**P**	**16 36 58.0**	**+0.1**
	comp=Z,4.4nm,1.2s						
ABKAR	**Akbulak array**	**38.69**	**105**	*e*P	**P**	**16 36 58.0**	**+0.1**
	comp=Z,4.4nm,1.2s						
KURK	**Kurchatov**	**39.48**	**86**	*e*P	**P**	**16 37 03.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KURK	**Kurchatov**	**39.48**	**86**	*e*P	**P**	**16 37 03.6**	**-0.9**
	comp=Z,10.0nm,1.3s						
KURK	**Kurchatov**	**39.48**	**86**	*e*P	**P**	**16 37 03.6**	**-0.9**
	comp=Z,9.8nm,1.3s						
KURBB	**Kurchatov Arra**	**39.56**	**86**	P	**P**	**16 37 05.0**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=352,slow=7.6,SNR=32						
KBZ	**Khabaz**	**42.29**	**124**	P	**P**	**16 37 29.0**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	**42.29**	**124**	P	**P**	**16 37 28.9**	**+1.3**
	comp=Z,6.2nm,0.9s,baz=327,slow=4.6,SNR=14						
KBZ	**Khabaz**	**42.29**	**124**	P	**P**	**16 37 29.0**	**+1.3**
	comp=Z,6.0nm,0.9s						
ZEI	**Tsey**	**43.32**	**123**	*e*P	**P**	**16 37 36.7**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ESDC	**Sonseca Array**	**43.62**	**176**	P	**P**	**16 37 40.5**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=3.1,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**43.78**	**83**	P	**P**	**16 37 39.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,31nm,18.1s						
MKAR	**Makanchi Array**	**43.78**	**83**	P	**P**	**16 37 39.8**	**0.0**
	comp=Z,2.0nm,0.9s,baz=350,slow=7.3,SNR=16						
MKAR				LR	LR	16 59 27.9	
	comp=Z,31nm,18.1s,baz=0.5,slow=41						
NEW	**Newport**	**44.67**	**297**	LR	LR	16 56 49.0	
	comp=Z,49nm,18.7s,baz=63,slow=37						
BRTR	**Keskin Array B**	**45.40**	**135**	P	**P**	**16 37 52.3**	**-0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,25nm,19.1s						
BRTR	**Keskin Array B**	**45.40**	**135**	P	**P**	**16 37 52.3**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=5.7,slow=5.8,SNR=4.2						
BRTR				LR	LR	16 58 14.2	
	comp=Z,25nm,19.1s,baz=350,slow=38						
SONM	**Songino Array**	**45.48**	**60**	P	**P**	**16 37 53.3**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,32nm,18.0s						
SONM	**Songino Array**	**45.48**	**60**	P	**P**	**16 37 53.3**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=27,slow=6.6,SNR=3.6						
SONM				LR	LR	16 57 27.9	
	comp=Z,32nm,18.0s,baz=7.5,slow=37						
KKAR	**Karatay Array**	**46.00**	**96**	*e*P	**P**	**16 37 58.4**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KKAR	**Karatay Array**	**46.00**	**96**	*e*P	**P**	**16 37 58.4**	**+0.9**
	comp=Z,6.0nm,1.0s						
KKAR	**Karatay Array**	**46.00**	**96**	*e*P	**P**	**16 37 58.4**	**+0.9**
	comp=Z,5.9nm,1.0s						
ECSD	**EROS Data Cent**	**46.78**	**276**	*e*P	**P**	**16 38 04.5**	**+0.9**
	comp=Z,5.2nm,0.8s						
ECSD	**EROS Data Cent**	**46.78**	**276**	*e*P	**P**	**16 38 04.5**	**+0.9**
	comp=Z,5.2nm,0.8s						
AAK	**Ala-Archa**	**46.94**	**92**	*e*P	**P**	**16 38 06.2**	**+1.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.1s						
AAK	**Ala-Archa**	**46.94**	**92**	*e*P	**P**	**16 38 06.2**	**+1.1**
	comp=Z,11nm,1.1s						
AAK	**Ala-Archa**	**46.94**	**92**	*e*P	**P**	**16 38 06.2**	**+1.1**
	comp=Z,11nm,1.1s						
RSSD	**Black Hills**	**47.28**	**283**	P	**P**	**16 38 08.6**	**+0.8**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RSSD	**Black Hills**	**47.28**	**283**	P	**P**	**16 38 08.6**	**+0.8**
	comp=Z,4.0nm,0.8s						
RSSD	**Black Hills**	**47.28**	**283**	P	**P**	**16 38 08.6**	**+0.8**
	comp=Z,4.4nm,0.8s						
PDAR	**Pinedale Array**	**49.26**	**288**	P	**P**	**16 38 25.0**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=52,slow=7.3,SNR=3.4						
PDAR				LR	LR	17 00 17.5	
	comp=Z,34nm,20.7s,baz=67,slow=37						
GEYT	**Alibeck**	**49.65**	**109**	P	**P**	**16 38 27.2**	**+1.3**
	comp=Z,5.3nm,0.8s,baz=305,slow=8.5,SNR=11						
GEYT				LR	LR	17 02 52.1	
	comp=Z,43nm,18.3s,baz=65,slow=40						
YBH	**Yreka Blue Hor**	**51.72**	**301**	LR	LR	17 00 13.3	
	comp=Z,6.8nm,19.9s,baz=16,slow=36						
TKL	**Tuckaleechee C**	**53.21**	**262**	LR	LR	17 00 03.1	
	comp=Z,42nm,18.6s,slow=34						
PFO	**Pinyon Flats O**	**59.08**	**293**	LR	LR	17 07 33.4	
	comp=Z,242nm,21.9s,baz=174,slow=39						
TXAR	**Lajitas Array**	**61.83**	**280**	P	**P**	**16 39 54.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=28,slow=8.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**70.11**	**171**	P	**P**	**16 40 47.6**	**+0.9**
	comp=Z,1.8nm,1.0s,baz=6.4,slow=7.1,SNR=7.4						

NEIC **12** *16:46:28.4, 36°04S×178°04E, h95km, ML4.4 (WEL), After WEL.*

WEL 12 16:46:26.2±0.7, 36°07S×178°27E, h5km, ML4.1/4, 1C-1D, Error ellipse: s-maj=9.0km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.49**	**179**	↑P*	Pn	16 46 50.7	-2.9
MXZ				S*	Sn	16 47 09.3	-4.1
MXZ				AML	AML	16

AKASG **Malin Array Be** 144.45 287 PKP **PKPdf** 17 21 49.7 +0.2
0.1nm,0.3s,baz=147,slow=1.4,SNR=3.5
KEST **Kesra** 145.18 250 PKPbc **PKPdf** 17 21 54.0 +2.6
2.8nm,0.9s,baz=180,slow=5.1,SNR=5.2
FINES **FINESS Array B** 150.83 303 PKPbc **PKPbc** 17 22 05.0 -0.2
2.1nm,0.8s,baz=90,slow=2.5,SNR=3.6
GERES **GERESS Array B** 151.75 273 PKPbc **PKPbc** 17 22 09.0 +1.0
0.6nm,0.8s,baz=104,slow=3.5,SNR=4.2

*IDC **12** 17:35:33.9±0.9, 25.06N×126.91E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/24, mbtmp3.6/8, Error ellipse: s-maj=52.6km s-min=19.5km az=69.0*
*ISCJB **12** 17:35:36.1±0.6, 25.06N±0.07×127.06E±0.05, h28km, mb3.5/8, Error ellipse: s-maj=11.5km s-min=3.8km az=153.1*
*JMA **12** 17:35:37.5±0.2, 25.13N×127.01E, h70km*
ISC 12 17:35:37.8±0.9, 25.14N±0.09×126.96E±0.07, h28km, n26, σ0.98 4/31, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.19**	**352**	P	**Pb**	**17 35 59.2**	**-0.6**
JJT2	**Tamagusuku 2**	**1.22**	**35**	P	**Pn**	**17 35 59.0**	**0.0**
JOGS	**Gusukube**	**1.47**	**255**	P	**Pb**	**17 36 03.2**	**-1.2**
JOGS				*eS*	**Sn**	**17 36 20.6**	**-0.1**
JMJ	**Miyako jima 2**	**1.55**	**258**	P	**Pb**	**17 36 04.4**	**-1.5**
JMJ				*eS*	**Sn**	**17 36 22.9**	**+0.1**
JIKM	**Ikemajima**	**1.57**	**262**	P	**Pb**	**17 36 04.7**	**-1.6**
JIKM				*eS*	**Sb**	**17 36 24.0**	**-1.7**
JIRB	**Irabujima**	**1.66**	**259**	P	**Pn**	**17 36 05.5**	**+0.5**
JIRB				*eS*	**Sn**	**17 36 25.6**	**+0.2**
JNTH	**Nagotoyohara**	**1.67**	**35**	P	**Pn**	**17 36 04.6**	**-0.6**
JTJ	**Tarama**	**2.11**	**257**	P	**Pn**	**17 36 11.7**	**+0.4**
JTJ				*eS*	**Sn**	**17 36 37.0**	**+0.3**
JISG	**Ishigakijimahi**	**2.47**	**258**	P	**Pn**	**17 36 16.0**	**-0.3**
JOKE	**Okinoerabujima**	**2.64**	**33**	P	**Pn**	**17 36 18.1**	**-0.5**
JIJ	**Ishigaki jima**	**2.68**	**254**	P	**Pn**	**17 36 18.8**	**-0.3**
JIJ				*eS*	**Sn**	**17 36 50.1**	**-0.6**
JKRS	**Kuro-shima**	**2.83**	**252**	P	**Pn**	**17 36 22.8**	**+1.5**
IRIF	**Iriomote-Funau**	**3.05**	**255**	P	**Pn**	**17 36 25.0**	**+0.8**
JAMN	**Amaminishikomi**	**3.67**	**32**	P	**Pn**	**17 36 32.1**	**-0.6**
JMZ	**Minamidaito 2**	**3.91**	**79**	P	Pn	17 36 32.4	-3.6
JAM	**Amami Oshima**	**4.02**	**35**	P	**Pn**	**17 36 36.9**	**-0.7**
JZK	**Kikaishima**	**4.15**	**40**	P	**Pn**	**17 36 39.2**	**-0.1**
JTAJ	**Takarajima**	**4.46**	**26**	P	**Pn**	**17 36 43.3**	**-0.4**
SONM	**Songino Array**	**27.88**	**330**	P	**P**	**17 41 25.7**	**+0.4**
	0.3nm,0.5s,baz=130,slow=5.8,SNR=6.5						
MKAR	**Makanchi Array**	**41.42**	**313**	P	**P**	**17 43 21.9**	**0.0**
	0.7nm,0.4s,baz=97,slow=9.9,SNR=20						
WRA	**Warramunga Arr**	**45.39**	**170**	P	**P**	**17 43 53.2**	**-0.8**
	1.0nm,0.9s,baz=351,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**48.98**	**172**	P	**P**	**17 44 22.1**	**0.0**
	0.2nm,0.6s,baz=356,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**73.24**	**330**	P	**P**	**17 47 07.2**	**+1.1**
	2.3nm,0.9s,baz=64,slow=3.2,SNR=4.0						
BRTR	**Keskin Array B**	**76.79**	**308**	P	**P**	**17 47 27.8**	**+0.5**
	0.4nm,0.7s,baz=184,slow=30,SNR=2.8						
NOA	**NORSAR Array B**	**79.78**	**334**	P	**P**	**17 47 44.5**	**+1.3**
	0.4nm,0.7s,baz=58,slow=5.1,SNR=2.8						
YKA	**Yellowknife Ar**	**79.98**	**24**	P	**P**	**17 47 45.1**	**+0.8**
	0.3nm,0.8s,baz=298,slow=5.4,SNR=6.3						

*NIED **12** 17:35:00, 26.30N×127.40E, h38km, Mw4.3 Best double couple: M0 3.08000×10^15 NP1:φ=280.00000°, δ=15.00000°, λ=175.00000°. NP2:φ=14.00000°, δ=89.00000°, λ=75.00000°.*
*ISCJB **12** 17:35:53.3±0.3, 26.35N±0.04×127.37E±0.04, h58km±3km, mb4.0/18, MS3.8/2, Error ellipse: s-maj=8.5km s-min=3.6km az=143.2*
*JMA **12** 17:35:54.3±0.1, 26.32N×127.35E, h45km±2km, M4.2*
JMA Felt II J1.
*NEIC **12** 17:35:55.4±0.8, 26.29N×127.32E, h64km±8km, mb4.4/2, Error ellipse: s-maj=14.4km s-min=8.3km az=136.0*
NEIC Felt on Okinawa. Recorded [2 JMA] in the Kerama-retto and on Kume-jima; [1 JMA] on Aguni-jima and Okinawa.
*IDC **12** 17:35:57.5±2.9, 26.36N×127.32E, h82km±27km, mb3.7/15, mb1 3.9/18, mb1mx3.8/27, mbtmp4.0/18, MS3.8/2, Ms1 3.8/2, ms1mx2.8/27, Error ellipse: s-maj=24.1km s-min=16.4km az=75.0*
ISC 12 17:35:54.0±0.7, 26.28N±0.05×127.43E±0.04, h54km±6km, n58, σ1.25/66, mb4.1/18, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.32**	**115**	P	**Pn**	**17 36 04.1**	**+0.5**
JJT2				S	**Sn**	**17 36 11.7**	**+1.1**
JAGN	**Aguni-jima**	**0.35**	**332**	P	**Pn**	**17 36 02.8**	**-1.1**
JAGN				S	**Sn**	**17 36 09.3**	**-1.8**
JKE	**Kume jima 2**	**0.58**	**275**	P	**Pn**	**17 36 05.3**	**-1.1**
JKE				S	**Sn**	**17 36 13.3**	**-2.0**
JNTH	**Nagotoyohara**	**0.59**	**66**	P	**Pn**	**17 36 06.7**	**+0.2**
JNTH				S	**Sn**	**17 36 15.6**	**+0.1**
JIH	**Iheya**	**0.90**	**33**	P	**Pn**	**17 36 10.1**	**-0.3**
JIH				S	**Sn**	**17 36 21.4**	**-1.1**
JOW	**Kunigami**	**0.94**	**54**	P	**Pn**	**17 36 11.5**	**+0.5**
JOW				S	**Sn**	**17 36 23.8**	**+0.2**
JOW	**Kunigami**	**0.94**	**54**	*e*Pn	**Pn**	**17 36 11.1**	**+0.1**
JOKE	**Okinoerabujima**	**1.49**	**43**	P	**Pn**	**17 36 19.2**	**+0.8**
JOKE				*e*S	**Sn**	**17 36 37.8**	**+1.1**
JTK	**Tokunoshima**	**2.03**	**42**	*e*S	**Sn**	**17 36 48.7**	**-1.2**
JOGS	**Gusukube**	**2.37**	**231**	*e*S	**Sn**	**17 36 59.5**	**+1.2**
JIKM	**Ikemajima**	**2.38**	**236**	P	**Pn**	**17 36 32.5**	**+1.9**
JMJ	**Miyako jima 2**	**2.42**	**233**	P	**Pn**	**17 36 31.5**	**+0.5**
JAMN	**Amaminishikomi**	**2.50**	**38**	*e*S	**Sn**	**17 37 00.1**	**-1.4**
JAM	**Amami Oshima**	**2.88**	**42**	P	**Pn**	**17 36 38.5**	**+1.2**
JAM				*e*S	**Sn**	**17 37 10.1**	**-0.6**
JZK	**Kikaishima**	**3.04**	**48**	P	**Pn**	**17 36 41.3**	**+1.7**
JZK				*e*S	**Sn**	**17 37 15.7**	**+0.9**
JTAJ	**Takarajima**	**3.27**	**28**	*e*S	**Sn**	**17 37 19.9**	**-0.5**
JMZ	**Minamidaito 2**	**3.44**	**97**	P	**Pn**	**17 36 43.2**	**-1.9**
JMZ				S	**Sn**	**17 37 20.0**	**-4.7**
IRIF	**Iriomote-Funau**	**3.86**	**241**	P	**Pn**	**17 36 51.9**	**+1.0**
YOJ	**Yonaguni jima**	**4.38**	**247**	P	**Pn**	**17 36 58.9**	**+0.9**
YHNB	**Yeheng**	**5.70**	**255**	*e*P	**Pn**	**17 37 18.2**	**+2.1**
SSLB	**Suanglung**	**6.37**	**248**	*e*P	**Pn**	**17 37 24.2**	**-1.1**
TPUB	**Ta-pu**	**6.85**	**246**	*e*P	**Pn**	**17 37 32.4**	**+0.5**
JNU	**Nakatsue**	**7.45**	**23**	P	**Pn**	**17 37 41.9**	**+1.8**
	1.2nm,0.3s,baz=181,slow=13,SNR=21						
KSAR	**Wonju Array Be**	**11.14**	**2**	P	**Pn**	**17 38 32.9**	**+2.4**
KSRS	**Korea Array**	**11.15**	**2**	P	**Pn**	**17 38 32.9**	**+2.2**
	0.1nm,0.3s,baz=192,slow=15,SNR=5.5						
MJAR	**Matsushiro Arr**	**13.75**	**39**	P	**P**	**17 39 10.8**	**-2.4**
	0.1nm,0.3s,baz=230,slow=8.3,SNR=3.3						
SONM	**Songino Array**	**27.13**	**328**	P	**P**	**17 41 33.1**	**+1.1**
	3.1nm,0.7s,baz=141,slow=10,SNR=28						
CMAR	**Chiang Mai Arr**	**27.42**	**259**	P	**P**	**17 41 35.2**	**+0.4**
	1.9nm,0.6s,baz=60,slow=7.6,SNR=18						
TAPN	**Taplejung**	**35.36**	**281**	*e*P	**P**	**17 42 44.8**	**0.0**
	3.6nm,0.4s						
ODAN	**Odare**	**35.71**	**280**	*e*P	**P**	**17 42 47.7**	**-0.1**
	18nm,0.5s						
RAMN	**Ramite**	**36.40**	**280**	*e*P	**P**	**17 42 54.0**	**+0.4**
	5.1nm,0.5s						
JIRN	**Jiri**	**36.66**	**282**	*e*P	**P**	**17 42 55.2**	**-0.8**
	9.1nm,0.4s						
GUN	**Gumba**	**36.90**	**282**	*e*P	**P**	**17 42 58.4**	**+0.4**
PKI	**Pulchoki**	**37.36**	**282**	*e*P	**P**	**17 43 01.4**	**-0.5**
	8.9nm,0.4s						
PKIN	**Phulchoki**	**37.37**	**282**	*e*P	**P**	**17 43 01.8**	**-0.1**
	4.2nm,0.3s						
KKN	**Kakani**	**37.44**	**282**	*e*P	**P**	**17 43 02.3**	**-0.2**
	11nm,0.4s						
GKN	**Gorkha**	**37.98**	**283**	*e*P	**P**	**17 43 06.7**	**-0.2**
	8.7nm,0.4s						
DANN	**Dangsing**	**38.70**	**283**	*e*P	**P**	**17 43 13.0**	**-0.2**
	44nm,0.5s						
KOLN	**Koldanda**	**38.92**	**282**	*e*P	**P**	**17 43 15.0**	**+0.1**
	6.0nm,0.3s						
PYUN	**Piuthan**	**39.41**	**283**	*e*P	**P**	**17 43 19.4**	**+0.4**
	52nm,0.5s						
MKAR	**Makanchi Array**	**40.97**	**312**	P	**P**	**17 43 30.1**	**-1.3**
	2.0nm,0.4s,baz=94,slow=10,SNR=33						
ZALV	**Zalesovo Beam**	**41.77**	**323**	P	**P**	**17 43 37.2**	**-0.7**
	2.4nm,0.3s,baz=117,slow=8.8,SNR=12						
KURK	**Kurchatov**	**44.29**	**317**	*e*P	**P**	**17 43 57.8**	**-0.5**
	3.4nm,0.6s						
WRA	**Warramunga Arr**	**46.43**	**171**	P	**P**	**17 44 16.4**	**+0.9**
	0.2nm,0.3s,baz=355,slow=9.9,SNR=5.7						
CTA	**Charters Tower**	**49.58**	**157**	LR	LR	18 05 13.8	
	comp=Z,160nm,21.9s,baz=220,slow=35						
ASAR	**Alice Springs**	**50.04**	**172**	P	**P**	**17 44 44.9**	**+1.5**
	0.4nm,0.8s,baz=355,slow=7.7,SNR=6.2						
ABKAR	**Akbulak array**	**56.09**	**313**	*e*P	**P**	**17 45 27.0**	**-0.6**
	1.4nm,0.3s						
GEYT	**Alibeck**	**58.64**	**300**	P	**P**	**17 45 46.4**	**+0.6**
	1.7nm,0.6s,baz=350,slow=8.0,SNR=3.9						
GEYT				LR	LR	18 14 06.9	
	comp=Z,42nm,18.8s,baz=155,slow=39						
KBZ	**Khabaz**	**68.57**	**309**	P	**P**	**17 46 50.7**	**-0.4**
	3.6nm,0.8s,baz=84,slow=5.3,SNR=6.9						
JOF	**Joensuu**	**69.65**	**331**	*ep*	**P**	**17 46 55.7**	**-1.7**
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**69.70**	**338**	P	**P**	**17 46 56.8**	**-0.8**
	2.2nm,0.8s,baz=73,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**72.47**	**330**	P	**P**	**17 47 14.3**	**-0.2**
	1.5nm,0.5s,baz=89,slow=5.6,SNR=13						
AKASG	**Malin Array Be**	**75.03**	**319**	P	**P**	**17 47 28.9**	**-0.8**
	0.6nm,0.3s,baz=57,slow=6.8,SNR=8.4						
BRTR	**Keskin Array B**	**76.43**	**308**	P	**P**	**17 47 38.5**	**+0.3**
	2.7nm,1.0s,baz=108,slow=4.0,SNR=7.1						
YKA	**Yellowknife Ar**	**78.78**	**25**	P	**P**	**17 47 51.1**	**+0.5**
	0.3nm,0.6s,baz=302,slow=5.2,SNR=7.1						
NB2	**NORSAR Subarra**	**78.95**	**334**	P	P	17 47 44.5	-7.1
	comp=Z,3.9nm,1.1s,baz=54,slow=6.2						
NOA	**NORSAR Array B**	**78.95**	**334**	P	**P**	**17 47 51.3**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=53,slow=5.6,SNR=4.4						
GERES	**GERESS Array B**	**84.72**	**323**	P	**P**	**17 48 21.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=14,slow=2.4,SNR=3.7						

*ISCJB **12** 17:50:06.5±0.5, 6.86S±0.03×130.74E±0.08, h78km, mb3.6/3, Error ellipse: s-maj=11.2km s-min=4.7km az=170.8*
*IDC **12** 17:50:09.6±9.1, 6.76S×130.64E, h100km±96km, mb3.3/3, mb1 3.8/6, mb1mx3.5/19, mbtmp3.9/6, ML4.3/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/15, Error ellipse: s-maj=91.2km s-min=31.8km az=43.0*
*DJA **12** 17:50:11.0±0.3, 7.5±3°×13°1E±°, h116km±9km, M4.5/13, mb4.4/7, mB5.4/3, MLv4.5/13, Mw(mB)4.8/3*
ISC 12 17:50:07.6±0.8, 6.85S±0.05×130.70E±0.07, h78km, n20, σ2.32/23, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.27**	**152**	P	Pn	17 50 39.1	+9.1
BNDI	**Bandanaira**	**2.44**	**341**	P	**Pn**	**17 50 46.4**	**+1.0**
BNDI				S	**Sn**	**17 51 15.0**	**+0.6**
MSAI	**Masohi**	**3.90**	**333**	P	**Pn**	**17 51 06.0**	**+0.8**
FAKI	**Fak Fak**	**4.20**	**22**	P	**Pn**	**17 51 10.4**	**+1.2**
FAKI				S	**Sn**	**17 51 54.8**	**-2.3**
NLAI	**Namlea**	**5.07**	**315**	P	**Pn**	**17 51 22.8**	**+1.6**
RKPI	**Ransiki, Papua**	**6.33**	**33**	P	**Pn**	**17 51 39.4**	**+1.0**
	88nm,0.7s,8μm1.1nm						
SANI	**Sanana**	**6.69**	**315**	P	**Pn**	**17 51 43.3**	**-0.1**
	12nm,0.6s,0.1nm						
SOEI	**Soe**	**6.99**	**245**	P	Pn	17 51 52.9	+5.3
	24nm,0.7s,1μm0.3nm						
SOEI	**Soe**	**6.99**	**245**	S	**Sn**	**17 53 01.9**	**-3.9**
	baz=6.6,SNR=4.8						
BATI	**Baumata**	**7.72**	**244**	P	**Pn**	**17 52 00.4**	**+3.0**
	10nm,1.4s,0.1nm						
BATI	**Baumata**	**7.72**	**244**	P	**Pn**	**17 51 59.7**	**+2.3**
	3.3nm,0.3s,baz=86,slow=13,SNR=8.4						
BATI				S	**Sn**	**17 53 20.5**	**-2.9**
	14nm,0.3s,baz=73,slow=23,SNR=12						
KNRA	**Kununurra**	**8.98**	**192**	P	**Pn**	**17 52 17.4**	**+2.9**
	baz=9.3,SNR=84						
KNRA				S	**Sn**	**17 53 52.9**	**-1.1**
	baz=9.3,SNR=10						
MRSI	**Marisa**	**11.38**	**309**	P	**Pn**	**17 52 48.4**	**+1.1**
WRA	**Warramunga Arr**	**13.49**	**165**	P	**Pn**	**17 53 17.1**	**+1.3**
	1.6nm,0.3s,baz=348,slow=13,SNR=51						
WRA				S	**Sn**	**17 55 42.1**	**-2.0**
	2.5nm,0.3s,baz=342,slow=22,SNR=8.9						
BBKI	**Banjar Baru**	**16.15**	**281**	P	**P**	**17 53 56.0**	**+4.1**
ASAR	**Alice Springs**	**17.00**	**170**	P	**P**	**17 54 03.2**	**+1.9**
	0.9nm,0.3s,baz=347,slow=8.2,SNR=84						
ASAR				S	**Sn**	**17 57 05.3**	**-4.0**
	0.7nm,0.3s,baz=343,slow=25,SNR=10						
CMAR	**Chiang Mai Arr**	**40.17**	**309**	P	**P**	**17 57 34.7**	**-1.8**
	0.7nm,0.5s,baz=135,slow=6.9,SNR=9.8						
KSRS	**Korea Array**	**44.15**	**357**	LR	LR	18 16 52.3	
	comp=Z,5.2nm,20.2s,baz=235,slow=36						
SONM	**Songino Array**	**58.52**	**341**	P	**P**	**17 59 55.2**	**-0.8**
	0.2nm,0.5s,baz=157,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**68.48**	**326**	P	**P**	**18 01 00.6**	**-1.1**
	0.7nm,0.5s,baz=119,slow=7.1,SNR=15						

*IDC **12** 18:19:50.2±3.9, 16.31N×96.58W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/30, mbtmp3.6/5, ML3.8/2, MS3.1/7, Ms1 3.1/7, ms1mx2.9/30, Error ellipse: s-maj=84.0km s-min=25.6km az=20.0*
*ISCJB **12** 18:19:58.0±0.5, 16.59N±0.05×96.51W±0.04, h46km, mb3.6/4, MS3.3/4, Error ellipse: s-maj=7.7km s-min=4.4km az=22.5*
*NEIC **12** 18:20:00.9, 16.57N×96.53W, h44km, MD4.2(MEX), After MEX.*
*MEX **12** 18:20:00.9±0.5, 16.57N×96.53W, h44km±9km, MD4.2*
ISC 12 18:19:59.0±0.8, 16.58N±0.05×96.52W±0.03, h46km, n24, σ1.29/31, mb3.7/4, MS3.3/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.53**	**338**	*i* P	**Pn**	**18 20 10.5**	**-0.1**
VHO				*e*S	**Sn**	**18 20 19.1**	**+0.2**
VHO	**Vista Hermosa**	**0.53**	**338**	*i* P	**Pn**	**18 20 10.5**	**-0.1**
VHO				*e*S	**Sn**	**18 20 19.1**	**+0.2**
HUIG	**Huatulco**	**0.90**	**154**	*e*P	**Pn**	**18 20 15.2**	**-0.1**
HUIG				*e*S	**Sn**	**18 20 27.3**	**+0.2**
HUIG	**Huatulco**	**0.90**	**154**	*e*P	**Pn**	**18 20 15.2**	**-0.1**
HUIG				*e*S	**Sn**	**18 20 27.3**	**+0.2**
PNIG	**Pinotepa**	**1.55**	**263**	*e*P	**Pn**	**18 20 24.4**	**+0.2**
PNIG				*i* S	**Sn**	**18 20 42.2**	**-1.0**
PNIG	**Pinotepa**	**1.55**	**263**	*e*P	**Pn**	**18 20 24.4**	**+0.2**
PNIG				*i* S	**Sn**	**18 20 42.2**	**-1.0**
CMIG	**Matias Romero**	**1.65**	**72**	Pn	**Pn**	**18 20 23.5**	**-2.1**
	80nm,0.3s,baz=258,slow=11,SNR=346						
CMIG				Sn	Sn	18 20 38.7	-6.9
	147nm,0.3s,baz=253,slow=15,SNR=28						
CMIG				LR	LR	18 21 16.9	
	comp=Z,328nm,18.8s,baz=205,slow=48						
TGIG		**3.27**	**86**	*i* P	**Pn**	**18 20 48.9**	**+1.1**
TGIG				*i* S	**Sn**	**18 21 25.9**	**+0.5**
TGIG		**3.27**	**86**	*i* P	**Pn**	**18 20 48.9**	**+1.1**
TGIG				*i* S	**Sn**	**18 21 25.9**	**+0.5**
PCIG		**3.29**	**105**	*e*P	**Pn**	**18 20 48.8**	**+0.8**
PCIG				*i* S	**Sn**	**18 21 25.7**	**-0.3**
PCIG		**3.29**	**105**	*e*P	**Pn**	**18 20 48.8**	**+0.8**
PCIG				*i* S	**Sn**	**18 21 25.7**	**-0.3**
CCIG	**Comitan**	**4.22**	**93**	*e*P	**Pn**	**18 21 02.2**	**+1.2**
CCIG				*i* S	**Sn**	**18 21 49.5**	**+0.4**
CCIG	**Comitan**	**4.22**	**93**	*e*P	**Pn**	**18 21 02.2**	**+1.2**
CCIG				*i* S	**Sn**	**18 21 49.5**	**+0.4**
APG	**El Apazote**	**6.04**	**104**	Pn	Pn	18 21 19.9	-6.1
	2.7nm,0.3s,baz=320,slow=20,SNR=13						
APG				Sn	**Sn**	**18 22 29.2**	**-4.8**
	12nm,0.3s,baz=275,slow=23,SNR=6.6						
APG				LR	LR	18 22 49.3	
	comp=Z,38nm,18.4s,baz=267,slow=30						
JTS	**JuntasAbangare**	**12.87**	**118**	LR	LR	18 26 48.8	
	comp=Z,69nm,18.2s,baz=310,slow=33						
TXAR	**Lajitas Array**	**14.29**	**334**	Pn	**Pn**	**18 23 19.6**	**+0.8**
	0.1nm,0.3s,baz=149,slow=10.0,SNR=4.1						
TXAR				LR	LR	18 29 45.5	
	comp=Z,40nm,20.8s,baz=0.0,slow=41						
ROSC	**El Rosal**	**24.68**	**116**	LR	LR	18 35 33.2	
	comp=Z,34nm,19.1s,baz=126,slow=38						
PDAR	**Pinedale Array**	**28.38**	**340**	P	**P**	**18 25 47.8**	**-1.4**
	0.2nm,0.5s,baz=160,slow=2.9,SNR=2.1						
NVAR	**Mina Array Bea**	**28.96**	**323**	P	**P**	**18 25 56.8**	**+2.4**
	2.1nm,0.9s,baz=141,slow=10,SNR=6.2						
ELK	**Elko**	**29.02**	**330**	LR	LR	18 39 10.9	
	comp=Z,71nm,20.5s,baz=192,slow=40						
YBH	**Yreka Blue Hor**	**33.68**	**323**	LR	LR	18 41 00.2	
	comp=Z,73nm,20.8s,baz=180,slow=38						
YKA	**Yellowknife Ar**	**47.59**	**349**	P	**P**	**18 28 28.8**	**-1.2**
	0.4nm,0.6s,baz=154,slow=7.6,SNR=8.6						
INK	**Inuvik**	**56.77**	**344**	LR	LR	18 57 14.9	
	comp=Z,45nm,20.2s,baz=182,slow=39						
ILAR	**Eielson Array**	**58.78**	**337**	P	**P**	**18 29 52.2**	**0.0**
	1.6nm,0.9s,baz=125,slow=4.5,SNR=16						

IDC 12 18:20:42.8±69.0, 2.94N×96.24E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.2/34, mbtmp3.6/3, Error ellipse: s-maj=1313.0km s-min=154.9km az=177.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**25.92**	**246**	T	T	18 52 27.3	
	baz=67,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**25.93**	**246**	T	T	18 52 27.6	
	baz=67,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**25.94**	**246**	T	T	18 52 28.3	
	baz=67,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**41.20**	**157**	T	T	19 11 59.9	
	baz=324						
H01W2	**Cape Leeuwin H**	**41.22**	**157**	T	T	19 11 59.3	
	baz=324						
H01W1	**Cape Leeuwin H**	**41.22**	**157**	T	T	19 11 56.4	
	baz=324						
MKAR	**Makanchi Array**	**45.34**	**347**	P	P	18 29 02.7	-0.1
	0.4nm,0.5s,baz=161,slow=9.0,SNR=8.2						
SONM	**Songino Array**	**45.58**	**10**	P	P	18 29 04.6	-0.1
	0.4nm,0.7s,baz=187,slow=9.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**51.71**	**351**	P	P	18 29 51.5	-0.2
	0.5nm,0.4s,baz=176,slow=7.1,SNR=3.9						

MAN 12 18:23:55, 9.21N×125.07E, h21km, mb4.4, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.59**	**114**	*e*P	P	18 24 08.1	-0.1
SCPH	**Surigao**	**0.70**	**36**	*e*P	Pn	18 24 09.6	-0.1
SCPH				*e*S	Sn	18 24 21.0	+1.0
CGP	**Cagayan de Oro**	**0.84**	**206**	*e*P	Pb	18 24 10.1	-0.7
CGP				*e*S	Sb	18 24 20.4	-1.3
BUKP	**Musuan**	**1.32**	**180**	*e*P	Pb	18 24 19.4	+0.3
BUKP				*e*S	Sb	18 24 35.9	+0.1
PAGZ	**Pagadian**	**2.15**	**231**	*e*P	Pn	18 24 31.3	+1.6

*ISCJB **12** 18:33:01.5±0.2, 43.74N±0.01×105.32W±0.02, h0km, mb3.9/4, MS2.9/1, Error ellipse: s-maj=2.2km s-min=2.1km az=154.2*
*IDC **12** 18:33:01.9±1.7, 43.75N×105.43W, h0km, mb3.9/4, mb1 3.8/9, mb1mx3.6/32, mbtmp3.6/9, ML3.4/5, MS3.2/4, Ms1 3.2/4, ms1mx2.7/44, Error ellipse: s-maj=46.0km s-min=8.0km az=148.0*
*NEIC **12** 18:33:02.2±0.4, 43.81N×105.29W, h0km, ML3.3, Error ellipse: s-maj=6.3km s-min=5.8km az=134.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SSE of Gillette.
ISC 12 18:33:01.9±0.6, 43.75N±0.02×105.33W±0.02, h0km, n110, σ0.98/119, mb3.8/4, 31C-41D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.23**	**336**	P	**Pg**	**18 33 07.6**	**+1.2**
	baz=0.2,SNR=359						
I23A				⇓S	**Sg**	**18 33 11.4**	**+2.1**
	baz=0.2						
J23A	**Dilts Ranch, B**	**0.38**	**205**	⇓P	**Pg**	**18 33 09.8**	**+0.7**
	baz=0.4,SNR=128						
J23A				⇓S	**Sg**	**18 33 14.0**	**-0.1**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.52**	**78**	P	**Pg**	**18 33 11.9**	**0.0**
	baz=0.5,SNR=236						
J24A	**Dixon Ranch, L**	**0.64**	**130**	P	**Pg**	**18 33 14.0**	**-0.2**
	baz=0.7,SNR=234						
H23A	**Clabaugh Cattl**	**0.81**	**357**	⇓P	**Pg**	**18 33 17.4**	**-0.1**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.85**	**280**	P	**Pg**	**18 33 18.6**	**+0.5**
	baz=0.9,SNR=618						
I22A				⇑S	**Sb**	**18 33 30.5**	**-1.0**
	baz=0.9						
J22A	**Midwest**	**0.90**	**248**	⇓P	**Pg**	**18 33 19.0**	**-0.1**
	baz=0.9,SNR=176						
K24A	**Anderson Ranch**	**1.09**	**160**	P	**Pg**	**18 33 22.1**	**-0.8**
	baz=1.1,SNR=313						
H22A	**Clearmont**	**1.12**	**319**	⇑P	**Pg**	**18 33 23.5**	**+0.1**
	baz=1.1,SNR=155						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇑P	**Pg**	**18 33 22.9**	**-1.0**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.17**	**107**	⇑P	**Pg**	**18 33 23.6**	**-0.7**
	baz=1.2,SNR=689						
I25A	**Rochford**	**1.19**	**76**	⇓P	**Pg**	**18 33 23.7**

M24A	Cheyenne	2.31	171	⇓Pb		Pb	18 33 44.1	-0.4	
	baz=2.4,SNR=301								
L26A	Underwood Farm	2.38	135	⇓Pb		Pn	18 33 44.7	+2.4	
	baz=2.4								
I27A	Quinn	2.39	81	⇓P		Pn	18 33 43.7	+1.4	
	baz=2.3								
F21A	Absaloka Mine,	2.43	329	⇑P		Pn	18 33 43.1	+0.1	
	baz=2.4								
J27A	Elkhorn Farm,	2.47	100	⇓P		Pn	18 33 43.7	+0.3	
	baz=2.4								
G26A	Maurine	2.49	51	⇓P		Pn	18 33 44.6	+0.8	
	baz=2.4,SNR=50								
K27A	Flueckinger Fa	2.49	114	⇑P		Pn	18 33 44.2	+0.4	
	baz=2.5,SNR=75								
G20A	Bridger	2.53	306	⇓P		Pn	18 33 44.3	-0.1	
	baz=2.5,SNR=311								
E22A	Miles City	2.72	351	⇓P		Pn	18 33 46.5	-0.4	
	baz=2.7,SNR=26								
E23A	Ismay	2.75	0	⇓P		Pn	18 33 47.4	+0.1	
	baz=2.7,SNR=24								
H19A	Powell	2.78	291	⇑P		Pn	18 33 48.8	+0.9	
	baz=2.8,SNR=37								
F20A	Billings	2.87	317	⇓P		Pn	18 33 48.7	-0.2	
	baz=2.8,SNR=38								
N23A	Red Feather La	2.89	189	⇑P		Pn	18 33 50.3	+0.9	
	baz=3.0,SNR=42								
E24A	Baker	2.90	14	⇑P		Pn	18 33 50.2	+0.8	
	baz=2.8,SNR=33								
G27A	Dupree	2.93	55	⇑P		Pn	18 33 50.2	+0.5	
	baz=2.9,SNR=40								
LAO	LASA Array	3.01	348	*e*Pn		Pn	18 33 50.1	-0.7	
RLMT	Red Lodge	3.13	297	*e*Pn		Pn	18 33 52.8	+0.1	
PDAR	Pinedale Array	3.24	254	Pn		Pn	18 33 56.0	+1.9	
	3.0nm,0.3s,baz=72,slow=17,SNR=40								
PDAR				Lg		Lg	18 34 41.0		
	14nm,0.3s,baz=70,slow=32,SNR=6.9								
H18A	Shoshone NF, C	3.25	288	⇓P		Pn	18 33 54.1	-0.2	
	baz=3.3,SNR=29								
F19A	Roth Farm, Mol	3.32	311	⇓P		Pn	18 33 55.8	+0.6	
	baz=3.3,SNR=49								
D23A	Lindsay	3.42	1	⇓P		Pn	18 33 57.1	+0.5	
	baz=3.4,SNR=34								
D24A	Glendive	3.44	12	⇑P		Pn	18 33 57.5	+0.8	
	baz=3.4,SNR=9.6								
E19A	Rath Farm, Rou	3.65	319	⇓P		Pn	18 33 59.5	-0.2	
	baz=3.6,SNR=20								
GCMT	Greycliff	3.70	305	*e*Pn		Pn	18 34 01.0	+0.5	
OGNE	Ogallala	3.72	138	*e*Pn		Pn	18 34 02.0	+1.3	
LKWY	Lake	3.74	284	*e*Pn		Pn	18 34 02.6	+1.5	
C24A	Savage	3.83	9	⇑P		Pn	18 34 02.9	+0.7	
	baz=3.8,SNR=19								
H17A	Grant Village	3.83	282	*e*Pn		Pn	18 34 04.4	+2.0	
D20A	Manuel Ranch,	3.88	330	⇓P		Pn	18 34 03.5	+0.6	
	baz=3.8,SNR=18								
ISCO	Idaho Springs	3.95	183	*e*Pn		Pn	18 34 05.0	+0.9	
YNR	Norris Junctio	3.96	286	*e*Pg		Pg	18 34 15.5	-2.3	
C22A	Vida	4.01	355	⇓P		Pn	18 34 05.5	+0.8	
	baz=4.0,SNR=13								
YFT	Old Faithful	4.03	282	Pn		Pn	18 34 05.6	+0.6	
C23A	Lambert	4.05	1	⇓P		Pn	18 34 06.3	+1.1	
	baz=4.0,SNR=18								
YMR	Madison River	4.15	285	*e*Pn		Pn	18 34 07.6	+0.9	
O20A	White River Ci	4.21	212	*e*Pn		Pn	18 34 08.0	+0.4	
AHID	Auburn Hatcher	4.33	259	*e*Pn		Pn	18 34 11.7	+2.6	
QLMT	Earthquake Lak	4.51	286	*e*Pg		Pg	18 34 26.5	-1.8	
P27A	Ficken Ranch,	4.67	153	⇓P		Pn	18 34 13.9	+0.1	
	baz=4.7,SNR=15								
C19A	Slack Wire Ran	4.76	328	P		Pn	18 34 15.5	+0.6	
	baz=4.7,SNR=26								
B25A	Knox Farm, Ray	4.77	18	⇓P		Pn	18 34 15.9	+0.9	
	baz=4.7,SNR=12								
DGMT	Dagmar	4.79	9	*e*Pn		Pn	18 34 16.3	+1.0	
BOZ	Bozeman (W)	4.87	295	*e*Pn		Pn	18 34 17.6	+1.1	
HWUT	Hardware Ranch	5.07	247	*e*Pn		Pn	18 34 20.3	+1.0	
	10nm,0.6s								
KSCO	Kaye Shedlock'	5.15	156	*e*Pn		Pn	18 34 21.2	+0.8	
	45nm,0.3s								
A24A	Westby	5.26	10	⇓P		Pn	18 34 22.8	+1.0	
	baz=5.2,SNR=15								
EGMT	Eagleton	5.27	326	⇑P		Pn	18 34 22.9	+1.0	
	baz=5.2,SNR=7.5								
EGMT	Eagleton	5.27	326	*e*Pn		Pn	18 34 22.2	+0.2	
	24nm,0.5s								
LRM	Limekiln Ridge	5.47	295	*e*Pn		Pn	18 34 25.9	+1.0	
	27nm,0.3s								
MCMT	McKenzie Canyo	5.50	284	*e*Pn		Pn	18 34 32.1	+6.8	
	2.3nm,0.5s								
R25A	Fountain Ranch	5.65	172	⇑P		Pn	18 34 27.4	+0.1	
	baz=5.7,SNR=6.5								
HVU	Hansel Valley	5.82	253	*e*Pn		Pn	18 34 30.4	+0.8	
	5.2nm,0.8s								
R28A	Tribune	6.02	153	⇓P		Pn	18 34 31.9	-0.4	
	baz=6.1,SNR=5.2								
SRU	San Rafael Swe	6.06	222	*e*Pn		Pn	18 34 32.7	-0.2	
	13nm,0.5s								
TMUT	Trail Mountain	6.26	227	*e*Pn		Pn	18 34 36.9	+1.1	
	10nm,0.4s								
ECSD	EROS Data Cent	6.32	87	*e*Pn		Pn	18 34 36.4	+0.1	
	8.4nm,0.3s								
DUG	Dugway, Tooele	6.61	240	*e*Pn		Pn	18 34 41.0	+0.6	
	4.1nm,0.4s								
ELK	Elko	7.94	251	Pn		Pn	18 35 00.5	+1.8	
	0.3nm,0.3s,baz=90,slow=20,SNR=4.4								
I10CA	LAC DU BONNET	9.06	41	*i*			19 31 10.0		
	baz=234,slow=330,SNR=0.5								
ULM	Lac du Bonnet	9.16	41	Pn		Pn	18 35 13.5	-1.8	
	2.2nm,0.3s,baz=224,slow=10,SNR=14								
ULM				Lg		Lg	18 37 48.1		
	0.8nm,0.3s,baz=139,slow=19,SNR=3.9								
NEW	Newport	9.36	303	LR		LR	18 39 19.5		
	comp=Z,122nm,20.6s,baz=122,slow=41								
NVAR	Mina Array Bea	11.13	246	Pn		Pn	18 35 45.2	+2.7	
	0.2nm,0.3s,baz=60,slow=17,SNR=2.9								
FFC	Flin Flon	11.20	10	*e*Pn		Pn	18 35 40.5	-2.6	
	3.5nm,0.6s								
TXAR	Lajitas Array	14.45	174	Pg		P	18 37 32.0	+57	
	0.1nm,0.3s,baz=5.7,slow=13,SNR=4.0								
TXAR				Lg		Lg	18 40 40.8		
	0.1nm,0.3s,baz=18,slow=34,SNR=2.8								
TXAR				LR		LR	18 42 21.4		
	comp=Z,80nm,18.4s,baz=0.0,slow=39								
BBB	Bella Bella	17.38	307	LR		LR	18 44 12.3		
	comp=Z,117nm,18.7s,baz=171,slow=39								
YKA	Yellowknife Ar	19.55	347	P		P	18 37 30.8	0.0	
	0.1nm,0.3s,baz=164,slow=13,SNR=6.6								
DLBC	Dease Lake	21.19	323	LR		LR	18 46 18.9		
	comp=Z,44nm,19.2s,baz=162,slow=38								
INK	Inuvik	28.70	339	P		P	18 39 00.1	-0.1	
	0.5nm,0.5s,baz=98,slow=7.1,SNR=3.4								
ARCES	ARCESS Array B	61.42	18	P		P	18 43 18.8	-0.6	
	2.6nm,0.9s,baz=339,slow=7.2,SNR=3.1								
ZALV	Zalesovo Beam	82.29	354	P		P	18 45 25.1	+0.2	
	0.8nm,0.8s,baz=354,slow=5.1,SNR=3.3								
MKAR	Makanchi Array	89.59	355	P		P	18 46 00.4	-0.8	
	0.3nm,0.7s,baz=14,slow=4.0,SNR=4.6								

IDC ***12*** *18:35:19.7±4.4,23°.30S×177°.74W,h0km,mb4.8/3, mb1 5.0/3,mb1mx3.9/41,mbtmp4.8/3,MS3.0/1,Ms1 3.0/1, ms1mx2.5/24,Error ellipse: s-maj=204.1km s-min=43.9km az=154.0*

ISC 12 18:35:18.0±3.1,**23°.2S**±0°.6×**177°.4W**±0°.5,**h10**km,**n16**, σ1§**30**/**11**,**mb4.8/3**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	Honiara	25.60	299	LR		LR	18 49 58.3	
	comp=Z,33nm,21.1s,baz=252,slow=35							
EIDS	Eidsvold	28.76	259	P		P	18 41 19.2	+3.2
	baz=25,SNR=5.9							
CMSA	Cobar Meteorol	33.68	248	P		P	18 42 02.3	+3.0
	baz=30,SNR=14							
CTA	Charters Tower	33.85	268	P		P	18 42 03.5	+2.6
	12nm,0.3s,baz=93,slow=11,SNR=48							
QLP	Quilpie	34.86	256	P		P	18 42 11.6	+2.0
	baz=31,SNR=8.2							
STKA	Stephens Creek	37.19	247	P		P	18 42 32.0	+2.5
	baz=34,SNR=14							
BBOO	Buckleboo	41.90	246	P		P	18 43 09.6	+0.8
	baz=39,SNR=7.7							
ASAR	Alice Springs	44.49	259	P		P	18 43 29.9	0.0
	2.8nm,0.3s,baz=97,slow=7.7,SNR=188							
WRA	Warramunga Arr	44.82	265	P		P	18 43 32.0	-0.6
	5.8nm,0.5s,baz=102,slow=8.3,SNR=218							
KDU	Kakadu	48.59	273	P		P	18 44 01.3	-0.8
	baz=45,SNR=4.6							
WRKA	Warakurna	49.30	256	P		P	18 44 06.9	-0.7
	baz=46,SNR=48							
KNRA	Kununurra	51.06	268	P		P	18 44 20.2	-0.7
	baz=47,SNR=16							
MEEK	Meekatharra	57.58	252	P		P	18 45 06.4	-2.0
	baz=54,SNR=3.6							
MORW	Morawa	59.34	249	P		P	18 45 19.0	-1.6
	baz=56,SNR=5.1							
AKASG	Malin Array Be	145.58	330	PKPbc		PKPdf	18 54 56.9	+0.6
	0.3nm,0.4s,baz=37,slow=4.5,SNR=6.3							
BRTR	Keskin Array B	148.98	309	PKPbc		PKPab	18 55 11.2	+0.5
	0.7nm,0.7s,baz=95,slow=4.3,SNR=2.6							

IDC 12 18:37:11.0±4.6,**4°.28N×68°.96E,h0**km,**mb3.6**/3,**mb1 3.6**/3, **mb1mx3.3**/25,**mbtmp3.6**/3,**Error ellipse: s-maj=173.5km s-min=80.2km az=129.0,North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.90	13	P		P	18 45 20.3	+0.8
	0.1nm,0.5s,baz=186,slow=6.8,SNR=3.8							
ZALV	Zalesovo Beam	51.19	12	P		P	18 46 14.9	-1.0
	1.1nm,0.8s,baz=205,slow=6.4,SNR=6.0							
SONM	Songino Array	53.97	30	P		P	18 46 36.7	-0.1
	0.8nm,0.9s,baz=224,slow=5.9,SNR=8.2							
TXAR	Lajitas Array	145.84	348	PKPbc		PKPdf	18 56 52.3	-0.3
	0.7nm,0.6s,baz=43,slow=2.6,SNR=7.5							

ISCJB ***12*** *18:41:44.4±0.5,9°.74S×0°.04×114°.17E±0°.03,h64km±6km, mb3.9/7,Error ellipse: s-maj=7.4km s-min=3.8km az=14.0*
DJA ***12*** *18:41:47.1±0.3,10°.3×11°.4E±°,h70km±6km,M4.4/39, mb4.5/21,mB5.0/6,MLv4.4/39,Mw(mB)4.4/6*
AUST ***12*** *18:41:52.0,10°.46S×114°.90E,h35km*
IDC ***12*** *18:41:51.1±6.0,9°.52S×114°.62E,h100km±53km,mb3.6/7, mb1 3.7/8,mb1mx3.5/21,mbtmp3.9/8,MS2.6/1,Ms1 2.6/1, ms1mx2.3/18,Error ellipse: s-maj=57.0km s-min=20.3km az=51.0*

ISC 12 18:41:45.2±1.0,**9°.77S**±0°.06×**114°.19E**±0°.04,**h54**km±12km, **n61**,σ1§**42**/**68**,**mb3.8/7**,**South of Bali**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IGBI	Denpasar	1.33	45	P		Pn	18 42 06.9	-0.6
IGBI				S		Sn	18 42 24.0	-0.2
DNP	Denpasar	1.48	43	P		Pn	18 42 10.0	+0.6
DNP				S		Sn	18 42 27.2	-0.5
GMJI	Gumukmas	1.66	334	P		Pn	18 42 11.4	-0.5
GMJI				S		Sn	18 42 31.2	-0.9
SRBI	Singaraja	1.95	31	P		Pn	18 42 16.8	+0.9
SRBI				S		Sn	18 42 32.0	-7.3
ABJI	Asem Bagus	1.96	1	P		Pn	18 42 18.4	+2.4
BLJI	Banyuglugur	2.09	344	P		Pn	18 42 20.0	+2.2
BLJI				S		Sn	18 42 40.4	-2.3
KMMI	Kalianget	2.71	355	P		Pn	18 42 28.5	+2.2
KMMI				S		Sn	18 42 46.4	-11
PWJI	Pagerwojo	2.93	306	P		Pn	18 42 28.8	-0.5
PWJI				S		Sn	18 43 01.1	-2.1
GRJI	Gresik	3.30	329	P		Pn	18 42 36.1	+1.7
GRJI				S		Sn	18 43 11.2	-1.2
PCJI	Pacitan	3.36	297	P		Pn	18 42 36.4	+1.2
PCJI				S		Sn	18 43 12.8	-1.1
TBJI	Tambak Boyo	3.74	321	P		Pn	18 42 41.8	+1.4
WOJI	Wonogiri, Jawa	3.75	300	P		Pn	18 42 40.8	+0.2
UGM	Wanagama	4.07	297	P		Pn	18 42 46.3	+1.4
UGM				S		Sn	18 43 31.4	+0.1
UGM	Wanagama	4.07	297	P		Pn	18 42 45.7	+0.8
	baz=4.2,SNR=55							
BWJI	Bawean	4.18	339	P		Pn	18 42 46.0	-0.4
BWJI				S		Sn	18 43 31.1	-2.9
SMRI	Semarang	4.59	306	P		Pn	18 42 52.8	+0.7
UWJI	Ujung Watu	4.62	316	P		Pn	18 42 53.0	+0.5
UWJI				S		Sn	18 43 44.3	-0.7
WBSI	Waikabubak, Su	5.13	89	P		Pn	18 43 02.3	+2.8
	73nm,0.7s,0.4nm							
WBSI				S		Sn	18 43 55.3	-2.2
	73nm,0.7s,0.4nm							
KPJI	Karang Pucung	5.74	295	P		Pn	18 43 09.9	+2.1
	25nm,0.6s,0.2nm							
KPJI				S		Sn	18 44 16.4	+4.1
	25nm,0.6s,0.2nm							
CMJI	Cimerak	6.01	289	P		Pn	18 43 14.0	+2.5
	42nm,1.1s,0.2nm							
WSI	Waingapu	6.02	90	P		Pn	18 43 15.4	+3.7
	166nm,0.5s,3μm1.5nm							
BBKI	Banjar Baru	6.30	6	P		Pn	18 43 15.4	-0.1
	32nm,0.9s,0.2nm							
CISI	Cisompet, Garu	6.67	289	P		Pn	18 43 22.1	+1.4
	57nm,0.6s,2μm0.5nm							
CISI				S		Sn	18 44 34.2	-1.3
	57nm,0.6s,2μm0.5nm							
CISI	Cisompet, Garu	6.67	289	P		Pn	18 43 24.1	+3.3
	baz=6.8,SNR=7.8							
KBKI	Kotabaru	6.72	17	P		Pn	18 43 20.9	-0.4
	12nm,1.2s,0.1nm							
LEM	Lembang	7.13	294	LR		LR	18 46 08.0	
	comp=Z,50nm,21.3s,baz=126,slow=35							
BSSI	Bau Bau, Buton	7.20	60	P		Pn	18 43 28.8	+0.9
	75nm,1.1s,0.3nm							
BKSI	Bulukumba	7.35	54	P		Pn	18 43 29.9	-0.1
	16nm,0.6s,0.1nm							
CNJI	Cibinong	7.40	289	P		Pn	18 43 31.5	+0.9
	33nm,0.9s,0.2nm							
EDFI	Ende, Flores	7.47	83	P		Pn	18 43 33.9	+2.2
	19nm,0.7s,0.1nm							
BNSI	Bone	7.93	48	P		Pn	18 43 39.9	+2.0
	20nm,0.8s,0.1nm							
XMIS	Christmas Isla	8.44	264	P		Pn	18 43 43.6	-1.3
	baz=8.5,SNR=4.5							
XMIS				S		Sn	18 45 08.9	-10
	baz=8.5,SNR=4.1							
TTSI	Tana Toraja	8.71	40	P		Pn	18 43 50.3	+1.7
	16nm,0.9s							
CGJI	Cibinong	8.98	290	P		Pn	18 43 52.6	+0.4
	32nm,0.6s,821nm							
BATI	Baumata	9.34	93	P		Pn	18 43 58.4	+1.1
BATI	Baumata	9.34	93	P		Pn	18 43 58.2	+0.9
	2.8nm,0.3s,baz=290,slow=0.3,SNR=7.1							
BATI				S		Sn	18 45 35.1	-5.9
	3.7nm,0.3s,baz=18,slow=20,SNR=3.8							
GIRL	Giralia	12.80	180	P		Pn	18 44 39.8	-4.7
	baz=13,SNR=14							
GIRL				S		Sn	18 46 54.1	-11
	baz=13,SNR=5.2							
KNRA	Kununurra	15.38	114	P		Pn	18 45 17.6	-1.2
	baz=15,SNR=3.9							
MEEK	Meekatharra	17.30	167	P		Pn	18 45 40.4	-2.6
	baz=17,SNR=12							
MEEK				S		Sn	18 48 39.1	-16
	baz=17,SNR=7.8							
FAKI	Fak Fak	19.18	70	P		P	18 46 03.8	-0.8
	baz=19,SNR=5.7							
MORW	Morawa	19.28	175	P		P	18 46 05.2	-0.3
	baz=19,SNR=5.1							
WRKA	Warakurna	20.26	140	P		P	18 46 17.5	+1.1
	baz=20,SNR=6.5							
WRKA	Warakurna	20.26	140	S		S	18 49 52.6	-8.3
	baz=46,SNR=3.8							
BLDU	Ballidu	20.88	174	P		Pn	18 46 29.0	+3.1
	baz=21,SNR=8.1							
WRA	Warramunga Arr	21.92	120	P		P	18 46 34.1	-0.1
	1.2nm,0.5s,baz=293,slow=12,SNR=13							
ASAR	Alice Springs	23.35	129	P		P	18 46 49.5	+0.4
	1.0nm,0.5s,baz=302,slow=8.6,SNR=30							
CMAR	Chiang Mai Arr	31.83	332	P		P	18 48 07.2	+2.1
	1.0nm,0.6s,baz=162,slow=10,SNR=9.9							
STKA	Stephens Creek	33.59	135	P		P	18 48 21.8	+1.4
	baz=34,SNR=19							
TAPN	Taplejung	44.95	326	*e*P		P	18 49 54.6	-0.9
	6.3nm,0.6s							
JIRN	Jiri	46.04	325	*e*P		P	18 50 04.1	-0.1
	18nm,0.6s							
GUN	Gumba	46.41	325	*e*P		P	18 50 07.5	+0.4
	18nm,0.7s							
PKI	Pulchoki	46.42	324	*e*P		P	18 50 07.0	-0.2
	3.4nm,0.4s							
PKIN	Phulchoki	46.44	324	*e*P		P	18 50 07.3	+0.1
	3.0nm,0.4s							
GKN	Gorkha	47.20	324	*e*P		P	18 50 12.5	-0.5
	8.2nm,0.3s							
KOLN	Koldanda	47.64	322	*e*P		P	18 50 16.5	0.0
	12nm,0.5s							
DANN	Dangsing	47.97	323	*e*P		P	18 50 19.1	-0.1
	13nm,0.6s							
PYUN	Piuthan	48.25	322	*e*P		P	18 50 21.2	0.0
	14nm,0.5s							
SONM	Songino Array	57.76	354	P		P	18 51 30.4	-0.4
	1.1nm,0.5s,baz=174,slow=8.6,SNR=15							
MKAR	Makanchi Array	63.10	336	P		P	18 52 07.0	-0.1
	0.7nm,0.5s,baz=145,slow=7.0,SNR=22							
ZALV	Zalesovo Beam	68.17	342	P		P	18 52 38.7	-0.9
	0.4nm,0.3s,baz=151,slow=3.3,SNR=3.8							
PETK	Petropavlovsk-	72.75	26	P		P	18 53 07.2	-0.4
	4.6nm,0.9s,baz=224,slow=10,SNR=2.1							

GUC 12 18:44:21.2±0.5,**34°.75S×71°.81W,h45**km±**4**km,**ML3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	Los Niches	0.54	118	*e*P		Pn	18 44 32.5	-0.2
NICH				*e*S		Sn	18 44 41.1	+0.3
TALC	Talca	0.66	167	*e*P		Pn	18 44 34.5	+0.2
TALC				*e*S		Sn	18 44 44.0	+0.3
LNCH	Linares	1.10	171	*e*P		Pn	18 44 40.0	-0.3
LNCH				*e*S		Sn	18 44 55.1	+0.8
CLCH	Cerro Calan	1.72	38	*e*P		Pn	18 44 50.0	+1.2
CLCH				*e*P		Pn	18 44 50.2	+1.5
CLCH				*e*S		Sn	18 45 11.8	+2.2
CLCH				*e*S		Sn	18 45 12.3	+2.8
CLCH					AML	AML	18 45 18.9	
	comp=N,805nm,0.5s							
CLCH					AML	AML	18 45 19.5	
	comp=N,934nm,0.5s							
PEL	Peldehue	1.86	31	*e*P		Pn	18 44 52.2	+1.6
PEL				*e*S		Sn	18 45 15.3	+2.4
PEL					AML	AML	18 45 19.7	
	comp=N,743nm,1.6s							
FCH	Farellones	1.90	42	*e*P		Pn	18 44 49.5	-2.1
FCH				*e*S		Sn	18 45 11.3	-3.4
FCH					AML	AML	18 45 17.9	
	comp=N,432nm,0.2s							

WEL 12 19:04:32.8±0.3,**38°.59S×175°.56E,h147**km±**2**km,**ML3.7**/14, **15C-10D,Error ellipse: s-maj=1.9km s-min=1.8km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WATZ	Wairara	0.18	130	⇑PN		Pn	19 04 52.4	-0.2
WATZ				SN		Sn	19 05 08.4	+0.6
RATZ	Rangitukua	0.32	149	PN		Pn	19 04 52.3	-0.7
RATZ				SN		Sn	19 05 09.8	+1.3
KATZ	Kakaramea	0.40	164	PN		Pn	19 04 53.1	-0.4
KATZ				SN		Sn	19 05 09.2	0.0
WPRZ	Whakapapatarin	0.48	81	⇑PN		Pn	19 04 53.1	-0.5
WPRZ				SN		Sn	19 05 10.4	+0.9
TWVZ	Taurewa	0.49	191	⇑PN		Pn	19 04 53.6	-0.2
TWVZ				SN		Sn	19 05 08.9	-1.0
KRVZ	Karewarewa	0.51	173	⇓PN		Pn	19 04 53.7	-0.2
KRVZ				SN		Sn	19 05 09.7	-0.4
WTVZ	West Tongariro	0.52	177	⇑PN		Pn	19 04 53.8	-0.2
WTVZ				SN		Sn	19 05 09.7	-0.5
HIZ	Hauiti	0.56	278	⇑PN		Pn	19 04 54.5	+0.5
HIZ				SN		Sn	19 05 09.7	-0.5
OTVZ	Oturere	0.58	172	PN		Pn	19 04 54.1	-0.2
OTVZ				SN		Sn	19 05 10.7	-0.1
NGZ	Ngauruhoe	0.58	177	⇑PN		Pn	19 04 54.2	-0.2
NGZ				SN		Sn	19 05 12.2	+1.3
COVZ	Chateau Observ	0.60	181	PN		Pn	19 04 54.2	-0.2
COVZ				SN		Sn	19 05 10.0	-0.7
WPVZ	Whakapapa	0.61	181	⇑PN		Pn	19 04 54.4	-0.1
FWVZ	Far West T-bar	0.66	180	⇑PN		Pn	19 04 54.7	-0.2
FWVZ				SN		Sn	19 05 11.2	-0.7
TUVZ	Tukino	0.68	174	PN		Pn	19 04 54.8	-0.1
WHVZ	Whangaehu Hut	0.69	178	PN		Pn	19 04 55.0	-0.2
WNVZ	Wahianoa	0.73	178	PN		Pn	19 04 55.1	-0.2
MTVZ	Mangateitei	0.79	185	PN		Pn	19 04 55.8	+0.1
VRZ	Vera Road	0.82	229	PN		Pn	19 04 56.1	+0.4
TARZ	Mount Tarawera	0.83	65	PN		Pn	19 04 55.7	-0.3
MOVZ	Moawhango	0.83	169	⇑PN		Pn	19 04 55.3	-0.6
MOVZ				SN		Sn	19 05 11.5	-2.1
BKZ	Black Stump Fm	0.93	128	⇑PN		Pn	19 04 55.8	-0.9
BKZ					AML	AML	19 05 13.5	
BKZ					AML	AML	19 05 14.0	
BHHZ	Black Hill Sta	0.98	156	PN		Pn	19 04 56.7	-0.4
NMHZ	Naumai	1.10	118	PN		Pn	19 04 58.6	+0.5
KRHZ	Kereru	1.23	149	PN		Pn	19 04 59.3	0.0
MCHZ	McNeill Hill	1.23	134	⇓PN		Pn	19 04 59.4	+0.7
MCHZ				SN		Sn	19 05 19.5	-0.1
RAHZ	Arahi	1.24	106	⇑PN		Pn	19 04 59.7	+0.3
WAZ	Wanganui	1.24	201	⇑PN		Pn	19 05 00.2	+0.7
URZ	Urewera	1.26	75	PN		Pn	19 04 58.8	-0.8
URZ					AML	AML	19 05 18.5	
URZ					AML	A

KHZ	Kahutara	4.12 201	PN	Pn	19 05 32.4	-1.9

DJA 12 19:18:33.9±1.1, 11°S±9°×12°0E±°, h14km±6km, M3.5/9, mb3.8/1, MLv3.4/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	Baing, Sumba	0.34	16	P	Pg	19 18 41.0	+0.1
WSI	Waingapu	0.89	348	P	Pb	19 18 50.2	-1.0
WBSI	Waikabubak, Su	1.40	310	P	Pn	19 18 58.5	-0.6
WBSI				S	Sn	19 19 16.2	-1.3
EDFI	Ende, Flores	2.15	34	P	Pn	19 19 09.5	0.0
BATI	Baumata	3.15	84	P	Pn	19 19 20.0	-3.2
SOEI	Soe	3.81	78	P	Pn	19 19 34.9	+2.5
BKSI	Bulukumba	5.21	356	P	Pn	19 19 51.1	-0.3

*IDC **12** 19:25:05.1±2.3, 7°27S×130°56E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/22, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=141.0km s-min=31.9km az=70.0*
*DJA **12** 19:25:11.1±0.6, 7°S±3°×13°1E±°, h102km±12km, M4.0/6, mb4.2/2, mB5.0/1, MLv3.9/6, Mw(mB)4.3/1*
ISC 12 19:25:10.7±1.4, 7°18S±0°08×132°1E±0°2, h35km, n9, σ1§88/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.13	224	P	Pn	19 25 31.1	+1.1
BNDI	Bandanaira	3.42	320	P	Pn	19 25 54.4	-7.1
FAKI	Fak Fak	4.23	2	P	Pn	19 26 12.1	-0.6
KDU	Kakadu	5.49	176	P	Pn	19 26 34.8	+4.8
	baz=11,SNR=7.4						
MTN	Manton Dam	5.71	189	P	Pn	19 26 35.5	+2.4
	baz=11,SNR=18						
KNRA	Kununurra	9.06	201	P	Pn	19 27 17.6	-1.4
	baz=14,SNR=4.7						
WRA	Warramunga Arr	12.88	170	Pn	Pn	19 28 12.6	+1.2
	0.1nm,0.3s,baz=348,slow=13,SNR=3.2						
WRA				Sn	Sn	19 30 32.1	-1.4
	0.5nm,0.3s,baz=336,slow=23,SNR=8.4						
ASAR	Alice Springs	16.49	174	Pn	Pn	19 29 00.1	+0.6
	0.1nm,0.3s,baz=354,slow=9.0,SNR=7.3						
ASAR				Sn	Sn	19 31 59.5	-2.1
	0.1nm,0.3s,baz=356,slow=28,SNR=6.3						
MKAR	Makanchi Array	69.52	326	P	P	19 36 11.0	-4.9
	0.1nm,0.3s,baz=120,slow=7.7,SNR=8.5						

*NOU **12** 19:36:58.3±0.7, 25°99S×169°27E, h30km, MD3.5, ML3.3*
*IDC **12** 19:37:00.8±3.0, 22°44S×171°41E, h41km±24km, mb4.5/17, mb1 4.6/17, mb1mx4.4/32, mbtmp4.7/17, MS3.9/21, Ms1 3.9/21, ms1mx3.8/30, Error ellipse: s-maj=22.3km s-min=15.8km az=64.0*
*ISCJB **12** 19:37:01.2±0.3, 22°56S±0°05×171°18E±0°04, h50km, mb4.9/34, MS3.9/18, Error ellipse: s-maj=7.8km s-min=5.1km az=7.9*
*NEIC **12** 19:37:01.4±1.7, 22°37S×171°39E, h48km±14km, mb5.1/10, Error ellipse: s-maj=14.4km s-min=7.7km az=221.0*
ISC 12 19:37:01.5±0.4, 22°44S±0°07×171°36E±0°06, h50km, n177, σ1§21/160, mb4.9/34, MS3.9/18, 14C-11D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	Yate Dam	4.16	273	eP	Pn	19 38 02.2	-0.2
BAYA				eS	Sn	19 38 48.7	-1.1
BAYA				AMP		19 38 52.5	
	comp=Z,121nm,2.8s						
DZM	Mont Dzumac	4.57	274	ePn	Pn	19 38 07.9	-0.3
	comp=Z,669nm,0.3s						
DZM				eSn	Sn	19 38 54.1	-6.0
	comp=Z,901nm,0.2s						
DZM				eLR	LR	19 39 17.6	
	comp=Z,4μm,25.4s						
DZM	Mont Dzumac	4.57	274	eP	Pn	19 38 05.7	-2.5
DZM				eS	Sn	19 38 56.4	-3.7
DZM	Mont Dzumac	4.57	274	eP	Pn	19 38 07.2	-1.0
NOUC	Port Laguerre	4.70	273	eS	Sn	19 38 59.0	-4.2
NOUC				AMP		19 39 04.6	
	comp=Z,487nm,5.3s						
NFK	Norfolk Island	7.27	204	P	Pn	19 38 43.2	-1.9
	baz=7.3,SNR=161						
NFK				S	Sn	19 39 59.4	-6.9
	baz=7.3,SNR=19						
MSVF	Nonsavu	7.83	55	eP	Pn	19 38 59.7	+6.8
	comp=Z,213nm,1.3s						
RAO	Raoul Island	11.79	127	LR	LR	19 43 27.0	
	comp=Z,942nm,18.8s,baz=242,slow=33						
OUZ	Omahuta	12.89	172	eP	Pn	19 40 02.6	+0.7
	comp=Z,76nm,1.3s						
URZ	Urewera	16.53	164	P	P	19 40 51.9	+0.2
	comp=Z,1.0nm,0.3s,baz=360,slow=5.7,SNR=16						
URZ				LR	LR	19 45 48.6	
	comp=Z,1μm,20.7s,baz=346,slow=32						
URZ	Urewera	16.53	164	eP	P	19 40 52.4	+0.7
HNR	Honiara	16.95	318	LR	LR	19 47 01.9	
	comp=Z,165nm,19.8s,baz=152,slow=35						
NIUE	Niue	17.81	83	S	S	19 44 26.4	-2.0
	baz=18,SNR=12						
EIDS	Eidsvold	18.77	257	⇓P	Pn	19 41 19.2	+1.7
	baz=19,SNR=18						
EIDS	Eidsvold	18.77	257	eP	Pn	19 41 18.8	+1.3
	comp=Z,41nm,0.9s						
ARMA	Armidale	19.36	242	P	Pn	19 41 30.6	+6.0
	baz=20,SNR=4.5						
ARMA	Armidale	19.36	242	eP	Pn	19 41 25.6	+1.0
KHZ	Kahutara	20.01	175	eP	P	19 41 29.6	-0.3
	comp=Z,145nm,1.2s						
RMQ	Roma	20.96	254	P	P	19 41 43.4	+2.9
	baz=21,SNR=42						
RPZ	Rata Peaks	21.22	181	P	P	19 41 43.9	+0.8
	comp=Z,59nm,0.8s,baz=35,slow=1.4,SNR=17						
RPZ				LR	LR	19 48 56.9	
	comp=Z,253nm,19.3s,baz=339,slow=34						
CTA	Charters Tower	23.51	271	P	P	19 42 07.8	+0.6
	comp=Z,15nm,0.8s,baz=108,slow=9.1,SNR=33						
CTAO	Charters Tower	23.51	271	eP	P	19 42 08.3	+1.2
	comp=Z,29nm,0.9s						
CMSA	Cobar Meteorol	24.56	243	P	P	19 42 17.7	+1.0
	baz=25,SNR=50						
QLP	Quilpie	25.01	255	P	P	19 42 21.2	+0.4
	baz=25,SNR=37						
PMG	Port Moresby	26.58	295	P	P	19 42 35.3	+0.1
	comp=Z,39nm,0.8s,baz=116,slow=7.9,SNR=14						
PMG				LR	LR	19 52 09.5	
	comp=Z,369nm,19.4s,baz=105,slow=34						
PMG	Port Moresby	26.58	295	P	P	19 42 35.3	+0.1
	baz=27,SNR=9.4						
STKA	Stephens Creek	28.03	244	⇓P	P	19 42 48.9	+0.9
	baz=28,SNR=12						
COEN	Coen	28.04	283	P	P	19 42 49.5	+1.2
	baz=28,SNR=14						
COEN	Coen	28.04	283	eP	P	19 42 49.3	+1.1
	comp=Z,28nm,0.9s						
QIS	Mount Isa	29.58	268	P	P	19 43 02.0	+0.1
	baz=30,SNR=3.9						
ASAR	Alice Springs	34.43	261	P	P	19 43 44.4	-0.1
	comp=Z,29nm,0.7s,baz=84,slow=9.3,SNR=299						
ASAR				LR	LR	19 57 41.0	
	comp=Z,225nm,21.0s,baz=98,slow=36						
WB2	Warramunga Arr	34.54	267	eP	P	19 43 44.2	-1.2
WRAB	Tennant Creek	34.55	267	eP	P	19 43 44.2	-1.3
	comp=Z,19nm,1.1s						
WRA	Warramunga Arr	34.55	267	P	P	19 43 44.4	-1.2
	comp=Z,5.3nm,0.5s,baz=102,slow=8.0,SNR=60						
WRA				LR	LR	19 57 20.3	
	comp=Z,317nm,21.0s,baz=75,slow=35						
JAY	Jayapura	35.74	299	P	P	19 43 55.7	-0.1
	comp=Z,38nm,0.8s,baz=148,slow=3.1,SNR=12						
JAY				LR	LR	19 57 41.5	
	comp=Z,236nm,21.3s,baz=142,slow=35						
TBI	Tubuai	36.03	99	eLR	LR	19 53 52.4	
	comp=Z,514nm,28.5s,baz=270						
PPT2	Papeete2	36.95	90	eLR	LR	19 54 31.8	
	comp=Z,385nm,25.0s,baz=252						
KDU	Kakadu	38.23	278	P	P	19 44 16.6	-0.3
	baz=38,SNR=5.3						
WRKA	Warakurna	39.39	257	P	P	19 44 26.5	-0.2
	baz=40,SNR=20						
MTN	Manton Dam	39.40	277	P	P	19 44 26.1	-0.6
	baz=40,SNR=9.2						
KNRA	Kununurra	40.72	272	P	P	19 44 37.2	-0.4
	baz=41,SNR=9.2						
H11S2	WAKE ISLAND Hy	40.93	353	T	T	20 28 51.5	
	baz=171,slow=76,SNR=5.2						
H11S3	WAKE ISLAND Hy	40.94	353	T	T	20 28 23.0	
	baz=171,slow=76,SNR=3.3						
H11S1	WAKE ISLAND Hy	40.95	353	T	T	20 28 50.8	
	baz=171,slow=76,SNR=3.9						
H11N1	WAKE ISLAND Hy	42.12	354	T	T	20 29 58.4	
	baz=165,slow=74						
H11N3	WAKE ISLAND Hy	42.12	354	T	T	20 30 15.5	
	baz=165						
H11N2	WAKE ISLAND Hy	42.14	354	T	T	20 30 02.6	
	baz=165,slow=74						
BATI	Baumata	47.17	277	P	P	19 45 30.8	+1.3
	comp=Z,16nm,0.7s,baz=192,slow=1.4,SNR=11						
MEEK	Meekatharra	47.90	254	P	P	19 45 34.6	-0.4
	baz=48,SNR=11						
NWAO	Narrogin (SRO)	48.60	245	P	P	19 45 40.6	+0.2
	baz=49,SNR=5.7						
BLDU	Ballidu	49.18	248	P	P	19 45 44.3	-0.5
	baz=49,SNR=9.5						
RKT	Rikitea	49.24	102	eLR	LR	19 59 41.7	
	comp=Z,291nm,31.5s						
MORW	Morawa	49.89	250	P	P	19 45 49.9	-0.3
	baz=50,SNR=8.7						
KAPI	Kappang	52.75	281	eP	P	19 46 11.9	+0.2
	comp=Z,28nm,1.1s						
VNDA	Vanda	55.33	183	P	P	19 46 29.8	+0.1
	comp=Z,1.8nm,0.7s,baz=360,slow=6.5,SNR=10						
VNDA				LR	LR	20 06 34.5	
	comp=Z,147nm,18.8s,baz=333,slow=32						
KKM	Kota Kinabalu	60.91	291	eP	P	19 47 09.9	+0.1
	comp=Z,15nm,0.7s						
LEM	Lembang	63.18	274	P	P	19 47 25.9	+0.8
	comp=Z,22nm,0.7s,baz=90,slow=8.1,SNR=4.8						
LEM				LR	LR	20 14 55.3	
	comp=Z,112nm,21.8s,baz=84,slow=36						
KSM	Kuching	64.03	283	eP	P	19 47 30.7	+0.2
	comp=Z,28nm,0.8s						
MJAR	Matsushiro Arr	66.50	331	P	P	19 47 46.5	+0.5
	comp=Z,1.2nm,0.6s,baz=156,slow=9.6,SNR=4.2						
MJAR				LR	LR	20 14 10.9	
	comp=Z,44nm,21.7s,baz=140,slow=34						
JNU	Nakatsue	67.41	324	LR	LR	20 13 37.2	
	comp=Z,64nm,21.9s,baz=164,slow=33						
QSPA	South Pole Qui	67.63	180	P	P	19 47 53.1	+0.1
	comp=Z,18nm,0.9s,baz=4.7,slow=1.1,SNR=48						
ASAJ	Asahikawa	71.28	339	P	P	19 48 16.6	+1.0
	comp=Z,2.6nm,0.5s,baz=174,slow=10,SNR=3.1						
ASAJ				LR	LR	20 14 33.1	
	comp=Z,51nm,21.8s,baz=178,slow=32						
KSRS	Korea Array	72.25	325	LR	LR	20 17 43.1	
	comp=Z,64nm,21.2s,baz=151,slow=34						
IPM	Ipoh	73.68	282	eP	P	19 48 30.5	-0.1
	comp=Z,26nm,1.1s						
SKLT	Songkhla	75.18	284	P	P	19 48 40.3	+1.1
	comp=Z,30nm,1.1s						
USRK	Ussuriysk Ar.	75.48	332	P	P	19 48 41.2	+1.0
	comp=Z,2.7nm,0.8s,baz=139,slow=11,SNR=4.0						
USRK				LR	LR	20 18 28.4	
	comp=Z,67nm,21.3s,baz=141,slow=33						
CHBT	CHBT	76.13	290	P	P	19 48 46.8	+2.2
	comp=Z,16nm,0.9s						
PETK	Petropavlovsk-	76.16	352	LR	LR	20 16 52.1	
	comp=Z,199nm,20.8s,baz=151,slow=31						
KHON	Khomkaen	77.36	294	P	P	19 48 53.2	+1.7
	comp=Z,7.3nm,0.9s						
NAYO	Nakonayok	77.71	291	P	P	19 48 57.9	+4.4
	comp=Z,25nm,1.2s						
PHET	Kaeng Krachan	78.55	289	P	P	19 49 00.6	+2.5
	comp=Z,90nm,0.8s						
PBKT	Sadao Pong	79.04	293	P	P	19 49 02.5	+1.8
	comp=Z,9.1nm,1.3s						
SRDT	SRDT	79.63	290	P	P	19 49 06.4	+2.4
	comp=Z,64nm,1.0s,comp=Z,6μm						
LAMP	Lampang	81.06	294	P	P	19 49 14.9	+3.2
	comp=Z,5.6nm,1.0s						
CRAI	Chiangrai	81.22	296	P	P	19 49 12.9	+0.4
	comp=Z,15nm,1.4s						
CMAR	Chiang Mai Arr	81.61	294	P	P	19 49 16.8	+2.2
	comp=Z,6.9nm,0.8s,baz=135,slow=3.9,SNR=51						
CMMT	Chiang Mai	81.77	294	P	P	19 49 17.3	+1.8
	comp=Z,19nm,1.0s						
VNA3	Neumayer Olymp	86.57	180	P	P	19 49 38.3	-0.7
VNA2	Neumayer--Watz	86.89	180	P	P	19 49 39.8	-0.7
	baz=179,slow=3.9						
VNA1	Neumayer--Stat	87.17	180	P	P	19 49 40.9	-0.9
NVAR	Mina Array Bea	89.45	48	P	P	19 49 53.2	-0.2
	comp=Z,1.9nm,0.7s,baz=228,slow=8.3,SNR=7.0						
ULN	Ulaanbaatar	90.60	323	eP	P	19 49 58.5	+0.1
	comp=Z,7.3nm,1.3s						
SONM	Songino Array	90.95	322	P	P	19 50 00.0	-0.1
	comp=Z,3.6nm,1.0s,baz=136,slow=2.8,SNR=17						
SONM				LR	LR	20 30 34.3	
	comp=Z,32nm,19.4s,baz=162,slow=35						
ILAR	Eielson Array	92.70	17	P	P	19 50 06.6	-1.0
	comp=Z,0.4nm,0.8s,baz=230,slow=7.8,SNR=4.7						
ILAR				LR	LR	20 24 15.5	
	comp=Z,87nm,21.8s,baz=214,slow=31						
TLY	Talaya	94.50	325	LR	LR	20 29 17.5	
	comp=Z,62nm,21.8s,baz=140,slow=33						
TXAR	Lajitas Array	96.55	61	LR	LR	20 25 22.0	
	comp=Z,50nm,22.0s,baz=140,slow=30						
PDAR	Pinedale Array	97.33	47	LR	LR	20 28 12.3	
	comp=Z,20nm,19.7s,baz=240,slow=32						
MKAR	Makanchi Array	105.39	315	Pdiff	Pdif	19 51 05.1	-0.1
	comp=Z,0.1nm,0.7s,baz=142,slow=3.5,SNR=2.5						
MKAR				PP	PP	19 55 28.2	+0.6
	comp=Z,0.3nm,0.6s,baz=118,slow=8.3,SNR=4.1						
MKAR				PKKP	PKKPdf	20 06 54.9	-1.5
	comp=Z,0.4nm,0.8s,baz=265,slow=5.8,SNR=4.3						
ZALV	Zalesovo Beam	105.85	322	Pdiff	Pdif	19 51 06.8	-0.2
	comp=Z,0.3nm,0.4s,baz=163,slow=5.6,SNR=2.6						
BVAR	Borovoye Array	114.13	319	PKP	PKPdf	19 55 34.1	-0.8
	comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=4.3						
GEYT	Alibeck	121.40	302	PKP	PKPdf	19 55 49.5	0.0
	comp=Z,2.9nm,0.8s,baz=270,slow=1.5,SNR=7.8						
RAYN	Ar Rayn	130.40	282	ePKPdf	PKPdf	19 56 08.2	+1.1
AKASG	Malin Array Be	139.23	323	PKP	PKPdf	19 56 22.1	-0.6
	comp=Z,0.2nm,0.4s,baz=48,slow=2.0,SNR=5.5						
AKASG				SKPbc	SKPbc	19 59 54.1	+0.3
	comp=Z,0.6nm,0.6s,baz=53,slow=3.1,SNR=5.2						
BRTR	Keskin Array B	140.31	306	PKP	PKPdf	19 56 26.4	+1.2
	comp=Z,0.6nm,0.7s,baz=156,slow=6.5,SNR=3.8						
VRI	Vrincioaia	143.00	318	⇓iP	PKPdf	19 56 27.4	-2.3
BURAR	Bucovina Array	143.06	321	⇑iP	PKPdf	19 56 29.2	-0.7
MLR	Muntele Rosu	143.66	318	⇑iP	PKPbc	19 56 28.9	+0.3
DOPR	Dopca	143.78	319	⇓iP	PKPdf	19 56 29.8	-1.3
BMR	Baia Mare	144.02	322	⇑iP	PKPdf	19 56 30.4	-1.0
VOIR		144.24	318	⇑iP	PKPbc	19 56 30.7	+0.4
TRPA	Tarpa	144.29	324	⇓iP	PKPbc	19 56 30.3	+0.1
CJR	Cluj-Napoca	144.47	321	⇓iP	PKPdf	19 56 31.6	-0.7
NIE	Niedzica	144.69	327	eP	PKPdf	19 56 32.3	-0.3
HUMR	Humele	144.71	317	⇑iP	PKPab	19 56 31.4	-0.2
DRGR		144.95	322	⇓iP	PKPdf	19 56 33.3	+0.2
OKC	Ostrava-Krasne	145.49	329	ePKP	PKPdf	19 56 33.1	-0.8
OKC				ex	x	19 57 00.6	
ALN	Alexandroupoli	145.51	310	eP	PKPdf	19 56 33.7	-0.5
KSP	Ksiaz	145.63	332	eP	PKPab	19 56 34.4	-0.3
GZR	Gura Zlata	145.65	319	⇓iP	PKPab	19 56 34.8	-0.3
KDZ	Kurdzhali	145.66	312	⇑iP	PKPbc	19 56 34.7	-0.1
RDO	Rodhopi	145.77	311	eP	PKPbc	19 56 34.8	-0.3
MORC	Moravsky Berou	145.81	329	⇓iP	PKPab	19 56 35.3	-0.2
PSZ	Piszkesteto	145.85	325	⇓iP	PKPab	19 56 35.5	-0.3
PSZ	Piszkesteto	145.85	325	ePKPdf	PKPbc	19 56 35.0	-0.3
PRK	Paraskevi	145.92	308	eP	PKPdf	19 56 26.8	-8.1
KRLC	Kraliky	145.96	330	ePKP	PKPdf	19 56 34.6	-0.1
KRLC				epPKP	pPKPdf	19 56 45.1	-4.8
KRLC				ex	x	19 57 01.9	
DPC	Dobruska-Polom	145.97	331	ePKP	PKPab	19 56 35.7	-0.4
DPC				epPKP	pPKPdf	19 56 47.2	-2.7
DPC				ex	x	19 57 02.2	
UPC	Upice	145.99	332	ePKP	PKPbc	19 56 35.2	-0.4
RZN	Rozhen	146.13	312	iP	PKPdf	19 56 35.0	-0.5
BZS	Buzias	146.22	321	⇑iP	PKPbc	19 56 36.2	-0.2
BRG	Berggiesshubel	146.60	334	ePKP	PKPbc	19 56 37.0	-0.3
	comp=Z,5.9nm,1.1s						
BRG				e		19 57 00.8	
	comp=Z,10nm,1.0s						
PVCC	Panska Ves	146.60	333	ePKP	PKPab	19 56 37.8	-0.7
PVCC				ex	x	19 57 04.8	
CLL	Collm	146.64	335	ePKPbc	PKPab	19 56 38.0	-0.6
CLL				e		19 57 01.0	
	comp=Z,7.0nm,0.8s						
CLL				i (sPKiKP)		19 57 04.5	
	comp=Z,11nm,0.9s						
CLL				LmV		21 05 00.0	
	comp=Z,100nm,20.0s						
VTS	Vitosha	146.75	315	⇑iP	PKPbc	19 56 38.2	0.0
VTS	Vitosha	146.75	315	iP	PKPdf	19 56 36.0	-0.5
MMB	Musomiste	146.84	313	⇑iP	PKPbc	19 56 38.2	-0.2
MMB	Musomiste	146.84	313	iP	PKPdf	19 56 35.0	-1.5
NVR	Nevrokopi	146.85	312	eP	PKPbc	19 56 37.7	-0.7
GOPC	GO Pecny, Ondr	146.97	332	ePKP	PKPab	19 56 39.6	-0.3
GOPC				ex	x	19 57 05.8	
PRA	Prague	147.00	332	ePKP	PKPab	19 56 39.9	-0.1
PRU	Pruhonice	147.02	332	ePKP	PKPbc	19 56 38.1	-0.4
PRU				ex	x	19 57 03.7	
TREC	Trest	147.10	330	ePKP	PKPbc	19 56 38.5	-0.3
SRS	Serrai	147.13	312	eP	PKPdf	19 56 37.9	+0.9
KKB	Krupnik	147.16	314	eP	PKPdf	19 56 37.0	0.0
NPS	Neapolis	147.56	301	eP	PKPbc	19 56 40.3	-0.2
PKSM	Morangy	147.57	324	⇑iP	PKPbc	19 56 40.0	-0.2
KNT	Kendrikon	147.59	313	eP	PKPbc	19 56 39.3	-1.1
HORT	Hortiatis	147.69	311	eP	PKPbc	19 56 39.6	-1.2
AOS	Alonnisos	147.69	309	eP	PKPdf	19 56 35.7	-2.2
THE	Thessaloniki	147.77	312	eP	PKPbc	19 56 39.3	-1.6
CONA	Conrad Observa	147.89	328	⇑iPKPbc	PKPbc	19 56 41.3	+0.2
	comp=Z,8.3nm,0.9s						
SKIA	Skiathos	147.99	309	eP	PKPdf	19 56 39.5	+1.1
MRKA	Markates	148.07	308	eP	PKPbc	19 56 40.5	-1.3
KHC	Kasperske Hory	148.07	332	ePKP	PKPdf	19 56 38.0	-0.3
KHC				ex	x	19 56 41.2	
KHC				epPKP	pPKPdf	19 56 57.7	+4.2
KHC				ex	x	19 57 06.1	
KHC	Kasperske Hory	148.07	332	ePKPdf	PKPbc	19 56 40.9	-0.6
PTL	Penteli	148.10	307	eP	PKPbc	19 56 41.2	-0.7
NEO	Neokhori	148.11	309	eP	PKPbc	19 56 41.7	-0.2
XOR	Xanthi	148.11	309	eP	PKPdf	19 56 40.8	+1.3
GERES	GERESS Array B	148.23	332	PKPbc	PKPbc	19 56 42.0	0.0
	comp=Z,2.8nm,0.8s,baz=45,slow=2.1,SNR=26						
LIT	Litokhoron	148.32	311	eP	PKPbc	19 56 40.8	-1.6
LKR	Lokris	148.52	308	eP	PKPbc	19 56 42.3	-0.7
VAM	Vamos	148.64	302	eP	PKPbc	19 56 41.9	-1.5
MOA	Molln	148.71	330	⇑iPKPbc	PKPbc	19 56 42.2	-1.0
	comp=Z,6.6nm,1.2s						
LTK	Loutraki	148.77	307	eP	PKPbc	19 56 41.8	-1.9
FNA	Florina	148.79	313	eP	PKPbc	19 56 42.5	-1.2
AGG	Agios Georgios	148.86	309	eP	PKPbc	19 56 42.0	-1.9
MAKR	Makrakomi, Fth	149.01	309	eP	PKPbc	19 56 43.6	-0.6
NEST	Nestorio	149.18	312	eP	PKPbc	19 56 44.2	-0.5
ANKY	Antikythira Is	149.21	303	eP	PKPbc	19 56 45.0	+0.2
VLI	Veliai	149.23	305	eP	PKPbc	19 56 43.5	-1.3
KALE	Kalithea	149.24	308	eP	PKPbc	19 56 44.0	-0.9
GUR	Goura	149.26	307	eP	PKPbc	19 56 44.5	-0.5
EVR	Evrytania	149.28	309	eP	PKPbc	19 56 44.8	-0.2
KLV	Kalavryta, Ach	149.36	308	eP	PKPbc	19 56 44.9	-0.3
EFP	Efpalio	149.40	308	eP	PKPbc	19 56 45.2	0.0
VLX	Vlachokerasia	149.44	306	eP	PKPbc	19 56 44.7	-0.7
DRO	Drossia	149.72	308	eP	PKPbc	19 56 47.3	+1.3
ITM	Ithomi	149.84	306	eP	PKPbc	19 56 45.1	-1.2
PDO	Prodromos	149.85	309	eP	PKPbc	19 56 46.4	+0.1
RLS	Riolos of Patr	149.86	308	eP	PKPbc	19 56 45.0	-1.3
IGT	Igoumenitsa	150.06	311	eP	PKPbc	19 56 46.0	-0.8
PYL	PYLOS	150.08	306	eP	PKPbc	19 56 45.7	-1.2
LKD2	Lefkada island	150.15	310	eP	PKPbc	19 56 46.7	-0.4
WTTA	Wattenberg	150.34	332	⇓iPKPbc	PKPbc	19 56 46.7	-0.7
	comp=Z,20nm,1.1s						
MOTA	Moosalm	150.51	332	⇑iPKPbc	PKPbc	19 56 46.9	-0.9
	comp=Z,6.5nm,0.9s						
FETA	Feichten	150.92	332	⇑iPKPbc	PKPbc	19 56 48.0	-0.8
	comp=Z,11nm,1.0s						
TORD	Torodi Ar. Bea	166.51	229	PKP	PKPdf	19 57 02.0	-0.2
	comp=Z,1.8nm,1.0s,baz=67,slow=0.4,SNR=7.2						
TORD				PKPab	PKPab	19 58 04.9	+0.7
	comp=Z,3.4nm,1.2s,baz=123,slow=3.9,SNR=6.8						

DJA 12 19:44:09.4±0.4, 8°S±3°×107°E±°, h10km, M3.9/13, MLv3.9/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	Cibinong	0.75	14	P	Pg	19 44 23.9	0.0
CNJI				S	Sg	19 44 32.8	-0.8
CISI	Cisompet, Garu	0.98	61	P	Pg	19 44 26.5	-1.9
SKJI	Sukabumi	1.10	339	P	Pb	19 44 29.5	-1.0
SKJI				S	Sg	19 44 44.6	-0.3
LEM	Lembang	1.38	29	P	Pn	19 44 33.6	-1.3
CMJI	Cimerak	1.51	80	P	Pn	19 44 34.2	-2.3
CGJI	Cibinong	1.89	319	P	Pn	19 44 40.9	-0.8
KPJI	Karang Pucung	2.08	70	P	Pn	19 44 43.7	-0.7
KASI	Kota Agung	3.49	316	P	Pn	19 45 02.8	-1.0
UGM	Wanagama	3.54	88	P	Pn	19 45 05.2	+0.7

*ISCJB **12** 19:47:26.2±0.3, 7°09S±0°05×125

*NEIC **12** 19:51:19.2, 32°.23N×115°.32W, h10km, ML3.2(PAS), After PAS.*
*MEX **12** 19:51:19.8±0.8, 32°.23N×115°.13W, h15km, MD3.6*
ISC 12 19:51:17.7±1.3,**32°.21N**±0°.04×**115°.25W**±0°.04,**h18**km±9km, **n16**,σ0s**79**/24,**California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.20**	**12**	*i* P	**Pg**	**19 51 23.1**	**+0.4**
MBIG				*i* S	**Sb**	**19 51 27.4**	**+1.0**
CPBX	**Cerro Prieto**	**0.22**	**348**	*i* P	**Pg**	**19 51 22.8**	**0.0**
CPBX				*e*S	**Sb**	**19 51 26.9**	**+0.1**
SPIG	**San Pedro Mart**	**1.17**	**189**	*e*P	**Pn**	**19 51 39.0**	**-0.5**
SPIG				*i* S	**Sb**	**19 51 54.5**	**-0.1**
SPIG	**San Pedro Mart**	**1.17**	**189**	*e*P	**Pn**	**19 51 39.0**	**-0.5**
SPIG				*e*S	**Sb**	**19 51 55.1**	**+0.5**
SPX	**San Pedro Mart**	**1.17**	**189**	*e*P	**Pn**	**19 51 39.0**	**-0.6**
SPX				*e*S	**Sn**	**19 51 55.6**	**+0.4**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P	**Pn**	**19 51 39.4**	**-0.4**
CBX				*e*S	**Sb**	**19 51 55.3**	**-0.1**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P	**Pn**	**19 51 39.4**	**-0.4**
CBX				*e*S	**Sb**	**19 51 55.3**	**-0.1**
BAR	**Barrett**	**1.29**	**292**	*e*Pn	**Pn**	**19 51 40.1**	**-0.8**
BAR				*e*Sn	**Sb**	**19 51 57.6**	**-0.3**
PFO	**Pinyon Flats O**	**1.73**	**324**	*e*Pn	**Pn**	**19 51 45.6**	**-1.4**
214A	**Organ Pipe Nat**	**2.08**	**96**	*e*Pn	**Pn**	**19 51 50.5**	**-1.3**
LDFC	**Landfair**	**2.87**	**2**	*e*Pg	**Pg**	**19 52 14.2**	**+1.6**
GSC	**Goldstone, Bar**	**3.35**	**338**	*e*Pg	**Pg**	**19 52 22.0**	**+0.2**
TUC	**Tucson**	**3.78**	**87**	*e*Pg	**Pg**	**19 52 30.9**	**+0.7**
SHPR	**Sheep Range**	**4.29**	**1**	*e*Pg	**Pg**	**19 52 39.9**	**0.0**
DAC	**Darwin (Calif)**	**4.50**	**335**	*e*Pg	**Pg**	**19 52 45.4**	**+1.5**
R11A	**Troy Canyon, C**	**6.13**	**358**	*e*Pg	**Pg**	**19 53 15.6**	**+0.4**

IDC 12 20:00:43.9±4.1,**13°.79S×168°.17E, h0**km,**mb3.7**/3, **mb1 4.0**/3,**mb1mx3.5**/32,**mbtmp3.7**/3,**Error ellipse: s-maj=218.6km s-min=30.7km az=143.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.91**	**255**	P	P	20 07 19.8	-0.5
	0.4nm,0.5s,baz=85,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**33.83**	**248**	P	P	20 07 28.8	+0.5
	0.6nm,0.6s,baz=77,slow=8.8,SNR=22						
ILAR	**Eielson Array**	**85.37**	**18**	P	P	20 13 23.3	+0.6
	0.4nm,0.6s,baz=243,slow=4.8,SNR=8.4						
ARCES	**ARCESS Array B**	**119.56**	**346**	PKP	PKPdf	20 19 33.8	-1.4
	3.2nm,0.9s,baz=34,slow=3.4,SNR=5.0						

*ISCJB **12** 20:03:17.2±0.8, 37°.17S×0°.05×72°.60W×0°.09, h69km, mb4.0/2, Error ellipse: s-maj=10.4km s-min=7.3km az=16.3*
*GUC **12** 20:03:17.6±0.5, 37°.13S×72°.62W, h67km±4km, ML4.1*
*NEIC **12** 20:03:17.6, 37°.13S×72°.62W, h67km, mb4.1/2, After GUC. NEIC Felt [V] at La Laja.*
ISC 12 20:03:18.6±1.0,**37°.13S**±0°.06×**72°.67W**±0°.07,**h69**km,**n13**, σ0s**99**/21,**2C-2D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.45**	**309**	⇑*i* P	**Pn**	**20 03 30.0**	**-0.9**
CCSP				*i* S	**Sn**	**20 03 39.6**	**-0.2**
CCSP				AML	AML	20 03 42.5	
	comp=N,14μm,0.5s						
CCSP	**San Pedro de C**	**0.45**	**309**	⇑*i* P	**Pn**	**20 03 30.0**	**-0.9**
CCSP				*i* S	**Sn**	**20 03 39.6**	**-0.2**
LNCH	**Linares**	**1.54**	**34**	*e*P	**Pn**	**20 03 44.0**	**-0.1**
LNCH				*e*S	**Sn**	**20 04 03.3**	**-0.1**
LNCH	**Linares**	**1.54**	**34**	*e*P	**Pn**	**20 03 44.0**	**-0.1**
LNCH				*e*S	**Sn**	**20 04 03.3**	**-0.1**
TALC	**Talca**	**1.92**	**26**	⇓*i* P	**Pn**	**20 03 47.8**	**-1.4**
TALC				*e*S	**Sn**	**20 04 11.4**	**-0.9**
TALC	**Talca**	**1.92**	**26**	⇓*i* P	**Pn**	**20 03 47.8**	**-1.4**
TALC				*e*S	**Sn**	**20 04 11.4**	**-0.9**
NICH	**Los Niches**	**2.42**	**29**	*e*P	**Pn**	**20 03 55.4**	**-0.6**
NICH				*e*S	**Sn**	**20 04 23.4**	**-1.1**
NICH	**Los Niches**	**2.42**	**29**	*e*P	**Pn**	**20 03 55.4**	**-0.6**
NICH				*e*S	**Sn**	**20 04 23.4**	**-1.1**
PLCA	**Paso Flores**	**3.96**	**156**	*e*P	**Pn**	**20 04 15.0**	**-2.0**
CLCH	**Cerro Calan**	**4.11**	**26**	*e*P	**Pn**	**20 04 18.5**	**-0.6**
TRQA	**Tornquist**	**8.54**	**99**	*e*P	**Pn**	**20 05 19.4**	**-0.2**
	comp=N,6.3nm,0.8s						
QSPA	**South Pole Qui**	**53.11**	**180**	*e*P	**P**	**20 12 30.1**	**+1.2**
	comp=N,2.2nm,0.9s						
DBIC	**Dimbokro**	**76.68**	**71**	P	**P**	**20 15 03.5**	**+1.0**
	comp=N,1.1nm,0.5s						

*MAN **12** 20:11:07, 16°.41N×119°.58E, h14km, mb4.8, ML3.8, MS3.8*
*ISCJB **12** 20:11:08.7±0.4, 16°.32N±0°.04×119°.65E±0°.05, h35km, mb4.1/14, MS4.0/1, Error ellipse: s-maj=7.2km s-min=5.0km az=140.6*
*IDC **12** 20:11:14.0±2.4, 16°.28N×119°.84E, h75km±23km, mb3.8/13, mb1 3.9/13,mb1mx3.5/52,mbtmp4.1/13,MS3.6/2, Ms1 3.6/2,ms1mx2.9/45,Error ellipse: s-maj=25.5km s-min=11.7km az=68.0*
*NEIC **12** 20:11:14.2±1.1, 16°.26N×119°.82E, h81km±11km, mb4.4/2, Error ellipse: s-maj=18.4km s-min=8.0km az=75.0*
ISC 12 20:11:10.5±0.6,**16°.34N**±0°.04×**119°.71E**±0°.07,**h35**km,**n35**, σ2s**08**/39,**mb4.2**/14,**3C-3D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.20**	**78**	*e*P	**Pn**	**20 11 15.1**	**-2.2**
SCZP	**Santa Cruz**	**0.59**	**161**	*e*P	**Pn**	**20 11 20.1**	**-2.3**
SCZP				*e*S	**Sn**	**20 11 34.6**	**+3.7**
BCPH	**Baguio City Da**	**0.84**	**87**	⇑*i* P	**Pn**	**20 11 23.6**	**-2.3**
BCPH				*i* S	**Sn**	**20 11 35.0**	**-2.1**
PCPH	**Palayan**	**1.54**	**120**	⇓*e*P	**Pn**	**20 11 34.5**	**-0.9**
PCPH				*e*S	**Sn**	**20 11 54.4**	**+0.2**
ABRA	**Dolores**	**1.61**	**36**	*e*P	**Pn**	**20 11 35.8**	**-0.6**
ABRA				*e*S	Sn	20 12 05.8	+10
SIPP	**Brgy, Tapao**	**1.73**	**24**	⇑*e*P	**Pn**	**20 11 35.8**	**-2.2**
SIPP				*i* S	Sn	20 11 52.4	-6.5
BALP	**Baler**	**1.89**	**108**	*e*P	**Pn**	**20 11 41.6**	**+1.4**
APYP	**Conner**	**2.11**	**44**	*e*P	**Pn**	**20 11 42.4**	**-0.8**
PIP	**Pasuquin**	**2.15**	**24**	⇓*i* P	**Pn**	**20 11 43.2**	**-0.8**
PIP				*e*S	Sn	20 12 17.1	+7.6
CVP	**Callao Caves**	**2.43**	**56**	*e*P	**Pn**	**20 11 49.3**	**+1.6**
CVP				*e*S	**Sn**	**20 12 21.1**	**+4.9**
TGY	**Tagaytay City**	**2.52**	**152**	P	Pn	20 11 52.4	+3.4
	110nm,0.3s,baz=324,slow=7.1,SNR=20						
TGY				S	Sn	20 12 28.9	+10
	182nm,0.3s,baz=184,slow=14,SNR=3.4						
TGY	**Tagaytay City**	**2.52**	**152**	⇑*i* P	**Pn**	**20 11 51.9**	**+2.9**
TGY				*i* S	Sn	20 12 27.0	+8.4
LUBP	**Lubang**	**2.64**	**169**	*e*P	**Pn**	**20 11 53.0**	**+2.3**
GQP	**Guinayangan**	**3.58**	**132**	⇓*e*P	**Pn**	**20 12 06.5**	**+2.9**
GQP				*e*S	**Sn**	**20 12 48.2**	**+3.5**
AUQP	**San Andres**	**4.15**	**136**	*e*P	**Pn**	**20 12 09.0**	**-2.4**
YHNB	**Yeheng**	**8.43**	**10**	*e*P	**Pn**	**20 13 13.3**	**+3.1**
CMAR	**Chiang Mai Arr**	**19.93**	**279**	P	**Pn**	**20 15 41.5**	**+0.3**
	2.0nm,0.8s,baz=90,slow=7.7,SNR=13						
CMAR				LR	LR	20 23 10.9	
	comp=Z,66nm,20.2s,baz=110,slow=36						
KSAR	**Wonju Array Be**	**22.23**	**17**	P	**P**	**20 16 06.3**	**+2.3**
KSRS	**Korea Array**	**22.25**	**17**	P	**P**	**20 16 06.3**	**+2.1**
	1.0nm,0.7s,baz=200,slow=10,SNR=3.0						
BATI	**Baumata**	**26.67**	**171**	P	**P**	**20 16 45.1**	**-1.2**
	8.5nm,0.5s,baz=43,slow=1.7,SNR=7.1						
SONM	**Songino Array**	**33.27**	**344**	P	**P**	**20 17 44.2**	**-0.4**
	1.2nm,0.7s,baz=162,slow=9.8,SNR=10.0						
TLY	**Talaya**	**37.51**	**344**	P	**P**	**20 18 22.0**	**+1.1**
	2.9nm,0.3s,baz=27,slow=3.6,SNR=4.9						
WRAB	**Tennant Creek**	**38.81**	**158**	*e*P	**P**	**20 18 30.0**	**-2.2**
	7.1nm,0.9s						
WRA	**Warramunga Arr**	**38.82**	**158**	P	**P**	**20 18 29.7**	**-2.5**
	5.5nm,0.7s,baz=340,slow=9.1,SNR=71						
WRA				PcP	**PcP**	**20 20 43.1**	**-0.1**
	0.9nm,0.6s,baz=341,slow=3.3,SNR=7.0						
WB2	**Warramunga Arr**	**38.82**	**158**	*e*P	**P**	**20 18 29.9**	**-2.3**
ASAR	**Alice Springs**	**42.11**	**160**	P	**P**	**20 18 57.5**	**-1.9**
	5.6nm,0.7s,baz=340,slow=6.9,SNR=84						
ASAR				PcP	**PcP**	**20 20 53.1**	**-0.6**
	0.7nm,0.6s,baz=337,slow=2.5,SNR=6.8						
MKAR	**Makanchi Array**	**43.36**	**323**	P	**P**	**20 19 09.3**	**-0.1**
	1.1nm,0.9s,baz=129,slow=8.6,SNR=9.5						
KURK	**Kurchatov**	**47.48**	**325**	*e*P	**P**	**20 19 41.1**	**-0.8**
	9.6nm,1.3s						
KURBB	**Kurchatov Arra**	**47.48**	**325**	P	**P**	**20 19 41.2**	**-0.7**
	1.8nm,0.7s,baz=121,slow=8.3,SNR=13						
GEYT	**Alibeck**	**57.84**	**305**	P	**P**	**20 21 00.2**	**+1.4**
	1.7nm,0.6s,baz=125,slow=7.2,SNR=4.7						
AKTO	**Aktyubinsk**	**59.59**	**319**	LR	LR	20 48 34.8	
	comp=Z,100nm,18.4s,baz=113,slow=38						
ILAR	**Eielson Array**	**76.81**	**26**	P	P	20 22 55.6	-2.8
	0.4nm,0.5s,baz=265,slow=5.3,SNR=7.1						
FINES	**FINESS Array B**	**77.53**	**331**	P	**P**	**20 23 01.3**	**-1.1**
	0.7nm,0.5s,baz=46,slow=4.0,SNR=5.9						
YKA	**Yellowknife Ar**	**90.71**	**22**	P	**P**	**20 24 09.0**	**-0.5**
	0.4nm,0.6s,baz=313,slow=4.4,SNR=14						
TXAR	**Lajitas Array**	**118.23**	**43**	PKP	**PKPdf**	**20 29 54.5**	**-0.3**
	0.2nm,0.7s,baz=267,slow=1.8,SNR=2.6						

*MAN **12** 20:14:55, 16°.41N×119°.58E, h14km, mb4.8, ML3.7, MS3.7*
*ISCJB **12** 20:14:56.3±1.4, 16°.42N±0°.05×119°.55E±0°.06, h15km±12km, mb3.8/7, Error ellipse: s-maj=10.5km s-min=7.8km az=177.0*
*IDC **12** 20:15:02.9±3.0, 16°.42N×120°.12E, h80km±28km, mb3.4/8, mb1 3.6/8,mb1mx3.3/27,mbtmp3.8/8,Error ellipse: s-maj=45.3km s-min=14.2km az=60.0*
ISC 12 20:14:57.7±1.3,**16°.30N**±0°.04×**119°.60E**±0°.09,**h27**km±10km, **n21**,σ1s**68**/26,**mb3.8**/7,**2C-1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.31**	**75**	*e*P	**Pb**	**20 15 04.2**	**-0.8**
BOLP				*e*S	**Sb**	**20 15 09.9**	**0.0**
SCZP	**Santa Cruz**	**0.60**	**150**	*e*P	**Pb**	**20 15 09.2**	**-0.5**
SCZP				*e*S	**Sb**	**20 15 18.5**	**+0.7**
PCPH	**Palayan**	**1.61**	**117**	⇑*e*P	**Pn**	**20 15 24.8**	**+0.4**
PCPH				*e*S	**Sb**	**20 15 48.1**	**+1.3**
ABRA	**Dolores**	**1.71**	**38**	*e*P	**Pn**	**20 15 24.9**	**-0.8**
SIPP	**Brgy, Tapao**	**1.81**	**27**	⇑*e*P	**Pn**	**20 15 25.2**	**-1.9**
SIPP				*i* S	**Sb**	**20 15 57.8**	**+5.4**
BALP	**Baler**	**1.98**	**106**	*e*P	**Pn**	**20 15 30.7**	**+1.3**
APYP	**Conner**	**2.21**	**45**	*e*P	**Pn**	**20 15 31.6**	**-0.9**
PIP	**Pasuquin**	**2.23**	**26**	⇓*i* P	**Pn**	**20 15 32.4**	**-0.5**
PIP				*e*S	**Sb**	**20 15 48.5**	**-1.1**
CVP	**Callao Caves**	**2.54**	**56**	*e*P	**Pn**	**20 15 38.1**	**+0.9**
TGY	**Tagaytay City**	**2.54**	**149**	P	**Pb**	**20 15 41.8**	**-0.9**
	149nm,0.3s,baz=283,slow=3.1,SNR=8.9						
LUBP	**Lubang**	**2.63**	**166**	*e*P	**Pb**	**20 15 42.4**	**-1.7**
AUQP	**San Andres**	**4.20**	**135**	*e*P	**Pb**	**20 16 10.4**	**-0.5**
BUSP	**Coron**	**4.31**	**172**	*e*P	**Pn**	**20 16 02.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**19.83**	**279**	P	**Pn**	**20 19 30.9**	**+2.6**
	1.0nm,0.8s,baz=95,slow=7.7,SNR=5.7						
SONM	**Songino Array**	**33.28**	**344**	P	**P**	**20 21 32.6**	**-0.3**
	0.7nm,0.6s,baz=169,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**38.82**	**158**	P	**P**	**20 22 18.8**	**-1.8**
	2.7nm,0.7s,baz=340,slow=9.1,SNR=20						
WRA				PcP	**PcP**	**20 24 30.8**	**-0.9**
	0.5nm,0.7s,baz=343,slow=3.4,SNR=5.2						
ASAR	**Alice Springs**	**42.11**	**160**	P	**P**	**20 22 46.5**	**-1.3**
	2.7nm,0.7s,baz=339,slow=6.9,SNR=25						
ASAR				PcP	**PcP**	**20 24 41.4**	**-0.8**
	0.1nm,0.3s,baz=343,slow=2.2,SNR=4.6						
MKAR	**Makanchi Array**	**43.33**	**323**	P	**P**	**20 22 58.8**	**+1.4**
	0.6nm,0.9s,baz=123,slow=10,SNR=4.1						
AAK	**Ala-Archa**	**46.49**	**314**	P	P	20 23 26.4	+3.5
	0.7nm,0.4s,baz=117,slow=6.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**47.45**	**325**	P	**P**	**20 23 30.4**	**+0.4**
	0.7nm,0.7s,baz=124,slow=8.5,SNR=8.2						
YKA	**Yellowknife Ar**	**90.78**	**22**	P	P	20 27 54.5	-3.7
	0.2nm,0.7s,baz=306,slow=4.0,SNR=3.4						

*ATH **12** 20:15:22.5, 41°.34N×20°.17E, h5km±2km, MD3.6/24*
*PDG **12** 20:15:23.2±0.4, 41°.12N×20°.19E, h4km, ML3.3/10, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*
*TIR **12** 20:15:23.4±1.1, 41°.18N×20°.19E, h14km±25km, ML3.2*
*SKO **12** 20:15:24.0, 41°.22N×20°.13E, h3km*
*CSEM **12** 20:15:25.5±0.1, 41°.21N×20°.17E, h2km, ML3.0, Error ellipse: s-maj=3.7km s-min=2.0km az=59.0*
*THE **12** 20:15:25.2, 41°.23N×20°.22E, h0km±2km, ML3.0/4, Error ellipse: s-maj=2.1km s-min=0.7km az=18.0*
*BEO **12** 20:15:26.2±0.6, 41°.21N×20°.21E, h0km, ML3.2/6*
ISC 12 20:15:24.0±0.4,**41°.20N**±0°.01×**20°.23E**±0°.01,**h13**km±3km, **n213**,σ1s**58**/239,**27C-25D,Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.31**	**298**	*i* Pg	**Pg**	**20 15 30.1**	**-0.3**
TIR	**Tirane**	**0.31**	**298**	P	**Pg**	**20 15 30.1**	**-0.3**
TIR				S	**Sb**	**20 15 35.0**	**-1.4**
TIR	**Tirane**	**0.31**	**298**	P	**Pg**	**20 15 30.1**	**-0.3**
TIR				S	**Sb**	**20 15 35.0**	**-1.4**
OHR	**Ohrid**	**0.44**	**101**	*i* Pg	**Pg**	**20 15 32.8**	**0.0**
OHR				*i* Sg	**Sb**	**20 15 41.3**	**+1.2**
OHR				*e*Lg	Lg	20 15 41.7	
	comp=N,922nm,0.5s						
OHR				*e*Lg	Lg	20 15 41.8	
	comp=E,2μm,0.5s						
OHR	**Ohrid**	**0.44**	**101**	*i* Pg	**Pg**	**20 15 32.7**	**0.0**
OHR				*i* Sg	**Sb**	**20 15 41.3**	**+1.2**
OHR				*e*Lg	Lg	20 15 41.7	
	comp=E,922nm,0.5s						
PHP	**Peshkopia**	**0.51**	**18**	*i* PG	**Pg**	**20 15 34.2**	**+0.2**
PHP				*i* SG	**Sb**	**20 15 43.1**	**+1.0**
PHP	**Peshkopia**	**0.51**	**18**	P	**Pg**	**20 15 34.4**	**+0.4**
PHP				S	**Sb**	**20 15 42.1**	**0.0**
PHP	**Peshkopia**	**0.51**	**18**	P	**Pg**	**20 15 34.4**	**+0.4**
PHP				S	**Sb**	**20 15 42.1**	**0.0**
PHP				*i* Sg	**Sb**	**20 15 43.1**	**+1.0**
	SNR=99						
KBN	**Korca**	**0.71**	**144**	*i* PG	**Pn**	**20 15 38.7**	**-1.1**
KBN				*i* SG	**Sb**	**20 15 48.1**	**+0.1**
KBN	**Korca**	**0.71**	**144**	P	**Pn**	**20 15 38.8**	**-1.0**
KBN				S	**Sn**	**20 15 50.7**	**0.0**
KBN	**Korca**	**0.71**	**144**	P	**Pn**	**20 15 38.8**	**-1.0**
KBN				*i* Sg	**Sb**	**20 15 48.1**	**+0.1**
	SNR=97						
KBN				S	**Sn**	**20 15 50.7**	**0.0**
PUK	**Puka**	**0.88**	**343**	*i* PG	**Pn**	**20 15 41.3**	**-0.8**
PUK				*i* SG	**Sn**	**20 15 54.7**	**0.0**
PUK	**Puka**	**0.88**	**343**	*i* Pg	**Pn**	**20 15 41.3**	**-0.8**
	SNR=95						
PUK				*i* Sg	**Sn**	**20 15 54.7**	**0.0**
	SNR=95						
FNA	**Florina**	**0.96**	**115**	*i* PG	**Pn**	**20 15 42.9**	**-0.4**
FNA	**Florina**	**0.96**	**115**	P	**Pn**	**20 15 43.1**	**-0.1**
FNA				S	**Sn**	**20 15 57.9**	**+1.1**
FNA	**Florina**	**0.96**	**115**	*e*P	**Pn**	**20 15 43.1**	**-0.1**
FNA	**Florina**	**0.96**	**115**	*e*PB	**Pn**	**20 15 42.8**	**-0.4**
FNA				*e*SB	**Sn**	**20 15 57.6**	**+0.8**
FNA	**Florina**	**0.96**	**115**	P	**Pn**	**20 15 43.1**	**-0.1**
FNA				*e*Sb	**Sn**	**20 15 57.6**	**+0.8**
FNA				S	**Sn**	**20 15 57.9**	**+1.1**
NEST	**Nestorio**	**1.00**	**141**	P	**Pn**	**20 15 44.2**	**+0.5**
NEST				S	**Sn**	**20 15 59.1**	**+1.3**
NEST	**Nestorio**	**1.00**	**141**	*e*PB	**Pn**	**20 15 44.3**	**+0.5**
NEST				*e*SB	**Sn**	**20 15 59.8**	**+2.0**
NEST	**Nestorio**	**1.00**	**141**	P	**Pn**	**20 15 44.2**	**+0.5**
NEST				S	**Sn**	**20 15 59.1**	**+1.3**
NEST				*e*Sb	**Sn**	**20 15 59.8**	**+2.0**
ULC	**Ulcinj**	**1.06**	**316**	⇑*i* Pg	**Pb**	**20 15 43.3**	**-0.9**
ULC				*e*Sg	**Sn**	**20 16 00.2**	**+1.0**
ULC	**Ulcinj**	**1.06**	**316**	⇑*i* Pg	**Pb**	**20 15 43.3**	**-0.9**
ULC				*e*Sg	**Sn**	**20 16 00.2**	**+1.0**
BCI	**Bajram Curri**	**1.17**	**354**	*i* PG	**Pg**	**20 15 46.3**	**-0.3**
BCI				*i* SG	**Sg**	**20 16 04.6**	**+2.8**
BCI	**Bajram Curri**	**1.17**	**354**	*i* Pg	**Pg**	**20 15 46.3**	**-0.3**
	SNR=94						
BCI				*i* Sg	**Sg**	**20 16 04.6**	**+2.8**
	SNR=94						
SKO	**Skopje**	**1.19**	**49**	*e*Pg	**Pg**	**20 15 47.4**	**+0.5**
SKO				*e*Sg	**Sg**	**20 16 03.6**	**+1.2**
SKO	**Skopje**	**1.19**	**49**	*e*Pg	**Pb**	**20 15 46.7**	**+0.3**
SKO				*i* Sg	**Sg**	**20 16 04.3**	**+1.8**
SKO				*e*Lg	Lg	20 16 04.7	
	comp=E,901nm,1.1s						
SKO				*e*Lg	Lg	20 16 04.7	
	comp=N,482nm,0.4s						
SKO	**Skopje**	**1.19**	**49**	*e*Pg	**Pg**	**20 15 47.4**	**+0.5**
SKO				*i* Sg	**Sg**	**20 16 04.2**	**+1.8**
SKO				*e*Lg	Lg	20 16 04.7	
	comp=N,482nm,0.4s						
DRME	**Dracevica, Mon**	**1.26**	**322**	⇑*i* Pg	**Pb**	**20 15 47.0**	**-0.5**
DRME				*e*Sg	**Sg**	**20 16 07.6**	**+3.0**
DRME	**Dracevica, Mon**	**1.26**	**322**	⇑*i* Pg	**Pb**	**20 15 47.0**	**-0.5**
DRME				*e*Sg	**Sg**	**20 16 07.6**	**+3.0**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**1.33**	**188**	P	**Pg**	**20 15 50.3**	**+0.8**
SRN	**Sarande**	**1.33**	**188**	P	**Pg**	**20 15 50.3**	**+0.8**
PVY	**Plav**	**1.41**	**352**	⇑*i* Pg	**Pb**	**20 15 50.0**	**-0.2**
PVY				*e*Sg	**Sg**	**20 16 13.3**	**+3.9**
PVY	**Plav**	**1.41**	**352**	⇑*i* Pg	**Pb**	**20 15 50.0**	**-0.2**
PVY				*e*Sg	**Sg**	**20 16 13.3**	**+3.9**
PDG	**Podgorica**	**1.43**	**330**	*e*Pg	**Pg**	**20 15 51.2**	**-0.2**
PDG				*e*Sg	**Sg**	**20 16 11.2**	**+1.2**
PDG	**Podgorica**	**1.43**	**330**	*e*Pg	**Pg**	**20 15 51.2**	**-0.2**
PDG				*e*Sg	**Sg**	**20 16 11.2**	**+1.2**
TTG	**Podgorica**	**1.43**	**330**	⇓*i* Pg	**Pb**	**20 15 50.0**	**-0.4**
TTG				*e*Sg	**Sg**	**20 16 13.3**	**+3.3**
KZN	**Kozani**	**1.47**	**127**	P	**Pg**	**20 15 52.6**	**+0.3**
KZN	**Kozani**	**1.47**	**127**	*e*PB	**Pg**	**20 15 52.5**	**+0.3**
KZN				*e*SB	**Sg**	**20 16 14.8**	**+3.4**
KZN	**Kozani**	**1.47**	**127**	P	**Pg**	**20 15 52.6**	**+0.3**
KZN				*e*Sb	**Sg**	**20 16 14.8**	**+3.4**
BUM	**Brajici-Budva**	**1.49**	**318**	⇑*i* Pg	**Pg**	**20 15 51.5**	**-1.0**
BUM				*e*Sg	**Sg**	**20 16 15.0**	**+3.1**
BUM	**Brajici-Budva**	**1.49**	**318**	⇑*i* Pg	**Pg**	**20 15 51.5**	**-1.0**
BUM				*e*Sg	**Sg**	**20 16 15.0**	**+3.1**
KEK	**Kerkira**	**1.52**	**193**	P	**Pg**	**20 15 53.4**	**+0.2**
KEK				S	**Sg**	**20 16 15.9**	**+3.0**
KEK	**Kerkira**	**1.52**	**193**	*e*PB	**Pg**	**20 15 54.0**	**+0.8**
KEK				*e*SB	**Sg**	**20 16 16.3**	**+3.4**
KEK	**Kerkira**	**1.52**	**193**	P	**Pg**	**20 15 53.4**	**+0.2**
KEK	**Kerkira**	**1.52**	**193**	*e*Pb	**Pg**	**20 15 54.0**	**+0.8**
KEK				*e*Sb	**Sg**	**20 16 16.3**	**+3.4**
JAN	**Janina**	**1.61**	**163**	*e*PN	**Pg**	**20 15 56.5**	**+1.6**
JAN				*e*SN	**Sg**	**20 16 19.7**	**+3.8**
JAN	**Janina**	**1.61**	**163**	*e*Pn	**Pg**	**20 15 56.5**	**+1.6**
JAN				*e*Sn	**Sg**	**20 16 19.7**	**+3.8**
IGT	**Igoumenitsa**	**1.67**	**177**	P	**Pg**	**20 15 55.9**	**-0.1**
IGT				S	**Sg**	**20 16 19.4**	**+1.8**
IGT	**Igoumenitsa**	**1.67**	**177**	*e*P	**Pg**	**20 15 55.8**	**-0.2**
IGT	**Igoumenitsa**	**1.67**	**177**	*e*PG	**Pg**	**20 15 55.9**	**-0.1**
IGT				*e*SN	**Sg**	**20 16 21.4**	**+3.8**
IGT	**Igoumenitsa**	**1.67**	**177**	P	**Pg**	**20 15 55.9**	**-0.1**
IGT				S	**Sg**	**20 16 19.4**	**+1.8**
IGT				*e*Sn	**Sg**	**20 16 21.4**	**+3.8**
BEY	**Berane**	**1.69**	**352**	⇓*i* Pn	**Pg**	**20 15 55.9**	**-0.5**
BEY				*e*Sn	**Sg**	**20 16 21.1**	**+2.7**
IVA	**Berane**	**1.69**	**352**	⇓*i* Pn	**Pg**	**20 15 55.9**	**-0.5**
IVA				*e*Sn	**Sg**	**20 16 21.1**	**+2.7**
VAY	**Valandovo**	**1.77**	**85**	*e*Pn	**Pg**	**20 15 57.9**	**0.0**
VAY				*e*Sg	**Sg**	**20 16 23.0**	**+2.1**
VAY	**Valandovo**	**1.77**	**85**	*e*Pn	**Pb**	**20 15 56.1**	**-0.2**
VAY				*e*Sg	**Sg**	**20 16 23.0**	**+2.1**
VAY				*e*Lg	Lg	20 16 23.5	
	comp=E,119nm,0.7s						
VAY				*e*Lg	Lg	20 16 23.8	
	comp=N,153nm,0.8s						
VAY	**Valandovo**	**1.77**	**85**	*e*Pn	**Pg**	**20 15 57.9**	**0.0**
VAY				*e*Sg	**Sg**	**20 16 23.0**	**+2.1**
VAY				*e*Lg	Lg	20 16 23.5	
	comp=N,119nm,0.7s						
HCY	**Herceg Novi**	**1.80**	**314**	⇑*i* Pn	**Pb**	**20 15 56.4**	**-0.3**
HCY				*e*Sn	**Sg**	**20 16 22

BOLS	Boljevac	2.92	25	*e*Pn		Pb	20 16 12.9	-2.9
BOLS	Boljevac	2.92	25	*e*Pn		Pb	20 16 12.9	-2.9
PAIG	Paliouri	2.92	115	*e*Pn		**Pb**	**20 16 14.2**	**-1.6**
PAIG	Paliouri	2.92	115	*e*Pn		**Pb**	**20 16 14.2**	**-1.6**
NEO	Neokhori	2.97	129	*e*PN		**Pb**	**20 16 15.0**	**-1.7**
NEO	Neokhori	2.97	129	*e*Pn		**Pb**	**20 16 15.0**	**-1.7**
OUR	Ouranopolis	2.98	106	*e*P		**Pb**	**20 16 14.7**	**-2.1**
OUR	Ouranopolis	2.98	106	*e*PN		Pb	20 16 14.3	-2.5
OUR	Ouranopolis	2.98	106	*e*Pn		Pb	20 16 14.3	-2.5
OUR	Ouranopolis	2.98	106	*e*P		**Pb**	**20 16 14.7**	**-2.1**
TRUS	Trudelj	3.02	2	*e*Pn		**Pb**	**20 16 15.9**	**-1.7**
TRUS	Trudelj	3.02	2	*e*Pn		**Pb**	**20 16 15.9**	**-1.7**
EFP	Efpalio	3.06	154	*e*PB		**Pb**	**20 16 16.1**	**-2.1**
EFP	Efpalio	3.06	154	*e*Pb		**Pb**	**20 16 16.1**	**-2.1**
AXAR	Agios Charalam	3.06	142	*e*PN		**Pb**	**20 16 16.9**	**-1.4**
AXAR	Agios Charalam	3.06	142	*e*Pn		**Pb**	**20 16 16.9**	**-1.4**
KALE	Kalithea	3.17	152	*e*PB		**Pb**	**20 16 18.4**	**-1.7**
KALE	Kalithea	3.17	152	*e*Pb		**Pb**	**20 16 18.4**	**-1.7**
SKIA	Skiathos	3.21	128	*e*PN		Pb	20 16 17.5	-3.2
SKIA	Skiathos	3.21	128	*e*Pn		Pb	20 16 17.5	-3.2
LKR	Lokris	3.32	139	*e*PN		Pb	20 16 19.2	-3.5
LKR	Lokris	3.32	139	*e*Pn		Pb	20 16 19.2	-3.5
TEKS	Tekeris	3.39	351	*e*Pn		Pb	20 16 20.2	-3.6
TEKS	Tekeris	3.39	351	*e*Pn		Pb	20 16 20.2	-3.6
DRO	Drossia	3.44	160	*e*PN		Pb	20 16 21.6	-3.1
DRO	Drossia	3.44	160	*e*Pn		Pb	20 16 21.6	-3.1
AOS	Alonnisos	3.45	125	*e*P		Pb	20 16 21.0	-3.9
AOS	Alonnisos	3.45	125	*e*P		Pb	20 16 21.0	-3.9
KLV	Kalavryta, Ach	3.48	154	*e*PN		Pb	20 16 22.5	-3.0
KLV	Kalavryta, Ach	3.48	154	*e*Pn		Pb	20 16 22.5	-3.0
GUR	Goura	3.65	153	*e*PN		Pb	20 16 24.5	-3.8
GUR	Goura	3.65	153	*e*Pn		Pb	20 16 24.5	-3.8
KDZ	Kurdzhali	3.93	82	*j*P		Pn	20 16 27.5	+3.6
KDZ	Kurdzhali	3.93	82	*j*P		Pn	20 16 27.5	+3.6
RDO	Rodhopi	4.01	89	*e*PN		Pn	20 16 28.2	+3.2
RDO	Rodhopi	4.01	89	*e*Pn		Pn	20 16 28.2	+3.2
BANR	Banloc	4.23	9	*j*P		Pn	20 16 31.0	+2.9
BANR	Banloc	4.23	9	*j*P		Pn	20 16 31.0	+2.9
BZS	Buzias	4.53	12	*e*P		**Pn**	**20 16 34.4**	**+2.2**
BZS	Buzias	4.53	12	*j*P		**Pn**	**20 16 34.3**	**+2.1**
BZS	Buzias	4.53	12	*j*P		**Pn**	**20 16 34.3**	**+2.1**
BZS					S	**Sn**	**20 17 27.1**	**+2.5**
GZR	Gura Zlata	4.58	23	*j*P		Pn	20 16 36.0	+3.0
GZR	Gura Zlata	4.58	23	*j*P		Pn	20 16 36.0	+3.0
GZR					S	**Sn**	**20 17 31.0**	**+4.9**
UDBI	Udbina	4.67	317	*e*Pn		Pn	20 16 36.9	+2.6
UDBI					Sn	**Sn**	**20 17 27.0**	**-1.2**
UDBI	Udbina	4.67	317	*e*Pn		Pn	20 16 36.8	+2.6
UDBI					Sn	**Sn**	**20 17 27.0**	**-1.2**
EDRB	Edirne	4.93	80	*e*P		Pn	20 16 41.7	+4.0
EDRB	Edirne	4.93	80	*e*P		Pn	20 16 41.7	+4.0
PKSM	Moragy	5.14	348	*j*P		Pn	20 16 44.0	+3.5
PKSM	Moragy	5.14	348	*j*P		Pn	20 16 44.0	+3.5
ARR	Arges	5.26	36	*j*P		Pn	20 16 47.0	+4.7
ARR	Arges	5.26	36	*j*P		Pn	20 16 47.0	+4.7
ARR					S	**Sn**	**20 17 45.9**	**+3.1**
VOIR		5.50	38	*j*P		Pn	20 16 50.0	+4.4
VOIR		5.50	38	*j*P		Pn	20 16 50.0	+4.4
BOJS	Bojanci	5.63	322	*i* Pn		Pn	20 16 49.9	+2.7
BOJS				*i* Sn		**Sn**	**20 17 53.1**	**+1.5**
CRES	Cresnjev	5.78	325	*i* Pn		**Pn**	**20 16 51.1**	**+1.7**
CRES				*i* Sn		**Sn**	**20 17 55.5**	**0.0**
MLR	Muntele Rosu	5.98	42	*j*P		Pn	20 16 57.2	+5.0
MLR	Muntele Rosu	5.98	42	*j*P		Pn	20 16 57.2	+5.0
PSN	Preselentsi	6.39	65	*j*P		Pn	20 17 01.1	+3.4
PSN	Preselentsi	6.39	65	*j*P		Pn	20 17 01.1	+3.4
JAVS	Javornik	6.49	318	*e*Pn		**Pn**	**20 17 03.3**	**+2.2**
JAVS				*e*Sn		**Sn**	**20 18 13.9**	**+0.9**
SOKA	Soboth	6.64	327			**Pn**	**20 17 03.3**	**+2.2**
VRI	Vrincioaia	6.64	43	*e*P		Pn	20 17 06.3	+5.2
VRI	Vrincioaia	6.64	43	*j*P		Pn	20 17 06.0	+4.9
VRI	Vrincioaia	6.64	43	*j*P		Pn	20 17 06.0	+4.9
TLB	Topalu	6.66	57	*j*P		Pn	20 17 06.5	+5.1
TLB	Topalu	6.66	57	*j*P		Pn	20 17 06.5	+5.1
PSZ	Piszkesteto	6.72	358	*j*P		Pn	20 17 06.3	+4.0
PSZ	Piszkesteto	6.72	358	*j*P		Pn	20 17 06.3	+4.0
TIRR	Tirgusor	6.84	59	*j*P		Pn	20 17 08.5	+4.6
TIRR	Tirgusor	6.84	59	*j*P		Pn	20 17 08.5	+4.6
ARSA	Arzberg	6.93	332	*j*Pn		**Pn**	**20 17 07.7**	**+2.6**
ARSA	Arzberg	6.93	332	Pn		**Pn**	**20 17 07.7**	**+2.6**
VYHS	Vyhne	7.36	353	*e*PN		Pn	20 17 17.9	+6.9
VYHS				*e*SN		**Sn**	**20 18 38.5**	**+4.1**

IDC 12 20:19:28.2±5.1, 16°.30S×172°.66W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/41, mbtmp3.7/3, Error ellipse: s-maj=273.2km s-min=34.3km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.55**	**251**	*e*LR	LR	20 29 21.7	
	148nm,24.8s						
PPT2	**Papeete2**	**22.12**	**97**	*e*LR	LR	20 29 59.0	
	72nm,24.8s						
TBI	**Tubuai**	**22.91**	**112**	*e*LR	LR	20 30 08.7	
	76nm,25.5s						
H11S2	**WAKE ISLAND Hy**	**40.09**	**329**	T	T	21 08 18.2	
	baz=149,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**40.11**	**329**	T	T	21 08 20.6	
	baz=149,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**40.11**	**329**	T	T	21 08 18.4	
	baz=149,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**41.04**	**330**	T	T	21 09 43.6	
	baz=150,slow=76,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**41.04**	**330**	T	T	21 09 37.6	
	baz=150,slow=76,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**41.05**	**330**	T	T	21 09 39.8	
	baz=150,slow=76,SNR=9.4						
WRA	**Warramunga Arr**	**50.34**	**257**	P	P	20 28 26.5	-0.8
	0.5nm,0.5s,baz=91,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**50.52**	**253**	P	P	20 28 28.5	-0.2
	1.2nm,0.5s,baz=88,slow=7.8,SNR=32						
YKA	**Yellowknife Ar**	**90.63**	**23**	P	P	20 32 31.3	-0.9
	0.1nm,0.5s,baz=234,slow=4.3,SNR=3.8						
BRTR	**Keskin Array B**	**147.30**	**321**	PKPbc	PKPab	20 39 15.2	-0.8
	4.8nm,1.4s,baz=32,slow=8.5,SNR=3.4						

IDC 12 20:22:11.1±14.0, 18°.76N×145°.18E, h364km±156km, mb2.9/7, mb1 3.1/7, mb1mx2.9/41, mbtmp3.6/7, Error ellipse: s-maj=48.7km s-min=17.1km az=70.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**35.76**	**218**	P	P	20 28 36.4	-0.8
	5.8nm,0.4s,baz=35,slow=3.4,SNR=5.3						
WRA	**Warramunga Arr**	**39.91**	**196**	P	P	20 29 11.5	0.0
	4.9nm,0.7s,baz=16,slow=8.9,SNR=71						
SONM	**Songino Array**	**42.79**	**322**	P	P	20 29 33.9	-0.5
	0.1nm,0.5s,baz=127,slow=7.5,SNR=2.0						
ASAR	**Alice Springs**	**43.58**	**195**	P	P	20 29 40.9	0.0
	0.8nm,0.4s,baz=17,slow=6.5,SNR=23						
CMAR	**Chiang Mai Arr**	**43.72**	**277**	P	P	20 29 41.8	-0.3
	0.2nm,0.6s,baz=99,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**58.06**	**314**	P	P	20 31 28.2	+0.8
	0.1nm,0.5s,baz=90,slow=7.2,SNR=3.7						
YKA	**Yellowknife Ar**	**78.16**	**28**	P	P	20 33 30.6	-0.1
	0.2nm,0.5s,baz=292,slow=5.5,SNR=3.7						
FINES	**FINESS Array B**	**86.62**	**335**	P	P	20 34 13.2	-0.8
	0.4nm,0.4s,baz=100,slow=4.6,SNR=5.6						

*IDC **12** 20:33:21.8±0.5, 2°.37N×97°.16E, h0km, mb4.8/32, mb1 4.8/33, mb1mx4.6/45, mbtmp4.7/33, ML4.7/1, MS3.9/18, Ms1 4.0/18, ms1mx3.7/39, Error ellipse: s-maj=20.0km s-min=10.5km az=38.0*

*BJI **12** 20:33:22.6, 2°.12N×97°.23E, h35km, mB5.0/26, mb4.9/37, Ms4.4/18, Ms7 4.2/19*

*MOS **12** 20:33:25.7±1.0, 2°.48N×97°.26E, h33km, mb5.1/40, Error ellipse: s-maj=10.2km s-min=4.7km az=117.8*

*ISCJB **12** 20:33:27.7±0.5, 2°.39N±0°.03×97°.14E±0°.03, h52km±4km, mb4.8/100, MS3.9/20, Error ellipse: s-maj=6.0km s-min=3.3km az=136.2*

*DJA **12** 20:33:28.0±0.4, 2°.N±2°×9°.7E±°, h28km±4km, M4.9/54, mb4.8/54, mB5.4/23, MLv5.1/13, Mw(mB)4.8/23*

*KLM **12** 20:33:28.2, 2°.37N×97°.00E, h41km, mb4.8, ML4.7, MS5.8*

*NEIC **12** 20:33:29.6±0.7, 2°.38N×97°.21E, h57km±6km, mb5.0/32, Error ellipse: s-maj=7.8km s-min=4.1km az=219.0*

ISC 12 20:33:28.0±0.4, 2°.39N±0°.04×97°.15E±0°.04, h41km±3km, h41km:pP-P,n381,σ1§30/399, mb4.9/100, MS4.0/20, 27C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.82**	**271**	P	**Pn**	**20 33 43.4**	**+0.3**
TPTI		**0.86**	**2**	P	**Pn**	**20 33 44.0**	**+0.3**
TPTI				S	**Sn**	**20 33 56.9**	**+1.8**
KCSI	**Kotacane, Aceh**	**1.28**	**29**	P	**Pn**	**20 33 51.0**	**+1.5**
TSI	**Tuntungan**	**1.79**	**52**	P	Pn	20 34 00.4	+3.9
LHMI	**Lhok Sumawe**	**2.82**	**356**	P	**Pn**	**20 34 12.2**	**+1.5**
LHMI	**Lhok Sumawe**	**2.82**	**356**	*e*Pn	**Pn**	**20 34 11.8**	**+1.1**
MNSI	**Mandailing Nat**	**2.90**	**123**	P	**Pn**	**20 34 13.6**	**+1.8**
IPM	**Ipoh**	**4.39**	**62**	⇑P	**Pn**	**20 34 34.7**	**+2.5**
IPM	**Ipoh**	**4.39**	**62**	*e*Pn	**Pn**	**20 34 34.5**	**+2.2**
BKNI	**Bangkinang**	**4.40**	**118**	P	**Pn**	**20 34 34.2**	**+1.9**
BKNI	**Bangkinang**	**4.40**	**118**	*e*Pn	**Pn**	**20 34 33.7**	**+1.3**
KULM	**Kulim**	**4.53**	**50**	⇑P	**Pn**	**20 34 35.5**	**+1.4**
KULM	**Kulim**	**4.53**	**50**	*e*Pn	**Pn**	**20 34 35.8**	**+1.7**
FRIM	**Kepong**	**4.55**	**79**	⇓P	**Pn**	**20 34 36.0**	**+1.6**
PKDT	**Phuket**	**5.59**	**12**	P	**Pn**	**20 34 49.7**	**+1.0**
	126nm,0.7s,3μm1.4nm						
SKLT	**Songkhla**	**5.87**	**36**	P	**Pn**	**20 34 54.6**	**+2.0**
	265nm,0.6s,2μm1.0nm						
TRTT	**Trang**	**5.97**	**25**	P	**Pn**	**20 34 54.9**	**+1.0**
	174nm,0.8s,2μm0.9nm						
KGM	**Kluang**	**6.18**	**93**	⇓P	**Pn**	**20 34 58.5**	**+1.7**
KTGM	**Kuala Trenggan**	**6.65**	**64**	⇓P	**Pn**	**20 35 05.4**	**+2.2**
SURT	**Suratani**	**6.72**	**14**	P	**Pn**	**20 35 04.9**	**+0.6**
	36nm,0.7s,460nm0.3nm						
MYKOM	**Kota Tinggi**	**6.72**	**95**	⇑P	**Pn**	**20 35 06.7**	**+2.4**
SURA	**Surathani**	**7.17**	**20**	P	**Pn**	**20 35 11.3**	**+0.9**
	85nm,1.2s,2μm0.4nm						
MNAI	**Manna**	**8.87**	**139**	P	**Pn**	**20 35 34.2**	**+0.4**
	208nm,1.1s						
LHSI	**Lahat**	**8.88**	**134**	P	**Pn**	**20 35 35.2**	**+1.4**
	56nm,0.6s,742nm						
MDSI	**Maura Dua**	**9.80**	**134**	P	**Pn**	**20 35 47.0**	**+0.5**
	49nm,0.9s						
LWLI	**Liwa**	**10.09**	**137**	P	**Pn**	**20 35 50.2**	**-0.4**
	34nm,0.7s,2μm						
PHET	**Kaeng Krachan**	**10.73**	**13**	P	Pn	20 36 15.2	+16
KASI	**Kota Agung**	**10.76**	**137**	P	**Pn**	**20 35 58.8**	**-0.8**
	28nm,0.9s						
CHBT	**CHBT**	**11.50**	**26**	P	Pn	20 36 13.2	+3.4
	40nm,1.0s,1μm						
CGJI	**Cibinong**	**12.36**	**136**	P	**Pn**	**20 36 18.6**	**-3.0**
	21nm,0.7s						
NAYO	**Nakonayok**	**12.54**	**19**	P	P	20 36 29.6	-5.2
KSM	**Kuching**	**13.19**	**94**	*e*Pn	**Pn**	**20 36 35.7**	**+2.9**
	19nm,0.9s						
CNJI	**Cibinong**	**13.86**	**134**	P	**Pn**	**20 36 40.4**	**-1.6**
	36nm,1.5s						
LEM	**Lembang**	**13.90**	**131**	Pn	**Pn**	**20 36 42.7**	**0.0**
	2.0nm,0.3s,baz=324,slow=19,SNR=2.7						
STKI	**Sintang**	**14.51**	**99**	P	**P**	**20 36 53.9**	**-2.8**
	48nm,1.0s,4μm						
CISI	**Cisompet, Garu**	**14.53**	**133**	P	**Pn**	**20 36 50.2**	**-0.9**
	34nm,1.1s						
PBKT	**Sadao Pong**	**14.58**	**15**	P	**Pn**	**20 36 53.2**	**+1.5**
	50nm,0.7s						
KHON	**Khomkaen**	**14.94**	**22**	P	**P**	**20 37 01.2**	**-0.3**
	26nm,0.8s						
UBPT	**Khong Chiam**	**15.21**	**32**	P	**P**	**20 37 04.5**	**+0.1**
	32nm,1.2s						
KPJI	**Karang Pucung**	**15.22**	**129**	P	**Pn**	**20 36 58.5**	**-1.7**
	21nm,1.1s,2μm						
PBKI	**Pangkalan Bun**	**15.38**	**109**	P	**P**	**20 37 04.7**	**-1.6**
	110nm,1.3s,1μm						
UTTA	**Uttaradit**	**15.62**	**12**	P	**Pn**	**20 37 06.3**	**+1.0**
	5.0nm,0.8s,51nm						
MHMT	**Maesarieng**	**15.70**	**3**	P	**P**	**20 37 12.8**	**+2.9**
CMAR	**Chiang Mai Arr**	**16.06**	**6**	Pn	**Pn**	**20 37 11.6**	**+0.5**
	0.9nm,0.3s,baz=193,slow=12,SNR=65						
CMAR				Lg	Lg	20 41 49.6	
	0.1nm,0.3s,baz=187,slow=28,SNR=4.8						
CMAR				LR	LR	20 43 49.4	
	comp=Z,924nm,19.1s,baz=191,slow=39						
LAMP	**Lampang**	**16.21**	**8**	P	**Pn**	**20 37 13.8**	**+0.8**
	11nm,0.9s,86nm						
CMMT	**Chiang Mai**	**16.41**	**6**	P	**Pn**	**20 37 15.4**	**-0.1**
	20nm,1.3s,429nm						
PALK	**Pallekele**	**17.08**	**287**	Pn	**P**	**20 37 24.9**	**-0.4**
	1.2nm,0.3s,baz=98,slow=15,SNR=5.6						
PALK				LR	LR	20 43 22.6	
	comp=Z,976nm,21.3s,baz=107,slow=35						
BWJI	**Bawean**	**17.52**	**118**	P	**P**	**20 37 31.4**	**+1.3**
	30nm,1.2s						
CMAI	**Chiengmai2**	**17.53**	**6**	P	**P**	**20 37 30.8**	**+0.4**
	18nm,0.9s,1μm						
PWJI	**Pagerwojo**	**17.91**	**125**	P	**P**	**20 37 37.7**	**+3.3**
	23nm,1.1s						
MTKI	**Muara Teweh, K**	**18.05**	**100**	P	**P**	**20 37 38.3**	**+2.3**
	71nm,1.1s						
BBKI	**Banjar Baru**	**18.62**	**108**	P	**Pn**	**20 37 43.1**	**+0.3**
	56nm,1.2s,1μm						
KMMI	**Kalianget**	**19.23**	**119**	P	**Pn**	**20 37 49.8**	**-0.4**
	47nm,0.9s						
KKM	**Kota Kinabalu**	**19.36**	**79**	⇓P	**Pn**	**20 37 51.9**	**+0.1**
KKM	**Kota Kinabalu**	**19.36**	**79**	*e*Pn	**Pn**	**20 37 51.5**	**-0.3**
	48nm,1.0s						
ABJI	**Asem Bagus**	**19.82**	**121**	P	**Pn**	**20 37 57.8**	**+0.6**
	43nm,0.9s						
KBKI	**Kotabaru**	**19.84**	**106**	P	**Pn**	**20 37 58.4**	**+1.0**
	18nm,1.1s						
BKB	**Balikpapan**	**20.08**	**100**	P	Pn	20 38 00.5	+0.3
	222nm,0.9s,2μm						
CHLP	**Challavanipeta**	**20.52**	**322**	*e*P	Pn	20 38 04.1	-1.2
CHLP				*e*S	**S**	**20 41 50.8**	**+0.4**
SKHT	**Srikalahasti**	**20.60**	**304**	*e*P	Pn	20 38 06.5	+0.2
SKHT				*e*S	**S**	**20 41 51.6**	**-0.4**
QIZ	**Qiongzhong**	**20.68**	**36**	P	**P**	**20 38 02.8**	**-1.9**
QIZ				S	**S**	**20 41 51.6**	**-2.1**
QIZ				sS	Sn	20 42 05.0	+5.1
QIZ				LN			
	390nm,19.1s						
QIZ				LZ			
	630nm,19.1s						
SRBI	**Singaraja**	**20.81**	**120**	P	Pn	20 38 08.3	-0.5
	94nm,1.3s,1μm						
ADKI	**Addanki**	**21.56**	**309**	*e*P	**P**	**20 38 15.7**	**+1.5**
ADKI				*epP*	**pP**	**20 38 25.1**	**+0.6**
ADKI				*es*P	**sP**	**20 38 33.6**	**+3.9**
ADKI				*e*S	**S**	**20 42 12.2**	**+1.1**
NJS	**Nagarjunasagar**	**22.50**	**310**	*e*P	**P**	**20 38 26.4**	**+2.1**
NJS				*e*S	**S**	**20 42 27.9**	**-0.7**
MPSI	**Mapaga**	**22.84**	**95**	P	**P**	**20 38 28.4**	**+0.6**
	18nm,0.7s						
PCI	**Palu**	**22.92**	**98**	P	**P**	**20 38 30.0**	**+1.3**
	50nm,0.9s,492nm						
KMI	**Kunming**	**23.23**	**13**	P	**P**	**20 38 32.4**	**+0.4**
KMI				pP	**pP**	**20 38 44.7**	**+2.2**
KMI				S	**S**	**20 42 37.9**	**-3.5**
KMI				PMZ			
	37nm,1.1s						
KMI				PMZ			
	150nm,4.3s						
KMI				LN			
	600nm,18.5s						
KMI				LE			
	410nm,15.9s						
KMI				LZ			
	730nm,17.6s						
URV	**Uravakonda**	**23.25**	**304**	*e*P	**P**	**20 38 32.7**	**+0.7**
TTSI	**Tana Toraja**	**23.30**	**103**	P	**P**	**20 38 35.6**	**+3.1**
	27nm,0.9s						
SPSI	**Sidrap Palu**	**23.47**	**106**	P	**P**	**20 38 36.2**	**+2.0**
	17nm,1.2s						
HYB	**Hyderabad**	**23.59**	**310**	*i* P	**P**	**20 38 32.0**	**-3.3**
HYBB	**Hyderabad (bro**	**23.59**	**310**	*e*P	**P**	**20 38 37.7**	**+2.4**
HYBB				*epP*	**pP**	**20 38 48.1**	**+2.0**
HYBB				*e*S	**S**	**20 42 45.3**	**-1.7**
SHL	**Shillong**	**23.59**	**348**	*e*P	**P**	**20 38 34.0**	**-1.4**
SHL				*e*S	**S**	**20 42 48.0**	**+0.9**
TOLI	**Toli-Toli**	**23.67**	**93**	*e*P	**P**	**20 38 35.7**	**-0.3**
BNSI	**Bone**	**23.91**	**106**	P	**P**	**20 38 40.2**	**+1.9**
	36nm,0.9s						
RPR	**Rampur**	**23.95**	**314**	*e*P	**P**	**20 38 40.2**	**+1.7**
RPR				*e*S	**S**	**20 42 51.9**	**-0.6**
BKSI	**Bulukumba**	**24.20**	**109**	P	**P**	**20 38 42.2**	**+1.3**
	41nm,1.1s,559nm						
APSI	**Ampana**	**24.71**	**97**	P	**P**	**20 38 46.9**	**+1.2**
	75nm,1.3s,724nm						
BSSI	**Bau Bau, Buton**	**24.80**	**110**	P	**P**	**20 38 48.4**	**+1.9**
	116nm,0.8s,2μm						

MRSI	**Marisa**	**24.86**	**94**	P		**P**	**20 38 49.1**	**+2.1**
	22nm,1.0s								
WBSI	**Waikabubak, Su**	**25.18**	**119**	P		**P**	**20 38 51.4**	**+1.5**
	59nm,1.2s,4μm								
GTOI	**Gorontalo**	**25.91**	**93**	P		**P**	**20 38 57.2**	**+0.7**
	46nm,0.9s								
ODAN	**Odare**	**26.07**	**340**	*e*P		**P**	**20 38 57.9**	**-0.1**
	96nm,0.9s								
TGY	**Tagaytay City**	**26.22**	**62**	LR		LR	20 48 31.7		
	comp=Z,9.9nm,21.5s,baz=146,slow=35								
TAPN	**Taplejung**	**26.41**	**341**	*e*P		**P**	**20 39 01.2**	**0.0**
	81nm,0.9s								
RAMN	**Ramite**	**26.43**	**338**	*e*P		**P**	**20 39 01.6**	**+0.3**
	51nm,0.8s								
H08S2	**Diego Garcia H**	**26.54**	**248**	T		T	21 06 02.8		
	baz=69,slow=75,SNR=733								
H08S3	**Diego Garcia H**	**26.54**	**248**	T		T	21 06 02.8		
	baz=69,slow=75,SNR=730								
H08S1	**Diego Garcia H**	**26.56**	**248**	T		T	21 06 27.5		
	baz=69,slow=75,SNR=781								
JIRN	**Jiri**	**27.22**	**338**	*e*P		**P**	**20 39 08.4**	**-0.2**
	91nm,0.9s								
PKI	**Pulchoki**	**27.44**	**337**	*e*P		**P**	**20 39 10.2**	**-0.3**
	19nm,0.6s								
PKIN	**Phulchoki**	**27.45**	**337**	*e*P		**P**	**20 39 10.4**	**-0.2**
	20nm,0.7s								
GUN	**Gumba**	**27.57**	**338**	*e*P		**P**	**20 39 11.5**	**-0.2**
	48nm,0.5s								
KKN	**Kakani**	**27.69**	**337**	*e*P		**P**	**20 39 12.2**	**-0.4**
	56nm,0.9s								
LSA	**Lhasa**	**27.75**	**349**	P		**P**	**20 39 13.5**	**+0.1**
LSA	**Lhasa**	**27.75**	**349**	*e*P		**P**	**20 39 12.2**	**-1.2**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.6s								
LSA	**Lhasa**	**27.75**	**349**	*e*P		**P**	**20 39 12.2**	**-1.2**
	comp=Z,6.7nm,0.6s								
GKN	**Gorkha**	**28.13**	**336**	*e*P		**P**	**20 39 16.6**	**+0.1**
	comp=Z,91nm,1.1s								
KOLN	**Koldanda**	**28.36**	**334**	*e*P		**P**	**20 39 18.7**	**0.0**
	comp=Z,49nm,0.7s								
DANN	**Dangsing**	**28.80**	**335**	*e*P		**P**	**20 39 22.5**	**-0.1**
	comp=Z,31nm,0.5s								
PYUN	**Piuthan**	**28.92**	**333**	*e*P		**P**	**20 39 23.6**	**0.0**
	comp=Z,50nm,0.4s								
BATI	**Baumata**	**29.22**	**116**	P		P	**20 39 24.8**	**-1.4**
	comp=Z,12nm,0.8s								
BATI	**Baumata**	**29.22**	**116**	P		**P**	**20 39 23.9**	**-2.3**
	comp=Z,12nm,0.6s,baz=307,slow=2.9,SNR=6.7								
BATI				LR		LR	20 53 07.8		
	comp=Z,524nm,19.4s,baz=300,slow=41								
SOEI	**Soe**	**29.59**	**114**	*e*P		**P**	**20 39 26.8**	**-2.8**
	comp=Z,17nm,0.9s								
LGTI	**Lohaghat**	**31.34**	**331**	*ex*		**P**	**20 39 47.2**	**+2.5**
WHN	**Wuhan**	**32.39**	**28**	P		**P**	**20 39 53.8**	**-0.1**
WHN				S		**S**	**20 45 09.3**	**+3.8**
WHN				LZ					
	comp=Z,1μm,21.6s								
XAN	**Xi'an**	**33.35**	**18**	P		**P**	**20 40 00.5**	**-1.9**
XAN				pP		**pP**	**20 40 10.9**	**-2.8**
XAN				sP		**sP**	**20 40 15.8**	**-2.9**
XAN				PMZ					
	comp=Z,17nm,0.8s								
XAN				PMZ					
	comp=Z,37nm,10.1s								
XAN				LN					
	comp=Z,250nm,15.6s								
XAN				LE					
	comp=Z,59nm,14.7s								
XAN				LZ					
	comp=Z,160nm,16.3s								
LZH	**Lanzhou**	**34.09**	**10**	⇓P		**P**	**20 40 08.4**	**-0.5**
LZH				pP		**pP**	**20 40 17.2**	**-3.1**
LZH				sP		**sP**	**20 40 23.1**	**-2.2**
LZH				*e*S		**S**	**20 45 36.0**	**+3.8**
LZH				sS		**sS**	**20 45 54.0**	**+2.8**
LZH				PMZ					
	comp=Z,24nm,1.0s								
LZH				PMZ					

SNR=22
KBK Karagaybulak 44.73 337 *i* P **P 20 41 38.8 +1.3**
AML Almayashu 44.80 335 P **P 20 41 39.2 +0.8**
SNR=9.8
AML Almayashu 44.80 335 *i* P **P 20 41 39.2 +0.8**
KSAR Wonju Array Be 44.88 35 P **P 20 41 38.2 -0.3**
KSAR Wonju Array Be 44.88 35 P **P 20 41 38.1 -0.3**
AAK Ala-Archa 44.89 336 *e*P **P 20 41 40.7 +1.9**
AAK pmax pmax
comp=Z,26nm,1.2s
KSRS Korea Array 44.91 35 P **P 20 41 38.1 -0.6**
comp=Z,7.7nm,0.7s,baz=232,slow=9.3,SNR=23
KSRS LR LR 21 01 37.7
comp=Z,263nm,19.7s,baz=212,slow=38
FRU Bishkek 45.01 337 *e*P **P 20 41 41.5 +1.9**
FRU pmax pmax
comp=Z,57nm,1.9s
CHMS Chumysh 45.10 337 P **P 20 41 40.9 +0.6**
SNR=7.0
CHMS Chumysh 45.10 337 *i* P **P 20 41 40.8 +0.6**
EKS2 Erkin-Say 45.21 336 P **P 20 41 42.3 +1.0**
SNR=11
EKS2 Erkin-Say 45.21 336 *e*P **P 20 41 41.9 +0.6**
EKS2 pmax pmax
comp=Z,13nm,0.8s
EKS2 Erkin-Say 45.21 336 *e*P **P 20 41 41.9 +0.6**
comp=Z,12nm,0.8s
USP Ospenovka 45.42 337 P **P 20 41 43.5 +0.7**
SNR=20
USP Ospenovka 45.42 337 *i* P **P 20 41 43.5 +0.7**
SONM Songino Array 45.97 9 P **P 20 41 47.1 -0.1**
comp=Z,11nm,0.5s,baz=190,slow=9.6,SNR=129
SONM PcP **PcP 20 43 24.2 +0.7**
comp=Z,7.7nm,0.7s,baz=192,slow=4.1,SNR=13
SONM LR LR 21 03 27.0
comp=Z,297nm,20.1s,baz=186,slow=39
MKAR Makanchi Array 46.08 346 *i* P **P 20 41 47.7 -0.2**
MKAR pmax pmax
comp=Z,28nm,0.8s
MKAR Makanchi Array 46.08 346 P **P 20 41 48.2 +0.3**
comp=Z,28nm,0.8s,baz=159,slow=8.1,SNR=268
MKAR LR LR 21 04 09.1
comp=Z,51nm,20.0s,baz=162,slow=40
ULN Ulaanbaatar 46.10 9*c i*P **P 20 41 47.9 -0.3**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 46.10 9 *e*P **P 20 41 47.6 -0.6**
comp=Z,7.2nm,0.6s
KKAR Karatay Array 46.97 333 *e*P **P 20 41 54.9 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 46.97 333 *e*P **P 20 41 54.9 -0.1**
comp=Z,3.1nm,0.5s
ZAK Zakamensk 48.10 5 *e*P **P 20 42 03.5 -0.2**
ZAK *e* 20 43 30.4
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 49.21 3 *e*P **P 20 42 12.5 +0.3**
TLY Talaya 49.42 5 *e*P **P 20 42 14.0 +0.3**
TLY *e*SS SS 20 52 49.9 -0.3
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,297nm,17.0s
GEYT Alibeck 50.27 320 P **P 20 42 21.5 +1.0**
comp=Z,31nm,0.8s,baz=147,slow=8.5,SNR=84
KURK Kurchatov 50.63 345 *e*P **P 20 42 22.8 -0.1**
KURK pmax pmax
comp=Z,29nm,0.9s
KURK Kurchatov 50.63 345 *e*P **P 20 42 22.8 -0.1**
comp=Z,29nm,0.9s
MJAR Matsushiro Arr 50.85 43 P **P 20 42 23.9 -1.0**
comp=Z,3.5nm,0.9s,baz=224,slow=7.6,SNR=6.9
MJAR LR LR 21 04 54.8
comp=Z,97nm,20.5s,baz=255,slow=37
PMG Port Moresby 51.18 104*d i*P **P 20 42 29.0 +1.3**
PMG pmax pmax
comp=Z,24nm,0.8s
PMG Port Moresby 51.18 104 P **P 20 42 27.9 +0.2**
comp=Z,26nm,0.8s,baz=270,slow=4.1,SNR=7.1
PMG Port Moresby 51.18 104 *e*P **P 20 42 26.6 -1.1**
comp=Z,5.5nm,0.8s
USRK Ussuriysk Ar. 51.78 32 P **P 20 42 31.1 -0.6**
comp=Z,5.3nm,0.9s,baz=232,slow=4.5,SNR=8.9
USRK LR LR 21 07 17.7
comp=Z,466nm,18.4s,baz=203,slow=39
ZALV Zalesovo Beam 52.38 351 P **P 20 42 35.9 0.0**
comp=Z,33nm,0.6s,baz=176,slow=6.5,SNR=184
ZALV LR LR 21 08 46.9
comp=Z,67nm,19.6s,baz=68,slow=41
CTA Charters Tower 53.09 117 P **P 20 42 41.1 -0.6**
comp=Z,12nm,0.9s,baz=286,slow=9.9,SNR=17
CTAO Charters Tower 53.09 117 *e*P **P 20 42 42.2 +0.4**
CTAO pmax pmax
comp=Z,16nm,1.0s
CTAO Charters Tower 53.09 117 *e*P **P 20 42 42.2 +0.4**
comp=Z,16nm,1.0s
NVS Novosibirsk 53.50 350 *e*P **P 20 42 42.3 -1.8**
NVS pmax pmax
comp=Z,27nm,1.0s
NVS pmax pmax
comp=N,11nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.8s
KRAR Krasnoyarsk 53.57 357*c i*P **P 20 42 43.0 -1.6**
QLP Quilpie 53.79 126 P **P 20 42 48.1 +1.3**
baz=54,SNR=22
RAYN Ar Rayn 54.16 297 *e*P **P 20 42 49.9 +0.3**
comp=E,5.6nm,0.8s
STKA Stephens Creek 54.20 133 P **P 20 42 50.4 +0.7**
baz=54,SNR=18
KLR Kul'dur 55.22 27 *e*P P 20 42 53.0 -3.8
HABR Khabarovsk 56.25 29 *e*P **P 20 43 01.5 -2.6**
HABR *e**PP **pP 20 43 11.3 -4.8**
HABR *e* 20 43 59.3
HABR *e* 20 45 06.8
HABR *e*PPP PPP 20 46 21.1
HABR S **S 20 50 48.5 -2.5**
HABR *e**SS sS 20 51 05.8 -5.1
HABR *e* 20 52 47.7
HABR *e*SS **SS 20 54 35.7 -2.6**
HABR pmax pmax
comp=Z,23nm,1.8s
HABR MLR MLR
comp=Z,382nm,19.0s
ABKAR Akbulak array 56.44 332 *e*P **P 20 43 05.3 -0.2**
comp=Z,26nm,0.8s
BOD Bodaibo 56.85 11 *e*P **P 20 43 07.4 -0.9**
BOD pmax pmax
comp=Z,22nm,1.1s
CMSA Cobar Meteorol 57.10 130 P **P 20 43 11.7 +1.2**
baz=57,SNR=29
RMQ Roma 57.47 124 P **P 20 43 15.4 +2.1**
baz=58,SNR=13
ASAJ Asahikawa 57.75 37 P **P 20 43 15.3 +0.4**
comp=Z,5.4nm,0.4s,baz=255,slow=9.9,SNR=14
ASAJ LR LR 21 08 42.5
comp=Z,103nm,19.8s,baz=230,slow=37
AKTO Aktyubinsk 58.16 332 P **P 20 43 17.3 -0.4**
comp=Z,9.5nm,0.5s,baz=120,slow=8.2,SNR=41
EIDS Eidsvold 59.04 121 P **P 20 43 25.1 +0.8**
baz=59,SNR=6.5
YSS Yuzh-Sakhalins 59.40 35⇑*i*P **P 20 43 26.8 +0.5**
YSS *e* 20 43 38.7
YSS pmax pmax
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 59.40 35 *e*P **P 20 43 26.7 +0.4**
comp=Z,64nm,1.1s
GNI Garni 60.41 316 *e*P **P 20 43 35.0 +1.4**
GNI pmax pmax
comp=Z,12nm,1.7s
GNI Garni 60.41 316 P **P 20 43 33.6 0.0**
comp=Z,1.2nm,0.5s,baz=212,slow=11,SNR=2.5
GNI Garni 60.41 316 *e*P **P 20 43 33.1 -0.5**
comp=Z,6.8nm,0.9s
ARU Arti 62.07 337 P **P 20 43 43.9 -0.4**
comp=Z,97nm,0.9s,SNR=7.7
ARU Arti 62.07 337*c i*P **P 20 43 43.8 -0.5**
ARU 20 44 21.7
ARU 20 45 57.3
ARU S **S 20 52 08.0 +1.8**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 62.07 337 *e*P **P 20 43 43.3 -1.0**
comp=Z,12nm,0.8s
ZEI Tsey 62.08 318 *e*P **P 20 43 44.8 -0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.5s
KBZ Khabaz 63.14 319 P **P 20 43 51.8 +0.1**
comp=Z,4.5nm,0.8s,baz=125,slow=7.6,SNR=12
KIV Kislovodsk 63.38 319 *e*P **P 20 43 53.8 +0.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 63.38 319 *e*P **P 20 43 53.5 +0.1**
MALT Malatya 64.30 312⇑*i*P **P 20 44 01.1 +1.5**
YAK Yakutsk 64.30 16*c i*P **P 20 43 58.3 -0.7**
YAK pmax pmax
comp=Z,79nm,0.9s
YAK pmax pmax
comp=E,25nm,1.2s
YAK pmax pmax
comp=N,26nm,1.0s
YAK Yakutsk 64.30 16 LR LR 21 14 06.7
comp=N,238nm,18.8s,baz=220,slow=38
YAK Yakutsk 64.30 16 *e*P **P 20 43 58.3 -0.7**
comp=N,133nm,1.0s
VRHR Novokhopersk 67.12 326 *e*P **P 20 44 16.4 -1.0**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,30nm,1.4s
BRTR Keskin Array B 68.28 312 P **P 20 44 24.4 -0.7**
comp=E,1.4nm,0.5s,baz=130,slow=6.8,SNR=8.8
BRTR LR LR 21 16 10.0
comp=E,30nm,20.9s,baz=105,slow=38
VORD Divnogorie 68.39 325 *e*P **P 20 44 23.7 -1.7**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 68.57 325 *e*P **P 20 44 25.2 -1.3**
VSR pmax pmax
comp=Z,30nm,1.7s
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.1s
SIM Simferopol' **69.45 317** *e*P P 20 44 42.7 +11
PRGR Permogore 70.53 337 *e*P **P 20 44 36.9 -1.5**
PRGR pmax pmax
comp=Z,65nm,1.1s
PETK Petropavlovsk- 70.78 34 P **P 20 44 40.0 -0.1**
PETK Petropavlovsk- 70.78 34 P **P 20 44 40.0 -0.1**
comp=Z,5.7nm,0.8s,baz=219,slow=8.6,SNR=4.0
PETK LR LR 21 19 16.1
comp=Z,37nm,18.6s,baz=194,slow=39
OBN Obninsk 71.58 328 *e*P **P 20 44 44.7 -0.1**
OBN *e* 20 44 59.5
OBN pmax pmax
comp=Z,34nm,1.2s
OBN MLR MLR
comp=Z,51nm,24.0s
OBN Obninsk 71.58 328 P **P 20 44 44.7 -0.1**
comp=Z,9.5nm,0.5s,baz=135,slow=4.3,SNR=6.2
TIXI Tiksi 72.03 10*c i*P **P 20 44 46.2 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 72.03 10 *e*P **P 20 44 46.2 -1.1**
comp=Z,6.4nm,0.6s
SEY Seymchan 72.69 23 *e*P **P 20 44 51.8 +0.4**
PSN Preselentsi 73.22 315⇑*i*P **P 20 44 55.4 +0.5**
TIRR Tirgusor 73.23 316 *e*P **P 20 44 55.0 0.0**
TIRR pmax pmax
comp=Z,11nm,1.0s
TIRR Tirgusor 73.23 316⇑*i*P **P 20 44 54.8 -0.2**
TIRR Tirgusor 73.23 316 *e*P **P 20 44 55.0 0.0**
comp=Z,11nm,1.0s
TLB Topalu 73.52 316⇓*i*P **P 20 44 57.2 +0.6**
CFR Carcaliu 73.59 316⇓*i*P **P 20 44 57.0 -0.1**
JMB Yambol 74.10 313⇑*i*P **P 20 45 01.8 +1.7**
IDI Anoyia 74.16 306 P **P 20 45 00.9 +0.1**
comp=Z,2.8nm,0.6s,baz=71,slow=9.1,SNR=5.0
AKASG Malin Array Be 74.29 322 *i* P **P 20 45 00.5 -0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 74.29 322 P **P 20 45 00.5 -0.5**
comp=Z,4.2nm,0.6s,baz=88,slow=5.0,SNR=29
KIEV Kiev 74.30 322*c i*P **P 20 45 00.4 -0.7**
KIEV Kiev 74.30 322 *e*P **P 20 45 00.4 -0.7**
comp=Z,13nm,1.1s
VRI Vrincioaia 74.71 317⇓*i*P **P 20 45 04.7 +1.1**
PLOR Plostina 74.76 317⇓*i*P **P 20 45 05.1 +1.1**
TMCR Tamitsa 74.81 337 *e*P **P 20 45 04.2 +0.5**
TMCR *e* 20 45 19.7
TMCR *e* 20 47 51.8
TMCR pmax pmax
comp=Z,45nm,1.3s
TESR Tescani 74.91 318⇓*i*P **P 20 45 05.1 +0.4**
MLR Muntele Rosu 75.17 316⇑*i*P **P 20 45 07.6 +1.2**
MLR Muntele Rosu 75.17 316 P **P 20 45 06.6 +0.2**
comp=Z,1.8nm,1.0s,baz=106,slow=2.6,SNR=15
PRAR RASCA 75.38 318⇑*i*P **P 20 45 07.7 +0.3**
VOIR 75.78 316⇓*i*P **P 20 45 09.3 -0.5**
MMB Musomiste 76.04 312⇑*i*P **P 20 45 11.9 +0.5**
ARR Arges 76.05 316⇓*i*P **P 20 45 11.4 0.0**
BURAR Bucovina Array 76.10 319⇑*i*P **P 20 45 12.9 +1.2**
VTS Vitosha 76.58 313⇓*i*P **P 20 45 14.5 -0.1**
LOT Lotru 76.66 316⇓*i*P **P 20 45 13.6 -1.3**
NACGM Naroch 76.83 326 *e* **P 20 45 13.0 -2.5**
JOF Joensuu 77.05 335 *e*P **P 20 45 15.1 -1.5**
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 77.05 335 *e*p **P 20 45 15.1 -1.5**
comp=Z,6.2nm,0.7s
LVV L'vov 77.32 321 *e*P **P 20 45 17.9 -0.5**
GZR Gura Zlata 77.34 316⇑*i*P **P 20 45 19.4 +0.7**
VSU Vasula 77.80 330 *e*P **P 20 45 21.1 +0.3**
VSU pmax pmax
comp=Z,48nm,1.2s
TRPA Tarpa 77.97 319⇑*i*P **P 20 45 22.6 +0.6**
KWP Kalwaria Pacla 78.12 320 *e*P **P 20 45 23.1 +0.2**
KWP pmax pmax
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 78.12 320 *e*P **P 20 45 23.6 +0.7**
KWP Kalwaria Pacla 78.12 320⇓*i*P **P 20 45 23.7 +0.8**
KWP Kalwaria Pacla 78.12 320 *e*P **P 20 45 23.1 +0.2**
comp=Z,15nm,1.0s
BZS Buzias 78.18 316⇑*i*P **P 20 45 23.8 +0.5**
UZH Uzhgorod 78.22 319 *e*P P 20 45 30.2 +6.8
UZH *e* 20 45 34.4
UZH *e* 20 45 37.4
UZH *e* 20 45 43.0
KOLS Kolonicke sedl 78.28 319 *e*P **P 20 45 24.9 +1.1**
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 78.28 319 *e*P **P 20 45 24.9 +1.1**
SUW Suwalki 78.68 325 *e*P **P 20 45 25.4 -0.4**
SUW Suwalki 78.68 325 *e*P **P 20 45 25.4 -0.4**
SUW Suwalki 78.68 325 *e*P **P 20 45 25.5 -0.2**
comp=Z,49nm,1.0s
CRVS Cervenica-Dubn 78.80 319 *e*P **P 20 45 28.1 +1.4**
CRVS pmax pmax
comp=Z,5.0nm,1.1s
CRVS Cervenica-Dubn 78.80 319 *e*P **P 20 45 28.1 +1.4**
FINES FINESS Array B 78.92 332 P **P 20 45 27.1 +0.1**
comp=Z,9.2nm,0.6s,baz=108,slow=6.1,SNR=44
FINES LR LR 21 24 12.8
comp=Z,74nm,21.7s,baz=109,slow=39
KAF Kangasniemi 79.00 333 *e*P **P 20 45 26.2 -1.2**
KAF pmax pmax
comp=Z,15nm,0.7s
KAF Kangasniemi 79.00 333 *e*p **P 20 45 26.2 -1.2**
comp=Z,15nm,0.7s
STHS Stebnicka Huta 79.03 320 *e*P **P 20 45 29.5 +1.6**
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 79.03 320 *e*P **P 20 45 29.5 +1.6**
KECS Kecovo 79.38 319 *e*P **P 20 45 29.2 -0.6**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 79.38 319 *e*P **P 20 45 29.2 -0.6**
NIE Niedzica 79.63 320 *e*P **P 20 45 32.0 +0.8**
NIE Niedzica 79.63 320 *e*P **P 20 45 31.9 +0.8**
PSZ Piszkesteto 79.69 318 *e*P **P 20 45 31.8 +0.2**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 79.69 318⇓*i*P **P 20 45 32.0 +0.4**
comp=Z,4.1nm,0.8s
BILL Bilibino 80.08 21 *e*P **P 20 45 33.1 0.0**
BILL pmax pmax
comp=Z,3.0nm,0.4s
BILL Bilibino 80.08 21 *e*P **P 20 45 33.1 0.0**
comp=Z,2.9nm,0.4s
PKSM Moragy 80.32 316⇑*i*P **P 20 45 35.1 +0.2**
VYHS Vyhne 80.47 319 *e*P **P 20 45 36.1 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 80.47 319 *e*P **P 20 45 36.1 +0.4**
KEV Kevo 80.97 341 *e*P **P 20 45 35.8 -2.1**
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 80.97 341 *e*p **P 20 45 35.8 -2.1**
comp=Z,6.9nm,0.7s
ARCES ARCESS Array B 81.40 340 P **P 20 45 40.3 0.0**
comp=Z,5.9nm,0.4s,baz=98,slow=4.6,SNR=103
ARCES LR LR 21 24 43.0
comp=Z,66nm,21.6s,baz=98,slow=38
MORC Moravsky Berou 81.46 320 *e*P **P 20 45 41.4 +0.4**
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 81.46 320⇑*i*P **P 20 45 41.8 +0.8**
MORC Moravsky Berou 81.46 320 *e*P **P 20 45 41.4 +0.4**
comp=Z,4.4nm,1.0s
KRLC Kraliky 81.98 320 *e*P **P 20 45 44.7 +0.9**
KRLC Kraliky 81.98 320 *e*P **P 20 45 44.7 +0.9**
DPC Dobruska-Polom 82.30 320 *e*P **P 20 45 46.2 +0.8**
DPC Dobruska-Polom 82.30 320 *e*P **P 20 45 46.2 +0.8**
DPC *e*PCP **PcP 20 45 50.5 -0.1**
CONA Conrad Observa 82.39 318⇑*i*P **P 20 45 46.2 +0.2**
comp=Z,6.4nm,1.0s
ARSA Arzberg 82.56 317⇑*i*P **P 20 45 46.4 -0.4**
comp=Z,4.7nm,1.0s
PRU Pruhonice 83.41 320 *e*P **P 20 45 51.6 +0.5**
PRU Pruhonice 83.41 320 *e*P **P 20 45 51.6 +0.5**
BRG Berggiesshubel 83.86 321 *e*(P) **P 20 45 54.8 +1.4**
comp=Z,8.6nm,1.4s
BRG Berggiesshubel 83.86 321 *e*P **P 20 45 54.8 +1.4**
BRG pmax pmax
comp=Z,9.0nm,1.4s
GERES GERESS Array B 83.89 319 P **P 20 45 54.1 +0.4**
comp=Z,3.1nm,0.9s,baz=100,slow=6.9,SNR=21
GERES LR LR 21 29 51.1
comp=Z,30nm,18.6s,baz=84,slow=40
KHC Kasperske Hory 83.98 319 *e*P **P 20 45 53.9 -0.2**
KHC *e* 20 46 08.6
KHC Kasperske Hory 83.98 319 *e*P **P 20 45 53.9 -0.2**
KHC *e*pP **pP 20 46 08.6 +1.9**
CLL Collm 84.47 321 *e*P **P 20 45 56.0 -0.5**
CLL Collm 84.47 321 *e*P **P 20 45 56.0 -0.5**
HFS Hagfors 84.67 330 P **P 20 45 57.8 +0.6**
comp=Z,3.5nm,0.5s,baz=122,slow=5.4,SNR=19
SPITS Spitsbergen Ar 85.78 348 P **P 20 46 02.4 -0.1**
comp=Z,9.7nm,0.6s,baz=104,slow=7.0,SNR=19
NB2 NORSAR Subarra 85.94 331 P **P 20 46 03.8 +0.1**
comp=Z,9.3nm,0.8s,baz=94,slow=5.1
NB2 NORSAR Subarra 85.94 331 P **P 20 46 03.8 +0.1**
baz=94,slow=5.1
NOA NORSAR Array B 85.94 331 P **P 20 46 03.9 +0.1**
comp=Z,7.2nm,0.8s,baz=93,slow=5.0,SNR=29
NOA LR LR 21 29 22.2
comp=Z,32nm,18.1s,baz=65,slow=39
DAVOX Davos/Dischmat 86.40 317 P **P 20 46 06.4 -0.1**
comp=Z,5.9nm,0.6s,baz=128,slow=8.7,SNR=13
DAVA Damuels 86.40 317⇑*i*P **P 20 46 07.0 +0.6**
comp=Z,8.1nm,0.9s
LPG La Plagne 88.59 315 *e*P **P 20 46 17.7 +0.6**
LPG La Plagne 88.59 315 *e*P **P 20 46 17.7 +0.6**
LPG La Plagne 88.59 315 *e*P **P 20 46 17.7 +0.6**
LPL La Plagne 88.60 315 *e*P **P 20 46 17.6 +0.5**
LPL La Plagne 88.60 315 *e*P **P 20 46 17.6 +0.5**
LPL La Plagne 88.60 315 *e*P **P 20 46 17.6 +0.5**
CABF La Chapelle 89.01 316 *e*P **P 20 46 19.6 +0.8**
CABF La Chapelle 89.01 316 *e*P **P 20 46 19.6 +0.8**
CABF La Chapelle 89.01 316 *e*P **P 20 46 19.6 +0.8**
SFTF Sexfontaines 89.64 318 *e*P **P 20 46 22.2 +0.5**
SFTF Sexfontaines 89.64 318 *e*P **P 20 46 22.2 +0.5**
BAIF Baives 90.08 320 *e*P **P 20 46 24.7 +1.1**
comp=Z,23nm,1.0s
BAIF Baives 90.08 320 *e*P **P 20 46 24.7 +1.1**
BAIF pmax pmax
comp=Z,23nm,1.0s
BAIF Baives 90.08 320 *e*P **P 20 46 24.7 +1.1**
comp=Z,23nm,1.0s
LOR Lormes 90.50 317 *e*P **P 20 46 26.3 +0.6**
comp=Z,20nm,1.2s
LOR Lormes 90.50 317 *e*P **P 20 46 26.3 +0.6**
LOR pmax pmax
comp=Z,20nm,1.2s
LOR Lormes 90.50 317 *e*P **P 20 46 26.3 +0.6**
comp=Z,20nm,1.2s
AVF Avril sur Loir 90.88 317 *e*P **P 20 46 28.0 +0.6**
AVF Avril sur Loir 90.88 317 *e*P **P 20 46 28.0 +0.6**
AVF Avril sur Loir 90.88 317 *e*P **P 20 46 28.0 +0.6**
BGF Bois d'Agland 91.24 317 *e*P **P 20 46 30.2 +1.0**
comp=Z,34nm,1.2s
BGF Bois d'Agland 91.24 317 *e*P **P 20 46 30.2 +1.0**
BGF pmax pmax
comp=Z,34nm,1.2s
BGF Bois d'Agland 91.24 317 *e*P **P 20 46 30.2 +1.0**
comp=Z,34nm,1.2s
TCF Toulx Ste Croi 91.70 316 *e*P **P 20 46 32.1 +0.8**
comp=Z,33nm,1.4s
TCF Toulx Ste Croi 91.70 316 *e*P **P 20 46 32.1 +0.8**
TCF pmax pmax
comp=Z,33nm,1.4s
TCF Toulx Ste Croi 91.70 316 *e*P **P 20 46 32.1 +0.8**
comp=Z,33nm,1.4s
RJF Les Rejaudoux 92.28 315 *e*P **P 20 46 35.1 +1.1**
comp=Z,28nm,1.3s
RJF Les Rejaudoux 92.28 315 *e*P **P 20 46 35.1 +1.1**
RJF pmax pmax
comp=Z,28nm,1.3s
RJF Les Rejaudoux 92.28 315 *e*P **P 20 46 35.1 +1.1**
comp=Z,28nm,1.3s
LFF La Frestale 92.86 315 *e*P **P 20 46 37.9 +1.2**
comp=Z,16nm,0.9s
LFF La Frestale 92.86 315 *e*P **P 20 46 37.9 +1.2**
LFF pmax pmax
comp=Z,16nm,0.9s
LFF La Frestale 92.86 315 *e*P **P 20 46 37.9 +1.2**
comp=Z,16nm,0.9s
DAG Danmarks Havn 93.43 348 *i* P **P 20 46 38.1 -0.5**
DAG *e* 20 46 50.1
DAG Danmarks Havn 93.43 348 *i* P **P 20 46 38.1 -0.5**
DAG *e* 20 46 50.1
EKA Eskdalemuir Ar 93.91 326 P **P 20 46 41.1 -0.1**
comp=Z,1.1nm,0.6s,baz=97,slow=5.6,SNR=8.4
TORD Torodi Ar. Bea 94.77 283 P **P 20 46 45.7 -0.3**
comp=Z,0.7nm,0.9s,baz=81,slow=5.0,SNR=4.1
ILAR Eielson Array 98.63 23 LR LR 21 35 25.5
comp=Z,75nm,18.2s,baz=296,slow=38
H09W1 TRISTAN DA CUN106.94 232 T T 22 47 26.1
YKA Yellowknife Ar 110.96 15 PKiKP **PKiKP 20 51 57.2 +0.6**
comp=Z,0.2nm,0.7s,baz=354,slow=2.5,SNR=5.6
YKA PP **PP 20 52 30.8 -3.6**
comp=Z,0.8nm,0.7s,baz=331,slow=7.3,SNR=9.2
SCHQ Schefferville 121.45 349 PKP **PKPdf 20 52 16.1 -0.9**
comp=Z,1.6nm,0.6s,baz=27,slow=4.5,SNR=3.5
J04D Umpqua Nationa 122.48 33 P **PKPdf 20 52 18.6 -1.0**
baz=122
J05D Fort Rock, OR 122.93 33 P **PKPdf 20 52 20.6 +0.3**
baz=123
M02C Callahan 123.27 35 P **PKPdf 20 52 20.8 -0.2**
baz=123
SLMT Seeley Lake 123.74 25 *e*P **PKPdf 20 52 21.9 +0.1**
MSO Missoula 123.87 25 P **PKPdf 20 52 21.0 -1.0**
baz=124
A19A Klindworth Far 124.17 20 P **PKPdf 20 52 22.3 -0.2**
baz=124
A21A Bergtoll Ranch 124.73 19 P **PKPdf 20 52 23.3 -0.2**
baz=124
C19A Slack Wire Ran 125.07 21 P **PKPdf 20 52 24.4 +0.2**
baz=125
C20A Veseth Ranch, 125.46 21 P **PKPdf 20 52 25.3 +0.4**
baz=125
HLID Hailey 126.19 28 P **PKPdf 20 52 27.2 +0.6**
baz=126
C23A Lambert 126.33 19 P **PKPdf 20 52 27.1 +0.5**
baz=126
ULM Lac du Bonnet 126.38 10 PKP **PKPdf 20 52 26.3 -0.3**
comp=Z,4.0nm,0.6s,baz=358,slow=4.0,SNR=8.2
D22A Cohagen 126.58 20 P **PKPdf 20 52 28.2 +1.1**

baz=126
A29A **Manning Farm,** 126.95 13 P PKPdf 20 52 28.3 +0.6
baz=127
G20A **Bridger** 127.50 22 P PKPdf 20 52 29.1 0.0
baz=127
NVAR **Mina Array Bea** 127.85 35 PKP PKPdf 20 52 31.6 +1.5
comp=Z,2.3nm,0.8s,baz=270,slow=2.3,SNR=10
G22A **Birney** 128.21 21 P PKPdf 20 52 30.6 +0.3
baz=128
I20A **Worland** 128.60 23 P PKPdf 20 52 31.9 +0.7
baz=128
PDAR **Pinedale Array** 128.99 25 PKP PKPdf 20 52 31.9 -0.2
comp=Z,1.4nm,0.6s,baz=207,slow=1.0,SNR=9.7
I21A **Big Trails, Te** 129.04 23 P PKPdf 20 52 32.4 +0.4
baz=129
H24A **Dirks Ranch, A** 129.23 20 P PKPdf 20 52 32.2 -0.1
baz=129
R11A **Troy Canyon, C** 129.44 33 P PKPdf 20 52 33.9 +0.9
baz=129
DUG **Dugway, Tooele** 129.52 30 P PKPdf 20 52 33.4 +0.4
baz=129
J22A **Midwest** 129.69 22 P PKPdf 20 52 33.8 +0.5
baz=130
MPMC **Manual Prospec** 129.93 37 P PKPdf 20 52 34.3 +0.3
baz=130
PFO **Pinyon Flats O** 132.19 39 P PKPdf 20 52 37.7 -0.6
baz=132
O23A **Lake Granby, G** 132.63 24 P PKPdf 20 52 39.9 +0.8
baz=132
R27A **Eads** 135.52 23 P PKPdf 20 52 43.6 -0.7
baz=135
P31A **Stockton** 135.61 18 P PKPdf 20 52 43.5 -0.9
baz=135
Q29A **Oakley** 135.65 20 P PKPdf 20 52 43.7 -0.8
baz=136
T25A **Trinidad** 135.86 25 P PKPdf 20 52 44.3 -0.9
baz=136
TXAR **Lajitas Array** 142.68 31 PKhKP PKPpre 20 52 54.2
comp=Z,0.8nm,0.5s,baz=52,slow=1.0,SNR=19
TXAR PP **PP** 20 56 05.1 +0.1
comp=Z,0.2nm,0.6s,baz=309,slow=5.7,SNR=3.9
530A **J-C Ranch, Com** 143.14 27 P PKPbc 20 52 55.4 +0.2
baz=143
531A **Rocksprings** 143.48 26 P PKPbc 20 52 55.9 -0.4
baz=143
732A **Laxson Ranch,** 144.96 27 P PKPdf 20 53 01.4 -0.1
baz=145
832A **Faith Ranch, C** 145.34 27 P PKPdf 20 53 02.8 +0.5
baz=145
833A **Chaparral WMA,** 145.57 26 P PKPab 20 53 03.3 +0.3
baz=145
834A **Tilden** 146.11 25 P PKPab 20 53 06.0 +1.0
baz=146
933A **Laredo** 146.23 27 P PKPab 20 53 06.1 +0.6
baz=146
835A **Beeville** 146.27 24 P PKPab 20 53 06.7 +1.1
baz=146
034A **Hebbronville** 146.97 27 P PKPab 20 53 08.6 +0.2
baz=147

PRU 12 20:43:34.1, 50.27N×19.02E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.03**	**320**	*e*Pg	Pg	20 43 37.0	+2.3
CHZP				*e*Sg	Sg	20 43 38.2	+3.1
OJC	**Ojcow**	**0.50**	**95**	*e*Pg	Pg	20 43 43.5	-0.3
OJC				*e*Sg	Sg	20 43 50.2	-0.1
OKC	**Ostrava-Krasne**	**0.71**	**233**	*e*SG	Sg	20 43 56.9	0.0
DPC	**Dobruska-Polom**	**1.73**	**274**	*e*PG	Pn	20 44 05.6	+0.1
DPC				*e*SG	Sg	20 44 29.9	0.0

PRU 12 20:45:24.8, 50.24N×19.02E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.50**	**92**	*e*P	Pg	20 45 33.8	-0.6
OJC	**Ojcow**	**0.50**	**92**	*e*P	Pg	20 45 33.8	-0.6
OKC	**Ostrava-Krasne**	**0.69**	**235**	*e*P	Pb	20 45 39.7	-0.1
OKC				*e*		20 45 46.9	
OKC	**Ostrava-Krasne**	**0.69**	**235**	*e*P	Pb	20 45 39.7	-0.1
OKC	**Ostrava-Krasne**	**0.69**	**235**	*e*SG	Sg	20 45 46.9	-0.2
DPC	**Dobruska-Polom**	**1.73**	**275**	*e*PG	Pn	20 45 56.5	+0.2
DPC				*e*SG	Sg	20 46 20.6	-0.1

*IDC **12** 20:59:32.6±0.7, 36.62S×73.08W, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.1/40, mbtmp4.3/11, ML3.3/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/24, Error ellipse: s-maj=26.4km s-min=17.1km az=97.0*
*ISCJB **12** 20:59:35.5±0.5, 36.60S±0.04×73.07W±0.09, h25km, mb4.6/16, MS3.9/10, Error ellipse: s-maj=11.5km s-min=5.1km az=20.0*
*NEIC **12** 20:59:36.7, 36.54S×73.28W, h15km, mb4.5/5, ML4.9(GUC), After GUC.*
NEIC Felt [V] at Chiguayante and Concepcion; [IV] at Renaico; [III] at Angol, Nuble and Traiguen; [II] at Parral.
ISC 12 20:59:36.7±0.5, 36.59S±0.05×73.06W±0.09, h25km, n51, σ0.90/40, mb4.5/16, MS3.9/10, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.26**	**189**	⇓*i*P	**Pb**	**20 59 42.3**	**-0.8**
CCSP				*i* S	**Sb**	**20 59 46.5**	**-0.9**
LNCH	**Linares**	**1.39**	**58**	*e*P	**Pn**	**21 00 01.8**	**-0.2**
TALC	**Talca**	**1.66**	**45**	*e*P	**Pn**	**21 00 04.8**	**+0.6**
TALC				*e*S	**Sb**	**21 00 26.3**	**-0.7**
NICH	**Los Niches**	**2.17**	**44**	P	**Pb**	**21 00 14.1**	**-1.3**
PEL	**Peldehue**	**3.95**	**30**	⇑*i*P	**Pn**	**21 00 36.8**	**+1.0**
PLCA	**Paso Flores**	**4.58**	**155**	Pn	**Pn**	**21 00 46.1**	**+1.7**
	7.4nm,0.3s,baz=322,slow=11,SNR=18						
PLCA				Lg	Lg	21 01 55.5	
	31nm,0.3s,baz=14,slow=12,SNR=5.2						
PLCA				LR	LR	21 02 47.2	
	comp=Z,2μm,18.7s,baz=322,slow=43						
PLCA	**Paso Flores**	**4.58**	**155**	*e*P	**Pn**	**21 00 45.4**	**+1.1**
PLCA				Lg	Lg	21 01 55.5	
CFAA	**Coronel Fontan**	**6.38**	**40**	Pn	**Pn**	**21 01 09.6**	**+0.4**
	0.7nm,0.3s,baz=211,slow=13,SNR=16						
CFAA				Sn	**Sn**	**21 02 22.1**	**+0.9**
	1.3nm,0.3s,baz=120,slow=20,SNR=6.2						
LCO	**Las Campanas**	**7.81**	**15**	*e*P	**Pn**	**21 01 27.3**	**-1.8**
	41nm,0.8s						
TRQA	**Tornquist**	**8.95**	**103**	*e*P	**Pn**	**21 01 45.0**	**+0.7**
	42nm,0.9s						
USHA	**Ushuaia**	**18.52**	**172**	P	**Pn**	**21 03 52.8**	**+1.5**
	0.8nm,0.3s,baz=291,slow=5.6,SNR=3.8						
USHA				LR	LR	21 11 36.7	
	comp=Z,369nm,18.8s,baz=332,slow=39						
LPAZ	**La Paz**	**20.69**	**13**	P	Pn	21 04 16.9	-1.1
	3.9nm,0.7s,baz=189,slow=7.4,SNR=11						
LPAZ	**La Paz**	**20.69**	**13**	*e*P	Pn	21 04 16.9	-1.1
	10nm,0.8s						
SIV	**San Ignacio**	**23.12**	**31**	P	**P**	**21 04 40.8**	**-0.2**
	8.3nm,1.0s,baz=239,slow=13,SNR=12						
SIV				LR	LR	21 15 22.2	
	comp=Z,296nm,20.0s,baz=224,slow=41						
BDFB	**Brasilia**	**30.51**	**53**	P	**P**	**21 05 49.1**	**+1.0**
	3.5nm,0.7s,baz=101,slow=0.4,SNR=3.0						
BDFB				LR	LR	21 19 22.3	
	comp=Z,318nm,19.2s,baz=220,slow=39						
RPN	**Rapa Nui**	**32.07**	**277**	LR	LR	21 15 31.1	
	comp=Z,335nm,19.4s,baz=111,slow=30						
OTAV	**Otavalo**	**36.98**	**351**	*e*P	**P**	**21 06 46.4**	**+1.7**
	12nm,1.4s						
ROSC	**El Rosal**	**41.25**	**358**	LR	LR	21 24 02.4	
	comp=Z,132nm,19.2s,baz=216,slow=36						
SDV	**Santo Domingo**	**45.29**	**3**	*e*P	**P**	**21 07 53.5**	**+0.8**
	5.7nm,1.0s						
VNA3	**Neumayer Olymp**	**47.29**	**157**	P	P	21 08 17.0	+9.4
VNA2	**Neumayer--Watz**	**47.97**	**156**	P	P	21 08 21.7	+8.9
	baz=290,slow=9.6						
SNAA	**Sanae**	**49.52**	**157**	P	**P**	**21 08 25.0**	**+0.1**
	2.2nm,0.8s,baz=288,slow=7.3,SNR=9.3						
SNAA				LR	LR	21 27 58.6	
	comp=Z,35nm,18.8s,baz=347,slow=34						
QSPA	**South Pole Qui**	**53.65**	**180**	P	**P**	**21 08 56.2**	**+0.4**
	6.5nm,0.9s,baz=143,slow=1.8,SNR=12						
RKT	**Rikitea**	**54.51**	**266**	*e*T	T	22 07 12.7	
	2.1nm,0.3s						
TBI	**Tubuai**	**65.93**	**258**	*e*LR	LR	21 30 11.3	
	223nm,26.8s						
MEH	**Mehetia**	**67.71**	**264**	*e*T	T	22 23 42.6	
	25nm,0.2s						
TVO	**Taravao**	**68.71**	**263**	*e*T	T	22 24 57.6	
	1.1nm,0.3s						
TIAR	**Tiarei**	**68.90**	**263**	*e*T	T	22 25 12.2	
	4.7nm,0.2s						
PPT2	**Papeete2**	**69.07**	**263**	*e*S	S	21 20 04.0	+19
	60nm,24.8s						
PPT2	**Papeete2**	**69.07**	**263**	*e*LR	LR	21 31 46.1	
	285nm,24.8s						
TXAR	**Lajitas Array**	**71.61**	**332**	P	**P**	**21 10 56.2**	**+0.2**
	3.1nm,0.8s,baz=153,slow=8.8,SNR=26						
TXAR				LR	LR	21 37 33.6	
	comp=Z,112nm,18.5s,baz=0.0,slow=32						
LIC	**Lamto**	**76.38**	**72**	*e*P	**P**	**21 11 24.1**	**-0.1**
	39nm,1.4s						
TIC	**Toumodi**	**76.66**	**71**	*e*P	**P**	**21 11 26.4**	**+0.7**
	3.1nm,0.2s						
KIC	**Kosan Boka**	**76.69**	**72**	*e*P	**P**	**21 11 25.8**	**-0.1**
	119nm,1.8s						
DBIC	**Dimbokro**	**76.80**	**71**	P	**P**	**21 11 26.6**	**+0.1**
	4.4nm,0.7s,baz=194,slow=4.4,SNR=11						
DBIC				LR	LR	21 41 54.1	
	comp=Z,64nm,20.2s,baz=139,slow=33						
TSUM	**Tsumeb**	**79.31**	**106**	*e*P	**P**	**21 11 40.9**	**+0.3**
	5.9nm,1.0s						
LBTB	**Lobatse**	**81.97**	**115**	*e*P	**P**	**21 11 54.4**	**-0.4**
	17nm,0.9s						
NVAR	**Mina Array Bea**	**85.55**	**326**	P	**P**	**21 12 13.2**	**+0.6**
	4.3nm,0.8s,baz=106,slow=6.7,SNR=5.6						
PDAR	**Pinedale Array**	**85.71**	**334**	P	**P**	**21 12 13.1**	**-0.3**
	1.1nm,0.9s,baz=145,slow=6.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**85.87**	**70**	P	**P**	**21 12 13.7**	**-0.9**
	2.2nm,0.9s,baz=262,slow=3.1,SNR=11						
TORD				LR	LR	21 48 39.5	
	comp=Z,45nm,18.1s,baz=270,slow=34						
NEW	**Newport**	**93.16**	**332**	LR	LR	21 50 58.0	
	comp=Z,29nm,19.3s,baz=72,slow=33						
ESDC	**Sonseca Array**	**98.96**	**47**	LR	LR	21 55 31.8	
	comp=Z,42nm,20.8s,baz=305,slow=34						
GERES	**GERESS Array B**	**114.55**	**46**	PKP	PKPdf	21 18 13.8	-0.4
	0.1nm,0.3s,baz=235,slow=3.5,SNR=3.4						
BRTR	**Keskin Array B**	**123.79**	**63**	PKP	**PKPdf**	**21 18 30.4**	**-1.9**
	0.8nm,0.8s,baz=225,slow=2.8,SNR=4.5						
AKASG	**Malin Array Be**	**124.54**	**49**	PKP	**PKPdf**	**21 18 31.7**	**-1.4**
	0.2nm,0.3s,baz=259,slow=1.7,SNR=4.0						
ABKAR	**Akbulak array**	**143.90**	**54**	*e*PKPpre	PKPpre	21 19 06.6	
KKAR	**Karatay Array**	**151.45**	**65**	*e*PKPbc	**PKPbc**	**21 19 27.6**	**-0.5**
ZALV	**Zalesovo Beam**	**156.84**	**34**	PKP	**PKPdf**	**21 19 28.1**	**-1.0**
	0.5nm,0.6s,baz=318,slow=2.0,SNR=3.8						
ZALV				PKPab	**PKPab**	**21 19 59.4**	**+0.3**
	1.4nm,0.7s,baz=309,slow=4.9,SNR=4.8						
MKAR	**Makanchi Array**	**159.04**	**53**	PKP	**PKPdf**	**21 19 32.4**	**+0.2**
	0.5nm,0.8s,baz=90,slow=0.1,SNR=4.5						
MKAR				PKPab	**PKPab**	**21 20 08.8**	**0.0**
	1.8nm,0.8s,baz=291,slow=3.8,SNR=14						
MKAR				PP	**PP**	**21 23 49.8**	**-0.4**
	0.5nm,0.8s,baz=297,slow=4.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**160.61**	**157**	PKPab	**PKPab**	**21 20 15.9**	**-0.3**
	0.8nm,0.9s,baz=232,slow=5.6,SNR=4.2						
SONM	**Songino Array**	**168.76**	**2**	PKPab	**PKPab**	**21 20 51.1**	**-0.3**
	0.7nm,1.0s,baz=359,slow=0.8,SNR=3.4						

*ISCJB **12** 21:00:59.2±0.6, 52.2N±0.1×179.1E±0.1, h156km±8km, mb3.5/10, Error ellipse: s-maj=23.0km s-min=11.0km az=1.5*
*NEIC **12** 21:01:00.0, 52.11N×178.98E, h159km, MG3.3(AEIC), After AEIC.*
*IDC **12** 21:01:02.1±5.3, 52.17N×178.96E, h167km±49km, mb3.2/10, mb1 3.4/12, mb1mx3.1/63, mbtmp3.7/12, Error ellipse: s-maj=27.1km s-min=14.0km az=176.0*
ISC 12 21:01:00.3±0.9, 52.1N±0.2×179.05E±0.08, h152km±11km, n23, σ0.66/30, mb3.5/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.40**	**102**	P	**Pn**	**21 01 28.6**	**-0.4**
GAEA				S	**Sn**	**21 01 52.2**	**+1.2**
TANO	**Tanaga North**	**1.76**	**95**	P	**Pn**	**21 01 32.8**	**0.0**
TASE	**Tanaga Southea**	**1.82**	**97**	P	**Pn**	**21 01 33.3**	**-0.3**
TASE				S	**Sn**	**21 01 59.8**	**+0.7**
TAFP	**Tanaga Falls P**	**1.85**	**95**	P	**Pn**	**21 01 33.4**	**-0.4**
TAFP				S	**Sn**	**21 01 59.1**	**-0.4**
TAFL	**Tanaga Flats**	**1.93**	**99**	P	**Pn**	**21 01 34.2**	**-0.4**
KIKV	**Kanaga Island**	**2.35**	**94**	P	**Pn**	**21 01 39.3**	**-0.4**
KIKV				S	**Sn**	**21 02 10.5**	**+0.5**
ADK	**Adak**	**2.65**	**93**	P	**Pn**	**21 01 41.7**	**-1.6**
ADK				S	**Sn**	**21 02 15.4**	**-1.1**
ADAG	**Mount Adagdak**	**2.69**	**91**	P	**Pn**	**21 01 42.8**	**-1.0**
ETKA	**Kagalaska Isla**	**2.82**	**93**	P	**Pn**	**21 01 45.4**	**-0.1**
GSTD	**Great Sitkin T**	**2.97**	**89**	P	**Pn**	**21 01 47.3**	**-0.1**
GSTD				S	**Sn**	**21 02 23.5**	**-0.3**
GSMY	**Great Sitkin M**	**3.02**	**89**	P	**Pn**	**21 01 48.0**	**0.0**
GSMY				S	**Sn**	**21 02 24.9**	**0.0**
PETK	**Petropavlovsk-**	**13.01**	**283**	P	**Pn**	**21 03 59.3**	**-0.1**
	0.2nm,0.3s,baz=102,slow=13,SNR=3.7						
SEY	**Seymchan**	**17.81**	**318**	P	**P**	**21 04 57.4**	**+0.5**
	0.0nm,0.3s,baz=77,slow=16,SNR=3.7						
ILAR	**Eielson Array**	**21.54**	**41**	P	**P**	**21 05 37.8**	**+0.6**
	0.7nm,0.7s,baz=255,slow=10,SNR=9.8						
YKA	**Yellowknife Ar**	**35.70**	**47**	P	**P**	**21 07 43.9**	**+0.2**
	0.2nm,0.4s,baz=281,slow=8.3,SNR=6.2						
SONM	**Songino Array**	**45.12**	**295**	P	**P**	**21 09 01.4**	**0.0**
	1.0nm,0.7s,baz=56,slow=8.9,SNR=9.4						
ZALV	**Zalesovo Beam**	**52.55**	**312**	P	**P**	**21 09 56.6**	**-1.0**
	0.2nm,0.3s,baz=51,slow=6.1,SNR=2.0						
KURBB	**Kurchatov Arra**	**57.65**	**312**	P	**P**	**21 10 34.1**	**-0.1**
	1.3nm,0.4s,baz=42,slow=6.6,SNR=37						
MKAR	**Makanchi Array**	**58.53**	**307**	P	**P**	**21 10 39.6**	**-0.8**
	0.4nm,0.4s,baz=50,slow=6.3,SNR=11						
TXAR	**Lajitas Array**	**59.86**	**80**	P	**P**	**21 10 50.4**	**+0.4**
	0.6nm,0.5s,baz=304,slow=4.7,SNR=10						
CMAR	**Chiang Mai Arr**	**69.61**	**274**	P	**P**	**21 11 53.2**	**+0.1**
	0.1nm,0.3s,baz=26,slow=6.8,SNR=4.3						
WRA	**Warramunga Arr**	**81.64**	**222**	P	**P**	**21 13 00.9**	**-0.3**
	0.8nm,0.5s,baz=33,slow=6.3,SNR=5.9						
ASAR	**Alice Springs**	**85.14**	**221**	P	**P**	**21 13 19.8**	**+0.6**
	0.3nm,0.5s,baz=23,slow=5.0,SNR=3.2						

IDC 12 21:06:16.9±7.7, 18.32S×176.48W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/40, mbtmp3.5/2, Error ellipse: s-maj=346.1km s-min=62.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.36**	**260**	P	P	21 14 44.9	-0.3
	0.2nm,0.3s,baz=96,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**46.45**	**255**	P	P	21 14 46.0	+0.1
	0.3nm,0.6s,baz=98,slow=8.5,SNR=5.3						
BRTR	**Keskin Array B**	**146.36**	**316**	PKPbc	PKPdf	21 25 59.3	+0.3
	0.4nm,0.4s,baz=86,slow=3.7,SNR=3.1						

GUC 12 21:08:20.2±0.5, 36.61S×73.17W, h26km±5km, ML4.0, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.24**	**167**	⇓*i*P	Pb	21 08 25.8	-0.6
CCSP				*i* S	Sb	21 08 30.1	-0.6
CCSP				AML	AML	21 08 31.3	
	comp=E,33μm,0.3s						
COCH	**Cobquecura**	**0.57**	**33**	⇑*i*P	Pb	21 08 30.6	-1.0
COCH				*e*S	Sb	21 08 38.6	-0.7
TALC	**Talca**	**1.74**	**46**	⇑*i*P	Pn	21 08 48.4	-0.3
TALC				*e*S	Sn	21 09 10.4	+0.3

*ISCJB **12** 21:14:38.3±0.5, 48.93S±0.08×121.4E±0.3, h13km, mb4.1/7, MS4.0/5, Error ellipse: s-maj=29.9km s-min=11.1km az=2.1*
*IDC **12** 21:14:38.0±0.7, 48.91S×121.41E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/23, mbtmp4.2/7, MS4.0/5, Ms1 4.0/5, ms1mx3.6/20, Error ellipse: s-maj=49.9km s-min=16.9km az=98.0*
ISC 12 21:14:39.9±0.7, 48.9S±0.1×121.4E±0.3, h13km, n25, σ0.91/21, mb4.1/7, MS4.0/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.98**	**336**	T	T	21 33 40.3	
	baz=159,slow=74,SNR=19						
H01W2	**Cape Leeuwin H**	**14.98**	**336**	T	T	21 33 48.3	
	baz=159,slow=74,SNR=19						
H01W3	**Cape Leeuwin H**	**14.99**	**336**	T	T	21 33 39.6	
	baz=159,slow=74,SNR=18						
ASAR	**Alice Springs**	**27.06**	**26**	P	**P**	**21 20 22.4**	**+0.3**
	3.8nm,0.9s,baz=194,slow=9.2,SNR=20						
ASAR				PcP	**PcP**	**21 23 42.5**	**-0.5**
	0.4nm,0.7s,baz=191,slow=2.4,SNR=5.2						
ASAR				LR	LR	21 29 50.4	
	comp=Z,596nm,21.4s,baz=200,slow=34						
WRA	**Warramunga Arr**	**30.71**	**24**	P	**P**	**21 20 54.4**	**-0.1**
	2.8nm,1.1s,baz=198,slow=8.7,SNR=6.6						
WRA				PcP	**PcP**	**21 23 51.3**	**-0.9**
	0.5nm,0.3s,baz=202,slow=1.8,SNR=6.1						
WRA				LR	LR	21 32 05.9	
	comp=Z,358nm,20.9s,baz=170,slow=34						
VNDA	**Vanda**	**32.59**	**165**	P	**P**	**21 21 10.6**	**+0.1**
	2.4nm,0.7s,baz=321,slow=9.8,SNR=14						
MAW	**Mawson**	**34.30**	**215**	LR	LR	21 31 58.6	
	comp=Z,236nm,20.5s,baz=64,slow=30						
QSPA	**South Pole Qui**	**41.23**	**180**	P	**P**	**21 22 24.5**	**+0.3**
	7.4nm,0.9s,baz=342,slow=4.6,SNR=31						
HNR	**Honiara**	**50.85**	**52**	LR	LR	21 44 01.1	
	comp=Z,121nm,19.1s,baz=160,slow=35						
SNAA	**Sanae**	**53.46**	**199**	P	**P**	**21 23 59.2**	**-0.1**
	2.1nm,0.8s,baz=157,slow=5.7,SNR=8.4						
VNA2	**Neumayer--Watz**	**54.99**	**198**	P	**P**	**21 24 10.4**	**+0.1**
	baz=131,slow=6.3						
VNA3	**Neumayer Olymp**	**55.20**	**197**	P	**P**	**21 24 11.5**	**-0.3**
VNA1	**Neumayer--Stat**	**55.39**	**198**	P	**P**	**21 24 13.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**69.97**	**337**	P	**P**	**21 25 51.9**	**+0.9**
	0.8nm,0.7s,baz=183,slow=5.6,SNR=7.6						
TAPN	**Taplejung**	**81.65**	**330**	*e*P	P	21 27 01.6	+3.7
	28nm,1.2s						
PKI	**Pulchoki**	**82.63**	**328**	*e*P	**P**	**21 27 04.5**	**+1.4**
GUN	**Gumba**	**82.78**	**329**	*e*P	**P**	**21 27 04.5**	**+0.6**
	60nm,1.5s						
GKN	**Gorkha**	**83.30**	**328**	*e*P	**P**	**21 27 06.4**	**+0.1**
KOLN	**Koldanda**	**83.45**	**327**	*e*P	**P**	**21 27 07.1**	**-0.1**
	5.0nm,0.8s						
DANN	**Dangsing**	**83.92**	**327**	*e*P	**P**	**21 27 06.8**	**-2.9**
	12nm,0.7s						
PYUN	**Piuthan**	**83.97**	**327**	*e*P	**P**	**21 27 08.6**	**-1.2**
	19nm,0.8s						
PLCA	**Paso Flores**	**90.13**	**171**	P	**P**	**21 27 39.8**	**+0.1**
	1.7nm,0.8s,baz=166,slow=4.2,SNR=2.9						
PLCA				LR	LR	22 04 52.2	
	comp=Z,57nm,20.0s,baz=174,slow=33						
TORD	**Torodi Ar. Bea**	**119.22**	**256**	PKP	**PKPdf**	**21 33 28.4**	**-0.5**
	0.3nm,0.5s,baz=159,slow=2.2,SNR=6.2						
PDAR	**Pinedale Array**	**144.55**	**80**	PKP	**PKPab**	**21 34 14.3**	**0.0**
	2.1nm,1.1s,baz=211,slow=1.1,SNR=6.6						
YKA	**Yellowknife Ar**	**146.81**	**45**	PKPbc	**PKPbc**	**21 34 20.7**	**+0.2**
	0.9nm,0.5s,baz=268,slow=2.5,SNR=25						

*NEIC **12** 21:15:28.4, 43.20S×178.32E, h33km, ML4.0(WEL), After WEL.*
WEL 12 21:15:32.5±0.4, 42.96S×178.02E, h33km, ML3.9/8, 6C-7D, Error ellipse: s-maj=3.4km s-min=3.1km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**2.33**	**311**	PN	Pn	21 16 07.9	-0.7
TRWZ				SN	Sn	21 16 33.9	-2.2
TRWZ	**Traveller**	**2.33**	**311**	Pn	Pn	21 16 07.9	-0.7
TMWZ	**Te Maipa**	**2.44**	**319**	PN	Pn	21 16 09.4	-0.7
TMWZ				SN	Sn	21 16 36.4	-2.5
TMWZ	**Te Maipa**	**2.44**	**319**	Pn	Pn	21 16 09.4	-0.7
PLWZ	**Palliser**	**2.48**	**303**	PN	Pn	21 16 10.0	-0.7
PLWZ				SN	Sn	21 16 37.7	-2.2
MSWZ	**Moikau Station**	**2.58**	**306**	PN	Pn	21 16 10.9	-1.1
MSWZ	**Moikau Station**	**2.58**	**306**	Pn	Pn	21 16 10.9	-1.1
MTW	**Mount Morrison**	**2.60**	**313**	⇓PN	Pn	21 16 11.4	-0.9
MTW	**Mount Morrison**	**2.60**	**313**	Pn	Pn	21 16 11.4	-0.9
BFZ	**Birch Farm**	**2.64**	**329**	⇓PN	Pn	21 16 12.1	-0.7
BFZ				SN	Sn	21 16 42.2	-1.5
BFZ	**Birch Farm**	**2.64**	**329**	Pn	Pn	21 16 12.1	-0.7
TIWZ	**Tintock**	**2.71**	**323**	PN	Pn	21 16 13.3	-0.4
TIWZ				AML	AML	21 16 46.0	
TIWZ				AML	AML	21 16 46.0	
TIWZ	**Tintock**	**2.71**	**323**	Pn	Pn	21 16 13.3	-0.4
ANWZ	**Angora Road**	**2.75**	**335**	PN	Pn	21 16 13.6	-0.7
HOWZ	**Holdsworth Sta**	**2.79**	**317**	PN	Pn	21 16 14.0	-0.9
HOWZ	**Holdsworth Sta**	**2.79**	**317**	Pn	Pn	21 16 14.0	-0.9
PRWZ	**Pori Road**	**2.85**	**327**	⇑PN	Pn	21 16 15.7	-0.1
CAW	**Cannon Point**	**2.88**	**309**	PN	Pn	21 16 15.7	-0.9
CAW				AML	AML	21 16 50.4	
CAW				AML	AML	21 16 50.6	
CAW	**Cannon Point**	**2.88**	**309**	Pn	Pn	21 16 15.2	-0.9
PRHZ	**Porangahau**	**2.89**	**338**	PN	Pn	21 16 15.5	-0.7
PRHZ	**Porangahau**	**2.89**	**338**	Pn	Pn	21 16 15.5	-0.7
MRZ	**Mangatainoka R**	**2.94**	**321**	PN	Pn	21 16 16.2	-0.7
MRZ				AML	AML	21 16 50.6	
MRZ				AML	AML	21 16 51.1	
MRZ	**Mangatainoka R**	**2.94**	**321**	Pn	Pn	21 16 16.2	-0.7
DVHZ	**Dannevirke**	**3.00**	**332**	PN	Pn	21 16 17.1	-0.7
DVHZ	**Dannevirke**	**3.00**	**332**	Pn	Pn	21 16 17.1	-0.7
OGWZ	**Otaki Gorge**	**3.02**	**314**	PN	Pn	21 16 17.4	-0.6
OGWZ	**Otaki Gorge**	**3.02**	**314**	Pn	Pn	21 16 17.4	-0.6
PXZ	**Pawanui**	**3.06**	**343**	PN	Pn	21 16 17.6	-0.9
PXZ	**Pawanui**	**3.06**	**343**	Pn	Pn	21 16 17.6	-0.9
POWZ	**Post Office Ro**	**3.07**	**326**	PN	Pn	21 16 18.6	-0.1
POWZ	**Post Office Ro**	**3.07**	**326**	Pn	Pn	21 16 18.6	-0.1
WPHZ	**Waipukurau**	**3.13**	**337**	⇓PN	Pn	21 16 19.1	-0.5
WPHZ	**Waipukurau**	**3.13**	**337**	Pn	Pn	21 16 19.1	-0.5
KIW	**Kapiti Island**	**3.13**	**311**	PN	Pn	21 16 19.2	-0.4
KIW				AML	AML	21 16

NGZ	**Ngauruhoe**	**4.20**	**333**	Pn	Pn	21	16 34.2	-0.2
SNGZ	**Shannon Statio**	**4.21**	**353**	⇓PN	Pn	21	16 32.8	-1.7
WTVZ	**West Tongariro**	**4.26**	**334**	⇓PN	Pn	21	16 34.9	-0.3
WTVZ	**West Tongariro**	**4.26**	**334**	Pn	Pn	21	16 34.9	-0.3
KRVZ	**Karewarewa**	**4.26**	**334**	PN	Pn	21	16 35.1	-0.2
KRVZ	**Karewarewa**	**4.26**	**334**	Pn	Pn	21	16 35.1	-0.2
QRZ	**Quartz Range**	**4.62**	**296**	PN	Pn	21	16 39.9	-0.2
QRZ	**Quartz Range**	**4.62**	**296**	Pn	Pn	21	16 39.9	-0.2
MWZ	**Matawai**	**4.64**	**355**	⇑PN	Pn	21	16 37.7	-2.7
MWZ	**Matawai**	**4.64**	**355**	Pn	Pn	21	16 37.7	-2.7
WMGZ	**Waiomatatini S**	**5.15**	**3**	PN	Pn	21	16 44.3	-2.9
HAZ	**Te Kaha**	**5.21**	**358**	PN	Pn	21	16 45.5	-2.5
MXZ	**Matakaoa Point**	**5.40**	**2**	PN	Pn	21	16 47.8	-2.9
MXZ	**Matakaoa Point**	**5.40**	**2**	Pn	Pn	21	16 47.8	-2.9
ODZ	**Otahua Downs**	**5.71**	**246**	PN	Pn	21	16 52.7	-2.4
ODZ	**Otahua Downs**	**5.71**	**246**	Pn	Pn	21	16 52.7	-2.4

IDC 12 21:28:29.8±6.7,**4˚39S**×**141˚92E,h145**km±34km,**mb3.2**/2, **mb1 3.4**/4,**mb1mx3.2**/31,**mbtmp3.7**/4,**Error ellipse: s-maj=136.1km s-min=20.7km az=86.0,New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.22**	**327**	P	Pn	21 29 07.8	+0.6
	1.3nm,0.3s,baz=122,slow=4.4,SNR=5.8						
JAY				S	Sn	21 29 36.5	+0.3
	1.6nm,0.3s,baz=176,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**17.13**	**205**	P	Pn	21 32 21.1	+0.5
	1.0nm,0.3s,baz=29,slow=12,SNR=45						
ASAR	**Alice Springs**	**20.67**	**201**	P	P	21 32 57.8	-0.6
	1.2nm,0.8s,baz=32,slow=12,SNR=12						
MKAR	**Makanchi Array**	**73.07**	**322**	P	P	21 39 44.1	0.0
	1.1nm,0.9s,baz=104,slow=7.0,SNR=4.4						

*BJI **12** 21:29:18.2, 16˚.38N×119˚.79E, h13km, mB4.9/41, mb4.5/47, Ms4.7/54, Ms7 4.6/51*

*MAN **12** 21:29:18, 16˚.42N×119˚.49E, h12km, mb5.4, ML4.4, MS4.7*

MAN INTENSITY II - BOLINAO PANGASINAN & BAGUIO CITY.

*ISCJB **12** 21:29:22.1±0.4, 16˚.44N±0˚.02×119˚.67E±0˚.03, h40km±4km, mb4.5/59, MS4.3/19, Error ellipse: s-maj=5.4km s-min=3.5km az=172.9*

*GCMT **12** 21:29:24.2±0.3, 16˚.55N×119˚.51E, h32km±1km, MW5.0/68, Moment Tensor Solution. s24,c26; s68,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.56±.23; $M_{\theta\theta}$0.00±.12; $M_{\phi\phi}$-2.56±.14; $M_{r\theta}$-1.61±.15; $M_{r\phi}$-1.21±.07; $M_{\theta\phi}$-2.25±.17; Best double couple: M_o3.94500×10^{16} NP1:ϕ_s212.00000°,δ68.00000°,λ99.00000°. NP2: ϕ_s9.00000°,δ24.00000°,λ68.00000°. Principal axes: T 3.7560, Plg66.0000°, Azm139.0000°; N 0.3810, Plg9.0000°, Azm29.0000°; P -4.1340, Plg22.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **12** 21:29:24.2±1.2, 16˚.29N×119˚.69E, h52km±12km, mb4.8/31 Error ellipse: s-maj=8.9km s-min=6.1km az=76.0*

NEIC Felt [II PIVS] at Baguio.

*IDC **12** 21:29:24.8±2.5, 16˚.35N×119˚.77E, h57km±23km, mb4.1/25, mb1 4.3/27, mb1mx4.2/41, mbtmp4.4/27, ML4.2/3, MS4.3/20, Ms1 4.3/20, ms1mx4.0/33, Error ellipse: s-maj=16.3km s-min=9.9km az=75.0*

*DJA **12** 21:29:26.6±3.3, 17˚N±22˚×12˚E±2˚, h173km±27km, M4.4/16, mb4.6/16, mB5.0/9, Mw(mB)4.3/9, Mwp5.7/1*

*BKK **12** 21:29:31.5±2.4, 16˚N±9˚×12˚OE±1˚0, h123km±26km, M4.5/12, mB5.1/4, mb4.5/12, Mw(mB)4.4/4*

ISC 12 21:29:20.9±0.3,**16˚30N**±0˚.03×**119˚70E**±0˚.04,**h19**km±1km, **n182,**σ**2s03**/225,**mb4.6**/60,**MS4.4**/20,**17C-8D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.22**	**69**	*e*P	**Pg**	**21 29 28.0**	**+1.8**
BOLP				*e*S	**Sg**	**21 29 33.7**	**+3.8**
SCZP	**Santa Cruz**	**0.56**	**158**	*e*P	**Pg**	**21 29 33.1**	**+0.9**
SCZP				*e*S	**Sn**	**21 29 46.5**	**+3.7**
PCPH	**Palayan**	**1.54**	**118**	⇓*e*P	**Pn**	**21 29 47.9**	**+0.5**
PCPH				*i* S	**Sg**	**21 30 12.5**	**+1.9**
ABRA	**Dolores**	**1.66**	**36**	*e*P	**Pn**	**21 29 48.3**	**-0.7**
SIPP	**Brgy, Tapao**	**1.77**	**24**	⇓*e*P	**Pn**	**21 29 48.6**	**-2.0**
SIPP				*i* S	**Sb**	**21 30 15.3**	**+0.6**
BALP	**Baler**	**1.89**	**107**	*e*P	**Pb**	**21 29 54.5**	**-0.4**
APYP	**Conner**	**2.14**	**43**	*e*P	**Pn**	**21 29 55.0**	**-0.7**
PIP	**Pasuquin**	**2.20**	**24**	⇓*i*P	**Pn**	**21 29 55.0**	**-1.4**
PIP				*e*S	**Sb**	**21 30 28.5**	**+1.6**
CVP	**Callao Caves**	**2.47**	**55**	*e*P	**Pn**	**21 30 02.0**	**+1.8**
CVP				*e*S	**Sb**	**21 30 35.6**	**+0.9**
TGY	**Tagaytay City**	**2.49**	**151**	P	**Pb**	**21 30 04.9**	**-0.2**
	461nm,0.3s,baz=308,slow=5.1,SNR=98						
TGY				S	**Sg**	**21 30 47.2**	**+6.0**
	669nm,0.3s,baz=150,slow=20,SNR=7.1						
TGY				LR	LR	21 30 55.8	
	comp=Z,257nm,21.1s,baz=232,slow=36						
TGY	**Tagaytay City**	**2.49**	**151**	⇑*i*P	**Pb**	**21 30 05.1**	**-0.1**
TGY				*i* S	**Sg**	**21 30 39.5**	**-1.6**
LUBP	**Lubang**	**2.61**	**168**	*e*P	**Pn**	**21 30 03.9**	**+1.8**
PGP	**Puerto Galera**	**3.04**	**156**	⇑*e*P	**Pn**	**21 30 11.0**	**+3.0**
GQP	**Guinayangan**	**3.57**	**132**	⇓*e*P	Pn	21 30 19.4	+4.1
GQP				*e*S	**Sb**	**21 31 04.0**	**-2.5**
AUQP	**San Andres**	**4.13**	**135**	*e*P	**Pb**	**21 30 32.6**	**-0.5**
PVCP	**Virac**	**5.08**	**121**	⇑*i*P	Pn	21 30 40.3	+4.2
PVCP				*i* S	**Sn**	**21 31 39.9**	**+5.6**
RCP	**Roxas**	**5.57**	**147**	⇑*e*P	Pn	21 30 48.0	+5.2
GUIM	**Jordan**	**6.30**	**153**	*e*P	Pn	21 31 01.5	+8.5
TWG	**Pinlang**	**6.61**	**11**	*e*Pn	**Pn**	**21 30 57.0**	**-0.2**
	127nm,0.6s						
TPUB	**Ta-pu**	**7.02**	**7**	*e*Pn	**Pn**	**21 31 02.6**	**-0.1**
	58nm,0.9s						
TPUB				*e*Sn	**Sn**	**21 32 21.8**	**-0.3**
YULB	**Yu-li**	**7.21**	**12**	*e*Pn	**Pn**	**21 31 06.2**	**+0.8**
	29nm,0.6s						
YULB				*e*Sn	**Sn**	**21 32 25.8**	**-1.1**
SSLB	**Suanglung**	**7.54**	**9**	*e*Pn	**Pn**	**21 31 09.7**	**-0.3**
SSLB				*e*Sn	**Sn**	**21 32 33.4**	**-1.6**
NACB	**Ninganchiao**	**8.03**	**13**	*e*Pn	**Pn**	**21 31 17.1**	**+0.5**
	71nm,0.9s						
YHNB	**Yeheng**	**8.47**	**10**	*e*Pn	**Pn**	**21 31 23.4**	**+0.6**
	79nm,0.9s						
GZH	**Guangzhou**	**9.02**	**319**	P	Pn	21 31 35.8	+5.6
GZH				S	Sn	21 33 18.3	+7.0
GZH				LN			
	3μm,15.7s						
GZH				LE			
	4μm,15.5s						
QIZ	**Qiongzhong**	**9.78**	**288**	P	**Pn**	**21 31 41.2**	**+0.6**
QIZ				S	**Sn**	**21 33 32.2**	**+2.2**
QIZ				PMZ			
	26nm,1.9s						
QIZ				LE			
	880nm,18.0s						
QIZ				LZ			
	2μm,18.0s						
QIZ	**Qiongzhong**	**9.78**	**288**	*e*Pn	**Pn**	**21 31 37.5**	**-3.1**
QIZ				*e*Sn	Sn	21 33 21.4	-8.5
WHN	**Wuhan**	**15.00**	**342**	P	**Pn**	**21 32 50.3**	**-1.6**
WHN				pP	**P**	**21 32 59.2**	**+1.9**
WHN				LN			
	5μm,16.0s						
WHN				LE			
	2μm,13.1s						
WHN				LZ			
	4μm,18.6s						
TOLI	**Toli-Toli**	**15.12**	**176**	*e*Pn	**Pn**	**21 32 53.1**	**-0.6**
	74nm,0.6s						
NJ2	**Nanjing**	**15.70**	**357**	*e*P	**Pn**	**21 32 59.2**	**-1.9**
NJ2				S	**Sn**	**21 35 57.0**	**+2.3**
NJ2				PMZ			
	260nm,1.1s						
NJ2				LN			
	1μm,15.1s						
NJ2				LE			
	3μm,15.8s						
NJ2				LZ			
	3μm,15.6s						
GYA	**Guiyang**	**15.78**	**312**	⇑*i*P	**Pn**	**21 33 00.9**	**-1.5**
GYA				PP	pP	21 33 16.8	+5.4
GYA				S	**Sn**	**21 36 00.4**	**+3.5**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,4.6s						
GYA				LN			
	3μm,9.6s						
GYA				LE			
	2μm,9.0s						
GYA				LZ			
	3μm,9.4s						
MPSI	**Mapaga**	**15.87**	**179**	P	**P**	**21 33 07.0**	**0.0**
	35nm,1.4s						
MRSI	**Marisa**	**15.88**	**172**	P	**P**	**21 33 08.5**	**+1.3**
	37nm,0.6s,517nm						
GTOI	**Gorontalo**	**15.91**	**168**	P	**P**	**21 33 06.6**	**-0.9**
	52nm,0.9s,771nm						
KHON	**Khomkaen**	**16.20**	**272**	P	**P**	**21 33 10.4**	**-0.3**
	8.2nm,1.1s						
ENH	**Enshi**	**16.76**	**328**	*e*Pn	**Pn**	**21 33 14.0**	**-0.7**
	140nm,2.2s						
PCI	**Palu**	**17.10**	**180**	P	**P**	**21 33 22.4**	**+1.7**
	36nm,1.0s						
APSI	**Ampana**	**17.21**	**173**	P	**P**	**21 33 26.7**	**+4.8**
	110nm,0.6s,1μm11μm						
KSM	**Kuching**	**17.40**	**213**	*e*Pn	**Pn**	**21 33 22.0**	**-0.8**
	15nm,0.8s						
PBKT	**Sadao Pong**	**17.97**	**273**	P	**P**	**21 33 32.1**	**+1.8**
	14nm,1.2s,509nm						
KMI	**Kunming**	**18.11**	**302**	P	**P**	**21 33 33.4**	**+1.3**
KMI				pP	**pP**	**21 33 39.4**	**+2.1**
KMI				sP	**sP**	**21 33 42.0**	**+2.2**
KMI				PP	**PnPn**	**21 33 47.5**	**+4.4**
KMI				PMZ			
	7.0nm,1.3s						
KMI				PMZ			
	410nm,6.6s						
KMI				LN			
	660nm,15.3s						
KMI				LE			
	1μm,15.0s						
KMI				LZ			
	1μm,15.5s						
UTTA	**Uttaradit**	**18.36**	**277**	P	Pn	21 33 44.8	+10
CRAI	**Chiangrai**	**18.76**	**285**	P	**P**	**21 33 38.5**	**-0.5**
	281nm,0.7s						
TTSI	**Tana Toraja**	**19.22**	**180**	P	**Pn**	**21 33 45.7**	**+0.6**
	46nm,1.1s,577nm						
SANI	**Sanana**	**19.27**	**161**	P	**P**	**21 33 42.6**	**-2.0**
	33nm,0.8s						
LAMP	**Lampang**	**19.27**	**280**	P	**Pn**	**21 33 49.9**	**+4.2**
	5.2nm,0.9s						
JNU	**Nakatsue**	**19.56**	**29**	P	**P**	**21 33 48.4**	**+0.6**
	0.3nm,0.3s,baz=199,slow=10,SNR=3.8						
JNU				LR	LR	21 41 32.7	
	comp=Z,453nm,20.2s,baz=214,slow=37						
KBKI	**Kotabaru**	**19.79**	**190**	P	**Pn**	**21 33 53.3**	**+1.5**
	21nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.92**	**279**	P	**Pn**	**21 33 53.0**	**-0.5**
	0.2nm,0.3s,baz=90,slow=8.9,SNR=34						
CMAR				PcP	**PcP**	**21 38 07.5**	**-1.1**
	0.1nm,0.3s,baz=121,slow=0.6,SNR=5.4						
CMAR				LR	LR	21 41 51.1	
	comp=Z,820nm,19.5s,baz=100,slow=37						
CMMT	**Chiang Mai**	**19.94**	**280**	P	**Pn**	**21 33 54.6**	**+0.9**
	11nm,1.3s						
TIA	**Tai'an**	**19.96**	**354**	*e*P	**P**	**21 33 50.9**	**-1.2**
TIA				PMZ			
	30nm,1.6s						
TIA				LN			
	1μm,16.0s						
TIA				LE			
	970nm,16.0s						
TIA				LZ			
	2μm,18.0s						
SPSI	**Sidrap Palu**	**20.14**	**180**	P	Pn	21 33 55.5	-0.5
	38nm,0.8s						
XAN	**Xi'an**	**20.15**	**333**	P	**P**	**21 33 53.3**	**-0.9**
XAN				sP	**sP**	**21 34 00.3**	**-1.6**
XAN				PP	**PnPn**	**21 34 13.2**	**+2.4**
XAN				S	Sn	21 37 41.3	-1.2
XAN				PMZ			
	5.0nm,1.3s						
XAN				LN			
	990nm,14.9s						
XAN				LE			
	350nm,14.8s						
XAN				LZ			
	650nm,15.2s						
CD2	**Chengdu**	**20.57**	**318**	*e*P	Pn	21 34 00.6	-0.5
CD2				pP	pP	21 34 04.6	+0.5
CD2				sP	sP	21 34 07.6	+1.1
CD2				PP	**PnPn**	**21 34 22.2**	**+5.6**
CD2				S	**S**	**21 37 46.1**	**-2.1**
CD2				sS	Sn	21 37 52.3	-0.4
CD2				SS	**SnSn**	**21 38 16.9**	**+9.3**
CD2				PMZ			
	40nm,0.5s						
CD2				PMZ			
	260nm,5.0s						
CD2				LN			
	2μm,16.6s						
CD2				LE			
	2μm,15.3s						
CD2				LZ			
	2μm,15.1s						
SURA	**Surathani**	**20.81**	**253**	P	Pn	21 34 12.2	+8.3
KAPI	**Kappang**	**21.18**	**180**	*e*Pn	**P**	**21 34 06.4**	**+1.0**
	12nm,1.4s						
TRTT	**Trang**	**21.28**	**249**	P	**P**	**21 34 10.7**	**+4.2**
	20nm,0.9s						
KSAR	**Wonju Array Be**	**22.27**	**17**	P	**P**	**21 34 15.8**	**-1.1**
KSRS	**Korea Array**	**22.29**	**17**	P	**P**	**21 34 15.8**	**-1.3**
	5.1nm,0.8s,baz=200,slow=10,SNR=12						
KSRS				LR	LR	21 43 30.9	
	comp=Z,569nm,19.4s,baz=200,slow=38						
BJI	**Beijing**	**23.85**	**353**	P	**P**	**21 34 32.3**	**-0.7**
BJI				S	**S**	**21 38 51.6**	**+3.5**
BJI				PMZ			
	28nm,1.6s						
BJI				PMZ			
	200nm,3.9s						
BJI				LN			
	820nm,16.0s						
BJI				LE			
	570nm,17.0s						
BJI				LZ			
	500nm,19.0s						
LZH	**Lanzhou**	**24.24**	**327**	⇑P	**P**	**21 34 37.6**	**+0.7**
LZH				pP	**pP**	**21 34 41.7**	**-0.9**
LZH				sP	**sP**	**21 34 44.5**	**-0.4**
LZH				PP	**PnPn**	**21 35 11.0**	**+4.2**
LZH				*e*S	**S**	**21 38 55.0**	**+0.2**
LZH				sS	**sS**	**21 39 04.0**	**0.0**
LZH				PMZ			
	61nm,1.2s						
LZH				PMZ			
	250nm,4.0s						
LZH				LN			
	3μm,17.4s						
LZH				LE			
	2μm,17.2s						
LZH				LZ			
	3μm,16.8s						
BKNI	**Bangkinang**	**24.30**	**231**	P	**P**	**21 34 35.9**	**-1.6**
HHC	**Hu-ho-hao-te**	**25.45**	**346**	*e*P	**P**	**21 34 49.3**	**+1.5**
HHC				PP	**PnPn**	**21 35 28.9**	**+5.5**
HHC				S	**S**	**21 39 14.4**	**+0.3**
HHC				sS	**sS**	**21 39 21.4**	**-2.0**
HHC				PMZ			
	23nm,0.7s						
HHC				PMZ			
	150nm,6.2s						
HHC				LN			
	870nm,18.4s						
HHC				LE			
	420nm,15.2s						
HHC				LZ			
	850nm,17.0s						
SNY	**Shenyang**	**25.66**	**7**	⇑P	P	21 34 57.8	+8.3
SNY				S	S	21 39 29.8	+13
SNY				pmax	pmax		
	comp=Z,20nm,1.2s						
SNY				pmax	pmax		
	comp=Z,170nm,3.2s						
SNY				LR	LR		
	comp=N,700nm,18.3s						
SNY				LR	LR		
	comp=E,480nm,15.4s						
SNY				LR	LR		
	comp=Z,620nm,17.4s						
MJAR	**Matsushiro Arr**	**26.01**	**36**	P	**P**	**21 34 53.3**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=220,slow=9.3,SNR=5.2						
SOEI	**Soe**	**26.28**	**170**	*e*P	**P**	**21 34 57.9**	**+2.4**
	comp=Z,38nm,1.0s						
BATI	**Baumata**	**26.63**	**171**	P	**P**	**21 34 57.7**	**-0.9**
	comp=Z,30nm,0.6s,baz=302,slow=1.5,SNR=14						
BATI				LR	LR	21 47 25.1	
	comp=Z,301nm,18.9s,baz=350,slow=40						
SHL	**Shillong**	**27.52**	**294**	*e*P	**P**	**21 35 08.0**	**+1.3**
GTA	**Gaotai**	**28.84**	**327**	*e*P	**P**	**21 35 18.3**	**0.0**
GTA				pP	**pP**	**21 35 22.8**	**-1.2**
GTA				sP	**sP**	**21 35 25.3**	**-1.0**
GTA				PcP	**PcP**	**21 38 26.9**	**-0.9**
GTA				S	**S**	**21 40 08.1**	**+0.5**
GTA				sS	**sS**	**21 40 13.5**	**-3.4**
GTA				SS	**SnSn**	**21 41 35.5**	**+5.8**
GTA				PMZ			
	comp=Z,12nm,1.1s						
GTA				PMZ			
	comp=Z,83nm,5.5s						
GTA				LN			
	comp=Z,1μm,16.6s						
GTA				LE			
	comp=Z,1μm,17.6s						
GTA				LZ			
	comp=Z,2μm,17.6s						
LSA	**Lhasa**	**29.37**	**302**	*e*P	**P**	**21 35 24.0**	**+0.5**
	comp=Z,7.5nm,1.0s						
MDJ	**Mudanjiang**	**29.44**	**14**	P	**P**	**21 35 24.7**	**+1.3**
MDJ				pP	**pP**	**21 35 27.7**	**-1.4**
MDJ				sP	**sP**	**21 35 29.0**	**-2.4**
MDJ				S	**S**	**21 40 20.2**	**+3.6**
MDJ				PcS	**PcS**	**21 42 12.1**	**+0.3**
MDJ				PMZ			
	comp=Z,9.0nm,1.0s						
MDJ				PMZ			
	comp=Z,68nm,3.8s						
MDJ				LN			
	comp=Z,340nm,20.3s						
MDJ				LE			
	comp=Z,380nm,20.3s						
MDJ				LZ			
	comp=Z,500nm,21.0s						
USRK	**Ussuriysk Ar.**	**29.70**	**18**	P	**P**	**21 35 24.8**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=213,slow=9.9,SNR=4.7						
USRK				LR	LR	21 47 44.9	
	comp=Z,338nm,20.6s,baz=178,slow=37						
TAPN	**Taplejung**	**31.57**	**296**	*e*P	**P**	**21 35 42.4**	**-0.5**
	comp=Z,21nm,1.0s						
ODAN	**Odare**	**31.74**	**295**	*e*P	**P**	**21 35 43.0**	**-1.3**
	comp=Z,27nm,0.9s						
RAMN	**Ramite**	**32.45**	**295**	*e*P	**P**	**21 35 49.7**	**-0.8**
	comp=Z,27nm,0.8s						
JIRN	**Jiri**	**32.96**	**296**	*e*P	**P**	**21 35 54.3**	**-0.8**
	comp=Z,58nm,1.2s						
ULN	**Ulaanbaatar**	**33.16**	**344**	*e*P	**P**	**21 35 55.6**	**-0.7**
	comp=Z,10nm,1.0s						
GUN	**Gumba**	**33.28**	**296**	*e*P	**P**	**21 35 57.5**	**-0.4**
	comp=Z,45nm,0.8s						
SONM	**Songino Array**	**33.30**	**344**	P	**P**	**21 35 57.1**	**-0.5**
	comp=Z,8.6nm,0.7s,baz=160,slow=9.6,SNR=71						
SONM				LR	LR	21 50 22.1	
	comp=Z,742nm,19.0s,baz=156,slow=38						
PKI	**Pulchoki**	**33.62**	**295**	*e*P	**P**	**21 35 59.8**	**-1.0**
	comp=Z,31nm,1.1s						
PKIN	**Phulchoki**	**33.63**	**295**	*e*P	**P**	**21 36 00.5**	**-0.3**
	comp=Z,12nm,0.8s						
KKN	**Kakani**	**33.77**	**296**	*e*P	**P**	**21 36 01.5**	**-0.5**
	comp=Z,17nm,0.9s						
ASAJ	**Asahikawa**	**33.83**	**30**	LR	LR	21 50 24.9	
	comp=Z,404nm,20.1s,baz=258,slow=37						
GKN	**Gorkha**	**34.38**	**296**	*e*P	**P**	**21 36 06.0**	**-1.2**
	comp=Z,35nm,1.0s						
DANN	**Dangsing**	**35.20**	**296**	*e*P	**P**	**21 36 13.5**	**-1.0**
	comp=Z,41nm,0.9s						
KOLN	**Koldanda**	**35.23**	**295**	*e*P	**P**	**21 36 13.3**	**-1.3**
	comp=Z,12nm,0.8s						
PYUN	**Piuthan**	**35.82**	**296**	*e*P	**P**	**21 36 18.9**	**-0.8**
	comp=Z,86nm,0.7s						
TLY	**Talaya**	**37.55**	**344**	*e*P	**P**	**21 36 33.9**	**0.0**
	comp=Z,3.3nm,0.7s						
WMQ	**Urumqi**	**38.56**	**322**	*e*P	**P**	**21 36 44.6**	**+2.0**
WMQ				pP	**pP**	**21 36 48.8**	**+0.4**
WMQ				sP	**sP**	**21 36 51.1**	**+0.4**
WMQ				PP	**PnPn**	**21 38 17.0**	**+4.0**
WMQ				S	**ScP**	**21 42 40.0**	**-2.4**
WMQ				sS	**sS**	**21 42 49.0**	**+1.7**
WMQ				SS	**SnSn**	**21 45 20.0**	**-5.5**
WMQ				PMZ			
	comp=Z,7.0nm,1.2s						
WMQ				PMZ			
	comp=Z,140nm,4.4s						
WMQ				LN			
	comp=Z,2μm,16.5s						
WMQ				LE			
	comp=Z,1μm,15.7s						
WMQ				LZ			
	comp=Z,1μm,16.6s						
WRAB	**Tennant Creek**	**38.78**	**158**	*e*P	**P**	**21 36 41.9**	**-2.7**
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**38.79**	**158**	P	**P**	**21 36 42.2**	**-2.4**
	comp=Z,22nm,0.9s,baz=337,slow=9.3,SNR=85						
WRA				PcP	**PcP**	**21 38 55.3**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=343,slow=3.4,SNR=7.8						
WB2	**Warramunga Arr**	**38.79**	**158**	*e*P	**P**	**21 36 41.8**	**-2.9**
ASAR	**Alice Springs**	**42.08**	**160**	P	**P**	**21 37 10.3**	**-1.6**
	comp=Z,15nm,0.7s,baz=340,slow=6.9,SNR=150						
ASAR				PcP	**PcP**	**21 39 06.3**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=343,slow=2.3,SNR=11						
ASAR				LR	LR	21 58 28.9	
	comp=Z,101nm,19.2s,baz=340,slow=41						
MKAR	**Makanchi Array**	**43.38**	**323**	P	**P**	**21 37 21.9**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=128,slow=8.8,SNR=62						
MKAR				LR	LR	21 56 50.7	
	comp=Z,572nm,18.4s,baz=110,slow=38						
MKAR	**Makanchi Array**	**43.38**	**323**	*e*P	**P**	**21 37 21.7**	**-0.5**
KSH	**Kashi**	**44.47**	**310**	P	**P**	**21 37 33.0**	**+1.8**
KSH				pP	**pP**	**21 37 37.6**	**+0.6**
KSH				PP	**PP**	**21 39 18.4**	**+3.4**
KSH				S	**S**	**21 44 08.1**	**+2.5**
KSH				sS	**sS**	**21 44 15.8**	**+0.6**
KSH				ScS	**ScS**	**21 47 28.1**	**-0.7**
KSH				PMZ			
	comp=Z,10.0nm,1.1s						
KSH				PMZ			
	comp=Z,85nm,5.3s						
KSH				LN			
	comp=Z,300nm,13.5s						
KSH				LE			
	comp=Z,580nm,15.3s						
KSH				LZ			
	comp=Z,680nm,18.2s						
CTA	**Charters Tower**	**44.59**	**143**	P	**P**	**21 37 31.3**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=261,slow=3.9,SNR=6.0						
CTA				PcP	**PcP**	**21 39 15.5**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=294,slow=4.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**46.31**	**332**	P	**P**	**21 37 43.8**	**-1.6**
	comp=Z,3.2nm,0.8s,baz=131,slow=6.9,SNR=13						
ZALV				LR	LR	21 58 00.6	
	comp=Z,568nm,18.2s,baz=70,slow=37						
AAK	**Ala-Archa**	**46.56**	**314**	*e*P	**P**	**21 37 48.6**	**+0.8**
	comp=Z,7.0nm,1.1s						
EKS2	**Erkin-Say**	**47.07**	**314**	*e*P	**P**	**21 37 51.0**	**-0.7**
	comp=Z,6.1nm,1.0s						
PETK	**Petropavlovsk-**	**47.25**	**30**	P	**P**	**21 37 51.0**	**-1.8**
	comp=Z,4.7nm,0.9s,baz=218,slow=6.8,SNR=3.3						
KURK	**Kurchatov**	**47.50**	**325**	*e*P	**P**	**21 37 53.8**	**-1.0**
	comp=Z,22nm,0.9s						
KBL	**Kabul**	**48.70**	**302**	*e*P	**P**	**21 38 04.2**	**-0.3**
	comp=Z,12nm,1.1s						
KKAR	**Karatay Array**	**49.48**	**313**	*e*P	**P**	**21 38 09.6**	**-0.7**
BBOO	**

	comp=Z,196nm,25.9s							
ARU	**Arti**	**60.69**	**326**	*e*P		**P**	**21 39 29.3**	**-1.6**
	comp=Z,13nm,1.1s							
IKLH	**Kolahrood**	**63.12**	**299**	*e*P		**P**	**21 39 47.5**	**-0.4**
IPIR	**Pirpir**	**63.72**	**299**	*e*P		**P**	**21 39 50.3**	**-1.8**
GNI	**Garni**	**68.27**	**307**	*e*P		**P**	**21 40 22.3**	**+1.2**
	comp=Z,14nm,1.1s							
KBZ	**Khabaz**	**69.44**	**311**	P		**P**	**21 40 27.2**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=143,slow=6.5,SNR=4.7							
KBZ				LR		LR	22 15 06.5	
	comp=Z,283nm,18.6s,baz=72,slow=40							
RAYN	**Ar Rayn**	**69.46**	**289**	*e*P		**P**	**21 40 28.3**	**-0.3**
	comp=Z,3.8nm,0.9s							
KIV	**Kislovodsk**	**69.58**	**311**	*e*P		**P**	**21 40 28.7**	**-0.3**
	comp=Z,12nm,0.9s							
IM04	**Indian Mountai**	**73.84**	**25**	*e*P		**P**	**21 40 53.8**	**-0.3**
CAST	**Castle Rocks**	**74.78**	**28**	*e*P		**P**	**21 40 59.7**	**0.0**
	comp=Z,17nm,0.7s							
JOF	**Joensuu**	**74.90**	**332**	*ep*		**P**	**21 40 57.4**	**-2.9**
	comp=Z,2.1nm,0.6s							
KTH	**Kantishna Hill**	**75.28**	**28**	*e*P		**P**	**21 41 02.6**	**0.0**
	comp=Z,92nm,2.4s							
TRF	**Thorofare Moun**	**75.58**	**28**	*e*P		**P**	**21 41 04.3**	**-0.1**
	comp=Z,8.1nm,0.7s							
MCK	**McKinley**	**76.14**	**27**	*e*P		**P**	**21 41 06.6**	**-0.8**
	comp=Z,11nm,0.8s							
ARCES	**ARCESS Array B**	**76.32**	**339**	P		**P**	**21 41 06.2**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=70,slow=4.0,SNR=4.8							
ARCES				LR		LR	22 18 19.0	
	comp=Z,329nm,18.4s,baz=86,slow=38							
PMR	**Palmer**	**76.37**	**29**	*e*P		**P**	**21 41 07.8**	**-1.0**
	comp=Z,12nm,1.0s							
BRTR	**Keskin Array B**	**76.79**	**308**	P		**P**	**21 41 11.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=99,slow=3.9,SNR=6.3							
BRTR				LR		LR	22 19 58.4	
	comp=Z,66nm,20.0s,baz=48,slow=40							
ILAR	**Eielson Array**	**76.85**	**26**	P		**P**	**21 41 09.3**	**-2.2**
	comp=Z,2.4nm,1.0s,baz=268,slow=6.3,SNR=14							
KAF	**Kangasniemi**	**77.32**	**331**	*ep*		**P**	**21 41 11.7**	**-2.4**
	comp=Z,2.8nm,0.8s							
FINES	**FINESS Array B**	**77.55**	**331**	P		**P**	**21 41 13.6**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=79,slow=7.2,SNR=5.3							
FINES				LR		LR	22 18 41.6	
	comp=Z,307nm,18.9s,baz=80,slow=38							
PAX	**Paxson**	**77.81**	**28**	*e*P		**P**	**21 41 16.4**	**-0.5**
	comp=Z,98nm,2.6s							
AKASG	**Malin Array Be**	**77.86**	**319**	P		**P**	**21 41 15.1**	**-2.3**
	comp=Z,1.7nm,0.7s,baz=63,slow=6.0,SNR=7.0							
AKASG				LR		LR	22 19 03.5	
	comp=Z,194nm,19.1s,baz=95,slow=38							
EGAK	**Eagle**	**79.24**	**26**	*e*P		**P**	**21 41 24.4**	**-0.3**
	comp=Z,4.3nm,0.6s							
CFR	**Carcaliu**	**79.70**	**314**	⇓*i*P		**P**	**21 41 26.3**	**-1.3**
DAWY	**Dawson**	**80.18**	**26**	*e*P		**P**	**21 41 29.5**	**-0.4**
TESR	**Tescani**	**80.42**	**316**	⇓*i*P		**P**	**21 41 30.2**	**-1.3**
VRI	**Vrincioaia**	**80.51**	**315**	⇑*i*P		**P**	**21 41 31.9**	**-0.1**
PLOR	**Plostina**	**80.57**	**315**	⇑*i*P		**P**	**21 41 31.7**	**-0.6**
INK	**Inuvik**	**81.03**	**21**	P		**P**	**21 41 32.8**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=296,slow=5.6,SNR=5.3							
INK	**Inuvik**	**81.03**	**21**	*e*P		**P**	**21 41 32.4**	**-1.9**
	comp=Z,4.5nm,0.8s							
BURAR	**Bucovina Array**	**81.10**	**317**	⇓*i*P		**P**	**21 41 34.0**	**-1.2**
MLR	**Muntele Rosu**	**81.14**	**315**	⇑*i*P		**P**	**21 41 34.7**	**-0.8**
ARR	**Arges**	**82.06**	**315**	⇑*i*P		**P**	**21 41 39.4**	**-0.9**
KWP	**Kalwaria Pacla**	**82.19**	**319**	⇑*i*P		**P**	**21 41 39.8**	**-1.0**
LOT	**Lotru**	**82.63**	**315**	⇑*i*P		**P**	**21 41 42.8**	**-0.5**
KOLS	**Kolonicke sedl**	**82.65**	**319**	*e*P		**P**	**21 41 44.8**	**+1.5**
DRGR		**82.97**	**317**	⇑*i*P		**P**	**21 41 44.1**	**-0.9**
KMBO	**Kilima Mbogo**	**83.06**	**267**	P		**P**	**21 41 46.8**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=51,slow=10,SNR=9.1							
STHS	**Stebnicka Huta**	**83.16**	**319**	*e*P		**P**	**21 41 45.6**	**-0.3**
CRVS	**Cervenica-Dubn**	**83.17**	**319**	*e*P		**P**	**21 41 47.3**	**+1.3**
GZR	**Gura Zlata**	**83.31**	**315**	⇓*i*P		P	21 41 50.8	+4.0
DAG	**Danmarks Havn**	**83.90**	**351**	*i* P		**P**	**21 41 46.9**	**-2.2**
	comp=Z,4.7nm,0.8s							
KECS	**Kecovo**	**83.92**	**319**	*e*P		**P**	**21 41 50.3**	**+0.5**
NB2	**NORSAR Subarra**	**84.52**	**332**	P		**P**	**21 41 50.1**	**-2.5**
	comp=Z,3.9nm,0.9s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**84.52**	**332**	P		**P**	**21 41 50.2**	**-2.4**
	comp=Z,1.0nm,0.7s,baz=67,slow=4.7,SNR=6.0							
NOA				LR		LR	22 22 12.0	
	comp=Z,347nm,18.6s,baz=70,slow=38							
VYHS	**Vyhne**	**84.95**	**319**	*e*P		**P**	**21 41 54.2**	**-0.9**
PKSM	**Moragy**	**85.82**	**317**	⇑*i*P		**P**	**21 41 56.7**	**-2.7**
DPC	**Dobruska-Polom**	**85.88**	**321**	*e*P		**P**	**21 41 59.1**	**-0.6**
VRAC	**Vranov**	**86.08**	**320**	⇑*i*P		**P**	**21 42 00.2**	**-0.4**
RES	**Resolute Bay**	**86.63**	**9**	*e*P		**P**	**21 42 01.4**	**-1.4**
	comp=Z,4.5nm,0.8s							
BRG	**Berggiesshubel**	**87.10**	**322**	*e*P		**P**	**21 42 04.8**	**-0.7**
	comp=Z,1.5nm,0.6s							
CLL	**Collm**	**87.48**	**323**	*e*(pP)		**pP**	**21 42 18.0**	**+4.4**
CLL				*e*PPP		PPP	21 47 21.0	
CLL				*e*S		S	21 52 36.0	-12
CLL				*e*PS		**PnS**	**21 52 42.0**	**-7.1**
CLL				*e*(SSS)			22 01 42.0	
CLL				Lm		MLR	22 27 00.0	
	comp=Z,200nm,18.4s							
GERES	**GERESS Array B**	**88.02**	**321**	P		**P**	**21 42 08.3**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=74,slow=7.3,SNR=3.3							
GERES				LR		LR	22 24 09.0	
	comp=Z,169nm,19.6s,baz=86,slow=37							
FETA	**Feichten**	**90.58**	**320**	⇑*i*PcP		**P**	**21 42 20.9**	**-1.4**
	comp=Z,4.5nm,1.0s							
YKA	**Yellowknife Ar**	**90.75**	**22**	P		**P**	**21 42 21.8**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=313,slow=4.4,SNR=44							
CDF	**Champ du Feu**	**92.06**	**322**	*e*P		**P**	**21 42 27.9**	**-1.2**
	comp=Z,12nm,1.1s							
CDF	**Champ du Feu**	**92.06**	**322**	*e*P		**P**	**21 42 27.9**	**-1.2**
	comp=Z,12nm,1.1s							
HINF	**Hinteralfeld**	**92.59**	**322**	*e*P		**P**	**21 42 30.2**	**-1.3**
HINF	**Hinteralfeld**	**92.59**	**322**	*e*P		**P**	**21 42 30.2**	**-1.3**
LPG	**La Plagne**	**93.73**	**320**	*e*P		**P**	**21 42 35.3**	**-1.8**
	comp=Z,5.8nm,0.8s							
LPG	**La Plagne**	**93.73**	**320**	*e*P		**P**	**21 42 35.3**	**-1.8**
	comp=Z,5.8nm,0.8s							
LPL	**La Plagne**	**93.73**	**320**	*e*P		**P**	**21 42 35.0**	**-2.0**
LPL	**La Plagne**	**93.73**	**320**	*e*P		**P**	**21 42 35.0**	**-2.0**
ORIF	**Oris-en-Rattie**	**94.54**	**319**	*e*P		**P**	**21 42 38.8**	**-1.8**
ORIF	**Oris-en-Rattie**	**94.54**	**319**	*e*P		**P**	**21 42 38.8**	**-1.8**
PPT	**Papeete**	**95.47**	**107**	LR		LR	22 16 15.0	
	comp=Z,48nm,21.9s,baz=330,slow=29							
PPT2	**Papeete2**	**95.48**	**107**	*e*LR		LR	22 13 32.3	
	comp=Z,150nm,25.2s							
VNDA	**Vanda**	**96.74**	**172**	P		**P**	**21 42 50.0**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=309,slow=5.6,SNR=4.7							
VNDA				LR		LR	22 27 20.4	
	comp=Z,61nm,19.6s,baz=309,slow=36							
TBI	**Tubuai**	**97.06**	**112**	*e*LR		LR	22 14 12.6	
	comp=Z,129nm,30.0s							
SDV	**Santo Domingo**	**152.97**	**23**	*e*PKPdf		**PKPdf**	**21 49 12.4**	**+1.3**
PLCA	**Paso Flores**	**154.09**	**162**	PKPbc		**PKPbc**	**21 49 19.9**	**0.0**
	comp=Z,4.4nm,0.7s,baz=225,slow=2.9,SNR=7.5							

MAN 12 21:36:22.2, 16°.42N×119°.49E, h12km, mb4.6, ML3.5, MS3.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.41**	**95**	*e*P	Pb	21 36 32.2	+0.9
SCZP	**Santa Cruz**	**0.76**	**147**	*e*P	Pb	21 36 37.2	0.0
SCZP				*e*S	Sb	21 36 47.1	-0.4
BCPH	**Baguio City Da**	**1.05**	**92**	⇑*i*P	Pb	21 36 40.9	-1.5
BCPH				*i* S	Sb	21 36 56.2	-0.1
ABRA	**Dolores**	**1.69**	**44**	*e*P	Pb	21 36 53.3	+0.2
PCPH	**Palayan**	**1.77**	**119**	⇓*e*P	Pn	21 36 53.0	+0.5
PCPH				*e*S	Sb	21 37 17.5	+0.9
BALP	**Baler**	**2.12**	**108**	*e*P	Pb	21 36 58.9	-1.5
APYP	**Conner**	**2.21**	**49**	*e*P	Pb	21 37 01.4	-0.5

*IDC **12** 21:37:04.3±1.2, 34°.99N×141°.16E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=45.7km s-min=23.0km az=87.0*
*ISCJB **12** 21:37:08.7±0.9, 35°.01N±0°.05×141°.23E±0°.08, h45km±7km, mb3.5/5, Error ellipse: s-maj=10.9km s-min=7.8km az=167.5*
*JMA **12** 21:37:09.1±0.1, 35°.06N×141°.20E, h40km±3km, M3.0*
ISC 12 21:37:09.4±1.3, 35°.06N±0°.06×141°.24E±0°.08, h34km±3km, n22, σ1°.19/22, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.46**	**208**	P	**Pb**	**21 37 19.0**	**+0.1**
BSO1				*e*S	**Sb**	**21 37 25.4**	**-0.2**
BSO3	**Boso 3**	**0.65**	**247**	P	**Pn**	**21 37 21.7**	**-0.1**
BSO3				*e*S	**Sb**	**21 37 29.9**	**-1.2**
CHOJ	**Chosi**	**0.71**	**334**	P	**Pn**	**21 37 22.5**	**-0.5**
CHOJ				*e*S	**Sb**	**21 37 32.2**	**-0.8**
BSO4	**Boso 4**	**0.74**	**265**	P	**Pn**	**21 37 23.1**	**-0.2**
BSO4				*e*S	**Sb**	**21 37 34.6**	**+0.9**
JCN	**Nagara**	**0.92**	**293**	*e*S	**Sn**	**21 37 36.7**	**-1.1**
JYT	**Yasato**	**1.44**	**324**	P	**Pn**	**21 37 33.8**	**+0.8**
JIM2	**Oshima 3**	**1.52**	**258**	P	**Pn**	**21 37 33.0**	**-1.2**
JIM2				*e*S	**Sn**	**21 37 52.6**	**-0.2**
JOD2	**Odawara 2**	**1.77**	**277**	P	**Pn**	**21 37 36.8**	**-0.8**
JOD2				*e*S	**Sn**	**21 37 57.2**	**-1.8**
MJAR	**Matsushiro Arr**	**2.87**	**302**	Pn	**Pn**	**21 37 54.4**	**+1.6**
	2.0nm,0.3s,baz=132,slow=8.3,SNR=13						
MAT	**Matsushiro**	**2.87**	**302**	P	Pn	21 37 55.6	+2.9
MAT				*e*S	**Sn**	**21 38 28.8**	**+2.7**
ASAJ	**Asahikawa**	**9.11**	**6**	Pn	**Pn**	**21 39 16.5**	**-1.7**
	0.8nm,0.3s,baz=219,slow=9.4,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**27.32**	**117**	T	T	22 11 50.9	
	baz=309,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**27.32**	**117**	T	T	22 11 59.1	
	baz=309,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**27.33**	**117**	T	T	22 12 03.2	
	baz=309,slow=75,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**27.96**	**120**	T	T	22 12 33.1	
	baz=312,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**27.96**	**120**	T	T	22 12 47.7	
	baz=312,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.98**	**120**	T	T	22 12 37.0	
	baz=312,slow=76,SNR=8.1						
ZALV	**Zalesovo Beam**	**43.16**	**314**	P	**P**	**21 45 06.5**	**0.0**
	0.2nm,0.2s,baz=104,slow=6.1,SNR=2.5						
MKAR	**Makanchi Array**	**45.07**	**304**	P	**P**	**21 45 21.9**	**0.0**
	0.2nm,0.8s,baz=92,slow=9.4,SNR=3.3						
WRA	**Warramunga Arr**	**55.09**	**188**	P	**P**	**21 46 37.5**	**-0.5**
	1.3nm,0.5s,baz=5.7,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**58.82**	**188**	P	**P**	**21 47 03.8**	**-0.6**
	0.5nm,0.8s,baz=353,slow=5.4,SNR=3.9						
YKA	**Yellowknife Ar**	**65.59**	**30**	P	**P**	**21 47 50.7**	**+1.4**
	0.2nm,0.7s,baz=289,slow=5.8,SNR=3.1						

GUC 12 21:42:36.9±0.3, 37°.76S×73°.57W, h34km±7km, ML4.2, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGCH	**Angol**	**0.70**	**95**	⇑*i*P	Pn	21 42 49.6	-0.7
AGCH				*e*S	Sn	21 42 59.2	-0.7
CCSP	**San Pedro de C**	**0.98**	**22**	⇑*i*P	Pn	21 42 53.1	-1.1
CCSP				*i* S	Sn	21 43 06.0	-0.9
CCSP				AML	AML	21 43 07.6	
	comp=E,4μm,0.5s						
COCH	**Cobquecura**	**1.74**	**21**	⇑*i*P	Pn	21 43 05.4	+0.8
COCH				*i* S	Sn	21 43 27.1	+1.6

MAN 12 21:48:33, 16°.35N×119°.43E, h10km, mb4.5, ML3.4, MS3.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.46**	**86**	*e*P	Pb	21 48 43.3	0.0
BOLP				*e*S	Sg	21 48 49.0	+0.8
SCZP	**Santa Cruz**	**0.73**	**141**	*e*P	Pb	21 48 48.3	+0.5
BCPH	**Baguio City Da**	**1.10**	**88**	⇑*i*P	Pb	21 48 52.4	-2.0
BCPH				*i* S	Sg	21 49 06.1	-2.9
ABRA	**Dolores**	**1.78**	**43**	*e*P	Pn	21 49 04.3	+0.5
PCPH	**Palayan**	**1.78**	**116**	⇑*e*P	Pn	21 49 04.2	+0.4
PCPH				*e*S	Sb	21 49 28.5	+0.3
BALP	**Baler**	**2.15**	**106**	*e*P	Pn	21 49 09.5	+0.6
APYP	**Conner**	**2.29**	**49**	*e*P	Pb	21 49 12.9	-1.6

IDC 12 22:05:14.5±3.9, 56°.89S×150°.18E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=308.5km s-min=28.0km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**21.12**	**173**	P	P	22 10 00.8	+0.5
	4.8nm,1.3s,baz=344,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**35.25**	**334**	P	P	22 12 10.8	+0.2
	0.6nm,0.8s,baz=158,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**38.73**	**336**	P	P	22 12 40.4	+0.2
	1.6nm,0.8s,baz=166,slow=7.6,SNR=5.5						
FINES	**FINESS Array B**	**151.76**	**303**	PKPbc	PKPbc	22 25 07.8	-1.6
	1.0nm,0.7s,baz=54,slow=2.4,SNR=4.0						
GERES	**GERESS Array B**	**152.93**	**271**	PKPbc	PKPbc	22 25 13.1	+0.5
	0.3nm,0.6s,baz=128,slow=1.6,SNR=4.3						

GUC 12 22:09:58.6±0.6, 34°.74S×71°.69W, h45km±2km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.46**	**125**	*e*P	Pn	22 10 08.7	-0.4
NICH				*e*S	Sn	22 10 16.4	-0.2
TALC	**Talca**	**0.66**	**176**	*e*P	Pn	22 10 11.6	-0.1
TALC				*e*S	Sn	22 10 21.1	+0.1
LNCH	**Linares**	**1.11**	**176**	*e*P	Pn	22 10 17.2	-0.1
LNCH				*e*S	Sn	22 10 32.1	+0.2
TACH	**Talagante**	**1.25**	**30**	*e*P	Pn	22 10 17.9	+0.1
CLCH	**Cerro Calan**	**1.65**	**36**	*e*P	Pn	22 10 25.4	+0.2
CLCH				*e*S	Sn	22 10 45.6	+0.4
CLCH				AML	AML	22 10 50.4	
	comp=E,892nm,0.4s						
YECH	**El Yeso**	**1.71**	**52**	*e*P	Pn	22 10 26.2	-0.1
YECH				*e*S	Sn	22 10 48.2	+1.0
YECH				AML	AML	22 10 52.4	
	comp=N,913nm,0.3s						
PEL	**Peldehue**	**1.80**	**28**	*e*P	Pn	22 10 28.1	+0.9
PEL				*e*S	Sn	22 10 51.2	+2.3
PEL				AML	AML	22 10 59.6	
	comp=N,1μm,0.4s						

*MEX **12** 22:18:39.8±1.0, 32°.91N×115°.67W, h16km±29km, MD3.6*
*ISCJB **12** 22:18:40.1±0.5, 32°.66N±0°.02×115°.75W±0°.03, h11km±3km, Error ellipse: s-maj=4.7km s-min=3.3km az=152.7*
*NEIC **12** 22:18:40.2, 32°.65N×115°.77W, h7km, ML3.0(ECX), ML3.2(PAS), After PAS.*
*ECX **12** 22:18:41.1±0.6, 32°.67N×115°.78W, h3km, MD3.1, ML3.3*
ISC 12 22:18:40.1±0.9, 32°.65N±0°.02×115°.73W±0°.03, h10km±6km, n32, σ1°.05/55, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.00**	**5**	⇑*i*P	**Pg**	**22 18 42.0**	**+0.1**
YUH	**Yuha Desert**	**0.17**	**271**	⇑*i*P	**Pg**	**22 18 43.4**	**-0.3**
COK	**Cook Ranch**	**0.20**	**360**	⇓*i*P	**Pg**	**22 18 44.4**	**0.0**
RMX	**La Rumorosa**	**0.30**	**262**	⇑*e*P	**Pg**	**22 18 46.0**	**-0.2**
RMX				*e*S	**Sg**	**22 18 50.0**	**-0.2**
RMX				⇓*e*		22 18 52.7	
RMX	**La Rumorosa**	**0.30**	**262**	⇑*e*P	**Pg**	**22 18 46.0**	**-0.2**
RMX				*e*S	**Sg**	**22 18 50.0**	**-0.2**
CPBX	**Cerro Prieto**	**0.42**	**123**	⇑*e*P	**Pb**	**22 18 50.0**	**+0.4**
CPBX				*e*P	**Pg**	**22 18 50.2**	**+1.8**
CPBX				*e*S	**Sb**	**22 18 56.8**	**+0.7**
CPBX				⇑*e*		22 18 59.8	
CPBX				AML	AML	22 18 59.8	
	comp=E,9μm,0.2s						
CPBX	**Cerro Prieto**	**0.42**	**123**	*e*P	**Pb**	**22 18 49.8**	**+0.1**
CPBX				*e*S	**Sb**	**22 18 56.2**	**+0.1**
RDX	**Rancho Dawling**	**0.74**	**194**	*e*P	**Pg**	**22 18 54.3**	**0.0**
RDX				*e*S	**Sg**	**22 19 04.3**	**+0.3**
RDX				AML	AML	22 19 04.8	
	comp=N,455nm,0.2s						
RDX				⇓*e*		22 19 04.8	
RDX	**Rancho Dawling**	**0.74**	**194**	*e*P	**Pg**	**22 18 54.4**	**0.0**
RDX				*e*S	**Sg**	**22 19 04.3**	**+0.3**
EMX	**El Mayor**	**0.77**	**148**	*e*P	**Pg**	**22 18 53.0**	**-1.9**
EMX				*e*S	**Sg**	**22 19 04.3**	**-0.8**
EMX	**El Mayor**	**0.77**	**148**	*e*P	**Pg**	**22 18 53.1**	**-1.9**
EMX				*e*S	**Sg**	**22 19 04.3**	**-0.8**
BAR	**Barrett**	**0.80**	**273**	*e*P	**Pg**	**22 18 54.7**	**-0.8**
BAR				*e*S	**Sg**	**22 19 04.1**	**-1.9**
CBX	**Cerro Bola**	**0.86**	**248**	*i* P	**Pg**	**22 18 56.2**	**-0.4**
CBX				*i* S	**Sg**	**22 19 07.4**	**-0.5**
CBX	**Cerro Bola**	**0.86**	**248**	⇑*e*P	**Pg**	**22 18 56.3**	**-0.4**
CBX				*e*S	**Sg**	**22 19 07.7**	**-0.2**
CBX	**Cerro Bola**	**0.86**	**248**	*i* P	**Pg**	**22 18 56.2**	**-0.4**
CBX				*i* S	**Sg**	**22 19 07.4**	**-0.5**
PFO	**Pinyon Flats O**	**1.14**	**328**	*e*P	**Pg**	**22 18 59.3**	**-2.7**
PFO				*e*S	**Sg**	**22 19 14.0**	**-2.9**
ZAX	**El Zacaton**	**1.22**	**203**	*e*P	**Pg**	**22 19 03.1**	**-0.4**
ZAX				*e*S	**Sb**	**22 19 19.5**	**+0.4**
ECNX	**Esteban Cantu**	**1.23**	**217**	*e*P	**Pg**	**22 19 03.1**	**-0.6**
ECNX				*e*S	**Sg**	**22 19 19.5**	**-0.3**
PBX	**Punta Banda**	**1.24**	**224**	*e*P	**Pg**	**22 19 03.1**	**-0.8**
PBX				*e*S	**Sg**	**22 19 19.4**	**-0.6**
PBX	**Punta Banda**	**1.24**	**224**	*e*P	**Pg**	**22 19 03.1**	**-0.8**
ECBX	**El Chinero**	**1.30**	**154**	*e*P	**Pn**	**22 19 02.3**	**-2.0**
ECBX				*e*S	**Sb**	**22 19 20.2**	**-1.2**
SPIG	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**22 19 08.4**	**-0.5**
SPIG				*e*S	**Sn**	**22 19 30.7**	**+0.8**
SPIG	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**22 19 09.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**22 19 08.4**	**-0.5**
SPIG				*e*S	**Sn**	**22 19 30.7**	**+0.8**
SPX	**San Pedro Mart**	**1.61**	**172**	⇓*e*P	**Pn**	**22 19 09.4**	**+0.5**
SPX	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**22 19 08.5**	**-0.4**
SPX				*e*S	**Sb**	**22 19 31.1**	**+0.4**
LDFC	**Landfair**	**2.48**	**12**	*e*Pn	**Pn**	**22 19 21.7**	**+1.1**
MWC	**Mount Wilson**	**2.51**	**310**	*e*Pn	**Pn**	**22 19 22.6**	**+1.5**
PASC	**Pasadena Art C**	**2.56**	**307**	Pn	**Pn**	**22 19 23.1**	**+1.5**
214A	**Organ Pipe Nat**	**2.56**	**105**	*e*Pn	**Pb**	**22 19 26.1**	**-0.1**
GSC	**Goldstone, Bar**	**2.80**	**342**	*e*Pn	**Pn**	**22 19 25.5**	**+0.5**
GSC				*e*Sn	**Sn**	**22 19 59.9**	**+1.0**
ISA	**Isabella, Lake**	**3.77**	**324**	*e*Pn	**Pn**	**22 19 38.6**	**+0.2**
ISA				*e*Sn	**Sn**	**22 20 25.3**	**+2.3**

GUC 12 22:23:02.1±1.8, 36°.87S×73°.04W, h32km±17km, ML3.6, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.06**	**294**	⇑*i*P	Pb	22 23 07.2	-0.2
CCSP				*e*S	Sb	22 23 10.6	-0.5
CCSP				AML	AML	22 23 11.8	
	comp=E,18μm,0.6s						
COCH	**Cobquecura**	**0.76**	**16**	⇑*i*P	Pn	22 23 15.5	-1.1
COCH				*e*S	Sb	22 23 25.7	-1.3
AGCH	**Angol**	**0.98**	**164**	⇑*i*P	Pn	22 23 19.3	-0.4
AGCH				*i* S	Sn	22 23 32.2	-0.3
LNCH	**Linares**	**1.55**	**49**	⇑*i*P	Pb	22 23 29.4	-0.7
LNCH				*i* S	Sb	22 23 47.9	-1.4

*IDC **12** 22:24:00.0±4.1, 5°.66S×101°.56E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/31, mbtmp3.6/6, Error ellipse: s-maj=166.2km s-min=21.1km az=55.0*
*DJA **12** 22:24:14.0±0.7, 5°.5±4°×10°.2E±°, h10km, M3.5/9, MLv3.5/9*
ISC 12 22:24:07.0±1.2, 5°.43S±0°.09×101°.91E±0°.10, h35km, n21, σ2°.22/18, mb3.7/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.49**	**44**	P	**Pn**	**22 24 33.4**	**+2.1**
MNAI				S	**Sn**	**22 24 46.2**	**-3.3**
LWLI	**Liwa**	**2.18**	**79**	P	**Pn**	**22 24 42.2**	**+1.4**
LWLI				S	**Sn**	**22 25 01.9**	**-4.7**
LHSI	**Lahat**	**2.26**	**45**	P	**Pn**	**22 24 44.4**	**+2.5**
MASI	**Maura Aman, Be**	**2.30**	**8**	P	Pn	22 24 51.5	+9.0
MDSI	**Maura Dua**	**2.44**	**67**	P	**Pn**	**22 24 46.9**	**+2.5**
MDSI				S	**Sn**	**22 25 14.9**	**+1.8**
KASI	**Kota Agung**	**2.57**	**92**	P	**Pn**	**22 24 48.0**	**+1.8**
KASI				S	**Sn**	**22 25 18.1**	**+1.9**
KLSI		**2.90**	**75**	P	Pn	22 24 54.1	+3.4
KLSI	

URZ			Sn	**Sn**	**22 29 42.4**	**-3.5**
	467nm,0.3s,baz=68,slow=11,SNR=29					
ARHZ	**Aropaoanui**	**1.46 246**	PN	**Pb**	**22 29 31.4**	**0.0**
NMHZ	**Naumai**	**1.55 253**	PN	**Pn**	**22 29 32.2**	**+0.6**
NMHZ	**Naumai**	**1.55 253**	Pn	**Pn**	**22 29 32.2**	**+0.6**
CKHZ	**Cape Kidnapper**	**1.61 232**	⇓PN	**Pn**	**22 29 33.1**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.61 232**	Pn	**Pn**	**22 29 33.3**	**+0.9**
EDRZ	**Edgecumbe**	**1.65 289**	PN	**Pn**	**22 29 33.7**	**+0.7**
EDRZ			AML	AML	22 30 09.0	
EDRZ			AML	AML	22 30 11.8	
EDRZ	**Edgecumbe**	**1.65 289**	Pn	**Pn**	**22 29 33.8**	**+0.7**
MCHZ	**McNeill Hill**	**1.75 243**	PN	**Pn**	**22 29 35.5**	**+1.1**
MCHZ	**McNeill Hill**	**1.75 243**	Pn	**Pn**	**22 29 35.5**	**+1.1**
RRRZ	**Republican Roa**	**1.76 280**	*e*PN	**Pn**	**22 29 34.6**	**+0.1**
RRRZ	**Republican Roa**	**1.76 280**	Pn	**Pn**	**22 29 35.0**	**+0.5**
TARZ	**Mount Tarawera**	**1.79 283**	PN	**Pn**	**22 29 35.1**	**+0.1**
TARZ	**Mount Tarawera**	**1.79 283**	Pn	**Pn**	**22 29 35.1**	**+0.1**
BKZ	**Black Stump Fm**	**1.80 253**	PN	**Pn**	**22 29 35.5**	**+0.4**
BKZ			AML	AML	22 29 58.4	
BKZ			AML	AML	22 30 16.1	
BKZ	**Black Stump Fm**	**1.80 253**	Pn	**Pn**	**22 29 35.5**	**+0.4**
KAHZ	**Kahuranaki**	**1.82 231**	⇑PN	**Pn**	**22 29 36.3**	**+1.0**
KAHZ	**Kahuranaki**	**1.82 231**	Pn	**Pn**	**22 29 36.3**	**+1.0**
OPRZ	**Ohinepanea**	**1.89 295**	PN	**Pn**	**22 29 35.3**	**-1.0**
OPRZ	**Ohinepanea**	**1.89 295**	Pn	**Pn**	**22 29 35.4**	**-0.9**
PXZ	**Pawanui**	**1.98 226**	⇓PN	**Pn**	**22 29 37.6**	**+0.2**
PXZ			AML	AML	22 30 05.4	
PXZ			AML	AML	22 30 05.5	
PXZ			AML	AML	22 30 08.4	
PXZ			AML	AML	22 30 08.4	
PXZ	**Pawanui**	**1.98 226**	Pn	**Pn**	**22 29 37.6**	**+0.2**
KRHZ	**Kereru**	**2.06 241**	⇑PN	**Pn**	**22 29 38.9**	**+0.2**
TGRZ	**Tauranga**	**2.15 295**	AML	AML	22 30 06.7	
TGRZ			AML	AML	22 30 07.5	
BHHZ	**Black Hill Sta**	**2.22 248**	PN	**Pn**	**22 29 41.2**	**+0.4**
BHHZ	**Black Hill Sta**	**2.22 248**	Pn	**Pn**	**22 29 41.2**	**+0.4**
BHHZ			Sn	**Sn**	**22 30 07.1**	**-1.0**
WPHZ	**Waipukurau**	**2.25 231**	PN	**Pn**	**22 29 41.4**	**+0.2**
PRHZ	**Porangahau**	**2.27 225**	⇑PN	**Pn**	**22 29 41.4**	**-0.1**
PRHZ	**Porangahau**	**2.27 225**	Pn	**Pn**	**22 29 41.4**	**-0.1**
PNHZ	**Pukenui**	**2.31 237**	PN	**Pn**	**22 29 42.4**	**+0.2**
KATZ	**Kakaramea**	**2.38 262**	AML	AML	22 30 04.2	
KATZ			AML	AML	22 30 04.2	
MYRZ	**Mayor Island**	**2.40 305**	PN	**Pn**	**22 29 42.5**	**-0.7**
MOVZ	**Moawhango**	**2.42 251**	PN	**Pn**	**22 29 44.3**	**+0.6**
MOVZ			AML	AML	22 30 14.6	
MOVZ			AML	AML	22 30 35.2	
KRVZ	**Karewarewa**	**2.44 259**	PN	**Pn**	**22 29 44.5**	**+0.7**
KRVZ			AML	AML	22 30 17.5	
KRVZ			AML	AML	22 30 20.9	
WTVZ	**West Tongariro**	**2.48 259**	PN	**Pn**	**22 29 45.6**	**+1.2**
WTVZ			AML	AML	22 30 43.8	
WTVZ			AML	AML	22 31 03.1	
NGZ	**Ngauruhoe**	**2.48 257**	Pn	**Pn**	**22 29 45.1**	**+0.6**
ANWZ	**Angora Road**	**2.49 223**	PN	**Pn**	**22 29 44.3**	**-0.2**
WNVZ	**Wahianoa**	**2.52 254**	PN	**Pn**	**22 29 45.4**	**+0.4**
WNVZ	**Wahianoa**	**2.52 254**	Pn	**Pn**	**22 29 45.5**	**+0.5**
WPVZ	**Whakapapa**	**2.53 257**	PN	**Pn**	**22 29 46.2**	**+1.1**
WPVZ			AML	AML	22 30 23.9	
WPVZ			AML	AML	22 30 26.8	
WPVZ	**Whakapapa**	**2.53 257**	Pn	**Pn**	**22 29 46.2**	**+1.1**
DRZ	**Dome Shelter**	**2.53 255**	PN	**Pn**	**22 29 46.6**	**+1.3**
DRZ			AML	AML	22 30 22.2	
DRZ			AML	AML	22 30 25.3	
COVZ	**Chateau Observ**	**2.53 257**	PN	**Pn**	**22 29 46.1**	**+0.9**
FWVZ	**Far West T-bar**	**2.53 256**	⇓PN	**Pn**	**22 29 46.0**	**+0.7**
FWVZ			AML	AML	22 30 16.3	
FWVZ			AML	AML	22 30 43.7	
FWVZ	**Far West T-bar**	**2.53 256**	Pn	**Pn**	**22 29 46.1**	**+0.8**
TSZ	**Takapari Road**	**2.54 236**	PN	**Pn**	**22 29 44.9**	**-0.4**
TSZ			AML	AML	22 30 16.6	
TSZ			AML	AML	22 30 17.0	
TSZ	**Takapari Road**	**2.54 236**	Pn	**Pn**	**22 29 44.9**	**-0.4**
TRVZ	**Turoa**	**2.55 255**	PN	**Pn**	**22 29 46.1**	**+0.6**
TRVZ	**Turoa**	**2.55 255**	Pn	**Pn**	**22 29 46.1**	**+0.6**
DVHZ	**Dannevirke**	**2.56 230**	PN	**Pn**	**22 29 45.3**	**-0.2**
DVHZ	**Dannevirke**	**2.56 230**	Pn	**Pn**	**22 29 45.3**	**-0.2**
TWVZ	**Taurewa**	**2.59 260**	AML	AML	22 30 16.9	
MTVZ	**Mangateitei**	**2.63 253**	PN	**Pn**	**22 29 47.4**	**+0.9**
MTVZ			AML	AML	22 30 26.9	
MTVZ			AML	AML	22 30 30.7	
MTVZ	**Mangateitei**	**2.63 253**	Pn	**Pn**	**22 29 47.4**	**+0.9**
MTVZ			Sn	**Sn**	**22 30 14.8**	**-3.3**
BFZ	**Birch Farm**	**2.77 223**	PN	**Pn**	**22 29 47.6**	**-0.7**
BFZ	**Birch Farm**	**2.77 223**	Pn	**Pn**	**22 29 47.5**	**-0.7**
BFZ			Sn	**Sn**	**22 30 21.1**	**-0.4**
PRWZ	**Pori Road**	**2.83 228**	PN	**Pn**	**22 29 49.4**	**+0.2**
POWZ	**Post Office Ro**	**2.85 232**	PN	**Pn**	**22 29 49.7**	**+0.2**
POWZ	**Post Office Ro**	**2.85 232**	Pn	**Pn**	**22 29 49.8**	**+0.2**
CPWZ	**Castlepoint**	**2.96 220**	PN	**Pn**	**22 29 50.8**	**-0.1**
HIZ	**Hauiti**	**3.03 272**	⇓PN	**Pn**	**22 29 53.0**	**+1.1**
HIZ			AML	AML	22 30 30.6	
HIZ			AML	AML	22 30 55.9	
HIZ	**Hauiti**	**3.03 272**	Pn	**Pn**	**22 29 53.0**	**+1.1**
TIWZ	**Tintock**	**3.03 225**	AML	AML	22 30 31.8	
TIWZ			AML	AML	22 30 33.7	
WAZ	**Wanganui**	**3.09 248**	PN	**Pn**	**22 29 53.5**	**+0.7**
WAZ			AML	AML	22 30 38.2	
WAZ			AML	AML	22 30 38.3	
WAZ	**Wanganui**	**3.09 248**	Pn	**Pn**	**22 29 54.5**	**+1.7**
VRZ	**Vera Road**	**3.12 260**	PN	**Pn**	**22 29 54.2**	**+1.0**
VRZ			AML	AML	22 30 41.1	
VRZ			AML	AML	22 30 57.3	
VRZ	**Vera Road**	**3.12 260**	Pn	**Pn**	**22 29 54.1**	**+1.0**
MRZ	**Mangatainoka R**	**3.13 230**	⇓PN	**Pn**	**22 29 52.8**	**-0.5**
MRZ			AML	AML	22 30 30.9	
MRZ			AML	AML	22 30 31.1	
MRZ	**Mangatainoka R**	**3.13 230**	Pn	**Pn**	**22 29 52.9**	**-0.4**
TMWZ	**Te Maipa**	**3.26 221**	PN	**Pn**	**22 29 53.7**	**-1.4**
TMWZ	**Te Maipa**	**3.26 221**	Pn	**Pn**	**22 29 53.8**	**-1.4**
HOWZ	**Holdsworth Sta**	**3.32 227**	PN	**Pn**	**22 29 55.1**	**-0.9**
HOWZ	**Holdsworth Sta**	**3.32 227**	Pn	**Pn**	**22 29 55.1**	**-0.9**
LREZ	**Lake Rotokare**	**3.45 255**	PN	**Pn**	**22 29 59.2**	**+1.5**
OGWZ	**Otaki Gorge**	**3.47 231**	PN	**Pn**	**22 29 57.4**	**-0.6**
OGWZ	**Otaki Gorge**	**3.47 231**	Pn	**Pn**	**22 29 57.4**	**-0.6**
MTW	**Mount Morrison**	**3.50 224**	PN	**Pn**	**22 29 56.8**	**-1.7**
MTW			AML	AML	22 30 38.9	
MTW			AML	AML	22 30 40.2	
MTW	**Mount Morrison**	**3.50 224**	Pn	**Pn**	**22 29 56.8**	**-1.7**
TRWZ	**Traveller**	**3.58 220**	PN	**Pn**	**22 29 57.7**	**-1.8**
TRWZ			AML	AML	22 30 42.1	
TRWZ			AML	AML	22 30 43.7	
TRWZ	**Traveller**	**3.58 220**	Pn	**Pn**	**22 29 57.7**	**-1.8**
NEZ	**North Egmont**	**3.65 259**	Pn	**Pn**	**22 29 59.8**	**-0.8**
KIW	**Kapiti Island**	**3.66 232**	*e*PN	**Pn**	**22 29 59.8**	**-0.7**
KIW			AML	AML	22 30 43.9	
KIW			AML	AML	22 30 44.2	
KIW	**Kapiti Island**	**3.66 232**	Pn	**Pn**	**22 29 59.9**	**-0.7**
PAWZ	**Paruwai Farm**	**3.70 222**	PN	**Pn**	**22 29 59.5**	**-1.7**
PAWZ			AML	AML	22 30 44.2	
PAWZ			AML	AML	22 30 47.4	
PAWZ	**Paruwai Farm**	**3.70 222**	Pn	**Pn**	**22 29 59.5**	**-1.7**
CAW	**Cannon Point**	**3.71 228**	PN	**Pn**	**22 30 00.3**	**-1.1**
CAW			AML	AML	22 30 47.8	
CAW			AML	AML	22 30 49.1	
CAW	**Cannon Point**	**3.71 228**	Pn	**Pn**	**22 30 00.2**	**-1.1**
PKE	**Pukeiti**	**3.72 260**	PN	**Pn**	**22 30 03.7**	**+2.2**
PKE	**Pukeiti**	**3.72 260**	Pn	**Pn**	**22 30 02.9**	**+1.4**
MSWZ	**Moikau Station**	**3.82 223**	⇑PN	**Pn**	**22 30 00.9**	**-1.9**
MSWZ			AML	AML	22 30 47.2	
MSWZ			AML	AML	22 30 47.3	
PLWZ	**Palliser**	**3.93 221**	PN	**Pn**	**22 30 02.2**	**-2.1**
PLWZ	**Palliser**	**3.93 221**	Pn	**Pn**	**22 30 02.2**	**-2.1**
BHW	**Baring Head**	**4.02 226**	PN	**Pn**	**22 30 03.9**	**-1.6**
BHW			AML	AML	22 30 51.8	
BHW			AML	AML	22 30 52.6	
BHW	**Baring Head**	**4.02 226**	Pn	**Pn**	**22 30 03.8**	**-1.8**
TCW	**Tory Channel**	**4.25 232**	PN	**Pn**	**22 30 07.5**	**-1.2**
TCW			AML	AML	22 30 58.7	
TCW			AML	AML	22 30 58.7	
TCW	**Tory Channel**	**4.25 232**	Pn	**Pn**	**22 30 07.5**	**-1.2**
DUWZ	**D'Urville Isla**	**4.26 239**	PN	**Pn**	**22 30 08.1**	**-0.9**
DUWZ			AML	AML	22 31 19.9	
DUWZ	**D'Urville Isla**	**4.26 239**	Pn	**Pn**	**22 30 08.1**	**-0.9**
TUWZ	**Tuamarina**	**4.58 232**	PN	**Pn**	**22 30 11.0**	**-2.2**
TUWZ			AML	AML	22 31 04.5	
TUWZ			AML	AML	22 31 08.8	
TUWZ	**Tuamarina**	**4.58 232**	Pn	**Pn**	**22 30 11.0**	**-2.2**
BSWZ	**Blackbirch Sta**	**4.79 229**	PN	**Pn**	**22 30 14.3**	**-1.9**
BSWZ			AML	AML	22 31 13.5	
BSWZ	**Blackbirch Sta**	**4.79 229**	Pn	**Pn**	**22 30 14.3**	**-1.9**
NNZ	**Nelson**	**4.83 237**	PN	**Pn**	**22 30 16.0**	**-0.6**
NNZ			AML	AML	22 31 14.6	
NNZ	**Nelson**	**4.83 237**	Pn	**Pn**	**22 30 16.0**	**-0.6**
QRZ	**Quartz Range**	**5.23 244**	PN	**Pn**	**22 30 20.0**	**-2.1**
QRZ	**Quartz Range**	**5.23 244**	Pn	**Pn**	**22 30 20.1**	**-2.1**
THZ	**Tophouse**	**5.41 233**	PN	**Pn**	**22 30 22.3**	**-2.4**
THZ			AML	AML	22 31 26.7	
THZ			AML	AML	22 31 27.9	
KHZ	**Kahutara**	**5.43 225**	PN	**Pn**	**22 30 22.2**	**-2.8**
KHZ			AML	AML	22 31 25.3	
KHZ			AML	AML	22 31 28.2	
KHZ	**Kahutara**	**5.43 225**	Pn	**Pn**	**22 30 22.2**	**-2.8**
DSZ	**Dennistons Nort**	**6.12 238**	PN	**Pn**	**22 30 32.9**	**-1.5**
DSZ	**Dennistons Nort**	**6.12 238**	Pn	**Pn**	**22 30 32.9**	**-1.5**
CTZ	**Chatham Island**	**6.16 147**	PN	Pn	22 30 39.0	+4.1
CTZ	**Chatham Island**	**6.16 147**	Pn	Pn	22 30 39.2	+4.2
LTZ	**Lake Taylor**	**6.39 228**	*e*PN	**Pn**	**22 30 35.5**	**-2.6**
LTZ			AML	AML	22 31 47.3	
LTZ			AML	AML	22 31 50.4	
LTZ	**Lake Taylor**	**6.39 228**	Pn	**Pn**	**22 30 35.5**	**-2.6**
MQZ	**McQueen's Vall**	**6.80 220**	PN	Pn	22 30 40.1	-3.5
MQZ	**McQueen's Vall**	**6.80 220**	Pn	Pn	22 30 40.1	-3.5
WVZ	**Waitaha Valley**	**7.47 231**	PN	**Pn**	**22 30 51.0**	**-2.0**
WVZ			AML	AML	22 33 02.3	
WVZ	**Waitaha Valley**	**7.47 231**	Pn	**Pn**	**22 30 52.0**	**-1.0**
RPZ	**Rata Peaks**	**7.66 226**	Pn	Pn	22 30 58.4	+2.8
	3.3nm,0.3s,baz=10,slow=4.2,SNR=5.2					
RPZ			Sn	Sn	22 32 15.0	-7.2
	7.8nm,0.3s,baz=142,slow=15,SNR=13					
LBZ	**Lake Benmore**	**8.57 226**	Pn	**Pn**	**22 31 05.3**	**-2.8**
ODZ	**Otahua Downs**	**8.76 221**	Pn	Pn	22 31 07.7	-2.9
TUZ	**Tuapeka**	**9.90 220**	Pn	**Pn**	**22 31 24.1**	**-2.2**
CTA	**Charters Tower**	**33.57 294**	P	**P**	**22 35 44.5**	**+0.4**
	2.0nm,0.4s,baz=111,slow=9.1,SNR=4.5					
ASAR	**Alice Springs**	**40.75 278**	P	**P**	**22 36 44.4**	**-0.7**
	2.3nm,0.6s,baz=128,slow=8.2,SNR=30					
ASAR			LR	LR	22 54 52.4	
	comp=Z,70nm,18.1s,baz=141,slow=38					
WRA	**Warramunga Arr**	**42.49 283**	P	**P**	**22 36 58.3**	**-1.1**
	0.6nm,0.3s,baz=123,slow=7.3,SNR=7.8					
QSPA	**South Pole Qui**	**51.45 180**	P	P	22 38 14.5	+5.5
	3.3nm,0.8s,baz=252,slow=1.1,SNR=19					
ARCES	**ARCESS Array B**	**145.93 344**	PKPbc	**PKPab**	**22 48 43.2**	**+0.3**
	2.2nm,0.8s,az=42,slow=1.5,SNR=7.2					
FINES	**FINESS Array B**	**151.62 332**	PKPbc	**PKPbc**	**22 48 58.0**	**+0.7**
	1.3nm,0.7s,baz=62,slow=3.3,SNR=6.0					
BRTR	**Keskin Array B**	**153.01 283**	PKPbc	**PKPbc**	**22 49 01.3**	**-0.1**
	0.5nm,0.6s,baz=42,slow=2.3,SNR=3.1					
TORD	**Torodi Ar. Bea**	**154.44 187**	PKPbc	**PKPbc**	**22 49 07.6**	**+2.7**
	0.7nm,1.0s,baz=156,slow=3.7,SNR=4.8					
TORD			PKPab	**PKPab**	**22 49 22.2**	**+3.2**
	3.8nm,0.8s,baz=174,slow=3.3,SNR=21					

DJA ***12*** *22:32:05.0±1.0, 1°N±5°×9°8E±°, h73km±26km, M3.5/7, mb3.6/1, MLv3.5/7*

IDC ***12*** *22:32:13.6±9.5, 1°.41N×96°.95E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=193.0km s-min=121.9km az=142.0*

ISC 12 22:32:20.4±2.2, 1°.8N±0°.2×97°.2E±0°.2, h28km, n11, σ1§35/9, mb3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.09**	**304**	P	**Pb**	**22 32 41.5**	**+0.9**
TPTI		**1.45**	**358**	P	**Pn**	**22 32 44.2**	**-0.6**
TPTI				S	**Sn**	**22 33 01.4**	**-1.6**
KCSI	**Kotacane, Aceh**	**1.80**	**18**	P	Pn	22 32 45.5	-4.1
KCSI				S	**Sb**	**22 33 16.9**	**+2.1**
LHMI	**Lhok Sumawe**	**3.42**	**355**	P	**Pn**	**22 33 10.4**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.64**	**6**	Pn	**P**	**22 36 13.8**	**-0.3**
	0.1nm,0.3s,baz=195,slow=10,SNR=4.3						
H08S2	**Diego Garcia H**	**26.40**	**249**	T	T	23 04 50.0	
	baz=69,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**26.40**	**249**	T	T	23 04 39.7	
	baz=69,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**26.41**	**249**	T	T	23 04 46.9	
	baz=69,slow=75,SNR=22						
SONM	**Songino Array**	**46.54**	**9**	P	**P**	**22 40 46.2**	**+0.6**
	0.1nm,0.5s,baz=189,slow=9.4,SNR=2.8						
MKAR	**Makanchi Array**	**46.67**	**346**	P	**P**	**22 40 46.0**	**-0.5**
	0.4nm,0.7s,baz=164,slow=9.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**52.98**	**351**	P	**P**	**22 41 34.5**	**+0.2**
	0.6nm,0.5s,baz=174,slow=8.2,SNR=4.9						

ISCJB ***12*** *22:37:14.7±0.6, 10°.7N±0°.1×93°.6E±0°.1, h123km, mb4.0/15, Error ellipse: s-maj=16.9km s-min=13.5km az=154.0*

IDC ***12*** *22:37:19.7±2.4, 10°.79N×93°.78E, h154km±22km, mb3.6/15, mb1 3.8/17, mb1mx3.6/29, mbtmp4.1/17, Error ellipse: s-maj=18.8km s-min=12.5km az=60.0*

ISC 12 22:37:16.4±0.7, 10°.76N±0°.09×93°.6E±0°.1, h123km, n20, σ1§06/22, mb4.0/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.22**	**33**	P	**Pn**	**22 39 28.1**	**+1.7**
	1.1nm,0.3s,baz=221,slow=14,SNR=56						
BWNR	**Bhubaneshwar**	**12.11**	**322**	*ex*	**P**	**22 40 12.0**	**-0.4**
BWNR				*ex*	**Sn**	**22 42 19.0**	**+0.6**
VIS	**Vishakhapatnam**	**12.15**	**306**	*i* P	Pn	22 40 01.6	-3.9
VIS				*i* S	Sn	22 42 10.5	-8.8
VIS				*i* S	Sn	22 42 11.7	-7.6
PALK	**Pallekele**	**13.23**	**256**	P	**P**	**22 40 24.1**	**-0.9**
	1.4nm,0.3s,baz=95,slow=13,SNR=7.1						
IMP	**Imphal**	**13.96**	**1**	*ex*	**Pn**	**22 40 29.0**	**0.0**
AAK	**Ala-Archa**	**35.88**	**336**	P	**P**	**22 44 05.9**	**+1.2**
	2.2nm,0.8s,baz=164,slow=8.1,SNR=5.9						
MKAR	**Makanchi Array**	**37.19**	**347**	P	**P**	**22 44 15.9**	**+0.4**
	1.5nm,0.7s,baz=165,slow=8.3,SNR=22						
MKAR				PcP	**PcP**	**22 46 33.0**	**0.0**
	0.4nm,0.5s,baz=147,slow=3.4,SNR=4.4						
SONM	**Songino Array**	**38.49**	**14**	P	**P**	**22 44 26.7**	**+0.1**
	0.5nm,0.4s,baz=196,slow=11,SNR=4.8						
SONM				ScP	**S**	**22 50 10.7**	**-2.4**
	0.4nm,0.6s,baz=197,slow=4.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.65**	**352**	P	**P**	**22 45 09.2**	**+0.5**
	3.0nm,0.4s,baz=182,slow=8.8,SNR=24						
WRA	**Warramunga Arr**	**50.37**	**127**	P	**P**	**22 46 00.4**	**-0.9**
	1.6nm,0.5s,baz=306,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**52.16**	**131**	P	**P**	**22 46 13.9**	**-0.8**
	1.7nm,0.4s,baz=304,slow=7.3,SNR=20						
OPO	**Ambohidratompo**	**54.29**	**238**	P	**P**	**22 46 33.0**	**+2.5**
	2.4nm,0.7s,baz=14,slow=3.3,SNR=5.7						
BRTR	**Keskin Array B**	**60.19**	**310**	P	**P**	**22 47 11.0**	**-0.7**
	1.0nm,0.7s,baz=121,slow=7.6,SNR=7.7						
FINES	**FINESS Array B**	**69.95**	**332**	P	**P**	**22 48 13.7**	**-0.5**
	1.1nm,0.8s,baz=92,slow=7.0,SNR=4.8						
ARCES	**ARCESS Array B**	**72.40**	**340**	P	**P**	**22 48 29.2**	**+0.4**
	2.0nm,0.8s,baz=101,slow=7.4,SNR=7.1						
GERES	**GERESS Array B**	**75.36**	**318**	P	**P**	**22 48 46.5**	**-0.1**
	0.5nm,0.7s,baz=96,slow=7.0,SNR=6.1						
KEST	**Kesra**	**79.20**	**304**	P	**P**	**22 49 08.5**	**+0.2**
	0.8nm,0.6s,baz=81,slow=13,SNR=4.4						
ESDC	**Sonseca Array**	**88.99**	**310**	P	**P**	**22 49 56.9**	**-0.8**
	0.4nm,0.5s,baz=59,slow=4.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**89.45**	**283**	P	**P**	**22 50 00.3**	**+0.1**
	0.6nm,0.7s,baz=91,slow=4.6,SNR=2.7						
VNDA	**Vanda**	**95.83**	**168**	P	**P**	**22 50 28.1**	**-0.2**
	0.3nm,0.4s,baz=318,slow=5.8,SNR=4.9						

IDC ***12*** *23:01:27.1±2.4, 7°.06S×129°.01E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/25, mbtmp3.6/3, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/14, Error ellipse: s-maj=194.0km s-min=32.4km az=67.0*

AUST ***12*** *23:02:31.6, 11°.73S×130°.43E, h0km*

ISC 12 23:01:28.8±1.6, 7°.2S±0°.1×128°.96E±0°.09, h10km, n8, σ1§41/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.28**	**241**	P	**Pb**	**23 03 01.9**	**+0.6**
	baz=4.9,SNR=7.8						
SOEI				S	**Sb**	**23 04 04.3**	**-0.5**
	baz=4.9,SNR=6.2						
MTN	**Manton Dam**	**5.98**	**159**	P	Pn	23 03 05.0	+7.6
	baz=4.8,SNR=20						
MTN				S	**Sn**	**23 04 07.0**	**+0.9**
	baz=4.8,SNR=12						
KDU	**Kakadu**	**6.44**	**148**	P	Pn	23 03 10.4	+6.7
	baz=5.4,SNR=31						
KDU				S	**Sn**	**23 04 15.6**	**-1.8**
	baz=5.4,SNR=13						
KNRA	**Kununurra**	**8.40**	**181**	P	Pn	23 03 37.1	+6.4
	baz=7.2,SNR=36						
KNRA				S	**Sn**	**23 05 03.8**	**-1.9**
	baz=7.2,SNR=6.5						
WRA	**Warramunga Arr**	**13.68**	**158**	Pn	**Pn**	**23 04 43.6**	**+0.6**
	0.8nm,0.3s,baz=333,slow=15,SNR=6.6						
WRA				Sn	Sn	23 07 03.8	-11
	1.2nm,0.3s,baz=336,slow=22,SNR=12						
WRA				LR	LR	23 10 14.8	
	comp=Z,76nm,19.3s,baz=235,slow=38						
ASAR	**Alice Springs**	**17.02**	**164**	Pn	**P**	**23 05 29.3**	**+0.2**
	0.4nm,0.3s,baz=337,slow=9.5,SNR=25						
ASAR				Sn	Sn	23 08 25.7	-11
	0.2nm,0.3s,baz=338,slow=22,SNR=5.4						
WRKA	**Warakurra**	**17.72**	**182**	P	**P**	**23 05 38.3**	**+1.6**
	baz=17,SNR=6.6						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**23 12 26.6**	**-0.8**
	0.1nm,0.4s,baz=121,slow=8.2,SNR=5.7						

ISCJB ***12*** *23:01:58.8±0.5, 37°.25N±0°.03×37°.20E±0°.02, h2km±4km, Error ellipse: s-maj=4.8km s-min=2.9km az=160.7*

DDA ***12*** *23:01:58.3, 37°.24N×37°.21E, h16km, ML3.5*

ISK ***12*** *23:01:59.1, 37°.30N×37°.19E, h9km, MD3.9*

CSEM ***12*** *23:01:59.7±0.2, 37°.27N×37°.18E, h5km, ML3.5, Error ellipse: s-maj=5.5km s-min=3.7km az=161.0*

ISC 12 23:01:59.2±1.0, 37°.27N±0°.02×37°.21E±0°.02, h7km±9km, n73, σ1§04/95, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.29**	**73**	*i* P	**Pg**	**23 02 04.4**	**-0.6**
GZT				*i* S	**Sg**	**23 02 09.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.34**	**314**	*e*PG	**Pg**	**23 02 05.9**	**0.0**
KMRS				*e*SG	**Sg**	**23 02 10.3**	**-0.2**
KMRS	**Kahramanmaras**	**0.34**	**314**	*e*Pg	**Pg**	**23 02 05.9**	**0.0**
KMRS				*e*Sg	**Sg**	**23 02 10.3**	**-0.2**
KAMA	**Osmaniye**	**0.44**	**260**	*i* P	**Pg**	**23 02 07.2**	**-0.6**
KAMA				*i* S	**Sg**	**23 02 14.0**	**+0.4**
KUZU	**Kuzuini**	**0.51**	**193**	*i* P	**Pg**	**23 02 08.9**	**0.0**
KUZU				*i* S	**Sg**	**23 02 16.5**	**+1.0**
KUZU	**Kuzuini**	**0.51**	**193**	*i* P	**Pg**	**23 02 08.9**	**0.0**
KUZU				*i* S	**Sg**	**23 02 16.5**	**+1.0**
ANDN	**Andirin**	**0.76**	**295**	*i* P	**Pg**	**23 02 13.6**	**-0.1**
ANDN	**Andirin**	**0.76**	**295**	*i* P	**Pg**	**23 02 13.6**	**-0.1**
ANDN				*i* S	**Sn**	**23 02 27.8**	**-0.5**
ATAB	**Bozova**	**0.89**	**77**	*i* P	**Pg**	**23 02 16.1**	**-0.1**
ATAB				*i* S	**Sb**	**23 02 28.6**	**-0.3**
ATAB	**Bozova**	**0.89**	**77**	*i* P	**Pg**	**23 02 16.1**	**-0.1**
ATAB				*i* S	**Sb**	**23 02 28.6**	**-0.3**
KOZT	**Kozan**	**1.12**	**281**	*e*PN	**Pg**	**23 02 20.8**	**+0.1**
KOZT				*e*SN	**Sb**	**23 02 36.3**	**+0.4**
KOZT	**Kozan**	**1.12**	**281**	*e*Pn	**Pg**	**23 02 20.8**	**+0.1**
KOZT				*e*Sn	**Sb**	**23 02 36.3**	**+0.4**
AKCD	**Akcadag**	**1.17**	**28**	*i* P	**Pn**	**23 02 22.2**	**+0.1**
AKCD				*i* S	**Sn**	**23 02 38.5**	**0.0**
AKCD	**Akcadag**	**1.17**	**28**	*i* P	**Pn**	**23 02 22.2**	**+0.1**
AKCD				*i* S	**Sn**	**23 02 38.5**	**0.0**
CEYT	**Ceyhan**	**1.20**	**258**	*e*P

*MEX **12** 23:06:12.8±0.9, 32°.49N×114°.07W, h10km, MD3.6*
*NEIC **12** 23:06:28.3, 32°.02N×115°.11W, h10km, MD3.6(MEX), ML3.6(PAS), After PAS.*

ISC 12 23:06:18.8±1.6, 32°.12N±0°.05×114°.71W±0°.04, h1km±13km, n17, σ2s19/24, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.50**	**305**	*eP*	**Pg**	**23 06 29.2**	**+0.8**
MBIG				*i* S	**Sb**	**23 06 41.4**	**+3.2**
CPBX	**Cerro Prieto**	**0.58**	**301**	*i* P	**Pg**	**23 06 29.5**	**-0.5**
CPBX				*i* S	**Sb**	**23 06 40.0**	**-0.5**
GLA	**Glamis**	**0.94**	**354**	*e*Pg	Pn	23 06 46.1	+7.0
GLA				*e*S	Sn	23 06 59.2	+6.0
SPX	**San Pedro Mart**	**1.25**	**211**	*e*P	**Pn**	**23 06 41.4**	**-2.3**
SPX				*e*S	**Sn**	**23 07 04.2**	**+2.9**
SPIG	**San Pedro Mart**	**1.25**	**211**	*e*P	**Pn**	**23 06 41.3**	**-2.3**
SPIG				*e*S	**Sn**	**23 07 04.3**	**+3.0**
SPIG	**San Pedro Mart**	**1.25**	**211**	*e*P	**Pn**	**23 06 41.3**	**-2.3**
SPIG				*e*S	**Sn**	**23 07 04.3**	**+3.0**
214A	**Organ Pipe Nat**	**1.62**	**95**	Pn	Pg	23 06 59.1	+9.2
214A				Sn	Sg	23 07 26.2	+15
CBX	**Cerro Bola**	**1.67**	**277**	*e*P	Pn	23 06 45.8	-3.5
CBX				*i* S	**Sb**	**23 07 10.6**	**-1.3**
CBX	**Cerro Bola**	**1.67**	**277**	*e*P	Pn	23 06 45.8	-3.5
CBX				*e*S	**Sn**	**23 07 09.3**	**-2.0**
BAR	**Barrett**	**1.75**	**289**	*e*Pn	**Pg**	**23 06 53.5**	**+1.1**
BAR				*e*Sn	**Sn**	**23 07 11.3**	**-2.0**
PFO	**Pinyon Flats O**	**2.09**	**316**	*e*Pn	**Pb**	**23 06 58.7**	**+1.1**
PFO				*e*Sn	**Sg**	**23 07 26.8**	**+0.9**
MWC	**Mount Wilson**	**3.50**	**308**	*e*Pn	**Pb**	**23 07 20.9**	**-0.9**
GSC	**Goldstone, Bar**	**3.62**	**332**	*e*Pn	**Pb**	**23 07 24.3**	**+0.6**
GSC				Sn	**Sb**	**23 08 06.8**	**-1.4**
SHPR	**Sheep Range**	**4.39**	**355**	*e*Pn	**Pb**	**23 07 35.4**	**-1.5**
ISA	**Isabella, Lake**	**4.72**	**319**	*e*Pn	Pb	23 07 37.4	-5.0
ISA				*e*Sn	**Sn**	**23 08 31.0**	**+4.4**
W18A	**Petrified Fore** 8.5nm,0.4s	**5.12**	**53**	*e*Pn	**Pb**	**23 07 49.8**	**+0.6**
W18A				*e*Sn	**Sb**	**23 08 52.4**	**+1.2**
121A	**Cookes Peak, D** 6.4nm,0.4s	**5.88**	**84**	*e*Pn	Pb	23 07 59.9	-2.3
121A				*e*Sn	**Sb**	**23 09 11.4**	**-1.7**

*MAN **12** 23:09:03.6°.44N×126°.07E, h146km, mb5.0, ML4.0, MS4.1*
*ISCJB **12** 23:09:04.3±0.4, 6°.36N±0°.03×126°.02E±0°.06, h135km±4km, mb3.8/8, Error ellipse: s-maj=10.5km s-min=4.9km az=176.5*
*DJA **12** 23:09:08.4±1.3, 6°.N±6°×12°6E±°, h26km±22km, M5.1/10, mb5.1/10, mB5.5/6, MLv5.1/5, Mw(mB)5.0/6*
*IDC **12** 23:09:11.6±5.6, 6°.30N×125°.58E, h200km±57km, mb3.5/8, mb1 3.8/9, mb1mx3.4/38, mbtmp4.2/9, Error ellipse: s-maj=43.3km s-min=14.5km az=82.0*

ISC 12 23:09:05.3±0.7, 6°.34N±0°.04×125°.91E±0°.08, h131km±7km, n43, σ1s60/44, mb3.9/8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.70**	**30**	*e*P	Pn	23 09 25.9	+0.1
MATI				*e*S	**Sn**	**23 09 41.9**	**+0.6**
GSPH	**General Santos**	**0.98**	**255**	⇓*i*P	**Pn**	**23 09 27.5**	**-0.8**
GSPH				*i* S	**Sn**	**23 09 44.8**	**-0.9**
BUKP	**Musuan**	**1.75**	**331**	*e*P	**Pn**	**23 09 36.0**	**-0.4**
BUKP				*e*S	**Sn**	**23 10 01.0**	**+0.9**
CGP	**Cagayan de Oro**	**2.42**	**330**	⇑*e*P	**Pn**	**23 09 46.0**	**+1.4**
CGP				*e*S	**Sn**	**23 10 17.9**	**+3.0**
SGSI	**Sangihe**	**2.66**	**188**	P	**Pn**	**23 09 48.0**	**+0.4**
SGSI				S	**Sn**	**23 10 22.9**	**+2.7**
PAGZ	**Pagadian**	**2.92**	**301**	*e*P	**Pn**	**23 09 50.5**	**-0.5**
SCPH	**Surigao**	**3.45**	**353**	*e*P	**Pn**	**23 09 56.0**	**-1.8**
TNTI	**Ternate**	**5.72**	**165**	P	**Pn**	**23 10 28.5**	**+0.5**
TNTI				S	**Sn**	**23 11 30.6**	**-2.0**
KMSI	**Cibinong** 242nm,1.0s,1.0nm	**6.04**	**199**	P	**Pn**	**23 10 33.0**	**+0.6**
GTOI	**Gorontalo** 326nm,0.8s,3μm1.2nm	**6.36**	**207**	P	**Pn**	**23 10 37.6**	**+0.9**
MRSI	**Marisa** 148nm,0.9s,1μm0.6nm	**7.04**	**214**	P	**Pn**	**23 10 47.8**	**+2.0**
MRSI	148nm,0.9s,1μm0.6nm			S	**Sn**	**23 12 07.1**	**+2.6**
LBMI	**Labuha**	**7.11**	**167**	P	**Pn**	**23 10 47.3**	**+0.5**
LBMI				S	**Sn**	**23 12 04.2**	**-2.0**
SANI	**Sanana** 262nm,0.5s,7μm	**8.33**	**179**	P	**Pn**	**23 11 01.1**	**-2.1**
SANI	262nm,0.5s,7μm			S	Sn	23 12 28.3	-7.5
APSI	**Ampana** 88nm,1.1s,857nm	**8.36**	**211**	P	Pn	23 11 09.3	+5.7
NLAI	**Namlea** 203nm,0.7s,7μm	**9.59**	**173**	P	**Pn**	**23 11 18.8**	**-1.3**
TTSI	**Tana Toraja**	**11.13**	**213**	P	Pn	23 11 44.3	+3.6
SPSI	**Sidrap Palu** 9.9nm,0.9s,2μm	**11.93**	**211**	P	Pn	23 11 55.9	+4.6
BNSI	**Bone**	**12.14**	**209**	P	Pn	23 11 57.5	+3.5
BKSI	**Bulukumba**	**12.94**	**207**	P	**Pn**	**23 12 06.3**	**+1.9**
KBKI	**Kotabaru**	**13.64**	**226**	P	P	23 12 25.9	+8.1
BATI	**Baumata** 9.2nm,0.3s,baz=278,slow=2.0,SNR=14	**16.59**	**188**	P	**P**	**23 12 51.8**	**+1.4**
MTN	**Manton Dam** baz=20,SNR=5.7	**19.75**	**165**	P	**Pn**	**23 13 26.9**	**-1.0**
KDU	**Kakadu** baz=20,SNR=8.7	**19.99**	**161**	P	**Pn**	**23 13 29.1**	**-1.6**
KNRA	**Kununurra** baz=22,SNR=11	**22.05**	**173**	P	**P**	**23 13 50.7**	**+1.1**
COEN	**Coen** baz=26,SNR=12	**26.46**	**140**	P	**P**	**23 14 31.0**	**+0.6**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=345,slow=9.2,SNR=5.3	**27.40**	**163**	P	**P**	**23 14 38.7**	**0.0**
RABL	**Rabaul** baz=28,SNR=5.2	**28.22**	**111**	S	**S**	**23 19 26.6**	**+4.0**
QIS	**Mount Isa** baz=30,SNR=12	**29.93**	**154**	P	**P**	**23 15 02.0**	**+0.9**
ASAR	**Alice Springs** 1.0nm,0.3s,baz=342,slow=6.8,SNR=25	**30.82**	**166**	P	**P**	**23 15 09.5**	**+0.5**
KSRS	**Korea Array** 5.2nm,1.2s,baz=187,slow=9.9,SNR=3.3	**31.03**	**3**	P	**P**	**23 15 10.2**	**-0.3**
WRKA	**Warakurna** baz=31,SNR=6.6	**31.27**	**176**	P	**P**	**23 15 14.1**	**+1.2**
MEEK	**Meekatharra** baz=33,SNR=4.8	**33.53**	**192**	P	**P**	**23 15 32.4**	**-0.2**
BLDU	**Ballidu** baz=38,SNR=5.1	**37.78**	**193**	P	**P**	**23 16 08.7**	**-0.1**
USRK	**Ussuriysk Ar.** 2.4nm,0.6s,baz=190,slow=7.3,SNR=5.3	**38.09**	**7**	P	**P**	**23 16 12.8**	**+1.6**
NWAO	**Narrogin (SRO)** baz=40,SNR=10	**39.91**	**191**	P	**P**	**23 16 27.1**	**+0.5**
BBOO	**Buckleboo** baz=40,SNR=24	**40.11**	**167**	P	**P**	**23 16 29.3**	**+1.1**
STKA	**Stephens Creek** baz=41,SNR=18	**40.84**	**159**	P	**P**	**23 16 35.4**	**+1.1**
MGCD	**Mangrove Creek** baz=46,SNR=5.6	**46.03**	**150**	P	P	23 17 09.7	-6.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=125,slow=7.6,SNR=7.6	**54.97**	**325**	P	**P**	**23 18 20.6**	**-2.2**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=258,slow=4.6,SNR=5.8	**83.12**	**26**	P	**P**	**23 21 15.2**	**-1.0**
ARCES	**ARCESS Array B** 6.2nm,1.1s,baz=86,slow=5.5,SNR=4.4	**87.74**	**340**	P	**P**	**23 21 36.7**	**-2.3**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=297,slow=4.4,SNR=5.0	**97.47**	**24**	P	**P**	**23 22 23.2**	**-0.8**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=70,slow=1.7,SNR=6.6	**121.31**	**289**	PKP	**PKPdf**	**23 27 41.8**	**-2.2**

*CSEM **12** 23:12:10.4, 35°.26N×24°.15E, h31km, MD3.6*

ATH 12 23:12:10.4, 35°.26N×24°.15E, h31km±2km, MD3.6/15, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.15**	**15**	*e*PB	Pn	23 12 16.9	+0.2
VAM	**Vamos**	**0.15**	**15**	*e*Pb	Pn	23 12 16.9	+0.2
KARN	**Karanos**	**0.24**	**307**	*e*PB	Pn	23 12 17.8	-0.1
KARN	**Karanos**	**0.24**	**307**	*e*Pb	Pn	23 12 17.8	-0.1
SIVA	**Sivas**	**0.59**	**114**	*e*PN	Pb	23 12 21.7	-0.7
SIVA	**Sivas**	**0.59**	**114**	*e*Pn	Pb	23 12 21.7	-0.7
ANKY	**Antikythira Is**	**0.92**	**311**	*e*PN	Pb	23 12 28.0	+0.1
ANKY	**Antikythira Is**	**0.92**	**311**	*e*Pn	Pb	23 12 28.0	+0.1
LAST	**Lasithi**	**1.09**	**95**	*e*PN	Pb	23 12 31.4	+0.5
LAST	**Lasithi**	**1.09**	**95**	*e*Pn	Pb	23 12 31.4	+0.5
NPS	**Neapolis**	**1.20**	**89**	*e*PN	Pb	23 12 33.2	+0.7
NPS	**Neapolis**	**1.20**	**89**	*e*Pn	Pb	23 12 33.2	+0.7
KYTH	**Kithira**	**1.36**	**319**	*e*PN	Pb	23 12 36.4	+1.0
KYTH	**Kithira**	**1.36**	**319**	*e*Pn	Pb	23 12 36.4	+1.0
SANT	**Santorini**	**1.54**	**43**	*e*PN	Pb	23 12 38.7	+0.4
SANT	**Santorini**	**1.54**	**43**	*e*Pn	Pb	23 12 38.7	+0.4
ZKR	**Zakros**	**1.70**	**94**	*e*PN	Pb	23 12 40.5	-0.5
ZKR	**Zakros**	**1.70**	**94**	*e*Pn	Pb	23 12 40.5	-0.5
APE	**Apeiranthos**	**2.12**	**31**	*e*PN	Pn	23 12 45.3	+1.5
APE	**Apeiranthos**	**2.12**	**31**	*e*Pn	Pn	23 12 45.3	+1.5
KARP	**Karpathos**	**2.48**	**82**	*e*PN	Pn	23 12 49.8	+1.1
KARP	**Karpathos**	**2.48**	**82**	*e*Pn	Pn	23 12 49.8	+1.1
PTL	**Penteli**	**2.79**	**355**	*e*PN	Pn	23 12 55.0	+2.0
PTL	**Penteli**	**2.79**	**355**	*e*Pn	Pn	23 12 55.0	+2.0
LTK	**Loutraki**	**2.92**	**341**	*e*PN	Pn	23 12 55.4	+0.7
LTK	**Loutraki**	**2.92**	**341**	*e*Pn	Pn	23 12 55.4	+0.7
GUR	**Goura**	**3.04**	**332**	*e*PN	Pn	23 12 58.1	+1.6
GUR	**Goura**	**3.04**	**332**	*e*Pn	Pn	23 12 58.1	+1.6
KLV	**Kalavryta, Ach**	**3.21**	**331**	*e*PN	Pn	23 13 00.9	+2.1
KLV	**Kalavryta, Ach**	**3.21**	**331**	*e*Pn	Pn	23 13 00.9	+2.1

*CSEM **12** 23:14:39.2±0.3, 50°.40N×18°.85E, h2km, Error ellipse: s-maj=6.8km s-min=2.4km az=3.0*

PRU 12 23:14:40.2, 50°.34N×18°.84E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.63**	**101**	*e*Pg	Pg	23 14 51.3	-1.0
OJC				*e*Sg	Sg	23 15 00.1	-0.3
OJC	**Ojcow**	**0.63**	**101**	*e*Pg	Pg	23 14 51.3	-1.0
OJC				*e*Sg	Sg	23 15 00.1	-0.3
OKC	**Ostrava-Krasne**	**0.67**	**222**	*e*PG	Pg	23 14 52.9	-0.2
OKC				*e*SG	Sg	23 15 02.2	+0.4
	comp=Z,1.7nm,0.2s						
OKC	**Ostrava-Krasne**	**0.67**	**222**	Pg	Pg	23 14 52.9	-0.2
OKC				Sg	Sg	23 15 02.2	+0.4
	1.7nm,0.2s						
MORC	**Moravsky Berou**	**1.01**	**237**	*e*Pg	Pg	23 14 59.9	+0.3
MORC				*e*Sg	Sg	23 15 12.8	0.0
NIE	**Niedzica**	**1.33**	**133**	*e*Pg	Pg	23 15 05.4	-0.3
NIE				*e*Sg	Sg	23 15 22.9	0.0
NIE	**Niedzica**	**1.33**	**133**	*e*Pg	Pg	23 15 05.4	-0.3
NIE				*e*Sg	Sg	23 15 22.9	0.0
KRLC	**Kraliky**	**1.35**	**259**	*e*PG	Pg	23 15 05.1	-1.1
KRLC				*e*SG	Sg	23 15 23.9	+0.2
KRLC	**Kraliky**	**1.35**	**259**	Pg	Pg	23 15 05.1	-1.1
KRLC				Sg	Sg	23 15 23.9	+0.2
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*PG	Pn	23 15 09.7	-0.3
DPC				*e*SG	Sg	23 15 32.3	+0.1
DPC	**Dobruska-Polom**	**1.61**	**271**	Pg	Pn	23 15 09.7	-0.3
DPC				Sg	Sg	23 15 32.3	+0.1
VRAC	**Vranov**	**1.78**	**235**	*e*Pn	Pn	23 15 12.3	0.0
VRAC				*e*Sg	Sb	23 15 37.1	+0.4
KHC	**Kasperske Hory**	**3.62**	**252**	*e*SG	Sg	23 16 35.5	-1.2
KHC	**Kasperske Hory**	**3.62**	**252**	Sg	Sg	23 16 35.5	-1.2

*CSEM **12** 23:17:01.2, 45°.60N×26°.31E, h162km, MD3.6/7*

BUC 12 23:17:01.2±0.8, 45°.60N×26°.31E, h162km±6km, MD3.6/7, 48C-18D, Error ellipse: s-maj=6.0km s-min=4.5km az=97.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.28**	**248**	⇑*i*P	Pn	23 17 23.2	-0.1
MLR				*i* S	Sn	23 17 39.3	-0.9
MLR	**Muntele Rosu**	**0.28**	**248**	⇑*i*P	Pn	23 17 23.2	-0.1
MLR	**Muntele Rosu**	**0.28**	**248**	S	Sn	23 17 39.3	-0.9
MLR	**Muntele Rosu**	**0.28**	**248**	⇑*i*P	Pn	23 17 23.2	-0.1
MLR				*i* S	Sn	23 17 39.3	-0.9
PLOR	**Plostina**	**0.35**	**43**	⇑*i*P	Pn	23 17 23.6	+0.2
PLOR				*i* S	Sn	23 17 39.5	-1.0
PLOR	**Plostina**	**0.35**	**43**	⇑*i*P	Pn	23 17 23.6	+0.2
PLOR	**Plostina**	**0.35**	**43**	⇑*i*P	Pn	23 17 23.6	+0.2
PLOR				*i* S	Sn	23 17 39.5	-1.0
VRI	**Vrincioaia**	**0.40**	**47**	⇑*i*P	Pn	23 17 23.5	0.0
VRI				*i* S	Sn	23 17 39.5	-1.2
VRI	**Vrincioaia**	**0.40**	**47**	⇑*i*P	Pn	23 17 23.5	0.0
VRI	**Vrincioaia**	**0.40**	**47**	⇑*i*P	Pn	23 17 23.5	0.0
VRI				*i* S	Sn	23 17 39.5	-1.2
ISR	**Istrita**	**0.51**	**161**	⇓*i*P	Pn	23 17 24.2	+0.1
ISR				*i* S	Sn	23 17 41.4	-0.1
ISR	**Istrita**	**0.51**	**161**	⇓*i*P	Pn	23 17 24.2	+0.1
ISR	**Istrita**	**0.51**	**161**	⇓*i*P	Pn	23 17 24.2	+0.1
ISR				*i* S	Sn	23 17 41.4	-0.1
GRER		**0.51**	**115**	⇑*i*P	Pn	23 17 25.0	+1.0
GRER		**0.51**	**115**	⇑*i*P	Pn	23 17 25.0	+1.0
GRER		**0.51**	**115**	⇑*i*P	Pn	23 17 25.0	+1.0
ODBI	**Odobesti**	**0.55**	**72**	⇑*i*P	Pn	23 17 25.2	+1.1
ODBI	**Odobesti**	**0.55**	**72**	⇑*i*P	Pn	23 17 25.2	+1.1
ODBI	**Odobesti**	**0.55**	**72**	⇑*i*P	Pn	23 17 25.2	+1.1
SECR		**0.59**	**197**	⇑*i*P	Pn	23 17 24.5	+0.1
SECR				*i* S	Sn	23 17 41.6	-0.6
SECR		**0.59**	**197**	⇑*i*P	Pn	23 17 24.5	+0.1
SECR		**0.59**	**197**	⇑*i*P	Pn	23 17 24.5	+0.1
SECR				*i* S	Sn	23 17 41.6	-0.6
PETR	**Petresti**	**0.66**	**79**	⇑*i*P	Pn	23 17 25.3	+0.6
PETR				*i* S	Sn	23 17 42.6	-0.1
PETR	**Petresti**	**0.66**	**79**	⇑*i*P	Pn	23 17 25.3	+0.6
PETR	**Petresti**	**0.66**	**79**	⇑*i*P	Pn	23 17 25.3	+0.6
PETR				*i* S	Sn	23 17 42.6	-0.1
DOPR	**Dopca**	**0.75**	**300**	⇑*i*P	Pn	23 17 25.3	0.0
DOPR				*i* S	Sn	23 17 43.2	-0.7
DOPR	**Dopca**	**0.75**	**300**	⇑*i*P	Pn	23 17 25.3	0.0
DOPR	**Dopca**	**0.75**	**300**	⇑*i*P	Pn	23 17 25.3	0.0
DOPR				*i* S	Sn	23 17 43.2	-0.7
PGOR	**Pogoanele**	**0.84**	**145**	⇑*i*P	Pn	23 17 26.1	+0.2
PGOR	**Pogoanele**	**0.84**	**145**	⇑*i*P	Pn	23 17 26.1	+0.2
PGOR	**Pogoanele**	**0.84**	**145**	⇑*i*P	Pn	23 17 26.1	+0.2
VOIR		**0.90**	**260**	⇓*i*P	Pn	23 17 27.0	+0.5
VOIR				*i* S	Sn	23 17 44.3	-1.6
VOIR		**0.90**	**260**	⇓*i*P	Pn	23 17 27.0	+0.5
VOIR		**0.90**	**260**	⇓*i*P	Pn	23 17 27.0	+0.5
VOIR				*i* S	Sn	23 17 44.3	-1.6
SULR		**0.92**	**183**	⇑*i*P	Pn	23 17 26.5	0.0
SULR				*i* S	Sn	23 17 45.2	-0.7
SULR		**0.92**	**183**	⇑*i*P	Pn	23 17 26.5	0.0
SULR		**0.92**	**183**	⇑*i*P	Pn	23 17 26.5	0.0
SULR				*i* S	Sn	23 17 45.2	-0.7
TESR	**Tescani**	**0.94**	**14**	⇑*i*P	Pn	23 17 26.9	+0.2
TESR				*i* S	Sn	23 17 44.9	-1.5
TESR	**Tescani**	**0.94**	**14**	⇑*i*P	Pn	23 17 26.9	+0.2
TESR	**Tescani**	**0.94**	**14**	⇑*i*P	Pn	23 17 26.9	+0.2
TESR				*i* S	Sn	23 17 44.9	-1.5
MTUR	**Matau**	**0.96**	**248**	⇑*i*P	Pn	23 17 28.2	+1.3
MTUR	**Matau**	**0.96**	**248**	⇑*i*P	Pn	23 17 28.2	+1.3
MTUR	**Matau**	**0.96**	**248**	⇑*i*P	Pn	23 17 28.2	+1.3
BTMR	**Bucharest-Geot**	**1.17**	**187**	*i* S	Sn	23 17 47.7	-1.9
BTMR	**Bucharest-Geot**	**1.17**	**187**	S	Sn	23 17 47.7	-1.9
BTMR	**Bucharest-Geot**	**1.17**	**187**	*i* S	Sn	23 17 47.7	-1.9
ARR	**Arges**	**1.20**	**260**	⇓*i*P	Pn	23 17 29.5	+0.5
ARR				*i* S	Sn	23 17 49.3	-1.0
ARR	**Arges**	**1.20**	**260**	⇓*i*P	Pn	23 17 29.5	+0.5
ARR	**Arges**	**1.20**	**260**	⇓*i*P	Pn	23 17 29.5	+0.5
ARR				*i* S	Sn	23 17 49.3	-1.0
BUC1	**Bucharest**	**1.27**	**189**	*i* S	Sn	23 17 49.3	-1.8
BUC1	**Bucharest**	**1.27**	**189**	S	Sn	23 17 49.3	-1.8
BUC1	**Bucharest**	**1.27**	**189**	*i* S	Sn	23 17 49.3	-1.8
CFR	**Carcaliu**	**1.35**	**107**	⇓*i*P	Pn	23 17 30.0	-0.2
CFR				*i* S	Sn	23 17 50.6	-1.9
CFR	**Carcaliu**	**1.35**	**107**	⇓*i*P	Pn	23 17 30.0	-0.2
CFR	**Carcaliu**	**1.35**	**107**	⇓*i*P	Pn	23 17 30.0	-0.2
CFR				*i* S	Sn	23 17 50.6	-1.9
HUMR	**Humele**	**1.43**	**222**	*i* S	Sn	23 17 51.9	-2.0
HUMR	**Humele**	**1.43**	**222**	S	Sn	23 17 51.9	-2.0
HUMR	**Humele**	**1.43**	**222**	*i* S	Sn	23 17 51.9	-2.0
HARR	**Harsova**	**1.46**	**128**	⇑*i*P	Pn	23 17 31.2	-0.1
HARR	**Harsova**	**1.46**	**128**	⇑*i*P	Pn	23 17 31.2	-0.1
HARR	**Harsova**	**1.46**	**128**	⇑*i*P	Pn	23 17 31.2	-0.1
TLB	**Topalu**	**1.59**	**129**	⇑*i*P	Pn	23 17 32.5	-0.1
TLB				*i* S	Sn	23 17 54.5	-2.2
TLB	**Topalu**	**1.59**	**129**	⇑*i*P	Pn	23 17 32.5	-0.1
TLB	**Topalu**	**1.59**	**129**	⇑*i*P	Pn	23 17 32.5	-0.1
TLB				*i* S	Sn	23 17 54.5	-2.2
TLCR		**1.81**	**102**	*i* S	Sn	23 18 00.4	-0.5
TLCR		**1.81**	**102**	S	Sn	23 18 00.4	-0.5
TLCR		**1.81**	**102**	*i* S	Sn	23 18 00.4	-0.5
TIRR	**Tirgusor**	**1.87**	**127**	⇑*i*P	Pn	23 17 35.7	+0.1
TIRR				*i* S	Sn	23 17 59.7	-2.5
TIRR	**Tirgusor**	**1.87**	**127**	⇑*i*P	Pn	23 17 35.7	+0.1
TIRR	**Tirgusor**	**1.87**	**127**	⇑*i*P	Pn	23 17 35.7	+0.1
TIRR				*i* S	Sn	23 17 59.7	-2.5
PSN	**Preselentsi**	**2.33**	**144**	⇓*i*P	Pn	23 17 41.6	+0.7
PSN				*i* S	Sn	23 18 10.9	-0.7
PSN	**Preselentsi**	**2.33**	**144**	⇓*i*P	Pn	23 17 41.6	+0.7
PSN	**Preselentsi**	**2.33**	**144**	⇓*i*P	Pn	23 17 41.6	+0.7
PSN				*i* S	Sn	23 18 10.9	-0.7
GZR	**Gura Zlata**	**2.50**	**267**	⇓*i*P	Pn	23 17 44.0	+1.1
GZR	**Gura Zlata**	**2.50**	**267**	⇓*i*P	Pn	23 17 44.0	+1.1
GZR	**Gura Zlata**	**2.50**	**267**	⇓*i*P	Pn	23 17 44.0	+1.1
DRGR		**2.77**	**297**	⇑*i*P	Pn	23 17 46.7	+0.4
DRGR		**2.77**	**297**	⇑*i*P	Pn	23 17 46.7	+0.4
DRGR		**2.77**	**297**	⇑*i*P	Pn	23 17 46.7	+0.4

WEL 13 00:02:22.5±0.9, 36°.28S×179°.96W, h33km, ML3.6/4, Error ellipse: s-maj=11.3km s-min=9.4km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.89**	**227**	PN	Pn	00 02 51.1	-1.5
MXZ				SN	Sn	00 03 13.3	-2.0
WMGZ	**Waiomatatini S**	**2.02**	**220**	PN	Pn	00 02 53.7	-0.6
PUZ	**Puketiti**	**2.29**	**218**	PN	Pn	00 02 56.4	-1.6
PUZ				SN	Sn	00 03 22.8	-2.4
HAZ	**Te Kaha**	**2.34**	**230**	PN	Pn	00 02 58.8	+0.2
TWGZ	**Tauwhareparae**	**2.51**	**220**	PN	Pn	00 03 00.6	-0.6
TWGZ				SN	Sn	00 03 28.7	-2.0
CNGZ	**Carnagh Statio**	**2.65**	**213**	PN	Pn	00 03 02.5	-0.4
MWZ	**Matawai**	**2.87**	**224**	PN	Pn	00 03 04.7	-1.3
MWZ				SN	Sn	00 03 37.1	-2.4
RIGZ	**Rimuhau**	**3.03**	**216**	SN	Sn	00 03 42.1	-1.3
URZ	**Urewera**	**3.06**	**229**	PN	Pn	00 03 07.6	-1.0
URZ				SN	Sn	00 03 41.9	-2.2
KNZ	**Kokohu**	**3.32**	**214**	*e*PN	Pn	00 03 09.1	-3.1
KAHZ	**Kahuranaki**	**4.31**	**214**	PN	Pn	00 03 22.6	-3.3
CTZ	**Chatham Island**	**7.88**	**162**	*e*PN	Pn	00 04 12.8	-1.9
CTZ				SN	Sn	00 05 32.4	-10
MQZ	**McQueen's Vall**	**9.34**	**215**	SN	Sn	00 06 03.8	-15

GUC 13 00:05:41.0±0.3, 32°.82S×69°.06W, h189km±15km, ML3.9, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCH	**Cerro Calan**	**1.37**	**245**	*i* P	Pn	00 06 12.0	-0.7
CLCH				*i* S	Sn	00 06 35.4	-1.8
CLCH				AML	AML	00 06 39.1	
	comp=E,638nm,0.3s						
RCDM	**Rinconada Maip**	**1.61**	**245**	*i* P	Pn	00 06 14.3	-0.6
RCDM				*i* S	Sn	00 06 39.5	-1.6
RCDM				AML	AML	00 06 41.3	
	comp=E,1μm,0.6s						
CMCH	**Combarbala**	**2.33**	**314**	*i* P	Pn	00 06 22.5	+0.1
CMCH				*i* S	Sn	00 06 53.0	-1.7
LSCH	**La Serena**	**3.45**	**327**	*i* S	Sn	00 07 15.7	-2.6
LSCH				AML	AML	00 07 18.4	
	comp=E,134nm,0.4s						

*ISCJB **13** 00:10:52.6±0.5, 32°.20N±0°.03×115°.28W±0°.04, h4km±6km, Error ellipse: s-maj=6.5km s-min=4.1km az=162.4*
*ECX **13** 00:10:53.8±0.5, 32°.19N×115°.28W, h6km, MD2.8, ML3.0*
*MEX **13** 00:10:55.4±1.0, 32°.31N×115°.17W, h15km, MD3.5*

ISC 13 00:10:52.5±1.0, 32°.19N±0°.03×115°.26W±0°.04, h13km±7km, n15, σ0s48/25, 4C-3D, California-Baja California border region

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

IDC ***13*** *00:45:14.6±1.3, 35°.15N×23°.80E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.2/40, mbtmp3.4/5, Error ellipse: s-maj=41.4km s-min=12.0km az=172.0*

ISCJB ***13*** *00:45:20.9±1.0, 35°.08N±0°.05×24°.23E±0°.04, h9km±5km, mb3.3/5, Error ellipse: s-maj=9.4km s-min=3.5km az=25.5*

ATH ***13*** *00:45:21.4, 35°.10N×24°.23E, h23km, MD3.5/16*

CSEM ***13*** *00:45:21.9±0.3, 35°.10N×24°.27E, h10km, ML2.7, Error ellipse: s-maj=9.6km s-min=3.1km az=22.0*

THE ***13*** *00:45:21.9, 35°.11N×24°.22E, h3km, ML2.7/4, Error ellipse: s-maj=1.1km s-min=0.6km az=38.0*

ISC 13 00:45:21.8±1.3, 35°.08N±0°.06×24°.25E±0°.03, h11km±8km, n83, σ0s65/102, mb3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.33**	**353**	P	**Pg**	**00 45 27.7**	**-0.7**
VAM				S	**Sg**	**00 45 32.5**	**-0.3**
VAM	**Vamos**	**0.33**	**353**	*e*PB	**Pg**	**00 45 28.3**	**-0.1**
VAM				*e*SB	**Sg**	**00 45 33.9**	**+1.1**
VAM	**Vamos**	**0.33**	**353**	*e*Pb	**Pg**	**00 45 28.3**	**-0.1**
VAM				S	**Sg**	**00 45 32.5**	**-0.3**
VAM				*e*Sb	**Sg**	**00 45 33.9**	**+1.1**
KARN	**Karanos**	**0.42**	**320**	*e*PB	**Pg**	**00 45 29.9**	**-0.2**
KARN				*e*SB	**Sg**	**00 45 35.9**	**+0.2**
KARN	**Karanos**	**0.42**	**320**	*e*Pb	**Pg**	**00 45 29.9**	**-0.2**
KARN				*e*Sb	**Sg**	**00 45 35.9**	**+0.2**
SIVA	**Sivas**	**0.46**	**98**	*e*PB	**Pg**	**00 45 30.9**	**+0.1**
SIVA				*e*SB	**Sb**	**00 45 39.3**	**+0.6**
SIVA	**Sivas**	**0.46**	**98**	*e*Pb	**Pg**	**00 45 30.9**	**+0.1**
SIVA				*e*Sb	**Sb**	**00 45 39.3**	**+0.6**
IDI	**Anoyia**	**0.56**	**68**	Pg	**Pg**	**00 45 32.9**	**+0.1**
	9.1nm,0.3s,baz=237,slow=15,SNR=2.0						
IDI				Lg	Lg	00 45 44.6	
	82nm,0.3s,baz=330,slow=20,SNR=7.8						
IDI				LR	LR	00 45 47.8	
	comp=Z,10nm,20.0s,baz=236,slow=37						
LAST	**Lasithi**	**1.01**	**85**	*e*PN	**Pg**	**00 45 40.7**	**-0.5**
LAST				*e*SN	**Sn**	**00 45 55.2**	**-0.9**
LAST	**Lasithi**	**1.01**	**85**	*e*Pn	**Pg**	**00 45 40.7**	**-0.5**
LAST				*e*Sn	**Sn**	**00 45 55.2**	**-0.9**
ANKY	**Antikythira Is**	**1.10**	**316**	P	**Pb**	**00 45 41.8**	**-1.0**
ANKY				S	**Sg**	**00 45 57.6**	**+0.2**
ANKY	**Antikythira Is**	**1.10**	**316**	*e*PN	**Pb**	**00 45 42.0**	**-0.8**
ANKY				*e*SN	**Sn**	**00 45 57.8**	**-0.5**
ANKY	**Antikythira Is**	**1.10**	**316**	P	**Pb**	**00 45 41.8**	**-1.0**
ANKY	**Antikythira Is**	**1.10**	**316**	*e*Pn	**Pb**	**00 45 42.0**	**-0.8**
ANKY				S	**Sg**	**00 45 57.6**	**+0.2**
ANKY				*e*Sn	**Sn**	**00 45 57.8**	**-0.5**
NPS	**Neapolis**	**1.13**	**80**	P	**Pn**	**00 45 43.3**	**-0.2**
NPS	**Neapolis**	**1.13**	**80**	*e*PN	**Pb**	**00 45 43.0**	**-0.3**
NPS				*e*SN	**Sg**	**00 45 58.3**	**+0.1**
NPS	**Neapolis**	**1.13**	**80**	*e*Pn	**Pb**	**00 45 43.0**	**-0.3**
NPS	**Neapolis**	**1.13**	**80**	P	**Pn**	**00 45 43.3**	**-0.2**
NPS				*e*Sn	**Sg**	**00 45 58.3**	**+0.1**
KYTH	**Kithira**	**1.55**	**321**	P	**Pn**	**00 45 48.7**	**-0.7**
KYTH	**Kithira**	**1.55**	**321**	*e*PN	**Pn**	**00 45 49.6**	**+0.2**
KYTH	**Kithira**	**1.55**	**321**	P	**Pn**	**00 45 48.7**	**-0.7**
KYTH	**Kithira**	**1.55**	**321**	*e*Pn	**Pn**	**00 45 49.6**	**+0.2**
THR6	**Thira Island,**	**1.58**	**36**	P	**Pn**	**00 45 49.6**	**-0.1**
THR6	**Thira Island,**	**1.58**	**36**	P	**Pn**	**00 45 49.6**	**-0.1**
ZKR	**Zakros**	**1.61**	**88**	*e*PN	**Pb**	**00 45 51.0**	**-0.5**
ZKR	**Zakros**	**1.61**	**88**	*e*Pn	**Pb**	**00 45 51.0**	**-0.5**
SANT	**Santorini**	**1.62**	**37**	*e*PN	**Pn**	**00 45 50.2**	**-0.1**
SANT				*e*SN	**Sb**	**00 46 12.5**	**+0.4**
SANT	**Santorini**	**1.62**	**37**	*e*Pn	**Pn**	**00 45 50.2**	**-0.1**
SANT				*e*Sn	**Sb**	**00 46 12.5**	**+0.4**
VLI	**Veliai**	**1.95**	**327**	P	**Pn**	**00 45 54.3**	**-0.5**
VLI				S	**Sn**	**00 46 19.7**	**+0.4**
VLI	**Veliai**	**1.95**	**327**	*e*PN	**Pn**	**00 45 55.7**	**+0.9**
VLI	**Veliai**	**1.95**	**327**	P	**Pn**	**00 45 54.3**	**-0.5**
VLI	**Veliai**	**1.95**	**327**	*e*Pn	**Pn**	**00 45 55.7**	**+0.9**
VLI				S	**Sn**	**00 46 19.7**	**+0.4**
APE	**Apeiranthos**	**2.24**	**27**	P	**Pn**	**00 45 58.5**	**-0.3**
APE	**Apeiranthos**	**2.24**	**27**	*e*PB	**Pn**	**00 45 59.6**	**+0.8**
APE	**Apeiranthos**	**2.24**	**27**	P	**Pn**	**00 45 58.5**	**-0.3**
APE	**Apeiranthos**	**2.24**	**27**	*e*Pb	**Pn**	**00 45 59.6**	**+0.8**
KARP	**Karpathos**	**2.42**	**78**	*e*PN	**Pn**	**00 46 02.1**	**+0.8**
KARP	**Karpathos**	**2.42**	**78**	*e*Pn	**Pn**	**00 46 02.1**	**+0.8**
PYL	**PYLOS**	**2.72**	**312**	*e*PN	**Pn**	**00 46 06.3**	**+0.9**
PYL	**PYLOS**	**2.72**	**312**	*e*Pn	**Pn**	**00 46 06.3**	**+0.9**
VLX	**Vlachokerasia**	**2.74**	**327**	P	**Pn**	**00 46 05.3**	**-0.5**
VLX				S	**Sn**	**00 46 39.0**	**+0.1**
VLX	**Vlachokerasia**	**2.74**	**327**	*e*PB	**Pn**	**00 46 06.8**	**+1.0**
VLX	**Vlachokerasia**	**2.74**	**327**	P	**Pn**	**00 46 05.3**	**-0.5**
VLX	**Vlachokerasia**	**2.74**	**327**	*e*Pb	**Pn**	**00 46 06.8**	**+1.0**
VLX				S	**Sn**	**00 46 39.0**	**+0.1**
ITM	**Ithomi**	**2.82**	**319**	*e*PN	**Pn**	**00 46 07.2**	**+0.5**
ITM	**Ithomi**	**2.82**	**319**	*e*Pn	**Pn**	**00 46 07.2**	**+0.5**
PTL	**Penteli**	**2.98**	**354**	*e*PN	**Pn**	**00 46 08.4**	**-0.6**
PTL	**Penteli**	**2.98**	**354**	*e*Pn	**Pn**	**00 46 08.4**	**-0.6**
LTK	**Loutraki**	**3.11**	**341**	*e*PN	**Pn**	**00 46 10.1**	**-0.7**
LTK	**Loutraki**	**3.11**	**341**	*e*Pn	**Pn**	**00 46 10.1**	**-0.7**
GUR	**Goura**	**3.24**	**332**	P	**Pn**	**00 46 12.1**	**-0.5**
GUR				S	**Sn**	**00 46 51.5**	**+0.3**
GUR	**Goura**	**3.24**	**332**	*e*PN	**Pn**	**00 46 13.0**	**+0.4**
GUR	**Goura**	**3.24**	**332**	P	**Pn**	**00 46 12.1**	**-0.5**
GUR	**Goura**	**3.24**	**332**	*e*Pn	**Pn**	**00 46 13.0**	**+0.4**
GUR				S	**Sn**	**00 46 51.5**	**+0.3**
SMG	**Samos**	**3.35**	**38**	*e*PN	**Pn**	**00 46 15.1**	**+1.0**
SMG	**Samos**	**3.35**	**38**	*e*Pn	**Pn**	**00 46 15.1**	**+1.0**
ARG	**Arkhangelos**	**3.35**	**69**	*e*PN	**Pn**	**00 46 14.2**	**+0.1**
ARG	**Arkhangelos**	**3.35**	**69**	*e*Pn	**Pn**	**00 46 14.2**	**+0.1**
KLV	**Kalavryta, Ach**	**3.41**	**331**	*e*PN	**Pn**	**00 46 15.1**	**+0.2**
KLV	**Kalavryta, Ach**	**3.41**	**331**	*e*Pn	**Pn**	**00 46 15.1**	**+0.2**
DRO	**Drossia**	**3.52**	**325**	*e*PN	**Pn**	**00 46 18.1**	**+1.7**
DRO	**Drossia**	**3.52**	**325**	*e*Pn	**Pn**	**00 46 18.1**	**+1.7**
LKR	**Lokris**	**3.70**	**345**	*e*PN	**Pn**	**00 46 19.8**	**+0.9**
LKR	**Lokris**	**3.70**	**345**	*e*Pn	**Pn**	**00 46 19.8**	**+0.9**
KALE	**Kalithea**	**3.71**	**333**	*e*PN	**Pn**	**00 46 19.0**	**-0.1**
KALE	**Kalithea**	**3.71**	**333**	*e*Pn	**Pn**	**00 46 19.0**	**-0.1**
EFP	**Efpalio**	**3.83**	**331**	*e*PN	**Pn**	**00 46 20.8**	**+0.1**
EFP	**Efpalio**	**3.83**	**331**	*e*Pn	**Pn**	**00 46 20.8**	**+0.1**
AXAR	**Agios Charalam**	**3.89**	**341**	*e*PN	**Pn**	**00 46 21.9**	**+0.4**
AXAR	**Agios Charalam**	**3.89**	**341**	*e*Pn	**Pn**	**00 46 21.9**	**+0.4**
AGG	**Agios Georgios**	**4.22**	**339**	*e*PN	**Pn**	**00 46 26.2**	**+0.1**
AGG	**Agios Georgios**	**4.22**	**339**	*e*Pn	**Pn**	**00 46 26.2**	**+0.1**
MAKR	**Makrakomi, Fth**	**4.28**	**337**	*e*PN	**Pn**	**00 46 28.1**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.28**	**337**	*e*Pn	**Pn**	**00 46 28.1**	**+1.3**
PDO	**Prodromos**	**4.29**	**326**	*e*PN	**Pn**	**00 46 27.8**	**+0.9**
PDO	**Prodromos**	**4.29**	**326**	*e*Pn	**Pn**	**00 46 27.8**	**+0.9**
EVR	**Evrytania**	**4.30**	**334**	*e*PN	**Pn**	**00 46 27.9**	**+0.7**
EVR	**Evrytania**	**4.30**	**334**	*e*Pn	**Pn**	**00 46 27.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**29.87**	**229**	P	P	00 51 21.9	-7.5
	0.1nm,0.4s,baz=38,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**44.44**	**56**	P	P	00 53 28.7	-3.9
	0.4nm,0.5s,baz=271,slow=7.3,SNR=10.0						
ZALV	**Zalesovo Beam**	**45.59**	**46**	P	P	00 53 37.0	-4.6
	0.6nm,0.4s,baz=261,slow=9.3,SNR=3.6						
SONM	**Songino Array**	**60.11**	**50**	P	P	00 55 24.4	-4.8
	0.2nm,0.5s,baz=289,slow=4.4,SNR=2.3						
YKA	**Yellowknife Ar**	**77.29**	**342**	P	P	00 57 10.9	-4.9
	0.1nm,0.5s,baz=32,slow=5.2,SNR=5.7						

IDC 13 00:52:40.8±4.2, 5°.25S×147°.80E, h0km, mb3.5/1, mb1 4.2/2, mb1mx3.4/29, mbtmp3.9/2, ML4.2/1, Error ellipse: s-maj=149.5km s-min=46.4km az=109.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.18**	**189**	Sn	Sn	00 54 40.6	+5.1
	2.2nm,0.3s,baz=72,slow=20,SNR=5.1						
WRA	**Warramunga Arr**	**19.62**	**221**	P	P	00 57 10.9	-0.2
	0.8nm,0.3s,baz=45,slow=11,SNR=33						
ASAR	**Alice Springs**	**22.69**	**215**	P	P	00 57 44.0	-0.2
	1.3nm,0.5s,baz=50,slow=8.4,SNR=18						
TORD	**Torodi Ar. Bea**	**145.67**	**286**	PKPbc	PKPdf	01 12 21.9	-0.4
	0.3nm,0.7s,baz=66,slow=2.9,SNR=4.0						

IDC ***13*** *00:55:08.6±1.5, 36°.41N×7°.91E, h0km, mb2.9/4, mb1 3.3/5, mb1mx3.0/41, mbtmp3.1/5, ML4.4/1, Error ellipse: s-maj=26.0km s-min=16.8km az=32.0*

ISCJB ***13*** *00:55:09.6±0.4, 36°.50N±0°.06×7°.95E±0°.04, h10km, mb2.8/2, Error ellipse: s-maj=8.3km s-min=4.0km az=14.3*

CSEM ***13*** *00:55:10.5±0.2, 36°.43N×7°.94E, h2km, ML3.5, Error ellipse: s-maj=8.2km s-min=4.1km az=9.0*

CRAAG ***13*** *00:55:11.3, 36°.38N×7°.76E, Ml3.5*

TUN ***13*** *00:55:12.8, 36°.37N×8°.02E, h1km, MD3.1*

ISC 13 00:55:10.1±0.8, 36°.43N±0°.06×7°.95E±0°.03, h10km, n40, σ1s26/41, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHAT	**Ghardimaou**	**0.29**	**76**	*i* P	**Pg**	**00 55 17.0**	**+0.9**
ABSA	**Djebel Ababsia**	**0.41**	**248**	P	**Pg**	**00 55 18.1**	**-0.1**
ABSA	**Djebel Ababsia**	**0.41**	**248**	P	**Pg**	**00 55 18.1**	**-0.1**
CMAH	**Djebel Manchou**	**0.47**	**295**	P	**Pb**	**00 55 20.3**	**-0.3**
CMAH	**Djebel Manchou**	**0.47**	**295**	P	**Pb**	**00 55 20.3**	**-0.3**
KRIT	**Krib**	**0.91**	**95**	*i* P	**Pb**	**00 55 28.5**	**+0.4**
CAEH	**'Ain El Ouahch**	**0.95**	**292**	P	**Pg**	**00 55 28.3**	**-0.2**
CAEH	**'Ain El Ouahch**	**0.95**	**292**	P	**Pg**	**00 55 28.3**	**-0.2**
CKFL	**Kef-Lekhel**	**0.99**	**269**	P	**Pg**	**00 55 29.0**	**-0.2**
CKFL	**Kef-Lekhel**	**0.99**	**269**	P	**Pg**	**00 55 29.0**	**-0.2**
THTN	**Thala**	**1.05**	**145**	*i* P	**Pg**	**00 55 30.3**	**0.0**
TAMR	**Tamra**	**1.12**	**56**	*i* P	**Pb**	**00 55 31.3**	**-0.3**
CASM	**Ain Smara**	**1.19**	**262**	P	**Pg**	**00 55 33.6**	**+0.6**
CASM	**Ain Smara**	**1.19**	**262**	P	**Pg**	**00 55 33.6**	**+0.6**
CTEI	**Djebel Teioual**	**1.30**	**254**	P	**Pg**	**00 55 35.3**	**+0.2**
CTEI	**Djebel Teioual**	**1.30**	**254**	P	**Pg**	**00 55 35.3**	**+0.2**
KEST	**Kesra**	**1.33**	**121**	Pg	**Pn**	**00 55 34.8**	**0.0**
	2.8nm,0.3s,baz=227,slow=9.2,SNR=142						
KEST				Lg	Lg	00 55 51.7	
	3.6nm,0.3s,baz=112,slow=11,SNR=9.9						
TROT	**Trozza**	**1.59**	**122**	*i* P	**Pg**	**00 55 40.5**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.67**	**275**	P	**Pn**	**00 55 39.0**	**-0.6**
DFRA	**Djebel Bou Aff**	**1.67**	**275**	P	**Pn**	**00 55 39.0**	**-0.6**
ETOS	**Mallorca**	**5.25**	**311**	P	**Pn**	**00 56 29.7**	**+1.1**
	3.5nm,0.2s,SNR=11						
ETOS				S	**Sn**	**00 57 26.8**	**-2.4**
	0.1nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**5.84**	**298**	P	**Pn**	**00 56 38.5**	**+1.7**
	4.5nm,0.2s,SNR=6.9						
EIBI				S	**Sn**	**00 57 46.6**	**+2.7**
	2.3nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**6.88**	**292**	P	**Pn**	**00 56 52.0**	**+0.9**
	1.9nm,0.3s,SNR=11						
EMUR	**La Murta**	**7.48**	**284**	P	**Pn**	**00 57 00.4**	**+1.1**
	4.2nm,0.3s,SNR=15						
CLLI	**Llivia**	**7.61**	**324**	P	**Pn**	**00 57 00.7**	**-0.5**
	0.5nm,0.2s,SNR=7.5						
EMOS	**Mosqueruela**	**7.69**	**303**	P	**Pn**	**00 57 03.4**	**+1.0**
	2.8nm,0.2s,SNR=10						
ETOB	**Tobarra**	**7.86**	**289**	P	**Pn**	**00 57 06.5**	**+1.9**
	2.2nm,0.2s,SNR=37						
SESP	**Santiago Espad**	**8.54**	**285**	P	**Pn**	**00 57 16.3**	**+2.4**
	2.7nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**8.59**	**288**	P	**Pn**	**00 57 16.6**	**+2.0**
	2.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**8.72**	**276**	P	**Pn**	**00 57 16.6**	**+0.1**
	0.6nm,0.4s,SNR=4.7						
EQES	**Quesada**	**8.91**	**282**	P	**Pn**	**00 57 21.4**	**+2.4**
	3.1nm,0.3s,SNR=26						
ESDC	**Sonseca Array**	**9.94**	**293**	Pn	**Pn**	**00 57 34.5**	**+1.4**
	1.0nm,0.3s,baz=100,slow=14,SNR=20						
ESDC	**Sonseca Array**	**9.94**	**293**	P	**Pn**	**00 57 35.1**	**+2.0**
	3.6nm,0.3s,SNR=4.4						
PAB	**San Pablo**	**10.19**	**291**	P	**Pn**	**00 57 38.6**	**+2.0**
	1.6nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**10.37**	**298**	P	**Pn**	**00 57 41.0**	**+1.9**
	1.7nm,0.3s,SNR=6.4						
ECAB	**El Cabril**	**10.78**	**283**	P	**Pn**	**00 57 44.6**	**0.0**
	0.3nm,0.2s,SNR=7.9						
BRTR	**Keskin Array B**	**20.47**	**73**	P	Pn	00 59 49.5	-0.8
	0.3nm,0.6s,baz=270,slow=12,SNR=3.0						
AKASG	**Malin Array Be**	**20.90**	**40**	P	**P**	**00 59 50.9**	**-1.6**
	0.5nm,0.4s,baz=226,slow=8.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**23.85**	**195**	P	**P**	**01 00 22.4**	**-1.2**
	0.1nm,0.5s,baz=17,slow=9.4,SNR=5.6						
MKAR	**Makanchi Array**	**54.61**	**54**	P	**P**	**01 04 39.0**	**+0.2**
	0.1nm,0.5s,baz=300,slow=5.3,SNR=4.4						

IDC ***13*** *00:55:32.1±0.5, 4°.37S×153°.54E, h0km, mb4.8/22, mb1 4.9/25, mb1mx4.9/30, mbtmp4.8/25, ML3.0/2, MS4.4/23, Ms1 4.4/23, ms1mx4.4/30, Error ellipse: s-maj=15.3km s-min=10.6km az=101.0*

MOS ***13*** *00:55:36.4±1.2, 4°.30S×153°.49E, h33km, mb5.5/17, MS4.6/4, Error ellipse: s-maj=8.2km s-min=6.8km az=104.9*

ISCJB ***13*** *00:55:38.8±0.7, 4°.44S±0°.03×153°.51E±0°.02, h56km±6km, mb5.3/128, MS4.5/26, Error ellipse: s-maj=4.8km s-min=3.9km az=26.6*

BJI ***13*** *00:55:38.8, 4°.29S×153°.83E, h67km, mB5.2/40, mb5.0/53, Ms4.9/43, Ms7 4.5/42*

NEIC ***13*** *00:55:40.6±0.9, 4°.41S×153°.49E, h58km±8km, mb5.6/33, Error ellipse: s-maj=5.4km s-min=5.1km az=187.0*

NEIC Felt at Kokopo, New Britain.

GCMT ***13*** *00:55:40.6±0.2, 4°.50S×153°.65E, h31km, MW5.2/98, Moment Tensor Solution. s84,c129; s98,c168; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr 0.69±.02; Mθθ 0.14±.01; Mϕϕ -0.83±.01; Mrθ -0.19±.02; Mθϕ -0.19±.01; Mϕr 0.31±.02; Best double couple: M=0.87200×10^17 NP1=ϕs352.00000°, δ58.00000°, λ67.00000°. NP2=ϕs211.00000°, δ39.00000°, λ122.00000°. Principal axes: T 0.8250, Plg68.0000°, Azm214.0000°; N 0.0930, Plg20.0000°, Azm5.0000°; P -0.9180, Plg10.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***13*** *00:55:52.4±1.3, 5°.5S×15°.3E±°, h141km±10km, M5.4/83, mb5.3/83, mB5.8/46, Mw(mB)5.4/46*

ISC 13 00:55:41.1±0.3, 4°.45S±0°.04×153°.57E±0°.04, h63km±1km, h63km:pP-P, n466, σ1s75/448, mb5.4/127, 20C-16D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.43**	**280**	P	**Pn**	**00 56 02.8**	**-2.1**
	baz=1.4,SNR=521						
RABL				S	**Sn**	**00 56 21.8**	**-1.0**
	baz=1.4,SNR=5.0						
MANU	**Manus Island**	**6.64**	**291**	P	**Pn**	**00 57 17.2**	**+1.1**
	baz=6.7,SNR=4.6						
HNR	**Honiara**	**8.03**	**128**	*e*P	**Pn**	**00 57 34.3**	**-0.9**
HNR				*e*		00 59 04.6	
HNR	**Honiara**	**8.03**	**128**	LR	LR	01 00 54.6	
	comp=Z,6μm,18.4s,baz=294,slow=40						
HNR	**Honiara**	**8.03**	**128**	*e*Pn	**Pn**	**00 57 34.3**	**-0.9**
HNR				*e*Sn	**Sn**	**00 59 04.6**	**0.0**
PMG	**Port Moresby**	**8.05**	**232**	*ce*P	**Pn**	**00 57 35.1**	**-0.3**
PMG				pmax	pmax		
	comp=Z,131nm,1.2s						
PMG	**Port Moresby**	**8.05**	**232**	Pn	Pn	00 57 32.1	-3.3
	comp=Z,0.2nm,0.3s,baz=44,slow=11,SNR=3.3						
PMG				Sn	**Sn**	**00 59 04.0**	**-0.9**
	comp=Z,12nm,0.3s,baz=348,slow=20,SNR=16						
PMG	**Port Moresby**	**8.05**	**232**	P	**Pn**	**00 57 37.2**	**+1.8**
	baz=8.0,SNR=9.5						
PMG				S	**Sn**	**00 59 05.8**	**+0.8**
	baz=8.0,SNR=11						
PMG	**Port Moresby**	**8.05**	**232**	*e*Pn	**Pn**	**00 57 35.1**	**-0.3**
PMG				*e*Sn	**Sn**	**00 59 05.8**	**+0.8**
JAY	**Jayapura**	**12.99**	**278**	P	**Pn**	**00 58 45.3**	**+2.4**
JAY	**Jayapura**	**12.99**	**278**	Pn	Pn	00 58 39.7	-3.2
	comp=Z,0.7nm,0.3s,baz=82,slow=2.9,SNR=12						
JAY				LR	LR	01 03 46.8	
	comp=Z,5μm,18.1s,baz=86,slow=38						
GENI	**Genyem**	**13.51**	**277**	P	**Pn**	**00 58 51.9**	**+2.0**
COEN	**Coen**	**13.94**	**227**	P	**Pn**	**00 58 56.6**	**+0.9**
	baz=14,SNR=8.5						
COEN	**Coen**	**13.94**	**227**	*e*Pn	**Pn**	**00 58 56.6**	**+0.9**
SMPI	**Sarmi**	**15.04**	**279**	P	**Pn**	**00 59 10.5**	**+0.4**
	comp=Z,331nm,1.8s,comp=Z,7μm						
CTA	**Charters Tower**	**17.10**	**204**	P	**Pn**	**00 59 35.0**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=25,slow=13,SNR=63						
CTA				LR	LR	01 05 10.9	
	comp=Z,2μm,21.4s,baz=16,slow=34						
CTAO	**Charters Tower**	**17.10**	**204**	*e*P	**P**	**00 59 36.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,336nm,1.7s						
CTAO	**Charters Tower**	**17.10**	**204**	*e*Pn	**P**	**00 59 36.7**	**-0.2**
	comp=Z,336nm,1.7s						
KWAJ	**Kwajalein Atol**	**19.22**	**47**	*e*P	**Pn**	**01 00 01.5**	**-0.2**
KWAJ				pmax	pmax		
	comp=Z,149nm,0.6s						
KWAJ	**Kwajalein Atol**	**19.22**	**47**	*e*Pn	**Pn**	**01 00 01.5**	**-0.2**
	comp=Z,149nm,0.6s						
RKPI	**Ransiki, Papua**	**19.59**	**278**	P	**Pn**	**01 00 05.9**	**-0.3**
	comp=Z,281nm,1.0s,comp=Z,4μm						
EIDS	**Eidsvold**	**20.94**	**186**	P	**P**	**01 00 19.4**	**+0.6**
	baz=21,SNR=27						
EIDS	**Eidsvold**	**20.94**	**186**	*e*P	**P**	**01 00 19.5**	**+0.6**
	comp=Z,236nm,0.9s						
QIS	**Mount Isa**	**21.00**	**219**	P	**P**	**01 00 19.7**	**+0.1**
	baz=21,SNR=61						
FAKI	**Fak Fak**	**21.33**	**273**	P	**P**	**01 00 23.3**	**+0.1**
FAKI	**Fak Fak**	**21.33**	**273**	*e*P	**P**	**01 00 22.9**	**-0.3**
	comp=Z,295nm,1.2s						
DZM	**Mont Dzumac**	**21.50**	**146**	*e*P	**P**	**01 00 25.4**	**+0.4**
	comp=Z,346nm,1.1s						
DZM				*e*S	**S**	**01 04 16.7**	**-3.6**
	comp=Z,996nm,23.9s						
DZM				*e*LR	LR	01 05 40.3	
	comp=Z,2μm,25.6s						
DZM	**Mont Dzumac**	**21.50**	**146**	P	**P**	**01 00 24.5**	**-0.6**
	comp=Z,14nm,1.0s,baz=290,slow=9.8,SNR=12						
DZM				LR	LR	01 07 56.4	
	comp=Z,836nm,21.6s,baz=19,slow=34						
DZM	**Mont Dzumac**	**21.50**	**146**	P	**P**	**01 00 24.5**	**-0.6**
	comp=Z,9.4nm,1.1s						
RMQ	**Roma**	**22.39**	**191**	P	**P**	**01 00 34.8**	**+0.3**
	baz=22,SNR=74						
KDU	**Kakadu**	**22.39**	**247**	S	**S**	**01 04 35.6**	**-1.1**
	baz=22,SNR=4.6						
SAUI	**Saumlaki**	**22.41**	**260**	P	**P**	**01 00 34.7**	**-0.1**
SAUI	**Saumlaki**	**22.41**	**260**	*e*P	**P**	**01 00 35.3**	**+0.4**
	comp=Z,999nm,1.6s						
BNDI	**Bandanaira**	**23.59**	**269**	P	**P**	**01 00 46.5**	**-0.1**
MTN	**Manton Dam**	**23.68**	**248**	P	**P**	**01 00 47.4**	**+0.1**
	baz=24,SNR=10						
MTN				S	**S**	**01 05 01.5**	**+3.7**
	baz=24,SNR=6.9						
QLP	**Quilpie**	**23.75**	**201**	P	**P**	**01 00 47.8**	**0.0**
	baz=24,SNR=46						
WRAB	**Tennant Creek**	**24.24**	**229**	P	**P**	**01 00 52.0**	**-0.4**
	comp=Z,2μm,0.8s						
WRAB	**Tennant Creek**	**24.24**	**229**	*c*P	**P**	**01 00 52.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,2μm,2.2s						
WRAB	**Tennant Creek**	**24.24**	**229**	*e*P	**P**	**01 00 52.1**	**-0.2**
	comp=Z,309nm,0.8s						
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**01 00 51.6**	**-0.9**
	comp=Z,179nm,0.7s,baz=54,slow=9.8,SNR=94						
WRA				S	**S**	**01 05 11.0**	**+3.9**
	comp=Z,16nm,0.9s,baz=44,slow=15,SNR=7.0						
WRA				LR	LR	01 09 55.7	
	comp=Z,1μm,21.7s,baz=50,slow=36						
ARMA	**Armidale**	**25.89**	**184**	P	**P**	**01 01 08.2**	**+0.8**
	baz=26,SNR=6.1						
ARMA	**Armidale**	**25.89**	**184**	*e*P	**P**	**01 01 08.4**	**+1.0**
	comp=Z,70nm,0.9s						
LBMI	**Labuha**	**26.32**	**278**	P	**P**	**01 01 11.5**	**+0.2**
NLAI	**Namlea**	**26.44**	**272**	P	**P**	**01 01 12.4**	**0.0**
TNTI	**Ternate**	**26.69**	**281**	P	**P**	**01 01 15.1**	**+0.4**
TNTI	**Ternate**	**26.69**	**281**	*e*P	**P**	**01 01 14.3**	**-0.3**
	comp=Z,512nm,1.4s						
KNRA	**Kununurra**	**26.82**	**244**	P	**P**	**01 01 15.2**	**-0.5**
	baz=27,SNR=52						
AS12	**Alice Springs**	**26.93**	**223**	*e*P	**P**	**01 01 16.4**	**-0.3**
AS12				*e*ScS	ScS	01 12 08.8	+5.0
ASAR	**Alice Springs**	**26.93**	**223**	P	**P**	**01 01 16.4**	**-0.3**
	comp=Z,

MTKI	**Muara Teweh, K**	**38.78 274**	P	P	01 03 12.8	+13
ABJI	**Asem Bagus**	**39.24 263**	P	**P**	**01 03 02.2**	**-1.7**
	comp=Z,56nm,1.3s					
JOW	**Kunigami**	**39.57 323**	P	**P**	**01 03 06.0**	**-0.5**
	baz=137,slow=8.8					
BLJI	**Banyuglugur**	**39.87 263**	P	**P**	**01 03 07.0**	**-2.1**
	comp=Z,49nm,1.1s,comp=Z,2µm					
URZ	**Urewera**	**39.91 151**	P	**P**	**01 03 08.9**	**-0.2**
	comp=Z,9.4nm,1.0s,baz=24,slow=6.4,SNR=1.9					
URZ	**Urewera**	**39.91 151**	*e*P	**P**	**01 03 10.4**	**+1.4**
MEEK	**Meekatharra**	**40.03 233**	P	**P**	**01 03 09.6**	**-0.7**
	baz=40,SNR=158					
MEEK			S	**S**	**01 09 14.1**	**+2.3**
	baz=40,SNR=6.5					
KMBL	**Kambalda**	**40.04 224**	P	**P**	**01 03 09.7**	**-0.6**
	baz=40,SNR=9.5					
GMJI	**Gumukmas**	**40.05 262**	P	**P**	**01 03 09.8**	**-0.8**
	comp=Z,35nm,1.2s,comp=Z,1µm					
BKZ	**Black Stump Fm**	**40.33 152**	*e*P	**P**	**01 03 13.0**	**+0.4**
	comp=Z,33nm,1.2s					
BWJI	**Bawean**	**40.77 266**	P	P	01 03 29.0	+12
YOJ	**Yonaguni jima**	**41.36 315**	*e*P	**P**	**01 03 19.5**	**-1.7**
YOJ			pmax	pmax		
	comp=Z,2µm,2.2s					
YOJ	**Yonaguni jima**	**41.36 315**	*e*P	**P**	**01 03 19.5**	**-1.7**
	comp=Z,2µm,2.2s					
PWJI	**Pagerwojo**	**41.66 263**	P	**P**	**01 03 21.9**	**-1.9**
	comp=Z,93nm,1.1s					
KHZ	**Kahutara**	**41.78 158**	*e*P	**P**	**01 03 22.6**	**-1.8**
	comp=Z,46nm,1.0s					
PBKI	**Pangkalan Bun**	**41.85 271**	P	**P**	**01 03 27.7**	**+2.2**
SBUM	**Sibu**	**41.89 279**	*e*P	**P**	**01 03 25.8**	**0.0**
	comp=Z,61nm,1.0s					
RPZ	**Rata Peaks**	**42.05 161**	LR	LR	01 20 44.0	
	comp=Z,1µm,18.1s,baz=323,slow=36					
GIRL	**Giralia**	**42.11 241**	P	**P**	**01 03 27.8**	**+0.4**
	baz=42,SNR=9.5					
PCJI	**Pacitan**	**42.28 263**	P	**P**	**01 03 27.8**	**-1.2**
	comp=Z,165nm,1.1s					
STKI	**Sintang**	**42.29 275**	P	**P**	**01 03 29.6**	**+0.6**
	comp=Z,84nm,1.3s,comp=Z,23µm					
SSLB	**Suanglung**	**42.41 313**	*e*P	**P**	**01 03 29.9**	**+0.1**
	comp=Z,76nm,1.6s					
WOJI	**Wonogiri, Jawa**	**42.52 263**	P	**P**	**01 03 31.3**	**+0.4**
	comp=Z,74nm,1.5s					
UGM	**Wanagama**	**42.92 263**	P	P	01 03 42.6	+8.4
UGM	**Wanagama**	**42.92 263**	P	**P**	**01 03 34.1**	**-0.1**
	baz=43,SNR=3.3					
UGM	**Wanagama**	**42.92 263**	*e*P	**P**	**01 03 33.2**	**-0.9**
	comp=Z,220nm,1.4s					
SMRI	**Semarang**	**42.98 264**	P	**P**	**01 03 36.5**	**+1.9**
JNU	**Nakatsue**	**43.11 332**	P	**P**	**01 03 34.0**	**-1.4**
	comp=Z,20nm,0.9s,baz=166,slow=6.1,SNR=5.9					
WHZ	**Wether Hill Ro**	**43.14 165**	*e*P	**P**	**01 03 34.2**	**-1.2**
	comp=Z,28nm,0.7s					
MORW	**Morawa**	**43.16 231**	P	**P**	**01 03 35.0**	**-0.9**
	baz=43,SNR=16					
MJAR	**Matsushiro Arr**	**43.23 342**	P	P	01 03 32.9	-3.4
	comp=Z,4.4nm,0.9s,baz=165,slow=7.7,SNR=6.8					
MJAR			LR	LR	01 20 36.1	
	comp=Z,118nm,19.2s,baz=205,slow=35					
MAJO	**Matsushiro**	**43.24 342**	*e*P	P	01 03 32.9	-3.4
MAJO			pmax	pmax		
	comp=Z,416nm,2.9s					
MAJO	**Matsushiro**	**43.24 342**	*e*P	P	01 03 32.9	-3.4
	comp=Z,416nm,2.9s					
BLDU	**Balidu**	**43.38 229**	P	**P**	**01 03 36.6**	**-1.0**
	baz=43,SNR=19					
KSM	**Kuching**	**43.63 277**	P	**P**	**01 03 40.0**	**+0.1**
	baz=44,SNR=7.1					
KSM	**Kuching**	**43.63 277**	⇓P	**P**	**01 03 40.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**44.18 226**	P	**P**	**01 03 43.7**	**-0.3**
	baz=44,SNR=6.3					
KPJI	**Karang Pucung**	**44.48 264**	P	**P**	**01 03 46.8**	**+0.1**
	comp=Z,106nm,1.1s,comp=Z,5µm					
CMJI	**Cimerak**	**44.97 263**	P	**P**	**01 03 49.2**	**-1.4**
	comp=Z,116nm,1.0s					
RKGY	**Rocky Gully**	**45.27 224**	P	**P**	**01 03 52.7**	**+0.1**
	baz=45,SNR=7.7					
CISI	**Cisompet, Garu**	**45.59 264**	P	**P**	**01 03 53.8**	**-1.8**
	comp=Z,253nm,1.2s,comp=Z,3µm					
CISI	**Cisompet, Garu**	**45.59 264**	P	**P**	**01 03 53.9**	**-1.7**
	baz=46,SNR=4.5					
LEM	**Lembang**	**45.78 265**	P	**P**	**01 03 58.3**	**+1.1**
	comp=Z,78nm,0.8s					
CNJI	**Cibinong**	**46.27 264**	P	**P**	**01 03 59.7**	**-1.1**
	comp=Z,392nm,1.1s,comp=Z,3µm					
CBJI	**Citeko**	**46.54 265**	P	P	01 04 07.3	+4.3
SSE	**Sheshan**	**46.95 321**	P	**P**	**01 04 06.2**	**+0.4**
SSE			S	**S**	**01 10 54.8**	**+2.1**
SSE			sS	**sS**	**01 11 21.8**	**+1.9**
SSE			PMZ			
	comp=Z,31nm,0.8s					
SSE			PMZ			
	comp=Z,370nm,3.7s					
SSE			LN			
	comp=Z,220nm,22.1s					
SSE			LE			
	comp=Z,140nm,22.1s					
SSE			LZ			
	comp=Z,400nm,21.6s					
CGJI	**Cibinong**	**47.69 265**	P	**P**	**01 04 10.8**	**-1.1**
	comp=Z,122nm,1.1s,comp=Z,1µm					
XMIS	**Christmas Isla**	**47.85 260**	P	**P**	**01 04 13.7**	**+0.6**
	baz=48,SNR=3.9					
KSRS	**Korea Array**	**48.04 332**	P	**P**	**01 04 11.2**	**-2.9**
	comp=Z,10nm,0.9s,baz=152,slow=9.1,SNR=17					
KSRS			LR	LR	01 22 41.0	
	comp=Z,209nm,21.1s,baz=144,slow=34					
KS15	**Wonju Array Si**	**48.05 332**	*e*P	**P**	**01 04 11.2**	**-3.0**
KSAR	**Wonju Array Be**	**48.05 332**	P	**P**	**01 04 11.3**	**-3.0**
KSAR	**Wonju Array Be**	**48.05 332**	P	**P**	**01 04 11.2**	**-3.0**
INCN	**Inchon**	**48.67 331**	*e*P	**P**	**01 04 18.9**	**-0.2**
KASI	**Kota Agung**	**48.89 267**	P	**P**	**01 04 20.8**	**-0.4**
	comp=Z,69nm,1.2s					
QIZ	**Qiongzhong**	**48.96 300**	P	**P**	**01 04 22.2**	**+0.6**
QIZ			S	**S**	**01 11 24.4**	**+2.9**
QIZ			sS	**sS**	**01 11 51.5**	**+2.6**
QIZ			LE			
	comp=Z,220nm,17.7s					
QIZ			LZ			
	comp=Z,650nm,23.2s					
NJ2	**Nanjing**	**49.06 320**	*e*P	**P**	**01 04 21.5**	**-0.7**
NJ2			pP	**pP**	**01 04 37.2**	**-1.2**
NJ2			sP	**sP**	**01 04 44.5**	**-1.0**
NJ2			S	**S**	**01 11 24.0**	**+1.4**
NJ2			sS	**sS**	**01 11 49.5**	**-0.5**
NJ2			PMZ			
	comp=Z,50nm,1.0s					
NJ2			PMZ			
	comp=Z,1µm,3.9s					
NJ2			LN			
	comp=Z,630nm,21.0s					
NJ2			LE			
	comp=Z,880nm,22.4s					
NJ2			LZ			
	comp=Z,810nm,22.0s					
MDSI	**Maura Dua**	**49.24 268**	P	**P**	**01 04 22.1**	**-1.7**
	comp=Z,62nm,1.3s,comp=Z,671nm					
ASAJ	**Asahikawa**	**49.34 350**	LR	LR	01 23 17.4	
	comp=Z,372nm,20.4s,baz=180,slow=34					
XMAS	**Kiritimati**	**49.37 84**	*e*P	**P**	**01 04 27.1**	**+2.3**
	comp=Z,92nm,0.9s					
KUR	**Kuril'sk**	**49.72 355**	P	P	01 04 44.6	+18
KUR			pmax	pmax		
	comp=Z,145nm,1.5s					
KUR			pmax	pmax		
	comp=Z,2µm,4.3s					
LHSI	**Lahat**	**49.91 269**	P	**P**	**01 04 29.7**	**+0.7**
	comp=Z,44nm,1.1s,comp=Z,1µm					
MYKOM	**Kota Tinggi**	**50.07 276**	*e*P	**P**	**01 04 30.1**	**0.0**
	comp=Z,68nm,1.1s					
WHN	**Wuhan**	**51.14 316**	P	**P**	**01 04 38.9**	**+1.0**
WHN			LZ			
	comp=Z,1µm,21.3s					
USRK	**Ussuriysk Ar.**	**52.17 340**	P	**P**	**01 04 44.3**	**-1.1**
	comp=Z,15nm,1.0s,baz=164,slow=9.2,SNR=10					
USRK			LR	LR	01 23 39.1	
	comp=Z,182nm,21.9s,baz=146,slow=32					
TIA	**Tai'an**	**52.90 323**	⇓P	**P**	**01 04 50.3**	**-0.6**
TIA			PMZ			
	comp=Z,20nm,1.1s					
MDJ	**Mudanjiang**	**53.37 339**	P	**P**	**01 04 54.0**	**-0.2**
MDJ			pP	**pP**	**01 05 09.8**	**-0.8**
MDJ			sP	**sP**	**01 05 16.4**	**-1.3**
MDJ			PcP	**PcP**	**01 06 01.3**	**+0.4**
MDJ			PP	**PP**	**01 06 55.5**	**+0.3**
MDJ			PcS	**PcS**	**01 10 00.0**	**+0.3**
MDJ			S	**S**	**01 12 22.6**	**+1.0**
MDJ			sS	**sS**	**01 12 49.5**	**+0.2**
MDJ			ScS	**ScS**	**01 14 37.7**	**-0.4**
MDJ			PMZ			
	comp=Z,17nm,1.5s					
MDJ			PMZ			
	comp=Z,130nm,3.9s					
MDJ			LN			
	comp=Z,260nm,4.5s					
MDJ			LE			
	comp=Z,120nm,3.9s					
MDJ			LZ			
	comp=Z,220nm,3.9s					
CHBT	**CHBT**	**53.70 289**	P	**P**	**01 04 57.5**	**+0.4**
	comp=Z,25nm,1.2s,comp=Z,3µm					
KIP	**Kipapa**	**53.94 60**	*e*P	P	01 05 02.9	+4.1
KIP			pmax	pmax		
	comp=Z,243nm,2.5s					
SKLT	**Songkhla**	**54.09 282**	P	**P**	**01 05 00.4**	**+0.4**
	comp=Z,53nm,1.4s,comp=Z,709nm					
MNSI	**Mandailing Nat**	**54.20 274**	P	**P**	**01 04 59.8**	**-1.0**
	comp=Z,70nm,1.1s,comp=Z,3µm					
KHON	**Khomkaen**	**54.26 294**	P	**P**	**01 05 02.6**	**+1.4**
	comp=Z,5.9nm,0.9s					
CN2	**Changchun**	**54.30 335**	*e*P	**P**	**01 05 00.5**	**-0.5**
CN2			*e*S	**S**	**01 12 33.9**	**-0.3**
CN2			*e*SS	**SS**	**01 16 15.9**	**-1.4**
CN2			PMZ			
	comp=Z,30nm,1.0s					
CN2			PMZ			
	comp=Z,200nm,4.0s					
GYA	**Guiyang**	**54.80 307**	P	**P**	**01 05 06.8**	**+1.7**
GYA			pP	**pP**	**01 05 25.4**	**+3.8**
GYA			sP	sP	01 05 33.8	+5.1
GYA			PP	**PP**	**01 07 11.6**	**+3.1**
GYA			ScP	**ScP**	**01 10 01.2**	**+1.0**
GYA			S	**S**	**01 12 40.0**	**-1.8**
GYA			sS	**sS**	**01 13 11.8**	**+2.2**
GYA			SS	**SS**	**01 16 25.9**	**-0.1**
GYA			PMZ			
	comp=Z,30nm,1.0s					
GYA			PMZ			
	comp=Z,140nm,5.3s					
GYA			LN			
	comp=Z,690nm,19.6s					
GYA			LE			
	comp=Z,710nm,20.0s					
GYA			LZ			
	comp=Z,850nm,19.4s					
NAYO	**Nakonayok**	**55.06 291**	P	**P**	**01 05 07.9**	**+0.9**
	comp=Z,19nm,1.5s,comp=Z,2µm					
TRTT	**Trang**	**55.12 283**	P	**P**	**01 05 07.3**	**-0.2**
	comp=Z,50nm,1.2s					
HABR	**Khabarovsk**	**55.14 345**	*e*P	**P**	**01 05 05.3**	**-1.7**
HABR			*e**PP	**pP**	**01 05 18.9**	**-4.5**
HABR			*e*		01 06 06.1	
HABR			*e*		01 07 08.7	
HABR			PPP	PPP	01 08 20.2	
HABR			*e*S	**S**	**01 12 44.4**	**-0.8**
HABR			*e**SS	**sS**	**01 13 07.9**	**-5.2**
HABR			*e*SS	**SS**	**01 16 29.3**	**-1.0**
HABR			pmax	pmax		
	comp=Z,84nm,1.9s					
HABR			MLR	MLR		
	comp=Z,234nm,19.0s					
PBKT	**Sadao Pong**	**56.02 293**	P	**P**	**01 05 14.8**	**+0.9**
	comp=Z,13nm,1.1s,comp=Z,727nm					
BJI	**Beijing**	**56.03 326**	P	**P**	**01 05 13.3**	**-0.3**
BJI			S	**S**	**01 12 53.6**	**-3.9**
BJI			SS	**SS**	**01 16 45.5**	**+0.8**
BJI			PMZ			
	comp=Z,15nm,1.1s					
BJI			PMZ			
	comp=Z,110nm,3.2s					
BJI			LN			
	comp=Z,320nm,19.5s					
BJI			LE			
	comp=Z,400nm,19.5s					
BJI			LZ			
	comp=Z,240nm,26.3s					
SURT	**Suratani**	**56.21 284**	P	**P**	**01 05 15.9**	**+0.6**
	comp=Z,20nm,1.2s,comp=Z,224nm					
KCSI	**Kotacane, Aceh**	**56.31 277**	P	**P**	**01 05 14.1**	**-2.0**
	comp=Z,48nm,1.4s					
PKDT	**Phuket**	**56.45 282**	P	**P**	**01 05 17.6**	**+0.6**
	comp=Z,56nm,1.4s					
COCO	**West Island**	**56.58 258**	*i* P	**P**	**01 05 20.0**	**+2.1**
KLR	**Kul'dur**	**56.73 343**	*e*P	P	01 05 14.7	-3.7
KLR			pmax	pmax		
	comp=E,35nm,1.8s					
KLR			pmax	pmax		
	comp=Z,85nm,1.8s					
UTTA	**Uttaradit**	**56.75 294**	P	**P**	**01 05 19.6**	**+0.5**
	comp=Z,4.3nm,1.0s,comp=Z,51nm					
TPTI		**56.86 277**	P	**P**	**01 05 18.5**	**-1.5**
	comp=Z,322nm,0.9s					
PPT	**Papeete**	**57.10 108**	LR	LR	01 26 26.7	
	comp=Z,150nm,19.5s,baz=296,slow=32					
PPT2	**Papeete2**	**57.10 108**	*e*P	**P**	**01 05 24.1**	**+2.4**
PPT2			*e*pP	**pP**	**01 05 37.1**	**-1.1**
	comp=Z,107nm,1.4s					
PPT2			*e*S	**S**	**01 13 11.7**	**-0.8**
	comp=Z,120nm,26.8s					
PPT2			*e*LR	LR	01 22 06.7	
	comp=Z,242nm,24.8s					
PAE	**Paea**	**57.10 108**	*e*P	**P**	**01 05 23.5**	**+1.9**
PAE			*e*pP	**pP**	**01 05 34.6**	**-3.5**
	comp=Z,20nm,1.3s					
SRDT	**SRDT**	**57.12 290**	P	**P**	**01 05 23.9**	**+2.1**
	comp=Z,70nm,1.0s,comp=Z,16µm					
TIAR	**Tiarei**	**57.32 108**	*e*P	**P**	**01 05 25.2**	**+2.1**
TIAR			*e*pP	**pP**	**01 05 38.4**	**-1.3**
	comp=Z,61nm,1.3s					
TVO	**Taravao**	**57.43 108**	*e*P	**P**	**01 05 26.2**	**+2.2**
	comp=Z,64nm,1.5s					
KMI	**Kunming**	**57.43 303**	P	**P**	**01 05 24.8**	**+0.7**
KMI			pP	**pP**	**01 05 37.6**	**-3.0**
KMI			S	**S**	**01 13 15.4**	**-1.6**
KMI			sS	**sS**	**01 13 46.6**	**+1.6**
KMI			PMZ			
	comp=Z,17nm,1.0s					
KMI			PMZ			
	comp=Z,170nm,4.9s					
KMI			LN			
	comp=Z,240nm,18.2s					
KMI			LE			
	comp=Z,220nm,23.0s					
KMI			LZ			
	comp=Z,390nm,22.2s					
PEA2	**Petropavlovsk-**	**57.45 3**	*e*P	**P**	**01 05 23.0**	**-0.4**
PETK	**Petropavlovsk-**	**57.45 3**	P	**P**	**01 05 23.0**	**-0.4**
PETK	**Petropavlovsk-**	**57.45 3**	P	**P**	**01 05 23.0**	**-0.4**
	comp=Z,40nm,1.0s,baz=151,slow=6.4,SNR=14					
PETK			LR	LR	01 26 09.2	
	comp=Z,183nm,21.6s,baz=188,slow=32					
SNSI	**Sinabang, Aceh**	**57.61 276**	P	**P**	**01 05 26.1**	**+0.9**
	comp=Z,99nm,1.4s,comp=Z,6µm					
CRAI	**Chiangrai**	**57.70 297**	P	**P**	**01 05 23.2**	**-2.6**
	comp=Z,30nm,0.7s,comp=Z,2µm					
LAMP	**Lampang**	**57.83 295**	P	**P**	**01 05 28.1**	**+1.4**
	comp=Z,5.4nm,0.9s					
TBI	**Tubuai**	**58.00 115**	*e*P	**P**	**01 05 30.3**	**+2.5**
TBI			*e*pP	**pP**	**01 05 44.3**	**-0.1**
	comp=Z,55nm,0.9s					
TBI			*e*S	**S**	**01 13 24.5**	**+0.5**
	comp=Z,177nm,37.8s					
TBI			*e*LR	LR	01 22 40.6	
	comp=Z,460nm,26.5s					
CM31	**Chiang Mai Arr**	**58.43 295**	*e*P	**P**	**01 05 30.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**58.43 295**	P	**P**	**01 05 30.1**	**-0.8**
	comp=Z,6.2nm,0.9s,baz=113,slow=5.2,SNR=30					
PMOR	**Pomariorio Ree**	**58.48 105**	*e*P	**P**	**01 05 33.1**	**+1.8**
	comp=Z,148nm,1.3s					
PMOR			*e*pP	**pP**	**01 05 46.2**	**-1.7**
	comp=Z,485nm,1.5s					
CMMT	**Chiang Mai**	**58.53 295**	P	**P**	**01 05 32.3**	**+0.7**
	comp=Z,20nm,1.6s,comp=Z,519nm					
MEH	**Mehetia**	**58.56 108**	*e*P	**P**	**01 05 33.4**	**+1.5**
MEH			*e*pP	**pP**	**01 05 46.7**	**-1.7**
	comp=Z,57nm,1.3s					
VAH	**Vaihoa**	**58.76 105**	*e*P	**P**	**01 05 34.7**	**+1.5**
VAH			*e*pP	**pP**	**01 05 47.8**	**-2.0**
	comp=Z,235nm,1.5s					
CD2	**Chengdu**	**59.10 310**	*e*P	**P**	**01 05 35.2**	**-0.2**
CD2			pP	**pP**	**01 05 52.6**	**+0.6**
CD2			sP	**sP**	**01 06 00.3**	**+1.2**
CD2			PP	**PP**	**01 07 48.2**	**+1.5**
CD2			PcS	**PcS**	**01 10 23.4**	**-2.3**
CD2			S	**S**	**01 13 35.7**	**-2.5**
CD2			sS	**sS**	**01 14 05.5**	**-0.8**
CD2			ScS	**ScS**	**01 15 15.3**	**-5.0**
CD2			SS	**SS**	**01 17 32.4**	**-1.0**
CD2			PMZ			
	comp=Z,20nm,1.2s					
CD2			PMZ			
	comp=Z,260nm,5.2s					
CD2			LN			
	comp=Z,360nm,17.1s					
CD2			LE			
	comp=Z,340nm,19.6s					
CD2			LZ			
	comp=Z,470nm,21.0s					
HHC	**Hu-ho-hao-te**	**59.22 324**	*e*P	**P**	**01 05 39.0**	**+2.9**
HHC			sP	**sP**	**01 06 02.1**	**+2.3**
HHC			S	**S**	**01 13 42.1**	**+2.6**
HHC			sS	**sS**	**01 14 11.7**	**+4.1**
HHC			SS	**SS**	**01 17 36.4**	**+1.4**
HHC			PMZ			
	comp=Z,20nm,1.4s					
HHC			LN			
	comp=Z,250nm,19.7s					
HHC			LE			
	comp=Z,400nm,21.0s					
HHC			LZ			
	comp=Z,340nm,19.7s					
BTO	**Baotou**	**59.99 323**	*e*P	**P**	**01 05 40.8**	**-0.6**
HIA	**Hailar**	**61.03 335**	*e*P	**P**	**01 05 48.1**	**-0.2**
HIA			pmax	pmax		
	comp=Z,8.0nm,0.9s					
LZH	**Lanzhou**	**61.52 315**	*e*P	**P**	**01 05 53.5**	**+1.5**
LZH			pP	**pP**	**01 06 11.3**	**+2.6**
LZH			sP	**sP**	**01 06 20.0**	**+4.3**
LZH			PcP	**PcP**	**01 06 34.2**	**+0.9**
LZH			*e*S	**S**	**01 14 10.5**	**+1.3**
LZH			sS	**sS**	**01 14 42.5**	**+5.0**
LZH			SS	**SS**	**01 18 13.8**	**+2.4**
LZH			PMZ			
	comp=Z,43nm,1.1s					
LZH			PMZ			
	comp=Z,220nm,6.0s					
LZH			LN			
	comp=Z,750nm,18.9s					
LZH			LE			
	comp=Z,570nm,19.1s					
LZH			LZ			
	comp=Z,610nm,20.0s					
GTA	**Gaotai**	**65.93 317**	*e*P	**P**	**01 06 21.5**	**+0.6**
GTA			pP	**pP**	**01 06 37.8**	**0.0**
GTA			sP	**sP**	**01 06 44.8**	**0.0**
GTA			S	**S**	**01 15 03.1**	**-0.7**
GTA			sS	**sS**	**01 15 30.2**	**-2.1**
GTA			SS	**SS**	**01 19 18.7**	**-1.3**
GTA			PMZ			
	comp=Z,14nm,1.7s					
GTA			PMZ			
	comp=Z,180nm,6.9s					
GTA			LN			
	comp=Z,160nm,14.2s					
GTA			LE			
	comp=Z,220nm,19.0s					
GTA			LZ			
	comp=Z,300nm,17.6s					
ULN	**Ulaanbaatar**	**66.11 328**	*c i*P	**P**	**01 06 21.9**	**0.0**
ULN			pmax	pmax		
	comp=Z,25nm,2.5s					
SONA0	**Songino Array**	**66.44 327**	*e*P	**P**	**01 06 23.9**	**-0.2**
SONM	**Songino Array**	**66.44 327**	P	**P**	**01 06 23.9**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=147,slow=6.0,SNR=28					
SONM			LR	LR	01 36 50.2	
	comp=Z,337nm,18.1s,baz=124,slow=37					
UNV	**Unalaska Valle**	**66.99 24**	*e*P	**P**	**01 06 28.5**	**+1.4**
	comp=Z,161nm,1.5s					
SEY	**Seymchan**	**67.20 359**	*i* P	**P**	**01 06 28.0**	**-0.3**
CASY	**Casey**	**68.57 197**	*e*P	**P**	**01 06 36.9**	**0.0**
	comp=Z,115nm,1.8s					
LSA	**Lhasa**	**68.68 304**	P	**P**	**01 06 39.0**	**+0.1**
YAK	**Yakutsk**	**68.79 348**	*e*P	**P**	**01 06 36.9**	**-1.4**
YAK			pmax	pmax		
	comp=Z,19nm,1.0s					
YAK			pmax	pmax		
	comp=N,15nm,1.3s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.0s					
BOD	**Bodaibo**	**69.75 339**	*e*P	**P**	**01 06 42.7**	**-1.6**
BOD			pmax	pmax		
	comp=Z,7.0nm,1.4s					
TLY	**Talaya**	**70.17 330**	*e*P	**P**	**01 06 47.0**	**-0.1**
TLY			*e*S	**S**	**01 15 50.5**	**-3.2**
TLY			*e*		01 16 27.8	
TLY			pmax	pmax		
	comp=Z,6.0nm,1.1s					
TAPN	**Taplejung**	**70.89 301**	*e*P	**P**	**01 06 52.4**	**+0.1**
	comp=Z,103nm,1.1s					
ODAN	**Odare**	**71.03 300**	*e*P	**P**	**01 06 53.2**	**+0.1**
	comp=Z,53nm,0.7s					
RKT	**Rikitea**	**71.21 113**	*e*LR	LR	01 28 44.9	
	comp=Z,439nm,27.5s					
MOY	**Mondy**	**71.52 329**	*e*P	**P**	**01 06 55.0**	**-0.4**
RAMN	**Ramite**	**71.74 300**	*e*P	**P**	**01 06 57.4**	**0.0**
	comp=Z,32nm,0.9s					
JIRN	**Jiri**	**72.27 301**	*e*P	**P**	**01 07 00.9**	**+0.1**
	comp=Z,42nm,0.8s					
GUN	**Gumba**	**72.60 301**	*e*P	**P**	**01 07 03.0**	**+0.3**
	comp=Z,79nm,0.6s					
BILL	**Bilibino**	**72.88 5**	⇑*i* P	**P**	**01 07 03.2**	**+0.2**
BILL			*e*		01 07 17.6	
BILL			*e*		01 09 44.7	
BILL			pmax	pmax		
	comp=Z,25nm,1.2s					
PKI	**Pulchoki**	**72.92 300**	*e*P	**P**	**01 07 04.3**	**-0.3**
	comp=Z,63nm,1.0s					
PKIN	**Phulchoki**	**72.93 300**	*e*P	**P**	**01 07 04.5**	**-0.1**
	comp=Z,18nm,0.6s					
KKN	**Kakani**	**73.08 301**	*e*P	**P**	**01 07 05.4**	**0.0**
	comp=Z,45nm,0.7s					
VNDA	**Vanda**	**73.15 178**	P	**P**	**01 07 04.1**	**-0.4**
	comp=Z,15nm,1.0s,baz=333,slow=6.2,SNR=30					
PALK	**Pallekele**	**73.64 279**	*i* P	**P**	**01 07 09.3**	**+0.6**
GKN	**Gorkha**	**73.69 301**	*e*P	**P**	**01 07 08.8**	**-0.1**
	comp=Z,136nm,1.2s					
DANN	**Dangsing**	**74.52 301**	*e*P	**P**	**01 07 13.4**	**-0.5**
	comp=Z,47nm,0.7s					
KOLN	**Koldanda**	**74.52 300**	*e*P	**P**	**01 07 13.4**	**-0.4**
	comp=Z,45nm,0.8s					
OHAK	**Old Harbor**	**74.89 27**	*e*P	**P**	**01 07 15.0**	**+0.1**
PYUN	**Piuthan**	**75.12 300**	*e*P	**P**	**01 07 16.8**	**-0.5**
	comp=Z,144nm,0.9s					
WMQ	**Urumqi**	**76.01 317**	P	**P**	**01 07 22.1**	**+0.3**
WMQ			PcP	**PcP**	**01 07 32.2**	**-1.7**
WMQ			pP	**pP**	**01 07 38.5**	**-0.6**
WMQ			sP	**sP**	**01 07 43.1**	**-2.9**
WMQ			PP	**PP**	**01 10 14.0**	**+0.8**
WMQ			S	**S**	**01 16 59.0**	**-1.4**
WMQ			SS	**SS**	**01 21 54.0**	**-0.5**
WMQ			PMZ			
	comp=Z,16nm,2.0s					
WMQ			PMZ			
	comp=Z,160nm,8.4s					
WMQ			LN			
	comp=Z,520nm,29.4s					
WMQ			LE			
	comp=Z,310nm,26.9s					
WMQ			LZ			
	comp=Z,430nm,26.9s					
SVW2	**Sparrevohn**	**76.20 23**	*e*P	**P**	**01 07 24.6**	**+2.1**
HYB	**Hyderabad**	**77.11 289**	*i* P	**P**	**01 07 27.0**	**-1.5**
TIXI	**Tiksi**	**77.66 352**	*e*P	**P**	**01 07 29.7**	**-0.7**
TIXI			pmax	pmax		
	comp=Z,9.0nm,1.2s					
CAST	**Castle Rocks**	**78.89 22**	*e*P	**P**	**01 07 38.1**	**+0.7**
	comp=Z,26nm,1.1s					
PMR	**Palmer**	**79.05 24**	*e*P	**P**	**01 07 38.6**	**+0.3**
PMR	**Palmer**	**79.05 24**	*e*P	**P**	**01 07 38.6**	**+0.3**
IM04	**Indian M

MKAR	**Makanchi Array**	**80.57**	**319**	*ce*P		**P**		**01 07 46.9**	**0.0**
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**80.57**	**319**	P		**P**		**01 07 45.4**	**-1.6**
	comp=Z,3.3nm,0.9s,baz=101,slow=6.4,SNR=24								
MKAR					LR	LR		01 44 37.5	
	comp=Z,148nm,19.6s,baz=102,slow=37								
DGAR	**Diego Garcia**	**80.65**	**263**	*e*P		P		01 07 44.0	-4.0
DGAR					pmax	pmax			
	comp=Z,353nm,1.5s								
DGAR	**Diego Garcia**	**80.65**	**263**	*e*P		P		01 07 44.0	-4.0
	comp=Z,352nm,1.5s								
COLA	**College**	**81.24**	**22**	*e*P		**P**		**01 07 49.2**	**-0.8**
COLA					pmax	pmax			
	comp=Z,133nm,1.2s								
ZALV	**Zalesovo Beam**	**81.29**	**326**	P		**P**		**01 07 48.0**	**-2.5**
	comp=Z,2.8nm,0.6s,baz=113,slow=5.7,SNR=14								
ZALV					LR	LR		01 44 42.1	
	comp=Z,188nm,19.4s,baz=70,slow=36								
ZAA1	**Zalesovo Array**	**81.29**	**326**	*e*P		**P**		**01 07 48.0**	**-2.5**
ILAR	**Eielson Array**	**81.55**	**22**	P		**P**		**01 07 49.1**	**-2.5**
	comp=Z,1.1nm,0.9s,baz=252,slow=4.4,SNR=15								
ILAR					LR	LR		01 42 06.0	
	comp=Z,371nm,19.3s,baz=242,slow=34								
ILB	**Eielson Array**	**81.55**	**22**	*e*P		**P**		**01 07 49.1**	**-2.5**
PDGK	**Podgornoye**	**81.56**	**315**	P		**P**		**01 07 51.1**	**-1.1**
PDGK					pmax	pmax			
	comp=Z,13nm,1.3s								
AJM	**Ajmer**	**82.10**	**297**	*e*P		**P**		**01 07 55.0**	**-0.5**
NVS	**Novosibirsk**	**82.46**	**327**	⇓*i*P		**P**		**01 07 54.4**	**-2.2**
NVS				*e*				01 11 00.6	
NVS					pmax	pmax			
	comp=N,6.0nm,2.0s								
NVS					pmax	pmax			
	comp=E,13nm,2.0s								
NVS					pmax	pmax			
	comp=Z,25nm,2.0s								
KSH	**Kashi**	**83.29**	**310**	P		**P**		**01 08 03.5**	**+2.0**
KSH				pP		**pP**		**01 08 20.6**	**+1.6**
KSH				sP		**sP**		**01 08 27.2**	**+1.4**
KSH				PP		**PP**		**01 11 18.2**	**+4.3**
KSH				S		**SKSac**		**01 18 18.6**	**-0.1**
KSH				sS		**sS**		**01 18 47.4**	**+0.2**
KSH				PMZ					
	comp=Z,62nm,1.6s								
KSH				PMZ					
	comp=Z,230nm,6.3s								
KSH				LN					
	comp=Z,97nm,4.9s								
KSH				LE					
	comp=Z,120nm,4.6s								
KSH				LZ					
	comp=Z,160nm,8.2s								
HYT	**Haines Junctio**	**83.77**	**27**	*e*P		**P**		**01 08 04.7**	**+1.2**
TKM2	**Tokmak 2**	**84.25**	**314**	P		**P**		**01 08 06.6**	**+0.1**
	SNR=9.0								
TKM2	**Tokmak 2**	**84.25**	**314**	*i* P		**P**		**01 08 06.5**	**+0.1**
SKAG	**Skagway**	**84.34**	**29**	*e*P		**P**		**01 08 08.2**	**+2.0**
KBK	**Karagaybulak**	**84.66**	**313**	P		**P**		**01 08 08.5**	**0.0**
	SNR=10								
KBK	**Karagaybulak**	**84.66**	**313**	*i* P		**P**		**01 08 08.5**	**0.0**
CHMS	**Chumysh**	**84.87**	**314**	P		**P**		**01 08 09.4**	**0.0**
	SNR=12								
CHMS	**Chumysh**	**84.87**	**314**	*i* P		**P**		**01 08 09.3**	**0.0**
UCH	**Uchtor**	**84.90**	**313**	P		**P**		**01 08 10.7**	**+0.6**
	SNR=21								
UCH	**Uchtor**	**84.90**	**313**	*i* P		**P**		**01 08 10.6**	**+0.6**
FRU	**Bishkek**	**84.94**	**314**	*e*P		**P**		**01 08 09.5**	**-0.2**
FRU					pmax	pmax			
	comp=Z,80nm,2.0s								
AAK	**Ala-Archa**	**84.99**	**313**	P		**P**		**01 08 10.0**	**-0.1**
	comp=Z,94nm,0.7s,SNR=11								
AAK	**Ala-Archa**	**84.99**	**313**	P		**P**		**01 08 10.3**	**+0.2**
	SNR=8.3								
AAK	**Ala-Archa**	**84.99**	**313**	*i* P		**P**		**01 08 10.3**	**+0.2**
USP	**Ospenovka**	**85.10**	**314**	P		**P**		**01 08 10.6**	**+0.1**
	SNR=19								
USP	**Ospenovka**	**85.10**	**314**	*i* P		**P**		**01 08 10.6**	**+0.1**
SFK	**Sufi-Kurgan**	**85.26**	**311**	P		**P**		**01 08 11.8**	**+0.2**
SFK					pmax	pmax			
	comp=Z,70nm,1.4s								
AML	**Almayashu**	**85.48**	**313**	P		**P**		**01 08 13.5**	**+0.7**
	SNR=26								
AML	**Almayashu**	**85.48**	**313**	*i* P		**P**		**01 08 13.5**	**+0.7**
EKS2	**Erkin-Say**	**85.51**	**313**	P		**P**		**01 08 12.8**	**+0.1**
	SNR=11								
EKS2	**Erkin-Say**	**85.51**	**313**	*i* P		**P**		**01 08 12.7**	**+0.1**
MAW	**Mawson**	**86.19**	**203**	P		**P**		**01 08 15.2**	**-0.1**
	comp=Z,20nm,0.9s,baz=105,slow=8.3,SNR=8.7								
MAW					LR	LR		01 43 48.5	
	comp=Z,209nm,19.3s,baz=64,slow=34								
MAW	**Mawson**	**86.19**	**203**	P		**P**		**01 08 15.2**	**-0.1**
	baz=86,SNR=5.0								
INK	**Inuvik**	**87.86**	**21**	P		**P**		**01 08 23.3**	**0.0**
INK				*e*				01 11 50.4	
INK	**Inuvik**	**87.86**	**21**	P		**P**		**01 08 23.2**	**0.0**
	comp=Z,9.8nm,1.1s,baz=244,slow=6.2,SNR=13								
INK	**Inuvik**	**87.86**	**21**	P		**P**		**01 08 23.2**	**0.0**
INK				*e*PP		**PP**		**01 11 50.4**	**+0.5**
KK31	**Karatay Array**	**87.95**	**313**	*i* P		**P**		**01 08 23.5**	**-0.9**
KK31					pmax	pmax			
	comp=Z,1.0nm,0.3s								
I03D	**Drain, OR**	**88.05**	**46**	pP		pP		01 08 40.0	-2.4
	baz=88								
M02C	**Callahan**	**88.10**	**48**	pP		pP		01 08 40.3	-2.5
	baz=88								
N02D	**Trinity Center**	**88.16**	**49**	pP		pP		01 08 39.8	-3.3
	baz=88								
G03D	**McMinnville, O**	**88.32**	**45**	pP		pP		01 08 41.2	-2.5
	baz=88								
I04A	**Tendick Farm,**	**88.73**	**46**	pP		pP		01 08 42.8	-2.9
	baz=89								
J04D	**Umpqua Nationa**	**88.88**	**47**	pP		pP		01 08 43.8	-2.8
	baz=89								
M04C	**Macdoel**	**88.90**	**48**	pP		pP		01 08 43.5	-3.1
	baz=89								
VVHS	**Vashon High Sc**	**89.17**	**42**	*e*P		**P**		**01 08 27.6**	**-2.3**
TDL	**Tradedollar La**	**89.19**	**44**	P		P		01 08 39.6	+9.2
BVA0	**Borovoye Array**	**89.42**	**323**	*i* P		**P**		**01 08 28.5**	**-2.6**
BVA0					pmax	pmax			
	comp=Z,17nm,1.2s								
BRVK	**Borovoye**	**89.49**	**323**	P		**P**		**01 08 30.3**	**-1.1**
	comp=Z,62nm,1.2s,SNR=6.5								
J05D	**Fort Rock, OR**	**89.52**	**47**	pP		pP		01 08 46.7	-2.9
	baz=90								
I05D	**Terrebonne, OR**	**89.57**	**46**	pP		pP		01 08 46.4	-3.3
	baz=90								
G05D	**Wamic, OR**	**89.69**	**45**	pP		pP		01 08 47.6	-2.6
	baz=90								
RCTC	**Rector, Farmer**	**90.34**	**54**	pP		pP		01 08 49.9	-3.4
	baz=90								
LTY	**Liberty**	**90.36**	**43**	*e*P		P		01 08 40.2	+4.6
VES	**Vestal, Richgr**	**90.42**	**54**	pP		pP		01 08 50.0	-3.8
	baz=90								
BTPC	**Burnt Peak**	**90.74**	**55**	*e*P		**P**		**01 08 40.2**	**+2.3**
WTV	**Waterville**	**90.88**	**42**	P		P		01 08 42.3	+4.2
ISA	**Isabella, Lake**	**90.90**	**54**	pP		pP		01 08 53.0	-3.1
	baz=91								
EDW2	**Edwards Air Fo**	**91.23**	**55**	pP		pP		01 08 55.2	-2.5
	baz=91								
NV01	**Mina Array Sit**	**91.27**	**52**	*e*P		**P**		**01 08 41.3**	**+1.0**
NVAR	**Mina Array Bea**	**91.27**	**52**	P		**P**		**01 08 41.3**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=258,slow=7.1,SNR=4.4								
BFSC	**Mount Baldy Ra**	**91.46**	**56**	pP		pP		01 08 54.7	-4.1
	baz=92								
LRMC	**Laurel Mtn Rad**	**91.53**	**55**	pP		pP		01 08 57.0	-2.1
	baz=92								
DAC	**Darwin (Calif)**	**91.66**	**54**	*e*P		**P**		**01 08 42.8**	**+0.7**
DAC					pmax	pmax			
	comp=Z,34nm,1.1s								
DAC	**Darwin (Calif)**	**91.66**	**54**	*e*P		**P**		**01 08 42.8**	**+0.7**
	comp=Z,34nm,1.1s								
OD2	**Odessa Site #2**	**91.69**	**43**	P		**P**		**01 08 42.0**	**+0.2**
MPMC	**Manual Prospec**	**91.73**	**54**	pP		pP		01 08 57.2	-2.9
	baz=92								
MURC	**Murrieta**	**91.79**	**57**	pP		pP		01 08 58.0	-2.2
	baz=92								
E09A	**Wood Farm, Sta**	**92.01**	**44**	*e*P		**P**		**01 08 44.8**	**+1.6**
	comp=Z,40nm,1.1s								
GSC	**Goldstone, Bar**	**92.23**	**55**	pP		pP		01 08 59.1	-3.2
	baz=92								
FURC	**Furnace Creek,**	**92.27**	**54**	pP		pP		01 08 59.6	-2.7
	baz=92								
MONP	**Monument Peak,**	**92.39**	**57**	pP		pP		01 09 01.2	-2.0
	baz=92								
PFO	**Pinyon Flats O**	**92.41**	**57**	pP		pP		01 09 00.5	-2.7
	baz=92								
BMO	**Blue Mountains**	**92.48**	**45**	*e*P		**P**		**01 08 45.6**	**0.0**
BMO					pmax	pmax			
	comp=Z,27nm,1.2s								
BMO	**Blue Mountains**	**92.48**	**45**	*e*P		**P**		**01 08 45.5**	**0.0**
	comp=Z,27nm,1.2s								
HEC	**Hector,Ludlow**	**92.59**	**55**	pP		pP		01 09 01.7	-2.3
	baz=93								
F10A	**Beach Ranch, E**	**92.61**	**44**	*e*P		**P**		**01 08 46.5**	**+0.4**
	comp=Z,18nm,0.9s								
SHOC	**Shoshone, Teco**	**92.70**	**54**	pP		pP		01 09 01.5	-2.9
	baz=93								
TPNV	**Topopah Spring**	**92.79**	**53**	pP		pP		01 09 01.6	-3.3
	baz=93								
BELC	**Belle Mtn. Jos**	**92.81**	**56**	pP		pP		01 09 02.7	-2.4
	baz=93								
NEW	**Newport**	**92.82**	**42**	pP		pP		01 09 00.8	-3.9
	baz=93								
GMRC	**Granite Mounta**	**93.14**	**56**	pP		pP		01 09 03.8	-2.8
	baz=93								
BC3	**Big Chuckawall**	**93.25**	**57**	pP		pP		01 09 04.8	-2.3
	baz=93								
R11A	**Troy Canyon, C**	**93.39**	**52**	pP		pP		01 09 05.6	-2.2
	baz=94								
R11A	**Troy Canyon, C**	**93.39**	**52**	*e*P		**P**		**01 08 50.4**	**+0.3**
	comp=Z,46nm,2.3s								
IRM	**Iron Mountain**	**93.53**	**56**	pP		pP		01 09 05.7	-2.5
	baz=94								
SYO	**Syowa Base**	**94.25**	**199**	⇑*e*X		**P**		**01 08 50.0**	**-3.1**
PDMCI	**Parker Dam,Lak**	**94.37**	**56**	pP		pP		01 09 10.0	-2.0
	baz=94								
HLID	**Hailey**	**94.50**	**47**	pP		pP		01 09 10.8	-1.9
	baz=95								
W13A	**Hualapai Mount**	**94.61**	**55**	pP		pP		01 09 10.7	-2.7
	baz=95								
YKA	**Yellowknife Ar**	**94.76**	**28**	P		**P**		**01 08 56.0**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=269,slow=4.5,SNR=22								
YKA					PP	**PP**		**01 12 49.6**	**+5.0**
	comp=Z,1.1nm,1.0s,baz=268,slow=7.7,SNR=4.4								
YKA					PKKPbc	**PKKPdf**		**01 25 50.3**	**-4.1**
	comp=Z,0.4nm,0.9s,baz=84,slow=3.0,SNR=6.9								
YKB5	**Yellowknife Ar**	**94.76**	**28**	*e*P		**P**		**01 08 56.0**	**+0.5**
CRZF	**Crozet Islands**	**94.84**	**223**	PP		PP		01 12 49.0	+3.5
CRZF				SS		x		01 23 11.0	
CRZF				R				01 42 00.0	
WALA	**Waterton Lakes**	**94.98**	**41**	*e*P		**P**		**01 08 59.6**	**+2.6**
	comp=Z,23nm,0.9s								
IMYA	**Miami**	**95.41**	**306**	*e*P		**P**		**01 08 57.8**	**-1.6**
IDAH	**Dahanechah**	**95.50**	**302**	*e*P		**P**		**01 08 58.9**	**-1.1**
AB31	**Akbulak array**	**95.72**	**319**	*i* P		**P**		**01 08 57.5**	**-2.7**
ARU	**Arti**	**96.46**	**326**	*d i* P		**P**		**01 09 04.0**	**+0.6**
ARU								01 12 58.6	
ARU					S	**SKSac**		**01 19 36.1**	**+1.5**
ARU					pmax	pmax			
	comp=Z,7.0nm,1.7s								
ARU					MLR	MLR			
	comp=Z,198nm,19.0s								
AKTO	**Aktyubinsk**	**96.95**	**320**		LR	LR		01 51 49.9	
	comp=Z,152nm,21.9s,baz=85,slow=35								
GEYT	**Allbeck**	**97.02**	**308**	P		**P**		**01 09 04.9**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=355,slow=6.3,SNR=8.1								
GEYT					LR	LR		01 55 48.3	
	comp=Z,50nm,19.4s,baz=355,slow=37								
H17A	**Grant Village**	**97.27**	**46**	pP		pP		01 09 23.5	-1.9
	baz=97								
I17A	**Pilgrim Ck.**	**97.28**	**46**	pP		pP		01 09 22.0	-3.4
	baz=97								
EGMT	**Eagleton**	**97.75**	**42**	pP		pP		01 09 24.2	-3.1
	baz=98								
H18A	**Shoshone NF, C**	**97.92**	**46**	pP		pP		01 09 25.1	-3.3
	baz=98								
BW06	**Boulder Array**	**98.05**	**48**	*e*P		**P**		**01 09 11.3**	**0.0**
PD31	**Pinedale Array**	**98.05**	**48**	*e*P		Pdif		01 09 11.9	+0.6
PD31				*e*PP		PP		01 13 22.6	+12
PDAR	**Pinedale Array**	**98.05**	**48**	P		Pdif		01 09 11.9	+0.6
	comp=Z,0.3nm,0.6s,baz=206,slow=10.0,SNR=3.1								
PDAR					PP	PP		01 13 22.6	+12
	comp=Z,1.1nm,1.0s,baz=249,slow=7.8,SNR=3.9								
PDAR					LR	LR		01 49 56.1	
	comp=Z,579nm,18.6s,baz=268,slow=33								
C19A	**Slack Wire Ran**	**98.24**	**43**	pP		pP		01 09 26.0	-3.5
	baz=98								
D19A	**Cripps Ranch,**	**98.38**	**43**	pP		pP		01 09 26.7	-3.4
	baz=98								
A19A	**Klindworth Far**	**98.39**	**41**	pP		pP		01 09 26.9	-3.2
	baz=98								
F19A	**Roth Farm, Mol**	**98.39**	**44**	pP		pP		01 09 27.1	-3.1
	baz=98								
J19A	**Crowheart**	**98.40**	**47**	pP		pP		01 09 27.5	-2.9
	baz=98								
H19A	**Powell**	**98.40**	**46**	pP		pP		01 09 27.4	-3.0
	baz=98								
I19A	**Meeteetse**	**98.42**	**46**	pP		pP		01 09 27.4	-3.1
	baz=98								
E19A	**Rath Farm, Rou**	**98.47**	**44**	pP		pP		01 09 27.2	-3.4
	baz=98								
D20A	**Manuel Ranch,**	**98.89**	**43**	pP		pP		01 09 29.2	-3.2
	baz=99								
B20A	**Solberg Farm,**	**98.89**	**42**	pP		pP		01 09 29.5	-2.9
	baz=99								
E20A	**Meyer Farm, Mu**	**98.92**	**44**	pP		pP		01 09 29.9	-2.7
	baz=99								
A20A	**Cobblestone Ra**	**98.93**	**41**	pP		pP		01 09 29.6	-2.9
	baz=99								
C20A	**Veseth Ranch,**	**98.94**	**43**	pP		pP		01 09 29.4	-3.2
	baz=99								
F20A	**Billings**	**98.95**	**44**	pP		pP		01 09 29.6	-3.1
	baz=99								
J21A	**Lysite**	**99.57**	**47**	pP		pP		01 09 32.2	-3.5
	baz=100								
A21A	**Bergtoll Ranch**	**99.58**	**41**	pP		pP		01 09 32.2	-3.2
	baz=100								
G21A	**Lodge Grass**	**99.64**	**45**	pP		pP		01 09 33.0	-2.9
	baz=100								
I21A	**Big Trails, Te**	**99.66**	**46**	pP		pP		01 09 32.5	-3.5
	baz=100								
K21A	**Alcova**	**99.75**	**48**	pP		pP		01 09 33.0	-3.5
	baz=100								
D22A	**Cohagen**	**100.22**	**43**	pP		pP		01 09 34.6	-3.7
	baz=100								
A22A	**Carney Farms,**	**100.24**	**41**	pP		pP		01 09 34.7	-3.8
	baz=100								
J22A	**Midwest**	**100.27**	**47**	pP		pP		01 09 34.2	-4.6
	baz=100								
G22A	**Birney**	**100.28**	**45**	pP		pP		01 09 35.8	-3.0
	baz=100								
H22A	**Clearmont**	**100.28**	**46**	pP		pP		01 09 35.8	-2.9
	baz=100								
K22A	**Casper**	**100.28**	**48**	pP		pP		01 09 34.7	-4.2
	baz=100								
S22A	**4UR Ranch, Cre**	**100.30**	**53**	pP		pP		01 09 36.4	-2.9
	baz=100								
C22A	**Vida**	**100.37**	**42**	pP		pP		01 09 35.5	-3.5
	baz=100								
O22A	**Kremmling**	**100.41**	**50**	pP		pP		01 09 36.2	-3.5
	baz=100								
N22A	**Wattenberg Ran**	**100.44**	**49**	pP		pP		01 09 36.6	-3.2
	baz=100								
N23A	**Red Feather La**	**100.82**	**49**	*e*PKiKP		**PKiKP**		**01 13 51.3**	**+2.0**
C23A	**Lambert**	**100.83**	**42**	pP		pP		01 09 38.2	-2.9
	baz=101								
B23A	**Brockton**	**100.90**	**42**	pP		pP		01 09 38.2	-3.2
	baz=101								
G23A	**Biddle**	**100.92**	**45**	pP		pP		01 09 38.9	-2.7
	baz=101								
L23A	**Garrett**	**100.93**	**48**	pP		pP		01 09 39.5	-2.5
	baz=101								
LTX	**Lajitas**	**103.29**	**61**	*e*P		**Pdif**		**01 09 44.5**	**+10**
LTX	**Lajitas**	**103.29**	**61**	*e*Pdif		**Pdif**		**01 09 44.5**	**+10**
TXAR	**Lajitas Array**	**103.29**	**61**	Pdiff		**Pdif**		**01 09 44.5**	**+10**
	comp=Z,0.4nm,0.9s,baz=245,slow=3.9,SNR=3.3								
TXAR					PKKPbc	**PKKPbc**		**01 25 30.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=134,slow=3.6,SNR=3.9								
FIA0	**FINESS Array S**	**111.05**	**336**	*e*P		**Pdif**		**01 10 07.1**	**-1.2**
FIA0	**FINESS Array S**	**111.05**	**336**	*e*Pdif		**Pdif**		**01 10 07.1**	**-1.2**
FINES	**FINESS Array B**	**111.05**	**336**	Pdiff		**Pdif**		**01 10 07.1**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=120,slow=24,SNR=2.4								
AKASG	**Malin Array Be**	**114.66**	**325**	PKP		PKPdf		01 14 12.8	-1.6
	comp=Z,0.3nm,0.3s,baz=54,slow=1.9,SNR=4.2								
AKASG					PP	**PP**		**01 15 11.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=52,slow=6.6,SNR=5.1								
AKBB	**Malin Array Si**	**114.66**	**325**	*e*PKiKP		PKPdf		01 14 12.8	-1.6
AKBB				*e*				01 15 11.9	
AKBB	**Malin Array Si**	**114.66**	**325**	*e*PKiKP		**PKiKP**		**01 14 12.8**	**-1.6**
AKBB				*e*PP		**PP**		**01 15 11.9**	**-0.4**
BR101	**Keskin Array S**	**115.64**	**312**	*e*PKPdf		**PKPdf**		**01 14 17.9**	**+1.0**
BRTR	**Keskin Array B**	**115.64**	**312**	PKP		**PKPdf**		**01 14 17.9**	**+1.0**
	comp=Z,0.8nm,1.0s,baz=100,slow=6.6,SNR=2.9								
NB2	**NORSAR Subarra**	**116.84**	**341**	PKPdf		**PKPdf**		**01 14 22.5**	**+4.1**
	comp=Z,0.9nm,0.9s,baz=44,slow=1.9								
NB200	**NORSAR Array S**	**116.84**	**341**	*e*PKPdf		**PKPdf**		**01 14 19.5**	**+1.1**
NOA	**NORSAR Array B**	**116.84**	**341**	PKP		**PKPdf**		**01 14 19.5**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=358,slow=1.7,SNR=3.2								
VRI	**Vrincioaia**	**118.22**	**321**	⇓PKIKP		PKPdf		01 14 30.7	+9.2
VRI	**Vrincioaia**	**118.22**	**321**	⇓*i*P		PKPdf		01 14 30.7	+9.2
BURAR	**Bucovina Array**	**118.38**	**323**	⇑PKIKP		**PKPdf**		**01 14 22.7**	**+0.9**
BURAR	**Bucovina Array**	**118.38**	**323**	⇑*i*P		**PKPdf**		**01 14 22.7**	**+0.9**
KWP	**Kalwaria Pacla**	**118.86**	**326**	⇑PKIKP		**PKPdf**		**01 14 21.5**	**-1.1**
KWP	**Kalwaria Pacla**	**118.86**	**326**	⇑*i*P		**PKPdf**		**01 14 21.5**	**-1.1**
MLR	**Muntele Rosu**	**118.88**	**320**	⇑PKIKP		PKPdf		01 14 30.4	+7.5
MLR	**Muntele Rosu**	**118.88**	**320**	⇑*i*P		PKPdf		01 14 30.4	+7.5
KOLS	**Kolonicke sedl**	**119.46**	**325**	*e*PKIKP		**PKPdf**		**01 14 24.2**	**+0.5**
KOLS	**Kolonicke sedl**	**119.46**	**325**	*e*PKP		**PKPdf**		**01 14 24.2**	**+0.5**
VOIR		**119.47**	**321**	⇓PKIKP		PKPdf		01 14 33.9	+10
VOIR		**119.47**	**321**	⇓*i*P		PKPdf		01 14 33.9	+10
UZH	**Uzhgorod**	**119.61**	**325**	*e*PKIKP		PKPdf		01 14 31.8	+7.8
ARR	**Arges**	**119.76**	**321**	⇓*i*P		**PKPdf**		**01 14 25.0**	**+0.5**
STHS	**Stebnicka Huta**	**119.79**	**326**	*e*PKIKP		**PKPdf**		**01 14 24.5**	**+0.1**
STHS	**Stebnicka Huta**	**119.79**	**326**	*e*PKP		**PKPdf**		**01 14 24.5**	**+0.1**
DRGR		**120.28**	**323**	⇑*i*P		PKPdf		01 14 41.6	+16
GZR	**Gura Zlata**	**120.91**	**322**	⇓PKIKP		PKPdf		01 14 43.3	+17
GZR	**Gura Zlata**	**120.91**	**322**	⇓*i*P		PKPdf		01 14 43.3	+17
BZS	**Buzias**	**121.52**	**322**	⇑PKIKP		**PKPdf**		**01 14 25.0**	**-2.8**
BZS	**Buzias**	**121.52**	**322**	⇑*i*P		**PKPdf**		**01 14 25.0**	**-2.8**
KRLC	**Kraliky**	**121.81**	**329**	*e*PKIKP		**PKPdf**		**01 14 29.0**	**+0.7**
KRLC				*e*				01 14 42.2	
KRLC	**Kraliky**	**121.81**	**329**	*e*PKPdf		**PKPdf**		**01 14 29.0**	**+0.7**
KRLC				*ep*PKP		**pPKPdf**		**01 14 42.2**	**-4.4**
KRLC				*es*PKP				01 14 49.8	
DPC	**Dobruska-Polom**	**121.89**	**329**	*e*PKIKP		**PKPdf**		**01 14 29.1**	**+0.7**
DPC				*e*				01 14 42.5	
DPC	**Dobruska-Polom**	**121.89**	**329**	*e*PKPdf		**PKPdf**		**01 14 29.1**	**+0.7**
DPC				*ep*PKP		**pPKPdf**		**01 14 42.5**	**-4.2**
DPC				*es*PKP				01 14 50.4	
VTS	**Vitosha**	**121.92**	**318**	⇓PKIKP		**PKPdf**		**01 14 33.7**	**+4.8**
VTS	**Vitosha**	**121.92**	**318**	⇓*i*P		**PKPdf**		**01 14 33.7**	**+4.8**
MMB	**Musomiste**	**122.02**	**317**	⇑PKIKP		**PKPdf**		**01 14 28.4**	**-0.5**
MMB	**Musomiste**	**122.02**	**317**	⇑*i*P		**PKPdf**		**01 14 28.4**	**-0.5**
BRG	**Berggiesshubel**	**122.75**	**331**	*e*P		PKPdf		01 14 45.2	+15
	comp=Z,6.9nm,1.2s								
BRG	**Berggiesshubel**	**122.75**	**331**	*e*PKIKP		PKPdf		01 14 45.2	+15
BRG					pmax	pmax			
	comp=Z,7.0nm,1.2s								
BRG					MLR	MLR			
	comp=N,98nm,15.0s								
BRG					MLR	MLR			
	comp=E,90nm,16.3s								
BRG					MLR	MLR			
	comp=Z,186nm,19.2s								
CLL	**Collm**	**122.92**	**332**	*ep*PKPdf		**pPKPdf**		**01 14 45.0**	**-3.6**
CLL				*e*PP		PP		01 16 16.0	+7.0
CLL				*e*PS		**PS**		**01 26 07.0**	**+1.0**
CLL				*e*PPS		PPS		01 27 28.0	
CLL				*e*SSS		SSS		01 37 42.0	
CLL					Lm	MLR		02 12 00.0	
	comp=Z,200nm,18.3s								
TREC	**Trest**	**122.96**	**329**		AMS	AMS		02 06 30.0	
	comp=Z,200nm,18.8s								
PKSM	**Moragy**	**122.99**	**324**	⇑PKIKP		**PKPdf**		**01 14 29.5**	**-1.1**
PKSM	**Moragy**	**122.99**	**324**	⇑*i*P		**PKPdf**		**01 14 29.5**	**-1.1**
PRU	**Pruhonice**

1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.64**	**354**	*eP*	Pn	01 14 08.9	+0.7
SCZP				*eS*	Sb	01 14 15.7	-0.7
BOLP	**Bolinao**	**1.24**	**357**	*eP*	Pn	01 14 17.1	+0.7
BOLP				*eS*	Sn	01 14 30.8	-1.4
BCPH	**Baguio City Da**	**1.36**	**25**	*i*P	Pb	01 14 20.1	-0.1
BCPH				*i* S	Sb	01 14 37.8	+0.3
BALP	**Baler**	**1.65**	**68**	*e*P	Pn	01 14 23.2	+1.2
BALP				*e*S	Sb	01 14 43.7	-1.4

IDC 13 01:16:42.9±1.6, 3.69S×145.20E, h0km, mb3.7/2, mb1 4.2/4, mb1mx3.7/28, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=50.2km s-min=25.3km az=103.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00**	**161**	Pn	Pn	01 18 13.2	+0.1
	1.7nm,0.3s,baz=331,slow=19,SNR=3.1						
PMG				Sn	Sn	01 19 25.0	+2.3
	0.8nm,0.3s,baz=328,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**19.32**	**212**	P	P	01 21 09.1	-0.8
	0.7nm,0.3s,baz=35,slow=10,SNR=20						
ASAR	**Alice Springs**	**22.66**	**208**	P	P	01 21 46.1	+0.1
	2.7nm,0.8s,baz=38,slow=9.0,SNR=26						
ILAR	**Eielson Array**	**84.08**	**24**	P	P	01 29 15.6	+0.2
	0.4nm,0.9s,baz=260,slow=5.1,SNR=3.1						

*IDC **13** 01:39:50.7±0.7, 38.20S×178.63E, h0km, mb4.6/6, mb1 4.6/7, mb1mx4.3/23, mbtmp4.5/7, ML3.5/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/20, Error ellipse: s-maj=24.9km s-min=13.1km az=3.0*

*ISCJB **13** 01:39:51.8±0.8, 38.71S±0.02×178.72E±0.06, h32km±4km, mb4.5/10, MS3.7/4, Error ellipse: s-maj=8.1km s-min=3.9km az=9.0*

*WEL **13** 01:39:54.7±0.2, 38.56S×178.57E, h28km±1km, ML4.6/42, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0*

WEL Felt from Bay of Plenty to Gisborne, maximum reported intensity MM 4.

*NEIC **13** 01:39:54.0, 38.51S×178.68E, h33km, mb4.6/5, ML4.5(WEL), After WEL.*

NEIC Felt [IV] at Gisborne, Kaiti, Mangapapa and Whataupoko.

ISC 13 01:39:52.6±1.3, 38.67S±0.03×178.65E±0.06, h20km±5km, n208, σ1°42/203, mb4.5/10, MS3.7/4, 9C-10D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.39**	**297**	⇑P*	**Pb**	**01 40 01.7**	**+0.7**
CNGZ				S*	**Sb**	**01 40 07.1**	**+0.5**
CNGZ	**Carnagh Statio**	**0.39**	**297**	P*	**Pb**	**01 40 01.7**	**+0.7**
PRGZ	**Paritu Road**	**0.66**	**246**	⇓P*	**Pn**	**01 40 07.7**	**+0.8**
PRGZ	**Paritu Road**	**0.66**	**246**	Pn	**Pn**	**01 40 07.7**	**+0.8**
PUZ	**Puketiti**	**0.67**	**332**	⇑P*	**Pb**	**01 40 04.9**	**-0.7**
PUZ				S*	**Sb**	**01 40 13.6**	**-0.8**
PUZ				AML	AML	01 40 22.7	
PUZ	**Puketiti**	**0.67**	**332**	Pn	**Pb**	**01 40 04.7**	**-0.9**
TKGZ	**Te Karaka**	**0.67**	**289**	⇑P*	**Pg**	**01 40 06.0**	**+0.2**
RIGZ	**Rimuhau**	**0.70**	**266**	⇓P*	**Pn**	**01 40 07.6**	**+0.1**
TWGZ	**Tauwhareparae**	**0.72**	**312**	⇑P*	**Pb**	**01 40 06.4**	**-0.1**
MHGZ	**Mahia Peninsul**	**0.76**	**230**	PN	**Pn**	**01 40 09.5**	**+1.3**
MHGZ	**Mahia Peninsul**	**0.76**	**230**	Pn	**Pn**	**01 40 09.6**	**+1.3**
KNZ	**Kokohu**	**0.84**	**245**	⇓PN	**Pn**	**01 40 10.0**	**+0.6**
KNZ	**Kokohu**	**0.84**	**245**	⇓Pn	**Pn**	**01 40 10.0**	**+0.6**
WMGZ	**Waiomatatini S**	**0.86**	**347**	⇑PN	**Pb**	**01 40 09.1**	**+0.1**
MWZ	**Matawai**	**0.94**	**290**	⇓PN	**Pb**	**01 40 09.9**	**-0.4**
MWZ				SN	**Sb**	**01 40 21.9**	**-0.5**
MWZ	**Matawai**	**0.94**	**290**	⇓Pn	**Pb**	**01 40 10.0**	**-0.4**
MWZ				Sn	**Sb**	**01 40 21.9**	**-0.5**
SNGZ	**Shannon Statio**	**1.03**	**263**	⇓PN	**Pb**	**01 40 12.1**	**+0.2**
MXZ	**Matakaoa Point**	**1.13**	**346**	PN	**Pn**	**01 40 12.8**	**-0.5**
MXZ				AML	AML	01 40 28.6	
MXZ				AML	AML	01 40 28.6	
MXZ				AML	AML	01 40 29.5	
MXZ				AML	AML	01 40 29.6	
MXZ	**Matakaoa Point**	**1.13**	**346**	Pn	**Pn**	**01 40 12.9**	**-0.5**
HAZ	**Te Kaha**	**1.14**	**323**	⇓PN	**Pn**	**01 40 12.2**	**-1.2**
WHHZ	**Waihua**	**1.18**	**249**	PN	**Pb**	**01 40 14.7**	**+0.3**
RAHZ	**Arahi**	**1.25**	**258**	PN	**Pn**	**01 40 14.9**	**-0.1**
RAHZ	**Arahi**	**1.25**	**258**	Pn	**Pn**	**01 40 15.4**	**+0.3**
URZ	**Urewera**	**1.28**	**288**	⇓PN	**Pn**	**01 40 14.8**	**-0.5**
URZ				AML	AML	01 40 36.4	
URZ				AML	AML	01 40 37.7	
URZ	**Urewera**	**1.28**	**288**	Pg	**Pn**	**01 40 14.8**	**-0.5**
	217nm,0.3s,baz=232,slow=2.5,SNR=378						
URZ				Lg	Lg	01 40 29.9	
	782nm,0.3s,baz=92,slow=10.0,SNR=38						
URZ				LR	LR	01 40 35.2	
	comp=Z,932nm,19.6s,baz=264,slow=37						
URZ	**Urewera**	**1.28**	**288**	*e*Pn	**Pn**	**01 40 14.9**	**-0.4**
URZ				Lg	Lg	01 40 29.9	
URZ				*e*S	**Sn**	**01 40 30.2**	**-1.8**
ARHZ	**Aropaoanui**	**1.42**	**245**	⇑PN	**Pb**	**01 40 18.3**	**-0.2**
NMHZ	**Naumai**	**1.51**	**253**	PN	**Pn**	**01 40 18.9**	**+0.3**
NMHZ	**Naumai**	**1.51**	**253**	Pn	**Pb**	**01 40 19.4**	**-0.6**
CKHZ	**Cape Kidnapper**	**1.58**	**230**	PN	**Pn**	**01 40 19.8**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.58**	**230**	Pn	**Pn**	**01 40 20.2**	**+0.7**
EDRZ	**Edgecumbe**	**1.60**	**290**	*e*PN	**Pn**	**01 40 20.0**	**+0.1**
EDRZ				AML	AML	01 40 55.9	
EDRZ				AML	AML	01 40 58.7	
EDRZ	**Edgecumbe**	**1.60**	**290**	Pn	**Pn**	**01 40 20.2**	**+0.3**
WIZ	**White Island**	**1.62**	**314**	PN	**Pn**	**01 40 19.1**	**-0.9**
WIZ	**White Island**	**1.62**	**314**	Pn	**Pn**	**01 40 19.2**	**-0.8**
RRRZ	**Republican Roa**	**1.71**	**280**	PN	**Pn**	**01 40 21.7**	**+0.4**
RRRZ	**Republican Roa**	**1.71**	**280**	Pn	**Pn**	**01 40 21.7**	**+0.4**
MCHZ	**McNeill Hill**	**1.71**	**242**	PN	**Pn**	**01 40 22.0**	**+0.6**
MCHZ	**McNeill Hill**	**1.71**	**242**	Pn	**Pn**	**01 40 22.2**	**+0.9**
TARZ	**Mount Tarawera**	**1.74**	**284**	PN	**Pn**	**01 40 21.9**	**+0.1**
TARZ	**Mount Tarawera**	**1.74**	**284**	Pn	**Pn**	**01 40 22.1**	**+0.3**
BKZ	**Black Stump Fm**	**1.76**	**253**	PN	**Pn**	**01 40 22.5**	**+0.5**
BKZ				AML	AML	01 40 44.9	
BKZ				AML	AML	01 40 45.4	
BKZ	**Black Stump Fm**	**1.76**	**253**	Pn	**Pn**	**01 40 22.6**	**+0.5**
PRRZ	**Plateau Road**	**1.78**	**275**	PN	**Pn**	**01 40 22.5**	**+0.2**
PRRZ	**Plateau Road**	**1.78**	**275**	Pn	**Pn**	**01 40 23.0**	**+0.7**
KAHZ	**Kahuranaki**	**1.78**	**230**	PN	**Pn**	**01 40 23.1**	**+0.7**
KAHZ	**Kahuranaki**	**1.78**	**230**	Pn	**Pn**	**01 40 23.2**	**+0.8**
ALRZ	**Allen Road**	**1.81**	**272**	PN	**Pn**	**01 40 23.2**	**+0.5**
ALRZ	**Allen Road**	**1.81**	**272**	Pn	**Pn**	**01 40 23.6**	**+0.9**
OPRZ	**Ohinepanea**	**1.84**	**296**	PN	**Pn**	**01 40 22.4**	**-0.7**
OPRZ	**Ohinepanea**	**1.84**	**296**	Pn	**Pn**	**01 40 22.5**	**-0.7**
HLRZ	**Highlands Stat**	**1.85**	**282**	*e*PN	**Pn**	**01 40 23.7**	**+0.4**
OMRZ	**Omania**	**1.88**	**287**	*e*PN	**Pn**	**01 40 23.3**	**-0.3**
HRRZ	**Handcock Road**	**1.88**	**278**	*e*PN	**Pn**	**01 40 23.8**	**+0.1**
PXZ	**Pawanui**	**1.95**	**225**	PN	**Pn**	**01 40 24.4**	**-0.2**
PXZ				AML	AML	01 40 50.5	
PXZ				AML	AML	01 40 52.3	
PXZ				AML	AML	01 40 54.6	
PXZ				AML	AML	01 40 59.9	
PXZ	**Pawanui**	**1.95**	**225**	Pn	**Pn**	**01 40 24.5**	**-0.1**
KRHZ	**Kereru**	**2.03**	**240**	⇓PN	**Pn**	**01 40 25.8**	**+0.1**
TGRZ	**Tauranga**	**2.10**	**296**	AML	AML	01 40 54.4	
TGRZ				AML	AML	01 41 08.2	
BHHZ	**Black Hill Sta**	**2.18**	**247**	PN	**Pn**	**01 40 28.1**	**+0.3**
BHHZ	**Black Hill Sta**	**2.18**	**247**	Pn	**Pn**	**01 40 28.2**	**+0.4**
WPHZ	**Waipukurau**	**2.21**	**230**	PN	**Pn**	**01 40 28.4**	**+0.1**
WPHZ	**Waipukurau**	**2.21**	**230**	Pn	**Pn**	**01 40 28.5**	**+0.3**
PRHZ	**Porangahau**	**2.24**	**224**	PN	**Pn**	**01 40 28.1**	**-0.5**
PRHZ	**Porangahau**	**2.24**	**224**	Pn	**Pn**	**01 40 28.4**	**-0.2**
RATZ	**Rangitukua**	**2.26**	**264**	AML	AML	01 41 05.1	
RATZ				AML	AML	01 41 29.0	
PNHZ	**Pukenui**	**2.28**	**236**	PN	**Pn**	**01 40 28.8**	**-0.3**
KATZ	**Kakaramea**	**2.33**	**261**	AML	AML	01 40 49.7	
KATZ				AML	AML	01 40 50.9	
MOVZ	**Moawhango**	**2.38**	**251**	PN	**Pn**	**01 40 31.2**	**+0.7**
MOVZ				AML	AML	01 41 01.4	
MOVZ				AML	AML	01 41 22.1	
MOVZ	**Moawhango**	**2.38**	**251**	Pn	**Pn**	**01 40 31.3**	**+0.7**
OTVZ	**Oturere**	**2.38**	**257**	*e*Pn	**Pn**	**01 40 31.3**	**+0.6**
OTVZ				AML	AML	01 41 19.7	
OTVZ				AML	AML	01 41 29.0	
KRVZ	**Karewarewa**	**2.39**	**259**	AML	AML	01 41 03.0	
KRVZ				AML	AML	01 41 07.9	
WTVZ	**West Tongariro**	**2.43**	**258**	*e*PN	**Pn**	**01 40 32.4**	**+1.1**
WTVZ				AML	AML	01 41 30.0	
WTVZ				AML	AML	01 41 32.0	
WTVZ	**West Tongariro**	**2.43**	**258**	Pn	**Pn**	**01 40 32.5**	**+1.2**
NGZ	**Ngauruhoe**	**2.44**	**257**	AML	AML	01 41 06.5	
NGZ				AML	AML	01 41 16.0	
NGZ	**Ngauruhoe**	**2.44**	**257**	Pn	**Pn**	**01 40 32.7**	**+1.2**
ANWZ	**Angora Road**	**2.46**	**222**	*e*PN	**Pn**	**01 40 30.7**	**-0.9**
WNVZ	**Wahianoa**	**2.47**	**253**	PN	**Pn**	**01 40 32.0**	**+0.1**
WNVZ	**Wahianoa**	**2.47**	**253**	Pn	**Pn**	**01 40 32.7**	**+0.7**
WPVZ	**Whakapapa**	**2.48**	**256**	*e*PN	**Pn**	**01 40 33.2**	**+1.2**
WPVZ				AML	AML	01 41 10.2	
WPVZ				AML	AML	01 41 37.7	
WPVZ	**Whakapapa**	**2.48**	**256**	Pn	**Pn**	**01 40 32.5**	**+0.4**
COVZ	**Chateau Observ**	**2.48**	**257**	PN	**Pn**	**01 40 32.4**	**+0.3**
FWVZ	**Far West T-bar**	**2.49**	**255**	PN	**Pn**	**01 40 32.6**	**+0.4**
FWVZ				AML	AML	01 41 01.9	
FWVZ				AML	AML	01 41 04.8	
FWVZ	**Far West T-bar**	**2.49**	**255**	Pn	**Pn**	**01 40 33.2**	**+1.0**
TSZ	**Takapari Road**	**2.51**	**235**	*e*PN	**Pn**	**01 40 32.0**	**-0.4**
TSZ				AML	AML	01 41 02.5	
TSZ				AML	AML	01 41 03.8	
TSZ	**Takapari Road**	**2.51**	**235**	Pn	**Pn**	**01 40 32.0**	**-0.4**
DVHZ	**Dannevirke**	**2.52**	**229**	PN	**Pn**	**01 40 32.3**	**-0.3**
DVHZ				SN	**Sn**	**01 41 03.3**	**+0.5**
DVHZ	**Dannevirke**	**2.52**	**229**	Pn	**Pn**	**01 40 32.4**	**-0.2**
DVHZ				Sn	**Sn**	**01 41 03.3**	**+0.5**
TOZ	**Tahuroa Road**	**2.65**	**290**	*e*PN	**Pn**	**01 40 33.1**	**-1.1**
TOZ	**Tahuroa Road**	**2.65**	**290**	Pn	**Pn**	**01 40 33.9**	**-0.4**
BFZ	**Birch Farm**	**2.74**	**222**	PN	**Pn**	**01 40 34.6**	**-1.0**
BFZ	**Birch Farm**	**2.74**	**222**	Pn	**Pn**	**01 40 34.5**	**-1.0**
PRWZ	**Pori Road**	**2.80**	**227**	PN	**Pn**	**01 40 36.3**	**-0.1**
PRWZ				SN	**Sn**	**01 41 09.9**	**+0.3**
POWZ	**Post Office Ro**	**2.82**	**231**	PN	**Pn**	**01 40 36.6**	**0.0**
CPWZ	**Castlepoint**	**2.93**	**219**	PN	**Pn**	**01 40 37.4**	**-0.7**
HIZ	**Hauiti**	**2.98**	**272**	PN	**Pn**	**01 40 39.4**	**+0.6**
HIZ				AML	AML	01 41 29.1	
HIZ				AML	AML	01 41 34.2	
HIZ	**Hauiti**	**2.98**	**272**	Pn	**Pn**	**01 40 39.5**	**+0.7**
TIWZ	**Tintock**	**3.00**	**224**	PN	**Pn**	**01 40 38.6**	**-0.5**
TIWZ				SN	**Sn**	**01 41 14.6**	**+0.1**
TIWZ				AML	AML	01 41 18.0	
TIWZ	**Tintock**	**3.00**	**224**	Pn	**Pn**	**01 40 38.7**	**-0.5**
KUZ	**Kuaotunu**	**3.01**	**309**	*e*PN	**Pn**	**01 40 37.8**	**-1.4**
KUZ				AML	AML	01 41 13.0	
KUZ				AML	AML	01 41 13.2	
KUZ	**Kuaotunu**	**3.01**	**309**	Pn	**Pn**	**01 40 38.2**	**-1.0**
WAZ	**Wanganui**	**3.05**	**248**	PN	**Pn**	**01 40 41.1**	**+1.3**
WAZ				AML	AML	01 41 24.0	
WAZ				AML	AML	01 41 25.1	
WAZ	**Wanganui**	**3.05**	**248**	Pn	**Pn**	**01 40 41.5**	**+1.7**
VRZ	**Vera Road**	**3.07**	**260**	PN	**Pn**	**01 40 41.2**	**+1.1**
VRZ				AML	AML	01 41 27.6	
VRZ				AML	AML	01 41 41.5	
VRZ	**Vera Road**	**3.07**	**260**	Pn	**Pn**	**01 40 41.2**	**+1.1**
MRZ	**Mangatainoka R**	**3.10**	**229**	PN	**Pn**	**01 40 39.4**	**-1.0**
MRZ				AML	AML	01 41 17.2	
MRZ				AML	AML	01 41 17.4	
MRZ	**Mangatainoka R**	**3.10**	**229**	Pn	**Pn**	**01 40 40.0**	**-0.4**
MKAZ	**Moumakai**	**3.17**	**298**	*e*PN	**Pn**	**01 40 40.5**	**-0.8**
MKAZ				AML	AML	01 41 37.3	
MKAZ				AML	AML	01 41 57.3	
MKAZ	**Moumakai**	**3.17**	**298**	Pn	**Pn**	**01 40 40.7**	**-0.6**
TMWZ	**Te Maipa**	**3.24**	**220**	PN	**Pn**	**01 40 40.8**	**-1.5**
TMWZ				SN	**Sn**	**01 41 18.5**	**-1.9**
HOWZ	**Holdsworth Sta**	**3.29**	**226**	PN	**Pn**	**01 40 41.9**	**-1.2**
HOWZ	**Holdsworth Sta**	**3.29**	**226**	Pn	**Pn**	**01 40 42.0**	**-1.1**
OGWZ	**Otaki Gorge**	**3.44**	**230**	PN	**Pn**	**01 40 44.1**	**-1.0**
OGWZ				SN	**Sn**	**01 41 23.7**	**-1.6**
MTW	**Mount Morrison**	**3.48**	**223**	PN	**Pn**	**01 40 43.7**	**-1.9**
MTW				SN	**Sn**	**01 41 24.4**	**-1.8**
MTW				AML	AML	01 41 26.4	
MTW	**Mount Morrison**	**3.48**	**223**	Pn	**Pn**	**01 40 43.8**	**-1.9**
TRWZ	**Traveller**	**3.56**	**219**	PN	**Pn**	**01 40 44.5**	**-2.2**
TRWZ				AML	AML	01 41 27.6	
TRWZ				AML	AML	01 41 29.4	
TRWZ	**Traveller**	**3.56**	**219**	Pn	**Pn**	**01 40 44.6**	**-2.2**
PREZ	**Palmer Road**	**3.57**	**258**	*e*PN	**Pn**	**01 40 49.1**	**+2.2**
KIW	**Kapiti Island**	**3.62**	**232**	PN	**Pn**	**01 40 46.8**	**-0.9**
KIW				AML	AML	01 41 29.7	
KIW				AML	AML	01 41 30.6	
KIW	**Kapiti Island**	**3.62**	**232**	Pn	**Pn**	**01 40 46.9**	**-0.7**
PAWZ	**Paruwai Farm**	**3.67**	**221**	PN	**Pn**	**01 40 46.3**	**-2.1**
PAWZ				AML	AML	01 41 30.4	
PAWZ				AML	AML	01 41 30.6	
PAWZ	**Paruwai Farm**	**3.67**	**221**	Pn	**Pn**	**01 40 46.3**	**-2.1**
CAW	**Cannon Point**	**3.68**	**227**	PN	**Pn**	**01 40 47.1**	**-1.4**
CAW				SN	**Sn**	**01 41 28.9**	**-2.4**
CAW				AML	AML	01 41 34.0	
CAW	**Cannon Point**	**3.68**	**227**	Pn	**Pn**	**01 40 47.5**	**-1.0**
MSWZ	**Moikau Station**	**3.79**	**222**	PN	**Pn**	**01 40 47.6**	**-2.4**
MSWZ				AML	AML	01 41 34.1	
MSWZ				AML	AML	01 41 34.2	
MSWZ	**Moikau Station**	**3.79**	**222**	Pn	**Pn**	**01 40 47.7**	**-2.3**
PLWZ	**Palliser**	**3.90**	**221**	PN	**Pn**	**01 40 48.9**	**-2.5**
PLWZ	**Palliser**	**3.90**	**221**	Pn	**Pn**	**01 40 49.0**	**-2.5**
BHW	**Baring Head**	**3.99**	**225**	PN	**Pn**	**01 40 50.7**	**-2.0**
BHW				AML	AML	01 41 37.7	
BHW				AML	AML	01 41 39.1	
BHW	**Baring Head**	**3.99**	**225**	Pn	**Pn**	**01 40 50.7**	**-2.0**
SNZO	**South Karori**	**4.02**	**228**	*e*Pn	**Pn**	**01 40 51.7**	**-1.4**
SNZO				*e*S	**Sn**	**01 41 38.1**	**-1.5**
TCW	**Tory Channel**	**4.22**	**232**	*e*PN	**Pn**	**01 40 54.0**	**-1.8**
TCW				SN	**Sn**	**01 41 41.4**	**-3.1**
TCW				AML	AML	01 41 45.7	
DUWZ	**D'Urville Isla**	**4.23**	**238**	*e*PN	**Pn**	**01 40 53.8**	**-2.1**
DUWZ				AML	AML	01 41 48.2	
DUWZ				AML	AML	01 41 51.6	
TUWZ	**Tuamarina**	**4.55**	**231**	AML	AML	01 41 52.8	
TUWZ				AML	AML	01 41 53.9	
BSWZ	**Blackbirch Sta**	**4.76**	**229**	AML	AML	01 41 58.3	
BSWZ				AML	AML	01 42 02.2	
NNZ	**Nelson**	**4.79**	**236**	*e*PN	**Pn**	**01 41 01.3**	**-2.3**
NNZ				AML	AML	01 42 00.0	
NNZ				AML	AML	01 42 00.9	
NNZ	**Nelson**	**4.79**	**236**	Pn	**Pn**	**01 41 02.8**	**-0.8**
QRZ	**Quartz Range**	**5.19**	**243**	PN	**Pn**	**01 41 06.9**	**-2.3**
QRZ	**Quartz Range**	**5.19**	**243**	Pn	**Pn**	**01 41 07.0**	**-2.2**
THZ	**Tophouse**	**5.38**	**233**	*e*PN	**Pn**	**01 41 09.0**	**-2.9**
THZ				AML	AML	01 42 13.5	
THZ				AML	AML	01 42 15.6	
THZ	**Tophouse**	**5.38**	**233**	Pn	**Pn**	**01 41 09.1**	**-1.8**
KHZ	**Kahutara**	**5.41**	**224**	*e*PN	**Pn**	**01 41 09.2**	**-2.9**
KHZ				SN	**Sn**	**01 42 08.4**	**-5.3**
KHZ				AML	AML	01 42 12.0	
KHZ	**Kahutara**	**5.41**	**224**	*e*Pn	**Pn**	**01 41 09.3**	**-2.9**
	100nm,0.4s						
KHZ				*e*S	**Sn**	**01 42 09.2**	**-4.5**
CTZ	**Chatham Island**	**6.19**	**146**	PN	**Pn**	**01 41 25.4**	**+2.5**
CTZ	**Chatham Island**	**6.19**	**146**	Pn	**Pn**	**01 41 25.7**	**+2.8**
LTZ	**Lake Taylor**	**6.36**	**228**	PN	**Pn**	**01 41 23.5**	**-1.8**
LTZ				AML	AML	01 42 35.0	
LTZ				AML	AML	01 42 35.7	
LTZ	**Lake Taylor**	**6.36**	**228**	Pn	**Pn**	**01 41 23.5**	**-1.8**
MQZ	**McQueen's Vall**	**6.77**	**220**	*e*Pn	Pn	01 41 26.9	-3.9
MQZ	**McQueen's Vall**	**6.77**	**220**	Pn	Pn	01 41 27.6	-3.2
OXZ	**Oxford**	**6.83**	**225**	PN	**Pn**	**01 41 29.0**	**-2.7**
WVZ	**Waitaha Valley**	**7.44**	**231**	Pn	**Pn**	**01 41 39.0**	**-1.0**
RPZ	**Rata Peaks**	**7.63**	**226**	*e*PN	**Pn**	**01 41 39.6**	**-3.1**
RPZ				SN	Sn	01 43 00.5	-8.1
RPZ	**Rata Peaks**	**7.63**	**226**	Pn	**Pn**	**01 41 39.6**	**-3.1**
	4.6nm,0.3s,baz=151,slow=2.4,SNR=14						
FOZ	**Fox Glacier**	**8.35**	**231**	AML	AML	01 43 18.2	
FOZ				AML	AML	01 43 19.7	
LBZ	**Lake Benmore**	**8.54**	**225**	PN	**Pn**	**01 41 52.4**	**-2.8**
LBZ				AML	AML	01 43 24.4	
LBZ	**Lake Benmore**	**8.54**	**225**	Pn	**Pn**	**01 41 52.5**	**-2.7**
ODZ	**Otahua Downs**	**8.73**	**221**	*e*PN	**Pn**	**01 41 54.7**	**-3.1**
ODZ	**Otahua Downs**	**8.73**	**221**	*e*Pn	**Pn**	**01 41 55.2**	**-2.6**
	18nm,0.8s						
ODZ				*e*S	Sn	01 43 28.3	-7.4
TUZ	**Tuapeka**	**9.88**	**220**	*e*PN	**Pn**	**01 42 11.4**	**-2.1**
TUZ	**Tuapeka**	**9.88**	**220**	Pn	**Pn**	**01 42 11.4**	**-2.1**
SYZ	**Scrubby Hill**	**10.53**	**219**	PN	**Pn**	**01 42 19.8**	**-2.6**
SYZ	**Scrubby Hill**	**10.53**	**219**	Pn	**Pn**	**01 42 20.6**	**-1.8**
APZ	**The Paps**	**11.31**	**220**	PN	**Pn**	**01 42 30.5**	**-2.6**
APZ	**The Paps**	**11.31**	**220**	Pn	**Pn**	**01 42 30.7**	**-2.4**
DZM	**Mont Dzumac**	**19.58**	**324**	*e*LR	LR	01 48 47.4	
	330nm,22.1s						
DZM	**Mont Dzumac**	**19.58**	**324**	P	**P**	**01 44 17.1**	**-2.4**
	0.2nm,0.3s,baz=122,slow=13,SNR=3.4						
MCQ	**Macquarie Isla**	**20.72**	**214**	S	Sn	01 48 32.3	+5.1
	baz=20,SNR=3.1						
CMSA	**Cobar Meteorol**	**27.78**	**275**	P	**P**	**01 45 41.5**	**+1.3**
	baz=28,SNR=7.5						
STKA	**Stephens Creek**	**30.85**	**271**	P	**P**	**01 46 07.6**	**+0.1**
	5.0nm,0.7s,baz=106,slow=10,SNR=12						
STKA				LR	LR	01 58 11.8	
	comp=Z,70nm,18.7s,baz=57,slow=36						
STKA	**Stephens Creek**	**30.85**	**271**	P	**P**	**01 46 08.7**	**+1.2**
	baz=30,SNR=9.2						
TBI	**Tubuai**	**31.11**	**70**	*e*LR	LR	01 54 39.0	
	129nm,23.2s						
TBI	**Tubuai**	**31.11**	**70**	*e*T	T	02 18 28.5	
	16nm,0.3s						
CTAO	**Charters Tower**	**33.52**	**294**	*e*P	**P**	**01 46 31.5**	**+0.5**
	3.1nm,0.7s						
PAE	**Paea**	**34.69**	**62**	*e*T	T	02 23 03.8	
	3.8nm,0.3s						
PPT2	**Papeete2**	**34.74**	**62**	*e*LR	LR	01 56 07.9	
	133nm,22.5s						
PMOR	**Pomariorio Ree**	**37.70**	**61**	*e*T	T	02 26 48.2	
	3.7nm,0.3s						
QIS	**Mount Isa**	**38.10**	**287**	P	**P**	**01 47 10.6**	**+0.3**
	baz=38,SNR=3.1						
COEN	**Coen**	**39.82**	**298**	P	**P**	**01 47 24.9**	**+0.1**
	baz=40,SNR=15						
COEN	**Coen**	**39.82**	**298**	*e*P	**P**	**01 47 23.9**	**-0.8**
	12nm,0.9s						
PMG	**Port Moresby**	**40.56**	**308**	P	**P**	**01 47 30.1**	**-0.8**
	12nm,0.7s,baz=166,slow=8.3,SNR=5.6						
AS31	**Alice Springs**	**40.70**	**278**	*e*P	**P**	**01 47 31.7**	**-0.4**
ASAR	**Alice Springs**	**40.70**	**278**	P	**P**	**01 47 31.4**	**-0.6**
	9.3nm,0.6s,baz=118,slow=7.5,SNR=85						
ASAR				LR	LR	02 05 22.1	
	comp=Z,174nm,18.2s,baz=112,slow=38						
FORT	**Forrest**	**41.88**	**265**	*e*P	**P**	**01 47 42.0**	**+0.4**
	10.0nm,0.6s						
WB2	**Warramunga Ar**	**42.44**	**283**	*e*P	**P**	**01 47 45.4**	**-0.8**
WRAB	**Tennant Creek**	**42.44**	**283**	*e*P	**P**	**01 47 45.3**	**-1.0**
	4.2nm,0.6s						
WRA	**Warramunga Arr**	**42.45**	**283**	P	**P**	**01 47 45.4**	**-1.0**
	5.3nm,0.7s,baz=125,slow=7.4,SNR=22						
WRKA	**Warakurna**	**44.36**	**273**	P	**P**	**01 48 00.4**	**-1.4**
	baz=44,SNR=7.9						
MTN	**Manton Dam**	**49.23**	**288**	P	**P**	**01 48 39.4**	**-0.5**
	baz=49,SNR=3.5						
KNRA	**Kununurra**	**49.24**	**283**	P	**P**	**01 48 40.8**	**+0.8**
	baz=49,SNR=3.9						
FITZ	**Fitzroy Crossi**	**50.20**	**279**	P	**P**	**01 48 47.0**	**-0.3**
	baz=50,SNR=8.0						
MEEK	**Meekatharra**	**51.14**	**265**	P	**P**	**01 48 53.7**	**-0.7**
	baz=51,SNR=12						
QSPA	**South Pole Qui**	**51.46**	**180**	P	P	01 49 01.9	+5.6
	7.0nm,0.7s,baz=72,slow=0.3,SNR=47						
QSPA	**South Pole Qui**	**51.46**	**180**	*e*P	P	01 49 01.2	+4.9
	6.5nm,0.8s						
VNA3	**Neumayer Olymp**	**70.23**	**177**	P	P	01 51 07.4	+3.6
VNA2	**Neumayer--Watz**	**70.63**	**178**	P	P	01 51 10.2	+4.1
	baz=173,slow=6.3						
**VNA1

AYDN	Tasoluk	1.03	86	*i* P	Pn	01 40 42.8	-0.3
AYDN				*i* S	Sb	01 40 56.6	+0.5
AYDN	Tasoluk	1.03	86	*i* P	Pn	01 40 42.8	-0.3
AYDN				*i* S	Sb	01 40 56.6	+0.5
AYDB	Zeytinkoy-Aydi	1.09	71	*e*PN	Pg	01 40 43.3	0.0
AYDB	Zeytinkoy-Aydi	1.09	71	*e*Pn	Pg	01 40 43.3	0.0
NIS1	Nisyros Isl.	1.10	154	P	Pg	01 40 42.7	-0.8
NIS1				S	Sb	01 40 58.5	+0.2
NIS1	Nisyros Isl.	1.10	154	*e*PN	Pn	01 40 44.2	0.0
NIS1	Nisyros Isl.	1.10	154	*e*PN	Pg	01 40 43.4	-0.1
NIS1	Nisyros Isl.	1.10	154	P	Pg	01 40 42.7	-0.8
NIS1	Nisyros Isl.	1.10	154	*e*Pn	Pn	01 40 44.2	0.0
NIS1				S	Sb	01 40 58.5	+0.2
YER	Yerkesik	1.43	109	*e*PN	Pg	01 40 50.0	+0.3
YER	Yerkesik	1.43	109	*e*Pn	Pg	01 40 50.0	+0.3
THR2	Thira island,	1.48	219	P	Pn	01 40 48.8	-0.4
THR2	Thira island,	1.48	219	P	Pn	01 40 48.8	-0.4
SANT	Santorini	1.52	217	*e*PB	Pn	01 40 49.8	-0.1
SANT				*e*SN	Sb	01 41 10.9	+0.5
SANT	Santorini	1.52	217	*e*Pb	Pn	01 40 49.8	-0.1
SANT				*e*Sn	Sb	01 41 10.9	+0.5
THR1	Thera Island	1.52	217	P	Pn	01 40 49.5	-0.4
THR1	Thera Island	1.52	217	*e*PN	Pn	01 40 50.6	+0.6
THR1	Thera Island	1.52	217	P	Pn	01 40 49.5	-0.4
THR1	Thera Island	1.52	217	*e*Pn	Pn	01 40 50.6	+0.6
THR5	Thira Island,	1.54	220	*e*PN	Pb	01 40 51.6	+0.4
THR5	Thira Island,	1.54	220	*e*Pn	Pb	01 40 51.6	+0.4
THR6	Thira Island,	1.57	218	P	Pn	01 40 50.0	-0.5
THR6	Thira Island,	1.57	218	P	Pn	01 40 50.0	-0.5
AKHS	Akhisar	1.60	37	*i* P	Pb	01 40 52.3	+0.2
AKHS				*i* S	Sg	01 41 14.6	+0.8
AKHS	Akhisar	1.60	37	*i* P	Pb	01 40 52.3	+0.2
AKHS				*i* S	Sg	01 41 14.6	+0.8
AKS	Akhisar	1.60	37	*e*PN	Pn	01 40 50.8	-0.2
AKS	Akhisar	1.60	37	*e*Pn	Pn	01 40 50.8	-0.2
PRK	Paraskevi	1.66	352	P	Pn	01 40 50.5	-1.2
PRK				S	Sn	01 41 12.8	-0.5
PRK	Paraskevi	1.66	352	*e*PB	Pn	01 40 50.6	-1.2
PRK				*e*SN	Sn	01 41 11.9	-1.4
PRK	Paraskevi	1.66	352	P	Pn	01 40 50.5	-1.2
PRK				*e*Sn	Sn	01 41 11.9	-1.4
PRK				S	Sn	01 41 12.8	-0.5
AYVA	Ayvalik	1.71	3	*i* P	Pb	01 40 54.1	+0.1
AYVA				*i* S	Sg	01 41 18.4	+1.2
AYVA	Ayvalik	1.71	3	*i* P	Pb	01 40 54.1	+0.1
AYVA				*i* S	Sg	01 41 18.4	+1.2
SIGR	SIGRI	1.71	341	P	Pn	01 40 51.3	-1.1
SIGR				S	Sn	01 41 14.4	0.0
SIGR	SIGRI	1.71	341	*e*PN	Pn	01 40 51.1	-1.3
SIGR	SIGRI	1.71	341	*e*PB	Pn	01 40 51.3	-1.1
SIGR	SIGRI	1.71	341	P	Pn	01 40 51.3	-1.1
SIGR				S	Sn	01 41 14.4	0.0
TURN	Turunc	1.77	114	*i* P	Pn	01 40 50.8	-2.4
TURN				*i* S	Sn	01 41 15.1	-0.8
TURN	Turunc	1.77	114	*i* P	Pn	01 40 50.8	-2.4
TURN				*i* S	Sn	01 41 15.1	-0.8
MANT	Manisa	1.79	60	*i* P	Pb	01 40 55.6	+0.1
MANT				*i* S	Sn	01 41 16.9	0.0
MANT	Manisa	1.79	60	*i* P	Pb	01 40 55.6	+0.1
MANT				*i* S	Sn	01 41 16.9	0.0
DALY	Dalyan (Mu˘la	1.83	115	*e*PN	Pb	01 40 55.3	-0.7
DALY	Dalyan (Mu˘la	1.83	115	*e*Pn	Pb	01 40 55.3	-0.7
ARG	Arkhangelos	1.85	138	P	Pn	01 40 53.3	-1.1
ARG				S	Sn	01 41 16.8	-1.3
ARG	Arkhangelos	1.85	138	*e*PN	Pn	01 40 53.9	-0.5
ARG	Arkhangelos	1.85	138	P	Pn	01 40 53.3	-1.1
ARG	Arkhangelos	1.85	138	*e*Pn	Pn	01 40 53.9	-0.5
KULA	Kula-Manisa	1.87	60	*e*PN	Pn	01 40 55.0	+0.2
KULA	Kula-Manisa	1.87	60	*e*Pn	Pn	01 40 55.0	+0.2
DENT	Denizli	1.95	85	*e*PN	Pn	01 40 56.5	+0.7
DENT	Denizli	1.95	85	*e*Pn	Pn	01 40 56.5	+0.7
KARP	Karpathos	2.10	167	P	Pn	01 40 57.1	-0.8
KARP				S	Sn	01 41 23.4	-0.9
KARP	Karpathos	2.10	167	*e*PN	Pn	01 40 57.2	-0.7
KARP	Karpathos	2.10	167	*e*Pn	Pn	01 40 57.2	-0.7
PTL	Penteli	2.20	283	P	Pn	01 40 59.2	0.0
PTL				S	Sn	01 41 27.8	+1.1
PTL	Penteli	2.20	283	*e*PN	Pn	01 40 59.3	0.0
PTL				*e*SN	Sn	01 41 25.2	-1.5
PTL	Penteli	2.20	283	*e*Pn	Pn	01 40 59.3	0.0
PTL				*e*Sn	Sn	01 41 25.2	-1.5
PTL				S	Sn	01 41 27.8	+1.1
FETY	Fethiye	2.22	115	*e*PN	Pn	01 41 00.8	+1.3
FETY	Fethiye	2.22	115	*e*Pn	Pn	01 41 00.8	+1.3
EZN	Ezine	2.23	355	*e*PN	Pn	01 40 59.1	-0.5
EZN	Ezine	2.23	355	*e*Pn	Pn	01 40 59.1	-0.5
BALB	Balikesir	2.27	26	*e*PN	Pn	01 41 00.2	0.0
BALB	Balikesir	2.27	26	*e*Pn	Pn	01 41 00.2	0.0
BOZC	Bozcaada	2.27	350	*i* P	Pg	01 41 05.0	-1.0
BOZC				*i* S	Sg	01 41 35.4	-0.1
BALY	Balya	2.28	20	*i* P	Pg	01 41 05.1	-1.0
BALY	Balya	2.28	20	*i* P	Pg	01 41 05.1	-1.0
BALY				*i* S	Sg	01 41 35.6	-0.1
ATH	Athens Observa	2.30	280	P	Pn	01 41 00.6	0.0
ATH	Athens Observa	2.30	280	*e*PN	Pn	01 41 01.0	+0.4
ATH	Athens Observa	2.30	280	P	Pn	01 41 00.6	0.0
ATH	Athens Observa	2.30	280	*e*Pn	Pn	01 41 01.0	+0.4
KHL	Karahalli	2.43	72	*e*PN	Pn	01 41 03.4	+1.0
KHL	Karahalli	2.43	72	*e*Pn	Pn	01 41 03.4	+1.0
NAIG	Nisos Aigina	2.46	275	*e*PN	Pn	01 41 02.9	+0.1
NAIG	Nisos Aigina	2.46	275	*e*Pn	Pn	01 41 02.9	+0.1
NPS	Neapolis	2.46	199	P	Pn	01 41 02.3	-0.5
NPS	Neapolis	2.46	199	*e*PN	Pn	01 41 02.6	-0.2
NPS	Neapolis	2.46	199	P	Pn	01 41 02.3	-0.5
NPS	Neapolis	2.46	199	*e*Pn	Pn	01 41 02.6	-0.2
DURS	Dursunbey	2.48	36	*i* P	Pn	01 41 04.4	+1.2
DURS	Dursunbey	2.48	36	*i* P	Pn	01 41 04.4	+1.2
DURS				*i* S	Sg	01 41 40.7	-1.5
ZKR	Zakros	2.50	187	*e*PN	Pn	01 41 03.3	0.0
ZKR	Zakros	2.50	187	*e*Pn	Pn	01 41 03.3	0.0
LIA	Limnos Island	2.54	335	P	Pn	01 41 03.3	-0.6
LIA				S	Sn	01 41 34.5	-0.5
LIA	Limnos Island	2.54	335	*e*PN	Pn	01 41 03.6	-0.3
LIA	Limnos Island	2.54	335	P	Pn	01 41 03.3	-0.6
LIA	Limnos Island	2.54	335	*e*Pn	Pn	01 41 03.6	-0.3
LIA				S	Sn	01 41 34.5	-0.5
DST	Dursunbey	2.56	38	*e*PN	Pn	01 41 04.4	+0.2
DST	Dursunbey	2.56	38	*e*Pn	Pn	01 41 04.4	+0.2
LAST	Lasithi	2.59	200	*e*PN	Pn	01 41 05.7	+1.0
LAST	Lasithi	2.59	200	*e*Pn	Pn	01 41 05.7	+1.0
MRKA	Markates	2.61	296	P	Pn	01 41 04.8	0.0
MRKA				S	Sn	01 41 37.2	+0.5
MRKA	Markates	2.61	296	*e*PN	Pn	01 41 05.0	+0.2
MRKA				*e*SN	Sn	01 41 35.2	-1.5
MRKA	Markates	2.61	296	*e*Pn	Pn	01 41 05.0	+0.2
MRKA				*e*Sn	Sn	01 41 35.2	-1.5
MRKA				S	Sn	01 41 37.2	+0.5
AOS	Alonnisos	2.64	307	P	Pn	01 41 05.3	+0.1
AOS				S	Sn	01 41 38.0	+0.5
AOS	Alonnisos	2.64	307	*e*PN	Pn	01 41 04.8	-0.5
AOS	Alonnisos	2.64	307	*e*Pn	Pn	01 41 05.3	+0.1
AOS	Alonnisos	2.64	307	P	Pn	01 41 05.3	+0.1
AOS				S	Sn	01 41 38.0	+0.5
IDI	Anoyia	2.68	211	Pn	Pn	01 41 06.1	+0.2
	1.4nm,0.3s,baz=75,slow=6.2,SNR=8.9						
IDI				Sn	Sn	01 41 37.6	-1.0
	15nm,0.3s,baz=272,slow=16,SNR=9.9						
GDZ	Gediz	2.72	56	*i* P	Pb	01 41 11.9	+0.6
GDZ	Gediz	2.72	56	*i* P	Pb	01 41 11.9	+0.6
GDZ				*i* S	Sg	01 41 50.7	+1.1
LPK	Lapseki	2.77	3	*e*PN	Pn	01 41 06.9	-0.1
LPK	Lapseki	2.77	3	*e*Pn	Pn	01 41 06.9	-0.1
ELL	Elmali	2.79	107	*e*PN	Pn	01 41 08.9	+1.5
ELL	Elmali	2.79	107	*e*Pn	Pn	01 41 08.9	+1.5
GELI	Tayfur-Gelibol	2.79	358	*e*PN	Pn	01 41 07.0	-0.3
GELI	Tayfur-Gelibol	2.79	358	*e*Pn	Pn	01 41 07.0	-0.3
KRBG	Karabiga-Canak	2.84	11	*e*PN	Pn	01 41 07.4	-0.6
KRBG	Karabiga-Canak	2.84	11	*e*Pn	Pn	01 41 07.4	-0.6
LTK	Loutraki	2.90	279	P	Pn	01 41 08.9	+0.1
LTK				S	Sn	01 41 44.5	+0.7
LTK	Loutraki	2.90	279	*e*PN	Pn	01 41 09.2	+0.4
LTK				*e*SN	Sn	01 41 42.9	-0.9
LTK	Loutraki	2.90	279	P	Pn	01 41 08.9	+0.1
LTK	Loutraki	2.90	279	*e*Pn	Pn	01 41 09.2	+0.4
LTK				*e*Sn	Sn	01 41 42.9	-0.9
LTK				S	Sn	01 41 44.5	+0.7
SKIA	Skiathos	2.91	303	P	Pn	01 41 08.8	-0.1
SKIA	Skiathos	2.91	303	*e*PN	Pn	01 41 09.2	+0.3
SKIA	Skiathos	2.91	303	P	Pn	01 41 08.8	-0.1
SKIA	Skiathos	2.91	303	*e*PN	Pn	01 41 09.2	+0.3
TVSB	Tavsanli	2.91	50	*e*PN	Pn	01 41 09.6	+0.5
TVSB	Tavsanli	2.91	50	*e*Pn	Pn	01 41 09.6	+0.5
VAM	Vamos	2.92	222	*e*PN	Pn	01 41 09.6	+0.6
VAM	Vamos	2.92	222	*e*Pn	Pn	01 41 09.6	+0.6
EDC	Edincik	2.92	20	*e*PN	Pn	01 41 08.9	-0.1
EDC	Edincik	2.92	20	*e*Pn	Pn	01 41 08.9	-0.1
SMIA	Simia	2.95	297	*e*PN	Pn	01 41 10.3	+0.8
SMIA	Simia	2.95	297	*e*Pn	Pn	01 41 10.3	+0.8
SIVA	Sivas	2.95	210	*e*PN	Pn	01 41 10.5	+1.0
SIVA	Sivas	2.95	210	*e*Pn	Pn	01 41 10.5	+1.0
SMTH	Samothraki Isl	2.98	344	P	Pn	01 41 09.2	-0.7
SMTH				S	Sn	01 41 45.9	0.0
SMTH	Samothraki Isl	2.98	344	*e*PN	Pn	01 41 09.9	0.0
SMTH	Samothraki Isl	2.98	344	P	Pn	01 41 09.2	-0.7
SMTH	Samothraki Isl	2.98	344	*e*Pn	Pn	01 41 09.9	0.0
SMTH				S	Sn	01 41 45.9	0.0
KCTX	Karacabey (Bur	3.00	27	*e*PN	Pn	01 41 10.4	+0.2
KCTX	Karacabey (Bur	3.00	27	*e*Pn	Pn	01 41 10.4	+0.2
LKR	Lokris	3.02	291	P	Pn	01 41 10.4	+0.1
LKR	Lokris	3.02	291	*e*PN	Pn	01 41 10.5	+0.1
LKR	Lokris	3.02	291	*e*Pn	Pn	01 41 10.5	+0.1
VLI	Veliai	3.05	254	*e*PN	Pn	01 41 10.9	+0.1
VLI	Veliai	3.05	254	*e*Pn	Pn	01 41 10.9	+0.1
ERIK	Erikli-Kesan	3.06	359	*e*PN	Pn	01 41 10.8	-0.3
ERIK	Erikli-Kesan	3.06	359	*e*Pn	Pn	01 41 10.8	-0.3
KARN	Karanos	3.07	225	*e*PN	Pn	01 41 12.3	+1.1
KARN	Karanos	3.07	225	*e*Pn	Pn	01 41 12.3	+1.1
MRMT	Marmara Adasi	3.10	14	*e*PN	Pn	01 41 12.3	+0.7
MRMT	Marmara Adasi	3.10	14	*e*Pn	Pn	01 41 12.3	+0.7
RKY	Sarkoy-Tekirda	3.12	8	*e*PN	Pn	01 41 11.9	+0.1
RKY	Sarkoy-Tekirda	3.12	8	*e*Pn	Pn	01 41 11.9	+0.1
ALT	Altintas	3.13	61	*e*PN	Pn	01 41 13.5	+1.4
ALT	Altintas	3.13	61	*e*Pn	Pn	01 41 13.5	+1.4
ISP	Isparta	3.13	85	⇓*i*P	Sg	01 42 09.4	+6.6
KYTH	Kithira	3.13	246	*e*PN	Pn	01 41 13.1	+1.0
KYTH	Kithira	3.13	246	*e*Pn	Pn	01 41 13.1	+1.0
NEO	Neokhori	3.14	304	*e*PN	Pn	01 41 12.3	+0.1
NEO	Neokhori	3.14	304	*e*Pn	Pn	01 41 12.3	+0.1
ENEZ	Enez	3.15	354	*e*PN	Pn	01 41 12.2	0.0
ENEZ	Enez	3.15	354	*e*Pn	Pn	01 41 12.2	0.0
ANKY	Antikythira Is	3.16	238	P	Pn	01 41 12.1	-0.2
ANKY	Antikythira Is	3.16	238	*e*PN	Pn	01 41 13.4	+1.1
ANKY	Antikythira Is	3.16	238	P	Pn	01 41 12.1	-0.2
ANKY	Antikythira Is	3.16	238	*e*Pn	Pn	01 41 13.4	+1.1
BCK	Bucak	3.19	91	*e*PN	Pn	01 41 14.2	+1.4
BCK	Bucak	3.19	91	*e*Pn	Pn	01 41 14.2	+1.4
XOR	Xorichti	3.19	305	P	Pn	01 41 12.7	-0.1
XOR				S	Sn	01 41 51.9	+0.7
XOR	Xorichti	3.19	305	*e*PN	Pn	01 41 12.8	-0.1
XOR	Xorichti	3.19	305	*e*Pn	Pn	01 41 12.8	-0.1
XOR				S	Sn	01 41 51.9	+0.7
PAIG	Paliouri	3.25	317	P	Pn	01 41 13.2	-0.4
PAIG	Paliouri	3.25	317	*e*PN	Pn	01 41 13.7	+0.1
PAIG	Paliouri	3.25	317	P	Pn	01 41 13.2	-0.4
PAIG	Paliouri	3.25	317	*e*Pn	Pn	01 41 13.7	+0.1
SHUT	Suhut-Afyon	3.27	72	*e*PN	Pn	01 41 15.2	+1.2
SHUT	Suhut-Afyon	3.27	72	*e*Pn	Pn	01 41 15.2	+1.2
MDNY	Mudanya-Bursa	3.29	32	*e*PN	Pn	01 41 14.8	+0.6
MDNY	Mudanya-Bursa	3.29	32	*e*Pn	Pn	01 41 14.8	+0.6
AXAR	Agios Charalam	3.31	292	P	Pn	01 41 14.3	-0.1
AXAR	Agios Charalam	3.31	292	*e*PN	Pn	01 41 15.1	+0.7
AXAR	Agios Charalam	3.31	292	P	Pn	01 41 14.3	-0.1
AXAR	Agios Charalam	3.31	292	*e*Pn	Pn	01 41 15.1	+0.7
ALN	Alexandroupoli	3.32	353	P	Pn	01 41 13.7	-0.8
ALN				S	Sn	01 41 53.4	-0.7
ALN	Alexandroupoli	3.32	353	*e*PN	Pn	01 41 15.2	+0.7
ALN	Alexandroupoli	3.32	353	*e*PN	Pn	01 41 13.6	-0.9
ALN	Alexandroupoli	3.32	353	P	Pn	01 41 13.7	-0.8
ALN	Alexandroupoli	3.32	353	*e*Pn	Pn	01 41 15.2	+0.7
ALN				S	Sn	01 41 53.4	-0.7
ANTB	Antalya	3.32	101	*e*PN	Pn	01 41 16.4	+1.8
ANTB	Antalya	3.32	101	*e*Pn	Pn	01 41 16.4	+1.8
VLX	Vlachokerasia	3.35	267	P	Pn	01 41 15.1	-0.1
VLX	Vlachokerasia	3.35	267	*e*PN	Pn	01 41 16.2	+1.0
VLX	Vlachokerasia	3.35	267	P	Pn	01 41 15.1	-0.1
VLX	Vlachokerasia	3.35	267	*e*Pn	Pn	01 41 16.2	+1.0
GUR	Goura	3.38	277	P	Pn	01 41 15.7	+0.2
GUR	Goura	3.38	277	*e*PN	Pn	01 41 16.3	+0.8
GUR	Goura	3.38	277	P	Pn	01 41 15.7	+0.2
GUR	Goura	3.38	277	*e*Pn	Pn	01 41 16.3	+0.8
OUR	Ouranopolis	3.40	324	P	Pn	01 41 15.4	-0.3
OUR				S	Sn	01 41 56.1	-0.1
OUR	Ouranopolis	3.40	324	*e*PN	Pn	01 41 16.0	+0.3
OUR	Ouranopolis	3.40	324	*e*Pn	Pn	01 41 16.0	+0.3
OUR	Ouranopolis	3.40	324	P	Pn	01 41 15.4	-0.3
OUR	Ouranopolis	3.40	324	*e*Pn	Pn	01 41 15.7	0.0
OUR				S	Sn	01 41 56.1	-0.1
TKR	Tekirdag	3.46	12	*e*PN	Pn	01 41 16.9	+0.4
TKR	Tekirdag	3.46	12	*e*Pn	Pn	01 41 16.9	+0.4
GEMT	Gemlik	3.48	35	*e*PN	Pn	01 41 18.0	+1.2
GEMT	Gemlik	3.48	35	*e*Pn	Pn	01 41 18.0	+1.2
IZI	Iznik	3.54	39	*e*PN	Pn	01 41 19.1	+1.4
IZI	Iznik	3.54	39	*e*Pn	Pn	01 41 19.1	+1.4
KLV	Kalavryta, Ach	3.54	278	P	Pn	01 41 17.8	+0.1
KLV	Kalavryta, Ach	3.54	278	*e*PN	Pn	01 41 18.4	+0.7
KLV	Kalavryta, Ach	3.54	278	P	Pn	01 41 17.8	+0.1
KLV	Kalavryta, Ach	3.54	278	*e*Pn	Pn	01 41 18.4	+0.7
KALE	Kalithea	3.60	284	P	Pn	01 41 18.7	+0.2
KALE				S	Sn	01 42 02.4	+1.2
KALE	Kalithea	3.60	284	*e*PN	Pn	01 41 19.4	+0.9
KALE	Kalithea	3.60	284	P	Pn	01 41 18.7	+0.2
KALE	Kalithea	3.60	284	*e*Pn	Pn	01 41 19.4	+0.9
KALE				S	Sn	01 42 02.4	+1.2
RDO	Rodhopi	3.63	347	P	Pn	01 41 18.3	-0.5
RDO	Rodhopi	3.63	347	*e*PN	Pn	01 41 18.5	-0.3
RDO	Rodhopi	3.63	347	*e*Pn	Pn	01 41 18.5	-0.3
CAVI	Cavuskoy	3.63	43	*e*PN	Pn	01 41 19.8	+0.9
CAVI	Cavuskoy	3.63	43	*e*Pn	Pn	01 41 19.8	+0.9
CRLT	Corlu	3.63	14	*e*PN	Pn	01 41 19.6	+0.7
CRLT	Corlu	3.63	14	*e*Pn	Pn	01 41 19.6	+0.7
AGG	Agios Georgios	3.63	294	*e*PN	Pn	01 41 19.6	+0.6
AGG	Agios Georgios	3.63	294	*e*Pn	Pn	01 41 19.9	+0.9
AGG	Agios Georgios	3.63	294	*e*Pn	Pn	01 41 19.6	+0.6
PLG	Polygyros	3.69	319	*e*PN	Pn	01 41 19.5	-0.3
PLG	Polygyros	3.69	319	*e*Pn	Pn	01 41 19.5	-0.3
ITM	Ithomi	3.73	265	*e*PN	Pn	01 41 21.3	+1.0
ITM	Ithomi	3.73	265	*e*Pn	Pn	01 41 21.3	+1.0
MAKR	Makrakomi, Fth	3.78	293	*e*PN	Pn	01 41 22.2	+1.3
MAKR	Makrakomi, Fth	3.78	293	*e*Pn	Pn	01 41 22.2	+1.3
EFP	Efpalio	3.79	284	*e*PN	Pn	01 41 22.3	+1.3
EFP	Efpalio	3.79	284	*e*Pn	Pn	01 41 22.3	+1.3
SLVT	Silivri	3.83	19	*e*PN	Pn	01 41 22.9	+1.2
SLVT	Silivri	3.83	19	*e*Pn	Pn	01 41 22.9	+1.2
AMT	Artemida-Makis	3.88	270	*e*PN	Pn	01 41 23.7	+1.4
AMT	Artemida-Makis	3.88	270	*e*Pn	Pn	01 41 23.7	+1.4
DRO	Drossia	3.88	277	*e*PN	Pn	01 41 23.8	+1.5
DRO	Drossia	3.88	277	*e*Pn	Pn	01 41 23.8	+1.5
CTKS	Kestanelik-??a	3.92	22	*e*PN	Pn	01 41 24.0	+1.2
CTKS	Kestanelik-??a	3.92	22	*e*Pn	Pn	01 41 24.0	+1.2
PYL	PYLOS	3.93	261	*e*PN	Pn	01 41 24.6	+1.6
PYL	PYLOS	3.93	261	*e*Pn	Pn	01 41 24.6	+1.6
ISK	Istanbul-Kandi	3.95	28	*e*PN	Pn	01 41 24.0	+0.7
ISK	Istanbul-Kandi	3.95	28	*e*Pn	Pn	01 41 24.0	+0.7
BGKT	Bogazkoy	3.96	25	*e*PN	Pn	01 41 24.6	+1.3
BGKT	Bogazkoy	3.96	25	*e*Pn	Pn	01 41 24.6	+1.3
EVR	Evrytania	3.98	291	*e*PN	Pn	01 41 25.2	+1.4
EVR	Evrytania	3.98	291	*e*Pn	Pn	01 41 25.2	+1.4
HRT	Hereke	4.01	36	*e*PN	Pn	01 41 25.4	+1.3
HRT	Hereke	4.01	36	*e*Pn	Pn	01 41 25.4	+1.3
HORT	Hortiatis	4.04	319	*e*PN	Pn	01 41 25.4	+0.8
HORT	Hortiatis	4.04	319	*e*PN	Pn	01 41 25.2	+0.7
HORT	Hortiatis	4.04	319	*e*Pn	Pn	01 41 25.2	+0.7
LIT	Litokhoron	4.06	309	*e*PN	Pn	01 41 25.1	+0.4
LIT	Litokhoron	4.06	309	*e*Pn	Pn	01 41 25.1	+0.4
RLS	Riolos of Patr	4.08	278	*e*PN	Pn	01 41 26.6	+1.6
RLS	Riolos of Patr	4.08	278	*e*Pn	Pn	01 41 26.6	+1.6
SOH	Sokhos	4.08	323	*e*PN	Pn	01 41 25.5	+0.4
SOH	Sokhos	4.08	323	*e*Pn	Pn	01 41 25.5	+0.4
CTYL	Yal??k??y-??at	4.08	18	*e*PN	Pn	01 41 26.0	+0.9
CTYL	Yal??k??y-??at	4.08	18	*e*Pn	Pn	01 41 26.0	+0.9
PHSR	Pinarhisar	4.09	10	*e*PN	Pn	01 41 26.0	+0.8
PHSR	Pinarhisar	4.09	10	*e*Pn	Pn	01 41 26.0	+0.8
KLYT	Kilyos	4.11	27	*e*PN	Pn	01 41 26.8	+1.4
KLYT	Kilyos	4.11	27	*e*Pn	Pn	01 41 26.8	+1.4
KDZ	Kurdzhali	4.14	348	⇑*i*P	Pn	01 41 24.7	-1.2
KDZ	Kurdzhali	4.14	348	⇑*i*P	Pn	01 41 24.7	-1.2
GULT	Gulveren	4.17	46	*e*PN	Pn	01 41 27.6	+1.3
GULT	Gulveren	4.17	46	*e*Pn	Pn	01 41 27.6	+1.3
SRS	Serrai	4.21	327	*e*PN	Pn	01 41 27.2	+0.4
SRS	Serrai	4.21	327	*e*Pn	Pn	01 41 27.2	+0.4
EDRB	Edirne	4.24	2	*e*PN	Pn	01 41 26.7	-0.5
EDRB	Edirne	4.24	2	*e*Pn	Pn	01 41 26.7	-0.5
SILT	Sile	4.26	33	*e*PN	Pn	01 41 29.2	+1.7
SILT	Sile	4.26	33	*e*Pn	Pn	01 41 29.2	+1.7
SVRH	Sivrihisar-ESK	4.29	63	*e*PN	Pn	01 41 30.2	+2.2
SVRH	Sivrihisar-ESK	4.29	63	*e*Pn	Pn	01 41 30.2	+2.2
NVR	Nevrokopi	4.29	331	P	Pn	01 41 27.9	-0.1
NVR	Nevrokopi	4.29	331	*e*PN	Pn	01 41 28.1	+0.1
NVR	Nevrokopi	4.29	331	*e*Pn	Pn	01 41 28.1	+0.1
PDO	Prodromos	4.38	285	*e*PN	Pn	01 41 31.4	+2.3
PDO	Prodromos	4.38	285	*e*Pn	Pn	01 41 31.4	+2.3
MMB	Musomiste	4.55	332	⇓*i*P	Pn	01 41 31.4	-0.2
MMB	Musomiste	4.55	332	⇓*i*P	Pn	01 41 31.4	-0.2
KNT	Kendrikon	4.56	322	*e*PN	Pn	01 41 32.9	+1.2
KNT	Kendrikon	4.56	322	*e*Pn	Pn	01 41 32.7	+1.0
KNT	Kendrikon	4.56	322	*e*Pn	Pn	01 41 32.7	+1.0
MDUB	Mudurnu	4.59	50	*e*PN	Pn	01 41 33.5	+1.3
MDUB	Mudurnu	4.59	50	*e*Pn	Pn	01 41 33.5	+1.3
VLS	Valsamata	4.78	279	*e*PN	Pn	01 41 36.3	+1.7
VLS	Valsamata	4.78	279	*e*Pn	Pn	01 41 36.3	+1.7
LKD2	Lefkada island	4.82	286	*e*PN	Pn	01 41 36.3	+1.1
LKD2	Lefkada island	4.82	286	*e*Pn	Pn	01 41 36.3	+1.1
JMB	Yambol	4.86	360

2.4nm,0.6s
MNAS ⇓S Sn 02 30 33.6 -1.7
3.4nm,0.6s
AAK Ala-Archa 5.96 23 ⇑P Pn 02 29 38.5 -1.8
0.9nm,0.4s
AAK ⇑S Sn 02 30 50.0 +0.6
2.3nm,0.6s
KK31 Karatay Array 5.97 354 ⇓P Pn 02 29 38.5 -1.7
1.2nm,0.3s,baz=174,slow=12
KK31 ⇑S Sn 02 30 46.4 -2.9
1.1nm,0.4s,baz=182,slow=19

IDC ***13*** *02:37:49.0±0.4, 19.85N×76.55W, h0km, mb4.3/27, mb1 4.4/33, mb1mx4.4/46, mbtmp4.3/33, ML4.2/5, MS3.8/31, Ms1 3.8/31, ms1mx3.7/44, Error ellipse: s-maj=14.6km s-min=10.3km az=66.0*
MOS ***13*** *02:37:50.2±1.1, 19.82N×76.65W, h11km, mb4.9/33, Error ellipse: s-maj=9.3km s-min=5.7km az=111.9*
BJI ***13*** *02:37:50.4, 19.70N×76.60W, h16km, mB5.0/1, Ms5.2/3, Ms7 4.7/2*
JSN ***13*** *02:37:51.6±1.0, 19.78N×76.58W, h31km±999km, MD5.0*
NEIC ***13*** *02:37:52.0±2.5, 19.75N×76.62W, h17km±4km, mb4.7/95, Error ellipse: s-maj=10.0km s-min=8.0km az=118.0*
NEIC Felt at Bayamo, Guantanamo and Santiago de Cuba.
GCMT ***13*** *02:37:52.0±0.3, 19.94N×76.55W, h18km±1km, MW4.9/81, Moment Tensor Solution. s26,c29; s81,c102; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.96±.13; Mθθ-1.33±.09; Mφφ-0.63±.08; Mrθ1.54±.21; Mrφ0.69±.05; Mθφ-0.83±.19; Best double couple: M₀2.55200×10¹⁶ NP1:φs303.00000°,δ23.00000°,λ94.00000°. NP2: φs119.00000°,δ67.00000°,λ88.00000°. Principal axes: T 2.6540, Plg68.0000°, Azm26.0000°; N -0.2120, Plg1.0000°, Azm120.0000°; P -2.4500, Plg22.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***13*** *02:37:52.1±0.1, 19.72N±0.02×76.50W±0.02, h33km, mb4.6/120, MS3.9/25 Error ellipse: s-maj=3.0km s-min=1.9km az=25.2*

ISC 13 02:37:53.7±0.9, 19.75N±0.04×76.56W±0.04, h32km±6km, n569, σ1$34/589, mb4.6/120, MS3.9/25, 147C-123D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**1.37**	**82**	*e*Pn	**Pn**	**02 38 15.3**	**-1.4**
GTBY				*e*Sn	**Sn**	**02 38 33.8**	**+0.1**
BBJ	**Bamboo Saint A**	**1.52**	**206**	*e*P	**Pn**	**02 38 16.1**	**-2.6**
CMJ	**Castle Mountai**	**1.62**	**174**	*e*P	**Pn**	**02 38 17.6**	**-2.4**
GWJ	**Greenwich**	**1.68**	**186**	*e*P	**Pn**	**02 38 18.1**	**-2.8**
STH	**Stony Hill**	**1.68**	**188**	*e*P	**Pn**	**02 38 18.2**	**-2.7**
STH				*i* S	**Sn**	**02 38 38.8**	**-2.6**
HOJ	**Hope**	**1.75**	**186**	*e*P	**Pn**	**02 38 18.6**	**-3.2**
CVJ	**Coleyville**	**1.77**	**212**	*e*P	**Pn**	**02 38 19.8**	**-2.5**
MTDJ	**Mount Denham**	**1.77**	**212**	*e*Pn	**Pn**	**02 38 19.9**	**-2.4**
MTDJ				*e*Sn	**Sn**	**02 38 40.3**	**-3.5**
MBJ	**Montego Bay**	**1.82**	**223**	*e*P	**Pn**	**02 38 20.1**	**-2.8**
MBJ				*i* S	**Sn**	**02 38 41.1**	**-3.8**
YHJ	**Yallahs**	**1.85**	**178**	*e*P	**Pn**	**02 38 21.1**	**-2.2**
PCJ	**Portland Cotta**	**2.08**	**196**	*e*P	**Pn**	**02 38 24.7**	**-1.7**
MCJ	**Malvern**	**2.11**	**211**	*e*P	**Pn**	**02 38 24.9**	**-2.0**
LGNH	**LØogne**	**3.94**	**108**	*e*Pn	**Pn**	**02 38 50.0**	**-1.9**
LGNH				*e*Sn	**Sn**	**02 39 41.0**	**+4.0**
JAKH	**Jacmel**	**4.11**	**111**	*e*Pn	**Pn**	**02 38 54.1**	**-0.2**
JAKH				*e*Sn	**Sn**	**02 39 41.2**	**-0.1**
PAPH	**Port-au-Prince**	**4.21**	**106**	*e*Pn	**Pn**	**02 38 56.8**	**+1.1**
PAPH				*e*Sn	**Sn**	**02 39 40.0**	**-3.8**
SDDR	**Presa de Saban**	**5.03**	**98**	*e*Pn	**Pn**	**02 39 06.5**	**-0.5**
SDDR				*e*Sn	**Sn**	**02 40 03.9**	**-0.3**
GRTK	**Grand Turk**	**5.38**	**70**	*e*Pn	**Pn**	**02 39 10.3**	**-1.4**
GRTK				*e*Sn	**Sn**	**02 40 11.4**	**-1.1**
SDD	**Santo Domingo**	**6.41**	**100**	*e*Pn	**Pn**	**02 39 27.4**	**+1.5**
SMN1	**Samana, DR**	**6.90**	**93**	*e*Pn	**Pn**	**02 39 33.4**	**+0.7**
PCDR	**Punta Cana, DR**	**7.83**	**98**	*e*Pn	**Pn**	**02 39 45.5**	**+0.1**
PCDR				*e*Sn	Sn	02 41 20.0	+7.1
AGP	**Aguadilla**	**9.01**	**97**	*e*Pn	**Pn**	**02 40 01.8**	**+0.2**
AGP				*e*Sn	**Sn**	**02 41 38.5**	**-3.5**
MPR	**Mayaguez**	**9.04**	**98**	*e*Pn	**Pn**	**02 40 02.2**	**+0.2**
MPR				*e*Sn	**Sn**	**02 41 40.4**	**-2.4**
LSP	**Las Mesas**	**9.10**	**98**	*e*Pn	**Pn**	**02 40 00.1**	**-2.8**
LSP				*e*Sn	**Sn**	**02 41 46.2**	**+1.9**
CRPR	**Cabo Rojo, PR**	**9.11**	**99**	*e*Pn	Pn	02 39 59.4	-3.6
LRS	**Lares**	**9.30**	**97**	*e*Pn	**Pn**	**02 40 03.1**	**-2.5**
LRS				*e*Sn	**Sn**	**02 41 49.2**	**0.0**
AOPR	**Arecibo Observ**	**9.38**	**97**	*e*Pn	**Pn**	**02 40 07.4**	**+0.7**
OBIP	**Obispado Ponce**	**9.57**	**99**	*e*Pn	Pn	02 40 05.7	-3.6
OBIP				*e*Sn	**Sn**	**02 41 57.2**	**+1.4**
CELP	**Cerrillos**	**9.59**	**98**	*e*Pn	**Pn**	**02 40 09.5**	**-0.1**
CELP				*e*Sn	**Sn**	**02 42 00.6**	**+4.2**
SJG	**San Juan**	**9.98**	**98**	*e*P	**Pn**	**02 40 12.7**	**-2.3**
SJG				*e*		02 42 03.0	
SJG	**San Juan**	**9.98**	**98**	Sn	**Sn**	**02 42 02.8**	**-3.1**
	0.1nm,0.3s,baz=95,slow=19,SNR=3.2						
SJG				LR	LR	02 44 33.9	
	comp=Z,471nm,19.0s,baz=270,slow=40						
SJG	**San Juan**	**9.98**	**98**	*e*Pn	**Pn**	**02 40 12.7**	**-2.3**
SJG				*e*Sn	**Sn**	**02 42 02.8**	**-3.1**
SJG				*e*Sn	Sn	02 42 03.0	-3.0
SDV	**Santo Domingo**	**12.23**	**151**	*e*Pn	**Pn**	**02 40 45.0**	**-0.9**
JTS	**JuntasAbangare**	**12.41**	**222**	*e*P	**Pn**	**02 40 49.0**	**+0.7**
JTS	**JuntasAbangare**	**12.41**	**222**	Pn	**Pn**	**02 40 49.0**	**+0.7**
	0.7nm,0.3s,baz=28,slow=9.1,SNR=4.6						
JTS				LR	LR	02 45 52.2	
	comp=Z,393nm,18.9s,baz=46,slow=39						
APG	**El Apazote**	**14.09**	**253**	Pn	**Pn**	**02 41 10.2**	**-1.1**
	4.2nm,0.3s,baz=242,slow=8.8,SNR=5.1						
APG				LR	LR	02 46 13.8	
	comp=Z,154nm,18.9s,baz=55,slow=36						
PCRV	**Puerto La Cruz**	**14.93**	**128**	Pn	**Pn**	**02 41 23.5**	**+0.9**
	3.4nm,0.3s,baz=127,slow=6.9,SNR=9.6						
PCRV				LR	LR	02 48 10.4	
	comp=Z,324nm,18.2s,baz=328,slow=41						
ROSC	**El Rosal**	**14.96**	**171**	Pn	**Pn**	**02 41 24.5**	**+1.1**
	0.7nm,0.3s,baz=90,slow=20,SNR=2.6						
ROSC				LR	LR	02 47 44.5	
	comp=Z,395nm,21.2s,baz=1.5,slow=40						
LRAL	**Lakeview Retre**	**16.19**	**327**	*e*Pn	**Pn**	**02 41 35.8**	**-3.0**
	44nm,1.6s						
LRAL				*e*Sn	Sn	02 44 24.3	-13
BBSR	**BB Station**	**16.46**	**38**	*e*Pn	**Pn**	**02 41 39.1**	**-3.1**
	26nm,1.1s						
TKL	**Tuckaleechee C**	**17.08**	**340**	*e*P	**Pn**	**02 41 48.9**	**-1.1**
TKL	**Tuckaleechee C**	**17.08**	**340**	Pn	**Pn**	**02 41 48.5**	**-1.5**
	0.2nm,0.3s,baz=152,slow=16,SNR=4.6						
TKL				LR	LR	02 48 22.4	
	comp=Z,314nm,19.6s,baz=176,slow=37						
TKL	**Tuckaleechee C**	**17.08**	**340**	*e*Pn	**Pn**	**02 41 48.9**	**-1.1**
TKL				*e*Sn	Sn	02 44 46.7	-12
SWET	**Sewanee**	**17.49**	**334**	*e*P	**P**	**02 41 56.2**	**0.0**
CMIG	**Matias Romero**	**17.59**	**264**	P	**Pn**	**02 41 56.6**	**+0.1**
	0.4nm,0.3s,baz=79,slow=10,SNR=7.6						
CMIG				LR	LR	02 48 46.8	
	comp=Z,207nm,18.4s,baz=68,slow=37						
VWCC	**Virginia Weste**	**17.69**	**351**	*e*Pn	**Pn**	**02 41 57.1**	**-0.5**
VWCC				*e*Sn	Sn	02 45 02.5	-11
BLA	**Blacksburg**	**17.72**	**350**	*e*P	**Pn**	**02 41 56.4**	**-1.7**
BLA				*e*		02 45 04.0	
BLA				pmax	pmax		
	comp=Z,66nm,1.4s						
BLA	**Blacksburg**	**17.72**	**350**	*e*Pn	**Pn**	**02 41 56.4**	**-1.7**
	comp=Z,66nm,1.4s						
BLA				*e*Sn	Sn	02 45 04.0	-11
URVA	**University of**	**17.78**	**357**	*e*Pn	**Pn**	**02 41 58.4**	**-0.2**
URVA				*e*Sn	Sn	02 44 58.6	-17
JSRW	**J. Sargeant Re**	**17.92**	**357**	*e*Pn	**Pn**	**02 42 00.2**	**-0.2**
JSRW				*e*Sn	Sn	02 45 04.3	-15
OXF	**Oxford**	**18.60**	**325**	*e*P	**P**	**02 42 07.7**	**-0.6**
OXF				pmax	pmax		
	comp=Z,60nm,1.0s						
OXF	**Oxford**	**18.60**	**325**	*e*P	**P**	**02 42 07.7**	**-0.6**
	comp=Z,60nm,1.0s						
OXF				*e*Sn	**S**	**02 45 43.4**	**+4.8**
WVT	**Waverly**	**19.09**	**331**	*e*P	**P**	**02 42 13.6**	**-0.1**
WVT				pmax	pmax		
	comp=Z,20nm,1.3s						
WVT	**Waverly**	**19.09**	**331**	*e*P	**P**	**02 42 13.6**	**-0.1**
	comp=Z,20nm,1.3s						
340A	**Bronson**	**19.45**	**310**	⇑P	**Pn**	**02 42 18.9**	**-0.1**
	baz=19						
OTAV	**Otavalo**	**19.48**	**186**	*e*P	**P**	**02 42 19.2**	**+0.7**
	comp=Z,28nm,1.4s						
MVL	**Millersville**	**20.18**	**0**	*e*P	Pn	02 42 26.8	-0.8
	comp=Z,17nm,1.3s						
HKT	**Hockley**	**20.20**	**304**	*e*P	**P**	**02 42 23.7**	**-2.0**
HKT				pmax	pmax		
	comp=Z,38nm,1.5s						
HKT	**Hockley**	**20.20**	**304**	*e*P	**P**	**02 42 23.7**	**-2.0**
	comp=Z,38nm,1.5s						
WCI	**Wyandotte Cave**	**20.26**	**337**	*e*P	**P**	**02 42 25.5**	**-1.0**
WCI				pmax	pmax		
	comp=Z,44nm,1.5s						
WCI	**Wyandotte Cave**	**20.26**	**337**	*e*P	**P**	**02 42 25.5**	**-1.0**
	comp=Z,44nm,1.5s						
238A	**Jacksonville**	**20.65**	**310**	⇑P	Pn	02 42 33.1	0.0
	baz=21						
SSPA	**Standing Stone**	**20.85**	**357**	*e*P	**P**	**02 42 33.3**	**+0.5**
	comp=Z,33nm,1.2s						
PBMO	**Poplar Bluff**	**20.86**	**327**	*e*P	**P**	**02 42 33.4**	**+0.4**
	comp=Z,59nm,1.0s						
138A	**Matatall Enter**	**20.98**	**312**	⇑P	Pn	02 42 36.1	-0.8
	baz=21						
636A	**Smothers Creek**	**20.98**	**301**	⇑P	Pn	02 42 36.2	-0.8
	baz=21						
SIUC	**Southern Illin**	**21.02**	**331**	*e*P	**P**	**02 42 34.5**	**-0.2**
	comp=Z,24nm,0.9s						
MIAR	**Mount Ida**	**21.08**	**318**	*e*P	**P**	**02 42 35.6**	**+0.2**
MIAR				pmax	pmax		
	comp=Z,44nm,1.3s						
MIAR	**Mount Ida**	**21.08**	**318**	*e*P	**P**	**02 42 35.6**	**+0.2**
	comp=Z,44nm,1.3s						
ACSO	**Alum Creek Sta**	**21.14**	**346**	*e*P	**P**	**02 42 36.6**	**+0.6**
	comp=Z,17nm,0.9s						
BLO	**Bloomington**	**21.18**	**338**	*e*P	**P**	**02 42 37.2**	**+0.8**
BLO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BLO	**Bloomington**	**21.18**	**338**	*e*P	**P**	**02 42 37.2**	**+0.8**
	comp=Z,9.7nm,0.8s						
835A	**Beeville**	**21.18**	**298**	⇑P	**P**	**02 42 38.4**	**+1.9**
	baz=21						
436A	**Wall Ranch, Ga**	**21.30**	**305**	⇑P	**P**	**02 42 39.7**	**+1.9**
	baz=21						
ODNJ	**Ogdensburg**	**21.33**	**4**	*e*P	**P**	**02 42 38.3**	**+0.3**
	comp=Z,19nm,0.8s						
ODNJ				*e*S	S	02 46 25.1	-8.0
735A	**Kenedy**	**21.36**	**299**	⇑P	**P**	**02 42 39.9**	**+1.6**
	baz=21						
OLIL	**Olney**	**21.39**	**335**	*e*P	**P**	**02 42 38.4**	**-0.3**
	comp=Z,50nm,1.2s						
137A	**Heron Place, G**	**21.41**	**311**	⇓P	**P**	**02 42 40.7**	**+1.7**
	baz=21						
635A	**Leesville**	**21.52**	**301**	⇑P	**P**	**02 42 41.4**	**+1.3**
	baz=22						
034A	**Hebbronville**	**21.55**	**294**	⇓P	**P**	**02 42 42.3**	**+1.9**
	baz=22						
934A	**Benavides**	**21.56**	**295**	⇑P	**P**	**02 42 42.4**	**+1.9**
	baz=22						
535A	**Dale**	**21.60**	**302**	⇑P	**P**	**02 42 42.8**	**+1.8**
	baz=22						
336A	**Riesel**	**21.62**	**306**	⇓P	**P**	**02 42 42.8**	**+1.7**
	baz=22						
834A	**Tilden**	**21.74**	**297**	⇑P	**P**	**02 42 44.0**	**+1.5**
	baz=22						
KSPA	**Keystone Colle**	**21.75**	**2**	*e*P	**P**	**02 42 42.5**	**0.0**
	comp=Z,28nm,1.1s						
435B	**Jarrell**	**21.92**	**304**	⇑P	**P**	**02 42 45.9**	**+1.5**
	baz=22						
734A	**La Parita Cree**	**21.97**	**299**	⇑P	**P**	**02 42 46.5**	**+1.5**
	baz=22						
335A	**Moody**	**22.02**	**306**	⇑P	**P**	**02 42 47.1**	**+1.6**
	baz=22						
933A	**Laredo**	**22.20**	**295**	⇓P	**P**	**02 42 48.8**	**+1.3**
	baz=22						
534A	**Blanco**	**22.32**	**302**	⇑P	**P**	**02 42 49.7**	**+0.9**
	baz=22						
WHTX	**Lake Whitney,**	**22.36**	**307**	⇑P	**P**	**02 42 50.1**	**+1.0**
	baz=22						
WHTX	**Lake Whitney,**	**22.36**	**307**	*e*P	**P**	**02 42 50.3**	**+1.2**
	comp=Z,29nm,0.9s						
BINY	**Binghamton**	**22.39**	**1**	*e*P	**P**	**02 42 49.1**	**-0.2**
	comp=Z,38nm,1.2s						
SFIN	**Lafayette**	**22.46**	**339**	⇑P	**P**	**02 42 49.5**	**-0.6**
	baz=22,SNR=7.1						
SFIN	**Lafayette**	**22.46**	**339**	*e*P	**P**	**02 42 48.8**	**-1.3**
	comp=Z,75nm,1.5s						
434A	**Burnet**	**22.47**	**304**	⇑P	**P**	**02 42 51.2**	**+0.9**
	baz=22						
833A	**Chaparral WMA,**	**22.50**	**297**	⇑P	**P**	**02 42 50.4**	**-0.3**
	baz=22						
334A	**Lometa**	**22.66**	**305**	⇑P	**P**	**02 42 52.7**	**+0.3**
	baz=23,SNR=25						
633A	**Saathoff Ranch**	**22.69**	**300**	⇓P	**P**	**02 42 52.8**	**+0.1**
	baz=23,SNR=5.8						
Z35A	**Perchaven, San**	**22.87**	**310**	⇓P	**P**	**02 42 54.4**	**-0.2**
	baz=23						
234A	**Clairette**	**22.88**	**307**	⇑P	**P**	**02 42 55.1**	**+0.5**
	baz=23						
433A	**Art**	**23.09**	**303**	⇓P	**P**	**02 42 57.3**	**+0.5**
	baz=23,SNR=14						
134A	**White-Moore Ra**	**23.10**	**308**	⇑P	**P**	**02 42 57.2**	**+0.3**
	baz=23						
732A	**Laxson Ranch,**	**23.11**	**297**	⇑P	**P**	**02 42 57.7**	**+0.7**
	baz=23						
632A	**Uvalde**	**23.20**	**299**	⇑P	**P**	**02 42 58.6**	**+0.6**
	baz=23,SNR=6.2						
333A	**Richland Sprin**	**23.24**	**304**	⇓P	**P**	**02 42 58.6**	**+0.3**
	baz=23,SNR=17						
TUL1	**Leonard**	**23.35**	**318**	⇑P	**P**	**02 42 59.4**	**0.0**
	baz=23,SNR=16						
TUL1	**Leonard**	**23.35**	**318**	*e*P	**P**	**02 42 59.1**	**-0.2**
	comp=Z,36nm,0.9s						
233A	**Rising Star**	**23.47**	**306**	⇑P	**P**	**02 43 01.4**	**+0.9**
	baz=23						
532A	**Rocksprings**	**23.51**	**301**	⇑P	**P**	**02 43 01.2**	**+0.2**
	baz=24,SNR=17						
Y34A	**Reagan Ranch,**	**23.55**	**311**	⇑P	**P**	**02 43 02.2**	**+0.9**
	baz=24						
JCT	**Junction City**	**23.56**	**302**	*e*P	**P**	**02 43 02.1**	**+0.6**
JCT				pmax	pmax		
	comp=Z,40nm,1.1s						
JCT	**Junction City**	**23.56**	**302**	⇑P	**P**	**02 43 02.3**	**+0.8**
	baz=23						
JCT	**Junction City**	**23.56**	**302**	*e*P	**P**	**02 43 02.1**	**+0.6**
	comp=Z,40nm,1.1s						
432A	**Menard**	**23.70**	**302**	⇑P	**P**	**02 43 03.3**	**+0.5**
	baz=24						
133A	**Hamilton Ranch**	**23.74**	**307**	⇓P	**P**	**02 43 03.9**	**+0.7**
	baz=24						
631A	**Perdido Creek**	**23.82**	**298**	⇑P	**P**	**02 43 04.4**	**+0.4**
	baz=24,SNR=13						
332A	**Millerview**	**23.85**	**304**	⇑P	**P**	**02 43 04.7**	**+0.5**
	baz=24,SNR=16						
V35A	**Meyer Ranch, C**	**23.93**	**316**	⇓P	**P**	**02 43 05.1**	**+0.2**
	baz=24						
Z33A	**Whitaker Ranch**	**23.95**	**309**	⇑P	**P**	**02 43 05.7**	**+0.6**
	baz=24,SNR=9.9						
X34A	**Smith Ranch, M**	**23.95**	**312**	⇓P	**P**	**02 43 05.8**	**+0.7**
	baz=24,SNR=6.3						
232A	**Coleman**	**23.98**	**305**	⇓P	**P**	**02 43 06.1**	**+0.6**
	baz=24,SNR=13						
531A	**Rocksprings**	**24.05**	**300**	⇓P	**P**	**02 43 06.6**	**+0.5**
	baz=24						
Y33A	**Hilltop Ranch,**	**24.20**	**310**	⇑P	**P**	**02 43 07.4**	**-0.1**
	baz=24						
W34A	**Bridge Creek,**	**24.25**	**314**	⇓P	**P**	**02 43 08.0**	**+0.1**
	baz=24						
W34A	**Bridge Creek,**	**24.25**	**314**	*e*P	**P**	**02 43 08.1**	**+0.1**
	comp=Z,24nm,0.9s						
431A	**Sonora**	**24.28**	**301**	⇑P	**P**	**02 43 09.3**	**+1.1**
	baz=24,SNR=7.4						
ABTX	**Abilene, Hawle**	**24.30**	**306**	⇓P	**P**	**02 43 08.6**	**+0.2**
	baz=24						
ABTX	**Abilene, Hawle**	**24.30**	**306**	*e*P	**P**	**02 43 09.1**	**+0.7**
	comp=Z,15nm,0.9s						
R37A	**Teagarden Farm**	**24.36**	**323**	⇓P	**P**	**02 43 09.4**	**+0.5**
	baz=24						
331A	**San Angelo**	**24.36**	**303**	⇑P	**P**	**02 43 09.8**	**+0.8**
	baz=24,SNR=6.8						
S36A	**Lake Cedric, C**	**24.40**	**321**	⇓P	**P**	**02 43 09.2**	**0.0**
	baz=24,SNR=9.1						
V34A	**Guthrie**	**24.42**	**315**	⇓P	**P**	**02 43 09.8**	**+0.3**
	baz=24,SNR=11						
V34A	**Guthrie**	**24.42**	**315**	*e*P	**P**	**02 43 09.8**	**+0.3**
	comp=Z,45nm,0.9s						
Z32A	**Haskell**	**24.48**	**308**	⇓P	**P**	**02 43 10.8**	**+0.7**
	baz=24,SNR=14						
231A	**Bronte**	**24.52**	**304**	⇑P	**P**	**02 43 10.6**	**+0.2**
	baz=24,SNR=11						
Q37A	**Longview Farm,**	**24.55**	**325**	⇓P	**P**	**02 43 11.5**	**+0.9**
	baz=24						
WMOK	**Wichita Mounta**	**24.68**	**312**	*e*P	**P**	**02 43 11.2**	**-0.7**
WMOK				pmax	pmax		
	comp=Z,37nm,1.8s						
WMOK	**Wichita Mounta**	**24.68**	**312**	*e*P	**P**	**02 43 11.2**	**-0.7**
	comp=Z,37nm,1.8s						
W33A	**Caddo, Fort Co**	**24.69**	**313**	⇑P	**P**	**02 43 13.2**	**+1.3**
	baz=25,SNR=9.5						
530A	**J-C Ranch, Com**	**24.69**	**300**	⇑P	**P**	**02 43 13.2**	**+1.2**
	baz=25,SNR=24						
R36A	**Gordon, Harris**	**24.75**	**322**	⇓P	**P**	**02 43 12.9**	**+0.5**
	baz=25						
Y32A	**R-V Farms, Ver**	**24.79**	**310**	⇑P	**P**	**02 43 13.3**	**+0.5**
	baz=25						
U34A	**Anderson Ranch**	**24.79**	**316**	⇑P	**P**	**02 43 13.2**	**+0.4**
	baz=25						
U34A	**Anderson Ranch**	**24.79**	**316**	*e*P	**P**	**02 43 13.0**	**+0.2**
	comp=Z,21nm,0.9s						
S35A	**Otter Creek Ra**	**24.80**	**320**	⇑P	**P**	**02 43 13.2**	**+0.4**
	baz=25						
430A	**Baggett Ranch,**	**24.82**	**301**	⇑P	**P**	**02 43 13.3**	**+0.1**
	baz=25						
LONY	**Lake Ozonia**	**24.85**	**3**	*e*P	**P**	**02 43 13.0**	**-0.2**
	comp=Z,41nm,1.6s						
X32A	**Elmer**	**24.88**	**311**	⇓P	**P**	**02 43 13.9**	**+0.3**
	baz=25						
131A	**Roby**	**24.89**	**306**	⇑P	**P**	**02 43 13.9**	**+0.2**
	baz=25						
Z31A	**Sharp Cattle R**	**24.98**	**308**	⇑P	**P**	**02 43 15.9**	**+1.4**
	baz=25,SNR=6.7						
330A	**Mertzon**	**24.99**	**303**	⇓P	**P**	**02 43 14.9**	**+0.1**
	baz=25,SNR=7.8						
SADO	**Sadowa**	**25.04**	**356**	P	**P**	**02 43 14.1**	**-0.8**
	comp=Z,12nm,1.0s,baz=203,slow=7.9,SNR=12						
SADO				LR	LR	02 52 57.3	
	comp=Z,135nm,21.1s,baz=210,slow=36						
230A	**Sterling City**	**25.13**	**304**	⇓P	**P**	**02 43 16.3**	**+0.4**
	baz=25						
U33A	**Lingo Farm, Me**	**25.16**	**316**	⇓P	**P**	**02 43 16.5**	**+0.3**
	baz=25						
W32A	**Sentinel**	**25.21**	**312**	⇑P	**P**	**02 43 16.7**	**+0.1**
	baz=25,SNR=16						
S34A	**Willow Spring**	**25.30**	**319**	⇓P	**P**	**02 43 16.8**	**-0.5**
	baz=25						
429A	**Davenport Ranc**	**25.30**	**300**	⇑P	**P**	**02 43 19.5**	**+2.0**
	baz=25						
Y31A	**Rekieta Farm,**	**25.36**	**309**	⇓P	**P**	**02 43 18.3**	**+0.3**
	baz=25,SNR=6.7						
V32A	**Arapaho**	**25.39**	**313**	⇓P	**P**	**02 43 18.7**	**+0.5**
	baz=25						
529A	**Stev Forest Ra**	**25.40**	**299**	⇑P	**P**	**02 43 18.8**	**+0.3**
	baz=25						
X31A	**McDonald Ranch**	**25.48**	**310**	⇑P	**P**	**02 43 19.1**	**+0.1**
	baz=25						
T33A	**Patterson Ranc**	**25.63**	**317**	⇓P	**P**	**02 43 20.0**	**-0.4**
	baz=26						
329A	**Wagon Wheel Ra**	**25.66**	**302**	⇓P	**P**	**02 43 21.3**	**+0.5**
	baz=26,SNR=12						
229A	**Bryant Ranch,**	**25.70**	**303**	⇓P	**P**	**02 43 21.1**	**-0.1**
	baz=26						
Z30A	**Sanderson Ranc**	**25.71**	**307**	⇑P	**P**	**02 43 21.3**	**+0.1**
	baz=26						
U32A	**Winter Ranch,**	**25.72**	**315**	⇓P	**P**	**02 43 21.5**	**+0.2**
	baz=26						
W31A	**Holland Ranch,**	**25.73**	**312**	⇑P	**P**	**02 43 21.3**	**-0.1**
	baz=26						
S33A	**Kaszmaul Farm,**	**25.78**	**318**	⇑P	**P**	**02 43 22.1**	**+0.3**
	baz=26						
Y30A	**Stafford Cattl**	**25.80**	**308**	⇑P	**P**	**02 43 22.1**	**+0.1**
	baz=26						
JFWS	**Jewell Farm**	**25.82**	**336**	*e*P	**P**	**02 43 21.8**	**-0.2**
JFWS				pmax	pmax		
	comp=Z,17nm,0.8s						
JFWS	**Jewell Farm**	**25.82**	**336**	*e*P	**P**	**02 43 21.8**	**-0.2**
	comp=Z,17nm,0.8s						
V31A	**Spring Creek L**	**25.96**	**313**	⇑P	**P**	**02 43 24.5**	**+1.1**
	baz=26,SNR=7.1						
X30A	**Coker Ranch, T**	**26.04**	**309**	⇑P	**P**	**02 43 24.6**	**+0.4**
	baz=26,SNR=14						
PTGA	**Pitinga**	**26.06**	**139**	P	**P**	**02 43 25.5**	**+1.1**
	comp=Z,6.6nm,1.0s,baz=322,slow=11,SNR=6.1						
PTGA	**Pitinga**	**26.06**	**139**	*e*P	**P**	**02 43 25.9**	**+1.5**
	comp=Z,15nm,1.1s						
T32A	**Huddler Ranch,**	**26.13**	**316**	⇑P	**P**	**02 43 25.3**	**+0.4**
	baz=26						
Z29A	**Hungry Hill Ra**	**26.14**	**306**	⇑P	**P**	**02 43 25.5**	**+0.4**
	baz=26						
R33A	**Olander Ranch,**	**26.21**	**319**	⇓P	**P**	**02 43 25.9**	**+0.2**
	baz=26						
Y29A	**Porterfield Fa**	**26.36**	**307**	⇑P	**P**	**02 43 28.0**	**+0.8**
	baz=26						
228A	**UT Block 9, Go**	**26.38**	**303**	⇑P	**P**	**02 43 27.5**	**+0.2**
	baz=26						
LTX	**Lajitas**	**26.39**	**296**	*e*P	**P**	**02 43 27.5**	**0.0**
LTX				*e*		02 46 53.6	
LTX	**Lajitas**	**26.39**	**296**	*e*P	**P**	**02 43 27.5**	**0.0**
LTX				*e*PcP

baz=29
N29A **Votaw Ranch, W** 29.38 321 ⇑P P 02 43 54.8 +0.8
baz=29
KSCO **Kaye Shedlock'** 29.57 316 ⇓P P 02 43 55.2 -0.6
baz=30
L30A **Spencer Herefo** 29.58 324 ⇓P P 02 43 56.2 +0.5
baz=30
O28A **Krutsinger Ran** 29.66 319 ⇓P P 02 43 57.1 +0.6
baz=30
T25A **Trinidad** 29.84 311 ⇓P P 02 43 58.9 +0.5
baz=30
T25A **Trinidad** 29.84 311 *eP* P 02 43 58.8 +0.5
comp=Z,16nm,1.1s
N28A **Pribbeno Ranch** 29.84 320 ⇑P P 02 43 59.2 +1.0
baz=30
K30A **Basset** 30.00 325 ⇑P P 02 44 00.2 +0.8
baz=30
L29A **Maesberg Ranch** 30.08 323 ⇑P P 02 44 01.0 +0.8
baz=30
S25A **Robets Cordova** 30.10 312 ⇑P P 02 44 01.8 +1.2
baz=30,SNR=13
Q26A **Hugo** 30.11 315 ⇑P P 02 44 01.5 +0.8
baz=30
O27A **Beecher Island** 30.13 318 ⇓P P 02 44 01.4 +0.7
baz=30
ANMO **Albuquerque** 30.42 306 *eP* P 02 44 02.6 -0.9
ANMO pmax pmax
comp=Z,32nm,2.5s
ANMO **Albuquerque** 30.42 306 *eP* P 02 44 04.5 +1.0
comp=Z,41nm,2.7s
S24A **Houchin Ranch,** 30.64 312 ⇓P P 02 44 06.2 +0.7
baz=31
O26A **Horse Wrangler** 30.69 318 ⇑P P 02 44 06.0 +0.3
baz=31
R24A **Sanders Place,** 30.84 313 ⇑P P 02 44 08.5 +1.3
baz=31,SNR=6.9
SDCO **Great Sand Dun** 30.89 312 ⇓P P 02 44 08.4 +0.7
baz=31
K28A **Ten Mile Ranch** 31.00 323 ⇑P P 02 44 08.9 +0.6
baz=31
L27A **T5 Ranch, Ells** 31.15 321 ⇑P P 02 44 10.7 +1.0
baz=31
I29A **Vivian Onida** 31.29 326 ⇑P P 02 44 11.0 +0.2
baz=31
R23A **Moffat** 31.32 312 ⇑P P 02 44 10.9 -0.5
baz=31
J28A **Allard Ranch,** 31.39 324 ⇑P P 02 44 11.7 0.0
baz=31
319A **Douglas** 31.59 298 ⇓P P 02 44 15.8 +2.0
baz=32,SNR=6.4
O24A **Longmont** 31.76 316 ⇓P P 02 44 15.9 +0.7
baz=32
ISCO **Idaho Springs** 31.95 315 *eP* P 02 44 17.8 +0.7
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO **Idaho Springs** 31.95 315 ⇓P P 02 44 18.0 +1.0
baz=32,SNR=10
ISCO **Idaho Springs** 31.95 315 *eP* P 02 44 17.8 +0.7
comp=Z,10nm,1.1s
N24A **Carr** 32.01 317 ⇑P P 02 44 18.3 +0.9
baz=32
I27A **Quinn** 32.26 324 ⇓P P 02 44 19.7 +0.3
baz=32
M24A **Cheyenne** 32.32 318 ⇑P P 02 44 20.2 0.0
baz=32
J26A **Sides Ranch, S** 32.35 322 ⇓P P 02 44 20.5 +0.3
baz=32
O23A **Lake Granby, G** 32.36 315 ⇓P P 02 44 20.9 +0.2
baz=32
AGMN **Agassiz Nation** 32.47 336 ⇑P P 02 44 21.2 +0.1
baz=32
AGMN **Agassiz Nation** 32.47 336 *eP* P 02 44 21.1 0.0
comp=Z,6.3nm,0.9s
PHWY **Pilot Hill** 32.63 318 *eP* P 02 44 22.7 -0.3
comp=Z,4.2nm,0.9s
H27A **Howes** 32.64 325 ⇑P P 02 44 22.9 +0.2
baz=33
I26A **New Underwood** 32.68 324 ⇑P P 02 44 23.6 +0.5
baz=33
N23A **Red Feather La** 32.73 317 ⇓P P 02 44 23.9 +0.1
baz=33
O22A **Kremmling** 32.76 315 ⇓P P 02 44 24.4 +0.3
baz=33
F28A **McLaughlin** 32.80 328 ⇓P P 02 44 25.4 +1.3
baz=33
J25A **Sunshine Ranch** 32.82 322 ⇓P P 02 44 23.7 -0.7
baz=33
M23A **Laramie** 32.89 318 ⇓P P 02 44 25.0 -0.2
baz=33
X18A **Snowflake** 32.99 303 ⇓P P 02 44 26.8 +0.7
baz=33
W18A **Petrified Fore** 33.00 305 ⇑P P 02 44 26.9 +0.8
baz=33
H26A **Fairpoint** 33.01 325 ⇑P P 02 44 27.0 +1.0
baz=33
N22A **Wattenberg Ran** 33.01 316 ⇓P P 02 44 27.2 +0.9
baz=33,SNR=8.1
G27A **Dupree** 33.06 326 ⇓P P 02 44 27.1 +0.7
baz=33,SNR=12
I25A **Rochford** 33.16 323 ⇑P P 02 44 27.9 +0.5
baz=33,SNR=6.0
L23A **Garrett** 33.23 319 ⇑P P 02 44 28.7 +0.6
baz=33
G26A **Maurine** 33.35 326 ⇓P P 02 44 29.1 +0.2
baz=33,SNR=8.8
F27A **Lemmon** 33.44 327 ⇓P P 02 44 30.5 +0.9
baz=33,SNR=6.3
K23A **Bowen Ranch, D** 33.53 320 ⇑P P 02 44 31.2 +0.6
baz=34
I24A **Kuemmerle Ranc** 33.58 322 ⇓P P 02 44 32.0 +1.0
baz=34
E27A **Carson** 33.59 328 ⇑P P 02 44 32.0 +1.0
baz=34
B30A **Myrvik Farm, E** 33.59 333 ⇓P P 02 44 32.1 +1.1
baz=34
G25A **Newell** 33.73 325 ⇓P P 02 44 33.0 +0.8
baz=34
F26A **Lodgepole** 33.76 326 ⇓P P 02 44 33.3 +0.8
baz=34
O20A **White River Ci** 33.88 314 ⇑P P 02 44 35.2 +1.4
baz=34
A30A **Hoffart Farm,** 33.96 334 ⇓P P 02 44 34.9 +0.8
baz=34
K22A **Casper** 34.03 319 ⇓P P 02 44 35.1 +0.2
baz=34
K22A **Casper** 34.03 319 *eP* P 02 44 35.7 +0.8
comp=Z,9.2nm,1.1s
H24A **Dirks Ranch, A** 34.07 323 ⇓P P 02 44 35.5 +0.2
baz=34
ULM **Lac du Bonnet** 34.09 338 *eP* P 02 44 35.4 +0.3
ULM pmax pmax
comp=Z,6.0nm,0.8s
ULM **Lac du Bonnet** 34.09 338 P P 02 44 34.0 -1.2
comp=Z,5.4nm,0.7s,baz=154,slow=9.3,SNR=15
ULM LR LR 02 58 39.8
comp=Z,320nm,20.1s,baz=172,slow=37
ULM **Lac du Bonnet** 34.09 338 *eP* P 02 44 35.4 +0.3
comp=Z,6.1nm,0.8s
X16A **Lo Mia Camp, P** 34.13 303 ⇓P P 02 44 38.2 +2.2
baz=34,SNR=8.8
F25A **Bowman** 34.22 326 ⇓P P 02 44 37.0 +0.5
baz=34
N20A **Spence Gulch,** 34.23 315 ⇑P P 02 44 38.4 +1.6
baz=34
A29A **Manning Farm,** 34.34 333 ⇓P P 02 44 38.3 +0.9
baz=34
WUAZ **Wupatki** 34.40 304 ⇓P P 02 44 40.1 +1.9
baz=34,SNR=6.5
WUAZ **Wupatki** 34.40 304 *eP* P 02 44 39.9 +1.6
comp=Z,17nm,0.9s
J22A **Midwest** 34.42 320 ⇑P P 02 44 38.8 +0.4
baz=34,SNR=5.9
K21A **Alcova** 34.47 318 ⇓P P 02 44 39.7 +0.8
baz=34
214A **Organ Pipe Nat** 34.66 298 ⇓P P 02 44 41.9 +1.5
baz=35
I22A **9 Mile Ranch,** 34.69 321 ⇓P P 02 44 41.1 +0.5
baz=35
J21A **Lysite** 34.97 319 ⇓P P 02 44 43.5 +0.4
baz=35,SNR=10
I21A **Big Trails, Te** 35.13 320 ⇑P P 02 44 44.7 +0.2
baz=35,SNR=6.5
F23A **Volborg** 35.15 324 ⇑P P 02 44 44.4 -0.1
baz=35
G22A **Birney** 35.34 323 ⇑P P 02 44 46.9 +0.7
baz=35
U15A **North Rim** 35.39 306 ⇓P P 02 44 48.8 +1.8
baz=35,SNR=8.4

H21A **Big Horn, Sher** 35.44 321 ⇓P P 02 44 47.3 +0.2
baz=35
D24A **Glendive** 35.45 327 ⇓P P 02 44 47.8 +0.7
baz=35
F22A **Rosebud** 35.66 324 ⇓P P 02 44 49.2 +0.3
baz=36
I20A **Worland** 35.71 320 ⇓P P 02 44 49.9 +0.4
baz=36
SCHQ **Schefferville** 35.80 10 P P 02 44 48.9 -1.0
comp=Z,2.4nm,0.6s,baz=199,slow=8.1,SNR=7.5
SCHQ PcP PcP 02 47 17.9 +0.9
comp=Z,1.7nm,0.5s,baz=194,slow=4.1,SNR=4.4
SCHQ LR LR 02 59 26.9
comp=Z,240nm,19.9s,baz=142,slow=36
SCHQ **Schefferville** 35.80 10 *eP* P 02 44 49.8 -0.1
comp=Z,124nm,2.6s
SCHQ *ePcP* PcP 02 47 18.1 +1.0
G21A **Lodge Grass** 35.87 322 ⇓P P 02 44 51.0 +0.3
baz=36,SNR=6.0
E22A **Miles City** 35.89 325 ⇓P P 02 44 50.8 0.0
baz=36
J19A **Crowheart** 35.93 318 ⇓P P 02 44 51.8 +0.5
baz=36,SNR=8.5
KNB **Kanab** 35.98 306 *eP* P 02 44 53.2 +1.3
KNB pmax pmax
comp=Z,15nm,1.1s
KNB **Kanab** 35.98 306 *eP* P 02 44 53.2 +1.3
comp=Z,15nm,1.1s
BW06 **Boulder Array** 36.00 317 *eP* P 02 44 51.6 -0.5
comp=Z,59nm,2.8s
PD31 **Pinedale Array** 36.00 317 *eP* P 02 44 51.4 -0.7
PD31 *ePcP* PcP 02 47 18.8 +0.6
PDAR **Pinedale Array** 36.00 317 P P 02 44 51.4 -0.7
comp=Z,2.0nm,0.7s,baz=121,slow=10,SNR=16
PDAR PcP PcP 02 47 18.8 +0.6
comp=Z,0.7nm,0.8s,baz=111,slow=7.0,SNR=4.6
PDAR LR LR 03 01 22.0
comp=Z,226nm,18.8s,baz=116,slow=39
MVU **Marysvale** 36.03 309 *eP* P 02 44 54.3 +2.0
comp=Z,15nm,1.5s
DAU **Daniels Canyon** 36.08 312 *eP* P 02 44 54.0 +1.1
DAU **Daniels Canyon** 36.08 312 *eP* P 02 44 54.0 +1.1
W13A **Hualapai Mount** 36.25 303 ⇓P P 02 44 55.9 +1.6
baz=36,SNR=6.4
I19A **Meeteetse** 36.29 319 ⇓P P 02 44 55.2 +0.7
baz=36,SNR=7.2
C23A **Lambert** 36.34 327 ⇓P P 02 44 55.1 +0.4
baz=36
D22A **Cohagen** 36.45 325 ⇓P P 02 44 56.4 +0.8
baz=36,SNR=8.1
G20A **Bridger** 36.46 321 ⇑P P 02 44 55.6 -0.2
baz=36
NLU **North Lily Min** 36.47 311 *eP* P 02 44 57.8 +1.7
comp=Z,11nm,1.2s
CCUT **Cedar City** 36.56 307 *eP* P 02 44 58.5 +1.7
comp=Z,5.8nm,1.1s
H19A **Powell** 36.62 320 ⇑P P 02 44 58.1 +0.9
baz=37
C22A **Vida** 36.67 326 ⇓P P 02 44 58.6 +1.1
baz=37
ARUT **Antelope Range** 36.69 307 *eP* P 02 44 59.8 +1.8
ARUT **Antelope Range** 36.69 307 *eP* P 02 44 59.8 +1.8
F20A **Billings** 36.74 322 ⇑P P 02 44 58.8 +0.6
baz=37
LPAZ **La Paz** 36.76 166 *eP* P 02 44 59.5 +0.4
LPAZ pmax pmax
comp=Z,21nm,1.4s
LPAZ **La Paz** 36.76 166 P P 02 44 59.7 +0.6
comp=Z,1.8nm,0.6s,baz=351,slow=8.5,SNR=7.5
LPAZ LR LR 03 02 54.4
comp=Z,255nm,18.0s,baz=339,slow=41
LPAZ **La Paz** 36.76 166 *eP* P 02 44 59.5 +0.4
comp=Z,21nm,1.4s
HWUT **Hardware Ranch** 36.80 314 *eP* P 02 44 59.0 +0.2
comp=Z,7.4nm,1.0s
RLMT **Red Lodge** 37.03 321 *eP* P 02 45 00.0 -0.7
comp=Z,11nm,1.0s
H18A **Shoshone NF, C** 37.03 320 ⇓P P 02 45 00.8 -0.1
baz=37,SNR=9.8
IRM **Iron Mountain** 37.04 301 ⇑P P 02 45 02.3 +1.5
baz=37
LOHW **Long Hollow** 37.08 318 *eP* P 02 45 00.2 -1.0
comp=Z,6.9nm,0.9s
DUG **Dugway, Tooele** 37.09 311 *eP* P 02 45 02.5 +1.3
DUG pmax pmax
comp=Z,14nm,1.0s
DUG **Dugway, Tooele** 37.09 311 ⇑P P 02 45 02.2 +1.0
baz=37,SNR=9.8
DUG **Dugway, Tooele** 37.09 311 *eP* P 02 45 02.5 +1.3
comp=Z,14nm,1.0s
SNOW **Snow King Moun** 37.11 317 *eP* P 02 45 02.5 +1.0
comp=Z,7.8nm,0.9s
REDW **Red Top Meadow** 37.12 317 *eP* P 02 45 01.5 -0.1
comp=Z,22nm,1.0s
E20A **Meyer Farm, Mu** 37.14 323 ⇓P P 02 45 01.9 +0.4
baz=37,SNR=8.5
BC3 **Big Chuckawall** 37.18 300 ⇓P P 02 45 02.6 +0.5
baz=37
I17A **Pilgrim Ck.** 37.22 318 ⇑P P 02 45 03.4 +1.0
baz=37
F19A **Roth Farm, Mol** 37.24 322 ⇓P P 02 45 02.5 +0.1
baz=37,SNR=6.7
TPAW **Teton Pass** 37.25 317 *eP* P 02 45 01.4 -1.4
comp=Z,78nm,2.5s
FXWY **Fox Creek** 37.37 317 *eP* P 02 45 03.9 +0.2
comp=Z,6.0nm,0.8s
YUH **Yuha Desert** 37.37 298 *eP* P 02 45 00.5 -3.1
FLWY **Flagg Ranch** 37.37 318 *eP* P 02 45 04.1 +0.4
comp=Z,14nm,1.2s
IMW **Indian Meadow** 37.43 318 *eP* P 02 45 05.2 +0.8
comp=Z,7.2nm,0.8s
H17A **Grant Village** 37.45 319 ⇓P P 02 45 05.6 +1.2
baz=37
H17A **Grant Village** 37.45 319 *eP* P 02 45 05.4 +1.0
comp=Z,6.7nm,1.1s
D20A **Manuel Ranch,** 37.48 324 ⇓P P 02 45 05.1 +0.7
baz=38
E19A **Rath Farm, Rou** 37.48 323 ⇑P P 02 45 05.0 +0.5
baz=38,SNR=9.3
A22A **Carney Farms,** 37.49 328 ⇑P P 02 45 05.6 +1.1
baz=38
BGU **Big Grassy Mou** 37.52 312 *eP* P 02 45 04.6 -0.4
comp=Z,4.5nm,1.1s
GMRC **Granite Mounta** 37.59 302 ⇓P P 02 45 07.2 +1.7
baz=38
SHPR **Sheep Range** 37.62 305 *eP* P 02 45 08.1 +2.2
GCMT **Greycliff** 37.62 321 *eP* P 02 45 06.6 +0.9
HVU **Hansel Valley** 37.69 314 *eP* P 02 45 05.2 -1.2
HVU pmax pmax
comp=Z,4.0nm,0.8s
HVU **Hansel Valley** 37.69 314 *eP* P 02 45 05.2 -1.2
comp=Z,4.1nm,0.8s
C20A **Veseth Ranch,** 37.78 325 ⇑P P 02 45 08.2 +1.3
baz=38
BORC **Borrego Spring** 37.89 299 *eP* P 02 45 07.3 -0.7
BORC *ePcP* PcP 02 47 21.4 -2.4
BORC *eScS* ScS 02 55 19.4 +1.1
D19A **Cripps Ranch,** 37.94 324 ⇓P P 02 45 09.1 +0.8
baz=38,SNR=9.2
QLMT **Earthquake Lak** 38.20 319 *eP* P 02 45 12.6 +1.9
C19A **Slack Wire Ran** 38.36 324 ⇑P P 02 45 12.7 +0.9
baz=38
A20A **Cobblestone Ra** 38.44 326 ⇓P P 02 45 13.2 +0.7
baz=38,SNR=7.4
R11A **Troy Canyon, C** 38.48 307 ⇓P P 02 45 15.0 +1.9
baz=38
R11A **Troy Canyon, C** 38.48 307 *eP* P 02 45 14.3 +1.3
comp=Z,6.6nm,1.3s
BBRC **Big Bear Solar** 38.50 300 *eP* P 02 45 15.2 +1.9
TPNV **Topopah Spring** 38.59 305 *eP* P 02 45 16.6 +2.6
TPNV pmax pmax
comp=Z,87nm,2.7s
TPNV **Topopah Spring** 38.59 305 ⇓P P 02 45 16.3 +2.3
baz=38
TPNV **Topopah Spring** 38.59 305 *eP* P 02 45 16.6 +2.6
comp=Z,87nm,2.7s
GSC **Goldstone, Bar** 38.62 302 ⇑P P 02 45 15.8 +1.6
baz=38
SIV **San Ignacio** 38.64 156 P P 02 45 15.1 +0.7
comp=Z,6.5nm,0.9s,baz=350,slow=9.8,SNR=9.7
B19A **Brinkman Farms** 38.73 325 ⇓P P 02 45 15.6 +0.7
baz=39
BOZ **Bozeman (W)** 38.73 320 *eP* P 02 45 15.5 +0.5
BOZ pmax pmax
comp=Z,46nm,2.3s
BOZ **Bozeman (W)** 38.73 320 *eP* P 02 45 15.5 +0.5
comp=Z,46nm,2.3s

A19A **Klindworth Far** 38.90 326 ⇓P P 02 45 17.0 +0.7
baz=39
EGMT **Eagleton** 38.91 324 ⇑P P 02 45 16.6 +0.1
baz=39,SNR=7.5
EGMT **Eagleton** 38.91 324 *eP* P 02 45 16.2 -0.3
comp=Z,8.2nm,0.8s
ELK **Elko** 39.01 311 *eP* P 02 45 17.7 +0.1
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK **Elko** 39.01 311 LR LR 03 02 08.1
comp=Z,77nm,21.2s,baz=352,slow=38
ELK **Elko** 39.01 311 *eP* P 02 45 17.7 +0.1
comp=Z,4.1nm,1.0s
MCMT **McKenzie Canyo** 39.08 318 *eP* P 02 45 19.4 +1.3
DLMT **Dillon** 39.18 319 *eP* P 02 45 20.2 +1.4
comp=Z,21nm,1.5s
EDW2 **Edwards Air Fo** 39.48 301 ⇑P P 02 45 23.0 +1.6
baz=39
HLID **Hailey** 39.53 316 ⇓P P 02 45 22.4 +0.6
baz=40,SNR=9.7
HLID **Hailey** 39.53 316 *eP* P 02 45 22.4 +0.6
comp=Z,7.5nm,1.1s
TPH **Tonopah** 39.63 306 *eP* P 02 45 24.7 +1.9
TPH pmax pmax
comp=Z,8.0nm,1.0s
TPH **Tonopah** 39.63 306 *eP* P 02 45 24.7 +1.9
comp=Z,8.2nm,1.0s
FFC **Flin Flon** 39.91 337 *eP* P 02 45 25.0 +0.5
FFC pmax pmax
comp=Z,63nm,2.5s
FFC **Flin Flon** 39.91 337 *eP* P 02 45 25.0 +0.5
comp=Z,63nm,2.5s
BMN **Battle Mountai** 40.33 310 *eP* P 02 45 29.2 +0.7
BMN pmax pmax
comp=Z,5.0nm,0.6s
BMN **Battle Mountai** 40.33 310 *eP* P 02 45 29.1 +0.7
comp=Z,5.4nm,0.6s
CHMT **Chamberlain Mo** 40.33 321 *eP* P 02 45 28.3 -0.2
MFID **Camas Ranch** 40.41 315 *eP* P 02 45 27.6 -1.5
comp=Z,7.1nm,1.1s
NV01 **Mina Array Sit** 40.55 306 *eP* P 02 45 30.4 0.0
NVAR **Mina Array Bea** 40.55 306 P P 02 45 30.4 0.0
comp=Z,3.7nm,0.8s,baz=106,slow=6.5,SNR=23
SLMT **Seeley Lake** 40.64 321 *eP* P 02 45 31.6 +0.7
SLMT *ePcP* PcP 02 47 34.0 +1.6
FCC **Fort Churchill** 40.99 346 *eP* P 02 45 32.4 -1.0
FCC pmax pmax
comp=Z,2μm,2.6s
FCC **Fort Churchill** 40.99 346 *eP* P 02 45 32.4 -1.0
comp=Z,2μm,2.6s
SWMT **Swartz Lake** 41.07 321 *eP* P 02 45 35.4 +0.9
BSMT **Bassoo Peak** 41.70 321 *eP* P 02 45 41.2 +1.5
BMO **Blue Mountains** 41.95 316 *eP* P 02 45 40.3 -1.4
BMO pmax pmax
comp=Z,15nm,1.8s
BMO **Blue Mountains** 41.95 316 *eP* P 02 45 40.3 -1.4
comp=Z,15nm,1.8s
WVOR **Wild Horse Val** 41.98 312 *eP* P 02 45 42.2 +0.2
WVOR pmax pmax
comp=Z,46nm,2.1s
WVOR **Wild Horse Val** 41.98 312 *eP* P 02 45 42.2 +0.2
comp=Z,46nm,2.1s
F10A **Beach Ranch, E** 42.36 318 *eP* P 02 45 44.3 -0.6
comp=Z,90nm,2.7s
E09A **Wood Farm, Sta** 43.16 318 *eP* P 02 45 51.8 +0.4
comp=Z,10nm,1.0s
G08A **Pilot Rock** 43.20 316 *eP* P 02 45 51.7 -0.2
comp=Z,8.8nm,1.2s
NEW **Newport** 43.28 321 *eP* P 02 45 52.5 +0.2
NEW pmax pmax
comp=Z,72nm,2.5s
NEW **Newport** 43.28 321 ⇑P P 02 45 52.9 +0.5
baz=43
NEW **Newport** 43.28 321 *eP* P 02 45 52.5 +0.2
comp=Z,72nm,2.5s
C09A **Chrisman Ranch** 43.77 320 *eP* P 02 45 57.5 +1.2
comp=Z,16nm,1.3s
J05D **Fort Rock, OR** 44.06 312 ⇑P P 02 45 59.3 +0.5
baz=44
FRB **Frobisher Bay** 44.30 5 LR LR 03 05 32.9
comp=Z,136nm,18.5s,baz=190,slow=38
B08A **Colville Reser** 44.65 320 *eP* P 02 46 03.7 +0.4
comp=Z,14nm,1.3s
J04D **Umpqua Nationa** 44.66 312 ⇓P P 02 46 05.3 +1.6
baz=45
YBH **Yreka Blue Hor** 44.67 310 LR LR 03 07 13.5
comp=Z,92nm,18.9s,baz=100,slow=40
BDFB **Brasilia** 45.00 139 P P 02 46 06.6 +0.1
comp=Z,4.5nm,0.8s,baz=307,slow=8.7,SNR=5.4
BDFB LR LR 03 05 15.2
comp=Z,94nm,19.0s,baz=300,slow=36
I04A **Tendick Farm,** 45.03 313 ⇑P P 02 46 07.2 +0.7
baz=45
LTY **Liberty** 45.04 318 *eP* P 02 46 06.8 +0.3
comp=Z,12nm,1.2s
H04A **Detroit Lake** 45.15 314 *eP* P 02 46 08.6 +1.3
comp=Z,22nm,1.3s
L02D **Cave Junction,** 45.42 310 ⇑P P 02 46 10.5 +1.0
baz=45
RCBR **Riachuelo** 47.39 118 LR LR 03 09 07.7
comp=Z,86nm,18.7s,baz=282,slow=40
YKA **Yellowknife Ar** 50.07 338 P P 02 46 45.3 +0.2
comp=Z,1.9nm,0.7s,baz=130,slow=8.8,SNR=56
YKA PcP PcP 02 48 04.1 -0.4
comp=Z,0.8nm,0.7s,baz=128,slow=3.5,SNR=6.1
YKB5 **Yellowknife Ar** 50.07 338 *eP* P 02 46 45.4 +0.2
YKB5 *ePcP* PcP 02 48 04.1 -0.4
BBB **Bella Bella** 51.30 322 LR LR 03 11 01.0
comp=Z,183nm,18.8s,baz=111,slow=39
CFAA **Coronel Fontan** 51.68 171 P P 02 46 59.3 +1.6
comp=Z,1.3nm,0.6s,baz=331,slow=19,SNR=7.5
DLBC **Dease Lake** 54.51 329 LR LR 03 12 46.5
comp=Z,209nm,20.3s,baz=108,slow=38
DLBC **Dease Lake** 54.51 329 *eP* P 02 47 19.8 +1.5
RES **Resolute Bay** 55.84 354 *eP* P 02 47 27.2 -0.4
RES pmax pmax
comp=Z,7.0nm,1.3s
RES **Resolute Bay** 55.84 354 P P 02 47 26.8 -0.8
comp=Z,3.6nm,0.8s,baz=174,slow=10,SNR=20
RES LR LR 03 12 34.0
comp=Z,242nm,18.8s,baz=240,slow=37
RES **Resolute Bay** 55.84 354 *eP* P 02 47 27.2 -0.4
comp=Z,7.4nm,1.3s
SUMG **Summit** 57.07 13 *eP* P 02 47 37.4 +0.5
SUMG pmax pmax
comp=Z,185nm,3.0s
SUMG **Summit** 57.07 13 *eP* P 02 47 37.4 +0.5
comp=Z,185nm,3.0s
SUMG **Summit** 57.07 13 *i* P P 02 47 37.7 +0.8
comp=Z,6.6nm,0.9s
HYT **Haines Junctio** 58.87 330 *eP* P 02 47 50.9 +1.5
INK **Inuvik** 59.82 339 *eP* P 02 47 56.3 +0.7
INK pmax pmax
comp=Z,20nm,1.8s
INK **Inuvik** 59.82 339 P P 02 47 54.1 -1.4
comp=Z,0.6nm,0.3s,baz=99,slow=7.3,SNR=5.0
INK **Inuvik** 59.82 339 *eP* P 02 47 56.3 +0.7
comp=Z,20nm,1.8s
PLCA **Paso Flores** 60.43 175 *eP* P 02 48 00.2 +0.1
PLCA pmax pmax
comp=Z,27nm,0.9s
PLCA **Paso Flores** 60.43 175 P P 02 48 00.8 +0.7
comp=Z,2.9nm,0.7s,baz=349,slow=7.5,SNR=7.6
PLCA LR LR 03 13 57.2
comp=Z,44nm,20.1s,baz=37,slow=36
PLCA **Paso Flores** 60.43 175 *eP* P 02 48 00.2 +0.1
comp=Z,27nm,0.9s
ILAR **Eielson Array** 63.94 333 P P 02 48 22.4 -0.9
comp=Z,1.3nm,0.8s,baz=105,slow=4.6,SNR=15
ILAR LR LR 03 16 59.0
comp=Z,142nm,20.4s,baz=100,slow=37
ILB **Eielson Array** 63.94 333 *eP* P 02 48 22.4 -0.9
COLA **College** 64.36 333 *eP* P 02 48 27.2 +1.1
COLA pmax pmax
comp=Z,15nm,1.0s
ESDC **Sonseca Array** 64.47 55 P P 02 48 26.5 -0.9
comp=Z,1.9nm,0.9s,baz=270,slow=6.8,SNR=8.8
MDT **Midelt** 64.72 62 LR LR 03 10 17.9
comp=Z,129nm,21.4s,slow=30
KTH **Kantishna Hill** 65.54 332 *eP* P 02 48 35.0 +1.0
comp=Z,9.3nm,0.9s
COLD **Coldfoot** 65.63 336 *eP* P 02 48 35.7 +1.4
comp=Z,5.4nm,0.9s
EPF **Esparros** 67.36 51 *eP* P 02 48 43.9 -2.0
comp=Z,23nm,1.2s
LFF **La Frestale** 67.45 49 *eP* P 02 48 44.3 -2.0
LFF **La Frestale** 67.45 49 *eP* P 02 48 44.3 -2.0

LFF	La Frestale	67.45	49	*e*P		P	02 48 44.3	-2.0
TCF	Toulx Ste Croi	68.33	47	*e*P		P	02 48 49.5	-2.4
	comp=Z,42nm,1.5s							
AVF	Avril sur Loir	69.06	46	*e*P		P	02 48 54.0	-2.4
	comp=Z,17nm,1.2s							
SSF	Saint Saulge	69.13	46	*e*P		P	02 48 54.3	-2.6
	comp=Z,45nm,1.5s							
SSF	Saint Saulge	69.13	46	*e*P		P	02 48 54.3	-2.6
SSF	Saint Saulge	69.13	46	*e*P		P	02 48 54.3	-2.6
BAIF	Baives	69.25	43	*e*P		P	02 48 55.0	-2.5
LOR	Lormes	69.34	46	*e*P		P	02 48 55.6	-2.6
	comp=Z,38nm,1.4s							
LOR				*e*R				
	comp=Z,166nm,19.2s							
LOR	Lormes	69.34	46	*e*P		P	02 48 55.6	-2.6
LOR	Lormes	69.34	46	*e*P		P	02 48 55.6	-2.6
SMF	Signal de Mont	69.41	47	*e*P		P	02 48 56.1	-2.5
	comp=Z,24nm,1.1s							
SMF	Signal de Mont	69.41	47	*e*P		P	02 48 56.1	-2.5
SMF	Signal de Mont	69.41	47	*e*P		P	02 48 56.1	-2.5
MEZF	Maizieres J'vi	69.99	44	*e*P		P	02 49 00.2	-1.9
SFTF	Sexfontaines	70.02	45	*e*P		P	02 48 59.9	-2.4
	comp=Z,44nm,1.3s							
PAGF	Fort de Pagny	70.42	44	*e*P		P	02 49 02.3	-2.5
	comp=Z,5.9nm,1.1s							
DBIC	Dimbokro	70.58	90	P		P	02 49 06.0	-0.3
	comp=Z,3.9nm,0.9s,baz=224,slow=10,SNR=3.3							
HAU	Haudompre	70.91	45	*e*P		P	02 49 05.5	-2.3
	comp=Z,11nm,1.0s							
HAU				*e*R				
	comp=Z,145nm,22.5s							
ORIF	Oris-en-Rattie	71.07	48	*e*P		P	02 49 06.4	-2.5
ORIF				*e*R				
	comp=Z,185nm,23.0s							
LPL	La Plagne	71.56	47	*e*P		P	02 49 10.1	-2.0
	comp=Z,21nm,1.4s							
LPL	La Plagne	71.56	47	*e*P		P	02 49 10.1	-2.0
LPL	La Plagne	71.56	47	*e*P		P	02 49 10.1	-2.0
MBDF	Montbardon	71.72	48	*e*P		P	02 49 11.2	-1.8
	comp=Z,18nm,1.3s							
NB2	NORSAR Subarra	71.86	31	P		P	02 49 14.8	+1.5
	comp=Z,9.6nm,1.0s,baz=280,slow=6.2							
NB200	NORSAR Array S	71.86	31	*e*P		P	02 49 13.7	+0.4
NOA	NORSAR Array B	71.86	31	P		P	02 49 13.7	+0.4
	comp=Z,5.1nm,1.0s,baz=280,slow=6.1,SNR=4.3							
NOA				LR		LR	03 19 12.8	
	comp=Z,26nm,18.4s,baz=300,slow=35							
RETA	Reutte	73.94	45⇑	*i*P		P	02 49 27.8	+1.9
	comp=Z,12nm,1.3s							
FETA	Feichten	74.01	45⇑	*i*P		P	02 49 26.6	+0.1
	comp=Z,9.2nm,1.3s							
TOA0	Torodi Ar. Sit	74.77	81	*e*P		P	02 49 31.4	+0.2
TORD	Torodi Ar. Bea	74.77	81	P		P	02 49 31.4	+0.2
	comp=Z,5.1nm,0.9s,baz=292,slow=5.5,SNR=28							
TORD				LR		LR	03 19 48.9	
	comp=Z,80nm,18.6s,baz=280,slow=34							
BRG	Berggiesshubel	75.25	41	*e*P		P	02 49 35.2	+1.8
	comp=Z,10nm,1.4s							
BRG	Berggiesshubel	75.25	41	*e*P		P	02 49 35.2	+1.8
BRG				pmax		pmax		
	comp=Z,11nm,1.4s							
KHC	Kasperske Hory	75.42	43	*e*P		P	02 49 34.6	+0.2
KHC				*e*			02 49 43.3	
KHC				*e*			02 49 48.3	
KHC	Kasperske Hory	75.42	43	*e*P		P	02 49 34.6	+0.2
KHC				*e*pP		pP	02 49 43.3	-1.3
KHC				*e*PCP		PcP	02 49 48.3	+0.8
KEST	Kesra	75.52	57	P		P	02 49 36.3	+1.0
	comp=Z,2.8nm,0.9s,baz=232,slow=7.6,SNR=6.1							
KEST				LR		LR	03 19 05.1	
	comp=Z,18nm,19.6s,baz=278,slow=33							
KEST	Kesra	75.52	57	*e*P		P	02 49 35.1	-0.2
GEC2	GERESS Array S	75.56	43	*e*P		P	02 49 35.8	+0.5
GEC2	GERESS Array S	75.56	43	*e*P		P	02 49 35.8	+0.5
GERES	GERESS Array B	75.56	43	P		P	02 49 35.8	+0.5
	comp=Z,1.0nm,0.8s,baz=294,slow=4.2,SNR=10							
GERES				LR		LR	03 19 06.7	
	comp=Z,93nm,19.7s,baz=274,slow=33							
PVCC	Panska Ves	75.71	41	*e*P		P	02 49 37.4	+1.4
PVCC	Panska Ves	75.71	41	*e*P		P	02 49 37.4	+1.4
ARA0	ARCESS Array S	75.81	21	*e*P		P	02 49 36.2	-0.1
ARCES	ARCESS Array B	75.81	21	P		P	02 49 36.2	-0.1
	comp=Z,4.4nm,0.9s,baz=296,slow=3.8,SNR=14							
ARCES				LR		LR	03 21 45.9	
	comp=Z,29nm,19.4s,baz=272,slow=35							
PRU	Pruhonice	75.82	42	*e*P		P	02 49 37.2	+0.5
PRU				*e*			02 49 46.7	
PRU	Pruhonice	75.82	42	*e*P		P	02 49 37.2	+0.5
PRU				*ex*		x	02 49 46.7	
TREC	Trest	76.59	42	*e*P		P	02 49 41.5	+0.4
TREC	Trest	76.59	42	*e*P		P	02 49 41.5	+0.4
DPC	Dobruska-Polom	76.84	41	*e*P		P	02 49 43.4	+0.9
DPC				*e*			02 49 57.0	
DPC	Dobruska-Polom	76.84	41	*e*P		P	02 49 43.4	+0.9
DPC				*e*PCP		PcP	02 49 57.0	+3.3
KRLC	Kraliky	77.20	41	*e*P		P	02 49 46.3	+1.7
KRLC				*e*			02 49 54.4	
KRLC	Kraliky	77.20	41	*e*P		P	02 49 46.3	+1.7
KRLC				*e*pP		pP	02 49 54.4	-0.4
KRLC				*ex*		x	02 50 00.8	
MORC	Moravsky Berou	77.75	41	⇑P		P	02 50 02.3	+15
MORC	Moravsky Berou	77.75	41	⇑P		P	02 50 02.3	+15
FIA0	FINESS Array S	78.72	29	*e*P		P	02 49 53.4	+0.7
FIA0	FINESS Array S	78.72	29	*e*P		P	02 49 53.4	+0.7
FINES	FINESS Array B	78.72	29	P		P	02 49 53.4	+0.7
	comp=Z,2.7nm,0.6s,baz=262,slow=5.0,SNR=16							
FINES				LR		LR	03 19 42.7	
	comp=Z,68nm,21.8s,baz=273,slow=32							
VYHS	Vyhne	78.94	42	*e*P		P	02 49 55.6	+1.4
VYHS	Vyhne	78.94	42	*e*P		P	02 49 55.6	+1.4
LVZ	Lovozero	79.52	21⇑	*i*P		P	02 49 58.2	+1.2
LVZ				pmax		pmax		
	comp=Z,54nm,2.5s							
VSU	Vasula	80.10	31	*e*P		P	02 50 00.8	+0.6
VSU				pmax		pmax		
	comp=Z,32nm,1.1s							
STHS	Stebnicka Huta	80.16	41	*e*P		P	02 50 03.3	+2.5
STHS	Stebnicka Huta	80.16	41	*e*P		P	02 50 03.3	+2.5
JOF	Joensuu	80.42	26	*e*P		P	02 50 04.0	+2.1
JOF	Joensuu	80.42	26	*e*p		P	02 50 04.0	+2.1
	comp=Z,0.3nm,0.4s							
CRVS	Cervenica-Dubn	80.46	41	*e*P		P	02 50 05.1	+2.7
CRVS	Cervenica-Dubn	80.46	41	*e*P		P	02 50 05.1	+2.7
KOLS	Kolonicke sedl	80.96	41	*e*P		P	02 50 07.9	+2.8
KOLS	Kolonicke sedl	80.96	41	*e*P		P	02 50 07.9	+2.8
KWP	Kalwaria Pacla	80.99	41	⇓P		P	02 50 07.7	+2.4
KWP	Kalwaria Pacla	80.99	41	⇓*i*P		P	02 50 07.7	+2.4
TRPA	Tarpa	81.39	42	⇓*i*P		P	02 50 23.0	+16
BILL	Bilibino	81.40	340	⇓*e*P		P	02 50 08.0	+0.9
BILL				pmax		pmax		
	comp=Z,8.0nm,1.1s							
BILL	Bilibino	81.40	340	*e*P		P	02 50 07.9	+0.9
	comp=Z,9.6nm,1.2s							
BZS	Buzias	81.65	45	⇑P		P	02 50 11.3	+2.5
BZS	Buzias	81.65	45	⇑*i*P		P	02 50 11.3	+2.5
DRGR		81.96	43	⇑P		P	02 50 12.3	+1.8
DRGR		81.96	43	⇑*i*P		P	02 50 12.3	+1.8
GZR	Gura Zlata	82.49	45	⇑P		P	02 50 14.9	+1.6
GZR	Gura Zlata	82.49	45	⇑*i*P		P	02 50 14.9	+1.6
ARR	Arges	83.72	44	⇑*i*P		P	02 50 21.7	+2.0
VTS	Vitosha	83.77	47	⇓P		P	02 50 22.1	+2.0
VTS	Vitosha	83.77	47	⇓*i*P		P	02 50 22.1	+2.0
VOIR		83.97	44	⇑P		P	02 50 22.6	+1.6
VOIR		83.97	44	⇑*i*P		P	02 50 22.6	+1.6
AKASG	Malin Array Be	84.47	38	*ce*P		P	02 50 23.8	+0.5
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKASG	Malin Array Be	84.47	38	P		P	02 50 22.8	-0.5
	comp=Z,0.5nm,0.5s,baz=291,slow=3.7,SNR=6.1							
AKASG				LR		LR	03 23 44.1	
	comp=Z,35nm,21.3s,baz=315,slow=33							
AKBB	Malin Array Si	84.47	38	*e*P		P	02 50 22.8	-0.5
AKBB	Malin Array Si	84.47	38	*e*P		P	02 50 22.8	-0.5
MLR	Muntele Rosu	84.53	44	⇓P		P	02 50 26.1	+2.2
MLR	Muntele Rosu	84.53	44	⇓*i*P		P	02 50 26.1	+2.2
PLOR	Plostina	84.85	43	⇑P		P	02 50 28.0	+2.6
PLOR	Plostina	84.85	43	⇑*i*P		P	02 50 28.0	+2.6
VRI	Vrincioaia	84.89	43	⇑P		P	02 50 28.3	+2.8
VRI	Vrincioaia	84.89	43	⇑*i*P		P	02 50 28.3	+2.8
CFR	Carcaliu	86.07	43	⇓P		P	02 50 31.3	-0.1
CFR	Carcaliu	86.07	43	⇓*i*P		P	02 50 31.3	-0.1
OBN	Obninsk	86.42	32	⇓*e*P		P	02 50 33.9	+1.0
OBN				pmax		pmax		
	comp=Z,27nm,1.7s							
OBN				MLR		MLR		
	comp=Z,72nm,17.0s							
PRGR	Permogore	86.82	24	P		P	02 50 33.8	-0.9
TIXI	Tiksi	87.18	352	*e*P		P	02 50 36.9	+0.6
TIXI				pmax		pmax		
	comp=Z,7.0nm,2.5s							
SEY	Seymchan	89.10	340	P		P	02 50 44.1	-1.5
	comp=Z,2.7nm,0.8s,baz=69,slow=8.6,SNR=4.7							
ANN	Anapa	92.11	41	*e*P		P	02 50 53.1	-6.8
ANN				pmax		pmax		
	comp=Z,45nm,1.3s							
BR101	Keskin Array S	92.12	46	*e*P		P	02 50 59.5	-0.8
BRTR	Keskin Array B	92.12	46	*ce*P		P	02 51 01.2	+0.9
BRTR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BRTR	Keskin Array B	92.12	46	P		P	02 50 59.5	-0.8
	comp=Z,2.1nm,1.0s,baz=328,slow=4.4,SNR=6.6							
BRTR				LR		LR	03 32 00.3	
	comp=Z,21nm,18.3s,baz=303,slow=35							
WMQ	Urumqi	115.11	13	*e*PKP		PKPdf	02 56 30.0	-2.0
WMQ				LN				
	comp=Z,470nm,30.1s							
WMQ				LE				
	comp=Z,200nm,15.0s							
WMQ				LZ				
	comp=Z,240nm,33.2s							
KSH	Kashi	115.69	23	*e*PKP		PKPdf	02 56 31.5	-1.8
KSH				PP		PP	02 57 38.9	+3.9
KSH				SKS		SKSdf	03 03 39.0	-4.3
KSH				SKKS		SKKSac	03 04 27.6	-7.7
KSH				LN				
	comp=Z,100nm,9.6s							
KSH				LE				
	comp=Z,67nm,5.1s							
KSH				LZ				
	comp=Z,110nm,7.7s							
HHC	Hu-ho-hao-te	119.24	353	*e*PKP		PKPdf	02 56 37.3	-2.7
HHC				PP		PP	02 58 01.3	+1.9
HHC				PKS		PKSdf	03 00 13.2	-3.6
HHC				SKS		SKSdf	03 03 46.6	-3.4
HHC				SS		SKKSdf	03 14 25.8	-7.2
HHC				PPMZ				
	comp=Z,56nm,9.9s							
HHC				LN				
	comp=Z,160nm,19.7s							
HHC				LE				
	comp=Z,270nm,21.0s							
CD2	Chengdu	129.63	360	PKP		PKPdf	02 57 00.0	-0.1
CMAR	Chiang Mai Arr	141.77	7	*c i*PKIKP		PKPdf	02 57 24.0	+1.1
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CMAR	Chiang Mai Arr	141.77	7	PKP		PKPdf	02 57 22.6	-0.4
	comp=Z,1.3nm,0.8s,baz=331,slow=3.3,SNR=6.7							
STKA	Stephens Creek	143.77	243	PKP		PKPdf	02 57 25.1	-1.0
	comp=Z,3.1nm,0.9s,baz=131,slow=3.0,SNR=4.6							
PALK	Pallekele	145.04	42	*i* PKIKP		PKPdf	02 57 30.1	+1.3
WRAB	Tennant Creek	150.94	264	*c i*PKIKP		PKPbc	02 57 42.0	-2.0
WRAB				pmax		pmax		
	comp=Z,36nm,1.0s							
WRA	Warramunga Arr	150.96	264	PKP		PKPdf	02 57 39.0	+0.6
	comp=Z,4.0nm,0.7s,baz=82,slow=2.1,SNR=12							
WRA				PKPbc		PKPbc	02 57 43.3	-0.7
	comp=Z,7.6nm,0.6s,baz=84,slow=2.4,SNR=28							
ASAR	Alice Springs	151.46	257	PKP		PKPdf	02 57 39.2	+0.2
	comp=Z,1.6nm,0.8s,baz=92,slow=1.8,SNR=12							
ASAR				PKPbc		PKPbc	02 57 44.8	-0.4
	comp=Z,7.0nm,0.9s,baz=98,slow=2.3,SNR=30							

IDC ***13*** *02:46:29.5±1.1,37.57N×21.90E,h0km,mb3.6/6, mb1 3.6/7,mb1mx3.4/46,mbtmp3.5/7,ML2.7/1,Error ellipse: s-maj=35.8km s-min=19.1km az=125.0*
IASPEI ***13*** *02:46:30.6±0.9,37.5N×0.0-×21.7E×0.0,h3km±6km, mb3.5/6,Error ellipse: s-maj=3.1km s-min=2.4km az=70.1*
ATH ***13*** *02:46:30.6,37.54N×21.79E,h5km±1km,MD3.1/12,ML3.1*
THE ***13*** *02:46:30.7,37.52N×21.75E,h0km±1km,ML3.4/11,Error ellipse: s-maj=1.2km s-min=0.4km az=228.0*
CSEM ***13*** *02:46:31.2±0.2,37.52N×21.76E,h2km,ML3.4,Error ellipse: s-maj=4.3km s-min=3.2km az=63.0*

ISC 13 02:46:30.6±0.8,37.53N±0.01×21.76E±0.01,h2km±6km, n198,σ1§39/257,mb3.5/6,7K-6D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
AMT	Artemida-Makis	0.04	272	P		Pg		02 46 31.5	-0.1		
AMT				S		Sg		02 46 32.2	+0.1		
AMT	Artemida-Makis	0.04	272	*e*PG		Pg		02 46 31.4	-0.1		
AMT				*e*SG		Sg		02 46 32.3	+0.1		
AMT	Artemida-Makis	0.04	272	P		Pg		02 46 31.5	-0.1		
AMT				*e*Sg		Sg		02 46 32.3	+0.1		
ITM	Ithomi	0.37	160	P		Pg		02 46 37.6	-0.2		
ITM	Ithomi	0.37	160	*e*PG		Pg		02 46 37.7	-0.1		
ITM				*e*SB		Sg		02 46 44.1	+1.5		
ITM	Ithomi	0.37	160	P		Pg		02 46 37.6	-0.2		
ITM				S		Sg		02 46 42.8	+0.2		
ITM				*e*Sb		Sg		02 46 44.1	+1.5		
DRO	Drossia	0.42	354	P		Pg		02 46 39.2	+0.5		
DRO	Drossia	0.42	354	*e*PB		Pg		02 46 39.1	+0.4		
DRO				*e*SB		Sg		02 46 46.0	+1.8		
DRO	Drossia	0.42	354	*e*Pb		Pg		02 46 39.1	+0.4		
DRO				S		Sg		02 46 45.3	+1.1		
DRO				*e*Sb		Sg		02 46 46.0	+1.8		
VLX	Vlachokerasia	0.52	108	P		Pg		02 46 40.7	+0.2		
VLX				S		Sg		02 46 48.6	+1.4		
VLX	Vlachokerasia	0.52	108	*e*PB		Pg		02 46 41.2	+0.7		
VLX				*e*SB		Sg		02 46 47.4	+0.2		
VLX	Vlachokerasia	0.52	108	P		Pg		02 46 40.7	+0.2		
VLX	Vlachokerasia	0.52	108	*e*Pb		Pg		02 46 41.2	+0.7		
VLX				*e*Sb		Sg		02 46 47.4	+0.2		
RLS	Riolos of Patr	0.58	336	P		Pg		02 46 41.4	-0.3		
RLS	Riolos of Patr	0.58	336	*e*PB		Pg		02 46 41.8	+0.1		
RLS				*e*SB		Sg		02 46 50.2	+1.0		
RLS	Riolos of Patr	0.58	336	P		Pg		02 46 41.4	-0.3		
RLS	Riolos of Patr	0.58	336	*e*Pb		Pg		02 46 41.8	+0.1		
RLS				*e*Sb		Sg		02 46 50.2	+1.0		
RLS				S		Sb		02 46 50.5	-1.6		
KLV	Kalavryta, Ach	0.60	31	P		Pg		02 46 42.2	+0.1		
KLV	Kalavryta, Ach	0.60	31	*e*PB		Pg		02 46 42.2	+0.1		
KLV				*e*SB		Sg		02 46 50.3	+0.5		
KLV	Kalavryta, Ach	0.60	31	P		Pg		02 46 42.2	+0.1		
KLV				*e*Sb		Sg		02 46 50.3	+0.5		
KLV				S		Sb		02 46 51.0	-1.7		
GUR	Goura	0.61	48	P		Pg		02 46 42.4	+0.1		
GUR				S		Sb		02 46 52.0	-1.2		
GUR	Goura	0.61	48	*e*PB		Pg		02 46 42.4	+0.1		
GUR				*e*SB		Sg		02 46 50.6	+0.3		
GUR	Goura	0.61	48	P		Pg		02 46 42.4	+0.1		
GUR				*e*Sb		Sg		02 46 50.6	+0.3		
GUR				S		Sb		02 46 52.0	-1.2		
PYL	PYLOS	0.63	182	P		Pg		02 46 41.8	-1.0		
PYL	PYLOS	0.63	182	*e*PB		Pg		02 46 43.2	+0.4		
PYL				*e*SB		Sg		02 46 52.3	+1.3		
PYL	PYLOS	0.63	182	P		Pg		02 46 41.8	-1.0		
PYL	PYLOS	0.63	182	*e*Pb		Pg		02 46 43.2	+0.4		
PYL				S		Sg		02 46 50.8	-0.2		
PYL				*e*Sb		Sg		02 46 52.3	+1.3		
SFD	Strofades	0.66	245	P		Pg		02 46 43.2	0.0		
SFD	Strofades	0.66	245	*e*PB		Pb		02 46 44.5	-0.3		
SFD	Strofades	0.66	245	P		Pg		02 46 43.2	0.0		
SFD	Strofades	0.66	245	*e*Pb		Pb		02 46 44.5	-0.3		
UPR	University Cam	0.75	1	P		Pg		02 46 45.8	+0.8		
EFP	Efpalio	0.90	7	P		Pg		02 46 47.8	-0.1		
EFP				S		Sb		02 47 01.3	-0.1		
EFP	Efpalio	0.90	7	*e*PB		Pg		02 46 47.9	0.0		
EFP	Efpalio	0.90	7	*e*Pb		Pg		02 46 47.9	0.0		
EFP				S		Sb		02 47 01.3	-0.1		
KALE	Kalithea	0.91	19	P		Pg		02 46 47.9	-0.1		
KALE				S		Sb		02 47 01.6	-0.1		
KALE	Kalithea	0.91	19	*e*PB		Pg		02 46 48.0	-0.1		
KALE	Kalithea	0.91	19	*e*Pb		Pg		02 46 48.0	-0.1		
KALE				S		Sb		02 47 01.6	-0.1		
KFL	Anninata	0.96	307	P		Pg		02 46 49.0	-0.1		
KFL	Anninata	0.96	307	P		Pg		02 46 49.0	-0.1		
LTK	Loutraki	1.07	62	P		Pg		02 46 50.9	-0.3		
LTK				S		Sb		02 47 07.1	+0.7		
LTK	Loutraki	1.07	62	*e*PB		Pg		02 46 51.4	+0.2		
LTK				*e*SB		Sb		02 47 06.4	0.0		
LTK	Loutraki	1.07	62	P		Pg		02 46 50.9	-0.3		
LTK	Loutraki	1.07	62	*e*Pb		Pg		02 46 51.4	+0.2		
LTK				*e*Sb		Sb		02 47 06.4	0.0		
LTK				S		Sb		02 47 07.1	+0.7		
PVO	Paravola	1.10	350	P		Pg		02 46 51.7	0.0		
PVO	Paravola	1.10	350	P		Pg		02 46 51.7	0.0		
VLS	Valsamata	1.13	305	P		Pg		02 46 51.3	-1.0		
VLS	Valsamata	1.13	305	*e*PB		Pb		02 46 53.1	+0.2		
VLS	Valsamata	1.13	305	P		Pg		02 46 51.3	-1.0		
VLS	Valsamata	1.13	305	*e*Pb		Pb		02 46 53.1	+0.2		
PDO	Prodromos	1.16	337	P		Pg		02 46 52.5	-0.3		
PDO	Prodromos	1.16	337	*e*PB		Pg		02 46 52.6	-0.3		
PDO	Prodromos	1.16	337	*e*Pb		Pg		02 46 52.6	-0.3		
PDO				S		Sn		02 47 10.4	+0.1		
VLI	Veliai	1.24	131	P		Pg		02 46 54.0	-0.4		
VLI	Veliai	1.24	131	*e*PG		Pg		02 46 53.9	-0.4		
VLI				*e*SB		Sb		02 47 11.9	+0.7		
VLI	Veliai	1.24	131	P		Pg		02 46 54.0	-0.4		
VLI				*e*Sb		Sb		02 47 11.9	+0.7		
EVR	Evrytania	1.38	1	P		Pg		02 46 56.7	-0.5		
EVR	Evrytania	1.38	1	*e*PB		Pg		02 46 56.6	-0.6		
EVR	Evrytania	1.38	1	P		Pg		02 46 56.7	-0.5		
NAIG	Nisos Aigina	1.39	80	*e*PB		Pg		02 46 56.7	-0.5		
NAIG	Nisos Aigina	1.39	80	*e*Pb		Pg		02 46 56.7	-0.5		
AXAR	Agios Charalam	1.42	29	P		Pn		02 46 56.7	-0.8		
AXAR				S		Sn		02 47 17.6	+0.8		
AXAR	Agios Charalam	1.42	29	P		Pn		02 46 56.7	-0.8		
AXAR				S		Sn		02 47 17.6	+0.8		
LKR	Lokris	1.48	41	P		Pn		02 46 58.1	-0.2		
LKR				S		Sn		02 47 19.4	+1.1		
LKR	Lokris	1.48	41	*e*PG		Pn		02 46 58.0	-0.2		
LKR	Lokris	1.48	41	P		Pn		02 46 58.1	-0.2		
LKR				S		Sn		02 47 19.4	+1.1		
MAKR	Makrakomi, Fth	1.51	11	P		Pn		02 46 58.9	+0.2		
MAKR				S		Sn		02 47 19.9	+1.0		
MAKR	Makrakomi, Fth	1.51	11	*e*PB		Pn		02 46 59.2	+0.5		
MAKR	Makrakomi, Fth	1.51	11	P		Pn		02 46 58.9	+0.2		
MAKR	Makrakomi, Fth	1.51	11	*e*Pb		Pn		02 46 59.2	+0.5		
MAKR				S		Sn		02 47 19.9	+1.0		
LKD2	Lefkada island	1.53	326	P		Pn		02 46 58.6	-0.4		
LKD2				S		Sg		02 47 19.9	+0.2		
LKD2	Lefkada island	1.53	326	*e*PB		Pn		02 46 59.6	+0.6		
LKD2				*e*SB		Sg		02 47 21.4	+1.7		
LKD2	Lefkada island	1.53	326	P		Pn		02 46 58.6	-0.4		
LKD2	Lefkada island	1.53	326	*e*Pb		Pn		02 46 59.6	+0.6		
LKD2				S		Sg		02 47 19.9	+0.2		
LKD2				*e*Sb		Sg		02 47 21.4	+1.7		
AGG	Agios Georgios	1.55	16	P		Pn		02 46 58.7	-0.6		
AGG	Agios Georgios	1.55	16	*e*P		Pn		02 46 57.6	-1.7		
AGG	Agios Georgios	1.55	16	*e*PB		Pb		02 47 00.1	0.0		
AGG	Agios Georgios	1.55	16	P		Pn		02 46 58.7	-0.6		
AGG	Agios Georgios	1.55	16	*e*Pb		Pb		02 47 00.1	0.0		
ATH	Athens Observa	1.61	74	*e*PB		Pn		02 47 00.7	-0.7		
ATH				*e*SB		Sg		02 47 22.4	+0.1		
ATH	Athens Observa	1.61	74	*e*Pb		Pn		02 47 00.7	+0.7		
ATH				*e*Sb		Sg		02 47 22.4	+0.1		
KYTH	Kithira	1.61	140	*e*PB		Pb		02 47 00.9	-0.2		
KYTH	Kithira	1.61	140	*e*Pb		Pb		02 47 00.9	-0.2		
ATHU	Athens Univers	1.66	74	P		Pn		02 47 01.2	+0.5		
ATHU	Athens Univers	1.66	74	P		Pn		02 47 01.2	+0.5		
PTL	Penteli	1.74	72	*e*PN		Pb		02 47 03.8	+0.5		
PTL				*e*SN		Sg		02 47 26.3	-0.3		
PTL	Penteli	1.74	72	*e*Pn		Pb		02 47 03.8	+0.5		
PTL				*e*Sn		Sg		02 47 26.3	-0.3		
SMIA	Simia	1.76	40	P		Pn		02 47 02.5	+0.3

ALN	**Alexandroupoli**	**4.73**	**43**	*e*P	**Pn**	**02 47 41.2**	**-1.7**
KDZ	**Kurdzhali**	**4.99**	**33**	⇑*i*P	**Pn**	**02 47 47.7**	**+1.2**
KDZ	**Kurdzhali**	**4.99**	**33**	S	**Sn**	**02 48 48.8**	**+4.1**
KDZ	**Kurdzhali**	**4.99**	**33**	⇑*i*P	**Pn**	**02 47 47.7**	**+1.2**
VTS	**Vitosha**	**5.17**	**12**	⇓*i*P	**Pn**	**02 47 52.3**	**+3.1**
VTS	**Vitosha**	**5.17**	**12**	S	Sn	02 48 56.8	+7.3
VTS	**Vitosha**	**5.17**	**12**	⇓*i*P	**Pn**	**02 47 52.3**	**+3.1**
EDRB	**Edirne**	**5.77**	**40**	*e*P	**Pn**	**02 47 56.0**	**-1.3**
EDRB	**Edirne**	**5.77**	**40**	*e*P	**Pn**	**02 47 56.0**	**-1.3**
IVAS	**Ivanjica**	**6.16**	**349**	*e*Pn	**Pn**	**02 48 02.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**6.23**	**61**	*e*P	**Pn**	**02 48 01.8**	**-1.7**
MDNY	**Mudanya-Bursa**	**6.23**	**61**	*e*P	**Pn**	**02 48 01.8**	**-1.7**
GRUS	**Gruza**	**6.40**	**353**	*e*Pn	**Pn**	**02 48 06.4**	**+0.5**
DIVS	**Divibare**	**6.70**	**349**	*e*Pn	**Pn**	**02 48 09.4**	**-0.6**
ALT	**Altintas**	**6.74**	**74**	*e*P	**Pn**	**02 48 09.5**	**-1.1**
ALT	**Altintas**	**6.74**	**74**	*e*P	**Pn**	**02 48 09.5**	**-1.1**
PSN	**Preselentsi**	**7.85**	**36**	⇑*i*P	**Pn**	**02 48 28.1**	**+2.4**
PSN	**Preselentsi**	**7.85**	**36**	⇑*i*P	**Pn**	**02 48 28.1**	**+2.4**
ARR	**Arges**	**8.12**	**14**	⇓*i*P	Pn	02 48 33.3	+3.8
MLR	**Muntele Rosu**	**8.55**	**20**	⇓*i*P	Pn	02 48 39.0	+3.5
PLOR	**Plostina**	**9.08**	**22**	⇓*i*P	Pn	02 48 46.0	+3.3
VRI	**Vrincioaia**	**9.12**	**22**	⇑*i*P	Pn	02 48 46.9	+3.8
BRTR	**Keskin Array B**	**9.55**	**73**	Pn	**Pn**	**02 48 49.8**	**+0.6**
	0.1nm,0.3s,baz=251,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**24.09**	**5**	P	**P**	**02 51 46.1**	**-1.1**
	0.6nm,0.4s,baz=163,slow=9.8,SNR=4.3						
NOA	**NORSAR Array B**	**24.45**	**348**	P	**P**	**02 51 49.6**	**-1.0**
	0.2nm,0.6s,baz=168,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**30.17**	**222**	P	**P**	**02 52 41.2**	**-1.0**
	0.4nm,0.6s,baz=27,slow=8.7,SNR=5.0						
ARCES	**ARCESS Array B**	**32.13**	**2**	P	**P**	**02 52 57.8**	**-1.2**
	2.6nm,1.0s,baz=192,slow=11,SNR=5.1						
DBIC	**Dimbokro**	**39.11**	**225**	P	**P**	**02 54 00.3**	**+0.9**
	1.3nm,0.5s,baz=45,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**44.80**	**58**	P	**P**	**02 54 43.6**	**-2.2**
	0.3nm,0.5s,baz=277,slow=6.5,SNR=6.5						

*ISCJB **13** 02:48:21.3±0.6, 38°.67N±0°.02×23°.55E±0°.03, h13km±4km, Error ellipse: s-maj=3.9km s-min=2.9km az=10.2*
*CSEM **13** 02:48:21.7±0.1, 38°.68N×23°.52E, h15km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.1km az=93.0*
*ATH **13** 02:48:21.2, 38°.70N×23°.53E, h22km, MD2.8/10, ML3.0*
*THE **13** 02:48:22.1, 38°.67N×23°.49E, h9km±1km, ML2.7/9, Error ellipse: s-maj=1.0km s-min=0.3km az=80.0*

ISC 13 02:48:21.8±0.8, 38°.69N±0°.02×23°.53E±0°.02, h14km±4km, n66, σ0§44/107, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRKA	**Markates**	**0.05**	**66**	P		**Pg**	**02 48 24.5**	**+0.1**
MRKA				S		**Sg**	**02 48 26.1**	**-0.2**
MRKA	**Markates**	**0.05**	**66**	*e*PB		**Pg**	**02 48 24.6**	**+0.1**
MRKA	**Markates**	**0.05**	**66**	*e*Pb		**Pg**	**02 48 24.6**	**+0.1**
MRKA				S		**Sg**	**02 48 26.1**	**-0.2**
SMIA	**Simia**	**0.32**	**308**	P		**Pg**	**02 48 28.5**	**+0.1**
SMIA				S		**Sg**	**02 48 32.9**	**+0.2**
SMIA	**Simia**	**0.32**	**308**	*e*PB		**Pg**	**02 48 28.4**	**+0.1**
SMIA				*e*SB		**Sg**	**02 48 33.6**	**-0.7**
SMIA	**Simia**	**0.32**	**308**	*e*Pb		**Pg**	**02 48 28.4**	**+0.1**
SMIA				S		**Sg**	**02 48 32.9**	**+0.2**
SMIA				*e*Sb		**Sb**	**02 48 33.6**	**-0.7**
LKR	**Lokris**	**0.41**	**265**	P		**Pg**	**02 48 29.6**	**-0.5**
LKR				S		**Sg**	**02 48 35.3**	**-0.4**
LKR	**Lokris**	**0.41**	**265**	*e*PB		**Pg**	**02 48 29.5**	**-0.5**
LKR				*e*SB		**Sg**	**02 48 36.1**	**+0.4**
LKR	**Lokris**	**0.41**	**265**	P		**Pg**	**02 48 29.6**	**-0.5**
LKR				S		**Sg**	**02 48 35.3**	**-0.4**
LKR				*e*Sb		**Sg**	**02 48 36.1**	**+0.4**
SKIA	**Skiathos**	**0.48**	**354**	P		**Pg**	**02 48 31.8**	**+0.4**
SKIA				S		**Sb**	**02 48 39.2**	**+0.1**
SKIA	**Skiathos**	**0.48**	**354**	*e*PB		**Pb**	**02 48 31.9**	**-0.2**
SKIA				*e*SB		**Sb**	**02 48 39.3**	**+0.1**
SKIA	**Skiathos**	**0.48**	**354**	P		**Pg**	**02 48 31.8**	**+0.4**
SKIA				S		**Sb**	**02 48 39.2**	**+0.1**
AOS	**Alonnisos**	**0.56**	**30**	P		**Pg**	**02 48 32.4**	**-0.4**
AOS				S		**Sb**	**02 48 41.5**	**+0.3**
AOS	**Alonnisos**	**0.56**	**30**	*e*PN		**Pg**	**02 48 32.7**	**-0.1**
AOS	**Alonnisos**	**0.56**	**30**	P		**Pg**	**02 48 32.4**	**-0.4**
AOS	**Alonnisos**	**0.56**	**30**	*e*Pn		**Pg**	**02 48 32.7**	**-0.1**
AOS				S		**Sb**	**02 48 41.5**	**+0.3**
NEO	**Neokhori**	**0.66**	**339**	P		**Pg**	**02 48 34.9**	**+0.1**
NEO	**Neokhori**	**0.66**	**339**	*e*PN		**Pg**	**02 48 34.8**	**0.0**
NEO				*e*SN		**Sg**	**02 48 43.9**	**+0.3**
NEO	**Neokhori**	**0.66**	**339**	P		**Pg**	**02 48 34.9**	**+0.1**
NEO				*e*Sn		**Sg**	**02 48 43.9**	**+0.3**
AXAR	**Agios Charalam**	**0.68**	**277**	P		**Pg**	**02 48 34.5**	**-0.6**
AXAR				S		**Sg**	**02 48 44.2**	**+0.1**
AXAR	**Agios Charalam**	**0.68**	**277**	P		**Pg**	**02 48 34.5**	**-0.6**
AXAR				S		**Sg**	**02 48 44.2**	**+0.1**
PTL	**Penteli**	**0.69**	**157**	P		**Pg**	**02 48 35.1**	**-0.1**
PTL	**Penteli**	**0.69**	**157**	*e*PN		**Pg**	**02 48 35.2**	**0.0**
PTL				*e*SN		**Sg**	**02 48 44.3**	**0.0**
PTL	**Penteli**	**0.69**	**157**	P		**Pg**	**02 48 35.1**	**-0.1**
PTL				*e*Sn		**Sg**	**02 48 44.3**	**0.0**
ATH	**Athens Observa**	**0.73**	**168**	P		**Pb**	**02 48 35.9**	**-0.3**
ATH	**Athens Observa**	**0.73**	**168**	*e*PN		**Pb**	**02 48 36.1**	**-0.1**
ATH				*e*SN		**Sb**	**02 48 46.4**	**+0.3**
ATH	**Athens Observa**	**0.73**	**168**	P		**Pb**	**02 48 35.9**	**-0.3**
ATH				*e*Sn		**Sb**	**02 48 46.4**	**+0.3**
XOR	**Xorichti**	**0.73**	**339**	P		**Pg**	**02 48 35.8**	**-0.2**
XOR				S		**Sb**	**02 48 47.1**	**+0.9**
XOR	**Xorichti**	**0.73**	**339**	*e*PN		**Pg**	**02 48 35.5**	**-0.5**
XOR				*e*SN		**Sg**	**02 48 45.5**	**-0.1**
XOR	**Xorichti**	**0.73**	**339**	*e*Pn		**Pg**	**02 48 35.5**	**-0.5**
XOR	**Xorichti**	**0.73**	**339**	P		**Pg**	**02 48 35.8**	**-0.2**
XOR				*e*Sn		**Sg**	**02 48 45.5**	**-0.1**
XOR				S		**Sb**	**02 48 47.1**	**+0.9**
ATHU	**Athens Univers**	**0.74**	**164**	P		**Pg**	**02 48 36.0**	**-0.3**
ATHU	**Athens Univers**	**0.74**	**164**	P		**Pg**	**02 48 36.0**	**-0.3**
LTK	**Loutraki**	**0.79**	**214**	P		**Pg**	**02 48 36.6**	**-0.6**
LTK				S		**Sb**	**02 48 47.8**	**-0.2**
LTK	**Loutraki**	**0.79**	**214**	*e*PN		**Pg**	**02 48 36.9**	**-0.3**
LTK	**Loutraki**	**0.79**	**214**	P		**Pg**	**02 48 36.6**	**-0.6**
LTK	**Loutraki**	**0.79**	**214**	*e*Pn		**Pg**	**02 48 36.9**	**-0.3**
LTK				S		**Sb**	**02 48 47.8**	**-0.2**
NAIG	**Nisos Aigina**	**0.93**	**182**	*e*PN		**Pg**	**02 48 39.5**	**-0.2**
NAIG	**Nisos Aigina**	**0.93**	**182**	*e*Pn		**Pg**	**02 48 39.5**	**-0.2**
AGG	**Agios Georgios**	**0.99**	**290**	P		**Pb**	**02 48 40.1**	**-0.7**
AGG	**Agios Georgios**	**0.99**	**290**	*e*PN		**Pb**	**02 48 40.0**	**-0.7**
AGG	**Agios Georgios**	**0.99**	**290**	P		**Pb**	**02 48 40.1**	**-0.7**
KALE	**Kalithea**	**1.13**	**255**	P		**Pb**	**02 48 42.4**	**-0.7**
KALE	**Kalithea**	**1.13**	**255**	P		**Pb**	**02 48 42.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.14**	**287**	P		**Pb**	**02 48 43.1**	**-0.2**
MAKR				S		**Sg**	**02 48 59.2**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.14**	**287**	P		**Pb**	**02 48 43.1**	**-0.2**
MAKR				S		**Sg**	**02 48 59.2**	**+0.6**
GUR	**Goura**	**1.19**	**232**	*e*PN		**Pg**	**02 48 45.1**	**+0.3**
GUR	**Goura**	**1.19**	**232**	*e*Pn		**Pg**	**02 48 45.1**	**+0.3**
PAIG	**Paliouri**	**1.25**	**5**	*e*PN		**Pn**	**02 48 44.4**	**-0.4**
PAIG	**Paliouri**	**1.25**	**5**	*e*Pn		**Pn**	**02 48 44.4**	**-0.4**
KLV	**Kalavryta, Ach**	**1.26**	**240**	*e*PN		**Pb**	**02 48 45.0**	**-0.3**
KLV				*e*SN		**Sg**	**02 49 03.4**	**+1.0**
KLV	**Kalavryta, Ach**	**1.26**	**240**	*e*Pn		**Pb**	**02 48 45.0**	**-0.3**
KLV				*e*Sn		**Sg**	**02 49 03.4**	**+1.0**
LIT	**Litokhoron**	**1.63**	**331**	*e*PN		**Pn**	**02 48 50.5**	**+0.4**
LIT	**Litokhoron**	**1.63**	**331**	*e*Pn		**Pn**	**02 48 50.5**	**+0.4**
OUR	**Ouranopolis**	**1.69**	**12**	*e*PN		**Pn**	**02 48 50.6**	**-0.2**
OUR	**Ouranopolis**	**1.69**	**12**	*e*Pn		**Pn**	**02 48 50.6**	**-0.2**
PLG	**Polygyros**	**1.69**	**358**	*e*PN		**Pn**	**02 48 51.1**	**+0.2**
PLG				*e*SN		**Sn**	**02 49 11.9**	**-0.5**
PLG	**Polygyros**	**1.69**	**358**	*e*Pn		**Pn**	**02 48 51.1**	**+0.2**
PLG				*e*Sn		**Sn**	**02 49 11.9**	**-0.5**
LIA	**Limnos Island**	**1.77**	**46**	*e*PN		**Pn**	**02 48 52.1**	**+0.1**
LIA				*e*SN		**Sb**	**02 49 15.2**	**-0.8**
LIA	**Limnos Island**	**1.77**	**46**	*e*Pn		**Pn**	**02 48 52.1**	**+0.1**
LIA				*e*Sn		**Sb**	**02 49 15.2**	**-0.8**
HORT	**Hortiatis**	**1.94**	**350**	*e*PN		**Pn**	**02 48 55.0**	**+0.6**
HORT				*e*SN		**Sn**	**02 49 18.8**	**+0.1**
HORT	**Hortiatis**	**1.94**	**350**	*e*Pn		**Pn**	**02 48 55.0**	**+0.6**
HORT				*e*Sn		**Sn**	**02 49 18.8**	**+0.1**
SOH	**Sokhos**	**2.14**	**356**	*e*PN		**Pn**	**02 48 57.6**	**+0.5**
SOH				*e*SN		**Sn**	**02 49 24.2**	**+0.7**
SOH	**Sokhos**	**2.14**	**356**	*e*Pn		**Pn**	**02 48 57.6**	**+0.5**
SOH				*e*Sn		**Sn**	**02 49 24.2**	**+0.7**
KYTH	**Kithira**	**2.43**	**189**	*e*PN		**Pn**	**02 49 01.8**	**+0.7**
KYTH	**Kithira**	**2.43**	**189**	*e*Pn		**Pn**	**02 49 01.8**	**+0.7**

IDC 13 02:55:37.1±5.6, 65°.60N×175°.32W, h0km, mb3.2/3, mb1 3.3/5, mb1mx3.1/50, mbtmp3.2/5, ML3.1/2, Error ellipse: s-maj=201.8km s-min=22.3km az=4.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ILAR	**Eielson Array**	**11.93**	**81**	Pn		Pn	02 58 23.3	-4.9
	0.0nm,0.3s,baz=286,slow=14,SNR=3.3							
INK	**Inuvik**	**16.35**	**62**	Pn		Pn	02 59 26.6	-1.0
	0.1nm,0.3s,baz=280,slow=13,SNR=6.0							
YKA	**Yellowknife Ar**	**25.84**	**68**	P		P	03 01 08.5	-1.2
	0.1nm,0.7s,baz=299,slow=10,SNR=3.3							
ZALV	**Zalesovo Beam**	**46.24**	**306**	P		P	03 04 02.9	-0.6
	0.4nm,0.3s,baz=48,slow=6.7,SNR=3.6							
MKAR	**Makanchi Array**	**53.15**	**303**	P		P	03 04 56.7	+0.5
	0.2nm,0.6s,baz=50,slow=7.8,SNR=3.2							

*MEX **13** 03:39:28.6±0.6, 33°.08N×115°.68W, h16km±21km, MD3.5*
*NEIC **13** 03:39:31.9, 32°.66N×115°.79W, h1km, MD3.5(MEX), ML3.4(PAS), ML3.5(ECX), After PAS.*
*ECX **13** 03:39:32.3±0.6, 32°.66N×115°.79W, h3km, MD3.3, ML3.5*

ISC 13 03:39:31.9±0.9, 32°.62N±0°.02×115°.80W±0°.02, h11km±8km, n36, σ1§34/66, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YUH	**Yuha Desert**	**0.11**	**283**	⇓*i*P		**Pg**	**03 39 34.3**	**-0.4**
COK	**Cook Ranch**	**0.23**	**14**	⇓*i*P		**Pg**	**03 39 36.0**	**-0.7**
RMX	**La Rumorosa**	**0.24**	**265**	⇑*e*P		**Pg**	**03 39 36.9**	**0.0**
RMX				*e*S		**Sg**	**03 39 40.9**	**+0.6**
CRR	**Carrizo Plain**	**0.30**	**331**	⇓*i*P		**Pg**	**03 39 37.2**	**-0.8**
CPBX	**Cerro Prieto**	**0.46**	**116**	*e*P		**Pg**	**03 39 41.1**	**+0.2**
CPBX				*e*S		**Sg**	**03 39 48.2**	**+1.1**
CPBX	**Cerro Prieto**	**0.46**	**116**	*e*P		**Pg**	**03 39 40.7**	**-0.2**
CPBX				*i* S		**Sb**	**03 39 48.9**	**-0.1**
MBIG	**Mexicali**	**0.55**	**113**	*e*P		**Pg**	**03 39 40.9**	**-1.7**
MBIG				*e*S		**Sg**	**03 39 50.6**	**+0.8**
RDX	**Rancho Dawling**	**0.70**	**190**	*e*P		**Pg**	**03 39 45.1**	**-0.4**
RDX				*e*S		**Sg**	**03 39 55.1**	**+0.3**
RDX				⇑*e*			03 39 59.5	
RDX					AML	AML	03 39 59.5	
	comp=N,2μm,0.3s							
EMX	**El Mayor**	**0.79**	**143**	⇓*e*P		**Pg**	**03 39 46.3**	**-0.8**
EMX				*e*S		**Sg**	**03 39 57.2**	**-0.1**
CBX	**Cerro Bola**	**0.80**	**247**	*e*P		**Pg**	**03 39 46.7**	**-0.5**
CBX				*i* S		**Sb**	**03 39 58.9**	**+0.2**
CBX	**Cerro Bola**	**0.80**	**247**	⇑*e*P		**Pg**	**03 39 47.3**	**+0.1**
CBX				*e*S		**Sb**	**03 39 58.4**	**-0.3**
CBX				⇓*e*			03 40 00.4	
CBX					AML	AML	03 40 00.4	
	comp=N,3μm,0.5s							
CBX	**Cerro Bola**	**0.80**	**247**	*e*P		**Pg**	**03 39 46.9**	**-0.4**
CBX				*i* S		**Sb**	**03 39 58.4**	**-0.3**
GLA	**Glamis**	**0.92**	**62**	*e*Pg		**Pg**	**03 39 47.6**	**-2.0**
GLA				*e*S		**Sg**	**03 40 00.1**	**-1.6**
PFO	**Pinyon Flats O**	**1.13**	**331**	*e*Pg		**Pg**	**03 39 51.3**	**-2.3**
PFO				*e*S		**Sg**	**03 40 05.5**	**-2.8**
ZAX	**El Zacaton**	**1.18**	**200**	*e*P		**Pg**	**03 39 53.8**	**-0.7**
ZAX				*e*S		**Sg**	**03 40 10.0**	**+0.2**
ZAX				*e*			03 40 15.0	
ECNX	**Esteban Cantu**	**1.18**	**215**	*e*P		**Pg**	**03 39 54.0**	**-0.5**
ECNX				*e*S		**Sb**	**03 40 10.3**	**+0.6**
ECNX				*e*S		**Sb**	**03 40 10.4**	**+0.6**
PBX	**Punta Banda**	**1.18**	**222**	*e*P		**Pg**	**03 39 54.0**	**-0.5**
PBX				*e*S		**Sb**	**03 40 10.4**	**+0.8**
ECBX	**El Chinero**	**1.31**	**151**	*e*P		**Pn**	**03 39 55.0**	**-1.2**
ECBX				*e*S		**Sg**	**03 40 13.0**	**-1.1**
SPIG	**San Pedro Mart**	**1.60**	**170**	*e*P		**Pn**	**03 39 59.2**	**-1.2**
SPIG				*e*S		**Sb**	**03 40 23.2**	**+1.3**
SPIG	**San Pedro Mart**	**1.60**	**170**	*e*P		**Pn**	**03 40 00.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.60**	**170**	*e*P		**Pn**	**03 39 59.2**	**-1.2**
SPIG				*e*S		**Sb**	**03 40 23.2**	**+1.3**
SPX	**San Pedro Mart**	**1.60**	**170**	*e*P		**Pn**	**03 40 00.6**	**+0.1**
SPX				⇓*e*			03 40 25.5	
SPX					AML	AML	03 40 25.5	
	comp=E,250nm,0.3s							
SPX	**San Pedro Mart**	**1.60**	**170**	*e*P		**Pn**	**03 39 59.5**	**-0.9**
SPX				*e*S		**Sb**	**03 40 22.8**	**+0.8**
MWC	**Mount Wilson**	**2.48**	**311**	*e*Pn		**Pb**	**03 40 15.1**	**-1.5**
MWC				*e*S		**Sb**	**03 40 47.3**	**+0.2**
LDFC	**Landfair**	**2.52**	**13**	*e*Pn		**Pn**	**03 40 13.1**	**+0.2**
PASC	**Pasadena Art C**	**2.53**	**308**	*e*Pn		**Pn**	**03 40 14.6**	**+1.6**
PASC				*e*S		**Sb**	**03 40 47.4**	**-1.0**
214A	**Organ Pipe Nat**	**2.61**	**104**	*e*Pn		Pn	03 40 11.5	-2.7
214A				*e*S		**Sg**	**03 40 57.7**	**+1.8**
GSC	**Goldstone, Bar**	**2.80**	**343**	*e*Pn		**Pn**	**03 40 18.6**	**+1.9**
OSI	**Osito Audit: C**	**3.15**	**310**	*e*Pn		**Pn**	**03 40 22.7**	**+1.1**
OSI				*e*S		**Sb**	**03 41 07.8**	**+1.4**
ISA	**Isabella, Lake**	**3.76**	**325**	*e*Pn		**Pn**	**03 40 29.1**	**-0.8**
ISA				*e*Pg		**Pb**	**03 40 39.4**	**+1.1**
ISA				*e*S		**Sb**	**03 41 22.7**	**-1.2**
SHPR	**Sheep Range**	**3.91**	**8**	*e*Pn		**Pn**	**03 40 33.8**	**+1.8**
SHPR				*e*S		**Sg**	**03 41 36.6**	**-0.8**
DAC	**Darwin (Calif)**	**3.94**	**338**	*e*Pn		**Pn**	**03 40 33.1**	**+0.6**
DAC				*e*Pg		**Pg**	**03 40 45.6**	**-1.7**
DAC				*e*S		**Sb**	**03 41 31.2**	**+2.0**
TUC	**Tucson**	**4.25**	**93**	*e*Pn		**Pn**	**03 40 34.4**	**-2.3**
WUAZ	**Wupatki**	**4.67**	**51**	*e*Pn		**Pn**	**03 40 42.7**	**+0.2**
WUAZ				*e*S		**Sg**	**03 42 05.8**	**+4.0**
R11A	**Troy Canyon, C**	**5.72**	**2**	*e*Pn		**Pn**	**03 40 57.5**	**+0.5**
	comp=E,1.5nm,0.6s							
R11A				*e*Pg		Pg	03 41 16.8	-4.5
R11A				*e*S		**Sb**	**03 42 23.9**	**+3.5**
121A	**Cookes Peak, D**	**6.76**	**89**	*e*Pn		**Pn**	**03 41 10.5**	**-0.8**
	comp=E,6.5nm,0.6s							
121A				*e*S		**Sb**	**03 42 52.9**	**+2.4**

IDC 13 03:39:32.2±2.2, 3°.85N×124°.65E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/31, mbtmp3.9/4, Error ellipse: s-maj=276.0km s-min=24.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**25.48**	**158**	P		P	03 45 02.2	-0.1
	1.8nm,0.4s,baz=337,slow=9.8,SNR=27							
ASAR	**Alice Springs**	**28.80**	**162**	P		P	03 45 32.2	+0.1
	0.5nm,0.4s,baz=344,slow=7.6,SNR=6.9							
STKA	**Stephens Creek**	**39.01**	**157**	P		P	03 47 00.7	0.0
	1.5nm,0.6s,baz=333,slow=6.8,SNR=5.6							
MKAR	**Makanchi Array**	**56.29**	**326**	P		P	03 49 14.7	-0.1
	0.3nm,0.5s,baz=128,slow=7.6,SNR=6.3							

*ISCJB **13** 04:11:00.9±0.6, 45°.29N±0°.10×142°.7E±0°.1, h306km±6km, mb3.0/5, Error ellipse: s-maj=19.5km s-min=10.5km az=42.5*
*JMA **13** 04:11:01.9±0.2, 45°.43N×142°.88E, h299km, M3.1*
*IDC **13** 04:11:07.4±9.9, 44°.78N×142°.81E, h396km±169km, mb2.7/5, mb1 2.9/5, mb1mx2.6/39, mbtmp3.4/5, Error ellipse: s-maj=236.4km s-min=22.9km az=170.0*

ISC 13 04:11:01.7±0.8, 45°.3N±0°.1×142°.8E±0°.1, h302km±8km, n14, σ1§22/21, mb2.8/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JWK2	**Keihoku**	**0.60**	**274**	P		**Pn**	**04 11 40.9**	**+0.1**
JWK2				*e*S		**S**	**04 12 10.7**	**-1.2**
JRR	**Rishiri**	**1.03**	**263**	P		**Pn**	**04 11 42.7**	**+0.3**
JRR				*e*S		**S**	**04 12 14.0**	**-0.8**
JMP	**Maruseppu**	**1.34**	**161**	P		**Pn**	**04 11 45.2**	**+1.0**
JMP				*e*S		**S**	**04 12 18.9**	**+0.8**
JTKR	**Abashiri--Toko**	**1.55**	**147**	P		**Pn**	**04 11 46.5**	**+1.1**
JAR	**Ashorobuto**	**2.11**	**159**	P		**Pn**	**04 11 51.2**	**+1.6**
JAR				*e*S		**S**	**04 12 29.8**	**+1.9**
JAK	**Akkeshi**	**2.68**	**148**	P		**Pn**	**04 11 55.3**	**+0.8**
JAK				*e*S		**S**	**04 12 36.1**	**-0.6**
JCH	**Churui**	**2.70**	**170**	P		**Pn**	**04 11 55.1**	**+0.3**
JCH				*e*S		**S**	**04 12 35.2**	**-2.0**
NEM2	**Nemuro 2**	**2.88**	**131**	P		**Pn**	**04 11 55.6**	**-0.8**
NEM2				*e*S		**S**	**04 12 38.1**	**-2.0**
JNBK	**Urakawa-nobuka**	**3.00**	**180**	*e*S		**S**	**04 12 40.9**	**-1.5**
SONM	**Songino Array**	**24.99**	**289**	P		**P**	**04 15 59.6**	**+1.1**
	1.4nm,0.6s,baz=82,slow=8.6,SNR=15							
MKAR	**Makanchi Array**	**41.09**	**295**	P		**P**	**04 18 15.3**	**-1.1**
	0.1nm,0.5s,baz=82,slow=10,SNR=3.1							
ILAR	**Eielson Array**	**42.14**	**37**	P		**P**	**04 18 24.9**	**+0.3**
	0.4nm,0.8s,baz=263,slow=6.2,SNR=4.7							
YKA	**Yellowknife Ar**	**56.26**	**33**	P		**P**	**04 20 10.7**	**+0.1**
	0.2nm,0.5s,baz=307,slow=7.1,SNR=9.7							
FINES	**FINESS Array B**	**62.05**	**331**	P		**P**	**04 20 50.1**	**+0.1**
	0.5nm,0.6s,baz=31,slow=8.4,SNR=2.5							

*DJA **13** 04:14:30.7±0.9, 2°.N±7°.×9°.7E±3°.0, h28km±34km, M3.4/4, mb3.9/1, MLv3.2/4*
*ISCJB **13** 04:14:31.9±1.4, 2°.06N±0°.09×96°.71E±0°.10, h10km, mb3.6/3, MS3.1/2, Error ellipse: s-maj=15.1km s-min=11.2km az=35.3*
*IDC **13** 04:17:06.3±32.0, 6°.40S×113°.02E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.5/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/30, Error ellipse: s-maj=541.3km s-min=207.4km az=137.0*

ISC 13 04:14:31.4±1.5, 2°.1N±0°.1×96°.7E±0°.1, h10km, n7, σ2§18/7, mb3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNSI	**Sinabang, Aceh**	**0.49**	**312**	P		**Pb**	**04 14 42.6**	**+0.4**
TPTI		**1.28**	**22**	P		**Pn**	**04 14 54.0**	**-1.3**
TPTI				S		**Sn**	**04 15 12.6**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.80**	**37**	P		**Pn**	**04 15 02.2**	**-0.3**
KCSI				S		**Sn**	**04 15 27.0**	**+1.6**
WRA	**Warramunga Arr**	**42.93**	**122**	P		**P**	**04 22 28.1**	**-2.7**
	0.3nm,0.6s,baz=301,slow=9.2,SNR=3.8							
ASAR	**Alice Springs**	**44.32**	**127**	P		**P**	**04 22 44.8**	**+2.7**
	0.7nm,0.8s,baz=302,slow=9.2,SNR=7.6							
ASAR					LR	LR	04 33 01.2	
	comp=Z,42nm,18.1s,baz=196,slow=36							
MJAR	**Matsushiro Arr**	**51.40**	**43**	LR		LR	04 49 33.7	
	comp=Z,8.7nm,18.1s,baz=115,slow=40							
STKA	**Stephens Creek**	**54.31**	**132**	P		P	04 24 17.5	+19
	0.6nm,0.3s,baz=311,slow=9.3,SNR=3.8							

*IDC **13** 04:45:31.4±1.0, 14°.62S×167°.09E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/33, mbtmp3.9/11, ML3.8/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/29, Error ellipse: s-maj=30.5km s-min=20.1km az=106.0*
*NEIC **13** 04:45:36.9±0.8, 14°.58S×167°.06E, h35km, mb4.1/2, Error ellipse: s-maj=19.5km s-min=13.9km az=110.0*
*ISCJB **13** 04:45:37.9±0.9, 14°.78S±0°.07×167°.0E±0°.2, h57km, mb3.8/10, MS3.2/2, Error ellipse: s-maj=22.1km s-min=9.6km az=176.3*

ISC 13 04:45:38.8±0.9, 14°.70S±0°.08×167°.1E±0°.2, h57km, n20, σ1§48/21, mb3.8/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

1.4nm,1.2s,baz=259,slow=3.9,SNR=7.2
YKA Yellowknife Ar 82.07 343 P **P** **05 04 39.8 -2.1**
0.3nm,0.5s,baz=141,slow=5.9,SNR=7.4
SONM Songino Array 146.40 357 PKPbc **PKPdf** **05 12 01.5 -0.3**
0.5nm,0.6s,baz=337,slow=2.1,SNR=4.6

*IDC **13** 05:10:02.7±2.4,54.°05N×86.°43E,h0km,mb1 3.3/2, mb1mx3.0/47,mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=20.1km s-min=12.9km az=53.0*
*NNC **13** 05:10:07.7±3.3,53.°83N×86.°05E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=26.2km s-min=20.8km az=1.0*
ISC 13 05:10:08.3±4.9,54.°0N±0.°2×86.°3E±0.°2,h35km,n7,σ0s68/8, 7C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**266**	*i*		05 16 40.0	
	baz=83,slow=328,SNR=1.6						
ZALV	**Zalesovo Beam**	**0.90**	**266**	Pg	Pn	05 10 19.9	-4.5
	1.4nm,0.3s,baz=83,slow=16,SNR=15						
ZALV				Lg	Lg	05 10 34.3	
	2.6nm,0.3s,baz=86,slow=22,SNR=10						
KURK	**Kurchatov**	**5.77**	**238**	⇓Pn	**Pn**	**05 11 31.4**	**+0.2**
	1.8nm,1.2s						
KURK				⇓Sn	**Sn**	**05 12 36.6**	**+0.5**
	0.2nm,0.5s						
KURK				⇑Lg	Lg	05 13 06.6	
	2.1nm,0.9s						
KURBB	**Kurchatov Arra**	**5.87**	**238**	⇑Pn	**Pn**	**05 11 32.9**	**+0.2**
	1.8nm,0.3s						
KURBB				⇑Sn	**Sn**	**05 12 37.5**	**-1.2**
	1.6nm,0.7s						
KURBB				⇑Lg	Lg	05 13 09.1	
	4.8nm,0.8s						
KURBB	**Kurchatov Arra**	**5.87**	**238**	Pn	**Pn**	**05 11 32.9**	**+0.2**
	0.2nm,0.3s,baz=56,slow=14,SNR=32						
KURBB				Lg	Lg	05 13 11.9	
	0.0nm,0.3s,baz=61,slow=34,SNR=5.9						
MK31	**Makanchi Array**	**7.68**	**201**	⇑Pn	**Pn**	**05 11 57.3**	**-0.2**
	0.5nm,0.6s,baz=23,slow=12,SNR=27						
MK31				⇑Sn	**Sn**	**05 13 23.9**	**+0.6**
	1.0nm,0.9s						
MK31				⇑Lg	Lg	05 14 05.2	
	1.8nm,0.9s,baz=27,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**7.68**	**201**	Pn	**Pn**	**05 11 57.2**	**-0.3**
	0.2nm,0.3s,baz=25,slow=13,SNR=17						
MKAR				Lg	Lg	05 14 08.3	
	0.1nm,0.3s,baz=28,slow=32,SNR=7.4						

IDC 13 05:21:07.1±5.9,24.°53S×179.°82W,h474km±39km, mb3.4/4,mb1 3.6/4,mb1mx3.1/30,mbtmp4.3/4,Error ellipse: s-maj=95.0km s-min=58.4km az=151.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.65**	**271**	P	P	05 26 51.6	+1.1
	5.6nm,0.5s,baz=98,slow=11,SNR=9.9						
STKA	**Stephens Creek**	**34.65**	**249**	P	P	05 27 15.9	+0.1
	1.2nm,0.4s,baz=97,slow=10,SNR=7.1						
ASAR	**Alice Springs**	**42.10**	**261**	P	P	05 28 15.6	-1.2
	1.1nm,0.3s,baz=92,slow=7.6,SNR=26						
WRA	**Warramunga Arr**	**42.53**	**267**	P	P	05 28 19.9	-0.3
	1.9nm,0.3s,baz=102,slow=8.1,SNR=15						
WRA				ScP	ScP	05 33 07.4	-0.2
	0.5nm,0.7s,baz=114,slow=3.5,SNR=4.3						
HFS	**Hagfors**	**143.19**	**349**	PKP	PKPdf	05 39 45.5	-0.5
	0.9nm,0.6s,baz=42,slow=6.6,SNR=4.7						

*ISCJB **13** 05:36:13.1±0.4,32.°29N±0.°02×115.°31W±0.°03,h13km±3km, Error ellipse: s-maj=3.9km s-min=3.2km az=12.9*
*ECX **13** 05:36:14.6±0.6,32.°30N×115.°36W,h5km, MD3.4,ML3.6*
*NEIC **13** 05:36:14.0,32.°31N×115.°35W,h5km, MD3.4(MEX), ML3.5(PAS),ML3.5(ECX), After ECX.*
NEIC Felt at Carlsbad, Imperial Beach and San Diego, California.
*MEX **13** 05:36:15.5±1.2,32.°38N×115.°27W,h16km±54km,MD3.5*
ISC 13 05:36:13.2±0.9,32.°25N±0.°02×115.°36W±0.°02,h10km±7km, n37,σ0s95/56,9C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**15**	⇑*e*P	**Pg**	**05 36 16.8**	**-0.1**
CPBX				*e*S	**Sg**	**05 36 19.2**	**-0.3**
CPBX	**Cerro Prieto**	**0.17**	**15**	*e*P	**Pg**	**05 36 16.8**	**-0.1**
MBIG	**Mexicali**	**0.20**	**41**	*i* P	**Pg**	**05 36 17.9**	**+0.4**
MBIG				*e*S	**Sg**	**05 36 20.4**	**0.0**
EMX	**El Mayor**	**0.28**	**159**	⇓*e*P	**Pg**	**05 36 18.9**	**0.0**
EMX				*e*S	**Sg**	**05 36 23.5**	**+0.8**
SGL	**Mount Signal**	**0.50**	**322**	⇓*i*P	**Pg**	**05 36 22.9**	**-0.1**
RDX	**Rancho Dawling**	**0.59**	**237**	⇑*e*P	**Pb**	**05 36 25.7**	**-0.1**
RDX				*e*S	**Sb**	**05 36 34.2**	**-0.1**
YUH	**Yuha Desert**	**0.62**	**310**	⇓*i*P	**Pg**	**05 36 24.9**	**-0.4**
COA	**Coachella**	**0.64**	**18**	⇑*i*P	**Pg**	**05 36 25.5**	**-0.2**
COK	**Cook Ranch**	**0.67**	**332**	*e*P	**Pg**	**05 36 26.0**	**-0.2**
RMX	**La Rumorosa**	**0.70**	**300**	⇓*e*P	**Pg**	**05 36 26.5**	**-0.3**
RMX				*e*S	**Sg**	**05 36 35.8**	**-0.3**
ECBX	**El Chinero**	**0.82**	**161**	*e*P	**Pg**	**05 36 28.8**	**-0.2**
ECBX				*e*S	**Sb**	**05 36 40.3**	**-0.4**
GLA	**Glamis**	**0.92**	**29**	*e*Pg	**Pg**	**05 36 29.2**	**-1.6**
GLA				*e*Sg	**Sg**	**05 36 41.4**	**-1.4**
ZAX	**El Zacaton**	**1.07**	**227**	⇓*e*P	**Pb**	**05 36 34.3**	**+0.4**
ZAX				*e*S	**Sn**	**05 36 49.2**	**-0.2**
ZAX				⇑*e*		05 36 53.2	
ZAX				AML	AML	05 36 53.2	
	comp=E,1μm,0.5s						
CBX	**Cerro Bola**	**1.11**	**273**	*e*P	**Pg**	**05 36 34.2**	**-0.3**
CBX				*i* S	**Sg**	**05 36 47.2**	**-1.8**
CBX	**Cerro Bola**	**1.11**	**273**	⇑*e*P	**Sg**	**05 36 34.3**	**-0.3**
CBX				*e*S	**Sg**	**05 36 48.9**	**0.0**
CBX				⇓*e*		05 36 53.3	
CBX				AML	AML	05 36 53.3	
	comp=N,2μm,0.5s						
CBX	**Cerro Bola**	**1.11**	**273**	*e*P	**Pg**	**05 36 34.2**	**-0.3**
CBX				*e*S	**Sg**	**05 36 48.0**	**-0.9**
BAR	**Barrett**	**1.19**	**291**	*e*Pn	**Pg**	**05 36 35.4**	**-0.7**
BAR				*e*Sn	**Sg**	**05 36 50.5**	**-1.1**
SPIG	**San Pedro Mart**	**1.21**	**184**	*e*P	**Pg**	**05 36 36.1**	**-0.4**
SPIG				*e*S	**Sg**	**05 36 51.6**	**-0.5**
SPIG	**San Pedro Mart**	**1.21**	**184**	⇑*e*P	**Pg**	**05 36 36.2**	**-0.2**
SPIG	**San Pedro Mart**	**1.21**	**184**	*e*P	**Pg**	**05 36 36.1**	**-0.4**
SPIG				*e*S	**Sb**	**05 36 52.0**	**-0.2**
SPX	**San Pedro Mart**	**1.21**	**184**	⇑*e*P	**Pg**	**05 36 36.2**	**-0.2**
SPX				⇓*e*		05 36 57.3	
SPX				AML	AML	05 36 57.3	
	comp=E,722nm,0.5s						
SPX	**San Pedro Mart**	**1.21**	**184**	*e*P	**Pg**	**05 36 36.2**	**-0.2**
SPX				*e*S	**Sg**	**05 36 51.9**	**-0.3**
ECNX	**Esteban Cantu**	**1.21**	**241**	⇑*e*P	**Pg**	**05 36 36.4**	**-0.1**
ECNX				*e*S	**Sn**	**05 36 52.8**	**-0.1**
PBX	**Punta Banda**	**1.27**	**247**	⇑*e*P	**Pn**	**05 36 37.1**	**0.0**
PBX				*e*S	**Sb**	**05 36 54.1**	**+0.5**
PFO	**Pinyon Flats O**	**1.64**	**326**	*e*Pn	**Pn**	**05 36 40.0**	**-2.2**
214A	**Organ Pipe Nat**	**2.18**	**97**	*e*Pn	**Pn**	**05 36 48.0**	**-1.7**
MWC	**Mount Wilson**	**3.00**	**312**	*e*Pn	**Pb**	**05 37 06.2**	**-0.6**
MWC				*e*Sn	**Sn**	**05 37 38.4**	**+1.3**
PASC	**Pasadena Art C**	**3.05**	**310**	*e*Pn	**Pn**	**05 37 04.0**	**+2.5**
TUC	**Tucson**	**3.87**	**88**	*e*Pn	**Pn**	**05 37 13.7**	**+0.7**
TUC				*e*Sn	**Sn**	**05 37 58.5**	**-0.1**
SHPR	**Sheep Range**	**4.25**	**2**	Pn	**Pn**	**05 37 20.3**	**+2.1**
ISA	**Isabella, Lake**	**4.28**	**324**	*e*Pn	**Pn**	**05 37 20.8**	**+2.3**
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**	**05 37 24.5**	**+0.9**
CCUT	**Cedar City**	**5.53**	**17**	*e*Pn	**Pn**	**05 37 37.5**	**+1.6**
	comp=E,3.2nm,0.7s						
ARUT	**Antelope Range**	**5.74**	**15**	Pn	**Pn**	**05 37 39.1**	**+0.4**
	comp=E,0.5nm,0.5s						
121A	**Cookes Peak, D**	**6.41**	**85**	*e*Pn	**Pn**	**05 37 47.7**	**-0.2**
	comp=E,3.6nm,0.4s						
MVU	**Marysvale**	**6.75**	**22**	Pn	**Pn**	**05 37 53.4**	**+0.9**
	comp=E,4.6nm,0.8s						
MVCO	**Mesa Verde**	**7.50**	**47**	*e*Pn	**Pn**	**05 38 04.8**	**+1.8**
	comp=E,4.0nm,0.6s						

*IDC **13** 05:42:56.2±1.6,34.°58S×72.°96W,h0km,mb3.6/2, mb1 3.6/5,mb1mx3.5/23,mbtmp3.4/5,ML3.4/3,MS3.0/1, Ms1 3.0/1,ms1mx2.4/21,Error ellipse: s-maj=42.6km s-min=31.5km az=76.0*

*ISCJB **13** 05:43:09.1±0.9,33.°92S±0.°04×72.°06W±0.°09,h69km±11km, mb3.2/2,Error ellipse: s-maj=13.0km s-min=7.4km az=5.5*
*NEIC **13** 05:43:09.9,33.°95S×72.°02W,h55km,MG4.0(GUC),After GUC.*
NEIC Felt [III] at Navidad, San Antonio and Santo Domingo.
*GUC **13** 05:43:09.9±0.3,33.°95S×72.°02W,h55km±12km,ML4.0*
ISC 13 05:43:10.4±1.2,33.°94S±0.°04×72.°02W±0.°07,h61km±12km, n24,σ0s97/33,6C-5D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.97**	**19**	⇓*i*P	**Pn**	**05 43 27.6**	**-0.4**
IHA				*i* S	**Sn**	**05 43 41.3**	**+0.2**
IHA	**Instituto Hidr**	**0.97**	**19**	⇓*i*P	**Pn**	**05 43 27.6**	**-0.4**
IHA				*i* S	**Sn**	**05 43 41.3**	**+0.2**
NICH	**Los Niches**	**1.24**	**149**	AML	AML	05 43 52.2	
	comp=N,7μm,0.4s						
FSR	**Penalolen**	**1.33**	**70**	*i* P	**Pn**	**05 43 32.9**	**+0.1**
FSR				*i* S	**Sn**	**05 43 50.1**	**+0.4**
FSR	**Penalolen**	**1.33**	**70**	*i* P	**Pn**	**05 43 32.9**	**+0.1**
FSR				*i* S	**Sn**	**05 43 50.1**	**+0.4**
LACH	**Col Las Americ**	**1.33**	**69**	⇑*i*P	**Pn**	**05 43 31.4**	**-1.5**
LACH				*i* S	**Sn**	**05 43 47.8**	**-2.0**
LACH	**Col Las Americ**	**1.33**	**69**	⇑*i*P	**Pn**	**05 43 31.4**	**-1.5**
LACH				*i* S	**Sn**	**05 43 47.8**	**-2.0**
CLCH	**Cerro Calan**	**1.35**	**67**	⇓*i*P	**Pn**	**05 43 32.6**	**-0.6**
CLCH				*i* S	**Sn**	**05 43 50.5**	**+0.2**
CLCH				AML	AML	05 44 04.7	
	comp=E,3μm,0.5s						
CLCH				AML	AML	05 44 05.3	
	comp=E,4μm,0.6s						
PEL	**Peldehue**	**1.37**	**55**	⇑*i*P	**Pn**	**05 43 33.2**	**-0.2**
PEL				*e*S	**Sn**	**05 43 51.2**	**+0.5**
PEL				AML	AML	05 43 56.0	
	comp=E,5μm,0.3s						
PEL	**Peldehue**	**1.37**	**55**	⇑*i*P	**Pn**	**05 43 33.2**	**-0.2**
PEL				*e*S	**Sn**	**05 43 51.2**	**+0.5**
TALC	**Talca**	**1.49**	**168**	⇑*i*P	**Pn**	**05 43 34.7**	**-0.2**
TALC				*i* S	**Sn**	**05 43 53.5**	**+0.2**
TALC				AML	AML	05 43 58.2	
	comp=N,4μm,0.6s						
TALC	**Talca**	**1.49**	**168**	⇑*i*P	**Pn**	**05 43 34.7**	**-0.2**
TALC				*i* S	**Sn**	**05 43 53.5**	**+0.2**
YECH	**El Yeso**	**1.64**	**81**	⇓*i*P	**Pn**	**05 43 37.1**	**-0.1**
YECH				*i* S	**Sn**	**05 43 58.0**	**+0.6**
YECH				AML	AML	05 44 01.7	
	comp=E,2μm,0.4s						
YECH	**El Yeso**	**1.64**	**81**	⇓*i*P	**Pn**	**05 43 37.1**	**-0.1**
YECH				*i* S	**Sn**	**05 43 58.0**	**+0.6**
CFAA	**Coronel Fontan**	**3.95**	**55**	Pn	**Pn**	**05 44 09.9**	**+1.4**
	comp=E,0.4nm,0.3s,baz=232,slow=6.4,SNR=20						
CFAA				Sn	Sn	05 45 03.2	+10
	comp=E,1.3nm,0.3s,baz=71,slow=17,SNR=4.6						
LCO	**Las Campanas**	**5.04**	**13**	*e*Pn	**Pn**	**05 44 23.3**	**-0.4**
LCO				*e*Sn	**Sn**	**05 45 20.2**	**-0.7**
PLCA	**Paso Flores**	**6.88**	**171**	Pn	Pn	05 44 32.5	-16
	comp=E,0.3nm,0.3s,baz=325,slow=12,SNR=12						
PLCA	**Paso Flores**	**6.88**	**171**	*e*Pn	Pn	05 44 34.0	-15
LPAZ	**La Paz**	**17.93**	**12**	P	**Pn**	**05 47 19.0**	**+2.9**
	comp=E,0.1nm,0.3s,baz=190,slow=10,SNR=4.7						
LPAZ	**La Paz**	**17.93**	**12**	*e*Pn	**Pn**	**05 47 16.5**	**+0.4**
SIV	**San Ignacio**	**20.42**	**32**	LR	LR	05 56 50.5	
	comp=E,45nm,21.6s,baz=180,slow=39						
TXAR	**Lajitas Array**	**69.69**	**331**	P	P	05 54 08.4	-5.3
	comp=E,0.1nm,0.6s,baz=148,slow=8.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.18**	**70**	P	**P**	**05 55 34.4**	**-0.9**
	comp=E,1.0nm,0.9s,baz=232,slow=3.7,SNR=4.4						
MKAR	**Makanchi Array**	**156.72**	**49**	PKPab	**PKPab**	**06 03 27.4**	**-0.6**
	comp=E,0.2nm,0.5s,baz=302,slow=3.2,SNR=2.4						

IDC 13 05:54:58.9±0.9,29.°54S×178.°85W,h206km±9km,mb3.4/4, mb1 3.5/4,mb1mx3.3/25,mbtmp3.9/4,Error ellipse: s-maj=25.2km s-min=20.9km az=20.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**71**	P	Pn	05 55 28.5	+0.1
	149nm,0.3s,baz=110,slow=7.3,SNR=12						
RAO				S	S	05 55 43.1	-8.0
	199nm,0.3s,baz=74,slow=7.8,SNR=7.1						
URZ	**Urewera**	**9.32**	**200**	S	S	05 58 43.1	-11
	2.2nm,0.3s,baz=93,slow=18,SNR=14						
STKA	**Stephens Creek**	**33.96**	**256**	P	P	06 01 24.1	+1.1
	0.6nm,0.4s,baz=94,slow=7.2,SNR=3.0						
ASAR	**Alice Springs**	**42.42**	**266**	P	P	06 02 33.1	-0.5
	0.5nm,0.3s,baz=100,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**43.33**	**272**	P	P	06 02 40.5	-0.4
	0.4nm,0.3s,baz=110,slow=8.1,SNR=18						
QSPA	**South Pole Qui**	**60.56**	**180**	P	P	06 04 47.6	+0.1
	2.8nm,0.8s,baz=356,slow=0.8,SNR=14						
MKAR	**Makanchi Array**	**116.65**	**311**	PKP	PKPdf	06 13 17.4	-0.9
	0.2nm,0.4s,baz=64,slow=3.4,SNR=4.0						
BVAR	**Borovoye Array**	**125.28**	**316**	PKP	PKPdf	06 13 34.9	+0.2
	0.7nm,0.6s,baz=59,slow=7.1,SNR=4.7						
FINES	**FINESS Array B**	**144.09**	**340**	PKP	PKPbc	06 14 07.7	-0.2
	1.6nm,0.4s,baz=66,slow=3.4,SNR=11						
NOA	**NORSAR Array B**	**147.79**	**351**	PKPbc	PKPbc	06 14 18.5	-0.3
	1.3nm,0.9s,baz=7.7,slow=3.7,SNR=3.5						
AKASG	**Malin Array Be**	**150.17**	**323**	PKPbc	PKPbc	06 14 25.2	+0.2
	0.9nm,0.4s,baz=47,slow=3.6,SNR=9.7						
BRTR	**Keskin Array B**	**151.54**	**300**	PKPbc	PKPbc	06 14 28.8	0.0
	0.8nm,0.5s,baz=131,slow=5.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**163.68**	**182**	PKPab	PKPab	06 15 29.6	-1.1
	0.7nm,0.7s,baz=172,slow=3.9,SNR=5.3						

*ISCJB **13** 06:07:49.7±0.6,22.°14S±0.°06×179.°58W±0.°04, h588km±8km,mb4.5/74, Error ellipse: s-maj=9.0km s-min=5.4km az=164.8*
*MOS **13** 06:07:49.5±0.9,22.°02S×179.°64W,h585km,mb4.6/12, Error ellipse: s-maj=13.1km s-min=11.2km az=52.5*
*IDC **13** 06:07:50.5±0.8,21.°93S×179.°57W,h581km±8km,mb3.8/16, mb1 4.1/16,mb1mx3.8/35,mbtmp4.7/16,Error ellipse: s-maj=15.3km s-min=11.8km az=145.0*
*BJI **13** 06:07:50.3,22.°10S×179.°60W,h586km,mB4.9/3,mb4.4/7*
*NEIC **13** 06:07:50.4±0.5,22.°08S×179.°59W,h584km±5km,mb4.6/50, Error ellipse: s-maj=8.6km s-min=4.6km az=156.0*
ISC 13 06:07:49.9±0.5,22.°18S±0.°06×179.°44W±0.°07, h585km±4km,h586km:pP-P,n263,σ1s39/289,mb4.6/72, 58C-50D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.02**	**331**	*e*P	**P**	**06 09 21.8**	**-0.5**
MSVF	**Nonsavu**	**5.02**	**331**	*e*P	**P**	**06 09 21.8**	**-0.5**
RAO	**Raoul Island**	**7.17**	**169**	P	**P**	**06 09 41.5**	**+0.7**
	115nm,0.3s,baz=273,slow=18,SNR=4.4						
RAO				S	**S**	**06 11 11.6**	**0.0**
	42nm,0.3s,baz=128,slow=22,SNR=1.9						
NIUE	**Niue**	**9.43**	**73**	S	S	06 12 01.0	+9.3
	baz=9.2,SNR=4.0						
DZM	**Mont Dzumac**	**13.09**	**268**	*e*P	**P**	**06 10 38.9**	**-1.0**
	25nm,0.7s						
PUZ	**Puketiti**	**15.96**	**187**	*e*Pn	**P**	**06 11 09.6**	**+2.2**
PUZ				SN	**S**	**06 13 44.3**	**-4.1**
URZ	**Urewera**	**16.30**	**190**	P	**P**	**06 11 09.5**	**-0.9**
	3.4nm,0.3s,baz=273,slow=2.5,SNR=20						
URZ				S	**S**	**06 13 48.0**	**-5.9**
	1.6nm,0.3s,baz=161,slow=19,SNR=8.0						
URZ	**Urewera**	**16.30**	**190**	PN	**P**	**06 11 09.0**	**-1.5**
URZ				SN	**S**	**06 13 47.8**	**-6.1**
URZ	**Urewera**	**16.30**	**190**	*e*P	**P**	**06 11 10.0**	**-0.5**
URZ				S	**S**	**06 13 48.0**	**-5.9**
EIDS	**Eidsvold**	**27.14**	**257**	*e*P	**P**	**06 12 48.2**	**+0.5**
	25nm,0.6s						
ARMA	**Armidale**	**27.15**	**246**	P	**P**	**06 12 49.6**	**+1.7**
	baz=27,SNR=34						
ARMA	**Armidale**	**27.15**	**246**	*e*P	**P**	**06 12 48.7**	**+0.8**
	27nm,0.5s						
MGCD	**Mangrove Creek**	**28.21**	**241**	P	**P**	**06 12 59.0**	**+2.1**
	baz=28,SNR=20						
RMQ	**Roma**	**29.25**	**255**	P	**P**	**06 13 07.6**	**+1.5**
	baz=29,SNR=16						
CTAO	**Charters Tower**	**32.03**	**267**	*e*P	**P**	**06 13 29.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,43nm,0.5s						
CTAO	**Charters Tower**	**32.03**	**267**	*e*P	**P**	**06 13 29.7**	**-0.2**
	comp=Z,43nm,0.5s						
QLP	**Quilpie**	**33.31**	**255**	P	**P**	**06 13 40.6**	**0.0**
	baz=33,SNR=33						
PMG	**Port Moresby**	**34.47**	**286**	*d* iP	**P**	**06 13 49.7**	**-0.8**
PMG				pmax	pmax		
	comp=Z,83nm,1.2s						
PMG	**Port Moresby**	**34.47**	**286**	P	**P**	**06 13 49.7**	**-0.8**
	comp=Z,46nm,0.7s,baz=101,slow=6.3,SNR=12						
PMG	**Port Moresby**	**34.47**	**286**	*e*P	**P**	**06 13 50.0**	**-0.4**
STKA	**Stephens Creek**	**35.87**	**246**	*e*P	**P**	**06 14 02.7**	**+0.8**
STKA						06 19 07.0	
STKA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
STKA	**Stephens Creek**	**35.87**	**246**	P	**P**	**06 14 02.6**	**+0.8**
	comp=Z,25nm,0.5s,baz=93,slow=10.0,SNR=129						
STKA				ScP	**ScP**	**06 19 07.0**	**+3.2**
	comp=Z,3.2nm,0.9s,baz=19,slow=1.9,SNR=3.7						
STKA	**Stephens Creek**	**35.87**	**246**	*e*P	**P**	**06 14 02.7**	**+0.8**
	comp=Z,6.0nm,0.6s						
STKA				ScP	**ScP**	**06 19 07.0**	**+3.2**
COEN	**Coen**	**36.40**	**277**	P	**P**	**06 14 06.5**	**0.0**
	baz=36,SNR=13						
COEN	**Coen**	**36.40**	**277**	*e*P	**P**	**06 14 06.4**	**0.0**
	comp=Z,4.2nm,0.8s						
QIS	**Mount Isa**	**38.10**	**265**	P	**P**	**06 14 19.5**	**-0.7**
	baz=38,SNR=11						
BBOO	**Buckleboo**	**40.61**	**245**	*e*P	**P**	**06 14 40.1**	**-0.1**
	comp=Z,3.3nm,1.0s						
ASAR	**Alice Springs**	**42.85**	**259**	P	**P**	**06 14 57.9**	**-0.1**
	comp=Z,47nm,0.8s,baz=95,slow=8.2,SNR=331						
ASAR				PcP	**PcP**	**06 16 35.8**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=94,slow=3.9,SNR=4.2						
ASAR				ScP	**ScP**	**06 19 34.4**	**+3.1**
	comp=Z,1.6nm,0.9s,baz=101,slow=3.5,SNR=6.0						
WB2	**Warramunga Arr**	**43.06**	**264**	*e*P	**P**	**06 14 58.4**	**-1.2**
WRAB	**Tennant Creek**	**43.06**	**264**	*d* iP	**P**	**06 14 58.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,154nm,1.2s						
WRAB	**Tennant Creek**	**43.06**	**264**	*e*P	**P**	**06 14 58.8**	**-0.8**
	comp=Z,43nm,0.9s						
WRA	**Warramunga Arr**	**43.07**	**264**	P	**P**	**06 14 58.5**	**-1.1**
	comp=Z,12nm,0.3s,baz=97,slow=7.5,SNR=292						
WRA				PcP	**PcP**	**06 16 36.7**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=89,slow=3.3,SNR=3.7						
WRA				ScP	**ScP**	**06 19 35.1**	**+2.9**
	comp=Z,4.7nm,1.0s,baz=99,slow=4.2,SNR=10						
JAY	**Jayapura**	**43.35**	**291**	P	**P**	**06 15 01.1**	**-0.9**
	comp=Z,35nm,0.6s,baz=144,slow=2.9,SNR=19						
FORT	**Forrest**	**47.41**	**248**	*e*P	**P**	**06 15 31.6**	**-1.0**
	comp=Z,82nm,0.7s						
WRKA	**Warakurna**	**47.74**	**256**	P	**P**	**06 15 34.9**	**-0.2**
	baz=48,SNR=294						
MTN	**Manton Dam**	**47.87**	**273**	P	**P**	**06 15 35.3**	**-0.9**
	baz=48,SNR=9.8						
FAKI	**Fak Fak**	**50.61**	**285**	P	**P**	**06 15 55.3**	**-1.1**
	baz=51,SNR=3.4						
FITZ	**Fitzroy Crossi**	**51.50**	**264**	*e*P	**P**	**06 16 02.8**	**+0.1**
	comp=Z,24nm,0.9s						
SOEI	**Soe**	**55.24**	**273**	*e*P	**P**	**06 16 30.4**	**+1.1**
	comp=Z,102nm,0.8s						
VNDA	**Vanda**	**56.12**	**185**	P	**P**	**06 16 37.1**	**+2.8**
	comp=Z,1.7nm,0.7s,baz=2.1,slow=6.1,SNR=18						
BLDU	**Ballidu**	**57.16**	**247**	P	**P**	**06 16 42.1**	**-0.1**
	baz=57,SNR=34						
MORW	**Morawa**	**57.96**	**249**	P	**P**	**06 16 47.7**	**0.0**
	baz=58,SNR=9.3						
GIRL	**Giralia**	**60.83**	**256**	P	**P**	**06 17 08.0**	**+1.2**
	baz=61,SNR=11						
KAPI	**Kappang**	**61.13**	**277**	*e*P	**P**	**06 17 08.5**	**-0.4**
	comp=Z,2.4nm,0.3s						
JAGI	**Jajag, Banyuwa**	**65.05**	**271**	P	**P**	**06 17 32.6**	**-1.5**
	baz=65,SNR=7.4						
JAGI	**Jajag, Banyuwa**	**65.05**	**271**	*e*P	**P**	**06 17 32.3**	**-1.7**
	comp=Z,36nm,0.8s						
UGM	**Wanagama**	**68.61**	**270**	P	**P**	**06 17 55.5**	**-0.4**
	baz=69,SNR=5.3						
MJAR	**Matsushiro Arr**	**70.79**	**325**	P	**P**	**06 18 07.3**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=164,slow=6.7,SNR=5.1						
MAJO	**Matsushiro**	**70.79**	**325**	*e*P	**P**	**06 18 06.7**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,148nm,1.6s						
KSM	**Kuching**	**72.34**	**279**	*e*P	**P**	**06 18 17.8**	**0.0**
PETK	**Petropavlovsk-**	**77.56**	**346**	P	**P**	**06 18 45.6**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=141,slow=5.5,SNR=6.3						
MAW	**Mawson**	**79.53**	**200**	P	**P**	**06 18 58.0**	**+1.6**
MAW	**Mawson**	**79.53**	**200**	P	**P**	**06 18 58.0**	**+1.6**
	comp=Z,4.1nm,0.6s,baz=170,slow=7.1,SNR=6.5						
KMRM	**Mail Ridge**	**80.90**	**40**	*e*P	**P**	**06 19 06.5**	**+2.4**
	comp=Z

PDMCI	Parker Dam,Lak	83.68	49	⇓P		P	06 19 19.2	+1.1
	baz=84							
J04D	Umpqua Nationa	83.72	38	⇑P		P	06 19 19.6	+1.2
	baz=84							
I04A	Tendick Farm,	83.89	38	⇑P		P	06 19 19.8	+0.8
	baz=84							
MOD	Modoc Plateau	83.96	40	*e*P		P	06 19 20.1	+0.6
	comp=Z,4.9nm,0.8s							
Z14A	Wintersburg	84.03	50	⇓P		P	06 19 21.3	+1.4
	baz=84							
K05A	Summer Lake	84.11	39	*e*P		P	06 19 20.9	+0.7
	comp=Z,128nm,2.3s							
SHPR	Sheep Range	84.16	47	*e*P		P	06 19 21.7	+1.1
J05D	Fort Rock, OR	84.25	39	⇓P		P	06 19 22.3	+1.4
	baz=84							
W13A	Hualapai Mount	84.28	49	⇓P		P	06 19 22.1	+0.8
	baz=84,SNR=7.0							
Y14A	Wickenburg	84.29	50	⇑P		P	06 19 21.9	+0.7
	baz=84							
SYO	Syowa Base	84.79	193	⇓*e*P		P	06 19 22.0	-0.9
I05D	Terrebonne, OR	84.83	38	⇑P		P	06 19 24.7	+1.1
	baz=85							
R11A	Troy Canyon, C	84.88	45	⇑P		P	06 19 24.7	+0.5
	baz=85							
BMN	Battle Mountai	84.99	43	*e*P		P	06 19 25.5	+0.9
BMN					pmax	pmax		
	comp=Z,6.0nm,0.6s							
BMN	Battle Mountai	84.99	43	*e*P		P	06 19 25.5	+0.9
	comp=Z,5.8nm,0.6s							
TUC	Tucson	85.06	52	*e*P		P	06 19 26.9	+1.8
TUC					pmax	pmax		
	comp=Z,10.0nm,1.0s							
TUC	Tucson	85.06	52	*e*P		P	06 19 26.9	+1.8
	comp=Z,9.9nm,1.0s							
KHON	Khomkaen	85.18	290	P		P	06 19 27.3	+1.5
	comp=Z,8.5nm,0.8s							
F04A	Amboy	85.22	36	*e*P		P	06 19 26.3	+1.0
	comp=Z,9.8nm,0.8s							
WVOR	Wild Horse Val	85.27	40	*e*P		P	06 19 26.5	+0.6
WVOR	Wild Horse Val	85.27	40	*e*P		P	06 19 26.5	+0.6
LVP	Lakeview Peak	85.31	36	P		P	06 19 26.4	+0.5
X16A	Lo Mia Camp, P	85.65	50	⇑P		P	06 19 29.3	+1.4
	baz=86							
319A	Douglas	85.72	54	⇑P		P	06 19 29.7	+1.5
	baz=86							
G06A	Carlson Farm,	85.78	37	*e*P		P	06 19 29.5	+1.4
VTHM	Trough	85.79	37	P		P	06 19 29.1	+0.9
CCUT	Cedar City	85.93	47	*e*P		P	06 19 30.7	+1.4
	comp=Z,5.3nm,1.0s							
ARUT	Antelope Range	86.01	47	*e*P		P	06 19 29.5	0.0
ARUT	Antelope Range	86.01	47	*e*P		P	06 19 29.5	0.0
	comp=Z,0.4nm,0.8s							
LHMI	Lhok Sumawe	86.06	277	P		P	06 19 33.9	+3.8
	baz=86,SNR=3.0							
U15A	North Rim	86.08	48	⇓P		P	06 19 31.2	+1.2
	baz=86,SNR=13							
D05A	Enumclaw	86.24	35	*e*P		P	06 19 32.1	+2.0
	comp=Z,74nm,1.6s							
WUAZ	Wupatki	86.25	49	⇓P		P	06 19 31.8	+1.0
	baz=86							
GYA	Guiyang	86.33	300	*e*P		P	06 19 32.0	+0.8
GYA				pP		pP	06 21 39.4	+2.3
GYA				sP		sP	06 22 36.0	+0.2
GYA				PP		PP	06 23 05.8	+2.0
GYA				SKS		SKSac	06 29 00.6	-2.0
GYA				S		SKKSac	06 29 15.3	+2.5
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
ELK	Elko	86.42	43	*e*P		P	06 19 32.2	+0.7
ELK	Elko	86.42	43	*e*P		P	06 19 32.2	+0.7
NAC	Naches	86.59	36	P		P	06 19 32.8	+1.0
PHET	Kaeng Krachan	86.61	285	P		P	06 19 34.7	+2.1
	comp=Z,75nm,0.8s							
G08A	Pilot Rock	86.76	38	*e*P		P	06 19 33.6	+0.8
	comp=Z,16nm,1.2s							
X18A	Snowflake	86.77	51	⇓P		P	06 19 34.6	+1.3
	baz=87							
TWW	Teanaway	86.81	36	P		P	06 19 34.0	+1.0
EBG	Ellensburg	86.83	36	P		P	06 19 34.1	+1.1
LTY	Liberty	86.99	36	*e*P		P	06 19 34.0	+0.2
	comp=Z,7.5nm,1.0s							
E07A	Sunnyside	87.01	37	*e*P		P	06 19 34.8	+1.0
	comp=Z,17nm,0.9s							
RSW	Rattlesnake Hi	87.06	37	P		P	06 19 35.3	+1.1
SNIWA	Snively Ranch	87.06	37	P		P	06 19 35.4	+1.3
HAWA	Hanford	87.09	37	*e*P		P	06 19 35.0	+0.9
	comp=Z,14nm,1.0s							
H2OWA	Water	87.16	37	P		P	06 19 35.6	+1.2
MVU	Marysvale	87.20	46	*e*P		P	06 19 36.8	+1.6
	comp=Z,48nm,2.8s							
121A	Cookes Peak, D	87.39	53	⇑P		P	06 19 37.6	+1.4
	baz=88							
MFID	Camas Ranch	87.53	41	*e*P		P	06 19 37.5	+1.0
	comp=Z,9.4nm,0.9s							
WTV	Waterville	87.64	36	P		P	06 19 37.2	+0.4
NLW	Nelson Butte	87.67	35	P		P	06 19 37.6	+0.5
SEY	Seymchan	87.71	348	P		P	06 19 36.5	-0.1
	comp=Z,0.5nm,0.3s,baz=154,slow=6.7,SNR=6.1							
D08A	Wollman Farm,	87.83	37	*e*P		P	06 19 38.4	+0.8
	comp=Z,14nm,0.9s							
UTHA	Uthaitani	87.83	288	P		P	06 19 40.9	+2.6
	comp=Z,2.8nm,0.9s							
E09A	Wood Farm, Sta	87.94	37	*e*P		P	06 19 39.0	+0.8
	comp=Z,12nm,1.1s							
OD2	Odessa Site #2	88.14	36	P		P	06 19 39.6	+0.5
F10A	Beach Ranch, E	88.15	38	*e*P		P	06 19 39.5	+0.2
	comp=Z,13nm,0.9s							
KTH	Kantishna Hill	88.34	12	*e*P		P	06 19 38.4	-1.3
B08A	Colville Reser	88.37	35	*e*P		P	06 19 40.3	+0.1
	comp=Z,8.5nm,0.9s							
TRF	Thorofare Moun	88.37	13	*e*P		P	06 19 39.1	-0.9
	comp=Z,15nm,0.8s							
HLID	Hailey	88.47	41	⇑P		P	06 19 41.9	+0.9
	baz=89							
HVU	Hansel Valley	88.54	43	*e*P		P	06 19 42.3	+1.0
HVU	Hansel Valley	88.54	43	*e*P		P	06 19 42.3	+1.0
C09A	Chrisman Ranch	88.62	36	*e*P		P	06 19 42.0	+0.7
	comp=Z,6.8nm,0.9s							
CTU	Camp Tracy	88.64	45	*e*P		P	06 19 42.8	+1.0
	comp=Z,9.8nm,1.1s							
SRU	San Rafael Swe	88.65	47	*e*P		P	06 19 42.9	+1.0
SRU					pmax	pmax		
	comp=Z,13nm,1.1s							
SRU	San Rafael Swe	88.65	47	*e*P		P	06 19 42.9	+1.0
	comp=Z,13nm,1.1s							
MNTX	Cornudas Mount	88.81	55	⇓P		P	06 19 43.9	+1.3
	baz=89							
MNTX	Cornudas Mount	88.81	55	*e*P		P	06 19 43.6	+1.0
	comp=Z,7.4nm,0.8s							
DAU	Daniels Canyon	88.82	45	*e*P		P	06 19 44.7	+1.9
DAU	Daniels Canyon	88.82	45	*e*P		P	06 19 44.6	+1.9
LAMP	Lampang	88.85	290	P		P	06 19 44.9	+1.9
	comp=Z,7.7nm,0.8s							
MCK	McKinley	88.90	13	*e*P		P	06 19 41.7	-0.6
MCK	McKinley	88.90	13	*e*P		P	06 19 41.7	-0.6
TCUT	Toone Canyon	89.08	44	*e*P		P	06 19 44.2	+0.3
	comp=Z,11nm,0.9s							
TXAR	Lajitas Array	89.08	58	P		P	06 19 45.1	+1.1
	comp=Z,4.5nm,0.9s,baz=218,slow=5.9,SNR=39							
TXAR				pP		pP	06 21 52.1	+1.3
	comp=Z,0.8nm,0.9s,baz=205,slow=2.6,SNR=5.6							
CMAR	Chiang Mai Arr	89.42	290	P		P	06 19 47.0	+1.3
	comp=Z,6.8nm,0.8s,baz=126,slow=3.2,SNR=38							
CMAR				pP		pP	06 21 52.7	+0.1
	comp=Z,0.2nm,0.4s,baz=117,slow=5.5,SNR=1.9							
CMAR				PP		PP	06 23 28.5	+0.4
	comp=Z,0.6nm,0.6s,baz=134,slow=6.1,SNR=4.3							
ANMO	Albuquerque	89.50	52	⇓*i*P		P	06 19 46.8	+0.9
ANMO				pmax		pmax		
	comp=Z,27nm,1.2s							
ANMO	Albuquerque	89.50	52	*e*P		P	06 19 46.5	+0.6
	comp=Z,5.3nm,1.0s							
NEW	Newport	89.52	36	⇑P		P	06 19 45.6	+0.1
	baz=90							
CMMT	Chiang Mai	89.56	290	P		P	06 19 47.5	+1.2
	comp=Z,18nm,0.8s							
HHC	Hu-ho-hao-te	89.58	315	*e*P		P	06 19 45.6	-0.5
HHC				SKS		SKSac	06 29 19.3	-1.7
HHC				S		SKKSac	06 29 41.3	+4.9
HHC				SS		SS	06 36 03.6	+0.4
HHC				PMZ				
	comp=Z,15nm,1.2s							
HHC				PMZ				
	comp=Z,70nm,5.7s							
CMAI	Chiengmai2	89.92	291	P		P	06 19 49.6	+1.4
	comp=Z,8.1nm,1.4s							
COLA	College	90.14	13	*d*P		P	06 19 47.0	-0.8
COLA				*i* *PP		pP	06 21 53.1	-1.8
COLA				pmax		pmax		
	comp=Z,26nm,1.0s							
COLA	College	90.14	13	*e*P		P	06 19 47.1	-0.8
	comp=Z,5.2nm,0.8s							
ILAR	Eielson Array	90.25	13	P		P	06 19 46.9	-1.5
	comp=Z,1.2nm,0.6s,baz=217,slow=4.5,SNR=21							
EFI	East Falkland	90.38	148	⇓*e*P		P	06 19 52.4	+2.9
EFI				*i* *PP		pP	06 21 57.3	+0.8
EFI				pmax		pmax		
	comp=Z,267nm,1.7s							
S22A	4UR Ranch, Cre	90.53	49	⇓P		P	06 19 51.3	+0.6
	baz=91							
529A	Stev Forest Ra	90.56	58	⇑P		P	06 19 51.6	+0.8
	baz=91							
BILL	Bilibino	90.57	355	⇓*e*P		P	06 19 49.8	-0.1
BILL				*e*SS		SS	06 36 25.4	+9.3
BILL				pmax		pmax		
	comp=Z,6.0nm,2.0s							
REDW	Red Top Meadow	90.57	43	*e*P		P	06 19 51.7	+0.9
CD2	Chengdu	90.58	303	*e*P		P	06 19 51.0	+0.2
FXWY	Fox Creek	90.60	42	*e*P		P	06 19 51.7	+0.8
	comp=Z,2.7nm,0.9s							
IMW	Indian Meadow	90.79	42	*e*P		P	06 19 52.8	+0.9
LOHW	Long Hollow	90.86	43	*e*P		P	06 19 52.8	+0.8
	comp=Z,1.9nm,0.8s							
N20A	Spence Gulch,	91.01	46	⇓P		P	06 19 53.3	+0.5
	baz=91							
429A	Davenport Ranc	91.03	57	⇑P		P	06 19 53.2	+0.3
	baz=91,SNR=11							
I17A	Pilgrim Ck.	91.03	42	⇓P		P	06 19 53.8	+0.9
	baz=91							
FLWY	Flagg Ranch	91.03	42	*e*P		P	06 19 54.0	+1.1
	comp=Z,11nm,1.4s							
SMCO	Snowmass	91.09	48	*e*P		P	06 19 54.1	+0.7
PDAR	Pinedale Array	91.10	44	P		P	06 19 53.1	-0.1
	comp=Z,2.7nm,0.9s,baz=204,slow=3.3,SNR=19							
PDAR				PP		PP	06 23 36.2	-4.8
	comp=Z,0.5nm,0.9s,baz=258,slow=7.0,SNR=5.1							
228A	UT Block 9, Go	91.12	56	⇓P		P	06 19 53.8	+0.4
	baz=91							
530A	J-C Ranch, Com	91.26	58	⇑P		P	06 19 54.5	+0.5
	baz=92							
H17A	Grant Village	91.27	42	⇑P		P	06 19 55.6	+1.6
	baz=92							
329A	Wagon Wheel Ra	91.33	57	⇑P		P	06 19 55.1	+0.8
	baz=92							
128A	Castleberry Fa	91.42	55	⇑P		P	06 19 55.5	+0.8
	baz=92							
R23A	Moffat	91.44	49	⇓P		P	06 19 56.0	+1.1
	baz=92							
631A	Perdido Creek	91.56	59	⇑P		P	06 19 55.8	+0.4
	baz=92,SNR=11							
EGAK	Eagle	91.57	15	*e*P		P	06 19 54.4	-0.2
	comp=Z,3.5nm,0.8s							
430A	Baggett Ranch,	91.61	57	⇓P		P	06 19 56.0	+0.4
	baz=92							
S24A	Huchin Ranch,	91.62	50	⇓P		P	06 19 56.6	+0.8
	baz=92							
J19A	Crowheart	91.67	44	⇑P		P	06 19 56.2	+0.4
	baz=92							
732A	Laxson Ranch,	91.76	60	⇑P		P	06 19 56.9	+0.7
	baz=92							
O22A	Kremmling	91.84	47	⇑P		P	06 19 57.4	+0.6
	baz=92							
933A	Laredo	91.86	61	⇑P		P	06 19 56.7	-0.1
	baz=92							
531A	Rocksprings	91.89	58	⇓P		P	06 19 57.7	+0.8
	baz=92							
330A	Mertzon	91.92	57	⇓P		P	06 19 57.0	0.0
	baz=92							
T25A	Trinidad	91.97	51	⇓P		P	06 19 58.2	+0.8
	baz=92							
833A	Chaparral WMA,	92.06	60	⇓P		P	06 19 58.4	+0.8
	baz=92							
I19A	Meeteetse	92.08	43	⇓P		P	06 19 58.6	+0.9
	baz=92							
S25A	Robets Cordova	92.18	50	⇑P		P	06 19 58.5	+0.3
	baz=92							
N22A	Wattenberg Ran	92.20	47	⇓P		P	06 19 59.0	+0.6
	baz=92							
632A	Uvalde	92.22	59	⇓P		P	06 19 58.8	+0.4
	baz=92,SNR=6.3							
O23A	Lake Granby, G	92.30	47	⇑P		P	06 19 59.3	+0.4
	baz=92							
ISCO	Idaho Springs	92.32	48	⇓P		P	06 19 59.5	+0.5
	baz=92							
J20A	Shoshoni	92.33	44	⇑P		P	06 19 59.7	+1.0
	baz=92							
532A	Rocksprings	92.38	59	⇑P		P	06 19 59.9	+0.7
	baz=93							
Y29A	Porterfield Fa	92.56	54	⇓P		P	06 20 00.5	+0.5
	baz=93							
I20A	Worland	92.58	43	⇑P		P	06 19 60.0	+0.1
	baz=93							
N23A	Red Feather La	92.59	47	⇑P		P	06 20 00.5	+0.4
	baz=93							
633A	Saathoff Ranch	92.69	59	⇓P		P	06 20 01.3	+0.8
	baz=93							
LZH	Lanzhou	92.73	308	*e*P		P	06 20 05.3	+4.5
LZH				pP		pP	06 22 14.8	+6.7
LZH				PMZ				
	comp=Z,16nm,1.0s							
432A	Menard	92.78	58	⇑P		P	06 20 01.1	+0.1
	baz=93,SNR=5.2							
L22A	Ellis Ranch, M	92.78	46	⇑P		P	06 20 02.0	+1.1
	baz=93							
231A	Bronte	92.80	57	⇓P		P	06 20 01.2	+0.2
	baz=93							
332A	Millersview	93.02	57	⇑P		P	06 20 02.6	+0.5
	baz=93							
533A	Kerrville	93.05	59	⇓P		P	06 20 02.8	+0.6
	baz=93							
I21A	Big Trails, Te	93.05	44	⇑P		P	06 20 02.4	+0.3
	baz=93							
433A	Art	93.28	58	⇑P		P	06 20 03.6	+0.4
	baz=94							
232A	Coleman	93.30	57	⇓P		P	06 20 03.3	0.0
	baz=94							
L23A	Garrett	93.31	46	⇑P		P	06 20 04.0	+0.7
	baz=94							
J22A	Midwest	93.39	44	⇑P		P	06 20 04.5	+0.9
	baz=92							
534A	Blanco	93.48	59	⇑P		P	06 20 04.4	+0.2
	baz=94,SNR=6.1							
C19A	Slack Wire Ran	93.84	40	⇑P		P	06 20 06.5	+1.1
	baz=94							
434A	Burnet	93.95	58	⇓P		P	06 20 06.6	+0.3
	baz=94							
Z32A	Haskell	94.00	56	⇓P		P	06 20 07.0	+0.5
	baz=94							
D20A	Manuel Ranch,	94.08	40	⇓P		P	06 20 06.8	+0.3
	baz=94							
334A	Lometa	94.18	58	⇑P		P	06 20 07.5	+0.2
	baz=94							
B19A	Brinkman Farms	94.25	39	⇑P		P	06 20 07.9	+0.6
	baz=94							
C20A	Veseth Ranch,	94.45	40	⇑P		P	06 20 09.1	+1.0
	baz=95							
Z33A	Whitaker Ranch	94.54	56	⇑P		P	06 20 08.9	0.0
	baz=95							
ULN	Ulaanbaatar	95.76	320	⇓*e*P		P	06 20 13.2	-1.0
ULN				pmax		pmax		
	comp=Z,13nm,5.0s							
YKA	Yellowknife Ar	98.60	25	P		Pdif	06 20 25.8	-0.5
	comp=Z,0.3nm,0.7s,baz=250,slow=4.4,SNR=4.5							
YKA				PP		PP	06 24 33.5	-3.8
	comp=Z,0.2nm,0.9s,baz=251,slow=7.7,SNR=3.7							
YKA				PKKPbc		PKKPbc	06 36 51.4	-3.3
	comp=Z,0.1nm,0.5s,baz=30,slow=2.6,SNR=4.5							
TIXI	Tiksi	100.03	345	⇓*e*P		Pdif	06 20 34.2	+1.7
TIXI				pmax		pmax		
	comp=Z,7.0nm,2.5s							
WMQ	Urumqi	107.02	311	*e*PKP		PKiKP	06 25 11.4	+1.3
KSH	Kashi	114.74	304	*e*PKP		PKPdf	06 25 24.8	-0.2
KSH				PP		PP	06 26 40.6	+6.1
KSH				sPKP			06 28 40.5	
KSH				PKS		PKSdf	06 29 00.3	-1.4
KSH				SKS		SKSdf	06 31 40.5	-1.7
KSH				SKKS		SKKSac	06 32 30.8	-4.1
KSH				PPMZ				
	comp=Z,36nm,5.1s							
ARCES	ARCESS Array B	130.32	349	PKP		PKPdf	06 25 53.9	+0.2
	comp=Z,6.8nm,1.1s,baz=112,slow=0.2,SNR=8.8							
ARCES				SKPbc		SKPab	06 28 24.1	+0.5
	comp=Z,5.1nm,1.0s,baz=44,slow=4.2,SNR=6.4							
FINES	FINESS Array B	136.99	342	SKPbc		SKPbc	06 28 45.5	+0.5
	comp=Z,0.8nm,0.5s,baz=54,slow=4.9,SNR=6.2							
OBN	Obninsk	137.57	330	⇑*i*PKIKP		PKPdf	06 26 07.0	-0.6
OBN				*e*			06 28 59.0	
OBN				*e*			06 32 08.0	
OBN				pmax		pmax		
	comp=Z,6.0nm,0.4s							
AKASG	Malin Array Be	143.80	329	PKP		PKPbc	06 26 16.7	-1.5
	comp=Z,1.3nm,0.6s,baz=41,slow=5.0,SNR=7.5							
KIEV	Kiev	143.81	329	⇑*e*PKIKP		PKPbc	06 26 17.4	-0.8
BRTR	Keskin Array B	146.93	310	PKPbc		PKPbc	06 26 27.4	-0.4
	comp=Z,1.2nm,0.6s,baz=132,slow=5.0,SNR=6.3							
CLL	Collm	149.36	345	*e*PKHKP		PKPbc	06 26 33.0	-0.3
CLL				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CLL	Collm	149.36	345	*e*PKPbc		PKPbc	06 26 33.0	-0.3
	comp=Z,5.0nm,1.0s							
BRG	Berggiesshubel	149.51	343	*e*PKP		PKPbc	06 26 31.4	-2.3
	comp=Z,1.8nm,0.4s							
BRG	Berggiesshubel	149.51	343	*e*PKHKP		PKPbc	06 26 31.4	-2.3
BRG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BRG				pmax		pmax		
	comp=Z,2.0nm,0.4s							
GERES	GERESS Array B	151.41	342	PKPbc		PKPbc	06 26 38.1	-0.2
	comp=Z,0.3nm,0.2s,baz=357,slow=4.9,SNR=3.7							
TORD	Torodi Ar. Bea	170.95	187	PKP		PKPdf	06 26 51.7	-0.8
	comp=Z,0.5nm,0.9s,baz=189,slow=2.5,SNR=2.7							
TORD				PKPab		PKPab	06 28 15.8	+0.4
	comp=Z,0.6nm,0.8s,baz=170,slow=3.0,SNR=4.3							

*ISCJB **13** 06:12:23.5±0.5,21°.07S±0°.06×68°.45W±0°.07,h117km, mb4.0/8, Error ellipse: s-maj=10.0km s-min=7.9km az=35.2*

*GUC **13** 06:12:26.0,21°.07S×68°.65W,h88km*

*IDC **13** 06:12:26.3±0.7,20°.98S×68°.35W,h124km±5km, mb3.7/9, mb1 3.9/12,mb1mx3.8/19,mbtmp4.2/12, Error ellipse: s-maj=19.8km s-min=17.2km az=85.0*

ISC 13 06:12:25.3±0.6,**21°.05S**±0°.05×**68°.46W**±0°.08,**h117**km,**n46,** σ1§**69**/45,**mb4.2/8,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.96	270	*e*P		P	Pn	06 12 44.4	-2.3
PB01	IPOC Station P	0.96	270	*e*P		P	Pn	06 12 44.4	-2.3
PB09	IPOC Station P	1.04	224	*e*P		P	Pn	06 12 46.4	-1.3
PB09	IPOC Station P	1.04	224	*e*P		P	Pn	06 12 46.4	-1.3
PB07	IPOC Station P	1.49	243	*e*P		P	Pn	06 12 50.3	-2.3
PB07	IPOC Station P	1.49	243	*e*P		P	Pn	06 12 50.3	-2.3
HMBC	Humberstone	1.54	300	*e*P		P	Pn	06 12 51.6	-1.5
HMBC	Humberstone	1.54	300	*e*P		P	Pn	06 12 51.6	-1.5
PB04	IPOC Station P	1.54	218	*e*P		P	Pn	06 12 57.0	+4.0
PB04	IPOC Station P	1.54	218	*e*P		P	Pn	06 12 57.0	+4.0
PATCX	Punta Patache	1.60	278	*e*P		P	Pn	06 12 51.8	-2.0
PATCX	Punta Patache	1.60	278	*e*P		P	Pn	06 12 51.8	-2.0
PB06	IPOC Station P	1.94	212	*e*P		P	Pn	06 12 56.3	-1.8
PB06	IPOC Station P	1.94	212	*e*P		P	Pn	06 12 56.3	-1.8
PSGC	Pisagua	2.13	313	*e*P		P	Pn	06 12 58.6	-1.7
PSGC	Pisagua	2.13	313	*e*P		P	Pn	06 12 58.6	-1.7
MNMC	Minimini	2.19	331	*e*P		P	Pn	06 13 00.6	-0.6
MNMC	Minimini	2.19	331	*e*P		P	Pn	06 13 00.6	-0.6
PB10	IPOC Station P	3.13	218	*e*P		P	Pn	06 13 12.7	-0.5
PB10	IPOC Station P	3.13	218	*e*P		P	Pn	06 13 12.7	-0.5
LPAZ	La Paz	4.75	4	P		P	Pn	06 13 37.0	+1.6
	36nm,0.3s,baz=167,slow=6.3,SNR=577								
LPAZ	La Paz	4.75	4	*e*P		P	Pn	06 13 37.4	+2.0
LPAZ	La Paz	4.75	4	*e*P		P	Pn	06 13 37.4	+2.0
SIV	San Ignacio	8.63	56	P		P	Pn	06 14 25.4	-1.9
	18nm,0.3s,baz=256,slow=11,SNR=177								
SIV				S		S	Sn	06 15 57.8	-5.2
	baz=261,slow=7.8,SNR=4.5								
CFAA	Coronel Fontan	10.52	179	P		P	Pn	06 14 48.0	-4.8
	0.5nm,0.3s,baz=358,slow=11,SNR=39								
CFAA				S		S	Sn	06 16 37.8	-11
	0.1nm,0.3s,baz=344,slow=7.6,SNR=2.2								
PLCA	Paso Flores	19.70	185	P		P	P	06 16 45.6	+0.1
	0.3nm,0.3s,baz=16,slow=9.1,SNR=7.3								
BDFB	Brasilia	20.13	78	P		P	P	06 16 50.2	-0.1
	1.4nm,0.5s,baz=244,slow=11,SNR=6.5								
PTGA	Pitinga	21.83	23	P		P	P	06 17 06.7	-1.8
	11nm,0.3s,baz=219,slow=17,SNR=25								
TXAR	Lajitas Array	60.50	325	P		P	P	06 22 23.1	-0.2
	0.2nm,0.6s,baz=145,slow=9.6,SNR=2.6								
PDAR	Pinedale Array	73.93	330	P		P	P	06 23 48.3	+0.4
	0.3nm,0.6s,baz=152,slow=6.1,SNR=3.7								
PDAR				pP		pP	P	06 24 19.4	+2.1
	0.3nm,0.7s,baz=141,slow=5.8,SNR=2.4								
ULM	Lac du Bonnet	75.02	342	P		P	P	06 23 53.1	-0.6
	2.2nm,0.6s,baz=167,slow=4.3,SNR=7.5								
ULM				pP		pP	P	06 24 23.8	+0.7
	0.9nm,0.6s,baz=151,slow=5.5,SNR=2.0								
NVAR	Mina Array Bea	75.40	322	P		P	P	06 23 57.7	+1.3
	0.5nm,0.6s,baz=152,slow=6.7,SNR=4.4								
NVAR				pP		pP	P	06 24 27.9	+2.0
	0.4nm,0.7s,baz=152,slow=6.1,S

0.9nm,0.8s,baz=12,slow=8.5,SNR=8.7
ASAR PcP **PcP** **06 28 30.6 +0.3**
0.6nm,0.6s,baz=26,slow=2.4,SNR=4.5
SONM Songino Array 45.51 322 P **P** **06 27 01.7 -0.4**
1.3nm,0.6s,baz=137,slow=7.8,SNR=8.4
SEY Seymchan 46.02 3 P **P** **06 27 08.3 +2.6**
0.5nm,0.4s,baz=118,slow=17,SNR=2.6
CMAR Chiang Mai Arr 46.11 279 P **P** **06 27 07.7 +0.7**
6.0nm,0.8s,baz=72,slow=6.6,SNR=34
ZALV Zalesovo Beam 60.37 323 P **P** **06 28 50.5 -0.9**
3.5nm,0.9s,baz=99,slow=6.5,SNR=9.5
MKAR Makanchi Array 60.84 314 P **P** **06 28 54.4 -0.4**
0.9nm,0.5s,baz=91,slow=7.7,SNR=18
KURK Kurchatov 63.64 319 *e*P **P** **06 29 12.1 -1.3**
9.6nm,1.0s
KURBB Kurchatov Arra 63.69 318 P **P** **06 29 13.0 -0.7**
baz=92,slow=7.4
COLD Coldfoot 63.88 23 *e*P **P** **06 29 12.5 -2.2**
ILAR Eielson Array 64.45 26 P **P** **06 29 17.7 -0.8**
1.3nm,1.1s,baz=248,slow=6.3,SNR=5.7
BVAR Borovoye Array 68.84 321 P **P** **06 29 46.2 -0.5**
2.0nm,0.5s,baz=89,slow=10,SNR=10
INK Inuvik 70.29 23 P **P** **06 29 55.2 -0.1**
0.3nm,0.4s,baz=251,slow=16,SNR=3.1
ARU Arti 75.41 325 *e*P **P** **06 30 25.9 0.0**
ABKAR Akbulak array 75.71 318 *e*P **P** **06 30 27.1 -0.7**
1.0nm,0.6s
AKTO Aktyubinsk 76.74 319 P **P** **06 30 34.4 +0.8**
0.4nm,0.3s,baz=95,slow=15,SNR=3.5
YKA Yellowknife Ar 78.71 28 P **P** **06 30 44.1 -0.2**
0.4nm,0.7s,baz=283,slow=5.5,SNR=10
YBH Yreka Blue Hor 78.79 50 P **P** **06 30 44.8 -0.5**
3.7nm,1.1s,baz=229,slow=11,SNR=2.6
LVZ Lovozero 82.61 339 *e*P P 06 30 58.3 -6.9
18nm,0.6s
NVAR Mina Array Bea 82.88 52 P **P** **06 31 08.2 +0.8**
1.4nm,0.7s,baz=271,slow=5.8,SNR=8.7
ARCES ARCESS Array B 84.61 343 P **P** **06 31 16.9 +1.5**
5.0nm,0.8s,baz=9.9,slow=15,SNR=4.7
PDAR Pinedale Array 87.83 46 P **P** **06 31 31.7 -0.3**
0.4nm,0.8s,baz=149,slow=3.5,SNR=3.6
FINES FINESS Array B 89.12 336 P **P** **06 31 36.6 -0.7**
1.5nm,0.8s,baz=50,slow=6.0,SNR=4.5
BRTR Keskin Array B 96.48 315 P **P** **06 32 10.7 -1.3**
0.6nm,0.7s,baz=74,slow=5.1,SNR=3.3
TORD Torodi Ar. Bea 134.81 309 PKP **PKPdf** **06 38 01.0 -0.9**
0.3nm,0.5s,baz=342,slow=1.4,SNR=5.1
TORD Torodi Ar. Bea 134.81 309 PKP **PKPdf** **06 38 01.0 -0.9**
DBIC Dimbokro 143.90 308 PKP **PKPdf** **06 38 17.6 -0.9**
5.2nm,1.2s,baz=102,slow=3.7,SNR=3.0
CFAA Coronel Fontan 144.56 121 PKP **PKPab** **06 38 17.6 -0.1**
0.3nm,0.6s,baz=270,slow=6.3,SNR=6.8
LPAZ La Paz 145.94 94 PKPbc **PKPab** **06 38 24.8 +0.9**
1.1nm,0.5s,baz=282,slow=3.2,SNR=5.9

*IDC **13** 06:20:15.5±3.0,54.°54N×87.°09E, h0km, mb1 2.9/2, mb1mx2.9/30, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=25.6km s-min=18.3km az=58.0*
*NNC **13** 06:20:19.3±4.8,54.°6N±0.°2×87.°0E±0.°2, h35km, n6, σ2°06/8, 4C-2D, Southwestern Siberia*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**242**	*i*		06 29 06.7	
	baz=70,slow=323,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.44**	**242**	Pg	**Pn**	**06 20 40.8**	**-2.0**
	2.2nm,0.3s,baz=61,slow=16,SNR=13						
ZALV				Lg	Lg	06 21 00.8	
	1.0nm,0.3s,baz=61,slow=30,SNR=4.6						
ZALV				Rg	Rg	06 21 09.4	
	2.3nm,0.3s,baz=64,slow=33,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.52**	**235**	⇑Pn	**Pn**	**06 21 53.4**	**+0.8**
	0.5nm,0.3s						
KURBB				⇑Sn	**Sn**	**06 23 07.4**	**+1.7**
	1.3nm,0.5s						
KURBB				⇓Lg	Lg	06 23 47.1	
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**6.52**	**235**	Pn	**Pn**	**06 21 53.7**	**+1.0**
	0.1nm,0.3s,baz=53,slow=13,SNR=9.6						
KURBB				Lg	Lg	06 23 46.4	
	0.0nm,0.3s,baz=45,slow=31,SNR=3.6						
MK31	**Makanchi Array**	**8.39**	**203**	⇑Pn	**Pn**	**06 22 19.8**	**+1.5**
	0.1nm,0.4s,baz=28,slow=15,SNR=10						
MK31				⇓Sn	**Sn**	**06 23 48.7**	**-3.2**
	0.1nm,0.5s,baz=30,slow=21,SNR=4.5						
MK31				⇑Lg	Lg	06 24 36.4	
	3.2nm,1.3s						
MKAR	**Makanchi Array**	**8.39**	**203**	Pn	**Pn**	**06 22 18.6**	**+0.2**
	0.1nm,0.3s,baz=26,slow=15,SNR=5.0						
MKAR				Sn	**Sn**	**06 23 52.5**	**+0.7**
	0.1nm,0.3s,baz=31,slow=21,SNR=2.9						
MKAR				Lg	Lg	06 24 39.2	
	0.0nm,0.3s,baz=26,slow=34,SNR=2.9						

*IDC **13** 06:24:26.7±3.5, 1.°67N×96.°30E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/26, mbtmp3.6/4, Error ellipse: s-maj=134.9km s-min=28.7km az=58.0*
*DJA **13** 06:24:29.8±0.8, 3.°N±4.°×9.°6E±.°, h10km, M3.9/12, mb4.0/5, mB5.9/2, MLv3.8/12, Mw(mB)5.5/2*
ISC 13 06:24:33.8±1.0, 2.°06N±0.°07×96.°70E±0.°08, h28km, n14, σ1°63/12, mb3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.51**	**313**	P	**Pn**	**06 24 45.3**	**0.0**
SNSI				S	**Sn**	**06 24 54.9**	**+1.8**
TPTI		**1.29**	**22**	P	**Pn**	**06 24 55.2**	**-0.8**
TPTI				S	**Sb**	**06 25 15.9**	**+2.3**
KCSI	**Kotacane, Aceh**	**1.81**	**36**	P	**Pn**	**06 25 03.7**	**+0.6**
TSI	**Tuntungan**	**2.35**	**52**	P	**Pb**	**06 25 15.7**	**+0.2**
MNSI	**Mandailing Nat**	**3.14**	**113**	P	Pb	06 25 36.7	+7.7
PDSI	**Padang**	**4.78**	**128**	P	**Pb**	**06 25 59.9**	**+3.0**
	11nm,0.5s,4µm0.1nm						
SDSI	**Sungai Dareh**	**5.58**	**122**	P	**Pb**	**06 26 10.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.45**	**8**	Pn	**P**	**06 28 24.4**	**-0.9**
	baz=200,slow=11,SNR=7.3						
H08S2	**Diego Garcia H**	**26.00**	**248**	T	T	06 56 54.2	
	baz=69,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**26.00**	**248**	T	T	06 56 51.3	
	baz=69,slow=76,SNR=35						
H08S1	**Diego Carcia H**	**26.02**	**248**	T	T	06 56 52.4	
	baz=69,slow=76,SNR=36						
WRA	**Warramunga Ar**	**42.91**	**122**	P	**P**	**06 32 28.4**	**-2.0**
	0.4nm,0.8s,baz=298,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**46.30**	**346**	P	**P**	**06 32 56.4**	**-0.6**
	0.5nm,0.6s,baz=156,slow=7.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**52.64**	**351**	P	**P**	**06 33 44.6**	**-0.7**
	0.5nm,0.3s,baz=185,slow=7.2,SNR=4.0						

IDC 13 06:34:14.9±6.2, 17.°78S×70.°03W, h126km±41km, mb3.1/2, mb1 3.3/4, mb1mx3.1/19, mbtmp3.6/4, Error ellipse: s-maj=64.5km s-min=45.7km az=28.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.34**	**51**	P	Pn	06 34 53.8	+0.1
	2.2nm,0.3s,baz=245,slow=8.6,SNR=96						
LPAZ				S	Sn	06 35 23.8	+0.3
	0.7nm,0.3s,baz=349,slow=13,SNR=9.6						
SIV	**San Ignacio**	**8.75**	**80**	P	Pn	06 36 17.6	-1.1
	1.7nm,0.3s,baz=272,slow=14,SNR=18						
TORD	**Torodi Ar. Bea**	**77.14**	**72**	P	P	06 45 55.3	+0.1
	0.5nm,0.5s,baz=253,slow=5.3,SNR=6.3						
YKA	**Yellowknife Ar**	**87.35**	**341**	P	P	06 46 47.2	0.0
	0.1nm,0.6s,baz=131,slow=4.8,SNR=5.7						

IDC 13 06:46:48.9±3.5, 53.°41N×87.°49E, h0km, mb1 2.8/1, mb1mx2.7/29, mbtmp2.8/1, ML2.7/1, Error ellipse: s-maj=41.3km s-min=19.5km az=88.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**290**	*i*		06 57 42.1	
	baz=106,slow=329,SNR=8.9						
ZALV	**Zalesovo Beam**	**1.68**	**290**	Pn	Pn	06 47 18.9	-0.7
	0.7nm,0.3s,baz=110,slow=15,SNR=8.7						
ZALV				Sn	Sg	06 47 43.8	+0.9
	0.9nm,0.3s,baz=112,slow=28,SNR=6.4						
MKAR	**Makanchi Array**	**7.42**	**209**	Pn		06 48 39.8	+1.4
	0.1nm,0.3s,baz=23,slow=13,SNR=4.2						
MKAR				Lg	Lg	06 50 45.2	
	0.1nm,0.3s,baz=43,slow=28,SNR=3.7						

*IDC **13** 06:46:58.1±1.8, 34.°70S×73.°13W, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.6/16, mbtmp3.4/5, ML3.5/3, MS3.3/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=45.2km s-min=32.1km az=79.0*
*ISCJB **13** 06:47:06.7±1.1, 35.°01S±0.°07×72.°08W±0.°09, h29km, mb3.6/2, MS3.2/1, Error ellipse: s-maj=11.9km s-min=8.0km az=33.9*
*GUC **13** 06:47:07.4±0.6, 35.°04S×72.°07W, h21km±8km, ML3.8*
ISC 13 06:47:06.8±1.1, 35.°01S±0.°05×72.°11W±0.°07, h29km, n10, σ1°48/11, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.55**	**135**	⇑*i*P	**Pb**	**06 47 17.8**	**-0.1**
TALC				*i*S	**Sb**	**06 47 24.8**	**-0.8**
NICH	**Los Niches**	**0.72**	**90**	⇓*i*P	**Pb**	**06 47 20.2**	**-0.6**
NICH				*i*S	**Sb**	**06 47 28.7**	**-1.6**
COCH	**Cobquecura**	**1.25**	**206**	⇓*i*P	**Pn**	**06 47 27.7**	**-0.6**
COCH				*e*S	**Sb**	**06 47 45.4**	**0.0**
PEL	**Peldehue**	**2.20**	**33**	⇓*i*P	**Pb**	**06 47 44.7**	**-1.3**
PEL				*i*S	**Sb**	**06 48 13.4**	**+0.6**
PEL				AML	AML	06 48 28.2	
	comp=N,798nm,0.5s						
CFAA	**Coronel Fontan**	**4.69**	**45**	Pn	**Pn**	**06 48 17.5**	**+1.8**
	comp=N,0.5nm,0.3s,baz=215,slow=15,SNR=23						
CFAA				Lg	Lg	06 49 30.4	
	comp=N,0.2nm,0.3s,baz=335,slow=17,SNR=6.6						
PLCA	**Paso Flores**	**5.84**	**168**	Pn	**Pn**	**06 48 33.9**	**+2.3**
	comp=N,0.8nm,0.3s,baz=343,slow=14,SNR=25						
PLCA				Sn	Sb	06 49 49.1	-8.4
	comp=N,0.9nm,0.3s,baz=297,slow=12,SNR=3.0						
LPAZ	**La Paz**	**18.98**	**12**	P	P	06 51 20.4	-6.1
	comp=N,0.0nm,0.3s,baz=172,slow=9.3,SNR=2.3						
BDFB	**Brasilia**	**28.96**	**54**	LR	LR	07 06 43.1	
	comp=N,51nm,18.7s,baz=218,slow=40						
TXAR	**Lajitas Array**	**70.59**	**331**	P	P	06 58 11.4	-7.9
	comp=N,0.3nm,0.6s,baz=163,slow=9.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**06 59 36.1**	**-1.7**
	comp=N,0.8nm,1.0s,baz=227,slow=5.7,SNR=2.4						

WEL 13 07:03:40.4±0.4, 38.°18S×175.°86E, h164km±4km, ML3.7/6, 10C-1D, Error ellipse: s-maj=3.2km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVZ	**Karewarewa**	**0.93**	**190**	PN	Pn	07 04 06.4	+0.3
URZ	**Urewera**	**0.99**	**95**	⇓PN	Pn	07 04 06.6	+0.3
URZ				SN	Sn	07 04 26.0	-0.3
URZ				AML	AML	07 04 27.3	
OTVZ	**Oturere**	**1.00**	**189**	PN	Pn	07 04 06.8	+0.1
COVZ	**Chateau Observ**	**1.05**	**193**	PN	Pn	07 04 07.1	+0.1
WPVZ	**Whakapapa**	**1.05**	**193**	PN	Pn	07 04 07.3	+0.2
FWVZ	**Far West T-bar**	**1.10**	**192**	⇑PN	Pn	07 04 07.7	+0.1
BKZ	**Black Stump Fm**	**1.11**	**154**	PN	Pn	07 04 07.2	-0.2
BKZ				SN	Sn	07 04 26.7	-1.7
WHVZ	**Whangaehu Hut**	**1.12**	**191**	PN	Pn	07 04 07.8	0.0
WNVZ	**Wahianoa**	**1.17**	**190**	⇑PN	Pn	07 04 08.1	0.0
NMHZ	**Naumai**	**1.18**	**141**	PN	Pn	07 04 08.8	+0.7
NMHZ				SN	Sn	07 04 29.9	+0.4
RAHZ	**Arahi**	**1.21**	**128**	PN	Pn	07 04 08.8	+0.5
RAHZ				SN	Sn	07 04 29.9	0.0
MOVZ	**Moawhango**	**1.23**	**184**	⇑PN	Pn	07 04 08.1	-0.4
BHHZ	**Black Hill Sta**	**1.32**	**173**	PN	Pn	07 04 08.8	-0.6
MWZ	**Matawai**	**1.32**	**97**	PN	Pn	07 04 09.6	+0.3
MWZ				SN	Sn	07 04 30.6	-1.1
MWZ				AML	AML	07 04 32.8	
ARHZ	**Aropaoanui**	**1.40**	**141**	PN	Pn	07 04 10.3	+0.3
ARHZ				SN	Sn	07 04 32.3	-0.7
WHHZ	**Waihua**	**1.40**	**130**	PN	Pn	07 04 10.2	+0.2
WHHZ				SN	Sn	07 04 32.2	-0.8
MCHZ	**McNeill Hill**	**1.43**	**153**	PN	Pn	07 04 10.6	+0.3
MCHZ				SN	Sn	07 04 32.7	-0.7
KRHZ	**Kereru**	**1.52**	**165**	⇑PN	Pn	07 04 10.7	-0.5
HAZ	**Te Kaha**	**1.58**	**75**	PN	Pn	07 04 11.5	-0.3
HAZ				SN	Sn	07 04 34.5	-1.5
RIGZ	**Rimuhau**	**1.59**	**110**	PN	Pn	07 04 12.2	+0.3
KNZ	**Kokohu**	**1.65**	**121**	⇑PN	Pn	07 04 12.3	-0.2
TWGZ	**Tauwhareparae**	**1.67**	**91**	PN	Pn	07 04 13.3	+0.4
TWGZ				SN	Sn	07 04 37.7	-0.2
PRGZ	**Paritu Road**	**1.75**	**116**	PN	Pn	07 04 13.6	-0.1
PNHZ	**Pukenui**	**1.76**	**171**	PN	Pn	07 04 12.6	-1.1
CKHZ	**Cape Kidnapper**	**1.76**	**148**	⇑PN	Pn	07 04 13.4	-0.3
KAHZ	**Kahuranaki**	**1.80**	**154**	PN	Pn	07 04 13.7	-0.5
MHGZ	**Mahia Peninsul**	**1.88**	**122**	PN	Pn	07 04 14.9	-0.1
TSZ	**Takapari Road**	**1.88**	**178**	⇑PN	Pn	07 04 13.9	-1.2
PUZ	**Puketiti**	**1.90**	**88**	PN	Pn	07 04 14.9	-0.3
PUZ				SN	Sn	07 04 40.1	-2.0
WPHZ	**Waipukurau**	**1.94**	**167**	⇑PN	Pn	07 04 14.5	-1.1
PXZ	**Pawanui**	**2.01**	**157**	⇑PN	Pn	07 04 15.4	-1.0
PXZ				SN	Sn	07 04 41.4	-3.0
MXZ	**Matakaoa Point**	**2.03**	**73**	PN	Pn	07 04 17.1	+0.4
WMGZ	**Waiomatatini S**	**2.05**	**81**	PN	Pn	07 04 16.9	0.0
DVHZ	**Dannevirke**	**2.13**	**174**	PN	Pn	07 04 16.1	-1.8
PRHZ	**Porangahau**	**2.17**	**164**	PN	Pn	07 04 16.9	-1.4
POWZ	**Post Office Ro**	**2.21**	**182**	PN	Pn	07 04 16.9	-1.9
ANWZ	**Angora Road**	**2.33**	**168**	⇑PN	Pn	07 04 18.5	-1.6
PRWZ	**Pori Road**	**2.38**	**178**	PN	Pn	07 04 18.9	-1.8
MRZ	**Mangatainoka R**	**2.49**	**185**	PN	Pn	07 04 19.7	-2.4
MRZ				AML	AML	07 04 52.0	
MRZ				AML	AML	07 04 52.0	
BFZ	**Birch Farm**	**2.52**	**173**	PN	Pn	07 04 20.1	-2.3
TIWZ	**Tintock**	**2.60**	**180**	PN	Pn	07 04 20.9	-2.5
OGWZ	**Otaki Gorge**	**2.69**	**191**	PN	Pn	07 04 22.0	-2.5
HOWZ	**Holdsworth Sta**	**2.73**	**185**	PN	Pn	07 04 22.1	-2.8
KIW	**Kapiti Island**	**2.78**	**195**	PN	Pn	07 04 22.7	-2.8
TMWZ	**Te Maipa**	**2.93**	**180**	PN	Pn	07 04 24.5	-2.9
CAW	**Cannon Point**	**2.99**	**192**	PN	Pn	07 04 25.1	-3.0
CAW				AML	AML	07 05 02.6	
CAW				AML	AML	07 05 02.6	
MTW	**Mount Morrison**	**2.99**	**185**	PN	Pn	07 04 24.8	-3.4
TRWZ	**Traveller**	**3.22**	**182**	PN	Pn	07 04 27.5	-3.5
MSWZ	**Moikau Station**	**3.27**	**188**	AML	AML	07 05 06.9	
MSWZ				AML	AML	07 05 07.0	
TCW	**Tory Channel**	**3.27**	**201**	PN	Pn	07 04 28.5	-3.0
TCW				AML	AML	07 05 07.6	
TCW				AML	AML	07 05 09.3	
THZ	**Tophouse**	**4.24**	**211**	PN	Pn	07 04 41.3	-2.9
KHZ	**Kahutara**	**4.59**	**202**	PN	Pn	07 04 44.6	-4.0
OXZ	**Oxford**	**5.90**	**208**	PN	Pn	07 05 00.2	-5.7
MQZ	**McQueen's Vall**	**6.03**	**203**	PN	Pn	07 05 01.4	-6.1
MQZ				SN	Sn	07 06 04.6	-11
ODZ	**Otahua Downs**	**7.89**	**208**	*e*PN	Pn	07 05 26.6	-5.6

*ISCJB **13** 07:11:34.9±1.2, 34.°9S±0.°1×72.°7W±0.°3, h18km, mb3.5/3, Error ellipse: s-maj=30.2km s-min=14.4km az=4.4*
*IDC **13** 07:11:34.2±1.5, 34.°86S×72.°80W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=41.2km s-min=28.9km az=92.0*
ISC 13 07:11:37.1±1.3, 34.°9S±0.°1×72.°7W±0.°2, h18km, n7, σ1°32/7, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.96**	**50**	Pn	**Pn**	**07 12 50.4**	**-0.3**
	0.1nm,0.3s,baz=223,slow=11,SNR=8.3						
CFAA				Lg	Lg	07 13 59.8	
	0.3nm,0.3s,baz=60,slow=20,SNR=7.9						
PLCA	**Paso Flores**	**6.06**	**165**	Pn	**Pn**	**07 13 05.4**	**-0.4**
	0.5nm,0.3s,baz=336,slow=11,SNR=16						
PLCA				Lg	Lg	07 14 36.3	
	0.3nm,0.3s,baz=56,slow=23,SNR=1.7						
LPAZ	**La Paz**	**18.98**	**14**	P	**P**	**07 15 58.9**	**+0.7**
	0.1nm,0.3s,baz=196,slow=8.9,SNR=6.3						
SIV	**San Ignacio**	**21.51**	**32**	P	**P**	**07 16 23.6**	**-1.5**
	2.6nm,0.6s,baz=208,slow=9.1,SNR=7.8						
TXAR	**Lajitas Array**	**70.27**	**331**	P	**P**	**07 22 48.8**	**-0.5**
	0.2nm,0.5s,baz=159,slow=9.2,SNR=7.1						
TORD	**Torodi Ar. Bea**	**85.00**	**70**	P	**P**	**07 24 13.6**	**+1.9**
	0.2nm,0.7s,baz=246,slow=4.2,SNR=2.4						
AKASG	**Malin Array Be**	**123.18**	**48**	PKP	**PKPdf**	**07 30 31.8**	**-0.3**
	0.4nm,0.3s,baz=236,slow=2.2,SNR=4.9						

IDC 13 07:14:46.5±2.2, 8.°79S×129.°28E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=257.3km s-min=30.6km az=66.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.12**	**157**	Pn	Pn	07 17 40.3	-0.2
	0.2nm,0.3s,baz=335,slow=14,SNR=5.9						
WRA				Sn	Sn	07 19 52.4	-4.1
	0.4nm,0.3s,baz=340,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**15.44**	**164**	Pn	Pn	07 18 26.0	+0.2
	0.1nm,0.3s,baz=344,slow=8.7,SNR=11						
ASAR				Sn	Sn	07 21 11.4	-6.3
	0.1nm,0.3s,baz=347,slow=31,SNR=1.9						
MKAR	**Makanchi Array**	**69.34**	**328**	P	P	07 25 56.1	+0.2
	0.8nm,0.6s,baz=118,slow=7.3,SNR=5.1						
KURBB	**Kurchatov Arra**	**73.67**	**329**	P	P	07 26 21.7	-0.2
	0.1nm,0.3s,baz=124,slow=5.4,SNR=3.0						

IDC 13 07:15:36.9±1.6, 16.°26S×178.°56W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=164.2km s-min=28.8km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.32**	**239**	P	P	07 23 08.1	+0.1
	0.7nm,0.3s,baz=89,slow=10,SNR=7.4						
WRA	**Warramunga Arr**	**44.81**	**258**	P	P	07 23 52.8	-0.2
	0.6nm,0.7s,baz=93,slow=7.9,SNR=7.9						
ASAR	**Alice Springs**	**45.12**	**253**	P	P	07 23 55.2	-0.3
	2.8nm,0.3s,baz=88,slow=8.1,SNR=40						
TXAR	**Lajitas Array**	**85.24**	**58**	P	P	07 28 16.0	0.0
	0.1nm,0.4s,baz=236,slow=4.7,SNR=3.0						

*IDC **13** 07:36:18.4±1.2, 3.°67N×126.°69E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/24, mbtmp3.6/7, MS3.1/1, Ms1 3.1/1, ms1mx2.2/37, Error ellipse: s-maj=87.0km s-min=17.7km az=65.0*
*ISCJB **13** 07:36:23.4±1.0, 3.°6N±0.°2×126.°6E±0.°4, h53km, mb3.6/7, MS3.1/1, Error ellipse: s-maj=66.2km s-min=14.2km az=154.3*
ISC 13 07:36:25.4±1.2, 3.°7N±0.°2×126.°7E±0.°4, h53km, n8, σ1°15/7, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.65**	**162**	P	**P**	**07 41 39.7**	**-1.6**
	1.3nm,0.8s,baz=341,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**28.08**	**166**	P	**P**	**07 42 11.9**	**-0.3**
	0.1nm,0.6s,baz=346,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.85**	**301**	P	**P**	**07 42 36.5**	**-0.3**
	0.4nm,0.6s,baz=110,slow=7.8,SNR=3.8						
HNR	**Honiara**	**35.63**	**112**	LR	LR	07 59 04.0	
	comp=Z,28nm,18.3s,baz=316,slow=38						
STKA	**Stephens Creek**	**38.10**	**159**	P	**P**	**07 43 40.2**	**+0.9**
	1.2nm,0.6s,baz=328,slow=12,SNR=4.8						
SONM	**Songino Array**	**47.33**	**341**	P	**P**	**07 44 53.3**	**-0.7**
	0.5nm,0.6s,baz=160,slow=6.1,SNR=4.8						
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**	**07 46 10.7**	**+1.0**
	0.9nm,0.5s,baz=118,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**60.61**	**333**	P	**P**	**07 46 31.1**	**+0.5**
	0.4nm,0.5s,baz=133,slow=6.3,SNR=3.8						

WEL 13 07:37:41.3±0.3, 38.°52S×178.°64E, h33km, ML3.7/6, 4C-4D, Error ellipse: s-maj=3.7km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.34**	**275**	⇑P*	Pb	07 37 48.6	-1.0
PUZ	**Puketiti**	**0.54**	**326**	PN	Pb	07 37 51.9	-0.6
PUZ				AML	AML	07 38 06.0	
PUZ				AML	AML	07 38 09.8	
TWGZ	**Tauwhareparae**	**0.62**	**303**	⇑PN	Pn	07 37 53.4	-0.5
TKGZ	**Te Karaka**	**0.63**	**277**	⇑PN	Pn	07 37 53.0	-0.8
RIGZ	**Rimuhau**	**0.71**	**254**	⇓PN	Pn	07 37 54.6	-0.6
WMGZ	**Waiomatatini S**	**0.72**	**346**	⇓PN	Pb	07 37 56.1	+0.6
PRGZ	**Paritu Road**	**0.72**	**235**	⇓PN	Pn	07 37 54.7	-0.5
MHGZ	**Mahia Peninsul**	**0.86**	**222**	PN	Pn	07 37 56.7	-0.4
MWZ	**Matawai**	**0.89**	**281**	⇓PN	Pn	07 37 57.0	-0.6
MWZ				SN	Sn	07 38 08.7	-0.8
MWZ				AML	AML	07 38 09.6	
MWZ				AML	AML	07 38 09.6	
MWZ				AML	AML	07 38 09.7	
KNZ	**Kokohu**	**0.91**	**236**	PN	Pn	07 37 57.1	-0.7
MXZ	**Matakaoa Point**	**0.99**	**344**	PN	Pb	07 38 00.0	+0.1
MXZ				AML	AML	07 38 15.5	
MXZ				AML	AML	07 38 15.5	
HAZ	**Te Kaha**	**1.02**	**318**	PN	Pn	07 37 59.3	0.0
SNGZ	**Shannon Statio**	**1.05**	**255**	PN	Pn	07 37 59.2	-0.6
URZ	**Urewera**	**1.23**	**282**	PN	Pn	07 38 02.0	-0.1
URZ				AML	AML	07 38 20.7	
URZ				AML	AML	07 38 24.1	
WHHZ	**Waihua**	**1.23**	**243**	PN	Pn	07 38 01.6	-0.7
ARHZ	**Aropaoanui**	**1.48**	**239**	*e*PN	Pn	07 38 05.4	-0.3
NMHZ	**Naumai**	**1.55**	**247**	*e*PN	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy 39.0 332**			T	T	08 32 08.2	
	baz=149,slow=76,SNR=120						
H11S3	**WAKE ISLAND Hy 39.0 332**			T	T	08 32 09.0	
	baz=149,slow=76,SNR=105						
H11S1	**WAKE ISLAND Hy 39.0 332**			T	T	08 32 09.6	
	baz=149,slow=76,SNR=135						
H11N3	**WAKE ISLAND Hy 40.0 333**			T	T	08 33 19.9	
	baz=151,slow=76,SNR=125						
H11N1	**WAKE ISLAND Hy 40.0 333**			T	T	08 33 20.3	
	baz=151,slow=76,SNR=210						
H11N2	**WAKE ISLAND Hy 40.0 7 333**			T	T	08 33 21.3	
	baz=151,slow=76,SNR=128						
WRA	**Warramunga Arr 48.25 258**			P	P	07 53 53.2	-0.3
	0.2nm,0.7s,baz=96,slow=7.4,SNR=2.5						
ASAR	**Alice Springs 48.47 253**			P	P	07 53 55.2	-0.1
	0.3nm,0.5s,baz=85,slow=7.8,SNR=7.2						
NVAR	**Mina Array Bea 75.97 43**			P	P	07 56 59.7	0.0
	0.4nm,0.8s,baz=232,slow=8.7,SNR=3.1						
BRTR	**Keskin Array B 145.95 319**			PKPbc	PKPdf	08 04 51.9	0.0
	2.0nm,1.0s,baz=66,slow=3.3,SNR=5.1						

DJA ***13*** *07:53:22.5±1.7,3°S±6°×13°9E±°, h31km±45km, M3.4/4, MLv3.4/4*

ISCJB ***13*** *07:53:27.2±0.9,2°.8S±0°.1×139°.40E±0°.07, h35km, mb3.3/2, MS3.8/1, Error ellipse: s-maj=15.2km s-min=9.5km az=157.3*

IDC ***13*** *07:53:27.0±4.9,3°.03S×139°.73E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/19, Error ellipse: s-maj=108.0km s-min=12.6km az=138.0*

ISC 13 07:53:28.4±1.2, 2.7S±0°.1×139°.46E±0°.07, h35km, n8, σ1°78/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem 0.71 81**			P	**Pn**	**07 53 41.0**	**-1.1**
GENI				S	**Sn**	**07 53 54.3**	**+2.5**
SMPI	**Sarmi 1.03 313**			P	**Pn**	**07 53 45.6**	**-0.8**
JAY	**Jayapura 1.26 82**			P	**Pn**	**07 53 47.9**	**-1.7**
JAY	**Jayapura 1.26 82**			Pg	**Pn**	**07 53 47.9**	**-1.7**
	3.8nm,0.3s,baz=237,slow=10,SNR=14						
JAY				Lg	Lg	07 54 03.5	
	11nm,0.3s,baz=212,slow=11,SNR=8.9						
JAY				LR	LR	07 54 24.7	
	comp=Z,78nm,20.1s,baz=150,slow=52						
WRA	**Warramunga Arr 17.85 196**			P	**Pn**	**07 57 33.2**	**-1.1**
	0.1nm,0.3s,baz=20,slow=13,SNR=3.2						
ASAR	**Alice Springs 21.53 194**			P	**P**	**07 58 15.7**	**+0.9**
	0.7nm,0.8s,baz=22,slow=11,SNR=6.1						
STKA	**Stephens Creek 29.09 176**			P	**P**	**07 59 26.5**	**+0.6**
	0.5nm,0.4s,baz=342,slow=3.2,SNR=3.5						
RPZ	**Rata Peaks 49.52 150**			LR	LR	08 19 21.9	
	comp=Z,115nm,21.6s,baz=356,slow=32						

SJA ***13*** *07:58:05.3±0.8,28°.18S×63°.53W, h590km±19km, ML4.1*

NEIC ***13*** *07:58:08.4±0.6,28°.18S×63°.22W, h555km±7km, mb4.2/42, Error ellipse: s-maj=11.9km s-min=7.3km az=62.0*

ISCJB ***13*** *07:58:08.2±0.3,28°.15S±0°.04×63°.21W±0°.05, h562km±3km, mb4.1/62, Error ellipse: s-maj=7.4km s-min=5.8km az=173.9*

IDC ***13*** *07:58:08.9±0.5,28°.11S×63°.31W, h560km±6km, mb3.6/17, mb1 3.7/22, mb1mx3.7/25, mbtmp4.5/22, Error ellipse: s-maj=13.6km s-min=8.6km az=97.0*

GUC ***13*** *07:58:09.0,28°.23S×63°.20W, h558km*

BJI ***13*** *07:58:10.3,28°.20S×63°.20W, h554km, mB4.5/1*

ISC 13 07:58:08.6±0.4, 28°.17S±0°.05×63°26W±0°.06, h556km±4km, h556km:pP-P, n334, ₀0§89/358, mb4.2/61, 93C-87D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya 2.26 262**			*e*P	**P**	**07 59 20.7**	**+0.6**
CYA				AML	AML	08 00 19.6	
	comp=Z,72nm,0.5s						
AHML	**Horco Molle 2.30 306**			*e*P	**P**	**07 59 21.9**	**+1.5**
AHML				AML	AML	08 00 24.7	
	comp=Z,53nm,0.8s						
ACLC	**CERRO LA CRUZ 3.47 248**			*e*P	**P**	**07 59 28.0**	**+0.7**
ACLC				*e*P	**P**	**07 59 28.0**	**+0.7**
SLA	**San Lorenzo 3.98 329**			*e*P	**P**	**07 59 32.5**	**+1.5**
SLA				*e*S	**S**	**08 00 37.2**	**-0.8**
AVFE	**Valle Fertil 4.42 235**			*e*P	**P**	**07 59 35.2**	**+1.1**
AVFE				*e*S	**S**	**08 00 42.0**	**-2.0**
AVFE				AML	AML	08 00 48.4	
	comp=Z,63nm,0.8s						
AGUA	**GUANDACOL 4.78 253**			*e*P	**P**	**07 59 38.9**	**+1.9**
CFAA	**Coronel Fontan 5.51 230**			P	**P**	**07 59 44.2**	**+1.1**
	comp=Z,21nm,0.3s,baz=63,slow=8.9,SNR=834						
CFAA				S	**S**	**08 01 00.3**	**-0.2**
	comp=Z,2.7nm,0.3s,baz=273,slow=16,SNR=16						
CFAA	**Coronel Fontan 5.51 230**			*e*P	**P**	**07 59 44.4**	**+1.3**
CFAA				*e*S	**S**	**08 00 58.0**	**-2.4**
LCO	**Las Campanas 6.60 261**			*e*P	**P**	**07 59 54.2**	**+1.0**
LCO	**Las Campanas 6.60 261**			*e*P	**P**	**07 59 54.2**	**+1.0**
LCO	**Las Campanas 6.60 261**			*e*Pn	**P**	**07 59 53.8**	**+0.6**
LCO				*e*Sn	**S**	**08 01 19.2**	**+0.3**
LVC	**Limon Verde 7.53 316**			*e*Pn	**P**	**08 00 03.2**	**+1.0**
LVC				*e*Sn	**S**	**08 01 33.4**	**-1.9**
PB06	**IPOC Station P 7.88 312**			*e*P	**P**	**08 00 06.4**	**+0.8**
PB06	**IPOC Station P 7.88 312**			*e*P	**P**	**08 00 06.4**	**+0.8**
PB06				*e*P	**S**	**08 01 40.7**	**-0.7**
PB10	**IPOC Station P 8.04 304**			*e*P	**P**	**08 00 07.7**	**+0.7**
PB10	**IPOC Station P 8.04 304**			*e*P	**P**	**08 00 07.7**	**+0.7**
PB10				*e*P	**S**	**08 01 44.8**	**+0.8**
PB04	**IPOC Station P 8.14 315**			*e*P	P	08 00 13.5	+5.5
PB04	**IPOC Station P 8.14 315**			*e*P	P	08 00 13.5	+5.5
PB04				*e*P	S	08 01 53.0	+7.2
ROCH	**El Roble 8.22 232**			*e*P	**P**	**08 00 09.1**	**+0.3**
ROCH	**El Roble 8.22 232**			*e*P	**P**	**08 00 09.1**	**+0.3**
PB09	**IPOC Station P 8.35 318**			*e*P	**S**	**08 01 49.1**	**-0.8**
PB07	**IPOC Station P 8.79 315**			*e*P	**P**	**08 00 15.4**	**+0.8**
PB07	**IPOC Station P 8.79 315**			*e*P	**P**	**08 00 15.4**	**+0.8**
PB07				*e*P	**S**	**08 01 56.7**	**-1.3**
PB01	**IPOC Station P 9.08 320**			*e*P	**P**	**08 00 17.9**	**+0.5**
PB01	**IPOC Station P 9.08 320**			*e*P	**P**	**08 00 17.9**	**+0.5**
PB01				*e*P	**S**	**08 02 01.2**	**-1.9**
PATCX	**Punta Patache 9.64 318**			*e*P	**P**	**08 02 13.8**	**+0.3**
HMBC	**Humberstone 9.91 321**			*e*P	**P**	**08 00 27.1**	**+1.2**
HMBC	**Humberstone 9.91 321**			*e*P	**P**	**08 00 27.1**	**+1.2**
HMBC				*e*P	**S**	**08 02 17.8**	**-0.9**
TRQA	**Tornquist 9.92 174**			*e*P	**P**	**08 00 25.3**	**-0.3**
TRQA	**Tornquist 9.92 174**			*e*P	**P**	**08 00 25.3**	**-0.3**
TRQA	**Tornquist 9.92 174**			*e*Pn	**P**	**08 00 24.9**	**-0.7**
PB11	**IPOC Station P 10.21 324**			*e*P	**S**	**08 02 24.7**	**+0.4**
PSGC	**Pisagua 10.59 322**			*e*P	**S**	**08 02 33.1**	**+1.7**
MNMC	**Minimini 10.71 326**			*e*P	**P**	**08 00 35.9**	**+1.7**
MNMC	**Minimini 10.71 326**			*e*P	**P**	**08 00 35.9**	**+1.7**
MNMC				*e*P	**S**	**08 02 33.0**	**-0.8**
SIV	**San Ignacio 12.29 10**			P	**P**	**08 00 50.4**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=207,slow=9.6,SNR=41						
SIV				S	**S**	**08 03 05.1**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=165,slow=11,SNR=3.8						
LPAZ	**La Paz 12.65 338**			P	**P**	**08 00 54.4**	**-0.4**
	comp=Z,3.5nm,0.3s,baz=118,slow=5.2,SNR=104						
LPAZ				S	**S**	**08 03 07.7**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=4.5,slow=18,SNR=3.5						
LPAZ	**La Paz 12.65 338**			*e*P	**P**	**08 00 54.7**	**0.0**
LPAZ	**La Paz 12.65 338**			*e*P	**P**	**08 00 54.7**	**0.0**
LPAZ				*e*P	**S**	**08 03 13.7**	**+2.5**
LPAZ	**La Paz 12.65 338**			*e*Pn	**P**	**08 00 54.2**	**-0.4**
LPAZ				*e*Sn	**S**	**08 03 10.9**	**-0.3**
PLCA	**Paso Flores 13.89 204**			P	**P**	**08 01 05.7**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=26,slow=10,SNR=93						
PLCA				S	**S**	**08 03 31.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=65,slow=11,SNR=2.5						
PLCA	**Paso Flores 13.89 204**			*e*P	**P**	**08 01 05.7**	**-0.8**
PLCA	**Paso Flores 13.89 204**			*e*P	**P**	**08 01 05.7**	**-0.8**
PLCA	**Paso Flores 13.89 204**			*e*Pn	**P**	**08 01 05.2**	**-1.3**
BDFB	**Brasilia 18.83 52**			P	**P**	**08 01 54.5**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=224,slow=9.2,SNR=39						
BDFB				S	**S**	**08 04 55.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=351,slow=21,SNR=1.8						
SAML	**Samuel 19.12 0**			*e*P	**P**	**08 01 56.2**	**-0.3**
	comp=Z,6.5nm,0.8s						
USHA	**Ushuaia 26.91 187**			P	**P**	**08 03 05.0**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=348,slow=8.5,SNR=6.4						
PTGA	**Pitinga 27.46 7**			P	**P**	**08 03 10.1**	**-0.7**
	comp=Z,11nm,0.5s,baz=195,slow=11,SNR=22						
PTGA				S	**S**	**08 07 11.0**	**-2.0**
	comp=Z,4.2nm,0.8s,baz=324,slow=15,SNR=4.4						
OTAV	**Otavalo 31.78 330**			*e*P	**P**	**08 03 49.6**	**+1.0**
	comp=Z,5.7nm,1.1s						
RCBR	**Riachuelo 34.16 55**			*e*P	**P**	**08 04 08.8**	**+0.5**
	comp=Z,30nm,1.2s						
ROSC	**El Rosal 34.52 340**			P	**P**	**08 04 11.6**	**0.0**
	comp=Z,2.4nm,0.5s,baz=90,slow=15,SNR=3.7						
SDV	**Santo Domingo 37.52 348**			*e*P	**P**	**08 04 34.2**	**-1.9**
	comp=Z,11nm,1.0s						
PCRV	**Puerto La Cruz 38.14 358**			P	**P**	**08 04 39.9**	**-1.1**
	comp=Z,14nm,0.8s,baz=158,slow=2.5,SNR=3.8						
CRPR	**Cabo Rojo, PR 46.05 355**			*e*P	**P**	**08 05 41.3**	**-1.7**
	comp=Z,35nm,1.3s						
APG	**El Apazote 50.36 325**			P	P	08 06 08.5	-6.9
	comp=Z,1.7nm,0.3s,baz=123,slow=13,SNR=8.6						
SNAA	**Sanae 54.31 160**			P	**P**	**08 06 42.8**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=294,slow=6.8,SNR=7.5						
SNAA				pP	**pP**	**08 08 31.0**	**+2.3**
	comp=Z,3.2nm,1.2s,baz=296,slow=5.2,SNR=5.5						
JSC	**Jenkinsville 64.41 344**			*e*P	**P**	**08 07 50.7**	**+0.3**
KMSC	**Kings Mountain 65.24 344**			P	**P**	**08 07 55.5**	**-0.1**
	baz=66,SNR=5.8						
KMSC	**Kings Mountain 65.24 344**			*e*P	**P**	**08 07 55.5**	**-0.1**
	comp=Z,18nm,0.9s						
LIC	**Lamto 65.70 68**			*e*P	**P**	**08 07 58.2**	**-0.7**
	comp=Z,49nm,1.2s						
636A	**Smothers Creek 65.81 328**			P	**P**	**08 07 59.8**	**+0.6**
	baz=66						
TIC	**Toumodi 65.94 68**			*e*P	**P**	**08 07 59.9**	**-0.6**
	comp=Z,8.3nm,0.2s						
833A	**Chaparral WMA, 65.98 325**			P	**P**	**08 08 01.2**	**+0.8**
	baz=66						
KIC	**Kosan Boka 66.01 68**			*e*P	**P**	**08 08 00.5**	**-0.4**
	comp=Z,54nm,0.9s						
340A	**Bronson 66.05 332**			P	**P**	**08 08 01.8**	**+1.1**
	baz=66						
DBIC	**Dimbokro 66.09 68**			P	**P**	**08 08 01.1**	**-0.3**
	comp=Z,10nm,0.5s,baz=216,slow=7.1,SNR=21						
DBIC	**Dimbokro 66.09 68**			*e*P	**P**	**08 08 01.2**	**-0.1**
	comp=Z,21nm,0.9s						
TKL	**Tuckaleechee C 66.37 342**			*e*P	**P**	**08 08 00.8**	**-1.8**
732A	**Laxson Ranch, 66.61 325**			P	**P**	**08 08 04.4**	**+0.2**
	baz=67						
338A	**Crockett 66.61 330**			P	**P**	**08 08 05.2**	**+1.0**
	baz=67						
633A	**Saathoff Ranch 66.81 326**			P	**P**	**08 08 05.1**	**-0.4**
	baz=67,SNR=6.0						
534A	**Blanco 66.94 327**			P	**P**	**08 08 06.2**	**-0.1**
	baz=67						
632A	**Uvalde 67.15 326**			P	**P**	**08 08 08.2**	**+0.6**
	baz=67						
533A	**Kerrville 67.25 327**			P	**P**	**08 08 08.4**	**+0.2**
	baz=68						
336A	**Riesel 67.32 329**			P	**P**	**08 08 08.8**	**+0.2**
	baz=68						
335A	**Moody 67.50 329**			P	**P**	**08 08 10.5**	**+0.8**
	baz=68						
434A	**Burnet 67.50 328**			P	**P**	**08 08 09.3**	**-0.4**
	baz=68,SNR=5.5						
138A	**Matatall Enter 67.64 331**			P	**P**	**08 08 11.4**	**+0.9**
	baz=68						
532A	**Rocksprings 67.72 326**			P	**P**	**08 08 11.4**	**+0.3**
	baz=68						
433A	**Art 67.84 327**			P	**P**	**08 08 11.3**	**-0.5**
	baz=68,SNR=13						
334A	**Lometa 67.91 328**			P	**P**	**08 08 11.8**	**-0.5**
	baz=68,SNR=9.1						
JCT	**Junction City 67.95 326**			P	**P**	**08 08 12.7**	**+0.2**
	baz=68						
JCT	**Junction City 67.95 326**			*e*P	**P**	**08 08 12.1**	**-0.4**
	comp=Z,9.1nm,1.1s						
WVT	**Waverly 68.02 339**			*e*P	**P**	**08 08 11.2**	**-1.5**
	comp=Z,2.3nm,0.5s						
531A	**Rocksprings 68.07 326**			P	**P**	**08 08 13.6**	**+0.4**
	baz=68						
333A	**Richland Sprin 68.26 327**			P	**P**	**08 08 13.8**	**-0.5**
	baz=69,SNR=8.0						
432A	**Menard 68.28 327**			P	**P**	**08 08 14.5**	**+0.1**
	baz=69						
SYO	**Syowa Base 68.45 158**			*e*P	P	08 08 11.2	-3.7
530A	**J-C Ranch, Com 68.45 325**			P	**P**	**08 08 15.8**	**+0.3**
	baz=69						
431A	**Sonora 68.52 326**			P	**P**	**08 08 15.9**	**-0.1**
	baz=69						
GNAR	**Gosnell 68.60 337**			*e*P	**P**	**08 08 16.4**	**+0.3**
	comp=Z,372nm,0.8s						
MIAR	**Mount Ida 68.65 333**			*e*P	**P**	**08 08 16.4**	**-0.2**
	comp=Z,10nm,1.3s						
332A	**Millersview 68.67 327**			P	**P**	**08 08 16.3**	**-0.5**
	baz=69,SNR=8.1						
233A	**Rising Star 68.79 328**			P	**P**	**08 08 17.4**	**-0.1**
	baz=69						
529A	**Stev Forest Ra 68.88 324**			P	**P**	**08 08 18.0**	**-0.1**
	baz=69,SNR=7.5						
MVL	**Millersville 68.91 349**			*e*P	**P**	**08 08 18.7**	**+0.8**
	comp=Z,5.4nm,0.9s						
430A	**Baggett Ranch, 68.92 325**			P	**P**	**08 08 17.9**	**-0.5**
	baz=69,SNR=8.7						
331A	**San Angelo 68.94 326**			P	**P**	**08 08 18.3**	**-0.2**
	baz=69						
TXAR	**Lajitas Array 69.02 323**			P	**P**	**08 08 18.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=151,slow=7.6,SNR=28						
232A	**Coleman 69.04 327**			P	**P**	**08 08 18.7**	**-0.4**
	baz=69,SNR=7.5						
429A	**Davenport Ranc 69.12 325**			P	**P**	**08 08 19.3**	**-0.3**
	baz=69,SNR=9.4						
PARMO	**Parma 69.14 337**			*e*P	**P**	**08 08 18.8**	**-0.6**
Z35A	**Perchaven, San 69.15 330**			P	**P**	**08 08 19.8**	**+0.3**
	baz=70						
133A	**Hamilton Ranch 69.29 328**			P	**P**	**08 08 20.4**	**-0.1**
	baz=70						
330A	**Mertzon 69.39 326**			P	**P**	**08 08 20.7**	**-0.5**
	baz=70						
231A	**Bronte 69.40 327**			P	**P**	**08 08 20.9**	**-0.3**
	baz=70						
ABTX	**Abilene, Hawle 69.65 328**			P	**P**	**08 08 22.5**	**-0.1**
	baz=70						
Z33A	**Whitaker Ranch 69.79 329**			P	**P**	**08 08 23.2**	**-0.3**
	baz=70,SNR=5.9						
329A	**Wagon Wheel Ra 69.86 325**			P	**P**	**08 08 23.4**	**-0.6**
	baz=70						
Y34A	**Reagan Ranch, 69.90 330**			P	**P**	**08 08 24.1**	**0.0**
	baz=70						
131A	**Roby 70.04 327**			P	**P**	**08 08 25.1**	**+0.1**
	baz=70						
Z32A	**Haskell 70.14 328**			P	**P**	**08 08 25.6**	**+0.1**
	baz=70						
229A	**Bryant Ranch, 70.16 326**			P	**P**	**08 08 25.8**	**0.0**
	baz=70						
Z31A	**Sharp Cattle R 70.45 328**			P	**P**	**08 08 27.3**	**-0.1**
	baz=71,SNR=5.5						
X34A	**Smith Ranch, M 70.47 330**			P	**P**	**08 08 27.6**	**+0.1**
	baz=71						
ACSO	**Alum Creek Sta 70.48 344**			*e*P	**P**	**08 08 26.7**	**-0.7**
	comp=Z,11nm,1.0s						
228A	**UT Block 9, Go 70.67 325**			P	**P**	**08 08 28.7**	**-0.1**
	baz=71						
Y32A	**R-V Farms, Ver 70.70 329**			P	**P**	**08 08 28.9**	**+0.1**
	baz=71						
X33A	**Lawton 70.72 330**			P	**P**	**08 08 28.8**	**-0.1**
	baz=71						
129A	**Stewart Farms, 70.72 326**			P	**P**	**08 08 29.2**	**+0.2**
	baz=71						
TUL1	**Leonard 70.73 332**			P	**P**	**08 08 28.8**	**-0.1**
	baz=71						
TUL1	**Leonard 70.73 332**			*e*P	**P**	**08 08 28.3**	**-0.7**
	comp=Z,11nm,1.1s						
Z30A	**Sanderson Ranc 70.90 327**			P	**P**	**08 08 29.9**	**-0.2**
	baz=71						
W34A	**Bridge Creek, 70.99 331**			P	**P**	**08 08 30.5**	**0.0**
	baz=71						
WMOK	**Wichita Mounta 71.01 330**			*e*P	**P**	**08 08 29.6**	**-1.1**
	comp=Z,2.8nm,0.9s						
128A	**Castleberry Fa 71.02 326**			P	**P**	**08 08 30.5**	**-0.4**
	baz=71						
V35A	**Meyer Ranch, C 71.04 332**			P	**P**	**08 08 30.7**	**-0.1**
	baz=71						
Y31A	**Rekieta Farm, 71.04 328**			P	**P**	**08 08 31.0**	**+0.2**
	baz=71						
Z29A	**Hungry Hill Ra 71.16 327**			P	**P**	**08 08 31.0**	**-0.6**
	baz=72						
VNDA	**Vanda 71.17 189**			P	**P**	**08 08 32.2**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=137,slow=5.5,SNR=13						
W33A	**Caddo, Fort Co 71.22 330**			P	**P**	**08 08 32.0**	**+0.1**
	baz=72,SNR=8.6						
V34A	**Guthrie 71.38 331**			P	**P**	**08 08 32.7**	**-0.1**
	baz=72						
X31A	**McDonald Ranch 71.46 329**			P	**P**	**08 08 33.3**	**-0.1**
	baz=72						
Z28A	**Tucker Farm, M 71.51 326**			P	**P**	**08 08 33.6**	**-0.1**
	baz=72						
W32A	**Sentinel 71.54 329**			P	**P**	**08 08 33.8**	**+0.1**
	baz=72						
ERPA	**Erie 71.62 347**			*e*P	**P**	**08 08 33.9**	**-0.1**
	comp=Z,30nm,1.0s						
Y29A	**Porterfield Fa 71.63 327**			P	**P**	**08 08 33.9**	**-0.4**
	baz=72						
X30A	**Coker Ranch, T 71.73 328**			P	**P**	**08 08 34.6**	**-0.2**
	baz=72						
MNTX	**Cornudas Mount 71.78 323**			P	**P**	**08 08 34.6**	**-0.6**
	baz=72						
U34A	**Anderson Ranch 71.90 331**			P	**P**	**08 08 35.4**	**-0.4**
	baz=72						
U34A	**Anderson Ranch 71.90 331**			*e*P	**P**	**08 08 35.1**	**-0.7**
	comp=Z,15nm,1.0s						
Y28A	**McKinney Farm, 71.94 327**			P	**P**	**08 08 36.0**	**-0.2**
	baz=72						
HNH	**Hanover 72.00 353**			*e*P	**P**	**08 08 37.6**	**+1.4**
	comp=Z,19nm,1.1s						
X29A	**Tulia 72.12 327**			P	**P**	**08 08 37.1**	**-0.1**
	baz=72						
U33A	**Lingo Farm, Me 72.15 331**			P	**P**	**08 08 37.2**	**0.0**
	baz=72						
S36A	**Lake Cedric, C 72.22 334**			P	**P**	**08 08 37.5**	**-0.1**
	baz=72						
MSTX	**Muleshoe 72.25 326**			P	**P**	**08 08 38.0**	**0.0**
	baz=72						
MSTX	**Muleshoe 72.25 326**			*e*P	**P**	**08 08 38.0**	**0.0**
	comp=Z,15nm,1.0s						
V31A	**Spring Creek L 72.35 329**			P	**P**	**08 08 39.1**	**+0.7**
	baz=73						
X28A	**Dimmitt 72.41 327**			P	**P**	**08 08 38.8**	**-0.1**
	baz=73						
R37A	**Teagarden Farm 72.44 334**			P	**P**	**08 08 38.6**	**-0.2**
	baz=73						
AMTX	**Amarillo 72.47 328**			P	**P**	**08 08 39.0**	**-0.2**
	baz=73						
S35A	**Otter Creek Ra 72.47 333**			P	**P**	**08 08 39.1**	**+0.1**
	baz=73						
R36A	**Gordon, Harris 72.70 334**			P	**P**	**08 08 40.0**	**-0.4**
	baz=73						
T33A	**Patterson Ranc 72.75 331**			P	**P**	**08 08 41.2**	**+0.5**
	baz=73						
S33A	**Kaszmaul Farm, 73.08 332**			P	**P**	**08 08 42.8**	**+0.2**
	baz=73						
T32A	**Huddler Ranch, 73.12 331**			P	**P**	**08 08 43.3**	**+0.5**
	baz=73						
LONY	**Lake Ozonia 73.17 352**			*e*P	**P**	**08 08 43.6**	**+0.7**
	comp=Z,11nm,1.0s						
TSUM	**Tsumeb 73.36 103**			*e*P	**P**	**08 08 45.0**	**+0.2**
	comp=Z,6.5nm,0.9s						
V28A	**Channing 73.43 328**			P	**P**	**08 08 45.3**	**+0.6**
	baz=74						
S32A	**Newby Ranch, P 73.57 331**			P	**P**	**08 08 46.4**	**+1.0**
	baz=74						
319A	**Douglas 73.68 320**			P	**P**	**08 08 47.2**	**+1.0**
	baz=74						
R33A	**Olander Ranch, 73.68 332**			P	**P**	**08 08 46.2**	**+0.2**
	baz=74						
121A	**Cookes Peak, D 73.72 322**			P	**P**	**08 08 47.5**	**+1.0**
	baz=74						
S31A	**Mullinville 73.73 331**			P	**P**	**08 08 46.8**	**+0.5**
	baz=74						
R32A	**Long Quarter, 74.08 332**			P	**P**	**08 08 48.8**	**+0.5**
	baz=74						
T29A	**Hugoton 74.15 329**			P	**P**	**08 08 49.7**	**+1.0**
	baz=74						
Q33A	**Connelly Farm, 74.21 333**			P	**P**	**08 08 49.4**	**+0.5**
	baz=74						
R31A	**Burdett 74.31 331**			P	**P**	**08 08 50.2**	**+0.6**
	baz=75						
T28A	**Walsh 74.49 329**			P	**P**	**08 08 51.0**	**+0.3**
	baz=75						
Q32A	**Meitler Ranch, 74.50 332**			P	**P**	**08 08 50.9**	**+0.3**
	baz=75						
R30A	**Dighton 74.63 331**			P	**P**	**08 08 52.1**	**+0.7**
	baz=75						
T27A	**Campo 74.73 328**			P	**P**	**08 08 52.5**	**+0.4**
	baz=75						
S28A	**Manter 74.78 329**			P	**P**	**08 08 52.9**	**+0.6**
	baz=75						
Q31A	**Ellis 74.86 332**			P	**P**	**08 08 53.1**	**+0.5**
	baz=75						
ANMO	**Albuquerque 74.87 324**			*e*P	**P**	**08 08 53.6**	**+0.6**
	comp=Z,3.4nm,1.0s						
U25A	**Circle Dot Ran 75.00 327**			P	**P**	**08 08 53.2**	**-0.5**
	baz=75						
TORD	**Torodi Ar. Bea 75.05 66**			P	**P**	**08 08 53.7**	**-0.5**
	comp=Z,21nm,0.9s,baz=278,slow=6.9,SNR=136						
TORD				pP	**pP**	**08 10 52.9**	**+2.4**
	comp=Z,1.7nm,0.7s,baz=247,slow=6.1,SNR=6.5						
TORD				sP	**sP**	**08 11 44.7**	**-2.9**
	comp=Z,0.8nm,0.8s,baz=233,slow=6.5,SNR=2.2						
P32A	**Huiting Farm, 75.05 332**			P	**P**	**08 08 53.6**	**-0.1**
	baz=75						
Q30A	**Quinter 75.19 331**			P	**P**	**08 08 55.3**	**+0.8**
	baz=76						
Q29A	**Oakley 75.44 330**			P	**P**	**08 08 56.6**	**+0.7**
	baz=76						
S26A	**Kim 75.53 328**			P	**P**	**08 08 57.5**	**+1.0**
	baz=76						
S25A	**Robets Cordova 76.02 327**

J25A Sunshine Ranch 80.35 331 ⇓P P 08 09 23.1 +0.8
baz=81
CCUT Cedar City 80.50 322 *e*P P 08 09 24.3 +1.0
comp=Z,5.6nm,1.0s
MVU Marysvale 80.58 323 *e*P P 08 09 24.4 +0.7
comp=Z,8.3nm,1.3s
K23A Bowen Ranch, D 80.63 330 ⇓P P 08 09 24.1 +0.4
baz=81
H27A Howes 80.66 333 ⇓P P 08 09 23.7 0.0
baz=81
J24A Dixon Ranch, L 80.67 331 ⇑P P 08 09 24.5 +0.6
baz=81
ARUT Antelope Range 80.71 322 *e*P P 08 09 25.1 +0.8
comp=Z,0.3nm,0.9s
K22A Casper 80.95 329 ⇑P P 08 09 26.3 +0.8
baz=81
K22A Casper 80.95 329 *e*P P 08 09 25.7 +0.2
comp=Z,9.3nm,1.2s
G27A Dupree 81.22 334 ⇓P P 08 09 26.8 +0.2
baz=82
K21A Alcova 81.27 329 ⇓P P 08 09 28.0 +0.9
baz=82
G26A Maurine 81.41 333 ⇑P P 08 09 27.8 +0.2
baz=82
D30A Buchanan 81.49 336 ⇑P P 08 09 28.7 +0.8
baz=82
LRMC Laurel Mtn Rad 81.50 318 ⇑P P 08 09 29.0 +0.6
baz=82
J22A Midwest 81.53 330 ⇓P P 08 09 28.4 0.0
baz=82
G25A Newell 81.66 333 ⇓P P 08 09 29.3 +0.4
baz=82
F27A Lemmon 81.66 334 ⇑P P 08 09 29.3 +0.5
baz=82
TPNV Topopah Spring 81.68 320 ⇓P P 08 09 29.8 +0.5
baz=82
H24A Dirks Ranch, A 81.77 332 ⇓P P 08 09 29.3 -0.2
baz=82
F26A Lodgepole 81.90 333 ⇑P P 08 09 30.4 +0.3
baz=82
I22A 9 Mile Ranch, 81.91 330 ⇑P P 08 09 30.3 0.0
baz=82
I21A Big Trails, Te 82.21 329 ⇑P P 08 09 31.8 -0.1
baz=82
R11A Troy Canyon, C 82.29 321 ⇑P P 08 09 33.3 +0.9
baz=83
MDT Midelt 82.33 47 P P 08 09 33.0 +0.3
comp=Z,2.2nm,0.7s,baz=241,slow=4.5,SNR=7.8
MDT pP pP 08 11 31.4 -0.4
comp=Z,0.5nm,0.4s,baz=263,slow=4.6,SNR=2.3
PDAR Pinedale Array 82.45 328 P P 08 09 32.8 -0.4
comp=Z,1.2nm,0.7s,baz=136,slow=7.5,SNR=9.5
G23A Biddle 82.48 331 ⇓P P 08 09 33.4 +0.3
baz=83
B30A Myrvik Farm, E 82.49 337 ⇓P P 08 09 33.5 +0.6
baz=83
HWUT Hardware Ranch 82.55 326 *e*P P 08 09 33.6 -0.1
comp=Z,7.6nm,1.2s
J19A Crowheart 82.59 328 ⇓P P 08 09 34.2 +0.4
baz=83
I20A Worland 82.69 329 ⇑P P 08 09 34.2 0.0
baz=83
SCHQ Schefferville 82.72 358 P P 08 09 33.0 -0.9
comp=Z,6.4nm,0.9s,baz=105,slow=5.8,SNR=7.2
SCHQ Schefferville 82.72 358 *e*P P 08 09 33.9 -0.1
comp=Z,9.4nm,1.0s
F23A Volborg 82.91 332 ⇓P P 08 09 35.2 0.0
baz=83
H20A Greybull 83.06 330 ⇓P P 08 09 36.4 +0.4
baz=83
A29A Manning Farm, 83.21 337 ⇓P P 08 09 37.1 +0.6
baz=84
ULM Lac du Bonnet 83.26 340 P P 08 09 36.2 -0.5
comp=Z,5.5nm,0.9s,baz=107,slow=1.4,SNR=5.6
ULM Lac du Bonnet 83.26 340 *e*P P 08 09 36.3 -0.5
comp=Z,6.5nm,1.1s
G21A Lodge Grass 83.28 330 ⇓P P 08 09 37.4 +0.3
baz=84
F22A Rosebud 83.31 331 ⇑P P 08 09 37.6 +0.3
baz=84
TAM Tamanrasset 83.45 60 *e*P P 08 09 39.0 +0.4
comp=Z,5.7nm,1.1s
LOHW Long Hollow 83.58 327 *e*P P 08 09 39.1 +0.3
comp=Z,15nm,1.8s
D24A Glendive 83.59 333 ⇓P P 08 09 38.8 +0.3
baz=84
G20A Bridger 83.72 330 ⇓P P 08 09 38.4 -0.9
baz=84
I17A Pilgrim Ck. 83.81 328 ⇓P P 08 09 40.2 +0.3
baz=84
ELK Elko 83.81 323 *e*P P 08 09 40.4 +0.4
comp=Z,5.3nm,1.1s
NVAR Mina Array Bea 83.88 320 P P 08 09 41.2 +0.8
comp=Z,0.7nm,0.8s,baz=149,slow=5.9,SNR=5.6
H18A Shoshone NF, C 83.96 329 ⇑P P 08 09 40.9 +0.3
baz=84
IMW Indian Meadow 83.96 327 *e*P P 08 09 41.2 +0.5
comp=Z,8.8nm,1.3s
D23A Lindsay 83.99 333 ⇑P P 08 09 40.8 +0.3
baz=84
LSZ Lusaka 84.18 104 *e*P P 08 09 43.9 +1.6
comp=Z,21nm,1.3s
D22A Cohagen 84.37 332 ⇑P P 08 09 42.5 +0.1
baz=85
C23A Lambert 84.49 333 ⇑P P 08 09 43.1 +0.2
baz=85
F19A Roth Farm, Mol 84.54 330 ⇓P P 08 09 43.0 -0.3
baz=85
D21A La Casta Ranch 84.64 332 ⇑P P 08 09 43.6 -0.2
baz=85
DGMT Dagmar 84.64 334 ⇓P P 08 09 44.3 +0.7
baz=85
E20A Meyer Farm, Mu 84.69 331 ⇓P P 08 09 44.0 0.0
baz=85
C22A Vida 84.73 333 ⇑P P 08 09 44.0 -0.1
baz=85
E19A Rath Farm, Rou 84.94 330 ⇓P P 08 09 45.5 +0.3
baz=85
D20A Manuel Ranch, 85.15 331 ⇓P P 08 09 46.1 -0.1
baz=86
HLID Hailey 85.41 325 ⇓P P 08 09 48.5 +0.8
baz=86
HLID Hailey 85.41 325 *e*P P 08 09 48.3 +0.6
comp=Z,5.6nm,0.8s
D19A Cripps Ranch, 85.52 331 ⇑P P 08 09 48.0 0.0
baz=86
MCMT McKenzie Canyo 85.57 327 *e*P P 08 09 48.9 +0.4
comp=Z,4.9nm,1.0s
C20A Veseth Ranch, 85.58 332 ⇑P P 08 09 47.9 -0.3
baz=86
A22A Carney Farms, 85.74 333 ⇑P P 08 09 49.2 +0.2
baz=86
DLMT Dillon 85.84 328 *e*P P 08 09 50.4 +0.7
comp=Z,7.1nm,1.0s
MFID Camas Ranch 86.02 325 *e*P P 08 09 50.9 +0.3
comp=Z,0.8nm,0.6s
C19A Slack Wire Ran 86.04 331 ⇓P P 08 09 50.6 +0.1
baz=86
LRM Limekiln Ridge 86.11 328 *e*P P 08 09 51.3 +0.2
B20A Solberg Farm, 86.15 332 ⇑P P 08 09 51.1 +0.2
baz=86
A20A Cobblestone Ra 86.46 332 ⇓P P 08 09 52.2 -0.2
baz=87
B19A Brinkman Farms 86.55 331 ⇑P P 08 09 53.0 +0.2
baz=87
EGMT Eagleton 86.56 331 ⇑P P 08 09 52.8 -0.2
baz=87
A19A Klindworth Far 86.83 332 ⇓P P 08 09 54.1 -0.1
baz=87
ESDC Sonseca Array 87.17 42 P P 08 09 55.6 -0.3
comp=Z,0.4nm,0.3s,baz=237,slow=5.2,SNR=5.4
MSO Missoula 87.55 328 ⇑P P 08 09 58.4 +0.7
baz=88
SLMT Seeley Lake 87.65 328 *e*P P 08 09 58.3 +0.1
SWMT Swartz Lake 88.08 328 *e*P P 08 10 00.2 +0.2
M04C Macdoel 88.14 320 ⇓P P 08 10 01.5 +0.9
baz=88
WALA Waterton Lakes 89.17 329 *e*P P 08 10 04.8 -0.4
comp=Z,1.3nm,0.7s
J04D Umpqua Nationa 89.25 321 ⇓P P 08 10 06.6 +0.9
baz=90
FCC Fort Churchill 90.33 345 *e*P P 08 10 09.4 -0.6
comp=Z,2.2nm,0.6s
YKA Yellowknife Ar 99.20 338 P Pdif 08 10 48.2 -1.9
comp=Z,0.3nm,0.8s,baz=124,slow=4.9,SNR=9.2
YKA pP pP 08 12 53.8 +1.0
comp=Z,0.2nm,0.9s,baz=129,slow=4.9,SNR=3.0
ILAR Eielson Array 112.48 333 PP PP 08 16 32.0 -6.6
comp=Z,0.2nm,0.8s,baz=60,slow=3.6,SNR=3.1
ASAR Alice Springs 125.87 200 PKP PKPdf 08 16 07.4 -0.8
comp=Z,1.4nm,0.6s,baz=142,slow=1.8,SNR=21
ASAR pPKP pPKPdf 08 18 16.8 -1.2
comp=Z,0.2nm,0.4s,baz=155,slow=3.1,SNR=1.8
WRA Warramunga Arr 129.23 202 PKP PKPdf 08 16 14.1 -0.6
comp=Z,0.8nm,0.3s,baz=158,slow=2.0,SNR=28
WRA pPKP pPKPdf 08 18 24.2 -0.2
comp=Z,0.5nm,0.8s,baz=171,slow=1.7,SNR=2.9
WRA SKPbc SKPab 08 18 41.7 -2.6
comp=Z,4.1nm,1.0s,baz=156,slow=3.8,SNR=16
WRAB Tennant Creek 129.24 202 *e*PKPdf PKPdf 08 16 14.5 -0.1
GEYT Alibeck 130.61 63 SKPbc SKPbc 08 18 48.8 -0.2
comp=Z,1.5nm,0.7s,baz=260,slow=6.7,SNR=3.0
ABKAR Akbulak array 132.19 48 *e*PKPdf PKPdf 08 16 19.5 +0.3
FITZ Fitzroy Crossi 133.20 192 *e*PKPdf PKPdf 08 16 22.8 +0.7
BVAR Borovoye Array 137.93 41 PKP PKPdf 08 16 29.7 -0.1
comp=Z,1.5nm,0.7s,baz=245,slow=3.0,SNR=6.9
EKS2 Erkin-Say 142.53 56 *e*PKPdf PKPdf 08 16 35.9 -2.7
USP Ospenovka 142.96 55 P PKPdf 08 16 37.2 -2.0
SNR=6.3
AAK Ala-Archa 143.06 56 P PKPbc 08 16 38.0 +0.2
SNR=13
AAK Ala-Archa 143.06 56 *e*PKPdf PKPbc 08 16 37.9 +0.1
UCH Uchtor 143.13 56 P PKPbc 08 16 38.5 +0.1
SNR=18
CHMS Chumysh 143.18 55 P PKPbc 08 16 38.0 0.0
SNR=7.2
KBK Karagaybulak 143.38 56 P PKPbc 08 16 39.1 +0.4
SNR=23
KURK Kurchatov 143.52 41 *e*PKPdf PKPbc 08 16 38.9 +0.2
KZA Kyzart 143.69 56 P PKPab 08 16 40.5 +0.4
SNR=18
TKM2 Tokmak 2 143.81 55 P PKPab 08 16 40.2 0.0
SNR=38
TKM2 Tokmak 2 143.81 55 *e*PKPdf PKPbc 08 16 40.1 0.0
ULHL Ulahol 144.40 56 P PKPab 08 16 42.5 0.0
SNR=6.0
ZALV Zalesovo Beam 145.26 33 PKPbc PKPdf 08 16 42.7 -0.1
comp=Z,19nm,0.8s,baz=292,slow=3.6,SNR=70
ZALV pPKP pPKPdf 08 18 53.3 +0.4
comp=Z,1.8nm,0.7s,baz=296,slow=4.8,SNR=4.8
ZALV SKPbc SKPbc 08 19 29.5 -0.6
comp=Z,1.7nm,0.7s,baz=300,slow=3.9,SNR=4.7
MKAR Makanchi Array 147.29 46 PKP PKPdf 08 16 46.6 +0.1
comp=Z,6.9nm,0.7s,baz=298,slow=2.6,SNR=42
MKAR PKPbc PKPbc 08 16 49.5 -0.2
comp=Z,9.3nm,0.8s,baz=296,slow=2.8,SNR=60
MKAR pPKPbc pPKPbc 08 19 00.1 +2.3
comp=Z,1.5nm,0.7s,baz=301,slow=3.4,SNR=9.0
MKAR Makanchi Array 147.29 46 *e*PKPdf PKPdf 08 16 47.0 +0.5
MKAR *e*SKPbc SKiKP 08 19 42.9 +7.9
PYUN Piuthan 150.29 82 *e*P PKPdf 08 16 53.1 +1.0
comp=Z,48nm,0.9s
KOLN Koldanda 150.78 83 *e*P PKPdf 08 16 55.1 +2.3
comp=Z,12nm,0.8s
DANN Dangsing 151.00 82 *e*P PKPbc 08 16 57.3 -2.4
comp=Z,39nm,0.9s
GKN Gorkha 151.72 83 *e*P PKPbc 08 16 58.9 -2.2
WMQ Urumqi 151.97 48 *e*PKPbc PKPdf 08 16 54.0 0.0
KKN Kakani 152.25 83 *e*P PKPbc 08 17 01.3 -1.1
PKI Pulchoki 152.33 84 *e*P PKPbc 08 17 01.1 -1.6
comp=Z,7.6nm,0.6s
GUN Gumba 152.79 83 *e*P PKPbc 08 17 03.5 -0.2
comp=Z,15nm,0.7s
JIRN Jiri 153.03 84 *e*P PKPbc 08 17 04.0 -0.3
comp=Z,8.0nm,0.6s
RAMN Ramite 153.28 85 *e*P PKPbc 08 17 04.1 -0.6
comp=Z,14nm,0.7s
SONM Songino Array 158.78 20 PKP PKPdf 08 17 03.0 0.0
comp=Z,1.5nm,0.9s,baz=242,slow=3.1,SNR=8.1
SONM PKPab PKPab 08 17 42.6 +0.2
comp=Z,1.6nm,1.0s,baz=332,slow=5.1,SNR=7.2
CMAR Chiang Mai Arr 161.03 117 PKP PKPdf 08 17 04.6 -1.6
comp=Z,0.3nm,0.5s,baz=250,slow=1.8,SNR=3.3
CMAR PKPab PKPab 08 17 53.1 +0.1
comp=Z,0.5nm,0.7s,baz=248,slow=4.8,SNR=3.7
HHC Hu-ho-hao-te 166.65 17 *e*PKP PKPdf 08 17 10.8 +0.1
HHC pPKP pPKPdf 08 19 19.1 -2.7
HHC PP PP 08 22 08.8 +3.0
HHC SKS SKSdf 08 23 22.3 -0.2
HHC SKKS SKKSac 08 28 01.5 +2.6
HHC SS SS 08 42 03.1 +0.7
HHC PPMZ
comp=Z,50nm,7.4s
CD2 Chengdu 168.37 73 PKP PKPdf 08 17 10.0 -2.1

WEL 13 07:59:54.1±0.3, 38.55S×178.56E, h28km±2km, ML2.8/4, 1D, Error ellipse: s-maj=2.8km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.28**	**283**	P*	Pb	08 00 00.7	-0.5
PUZ	**Puketiti**	**0.53**	**333**	P*	Pb	08 00 04.4	-0.6
PUZ				S*	Sb	08 00 11.8	-0.6
TKGZ	**Te Karaka**	**0.57**	**281**	P*	Pb	08 00 05.4	-0.2
TKGZ				S*	Sn	08 00 14.3	-0.3
TWGZ	**Tauwhareparae**	**0.59**	**309**	P*	Pb	08 00 05.6	-0.4
TWGZ				S*	Sn	08 00 15.3	0.0
RIGZ	**Rimuhau**	**0.64**	**256**	P*	Pb	08 00 06.7	-0.2
PRGZ	**Paritu Road**	**0.65**	**234**	P*	Pb	08 00 07.0	0.0
WMGZ	**Waiomatatini S**	**0.74**	**351**	PN	Pb	08 00 08.2	-0.2
WMGZ				S*	Sn	08 00 19.8	+0.9
MHGZ	**Mahia Peninsul**	**0.79**	**220**	PN	Pb	08 00 09.1	-0.2
MWZ	**Matawai**	**0.84**	**284**	⇓PN	Pn	08 00 09.2	-0.9
MWZ				SN	Sb	08 00 21.0	-0.1
MWZ				AML	AML	08 00 21.5	
KNZ	**Kokohu**	**0.84**	**235**	PN	Pn	08 00 09.2	-0.8
HAZ	**Te Kaha**	**1.00**	**322**	PN	Pn	08 00 11.5	-0.7
HAZ				SN	Sn	08 00 24.7	-0.6
MXZ	**Matakaoa Point**	**1.00**	**349**	PN	Pn	08 00 12.3	0.0
URZ	**Urewera**	**1.17**	**284**	*e*PN	Pn	08 00 13.9	-0.6

ISCJB 13 08:00:45.8±0.8, 38.65S±0.03×178.84E±0.08, h44km±11km, mb3.5/2, Error ellipse: s-maj=10.5km s-min=5.4km az=174.4
IDC 13 08:00:47.3±2.5, 39.06S×178.09E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=48.9km s-min=14.6km az=60.0
WEL 13 08:00:48.3±0.3, 38.52S×178.67E, h31km±1km, ML3.9/14, Error ellipse: s-maj=3.5km s-min=1.0km az=90.0
WEL Felt in the Gisborne region, maximum reported intensity MM 4.

ISC 13 08:00:48.1±1.3, 38.61S±0.04×178.60E±0.06, h30km±10km, n58, σ1s18/56, 5C-5D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.34**	**292**	⇑P*	**Pb**	**08 00 56.0**	**-0.1**
PUZ	**Puketiti**	**0.60**	**333**	⇑P*	**Pb**	**08 00 59.3**	**-0.9**
PUZ				AML	AML	08 01 09.2	
PUZ				AML	AML	08 01 09.6	
TKGZ	**Te Karaka**	**0.62**	**286**	PN	**Pb**	**08 01 00.4**	**0.0**
PRGZ	**Paritu Road**	**0.65**	**241**	⇓PN	**Pn**	**08 01 02.1**	**+0.8**
PRGZ				SN	Sn	08 01 13.8	+3.3
TWGZ	**Tauwhareparae**	**0.65**	**311**	⇑PN	**Pb**	**08 01 00.7**	**-0.4**
TWGZ				SN	**Sb**	**08 01 10.2**	**+0.2**
RIGZ	**Rimuhau**	**0.67**	**261**	⇓PN	**Pb**	**08 01 01.9**	**+0.6**
MHGZ	**Mahia Peninsul**	**0.77**	**225**	⇓PN	**Pn**	**08 01 04.0**	**+1.1**
WMGZ	**Waiomatatini S**	**0.80**	**349**	⇓PN	**Pn**	**08 01 03.4**	**0.0**
WMGZ				SN	**Sb**	**08 01 14.9**	**+0.8**
KNZ	**Kokohu**	**0.84**	**240**	PN	**Pn**	**08 01 04.4**	**+0.7**
MWZ	**Matawai**	**0.89**	**288**	⇓PN	**Pn**	**08 01 04.4**	**-0.2**
MWZ				SN	**Sb**	**08 01 16.3**	**-0.2**
MWZ				AML	AML	08 01 16.7	
MWZ				AML	AML	08 01 16.8	
MWZ				AML	AML	08 01 16.8	
SNGZ	**Shannon Statio**	**1.00**	**260**	PN	**Pn**	**08 01 06.4**	**+0.2**
HAZ	**Te Kaha**	**1.07**	**322**	PN	**Pn**	**08 01 06.5**	**-0.5**
HAZ				SN	**Sn**	**08 01 19.9**	**-0.9**
MXZ	**Matakaoa Point**	**1.07**	**347**	PN	**Pn**	**08 01 07.2**	**+0.2**
MXZ				AML	AML	08 01 23.0	
MXZ				AML	AML	08 01 23.0	
MXZ				AML	AML	08 01 23.7	
MXZ				AML	AML	08 01 23.7	
WHHZ	**Waihua**	**1.17**	**246**	PN	**Pn**	**08 01 09.0**	**+0.6**
URZ	**Urewera**	**1.22**	**286**	PN	**Pn**	**08 01 09.1**	**+0.1**
URZ				AML	AML	08 01 28.0	
URZ				AML	AML	08 01 31.4	
URZ	**Urewera**	**1.22**	**286**	Pg	**Pn**	**08 01 09.2**	**+0.1**
18nm,0.3s,baz=127,slow=5.7,SNR=66
URZ Lg Lg 08 01 24.1
84nm,0.3s,baz=94,slow=8.8,SNR=18
RAHZ Arahi 1.23 255 PN **Pn** **08 01 09.7** **+0.5**
ARHZ Aropaoanui 1.41 242 PN **Pn** **08 01 12.8** **+1.1**
NMHZ Naumai 1.49 250 *e*PN **Pn** **08 01 13.8** **+0.9**
CKHZ Cape Kidnapper 1.58 228 PN **Pn** **08 01 14.8** **+0.7**
MCHZ McNeill Hill 1.70 240 PN **Pn** **08 01 16.6** **+0.8**
BKZ Black Stump Fm 1.74 251 PN **Pn** **08 01 16.8** **+0.6**
BKZ AML AML 08 01 39.2
BKZ AML AML 08 01 40.0
KAHZ Kahuranaki 1.79 228 ⇑PN **Pn** **08 01 17.8** **+0.8**
PXZ Pawanui 1.96 223 PN **Pn** **08 01 18.9** **-0.4**
PXZ AML AML 08 01 53.2
PXZ AML AML 08 01 53.3
PXZ AML AML 08 01 54.2
PXZ AML AML 08 01 54.3
KRHZ Kereru 2.02 239 PN **Pn** **08 01 19.9** **-0.3**
BHHZ Black Hill Sta 2.17 245 PN **Pn** **08 01 22.7** **+0.6**
WPHZ Waipukurau 2.22 228 PN **Pn** **08 01 23.0** **+0.2**
PRHZ Porangahau 2.25 222 PN **Pn** **08 01 22.8** **-0.5**
PNHZ Pukenui 2.28 234 PN **Pn** **08 01 23.6** **-0.1**
OTVZ Oturere 2.36 255 *e*PN **Pn** **08 01 23.6** **-1.3**
OTVZ AML AML 08 01 52.7
OTVZ AML AML 08 02 23.3
MOVZ Moawhango 2.36 249 PN **Pn** **08 01 26.0** **+1.2**
MOVZ AML AML 08 02 18.5
KRVZ Karewarewa 2.36 257 AML AML 08 01 54.5
WHVZ Whangaehu Hut 2.45 253 PN **Pn** **08 01 27.3** **+1.2**
WNVZ Wahianoa 2.45 252 PN **Pn** **08 01 26.8** **+0.6**
WPVZ Whakapapa 2.46 255 AML AML 08 01 59.1
WPVZ AML AML 08 02 00.8
FWVZ Far West T-bar 2.47 254 PN **Pn** **08 01 27.5** **+1.1**
FWVZ AML AML 08 01 59.2
FWVZ AML AML 08 02 00.3
ANWZ Angora Road 2.48 221 PN **Pn** **08 01 25.9** **-0.4**
TSZ Takapari Road 2.51 234 PN **Pn** **08 01 26.3** **-0.5**
TSZ AML AML 08 01 58.5
DVHZ Dannevirke 2.53 227 ⇑PN **Pn** **08 01 26.8** **-0.3**
BFZ Birch Farm 2.76 221 *e*PN **Pn** **08 01 28.3** **-1.9**
PRWZ Pori Road 2.81 225 PN **Pn** **08 01 30.6** **-0.4**
POWZ Post Office Ro 2.83 230 PN **Pn** **08 01 31.2** **0.0**
TIWZ Tintock 3.02 223 PN **Pn** **08 01 33.0** **-0.8**
TIWZ AML AML 08 02 11.6
TIWZ AML AML 08 02 14.4
MRZ Mangatainoka R 3.11 228 PN **Pn** **08 01 34.3** **-0.7**
MRZ AML AML 08 02 11.6
MRZ AML AML 08 02 11.9
TMWZ Te Maipa 3.25 219 PN **Pn** **08 01 35.2** **-1.9**
OGWZ Otaki Gorge 3.45 229 PN **Pn** **08 01 38.9** **-0.8**
MTW Mount Morrison 3.49 222 PN **Pn** **08 01 38.0** **-2.3**
TRWZ Traveller 3.58 218 PN **Pn** **08 01 39.1** **-2.3**
PAWZ Paruwai Farm 3.69 220 PN **Pn** **08 01 41.0** **-2.0**
KHZ Kahutara 5.42 224 *e*PN Pn 08 02 03.5 -3.2
CTZ Chatham Island 6.26 146 PN **Pn** **08 02 20.9** **+2.5**
CTZ SN **Sn** **08 03 24.9** **-3.9**
LTZ Lake Taylor 6.37 227 SN Sn 08 03 25.7 -5.8
MQZ McQueen's Vall 6.79 220 *e*PN Pn 08 02 21.3 -4.3
MQZ SN Sn 08 03 34.6 -7.2
OXZ Oxford 6.85 224 *e*PN Pn 08 02 23.5 -2.8
RPZ Rata Peaks 7.64 226 Pn Pn 08 02 33.3 -4.1
0.5nm,0.3s,baz=45,slow=17,SNR=5.3
RPZ Sn Sn 08 03 53.4 -10
1.6nm,0.3s,baz=141,slow=19,SNR=1.4
ASAR Alice Springs 40.66 278 P **P** **08 08 25.8** **+0.1**
1.1nm,0.6s,baz=125,slow=7.7,SNR=12
WRA Warramunga Arr 42.40 283 P **P** **08 08 39.7** **-0.2**
0.5nm,0.8s,baz=125,slow=7.0,SNR=8.1
TORD Torodi Ar. Bea 154.49 187 PKPab **PKPab** **08 21 03.4** **+3.0**
0.9nm,0.7s,baz=178,slow=3.2,SNR=6.3

IDC 13 08:08:00.8±4.5, 27.39N×125.82E, h139km±97km, mb3.0/2, mb1 3.1/4, mb1mx2.8/41, mbtmp3.5/4, Error ellipse: s-maj=104.6km s-min=46.4km az=115.0
ISCJB 13 08:08:04.5±1.1, 27.4N±0.2×126.6E±0.2, h177km±24km, mb3.2/2, Error ellipse: s-maj=41.3km s-min=10.0km az=138.0
JMA 13 08:08:05.4±0.3, 27.42N×126.51E, h168km, M3.2

ISC 13 08:08:03.1±1.1, 27.4N±0.1×126.4E±0.1, h185km±18km, n16, σ1s52/23, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**1.06**	**136**	P	**Pn**	**08 08 32.7**	**+1.0**
JAGN				*e*S	**Sn**	**08 08 54.1**	**+0.3**
JKE	**Kume jima 2**	**1.08**	**162**	P	**Pn**	**08 08 32.7**	**+0.8**
JKE				*e*S	**Sn**	**08 08 54.7**	**+0.6**
JIH	**Iheya**	**1.42**	**103**	P	**Pn**	**08 08 35.5**	**+0.9**
JNTH	**Nagotoyohara**	**1.66**	**120**	P	**Pn**	**08 08 38.0**	**+1.1**
JNTH				*e*S	**Sn**	**08 09 02.4**	**-0.8**
JJT2	**Tamagusuku 2**	**1.70**	**135**	P	**Pn**	**08 08 39.0**	**+1.6**
JOW	**Kunigami**	**1.74**	**107**	P	**Pn**	**08 08 38.3**	**+0.7**
JOW				*e*S	**Sn**	**08 09 03.0**	**-1.5**
JOW	**Kunigami**	**1.74**	**107**	P	**Pn**	**08 08 38.6**	**+0.9**
0.5nm,0.3s,baz=244,slow=18,SNR=16
JOW S **Sn** **08 09 03.1** **-1.5**
1.8nm,0.3s,baz=120,slow=25,SNR=16
JOKE Okinoerabujima 1.92 89 P **Pn** **08 08 40.1** **+0.5**
JOKE *e*S **Sn** **08 09 06.2** **-1.6**
JTK Tokunoshima 2.29 79 P **Pn** **08 08 44.0** **+0.4**
JTK *e*S **Sn** **08 09 13.2** **-1.9**
JAMN Amaminishikomi 2.60 70 P **Pn** **08 08 47.7** **+0.6**
JAMN *e*S **Sn** **08 09 19.9** **-1.5**
JAM Amami Oshima 3.01 69 *e*S **Sn** **08 09 27.9** **-2.3**
JIJ Ishigaki jima 3.62 215 *e*S **Sn** **08 09 40.0** **-3.7**
JNU Nakatsue 6.92 33 P **Pn** **08 09 43.5** **+1.3**
0.2nm,0.3s,baz=218,slow=12,SNR=2.9
MJAR Matsushiro Arr 13.55 45 P **P** **08 11 11.3** **+0.5**
0.5nm,0.3s,baz=216,slow=8.2,SNR=5.0
MKAR Makanchi Array 39.58 311 P P 08 15 13.9 -2.3
0.2nm,0.5s,baz=91,slow=9.8,SNR=3.3
ZALV Zalesovo Beam 40.37 323 P **P** **08 15 22.8** **+0.1**
0.4nm,0.4s,baz=101,slow=7.6,SNR=2.6

MAN 13 08:09:25, 9.39N×125.44E, h1km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.40**	**7**	⇓*i*P	Pb	08 09 33.8	-1.0
SCPH				*i*S	Sb	08 09 46.2	+4.8
BUTP	**Butuan**	**0.45**	**156**	*e*P	Pb	08 09 34.8	-1.0
BUTP				*e*S	Sb	08 09 51.8	+8.8
BUKP	**Musuan**	**1.54**	**194**	*e*P	Pn	08 09 53.9	+0.1
BUKP				*e*S	Sg	08 10 19.2	+4.4

ISCJB 13 08:29:45.8±0.4, 29.33N±0.03×105.66E±0.07, h10km, mb3.9/14, MS3.4/7, Error ellipse: s-maj=9.3km s-min=4.3km az=162.1
IDC 13 08:29:45.9±0.8, 29.38N×105.82E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/27, mbtmp3.9/12, ML3.7/1, MS3.2/7, Ms1 3.2/7, ms1mx2.8/44, Error ellipse: s-maj=32.4km s-min=16.1km az=58.0
NEIC 13 08:29:47.8±0.4, 29.29N×105.66E, h10km, mb4.2/3, Error ellipse: s-maj=12.5km s-min=9.1km az=65.0
NEIC Felt at Luzhou.
BJI 13 08:29:47.4, 29.30N×105.58E, h14km, mB4.1/1, mb4.1/9, ML3.8/16, Ms3.8/4, Ms7 3.5/7

ISC 13 08:29:47.9±0.5, 29.36N±0.04×105.61E±0.05, h10km, n30, σ2s44/34, mb3.9/14, MS3.3/7, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.23**	**314**	Pn	**Pn**	**08 30 23.1**	**-1.8**
CD2				Pg	**Pb**	**08 30 27.0**	**-1.3**
CD2				Sn	**Sn**	**08 30 48.5**	**-4.0**
CD2				Sg	**Sb**	**08 30 57.3**	**+1.4**
CD2				SMN			
1μm,0.9s
CD2 SME
2μm,0.7s
GYA Guiyang 3.04 162 ⇓*i*Pn **Pn** **08 30 36.0** **-0.1**
GYA Pg **Pg** **08 30 44.8** **-1.3**
GYA Sn **Sn** **08 31 12.8** **+0.2**
GYA Sg **Sg** **08 31 23.8** **-1.7**
GYA SMN
620nm,0.8s

GYA SME
640nm,0.8s
ENH Enshi 3.49 74 *e*Pn **Pn** **08 30 43.9 +1.6**
XAN Xi'an 5.45 30 Pn **Pn** **08 31 10.9 +1.7**
XAN Sn **Sn** **08 32 10.3 -1.7**
XAN Sg **Sg** **08 32 38.8 -4.1**
XAN SME
66nm,0.3s
LZH Lanzhou 6.87 348 *e*Pg Pg 08 32 04.0 +4.6
LZH Sn Sb 08 33 01.3 -8.3
LZH Sg **Sg** **08 33 28.9 +0.5**
LZH smax smax
comp=N,160nm,1.3s
LZH smax smax
comp=E,320nm,1.4s
LZH LR LR
comp=N,490nm,7.9s
LZH LR LR
comp=E,460nm,7.2s
LZH LR LR
comp=Z,330nm,8.8s
CMAR Chiang Mai Arr 12.45 211 Pn **Pn** **08 32 46.5 +1.3**
comp=Z,0.1nm,0.3s,baz=20,slow=11,SNR=9.6
CMAR LR LR 08 37 12.4
comp=Z,44nm,18.1s,baz=5.5,slow=36
SONM Songino Array 18.46 2 P **Pn** **08 34 05.6 +1.7**
comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=14
KSRS Korea Array 20.27 61 LR LR 08 43 26.6
comp=Z,19nm,18.2s,baz=175,slow=41
WMQ Urumqi 20.31 320 *e*P Pn 08 34 25.3 -0.8
WMQ pP pP 08 34 28.5 +1.6
WMQ sP sP 08 34 32.0 +3.8
WMQ PP **PnPn** **08 34 46.0 +5.1**
WMQ *e*S **S** **08 38 08.0 -3.8**
WMQ SS **SnSn** **08 38 38.0 +8.5**
WMQ PMZ
comp=Z,11nm,0.6s
WMQ LZ
comp=Z,180nm,8.8s
MK31 Makanchi Array 25.15 320 *e*P **P** **08 35 14.0 +0.9**
MKAR Makanchi Array 25.15 320 P **P** **08 35 13.8 +0.6**
comp=Z,1.7nm,0.7s,baz=127,slow=11,SNR=16
MKAR LR LR 08 46 21.4
comp=Z,69nm,18.6s,baz=141,slow=39
ZALV Zalesovo Beam 28.85 334 P **P** **08 35 46.7 +0.4**
comp=Z,0.8nm,0.5s,baz=147,slow=9.5,SNR=5.8
KURBB Kurchatov Arra 29.41 324 P **P** **08 35 51.9 +0.6**
comp=Z,1.5nm,0.7s,baz=130,slow=8.9,SNR=19
KURK Kurchatov 29.42 324 *e*P **P** **08 35 52.2 +0.8**
comp=Z,1.9nm,0.8s
BVAR Borovoye Array 34.96 323 LR LR 08 52 17.9
comp=Z,31nm,19.4s,baz=76,slow=39
GEYT Alibeck 40.09 295 P **P** **08 37 24.6 +0.9**
comp=Z,0.6nm,0.3s,baz=94,slow=8.9,SNR=4.4
ARU Arti 42.60 323 *e*P **P** **08 37 45.0 +1.0**
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 56.30 147 *e*P **P** **08 39 27.6 -1.4**
comp=Z,2.7nm,0.7s
WRA Warramunga Arr 56.31 147 P **P** **08 39 27.7 -1.3**
comp=Z,2.8nm,0.9s,baz=337,slow=8.3,SNR=23
WB2 Warramunga Arr 56.31 147 *e*P **P** **08 39 27.1 -1.9**
ASF Jabal al Asfar 58.18 292 LR LR 09 08 10.7
comp=Z,301nm,19.4s,baz=8.5,slow=40
BRTR Keskin Array B 58.74 301 P **P** **08 39 46.4 +0.1**
comp=Z,0.6nm,0.6s,baz=46,slow=6.2,SNR=3.2
MMAI Mount Meron Ar 59.14 293 LR LR 09 09 02.6
comp=Z,25nm,21.0s,baz=95,slow=40
ASAR Alice Springs 59.33 150 P **P** **08 39 49.4 -0.8**
comp=Z,0.9nm,0.5s,baz=330,slow=7.0,SNR=14
FINES FINESS Array B 59.73 327 P **P** **08 39 52.7 +0.2**
comp=Z,0.9nm,0.7s,baz=62,slow=9.6,SNR=2.8
NOA NORSAR Array B 66.82 328 P **P** **08 40 39.4 -0.2**
comp=Z,0.3nm,0.7s,baz=73,slow=4.3,SNR=3.8
VRAC Vranov 67.75 315 LR LR 09 12 11.2
comp=Z,41nm,19.1s,baz=66,slow=38
GERES GERESS Array B 69.69 315 LR LR 09 11 45.6
comp=Z,18nm,18.6s,baz=67,slow=36
ILAR Eielson Array 70.84 26 P **P** **08 41 03.5 -1.0**
comp=Z,0.5nm,0.8s,baz=297,slow=3.9,SNR=5.3
YKA Yellowknife Ar 82.96 18 P **P** **08 42 12.5 -0.3**
comp=Z,0.4nm,0.7s,baz=329,slow=5.3,SNR=10

SZGRF ***13*** *08:37:38.5, 22.°38S×178.°36W, h33km, South of Fiji Islands*
ISCJB ***13*** *08:38:41.7±0.6, 20.°36S±0.°05×178.°29W±0.°04, h558km±8km, mb4.4/108, Error ellipse: s-maj=8.4km s-min=5.4km az=151.5*
BJI ***13*** *08:38:42.0, 20.°02S×177.°98W, h563km, mB5.2/6, mb4.7/15*
NEIC ***13*** *08:38:43.1±0.6, 20.°30S×178.°31W, h564km±7km, mb4.6/88, Error ellipse: s-maj=7.2km s-min=4.9km az=138.0*
IDC ***13*** *08:38:44.1±1.4, 20.°25S×178.°34W, h572km±16km, mb3.9/23, mb1 4.1/23, mb1mx4.1/25, mbtmp4.8/23, Error ellipse: s-maj=13.7km s-min=8.8km az=139.0*
MOS ***13*** *08:38:45.2±1.4, 19.°76S×178.°53W, h575km, mb4.6/25, Error ellipse: s-maj=12.7km s-min=10.7km az=48.6*
ISC 13 08:38:42.6±0.4, 20.°37S±0.°06×178.°21W±0.°06, h561km±3km, h562km: pP-P, n395, σ1§01/441, mb4.5/108, 32C-47D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.41**	**306**	*e*P	**P**		**08 40 08.6**	**+0.1**
MSVF	**Nonsavu**	**4.41**	**306**	*e*Pn	**P**		**08 40 08.6**	**+0.1**
NIUE	**Niue**	**7.90**	**82**	P	**P**		**08 40 38.7**	**-1.1**
baz=7.7,SNR=5.0								
NIUE				S	S		08 42 26.2	+10
baz=7.7,SNR=4.0								
RAO	**Raoul Island**	**8.85**	**178**	P	**P**		**08 40 48.0**	**-0.9**
76nm,0.3s,baz=106,slow=20,SNR=4.3								
RAO				S	**S**		**08 42 29.2**	**-3.4**
36nm,0.3s,baz=90,slow=21,SNR=6.8								
AFI	**Afiamalu**	**8.89**	**45**	*e*P	P		08 40 45.0	-4.6
AFI				*e*			08 42 25.5	
AFI	**Afiamalu**	**8.89**	**45**	*e*Pn	P		08 40 45.0	-4.6
AFI				*e*Sn	S		08 42 25.5	-8.4
DZM	**Mont Dzumac**	**14.41**	**261**	*e*P	**P**		**08 41 46.1**	**0.0**
OUZ	**Omahuta**	**16.47**	**204**	*e*P	**P**		**08 42 08.4**	**+2.6**
25nm,0.9s								
URZ	**Urewera**	**18.29**	**192**	P	**P**		**08 42 20.5**	**-1.9**
4.8nm,0.3s,baz=331,slow=1.3,SNR=42								
URZ				S	**S**		**08 45 16.5**	**-4.6**
0.6nm,0.3s,baz=200,slow=22,SNR=5.6								
URZ	**Urewera**	**18.29**	**192**	*e*P	**P**		**08 42 20.9**	**-1.4**
46nm,0.7s								
BKZ	**Black Stump Fm**	**19.29**	**193**	*e*P	**P**		**08 42 30.5**	**-1.0**
198nm,2.5s								
KHZ	**Kahutara**	**23.06**	**196**	*e*P	**P**		**08 43 04.0**	**-1.3**
42nm,1.0s								
RPZ	**Rata Peaks**	**24.95**	**199**	P	**P**		**08 43 22.7**	**+0.5**
11nm,0.6s,baz=310,slow=1.7,SNR=7.6								
WHZ	**Wether Hill Ro**	**27.89**	**201**	*e*P	**P**		**08 43 49.3**	**+1.4**
93nm,0.9s								
EIDS	**Eidsvold**	**28.70**	**254**	P	**P**		**08 43 55.9**	**+0.7**
baz=29,SNR=4.6								
ARMA	**Armidale**	**28.95**	**244**	P	**P**		**08 43 59.1**	**+1.6**
baz=29,SNR=7.7								
ARMA	**Armidale**	**28.95**	**244**	*e*P	**P**		**08 43 59.0**	**+1.5**
RMQ	**Roma**	**30.86**	**252**	P	**P**		**08 44 15.7**	**+1.8**
baz=31,SNR=5.6								
CTAO	**Charters Tower**	**33.31**	**264**	*e*P	**P**		**08 44 35.3**	**+0.5**
CTAO				pmax	pmax			
comp=Z,21nm,0.8s								
CTAO	**Charters Tower**	**33.31**	**264**	*e*P	**P**		**08 44 35.3**	**+0.5**
comp=Z,21nm,0.8s								
CMSA	**Cobar Meteorol**	**34.17**	**244**	P	**P**		**08 44 42.7**	**+0.8**
baz=34,SNR=10								
QLP	**Quilpie**	**34.91**	**253**	P	**P**		**08 44 48.7**	**+0.6**
baz=35,SNR=17								
PMG	**Port Moresby**	**35.12**	**283**	⇑*i*P	**P**		**08 44 50.3**	**+0.3**
PMG				pmax	pmax			
comp=Z,26nm,1.0s								
PMG	**Port Moresby**	**35.12**	**283**	*e*P	**P**		**08 44 49.8**	**-0.2**
comp=Z,4.0nm,1.0s								
COEN	**Coen**	**37.38**	**274**	P	**P**		**08 45 08.9**	**+0.4**
baz=38,SNR=5.9								
COEN	**Coen**	**37.38**	**274**	*e*P	**P**		**08 45 08.7**	**+0.1**
comp=Z,12nm,0.9s								
STKA	**Stephens Creek**	**37.67**	**244**	*e*P	**P**		**08 45 11.9**	**+1.2**
STKA							08 47 14.2	
STKA				pmax	pmax			
comp=Z,6.0nm,1.6s								
STKA	**Stephens Creek**	**37.67**	**244**	P	**P**		**08 45 11.5**	**+0.8**
comp=Z,6.8nm,0.6s,baz=88,slow=9.3,SNR=28								
STKA				PcP	**PcP**		**08 47 14.2**	**+1.0**
comp=Z,1.6nm,0.8s,baz=72,slow=3.2,SNR=3.0								
STKA	**Stephens Creek**	**37.67**	**244**	P	**P**		**08 45 11.6**	**+0.8**
baz=38,SNR=23								
STKA	**Stephens Creek**	**37.67**	**244**	*e*P	**P**		**08 45 11.9**	**+1.2**
comp=Z,5.9nm,1.6s								
STKA				PcP	**PcP**		**08 47 14.2**	**+1.0**
QIS	**Mount Isa**	**39.45**	**262**	P	**P**		**08 45 25.2**	**-0.1**
baz=40,SNR=3.9								
BBOO	**Buckleboo**	**42.43**	**243**	P	**P**		**08 45 49.2**	**+0.5**
baz=43,SNR=24								
AS31	**Alice Springs**	**44.36**	**257**	*e*P	**P**		**08 46 04.2**	**+0.3**
ASAR	**Alice Springs**	**44.36**	**257**	P	**P**		**08 46 04.0**	**+0.1**
comp=Z,17nm,0.7s,baz=94,slow=7.7,SNR=240								
ASAR				PcP	**PcP**		**08 47 35.9**	**+0.3**
comp=Z,3.5nm,0.6s,baz=106,slow=3.5,SNR=14								
ASAR				ScP	**ScP**		**08 50 36.0**	**+1.5**
comp=Z,0.5nm,0.6s,baz=100,slow=4.7,SNR=5.0								
ASAR				S	**S**		**08 51 56.6**	**-1.5**
comp=Z,1.5nm,0.7s,baz=94,slow=16,SNR=14								
WB2	**Warramunga Arr**	**44.41**	**262**	*e*P	**P**		**08 46 04.0**	**-0.4**
WRAB	**Tennant Creek**	**44.42**	**262**	*c i*P	**P**		**08 46 03.9**	**-0.5**
WRAB				pmax	pmax			
comp=Z,41nm,0.8s								
WRAB	**Tennant Creek**	**44.42**	**262**	*e*P	**P**		**08 46 04.2**	**-0.2**
comp=Z,15nm,0.5s								
WRA	**Warramunga Arr**	**44.43**	**262**	P	**P**		**08 46 03.8**	**-0.6**
comp=Z,6.9nm,0.3s,baz=96,slow=7.7,SNR=382								
WRA				PcP	**PcP**		**08 47 35.9**	**0.0**
comp=Z,2.7nm,0.9s,baz=93,slow=3.7,SNR=6.2								
WRA				S	**S**		**08 51 56.7**	**-2.4**
comp=Z,0.9nm,0.9s,baz=92,slow=13,SNR=5.6								
KDU	**Kakadu**	**47.75**	**271**	P	**P**		**08 46 29.3**	**-0.4**
baz=48,SNR=21								
MTN	**Manton Dam**	**48.97**	**271**	P	**P**		**08 46 38.3**	**-0.4**
baz=49,SNR=9.5								
WRKA	**Warakurna**	**49.31**	**254**	P	**P**		**08 46 41.4**	**+0.2**
baz=50,SNR=49								
KNRA	**Kununurra**	**50.47**	**266**	P	**P**		**08 46 49.8**	**+0.1**
baz=51,SNR=14								
FAKI	**Fak Fak**	**51.28**	**283**	P	**P**		**08 46 55.6**	**-0.1**
baz=51,SNR=3.5								
SOEI	**Soe**	**56.30**	**272**	P	**P**		**08 47 32.6**	**+1.4**
baz=56,SNR=7.0								
SOEI	**Soe**	**56.30**	**272**	*e*P	**P**		**08 47 32.6**	**+1.4**
comp=Z,51nm,0.8s								
MEEK	**Meekatharra**	**57.78**	**251**	P	**P**		**08 47 40.8**	**-0.2**
baz=58,SNR=5.7								
SBA	**Scott Base**	**57.99**	**184**	*e*P	**P**		**08 47 44.6**	**+3.1**
SBA				pmax	pmax			
comp=Z,28nm,1.1s								
SBA	**Scott Base**	**57.99**	**184**	*e*P	**P**		**08 47 44.6**	**+3.1**
comp=Z,28nm,1.1s								
VNDA	**Vanda**	**58.02**	**185**	*e*P	**P**		**08 47 43.7**	**+2.0**
VNDA				pmax	pmax			
comp=Z,5.0nm,0.9s								
VNDA	**Vanda**	**58.02**	**185**	P	**P**		**08 47 43.8**	**+2.0**
comp=Z,6.3nm,0.8s,baz=351,slow=7.5,SNR=32								
VNDA	**Vanda**	**58.02**	**185**	*e*P	**P**		**08 47 43.7**	**+2.0**
comp=Z,4.8nm,0.9s								
BLDU	**Ballidu**	**58.93**	**246**	P	**P**		**08 47 48.8**	**+0.2**
baz=59,SNR=5.2								
CASY	**Casey**	**64.00**	**205**	*e*P	**P**		**08 48 21.9**	**+0.9**
comp=Z,19nm,1.1s								
MJAR	**Masuhiro Arr**	**69.99**	**324**	P	**P**		**08 48 57.2**	**-1.1**
comp=Z,3.5nm,0.6s,baz=155,slow=5.9,SNR=10								
MAJO	**Matsushiro**	**69.99**	**324**	*e*P	**P**		**08 48 57.5**	**-0.8**
MAJO				pmax	pmax			
comp=Z,6.0nm,0.7s								
MAJO	**Matsushiro**	**69.99**	**324**	*e*P	**P**		**08 48 57.5**	**-0.8**
comp=Z,6.1nm,0.7s								
MAT	**Matsushiro**	**69.99**	**324**	P	**P**		**08 48 57.2**	**-1.1**
ERM	**Erimo**	**71.61**	**331**	⇓*e*P	**P**		**08 49 08.1**	**+0.5**
ERM				pmax	pmax			
comp=Z,94nm,1.7s								
CISI	**Cisompet, Garu**	**72.43**	**268**	P	P		08 48 56.6	-17
baz=73,SNR=3.7								
KSM	**Kuching**	**73.20**	**278**	P	**P**		**08 49 18.7**	**+1.2**
baz=73,SNR=5.5								
ASAJ	**Asahikawa**	**73.52**	**332**	P	**P**		**08 49 19.7**	**+1.1**
comp=Z,19nm,1.0s,baz=157,slow=7.7,SNR=4.4								
PETK	**Petropavlovsk-**	**76.09**	**345**	P	**P**		**08 49 32.2**	**-0.6**
comp=Z,15nm,0.7s,baz=143,slow=8.9,SNR=15								
KSRS	**Korea Array**	**76.66**	**319**	P	**P**		**08 49 36.8**	**+0.5**
comp=Z,2.4nm,0.7s,baz=132,slow=6.3,SNR=5.0								
KSAR	**Wonju Array Be**	**76.68**	**319**	P	**P**		**08 49 36.8**	**+0.4**
KSAR	**Wonju Array Be**	**76.68**	**319**	P	**P**		**08 49 36.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**78.75**	**326**	P	**P**		**08 49 48.2**	**+0.9**
comp=Z,8.0nm,0.8s,baz=122,slow=3.2,SNR=18								
ISA	**Isabella, Lake**	**79.38**	**46**	*e*P	**P**		**08 49 52.2**	**+1.2**
ISA				pmax	pmax			
comp=Z,7.0nm,0.9s								
ISA	**Isabella, Lake**	**79.38**	**46**	*e*P	**P**		**08 49 52.2**	**+1.2**
comp=Z,7.1nm,0.9s								
CMB	**Columbia Colle**	**79.50**	**43**	*e*P	**P**		**08 49 52.1**	**+0.5**
CMB				pmax	pmax			
comp=Z,10.0nm,0.9s								
CMB	**Columbia Colle**	**79.50**	**43**	*e*P	**P**		**08 49 52.1**	**+0.5**
comp=Z,9.9nm,0.9s								
NJ2	**Nanjing**	**79.65**	**310**	*e*P	**P**		**08 49 52.1**	**-0.3**
NJ2				PMZ				
comp=Z,20nm,0.6s								
YBH	**Yreka Blue Hor**	**80.31**	**39**	*e*P	**P**		**08 49 56.7**	**+1.0**
YBH				pmax	pmax			
comp=Z,14nm,0.9s								
YBH	**Yreka Blue Hor**	**80.31**	**39**	P	**P**		**08 49 56.9**	**+1.1**
comp=Z,13nm,0.8s,baz=194,slow=4.2,SNR=32								
YBH	**Yreka Blue Hor**	**80.31**	**39**	*e*P	**P**		**08 49 56.7**	**+1.0**
comp=Z,14nm,0.9s								
DAC	**Darwin (Calif)**	**80.32**	**46**	*e*P	**P**		**08 49 56.1**	**0.0**
DAC				pmax	pmax			
comp=Z,6.0nm,1.1s								
DAC	**Darwin (Calif)**	**80.32**	**46**	*e*P	**P**		**08 49 56.0**	**0.0**
comp=Z,5.9nm,1.1s								
WAKR	**Walker**	**80.38**	**43**	*e*P	**P**		**08 49 57.2**	**+0.9**
HUMO	**Humo Mountain**	**80.71**	**38**	*e*P	**P**		**08 49 58.5**	**+0.8**
comp=Z,16nm,1.1s								
KDAK	**Kodiak Island**	**80.73**	**14**	*i* P	**P**		**08 49 58.8**	**+1.4**
NVAR	**Mina Array Bea**	**81.06**	**43**	P	**P**		**08 50 00.7**	**+0.8**
comp=Z,7.6nm,0.8s,baz=225,slow=9.2,SNR=52								
TPH	**Tonopah**	**81.57**	**44**	*e*P	**P**		**08 50 03.5**	**+1.0**
TPH				pmax	pmax			
comp=Z,15nm,0.9s								
TPH	**Tonopah**	**81.57**	**44**	*e*P	**P**		**08 50 03.5**	**+1.0**
comp=Z,15nm,0.9s								
TPNV	**Topopah Spring**	**81.59**	**46**	*e*P	**P**		**08 50 03.2**	**+0.6**
TPNV				pmax	pmax			
comp=Z,10.0nm,0.9s								
TPNV	**Topopah Spring**	**81.59**	**46**	*e*P	**P**		**08 50 03.2**	**+0.6**
comp=Z,9.7nm,0.9s								
MAW	**Mawson**	**81.62**	**200**	P	**P**		**08 50 03.0**	**+1.0**
MAW	**Mawson**	**81.62**	**200**	P	**P**		**08 50 03.0**	**+1.0**
comp=Z,3.8nm,0.9s,baz=149,slow=5.3,SNR=3.9								
MOD	**Modoc Plateau**	**81.84**	**40**	*e*P	**P**		**08 50 04.3**	**+0.5**
comp=Z,15nm,0.8s								
K05A	**Sumner Lake**	**81.98**	**39**	*e*P	**P**		**08 50 04.3**	**-0.2**
comp=Z,37nm,1.0s								
SHPR	**Sheep Range**	**82.08**	**46**	*e*P	**P**		**08 50 05.9**	**+0.8**
comp=Z,4.0nm,0.9s								
H04A	**Detroit Lake**	**82.44**	**37**	*e*P	**P**		**08 50 07.2**	**+0.6**
comp=Z,31nm,1.3s								
BMN	**Battle Mountai**	**82.89**	**42**	*e*P	**P**		**08 50 09.7**	**+0.7**
BMN				pmax	pmax			
comp=Z,17nm,0.9s								
BMN	**Battle Mountai**	**82.89**	**42**	*e*P	**P**		**08 50 09.7**	**+0.7**
comp=Z,17nm,0.9s								
TUC	**Tucson**	**83.05**	**52**	*e*P	**P**		**08 50 11.5**	**+1.6**
TUC				pmax	pmax			
comp=Z,17nm,1.3s								
TUC	**Tucson**	**83.05**	**52**	*e*P	**P**		**08 50 11.5**	**+1.6**
comp=Z,17nm,1.3s								
WVOR	**Wild Horse Val**	**83.15**	**40**	*e*P	**P**		**08 50 11.3**	**+1.0**
WVOR				pmax	pmax			
comp=Z,19nm,1.1s								
WVOR	**Wild Horse Val**	**83.15**	**40**	*e*P	**P**		**08 50 11.2**	**+1.0**
comp=Z,19nm,1.1s								
LVP	**Lakeview Peak**	**83.18**	**35**	P	**P**		**08 50 10.8**	**+0.5**
NLWA	**Neilton Lookou**	**83.24**	**34**	*e*P	**P**		**08 50 11.0**	**+0.5**
comp=Z,17nm,1.1s								
TDL	**Tradedollar La**	**83.46**	**35**	P	**P**		**08 50 12.4**	**+0.7**
I07A	**Izee**	**83.61**	**38**	*e*P	**P**		**08 50 13.4**	**+0.9**
comp=Z,12nm,0.8s								
D05A	**Enumclaw**	**84.10**	**35**	*e*P	**P**		**08 50 15.9**	**+1.2**
comp=Z,33nm,1.3s								
ELK	**Elko**	**84.32**	**43**	*e*P	**P**		**08 50 16.8**	**+0.6**
ELK				pmax	pmax			
comp=Z,4.0nm,1.0s								
ELK	**Elko**	**84.32**	**43**	*e*P	**P**		**08 50 16.8**	**+0.6**
comp=Z,4.0nm,1.0s								
G08A	**Pilot Rock**	**84.63**	**38**	*e*P	**P**		**08 50 18.1**	**+0.6**
comp=Z,18nm,1.1s								
CMW	**Cultus Mountai**	**84.80**	**34**	P	**P**		**08 50 19.2**	**+0.9**
LTY	**Liberty**	**84.85**	**35**	*e*P	**P**		**08 50 18.9**	**+0.4**
comp=Z,6.7nm,1.0s								
E07A	**Sunnyside**	**84.88**	**36**	*e*P	**P**		**08 50 19.6**	**+1.1**
comp=Z,16nm,1.3s								
PMR	**Palmer**	**84.94**	**13**	*e*P	**P**		**08 50 17.5**	**-0.9**
PMR				pmax	pmax			
comp=Z,29nm,1.4s								
PMR	**Palmer**	**84.94**	**13**	*e*P	**P**		**08 50 17.5**	**-0.9**
comp=Z,29nm,1.4s								
HAWA	**Hanford**	**84.96**	**36**	*e*P	**P**		**08 50 19.5**	**+0.6**
comp=Z,16nm,1.1s								
MVU	**Marysvale**	**85.13**	**46**	*e*P	**P**		**08 50 21.2**	**+1.0**
comp=Z,3.5nm,1.0s								
ETW	**Entiat**	**85.25**	**35**	P	**P**		**08 50 20.8**	**+0.4**
DIV	**Divide**	**85.31**	**15**	*e*P	**P**		**08 50 19.9**	**-0.4**
comp=Z,11nm,0.9s								
BMO	**Blue Mountains**	**85.33**	**39**	*e*P	**P**		**08 50 21.1**	**+0.2**
BMO				pmax	pmax			
comp=Z,4.0nm,0.7s								
BMO	**Blue Mountains**	**85.33**	**39**	*e*P	**P**		**08 50 21.1**	**+0.2**
comp=Z,4.1nm,0.7s								
MFID	**Camas Ranch**	**85.41**	**40**	*e*P	**P**		**08 50 22.1**	**+0.8**
comp=Z,9.0nm,1.0s								
BMRM	**Bremner River**	**85.46**	**16**	*e*P	**P**		**08 50 20.9**	**-0.1**
comp=Z,17nm,0.8s								
WTV	**Waterville**	**85.51**	**35**	P	**P**		**08 50 22.0**	**+0.4**
NLW	**Nelson Butte**	**85.53**	**35**	P	**P**		**08 50 22.0**	**+0.3**
BJI	**Beijing**	**85.66**	**315**	P	**P**		**08 50 22.8**	**+0.4**
BJI				PMZ				
comp=Z,18nm,0.7s								
WRAK	**Wrangell Islan**	**85.67**	**24**	*e*P	**P**		**08 50 22.5**	**+0.5**
comp=Z,10.0nm,0.8s								
D08A	**Wollman Farm,**	**85.69**	**36**	*e*P	**P**		**08 50 23.1**	**+0.7**
comp=Z,13nm,1.0s								
E09A	**Wood Farm, Sta**	**85.81**	**37**	*e*P	**P**		**08 50 23.6**	**+0.6**
comp=Z,17nm,1.3s								
SAW	**Saint Andrews**	**85.81**	**35**	P	**P**		**08 50 23.4**	**+0.4**
CAST	**Castle Rocks**	**85.99**	**11**	*e*P	**P**		**08 50 21.9**	**-1.6**
comp=Z,12nm,0.8s								
F10A	**Beach Ranch, E**	**86.02**	**38**	*e*P	**P**		**08 50 24.2**	**+0.1**
comp=Z,26nm,0.8s								
TNA	**Tin City**	**86.02**	**4**	*e*P	**P**		**08 50 23.1**	**-0.4**
comp=Z,6.5nm,0.7s								
TMUT	**Trail Mountain**	**86.20**	**46**	*e*P	**P**		**08 50 26.3**	**+0.9**
comp=Z,3.8nm,0.7s								
SEY	**Seymchan**	**86.20**	**347**	P	**P**		**08 50 23.9**	**-0.5**
comp=Z,17nm,0.7s,baz=148,slow=5.3,SNR=99								
B08A	**Colville Reser**	**86.23**	**35**	*e*P	**P**		**08 50 24.9**	**-0.1**
comp=Z,9.5nm,0.9s								
KTH	**Kantishna Hill**	**86.33**	**12**	*e*P	**P**		**08 50 23.0**	**-2.2**
comp=Z,23nm,1.0s								
HLID	**Hailey**	**86.35**	**41**	*e*P	**P**		**08 50 26.6**	**+0.8**
comp=Z,7.5nm,0.9s								
TRF	**Thorofare Moun**	**86.36**	**12**	*e*P	**P**		**08 50 24.5**	**-0.9**
comp=Z,27nm,0.8s								
GYA	**Guiyang**	**86.42**	**300**	*e*P	**P**		**08 50 27.3**	**+0.8**
GYA				pP	**pP**		**08 52 29.8**	**+1.7**
GYA				sP	**sP**		**08 53 26.0**	**+1.3**
GYA				PP	**PP**		**08 54 00.5**	**+1.8**
GYA				S	**S**		**09 00 13.4**	**-2.9**
GYA				PMZ				
comp=Z,10.0nm,1.0s								
HVU	**Hansel Valley**	**86.44**	**43**	*e*P	**P**		**08 50 26.8**	**+0.5**
HVU				pmax	pmax			
comp=Z,2.0nm,0.9s								
HVU	**Hansel Valley**	**86.44**	**43**	*e*P	**P**		**08 50 26.8**	**+0.5**
comp=Z,2.3nm,0.9s								
C09A	**Chrisman Ranch**	**86.48**	**36**	*e*P	**P**		**08 50 26.5**	**+0.3**
comp=Z,7.4nm,0.8s								
SRU	**San Rafael Swe**	**86.57**	**46**	*e*P	**P**		**08 50 27.8**	**+0.8**
SRU				pmax	pmax			
comp=Z,8.0nm,0.8s								
SRU	**San Rafael Swe**	**86.57**	**46**	*e*P	**P**		**08 50 27.8**	**+0.8**
comp=Z,8.1nm,0.8s								
MNTX	**Cornudas Mount**	**86.83**	**55**	*e*P	**P**		**08 50 29.1**	**+0.9**
comp=Z,12nm,1.1s								
MCK	**McKinley**	**86.89**	**13**	*e*P	**P**		**08 50 26.7**	**-1.0**
MCK				pmax	pmax			
comp=Z,20nm,0.9s								
MCK	**McKinley**	**86.89**	**13**	*e*P	**P**		**08 50 26.7**	**-1.0**
comp=Z,20nm,0.9s								
HWUT	**Hardware Ranch**	**87.13**	**44**	*e*P	**P**		**08 50 29.6**	**0.0**
comp=Z,19nm,0.9s								
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**		**08 50 31.0**	**+1.2**
comp=Z,5.2nm,0.8s,baz=218,slow=6.8,SNR=61								
HYT	**Haines Junctio**	**87.31**	**19**	*e*P	**P**		**08 50 30.3**	**+0.4**
NEW	**Newport**	**87.38**	**36**	*e*P	**P**		**08 50 30.1**	**-0.3**
NEW				pmax	pmax			
comp=Z,3.0nm,1.1s								
NEW	**Newport**	**87.38**	**36**	P	**P**		**08 50 31.6**	**+1.2**
comp=Z,3.4nm,1.0s,baz=187,slow=7.6,SNR=5.1								
NEW	**Newport**	**87.38**	**36**	*e*P	**P**		**08 50 30.1**	**-0.3**
comp=Z,3.2nm,1.1s								
PV01	**Paradox Valley**	**87.44**	**48**	*e*P	**P**		**08 50 31.5**	**+0.3**
ANMO	**Albuquerque**	**87.47**	**51**	⇓*i*P	**P**		**08 50 31.3**	**-0.1**
ANMO				*i* *PP	**pP**		**08 52 36.9**	**+3.5**
ANMO				pmax	pmax			
comp=

HHC				PP	PP	08 54 25.3	+5.6		
HHC				SKS	**SKSac**	**09 00 14.3**	**-1.0**		
HHC				S	**S**	**09 00 40.1**	**-0.6**		
HHC				sS	**sS**	**09 04 15.9**	**-3.4**		
HHC				PMZ					
	comp=Z,14nm,1.5s								
HHC				PMZ					
	comp=Z,110nm,7.4s								
BOZ	**Bozeman (W)**	**89.14**	**40**	*eP*	**P**	**08 50 39.5**	**+0.7**		
BOZ				pmax	pmax				
	comp=Z,14nm,1.3s								
BOZ	**Bozeman (W)**	**89.14**	**40**	*eP*	**P**	**08 50 39.5**	**+0.7**		
	comp=Z,14nm,1.3s								
H17A	**Grant Village**	**89.16**	**42**	*eP*	**P**	**08 50 41.0**	**+2.0**		
	comp=Z,7.5nm,0.9s								
LKWY	**Lake**	**89.35**	**41**	*eP*	**P**	**08 50 41.9**	**+1.9**		
LKWY				pmax	pmax				
	comp=Z,9.0nm,1.1s								
LKWY	**Lake**	**89.35**	**41**	*eP*	**P**	**08 50 41.9**	**+1.9**		
	comp=Z,9.3nm,1.1s								
DAWY	**Dawson**	**89.39**	**16**	*eP*	**P**	**08 50 39.2**	**-0.2**		
EGAK	**Eagle**	**89.53**	**15**	*eP*	**P**	**08 50 39.6**	**-0.3**		
	comp=Z,16nm,0.9s								
WALA	**Waterton Lakes**	**89.59**	**36**	*eP*	**P**	**08 50 41.0**	**+0.2**		
	comp=Z,7.2nm,1.0s								
COLD	**Coldfoot**	**89.78**	**11**	*eP*	**P**	**08 50 41.5**	**+0.4**		
	comp=Z,11nm,0.8s								
CMAR	**Chiang Mai Arr**	**89.89**	**290**	*iP*	**P**	**08 50 44.5**	**+1.8**		
CMAR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**08 50 44.0**	**+1.3**		
	comp=Z,5.4nm,0.9s,baz=118,slow=2.9,SNR=29								
N23A	**Red Feather La**	**90.51**	**46**	*eP*	**P**	**08 50 46.3**	**+0.8**		
	comp=Z,8.1nm,1.1s								
CD2	**Chengdu**	**90.56**	**303**	*eP*	**P**	**08 50 45.3**	**-0.3**		
CD2				pP	**pP**	**08 52 49.8**	**+1.4**		
CD2				sP	**sP**	**08 53 45.6**	**+1.0**		
CD2				PP	**PP**	**08 54 32.6**	**+1.6**		
CD2				SKS	**SKSac**	**09 00 22.1**	**-1.7**		
CD2				sS	**sS**	**09 04 31.3**	**-2.1**		
CD2				SS	**SS**	**09 07 12.8**	**-0.1**		
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,100nm,5.6s								
K22A	**Casper**	**90.92**	**44**	*eP*	**P**	**08 50 45.9**	**-1.2**		
	comp=Z,3.4nm,0.8s								
EGMT	**Eagleton**	**91.44**	**39**	*eP*	**P**	**08 50 49.6**	**+0.3**		
	comp=Z,9.6nm,1.4s								
YAK	**Yakutsk**	**91.92**	**338**	*iP*	**P**	**08 50 50.1**	**-0.9**		
YAK				pmax	pmax				
	comp=Z,15nm,0.7s								
INK	**Inuvik**	**94.20**	**15**	*eP*	**P**	**08 51 00.3**	**-1.0**		
INK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
INK	**Inuvik**	**94.20**	**15**	P	**P**	**08 51 00.1**	**-1.2**		
	comp=Z,3.6nm,0.8s,baz=204,slow=5.2,SNR=12								
INK	**Inuvik**	**94.20**	**15**	*eP*	**P**	**08 51 00.3**	**-1.0**		
	comp=Z,7.7nm,1.2s								
ULN	**Ulaanbaatar**	**95.14**	**319**	⇑*iP*	**P**	**08 51 05.2**	**-1.1**		
ULN				pmax	pmax				
	comp=Z,7.0nm,2.5s								
SONM	**Songino Array**	**95.53**	**319**	P	**P**	**08 51 07.0**	**-1.0**		
	comp=Z,0.7nm,0.8s,baz=132,slow=4.8,SNR=4.5								
SONM				PP	PP	08 54 54.5	-15		
	comp=Z,0.2nm,0.6s,baz=121,slow=5.6,SNR=3.0								
YKA	**Yellowknife Ar**	**96.47**	**25**	P	**P**	**08 51 10.8**	**-0.9**		
	comp=Z,1.0nm,0.8s,baz=243,slow=4.5,SNR=23								
YKA				PP	PP	08 55 07.8	-7.9		
	comp=Z,0.5nm,1.1s,baz=245,slow=7.8,SNR=3.1								
TIXI	**Tiksi**	**98.57**	**345**	⇑*iP*	Pdif	08 51 19.8	-1.1		
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.8s								
WMQ	**Urumqi**	**106.69**	**311**	*e*PKP	**PKiKP**	**08 56 06.0**	**+1.4**		
RES	**Resolute Bay**	**107.73**	**16**	PP	PP	08 56 44.1	+5.8		
	comp=Z,0.2nm,0.3s,baz=270,slow=6.5,SNR=3.5								
ZALV	**Zalesovo Beam**	**110.27**	**321**	PKiKP	**PKiKP**	**08 56 09.8**	**-1.0**		
	comp=Z,1.0nm,0.5s,baz=5.7,slow=1.4,SNR=4.6								
MK31	**Makanchi Array**	**110.97**	**313**	*i* PKIKP	**PKiKP**	**08 56 11.1**	**-1.4**		
MK31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**110.97**	**313**	PKiKP	**PKiKP**	**08 56 11.6**	**-0.9**		
	comp=Z,1.5nm,0.7s,baz=81,slow=0.7,SNR=22								
KURK	**Kurchatov**	**113.77**	**317**	*e*PKIKP	**PKiKP**	**08 56 16.6**	**-1.0**		
KURK	**Kurchatov**	**113.77**	**317**	*e*PKPdf	**PKiKP**	**08 56 16.6**	**-1.0**		
KSH	**Kashi**	**114.65**	**305**	*e*PKP	PKPdf	08 56 22.5	+2.6		
KSH				PP	PP	08 57 35.5	+7.2		
KSH				PKS	**PKSdf**	**08 59 58.6**	**+2.0**		
KSH				SKKS		09 03 32.8			
KSH				SS	SS	09 12 47.6	+7.1		
KSH				PPMZ					
	comp=Z,59nm,3.8s								
TKM2	**Tokmak 2**	**115.28**	**309**	PKIKP	**PKPdf**	**08 56 19.5**	**-1.6**		
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**116.06**	**308**	⇑*iP*KIKP	**PKPdf**	**08 56 20.9**	**-1.7**		
SFK	**Sufi-Kurgan**	**116.60**	**305**	PKIKP	**PKPdf**	**08 56 23.3**	**-0.5**		
SFK				pmax	pmax				
	comp=Z,1.0nm,0.5s								
MNAS	**Manas**	**117.52**	**308**	PKIKP	**PKPdf**	**08 56 24.1**	**-1.2**		
MNAS				pmax	pmax				
	comp=Z,4.0nm,0.7s								
BVA0	**Borovoye Array**	**118.85**	**320**	*i* PKIKP	**PKPdf**	**08 56 26.4**	**-1.0**		
BVA0				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KK31	**Karatay Array**	**119.01**	**309**	PKIKP	**PKPdf**	**08 56 26.6**	**-1.4**		
KK31				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**119.01**	**309**	*e*PKIKP	**PKPdf**	**08 56 27.3**	**-0.7**		
KKAR	**Karatay Array**	**119.01**	**309**	*e*PKPdf	**PKPdf**	**08 56 27.3**	**-0.7**		
SPITS	**Spitsbergen Ar**	**121.72**	**357**	PKP	**PKPdf**	**08 56 31.7**	**-0.5**		
	comp=Z,4.9nm,0.8s,baz=82,slow=6.0,SNR=4.2								
ARU	**Arti**	**124.98**	**325**	*i* PKIKP	**PKPdf**	**08 56 38.2**	**-0.8**		
ARU						08 58 33.1			
ARU						09 02 46.9			
ARU				SS	SS	09 14 38.1	-12		
ARU	**Arti**	**124.98**	**325**	*e*PKPdf	**PKPdf**	**08 56 38.6**	**-0.4**		
AKTO	**Aktyubinsk**	**126.84**	**318**	PKP	**PKPdf**	**08 56 42.8**	**+0.1**		
	comp=Z,3.6nm,0.7s,baz=64,slow=2.1,SNR=12								
GEYT	**Alibeck**	**128.55**	**303**	PKP	**PKPdf**	**08 56 45.6**	**-0.8**		
	comp=Z,2.5nm,0.4s,baz=310,slow=8.9,SNR=4.6								
ARCES	**ARCESS Array B**	**128.76**	**350**	PKP	**PKPdf**	**08 56 45.5**	**-0.3**		
	comp=Z,5.2nm,0.9s,baz=354,slow=1.2,SNR=9.8								
FINES	**FINESS Array B**	**135.59**	**344**	PKhKP	PKPpre	08 56 47.8			
	comp=Z,0.9nm,0.7s,baz=44,slow=8.2,SNR=2.7								
FINES				PKP	**PKPdf**	**08 56 56.8**	**-2.1**		
	comp=Z,2.6nm,0.7s,baz=108,slow=4.5,SNR=7.1								
FINES				SKP		08 59 39.6			
	comp=Z,2.8nm,0.9s,baz=236,slow=1.5,SNR=4.7								
OBN	**Obninsk**	**136.55**	**332**	*i* PKIKP	**PKPdf**	**08 57 00.1**	**-0.7**		
OBN				pmax	pmax				
	comp=Z,9.0nm,0.6s								
NB2	**NORSAR Subarra**	**138.03**	**353**	PKP	PKPpre	08 56 55.2			
	comp=Z,1.4nm,0.7s,baz=15,slow=3.0								
NOA	**NORSAR Array B**	**138.03**	**353**	PKhKP	PKPpre	08 56 55.5			
	comp=Z,2.2nm,0.8s,baz=16,slow=4.5,SNR=6.7								
MVH1	**Achvaich**	**142.24**	**5**	*eP*	**PKPdf**	**08 57 06.6**	**-4.5**		
KAC	**Achnashellach**	**142.55**	**6**	*eP*	**PKPdf**	**08 57 08.3**	**-3.4**		
SUW	**Suwalki**	**142.65**	**339**	*e*PKP	**PKPdf**	**08 57 09.2**	**-2.7**		
MCD	**Coleburn Disti**	**142.65**	**4**	*eP*	**PKPdf**	**08 57 08.1**	**-3.8**		
KPL	**Plockton**	**142.67**	**7**	*eP*	**PKPdf**	**08 57 08.4**	**-3.5**		
AKASG	**Malin Array Be**	**142.81**	**331**	PKhKP	PKPpre	08 57 08.7			
	comp=Z,19nm,0.6s,baz=42,slow=4.3,SNR=138								
AKASG				SKP		08 59 54.3			
	comp=Z,0.4nm,0.4s,baz=34,slow=3.6,SNR=4.3								
AKASG				SKPbc	**SKiKP**	**08 59 59.0**	**+0.1**		
	comp=Z,0.8nm,0.6s,baz=42,slow=2.5,SNR=6.1								
KIEV	**Kiev**	**142.82**	**331**	⇓*e*PKHKP	PKPpre	08 57 08.2			
KIEV	**Kiev**	**142.82**	**331**	*e*PKPdf	PKPpre	08 57 08.0			
SFNV	**Sufian**	**142.97**	**304**	*eP*	**PKPdf**	**08 57 10.7**	**-2.5**		
DRUM	**Mains of Drumt**	**143.37**	**4**	*eP*	PKPab	08 57 09.9	-1.6		
EDU	**Dundee**	**143.70**	**4**	*eP*	PKPab	08 57 11.2	-1.5		
MALT	**Malatya**	**143.70**	**308**	⇓PKIKP	**PKPdf**	**08 57 13.9**	**-0.6**		
MALT	**Malatya**	**143.70**	**308**	⇓*iP*	**PKPdf**	**08 57 13.9**	**-0.6**		
SIM	**Simferopol'**	**143.77**	**320**	*e*PKIKP	PKPab	08 57 13.5	+0.1		
SIM				pmax	pmax				
	comp=Z,49nm,1.0s								
EAB	**Aberfoyle**	**143.94**	**6**	*eP*	PKPbc	08 57 12.2	-1.3		
EBL	**Broad Law**	**144.46**	**5**	*eP*	**PKPdf**	**08 57 14.7**	**-0.4**		
ESK	**Eskdalemuir**	**144.90**	**5**	*i* PKIKP	**PKPab**	**08 57 17.2**	**-0.1**		
ESK	**Eskdalemuir**	**144.90**	**5**	*eP*	**PKPdf**	**08 57 15.9**	**+0.1**		
GKP	**Gorka Klasztor**	**145.07**	**344**	*e*PKIKP	**PKPbc**	**08 57 16.9**	**-0.1**		
GKP	**Gorka Klasztor**	**145.07**	**344**	*e*PKP	**PKPbc**	**08 57 16.8**	**-0.2**		
GAL1	**Galloway**	**145.21**	**7**	*eP*	**PKPdf**	**08 57 16.6**	**+0.3**		
BEL	**Belsk**	**145.26**	**339**	*e*PKIKP	**PKPab**	**08 57 18.4**	**-0.5**		
BEL	**Belsk**	**145.26**	**339**	*e*PKP	**PKPab**	**08 57 18.4**	**-0.5**		
KESW	**Keswick, Cumbr**	**145.63**	**5**	*eP*	**PKPbc**	**08 57 18.3**	**-0.4**		
RABH	**Abou Rabah**	**145.77**	**302**	*eP*	**PKPbc**	**08 57 19.9**	**+0.1**		
BSEG	**Bad Segeberg**	**145.86**	**351**	*e*PKPbc	**PKPbc**	**08 57 19.5**	**+0.2**		
WRDH	**Warideh**	**146.10**	**304**	*eP*	**PKPbc**	**08 57 20.5**	**-0.2**		
BIDA	**Albida**	**146.31**	**303**	*eP*	**PKPdf**	**08 57 20.0**	**+1.0**		
HPK	**Haverah Park**	**146.37**	**4**	*eP*	**PKPbc**	**08 57 20.4**	**-0.3**		
KWP	**Kalwaria Pacla**	**146.38**	**335**	⇓PKP2	**PKPbc**	**08 57 21.0**	**+0.1**		
KWP	**Kalwaria Pacla**	**146.38**	**335**	*e*PKP	**PKPbc**	**08 57 20.7**	**-0.2**		
KWP	**Kalwaria Pacla**	**146.38**	**335**	⇓*i*P	**PKPbc**	**08 57 21.0**	**+0.1**		
KWP	**Kalwaria Pacla**	**146.38**	**335**	*e*PKPbc	**PKPbc**	**08 57 20.8**	**-0.1**		
HAWK	**Haweek**	**146.38**	**302**	*eP*	**PKPbc**	**08 57 21.6**	**0.0**		
MARH	**Ras Al Marh**	**146.45**	**301**	*eP*	**PKPbc**	**08 57 22.6**	**+0.6**		
SALA	**Sala**	**146.56**	**299**	*eP*	**PKPbc**	**08 57 22.6**	**+0.4**		
BRTR	**Keskin Array B**	**146.61**	**312**	PKIKP	**PKPdf**	**08 57 19.0**	**-0.4**		
BRTR	**Keskin Array B**	**146.61**	**312**	PKP	**PKPdf**	**08 57 19.0**	**-0.4**		
	comp=Z,8.2nm,0.7s,baz=83,slow=4.5,SNR=35								
BRTR				PKPbc	**PKPbc**	**08 57 21.6**	**-0.5**		
	comp=Z,8.6nm,0.7s,baz=134,slow=4.9,SNR=35								
BURAR	**Bucovina Array**	**146.85**	**331**	⇓PKP2	**PKPbc**	**08 57 23.1**	**+0.7**		
BURAR	**Bucovina Array**	**146.85**	**331**	⇓*i*P	**PKPbc**	**08 57 23.1**	**+0.7**		
OJC	**Ojcow**	**146.97**	**339**	*e*PKP	**PKPbc**	**08 57 22.2**	**-0.3**		
CFR	**Carcaliu**	**147.06**	**325**	⇓PKP2	**PKPbc**	**08 57 22.9**	**+0.1**		
CFR	**Carcaliu**	**147.06**	**325**	⇓*i*P	**PKPbc**	**08 57 22.9**	**+0.1**		
KOLS	**Kolonicke sedl**	**147.11**	**335**	*e*PKP2	**PKPbc**	**08 57 23.3**	**+0.4**		
KOLS	**Kolonicke sedl**	**147.11**	**335**	*e*PKP	**PKPbc**	**08 57 23.3**	**+0.4**		
STHS	**Stebnicka Huta**	**147.12**	**336**	*e*PKIKP	**PKPbc**	**08 57 22.5**	**-0.4**		
STHS				*e*		08 57 27.0			
STHS	**Stebnicka Huta**	**147.12**	**336**	*e*PKP	**PKPbc**	**08 57 22.5**	**-0.4**		
STHS				*e*		08 57 27.0			
ANTO	**Ankara**	**147.13**	**313**	*e*PKP2	**PKPbc**	**08 57 23.6**	**+0.3**		
ANTO	**Ankara**	**147.13**	**313**	⇓*i*P	**PKPbc**	**08 57 23.6**	**+0.3**		
ANTO	**Ankara**	**147.13**	**313**	*e*PKPbc	**PKPbc**	**08 57 23.6**	**+0.3**		
NRDL	**Niedersach Rie**	**147.29**	**351**	*e*PKPbc	**PKPbc**	**08 57 23.3**	**+0.2**		
FOEL	**Foel Wylfa**	**147.31**	**6**	*eP*	**PKPbc**	**08 57 22.7**	**-0.6**		
UZH	**Uzhgorod**	**147.34**	**334**	*e*PKIKP	**PKPbc**	**08 57 22.4**	**-1.1**		
UZH				*i*		08 57 27.2			
VRI	**Vrincioaia**	**147.35**	**327**	⇑PKP2	**PKPbc**	**08 57 23.5**	**-0.1**		
VRI	**Vrincioaia**	**147.35**	**327**	⇑*i*P	**PKPbc**	**08 57 23.5**	**-0.1**		
TIRR	**Tirgusor**	**147.37**	**323**	⇓PKP2	**PKPbc**	**08 57 23.6**	**-0.1**		
TIRR	**Tirgusor**	**147.37**	**323**	⇓*i*P	**PKPbc**	**08 57 23.6**	**-0.1**		
TIRR	**Tirgusor**	**147.37**	**323**	*e*PKPbc	**PKPbc**	**08 57 23.3**	**-0.4**		
PLOR	**Plostina**	**147.40**	**327**	⇓PKP2	**PKPbc**	**08 57 23.5**	**-0.3**		
PLOR	**Plostina**	**147.40**	**327**	⇓*i*P	**PKPbc**	**08 57 23.5**	**-0.3**		
CRVS	**Cervenica-Dubn**	**147.45**	**336**	*e*PKP2	**PKPbc**	**08 57 24.2**	**+0.4**		
CRVS	**Cervenica-Dubn**	**147.45**	**336**	*e*PKP	**PKPbc**	**08 57 24.2**	**+0.4**		
CRVS				*e*		08 57 28.0			
NIE	**Niedzica**	**147.46**	**337**	*e*PKP	**PKPbc**	**08 57 24.1**	**+0.3**		
TLB	**Topalu**	**147.50**	**324**	⇓PKP2	**PKPbc**	**08 57 24.0**	**0.0**		
TLB	**Topalu**	**147.50**	**324**	⇓*i*P	**PKPbc**	**08 57 24.0**	**0.0**		
KSP	**Ksiaz**	**147.51**	**343**	*e*PKP2	**PKPab**	**08 57 27.9**	**0.0**		
KSP	**Ksiaz**	**147.51**	**343**	*e*PKP	**PKPbc**	**08 57 24.0**	**+0.1**		
TRPA	**Tarpa**	**147.64**	**334**	⇓*i*P	**PKPbc**	**08 57 24.4**	**+0.2**		
OKC	**Ostrava-Krasne**	**147.84**	**340**	*e*PKP2	**PKPbc**	**08 57 24.7**	**0.0**		
OKC	**Ostrava-Krasne**	**147.84**	**340**	⇑*e*PKP	**PKPbc**	**08 57 24.7**	**0.0**		
OKC				*e*PKPAB	**PKPab**	**08 57 29.4**	**+0.1**		
CLZ	**Clausthal**	**147.88**	**350**	*e*PKPbc	**PKPbc**	**08 57 25.2**	**+0.4**		
UPC	**Upice**	**147.89**	**343**	*e*PKP2	**PKPbc**	**08 57 25.1**	**+0.3**		
UPC	**Upice**	**147.89**	**343**	⇑*e*PKP	**PKPbc**	**08 57 25.1**	**+0.3**		
UPC				*e*PKPAB	**PKPab**	**08 57 30.2**	**+0.7**		
CLL	**Collm**	**147.89**	**347**	*e*PKPbc	**PKPbc**	**08 57 24.9**	**+0.1**		
CLL	**Collm**	**147.89**	**347**	⇓*e*PKHKP	**PKPdf**	**08 57 20.0**	**-0.9**		
CLL				*i*		08 57 28.8			
CLL				pmax	pmax				
	comp=Z,47nm,0.9s								
CLL				pmax	pmax				
	comp=Z,21nm,0.8s								
CLL	**Collm**	**147.89**	**347**	*e*PKPdf	**PKPdf**	**08 57 20.0**	**-0.9**		
CLL				⇓*i*PKPbc	**PKPbc**	**08 57 24.8**	**0.0**		
	comp=Z,47nm,0.9s								
CLL				⇑*i*PKPab	**PKPab**	**08 57 28.8**	**-0.6**		
	comp=Z,21nm,0.8s								
CLL	**Collm**	**147.89**	**347**	*e*PKPbc	**PKPbc**	**08 57 23.8**	**-1.0**		
MSAB	**Monastry St. A**	**147.93**	**323**	⇓*i*P	**PKPbc**	**08 57 25.3**	**+0.2**		
DPC	**Dobruska-Polom**	**147.94**	**342**	*e*PKIKP	**PKPdf**	**08 57 22.1**	**+0.9**		
DPC				*e*		08 57 29.7			
DPC	**Dobruska-Polom**	**147.94**	**342**	*e*PKPDF	**PKPdf**	**08 57 22.1**	**+0.9**		
DPC				⇑*e*PKP	**PKPbc**	**08 57 25.4**	**+0.4**		
DPC				*e*PKPAB	**PKPab**	**08 57 29.7**	**0.0**		
DPC	**Dobruska-Polom**	**147.94**	**342**	*e*PKPbc	**PKPbc**	**08 57 25.5**	**+0.4**		
ISR	**Istrita**	**147.95**	**326**	⇓PKP2	**PKPbc**	**08 57 25.5**	**+0.2**		
ISR	**Istrita**	**147.95**	**326**	⇓*i*P	**PKPbc**	**08 57 25.5**	**+0.2**		
DOPR	**Dopca**	**147.96**	**328**	⇑*i*P	**PKPbc**	**08 57 25.9**	**+0.7**		
MLR	**Muntele Rosu**	**148.01**	**327**	⇓PKP2	**PKPbc**	**08 57 25.1**	**-0.4**		
MLR	**Muntele Rosu**	**148.01**	**327**	⇓*i*P	**PKPbc**	**08 57 25.0**	**-0.4**		
KRLC	**Kraliky**	**148.06**	**342**	*e*PKP2	**PKPbc**	**08 57 25.5**	**+0.2**		
KRLC	**Kraliky**	**148.06**	**342**	⇑*e*PKP	**PKPbc**	**08 57 25.5**	**+0.2**		
KRLC				*e*PKPAB	**PKPab**	**08 57 30.5**	**+0.3**		
BRG	**Berggiesshubel**	**148.09**	**345**	*e*PKP	**PKPdf**	**08 57 21.5**	**+0.2**		
	comp=Z,3.1nm,0.9s								
BRG				*i*		08 57 25.4			
	comp=Z,19nm,0.7s								
BRG				*i*		08 57 30.0			
	comp=Z,17nm,0.8s								
BRG				*e*pPKP	**pPKPdf**	**08 59 31.1**	**-1.6**		
	comp=Z,3.2nm,0.9s								
BRG	**Berggiesshubel**	**148.09**	**345**	*e*PKPbc	**PKPbc**	**08 57 25.5**	**+0.2**		
BRG	**Berggiesshubel**	**148.09**	**345**	*e*PKIKP	**PKPdf**	**08 57 21.5**	**+0.2**		
BRG				*i*		08 57 30.0			
BRG				*e*		08 59 31.0			
BRG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRG				pmax	pmax				
	comp=Z,19nm,0.7s								
BRG				pmax	pmax				
	comp=Z,17nm,0.8s								
BRG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KECS	**Kecovo**	**148.17**	**336**	*e*PKP2	**PKPab**	**08 57 31.1**	**+0.4**		
KECS	**Kecovo**	**148.17**	**336**	*e*PKP	**PKPab**	**08 57 31.1**	**+0.4**		
MCH1	**Michaelchurch**	**148.21**	**6**	*eP*	**PKPbc**	**08 57 25.0**	**-0.6**		
PVCC	**Panska Ves**	**148.25**	**344**	*e*PKP2	**PKPbc**	**08 57 26.1**	**+0.4**		
PVCC	**Panska Ves**	**148.25**	**344**	⇑*e*PKP	**PKPbc**	**08 57 26.1**	**+0.4**		
PVCC				*e*PKPAB	**PKPab**	**08 57 31.2**	**+0.3**		
MONM	**Monmouth**	**148.38**	**5**	*eP*	**PKPbc**	**08 57 25.4**	**-0.6**		
VOIR		**148.50**	**328**	⇓PKP2	**PKPbc**	**08 57 26.8**	**+0.2**		
VOIR		**148.50**	**328**	⇓*i*P	**PKPbc**	**08 57 26.8**	**+0.2**		
DRGR		**148.60**	**332**	⇓PKP2	**PKPbc**	**08 57 27.7**	**+0.9**		
DRGR		**148.60**	**332**	⇓*i*P	**PKPbc**	**08 57 27.7**	**+0.9**		
CSS	**Prodhromos**	**148.67**	**304**	*e*PKPbc	**PKPbc**	**08 57 26.8**	**-0.6**		
BUG	**Bochum--Univer**	**148.69**	**353**	*e*PKPbc	**PKPbc**	**08 57 26.9**	**+0.1**		
PRA	**Prague**	**148.71**	**344**	*e*PKP2	**PKPbc**	**08 57 27.3**	**+0.4**		
PRA	**Prague**	**148.71**	**344**	⇑*e*PKP	**PKPbc**	**08 57 27.2**	**+0.4**		
ARR	**Arges**	**148.75**	**328**	⇓*i*P	**PKPbc**	**08 57 28.5**	**+1.2**		
PRU	**Pruhonice**	**148.75**	**344**	*e*PKP2	**PKPbc**	**08 57 27.1**	**+0.1**		
PRU	**Pruhonice**	**148.75**	**344**	⇑*e*PKP	**PKPbc**	**08 57 27.1**	**+0.1**		
PRU				*e*PKPAB	**PKPab**	**08 57 32.9**	**-0.1**		
GOPC	**GO Pecny, Ondr**	**148.76**	**344**	⇑*e*PKP	**PKPbc**	**08 57 27.3**	**+0.2**		
GOPC				*e*PKPAB	**PKPab**	**08 57 33.0**	**-0.1**		
VYHS	**Vyhne**	**148.76**	**338**	*e*PKP2	**PKPbc**	**08 57 27.5**	**+0.4**		
VYHS	**Vyhne**	**148.76**	**338**	*e*PKP	**PKPbc**	**08 57 27.5**	**+0.4**		
VYHS				*e*		08 57 33.5			
MOX	**Moxa**	**148.81**	**348**	*e*PKPbc	**PKPbc**	**08 57 27.3**	**+0.2**		
TANN	**Tannenbergstha**	**148.85**	**347**	*e*PKPbc	**PKPbc**	**08 57 27.5**	**+0.2**		
PSZ	**Piszkesteto**	**148.86**	**336**	⇓PKP2	**PKPbc**	**08 57 27.9**	**+0.5**		
PSZ	**Piszkesteto**	**148.86**	**336**	⇓*i*P	**PKPbc**	**08 57 27.9**	**+0.5**		
PSZ	**Piszkesteto**	**148.86**	**336**	*e*PKPbc	**PKPbc**	**08 57 27.6**	**+0.1**		
PSZ				*e*PKPab	**PKPab**	**08 57 33.5**	**-0.1**		
TREC	**Trest**	**149.13**	**342**	⇑*e*PKP	**PKPbc**	**08 57 27.9**	**-0.1**		
TREC				*e*PKPAB	**PKPab**	**08 57 34.6**	**0.0**		
ROTZ	**Rotzenmuhle**	**149.51**	**347**	*e*PKPbc	**PKPbc**	**08 57 29.3**	**+0.4**		
GZR	**Gura Zlata**	**149.63**	**330**	⇓*i*P	**PKPbc**	**08 57 28.8**	**-0.6**		
MEM	**Membach**	**149.64**	**355**	PKPbc	**PKPbc**	**08 57 29.2**	**+0.1**		
MEM				PKPab	**PKPab**	**08 57 38.1**	**+1.5**		
MEM	**Membach**	**149.64**	**355**	*e*PKPbc	**PKPbc**	**08 57 29.3**	**+0.2**		
TNS	**Taunus Mts**	**149.75**	**352**	*e*PKPbc	**PKPbc**	**08 57 30.4**	**+0.9**		
KHC	**Kasperske Hory**	**149.79**	**345**	*e*PKIKP	**PKPdf**	**08 57 23.6**	**-0.5**		
KHC						08 57 36.9			
KHC	**Kasperske Hory**	**149.79**	**345**	*e*PKPDF	**PKPdf**	**08 57 23.6**	**-0.5**		
KHC				⇑*e*PKP	**PKPbc**	**08 57 29.2**	**-0.4**		
KHC				*e*PKPAB	**PKPab**	**08 57 36.9**	**-0.5**		
KHC				*ex*	x	08 59 48.3			
KHC	**Kasperske Hory**	**149.79**	**345**	*e*PKPbc	**PKPbc**	**08 57 29.1**	**-0.5**		
KHC				*e*PKPab	**PKPab**	**08 57 36.5**	**-0.8**		
SNF	**Seneffe**	**149.86**	**357**	PKPbc	**PKPbc**	**08 57 29.9**	**+0.3**		
SNF				PKPab	**PKPab**	**08 57 37.1**	**-0.4**		
BCLA	**Clavier**	**149.88**	**356**	PKPab	**PKPab**	**08 57 37.3**	**-0.4**		
WET	**Wettzell**	**149.95**	**345**	*e*PKPbc	**PKPbc**	**08 57 30.1**	**+0.2**		
BZS	**Buzias**	**149.99**	**332**	⇓*i*P	**PKPbc**	**08 57 29.9**	**-0.2**		
GEC2	**GERESS Array S**	**150.02**	**344**	*e*PKPbc	**PKPbc**	**08 57 30.3**	**+0.1**		
GEC2	**GERESS Array S**	**150.02**	**344**	*e*PKPbc	**PKPbc**	**08 57 30.4**	**+0.1**		
GEC2				*e*PKPab	**PKPab**	**08 57 38.3**	**-0.2**		
GERES	**GERESS Array B**	**150.02**	**344**	PKPbc	**PKPbc**	**08 57 29.9**	**-0.3**		
	comp=Z,7.1nm,0.8s,baz=45,slow=2.1,SNR=45								
GERES				PKPab	**

IDC 13 09:18:11.5±11.0, 19.74S×178.27W, h600km±111km, mb3.1/5, mb1 3.2/5, mb1mx2.9/19, mbtmp4.1/5, Error ellipse: s-maj=126.8km s-min=48.3km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.32**	**263**	P	P	09 24 02.2	+0.6
	2.0nm,0.4s,baz=84,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**37.90**	**243**	P	P	09 24 39.0	-0.2
	1.4nm,0.6s,baz=96,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**44.45**	**256**	P	P	09 25 30.8	-0.2
	2.3nm,0.5s,baz=87,slow=8.5,SNR=35						
ASAR				PcP	PcP	09 27 00.7	-0.5
	0.3nm,0.5s,baz=99,slow=5.9,SNR=4.3						
WRA	**Warramunga Arr**	**44.46**	**261**	P	P	09 25 30.5	-0.6
	1.3nm,0.4s,baz=97,slow=6.9,SNR=64						
ILAR	**Eielson Array**	**87.63**	**13**	P	P	09 29 56.3	-0.3
	0.2nm,0.5s,baz=204,slow=6.4,SNR=4.5						
AKASG	**Malin Array Be**	**142.23**	**331**	PKhKP	PKPpre	09 36 32.4	
	0.2nm,0.3s,baz=41,slow=4.4,SNR=4.1						
BRTR	**Keskin Array B**	**146.14**	**313**	PKPbc	PKPbc	09 36 45.9	-0.1
	0.4nm,0.5s,baz=58,slow=3.6,SNR=2.8						

IDC 13 09:52:18.0±5.1, 48.80S×123.53E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/13, mbtmp3.2/2, Error ellipse: s-maj=264.8km s-min=75.2km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**26.39**	**22**	P	P	09 57 56.0	-0.1
	0.3nm,0.6s,baz=191,slow=8.6,SNR=9.4						
WRA	**Warramunga Arr**	**30.07**	**21**	P	P	09 58 28.7	-0.2
	0.2nm,0.8s,baz=212,slow=8.8,SNR=2.6						
YKA	**Yellowknife Ar**	**145.74**	**44**	PKPbc	PKPdf	10 11 57.0	-0.1
	0.1nm,0.7s,baz=273,slow=3.0,SNR=4.6						

WEL 13 09:56:46.1±0.4, 34.94S×178.37E, h255km±12km, ML3.5/4, Error ellipse: s-maj=11.7km s-min=10.6km az=0.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.62**	**181**	PN	Pn	09 57 35.1	+0.3
MXZ				SN	S	09 58 12.7	-0.8
HAZ	**Te Kaha**	**2.85**	**189**	PN	Pn	09 57 37.6	+0.4
HAZ				*e*SN	S	09 58 17.5	-0.3
HAZ				SN		09 58 17.6	
WMGZ	**Waiomatatini S**	**2.87**	**179**	PN	Pn	09 57 38.0	+0.5
PUZ	**Puketiti**	**3.13**	**182**	PN	Pn	09 57 40.2	0.0
PUZ				SN	S	09 58 21.9	-1.3
URZ	**Urewera**	**3.46**	**197**	PN	Pn	09 57 44.1	+0.2
URZ				*e*SN	S	09 58 30.2	+0.4
URZ				*e*SN		09 58 30.3	
KNZ	**Kokohu**	**4.11**	**188**	*e*PN	Pn	09 57 51.0	-0.3
ARHZ	**Aropaoanui**	**4.45**	**194**	SN	S	09 58 50.1	-0.5
BFZ	**Birch Farm**	**5.97**	**196**	PN	Pn	09 58 13.1	-0.8
BFZ				SN	S	09 59 21.5	-2.8
TCW	**Tory Channel**	**7.04**	**206**	SN	S	09 59 45.3	-3.2
TCW				AML	AML		
MQZ	**McQueen's Vall**	**9.81**	**205**	SN	S	10 00 44.7	-7.7

IDC 13 10:29:57.2±2.6, 53.70N×86.92E, h0km, mb1 2.8/2, mb1mx2.6/45, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=23.7km s-min=13.3km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**282**	*i*		10 38 31.9	
	baz=100,slow=326,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.27**	**282**	Pg	Pg	10 30 20.2	-1.4
	0.8nm,0.3s,baz=100,slow=16,SNR=17						
ZALV				Lg	Lg	10 30 38.2	
	0.8nm,0.3s,baz=99,slow=26,SNR=10						
KURBB	**Kurchatov Arra**	**6.01**	**243**	Pn	Pn	10 31 28.6	+1.3
	0.0nm,0.3s,baz=58,slow=14,SNR=5.8						
KURBB				Lg	Lg	10 33 07.5	
	0.0nm,0.3s,baz=63,slow=34,SNR=5.4						
MKAR	**Makanchi Array**	**7.53**	**205**	Pn	Pn	10 31 49.8	+1.6
	0.1nm,0.3s,baz=26,slow=11,SNR=4.3						
MKAR				Sn	Sn	10 33 13.2	-1.0
	0.1nm,0.3s,baz=30,slow=29,SNR=1.9						
MKAR				Lg	Lg	10 33 54.4	
	0.0nm,0.3s,baz=27,slow=30,SNR=5.1						

IDC 13 10:40:13.2±2.7, 54.18N×86.44E, h0km, mb1 2.7/2, mb1mx2.7/30, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=20.5km s-min=12.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**257**	*i*		10 47 05.9	
	baz=77,slow=328,SNR=0.9						
ZALV	**Zalesovo Beam**	**0.98**	**257**	Pg	Pg	10 40 30.5	-1.5
	1.9nm,0.3s,baz=76,slow=18,SNR=25						
ZALV				Lg	Lg	10 40 46.0	
	3.2nm,0.3s,baz=76,slow=30,SNR=18						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	10 41 44.8	+1.5
	0.1nm,0.3s,baz=54,slow=14,SNR=5.2						
KURBB				Lg	Lg	10 43 24.3	
	0.0nm,0.3s,baz=64,slow=33,SNR=3.1						
MKAR	**Makanchi Array**	**7.85**	**201**	Pn	Pn	10 42 09.5	+0.9
	0.1nm,0.3s,baz=25,slow=13,SNR=6.3						
MKAR				Lg	Lg	10 44 22.4	
	0.1nm,0.3s,baz=24,slow=29,SNR=3.4						

IDC 13 10:52:10.6±4.6, 53.76N×90.98E, h0km, mb1 2.5/2, mb1mx2.5/30, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=37.4km s-min=24.4km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.65**	**276**	*i*		11 17 39.2	
	baz=91,slow=334,SNR=1.1						
ZALV	**Zalesovo Beam**	**3.65**	**275**	Pn	Pn	10 53 10.3	+1.9
	0.1nm,0.3s,baz=91,slow=16,SNR=2.7						
ZALV				Pg	Pb	10 53 15.7	-0.3
	0.2nm,0.3s,baz=93,slow=15,SNR=7.7						
ZALV				Lg	Lg	10 54 06.1	
	0.4nm,0.3s,baz=90,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**8.27**	**253**	Sn	Sn	10 55 45.0	-0.7
	0.0nm,0.3s,baz=66,slow=24,SNR=2.5						
KURBB				Lg	Lg	10 56 34.0	
	0.0nm,0.3s,baz=66,slow=33,SNR=4.9						
MKAR	**Makanchi Array**	**8.91**	**222**	Pn	Pn	10 54 20.7	+0.1
	0.0nm,0.3s,baz=34,slow=10,SNR=2.7						
MKAR				Sn	Sn	10 56 01.5	-0.2
	0.0nm,0.3s,baz=31,slow=22,SNR=2.1						
MKAR				Lg	Lg	10 56 50.5	
	0.0nm,0.3s,baz=39,slow=26,SNR=3.6						
SONM	**Songino Array**	**11.41**	**115**	Lg	Lg	10 58 10.2	
	0.1nm,0.3s,baz=294,slow=32,SNR=3.6						

*ISCJB **13** 10:57:07.4±0.6, 43.28N±0.07°×145.13E±0.08, h124km±3km, mb3.6/7, Error ellipse: s-maj=11.5km s-min=8.6km az=159.0*
*JMA **13** 10:57:08.7±0.1, 43.27N×145.12E, h117km±1km, M3.3*
*IDC **13** 10:57:11.8±5.3, 43.39N×144.83E, h137km±21km, mb3.3/7, mb1 3.4/7, mb1mx3.1/27, mbtmp3.7/7, MS2.9/1, Ms1 2.9/1, ms1mx2.3/22, Error ellipse: s-maj=88.8km s-min=26.3km az=172.0*

ISC 13 10:57:08.5±0.9, 43.27N±0.07°×145.13E±0.06, h118km±6km, n23, σ0°62/29, mb3.6/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.42**	**229**	P	Pn	10 57 26.0	+0.3
JAK				*e*S	Sn	10 57 38.9	+0.2
JNK	**Nakash**	**0.43**	**317**	P	Pn	10 57 25.9	+0.1
JNK				*e*S	Sn	10 57 38.7	-0.2
NEM2	**Nemuro 2**	**0.46**	**78**	P	Pn	10 57 25.9	0.0
NEM2				*e*S	Sn	10 57 38.6	-0.5
JRA	**Rausu**	**0.66**	**360**	P	Pn	10 57 27.5	+0.2
JRA				*e*S	Sn	10 57 41.7	+0.2
JAR	**Ashorobuto**	**0.99**	**272**	P	Pn	10 57 30.6	+0.4
JAR				*e*S	Sn	10 57 46.7	0.0
JOB	**Onbets**	**1.02**	**249**	P	Pn	10 57 30.9	+0.5
JOB				*e*S	Sn	10 57 47.1	0.0
JTKR	**Abashiri--Toko**	**1.13**	**309**	P	Pn	10 57 31.8	+0.2
JTKR				*e*S	Sn	10 57 48.9	-0.2
JCH	**Churui**	**1.45**	**244**	P	Pn	10 57 35.4	+0.2
JCH				*e*S	Sn	10 57 54.8	-0.7
JMP	**Maruseppu**	**1.48**	**300**	P	Pn	10 57 35.6	+0.1
JKK2	**Kamakawa 2**	**1.83**	**290**	P	Pn	10 57 40.1	+0.4
JFR	**Furan**	**1.85**	**267**	P	Pn	10 57 40.0	0.0
JEM	**Erimo**	**1.92**	**230**	P	Pn	10 57 41.5	+0.7
ASAJ	**Asahikawa**	**2.02**	**296**	P	Pn	10 57 42.8	+0.8
	49nm,0.3s,baz=114,slow=12,SNR=413						
ASAJ				S	Sn	10 58 08.2	+0.5
	5.1nm,0.3s,baz=241,slow=28,SNR=5.8						
SONM	**Songino Array**	**27.30**	**293**	P	P	11 02 42.0	+0.1
	1.3nm,0.7s,baz=91,slow=8.6,SNR=10						
H11N2	**WAKE ISLAND Hy**	**29.75**	**135**	T	T	11 34 18.6	
	baz=330						
H11N1	**WAKE ISLAND Hy**	**29.76**	**135**	T	T	11 34 19.8	
	baz=330						
H11N3	**WAKE ISLAND Hy**	**29.77**	**135**	T	T	11 34 24.5	
	baz=330						
MKAR	**Makanchi Array**	**43.50**	**297**	P	P	11 04 58.6	-1.3
	0.4nm,0.5s,baz=73,slow=9.7,SNR=3.7						
MKAR				LR	LR	11 26 22.2	
	comp=Z,14nm,19.2s,baz=95,slow=40						
KURBB	**Kurchatov Arra**	**44.66**	**304**	P	P	11 05 08.6	-0.4
	1.1nm,0.5s,baz=75,slow=8.7,SNR=5.8						
BVAR	**Borovoye Array**	**48.66**	**309**	P	P	11 05 40.2	-0.1
	0.8nm,0.5s,baz=77,slow=7.2,SNR=3.5						
YKA	**Yellowknife Ar**	**57.01**	**33**	P	P	11 06 43.3	+1.9
	0.1nm,0.6s,baz=300,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**64.62**	**332**	P	P	11 07 32.1	-0.8
	1.3nm,0.6s,baz=46,slow=5.5,SNR=7.3						
NOA	**NORSAR Array B**	**69.50**	**338**	P	P	11 08 03.1	-0.8
	0.5nm,0.5s,baz=36,slow=2.7,SNR=3.0						

*ISCJB **13** 11:00:54.0±0.6, 9.1S±0.1°×158.52E±0.06, h29km, mb3.7/8, MS3.2/1, Error ellipse: s-maj=19.4km s-min=8.3km az=11.3*
*IDC **13** 11:00:57.7±3.3, 9.11S×158.62E, h50km±38km, mb3.5/8, mb1 3.7/9, mb1mx3.6/30, mbtmp3.9/9, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=31.9km s-min=17.4km az=153.0*

ISC 13 11:00:55.4±0.8, 9.1S±0.2°×158.62E±0.09, h29km, n12, σ0°68/11, mb3.8/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.36**	**106**	P	Pn	11 01 18.8	+0.4
	412nm,0.3s,baz=240,slow=6.4,SNR=71						
HNR				S	Sb	11 01 37.2	0.0
	652nm,0.3s,baz=279,slow=8.9,SNR=13						
HNR				LR	LR	11 01 56.8	
	comp=Z,1μm,19.3s,baz=248,slow=44						
PMG	**Port Moresby**	**11.32**	**267**	LR	LR	11 07 43.4	
	comp=Z,226nm,20.1s,baz=109,slow=36						
JAY	**Jayapura**	**18.97**	**289**	P	Pn	11 05 15.7	+0.2
	0.4nm,0.3s,baz=137,slow=6.5,SNR=4.8						
JAY				LR	LR	11 12 20.1	
	comp=Z,41nm,22.0s,baz=170,slow=36						
WRA	**Warramunga Arr**	**25.84**	**243**	P	P	11 06 24.5	-0.1
	1.0nm,0.6s,baz=68,slow=9.9,SNR=16						
STKA	**Stephens Creek**	**27.66**	**212**	P	P	11 06 41.0	+0.1
	0.9nm,0.4s,baz=37,slow=14,SNR=5.5						
ASAR	**Alice Springs**	**27.74**	**235**	P	P	11 06 40.9	-0.8
	0.3nm,0.7s,baz=70,slow=9.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**64.91**	**295**	P	P	11 11 33.5	+0.8
	0.8nm,0.8s,baz=112,slow=4.8,SNR=4.5						
SONM	**Songino Array**	**73.02**	**326**	P	P	11 12 23.4	+0.7
	1.7nm,0.7s,baz=137,slow=5.3,SNR=14						
TLY	**Talaya**	**76.68**	**328**	LR	LR	11 47 11.2	
	comp=Z,11nm,18.2s,baz=184,slow=36						
ILAR	**Eielson Array**	**84.00**	**21**	P	P	11 13 22.1	-0.6
	0.3nm,0.5s,baz=244,slow=5.4,SNR=7.7						
MKAR	**Makanchi Array**	**87.33**	**318**	P	P	11 13 39.4	-0.3
	0.5nm,0.5s,baz=107,slow=4.7,SNR=7.6						
ZALV	**Zalesovo Beam**	**87.90**	**325**	P	P	11 13 41.0	-1.2
	0.3nm,0.4s,baz=116,slow=3.4,SNR=2.1						

*ISCJB **13** 11:05:39.9±0.7, 38.66S±0.03°×178.79E±0.07, h29km, mb4.0/4, MS3.6/1, Error ellipse: s-maj=7.8km s-min=3.7km az=176.6*
*WEL **13** 11:05:43.1±0.2, 38.56S×178.61E, h28km±1km, ML4.3/38, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0*
WEL Felt in the Gisborne region, maximum reported intensity MM 5.
*NEIC **13** 11:05:43.2, 38.55S×178.59E, h25km, ML4.3(WEL), After WEL.*
NEIC Felt in the Gisborne area.
*IDC **13** 11:05:46.5±2.0, 38.40S×178.36E, h45km±15km, mb3.9/4, mb1 4.0/4, mb1mx3.7/27, mbtmp4.1/4, MS3.2/2, Ms1 3.2/2, ms1mx2.9/25, Error ellipse: s-maj=45.9km s-min=20.6km az=12.0*

ISC 13 11:05:43.2±0.5, 38.62S±0.03°×178.54E±0.04, h29km, n116, σ1°11/108, mb4.0/4, 20C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.29**	**298**	↑P*	Pb	11 05 50.4	0.0
TKGZ	**Te Karaka**	**0.57**	**289**	↑P*	Pb	11 05 54.8	+0.1
TKGZ				S*	Sn	11 06 04.6	+0.9
PUZ	**Puketiti**	**0.59**	**338**	↑P*	Pb	11 05 53.6	-1.4
PUZ				AML	AML	11 06 02.6	
PUZ				AML	AML	11 06 05.0	
PRGZ	**Paritu Road**	**0.59**	**239**	↑P*	Pn	11 05 56.4	+0.7
RIGZ	**Rimuhau**	**0.61**	**262**	↑P*	Pn	11 05 56.3	+0.4
TWGZ	**Tauwhareparae**	**0.62**	**315**	↑P*	Pb	11 05 55.1	-0.5
TWGZ				S*	Sn	11 06 05.3	+0.2
MHGZ	**Mahia Peninsul**	**0.72**	**223**	↑PN	Pn	11 05 58.3	+0.9
KNZ	**Kokohu**	**0.78**	**239**	↑PN	Pb	11 05 58.7	+0.5
WMGZ	**Waiomatatini S**	**0.81**	**353**	↑P*	Pn	11 05 57.6	-1.0
WMGZ				S*	Sb	11 06 09.5	+0.3
MWZ	**Matawai**	**0.84**	**290**	↑PN	Pn	11 05 58.7	-0.4
MWZ				SN	Sb	11 06 10.5	+0.3
SNGZ	**Shannon Statio**	**0.95**	**260**	↑PN	Pb	11 06 00.9	-0.2
HAZ	**Te Kaha**	**1.05**	**325**	↑PN	Pn	11 06 00.8	-1.1
MXZ	**Matakaoa Point**	**1.07**	**350**	↑PN	Pn	11 06 01.5	-0.8
MXZ				AML	AML	11 06 17.2	
MXZ				AML	AML	11 06 17.3	
WHHZ	**Waihua**	**1.11**	**246**	↑PN	Pb	11 06 03.4	-0.4
RAHZ	**Arahi**	**1.17**	**255**	↑PN	Pb	11 06 03.9	-0.8
URZ	**Urewera**	**1.18**	**287**	↑PN	Pn	11 06 03.5	-0.1
URZ				AML	AML	11 06 19.2	
URZ				AML	AML	11 06 26.7	
URZ	**Urewera**	**1.18**	**287**	P	Pb	11 06 04.2	-0.7
	334nm,0.3s,baz=114,slow=5.6,SNR=1412						
ARHZ	**Aropaoanui**	**1.36**	**241**	⇓PN	Pb	11 06 07.0	-0.9
NMHZ	**Naumai**	**1.43**	**250**	PN	Pb	11 06 07.8	-1.5
EDRZ	**Edgecumbe**	**1.50**	**289**	PN	Pn	11 06 08.4	+0.2
EDRZ				AML	AML	11 06 23.0	
EDRZ				AML	AML	11 06 37.6	
WIZ	**White Island**	**1.52**	**315**	PN	Pn	11 06 07.5	-1.0
CKHZ	**Cape Kidnapper**	**1.54**	**227**	PN	Pb	11 06 09.1	-1.8
RRRZ	**Republican Roa**	**1.61**	**279**	↑PN	Pn	11 06 10.1	+0.4
TARZ	**Mount Tarawera**	**1.64**	**283**	PN	Pn	11 06 10.6	+0.5
MCHZ	**McNeill Hill**	**1.65**	**240**	⇓PN	Pb	11 06 10.9	-2.0
BKZ	**Black Stump Fm**	**1.68**	**251**	PN	Pn	11 06 11.0	+0.3
BKZ				AML	AML	11 06 37.9	
BKZ				AML	AML	11 06 51.6	
PRRZ	**Plateau Road**	**1.68**	**274**	PN	Pn	11 06 11.4	+0.7
ALRZ	**Allen Road**	**1.72**	**271**	PN	Pn	11 06 12.0	+0.9
KAHZ	**Kahuranaki**	**1.74**	**227**	⇓PN	Pn	11 06 12.1	+0.6
OPRZ	**Ohinepanea**	**1.74**	**296**	PN	Pn	11 06 10.6	-0.8
HLRZ	**Highlands Stat**	**1.75**	**281**	PN	Pn	11 06 12.3	+0.6
HRRZ	**Handcock Road**	**1.78**	**277**	PN	Pn	11 06 12.6	+0.6
HSRZ	**Hossack Road**	**1.82**	**279**	PN	Pn	11 06 13.5	+0.9
WPRZ	**Whakapapataran**	**1.86**	**272**	PN	Pn	11 06 14.1	+0.9
KARZ	**Kaharoa**	**1.90**	**288**	PN	Pn	11 06 13.5	-0.2
PXZ	**Pawanui**	**1.91**	**222**	↑PN	Pn	11 06 13.4	-0.4
PXZ				AML	AML	11 06 39.5	
PXZ				AML	AML	11 06 41.2	
HATZ	**Hinemaiaia**	**1.93**	**261**	*e*PN	Pn	11 06 14.7	+0.7
HATZ				AML	AML	11 06 44.6	
HATZ				AML	AML	11 07 03.6	
KRHZ	**Kereru**	**1.97**	**238**	↑PN	Pn	11 06 14.6	0.0
TGRZ	**Tauranga**	**2.00**	**296**	PN	Pn	11 06 14.3	-0.7
TGRZ				AML	AML	11 06 29.8	
TGRZ				AML	AML	11 06 52.3	
BHHZ	**Black Hill Sta**	**2.11**	**245**	⇑PN	Pn	11 06 16.9	+0.3
WPHZ	**Waipukurau**	**2.17**	**228**	PN	Pn	11 06 17.0	-0.3
RATZ	**Rangitukua**	**2.17**	**263**	AML	AML	11 06 39.3	
RATZ				AML	AML	11 06 42.9	
PRHZ	**Porangahau**	**2.21**	**221**	PN	Pn	11 06 17.2	-0.6
PNHZ	**Pukenui**	**2.23**	**234**	PN	Pn	11 06 17.8	-0.3
OTVZ	**Oturere**	**2.30**	**256**	AML	AML	11 06 49.0	
MOVZ	**Moawhango**	**2.31**	**249**	PN	Pn	11 06 20.1	+0.8
MOVZ				AML	AML	11 06 49.2	
MOVZ				AML	AML	11 06 51.8	
KRVZ	**Karewarewa**	**2.31**	**257**	PN	Pn	11 06 20.8	+0.6
KRVZ				AML	AML	11 06 50.1	
KRVZ				AML	AML	11 07 13.8	
TLZ	**Tolley Road**	**2.37**	**276**	PN	Pn	11 06 20.4	+0.3
WHVZ	**Whangaehu Hut**	**2.39**	**253**	PN	Pn	11 06 21.2	+0.6
WNVZ	**Wahianoa**	**2.40**	**252**	⇓PN	Pn	11 06 21.3	+0.7
WPVZ	**Whakapapa**	**2.40**	**255**	PN	Pn	11 06 21.7	+1.1
WPVZ				AML	AML	11 06 59.0	
WPVZ				AML	AML	11 06 59.5	
COVZ	**Chateau Observ**	**2.40**	**255**	PN	Pn	11 06 21.6	+0.9
FWVZ	**Far West T-bar**	**2.41**	**254**	PN	Pn	11 06 21.7	+0.8
FWVZ				AML	AML	11 07 01.5	
FWVZ				AML	AML	11 07 19.8	
ANWZ	**Angora Road**	**2.43**	**220**	PN	Pn	11 06 20.1	-0.8
TSZ	**Takapari Road**	**2.46**	**233**	PN	Pn	11 06 20.6	-0.7
TSZ				AML	AML	11 06 52.2	
TSZ				AML	AML	11 06 52.8	
DVHZ	**Dannevirke**	**2.48**	**227**	PN	Pn	11 06 21.1	-0.5
TOZ	**Tahuroa Road**	**2.55**	**289**	PN	Pn	11 06 22.2	-0.4
BFZ	**Birch Farm**	**2.71**	**220**	PN	Pn	11 06 23.7	-1.1
PRWZ	**Pori Road**	**2.77**	**225**	PN	Pn	11 06 24.9	-0.6
POWZ	**Post Office Ro**	**2.78**	**230**	PN	Pn	11 06 25.3	-0.4
HIZ	**Hauiti**	**2.89**	**271**	PN	Pn	11 06 27.9	+0.7
HIZ				AML	AML	11 07 07.1	
HIZ				AML	AML	11 07 07.2	
CPWZ	**Castlepoint**	**2.91**	**217**	*e*PN	Pn	11 06 26.4	-1.0
KUZ	**Kuaotunu**	**2.91**	**309**	PN	Pn	11 06 26.2	-1.3
KUZ				AML	AML	11 07 01.0	
KUZ				AML	AML	11 07 01.7	
TIWZ	**Tintock**	**2.97**	**223**	PN	Pn	11 06 27.7	-0.7
TIWZ				AML	AML	11 07 07.0	
TIWZ				AML	AML	11 07 07.2	
WAZ	**Wanganui**	**2.98**	**247**	AML	AML	11 07 13.0	
WAZ				AML	AML	11 07 15.8	
VRZ	**Vera Road**	**2.99**	**259**	PN	Pn	11 06 29.9	+1.3
VRZ				AML	AML	11 07 08.3	
VRZ				AML	AML	11 07 16.4	
MRZ	**Mangatainoka R**	**3.06**	**227**	PN	Pn	11 06 28.7	-0.8
MRZ				AML	AML	11 07 06.7	
MRZ				AML	AML	11 07 07.5	
MKAZ	**Moumakai**	**3.06**	**298**	PN	Pn	11 06 28.8	-0.8
MKAZ				AML	AML	11 06 53.8	
HOWZ	**Holdsworth Sta**	**3.25**	**225**	*e*PN	Pn	11 06 30.8	-1.5
ETAZ	**East Tamaki Re**	**3.31**	**299**	*e*PN	Pn	11 06 32.7	-0.3
LREZ	**Lake Rotokare**	**3.32**	**254**	*e*PN	Pn	11 06 34.3	+1.1
OGWZ	**Otaki Gorge**	**3.40**	**229**	PN	Pn	11 06 32.7	-1.4
MTW	**Mount Morrison**	**3.44**	**222**	AML	AML	11 07 15.7	
MTW				AML	AML	11 07 17.3	
TRWZ	**Traveller**	**3.53**	**217**	*e*PN	Pn	11 06 33.4	-2.7
TRWZ				AML	AML	11 07 19.2	
TRWZ				AML	AML	11 07 19.6	
KIW	**Kapiti Island**	**3.58**	**230**	PN	Pn	11 06 35.4	-1.3
KIW				AML	AML	11 07 18.5	
KIW				AML	AML	11 07 20.2	
CAW	**Cannon Point**	**3.64**	**226**	PN	Pn	11 06 36.1	-1.6
CAW				AML	AML	11 07 22.5	
PAWZ	**Paruwai Farm**	**3.65**	**220**	PN	Pn	11 06 35.3	-2.3
PAWZ				AML	AML	11 07 20.4	
PAWZ				AML	AML	11 07 20.7	
MSWZ	**Moikau Station**	**3.76**	**221**	AML	AML	11 07 23.2	
MSWZ				AML	AML	11 07 23.5	
SNZO	**South Karori**	**3.98**	**226**	*e*Pn	Pn	11 06 40.4	-1.8
DUWZ	**D'Urville Isla**	**4.17**	**237**	AML	AML	11 07 37.5	
TCW	**Tory Channel**	**4.17**	**230**	AML	AML	11 07 35.4	
TCW				AML	AML	11 07 35.4	
WCZ	**Waipu Caves**	**4.28**	**307**	PN	Pn	11 06 46.4	+0.1
TUWZ	**Tuamarina**	**4.50**	**230**	AML	AML	11 07 42.6	
TUWZ				AML	AML	11 07 42.6	
BSWZ	**Blackbirch Sta**	**4.72**	**228**	AML	AML	11 07 50.2	
NNZ	**Nelson**	**4.74**	**235**	PN	Pn	11 06 50.9	-1.7
NNZ				AML	AML	11 07 48.6	
NNZ				AML	AML	11 08 03.1	
QRZ	**Quartz Range**	**5.13**	**243**	PN	Pn	11 06 55.5	-2.4
THZ	**Tophouse**	**5.33**	**232**	PN	Pn	11 06 58.0	-2.8
THZ				AML	AML	11 08 04.4	
THZ				AML	AML	11 08 06.3	
KHZ	**Kahutara**	**5.37**	**224**	PN	Pn	11 06 58.0	-3.3
KHZ				AML	AML	11 07 59.8	
KHZ				AML	AML	11 08 03.8	
CTZ	**Chatham Island**	**6.28**	**146**	PN	Pn	11 07 14.4	+0.6
LTZ	**Lake Taylor**	**6.32**	**227**	*e*PN	Pn	11 07 10.7	-3.7
LTZ				AML	AML	11 08 23.8	
LTZ				AML	AML	11 08 26.3	
MQZ	**McQueen's Vall**	**6.74**	**219**	*e*PN	Pn	11 07 16.2	-4.0
OXZ	**Oxford**	**6.80**	**224**	PN	Pn	11 07 17.6	-3.3
WVZ	**Waitaha Valley**	**7.40**	**231**	AML	AML	11 08 52.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.95**	**157**	P	Pn	11 24 02.7	-0.9
	0.3nm,0.3s,baz=343,slow=13,SNR=20						
WRA				S	Sn	11 26 27.7	+0.6
	0.9nm,0.3s,baz=330,slow=24,SNR=10						
ASAR	**Alice Springs**	**16.28**	**164**	P	P	11 24 46.8	+1.6
	0.2nm,0.3s,baz=338,slow=10,SNR=34						
ASAR				S	S	11 27 46.2	+0.4
	0.2nm,0.3s,baz=342,slow=23,SNR=5.9						
STKA	**Stephens Creek**	**26.49**	**156**	P	P	11 26 27.7	-0.3
	1.4nm,1.0s,baz=339,slow=8.6,SNR=3.2						
JOW	**Kunigami**	**34.61**	**359**	LR	LR	11 42 35.8	
	comp=Z,168nm,19.0s,baz=268,slow=37						

WEL 13 11:22:57.0±0.4, 38°.55S×175°.88E, h149km±3km, ML3.5/5, 13C-3D, Error ellipse: s-maj=2.0km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.38**	**154**	⇑PN	Pn	11 23 17.7	-0.1
KRVZ	**Karewarewa**	**0.58**	**198**	PN	Pn	11 23 18.7	-0.1
OTVZ	**Oturere**	**0.64**	**195**	PN	Pn	11 23 19.4	+0.1
COVZ	**Chateau Observ**	**0.70**	**202**	PN	Pn	11 23 19.4	-0.1
WPVZ	**Whakapapa**	**0.71**	**201**	⇑PN	Pn	11 23 19.6	0.0
FWVZ	**Far West T-bar**	**0.75**	**200**	⇑PN	Pn	11 23 19.9	-0.1
BKZ	**Black Stump Fm**	**0.78**	**142**	⇑PN	Pn	11 23 20.1	+0.1
BKZ				SN	Sn	11 23 37.1	-0.6
BKZ				AML	AML	11 23 39.2	
HIZ	**Hauiti**	**0.80**	**272**	⇓PN	Pn	11 23 19.9	-0.2
HIZ				SN	Sn	11 23 38.0	+0.3
WNVZ	**Wahianoa**	**0.81**	**195**	⇑PN	Pn	11 23 20.3	-0.1
MOVZ	**Moawhango**	**0.86**	**186**	PN	Pn	11 23 20.0	-0.7
BHHZ	**Black Hill Sta**	**0.95**	**171**	PN	Pn	11 23 21.1	-0.3
URZ	**Urewera**	**1.01**	**74**	⇑PN	Pn	11 23 21.5	-0.3
URZ				SN	Sn	11 23 39.8	-0.7
MCHZ	**McNeill Hill**	**1.10**	**145**	PN	Pn	11 23 23.5	+0.9
ARHZ	**Aropaoanui**	**1.13**	**130**	⇓PN	Pn	11 23 23.5	+0.7
KRHZ	**Kereru**	**1.16**	**161**	⇑PN	Pn	11 23 23.2	0.0
WHHZ	**Waihua**	**1.19**	**117**	SN	Sn	11 23 43.8	+0.4
MWZ	**Matawai**	**1.31**	**81**	⇑PN	Pn	11 23 24.5	-0.1
MWZ				SN	Sn	11 23 44.6	-1.1
PNHZ	**Pukenui**	**1.39**	**170**	PN	Pn	11 23 25.0	-0.4
CKHZ	**Cape Kidnapper**	**1.45**	**140**	PN	Pn	11 23 26.3	+0.3
CKHZ				SN	Sn	11 23 47.9	-0.2
LREZ	**Lake Rotokare**	**1.47**	**231**	PN	Pn	11 23 24.0	-2.1
KAHZ	**Kahuranaki**	**1.47**	**148**	PN	Pn	11 23 26.5	+0.3
KNZ	**Kokohu**	**1.48**	**109**	PN	Pn	11 23 25.5	+0.2
RIGZ	**Rimuhau**	**1.49**	**97**	PN	Pn	11 23 26.6	+0.2
TSZ	**Takapari Road**	**1.51**	**178**	⇑PN	Pn	11 23 26.1	-0.5
TKGZ	**Te Karaka**	**1.55**	**87**	PN	Pn	11 23 27.2	+0.2
WPHZ	**Waipukurau**	**1.58**	**164**	PN	Pn	11 23 27.0	-0.3
WPHZ				SN	Sn	11 23 48.7	-1.9
PXZ	**Pawanui**	**1.67**	**153**	⇑PN	Pn	11 23 28.0	-0.2
TWGZ	**Tauwhareparae**	**1.69**	**78**	PN	Pn	11 23 28.8	+0.2
MHGZ	**Mahia Peninsul**	**1.70**	**112**	PN	Pn	11 23 29.0	+0.4
HAZ	**Te Kaha**	**1.70**	**63**	PN	Pn	11 23 27.7	-0.9
DVHZ	**Dannevirke**	**1.77**	**173**	PN	Pn	11 23 28.5	-0.9
PRHZ	**Porangahau**	**1.82**	**161**	⇑PN	Pn	11 23 29.5	-0.5
POWZ	**Post Office Ro**	**1.85**	**183**	PN	Pn	11 23 29.2	-1.1
PUZ	**Puketiti**	**1.93**	**77**	PN	Pn	11 23 30.6	-0.7
ANWZ	**Angora Road**	**1.97**	**167**	⇑PN	Pn	11 23 31.0	-0.6
PRWZ	**Pori Road**	**2.01**	**178**	PN	Pn	11 23 31.2	-1.0
MRZ	**Mangatainoka R**	**2.12**	**186**	⇑PN	Pn	11 23 32.0	-1.6
MRZ				AML	AML	11 24 01.1	
MRZ				AML	AML	11 24 36.0	
WMGZ	**Waiomatatini S**	**2.13**	**71**	PN	Pn	11 23 33.0	-0.6
BFZ	**Birch Farm**	**2.15**	**172**	PN	Pn	11 23 32.5	-1.3
MXZ	**Matakaoa Point**	**2.15**	**64**	⇓PN	Pn	11 23 33.6	-0.3
TIWZ	**Tintock**	**2.23**	**180**	PN	Pn	11 23 33.5	-1.3
OGWZ	**Otaki Gorge**	**2.33**	**193**	PN	Pn	11 23 34.3	-1.7
HOWZ	**Holdsworth Sta**	**2.37**	**187**	PN	Pn	11 23 34.4	-2.0
KIW	**Kapiti Island**	**2.43**	**198**	PN	Pn	11 23 35.1	-2.1
TMWZ	**Te Maipa**	**2.56**	**180**	PN	Pn	11 23 36.7	-2.1
MTW	**Mount Morrison**	**2.62**	**186**	PN	Pn	11 23 37.2	-2.4
CAW	**Cannon Point**	**2.63**	**193**	PN	Pn	11 23 37.5	-2.3
CAW				AML	AML	11 24 10.0	
PAWZ	**Paruwai Farm**	**2.85**	**187**	PN	Pn	11 23 39.7	-2.7
TRWZ	**Traveller**	**2.85**	**183**	PN	Pn	11 23 39.9	-2.6
MSWZ	**Moikau Station**	**2.91**	**189**	PN	Pn	11 23 40.3	-2.8
MSWZ				AML	AML	11 23 41.2	
TCW	**Tory Channel**	**2.93**	**204**	PN	Pn	11 23 40.7	-2.8
TCW				AML	AML	11 24 18.4	
TCW				AML	AML	11 24 17.3	
PLWZ	**Palliser**	**3.06**	**189**	PN	Pn	11 23 42.0	-3.1
TUWZ	**Tuamarina**	**3.24**	**207**	PN	Pn	11 23 44.1	-3.2
NNZ	**Nelson**	**3.29**	**215**	PN	Pn	11 23 45.0	-3.0
THZ	**Tophouse**	**3.94**	**214**	PN	Pn	11 23 52.5	-4.0
KHZ	**Kahutara**	**4.26**	**204**	PN	Pn	11 23 56.7	-3.8
OXZ	**Oxford**	**5.59**	**210**	PN	Pn	11 24 12.8	-5.4
MQZ	**McQueen's Vall**	**5.70**	**204**	PN	Pn	11 24 13.8	-5.8
MQZ				SN	Sn	11 25 13.8	-10
ODZ	**Otahua Downs**	**7.58**	**209**	*e*PN	Pn	11 24 39.0	-5.7

*ISCJB **13** 11:27:04.4±0.6, 10°.76S±0°.06×161°.03E±0°.09, h35km, mb3.7/10, MS4.0/7, Error ellipse: s-maj=12.9km s-min=8.7km az=162.8*
*IDC **13** 11:27:10.9±2.7, 10°.51S×160°.71E, h74km±21km, mb3.5/10, mb1 3.8/11, mb1mx3.6/36, mbtmpg3.9/11, MS4.0/8, Ms1 4.0/8, ms1mx3.6/20, Error ellipse: s-maj=32.0km s-min=17.3km az=117.0*

ISC 13 11:27:05.8±0.7, 10°.73S±0°.08×161°.0E±0°.1, h35km, n28, σ1§64/21, mb3.8/10, MS4.1/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.64**	**322**	P	**Pn**	**11 27 33.2**	**+1.0**
	41nm,0.3s,baz=162,slow=8.5,SNR=12						
HNR				S	**Sn**	**11 27 54.8**	**+2.6**
	202nm,0.3s,baz=163,slow=20,SNR=12						
HNR				LR	LR	11 28 19.4	
	comp=Z,1μm,19.7s,baz=182,slow=52						
HNR	**Honiara**	**1.64**	**322**	*e*P	**Pn**	**11 27 31.0**	**-1.2**
HNR				*e*S	**Sn**	**11 27 54.0**	**+1.9**
RABL	**Rabaul**	**10.89**	**306**	P	Pn	11 29 33.1	-6.1
	baz=10,SNR=3.8						
DZM	**Mont Dzumac**	**12.43**	**156**	*e*Pn	**Pn**	**11 30 00.5**	**0.0**
	42nm,1.3s						
DZM				*e*LR	LR	11 32 43.7	
	161nm,22.9s						
PMG	**Port Moresby**	**13.67**	**274**	LR	LR	11 35 28.4	
	comp=Z,977nm,20.3s,baz=116,slow=37						
CTA	**Charters Tower**	**16.96**	**235**	P	**P**	**11 31 01.8**	**-0.4**
	0.7nm,0.3s,baz=65,slow=15,SNR=7.8						
COEN	**Coen**	**17.68**	**258**	P	**Pn**	**11 31 07.2**	**-2.4**
	baz=17,SNR=4.7						
RMQ	**Roma**	**19.46**	**215**	P	**Pn**	**11 31 32.2**	**+1.2**
	baz=20,SNR=7.3						
QLP	**Quilpie**	**22.32**	**223**	P	**P**	**11 32 00.9**	**+0.3**
	baz=22,SNR=3.1						
QIS	**Mount Isa**	**22.76**	**242**	P	**P**	**11 32 07.4**	**+2.1**
	baz=23,SNR=3.1						
WRA	**Warramunga Arr**	**27.24**	**247**	P	**P**	**11 32 47.1**	**+0.2**
	1.2nm,0.6s,baz=76,slow=9.8,SNR=22						
WRA				LR	LR	11 43 53.4	
	comp=Z,616nm,18.6s,baz=70,slow=37						
STKA	**Stephens Creek**	**27.64**	**217**	P	**P**	**11 32 53.3**	**+3.0**
	1.3nm,0.6s,baz=49,slow=15,SNR=7.6						
STKA				LR	LR	11 43 31.3	
	comp=Z,477nm,18.0s,baz=34,slow=36						
STKA	**Stephens Creek**	**27.64**	**217**	P	P	11 32 55.6	+5.3
	baz=28,SNR=6.2						
ASAR	**Alice Springs**	**28.82**	**240**	P	**P**	**11 33 00.2**	**-0.7**
	0.6nm,0.8s,baz=62,slow=10,SNR=7.4						
ASAR				LR	LR	11 44 28.3	
	comp=Z,477nm,18.6s,baz=61,slow=36						
KNRA	**Kununurra**	**31.73**	**258**	P	P	11 33 34.6	+7.9
	baz=31,SNR=4.3						
WRKA	**Warakurna**	**34.09**	**241**	P	**P**	**11 33 46.6**	**-0.7**
	baz=34,SNR=5.4						
BATI	**Baumata**	**36.68**	**267**	LR	LR	11 49 15.1	
	comp=Z,119nm,19.9s,baz=134,slow=36						
PPT	**Papeete**	**48.32**	**104**	LR	LR	11 52 44.6	
	comp=Z,93nm,18.7s,baz=283,slow=32						
PPT2	**Papeete2**	**48.32**	**104**	*e*LR	LR	11 49 24.0	
	150nm,22.8s						
ASAJ	**Asahikawa**	**57.09**	**344**	LR	LR	12 01 11.9	
	comp=Z,66nm,19.5s,baz=183,slow=36						
CMAR	**Chiang Mai Arr**	**67.72**	**295**	P	**P**	**11 37 59.1**	**-1.1**
	0.4nm,0.6s,baz=133,slow=6.6,SNR=4.7						
SONM	**Songino Array**	**75.70**	**325**	P	**P**	**11 38 47.5**	**-0.4**
	0.4nm,0.7s,baz=137,slow=4.1,SNR=3.4						
QSPA	**South Pole Qui**	**79.27**	**180**	P	**P**	**11 39 09.0**	**+1.5**
	1.4nm,1.0s,baz=253,slow=3.1,SNR=8.6						
MAW	**Mawson**	**83.24**	**202**	LR	LR	12 12 35.5	
	comp=Z,80nm,19.8s,baz=68,slow=33						
ILAR	**Eielson Array**	**84.76**	**20**	P	**P**	**11 39 36.6**	**+0.6**
	0.9nm,0.9s,baz=243,slow=4.7,SNR=8.9						
NVAR	**Mina Array Bea**	**89.43**	**51**	P	**P**	**11 40 00.8**	**+1.1**
	0.6nm,0.9s,baz=223,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**90.11**	**318**	P	**P**	**11 39 59.6**	**-2.8**
	0.4nm,0.5s,baz=123,slow=4.5,SNR=4.6						
YKA	**Yellowknife Ar**	**96.86**	**28**	P	**P**	**11 40 31.9**	**-1.0**
	0.2nm,0.5s,baz=262,slow=4.8,SNR=8.1						

*CSEM **13** 11:27:59.5±0.1, 43°.77N×21°.25E, h5km, ML2.3, Error ellipse: s-maj=2.7km s-min=2.1km az=35.0*
*SKO **13** 11:28:00.4, 43°.79N×21°.30E, h0km*
*BEO **13** 11:28:00.1±0.2, 43°.75N×21°.25E, h7km±3km, ML2.3/1*

ISC 13 11:27:59.7±1.1, 43°.76N±0°.02×21°.24E±0°.02, h6km±10km, n39, σ0§71/62, 9C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	**0.40**	**289**	*i*Pg	**Pg**	**11 28 07.6**	**0.0**
GRUS				*e*Sg	**Sg**	**11 28 13.4**	**+0.6**
GRUS	**Gruza**	**0.40**	**289**	*i*Pg	**Pg**	**11 28 07.6**	**0.0**
GRUS				*e*Sg	**Sg**	**11 28 13.4**	**+0.6**
BOLS	**Boljevac**	**0.52**	**82**	⇓*i*Pg	**Pg**	**11 28 09.2**	**-0.5**
BOLS				*e*Sg	**Sg**	**11 28 17.2**	**+0.7**
BOLS	**Boljevac**	**0.52**	**82**	⇓*i*Pg	**Pg**	**11 28 09.2**	**-0.5**
BOLS				*e*Sg	**Sg**	**11 28 17.2**	**+0.7**
SELS	**Selova**	**0.55**	**190**	⇑*i*Pg	**Pg**	**11 28 09.7**	**-0.6**
SELS				*e*Sg	**Sg**	**11 28 17.9**	**+0.6**
TRUS	**Trudelj**	**0.76**	**308**	*e*Pg	**Pg**	**11 28 14.1**	**-0.3**
TRUS				*e*Sg	**Sg**	**11 28 24.9**	**+0.6**
TRUS	**Trudelj**	**0.76**	**308**	*e*Pg	**Pg**	**11 28 14.1**	**-0.3**
TRUS				*e*Sg	**Sg**	**11 28 24.9**	**+0.6**
IVAS	**Ivanjica**	**0.81**	**257**	*e*Sg	**Sg**	**11 28 26.5**	**+0.6**
IVAS	**Ivanjica**	**0.81**	**257**	*e*Sg	**Sg**	**11 28 26.5**	**+0.6**
SMRK	**Smrekonice**	**0.91**	**194**	P	**Pg**	**11 28 18.1**	**+0.9**
DIVS	**Divibare**	**0.97**	**291**	⇓*i*Pg	**Pg**	**11 28 17.9**	**-0.4**
DIVS				*e*Sg	**Sg**	**11 28 31.1**	**+0.3**
DIVS	**Divibare**	**0.97**	**291**	⇓*i*Pg	**Pg**	**11 28 17.9**	**-0.4**
DIVS				*e*Sg	**Sg**	**11 28 31.1**	**+0.3**
BARS	**Barje**	**1.03**	**156**	⇑*i*Pg	**Pg**	**11 28 19.0**	**-0.5**
BARS				*e*Sg	**Sg**	**11 28 32.7**	**-0.1**
BARS	**Barje**	**1.03**	**156**	⇑*i*Pg	**Pg**	**11 28 19.0**	**-0.5**
BARS				*e*Sg	**Sg**	**11 28 32.7**	**-0.1**
SJES	**Sjenica**	**1.05**	**242**	*e*Pg	**Pg**	**11 28 19.8**	**-0.1**
SJES				*e*Sg	**Sg**	**11 28 33.0**	**-0.5**
ZAPS	**Zavoj**	**1.12**	**115**	⇓*i*Pg	**Pg**	**11 28 21.0**	**-0.3**
ZAPS				*e*Sg	**Sg**	**11 28 35.3**	**-0.5**
DJES	**Djerdap**	**1.29**	**45**	*e*Sg	**Sb**	**11 28 41.4**	**+0.1**
GJIK	**Gjilan**	**1.30**	**174**	P	**Pn**	**11 28 24.6**	**0.0**
GJIK				S	**Sg**	**11 28 42.5**	**+0.9**
PEJK	**Peje**	**1.32**	**213**	P	**Pn**	**11 28 25.4**	**+0.6**
PEJK				S	**Sb**	**11 28 41.8**	**-0.4**
BEY	**Berane**	**1.32**	**228**	P	**Pn**	**11 28 25.4**	**+0.5**
BBLS	**Lazići**	**1.33**	**275**	*i*Pg	**Pn**	**11 28 24.4**	**-0.6**
BBLS				*e*Sg	**Sb**	**11 28 42.6**	**0.0**
BBLS	**Lazići**	**1.33**	**275**	*i*Pg	**Pn**	**11 28 24.4**	**-0.6**
BBLS				*e*Sg	**Sb**	**11 28 42.6**	**0.0**
ZATK	**Zatriq**	**1.39**	**199**	P	**Pn**	**11 28 25.3**	**-0.4**
TEKS	**Tekeris**	**1.47**	**303**	*e*Pg	**Pn**	**11 28 26.8**	**0.0**
TEKS				*e*Sg	**Sn**	**11 28 46.6**	**+0.3**
TEKS	**Tekeris**	**1.47**	**303**	*e*Pg	**Pn**	**11 28 26.8**	**0.0**
TEKS				*e*Sg	**Sn**	**11 28 46.6**	**+0.3**
PRZK	**Prizren**	**1.59**	**193**	P	**Pn**	**11 28 29.6**	**+1.1**
SRE	**Strehaia**	**1.68**	**57**	S	**Sg**	**11 28 55.9**	**+2.3**
FGSL	**Fruska Gora**	**1.73**	**324**	*e*Pn	**Pn**	**11 28 30.7**	**+0.2**
FRGS	**Fruska Gora**	**1.73**	**324**	*e*Pn	**Pn**	**11 28 30.7**	**+0.2**
VTS	**Vitosha**	**1.85**	**128**	*e*Pn	**Pn**	**11 28 31.2**	**-1.0**
VTS				*e*Sg	**Sb**	**11 28 58.2**	**+0.6**
VTS	**Vitosha**	**1.85**	**128**	*e*Pn	**Pn**	**11 28 31.2**	**-1.0**
VTS				*e*Sg	**Sb**	**11 28 58.2**	**+0.6**
BZS	**Buzias**	**1.88**	**8**	*e*Pn	**Pn**	**11 28 31.6**	**-0.9**
BZS				*e*Sg	**Sg**	**11 29 00.0**	**-0.1**
BZS	**Buzias**	**1.88**	**8**	*i*P	**Pn**	**11 28 31.5**	**-0.9**
BZS	**Buzias**	**1.88**	**8**	S	**Sb**	**11 28 57.7**	**-0.5**
BZS	**Buzias**	**1.88**	**8**	*e*Pn	**Pn**	**11 28 31.6**	**-0.9**
BZS				*e*Sg	**Sg**	**11 29 00.0**	**-0.1**
GZR	**Gura Zlata**	**1.97**	**33**	*i*P	**Pb**	**11 28 35.2**	**-0.9**
GZR	**Gura Zlata**	**1.97**	**33**	S	**Sb**	**11 29 01.2**	**+0.1**
LOT	**Lotru**	**2.47**	**46**	⇓*i*P	**Pn**	**11 28 43.0**	**+2.3**
LOT	**Lotru**	**2.47**	**46**	S	**Sb**	**11 29 16.7**	**+1.3**

IDC 13 11:30:49.0±1.1, 9°.05S×158°.48E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/33, mbtmpg3.6/4, Error ellipse: s-maj=33.9km s-min=19.1km az=7.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.49**	**105**	P	Pn	11 31 16.8	-0.3
	107nm,0.3s,baz=242,slow=6.8,SNR=40						
HNR				S	Sn	11 31 38.8	+1.5
	164nm,0.3s,baz=260,slow=0.5,SNR=5.9						
HNR	**Honiara**	**1.49**	**105**	*i*P	Pg	11 31 19.2	+1.5
HNR				*i*S	Sn	11 31 38.7	+1.4
WRA	**Warramunga Arr**	**25.72**	**242**	P	P	11 36 21.6	+0.2
	0.6nm,0.8s,baz=68,slow=8.9,SNR=4.8						
ASAR	**Alice Springs**	**27.63**	**235**	P	P	11 36 38.3	-0.4
	0.4nm,1.0s,baz=61,slow=7.6,SNR=3.0						
SONM	**Songino Array**	**72.94**	**326**	P	P	11 42 21.1	+0.7
	1.1nm,0.7s,baz=134,slow=5.2,SNR=9.2						
MKAR	**Makanchi Array**	**87.23**	**318**	P	P	11 43 36.9	-0.6
	0.3nm,0.6s,baz=101,slow=5.2,SNR=4.0						

DJA 13 11:38:24.8±1.0, 1°.N±15°.×12°.3E±1°.0, h17km±18km, M3.9/5, MLv3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.79**	**121**	P	Pb	11 38 39.3	-0.8
MRSI	**Marisa**	**1.45**	**250**	P	Pn	11 38 49.5	-0.7
APSI	**Ampana**	**2.50**	**221**	P	Pn	11 39 04.9	+0.2
MPSI	**Mapaga**	**3.46**	**259**	P	Pn	11 39 17.6	-0.3

IDC 13 11:38:39.6±1.6, 10°.87S×161°.34E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/29, mbtmpg3.7/6, Error ellipse: s-maj=35.6km s-min=28.9km az=117.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.98**	**316**	Pn	Pn	11 39 14.7	+0.4
	23nm,0.3s,baz=145,slow=9.3,SNR=6.9						
HNR				Sn	Sn	11 39 39.0	-1.0
	152nm,0.3s,baz=172,slow=15,SNR=9.6						
WRA	**Warramunga Arr**	**27.51**	**248**	P	P	11 44 27.9	-0.2
	1.2nm,0.9s,baz=76,slow=9.7,SNR=6.2						
ASAR	**Alice Springs**	**29.06**	**240**	P	P	11 44 41.5	-0.3
	0.4nm,1.0s,baz=61,slow=10,SNR=4.8						
CMAR	**Chiang Mai Arr**	**68.10**	**295**	P	P	11 49 43.1	+1.3
	0.5nm,0.5s,baz=128,slow=5.4,SNR=4.5						
SONM	**Songino Array**	**76.02**	**325**	P	P	11 50 29.1	+0.2
	0.6nm,0.7s,baz=139,slow=4.9,SNR=6.2						
ILAR	**Eielson Array**	**84.77**	**20**	P	P	11 51 15.3	-0.1
	0.2nm,0.4s,baz=242,slow=4.9,SNR=9.6						
MKAR	**Makanchi Array**	**90.45**	**318**	P	P	11 51 42.3	-1.0
	0.2nm,0.4s,baz=91,slow=4.0,SNR=4.1						

*LDG **13** 11:38:55.7±0.5, 33°.91N×5°.80W, h10km, Md3.7/1, Ml3.6/3, Error ellipse: s-maj=12.5km s-min=7.0km az=167.0*
*IDC **13** 11:39:05.2±1.1, 34°.69N×5°.49W, h0km, mb3.6/11, mb1 3.8/13, mb1mx3.6/39, mbtmpg3.6/13, ML3.8/2, Error ellipse: s-maj=28.3km s-min=12.2km az=80.0*
*SFS **13** 11:39:07.0, 34°.71N×5°.77W, h0km, ML3.1*
*IGIL **13** 11:39:07.7, 34°.60N×5°.61W, h10km, ML3.3*
*CSEM **13** 11:39:07.9±0.2, 34°.72N×5°.73W, h10km, ML4.0/21, Error ellipse: s-maj=3.8km s-min=3.3km az=113.0*
*ISCJB **13** 11:39:08.8±0.2, 34°.72N±0°.01×5°.72W±0°.02, h60km±5km, mb3.6/9, Error ellipse: s-maj=3.2km s-min=2.5km az=175.3*

*INMG **13** 11:39:09.7±1.3, 34°.65N×5°.61W, h31km±5km, MD3.4, ML3.2, Error ellipse: s-maj=5.2km s-min=4.1km az=60.0*
*MDD **13** 11:39:09.4±0.6, 34°.63N×5°.64W, h20km±5km, mbLg3.2/21, Error ellipse: s-maj=4.8km s-min=3.3km az=76.0, PRXIMO*
*CNRM **13** 11:39:10.1, 34°.61N×5°.52W, h10km, MD3.7*

ISC 13 11:39:09.9±1.0, 34°.68N±0°.04×5°.66W±0°.03, h36km±2km, n183, σ1§37/298, mb3.8/9, 7C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSY	**Tnine Yamani**	**0.73**	**340**	P	**Pn**	**11 39 25.0**	**+1.3**
TSY	**Tnine Yamani**	**0.73**	**340**	*i*P	**Pn**	**11 39 25.0**	**+1.3**
TGT	**Taghat**	**0.79**	**140**	P	**Pn**	**11 39 22.0**	**-2.6**
TGT				S	**Sn**	**11 39 32.0**	**-3.2**
DKH	**Dar Kharkhour**	**0.84**	**17**	P	**Pn**	**11 39 26.5**	**+1.1**
DKH				S	**Sn**	**11 39 39.0**	**+2.3**
DKH	**Dar Kharkhour**	**0.84**	**17**	*i*P	**Pn**	**11 39 26.5**	**+1.1**
DKH				*i*S	**Sn**	**11 39 39.0**	**+2.3**
RTC	**Rabat Centre**	**1.20**	**235**	P	**Pn**	**11 39 31.0**	**+0.8**
RTC	**Rabat Centre**	**1.20**	**235**	*i*P	**Pn**	**11 39 31.0**	**+0.8**
MIF	**Mishlifen**	**1.32**	**164**	P	**Pn**	**11 39 31.0**	**-1.0**
MIF				S	**Sn**	**11 39 49.0**	**+0.6**
TOU	**Touzarine**	**1.60**	**79**	P	**Pn**	**11 39 36.0**	**+0.3**
TOU				S	**Sn**	**11 39 55.0**	**-0.1**
TOU	**Touzarine**	**1.60**	**79**	*i*P	**Pn**	**11 39 36.0**	**+0.3**
TOU				*i*S	**Sn**	**11 39 55.0**	**-0.1**
EJIF	**Jimena Fronter**	**1.77**	**5**	⇑P	**Pn**	**11 39 40.0**	**+1.9**
	4.5nm,0.1s,SNR=18						
EJIF	**Jimena Fronter**	**1.77**	**5**	P	**Pn**	**11 39 40.0**	**+1.9**
	4.5nm,0.1s,SNR=18						
EMIJ	**Mijas**	**2.02**	**21**	⇑P	**Pn**	**11 39 41.3**	**-0.1**
	4.7nm,0.2s,SNR=18						
EMIJ				S	**Sn**	**11 40 07.4**	**+2.1**
	16nm,0.2s,SNR=5.4						
EMIJ	**Mijas**	**2.02**	**21**	P	**Pn**	**11 39 41.3**	**-0.1**
	4.7nm,0.2s,SNR=18						
EMIJ				S	**Sn**	**11 40 07.4**	**+2.1**
	16nm,0.2s,SNR=5.4						
MDT	**Midelt**	**2.06**	**154**	Pn	**Pn**	**11 39 41.0**	**-1.0**
	5.8nm,0.3s,baz=326,slow=12,SNR=241						
MDT				Sn	**Sn**	**11 40 04.3**	**-2.2**
	40nm,0.3s,baz=40,slow=16,SNR=15						
MDT				Lg	Lg	11 40 08.9	
	75nm,0.3s,baz=66,slow=20,SNR=14						
ESPR	**Espera**	**2.19**	**356**	⇑P	**Pn**	**11 39 44.7**	**+1.0**
	16nm,0.2s,SNR=18						
ESPR				S	**Sn**	**11 40 10.9**	**+1.4**
	23nm,0.2s,SNR=5.4						
ESPR	**Espera**	**2.19**	**356**	P	**Pn**	**11 39 44.7**	**+1.0**
	16nm,0.2s,SNR=18						
ESPR				S	**Sn**	**11 40 10.9**	**+1.4**
	23nm,0.2s,SNR=5.4						
EMAL	**Malaga-Limoner**	**2.31**	**25**	P	**Pn**	**11 39 44.8**	**-0.6**
EMAL				S	**Sn**	**11 40 10.7**	**-1.8**
EMAL	**Malaga-Limoner**	**2.31**	**25**	*e*P	**Pn**	**11 39 44.8**	**-0.6**
EMAL				*e*S	**Sn**	**11 40 10.6**	**-1.8**
ZAI	**Zaio**	**2.42**	**82**	P	**Pn**	**11 39 46.0**	**-0.9**
ZAI				S	**Sn**	**11 40 13.0**	**-2.3**
ZAI	**Zaio**	**2.42**	**82**	*i*P	**Pn**	**11 39 46.0**	**-0.9**
TZC	**Tazercounte**	**2.62**	**196**	P	**Pn**	**11 39 51.0**	**+1.2**
TZC				S	**Sn**	**11 40 21.0**	**+0.5**
TZC	**Tazercounte**	**2.62**	**196**	*i*P	**Pn**	**11 39 51.0**	**+1.2**
TZC				*i*S	**Sn**	**11 40 21.0**	**+0.5**
EGUA	**Guajares**	**2.74**	**38**	⇓P	**Pn**	**11 39 50.7**	**-0.7**
	6.8nm,0.3s,SNR=18						
EGUA				S	**Sn**	**11 40 23.0**	**-0.3**
	7.9nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.74**	**38**	P	**Pn**	**11 39 50.7**	**-0.7**
	6.8nm,0.3s,SNR=18						
EGUA				S	**

comp=N,51nm,0.2s
MORF Marmelete 3.57 318 Pn **Pn** **11 40 02.5 -0.2**
MORF Sn **Sn** **11 40 43.6 -0.1**
comp=N,51nm,0.2s
MORF Marmelete 3.57 318 *e*Pn **Pn** **11 40 02.5 -0.2**
MORF *e*Sn **Sn** **11 40 43.6 -0.1**
comp=N,51nm,0.2s
EADA Adamuz 3.59 14 P **Pn** **11 40 03.3 +0.3**
comp=N,0.8nm,0.1s,SNR=27
EADA S **Sn** **11 40 44.4 +0.3**
comp=N,10nm,0.1s,SNR=4.4
EADA Adamuz 3.59 14 Pn **Pn** **11 40 03.3 +0.3**
comp=N,0.8nm,0.1s,SNR=27
EADA S **Sn** **11 40 44.4 +0.3**
comp=N,10nm,0.1s,SNR=4.4
PBAR Barrancos 3.66 343 *e*Pn **Pn** **11 40 04.0 +0.1**
PBAR *e*Sn **Sn** **11 40 45.0 -0.8**
PBAR A A 11 40 50.1
comp=N,78nm,0.1s
PBAR Barrancos 3.66 343 Pn **Pn** **11 40 04.0 +0.1**
PBAR Sn **Sn** **11 40 45.0 -0.8**
comp=N,78nm,0.1s
PBAR Barrancos 3.66 343 *e*Pn **Pn** **11 40 04.0 +0.1**
PBAR *e*Sn **Sn** **11 40 45.0 -0.8**
comp=N,78nm,0.1s
EQES Quesada 3.75 33 P **Pn** **11 40 06.5 +1.1**
comp=N,1.2nm,0.2s,SNR=22
EQES S **Sn** **11 40 50.5 +2.1**
comp=N,2.4nm,0.1s,SNR=7.9
EQES Quesada 3.75 33 P **Pn** **11 40 06.5 +1.1**
comp=N,1.2nm,0.2s,SNR=22
EQES S **Sn** **11 40 50.5 +2.1**
comp=N,2.4nm,0.1s,SNR=7.9
MESJ Messejana 3.77 328 *e*P **Pn** **11 40 05.6 +0.2**
MESJ *e*S **Sn** **11 40 47.9 -0.5**
MESJ AML AML 11 40 49.8
comp=E,85nm,0.2s
MESJ Messejana 3.77 328 *e*Pn **Pn** **11 40 05.7 +0.2**
MESJ *e*Sn **Sn** **11 40 48.0 -0.5**
MESJ A A 11 40 52.0
comp=E,44nm,0.3s
MESJ Messejana 3.77 328 Pn **Pn** **11 40 05.7 +0.2**
MESJ Sn **Sn** **11 40 48.0 -0.5**
comp=E,44nm,0.3s
MESJ Messejana 3.77 328 *e*Pn **Pn** **11 40 05.7 +0.2**
MESJ *e*Sn **Sn** **11 40 48.0 -0.5**
comp=E,44nm,0.3s
PTEO Sao Teotonio 3.78 320 *e*Pn **Pn** **11 40 05.8 +0.2**
PTEO *e*Sn **Sn** **11 40 48.7 -0.2**
PTEO A A 11 40 51.8
comp=E,36nm,0.4s
PTEO Sao Teotonio 3.78 320 Pn **Pn** **11 40 05.8 +0.2**
PTEO Sn **Sn** **11 40 48.7 -0.2**
comp=E,18nm,0.4s
PTEO Sao Teotonio 3.78 320 *e*Pn **Pn** **11 40 05.8 +0.2**
PTEO *e*Sn **Sn** **11 40 48.7 -0.2**
comp=E,36nm,0.4s
EBAN Banos Encina 3.79 23 P **Pn** **11 40 06.6 +0.8**
comp=E,13nm,0.2s,SNR=21
EBAN S **Sn** **11 40 49.7 +0.6**
comp=E,6.6nm,0.1s,SNR=7.9
EBAN Banos Encina 3.79 23 P **Pn** **11 40 06.6 +0.8**
comp=E,13nm,0.2s,SNR=21
EBAN S **Sn** **11 40 49.7 +0.6**
comp=E,6.6nm,0.1s,SNR=7.9
OUK Oukaimeden 3.93 209 P **Pn** **11 40 08.0 +0.1**
OUK Oukaimeden 3.93 209 *i* P **Pn** **11 40 08.0 +0.1**
OUK *i* S **Sn** **11 40 54.0 +1.1**
EHUE Huescar 3.99 38 P **Pn** **11 40 11.0 +2.4**
comp=E,1.1nm,0.1s,SNR=7.9
EHUE Huescar 3.99 38 P **Pn** **11 40 11.0 +2.4**
comp=E,1.1nm,0.1s,SNR=7.9
CIA Chichaoua 4.05 221 P **Pn** **11 40 10.0 +0.7**
CIA Chichaoua 4.05 221 *i* P **Pn** **11 40 10.0 +0.7**
CIA *i* S **Sn** **11 40 56.0 +0.5**
PNCL Nicolau / Gran 4.13 327 *e*Pn **Pn** **11 40 10.6 +0.2**
PNCL *e*Sn **Sn** **11 40 56.0 -1.4**
PNCL A A 11 41 00.6
comp=E,26nm,0.2s
PNCL Nicolau / Gran 4.13 327 *e*Pn **Pn** **11 40 10.6 +0.2**
PNCL *e*Sn **Sn** **11 40 56.0 -1.4**
comp=E,26nm,0.2s
EBAD Badajoz 4.21 345 P **Pn** **11 40 11.7 +0.2**
comp=E,1.5nm,0.1s,SNR=43
EBAD S **Sn** **11 40 58.1 -1.3**
comp=E,21nm,0.1s,SNR=8.9
EBAD Badajoz 4.21 345 P **Pn** **11 40 11.7 +0.2**
comp=E,1.5nm,0.1s,SNR=43
EBAD S **Sn** **11 40 58.1 -1.3**
comp=E,21nm,0.1s,SNR=8.9
SESP Santiago Espad 4.26 35 P **Pn** **11 40 13.3 +1.0**
comp=E,1.0nm,0.1s,SNR=7.9
SESP S **Sn** **11 41 02.9 +2.1**
comp=E,6.2nm,0.1s,SNR=7.9
SESP Santiago Espad 4.26 35 P **Pn** **11 40 13.3 +1.0**
comp=E,1.0nm,0.1s,SNR=7.9
SESP S **Sn** **11 41 02.9 +2.1**
comp=E,6.2nm,0.1s,SNR=7.9
EVO Evora 4.28 335 *e*P **Pn** **11 40 13.2 +0.7**
EVO *e*Sn **Sn** **11 41 00.3 -0.9**
comp=E,71nm,0.3s
EVO Evora 4.28 335 *e*Pn **Pn** **11 40 12.8 +0.3**
EVO *e*Sn **Sn** **11 41 00.1 -1.1**
EVO A A 11 41 02.6
comp=E,99nm,0.1s
EVO Evora 4.28 335 Pn **Pn** **11 40 12.8 +0.3**
EVO Sn **Sn** **11 41 00.1 -1.1**
comp=E,99nm,0.1s
EVO Evora 4.28 335 *e*Pn **Pn** **11 40 12.8 +0.3**
EVO *e*Sn **Sn** **11 41 00.1 -1.1**
comp=E,99nm,0.1s
EVOP Sao Brissos 4.32 333 *e*P **Pn** **11 40 13.2 +0.2**
EVOP *e*Sn **Sn** **11 41 00.3 -1.8**
comp=E,35nm,0.3s
PESTR Estremoz 4.46 340 *e*Pn **Pn** **11 40 15.0 +0.1**
PESTR *e*Sn **Sn** **11 41 03.7 -1.8**
PESTR A A 11 41 06.7
comp=E,28nm,0.2s
PESTR Estremoz 4.46 340 *e*Pn **Pn** **11 40 15.0 +0.1**
PESTR *e*Sn **Sn** **11 41 03.7 -1.8**
comp=E,28nm,0.2s
EVIA Vianos 4.70 32 P **Pn** **11 40 18.8 +0.5**
comp=E,3.5nm,0.1s,SNR=13
EVIA S **Sn** **11 41 11.5 -0.1**
comp=E,6.7nm,0.1s,SNR=7.9
EVIA Vianos 4.70 32 P **Pn** **11 40 18.8 +0.5**
comp=E,3.5nm,0.1s,SNR=13
EVIA S **Sn** **11 41 11.5 -0.1**
comp=E,6.7nm,0.1s,SNR=7.9
PMTG Montargil 4.84 336 *e*Pn **Pn** **11 40 20.1 0.0**
PMTG *e*Sn **Sn** **11 41 13.8 -1.1**
PMTG A A 11 41 16.0
comp=E,19nm,0.1s
PMTG Montargil 4.84 336 *e*Pn **Pn** **11 40 20.1 0.0**
PMTG *e*Sn **Sn** **11 41 13.8 -1.1**
comp=E,19nm,0.1s
PMRV Marv??o 4.94 344 *e*Pn **Pn** **11 40 22.0 +0.5**
PMRV *e*Sn **Sn** **11 41 15.8 -1.5**
PMRV A A 11 41 17.5
comp=E,20nm,0.3s
PMRV Marv??o 4.94 344 Pn **Pn** **11 40 22.0 +0.5**
PMRV Sn **Sn** **11 41 15.8 -1.5**
comp=E,20nm,0.3s
PMRV Marv??o 4.94 344 *e*Pn **Pn** **11 40 22.0 +0.5**
PAB San Pablo 4.97 12 P **Pn** **11 40 21.8 -0.2**
comp=E,0.5nm,0.1s,SNR=7.9
PAB S **Sn** **11 41 15.4 -2.9**
comp=E,2.7nm,0.1s,SNR=7.9
PAB San Pablo 4.97 12 P **Pn** **11 40 21.8 -0.2**
comp=E,0.5nm,0.1s,SNR=7.9
PAB S **Sn** **11 41 15.4 -2.9**
comp=E,2.7nm,0.1s,SNR=7.9
ETOB Tobarra 5.16 39 P **Pn** **11 40 25.3 +0.7**
comp=E,3.7nm,0.3s,SNR=17
ETOB S **Sn** **11 41 23.1 +0.2**
comp=E,2.2nm,0.2s,SNR=7.9
ETOB Tobarra 5.16 39 P **Pn** **11 40 25.3 +0.7**
comp=E,3.7nm,0.3s,SNR=17
ETOB S **Sn** **11 41 23.1 +0.2**
comp=E,2.2nm,0.2s,SNR=7.9
PMAFR Mafra 5.16 327 *e*Pn **Pn** **11 40 25.7 +1.1**
PMAFR *e*Sn **Sn** **11 41 22.2 -0.6**
PMAFR A A 11 41 25.0
comp=E,29nm,0.4s
PMAFR Mafra 5.16 327 P **Pn** **11 40 23.6 -1.0**
comp=E,7.3nm,0.1s,SNR=7.9
PMAFR S **Sn** **11 41 21.2 -1.7**
comp=E,98nm,0.3s,SNR=7.9
PMAFR Mafra 5.16 327 P **Pn** **11 40 23.6 -1.0**
comp=E,7.3nm,0.1s,SNR=7.9
PMAFR S **Sn** **11 41 21.2 -1.7**
comp=E,98nm,0.3s,SNR=7.9
PMAFR *e*Sn Sn 11 41 22.2 -0.7
comp=E,29nm,0.4s
ESDC Sonseca Array 5.17 15 P **Pn** **11 40 24.7 0.0**
comp=E,1.2nm,0.2s,baz=195,slow=14,SNR=4.0
ESDC Sonseca Array 5.17 15 Pn **Pn** **11 40 24.6 0.0**
comp=E,2.9nm,0.3s,baz=199,slow=13,SNR=11
ESDC Pg 11 40 38.3
comp=E,6.3nm,0.3s,baz=188,slow=17,SNR=14
ESDC Sn **Sn** **11 41 21.6 -1.4**
comp=E,5.0nm,0.3s,baz=196,slow=22,SNR=5.7
ESDC Sonseca Array 5.17 15 P **Pn** **11 40 24.7 0.0**
comp=E,1.2nm,0.2s,SNR=4.0
PCBR Castelo Branco 5.35 345 *e*Pn **Pn** **11 40 27.7 +0.6**
PCBR *e*Sn **Sn** **11 41 24.5 -3.0**
PCBR A A 11 41 27.0
comp=E,14nm,0.2s
PCBR Castelo Branco 5.35 345 Pn **Pn** **11 40 27.7 +0.6**
PCBR Sn **Sn** **11 41 24.5 -3.0**
comp=E,7.1nm,0.2s
PCBR Castelo Branco 5.35 345 *e*Pn **Pn** **11 40 27.7 +0.6**
PCBR *e*Sn **Sn** **11 41 24.5 -3.0**
comp=E,14nm,0.2s
EPLA Plasencia 5.38 357 P **Pn** **11 40 27.4 -0.3**
comp=E,1.4nm,0.1s,SNR=71
EPLA S **Sn** **11 41 25.7 -2.7**
comp=E,3.7nm,0.0s,SNR=19
EPLA Plasencia 5.38 357 P **Pn** **11 40 27.4 -0.3**
comp=E,1.4nm,0.1s,SNR=71
EPLA S **Sn** **11 41 25.7 -2.7**
comp=E,3.7nm,0.0s,SNR=19
PTOM Tomar 5.39 337 *e*Pn **Pn** **11 40 28.1 +0.3**
PTOM *e*Sn **Sn** **11 41 26.6 -2.0**
PTOM A A 11 41 29.7
comp=E,31nm,0.2s
PTOM Tomar 5.39 337 Pn **Pn** **11 40 28.1 +0.3**
PTOM Sn **Sn** **11 41 26.6 -2.0**
comp=E,15nm,0.2s
PTOM Tomar 5.39 337 *e*Pn **Pn** **11 40 28.1 +0.3**
YBT Youssef Ben Ta 5.81 215 *i* S **Sn** **11 41 39.0 +0.1**
PCAS Casmilo, Conde 5.82 338 *e*Pn **Pn** **11 40 33.9 +0.3**
PCAS *e*Sn **Sn** **11 41 37.5 -1.5**
PCAS A A 11 41 55.6
comp=E,9.6nm,0.4s
PCAS Casmilo, Conde 5.82 338 *e*Pn **Pn** **11 40 33.9 +0.3**
PCAS *e*Sn **Sn** **11 41 37.5 -1.5**
comp=E,9.6nm,0.4s
MTE Manteigas 5.90 346 *e*Pn **Pn** **11 40 34.2 -0.6**
MTE *e*Sn **Sn** **11 41 39.0 -2.2**
MTE A A 11 41 42.8
comp=E,15nm,0.4s
MTE Manteigas 5.90 346 Pn **Pn** **11 40 34.2 -0.6**
MTE Sn **Sn** **11 41 39.0 -2.2**
comp=E,7.5nm,0.4s
MTE Manteigas 5.90 346 *e*Pn **Pn** **11 40 34.2 -0.6**
MTE *e*Sn **Sn** **11 41 39.0 -2.2**
comp=E,15nm,0.4s
GUD Guadarrama 6.07 11 P **Pn** **11 40 37.6 +0.4**
comp=E,0.7nm,0.1s,SNR=9.2
GUD S **Sn** **11 41 41.9 -3.6**
comp=E,1.9nm,0.1s,SNR=7.9
GUD Guadarrama 6.07 11 P **Pn** **11 40 37.6 +0.4**
comp=E,0.7nm,0.1s,SNR=9.2
PVIS Viseu 6.28 344 *e*Pn **Pn** **11 40 40.3 +0.3**
PVIS *e*Sn **Sn** **11 41 48.9 -1.6**
PVIS A A 11 41 50.9
comp=E,11nm,0.2s
PVIS Viseu 6.28 344 Pn **Pn** **11 40 40.3 +0.3**
PVIS Sn **Sn** **11 41 48.9 -1.6**
comp=E,5.7nm,0.2s
PVIS Viseu 6.28 344 *e*Pn **Pn** **11 40 40.3 +0.3**
PVIS *e*Sn **Sn** **11 41 48.9 -1.6**
comp=E,11nm,0.2s
MVO Moncorvo 6.56 351 *e*Pn Pn 11 40 37.5 -6.4
MVO *e*Sn **Sn** **11 41 55.5 -2.0**
MVO A A 11 41 57.5
comp=E,11nm,0.2s
MVO Moncorvo 6.56 351 S **Sn** **11 41 54.0 -3.4**
comp=E,7.4nm,0.1s,SNR=7.9
ETOR Torete 6.76 24 ⇑P **Pn** **11 40 46.6 0.0**
comp=E,19nm,0.2s,SNR=18
ETOR S **Sn** **11 41 58.4 -4.0**
comp=E,3.7nm,0.1s,SNR=7.9
ETOR Torete 6.76 24 P **Pn** **11 40 46.6 0.0**
comp=E,19nm,0.2s,SNR=18
PVRL Vila Real 6.78 347 *e*Pn **Pn** **11 40 47.3 +0.5**
PVRL *e*Sn **Sn** **11 42 01.1 -1.7**
PVRL A A 11 42 04.6
comp=E,20nm,0.2s
PVRL Vila Real 6.78 347 Pn **Pn** **11 40 47.3 +0.5**
PVRL Sn **Sn** **11 42 01.1 -1.7**
comp=E,10.0nm,0.2s
PVRL Vila Real 6.78 347 *e*Pn **Pn** **11 40 47.3 +0.5**
PVRL *e*Sn **Sn** **11 42 01.1 -1.7**
comp=E,20nm,0.2s
POLO Lamas de Olo 6.89 347 *e*Pn **Pn** **11 40 48.8 +0.4**
POLO *e*Sn **Sn** **11 42 02.0 -3.6**
POLO A A 11 42 06.4
comp=E,5.3nm,0.3s
POLO Lamas de Olo 6.89 347 *e*Pn **Pn** **11 40 48.8 +0.4**
EMOS Mosqueruela 7.01 34 P **Pn** **11 40 51.2 +1.0**
comp=E,0.1nm,0.1s,SNR=7.9
EMOS S **Sn** **11 42 05.9 -2.8**
comp=E,0.2nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.01 34 P **Pn** **11 40 51.2 +1.0**
comp=E,0.1nm,0.1s,SNR=7.9
PBRG Braganca 7.16 354 *e*Pn **Pn** **11 40 52.6 +0.5**
PBRG *e*Sn **Sn** **11 42 09.1 -3.1**
PBRG A A 11 42 11.6
comp=E,3.4nm,0.3s
PBRG Braganca 7.16 354 Pn **Pn** **11 40 52.6 +0.5**
PBRG Sn **Sn** **11 42 09.1 -3.1**
comp=E,1.7nm,0.3s
PBRG Braganca 7.16 354 *e*Pn **Pn** **11 40 52.6 +0.5**
ECAL Calabor 7.30 354 P **Pn** **11 40 54.0 0.0**
comp=E,0.2nm,0.1s,SNR=16
ECAL S **Sn** **11 42 11.4 -4.2**
comp=E,0.6nm,0.1s,SNR=7.9
ECAL Calabor 7.30 354 P **Pn** **11 40 54.0 0.0**
comp=E,0.2nm,0.1s,SNR=16
ELOB Lobios 7.42 346 P **Pn** **11 40 55.8 +0.2**
comp=E,0.7nm,0.1s,SNR=4.7
ELOB S **Sn** **11 42 14.9 -3.7**
comp=E,1.3nm,0.1s,SNR=7.9
ELOB Lobios 7.42 346 P **Pn** **11 40 55.8 +0.2**
comp=E,0.7nm,0.1s,SNR=4.7
PGAV Gavieira, Arco 7.55 345 *e*Pn **Pn** **11 40 57.4 -0.1**
PGAV *e*Sn **Sn** **11 42 17.6 -4.3**
PGAV A A 11 42 22.7
comp=E,9.8nm,0.1s
PGAV Gavieira, Arco 7.55 345 *e*Pn **Pn** **11 40 57.4 -0.1**
EARI Arriondas 8.62 2 P **Pn** **11 41 13.3 +1.3**
SNR=7.9
EARI S **Sn** **11 42 43.5 -4.4**
SNR=7.9
EARI Arriondas 8.62 2 P **Pn** **11 41 13.3 +1.3**
SNR=7.9
ELAN Lanestosa 8.71 11 P **Pn** **11 41 13.5 +0.2**
comp=E,8.5nm,0.7s,SNR=8.6
ELAN S **Sn** **11 42 45.1 -5.1**
comp=E,3.9nm,0.3s,SNR=7.9
ELAN Lanestosa 8.71 11 P **Pn** **11 41 13.5 +0.2**
comp=E,8.5nm,0.7s,SNR=8.6
SJPF Ste Jean 9.10 21 *e*P **Pn** **11 41 19.5 +0.8**
SJPF *e*Sn **Sn** **11 43 00.2 +0.4**
comp=E,1.3nm,0.3s
SJPF Ste Jean 9.10 21 P **Pn** **11 41 19.5 +0.8**
SJPF Ste Jean 9.10 21 *e*P **Pn** **11 41 19.5 +0.8**
SJPF *e*Sn **Sn** **11 43 00.2 +0.4**
comp=E,0.6nm,0.3s
EALK Alkurruntz 9.12 20 P **Pn** **11 41 21.2 +2.4**
SNR=7.9
EALK S **Sn** **11 42 57.6 -2.6**
SNR=7.9
EALK Alkurruntz 9.12 20 P **Pn** **11 41 21.2 +2.4**
SNR=7.9
ETSF Etsaut 9.12 24 *e*P **Pn** **11 41 19.8 +0.8**
ETSF *e*Sn **Sn** **11 43 00.5 +0.2**
comp=E,1.2nm,0.3s
ETSF Etsaut 9.12 24 P **Pn** **11 41 19.8 +0.8**
ETSF Etsaut 9.12 24 *e*P **Pn** **11 41 19.8 +0.8**
ETSF *e*Sn **Sn** **11 43 00.5 +0.2**
comp=E,0.6nm,0.3s
EPF Esparros 9.56 28 *e*Pn Pn 11 41 21.3 -3.7
EPF Esparros 9.56 28 *e*P **Pn** **11 41 26.5 +1.5**
EPF Esparros 9.56 28 P **Pn** **11 41 26.5 +1.5**
EPF Esparros 9.56 28 *e*P **Pn** **11 41 26.5 +1.5**
MTLF Montolieu 10.60 33 *e*Pn Pn 11 41 35.2 -3.9
LFF La Frestale 11.36 24 *e*Pn Pn 11 41 45.8 -3.8
CAF Calviac 11.83 28 *e*Pn Pn 11 41 52.0 -3.9
LASF Ste Croix 11.92 35 *e*Pn Pn 11 41 53.0 -4.2
VIVF Saint-Julien-l 12.89 35 *e*Pn Pn 11 42 06.8 -3.7
QUIF Quistinic 13.36 7 *e*Pn **Pn** **11 42 14.0 -2.8**
SGMF Saint Gilles 13.76 9 *e*P **Pn** **11 42 23.8 +1.5**
SGMF Saint Gilles 13.76 9 P **Pn** **11 42 23.8 +1.5**
ROSF Rostrenen 13.76 7 *e*Pn Pn 11 42 18.8 -3.5
GERES GERESS Array B 20.14 40 P **P** **11 43 39.8 -1.1**
comp=E,1.1nm,0.5s,baz=219,slow=10,SNR=6.7
EKA Eskdalemuir Ar 20.73 4 P **P** **11 43 47.4 +0.4**
comp=E,0.3nm,0.4s,baz=169,slow=12,SNR=3.5
TORD Torodi Ar. Bea 22.45 161 P **P** **11 44 05.5 -0.3**
comp=E,0.3nm,0.5s,baz=340,slow=11,SNR=5.0
MLR Muntele Rosu 26.32 56 P **P** **11 44 42.9 +0.5**
comp=E,0.4nm,0.5s,baz=135,slow=8.6,SNR=3.4
HFS Hagfors 28.42 20 P **P** **11 45 00.5 -0.2**
comp=E,1.6nm,0.3s,baz=206,slow=9.1,SNR=18
AKASG Malin Array Be 29.89 47 P **P** **11 45 12.4 -1.5**
comp=E,0.7nm,0.4s,baz=263,slow=1.4,SNR=6.1
FINES FINESS Array B 33.54 27 P **P** **11 45 45.3 -0.6**
comp=E,0.5nm,0.4s,baz=225,slow=8.4,SNR=7.9
ZALV Zalesovo Beam 63.08 42 P **P** **11 49 32.9 -0.5**
comp=E,0.4nm,0.3s,baz=282,slow=7.2,SNR=3.7
MKAR Makanchi Array 64.42 50 P **P** **11 49 42.5 +0.1**
comp=E,1.7nm,0.7s,baz=291,slow=5.2,SNR=22
YKA Yellowknife Ar 67.82 332 P **P** **11 50 04.8 +0.9**
comp=E,0.2nm,0.8s,baz=57,slow=6.4,SNR=4.2
PDAR Pinedale Array 76.26 313 P **P** **11 50 57.0 +1.9**
comp=E,0.6nm,0.8s,baz=68,slow=4.0,SNR=4.2

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*ISCJB **13** 11:43:47.9±0.8, 38.64S±0.03×178.67E±0.08, h29km, mb3.6/3, Error ellipse: s-maj=8.6km s-min=4.7km az=179.1*

*WEL **13** 11:43:49.9±0.3, 38.54S×178.56E, h26km±1km, ML3.9/22, Error ellipse: s-maj=2.8km s-min=1.0km az=90.0*

WEL Felt in the Gisborne region, maximum reported intensity MM 4.

*IDC **13** 11:43:58.1±1.2, 38.59S×176.76E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/27, mbtmp3.8/3, Error ellipse: s-maj=38.3km s-min=11.8km az=143.0*

ISC 13 11:43:48.5±1.0, 38.60S±0.04×178.66E±0.06, h29km, n68, σ1s13/58, mb3.8/3, 12C-3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
					Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.38**	**287**	⇑P*	**Pb**	**11 43 56.9**		**-0.1**
PUZ	**Puketiti**	**0.61**	**329**	⇑P*	**Pb**	**11 44 00.1**		**-0.7**
PUZ				AML	AML	11 44 11.4		
PUZ				AML	AML	11 44 17.8		
TKGZ	**Te Karaka**	**0.66**	**284**	⇑P*	**Pb**	**11 44 01.3**		**-0.3**
TWGZ	**Tauwhareparae**	**0.68**	**308**	⇑P*	**Pb**	**11 44 01.6**		**-0.4**
PRGZ	**Paritu Road**	**0.69**	**242**	⇑P*	**Pn**	**11 44 02.8**		**+0.4**
RIGZ	**Rimuhau**	**0.71**	**261**	⇑P*	**Pn**	**11 44 02.7**		**0.0**
WMGZ	**Waiomatatini S**	**0.80**	**346**	⇑P*	**Pb**	**11 44 04.1**		**+0.2**
MHGZ	**Mahia Peninsul**	**0.81**	**227**	⇑P*	**Pb**	**11 44 04.9**		**+0.8**
KNZ	**Kokohu**	**0.88**	**241**	⇑PN	**Pb**	**11 44 05.1**		**-0.1**
MWZ	**Matawai**	**0.93**	**286**	⇑PN	**Pn**	**11 44 05.2**		**-0.5**
MWZ				S*	**Sn**	**11 44 17.0**		**-1.1**
MWZ				AML	AML	11 44 18.4		
MWZ				AML	AML	11 44 18.7		
SNGZ	**Shannon Statio**	**1.05**	**260**	PN	**Pn**	**11 44 07.3**		**-0.1**
MXZ	**Matakaoa Point**	**1.07**	**345**	⇓PN	**Pb**	**11 44 08.2**		**-0.2**
MXZ				AML	AML	11 44 23.7		
MXZ				AML	AML	11 44 23.8		
HAZ	**Te Kaha**	**1.09**	**320**	⇑PN	**Pn**	**11 44 07.3**		**-0.6**
WHHZ	**Waihua**	**1.21**	**246**	⇓PN	**Pn**	**11 44 10.0**		**+0.4**
URZ	**Urewera**	**1.27**	**285**	⇑PN	**Pn**	**11 44 10.0**		**-0.3**
URZ				AML	AML	11 44 25.6		
URZ				AML	AML	11 44 33.1		
URZ	**Urewera**	**1.27**	**285**	Pn	**Pb**	**11 44 11.1**		**-0.7**
	95nm,0.3s,baz=221,slow=1.3,SNR=562							
URZ				Sn	**Sn**	**11 44 22.1**		**-4.1**
	82nm,0.3s,baz=320,slow=3.4,SNR=20							
RAHZ	**Arahi**	**1.27**	**255**	PN	**Pn**	**11 44 10.7**		**+0.3**
ARHZ	**Aropaoanui**	**1.46**	**242**	PN	**Pn**	**11 44 13.4**		**+0.5**
NMHZ	**Naumai**	**1.53**	**250**	*e*PN	**Pn**	**11 44 14.3**		**+0.3**
WIZ	**White Island**	**1.58**	**312**	PN	**Pn**	**11 44 14.3**		**-0.3**
CKHZ	**Cape Kidnapper**	**1.63**	**229**	PN	**Pn**	**11 44 15.7**		**+0.4**
RRRZ	**Republican Roa**	**1.71**	**278**	PN	**Pn**	**11 44 16.7**		**+0.4**
TARZ	**Mount Tarawera**	**1.73**	**281**	PN	**Pn**	**11 44 17.2**		**+0.4**
MCHZ	**McNeill Hill**	**1.75**	**241**	PN	**Pn**	**11 44 17.6**		**+0.7**
PRRZ	**Plateau Road**	**1.78**	**272**	PN	**Pn**	**11 44 17.5**		**+0.1**
BKZ	**Black Stump Fm**	**1.79**	**251**	*e*PN	**Pn**	**11 44 17.7**		**+0.2**
BKZ				AML	AML	11 44 58.0		
BKZ				AML	AML	11 45 08.6		
OPRZ	**Ohinepanea**	**1.82**	**294**	PN	**Pn**	**11 44 17.2**		**-0.7**
KAHZ	**Kahuranaki**	**1.83**	**229**	PN	**Pn**	**11 44 18.5**		**+0.4**
PXZ	**Pawanui**	**2.00**	**224**	PN	**Pn**	**11 44 19.3**		**-1.1**
PXZ				AML	AML	11 44 47.6		
PXZ				AML	AML	11 44 47.6		
HATZ	**Hinemaiaia**	**2.03**	**261**	AML	AML	11 44 50.0		
HATZ				AML	AML	11 44 52.1		
KRHZ	**Kereru**	**2.07**	**239**	PN	**Pn**	**11 44 20.9**		**-0.4**
TGRZ	**Tauranga**	**2.08**	**294**	AML	AML	11 44 36.9		
TGRZ				AML	AML	11 44 39.6		
BHHZ	**Black Hill Sta**	**2.21**	**245**	PN	**Pn**	**11 44 23.4**		**+0.1**
WPHZ	**Waipukurau**	**2.26**	**229**	*e*PN	**Pn**	**11 44 23.5**		**-0.5**
PRHZ	**Porangahau**	**2.29**	**223**	PN	**Pn**	**11 44 23.8**		**-0.5**
PNHZ	**Pukenui**	**2.32**	**235**	PN	**Pn**	**11 44 24.4**		**-0.5**
OTVZ	**Oturere**	**2.41**	**255**	AML	AML	11 44 55.4		
OTVZ				AML	AML	11 45 18.2		
MOVZ	**Moawhango**	**2.41**	**249**	AML	AML	11 45 20.4		
MOVZ				AML	AML	11 45 22.6		
KRVZ	**Karewarewa**	**2.41**	**257**	AML	AML	11 45 05.9		
KRVZ				AML	AML	11 45 20.2		
WNVZ	**Wahianoa**	**2.50**	**252**	PN	**Pn**	**11 44 27.5**		**+0.1**
COVZ	**Chateau Observ**	**2.51**	**255**	PN	**Pn**	**11 44 28.0**		**+0.5**
FWVZ	**Far West T-bar**	**2.51**	**254**	AML	AML	11 44 48.5		
FWVZ				AML	AML	11 45 09.3		
ANWZ	**Angora Road**	**2.52**	**222**	*e*PN	**Pn**	**11 44 26.5**		**-1.0**
TSZ	**Takapari Road**	**2.55**	**234**	PN	**Pn**	**11 44 27.1**		**-0.9**
TSZ				AML	AML	11 45 03.0		
TSZ				AML	AML	11 45 05.9		
DVHZ	**Dannevirke**	**2.57**	**228**	PN	**Pn**	**11 44 27.6**		**-0.7**
BFZ	**Birch Farm**	**2.79**	**221**	*e*PN	**Pn**	**11 44 29.9**		**-1.4**
BFZ				SN	**Sn**	**11 45 02.5**		**-1.6**
PRWZ	**Pori Road**	**2.85**	**226**	PN	**Pn**	**11 44 31.7**		**-0.4**
POWZ	**Post Office Ro**	**2.87**	**230**	PN	**Pn**	**11 44 32.0**		**-0.3**
KUZ	**Kuaotunu**	**2.98**	**307**	⇓PN	**Pn**	**11 44 33.1**		**-0.7**
HIZ	**Hauiti**	**2.99**	**270**	PN	**Pn**	**11 44 34.9**		**+0.9**
HIZ				AML	AML	11 47 05.9		
WAZ	**Wanganui**	**3.08**	**247**	AML	AML	11 44 59.4		
WAZ				AML	AML	11 45 38.2		
VRZ	**Vera Road**	**3.09**	**259**	PN	**Pn**	**11 44 36.3**		**+0.9**
MRZ	**Mangatainoka R**	**3.15**	**228**	AML	AML	11 45 13.0		
MRZ				AML	AML	11 45 14.4		
ETAZ	**East Tamaki Re**	**3.38**	**298**	*e*PN	**Pn**	**11 44 39.4**		**0.0**
MTW	**Mount Morrison**	**3.53**	**223**	AML	AML	11 45 23.9		
MTW				AML	AML	11 45 25.0		
KIW	**Kapiti Island**	**3.67**	**231**	AML	AML	11 45 25.7		
KIW				AML	AML	11 45 26.6		
PAWZ	**Paruwai Farm**	**3.73**	**221**	AML	AML	11 45 26.7		
PAWZ				AML	AML	11 45 27.8		
CAW	**Cannon Point**	**3.73**	**227**	AML	AML	11 45 29.9		
CAW				AML	AML	11 45 29.9		
TCW	**Tory Channel**	**4.27**	**231**	AML	AML	11 45 40.2		
NNZ	**Nelson**	**4.83**	**236**	*e*PN	**Pn**	**11 44 57.9**		**-1.4**
THZ	**Tophouse**	**5.43**	**233**	PN	**Pn**	**11 45 05.2**		**-2.4**
THZ				AML	AML	11 46 08.1		
THZ				AML	AML	11 46 08.7		
CTZ	**Chatham Island**	**6.25**	**147**	*e*PN	**Pn**	**11 45 20.7**		**+2.1**
CTZ				SN	**Sn**	**11 46 25.9**		**-3.1**
LTZ	**Lake Taylor**	**6.41**	**227**	*e*PN	**Pn**	**11 45 18.9**		**-2.1**
MQZ	**McQueen's Vall**	**6.83**	**220**	*e*PN	Pn	11 45 23.1		-3.5
STKA	**Stephens Creek**	**30.86**	**271**	P	**P**	**11 50 04.0**		**+1.7**
	1.3nm,0.8s,baz=95,slow=11,SNR=2.3							
ASAR	**Alice Springs**	**40.70**	**278**	P	**P**	**11 51 26.8**		**+0.1**
	1.2nm,0.7s,baz=122,slow=7.8,SNR=14							
WRA	**Warramunga Arr**	**42.44**	**283**	P	**P**	**11 51 43.1**		**+2.3**

0.6nm,0.5s,baz=122,slow=7.6,SNR=8.1
TORD Torodi Ar. Bea 154.51 187 PKPbc **PKPab 12 04 02.3 +1.2**
1.5nm,0.7s,baz=178,slow=4.0,SNR=10
TORD PKPab PKPab 12 04 12.3 +11
0.5nm,0.8s,baz=168,slow=3.0,SNR=4.7

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*IDC **13** 11:45:10.2±1.3, 10°.71S×161°.09E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/29, mbtmp3.9/9, ML4.1/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/29, Error ellipse: s-maj=30.2km s-min=21.8km az=111.0*
*ISCJB **13** 11:45:17.5±1.0, 10°.72S±0°.09×160°.8E±0°.1, h62km, mb3.7/8, Error ellipse: s-maj=20.8km s-min=12.7km az=6.0*
ISC 13 11:45:18.7±1.1, 10°.7S±0°.1×160°.9E±0°.2, h62km, n12, σ1s76/13, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.56**	**323**	Pn	**Pn**	**11 45 42.2**	**-2.2**
	28nm,0.3s,baz=198,slow=0.5,SNR=12						
HNR				Sn	**Sn**	**11 46 03.4**	**-0.2**
	94nm,0.3s,baz=191,slow=14,SNR=7.0						
HNR	**Honiara**	**1.56**	**323**	*e*P	**Pn**	**11 45 42.0**	**-2.3**
HNR				*e*S	**Sn**	**11 46 07.0**	**+3.4**
PMG	**Port Moresby**	**13.58**	**274**	LR	LR	11 53 47.7	
	comp=Z,404nm,18.6s,baz=131,slow=38						
CTA	**Charters Tower**	**16.91**	**235**	P	**Pn**	**11 49 09.7**	**-1.7**
	0.4nm,0.3s,baz=52,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**27.17**	**247**	P	**P**	**11 50 56.5**	**-0.2**
	2.5nm,1.0s,baz=75,slow=9.5,SNR=8.2						
STKA	**Stephens Creek**	**27.61**	**217**	P	**P**	**11 51 01.7**	**+1.3**
	1.2nm,0.7s,baz=16,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**28.76**	**240**	P	**P**	**11 51 11.1**	**+0.2**
	0.8nm,1.0s,baz=65,slow=10,SNR=7.4						
ASAR				LR	LR	12 02 39.9	
	comp=Z,141nm,18.4s,baz=74,slow=36						
CMAR	**Chiang Mai Arr**	**67.62**	**295**	P	**P**	**11 56 11.5**	**+1.9**
	1.6nm,0.8s,baz=124,slow=4.5,SNR=4.7						
SONM	**Songino Array**	**75.62**	**326**	P	**P**	**11 56 57.5**	**+0.2**
	1.3nm,0.8s,baz=141,slow=3.7,SNR=3.6						
ILAR	**Eielson Array**	**84.75**	**20**	P	**P**	**11 57 45.0**	**-0.8**
	0.3nm,0.5s,baz=241,slow=5.1,SNR=6.8						
MKAR	**Makanchi Array**	**90.03**	**318**	P	**P**	**11 58 11.4**	**-0.3**
	0.4nm,0.7s,baz=86,slow=7.4,SNR=6.1						
YKA	**Yellowknife Ar**	**96.87**	**28**	P	**P**	**11 58 43.4**	**+0.7**
	0.1nm,0.5s,baz=261,slow=4.8,SNR=5.4						

GUC 13 11:48:56.3±0.5, 35°.45S×72°.66W, h20km±3km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.69**	**189**	*i* P	Pb	11 49 09.2	-0.5
COCH				*i* S	Sb	11 49 18.3	-0.5
TALC	**Talca**	**0.84**	**87**	*i* P	Pb	11 49 11.5	-0.7
TALC				*e*S	Sb	11 49 22.4	-0.6
TALC				AML	AML	11 49 32.0	
	comp=N,4μm,0.0s						
LNCH	**Linares**	**0.95**	**115**	*i* P	Pb	11 49 13.7	-0.4
LNCH				*i* S	Sb	11 49 26.4	+0.1
LNCH				AML	AML	11 49 27.0	
	comp=N,2μm,0.2s						
CLCH	**Cerro Calan**	**2.69**	**41**	*i* P	Pn	11 49 40.5	+1.8
CLCH				*i* S	Sb	11 50 14.6	-2.2
CLCH				AML	AML	11 50 21.7	
	comp=N,434nm,0.6s						
PEL	**Peldehue**	**2.82**	**36**	*i* P	Pn	11 49 42.1	+1.8
PEL				*i* S	Sb	11 50 17.3	-2.9

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*IDC **13** 11:53:03.6±1.8, 36°.98S×73°.31W, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.4/21, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=42.9km s-min=32.8km az=80.0*
ISC 13 11:53:05.0±2.6, 37°.04S±0°.07×73°.3W±0°.2, h8km±12km, n6, σ1s34/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.25**	**40**	*i* P	**Pg**	**11 53 09.2**	**-0.8**
CCSP				*i* S	**Sg**	**11 53 14.1**	**+0.7**
COCH	**Cobquecura**	**1.00**	**25**	*i* P	Pg	11 53 17.1	-7.1
COCH				*i* S	Sg	11 53 28.8	-8.4
PLCA	**Paso Flores**	**4.27**	**151**	Pn	**Pn**	**11 54 12.0**	**+1.6**
	0.4nm,0.3s,baz=324,slow=11,SNR=7.9						
PLCA				Sn	**Sb**	**11 55 11.1**	**-1.1**
	0.4nm,0.3s,baz=320,slow=19,SNR=1.9						
PLCA				Lg	Lg	11 55 28.9	
	1.6nm,0.3s,baz=252,slow=20,SNR=6.3						
CFAA	**Coronel Fontan**	**6.85**	**39**	Pn	**Pn**	**11 54 46.7**	**+0.8**
	0.1nm,0.3s,baz=221,slow=11,SNR=5.0						
CFAA				Sn	**Sn**	**11 56 04.1**	**0.0**
	0.1nm,0.3s,baz=270,slow=16,SNR=2.6						
TXAR	**Lajitas Array**	**71.91**	**332**	P	**P**	**12 04 28.8**	**0.0**
	0.5nm,0.8s,baz=152,slow=8.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.21**	**71**	P	**P**	**12 05 46.0**	**-1.3**
	0.3nm,0.8s,baz=246,slow=6.1,SNR=2.7						

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*GUC **13** 11:56:16.6±0.4, 36°.20S×73°.76W, h44km±3km, ML4.3*
*ISCJB **13** 11:56:19.7±0.8, 36°.13S±0°.04×73°.4W±0°.1, h33km, mb3.8/5, Error ellipse: s-maj=13.0km s-min=6.2km az=177.6*
*IDC **13** 11:56:22.4±4.3, 36°.12S×73°.18W, h39km±37km, mb3.5/6, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.9/20, Error ellipse: s-maj=42.2km s-min=28.1km az=92.0*
ISC 13 11:56:21.2±0.9, 36°.20S±0°.06×73°.49W±0°.10, h35km, n14, σ1s74/18, mb3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.57**	**84**	*i* P	**Pn**	**11 56 31.4**	**-1.4**
COCH				*i* S	**Sn**	**11 56 42.6**	**+1.6**
COCH				AML	AML	11 56 46.1	
	comp=N,9μm,0.4s						
CCSP	**San Pedro de C**	**0.72**	**155**	*i* P	**Pn**	**11 56 32.2**	**-2.6**
CCSP				*i* S	**Sn**	**11 56 43.7**	**-0.9**
CCSP				AML	AML	11 56 50.4	
	comp=E,15μm,0.5s						
LNCH	**Linares**	**1.57**	**78**	*e*P	**Pn**	**11 56 45.1**	**-1.6**
TALC	**Talca**	**1.71**	**63**	*i* P	**Pn**	**11 56 47.8**	**-0.7**
TALC				*e*S	Sn	11 57 16.9	+7.9
TALC				AML	AML	11 57 23.9	
	comp=E,13μm,0.5s						
PLCA	**Paso Flores**	**5.08**	**154**	Pn	**Pn**	**11 57 35.4**	**+0.4**
	comp=E,1.2nm,0.3s,baz=320,slow=10,SNR=9.0						
PLCA				Sn	**Sn**	**11 58 36.7**	**+4.2**
	comp=E,2.0nm,0.3s,baz=3.5,slow=11,SNR=3.5						
PLCA				LR	LR	11 59 04.7	
	comp=E,74nm,20.2s,baz=326,slow=32						
CFAA	**Coronel Fontan**	**6.33**	**45**	Pn	**Pn**	**11 57 50.7**	**-1.4**
	comp=E,1.1nm,0.3s,baz=211,slow=3.0,SNR=29						
CFAA				Sn	**Sn**	**11 59 03.3**	**+0.1**
	comp=E,1.2nm,0.3s,baz=98,slow=16,SNR=7.6						
USHA	**Ushuaia**	**18.96**	**171**	LR	LR	12 07 18.4	
	comp=E,193nm,20.6s,baz=198,slow=34						
LPAZ	**La Paz**	**20.40**	**15**	P	**P**	**12 00 55.6**	**-0.2**
	comp=E,2.1nm,0.7s,baz=176,slow=10,SNR=8.1						
SIV	**San Ignacio**	**22.97**	**32**	P	**P**	**12 01 20.8**	**-1.9**
	comp=E,4.0nm,0.7s,baz=229,slow=12,SNR=15						
TXAR	**Lajitas Array**	**71.09**	**332**	P	**P**	**12 07 36.7**	**+0.7**
	comp=E,0.3nm,0.5s,baz=158,slow=8.7,SNR=4.7						
NVAR	**Mina Array Bea**	**85.02**	**326**	P	**P**	**12 08 55.5**	**+2.3**
	comp=E,0.7nm,0.8s,baz=146,slow=5.5,SNR=5.2						
PDAR	**Pinedale Array**	**85.20**	**334**	P	**P**	**12 08 54.0**	**0.0**
	comp=E,0.2nm,0.5s,baz=165,slow=7.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**86.07**	**71**	P	**P**	**12 08 58.0**	**-0.7**
	comp=E,1.3nm,1.0s,baz=247,slow=4.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**156.71**	**34**	PKP	**PKPdf**	**12 16 11.5**	**-0.5**
	comp=E,0.3nm,0.4s,baz=270,slow=4.4,SNR=3.9						
ZALV				PKPab	**PKPab**	**12 16 41.6**	**+0.1**
	comp=E,1.4nm,0.8s,baz=294,slow=4.7,SNR=5.8						

MEX 13 11:56:29.4±0.7, 32°.28N×115°.16W, h15km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.13**	**344**	*e*P	Pg	11 56 32.2	-0.9
MBIG				*i* S	Sg	11 56 35.7	+0.2
SPIG	**San Pedro Mart**	**1.26**	**192**	*e*P	Pn	11 56 49.0	-3.9
SPIG				*e*S	Sb	11 57 04.6	-5.0
CBX	**Cerro Bola**	**1.28**	**272**	*e*P	Pn	11 56 49.0	-4.0
CBX				*e*S	Sb	11 57 03.6	-6.1

DJA 13 12:10:42.7±1.4, 2°.N±6°×12°.2E±°, h21km±15km, M3.9/2, MLv3.9/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.39**	**180**	P	Pn	12 11 05.9	-1.0
MRSI				S	Sn	12 11 22.4	-2.3
KMSI	**Cibinong**	**2.41**	**123**	P	Pn	12 11 21.5	+0.6
KMSI				S	Sn	12 11 51.3	+1.5
MPSI	**Mapaga**	**2.56**	**233**	P	Pn	12 11 24.3	+1.3
MPSI				S	Sn	12 11 54.6	+1.1
APSI	**Ampana**	**2.79**	**186**	P	Pn	12 11 26.7	+0.6
PCI	**Palu**	**3.48**	**217**	S	Sn	12 12 17.7	+1.4
SGSI	**Sangihe**	**4.00**	**63**	P	Pn	12 11 42.1	-0.7

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*IDC **13** 12:12:11.9±1.0, 39°.48N×17°.12E, h0km, mb3.5/7, mb1 3.6/11, mb1mx3.4/54, mbtmp3.6/11, ML3.5/4, MS2.5/5, Ms1 2.5/5, ms1mx2.3/36, Error ellipse: s-maj=20.9km s-min=18.2km az=65.0*
*ISCJB **13** 12:12:13.8±0.3, 39°.36N±0°.02×17°.20E±0°.02, h22km±4km, mb3.4/5, MS2.5/1, Error ellipse: s-maj=3.8km s-min=2.5km az=44.4*
*CSEM **13** 12:12:14.8±0.1, 39°.35N×17°.14E, h20km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.4km az=14.0*
*ROM **13** 12:12:14.3±0.3, 39°.35N×17°.15E, h16km±3km, Md3.1/17, Ml3.3/23, Error ellipse: s-maj=5.8km s-min=2.6km az=98.0*
*PDG **13** 12:12:14.3±0.7, 39°.38N×17°.18E, h16km±1km, ML3.6/10, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*
*THE **13** 12:12:16.5, 39°.36N×17°.20E, h30km±18km, ML3.4/10, Error ellipse: s-maj=22.0km s-min=1.7km az=267.0*
*SKO **13** 12:12:45.1, 40°.49N×20°.47E, h46km*
ISC 13 12:12:14.5±0.9, 39°.35N±0°.02×17°.12E±0°.03, h20km±4km, n207, σ0s87/254, mb3.6/5, 10C-10D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LADO	**San Nicola del**	**0.13**	**238**	Pg	**Pg**	**12 12 18.1**	**-0.6**
LADO				Sg	**Sg**	**12 12 21.7**	**+0.2**
	33μm,0.5s						
LADO	**San Nicola del**	**0.13**	**238**	Pg	**Pg**	**12 12 18.1**	**-0.6**
LADO				Sg	**Sg**	**12 12 21.7**	**+0.2**
	33μm,0.5s						
PIPA	**Pietrapaola**	**0.27**	**300**	Pg	**Pg**	**12 12 20.3**	**-0.4**
PIPA				Sg	**Sg**	**12 12 25.8**	**+0.9**
	6μm,0.5s						
PIPA	**Pietrapaola**	**0.27**	**300**	Pg	**Pg**	**12 12 20.3**	**-0.4**
PIPA				Sg	**Sg**	**12 12 25.8**	**+0.9**
	6μm,0.5s						
SERS	**Sersale**	**0.46**	**227**	Pg	**Pg**	**12 12 23.5**	**-0.5**
SERS				Sg	**Sg**	**12 12 30.4**	**+0.1**
	1μm,0.9s						
SERS	**Sersale**	**0.46**	**227**	Pg	**Pg**	**12 12 23.5**	**-0.5**
SERS				Sg	**Sg**	**12 12 30.4**	**+0.1**
	1μm,0.9s						
GRI	**Girifalco**	**0.76**	**226**	Pg	**Pb**	**12 12 28.6**	**-0.4**
	594nm,0.5s						
GRI	**Girifalco**	**0.76**	**226**	Pg	**Pb**	**12 12 28.6**	**-0.4**
	524nm,0.3s						
SALB	**San Lorenzo Be**	**0.79**	**312**	Pg	**Pb**	**12 12 28.3**	**-1.4**
	524nm,0.3s						
SALB	**San Lorenzo Be**	**0.79**	**312**	Pg	**Pb**	**12 12 28.3**	**-1.4**
	524nm,0.3s						
ORI	**Oriolo Calabro**	**0.88**	**324**	Pg	**Pn**	**12 12 31.7**	**0.0**
ORI	**Oriolo Calabro**	**0.88**	**324**	Pg	**Pn**	**12 12 31.7**	**0.0**
MMN	**Mormanno**	**1.02**	**302**	Pg	**Pg**	**12 12 35.3**	**+0.9**
	318nm,0.8s						
MMN	**Mormanno**	**1.02**	**302**	Pg	**Pg**	**12 12 35.3**	**+0.9**
	318nm,0.8s						
PLAC	**Placanica**	**1.05**	**211**	Pg	**Pn**	**12 12 34.3**	**+0.2**
	412nm,0.7s						
PLAC	**Placanica**	**1.05**	**211**	Pg	**Pn**	**12 12 34.3**	**+0.2**
	412nm,0.7s						
CRAC	**Craco**	**1.14**	**333**	Pg	**Pb**	**12 12 35.9**	**+0.4**
	1μm,0.7s						
CRAC	**Craco**	**1.14**	**333**	Pg	**Pb**	**12 12 35.9**	**+0.4**
	1μm,0.7s						
SCHR	**S. Chirico Rap**	**1.17**	**317**	Pg	**Pg**	**12 12 36.8**	**-0.3**
	316nm,0.6s						
CUC	**Castrocucco**	**1.19**	**303**	Pg	**Pb**	**12 12 37.1**	**+0.7**
	544nm,0.6s						
CUC	**Castrocucco**	**1.19**	**303**	Pg	**Pb**	**12 12 37.1**	**+0.7**
	544nm,0.6s						
LTRZ	**Laterza**	**1.27**	**350**	Pg	**Pn**	**12 12 36.9**	**-0.2**
	1μm,1.4s						
LTRZ	**Laterza**	**1.27**	**350**	Pg	**Pn**	**12 12 36.9**	**-0.2**
	1μm,1.4s						
SIRI	**Monte Sirino -**	**1.27**	**311**	Pg	**Pb**	**12 12 38.5**	**+0.7**
SIRI	**Monte Sirino -**	**1.27**	**311**	Pg	**Pb**	**12 12 38.5**	**+0.7**
MIGL	**Miglionico**	**1.35**	**338**	Pg	**Pn**	**12 12 38.3**	**0.0**
	3μm,0.9s						
MIGL	**Miglionico**	**1.35**	**338**	Pg	**Pn**	**12 12 38.3**	**0.0**
	3μm,0.9s						
MESG	**Mesagne**	**1.36**	**24**	Pg	**Pb**	**12 12 39.7**	**+0.5**
	852nm,0.3s						
MESG	**Mesagne**	**1.36**	**24**	Pg	**Pb**	**12 12 39.7**	**+0.5**
	852nm,0.3s						
MTSN	**Montesano sull**	**1.39**	**311**	Pg	**Pb**	**12 12 40.4**	**+0.5**
MTSN	**Montesano sull**	**1.39**	**311**	Pg	**Pb**	**12 12 40.4**	**+0.5**
MCEL	**Monticello**	**1.40**	**314**	Pg	**Pb**	**12 12 40.6**	**+0.5**
	316nm,0.5s						
MCEL	**Monticello**	**1.40**	**314**	Pg	**Pb**	**12 12 40.6**	**+0.5**
	316nm,0.5s						
PTRP	**Pietrapertosa**	**1.42**	**325**	Pg	**Pb**	**12 12 40.9**	**+0.5**
	2965μm,25.0s						
PTRP	**Pietrapertosa**	**1.42**	**325**	Pg	**Pb**	**12 12 40.9**	**+0.5**
	2965μm,25.0s						
NOCI	**Noci**	**1.44**	**358**	Pg	**Pn**	**12 12 39.4**	**0.0**
	706nm,0.5s						
NOCI	**Noci**	**1.44**	**358**	Pg	**Pn**	**12 12 39.4**	**0.0**
	706nm,0.5s						
MGR	**Morigerati**	**1.44**	**304**	Pg	**Pb**	**12 12 40.5**	**-0.1**
	214nm,0.6s						
MGR	**Morigerati**	**1.44**	**304**	Pg	**Pb**	**12 12 40.5**	**-0.1**
	214nm,0.6s						
CEL	**Celeste**	**1.45**	**222**	Pg	**Pb**	**12 12 41.8**	**+0.9**
	262nm,0.9s						
CEL	**Celeste**	**1.45**	**222**	Pg	**Pb**	**12 12 41.8**	**+0.9**
	262nm,0.9s						
PE1	**Pezze di Greco**	**1.47**	**9**	*e*Pn	**Pn**	**12 12 39.2**	**-0.6**
SG1	**Sgolgore (BA)**	**1.52**	**347**	*e*Pn	Pn	12 12 37.1	-3.5
SOI	**Samo**	**1.52**	**213**	Pg	**Pb**	**12 12 41.7**	**-0.4**
	178nm,1.0s						
SOI	**Samo**	**1.52**	**213**	Pg	**Pb**	**12 12 41.7**	**-0.4**
	178nm,1.0s						
BULG	**Bulgheria - Ca**	**1.53**	**299**	Pg	**Pb**	**12 12 41.8**	**-0.3**
BULG	**Bulgheria - Ca**	**1.53**	**299**	Pg	**Pb**	**12 12 41.8**	**-0.3**
AMUR	**Altamura**	**1.60**	**346**	Pg	**Pb**	**12 12 43.1**	**-0.3**
	427nm,0.6s						
AMUR	**Altamura**	**1.60**	**346**	Pg	**Pb**	**12 12 43.1**	**-0.3**
	427nm,0.6s						
CMPR	**Campora**	**1.70**	**305**	Pg	**Pn**	**12 12 43.6**	**+0.5**
	119nm,0.7s						
CMPR	**Campora**	**1.70**	**305**	Pg	**Pn**	**12 12 43.6**	**+0.5**
	119nm,0.7s						
BAI	**Bari**	**1.76**	**354**	*e*Pn	**Pn**	**12 12 43.3**	**-0.6**
CDRU	**Civita di Ruta**	**1.80**	**310**	Pg	**Pn**	**12 12 45.1**	**+0.6**
	86nm,0.5s						
CDRU	**Civita di Ruta**	**1.80**	**310**	Pg	**Pn**	**12 12 45.1**	**+0.6**
	86nm,0.5s						
CDT	**Castel del Mon**	**1.84**	**340**	*e*Pn	**Pn**	**12 12 44.8**	**-0.2**
MRVN	**Minervino Murg**	**1.85**	**338**	Pg	**Pn**	**12 12 44.9**	**-0.2**
	257nm,0.5s						
MRVN	**Minervino Murg**	**1.85**	**338**	Pg	**Pn**	**12 12 44.9**	**-0.2**
	257nm,0.5s						
KEK	**Kerkira**	**2.10**	**79**	P	**Pn**	**12 12 47.7**	**-0.8**
KEK				S	**Sn**	**12 13 13.4**	**-0.8**
KEK	**Kerkira**	**2.10**	**79**	*e*P	**Pn**	**12 12 47.8**	**-0.8**
KEK	**Kerkira**	**2.10**	**79**	P	**Pn**	**12 12 47.7**	**-0.8**
KEK				S	**Sn**	**12 13 13.4**	**-0.8**
IGT	**Igoumenitsa**	**2.50**	**85**	P	**Pn**	**12 12 54.1**	**+0.1**
IGT				S	**Sn**	**12 13 23.3**	**-0.5**
IGT	**Igoumenitsa**	**2.50**	**85**	*e*P	**Pn**	**12 12 53.4**	**-0.6**
IGT	**Igoumenitsa**	**2.50**	**85**	P	**Pn**	**12 12 54.1**	**+0.1**
IGT				S	**Sn**	**12 13 23.3**	**-0.5**
LKD2	**Lefkada island**	**2.81**	**100**	P	**Pn**	**12 12 58.3**	**0.0**
LKD2				S	**Sn**	**12 13 31.2**	**-0.5**
LKD2	**Lefkada island**	**2.81**	**100**	*e*P	Pn	12 12 52.0	-6.3
LKD2	**Lefkada island**	**2.81**	**100**	P	**Pn**	**12 12 58.3**	**0.0**
LKD2				S	**Sn**	**12 13 31.2**	**-0.5**

JAN	**Janina**	**2.90**	**83**	P	**Pn**	**12 13 00.3**	**+0.7**
JAN				S	**Sn**	**12 13 32.6**	**-1.4**
JAN	**Janina**	**2.90**	**83**	*e*P	**Pn**	**12 13 00.4**	**+0.8**
JAN	**Janina**	**2.90**	**83**	P	**Pn**	**12 13 00.3**	**+0.7**
JAN				S	**Sn**	**12 13 32.6**	**-1.4**
VLS	**Valsamata**	**2.96**	**112**	P	**Pn**	**12 12 59.4**	**-0.9**
VLS				S	**Sn**	**12 13 34.0**	**-1.2**
VLS	**Valsamata**	**2.96**	**112**	*e*P	**Pn**	**12 12 59.2**	**-1.1**
VLS	**Valsamata**	**2.96**	**112**	P	**Pn**	**12 12 59.4**	**-0.9**
VLS				S	**Sn**	**12 13 34.0**	**-1.2**
ULC	**Ulcinj**	**3.07**	**31**	*e*Pn	**Pn**	**12 13 02.3**	**+0.4**
ULC				*e*Sn	**Sn**	**12 13 39.0**	**+1.0**
ULC	**Ulcinj**	**3.07**	**31**	*e*Pn	**Pn**	**12 13 02.3**	**+0.4**
ULC				*e*Sn	**Sn**	**12 13 39.0**	**+1.0**
DSL	**Palaion Diasel**	**3.10**	**93**	P	**Pn**	**12 13 02.1**	**-0.2**
DSL				S	**Sn**	**12 13 37.9**	**-0.8**
DSL	**Palaion Diasel**	**3.10**	**93**	*e*P	**Pn**	**12 13 02.6**	**+0.3**
DSL	**Palaion Diasel**	**3.10**	**93**	P	**Pn**	**12 13 02.1**	**-0.2**
DSL				S	**Sn**	**12 13 37.9**	**-0.8**
NEST	**Nestorio**	**3.21**	**69**	P	**Pn**	**12 13 04.4**	**+0.6**
NEST				S	**Sn**	**12 13 40.1**	**-1.4**
NEST	**Nestorio**	**3.21**	**69**	*e*P	**Pn**	**12 13 04.7**	**+0.9**
NEST	**Nestorio**	**3.21**	**69**	P	**Pn**	**12 13 04.4**	**+0.6**
NEST				S	**Sn**	**12 13 40.1**	**-1.4**
MEV	**Metsovon**	**3.21**	**81**	P	**Pn**	**12 13 04.6**	**+0.7**
MEV	**Metsovon**	**3.21**	**81**	P	**Pn**	**12 13 04.6**	**+0.7**
DRME	**Dracevica, Mon**	**3.24**	**28**	⇑*i* Pn	**Pn**	**12 13 03.4**	**-0.8**
DRME				*e*Sn	**Sn**	**12 13 41.9**	**-0.2**
DRME	**Dracevica, Mon**	**3.24**	**28**	⇑*i* Pn	**Pn**	**12 13 03.4**	**-0.8**
BUM	**Brajici-Budva**	**3.24**	**24**	⇓*i* Pn	**Pn**	**12 13 05.1**	**+0.9**
BUM				*e*Sn	**Sn**	**12 13 42.4**	**+0.1**
BUM	**Brajici-Budva**	**3.24**	**24**	⇓*i* Pn	**Pn**	**12 13 05.1**	**+0.9**
PDO	**Prodromos**	**3.26**	**102**	P	**Pn**	**12 13 04.3**	**-0.1**
PDO				S	**Sn**	**12 13 41.9**	**-0.7**
PDO	**Prodromos**	**3.26**	**102**	*e*P	**Pn**	**12 13 04.5**	**+0.1**
PDO	**Prodromos**	**3.26**	**102**	P	**Pn**	**12 13 04.3**	**-0.1**
PDO				S	**Sn**	**12 13 41.9**	**-0.7**
HCY	**Herceg Novi**	**3.26**	**18**	⇑*i* Pn	**Pn**	**12 13 04.6**	**+0.1**
HCY				*e*Sn	**Sn**	**12 13 42.1**	**-0.7**
HCY	**Herceg Novi**	**3.26**	**18**	⇑*i* Pn	**Pn**	**12 13 04.6**	**+0.1**
OHR	**Ohrid**	**3.32**	**57**	*i* Pn	**Pn**	**12 13 04.2**	**-1.2**
OHR				*i* Sg	**Sn**	**12 13 43.3**	**-1.0**
OHR	**Ohrid**	**3.32**	**57**	*i* Pn	**Pn**	**12 13 04.1**	**-1.3**
OHR				*i* Sg	**Sn**	**12 13 43.2**	**-1.1**
PHP	**Peshkopia**	**3.44**	**46**	P	**Pn**	**12 13 06.8**	**-0.2**
PHP	**Peshkopia**	**3.44**	**46**	P	**Pn**	**12 13 06.8**	**-0.2**
PDG	**Podgorica**	**3.48**	**27**	⇑*i* Pn	Pn	12 13 10.7	+3.3
PDG				*e*Sn	**Sn**	**12 13 46.6**	**-1.4**
TTG	**Podgorica**	**3.48**	**27**	⇑*i* Pn	Pn	12 13 10.7	+3.3
TTG				*e*Sn	**Sn**	**12 13 46.6**	**-1.4**
STON	**Ston**	**3.54**	**7**	*e*Pn	**Pn**	**12 13 07.2**	**-1.1**
STON				Sn	**Sn**	**12 13 46.0**	**-3.6**
FNA	**Florina**	**3.57**	**65**	P	**Pn**	**12 13 08.5**	**-0.3**
FNA				S	**Sn**	**12 13 49.8**	**-0.5**
FNA	**Florina**	**3.57**	**65**	*e*P	**Pn**	**12 13 08.4**	**-0.3**
FNA	**Florina**	**3.57**	**65**	P	**Pn**	**12 13 08.5**	**-0.3**
RLS	**Riolos of Patr**	**3.64**	**109**	P	**Pn**	**12 13 08.9**	**-0.8**
RLS	**Riolos of Patr**	**3.64**	**109**	*e*P	**Pn**	**12 13 10.7**	**+1.0**
RLS	**Riolos of Patr**	**3.64**	**109**	P	**Pn**	**12 13 08.9**	**-0.8**
EVR	**Evrytania**	**3.67**	**95**	P	**Pn**	**12 13 10.6**	**+0.3**
EVR				S	**Sn**	**12 13 52.3**	**-0.7**
EVR	**Evrytania**	**3.67**	**95**	*e*P	**Pn**	**12 13 10.2**	**-0.1**
EVR	**Evrytania**	**3.67**	**95**	P	**Pn**	**12 13 10.6**	**+0.3**
EVR				S	**Sn**	**12 13 52.3**	**-0.7**
NKME	**Niksic**	**3.68**	**22**	⇓*i* Pn	**Pn**	**12 13 10.5**	**+0.2**
NKME				*e*Sn	**Sn**	**12 13 51.5**	**-1.7**
NKME	**Niksic**	**3.68**	**22**	⇓*i* Pn	**Pn**	**12 13 10.4**	**+0.2**
NKME				*e*Sn	**Sn**	**12 13 51.5**	**-1.7**
NKY	**Niksic**	**3.74**	**22**	⇓*i* Pn	**Pn**	**12 13 11.8**	**+0.7**
NKY				*e*Sn	**Sn**	**12 13 53.8**	**-0.8**
NKY	**Niksic**	**3.74**	**22**	⇓*i* Pn	**Pn**	**12 13 11.8**	**+0.7**
NKY				*e*Sn	**Sn**	**12 13 53.8**	**-0.8**
THL	**Klokotos Trika**	**3.80**	**85**	*e*P	**Pn**	**12 13 14.6**	**+2.8**
EFP	**Efpalio**	**3.85**	**102**	P	**Pn**	**12 13 13.9**	**+1.4**
EFP				S	**Sn**	**12 13 57.1**	**-0.1**
EFP	**Efpalio**	**3.85**	**102**	*e*P	**Pn**	**12 13 13.1**	**+0.6**
EFP	**Efpalio**	**3.85**	**

ANKY	**Antikythira Is**	**6.02**	**123**	*e*P	**Pn**	**12 13 41.6**	**-0.7**
BOJS	**Bojanci**	**6.30**	**348**	*e*Pn	**Pn**	**12 13 46.5**	**+0.3**
SKDS	**Skadanscina**	**6.60**	**341**	*i* Pn	**Pn**	**12 13 50.1**	**-0.3**
VISS	**Visnje**	**6.66**	**346**	*i* Pn	**Pn**	**12 13 51.3**	**+0.1**
KARN	**Karanos**	**6.70**	**124**	*e*P	**Pn**	**12 13 50.9**	**-0.8**
APE	**Apeiranthos**	**7.00**	**106**	*e*P	**Pn**	**12 13 55.7**	**-0.3**
CHOS	**Chios island**	**7.04**	**95**	*e*P	**Pn**	**12 13 56.3**	**-0.2**
OBKA	**Obir**	**7.40**	**346**	⇑*i*Pn	**Pn**	**12 13 60.0**	**-1.4**
IDI	**Anoyia**	**7.40**	**121**	Pn	**Pn**	**12 14 00.8**	**-0.6**
	1.7nm,0.3s,baz=301,slow=17,SNR=7.8						
IDI				Sn	Sn	12 15 17.8	-7.1
	0.9nm,0.3s,baz=306,slow=19,SNR=2.5						
IDI				LR	LR	12 17 26.2	
	comp=Z,28nm,20.7s,baz=120,slow=42						
ZKR	**Zakros**	**8.40**	**117**	*e*P	**Pn**	**12 14 14.5**	**-0.6**
MOA	**Molln**	**8.74**	**347**	⇑*i*Pn	**Pn**	**12 14 19.7**	**0.0**
MLR	**Muntele Rosu**	**8.95**	**44**	LR	LR	12 18 33.3	
	comp=Z,10.0nm,18.9s,baz=240,slow=43						
DAVOX	**Davos/Dischmat**	**9.12**	**327**	LR	LR	12 19 14.1	
	comp=Z,72nm,19.1s,baz=79,slow=47						
GERES	**GERESS Array B**	**9.80**	**347**	Pn	**Pn**	**12 14 33.0**	**-1.3**
	0.2nm,0.3s,baz=166,slow=12,SNR=7.4						
VRAC	**Vranov**	**9.96**	**358**	LR	LR	12 19 01.7	
	comp=Z,29nm,21.1s,baz=314,slow=42						
KHC	**Kasperske Hory**	**10.10**	**347**	*e*PN	**Pn**	**12 14 37.6**	**-0.7**
KHC				*ex*	x	12 14 46.4	
BRTR	**Keskin Array B**	**12.76**	**83**	Pn	**Pn**	**12 15 16.2**	**+1.3**
	0.2nm,0.3s,baz=264,slow=13,SNR=5.7						
MDT	**Midelt**	**18.72**	**256**	P	**Pn**	**12 16 33.5**	**+1.1**
	0.1nm,0.3s,baz=234,slow=6.7,SNR=3.7						
HFS	**Hagfors**	**20.91**	**355**	P	**P**	**12 16 55.5**	**0.0**
	1.4nm,0.8s,baz=178,slow=8.9,SNR=4.9						
EKA	**Eskdalemuir Ar**	**20.95**	**326**	P	**P**	**12 16 55.4**	**-0.5**
	1.7nm,0.6s,baz=129,slow=13,SNR=6.2						
NOA	**NORSAR Array B**	**22.02**	**352**	LR	LR	12 27 15.6	
	comp=Z,16nm,18.3s,baz=0.0,slow=41						
TORD	**Torodi Ar. Bea**	**29.45**	**212**	P	**P**	**12 18 18.0**	**+1.0**
	0.1nm,0.4s,baz=23,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**30.57**	**6**	P	**P**	**12 18 25.0**	**-1.5**
	1.3nm,0.8s,baz=207,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**46.96**	**59**	P	**P**	**12 20 44.0**	**+0.1**
	0.5nm,0.5s,baz=282,slow=6.1,SNR=5.8						
SONM	**Songino Array**	**61.75**	**50**	P	**P**	**12 22 32.1**	**+0.5**
	0.4nm,0.8s,baz=278,slow=6.1,SNR=3.5						
YKA	**Yellowknife Ar**	**71.35**	**339**	P	**P**	**12 23 32.2**	**-0.3**
	0.1nm,0.6s,baz=40,slow=5.8,SNR=6.3						

*ISCJB **13** 12:18:35.3±1.2,32.14N±0.04×115.06W±0.07, h11km±11km, Error ellipse: s-maj=10.2km s-min=5.7km az=169.0*
*NEIC **13** 12:18:36.2,32.10N×115.05W,h10km,MD3.6(MEX), ML3.6(PAS),After PAS.*
*MEX **13** 12:18:41.4±0.8,31.97N×115.24W,h5km,MD4.0*

ISC 13 12:18:36.0±1.2,**32.10N**±0.03×**115.12W**±0.04,**h6**km±12km, **n13**,σ1§**35**/25,**California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.31**	**348**	*i* P	**Pn**	**12 18 49.5**	**+2.4**
MBIG				*e*S	Sb	12 18 56.3	+7.0
GLA	**Glamis**	**0.98**	**15**	*e*Pg	**Pg**	**12 18 53.4**	**-1.3**
GLA				*e*Sg	**Sg**	**12 19 07.1**	**-0.3**
SPIG	**San Pedro Mart**	**1.09**	**196**	*i* P	**Pg**	**12 18 56.6**	**-0.4**
SPIG				*e*S	**Sg**	**12 19 10.9**	**-0.3**
SPIG	**San Pedro Mart**	**1.09**	**196**	*e*P	**Pg**	**12 18 56.0**	**-1.0**
SPIG				*e*S	**Sg**	**12 19 10.9**	**-0.3**
SPX	**San Pedro Mart**	**1.09**	**195**	*e*P	**Pg**	**12 18 57.3**	**+0.3**
SPX				*e*S	**Sg**	**12 19 10.8**	**-0.4**
CBX	**Cerro Bola**	**1.32**	**279**	*e*P	**Pn**	**12 19 00.9**	**-0.2**
CBX				*e*S	**Sg**	**12 19 18.0**	**-0.5**
CBX	**Cerro Bola**	**1.32**	**279**	*e*P	**Pg**	**12 19 01.7**	**+0.3**
CBX				*e*S	**Sn**	**12 19 19.9**	**+0.6**
BAR	**Barrett**	**1.43**	**294**	*e*Pn	**Pb**	**12 19 03.0**	**-0.1**
BAR				*e*Sn	**Sg**	**12 19 22.2**	**+0.2**
PFO	**Pinyon Flats O**	**1.87**	**324**	*e*Pn	**Pn**	**12 19 06.8**	**-1.9**
PFO				*e*Sn	**Sn**	**12 19 28.9**	**-3.9**
MWC	**Mount Wilson**	**3.25**	**311**	*e*Pn	**Pb**	**12 19 35.7**	**+1.6**
MWC				*e*Sg	**Sg**	**12 20 21.1**	**+0.9**
TUC	**Tucson**	**3.68**	**86**	*e*Pn	**Pn**	**12 19 33.0**	**-0.5**
TUC				*e*Sg	**Sb**	**12 20 28.9**	**+2.4**
ISA	**Isabella, Lake**	**4.51**	**323**	*e*Pn	**Pn**	**12 19 44.7**	**-0.3**
ISA				*e*Sg	**Sg**	**12 21 00.5**	**-0.5**
DAC	**Darwin (Calif)**	**4.64**	**334**	*e*Pn	**Pn**	**12 19 47.1**	**+0.3**
DAC				*e*Sg	**Sg**	**12 21 05.4**	**+0.4**

WEL 13 12:19:39.3±0.6,**35.95S**×**177.64E**,**h200**km±12km,**ML3.6**/5, **1C-3D**,**Error ellipse: s-maj=10.3km s-min=8.9km az=90.0**,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.70**	**162**	PN	Pn	12 20 15.1	+0.2
HAZ	**Te Kaha**	**1.81**	**176**	PN	Pn	12 20 16.0	+0.1
WMGZ	**Waiomatatini S**	**1.97**	**162**	⇑PN	Pn	12 20 17.8	+0.3
PUZ	**Puketiti**	**2.18**	**167**	⇓PN	Pn	12 20 19.6	-0.2
PUZ				SN	S	12 20 50.1	-0.6
TWGZ	**Tauwhareparae**	**2.24**	**173**	⇓PN	Pn	12 20 21.2	+0.7
TWGZ				SN	S	12 20 53.3	+1.2
URZ	**Urewera**	**2.35**	**190**	PN	Pn	12 20 21.7	+0.3
URZ				SN	S	12 20 54.6	+0.7
MWZ	**Matawai**	**2.38**	**182**	PN	Pn	12 20 22.0	0.0
MWZ				SN	S	12 20 55.7	+0.9
CNGZ	**Carnagh Statio**	**2.57**	**170**	PN	Pn	12 20 24.2	+0.2
RIGZ	**Rimuhau**	**2.75**	**178**	⇓PN	Pn	12 20 25.8	-0.3
KNZ	**Kokohu**	**3.07**	**179**	PN	Pn	12 20 28.8	-0.9
KNZ				SN	S	12 21 07.3	-1.3
TSZ	**Takapari Road**	**4.31**	**197**	SN	S	12 21 34.1	-2.1
TSZ				AML	AML	12 21 36.9	
TCW	**Tory Channel**	**5.88**	**206**	SN	S	12 22 07.5	-4.9
MQZ	**McQueen's Vall**	**8.64**	**205**	SN	S	12 23 07.1	-11

*IDC **13** 12:22:52.2±3.0, 1.77N×96.47E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/47, mbtmp3.7/6, ML3.9/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/48, Error ellipse: s-maj=116.8km s-min=21.2km az=60.0*
*ISCJB **13** 12:22:55.8±0.8, 1.93N±0.05×96.65E±0.06, h28km, mb3.6/5, Error ellipse: s-maj=10.0km s-min=5.3km az=145.9*
*DJA **13** 12:22:56.7±0.6,2.7N±4.4×97.7E±°, h27km±11km, M3.7/6, mb4.0/2, MLv3.5/6*

ISC 13 12:22:57.2±1.0,**2.00N**±0.06×**96.64E**±0.07,**h28**km,**n18**, σ0§**66**/19,**mb3.6**/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.51**	**322**	P	**Pn**	**12 23 09.4**	**+0.7**
SNSI				S	**Sn**	**12 23 15.8**	**-0.7**
TPTI		**1.36**	**23**	P	**Pn**	**12 23 19.5**	**-0.9**
TPTI				S	**Sn**	**12 23 38.1**	**+0.6**
KCSI	**Kotacane, Aceh**	**1.89**	**37**	P	**Pn**	**12 23 27.8**	**+0.1**
KCSI				S	**Sn**	**12 23 51.2**	**+0.6**
TSI	**Tuntungan**	**2.43**	**52**	P	**Pn**	**12 23 34.9**	**-0.3**
MNSI	**Mandailing Nat**	**3.18**	**112**	P	**Pn**	**12 23 45.5**	**+0.1**
MNSI				S	**Sn**	**12 24 23.0**	**+0.6**
LHMI	**Lhok Sumawe**	**3.22**	**5**	P	**Pn**	**12 23 45.3**	**-0.7**
BKNI	**Bangkinang**	**4.71**	**111**	P	**Pn**	**12 24 06.4**	**0.0**
PDSI	**Padang**	**4.80**	**127**	P	**Pn**	**12 24 07.7**	**0.0**
SDSI	**Sungai Dareh**	**5.61**	**121**	P	**Pn**	**12 24 18.5**	**-0.3**
CMAR	**Chiang Mai Ar**	**16.51**	**8**	Pn	**P**	**12 26 48.9**	**-0.5**
	0.1nm,0.3s,baz=198,slow=11,SNR=16						
CMAR				LR	LR	12 33 10.3	
	comp=Z,64nm,19.4s,baz=134,slow=37						
H08S2	**Diego Garcia H**	**25.92**	**248**	T	T	12 55 22.1	
	baz=69,slow=76,SNR=118						
H08S3	**Diego Garcia H**	**25.93**	**248**	T	T	12 55 18.5	
	baz=69,slow=76,SNR=81						
H08S1	**Diego Carcia H**	**25.94**	**248**	T	T	12 55 18.1	
	baz=69,slow=76,SNR=97						
WRA	**Warramunga Arr**	**42.94**	**122**	P	**P**	**12 30 53.3**	**-0.8**
	0.4nm,0.7s,baz=301,slow=9.2,SNR=7.1						
ASAR	**Alice Springs**	**44.33**	**127**	P	**P**	**12 31 04.2**	**-1.1**
	0.4nm,0.9s,baz=298,slow=7.9,SNR=7.0						
MKAR	**Makanchi Array**	**46.33**	**346**	P	**P**	**12 31 21.4**	**+0.6**
	1.4nm,0.6s,baz=166,slow=7.2,SNR=16						
SONM	**Songino Array**	**46.43**	**9**	P	**P**	**12 31 22.4**	**+0.8**
	0.3nm,0.4s,baz=185,slow=10.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**52.68**	**351**	P	**P**	**12 32 09.6**	**+0.6**
	1.1nm,0.4s,baz=179,slow=7.1,SNR=7.8						

GUC 13 12:23:36.3±0.4,**35.52S**×**71.20W**,**h107**km±2km,**ML3.7**, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.37**	**288**	*i* P	Pn	12 23 52.2	+0.1
TALC				AML	AML	12 24 03.9	
	comp=E,7μm,0.1s						
TALC				*i* S	Sn	12 24 03.9	+0.1
LNCH	**Linares**	**0.46**	**224**	*i* P	Pn	12 23 52.7	+0.1
LNCH				*i* S	Sn	12 24 05.0	+0.2
LNCH				AML	AML	12 24 05.5	
	comp=E,2μm,0.3s						
NICH	**Los Niches**	**0.51**	**357**	*i* P	Pn	12 23 53.2	+0.2
NICH				*i* S	Sn	12 24 05.8	+0.4
NICH				AML	AML	12 24 06.3	
	comp=N,5μm,0.4s						
CLCH	**Cerro Calan**	**2.18**	**15**	*i* P	Pn	12 24 11.9	+0.2
CLCH				*i* S	Sn	12 24 39.2	+0.6
CLCH				*i* S		12 24 39.9	
CLCH				AML	AML	12 24 40.5	
	comp=N,426nm,0.7s						
CLCH				AML	AML	12 24 41.0	
	comp=E,285nm,0.3s						
PEL	**Peldehue**	**2.40**	**10**	*i* P	Pn	12 24 15.0	+0.5
PEL				*i* S	Sn	12 24 44.1	+0.4
PEL				AML	AML	12 24 50.2	
	comp=E,401nm,0.3s						

*IDC **13** 12:28:54.0±1.5,5.34S×131.87E, h0km, mb4.0/3, mb1 4.3/6, mb1mx3.8/39, mbtmp4.2/6, ML4.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/34, Error ellipse: s-maj=53.0km s-min=21.2km az=67.0*
*ISCJB **13** 12:28:59.9±0.4, 5.54S±0.03×131.47E±0.03, h54km, mb3.8/3, Error ellipse: s-maj=5.0km s-min=4.0km az=180.0*
*DJA **13** 12:29:02.9±0.3,5.7S±2.2×13.1E±°, h71km±13km, M4.4/12, mb4.5/9, mB5.5/1, MLv4.4/12, Mw(mB)5.0/1*

ISC 13 12:29:01.9±0.7,**5.48S**±0.04×**131.41E**±0.05,**h54**km,**n29**, σ1§**67**/37,**mb3.7**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.78**	**302**	P	**Pn**	**12 29 32.3**	**+2.1**
BNDI				S	**Sn**	**12 29 53.5**	**+1.8**
SAUI	**Saumlaki**	**2.49**	**183**	P	**Pn**	**12 29 42.5**	**+2.5**
SAUI				S	**Sn**	**12 30 13.5**	**+4.4**
FAKI	**Fak Fak**	**2.68**	**18**	P	**Pn**	**12 29 44.7**	**+2.1**
FAKI				S	**Sn**	**12 30 14.3**	**+0.5**
FAKI	**Fak Fak**	**2.68**	**18**	P	**Pn**	**12 29 45.0**	**+2.5**
	baz=2.8,SNR=128						
FAKI				S	**Sn**	**12 30 15.2**	**+1.4**
	baz=2.8,SNR=13						
MSAI	**Masohi**	**3.26**	**310**	P	**Pn**	**12 29 51.1**	**+0.6**
MSAI				S	**Sn**	**12 30 28.4**	**+0.3**
RKPI	**Ransiki, Papua**	**4.81**	**35**	P	**Pn**	**12 30 14.7**	**+2.8**
RKPI				S	**Sn**	**12 31 06.3**	**-0.1**
NLAI	**Namlea**	**4.84**	**297**	P	**Pn**	**12 30 12.7**	**+0.5**
SRPI	**Serui, Papua**	**6.00**	**54**	P	**Pn**	**12 30 27.5**	**-0.7**
	75nm,0.4s,0.8nm						
SRPI				S	**Sn**	**12 31 33.7**	**-2.0**
	75nm,0.4s,0.8nm						
LBMI	**Labuha**	**6.20**	**321**	P	**Pn**	**12 30 31.2**	**+0.4**
	35nm,1.1s,0.2nm						
LBMI				S	**Sn**	**12 31 39.8**	**-0.6**
	35nm,1.1s,0.2nm						
SANI	**Sanana**	**6.40**	**302**	P	**Pn**	**12 30 33.2**	**-0.4**
	13nm,0.5s,0.1nm						
SANI				S	**Sn**	**12 31 43.6**	**-1.7**
	13nm,0.5s,0.1nm						
KDU	**Kakadu**	**7.24**	**172**	P	**Pn**	**12 30 45.2**	**+0.1**
	baz=7.1,SNR=190						
KDU				S	**Sn**	**12 32 02.9**	**-3.0**
	baz=7.1,SNR=6.5						
MTN	**Manton Dam**	**7.32**	**182**	P	**Pn**	**12 30 46.9**	**+0.7**
	baz=7.3,SNR=104						
MTN				S	**Sn**	**12 32 04.9**	**-3.1**
	baz=7.3,SNR=11						
TNTI	**Ternate**	**7.41**	**327**	P	**Pn**	**12 30 46.2**	**-1.3**
	86nm,1.0s,0.3nm						
SMPI	**Sarmi**	**8.06**	**65**	P	**Pn**	**12 30 57.1**	**+0.7**
	18nm,1.5s						
SOEI	**Soe**	**8.26**	**239**	P	**Pn**	**12 30 59.5**	**+0.3**
	38nm,0.7s						
SOEI	**Soe**	**8.26**	**239**	P	Pn	12 31 02.5	+3.3
	baz=8.3,SNR=6.7						
BATI	**Baumata**	**9.00**	**238**	P	**Pn**	**12 31 11.6**	**+2.3**
BATI	**Baumata**	**9.00**	**238**	Pn	Pn	12 31 12.4	+3.1
	10nm,0.3s,baz=59,slow=14,SNR=14						
BATI				Sn	**Sn**	**12 32 50.6**	**+1.4**
	4.6nm,0.3s,baz=96,slow=23,SNR=6.7						
KNRA	**Kununurra**	**10.46**	**194**	P	**Pn**	**12 31 28.6**	**-0.7**
	baz=10,SNR=39						
KNRA				S	Sn	12 33 18.3	-6.8
	baz=10,SNR=16						
COEN	**Coen**	**14.32**	**127**	P	**Pn**	**12 32 21.2**	**-0.6**
	baz=14,SNR=8.4						
COEN				S	Sn	12 34 48.4	-11
	baz=14,SNR=5.1						
WRA	**Warramunga Arr**	**14.65**	**169**	Pn	Pn	12 32 21.8	-4.4
	1.7nm,0.3s,baz=353,slow=13,SNR=69						
WRA				Sn	Sn	12 34 56.6	-11
	1.5nm,0.3s,baz=356,slow=23,SNR=10						
PMG	**Port Moresby**	**16.09**	**105**	LR	LR	12 39 20.6	
	comp=Z,74nm,18.6s,baz=190,slow=40						
QIS	**Mount Isa**	**16.97**	**153**	P	**Pn**	**12 32 55.9**	**+0.3**
	baz=17,SNR=6.1						
ASAR	**Alice Springs**	**18.24**	**173**	P	**P**	**12 33 09.7**	**-1.2**
	1.2nm,0.3s,baz=354,slow=11,SNR=160						
ASAR				S	Sn	12 36 23.1	-11
	0.3nm,0.3s,baz=348,slow=15,SNR=6.6						
WRKA	**Warakurna**	**19.67**	**188**	P	**Pn**	**12 33 27.9**	**-0.6**
	baz=20,SNR=21						
MEEK	**Meekatharra**	**24.33**	**209**	P	**P**	**12 34 14.5**	**-0.2**
	baz=24,SNR=4.4						
STKA	**Stephens Creek**	**27.94**	**161**	P	**P**	**12 34 46.5**	**-0.8**
	1.4nm,0.8s,baz=337,slow=8.9,SNR=2.5						
CMAR	**Chiang Mai Arr**	**39.88**	**307**	P	**P**	**12 36 31.4**	**+0.6**
	0.8nm,0.7s,baz=132,slow=7.3,SNR=6.6						
MKAR	**Makanchi Array**	**67.75**	**326**	P	**P**	**12 39 54.8**	**+0.9**
	1.1nm,0.4s,baz=114,slow=7.8,SNR=28						

*IDC **13** 12:30:20.1±1.1,8.26N×104.14W, h0km, mb3.7/7, mb1 4.1/8, mb1mx3.8/37, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=45.4km s-min=22.1km az=62.0*
*NEIC **13** 12:30:21.5±0.9,8.19N×104.22W, h10km, mb4.6/5, Error ellipse: s-maj=22.7km s-min=17.8km az=48.0*
*ISCJB **13** 12:30:23.0±0.8,8.08N±0.10×104.2W±0.1, h33km, mb4.1/12, Error ellipse: s-maj=17.1km s-min=11.6km az=36.7*
*GCMT **13** 12:30:24.0±0.3,8.55N×103.94W,h12km, MW5.1/86, Moment Tensor Solution. s54,c62; s86,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.39±.15; Mθθ 1.57±.15; Mϕϕ-0.18±.17; Mrθ-1.33±.37; Mϕθ-4.72±.11; Mϕr-1.10±.41; Best double couple: Mo5.21700×10¹⁶ NP1:ϕs88.00000°,δ74.00000°,λ-159.00000°. NP2: ϕs352.00000°,δ70.00000°,λ-17.00000°. Principal axes: T 5.5080, Plg3.0000°, Azm219.0000°; N -0.5900, Plg64.0000°, Azm124.0000°; P -4.9250, Plg26.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 12:30:24.7±0.8,**8.1N**±0.1×**104.2W**±0.1,**h35**km,**n22**, σ1§**82**/19,**mb4.1**/12,**Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**15.15**	**62**	Pn	**Pn**	**12 33 55.4**	**-1.1**
	0.4nm,0.3s,baz=209,slow=13,SNR=4.0						
TXAR	**Lajitas Array**	**21.15**	**1**	P	**P**	**12 35 05.8**	**-1.1**
	1.9nm,0.9s,baz=182,slow=12,SNR=14						
121A	**Cookes Peak, D**	**24.55**	**353**	P	**P**	**12 35 45.8**	**+4.3**
	43nm,1.7s						
TUC	**Tucson**	**24.87**	**347**	P	**P**	**12 35 46.6**	**+2.4**
	12nm,1.3s						
MSTX	**Muleshoe**	**25.80**	**3**	P	**P**	**12 35 54.8**	**+2.0**
	7.3nm,0.9s						
NVAR	**Mina Array Bea**	**32.77**	**339**	P	**P**	**12 36 55.9**	**+1.1**
	0.4nm,0.8s,baz=159,slow=11,SNR=3.2						
PDAR	**Pinedale Array**	**34.87**	**353**	P	**P**	**12 37 12.8**	**-0.1**
	2.5nm,0.9s,baz=168,slow=10.0,SNR=12						
LRM	**Limekiln Ridge**	**38.27**	**351**	*e*P	**P**	**12 37 44.2**	**+2.3**
	36nm,1.1s						
TAOE	**Nuku Hiva Isla**	**39.53**	**246**	*e*T	T	13 19 59.5	
	157nm,0.3s						
AGMN	**Agassiz Nation**	**40.71**	**9**	P	**P**	**12 38 01.6**	**-0.3**
	4.6nm,0.3s						
LPAZ	**La Paz**	**43.17**	**124**	P	**P**	**12 38 23.9**	**+0.7**
	2.9nm,0.8s,baz=332,slow=9.2,SNR=12						
RKT	**Rikitea**	**43.19**	**223**	*e*S	**S**	**12 44 46.5**	**-0.5**
	113nm,30.8s						
RKT				*e*LR	LR	12 50 23.0	
	1μm,26.5s,baz=42						
RKT	**Rikitea**	**43.19**	**223**	*e*T	T	13 24 36.5	
	4.6nm,0.3s						
PPT2	**Papeete2**	**51.53**	**240**	*e*S	**S**	**12 46 44.7**	**-1.5**
	138nm,24.5s						
PPT2				*e*LR	LR	12 54 12.4	
	1μm,25.2s,baz=70						
TBI	**Tubuai**	**54.12**	**234**	*e*S	**S**	**12 47 20.9**	**-0.3**
	361nm,27.2s						
TBI				*e*LR	LR	12 55 22.3	
	929nm,28.5s,baz=60						
YKA	**Yellowknife Ar**	**54.84**	**354**	P	**P**	**12 39 48.7**	**-2.5**
	0.2nm,0.6s,baz=165,slow=7.2,SNR=6.9						
INK	**Inuvik**	**63.21**	**348**	P	**P**	**12 40 47.2**	**-1.8**
	1.4nm,1.0s,baz=183,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**64.00**	**341**	P	**P**	**12 40 54.0**	**-0.4**
	0.6nm,0.9s,baz=145,slow=4.4,SNR=5.4						
DZM	**Mont Dzumac**	**92.36**	**248**	*e*LR	LR	13 13 08.2	
	242nm,22.1s						
WRA	**Warramunga Arr**	**122.20**	**252**	PKP	**PKPdf**	**12 49 18.0**	**+1.2**
	0.3nm,0.8s,baz=95,slow=2.4,SNR=2.2						
MKAR	**Makanchi Array**	**125.06**	**355**	PKP	**PKPdf**	**12 49 21.4**	**-0.3**
	0.3nm,0.9s,baz=309,slow=0.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**145.09**	**319**	PKPbc	**PKPdf**	**12 50 00.8**	**+1.3**
	1.0nm,0.8s,baz=21,slow=1.7,SNR=9.2						

*JMA **13** 12:33:06.9±0.4, 44.02N×148.13E, h0km, M3.9*
*SKHL **13** 12:33:07.4±1.6, 44.51N×148.49E, h50km, mb4.5/2*

ISC 13 12:33:04.9±3.6,**44.4N**±0.1×**148.6E**±0.2,**h55**km,**n11**, σ1§**47**/18,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.94**	**328**	*e*P	**Pn**	**12 33 21.8**	**-0.2**
KUR				AMB	AMB	12 33 25.2	
	134nm,0.2s						
KUR				AMB	AMB	12 33 27.2	
	2μm,3.0s						
KUR				*e*S	**Sn**	**12 33 34.0**	**-0.6**
KUR				A	A	12 33 35.6	
	960nm,0.4s						
KUR				A	A	12 33 35.6	
	640nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.98**	**259**	*e*P	**Pn**	**12 33 37.0**	**+0.9**
YUK				AMB	AMB	12 33 38.6	
	138nm,0.2s						
YUK				*e*S	**Sn**	**12 33 58.5**	**-1.2**
YUK				A	A	12 34 06.4	
	411nm,0.4s						
YUK				A	A	12 34 06.4	
	545nm,0.4s						
NEM2	**Nemuro 2**	**2.30**	**243**	P	**Pn**	**12 33 40.0**	**-0.4**
NEM2				*e*S	**Sn**	**12 34 04.4**	**-3.2**
JRA	**Rausu**	**2.53**	**260**	P	**Pn**	**12 33 44.7**	**+1.2**
JRA				*e*S	**Sn**	**12 34 12.7**	**-0.3**
JNK	**Nakash**	**2.90**	**254**	P	**Pn**	**12 33 49.5**	**+0.9**
JNK				*e*S	**Sn**	**12 34 21.1**	**-1.2**
JAK	**Akkeshi**	**3.15**	**244**	P	**Pn**	**12 33 52.2**	**+0.2**
JAK				*e*S	**Sn**	**12 34 25.9**	**-2.5**
JTKR	**Abashiri--Toko**	**3.38**	**264**	P	Pn	12 33 59.0	+3.8
JAR	**Ashorobuto**	**3.65**	**254**	P	**Pn**	**12 34 00.7**	**+1.8**
JAR				*e*S	**Sn**	**12 34 41.3**	**+0.7**
JCH	**Churui**	**4.20**	**246**	P	**Pn**	**12 34 07.8**	**+1.4**
JCH				*e*S	**Sn**	**12 34 54.1**	**0.0**
JNBK	**Urakawa-nobuka**	**4.75**	**245**	P	**Pn**	**12 34 15.5**	**+1.5**
JKB	**Kayabe**	**6.07**	**248**	P	**Pn**	**12 34 33.2**	**+1.2**

*IDC **13** 12:35:20.3±0.9, 8.63N×103.59W, h0km, mb3.8/7, mb1 4.2/7, mb1mx4.0/36, mbtmp3.9/7, MS4.5/29, Ms1 4.5/29, ms1mx4.5/43, Error ellipse: s-maj=47.3km s-min=18.1km az=60.0*
*NEIC **13** 12:35:21.8±0.8, 8.45N×103.52W, h10km, mb4.6/26, Error ellipse: s-maj=19.4km s-min=10.8km az=51.0*
*ISCJB **13** 12:35:23.0±0.5, 8.34N±0.07×103.73W±0.08, h33km, mb4.4/34, MS4.6/29, Error ellipse: s-maj=12.4km s-min=8.6km az=156.4*
*GCMT **13** 12:35:22.4±0.2, 8.43N×104.09W, h19km, MW5.3/104, Moment Tensor Solution. s68,c87; s104,c179; Duration: 1§1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.27±.03; Mθθ 0.31±.03; Mϕϕ-0.04±.03; Mrθ-0.34±.05; Mθϕ-1.22±.02; Mϕr-0.10±.06; Best double couple: Mo1.29200×10¹⁷ NP1:ϕs87.00000°,δ82.00000°, λ-162.00000°. NP2:ϕs355.00000°,δ73.00000°, λ-8.00000°. Principal axes: T 1.3900, Plg7.0000°, Azm220.0000°; N -0.1960, Plg71.0000°, Azm111.0000°; P -1.1940, Plg18.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 12:35:24.6±0.6,**8.42N**±0.09×**103.8W**±0.1,**h35**km,**n80**, σ1§**48**/43,**mb4.5**/34,**MS4.6**/29,**Northern East Pacific Rise**

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

30nm,2.0s
MOD Modoc Plateau 36.40 339 *e*P P 12 42 31.8 +5.9
LKWY Lake 36.46 352 *e*P **P 12 42 28.3 +1.8**
38nm,1.5s
GCMT Greycliff 37.58 353 *e*P **P 12 42 36.9 +1.0**
6.8nm,1.3s
LRM Limekiln Ridge 38.00 350 *e*P **P 12 42 42.5 +2.9**
SLMT Seeley Lake 39.56 350 *e*P **P 12 42 54.1 +1.6**
5.8nm,1.2s
EGMT Eagleton 39.79 354 *e*P **P 12 42 55.3 +0.9**
66nm,2.2s
TAOE Nuku Hiva Isla 40.07 245 *e*T T 13 24 45.5
226nm,0.3s
HAWA Hanford 40.17 343 *e*P **P 12 42 58.8 +1.4**
1.0nm,0.4s
NEW Newport 41.28 347 LR LR 12 58 23.4
comp=Z,511nm,19.8s,baz=171,slow=34
ULM Lac du Bonnet 49.22 8 P **P 12 43 15.7 +1.5**
4.3nm,1.1s,baz=192,slow=9.3,SNR=3.2
ULM LR LR 13 00 19.9
comp=Z,1μm,19.9s,baz=220,slow=36
LPAZ La Paz 43.00 125 P **P 12 43 21.0 -0.6**
7.1nm,1.0s,baz=324,slow=9.0,SNR=17
LPAZ LR LR 12 58 56.5
comp=Z,456nm,18.4s,baz=309,slow=33
LPAZ La Paz 43.00 125 *e*P **P 12 43 21.7 0.0**
13nm,1.2s
RKT Rikitea 43.74 224 *e*S **S 12 49 56.1 +1.1**
1μm,26.0s
RKT eLQ LQ 12 53 34.2
559nm,31.0s
RKT eLR LR 12 55 27.8
3μm,27.5s,baz=44
RKT Rikitea 43.74 224 *e*T T 13 29 36.6
16nm,0.3s
SAML Samuel 43.98 112 *e*P **P 12 43 27.6 -1.3**
13nm,1.4s
EDM Edmonton 45.34 352 *e*P **P 12 43 38.3 -1.0**
8.1nm,0.7s
PMOR Pomariorio Ree 49.52 242 *e*T T 13 36 44.8
3.3nm,0.3s
FCC Fort Churchill 50.77 7 *e*P **P 12 44 19.4 -1.7**
6.3nm,0.8s
PPT Papeete 52.08 240 LR LR 13 00 31.2
comp=Z,763nm,18.3s,baz=78,slow=29
PPT2 Papeete2 52.09 240 *e*S **S 12 51 50.6 -3.1**
780nm,26.0s
PPT2 eLQ LQ 12 57 02.7
846nm,25.2s
PPT2 eLR LR 12 59 08.1
2μm,25.2s,baz=60
CFAA Coronel Fontan 52.35 141 LR LR 13 01 47.5
comp=Z,89nm,20.3s,slow=30
DLBC Dease Lake 53.80 343 LR LR 13 06 02.9
comp=Z,518nm,18.9s,baz=145,slow=34
YKA Yellowknife Ar 54.55 354 P **P 12 44 47.6 -1.3**
0.3nm,0.7s,baz=167,slow=7.6,SNR=4.0
TBI Tubuai 54.68 234 *e*S **S 12 52 28.2 -0.4**
576nm,25.5s
TBI eLR LR 13 00 19.2
2μm,28.0s,baz=62
TBI Tubuai 54.68 234 *e*T T 13 43 14.9
2.6nm,0.3s
SCHQ Schefferville 54.83 25 LR LR 13 09 35.4
comp=Z,830nm,18.9s,baz=239,slow=38
PLCA Paso Flores 57.71 150 LR LR 13 04 47.0
comp=Z,655nm,18.1s,baz=310,slow=31
BDFB Brasilia 60.20 113 LR LR 13 10 42.3
comp=Z,602nm,18.1s,baz=292,slow=35
INK Inuvik 62.97 348 P **P 12 45 46.2 -1.1**
baz=144,slow=5.7
ILAR Eielson Array 63.83 341 P **P 12 45 51.9 -1.3**
0.9nm,0.9s,baz=154,slow=5.1,SNR=12
SUMG Summit 74.75 16 *i* P P 12 47 10.4 +9.3
7.2nm,1.0s
BORG Borgarnes 79.22 26 LR LR 13 23 08.9
comp=Z,399nm,18.3s,baz=253,slow=36
RAO Raoul Island 80.45 238 LR LR 13 14 07.1
comp=Z,189nm,21.6s,baz=83,slow=29
DAG Danmarks Havn 80.74 13 *i* P **P 12 47 32.2 -1.7**
1.3nm,0.9s
JMIC Jan Mayen 83.83 19 LR LR 13 25 39.9
comp=Z,214nm,19.3s,baz=266,slow=36
URZ Urewera 86.69 231 LR LR 13 17 26.9
comp=Z,342nm,21.4s,baz=92,slow=29
PETK Petropavlovsk- 88.40 323 LR LR 13 21 14.1
comp=Z,96nm,20.5s,baz=88,slow=31
SEY Seymchan 88.78 334 LR LR 13 21 37.9
comp=Z,317nm,21.2s,baz=24,slow=31
ESDC Sonseca Array 92.17 50 LR LR 13 28 19.6
comp=Z,127nm,18.1s,baz=270,slow=35
DZM Mont Dzumac 92.89 248 eLR LR 13 18 07.4
392nm,22.1s
MDT Midelt 93.12 56 LR LR 13 24 43.2
comp=Z,261nm,20.7s,slow=32
NOA NORSAR Array B 94.39 26 LR LR 13 31 16.7
comp=Z,151nm,19.1s,baz=285,slow=36
ARCES ARCESS Array B 94.83 16 LR LR 13 30 38.2
comp=Z,360nm,21.7s,baz=290,slow=35
HFS Hagfors 95.89 27 LR LR 13 31 10.3
comp=Z,262nm,20.4s,slow=35
DBIC Dimbokro 97.81 82 LR LR 13 31 00.1
comp=Z,223nm,19.9s,baz=264,slow=34
VNDA Vanda 99.11 193 LR LR 13 25 15.9
comp=Z,158nm,18.7s,baz=101,slow=30
DAVOX Davos/Dischmat 99.64 40 LR LR 13 29 29.3
comp=Z,171nm,21.9s,baz=259,slow=33
FINES FINESS Array B 100.21 22 LR LR 13 34 42.4
comp=Z,320nm,19.6s,baz=328,slow=36
WRA Warramunga Arr 122.73 252 PKP **PKPdf 12 54 19.7 +1.9**
0.6nm,0.8s,baz=94,slow=1.8,SNR=3.5
ASAR Alice Springs 122.87 247 PKP **PKPdf 12 54 20.0 +2.1**
0.3nm,0.7s,baz=108,slow=2.4,SNR=2.6
MKAR Makanchi Array 124.77 355 PKP **PKPdf 12 54 21.8 +0.8**
0.4nm,0.8s,baz=342,slow=2.7,SNR=3.9
CMAR Chiang Mai Arr 145.12 320 PKPbc **PKPdf 12 55 00.5 +1.1**
2.0nm,0.6s,baz=16,slow=2.0,SNR=9.4

TIF 13 12:37:01.9, 42.54N×43.50E, 7km±1km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.06**	**323**	P	Pg	12 37 03.9	+0.2
ONI				S	Sg	12 37 05.6	+0.6

*IDC **13** 12:38:49.5±2.6, 54.15N×86.43E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.3km s-min=12.0km az=61.0*
*NNC **13** 12:38:51.0±2.9, 54.02N×86.47E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=23.3km s-min=18.7km az=176.0*
ISC 13 12:38:52.2±4.8, 54.2N±0.2×86.7E±0.2, h35km, n7, σ0°89/9, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.15**	**259**	*i*		12 45 20.0	
	baz=79,slow=326,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.15**	**259**	Pg	Pn	12 39 06.8	-4.9
	1.5nm,0.3s,baz=76,slow=16,SNR=16						
ZALV				Lg	Lg	12 39 22.1	
	2.6nm,0.3s,baz=75,slow=30,SNR=18						
KURK	**Kurchatov**	**6.05**	**238**	⇑Pn	**Pn**	**12 40 19.5**	**+0.5**
KURK				⇓Sn	**Sn**	**12 41 27.8**	**+0.8**
	1.4nm,1.4s						
KURK				⇓Lg	Lg	12 41 59.8	
	1.3nm,1.1s						
KURBB	**Kurchatov Arra**	**6.15**	**238**	⇑Pn	**Pn**	**12 40 19.8**	**-0.6**
	1.6nm,0.5s						
KURBB				⇓Sn	**Sn**	**12 41 28.7**	**-0.8**
	1.1nm,0.6s						
KURBB				⇑Lg	Lg	12 41 59.4	
	3.7nm,0.9s						
KURBB	**Kurchatov Arra**	**6.15**	**238**	Pn	**Pn**	**12 40 20.4**	**0.0**
	0.1nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Lg	Lg	12 42 00.2	
	0.0nm,0.3s,baz=46,slow=29,SNR=3.5						
MK31	**Makanchi Array**	**7.92**	**203**	⇑Pn	**Pn**	**12 40 44.0**	**-0.7**
	0.4nm,0.6s,baz=25,slow=12,SNR=8.4						
MK31				⇑Sn	**Sn**	**12 42 14.0**	**+1.0**
	1.3nm,1.1s						
MK31				⇑Lg	Lg	12 42 57.0	
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**7.92**	**203**	Pn	**Pn**	**12 40 45.4**	**+0.7**
	0.1nm,0.3s,baz=21,slow=14,SNR=5.4						
MKAR				⇑Sn	**Sn**	**12 42 12.0**	**-1.0**
	0.1nm,0.3s,baz=18,slow=25,SNR=3.3						
MKAR				Lg	Lg	12 43 04.9	
	0.0nm,0.3s,baz=27,slow=29,SNR=2.8						

*CSEM **13** 12:40:28.9, 34.29N×48.34E, h14km, ML3.5*
THR 13 12:40:28.9±0.4, 34.29N×48.34E, h14km±5km, ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNGE	**Sanandaj**	**1.14**	**315**	*e*Pg	Pb	12 40 50.3	-0.4
SNGE				*e*Sg	Sb	12 41 05.8	+0.1
SNGE	**Sanandaj**	**1.14**	**315**	*e*Pg	Pb	12 40 50.3	-0.4
SNGE				*e*Sg	Sb	12 41 05.8	+0.2
SHGR	**Shooshtar-Gavs**	**2.21**	**170**	*e*Pn	Pb	12 41 07.2	-1.5
SHGR				*e*Sg	Sg	12 41 38.2	-1.9
SHGR				AML	AML	12 41 48.5	
	comp=E,328nm,0.7s						
SHGR				AML	AML	12 41 50.0	
	comp=N,328nm,0.7s						
SHGR	**Shooshtar-Gavs**	**2.21**	**170**	*e*Pn	Pb	12 41 07.2	-1.5
SHGR				*e*Sg	Sg	12 41 38.2	-1.9
	comp=N,328nm,0.7s						
GHVR	**GHOM**	**2.45**	**85**	*e*Pn	Pn	12 41 09.8	+1.2
GHVR				AML	AML	12 41 48.3	
	comp=N,225nm,0.6s						
GHVR				AML	AML	12 41 54.6	
	comp=E,315nm,0.5s						
GHVR	**GHOM**	**2.45**	**85**	*e*Pn	Pn	12 41 09.8	+1.2
	comp=E,315nm,0.5s						
CHTH	**Charan**	**2.80**	**54**	*e*Pn	Pn	12 41 15.4	+1.8
CHTH	**Charan**	**2.80**	**54**	*e*Pn	Pn	12 41 15.4	+1.8

IDC 13 12:43:02.9±3.6, 19.10S×177.38W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/38, mbtmp3.6/2, Error ellipse: s-maj=151.0km s-min=43.5km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.39**	**261**	P	P	12 51 24.2	+0.7
	0.2nm,0.4s,baz=98,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**45.42**	**255**	P	P	12 51 22.9	-0.9
	0.7nm,0.5s,baz=91,slow=8.2,SNR=29						
KEST	**Kesra**	**162.40**	**342**	PKP	PKPdf	13 03 07.1	0.0
	1.8nm,0.5s,baz=17,slow=2.6,SNR=8.8						
KEST				PKPab	PKPab	13 03 53.6	-0.8
	0.9nm,0.5s,baz=27,slow=2.3,SNR=3.3						

*ISCJB **13** 12:45:11.5±0.8, 18.5S±0.2×177.9W±0.1, h400km, mb3.6/10, Error ellipse: s-maj=24.7km s-min=13.2km az=138.0*
*IDC **13** 12:45:11.9±8.9, 18.55S×177.82W, h393km±96km, mb3.4/11, mb1 3.6/11, mb1mx3.3/38, mbtmp4.1/11, Error ellipse: s-maj=38.6km s-min=23.1km az=15.0*
ISC 13 12:45:12.5±1.0, 18.5S±0.2×177.9W±0.2, h400km, n21, σ0°81/20, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.53**	**95**	P	P	12 47 09.7	+7.1
	baz=7.7,SNR=5.5						
URZ	**Urewera**	**20.14**	**192**	P	**P**	**12 49 17.5**	**-0.5**
	9.1nm,1.0s,baz=315,slow=5.7,SNR=4.8						
CTA	**Charters Tower**	**33.87**	**261**	P	**P**	**12 51 20.0**	**+0.2**
	4.1nm,0.5s,baz=93,slow=13,SNR=12						
CMSA	**Cobar Meteorol**	**35.31**	**241**	P	**P**	**12 51 33.0**	**+1.2**
	baz=36,SNR=5.0						
QLP	**Quilpie**	**35.81**	**250**	P	**P**	**12 51 36.3**	**+0.2**
	baz=36,SNR=11						
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**12 52 01.9**	**+1.1**
	3.8nm,0.5s,baz=88,slow=9.6,SNR=23						
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**12 52 01.9**	**+1.1**
	baz=39,SNR=21						
BBOO	**Buckleboo**	**43.57**	**242**	P	**P**	**12 52 39.6**	**+0.5**
	baz=44,SNR=12						
JAY	**Jayapura**	**43.59**	**286**	P	**P**	**12 52 40.6**	**+1.0**
	6.5nm,0.7s,baz=221,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	**12 52 49.9**	**-0.9**
	1.8nm,0.5s,baz=98,slow=5.9,SNR=45						
ASAR	**Alice Springs**	**45.13**	**255**	P	**P**	**12 52 51.2**	**-0.3**
	16nm,0.5s,baz=90,slow=8.4,SNR=494						
KDU	**Kakadu**	**48.08**	**269**	P	**P**	**12 53 13.5**	**-0.6**
	baz=48,SNR=5.2						
WRKA	**Warakurna**	**50.16**	**253**	P	**P**	**12 53 29.5**	**-0.1**
	baz=50,SNR=15						
KNRA	**Kununurra**	**50.95**	**265**	P	**P**	**12 53 35.0**	**-0.4**
	baz=51,SNR=4.5						
MEEK	**Meekatharra**	**58.71**	**250**	P	**P**	**12 54 29.6**	**-0.7**
	baz=59,SNR=3.4						
ILAR	**Eielson Array**	**86.38**	**13**	P	**P**	**12 57 09.6**	**-0.7**
	0.2nm,0.4s,baz=226,slow=5.2,SNR=11						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**12 57 17.8**	**+1.6**
	0.2nm,0.4s,baz=229,slow=3.5,SNR=2.5						
INK	**Inuvik**	**92.36**	**15**	P	**P**	**12 57 37.7**	**-0.4**
	0.5nm,0.8s,baz=231,slow=6.5,SNR=4.6						
SONM	**Songino Array**	**94.37**	**319**	P	**P**	**12 57 47.5**	**-0.5**
	0.1nm,0.6s,baz=116,slow=3.4,SNR=2.0						
YKA	**Yellowknife Ar**	**94.68**	**25**	P	**P**	**12 57 48.2**	**-0.6**
	0.1nm,0.5s,baz=256,slow=5.0,SNR=3.3						
BRTR	**Keskin Array B**	**145.60**	**315**	PKPbc	**PKPbc**	**13 04 05.4**	**0.0**
	0.4nm,0.5s,baz=110,slow=5.7,SNR=3.0						

*IDC **13** 12:56:34.4±1.3, 34.75N×72.94E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.3/40, mbtmp3.5/6, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/37, Error ellipse: s-maj=35.8km s-min=27.8km az=66.0*
*ISCJB **13** 12:56:35.5±1.1, 34.65N±0.08×72.8E±0.1, h21km, mb3.5/4, MS3.6/1, Error ellipse: s-maj=17.4km s-min=11.3km az=165.7*
*NNC **13** 12:56:43.6±7.1, 35.12N×72.70E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=55.7km s-min=39.4km az=161.0*
ISC 13 12:56:37.4±1.2, 34.7N±0.1×72.9E±0.1, h21km, n12, σ1°78/12, mb3.4/3, 3C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**5.23**	**322**	⇓Pn	Pn	12 57 59.3	+4.8
	2.2nm,0.5s						
DZET				⇑Sn	**Sn**	**12 58 55.4**	**+1.2**
	12nm,0.5s						
SFK	**Sufi-Kurgan**	**5.29**	**5**	⇓Pn	Pn	12 57 59.5	+4.0
	0.9nm,0.4s						
SFK				⇓Sn	**Sn**	**12 58 59.5**	**+3.5**
	4.0nm,0.3s						
KK31	**Karatay Array**	**8.57**	**348**	⇓Pn	**Pn**	**12 58 41.0**	**+0.8**
	0.9nm,0.3s,baz=156,slow=11,SNR=27						
KK31				⇑Sn	**Sn**	**13 00 13.6**	**-2.7**
	1.2nm,0.4s,baz=156,slow=23,SNR=9.2						
MKAR	**Makanchi Array**	**13.97**	**28**	Pn	**P**	**13 00 00.1**	**-1.9**
	0.1nm,0.3s,baz=198,slow=9.2,SNR=2.8						
AB31	**Akbulak array**	**17.39**	**330**	⇑Pn	**Pn**	**13 00 37.8**	**-0.8**
	0.4nm,0.6s,baz=139,slow=12,SNR=7.3						
BVAR	**Borovoye Array**	**18.38**	**355**	P	**P**	**13 00 50.8**	**+0.1**
	0.2nm,0.3s,baz=167,slow=10,SNR=4.6						
AKTO	**Aktyubinsk**	**19.09**	**330**	P	**P**	**13 00 58.2**	**-0.4**
	0.2nm,0.3s,baz=145,slow=9.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**20.96**	**20**	P	**P**	**13 01 17.5**	**-1.4**
	0.9nm,0.4s,baz=217,slow=10.0,SNR=6.6						
ARCES	**ARCESS Array B**	**43.37**	**338**	P	**P**	**13 04 38.5**	**+0.6**
	2.0nm,0.8s,baz=112,slow=8.0,SNR=5.0						
KEST	**Kesra**	**51.10**	**291**	LR	LR	13 31 56.7	
	comp=Z,59nm,18.1s,baz=254,slow=42						
TORD	**Torodi Ar. Bea**	**67.28**	**271**	P	**P**	**13 07 31.0**	**+0.1**
	0.3nm,0.9s,baz=44,slow=5.8,SNR=2.5						
WRA	**Warramunga Arr**	**79.72**	**123**	P	**P**	**13 08 44.6**	**+0.7**
	0.1nm,0.4s,baz=322,slow=5.0,SNR=6.8						

IDC 13 13:06:10.6±6.5, 6.12S×148.22E, h120km±57km, mb3.1/1, mb1 3.5/3, mb1mx3.1/30, mbtmp3.7/3, Error ellipse: s-maj=115.8km s-min=53.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.43**	**198**	P	Pn	13 07 03.8	+1.2
	2.1nm,0.3s,baz=322,slow=12,SNR=14						
PMG				S	Sn	13 07 42.7	-0.1
	9.3nm,0.3s,baz=9.6,slow=19,SNR=8.9						
WRA	**Warramunga Arr**	**19.25**	**223**	P	P	13 10 26.1	+0.3
	0.6nm,0.3s,baz=47,slow=11,SNR=56						
ASAR	**Alice Springs**	**22.23**	**217**	P	P	13 10 58.4	+0.8
	1.0nm,0.5s,baz=50,slow=9.2,SNR=42						
TORD	**Torodi Ar. Bea**	**146.29**	**284**	PKPbc	PKPdf	13 25 36.4	-0.5
	0.2nm,0.6s,baz=77,slow=3.7,SNR=4.5						

DJA 13 13:08:48.5±0.7, 1.1N±6.2×12.3E±1.2°, h24km±9km, M3.7/7, MLv3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.86**	**239**	P	Pn	13 09 05.2	0.0
MRSI				S	Sb	13 09 15.3	-0.8
KMSI	**Cibinong**	**1.35**	**105**	P	Pn	13 09 11.3	-0.5
KMSI				S	Sb	13 09 29.9	0.0
APSI	**Ampana**	**2.10**	**209**	P	Pn	13 09 22.5	+0.3
MPSI	**Mapaga**	**2.84**	**258**	P	Pn	13 09 31.9	-0.5
PCI	**Palu**	**3.38**	**237**	P	Pn	13 09 39.6	-0.2
SGSI	**Sangihe**	**3.95**	**46**	P	Pn	13 09 46.8	-0.9

*ISCJB **13** 13:15:35.5±0.4, 32.75N±0.03×115.85W±0.03, h12km±4km, Error ellipse: s-maj=4.5km s-min=3.7km az=151.8*
*NEIC **13** 13:15:36.9, 32.69N×115.87W, h10km, ML3.4(PAS), After PAS.*
*ECX **13** 13:15:37.1±0.6, 32.71N×115.87W, h3km, MD3.3, ML3.6*
ISC 13 13:15:36.7±0.9, 32.67N±0.02×115.86W±0.02, h11km±6km, n27, σ1°16/44, 14C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**246**	⇑*i*P	**Pg**	**13 15 38.6**	**-0.4**
SGL	**Mount Signal**	**0.11**	**102**	⇑*i*P	**Pg**	**13 15 39.4**	**-0.2**
RMX	**La Rumorosa**	**0.20**	**250**	⇑*e*P	**Pg**	**13 15 41.0**	**-0.1**
RMX				*e*S	**Sg**	**13 15 44.0**	**-0.2**
COK	**Cook Ranch**	**0.21**	**32**	⇑*i*P	**Pg**	**13 15 40.7**	**-0.4**
CRR	**Carrizo Plain**	**0.23**	**336**	⇓*i*P	**Pg**	**13 15 40.8**	**-0.8**
CPBX	**Cerro Prieto**	**0.53**	**119**	⇓*e*P	**Pg**	**13 15 47.5**	**+0.5**
CPBX				⇓*e*P	**Pg**	**13 15 47.5**	**+0.5**
CPBX				*e*S	**Sg**	**13 15 55.4**	**+1.3**
CPBX				AML	AML	13 15 59.4	
	comp=E,13μm,0.4s						
CPBX				*e*		13 15 59.4	
CPBX				AML	AML	13 16 04.2	
	comp=E,14μm,0.5s						
CPBX				AML	AML	13 16 04.6	
	comp=N,19μm,0.6s						
CPBX				AML	AML	13 16 08.7	
	comp=N,11μm,0.4s						
BAR	**Barrett**	**0.69**	**271**	*e*Pg	**Pg**	**13 15 49.6**	**-0.4**
BAR				*e*Sg	**Sg**	**13 15 58.3**	**-0.8**
RDX	**Rancho Dawling**	**0.75**	**186**	⇓*e*P	**Pg**	**13 15 51.0**	**-0.2**
RDX				*e*S	**Sg**	**13 16 01.7**	**+0.8**
RDX				AML	AML	13 16 07.1	
	comp=N,1μm,0.4s						
RDX				⇑*e*		13 16 07.1	
CBX	**Cerro Bola**	**0.77**	**243**	⇑*e*P	**Pg**	**13 15 51.5**	**-0.1**
CBX				*e*S	**Sg**	**13 16 02.1**	**+0.3**
CBX				AML	AML	13 16 04.0	
	comp=E,2μm,0.3s						
CBX				⇑*e*		13 16 04.0	
EMX	**El Mayor**	**0.86**	**143**	⇑*e*P	**Pg**	**13 15 52.1**	**-1.1**
EMX				*e*S	**Sg**	**13 16 04.0**	**-0.4**
GLA	**Glamis**	**0.94**	**66**	*e*Pg	**Pg**	**13 15 53.3**	**-1.6**
GLA				*e*Sg	**Sg**	**13 16 06.2**	**-1.1**
PFO	**Pinyon Flats O**	**1.06**	**332**	*e*Pg	**Pg**	**13 15 55.1**	**-2.1**
PFO				*e*Sg	**Sg**	**13 16 08.9**	**-2.0**
PBX	**Punta Banda**	**1.19**	**219**	⇑*e*P	**Pb**	**13 15 59.0**	**-0.2**
PBX				*e*S	**Sb**	**13 16 15.0**	**+0.4**
ECNX	**Esteban Cantu**	**1.19**	**212**	⇑*e*P	**Pb**	**13 15 59.1**	**-0.3**
ECNX				*e*S	**Sb**	**13 16 15.3**	**+0.4**
ECNX				*e*S	**Sg**	**13 16 15.4**	**+0.2**
ZAX	**El Zacaton**	**1.21**	**197**	⇓*e*P	**Pn**	**13 15 59.5**	**-0.2**
ZAX				*e*S	**Sg**	**13 16 16.0**	**+0.3**
ZAX				⇑*e*		13 16 21.9	
ZAX				AML	AML	13 16 21.9	
	comp=N,1μm,0.5s						
ECBX	**El Chinero**	**1.38**	**150**	⇑*e*P	**Pn**	**13 15 59.5**	**-2.3**
ECBX				*e*S	**Sn**	**13 16 18.8**	**-1.3**
ECBX				AML	AML	13 16 22.6	
	comp=E,882nm,0.2s						
ECBX				⇑*e*		13 16 22.6	
SPIG	**San Pedro Mart**	**1.66**	**168**	⇑*e*P	**Pn**	**13 16 06.3**	**+0.3**
SPX	**San Pedro Mart**	**1.66**	**168**	*e*P	**Pn**	**13 16 06.7**	**+0.7**
MWC	**Mount Wilson**	**2.41**	**311**	*e*Pg	**Pb**	**13 16 19.3**	**-0.8**
MWC				*e*Sg	**Sb**	**13 16 49.7**	**-0.1**
PASC	**Pasadena Art C**	**2.46**	**308**	*e*Pg	**Pb**	**13 16 20.0**	**-0.9**
LDFC	**Landfair**	**2.48**	**14**	*e*Pn	**Pn**	**13 16 16.5**	**-0.6**
LDFC				*e*Pg	**Pg**	**13 16 24.4**	**+0.2**
214A	**Organ Pipe Nat**	**2.67**	**105**	*e*Pn	Pn	13 16 16.8	-2.9
GSC	**Goldstone, Bar**	**2.74**	**344**	*e*Pg	**Pb**	**13 16 26.5**	**+0.8**
ISA	**Isabella, Lake**	**3.69**	**325**	*e*Pn	**Pn**	**13 16 35.6**	**+1.8**
ISA				*e*Pg	**Pb**	**13 16 43.3**	**+1.4**
ISA				*e*Sg	**Sb**	**13 17 29.1**	**+2.4**
DAC	**Darwin (Calif)**	**3.87**	**339**	*e*Pg	**Pb**	**13 16 47.3**	**+2.2**
TUC	**Tucson**	**4.30**	**93**	*e*Pn	**Pn**	**13 16 40.6**	**-1.6**
W18A	**Petrified Fore**	**5.64**	**63**	*e*P	**Pn**	**13 17 03.2**	**+2.5**

*IDC **13** 13:27:38.5±1.7, 8.66N×103.94W, h0km, mb3.5/6, mb1 4.0/7, mb1mx3.8/34, mbtmp3.6/7, ML3.5/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/21, Error ellipse: s-maj=60.2km s-min=23.7km az=56.0*
*ISCJB **13** 13:27:42.6±1.5, 8.9N±0.2×103.7W±0.2, h33km, mb3.5/5, MS3.7/12, Error ellipse: s-maj=31.2km s-min=17.6km az=39.0*
ISC 13 13:27:44.2±1.5, 8.8N±0.2×103.7W±0.2, h35km, n24, σ1°17/7, mb3.7/5, MS3.7/12, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**11.89**	**45**	LR	LR	13 34 13.8	
	comp=Z,748nm,20.7s,baz=184,slow=32						
APG	**El Apazote**	**14.34**	**63**	Pn	**Pn**	**13 31 04.7**	**-0.3**
	0.2nm,0.3s,baz=237,slow=15,SNR=4.4						
APG				LR	LR	13 35 30.6	
	comp=Z,612nm,21.7s,baz=204,slow=32						
LPIG	**La Paz**	**16.44**	**338**	LR	LR	13 36 22.5	
	comp=Z,800nm,19.2s,baz=182,slow=32						
JTS	**JuntasAbangare**	**18.56**	**84**	LR	LR	13 37 15.3	
	comp=Z,230nm,19.3s,baz=256,slow=31						
TXAR	**Lajitas Array**	**20.40**	**0**	P	Pn	13 32 20.7	+0.1
	2.0nm,0.9s,baz=179,slow=12,SNR=13						
TXAR				LR	LR	13 39 18.6	
	comp=Z,161nm,19.3s,baz=0.0,slow=34						
PFO	**Pinyon Flats O**	**27.31**	**336**	LR	LR	13 42 37.6	
	comp=Z,315nm,20.2s,baz=160,slow=33						
ATAH	**Atahualpa**	**29.81**	**121**	LR	LR	13 43 19.7	
	comp=Z,247nm,20.6s,baz=292,slow=32						
NVAR	**Mina Array Bea**	**32.26**	**338**	P	**P**	**13 34 10.6**	**+0.8**
	0.2nm,0.6s,baz=167,slow=9.0,SNR=2.2						
NNA	**Nana**	**33.78**	**127**	LR	LR	13 44 57.0	
	comp=Z,153nm,19.8s,baz=306,slow=31						
PDAR	**Pinedale Array**	**34.19**	**352**	P	**P**	**13 34 28.3**	**+1.7**
	0.8nm,0.8s,baz=157,slow=8.0,SNR=4.8						
SJG	**San Juan**	**37.61**	**72**	LR	LR	13 50 02.0	
	comp=Z,123nm,19.4s,baz=270,slow=36						
LPAZ	**La Paz**	**43.16**	**125**	P	**P**	**13 35 43.1**	**+0.5**
	4.9nm,1.1s,baz=301,slow=5.9,SNR=9.0						
LP

ILAR LR LR 14 05 23.3
comp=Z,41nm,19.2s,baz=163,slow=36
NOA NORSAR Array B 93.98 26 LR LR 14 23 26.7
comp=Z,14nm,19.0s,baz=80,slow=36
CMAR Chiang Mai Arr 144.85 321 PKP **PKPdf 13 47 17.9 -0.7**
0.7nm,0.7s,baz=3.1,slow=2.4,SNR=5.9

IDC ***13*** *13:28:15.8±0.6,54°.53N×161°.16W,h0km,mb4.3/30, mb1 4.4/32,mb1mx4.2/54,mbtmp4.2/32,ML4.1/2,MS3.6/6, Ms1 3.7/6,ms1mx3.1/43,Error ellipse: s-maj=18.3km s-min=11.1km az=2.0*
MOS ***13*** *13:28:16.6±0.9,54°.61N×161°.08W,h14km,mb4.9/19, Error ellipse: s-maj=12.3km s-min=6.2km az=87.6*
ISCJB ***13*** *13:28:17.5±0.3,54°.46N±0°.04×160°.89W±0°.04,h22km, mb4.4/57,MS4.0/4,Error ellipse: s-maj=6.4km s-min=2.7km az=160.2*
BJI ***13*** *13:28:20.2,54°.80N×161°.59W,h32km,mB4.9/9,mb4.6/18, Ms4.7/4,Ms7 4.3/4*
NEIC ***13*** *13:28:21.7±0.3,54°.51N×161°.02W,h43km±3km,mb4.6/13, ML4.0(AEIC),Error ellipse: s-maj=6.0km s-min=2.3km az=157.0*

ISC 13 13:28:19.3±0.5,54°.48N±0°.07×160°.96W±0°.04,h22km, n191,σ1s19/199,mb4.5/57,MS3.9/4,7C-5D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DRIA	**Deer Island**	**0.90**	**303**	P	**Pb**		**13 28 36.5**	**+0.2**
SDPT	**Sand Point**	**0.92**	**17**	P	**Pn**		**13 28 37.6**	**+0.7**
SDPT				S	**Sn**		**13 28 50.3**	**+0.9**
DT1	**Dutton Round H**	**0.99**	**310**	P	**Pn**		**13 28 38.0**	**+0.1**
DTNA	**Dutton South F**	**1.01**	**312**	P	**Pn**		**13 28 38.5**	**+0.4**
FALS	**False Pass**	**1.48**	**286**	P	**Pn**		**13 28 45.1**	**+0.6**
FALS				S	**Sb**		**13 29 05.2**	**+0.8**
SSLN	**Shishaldin Nor**	**1.80**	**282**	P	**Pb**		**13 28 50.8**	**-0.7**
SSLW	**Shishaldin Wes**	**1.86**	**280**	P	**Pn**		**13 28 51.2**	**+1.2**
WESE	**West Dahl East**	**2.12**	**271**	P	**Pn**		**13 28 54.9**	**+1.4**
AKSA	**Akutan Strait**	**2.80**	**265**	P	**Pn**		**13 29 03.2**	**+0.4**
AKUT	**Akutan**	**2.84**	**265**	P	**Pn**		**13 29 03.8**	**+0.5**
AKUT				S	**Sn**		**13 29 39.0**	**+2.1**
AKV	**Akutan Volcano**	**2.96**	**265**	P	**Pn**		**13 29 05.5**	**+0.6**
ZRO	**Akutan Zero**	**2.97**	**265**	P	**Pn**		**13 29 06.3**	**+1.2**
LVA	**Lava Point**	**2.99**	**266**	P	**Pn**		**13 29 06.7**	**+1.3**
MSW	**Makushin Switc**	**3.47**	**263**	P	**Pn**		**13 29 11.9**	**0.0**
MREP	**Makushin Rep't**	**3.47**	**261**	P	**Pn**		**13 29 12.7**	**+0.6**
MCIR	**Makushin Cirqu**	**3.53**	**264**	P	**Pn**		**13 29 12.9**	**+0.1**
MSOM	**Makushin Julie**	**3.59**	**262**	P	**Pn**		**13 29 13.9**	**+0.4**
MSOM	**Makushin Julie**	**3.59**	**262**	P	**Pn**		**13 29 13.9**	**+0.4**
PLK4	**Peulik 4**	**4.08**	**37**	P	Pn		13 29 24.8	+4.4
OKFG	**Magazine Ridge**	**4.25**	**258**	P	**Pn**		**13 29 22.8**	**+0.2**
OKFG				S	**Sn**		**13 30 13.0**	**+1.5**
NIKH	**Nikolski High**	**4.93**	**255**	P	**Pn**		**13 29 31.8**	**-0.1**
KABR	**Katmai Barrier**	**4.95**	**40**	P	**Pn**		**13 29 34.0**	**+1.6**
KVTA	**Katmai Vly 10**	**5.02**	**36**	P	**Pn**		**13 29 35.4**	**+2.2**
KAKN	**Katmai Knife C**	**5.04**	**38**	P	**Pn**		**13 29 35.1**	**+1.6**
OHAK	**Old Harbor**	**5.12**	**54**	P	**Pn**		**13 29 34.8**	**+0.2**
KDAK	**Kodiak Island**	**5.73**	**51**	*i* P	**Pn**		**13 29 43.8**	**+0.8**
KDAK	**Kodiak Island**	**5.73**	**51**	P	**Pn**		**13 29 43.2**	**+0.2**
SPIA	**Saint Paul Isl**	**5.89**	**301**	P	**Pn**		**13 29 46.4**	**+1.3**
MCNL	**McNeil River**	**5.95**	**35**	P	**Pn**		**13 29 48.0**	**+2.0**
SVW2	**Sparrevohn**	**7.23**	**21**	P	**Pn**		**13 30 05.5**	**+1.9**
RSO	**Redoubt South**	**7.45**	**33**	*e*P	**Pn**		**13 30 07.4**	**+0.7**
	82nm,0.7s							
SLKM	**Skilak Lake**	**8.36**	**39**	P	**Pn**		**13 30 20.3**	**+1.3**
SLKM	**Skilak Lake**	**8.36**	**39**	P	**Pn**		**13 30 20.3**	**+1.3**
SEW	**Seward**	**8.40**	**43**	P	**Pn**		**13 30 20.9**	**+1.4**
TT01	**Tatalina**	**8.83**	**15**	P	**Pn**		**13 30 26.7**	**+1.2**
RC01	**Rabbit Creek A**	**8.92**	**38**	*e*Pn	**Pn**		**13 30 28.6**	**+1.9**
GSMY	**Great Sitkin M**	**9.37**	**261**	P	**Pn**		**13 30 34.1**	**+1.2**
PMR	**Palmer**	**9.48**	**36**	*e*P	**Pn**		**13 30 34.7**	**+0.3**
PMR	**Palmer**	**9.48**	**36**	*e*Pn	**Pn**		**13 30 34.6**	**+0.3**
PPLA	**Purkeypile**	**9.59**	**25**	*e*P	Pn		13 30 39.6	+3.7
	30nm,0.8s							
HIN	**Hinchinbrook I**	**9.78**	**47**	P	**Pn**		**13 30 39.1**	**+0.7**
ADK	**Adak**	**9.79**	**261**	*e*P	**Pn**		**13 30 38.9**	**+0.2**
ADK	**Adak**	**9.79**	**261**	*e*Pn	**Pn**		**13 30 38.9**	**+0.2**
KTH	**Kantishna Hill**	**10.45**	**25**	*e*Pn	**Pn**		**13 30 49.6**	**+1.9**
	13nm,0.9s							
DIV	**Divide**	**10.47**	**44**	*e*P	**Pn**		**13 30 48.4**	**+0.4**
TRF	**Thorofare Moun**	**10.53**	**27**	*e*P	**Pn**		**13 30 50.4**	**+1.5**
	21nm,0.9s							
BMRM	**Bremner River**	**10.88**	**47**	*e*Pn	**Pn**		**13 30 53.6**	**+0.1**
MCK	**McKinley**	**11.12**	**29**	*e*P	**Pn**		**13 30 56.8**	**-0.1**
MCK				pmax	pmax			
	comp=Z,16nm,1.0s							
MCK	**McKinley**	**11.12**	**29**	*e*P	**Pn**		**13 30 56.8**	**-0.1**
	comp=Z,16nm,1.0s							
TNA	**Tin City**	**11.64**	**346**	*e*P	**Pn**		**13 31 06.6**	**+2.8**
	comp=Z,8.1nm,0.6s							
COLA	**College**	**12.31**	**27**↑	*e*P	**Pn**		**13 31 13.1**	**0.0**
COLA	**College**	**12.31**	**27**	P	**Pn**		**13 31 12.6**	**-0.5**
	comp=Z,12nm,1.0s							
ILAR	**Eielson Array**	**12.50**	**29**	Pn	**Pn**		**13 31 12.9**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=220,slow=13,SNR=23							
ILAR				LR	LR		13 36 35.7	
	comp=Z,214nm,20.6s,baz=263,slow=40							
DOT	**Dot Lake**	**12.60**	**36**	*e*P	**Pn**		**13 31 17.1**	**0.0**
	comp=Z,4.5nm,0.6s							
COLD	**Coldfoot**	**13.79**	**18**	*e*P	**Pn**		**13 31 33.9**	**+0.7**
	comp=Z,5.9nm,0.7s							
HYT	**Haines Junctio**	**14.02**	**54**	*e*P	**Pn**		**13 31 39.5**	**+3.0**
EGAK	**Eagle**	**14.30**	**36**	*e*P	**Pn**		**13 31 39.2**	**-1.0**
	comp=Z,12nm,1.0s							
DLBC	**Dease Lake**	**17.45**	**64**	P	**P**		**13 32 22.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=250,slow=8.5,SNR=8.6							
DLBC				LR	LR		13 38 07.6	
	comp=Z,98nm,20.2s,baz=204,slow=34							
INK	**Inuvik**	**18.84**	**32**	P	**P**		**13 32 35.6**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=233,slow=14,SNR=17							
INK				LR	LR		13 40 45.7	
	comp=Z,296nm,19.1s,baz=244,slow=40							
BBB	**Bella Bella**	**19.65**	**83**	LR	LR		13 39 14.3	
	comp=Z,81nm,21.6s,baz=214,slow=33							
BILL	**Bilibino**	**20.45**	**324**↑	*e*P	**P**		**13 32 52.5**	**-2.4**
BILL				*e*PPP	PPP		13 33 17.2	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.4s							
BILL				MLR	MLR			
	comp=Z,341nm,18.0s							
BILL	**Bilibino**	**20.45**	**324**	*e*P	**P**		**13 32 54.8**	**-0.1**
	comp=Z,10nm,1.2s							
PETK	**Petropavlovsk-**	**24.21**	**284**	P	**P**		**13 33 33.0**	**-1.0**
	comp=Z,12nm,0.5s,baz=91,slow=12,SNR=18							
YKA	**Yellowknife Ar**	**25.01**	**53**	P	**P**		**13 33 42.2**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=271,slow=9.2,SNR=57							
YKA				PcP	**PcP**		**13 37 14.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=277,slow=2.3,SNR=5.0							
SEY	**Seymchan**	**25.13**	**308**	P	**P**		**13 33 40.5**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=94,slow=12,SNR=13							
SEY				PcP	**PcP**		**13 37 15.4**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=101,slow=2.9,SNR=4.7							
RES	**Resolute Bay**	**32.24**	**27**	P	**P**		**13 34 44.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=287,slow=7.4,SNR=9.2							
RES				PcP	**PcP**		**13 37 31.8**	**-1.3**
	comp=Z,2.0nm,1.0s,baz=347,slow=4.6,SNR=4.8							
NVAR	**Mina Array Bea**	**32.88**	**101**	P	**P**		**13 34 53.5**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=301,slow=8.7,SNR=8.9							
TIXI	**Tiksi**	**33.60**	**327**↑	*e*P	**P**		**13 34 56.7**	**-0.7**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.7s							
TCUT	**Toone Canyon**	**35.11**	**92**	*e*P	**P**		**13 35 10.2**	**-0.9**
PDAR	**Pinedale Array**	**35.16**	**88**	P	**P**		**13 35 12.5**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=289,slow=5.6,SNR=2.4							
YAK	**Yakutsk**	**35.60**	**311**	P	**P**		**13 35 13.0**	**-1.7**
YAK	**Yakutsk**	**35.60**	**311**	P	**P**		**13 35 13.0**	**-1.7**
	comp=Z,6.9nm,0.4s,baz=254,slow=2.1,SNR=6.0							
TMUT	**Trail Mountain**	**36.41**	**94**	*e*P	**P**		**13 35 23.6**	**+1.3**
	comp=Z,7.3nm,1.0s							
O20A	**White River Ci**	**37.59**	**90**	*e*P	**P**		**13 35 32.7**	**+0.5**
	comp=Z,9.0nm,0.6s							
ULM	**Lac du Bonnet**	**38.70**	**69**	P	**P**		**13 35 41.5**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=290,slow=5.8,SNR=7.1							
MVCO	**Mesa Verde**	**39.38**	**94**	*e*P	**P**		**13 35 48.0**	**+0.6**
	comp=Z,3.8nm,0.8s							
ANMO	**Albuquerque**	**42.14**	**95**↑	*e*P	P		13 36 14.2	+4.1
ANMO				pmax	pmax			
	comp=Z,13nm,2.5s							
H11N2	**WAKE ISLAND Hy**	**42.44**	**228**	T	T		14 21 13.7	
	baz=27,slow=76,SNR=86							
H11N3	**WAKE ISLAND Hy**	**42.45**	**228**	T	T		14 21 14.2	
	baz=27,slow=76,SNR=74							
H11N1	**WAKE ISLAND Hy**	**42.46**	**228**	T	T		14 21 20.4	
	baz=27,slow=76,SNR=85							
H11S1	**WAKE ISLAND Hy**	**43.61**	**227**	T	T		14 22 37.2	
	baz=26,slow=76,SNR=132							
H11S2	**WAKE ISLAND Hy**	**43.62**	**227**	T	T		14 22 40.0	
	baz=26,slow=76,SNR=63							
H11S3	**WAKE ISLAND Hy**	**43.62**	**227**	T	T		14 22 47.1	
	baz=26,slow=76,SNR=71							
MJAR	**Matsushiro Arr**	**44.73**	**272**	P	**P**		**13 36 29.9**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=38,slow=8.4,SNR=5.5							
SPITS	**Spitsbergen Ar**	**47.59**	**1**	P	**P**		**13 36 51.9**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=36,slow=4.4,SNR=13							
TXAR	**Lajitas Array**	**47.84**	**98**	P	**P**		**13 36 55.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=305,slow=4.5,SNR=6.0							
LPIG	**La Paz**	**48.09**	**108**	P	**P**		**13 36 57.6**	**+0.4**
	comp=Z,24nm,0.3s,baz=315,slow=8.5,SNR=3.9							
KSRS	**Korea Array**	**50.06**	**281**	P	**P**		**13 37 11.5**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=46,slow=7.2,SNR=8.2							
KSAR	**Wonju Array Be**	**50.09**	**281**	P	**P**		**13 37 11.5**	**-0.8**
KSAR	**Wonju Array Be**	**50.09**	**281**	P	**P**		**13 37 11.5**	**-0.8**
SCHQ	**Schefferville**	**50.35**	**49**	P	**P**		**13 37 15.2**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=319,slow=9.3,SNR=2.8							
WVT	**Waverly**	**52.13**	**79**	*e*P	**P**		**13 37 27.2**	**-0.5**
WVT				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WVT	**Waverly**	**52.13**	**79**	*e*P	**P**		**13 37 27.1**	**-0.5**
	comp=Z,5.7nm,0.6s							
ULN	**Ulaanbaatar**	**54.08**	**304**↓	*e*P	**P**		**13 37 41.5**	**-0.6**
ULN				pmax	pmax			
	comp=Z,4.0nm,2.5s							
SONM	**Songino Array**	**54.42**	**304**	P	**P**		**13 37 44.3**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=51,slow=6.6,SNR=18							
SONM				PcP	**PcP**		**13 38 47.7**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=58,slow=1.7,SNR=6.6							
KEV	**Kevo**	**55.94**	**357**	*e*P	**P**		**13 37 54.3**	**-0.7**
KEV				pmax	pmax			
	comp=Z,3.0nm,0.4s							
KEV	**Kevo**	**55.94**	**357**	*e*p	**P**		**13 37 54.3**	**-0.7**
	comp=Z,2.6nm,0.4s							
ARCES	**ARCESS Array B**	**56.20**	**357**	P	**P**		**13 37 55.8**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=9.7,slow=8.6,SNR=10							
HHC	**Hu-ho-hao-te**	**56.73**	**295**	*e*P	**P**		**13 38 02.3**	**+1.1**
HHC				sP	sP		13 38 18.9	+8.1
HHC				PP	**PP**		**13 40 09.9**	**+2.8**
HHC				PcS	**PcS**		**13 42 58.9**	**+1.1**
HHC				S	**S**		**13 45 50.3**	**-2.3**
HHC				ScS	**ScS**		**13 47 45.0**	**-4.0**
HHC				PMZ				
	comp=Z,20nm,1.4s							
HHC				PMZ				
	comp=Z,190nm,8.6s							
HHC				LN				
	comp=Z,140nm,14.8s							
HHC				LE				
	comp=Z,170nm,14.8s							
HHC				LZ				
	comp=Z,140nm,16.0s							
ZALV	**Zalesovo Beam**	**59.11**	**321**	P	**P**		**13 38 17.0**	**-0.5**
ZALV	**Zalesovo Beam**	**59.11**	**321**	P	**P**		**13 38 16.9**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=19,slow=5.2,SNR=13							
NJ2	**Nanjing**	**59.12**	**283**	*e*P	**P**		**13 38 17.1**	**-0.8**
PRGR	**Permogore**	**62.34**	**346**	*e*P	**P**		**13 38 38.0**	**-1.4**
PRGR				pmax	pmax			
	comp=Z,10.0nm,0.3s							
JOF	**Joensuu**	**62.55**	**354**	*e*P	**P**		**13 38 40.1**	**-0.7**
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**62.55**	**354**	*e*p	**P**		**13 38 40.1**	**-0.7**
	comp=Z,0.7nm,0.4s							
KAF	**Kangasniemi**	**63.61**	**356**	*e*P	**P**		**13 38 47.2**	**-0.6**
KAF				pmax	pmax			
	comp=Z,6.0nm,0.4s							
KAF	**Kangasniemi**	**63.61**	**356**	*e*p	**P**		**13 38 47.2**	**-0.6**
	comp=Z,5.5nm,0.4s							
KURK	**Kurchatov**	**63.96**	**322**	*e*P	**P**		**13 38 49.3**	**-1.0**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KURK	**Kurchatov**	**63.96**	**322**	*e*P	**P**		**13 38 49.3**	**-1.0**
	comp=Z,2.8nm,0.6s							
FINES	**FINESS Array B**	**64.29**	**356**	P	**P**		**13 38 51.6**	**-0.6**
	comp=Z,4.8nm,0.5s,baz=12,slow=6.9,SNR=41							
LZH	**Lanzhou**	**64.32**	**296**	*e*P	**P**		**13 38 53.0**	**-0.1**
LZH				pP	**pP**		**13 39 03.1**	**+2.9**
LZH				sP	**sP**		**13 39 06.9**	**+4.1**
LZH				PMZ				
	comp=Z,16nm,1.0s							
NB2	**NORSAR Subarra**	**64.66**	**4**	P	**P**		**13 38 54.5**	**-0.3**
	comp=Z,7.8nm,0.7s,baz=356,slow=6.5							
NOA	**NORSAR Array B**	**64.66**	**4**	P	**P**		**13 38 54.8**	**0.0**
	comp=Z,8.0nm,0.8s,baz=356,slow=6.6,SNR=25							
ARU	**Arti**	**64.84**	**337**	*c i*P	**P**		**13 38 54.8**	**-1.2**
ARU				S	**S**		**13 47 35.0**	**-0.4**
ARU				pmax	pmax			
	comp=Z,8.0nm,1.2s							
HFS	**Hagfors**	**65.66**	**3**	P	**P**		**13 39 00.9**	**-0.4**
	comp=Z,13nm,0.6s,baz=44,slow=4.5,SNR=45							
MKAR	**Makanchi Array**	**65.83**	**318**	P	**P**		**13 39 01.5**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=42,slow=6.2,SNR=21							
WMQ	**Urumqi**	**66.01**	**312**	*e*P	**P**		**13 39 05.9**	**+2.0**
WMQ				pP	pP		13 39 16.5	+5.5
WMQ				sP	sP		13 39 20.0	+6.4
WMQ				PMZ				
	comp=Z,5.0nm,0.6s							
WMQ				PMZ				
	comp=Z,90nm,4.1s							
VSU	**Vasula**	**67.24**	**356**↓	*i*P	**P**		**13 39 11.2**	**-0.1**
VSU				pmax	pmax			
	comp=Z,31nm,1.0s							
CD2	**Chengdu**	**68.36**	**293**	*e*P	**P**		**13 39 19.3**	**+0.4**
CD2				pP	**pP**		**13 39 30.5**	**+4.5**
CD2				sP	sP		13 39 34.8	+6.2
CD2				PP	**PP**		**13 41 51.9**	**+2.5**
CD2				PcS			13 43 48.8	
CD2				S	**S**		**13 48 15.3**	**-3.4**
CD2				sS	**sS**		**13 48 33.9**	**+3.5**
CD2				SS	**SS**		**13 52 39.6**	**-2.0**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.6s							
EKA	**Eskdalemuir Ar**	**69.04**	**13**	P	**P**		**13 39 23.1**	**+0.4**
	comp=Z,4.5nm,0.7s,baz=340,slow=4.8,SNR=13							
OBN	**Obninsk**	**69.82**	**349**↓	*e*P	**P**		**13 39 26.7**	**-0.8**
OBN				*i*			13 39 51.1	
OBN				*i*			13 41 58.1	
OBN				*i* PPP	PPP		13 43 40.6	
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,56nm,18.0s							
ABKAR	**Akbulak array**	**71.07**	**333**	*e*P	**P**		**13 39 35.1**	**-0.1**
	comp=Z,4.3nm,0.7s							
TKM2	**Tokmak 2**	**71.66**	**320**	P	**P**		**13 39 39.7**	**+0.5**
	SNR=6.6							
TKM2	**Tokmak 2**	**71.66**	**320**	*e*P	**P**		**13 39 39.0**	**-0.2**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.8s							
TKM2	**Tokmak 2**	**71.66**	**320**	*e*P	**P**		**13 39 39.0**	**-0.2**
	comp=Z,5.0nm,0.8s							
USP	**Ospenovka**	**71.77**	**321**	P	**P**		**13 39 39.6**	**-0.1**
	SNR=5.3							
USP	**Ospenovka**	**71.77**	**321**	*i* P	**P**		**13 39 39.5**	**-0.1**
CHMS	**Chumysh**	**71.91**	**320**	P	**P**		**13 39 41.0**	**+0.5**
	SNR=5.7							
CHMS	**Chumysh**	**71.91**	**320**	*i* P	**P**		**13 39 41.0**	**+0.5**
KBK	**Karagaybulak**	**72.13**	**320**	P	**P**		**13 39 42.2**	**+0.3**
	SNR=5.8							
KBK	**Karagaybulak**	**72.13**	**320**	*i* P	**P**		**13 39 42.3**	**+0.3**
AAK	**Ala-Archa**	**72.32**	**320**	P	**P**		**13 39 43.5**	**+0.4**
	SNR=7.6							
AAK	**Ala-Archa**	**72.32**	**320**	*de*P	**P**		**13 39 43.2**	**+0.1**
AAK				pmax	pmax			
	comp=Z,18nm,0.8s							
AAK	**Ala-Archa**	**72.32**	**320**	LR	LR		14 14 35.2	
	comp=Z,81nm,19.1s,baz=340,slow=38							
AAK	**Ala-Archa**	**72.32**	**320**	*e*P	**P**		**13 39 42.9**	**-0.2**
	comp=Z,7.7nm,0.8s							
KZA	**Kyzart**	**72.51**	**320**	P	**P**		**13 39 45.2**	**+0.6**
	SNR=5.8							
KZA	**Kyzart**	**72.51**	**320**	*i* P	**P**		**13 39 45.1**	**+0.6**
EKS2	**Erkin-Say**	**72.56**	**321**	P	**P**		**13 39 44.5**	**0.0**
	SNR=7.9							
EKS2	**Erkin-Say**	**72.56**	**321**	*e*P	**P**		**13 39 44.5**	**0.0**
EKS2				pmax	pmax			
	comp=Z,7.0nm,0.9s							
EKS2	**Erkin-Say**	**72.56**	**321**	*e*P	**P**		**13 39 44.5**	**0.0**
	comp=Z,6.7nm,0.9s							
AML	**Almayashu**	**73.05**	**321**	P	**P**		**13 39 48.2**	**+0.5**
	SNR=8.1							
AML	**Almayashu**	**73.05**	**321**	*i* P	**P**		**13 39 48.2**	**+0.5**
KKAR	**Karatay Array**	**73.34**	**323**	*e*P	**P**		**13 39 48.4**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KKAR	**Karatay Array**	**73.34**	**323**	*e*P	**P**		**13 39 48.4**	**-0.6**
	comp=Z,5.7nm,0.8s							
KMI	**Kunming**	**73.45**	**290**	P	P		13 39 46.0	-4.2
KMI				PMZ				
	comp=Z,16nm,0.5s							
KSH	**Kashi**	**74.44**	**318**	P	P		13 39 59.0	+3.4
KSH				sP	sP		13 40 13.3	+7.9
KSH				PP	PP		13 42 47.5	+6.2
KSH				S	**S**		**13 49 30.9**	**+1.9**
KSH				sS	sS		13 49 48.3	+7.6
KSH				ScS	**SKKSac**		**13 50 04.1**	**+1.6**
KSH				PMZ				
	comp=Z,9.0nm,0.5s							
KSH				PMZ				
	comp=Z,88nm,5.8s							
KSH				LN				
	comp=Z,87nm,5.2s							
KSH				LE				
	comp=Z,83nm,5.5s							
KSH				LZ				
	comp=Z,140nm,7.2s							
CLL	**Collm**	**74.46**	**4**	*e*P	**P**		**13 39 55.0**	**-0.4**
CLL				*i*			13 39 59.0	
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**74.46**	**4**	*e*P	**P**		**13 39 55.0**	**-0.4**
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**74.84**	**353**	*ce*P	**P**		**13 39 56.5**	**-1.0**
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.4s							
AKASG	**Malin Array Be**	**74.84**	**353**	P	**P**		**13 39 56.5**	**-1.0**
	comp=Z,6.8nm,0.4s,baz=8.6,slow=5.7,SNR=36							
KIEV	**Kiev**	**74.85**	**353**	*e*P	**P**		**13 39 56.6**	**-1.0**
KIEV				pmax	pmax			
	comp=Z,16nm,0.9s							
KIEV	**Kiev**	**74.85**	**353**	*e*P	**P**		**13 39 56.6**	**-1.0**
	comp=Z,16nm,0.9s							
PVCC	**Panska Ves**	**75.30**	**3**	*e*P	**P**		**13 40 00.4**	**+0.2**
PVCC	**Panska Ves**	**75.30**	**3**	*e*P	**P**		**13 40 00.4**	**+0.2**
DPC	**Dobruska-Polom**	**75.52**	**2**	*e*P	**P**		**13 40 01.7**	**+0.2**
DPC	**Dobruska-Polom**	**75.52**	**2**	*e*P	**P**		**13 40 01.7**	**+0.2**
LSA	**Lhasa**	**75.86**	**301**	*e*P	**P**		**13 40 04.9**	**+0.5**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
LSA	**Lhasa**	**75.86**	**301**	*e*P	**P**		**13 40 04.9**	**+0.5**
	comp=Z,6.1nm,0.6s							
STHS	**Stebnicka Huta**	**76.46**	**359**	*e*P	**P**		**13 40 07.8**	**+0.9**
STHS				pmax	pmax			
	comp=Z,7.0nm,0.6s							
STHS	**Stebnicka Huta**	**76.46**	**359**	*e*P	**P**		**13 40 07.8**	**+0.9**
KHC	**Kasperske Hory**	**76.66**	**4**	*e*P	**P**		**13 40 08.1**	**0.0**
KHC				*e*			13 40 13.0	
KHC	**Kasperske Hory**	**76.66**	**4**	*e*P	**P**		**13 40 08.1**	**0.0**
KHC				*ex*	x		13 40 13.0	
KOLS	**Kolonicke sedl**	**76.92**	**358**	*e*P	**P**		**13 40 10.5**	**+1.0**
KOLS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KOLS	**Kolonicke sedl**	**76.92**	**358**	*e*P	**P**		**13 40 10.5**	**+1.0**
GERES	**GERESS Array B**	**76.95**	**4**	P	**P**		**13 40 09.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=344,slow=4.3,SNR=8.9							
VYHS	**Vyhne**	**77.40**	**0**	*e*P	**P**		**13 40 12.5**	**+0.3**
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.2s							
VYHS	**Vyhne**	**77.40**	**0**	*e*P	**P**		**13 40 12.5**	**+0.3**
TAPN	**Taplejung**	**79.50**	**303**	*e*P	**P**		**13 40 24.0**	**-0.5**
	comp=Z,16nm,0.6s							
KIV	**Kislovodsk**	**79.89**	**343**	*e*P	**P**		**13 40 26.1**	**0.0**
KIV				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GUN	**Gumba**	**

DDI				AML	AML	14 09 39.8		
	comp=E,473nm,0.4s							
DDI				AML	AML	14 09 40.0		
	comp=N,755nm,1.3s							
GKN	**Gorkha**	**3.15**	**116**	*e*Pn	**Pn**	**14 09 01.8**	**+1.5**	
GKN				*e*Sn	**Sn**	**14 09 37.5**	**+0.9**	
	comp=N,379nm,0.3s							
KKN	**Kakani**	**3.75**	**115**	*e*Pn	**Pn**	**14 09 10.0**	**+1.4**	
KKN				*e*Sn	**Sn**	**14 09 52.1**	**+0.5**	
	comp=N,246nm,0.2s							
NDI	**New Delhi**	**3.78**	**260**	*e*P	Pn	14 09 20.0	+11	
NDI				*ex*	x	14 10 12.0		
PKIN	**Phulchoki**	**3.94**	**117**	*e*Pn	**Pn**	**14 09 12.2**	**+0.9**	
PKIN				*e*Sn	**Sn**	**14 09 56.9**	**+0.5**	
	comp=N,202nm,0.3s							
PKI	**Pulchoki**	**3.95**	**117**	*e*Pn	**Pn**	**14 09 12.3**	**+0.8**	
PKI				*e*Sn	**Sn**	**14 09 56.6**	**-0.2**	
	comp=N,178nm,0.3s							
SMLA	**Simla**	**4.07**	**296**	*i* P	**Pn**	**14 09 14.5**	**+1.8**	
SMLA				*e*S	**Sn**	**14 09 57.1**	**-2.0**	
SMLA				AML	AML	14 10 24.7		
	comp=N,202nm,0.5s							
SMLA				AML	AML	14 10 26.8		
	comp=E,201nm,0.2s							
GUN	**Gumba**	**4.18**	**110**	*e*Pn	**Pn**	**14 09 16.5**	**+1.8**	
GUN				*e*Sn	**Sn**	**14 10 02.0**	**-0.5**	
	comp=E,266nm,0.3s							
SDNR	**Sundarnagar**	**4.38**	**299**	*e*P	Pn	14 09 26.0	+8.9	
SDNR				*e*S	**Sn**	**14 10 11.0**	**+4.2**	
JIRN	**Jiri**	**4.53**	**112**	*e*Pn	**Pn**	**14 09 21.3**	**+1.8**	
JIRN				*e*Sn	**Sn**	**14 10 11.1**	**-0.1**	
	comp=E,182nm,0.2s							
JHNI	**Jhansi**	**4.72**	**214**	*e*P	Pn	14 09 19.0	-2.8	
JHNI				*e*S	Sn	14 10 11.0	-4.3	
RAMN	**Ramite**	**5.18**	**117**	*e*Pn	**Pn**	**14 09 29.2**	**+0.9**	
RAMN				*e*Sn	**Sn**	**14 10 26.6**	**-0.3**	
	comp=E,448nm,0.2s							
DHRM	**DHARAMSHALA**	**5.24**	**304**	*e*P	**Pn**	**14 09 30.1**	**+1.0**	
DHRM				*e*S	**Sn**	**14 10 23.2**	**-5.1**	
DHRM				AML	AML	14 10 30.8		
	comp=E,116nm,0.4s							
DHRM				AML	AML	14 10 31.9		
	comp=N,125nm,0.6s							
ODAN	**Odare**	**5.84**	**115**	*e*Pn	**Pn**	**14 09 38.4**	**+1.0**	
TAPN	**Taplejung**	**5.90**	**109**	*e*Pn	**Pn**	**14 09 39.3**	**+1.1**	
CHCP	**Chirah Chowk**	**8.15**	**303**	P	**Pn**	**14 10 10.5**	**+1.6**	
CEP	**Cherat**	**9.23**	**301**	P	**Pn**	**14 10 23.9**	**+0.1**	
CEP				S	**Sn**	**14 12 03.0**	**-3.4**	
AAK	**Ala-Archa**	**14.31**	**339**	P	**Pn**	**14 11 33.0**	**-0.2**	
	comp=N,0.4nm,0.3s,baz=129,slow=7.0,SNR=6.2							
AAK				S	**Sn**	**14 14 10.4**	**-0.3**	
	comp=N,0.1nm,0.3s,baz=348,slow=20,SNR=2.9							
MKAR	**Makanchi Array**	**17.34**	**2**	P	**Pn**	**14 12 10.8**	**-1.4**	
	comp=N,0.4nm,0.3s,baz=177,slow=11,SNR=20							
CMAR	**Chiang Mai Arr**	**19.34**	**121**	P	**P**	**14 12 35.6**	**+0.3**	
	comp=N,0.1nm,0.3s,baz=309,slow=10,SNR=3.6							
KURBB	**Kurchatov Arra**	**21.28**	**355**	P	**P**	**14 12 56.2**	**+0.2**	
	comp=N,1.1nm,0.7s,baz=179,slow=10.0,SNR=14							
ZALV	**Zalesovo Beam**	**24.62**	**5**	P	**P**	**14 13 30.5**	**+0.8**	
	comp=N,1.2nm,0.6s,baz=198,slow=9.9,SNR=8.4							
BVAR	**Borovoye Array**	**24.93**	**344**	P	**P**	**14 13 32.8**	**+0.3**	
	comp=N,0.3nm,0.4s,baz=150,slow=9.9,SNR=3.8							
SONM	**Songino Array**	**26.60**	**39**	P	**P**	**14 13 49.6**	**+1.8**	
	comp=N,0.6nm,0.6s,baz=230,slow=10.0,SNR=4.8							
AKTO	**Aktyubinsk**	**27.41**	**326**	P	**P**	**14 13 55.6**	**+0.7**	
	comp=N,0.7nm,0.5s,baz=316,slow=3.8,SNR=3.5							
TLY	**Talaya**	**27.69**	**30**	P	**P**	**14 13 58.1**	**+0.6**	
	comp=N,1.6nm,0.3s,baz=46,slow=7.8,SNR=3.0							
KSRS	**Korea Array**	**39.27**	**66**	P	**P**	**14 15 38.8**	**+0.7**	
	comp=N,1.3nm,0.8s,baz=273,slow=8.6,SNR=2.9							
TGY	**Tagaytay City**	**39.51**	**104**	LR	LR	14 33 41.2		
	comp=N,18nm,20.1s,baz=124,slow=39							
BRTR	**Keskin Array B**	**40.26**	**298**	P	**P**	**14 15 47.1**	**+0.6**	
	comp=N,0.4nm,0.5s,baz=87,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**48.16**	**328**	P	**P**	**14 16 48.7**	**-0.5**	
	comp=N,0.3nm,0.3s,baz=123,slow=9.4,SNR=4.3							
ARCES	**ARCESS Array B**	**50.98**	**338**	P	**P**	**14 17 11.4**	**+0.8**	
	comp=N,3.0nm,0.8s,baz=95,slow=7.7,SNR=3.7							
NOA	**NORSAR Array B**	**55.20**	**326**	P	**P**	**14 17 42.4**	**+0.6**	
	comp=N,0.8nm,0.9s,baz=119,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**70.77**	**127**	P	**P**	**14 19 24.3**	**-1.4**	
	comp=N,0.4nm,0.5s,baz=322,slow=6.0,SNR=9.4							
ASAR	**Alice Springs**	**73.01**	**131**	P	**P**	**14 19 38.0**	**-1.1**	
	comp=N,0.3nm,0.6s,baz=315,slow=6.1,SNR=7.7							
TORD	**Torodi Ar. Bea**	**74.83**	**277**	P	**P**	**14 19 49.9**	**-0.1**	
	comp=N,0.4nm,0.7s,baz=70,slow=3.8,SNR=3.3							
ILAR	**Eielson Array**	**78.86**	**19**	P	**P**	**14 20 11.9**	**0.0**	
	comp=N,0.4nm,0.9s,baz=265,slow=3.6,SNR=4.6							
YKA	**Yellowknife Ar**	**87.49**	**7**	P	**P**	**14 20 56.4**	**0.0**	
	comp=N,0.2nm,0.5s,baz=340,slow=5.1,SNR=7.4							
TXAR	**Lajitas Array**	**121.36**	**5**	PKP	**PKPdf**	**14 27 01.9**	**-0.8**	
	comp=N,0.9nm,1.1s,baz=111,slow=2.0,SNR=3.1							

DHMR 13 14:19:39.9±0.7, 11°.90N×43°.75E, h8km±174km, ML3.7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.06**	**6**	*i* P	Pn	14 20 16.1	+0.9
UDYN				*i* S	Sb	14 20 44.8	+0.9
UDYN				AML	AML	14 20 48.9	
	comp=E,743nm,0.5s						
BDHA	**Al Bayda'**	**2.72**	**40**	*i* P	Pb	14 20 27.0	-2.2
BDHA				*i* S	Sb	14 21 03.4	+0.4
BDHA				AML	AML	14 21 10.1	
	comp=N,391nm,0.5s						
DHBB	**Dhamar BB**	**2.73**	**13**	*i* P	Pb	14 20 27.3	-2.1
DHBB				*i* S	Sb	14 21 04.1	+0.8

IDC ***13*** *14:19:50.2±2.2, 10°.22S×123°.49E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/27, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=213.6km s-min=32.4km az=53.0*
ISCJB ***13*** *14:19:57.3±0.5, 10°.51S±0°.03×123°.86E±0°.04, h27km, mb3.5/1, Error ellipse: s-maj=6.1km s-min=4.1km az=140.6*
AUST ***13*** *14:19:60.0±0.0, 10°.15S×123°.99E, h77km, Error ellipse: s-maj=2.5km s-min=0.9km az=35.0*
DJA ***13*** *14:20:01.0±0.3, 10°S±3°×12°4E±°, h10km, M4.2/9, mb4.6/2, MLv4.1/9, MLv4.1/9*

ISC 13 14:19:58.4±0.8, 10°.40S±0°.05×123°.89E±0°.05, h27km, n18, σ2s15/24, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.29**	**311**	P	**Pb**	**14 20 06.4**	**+0.9**
BATI				S	**Sn**	**14 20 11.8**	**-0.6**
SOEI	**Soe**	**0.74**	**31**	P	**Pb**	**14 20 12.7**	**-0.1**
SOEI				S	**Sn**	**14 20 25.3**	**+1.6**
SOEI	**Soe**	**0.74**	**31**	P	**Pb**	**14 20 12.4**	**-0.4**
	baz=0.8,SNR=573						
SOEI				S	**Sn**	**14 20 24.8**	**+1.2**
	baz=0.8,SNR=7.2						
EDFI	**Ende, Flores**	**2.71**	**307**	P	**Pn**	**14 20 38.2**	**-2.2**
BASI	**Baing, Sumba**	**3.26**	**273**	P	**Pn**	**14 20 48.6**	**+0.8**
WSI	**Waingapu**	**3.61**	**281**	P	**Pn**	**14 20 52.3**	**-0.3**
WBSI	**Waikabubak, Su**	**4.49**	**279**	P	**Pn**	**14 21 03.8**	**-1.0**
BKSI	**Bulukumba**	**6.27**	**323**	P	Pn	14 21 25.4	-3.8
	25nm,0.7s,0.1nm0.1nm						
KNRA	**Kununurra**	**7.08**	**138**	P	**Pn**	**14 21 42.6**	**+2.3**
	baz=6.9,SNR=90						
KNRA				S	**Sn**	**14 23 01.5**	**+1.5**
	baz=6.9,SNR=16						
MTN	**Manton Dam**	**7.50**	**110**	P	**Pn**	**14 21 47.4**	**+1.3**
	baz=7.4,SNR=34						
MTN				S	**Sn**	**14 23 12.0**	**+1.6**
	baz=7.4,SNR=6.7						
KDU	**Kakadu**	**8.72**	**106**	P	**Pn**	**14 22 05.0**	**+2.2**
	baz=8.6,SNR=34						
WRA	**Warramunga Arr**	**13.85**	**134**	Pn	**Pn**	**14 23 12.5**	**-0.5**
	0.6nm,0.3s,baz=309,slow=14,SNR=34						
WRA				Sn	Sn	14 25 40.8	-5.2
	1.6nm,0.3s,baz=300,slow=23,SNR=13						
WRKA	**Warakurna**	**15.15**	**165**	P	**Pn**	**14 23 30.9**	**+0.1**
	baz=15,SNR=14						
WRKA				S	**Sn**	**14 26 16.7**	**-1.2**
	baz=15,SNR=4.0						
CISI	**Cisompet, Garu**	**16.12**	**279**	P	**Pn**	**14 23 42.8**	**-0.6**
	baz=16,SNR=3.4						
ASAR	**Alice Springs**	**16.29**	**145**	Pn	**Pn**	**14 23 46.0**	**+0.5**
	0.5nm,0.3s,baz=319,slow=12,SNR=47						
ASAR				Sn	**Sn**	**14 26 40.6**	**-5.0**
	0.8nm,0.3s,baz=320,slow=23,SNR=17						
MEEK	**Meekatharra**	**16.91**	**196**	P	**P**	**14 23 58.5**	**+3.4**
	baz=17,SNR=3.8						
MEEK				S	**Sn**	**14 26 58.1**	**-2.4**
	baz=17,SNR=3.7						
QIS	**Mount Isa**	**18.19**	**126**	S	**Sn**	**14 27 26.8**	**-4.9**
	baz=18,SNR=3.3						
MKAR	**Makanchi Array**	**67.96**	**331**	P	P	14 30 48.9	-6.1
	0.2nm,0.4s,baz=128,slow=6.4,SNR=6.9						

NIED ***13*** *14:24:00, 24°.00N×123°.60E, h38km, Mw4.3 Best double couple: M○3.58000×10^15 NP1:♧s268.00000°, ♧19.00000°, λ130.00000°. NP2:♧s47.00000°, ♧76.00000°, λ78.00000°.*
IDC ***13*** *14:24:54.4±0.7, 24°.11N×123°.60E, h0km, mb4.0/21, mb1 4.2/21, mb1mx4.1/37, mbtmp4.0/21, MS3.5/1, Ms1 3.5/1, ms1mx2.6/49, Error ellipse: s-maj=24.6km s-min=16.5km az=63.0*
ISCJB ***13*** *14:24:59.0±0.4, 23°.98N±0°.05×123°.55E±0°.03, h44km±3km, mb4.0/25, MS3.4/1, Error ellipse: s-maj=8.1km s-min=3.9km az=168.0*
JMA ***13*** *14:24:59.3±0.1, 23°.96N×123°.59E, h32km±1km, M4.3*
JMA Felt I J1.
NEIC ***13*** *14:24:59.2±2.2, 24°.02N×123°.60E, h34km±15km, mb4.2/5, Error ellipse: s-maj=9.1km s-min=6.6km az=87.0*
NEIC Recorded [1 JMA] on Iriomote-jima.

ISC 13 14:24:59.0±1.1, 23°.96N±0°.06×123°.59E±0°.03, h32km±6km, n60, σ0s96/74, mb4.1/25, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.22**	**62**	P	**Pb**	**14 25 05.7**	**0.0**
HATJ				*e*S	**Sn**	**14 25 10.5**	**+0.1**
IRIF	**Iriomote-Funau**	**0.40**	**18**	P	**Pb**	**14 25 07.9**	**-0.1**
IRIF				*e*S	**Sb**	**14 25 14.2**	**0.0**
JKRS	**Kuro-shima**	**0.47**	**53**	P	**Pn**	**14 25 09.4**	**-0.1**
JKRS				*e*S	**Sn**	**14 25 16.7**	**0.0**
JIJ	**Ishigaki jima**	**0.65**	**51**	P	**Pn**	**14 25 11.8**	**-0.1**
JIJ				*e*S	**Sb**	**14 25 20.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.73**	**314**	P	**Pb**	**14 25 13.2**	**-0.1**
YOJ				*e*S	**Sn**	**14 25 23.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.73**	**314**	*e*Pg	**Pb**	**14 25 13.2**	**-0.1**
YOJ				*e*Sg	**Sn**	**14 25 24.2**	**+1.1**
JYNG	**Yonagunijimaku**	**0.77**	**310**	P	**Pb**	**14 25 13.7**	**-0.3**
JYNG				*e*S	**Sb**	**14 25 24.0**	**-0.2**
JISG	**Ishigakijimahi**	**0.91**	**46**	P	**Pn**	**14 25 15.6**	**+0.1**
JISG				*e*S	**Sb**	**14 25 28.4**	**+0.3**
JTJ	**Tarama**	**1.22**	**56**	P	**Pb**	**14 25 21.2**	**-0.3**
JTJ				*e*S	**Sb**	**14 25 36.6**	**-0.3**
JIRB	**Irabujima**	**1.68**	**59**	P	**Pb**	**14 25 28.1**	**-1.2**
JIRB				*e*S	**Sn**	**14 25 47.9**	**+1.3**
JMJ	**Miyako jima 2**	**1.77**	**61**	P	**Pb**	**14 25 30.1**	**-0.7**
JMJ				*e*S	**Sn**	**14 25 50.4**	**+1.7**
JIKM	**Ikemajima**	**1.79**	**57**	P	**Pb**	**14 25 29.6**	**-1.5**
JIKM				*e*S	**Sb**	**14 25 51.8**	**-1.4**
JOGS	**Gusukube**	**1.84**	**64**	P	**Pb**	**14 25 31.1**	**-0.8**
JOGS				*e*S	**Sb**	**14 25 54.8**	**+0.2**
NACB	**Ninganchiao**	**1.84**	**277**	*e*Pn	**Pn**	**14 25 28.2**	**-0.1**
YHNB	**Yeheng**	**2.15**	**290**	*e*Pn	**Pn**	**14 25 33.5**	**+1.0**
TATO	**Taipei**	**2.17**	**298**	*e*Pn	**Pn**	**14 25 33.0**	**+0.2**
YULB	**Yu-li**	**2.18**	**256**	*e*Pn	**Pn**	**14 25 32.2**	**-0.7**
SSLB	**Suanglung**	**2.42**	**267**	*e*Pn	**Pn**	**14 25 35.9**	**-0.4**
TWG	**Pinlang**	**2.52**	**245**	*e*Pn	**Pn**	**14 25 37.8**	**-0.6**
TPUB	**Ta-pu**	**2.79**	**257**	*e*Pn	**Pn**	**14 25 42.7**	**+1.3**
JKE	**Kume jima 2**	**3.73**	**50**	P	**Pn**	**14 25 56.0**	**+1.7**
JKE				*e*S	**Sn**	**14 26 40.9**	**+3.7**
KSAR	**Wonju Array Be**	**13.94**	**14**	Pn	**Pn**	**14 28 13.8**	**-0.3**
KSRS	**Korea Array**	**13.96**	**14**	Pn	**Pn**	**14 28 13.8**	**-0.6**
	0.1nm,0.3s,baz=198,slow=12,SNR=3.0						
CMAR	**Chiang Mai Arr**	**23.61**	**261**	P	**P**	**14 30 08.6**	**+1.4**
	0.4nm,0.5s,baz=68,slow=9.8,SNR=4.1						
SONM	**Songino Array**	**27.48**	**334**	P	**P**	**14 30 40.8**	**-1.4**
	1.1nm,0.8s,baz=150,slow=9.1,SNR=4.4						
LSA	**Lhasa**	**29.45**	**288**	*e*P	**P**	**14 31 01.9**	**+1.5**
	3.5nm,0.7s						
TLY	**Talaya**	**31.64**	**336**	P	**P**	**14 31 18.5**	**-0.5**
	2.3nm,0.6s,baz=86,slow=18,SNR=5.2						
TLY				LR	LR	14 44 34.7	
	comp=Z,89nm,19.7s,baz=129,slow=38						
TAPN	**Taplejung**	**32.45**	**284**	*e*P	**P**	**14 31 28.1**	**+1.3**
JIRN	**Jiri**	**33.79**	**284**	*e*P	**P**	**14 31 40.4**	**+1.9**
GUN	**Gumba**	**34.06**	**285**	*e*P	**P**	**14 31 41.9**	**+1.1**
GKN	**Gorkha**	**35.15**	**285**	*e*P	**P**	**14 31 50.5**	**+0.5**
DANN	**Dangsing**	**35.91**	**286**	*e*P	**P**	**14 31 57.5**	**+0.8**
	6.8nm,0.6s						
KOLN	**Koldanda**	**36.08**	**285**	*e*P	**P**	**14 31 59.4**	**+1.3**
	6.6nm,0.6s						
PYUN	**Piuthan**	**36.60**	**285**	*e*P	**P**	**14 32 02.7**	**+0.2**
	16nm,0.5s						
MK31	**Makanchi Array**	**40.04**	**315**	*e*P	**P**	**14 32 30.5**	**-0.5**
MKAR	**Makanchi Array**	**40.04**	**315**	P	**P**	**14 32 30.8**	**-0.3**
	2.1nm,0.6s,baz=101,slow=10,SNR=24						
ZALV	**Zalesovo Beam**	**41.65**	**326**	P	**P**	**14 32 42.4**	**-1.7**
	2.4nm,0.5s,baz=114,slow=8.9,SNR=14						
TKM2	**Tokmak 2**	**43.64**	**308**	*e*P	**P**	**14 33 00.8**	**+0.1**
	2.0nm,0.7s						
KURK	**Kurchatov**	**43.69**	**319**	P	**P**	**14 33 00.3**	**-0.4**
KURBB	**Kurchatov Arra**	**43.71**	**319**	P	**P**	**14 33 00.3**	**-0.6**
	2.5nm,0.8s,baz=112,slow=9.5						
WRAB	**Tennant Creek**	**44.87**	**166**	*e*P	**P**	**14 33 11.1**	**+0.7**
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**44.87**	**166**	P	**P**	**14 33 11.0**	**+0.5**
	1.3nm,0.8s,baz=347,slow=9.0,SNR=9.6						
WB2	**Warramunga Arr**	**44.87**	**166**	*e*P	**P**	**14 33 10.9**	**+0.4**
ASAR	**Alice Springs**	**48.38**	**167**	P	**P**	**14 33 39.5**	**+1.6**
	0.5nm,0.6s,baz=352,slow=15,SNR=11						
BVAR	**Borovoye Array**	**49.25**	**320**	P	**P**	**14 33 43.8**	**-0.5**
	1.1nm,0.5s,baz=114,slow=9.9,SNR=5.8						
ABKAR	**Akbulak array**	**55.17**	**314**	*e*P	**P**	**14 34 28.3**	**-0.1**
	1.5nm,0.5s						
AKTO	**Aktyubinsk**	**56.48**	**316**	P	**P**	**14 34 37.3**	**-0.4**
	0.5nm,0.3s,baz=79,slow=5.8,SNR=3.7						
GEYT	**Alibeck**	**56.81**	**301**	P	**P**	**14 34 39.8**	**-0.6**
	2.1nm,0.6s,baz=338,slow=3.2,SNR=4.7						
KBZ	**Khabaz**	**67.33**	**309**	P	**P**	**14 35 51.7**	**+0.9**
	2.4nm,0.8s,baz=62,slow=4.9,SNR=5.0						
ILAR	**Eielson Array**	**68.40**	**27**	P	**P**	**14 35 56.9**	**-0.2**
	0.3nm,0.7s,baz=300,slow=9.4,SNR=5.5						
ARCES	**ARCESS Array B**	**70.57**	**338**	P	**P**	**14 36 09.4**	**-1.1**
	3.2nm,0.9s,baz=70,slow=6.1,SNR=3.1						
INK	**Inuvik**	**72.61**	**22**	P	**P**	**14 36 23.1**	**+0.4**
	0.6nm,0.3s,baz=299,slow=4.0,SNR=8.6						
INK	**Inuvik**	**72.61**	**22**	*e*P	**P**	**14 36 22.1**	**-0.7**
	5.1nm,1.3s						
FINES	**FINESS Array B**	**72.75**	**330**	P	**P**	**14 36 23.3**	**-0.4**
	1.5nm,0.6s,baz=64,slow=4.4,SNR=9.9						
AKASG	**Malin Array Be**	**74.50**	**319**	P	**P**	**14 36 32.6**	**-1.6**
	0.3nm,0.3s,baz=56,slow=6.4,SNR=5.9						
BRTR	**Keskin Array B**	**75.07**	**307**	P	**P**	**14 36 38.5**	**+0.6**
	2.2nm,0.7s,baz=102,slow=5.1,SNR=13						
NB2	**NORSAR Subarra**	**79.44**	**333**	P	**P**	**14 37 01.3**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**79.44**	**333**	P	**P**	**14 37 01.5**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=56,slow=5.7,SNR=13						
YKA	**Yellowknife Ar**	**82.31**	**23**	P	**P**	**14 37 17.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=305,slow=5.3,SNR=22						
GERES	**GERESS Array B**	**84.41**	**321**	P	**P**	**14 37 28.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=39,slow=5.1,SNR=6.3						

JMA 13 14:26:30.3±0.1, 28°.64N×129°.68E, h25km±2km, M2.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.24**	**196**	P	Pb	14 26 36.2	-0.2
JAM				S	Sb	14 26 40.4	-0.2
JAMN	**Amaminishikomi**	**0.59**	**228**	P	Pb	14 26 41.7	-0.4
JAMN				*e*S	Sb	14 26 50.3	+0.2
JTK	**Tokunoshima**	**1.07**	**217**	*e*S	Sn	14 27 03.8	+0.1

NNC 13 14:26:32.4±2.7, 36°.70N×71°.12E, h0km, mb3.5, mpv3.2, 4C-1D, Error ellipse: s-maj=20.2km s-min=8.4km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.78**	**320**	↑S	Sn	14 27 53.7	+1.1
	5.8nm,0.2s						
MNAS	**Manas**	**5.88**	**10**	↑P	Pn	14 28 00.7	-0.2
	1.2nm,0.5s						
MNAS				↑S	Sn	14 29 10.1	+1.0
	1.7nm,0.6s						
KK31	**Karatay Array**	**6.41**	**356**	↓P	Pn	14 28 08.2	+0.1
	0.5nm,0.2s,baz=176,slow=13						
KK31				↑S	Sn	14 29 23.2	+1.2
	1.2nm,0.5s,baz=178,slow=22,SNR=5.7						

NIED ***13*** *14:29:00, 23°.10N×121°.50E, h32km, Mw4.5 Best double couple: M○5.57000×10^15 NP1:♧s146.00000°, ♧68.00000°, λ-6.00000°. NP2:♧s238.00000°, ♧85.00000°, λ-158.00000°.*
JMA ***13*** *14:29:27.5±0.1, 23°.12N×121°.45E, h15km±3km, M4.3*
NEIC ***13*** *14:29:27.2±1.4, 23°.07N×121°.52E, h4km±8km, mb4.5/8, ML4.7(TAP), Error ellipse: s-maj=10.1km s-min=7.1km az=89.0*
NEIC Recorded [4 TAP] in T'ai-tung; [2 TAP] in Chia-i and Hua-lien; [1 TAP] in Chang-hua, Kao-hsiung, Nan-t'ou, T'ai-nan and Yun-lin.
BJI ***13*** *14:29:27.0, 23°.06N×121°.43E, h10km, mB4.7/23, mb4.3/30, ML4.7/8, Ms4.8/28, Ms7 4.5/24*
ISCJB ***13*** *14:29:28.8±0.3, 23°.07N±0°.01×121°.41E±0°.02, h18km±2km, mb4.2/34, MS4.0/17, Error ellipse: s-maj=2.6km s-min=2.1km az=37.4*
TAP ***13*** *14:29:28.8, 23°.15N×121°.30E, h9km, ML4.6, B*
IDC ***13*** *14:29:34.6±3.9, 22°.99N×121°.40E, h59km±36km, mb3.8/23, mb1 4.0/25, mb1mx3.9/43, mbtmp4.1/25, ML3.6/2, MS4.0/19, Ms1 4.0/19, ms1mx3.6/52, Error ellipse: s-maj=17.3km s-min=12.4km az=66.0*
BKK ***13*** *14:29:41.2±0.6, 24°N±8°×12°1E±°, h10km, M4.8/9, mB5.4/3, mb4.4/9, MLv5.0/1, Mw(mB)4.9/3*

ISC 13 14:29:29.9±0.6, 23°.10N±0°.02×121°.41E±0°.02, h15km±3km, n182, σ1s85/223, mb4.3/34, MS4.0/17, 16C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.04**	**267**	↑P	**Pg**	**14 29 31.9**	**-0.7**
	baz=130						
TWF1	**Yuli**	**0.27**	**338**	↓P	**Pg**	**14 29 33.8**	**-1.9**
	baz=356						
YULB	**Yu-li**	**0.31**	**341**	*e*Pn	**Pg**	**14 29 34.3**	**-2.0**
ELDTW	**Lidau**	**0.37**	**284**	↑P	**Pg**	**14 29 34.5**	**-3.0**
	baz=277						
EHY	**Hungye**	**0.41**	**349**	↑P	**Pg**	**14 29 36.7**	**-1.5**
	baz=350						
EHY				S	**Sg**	**14 29 42.6**	**-1.2**
	baz=350						
TWG	**Pinlang**	**0.41**	**228**	↓P	**Pg**	**14 29 37.1**	**-1.2**
	baz=208						
TWG	**Pinlang**	**0.41**	**228**	*e*Pn	**Pg**	**14 29 36.6**	**-1.6**
TTN	**Taitung**	**0.42**	**215**	P	**Pg**	**14 29 38.2**	**-0.1**
	baz=177						
TTN				*e*S	**Sb**	**14 29 46.6**	**+1.5**
	baz=177						
YUS	**Yu-Shan**	**0.57**	**313**	↑P	**Pg**	**14 29 38.8**	**-2.5**
	baz=315						
YUS				*i* S	**Sg**	**14 29 45.4**	**-3.6**
	baz=315						
STYT	**Tauyuan**	**0.60**	**276**	↑P	**Pg**	**14 29 39.1**	**-2.6**
	baz=279						
STYT				S	**Sg**	**14 29 46.5**	**-3.2**
	baz=279						
TEGC	**Jichi Village**	**0.62**	**12**	*e*P	**Pb**	**14 29 42.5**	**+0.1**
	baz=40						
ECL	**Taimali**	**0.65**	**220**	↓P	**Pg**	**14 29 40.5**	**-2.1**
	baz=204						
ECL				*e*S	**Sg**	**14 29 50.0**	**-1.3**
	baz=204						
ALS	**Alishan**	**0.69**	**307**	↑P	**Pg**	**14 29 41.0**	**-2.3**
	baz=308						
ALS				*e*S	**Sg**	**14 29 50.1**	**-2.4**
	baz=308						
WDT	**Danda**	**0.70**	**339**	↑P	**Pg**	**14 29 41.5**	**-2.2**
	baz=335						
ESL	**Shilin**	**0.71**	**2**	*e*P	**Pg**	**14 29 41.5**	**-2.3**
	baz=4.0						
ESL				*e*S	**Sg**	**14 29 52.6**	**-0.6**
	baz=4.0						
TPUB	**Ta-pu**	**0.74**	**286**	*e*Pn	**Pg**	**14 29 42.1**	**-2.3**
TPUB				*e*Sn	**Sg**	**14 29 50.7**	**-3.5**
WTP	**Ta-pu**	**0.74**	**281**	↑P	**Pg**	**14 29 42.2**	**-2.1**
	baz=278						
WTP				S	**Sg**	**14 29 52.4**	**-1.9**
	baz=278						
SGST	**Jiashian**	**0.76**	**269**	↑P	**Pg**	**14 29 42.8**	**-1.9**
	baz=263						
SGST			

	baz=262									
TAI1					*e*S		**Sn**	**14 30 05.2**	**0.0**	
	baz=262									
SCLT	**Jiali**	**1.12**	**274**		P		**Pb**	**14 29 50.1**	**-0.7**	
	baz=270									
SCLT					*e*S		**Sg**	**14 30 06.0**	**-0.1**	
	baz=270									
CHN8	**Yiju**	**1.13**	**283**		*e*P		**Pb**	**14 29 49.5**	**-1.5**	
	baz=280									
CHN8					*e*S		**Sn**	**14 30 06.6**	**+0.3**	
	baz=280									
KAU	**Kaohsiung**	**1.14**	**243**		*e*P		**Pg**	**14 29 51.9**	**-0.1**	
	baz=235									
TWT	**Tachien**	**1.17**	**350**		P		**Pb**	**14 29 49.9**	**-1.9**	
	baz=354									
TWT					*e*S		**Sb**	**14 30 04.5**	**-2.3**	
	baz=354									
WSF	**Szhu**	**1.21**	**296**		*e*P		**Pn**	**14 29 50.8**	**-1.4**	
	baz=295									
WSF					*e*S		**Sb**	**14 30 07.3**	**-0.6**	
	baz=295									
TWP	**Hsiaoliuchiu**	**1.22**	**232**		*e*P		**Pg**	**14 29 53.9**	**+0.5**	
	baz=205									
TCU	**Taichung**	**1.24**	**327**		*e*P		**Pb**	**14 29 52.8**	**-0.1**	
	baz=311									
TCU					S		**Sn**	**14 30 09.3**	**+0.3**	
	baz=311									
HEN	**Hengchun**	**1.25**	**210**		*e*P		**Pn**	**14 29 52.2**	**-0.6**	
	baz=191									
TWK1	**Hengchun**	**1.28**	**206**		*e*P		**Pn**	**14 29 51.0**	**-2.2**	
	baz=198									
WTCT	**Ta-ch'eng**	**1.28**	**307**		*e*P		**Pn**	**14 29 52.1**	**-1.1**	
	baz=306									
WTCT					*e*S		**Sb**	**14 30 09.3**	**-0.7**	
	baz=306									
TSEB	**Hengchuen, Pin**	**1.28**	**201**		*e*P		**Pn**	**14 29 53.2**	**0.0**	
	baz=183									
NNS	**Nan Shan**	**1.33**	**359**		*e*P		**Pn**	**14 29 52.1**	**-2.0**	
	baz=26									
ENA	**Nanau**	**1.36**	**13**		*e*P		**Pn**	**14 29 51.5**	**-2.7**	
	baz=23									
TWQ1	**Liyutan**	**1.37**	**335**	⇓	*i*P		**Pn**	**14 29 54.4**	**0.0**	
	baz=319									
TWQ1					*e*S		**Sg**	**14 30 13.3**	**-0.8**	
	baz=319									
NSY	**Sanyi**	**1.44**	**336**		*e*P		**Pb**	**14 29 55.8**	**-0.6**	
	baz=335									
NSY					*e*S		**Sg**	**14 30 15.4**	**-0.8**	
	baz=335									
ENTT	**Nioudou**	**1.54**	**5**		*e*P		**Pn**	**14 29 54.7**	**-2.1**	
	baz=39									
ENTT					*e*S		**Sg**	**14 30 18.2**	**-1.3**	
	baz=39									
TWC	**Suao**	**1.56**	**15**		*e*P		**Pn**	**14 29 56.1**	**-0.9**	
	baz=25									
YHNB	**Yeheng**	**1.56**	**359**		*e*P		**Pn**	**14 29 55.9**	**-1.2**	
NSTT	**Nanjuang**	**1.57**	**346**		*e*P		**Pn**	**14 29 57.3**	**+0.2**	
	baz=4.0									
NSTT					*e*S		**Sg**	**14 30 19.7**	**-0.7**	
	baz=4.0									
NSK	**Sanguang**	**1.57**	**358**		*e*P		**Pn**	**14 29 56.0**	**-1.2**	
	baz=25									
WDGT	**Dungji**	**1.61**	**276**		*e*P		**Pn**	**14 29 55.8**	**-2.0**	
	baz=275									
WDGT					*e*S		**Sn**	**14 30 17.4**	**-0.9**	
	baz=275									
ILA	**Ilan**	**1.69**	**11**		*e*P		**Pb**	**14 29 59.6**	**-1.0**	
	baz=20									
HSN	**Hsinchu**	**1.74**	**347**		*e*P		**Pg**	**14 30 02.5**	**-0.8**	
	baz=352									
PNG	**Penghu**	**1.76**	**286**	⇑	*e*P		**Pn**	**14 29 58.3**	**-1.5**	
	baz=273									
PNG					*e*S		**Sn**	**14 30 21.7**	**-0.3**	
	baz=273									
EGS		**1.80**	**15**		*e*P		**Pb**	**14 30 02.1**	**-0.4**	
	baz=24									
TATO	**Taipei**	**1.87**	**2**		*e*Pn		**Pn**	**14 30 00.7**	**-0.6**	
NCU	**National Centr**	**1.87**	**354**		*e*P		**Pb**	**14 30 03.5**	**-0.3**	
	baz=337									
TWA	**Mucha**	**1.88**	**5**		*e*P		**Pn**	**14 30 00.9**	**-0.5**	
	baz=29									
TAP	**Taipei**	**1.93**	**3**		*e*P		**Pn**	**14 30 03.0**	**+0.8**	
	baz=30									
TAP1	**Taipei**	**1.93**	**3**		*e*P		**Pb**	**14 30 04.2**	**-0.6**	
	baz=30									
JYNG	**Yonagunijimaku**	**1.95**	**46**		P		**Pn**	**14 29 59.8**	**-2.6**	
JYNG					*e*S		**Sb**	**14 30 29.0**	**-0.1**	
TWB1	**Santiao Chiao**	**1.97**	**16**		*e*P		**Pn**	**14 30 02.9**	**+0.2**	
	baz=23									
NWF	**Wu-fen Shan**	**1.99**	**10**		*e*P		**Pn**	**14 30 02.9**	**-0.2**	
	baz=17									
TWS1	**Kuangyinshan**	**1.99**	**0**		*e*P		**Pn**	**14 30 03.7**	**+0.7**	
	baz=27									
YOJ	**Yonaguni jima**	**2.00**	**47**		P		Pn	14 29 59.8	-3.3	
YOJ					*e*S		**Sb**	**14 30 30.3**	**-0.3**	
YOJ	**Yonaguni jima**	**2.00**	**47**		*e*Pn		Pn	14 29 59.8	-3.3	
TWY	**Chenhua**	**2.17**	**5**		*e*P		**Pb**	**14 30 08.2**	**-0.6**	
	baz=30									
HATJ	**Hateruma jima**	**2.40**	**66**		P		**Pn**	**14 30 07.5**	**-1.1**	
HATJ					*e*S		**Sn**	**14 30 35.8**	**-1.9**	
IRIF	**Iriomote-Funau**	**2.46**	**60**		P		**Pn**	**14 30 09.1**	**-0.3**	
IRIF					*e*S		**Sb**	**14 30 42.0**	**-1.9**	
PCYT	**Pengchaiyu**	**2.59**	**13**		*e*P		**Pn**	**14 30 11.7**	**+0.5**	
	baz=20									
JKRS	**Kuro-shima**	**2.64**	**64**		P		**Pn**	**14 30 11.3**	**-0.6**	
JKRS					*e*S		**Sb**	**14 30 47.0**	**-2.1**	
JIJ	**Ishigaki jima**	**2.81**	**63**		P		**Pn**	**14 30 12.9**	**-1.3**	
JIJ					*e*S		**Sn**	**14 30 46.0**	**-1.7**	
KNM	**Kinmen**	**3.02**	**296**		*e*P		**Pn**	**14 30 16.5**	**-0.6**	
	baz=292									
JISG	**Ishigakijimahi**	**3.04**	**60**		P		**Pn**	**14 30 16.4**	**-1.0**	
JISG					*e*S		**Sn**	**14 30 53.4**	**-0.2**	
QZH	**Quanzhou**	**3.16**	**306**		Pn		**Pn**	**14 30 17.3**	**-1.7**	
QZH					Sn		**Sn**	**14 30 54.3**	**-2.1**	
QZH					SMN					
	2µm,0.8s									
QZH					SME					
	2µm,0.8s									
QZH					LN					
	9µm,6.6s									
QZH					LE					
	10µm,6.1s									
QZH					LZ					
	13µm,10.6s									
JTJ	**Tarama**	**3.38**	**62**		P		**Pn**	**14 30 21.5**	**-0.6**	
JTJ					*e*S		**Sn**	**14 31 04.1**	**+2.1**	
JIRB	**Irabujima**	**3.85**	**63**		P		**Pn**	**14 30 27.2**	**-1.3**	
JIRB					*e*S		**Sn**	**14 31 15.3**	**+1.8**	
GZH	**Guangzhou**	**7.42**	**271**		P		Pn	14 31 12.9	-4.7	
GZH					S		Sn	14 32 29.6	-12	
NJ2	**Nanjing**	**9.20**	**346**		*e*P		Pn	14 31 47.0	+5.0	
NJ2					S		**Sn**	**14 33 31.0**	**+5.8**	
NJ2					PMZ					
	70nm,0.8s									
NJ2					SMN					
	19µm,0.8s									
NJ2					SME					
	16µm,0.8s									
WHN	**Wuhan**	**9.73**	**321**	⇑	P		**Pn**	**14 31 47.3**	**-1.9**	
WHN					S		**Sn**	**14 33 41.0**	**+2.8**	
WHN					LN					
	8µm,6.2s									
WHN					LE					
	9µm,8.7s									
WHN					LZ					
	13µm,10.3s									
QIZ	**Qiongzhong**	**11.53**	**252**		P		Pn	14 32 21.3	+7.3	
QIZ					S		Sn	14 34 51.9	+29	
GYA	**Guiyang**	**13.80**	**287**		P		**Pn**	**14 32 45.9**	**+0.8**	
GYA					S		**Sn**	**14 35 18.4**	**+0.1**	
GYA					PMZ					
	10.0nm,0.8s									
GYA					PMZ					
	110nm,4.6s									
GYA					LN					
	1µm,10.3s									
GYA					LE					
	3µm,12.5s									
GYA					LZ					
	3µm,11.4s									
KSAR	**Wonju Array Be**	**15.34**	**20**		P		**P**	**14 33 08.9**	**-1.6**	
KSRS	**Korea Array**	**15.37**	**20**		P		**P**	**14 33 08.9**	**-1.8**	
	0.2nm,0.3s,baz=203,slow=13,SNR=12									
KSRS					LR		LR	14 39 17.2		
	comp=Z,251nm,18.7s,baz=206,slow=38									
XAN	**Xi'an**	**15.45**	**318**		P		**P**	**14 33 13.8**	**+2.1**	
XAN					S		S	14 36 29.1	+15	
BJT	**Baijiatuan**	**17.44**	**346**		P		**P**	**14 33 35.7**	**+2.0**	
BJI	**Beijing**	**17.46**	**347**		P		**P**	**14 33 36.6**	**+2.7**	
BJI					PMZ					
	16nm,1.0s									
BJI					LN					
	410nm,9.9s									
BJI					LE					
	1µm,14.8s									
BJI					LZ					
	280nm,14.8s									
CD2	**Chengdu**	**17.53**	**300**		P		**Pn**	**14 33 34.3**	**+0.5**	
CD2					pP		**pP**	**14 33 37.9**	**-1.3**	
CD2					sP		**sP**	**14 33 41.3**	**+0.1**	
CD2					PP		**PnPn**	**14 33 48.9**	**+4.7**	
CD2					S		**Sn**	**14 36 48.8**	**0.0**	
CD2					sS		**S**	**14 36 53.6**	**-3.1**	
CD2					SS		**SnSn**	**14 37 10.5**	**+8.2**	
CD2					PMZ					
	10.0nm,0.5s									
CD2					PMZ					
	120nm,5.2s									
TSM	**Tawau**	**19.01**	**191**	⇓	P		**Pn**	**14 33 53.0**	**+1.1**	
CRAI	**Chiangrai**	**19.75**	**266**		P		**Pn**	**14 34 04.1**	**+3.2**	
	44nm,1.2s,1µm									
MAT	**Matsushiro**	**19.76**	**44**		P		**Pn**	**14 34 01.7**	**+0.9**	
MJAR	**Matsushiro Arr**	**19.76**	**44**		P		**Pn**	**14 34 02.5**	**+1.7**	
	0.2nm,0.3s,baz=228,slow=10,SNR=13									
MJAR					LR		LR	14 42 59.3		
	comp=Z,170nm,18.8s,baz=245,slow=40									
LZH	**Lanzhou**	**19.98**	**314**		*e*P		**Pn**	**14 34 05.6**	**+2.1**	
LZH					pP		**pP**	**14 34 09.5**	**+3.3**	
LZH					sP		sP	14 34 13.1	+4.9	
LZH					sS		**Sn**	**14 37 50.0**	**+2.0**	
LZH					SS		SnSn	14 38 13.1	+10	
LZH					PMZ					
	25nm,1.0s									
LZH					PMZ					
	270nm,8.4s									
LZH					LN					
	750nm,9.6s									
LZH					LE					
	2µm,10.7s									
LZH					LZ					
	2µm,11.0s									
PBKT	**Sadao Pong**	**20.28**	**255**		P		Pn	14 34 11.8	+4.7	
	11nm,1.4s									
CHBT	**CHBT**	**20.84**	**244**		P		Pn	14 34 21.5	+7.9	
	22nm,1.2s,3µm									
LAMP	**Lampang**	**20.85**	**261**		P		Pn	14 34 13.8	0.0	
	4.9nm,0.9s									
CN2	**Changchun**	**20.91**	**8**		*e*P		Pn	14 34 13.3	-1.0	
CN2					*e*PP		**PnPn**	**14 34 35.4**	**+4.9**	
CN2					*e*S		**S**	**14 37 59.1**	**-5.3**	
CN2					PMZ					
	10.0nm,0.6s									
CN2					PMZ					
	200nm,3.0s									
CN2					LN					
	800nm,13.0s									
CN2					LE					
	1µm,13.0s									
CN2					LZ					
	600nm,14.0s									
BTM	**Bintulu**	**21.36**	**203**	⇑	P		**P**	**14 34 17.6**	**+0.9**	
CMAR	**Chiang Mai Arr**	**21.50**	**262**		P		**P**	**14 34 19.4**	**+1.2**	
	5.1nm,0.8s,baz=66,slow=9.4,SNR=25									
CMAR					PcP		**PcP**	**14 38 21.1**	**+0.1**	
	0.6nm,0.7s,baz=96,slow=0.4,SNR=5.6									
CMAR					LR		LR	14 43 09.7		
	comp=Z,326nm,18.7s,baz=79,slow=38									
MRSI	**Marisa**	**22.50**	**179**		P		**P**	**14 34 33.1**	**+4.2**	
	37nm,1.1s,448nm									
MHMT	**Maesariesg**	**22.50**	**262**		P		P	14 34 39.2	+10	
USRK	**Ussuriysk Ar.**	**22.77**	**20**		P		**P**	**14 34 33.1**	**+1.5**	
	3.2nm,0.7s,baz=238,slow=13,SNR=4.7									
APSI	**Ampana**	**23.87**	**179**		P		**P**	**14 34 45.3**	**+2.5**	
	50nm,1.1s,585nm									
KSM	**Kuching**	**24.05**	**208**	⇑	P		**P**	**14 34 44.5**	**0.0**	
GTA	**Gaotai**	**24.50**	**317**		*e*P		**P**	**14 34 52.3**	**+3.6**	
GTA					pP		**pP**	**14 34 56.5**	**+3.1**	
GTA					sP		sP	14 34 59.9	+4.6	
GTA					PMZ					
	11nm,1.3s									
GTA					PMZ					
	220nm,7.8s									
GTA					LN					
	850nm,12.8s									
GTA					LE					
	880nm,12.4s									
GTA					LZ					
	940nm,13.5s									
SANI	**Sanana**	**25.39**	**169**		P		**P**	**14 34 54.2**	**-2.6**	
	22nm,0.9s									
NLAI	**Namlea**	**26.76**	**167**		P		**P**	**14 35 11.9**	**+2.7**	
SHL	**Shillong**	**26.99**	**281**		*e*P		**P**	**14 35 12.0**	**+0.6**	
ULN	**Ulaanbaatar**	**27.24**	**339**		*e*P		**P**	**14 35 12.4**	**-1.0**	
	11nm,1.3s									
ASAJ	**Asahikawa**	**27.25**	**35**		LR		LR	14 46 49.0		
	comp=Z,247nm,20.7s,baz=332,slow=38									
SONM	**Songino Array**	**27.44**	**338**		P		**P**	**14 35 14.3**	**-0.9**	
	2.5nm,0.7s,baz=154,slow=8.9,SNR=11									
SONM					LR		LR	14 47 08.2		
	comp=Z,604nm,18.0s,baz=152,slow=38									
LSA	**Lhasa**	**27.83**	**290**		P		**P**	**14 35 21.0**	**+1.7**	
LSA	**Lhasa**	**27.83**	**290**		*e*P		**P**	**14 35 19.2**	**-0.2**	
	17nm,0.9s									
TAPN	**Taplejung**	**30.72**	**285**		*e*P		**P**	**14 35 46.4**	**+1.6**	
ODAN	**Odare**	**31.00**	**284**		*e*P		**P**	**14 35 48.8**	**+1.6**	
	30nm,1.1s									
TLY	**Talaya**	**31.65**	**339**		P		**P**	**14 35 54.5**	**+2.1**	
	1.9nm,0.7s,baz=252,slow=0.7,SNR=4.6									
RAMN	**Ramite**	**31.71**	**284**		*e*P		**P**	**14 35 54.1**	**+0.7**	
	31nm,0.9s									
JIRN	**Jiri**	**32.07**	**286**		*e*P		**P**	**14 35 57.1**	**+0.3**	
GUN	**Gumba**	**32.35**	**286**		*e*P		**P**	**14 35 59.9**	**+0.7**	
	35nm,1.0s									
PKI	**Pulchoki**	**32.76**	**285**		*e*P		**P**	**14 36 02.5**	**-0.3**	
KKN	**Kakani**	**32.88**	**286**		*e*P		**P**	**14 36 04.4**	**+0.7**	
GKN	**Gorkha**	**33.45**	**286**		*e*P		**P**	**14 36 09.5**	**+0.9**	
DANN	**Dangsing**	**34.22**	**287**		*e*P		**P**	**14 36 15.4**	**0.0**	
	46nm,1.1s									
KOLN	**Koldanda**	**34.37**	**286**		*e*P		**P**	**14 36 16.7**	**+0.1**	
	19nm,0.9s									
PYUN	**Piuthan**	**34.90**	**286**		*e*P		**P**	**14 36 20.2**	**-1.0**	
	51nm,1.0s									
MK31	**Makanchi Array**	**39.26**	**317**		*e*P		**P**	**14 36 57.1**	**-0.7**	
MKAR	**Makanchi Array**	**39.26**	**317**		P		**P**	**14 36 57.5**	**-0.3**	
	3.3nm,0.7s,baz=110,slow=9.9,SNR=17									
MKAR					PcP		**PcP**	**14 39 05.6**	**-1.0**	
	1.3nm,0.8s,baz=93,slow=4.9,SNR=5.2									
MKAR					LR		LR	14 55 16.6		
	comp=Z,104nm,18.8s,baz=111,slow=39									
PETK	**Petropavlovsk-**	**40.65**	**33**		LR		LR	14 55 26.5		
	comp=Z,101nm,18.3s,baz=208,slow=38									
ZALV	**Zalesovo Beam**	**41.26**	**328**		P		**P**	**14 37 12.9**	**-1.4**	
	7.2nm,0.8s,baz=117,slow=7.5,SNR=31									
ZALV					LR		LR	14 56 14.6		
	comp=Z,131nm,18.2s,baz=70,slow=39									
H11N1	**WAKE ISLAND Hy**	**42.35**	**86**		T		T	15 22 33.3		
	baz=283,slow=75,SNR=290									
H11N2	**WAKE ISLAND Hy**	**42.36**	**86**		T		T	15 22 33.4		
	baz=283,slow=75,SNR=374									
H11N3	**WAKE ISLAND Hy**	**42.37**	**86**		T		T	15 22 34.5		
	baz=283,slow=75,SNR=396									
H11S3	**WAKE ISLAND Hy**	**42.45**	**87**		T		T	15 22 42.3		
	baz=284,slow=74,SNR=382									
H11S1	**WAKE ISLAND Hy**	**42.46**	**87**		T		T	15 22 46.0		
	baz=284,slow=74,SNR=257									
H11S2	**WAKE ISLAND Hy**	**42.47**	**87**		T		T	15 22 45.1		
	baz=284,slow=74,SNR=188									
COEN	**Coen**	**42.55**	**148**		*e*P		**P**	**14 37 24.6**	**-0.6**	
	9.7nm,1.0s									
TKM2	**Tokmak 2**	**42.59**	**309**		*e*P		**P**	**14 37 26.2**	**+0.6**	
	3.9nm,0.9s									
KURK	**Kurchatov**	**43.05**	**321**		*e*P		**P**	**14 37 28.7**	**-0.2**	
KURBB	**Kurchatov Arra**	**43.07**	**321**		P		**P**	**14 37 29.9**	**+0.9**	
	4.9nm,1.0s,baz=114,slow=7.1,SNR=20									
WRAB	**Tennant Creek**	**44.60**	**163**		*e*P		**P**	**14 37 40.2**	**-1.5**	
	5.0nm,1.0s									
WRA	**Warramunga Arr**	**44.60**	**163**		P		**P**	**14 37 39.2**	**-2.4**	
	2.7nm,0.8s,baz=344,slow=8.6,SNR=14									
SEY	**Seymchan**	**44.92**	**19**		P		**P**	**14 37 45.5**	**+1.7**	
	1.0nm,0.7s,baz=244,slow=4.0,SNR=6.4									
ASAR	**Alice Springs**	**48.05**	**165**		P		**P**	**14 38 07.6**	**-1.2**	
	0.9nm,0.5s,baz=337,slow=6.9,SNR=32									
ASAR					PcP		**PcP**	**14 39 34.8**	**-1.8**	
	0.6nm,0.8s,baz=340,slow=3.8,SNR=3.4									
BVAR	**Borovoye Array**	**48.64**	**321**		P		**P**	**14 38 12.7**	**-0.4**	
	2.1nm,0.9s,baz=108,slow=9.5,SNR=9.9									
BVAR					PcP		**PcP**	**14 39 35.8**	**-2.5**	
	0.8nm,0.7s,baz=151,slow=3.4,SNR=3.8									
BRVK	**Borovoye**	**48.71**	**321**		*e*P		**P**	**14 38 12.8**	**-0.8**	
	6.7nm,1.0s									
BILL	**Bilibino**	**52.63**	**20**		*e*P		**P**	**14 38 43.0**	**+0.1**	
	8.7nm,1.0s									
ABKAR	**Akbulak array**	**54.34**	**315**		*e*P		**P**	**14 38 55.7**	**-0.1**	
	4.4nm,0.9s									
GEYT	**Alibeck**	**55.52**	**301**		P		**P**	**14 39 05.7**	**+1.1**	
	2.8nm,0.5s,baz=64,slow=3.4,SNR=5.7									
GEYT					LR		LR	15 06 18.6		
	comp=Z,167nm,19.7s,baz=110,slow=40									
AKTO	**Aktyubinsk**	**55.69**	**316**		P		**P**	**14 39 07.0**	**+1.5**	
	5.6nm,1.0s,baz=85,slow=4.9,SNR=9.7									
STKA	**Stephens Creek**	**57.98**	**160**		P		**P**	**14 39 20.4**	**-1.5**	
	1.6nm,0.7s,baz=329,slow=5.0,SNR=3.7									
KBZ	**Khabaz**	**66.31**	**309**		P		**P**	**14 40 17.8**	**0.0**	
	4.6nm,0.8s,baz=54,slow=10,SNR=3.5									
ILAR	**Eielson Array**	**70.08**	**27**		P		**P**	**14 40 41.3**	**+0.3**	
	0.2nm,0.5s,baz=274,slow=3.5,SNR=3.1									
ARCES	**ARCESS Array B**	**70.61**	**338**		LR		LR	15 15 05.2		
	comp=Z,57nm,18.5s,baz=46,slow=39									
FINES	**FINESS Array B**	**72.48**	**330**		P		**P**	**14 40 54.0**	**-1.6**	
	2.6nm,0.8s,baz=83,slow=7.9,SNR=5.7									
FINES					LR		LR	15 14 59.4		
	comp=Z,137nm,19.0s,baz=84,slow=38									
AKASG	**Malin Array Be**	**73.81**	**319**		P		**P**	**14 41 03.5**	**-0.1**	
	0.3nm,0.4s,baz=61,slow=5.1,SNR=7.2									
BRTR	**Keskin Array B**	**73.98**	**307**		P		**P**	**14 41 05.3**	**+0.2**	
	1.4nm,0.8s,baz=104,slow=6.1,SNR=7.5									
INK	**Inuvik**	**74.15**	**22**		P		**P**	**14 41 05.9**	**+0.6**	
	1.3nm,0.8s,baz=291,slow=7.8,SNR=4.0									
HFS	**Hagfors**	**78.61**	**331**		LR		LR	15 19 23.1		
	comp=Z,262nm,18.7s,baz=60,slow=38									
NB2	**NORSAR Subarra**	**79.27**	**332**		P		**P**	**14 41 32.9**	**-1.6**	
	comp=Z,3.2nm,0.9s,baz=60,slow=5.9									
NOA	**NORSAR Array B**	**79.27**	**332**		P		**P**	**14 41 32.7**	**-1.7**	
	comp=Z,2.9nm,0.9s,baz=59,slow=5.6,SNR=6.5									
NOA					LR		LR	15 18 21.9		
	comp=Z,59nm,18.9s,baz=65,slow=37									
DLBC	**Dease Lake**	**79.77**	**30**		LR		LR	15 17 21.4		
	comp=Z,37nm,18.3s,baz=10.0,slow=36									
JMIC	**Jan Mayen**	**79.92**	**345**		LR		LR	15 20 42.5		
	comp=Z,62nm,18.4s,baz=272,slow=38									
VRAC	**Vranov**	**81.90**	**320**		LR		LR	15 19 30.8		
	comp=Z,59nm,20.8s,baz=64,slow=36									
GERES	**GERESS Array B**	**83.81**	**321**		P		**P**	**14 41 57.0**	**-1.7**	
	comp=Z,2.0nm,0.9s,baz=70,slow=4.4,SNR=12									
YKA	**Yellowknife Ar**	**83.88**	**23**		P		**P**	**14 41 57.1**	**-1.6**	
	comp=Z,0.9nm,0.8s,baz=315,slow=4.8,SNR=16									
DAVOX	**Davos/Dischmat**	**87.06**	**320**		LR		LR	15 23 47.4		
	comp=Z,87nm,18.9s,baz=262,slow=37									
EKA	**Eskdalemuir Ar**	**88.76**	**332**		LR		LR	15 26 15.3		
	comp=Z,215nm,18.3s,baz=55,slow=38									
PPT	**Papeete**	**95.85**	**107**		LR		LR	15 17 06.3		
	comp=Z,50nm,19.9s,baz=292,slow=30									
SDV	**Santo Domingo**	**146.10**	**22**		*e*PKPdf		**PKPdf**	**14 49 07.5**	**-2.0**	

TAP ***13*** *14:42:08.5,24.˚69N×122.˚94E,h102km,ML3.7,C*
ISCJB ***13*** *14:42:09.1±0.5,24.˚61N±0.˚04×122.˚96E±0.˚02,h92km±5km, Error ellipse: s-maj=6.5km s-min=2.6km az=171.9*
JMA ***13*** *14:42:09.2±0.2,24.˚69N×122.˚95E,h90km±2km,M2.7*

ISC 13 14:42:09.5±1.4,24.˚61N±0.˚05×122.˚95E±0.˚02,h90km±8km, n47,σ0°80/82,3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.16**	**161**	P		**Pn**	**14 42 22.4**	**0.0**
YOJ				*e*S		**Sn**	**14 42 31.2**	**-0.8**
JYNG	**Yonagunijimaku**	**0.16**	**183**	P		**Pn**	**14 42 22.7**	**+0.2**
JYNG				*e*S		**Sn**	**14 42 32.3**	**+0.3**
IRIF	**Iriomote-Funau**	**0.76**	**111**	P		**Pn**	**14 42 26.6**	**0.0**
IRIF				*e*S		**Sn**	**14 42 40.1**	**+0.7**
HATJ	**Hateruma jima**	**0.95**	**125**	P		**Pn**	**14 42 29.3**	**+0.6**
HATJ				*e*S		**Sn**	**14 42 44.9**	**+1.8**
TWB1	**Santiao Chiao**	**0.96**	**294**	*e*P		**Pn**	**14 42 28.6**	**-0.2**
	baz=284							
TWB1				*e*S		**Sn**	**14 42 43.4**	**+0.2**
	baz=284							
TWC	**Suao**	**1.00**	**270**	P		**Pn**	**14 42 29.0**	**-0.3**
	baz=265							
TWC				*e*S		**Sn**	**14 42 43.3**	**-0.8**
	baz=265							
JKRS	**Kuro-shima**	**1.03**	**111**	P		**Pn**	**14 42 30.0**	**+0.4**
JKRS

ALS				*e*S		**Sn**	14 43 13.2	+0.6
	baz=232							
ELDTW	**Lidau**	**2.27 232**		P		**Pn**	14 42 45.2	-0.3
	baz=225							
ELDTW				*e*S		**Sn**	14 43 11.4	-1.5
	baz=225							
CHN5	**Tsauling**	**2.31 245**		P		**Pn**	14 42 47.0	+1.1
	baz=234							
CHN5				*e*S		**Sn**	14 43 15.0	+1.1
	baz=234							
STYT	**Tauyuan**	**2.47 235**		*e*P		**Pn**	14 42 48.8	+0.7
	baz=228							
STYT				*e*S		**Sn**	14 43 17.9	+0.2
	baz=228							
TWG	**Pinlang**	**2.48 224**		*e*P		**Pn**	14 42 47.4	-0.7
	baz=228							
TWG				*e*S		**Sn**	14 43 16.3	-1.4
	baz=228							
CHN4	**Tsaushan**	**2.50 240**		P		**Pn**	14 42 49.5	+1.2
	baz=230							
CHN4				*e*S		**Sn**	14 43 19.6	+1.5
	baz=230							
WTP	**Ta-pu**	**2.54 238**		*e*P		**Pn**	14 42 49.8	+0.9
	baz=228							
WTP				*e*S		**Sn**	14 43 20.0	+0.9
	baz=228							
TWK	**Hsinying**	**2.62 240**		*e*P		**Pn**	14 42 50.5	+0.4
	baz=236							
TWK				*e*S		**Sn**	14 43 22.6	+1.4
	baz=236							
CHN1	**Nanshi**	**2.63 238**		*e*P		**Pn**	14 42 51.0	+0.8
	baz=234							
CHN1				*e*S		**Sn**	14 43 22.7	+1.2
	baz=234							
SGST	**Jiashian**	**2.65 235**		*e*P		**Pn**	14 42 50.9	+0.4
	baz=232							
SGST				*e*S		**Sn**	14 43 22.7	+0.9
	baz=232							
ECL	**Taimali**	**2.72 223**		*e*P		**Pn**	14 42 50.6	-0.7
	baz=220							
ECL				*e*S		**Sn**	14 43 21.3	-2.1
	baz=220							
SSD	**Sandimen**	**2.83 229**		*e*P		**Pn**	14 42 53.6	+0.9
	baz=227							
EAST	**Anshuo**	**2.94 221**		*e*P		**Pn**	14 42 54.6	+0.3
	baz=224							
SCZT	**Fangliau**	**3.09 224**		*e*P		**Pn**	14 42 57.5	+1.2
	baz=223							

CASC 13 14:42:21.0±1.6, 7.46N×82.75W, h10km±29km, MD4.2, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ACR	**Cerro Adams**	**1.26**	**341**	⇑*e*P		Pn	14 42 42.3	-2.4
ACR				*e*S		Sn	14 43 01.6	-0.1
BUS	**Buena Vista**	**2.31**	**334**	⇑*e*P		Pn	14 42 58.8	-0.9
BUS				*e*S		Sn	14 43 29.5	+0.9
QCR	**Quepos**	**2.41**	**324**	*e*P		Pn	14 43 00.2	-0.2
URSC	**Urasca**	**2.58**	**337**	*e*P		Pn	14 43 02.9	-0.1
CGA2	**Cerro Gallo 2**	**3.06**	**326**	*e*P		Pn	14 43 09.5	-0.1
JCR	**Jicaral**	**3.34**	**316**	*e*P		Pn	14 43 13.9	+0.6
JCR				*e*S		Sn	14 43 53.1	+0.1

*ISCJB **13** 14:46:27.3±0.5, 50.16N±0.04×19.05E±0.03, h0km, Error ellipse: s-maj=5.5km s-min=2.5km az=15.5*
*CSEM **13** 14:46:27.7±0.3, 50.18N×19.10E, h1km, ML2.6/5, Error ellipse: s-maj=6.6km s-min=2.9km az=9.0*
*PRU **13** 14:46:29.0, 50.18N×19.07E, h0km*
ISC 13 14:46:28.2±0.8, 50.15N±0.04×19.09E±0.02, h0km, n30, σ1s09/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OJC	**Ojcow**	**0.46**	**81**	*e*Pg		**Pg**	**14 46 36.3**	**-0.8**
OJC				*e*Sg		**Sg**	**14 46 42.1**	**-0.9**
OJC	**Ojcow**	**0.46**	**81**	*e*Pg		**Pg**	**14 46 36.3**	**-0.8**
OJC				*e*Sg		**Sg**	**14 46 42.1**	**-0.9**
OKC	**Ostrava-Krasne**	**0.68**	**243**	*e*PG		**Pg**	**14 46 41.4**	**+0.1**
OKC				*e*SG		**Sg**	**14 46 51.2**	**+1.1**
	comp=Z,9.6nm,0.4s							
OKC	**Ostrava-Krasne**	**0.68**	**243**	Pg		**Pg**	**14 46 41.4**	**+0.1**
OKC				Sg		**Sg**	**14 46 51.2**	**+1.1**
	9.6nm,0.4s							
LANS	**Liptovska Anna**	**1.03**	**166**	*e*Pg		**Pg**	**14 46 48.1**	**+0.2**
LANS				*e*Sg		**Sg**	**14 47 01.2**	**0.0**
MORC	**Moravsky Berou**	**1.06**	**250**	*e*Pg		**Pb**	**14 46 49.7**	**+0.2**
MORC				*e*Sg		**Sb**	**14 47 04.5**	**+0.5**
NIE	**Niedzica**	**1.08**	**132**	*e*Pg		**Pg**	**14 46 48.2**	**-0.7**
NIE				*e*Sg		**Sg**	**14 47 04.3**	**+1.4**
NIE	**Niedzica**	**1.08**	**132**	*e*Pg		**Pg**	**14 46 48.2**	**-0.7**
NIE				*e*Sg		**Sg**	**14 47 04.3**	**+1.4**
STHS	**Stebnicka Huta**	**1.58**	**117**	*e*Pn		**Pn**	**14 46 57.7**	**+0.2**
STHS				*e*Sn		**Sg**	**14 47 21.4**	**+2.5**
STHS	**Stebnicka Huta**	**1.58**	**117**	*e*PN		**Pn**	**14 46 57.7**	**+0.2**
STHS				*e*SN		**Sg**	**14 47 21.4**	**+2.5**
VYHS	**Vyhne**	**1.67**	**186**	*e*Pn		**Pn**	**14 46 57.7**	**-1.0**
VYHS				*e*Sn		**Sn**	**14 47 19.2**	**-1.5**
VYHS	**Vyhne**	**1.67**	**186**	*e*PN		**Pn**	**14 46 57.7**	**-1.0**
VYHS				*e*SN		**Sn**	**14 47 19.2**	**-1.5**
DPC	**Dobruska-Polom**	**1.79**	**278**	*e*PG		**Pb**	**14 47 01.3**	**-0.5**
DPC				*e*SG		**Sg**	**14 47 26.4**	**+0.8**
DPC	**Dobruska-Polom**	**1.79**	**278**	Pg		**Pb**	**14 47 01.3**	**-0.5**
DPC				Sg		**Sg**	**14 47 26.4**	**+0.8**
VRAC	**Vranov**	**1.82**	**243**	*e*Sg		**Sg**	**14 47 27.1**	**+0.3**
KECS	**Kecovo**	**1.90**	**151**	*e*Pn		**Pn**	**14 47 01.2**	**-0.7**
KECS				*e*Sn		**Sn**	**14 47 26.2**	**-0.3**
KECS	**Kecovo**	**1.90**	**151**	*e*PN		**Pn**	**14 47 01.2**	**-0.7**
KECS				*e*SN		**Sn**	**14 47 26.2**	**-0.3**
KSP	**Ksiaz**	**1.92**	**292**	*e*Pg		**Pg**	**14 47 06.1**	**+1.2**
KSP				*e*Sg		**Sg**	**14 47 32.5**	**+2.8**
CRVS	**Cervenica-Dubn**	**1.99**	**128**	*e*Pn		**Pg**	**14 47 06.6**	**+0.3**
CRVS				*e*Sn		**Sb**	**14 47 31.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**1.99**	**128**	*e*PN		**Pg**	**14 47 06.5**	**+0.2**
CRVS				*e*SN		**Sb**	**14 47 31.0**	**+0.5**
UPC	**Upice**	**2.00**	**281**	*e*SG		**Sg**	**14 47 33.2**	**+0.7**
	comp=Z,2.0nm,0.2s							
UPC	**Upice**	**2.00**	**281**	Sg		**Sg**	**14 47 33.2**	**+0.7**
	2.0nm,0.2s							
GOPC	**GO Pecny, Ondr**	**2.78**	**267**	*e*SG		**Sg**	**14 47 57.0**	**-0.6**
GOPC	**GO Pecny, Ondr**	**2.78**	**267**	Sg		**Sg**	**14 47 57.0**	**-0.6**
PVCC	**Panska Ves**	**2.92**	**279**	*e*SG		**Sg**	**14 48 02.0**	**0.0**
	comp=Z,7.5nm,0.3s							
PVCC	**Panska Ves**	**2.92**	**279**	Sg		**Sg**	**14 48 02.0**	**0.0**
	7.5nm,0.3s							
PRU	**Pruhonice**	**2.93**	**269**	*e*SG		**Sg**	**14 48 02.1**	**-0.3**
	comp=Z,3.7nm,0.4s							
PRU	**Pruhonice**	**2.93**	**269**	Sg		**Sg**	**14 48 02.1**	**-0.3**
	3.7nm,0.4s							
KHC	**Kasperske Hory**	**3.72**	**256**	*e*PN		**Pn**	**14 47 26.4**	**-0.6**
KHC				*e*PG		**Pb**	**14 47 37.0**	**+2.2**
KHC				*e*SG		**Sg**	**14 48 25.8**	**-2.0**
	comp=Z,1.8nm,0.4s							
KHC	**Kasperske Hory**	**3.72**	**256**	Pn		**Pn**	**14 47 26.4**	**-0.6**
KHC				Sg		**Sg**	**14 48 25.8**	**-2.0**
	1.8nm,0.4s							

*WEL **13** 14:48:28.9±0.2, 38.55S×178.55E, h25km±1km, ML4.3/33, Error ellipse: s-maj=2.3km s-min=0.9km az=90.0*
WEL Felt in the Gisborne region, maximum reported intensity MM 4.
*NEIC **13** 14:48:29.6, 38.56S×178.54E, h33km, mb4.6/1, ML4.2(WEL), After WEL.*
*IDC **13** 14:48:32.1±3.4, 38.34S×178.31E, h45km±25km, mb4.0/4, mb1 4.1/4, mb1mx3.8/31, mbtmp4.2/4, MS3.7/4, Ms1 3.7/4, ms1mx3.1/27, Error ellipse: s-maj=42.7km s-min=25.4km az=54.0*
ISC 13 14:48:27.9±0.8, 38.68S±0.03×178.60E±0.06, h29km, n161, σ1s34/157, mb4.1/4, MS3.8/3, 19C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.36**	**301**	⇑P*		**Pb**	**14 48 35.9**	**-0.2**
CNGZ	**Carnagh Statio**	**0.36**	**301**	⇑P*		**Pb**	**14 48 35.9**	**-0.2**
PRGZ	**Paritu Road**	**0.61**	**246**	⇑P*		**Pn**	**14 48 41.9**	**+1.2**
PRGZ	**Paritu Road**	**0.61**	**246**	Pn		**Pn**	**14 48 41.9**	**+1.2**
TKGZ	**Te Karaka**	**0.64**	**292**	⇑P*		**Pb**	**14 48 40.3**	**-0.2**
RIGZ	**Rimuhau**	**0.66**	**267**	⇑P*		**Pn**	**14 48 41.8**	**+0.5**
PUZ	**Puketiti**	**0.66**	**336**	⇑P*		**Pb**	**14 48 39.0**	**-1.9**
PUZ					AML	AML	14 48 47.9	
PUZ					AML	AML	14 49 00.2	
PUZ	**Puketiti**	**0.66**	**336**	⇑Pn		**Pb**	**14 48 39.0**	**-1.9**
TWGZ	**Tauwhareparae**	**0.70**	**315**	⇑P*		**Pb**	**14 48 40.6**	**-1.0**
MHGZ	**Mahia Peninsul**	**0.72**	**228**	⇑P*		**Pn**	**14 48 43.9**	**+1.7**
MHGZ	**Mahia Peninsul**	**0.72**	**228**	Pn		**Pn**	**14 48 43.9**	**+1.7**
KNZ	**Kokohu**	**0.80**	**244**	⇑P*		**Pn**	**14 48 44.2**	**+1.0**
KNZ	**Kokohu**	**0.80**	**244**	Pn		**Pn**	**14 48 44.0**	**+0.7**
WMGZ	**Waiomatatini S**	**0.87**	**350**	⇑P*		**Pn**	**14 48 43.0**	**-1.1**
MWZ	**Matawai**	**0.91**	**292**	⇑P*		**Pn**	**14 48 44.2**	**-0.6**
MWZ				S*		**Sb**	**14 48 55.8**	**-1.0**
MWZ					AML	AML	14 48 56.5	
MWZ					AML	AML	14 48 57.1	
MWZ	**Matawai**	**0.91**	**292**	⇑Pn		**Pn**	**14 48 44.2**	**-0.6**
SNGZ	**Shannon Statio**	**0.99**	**263**	⇑PN		**Pb**	**14 48 46.3**	**-0.2**
HAZ	**Te Kaha**	**1.12**	**325**	⇑PN		**Pn**	**14 48 46.2**	**-1.4**
MXZ	**Matakaoa Point**	**1.13**	**348**	⇓PN		**Pn**	**14 48 47.1**	**-0.7**
MXZ					SN	**Sn**	**14 49 01.0**	**-1.3**
MXZ	**Matakaoa Point**	**1.13**	**348**	Pn		**Pn**	**14 48 47.1**	**-0.7**
WHHZ	**Waihua**	**1.14**	**249**	⇑PN		**Pb**	**14 48 48.9**	**-0.1**
RAHZ	**Arahi**	**1.21**	**258**	PN		**Pb**	**14 48 49.4**	**-0.7**
RAHZ	**Arahi**	**1.21**	**258**	Pn		**Pb**	**14 48 49.4**	**-0.7**
URZ	**Urewera**	**1.24**	**289**	⇑PN		**Pn**	**14 48 49.0**	**-0.3**
URZ					AML	AML	14 49 13.7	
URZ					AML	AML	14 49 24.2	
URZ	**Urewera**	**1.24**	**289**	P		**Pn**	**14 48 49.0**	**-0.3**
	263nm,0.3s,baz=241,slow=2.9,SNR=985							
URZ	**Urewera**	**1.24**	**289**	Pn		**Pn**	**14 48 48.7**	**-0.6**
ARHZ	**Aropaoanui**	**1.38**	**244**	PN		**Pb**	**14 48 52.6**	**-0.5**
NMHZ	**Naumai**	**1.46**	**253**	PN		**Pb**	**14 48 53.5**	**-1.0**
NMHZ	**Naumai**	**1.46**	**253**	Pn		**Pb**	**14 48 53.5**	**-1.0**
CKHZ	**Cape Kidnapper**	**1.54**	**230**	PN		**Pb**	**14 48 54.7**	**-1.0**
CKHZ	**Cape Kidnapper**	**1.54**	**230**	Pn		**Pb**	**14 48 54.7**	**-1.0**
MCHZ	**McNeill Hill**	**1.67**	**242**	PN		**Pn**	**14 48 56.2**	**+1.0**
MCHZ	**McNeill Hill**	**1.67**	**242**	Pn		**Pb**	**14 48 56.4**	**-1.6**
RRRZ	**Republican Roa**	**1.67**	**281**	PN		**Pn**	**14 48 55.4**	**+0.2**
RRRZ	**Republican Roa**	**1.67**	**281**	Pn		**Pn**	**14 48 55.8**	**+0.5**
TARZ	**Mount Tarawera**	**1.70**	**284**	PN		**Pn**	**14 48 56.2**	**+0.4**
TARZ	**Mount Tarawera**	**1.70**	**284**	Pn		**Pn**	**14 48 56.2**	**+0.4**
BKZ	**Black Stump Fm**	**1.72**	**253**	⇑PN		**Pn**	**14 48 56.4**	**+0.5**
BKZ					AML	AML	14 49 34.2	
BKZ					AML	AML	14 49 37.1	
BKZ	**Black Stump Fm**	**1.72**	**253**	Pn		**Pn**	**14 48 56.4**	**+0.5**
PRRZ	**Plateau Road**	**1.74**	**275**	PN		**Pn**	**14 48 56.3**	**+0.1**
PRRZ	**Plateau Road**	**1.74**	**275**	Pn		**Pn**	**14 48 56.7**	**+0.5**
KAHZ	**Kahuranaki**	**1.75**	**230**	⇓PN		**Pb**	**14 48 57.6**	**-1.6**
KAHZ	**Kahuranaki**	**1.75**	**230**	Pn		**Pb**	**14 48 57.6**	**-1.6**
ALRZ	**Allen Road**	**1.77**	**273**	PN		**Pn**	**14 48 57.1**	**+0.5**
ALRZ	**Allen Road**	**1.77**	**273**	Pn		**Pn**	**14 48 57.5**	**+0.9**
OPRZ	**Ohinepanea**	**1.81**	**297**	PN		**Pn**	**14 48 56.3**	**-0.9**
OPRZ	**Ohinepanea**	**1.81**	**297**	Pn		**Pn**	**14 48 56.2**	**-0.9**
HLRZ	**Highlands Stat**	**1.81**	**283**	⇓PN		**Pn**	**14 48 57.8**	**+0.6**
HRRZ	**Handcock Road**	**1.84**	**278**	⇓PN		**Pn**	**14 48 58.2**	**+0.6**
HRRZ	**Handcock Road**	**1.84**	**278**	Pn		**Pn**	**14 48 58.2**	**+0.6**
OMRZ	**Omania**	**1.84**	**287**	PN		**Pn**	**14 48 57.4**	**-0.2**
HSRZ	**Hossack Road**	**1.88**	**280**	PN		**Pn**	**14 48 58.8**	**+0.6**
PXZ	**Pawanui**	**1.91**	**224**	PN		**Pn**	**14 48 58.8**	**+0.3**
PXZ					AML	AML	14 49 26.5	
PXZ					AML	AML	14 49 52.7	
PXZ	**Pawanui**	**1.91**	**224**	Pn		**Pn**	**14 48 59.0**	**+0.5**
KARZ	**Kaharoa**	**1.96**	**289**	PN		**Pn**	**14 48 58.9**	**-0.3**
KARZ	**Kaharoa**	**1.96**	**289**	Pn		**Pn**	**14 48 58.9**	**-0.3**
HATZ	**Hinemaiaia**	**1.97**	**263**	*e*Pn		**Pn**	**14 48 59.4**	**0.0**
HATZ					AML	AML	14 49 25.7	
HATZ					AML	AML	14 49 49.2	
HATZ	**Hinemaiaia**	**1.97**	**263**	Pn		**Pn**	**14 49 00.4**	**+1.0**
KRHZ	**Kereru**	**1.99**	**240**	PN		**Pn**	**14 48 59.9**	**+0.3**
TGRZ	**Tauranga**	**2.07**	**296**	AML		AML	14 49 21.7	
TGRZ					AML	AML	14 49 46.2	
BHHZ	**Black Hill Sta**	**2.14**	**247**	⇑PN		**Pn**	**14 49 02.3**	**+0.7**
BHHZ	**Black Hill Sta**	**2.14**	**247**	Pn		**Pn**	**14 49 02.4**	**+0.7**
RITZ	**Rihia Road**	**2.16**	**261**	AML		AML	14 49 45.7	
RITZ					AML	AML	14 49 56.3	
WPHZ	**Waipukurau**	**2.17**	**230**	PN		**Pn**	**14 49 02.9**	**+0.7**
WPHZ	**Waipukurau**	**2.17**	**230**	Pn		**Pn**	**14 49 02.9**	**+0.7**
PRHZ	**Porangahau**	**2.20**	**223**	PN		**Pn**	**14 49 02.7**	**+0.2**
PRHZ	**Porangahau**	**2.20**	**223**	Pn		**Pn**	**14 49 02.7**	**+0.2**
PNHZ	**Pukenui**	**2.24**	**236**	PN		**Pn**	**14 49 03.3**	**+0.3**
PNHZ	**Pukenui**	**2.24**	**236**	Pn		**Pn**	**14 49 03.4**	**+0.3**
KATZ	**Kakaramea**	**2.29**	**262**	AML		AML	14 49 27.7	
KATZ					AML	AML	14 49 28.5	
MOVZ	**Moawhango**	**2.34**	**251**	PN		**Pn**	**14 49 05.6**	**+1.2**
MOVZ					AML	AML	14 49 34.8	
MOVZ					AML	AML	14 49 38.8	
MOVZ	**Moawhango**	**2.34**	**251**	Pn		**Pn**	**14 49 05.6**	**+1.2**
OTVZ	**Oturere**	**2.34**	**257**	AML		AML	14 49 57.6	
OTVZ					AML	AML	14 50 10.6	
KRVZ	**Karewarewa**	**2.35**	**259**	PN		**Pn**	**14 49 05.5**	**+0.9**
KRVZ					AML	AML	14 49 38.4	
KRVZ					AML	AML	14 49 55.1	
KRVZ	**Karewarewa**	**2.35**	**259**	Pn		**Pn**	**14 49 05.5**	**+0.9**
ANWZ	**Angora Road**	**2.42**	**222**	PN		**Pn**	**14 49 05.5**	**-0.1**
WHVZ	**Whangaehu Hut**	**2.42**	**255**	*e*PN		**Pn**	**14 49 06.5**	**+0.7**
WNVZ	**Wahianoa**	**2.43**	**253**	PN		**Pn**	**14 49 06.7**	**+0.9**
WNVZ	**Wahianoa**	**2.43**	**253**	Pn		**Pn**	**14 49 07.2**	**+1.4**
WPVZ	**Whakapapa**	**2.44**	**257**	PN		**Pn**	**14 49 07.2**	**+1.3**
WPVZ					AML	AML	14 49 41.3	
WPVZ					AML	AML	14 50 02.7	
WPVZ	**Whakapapa**	**2.44**	**257**	Pn		**Pn**	**14 49 07.2**	**+1.3**
COVZ	**Chateau Observ**	**2.44**	**257**	PN		**Pn**	**14 49 06.5**	**+0.6**
TSZ	**Takapari Road**	**2.47**	**235**	PN		**Pn**	**14 49 06.1**	**-0.1**
TSZ					AML	AML	14 49 37.4	
TSZ					AML	AML	14 49 48.0	
TSZ	**Takapari Road**	**2.47**	**235**	Pn		**Pn**	**14 49 06.2**	**-0.1**
DVHZ	**Dannevirke**	**2.49**	**228**	PN		**Pn**	**14 49 06.7**	**+0.3**
DVHZ	**Dannevirke**	**2.49**	**228**	Pn		**Pn**	**14 49 06.7**	**+0.3**
TOZ	**Tahuroa Road**	**2.62**	**290**	PN		**Pn**	**14 49 07.6**	**-0.6**
TOZ	**Tahuroa Road**	**2.62**	**290**	Pn		**Pn**	**14 49 07.6**	**-0.6**
BFZ	**Birch Farm**	**2.71**	**221**	PN		**Pn**	**14 49 09.2**	**-0.3**
BFZ	**Birch Farm**	**2.71**	**221**	Pn		**Pn**	**14 49 09.2**	**-0.3**
PRWZ	**Pori Road**	**2.77**	**226**	PN		**Pn**	**14 49 10.7**	**+0.4**
POWZ	**Post Office Ro**	**2.78**	**231**	PN		**Pn**	**14 49 10.4**	**-0.1**
CPWZ	**Castlepoint**	**2.90**	**219**	PN		**Pn**	**14 49 11.9**	**-0.1**
CPWZ					SN	**Sn**	**14 49 48.2**	**+2.3**
HIZ	**Hauiti**	**2.94**	**272**	PN		**Pn**	**14 49 13.7**	**+1.1**
HIZ					AML	AML	14 50 12.2	
HIZ					AML	AML	14 50 18.8	
HIZ	**Hauiti**	**2.94**	**272**	Pn		**Pn**	**14 49 13.9**	**+1.2**
TIWZ	**Tintock**	**2.96**	**224**	AML		AML	14 49 55.5	
TIWZ					AML	AML	14 49 58.9	
KUZ	**Kuaotunu**	**2.99**	**309**	PN		**Pn**	**14 49 11.5**	**-1.8**
KUZ					AML	AML	14 49 46.3	
KUZ					AML	AML	14 49 47.4	
KUZ	**Kuaotunu**	**2.99**	**309**	Pn		**Pn**	**14 49 11.9**	**-1.4**
WAZ	**Wanganui**	**3.01**	**248**	PN		**Pn**	**14 49 15.1**	**+1.5**
WAZ					AML	AML	14 49 59.3	
WAZ					AML	AML	14 50 29.0	
WAZ	**Wanganui**	**3.01**	**248**	Pn		**Pn**	**14 49 15.6**	**+2.0**
VRZ	**Vera Road**	**3.03**	**260**	PN		**Pn**	**14 49 15.3**	**+1.4**
VRZ					AML	AML	14 50 01.9	
VRZ					AML	AML	14 50 05.4	
VRZ	**Vera Road**	**3.03**	**260**	Pn		**Pn**	**14 49 15.2**	**+1.4**
HOWZ	**Holdsworth Sta**	**3.25**	**226**	PN		**Pn**	**14 49 16.4**	**-0.6**
HOWZ	**Holdsworth Sta**	**3.25**	**226**	Pn		**Pn**	**14 49 16.4**	**-0.6**
LREZ	**Lake Rotokare**	**3.36**	**255**	PN		**Pn**	**14 49 19.9**	**+1.5**
ETAZ	**East Tamaki Re**	**3.38**	**299**	PN		**Pn**	**14 49 18.5**	**-0.2**
OGWZ	**Otaki Gorge**	**3.40**	**230**	PN		**Pn**	**14 49 18.4**	**-0.6**
MTW	**Mount Morrison**	**3.44**	**223**	PN		**Pn**	**14 49 18.0**	**-1.5**
MTW					AML	AML	14 50 00.6	
MTW					AML	AML	14 50 05.4	
TRWZ	**Traveller**	**3.52**	**218**	PN		**Pn**	**14 49 18.9**	**-1.8**
TRWZ					AML	AML	14 50 05.5	
TRWZ					AML	AML	14 50 06.2	
PREZ	**Palmer Road**	**3.52**	**258**	PN		**Pn**	**14 49 22.9**	**+2.2**
KIW	**Kapiti Island**	**3.59**	**231**	PN		**Pn**	**14 49 21.1**	**-0.5**
KIW					AML	AML	14 50 06.4	
KIW					AML	AML	14 50 20.4	
KIW	**Kapiti Island**	**3.59**	**231**	Pn		**Pn**	**14 49 21.2**	**-0.4**
PAWZ	**Paruwai Farm**	**3.64**	**221**	*e*Pn		**Pn**	**14 49 20.9**	**-1.4**
PAWZ					AML	AML	14 50 09.1	
PAWZ					AML	AML	14 50 11.5	
CAW	**Cannon Point**	**3.65**	**227**	PN		**Pn**	**14 49 21.4**	**-1.0**
CAW					AML	AML	14 50 09.4	
CAW					AML	AML	14 50 09.8	
MSWZ	**Moikau Station**	**3.76**	**222**	PN		**Pn**	**14 49 22.1**	**-1.8**
MSWZ					AML	AML	14 50 08.5	
MSWZ					AML	AML	14 50 20.6	
PLWZ	**Palliser**	**3.87**	**221**	*e*PN		**Pn**	**14 49 23.5**	**-2.0**
PLWZ	**Palliser**	**3.87**	**221**	Pn		**Pn**	**14 49 23.6**	**-1.9**
BHW	**Baring Head**	**3.96**	**225**	*e*PN		**Pn**	**14 49 25.1**	**-1.5**
BHW					SN	**Sn**	**14 50 11.0**	**-1.0**
BHW					AML	AML	14 50 15.9	
TCW	**Tory Channel**	**4.18**	**231**	PN		**Pn**	**14 49 28.2**	**-1.5**
TCW					AML	AML	14 50 21.6	
TCW					AML	AML	14 50 22.5	
TCW	**Tory Channel**	**4.18**	**231**	Pn		**Pn**	**14 49 28.3**	**-1.4**
DUWZ	**D'Urville Isla**	**4.19**	**238**	*e*PN		**Pn**	**14 49 29.0**	**-0.8**
WCZ	**Waipu Caves**	**4.35**	**308**	PN		**Pn**	**14 49 32.0**	**-0.1**
TUWZ	**Tuamarina**	**4.51**	**231**	*e*PN		**Pn**	**14 49 32.0**	**-2.2**
TUWZ					AML	AML	14 50 29.0	
TUWZ					AML	AML	14 50 34.6	
BSWZ	**Blackbirch Sta**	**4.72**	**229**	AML		AML	14 51 06.8	
NNZ	**Nelson**	**4.75**	**236**	*e*PN		**Pn**	**14 49 35.9**	**-1.6**
NNZ					AML	AML	14 50 44.3	
NNZ	**Nelson**	**4.75**	**236**	Pn		**Pn**	**14 49 36.2**	**-1.3**
QRZ	**Quartz Range**	**5.15**	**243**	*e*PN		**Pn**	**14 49 41.1**	**-1.9**
QRZ	**Quartz Range**	**5.15**	**243**	Pn		**Pn**	**14 49 41.2**	**-1.8**
THZ	**Tophouse**	**5.34**	**233**	*e*PN		**Pn**	**14 49 43.6**	**-2.1**
THZ					AML	AML	14 50 47.8	
THZ					AML	AML	14 50 49.9	
THZ	**Tophouse**	**5.34**	**233**	Pn		**Pn**	**14 49 43.7**	**-2.1**
KHZ	**Kahutara**	**5.37**	**224**	*e*PN		**Pn**	**14 49 43.8**	**-2.2**
KHZ					AML	AML	14 50 49.4	
KHZ					AML	AML	14 51 03.4	
KHZ	**Kahutara**	**5.37**	**224**	Pn		**Pn**	**14 49 44.0**	**-2.0**
DSZ	**Denniston Nort**	**6.04**	**237**	PN		**Pn**	**14 49 53.4**	**-1.9**
DSZ	**Denniston Nort**	**6.04**	**237**	Pn		**Pn**	**14 49 53.6**	**-1.7**
CTZ	**Chatham Island**	**6.21**	**146**	PN		**Pn**	**14 49 59.7**	**+2.1**
CTZ	**Chatham Island**	**6.21**	**146**	Pn		**Pn**	**14 50 00.3**	**+2.7**
LTZ	**Lake Taylor**	**6.32**	**228**	*e*PN		Pn	14 49 55.6	-3.5
LTZ					AML	AML	14 51 07.8	
LTZ					AML	AML	14 51 31.5	
LTZ	**Lake Taylor**	**6.32**	**228**	Pn		Pn	14 49 55.7	-3.4
CRLZ	**Canterbury Las**	**6.66**	**221**	*e*PN		**Pn**	**14 50 00.8**	**-2.9**
MQZ	**McQueen's Vall**	**6.74**	**220**	*e*PN		Pn	14 50 01.3	-3.5
MQZ	**McQueen's Vall**	**6.74**	**220**	Pn		**Pn**	**14 50 02.2**	**-2.6**
OXZ	**Oxford**	**6.80**	**225**	*e*PN		**Pn**	**14 50 03.0**	**-2.7**
RPZ	**Rata Peaks**	**7.86**	**202**	*e*P		**Pn**	**14 50 17.5**	**+0.8**
	2.0nm,0.3s,baz=208,slow=3.1,SNR=7.8							
RPZ				S		**Sn**	**14 51 36.1**	**-5.6**
	3.4nm,0.3s,baz=169,slow=20,SNR=13							
RPZ				LR		LR	14 54 01.9	
	comp=Z,265nm,20.7s,baz=324,slow=43							
LBZ	**Lake Benmore**	**8.51**	**225**	*e*PN		**Pn**	**14 50 26.6**	**-2.5**
LBZ	**Lake Benmore**	**8.51**	**225**	Pn		**Pn**	**14 50 26.7**	**-2.4**
ODZ	**Otahua Downs**	**8.70**	**220**	*e*PN		**Pn**	**14 50 28.8**	**-2.9**
EAZ	**

PNHZ	**Pukenui**	**2.30**	**233**	PN	Pn	14 58 48.9	-1.0
WNVZ	**Wahianoa**	**2.46**	**250**	*e*PN	Pn	14 58 51.6	-0.5
ANWZ	**Angora Road**	**2.52**	**220**	*e*PN	Pn	14 58 50.6	-2.1
TSZ	**Takapari Road**	**2.54**	**232**	PN	Pn	14 58 51.3	-1.7
PRWZ	**Pori Road**	**2.85**	**224**	PN	Pn	14 58 55.9	-1.4
POWZ	**Post Office Ro**	**2.86**	**229**	*e*PN	Pn	14 58 56.0	-1.4
WAZ	**Wanganui**	**3.05**	**245**	AML	AML	14 59 51.9	
TMWZ	**Te Maipa**	**3.30**	**218**	*e*PN	Pn	14 59 00.1	-3.4
OGWZ	**Otaki Gorge**	**3.48**	**228**	*e*PN	Pn	14 59 03.6	-2.3
MTW	**Mount Morrison**	**3.53**	**221**	*e*PN	Pn	14 59 02.9	-3.8
TCW	**Tory Channel**	**4.25**	**230**	*e*PN	Pn	14 59 13.7	-2.8
THZ	**Tophouse**	**5.41**	**232**	AML	AML	14 59 26.2	
LTZ	**Lake Taylor**	**6.40**	**227**	*e*PN	Pn	14 59 42.2	-4.0
MQZ	**McQueen's Vall**	**6.83**	**219**	*e*PN	Pn	14 59 46.9	-5.0

NIED ***13*** *15:01:00,27°.40N×141°.30E,h59km,Mw3.7 Best double couple: M₀3.59000×10¹⁴ NP1:φ≈32.00000°,δ≈82.00000°, λ≈7.00000°. NP2:φ≈301.00000°,δ≈83.00000°,λ≈172.00000°.*

ISCJB ***13*** *15:01:43.9±0.5,27°.58N±0°.08×140°.77E±0°.07,h33km, mb4.1/16,Error ellipse: s-maj=11.8km s-min=7.9km az=28.9*

IDC ***13*** *15:01:51.0±1.7,27°.52N×141°.18E,h80km±15km,mb3.8/14, mb1 4.0/14,mb1mx3.6/50,mbtmp4.1/14,Error ellipse: s-maj=26.2km s-min=13.1km az=106.0*

NEIC ***13*** *15:01:51.4±1.2,27°.51N×141°.12E,h84km±11km,mb4.1/3, Error ellipse: s-maj=18.2km s-min=8.1km az=106.0*

ISC 13 15:01:46.2±0.7,27°.6N±0°.1×140°.9E±0°.1,h35km,n20, σ1s01/20,mb4.0/16,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.26**	**114**		*e*Pn		Pn	15 02 11.0	+3.7
CBIJ						S	**Sn**	**15 02 24.2**	**+1.2**
JCJ	**Chichijima**	**1.26**	**114**		P		Pn	15 02 11.9	+4.6
	386nm,0.3s,baz=28,slow=7.7,SNR=409								
JCJ						S	**Sn**	**15 02 24.2**	**+1.2**
	1μm,0.3s,baz=311,slow=23,SNR=98								
BATI	**Baumata**	**41.14**	**206**		P		**P**	**15 09 28.6**	**+1.4**
	11nm,0.4s,baz=73,slow=2.3,SNR=9.3								
WRAB	**Tennant Creek**	**47.69**	**188**		*e*P		**P**	**15 10 18.7**	**-0.8**
	7.2nm,0.6s								
WB2	**Warramunga Arr**	**47.70**	**188**		*e*P		**P**	**15 10 18.6**	**-1.0**
WRA	**Warramunga Arr**	**47.70**	**188**		P		**P**	**15 10 18.8**	**-0.8**
	6.6nm,0.5s,baz=9.7,slow=8.6,SNR=87								
ASAR	**Alice Springs**	**51.43**	**188**		P		**P**	**15 10 47.2**	**-0.8**
	0.3nm,0.4s,baz=1.9,slow=4.8,SNR=14								
BVAR	**Borovoye Array**	**56.88**	**317**		P		**P**	**15 11 28.4**	**+0.9**
	0.6nm,0.5s,baz=85,slow=6.4,SNR=6.3								
ILAR	**Eielson Array**	**57.81**	**29**		P		**P**	**15 11 33.4**	**-0.4**
	1.7nm,0.8s,baz=254,slow=5.9,SNR=17								
STKA	**Stephens Creek**	**59.17**	**179**		P		**P**	**15 11 42.8**	**-0.7**
	1.3nm,0.8s,baz=309,slow=10,SNR=2.2								
INK	**Inuvik**	**63.03**	**25**		P		**P**	**15 12 09.5**	**+0.1**
	0.8nm,0.5s,baz=328,slow=4.3,SNR=3.2								
INK	**Inuvik**	**63.03**	**25**		*e*P		**P**	**15 12 09.3**	**0.0**
	0.7nm,0.4s								
SPITS	**Spitsbergen Ar**	**69.67**	**350**		P		**P**	**15 12 53.6**	**+1.9**
	4.0nm,0.8s,baz=61,slow=6.9,SNR=5.3								
YKA	**Yellowknife Ar**	**72.23**	**28**		P		**P**	**15 13 07.0**	**-0.4**
	1.0nm,0.6s,baz=294,slow=6.2,SNR=20								
FINES	**FINESS Array B**	**76.97**	**333**		P		**P**	**15 13 34.7**	**-0.3**
	0.7nm,0.4s,baz=80,slow=4.3,SNR=8.9								
NVAR	**Mina Array Bea**	**81.09**	**51**		P		**P**	**15 13 57.7**	**-0.6**
	0.9nm,0.6s,baz=297,slow=5.6,SNR=11								
HLID	**Hailey**	**81.19**	**45**		*e*P		**P**	**15 13 58.4**	**-0.3**
	1.3nm,1.0s								
NOA	**NORSAR Array B**	**82.70**	**338**		P		**P**	**15 14 06.4**	**+0.3**
	0.4nm,0.5s,baz=40,slow=5.0,SNR=2.7								
PDAR	**Pinedale Array**	**84.64**	**44**		P		**P**	**15 14 15.5**	**-1.2**
	0.4nm,0.5s,baz=262,slow=1.6,SNR=4.7								
TXAR	**Lajitas Array**	**96.20**	**52**		P		**P**	**15 15 09.6**	**-1.6**
	0.2nm,0.6s,baz=321,slow=1.8,SNR=3.4								

MEX ***13*** *15:06:50.2±0.5,32°.07N×114°.80W,h15km,MD3.4*

ISCJB ***13*** *15:06:51.1±0.5,32°.11N±0°.03×115°.10W±0°.04,h22km±4km, Error ellipse: s-maj=5.4km s-min=4.3km az=1.5*

NEIC ***13*** *15:06:52.0,32°.13N×115°.17W,h7km,MD3.3(MEX), ML3.1(PAS),ML3.5(ECX),After ECX.*

ECX ***13*** *15:06:52.8±0.5,32°.12N×115°.17W,h9km,MD3.1,ML3.3*

ISC 13 15:06:51.0±1.0,32°.12N±0°.02×115°.14W±0°.03,h17km±8km, n29,σ0s60/47,8C-14D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.16**	**215**	⇑	*e*P		**Pg**	**15 06 55.2**	**-0.1**
EMX					*e*S		**Sb**	**15 06 57.8**	**-0.6**
MBIG	**Mexicali**	**0.29**	**350**		*e*P		**Pg**	**15 06 57.6**	**+0.2**
MBIG					*e*S		**Sn**	**15 07 05.0**	**-1.4**
CPBX	**Cerro Prieto**	**0.33**	**334**	⇓	*e*P		**Pb**	**15 06 59.0**	**+0.5**
CPBX				⇓	*e*P		**Pb**	**15 06 59.0**	**+0.5**
CPBX					*e*S		**Sb**	**15 07 03.5**	**0.0**
CPBX	**Cerro Prieto**	**0.33**	**334**		*e*P		**Pb**	**15 06 58.9**	**+0.5**
CPBX					*e*S		**Sb**	**15 07 04.6**	**+1.1**
ECBX	**El Chinero**	**0.65**	**174**	⇓	*e*P		**Pb**	**15 07 04.0**	**+0.2**
ECBX					*e*S		**Sb**	**15 07 13.1**	**+0.5**
YMD	**Yuma Desert**	**0.66**	**49**	⇑	*i*P		**Pg**	**15 07 04.6**	**+0.5**
YMD				⇑	*i*P		**Pg**	**15 07 04.6**	**+0.5**
RDX	**Rancho Dawling**	**0.71**	**255**	⇑	*e*P		**Pg**	**15 07 05.4**	**+0.4**
RDX					*e*S		**Sb**	**15 07 14.9**	**+0.3**
RDX					*e*			15 07 16.4	
RDX					AML		AML	15 07 16.4	
	comp=N,797nm,0.7s								
SGL	**Mount Signal**	**0.73**	**317**	⇓	*i*P		**Pb**	**15 07 05.1**	**-0.1**
SGL				⇓	*i*P		**Pb**	**15 07 05.1**	**-0.1**
COA	**Coachella**	**0.74**	**1**	⇓	*i*P		**Pb**	**15 07 05.6**	**+0.1**
COA				⇓	*i*P		**Pb**	**15 07 05.6**	**+0.1**
YUH	**Yuha Desert**	**0.85**	**309**	⇓	*i*P		**Pb**	**15 07 07.3**	**0.0**
YUH				⇓	*i*P		**Pb**	**15 07 07.3**	**0.0**
RMX	**La Rumorosa**	**0.93**	**301**	⇓	*e*P		**Pb**	**15 07 08.6**	**-0.2**
RMX					*e*S		**Sb**	**15 07 21.1**	**+0.1**
GLA	**Glamis**	**0.97**	**16**		*e*P		**Pb**	**15 07 08.8**	**-0.6**
GLA					*e*Sg		**Sb**	**15 07 20.8**	**-1.1**
SPIG	**San Pedro Mart**	**1.11**	**195**	⇑	*e*P		**Pb**	**15 07 11.8**	**0.0**
SPX	**San Pedro Mart**	**1.11**	**195**	⇑	*e*P		**Pb**	**15 07 11.8**	**0.0**
SPX					AML		AML	15 07 28.7	
	comp=N,398nm,0.2s								
SPX				⇑	*e*			15 07 28.7	
ZAX	**El Zacaton**	**1.14**	**238**	⇓	*e*P		**Pn**	**15 07 12.3**	**0.0**
ZAX				⇓	*e*			15 07 31.4	
ZAX					AML		AML	15 07 31.4	
	comp=N,444nm,0.3s								
CBX	**Cerro Bola**	**1.31**	**279**		*e*P		**Pn**	**15 07 14.6**	**-0.1**
CBX					*e*S		**Sg**	**15 07 33.2**	**-0.2**
CBX	**Cerro Bola**	**1.31**	**279**		*e*P		**Pn**	**15 07 14.5**	**-0.1**
CBX					*e*S		**Sb**	**15 07 32.3**	**+0.5**
CBX				⇑	*e*			15 07 33.8	
CBX					AML		AML	15 07 33.8	
	comp=E,1μm,0.5s								
CBX	**Cerro Bola**	**1.31**	**279**		*e*P		**Pb**	**15 07 15.4**	**+0.1**
CBX					*e*S		**Sg**	**15 07 33.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.33**	**250**	⇓	*e*P		**Pn**	**15 07 15.2**	**+0.3**
PBX	**Punta Banda**	**1.40**	**255**	⇓	*e*P		**Pn**	**15 07 16.3**	**+0.5**
BAR	**Barrett**	**1.42**	**294**		*e*Pn		**Pn**	**15 07 15.8**	**-0.2**
BAR					*e*Sn		**Sn**	**15 07 34.2**	**-0.1**
PFO	**Pinyon Flats O**	**1.86**	**324**		*e*Pn		**Pn**	**15 07 21.4**	**-0.7**
PFO					*e*Sg		**Sb**	**15 07 48.9**	**+1.3**
214A	**Organ Pipe Nat**	**1.98**	**94**		*e*Pn		**Pn**	**15 07 23.0**	**-0.7**
LDFC	**Landfair**	**2.95**	**0**		*e*Pg		**Pg**	**15 07 47.5**	**-0.1**
MWC	**Mount Wilson**	**3.23**	**311**		Pg		**Pg**	**15 07 52.4**	**-0.5**
GSC	**Goldstone, Bar**	**3.47**	**337**		Pg		**Pg**	**15 07 58.8**	**+1.3**
TUC	**Tucson**	**3.69**	**86**		*e*Pn		**Pn**	**15 07 47.4**	**0.0**
WUAZ	**Wupatki**	**4.61**	**42**		Pg		**Pg**	**15 08 20.9**	**+1.5**
DAC	**Darwin (Calif)**	**4.62**	**335**		*e*Pn		**Pn**	**15 07 59.5**	**-0.7**

NEIC ***13*** *15:07:22.8,36°.87S×73°.38W,h25km,mb4.2/2, ML4.7(GUC),After GUC.*

NEIC Felt [V] at Chiguayante and Concepcion; [III] at La Laja and Navidad.

IDC ***13*** *15:07:25.9±4.5,36°.73S×72°.97W,h33km±33km,mb3.8/10, mb1 3.9/12,mb1mx3.7/38,mbtmp3.9/12,ML3.5/2,MS3.8/2, Ms1 3.8/2,ms1mx3.2/20,Error ellipse: s-maj=32.4km s-min=15.4km az=88.0*

ISC 13 15:07:24.0±1.4,36°.74S±0°.07×73°.2W±0°.1,h25km±9km,n29, σ1s20/27,mb4.0/11,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.14**	**138**	⇑	*i*P		Pb	15 07 29.1	+0.2
CCSP					*i*S		**Sb**	**15 07 32.5**	**+0.2**
LNCH	**Linares**	**1.58**	**56**		*e*P		**Pb**	**15 07 52.7**	**0.0**
LNCH					*i*S		**Sb**	**15 08 15.2**	**+3.0**
TALC	**Talca**	**1.86**	**44**		*i*P		**Pb**	**15 07 56.4**	**-0.9**
TALC					*i*S		**Sb**	**15 08 22.4**	**+2.4**
PLCA	**Paso Flores**	**4.50**	**153**		Pn		**Pn**	**15 08 32.2**	**+1.5**
	1.1nm,0.3s,baz=324,slow=9.7,SNR=30								
PLCA					Lg		Lg	15 09 48.5	
	9.0nm,0.3s,baz=82,slow=17,SNR=4.9								
CFAA	**Coronel Fontan**	**6.58**	**40**		Pn		**Pn**	**15 08 58.1**	**-1.2**
	0.2nm,0.3s,baz=194,slow=13,SNR=9.2								
LCO	**Las Campanas**	**8.00**	**16**		*e*Pn		**Pn**	**15 09 17.5**	**-1.4**
	15nm,0.8s								
TRQA	**Tornquist**	**9.04**	**102**		Pn		**Pn**	**15 09 31.8**	**-1.3**
USHA	**Ushuaia**	**18.39**	**171**		LR		LR	15 19 31.2	
	comp=Z,233nm,18.0s,baz=18,slow=40								
LPAZ	**La Paz**	**20.87**	**14**		P		Pn	15 12 07.0	-0.6
	2.6nm,0.8s,baz=171,slow=7.1,SNR=9.9								
SIV	**San Ignacio**	**23.32**	**31**		P		**P**	**15 12 28.3**	**-2.0**
	5.6nm,1.0s,baz=232,slow=14,SNR=7.7								
SAML	**Samuel**	**29.13**	**21**		*e*P		**P**	**15 13 22.8**	**-0.3**
	1.2nm,1.0s								
PTGA	**Pitinga**	**37.88**	**22**		P		**P**	**15 14 39.1**	**0.0**
	3.0nm,0.6s,baz=178,slow=10,SNR=6.5								
SDV	**Santo Domingo**	**45.45**	**4**		*e*P		**P**	**15 15 41.0**	**-0.3**
	14nm,1.3s								
SNAA	**Sanae**	**49.43**	**157**		P		**P**	**15 16 11.6**	**+0.1**
	1.3nm,1.0s,baz=299,slow=2.8,SNR=4.0								
QSPA	**South Pole Qui**	**53.50**	**180**		P		**P**	**15 16 42.1**	**0.0**
	2.8nm,1.0s,baz=277,slow=1.0,SNR=6.5								
TXAR	**Lajitas Array**	**71.68**	**332**		P		**P**	**15 18 45.1**	**+1.3**
	1.3nm,0.7s,baz=152,slow=8.6,SNR=16								
DBIC	**Dimbokro**	**76.97**	**71**		P		**P**	**15 19 14.2**	**-0.6**
	2.3nm,0.7s,baz=182,slow=7.4,SNR=3.2								
RAO	**Raoul Island**	**83.60**	**238**		LR		LR	15 47 30.3	
	comp=Z,60nm,20.3s,baz=154,slow=29								
NVAR	**Mina Array Bea**	**85.60**	**326**		P		**P**	**15 20 01.7**	**+1.3**
	0.3nm,0.3s,baz=111,slow=6.5,SNR=5.6								
PDAR	**Pinedale Array**	**85.78**	**334**		P		**P**	**15 20 01.9**	**+0.7**
	0.8nm,0.8s,baz=150,slow=6.3,SNR=6.8								
TORD	**Torodi Ar. Bea**	**86.04**	**71**		P		**P**	**15 20 01.9**	**-0.9**
	0.9nm,0.9s,baz=236,slow=5.4,SNR=3.9								
BRTR	**Keskin Array B**	**123.98**	**63**		PKP		**PKPdf**	**15 26 19.4**	**-0.7**
	0.3nm,0.5s,baz=349,slow=1.5,SNR=2.9								
ABKAR	**Akbulak array**	**144.10**	**55**		*e*PKPpre		PKPpre	15 26 55.0	
BVAR	**Borovoye Array**	**149.91**	**46**		PKPbc		**PKPbc**	**15 27 11.4**	**-0.2**
	2.0nm,0.9s,baz=344,slow=4.8,SNR=6.4								
KURBB	**Kurchatov Arra**	**155.49**	**47**		PKPab		**PKPab**	**15 27 40.7**	**-0.1**
	1.1nm,0.8s,baz=292,slow=4.9,SNR=5.4								
KURK	**Kurchatov**	**155.50**	**46**		PKPab		**PKPab**	**15 27 40.7**	**-0.1**
ZALV	**Zalesovo Beam**	**157.04**	**35**		PKPab		**PKPab**	**15 27 47.7**	**+0.4**
	0.3nm,0.3s,baz=10,slow=9.0,SNR=3.6								
MKAR	**Makanchi Array**	**159.23**	**53**		PKPab		**PKPab**	**15 27 57.0**	**-0.1**
	0.5nm,0.7s,baz=244,slow=11,SNR=3.7								
SONM	**Songino Array**	**168.91**	**1**		PKPab		**PKPab**	**15 28 40.3**	**+0.8**
	0.5nm,0.8s,baz=317,slow=6.1,SNR=4.5								

ISCJB ***13*** *15:10:34.7±1.6,33°.91S±0°.04×72°.43W±0°.07,h19km±11km, mb4.2/12,MS3.9/2,Error ellipse: s-maj=9.4km s-min=5.9km az=8.9*

NEIC ***13*** *15:10:36.2,33°.93S×72°.33W,h13km,mb4.5/3, ML4.6(GUC),After GUC.*

NEIC Felt [III] at Navidad and [II] at Santiago and Talca.

GUC ***13*** *15:10:36.2±0.7,33°.93S×72°.33W,h13km±8km,ML4.6*

IDC ***13*** *15:10:39.3±4.7,33°.91S×72°.14W,h33km±33km,mb4.1/11, mb1 4.2/14,mb1mx4.0/37,mbtmp4.3/14,ML4.3/3,MS3.6/3, Ms1 3.6/3,ms1mx3.2/22,Error ellipse: s-maj=25.7km s-min=14.7km az=93.0*

ISC 13 15:10:35.7±2.1,33°.91S±0°.04×72°.32W±0°.07,h13km±12km, n53,σ0s82/70,mb4.5/12,6C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.76**	**94**	⇓	*i*P		**Pg**	**15 10 50.3**	**-0.2**
LNV	**Longovilo**	**0.76**	**94**	⇓	*i*P		**Pg**	**15 10 50.3**	**-0.2**
CHCH	**Chadas Angostu**	**1.39**	**92**	⇑	*i*P		**Pn**	**15 11 00.1**	**-0.7**
CHCH	**Chadas Angostu**	**1.39**	**92**	⇑	*i*P		**Pn**	**15 11 00.1**	**-0.7**
NICH	**Los Niches**	**1.42**	**141**		*e*P		**Pn**	**15 11 00.8**	**-0.4**
NICH					*i*S		**Sn**	**15 11 18.9**	**-0.9**
NICH	**Los Niches**	**1.42**	**141**		*e*P		**Pn**	**15 11 00.8**	**-0.4**
NICH					*i*S		**Sn**	**15 11 18.9**	**-0.9**
ROCH	**El Roble**	**1.44**	**50**	⇑	*i*P		**Pn**	**15 11 01.8**	**+0.1**
ROCH					*i*S		**Sb**	**15 11 21.4**	**+0.5**
ROCH					AML		AML	15 11 28.4	
	comp=N,14μm,0.5s								
ROCH	**El Roble**	**1.44**	**50**	⇑	*i*P		**Pn**	**15 11 01.8**	**+0.1**
ROCH					*i*S		**Sb**	**15 11 21.4**	**+0.5**
PEL	**Peldehue**	**1.57**	**61**	⇑	*i*P		**Pn**	**15 11 03.7**	**+0.5**
PEL					*i*S		**Sn**	**15 11 23.7**	**+0.3**
PEL					AML		AML	15 11 31.3	
	comp=N,27μm,0.5s								
PEL	**Peldehue**	**1.57**	**61**	⇑	*i*P		**Pn**	**15 11 03.7**	**+0.5**
PEL					*i*S		**Sn**	**15 11 23.7**	**+0.3**
CLCH	**Cerro Calan**	**1.57**	**72**	⇓	*i*P		**Pn**	**15 11 03.5**	**+0.1**
CLCH					*i*S		**Sb**	**15 11 24.9**	**+0.3**
CLCH					AML		AML	15 11 40.4	
	comp=E,11μm,0.5s								
TALC	**Talca**	**1.59**	**159**		*e*P		**Pn**	**15 11 03.5**	**-0.1**
TALC					*i*S		**Sn**	**15 11 23.7**	**-0.3**
TALC	**Talca**	**1.59**	**159**		*e*P		**Pn**	**15 11 03.5**	**-0.1**
TALC					*i*S		**Sn**	**15 11 23.7**	**-0.3**
CFAA	**Coronel Fontan**	**4.14**	**57**		Pn		**Pn**	**15 11 40.2**	**+1.6**
	comp=E,1.9nm,0.3s,baz=218,slow=11,SNR=20								
CFAA					Lg		Lg	15 12 40.4	
	comp=E,5.2nm,0.3s,baz=127,slow=20,SNR=4.3								
CFAA					LR		LR	15 13 36.8	
	comp=E,125nm,21.3s,baz=228,slow=44								
LCO	**Las Campanas**	**5.07**	**16**		*e*Pn		**Pn**	**15 11 50.9**	**-0.7**
LCO					*e*Sn		**Sn**	**15 12 47.6**	**-2.6**
PLCA	**Paso Flores**	**6.96**	**169**		Pn		**Pn**	**15 12 18.3**	**+0.9**
	comp=E,1.5nm,0.3s,baz=332,slow=13,SNR=8.0								
PLCA					Lg		Lg	15 14 12.6	
	comp=E,2.0nm,0.3s,baz=246,slow=23,SNR=3.0								
PLCA	**Paso Flores**	**6.96**	**169**		*e*Pn		**Pn**	**15 12 17.9**	**+0.5**
PLCA					Lg		Lg	15 14 12.6	
TRQA	**Tornquist**	**9.35**	**119**		*e*Pn		**Pn**	**15 12 52.3**	**+2.1**
LVC	**Limon Verde**	**11.64**	**16**		*e*Pn		Pn	15 13 17.4	-4.4
	comp=E,9.6nm,0.7s								
LPAZ	**La Paz**	**17.95**	**13**		P		**P**	**15 14 46.9**	**+0.8**
	comp=E,1.4nm,0.3s,baz=196,slow=7.5,SNR=40								
SIV	**San Ignacio**	**20.52**	**32**		P		**P**	**15 15 13.5**	**-0.3**
	comp=E,8.2nm,0.7s,baz=221,slow=11,SNR=16								
SIV					LR		LR	15 24 34.0	
	comp=E,381nm,19.2s,baz=244,slow=41								
EFI	**East Falkland**	**20.55**	**154**		*e*P		**P**	**15 15 13.0**	**-0.7**
SAML	**Samuel**	**26.23**	**21**		*e*P		**P**	**15 16 10.2**	**-0.2**
	comp=E,9.2nm,0.7s								
BDFB	**Brasilia**	**28.48**	**56**		P		**P**	**15 16 29.9**	**-0.9**
	comp=E,6.3nm,0.7s,baz=220,slow=7.8,SNR=7.5								
BDFB					LR		LR	15 29 02.2	
	comp=E,392nm,18.8s,baz=228,slow=39								
PTGA	**Pitinga**	**34.98**	**22**		P		**P**	**15 17 27.6**	**-0.1**
	comp=E,7.8nm,0.7s,baz=193,slow=10,SNR=15								
RCBR	**Riachuelo**	**43.80**	**59**		*e*P		**P**	**15 18 40.7**	**-0.7**
	comp=E,4.5nm,0.8s								
SNAA	**Sanae**	**51.76**	**158**		P		**P**	**15 19 42.0**	**-0.5**
	comp=E,1.2nm,0.7s,baz=269,slow=9.3,SNR=8.2								
QSPA	**South Pole Qui**	**56.33**	**180**		P		**P**	**15 20 16.6**	**+0.5**
	comp=E,3.8nm,1.0s,baz=106,slow=0.7,SNR=7.7								
TXAR	**Lajitas Array**	**69.54**	**331**		P		**P**	**15 21 44.5**	**+0.3**
	comp=E,0.7nm,0.6s,baz=157,slow=8.1,SNR=8.8								
MAW	**Mawson**	**73.34**	**164**		P		**P**	**15 22 07.5**	**+0.9**
	comp=E,4.6nm,0.8s,baz=198,slow=9.6,SNR=4.6								
DBIC	**Dimbokro**	**75.37**	**71**		P		**P**	**15 22 19.2**	**-0.1**
	comp=E,3.5nm,0.7s,baz=223,slow=6.3,SNR=5.6								
DBIC	**Dimbokro**	**75.37**	**71**		*e*P		**P**	**15 22 19.0**	**-0.3**
	comp=E,4.0nm,0.7s								
PDAR	**Pinedale Array**	**83.57**	**333**		P		**P**	**15 23 04.8**	**+1.2**
	comp=E,0.5nm,0.8s,baz=150,slow=5.0,SNR=4.2								
NVAR	**Mina Array Bea**	**83.67**	**325**		P		**P**	**15 23 06.3**	**+2.1**
	comp=E,0.4nm,0.8s,baz=145,slow=3.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**84.40**	**70**		P		**P**	**15 23 08.0**	**-0.2**
	comp=E,5.0nm,0.7s,baz=287,slow=6.7,SNR=35								
YKA	**Yellowknife Ar**	**101.89**	**341**		P		**Pdif**	**15 24 27.3**	**-0.9**
	comp=E,0.1nm,0.3s,baz=138,slow=5.2,SNR=4.8								
WRA	**Warramunga Arr**	**120.73**	**209**		PKP		**PKPdf**	**15 29 27.8**	**-0.2**
	comp=E,0.6nm,0.5s,baz=156,slow=1.7,SNR=15								
BRTR	**Keskin Array B**	**122.00**	**61**		PKP		**PKPdf**	**15 29 29.2**	**-0.7**
	comp=E,0.8nm,0.7s,baz=222,slow=1.7,SNR=5.0								

AKASG	**Malin Array Be**	**122.30**	**47**	PKP		**PKPdf**	**15 29 29.0**	**-0.9**
	comp=E,1.3nm,0.7s,baz=260,slow=2.7,SNR=7.1							
FINES	**FINESS Array B**	**123.05**	**35**	PKP		**PKPdf**	**15 29 31.3**	**+0.3**
	comp=E,1.4nm,1.0s,baz=150,slow=5.8,SNR=3.1							
ARCES	**ARCESS Array B**	**124.03**	**25**	PKP		**PKPdf**	**15 29 31.6**	**-1.0**
	comp=E,7.4nm,1.1s,baz=343,slow=3.8,SNR=6.2							
AKTO	**Aktyubinsk**	**140.46**	**50**	PKP		**PKPdf**	**15 30 04.7**	**+0.5**
	comp=E,1.1nm,0.7s,baz=40,slow=1.9,SNR=4.7							
ABKAR	**Akbulak array**	**141.81**	**52**	*e*PKPpre		PKPpre	15 30 01.8	
BVAR	**Borovoye Array**	**147.37**	**43**	PKPbc		**PKPbc**	**15 30 17.4**	**-1.2**
	comp=E,3.9nm,0.4s,baz=313,slow=1.9,SNR=23							
YAK	**Yakutsk**	**148.56**	**340**	PKPbc		**PKPbc**	**15 30 21.2**	**-0.2**
	comp=E,5.5nm,0.7s,baz=27,slow=0.9,SNR=5.4							
KKAR	**Karatay Array**	**149.71**	**61**	*e*PKPbc		**PKPbc**	**15 30 24.9**	**0.0**
EKS2	**Erkin-Say**	**152.14**	**62**	*e*PKPbc		**PKPbc**	**15 30 31.7**	**+0.8**
AAK	**Ala-Archa**	**152.67**	**62**	PKPbc		**PKPbc**	**15 30 33.1**	**+1.0**
	comp=E,4.4nm,0.7s,baz=191,slow=2.1,SNR=20							
AAK				PKPab		**PKPab**	**15 30 40.8**	**-2.1**
	comp=E,3.2nm,0.8s,baz=270,slow=3.0,SNR=3.8							
KURBB	**Kurchatov Arra**	**152.96**	**43**	PKP		**PKPdf**	**15 30 25.4**	**+0.5**
	comp=E,3.6nm,0.6s,baz=301,slow=1.9,SNR=4.8							
KURBB				PKPbc		**PKiKP**	**15 30 32.8**	**+0.4**
	comp=E,3.6nm,0.6s,baz=303,slow=2.9,SNR=38							
KURBB				PKPab		**PKPab**	**15 30 43.2**	**-0.3**
	comp=E,1.0nm,0.6s,baz=300,slow=3.1,SNR=4.2							
KURK	**Kurchatov**	**152.97**	**43**	PKP		**PKPdf**	**15 30 25.4**	**+0.5**
KURK				*e*PKPbc		**PKPbc**	**15 30 32.3**	**+0.1**
KURK				PKPbc		**PKiKP**	**15 30 32.8**	**+0.4**
KURK				PKPab		**PKPab**	**15 30 43.2**	**-0.3**
ZALV	**Zalesovo Beam**	**154.27**	**32**	PKP		**PKPdf**	**15 30 27.3**	**+0.6**
	comp=E,0.9nm,0.4s,baz=238,slow=2.3,SNR=4.7							
ZALV				PKPbc		**PKiKP**	**15 30 35.6**	**+0.6**
	comp=E,7.1nm,0.5s,baz=301,slow=3.3,SNR=30							
ZALV				PKPab		**PKPab**	**15 30 48.7**	**-0.3**
	comp=E,1.7nm,0.6s,baz=293,slow=5.9,SNR=4.5							
MKAR	**Makanchi Array**	**156.88**	**49**	PKP		**PKPdf**	**15 30 30.

WRA	**Warramunga Arr**	**27.10**	**247**	P	**P**	**15 23 39.9**	**+1.2**	
	3.8nm,1.0s,baz=77,slow=9.9,SNR=11							
WRA				LR	LR	15 34 29.1		
	comp=Z,243nm,20.4s,baz=70,slow=36							
STKA	**Stephens Creek**	**27.57**	**217**	P	**P**	**15 23 42.8**	**+0.1**	
	1.6nm,0.5s,baz=47,slow=15,SNR=2.6							
STKA				LR	LR	15 34 33.3		
	comp=Z,208nm,18.7s,baz=33,slow=36							
ASAR	**Alice Springs**	**28.69**	**240**	P	**P**	**15 23 53.0**	**+0.1**	
	1.3nm,0.9s,baz=69,slow=10,SNR=9.1							
ASAR				LR	LR	15 35 21.4		
	comp=Z,232nm,18.2s,baz=78,slow=36							
BATI	**Baumata**	**36.52**	**267**	LR	LR	15 40 07.6		
	comp=Z,89nm,18.3s,baz=22,slow=36							
CMAR	**Chiang Mai Arr**	**67.54**	**295**	P	**P**	**15 28 52.9**	**+1.2**	
	0.8nm,0.9s,baz=122,slow=4.7,SNR=4.4							
SONM	**Songino Array**	**75.56**	**326**	P	**P**	**15 29 39.4**	**-0.2**	
	0.8nm,1.0s,baz=107,slow=4.8,SNR=4.7							
ILAR	**Eielson Array**	**84.77**	**20**	P	**P**	**15 30 29.9**	**+1.3**	
	0.2nm,0.4s,baz=234,slow=5.1,SNR=6.8							
NVAR	**Mina Array Bea**	**89.53**	**51**	P	**P**	**15 30 51.2**	**-1.3**	
	0.2nm,0.5s,baz=220,slow=6.7,SNR=3.6							
MKAR	**Makanchi Array**	**89.96**	**318**	P	**P**	**15 30 52.9**	**-1.3**	
	0.3nm,0.5s,baz=87,slow=4.7,SNR=5.6							
YKA	**Yellowknife Ar**	**96.90**	**28**	P	**P**	**15 31 27.3**	**+1.7**	
	0.1nm,0.3s,baz=255,slow=4.6,SNR=3.0							

DDA ***13*** *15:18:17.1, 36°.12N×27°.47E, h25km, ML4.2*
NSSC ***13*** *15:18:18.7±1.2, 36°.04N×27°.61E, h0km±129km, MD2.6, ML3.4*
ATH ***13*** *15:18:19.4, 36°.25N×27°.49E, h28km±1km, MD4.1/33, ML4.3*
THE ***13*** *15:18:19.8, 36°.22N×27°.53E, h3km±2km, ML4.2/6, Error ellipse: s-maj=2.1km s-min=0.8km az=106.0*
NEIC ***13*** *15:18:19.5±0.3, 36°.20N×27°.48E, h10km, mb4.2/20, ML4.2(THE), Error ellipse: s-maj=5.8km s-min=4.1km az=182.0*
ISCJB ***13*** *15:18:19.6±0.4, 36°.18N±0°.02×27°.55E±0°.02, h29km±3km, mb4.0/27, MS3.5/3, Error ellipse: s-maj=2.9km s-min=2.0km az=13.7*
CSEM ***13*** *15:18:20.7±0.1, 36°.19N×27°.52E, h20km, mb4.0/4, Ms3.0, Error ellipse: s-maj=3.5km s-min=2.5km az=11.0*
IDC ***13*** *15:18:22.2±2.3, 36°.20N×27°.46E, h33km±18km, mb3.8/21, mb1 3.9/29,mb1mx3.8/52, mbtmp4.0/29,ML3.7/7,MS3.1/3, Ms1 3.1/3,ms1mx2.5/42, Error ellipse: s-maj=14.6km s-min=10.6km az=165.0*
NIC ***13*** *15:18:24.1, 36°.45N×27°.73E, h25km, mb4.5, ML4.2*
ISC 13 15:18:20.7±0.4, 36°.21N±0°.02×27°.53E±0°.02, h21km±2km, n392, σ1½27/454, mb4.0/27, MS3.0/3, 11C-8D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.48**	**324**	P		**Pb**	**15 18 29.0**	**-1.4**
NIS1				S		**Sb**	**15 18 36.9**	**-0.1**
NIS1	**Nisyros Isl.**	**0.48**	**324**	*e*PB		**Pb**	**15 18 29.1**	**-1.4**
NIS1	**Nisyros Isl.**	**0.48**	**324**	*e*Pb		**Pb**	**15 18 29.1**	**-1.4**
NIS1				S		**Sb**	**15 18 36.9**	**-0.1**
NIS1	**Nisyros Isl.**	**0.48**	**324**	P		**Pb**	**15 18 29.0**	**-1.4**
NIS1				S		**Sb**	**15 18 36.9**	**-0.1**
ARG	**Arkhangelos**	**0.48**	**90**	P		**Pb**	**15 18 30.1**	**-0.3**
ARG				S		**Sb**	**15 18 36.5**	**-0.5**
ARG	**Arkhangelos**	**0.48**	**90**	*e*PN		**Pb**	**15 18 30.5**	**+0.1**
ARG				*e*SN		**Sb**	**15 18 38.3**	**+1.2**
ARG	**Arkhangelos**	**0.48**	**90**	P		**Pb**	**15 18 30.1**	**-0.3**
ARG	**Arkhangelos**	**0.48**	**90**	*e*Pn		**Pb**	**15 18 30.5**	**+0.1**
ARG				S		**Sb**	**15 18 36.5**	**-0.5**
ARG				*e*Sn		**Sb**	**15 18 38.3**	**+1.2**
ARG	**Arkhangelos**	**0.48**	**90**	P		**Pb**	**15 18 30.1**	**-0.3**
ARG				S		**Sb**	**15 18 38.2**	**+1.2**
KARP	**Karpathos**	**0.73**	**204**	P		**Pb**	**15 18 34.6**	**-0.1**
KARP				S		**Sb**	**15 18 44.4**	**+0.1**
KARP	**Karpathos**	**0.73**	**204**	*e*PN		**Pb**	**15 18 34.6**	**-0.1**
KARP				*e*SN		**Sb**	**15 18 44.8**	**+0.5**
KARP	**Karpathos**	**0.73**	**204**	P		**Pb**	**15 18 34.6**	**-0.1**
KARP				S		**Sb**	**15 18 44.4**	**+0.1**
KARP				*e*Sn		**Sb**	**15 18 44.8**	**+0.5**
KARP	**Karpathos**	**0.73**	**204**	P		**Pb**	**15 18 34.5**	**-0.1**
KARP				S		**Sn**	**15 18 45.3**	**-1.0**
BDRM	**Kayabasi**	**0.85**	**355**	*i* P		**Pb**	**15 18 35.5**	**-1.3**
BDRM				*i* S		**Sb**	**15 18 48.0**	**+0.2**
BDRM	**Kayabasi**	**0.85**	**355**	*i* P		**Pb**	**15 18 35.5**	**-1.3**
BDRM				*i* S		**Sb**	**15 18 48.0**	**+0.2**
TURN	**Turunc**	**1.08**	**52**	*i* P		Pn	15 18 35.1	-5.5
TURN				*i* S		Sb	15 18 44.3	-10
AYDN	**Tasoluk**	**1.47**	**11**	*i* P		**Pb**	**15 18 46.9**	**-0.4**
AYDN				*i* S		**Sb**	**15 19 07.6**	**+2.0**
AYDN	**Tasoluk**	**1.47**	**11**	*i* P		**Pb**	**15 18 46.9**	**-0.4**
AYDN				*i* S		**Sb**	**15 19 07.6**	**+2.0**
GCAM	**G?zelcaml?**	**1.50**	**351**	*i* P		**Pn**	**15 18 45.7**	**-0.6**
GCAM				*i* S		**Sn**	**15 19 04.1**	**-1.2**
GCAM	**G?zelcaml?**	**1.50**	**351**	*i* P		**Pn**	**15 18 45.7**	**-0.6**
GCAM				*i* S		**Sn**	**15 19 04.0**	**-1.2**
ZKR	**Zakros**	**1.53**	**225**	*e*PN		**Pn**	**15 18 47.4**	**+0.6**
ZKR				*e*SN		**Sb**	**15 19 07.2**	**-0.1**
ZKR	**Zakros**	**1.53**	**225**	*e*Pn		**Pn**	**15 18 47.4**	**+0.6**
ZKR				*e*Sn		**Sb**	**15 19 07.2**	**-0.1**
SMG	**Samos**	**1.59**	**340**	P		**Pn**	**15 18 46.5**	**-1.0**
SMG				S		**Sb**	**15 19 08.8**	**-0.2**
SMG	**Samos**	**1.59**	**340**	*e*PB		**Pn**	**15 18 46.6**	**-1.0**
SMG	**Samos**	**1.59**	**340**	*e*Pb		**Pn**	**15 18 46.6**	**-1.0**
SMG				S		**Sb**	**15 19 08.8**	**-0.2**
SMG	**Samos**	**1.59**	**340**	P		**Pn**	**15 18 46.5**	**-1.0**
SANT	**Santorini**	**1.68**	**276**	*e*PN		**Pn**	**15 18 48.3**	**-0.5**
SANT	**Santorini**	**1.68**	**276**	*e*Pn		**Pn**	**15 18 48.3**	**-0.5**
SANT	**Santorini**	**1.68**	**276**	*e*Pn		**Pn**	**15 18 48.3**	**-0.5**
SANT				*e*S		**Sb**	**15 19 16.1**	**+4.5**
THR1	**Thera Island**	**1.68**	**276**	P		**Pn**	**15 18 48.3**	**-0.5**
THR1	**Thera Island**	**1.68**	**276**	P		**Pn**	**15 18 48.3**	**-0.5**
APE	**Apeiranthos**	**1.82**	**299**	P		**Pn**	**15 18 50.2**	**-0.6**
APE				S		**Sn**	**15 19 13.9**	**+0.7**
APE	**Apeiranthos**	**1.82**	**299**	*e*PB		**Pn**	**15 18 50.2**	**-0.6**
APE	**Apeiranthos**	**1.82**	**299**	P		**Pn**	**15 18 50.2**	**-0.6**
APE				S		**Sn**	**15 19 13.9**	**+0.7**
APE	**Apeiranthos**	**1.82**	**299**	P		**Pn**	**15 18 50.2**	**-0.6**
APE				S		**Sn**	**15 19 13.9**	**+0.7**
NPS	**Neapolis**	**1.83**	**239**	P		**Pn**	**15 18 50.9**	**+0.1**
NPS				S		**Sb**	**15 19 14.6**	**-1.2**
NPS	**Neapolis**	**1.83**	**239**	*e*PB		**Pn**	**15 18 50.9**	**+0.1**
NPS	**Neapolis**	**1.83**	**239**	P		**Pn**	**15 18 50.9**	**+0.1**
NPS				S		**Sb**	**15 19 14.6**	**-1.2**
NPS	**Neapolis**	**1.83**	**239**	P		**Pn**	**15 18 50.9**	**+0.1**
NPS				S		**Sb**	**15 19 14.6**	**-1.2**
DNZL	**Cakiroluk**	**1.91**	**39**	*i* P		**Pn**	**15 18 53.2**	**+1.1**
DNZL				*i* S		**Sb**	**15 18 53.2**	**+0.3**
DNZL	**Cakiroluk**	**1.91**	**39**	*i* P		**Pn**	**15 18 53.2**	**+1.1**
DNZL				*i* S		**Sb**	**15 19 18.6**	**+0.3**
GOLH	**Golhisar**	**1.92**	**57**	*i* P		**Pb**	**15 18 55.1**	**0.0**
GOLH	**Golhisar**	**1.92**	**57**	*i* P		**Pb**	**15 18 55.1**	**0.0**
GOLH				*i* S		**Sb**	**15 19 21.7**	**+3.1**
LAST	**Lasithi**	**1.97**	**238**	*e*PB		**Pn**	**15 18 53.2**	**+0.3**
LAST	**Lasithi**	**1.97**	**238**	*e*Pb		**Pn**	**15 18 53.2**	**+0.3**
ZEY	**˙zmir**	**2.18**	**338**	*i* P		**Pn**	**15 18 54.5**	**-1.2**
ZEY				*i* S		**Sb**	**15 19 28.7**	**+2.8**
IDI	**Anoyia**	**2.34**	**247**	Pn		**Pn**	**15 18 57.9**	**0.0**
	27nm,0.3s,baz=64,slow=12,SNR=201							
IDI				Sn		**Sn**	**15 19 24.8**	**-1.2**
	30nm,0.3s,baz=35,slow=9.2,SNR=11							
KORT	**Korkueli**	**2.40**	**70**	*i* P		**Pb**	**15 19 02.2**	**-1.0**
KORT	**Korkueli**	**2.40**	**70**	*i* P		**Pb**	**15 19 02.2**	**-1.0**
KORT				*i* S		**Sb**	**15 19 33.1**	**+0.6**
CHOS	**Chios island**	**2.47**	**332**	P		**Pn**	**15 18 58.9**	**-0.7**
CHOS				S		**Sn**	**15 19 30.1**	**+0.9**
CHOS	**Chios island**	**2.47**	**332**	*e*PN		**Pn**	**15 18 59.0**	**-0.7**
CHOS	**Chios island**	**2.47**	**332**	*e*Pn		**Pn**	**15 18 59.0**	**-0.7**
CHOS				S		**Sn**	**15 19 30.1**	**+0.9**
CHOS	**Chios island**	**2.47**	**332**	P		**Pn**	**15 18 58.9**	**-0.7**
CHOS				S		**Sn**	**15 19 30.1**	**+0.9**
SIVA	**Sivas**	**2.52**	**242**	*e*PB		**Pn**	**15 19 01.5**	**+1.2**
SIVA	**Sivas**	**2.52**	**242**	*e*Pb		**Pn**	**15 19 01.5**	**+1.2**
AKHS	**Akhisar**	**2.67**	**5**	*i* P		**Pn**	**15 19 02.6**	**+0.2**
AKHS				*i* S		**Sb**	**15 19 37.8**	**-2.3**
AKHS	**Akhisar**	**2.67**	**5**	*i* P		**Pn**	**15 19 02.6**	**+0.2**
AKHS				*i* S		**Sb**	**15 19 37.8**	**-2.3**
VAM	**Vamos**	**2.83**	**254**	P		**Pn**	**15 19 03.6**	**-0.9**
VAM	**Vamos**	**2.83**	**254**	*e*PN		**Pn**	**15 19 04.3**	**-0.2**
VAM	**Vamos**	**2.83**	**254**	P		**Pn**	**15 19 03.6**	**-0.9**
VAM	**Vamos**	**2.83**	**254**	*e*Pn		**Pn**	**15 19 04.3**	**-0.2**
VAM	**Vamos**	**2.83**	**254**	P		**Pn**	**15 19 03.6**	**-0.9**
ISP	**Isparta**	**2.88**	**55**	*i*↑P		**Pb**	**15 19 11.7**	**+0.3**
ISP	**Isparta**	**2.88**	**55**	*e*Pn		**Pn**	**15 19 06.9**	**+1.5**
ISP	**Isparta**	**2.88**	**55**	*e*Pn		**Pn**	**15 19 06.9**	**+1.5**
DEMI	**Demirci**	**2.98**	**18**	*i* P		**Pn**	**15 19 06.2**	**-0.5**
DEMI				*i* S		**Sn**	**15 19 39.9**	**-1.9**
DEMI	**Demirci**	**2.98**	**18**	*i* P		**Pn**	**15 19 06.2**	**-0.5**
DEMI				*i* S		**Sn**	**15 19 39.9**	**-1.9**
KARN	**Karanos**	**3.05**	**256**	*e*PN		**Pn**	**15 19 08.0**	**+0.4**
KARN	**Karanos**	**3.05**	**256**	*e*Pn		**Pn**	**15 19 08.0**	**+0.4**
PRK	**Paraskevi**	**3.19**	**342**	P		**Pn**	**15 19 09.0**	**-0.5**
PRK	**Paraskevi**	**3.19**	**342**	*e*PN		**Pn**	**15 19 08.6**	**-0.9**
PRK	**Paraskevi**	**3.19**	**342**	*e*Pn		**Pn**	**15 19 08.6**	**-0.9**
PRK	**Paraskevi**	**3.19**	**342**	P		**Pn**	**15 19 09.2**	**-0.3**
PRK	**Paraskevi**	**3.19**	**342**	P		**Pn**	**15 19 09.2**	**-0.3**
GDZ	**Gediz**	**3.26**	**28**	*i* P		**Pn**	**15 19 11.2**	**+0.5**
GDZ				*i* S		**Sn**	**15 19 48.5**	**-0.4**
GDZ	**Gediz**	**3.26**	**28**	*i* P		**Pn**	**15 19 11.2**	**+0.5**
GDZ				*i* S		**Sn**	**15 19 48.5**	**-0.4**
SIGR	**SIGRI**	**3.27**	**337**	P		**Pn**	**15 19 10.3**	**-0.4**
SIGR	**SIGRI**	**3.27**	**337**	*e*PN		**Pn**	**15 19 10.4**	**-0.3**
SIGR	**SIGRI**	**3.27**	**337**	*e*Pn		**Pn**	**15 19 10.4**	**-0.3**
SIGR	**SIGRI**	**3.27**	**337**	P		**Pn**	**15 19 10.3**	**-0.4**
ANKY	**Antikythira Is**	**3.44**	**265**	P		**Pn**	**15 19 13.7**	**+0.7**
ANKY				S		**Sn**	**15 19 53.9**	**+0.7**
ANKY	**Antikythira Is**	**3.44**	**265**	*e*PN		**Pn**	**15 19 13.4**	**+0.4**
ANKY	**Antikythira Is**	**3.44**	**265**	*e*Pn		**Pn**	**15 19 13.4**	**+0.4**
ANKY	**Antikythira Is**	**3.44**	**265**	P		**Pn**	**15 19 13.7**	**+0.7**
ANKY				S		**Sn**	**15 19 53.9**	**+0.7**
ANKY	**Antikythira Is**	**3.44**	**265**	P		**Pn**	**15 19 13.7**	**+0.7**
PTL	**Penteli**	**3.46**	**303**	P		**Pn**	**15 19 13.8**	**+0.6**
PTL	**Penteli**	**3.46**	**303**	P		**Pn**	**15 19 13.8**	**+0.6**
PTL	**Penteli**	**3.46**	**303**	P		**Pn**	**15 19 13.8**	**+0.6**
ATH	**Athens Observa**	**3.52**	**301**	*e*PN		**Pn**	**15 19 14.4**	**+0.4**
ATH	**Athens Observa**	**3.52**	**301**	*e*Pn		**Pn**	**15 19 14.4**	**+0.4**
BALY	**Balya**	**3.52**	**1**	*i* P		**Pn**	**15 19 13.7**	**-0.5**
BALY	**Balya**	**3.52**	**1**	*i* P		**Pn**	**15 19 13.7**	**-0.5**
NAIG	**Nisos Aigina**	**3.58**	**297**	*e*PN		**Pn**	**15 19 15.1**	**+0.1**
NAIG	**Nisos Aigina**	**3.58**	**297**	*e*Pn		**Pn**	**15 19 15.1**	**+0.1**
KYTH	**Kithira**	**3.63**	**272**	*e*PN		**Pn**	**15 19 16.5**	**+0.8**
KYTH	**Kithira**	**3.63**	**272**	*e*Pn		**Pn**	**15 19 16.5**	**+0.8**
BOLV	**Bolvadin**	**3.69**	**46**	*i* P		**Pn**	**15 19 19.2**	**+2.6**
BOLV				*i* S		**Sn**	**15 20 00.4**	**+0.8**
BOLV	**Bolvadin**	**3.69**	**46**	*i* P		**Pn**	**15 19 19.2**	**+2.6**
BOLV				*i* S		**Sn**	**15 20 00.4**	**+0.8**
VLI	**Veliai**	**3.74**	**279**	P		**Pn**	**15 19 17.8**	**+0.7**
VLI				S		**Sn**	**15 20 02.3**	**+1.9**
VLI	**Veliai**	**3.74**	**279**	*e*PN		**Pn**	**15 19 17.9**	**+0.8**
VLI	**Veliai**	**3.74**	**279**	P		**Pn**	**15 19 17.8**	**+0.7**
VLI				S		**Sn**	**15 20 02.3**	**+1.9**
VLI	**Veliai**	**3.74**	**279**	P		**Pn**	**15 19 17.8**	**+0.7**
GAZI	**Gazipasa**	**3.87**	**88**	*i* P		**Pn**	**15 19 19.5**	**+0.6**
GAZI				*i* S		**Sn**	**15 20 02.6**	**-1.1**
GAZI	**Gazipasa**	**3.87**	**88**	*i* P		**Pn**	**15 19 19.5**	**+0.6**
GAZI				*i* S		**Sn**	**15 20 02.6**	**-1.1**
MRKA	**Markates**	**4.00**	**310**	P		**Pn**	**15 19 21.1**	**+0.4**
MRKA	**Markates**	**4.00**	**310**	*e*PN		**Pn**	**15 19 21.3**	**+0.6**
MRKA	**Markates**	**4.00**	**310**	P		**Pn**	**15 19 21.1**	**+0.4**
LTK	**Loutraki**	**4.07**	**298**	P		**Pn**	**15 19 22.4**	**+0.7**
LTK	**Loutraki**	**4.07**	**298**	*e*PN		**Pn**	**15 19 22.6**	**+0.9**
LTK	**Loutraki**	**4.07**	**298**	P		**Pn**	**15 19 22.4**	**+0.7**
LTK	**Loutraki**	**4.07**	**298**	P		**Pn**	**15 19 22.4**	**+0.7**
AKMC	**Akamas**	**4.08**	**105**	P		**Pn**	**15 19 22.8**	**+0.9**
	baz=292							
AKMC	**Akamas**	**4.08**	**105**	P		**Pn**	**15 19 22.8**	**+0.9**
LIA	**Limnos Island**	**4.12**	**334**	P		**Pn**	**15 19 22.4**	**+0.1**
LIA	**Limnos Island**	**4.12**	**334**	*e*PN		**Pn**	**15 19 22.4**	**+0.1**
LIA	**Limnos Island**	**4.12**	**334**	P		**Pn**	**15 19 22.4**	**+0.1**
LIA	**Limnos Island**	**4.12**	**334**	P		**Pn**	**15 19 22.4**	**+0.1**
AOS	**Alonnisos**	**4.13**	**317**	P		**Pn**	**15 19 23.0**	**+0.5**
AOS	**Alonnisos**	**4.13**	**317**	*e*PN		**Pn**	**15 19 23.0**	**+0.5**
AOS	**Alonnisos**	**4.13**	**317**	P		**Pn**	**15 19 23.0**	**+0.5**
AOS	**Alonnisos**	**4.13**	**317**	P		**Pn**	**15 19 23.0**	**+0.5**
PPCY	**Paphos**	**4.14**	**107**	P		**Pn**	**15 19 23.7**	**+1.1**
	baz=293							
PPCY	**Paphos**	**4.14**	**107**	P		**Pn**	**15 19 23.7**	**+1.1**
ALFC	**Alevga**	**4.26**	**103**	P		**Pn**	**15 19 25.0**	**+0.7**
	baz=289							
ALFC				S		**Sn**	**15 20 13.0**	**-0.3**
ALFC	**Alevga**	**4.26**	**103**	P		**Pn**	**15 19 25.0**	**+0.7**
ALFC				S		**Sn**	**15 20 13.0**	**-0.3**
VLX	**Vlachokerasia**	**4.29**	**287**	P		**Pn**	**15 19 25.3**	**+0.5**
VLX	**Vlachokerasia**	**4.29**	**287**	*e*PN		**Pn**	**15 19 25.8**	**+1.0**
VLX	**Vlachokerasia**	**4.29**	**287**	P		**Pn**	**15 19 25.3**	**+0.5**
VLX	**Vlachokerasia**	**4.29**	**287**	*e*Pn		**Pn**	**15 19 25.8**	**+1.0**
VLX	**Vlachokerasia**	**4.29**	**287**	P		**Pn**	**15 19 26.1**	**+1.3**
SMIA	**Simia**	**4.34**	**309**	P		**Pn**	**15 19 26.1**	**+0.7**
SMIA	**Simia**	**4.34**	**309**	*e*PN		**Pn**	**15 19 25.9**	**+0.5**
SMIA	**Simia**	**4.34**	**309**	*e*Pn		**Pn**	**15 19 25.9**	**+0.5**
ERMK	**Ermenek**	**4.36**	**83**	*i* P		**Pn**	**15 19 28.8**	**+3.0**
ERMK				*i* S		**Sn**	**15 20 16.9**	**+0.8**
ERMK	**Ermenek**	**4.36**	**83**	*i* P		**Pn**	**15 19 28.8**	**+3.0**
ERMK				*i* S		**Sn**	**15 20 16.9**	**+0.8**
SKIA	**Skiathos**	**4.37**	**314**	P		**Pn**	**15 19 26.4**	**+0.7**
SKIA	**Skiathos**	**4.37**	**314**	*e*PN		**Pn**	**15 19 26.4**	**+0.7**
SKIA	**Skiathos**	**4.37**	**314**	P		**Pn**	**15 19 26.4**	**+0.7**
GUR	**Goura**	**4.49**	**294**	*e*PN		**Pn**	**15 19 28.8**	**+1.3**
GUR	**Goura**	**4.49**	**294**	*e*Pn		**Pn**	**15 19 28.8**	**+1.3**
SMTH	**Samothraki Isl**	**4.53**	**340**	P		**Pn**	**15 19 27.7**	**-0.3**
SMTH	**Samothraki Isl**	**4.53**	**340**	*e*PN		**Pn**	**15 19 27.9**	**-0.1**
SMTH	**Samothraki Isl**	**4.53**	**340**	*e*Pn		**Pn**	**15 19 27.9**	**-0.1**
SMTH	**Samothraki Isl**	**4.53**	**340**	P		**Pn**	**15 19 27.7**	**-0.3**
SZAC	**Souni-Zanaja**	**4.60**	**107**	P		**Pn**	**15 19 30.3**	**+1.3**
	baz=293							
SZAC				S		**Sn**	**15 20 20.2**	**-1.6**
SZAC	**Souni-Zanaja**	**4.60**	**107**	P		**Pn**	**15 19 30.3**	**+1.3**
SZAC				S		**Sn**	**15 20 20.2**	**-1.6**
ITM	**Ithomi**	**4.61**	**284**	*e*PN		**Pn**	**15 19 31.4**	**+2.4**
ITM	**Ithomi**	**4.61**	**284**	*e*Pn		**Pn**	**15 19 31.4**	**+2.4**
AXAR	**Agios Charalam**	**4.64**	**305**	*e*PN		**Pn**	**15 19 29.4**	**0.0**
AXAR	**Agios Charalam**	**4.64**	**305**	*e*Pn		**Pn**	**15 19 29.4**	**0.0**
XOR	**Xorichti**	**4.66**	**314**	*e*PN		**Pn**	**15 19 29.9**	**+0.1**
XOR	**Xorichti**	**4.66**	**314**	*e*Pn		**Pn**	**15 19 29.9**	**+0.1**
KLV	**Kalavryta, Ach**	**4.67**	**295**	P		**Pn**	**15 19 31.1**	**+1.1**
KLV	**Kalavryta, Ach**	**4.67**	**295**	*e*PN		**Pn**	**15 19 31.3**	**+1.3**
KLV	**Kalavryta, Ach**	**4.67**	**295**	P		**Pn**	**15 19 31.1**	**+1.1**
KLV	**Kalavryta, Ach**	**4.67**	**295**	P		**Pn**	**15 19 31.2**	**+1.3**
PYL	**PYLOS**	**4.71**	**280**	*e*PN		**Pn**	**15 19 31.7**	**+1.3**
PYL	**PYLOS**	**4.71**	**280**	*e*Pn		**Pn**	**15 19 31.7**	**+1.3**
MAMC	**Mammari**	**4.74**	**101**	P		**Pn**	**15 19 33.0**	**+2.1**
	baz=287							
MAMC	**Mammari**	**4.74**	**101**	P		**Pn**	**15 19 33.0**	**+2.1**
KALE	**Kalithea**	**4.82**	**298**	P		**Pn**	**15 19 33.0**	**+1.1**
KALE	**Kalithea**	**4.82**	**298**	*e*PN		**Pn**	**15 19 33.3**	**+1.3**
KALE	**Kalithea**	**4.82**	**298**	P		**Pn**	**15 19 33.0**	**+1.1**
KALE	**Kalithea**	**4.82**	**298**	*e*Pn		**Pn**	**15 19 33.3**	**+1.3**
KALE	**Kalithea**	**4.82**	**298**	P		**Pn**	**15 19 33.2**	**+1.3**
ALN	**Alexandroupoli**	**4.82**	**346**	P		**Pn**	**15 19 31.7**	**-0.2**
ALN	**Alexandroupoli**	**4.82**	**346**	*e*PN		**Pn**	**15 19 31.7**	**-0.2**
ALN	**Alexandroupoli**	**4.82**	**346**	P		**Pn**	**15 19 31.7**	**-0.2**
ALN	**Alexandroupoli**	**4.82**	**346**	P		**Pn**	**15 19 31.7**	**-0.2**
CSS	**Prodhromos**	**4.89**	**103**	P		**Pn**	**15 19 34.1**	**+1.2**
	baz=289							
CSS	**Prodhromos**	**4.89**	**103**	*e*Pn		**Pn**	**15 19 33.9**	**+1.0**
CSS	**Prodhromos**	**4.89**	**103**	*e*Pn		**Pn**	**15 19 33.9**	**+1.0**
DRO	**Drossia**	**4.97**	**292**	*e*PN		**Pn**	**15 19 35.9**	**+1.9**
DRO	**Drossia**	**4.97**	**292**	*e*Pn		**Pn**	**15 19 35.9**	**+1.9**
AGG	**Agios Georgios**	**4.99**	**306**	*e*PN		**Pn**	**15 19 35.7**	**+1.4**
AGG	**Agios Georgios**	**4.99**	**306**	*e*Pn		**Pn**	**15 19 35.7**	**+1.4**
EFP	**Efpalio**	**5.00**	**298**	*e*PN		**Pn**	**15 19 36.2**	**+1.8**
EFP	**Efpalio**	**5.00**	**298**	*e*Pn		**Pn**	**15 19 36.2**	**+1.8**
MAKR	**Makrakomi, Fth**	**5.12**	**305**	*e*PN		**Pn**	**15 19 38.0**	**+2.0**
MAKR	**Makrakomi, Fth**	**5.12**	**305**	*e*Pn		**Pn**	**15 19 38.0**	**+2.0**
MAKR	**Makrakomi, Fth**	**5.12**	**305**	P		**Pn**	**15 19 38.1**	**+2.0**
RDO	**Rodhopi**	**5.17**	**343**	*e*PN		**Pn**	**15 19 37.1**	**+0.4**
RDO	**Rodhopi**	**5.17**	**343**	*e*Pn		**Pn**	**15 19 37.1**	**+0.4**
EVR	**Evrytania**	**5.29**	**302**	*e*PN		**Pn**	**15 19 39.7**	**+1.3**
EVR	**Evrytania**	**5.29**	**302**	*e*Pn		**Pn**	**15 19 39.7**	**+1.3**
KIZK	**Mersin**	**5.34**	**85**	*i* P		Pn	15 19 43.6	+4.4
KIZK				*i* S		**Sn**	**15 20 39.0**	**-1.0**
KIZK	**Mersin**	**5.34**	**85**	*i* P		Pn	15 19 43.6	+4.4
KIZK				*i* S		**Sn**	**15 20 39.0**	**-1.0**
ANTO	**Ankara**	**5.53**	**47**	*i*↓P		Pn	15 19 45.5	+3.8
ANTO	**Ankara**	**5.53**	**47**	*e*Pn		Pn	15 19 45.0	+3.2
	30nm,0.6s							
KDZ	**Kurdzhali**	**5.67**	**344**	*i*↑P		**Pn**	**15 19 43.9**	**+0.2**
KDZ	**Kurdzhali**	**5.67**	**344**	*i*↑P		**Pn**	**15 19 43.9**	**+0.2**
BR131	**Keskin Array S**	**5.96**	**52**	*e*P		**Pn**	**15 19 50.6**	**+2.8**
	4.7nm,0.5s							
BRTR	**Keskin Array B**	**5.96**	**52**	Pn		**Pn**	**15 19 50.9**	**+3.1**
	1.0nm,0.3s,baz=232,slow=14,SNR=26							
BRTR				Sn		**Sn**	**15 20 59.0**	**+3.4**
	0.7nm,0.3s,baz=232,slow=26,SNR=7.5							
MMB	**Musomiste**	**6.13**	**332**	*i*↑P		**Pn**	**15 19 50.5**	**+0.5**
MMB	**Musomiste**	**6.13**	**332**	*i*↑P		**Pn**	**15 19 50.5**	**+0.5**
ARNB	**Al Arnab**	**6.85**	**90**	*e*P		**Pn**	**15 19 59.9**	**0.0**
ARNB				*e*S		**Sn**	**15 21 14.6**	**-2.6**
ARNB				AML		AML	15 21 24.9	
	comp=E,45nm,0.5s							
ARNB				AML		AML	15 21 24.9	
	comp=N,22nm,0.6s							
DQRL	**Deir Qamar**	**7.06**	**108**	*e*P		**Pn**	**15 20 02.7**	**-0.1**
DQRL	**Deir Qamar**	**7.06**	**108**	*e*P		**Pn**	**15 20 02.7**	**-0.1**
HWQ	**Hawqa**	**7.15**	**103**	*e*P		**Pn**	**15 20 04.4**	**+0.3**
HWQ	**Hawqa**	**7.15**	**103**	*e*P		**Pn**	**15 20 04.4**	**+0.3**
VTS	**Vitosha**	**7.19**	**334**	*i*↑P		**Pn**	**15 20 06.3**	**+1.6**
VTS	**V

MBDF Montbardon 17.90 305 *eP* **P 15 22 29.3 +0.4**
comp=E,14nm,1.0s
MBDF Montbardon 17.90 305 *eP* **P 15 22 29.3 +0.4**
comp=E,7.0nm,1.0s
MBDF Montbardon 17.90 305 *eP* **P 15 22 29.3 +0.4**
comp=E,14nm,1.0s
LPG La Plagne 18.21 307 *eP* **P 15 22 32.5 +0.1**
comp=E,13nm,0.7s
LPG La Plagne 18.21 307 *eP* **P 15 22 32.5 +0.1**
comp=E,6.6nm,0.7s
LPG La Plagne 18.21 307 *eP* **P 15 22 32.5 +0.1**
comp=E,13nm,0.7s
LPL La Plagne 18.23 307 *eP* **Pn 15 22 32.5 +0.1**
comp=E,12nm,0.7s
LPL La Plagne 18.23 307 *eP* **Pn 15 22 32.5 +0.1**
comp=E,5.9nm,0.7s
LPL La Plagne 18.23 307 *eP* **Pn 15 22 32.5 +0.1**
comp=E,12nm,0.7s
ORIF Oris-en-Rattie 18.56 305 *eP* **P 15 22 34.8 -1.3**
comp=E,6.3nm,0.8s
ORIF *eR*
comp=E,134nm,19.2s
ORIF Oris-en-Rattie 18.56 305 *eP* **P 15 22 34.8 -1.3**
comp=E,3.2nm,0.8s
ORIF Oris-en-Rattie 18.56 305 *eP* **P 15 22 34.8 -1.3**
comp=E,6.3nm,0.8s
CABF La Chapelle 19.09 310 *eP* **P 15 22 40.9 -1.0**
comp=E,20nm,0.8s
CABF La Chapelle 19.09 310 *eP* **P 15 22 40.9 -1.0**
comp=E,10nm,0.8s
CABF La Chapelle 19.09 310 *eP* **P 15 22 40.9 -1.0**
comp=E,20nm,0.8s
CDF Champ du Feu 19.24 316 *eP* **Pn 15 22 44.6 0.0**
comp=E,15nm,1.0s
CDF Champ du Feu 19.24 316 *eP* **Pn 15 22 44.6 0.0**
comp=E,7.0nm,1.0s
CDF Champ du Feu 19.24 316 *eP* **Pn 15 22 44.6 0.0**
comp=E,15nm,1.0s
VIVF Saint-Julien-l 19.35 304 *eP* **P 15 22 44.9 +0.2**
VIVF Saint-Julien-l 19.35 304 *eP* **P 15 22 44.9 +0.2**
VIVF Saint-Julien-l 19.35 304 *eP* **P 15 22 44.9 +0.2**
LASF Ste Croix 19.68 301 *eP* **P 15 22 47.9 -0.4**
comp=E,9.7nm,0.9s
LASF Ste Croix 19.68 301 *eP* **P 15 22 47.9 -0.4**
comp=E,4.8nm,0.9s
LASF Ste Croix 19.68 301 *eP* **P 15 22 47.9 -0.4**
comp=E,9.7nm,0.9s
PAGF Fort de Pagny 20.20 314 *eP* **P 15 22 54.9 +1.0**
comp=E,3.3nm,0.6s
PAGF Fort de Pagny 20.20 314 *eP* **P 15 22 54.9 +1.0**
comp=E,1.6nm,0.6s
PAGF Fort de Pagny 20.20 314 *eP* **P 15 22 54.9 +1.0**
comp=E,3.3nm,0.6s
SFTF Sexfontaines 20.44 313 *eP* **P 15 22 56.7 +0.2**
SFTF Sexfontaines 20.44 313 *eP* **P 15 22 56.7 +0.2**
SFTF Sexfontaines 20.44 313 *eP* **P 15 22 56.7 +0.2**
SMF Signal de Mont 20.52 308 *eP* **P 15 22 57.1 -0.3**
comp=E,27nm,0.9s
SMF Signal de Mont 20.52 308 *eP* **P 15 22 57.1 -0.3**
comp=E,14nm,0.9s
SMF Signal de Mont 20.52 308 *eP* **P 15 22 57.1 -0.3**
comp=E,27nm,0.9s
MTLF Montolieu 20.67 298 *eP* **P 15 22 58.0 -1.0**
comp=E,19nm,1.2s
MTLF Montolieu 20.67 298 *eP* **P 15 22 58.0 -1.0**
comp=E,9.6nm,1.2s
MTLF Montolieu 20.67 298 *eP* **P 15 22 58.0 -1.0**
comp=E,19nm,1.3s
LOR Lormes 20.75 309 *eP* **P 15 22 59.1 -0.8**
comp=E,14nm,0.9s
LOR *eR*
comp=E,86nm,17.0s
LOR Lormes 20.75 309 *eP* **P 15 22 59.1 -0.8**
comp=E,7.2nm,0.9s
LOR Lormes 20.75 309 *eP* **P 15 22 59.1 -0.8**
comp=E,14nm,0.9s
AVF Avril sur Loir 20.89 308 *eP* **P 15 23 01.0 -0.3**
AVF Avril sur Loir 20.89 308 *eP* **P 15 23 01.0 -0.3**
AVF Avril sur Loir 20.89 308 *eP* **P 15 23 01.0 -0.3**
SSF Saint Saulge 20.89 309 *eP* **P 15 23 01.2 -0.2**
comp=E,17nm,0.6s
SSF Saint Saulge 20.89 309 *eP* **P 15 23 01.2 -0.2**
comp=E,8.6nm,0.6s
SSF Saint Saulge 20.89 309 *eP* **P 15 23 01.2 -0.2**
comp=E,17nm,0.6s
BGF Bois d'Agland 21.13 307 *eP* **P 15 23 03.2 -0.7**
BGF Bois d'Agland 21.13 307 *eP* **P 15 23 03.2 -0.7**
BGF Bois d'Agland 21.13 307 *eP* **P 15 23 03.2 -0.7**
CAF Calviac 21.14 302 *eP* **P 15 23 03.2 -1.0**
comp=E,12nm,0.9s
CAF Calviac 21.14 302 *eP* **P 15 23 03.2 -1.0**
comp=E,6.0nm,0.9s
CAF Calviac 21.14 302 *eP* **P 15 23 03.2 -1.0**
comp=E,12nm,0.9s
TCF Toulx Ste Croi 21.45 306 *eP* **P 15 23 06.3 -1.1**
TCF Toulx Ste Croi 21.45 306 *eP* **P 15 23 06.3 -1.1**
TCF Toulx Ste Croi 21.45 306 *eP* **P 15 23 06.3 -1.1**
BAIF Baives 21.82 317 *eP* **P 15 23 09.9 -1.4**
BAIF Baives 21.82 317 *eP* **P 15 23 09.9 -1.4**
BAIF Baives 21.82 317 *eP* **P 15 23 09.9 -1.4**
MFF Saint Martin d 23.10 305 *eP* **P 15 23 22.3 -2.6**
MFF Saint Martin d 23.10 305 *eP* **P 15 23 22.3 -2.6**
TAM Tamanrasset 23.29 241 *eP* **P 15 23 29.3 +2.1**
comp=E,3.4nm,0.9s
TAM Tamanrasset 23.29 241 *eP* **P 15 23 29.3 +2.1**
comp=E,3.4nm,0.9s
GRR Gorron 24.12 309 *eP* **P 15 23 32.5 -2.3**
comp=E,22nm,0.8s
GRR Gorron 24.12 309 *eP* **P 15 23 32.5 -2.3**
comp=E,22nm,0.8s
GEYT Alibeck 24.41 77 P **P 15 23 38.6 +1.0**
comp=E,4.5nm,0.5s,baz=267,slow=10.0,SNR=6.4
ESDC Sonseca Array 25.01 288 P **P 15 23 42.6 -0.4**
comp=E,1.5nm,0.5s,baz=81,slow=9.3,SNR=6.7
SGMF Saint Gilles 25.15 308 *eP* **P 15 23 42.1 -2.0**
SGMF Saint Gilles 25.15 308 *eP* **P 15 23 42.1 -2.0**
SGMF Saint Gilles 25.15 308 *eP* **P 15 23 42.1 -2.0**
FINES FINESS Array B 25.27 358 P **P 15 23 46.4 +1.3**
comp=E,0.4nm,0.3s,baz=163,slow=10.0,SNR=4.7
HFS Hagfors 25.54 344 P **P 15 23 47.9 +0.3**
comp=E,2.8nm,0.6s,baz=153,slow=10.0,SNR=12
AKTO Aktyubinsk 26.12 47 P **P 15 23 53.0 0.0**
comp=E,1.4nm,0.6s,baz=263,slow=11,SNR=5.6
AKTO Aktyubinsk 26.12 47 P **P 15 23 53.0 0.0**
MDT Midelt 26.64 272 LR LR 15 35 32.7
comp=E,41nm,18.7s,baz=10.0,slow=39
ABKAR Akbulak array 26.91 51 P **P 15 24 02.6 +2.5**
ABKAR Akbulak array 26.91 51 P **P 15 24 02.6 +2.5**
NB2 NORSAR Subarra 26.93 342 P **P 15 23 59.2 -0.9**
comp=Z,1.7nm,0.8s,baz=150,slow=9.3
NB2 NORSAR Subarra 26.93 342 P **P 15 23 59.2 -0.9**
comp=Z,1.7nm,0.8s,SNR=6.1
NOA NORSAR Array B 26.93 342 P **P 15 23 59.7 -0.5**
comp=Z,1.3nm,0.7s,baz=151,slow=8.6,SNR=6.0
NOA LR LR 15 36 38.3
comp=Z,28nm,18.6s,baz=110,slow=41
TORD Torodi Ar. Bea 32.65 232 P **P 15 24 51.5 +0.2**
comp=Z,6.0nm,0.3s,baz=34,slow=8.7,SNR=180
ARCES ARCESS Array B 33.40 359 P **P 15 24 58.2 +0.9**
comp=Z,1.0nm,0.5s,baz=172,slow=8.9,SNR=7.5
BVAR Borovoye Array 34.22 47 P **P 15 25 05.2 +0.6**
comp=Z,0.4nm,0.4s,baz=240,slow=6.0,SNR=4.8
AAK Ala-Archa 36.46 65 P **P 15 25 26.4 +2.2**
comp=Z,0.5nm,0.4s,baz=70,slow=8.8,SNR=3.6
KURBB Kurchatov Arra 38.96 52 P **P 15 25 45.4 +0.4**
comp=Z,3.1nm,0.5s,baz=276,slow=8.9,SNR=30
KURK Kurchatov 39.02 52 P **P 15 25 45.4 -0.1**
KURK Kurchatov 39.02 52 P **P 15 25 45.4 -0.1**
MKAR Makanchi Array 41.58 58 P **P 15 26 07.4 +0.6**
comp=Z,0.7nm,0.4s,baz=273,slow=7.9,SNR=9.1
MKAR ScP **ScP 15 31 52.2 -0.4**
comp=Z,0.5nm,0.6s,baz=261,slow=3.2,SNR=4.8
DBIC Dimbokro 41.74 233 P **P 15 26 08.0 -0.4**
comp=Z,2.9nm,0.4s,baz=20,slow=8.8,SNR=8.3
DBIC Dimbokro 41.74 233 P **P 15 26 08.2 -0.1**
comp=Z,3.4nm,0.5s
DBIC Dimbokro 41.74 233 P **P 15 26 08.2 -0.1**
comp=Z,3.4nm,0.5s
TIC Toumodi 41.86 233 *eP* **P 15 26 09.3 -0.1**
comp=Z,7.5nm,0.2s
KIC Kosan Boka 41.90 233 *eP* **P 15 26 09.6 -0.1**
comp=Z,9.5nm,0.6s
LIC Lamto 42.18 233 *eP* **P 15 26 11.4 -0.6**
LIC Lamto 42.18 233 *eP* **P 15 26 12.0 0.0**
comp=Z,21nm,0.9s
LIC Lamto 42.18 233 *eP* **P 15 26 11.4 -0.6**
LIC Lamto 42.18 233 *eP* **P 15 26 11.4 -0.6**

SPITS Spitsbergen Ar 42.34 357 P **P 15 26 12.9 +0.3**
comp=Z,4.2nm,0.9s,baz=145,slow=10,SNR=7.4
ZALV Zalesovo Beam 42.88 47 P **P 15 26 17.1 -0.1**
comp=Z,1.7nm,0.5s,baz=269,slow=10,SNR=8.6
PYUN Piuthan 47.10 83 *eP* **P 15 26 52.5 +1.1**
comp=Z,23nm,0.6s
DANN Dangsing 47.62 83 *eP* **P 15 26 56.7 +1.2**
comp=Z,31nm,0.7s
KOLN Koldanda 47.73 83 *eP* **P 15 26 57.1 +0.8**
comp=Z,8.0nm,0.6s
DMN Daman 49.01 83 *eP* **P 15 27 03.9 -2.3**
KKN Kakani 49.07 83 *eP* **P 15 27 03.8 -2.9**
GUN Gumba 49.50 82 *eP* **P 15 27 07.3 -2.8**
RAMN Ramite 50.49 83 *eP* **P** 15 27 13.1 -4.4
SONM Songino Array 57.32 52 P **P 15 28 07.5 +0.5**
comp=Z,0.5nm,0.5s,baz=287,slow=7.6,SNR=7.4
SCHQ Schefferville 63.63 320 P **P 15 28 48.5 -1.4**
comp=Z,1.4nm,0.4s,baz=57,slow=4.6,SNR=8.1
USRK Ussuriysk Ar. 74.72 46 P **P 15 29 57.1 -1.7**
comp=Z,1.4nm,0.5s,baz=277,slow=3.9,SNR=4.8
KSAR Wonju Array Be 76.09 54 P **P 15 30 07.1 +0.4**
KSAR Wonju Array Be 76.09 54 P **P 15 30 07.1 +0.4**
KSRS Korea Array 76.11 54 P **P 15 30 07.1 +0.3**
comp=Z,0.9nm,0.5s,baz=302,slow=5.1,SNR=4.0
YKA Yellowknife Ar 77.02 343 P **P 15 30 09.9 -1.6**
comp=Z,0.3nm,0.5s,baz=32,slow=5.4,SNR=7.2
ILAR Eielson Array 79.25 358 P **P 15 30 22.6 -1.2**
comp=Z,0.4nm,0.6s,baz=340,slow=2.8,SNR=4.9
PPLA Purkeypile 81.23 360 *eP* **P 15 30 34.1 -0.7**
PPLA Purkeypile 81.23 360 *eP* **P 15 30 34.1 -0.7**
MJAR Matsushiro Arr 83.18 49 LR LR 16 11 55.4
comp=Z,353nm,20.9s,baz=110,slow=39

*ROM **13** 15:18:28.9±0.1, 46.36°N×10.85°E, h5km±2km, Md2.3/8, Ml1.8/7, Error ellipse: s-maj=2.0km s-min=1.4km az=164.0*
*ISCJB **13** 15:18:29.5±0.6, 46.37°N±0.02°×10.86°E±0.03, h15km±8km, Error ellipse: s-maj=3.2km s-min=3.1km az=42.2*
*VIE **13** 15:18:30.0±0.2, 46.38°N×10.86°E, h11km±3km, mb1.4/7, ML2.0/12, Error ellipse: s-maj=2.2km s-min=1.0km az=173.0 12 km S of St.Gertraud*
*CSEM **13** 15:18:29.8±0.0, 46.37°N×10.85°E, h12km, ML2.4/9, Error ellipse: s-maj=0.8km s-min=0.7km az=99.0*
ISC 13 15:18:30.1±0.9, 46.37N±0.02×10.85E±0.02, h12km±9km, n44, σ0s30/72, 15C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APPI	**Appiano**	**0.28**	**67**	Pg		**Pg**	**Pg**	**15 18 35.9**	**-0.1**
APPI				Sg		**Sg**	**Sg**	**15 18 39.9**	**-0.1**
	253nm,0.2s								
APPI	**Appiano**	**0.28**	**67**	Pg		**Pg**	**Pg**	**15 18 35.9**	**-0.1**
APPI				Sg		**Sg**	**Sg**	**15 18 39.9**	**-0.1**
	253nm,0.2s								
MOSI	**Grossmontoni**	**0.32**	**320**	Pg		**Pg**	**Pg**	**15 18 36.7**	**-0.1**
MOSI				Sg		**Sg**	**Sg**	**15 18 41.9**	**+0.6**
	48nm,0.5s								
MOSI	**Grossmontoni**	**0.32**	**320**	Pg		**Pg**	**Pg**	**15 18 36.7**	**-0.1**
MOSI				Sg		**Sg**	**Sg**	**15 18 41.9**	**+0.6**
	48nm,0.5s								
BRMO	**Bormio**	**0.35**	**288**	Pg		**Pg**	**Pg**	**15 18 37.4**	**+0.2**
BRMO				Sg		**Sg**	**Sg**	**15 18 42.0**	**+0.1**
	79nm,0.1s								
BRMO	**Bormio**	**0.35**	**288**	Pg		**Pg**	**Pg**	**15 18 37.4**	**+0.2**
BRMO				Sg		**Sg**	**Sg**	**15 18 42.0**	**+0.1**
	79nm,0.1s								
KOSI	**Kohlern**	**0.38**	**75**	Pg		**Pg**	**Pg**	**15 18 37.3**	**-0.4**
KOSI				Sg		**Sg**	**Sg**	**15 18 42.8**	**0.0**
	60nm,0.8s								
KOSI	**Kohlern**	**0.38**	**75**	↑eP	g	**Pg**	**Pg**	**15 18 37.8**	**+0.1**
KOSI				Sg		**Sg**	**Sg**	**15 18 42.8**	**0.0**
	60nm,0.8s								
MABI	**Malga Bissina**	**0.39**	**217**	Pg		**Pg**	**Pg**	**15 18 37.7**	**-0.3**
MABI				Sg		**Sg**	**Sg**	**15 18 42.8**	**-0.5**
	41nm,0.1s								
MABI	**Malga Bissina**	**0.39**	**217**	Pg		**Pg**	**Pg**	**15 18 37.7**	**-0.3**
MABI				Sg		**Sg**	**Sg**	**15 18 42.8**	**-0.5**
	41nm,0.1s								
PANI	**Panarotta**	**0.45**	**135**	↑eP	g	**Pg**	**Pg**	**15 18 39.2**	**+0.1**
PANI	**Panarotta**	**0.45**	**135**	↑eP	g	**Pg**	**Pg**	**15 18 39.2**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**0.48**	**302**	Pg		**Pg**	**Pg**	**15 18 39.6**	**0.0**
FUORN				Sg		**Sg**	**Sg**	**15 18 46.1**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**0.48**	**302**	Pg		**Pg**	**Pg**	**15 18 39.6**	**0.0**
FUORN				Sg		**Sg**	**Sg**	**15 18 46.1**	**+0.1**
ABSI	**Aberstueckl**	**0.48**	**42**	↑eP	g	**Pg**	**Pg**	**15 18 39.5**	**-0.2**
ABSI				eSg		**Sg**	**Sg**	**15 18 46.3**	**+0.1**
DDS	**Dosso del Somm**	**0.54**	**154**	↓eP	g	**Pg**	**Pg**	**15 18 40.6**	**-0.2**
DDS				eSg		**Sg**	**Sg**	**15 18 48.1**	**+0.1**
DDS	**Dosso del Somm**	**0.54**	**154**	↓eP	g	**Pg**	**Pg**	**15 18 40.6**	**-0.2**
DDS				eSg		**Sg**	**Sg**	**15 18 48.1**	**+0.1**
BERNI	**Berninapass**	**0.58**	**275**	Pg		**Pg**	**Pg**	**15 18 41.4**	**0.0**
BERNI				Sg		**Sg**	**Sg**	**15 18 49.1**	**0.0**
BERNI	**Berninapass**	**0.58**	**275**	Pg		**Pg**	**Pg**	**15 18 41.4**	**0.0**
BERNI				Sg		**Sg**	**Sg**	**15 18 49.1**	**0.0**
MAGA	**Magasa**	**0.61**	**195**	Pg		**Pg**	**Pg**	**15 18 41.8**	**-0.3**
MAGA				Sg		**Sg**	**Sg**	**15 18 50.5**	**+0.3**
	129nm,0.3s								
MAGA	**Magasa**	**0.61**	**195**	Pg		**Pg**	**Pg**	**15 18 41.8**	**-0.3**
MAGA				Sg		**Sg**	**Sg**	**15 18 50.5**	**+0.3**
	129nm,0.3s								
FETA	**Feichten**	**0.66**	**353**	↑iPg		**Pg**	**Pg**	**15 18 43.1**	**+0.1**
FETA				↑eSg		**Sg**	**Sg**	**15 18 51.6**	**-0.1**
	6.9nm,0.1s,SNR=9.0								
FETA	**Feichten**	**0.66**	**353**	Pg		**Pg**	**Pg**	**15 18 43.1**	**+0.1**
FETA				Sg		**Sg**	**Sg**	**15 18 51.6**	**-0.1**
	6.9nm,0.1s,SNR=9.0								
ROSI	**Rosskopf**	**0.68**	**34**	↓eP	g	**Pg**	**Pg**	**15 18 43.3**	**-0.1**
ROSI				eSg		**Sg**	**Sg**	**15 18 52.8**	**+0.4**
MARN	**Marana (Italy)**	**0.77**	**161**	↑eP	g	**Pg**	**Pg**	**15 18 44.9**	**-0.2**
MARN	**Marana (Italy)**	**0.77**	**161**	↑eP	g	**Pg**	**Pg**	**15 18 44.9**	**-0.2**
CGRP	**Cima Grappa**	**0.82**	**126**	↑eP	g	**Pb**	**Pb**	**15 18 46.2**	**-0.2**
CGRP				eSg		**Sg**	**Sg**	**15 18 56.9**	**+0.1**
CGRP	**Cima Grappa**	**0.82**	**126**	↑eP	g	**Pb**	**Pb**	**15 18 46.2**	**-0.2**
CGRP				eSg		**Sg**	**Sg**	**15 18 56.9**	**+0.1**
MOTA	**Moosalm**	**0.99**	**10**	↑iPg		**Pg**	**Pg**	**15 18 49.1**	**-0.2**
MOTA				↑iSg		**Sg**	**Sg**	**15 19 02.3**	**+0.1**
	3.9nm,0.2s								
MOTA	**Moosalm**	**0.99**	**10**	Pg		**Pg**	**Pg**	**15 18 49.1**	**-0.2**
MOTA				Sg		**Sg**	**Sg**	**15 19 02.3**	**+0.1**
	3.9nm,0.2s								
RISI	**Rein**	**1.02**	**55**	Pg		**Pg**	**Pg**	**15 18 49.5**	**-0.4**
RISI				Sg		**Sg**	**Sg**	**15 19 03.1**	**-0.2**
	22nm,0.3s								
RISI	**Rein**	**1.02**	**55**	↓eP	g	**Pg**	**Pg**	**15 18 49.6**	**-0.4**
RISI				Sg		**Sg**	**Sg**	**15 19 03.1**	**-0.2**
	22nm,0.3s								
WTTA	**Wattenberg**	**1.04**	**31**	↓iPg		**Pg**	**Pg**	**15 18 49.9**	**-0.4**
WTTA	**Wattenberg**	**1.04**	**31**	Pg		**Pg**	**Pg**	**15 18 49.9**	**-0.4**
WATA	**Walderalm**	**1.09**	**27**	↑iPg		**Pn**	**Pn**	**15 18 51.1**	**-0.2**
WATA	**Walderalm**	**1.09**	**27**	Pg		**Pn**	**Pn**	**15 18 51.1**	**-0.2**
CIMO	**Cimolais**	**1.10**	**92**	ePg		**Pn**	**Pn**	**15 18 52.5**	**+1.1**
CIMO	**Cimolais**	**1.10**	**92**	ePg		**Pn**	**Pn**	**15 18 52.5**	**+1.1**
DAVA	**Damuels**	**1.14**	**324**	↑iPg		**Pb**	**Pb**	**15 18 51.5**	**-0.3**
DAVA	**Damuels**	**1.14**	**324**	Pg		**Pb**	**Pb**	**15 18 51.5**	**-0.3**
ABTA	**Abfaltersbach**	**1.21**	**71**	↑iPg		**Pb**	**Pb**	**15 18 52.9**	**-0.1**
ABTA	**Abfaltersbach**	**1.21**	**71**	Pg		**Pb**	**Pb**	**15 18 52.9**	**-0.1**
KBA	**Koelnbreinsper**	**1.86**	**67**	↓iPn		**Pn**	**Pn**	**15 19 01.9**	**0.0**
KBA	**Koelnbreinsper**	**1.86**	**67**	Pn		**Pn**	**Pn**	**15 19 01.9**	**0.0**

*CNRM **13** 15:21:18.0, 34.54N×5.58W, h0km, MD3.9*
CSEM 13 15:21:18.0, 34.54N×5.58W, h0km, MD3.9, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.64**	**137**	*i* P		Pg		15 21 29.0	-1.4
TGT				*i* S		Sg		15 21 39.0	+0.2
DKH	**Dar Kharkhour**	**0.96**	**11**	*i* P		Pg		15 21 35.0	-1.7
DKH				*i* S		Sg		15 21 50.0	+0.7
MIF	**Mishlifen**	**1.17**	**165**	*i* P		Pg		15 21 39.0	-1.7
MIF				*i* S		Sg		15 21 56.0	0.0
RTC	**Rabat Centre**	**1.19**	**243**	*i* P		Pg		15 21 39.0	-1.9
RTC				*i* S		Sg		15 21 56.0	-0.3
TOU	**Touzarine**	**1.56**	**74**	*i* P		Pn		15 21 45.0	-2.2
TOU				*i* S		Sn		15 22 05.0	-3.3
KIB	**El Ksiba**	**2.00**	**191**	*i* P		Pn		15 21 52.0	-1.1
KIB				*i* S		Sn		15 22 17.0	-1.9
ZAI	**Zaio**	**2.37**	**79**	*e*P		Pn		15 21 56.0	-2.3
ZAI				*i* S		Sn		15 22 26.0	-2.2
TZC	**Tazercounte**	**2.50**	**198**	*i* P		Pn		15 22 00.0	-0.3
TZC				*i* S		Sn		15 22 29.0	-2.7
ZFT	**Errachidia**	**2.70**	**157**	*i* P		Pn		15 22 01.0	-2.0
ZFT				*i* S		Sn		15 22 33.0	-3.6

OUK Oukaimeden 3.84 211 *i* P Pn 15 22 16.0 -2.8
OUK *i* S Sn 15 23 00.0 -4.9
CIA Chichaoua 3.99 223 *i* P Pn 15 22 18.0 -2.5
CIA *i* S Sn 15 23 04.0 -4.0
AFS Agadir Fac de 5.28 220 *e*P Pn 15 22 37.0 -1.1
AFS *i* S Sn 15 23 36.0 -3.6
YBT Youssef Ben Ta 5.74 216 *e*P Pn 15 22 44.0 -0.5
YBT *i* S Sn 15 23 46.0 -5.0

*IDC **13** 15:29:54.9±3.0, 35.69°S×73.03W, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.5/22, mbtmp3.4/4, ML3.4/3, MS1.7/1, Ms1 1.7/1, ms1mx1.7/15, Error ellipse: s-maj=66.8km s-min=21.3km az=88.0*
*ISCJB **13** 15:30:03.6±0.8, 35.82S±0.08°×71.9W±0.2, h35km, mb3.6/1, Error ellipse: s-maj=21.2km s-min=7.0km az=25.3*
*GUC **13** 15:30:04.4±0.6, 35.61S×72.16W, h48km±3km, ML3.9*
ISC 13 15:30:03.9±1.2, 35.8S±0.1×72.0W±0.1, h35km, n9, σ1s34/12, 3C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.48**	**34**	↓iP		**Pn**	**Pn**	**15 30 15.2**	**+1.0**
TALC				*i* S			**Sn**	**15 30 22.8**	**+1.3**
COCH	**Cobquecura**	**0.75**	**244**	↑iP		**Pn**	**Pn**	**15 30 18.6**	**+0.6**
COCH				*i* S			**Sn**	**15 30 28.7**	**+0.7**
RCDM	**Rinconada Maip**	**2.50**	**23**	↑iP		**Pn**	**Pn**	**15 30 42.4**	**+0.4**
RCDM				*e*S			**Sn**	**15 31 10.9**	**-0.3**
RCDM				AML		AML	AML	15 31 21.7	
	comp=E,398nm,0.3s								
CLCH	**Cerro Calan**	**2.67**	**26**	↑iP		**Pn**	**Pn**	**15 30 45.1**	**+0.6**
CLCH				*e*S			**Sn**	**15 31 15.9**	**+0.2**
CLCH				AML		AML	AML	15 31 38.8	
	comp=N,658nm,0.7s								
PEL	**Peldehue**	**2.85**	**22**	*e*S			Sn	15 31 27.6	+7.5
PEL				AML		AML	AML	15 31 37.0	
	comp=N,725nm,0.6s								
PLCA	**Paso Flores**	**5.05**	**168**	Pn		**Pn**	**Pn**	**15 31 18.6**	**+1.5**
	comp=N,0.5nm,0.3s,baz=337,slow=8.5,SNR=9.4								
PLCA				Lg		Lg	Lg	15 32 47.1	
	comp=N,0.3nm,0.3s,baz=270,slow=20,SNR=2.0								
CFAA	**Coronel Fontan**	**5.21**	**38**	Pn		**Pn**	**Pn**	**15 31 21.6**	**+2.2**
	comp=N,0.3nm,0.3s,baz=217,slow=13,SNR=29								
CFAA				Sn			Sn	15 32 29.2	+11
	comp=N,0.3nm,0.3s,baz=304,slow=18,SNR=8.3								
CFAA				LR		LR	LR	15 34 08.2	
	comp=N,6.1nm,19.1s,baz=196,slow=44								
LPAZ	**La Paz**	**19.73**	**11**	P		**P**	**P**	**15 34 29.1**	**-2.1**
	comp=N,0.1nm,0.3s,baz=193,slow=11,SNR=3.0								
TORD	**Torodi Ar. Bea**	**84.77**	**70**	P		**P**	**P**	**15 42 34.0**	**-0.8**
	comp=N,0.4nm,0.8s,baz=224,slow=4.1,SNR=2.7								

*IDC **13** 15:31:09.4±0.9, 1.54N×122.40E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/33, mbtmp3.9/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=182.8km s-min=17.0km az=65.0*
*ISCJB **13** 15:31:12.9±0.7, 1.57N±0.05×122.19E±0.05, h38km, mb3.9/6, MS3.3/1, Error ellipse: s-maj=8.1km s-min=7.0km az=138.8*
*DJA **13** 15:31:15.2±0.7, 1.5N±5°×12.2E±°, h12km±7km, M4.5/15, mb4.6/8, mB5.1/2, MLv4.5/15, Mw(mB)4.4/2*
ISC 13 15:31:15.2±0.9, 1.52N±0.08×122.16E±0.06, h38km, n18, σ1s49/22, mb4.0/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.06**	**192**	P		**P**	**Pn**	**15 31 30.9**	**-2.6**
KMSI	**Cibinong**	**2.04**	**117**	P		**P**	**Pn**	**15 31 48.2**	**+1.1**
KMSI				S			Sn	15 32 21.3	+10
APSI	**Ampana**	**2.46**	**192**	P		**P**	**Pn**	**15 31 53.2**	**+0.3**
APSI				S			**Sn**	**15 32 24.1**	**+2.3**
MPSI	**Mapaga**	**2.55**	**243**	P		**P**	Pn	15 31 57.5	+3.5
PCI	**Palu**	**3.35**	**224**	P		**P**	**Pn**	**15 32 05.0**	**0.0**
PCI				S			**Sn**	**15 32 45.9**	**+2.3**
TTSI	**Tana Toraja**	**5.10**	**207**	P		**P**	**Pn**	**15 32 29.0**	**-0.1**
TTSI				S			**Sn**	**15 33 28.8**	**+2.0**
SANI	**Sanana**	**5.21**	**133**	P		**P**	**Pn**	**15 32 28.2**	**-2.5**
SANI				S			**Sn**	**15 33 31.4**	**+1.8**
SPSI	**Sidrap Palu**	**5.95**	**204**	P		**P**	**Pn**	**15 32 40.8**	**0.0**
	44nm,0.8s,0.2nm								
BNSI	**Bone**	**6.23**	**199**	P		**P**	**Pn**	**15 32 43.9**	**-0.7**
	78nm,0.7s,714nm0.2nm								
NLAI	**Namlea**	**6.83**	**134**	P		**P**	**Pn**	**15 32 53.8**	**+0.9**
	32nm,0.8s,0.2nm								
BKSI	**Bulukumba**	**7.09**	**197**	P		**P**	**Pn**	**15 32 56.9**	**+0.4**
	21nm,0.7s,0.1nm								
KBKI	**Kotabaru**	**7.67**	**231**	P		**P**	**Pn**	**15 33 04.7**	**+0.3**
	20nm,0.6s,0.1nm								
WRA	**Warramunga Arr**	**24.44**	**151**	P		**P**	**P**	**15 36 28.5**	**-2.2**
	3.0nm,0.7s,baz=327,slow=10,SNR=10.0								
ASAR	**Alice Springs**	**27.51**	**156**	P		**P**	**P**	**15 36 58.5**	**+0.2**
	0.9nm,0.8s,baz=330,slow=9.0,SNR=11								
ASAR				PcP		**PcP**	**PcP**	**15 40 15.2**	**-0.9**
	0.2nm,0.7s,baz=20,slow=3.0,SNR=3.5								
STKA	**Stephens Creek**	**37.98**	**153**	P		**P**	**P**	**15 38 28.2**	**-1.4**
	1.8nm,0.8s,baz=328,slow=9.7,SNR=5.9								
SONM	**Songino Array**	**48.12**	**346**	P		**P**	**P**	**15 39 51.9**	**+0.4**
	1.4nm,0.8s,baz=164,slow=9.5,SNR=12								
SONM				LR		LR	LR	16 01 41.8	
	comp=Z,31nm,18.6s,baz=122,slow=38								

BC3				⇑S		Sb	15 37 03.1	-0.8
	baz=1.1								
PFO	**Pinyon Flats O**	**1.10**	**328**	⇓P		**Pb**	**15 36 51.1**	**-1.1**
	baz=1.1								
PFO				⇓S		**Sb**	**15 37 05.8**	**-0.7**
	baz=1.1								
PFO	**Pinyon Flats O**	**1.10**	**328**	*e*Pg		**Pb**	**15 36 51.0**	**-1.1**
PFO				*e*Sg		**Sb**	**15 37 04.5**	**-2.0**
109C	**Camp Elliot, M**	**1.16**	**281**	⇑P		**Pb**	**15 36 52.4**	**-0.6**
	baz=1.1								
109C				⇑S		**Sb**	**15 37 06.9**	**-1.0**
	baz=1.1								
ZAX	**El Zacaton**	**1.23**	**201**	⇑*e*P		**Pb**	**15 36 54.5**	**+0.1**
ZAX				*e*S		**Sg**	**15 37 11.2**	**+0.2**
ZAX				*e*			15 37 12.2	
ECNX	**Esteban Cantu**	**1.24**	**215**	*e*P		**Pn**	**15 36 54.2**	**0.0**
ECNX				*e*S		**Sb**	**15 37 10.3**	**0.0**
PBX	**Punta Banda**	**1.24**	**222**	⇑*e*P		**Pn**	**15 36 54.3**	**+0.2**
PBX				*e*S		**Sb**	**15 37 10.4**	**+0.2**
ECBX	**El Chinero**	**1.34**	**153**	*e*P		**Pn**	**15 36 55.4**	**-0.1**
ECBX				*e*S		**Sn**	**15 37 13.3**	**+0.2**
BELC	**Belle Mtn. Jos**	**1.34**	**351**	⇑P		**Pn**	**15 36 54.7**	**-1.0**
	baz=1.4								
BELC				⇓S		**Sb**	**15 37 12.0**	**-1.3**
	baz=1.4								
Y12C	**Blythe**	**1.49**	**43**	⇓P		**Pn**	**15 36 57.0**	**-0.6**
	baz=1.5								
Y12C				⇑S		**Sn**	**15 37 16.4**	**-0.6**
	baz=1.5								
MURC	**Murrieta**	**1.52**	**308**	⇑P		**Pn**	**15 36 57.2**	**-0.9**
	baz=1.5								
MURC				⇑Sb		**Sb**	**15 37 18.8**	**+0.3**
	baz=1.5								
IRM	**Iron Mountain**	**1.57**	**19**	⇓P		**Pn**	**15 36 58.1**	**-0.6**
	baz=1.6								
IRM				⇑Sb		**Sb**	**15 37 19.7**	**-0.1**
	baz=1.6								
SPIG	**San Pedro Mart**	**1.64**	**171**	*e*P		**Pb**	**15 37 01.0**	**-0.4**
SPX	**San Pedro Mart**	**1.64**	**171**	*e*P		**Pb**	**15 37 01.0**	**-0.4**
113A	**Mohawk Valley,**	**1.68**	**86**	⇓P		**Pn**	**15 36 59.8**	**-0.3**
	baz=1.7								
113A				⇓S		**Sn**	**15 37 20.9**	**-0.6**
	baz=1.7								
BBRC	**Big Bear Solar**	**1.86**	**329**	⇓P		**Pn**	**15 37 02.6**	**-0.3**
	baz=1.9								
GMRC	**Granite Mounta**	**2.10**	**2**	⇓P		**Pn**	**15 37 05.7**	**-0.5**
	baz=2.1								
PDMCI	**Parker Dam,Lak**	**2.11**	**39**	⇑S		**Sn**	**15 37 31.3**	**-0.9**
	baz=2.2								
BFSC	**Mount Baldy Ra**	**2.23**	**315**	⇓P		**Pn**	**15 37 07.5**	**-0.4**
	baz=2.2								
BFSC				⇑Sb		**Sb**	**15 37 39.3**	**+0.4**
	baz=2.2								
NEE2	**Needles Airpor**	**2.30**	**24**	⇑P		**Pn**	**15 37 08.8**	**+0.1**
	baz=2.3								
FMP	**Fort Macarthur**	**2.37**	**297**	⇓Sb		**Sb**	**15 37 43.4**	**+0.6**
	baz=2.4								
SCI	**San Clemente I**	**2.37**	**278**	⇓P		**Pn**	**15 37 09.9**	**+0.3**
	baz=2.3								
SCI				⇓S		**Sn**	**15 37 39.6**	**+1.0**
	baz=2.3								
Z14A	**Wintersburg**	**2.46**	**73**	⇓P		**Pn**	**15 37 10.7**	**-0.3**
	baz=2.5								
Z14A				⇑S		**Sn**	**15 37 40.8**	**0.0**
	baz=2.5								
MWC	**Mount Wilson**	**2.47**	**309**	*e*Pn		**Pn**	**15 37 12.0**	**+0.7**
MWC				*e*Pg		**Pb**	**15 37 15.7**	**+0.2**
PASC	**Pasadena Art C**	**2.52**	**307**	Pn		**Pn**	**15 37 13.5**	**+1.7**
214A	**Organ Pipe Nat**	**2.59**	**105**	⇓P		**Pn**	**15 37 12.0**	**-0.8**
	baz=2.6								
214A				⇑S		**Sn**	**15 37 42.8**	**-1.3**
	baz=2.6								
214A	**Organ Pipe Nat**	**2.59**	**105**	*e*Pn		**Pn**	**15 37 11.8**	**-1.0**
Y14A	**Wickenburg**	**2.63**	**61**	⇓S		**Sn**	**15 37 44.8**	**-0.2**
	baz=2.7								
DECC	**Green Verdugo**	**2.67**	**307**	⇑Sb		**Sb**	**15 37 53.0**	**+1.7**
	baz=2.7								
TUQ	**Turquoise Moun**	**2.76**	**357**	⇓P		**Pn**	**15 37 14.8**	**-0.4**
	baz=2.8								
EDW2	**Edwards Air Fo**	**2.88**	**320**	⇓P		**Pn**	**15 37 16.6**	**-0.2**
	baz=2.9								
OSI	**Osito Audit: C**	**3.14**	**309**	*e*Pg		**Pb**	**15 37 27.2**	**+0.3**
LRMC	**Laurel Mtn Rad**	**3.23**	**331**	⇑P		**Pn**	**15 37 21.1**	**-0.5**
	baz=3.2								
LRMC				⇓S		**Sn**	**15 37 59.1**	**-0.8**
	baz=3.2								
ARVC	**Arvin**	**3.54**	**315**	⇓P		**Pn**	**15 37 25.7**	**-0.1**
	baz=3.5								
MPMC	**Manual Prospec**	**3.67**	**337**	⇓P		**Pn**	**15 37 27.2**	**-0.6**
	baz=3.7								
ISA	**Isabella, Lake**	**3.74**	**324**	*e*Pn		**Pn**	**15 37 28.0**	**-0.5**
ISA				*e*Pg		**Pb**	**15 37 39.6**	**+2.5**
SHPR	**Sheep Range**	**3.86**	**7**	*e*Pn		**Pn**	**15 37 30.8**	**+0.6**
DAC	**Darwin (Calif)**	**3.90**	**338**	*e*Pn		**Pn**	**15 37 30.4**	**-0.6**
X16A	**Lo Mia Camp, P**	**4.00**	**63**	⇓P		**Pn**	**15 37 33.3**	**+1.0**
	baz=4.0								
TUC	**Tucson**	**4.22**	**94**	*e*Pn		**Pn**	**15 37 33.7**	**-1.5**
WUAZ	**Wupatki**	**4.61**	**51**	*e*Pn		**Pn**	**15 37 42.0**	**+1.3**
U15A	**North Rim**	**4.71**	**36**	⇓P		**Pn**	**15 37 43.0**	**+0.8**
	baz=4.8								
X18A	**Snowflake**	**5.19**	**67**	⇓P		**Pn**	**15 37 49.8**	**+1.2**
	baz=5.2								
CCUT	**Cedar City**	**5.25**	**21**	*e*Pn		**Pn**	**15 37 51.5**	**+2.0**
ARUT	**Antelope Range**	**5.45**	**20**	*e*Pn		**Pn**	**15 37 54.0**	**+1.8**
TPH	**Tonopah**	**5.52**	**348**	Pg		Pg	15 38 12.9	-4.0
W18A	**Petrified Fore**	**5.57**	**62**	*e*Pn		**Pn**	**15 37 55.9**	**+2.1**
319A	**Douglas**	**5.65**	**101**	⇓P		**Pn**	**15 37 55.0**	**+0.1**
	baz=5.7								
R11A	**Troy Canyon, C**	**5.67**	**1**	Pg		**Pg**	**15 38 19.9**	**+0.3**
MVU	**Marysvale**	**6.50**	**25**	Pn		**Pn**	**15 38 08.4**	**+1.8**
121A	**Cookes Peak, D**	**6.73**	**89**	*e*Pn		**Pn**	**15 38 10.4**	**+0.6**
SRU	**San Rafael Swe**	**7.70**	**32**	Pn		Pn	15 38 27.0	+3.9
MNTX	**Cornudas Mount**	**8.85**	**94**	⇑P		**Pn**	**15 38 39.5**	**+0.8**
	baz=8.9								

ISCJB ***13*** *15:39:12.9±1.4, 33.°1S±0.°3×78.°1E±0.°2, h10km, mb3.6/7, Error ellipse: s-maj=47.7km s-min=23.2km az=19.8*
IDC ***13*** *15:39:12.6±1.6, 33.°13S×77.°96E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/30, mbtmp3.5/7, Error ellipse: s-maj=54.7km s-min=26.9km az=20.0*

ISC 13 15:39:14.2±1.7, 33.°1S±0.°4×78.°0E±0.°2, h10km, n16, σ0°61/7, mb3.7/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.87**	**347**	T		T	16 11 53.0	
	baz=170,slow=76,SNR=150							
H08S1	**Diego Garcia H**	**25.87**	**347**	T		T	16 11 53.3	
	baz=170,slow=76,SNR=214							
H08S3	**Diego Garcia H**	**25.89**	**347**	T		T	16 11 54.5	
	baz=170,slow=76,SNR=204							
H08N1	**Diego Garcia H**	**27.43**	**345**	T		T	16 13 54.1	
	baz=179,slow=74,SNR=3.8							
H08N3	**Diego Garcia H**	**27.44**	**345**	T		T	16 13 53.8	
	baz=179,slow=74,SNR=5.3							
H08N2	**Diego Garcia H**	**27.45**	**345**	T		T	16 13 54.6	
	baz=179,slow=74,SNR=6.4							
H01W2	**Cape Leeuwin H**	**29.92**	**104**	T		T	16 16 37.0	
	baz=262,slow=74,SNR=17							
H01W3	**Cape Leeuwin H**	**29.93**	**104**	T		T	16 16 44.3	
	baz=262,slow=74,SNR=19							
H01W1	**Cape Leeuwin H**	**29.94**	**104**	T		T	16 16 39.7	
	baz=262,slow=74,SNR=17							
ASAR	**Alice Springs**	**49.60**	**94**	P		**P**	**15 48 06.0**	**+0.1**
	0.7nm,1.0s,baz=248,slow=6.6,SNR=4.0							
WRA	**Warramunga Arr**	**51.56**	**90**	P		**P**	**15 48 20.8**	**+0.1**
	1.1nm,1.0s,baz=244,slow=7.5,SNR=3.4							
CMAR	**Chiang Mai Arr**	**55.08**	**24**	P		**P**	**15 48 46.0**	**-0.4**
	0.4nm,0.8s,baz=202,slow=6.8,SNR=3.1							
MKAR	**Makanchi Array**	**79.66**	**3**	P		**P**	**15 51 21.4**	**-0.1**
	0.1nm,0.6s,baz=183,slow=10,SNR=2.3							
BRTR	**Keskin Array B**	**83.31**	**327**	P		**P**	**15 51 42.2**	**+1.0**
	0.2nm,0.3s,baz=159,slow=8.6,SNR=2.7							
TORD	**Torodi Ar. Bea**	**85.94**	**288**	P		**P**	**15 51 54.3**	**-0.6**
	0.5nm,0.8s,baz=142,slow=5.4,SNR=3.1							
ZALV	**Zalesovo Beam**	**86.93**	**4**	P		**P**	**15 51 58.7**	**-0.1**
	0.2nm,0.3s,baz=153,slow=8.1,SNR=2.5							

MOS ***13*** *15:46:32.1±1.0, 10.°64S×161.°06E, h33km, mb5.1/22, Error ellipse: s-maj=10.3km s-min=9.2km az=56.0*
BJI ***13*** *15:46:33.7, 11.°20S×161.°50E, h75km, mB5.1/30, mb4.7/41, Ms5.1/24, Ms7 4.6/23*
IDC ***13*** *15:46:33.4±6.6, 10.°71S×161.°13E, h33km±49km, mb4.4/22, mb1 4.6/24, mb1mx4.5/36, mbtmp4.6/24, ML4.2/2, MS4.3/24, Ms1 4.3/24, ms1mx4.2/30, Error ellipse: s-maj=19.4km s-min=16.0km az=91.0*
GCMT ***13*** *15:46:34.5±0.2, 10.°72S×161.°12E, h16km±1km, MW5.2/74, Moment Tensor Solution. s38,c48; s74,c111; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.22±.19; Mθθ-0.57±.13; Mφφ-2.65±.13; Mrθ0.72±.37; Mrφ2.42±.10; Mθφ-5.84±.62; Best double couple: M☐7.02000×10¹⁶ NP1:ϕs169.00000°, δ75.00000°, λ106.00000°. NP2: ϕs301.00000°, δ21.00000°, λ44.00000°. Principal axes: T 6.8830, Plg57.0000°, Azm100.0000°; N 0.2740, Plg15.0000°, Azm345.0000°; P -7.1560, Plg29.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *15:46:34.5±1.4, 10.°71S×161.°08E, h41km±13km, mb5.0/29 Error ellipse: s-maj=9.3km s-min=6.2km az=174.0*
ISCJB ***13*** *15:46:39.8±0.2, 10.°84S±0.°04×161.°04E±0.°03, h100km, mb4.8/83, Error ellipse: s-maj=6.6km s-min=4.2km az=154.2*

ISC 13 15:46:38.4±0.4, 10.°89S±0.°05×161.°24E±0.°06, h79km±2km, h79km:pP-P,n237,σ1§48/252, mb4.9/82, 5C-7D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.93**	**319**	LR		LR	15 47 49.3	
	comp=Z,6μm,20.2s,baz=181,slow=44							
HNR	**Honiara**	**1.93**	**319**	*i* P		Pn	15 47 01.1	-8.2
HNR				*i* S		Sn	15 47 17.1	-16
NOUC	**Port Laguerre**	**12.16**	**157**	*e*P		**Pn**	**15 49 28.6**	**0.0**
NOUC				*e*S		Sn	15 51 34.8	-7.5
DZM	**Mont Dzumac**	**12.19**	**157**	*e*Pn		**Pn**	**15 49 29.0**	**-0.1**
	156nm,1.1s							
DZM				*e*LR		LR	15 52 22.5	
	595nm,22.8s							
DZM	**Mont Dzumac**	**12.19**	**157**	Pn		**Pn**	**15 49 28.9**	**-0.1**
	0.5nm,0.3s,baz=358,slow=16,SNR=33							
DZM				Sn		**Sn**	**15 51 38.4**	**-4.7**
	0.2nm,0.3s,baz=302,slow=19,SNR=5.0							
DZM				LR		LR	15 53 50.0	
	comp=Z,772nm,18.1s,baz=318,slow=35							
PMG	**Port Moresby**	**13.94**	**275**	⇓*e*P		**Pn**	**15 49 52.6**	**+0.2**
PMG				pmax		pmax		
	comp=Z,74nm,1.7s							
PMG	**Port Moresby**	**13.94**	**275**	LR		LR	15 54 57.5	
	comp=Z,5μm,19.9s,baz=114,slow=36							
PMG	**Port Moresby**	**13.94**	**275**	*e*P		**Pn**	**15 49 52.3**	**-0.1**
	comp=Z,13nm,1.0s							
CTA	**Charters Tower**	**17.08**	**236**	P		**Pn**	**15 50 30.6**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=64,slow=16,SNR=16							
CTA				LR		LR	15 56 35.4	
	comp=Z,1μm,21.0s,baz=69,slow=35							
CTAO	**Charters Tower**	**17.08**	**236**	*e*P		**Pn**	**15 50 30.3**	**-2.0**
CTAO				pmax		pmax		
	comp=Z,95nm,1.2s							
CTAO	**Charters Tower**	**17.08**	**236**	*e*P		**Pn**	**15 50 30.3**	**-2.0**
	comp=Z,95nm,1.2s							
EIDS	**Eidsvold**	**17.32**	**212**	P		**P**	**15 50 36.9**	**+1.5**
	baz=17,SNR=6.1							
EIDS	**Eidsvold**	**17.32**	**212**	*e*P		**Pn**	**15 50 33.0**	**-2.2**
	comp=Z,127nm,1.6s							
MSVF	**Nonsavu**	**17.64**	**115**	Pn		**Pn**	**15 50 41.9**	**+2.7**
	comp=Z,394nm,1.2s,SNR=11							
MSVF	**Nonsavu**	**17.64**	**115**	*e*P		**Pn**	**15 50 39.2**	**0.0**
MSVF				pmax		pmax		
	comp=Z,106nm,1.2s							
MSVF	**Nonsavu**	**17.64**	**115**	*e*P		**Pn**	**15 50 39.2**	**0.0**
	comp=Z,106nm,1.2s							
COEN	**Coen**	**17.90**	**258**	P		**P**	**15 50 40.9**	**-1.0**
	baz=18,SNR=12							
COEN	**Coen**	**17.90**	**258**	*e*P		**P**	**15 50 40.7**	**-1.2**
	comp=Z,111nm,1.4s							
RMQ	**Roma**	**19.48**	**216**	P		**Pn**	**15 51 00.7**	**-0.4**
	baz=19,SNR=85							
ARMA	**Armidale**	**21.39**	**203**	P		**P**	**15 51 20.8**	**+1.0**
	baz=21,SNR=7.5							
ARMA	**Armidale**	**21.39**	**203**	*e*P		**P**	**15 51 20.6**	**+0.9**
	comp=Z,96nm,1.2s							
JAY	**Jayapura**	**22.01**	**291**	P		**P**	**15 51 23.6**	**-2.9**
	comp=Z,65nm,0.9s							
JAY	**Jayapura**	**22.01**	**291**	P		**P**	**15 51 22.3**	**-4.1**
	comp=Z,20nm,0.9s,baz=134,slow=14,SNR=7.2							
QLP	**Quilpie**	**22.38**	**223**	P		**P**	**15 51 29.7**	**-0.6**
	baz=22,SNR=27							
GENI	**Genyem**	**22.47**	**290**	P		**P**	**15 51 29.3**	**-2.1**
	comp=Z,62nm,1.0s,comp=Z,2μm							
QIS	**Mount Isa**	**22.91**	**243**	P		**P**	**15 51 35.1**	**-0.8**
	baz=23,SNR=49							
SMPI	**Sarmi**	**24.05**	**290**	P		**P**	**15 51 45.2**	**-1.2**
	comp=Z,225nm,1.5s,comp=Z,3μm							
CMSA	**Coba Meteorol**	**25.08**	**213**	P		**P**	**15 51 56.2**	**+0.5**
	baz=25,SNR=11							
CNB	**Canberra Magne**	**26.61**	**202**	P		**P**	**15 52 11.4**	**+1.9**
	baz=26,SNR=5.0							
RAO	**Raoul Island**	**26.69**	**136**	LR		LR	16 00 44.5	
	comp=Z,200nm,20.1s,baz=77,slow=32							
WRAB	**Tennant Creek**	**27.40**	**248**	P		**P**	**15 52 16.2**	**-0.6**
	comp=Z,176nm,1.1s,SNR=13							
WRAB	**Tennant Creek**	**27.40**	**248**	*c iP*		**P**	**15 52 16.5**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,122nm,1.2s							
WRAB	**Tennant Creek**	**27.40**	**248**	*e*P		**P**	**15 52 15.9**	**-0.9**
	comp=Z,36nm,0.9s							
WB2	**Warramunga Arr**	**27.40**	**248**	*e*P		**P**	**15 52 15.1**	**-1.6**
WRA	**Warramunga Arr**	**27.41**	**248**	P		**P**	**15 52 16.1**	**-0.8**
	comp=Z,31nm,1.0s,baz=77,slow=9.8,SNR=71							
WRA				LR		LR	16 03 13.3	
	comp=Z,2μm,18.2s,baz=80,slow=36							
STKA	**Stephens Creek**	**27.67**	**218**	P		**P**	**15 52 19.1**	**+0.1**
	comp=Z,8.1nm,1.0s,baz=19,slow=10,SNR=12							
STKA				LR		LR	16 02 25.8	
	comp=Z,2μm,19.8s,baz=39,slow=34							
STKA	**Stephens Creek**	**27.67**	**218**	P		**P**	**15 52 19.5**	**+0.5**
	baz=27,SNR=14							
RKPI	**Ransiki, Papua**	**28.44**	**287**	P		P	15 52 33.5	+7.4
AS31	**Alice Springs**	**28.96**	**240**	*e*P		**P**	**15 52 29.0**	**-1.7**
ASAR	**Alice Springs**	**28.96**	**240**	P		**P**	**15 52 29.1**	**-1.5**
	comp=Z,11nm,0.9s,baz=71,slow=9.5,SNR=76							
ASAR				LR		LR	16 03 57.0	
	comp=Z,2μm,18.1s,baz=64,slow=36							
TOO	**Toolangi**	**30.10**	**205**	P		**P**	**15 52 42.0**	**+1.4**
	baz=30,SNR=3.8							
BBOO	**Buckleboo**	**31.81**	**223**	P		**P**	**15 52 55.8**	**+0.2**
	baz=32,SNR=7.4							
BBOO	**Buckleboo**	**31.81**	**223**	*e*P		**P**	**15 52 55.7**	**0.0**
	comp=Z,17nm,0.8s							
KNRA	**Kununurra**	**31.94**	**258**	P		**P**	**15 52 56.4**	**-0.5**
	baz=32,SNR=9.4							
WRKA	**Warakurna**	**34.24**	**241**	P		**P**	**15 53 15.9**	**-1.0**
	baz=34,SNR=12							
LBMI	**Labuha**	**35.03**	**285**	P		**P**	**15 53 26.2**	**+2.3**
	comp=Z,69nm,1.8s,comp=Z,1μm							
SANI	**Sanana**	**36.07**	**282**	P		**P**	**15 53 31.8**	**-1.0**
	comp=Z,54nm,1.3s,comp=Z,760nm							
BATI	**Baumata**	**36.93**	**267**	P		**P**	**15 53 41.2**	**+1.0**
	comp=Z,38nm,1.4s							
BATI	**Baumata**	**36.93**	**267**	LR		LR	16 10 37.2	
	comp=Z,558nm,18.6s,slow=39							
KMSI	**Cibinong**	**38.75**	**285**	P		**P**	**15 53 55.7**	**+0.2**
	comp=Z,407nm,1.1s,comp=Z,4μm							
APSI	**Ampana**	**40.55**	**281**	P		**P**	**15 54 11.2**	**+0.8**
	comp=Z,116nm,1.4s,comp=Z,1μm							
MRSI	**Marisa**	**40.67**	**284**	P		**P**	**15 54 14.1**	**+2.8**
	comp=Z,32nm,1.2s,comp=Z,398nm							
BNSI	**Bone**	**41.24**	**276**	P		**P**	**15 54 17.2**	**+1.1**
	comp=Z,35nm,1.3s							
KAPI	**Kappang**	**41.47**	**275**	*e*P		**P**	**15 54 16.7**	**-1.3**
	comp=Z,58nm,1.4s							
SPSI	**Sidrap Palu**	**41.66**	**276**	P		P	15 54 27.1	+7.6
PCI	**Palu**	**42.30**	**281**	P		**P**	**15 54 25.2**	**+0.4**
PCI	**Palu**	**42.30**	**281**	P		**P**	**15 54 26.3**	**+1.5**
	comp=Z,96nm,1.2s,comp=Z,1μm							
MPSI	**Mapaga**	**42.58**	**283**	P		**P**	**15 54 25.1**	**-1.9**
MPSI	**Mapaga**	**42.58**	**283**	P		**P**	**15 54 25.9**	**-1.1**
MEEK	**Meekatharra**	**43.06**	**243**	P		**P**	**15 54 30.9**	**+0.1**
	baz=43,SNR=4.8							
TSM	**Tawau**	**45.72**	**287**	⇓P		**P**	**15 54 51.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**45.92**	**234**	LR		LR	16 12 55.0	
	comp=Z,4.3nm,18.8s,baz=52,slow=34							
JAGI	**Jajag, Banyuwa**	**46.45**	**269**	P		**P**	**15 54 55.7**	**-2.1**
	baz=46,SNR=9.5							
JAGI	**Jajag, Banyuwa**	**46.45**	**269**	*e*P		**P**	**15 54 55.2**	**-2.7**
	comp=Z,69nm,1.0s							
ABJI	**Asem Bagus**	**46.45**	**270**	P		**P**	**15 54 57.8**	**0.0**
	comp=Z,45nm,1.3s,comp=Z,1μmcomp=Z,0.2nm							
KMMI	**Kalianget**	**46.81**	**271**	P		**P**	**15 55 00.7**	**0.0**
SDKM	**Sandakan**	**46.82**	**288**	⇓P		**P**	**15 54 59.5**	**-1.3**
KKM	**Kota Kinabalu**	**47.87**	**288**	P		**P**	**15 55 08.6**	**-0.4**
	baz=48,SNR=8.6							
KKM	**Kota Kinabalu**	**47.87**	**288**	⇓P		**P**	**15 55 08.7**	**-0.3**
KKM	**Kota Kinabalu**	**47.87**	**288**	*e*P		**P**	**15 55 08.2**	**-0.8**
	comp=Z,43nm,0.9s							
PPT	**Papeete**	**48.03**	**104**	LR		LR	16 12 23.6	
	comp=Z,365nm,18.1s,baz=280,slow=32							
PPT2	**Papeete2**	**48.03**	**104**	*e*S		S	16 02 15.3	+12
	comp=Z,236nm,26.2s							
PPT2				*e*LQ		LQ	16 06 53.7	
	comp=Z,640nm,24.5s							
PPT2				*e*LR		LR	16 08 56.5	
	comp=Z,759nm,22.2s,baz=282							
TBI	**Tubuai**	**48.50**	**112**	*e*S		S	16 02 22.1	+13
	comp=Z,179nm,26.8s							
TBI				*e*LQ		LQ	16 07 05.0	
	comp=Z,786nm,28.5s							
TBI				*e*LR		LR	16 09 10.4	
	comp=Z,304nm,25.5s							
PCJI	**Pacitan**	**49.40**	**269**	P		**P**	**15 55 20.1**	**-0.5**
	comp=Z,117nm,1.1s							
SMRI	**Semarang**	**50.28**	**270**	P		**P**	**15 55 27.5**	**+0.2**
KPJI	**Karang Pucung**	**51.72**	**269**	P		P	15 55 47.6	+9.5
MJAR	**Matsushiro Arr**	**51.92**	**336**	P		**P**	**15 55 37.7**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=170,slow=7.7,SNR=4.8							
KSM	**Kuching**	**52.12**	**280**	P		**P**	**15 55 40.8**	**-0.3**
	baz=52,SNR=14							
KSM	**Kuching**	**52.12**	**280**	*e*P		**P**	**15 55 39.7**	**-1.4**
	comp=Z,20nm,0.8s							
JNU	**Nakatsue**	**52.47**	**328**	LR		LR	16 15 01.0	
	comp=Z,141nm,20.8s,slow=33							
CISI	**Cisompet, Garu**	**52.79**	**269**	P		**P**	**15 55 44.7**	**-1.4**
	comp=Z,81nm,1.2s							
CISI	**Cisompet, Garu**	**52.79**	**269**	P		**P**	**15 55 44.8**	**-1.3**
	baz=52,SNR=5.5							
CISI	**Cisompet, Garu**	**52.79**	**269**	*e*P		**P**	**15 55 44.3**	**-1.8**
	comp=Z,68nm,1.0s							
LEM	**Lembang**	**53.08**	**270**	P		**P**	**15 55 48.4**	**0.0**
LEM	**Lembang**	**53.08**	**270**	LR		LR	16 19 27.0	
	comp=Z,155nm,20.8s,slow=37							
LEM	**Lembang**	**53.08**	**270**	P		**P**	**15 55 48.3**	**-0.1**
	baz=53,SNR=6.5							
CBJI	**Citeko**	**53.90**	**270**	P		**P**	**15 55 56.6**	**+2.4**
CGJI	**Cibinong**	**55.01**	**270**	P		**P**	**15 56 00.8**	**-1.4**
	comp=Z,108nm,1.1s,comp=Z,961nm							
KLI	**Kotabumi**	**56.10**	**271**	P		**P**	**15 56 10.0**	**-0.1**
KASI	**Kota Agung**	**56.35**	**271**	P		**P**	**15 56 09.6**	**-2.2**
	comp=Z,40nm,1.1s							
MDSI	**Maura Dua**	**56.84**	**272**	P		**P**	**15 56 13.6**	**-1.7**
	comp=Z,25nm,1.3s							
LWLI	**Liwa**	**56.86**	**271**	P		**P**	**15 56 15.6**	**0.0**
	comp=Z,45nm,1.0s,comp=Z,1μm							
KUR	**Kuril'sk**	**57.15**	**349**	P		**P**	**15 56 16.5**	**-0.4**
KUR				*i* S		S	16 04 22.7	+17
KUR				S		S	16 04 22.9	+17
ASAJ	**Asahikawa**	**57.31**	**344**	LR		LR	16 21 10.6	
	comp=Z,342nm,19.0s,baz=94,slow=36							
KSRS	**Korea Array**	**57.35**	**329**	P		**P**	**15 56 17.0**	**-1.4**
	comp=Z,2.7nm,1.0s,baz=136,slow=6.9,SNR=4.0							
KSRS				LR		LR	16 19 51.8	
	comp=Z,158nm,18.8s,baz=125,slow=35							
KSAR	**Wonju Array Be**	**57.36**	**329**	P		**P**	**15 56 17.0**	**-1.5**
KSAR	**Wonju Array Be**	**57.36**	**329**	P		**P**	**15 56 17.0**	**-1.5**
LHSI	**Lahat**	**57.59**	**272**	P		P	15 56 24.7	+4.0
QIZ	**Qiongzhong**	**58.74**	**300**	P		**P**	**15 56 28.3**	**-0.2**
QIZ				S		**S**	**16 04 28.1**	**+0.2**
QIZ				LZ				
	comp=Z,170nm,28.6s							
NJ2	**Nanjing**	**58.87**	**318**	*e*P		**P**	**15 56 27.9**	**-1.3**
NJ2				PMZ				
	comp=Z,10.0nm,0.6s							
BKNI	**Bangkinang**	**60.85**	**276**	P		**P**	**15 56 45.4**

comp=Z,57nm,0.6s,comp=Z,5μm
CRAI Chiangrai 67.38 297 P **P** 15 57 22.9 -2.9
comp=Z,20nm,0.9s
LAMP Lampang 67.42 295 P **P** 15 57 26.7 +0.6
comp=Z,16nm,0.9s,comp=Z,107nm
CMAR Chiang Mai Arr 68.02 295 *ce*P **P** 15 57 30.2 +0.3
CMAR pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 68.02 295 P **P** 15 57 30.1 +0.3
comp=Z,10nm,0.8s,baz=126,slow=4.6,SNR=50
CMAR LR LR 16 26 18.2
comp=Z,66nm,20.6s,baz=95,slow=35
CMMT Chiang Mai 68.13 295 P **P** 15 57 30.8 +0.2
comp=Z,17nm,1.5s
CMAI Chiengmai2 68.44 297 P P 15 57 36.5 +3.8
comp=Z,9.5nm,1.0s,comp=Z,1μm
MHMT Maesariang 68.82 294 P P 15 57 44.0 +9.2
HHC Hu-ho-hao-te 68.91 322 *e*P **P** 15 57 36.8 +1.7
HHC pP **pP** 15 57 55.6 0.0
HHC PcP **PcP** 15 58 00.0 +1.0
HHC PP **PP** 16 00 10.4 +2.0
HHC S **S** 16 06 34.3 +0.8
HHC sS **sS** 16 07 09.8 +1.4
HHC ScS **SKSac** 16 07 26.9 -0.9
HHC PMZ
comp=Z,26nm,1.7s
HHC PMZ
comp=Z,97nm,3.7s
HHC LN
comp=Z,300nm,16.0s
HHC LE
comp=Z,290nm,17.3s
HHC LZ
comp=Z,190nm,14.8s
CD2 Chengdu 69.03 309 *e*P **P** 15 57 36.8 +0.8
CD2 pP **pP** 15 57 56.3 -0.2
CD2 PcP **PcP** 15 58 00.5 +0.8
CD2 sP **sP** 15 58 04.5 -0.7
CD2 PP **PP** 16 00 12.3 +2.7
CD2 PcS 16 02 04.3
CD2 S **S** 16 06 34.5 -0.7
CD2 sS **sS** 16 07 07.8 -2.3
CD2 ScS **SKSac** 16 07 26.9 -2.1
CD2 SS **SS** 16 11 03.3 +0.6
CD2 PMZ
comp=Z,30nm,0.9s
CD2 PMZ
comp=Z,160nm,6.2s
LZH Lanzhou 71.42 314 *e*P P 15 57 42.3 -8.3
LZH pP PcP 15 58 02.4 -7.4
LZH sP sP 15 58 08.5 -11
LZH *e*PP PP 16 00 22.5 -7.7
LZH *e*S S 16 06 52.3 -11
LZH sS **SKiKP** **16 07 26.0 +2.7**
LZH Lanzhou 71.42 314 *e*SS SS 16 11 29.0 -11
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.6s
LZH LR LR
comp=N,350nm,14.0s
LZH LR LR
comp=E,170nm,11.9s
LZH LR LR
comp=Z,420nm,14.5s
SEY Seymchan 73.92 356 *e*P **P** 15 58 03.8 -0.8
ULN Ulaanbaatar 75.63 326 *d i*P **P** 15 58 14.8 -0.2
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 75.63 326 *e*P **P** 15 58 15.0 -0.1
comp=Z,25nm,1.4s
GTA Gaotai 75.80 315 *e*P **P** 15 58 16.8 +0.6
GTA PMZ
comp=Z,2.0nm,1.0s
SONM Songino Array 75.97 325 P **P** 15 58 16.6 -0.4
comp=Z,4.6nm,0.9s,baz=143,slow=5.7,SNR=20
SONM LR LR 16 30 39.5
comp=Z,140nm,21.3s,baz=116,slow=35
YAK Yakutsk 76.76 345 *e*P **P** 15 58 18.9 -2.0
YAK pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 76.76 345 *e*P **P** 15 58 19.7 -1.2
comp=Z,14nm,0.7s
LSA Lhasa 78.55 303 *e*P **P** 15 58 32.5 +0.3
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 78.55 303 *e*P **P** 15 58 32.5 +0.3
comp=Z,9.0nm,1.0s
BOD Bodaibo 78.56 336 *e*P **P** 15 58 30.0 -1.0
BOD pmax pmax
comp=Z,6.0nm,1.4s
BILL Bilibino 78.81 2 ⇓ *i e*P **P** 15 58 31.5 -0.7
BILL 16 01 29.2
BILL pmax pmax
comp=Z,22nm,1.7s
BILL MLR MLR
comp=Z,154nm,22.0s
BILL Bilibino 78.81 2 *e*P **P** 15 58 31.2 -1.0
comp=Z,15nm,1.0s
ZAK Zakamensk 79.08 326 *e*P **P** 15 58 32.9 -1.3
ZAK pmax pmax
comp=Z,7.0nm,1.7s
TLY Talaya 79.58 328 *e*P **P** 15 58 36.0 -0.8
TLY pmax pmax
comp=Z,13nm,1.5s
TNA Tin City 79.62 13 P **P** 15 58 38.8 +2.1
comp=Z,14nm,1.1s
TAPN Taplejung 80.68 300 *e*P **P** 15 58 43.5 -0.1
ODAN Odare 80.81 300 *e*P **P** 15 58 44.2 0.0
comp=Z,28nm,1.0s
JIRN Jiri 82.06 300 *e*P **P** 15 58 51.6 +0.6
comp=Z,33nm,1.2s
GUN Gumba 82.40 300 *e*P **P** 15 58 52.1 -0.6
comp=Z,42nm,1.2s
PKI Pulchoki 82.70 300 *e*P **P** 15 58 54.2 -0.1
MAW Mawson 83.19 202 P **P** 15 58 57.9 +2.3
comp=Z,10nm,1.0s,baz=116,slow=8.2,SNR=6.2
MAW LR LR 16 30 47.4
comp=Z,133nm,21.5s,baz=62,slow=32
GKN Gorkha 83.48 300 *e*P **P** 15 58 57.8 -0.3
comp=Z,49nm,0.9s
KOLN Koldanda 84.30 300 *e*P **P** 15 59 00.9 -1.4
comp=Z,25nm,0.7s
DANN Dangsing 84.32 300 *e*P **P** 15 59 00.8 -1.7
comp=Z,45nm,1.1s
COLA College 84.57 19 ⇑ *i*P **P** 15 59 01.9 -0.6
COLA pmax pmax
comp=Z,77nm,1.0s
ILAR Eielson Array 84.82 20 P **P** 15 59 03.0 -0.9
ILAR Eielson Array 84.82 20 P **P** 15 59 03.0 -0.9
comp=Z,4.2nm,1.1s,baz=261,slow=4.2,SNR=17
ILAR LR LR 16 33 09.3
comp=Z,199nm,19.1s,baz=250,slow=33
PYUN Piuthan 84.91 300 *e*P **P** 15 59 04.6 -0.8
comp=Z,50nm,0.9s
TIXI Tiksi 85.14 350 ⇑ *i*P **P** 15 59 04.3 -1.0
TIXI pmax pmax
comp=Z,7.0nm,1.5s
WMQ Urumqi 85.88 316 *e*P **P** 15 59 11.5 +1.8
WMQ pP **pP** 15 59 32.0 +1.1
WMQ sP **sP** 15 59 41.0 +1.6
WMQ PP **PP** 16 02 33.0 +2.5
WMQ SKS **SKSac** 16 09 27.0 -1.6
WMQ S **S** 16 09 37.0 +0.1
WMQ SS **SS** 16 15 19.0 +2.9
WMQ PMZ
comp=Z,7.0nm,1.1s
WMQ PMZ
comp=Z,110nm,4.2s
WMQ LN
comp=Z,240nm,16.0s
WMQ LE
comp=Z,180nm,14.0s
WMQ LZ
comp=Z,250nm,19.0s
M02C Callahan 86.77 47 P **P** 15 59 15.4 +1.2
baz=87
DAWY Dawson 87.05 22 *e*P **P** 15 59 15.3 +0.4
HUMO Hull Mountain 87.06 46 *e*P **P** 15 59 16.9 +1.4
comp=Z,12nm,1.0s
I03D Drain, OR 87.12 45 P **P** 15 59 15.7 0.0
baz=87
M04C Macdoel 87.61 47 P **P** 15 59 19.3 +1.0
baz=88
CMB Columbia Colle 87.64 51 P **P** 15 59 20.2 +1.8
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 87.64 51 P **P** 15 59 20.2 +1.8
comp=Z,4.0nm,0.9s
J04D Umpqua Nationa 87.84 45 P **P** 15 59 20.4 +1.0
baz=88
J05D Fort Rock, OR 88.47 46 P **P** 15 59 23.5 +1.2
baz=89
WAKR Walker 88.49 50 P **P** 15 59 23.0 +0.4
ISA Isabella, Lake 88.51 53 P **P** 15 59 23.4 +0.8
baz=89
EDW2 Edwards Air Fo 88.70 54 P **P** 15 59 24.7 +1.2
baz=89
LRMC Laurel Mtn Rad 89.08 54 P **P** 15 59 26.4 +1.1
baz=89
NVAR Mina Array Bea 89.33 51 P **P** 15 59 27.4 +0.8
comp=Z,4.6nm,1.1s,baz=235,slow=5.9,SNR=20
DAC Darwin (Calif) 89.35 53 *e*P **P** 15 59 27.7 +1.0
DAC pmax pmax
comp=Z,12nm,1.1s
DAC Darwin (Calif) 89.35 53 *e*P **P** 15 59 27.7 +1.0
comp=Z,12nm,1.1s
MPMC Manual Prospec 89.38 53 P **P** 15 59 27.6 +0.8
baz=90
MONP Monument Peak, 89.50 57 P **P** 15 59 28.1 +0.6
baz=90
GSC Goldstone, Bar 89.74 54 P **P** 15 59 28.5 0.0
baz=90
HEC Hector,Ludlow 90.02 55 P **P** 15 59 30.6 +0.9
baz=90
SWSC Sam W. Stewart 90.02 57 P **P** 15 59 30.1 +0.5
baz=90
TPH Tonopah 90.07 51 *e*P **P** 15 59 30.7 +0.7
TPH pmax pmax
comp=Z,4.0nm,1.1s
TPH Tonopah 90.07 51 *e*P **P** 15 59 30.7 +0.7
comp=Z,4.2nm,1.1s
WVOR Wild Horse Val 90.08 47 *e*P **P** 15 59 30.3 +0.4
WVOR pmax pmax
comp=Z,17nm,1.1s
WVOR Wild Horse Val 90.08 47 *e*P **P** 15 59 30.3 +0.4
comp=Z,17nm,1.1s
BELC Belle Mtn. Jos 90.10 56 P **P** 15 59 30.8 +0.6
baz=90
MKAR Makanchi Array 90.40 318 P **P** 15 59 30.1 -1.0
comp=Z,1.8nm,0.6s,baz=97,slow=6.1,SNR=26
MKAR LR LR 16 42 27.1
comp=Z,68nm,19.1s,baz=87,slow=37
BC3 Big Chuckawall 90.46 56 P **P** 15 59 32.9 +1.1
baz=91
TUQ Turquoise Moun 90.48 54 P **P** 15 59 32.6 +0.7
baz=91
GMRC Granite Mounta 90.54 55 P **P** 15 59 33.0 +0.7
baz=91
TPNV Topopah Spring 90.56 53 P **P** 15 59 33.0 +0.7
baz=91
IRM Iron Mountain 90.82 56 P **P** 15 59 34.6 +1.2
baz=91
ZALV Zalesovo Beam 90.86 325 *i* P **P** 15 59 31.2 -1.8
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 90.86 325 P **P** 15 59 30.6 -2.4
comp=Z,1.4nm,0.8s,baz=108,slow=5.5,SNR=6.5
ZALV LR LR 16 41 08.2
comp=Z,76nm,18.8s,baz=70,slow=36
SHPR Sheep Range 91.32 53 *e*P **P** 15 59 36.6 +0.8
comp=Z,13nm,1.0s
R11A Troy Canyon, C 91.39 51 P **P** 15 59 36.9 +0.8
baz=92
BMO Blue Mountains 91.61 45 *e*P **P** 15 59 37.0 +0.1
BMO pmax pmax
comp=Z,8.0nm,1.3s
BMO Blue Mountains 91.61 45 *e*P **P** 15 59 37.0 +0.1
comp=Z,8.5nm,1.3s
NVS Novosibirsk 92.01 326 *e*P P 15 59 34.4 -3.9
NVS pmax pmax
comp=Z,7.0nm,1.5s
ELK Elko 92.17 49 P **P** 15 59 40.8 +1.1
comp=Z,6.0nm,1.0s
MFID Camas Ranch 92.32 46 *e*P **P** 15 59 40.7 +0.5
comp=Z,5.1nm,1.0s
NEW Newport 92.53 41 *e*P **P** 15 59 41.0 0.0
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 92.53 41 P **P** 15 59 41.0 0.0
comp=Z,5.8nm,1.0s
NEW Newport 92.53 41 P **P** 15 59 41.2 +0.2
baz=93
NEW Newport 92.53 41 *e*P **P** 15 59 41.0 0.0
comp=Z,9.3nm,1.1s
KSH Kashi 93.22 309 *e*P **P** 15 59 45.5 +1.0
KSH pP **pP** 16 00 06.4 +0.5
KSH sP **sP** 16 00 14.8 +0.4
KSH PP **PP** 16 03 32.9 +3.7
KSH SKS **SKSac** 16 10 12.4 +0.4
KSH S **S** 16 10 44.6 -0.9
KSH sS **sS** 16 11 21.1 -1.2
KSH PMZ
comp=Z,63nm,5.5s
KSH LN
comp=Z,95nm,7.1s
KSH LE
comp=Z,130nm,6.1s
KSH LZ
comp=Z,120nm,11.4s
HLID Hailey 93.36 46 P **P** 15 59 46.0 +0.9
baz=93
HLID Hailey 93.36 46 *e*P **P** 15 59 45.8 +0.7
comp=Z,8.6nm,1.1s
KURK Kurchatov 93.71 321 *e*P **P** 15 59 44.2 -2.1
KURK Kurchatov 93.71 321 *e*P **P** 15 59 44.2 -2.1
KURBB Kurchatov Arra 93.74 321 P **P** 15 59 44.0 -2.5
comp=Z,1.4nm,0.7s,baz=104,slow=4.0
BOZ Bozeman (W) 95.70 45 P **P** 15 59 56.7 +1.0
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 95.70 45 P **P** 15 59 56.7 +1.0
comp=Z,5.3nm,1.2s
PDAR Pinedale Array 96.71 48 P **P** 16 00 01.0 +0.5
comp=Z,1.4nm,1.0s,baz=216,slow=4.8,SNR=3.6
PDAR LR LR 16 41 45.6
comp=Z,134nm,18.1s,baz=259,slow=34
YKA Yellowknife Ar 96.88 28 P **P** 15 59 59.3 -1.2
comp=Z,1.8nm,0.9s,baz=258,slow=4.5,SNR=16
SNAA Sanae 96.94 185 LR LR 16 41 56.4
comp=Z,54nm,18.1s,baz=192,slow=34
F19A Roth Farm, Mol 97.59 45 P Pdif 16 00 04.4 +0.1
baz=98
C19A Slack Wire Ran 97.77 43 P Pdif 16 00 05.7 +0.7
baz=98
E19A Rath Farm, Rou 97.78 44 P Pdif 16 00 05.8 +0.7
baz=98
ANMO Albuquerque 98.02 56 ⇓ *e*P Pdif 16 00 06.6 0.0
ANMO pmax pmax
comp=Z,13nm,1.0s
D20A Manuel Ranch, 98.30 44 P Pdif 16 00 08.4 +1.0
baz=98
A20A Cobblestone Ra 98.65 42 P Pdif 16 00 09.3 +0.4
baz=99
A21A Bergtoll Ranch 99.32 42 P **Pdif** **16 00 12.1 +0.2**
baz=99
TXAR Lajitas Array 99.65 62 P **Pdif** **16 00 13.1 -0.7**
comp=Z,0.1nm,0.6s,baz=243,slow=4.0,SNR=2.1
TXAR LR LR 16 40 29.1
comp=Z,235nm,18.4s,baz=0.0,slow=32
SIUC Southern Illin 112.02 54 *e*PKiKP **PKiKP** **16 05 06.7 +1.8**
KIV Kislovodsk 117.96 314 *i*PKiKP **PKPdf** **16 05 17.3 +1.0**
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,102nm,20.0s
AKASG Malin Array Be 124.26 325 PKP **PKPdf** **16 05 27.8 -0.2**
comp=Z,1.1nm,0.7s,baz=69,slow=2.1,SNR=6.6
KIEV Kiev 124.27 325 ⇑ *i*PKiKP **PKPdf** **16 05 27.5 -0.6**
BRTR Keskin Array B 125.57 311 PKP **PKPdf** **16 05 33.0 +1.9**
comp=Z,0.7nm,0.9s,baz=93,slow=2.5,SNR=4.4
KOLS Kolonicke sedl 129.03 326 *e*PKiKP **PKPdf** **16 05 37.5 +0.2**
KOLS Kolonicke sedl 129.03 326 *e*PKP **PKPdf** **16 05 37.5 +0.2**
CRVS Cervenica-Dubn 129.49 326 *i* P **Pdif** **16 02 27.8 +1.8**
CRVS Cervenica-Dubn 129.49 326 PDIF **Pdif** **16 02 27.8 +1.8**
ESDC Sonseca Array 148.46 338 PKPbc **PKPbc** **16 06 15.0 -1.4**
comp=Z,0.2nm,0.3s,baz=20,slow=2.7,SNR=2.9
TORD Torodi Ar. Bea 159.87 278 PKP **PKPdf** **16 06 29.0 -0.4**
comp=Z,1.8nm,1.1s,baz=9.1,slow=2.4,SNR=5.0
TORD PKPab **PKPab** **16 07 08.8 -0.1**
comp=Z,1.9nm,1.1s,baz=79,slow=1.4,SNR=3.7

*ISCJB **13** 16:07:24.9±0.7, 7.°01S±0.°04×129.°62E±0.°05, h139km, mb3.3/1, Error ellipse: s-maj=7.3km s-min=6.3km az=16.1*
*IDC **13** 16:07:24.8±8.0, 6.°99S×129.°60E, h122km±83km, mb3.2/1, mb1 3.6/4, mb1mx3.2/30, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=69.7km s-min=28.3km az=33.0*
ISC 13 16:07:25.6±0.9, 7.°11S±0.°06×129.°67E±0.°07, h139km, n9, σ2§31/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.89**	**32**	P	**Pn**	**16 08 38.0**	**+0.6**
	baz=4.9,SNR=4.9						
FAKI				S	**Sn**	**16 09 30.8**	**-2.5**
	baz=4.9,SNR=22						
MTN	**Manton Dam**	**5.88**	**166**	P	Pn	16 08 54.3	+3.7
	baz=6.1,SNR=76						
MTN				S	**Sn**	**16 09 58.6**	**+1.7**
	baz=6.1,SNR=5.5						
SOEI	**Soe**	**5.96**	**243**	P	**Pn**	**16 08 53.9**	**+2.1**
	baz=5.9,SNR=4.2						
SOEI				S	**Sn**	**16 09 59.0**	**0.0**
	baz=5.9,SNR=5.3						
KDU	**Kakadu**	**6.19**	**154**	P	Pn	16 08 58.2	+3.5
	baz=6.4,SNR=106						
KDU				S	**Sn**	**16 10 06.0**	**+1.6**
	baz=6.4,SNR=4.5						
BATI	**Baumata**	**6.69**	**242**	P	**Pn**	**16 09 02.5**	**+1.0**
	3.6nm,0.3s,baz=104,slow=6.4,SNR=8.3						
BATI				S	**Sn**	**16 10 14.7**	**-1.8**
	5.9nm,0.3s,baz=60,slow=22,SNR=11						
KNRA	**Kununurra**	**8.56**	**186**	P	**Pn**	**16 09 28.1**	**+1.5**
	baz=8.7,SNR=27						
KNRA				S	**Sn**	**16 11 00.0**	**-1.6**
	baz=8.7,SNR=5.2						
WRA	**Warramunga Arr**	**13.54**	**161**	P	**Pn**	**16 10 32.0**	**-0.1**
	1.0nm,0.3s,baz=345,slow=13,SNR=22						
WRA				S	**Sn**	**16 12 57.0**	**-4.9**
	0.8nm,0.3s,baz=330,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**16.96**	**167**	P	**Pn**	**16 11 17.4**	**+2.8**
	0.4nm,0.3s,baz=344,slow=9.9,SNR=49						
ASAR				S	**S**	**16 14 21.5**	**-2.5**
	0.2nm,0.3s,baz=344,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**16 18 10.8**	**+0.1**
	0.3nm,0.5s,baz=116,slow=8.1,SNR=7.5						

DJA 13 16:11:49.2±0.3, 10.°S±4.°×12.°0E±.°, h17km±4km, M3.6/8, MLv3.6/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.23**	**236**	P	Pg	16 11 53.8	-0.9
WBSI				S	Sb	16 12 00.2	+1.1
WSI	**Waingapu**	**0.71**	**103**	P	Pg	16 12 03.4	+0.1
WSI				S	Sg	16 12 12.6	-0.2
BASI	**Baing, Sumba**	**1.20**	**126**	P	Pn	16 12 09.4	-1.9
EDFI	**Ende, Flores**	**2.21**	**70**	P	Pn	16 12 24.6	-0.6
TWSI	**Taliwang, Sumb**	**2.78**	**286**	P	Pn	16 12 32.7	-0.3
BSSI	**Bau Bau, Buton**	**3.46**	**15**	P	Pn	16 12 41.8	-0.6
BATI	**Baumata**	**4.07**	**100**	P	Pn	16 12 50.9	+0.1
BKSI	**Bulukumba**	**4.19**	**7**	P	Pn	16 12 52.0	-0.4
DNP	**Denpasar**	**4.40**	**280**	P	Pn	16 12 55.6	+0.3
IGBI	**Denpasar**	**4.44**	**279**	P	Pn	16 12 53.5	-2.3
SRBI	**Singaraja**	**4.55**	**288**	P	Pn	16 12 57.1	-0.3
SOEI	**Soe**	**4.62**	**93**	P	Pn	16 12 58.9	+0.5

*ISCJB **13** 16:25:13.4±0.4, 19.°1S±0.°1×174.°40W±0.°08, h50km, mb4.2/15, MS3.8/5, Error ellipse: s-maj=15.0km s-min=9.3km az=160.1*
*IDC **13** 16:25:14.4±6.6, 19.°10S×174.°34W, h42km±59km, mb3.8/11, mb1 4.1/12, mb1mx3.8/31, mbtmp4.0/12, ML3.5/1, MS3.7/6, Ms1 3.8/6, ms1mx3.3/34, Error ellipse: s-maj=27.3km s-min=21.5km az=135.0*
*NEIC **13** 16:25:14.7±2.1, 19.°06S×174.°38W, h47km±19km, mb4.5/6, Error ellipse: s-maj=17.7km s-min=9.7km az=156.0*
ISC 13 16:25:15.0±0.5, 19.°0S±0.°1×174.°32W±0.°08, h50km, n51, σ1§01/35, mb4.3/15, MS3.8/5, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.15**	**92**	P	Pn	16 26 09.2	-6.6
	baz=3.5,SNR=73						
NIUE				S	Sn	16 26 48.7	-14
	baz=3.5,SNR=18						
AFI	**Afiamalu**	**5.62**	**26**	*e*P	**Pn**	**16 26 34.4**	**-1.7**
MSVF	**Nonsavu**	**7.36**	**279**	*e*P	Pn	16 27 08.8	+8.8
	147nm,1.1s						
RAR	**Rarotonga**	**13.84**	**102**	*e*Pn	**Pn**	**16 28 28.4**	**-0.2**
RAR				*e*P	**P**	**16 28 35.2**	**-0.3**
DZM	**Mont Dzumac**	**18.27**	**257**	*e*P	Pn	16 29 31.7	+6.6
	46nm,1.1s						
DZM				*e*LR	LR	16 33 51.4	
	492nm,25.4s						
DZM	**Mont Dzumac**	**18.27**	**257**	P	**Pn**	**16 29 25.9**	**+0.8**
	0.2nm,0.3s,baz=76,slow=19,SNR=6.5						
DZM				LR	LR	16 35 13.1	
	comp=Z,319nm,21.8s,baz=70,slow=33						
DZM	**Mont Dzumac**	**18.27**	**257**	*e*P	**Pn**	**16 29 25.6**	**+0.5**
	42nm,1.4s						
URZ	**Urewera**	**20.59**	**199**	P	**P**	**16 29 48.4**	**-1.4**
	6.8nm,0.5s,baz=272,slow=4.0,SNR=11						
PAE	**Paea**	**23.52**	**91**	*e*T	T	16 54 15.4	
	14nm,0.3s						
PPT2	**Papeete2**	**23.53**	**91**	*e*LR	LR	16 35 54.3	
	511nm,25.5s,baz=249						
PPT2	**Papeete2**	**23.53**	**91**	*e*T	T	16 54 17.2	
	12nm,0.3s						
PPT	**Papeete**	**23.53**	**90**	LR	LR	16 37 35.8	
	comp=Z,94nm,18.4s,baz=283,slow=32						
TBI	**Tubuai**	**23.57**	**105**	*e*LR	LR	16 35 35.0	
	357nm,29.5s						
TBI	**Tubuai**	**23.57**	**105**	*e*T	T	16 54 11.5	
	18nm,0.3s						
TIAR	**Tiarei**	**23.75**	**91**	*e*T	T	16 54 33.3	
	2.8nm,0.3s						
TVO	**Taravao**	**23.81**	**91**	*e*T	T	16 54 26.0	
	2.2nm,0.3s						
MEH	**Mehetia**	**24.92**	**92**	*e*T	T	16 56 00.3	
	28nm,0.2s						
PMOR	**Pomariorio Ree**	**25.57**	**85**	*e*T	T	16 56 52.6	
	3.4nm,0.3s						
RKT	**Rikitea**	**36.87**	**103**	*e*LR	LR	16 41 49.8	
	393nm,32.2s						
CTAO	**Charters Tower**	**37.11**	**262**	*e*P	**P**	**16 32 20.5**	**-0.5**
	2.7nm,0.5s						
QLP	**Quilpie**	**38.82**	**251**	P	**P**	**16 32 36.0**	**+0.7**
	baz=39,SNR=3.3						
AS31	**Alice Springs**	**48.24**	**255**	*e*P	**P**	**16 33 50.4**	**-0.8**
ASAR	**Alice Springs**	**48.25**	**255**	P	**P**	**16 33 50.5**	**-0.8**
	2.3nm,0.5s,baz=96,slow=8.2,SNR=53						
ASAR				PcP	**PcP**	**16 35 18.1**	**+0.3**
	1.3nm,0.6s,baz=103,slow=4.1,SNR=7.9						
WB2	**Warramunga Arr**	**48.25**	**260**	*e*P	**P**	**16 33 49.7**	**-1.6**
WRAB	**Tennant Creek**	**48.25**	**260**	*e*P	**P**	**16 33 49.8**	**-1.5**
	3.5nm,0.8s						
WRA	**Warramunga Arr**	**48.26**	**260**	P	**P**	**16 33 50.3**	**-1.1**
	1.1nm,0.3s,baz=97,slow=8.9,SNR=28						
WRA				PcP	**PcP**	**16 35 17.8**	**-0.1**
	0.2nm,0.3s,baz=100,slow=3.7,SNR=4.6						
KDU	**Kakadu**	**51.42**	**269**	P	**P**	**16 34 15.1**	**-0.4**
	baz=52,SNR=6.1						
MTN	**Manton Dam**	**52.65**	**268**	P	**P**	**16 34 23.7**	**-0.9**
	baz=53,SNR=4.2						
WRKA	**Warakurna**	**53.22**	**253**	P	**P**	**16 34 27.3**	**-1.4**
	baz=54,SNR=11						
KNRA	**Kununurra**	**54.24**	**264**	P	**P**	**16 34 36.1**	**-0.1**
	baz=55,SNR=3.1						
SBA	**Scott Base**	**59.61**	**185**	*e*P	**P**	**16 35 14.7**	**+1.4**
	9.2nm,1.1s						
VNDA	**Vanda**	**59.72**	**186**	P	**P**	**16 35 14.0**	**-0.1**
	2.6nm,0.9s,baz=1.2,slow=7.3,SNR=11						
QSPA	**South Pole Qui**	**71.06**	**180**	P	**P**	**16 36 27.5**	**-0.2**
	3.4nm,1.1s,baz=30,slow=5.6,SNR=3.6						
H06S1	**SOCORRO T**	**72.62**	**63**	T	T	17 55 19.9	
	SNR=4.1						
YBH	**Yreka Blue Hor**	**76.99**	**37**	LR	LR	17 02 28.2	
	comp=Z,66nm,19.4s,baz=250,slow=29						
NVAR	**Mina Array Bea**	**77.58**	**42**	P	**P**	**16 37 06.2**	**0.0**
	0.6nm,0.8s,baz=232,slow=9.9,SNR=6.3						
ELK	**Elko**	**80.85**	**41**	LR	LR	17 05 38.6	
	comp=Z,64nm,18.8s,baz=183,slow=30						
HLID	**Hailey**	**82.96**	**39**	*e*P	**P**	**16 37 35.9**	**+1.0**
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**83.34**	**56**	P	**P**	**16 37 38.8**	**+1.7**
	0.1nm,0.4s,baz=255,slow=6.5,SNR=4.8						

NEW	**Newport**	**84.16**	**34**	LR	LR	17 12 13.8	
	comp=Z,41nm,18.3s,baz=197,slow=34						
PDAR	**Pinedale Array**	**85.52**	**42**	P	**P**	**16 37 48.1**	**+0.1**
	0.3nm,0.6s,baz=216,slow=5.6,SNR=3.5						
COLA	**College**	**86.05**	**11**	*e*P	**P**	**16 37 49.5**	**-0.2**
	4.2nm,0.6s						
ILAR	**Eielson Array**	**86.13**	**11**	P	**P**	**16 37 50.9**	**+0.7**
	1.1nm,0.5s,baz=232,slow=5.9,SNR=23						
CMAR	**Chiang Mai Arr**	**92.91**	**288**	P	**P**	**16 38 24.7**	**+1.5**
	1.0nm,1.0s,baz=125,slow=2.2,SNR=6.7						
YKA	**Yellowknife Ar**	**93.73**	**24**	P	**P**	**16 38 27.0**	**+1.1**
	0.2nm,0.5s,baz=237,slow=4.1,SNR=7.5						
LPAZ	**La Paz**	**99.39**	**111**	LR	LR	17 16 44.9	
	comp=Z,26nm,18.1s,baz=198,slow=31						
AKASG	**Malin Array Be**	**143.26**	**335**	PKP	PKPbc	16 44 41.6	+1.0
	0.3nm,0.5s,baz=35,slow=3.3,SNR=6.4						
CLL	**Collm**	**147.25**	**351**	*ij* PKPbc	**PKPab**	**16 44 53.9**	**-0.6**
	comp=Z,4.0nm,1.1s						
CLL				*i* pPKPab	**pPKPab**	**16 45 08.7**	**-0.6**
CLL				LmV		17 08 00.0	
	comp=Z,100nm,19.4s						
BRTR	**Keskin Array B**	**148.28**	**317**	PKPbc	**PKPbc**	**16 44 56.5**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=142,slow=4.3,SNR=6.1						
GERES	**GERESS Array B**	**149.53**	**350**	PKPbc	**PKPbc**	**16 44 59.5**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=39,slow=0.9,SNR=8.2						
TORD	**Torodi Ar. Bea**	**173.03**	**146**	PKP	**PKPdf**	**16 45 17.4**	**-2.1**
	comp=Z,1.0nm,1.0s,baz=211,slow=2.5,SNR=4.7						

ATH ***13*** *16:27:09.7,36.59°N±21.15°E,h20km±3km,MD3.5/16*
ISCJB ***13*** *16:27:10.7±1.2,36.66°N±0.06°±21.18°E±0.06,h12km±7km, Error ellipse: s-maj=9.5km s-min=8.4km az=174.4*
THE ***13*** *16:27:11.4,36.65°N±21.21E,h17km±1km,ML2.5/5,Error ellipse: s-maj=2.5km s-min=1.0km az=158.0*
CSEM ***13*** *16:27:11.2±0.7,36.71°N±21.20E,h10km,ML2.5, Error ellipse: s-maj=13.3km s-min=9.3km az=32.0*

ISC 13 16:27:11.6±1.9,36.67°N±0.07°±21.22E±0.06,h18km±6km, n49,σ0963/67,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.48**	**61**	P	**Pg**	**16 27 21.1**	**-0.2**
PYL				S	**Sb**	**16 27 28.5**	**+0.3**
PYL	**PYLOS**	**0.48**	**61**	*e*PN	**Pg**	**16 27 20.8**	**-0.5**
PYL	**PYLOS**	**0.48**	**61**	*e*Pn	**Pg**	**16 27 20.8**	**-0.5**
PYL	**PYLOS**	**0.48**	**61**	P	**Pg**	**16 27 21.1**	**-0.2**
PYL				S	**Sb**	**16 27 28.5**	**+0.3**
ITM	**Ithomi**	**0.76**	**48**	P	**Pg**	**16 27 25.6**	**-0.8**
ITM				S	**Sg**	**16 27 37.5**	**+0.8**
ITM	**Ithomi**	**0.76**	**48**	*e*PN	**Pb**	**16 27 26.0**	**-0.4**
ITM				*e*SN	**Sn**	**16 27 38.5**	**-0.1**
ITM	**Ithomi**	**0.76**	**48**	P	**Pb**	**16 27 25.6**	**-0.8**
ITM	**Ithomi**	**0.76**	**48**	*e*Pn	**Pb**	**16 27 26.0**	**-0.4**
ITM				S	**Sg**	**16 27 37.5**	**+0.8**
ITM				*e*Sn	**Sn**	**16 27 38.5**	**-0.1**
AMT	**Artemida-Makis**	**0.95**	**24**	P	**Pb**	**16 27 28.8**	**-0.8**
AMT				S	**Sn**	**16 27 43.4**	**+0.2**
AMT	**Artemida-Makis**	**0.95**	**24**	*e*PB	**Pb**	**16 27 28.9**	**-0.7**
AMT	**Artemida-Makis**	**0.95**	**24**	*e*Pb	**Pb**	**16 27 28.9**	**-0.7**
AMT				S	**Sn**	**16 27 43.4**	**+0.2**
VLX	**Vlachokerasia**	**1.16**	**52**	P	**Pn**	**16 27 32.9**	**-0.2**
VLX				S	**Sb**	**16 27 48.2**	**+0.2**
VLX	**Vlachokerasia**	**1.16**	**52**	*e*PN	**Pg**	**16 27 34.1**	**0.0**
VLX	**Vlachokerasia**	**1.16**	**52**	P	**Pn**	**16 27 32.9**	**-0.2**
VLX	**Vlachokerasia**	**1.16**	**52**	*e*Pn	**Pg**	**16 27 34.1**	**0.0**
VLX				S	**Sb**	**16 27 48.2**	**+0.2**
DRO	**Drossia**	**1.34**	**17**	P	**Pn**	**16 27 34.2**	**-1.3**
DRO				S	**Sn**	**16 27 52.9**	**0.0**
DRO	**Drossia**	**1.34**	**17**	*e*PN	**Pb**	**16 27 36.7**	**+0.4**
DRO	**Drossia**	**1.34**	**17**	P	**Pn**	**16 27 34.2**	**-1.3**
DRO	**Drossia**	**1.34**	**17**	*e*Pn	**Pb**	**16 27 36.7**	**+0.4**
DRO				S	**Sn**	**16 27 52.9**	**0.0**
VLI	**Veliai**	**1.38**	**87**	*e*PN	**Pb**	**16 27 36.8**	**-0.1**
VLI	**Veliai**	**1.38**	**87**	*e*Pn	**Pb**	**16 27 36.8**	**-0.1**
RLS	**Riolos of Patr**	**1.40**	**8**	*e*PN	**Pg**	**16 27 38.3**	**-0.4**
RLS	**Riolos of Patr**	**1.40**	**8**	*e*Pn	**Pg**	**16 27 38.3**	**-0.4**
KYTH	**Kithira**	**1.51**	**104**	*e*PN	**Pb**	**16 27 38.6**	**-0.5**
KYTH	**Kithira**	**1.51**	**104**	*e*Pn	**Pb**	**16 27 38.6**	**-0.5**
GUR	**Goura**	**1.55**	**35**	P	**Pn**	**16 27 38.0**	**-0.4**
GUR				S	**Sn**	**16 27 58.5**	**+0.3**
GUR	**Goura**	**1.55**	**35**	*e*PN	**Pb**	**16 27 40.1**	**+0.2**
GUR	**Goura**	**1.55**	**35**	P	**Pn**	**16 27 38.0**	**-0.4**
GUR	**Goura**	**1.55**	**35**	*e*Pn	**Pb**	**16 27 40.1**	**+0.2**
GUR				S	**Sn**	**16 27 58.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.56**	**28**	P	**Pn**	**16 27 38.4**	**-0.1**
KLV				S	**Sn**	**16 27 58.3**	**-0.1**
KLV	**Kalavryta, Ach**	**1.56**	**28**	*e*PN	**Pb**	**16 27 39.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.56**	**28**	P	**Pn**	**16 27 38.4**	**-0.1**
KLV	**Kalavryta, Ach**	**1.56**	**28**	*e*Pn	**Pb**	**16 27 39.7**	**-0.3**
KLV				S	**Sn**	**16 27 58.3**	**-0.1**
VLS	**Valsamata**	**1.59**	**342**	*e*PN	**Pb**	**16 27 40.7**	**+0.2**
VLS	**Valsamata**	**1.59**	**342**	*e*Pn	**Pb**	**16 27 40.7**	**+0.2**
EFP	**Efpalio**	**1.84**	**17**	*e*PB	**Pn**	**16 27 43.2**	**+0.9**
EFP	**Efpalio**	**1.84**	**17**	*e*Pb	**Pn**	**16 27 43.2**	**+0.9**
KALE	**Kalithea**	**1.87**	**23**	*e*PN	**Pb**	**16 27 44.6**	**-0.7**
KALE	**Kalithea**	**1.87**	**23**	*e*Pn	**Pb**	**16 27 44.6**	**-0.7**
PDO	**Prodromos**	**1.93**	**359**	P	**Pn**	**16 27 43.0**	**-0.5**
PDO				S	**Sn**	**16 28 07.8**	**+0.4**
PDO	**Prodromos**	**1.93**	**359**	*e*PB	**Pn**	**16 27 44.1**	**+0.6**
PDO	**Prodromos**	**1.93**	**359**	P	**Pn**	**16 27 43.0**	**-0.5**
PDO	**Prodromos**	**1.93**	**359**	*e*Pb	**Pn**	**16 27 44.1**	**+0.6**
PDO				S	**Sn**	**16 28 07.8**	**+0.4**
LTK	**Loutraki**	**1.94**	**45**	*e*PB	**Pn**	**16 27 44.2**	**+0.5**
LTK	**Loutraki**	**1.94**	**45**	*e*Pb	**Pn**	**16 27 44.2**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.45**	**17**	*e*PB	**Pb**	**16 27 53.2**	**-2.0**
MAKR	**Makrakomi, Fth**	**2.45**	**17**	*e*Pb	**Pb**	**16 27 53.2**	**-2.0**
AGG	**Agios Georgios**	**2.51**	**20**	*e*PN	**Pn**	**16 27 52.6**	**+1.0**
AGG	**Agios Georgios**	**2.51**	**20**	*e*Pn	**Pn**	**16 27 52.6**	**+1.0**

IDC 13 16:44:53.0±9.0,1.33N×97.07E,h0km,mb3.4/3,mb1 3.5/4, mb1mx3.3/39,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=184.7km s-min=117.4km az=139.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.12**	**6**	P	Pn	16 48 54.0	0.0
	0.1nm,0.3s,baz=203,slow=11,SNR=7.8						
H08S2	**Diego Garcia H**	**26.08**	**250**	T	T	17 17 22.6	
	baz=69,slow=75,SNR=40						
H08S3	**Diego Garcia H**	**26.09**	**250**	T	T	17 17 22.7	
	baz=69,slow=75,SNR=38						
H08S1	**Diego Garcia H**	**26.10**	**250**	T	T	17 17 23.4	
	baz=69,slow=75,SNR=26						
SONM	**Songino Array**	**47.02**	**9**	P	P	16 53 25.8	-0.5
	0.2nm,0.4s,baz=190,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**47.08**	**346**	P	P	16 53 26.7	0.0
	0.4nm,0.6s,baz=167,slow=7.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**53.41**	**351**	P	P	16 54 14.7	+0.2
	0.3nm,0.4s,baz=163,slow=6.8,SNR=3.0						

ISCJB ***13*** *16:50:44.6±0.2,6.50°±0.03°×145.30E±0.04,h33km, mb4.7/36,MS3.8/13,Error ellipse: s-maj=6.1km s-min=4.1km az=166.1*
BJI ***13*** *16:50:44.1,6.37°S×145.66E,h36km,mB5.0/25,mb4.8/36, Ms5.0/11,Ms7 4.6/13*
NEIC ***13*** *16:50:47.3±1.0,6.45°S×145.29E,h45km±9km,mb4.8/23, Error ellipse: s-maj=9.4km s-min=6.5km az=66.0*
NEIC Felt at Goroka, Kainantu and Kerema.
GCMT ***13*** *16:50:47.3±0.3,6.61°S×145.20E,h37km±2km,MW5.0/61, Moment Tensor Solution. s25,c31; s61,c86; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.22±.02; Mθθ-2.00±.15; Mφφ0.78±.16; Mrθ-0.98±.18; Mrφ2.81±.11; Mθφ0.17±.20; Best double couple: M◊3.27300×10^16^ NP1:φs258.00000°,δ86.00000°,λ19.00000°. NP2: φs167.00000°,δ71.00000°,λ176.00000°. Principal axes: T 2.6340, Plg16.0000°, Azm124.0000°; N 1.2790, Plg71.0000°, Azm270.0000°; P -3.9120, Plg10.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***13*** *16:50:48.1±2.4,6.43°S×145.38E,h50km±22km,mb4.3/16, mb1 4.5/19,mb1mx4.4/34,mbtmp4.6/19,ML4.4/3,MS3.8/15, Ms1 3.8/15,ms1mx3.6/27 Error ellipse: s-maj=22.0km s-min=11.9km az=70.0*
DJA ***13*** *16:50:49.4±2.1,7.7°S±5.5°×14.5E±°,h28km±23km,M5.1/13, mb5.2/13,mB5.4/11,MLv5.4/4,Mw(mB)4.9/11,Mwp6.6/1*

ISC 13 16:50:46.6±0.3,6.55°S±0.04°×145.27E±0.05,h35km,n122, σ1849/139,mb4.8/35,MS3.7/13,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.39**	**147**	P	**Pn**	**16 51 38.8**	**+1.7**
	96nm,0.3s,baz=315,slow=5.7,SNR=161						
PMG				S	**Sn**	**16 52 16.4**	**+0.2**
	248nm,0.3s,baz=308,slow=19,SNR=22						
PMG				LR	LR	16 53 21.4	
	comp=Z,1μm,20.1s,baz=51,slow=44						
PMG	**Port Moresby**	**3.39**	**147**	P	**Pn**	**16 51 38.5**	**+1.4**
	baz=3.3,SNR=144						
PMG				S	**Sn**	**16 52 17.0**	**+0.8**
	baz=3.3,SNR=6.5						
PMG	**Port Moresby**	**3.39**	**147**	*e*Pn	**Pn**	**16 51 38.4**	**+1.3**
PMG				S	**Sn**	**16 52 16.4**	**+0.2**
MANU	**Manus Island**	**4.94**	**25**	P	Pn	16 52 03.7	+5.3
	baz=5.2,SNR=21						
MMPI	**Meraukе**	**5.21**	**248**	P	**Pn**	**16 52 01.5**	**-0.5**
	560nm,0.6s,9μm8.1nm						
MMPI	**Meraukе**	**5.21**	**248**	S	**Sn**	**16 52 58.1**	**-2.8**
	baz=5.0,SNR=4.5						
JAY	**Jayapura**	**6.07**	**311**	P	**Pn**	**16 52 16.5**	**+2.6**
	115nm,0.5s,3μm794μm0.7nm						
JAY	**Jayapura**	**6.07**	**311**	P	**Pn**	**16 52 14.8**	**+0.9**
	2.5nm,0.3s,baz=170,slow=9.4,SNR=12						
GENI	**Genyem**	**6.43**	**307**	P	**Pn**	**16 52 21.6**	**+2.7**
	316nm,0.8s,4μm2.7nm						
RABL	**Rabaul**	**7.25**	**71**	P	Pn	16 52 37.3	+7.1
	baz=7.5,SNR=9.6						
COEN	**Coen**	**7.64**	**196**	P	**Pn**	**16 52 37.1**	**+1.6**
	baz=7.4,SNR=378						
COEN	**Coen**	**7.64**	**196**	*e*Pn	**Pn**	**16 52 37.1**	**+1.6**
	278nm,0.5s						
SMPI	**Sarmi**	**7.96**	**304**	P	Pn	16 52 43.8	+3.9
	124nm,0.9s,2μm						
FAKI	**Fak Fak**	**13.47**	**285**	P	**Pn**	**16 53 54.2**	**-1.2**
	baz=13,SNR=3.1						
FAKI	**Fak Fak**	**13.47**	**285**	*e*P	**Pn**	**16 53 54.2**	**-1.2**
	28nm,0.9s						
CTA	**Charters Tower**	**13.49**	**176**	P	Pn	16 53 59.5	+3.9
	8.0nm,0.3s,baz=359,slow=14,SNR=75						
CTA				S	**Sn**	**16 56 21.6**	**-2.8**
	1.9nm,0.3s,baz=339,slow=15,SNR=3.9						
CTAO	**Charters Tower**	**13.49**	**176**	*e*P	Pn	16 53 59.5	+3.9
	21nm,0.6s						
SAUI	**Saumlaki**	**13.93**	**263**	P	**Pn**	**16 54 02.3**	**+0.6**
	279nm,1.0s,3μm						
KDU	**Kakadu**	**14.01**	**243**	P	**Pn**	**16 54 00.9**	**-1.8**
	baz=14,SNR=11						
QIS	**Mount Isa**	**14.97**	**201**	P	**Pn**	**16 54 16.1**	**+0.4**
	baz=15,SNR=27						
MTN	**Manton Dam**	**15.27**	**245**	P	**Pn**	**16 54 18.2**	**-1.5**
	baz=15,SNR=6.3						
MTN				S	Sn	16 56 56.8	-11
	baz=15,SNR=3.4						
WRAB	**Tennant Creek**	**17.01**	**218**	*e*P	**Pn**	**16 54 41.3**	**-0.6**
	100nm,0.9s						
WB2	**Warramunga Arr**	**17.02**	**218**	*e*P	**Pn**	**16 54 41.4**	**-0.7**
WRA	**Warramunga Arr**	**17.03**	**218**	P	**Pn**	**16 54 41.3**	**-0.8**
	2.2nm,0.3s,baz=41,slow=11,SNR=60						
WRA				S	Sn	16 57 41.6	-8.9
	0.8nm,0.3s,baz=34,slow=24,SNR=4.2						
WRA				LR	LR	17 01 47.5	
	comp=Z,676nm,19.0s,baz=40,slow=38						
NLAI	**Namlea**	**18.40**	**279**	P	**Pn**	**16 55 01.7**	**+2.6**
	67nm,0.5s,1μm						
KNRA	**Kununurra**	**18.55**	**239**	P	**Pn**	**16 55 01.9**	**+1.0**
	baz=18,SNR=11						
EIDS	**Eidsvold**	**19.52**	**164**	P	**Pn**	**16 55 14.2**	**+1.8**
	baz=19,SNR=6.1						
EIDS	**Eidsvold**	**19.52**	**164**	*e*P	**P**	**16 55 11.5**	**+0.5**
	60nm,1.2s						
QLP	**Quilpie**	**19.94**	**183**	P	**Pn**	**16 55 17.4**	**0.0**
	baz=20,SNR=11						
RMQ	**Roma**	**20.10**	**171**	P	Pn	16 55 20.8	+1.4
	baz=20,SNR=20						
AS31	**Alice Springs**	**20.22**	**212**	*e*P	**P**	**16 55 19.8**	**+1.0**
ASAR	**Alice Springs**	**20.22**	**212**	P	**P**	**16 55 19.8**	**+1.0**
	75nm,0.8s,baz=39,slow=9.5,SNR=260						
ASAR				LR	LR	17 03 48.9	
	comp=Z,734nm,19.6s,baz=32,slow=38						
SOEI	**Soe**	**21.03**	**260**	P	**P**	**16 55 29.8**	**+2.1**
	118nm,0.9s,2μm						
SOEI	**Soe**	**21.03**	**260**	P	P	16 55 34.6	+6.9
	baz=21,SNR=5.6						
SOEI	**Soe**	**21.03**	**260**	*e*P	**P**	**16 55 29.5**	**+1.8**
	136nm,0.9s						
BATI	**Baumata**	**21.68**	**259**	P	P	16 55 29.5	-5.1
BATI	**Baumata**	**21.68**	**259**	P	P	16 55 28.0	-6.6
	15nm,0.4s,baz=309,slow=0.9,SNR=8.9						
BATI				LR	LR	17 06 09.1	
	comp=Z,473nm,20.0s,baz=81,slow=42						
KMSI	**Cibinong**	**22.40**	**288**	P	P	16 55 48.0	+5.7
MRSI	**Marisa**	**24.31**	**286**	P	**P**	**16 56 01.5**	**+0.4**
WRKA	**Warakurna**	**24.53**	**220**	P	**P**	**16 56 03.0**	**-0.1**
	baz=24,SNR=14						
STKA	**Stephens Creek**	**25.43**	**187**	P	**P**	**16 56 12.3**	**+1.2**
	3.9nm,1.0s,baz=4.8,slow=10,SNR=8.2						
STKA				LR	LR	17 07 16.5	
	comp=Z,302nm,19.2s,baz=4.2,slow=39						
STKA	**Stephens Creek**	**25.43**	**187**	P	**P**	**16 56 12.2**	**+1.1**
	baz=25,SNR=7.4						
KAPI	**Kappang**	**25.44**	**272**	*e*P	**P**	**16 56 12.3**	**+0.9**
	29nm,0.7s						
DZM	**Mont Dzumac**	**25.61**	**129**	P	**P**	**16 56 14.1**	**+1.2**
	3.5nm,0.8s,baz=300,slow=16,SNR=15						
DZM				LR	LR	17 05 26.8	
	comp=Z,194nm,20.4s,baz=312,slow=34						
MEEK	**Meekatharra**	**32.30**	**229**	P	**P**	**16 57 12.0**	**-0.4**
	baz=32,SNR=4.9						
CISI	**Cisompet, Garu**	**37.18**	**266**	S	**S**	**17 03 33.9**	**-5.7**
	baz=37,SNR=7.8						
URZ	**Urewera**	**42.74**	**142**	LR	LR	17 15 58.5	
	comp=Z,92nm,20.5s,baz=318,slow=35						
QIZ	**Qiongzhong**	**43.19**	**307**	P	P	16 58 47.8	+3.4
QIZ				S	**S**	**17 05 09.4**	**+0.3**
QIZ				LZ			
	110nm,28.2s						
MJAR	**Matsushiro Arr**	**43.38**	**352**	P	**P**	**16 58 43.4**	**-2.3**
	2.3nm,0.8s,baz=180,slow=7.2,SNR=5.6						
MJAR				LR	LR	17 13 21.2	
	comp=Z,48nm,21.7s,baz=160,slow=31						
RPZ	**Rata Peaks**	**43.38**	**153**	LR	LR	17 17 32.4	
	comp=Z,135nm,20.2s,baz=318,slow=37						
NJ2	**Nanjing**	**45.92**	**328**	*e*P	**P**	**16 59 04.6**	**-1.4**
NJ2				PMZ			
	20nm,0.6s						
KSRS	**Korea Array**	**46.68**	**341**	P	**P**	**16 59 10.8**	**-1.1**
	2.0nm,0.7s,baz=164,slow=8.8,SNR=4.2						
KSAR	**Wonju Array Be**	**46.68**	**341**	P	**P**	**16 59 10.8**	**-1.1**
GYA	**Guiyang**	**49.78**	**313**	*e*P	**P**	**16 59 37.0**	**+0.8**
GYA				PMZ			
	10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.92**	**348**	P	**P**	**16 59 51.2**	**-0.7**
	10nm,0.7s,baz=179,slow=6.9,SNR=18						
USRK				LR	LR	17 19 18.7	
	comp=Z,62nm,21.7s,baz=159,slow=33						
KMI	**Kunming**	**51.99**	**309**	P	**P**	**16 59 53.6**	**+0.6**
KMI				pP	**pP**	**17 00 04.3**	**+0.8**
KMI				sP	**sP**	**17 00 08.6**	**+0.9**
KMI				PMZ			
	7.0nm,1.0s						
KMI				LZ			
	81nm,26.3s						
CMAR	**Chiang Mai Arr**	**52.01**	**299**	P	**P**	**16 59 53.9**	**+0.8**
	6.5nm,0.6s,baz=120,slow=5.8,SNR=82						
BJI	**Beijing**	**53.57**	**332**	P	P	**17 00 03.3**	**-0.8**
BJI				S	**S**	**17 07 38.8**	**+3.8**
BJI				PMZ			
	17nm,0.7s						
BJI				PMZ			
	140nm,3.4s						
CD2	**Chengdu**	**54.45**	**316**	*e*P	**P**	**17 00 11.3**	**+0.5**
CD2				pP	**pP**	**17 00 22.5**	**+1.1**
CD2				sP	**sP**	**17 00 27.0**	**+1.5**
CD2				PP	**PP**	**17 02 15.3**	**+2.0**
CD2				PcS	**PcS**	**17 05 12.3**	**-1.5**
CD2				S	**S**	**17 07 46.0**	**-1.4**
CD2				sS	**sS**	**17 08 04.8**	**0.0**
CD2				ScS	**ScS**	**17 09 53.8**	**-4.0**
CD2				SS	**SS**	**17 11 28.3**	**-2.0**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**56.42**	**330**	*e*P	**P**	**17 00 27.1**	**+2.2**
HHC				pP	**pP**	**17 00 37.4**	**+1.9**
HHC				sP	**sP**	**17 00 42.4**	**+2.8**
HHC				S	**S**	**17 08 14.3**	**+0.8**
HHC				sS	**sS**	**17 08 31.5**	**+0.5**
HHC				SS	**SS**	**17 12 01.9**	**+0.7**
HHC				PMZ			
	16nm,1.5s						
HHC				PMZ			
	44nm,6.2s						
HHC				LN			
	160nm,16.0s						
HHC				LE			
	120nm,17.3s						
HHC				LZ			
	85nm,13.6s						
LZH	**Lanzhou**	**57.53**	**321**	*e*P	**P**	**17 00 35.3**	**+2.4**
LZH				pP	**pP**	**17 00 46.0**	**+2.5**
LZH				sP	**sP**	**17 00 50.3**	**+2.7**
LZH				PMZ			
	15nm,1.0s						
LZH				PMZ			
	120nm,4.0s						
PETK	**Petropavlovsk-**	**60.36**	**9**	P	**P**	**17 00 51.5**	**-0.5**
	10.0nm,0.7s,baz=164,slow=7.2,SNR=23						
PETK				LR	LR	17 22 36.8	
	comp=Z,54nm,21.6s,baz=196,slow=32						
SHL	**Shillong**	**60.89**	**304**	*e*P	**P**	**17 00 58.0**	**+1.6**
GTA	**Gaotai**	**62.08**	**321**	*e*P	**P**	**17 01 05.9**	**+1.8**
GTA				PMZ			
	3.0nm,0.6s						
LSA	**Lhasa**	**63.21**	**308**	P	P	**17 01 12.5**	**+0.2**
LSA	**Lhasa**	**63.21**	**308**	*e*P	**P**	**17 01 12.4**	**+0.2**
	9.1nm,0.6s						
ULN	**Ulaanbaatar**	**63.78**	**332**	*e*P	**P**	**17 01 15.8**	**+0.5**
	9.0nm,0.7s						
SONM	**Songino Array**	**64.07**	**332**	P	**P**	**17 01 17.5**	**+0.4**
	5.1nm,0.6s,baz=159,slow=5.9,SNR=42						
PPT	**Papeete**	**64.39**	**106**	LR	LR	17 27 56.2	
	comp=Z,30nm,18.6s,baz=77,slow=35						
TAPN	**Taplejung**	**65.03**	**304**	*e*P	**P**	**17 01 24.7**	**+0.7**
	56nm,1.1s						
RAMN	**Ramite**	**65.80**	**303**	*e*P	**P**	**17 01 29.6**	**+0.7**
	15nm,0.6s						
JIRN	**Jiri**	**66.39**	**304**	*e*P	**P**	**17 01 33.4**	**+0.5**
GUN	**Gumba**	**66.74**	**304**	*e*P	**P**	**17 01 35.8**	**+0.7**
	34nm,0.8s						
PKI	**Pulchoki**	**67.01**	**303**	*e*P	**P**	**17 01 36.2**	**-0.6**
KKN	**Kakani**	**67.19**	**304**	*e*P	**P**	**17 01 38.4**	**+0.6**
	41nm,0.9s						
GKN	**Gorkha**	**67.80**	**304**	*e*P	**P**	**17 01 42.0**	**+0.4**
	56nm,1.0s						
KOLN	**Koldanda**	**68.58**	**303**	*e*P	**P**	**17 01 47.0**	**+0.5**
	7.8nm,0.6s						
DANN	**Dangsing**	**68.65**	**304**	*e*P	**P**	**17 01 46.0**	**-1.1**
	29nm,0.7s						
PYUN	**Piuthan**	**69.20**	**303**	*e*P	**P**	**17 01 50.0**	**-0.4**
	104nm,0.9s						
YAK	**Yakutsk**	**69.44**	**352**	*e*P	**P**	**17 01 48.8**	**-2.0**
	8.8nm,0.8s						
VNDA	**Vanda**	**71.47**	**176**	P	**P**	**17 02 03.6**	**+0.5**
	5.1nm,1.1s,baz=330,slow=7.1,SNR=15						
VNDA				LR	LR	17 32 12.1	
	comp=Z,96nm,18.4s,baz=344,slow=35						
WMQ	**Urumqi**	**72.10**	**320**	*e*P	**P**	**17 02 08.0**	**+0.4**
WMQ				pP	**pP**	**17 02 18.3**	**-0.2**
WMQ				sP	**sP**	**17 02 22.5**	**0.0**
WMQ				PMZ			
	9.0nm,1.1s						
WMQ				PMZ			
	76nm,3.8s						
WMQ				LN			
	330nm,21.6s						
WMQ				LE			
	310nm,16.8s						
WMQ				LZ			
	300nm,18.7s						
BILL	**Bilibino**	**75.89**	**8**	*e*P	**P**	**17 02 28.0**	**-1.1**
	2.6nm,0.6s						
MKAR	**Makanchi Array**	**76.84**	**321**	P	**P**	**17 02 34.8**	**-0.2**
	2.3nm,0.6s,baz=111,slow=6.6,SNR=25						
KSH	**Kashi**	**78.47**	**312**	P	**P**	**17 02 45.8**	**+1.4**
KSH				sP	**sP**	**17 03 00.0**	**+0.6**
KSH				PP	**PP**	**17 05 45.8**	**+3.5**
KSH				S	**S**	**17 12 39.0**	**+0.6**
KSH				sS	**SKSac**	**17 12 56.1**	**-0.9**
KSH				ScS	**SKKSac**	**17 13 00.8**	**+2.7**
KSH				PMZ			
	84nm,4.8s						
KSH				LN			
	98nm,5.0s						
KSH				LE			
	110nm,5.0s						
KSH				LZ			
	170nm,5.1s						
ZALV	**Zalesovo Beam**	**78.57**	**328**	P	**P**	**17 02 43.4**	**-1.1**
	6.2nm,0.7s,baz=114,slow=5.2,SNR=38						
TIXI	**Tiksi**	**78.79**	**355**	*e*P	**P**	**17 02 43.7**	**-1.6**
	4.3nm,0.8s						
TNA	**Tin City**	**79.64**	**18**	*e*P	**P**	**17 02 49.4**	**-0.6**
	8.2nm,0.8s						
TKM2	**Tokmak 2**	**79.83**	**316**	*e*P	**P**	**17 02 51.7**	**-

BDFB	**Brasilia**	**154.32**	**149**	PKPbc	**PKPbc**	**17 10 44.7**	**+0.3**
	1.5nm,0.4s,baz=213,slow=1.8,SNR=1.9						
BDFB				PKPab	**PKPab**	**17 10 56.6**	**-1.6**
	2.3nm,0.6s,baz=207,slow=3.9,SNR=2.4						

*ISCJB **13** 16:51:33.8±0.4, 4°.58N±0°.04×76°.50W±0°.04, h111km±4km, mb4.0/19, Error ellipse: s-maj=7.5km s-min=6.3km az=142.6*
*BJI **13** 16:51:33.0, 4°.50N×76°.50W, h108km, mB4.7/2*
*NEIC **13** 16:51:35.4, 4°.63N×76°.45W, h103km, mb4.5/5, After RSNC.*
NEIC Felt at Armenia, Cali, Ibague and Pereira.
*IDC **13** 16:51:38.5±1.6, 4°.61N×76°.35W, h136km±13km, mb3.5/15, mb1 3.8/16, mb1mx3.6/30, mbtmp4.0/16, MS2.0/1, Ms1 2.0/1, ms1mx2.0/28, Error ellipse: s-maj=21.9km s-min=14.6km az=35.0*

ISC 13 16:51:35.4±0.8, 4°.55N±0°.04×76°.51W±0°.05, h115km±7km, n42, σ1°88/54, mb4.1/19, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALC	**Bahia Malaga**	**0.98**	**237**	*eP*	**Pn**	**16 51 56.3**	**-0.4**
MALC				*eS*	**Sn**	**16 52 13.3**	**+0.5**
TOLC	**Tolima**	**1.17**	**88**	*eP*	**Pn**	**16 51 57.3**	**-1.7**
PRAC	**Prado**	**1.81**	**118**	*eP*	**Pn**	**16 52 05.4**	**-0.9**
PRAC				*eS*	**Sn**	**16 52 27.7**	**-2.2**
HELC	**Santa Helena**	**1.93**	**30**	*eP*	**Pn**	**16 52 05.5**	**-2.6**
HELC				*eS*	**Sn**	**16 52 35.8**	**+2.8**
SOLC	**Bahia Solano**	**2.04**	**333**	*eP*	Pn	16 52 05.3	-3.8
BETC	**Betania**	**2.14**	**150**	*eP*	**Pn**	**16 52 10.7**	**+0.3**
BETC				*eS*	**Sn**	**16 52 36.7**	**-0.4**
ROSC	**El Rosal**	**2.19**	**82**	P	**Pn**	**16 52 12.3**	**+0.9**
	121nm,0.3s,baz=293,slow=2.6,SNR=97						
ROSC				S	**Sn**	**16 52 41.0**	**+2.1**
	34nm,0.3s,baz=258,slow=23,SNR=34						
ROSC				LR	LR	16 52 41.9	
	comp=Z,39nm,21.0s,baz=274,slow=31						
ROSC	**El Rosal**	**2.19**	**82**	*ePn*	**Pn**	**16 52 11.9**	**+0.6**
CMBC	**Cumbal**	**3.90**	**200**	*eP*	**Pn**	**16 52 32.7**	**-1.1**
OTAV	**Otavalo**	**4.70**	**204**	*ePn*	**Pn**	**16 52 43.0**	**-1.7**
OTAV				*eSn*	**Sn**	**16 53 36.1**	**-2.2**
BCIP	**Isla Barro Col**	**5.66**	**324**	*ePn*	**Pn**	**16 52 55.7**	**-1.4**
BCIP				*eSn*	**Sn**	**16 53 59.4**	**-1.5**
SDV	**Santo Domingo**	**7.26**	**53**	*ePn*	**Pn**	**16 53 18.1**	**-0.9**
SDV				*eSn*	**Sn**	**16 54 35.7**	**-4.3**
SAML	**Samuel**	**18.87**	**135**	*ePn*	**P**	**16 55 46.5**	**-0.4**
	3.2nm,0.9s						
TXAR	**Lajitas Array**	**35.62**	**317**	P	**P**	**16 58 23.9**	**+1.5**
	0.4nm,0.7s,baz=115,slow=8.0,SNR=3.7						
TXAR				PcP	**PcP**	**17 00 50.9**	**+2.2**
	1.0nm,0.8s,baz=126,slow=6.4,SNR=8.6						
121A	**Cookes Peak, D**	**40.37**	**317**	*eP*	**P**	**16 59 03.4**	**+1.0**
	5.9nm,0.9s						
PLCA	**Paso Flores**	**45.39**	**174**	P	**P**	**16 59 44.1**	**+1.7**
	1.2nm,0.7s,baz=21,slow=7.7,SNR=2.9						
PDAR	**Pinedale Array**	**48.04**	**327**	P	**P**	**17 00 04.5**	**+1.1**
	0.7nm,0.7s,baz=131,slow=9.7,SNR=6.5						
ULM	**Lac du Bonnet**	**48.38**	**343**	P	**P**	**17 00 04.9**	**-0.7**
	1.4nm,0.5s,baz=148,slow=11,SNR=3.0						
ELK	**Elko**	**50.05**	**322**	P	**P**	**17 00 19.9**	**+1.1**
	0.4nm,0.6s,baz=126,slow=7.1,SNR=3.8						
SCHQ	**Schefferville**	**50.75**	**7**	P	**P**	**17 00 24.7**	**+1.3**
	1.1nm,0.5s,baz=166,slow=7.3,SNR=4.5						
NVAR	**Mina Array Bea**	**50.77**	**317**	P	**P**	**17 00 26.4**	**+2.2**
	1.8nm,0.7s,baz=130,slow=6.1,SNR=17						
NVAR				PcP	**PcP**	**17 01 41.5**	**+1.8**
	1.0nm,0.7s,baz=150,slow=4.1,SNR=7.1						
HLID	**Hailey**	**51.26**	**325**	*eP*	**P**	**17 00 25.6**	**-2.1**
	6.2nm,1.2s						
WVOR	**Wild Horse Val**	**53.11**	**322**	*eP*	**P**	**17 00 43.2**	**+1.8**
	6.9nm,1.1s						
YKA	**Yellowknife Ar**	**64.28**	**341**	P	**P**	**17 01 57.9**	**-0.2**
	1.8nm,0.7s,baz=134,slow=6.4,SNR=49						
DLBC	**Dease Lake**	**67.75**	**333**	P	**P**	**17 02 22.2**	**+1.6**
	2.6nm,0.8s,baz=137,slow=6.4,SNR=4.0						
DBIC	**Dimbokro**	**71.29**	**85**	P	**P**	**17 02 42.9**	**-0.2**
	2.8nm,0.8s,baz=298,slow=8.4,SNR=3.5						
SUMG	**Summit**	**71.85**	**11**	*eP*	**P**	**17 02 46.4**	**+0.6**
	8.0nm,0.7s						
ESDC	**Sonseca Array**	**73.69**	**50**	P	**P**	**17 02 57.3**	**+0.3**
	0.7nm,0.7s,baz=251,slow=8.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.51**	**78**	P	**P**	**17 03 18.3**	**-0.8**
	0.6nm,0.7s,baz=290,slow=6.9,SNR=5.9						
ILAR	**Eielson Array**	**77.61**	**336**	P	**P**	**17 03 19.2**	**+0.5**
	1.1nm,0.8s,baz=119,slow=4.3,SNR=15						
NOA	**NORSAR Array B**	**84.95**	**29**	P	**P**	**17 03 56.3**	**-1.3**
	0.5nm,0.8s,baz=277,slow=5.1,SNR=6.4						
GERES	**GERESS Array B**	**86.75**	**41**	P	**P**	**17 04 08.2**	**+1.3**
	1.1nm,1.0s,baz=250,slow=5.0,SNR=6.2						
KURBB	**Kurchatov Arra**	**121.00**	**18**	PKP	**PKPdf**	**17 10 14.8**	**+0.3**
	1.0nm,0.2s,baz=320,slow=2.3,SNR=4.7						
MKAR	**Makanchi Array**	**125.55**	**18**	PKP	**PKPdf**	**17 10 23.3**	**-0.1**
	0.3nm,0.4s,baz=284,slow=3.1,SNR=7.3						
SONM	**Songino Array**	**127.78**	**358**	PKP	**PKPdf**	**17 10 27.2**	**-0.5**
	0.5nm,0.7s,baz=351,slow=1.1,SNR=4.9						
KSH	**Kashi**	**129.35**	**28**	*e*PKP	**PKPdf**	**17 10 26.1**	**-4.9**
KSH				PKS	PKSdf	17 14 01.1	-6.6
KSH				PPMZ			
	19nm,3.5s						
KSH				LN			
	39nm,5.0s						
KSH				LE			
	43nm,5.2s						
KSH				LZ			
	110nm,6.0s						
WMQ	**Urumqi**	**129.79**	**15**	PKP	**PKPdf**	**17 10 31.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**134.22**	**351**	*e*PKP	**PKPdf**	**17 10 39.6**	**-0.6**
HHC				PP	**PP**	**17 13 15.8**	**+4.6**
HHC				PKS	**PKSdf**	**17 14 11.6**	**-5.0**
HHC				SKS	**SKSdf**	**17 17 39.4**	**-1.7**
HHC				PPMZ			
	81nm,9.9s						
CD2	**Chengdu**	**144.74**	**360**	PKP	**PKPab**	**17 10 57.6**	**-0.9**
ASAR	**Alice Springs**	**145.05**	**234**	PKPbc	**PKPbc**	**17 10 59.8**	**0.0**
	4.9nm,0.8s,baz=284,slow=4.0,SNR=29						
WRA	**Warramunga Arr**	**146.29**	**240**	PKPbc	**PKPbc**	**17 11 03.1**	**-0.5**
	1.4nm,0.5s,baz=107,slow=3.2,SNR=16						
CMAR	**Chiang Mai Arr**	**156.71**	**11**	PKPab	**PKPab**	**17 11 47.2**	**-0.3**
	0.8nm,0.8s,baz=324,slow=6.1,SNR=5.1						

*IDC **13** 16:51:51.2±49.0, 10°.16N×127°.11E, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.6/43, mbtmp4.1/4, Error ellipse: s-maj=1092.0km s-min=53.1km az=172.0*
*MAN **13** 16:51:57, 6°.19N×125°.62E, h77km, mb4.9, ML3.8, MS3.9*

ISC 13 16:51:47.2±5.6, 5°.8N±0°.4×127°.1E±0°.8, h200km, n12, σ1°95/9, mb4.0/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.37**	**324**	*eP*	**Pn**	**16 52 17.4**	**-2.4**
MATI				*eS*	Sn	16 52 31.5	-14
BUKP	**Musuan**	**2.85**	**316**	*eP*	Pn	16 52 29.5	-5.7
BUKP				*eS*	Sn	16 52 49.5	-23
BUTP	**Butuan**	**3.43**	**335**	*eP*	**Pn**	**16 52 41.2**	**-0.8**
PAGZ	**Pagadian**	**4.18**	**299**	*eP*	Pn	16 52 39.9	-11
KKN	**Kakani**	**45.25**	**304**	*eP*	**P**	**16 59 47.9**	**+2.6**
KOLN	**Koldanda**	**46.64**	**303**	*eP*	**P**	**16 59 55.5**	**-0.6**
	6.0nm,0.4s						
DANN	**Dangsing**	**46.71**	**304**	*eP*	**P**	**16 59 55.8**	**-0.9**
	9.2nm,0.6s						
PYUN	**Piuthan**	**47.26**	**303**	*eP*	**P**	**16 59 59.9**	**-1.0**
	10nm,0.4s						
PETK	**Petropavlovsk-**	**53.36**	**23**	P	P	17 00 42.6	-3.3
	4.3nm,1.0s,baz=235,slow=7.1,SNR=7.0						
MKAR	**Makanchi Array**	**56.04**	**324**	P	**P**	**17 01 07.4**	**+2.0**
	0.9nm,0.4s,baz=119,slow=7.5,SNR=36						
ZALV	**Zalesovo Beam**	**58.88**	**332**	P	**P**	**17 01 25.0**	**0.0**
	0.6nm,0.3s,baz=121,slow=7.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**60.17**	**327**	P	**P**	**17 01 35.6**	**+1.8**
	0.9nm,0.2s,baz=123,slow=6.9,SNR=9.4						

WEL 13 16:53:26.4±0.7, 36°.74S×179°.53E, h33km, ML3.8/4, 1C-1D, Error ellipse: s-maj=8.0km s-min=6.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.27**	**230**	PN	Pn	16 53 46.9	-1.0
MXZ				SN	Sn	16 54 01.7	-2.2
MXZ				SN	Sb	16 54 02.3	-3.7
MXZ				AML	AML	16 54 07.2	
MXZ				AML	AML	16 54 19.1	
WMGZ	**Waiomatatini S**	**1.40**	**219**	PN	Pn	16 53 49.9	+0.3
WMGZ				SN	Sn	16 54 07.4	+0.5
PUZ	**Puketiti**	**1.67**	**217**	⇑PN	Pn	16 53 53.1	-0.3
PUZ				SN	Sn	16 54 13.8	+0.1
PUZ				AML	AML	16 54 19.2	
HAZ	**Te Kaha**	**1.72**	**233**	PN	Pn	16 53 53.7	-0.3
TWGZ	**Tauwhareparae**	**1.89**	**220**	PN	Pn	16 53 56.5	+0.1
CNGZ	**Carnagh Statio**	**2.03**	**211**	PN	Pn	16 53 58.5	+0.2
TKGZ	**Te Karaka**	**2.16**	**218**	PN	Pn	16 53 59.5	-0.5
MWZ	**Matawai**	**2.25**	**224**	PN	Pn	16 54 01.1	-0.3
MWZ				AML	AML	16 54 43.1	
MWZ				AML	AML	16 54 45.4	
RIGZ	**Rimuhau**	**2.41**	**215**	⇓PN	Pn	16 54 02.9	-0.8
URZ	**Urewera**	**2.45**	**231**	PN	Pn	16 54 04.1	0.0
URZ				AML	AML	16 54 42.6	
URZ				AML	AML	16 54 46.3	
PRGZ	**Paritu Road**	**2.54**	**210**	PN	Pn	16 54 04.3	-1.1
SNGZ	**Shannon Statio**	**2.67**	**220**	*e*PN	Pn	16 54 06.1	-1.2
KNZ	**Kokohu**	**2.71**	**212**	PN	Pn	16 54 06.0	-1.6
MHGZ	**Mahia Peninsul**	**2.73**	**208**	*e*PN	Pn	16 54 07.4	-0.6
RAHZ	**Arahi**	**2.91**	**221**	*e*PN	Pn	16 54 10.0	-0.5
KUZ	**Kuaotunu**	**3.06**	**269**	PN	Pn	16 54 12.7	+0.3
NMHZ	**Naumai**	**3.19**	**222**	*e*PN	Pn	16 54 13.5	-0.8
ARHZ	**Aropaoanui**	**3.21**	**218**	*e*PN	Pn	16 54 13.9	-0.7
BKZ	**Black Stump Fm**	**3.41**	**224**	PN	Pn	16 54 16.5	-0.8
MKAZ	**Moumakai**	**3.51**	**263**	*e*PN	Pn	16 54 19.1	+0.4
KAHZ	**Kahuranaki**	**3.69**	**214**	PN	Pn	16 54 19.1	-2.1
ETAZ	**East Tamaki Re**	**3.70**	**265**	PN	Pn	16 54 23.1	+1.9
KRHZ	**Kereru**	**3.82**	**220**	*e*PN	Pn	16 54 21.4	-1.6
BHHZ	**Black Hill Sta**	**3.87**	**224**	PN	Pn	16 54 23.0	-0.7
PXZ	**Pawanui**	**3.90**	**212**	*e*PN	Pn	16 54 23.3	-0.6
TSZ	**Takapari Road**	**4.34**	**219**	*e*PN	Pn	16 54 27.1	-3.0
OUZ	**Omahuta**	**5.04**	**286**	PN	Pn	16 54 42.4	+2.7
TMWZ	**Te Maipa**	**5.20**	**212**	*e*PN	Pn	16 54 37.7	-4.3
MQZ	**McQueen's Vall**	**8.72**	**215**	SN	Sn	16 56 55.1	-12

*IDC **13** 16:58:45.7±1.2, 3°.76N×126°.98E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, MS3.6/5, Ms1 3.6/5, ms1mx3.1/32, Error ellipse: s-maj=84.4km s-min=17.6km az=65.0*
*ISCJB **13** 16:58:50.5±0.8, 3°.7N±0°.2×126°.8E±0°.4, h48km, mb3.9/10, MS3.7/5, Error ellipse: s-maj=57.7km s-min=12.3km az=156.4*
*NEIC **13** 16:58:51.1±0.7, 3°.68N×126°.88E, h35km, mb4.2/2, Error ellipse: s-maj=53.6km s-min=11.7km az=66.0*

ISC 13 16:58:52.6±1.1, 3°.7N±0°.2×126°.9E±0°.4, h48km, n15, σ0°99/10, mb4.0/10, MS3.8/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**21.92**	**242**	LR	LR	17 13 00.3	
	comp=Z,66nm,18.1s,baz=62,slow=39						
WRA	**Warramunga Ar**	**24.61**	**163**	P	**P**	**17 04 06.8**	**-1.8**
	1.7nm,0.7s,baz=339,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**28.05**	**166**	P	**P**	**17 04 39.8**	**+0.2**
	1.0nm,0.9s,baz=345,slow=12,SNR=2.5						
CMAR	**Chiang Mai Arr**	**31.04**	**300**	P	**P**	**17 05 06.4**	**+0.2**
	0.6nm,0.9s,baz=114,slow=6.0,SNR=4.7						
STKA	**Stephens Creek**	**38.04**	**160**	P	**P**	**17 06 07.2**	**+0.7**
	2.8nm,0.9s,baz=356,slow=9.7,SNR=3.4						
ULN	**Ulaanbaatar**	**47.20**	**342**	*eP*	**P**	**17 07 21.7**	**+0.9**
	2.9nm,1.2s						
SONM	**Songino Array**	**47.38**	**341**	P	**P**	**17 07 22.5**	**+0.3**
	0.5nm,0.6s,baz=160,slow=7.7,SNR=5.1						
MKAR	**Makanchi Array**	**57.68**	**325**	P	**P**	**17 08 37.5**	**-0.7**
	1.0nm,0.6s,baz=119,slow=7.4,SNR=9.8						
ZALV	**Zalesovo Beam**	**60.69**	**333**	P	**P**	**17 08 57.7**	**-1.2**
	0.4nm,0.4s,baz=134,slow=8.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	**P**	**17 09 06.5**	**-0.4**
	1.1nm,0.4s,baz=130,slow=6.5,SNR=11						
KURK	**Kurchatov**	**61.86**	**327**	*eP*	**P**	**17 09 06.9**	**0.0**
	2.6nm,0.6s						
ARCES	**ARCESS Array B**	**90.53**	**340**	LR	LR	17 54 22.6	
	comp=Z,28nm,21.7s,baz=59,slow=37						
FINES	**FINESS Array B**	**91.94**	**332**	LR	LR	17 56 43.4	
	comp=Z,52nm,18.7s,baz=60,slow=38						
HFS	**Hagfors**	**98.12**	**332**	LR	LR	18 00 10.8	
	comp=Z,29nm,20.4s,baz=94,slow=38						
NOA	**NORSAR Array B**	**98.89**	**334**	LR	LR	18 01 20.7	
	comp=Z,33nm,18.7s,baz=80,slow=38						

IDC 13 17:06:35.7±1.6, 30°.63S×178°.43W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML2.5/1, Error ellipse: s-maj=44.6km s-min=19.0km az=121.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.45**	**18**	Pn	Pb	17 07 04.8	+1.3
	144nm,0.3s,baz=197,slow=18,SNR=5.8						
RAO				Sn		17 07 22.7	-0.1
	267nm,0.3s,baz=156,slow=21,SNR=9.7						
URZ	**Urewera**	**8.45**	**205**	Pn	Pn	17 08 40.3	+0.9
	0.1nm,0.3s,baz=86,slow=7.2,SNR=2.5						
URZ				Sn	Sn	17 10 16.1	+0.6
	0.3nm,0.3s,baz=229,slow=20,SNR=4.3						
ASAR	**Alice Springs**	**42.73**	**267**	P	P	17 14 35.5	+0.6
	0.4nm,0.6s,baz=106,slow=7.4,SNR=4.9						
WRA	**Warramunga Arr**	**43.74**	**273**	P	P	17 14 42.7	-0.4
	0.7nm,0.5s,baz=112,slow=7.9,SNR=6.8						
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	PKPbc	17 26 11.4	-2.9
	1.6nm,0.6s,baz=33,slow=3.3,SNR=8.5						
HFS	**Hagfors**	**149.40**	**348**	PKPbc	PKPab	17 26 28.7	-2.1
	1.3nm,0.9s,baz=5.7,slow=4.3,SNR=4.3						
AKASG	**Malin Array Be**	**151.26**	**322**	PKPbc	PKPbc	17 26 31.0	+0.2
	0.8nm,0.6s,baz=47,slow=3.6,SNR=8.0						

*ISCJB **13** 17:08:38.2±0.4, 67°.07N±0°.02×20°.92E±0°.08, h0km, Error ellipse: s-maj=4.3km s-min=2.6km az=11.1*
*IDC **13** 17:08:38.8±1.0, 67°.11N×21°.14E, h0km, mb1 2.8/3, mb1mx2.7/27, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=18.8km s-min=7.7km az=112.0*
*UPP **13** 17:08:39.2, 67°.06N×20°.94E, h0km, ML1.8, Mining explosion.*
*CSEM **13** 17:08:39.4±0.2, 67°.08N×20°.98E, h2km, ML1.8, Error ellipse: s-maj=5.1km s-min=3.7km az=93.0, Mining explosion.*
*HEL **13** 17:08:40.0±0.1, 67°.06N×20°.93E, h0km, ML1.9, ML1.8(UPP), Explosion*

ISC 13 17:08:38.9±0.7, 67°.06N±0°.02×20°.92E±0°.03, h0km, n70, σ1°07/100, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.58**	**46**	*i* P	**Pg**	**17 08 50.2**	**+0.2**
MASU				*i* S	**Sb**	**17 08 59.5**	**-1.3**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 08 50.1**	**+0.2**
MASU				S	**Sb**	**17 08 59.4**	**-1.3**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 08 50.2**	**+0.2**
MASU				S	**Sb**	**17 08 59.5**	**-1.3**
ERTU	**Ertsjaerv**	**0.71**	**134**	*eP*	**Pg**	**17 08 52.4**	**-0.1**
ERTU				*eS*	**Sg**	**17 09 02.0**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**134**	P	**Pg**	**17 08 52.6**	**+0.1**
ERTU				S	**Sg**	**17 09 01.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.71**	**134**	P	**Pg**	**17 08 52.6**	**+0.1**
HARU	**Harads**	**0.90**	**178**	*eP*	**Pg**	**17 08 56.1**	**+0.1**
HARU	**Harads**	**0.90**	**178**	P	**Pg**	**17 08 56.1**	**+0.1**
HARU	**Harads**	**0.90**	**178**	P	**Pg**	**17 08 56.1**	**+0.1**
KUA	**Kurravaara**	**0.93**	**346**	*eP*	**Pg**	**17 08 56.4**	**-0.3**
KUA	**Kurravaara**	**0.93**	**346**	P	**Pg**	**17 08 56.3**	**-0.3**
KUA	**Kurravaara**	**0.93**	**346**	P	**Pg**	**17 08 56.4**	**-0.3**
SALU	**Saltoluokta**	**0.99**	**290**	*eP*	**Pg**	**17 08 58.0**	**+0.2**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 08 58.0**	**+0.2**
SALU	**Saltoluokta**	**0.99**	**290**	P	**Pg**	**17 08 58.0**	**+0.2**
LANU	**Lannavaara**	**1.08**	**22**	*eP*	**Pg**	**17 08 58.8**	**-0.7**
LANU				*eS*	**Sb**	**17 09 14.4**	**-0.6**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**17 08 58.8**	**-0.7**
LANU				Sb	**Sb**	**17 09 14.4**	**-0.6**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**17 08 58.8**	**-0.7**
NIKU	**Nikkaluokta**	**1.09**	**319**	*eP*	**Pg**	**17 08 59.6**	**-0.1**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 08 59.6**	**-0.1**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 08 59.6**	**-0.1**
KALU	**Kalix**	**1.55**	**140**	*e*PG	**Pn**	**17 09 08.0**	**+0.4**
KALU				*e*SN	**Sg**	**17 09 29.4**	**+0.8**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 09 07.5**	**-0.2**
KALU	**Kalix**	**1.55**	**140**	Pg	**Pn**	**17 09 08.0**	**+0.4**
KALU				Sn	**Sg**	**17 09 29.4**	**+0.8**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 09 07.5**	**-0.2**
SJUU	**Sjulsmark**	**1.58**	**170**	*e*P	**Pn**	**17 09 08.3**	**+0.2**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**17 09 08.3**	**+0.2**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**17 09 08.3**	**+0.2**
HEF	**Hetta**	**1.71**	**36**	*e*SG	**Sn**	**17 09 32.3**	**-0.2**
HEF				MSG		17 09 32.3	
	comp=Z,7.1nm,0.2s						
HEF	**Hetta**	**1.71**	**36**	Sg	**Sn**	**17 09 32.3**	**-0.2**
	comp=Z,7.1nm,0.2s						
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*PB	**Pb**	**17 09 15.0**	**-0.3**
KIF				MSG	**Sg**	**17 09 42.2**	**+0.5**
	comp=Z,15nm,0.2s						
KIF				*e*SG	**Sg**	**17 09 42.2**	**+0.5**
KIF	**Kilpisjarvi**	**1.96**	**359**	Pb	**Pb**	**17 09 15.0**	**-0.3**
KIF				Sg	**Sg**	**17 09 42.2**	**+0.5**
RNF	**Rovaniemi**	**2.07**	**100**	*e*PB	**Pn**	**17 09 15.9**	**+1.1**
RNF				MSG	**Sb**	**17 09 43.4**	**+0.1**
	comp=Z,11nm,0.2s						
RNF				*e*SG	**Sb**	**17 09 43.4**	**+0.1**
RNF	**Rovaniemi**	**2.07**	**100**	Pb	**Pn**	**17 09 15.9**	**+1.1**
RNF				Sg	**Sb**	**17 09 43.4**	**+0.1**
	comp=Z,8.9nm,0.2s						
SGF	**Sodankyl**	**2.21**	**77**	MSG	**Sb**	**17 09 48.2**	**+0.5**
	comp=Z,8.9nm,0.2s						
SGF				*e*SG	**Sb**	**17 09 48.2**	**+0.5**
SGF	**Sodankyl**	**2.21**	**77**	Sg	**Sb**	**17 09 48.2**	**+0.5**
SVAU	**Svanoeiden**	**2.63**	**193**	*e*P	**Pn**	**17 09 24.0**	**+1.4**
SVAU	**Svanoeiden**	**2.63**	**193**	P	**Pn**	**17 09 23.9**	**+1.4**
SVAU	**Svanoeiden**	**2.63**	**193**	P	**Pn**	**17 09 24.0**	**+1.4**
OUL	**Oulu**	**2.83**	**132**	*e*PB	**Pb**	**17 09 28.1**	**-2.2**
OUL	**Oulu**	**2.83**	**132**	Pb	**Pb**	**17 09 28.1**	**-2.2**
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**17 09 26.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=214,slow=14,SNR=42						
ARCES				Pg	Pb	17 09 28.9	-4.5
	comp=Z,0.3nm,0.3s,baz=218,slow=14,SNR=42						
ARCES				Sn	**Sn**	**17 10 04.4**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=212,slow=22,SNR=11						
ARE0	**ARCESS Array S**	**3.02**	**32**	*e*S	**Sn**	**17 10 06.4**	**+1.7**
ARE0				MSG		17 10 06.4	
	comp=Z,2.3nm,0.2s						
ARE0	**ARCESS Array S**	**3.02**	**32**	S	**Sn**	**17 10 06.4**	**+1.7**
	comp=Z,2.3nm,0.2s						
UMAU	**Umeaa**	**3.19**	**182**	*eP*	**Pn**	**17 09 31.6**	**+1.5**
UMAU				*eS*	**Sn**	**17 10 10.7**	**+1.9**
UMAU	**Umeaa**	**3.19**	**182**	P	**Pn**	**17 09 31.6**	**+1.5**
UMAU				S	**Sn**	**17 10 10.7**	**+1.9**
BREU	**Bredtraesk**	**3.33**	**198**	*eP*	**Pn**	**17 09 32.3**	**+0.9**
BREU				*eS*	**Sn**	**17 10 11.4**	**-0.7**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**17 09 32.9**	**+0.9**
BREU				S	**Sn**	**17 10 11.4**	**-0.7**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**17 09 33.0**	**+0.9**
BREU				S	**Sn**	**17 10 11.4**	**-0.7**
VRF	**Varrio**	**3.43**	**74**	*eP*	**Pn**	**17 09 34.7**	**+1.2**
VRF				*e*SB	**Sb**	**17 10 22.1**	**-0.4**
VRF				MSG		17 10 22.1	
	comp=Z,0.9nm,0.2s						
VRF	**Varrio**	**3.43**	**74**	P	**Pn**	**17 09 34.6**	**+1.2**
VRF				Sb	**Sb**	**17 10 22.1**	**-0.4**
	comp=Z,0.9nm,0.2s						
MSF	**Maaselka**	**3.45**	**106**	*eP*	**Pn**	**17 09 35.7**	**+1.9**
MSF	**Maaselka**	**3.45**	**106**	P	**Pn**	**17 09 35.7**	**+1.9**
KEV	**Kevo**	**3.52**	**37**	*eP*	**Pn**	**17 09 35.4**	**+0.6**
KEV				*e*S	**Sn**	**17 10 18.1**	**+1.1**
KEV				MSG		17 10 18.1	
	comp=Z,2.0nm,0.2s						
KEV	**Kevo**	**3.52**	**37**	P	**Pn**	**17 09 35.3**	**+0.6**
KEV				S	**Sn**	**17 10 18.1**	**+1.1**
	comp=Z,2.0nm,0.2s						
KU6	**Riekki**	**3.74**	**102**	*eP*	**Pn**	**17 09 38.9**	**+1.1**
KU6	**Riek

XOR	Xorichti	2.74	23	ePN	Pn	17 23 51.6	+2.3
XOR	Xorichti	2.74	23	ePn	Pn	17 23 51.6	+2.3
AOS	Alonnisos	2.83	35	eP	Pb	17 23 55.7	0.0
AOS	Alonnisos	2.83	35	ePN	Pn	17 23 52.8	+2.3
AOS	Alonnisos	2.83	35	ePn	Pn	17 23 52.8	+2.3
JAN	Janina	2.90	345	ePN	Pn	17 23 53.9	+2.4
JAN	Janina	2.90	345	ePn	Pn	17 23 53.9	+2.4
IGT	Igoumenitsa	2.92	337	ePN	Pn	17 23 54.2	+2.5
IGT	Igoumenitsa	2.92	337	ePn	Pn	17 23 54.2	+2.5
APE	Apeiranthos	2.99	85	ePN	Pb	17 23 55.7	-2.7
APE	Apeiranthos	2.99	85	ePn	Pb	17 23 55.7	-2.7
KEK	Kerkira	3.27	332	ePN	Pn	17 23 59.7	+3.2
KEK	Kerkira	3.27	332	ePn	Pn	17 23 59.7	+3.2
LIT	Litokhoron	3.29	9	ePB	Pn	17 23 59.7	+2.9
LIT	Litokhoron	3.29	9	ePb	Pn	17 23 59.7	+2.9
PAIG	Paliouri	3.41	25	ePB	Pn	17 24 01.7	+3.3
PAIG	Paliouri	3.41	25	ePb	Pn	17 24 01.7	+3.3
KZN	Kozani	3.45	360	ePB	Pn	17 24 02.6	+3.5
KZN	Kozani	3.45	360	ePb	Pn	17 24 02.6	+3.5
NPS	Neapolis	3.46	116	ePB	Pb	17 24 03.1	-3.4
NPS	Neapolis	3.46	116	ePb	Pb	17 24 03.1	-3.4
NEST	Nestorio	3.61	351	ePN	Pn	17 24 02.0	+0.7
NEST	Nestorio	3.61	351	ePn	Pn	17 24 02.0	+0.7
CHOS	Chios island	3.70	64	ePN	Pn	17 24 05.4	+2.8
CHOS	Chios island	3.70	64	ePn	Pn	17 24 05.4	+2.8
PLG	Polygyros	3.74	20	ePB	Pn	17 24 06.6	+3.5
PLG	Polygyros	3.74	20	ePb	Pn	17 24 06.6	+3.5
OUR	Ouranopolis	3.87	25	ePN	Pn	17 24 08.6	+3.8
OUR	Ouranopolis	3.87	25	ePn	Pn	17 24 08.6	+3.8
HORT	Hortiatis	3.88	15	ePN	Pn	17 24 08.0	+3.0
HORT	Hortiatis	3.88	15	ePn	Pn	17 24 08.0	+3.0
FNA	Florina	3.94	355	ePN	Pn	17 24 09.1	+3.2
FNA	Florina	3.94	355	ePn	Pn	17 24 09.1	+3.2
SOH	Sokhos	4.14	16	ePN	Pn	17 24 11.7	+3.1
SOH	Sokhos	4.14	16	ePn	Pn	17 24 11.7	+3.1
KNT	Kendrikon	4.39	11	ePN	Pn	17 24 14.9	+3.0
KNT	Kendrikon	4.39	11	ePn	Pn	17 24 14.9	+3.0
SRS	Serrai	4.48	18	ePN	Pn	17 24 16.9	+3.7
SRS	Serrai	4.48	18	ePn	Pn	17 24 16.9	+3.7
SMTH	Samothraki Isl	4.64	38	ePN	Pn	17 24 18.7	+3.3
SMTH	Samothraki Isl	4.64	38	ePn	Pn	17 24 18.7	+3.3
NVR	Nevrokopi	4.77	19	ePN	Pn	17 24 21.2	+4.0
NVR	Nevrokopi	4.77	19	ePn	Pn	17 24 21.2	+4.0
RDO	Rodhopi	5.18	33	ePN	Pn	17 24 26.1	+3.4
RDO	Rodhopi	5.18	33	ePn	Pn	17 24 26.1	+3.4

IDC ***13*** *17:23:16.0±1.2, 37.64N×21.71E, h0km, mb3.5/10, mb1 3.5/13, mb1mx3.4/31, mbtmp3.4/13, ML2.9/3, Error ellipse: s-maj=22.2km s-min=20.6km az=82.0*
ATH ***13*** *17:23:16.8, 36.94N×21.77E, h36km, MD3.6/3, ML3.4*
ISCJB ***13*** *17:23:18.4±0.6, 37.39N±0.03×21.80E±0.05, h26km±3km, mb3.4/10, Error ellipse: s-maj=7.4km s-min=5.2km az=148.6*
THE ***13*** *17:23:19.5, 37.48N×21.88E, h7km±2km, ML3.4/4, Error ellipse: s-maj=2.6km s-min=1.2km az=98.0*
CSEM ***13*** *17:23:19.2±0.3, 37.47N×21.89E, h10km, ML3.4, Error ellipse: s-maj=7.0km s-min=4.2km az=46.0*

ISC 13 17:23:18.3±0.9, 37.45N±0.03×21.82E±0.03, h20km±5km, n84, σ1ᵗ01/95, mb3.5/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	Ithomi	0.28	163	P	Pg	17 23 24.7	0.0
ITM				S	Sg	17 23 28.6	-0.5
ITM	Ithomi	0.28	163	P	Pg	17 23 24.7	0.0
ITM				S	Sg	17 23 28.6	-0.5
VLX	Vlachokerasia	0.45	100	P	Pb	17 23 28.1	+0.5
VLX				S	Sg	17 23 34.2	+0.3
VLX	Vlachokerasia	0.45	100	P	Pb	17 23 28.1	+0.5
VLX				S	Sg	17 23 34.2	+0.3
DRO	Drossia	0.51	350	P	Pb	17 23 29.1	+0.6
DRO	Drossia	0.51	350	P	Pb	17 23 29.1	+0.6
GUR	Goura	0.64	40	P	Pb	17 23 31.4	+0.6
GUR	Goura	0.64	40	P	Pb	17 23 31.4	+0.6
KLV	Kalavryta, Ach	0.65	24	P	Pb	17 23 31.7	+0.8
KLV	Kalavryta, Ach	0.65	24	P	Pb	17 23 31.7	+0.8
RLS	Riolos of Patr	0.67	335	P	Pn	17 23 32.8	+0.2
RLS	Riolos of Patr	0.67	335	P	Pn	17 23 32.8	+0.2
UPR	University Cam	0.83	358	P	Pn	17 23 35.3	+0.4
UPR	University Cam	0.83	358	P	Pn	17 23 35.3	+0.4
KALE	Kalithea	0.97	15	P	Pg	17 23 37.0	-0.2
KALE				S	Sb	17 23 49.5	+0.6
KALE	Kalithea	0.97	15	P	Pg	17 23 37.0	-0.2
KALE				S	Sb	17 23 49.5	+0.6
EFP	Efpalio	0.97	4	P	Pn	17 23 37.8	+1.0
EFP				S	Sg	17 23 49.8	-0.4
EFP	Efpalio	0.97	4	P	Pn	17 23 37.8	+1.0
EFP				S	Sg	17 23 49.8	-0.4
LTK	Loutraki	1.07	58	P	Pb	17 23 38.2	+0.1
LTK				S	Sg	17 23 53.1	-0.1
LTK	Loutraki	1.07	58	P	Pb	17 23 38.2	+0.1
LTK				S	Sg	17 23 53.1	-0.1
PDO	Prodromos	1.25	336	P	Pg	17 23 43.0	+0.5
PDO	Prodromos	1.25	336	P	Pg	17 23 43.0	+0.5
NAIG	Nisos Aigina	1.36	76	ePN	Pg	17 23 44.2	-0.3
NAIG	Nisos Aigina	1.36	76	ePn	Pg	17 23 44.2	-0.3
EVR	Evrytania	1.46	360	P	Pn	17 23 44.2	+0.6
EVR	Evrytania	1.46	360	P	Pn	17 23 44.2	+0.6
AXAR	Agios Charalam	1.47	26	P	Pb	17 23 44.8	-0.1
AXAR	Agios Charalam	1.47	26	P	Pb	17 23 44.8	-0.1
LKR	Lokris	1.52	37	P	Pn	17 23 44.6	+0.3
LKR	Lokris	1.52	37	P	Pn	17 23 44.6	+0.3
MAKR	Makrakomi, Fth	1.58	9	P	Pb	17 23 46.4	-0.4
MAKR	Makrakomi, Fth	1.58	9	P	Pb	17 23 46.4	-0.4
ATH	Athens Observa	1.59	70	ePN	Pg	17 23 48.4	-0.5
ATH				eSN	Sg	17 24 10.1	+0.5
ATH	Athens Observa	1.59	70	ePn	Pg	17 23 48.4	-0.5
AGG	Agios Georgios	1.62	14	P	Pb	17 23 47.0	-0.5
AGG	Agios Georgios	1.62	14	P	Pb	17 23 47.0	-0.5
LKD2	Lefkada island	1.62	326	P	Pb	17 23 47.2	-0.3
LKD2	Lefkada island	1.62	326	P	Pb	17 23 47.2	-0.3
PTL	Penteli	1.73	69	ePB	Pb	17 23 50.7	+1.4
PTL				eSN	Sg	17 24 14.6	+0.6
PTL	Penteli	1.73	69	ePb	Pb	17 23 50.7	+1.4
DSL	Palaion Diasel	1.77	341	P	Pb	17 23 51.0	+0.9
DSL	Palaion Diasel	1.77	341	P	Pb	17 23 51.0	+0.9
SMIA	Simia	1.80	37	P	Pb	17 23 50.3	-0.2
SMIA	Simia	1.80	37	P	Pb	17 23 50.3	-0.2
THL	Klokotos Trika	2.12	4	P	Pn	17 23 54.0	+1.5
THL	Klokotos Trika	2.12	4	P	Pn	17 23 54.0	+1.5
NEO	Neokhori	2.15	30	P	Pn	17 23 53.4	+0.3
NEO	Neokhori	2.15	30	P	Pn	17 23 53.4	+0.3
XOR	Xorichti	2.19	29	P	Pn	17 23 55.0	+1.4
XOR	Xorichti	2.19	29	P	Pn	17 23 55.0	+1.4
AOS	Alonnisos	2.36	43	P	Pn	17 23 58.1	+2.2
AOS	Alonnisos	2.36	43	P	Pn	17 23 58.1	+2.2
IGT	Igoumenitsa	2.38	331	eP	Pb	17 24 00.7	+0.2
IGT	Igoumenitsa	2.38	331	eP	Pb	17 24 00.7	+0.2
LIT	Litokhoron	2.70	11	P	Pb	17 24 03.6	-2.2
LIT	Litokhoron	2.70	11	P	Pb	17 24 03.6	-2.2
APE	Apeiranthos	2.98	96	eP	Pn	17 24 06.1	+1.6
APE	Apeiranthos	2.98	96	eP	Pn	17 24 06.1	+1.6
THR5	Thira Island,	3.01	109	eP	Pn	17 24 06.6	+1.8
THR5	Thira Island,	3.01	109	eP	Pn	17 24 06.6	+1.8
IDI	Anoyia	3.29	130	Pn	Pb	17 24 13.3	-2.6
	1.6nm,0.3s,baz=319,slow=16,SNR=12						
IDI				Sn	Sb	17 24 52.9	-2.6
	2.2nm,0.3s,baz=266,slow=10,SNR=3.9						
OUR	Ouranopolis	3.33	30	eP	Pn	17 24 09.9	+0.7
FNA	Florina	3.34	354	eP	Pn	17 24 11.9	+2.4
FNA	Florina	3.34	354	eP	Pn	17 24 11.9	+2.4
CHOS	Chios island	3.48	73	eP	Pn	17 24 11.6	+0.3
CHOS	Chios island	3.48	73	eP	Pn	17 24 11.6	+0.3
SIGR	SIGRI	3.62	60	eP	Pn	17 24 13.4	+0.2
SIGR	SIGRI	3.62	60	eP	Pn	17 24 13.4	+0.2
KNT	Kendrikon	3.80	12	eP	Pn	17 24 17.9	+2.2
KNT	Kendrikon	3.80	12	eP	Pn	17 24 17.9	+2.2
ALN	Alexandroupoli	4.75	42	eP	Pn	17 24 29.3	+0.5
ALN	Alexandroupoli	4.75	42	eP	Pn	17 24 29.3	+0.5
MLR	Muntele Rosu	8.61	20	Pn	Pn	17 25 20.9	-0.8
	0.1nm,0.3s,baz=222,slow=14,SNR=2.1						
BRTR	Keskin Array B	9.53	73	Pn	Pn	17 25 38.2	+3.8
	0.1nm,0.3s,baz=259,slow=12,SNR=2.7						
HFS	Hagfors	23.29	350	P	P	17 28 22.8	-1.7
	0.9nm,0.6s,baz=140,slow=9.7,SNR=4.7						
FINES	FINESS Array B	24.16	5	P	P	17 28 32.3	-0.5
	0.4nm,0.4s,baz=169,slow=11,SNR=6.8						
NOA	NORSAR Array B	24.54	348	P	P	17 28 35.6	-0.8
	0.2nm,0.5s,baz=150,slow=9.8,SNR=3.3						
EKA	Eskdalemuir Ar	24.61	325	P	P	17 28 37.0	0.0
	0.5nm,0.6s,baz=128,slow=8.4,SNR=6.0						
TORD	Torodi Ar. Bea	30.15	222	P	P	17 29 27.6	+0.7
	0.7nm,0.7s,baz=30,slow=8.5,SNR=4.9						
ARCES	ARCESS Array B	32.20	2	P	P	17 29 43.8	-0.8
	1.7nm,0.8s,baz=188,slow=11,SNR=8.0						
KURBB	Kurchatov Arra	41.84	53	P	P	17 31 06.7	+0.1
	0.2nm,0.3s,baz=280,slow=8.8,SNR=4.1						
MKAR	Makanchi Array	44.81	58	P	P	17 31 31.1	+0.4
	0.3nm,0.5s,baz=273,slow=7.8,SNR=7.5						
ZALV	Zalesovo Beam	45.41	48	P	P	17 31 35.5	+0.1
	1.1nm,0.6s,baz=274,slow=8.3,SNR=7.1						
SONM	Songino Array	60.12	51	P	P	17 33 24.1	-0.2
	0.3nm,0.7s,baz=285,slow=5.5,SNR=2.8						

IGQ 13 17:33:48±0.3, 1.03S×80.68W, h3km±39km, Mb4.2, 3D, Error ellipse: s-maj=3.5km s-min=2.6km az=47.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISPT	Isla de la Pla	0.45	240	P	Pn	17 34 00.8	-0.7
PECV	Mancha de Ca P	0.68	68	S	Sg	17 34 06.7	-3.4
PECV	Mancha de Ca P	0.68	68	P	Pg	17 33 57.4	-3.8
MAG1	Magdalena	1.32	44	P	Pg	17 34 11.5	-1.8
PAST	Pastocalle	2.07	81	P	Pn	17 34 23.7	-0.6
IGUA	Igualata	2.09	103	P	Pn	17 34 22.5	-2.3
RIOE	Riobamba	2.17	109	P	Pn	17 34 23.5	-2.1
CAMI	Rancho Maria	2.21	81	P	Pn	17 34 24.3	-1.9
TERV	Terraza Guagua	2.25	68	P	Pn	17 34 27.9	+1.1
JUI6	Juive	2.25	100	P	Pn	17 34 24.0	-2.5
PINO	Pino	2.25	67	P	Pn	17 34 24.1	-2.8
BMAS	Trigal station	2.25	102	P	Pn	17 34 25.5	-1.2
GGP	Refugio Guagua	2.25	68	P	Pn	17 34 25.6	-1.4
BREF	Cotopaxi Volca	2.27	81	P	Pn	17 34 26.6	-0.7
RETU	Refugio	2.27	101	P	Pn	17 34 25.0	-2.2
ARRY	Arrayan	2.28	102	P	Pn	17 34 24.3	-2.8
ARRY	Arrayan	2.28	102	S	Sn	17 34 51.6	-4.4
PAT1	Patacocha	2.29	102	P	Pn	17 34 25.9	-1.5
PAT1	Patacocha	2.29	102	S	Sn	17 34 53.2	-3.5
BPAT	Tungurahua Vol	2.30	102	⇓P	Pn	17 34 26.5	-0.9
BPAT	Tungurahua Vol	2.30	102	⇓S	Sn	17 34 53.1	-3.6
PISA	Pisayambo	2.30	91	P	Pn	17 34 25.3	-2.2
YANA	Pisna	2.30	67	P	Pn	17 34 25.7	-1.8
BRUN	Tungurahua Vol	2.30	100	P	Pn	17 34 25.2	-2.2
BULB	Ulba Tungurahu	2.31	100	P	Pn	17 34 25.1	-2.4
ULBA	Ulba	2.31	100	P	Pn	17 34 25.3	-2.2
BTAM	Cotopaxi Volca	2.31	81	P	Pn	17 34 26.7	-1.1
VC1	Cotopaxi 1	2.31	80	P	Pn	17 34 26.9	-0.8
TAMB	Tambo	2.34	82	P	Pn	17 34 27.0	-1.2
COV1	Cotopaxi Volc	2.37	81	P	Pn	17 34 25.5	-3.2
OTAV	Otavalo	2.56	61	⇓P	Pn	17 34 30.2	-0.9
ANTI	Antisana	2.59	77	P	Pn	17 34 30.3	-1.3
MACE	Macas	2.76	116	P	Pn	17 34 31.2	-2.4
CAYR	Refugio Cayamb	2.87	69	P	Pn	17 34 36.6	+1.1
CAYA	Cayambe	2.91	68	P	Pn	17 34 35.4	-0.6

GUC 13 17:43:44.5±0.6, 34.86S×73.78W, h32km±14km, ML3.7, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	Cobquecura	1.51	148	eP	Pb	17 44 11.6	-0.2
COCH				eS	Sb	17 44 29.9	-0.7
RCDM	Rinconada Maip	2.82	62	i S	Sn	17 45 02.4	+2.2
RCDM				AML	AML	17 45 04.1	
	comp=E,294nm,0.1s						
CLCH	Cerro Calan	3.06	62	eP	Pn	17 44 32.7	+1.9
CLCH				eS	Sn	17 45 09.4	+3.1
CLCH				AML	AML	17 45 13.3	
	comp=N,135nm,0.5s						
PEL	Peldehue	3.09	57	⇑i P	Pn	17 44 33.6	+2.5
PEL				i S	Sn	17 45 10.0	+3.1
PEL				AML	AML	17 45 12.6	
	comp=E,216nm,0.6s						

IDC 13 17:50:14.9±352.0, 56.63N×31.28E, h0km, Error ellipse: s-maj=148.5km s-min=73.1km az=92.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	DUBNA INFRASON	3.28	86	i		18 12 30.0	
	baz=271,slow=314,SNR=2.5						
I31KZ	AKTYUBINSK INF	17.02	100	i		19 28 20.0	
	baz=302,slow=328,SNR=1.5						
I48TN	KESRA INFRASON	25.57	225	i		20 26 40.0	
	baz=28,slow=321,SNR=0.8						

IDC 13 18:09:21.9±2.5, 18.28S×177.57W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=269.1km s-min=30.7km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.35	260	P	P	18 17 41.6	-0.7
	0.3nm,0.4s,baz=96,slow=7.1,SNR=16						
ASAR	Alice Springs	45.46	255	P	P	18 17 43.5	+0.3
	2.1nm,0.5s,baz=90,slow=8.3,SNR=64						
TXAR	Lajitas Array	85.52	57	P	P	18 22 02.3	0.0
	0.2nm,0.7s,baz=224,slow=5.9,SNR=2.8						

ISCJB ***13*** *17:17:50.9±0.9, 7.51S±0.04×106.04E±0.03, h19km±7km, mb3.5/10, Error ellipse: s-maj=7.8km s-min=4.3km az=29.8*
KLM ***13*** *17:17:51.9, 7.61S×106.22E, h3km, mb4.1, ML3.8, MS5.2*
DJA ***13*** *17:17:52.4±0.5, 7.5S±3×10.6E°, h23km±5km, M4.2/14, MLv4.2/14*
IDC ***13*** *17:17:56.2±4.7, 6.86S×106.19E, h83km±35km, mb3.3/10, mb1 3.3/10, mb1mx3.3/24, mbtmp3.6/10, Error ellipse: s-maj=76.5km s-min=15.2km az=53.0*

ISC 13 18:17:52.6±1.1, 7.40S±0.05×106.04E±0.04, h48km±11km, n48, σ2ᵖ03/46, mb3.6/10, 5C-6D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	Sukabumi	0.64	53	P	Pn	18 18 04.8	-0.8
SKJI				S	Sn	18 18 14.2	-0.7
CGJI	Cibinong	0.85	336	P	Pn	18 18 08.2	-0.1
CGJI				S	Sn	18 18 18.9	-0.9
CNJI	Cibinong	1.08	85	P	Pn	18 18 11.4	0.0
CNJI				S	Sn	18 18 24.3	-1.0
CBJI	Citeko	1.26	40	P	Pn	18 18 12.1	-1.7
CBJI				S	Sn	18 18 26.4	-3.2
SBJI	Serang	1.27	4	P	Pn	18 18 13.6	-0.4
TNG	Tangerang	1.36	26	P	Pn	18 18 15.5	+0.3
LEM	Lembang	1.66	70	P	Pn	18 18 20.9	+1.4
LEM				S	Sn	18 18 44.0	+4.2
LEM	Lembang	1.66	70	P	Pn	18 18 20.7	+1.2
	96nm,0.3s,baz=230,slow=4.6,SNR=92						
LEM				S	Sn	18 18 43.4	+3.6
	185nm,0.3s,baz=146,slow=20,SNR=18						
LEM	Lembang	1.66	70	P	Pn	18 18 20.6	+1.1
	baz=36,SNR=93						
CISI	Cisompet, Garu	1.77	95	P	Pn	18 18 21.2	+0.4
CISI				S	Sn	18 18 41.2	-1.0
CISI	Cisompet, Garu	1.77	95	P	Pn	18 18 21.1	+0.2
	baz=36,SNR=80						
BLSI	Bandar Lampung	2.17	339	P	Pn	18 18 26.8	+0.5
KASI	Kota Agung	2.41	320	P	Pn	18 18 30.8	+1.2
KASI				S	Sn	18 19 01.0	+3.0
CMJI	Cimerak	2.42	99	P	Pn	18 18 30.8	+1.1
CMJI				S	Sn	18 18 57.0	-1.1
KLI	Kotabumi	2.78	335	P	Pn	18 18 37.0	+2.3
KPJI	Karang Pucung	2.87	89	P	Pn	18 18 38.6	+2.7
XMI	Christmas Isla	3.05	187	P	Pn	18 18 38.3	-0.1
	baz=37,SNR=9.2						
LWLI	Liwa	3.08	320	P	Pn	18 18 40.9	+2.0
LWLI				S	Sn	18 19 17.3	+2.8
XMIS	Christmas Isla	3.09	187	P	Pn	18 18 38.5	-0.4
	baz=37,SNR=60						
MDSI	Maura Dua	3.43	327	P	Pn	18 18 45.3	+1.6
MNAI	Manna	4.30	314	P	Pn	18 19 01.7	+6.0
	baz=41,SNR=4.3						
LHSI	Lahat	4.34	325	P	Pn	18 18 59.5	+3.4
UGM	Wanagama	4.47	97	P	Pn	18 18 59.5	+1.5

MYKOM	Kota Tinggi	9.38	346	⇓P		Pn	18 20 12.2	+6.9
KGM	Kluang	9.74	344	⇓P		Pn	18 20 16.7	+6.5
KSM	Kuching	9.79	26	⇑P		Pn	18 20 15.8	+4.9
SBUM	Sibu	11.56	32	⇓P		Pn	18 20 39.4	+4.2
BTM	Bintulu	12.66	34	⇓P		Pn	18 20 54.9	+4.8
IPM	Ipoh	12.81	337	⇓P		P	18 20 59.9	-2.0
KTGM	Kuala Trenggan	12.97	347	⇑P		P	18 21 02.2	-1.4
KULM	Kulim	13.70	337	⇑P		P	18 21 10.3	-1.5
TSM	Tawau	16.56	46	⇑P		P	18 21 46.8	+3.2
KKM	Kota Kinabalu	16.77	38	⇑P		P	18 21 48.5	+2.5
SDKM	Sandakan	17.07	41	⇓P		P	18 21 53.7	+4.4
CMAR	Chiang Mai Arr	26.63	345	P		P	18 23 23.4	-3.5
	0.3nm,0.5s,baz=175,slow=9.2,SNR=3.0								
WRA	Warramunga Arr	30.13	117	P		P	18 23 58.8	+0.6
	0.2nm,0.4s,baz=301,slow=9.4,SNR=9.0								
WRA				PcP		PcP	18 26 59.0	+0.1
	0.2nm,0.4s,baz=322,slow=2.0,SNR=4.5								
ASAR	Alice Springs	31.24	124	P		P	18 24 09.8	+1.8
	0.1nm,0.3s,baz=303,slow=8.0,SNR=6.1								
H08S2	Diego Garcia H	33.26	267	T		T	18 59 51.0		
	baz=91,slow=76,SNR=13								
H08S3	Diego Garcia H	33.27	267	T		T	18 59 51.9		
	baz=91,slow=76,SNR=17								
H08S1	Diego Carcia H	33.27	267	T		T	18 59 50.0		
	baz=91,slow=76,SNR=27								
STKA	Stephens Creek	41.09	131	P		P	18 25 33.6	+1.7
	1.3nm,0.9s,baz=336,slow=6.6,SNR=4.4								
SONM	Songino Array	54.99	0	P		P	18 27 15.9	-3.2
	0.1nm,0.4s,baz=178,slow=10,SNR=2.7								
SONM				PcP		PcP	18 28 17.3	-3.2	
	0.3nm,0.3s,baz=180,slow=5.1,SNR=9.2								
MKAR	Makanchi Array	57.94	341	P		P	18 27 36.2	-3.8	
	0.6nm,0.5s,baz=155,slow=8.5,SNR=14								
KURBB	Kurchatov Arra	62.50	341	P		P	18 28 07.8	-3.4	
	0.2nm,0.5s,baz=154,slow=6.2,SNR=5.2								
KURBB				PcP		PcP	18 28 48.5	-1.5	
	0.3nm,0.6s,baz=149,slow=3.7,SNR=5.5								
ZALV	Zalesovo Beam	63.68	346	P		P	18 28 13.5	-5.4	
	0.2nm,0.3s,baz=153,slow=6.1,SNR=2.4								
BVAR	Borovoye Array	67.36	338	P		P	18 28 39.7	-3.0	
	0.4nm,0.3s,baz=146,slow=8.5,SNR=7.8								
BRTR	Keskin Array B	81.38	312	P		P	18 30 03.0	-1.7	
	0.9nm,0.7s,baz=125,slow=6.3,SNR=9.1								
TXAR	Lajitas Array	144.54	48	PKP		PKPab	18 37 22.7	-0.5	
	0.3nm,0.4s,baz=322,slow=2.4,SNR=5.1								

MEX 13 18:17:58.8±0.6, 16.99N×100.11W, h4km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	El Cayaco	0.16	290	eP	Pg	18 18 01.5	-0.4
CAIG				i S	Sg	18 18 04.0	-0.1
ACX	Acapulco	0.27	117	eP	Pb	18 18 07.7	+1.4
ACX				eS	Sb	18 18 10.3	-1.0
ARIG	Puente Sto Nin	1.30	350	eP	Pg	18 18 19.6	-4.3
ARIG				i S	Sg	18 18 36.5	-4.3
ZIIG	Zihuatanejo	1.43	295	eP	Pn	18 18 22.3	-3.4
ZIIG				i S	Sb	18 18 39.9	-4.8
PLIG	Platanillo	1.51	22	eP	Pn	18 18 23.4	-3.4
PLIG				i S	Sn	18 18 42.0	-5.1
TLIG	Tlapa	1.58	69	eP	Pn	18 18 24.0	-3.8
TLIG				eS	Sn	18 18 43.5	-5.4
PNIG	Pinotepa	1.99	107	eP	Pn	18 18 29.3	-4.0
PNIG				i S	Sn	18 18 54.2	-4.6
YAIG	Yautepec	2.11	28	i P	Pn	18 18 32.4	-2.7
YAIG				i S	Sn	18 18 57.3	-4.7
MOIG	Morelia	2.86	339	i P	Pn	18 18 43.3	-2.3
MOIG				i S	Sn	18 19 15.9	-4.9
VHO	Vista Hermosa	3.23	88	i P	Pn	18 18 48.1	-2.5
VHO				i S	Sn	18 19 26.5	-3.3
MMIG	Aquila	3.34	293	i P	Pn	18 18 49.6	-2.3
MMIG				eS	Sn	18 19 28.1	-4.0

CSEM ***13*** *18:41:54.1±0.1, 43.79N×18.92E, h2km, ML3.6, Ms3.4, Error ellipse: s-maj=2.8km s-min=2.4km az=53.0*
PDG ***13*** *18:41:55.9±0.4, 43.72N×19.10E, h12km, MD3.4/6, ML3.4/11, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
LDG ***13*** *18:41:55.1±0.1, 43.84N×19.11E, h10km, MI3.6/6, Error ellipse: s-maj=2.1km s-min=1.7km az=175.0*
BEO ***13*

BUM	**Brajici-Budva**	**1.48**	**183**	⇑	*i*Pg	**Pb**	18 42 22.0	-0.3
BUM					*e*Sg	**Sg**	18 42 44.4	+1.2
BUM	**Brajici-Budva**	**1.48**	**183**	⇑	*i*Pg	**Pb**	18 42 22.0	-0.3
BUM					*e*Sg	**Sg**	18 42 44.4	+1.2
FGSL	**Fruska Gora**	**1.49**	**22**	⇓	*i*Pg	**Pn**	18 42 21.6	+0.4
FGSL					*e*Sg	**Sg**	18 42 42.6	-0.8
FRGS	**Fruska Gora**	**1.49**	**22**	⇓	*i*Pg	**Pn**	18 42 21.6	+0.4
FRGS					*e*Sg	**Sg**	18 42 42.6	-0.8
DRME	**Dracevica, Mon**	**1.60**	**175**	⇓	*i*Pg	**Pb**	18 42 24.5	+0.2
DRME					*e*Sg	**Sg**	18 42 46.4	-0.5
DRME	**Dracevica, Mon**	**1.60**	**175**	⇓	*i*Pg	**Pb**	18 42 24.5	+0.2
DRME					*e*Sg	**Sg**	18 42 46.4	-0.5
BCI	**Bajram Curri**	**1.61**	**151**		*i*PG	**Pb**	18 42 24.2	-0.3
BCI					*i*SG	**Sb**	18 42 45.6	+1.1
BCI	**Bajram Curri**	**1.61**	**151**		*i*Pg	**Pb**	18 42 24.2	-0.3
BCI					*i*Sg	**Sb**	18 42 45.6	+1.1
BLY	**Banja Luka**	**1.63**	**307**		*e*Pg	**Pb**	18 42 47.9	0.0
BLY					*e*Sg	**Sg**	18 42 47.9	0.0
BLY	**Banja Luka**	**1.63**	**307**		*e*Pg	**Pb**	18 42 25.1	+0.3
BLY					*e*Sg	**Sg**	18 42 47.9	0.0
SELS	**Selova**	**1.63**	**109**	⇑	*i*Pg	**Pn**	18 42 23.9	+0.8
SELS					*e*Sg	**Sg**	18 42 46.7	-1.2
SELS	**Selova**	**1.63**	**109**	⇑	*i*Pg	**Pn**	18 42 23.9	+0.8
SELS					*e*Sg	**Sg**	18 42 46.7	-1.2
SVIS	**Svilajnac**	**1.66**	**72**		*e*Sg	**Sg**	18 42 48.2	-0.6
SVIS	**Svilajnac**	**1.66**	**72**		*e*Sg	**Sg**	18 42 48.2	-0.6
ULC	**Ulcinj**	**1.82**	**175**		*e*Pn	**Pb**	18 42 28.6	+0.5
ULC					*e*Sn	**Sb**	18 42 52.3	+1.6
ULC	**Ulcinj**	**1.82**	**175**		*e*Pn	**Pb**	18 42 28.6	+0.5
ULC					*e*Sn	**Sb**	18 42 52.3	+1.6
PUK	**Puka**	**1.85**	**159**		*i*PN	**Pb**	18 42 29.3	+0.6
PUK					*i*SN	**Sg**	18 42 56.2	+1.2
PUK	**Puka**	**1.85**	**159**		*i*Pn	**Pb**	18 42 29.3	+0.6
PUK					*i*Sn	**Sg**	18 42 56.2	+1.2
BOLS	**Boljevac**	**2.13**	**88**	⇓	*i*Pn	**Pn**	18 42 31.6	+1.7
BOLS	**Boljevac**	**2.13**	**88**	⇓	*i*Pn	**Pn**	18 42 31.6	+1.7
BANR	**Banloc**	**2.21**	**43**	⇑	*i*P	**Pn**	18 42 31.9	+1.0
BANR	**Banloc**	**2.21**	**43**	⇑	*i*P	**Pn**	18 42 31.9	+1.0
BARS	**Barje**	**2.26**	**114**	⇑	*i*Pn	**Pn**	18 42 32.5	+0.7
BARS					*e*Sg	**Sg**	18 43 07.9	-0.1
BARS	**Barje**	**2.26**	**114**	⇑	*i*Pn	**Pn**	18 42 32.5	+0.7
BARS					*e*Sg	**Sg**	18 43 07.9	-0.1
PHP	**Peshkopia**	**2.34**	**153**		*i*PG	**Pb**	18 42 35.9	-1.1
PHP	**Peshkopia**	**2.34**	**153**		*i*Pg	**Pb**	18 42 35.9	-1.1
	SNR=9.0							
PKSM	**Moragy**	**2.44**	**354**	⇑	*i*P	**Pn**	18 42 35.2	+1.0
PKSM	**Moragy**	**2.44**	**354**	⇑	*i*P	**Pn**	18 42 35.2	+1.0
PKSM	**Moragy**	**2.44**	**354**	⇓	*e*	**Pn**	18 42 35.2	+1.0
UDBI	**Udbina**	**2.45**	**289**		*e*Pn	**Pn**	18 42 36.6	+2.1
UDBI					Sn	**Sb**	18 43 08.4	-0.4
UDBI	**Udbina**	**2.45**	**289**		*e*Pn	**Pn**	18 42 36.6	+2.1
SKO	**Skopje**	**2.54**	**135**		*e*Pn	**Pb**	18 42 39.6	-0.7
SKO					*e*Sg	**Sg**	18 43 16.6	-0.3
BZS	**Buzias**	**2.61**	**44**		*e*P	**Pn**	18 42 36.6	+0.1
BZS	**Buzias**	**2.61**	**44**	⇑	*i*P	**Pn**	18 42 37.2	+0.7
BZS	**Buzias**	**2.61**	**44**		S	**Sg**	18 43 18.1	-1.1
BZS	**Buzias**	**2.61**	**44**	⇑	*i*P	**Pn**	18 42 37.2	+0.7
ZAPS	**Zavoj**	**2.68**	**100**	⇑	*i*Pn	**Pn**	18 42 38.9	+1.3
PKS2	**Kecel**	**2.71**	**3**	⇓	*e*Pn	**Pn**	18 42 38.9	+1.0
PKS2	**Kecel**	**2.71**	**3**	⇓	*e*	**Pn**	18 42 38.9	+1.0
PKS6	**Bocsa**	**2.84**	**8**	⇓	*e*	**Pg**	18 42 49.9	+0.1
PKS6					*e*		18 43 25.3	
OHR	**Ohrid**	**2.98**	**153**		*e*Pn	**Pb**	18 42 47.3	-0.6
OHR					*e*Sg	**Sb**	18 43 26.1	+2.3
MS1	**Monte Sant'Ang**	**3.07**	**229**		*e*Pn	**Pn**	18 42 40.7	-2.8
NVLJ	**Novalja**	**3.08**	**286**		*e*Pn	**Pn**	18 42 45.8	+2.8
NVLJ					Sn	**Sb**	18 43 23.7	-3.0
NVLJ	**Novalja**	**3.08**	**286**		*e*Pn	**Pn**	18 42 45.8	+2.8
BEHE	**Becsehely**	**3.12**	**330**	⇓	*e*Pn	**Pn**	18 42 45.8	+2.3
BEHE					*e*Sn	**Sn**	18 43 21.6	+1.3
BEHE	**Becsehely**	**3.12**	**330**	⇓	*e*	**Pn**	18 42 45.8	+2.3
BEHE					*e*		18 43 21.6	
GZR	**Gura Zlata**	**3.13**	**58**	⇑	*i*P	**Pn**	18 42 44.7	+0.9
GZR	**Gura Zlata**	**3.13**	**58**	⇑	*i*P	**Pn**	18 42 44.7	+0.9
SRE	**Strehaia**	**3.14**	**72**	⇑	*i*P	**Pn**	18 42 46.8	+3.0
SRE	**Strehaia**	**3.14**	**72**	⇑	*i*P	**Pn**	18 42 46.8	+3.0
PKSN	**Nyarlorinc**	**3.17**	**11**	⇓	*e*	Pg	18 43 02.5	+6.4
PKS7	**Kunszentmiklos**	**3.27**	**2**		*e*Pn	**Pn**	18 42 46.6	+1.1
PKS7	**Kunszentmiklos**	**3.27**	**2**		*e*	**Pn**	18 42 46.6	+1.1
PKS7					*e*		18 43 39.1	
VTS	**Vitosha**	**3.29**	**110**	⇑	*i*P	Pn	18 42 49.7	+3.7
VTS	**Vitosha**	**3.29**	**110**		S	**Sg**	18 43 40.7	-0.3
VTS	**Vitosha**	**3.29**	**110**	⇑	*i*P	Pn	18 42 49.7	+3.7
CDT	**Castel del Mon**	**3.38**	**218**		*e*Pn	Pn	18 42 50.3	+3.2
FNA	**Florina**	**3.47**	**149**		*e*P	**Pn**	18 42 49.2	+0.8
PKST	**T"'s**	**3.54**	**349**	⇓	*e*Pn	**Pn**	18 42 50.7	+1.3
PKST					*e*Sn	**Sn**	18 43 28.3	-2.5
PKST	**T"'s**	**3.54**	**349**	⇓	*e*	**Pn**	18 42 50.7	+1.3
PKST					*e*		18 43 28.3	
VISS	**Visnje**	**3.59**	**306**		*i*Pn	**Pn**	18 42 52.6	+2.6
VISS	**Visnje**	**3.59**	**306**		*i*Pn	**Pn**	18 42 52.6	+2.6
VAY	**Valandovo**	**3.60**	**132**		*e*Pn	**Pb**	18 42 59.6	+1.2
VAY					*e*Sg	**Sb**	18 43 40.5	-1.2
CSKK	**Cs˙‡kako**	**3.62**	**352**	⇑	*e*Pn	**Pn**	18 42 52.0	+1.6
CSKK					*e*Sn	**Sn**	18 43 31.2	-1.5
CSKK	**Cs˙‡kako**	**3.62**	**352**	⇑	*e*	**Pn**	18 42 52.0	+1.6
CSKK					*e*		18 43 31.2	
PKSG		**3.64**	**353**	⇑	*e*Pn	**Pn**	18 42 51.8	+1.2
PKSG					*e*Sn	**Sn**	18 43 31.8	-1.3
PKSG		**3.64**	**353**	⇑	*e*	**Pn**	18 42 51.8	+1.2
PKSG					*e*		18 43 31.8	
GROS	**Grobnik**	**3.65**	**318**		*i*Pn	**Pn**	18 42 52.5	+1.5
GROS	**Grobnik**	**3.65**	**318**		*i*Pn	**Pn**	18 42 52.5	+1.5
BUD	**Budapest**	**3.70**	**0**	⇓	*e*Pn	**Pn**	18 42 52.3	+0.8
BUD	**Budapest**	**3.70**	**0**	⇓	*e*	**Pn**	18 42 52.3	+0.8
LOT	**Lotru**	**3.78**	**62**		*e*P	**Pn**	18 42 54.8	+2.0
LOT	**Lotru**	**3.78**	**62**	⇑	*i*P	**Pn**	18 42 55.1	+2.3
LOT	**Lotru**	**3.78**	**62**	⇑	*i*P	**Pn**	18 42 55.1	+2.3
KNT	**Kendrikon**	**3.89**	**131**		*e*P	**Pn**	18 42 55.1	+1.0
PERS	**Pernice**	**3.96**	**317**		*i*Pn	**Pn**	18 42 57.0	+1.8
PERS					*e*Sn	**Sn**	18 43 40.5	-0.8
	comp=Z,78nm,0.3s							
PERS	**Pernice**	**3.96**	**317**		*i*Pn	**Pn**	18 42 57.0	+1.8
PERS					*e*Sn	**Sn**	18 43 40.5	-0.8
	comp=Z,78nm,0.3s							
SOKA	**Soboth**	**4.04**	**317**	⇑	*i*Pn	**Pn**	18 42 58.0	+1.8
	SNR=10							
SOKA				⇑	*i*Sn	**Sn**	18 43 42.3	-0.8
SOKA	**Soboth**	**4.04**	**317**		Pn	**Pn**	18 42 58.0	+1.8
	SNR=10							
SOKA					Sn	**Sn**	18 43 42.3	-0.8
MMB	**Musomiste**	**4.11**	**121**	⇑	*i*P	Pn	18 43 00.8	+3.6
MMB	**Musomiste**	**4.11**	**121**	⇑	*i*P	Pn	18 43 00.8	+3.6
OBKA	**Obir**	**4.17**	**312**	⇑	*i*Pn	**Pn**	18 43 00.0	+1.9
OBKA				⇑	*i*Sn	**Sn**	18 43 46.6	+0.2
OBKA	**Obir**	**4.17**	**312**		Pn	**Pn**	18 43 00.0	+1.9
OBKA					Sn	**Sn**	18 43 46.6	+0.2
PSZ	**Piszkesteto**	**4.18**	**8**	⇑	*i*P	**Pn**	18 42 58.9	+0.7
PSZ	**Piszkesteto**	**4.18**	**8**	⇑	*i*P	**Pn**	18 42 58.9	+0.7
PSZ	**Piszkesteto**	**4.18**	**8**	⇓	*e*	**Pn**	18 42 58.9	+0.7
PSZ					*e*		18 44 07.2	
ARSA	**Arzberg**	**4.25**	**326**	⇓	*i*Pn	**Pn**	18 43 01.0	+1.9
	SNR=21							
ARSA				⇓	*i*Sn	**Sn**	18 43 47.2	-1.0
ARSA	**Arzberg**	**4.25**	**326**		Pn	**Pn**	18 43 01.0	+1.9
	SNR=21							
ARSA					Sn	**Sn**	18 43 47.2	-1.0
SOP	**Sopron**	**4.26**	**337**		*e*Sn	**Sn**	18 43 50.6	+2.1
SOP	**Sopron**	**4.26**	**337**		*e*	**Sn**	18 43 50.6	+2.1
ARR	**Arges**	**4.32**	**67**	⇓	*i*P	**Pn**	18 43 02.1	+2.0
ARR	**Arges**	**4.32**	**67**	⇑	*i*P	**Sn**	18 43 52.9	+2.9
ARR	**Arges**	**4.32**	**67**	⇓	*i*P	**Pn**	18 43 02.1	+2.0
HUMR	**Humele**	**4.36**	**78**	⇓	*i*P	**Pn**	18 43 03.4	+2.8
HUMR	**Humele**	**4.36**	**78**	⇓	*i*P	**Pn**	18 43 03.4	+2.8
HUMR					S	**Sn**	18 43 50.2	-0.7
IGT	**Igoumenitsa**	**4.36**	**166**		*e*P	**Pn**	18 42 58.9	-1.7
VOIR		**4.62**	**67**	⇓	*i*P	**Pn**	18 43 06.5	+2.3
VOIR		**4.62**	**67**	⇓	*i*P	**Pn**	18 43 06.5	+2.3
CONA	**Conrad Observa**	**4.70**	**333**	⇑	*i*Pn	**Pn**	18 43 05.4	+0.1
CONA	**Conrad Observa**	**4.70**	**333**		Pn	**Pn**	18 43 05.4	+0.1
VYHS	**Vyhne**	**4.71**	**359**		*e*Pn	**Pn**	18 43 06.3	+0.8
VYHS					*e*Sn	**Sn**	18 43 56.9	-2.8
VYHS	**Vyhne**	**4.71**	**359**		*e*Pn	**Pn**	18 43 06.2	+0.8
VYHS					*e*SN	**Sn**	18 43 56.9	-2.8
VYHS					*e*SG	**Sg**	18 44 30.9	+4.3
MYKA	**Terra Mystica**	**4.75**	**309**	⇑	*i*Pn	**Pn**	18 43 08.3	+2.4
MYKA				⇑	*i*Sn	**Sn**	18 44 00.2	-0.3
MYKA	**Terra Mystica**	**4.75**	**309**		Pn	**Pn**	18 43 08.3	+2.4
MYKA					Sn	**Sn**	18 44 00.2	-0.3
KECS	**Kecovo**	**4.81**	**12**		*e*Pn	**Pn**	18 43 08.3	+1.5
KECS	**Kecovo**	**4.81**	**12**		*e*PN	**Pn**	18 43 08.3	+1.5
SMOL	**Smolenice**	**4.86**	**347**		*e*PN	Pb	18 43 16.2	-3.6
TRPA	**Tarpa**	**5.00**	**28**	⇑	*i*P	**Pn**	18 43 10.0	+0.7
TRPA	**Tarpa**	**5.00**	**28**	⇑	*i*P	**Pn**	18 43 10.0	+0.7
OUR	**Ouranopolis**	**5.05**	**131**		*e*P	**Pn**	18 43 11.7	+1.6
KBA	**Koelnbreinsper**	**5.17**	**312**	⇓	*i*Pn	**Pn**	18 43 14.5	+2.6
KBA				⇓	*i*Sn	**Sn**	18 44 12.0	+0.8
KBA	**Koelnbreinsper**	**5.17**	**312**		Pn	**Pn**	18 43 14.5	+2.6
KBA					Sn	**Sn**	18 44 12.0	+0.8
MLR	**Muntele Rosu**	**5.23**	**69**	⇑	*i*P	**Pn**	18 43 15.7	+3.0
MLR	**Muntele Rosu**	**5.23**	**69**	⇑	*i*P	**Pn**	18 43 15.7	+3.0
MOA	**Molln**	**5.25**	**322**	⇓	*i*Pn	**Pn**	18 43 14.8	+2.0
MOA				⇓	*i*Sn	**Sn**	18 44 12.4	-0.4
MOA	**Molln**	**5.25**	**322**		Pn	**Pn**	18 43 14.8	+2.0
MOA					Sn	**Sn**	18 44 12.4	-0.4
AGG	**Agios Georgios**	**5.37**	**151**		*e*P	**Pn**	18 43 15.0	+0.5
CRVS	**Cervenica-Dubn**	**5.39**	**17**		*e*Pn	**Pn**	18 43 16.0	+1.2
CRVS					*e*Sg	**Sg**	18 44 49.8	+1.5
CRVS	**Cervenica-Dubn**	**5.39**	**17**		*e*PN	**Pn**	18 43 16.0	+1.2
CRVS					*e*SG	**Sg**	18 44 49.8	+1.5
ABTA	**Abfaltersbach**	**5.46**	**305**	⇓	*i*Pn	**Pn**	18 43 18.9	+3.1
	SNR=11							
ABTA	**Abfaltersbach**	**5.46**	**305**		Pn	**Pn**	18 43 18.9	+3.1
	SNR=11							
KOLS	**Kolonicke sedl**	**5.62**	**22**		*e*Pn	**Pn**	18 43 19.7	+1.7
KOLS					*e*Sg	**Sg**	18 44 54.1	-1.6
KOLS	**Kolonicke sedl**	**5.62**	**22**		*e*PN	**Pn**	18 43 19.7	+1.7
KOLS					*e*SG	**Sg**	18 44 54.1	-1.6
BURAR	**Bucovina Array**	**5.79**	**46**	⇓	*i*P	**Pn**	18 43 22.3	+1.9
BURAR	**Bucovina Array**	**5.79**	**46**	⇓	*i*P	**Pn**	18 43 22.3	+1.9
STHS	**Stebnicka Huta**	**5.84**	**14**		*e*Pn	**Pn**	18 43 23.1	+2.1
STHS	**Stebnicka Huta**	**5.84**	**14**		*e*PN	**Pn**	18 43 23.1	+2.1
VRI	**Vrincioaia**	**5.87**	**67**		*e*P	Pn	18 43 25.9	+4.6
ALN	**Alexandroupoli**	**5.96**	**117**		*e*P	Pn	18 43 26.7	+4.2
EDRB	**Edirne**	**6.01**	**106**		*e*P	Pn	18 43 27.3	+4.1
TREC	**Trest**	**6.03**	**337**		*e*SN	**Sn**	18 44 30.9	-1.1
TREC					AMS	AMS	18 45 50.0	
	comp=Z,200nm,6.1s							
TREC	**Trest**	**6.03**	**337**		Sn	**Sn**	18 44 30.9	-1.1
MORC	**Moravsky Berou**	**6.08**	**351**	⇑	*i*P	**Pn**	18 43 26.3	+2.0
MORC	**Moravsky Berou**	**6.08**	**351**		S	**Sn**	18 44 31.9	-1.5
MORC	**Moravsky Berou**	**6.08**	**351**		*e*Sn	**Sn**	18 44 32.2	-1.2
OKC	**Ostrava-Krasne**	**6.09**	**355**		*e*SN	**Sn**	18 44 31.6	-1.8
OKC	**Ostrava-Krasne**	**6.09**	**355**		Sn	**Sn**	18 44 31.6	-1.8
WTTA	**Wattenberg**	**6.24**	**306**	⇓	*i*Pn	**Pn**	18 43 29.1	+2.5
	SNR=12							
WATA	**Walderalm**	**6.32**	**307**	⇑	*i*Pn	**Pn**	18 43 29.8	+2.3
	SNR=14							
KHC	**Kasperske Hory**	**6.53**	**327**		*e*PN	**Pn**	18 43 32.7	+2.2
KHC					*e*PB	**Pb**	18 43 49.7	+1.3
KHC					*e*SN	**Sn**	18 44 43.3	-1.2
KHC					*e*x	x	18 44 56.3	
MOTA	**Moosalm**	**6.60**	**305**	⇓	*i*Pn	**Pn**	18 43 33.8	+2.4
	SNR=30							
FETA	**Feichten**	**6.67**	**302**	⇓	*i*Pn	Pn	18 43 35.7	+3.2
GOPC	**GO Pecny, Ondr**	**6.78**	**336**		*e*SN	**Sn**	18 44 48.4	-2.2
GOPC					*e*x	x	18 45 01.3	
GOPC	**GO Pecny, Ondr**	**6.78**	**336**		Sn	**Sn**	18 44 48.4	-2.2
TIRR	**Tirgusor**	**6.80**	**81**		*e*P	Pn	18 43 38.3	+4.3
DPC	**Dobruska-Polom**	**6.82**	**345**		*e*PN	**Pn**	18 43 35.8	+1.4
DPC					*e*PB	**Pb**	18 43 55.3	+2.0
DPC					*e*SN	**Sn**	18 44 49.3	-2.3
DPC	**Dobruska-Polom**	**6.82**	**345**		Pn	**Pn**	18 43 35.8	+1.4
DPC					Sn	**Sn**	18 44 49.3	-2.3
PRU	**Pruhonice**	**6.92**	**335**	⇓	*e*SN	**Sn**	18 44 51.0	-3.0
PRU					*e*x	x	18 45 03.3	
PRU					AMS	AMS	18 46 30.0	
	comp=Z,200nm,6.2s							
PRU	**Pruhonice**	**6.92**	**335**		Sn	**Sn**	18 44 51.0	-3.0
DAVA	**Damuels**	**7.31**	**302**	⇓	*i*Pn	**Pn**	18 43 43.8	+2.6
PGF	**Pioggiola**	**7.42**	**264**		*e*Pn	**Pn**	18 43 42.3	-0.5
PGF	**Pioggiola**	**7.42**	**264**		*e*Pn	**Pn**	18 43 42.3	-0.5
BRG	**Berggiesshubel**	**7.88**	**336**		SG	Sb	18 45 36.5	-8.3
	comp=Z,1.7nm,0.6s							
SBF	**Sospel**	**8.37**	**275**		*e*Pn	**Pn**	18 43 54.9	-0.8
SBF	**Sospel**	**8.37**	**275**		*e*Pn	**Pn**	18 43 54.9	-0.8
CLL	**Collm**	**8.55**	**334**		*e*Sg	Sn	18 45 58.0	+24
MBDF	**Montbardon**	**8.84**	**280**		*e*Pn	**Pn**	18 44 01.4	-0.8
MBDF					*e*Sn	**Sn**	18 45 36.5	-4.9
	comp=Z,8.2nm,0.8s							
MBDF	**Montbardon**	**8.84**	**280**		*e*Pn	**Pn**	18 44 01.4	-0.8
LPG	**La Plagne**	**8.91**	**285**		*e*Pn	**Pn**	18 44 02.4	-0.9
LPG					*e*Sn	**Sn**	18 45 37.9	-5.4
	comp=Z,6.8nm,0.7s							
LPG	**La Plagne**	**8.91**	**285**		*e*Pn	**Pn**	18 44 02.4	-0.9
LPL	**La Plagne**	**8.93**	**285**		*e*Pn	**Pn**	18 44 02.6	-0.9
LPL					*e*Sn	**Sn**	18 45 38.3	-5.3
	comp=Z,14nm,0.8s							
LPL	**La Plagne**	**8.93**	**285**		*e*Pn	**Pn**	18 44 02.6	-0.9
FRF	**La Foret Royal**	**8.97**	**273**		*e*Pn	**Pn**	18 44 03.1	-0.7
FRF	**La Foret Royal**	**8.97**	**273**		*e*Pn	**Pn**	18 44 03.1	-0.7
LMR	**La Mourre**	**9.09**	**271**		*e*Pn	**Pn**	18 44 04.5	-1.0
LMR	**La Mourre**	**9.09**	**271**		*e*Pn	**Pn**	18 44 04.5	-1.0
CDF	**Champ du Feu**	**9.37**	**304**		*e*Pn	**Pn**	18 44 08.1	-1.4
CDF	**Champ du Feu**	**9.37**	**304**		*e*Pn	**Pn**	18 44 08.1	-1.4
HINF	**Hinteralfeld**	**9.40**	**300**		*e*Pn	**Pn**	18 44 08.5	-1.3
HINF	**Hinteralfeld**	**9.40**	**300**		*e*Pn	**Pn**	18 44 08.5	-1.3
ORIF	**Oris-en-Rattie**	**9.48**	**281**		*e*Pn	**Pn**	18 44 09.9	-1.0
ORIF					*e*Sn	**Sn**	18 45 51.6	-5.4
	comp=Z,8.1nm,0.8s							
ORIF	**Oris-en-Rattie**	**9.48**	**281**		*e*Pn	**Pn**	18 44 09.9	-1.0
CABF	**La Chapelle**	**9.55**	**292**		*e*Pn	**Pn**	18 44 10.8	-1.1
CABF	**La Chapelle**	**9.55**	**292**		*e*Pn	**Pn**	18 44 10.8	-1.1
SMRF	**Simiane la Rot**	**9.71**	**276**		*e*Pn	**Pn**	18 44 13.1	-0.9
SMRF	**Simiane la Rot**	**9.71**	**276**		*e*Pn	**Pn**	18 44 13.1	-0.9
HAU	**Haudompre**	**9.79**	**300**		*e*Pn	**Pn**	18 44 13.7	-1.3
HAU	**Haudompre**	**9.79**	**300**		*e*Pn	**Pn**	18 44 13.7	-1.3
VIVF	**Saint-Julien-l**	**10.34**	**281**		*e*Pn	**Pn**	18 44 21.6	-1.0
VIVF	**Saint-Julien-l**	**10.34**	**281**		*e*Pn	**Pn**	18 44 21.6	-1.0
PAGF	**Fort de Pagny**	**10.38**	**302**		*e*Pn	**Pn**	18 44 21.7	-1.4
	baz=117							
PAGF	**Fort de Pagny**	**10.38**	**302**		*e*Pn	**Pn**	18 44 21.7	-1.4
SFTF	**Sexfontaines**	**10.68**	**299**		*e*Pn	**Pn**	18 44 25.8	-1.4
	baz=122							
SFTF	**Sexfontaines**	**10.68**	**299**		*e*Pn	**Pn**	18 44 25.8	-1.4
MEZF	**Maizieres J'vi**	**10.77**	**301**		*e*Pn	**Pn**	18 44 27.1	-1.4
MEZF	**Maizieres J'vi**	**10.77**	**301**		*e*Pn	**Pn**	18 44 27.1	-1.4
LASF	**Ste Croix**	**10.94**	**277**		*e*Pn	**Pn**	18 44 29.7	-1.1
LASF	**Ste Croix**	**10.94**	**277**		*e*Pn	**Pn**	18 44 29.7	-1.1
SMF	**Signal de Mont**	**11.08**	**290**		*e*Pn	**Pn**	18 44 31.6	-1.2
SMF	**Signal de Mont**	**11.08**	**290**		*e*Pn	**Pn**	18 44 31.6	-1.2
LOR	**Lormes**	**11.19**	**293**		*e*Pn	**Pn**	18 44 32.9	-1.3
	baz=112							
LOR	**Lormes**	**11.19**	**293**		*e*Pn	**Pn**	18 44 32.9	-1.3
SSF	**Saint Saulge**	**11.38**	**292**		*e*Pn	**Pn**	18 44 35.5	-1.4
SSF	**Saint Saulge**	**11.38**	**292**		*e*Pn	**Pn**	18 44 35.5	-1.4
BGF	**Bois d'Agland**	**11.74**	**289**		*e*Sn	Sn	18 46 45.3	-7.1
	comp=Z,3.7nm,0.4s							

IDC 13 18:54:03.9±1.4,**27°69′S**×**69°49′W**,**h0**km,**mb3.5**/2,
mb1 3.9/3,**mb1mx3.7**/16,**mbtmp3.6**/3,**ML3.8**/1,**Error ellipse: s-maj=54.1km s-min=45.1km az=70.0,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**11.42**	**7**	Pn	Pn	18 56 50.3	+1.3
	0.3nm,0.3s,baz=186,slow=11,SNR=5.5						
TXAR	**Lajitas Array**	**65.46**	**327**	P	P	19 04 48.9	0.0
	0.2nm,0.7s,baz=134,slow=7.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**79.98**	**69**	P	P	19 06 15.8	+0.4
	0.5nm,0.7s,baz=250,slow=4.5,SNR=6.6						
ASAR	**Alice Springs**	**124.17**	**206**	PKP	PKPdf	19 13 05.7	+0.5
	0.2nm,0.6s,baz=148,slow=2.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**147.70**	**29**	PKPbc	PKPdf	19 13 47.8	+0.5
	0.8nm,0.6s,baz=304,slow=3.4,SNR=5.1						
MKAR	**Makanchi Array**	**150.78**	**42**	PKPbc	PKPbc	19 13 57.8	-0.4
	0.8nm,0.7s,baz=331,slow=2.3,SNR=12						

IDC 13 19:08:16.5±2.6,**5°96′S**×**149°91′E**,**h0**km,**mb3.5**/3,
mb1 3.7/4,**mb1mx3.4**/19,**mbtmp3.6**/4,**ML2.7**/1,**Error ellipse: s-maj=78.2km s-min=36.8km az=115.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.38**	**218**	Pn	Pn	19 09 26.0	+1.7
	3.0nm,0.3s,baz=30,slow=14,SNR=33						
PMG				Sn	Sn	19 10 15.9	-0.1
	3.6nm,0.3s,baz=198,slow=14,SNR=4.0						

WRA	**Warramunga Arr**	**20.55**	**226**		P	P	19 12 57.5	+0.6
	3.2nm,0.7s,baz=52,slow=11,SNR=37							
ASAR	**Alice Springs**	**23.39**	**220**		P	P	19 13 25.9	-1.4
	0.5nm,0.7s,baz=57,slow=9.8,SNR=6.9							
STKA	**Stephens Creek**	**26.93**	**196**		P	P	19 13 59.9	+0.2
	0.9nm,0.8s,baz=22,slow=14,SNR=4.1							
TORD	**Torodi Ar. Bea**	**147.88**	**285**		PKPbc	PKPbc	19 28 04.0	-0.7
	0.5nm,0.

KALE	Kalithea	2.38	13	P	Pb	19 25 41.0	-1.9
KALE	Kalithea	2.38	13	ePB	Pb	19 25 40.2	-2.7
KALE				eSN	Sb	19 26 08.8	-3.0
KALE	Kalithea	2.38	13	ePb	Pb	19 25 40.2	-2.7
KALE	Kalithea	2.38	13	P	Pb	19 25 41.0	-1.9
KALE				eSn	Sb	19 26 08.8	-3.0
EFP	Efpalio	2.38	8	P	Pb	19 25 41.8	-1.1
EFP	Efpalio	2.38	8	ePB	Pb	19 25 40.2	-2.7
EFP	Efpalio	2.38	8	ePb	Pb	19 25 40.2	-2.7
EFP	Efpalio	2.38	8	P	Pb	19 25 41.8	-1.1
PDO	Prodromos	2.54	355	P	Pb	19 25 43.7	-1.9
PDO	Prodromos	2.54	355	ePB	Pb	19 25 42.4	-3.2
PDO	Prodromos	2.54	355	ePb	Pb	19 25 42.4	-3.2
PDO	Prodromos	2.54	355	P	Pb	19 25 43.7	-1.9
PVO	Paravola	2.54	1	P	Pb	19 25 44.6	-1.1
PVO	Paravola	2.54	1	P	Pb	19 25 44.6	-1.1
ATH	Athens Observa	2.61	43	ePN	Pn	19 25 42.6	+1.1
ATH	Athens Observa	2.61	43	ePn	Pn	19 25 42.6	+1.1
ATHU	Athens Univers	2.64	44	P	Pb	19 25 44.4	-3.0
ATHU				S	Sn	19 26 14.2	+0.8
ATHU	Athens Univers	2.64	44	P	Pb	19 25 44.4	-3.0
ATHU				S	Sn	19 26 14.2	+0.8
PTL	Penteli	2.75	43	P	Pn	19 25 44.2	+0.8
PTL				S	Sn	19 26 16.1	+0.2
PTL	Penteli	2.75	43	ePN	Pn	19 25 44.0	+0.6
PTL	Penteli	2.75	43	P	Pn	19 25 44.2	+0.8
PTL				S	Sn	19 26 16.1	+0.2
LKD2	Lefkada island	2.79	347	P	Pb	19 25 47.9	-2.0
LKD2	Lefkada island	2.79	347	ePN	Pn	19 25 45.7	+1.6
LKD2	Lefkada island	2.79	347	ePn	Pn	19 25 45.7	+1.6
LKD2	Lefkada island	2.79	347	P	Pb	19 25 47.9	-2.0
LKR	Lokris	2.85	25	P	Pb	19 25 45.3	+0.5
LKR	Lokris	2.85	25	ePN	Pn	19 25 45.2	+0.5
LKR	Lokris	2.85	25	P	Pn	19 25 45.3	+0.5
AXAR	Agios Charalam	2.85	19	P	Pb	19 25 47.7	-3.2
AXAR	Agios Charalam	2.85	19	P	Pb	19 25 47.7	-3.2
EVR	Evrytania	2.86	5	P	Pb	19 25 48.8	-2.2
EVR	Evrytania	2.86	5	ePB	Pb	19 25 47.4	-3.6
EVR	Evrytania	2.86	5	ePb	Pb	19 25 47.4	-3.6
EVR	Evrytania	2.86	5	P	Pb	19 25 48.8	-2.2
IDI	Anoyia	2.88	105	Pn	Pn	19 25 46.0	+0.7
	3.9nm,0.3s,baz=305,slow=14,SNR=10						
IDI				Sn	Sn	19 26 20.0	+0.7
	17nm,0.3s,baz=52,slow=14,SNR=5.7						
SIVA	Sivas	2.91	110	ePN	Pn	19 25 45.8	+0.2
SIVA	Sivas	2.91	110	ePn	Pn	19 25 45.8	+0.2
MAKR	Makrakomi, Fth	2.98	10	P	Pb	19 25 50.3	-2.9
MAKR	Makrakomi, Fth	2.98	10	ePB	Pb	19 25 49.7	-3.5
MAKR	Makrakomi, Fth	2.98	10	ePb	Pb	19 25 49.7	-3.5
MAKR	Makrakomi, Fth	2.98	10	P	Pb	19 25 50.3	-2.9
AGG	Agios Georgios	3.02	13	P	Pn	19 25 49.3	+2.0
AGG	Agios Georgios	3.02	13	eP	Pn	19 25 48.9	+1.7
AGG	Agios Georgios	3.02	13	ePN	Pn	19 25 48.7	+1.4
AGG	Agios Georgios	3.02	13	P	Pn	19 25 49.3	+2.0
DSL	Palaion Diasel	3.08	354	P	Pb	19 25 50.9	-3.9
DSL	Palaion Diasel	3.08	354	P	Pb	19 25 50.9	-3.9
MRKA	Markates	3.12	32	P	Pn	19 25 49.2	+0.6
MRKA	Markates	3.12	32	ePN	Pn	19 25 49.1	+0.5
MRKA	Markates	3.12	32	P	Pn	19 25 49.2	+0.6
SMIA	Simia	3.12	26	P	Pn	19 25 49.6	+1.0
SMIA	Simia	3.12	26	ePN	Pn	19 25 49.5	+1.0
SMIA	Simia	3.12	26	P	Pn	19 25 49.6	+1.0
THR5	Thira Island,	3.15	83	eP	Pn	19 25 49.2	+0.3
THR5	Thira Island,	3.15	83	eP	Pn	19 25 49.2	+0.3
SANT	Santorini	3.23	83	ePN	Pn	19 25 51.9	+1.8
SANT	Santorini	3.23	83	ePn	Pn	19 25 51.9	+1.8
SANT	Santorini	3.23	83	ePn	Pn	19 25 49.4	-0.7
THR1	Thera Island	3.23	83	eP	Pn	19 25 50.4	+0.3
THR1	Thera Island	3.23	83	eP	Pn	19 25 50.4	+0.3
LAST	Lasithi	3.38	104	ePN	Pn	19 25 52.9	+0.7
LAST	Lasithi	3.38	104	ePn	Pn	19 25 52.9	+0.7
APE	Apeiranthos	3.41	72	P	Pn	19 25 52.7	+0.1
APE	Apeiranthos	3.41	72	eP	Pn	19 25 52.7	+0.1
APE	Apeiranthos	3.41	72	ePN	Pn	19 25 53.6	+1.0
APE	Apeiranthos	3.41	72	⇑iP	Pn	19 25 52.9	+0.3
APE	Apeiranthos	3.41	72	P	Pn	19 25 52.7	+0.1
APE	Apeiranthos	3.41	72	ePn	Pn	19 25 53.6	+1.0
NPS	Neapolis	3.46	102	ePN	Pn	19 25 53.4	+0.2
NPS	Neapolis	3.46	102	ePn	Pn	19 25 53.4	+0.2
SKIA	Skiathos	3.47	26	ePN	Pn	19 25 54.1	+0.7
SKIA	Skiathos	3.47	26	ePn	Pn	19 25 54.1	+0.7
NEO	Neokhori	3.52	23	P	Pn	19 25 54.9	+0.9
NEO	Neokhori	3.52	23	ePN	Pn	19 25 54.6	+0.6
NEO	Neokhori	3.52	23	ePn	Pn	19 25 54.6	+0.6
NEO	Neokhori	3.52	23	P	Pn	19 25 54.9	+0.9
THL	Klokotos Trika	3.52	7	ePN	Pn	19 25 55.6	+1.6
THL	Klokotos Trika	3.52	7	ePn	Pn	19 25 55.6	+1.6
XOR	Xorichti	3.56	22	P	Pn	19 25 55.1	+0.5
XOR	Xorichti	3.56	22	ePN	Pn	19 25 55.2	+0.6
XOR	Xorichti	3.56	22	ePn	Pn	19 25 55.2	+0.6
IGT	Igoumenitsa	3.58	346	ePN	Pn	19 25 56.7	+1.9
IGT				eSN	Sn	19 26 38.1	+1.8
IGT	Igoumenitsa	3.58	346	ePn	Pn	19 25 56.7	+1.9
IGT				eSn	Sn	19 26 38.1	+1.8
JAN	Janina	3.62	352	P	Pn	19 25 58.1	+2.7
JAN	Janina	3.62	352	ePN	Pn	19 25 57.8	+2.4
JAN	Janina	3.62	352	ePn	Pn	19 25 57.8	+2.4
JAN	Janina	3.62	352	P	Pn	19 25 58.1	+2.7
AOS	Alonnisos	3.64	31	P	Pn	19 25 55.9	+0.2
AOS	Alonnisos	3.64	31	eP	Pn	19 25 56.1	+0.5
AOS	Alonnisos	3.64	31	ePN	Pn	19 25 55.9	+0.3
AOS	Alonnisos	3.64	31	ePn	Pn	19 25 55.9	+0.3
KEK	Kerkira	3.87	340	ePN	Pn	19 26 00.4	+1.5
KEK				eSN	Sn	19 26 45.2	+1.5
KEK	Kerkira	3.87	340	ePn	Pn	19 26 00.4	+1.5
KEK				eSn	Sn	19 26 45.2	+1.5
ZKR	Zakros	3.98	102	ePN	Pn	19 26 01.3	+1.0
ZKR	Zakros	3.98	102	ePn	Pn	19 26 01.3	+1.0
LIT	Litokhoron	4.10	11	P	Pn	19 26 03.9	+1.9
LIT	Litokhoron	4.10	11	ePN	Pn	19 26 04.0	+1.9
LIT	Litokhoron	4.10	11	ePn	Pn	19 26 04.5	+2.4
LIT	Litokhoron	4.10	11	P	Pn	19 26 03.9	+1.9
PAIG	Paliouri	4.23	24	P	Pn	19 26 04.6	+0.9
PAIG	Paliouri	4.23	24	ePN	Pn	19 26 04.7	+1.0
PAIG	Paliouri	4.23	24	ePn	Pn	19 26 04.7	+1.0
KZN	Kozani	4.24	3	P	Pn	19 26 06.8	+2.8
KZN	Kozani	4.24	3	ePN	Pn	19 26 06.6	+2.6
KZN				eSN	Sn	19 26 54.7	+1.9
KZN	Kozani	4.24	3	ePn	Pn	19 26 06.6	+2.6
KZN				eSn	Sn	19 26 54.7	+1.9
CHOS	Chios island	4.32	56	eP	Pn	19 26 05.6	+0.5
CHOS	Chios island	4.32	56	ePN	Pn	19 26 06.6	+1.5
CHOS	Chios island	4.32	56	eP	Pn	19 26 05.6	+0.5
CHOS	Chios island	4.32	56	ePn	Pn	19 26 06.6	+1.5
NEST	Nestorio	4.35	356	P	Pn	19 26 08.7	+3.1
NEST	Nestorio	4.35	356	ePN	Pn	19 26 08.5	+2.9
NEST	Nestorio	4.35	356	ePn	Pn	19 26 08.5	+2.9
PLG	Polygyros	4.57	19	P	Pn	19 26 10.6	+2.1
PLG	Polygyros	4.57	19	ePN	Pn	19 26 10.4	+1.9
PLG	Polygyros	4.57	19	ePn	Pn	19 26 10.4	+1.9
SIGR	SIGRI	4.68	47	eP	Pn	19 26 10.9	+0.9
SIGR	SIGRI	4.68	47	eP	Pn	19 26 10.9	+0.9
OUR	Ouranopolis	4.69	24	eP	Pn	19 26 12.1	+2.0
OUR	Ouranopolis	4.69	24	ePN	Pn	19 26 11.3	+1.2
OUR	Ouranopolis	4.69	24	ePn	Pn	19 26 11.3	+1.2
OUR	Ouranopolis	4.69	24	eP	Pn	19 26 12.1	+2.0
HORT	Hortiatis	4.70	15	ePN	Pn	19 26 11.9	+1.6
HORT	Hortiatis	4.70	15	ePn	Pn	19 26 11.9	+1.6
THE	Thessaloniki	4.70	14	ePN	Pn	19 26 11.9	+1.6
THE	Thessaloniki	4.70	14	ePn	Pn	19 26 11.9	+1.6
FNA	Florina	4.71	359	eP	Pn	19 26 12.4	+2.0
FNA	Florina	4.71	359	ePN	Pn	19 26 12.4	+2.0
FNA				eSN	Sn	19 27 05.0	+0.6
FNA	Florina	4.71	359	eP	Pn	19 26 12.4	+2.0
FNA				eSn	Sn	19 27 05.0	+0.6
BODT	Bodrum	4.80	76	eP	Pn	19 26 12.7	+1.1
BODT	Bodrum	4.80	76	eP	Pn	19 26 12.7	+1.1
TIP	Timpagrande	4.87	311	ePn	Pn	19 26 14.5	+1.9
TIP	Timpagrande	4.87	311	ePn	Pn	19 26 14.5	+1.9
TIP				eSn	Sn	19 27 02.3	-5.9
CEL	Celeste	4.97	298	ePn	Pn	19 26 16.4	+2.4
	42nm,0.6s						
CEL	Celeste	4.97	298	ePn	Pn	19 26 16.4	+2.4
	42nm,0.6s						
CEL				eSn	Sn	19 27 07.2	-3.6
SOH	Sokhos	4.97	17	P	Pn	19 26 16.0	+2.0
SOH	Sokhos	4.97	17	ePN	Pn	19 26 15.9	+2.0
SOH	Sokhos	4.97	17	ePn	Pn	19 26 15.9	+2.0
KNT	Kendrikon	5.21	12	ePN	Pn	19 26 19.2	+2.0
KNT	Kendrikon	5.21	12	ePn	Pn	19 26 19.2	+2.0
SRS	Serrai	5.31	18	ePN	Pn	19 26 20.1	+1.5
SRS	Serrai	5.31	18	ePn	Pn	19 26 20.1	+1.5
PE1	Pezze di Greco	5.70	327	ePn	Pn	19 26 26.0	+2.0
MMB	Musomiste	5.79	17	⇓iP	Pn	19 26 27.0	+1.8
MMB	Musomiste	5.79	17	⇓iP	Pn	19 26 27.0	+1.8
DALY	Dalyan (Mu¨la	5.83	81	eP	Pn	19 26 27.5	+1.7
DALY	Dalyan (Mu¨la	5.83	81	eP	Pn	19 26 27.5	+1.7
GELI	Tayfur-Gelibol	5.84	41	eP	Pn	19 26 27.3	+1.4
GELI	Tayfur-Gelibol	5.84	41	eP	Pn	19 26 27.3	+1.4
CUC	Castrocucco	5.94	313	ePn	Pn	19 26 30.6	+3.2
	12nm,0.5s						
CUC	Castrocucco	5.94	313	ePn	Pn	19 26 30.6	+3.2
	12nm,0.5s						
CUC				eSn	Sn	19 27 29.8	-5.0
ALN	Alexandroupoli	6.00	35	eP	Pn	19 26 30.4	+2.2
ALN	Alexandroupoli	6.00	35	eP	Pn	19 26 30.4	+2.2
ERIK	Erikli-Kesan	6.06	39	eP	Pn	19 26 30.5	+1.6
ERIK	Erikli-Kesan	6.06	39	eP	Pn	19 26 30.5	+1.6
SG1	Sgolgore (BA)	6.07	323	ePn	Pn	19 26 32.3	+3.2
ULC	Ulcinj	6.14	344	⇑iPn	Pn	19 26 30.3	+0.3
ULC				eSn	Sn	19 27 35.0	-4.5
ULC	Ulcinj	6.14	344	⇑iPn	Pn	19 26 30.3	+0.3
FETY	Fethiye	6.16	82	eP	Pn	19 26 32.1	+1.7
FETY	Fethiye	6.16	82	eP	Pn	19 26 32.1	+1.7
BAI	Bari	6.19	326	ePn	Pn	19 26 33.2	+2.6
DRME	Dracevica, Mon	6.37	344	⇓iPn	Pn	19 26 34.2	+1.1
DRME				eSn	Sn	19 27 41.0	-4.1
DRME	Dracevica, Mon	6.37	344	⇓iPn	Pn	19 26 34.2	+1.1
CDT	Castel del Mon	6.46	322	ePn	Pn	19 26 36.0	+1.6
BUM	Brajici-Budva	6.54	343	⇓iPn	Pn	19 26 36.0	+0.4
BUM				eSn	Sn	19 27 45.0	-4.5
BUM	Brajici-Budva	6.54	343	⇓iPn	Pn	19 26 36.0	+0.4
PDG	Podgorica	6.58	345	⇑iPn	Pn	19 26 36.6	+0.5
TTG	Podgorica	6.58	345	⇑iPn	Pn	19 26 36.6	+0.5
TTG				eSn	Sn	19 27 45.9	-4.5
PVY	Plav	6.62	350	⇓iPn	Pn	19 26 38.2	+1.4
PVY				eSn	Sn	19 27 47.6	-4.0
PVY	Plav	6.62	350	⇓iPn	Pn	19 26 38.2	+1.4
VTS	Vitosha	6.65	11	⇑iP	Pn	19 26 39.7	+2.5
VTS	Vitosha	6.65	11	⇑iP	Pn	19 26 39.7	+2.5
BARS	Barje	6.75	2	⇑iPn	Pn	19 26 39.4	+1.1
HCY	Herceg Novi	6.78	341	⇑iPn	Pn	19 26 39.0	+0.2
HCY				eSn	Sn	19 27 50.7	-4.5
HCY	Herceg Novi	6.78	341	⇑iPn	Pn	19 26 39.0	+0.2
ELL	Elmali	6.83	82	eP	Pn	19 26 41.0	+1.4
ELL	Elmali	6.83	82	eP	Pn	19 26 41.0	+1.4
BEY	Berane	6.91	350	ePn	Pn	19 26 41.8	+1.2
IVA	Berane	6.91	350	ePn	Pn	19 26 41.8	+1.2
IVA				eSn	Sn	19 27 54.1	-4.4
NKME	Niksic	6.97	344	⇓iPn	Pn	19 26 42.1	+0.7
NKME				eSn	Sn	19 27 55.6	-4.4
NKME	Niksic	6.97	344	⇓iPn	Pn	19 26 42.1	+0.7
NKY	Niksic	7.00	345	⇓iPn	Pn	19 26 42.9	+0.9
NKY				eSn	Sn	19 27 56.1	-4.9
NKY	Niksic	7.00	345	⇓iPn	Pn	19 26 42.9	+0.9
EDRB	Edirne	7.08	34	eP	Pn	19 26 44.1	+1.2
EDRB	Edirne	7.08	34	eP	Pn	19 26 44.1	+1.2
STON	Ston	7.40	338	ePn	Pn	19 26 47.0	-0.2
STON				Sn	Sn	19 28 01.5	-8.9
STON	Ston	7.40	338	ePn	Pn	19 26 47.0	-0.2
UPM	Unac-Piva	7.40	345	⇓iPn	Pn	19 26 48.8	+1.4
UPM				eSn	Sn	19 28 05.9	-4.8
UPM	Unac-Piva	7.40	345	⇓iPn	Pn	19 26 48.8	+1.4
PLE	Pljevlja	7.43	348	⇑iPn	Pn	19 26 48.5	+0.7
PLE				eSn	Sn	19 28 06.9	-4.5
PLE	Pljevlja	7.43	348	⇑iPn	Pn	19 26 48.5	+0.7
IVAS	Ivanjica	7.57	353	*i* Pn	Pn	19 26 50.0	+0.3
BOLS	Boljevac	7.76	3	ePn	Pn	19 26 51.3	-0.9
GRUS	Gruza	7.83	356	ePn	Pn	19 26 53.6	+0.4
BBLS	Lazići	7.95	349	ePn	Pn	19 26 55.7	+0.8
DIVS	Divibare	8.10	352	⇑iPn	Pn	19 26 56.6	-0.4
TEKS	Tekeris	8.60	351	*i* Pn	Pn	19 27 03.2	-0.6
FGSL	Fruska Gora	9.17	353	⇓iPn	Pn	19 27 10.9	-0.7
GZR	Gura Zlata	9.37	6	⇓iPn	Pn	19 27 15.9	+1.6
GZR	Gura Zlata	9.37	6	⇓iPn	Pn	19 27 15.9	+1.6
MSAB	Monastry St. A	9.37	29	⇑iP	Pn	19 27 17.1	+2.8
MSAB	Monastry St. A	9.37	29	⇑iP	Pn	19 27 17.1	+2.8
UDBI	Udbina	9.51	334	ePn	Pn	19 27 15.2	-1.1
UDBI				Sn	Sn	19 28 56.0	-6.4
BZS	Buzias	9.54	1	eP	Pn	19 27 18.7	+2.1
BZS	Buzias	9.54	1	⇓iP	Pn	19 27 18.2	+1.6
BZS	Buzias	9.54	1	⇓iP	Pn	19 27 18.2	+1.6
CSS	Prodhromos	9.72	93	eP	Pn	19 27 20.6	+1.4
CSS	Prodhromos	9.72	93	eP	Pn	19 27 20.6	+1.4
VOIR		9.74	15	⇑iP	Pn	19 27 21.2	+1.7
VOIR		9.74	15	⇑iP	Pn	19 27 21.2	+1.7
LFK	Lefkose	9.84	91	eP	Pn	19 27 21.9	+1.1
LFK	Lefkose	9.84	91	eP	Pn	19 27 21.9	+1.1
KEST	Kesra	9.85	272	Pn	Pn	19 27 25.5	+4.5
	0.1nm,0.3s,baz=58,slow=15,SNR=3.2						
NVLJ	Novalja	9.87	331	ePn	Pn	19 27 22.1	+0.9
NVLJ				Sn	Sn	19 29 04.3	-6.8
NVLJ	Novalja	9.87	331	ePn	Pn	19 27 22.0	+0.9
TLB	Topalu	9.87	28	⇑iP	Pn	19 27 23.6	+2.5
TLB	Topalu	9.87	28	⇑iP	Pn	19 27 23.6	+2.5
MLR	Muntele Rosu	10.00	18	⇑iP	Pn	19 27 24.5	+1.4
MLR	Muntele Rosu	10.00	18	Pn	Pn	19 27 25.6	+2.6
	0.1nm,0.3s,baz=169,slow=6.3,SNR=12						
MLR				LR	LR	19 31 42.3	
	comp=Z,20nm,19.8s,baz=196,slow=41						
MLR	Muntele Rosu	10.00	18	⇑iP	Pn	19 27 24.5	+1.4
BRTR	Keskin Array B	10.28	66	Pn	Pn	19 27 29.4	+2.4
	0.1nm,0.3s,baz=255,slow=13,SNR=5.4						
PKSM	Moragy	10.36	349	⇓iP	Pn	19 27 26.3	-1.5
CFR	Carcaliu	10.41	27	⇑iP	Pn	19 27 30.3	+1.8
CFR	Carcaliu	10.41	27	⇑iP	Pn	19 27 30.3	+1.8
VRI	Vrincioaia	10.56	20	eP	Pn	19 27 32.5	+1.9
VRI	Vrincioaia	10.56	20	⇑iP	Pn	19 27 33.8	+3.2
VRI	Vrincioaia	10.56	20	eP	Pn	19 27 32.5	+1.9
GBRS	Gornja Briga	10.71	334	Pn	Pn	19 27 33.1	+0.3
DRGR		10.75	5	⇑iP	Pn	19 27 34.7	+1.4
DRGR		10.75	5	⇑iP	Pn	19 27 34.7	+1.4
SOKA	Soboth	11.65	337	⇑iPn	Pn	19 27 46.1	+0.5
SOKA				⇓iSn	Sn	19 29 46.2	-8.7
SOKA	Soboth	11.65	337	Pn	Pn	19 27 46.1	+0.5
BURAR	Bucovina Array	11.87	12	⇓iP	Pn	19 27 51.2	+2.6
BURAR	Bucovina Array	11.87	12	⇓iP	Pn	19 27 51.2	+2.6
MMAI	Mount Meron Ar	11.88	101	Pn	Pn	19 27 45.1	-3.7
	2.9nm,0.3s,baz=287,slow=10,SNR=5.9						
MMAI				Sn	Sn	19 29 50.2	-10
	2.1nm,0.3s,baz=312,slow=21,SNR=4.3						
PSZ	Piszkesteto	11.90	355	⇓iP	Pn	19 27 49.2	+0.2
PSZ	Piszkesteto	11.90	355	ePn	Pn	19 27 48.8	-0.2
	13nm,0.9s						
PSZ	Piszkesteto	11.90	355	⇓iP	Pn	19 27 49.2	+0.2
PSZ	Piszkesteto	11.90	355	ePn	Pn	19 27 48.8	-0.2
	13nm,0.9s						
PSZ				eSn	Sn	19 29 44.2	-17
ARSA	Arzberg	12.02	340	⇑iPn	Pn	19 27 49.8	-0.8
KBA	Koelnbreinsper	12.56	334	⇑iSn	Sn	19 30 07.5	-10
MOA	Molln	12.93	338	⇑iPn	Pn	19 28 03.9	+0.9
MOA				⇑iSn	Sn	19 30 16.7	-9.4
MOA	Molln	12.93	338	Pn	Pn	19 28 03.9	+0.9
FRF	La Foret Royal	13.63	308	eP	P	19 28 19.9	-1.3
	49nm,1.6s						
FRF	La Foret Royal	13.63	308	eP	P	19 28 19.9	-1.3
	49nm,1.6s						
DAVOX	Davos/Dischmat	13.78	325	Sn	Sn	19 30 43.9	-3.1
	0.6nm,0.3s,baz=321,slow=22,SNR=7.5						
DAVOX				LR	LR	19 34 55.6	
	comp=Z,25nm,19.6s,baz=104,slow=43						
TREC	Trest	13.93	344	AMS	AMS	19 34 40.0	
	comp=Z,300nm,18.5s						
GERES	GERESS Array B	13.99	338	Pn	Pn	19 28 17.3	-0.2
	0.1nm,0.3s,baz=160,slow=16,SNR=3.8						
GERES				Sn	Sn	19 30 43.1	-8.9
	0.3nm,0.3s,baz=153,slow=24,SNR=6.4						
GERES				LR	LR	19 35 13.7	
	comp=Z,123nm,18.0s,baz=110,slow=44						
MORC	Moravsky Berou	14.00	349	ePn	Pn	19 28 17.4	-0.2
MORC	Moravsky Berou	14.00	349	ePn	Pn	19 28 17.4	-0.2
MBDF	Montbardon	14.14	312	eP	P	19 28 26.7	-0.4
	16nm,1.2s						
MBDF	Montbardon	14.14	312	eP	P	19 28 26.7	-0.4
	16nm,1.2s						
MBDF	Montbardon	14.14	312	eP	P	19 28 26.7	-0.4
	16nm,1.2s						
KHC	Kasperske Hory	14.28	339	eP	P	19 28 31.8	+3.3
KHC				esP		19 28 39.6	
KHC				ex	x	19 28 52.3	
KHC				AMS	AMS	19 34 50.0	
	comp=Z,200nm,14.4s						
KHC	Kasperske Hory	14.28	339	P	P	19 28 31.8	+3.3
DPC	Dobruska-Polom	14.76	347	eP	P	19 28 33.7	-0.1
DPC				epP	Pn	19 28 44.5	+17
DPC				AMS	AMS	19 35 30.0	
DPC	Dobruska-Polom	14.76	347	P	P	19 28 33.7	-0.1
PRU	Pruhonice	14.80	342	AMS	AMS	19 35 20.0	
	comp=Z,200nm,13.4s						
CABF	La Chapelle	15.61	317	eP	P	19 28 45.6	+2.2
CABF	La Chapelle	15.61	317	eP	P	19 28 45.6	+2.2
CABF	La Chapelle	15.61	317	eP	P	19 28 45.6	+2.2
AKASG	Malin Array Be	15.66	19	Pn	Pn	19 28 36.9	-2.8
	0.7nm,0.3s,baz=209,slow=12,SNR=6.9						
CDF	Champ du Feu	16.18	324	eP	P	19 28 51.9	+2.3
	7.6nm,0.8s						
CDF	Champ du Feu	16.18	324	eP	P	19 28 51.9	+2.3
	7.6nm,0.8s						
CDF	Champ du Feu	16.18	324	eP	P	19 28 51.9	+2.3
	7.6nm,0.8s						
HAU	Haudompre	16.35	321	eP	P	19 28 56.5	+5.0
HAU	Haudompre	16.35	321	eP	P	19 28 56.5	+5.0
CLL	Collm	16.40	341	ePP	P	19 28 59.0	+7.0
SUW	Suwalki	17.98	3	eP	P	19 29 08.5	-0.9
	41nm,0.8s						
ETSF	Etsaut	18.30	299	eP	Pn	19 29 18.6	+5.5
ETSF	Etsaut	18.30	299	eP	Pn	19 29 18.6	+5.5
GNI	Garni	18.74	70	P	P	19 29 14.9	-3.1
	0.3nm,0.3s,baz=270,slow=12,SNR=2.9						
TAM	Tamanrasset	19.15	231	P	Pn	19 29 26.3	+2.7
TAM	Tamanrasset	19.15	231	P	Pn	19 29 26.3	+2.7
ESDC	Sonseca Array	20.38	288	P	Pn	19 29 39.5	+1.5
	0.7nm,0.6s,baz=86,slow=9.7,SNR=5.5						
MDT	Midelt	21.74	269	P	P	19 29 53.2	+2.5
	1.8nm,0.8s,baz=84,slow=12,SNR=3.6						
HFS	Hagfors	24.60	351	P	P	19 30 19.1	+0.1
	1.8nm,0.4s,baz=154,slow=12,SNR=20						
HFS				LR	LR	19 42 15.1	
	comp=Z,38nm,21.6s,baz=228,slow=42						
FINES	FINESS Array B	25.56	5	P	P	19 30 27.6	0.0
	0.6nm,0.3s,baz=167,slow=12,SNR=11						
EKA	Eskdalemuir Ar	25.60	327	P	P	19 30 29.4	+1.3
	0.6nm,0.5s,baz=136,slow=9.1,SNR=5.3						
NB2	NORSAR Subarra	25.83	349	P	P	19 30 30.4	+0.2
	comp=Z,2.5nm,0.9s,baz=156,slow=9.3						
NB2	NORSAR Subarra	25.83	349	P	P	19 30 30.4	+0.2
	comp=Z,2.5nm,0.9s,SNR=5.5						
NOA	NORSAR Array B	25.83	349	P	P	19 30 30.6	+0.4
	comp=Z,0.5nm,0.6s,baz=157,slow=9.2,SNR=5.3						
KAF	Kangasniemi	26.

*KRSC **13** 19:59:49.7±0.9, 55°.77N×164°.20E, h60km±20km, ML4.3*
*ISCJB **13** 19:59:52.1±0.4, 55°.74N±0°.03×164°.12E±0°.04, h39km±4km, mb4.0/22, MS4.7/1, Error ellipse: s-maj=5.0km s-min=4.0km az=14.9*
*MOS **13** 19:59:52.3±1.3, 55°.74N×164°.01E, h36km, mb4.2/19, Error ellipse: s-maj=12.2km s-min=8.2km az=69.3*
*NEIC **13** 19:59:53.3±2.8, 55°.88N×163°.87E, h26km±21km, mb4.0/3, Error ellipse: s-maj=14.3km s-min=7.0km az=148.0*
*IDC **13** 19:59:54.3±0.6, 55°.91N×163°.85E, h32km±4km, mb3.7/16, mb1 4.0/17, mb1mx3.8/34, mbtmp3.9/17, ML2.9/1, MS4.6/1, Ms1 4.6/1, ms1mx2.8/37, Error ellipse: s-maj=20.7km s-min=11.1km az=157.0*

ISC 13 19:59:53.6±0.5, 55°.81N±0°.04×163°.86E±0°.04, h30km±3km, h29km:pP-P,n114,σ1§18/144, mb4.0/22, 1C-5D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.71**	**304**		PN	**Pb**	**20 00 05.7**	**-1.8**
KBTR					S	**Sn**	**20 00 16.9**	**-0.6**
KBTR	**Krutoberegovo**	**0.71**	**304**	*eP*		**Pb**	**20 00 05.7**	**-1.8**
KBTR				*eS*		**Sn**	**20 00 16.9**	**-0.6**
BKI	**Bering**	**1.34**	**116**		PN	Pn	20 00 12.4	-3.9
BKI					S	Sn	20 00 27.7	-5.4
BKI	**Bering**	**1.34**	**116**	*eP*		Pn	20 00 12.4	-3.9
BKI				*eS*		Sn	20 00 27.7	-5.4
SMKR	**Semkarok**	**1.55**	**301**	*eP*		**Pn**	**20 00 19.5**	**+0.3**
SMKR				*eS*		**Sb**	**20 00 41.1**	**+0.3**
BDR	**Baidarnaya**	**1.67**	**298**	*eP*		**Pn**	**20 00 21.5**	**+0.7**
BDR				*eS*		**Sb**	**20 00 43.8**	**-0.5**
SRKR	**Sorokina**	**1.73**	**300**	*eP*		**Pn**	**20 00 22.4**	**+0.8**
SRKR				*eS*		**Sb**	**20 00 44.8**	**-1.1**
ZLN	**Zelenaya**	**1.73**	**278**	*eP*		**Pb**	**20 00 23.4**	**-1.4**
ZLN				*eS*		**Sb**	**20 00 46.6**	**+0.4**
MKZ	**Mys Kozlova**	**1.76**	**225**		PN	**Pn**	**20 00 20.8**	**-1.1**
MKZ					S	**Sn**	**20 00 42.6**	**-0.6**
MKZ	**Mys Kozlova**	**1.76**	**225**	*eP*		**Pn**	**20 00 20.8**	**-1.1**
MKZ				*eS*		**Sn**	**20 00 42.6**	**-0.6**
CIRR	**Tsirk**	**1.78**	**281**	*eP*		**Pb**	**20 00 23.8**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**1.79**	**275**	*eP*		**Pn**	**20 00 23.9**	**+1.4**
LGNR	**Loginova**	**1.81**	**280**	*eP*		**Pn**	**20 00 24.2**	**+1.3**
KLY	**Klyuchi**	**1.87**	**287**		PN	**Pn**	**20 00 23.2**	**-0.3**
KLY					S	**Sb**	**20 00 47.7**	**-2.3**
KLY	**Klyuchi**	**1.87**	**287**	*eP*		**Pn**	**20 00 23.2**	**-0.3**
KLY				*eS*		**Sb**	**20 00 47.7**	**-2.3**
KRSR	**Krestovskiy**	**1.90**	**284**	*eP*		**Pn**	**20 00 24.8**	**+0.8**
KRSR				*eS*		**Sb**	**20 00 49.6**	**-1.3**
BZWR	**Bezymyannyi-We**	**1.90**	**276**	*eP*		**Pb**	**20 00 25.9**	**-1.8**
BZWR				*eS*		**Sb**	**20 00 51.0**	**-0.1**
BZMR	**Bezymyannaya**	**1.91**	**275**	*eP*		**Pn**	**20 00 25.1**	**+0.9**
BZMR				*eS*		**Sb**	**20 00 49.5**	**-1.7**
KIRR	**Kirishev**	**1.99**	**276**	*eP*		**Pn**	**20 00 26.7**	**+1.4**
KIRR				*eS*		**Sb**	**20 00 53.0**	**-0.6**
KMNR	**Kamenistaya**	**2.05**	**270**	*eP*		**Pn**	**20 00 27.4**	**+1.3**
KPT	**Kopyto**	**2.06**	**276**	*eP*		**Pn**	**20 00 27.1**	**+0.9**
KPT				*eS*		**Sb**	**20 00 53.3**	**-2.2**
KZV	**Kizimen**	**2.15**	**252**	*eP*		**Pn**	**20 00 27.1**	**-0.4**
TUMR	**Tumrok**	**2.18**	**257**	*eP*		**Pn**	**20 00 29.5**	**+1.6**
TUMR				*eS*		**Sb**	**20 00 57.2**	**-1.8**
KOZR	**Kozyr**	**2.25**	**278**		PN	**Pb**	**20 00 31.0**	**-2.5**
KOZR					S	**Sb**	**20 01 00.4**	**-0.4**
KOZ	**Kozyrevsk**	**2.26**	**278**	*eP*		**Pn**	**20 00 31.0**	**+2.1**
KOZ				*eS*		**Sb**	**20 01 00.4**	**-0.8**
SRDR	**Sredinnyy**	**2.38**	**284**	*eP*		**Pn**	**20 00 32.5**	**+1.9**
SRDR				*eS*		**Sb**	**20 01 02.3**	**-2.4**
ESO	**Esso**	**2.91**	**274**		PN	**Pn**	**20 00 39.0**	**+1.1**
ESO	**Esso**	**2.91**	**274**	*eP*		**Pn**	**20 00 39.0**	**+1.1**
KII	**Karymskiy**	**3.11**	**237**	*eP*		**Pn**	**20 00 41.2**	**+0.6**
OSSR	**Ossora**	**3.48**	**353**	*eP*		**Pn**	**20 00 44.4**	**-1.1**
OSSR				*eS*		**Sn**	**20 01 23.1**	**-2.5**
SPN	**Mys Shipunski**	**3.52**	**221**		PN	**Pn**	**20 00 44.7**	**-1.6**
SPN	**Mys Shipunski**	**3.52**	**221**	*eP*		**Pn**	**20 00 44.6**	**-1.7**
NLC	**Nalytchevo**	**3.73**	**227**		PN	**Pn**	**20 00 48.9**	**-0.2**
NLC					S	**Sn**	**20 01 31.5**	**-0.5**
NLC	**Nalytchevo**	**3.73**	**227**	*eP*		**Pn**	**20 00 48.9**	**-0.2**
NLC				*eS*		**Sn**	**20 01 31.5**	**-0.5**
SDLR	**Sedlovina**	**3.85**	**231**	*i P*		**Pn**	**20 00 51.6**	**+0.7**
KRER	**Koryakskii**	**3.90**	**232**	*eP*		**Pn**	**20 00 52.4**	**+0.8**
SMAR	**Somma**	**3.90**	**231**	*eP*		**Pn**	**20 00 52.4**	**+0.8**
KRX	**Arik**	**3.91**	**233**	*eP*		**Pn**	**20 00 52.1**	**+0.5**
AVH	**Avacha**	**3.93**	**232**	*eP*		**Pn**	**20 00 52.9**	**+1.0**
UGLR	**Uglovaya**	**3.93**	**230**	*eP*		**Pn**	**20 00 52.7**	**+0.8**
KOK	**Koryaka**	**3.96**	**232**	*eP*		**Pn**	**20 00 53.1**	**+0.8**
GNL	**Ganaly**	**4.03**	**241**	*eP*		**Pn**	**20 00 54.6**	**+1.2**
PET	**Petropavlovsk**	**4.13**	**230**	*e*PN		**Pn**	**20 00 54.8**	**+0.2**
PET					MLR	MLR		
	comp=Z,200nm,14.0s							
PET	**Petropavlovsk**	**4.13**	**230**	*eP*		**Pn**	**20 00 55.2**	**+0.6**
PET	**Petropavlovsk**	**4.13**	**230**	*e*Pn		**Pn**	**20 00 55.1**	**+0.5**
PETK	**Petropavlovsk-**	**4.50**	**236**		PN	**Pn**	**20 01 00.6**	**+0.9**
PETK							20 01 57.5	
PETK					pmax	pmax		
	comp=Z,3.0nm,0.3s							
PETK					MLR	MLR		
	comp=Z,97nm,19.3s							
PETK	**Petropavlovsk-**	**4.50**	**236**		Pn	**Pn**	**20 01 00.6**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=87,slow=20,SNR=9.8							
PETK					Sn	Sn	20 01 57.5	+6.4
	baz=64,slow=20,SNR=4.2							
PETK					LR	LR	20 03 03.9	
	comp=Z,97nm,19.2s,baz=39,slow=42							
MTVR	**Mutnovka**	**4.72**	**227**	*eP*		**Pn**	**20 01 03.7**	**+0.9**
TILK	**Tilichiki**	**4.80**	**14**	*eP*		**Pn**	**20 01 03.6**	**-0.2**
TILK				*eS*		Sn	**20 01 56.5**	**-1.8**
APC	**Apacha**	**4.87**	**236**	*eP*		**Pn**	**20 01 06.6**	**+1.8**
MIPR	**Malaya Ipel'ka**	**5.48**	**233**	*eP*		**Pn**	**20 01 14.4**	**+1.2**
PAU	**Pauzhetka**	**6.04**	**227**		PN	**Pn**	**20 01 22.2**	**+1.4**
PAU	**Pauzhetka**	**6.04**	**227**	*eP*		**Pn**	**20 01 22.2**	**+1.4**
SKR	**Severo-Kuril's**	**6.93**	**225**	*eP*		**Pn**	**20 01 33.3**	**+0.4**
BILL	**Bilibino**	**12.32**	**4**	*e*PN		Pn	20 02 51.0	+4.3
BILL					pmax	pmax		
	comp=Z,9.0nm,2.5s							
BILL					MLR	MLR		
	comp=Z,70nm,14.0s							
GAMB	**Gambell**	**14.57**	**47**	*e*Pn		**Pn**	**20 03 15.6**	**-1.8**
TIXI	**Tiksi**	**21.66**	**331**	*eP*		**P**	**20 04 44.8**	**+3.6**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.7s							
TIXI	**Tiksi**	**21.66**	**331**	*eP*		**P**	**20 04 43.1**	**+1.9**
	comp=Z,4.2nm,0.8s							
MCK	**McKinley**	**24.51**	**52**	*eP*		**P**	**20 05 10.8**	**+0.9**
MCK	**McKinley**	**24.51**	**52**	*eP*		**P**	**20 05 10.8**	**+0.9**
COLA	**College**	**24.93**	**49**	*eP*		**P**	**20 05 17.0**	**+3.3**
COLA					pmax	pmax		
	comp=Z,45nm,2.5s							
ILAR	**Eielson Array**	**25.35**	**49**		P	**P**	**20 05 16.4**	**-1.1**
ILAR					*PP	**pP**	**20 05 25.9**	**-0.2**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
ILAR					pmax	pmax		
	comp=Z,3.0nm,0.9s							
ILAR	**Eielson Array**	**25.35**	**49**		P	**P**	**20 05 16.4**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=267,slow=7.9,SNR=13							
ILAR					pP	**pP**	**20 05 25.9**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=262,slow=8.6,SNR=11							
MJA0	**Matsu Arr-Jizo**	**25.94**	**233**	*eP*		**P**	**20 05 24.0**	**+0.9**
MJA0					pmax	pmax		
	comp=Z,3.0nm,0.7s							
MJAR	**Matsushiro Arr**	**25.96**	**233**		P	**P**	**20 05 24.1**	**+0.8**
MJAR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
MJAR	**Matsushiro Arr**	**25.96**	**233**		P	**P**	**20 05 24.1**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=34,slow=8.7,SNR=7.1							
INK	**Inuvik**	**30.37**	**41**	*eP*		**P**	**20 06 01.2**	**-1.1**
INK					*PP	**pP**	**20 06 11.7**	**+0.8**
INK					pmax	pmax		
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**30.37**	**41**		P	**P**	**20 06 01.4**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=258,slow=5.5,SNR=4.3							
INK					pP	**pP**	**20 06 11.7**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=285,slow=8.3,SNR=6.4							
ULN	**Ulaanbaatar**	**35.08**	**281**	*eP*		**P**	**20 06 44.6**	**+0.7**
ULN					pmax	pmax		
	comp=Z,7.0nm,2.5s							
SONM	**Songino Array**	**35.46**	**282**		P	**P**	**20 06 47.6**	**+0.5**
SONM							20 09 16.8	
SONM					pmax	pmax		
	comp=Z,1.0nm,0.7s							
SONM					pmax	pmax		
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**35.46**	**282**		P	**P**	**20 06 47.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=49,slow=8.8,SNR=12							
SONM					PcP	**PcP**	**20 09 16.8**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=28,slow=1.2,SNR=5.1							
H11N2	**WAKE ISLAND Hy**	**36.10**	**175**		T	T		
	baz=357,slow=76,SNR=397							
H11N3	**WAKE ISLAND Hy**	**36.11**	**175**		T	T	20 45 47.3	
	baz=357,slow=76,SNR=242							
H11N1	**WAKE ISLAND Hy**	**36.11**	**175**		T	T	20 45 51.1	
	baz=357,slow=76,SNR=121							
YKA	**Yellowknife Ar**	**39.67**	**46**		P	**P**	**20 07 21.9**	**-0.5**
YKA					*PP	**pP**	**20 07 31.7**	**+0.5**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**39.67**	**46**		P	**P**	**20 07 21.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=297,slow=8.0,SNR=6.4							
YKA					pP	**pP**	**20 07 31.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=299,slow=8.2,SNR=12							
ZALV	**Zalesovo Beam**	**43.18**	**302**		PcP	**PcP**	**20 09 40.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=29,slow=3.3,SNR=3.3							
KURK	**Kurchatov**	**48.17**	**302**	*eP*		**P**	**20 08 29.0**	**-1.6**
KURK					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KURK	**Kurchatov**	**48.17**	**302**	*eP*		**P**	**20 08 29.0**	**-1.6**
	comp=Z,3.8nm,0.9s							
MKAR	**Makanchi Array**	**48.96**	**296**		P	**P**	**20 08 35.0**	**-1.8**
MKAR					*PP	**pP**	**20 08 46.6**	**+0.7**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**48.96**	**296**		P	**P**	**20 08 35.0**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=56,slow=6.6,SNR=13							
MKAR					pP	**pP**	**20 08 46.6**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=53,slow=6.2,SNR=6.3							
NVAR	**Mina Array Bea**	**52.81**	**75**		P	**P**	**20 09 06.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=294,slow=7.7,SNR=6.2							
NVAR					pP	**pP**	**20 09 16.6**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=306,slow=7.8,SNR=5.6							
ARU	**Arti**	**52.87**	**318**	*d iP*		**P**	**20 09 06.5**	**+0.4**
ARU					*PP	pP	20 09 22.5	+7.3
ARU					S	**S**	**20 16 34.3**	**+1.7**
ARU					pmax	pmax		
	comp=Z,2.0nm,0.9s							
PDAR	**Pinedale Array**	**54.32**	**65**		P	**P**	**20 09 17.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=321,slow=2.1,SNR=6.0							
PDAR					pP	**pP**	**20 09 27.1**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=316,slow=3.5,SNR=7.9							
ULM	**Lac du Bonnet**	**55.37**	**50**		P	**P**	**20 09 25.2**	**+0.9**
ULM					pmax	pmax		
	comp=Z,2.0nm,0.6s							
ULM	**Lac du Bonnet**	**55.37**	**50**		P	**P**	**20 09 25.2**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=270,slow=3.0,SNR=1.5							
AAK	**Ala-Archa**	**55.83**	**297**	*i* P		**P**	**20 09 28.3**	**+0.3**
AAK					pmax	pmax		
	comp=Z,4.0nm,0.8s							
LSA	**Lhasa**	**56.44**	**274**		P	**P**	**20 09 31.5**	**-1.4**
LSA	**Lhasa**	**56.44**	**274**		P	**P**	**20 09 31.5**	**-1.4**
TAPN	**Taplejung**	**60.17**	**275**	*eP*		**P**	**20 09 58.4**	**-0.4**
	comp=Z,9.3nm,1.0s							
GUN	**Gumba**	**60.77**	**277**	*eP*		**P**	**20 10 02.2**	**-0.7**
JIRN	**Jiri**	**60.79**	**277**	*eP*		**P**	**20 10 01.6**	**-1.4**
CMAR	**Chiang Mai Arr**	**60.87**	**260**	*eP*		**P**	**20 10 04.0**	**+0.8**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**60.87**	**260**		P	**P**	**20 10 04.3**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=22,slow=7.2,SNR=14							
KKN	**Kakani**	**61.20**	**278**	*eP*		**P**	**20 10 05.8**	**+0.2**
PKI	**Pulchoki**	**61.29**	**277**	*eP*		**P**	**20 10 05.0**	**-1.4**
	comp=Z,9.5nm,0.8s							
PKIN	**Phulchoki**	**61.30**	**277**	*eP*		**P**	**20 10 05.3**	**-1.1**
	comp=Z,6.2nm,0.8s							
GKN	**Gorkha**	**61.39**	**278**	*eP*		**P**	**20 10 06.4**	**-0.5**
	comp=Z,13nm,1.0s							
NOA	**NORSAR Array B**	**61.51**	**345**		P	**P**	**20 10 06.7**	**-0.3**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**61.51**	**345**		P	**P**	**20 10 06.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=18,slow=6.7,SNR=4.6							
DANN	**Dangsing**	**61.61**	**279**	*eP*		**P**	**20 10 08.2**	**-0.3**
KOLN	**Koldanda**	**62.15**	**279**	*eP*		**P**	**20 10 11.5**	**-0.6**
	comp=Z,9.9nm,0.6s							
PYUN	**Piuthan**	**62.23**	**280**	*eP*		**P**	**20 10 12.1**	**-0.5**
AKASG	**Malin Array Be**	**67.37**	**331**	*eP*		**P**	**20 10 43.7**	**-1.7**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**67.37**	**331**		P	**P**	**20 10 45.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=31,slow=6.6,SNR=4.8							
TXAR	**Lajitas Array**	**67.60**	**71**		P	**P**	**20 10 47.8**	**+0.4**
TXAR					*PP	**pP**	**20 10 57.0**	**+0.3**
TXAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
TXAR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
TXAR	**Lajitas Array**	**67.60**	**71**		P	**P**	**20 10 47.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=304,slow=3.9,SNR=18							
TXAR					pP	**pP**	**20 10 57.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=308,slow=4.7,SNR=7.8							
BATI	**Baumata**	**73.79**	**221**		LR	LR	20 42 24.6	
	comp=Z,396nm,21.3s,baz=318,slow=34							
BRTR	**Keskin Array B**	**75.86**	**323**		P	**P**	**20 11 37.0**	**+0.1**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
BRTR	**Keskin Array B**	**75.86**	**323**		P	**P**	**20 11 37.0**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=0.0,slow=1.4,SNR=3.0							
WRA	**Warramunga Arr**	**79.50**	**208**	*i* P		**P**	**20 11 57.2**	**+0.2**
WRA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**79.50**	**208**		P	**P**	**20 11 57.3**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=12,slow=5.7,SNR=12							
ASAR	**Alice Springs**	**83.17**	**207**		P	**P**	**20 12 17.2**	**+0.7**
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
ASAR	**Alice Springs**	**83.17**	**207**		P	**P**	**20 12 17.1**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=15,slow=6.1,SNR=27							

*CSEM **13** 20:03:29.6±0.3, 43°.29N×18°.14E, h2km, ML2.2, Error ellipse: s-maj=5.8km s-min=4.9km az=164.0*

BEO 13 20:03:29.3±0.4, 43°.33N×17°.99E, h12km±6km, ML2.2/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.51**	**205**	*e*Pg		Pg	20 03 39.3	+0.2
STON					Sg	Sb	20 03 47.7	+0.3
STON	**Ston**	**0.51**	**205**	*e*Pg		Pg	20 03 39.0	-0.2
STON				*e*Sg		Sb	20 03 47.2	-0.2
STON	**Ston**	**0.51**	**205**	*e*Pg		Pg	20 03 39.0	-0.2
STON				*e*Sg		Sb	20 03 47.2	-0.2
TREB	**Trebinje**	**0.67**	**157**	*e*Sg		Sg	20 03 50.9	-0.2
TREB	**Trebinje**	**0.67**	**157**	*e*Sg		Sg	20 03 50.9	-0.2
BBLS	**Lazići**	**1.16**	**62**	*e*Pg		Pb	20 03 49.7	-1.7
BBLS				*e*Sg		Sg	20 04 06.8	-0.1
BBLS	**Lazići**	**1.16**	**62**	*e*Pg		Pb	20 03 49.7	-1.7
BBLS				*e*Sg		Sg	20 04 06.8	-0.1
PDG	**Podgorica**	**1.29**	**134**	*e*Pg		Pn	20 03 52.1	-1.1
PDG				*e*Sg		Sg	20 04 11.1	+0.1
PDG	**Podgorica**	**1.29**	**134**	*e*Pg		Pn	20 03 52.1	-1.1
SJES	**Sjenica**	**1.45**	**92**	*e*Pg		Pn	20 03 55.5	0.0
SJES				*e*Sg		Sb	20 04 15.3	+0.4
BLY	**Banja Luka**	**1.53**	**338**	*e*Pg		Pb	20 03 57.6	-0.1
BLY				*e*Sg		Sg	20 04 19.2	+0.5
IVAS	**Ivanjica**	**1.59**	**80**	*e*Pg		Pn	20 03 57.8	+0.4
IVAS				*e*Sg		Sg	20 04 20.2	-0.6
IVAS	**Ivanjica**	**1.59**	**80**	*e*Pg		Pn	20 03 57.8	+0.4
IVAS				*e*Sg		Sg	20 04 20.2	-0.6
DIVS	**Divibare**	**1.64**	**61**	*e*Pg		Pn	20 03 58.2	+0.1
DIVS				*e*Sg		Sb	20 04 21.4	+1.0
DIVS	**Divibare**	**1.64**	**61**	*e*Pg		Pn	20 03 58.2	+0.1
DIVS				*e*Sg		Sb	20 04 21.4	+1.0
TRUS	**Trudelj**	**1.96**	**62**	*e*Pg		Pb	20 04 05.4	+0.4
TRUS	**Trudelj**	**1.96**	**62**	*e*Pg		Pb	20 04 05.4	+0.4
UDBI	**Udbina**	**2.00**	**307**	*e*Pn		Pb	20 04 06.0	+0.2
UDBI					Sg	Sg	20 04 37.2	+3.2
UDBI	**Udbina**	**2.00**	**307**	*e*Pn		Pb	20 04 06.0	+0.2
UDBI					Sg	Sg	20 04 37.1	+3.1
NVLJ	**Novalja**	**2.57**	**300**	*i* Pn		Pb	20 04 14.7	-0.6
NVLJ					Sn	Sb	20 04 48.8	+2.0
NVLJ	**Novalja**	**2.57**	**300**	*i* Pn		Pb	20 04 14.7	-0.6
NVLJ					Sn	Sb	20 04 48.7	+1.9
ZAPS	**Zavoj**	**3.39**	**89**	*e*Pn		Pn	20 04 21.8	-0.3

*CSEM **13** 20:05:10.1±0.4, 50°.17N×19°.06E, h2km, ML2.5/5, Error ellipse: s-maj=10.5km s-min=4.4km az=7.0*

PRU 13 20:05:11.0, 50°.17N×19°.06E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.13**	**340**	*e*Pg		Pg	20 05 16.4	+2.9
CHZP				*e*Sg		Sg	20 05 19.4	+4.2
OJC	**Ojcow**	**0.48**	**84**	*e*Pg		Pg	20 05 18.8	-1.4
OJC				*e*Sg		Sg	20 05 24.7	-1.7
OJC	**Ojcow**	**0.48**	**84**	*e*Pg		Pg	20 05 18.8	-1.4
OJC				*e*Sg		Sg	20 05 24.7	-1.7
OKC	**Ostrava-Krasne**	**0.68**	**241**	*e*PG		Pg	20 05 23.5	-0.5
OKC				*e*SG		Sg	20 05 33.5	+0.7
	comp=Z,8.7nm,0.4s							
OKC	**Ostrava-Krasne**	**0.68**	**241**		Pg	Pg	20 05 23.5	-0.5
OKC					Sg	Sg	20 05 33.5	+0.7
	8.7nm,0.4s							
LANS	**Liptovska Anna**	**1.05**	**165**	*e*Pg		Pg	20 05 30.1	-1.2
LANS				*e*Sg		Sg	20 05 44.2	-0.8
MORC	**Moravsky Berou**	**1.06**	**249**	*e*Pg		Pb	20 05 31.9	-0.3
MORC				*e*Sg		Sb	20 05 46.8	+0.1
NIE	**Niedzica**	**1.11**	**132**	*e*Pg		Pg	20 05 31.3	-1.0
NIE				*e*Sg		Sg	20 05 46.3	-0.4
NIE	**Niedzica**	**1.11**	**132**	*e*Pg		Pg	20 05 31.3	-1.0
STHS	**Stebnicka Huta**	**1.60**	**117**	*e*Pn		Pn	20 05 40.3	-0.3
STHS				*e*Sn		Sg	20 06 03.5	+0.9
STHS	**Stebnicka Huta**	**1.60**	**117**	*e*PN		Pn	20 05 40.2	-0.4
STHS				*e*SN		Sg	20 06 03.5	+0.9
VYHS	**Vyhne**	**1.68**	**185**	*e*Pn		Pn	20 05 40.3	-1.4
VYHS				*e*Sn		Sn	20 06 01.8	-2.2
VYHS	**Vyhne**	**1.68**	**185**	*e*PN		Pn	20 05 40.2	-1.5
VYHS				*e*SN		Sn	20 06 01.8	-2.2
DPC	**Dobruska-Polom**	**1.77**	**277**	*e*PG		Pn	20 05 42.7	-0.2
DPC				*e*SG		Sg	20 06 07.7	-0.2
DPC	**Dobruska-Polom**	**1.77**	**277**		Pg	Pn	20 05 42.7	-0.2
DPC					Sg	Sg	20 06 07.7	-0.2
VRAC	**Vranov**	**1.82**	**243**	*e*Pn		Pb	20 05 44.4	-0.8
VRAC				*e*Sg		Sb	20 06 08.9	+0.4
KSP	**Ksiaz**	**1.89**	**292**	*e*Pg		Pg	20 05 47.7	+0.4
KSP				*e*Sg		Sg	20 06 14.1	+2.3
KECS	**Kecovo**	**1.93**	**151**	*e*Pn		Pn	20 05 42.9	-2.2
KECS				*e*Sn		Sn	20 06 06.6	-3.4
KECS	**Kecovo**	**1.93**	**151**	*e*PN		Pn	20 05 42.9	-2.2
KECS				*e*SN		Sn	20 06 06.6	-3.4
UPC	**Upice**	**1.98**	**281**	*e*SG		Sg	20 06 14.8	0.0
	comp=Z,1.5nm,0.2s							
UPC	**Upice**	**1.98**	**281**		Sg	Sg	20 06 14.8	0.0
	1.5nm,0.2s							
CRVS	**Cervenica-Dubn**	**2.01**	**128**	*e*Pn		Pn	20 05 46.9	+0.6
CRVS	**Cervenica-Dubn**	**2.01**	**128**	*e*Sn		Sn	20 06 12.1	-0.1
CRVS	**Cervenica-Dubn**	**2.01**	**128**	*e*PN		Pn	20 05 46.9	+0.6
CRVS				*e*SN		Sn	20 06 12.1	-0.1
KOLS	**Kolonicke sedl**	**2.43**	**119**	*e*Sn		Sn	20 06 18.8	-3.7
KOLS	**Kolonicke sedl**	**2.43**	**119**	*e*		Pg	20 05 58.3	+0.7
KOLS	**Kolonicke sedl**	**2.43**	**119**	*e*SN		Sn	20 06 18.8	-3.7
TREC	**Trest**	**2

LHMI	**Lhok Sumawe**	**5.68**	**118**	P		**Pn**	**20 16 20.9**	**0.0**	KSM	**Kuching**	**19.42**	**108**	P		**P**	**20 19 23.0**	**+0.4**	H08N3	**Diego Garcia H**	**25.21**	**236**	T		T	20 47 18.2	
	baz=5.5,SNR=39									baz=19,SNR=41									baz=42,slow=74,SNR=12							
LHMI	**Lhok Sumawe**	**5.68**	**118**	*e*Pn		**Pn**	**20 16 20.8**	**-0.1**	KSM	**Kuching**	**19.42**	**108**	⇓P		**P**	**20 19 22.9**	**+0.3**	SDKM	**Sandakan**	**25.22**	**94**	⇓P		**P**	**20 20 22.4**	**+0.4**
PKDT	**Phuket**	**6.38**	**90**	P		**Pn**	**20 16 31.2**	**+0.7**	KSM	**Kuching**	**19.42**	**108**	⇓P		**P**	**20 19 22.9**	**+0.3**	GRJI	**Gresik**	**25.26**	**125**	P		**P**	**20 20 23.6**	**+1.3**
	327nm,0.9s,10µm								KSM	**Kuching**	**19.42**	**108**	*e*P		**P**	**20 19 22.6**	**0.0**		comp=Z,114nm,1.0s,comp=Z,818nm							
SURT	**Suratani**	**6.90**	**81**	P		**Pn**	**20 16 39.4**	**+1.7**		comp=Z,93nm,1.0s								PWJI	**Pagerwojo**	**25.38**	**128**	P		**P**	**20 20 26.5**	**+3.1**
	247nm,0.8s,3µm								GTK	**Tadong**	**19.56**	**351**	*e*P		**P**	**20 19 22.5**	**-1.7**		comp=Z,39nm,1.0s							
TPTI	**7.00**	**131**	P		**Pn**	**20 16 36.9**	**-2.1**	RAMN	**Ramite**	**19.59**	**346**	*e*P		**Pn**	**20 19 27.5**	**+1.5**	CD2	**Chengdu**	**25.42**	**24**	*e*P		**P**	**20 20 24.3**	**+0.6**
	126nm,0.9s,10µm2.3nm									comp=Z,909nm,0.5s								CD2				pP		**pP**	**20 20 32.4**	**-0.1**
SNSI	**Sinabang, Aceh**	**7.03**	**141**	P		Pn	20 16 35.5	-3.9	TAPN	**Taplejung**	**19.73**	**349**	*e*P		**Pn**	**20 19 28.8**	**+1.0**	CD2				sP		**sP**	**20 20 36.1**	**-0.2**
	260nm,0.8s,26µm7.4nm									comp=Z,1µm,0.9s								CD2				PP		**PnPn**	**20 21 03.3**	**+3.7**
KCSI	**Kotacane, Aceh**	**7.29**	**126**	P		**Pn**	**20 16 42.1**	**-1.0**	CGJI	**Cibinong**	**19.94**	**136**	P		**P**	**20 19 27.4**	**-0.8**	CD2				S		**S**	**20 24 46.1**	**-2.6**
	291nm,0.7s,6µm2.3nm									comp=Z,103nm,1.1s,comp=Z,1µm								CD2				sS		**sS**	**20 24 59.6**	**-3.8**
TRTT	**Trang**	**7.72**	**90**	P		**Pn**	**20 16 49.5**	**+0.5**	KMI	**Kunming**	**20.00**	**30**	P		**Pn**	**20 19 32.3**	**+1.4**	CD2				SS		**SnSn**	**20 25 48.1**	**+5.5**
	163nm,1.3s,2µm								KMI				PP		PnPn	20 19 54.8	+9.2	CD2				PMZ				
SURA	**Surathani**	**7.75**	**80**	P		**Pn**	**20 16 50.2**	**+0.9**	KMI				S		**S**	**20 23 13.0**	**+0.4**		comp=Z,80nm,0.7s							
	192nm,0.7s,4µm								KMI				PMZ					CD2				PMZ				
TSI	**Tuntungan**	**7.95**	**123**	P		**Pn**	**20 16 51.6**	**-0.5**		comp=Z,76nm,0.9s									comp=Z,230nm,5.0s							
	143nm,0.8s,3µm1.7nm								KMI				PMZ					CD2				LN				
SKLT	**Songkhla**	**8.68**	**94**	P		**Pn**	**20 17 01.9**	**-0.2**		comp=Z,230nm,4.3s									comp=Z,510nm,15.7s							
	84nm,1.0s,9µm								KMI				LN					CD2				LE				
KULM	**Kulim**	**9.08**	**106**	⇓P		**Pn**	**20 17 06.7**	**-0.9**		comp=Z,740nm,19.8s									comp=Z,1µm,17.6s							
KULM	**Kulim**	**9.08**	**106**	*e*Pn		**Pn**	**20 17 06.4**	**-1.2**	KMI				LE					CD2				LZ				
KULM				*e*Sn		Sn	20 18 29.4	-19		comp=Z,630nm,16.6s									comp=Z,600nm,18.6s							
PHET	**Kaeng Krachan**	**9.08**	**56**	P		**Pn**	**20 17 09.0**	**+1.4**	KMI				LZ					BBKI	**Banjar Baru**	**25.53**	**115**	P		**P**	**20 20 25.0**	**+0.3**
	442nm,0.8s,4µm									comp=Z,700nm,17.2s									comp=Z,115nm,0.9s,comp=Z,2µm							
SRDT	**SRDT**	**9.54**	**47**	P		Pn	20 17 18.0	+4.0	JIRN	**Jiri**	**20.37**	**345**	*e*P		Pn	20 19 35.6	+0.1	DDI	**Dehra Dun**	**25.79**	**332**	*e*P		**P**	**20 20 27.7**	**+0.6**
	151nm,0.9s,5µm									comp=Z,492nm,0.5s								DDI				AMB		AMB	20 20 32.0	
IPM	**Ipoh**	**9.69**	**110**	⇓P		**Pn**	**20 17 14.5**	**-1.5**	POO	**Poona**	**20.47**	**303**	*e*P		**P**	**20 19 33.4**	**-0.7**		comp=Z,380nm,1.4s							
IPM	**Ipoh**	**9.69**	**110**	*e*Pn		**Pn**	**20 17 14.1**	**-1.9**	POO				AMB		AMB	20 19 51.4		TSM	**Tawau**	**26.07**	**96**	⇓P		**P**	**20 20 30.1**	**+0.4**
IPM				*e*Sn		Sn	20 18 55.1	-8.9		comp=Z,52nm,2.7s								KMMI	**Kalianget**	**26.56**	**123**	P		**P**	**20 20 34.1**	**+0.1**
MNSI	**Mandailing Nat**	**10.42**	**132**	P		**Pn**	**20 17 26.5**	**+0.5**	PKI	**Pulchoki**	**20.50**	**343**	*e*P		Pn	20 19 36.6	-0.3		comp=Z,123nm,1.0s,comp=Z,2µm							
	70nm,0.6s,2µm									comp=Z,868nm,0.6s								BLJI	**Banyuglugur**	**26.64**	**125**	P		**P**	**20 20 35.2**	**+0.4**
UTHA	**Uthaitani**	**10.60**	**44**	P		**Pn**	**20 17 31.2**	**+2.8**	PKIN	**Phulchoki**	**20.50**	**343**	*e*P		Pn	20 19 36.6	-0.3		comp=Z,149nm,1.0s,comp=Z,1µm							
	32nm,0.8s,222nm									comp=Z,704nm,0.6s								SMLA	**Simla**	**26.89**	**331**	*i* P		**P**	**20 20 37.7**	**+0.9**
FRIM	**Kepong**	**10.74**	**115**	⇓P		**Pn**	**20 17 28.6**	**-1.8**	BHPL	**Bhopal**	**20.62**	**319**	*e*P		**P**	**20 19 35.6**	**0.0**	SMLA				AMB		AMB	20 20 44.0	
PALK	**Pallekele**	**11.12**	**267**	Pn		**Pn**	**20 17 35.0**	**-0.6**	BHPL				AMB		AMB	20 19 41.0			comp=Z,280nm,0.8s							
	4µm,0.5s									comp=Z,99nm,1.8s								SMLA				*i* x		x	20 25 46.4	
PALK	**Pallekele**	**11.12**	**267**	Pn		**Pn**	**20 17 34.5**	**-1.1**	QIZ	**Qiongzhong**	**20.63**	**56**	P		**P**	**20 19 35.8**	**+0.1**	ABJI	**Asem Bagus**	**27.19**	**125**	P		**P**	**20 20 39.9**	**+0.1**
	153nm,0.3s,baz=90,slow=13,SNR=236								QIZ				pP		Pn	20 19 40.8	+2.7		comp=Z,136nm,0.8s							
PALK					Sn		Sn	20 19 25.1	-14	QIZ				sP		**sP**	**20 19 44.0**	**-3.8**	BHK	**Bhakra**	**27.48**	**330**	*e*P		**P**	**20 20 45.0**	**+2.7**
	36nm,0.3s,baz=165,slow=20,SNR=9.6								QIZ				S		**S**	**20 23 24.4**	**-0.5**	ENH	**Enshi**	**27.68**	**34**	*e*P		**P**	**20 20 42.5**	**-1.6**
PALK					LR		LR	20 21 28.6		QIZ				sS		Sn	20 23 33.9	+3.8		comp=Z,13nm,0.6s							
	comp=Z,3µm,18.6s,baz=83,slow=36								QIZ				PMZ					ENH				*e*S		**S**	**20 25 20.5**	**-4.0**
PALK	**Pallekele**	**11.12**	**267**	⇓ *i* P		**Pn**	**20 17 34.2**	**-1.4**		comp=Z,87nm,1.4s								SRBI	**Singaraja**	**28.15**	**124**	P		**P**	**20 20 47.7**	**-0.7**
	SNR=81								QIZ				LN						comp=Z,99nm,0.9s							
PALK	**Pallekele**	**11.12**	**267**	*e*Pn		**Pn**	**20 17 34.4**	**-1.3**		comp=Z,2µm,15.6s								DHRM	**DHARAMSHALA**	**28.23**	**331**	*e*P		**P**	**20 20 47.8**	**-1.3**
PALK				*e*Sn		Sn	20 19 28.6	-10	QIZ				LZ					DHRM				AMB		AMB	20 20 51.2	
CHBT	**CHBT**	**11.33**	**64**	P		**Pn**	**20 17 40.6**	**+2.1**		comp=Z,560nm,16.5s									comp=Z,45nm,1.2s							
	64nm,1.2s,1µm								QIZ	**Qiongzhong**	**20.63**	**56**	*e*P		**P**	**20 19 36.7**	**+1.0**	MPSI	**Mapaga**	**28.90**	**104**	P		**P**	**20 20 56.3**	**+1.2**
KTGM	**Kuala Trenggan**	**11.45**	**102**	⇑P		**Pn**	**20 17 40.2**	**0.0**		comp=Z,226nm,1.1s									comp=Z,33nm,1.2s,comp=Z,356nm							
MHMT	**Maesarieng**	**11.77**	**29**	P		**Pn**	**20 17 46.6**	**+2.1**	GUN	**Gumba**	**20.69**	**345**	*e*P		Pn	20 19 38.8	-0.4	LZH	**Lanzhou**	**30.09**	**20**	⇓P		**P**	**20 21 06.3**	**+0.7**
	96nm,0.8s,748nm									comp=Z,976nm,0.7s								LZH				pP		**pP**	**20 21 16.9**	**+2.4**
BKNI	**Bangkinang**	**11.82**	**129**	P		Pn	20 17 45.2	0.0	KKN	**Kakani**	**20.74**	**343**	*e*P		Pn	20 19 38.8	-0.8	LZH				sP		**sP**	**20 21 20.9**	**+2.7**
	94nm,0.9s,1µm									comp=Z,372nm,0.6s								LZH				PP		**PnPn**	**20 22 06.0**	**+2.7**
BKNI	**Bangkinang**	**11.82**	**129**	Pn		Pn	20 17 35.7	-10	SBUM	**Sibu**	**20.95**	**104**	⇑P		**P**	**20 19 39.5**	**+0.3**	LZH				S		**S**	**20 25 59.1**	**-3.3**
PBKT	**Sadao Pong**	**12.35**	**45**	P		**Pn**	**20 17 52.4**	**0.0**	SBUM	**Sibu**	**20.95**	**104**	*e*P		**P**	**20 19 38.7**	**-0.5**	LZH				sS		**sS**	**20 26 16.6**	**-0.5**
	55nm,1.7s,676nm									comp=Z,156nm,1.0s								LZH				SS		**SnSn**	**20 27 38.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**12.52**	**32**	P		**Pn**	**20 17 56.4**	**+1.6**	STKI	**Sintang**	**21.02**	**111**	P		**P**	**20 19 39.7**	**-0.2**	LZH				PMZ				
CMAR				pmax		pmax				comp=Z,217nm,1.0s,comp=Z,2µm									comp=Z,30nm,1.0s							
	comp=Z,4.0nm,0.3s								GKN	**Gorkha**	**21.13**	**342**	*e*P		**P**	**20 19 43.2**	**+2.0**	LZH				PMZ				
CMAR	**Chiang Mai Arr**	**12.52**	**32**	Pn		**Pn**	**20 17 56.4**	**+1.6**		comp=Z,485nm,0.6s									comp=Z,120nm,4.1s							
	comp=Z,3.5nm,0.3s,baz=232,slow=13,SNR=251								KOLN	**Koldanda**	**21.25**	**339**	*e*P		**P**	**20 19 44.7**	**+2.1**	LZH				LN				
MDRS	**Chennai**	**12.55**	**295**	*e*P		**Pn**	**20 17 53.5**	**-1.6**		comp=Z,1µm,0.7s									comp=Z,490nm,14.4s							
MDRS				AMB		AMB	20 17 56.3		LEM	**Lembang**	**21.45**	**133**	P		**P**	**20 19 44.5**	**-0.2**	LZH				LE				
	comp=Z,230nm,1.7s								LEM				S		**S**	**20 23 37.2**	**-4.2**		comp=Z,380nm,12.8s							
KGM	**Kluang**	**12.79**	**117**	⇓P		**Pn**	**20 17 57.0**	**-1.5**	LEM				pmax		pmax			LZH				LZ				
CMMT	**Chiang Mai**	**12.82**	**32**	P		**Pn**	**20 17 59.6**	**+0.8**		comp=Z,42nm,1.2s									comp=Z,930nm,16.0s							
	comp=Z,50nm,1.1s								LEM				smax		smax			XAN	**Xi'an**	**30.37**	**29**	P		**P**	**20 21 06.9**	**-1.0**
VIS	**Vishakhapatnam**	**12.83**	**320**	*i* P		**Pn**	**20 17 57.6**	**-1.4**		comp=N,5.0nm,0.4s								XAN				sP		**sP**	**20 21 20.8**	**+0.2**
VIS				AMB		AMB	20 18 01.6		LEM				MLR		MLR			XAN				PP		**PnPn**	**20 22 04.3**	**-2.6**
	comp=Z,381nm,0.6s									comp=Z,1µm,20.9s								XAN				S		**S**	**20 26 01.8**	**-4.9**
VIS				*i* x		x	20 20 08.2		LEM	**Lembang**	**21.45**	**133**	P		**P**	**20 19 45.9**	**+1.2**	XAN				PMZ				
UTTA	**Uttaradit**	**12.90**	**40**	P		Pn	20 18 04.2	+4.2		comp=Z,50nm,1.2s									comp=Z,4.0nm,0.9s							
	comp=Z,15nm,0.9s,comp=Z,117nm								LEM	**Lembang**	**21.45**	**133**	P		**P**	**20 19 44.5**	**-0.2**	XAN				PMZ				
LAMP	**Lampang**	**12.95**	**35**	P		**Pn**	**20 18 02.9**	**+2.3**		comp=Z,42nm,1.1s,baz=346,slow=23,SNR=4.7									comp=Z,22nm,5.1s							
	comp=Z,28nm,0.8s,comp=Z,193nm								LEM				S		**S**	**20 23 37.2**	**-4.2**	XAN				LN				
CHLP	**Challavanipeta**	**13.00**	**325**	*e*Pn		**Pn**	**20 18 00.3**	**-1.0**		comp=Z,5.4nm,0.4s,baz=81,slow=19,SNR=3.8								XAN				LE				
CHLP				*e*pPn		**pPn**	**20 18 06.9**	**-1.1**	LEM				LR		LR	20 28 26.2			comp=Z,400nm,19.3s							
CHLP				*e*PnPn		**PnPn**	**20 18 08.6**	**-0.8**		comp=Z,1µm,20.9s,baz=288,slow=38								XAN				LE				
CHLP				*e*Sn		Sn	20 20 12.3	-13	BOM	**Bombay**	**21.51**	**302**	*ex*		**pP**	**20 19 56.6**	**+3.2**		comp=Z,140nm,28.3s							
SKHT	**Srikalahasti**	**13.30**	**297**	*e*Pn		**Pn**	**20 18 05.6**	**+0.3**	BOM				*ex*		x	20 23 31.2		XAN				LZ				
SKHT				*e*pPn		**pPn**	**20 18 09.3**	**-2.8**	BTM	**Bintulu**	**21.59**	**101**	⇓P		**P**	**20 19 46.7**	**+0.6**		comp=Z,170nm,18.6s							
SKHT				*e*PnPn		**PnPn**	**20 18 12.0**	**-1.3**	LSA	**Lhasa**	**21.68**	**358**	P		**P**	**20 19 48.3**	**+0.9**	KAPI	**Kappang**	**30.61**	**114**	*e*P		**P**	**20 21 09.3**	**-0.9**
SKHT				*e*Sn		Sn	20 20 19.5	-13	LSA	**Lhasa**	**21.68**	**358**	*e*P		**P**	**20 19 48.1**	**+0.6**		comp=Z,37nm,1.4s							
MYKOM	**Kota Tinggi**	**13.37**	**116**	⇑P		**Pn**	**20 18 04.3**	**-2.1**	LSA				*e*S		**S**	**20 23 49.2**	**+2.9**	WHN	**Wuhan**	**30.79**	**40**	P		**P**	**20 21 13.5**	**+1.9**
MYKOM	**Kota Tinggi**	**13.37**	**116**	*e*Pn		**Pn**	**20 18 04.1**	**-2.3**	LSA				pmax		pmax			WHN				LZ				
MYKOM				*e*ScS		ScS	20 30 49.1	+6.3		comp=Z,320nm,0.7s									comp=Z,1µm,16.2s							
KHON	**Khomkaen**	**13.56**	**51**	P		**Pn**	**20 18 12.1**	**+3.1**	LSA	**Lhasa**	**21.68**	**358**	*e*P		**P**	**20 19 48.0**	**+0.6**	MRSI	**Marisa**	**30.84**	**102**	P		**P**	**20 21 13.6**	**+1.4**
	comp=Z,47nm,1.0s,comp=Z,493nm									comp=Z,320nm,0.7s									comp=Z,39nm,0.8s,comp=Z,734nm							
BWNR	**Bhubaneshwar**	**13.65**	**335**	*ex*		**Pn**	**20 18 10.0**	**-0.1**	LSA				*e*S		**S**	**20 23 49.2**	**+2.9**	BKSI	**Bulukumba**	**31.07**	**114**	P		**P**	**20 21 15.4**	**+1.1**
BWNR				*ex*		x	20 20 29.0		DANN	**Dangsing**	**21.73**	**340**	*e*P		**P**	**20 19 49.6**	**+1.8**		comp=Z,40nm,0.8s							
CMAI	**Chiengmai2**	**13.81**	**29**	P		**Pn**	**20 18 13.5**	**+1.0**		comp=Z,1µm,0.9s								YULB	**Yu-li**	**32.12**	**58**	*e*P		**P**	**20 21 24.8**	**+1.3**
	comp=Z,90nm,1.3s								PYUN	**Piuthan**	**21.77**	**338**	*e*P		**P**	**20 19 50.0**	**+1.9**		comp=Z,53nm,0.9s							
ADKI	**Addanki**	**14.08**	**305**	*e*Pn		**Pn**	**20 18 15.7**	**-0.4**		comp=Z,1µm,0.8s								GTA	**Gaotai**	**32.16**	**12**	⇓P		**P**	**20 21 25.1**	**+1.4**
ADKI				*e*pPn		**pPn**	**20 18 20.4**	**-2.4**	CISI	**Cisompet, Garu**	**22.09**	**134**	P		**P**	**20 19 53.3**	**+1.8**	GTA				pP		**pP**	**20 21 32.3**	**-0.3**
ADKI				*e*Sn		Sn	20 20 35.5	-16		baz=22,SNR=3.6								GTA				sP		**sP**	**20 21 35.3**	**-1.0**
TPRI	**Tanjung Pinang**	**14.37**	**118**	P		**P**	**20 18 26.1**	**-0.6**	CISI				S		S	20 23 41.9	-12	GTA				PP		**PnPn**	**20 22 33.0**	**+2.9**
CRAI	**Chiangrai**	**14.74**	**33**	P		**Pn**	**20 18 23.2**	**-1.8**		baz=22,SNR=6.0								GTA				S		**S**	**20 26 36.0**	**+1.4**
	comp=Z,33nm,0.8s								CISI	**Cisompet, Garu**	**22.09**	**134**	*e*P		**P**	**20 19 49.9**	**-1.6**	GTA				sS		**sS**	**20 26 47.8**	**-1.5**
TRD	**Trivandrum**	**14.80**	**273**	*e*P		**Pn**	**20 18 23.9**	**-2.0**		comp=Z,52nm,0.9s								GTA				SS		**SnSn**	**20 28 26.6**	**0.0**
TRD				AMB		AMB	20 18 26.6		CISI				*e*S		S	20 23 41.1	-13	GTA				PMZ				
	comp=Z,126nm,1.8s								PBKI	**Pangkalan Bun**	**22.37**	**117**	P		**P**	**20 19 56.6**	**+2.2**		comp=Z,430nm,4.5s							
NJS	**Nagarjunasagar**	**15.00**	**306**	*e*Pn		**Pn**	**20 18 28.3**	**-0.2**		comp=Z,306nm,1.2s,comp=Z,3µm								GTA				LN				
NJS				*e*sPn		sPn	20 18 35.9	-3.7	KPJI	**Karang Pucung**	**22.75**	**131**	P		**P**	**20 20 02.2**	**+3.7**		comp=Z,290nm,15.9s							
NJS				*e*Sn		Sn	20 20 56.7	-17		comp=Z,30nm,0.6s,comp=Z,2µm								GTA				LE				
MASI	**Maura Aman, Be**	**15.07**	**136**	P		**P**	**20 18 36.2**	**+1.7**	XMIS	**Christmas Isla**	**22.83**	**143**	*e*P		**P**	**20 19 58.2**	**-1.1**		comp=Z,260nm,16.2s							
JMBI	**JAMBI**	**15.07**	**129**	P		**P**	**20 18 36.4**	**+2.0**		comp=Z,522nm,1.7s								GTA				LZ				
UBPT	**Khong Chiam**	**15.17**	**60**	P		**Pn**	**20 18 32.9**	**+2.1**	GYA	**Guiyang**	**23.18**	**35**	⇑ *i* P		**P**	**20 20 03.8**	**+0.9**		comp=Z,280nm,15.2s							
URV	**Uravakonda**	**15.95**	**297**	*e*Pn		**Pn**	**20 18 41.0**	**0.0**	GYA				pP		**pP**	**20 20 10.0**	**-1.3**	WBSI	**Waikabubak, Su**	**32.46**	**122**	P		**P**	**20 21 24.2**	**-2.4**
URV				*e*pPn		**P**	**20 18 45.6**	**+1.3**	GYA				PP		**PnPn**	**20 20 33.4**	**+4.5**		comp=Z,62nm,0.8s,comp=Z,3µm							
URV				*e*Sn		Sn	20 21 20.5	-17	GYA				PcP		**PcP**	**20 23 52.6**	**+1.8**	KBL	**Kabul**	**33.83**	**325**	*e*P		**P**	**20 21 39.4**	**+0.9**
HYB	**Hyderabad**	**16.07**	**307**	*e*P		**Pn**	**20 18 41.0**	**-1.5**	GYA				S		**S**	**20 24 10.5**	**-2.3**	KBL				pmax		pmax		
HYB	**Hyderabad**	**16.07**	**307**	*i* P		**Pn**	**20 18 41.0**	**-1.5**	GYA				SS		**SnSn**	**20 24 52.3**	**+4.6**		comp=Z,30nm,0.8s							
	comp=Z,120nm,1.0s								GYA				PMZ					KBL	**Kabul**	**33.83**	**325**	P		**P**	**20 21 39.3**	**+0.9**
HYB				*e*S		**Sn**	**20 21 35.0**	**-5.0**		comp=Z,30nm,1.0s									baz=34,SNR=22							
HYB	**Hyderabad**	**16.07**	**307**	*e*P		**Pn**	**20 18 42.4**	**-0.2**	GYA				PMZ					KBL	**Kabul**	**33.83**	**325**	*e*P		**P**	**20 21 39.4**	**+0.9**
HYB				AMB		AMB	20 18 48.2			comp=Z,150nm,3.8s									comp=Z,30nm,0.8s							
	comp=Z,81nm,0.4s								GYA				LN					KSH	**Kashi**	**34.56**	**338**	P		**P**	**20 21 43.9**	**-0.7**
HYB	**Hyderabad**	**16.07**	**307**	*e*P		**Pn**	**20 18 41.0**	**-1.5**		comp=Z,420nm,12.7s								KSH				pP		**pP**	**20 21 51.1**	**-2.5**
HYB				*e*S		**S**	**20 21 52.0**	**-0.8**	GYA				LE					KSH				sP		**sP**	**20 21 54.8**	**-2.5**
HYBB	**Hyderabad (bro**	**16.08**	**307**	*e*Pn		**Pn**	**20 18 42.5**	**-0.1**		comp=Z,500nm,14.5s								KSH				S		**S**	**20 27 08.3**	**-3.6**
HYBB				*e*pPn		**P**	**20 18 46.8**	**+1.2**	GYA				LZ					KSH				sS		sS	20 27 20.6	-6.1
HYBB				*e*			20 18 58.5			comp=Z,490nm,15.5s								KSH				PcS		**PcS**	**20 28 06.4**	**+0.8**
HYBB				*e*Sn		Sn	20 21 24.4	-16	SMRI	**Semarang**	**23.72**	**128**	P		**P**	**20 20 10.2**	**+2.0**	KSH				ScS		**ScS**	**20 32 03.9**	**-1.4**
RPR	**Rampur**	**16.38**	**313**	*e*Pn		**Pn**	**20 18 46.7**	**+0.3**		comp=Z,253nm,0.8s								KSH				PMZ				
RPR				*e*pPn		**pPn**	**20 18 51.3**	**-2.4**	SMRI	**Semarang**	**23.72**	**128**	P		**P**	**20 20 10.4**	**+2.2**		comp=Z,50nm,0.9s							
RPR				*e*Sn		Sn	20 21 32.6	-15		baz=24,SNR=3.9								KSH				LN				
MNAI	**Manna**	**16.44**	**137**	P		**P**	**20 18 53.0**	**+3.3**	SMRI	**Semarang**	**23.72**	**128**	*e*P		**P**	**20 20 09.2**	**+0.9**		comp=Z,400nm,15.0s							
	baz=17,SNR=3.4									comp=Z,153nm,0.8s								KSH				LE				
MNAI				S		Sn	20 21 37.3	-12	UWJI	**Ujung Watu**	**23.74**	**126**	P		**P**	**20 20 09.7**	**+1.3**		comp=Z,480nm,14.3s							
	baz=17,SNR=7.1									comp=Z,336nm,1.1s,comp=Z,4µm								KSH				LZ				
LHSI	**Lahat**	**16.45**	**135**	P		**Pn**	**20 18 46.0**	**-1.3**	LGTI	**Lohaghat**	**24.06**	**334**	*ex*		**P**	**20 20 15.9**	**+4.7**		comp=Z,1µm,23.2s							
	comp=Z,269nm,1.0s,comp=Z,3µm								LGTI				*ex*		x	20 24 44.6		NJ2	**Nanjing**	**34.71**	**43**	*e*P		**P**	**20 21 46.1**	**+0.2**
PMBI	**Palembang**	**16.76**	**129**	P		**P**	**20 18 54.1**	**+0.9**	KKM	**Kota Kinabalu**	**24.21**	**93**	P		**P**	**20 20 14.0**	**+1.1**	NJ2				PMZ				
	comp=Z,326nm,1.1s,comp=Z,4µm									baz=24,SNR=9.7									comp=Z,20nm,0.6s							
PMBI	**Palembang**	**16.76**	**129**	*e*Pn		**P**	**20 18 53.9**	**+0.7**	KKM	**Kota Kinabalu**	**24.21**	**93**	⇑P		**P**	**20 20 14.1**	**+1.2**	SANI	**Sanana**	**35.41**	**105**	P		**P**	**20 21 53.2**	**+1.0**
	comp=Z,376nm,1.1s								KKM	**Kota Kinabalu**	**24.21**	**93**	*e*P		**P**	**20 20 13.6**	**+0.7**		comp=Z,14nm,1.1s							
BOK	**Bokaro**	**16.81**	**341**	*e*P		**Pn**	**20 18 51.8**	**0.0**		comp=Z,527nm,1.8s								WMQ	**Urumqi**	**35.96**	**355**	⇓ *i* P		**P**	**20 21 57.8**	**+1.3**
IMP	**Imphal**	**16.89**	**6**	*ex*		**Pn**	**20 18 52.0**	**-0.8**	UGM	**Wanagama**	**24.33**	**130**	P		P	20 20 19.1	+5.2	WMQ				pP		**pP**	**20 22 05.0**	**-0.5**
IMP				*e*S		**S**	**20 22 10.0**	**+0.6**		comp=Z,122nm,1.3s								WMQ				sP		**sP**	**20 22 09.0**	**-0.2**
MDSI	**Maura Dua**	**17.37**	**135**	P		**Pn**	**20 18 56.3**	**-2.6**	UGM	**Wanagama**	**24.33**	**130**	P		**P**	**20 20 18.1**	**+4.2**	WMQ				PP		**PP**	**20 23 19.0**	**+0.4**
	comp=Z,146nm,1.2s,comp=Z,2µm									baz=24,SNR=4.6								WMQ				S		**S**	**20 27 32.3**	**-0.8**
SHL	**Shillong**	**17.56**	**360**	*e*P		**Pn**	**20 18 58.0**	**-3.3**	UGM	**Wanagama**	**24.33**	**130**	*e*P		**P**	**20 20 12.9**	**-0.9**	WMQ				PcS		**PcS**	**20 28 06.0**	**-4.4**
	comp=Z,71nm,0.7s									comp=Z,145nm,1.2s								WMQ				SS		**SnSn**	**20 29 54.0**	**-4.5**
SHL				*e*S		**Sn**	**20 22 15.0**	**-1.0**	MTKI	**Muara Teweh, K**	**24.56**	**110**	P		**P**	**20 20 16.6**	**+0.6**	WMQ				PMZ				
LWLI	**Liwa**	**17.67**	**136**	P		**P**	**20 19 03.5**	**+0.1**		comp=Z,95nm,1.2s,comp=Z,4µm									comp=Z,30nm,0.8s							
	comp=Z,185nm,0.7s								WOJI	**Wonogiri, Jawa**	**24.59**	**129**	P		**P**	**20 20 18.9**	**+2.7**	WMQ				PMZ				
NGP	**Nagpur**	**18.09**	**318**	*e*P		**Pn**	**20 19 04.5**	**-3.1**		comp=Z,79nm,0.9s									comp=Z,180nm,4.6s							
NGP				*ex*		x	20 19 13.6		TBJI	**Tambak Boyo**	**24.70**	**126**	P		**P**	**20 20 18.6**	**+1.4**	WMQ				LN				
	comp=Z,396nm,1.1s									comp=Z,601nm,0.9s,comp=Z,6µm									comp=Z,940nm,20.0s							
NGP				*ex*		x	20 22 14.8		H08S3	**Diego Garcia H**	**24.76**	**232**	T		T	20 46 37.3		WMQ				LE				
KLI	**Kotabumi**	**18.12**	**134**	P		P	20 19 16.5	+8.3		baz=52,slow=76,SNR=1184						

SOEI Soe 36.71 118 *e*P **P** **20 22 03.8 +0.4**
comp=Z,44nm,0.9s
ULHL Ulahol 36.88 340 P **P** **20 22 06.1 +1.4**
SNR=63
ULHL Ulahol 36.88 340 *i* P **P** **20 22 06.0 +1.4**
KZA Kyzart 37.07 339 P **P** **20 22 08.4 +1.8**
SNR=45
KZA Kyzart 37.07 339 *i* P **P** **20 22 08.3 +1.8**
HHC Hu-ho-hao-te 37.18 25 *e*P **P** **20 22 08.6 +1.5**
HHC PP **PnPn** **20 23 37.0 +4.3**
HHC S **S** **20 27 50.5 -1.4**
HHC sS **sS** **20 28 05.5 -1.3**
HHC SS **SnSn** **20 30 26.1 -2.1**
HHC PMZ
comp=Z,13nm,0.9s
HHC PMZ
comp=Z,93nm,4.7s
HHC LN
comp=Z,330nm,13.9s
HHC LE
comp=Z,370nm,15.4s
HHC LZ
comp=Z,310nm,18.1s
UCH Uchtor 37.47 339 P **P** **20 22 11.7 +1.8**
SNR=130
UCH Uchtor 37.47 339 *i* P **P** **20 22 11.7 +1.8**
AML Almayashu 37.68 338 P **P** **20 22 13.8 +2.2**
SNR=365
AML Almayashu 37.68 338 *i* P **P** **20 22 13.8 +2.2**
KBK Karagaybulak 37.69 339 P **P** **20 22 13.8 +2.4**
SNR=222
KBK Karagaybulak 37.69 339 *i* P **P** **20 22 13.8 +2.4**
TKM2 Tokmak 2 37.70 340 P **P** **20 22 13.0 +1.4**
SNR=66
TKM2 Tokmak 2 37.70 340 *e*P **P** **20 22 12.9 +1.4**
TKM2 pmax pmax
comp=Z,58nm,1.0s
TKM2 Tokmak 2 37.70 340 *e*P **P** **20 22 12.9 +1.4**
comp=Z,58nm,1.0s
AAK Ala-Archa 37.83 339 P **P** **20 22 14.6 +2.0**
comp=Z,642nm,1.0s
AAK Ala-Archa 37.83 339 P **P** **20 22 14.7 +2.1**
SNR=109
AAK Ala-Archa 37.83 339 *i* P **P** **20 22 14.5 +2.0**
AAK Ala-Archa 37.83 339 LR LR 20 38 36.5
comp=Z,645nm,20.5s,baz=152,slow=38
AAK Ala-Archa 37.83 339 *e*P **P** **20 22 14.7 +2.0**
comp=Z,132nm,1.0s
FRU Bishkek 37.96 339⇓ *i*P **P** **20 22 15.0 +1.5**
FRU *i* 20 23 43.0
FRU *e* 20 28 09.0
FRU pmax pmax
comp=Z,180nm,1.9s
CHMS Chumysh 38.06 339 P **P** **20 22 15.8 +1.4**
SNR=51
CHMS Chumysh 38.06 339 *i* P **P** **20 22 15.8 +1.4**
EKS2 Erkin-Say 38.11 338 P **P** **20 22 17.3 +2.3**
SNR=156
EKS2 Erkin-Say 38.11 338 *i* P **P** **20 22 17.2 +2.3**
EKS2 Erkin-Say 38.11 338 *e*P **P** **20 22 17.2 +2.3**
comp=Z,93nm,0.8s
USP Ospenovka 38.38 339 P **P** **20 22 18.7 +1.5**
SNR=181
USP Ospenovka 38.38 339 *i* P **P** **20 22 18.6 +1.5**
BJI Beijing 38.66 30 P **P** **20 22 17.5 -1.9**
BJI S **S** **20 28 11.6 -2.5**
BJI PMZ
comp=Z,7.0nm,0.4s
BJI LN
comp=Z,360nm,37.0s
BJI LE
comp=Z,390nm,36.2s
BJI LZ
comp=Z,170nm,35.3s
MKAR Makanchi Array 39.61 350 P **P** **20 22 28.0 +0.7**
MKAR pmax pmax
comp=Z,38nm,0.8s
MKAR MLR MLR
comp=Z,408nm,19.4s
MKAR Makanchi Array 39.61 350 P **P** **20 22 28.0 +0.7**
comp=Z,38nm,0.8s,baz=167,slow=8.4,SNR=372
MKAR LR LR 20 42 19.6
comp=Z,408nm,19.4s,baz=178,slow=41
KKAR Karatay Array 39.76 335 *e*P **P** **20 22 29.8 +1.2**
KKAR Karatay Array 39.76 335 *e*P **P** **20 22 29.8 +1.2**
IMYA Miami 40.49 319 *e*P **P** **20 22 35.6 +0.6**
IBAF Bafgh 41.21 310 *e*P **P** **20 22 42.6 +1.7**
IPAY Payeh 41.28 318 *e*P **P** **20 22 43.1 +1.5**
IAKL Akhelmad 41.52 318 *e*P **P** **20 22 45.0 +1.4**
SONM Songino Array 41.65 15 P **P** **20 22 45.2 +0.9**
SONM pmax pmax
comp=Z,22nm,0.7s
SONM MLR MLR
comp=Z,240nm,21.7s
SONM Songino Array 41.65 15 P **P** **20 22 45.2 +0.9**
comp=Z,22nm,0.7s,baz=194,slow=8.9,SNR=234
SONM LR LR 20 41 53.4
comp=Z,240nm,21.7s,baz=192,slow=39
FAKI Fak Fak 41.66 103 P **P** **20 22 45.0 +0.3**
baz=41,SNR=14
FAKI Fak Fak 41.66 103 *e*P **P** **20 22 44.6 -0.1**
comp=Z,36nm,1.2s
IKRD Kardeh 41.78 318 *e*P P 20 22 41.7 -4.0
ULN Ulaanbaatar 41.84 15 *d*P **P** **20 22 46.3 +0.4**
ULN pmax pmax
comp=Z,51nm,2.5s
ULN Ulaanbaatar 41.84 15 *e*P **P** **20 22 46.5 +0.6**
comp=Z,13nm,0.7s
ISFR Sfrayin 42.28 318 *e*P **P** **20 22 51.2 +1.4**
IPAR Pars 42.44 306 *e*P **P** **20 22 53.0 +1.8**
GEYT Alibeck 42.71 320 P **P** **20 22 54.6 +1.6**
comp=Z,89nm,0.8s,baz=142,slow=7.5,SNR=171
GEYT LR LR 20 41 30.4
comp=Z,653nm,21.5s,baz=130,slow=37
MEEK Meekatharra 43.03 144 P P 20 23 02.3 +6.7
baz=43,SNR=5.5
ZAK Zakamensk 43.38 11⇑ *i*P **P** **20 22 58.5 +0.2**
ZAK *e* 20 24 41.8
ZAK pmax pmax
comp=Z,18nm,1.1s
KNRA Kununurra 43.39 123 P **P** **20 22 57.1 -1.6**
baz=43,SNR=6.3
KSAR Wonju Array Be 43.88 42 P **P** **20 23 02.2 -0.2**
KSAR Wonju Array Be 43.88 42 P **P** **20 23 02.1 -0.2**
JNU Nakatsue 43.90 50 P **P** **20 23 02.6 0.0**
comp=Z,78nm,0.8s,baz=327,slow=6.0,SNR=6.0
KSRS Korea Array 43.91 42 P **P** **20 23 02.2 -0.4**
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 43.91 42 P **P** **20 23 02.1 -0.4**
comp=Z,2.5nm,0.9s,baz=243,slow=9.3,SNR=5.8
KURBB Kurchatov Arra 44.00 348 P **P** **20 23 04.0 +0.9**
comp=Z,58nm,0.9s,baz=168,slow=6.8,SNR=532
KURK Kurchatov 44.07 348 P **P** **20 23 04.0 +0.4**
comp=Z,262nm,1.2s,SNR=62
KURK Kurchatov 44.07 348 P **P** **20 23 04.1 +0.4**
KURK pmax pmax
comp=Z,58nm,0.9s
KURK Kurchatov 44.07 348 *e*P **P** **20 23 04.3 +0.7**
comp=Z,150nm,1.2s
MTN Manton Dam 44.10 118 P **P** **20 23 02.2 -2.2**
baz=44,SNR=8.6
IZEF Zefreh 44.24 310 *e*P **P** **20 23 06.0 +0.2**
MOY Mondy 44.26 8 *e*P **P** **20 23 07.2 +1.9**
MOY pmax pmax
comp=Z,20nm,1.6s
TLY Talaya 44.69 10 *e*P **P** **20 23 10.7 +2.0**
TLY *e*SS SS 20 32 50.0 -14
TLY pmax pmax
comp=Z,32nm,1.4s
TLY MLR MLR
comp=Z,199nm,23.0s
TLY Talaya 44.69 10 P **P** **20 23 10.3 +1.6**
comp=Z,8.9nm,0.8s,baz=214,slow=7.6,SNR=19
TLY LR LR 20 45 06.4
comp=Z,158nm,21.3s,baz=192,slow=40
TLY Talaya 44.69 10 *e*P **P** **20 23 10.3 +1.6**
comp=Z,26nm,1.1s
KDU Kakadu 45.22 117 P **P** **20 23 12.3 -1.0**
baz=45,SNR=4.5
IRK Irkutsk 45.35 11 *e*P **P** **20 23 14.2 +0.4**
IRK *e* 20 25 00.7
IRK pmax pmax
comp=Z,45nm,1.4s
CN2 Changchun 46.20 34 *e*P **P** **20 23 21.3 +0.6**
CN2 *e*pP **pP** **20 23 33.8 +3.9**
CN2 *e*PP **PP** **20 25 10.8 +1.3**
CN2 *e*S **S** **20 30 05.4 +0.2**
CN2 *e*SS SS 20 33 23.1 -7.7
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 LN
comp=Z,600nm,19.0s
CN2 LE
comp=Z,400nm,19.0s
CN2 LZ
comp=Z,400nm,20.0s
ZALV Zalesovo Beam 46.26 354 P **P** **20 23 21.7 +0.7**
ZALV pmax pmax
comp=Z,39nm,0.9s
ZALV MLR MLR
comp=Z,516nm,21.0s
ZALV Zalesovo Beam 46.26 354 P **P** **20 23 21.6 +0.7**
comp=Z,39nm,0.9s,baz=170,slow=9.0,SNR=197
ZALV LR LR 20 45 48.8
comp=Z,516nm,21.0s,baz=244,slow=40
RAYN Ar Rayn 47.05 295 P **P** **20 23 29.0 +1.2**
comp=Z,223nm,0.6s,SNR=18
RAYN Ar Rayn 47.05 295 *e*P **P** **20 23 29.0 +1.2**
comp=Z,23nm,0.9s
IRAZ Razeghan 47.11 312 *e*P **P** **20 23 29.5 +1.2**
NVS Novosibirsk 47.31 353⇓ *i*P **P** **20 23 28.4 -0.8**
NVS *e* 20 23 41.6
NVS *e*S **S** **20 30 18.8 -1.8**
NVS pmax pmax
comp=Z,49nm,0.8s
NVS pmax pmax
comp=N,31nm,0.8s
NVS pmax pmax
comp=E,17nm,0.9s
NVS smax smax
comp=E,19nm,1.5s
NVS smax smax
comp=N,14nm,1.4s
HIA Hailar 47.38 25 *e*P **P** **20 23 30.6 +0.7**
HIA Hailar 47.38 25 *e*P **P** **20 23 30.6 +0.7**
H01W3 Cape Leeuwin H 47.47 155 T T 21 14 29.9
baz=330,SNR=3.4
H01W2 Cape Leeuwin H 47.48 155 T T 21 14 20.5
baz=330
H01W1 Cape Leeuwin H 47.49 155 T T 21 14 26.8
baz=330
WRKA Warakurna 48.26 134 P **P** **20 23 36.5 -0.6**
baz=48,SNR=12
BVAR Borovoye Array 48.26 343 LR LR 20 45 19.4
comp=N,436nm,21.0s,baz=162,slow=38
BRVK Borovoye 48.32 343 P **P** **20 23 37.1 0.0**
comp=N,324nm,0.8s,SNR=36
BRVK Borovoye 48.32 343 *e*P **P** **20 23 37.2 +0.1**
BRVK pmax pmax
comp=Z,44nm,0.8s
BRVK Borovoye 48.32 343 *e*P **P** **20 23 37.2 +0.1**
comp=Z,44nm,0.8s
KMBL Kambalda 48.46 145 P P 20 23 47.1 +8.6
baz=49,SNR=6.6
MDJ Mudanjiang 49.04 35 P **P** **20 23 43.4 +0.7**
MDJ pP **pP** **20 23 49.6 -2.4**
MDJ sP **sP** **20 23 52.3 -3.3**
MDJ PP **PP** **20 25 36.6 +0.1**
MDJ S **S** **20 30 47.0 +1.5**
MDJ sS **sS** **20 30 56.5 -4.2**
MDJ PMZ
comp=Z,6.0nm,1.2s
MDJ PMZ
comp=Z,180nm,4.5s
MDJ LN
comp=Z,890nm,13.9s
MDJ LE
comp=Z,2µm,15.6s
MDJ LZ
comp=Z,1µm,9.8s
ABKAR Akbulak array 49.16 333 *e*P **P** **20 23 44.6 +1.0**
WRA Warramunga Arr 50.11 124 P **P** **20 23 50.0 -1.3**
WRA pmax pmax
comp=Z,23nm,0.8s
WRA MLR MLR
comp=Z,295nm,21.8s
WRA Warramunga Arr 50.11 124 P **P** **20 23 50.0 -1.3**
comp=Z,23nm,0.8s,baz=305,slow=8.7,SNR=127
WRA LR LR 20 46 06.6
comp=Z,295nm,21.8s,baz=345,slow=37
WRAB Tennant Creek 50.11 124 P **P** **20 23 50.0 -1.3**
comp=Z,233nm,0.8s,SNR=32
WRAB Tennant Creek 50.11 124 *ce*P **P** **20 23 50.2 -1.1**
WRAB pmax pmax
comp=Z,111nm,1.2s
WRAB Tennant Creek 50.11 124 *e*P **P** **20 23 50.3 -1.1**
comp=Z,26nm,0.8s
WB2 Warramunga Arr 50.12 124 *e*P **P** **20 23 49.6 -1.7**
MJAR Matsushiro Art 50.79 49 P **P** **20 23 57.2 +1.0**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 50.79 49 P **P** **20 23 57.2 +1.0**
comp=Z,4.1nm,0.8s,baz=232,slow=5.9,SNR=7.2
ABPO Ambohimpanom 51.52 238 *e*P P
ABPO pmax pmax
comp=Z,39nm,1.1s
ABPO Ambohimpanom 51.52 238 *e*P P 20 24 10.6 +8.4
comp=Z,39nm,1.1s
AS31 Alice Springs 51.66 129 *e*P **P** **20 24 01.4 -1.5**
ASAR Alice Springs 51.66 129 P **P** **20 24 01.7 -1.3**
ASAR S **S** **20 31 22.3 -0.3**
ASAR pmax pmax
comp=Z,9.0nm,0.8s
ASAR MLR MLR
comp=Z,429nm,20.8s
ASAR Alice Springs 51.66 129 P **P** **20 24 01.6 -1.3**
comp=Z,8.6nm,0.8s,baz=301,slow=7.3,SNR=82
ASAR S **S** **20 31 22.3 -0.3**
comp=Z,0.3nm,0.8s,baz=301,slow=13,SNR=4.7
ASAR LR LR 20 46 49.9
comp=Z,429nm,20.8s,baz=296,slow=37
FORT Forrest 51.78 140 *e*P **P** **20 24 04.1 +0.4**
comp=Z,76nm,1.0s
BOD Bodaibo 52.65 15 *e*P **P** **20 24 10.3 +0.6**
BOD pmax pmax
comp=Z,48nm,1.2s
GNI Garni 52.83 315 *de*P **P** **20 24 12.3 +0.7**
GNI pmax pmax
comp=Z,37nm,1.2s
GNI Garni 52.83 315 *e*P **P** **20 24 09.9 -1.6**
comp=Z,51nm,1.3s
DGRG David-gareji 52.95 317 P **P** **20 24 12.5 +0.2**
TBLG Delisi 53.50 317 P pP 20 24 28.2 +2.6
AKH Akhalkalaki 54.21 316 P **P** **20 24 23.3 +1.6**
HABR Khabarovsk 54.34 34 *e*P **P** **20 24 20.5 -1.7**
HABR *e*PP **pP** **20 24 30.5 -1.1**
HABR *e*SP **sP** **20 24 34.6 -0.6**
HABR 20 25 23.4
HABR 20 26 23.4
HABR 20 27 33.0
HABR *e*PPP PPP
HABR *e*S **S** **20 31 57.8 -0.5**
HABR *e*SS **sS** **20 32 14.9 +1.3**
HABR *e* 20 34 06.6
HABR *e*SS **SS** **20 35 42.2 +1.5**
HABR pmax pmax
comp=Z,24nm,1.5s
HABR MLR MLR
comp=Z,242nm,20.0s
HABR pmax pmax
comp=Z,178nm,2.0s
HABR pmax pmax
comp=N,60nm,1.5s
HABR MLR MLR
comp=Z,316nm,16.0s
ZEI Tsey 54.51 318 *e*P **P** **20 24 22.3 -1.6**
ZEI pmax pmax
comp=Z,22nm,1.4s
ONI Oni 54.73 317 P **P** **20 24 26.2 +0.9**
KBSD Kabsdagh 54.75 310 *e*P P 20 24 32.4 +6.9
QIS Mount Isa 54.77 122 P **P** **20 24 24.9 -0.9**
baz=55,SNR=15
SFNV Sufian 54.89 309 *e*P **P** **20 24 27.5 +0.9**
ARU Arti 55.01 338 P **P** **20 24 27.2 +0.3**
comp=Z,378nm,0.8s,SNR=24
ARU Arti 55.01 338 *d* *i*P **P** **20 24 27.3 +0.3**
ARU 20 25 29.1
ARU 20 26 28.4
ARU S **S** **20 32 11.0 +4.0**
ARU SS **SS** **20 35 52.8 +1.9**
ARU pmax pmax
comp=Z,127nm,1.7s
ARU MLR MLR
comp=Z,542nm,19.0s
ARU Arti 55.01 338 *e*P **P** **20 24 27.4 +0.5**
comp=Z,59nm,0.9s
CLNS Chul'man 55.19 21 *e*P **P** **20 24 25.9 -2.4**
CLNS pmax pmax
comp=Z,23nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=N,12nm,0.9s
KMBO Kilima Mbogo 55.22 263 P **P** **20 24 29.2 -0.4**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 55.22 263 P **P** **20 24 29.1 -0.4**
comp=Z,4.1nm,0.8s,baz=56,slow=12,SNR=10
COEN Coen 55.33 113 P **P** **20 24 28.0 -2.0**
KIV Kislovodsk 55.81 319 *e*P **P** **20 24 33.0 -0.1**
KIV *e* 20 25 31.9
KIV *e*S **S** **20 32 19.0 +0.6**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,143nm,16.0s
KIV Kislovodsk 55.81 319⇓ *i*P **P** **20 24 33.6 +0.5**
SNR=6.9
KIV Kislovodsk 55.81 319 *e*P **P** **20 24 33.2 +0.1**
comp=Z,33nm,0.9s
JHLN Al Jahlan 55.97 308 *e*P P 20 24 30.8 -3.6
GOF Gofitskoye 56.05 320 *e*P **P** **20 24 34.8 +0.1**
ZALF Zalf 56.15 304 *e*P **P** **20 24 35.1 -0.6**
ROOS tl_alroos 56.49 306 *e*P **P** **20 24 35.7 -2.4**
SALA Sala 56.59 304 *e*P **P** **20 24 40.6 +1.6**
RABH Abou Rabah 56.62 306 *e*P **P** **20 24 38.4 -0.6**
MALT Malatya 56.75 311⇓ *i*P **P** **20 24 40.5 +0.5**
HAWK Haweek 57.28 306 *e*P **P** **20 24 45.0 +1.2**
BIDA Albida 57.47 307 *e*P P 20 24 48.5 +3.4
EIL Elat 57.48 300 P **P** **20 24 46.9 +1.7**
baz=58,SNR=3.8
PMG Port Moresby 57.67 106⇑ *i*P **P** **20 24 46.9 +0.2**
PMG pmax pmax
comp=Z,23nm,1.0s
PMG Port Moresby 57.67 106 LR LR 20 55 32.7
comp=Z,170nm,18.1s,baz=282,slow=42
ARNB Al Arnab 57.95 307 *e*P P 20 24 55.4 +7.0
SOKR Solikamsk 58.00 340 *d* *i*P **P** **20 24 48.8 +0.7**
SOKR pmax pmax
comp=Z,80nm,1.1s
SOKR MLR MLR
comp=Z,390nm,17.0s
YSS Yuzh-Sakhalins 58.13 39⇑ *e*P **sP** **20 25 03.5 +1.2**
YSS *e* 20 25 19.5
YSS pmax pmax
comp=Z,30nm,1.0s
BBOO Buckleboo 58.35 136 P **P** **20 24 50.8 -0.3**
baz=58,SNR=8.4
ANN Anapa 59.61 318 *e*P P 20 24 48.9 -11
ANN pmax pmax
comp=Z,43nm,2.1s
VRHR Novokhopersk 59.64 326 *e**SP **P** **20 24 58.2 -1.6**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.0s
YAK Yakutsk 60.68 19 *e*P **P** **20 25 06.2 -0.4**
YAK *e**PP **pP** **20 25 17.6 +1.5**
YAK *e* 20 25 49.5
YAK *e* 20 27 21.1
YAK *e*PPP PPP 20 28 45.7
YAK *e*S **S** **20 33 21.3 +0.2**
YAK *e**SS **sS** **20 33 41.1 +4.5**
YAK *e* 20 34 56.3
YAK *e*SS **SS** **20 37 23.7 +3.8**
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=Z,205nm,4.0s
YAK pmax pmax
comp=N,242nm,4.0s
YAK pmax pmax
comp=E,110nm,3.3s
YAK smax smax
comp=N,281nm,4.0s
YAK smax smax
comp=E,64nm,3.3s
YAK Yakutsk 60.68 19 P **P** **20 25 06.3 -0.3**
comp=E,15nm,0.5s,baz=39,slow=7.7,SNR=18
YAK Yakutsk 60.68 19 *e*P **P** **20 25 06.8 +0.1**
comp=E,40nm,0.9s
BRTR Keskin Array B 60.73 311 P **P** **20 25 06.7 -0.9**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR MLR MLR
comp=Z,115nm,21.0s
BRTR Keskin Array B 60.73 311 P **P** **20 25 06.7 -0.9**
comp=Z,3.5nm,0.7s,baz=124,slow=6.6,SNR=27
BRTR LR LR 20 54 07.6
comp=Z,114nm,21.0s,baz=107,slow=39
VORD Divnogorie 60.90 325 *e*P **P** **20 25 06.9 -1.5**
VORD *e**SP **sP** **20 25 19.6 -1.8**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 61.08 325 *e*P **P** **20 25 08.1 -1.5**
VSR *e**SP **sP** **20 25 20.8 -1.8**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.3s
QLP Quilpie 61.24 126 P **P** **20 25 11.6 +0.5**
baz=61,SNR=4.0
STKA Stephens Creek 61.75 133 *e*P **P** **20 25 14.2 -0.3**
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 61.75 133 P **P** **20 25 14.3 -0.3**
comp=Z,12nm,0.8s,baz=317,slow=6.3,SNR=37
STKA LR LR 20 54 28.1
comp=Z,227nm,19.8s,baz=296,slow=38
STKA Stephens Creek 61.75 133 P **P** **20 25 14.2 -0.3**
baz=62,SNR=25
STKA Stephens Creek 61.75 133 *e*P **P** **20 25 14.2 -0.3**
comp=Z,2.7nm,0.8s
SIM Simferopol' 61.88 317 *ce*P **P** **20 25 15.3 +0.1**
SIM *e* 20 25 28.0
SIM *e*S **S** **20 33 39.0 +2.0**
SIM pmax pmax
comp=Z,16nm,1.4s
SIM pmax pmax
comp=Z,60nm,17.0s
SIM MLR MLR
comp=Z,100nm,19.5s
PRGR Permogore 63.44 337 *e*P **P** **20 25 22.2 -3.0**
PRGR *e**PP **pP** **20 25 32.2 -2.5**
PRGR *e**SP **sP** **20 25 36.5 -1.8**
PRGR *e* 20 25 57.4
PRGR *e*S **S** **20 33 52.3 -3.6**
PRGR pmax pmax
comp=Z,110nm,0.9s
MOS Moscow 63.90 329 *e*P **P** **20 25 26.5 -1.8**
MOS *e* 20 25 36.5
MOS *e* 20 26 01.7
MOS *e*S **S** **20 34 01.1 -0.8**
MOS pmax pmax
comp=Z,66nm,1.1s
MOS pmax pmax
comp=Z,200nm,1.8s
OBN Obninsk 64.17 328 *ce*P **P** **20 25 29.7 -0.4**
OBN *e* 20 27 51.6
OBN *e*S **S** **20 34 02.3 -2.9**
OBN pmax pmax
comp=Z,69nm,1.7s
OBN MLR MLR
comp=Z,430nm,18.0s
OBN Obninsk 64.17 328 *e*P **P** **20 25 29.4 -0.7**

comp=Z,34nm,0.9s
CMSA Cobar Meteorol 64.63 130 P P 20 25 33.8 +0.2
baz=65,SNR=36
RMQ Roma 64.87 124 P P 20 25 36.8 +1.6
baz=65,SNR=16
NIS1 Nisyros Isl. 65.06 307 *eP* sP 20 25 48.5 -1.0
ZKR Zakros 65.62 305 *eP* **P 20 25 41.0 +1.0**
TIRR Tirgusor 65.66 315 *eP* **P 20 25 38.9 -1.1**
TIRR pmax pmax
comp=Z,13nm,0.9s
TIRR Tirgusor 65.66 315⇓ *iP* **P 20 25 39.5 -0.5**
TIRR Tirgusor 65.66 315 *eP* **P 20 25 38.9 -1.1**
comp=Z,13nm,0.9s
TLB Topalu 65.95 315⇑ *iP* **P 20 25 41.7 -0.2**
MSAB Monastry St. A 65.99 315⇑ *iP* **P 20 25 42.2 0.0**
KIS Kishinev 66.00 318 *eP* **P 20 25 42.0 -0.2**
KIS *eL* L 20 56 24.0
KIS LRM MLR 20 58 16.0
comp=Z,300nm,18.0s
CFR Carcaliu 66.02 316⇓ *iP* **P 20 25 41.4 -0.9**
NPS Neapolis 66.13 305 *eP* **P 20 25 44.0 +0.7**
PRK Paraskevi 66.19 309 *eP* sP 20 25 56.5 -0.2
CHOS Chios island 66.22 308 *eP* sP 20 25 57.5 +0.5
LAST Lasithi 66.23 305 *eP* **P 20 25 44.5 +0.5**
SANT Santorini 66.40 306 *eP* **P 20 25 48.0 +2.9**
SANT Santorini 66.40 306 *eP* **P 20 25 43.6 -1.4**
comp=Z,18nm,0.8s
SIGR SIGRI 66.51 309 *eP* sP 20 25 58.5 -0.2
JMB Yambol 66.54 313⇑ *iP* **P 20 25 46.0 +0.2**
ALN Alexandroupoli 66.65 311 *eP* sP 20 25 58.5 -1.1
AKASG Malin Array Be 66.75 322 P **P 20 25 45.6 -1.4**
AKASG 20 28 12.3
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG MLR MLR
comp=Z,201nm,19.1s
AKASG Malin Array Be 66.75 322 P **P 20 25 45.5 -1.4**
comp=Z,5.9nm,0.8s,baz=86,slow=5.2,SNR=34
AKASG PP **PP 20 28 12.3 -1.8**
comp=Z,2.3nm,0.8s,baz=102,slow=8.0,SNR=4.8
AKASG LR LR 20 59 46.7
comp=Z,200nm,19.1s,baz=105,slow=40
SIVA Sivas 66.75 305 *eP* **P 20 25 48.0 +0.7**
KIEV Kiev 66.76 322 *c iP* **P 20 25 45.8 -1.2**
KIEV Kiev 66.76 322 *eP* **P 20 25 45.5 -1.5**
comp=Z,11nm,1.0s
SMTH Samothraki Isl 66.96 311 *eP* sP 20 26 01.0 -0.6
RDO Rodhopi 67.07 311 *eP* **P 20 25 48.5 -0.6**
VRI Vrincioaia 67.14 317⇑ *iP* **P 20 25 50.3 +0.7**
PLOR Plostina 67.19 316⇑ *iP* **P 20 25 50.7 +0.8**
LSZ Lusaka 67.19 250 *eP* **P 20 25 48.0 -2.5**
LSZ pmax pmax
comp=Z,9.0nm,1.1s
LSZ Lusaka 67.19 250 *eP* **P 20 25 48.0 -2.5**
comp=Z,9.2nm,1.1s
KDZ Kurdzhali 67.24 312⇑ *iP* **P 20 25 50.5 +0.2**
VAM Vamos 67.30 305 *eP* **P 20 25 50.0 -0.7**
TESR Tescani 67.33 317⇑ *iP* **P 20 25 51.0 +0.2**
TOO Toolangi 67.41 136 P **P 20 25 52.3 +0.9**
baz=68,SNR=5.6
KARN Karanos 67.53 305 *eP* **P 20 25 53.0 +0.8**
MLR Muntele Rosu 67.59 316⇑ *iP* **P 20 25 53.5 +0.9**
TIXI Tiksi 67.64 12 *d iP* **P 20 25 51.9 -0.3**
TIXI pmax pmax
comp=Z,93nm,1.0s
TIXI Tiksi 67.64 12 *eP* **P 20 25 52.1 -0.1**
comp=Z,70nm,0.8s
TMCR Tamitsa 67.73 338 *eP* **P 20 25 52.6 -0.3**
TMCR pmax pmax
comp=Z,53nm,1.1s
PRAR RASCA 67.81 318⇓ *iP* **P 20 25 53.3 -0.4**
PTL Penteli 67.88 308 *eP* sP 20 26 06.5 -1.1
YNG Young 67.92 132 P **P 20 25 54.6 0.0**
baz=68,SNR=5.1
ATH Athens Observa 67.99 308 *eP* pP 20 26 04.5 -0.1
OUR Ouranopolis 68.11 310 *eP* **P 20 25 55.5 -0.2**
MRKA Markates 68.19 308 *eP* P 20 25 50.0 -6.3
VOIR 68.20 316⇑ *iP* **P 20 25 55.9 -0.4**
PAIG Paliouri 68.28 310 *eP* **P 20 25 56.5 -0.3**
KYTH Kithira 68.33 306 *eP* sP 20 26 10.0 -0.4
NVR Nevrokopi 68.35 311 *eP* **P 20 25 56.5 -0.8**
VLI Veliai 68.46 306 *eP* P 20 26 01.5 +3.5
ARR Arges 68.48 316⇑ *iP* **P 20 25 57.6 -0.5**
MMB Musomiste 68.48 312⇑ *iP* **P 20 25 57.8 -0.3**
SRS Serrai 68.52 311 *eP* **P 20 25 57.5 -0.8**
PLG Polygyros 68.52 310 *eP* **P 20 25 58.0 -0.4**
BURAR Bucovina Array 68.53 318⇓ *iP* **P 20 25 58.7 +0.3**
LTK Loutraki 68.58 308 *eP* sP 20 26 10.5 -1.4
SOH Sokhos 68.65 311 *eP* **P 20 25 58.0 -1.2**
ARMA Armidale 68.75 127 P **P 20 26 01.8 +1.8**
baz=69,SNR=4.4
ARMA Armidale 68.75 127 *eP* **P 20 26 01.4 +1.4**
comp=Z,36nm,1.1s
MPEP Malo Peshtene 68.75 313 P **P 20 26 00.4 +0.7**
HORT Hortiatis 68.81 310 *eP* **P 20 25 59.5 -0.8**
DESF Desfina 68.97 308 *eP* **P 20 25 58.5 -2.8**
VLX Vlachokerasia 68.97 307 *eP* **P 20 26 00.5 -0.9**
KKB Krupnik 69.00 312 P **P 20 26 00.6 -0.7**
VTS Vitosha 69.02 313⇑ *iP* **P 20 26 01.1 -0.5**
VTS Vitosha 69.02 313 P **P 20 26 01.0 -0.5**
KNT Kendrikon 69.04 311 *eP* **P 20 26 01.0 -0.6**
GUR Goura 69.06 308 *eP* **P 20 26 00.5 -1.4**
CNB Canberra Magne 69.08 132 P **P 20 26 02.5 +0.5**
baz=69,SNR=8.5
LOT Lotru 69.09 316⇑ *iP* **P 20 26 01.5 -0.4**
PUL Pulkovo 69.11 332⇑ *eP* **P 20 26 01.8 +0.2**
PUL pmax pmax
comp=Z,84nm,0.5s
AGG Agios Georgios 69.20 309 *eP* **P 20 26 01.0 -1.6**
LIT Litokhoron 69.21 310 *eP* **P 20 26 01.5 -1.2**
KLV Kalavryta, Ach 69.23 308 *eP* **P 20 26 01.5 -1.4**
KALE Kalithea 69.27 308 *eP* **P 20 26 02.0 -1.1**
ITM Ithomi 69.31 307 *eP* **P 20 26 02.5 -0.9**
NACGM Naroch 69.37 326 *e* P 20 26 00.0 -3.3
PYL PYLOS 69.43 306 *eP* sP 20 26 16.0 -1.2
EFP Efpalio 69.46 308 *eP* **P 20 26 04.0 -0.2**
THL Klokotos Trika 69.50 309 *eP* **P 20 26 04.5 +0.1**
DRO Drossia 69.56 307 *eP* **P 20 26 05.0 +0.1**
EVR Evrytania 69.59 308 *eP* **P 20 26 03.5 -1.6**
RLS Riolos of Patr 69.77 308 *eP* **P 20 26 05.0 -1.1**
GZR Gura Zlata 69.77 315⇑ *iP* **P 20 26 06.8 +0.7**
PET Petropavlovsk 69.81 36 *eP* **P 20 26 07.5 +1.5**
PET *eS* **S 20 35 10.5 -2.8**
PET pmax pmax
comp=Z,30nm,1.1s
PET MLR MLR
comp=Z,200nm,20.0s
SEY Seymchan 69.83 25 P **P 20 26 06.0 0.0**
SEY pmax pmax
comp=Z,5.0nm,1.0s
SEY Seymchan 69.83 25 P **P 20 26 06.0 0.0**
comp=Z,4.6nm,1.0s,baz=243,slow=5.2,SNR=17
JOF Joensuu 69.86 335 *eP* **P 20 26 05.7 -0.5**
JOF pmax pmax
comp=Z,19nm,0.9s
JOF Joensuu 69.86 335 *ep* **P 20 26 05.7 -0.5**
comp=Z,19nm,0.9s
HNR Honiara 69.93 103 LR LR 21 00 10.6
comp=Z,45nm,20.3s,baz=270,slow=39
PDO Prodromos 70.04 308 *eP* **P 20 26 07.5 -0.3**
DRGR 70.05 317⇑ *iP* **P 20 26 08.0 +0.2**
FNA Florina 70.13 310 *eP* **P 20 26 05.5 -2.9**
DSL Palaion Diasel 70.17 309 *eP* P 20 26 14.5 +5.9
NEST Nestorio 70.34 310 *eP* **P 20 26 08.5 -1.2**
TRPA Tarpa 70.40 318⇓ *iP* **P 20 26 10.1 +0.3**
JAN Janina 70.41 309 *eP* **P 20 26 09.5 -0.6**
VSU Vasula 70.42 330 *c iP* **P 20 26 09.2 -0.5**
VSU pmax pmax
comp=Z,133nm,1.0s
LKD2 Lefkada island 70.47 308 *eP* sP 20 26 22.5 -1.1
KWP Kalwaria Pacla 70.56 320 *eP* **P 20 26 10.3 -0.5**
KWP *e* 20 26 23.3
KWP pmax pmax
comp=Z,35nm,1.1s
KWP Kalwaria Pacla 70.56 320 *eP* **P 20 26 10.5 -0.3**
KWP *e* 20 26 23.6
KWP Kalwaria Pacla 70.56 320⇓ *iP* **P 20 26 10.7 -0.1**
KWP Kalwaria Pacla 70.56 320 *eP* **P 20 26 10.3 -0.5**
comp=Z,35nm,1.1s
KWP *e* 20 26 23.3
BZS Buzias 70.61 316⇑ *iP* **P 20 26 10.8 -0.3**

UZH Uzhgorod 70.65 319 *eP* **P 20 26 12.0 +0.7**
UZH *e* 20 26 21.2
KOLS Kolonicke sedl 70.72 319 *eP* **P 20 26 12.3 +0.6**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 70.72 319 *eP* **P 20 26 12.3 +0.6**
LVZ Lovozero 70.77 340⇑ *eP* **P 20 26 11.2 -0.5**
LVZ pmax pmax
comp=Z,46nm,1.7s
APA Apatity 71.04 340⇓ *iP* **P 20 26 13.4 +0.1**
APA *i* 20 26 38.0
APA *i* S **S 20 35 22.0 -5.2**
APA *i* 20 35 56.0
APA pmax pmax
comp=Z,18nm,0.6s
APA MLR MLR
comp=Z,400nm,16.0s
SUW Suwalki 71.18 324 *eP* **P 20 26 13.4 -1.0**
SUW *e* 20 26 26.4
SUW Suwalki 71.18 324 *eP* **P 20 26 13.3 -1.0**
SUW *e* 20 26 26.3
SUW Suwalki 71.18 324 *eP* **P 20 26 13.4 -1.0**
comp=Z,80nm,1.0s
SUW *e* 20 26 25.8
CRVS Cervenica-Dubn 71.24 319 *eP* **P 20 26 15.8 +0.9**
CRVS pmax pmax
comp=Z,14nm,1.1s
CRVS Cervenica-Dubn 71.24 319 *eP* **P 20 26 15.8 +0.9**
STHS Stebnicka Huta 71.47 319 *eP* **P 20 26 16.4 +0.1**
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 71.47 319 *eP* **P 20 26 16.4 +0.1**
FINES FINESS Array B 71.64 332 P **P 20 26 16.8 -0.2**
FINES pmax pmax
comp=Z,20nm,0.8s
FINES MLR MLR
comp=Z,339nm,20.6s
FINES FINESS Array B 71.64 332 P **P 20 26 16.8 -0.2**
comp=Z,20nm,0.8s,baz=112,slow=8.6,SNR=64
FINES LR LR 21 01 07.0
comp=Z,339nm,20.6s,baz=115,slow=39
KAF Kangasniemi 71.75 333 *eP* **P 20 26 17.3 -0.4**
KAF pmax pmax
comp=Z,20nm,0.9s
KAF Kangasniemi 71.75 333 *ep* **P 20 26 17.3 -0.4**
comp=Z,20nm,0.9s
KECS Kecovo 71.81 318 *eP* **P 20 26 18.3 0.0**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 71.81 318 *eP* **P 20 26 18.3 0.0**
NIE Niedzica 72.06 319 *eP* **P 20 26 20.0 +0.1**
NIE Niedzica 72.06 319 *eP* **P 20 26 20.4 +0.5**
NIE *e* 20 26 32.8
PSZ Piszkesteto 72.12 318 *eP* **P 20 26 20.0 -0.3**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 72.12 318⇓ *iP* **P 20 26 20.2 -0.1**
PSZ Piszkesteto 72.12 318 *eP* **P 20 26 20.0 -0.3**
comp=Z,9.9nm,1.0s
LBTB Lobatse 72.32 241 P **P 20 26 24.8 +2.9**
LBTB pmax pmax
comp=Z,28nm,1.4s
LBTB Lobatse 72.32 241 P **P 20 26 24.8 +2.9**
comp=Z,28nm,1.4s
OJC Ojcow 72.52 320 *eP* **P 20 26 22.3 -0.2**
OJC *e*SP* **sP 20 26 35.5 -0.2**
OJC Ojcow 72.52 320 *eP* **P 20 26 22.4 -0.1**
OJC *e* 20 26 35.8
OJC Ojcow 72.52 320 *eP* **P 20 26 22.5 -0.1**
comp=Z,23nm,1.0s
VYHS Vyhne 72.90 318 *eP* **P 20 26 24.7 -0.1**
VYHS *e* 20 26 37.8
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 72.90 318 *eP* **P 20 26 24.7 -0.1**
VYHS *e* 20 26 37.8
OKC Ostrava-Krasne 73.52 320 *eP* **P 20 26 28.5 0.0**
OKC *e* 20 26 41.8
OKC Ostrava-Krasne 73.52 320⇓ *eP* **P 20 26 28.5 0.0**
OKC *e*PCP **PcP 20 26 41.8 -2.6**
MORC Moravsky Berou 73.90 319 *eP* **P 20 26 29.7 -1.1**
MORC *e* 20 26 43.6
MORC pmax pmax
comp=Z,18nm,1.1s
MORC Moravsky Berou 73.90 319⇓ *iP* **P 20 26 31.0 +0.2**
MORC Moravsky Berou 73.90 319 *eP* **P 20 26 29.7 -1.1**
comp=Z,18nm,1.1s
MORC *e* 20 26 43.6
KEV Kevo 74.06 341 *eP* **P 20 26 31.1 -0.1**
KEV pmax pmax
comp=Z,2.0nm,0.5s
KEV Kevo 74.06 341 *ep* **P 20 26 31.1 -0.1**
comp=Z,1.9nm,0.5s
CEL Celeste 74.16 307 *eP* **P 20 26 33.5 +0.9**
comp=Z,37nm,1.1s
VRAC Vranov 74.46 319⇑ *iP* **P 20 26 34.2 +0.2**
ARCES ARCESS Array B 74.48 340 P **P 20 26 33.8 +0.1**
ARCES pmax pmax
comp=Z,11nm,0.8s
ARCES MLR MLR
comp=Z,282nm,20.6s
ARCES ARCESS Array B 74.48 340 P **P 20 26 33.8 +0.1**
comp=Z,12nm,0.8s,baz=86,slow=6.2,SNR=22
ARCES LR LR 21 01 41.0
comp=Z,282nm,20.6s,baz=117,slow=38
DPC Dobruska-Polom 74.75 320⇓ *iP* **P 20 26 36.4 +0.7**
DPC *e* 20 26 49.7
DPC Dobruska-Polom 74.75 320⇓ *iP* **P 20 26 36.4 +0.7**
DPC *e*PCP **PcP 20 26 49.7 0.0**
DPC Dobruska-Polom 74.75 320 *eP* **P 20 26 36.4 +0.7**
comp=Z,134nm,1.0s
CONA Conrad Observa 74.81 317⇑ *iP* **P 20 26 36.3 +0.1**
comp=Z,10nm,1.0s,SNR=6.4
KSP Ksiaz 74.82 320⇓ *eP* **P 20 26 36.4 +0.4**
KSP *e* 20 26 49.8
KSP Ksiaz 74.82 320 *eP* **P 20 26 36.4 +0.4**
KSP *e* 20 26 49.0
UPC Upice 74.96 320 *eP* **P 20 26 37.3 +0.4**
UPC *e* 20 26 50.6
UPC Upice 74.96 320⇓ *eP* **P 20 26 37.3 +0.4**
UPC *e*PCP **PcP 20 26 50.6 0.0**
ARSA Arzberg 74.98 317⇑ *iP* **P 20 26 36.7 -0.4**
comp=Z,20nm,1.5s,SNR=7.1
TREC Trest 75.18 319 *eP* **P 20 26 38.2 0.0**
TREC *e* 20 26 51.2
TREC MLR MLR
comp=Z,200nm,14.8s
TREC Trest 75.18 319⇓ *eP* **P 20 26 38.2 0.0**
TREC *e*PCP **PcP 20 26 51.2 -0.4**
TREC AMS AMS 21 05 00.0
comp=Z,200nm,14.8s
PERS Pernice 75.21 316 *i* P **P 20 26 38.5 0.0**
PERS *e*pP **PcP 20 26 51.5 -0.3**
SOKA Soboth 75.28 316⇑ *iP* **P 20 26 38.8 -0.1**
comp=Z,18nm,1.3s,SNR=8.7
LJU Ljubljana 75.58 315 *eP* **P 20 26 40.9 +0.3**
OBKA Obir 75.60 316⇑ *iP* **P 20 26 41.1 +0.4**
comp=Z,15nm,1.0s,SNR=7.1
GOPC GO Pecny, Ondr 75.69 319⇓ *eP* **P 20 26 41.4 +0.3**
GOPC *e*PCP **PcP 20 26 54.3 +0.5**
CRNS Crni Vrh 75.77 315 *eP* **P 20 26 41.4 -0.3**
CRNS *e*pP **PcP 20 26 54.6 +0.4**
PRU Pruhonice 75.85 319 *eP* **P 20 26 42.3 +0.3**
PRU *e* 20 26 55.6
PRU Pruhonice 75.85 319⇓ *eP* **P 20 26 42.3 +0.3**
PRU *e*PCP **PcP 20 26 55.6 +1.2**
MOA Molln 75.88 317⇓ *iP* **P 20 26 41.7 -0.5**
comp=Z,10nm,1.1s
PVCC Panska Ves 75.88 320 *eP* **P 20 26 42.8 +0.7**
PVCC *e* 20 26 55.9
PVCC Panska Ves 75.88 320⇓ *eP* **P 20 26 42.8 +0.7**
PVCC *e*PCP **PcP 20 26 55.9 +1.4**
PRA Prague 75.93 320 *eP* **P 20 26 41.4 -1.0**
PRA *e* 20 26 54.3
PRA Prague 75.93 320⇓ *eP* **P 20 26 42.8 +0.4**
PRA *e*PCP **PcP 20 26 56.4 +1.6**
BSD Bornholm Skovb 76.11 325 *i* P **P 20 26 42.3 -1.0**
BSD *i* 20 26 55.5
BSD pmax pmax
comp=Z,18nm,0.8s
BSD Bornholm Skovb 76.11 325 *i* P **P 20 26 42.3 -1.0**
comp=Z,18nm,0.8s
BSD *i* 20 26 55.5

MYKA Terra Mystica 76.23 316⇑ *iP* **P 20 26 44.4 +0.1**
comp=Z,19nm,1.6s
BRG Berggiesshubel 76.30 320 *i* P **P 20 26 44.7 +0.2**
comp=Z,29nm,1.4s
BRG *i* 20 26 58.1
comp=Z,21nm,1.0s
BRG *e*PP **PP 20 29 35.5 -0.6**
comp=Z,2.1nm,1.0s
BRG *e* 20 32 32.2
comp=Z,8.4nm,1.5s
BRG *e*PKPPKP **P'P'df 20 53 58.2 -3.9**
comp=Z,5.3nm,1.1s
comp=N,176nm,18.3s
comp=E,118nm,19.9s
comp=Z,168nm,18.3s
BRG Berggiesshubel 76.30 320 *eP* **P 20 26 45.0 +0.5**
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 76.30 320 *i* P **P 20 26 44.7 +0.2**
BRG *i* 20 26 58.1
BRG *e* 20 29 35.5
BRG pmax pmax
comp=Z,29nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.0s
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.5s
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=N,176nm,18.3s
BRG MLR MLR
comp=E,118nm,19.9s
BRG MLR MLR
comp=Z,168nm,18.3s
GEC2 GERESS Array S 76.32 318 *eP* **P 20 26 45.1 +0.3**
comp=Z,13nm,0.9s
GEC2 GERESS Array S 76.32 318 *eP* **P 20 26 44.9 +0.1**
GEC2 GERESS Array S 76.32 318 *eP* **P 20 26 44.9 +0.1**
GERES GERESS Array B 76.32 318 P **P 20 26 44.9 +0.1**
GERES pmax pmax
comp=Z,10.0nm,0.8s
GERES MLR MLR
comp=Z,184nm,21.9s
GERES GERESS Array B 76.32 318 P **P 20 26 44.9 +0.1**
comp=Z,9.7nm,0.8s,baz=93,slow=5.3,SNR=85
GERES LR LR 21 04 06.2
comp=Z,184nm,21.9s,baz=92,slow=39
KHC Kasperske Hory 76.42 319 *eP* **P 20 26 44.7 -0.6**
KHC *e* 20 26 58.1
KHC *e* 20 27 00.8
KHC MLR MLR
comp=Z,100nm,18.0s
KHC Kasperske Hory 76.42 319⇓ *eP* **P 20 26 44.7 -0.6**
KHC *e*PCP **PcP 20 26 58.1 +1.1**
KHC AMS AMS 21 05 30.0
comp=Z,100nm,18.0s
KHC Kasperske Hory 76.42 319 *eP* **P 20 26 44.9 -0.4**
comp=Z,6.9nm,0.7s
KHC *e* 20 26 57.8
KBA Koelnbreinsper 76.45 316⇓ *iP* **P 20 26 45.3 -0.4**
comp=Z,7.0nm,0.8s
RUE Ruedersdorf 76.53 322 *eP* **P 20 26 46.1 +0.4**
comp=Z,54nm,0.9s
RUE *e* 20 26 58.7
RJOB Jochberg 76.86 317 *eP* **P 20 26 47.7 -0.1**
comp=Z,9.0nm,1.0s
BILL Bilibino 76.87 22⇑ *eP* **P 20 26 47.8 +0.4**
BILL *e* 20 29 42.3
BILL *eS* **SKSac 20 36 54.1 -3.1**
BILL pmax pmax
comp=Z,9.0nm,2.5s
BILL MLR MLR
comp=Z,248nm,25.0s
BILL Bilibino 76.87 22 *eP* **P 20 26 47.0 -0.4**
comp=Z,18nm,1.4s
BILL *e* 20 27 00.2
WET Wettzell 76.88 319 *eP* **P 20 26 48.2 +0.3**
comp=Z,6.0nm,0.9s
CLL Collm 76.92 321 *eP* **P 20 26 48.2 +0.2**
comp=Z,11nm,1.0s
CLL Collm 76.92 321⇓ *iP* **P 20 26 47.8 -0.2**
CLL *i* 20 27 00.9
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 76.92 321⇓ *iP* **P 20 26 47.8 -0.2**
comp=Z,18nm,1.1s
CLL *i* PcP **PcP 20 27 00.9 +1.9**
CLL *e* 20 27 14.0
CLL *e*PP **PP 20 29 44.0 +2.8**
CLL *e*(SSS) 20 45 30.0
CLL Collm 76.92 321 *eP* **P 20 26 47.5 -0.5**
comp=Z,16nm,0.9s
ABTA Abfaltersbach 77.01 316⇑ *iP* **P 20 26 47.8 -0.9**
comp=Z,5.6nm,0.9s
TANN Tannenbergstha 77.21 320 *eP* **P 20 26 50.1 +0.3**
comp=Z,9.0nm,1.1s
ROTZ Rotzenmuhle 77.35 319 *eP* **P 20 26 51.4 +0.9**
comp=Z,13nm,0.9s
WTTA Wattenberg 77.63 317⇑ *iP* **P 20 26 51.6 -0.7**
comp=Z,17nm,0.8s,SNR=9.4
MOX Moxa 77.77 320 *eP* **P 20 26 53.1 +0.3**
comp=Z,6.0nm,0.8s
MOX *eL* L 21 06 10.6
comp=Z,140nm,19.6s
FUR Furstenfeldbru 77.90 318 *eP* **P 20 26 53.5 -0.1**
comp=Z,20nm,1.1s
GRF Grafenberg Arr 77.98 319 *eP* **P 20 26 54.8 +0.8**
comp=Z,23nm,1.0s
GRF *eL* L 21 03 49.0
comp=Z,93nm,20.3s
GRFO Grafenberg 77.98 319 *eP* **P 20 26 54.8 +0.8**
GRFO *e* 20 27 07.7
GRFO pmax pmax
comp=Z,33nm,1.0s
GRFO Grafenberg 77.98 319 *eP* **P 20 26 54.8 +0.8**
comp=Z,33nm,1.0s
GRFO *e* 20 27 07.7
MOTA Moosalm 77.99 317⇓ *iP* **P 20 26 53.4 -0.9**
comp=Z,26nm,1.2s,SNR=11
MAW Mawson 78.14 191 P **P 20 26 55.0 +0.7**
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW Mawson 78.14 191 P **P 20 26 55.0 +0.7**
comp=Z,3.6nm,0.8s,baz=342,slow=13,SNR=2.4
RETA Reutte 78.23 317⇑ *iP* **P 20 26 55.1 -0.4**
comp=Z,34nm,1.4s,SNR=12
FETA Feichten 78.24 316⇑ *iP* **P 20 26 55.1 -0.7**
comp=Z,13nm,1.0s,SNR=9.6
FUORN Ofenpass-Fuorn 78.56 316 *eP* **P 20 26 57.9 +0.3**
comp=Z,8.4nm,0.8s
CLZ Clausthal 78.59 321 *eP* **P 20 26 57.7 +0.3**
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 78.61 331 P **P 20 26 56.0 -1.3**
comp=Z,0.8nm,0.6s,baz=97,slow=6.2
NOA NORSAR Array B 78.61 331 P **P 20 26 56.3 -1.0**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,323nm,19.8s
NOA NORSAR Array B 78.61 331 P **P 20 26 56.3 -1.0**
comp=Z,7.0nm,0.8s,baz=94,slow=5.5,SNR=20
NOA LR LR 21 05 32.5
comp=Z,323nm,19.8s,baz=105,slow=39
NRDL Niedersach Rie 78.77 322 *eP* **P 20 26 58.4 +0.2**
comp=Z,24nm,1.3s
DAVA Damuels 78.82 317 *i* P **P 20 26 59.0 +0.1**
comp=Z,38nm,1.1s,SNR=10
DZM Mont Dzumac 78.83 114 *eP* **P 20 26 59.6 +0.3**
comp=Z,30nm,1.3s
TUE Stuetta 79.19 316 *eP* **P 20 27 01.0 0.0**
comp=Z,373nm,0.4s
STU Stuttgart 79.29 318 *eP* **P 20 27 00.9 -0.3**
STU Stuttgart 79.29 318 *eP* **P 20 27 00.9 -0.3**
KONO Kongsberg 79.33 329 *eP* **P 20 27 00.7 -0.5**
KONO *e* 20 27 13.7
KONO Kongsberg 79.33 329 *eP* **P 20 27 00.7 -0.5**
KONO *e* 20 27 13.7
SPITS Spitsbergen Ar 79.35 348 P **P 20 27 01.2 +0.2**
SPITS pmax pmax
comp=Z,12nm,0.7s
SPITS Spitsbergen Ar 79.35 348 P **P 20 27 01.2 +0.2**
comp=Z,12nm,0.7s,baz=116,slow=11,SNR=18
KEST Kesra 79.40 305 P **P 20 27 01.5 -0.7**
comp=Z,2.5nm,1.0s,baz=230,slow=4.6,SNR=4.4
KEST Kesra 79.40 305 *eP* **P 20 27 02.6 +0.4**

KEST *e* 20 27 15.8
PGF Pioggiola 79.48 312 *e*P **P** **20 27 02.1 -0.4**
comp=Z,39nm,1.2s
PGF *e*pP **pP** **20 27 15.2 +3.0**
PGF Pioggiola 79.48 312 *e*P **P** **20 27 02.1 -0.4**
PGF *e**PP **pP** **20 27 15.2 +3.0**
PGF pmax pmax
comp=Z,39nm,1.2s
PGF Pioggiola 79.48 312 *e*P **P** **20 27 02.1 -0.4**
comp=Z,39nm,1.2s
PGF *e*pP **pP** **20 27 15.2 +3.0**
TNS Taunus Mts 79.78 320 *e*P **P** **20 27 04.4 +0.5**
comp=Z,11nm,0.9s
BFO Black Forest 79.87 318 P **P** **20 27 04.3 -0.1**
comp=Z,69nm,1.0s,SNR=5.2
BFO Black Forest 79.87 318 *e*P **P** **20 27 04.6 +0.2**
comp=Z,8.0nm,0.9s
BFO Black Forest 79.87 318 *e*P **P** **20 27 03.9 -0.5**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 79.87 318 *e*P **P** **20 27 03.9 -0.5**
comp=Z,13nm,1.0s
IBBN Ibbenburen 80.21 322 *e*P **P** **20 27 06.6 +0.5**
comp=Z,7.0nm,1.0s
BUG Bochum--Univer 80.52 321 *e*P **P** **20 27 08.4 +0.6**
comp=Z,11nm,1.0s
CDF Champ du Feu 80.57 318 *e*P **P** **20 27 07.6 -0.7**
comp=Z,24nm,1.1s
CDF *e*pP **pP** **20 27 20.8 +2.8**
CDF Champ du Feu 80.57 318 *e*P **P** **20 27 07.6 -0.7**
CDF *e**PP **pP** **20 27 20.8 +2.8**
CDF pmax pmax
comp=Z,25nm,1.0s
CDF Champ du Feu 80.57 318 *e*P **P** **20 27 07.6 -0.7**
comp=Z,24nm,1.0s
CDF *e*pP **pP** **20 27 20.8 +2.8**
SBF Sospel 80.58 313 *e*P **P** **20 27 08.1 -0.3**
comp=Z,40nm,0.8s
SBF Sospel 80.58 313 *e*P **P** **20 27 08.1 -0.3**
SBF pmax pmax
comp=Z,40nm,0.8s
SBF Sospel 80.58 313 *e*P **P** **20 27 08.1 -0.3**
comp=Z,40nm,0.8s
SENIN Lac Senin/Sane 80.61 316 *e*P **P** **20 27 08.9 +0.2**
ECH Echery 80.65 318 *e*P **P** **20 27 08.5 -0.1**
ECH Echery 80.65 318 *e*P **P** **20 27 08.5 -0.1**
LPG La Plagne 81.02 315 *e*P **P** **20 27 10.8 -0.2**
comp=Z,41nm,0.8s
LPG *e*pP **pP** **20 27 23.9 +3.2**
LPG La Plagne 81.02 315 *e*P **P** **20 27 10.8 -0.2**
LPG *e**PP **pP** **20 27 23.9 +3.2**
LPG pmax pmax
comp=Z,41nm,0.8s
LPG La Plagne 81.02 315 *e*P **P** **20 27 10.8 -0.2**
comp=Z,41nm,0.8s
LPG *e*pP **pP** **20 27 23.9 +3.2**
LPL La Plagne 81.03 315 *e*P **P** **20 27 10.9 -0.1**
comp=Z,90nm,1.1s
LPL La Plagne 81.03 315 *e*P **P** **20 27 10.9 -0.1**
LPL pmax pmax
comp=Z,90nm,1.1s
LPL La Plagne 81.03 315 *e*P **P** **20 27 10.9 -0.1**
comp=Z,90nm,1.1s
MBDF Montbardon 81.03 314 *e*P **P** **20 27 10.0 -0.9**
comp=Z,20nm,0.9s
MBDF Montbardon 81.03 314 *e*P **P** **20 27 10.0 -0.9**
MBDF pmax pmax
comp=Z,20nm,0.9s
MBDF Montbardon 81.03 314 *e*P **P** **20 27 10.0 -0.9**
comp=Z,20nm,0.9s
BNI Bardonecchia 81.08 314 *e*P **P** **20 27 10.4 -0.7**
BNI pmax pmax
comp=Z,19nm,0.8s
BNI Bardonecchia 81.08 314 *e*P **P** **20 27 10.4 -0.7**
comp=Z,19nm,0.8s
FRF La Foret Royal 81.17 313 *e*P **P** **20 27 11.3 -0.2**
FRF La Foret Royal 81.17 313 *e*P **P** **20 27 11.3 -0.2**
FRF La Foret Royal 81.17 313 *e*P **P** **20 27 11.3 -0.2**
HAU Haudompre 81.20 317 *e*P **P** **20 27 11.0 -0.6**
comp=Z,31nm,0.8s
HAU *e*pP **pP** **20 27 24.1 +2.8**
HAU *e*R
comp=Z,87nm,20.5s
HAU Haudompre 81.20 317 *e*P **P** **20 27 11.0 -0.6**
HAU *e**PP **pP** **20 27 24.1 +2.8**
HAU pmax pmax
comp=Z,31nm,0.8s
HAU Haudompre 81.20 317 *e*P **P** **20 27 11.0 -0.6**
comp=Z,31nm,0.8s
HAU *e*pP **pP** **20 27 24.1 +2.8**
WLF Walferdange 81.27 319 *e*P **P** **20 27 12.9 +1.0**
comp=Z,11nm,0.9s
LMR La Mourre 81.28 313 *e*P **P** **20 27 11.8 -0.2**
comp=Z,18nm,0.9s
LMR La Mourre 81.28 313 *e*P **P** **20 27 11.8 -0.2**
LMR pmax pmax
comp=Z,18nm,0.9s
LMR La Mourre 81.28 313 *e*P **P** **20 27 11.8 -0.2**
comp=Z,18nm,0.9s
MEM Membach 81.34 320 P **P** **20 27 12.2 0.0**
comp=Z,8.0nm,1.4s
CABF La Chapelle 81.43 316 *e*P **P** **20 27 12.9 0.0**
CABF La Chapelle 81.43 316 *e*P **P** **20 27 12.9 0.0**
CABF La Chapelle 81.43 316 *e*P **P** **20 27 12.9 0.0**
PAGF Fort de Pagny 81.60 318 *e*P **P** **20 27 13.2 -0.4**
comp=Z,28nm,0.7s
PAGF Fort de Pagny 81.60 318 *e*P **P** **20 27 13.2 -0.4**
comp=Z,28nm,0.7s
ORIF Oris-en-Rattie 81.66 314 *e*P **P** **20 27 14.2 +0.1**
comp=Z,16nm,0.8s
ORIF *e*R
comp=Z,141nm,20.2s
ORIF Oris-en-Rattie 81.66 314 *e*P **P** **20 27 14.2 +0.1**
ORIF pmax pmax
comp=Z,17nm,0.8s
ORIF Oris-en-Rattie 81.66 314 *e*P **P** **20 27 14.2 +0.1**
comp=Z,16nm,0.8s
BCLA Clavier 81.79 320 P **P** **20 27 15.5 +0.9**
comp=Z,18nm,2.2s
SMRF Simiane la Rot 81.92 313 *e*P **P** **20 27 15.9 +0.4**
comp=Z,35nm,1.2s
SMRF *e*pP **pP** **20 27 29.0 +3.8**
SMRF Simiane la Rot 81.92 313 *e*P **P** **20 27 15.9 +0.4**
comp=Z,35nm,1.2s
SMRF *e*pP **pP** **20 27 29.0 +3.8**
MEZF Maizieres J'vi 82.05 318 *e*P **P** **20 27 15.6 -0.4**
comp=Z,26nm,1.0s
MEZF Maizieres J'vi 82.05 318 *e*P **P** **20 27 15.6 -0.4**
comp=Z,26nm,1.0s
SFTF Sexfontaines 82.07 318 *e*P **P** **20 27 15.7 -0.4**
comp=Z,81nm,1.1s
SFTF Sexfontaines 82.07 318 *e*P **P** **20 27 15.7 -0.4**
comp=Z,81nm,1.1s
GIVF Givet 82.11 320 *e*P **P** **20 27 15.9 -0.4**
GIVF Givet 82.11 320 *e*P **P** **20 27 15.9 -0.4**
GIVF Givet 82.11 320 *e*P **P** **20 27 15.9 -0.4**
DOU Dourbes 82.26 320 P **P** **20 27 17.4 +0.3**
comp=Z,4.1nm,1.2s
BAIF Baives 82.51 319 *e*P **P** **20 27 18.1 -0.3**
comp=Z,34nm,1.1s
BAIF *e*pP **pP** **20 27 31.4 +3.3**
BAIF Baives 82.51 319 *e*P **P** **20 27 18.1 -0.3**
BAIF *e**PP **pP** **20 27 31.4 +3.3**
BAIF pmax pmax
comp=Z,34nm,1.1s
BAIF Baives 82.51 319 *e*P **P** **20 27 18.1 -0.3**
comp=Z,34nm,1.1s
BAIF *e*pP **pP** **20 27 31.4 +3.3**
VIVF Saint-Julien-l 82.52 314 *e*P **P** **20 27 18.4 -0.2**
comp=Z,31nm,0.9s
VIVF *e*pP **pP** **20 27 31.6 +3.3**
VIVF Saint-Julien-l 82.52 314 *e*P **P** **20 27 18.4 -0.2**
VIVF *e**PP **pP** **20 27 31.6 +3.3**
VIVF pmax pmax
comp=Z,31nm,0.9s
VIVF Saint-Julien-l 82.52 314 *e*P **P** **20 27 18.4 -0.2**
comp=Z,31nm,0.9s
VIVF *e*pP **pP** **20 27 31.6 +3.3**
SSB Saint Sauveur 82.58 315 *e*P **P** **20 27 19.0 +0.1**
SSB *e* 20 27 32.0
SSB pmax pmax
comp=Z,19nm,0.9s
SSB Saint Sauveur 82.58 315 *e*P **P** **20 27 19.0 +0.1**
comp=Z,19nm,0.9s
SSB *e* 20 27 31.9
LOR Lormes 82.92 317 *e*P **P** **20 27 20.1 -0.5**
comp=Z,53nm,1.2s
LOR *e*pP **pP** **20 27 33.3 +2.9**
LOR *e*R
comp=Z,102nm,21.0s
LOR Lormes 82.92 317 *e*P **P** **20 27 20.1 -0.5**
LOR *e**PP **pP** **20 27 33.3 +2.9**
LOR pmax pmax
comp=Z,53nm,1.2s
LOR Lormes 82.92 317 *e*P **P** **20 27 20.1 -0.5**
comp=Z,53nm,1.2s
LOR *e*pP **pP** **20 27 33.3 +2.9**
SMF Signal de Mont 82.98 316 *e*P **P** **20 27 20.3 -0.6**
comp=Z,28nm,1.1s
SMF *e*pP **pP** **20 27 33.6 +2.9**
SMF Signal de Mont 82.98 316 *e*P **P** **20 27 20.3 -0.6**
SMF *e**PP **pP** **20 27 33.6 +2.9**
SMF pmax pmax
comp=Z,28nm,1.1s
SMF Signal de Mont 82.98 316 *e*P **P** **20 27 20.3 -0.6**
comp=Z,28nm,1.1s
SMF *e*pP **pP** **20 27 33.6 +2.9**
LASF Ste Croix 83.15 313 *e*P **P** **20 27 22.1 +0.2**
comp=Z,51nm,1.3s
LASF Ste Croix 83.15 313 *e*P **P** **20 27 22.1 +0.2**
comp=Z,51nm,1.3s
SSF Saint Saulge 83.18 317 *e*P **P** **20 27 21.4 -0.5**
comp=Z,35nm,1.4s
SSF Saint Saulge 83.18 317 *e*P **P** **20 27 21.4 -0.5**
SSF pmax pmax
comp=Z,35nm,1.4s
SSF Saint Saulge 83.18 317 *e*P **P** **20 27 21.4 -0.5**
comp=Z,35nm,1.4s
AVF Avril sur Loir 83.30 316 *e*P **P** **20 27 22.0 -0.5**
comp=Z,27nm,1.3s
AVF Avril sur Loir 83.30 316 *e*P **P** **20 27 22.0 -0.5**
AVF pmax pmax
comp=Z,27nm,1.3s
AVF Avril sur Loir 83.30 316 *e*P **P** **20 27 22.0 -0.5**
comp=Z,27nm,1.3s
TAM Tamanrasset 83.66 292 *e*P **P** **20 27 26.7 +1.6**
TAM *e* 20 27 39.8
TAM pmax pmax
comp=Z,21nm,0.8s
TAM Tamanrasset 83.66 292 *e*P **P** **20 27 26.7 +1.6**
comp=Z,21nm,0.8s
TAM *e* 20 27 39.8
BGF Bois d'Agland 83.67 316 *e*P **P** **20 27 24.3 -0.2**
comp=Z,27nm,1.0s
BGF *e*pP **pP** **20 27 37.6 +3.4**
BGF Bois d'Agland 83.67 316 *e*P **P** **20 27 24.3 -0.2**
BGF *e**PP **pP** **20 27 37.6 +3.4**
BGF pmax pmax
comp=Z,27nm,1.0s
BGF Bois d'Agland 83.67 316 *e*P **P** **20 27 24.3 -0.2**
comp=Z,27nm,1.0s
BGF *e*pP **pP** **20 27 37.6 +3.4**
TCF Toulx Ste Croi 84.13 316 *e*P **P** **20 27 26.5 -0.4**
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 84.13 316 *e*P **P** **20 27 26.5 -0.4**
TCF pmax pmax
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 84.13 316 *e*P **P** **20 27 26.5 -0.4**
comp=Z,11nm,1.0s
CAF Calviac 84.36 314 *e*P **P** **20 27 28.1 0.0**
comp=Z,12nm,1.0s
CAF *e*pP **pP** **20 27 41.3 +3.5**
CAF Calviac 84.36 314 *e*P **P** **20 27 28.1 0.0**
CAF *e**PP **pP** **20 27 41.3 +3.5**
CAF pmax pmax
comp=Z,12nm,1.0s
CAF Calviac 84.36 314 *e*P **P** **20 27 28.1 0.0**
comp=Z,12nm,1.0s
CAF *e*pP **pP** **20 27 41.3 +3.5**
MTLF Montolieu 84.40 313 *e*P **P** **20 27 28.3 0.0**
comp=Z,17nm,0.9s
MTLF *e*pP **pP** **20 27 41.5 +3.5**
MTLF Montolieu 84.40 313 *e*P **P** **20 27 28.3 0.0**
MTLF *e**PP **pP** **20 27 41.5 +3.5**
MTLF pmax pmax
comp=Z,17nm,0.9s
MTLF Montolieu 84.40 313 *e*P **P** **20 27 28.3 0.0**
comp=Z,17nm,0.9s
MTLF *e*pP **pP** **20 27 41.5 +3.5**
RJF Les Rejaudoux 84.71 315 *e*P **P** **20 27 29.9 +0.1**
comp=Z,24nm,1.0s
RJF *e*pP **pP** **20 27 43.2 +3.7**
RJF Les Rejaudoux 84.71 315 *e*P **P** **20 27 29.9 +0.1**
RJF *e**PP **pP** **20 27 43.2 +3.7**
RJF pmax pmax
comp=Z,24nm,1.0s
RJF Les Rejaudoux 84.71 315 *e*P **P** **20 27 29.9 +0.1**
comp=Z,24nm,1.0s
RJF *e*pP **pP** **20 27 43.2 +3.7**
LFF La Frestale 85.29 315 *e*P **P** **20 27 32.9 +0.2**
LFF La Frestale 85.29 315 *e*P **P** **20 27 32.9 +0.2**
LFF La Frestale 85.29 315 *e*P **P** **20 27 32.9 +0.2**
LDF La Druitiere 85.46 318 *e*P **P** **20 27 32.8 -0.7**
comp=Z,18nm,0.9s
LDF La Druitiere 85.46 318 *e*P **P** **20 27 32.8 -0.7**
LDF pmax pmax
comp=Z,19nm,0.9s
LDF La Druitiere 85.46 318 *e*P **P** **20 27 32.8 -0.7**
comp=Z,18nm,0.9s
FLN La Foliniere 85.68 318 *e*P **P** **20 27 34.0 -0.5**
FLN *e*R
comp=Z,173nm,21.8s
FLN La Foliniere 85.68 318 *e*P **P** **20 27 34.0 -0.5**
FLN La Foliniere 85.68 318 *e*P **P** **20 27 34.0 -0.5**
MFF Saint Martin d 85.72 316 *e*P **P** **20 27 34.2 -0.6**
comp=Z,21nm,1.0s
MFF *e*pP **pP** **20 27 47.5 +3.0**
MFF Saint Martin d 85.72 316 *e*P **P** **20 27 34.2 -0.6**
MFF *e**PP **pP** **20 27 47.5 +3.0**
MFF pmax pmax
comp=Z,21nm,1.0s
MFF Saint Martin d 85.72 316 *e*P **P** **20 27 34.2 -0.6**
comp=Z,21nm,1.0s
MFF *e*pP **pP** **20 27 47.5 +3.0**
GAMB Gambell 85.79 26 *e*P **P** **20 27 35.0 +0.3**
comp=Z,8.6nm,0.8s
GAMB *e* 20 27 47.9
EPF Esparros 85.80 313 *e*P **P** **20 27 34.4 -0.9**
EPF Esparros 85.80 313 *e*P **P** **20 27 34.4 -0.9**
EPF Esparros 85.80 313 *e*P **P** **20 27 34.4 -0.9**
ESK Eskdalemuir 86.45 325 *e*P **P** **20 27 37.9 -0.3**
ESK pmax pmax
comp=Z,18nm,0.9s
ESK Eskdalemuir 86.45 325 *e*P **P** **20 27 37.9 -0.3**
comp=Z,18nm,0.9s
ETSF Etsaut 86.47 313 *e*P **P** **20 27 38.7 0.0**
comp=Z,13nm,0.9s
ETSF Etsaut 86.47 313 *e*P **P** **20 27 38.7 0.0**
ETSF pmax pmax
comp=Z,13nm,0.9s
ETSF Etsaut 86.47 313 *e*P **P** **20 27 38.7 0.0**
comp=Z,13nm,0.9s
DAG Danmarks Havn 86.96 348 *i*P **P** **20 27 39.2 -1.1**
DAG *i* 20 27 52.4
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 86.96 348 *i*P **P** **20 27 39.2 -1.1**
comp=Z,8.2nm,0.8s
DAG *i* 20 27 52.4
TNA Tin City 87.05 24 *e*P **P** **20 27 40.1 -0.7**
comp=Z,7.5nm,1.0s
TOA0 Torodi Ar. Sit 88.42 283 P pP 20 28 02.4 +4.0
baz=89,SNR=7.6
TORD Torodi Ar. Bea 88.42 283 P **P** **20 27 48.3 -0.2**
comp=Z,1.1nm,0.9s,baz=83,slow=5.2,SNR=6.9
TORD PP **PP** **20 31 16.9 +0.3**
comp=Z,0.9nm,0.9s,baz=79,slow=6.4,SNR=4.0
MSVF Nonsavu 88.74 108 *e*P **P** **20 27 51.4 +1.4**
MSVF pmax pmax
comp=Z,24nm,1.4s
MSVF Nonsavu 88.74 108 *e*P **P** **20 27 51.4 +1.4**
comp=Z,24nm,1.4s
ESDC Sonseca Array 89.49 310 P **P** **20 27 53.6 +0.4**
comp=Z,3.4nm,0.8s,baz=62,slow=4.6,SNR=13
PBRG Braganca 91.17 312 *i*P pP 20 28 14.3 +3.5
MVO Moncorvo 91.51 312 *e*P **P** **20 28 03.7 +1.1**
comp=Z,26nm,1.0s
MVO *i*P **pP** **20 28 15.5 +3.1**
MTE Manteigas 92.05 311 *e*P **P** **20 28 06.5 +1.4**
comp=Z,41nm,1.3s
MTE *i*P **pP** **20 28 19.9 +5.0**
PCBR Castelo Branco 92.12 311 *e*P **P** **20 28 06.5 +1.2**
comp=Z,23nm,1.1s
PCBR *i*P **pP** **20 28 19.7 +4.6**
PBAR Barrancos 92.13 309 *e*P **P** **20 28 06.8 +1.4**
comp=Z,80nm,1.2s
PBAR *i*P **pP** **20 28 19.8 +4.6**
PMRV Marv??o 92.14 310 *e*P **P** **20 28 06.4 +1.0**
comp=Z,21nm,1.6s
PMRV *i*P **pP** **20 28 19.3 +4.0**
PVIS Viseu 92.25 311 *i*P pP 20 28 20.1 +4.3
IM04 Indian Mountai 92.42 22 *e*P **P** **20 28 06.8 +0.7**
EVO Evora 92.80 309 *i*P pP 20 28 22.7 +4.4
PVAQ Vaqueiros 92.81 308 *i*P pP 20 28 21.5 +3.1
MESJ Messejana 93.11 309 *i*P pP 20 28 24.3 +4.6
PNCL Nicolau / Gran 93.29 309 *e*P **P** **20 28 12.3 +1.6**
PNCL *i*P **pP** **20 28 25.6 +5.0**
VNDA Vanda 93.42 168 *e*P P 20 28 14.3 +3.9
VNDA pmax pmax
comp=Z,56nm,2.7s
VNDA Vanda 93.42 168 *e*P P 20 28 14.3 +3.9
comp=Z,56nm,2.7s
SUMG Summit 93.60 347 *i*P **P** **20 28 12.1 +0.1**
SUMG *i* 20 28 25.8
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 93.60 347 *e*P **P** **20 28 12.3 +0.3**
comp=Z,12nm,1.1s
SUMG *e* 20 28 25.6
SUMG Summit 93.60 347 *i*P **P** **20 28 12.1 +0.1**
comp=Z,4.7nm,1.0s
SUMG *i* 20 28 25.8
KULLO Kullorsuaq 95.49 352 *i*P **P** **20 28 19.5 -0.5**
KULLO *i* 20 28 32.7
KULLO pmax pmax
comp=Z,8.0nm,0.8s
KULLO Kullorsuaq 95.49 352 *i*P **P** **20 28 19.5 -0.5**
comp=Z,7.8nm,0.8s
KULLO *i* 20 28 32.7
ILAR Eielson Array 95.53 22 P **P** **20 28 20.3 -0.2**
ILAR 20 32 07.0
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 95.53 22 P **P** **20 28 20.2 -0.2**
comp=Z,0.5nm,0.8s,baz=278,slow=3.6,SNR=5.9
ILAR PP **PP** **20 32 07.0 -4.2**
comp=Z,1.6nm,1.0s,baz=299,slow=7.4,SNR=5.6
KIC Kosan Boka 95.67 277 *e*PKP1 pP 20 28 36.2 +4.2
comp=Z,24nm,0.9s
TIC Toumodi 95.90 278 *e*PKP1 pP 20 28 37.1 +4.0
comp=Z,3.5nm,0.2s
LIC Lamto 95.97 277 *e*PKP1 pP 20 28 36.7 +3.3
comp=Z,53nm,1.8s
RES Resolute Bay 97.44 2 *e*P **P** **20 28 28.8 -0.1**
RES pmax pmax
comp=Z,7.0nm,1.0s
RES Resolute Bay 97.44 2 *e*P **P** **20 28 28.8 -0.1**
comp=Z,6.5nm,1.0s
INK Inuvik 97.56 15 P Pdif 20 28 29.7 +0.1
INK pmax pmax
comp=Z,4.0nm,1.2s
INK Inuvik 97.56 15 P Pdif 20 28 29.7 +0.1
comp=Z,4.4nm,1.2s,baz=351,slow=6.9,SNR=5.6
INK Inuvik 97.56 15 *e*P Pdif 20 28 29.9 +0.3
comp=Z,16nm,1.4s
YKA Yellowknife Ar 106.89 13 PP PP 20 33 30.8 -5.7
comp=Z,0.9nm,0.8s,baz=333,slow=7.3,SNR=8.7
HAWA Hanford 119.10 24 *e*PKPdf **PKPdf** **20 33 45.8 +1.1**
PDAR Pinedale Array 125.90 19 PKP **PKPdf** **20 33 58.1 0.0**
comp=Z,0.8nm,0.7s,baz=141,slow=0.9,SNR=6.3
NVAR Mina Array Bea 126.00 29 PKP **PKPdf** **20 33 59.1 +0.6**
comp=Z,0.5nm,0.7s,baz=297,slow=1.3,SNR=4.1
WWPM Walker Pass 128.21 31 *e*PKPpre PKPpre 20 33 55.7
SBI Santa Barbara 129.43 34 *e*PKPpre PKPpre 20 33 58.2
TXAR Lajitas Array 140.05 21 PP PP 20 37 17.1 -3.3
comp=Z,0.7nm,0.9s,baz=356,slow=3.6,SNR=4.2
SJG San Juan 146.26 320 *e*PKP2 **PKPdf** **20 34 35.8 -0.2**
SJG San Juan 146.26 320 *e*PKPbc **PKPdf** **20 34 35.8 -0.2**
CELP Cerrillos 146.56 321 *e*PKPdf **PKPdf** **20 34 37.1 +0.6**
LRS Lares 146.56 321 *e*PKPbc **PKPbc** **20 34 37.3 -0.7**
OBIP Obispado Ponce 146.60 321 *e*PKPdf **PKPdf** **20 34 36.9 +0.3**
SDDR Presa de Saban 148.55 328 *e*PKPbc **PKPbc** **20 34 43.3 -0.2**
PTGA Pitinga 151.07 283 *e*PKPbc **PKPbc** **20 34 49.6 -0.1**
comp=Z,1.1nm,0.4s,baz=72,slow=9.4,SNR=4.5
PTGA Pitinga 151.07 283 *e*PKPbc **PKPbc** **20 34 49.4 -0.4**
PTGA *e*PKPab **PKPab** **20 34 57.9 +0.5**
SAML Samuel 155.33 266 *e*PKPbc PKPdf 20 35 01.8 +12

MOS ***13*** *20:26:59.0±1.0,56°.40S×27°.29W,h92km,mb5.6/12,Error ellipse: s-maj=22.4km s-min=11.1km az=102.2*
ISCJB ***13*** *20:26:59.7±0.2,56°.42S±0°.04×27°.39W±0°.07,h100km, mb5.5/81, Error ellipse: s-maj=6.4km s-min=4.5km az=43.5*
NEIC ***13*** *20:27:00.6±0.1,56°.33S×27°.31W,mb5.8/39,MW5.5, MW5.5, Error ellipse: s-maj=7.1km s-min=5.3km az=221.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.20; $M_{\theta\theta}$ 1.63; $M_{\phi\phi}$-1.44; $M_{r\theta}$-0.71; $M_{\theta\phi}$-0.07; $M_{\phi r}$-1.53; Best double couple: M_o2.30000×10^{17} NP1: ϕ_s46.00000°,δ84.00000°,λ-135.00000°. NP2: ϕ_s310.00000°,δ46.00000°,λ-9.00000°. Principal axes: T 1.9500, Plg24.0000°, Azm169.0000°; N 0.5700, Plg45.0000°, Azm51.0000°; P -2.5200, Plg34.0000°, Azm277.0000°;*
GCMT ***13*** *20:27:00.6±0.1,56°.55S×27°.00W,h100km±1km, MW5.5/119,Moment Tensor Solution. s104,c178; s119,c237; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.10±.03; $M_{\theta\theta}$ 1.68±.03; $M_{\phi\phi}$-1.57±.03; $M_{r\theta}$-0.87±.02; $M_{\theta\phi}$ 0.22±.03; $M_{\phi r}$-0.96±.02; Best double couple: M_o2.08900×10^{17} NP1:ϕ_s42.00000°,δ88.00000°, λ-142.00000°. NP2:ϕ_s311.00000°,δ52.00000°, λ-2.00000°. Principal axes: T 2.1260, Plg25.0000°, Azm170.0000°; N -0.0680, Plg52.0000°, Azm44.0000°; P -2.0530, Plg27.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI ***13*** *20:27:01.2,56°.30S×27°.30W,h110km,mB5.3/14*
AWI ***13*** *20:27:02.0,56°.26S×27°.28W*
IDC ***13*** *20:27:03.4±0.9,56°.41S×27°.54W,h123km±6km,mb5.1/25, mb1 5.2/26,mb1mx5.1/29,mbtmp5.5/26,MS4.3/13, Ms1 4.3/13,ms1mx4.3/14,Error ellipse: s-maj=10.6km s-min=8.0km az=45.0*
NEIC ***13*** *20:27:10.5±0.0,56°.14S×27°.23W,h100km,Moment Tensor Solution. s114 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56; $M_{\theta\theta}$1.53; $M_{\phi\phi}$-2.10; $M_{r\theta}$-1.07; $M_{\theta\phi}$0.30; $M_{\phi r}$-1.03; Best double couple: M_o2.40000×10^{17} NP1:ϕ_s314.00000°, δ50.00000°,λ13.00000°. NP2:ϕ_s216.00000°,δ80.00000°, λ139.00000°. Principal axes: T 2.3700, Plg35.0000°, Azm166.0000°; N 0.0700, Plg48.0000°, Azm24.0000°; P -2.4500, Plg19.0000°, Azm271.0000°;*
ISC 13 20:27:01.5±0.3,56°39S±0°.05×27°52W±0°.04,h109km±2km, h108km:pP-P,n701,σ1s37/777,mb5.6/80,104C-90D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.54**	**289**	Pn	**Pn**	**20 28 23.1**	**+1.7**
	13µm,0.7s						
HOPE	**Hope Point**	**5.54**	**289**	*e*Pn	**Pn**	**20 28 23.2**	**+1.9**
HOPE				*e*Sn	**Sn**	**20 29 22.5**	**-1.1**
VNA1	**Neumayer--Stat**	**16.55**	**157**	P	**Pn**	**20 30 45.7**	**-0.9**
VNA3	**Neumayer Olymp**	**16.73**	**160**	P	**Pn**	**20 30 47.5**	**-1.5**
VNA2	**Neumayer--Watz**	**16.95**	**157**	P	**Pn**	**20 30 50.4**	**-1.2**
	baz=316,slow=14						
EFI	**East Falkland**	**18.46**	**272**	Pn	**Pn**	**20 31 10.0**	**+0.2**
	5µm,0.9s,SNR=63						
EFI	**East Falkland**	**18.46**	**272**	*e*P	**Pn**	**20 31 10.0**	**+0.2**
SNAA	**Sanae**	**18.51**	**155**	P	**P**	**20 31 08.7**	**-0.2**
SNAA				S	S	20 34 25.1	-9.1
SNAA				pmax	pmax		
	comp=Z,40nm,0.3s						
SNAA				smax	smax		
	comp=N,1.0nm,0.3s						
SNAA				MLR	MLR		
	comp=Z,396nm,18.1s						
SNAA				pmax	pmax		
	comp=N,1.0nm,0.3s						
SNAA	**Sanae**	**18.51**	**155**	P	**P**	**20 31 08.7**	**-0.2**

comp=N,40nm,0.3s,baz=309,slow=9.6,SNR=4211
SNAA S S 20 34 25.1 -9.1
comp=N,0.8nm,0.3s,baz=313,slow=19,SNR=2.6
SNAA LR LR 20 36 53.3
comp=N,396nm,18.1s,baz=335,slow=32
SNAA ScP **ScP** **20 38 58.2 -0.6**
comp=N,0.9nm,0.3s,baz=305,slow=1.9,SNR=29
PMSA Palmer Station 19.54 230 P **Pn** **20 31 24.1 +1.7**
comp=N,27nm,0.3s,baz=63,slow=9.2,SNR=23
PMSA LR LR 20 38 31.4
comp=N,1µm,18.4s,baz=136,slow=35
PMSA Palmer Station 19.54 230 *eP* **Pn** **20 31 23.5 +1.1**
comp=N,457nm,0.8s
TRIS Tristan da Cun 21.86 34 *eP* **P** **20 31 41.1 -4.1**
comp=N,132nm,0.8s
NVL N'lazarevskaya 22.08 146⇑ *iP* P 20 31 41.8 -5.4
NVL *eS* S 20 35 34.1 -9.2
NVL pmax pmax
comp=Z,94nm,0.8s
USHA Ushuaia 22.92 257 P **P** **20 31 56.2 +0.4**
comp=Z,148nm,0.9s,baz=85,slow=10,SNR=40
USHA PcP **PcP** **20 35 43.2 +1.1**
comp=Z,14nm,0.8s,baz=90,slow=7.1,SNR=3.5
USHA ScP **ScP** **20 39 07.2 -2.5**
comp=Z,18nm,0.8s,baz=88,slow=6.6,SNR=6.7
TRQA Tornquist 29.29 294 *eP* **P** **20 32 53.5 +0.2**
TRQA *e*PcP **PcP** **20 35 58.1 +0.8**
TRQA *e*ScP **ScP** **20 39 26.1 -2.5**
SYO Syowa Base 31.44 140⇓ *iP* **P** **20 33 09.8 -2.1**
PLCA Paso Flores 31.88 281 P **P** **20 33 15.7 -0.6**
comp=Z,51nm,0.8s,baz=141,slow=8.6,SNR=113
PLCA PcP **PcP** **20 36 04.1 0.0**
comp=Z,11nm,0.7s,baz=118,slow=2.3,SNR=4.1
PLCA ScP **ScP** **20 39 34.9 -2.3**
comp=Z,33nm,0.8s,baz=128,slow=3.1,SNR=33
PLCA LR LR 20 46 10.9
comp=Z,1µm,19.4s,baz=131,slow=36
QSPA South Pole Qui 33.86 180 P **P** **20 33 34.6 +1.3**
comp=Z,213nm,0.7s,baz=48,slow=0.7,SNR=1392
QSPA ScP **ScP** **20 39 41.7 -2.1**
comp=Z,74nm,1.0s,baz=271,slow=1.6,SNR=9.4
QSPA South Pole Qui 33.86 180 *eP* **P** **20 33 34.5 +1.2**
QSPA *e*ScP **ScP** **20 39 41.4 -2.4**
CFAA Coronel Fontan 37.53 294 P **P** **20 34 03.9 -0.9**
comp=Z,16nm,0.6s,baz=146,slow=8.5,SNR=239
CFAA PcP **PcP** **20 36 21.1 +0.5**
comp=Z,5.8nm,0.6s,baz=143,slow=2.6,SNR=6.6
CFAA ScP **ScP** **20 39 54.6 -3.0**
comp=Z,3.2nm,0.8s,baz=305,slow=5.5,SNR=11
MAW Mawson 39.99 143 *eP* **P** **20 34 24.9 +0.1**
MAW Mawson 39.99 143 P **P** **20 34 25.1 +0.3**
comp=Z,114nm,0.6s,baz=231,slow=8.1,SNR=147
MAW ScP **ScP** **20 40 06.1 -0.2**
comp=Z,45nm,0.9s,baz=246,slow=5.7,SNR=16
MAW LR LR 20 48 19.0
comp=Z,504nm,21.2s,baz=253,slow=32
LCO Las Campanas 40.87 294 *eP* **P** **20 34 32.8 -0.1**
LCO *e*ScP **ScP** **20 40 08.2 -2.6**
SUR Sutherland 40.91 75 *eP* **P** **20 34 32.9 -0.1**
SUR AMB AMB 20 35 45.9
comp=Z,37nm,5.0s
SUR Sutherland 40.91 75 P **P** **20 34 33.4 +0.3**
comp=Z,8.6nm,0.9s,baz=180,slow=7.6,SNR=5.6
SUR ScP **ScP** **20 40 10.6 -0.3**
comp=Z,9.6nm,1.1s,baz=210,slow=3.0,SNR=4.4
SUR Sutherland 40.91 75 *eP* **P** **20 34 32.9 -0.1**
comp=Z,3.7nm,0.9s
SUR *e*ScP **ScP** **20 40 07.3 -3.5**
KOMG Komaggas 41.18 69 *eP* **P** **20 34 35.6 +0.5**
KOMG AMB AMB 20 35 05.2
comp=Z,42nm,1.6s
BDFB Brasilia 43.57 331 P **P** **20 34 56.4 +1.7**
comp=Z,68nm,0.6s,baz=151,slow=4.3,SNR=86
BDFB PcP **PcP** **20 36 40.9 +0.5**
comp=Z,18nm,0.7s,baz=169,slow=5.2,SNR=2.4
BDFB LR LR 20 51 51.5
comp=Z,413nm,19.5s,baz=155,slow=34
SHEL Horse Pasture 43.62 31 *eP* **P** **20 34 52.5 -2.5**
SHEL pmax pmax
comp=Z,207nm,0.9s
SHEL Horse Pasture 43.62 31 *eP* **P** **20 34 52.5 -2.5**
comp=Z,207nm,0.9s
LVC Limon Verde 45.31 301 *eP* **P** **20 35 07.8 -0.9**
comp=Z,597nm,0.8s
LVC *e*PcP **PcP** **20 36 48.0 +1.5**
LVC *e*ScP **ScP** **20 40 26.9 -1.9**
SBA Scott Base 45.73 184 *eP* **P** **20 35 12.8 +1.8**
SBA pmax pmax
comp=Z,174nm,1.1s
SBA Scott Base 45.73 184 *eP* **P** **20 35 12.8 +1.8**
comp=Z,174nm,1.1s
SBA *e*ScP **ScP** **20 40 29.4 0.0**
VNDA Vanda 46.23 183 P **P** **20 35 16.6 +1.7**
VNDA pmax pmax
comp=Z,83nm,0.6s
VNDA pmax pmax
comp=N,15nm,0.8s
VNDA MLR MLR
comp=Z,212nm,20.4s
VNDA Vanda 46.23 183 P **P** **20 35 16.6 +1.7**
comp=Z,83nm,0.6s,baz=187,slow=6.8,SNR=355
VNDA ScP **ScP** **20 40 31.1 -0.4**
comp=Z,15nm,0.8s,baz=221,slow=5.0,SNR=6.9
VNDA LR LR 20 53 13.5
comp=Z,212nm,20.4s,baz=180,slow=34
VNDA Vanda 46.23 183 *eP* **P** **20 35 16.1 +1.2**
VNDA ScP **ScP** **20 40 31.1 -0.4**
WIN Windhoek 46.92 63 *eP* **P** **20 35 22.8 +1.6**
WIN AMB AMB 20 35 58.1
comp=Z,10.0nm,4.0s
KSD Kokstad 47.00 81 *eP* **P** **20 35 22.1 +0.4**
KSD AMB AMB 20 35 48.4
comp=Z,20nm,2.0s
SIV San Ignacio 47.68 314 P **P** **20 35 27.2 +0.3**
comp=Z,82nm,0.7s,baz=166,slow=8.1,SNR=118
SIV PcP **PcP** **20 36 55.5 +0.9**
comp=Z,41nm,0.9s,baz=173,slow=9.2,SNR=4.0
SIV ScP **ScP** **20 40 37.0 -1.5**
comp=Z,19nm,1.0s,baz=167,slow=5.3,SNR=9.7
SEK Senekal 47.74 78 *eP* **P** **20 35 26.4 -1.1**
SEK AMB AMB 20 35 58.0
comp=Z,68nm,2.0s
H10S2 ASCENSION HYDR 48.38 17 T T 21 28 17.5
baz=189,slow=75,SNR=17
H10S3 ASCENSION HYDR 48.38 17 T T 21 28 18.1
baz=189,slow=75,SNR=13
H10S1 ASCENSION HYDR 48.40 17 T T 21 28 18.8
baz=189,slow=75,SNR=13
PRYS Parys 48.70 76⇑ *iP* **P** **20 35 33.8 -1.1**
PRYS AMB AMB 20 36 06.4
comp=Z,31nm,1.1s
WDLM Western Deep L 49.13 76 *eP* **P** **20 35 37.2 -1.0**
WDLM AMB AMB 20 36 08.3
comp=Z,28nm,2.2s
LBTB Lobatse 49.28 73⇑ *iP* **P** **20 35 38.5 -0.7**
LBTB AMB AMB 20 36 09.7
comp=Z,58nm,1.5s
LBTB Lobatse 49.28 73 P **P** **20 35 38.6 -0.7**
LBTB pmax pmax
comp=Z,22nm,0.9s
LBTB pmax pmax
comp=N,11nm,0.7s
LBTB Lobatse 49.28 73 P **P** **20 35 38.6 -0.7**
comp=N,22nm,0.8s,baz=231,slow=8.6,SNR=27
LBTB ScP **ScP** **20 40 44.5 -0.8**
comp=N,11nm,0.7s,baz=237,slow=5.0,SNR=9.4
LBTB Lobatse 49.28 73 *eP* **P** **20 35 38.3 -1.0**
LBTB *e*ScP **ScP** **20 40 44.6 -0.8**
H10N1 ASCENSION HYDR 49.50 17 T T 21 29 02.4
baz=196,slow=74,SNR=3.9
H10N3 ASCENSION HYDR 49.50 17 T T 21 29 19.2
baz=196,slow=74,SNR=14
H10N2 ASCENSION HYDR 49.51 17 T T 21 29 44.3
baz=196,SNR=6.7
ERPM east rand prop 49.64 77⇓ *iP* **P** **20 35 41.6 -0.5**
ERPM AMB AMB 20 36 12.2
comp=Z,50nm,1.5s
TSUM Tsumeb 50.01 61 *eP* **P** **20 35 44.8 0.0**
TSUM Tsumeb 50.01 61 P **P** **20 35 44.9 0.0**
comp=Z,8.1nm,0.7s,baz=203,slow=4.9,SNR=23
TSUM Tsumeb 50.01 61 *eP* **P** **20 35 44.5 -0.4**
comp=Z,9.9nm,0.7s
SLR Silverton 50.15 76⇑ *iP* **P** **20 35 44.7 -1.1**
SLR AMB AMB 20 36 16.9
comp=Z,52nm,1.4s
LPAZ La Paz 50.42 306 P **P** **20 35 50.1 +1.6**
comp=Z,722nm,0.6s,baz=116,slow=4.1,SNR=1628

LPAZ ScP **ScP** **20 40 48.9 -2.0**
comp=Z,7.5nm,0.8s,baz=64,slow=2.8,SNR=6.1
LPAZ S S **20 42 52.4 -1.7**
comp=Z,4.1nm,1.1s,baz=239,slow=19,SNR=3.5
LPAZ LR LR 20 58 10.1
comp=Z,214nm,19.9s,baz=152,slow=37
LPAZ La Paz 50.42 306 *eP* P 20 35 44.2 -4.4
comp=Z,3.6nm,0.8s
LPAZ ScP **ScP** **20 40 48.9 -2.0**
LPAZ S **S** **20 42 52.4 -1.7**
RCBR Riachuelo 50.86 349 P **P** **20 35 51.8 +0.7**
comp=Z,30nm,0.9s,baz=166,slow=9.9,SNR=15
RCBR ScP **ScP** **20 40 51.9 -0.2**
comp=Z,17nm,1.0s,baz=197,slow=3.8,SNR=4.1
RCBR Riachuelo 50.86 349 *eP* **P** **20 35 51.5 +0.4**
comp=Z,40nm,0.9s
RCBR *e*ScP **ScP** **20 40 52.4 +0.4**
RUDU RUNDU 52.16 62 *eP* **P** **20 36 00.5 -0.4**
RUDU AMB AMB 20 36 31.3
comp=Z,58nm,1.1s
CASY Casey 53.65 160 *eP* **P** **20 36 11.8 +0.7**
comp=Z,192nm,0.9s
CASY *e*ScP **ScP** **20 41 01.0 -2.4**
PAF Port-aux-Franc 54.56 127 *eP* **P** **20 36 18.5 +0.6**
PAF pmax pmax
comp=Z,367nm,1.4s
PAF Port-aux-Franc 54.56 127 *eP* **P** **20 36 18.5 +0.6**
comp=Z,367nm,1.4s
SAML Samuel 54.91 315 *eP* **P** **20 36 20.9 +0.1**
DRV Dumont d'Urvil 56.91 174 P P 20 36 23.0 -11
DRV PP PP 20 38 19.0 -22
DRV S S 20 43 49.0 -30
DRV L L 20 49 00.0
DRV R 20 53 00.0
NNA Nana 58.25 299 P **P** **20 36 45.3 +0.7**
comp=Z,639nm,0.9s,SNR=6.5
NNA Nana 58.25 299 *eP* **P** **20 36 45.3 +0.7**
NNA Nana 58.25 299 *eP* **P** **20 36 45.3 +0.7**
LSZ Lusaka 58.67 69⇑ *iP* **P** **20 36 47.0 -0.5**
LSZ Lusaka 58.67 69 *eP* **P** **20 36 46.6 -0.9**
LSZ *e**PP **pP** **20 37 13.0 -0.9**
LSZ *e**SP **sP** **20 37 22.2 -3.6**
LSZ pmax pmax
comp=Z,37nm,1.3s
LSZ Lusaka 58.67 69 *eP* **P** **20 36 46.6 -0.9**
comp=Z,37nm,1.3s
LSZ *e*pP **pP** **20 37 13.0 -0.9**
LSZ *e*sP **sP** **20 37 22.2 -3.6**
PTGA Pitinga 61.33 322 P **P** **20 37 05.5 0.0**
comp=Z,76nm,0.8s,baz=165,slow=7.4,SNR=50
PTGA Pitinga 61.33 322 *eP* **P** **20 37 05.1 -0.5**
PTGA *e*ScP **ScP** **20 41 37.4 -0.6**
MSKU Masuku 63.73 47 *e*PcP **PcP** **20 37 55.0 -1.7**
LIC Lamto 65.08 25 *eP* **P** **20 37 29.9 -0.4**
comp=Z,104nm,0.7s
KIC Ksan Boka 65.28 25 *eP* **P** **20 37 31.3 -0.3**
comp=Z,56nm,0.8s
TIC Toumodi 65.49 25 *eP* **P** **20 37 32.6 -0.3**
comp=Z,61nm,0.7s
DBIC Dimbokro 65.55 25⇓ *iP* **P** **20 37 33.6 +0.3**
DBIC Dimbokro 65.55 25 *eP* **P** **20 37 33.5 +0.3**
DBIC *e**PP **pP** **20 37 59.1 -1.0**
DBIC pmax pmax
comp=Z,32nm,0.7s
DBIC Dimbokro 65.55 25 P **P** **20 37 33.6 +0.3**
comp=Z,30nm,0.6s,baz=166,slow=7.7,SNR=54
DBIC LR LR 20 59 18.1
comp=Z,254nm,21.5s,baz=158,slow=30
DBIC Dimbokro 65.55 25 *eP* **P** **20 37 33.5 +0.2**
comp=Z,32nm,0.7s
DBIC *e*pP **pP** **20 37 59.1 -1.0**
ABPO Ambohimpanom 65.95 88 *eP* **P** **20 37 36.8 +0.7**
ABPO pmax pmax
comp=Z,18nm,0.9s
ABPO Ambohimpanom 65.95 88 *eP* **P** **20 37 36.8 +0.7**
comp=Z,18nm,0.9s
OTAV Otavalo 69.69 304 *eP* **P** **20 38 01.1 +1.2**
comp=Z,226nm,1.0s
BBTS Babate 71.38 11 P **P** **20 38 10.5 +1.1**
comp=Z,54nm,0.9s,baz=185,slow=1.8,SNR=11
ROSC El Rosal 71.98 310 P **P** **20 38 13.9 +0.2**
comp=Z,104nm,0.9s,baz=150,slow=2.0,SNR=38
ROSC LR LR 21 10 16.7
comp=Z,122nm,21.3s,baz=170,slow=36
ROSC El Rosal 71.98 310 *eP* **P** **20 38 14.8 +1.2**
TORD Torodi Ar. Bea 73.44 30 P **P** **20 38 22.4 +0.6**
comp=Z,56nm,0.7s,baz=200,slow=6.1,SNR=396
GRGR Grenville 73.94 325 *eP* **P** **20 38 25.6 +0.9**
GRGR Grenville 73.94 325 *eP* **P** **20 38 25.6 +0.9**
comp=Z,286nm,0.5s
SDV Santo Domingo 74.12 315 *eP* **P** **20 38 26.5 +0.5**
comp=Z,192nm,0.8s
SDV pP **pP** **20 38 51.9 -1.5**
SDV *e*sP **sP** **20 39 04.5 -0.6**
SDV *e*S S **20 47 49.1 -1.2**
SVB Belmont 74.89 326 *eP* **P** **20 38 31.1 +1.0**
KMBO Kilima Mbogo 75.33 69 P **P** **20 38 34.8 +1.6**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 75.33 69 P **P** **20 38 34.8 +1.6**
comp=Z,2.1nm,0.8s,baz=197,slow=7.4,SNR=4.8
MVM Montagne Vaucl 75.98 327 *eP* **P** **20 38 37.9 +1.5**
BIM Bigot 76.00 327 *eP* **P** **20 38 38.6 +2.0**
TRMF Trois Ilets 76.02 327 *eP* **P** **20 38 38.3 +1.8**
LPMF Morne Lapointe 76.03 327 *eP* **P** **20 38 37.8 +1.2**
ZAM Aeronautique 76.04 327 *eP* **P** **20 38 37.1 +0.4**
BVM Bellevue 76.21 327 *eP* **P** **20 38 39.6 +1.8**
FDF Fort de France 76.23 327 *eP* **P** **20 38 39.1 +1.2**
FDF *e**PP **pP** **20 39 03.1 -2.3**
FDF pmax pmax
comp=Z,206nm,0.7s
FDF Fort de France 76.23 327 *eP* **P** **20 38 38.8 +0.9**
FDF Fort de France 76.23 327 *eP* **P** **20 38 39.7 +1.9**
FDF Fort de France 76.23 327 *eP* **P** **20 38 39.0 +1.2**
comp=Z,206nm,0.7s
FDF *e*pP **pP** **20 39 03.1 -2.3**
SVN Savane Anatole 76.34 327 *eP* **P** **20 38 39.9 +1.5**
BBL Barber's Block 77.08 326 *eP* **P** **20 38 44.2 +1.7**
MGG Marie-Galante 77.40 327 *eP* **P** **20 38 45.9 +1.6**
TBG Guadaloupe-3 77.44 326 *eP* **P** **20 38 45.6 +1.1**
HMG Houelmont 77.58 326 *eP* **P** **20 38 46.9 +1.5**
PHG Guadaloupe-2 77.59 326 *eP* **P** **20 38 47.2 +1.7**
DOG Dongo Capester 77.60 326 *eP* **P** **20 38 47.1 +1.6**
SCG Saint Claude 77.62 326 *eP* **P** **20 38 47.5 +1.9**
ECG Echelle 77.62 326 *eP* **P** **20 38 47.5 +1.7**
TAG Terade 77.62 326 *eP* **P** **20 38 47.6 +1.9**
LKG Breisack 77.62 326 *eP* **P** **20 38 47.5 +1.7**
CRG Carmichael 77.63 326 *eP* **P** **20 38 47.6 +1.7**
FNG Fond-Bernard 77.65 326 *eP* **P** **20 38 47.4 +1.6**
MLG Mont-d'or 77.66 326 *eP* **P** **20 38 47.6 +1.7**
SSG Sans Toucher 77.67 326 *eP* **P** **20 38 47.7 +1.7**
DEG La Desirade 77.69 327 *eP* **P** **20 38 45.8 -0.2**
LZG Guadaloupe-1 77.75 326 *eP* **P** **20 38 48.0 +1.7**
SEG Port Louis 77.92 327 *eP* **P** **20 38 48.4 +1.2**
BCIP Isla Barro Col 78.22 307 *eP* **P** **20 38 49.7 +0.8**
comp=Z,151nm,0.8s
RPZ Rata Peaks 79.04 194 P **P** **20 38 53.8 +0.5**
comp=Z,18nm,0.8s,baz=206,slow=4.7,SNR=5.3
ANWB Willy Bob 79.19 327 *eP* **P** **20 38 55.0 +0.9**
ANWB Willy Bob 79.19 327 *eP* **P** **20 38 54.8 +0.7**
comp=Z,576nm,1.1s
SABA Saba 79.60 326 *eP* **P** **20 38 57.4 +1.0**
SABA Saba 79.60 326 *eP* **P** **20 38 57.8 +1.4**
comp=Z,462nm,0.9s
SMRT St. Maarten 79.95 326 *eP* **P** **20 38 58.7 +0.4**
comp=Z,311nm,1.0s
RKT Rikitea 80.16 243 *e*LR LR 21 04 20.1
comp=Z,316nm,33.8s
RKT Rikitea 80.16 243 *e*T T 22 07 38.6
comp=Z,1.8nm,0.3s
CDVI St. Croix 80.21 324 *eP* **P** **20 39 00.3 +0.7**
comp=Z,142nm,0.6s
STVI Saint Thomas 80.83 324 *eP* **P** **20 39 03.1 +0.1**
comp=Z,217nm,0.9s
STVI *e*pP **pP** **20 39 28.8 -1.9**
HUMP Col San Antoni 80.93 323 *eP* **P** **20 39 03.5 0.0**
comp=Z,122nm,1.0s
TAU Tasmania Unive 80.97 176 P **P** **20 39 04.6 +1.0**
comp=Z,799nm,0.7s,SNR=8.0
TAU Tasmania Unive 80.97 176 *eP* **P** **20 39 03.5 -0.1**
TAU pmax pmax
comp=Z,103nm,0.8s
TAU Tasmania Unive 80.97 176 *eP* **P** **20 39 03.5 -0.1**
comp=Z,103nm,0.8s

SJG San Juan 81.00 323 P **P** **20 39 03.5 -0.4**
SJG pmax pmax
comp=Z,61nm,0.7s
SJG San Juan 81.00 323 P **P** **20 39 03.5 -0.4**
comp=Z,61nm,0.7s,baz=96,slow=3.2,SNR=14
SJG San Juan 81.00 323 *eP* **P** **20 39 03.1 -0.7**
comp=Z,13nm,0.9s
OBIP Obispado Ponce 81.09 323 *eP* **P** **20 39 04.0 -0.4**
comp=Z,56nm,0.6s
CELP Cerrillos 81.11 323 *eP* **P** **20 39 04.0 -0.5**
CRPR Cabo Rojo, PR 81.23 322 *eP* **P** **20 39 04.7 -0.4**
comp=Z,111nm,0.9s
LRS Lares 81.40 322 *eP* **P** **20 39 05.2 -0.8**
AOPR Arecibo Observ 81.42 323 *eP* **P** **20 39 05.7 -0.5**
comp=Z,65nm,0.6s
JTS JuntasAbangare 81.54 303 P **P** **20 39 08.0 +1.2**
comp=Z,636nm,1.5s,SNR=9.5
JTS JuntasAbangare 81.54 303 *d iP* **P** **20 39 08.1 +1.2**
JTS *i* *PP **pP** **20 39 34.5 -0.2**
JTS pmax pmax
comp=Z,370nm,1.6s
JTS JuntasAbangare 81.54 303 P **P** **20 39 08.2 +1.3**
comp=Z,55nm,0.8s,baz=237,slow=0.9,SNR=28
JTS JuntasAbangare 81.54 303 *eP* **P** **20 39 07.6 +0.7**
comp=Z,142nm,1.1s
BKZ Black Stump Fm 82.65 199 *eP* **P** **20 39 14.8 +2.2**
comp=Z,251nm,2.3s
SMNH Samana, DR 83.07 321 *eP* **P** **20 39 14.8 0.0**
JAKH Jacmel 83.38 317 *eP* **P** **20 39 17.9 +1.6**
PAPH Port-au-Prince 83.56 318 *eP* **P** **20 39 18.9 +1.6**
SDDR Presa de Saban 83.61 319 *eP* **P** **20 39 17.6 0.0**
comp=Z,74nm,0.8s
TAM Tamanrasset 83.68 30 *eP* **P** **20 39 20.1 +2.2**
TAM *e**PP **pP** **20 39 47.4 +1.5**
TAM pmax pmax
comp=Z,37nm,1.3s
TAM Tamanrasset 83.68 30 *eP* **P** **20 39 20.1 +2.2**
comp=Z,37nm,1.3s
TAM *e*pP **pP** **20 39 47.4 +1.5**
PCJ Portland Cotta 84.75 313 *i* P **P** **20 39 25.4 +2.1**
HOJ Hope 84.82 314 *i* P **P** **20 39 25.9 +2.3**
GWJ Greenwich 84.87 314 *i* P **P** **20 39 25.4 +1.4**
STH Stony Hill 84.91 314 *i* P **P** **20 39 26.0 +2.0**
MCJ Malvern 85.13 313 *i* P **P** **20 39 27.4 +2.1**
MTDJ Mount Denham 85.34 313 *eP* **P** **20 39 27.7 +1.4**
comp=Z,53nm,0.7s
NWAO Narrogin (SRO) 86.12 151 P **P** **20 39 29.6 -0.5**
NWAO pmax pmax
comp=Z,13nm,0.7s
NWAO Narrogin (SRO) 86.12 151 P **P** **20 39 29.6 -0.5**
comp=Z,13nm,0.7s,baz=195,slow=4.2,SNR=8.5
TBI Tubuai 86.72 231 *eS* **S** **20 49 59.4 -2.1**
comp=Z,341nm,28.8s
TBI Tubuai 86.72 231 *e*LQ LQ 21 03 37.6
comp=Z,393nm,26.0s
TBI *e*LR LR 21 07 17.8
comp=Z,262nm,26.2s
PMAR Madeira 89.22 9 *eP* P 20 39 48.7 +4.0
comp=Z,111nm,1.4s
PMPS Porto Santo 89.60 9 *eP* P 20 39 49.6 +3.3
comp=Z,180nm,1.8s
BBOO Buckleboo 90.06 166 *eP* **P** **20 39 48.9 0.0**
comp=Z,19nm,0.8s
BBOO *e*sP **sP** **20 40 26.0 -2.6**
FORT Forrest 90.72 159 *eP* **P** **20 39 52.5 +0.6**
comp=Z,85nm,1.1s
MDT Midelt 90.97 19 P **P** **20 39 56.0 +3.1**
comp=Z,37nm,0.7s,baz=202,slow=3.5,SNR=78
STKA Stephens Creek 91.60 171 P **P** **20 39 56.2 +0.2**
comp=Z,22nm,0.7s,baz=150,slow=4.6,SNR=93
STKA LR LR 21 19 47.5
comp=Z,185nm,18.5s,baz=196,slow=35
STKA Stephens Creek 91.60 171 *eP* **P** **20 39 56.1 +0.2**
comp=Z,4.5nm,0.6s
STKA *e*PP **PP** **20 43 33.4 -1.2**
TEIG Tepich 91.75 305 *eP* **P** **20 39 57.7 +1.2**
comp=Z,191nm,0.7s
PPT2 Papeete2 91.83 234 *e*LQ LQ 21 05 51.8
PPT2 *e*LR LR 21 09 40.9
comp=Z,314nm,23.8s
CMIG Matias Romero 92.18 298 P **P** **20 39 59.3 +0.6**
comp=Z,24nm,0.8s,baz=113,slow=2.6,SNR=30
PVAQ Vaqueiros 94.93 16 *eP* **P** **20 40 13.7 +2.9**
comp=Z,39nm,1.8s
PCVE Castro Verde 95.11 15 *eP* **P** **20 40 14.3 +2.7**
MESJ Messejana 95.29 15 *eP* **P** **20 40 14.8 +2.4**
PNCL Nicolau / Gran 95.51 15 *eP* **P** **20 40 15.7 +2.3**
comp=Z,28nm,1.4s
PBAR Barrancos 95.79 16 *eP* **P** **20 40 17.7 +3.0**
comp=Z,55nm,1.8s
EVO Evora 96.00 15 *eP* **P** **20 40 18.1 +2.5**
comp=Z,19nm,1.7s
PESTR Estremoz 96.39 16 *eP* P 20 40 20.9 +3.5
comp=Z,28nm,1.7s
KEST Kesra 96.96 29 P **P** **20 40 22.4 +2.1**
comp=Z,1.9nm,0.9s,baz=260,slow=4.5,SNR=5.5
KEST LR LR 21 21 11.3
comp=Z,66nm,19.6s,baz=308,slow=34
PMRV Marv??o 96.97 16 *eP* **P** **20 40 23.1 +3.0**
comp=Z,22nm,1.5s
PCBR Castelo Branco 97.36 15 *eP* Pdif 20 40 25.0 +3.2
ESDC Sonseca Array 97.76 18 P Pdif 20 40 25.7 +2.0
comp=Z,2.8nm,0.7s,baz=183,slow=4.8,SNR=16
ESDC LR LR 21 18 48.5
comp=Z,100nm,22.0s,baz=340,slow=32
ASAR Alice Springs 98.72 163 P **P** **20 40 28.1 -0.5**
ASAR pmax pmax
comp=Z,13nm,0.7s
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR MLR MLR
comp=Z,207nm,18.5s
ASAR Alice Springs 98.72 163 P **P** **20 40 28.1 -0.5**
comp=Z,13nm,0.7s,baz=190,slow=4.2,SNR=105
ASAR PP PP 20 44 19.8 -10
comp=Z,4.0nm,0.8s,baz=193,slow=6.4,SNR=5.2
ASAR PKKP **PKKPdf** **20 56 55.4 -0.1**
comp=Z,2.0nm,0.7s,baz=15,slow=2.1,SNR=13
ASAR LR LR 21 23 40.2
comp=Z,207nm,18.5s,baz=190,slow=34
AS31 Alice Springs 98.72 163 *eP* **P** **20 40 27.9 -0.7**
POLO Lamas de Olo 98.82 15 *eP* P 20 40 33.1 +4.7
comp=Z,16nm,1.6s
DZM Mont Dzumac 100.96 193 *e*LR LR 21 14 06.3
comp=Z,587nm,27.4s
WRA Warramunga Arr 102.44 163 P **Pdif** **20 40 44.5 -0.7**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 102.44 163 P **Pdif** **20 40 44.5 -0.7**
comp=Z,4.8nm,0.8s,baz=194,slow=4.3,SNR=40
WRA PP **PP** **20 44 53.6 -4.5**
comp=Z,4.7nm,0.7s,baz=192,slow=6.1,SNR=8.1
WRA PKKPbc **PKKPbc** **20 56 44.8 +1.9**
comp=Z,2.4nm,0.5s,baz=356,slow=2.8,SNR=16
WB2 Warramunga Arr 102.44 163 *eP* **Pdif** **20 40 44.6 -0.6**
WRAB Tennant Creek 102.45 163 *eP* **Pdif** **20 40 44.4 -0.8**
WRAB *e* 20 44 58.0
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 102.45 163 *eP* **Pdif** **20 40 44.4 -0.8**
comp=Z,7.5nm,0.9s
WRAB *e*PP **PP** **20 44 58.0 -0.1**
339A Huntington 104.14 306⇑P **Pdif** **20 40 53.7 +1.5**
baz=104
MVL Millersville 104.53 323 *e*PP PP 20 45 14.5 -0.2
WVT Waverly 105.36 313 *e*PKiKP PKiKP 20 45 17.0 +6.3
WVT *e*PKKPbc PKKPbc 20 56 40.4 +5.3
SSPA Standing Stone 105.62 323 *e*PP PP 20 45 22.9 +0.2
530A J-C Ranch, Com 106.32 300⇑P **PKiKP** **20 45 13.6 +0.8**
baz=107
135A Vickery Place, 106.48 304⇑P **PKiKP** **20 45 14.2 +1.3**
baz=107
529A Stev Forest Ra 106.73 299⇑P **PKiKP** **20 45 14.6 +1.0**
baz=107
TXAR Lajitas Array 106.79 298 PKiKP **PKiKP** **20 45 14.1 +0.4**
comp=Z,2.8nm,0.9s,baz=157,slow=4.0,SNR=9.3
TXAR PKKPab **PKKPab** **20 56 47.3 +1.9**
comp=Z,0.8nm,0.9s,baz=308,slow=6.2,SNR=5.7
430A Baggett Ranch, 106.80 300⇓P **PKiKP** **20 45 14.6 +0.9**
baz=107

429A **Davenport Ranc** 106.98 300 ⇓P PKiKP 20 45 14.6 +0.5
baz=107
TUE **Stuetta** 107.05 26 *e*Pdif Pdif 20 41 13.9 +8.9
TUE *e*PKKPbc **PKKPbc** 20 56 27.0 -3.6
330A **Mertzon** 107.29 301 ⇑P PKiKP 20 45 14.6 +0.1
baz=108
231A **Bronte** 107.31 302 ⇓P PKiKP 20 45 14.7 +0.1
baz=108
NCB **Newcomb** 107.44 327 *e*Pdif Pdif 20 41 08.8 +2.3
230A **Sterling City** 107.65 301 ⇓P PKiKP 20 45 15.2 0.0
baz=106
SFIN **Lafayette** 108.73 316 *e*PP PP 20 45 42.4 -3.1
BRTR **Keskin Array B** 108.79 46 PKiKP PKiKP 20 45 16.7 -0.5
comp=Z,0.6nm,0.8s,baz=185,slow=5.4,SNR=2.8
BRTR PP PP 20 45 50.5 +4.4
comp=Z,0.3nm,0.6s,baz=176,slow=8.7,SNR=3.8
BRTR PKKP PKKPdf 20 56 45.0 +5.0
comp=Z,0.5nm,0.7s,baz=108,slow=4.0,SNR=4.0
128A **Castleberry Fa** 108.91 301 ⇓P PKiKP 20 45 17.4 -0.2
baz=109
Y31A **Rekieta Farm,** 108.97 303 ⇓P PKiKP 20 45 17.9 +0.3
baz=109
Z29A **Hungry Hill Ra** 109.07 301 ⇓P PKiKP 20 45 18.6 +0.7
baz=109
W33A **Caddo, Fort Co** 109.12 305 ⇑P PKiKP 20 45 18.8 +1.0
baz=109
MNTX **Cornudas Mount** 109.57 298 ⇑P PKiKP 20 45 18.6 -0.1
baz=110
U34A **Anderson Ranch** 109.77 306 *e*PKKPab PKKPab 20 56 32.5 +1.0
U34A *e*PKKPdf **PKKPdf** 20 56 40.9 +3.1
MSTX **Muleshoe** 110.16 301 ⇑P PKiKP 20 45 20.3 +0.4
baz=110
GERES **GERESS Array B** 110.34 28 PKiKP PKiKP 20 45 19.5 -0.2
comp=Z,0.2nm,0.3s,baz=191,slow=2.7,SNR=3.7
319A **Douglas** 111.25 295 ⇓P PKiKP 20 45 22.8 +0.8
baz=112
121A **Cookes Peak, D** 111.43 297 ⇓P PKiKP 20 45 23.3 +0.8
baz=112
R32A **Long Quarter,** 111.93 307 ⇓P PKiKP 20 45 23.6 +0.6
baz=112
Q33A **Connelly Farm,** 112.02 308 ⇑P PKiKP 20 45 23.7 +0.6
baz=112
BNM **Barren Site** 112.16 298 *e*PKKPbc PKKPbc 20 56 12.6 -1.0
R31A **Burdett** 112.19 306 ⇑P PKiKP 20 45 24.4 +0.9
baz=112
LPM **Los Pinos Moun** 112.30 299 *e*PKKPab PKKPab 20 56 29.2 +8.1
CLL **Collm** 112.43 26 *e*pPKiKP pPKiKP 20 45 50.0 -3.0
Q31A **Ellis** 112.72 307 ⇑P PKiKP 20 45 24.0 -0.5
baz=113
ANMO **Albuquerque** 112.72 299 *d* iPKIKP PKiKP 20 45 25.4 +0.6
ANMO **Albuquerque** 112.72 299 PKiKP PKiKP 20 45 24.3 -0.5
comp=Z,3.7nm,0.9s,baz=270,slow=2.0,SNR=4.4
ANMO **Albuquerque** 112.72 299 PKiKP PKiKP 20 45 24.3 -0.5
ANMO *e*PP PP 20 46 12.6 -1.9
U25A **Circle Dot Ran** 112.91 301 ⇑P PKiKP 20 45 25.0 -0.2
baz=113
T25A **Trinidad** 113.50 302 ⇓P PKiKP 20 45 26.8 +0.5
baz=114
S25A **Robets Cordova** 113.94 302 ⇑P PKiKP 20 45 27.8 +0.8
baz=114
R26A **Arlington** 113.99 303 ⇓P PKiKP 20 45 27.9 +0.9
baz=114
M31A **Lambtecht Ranc** 114.44 308 ⇓P PKPdf 20 45 28.6 +0.8
baz=115
SDCO **Great Sand Dun** 114.51 302 ⇑P PKPdf 20 45 28.6 +0.3
baz=115
Q26A **Hugo** 114.52 304 ⇑P PKPdf 20 45 29.1 +1.0
baz=115
Z14A **Wintersburg** 114.69 293 ⇑P PKPdf 20 45 29.2 +0.7
baz=115
R24A **Sanders Place,** 114.71 302 ⇓P PKPdf 20 45 29.1 +0.5
baz=115
KULM **Kulim** 114.73 120 *e*PKPdf PKPdf 20 45 18.9 -10
X16A **Lo Mia Camp, P** 114.77 295 ⇑P PKPdf 20 45 29.3 +0.5
baz=115
Q25A **Bedland, Calha** 114.85 303 ⇑P PKPdf 20 45 29.5 +0.7
baz=115
R23A **Moffat** 115.02 302 ⇑P **PKPdf** 20 45 29.8 +0.5
baz=115
S22A **4UR Ranch, Cre** 115.14 301 ⇑P **PKPdf** 20 45 30.0 +0.5
baz=116
S22A **4UR Ranch, Cre** 115.14 301 *e*PP PP 20 46 33.0 +1.3
Y14A **Wickenburg** 115.18 294 ⇓P **PKPdf** 20 45 29.8 +0.4
baz=116
SCHQ **Schefferville** 115.40 336 PKP **PKPdf** 20 45 28.7 -0.4
comp=Z,5.1nm,0.6s,baz=175,slow=2.4,SNR=12
SCHQ SKP 20 48 52.5
comp=Z,9.8nm,0.8s,baz=197,slow=1.7,SNR=11
Y12C **Blythe** 115.81 292 ⇓P **PKPdf** 20 45 30.9 +0.4
baz=116
N26A **Koester Ranch,** 115.92 305 ⇓P **PKPdf** 20 45 31.1 +0.5
baz=116
P23A **Jefferson** 115.97 302 ⇓P **PKPdf** 20 45 31.6 +0.5
baz=116
KIV **Kislovodsk** 116.03 49 *e*PKIKP **PKPdf** 20 45 34.7 +3.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
PDMCI **Parker Dam,Lak** 116.04 293 ⇑P **PKPdf** 20 45 31.9 +0.9
baz=116
MONP **Monument Peak,** 116.11 290 ⇑P **PKPdf** 20 45 32.0 +0.6
baz=116
ISCO **Idaho Springs** 116.20 303 *e*PKIKP **PKPdf** 20 45 30.8 -0.7
ISCO **Idaho Springs** 116.20 303 *e*PKPdf **PKPdf** 20 45 30.8 -0.7
BC3 **Big Chuckawall** 116.21 292 ⇑P **PKPdf** 20 45 32.1 +0.6
baz=116
SMCO **Snowmass** 116.34 301 *e*PKKPab PKKPab 20 56 10.4 +6.9
IRM **Iron Mountain** 116.45 292 ⇑P **PKPdf** 20 45 32.7 +0.9
baz=117
W13A **Hualapai Mount** 116.54 294 ⇑P **PKPdf** 20 45 33.1 +0.9
baz=117
KIEV **Kiev** 116.57 36 ⇑*i*PKIKP **PKPdf** 20 45 31.0 -0.4
P22A **Eagle** 116.57 302 ⇑P **PKPdf** 20 45 32.6 +0.5
baz=117
AKASG **Malin Array Be** 116.58 36 PKIKP **PKPdf** 20 45 30.6 -0.9
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG SKP 20 48 53.6
comp=N,1.0nm,0.5s
AKASG **Malin Array Be** 116.58 36 PKP **PKPdf** 20 45 30.6 -0.9
comp=N,2.0nm,0.7s,baz=244,slow=1.5,SNR=11
AKASG SKP 20 48 53.6
comp=N,0.9nm,0.5s,baz=243,slow=1.9,SNR=7.9
O23A **Lake Granby, G** 116.67 303 ⇑P **PKPdf** 20 45 33.0 +0.6
baz=117
PFO **Pinyon Flats O** 116.70 291 *e*PKIKP **PKPdf** 20 45 33.0 +0.6
PFO **Pinyon Flats O** 116.70 291 ⇑P **PKPdf** 20 45 33.0 +0.6
baz=117
PFO **Pinyon Flats O** 116.70 291 *e*PKPdf **PKPdf** 20 45 33.0 +0.6
BELC **Belle Mtn. Jos** 116.76 292 ⇓P **PKPdf** 20 45 33.6 +1.1
baz=117
U15A **North Rim** 116.78 296 ⇑P **PKPdf** 20 45 33.5 +0.8
baz=117
M25A **Palm-Egli Farm** 116.78 305 ⇓P **PKPdf** 20 45 32.3 -0.1
baz=117
EYMN **Ely** 116.82 317 *e*PKPdf **PKPdf** 20 45 31.3 -0.8
O22A **Kremmling** 116.92 302 ⇓P **PKPdf** 20 45 32.7 -0.2
baz=117
MURC **Murrieta** 117.08 290 ⇑P **PKPdf** 20 45 33.3 +0.3
baz=117
J28A **Allard Ranch,** 117.11 308 ⇑P **PKPdf** 20 45 33.3 +0.5
baz=117
M24A **Cheyenne** 117.16 305 ⇑P **PKPdf** 20 45 33.6 +0.5
baz=118
GMRC **Granite Mounta** 117.20 292 ⇑P **PKPdf** 20 45 34.4 +1.0
baz=118
N23A **Red Feather La** 117.22 303 ⇓P **PKPdf** 20 45 33.9 +0.5
baz=118
N23A **Red Feather La** 117.22 303 *e*PKPdf **PKPdf** 20 45 33.8 +0.5
L25A **Engebretsen Ra** 117.31 306 ⇑P **PKPdf** 20 45 33.8 +0.5
baz=118
N22A **Wattenberg Ran** 117.38 303 ⇓P **PKPdf** 20 45 34.2 +0.5
baz=118
KNB **Kanab** 117.50 296 *e*PKKPbc PKKPbc 20 55 58.8 +3.5
CIS **Catalina Islan** 117.56 289 ⇑P **PKPdf** 20 45 34.9 +0.9
baz=118
H29A **Onida** 117.62 310 ⇓P **PKPdf** 20 45 34.0 +0.3
baz=118
L24A **Wheatland** 117.66 305 ⇑P **PKPdf** 20 45 34.4 +0.3
baz=118
O20A **White River Ci** 117.70 301 ⇓P **PKPdf** 20 45 34.3 +0.1
baz=118
BFSC **Mount Baldy Ra** 117.81 291 ⇑P **PKPdf** 20 45 35.1 +0.5
baz=118
TUQ **Turquoise Moun** 117.84 293 ⇓P **PKPdf** 20 45 35.4 +0.8
baz=118
I27A **Quinn** 117.98 308 ⇑P **PKPdf** 20 45 35.1 +0.6
baz=118

MWC **Mount Wilson** 118.01 290 *e*PKIKP **PKPdf** 20 45 35.8 +0.8
MWC **Mount Wilson** 118.01 290 *e*PKPdf **PKPdf** 20 45 35.8 +0.8
H28A **Mission Ridge** 118.01 309 ⇑P **PKPdf** 20 45 35.0 +0.6
baz=118
GSC **Goldstone, Bar** 118.19 292 *e*PKIKP **PKPdf** 20 45 36.3 +1.1
GSC **Goldstone, Bar** 118.19 292 ⇓P **PKPdf** 20 45 36.0 +0.8
baz=118
GSC **Goldstone, Bar** 118.19 292 *e*PKPdf **PKPdf** 20 45 36.3 +1.1
J25A **Sunshine Ranch** 118.21 307 ⇓P **PKPdf** 20 45 34.9 -0.1
baz=119
SHPR **Sheep Range** 118.28 294 *e*PKPdf **PKPdf** 20 45 36.5 +1.0
SHPR *e*SKP 20 48 59.0
G28A **Parade** 118.28 310 ⇑P **PKPdf** 20 45 35.2 +0.2
baz=119
L22A **Ellis Ranch, M** 118.34 304 ⇑P **PKPdf** 20 45 35.3 -0.2
baz=119
MVU **Marysvale** 118.35 297 *e*PKPdf **PKPdf** 20 45 36.6 +0.9
MVU *e*SKP 20 48 59.9
SHOC **Shoshone, Teco** 118.39 293 ⇑P **PKPdf** 20 45 36.9 +1.4
baz=119
H27A **Howes** 118.44 308 ⇑P **PKPdf** 20 45 34.8 -0.5
baz=119
TMUT **Trail Mountain** 118.48 299 *e*PKPdf **PKPdf** 20 45 36.7 +0.8
TMUT *e*SKP 20 48 59.0
EDW2 **Edwards Air Fo** 118.48 291 ⇓P **PKPdf** 20 45 36.7 +1.0
baz=119
BSC **Santa Cruz Isl** 118.66 289 ⇑P **PKPdf** 20 45 36.6 +0.6
baz=119
I25A **Rochford** 118.68 307 ⇑P **PKPdf** 20 45 35.9 -0.1
baz=119
H26A **Fairpoint** 118.73 308 ⇑P **PKPdf** 20 45 35.9 0.0
baz=119
LRMC **Laurel Mtn Rad** 118.78 291 ⇓P **PKPdf** 20 45 37.4 +1.0
baz=119
AGMN **Agassiz Nation** 118.79 315 ⇓P **PKPdf** 20 45 35.4 -0.4
baz=119
F28A **McLaughlin** 118.85 310 ⇓P **PKPdf** 20 45 35.6 -0.4
baz=119
RSSD **Black Hills** 118.89 307 *e*PKIKP **PKPdf** 20 45 36.0 -0.5
RSSD **Black Hills** 118.89 307 *e*PKPdf **PKPdf** 20 45 36.0 -0.5
RSSD *e*SKP 20 48 59.5
I24A **Kuemmerle Ranc** 118.95 306 ⇑P **PKPdf** 20 45 36.2 -0.2
baz=119
G27A **Dupree** 118.96 309 ⇑P **PKPdf** 20 45 35.8 -0.5
baz=119
H25A **Fruitdale** 119.09 308 ⇓P **PKPdf** 20 45 36.6 0.0
baz=119
FURC **Furnace Creek,** 119.12 293 ⇑P **PKPdf** 20 45 38.5 +1.7
baz=119
MPMC **Manual Prospec** 119.13 292 ⇑P **PKPdf** 20 45 38.3 +1.1
baz=119
TPNV **Topopah Spring** 119.18 293 *e*PKIKP **PKPdf** 20 45 38.2 +1.0
TPNV **Topopah Spring** 119.18 293 ⇑P **PKPdf** 20 45 38.2 +1.0
baz=120
TPNV **Topopah Spring** 119.18 293 *e*PKPdf **PKPdf** 20 45 38.2 +1.0
G26A **Maurine** 119.18 309 ⇓P **PKPdf** 20 45 36.5 -0.2
baz=120
MPU **Maple Canyon** 119.24 299 *e*PKPdf **PKPdf** 20 45 37.7 +0.5
MPU *e*PP **PP** 20 47 02.4 +2.3
MPU *e*SKP 20 49 01.5
ISA **Isabella, Lake** 119.33 291 *e*PKIKP **PKPdf** 20 45 38.5 +1.1
ISA **Isabella, Lake** 119.33 291 ⇓P **PKPdf** 20 45 38.5 +1.1
baz=120
ISA **Isabella, Lake** 119.33 291 *e*PKPdf **PKPdf** 20 45 38.5 +1.1
DAU **Daniels Canyon** 119.36 299 *e*PKIKP **PKPdf** 20 45 37.9 +0.3
DAU **Daniels Canyon** 119.36 299 *e*PKPdf **PKPdf** 20 45 37.9 +0.3
NLU **North Lily Min** 119.41 299 *e*PKPdf **PKPdf** 20 45 38.6 +1.1
J22A **Midwest** 119.44 305 ⇑P **PKPdf** 20 45 36.6 -0.8
baz=120
H24A **Dirks Ranch, A** 119.61 307 ⇓P **PKPdf** 20 45 37.0 -0.7
baz=120
F26A **Lodgepole** 119.65 309 ⇓P **PKPdf** 20 45 37.9 +0.3
baz=120
VES **Vestal, Richgr** 119.79 291 ⇑P **PKPdf** 20 45 37.8 -0.3
baz=120
GRAC **Grapevine Rang** 119.79 293 ⇓P **PKPdf** 20 45 39.3 +1.1
baz=120
CTU **Camp Tracy** 119.82 299 *e*PKPdf **PKPdf** 20 45 39.1 +0.8
J21A **Lysite** 119.83 304 ⇓P **PKPdf** 20 45 38.0 -0.2
baz=120
SMMC **Simmler** 119.86 290 ⇑P **PKPdf** 20 45 39.7 +1.4
baz=120
B30A **Myrvik Farm, E** 119.89 314 ⇑P **PKPdf** 20 45 37.7 -0.2
baz=120
R11A **Troy Canyon, C** 119.92 295 ⇑P **PKPdf** 20 45 39.1 +0.5
baz=120
R11A **Troy Canyon, C** 119.92 295 *e*PKPdf **PKPdf** 20 45 39.0 +0.5
R11A *e*PKKPbc **PKKPab** 20 55 48.6 +0.7
DUG **Dugway, Tooele** 119.95 298 *e*PKIKP **PKPdf** 20 45 39.2 +0.7
DUG *e* 20 47 07.9
DUG **Dugway, Tooele** 119.95 298 ⇓P **PKPdf** 20 45 39.3 +0.8
baz=120
DUG **Dugway, Tooele** 119.95 298 *e*PKPdf **PKPdf** 20 45 39.2 +0.7
DUG *e*PP **PP** 20 47 07.8 +2.9
DUG *e*SKP 20 49 02.1
TCUT **Toone Canyon** 119.98 300 *e*PKPdf **PKPdf** 20 45 39.7 +1.0
E26A **Carlson Angus** 120.05 310 ⇑P **PKPdf** 20 45 38.4 +0.1
baz=120
F25A **Bowman** 120.05 309 ⇓P **PKPdf** 20 45 38.2 -0.2
baz=120
I21A **Big Trails, Te** 120.12 305 ⇑P **PKPdf** 20 45 38.2 -0.5
baz=120
J20A **Shoshoni** 120.13 304 ⇑P **PKPdf** 20 45 38.6 -0.2
baz=120
D27A **Center** 120.15 311 ⇑P **PKPdf** 20 45 38.4 -0.1
baz=120
C28A **Hausauer Farms** 120.16 312 ⇑P **PKPdf** 20 45 38.4 -0.1
baz=120
A30A **Hoffart Farm,** 120.27 314 ⇓P **PKPdf** 20 45 38.7 +0.1
baz=121
B29A **Wagenman Farm,** 120.32 313 ⇑P **PKPdf** 20 45 38.7 -0.1
baz=121
ULM **Lac du Bonnet** 120.37 316 *e*PKIKP **PKPdf** 20 45 38.0 -0.8
ULM **Lac du Bonnet** 120.37 316 PKP **PKPdf** 20 45 37.9 -0.8
comp=N,15nm,0.5s,baz=156,slow=1.5,SNR=20
ULM SKP 20 49 01.1
comp=N,6.3nm,0.9s,baz=172,slow=6.3,SNR=3.6
ULM **Lac du Bonnet** 120.37 316 *e*PKPdf **PKPdf** 20 45 38.0 -0.8
ULM *e*PP **PP** 20 47 02.3 -5.1
ULM SKP 20 49 01.1
BW06 **Boulder Array** 120.37 302 *e*PKPdf **PKPdf** 20 45 38.6 -0.8
PDAR **Pinedale Array** 120.37 302 PKhKP PKPpre 20 45 32.1
comp=N,0.9nm,0.7s,baz=132,slow=4.4,SNR=4.5
PDAR PKP **PKPdf** 20 45 38.5 -0.8
comp=N,5.5nm,0.5s,baz=131,slow=5.1,SNR=39
PDAR SKP 20 49 01.9
comp=N,1.6nm,0.7s,baz=107,slow=5.3,SNR=5.1
PDAR PKKPbc **PKKPab** 20 55 45.5 -0.2
comp=N,0.8nm,0.7s,baz=86,slow=1.9,SNR=4.9
RSUT **Red Spur Mount** 120.38 300 *e*PKPdf **PKPdf** 20 45 39.7 +0.2
F24A **Ekalaka** 120.42 308 ⇑P **PKPdf** 20 45 39.1 0.0
baz=121
HWUT **Hardware Ranch** 120.43 300 *e*PKPdf **PKPdf** 20 45 39.4 -0.1
HWUT *e*PP **PP** 20 47 10.2 +1.9
HWUT *e*SKP 20 49 02.5
D26A **Manning** 120.48 310 ⇑P **PKPdf** 20 45 39.2 +0.1
baz=121
E25A **Miller Ranch,** 120.48 309 ⇓P **PKPdf** 20 45 39.4 +0.2
baz=121
J19A **Crowheart** 120.51 303 ⇓P **PKPdf** 20 45 40.0 +0.5
baz=121
TPH **Tonopah** 120.54 294 *e*PKIKP **PKPdf** 20 45 40.8 +1.0
TPH *e* 20 47 14.1
TPH **Tonopah** 120.54 294 *e*PKPdf **PKPdf** 20 45 40.8 +1.0
TPH *e*PP **PP** 20 47 14.1 +5.0
BMUT **Black Mountain** 120.54 301 *e*PKPdf **PKPdf** 20 45 39.8 +0.1
I20A **Worland** 120.61 304 ⇓P **PKPdf** 20 45 39.0 -0.6
baz=121
C27A **Sayler Ranch,** 120.62 311 ⇑P **PKPdf** 20 45 38.8 -0.6
baz=121
BGU **Big Grassy Mou** 120.62 299 *e*PKPdf **PKPdf** 20 45 40.2 +0.4
BGU *e*PP **PP** 20 47 11.6 +2.1
BGU *e*SKP 20 49 04.0
A29A **Manning Farm,** 120.64 313 ⇑P **PKPdf** 20 45 38.3 -1.1
baz=121
H21A **Big Horn, Sher** 120.64 305 ⇑P **PKPdf** 20 45 38.4 -1.2
baz=121
MTUM **Tungsten Hills** 120.67 292 *e*PKPdf **PKPdf** 20 45 41.0 +0.9
F23A **Volborg** 120.75 307 ⇓P **PKPdf** 20 45 38.8 -1.0
baz=121
E24A **Baker** 120.92 308 ⇓P **PKPdf** 20 45 39.6 -0.5
baz=121
D25A **Fairfield** 120.95 310 ⇑P **PKPdf** 20 45 39.8 -0.3
baz=121
C26A **Wahner Farm, P** 120.96 311 ⇓P **PKPdf** 20 45 39.8 -0.3
baz=121

H20A **Greybull** 120.97 305 ⇓P **PKPdf** 20 45 39.6 -0.7
baz=121
NB2 **NORSAR Subarra** 120.99 21 PKPdf **PKPdf** 20 45 39.1 -0.6
comp=Z,4.0nm,1.2s,baz=202,slow=1.9
NOA **NORSAR Array B** 120.99 21 PKIKP **PKPdf** 20 45 39.8 +0.1
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA pmax pmax
comp=N,2.0nm,0.8s
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA **NORSAR Array B** 120.99 21 PKP **PKPdf** 20 45 39.8 +0.1
comp=Z,2.4nm,0.7s,baz=205,slow=2.0,SNR=13
NOA SKP 20 49 02.2
comp=Z,1.9nm,0.8s,baz=206,slow=1.9,SNR=5.7
NOA PKKPbc **PKKPbc** 20 55 43.4 +0.5
comp=Z,1.0nm,0.6s,baz=24,slow=3.3,SNR=4.7
A28A **Rude Farm, Bot** 121.05 313 ⇑P **PKPdf** 20 45 39.9 -0.2
baz=121
I19A **Meeteetse** 121.08 304 ⇑P **PKPdf** 20 45 40.5 -0.1
baz=121
AHID **Auburn Hatcher** 121.09 301 *e*PKPdf **PKPdf** 20 45 40.4 -0.3
AHID *e*SKP 20 49 04.9
HVU **Hansel Valley** 121.15 299 *e*PKIKP **PKPdf** 20 45 40.9 +0.1
HVU **Hansel Valley** 121.15 299 *e*PKPdf **PKPdf** 20 45 40.9 +0.1
F22A **Rosebud** 121.17 307 ⇓P **PKPdf** 20 45 40.2 -0.4
baz=122
G21A **Lodge Grass** 121.17 306 ⇑P **PKPdf** 20 45 40.2 -0.4
baz=122
E23A **Ismay** 121.31 308 ⇓P **PKPdf** 20 45 40.2 -0.6
baz=122
D24A **Glendive** 121.36 309 ⇑P **PKPdf** 20 45 40.9 +0.1
baz=122
NVAR **Mina Array Bea** 121.36 293 PKP **PKPdf** 20 45 42.5 +1.1
comp=Z,13nm,0.7s,baz=140,slow=3.1,SNR=95
NVAR SKP 20 49 04.9
comp=Z,2.8nm,0.9s,baz=136,slow=3.5,SNR=3.8
NVAR PKKPab **PKKPab** 20 55 41.7 -0.2
comp=Z,0.8nm,0.5s,baz=258,slow=5.9,SNR=3.8
REDW **Red Top Meadow** 121.43 302 *e*PKPdf **PKPdf** 20 45 41.5 +0.1
SNOW **Snow King Moun** 121.46 302 *e*PKPdf **PKPdf** 20 45 42.2 +0.7
LOHW **Long Hollow** 121.51 302 *e*PKPdf **PKPdf** 20 45 41.8 +0.4
E22A **Miles City** 121.54 307 ⇓P **PKPdf** 20 45 40.9 -0.3
baz=122
H19A **Powell** 121.56 304 ⇓P **PKPdf** 20 45 40.8 -0.6
baz=122
ELK **Elko** 121.57 297 PKIKP **PKPdf** 20 45 42.7 +1.0
ELK pmax pmax
comp=Z,16nm,0.9s
ELK **Elko** 121.57 297 PKP **PKPdf** 20 45 42.7 +1.0
comp=Z,16nm,0.8s,baz=174,slow=1.9,SNR=50
TPAW **Teton Pass** 121.58 302 *e*PKPdf **PKPdf** 20 45 42.5 +0.8
F21A **Absaloka Mine,** 121.59 306 ⇑P **PKPdf** 20 45 40.8 -0.6
baz=122
G20A **Bridger** 121.63 305 ⇓P **PKPdf** 20 45 40.9 -0.6
baz=122
C24A **Savage** 121.72 309 ⇑P **PKPdf** 20 45 41.5 0.0
baz=122
FXWY **Fox Creek** 121.72 302 *e*PKPdf **PKPdf** 20 45 42.5 +0.6
SAO **San Andreas Ge** 121.73 290 *e*PKIKP **PKPdf** 20 45 43.3 +1.5
SAO **San Andreas Ge** 121.73 290 *e*PKPdf **PKPdf** 20 45 43.3 +1.5
I17A **Pilgrim Ck.** 121.73 303 ⇑P **PKPdf** 20 45 42.7 +0.8
baz=122
B25A **Knox Farm, Ray** 121.75 310 ⇑P **PKPdf** 20 45 41.9 +0.4
baz=122
D23A **Lindsay** 121.78 308 ⇑P **PKPdf** 20 45 41.6 -0.1
baz=122
LAO **LASA Array** 121.86 307 *e*PKPdf **PKPdf** 20 45 42.1 +0.2
H18A **Shoshone NF, C** 121.88 304 ⇑P **PKPdf** 20 45 41.9 -0.3
baz=122
IMW **Indian Meadow** 121.88 302 *e*PKPdf **PKPdf** 20 45 43.2 +1.0
FLWY **Flagg Ranch** 121.91 303 *e*PKPdf **PKPdf** 20 45 42.9 +0.7
WAKR **Walker** 122.00 292 *e*PKPdf **PKPdf** 20 45 44.0 +1.4
RLMT **Red Lodge** 122.03 304 *e*PKPdf **PKPdf** 20 45 42.2 -0.2
RLMT *e*PP **PP** 20 47 15.8 -3.3
RLMT *e*SKP 20 49 06.4
F20A **Billings** 122.04 305 ⇑P **PKPdf** 20 45 41.8 -0.4
baz=122
H17A **Grant Village** 122.09 303 ⇑P **PKPdf** 20 45 42.9 +0.3
baz=122
H17A **Grant Village** 122.09 303 *e*PKPdf **PKPdf** 20 45 43.8 +1.2
E21A **Keefer Ranch,** 122.12 307 ⇓P **PKPdf** 20 45 42.6 +0.3
baz=122
CMB **Columbia Colle** 122.13 291 *e*PKIKP **PKPdf** 20 45 43.7 +1.1
CMB **Columbia Colle** 122.13 291 *e*PKPdf **PKPdf** 20 45 43.7 +1.1
D22A **Cohagen** 122.19 308 ⇓P **PKPdf** 20 45 42.6 +0.2
baz=122
A25A **Svangstu Ranch** 122.25 311 ⇓P **PKPdf** 20 45 42.4 -0.1
baz=123
YFT **Old Faithful** 122.25 303 *e*PKPdf **PKPdf** 20 45 44.9 +2.0
C23A **Lambert** 122.26 309 ⇓P **PKPdf** 20 45 42.6 +0.1
baz=123
BMN **Battle Mountai** 122.32 295 *e*PKIKP **PKPdf** 20 45 44.1 +1.0
BMN **Battle Mountai** 122.32 295 *e*PKPdf **PKPdf** 20 45 44.1 +1.0
DGMT **Dagmar** 122.34 310 ⇑P **PKPdf** 20 45 42.5 -0.1
baz=123
DGMT **Dagmar** 122.34 310 *e*PKPdf **PKPdf** 20 45 42.9 +0.2
VSU **Vasula** 122.43 30 ⇑*i*PKIKP **PKPdf** 20 45 42.7 +0.3
F19A **Roth Farm, Mol** 122.44 305 ⇓P **PKPdf** 20 45 42.5 -0.6
baz=123
YMR **Madison River** 122.48 303 *e*PKPdf **PKPdf** 20 45 42.0 -1.3
D21A **La Casta Ranch** 122.49 307 ⇓P **PKPdf** 20 45 42.9 -0.1
baz=123
C22A **Vida** 122.52 308 ⇓P **PKPdf** 20 45 42.9 -0.2
baz=123
A24A **Westby** 122.61 310 ⇓P **PKPdf** 20 45 43.3 +0.1
baz=123
B23A **Brockton** 122.68 309 ⇑P **PKPdf** 20 45 43.3 0.0
baz=123
OBN **Obninsk** 122.73 38 *c* iPKIKP **PKPdf** 20 45 42.6 -0.5
OBN *i* *PP x 20 46 09.9
OBN pmax pmax
comp=Z,14nm,0.9s
QLMT **Earthquake Lak** 122.82 303 *e*PKPdf **PKPdf** 20 45 45.3 +1.3
QLMT *e*PP **PP** 20 47 20.9 -3.5
QLMT *e*SKP 20 49 07.7
E19A **Rath Farm, Rou** 122.83 306 ⇓P **PKPdf** 20 45 43.6 -0.1
baz=123
B22A **Reddig Ranch S** 122.99 309 ⇓P **PKPdf** 20 45 44.0 +0.1
baz=123
D20A **Manuel Ranch,** 123.02 306 ⇓P **PKPdf** 20 45 44.2 +0.1
baz=123
HLID **Hailey** 123.28 300 ⇑P **PKPdf** 20 45 45.3 +0.5
baz=124
HLID **Hailey** 123.28 300 *e*PKPdf **PKPdf** 20 45 45.7 +0.9
HLID *e*PP **PP** 20 47 27.5 -0.1
HLID *e*SKP 20 49 09.3
D19A **Cripps Ranch,** 123.40 306 ⇓P **PKPdf** 20 45 44.7 -0.1
baz=124
C20A **Veseth Ranch,** 123.43 307 ⇓P **PKPdf** 20 45 44.7 -0.1
baz=124
A22A **Carney Farms,** 123.48 309 ⇓P **PKPdf** 20 45 45.1 +0.2
baz=124
MCMT **McKenzie Canyo** 123.48 302 *e*PKPdf **PKPdf** 20 45 46.2 +1.0
BOZ **Bozeman (W)** 123.52 303 *e*PKIKP **PKPdf** 20 45 45.9 +0.7
BOZ **Bozeman (W)** 123.52 303 *e*PKPdf **PKPdf** 20 45 45.9 +0.7
BOZ *e*PP **PP** 20 47 24.3 -4.8
B21A **Ellsworth Farm** 123.53 308 ⇓P **PKPdf** 20 45 45.2 +0.2
baz=124
OHCM **Honcut** 123.67 292 *e*PKPdf **PKPdf** 20 45 46.5 +1.1
DLMT **Dillon** 123.76 302 *e*PKPdf **PKPdf** 20 45 46.5 +0.8
LCCM **Lewis and Clar** 123.78 303 P **PKPdf** 20 45 46.9 +1.2
MFID **Camas Ranch** 123.86 299 *e*PKPdf **PKPdf** 20 45 46.8 +0.9
MFID *e*PP **PP** 20 47 33.6 +2.2
FRB **Frobisher Bay** 123.90 339 PKIKP **PKPdf** 20 45 45.0 -0.1
FRB pmax pmax
comp=Z,24nm,0.7s
FRB pmax pmax
comp=N,20nm,0.9s
FRB **Frobisher Bay** 123.90 339 PKP **PKPdf** 20 45 45.0 -0.1
comp=N,24nm,0.7s,baz=136,slow=3.0,SNR=36
FRB SKP 20 49 08.7
comp=N,20nm,0.9s,baz=126,slow=2.6,SNR=11
C19A **Slack Wire Ran** 123.91 306 ⇓P **PKPdf** 20 45 46.1 +0.4
baz=124
A21A **Bergtoll Ranch** 123.92 309 ⇑P **PKPdf** 20 45 45.7 0.0
baz=124
B20A **Solberg Farm,** 123.98 308 ⇓P **PKPdf** 20 45 46.0 +0.2
baz=124
LRM **Limekiln Ridge** 124.04 303 *e*PKPdf **PKPdf** 20 45 47.2 +0.9
LRM *e*SKP 20 49 10.6
PYUN **Piuthan** 124.16 90 *e*Pn **PKPdf** 20 45 46.6 -0.5
comp=N,20nm,0.6s
KOLN **Koldanda** 124.25 91 *e*Pn **PKPdf** 20 45 46.3 -0.9
comp=N,9.5nm,0.6s
A20A **Cobblestone Ra** 124.27 308 ⇓P **PKPdf** 20 45 46.5 +0.1

baz=125
SFJD Kangerlussuaq 124.28 349 PKIKP **PKPdf 20 45 45.7 0.0**
SFJD pmax pmax
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 124.28 349 PKP **PKPdf 20 45 45.7 0.0**
comp=Z,17nm,1.0s,baz=18,slow=17,SNR=6.3
SFJD Kangerlussuaq 124.28 349 *i* P **PKPdf 20 45 45.6 -0.1**
comp=Z,14nm,0.9s
B19A Brinkman Farms 124.40 307 ⇓P **PKPdf 20 45 47.2 +0.6**
baz=125
HRY Holter Researc 124.41 304 *e*PKPdf **PKPdf 20 45 47.7 +0.9**
EGMT Eagleton 124.44 306 ⇑P **PKPdf 20 45 47.0 +0.3**
baz=125
EGMT Eagleton 124.44 306 *e*PKPdf **PKPdf 20 45 47.2 +0.4**
EGMT *e*SKP 20 49 11.2
WVOR Wild Horse Val 124.52 296 *e*PKIKP **PKPdf 20 45 48.3 +1.1**
WVOR Wild Horse Val 124.52 296 *e*PKPdf **PKPdf 20 45 48.3 +1.1**
A19A Klindworth Far 124.66 308 ⇑P **PKPdf 20 45 47.5 +0.3**
baz=125
FINES FINESS Array B 124.77 28 PKIKP **PKPdf 20 45 46.6 -0.2**
FINES pmax pmax
comp=Z,14nm,0.5s
FINES pmax pmax
comp=N,13nm,0.9s
FINES FINESS Array B 124.77 28 PKP **PKPdf 20 45 46.6 -0.2**
comp=N,14nm,0.5s,baz=164,slow=3.3,SNR=205
FINES SKP 20 49 09.7
comp=N,13nm,0.9s,baz=151,slow=4.4,SNR=11
DANN Dangsing 124.78 90 *e*Pn **PKPdf 20 45 46.5 -1.9**
comp=N,15nm,0.7s
MOD Modoc Plateau 124.97 295 *e*PKPdf **PKPdf 20 45 49.1 +1.0**
MOD *e*PP **PP 20 47 43.0 +4.1**
MOD *e*SKP 20 49 12.3
MOD *e*PKKPab PKKPab 20 55 19.2 -7.1
GKN Gorkha 125.00 91 *e*Pn **PKPdf 20 45 47.3 -1.3**
comp=N,10nm,0.7s
PKIN Phulchoki 125.10 92 *e*Pn **PKPdf 20 45 47.7 -1.2**
comp=N,7.7nm,0.7s
PKI Pulchoki 125.10 92 *e*Pn **PKPdf 20 45 47.6 -1.4**
comp=N,17nm,1.1s
CMAR Chiang Mai Arr 125.12 111 PKIKP **PKPdf 20 45 47.9 -1.0**
CMAR 20 47 39.2
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR pmax pmax
comp=N,3.0nm,0.8s
CMAR Chiang Mai Arr 125.12 111 PKP **PKPdf 20 45 47.9 -1.0**
comp=N,4.7nm,0.9s,baz=229,slow=4.0,SNR=15
CMAR PP **PP 20 47 39.2 -0.3**
comp=N,2.1nm,0.9s,baz=229,slow=6.8,SNR=4.6
CMAR SKP 20 49 12.4
comp=N,2.8nm,0.8s,baz=221,slow=4.1,SNR=5.8
WDC Whiskeytown Da 125.14 292 *e*PKIKP **PKPdf 20 45 48.5 +0.3**
WDC Whiskeytown Da 125.14 292 *e*PKPdf **PKPdf 20 45 48.5 +0.3**
KKN Kakani 125.20 92 *e*Pn **PKPdf 20 45 47.1 -2.0**
comp=N,11nm,0.8s
CHMT Chamberlain Mo 125.22 303 *e*PKPdf **PKPdf 20 45 48.8 +0.3**
RAMN Ramite 125.28 94 *e*Pn **PKPdf 20 45 50.1 +0.8**
comp=N,16nm,0.5s
KAF Kangasniemi 125.39 28 *e*PKIKP **PKPdf 20 45 47.7 -0.3**
KAF pmax pmax
comp=Z,14nm,0.5s
KAF Kangasniemi 125.39 28 *ep* **PKPdf 20 45 47.7 -0.3**
comp=Z,14nm,0.5s
MSO Missoula 125.48 303 ⇓P **PKPdf 20 45 49.3 +0.4**
baz=126
MSO Missoula 125.48 303 *e*PKPdf **PKPdf 20 45 49.2 +0.4**
KMRM Mail Ridge 125.48 291 *e*PKPdf **PKPdf 20 45 50.9 +1.9**
N02D Trinity Center 125.52 292 ⇓P **PKPdf 20 45 49.8 +0.8**
baz=126,SNR=7.7
SLMT Seeley Lake 125.57 303 *e*PKPdf **PKPdf 20 45 49.0 -0.1**
JIRN Jiri 125.60 93 *e*Pn **PKPdf 20 45 49.2 -0.8**
comp=Z,26nm,0.7s
BMO Blue Mountains 125.64 299 *e*PKIKP **PKPdf 20 45 49.6 +0.4**
BMO Blue Mountains 125.64 299 *e*PKPdf **PKPdf 20 45 49.5 +0.4**
BMO *e*SKP 20 49 10.6
ODAN Odare 125.64 94 *e*Pn **PKPdf 20 45 50.0 0.0**
M04C Macdoel 125.66 293 ⇓P **PKPdf 20 45 50.2 +0.8**
baz=126,SNR=25
K05A Summer Lake 125.87 295 *e*PKPdf **PKPdf 20 45 51.1 +1.3**
M02C Callahan 125.90 292 ⇑P **PKPdf 20 45 50.8 +1.0**
baz=126,SNR=22
KHMM Horse Mountain 125.97 291 *e*PKPdf **PKPdf 20 45 51.5 +1.5**
SWMT Swartz Lake 126.00 303 *e*PKPdf **PKPdf 20 45 49.8 0.0**
SWMT *e*SKP 20 49 12.8
YBH Yreka Blue Hor 126.07 293 PKIKP **PKPdf 20 45 50.3 +0.2**
YBH pmax pmax
comp=Z,15nm,0.7s
YBH Yreka Blue Hor 126.07 293 PKP **PKPdf 20 45 50.3 +0.2**
comp=Z,15nm,0.7s,baz=86,slow=3.6,SNR=31
I07A Izee 126.16 297 *e*PKPdf **PKPdf 20 45 51.3 +1.1**
FFC Flin Flon 126.19 316 *e*PKIKP **PKPdf 20 45 50.0 +0.2**
FFC Flin Flon 126.19 316 *e*PKPdf **PKPdf 20 45 50.0 +0.2**
FFC *e*PP **PP 20 47 42.8 -3.8**
TAPN Taplejung 126.20 94 *e*Pn **PKPdf 20 45 51.1 0.0**
K04D Chiloquin, OR 126.23 294 ⇓P **PKPdf 20 45 51.2 +0.7**
baz=126
YBMT Yellow Bay 126.26 304 *e*PKPdf **PKPdf 20 45 50.3 0.0**
YBMT *e*PP **PP 20 47 45.8 -1.6**
JTMT Jette 126.31 303 *e*PKPdf **PKPdf 20 45 50.3 -0.2**
F10A Beach Ranch, E 126.42 300 *e*PKPdf **PKPdf 20 45 50.7 0.0**
FCC Fort Churchill 126.44 324 *e*PKIKP **PKPdf 20 45 49.0 -1.1**
FCC Fort Churchill 126.44 324 *e*PKPdf **PKPdf 20 45 49.0 -1.1**
FCC *e*SKP 20 49 12.6
J05D Fort Rock, OR 126.45 295 ⇓P **PKPdf 20 45 51.8 +1.0**
baz=127,SNR=30
ILULI Ilulissat 126.47 350 *i* PKIKP **PKPdf 20 45 50.0 +0.2**
ILULI pmax pmax
comp=Z,18nm,0.7s
ILULI Ilulissat 126.47 350 *i* P **PKPdf 20 45 50.0 +0.2**
comp=Z,18nm,0.7s
BLMT Blacktail Moun 126.53 303 *e*PKPdf **PKPdf 20 45 50.7 -0.2**
BSMT Bassoo Peak 126.61 303 *e*PKPdf **PKPdf 20 45 51.0 -0.1**
BSMT *e*PP **PP 20 47 50.4 +0.6**
G08A Pilot Rock 126.76 298 *e*PKPpre PKPpre 20 45 41.3
HUMO Hull Mountain 126.83 293 *e*PKPdf **PKPdf 20 45 52.6 +1.2**
L02D Cave Junction, 126.84 293 ⇓P **PKPdf 20 45 52.5 +1.0**
baz=127,SNR=7.6
J04D Umpqua Nationa 126.86 294 ⇑P **PKPdf 20 45 52.1 +0.4**
baz=127,SNR=18
WALA Waterton Lakes 127.08 305 *e*PKPdf **PKPdf 20 45 52.0 +0.1**
E09A Wood Farm, Sta 127.25 300 *e*PKPdf **PKPdf 20 45 52.3 +0.2**
I05D Terrebonne, OR 127.26 296 ⇓P **PKPdf 20 45 53.4 +1.1**
baz=128
JOF Joensuu 127.39 30 *e*PKIKP **PKPdf 20 45 51.7 -0.1**
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 127.39 30 *ep* **PKPdf 20 45 51.7 -0.1**
comp=Z,9.3nm,0.5s
I04A Tendick Farm, 127.41 295 ⇑P **PKPdf 20 45 52.7 +0.1**
baz=128
G06A Carlson Farm, 127.55 297 *e*PKPdf **PKPdf 20 45 53.6 +0.8**
ABKAR Akbulak array 127.72 56 *e*PKPdf **PKPdf 20 45 52.9 0.0**
KEBM Edson Butte 127.73 293 *e*PKPdf **PKPdf 20 45 55.1 +1.9**
I03D Drain, OR 127.81 294 ⇑P **PKPdf 20 45 53.3 +0.1**
baz=128
HAWA Hanford 127.83 299 *e*PKPdf **PKPdf 20 45 54.1 +0.9**
G05D Wamic, OR 127.89 297 ⇑P **PKPdf 20 45 53.8 +0.4**
baz=128
H04A Detroit Lake 127.93 296 *e*PKPdf **PKPdf 20 45 54.0 +0.5**
NEW Newport 128.01 302 *e*PKIKP **PKPdf 20 45 52.6 -0.9**
NEW Newport 128.01 302 PKP **PKPdf 20 45 52.0 -1.5**
comp=Z,7.6nm,0.9s,baz=167,slow=2.4,SNR=11
NEW SKPbc SKiKP 20 49 01.9 -18
comp=Z,4.3nm,0.7s,baz=150,slow=5.2,SNR=4.2
NEW Newport 128.01 302 ⇓P **PKPdf 20 45 52.9 -0.6**
baz=128
NEW Newport 128.01 302 *e*PKPdf **PKPdf 20 45 52.6 -0.9**
NEW SKPbc SKiKP 20 49 01.9 -18
D08A Wollman Farm, 128.01 300 *e*PKPdf **PKPdf 20 45 53.8 +0.2**
OD2 Odessa Site #2 128.14 300 P **PKPdf 20 45 54.7 +0.9**
C09A Chrisman Ranch 128.22 301 *e*PKPdf **PKPdf 20 45 54.5 +0.5**
TRW Toppenish Ridg 128.26 298 P **PKPdf 20 45 55.4 +1.3**
COR Corvallis 128.42 295 *e*PKIKP **PKPdf 20 45 55.6 +1.2**
COR Corvallis 128.42 295 *e*PKPdf **PKPdf 20 45 55.6 +1.2**
KKAR Karatay Array 128.52 68 *e*PKIKP **PKPdf 20 45 54.9 +0.2**
KKAR Karatay Array 128.52 68 *e*PKPdf **PKPdf 20 45 54.9 +0.2**
ASR Mount Adams--S 128.67 297 P **PKPdf 20 45 55.9 +1.0**
KSH Kashi 128.84 75 PKP **PKPdf 20 45 56.0 +0.5**
KSH sPKP 20 46 33.3
KSH PP **PP 20 48 04.5 +0.2**
KSH PKS **PKSdf 20 49 31.5 -0.6**
KSH SKS **SKSdf 20 52 57.3 +0.4**
KSH SS SS 21 05 06.6 -7.6
KSH PPMZ
comp=Z,100nm,4.3s
KSH LN
comp=Z,65nm,6.0s
KSH LE
comp=Z,100nm,4.7s
KSH LZ
comp=Z,170nm,6.9s
G03D McMinnville, O 128.84 295 ⇓P **PKPdf 20 45 55.4 +0.2**
baz=129
SUMG Summit 128.90 356 *e*PKIKP **PKPdf 20 45 55.9 +0.9**
SUMG Summit 128.90 356 *e*PKPdf **PKPdf 20 45 55.9 +0.9**
SUMG Summit 128.90 356 *i* P **PKPdf 20 45 55.8 +0.8**
comp=Z,18nm,0.9s
SUMG Summit 128.90 356 *i* P x 20 49 05.1
comp=Z,76nm,1.0s
F04A Amboy 128.93 297 *e*PKPdf **PKPdf 20 45 56.0 +0.7**
LTY Liberty 129.00 299 *e*PKPdf **PKPdf 20 45 55.8 +0.2**
ETW Entiat 129.07 299 P **PKPdf 20 45 56.0 +0.3**
TDL Tradedollar La 129.12 297 P **PKPdf 20 45 56.7 +0.9**
B08A Colville Reser 129.12 301 *e*PKPdf **PKPdf 20 45 55.9 +0.3**
LON Longmire 129.20 298 *e*PKIKP **PKPdf 20 45 56.5 +0.6**
LON Longmire 129.20 298 *e*PKPdf **PKPdf 20 45 56.5 +0.6**
F04D Rainier, OR 129.33 296 ⇓P **PKPdf 20 45 57.2 +1.1**
baz=130
NLW Nelson Butte 129.41 300 P **PKPdf 20 45 56.6 +0.3**
AML Almayashu 129.49 71 P SKPab 20 49 07.4 -0.7
SNR=18
D05A Enumclaw 129.59 298 *e*PKPdf **PKPdf 20 45 57.4 +0.9**
EDM Edmonton 129.77 309 *e*PKIKP **PKPdf 20 45 56.6 -0.1**
EDM Edmonton 129.77 309 *e*PKPdf **PKPdf 20 45 56.6 -0.1**
EKS2 Erkin-Say 129.91 71 P SKPab 20 49 08.9 -0.6
SNR=12
EKS2 Erkin-Say 129.91 71 *e*PKIKP **PKPdf 20 45 57.8 +0.3**
EKS2 Erkin-Say 129.91 71 *e*PKPdf **PKPdf 20 45 57.8 +0.3**
LSA Lhasa 129.93 95 *e*PKIKP **PKPdf 20 45 57.7 -0.7**
LSA Lhasa 129.93 95 *e*PKPdf **PKPdf 20 45 57.7 -0.7**
LSA *e*SKP 20 49 08.4
UCH Uchtor 129.99 71 P SKPab 20 49 09.5 -0.8
SNR=19
TMCR Tamitsa 130.26 32 *e*PKIKP **PKPdf 20 45 57.0 -0.2**
TMCR *e* 20 48 12.9
TMCR pmax pmax
comp=Z,36nm,1.4s
AAK Ala-Archa 130.26 71 P **SKPab 20 49 10.3 -0.8**
SNR=9.8
AAK Ala-Archa 130.26 71 ⇑ *i* PKIKP **PKPdf 20 45 57.9 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 130.26 71 SKPbc **SKPab 20 49 10.5 -0.6**
comp=Z,15nm,0.8s,baz=187,slow=4.3,SNR=16
AAK Ala-Archa 130.26 71 *e*PKPdf **PKPdf 20 45 58.9 +0.7**
AAK *e*SKP 20 49 10.1
B06A Marblemount 130.27 300 *e*PKPdf **PKPdf 20 45 58.3 +0.6**
KZA Kyzart 130.27 72 P **SKPbc 20 49 10.7 -0.9**
SNR=9.1
FRU Bishkek 130.47 71 *e*PKIKP **PKPdf 20 46 02.0 +3.6**
FRU *e* 20 46 36.0
KBK Karagaybulak 130.52 71 P **SKPbc 20 49 11.6 -0.6**
SNR=8.4
CHMS Chumysh 130.65 71 P **SKPbc 20 49 11.1 -1.3**
SNR=10
NLWA Neilton Lookou 130.66 297 *e*PKPdf **PKPdf 20 45 59.4 +0.8**
NLWA *e*SKP 20 49 06.5
USP Ospenovka 130.71 70 P **SKPbc 20 49 11.2 -1.4**
SNR=13
PRGR Permogore 130.78 37 *e*PKIKP **PKPdf 20 45 56.5 -1.8**
PRGR *e* 20 46 22.5
PRGR pmax pmax
comp=Z,58nm,0.9s
A05A Maple Falls 130.88 300 *e*PKPdf **PKPdf 20 45 59.5 +0.6**
ULHL Ulahol 130.91 73 P **SKPbc 20 49 12.6 -1.1**
SNR=17
TKM2 Tokmak 2 131.04 72 P **SKPbc 20 49 13.5 -0.6**
SNR=7.9
TKM2 Tokmak 2 131.04 72 *e*PKIKP **PKPdf 20 46 00.9 +1.2**
TKM2 Tokmak 2 131.04 72 *e*PKPdf **PKPdf 20 46 00.9 +1.2**
ARCES ARCESS Array B 131.33 22 PKHKP PKPpre 20 45 52.0
comp=Z,2.0nm,0.8s,baz=219,slow=2.3,SNR=4.9
ARCES PKP **PKPdf 20 45 58.8 -0.3**
comp=Z,7.9nm,0.6s,baz=193,slow=1.7,SNR=30
ARCES PP **PP 20 48 20.3 +0.5**
comp=Z,8.9nm,0.9s,baz=191,slow=2.5,SNR=4.7
ARCES SKPbc **SKPbc 20 49 11.3 -2.7**
comp=Z,8.7nm,0.8s,baz=205,slow=2.3,SNR=6.4
KEV Kevo 131.82 22 *e*PKHKP PKPpre 20 45 50.7
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 131.82 22 *ep* PKPpre 20 45 50.7
comp=Z,0.6nm,0.3s
ARU Arti 132.06 48 *i* PKIKP **PKPdf 20 46 01.1 +0.2**
ARU Arti 132.06 48 *e*PKPdf **PKPdf 20 46 00.8 -0.1**
ARU *e*SKP 20 49 14.7
LVZ Lovozero 132.15 27 *e*PKIKP **PKPdf 20 45 59.9 -0.9**
LVZ Lovozero 132.15 27 *e*PKPdf **PKPdf 20 45 59.9 -0.9**
KULLO Kullorsuaq 132.19 350 ⇑ *i*P **SKPbc 20 49 15.6 -1.3**
comp=Z,59nm,0.8s
KMI Kunming 132.59 110 PKP **PKPdf 20 46 04.0 +0.8**
DAG Danmarks Havn 133.02 3 *i* PKIKP **PKPdf 20 46 01.4 -0.7**
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 133.02 3 *i* P **PKPdf 20 46 01.4 -0.7**
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 133.02 3 ⇓ *i*P **SKPbc 20 49 17.4 -2.3**
comp=Z,7.7nm,0.8s
BVAR Borovoye Array 135.12 58 PKIKP **PKPdf 20 46 06.8 +0.1**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR pmax pmax
comp=N,17nm,0.9s
BVAR Borovoye Array 135.12 58 PKP **PKPdf 20 46 06.8 +0.1**
comp=N,2.3nm,0.5s,baz=270,slow=1.5,SNR=3.8
BVAR SKPbc **SKPbc 20 49 25.5 -1.7**
comp=N,17nm,0.9s,baz=225,slow=3.1,SNR=18
GYA Guiyang 135.71 113 *e*Pdif **Pdif 20 43 12.0 -0.9**
GYA PKP **PKPdf 20 46 08.6 -0.3**
GYA sPKP 20 46 50.0
GYA PP **PP 20 48 52.0 +3.9**
GYA PPMZ
comp=N,140nm,7.6s
BBB Bella Bella 135.88 300 PKP **PKPdf 20 46 08.6 +0.4**
comp=N,8.2nm,0.6s,baz=27,slow=4.5,SNR=4.1
YKA Yellowknife Ar 136.30 318 PKhKP PKPpre 20 45 54.3
comp=N,2.0nm,0.5s,baz=121,slow=3.6,SNR=31
YKA PKP **PKPdf 20 46 08.5 -0.1**
comp=N,19nm,0.6s,baz=139,slow=1.9,SNR=55
YKA PP PP 20 48 46.2 -5.3
comp=N,6.6nm,0.8s,baz=126,slow=5.8,SNR=7.4
YKA SKPbc **SKPbc 20 49 26.8 -3.7**
comp=N,20nm,0.9s,baz=122,slow=1.9,SNR=19
MKAR Makanchi Array 137.17 72 PKHKP PKPpre 20 46 01.9
MKAR 20 46 09.6
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=N,15nm,0.9s
MKAR Makanchi Array 137.17 72 PKhKP PKPpre 20 46 01.9
comp=N,0.9nm,0.7s,baz=232,slow=3.4,SNR=7.6
MKAR PKP **PKPdf 20 46 09.6 -1.3**
comp=N,2.1nm,0.6s,baz=250,slow=3.1,SNR=12
MKAR SKP 20 49 31.1
comp=N,15nm,0.9s,baz=245,slow=2.6,SNR=25
KURBB Kurchatov Arra 137.62 65 PKhKP PKPpre 20 46 02.2
comp=N,0.5nm,0.5s,baz=237,slow=3.7,SNR=8.2
KURBB PKP **PKPdf 20 46 09.6 -1.9**
comp=N,1.7nm,0.6s,baz=238,slow=3.7,SNR=16
KURBB SKPbc **SKPbc 20 49 32.8 -2.1**
comp=N,23nm,0.9s,baz=232,slow=3.5,SNR=34
KURK Kurchatov 137.72 65 PKHKP PKPpre 20 46 02.2
KURK 20 46 09.6
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK pmax pmax
comp=N,23nm,1.0s
KURK Kurchatov 137.72 65 PKPpre PKPpre 20 46 02.2
KURK SKPbc **SKPbc 20 49 32.8 -2.4**
CD2 Chengdu 137.75 106 PKP **PKPdf 20 46 13.0 +0.6**
CD2 sPKP 20 46 55.8
CD2 PP **PP 20 49 05.4 +4.5**
CD2 PKS **PKSdf 20 49 47.8 -0.9**
CD2 SKS **SKSdf 20 49 53.4 -2.6**
CD2 SKKS **SKKSac 20 55 43.0 -1.4**
CD2 SS **SS 21 07 02.6 +1.1**
CD2 PPMZ
comp=N,160nm,5.6s
CD2 LN
comp=N,970nm,20.1s
CD2 LE
comp=N,680nm,16.1s
CD2 LZ
comp=N,640nm,19.1s
RES Resolute Bay 138.10 338 PKHKP PKPpre 20 46 01.1
RES 20 46 11.6
RES pmax pmax
comp=Z,7.0nm,0.8s
RES pmax pmax
comp=Z,26nm,0.9s
RES pmax pmax
comp=N,36nm,1.0s
RES Resolute Bay 138.10 338 PKhKP PKPpre 20 46 01.1
comp=N,6.8nm,0.8s,baz=154,slow=5.3,SNR=20
RES PKP **PKPdf 20 46 11.6 0.0**
RES comp=N,26nm,0.9s,baz=102,slow=1.1,SNR=33
SKPbc **SKPbc 20 49 34.4 -1.1**
comp=N,36nm,0.9s,baz=139,slow=2.7,SNR=23
RES Resolute Bay 138.10 338 *e*PKPpre PKPpre 20 46 00.3
RES *e*PKPdf **PKPdf 20 46 12.1 +0.4**
RES *e*SKP 20 49 33.8
WMQ Urumqi 138.15 79 *e*PKP **PKPdf 20 46 15.0 +2.2**
WMQ sPKP 20 46 53.0
WMQ *e*PP PP 20 49 59.0 +5.5
WMQ SKKS 20 55 48.0
WMQ SS **SS 21 07 08.0 +1.5**
WMQ PPMZ
comp=N,98nm,5.4s
WMQ LN
comp=N,160nm,38.6s
WMQ LE
comp=N,98nm,35.6s
WMQ LZ
comp=N,89nm,31.7s
WRAK Wrangell Islan 140.36 303 *e*PKPpre PKPpre 20 46 08.7
WRAK *e*SKP 20 49 40.8
DLBC Dease Lake 140.37 306 PKhKP PKPpre 20 46 08.5
comp=N,9.0nm,0.7s,baz=141,slow=3.1,SNR=12
DLBC SKPbc **SKPbc 20 49 41.2 -1.1**
comp=N,41nm,0.9s,baz=90,slow=1.9,SNR=18
DLBC Dease Lake 140.37 306 *e*PKPpre PKPpre 20 46 09.1
DLBC *e*SKP 20 49 40.9
LZH Lanzhou 141.73 101 *e*PKP **PKPdf 20 46 22.1 +2.4**
LZH sPKP 20 47 00.8
NVS Novosibirsk 142.37 62 *e*PKHKP PKPpre 20 46 15.1
NVS pmax pmax
comp=Z,21nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.7s
ZALV Zalesovo Beam 142.68 64 PKHKP PKPpre 20 46 16.3
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV pmax pmax
comp=N,10.0nm,0.9s
ZALV Zalesovo Beam 142.68 64 PKhKP PKPpre 20 46 16.2
comp=N,2.4nm,0.5s,baz=234,slow=3.2,SNR=17
ZALV SKP 20 49 45.2
comp=N,10nm,0.9s,baz=249,slow=4.1,SNR=9.6
XAN Xi'an 142.91 108 PKP **PKPdf 20 46 17.9 -3.8**
HYT Haines Junctio 144.85 307 *e*PKPbc **PKPdf 20 46 24.3 0.0**
HYT *e*SKP 20 49 51.0
INK Inuvik 145.94 320 *e*PKIKP **PKPdf 20 46 24.2 -1.5**
INK 20 49 52.6
INK Inuvik 145.94 320 PKPbc **PKPbc 20 46 27.1 +0.4**
comp=N,234nm,0.7s,baz=76,slow=2.8,SNR=392
INK SKPbc **SKPbc 20 49 52.6 -2.8**
comp=N,36nm,1.1s,baz=82,slow=1.2,SNR=7.3
INK Inuvik 145.94 320 *e*PKPdf **PKPdf 20 46 24.2 -1.5**
INK SKPbc **SKPbc 20 49 52.6 -2.8**
DAWY Dawson 146.88 312 *e*PKPdf **PKPdf 20 46 26.9 -0.6**
DAWY *e*PP **PP 20 49 56.4 +0.5**
EGAK Eagle 147.83 313 *e*PKPdf **PKPdf 20 46 29.3 +0.3**
EGAK *e*PKPbc **PKPbc 20 46 32.1 0.0**
EGAK *e*PKPab **PKPab 20 46 36.2 +1.2**
RAGM Ragged Mountai 147.93 304 *e*PKPdf **PKPbc 20 46 33.8 +1.2**
BMRM Bremner River 148.10 305 *e*PKPdf **PKPdf 20 46 28.9 -0.8**
BMRM *e*PKPbc **PKPbc 20 46 33.6 +0.6**
BTO Baotou 148.34 102 *e*PKPbc **PKPbc 20 46 33.5 -0.9**
DIV Divide 148.69 305 *e*PKPbc **PKPbc 20 46 35.2 +0.7**
DOT Dot Lake 148.72 310 *e*PKPdf **PKPdf 20 46 28.5 -2.0**
DOT *e*PKPbc **PKiKP 20 46 35.3 -0.5**
DOT *e*SKP 20 49 59.5
TIA Tai'an 148.83 115 ⇑PKPbc **PKPbc 20 46 35.5 -0.2**
PAX Paxson 149.13 308 *e*PKIKP **PKPdf 20 46 29.8 -1.5**
PAX *e* 20 46 40.8
PAX Paxson 149.13 308 *e*PKPdf **PKPdf 20 46 29.8 -1.5**
PAX *e*PKPbc **PKPbc 20 46 36.0 +0.3**
PAX *e*PKPab **PKPab 20 46 40.8 +0.3**
PAX *e*SKP 20 50 03.0
HHC Hu-ho-hao-te 149.35 103 *e*PKPbc **PKPbc 20 46 34.9 -2.0**
HHC pPKP **pPKPdf 20 47 04.4 +2.4**
HHC PKS **PKSdf 20 50 08.4 +1.0**
HHC PP **PP 20 50 14.6 +4.0**
HHC SKS **SKSdf 20 53 31.1 +0.8**
HHC SS **SS 21 09 18.3 +3.3**
HHC PPMZ
comp=N,77nm,10.0s
CBIJ Chichi jima 149.81 162 PKPbc **PKPbc 20 46 37.2 -1.1**
JCJ Chichijima 149.81 162 PKPbc **PKPbc 20 46 37.2 -1.1**
baz=106,slow=20
MOY Mondy 149.99 77 *e*PKP2 **PKPbc 20 46 38.7 +0.6**
MOY pmax pmax
comp=Z,29nm,2.7s
SEW Seward 150.07 302 *e*PKPbc **PKPbc 20 46 38.2 +0.3**
ILAR Eielson Array 150.20 311 PKIKP **PKPdf 20 46 30.1 -2.8**
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILAR pmax pmax
comp=Z,253nm,1.0s
ILAR Eielson Array 150.20 311 PKP **PKPdf 20 46 30.1 -2.8**
comp=Z,7.2nm,0.8s,baz=317,slow=1.4,SNR=59
ILAR PKPbc **PKPbc 20 46 38.3 +0.2**
comp=Z,253nm,0.9s,baz=144,slow=5.0,SNR=373
PMR Palmer 150.38 305 *e*PKIKP **PKPdf 20 46 30.8 -2.4**
PMR Palmer 150.38 305 *e*PKPdf **PKPdf 20 46 30.8 -2.4**
PMR *e*PKPbc **PKiKP 20 46 39.2 0.0**
RC01 Rabbit Creek A 150.51 303 *e*PKPbc **PKPbc 20 46 39.9 +0.9**
ZAK Zakamensk 150.59 81 ⇑ *i*PKIKP **PKPbc 20 46 39.4 -0.2**
ZAK *e* 20 47 05.7
ZAK pmax pmax
comp=Z,9.0nm,1.0s
COLA College 150.63 311 *e*PKIKP **PKPdf 20 46 30.0 -3.4**
COLA *e* 20 46 47.3
COLA College 150.63 311 *e*PKPdf **PKPdf 20 46 30.0 -3.4**
COLA *e*PKPbc **PKPbc 20 46 39.0 0.0**
COLA *e*PKPab **PKPab 20 46 47.3 +0.9**
KDAK Kodiak Island 150.80 296 *i*PKIKP **PKPbc 20 46 40.0 +0.3**
KDAK Kodiak Island 150.80 296 *e*PKPbc **PKPbc 20 46 40.5 +0.9**
MCK McKinley 150.84 309 *e*PKIKP **PKPdf 20 46 31.2 -2.7**
MCK McKinley 150.84 309 *e*PKPdf **PKPdf 20 46 31.1 -2.7**
MCK *e*PKPbc **PKiKP 20 46 40.2 0.0**
MCK *e*SKP 20 50 03.5
SONM Songino Array 150.93 87 PKIKP **PKPbc 20 46 40.0 -0.5**
SONM pmax pmax
comp=Z,16nm,0.7s
SONM Songino Array 150.93 87 PKPbc **PKPbc 20 46 40.0 -0.5**
comp=Z,16nm,0.7s,baz=222,slow=2.1,SNR=74
BJI Beijing 151.24 109 PKPbc **PKPdf 20 46 36.8 +1.6**
ULN Ulaanbaatar 151.31 88 ⇓ *i*PKIKP **PKPbc 20 46 41.3 -0.1**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 151.31 88 *e*PKPbc **PKPbc 20 46 40.0 -1.4**
TRF Thorofare Moun 151.37 308 *e*PKPdf **PKPdf 20 46 31.5 -3.4**
TRF *e*PKPbc **PKiKP 20 46 41.4 -0.1**
TRF *e*PKPab **PKPab 20 46 50.0 +0.2**
TLY Talaya 151.44 79 *e*PKIKP **PKPbc 20 46 41.4 0.0**
TLY *e* 20 47 05.3
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 151.44 79 PKPbc **PKPbc 20 46 41.1 -0.3**
comp=Z,4.0nm,0.5s,baz=256,slow=3.3,SNR=11
SPU Mount Spurr 151.62 303 *e*PKPbc **PKPbc 20 46 42.0 +0.4**
KTH Kantishna Hill 151.67 308 *e*PKPdf **PKPdf 20 46 31.0 -4.3**
KTH *e*PKPbc **PKiKP 20 46 42.1 +0.1**
RSO Redoubt South 151.75 301 *e*PKPbc **PKPbc 20 46 41.5 -0.5**

COLD	**Coldfoot**	**151.94**	**316**	*e*PKPdf	**PKPdf**	**20 46 32.9**	**-2.5**
COLD				*e*PKPbc	**PKiKP**	**20 46 43.0**	**+0.6**
PPLA	**Purkeypile**	**152.09**	**306**	*e*PKPdf	**PKPdf**	**20 46 32.5**	**-3.5**
PPLA				*e*PKPbc	**PKPbc**	**20 46 42.6**	**-0.1**
PPLA				*e*PKPab	**PKPab**	**20 46 53.3**	**+0.5**
CAST	**Castle Rocks**	**152.15**	**308**	*e*PKPbc	**PKPbc**	**20 46 42.2**	**-0.5**
JNU	**Nakatsue**	**152.36**	**138**	PKPbc	**PKPbc**	**20 46 42.6**	**-1.5**
	comp=Z,16nm,0.8s,baz=116,slow=3.3,SNR=7.4						
IM04	**Indian Mountai**	**153.24**	**313**	*e*PKPdf	**PKPdf**	**20 46 34.3**	**-3.1**
SVW2	**Sparrevohn**	**153.25**	**302**	*e*PKPbc	**PKPbc**	**20 46 44.9**	**-0.3**
SDPT	**Sand Point**	**153.98**	**288**	*e*PKPbc	**PKPbc**	**20 46 46.9**	**0.0**
KSAR	**Wonju Array Be**	**154.91**	**129**	PKIKP	**PKPbc**	**20 46 49.6**	**+0.2**
KSAR						20 47 05.5	
KSAR	**Wonju Array Be**	**154.91**	**129**	PKPbc	**PKPbc**	**20 46 49.5**	**+0.2**
KSAR				PKPab	**PKPab**	**20 47 05.5**	**+0.2**
KSRS	**Korea Array**	**154.93**	**129**	PKIKP	**PKPbc**	**20 46 49.6**	**+0.1**
KSRS						20 47 05.5	
KSRS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS	**Korea Array**	**154.93**	**129**	PKPbc	**PKPbc**	**20 46 49.5**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=326,slow=0.5,SNR=5.0						
KSRS				PKPab	**PKPab**	**20 47 05.5**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=225,slow=3.2,SNR=8.7						
MJAR	**Matsushiro Arr**	**157.93**	**148**	PKP2	**PKPab**	**20 47 18.1**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR	**Matsushiro Arr**	**157.93**	**148**	PKPab	**PKPab**	**20 47 18.1**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=179,slow=5.0,SNR=8.5						
CN2	**Changchun**	**158.74**	**115**	*e*P	**PKPab**	**20 47 17.8**	**-3.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
TNA	**Tin City**	**159.07**	**312**	*e*PKPab	**PKPab**	**20 47 24.0**	**+1.5**
HIA	**Hailar**	**159.13**	**96**	*e*PKP2	**PKPab**	**20 47 23.2**	**-0.1**
HIA	**Hailar**	**159.13**	**96**	*e*PKPab	**PKPab**	**20 47 23.1**	**-0.1**
BOD	**Bodaibo**	**159.24**	**70**	*e*PKIKP	**PKPdf**	**20 46 43.9**	**-1.5**
BOD				*e*		20 47 22.5	
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BOD				pmax	pmax		
	comp=Z,11nm,0.8s						
GAMB	**Gambell**	**160.89**	**307**	*e*PKPab	**PKPab**	**20 47 31.8**	**+1.4**
GAMB				*e*PP	PP	20 51 20.3	+5.9
MDJ	**Mudanjiang**	**161.38**	**120**	PKP	**PKPdf**	**20 46 48.3**	**0.0**
TIXI	**Tiksi**	**161.75**	**24**	*e*PKP2	**PKPab**	**20 47 35.1**	**+1.1**
TIXI				*e*		20 51 19.6	
TIXI	**Tiksi**	**161.75**	**24**	*e*PKPab	**PKPab**	**20 47 35.1**	**+1.1**
TIXI				*e*PP	**PP**	**20 51 19.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**162.19**	**125**	PKPab	**PKPab**	**20 47 35.9**	**-0.8**
	comp=Z,6.5nm,0.7s,baz=201,slow=5.5,SNR=8.8						
BILL	**Bilibino**	**166.71**	**337**⇑	*e*PKIKP	**PKPdf**	**20 46 48.6**	**-3.8**
BILL				*i*		20 47 19.1	
BILL				*e*		20 51 41.5	
BILL				pmax	pmax		
	comp=Z,11nm,1.4s						
BILL	**Bilibino**	**166.71**	**337**	*e*PKPdf	**PKPdf**	**20 46 48.1**	**-4.2**
BILL				*e*PKPab	**PKPab**	**20 47 56.9**	**+1.0**
BILL				*e*PP	**PP**	**20 51 41.5**	**-3.1**
SEY	**Seymchan**	**173.43**	**0**	PKIKP	**PKPdf**	**20 46 53.9**	**-2.4**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SEY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SEY	**Seymchan**	**173.43**	**0**	PKP	**PKPdf**	**20 46 53.9**	**-2.4**
	comp=Z,7.4nm,1.1s,baz=172,slow=1.4,SNR=13						
SEY				PKPab	**PKPab**	**20 48 27.1**	**+1.3**
	comp=Z,5.2nm,0.8s,baz=320,slow=1.9,SNR=8.8						
PETK	**Petropavlovsk-**	**175.53**	**225**	PKIKP	**PKPdf**	**20 46 56.3**	**-1.0**
PETK						20 48 36.0	
PETK				pmax	pmax		
	comp=Z,19nm,1.0s						
PETK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PETK	**Petropavlovsk-**	**175.53**	**225**	PKP	**PKPdf**	**20 46 56.3**	**-1.0**
	comp=Z,19nm,1.0s,baz=108,slow=4.8,SNR=13						
PETK				PKPab	**PKPab**	**20 48 36.0**	**+0.5**
	comp=Z,8.4nm,0.9s,baz=131,slow=8.1,SNR=5.8						

MAN 13 20:47:11,9.17N×122.51E,h37km,mb4.8,ML3.8,MS3.8, 1C,Negros

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.74**	**76**⇑	*i*P		Pn	20 47 16.0	-9.0
SNPH				*i*S		Sn	20 47 23.4	-12
IPIL	**Ipil**	**1.37**	**177**	*e*P		Pn	20 47 34.1	+0.5
IPIL				*e*S		Sn	20 47 51.2	+0.8
GUIM	**Jordan**	**1.45**	**3**	*e*P		Pn	20 47 34.3	-0.5
GUIM				*e*S		Sn	20 47 53.8	+1.2
PAGZ	**Pagadian**	**1.57**	**147**	*e*P		Pn	20 47 36.9	+0.6
PAGZ				*e*S		Sn	20 47 58.2	+2.8
CUYO	**Cuyo Island**	**2.23**	**319**	*e*P		Pn	20 47 47.0	+1.6

NIED ***13*** *20:49:00,23.10N×121.50E,h32km,Mw4.8 Best double couple: M0 1.68000×10^16 NP1:φs 145.00000°,δ56.00000°, λ160.00000°. NP2:φs 246.00000°,δ74.00000°,λ35.00000°.*

BJI ***13*** *20:49:06.5,23.05N×121.41E,h10km,mB4.9/38,mb4.5/46, ML5.0/10,Ms5.0/56,Ms7 4.7/47*

JMA ***13*** *20:49:06.2±0.1,23.12N×121.46E,h0km±2km,M4.8*

NEIC ***13*** *20:49:07.1±0.9,23.12N×121.44E,h1km±5km,mb4.9/38, ML5.1(TAP),Error ellipse: s-maj=6.2km s-min=4.6km az=99.0*

NEIC Recorded [5 TAP] in T'ai-tung, [2 TAP] in Hua-lien and [1 TAP] in Chang-hua, Chia-i and Yun-lin.

GCMT ***13*** *20:49:07.1±0.3,23.09N×121.35E,h19km±1km,MW5.0/72, Moment Tensor Solution. s22,c28; s72,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 3.29±.22; Mθθ -0.81±.12; Mφφ -2.47±.15; Mrθ 1.66±.30; Mθφ -1.39±.07; Mφr 0.82±.29; Best double couple: M0 3.75500×10^16 NP1:φs 45.00000°,δ59.00000°,λ106.00000°. NP2: φs 196.00000°,δ34.00000°,λ66.00000°. Principal axes: T 3.8940, Plg71.0000°, Azm351.0000°; N -0.2720, Plg13.0000°, Azm217.0000°; P -3.6160, Plg13.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***13*** *20:49:07.2±0.4,23.08N±0.01×121.45E±0.01,h9km±2km, mb4.6/99,MS4.4/23 Error ellipse: s-maj=2.5km s-min=1.9km az=157.0*

TAP ***13*** *20:49:08.2,23.15N×121.30E,h9km,ML4.9,B*

MOS ***13*** *20:49:10.6±1.2,23.11N×121.43E,h33km,mb4.9/31, MS4.5/12,Error ellipse: s-maj=9.0km s-min=5.6km az=109.0*

IDC ***13*** *20:49:11.8±3.3,23.10N×121.47E,h33km±25km,mb4.2/24, mb1 4.3/26,mb1mx4.3/41,mbtmp4.4/26,ML4.2/2,MS4.2/14, Ms1 4.2/14,ms1mx3.9/31,Error ellipse: s-maj=16.4km s-min=11.1km az=71.0*

BKK ***13*** *20:49:14.6±0.5,23°N±4'×12°1E±', h10km,M4.8/19, mB4.8/5,mb4.5/19,MLv5.2/1,Mw(mB)4.1/5*

ISC 13 20:49:09.8±0.4,23.12N±0.02×121.38E±0.02,h16km±2km, h16km:pP-P,n389,σ1s76/433,mb4.7/101,MS4.3/24, 49C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=130	**0.03**	**224**	*i*P		**Pg**	**20 49 11.2**	**-1.4**
TWF1	**Yuli** baz=355	**0.25**	**341**⇑	*i*P		**Pg**	**20 49 13.2**	**-2.1**
YULB	**Yu-li**	**0.28**	**344**	*e*Pg		**Pg**	**20 49 13.2**	**-2.8**
ELDTW	**Lidau** baz=277	**0.35**	**282**⇑	*i*P		Pg	20 49 13.8	-3.3
EHY	**Hungye** baz=352	**0.39**	**352**⇑	*i*P		**Pg**	**20 49 16.1**	**-1.7**
EHY	baz=352			*e*S		**Sg**	**20 49 21.7**	**-1.6**
TWG	**Pinlang** baz=209	**0.41**	**224**⇑	*i*P		**Pg**	**20 49 16.4**	**-1.7**
TWG	**Pinlang**	**0.41**	**224**	*e*Pg		**Pg**	**20 49 16.2**	**-2.0**
TWG				*e*Sg		**Sg**	**20 49 21.9**	**-1.9**
TTN	**Taitung** baz=178	**0.42**	**211**	*e*P		**Pg**	**20 49 17.4**	**-1.0**
TTN	baz=178			*e*S		**Sb**	**20 49 26.4**	**+1.4**
YUS	**Yu-Shan** baz=314	**0.54**	**313**⇑	*i*P		**Pg**	**20 49 18.2**	**-2.6**
STYT	**Tauyuan** baz=270	**0.58**	**275**⇑	*i*P		**Pg**	**20 49 18.5**	**-2.8**
TEGC	**Jichi Village** baz=39	**0.61**	**14**	*e*P		**Pb**	**20 49 22.0**	**0.0**
ECL	**Taimali** baz=207	**0.65**	**218**⇓	*i*P		**Pg**	**20 49 20.0**	**-2.6**
ALS	**Alishan** baz=307	**0.66**	**306**⇑	*i*P		**Pg**	**20 49 20.4**	**-2.5**
ESL	**Shilin** baz=2.0	**0.69**	**4**	⇑P		**Pg**	**20 49 20.9**	**-2.6**
TPUB	**Ta-pu**	**0.72**	**285**	*e*Pg		**Pg**	**20 49 21.1**	**-2.7**
TPUB				*e*Sg		**Sg**	**20 49 31.7**	**-1.6**
WTP	**Ta-pu** baz=278	**0.72**	**280**⇑	*i*P		**Pg**	**20 49 21.6**	**-2.3**
SGST	**Jiashian** baz=263	**0.74**	**267**⇑	*i*P		**Pg**	**20 49 22.1**	**-2.1**
SGST	baz=263			S		**Sg**	**20 49 32.0**	**-2.0**
ESF	**Shoufeng Towns** baz=4.0	**0.76**	**9**	*e*P		**Pg**	**20 49 23.7**	**-0.9**
CHN4	**Tsaushan** baz=286	**0.76**	**288**⇑	*i*P		**Pg**	**20 49 22.6**	**-2.1**
SSLB	**Suanglung**	**0.78**	**329**	*e*Pg		**Pg**	**20 49 22.1**	**-2.9**
SSLB				*e*Sg		**Sg**	**20 49 32.3**	**-2.9**
SSD	**Sandimen** baz=234	**0.79**	**242**	*e*P		**Pg**	**20 49 22.7**	**-2.4**
CHN1	**Nanshi** baz=272	**0.79**	**275**⇑	*i*P		**Pg**	**20 49 23.3**	**-1.9**
CHN1	baz=272			S		**Sg**	**20 49 34.4**	**-1.3**
CHN5	**Tsauling** baz=307	**0.81**	**306**⇑	*i*P		**Pg**	**20 49 23.5**	**-2.0**
TWK	**Hsinying** baz=288	**0.84**	**280**⇑	*i*P		**Pb**	**20 49 23.9**	**-2.1**
TWK	baz=288			*e*S		**Sg**	**20 49 36.1**	**-1.0**
HWA	**Hwalien** baz=23	**0.88**	**13**	*e*P		**Pb**	**20 49 25.8**	**-0.8**
TAW	**Tawu** baz=202	**0.88**	**211**	⇓P		**Pb**	**20 49 24.0**	**-2.7**
SMLT	**Sun Moon Lake** baz=327	**0.88**	**330**	⇑P		**Pb**	**20 49 24.6**	**-2.2**
EAST	**Anshuo** baz=206	**0.88**	**214**⇓	*i*P		**Pb**	**20 49 24.1**	**-2.7**
SGLT	**Jiouru** baz=234	**0.91**	**245**	*e*P		**Pb**	**20 49 25.8**	**-1.4**
TYC	**Yuchr** baz=327	**0.92**	**328**	⇓P		**Pb**	**20 49 24.9**	**-2.5**
CHN2	**Minshiung** baz=295	**0.93**	**296**	*e*P		**Pb**	**20 49 26.7**	**-0.9**
CHN2	baz=295			*e*S		**Sg**	**20 49 40.3**	**+0.2**
TWM1	**Shoushan** baz=246	**0.93**	**252**⇑	*e*P		**Pb**	**20 49 26.7**	**-0.9**
CHN3	**Shinhua** baz=275	**0.94**	**268**⇑	*i*P		**Pb**	**20 49 27.3**	**-0.4**
CHN3	baz=275			*e*S		**Sn**	**20 49 42.7**	**+1.3**
WGK	**Gukeng** baz=307	**0.94**	**307**⇑	*i*P		**Pb**	**20 49 26.6**	**-1.1**
WGK	baz=307			*e*S		**Sb**	**20 49 40.1**	**0.0**
CHY	**Chiayi** baz=292	**0.96**	**293**⇑	*i*P		**Pb**	**20 49 26.6**	**-1.4**
CHY	baz=292			*e*S		**Sb**	**20 49 38.2**	**-2.3**
TWD	**Chiawan** baz=11	**0.98**	**11**	*e*P		**Pb**	**20 49 26.2**	**-2.1**
TWD	baz=11			*e*S		**Sn**	**20 49 43.1**	**+0.8**
WNT	**Mingjian** baz=321	**0.99**	**320**⇑	*i*P		**Pb**	**20 49 27.7**	**-0.9**
WNT	baz=321			S		**Sg**	**20 49 41.8**	**-0.3**
SCZT	**Fangliau** baz=205	**1.02**	**224**⇓	*e*P		**Pb**	**20 49 26.9**	**-2.3**
WHF	**Hehuan Shan** baz=2.0	**1.03**	**354**⇓	*e*P		**Pb**	**20 49 26.8**	**-2.7**
WHF	baz=2.0			S		**Sb**	**20 49 41.7**	**-1.2**
TAI1	**Yung-k'ang** baz=262	**1.07**	**266**	*e*P		**Pb**	**20 49 29.4**	**-0.4**
TAI1	baz=262			*e*S		**Sn**	**20 49 45.9**	**+1.4**
NACB	**Ninganchiao**	**1.07**	**10**	*e*Pg		Pb	20 49 26.4	-3.5
NACB				*e*Sn		**Sn**	**20 49 46.4**	**+1.8**
LAY	**Lan-yu** baz=155	**1.08**	**172**	*e*P		**Pb**	**20 49 27.1**	**-3.0**
SCLT	**Jiali** baz=270	**1.10**	**273**	*e*P		**Pb**	**20 49 29.1**	**-1.2**
SCLT	baz=270			*e*S		**Sn**	**20 49 46.0**	**+0.8**
CHN8	**Yiju** baz=280	**1.10**	**282**	*e*P		**Pb**	**20 49 28.8**	**-1.7**
CHN8	baz=280			*e*S		**Sg**	**20 49 45.2**	**-0.3**
KAU	**Kaohsiung** baz=217	**1.13**	**241**	*e*P		**Pg**	**20 49 32.4**	**+0.7**
KAU	baz=217			*e*S		**Sg**	**20 49 49.9**	**+3.4**
TWT	**Tachien** baz=353	**1.15**	**350**	*e*P		**Pn**	**20 49 29.4**	**-1.9**
WSF	**Szhu** baz=295	**1.19**	**296**	*e*P		**Pn**	**20 49 30.1**	**-1.6**
WSF	baz=295			*e*S		**Sb**	**20 49 46.0**	**-1.0**
TCU	**Taichung** baz=311	**1.21**	**328**	*e*P		**Pn**	**20 49 31.7**	**-0.4**
TCU	baz=311			*e*S		**Sg**	**20 49 48.7**	**-0.4**
TWP	**Hsiaoliuchiu** baz=212	**1.22**	**231**	*e*P		**Pg**	**20 49 33.2**	**0.0**
WTCT	**Ta-ch'eng** baz=306	**1.26**	**306**	*e*P		**Pn**	**20 49 31.0**	**-1.6**
WTCT	baz=306			*e*S		**Sb**	**20 49 47.3**	**-1.7**
HEN	**Hengchun** baz=202	**1.26**	**208**	*e*P		**Pn**	**20 49 31.3**	**-1.3**
TWK1	**Hengchun** baz=199	**1.28**	**205**	*e*P		**Pn**	**20 49 30.5**	**-2.6**
TSEB	**Hengchuen, Pin** baz=184	**1.29**	**200**	*e*P		**Pn**	**20 49 31.4**	**-1.8**
NNS	**Nan Shan** baz=24	**1.32**	**360**	*e*P		**Pn**	**20 49 31.7**	**-1.9**
ENA	**Nanau** baz=22	**1.34**	**14**	*e*P		**Pn**	**20 49 31.1**	**-2.7**
TWQ1	**Liyutan** baz=319	**1.35**	**336**⇑	*e*P		**Pn**	**20 49 34.0**	**0.0**
TWQ1	baz=319			*e*S		**Sg**	**20 49 53.4**	**0.0**
NSY	**Sanyi** baz=335	**1.41**	**336**	*e*P		**Pb**	**20 49 35.3**	**-0.5**
NSY	baz=335			*e*S		**Sg**	**20 49 55.8**	**+0.4**
ENTT	**Nioudou** baz=31	**1.52**	**6**	*e*P		**Pn**	**20 49 34.3**	**-2.1**
TWC	**Suao** baz=11	**1.54**	**16**	*e*P		**Pn**	**20 49 35.8**	**-0.9**
TWC	baz=11			*e*S		**Sg**	**20 49 58.7**	**-0.9**
YHNB	**Yeheng**	**1.54**	**360**	*e*Pn		**Pn**	**20 49 35.2**	**-1.5**
YHNB				*e*Sn		**Sn**	**20 49 54.6**	**-1.9**
NSTT	**Nanjuang** baz=2.0	**1.55**	**347**	*e*P		**Pn**	**20 49 36.7**	**+0.1**
NSTT	baz=2.0			*e*S		**Sg**	**20 49 59.7**	**0.0**
NSK	**Sanguang** baz=7.0	**1.55**	**359**	*e*P		**Pn**	**20 49 35.7**	**-1.1**
NSK	baz=7.0			*e*S		**Sg**	**20 49 59.7**	**-0.2**
WDGT	**Dungji** baz=273	**1.59**	**275**	*e*P		**Pn**	**20 49 35.7**	**-1.5**
WDGT	baz=273			*e*S		**Sn**	**20 49 56.6**	**-0.9**
ILA	**Ilan** baz=19	**1.67**	**11**	*e*P		**Pn**	**20 49 38.6**	**+0.2**
HSN	**Hsinchu** baz=353	**1.72**	**347**	*e*P		**Pb**	**20 49 40.6**	**-0.4**
PNG	**Penghu** baz=273	**1.74**	**285**	*e*P		**Pn**	**20 49 37.7**	**-1.6**
PNG	baz=273			S		**Sn**	**20 50 00.3**	**-0.8**
EGS	baz=23	**1.79**	**16**	*e*P		**Pn**	**20 49 40.1**	**+0.1**
TATO	**Taipei**	**1.85**	**3**	*e*Pn		**Pn**	**20 49 39.5**	**-1.4**
NCU	**National Centr** baz=338	**1.85**	**354**	*e*P		**Pb**	**20 49 43.6**	**+0.3**
TWA	**Mucha** baz=28	**1.86**	**6**	*e*P		**Pn**	**20 49 40.5**	**-0.5**
TAP	**Taipei** baz=28	**1.92**	**3**	*e*P		**Pb**	**20 49 43.7**	**-0.6**
TAP1	**Taipei** baz=28	**1.92**	**4**	*e*P		**Pn**	**20 49 42.2**	**+0.5**
JYNG	**Yonagunijimaku**	**1.95**	**47**	P		**Pn**	**20 49 41.2**	**-1.0**
JYNG				*e*S		**Sn**	**20 50 05.3**	**-1.1**
TWB1	**Santiao Chiao** baz=22	**1.96**	**16**	*e*P		**Pn**	**20 49 42.7**	**+0.3**
TWS1	**Kuangyinshan** baz=25	**1.98**	**1**	*e*P		**Pn**	**20 49 43.2**	**+0.7**
NWF	**Wu-fen Shan** baz=16	**1.98**	**10**	*e*P		**Pn**	**20 49 42.3**	**-0.4**
YOJ	**Yonaguni jima**	**2.00**	**48**	*e*P		**Pn**	**20 49 41.5**	**-1.4**
YOJ				*e*		20 50 06.9		
YOJ	**Yonaguni jima**	**2.00**	**48**	P		**Pn**	**20 49 42.0**	**-0.9**
YOJ				*e*S		**Sn**	**20 50 07.5**	**-0.1**
YOJ	**Yonaguni jima**	**2.00**	**48**	*e*Pn		**Pn**	**20 49 41.5**	**-1.4**
YOJ				*e*Sn		**Sn**	**20 50 06.9**	**-0.8**
TWY	**Chenhua** baz=28	**2.16**	**5**	*e*P		**Pn**	**20 49 45.5**	**+0.4**
HATJ	**Hateruma jima**	**2.41**	**67**	P		**Pn**	**20 49 46.6**	**-1.9**
HATJ				*e*S		**Sn**	**20 50 16.1**	**-1.6**
IRIF	**Iriomote-Funau**	**2.47**	**60**	P		**Pn**	**20 49 48.5**	**-0.8**
IRIF				*e*S		**Sn**	**20 50 17.6**	**-1.5**
JKRS	**Kuro-shima**	**2.65**	**65**	P		**Pn**	**20 49 50.9**	**-0.9**
JKRS				*e*S		**Sn**	**20 50 23.4**	**-0.3**
JIJ	**Ishigaki jima**	**2.82**	**63**	P		**Pn**	**20 49 53.0**	**-1.1**
JIJ				S		**Sn**	**20 50 26.0**	**-1.7**
KNM	**Kinmen** baz=292	**3.00**	**296**	*e*P		**Pn**	**20 49 56.0**	**-0.6**
JISG	**Ishigakijimahi**	**3.05**	**61**	P		**Pn**	**20 49 55.8**	**-1.6**
JISG				*e*S		**Sn**	**20 50 32.5**	**-1.1**
QZH	**Quanzhou**	**3.13**	**306**	Pn		**Pn**	**20 49 56.8**	**-1.7**
QZH				Sn		**Sn**	**20 50 31.5**	**-4.1**
QZH	3μm,0.7s			SMN				
QZH	4μm,1.0s			SME				
QZH	22μm,11.3s			LN				
QZH	18μm,7.0s			LE				
QZH	27μm,9.4s			LZ				
JTJ	**Tarama**	**3.39**	**63**	P		**Pn**	**20 50 00.9**	**-1.2**
JTJ				*e*S		**Sn**	**20 50 41.5**	**-0.5**
JIRB	**Irabujima**	**3.86**	**63**	P		**Pn**	**20 50 07.3**	**-1.2**
JIRB				*e*S		**Sn**	**20 50 51.7**	**-1.8**
JMJ	**Miyako jima 2**	**3.96**	**64**	P		**Pn**	**20 50 09.3**	**-0.5**
JMJ				*e*S		**Sn**	**20 50 55.1**	**-0.7**
JIKM	**Ikemajima**	**3.96**	**62**	P		**Pn**	**20 50 08.8**	**-1.1**
JIKM				*e*S		**Sn**	**20 50 55.5**	**-0.5**
JOGS	**Gusukube**	**4.03**	**65**	P		**Pn**	**20 50 10.1**	**-0.7**
JOGS				*e*S		**Sn**	**20 50 58.1**	**+0.5**
JKE	**Kume jima 2**	**5.86**	**56**	P		**Pn**	**20 50 33.8**	**-2.1**
JKE				*e*S		**Sn**	**20 51 42.2**	**-0.6**
JNTH	**Nagotoyohara**	**6.92**	**59**	P		**Pn**	**20 50 47.9**	**-2.6**
JIH	**Iheya**	**7.13**	**55**	P		**Pn**	**20 50 53.9**	**+0.5**
JIH				*e*S		**Sn**	**20 52 14.1**	**0.0**
JOW	**Kunigami**	**7.26**	**58**	P		**Pn**	**20 50 54.4**	**-0.9**
JOW	**Kunigami**	**7.26**	**58**	*e*Pn		Pn	20 50 47.4	-7.9
GZH	**Guangzhou**	**7.40**	**271**	P		Pn	20 50 53.6	-3.6
GZH	890nm,1.0s			SMN				
GZH	920nm,0.9s			SME				
SSE	**Sheshan**	**7.95**	**359**	P		**Pn**	**20 51 07.1**	**+2.5**
SSE				S		Sn	20 52 43.1	+8.9
SSE	38nm,0.9s			PMZ				
SSE	210nm,5.8s			PMZ				
SSE	1μm,10.2s			LN				
SSE	4μm,10.1s			LE				
SSE	2μm,7.3s			LZ				
NJ2	**Nanjing**	**9.18**	**346**	*e*P		**Pn**	**20 51 22.4**	**+0.9**
NJ2				S		**Sn**	**20 53 01.6**	**-2.9**
NJ2	70nm,0.8s			PMZ				
NJ2	18μm,0.7s			SMN				
NJ2	17μm,0.8s			SME				
NJ2	2μm,11.9s			LN				
NJ2	6μm,13.4s			LE				
WHN	**Wuhan**	**9.70**	**321**	P		**Pn**	**20 51 27.8**	**-0.9**
WHN				S		**Sn**	**20 53 13.3**	**-4.0**
WHN	19μm,8.5s			LN				
WHN	17μm,8.1s			LE				
WHN	26μm,10.1s			LZ				
QIZ	**Qiongzhong**	**11.52**	**251**	P		**Pn**	**20 51 50.8**	**-2.8**
QIZ				S		**Sn**	**20 53 59.8**	**-2.1**
QIZ	2μm,16.2s			LN				
QIZ	2μm,12.1s			LZ				
QIZ	**Qiongzhong**	**11.52**	**251**	*e*Pn		**Pn**	**20 51 53.2**	**-0.4**
QIZ				*e*Sn		Sn	20 53 55.6	-6.3
JNU	**Nakatsue**	**13.01**	**38**	LR		LR	20 58 25.6	
	comp=Z,1μm,18.3s,baz=219,slow=43							
TIA	**Tai'an**	**13.56**	**345**	P		**P**	**20 52 29.8**	**-0.7**
TIA				S		**S**	**20 55 14.6**	**-0.5**
TIA	comp=N,3μm,10.1s			LR		LR		
TIA	comp=E,2μm,8.3s			LR		LR		
TIA	comp=Z,5μm,9.8s			LR		LR		
GYA	**Guiyang**	**13.78**	**287**⇑	*i*P		**Pn**	**20 52 25.0**	**+0.4**
GYA				S		**Sn**	**20 55 02.0**	**+4.6**
GYA	comp=Z,20nm,0.8s			PMZ				
GYA	comp=Z,130nm,4.6s			PMZ				
GYA	comp=Z,2μm,9.6s			LN				
GYA	comp=Z,5μm,9.8s			LE				
GYA	comp=Z,6μm,10.1s			LZ				
TJN	**Taejon**	**14.19**	**20**	*i*P		**Pn**	**20 52 31.7**	**+1.6**
INCN	**Inchon**	**15.01**	**16**	Pn		**P**	**20 52 46.7**	**0.0**
KSAR	**Wonju Array Be**	**15.33**	**20**	P		**Pn**	**20 52 47.5**	**+2.0**
KSAR	**Wonju Array Be**	**15.33**	**20**	Pn		**Pn**	**20 52 47.5**	**+2.0**
KSRS	**Korea Array**	**15.36**	**20**	Pn		**Pn**	**20 52 47.5**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=200,slow=13,SNR=25							
KSRS				LR		LR	20 58 56.7	
	comp=Z,542nm,19.3s,baz=204,slow=38							
TIY	**Taiyuan**	**16.45**	**334**	P		**Pn**	**20 52 55.3**	**-4.7**
TIY				PP		**PnPn**	**20 53 13.8**	**+4.5**
TIY				S		**S**	**20 56 16.1**	**+1.7**
TIY				pmax		pmax		
TIY	comp=Z,350nm,4.7s			LR		LR		
TIY	comp=N,8μm,10.5s			LR		LR		
TIY	comp=E,4μm,11.0s			LR		LR		
TIY	comp=Z,7μm,11.2s			LR		LR		
UBPT	**Khong Chiam**	**16.92**	**245**	P		P	20 53 15.0	+7.1
KMI	**Kunming**	**17.14**	**280**	P		**Pn**	**20 53 04.3**	**-4.6**
KMI				sP		**sP**	**20 53 15.8**	**-1.4**
KMI				SS		**SnSn**	**20 56 33.8**	**+1.1**
KMI	comp=Z,7.0nm,1.2s			PMZ				
KMI	comp=Z,69nm,6.2s			PMZ				
KMI	comp=Z,2μm,11.5s			LN				
KMI	comp=Z,2μm,11.3s			LE				
KMI	comp=Z,2μm,12.6s			LZ				
BJT	**Baijiatuan**	**17.42**	**347**	P		**P**	**20 53 17.3**	**+4.0**
BJT	**Baijiatuan**	**17.42**	**347**	Pn		**P**	**20 53 17.2**	**+4.0**
BJI	**Beijing**	**17.44**	**347**	P		**P**	**20 53 17.5**	**+4.0**
BJI				S		**Sn**	**20 56 19.8**	**-6.3**
BJI				PMZ				

comp=Z,18nm,1.4s
BJI PMZ
comp=Z,530nm,9.6s
BJI LN
comp=Z,640nm,14.8s
BJI LE
comp=Z,2µm,14.1s
BJI LZ
comp=Z,470nm,14.8s
CD2 Chengdu 17.51 300 *e*P **Pn 20 53 11.4 -1.9**
CD2 pP **P 20 53 15.1 +0.7**
CD2 sP **sP 20 53 18.5 -2.6**
CD2 PP **PnPn 20 53 26.1 +2.5**
CD2 S **Sn 20 56 25.1 -2.8**
CD2 sS **S 20 56 30.3 -5.6**
CD2 SS **SnSn 20 56 46.8 +5.4**
CD2 PMZ
comp=Z,30nm,0.9s
CD2 PMZ
comp=Z,490nm,6.6s
CD2 LN
comp=Z,3µm,7.2s
CD2 LE
comp=Z,3µm,7.8s
CD2 LZ
comp=Z,5µm,11.2s
KKM Kota Kinabalu 17.69 197 ⇑P **P 20 53 18.8 +2.2**
KKM Kota Kinabalu 17.69 197 *e*Pn **Pn 20 53 15.3 -0.4**
comp=Z,52nm,1.1s
SDKM Sandakan 17.84 194 ⇓P **P 20 53 20.6 +2.5**
KHON Khomkaen 18.72 252 P Pn 20 53 37.4 +9.2
SNY Shenyang 18.75 5 ⇓P **Pn 20 53 30.3 +2.0**
SNY PMZ
comp=Z,20nm,1.2s
SNY PMZ
comp=Z,170nm,3.3s
SNY LN
comp=Z,1µm,12.7s
SNY LE
comp=Z,2µm,11.6s
SNY LZ
comp=Z,1µm,13.5s
TSM Tawau 19.02 191 ⇑P **Pn 20 53 34.6 +2.8**
CBIJ Chichi jima 19.25 74 *e*P **P 20 53 32.3 -1.2**
comp=Z,226nm,1.1s
HHC Hu-ho-hao-te 19.52 337 *e*P **Pn 20 53 39.3 +1.5**
HHC sP sP 20 53 48.5 +5.3
HHC PP **PnPn 20 53 56.6 +5.3**
HHC S **S 20 57 15.5 -1.0**
HHC sS **sS 20 57 22.3 -1.6**
HHC PMZ
comp=Z,19nm,0.8s
HHC PMZ
comp=Z,240nm,3.9s
HHC LN
comp=Z,2µm,9.2s
HHC LE
comp=Z,1µm,9.4s
HHC LZ
comp=Z,2µm,13.9s
CRAI Chiangrai 19.74 266 P **Pn 20 53 41.4 +1.0**
comp=Z,124nm,1.1s,comp=Z,4µm
MAJO Matsushiro 19.76 44 ⇓*e*P **Pn 20 53 39.9 -0.7**
MAJO pmax pmax
comp=Z,155nm,1.0s
MAJO Matsushiro 19.76 44 P **P 20 53 39.2 +0.1**
comp=Z,82nm,1.5s
MAT Matsushiro 19.76 44 P **Pn 20 53 41.7 +1.1**
MJAR Matsushiro Arr 19.76 44 P **P 20 53 38.5 -0.6**
comp=Z,0.5nm,0.3s,baz=229,slow=10,SNR=22
MJAR LR LR 21 02 02.6
comp=Z,397nm,20.8s,baz=230,slow=39
BTO Baotou 19.90 334 *e*P **P 20 53 40.4 -0.2**
LZH Lanzhou 19.95 314 *e*P **Pn 20 53 44.0 +1.0**
LZH pP pP 20 53 50.8 +4.9
LZH sP sP 20 53 53.3 +5.3
LZH *e*S **Sn 20 57 31.4 +4.3**
LZH PMZ
comp=Z,48nm,1.2s
LZH PMZ
comp=Z,300nm,5.4s
LZH LN
comp=Z,2µm,12.3s
LZH LE
comp=Z,3µm,11.0s
LZH LZ
comp=Z,3µm,13.6s
PBKT Sadao Pong 20.27 255 P Pn 20 53 48.4 +1.7
comp=Z,22nm,1.2s,comp=Z,479nm
CHBT CHBT 20.83 244 P Pn 20 53 56.5 +3.2
comp=Z,19nm,1.1s
LAMP Lampang 20.83 261 P Pn 20 53 53.4 0.0
comp=Z,9.5nm,1.0s,comp=Z,81nm
CN2 Changchun 20.90 8 *e*P Pn 20 53 53.4 -0.5
CN2 *e*PP **PnPn 20 54 15.3 +5.2**
CN2 *e*S **S 20 57 41.8 -2.0**
CN2 *e*SS **SnSn 20 58 12.5 +7.8**
CN2 PMZ
comp=Z,20nm,0.9s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,1µm,11.0s
CN2 LE
comp=Z,3µm,11.0s
CN2 LZ
comp=Z,800nm,12.0s
CMAI Chiengmai2 21.02 266 P **P 20 53 56.2 +3.2**
comp=Z,14nm,2.3s
SUKH Sukhothai 21.15 259 P **P 20 53 58.4 +4.2**
comp=Z,4.5nm,1.0s
CMMT Chiang Mai 21.38 263 P **P 20 54 00.0 +3.2**
comp=Z,27nm,1.0s
CMAR Chiang Mai Arr 21.48 262 P **P 20 53 59.5 +1.6**
comp=Z,14nm,1.0s,baz=67,slow=9.1,SNR=39
CMAR PcP **PcP 20 58 00.3 -0.4**
comp=Z,1.5nm,0.8s,baz=40,slow=0.6,SNR=7.7
CMAR LR LR 21 02 49.3
comp=Z,588nm,18.5s,baz=79,slow=38
TOLI Toli-Toli 21.87 182 *e*P **P 20 54 03.2 +1.2**
comp=Z,58nm,0.9s
UTHA Uthaitani 22.01 254 P P 20 54 10.2 +6.7
comp=Z,4.0nm,1.1s
SBUM Sibu 22.38 205 ⇓P **P 20 54 08.8 +1.3**
SBUM Sibu 22.38 205 *e*P **P 20 54 09.1 +1.6**
comp=Z,50nm,1.5s
MDJ Mudanjiang 22.48 15 P **P 20 54 09.0 +0.7**
MDJ PMZ
comp=Z,22nm,1.3s
MDJ PMZ
comp=Z,280nm,4.4s
MDJ Mudanjiang 22.48 15 *e*P **P 20 54 07.9 -0.4**
comp=Z,20nm,0.9s
MHMT Maesarieng 22.48 262 P **P 20 54 12.6 +4.0**
comp=Z,14nm,0.7s,comp=Z,240nm
MRSI Marisa 22.51 179 P **P 20 54 11.0 +2.1**
comp=Z,61nm,1.1s,comp=Z,827nm
MPSI Mapaga 22.69 184 P **P 20 54 10.8 0.0**
USRK Ussuriysk Ar. 22.77 20 P **P 20 54 12.4 +1.0**
comp=Z,6.2nm,0.7s,baz=200,slow=8.8,SNR=8.3
SRDT SRDT 22.79 251 P P 20 54 17.2 +5.3
comp=Z,41nm,1.2s
APSI Ampana 23.89 179 P P 20 54 30.4 +7.6
PCI Palu 23.93 184 P P 20 54 29.0 +5.8
comp=Z,62nm,1.2s,comp=Z,736nm
KSM Kuching 24.05 208 *e*P **P 20 54 23.7 -0.6**
GUMO Guam 24.19 109 *e*P P 20 54 19.9 -5.8
GUMO pmax pmax
comp=Z,56nm,1.4s
GUMO Guam 24.19 109 *e*P P 20 54 19.9 -5.8
comp=Z,56nm,1.4s
LBMI Labuha 24.35 165 P P 20 54 33.8 +6.7
comp=Z,83nm,1.0s
GTA Gaotai 24.48 317 *e*P **P 20 54 29.5 +1.2**
GTA pP **pP 20 54 33.8 +0.6**
GTA sP **sP 20 54 37.3 +2.1**
GTA PcP **PcP 20 58 04.3 -2.4**
GTA PMZ
comp=Z,9.0nm,2.0s
GTA PMZ
comp=Z,180nm,6.4s
GTA LN
comp=Z,1µm,11.2s
GTA LE
comp=Z,2µm,11.9s
GTA LZ
comp=Z,2µm,13.5s
STKI Sintang 24.86 204 P P 20 54 37.4 +5.7
comp=Z,19nm,0.8s,comp=Z,12µm
SANI Sanana 25.41 169 P **P 20 54 34.6 -2.1**
SURT Suratani 25.82 241 P P 20 54 47.6 +7.2
comp=Z,6.4nm,1.2s
TTSI Tana Toraja 26.05 184 P P 20 54 51.1 +8.6
HIA Hailar 26.13 358 P **P 20 54 43.9 +0.9**
HIA Hailar 26.13 358 P **P 20 54 43.9 +0.9**
KULM Kulim 26.73 232 *e*P **P 20 54 47.9 -0.8**
NLAI Namlea 26.78 167 P **P 20 54 51.7 +2.6**
comp=Z,105nm,0.9s,comp=Z,842nm
SHL Shillong 26.96 281 ⇓*i*P **P 20 54 52.0 +1.0**
BBKI Banjar Baru 27.18 194 P **P 20 54 55.6 +2.9**
ULN Ulaanbaatar 27.22 339 ⇑*e*P **P 20 54 53.5 +0.5**
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 27.22 339 *e*P **P 20 54 51.7 -1.3**
comp=Z,14nm,1.1s
SONM Songino Array 27.42 338 P **P 20 54 53.6 -1.2**
comp=Z,1.4nm,0.6s,baz=158,slow=10,SNR=13
SONM PcP **PcP 20 58 12.0 -1.3**
comp=Z,1.2nm,0.9s,baz=178,slow=2.8,SNR=7.3
SONM LR LR 21 05 48.9
comp=Z,784nm,20.0s,baz=149,slow=36
LSA Lhasa 27.81 290 P P 20 54 51.8 -7.1
LSA LR LR
comp=N,470nm,18.3s
LSA Lhasa 27.81 290 *e*P **P 20 55 00.4 +1.5**
LSA Lhasa 27.81 290 *e*P **P 20 55 00.4 +1.5**
YSS Yuzh-Sakhalins 29.34 31 *e*P **P 20 55 14.6 +2.9**
YSS pmax pmax
comp=Z,112nm,2.5s
ZAK Zakamensk 30.67 337 *e*P **P 20 55 23.8 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TAPN Taplejung 30.70 285 *e*P **P 20 55 25.9 +1.6**
comp=Z,54nm,1.1s
TLY Talaya 31.63 339 *e*P P 20 55 26.5 -5.5
TLY *e* 20 56 47.9
TLY *e*S **S 21 00 40.2 -0.1**
TLY *e*SS SS 21 02 45.5 -10
TLY pmax pmax
comp=Z,6.0nm,1.5s
TLY MLR MLR
comp=Z,2µm,13.0s
RAMN Ramite 31.69 284 *e*P **P 20 55 34.5 +1.5**
comp=Z,76nm,1.1s
JIRN Jiri 32.05 286 *e*P **P 20 55 37.6 +1.3**
GUN Gumba 32.32 286 *e*P **P 20 55 40.1 +1.4**
comp=Z,83nm,1.1s
PKI Pulchoki 32.74 285 *e*P **P 20 55 43.1 +0.8**
comp=Z,44nm,1.1s
PKIN Phulchoki 32.75 285 *e*P **P 20 55 43.0 +0.6**
comp=Z,52nm,1.5s
KKN Kakani 32.85 286 *e*P **P 20 55 44.2 +1.0**
comp=Z,39nm,1.1s
BATI Baumata 33.19 176 P **P 20 55 44.3 -1.6**
comp=Z,14nm,0.7s,baz=333,slow=2.2,SNR=5.1
GKN Gorkha 33.42 286 *e*P **P 20 55 48.7 +0.6**
comp=Z,52nm,1.1s
DANN Dangsing 34.20 287 *e*P **P 20 55 56.0 +1.0**
comp=Z,116nm,1.4s
KOLN Koldanda 34.34 286 *e*P **P 20 55 57.1 +0.9**
comp=Z,32nm,0.9s
WMQ Urumqi 34.53 315 *e*P **P 20 55 57.5 +0.1**
WMQ pP **pP 20 56 07.0 +4.6**
WMQ sP sP 20 56 11.0 +6.6
WMQ PP **PnPn 20 57 14.0 +1.3**
WMQ S **S 21 01 24.4 -1.3**
WMQ sS sS 21 01 41.0 +7.1
WMQ SS **SnSn 21 03 36.0 -1.1**
WMQ PMZ
comp=Z,7.0nm,1.4s
WMQ PMZ
comp=Z,190nm,5.1s
WMQ LN
comp=Z,1µm,12.4s
WMQ LE
comp=Z,900nm,10.0s
WMQ LZ
comp=Z,770nm,15.4s
PYUN Piuthan 34.88 286 *e*P **P 20 56 01.9 +1.1**
comp=Z,103nm,1.0s
MKAR Makanchi Array 39.23 317 P **P 20 56 37.5 +0.2**
comp=Z,2.4nm,0.5s,baz=106,slow=10,SNR=49
MKAR PcP **PcP 20 58 45.4 -0.9**
comp=Z,1.2nm,0.5s,baz=98,slow=4.3,SNR=12
MKAR LR LR 21 13 52.8
comp=Z,343nm,21.4s,baz=105,slow=38
YAK Yakutsk 39.30 6 *e*P P 20 56 41.4 +3.7
YAK pmax pmax
comp=Z,12nm,0.7s
HYB Hyderabad 40.47 270 *i*P **P 20 56 50.0 +2.0**
PETK Petropavlovsk- 40.65 33 P **P 20 56 49.4 +0.4**
comp=Z,7.7nm,0.9s,baz=208,slow=5.3,SNR=7.3
PETK LR LR 21 14 57.8
comp=Z,234nm,18.1s,baz=212,slow=38
PMG Port Moresby 41.00 139 *de*P **P 20 56 54.3 +2.0**
PMG pmax pmax
comp=Z,49nm,1.7s
PMG Port Moresby 41.00 139 *e*P **P 20 56 53.2 +0.9**
comp=Z,7.1nm,1.1s
PET Petropavlovsk 41.09 34 *e*P **P 20 56 52.7 +0.1**
PET *e*S **S 21 03 00.6 -4.0**
PET pmax pmax
comp=Z,49nm,1.3s
PET MLR MLR
comp=Z,400nm,20.0s
PET Petropavlovsk 41.09 34 *e*P **P 20 56 53.5 +0.9**
ZALV Zalesovo Beam 41.24 328 P **P 20 56 53.3 -0.5**
comp=Z,11nm,0.6s,baz=117,slow=7.9,SNR=28
ZALV ScP **ScP 21 02 39.4 -2.5**
comp=Z,0.7nm,0.7s,baz=107,slow=4.8,SNR=3.4
ZALV LR LR 21 14 57.0
comp=Z,342nm,19.8s,baz=70,slow=37
H11N1 WAKE ISLAND Hy 42.37 86 T T 21 42 13.9
baz=283,slow=74,SNR=439
H11N2 WAKE ISLAND Hy 42.38 86 T T 21 42 15.5
baz=283,slow=74,SNR=512
H11N3 WAKE ISLAND Hy 42.39 86 T T 21 42 16.7
baz=283,slow=74,SNR=436
H11S3 WAKE ISLAND Hy 42.47 87 T T 21 42 21.6
baz=284,slow=74,SNR=762
H11S1 WAKE ISLAND Hy 42.48 87 T T 21 42 22.3
baz=284,slow=74,SNR=519
H11S2 WAKE ISLAND Hy 42.49 87 T T 21 42 22.8
baz=284,slow=74,SNR=413
TKM2 Tokmak 2 42.57 309 *e*P **P 20 57 05.2 0.0**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 42.57 309 *e*P **P 20 57 05.2 0.0**
comp=Z,8.0nm,0.9s
COEN Coen 42.58 148 *e*P **P 20 57 04.4 -0.8**
comp=Z,27nm,0.9s
KURK Kurchatov 43.03 321 *e*P **P 20 57 08.5 0.0**
KURK pmax pmax
comp=Z,18nm,1.1s
KURK Kurchatov 43.03 321 *e*P **P 20 57 08.5 0.0**
comp=Z,18nm,1.1s
KURBB Kurchatov Arra 43.04 321 P **P 20 57 09.0 +0.4**
comp=Z,11nm,0.9s,baz=114,slow=7.2,SNR=28
AAK Ala-Archa 43.30 308 ⇓*e*P P 20 57 15.4 +4.4
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 43.30 308 P **P 20 57 11.9 +0.9**
comp=Z,1.0nm,0.5s,baz=111,slow=5.4,SNR=4.7
AAK PcP **PcP 20 58 59.4 -0.5**
comp=Z,1.7nm,0.5s,baz=89,slow=2.5,SNR=7.5
AAK Ala-Archa 43.30 308 *e*P **P 20 57 11.9 +0.9**
comp=Z,3.7nm,0.9s
AAK PcP **PcP 20 58 59.4 -0.5**
EKS2 Erkin-Say 43.83 308 *e*P **P 20 57 16.6 +1.4**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 43.83 308 *e*P **P 20 57 16.6 +1.4**
comp=Z,3.2nm,0.8s
WRAB Tennant Creek 44.62 163 ⇓*e*P P 20 57 25.6 +4.0
WRAB pmax pmax
comp=Z,23nm,0.8s
WRAB Tennant Creek 44.62 163 *e*P **P 20 57 19.1 -2.4**
comp=Z,14nm,1.0s
WRA Warramunga Arr 44.63 163 P **P 20 57 19.8 -1.8**
comp=Z,5.1nm,0.8s,baz=344,slow=8.4,SNR=9.4
WB2 Warramunga Arr 44.63 163 *e*P **P 20 57 19.2 -2.4**
SEY Seymchan 44.91 19 P **P 20 57 24.4 +0.9**
comp=Z,1.9nm,0.7s,baz=106,slow=23,SNR=4.7
SEY PcP **PcP 20 59 04.5 -0.2**
comp=Z,2.4nm,0.8s,baz=211,slow=5.9,SNR=4.3
KKAR Karatay Array 46.27 308 *e*P **P 20 57 35.3 +0.8**
KKAR *e* 20 59 08.3
KKAR Karatay Array 46.27 308 *e*P **P 20 57 35.3 +0.8**
KKAR *e*PcP **PcP 20 59 08.3 -1.6**
KBL Kabul 46.79 296 *e*P **P 20 57 40.6 +1.6**
KBL pmax pmax
comp=Z,27nm,1.1s
KBL Kabul 46.79 296 *e*P **P 20 57 40.6 +1.6**
comp=Z,26nm,1.1s
ASAR Alice Springs 48.07 165 P **P 20 57 48.0 -0.6**
comp=Z,1.9nm,0.5s,baz=348,slow=7.3,SNR=18
TIXI Tiksi 48.74 3 ⇑*e*P **P 20 57 54.8 +1.5**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 48.74 3 *e*P **P 20 57 53.7 +0.4**
comp=Z,12nm,1.4s
CTA Charters Tower 49.32 149 P **P 20 57 58.7 +0.3**
comp=Z,9.2nm,1.0s,baz=5.4,slow=14,SNR=4.2
CTAO Charters Tower 49.32 149 *e*P **P 20 57 57.9 -0.5**
CTAO Charters Tower 49.32 149 *e*P **P 20 57 57.9 -0.5**
BILL Bilibino 52.62 20 ⇑*i*P **P 20 58 23.6 +1.0**
BILL *i* 21 00 20.6
BILL pmax pmax
comp=Z,14nm,1.0s
BILL MLR MLR
comp=Z,253nm,18.0s
BILL Bilibino 52.62 20 *e*P **P 20 58 22.2 -0.4**
comp=Z,10nm,0.8s
IMYA Miami 54.02 299 *e*P **P 20 58 36.3 +2.7**
ABKAR Akbulak array 54.32 315 *e*P **P 20 58 35.5 +0.2**
ISRO Mashad 54.53 299 *e*P **P 20 58 38.4 +1.1**
IPAY Payeh 54.90 299 *e*P **P 20 58 42.2 +2.1**
IKRD Kardeh 55.26 300 *e*P **P 20 58 39.9 -2.8**
GEYT Alibeck 55.50 301 P **P 20 58 45.9 +1.8**
comp=Z,10nm,0.8s,baz=90,slow=3.0,SNR=14
GEYT LR LR 21 25 57.7
comp=Z,340nm,19.6s,baz=165,slow=40
ARU Arti 56.07 323 *d i*P **P 20 58 47.3 -0.5**
ARU 20 59 46.5
ARU 21 00 49.5
ARU S **S 21 06 32.2 -3.6**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU MLR MLR
comp=Z,284nm,15.0s
ARU Arti 56.07 323 *e*P **P 20 58 47.1 -0.8**
comp=Z,9.4nm,0.8s
BBOO Buckleboo 57.35 165 *e*P **P 20 58 56.1 -1.0**
comp=Z,6.7nm,0.9s
STKA Stephens Creek 58.00 160 *e*P **P 20 59 00.8 -1.0**
STKA pmax pmax
comp=Z,4.0nm,1.4s
STKA Stephens Creek 58.00 160 P **P 20 59 00.8 -1.0**
comp=Z,4.8nm,0.6s,baz=336,slow=5.7,SNR=17
STKA Stephens Creek 58.00 160 *e*P **P 20 59 00.8 -1.0**
comp=Z,3.9nm,1.4s
GAMB Gambell 59.33 28 *e*P **P 20 59 12.2 +1.6**
comp=Z,11nm,1.1s
PRGR Permogore 63.18 329 P P 20 59 31.8 -5.0
ZEI Tsey 65.72 308 *e*P **P 20 59 53.3 -0.8**
ZEI pmax pmax
comp=Z,12nm,0.9s
NCK Nalchik 65.83 309 ⇓*e*P P 20 59 59.2 +4.7
VRHR Novokhopersk 66.03 317 *e*P **P 20 59 56.4 +0.8**
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,1.7s
KIV Kislovodsk 66.40 309 *e*P P 21 00 03.2 +5.0
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,117nm,17.0s
KIV Kislovodsk 66.40 309 *e*P **P 20 59 58.9 +0.7**
comp=Z,20nm,0.9s
TMCR Tamitsa 66.57 332 *e*P **P 20 59 58.7 -0.1**
TMCR *e* 21 02 22.8
TMCR pmax pmax
comp=Z,19nm,1.1s
VORD Divnogorie 67.51 317 *e*P **P 21 00 03.3 -1.7**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,9.0nm,0.9s
VSR Storozhevoye 67.55 318 *e*P **P 21 00 04.0 -1.2**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.4s
PPLA Purkeypile 68.08 30 *e*P **P 21 00 07.7 -0.9**
comp=E,12nm,1.1s
COLD Coldfoot 68.31 25 *e*P P 21 00 13.8 +4.0
comp=E,5.7nm,0.4s
OBN Obninsk 68.45 322 ⇑*i*P **P 21 00 12.1 +1.3**
OBN *e* 21 02 45.6
OBN pmax pmax
comp=Z,36nm,2.5s
OBN MLR MLR
comp=Z,133nm,14.0s
OBN Obninsk 68.45 322 P **P 21 00 10.9 +0.1**
KTH Kantishna Hill 68.55 29 *e*P **P 21 00 11.9 +0.4**
comp=Z,4.2nm,0.8s
MSVF Nonsavu 68.65 121 *e*P **P 21 00 14.1 +1.3**
MSVF pmax pmax
comp=Z,12nm,1.0s
MSVF Nonsavu 68.65 121 *e*P **P 21 00 14.1 +1.3**
comp=Z,12nm,1.0s
KDAK Kodiak Island 68.67 35 *i*P **P 21 00 13.3 +1.2**
MCK McKinley 69.40 28 *e*P **P 21 00 16.1 -0.6**
MCK pmax pmax
comp=Z,8.0nm,1.3s
MCK McKinley 69.40 28 *e*P **P 21 00 16.1 -0.6**
comp=Z,7.5nm,1.3s
JOF Joensuu 69.72 331 *e*P **P 21 00 16.9 -1.7**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 69.72 331 *ep* **P 21 00 16.9 -1.7**
comp=Z,2.6nm,0.5s
ANN Anapa 69.93 311 *e*P P 21 00 25.6 +5.4
ANN pmax pmax
comp=Z,45nm,1.4s
ANN MLR MLR
comp=Z,216nm,15.0s
KEV Kevo 70.03 338 *e*P **P 21 00 19.6 -0.8**
KEV pmax pmax
comp=Z,2.0nm,0.5s
KEV Kevo 70.03 338 *ep* **P 21 00 19.6 -0.8**
comp=Z,1.8nm,0.5s
ILAR Eielson Array 70.07 27 P **P 21 00 20.6 -0.2**
comp=Z,0.6nm,0.5s,baz=272,slow=5.0,SNR=8.9
ARCES ARCESS Array B 70.59 338 P **P 21 00 22.5 -1.4**
comp=Z,3.1nm,0.7s,baz=64,slow=8.5,SNR=8.7
KAF Kangasniemi 72.17 331 *e*P **P 21 00 31.9 -1.6**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 72.17 331 *ep* **P 21 00 31.9 -1.6**
comp=Z,2.2nm,0.5s
FINES FINESS Array B 72.45 330 P **P 21 00 33.8 -1.4**
comp=Z,2.2nm,0.5s,baz=59,slow=5.4,SNR=38
FINES LR LR 21 34 30.5
comp=Z,284nm,19.9s,baz=72,slow=38
DAWY Dawson 73.40 27 *e*P **P 21 00 40.9 +0.1**
AKASG Malin Array Be 73.79 319 *i*P **P 21 00 44.9 +1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.79 319 P **P 21 00 43.2 0.0**
comp=Z,1.1nm,0.5s,baz=59,slow=6.5,SNR=10.0
AKASG LR LR 21 33 45.7
comp=Z,139nm,21.2s,baz=185,slow=36
BRTR Keskin Array B 73.95 307 *i*P **P 21 00 46.9 +2.2**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 73.95 307 P **P 21 00 45.5 +0.8**
comp=Z,2.4nm,0.8s,baz=132,slow=2.7,SNR=12
NACGM Naroch 73.98 323 *e* **P 21 00 43.0 -1.3**
INK Inuvik 74.14 22 *e*P **P 21 00 44.9 -0.1**
INK pmax pmax

	comp=Z,7.0nm,1.3s								
INK	**Inuvik**	**74.14**	**22**	*e*P		**P**	**21 00 44.9**	**-0.1**	
	comp=Z,7.3nm,1.3s								
CSS	**Prodhromos**	**75.62**	**302**	*e*P		**P**	**21 00 53.7**	**-0.5**	
	comp=Z,2.9nm,0.7s								
CFR	**Carcaliu**	**76.17**	**313**	⇑P		P	21 01 00.5	+3.4	
CFR	**Carcaliu**	**76.17**	**313**	⇑*i*P		P	21 01 00.5	+3.4	
SUW	**Suwalki**	**76.25**	**323**	*e*P		**P**	**21 00 56.9**	**-0.5**	
SUW	**Suwalki**	**76.25**	**323**	*e*P		**P**	**21 00 56.8**	**-0.6**	
SUW	**Suwalki**	**76.25**	**323**	*e*P		**P**	**21 00 56.3**	**-1.2**	
	comp=Z,30nm,1.1s								
TLB	**Topalu**	**76.42**	**313**	⇓P		**P**	**21 01 00.9**	**+2.3**	
TLB	**Topalu**	**76.42**	**313**	⇓*i*P		**P**	**21 01 00.9**	**+2.3**	
TESR	**Tescani**	**76.71**	**315**	⇑*i*P		P	21 01 04.0	+3.8	
MSAB	**Monastry St. A**	**76.73**	**312**	⇑*i*P		**P**	21 01 04.2	+3.8	
VRI	**Vrincioaia**	**76.88**	**314**	⇑P		**P**	**21 01 01.6**	**+0.4**	
VRI	**Vrincioaia**	**76.88**	**314**	⇑*i*P		**P**	**21 01 01.6**	**+0.4**	
BURAR	**Bucovina Array**	**77.26**	**316**	⇑P		**P**	**21 01 02.5**	**-0.9**	
BURAR	**Bucovina Array**	**77.26**	**316**	⇑*i*P		**P**	**21 01 02.5**	**-0.9**	
MLR	**Muntele Rosu**	**77.52**	**314**	⇓P		P	21 01 09.2	+4.2	
MLR	**Muntele Rosu**	**77.52**	**314**	⇓*i*P		P	21 01 09.2	+4.2	
KWP	**Kalwaria Pacla**	**78.09**	**319**	⇑P		**P**	**21 01 08.2**	**+0.3**	
KWP	**Kalwaria Pacla**	**78.09**	**319**	*e*P		**P**	**21 01 07.9**	**0.0**	
KWP	**Kalwaria Pacla**	**78.09**	**319**	⇑*i*P		**P**	**21 01 08.2**	**+0.3**	
VOIR		**78.13**	**314**	⇓P		**P**	**21 01 10.7**	**+2.4**	
VOIR		**78.13**	**314**	⇓*i*P		**P**	**21 01 10.7**	**+2.4**	
ARR	**Arges**	**78.43**	**314**	⇑*i*P		**P**	**21 01 10.9**	**+1.0**	
KOLS	**Kolonicke sedl**	**78.62**	**318**	*e*P		**P**	**21 01 13.8**	**+3.0**	
KOLS	**Kolonicke sedl**	**78.62**	**318**	*e*		**P**	**21 01 13.8**	**+3.0**	
UZH	**Uzhgorod**	**78.72**	**318**	*e*P		**P**	**21 01 10.0**	**-1.4**	
UZH				*e*			21 01 14.2		
LOT	**Lotru**	**78.97**	**315**	⇑*i*P		**P**	**21 01 13.5**	**+0.5**	
STHS	**Stebnicka Huta**	**79.06**	**319**	*e*P		**P**	**21 01 16.4**	**+3.1**	
STHS				pmax		pmax			
	comp=Z,2.0nm,1.0s								
STHS	**Stebnicka Huta**	**79.06**	**319**	*e*		**P**	**21 01 16.4**	**+3.1**	
CRVS	**Cervenica-Dubn**	**79.13**	**319**	*e*P		P	21 01 16.9	+3.3	
CRVS				pmax		pmax			
	comp=Z,14nm,1.7s								
CRVS	**Cervenica-Dubn**	**79.13**	**319**	*e*		P	21 01 16.9	+3.3	
DRGR		**79.15**	**316**	⇑P		**P**	**21 01 13.9**	**0.0**	
DRGR		**79.15**	**316**	⇑*i*P		**P**	**21 01 13.9**	**0.0**	
NB2	**NORSAR Subarra**	**79.25**	**332**	P		**P**	**21 01 12.1**	**-2.0**	
	comp=Z,1.2nm,0.5s,baz=55,slow=5.6								
NOA	**NORSAR Array B**	**79.25**	**332**	P		**P**	**21 01 12.0**	**-2.0**	
	comp=Z,1.9nm,0.5s,baz=60,slow=5.3,SNR=9.7								
NOA				LR		LR	21 38 52.6		
	comp=Z,224nm,18.9s,baz=75,slow=38								
OJC	**Ojcow**	**79.61**	**320**	*e*P		**P**	**21 01 15.9**	**-0.3**	
OJC	**Ojcow**	**79.61**	**320**	*e*P		**P**	**21 01 15.9**	**-0.3**	
OJC	**Ojcow**	**79.61**	**320**	*e*P		**P**	**21 01 15.2**	**-1.0**	
	comp=Z,10nm,0.9s								
NIE	**Niedzica**	**79.62**	**319**	*e*P		**P**	**21 01 17.2**	**+0.9**	
KECS	**Kecovo**	**79.89**	**318**	*e*P		**P**	**21 01 17.5**	**-0.2**	
KECS	**Kecovo**	**79.89**	**318**	*e*P		**P**	**21 01 17.5**	**-0.2**	
URZ	**Urewera**	**80.36**	**139**	LR		LR	21 31 47.0		
	comp=Z,94nm,22.0s,baz=286,slow=32								
VTS	**Vitosha**	**80.41**	**312**	⇑P		**P**	**21 01 21.3**	**+0.4**	
VTS	**Vitosha**	**80.41**	**312**	⇑*i*P		**P**	**21 01 21.3**	**+0.4**	
PSZ	**Piszkesteto**	**80.47**	**318**	*e*P		**P**	**21 01 21.7**	**+0.7**	
PSZ	**Piszkesteto**	**80.47**	**318**	*e*P		**P**	**21 01 21.7**	**+0.7**	
OKC	**Ostrava-Krasne**	**80.73**	**320**	*e*P		**P**	**21 01 23.2**	**+0.9**	
OKC				MLR		MLR			
	comp=Z,200nm,13.9s								
OKC	**Ostrava-Krasne**	**80.73**	**320**	*e*P		**P**	**21 01 23.2**	**+0.9**	
OKC				*e*pP		**pP**	**21 01 25.8**	**-1.9**	
OKC				AMS		AMS	21 42 20.0		
	comp=Z,200nm,13.9s								
VYHS	**Vyhne**	**80.88**	**319**	*e*P		**P**	**21 01 22.9**	**-0.2**	
VYHS				pmax		pmax			
	comp=Z,6.0nm,1.1s								
VYHS	**Vyhne**	**80.88**	**319**	*e*P		**P**	**21 01 22.8**	**-0.3**	
MORC	**Moravsky Berou**	**81.11**	**320**	*e*P		**P**	**21 01 24.1**	**-0.3**	
MORC				pmax		pmax			
	comp=Z,55nm,2.7s								
MORC	**Moravsky Berou**	**81.11**	**320**	*e*P		**P**	**21 01 24.1**	**-0.3**	
	comp=Z,55nm,2.7s								
KSP	**Ksiaz**	**81.38**	**322**	*e*P		**P**	**21 01 25.6**	**-0.1**	
DPC	**Dobruska-Polom**	**81.58**	**321**	*e*P		**P**	**21 01 26.8**	**0.0**	
DPC				pmax		pmax			
	comp=Z,38nm,1.1s								
DPC	**Dobruska-Polom**	**81.58**	**321**	*e*P		**P**	**21 01 26.8**	**0.0**	
DPC				*e*pP		**pP**	**21 01 30.5**	**-1.7**	
DPC				AMS		AMS	21 42 10.0		
DPC	**Dobruska-Polom**	**81.58**	**321**	*e*P		**P**	**21 01 26.8**	**0.0**	
	comp=Z,38nm,1.1s								
UPC	**Upice**	**81.69**	**322**	*e*P		**P**	**21 01 28.2**	**+0.9**	
UPC	**Upice**	**81.69**	**322**	*e*P		**P**	**21 01 28.2**	**+0.9**	
PKSM	**Moragy**	**81.96**	**317**	⇑P		**P**	**21 01 28.6**	**-0.2**	
PKSM	**Moragy**	**81.96**	**317**	⇑*i*P		**P**	**21 01 28.6**	**-0.2**	
PVCC	**Panska Ves**	**82.50**	**322**	*e*P		**P**	**21 01 30.5**	**-1.1**	
PVCC				MLR		MLR			
	comp=Z,300nm,13.8s								
PVCC	**Panska Ves**	**82.50**	**322**	*e*P		**P**	**21 01 30.5**	**-1.1**	
PVCC				AMS		AMS	21 41 10.0		
	comp=Z,300nm,13.8s								
TREC	**Trest**	**82.53**	**321**	*e*P		**P**	**21 01 32.9**	**+1.1**	
TREC				MLR		MLR			
	comp=Z,300nm,13.9s								
TREC	**Trest**	**82.53**	**321**	*e*P		**P**	**21 01 32.9**	**+1.1**	
TREC				AMS		AMS	21 43 10.0		
	comp=Z,300nm,13.9s								
GOPC	**GO Pecny, Ondr**	**82.66**	**321**	*e*P		**P**	**21 01 33.6**	**+1.1**	
BRG	**Berggiesshubel**	**82.69**	**322**	*e*P		**P**	**21 01 33.4**	**+0.8**	
	comp=Z,4.1nm,1.1s								
BRG	**Berggiesshubel**	**82.69**	**322**	*e*P		**P**	**21 01 33.4**	**+0.8**	
BRG				pmax		pmax			
	comp=Z,4.0nm,1.2s								
PRU	**Pruhonice**	**82.76**	**321**	*e*P		**P**	**21 01 32.5**	**-0.5**	
PRU				MLR		MLR			
	comp=Z,300nm,13.7s								
PRU	**Pruhonice**	**82.76**	**321**	*e*P		**P**	**21 01 32.5**	**-0.5**	
PRU				AMS		AMS	21 41 20.0		
	comp=Z,300nm,13.7s								
PRA	**Prague**	**82.79**	**322**	*e*P		**P**	**21 01 33.6**	**+0.5**	
CONA	**Conrad Observa**	**82.92**	**319**	⇑*i*pP		**P**	**21 01 34.2**	**+0.2**	
	comp=Z,7.7nm,1.2s								
CLL	**Collm**	**83.01**	**323**	*e*P		**P**	**21 01 33.8**	**-0.4**	
CLL				pmax		pmax			
	comp=Z,9.0nm,1.1s								
CLL	**Collm**	**83.01**	**323**	*e*P		**P**	**21 01 33.0**	**-1.2**	
	comp=Z,8.0nm,1.2s								
CLL				*e*PcP		**PcP**	**21 01 37.0**	**-1.9**	
CLL				*e*PP		**PP**	**21 04 47.0**	**+2.5**	
CLL	**Collm**	**83.01**	**323**	*e*P		**P**	**21 01 33.8**	**-0.4**	
	comp=Z,8.7nm,1.1s								
KHC	**Kasperske Hory**	**83.72**	**321**	*e*P		**P**	**21 01 36.8**	**-1.2**	
KHC				MLR		MLR			
	comp=Z,300nm,11.9s								
KHC	**Kasperske Hory**	**83.72**	**321**	*e*P		**P**	**21 01 36.8**	**-1.2**	
KHC				*e*pP		**PcP**	**21 01 40.5**	**-1.6**	
KHC				AMS		AMS	21 43 50.0		
	comp=Z,300nm,11.9s								
KHC	**Kasperske Hory**	**83.72**	**321**	*e*P		**P**	**21 01 35.8**	**-2.2**	
	comp=Z,4.1nm,1.0s								
GEC2	**GERESS Array S**	**83.78**	**321**	*e*P		**P**	**21 01 37.7**	**-0.7**	
GEC2	**GERESS Array S**	**83.78**	**321**	*e*P		**P**	**21 01 37.7**	**-0.7**	
GERES	**GERESS Array B**	**83.78**	**321**	P		**P**	**21 01 37.9**	**-0.5**	
	comp=Z,4.4nm,0.9s,baz=57,slow=4.9,SNR=16								
YKA	**Yellowknife Ar**	**83.88**	**23**	P		**P**	**21 01 37.7**	**-0.8**	
	comp=Z,1.2nm,0.8s,baz=312,slow=4.6,SNR=10.0								
SOKA	**Soboth**	**83.99**	**318**	⇑*i*pP		**P**	**21 01 39.2**	**-0.3**	
	comp=Z,5.6nm,1.2s								
KBA	**Koelnbreinsper**	**84.83**	**319**	⇑*i*pP		**P**	**21 01 44.2**	**+0.3**	
	comp=Z,10.0nm,1.3s								
KMBO	**Kilima Mbogo**	**85.04**	**267**	P		**P**	**21 01 47.2**	**+1.6**	
	comp=Z,3.3nm,0.9s,baz=33,slow=6.0,SNR=6.6								
FUORN	**Ofenpass-Fuorn**	**86.89**	**320**	*e*P		**P**	**21 01 54.2**	**-0.1**	
	comp=Z,9.2nm,1.1s								
WLF	**Walferdange**	**87.61**	**324**	*e*P		**P**	**21 01 54.7**	**-2.6**	
WLF				pmax		pmax			
	comp=Z,42nm,1.6s								
WLF	**Walferdange**	**87.61**	**324**	*e*P		**P**	**21 01 54.7**	**-2.6**	
	comp=Z,42nm,1.6s								
ESK	**Eskdalemuir**	**88.76**	**332**	*i* P		P	21 02 07.3	+4.7	
SFTF	**Sexfontaines**	**89.03**	**323**	*e*P		**P**	**21 02 02.6**	**-1.5**	
	comp=Z,42nm,1.3s								
LPG	**La Plagne**	**89.56**	**320**	*e*P		**P**	**21 02 05.8**	**-1.2**	
	comp=Z,13nm,1.1s								
LPL	**La Plagne**	**89.56**	**320**	*e*P		**P**	**21 02 05.7**	**-1.2**	
PGF	**Pioggiola**	**89.78**	**317**	*e*P		**P**	**21 02 06.8**	**-1.0**	
	comp=Z,21nm,1.0s								
MBDF	**Montbardon**	**89.97**	**320**	*e*P		**P**	**21 02 07.8**	**-0.9**	
SBF	**Sospel**	**90.04**	**319**	*e*P		**P**	**21 02 08.2**	**-0.8**	
LOR	**Lormes**	**90.22**	**323**	*e*P		**P**	**21 02 08.0**	**-1.7**	
	comp=Z,15nm,1.1s								
SSF	**Saint Saulge**	**90.54**	**323**	*e*P		**P**	**21 02 09.6**	**-1.5**	
	comp=Z,20nm,1.2s								
SMF	**Signal de Mont**	**90.59**	**322**	*e*P		**P**	**21 02 10.6**	**-0.8**	
	comp=Z,25nm,1.2s								
AVF	**Avril sur Loir**	**90.78**	**323**	*e*P		**P**	**21 02 11.4**	**-0.8**	
	comp=Z,17nm,1.1s								
VIVF	**Saint-Julien-l**	**91.14**	**321**	*e*P		**P**	**21 02 12.5**	**-1.5**	
	comp=Z,19nm,1.3s								
TCF	**Toulx Ste Croi**	**91.72**	**323**	*e*P		**P**	**21 02 16.4**	**-0.2**	
	comp=Z,32nm,1.5s								
CAF	**Calviac**	**92.61**	**322**	*e*P		**P**	**21 02 20.0**	**-0.8**	
RJF	**Les Rejaudoux**	**92.69**	**322**	*e*P		**P**	**21 02 20.4**	**-0.7**	
	comp=Z,23nm,1.1s								
PPT	**Papeete**	**95.88**	**106**	LR		LR	21 39 52.8		
	comp=Z,57nm,20.4s,baz=290,slow=32								
CTU	**Camp Tracy**	**99.58**	**38**	*e*P		**Pdif**	**21 02 49.7**	**-3.1**	
	comp=Z,4.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**110.85**	**295**	PKKPab		PKKPab	21 18 50.9	-1.0	
	comp=Z,0.7nm,0.9s,baz=250,slow=4.6,SNR=3.8								
SDV	**Santo Domingo**	**146.09**	**22**	*e*PKPdf		**PKPdf**	**21 08 46.5**	**-2.8**	

IDC ***13*** *20:49:41.3±1.1,3°.09N×126°.32E,h0km,mb4.1/6, mb1 4.3/7,mb1mx3.8/36,mbtmp4.1/7,ML3.7/1,Error ellipse: s-maj=65.2km s-min=16.8km az=60.0*

ISC 13 20:49:46.7±1.0,3°.5N±0°.2×127°.0E±0°.2,h48km,n14, σ0s89/14,mb4.2/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**14.95**	**113**	Pn		**P**	**20 53 19.7**	**-0.1**
	0.3nm,0.3s,baz=312,slow=12,SNR=3.6							
MTN	**Manton Dam**	**16.76**	**166**	P		**Pn**	**20 53 36.6**	**-1.7**
	baz=8.6,SNR=4.0							
KDU	**Kakadu**	**16.99**	**161**	P		**P**	**20 53 43.0**	**+0.5**
	baz=8.9,SNR=3.3							
KNRA	**Kununurra**	**19.15**	**175**	P		**P**	**20 54 07.3**	**+1.1**
	baz=11,SNR=4.2							
WRA	**Warramunga Arr**	**24.40**	**163**	P		**P**	**20 54 59.4**	**-1.5**
	4.2nm,0.6s,baz=334,slow=11,SNR=29							
QIS	**Mount Isa**	**26.93**	**153**	P		**P**	**20 55 24.2**	**+0.5**
	baz=19,SNR=4.3							
ASAR	**Alice Springs**	**27.84**	**166**	P		**P**	**20 55 30.9**	**-1.0**
	0.9nm,0.6s,baz=343,slow=6.6,SNR=18							
WRKA	**Warakurna**	**28.41**	**178**	P		**P**	**20 55 36.8**	**-0.2**
	baz=21,SNR=4.6							
CMAR	**Chiang Mai Arr**	**31.22**	**301**	P		**P**	**20 56 01.2**	**-0.6**
	1.0nm,0.8s,baz=109,slow=7.1,SNR=4.2							
BBOO	**Buckleboo**	**37.13**	**167**	P		**P**	**20 56 52.7**	**-0.2**
	baz=29,SNR=7.9							
STKA	**Stephens Creek**	**37.83**	**160**	P		**P**	**20 56 58.9**	**0.0**
	5.4nm,0.7s,baz=331,slow=9.4,SNR=12							
STKA	**Stephens Creek**	**37.83**	**160**	P		**P**	**20 56 59.1**	**+0.2**
	baz=30,SNR=8.9							
MKAR	**Makanchi Array**	**57.89**	**325**	P		**P**	**20 59 34.6**	**+0.7**
	1.1nm,0.6s,baz=118,slow=8.2,SNR=5.7							
KURBB	**Kurchatov Arra**	**62.07**	**327**	P		**P**	**21 00 02.5**	**+0.1**
	2.0nm,0.7s,baz=130,slow=6.2,SNR=12							

IDC ***13*** *20:55:52.4±0.8,23°.15N×121°.56E,h0km,mb3.6/10, mb1 3.8/10,mb1mx3.7/29,mbtmp3.6/10,MS3.8/1, Ms1 3.8/1,ms1mx3.0/23,Error ellipse: s-maj=38.6km s-min=17.7km az=65.0*

ISCJB ***13*** *20:55:54.4±0.5,23°.09N±0°.02×121°.46E±0°.02,h14km±4km, mb3.7/12,MS3.8/1,Error ellipse: s-maj=3.6km s-min=2.8km az=37.6*

NEIC ***13*** *20:55:54.2±0.5,23°.11N×121°.46E,h10km,mb4.3/1,Error ellipse: s-maj=9.2km s-min=6.6km az=117.0*

TAP ***13*** *20:55:55.0,23°.14N×121°.29E,h5km,ML4.1,B*

ISC 13 20:55:55.0±0.8,23°.12N±0°.02×121°.42E±0°.03,h15km±5km, n91,σ1s14/113,mb3.7/12,25C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHKT	**Chengkung**	**0.06**	**251**	⇑*i*P		**Pg**	**20 55 58.2**	**+0.5**
	baz=116							
CHKT				*i* S		**Sg**	**20 56 00.1**	**+0.5**
	baz=116							
TWF1	**Yuli**	**0.26**	**333**	⇑*i*P		**Pg**	**20 56 00.3**	**-0.3**
	baz=351							
ELDTW	**Lidau**	**0.38**	**281**	⇑*i*P		**Pg**	**20 56 00.7**	**-2.1**
	baz=282							
EHY	**Hungye**	**0.40**	**346**	⇑*i*P		**Pb**	**20 56 03.0**	**-0.8**
	baz=359							
EHY				*i* S		**Sb**	**20 56 09.7**	**-0.1**
	baz=359							
TWG	**Pinlang**	**0.44**	**228**	⇑*i*P		**Pb**	**20 56 03.4**	**-1.1**
	baz=221							
TWG	**Pinlang**	**0.44**	**228**	*e*Pg		**Pg**	**20 56 03.1**	**-0.7**
TWG				*e*Sg		**Sb**	**20 56 10.9**	**0.0**
TTN	**Taitung**	**0.44**	**215**	*e*P		**Pb**	**20 56 04.2**	**-0.3**
	baz=175							
TTN				*e*S		**Sb**	**20 56 13.1**	**+2.1**
	baz=175							
YUS	**Yu-Shan**	**0.57**	**311**	⇑*i*P		**Pg**	**20 56 05.1**	**-1.3**
	baz=318							
YUS				S		**Sg**	**20 56 12.2**	**-1.9**
	baz=318							
STYT	**Tauyuan**	**0.61**	**274**	⇑*i*P		**Pg**	**20 56 05.4**	**-1.7**
	baz=274							
STYT				*e*S		**Sg**	**20 56 12.0**	**-3.3**
	baz=274							
ECL	**Taimali**	**0.68**	**220**	⇓P		**Pg**	**20 56 06.9**	**-1.3**
	baz=214							
WDT	**Danda**	**0.69**	**337**	⇑*i*P		**Pg**	**20 56 07.8**	**-0.7**
	baz=334							
WDT				*e*S		**Sg**	**20 56 17.2**	**-0.5**
	baz=334							
ALS	**Alishan**	**0.69**	**305**	⇑*i*P		**Pg**	**20 56 07.3**	**-1.2**
	baz=309							
ESL	**Shilin**	**0.69**	**1**	*e*P		**Pb**	**20 56 08.1**	**-0.8**
	baz=354							
TPUB	**Ta-pu**	**0.75**	**284**	*e*Pg		**Pg**	**20 56 08.1**	**-1.6**
WTP	**Ta-pu**	**0.76**	**280**	⇑*i*P		**Pg**	**20 56 08.4**	**-1.3**
	baz=281							
WTP				*e*S		**Sg**	**20 56 18.6**	**-1.1**
	baz=281							
SGST	**Jiashian**	**0.78**	**267**	⇑*i*P		**Pg**	**20 56 09.1**	**-1.0**
	baz=266							
SGST				*e*S		**Sg**	**20 56 19.4**	**-0.9**
	baz=266							
CHN4	**Tsaushan**	**0.80**	**287**	⇑*i*P		**Pg**	**20 56 09.6**	**-0.9**
	baz=298							
CHN4				*e*S		**Sg**	**20 56 20.2**	**-0.9**
	baz=298							
SSD	**Sandimen**	**0.82**	**243**	⇑*i*P		**Pg**	**20 56 09.6**	**-1.4**
	baz=240							
CHN1	**Nanshi**	**0.83**	**275**	⇑*i*P		**Pg**	**20 56 10.3**	**-0.8**
	baz=275							
CHN1				*e*S		**Sg**	**20 56 21.5**	**-0.5**
	baz=275							
CHN5	**Tsauling**	**0.83**	**305**	⇑*i*P		**Pg**	**20 56 10.6**	**-0.6**
	baz=309							
HWA	**Hwalien**	**0.87**	**11**	*e*P		**Pn**	**20 56 12.7**	**-0.1**
	baz=353							
TWK	**Hsinying**	**0.87**	**280**	⇑*i*P		**Pg**	**20 56 10.8**	**-1.2**
	baz=282							
SMLT	**Sun Moon Lake**	**0.90**	**328**	⇑*i*P		**Pg**	**20 56 11.6**	**-0.9**
	baz=332							
TAW	**Tawu**	**0.90**	**213**	⇓*i*P		**Pg**	**20 56 10.9**	**-1.6**
	baz=208							
TAW				*e*S		**Sg**	**20 56 22.2**	**-2.0**
	baz=208							
EAST	**Anshuo**	**0.91**	**216**	⇑*e*P		**Pg**	**20 56 10.8**	**-1.7**
	baz=214							
TYC	**Yuchr**	**0.94**	**326**	⇑*i*P		**Pg**	**20 56 12.2**	**-1.0**
	baz=331							
SGLT	**Jiouru**	**0.94**	**246**	*e*P		**Pg**	**20 56 11.9**	**-1.4**
	baz=244							
CHN2	**Minshiung**	**0.96**	**295**	*e*P		**Pg**	**20 56 12.8**	**-0.9**
	baz=298							
CHN2				*e*S		**Sn**	**20 56 27.4**	**-0.1**
	baz=298							
TWM1	**Shoushan**	**0.97**	**253**	⇑*i*P		**Pn**	**20 56 13.6**	**-0.5**
	baz=253							
TWD	**Chiawan**	**0.97**	**9**	*e*P		**Pg**	**20 56 12.6**	**-1.2**
	baz=7.0							
WGK	**Gukeng**	**0.97**	**306**	⇑*i*P		**Pb**	**20 56 13.7**	**+0.1**
	baz=314							
WGK				*e*S		**Sb**	**20 56 26.8**	**+0.5**
	baz=314							
CHN3	**Shinhua**	**0.98**	**268**	⇑*i*P		**Pn**	**20 56 14.2**	**0.0**
	baz=270							
CHN3				*e*S		**Sn**	**20 56 28.8**	**+1.0**
	baz=270							
CHY	**Chiayi**	**0.99**	**293**	⇑*i*P		**Pb**	**20 56 13.6**	**-0.3**
	baz=294							
CHY				*e*S		**Sg**	**20 56 26.5**	**-0.7**
	baz=294							
WNT	**Mingjian**	**1.02**	**318**	⇑*i*P		**Pn**	**20 56 14.8**	**0.0**
	baz=321							
WNT				*e*S		**Sb**	**20 56 28.5**	**+1.0**
	baz=321							
WHF	**Hehuan Shan**	**1.03**	**352**	⇓*e*P		**Pg**	**20 56 14.1**	**-1.0**
	baz=353							
SCZT	**Fangliau**	**1.05**	**225**	⇓*i*P		**Pg**	**20 56 13.8**	**-1.5**
	baz=213							
NACB	**Ninganchiao**	**1.06**	**8**	*e*Pg		**Pg**	**20 56 14.1**	**-1.4**
LAY	**Lan-yu**	**1.08**	**174**	*e*P		**Pg**	**20 56 14.0**	**-1.8**
	baz=146							
TAI1	**Yung-k'ang**	**1.10**	**266**	*e*P		**Pn**	**20 56 16.6**	**+0.7**
	baz=265							
TAI1				*e*S		**Sn**	**20 56 31.2**	**+0.3**
	baz=265							
SCLT	**Jiali**	**1.13**	**273**	⇑*e*P		**Pn**	**20 56 16.4**	**0.0**
	baz=273							
SCLT				*e*S		**Sn**	**20 56 33.1**	**+1.4**
	baz=273							
CHN8	**Yiju**	**1.14**	**282**	*e*P		**Pg**	**20 56 15.7**	**-1.2**
	baz=282							
CHN8				*e*S		**Sn**	**20 56 32.0**	**+0.2**
	baz=282							
TWT	**Tachien**	**1.15**	**349**	*e*P		**Pg**	**20 56 16.2**	**-1.0**
	baz=347							
KAU	**Kaohsiung**	**1.17**	**242**	*e*P		**Pn**	**20 56 18.8**	**+1.9**
	baz=244							
WSF	**Szhu**	**1.22**	**295**	*e*P		**Pn**	**20 56 17.1**	**-0.5**
	baz=296							
WSF				*e*S		**Sg**	**20 56 33.9**	**-0.6**
	baz=296							
TCU	**Taichung**	**1.23**	**326**	*e*P		**Pg**	**20 56 18.4**	**-0.4**
	baz=325							
TWP	**Hsiaoliuchiu**	**1.25**	**232**	*e*P		**Pg**	**20 56 19.3**	**+0.3**
	baz=221							
HEN	**Hengchun**	**1.28**	**210**	*e*P		**Pg**	**20 56 19.2**	**-0.4**
	baz=173							
WTCT	**Ta-ch'eng**	**1.28**	**306**	*e*P		**Pn**	**20 56 18.1**	**-0.4**
	baz=306							
WTCT				*e*S		**Sb**	**20 56 35.1**	**-0.1**
	baz=306							
TWK1	**Hengchun**	**1.30**	**206**	*e*P		**Pg**	**20 56 20.1**	**0.0**
	baz=170							
TSEB	**Hengchuen, Pin**	**1.31**	**202**	*e*P		**Pb**	**20 56 18.8**	**-0.5**
	baz=169							
NNS	**Nan Shan**	**1.32**	**358**	*e*P		**Pb**	**20 56 19.2**	**-0.3**
	baz=356							
ENA	**Nanau**	**1.34**	**12**	*e*P		**Pn**	**20 56 18.1**	**-1.1**
	baz=4.0							
TWQ1	**Liyutan**	**1.36**	**334**	*e*P		**Pg**	**20 56 20.8**	**-0.5**
	baz=320							
NSY	**Sanyi**	**1.43**	**335**	*e*P		**Pg**	**20 56 22.3**	**-0.2**
	baz=335							
NSY				*e*S		**Sg**	**20 56 42.5**	**+1.4**
	baz=335							
ENTT	**Nioudou**	**1.52**	**5**	*e*P		**Pn**	**20 56 21.8**	**0.0**
	baz=44							
TWC	**Suao**	**1.53**	**15**	*e*P		**Pb**	**20 56 22.6**	**-0.6**
	baz=38							
YHNB	**Yeheng**	**1.54**	**358**	*e*Pn		**Pn**	**20 56 22.3**	**+0.2**
NSK	**Sanguang**	**1.55**	**358**	*e*P		**Pn**	**20 56 22.6**	**+0.4**
	baz=40							
NSTT	**Nanjuang**	**1.56**	**346**	*e*P		**Pg**	**20 56 23.7**	**-1.2**
	baz=353							
WDGT	**Dungji**	**1.63**	**275**	*e*P		**Pn**	**20 56 22.8**	**-0.4**
	baz=276							
WDGT				*e*S		**Sn**	**20 56 43.0**	**-1.0**
	baz=276							
HSN	**Hsinchu**	**1.73**	**346**	*e*P		**Pg**	**20 56 29.0**	**+0.8**
	baz=338	

GUC 13 21:18:14.8±0.6, 35°21S×72°40W, h36km±10km, ML4.0, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.65**	**107**	⇓*i*	P	21 18 27.4	-0.2
TALC				*i*	S	21 18 37.3	+0.7
NICH	**Los Niches**	**0.98**	**78**	*e*	P	21 18 32.4	+0.4
NICH				*i*	S	21 18 46.0	+1.3
CLCH	**Cerro Calan**	**2.37**	**41**	⇓*i*	P	21 18 52.8	+1.5
CLCH				*i*	S	21 19 21.9	+2.7
CLCH					AML	AML	21 19 26.7
	comp=N,1μm,0.5s						
CLCH					AML	AML	21 19 28.3
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**2.50**	**35**	⇑*i*	P	21 18 54.8	+1.8
PEL				*i*	S	21 19 24.1	+1.8
PEL					AML	AML	21 19 29.8
	comp=N,1μm,0.4s						
ROCH	**El Roble**	**2.51**	**28**		AML	AML	21 19 36.2
	comp=N,568nm,0.5s						
FCH	**Farellones**	**2.56**	**44**		AML	AML	21 19 36.1
	comp=N,517nm,0.4s						

*ISCJB **13** 21:18:59.6±1.0, 38°02N±0°05×28°62E±0°09, h5km±8km, Error ellipse: s-maj=12.8km s-min=5.4km az=29.3*
*DDA **13** 21:18:59.8, 38°04N×28°62E, h10km, MD2.7*
*ISK **13** 21:18:59.6, 38°06N×28°57E, h7km, MD2.6*
*CSEM **13** 21:19:00.2±0.2, 38°05N×28°59E, h12km, MD2.7, Error ellipse: s-maj=7.8km s-min=3.3km az=124.0*

ISC 13 21:19:00.0±1.2, 38°04N±0°04×28°59E±0°05, h14km±12km, n18, σ0°65/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.45**	**357**	*i*	P	**21 19 09.2**	**+0.1**
MANT				*i*	S	**21 19 15.9**	**+0.7**
MANT	**Manisa**	**0.45**	**357**	*i*	P	**21 19 09.2**	**+0.1**
MANT				*i*	S	**21 19 15.9**	**+0.7**
KULA	**Kula-Manisa**	**0.48**	**6**	*e*	PG	**21 19 08.9**	**-0.6**
KULA				*e*	SG	**21 19 15.9**	**0.0**
KULA	**Kula-Manisa**	**0.48**	**6**	*e*	Pg	**21 19 09.0**	**-0.6**
KULA				*e*	Sg	**21 19 15.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.56**	**261**	*e*	PG	**21 19 10.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.56**	**261**	*e*	Pg	**21 19 10.7**	**-0.4**
AYDN	**Tasoluk**	**0.68**	**236**	*i*	P	**21 19 13.9**	**+0.2**
AYDN				*i*	S	**21 19 24.4**	**+1.3**
AYDN	**Tasoluk**	**0.68**	**236**	*i*	P	**21 19 13.9**	**+0.2**
AYDN				*i*	S	**21 19 24.4**	**+1.3**
KHL	**Karahalli**	**0.79**	**69**	*e*	PG	**21 19 15.4**	**0.0**
KHL	**Karahalli**	**0.79**	**69**	*e*	Pg	**21 19 15.4**	**0.0**
DEMI	**Demirci**	**1.01**	**6**	*i*	P	**21 19 19.0**	**-0.5**
DEMI				*i*	S	**21 19 32.6**	**+0.1**
DEMI	**Demirci**	**1.01**	**6**	*i*	P	**21 19 19.0**	**-0.5**
DEMI				*i*	S	**21 19 32.6**	**+0.1**
BDRM	**Kayabasi**	**1.33**	**224**	*i*	P	**21 19 24.4**	**+0.1**
BDRM				*i*	S	**21 19 40.4**	**-1.4**
BDRM	**Kayabasi**	**1.33**	**224**	*i*	P	**21 19 24.4**	**+0.1**
BDRM				*i*	S	**21 19 40.4**	**-1.4**
BODT	**Bodrum**	**1.41**	**227**	*e*	PN	**Pb**	**21 19 26.2**	**0.0**
BODT	**Bodrum**	**1.41**	**227**	*e*	Pn	**Pb**	**21 19 26.2**	**0.0**
TVSB	**Tavsanli**	**1.56**	**26**	*e*	PN	**Pb**	**21 19 28.7**	**-0.2**
TVSB	**Tavsanli**	**1.56**	**26**	*e*	Pn	**Pb**	**21 19 28.7**	**-0.2**

GUC 13 21:36:46.9±0.8, 35°44S×72°64W, h19km±8km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.70**	**190**	*e*	P	21 36 59.7	-0.8
COCH				*i*	S	21 37 09.4	-0.3
TALC	**Talca**	**0.83**	**88**	*e*	P	21 37 01.4	-1.2
TALC				*i*	S	21 37 12.7	-0.7
TALC					AML	AML	21 37 15.7
	comp=N,5μm,0.2s						
LNCH	**Linares**	**0.94**	**116**	*e*	P	21 37 05.0	-0.1
LNCH				*i*	S	21 37 18.2	+0.2
NICH	**Los Niches**	**1.24**	**70**	*e*	P	21 37 08.9	-0.2
NICH				*i*	S	21 37 24.7	-0.5

*IDC **13** 21:39:56.7±0.5, 33°14N×96°74E, h0km, mb4.6/27, mb1 4.7/31, mb1mx4.6/48, mbtmp4.6/31, ML4.4/4, MS4.1/14, Ms1 4.1/14, ms1mx3.8/44, Error ellipse: s-maj=15.4km s-min=10.4km az=37.0*
*BJI **13** 21:39:58.9, 33°11N×96°59E, h15km, mB5.0/31, mb4.8/53, ML4.6/14, Ms4.8/68, Ms7 4.4/63*
*NEIC **13** 21:39:58.4±0.1, 33°16N×96°71E, h10km, mb5.2/103, Error ellipse: s-maj=4.3km s-min=3.4km az=216.0*
*ISCJB **13** 21:39:58.4±0.8, 33°14N±0°02×96°64E±0°02, h22km±6km, mb4.9/163, MS4.2/20, Error ellipse: s-maj=3.2km s-min=2.8km az=10.2*
*MOS **13** 21:39:59.8±0.7, 33°12N×96°70E, h33km, mb5.2/79, MS4.1/16, Error ellipse: s-maj=7.5km s-min=4.0km az=122.1*
*GCMT **13** 21:40:02.6±0.4, 33°08N×96°71E, h27km±1km, MW4.9/68, Moment Tensor Solution. s11,c14; s68,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.20; $M_{\theta\theta}$2.51±.14; $M_{\phi\phi}$-1.92±.13; $M_{r\theta}$-0.64±.23; $M_{\theta\phi}$1.49±.10; $M_{\phi r}$0.56±.24; Best double couple: M_o2.82700×10^{16} NP1:φs116.00000°, δ81.00000°, λ-19.00000°. NP2: φs209.00000°, δ71.00000°, λ-171.00000°. Principal axes: T 3.0210, Plg7.0000°, Azm164.0000°; N -0.3810, Plg69.0000°, Azm273.0000°; P -2.6320, Plg20.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 21:39:59.4±0.4, 33°13N±0°03×96°68E±0°03, h15km±2km, h14km:pP-P,n545, σ1s36/587, mb5.1/166, MS4.1/21, 32C-17D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.83**	**236**		P	Pn	21 41 29.6	+3.8
LSA	**Lhasa**	**5.83**	**236**	*e*	P	**Pn**	**21 41 28.9**	**+3.1**
LSA				*e*			21 42 31.9	
LSA	**Lhasa**	**5.83**	**236**	*e*	Pn	**Pn**	**21 41 28.9**	**+3.1**
LSA				*e*	Sn	**Sn**	**21 42 31.9**	**-0.8**
CD2	**Chengdu**	**6.40**	**108**		Pn	Pn	21 41 38.5	+5.2
CD2					Pg	Pg	21 41 56.5	-5.5
CD2					Sn	**Sn**	**21 42 45.3**	**-0.9**
CD2					Sg	**Sg**	**21 43 21.1**	**-3.8**
CD2					smax	smax		
	comp=N,420nm,1.3s							
CD2					smax	smax		
	comp=E,550nm,1.3s							
CD2					LR	LR		
	comp=N,14μm,9.2s							
CD2					LR	LR		
	comp=E,7μm,9.0s							
CD2					LR	LR		
	comp=E,6μm,8.8s							
CD2	**Chengdu**	**6.40**	**108**		Pn	**Pn**	**21 41 36.3**	**+3.0**
CD2					Pg	Pg	21 41 56.5	-5.5
CD2					Sn	**Sn**	**21 42 45.3**	**-0.9**
CD2					Sg	**Sg**	**21 43 21.1**	**-3.8**
CD2					SMN			
	comp=Z,420nm,1.3s							
CD2					SME			
	comp=Z,550nm,1.3s							
CD2					LN			
	comp=Z,14μm,9.2s							
CD2					LE			
	comp=Z,7μm,9.0s							
CD2					LZ			
	comp=Z,6μm,8.8s							
LZH	**Lanzhou**	**6.60**	**61**	⇑	Pn	Pn	21 41 39.8	+3.7
LZH					Sn	Sn	21 42 58.5	+7.2
LZH					Sg	**Sg**	**21 43 31.0**	**-0.3**
LZH					SMN			
	comp=Z,2μm,1.6s							
LZH					SME			
	comp=Z,870nm,1.3s							
LZH					LN			
	comp=Z,4μm,6.7s							
LZH					LE			
	comp=Z,5μm,7.1s							
LZH					LZ			
	comp=Z,6μm,8.4s							
GTA	**Gaotai**	**6.76**	**21**		Pn	**Pn**	**21 41 40.8**	**+2.5**
GTA					Sn	Sn	21 43 01.4	+6.3
GTA					Sg	**Sg**	**21 43 38.8**	**+2.4**
GTA					SMN			
	comp=Z,74nm,2.2s							
GTA					SME			
	comp=Z,170nm,2.5s							
GTA					LN			
	comp=Z,3μm,7.6s							
GTA					LE			
	comp=Z,6μm,6.9s							
GTA					LZ			
	comp=Z,2μm,7.8s							
SHL	**Shillong**	**8.62**	**210**	*e*	P	**Pn**	**21 42 04.0**	**+0.2**
	comp=Z,10.0nm,0.6s							
SHL				*ex*		x	21 44 03.0	
IMP	**Imphal**	**8.65**	**197**	*e*	P	**Pn**	**21 42 03.5**	**-0.7**
IMP				*ex*		x	21 43 37.0	
IMP				*ex*		x	21 44 32.0	
KMI	**Kunming**	**9.57**	**145**		P	**Pn**	**21 42 18.8**	**+1.9**
KMI					sP		21 42 26.9	
KMI					S	**Sn**	**21 44 06.4**	**+2.0**
KMI					SS	**SnSn**	**21 44 17.6**	**+1.4**
KMI					PMZ			
	comp=Z,87nm,0.8s							
KMI					PMZ			
	comp=Z,150nm,3.1s							
KMI					LN			
	comp=Z,3μm,12.3s							
KMI					LE			
	comp=Z,5μm,12.1s							
KMI					LZ			
	comp=Z,3μm,10.2s							
TAPN	**Taplejung**	**9.66**	**236**	*e*	P	**Pn**	**21 42 17.6**	**-0.6**
	comp=Z,333nm,1.2s							
ODAN	**Odare**	**10.19**	**235**	*e*	P	**Pn**	**21 42 25.4**	**0.0**
	comp=Z,677nm,0.8s							
XAN	**Xi'an**	**10.25**	**82**		P	**Pn**	**21 42 27.3**	**+1.2**
XAN					S	**Sn**	**21 44 22.5**	**+1.7**
XAN					PMZ			
	comp=Z,16nm,1.0s							
XAN					PMZ			
	comp=Z,43nm,5.8s							
XAN					LN			
	comp=Z,2μm,14.5s							
XAN					LE			
	comp=Z,370nm,15.9s							
XAN					LZ			
	comp=Z,2μm,11.3s							
JIRN	**Jiri**	**10.57**	**242**	*e*	P	**Pn**	**21 42 30.4**	**-0.3**
	comp=Z,277nm,0.9s							
GUN	**Gumba**	**10.66**	**244**	*e*	P	**Pn**	**21 42 31.6**	**-0.4**
	comp=Z,274nm,0.6s							
RAMN	**Ramite**	**10.68**	**237**	*e*	P	**Pn**	**21 42 31.4**	**-0.7**
	comp=Z,138nm,0.5s							
GYA	**Guiyang**	**10.92**	**125**	⇑*i*	P	**Pn**	**21 42 36.8**	**+1.5**
GYA					PP	**PnPn**	**21 42 45.0**	**+2.0**
GYA					S	Sn	21 44 46.3	+9.0
GYA					SS	**SnSn**	**21 44 55.3**	**+6.1**
GYA					PMZ			
	comp=Z,50nm,0.6s							
GYA					PMZ			
	comp=Z,160nm,4.3s							
GYA					LN			
	comp=Z,5μm,11.8s							
GYA					LE			
	comp=Z,4μm,11.8s							
GYA					LZ			
	comp=Z,2μm,10.1s							
KKN	**Kakani**	**11.18**	**245**	*e*	P	**Pn**	**21 42 37.9**	**-1.0**
	comp=Z,102nm,0.6s							
PKI	**Pulchoki**	**11.20**	**243**	*e*	P	**Pn**	**21 42 38.6**	**-0.7**
	comp=Z,305nm,0.7s							
PKIN	**Phulchoki**	**11.20**	**243**	*e*	P	**Pn**	**21 42 38.0**	**-1.3**
	comp=Z,211nm,0.8s							
GKN	**Gorkha**	**11.56**	**247**	*e*	P	**Pn**	**21 42 42.8**	**-1.4**
	comp=Z,144nm,0.9s							
DANN	**Dangsing**	**12.09**	**250**	*e*	P	**Pn**	**21 42 50.4**	**-1.0**
	comp=Z,203nm,0.6s							
KOLN	**Koldanda**	**12.48**	**248**	*e*	P	**Pn**	**21 42 55.1**	**-1.6**
	comp=Z,91nm,0.7s							
WMQ	**Urumqi**	**12.78**	**329**		P	**Pn**	**21 43 00.3**	**-0.3**
WMQ					sP		21 43 07.0	
WMQ					PP	**P**	**21 43 10.5**	**-1.2**
WMQ					S	**Sn**	**21 45 22.5**	**-0.2**
WMQ					sS		21 45 29.0	
WMQ					PMZ			
	comp=Z,12nm,0.8s							
WMQ					PMZ			
	comp=Z,240nm,4.0s							
WMQ					LN			
	comp=Z,2μm,12.7s							
WMQ					LE			
	comp=Z,1μm,15.0s							
WMQ					LZ			
	comp=Z,2μm,15.5s							
PYUN	**Piuthan**	**12.81**	**251**	*e*	P	**Pn**	**21 42 59.6**	**-1.6**
	comp=Z,358nm,0.7s							
BTO	**Baotou**	**13.02**	**51**	*e*	P	Pn	21 43 00.5	-3.5
CRAI	**Chiangrai**	**13.26**	**165**		P	**Pn**	**21 43 06.0**	**-1.2**
BOK	**Bokaro**	**13.28**	**228**	*e*	P	**Pn**	**21 43 04.8**	**-2.7**
BOK					AMB	AMB	21 43 18.6	
	comp=Z,27nm,1.2s							
CMAI	**Chiengmai2**	**13.31**	**170**		P	**Pn**	**21 43 10.7**	**+2.7**
	comp=Z,23nm,1.2s							
HHC	**Hu-ho-hao-te**	**14.16**	**53**	*e*	P	**Pn**	**21 43 18.5**	**-1.1**
HHC					S	**Sn**	**21 45 56.3**	**-0.2**
HHC					SS	**SnSn**	**21 46 12.4**	**+3.5**
HHC					PMZ			
	comp=Z,28nm,1.3s							
HHC					PMZ			
	comp=Z,140nm,7.5s							
HHC					LN			
	comp=Z,1μm,9.7s							
HHC					LE			
	comp=Z,2μm,12.1s							
HHC					LZ			
	comp=Z,2μm,12.4s							
CMMT	**Chiang Mai**	**14.40**	**171**		P	**Pn**	**21 43 23.8**	**+1.0**
	comp=Z,61nm,1.0s,comp=Z,791nm							
LGTI	**Lohaghat**	**14.52**	**260**	*ex*		**P**	**21 43 30.8**	**-0.2**
CM31	**Chiang Mai Arr**	**14.75**	**172**	*e*	Pn	**Pn**	**21 43 28.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**14.75**	**172**		Pn	**Pn**	**21 43 28.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=344,slow=12,SNR=86							
CMAR					Lg	Lg	21 47 55.0	
	comp=Z,0.0nm,0.3s,baz=201,slow=32,SNR=3.2							
CMAR					LR	LR	21 49 30.8	
	comp=Z,765nm,18.1s,baz=333,slow=39							
LAMP	**Lampang**	**14.78**	**169**		P	**Pn**	**21 43 28.9**	**+0.9**
	comp=Z,19nm,0.9s,comp=Z,137nm							
MHMT	**Maesarieng**	**14.93**	**175**		P	**P**	**21 43 35.6**	**0.0**
	comp=Z,19nm,1.1s,comp=Z,200nm							
WHN	**Wuhan**	**15.24**	**95**		P	**Pn**	**21 43 32.6**	**-1.5**
WHN					pP	**pP**	**21 43 41.5**	**-1.6**
WHN					LN			
	comp=Z,8μm,7.7s							
WHN					LE			
	comp=Z,4μm,7.3s							
WHN					LZ			
	comp=Z,4μm,8.4s							
UTTA	**Uttaradit**	**15.71**	**166**		P	**Pn**	**21 43 40.9**	**+0.7**
	comp=Z,13nm,0.8s,comp=Z,91nm							
SUKH	**Sukhothai**	**15.80**	**170**		P	**P**	**21 43 43.7**	**-1.6**
	comp=Z,16nm,0.9s,comp=Z,122nm							
DDI	**Dehra Dun**	**16.09**	**265**	*e*	P	**Pn**	**21 43 44.2**	**-1.1**
SONA0	**Songino Array**	**16.43**	**24**	*e*	Pn	**Pn**	**21 43 50.1**	**+0.6**
SONM	**Songino Array**	**16.43**	**24**		P	**Pn**	**21 43 50.1**	**+0.6**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.3s							
SONM					MLR	MLR		
	comp=Z,124nm,21.8s							
SONM	**Songino Array**	**16.43**	**24**		Pn	**Pn**	**21 43 50.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=207,slow=14,SNR=31							
SONM					LR	LR	21 49 30.9	
	comp=Z,124nm,21.8s,baz=208,slow=35							
SMLA	**Simla**	**16.65**	**268**	*e*	P	**Pn**	**21 43 50.9**	**-1.3**
SMLA					AMB	AMB	21 43 57.3	
	comp=Z,56nm,1.3s							
ULN	**Ulaanbaatar**	**16.68**	**25**	*e*	P	**Pn**	**21 43 52.2**	**-0.5**
ULN					pmax	pmax		
	comp=Z,18nm,0.9s							
ULN	**Ulaanbaatar**	**16.68**	**25**	*e*	Pn	**Pn**	**21 43 52.1**	**-0.5**
	comp=Z,18nm,0.9s							
ULN				*e*	Sn	**S**	**21 47 08.6**	**-0.3**
PBKT	**Sadao Pong**	**16.93**	**166**		P	**Pn**	**21 43 56.8**	**+0.9**
	comp=Z,74nm,0.7s,comp=Z,556nm							
BJI	**Beijing**	**17.09**	**61**		P	**P**	**21 43 58.8**	**-0.7**
BJI					S	**Sn**	**21 47 10.3**	**+2.7**
BJI					PMZ			
	comp=Z,22nm,0.9s							
BJI					PMZ			
	comp=Z,150nm,3.1s							
BJI					LN			
	comp=Z,2μm,15.6s							
BJI					LE			
	comp=Z,1μm,13.4s							
BJI					LZ			
	comp=Z,800nm,21.5s							
TIA	**Tai'an**	**17.10**	**74**	⇑	P	**P**	**21 43 59.0**	**-0.5**
TIA					PMZ			
	comp=Z,40nm,1.1s							
TIA					LN			
	comp=Z,800nm,13.7s							
TIA					LE			
	comp=Z,1μm,10.0s							
DHRM	**DHARAMSHALA**	**17.18**	**273**	*e*	P	**Pn**	**21 43 57.9**	**-1.3**
DHRM					AMB	AMB	21 44 04.3	
	comp=Z,92nm,1.4s							
NDI	**New Delhi**	**17.28**	**260**	*e*	P	**P**	**21 44 01.0**	**-0.6**
NDI				*e*	S	**Sn**	**21 47 15.0**	**+2.8**
MK32	**Makanchi Array**	**17.51**	**325**	*e*	Pn	**Pn**	**21 44 01.3**	**-1.7**
MKAR	**Makanchi Array**	**17.51**	**325**		P	**Pn**	**21 44 01.3**	**-1.7**
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.3s							
MKAR					MLR	MLR		
	comp=Z,549nm,20.3s							
MKAR	**Makanchi Array**	**17.51**	**325**		P	**Pn**	**21 44 01.3**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=136,slow=8.1,SNR=93							
MKAR					LR	LR	21 51 17.5	
	comp=Z,548nm,20.3s,baz=138,slow=39							
KHON	**Khomkaen**	**17.61**	**160**		P	**P**	**21 44 07.5**	**+2.2**
	comp=Z,18nm,0.8s,comp=Z,239nm							
UTHA	**Uthaitani**	**17.67**	**171**		P	**P**	**21 44 07.3**	**+1.4**
	comp=Z,14nm,0.8s,comp=Z,121nm							
KSH	**Kashi**	**17.85**	**297**		P	**P**	**21 44 08.9**	**+0.9**
KSH					pP	**pP**	**21 44 13.6**	**+1.5**
KSH					PP	**PnPn**	**21 44 22.6**	**+4.6**
KSH					S	**Sn**	**21 47 24.3**	**-1.8**
KSH					SS	**SnSn**	**21 47 45.8**	**+6.3**
KSH					PMZ			
	comp=Z,14nm,1.0s							
KSH					PMZ			
	comp=Z,140nm,3.2s							
KSH					LN			
	comp=Z,2μm,13.7s							
KSH					LE			
	comp=Z,1μm,13.2s							
KSH					LZ			
	comp=Z,820nm,14.2s							
ZAK	**Zakamensk**	**17.92**	**14**	⇓*i*	P	**P**	**21 44 08.7**	**+0.1**
ZAK					pmax	pmax		
	comp=Z,9.0nm,1.2s							
QIZ	**Qiongzhong**	**18.33**	**137**		P	**Pn**	**21 44 12.8**	**-0.4**
QIZ					S	**Sn**	**21 47 37.6**	**-0.1**
QIZ					sS	**sS**	**21 47 47.9**	**-1.1**
QIZ					PMZ			
	comp=Z,31nm,1.3s							
QIZ					LN			
	comp=Z,2μm,12.7s							
QIZ					LE			
	comp=Z,1μm,13.9s							
QIZ					LZ			
	comp=Z,3μm,11.5s							
QIZ	**Qiongzhong**	**18.33**	**137**	*e*	P	**P**	**21 44 16.1**	**+2.9**
	comp=Z,51nm,1.1s							
CHLP	**Challavanipeta**	**18.44**	**221**	*e*	P	**Pn**	**21 44 16.1**	**+1.5**
CHLP				*e*	S	**S**	**21 47 44.8**	**+0.1**
AAA	**Alma-Ata**	**18.48**	**309**	*i*	P	**Pn**	**21 44 18.4**	**+3.4**
AAA					pmax	pmax		
	comp=Z,300nm,1.8s							
AAA					MLR	MLR		
	comp=Z,1μm,13.0s							
ULHL	**Ulahol**	**18.53**	**305**		P	**Pn**	**21 44 18.4**	**+2.6**
	SNR=64							
NJ2	**Nanjing**	**18.71**	**87**	*e*	P	**Pn**	**21 44 18.9**	**+1.1**
NJ2					pP	**pP**	**21 44 22.5**	**+0.9**
NJ2					sP	**sP**	**21 44 24.5**	**+1.0**
NJ2					S	**Sn**	**21 47 47.5**	**+0.6**
NJ2					sS	**sS**	**21 47 58.5**	**+1.8**
NJ2					PMZ			
	comp=Z,30nm,0.6s							
NJ2					PMZ			
	comp=Z,440nm,4.7s							
NJ2					LN			
	comp=Z,3μm,12.0s							
NJ2					LE			
	comp=Z,2μm,14.6s							
NJ2					LZ			
	comp=Z,2μm,12.8s							
MOY	**Mondy**	**18.80**	**8**	*e*	P	**Pn**	**21 44 19.8**	**+1.0**
MOY					pmax	pmax		
	comp=Z,27nm,1.6s							
SRDT	**SRDT**	**18.82**	**173**		P	**Pn**	**21 44 20.2**	**+1.0**
	comp=Z,95nm,1.2s,comp=Z,7μm							
KZA	**Kyzart**	**19.15**	**304**		P	**Pn**	**21 44 23.8**	**+0.3**
	SNR=12							
NAYO	**Nakonayok**	**19.20**	**166**		P	**Pn**	**21 44 28.4**	**+4.7**
	comp=Z,190nm,0.7s							
TLY	**Talaya**	**19.23**	**13**	*e*	P	**Pn**	**21 44 25.4**	**+1.5**
TLY				*e*	S	**Sn**	**21 47 52.5**	**-6.5**
TLY					pmax	pmax		
	comp=Z,10.0nm,1.7s							
TLY					MLR	MLR		
	comp=Z,495nm,12.0s							
TLY	**Talaya**	**19.23**	**13**	*e*	P	P	21 44 15.8	-7.2
	comp=Z,45nm,2.3s							
TKM2	**Tokmak 2**	**19.23**	**307**		P	**Pn**	**21 44 24.5**	**+0.3**
	SNR=34							
TKM2	**Tokmak 2**	**19.23**	**307**	*e*	P	**Pn**	**21 44 24.5**	**+0.3**
TKM2					pmax	pmax		
	comp=Z,60nm,1.3s							
TKM2	**Tokmak 2**	**19.23**	**307**	*e*	P	**Pn**	**21 44 24.5**	**+0.3**
	comp=Z,60nm,1.3s							
UBPT	**Khong Chiam**	**19.47**	**154**		P	**Pn**	**21 44 27.5**	**+0.5**
	comp=Z,75nm,1.2s,comp=Z,1μm							
KBK	**Karagaybulak**	**19.57**	**305**		P	**Pn**	**21 44 28.5**	**+0.3**
	SNR=51							
BHPL	**Bhopal**	**19.59**	**245**	*e*	P	**P**	**21 44 26.6**	**-0.6**
BHPL					AMB	AMB	21 44 31.0	
	comp=Z,187nm,0.7s							
NGP	**Nagpur**	**19.68**	**237**	*e*	P	**P**	**21 44 27.9**	**-0.2**
NGP					AMB	AMB	21 44 31.8	
	comp=Z,40nm,0.0s							
NGP				*ex*		x	21 44 33.0	
UCH	**Uchtor**	**19.71**	**304**		P	**Pn**	**21 44 30.4**	**+0.2**
	SNR=32							
FRU	**Bishkek**	**19.86**	**306**	*e*	P	**Pn**	**21 44 31.0**	**-0.6**
AAK	**Ala-Archa**	**19.87**	**305**		Pn	**P**	**21 44 31.0**	**+0.8**
	comp=Z,167nm,0.9s,SNR=26							
AAK	**Ala-Archa**	**19.87**	**305**		P	**Pn**	**21 44 31.8**	**0.0**
	SNR=11							
AAK	**Ala-Archa**	**19.87**	**305**	*c*	iP	**Pn**	**21 44 31.6**	**-0.2**
AAK					pmax	pmax		
	comp=Z,199nm,2.5s							
AAK	**Ala-Archa**	**19.87**	**305**		P	**Pn**	**21 44 31.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=106,slow=6.9,SNR=57							
AAK	**Ala-Archa**	**19.87**	**305**	*e*	P	**P**	**21 44 30.4**	**+0.2**
	comp=Z,36nm,1.0s							
IRK	**Irkutsk**	**19.88**	**14**	*e*	P	**P**	**21 44 29.1**	**-1.0**
IRK					pmax	pmax		
	comp=Z,60nm,1.3s							
USP	**Ospenovka**	**20.11**	**307**		P	**P**	**21 44 33.3**	**+0.7**
	SNR=17							
DGPR	**DIGLIPUR**	**20.15**	**191**	*e*	P	**P**	**21 44 32.8**	**-0.4**
AML	**Almayashu**	**20.26**	**303**		P	Pn	21 44 35.8	-0.9
	SNR=17							
PHET	**Kaeng Krachan**	**20.30**	**172**		P	Pn	21 44 36.6	-0.3
	comp=Z,154nm,0.9s,comp=Z,1μm							
EKS2	**Erkin-Say**	**20.38**	**304**		P	**P**	**21 44 36.7**	**+1.1**
	SNR=17							
EKS2	**Erkin-Say**	**20.38**	**304**	*e*	P	**P**	**21 44 35.7**	**+0.1**
EKS2	**Erkin-Say**	**20.38**	**304**	*e*	P	**P**	**21 44 35.7**	**+0.1**
QZH	**Quanzhou**	**20.79**	**107**	⇑*i*	P	**P**	**21 44 41.1**	**+1

SSE PMZ
comp=Z,70nm,0.9s
SSE PMZ
comp=Z,210nm,4.4s
SSE LN
comp=Z,670nm,23.4s
SSE LE
comp=Z,200nm,24.1s
SSE LZ
comp=Z,760nm,15.5s
CHBT CHBT 20.93 164 P Pn 21 44 46.2 +2.0
comp=Z,48nm,0.8s,comp=Z,751nm
DL2 Dalian 20.96 67 P **P** **21 44 42.8 +1.0**
DL2 S **S** **21 48 34.3 -0.6**
DL2 PMZ
comp=Z,91nm,0.8s
DL2 PMZ
comp=Z,140nm,4.9s
DL2 LE
comp=Z,860nm,14.7s
DL2 LZ
comp=Z,950nm,15.7s
RPR Rampur 21.08 232 *e*P **P** **21 44 43.0 -0.3**
RPR *e*Pn **pP** **21 44 45.6 -1.8**
RPR *e*S **S** **21 48 33.8 -3.7**
PBA Port Blair 21.67 190 *e*P P 21 44 47.5 -2.1
KURBB Kurchatov Arra 22.00 328 P **P** **21 44 52.2 -0.7**
comp=Z,40nm,0.8s,baz=142,slow=9.9,SNR=151
KURK Kurchatov 22.02 328 P **P** **21 44 52.8 -0.4**
comp=Z,335nm,0.8s,SNR=66
KURK Kurchatov 22.02 328 *e*P **P** **21 44 52.5 -0.7**
KURK Kurchatov 22.02 328 *e*P **P** **21 44 52.5 -0.7**
ZALV Zalesovo Beam 22.46 341 P **P** **21 44 57.2 -0.6**
ZALV pmax pmax
comp=Z,24nm,0.8s
ZALV Zalesovo Beam 22.46 341 P **P** **21 44 57.1 -0.6**
comp=Z,24nm,0.8s,baz=151,slow=9.7,SNR=78
ZAA1 Zalesovo Array 22.46 341 *e*P **P** **21 44 57.1 -0.7**
HYB Hyderabad 22.60 231 *i* P **P** **21 45 02.0 +2.3**
HYB Hyderabad 22.60 231 *e*P **P** **21 44 59.5 -0.2**
HYBB Hyderabad (bro 22.60 231 *e*P **P** **21 44 59.4 -0.2**
HYBB *e*pP **pP** **21 45 02.5 -1.3**
HYBB *e*S **S** **21 49 08.8 +1.8**
NJS Nagarjunasagar 22.77 228 *e*P **P** **21 45 01.7 +0.3**
NJS *e*pP **pP** **21 45 03.3 -2.3**
NJS *e*S **S** **21 49 12.8 +2.9**
KKAR Karatay Array 22.79 304 *e*P **P** **21 45 01.0 -0.5**
KKAR Karatay Array 22.79 304 *e*P **P** **21 45 01.0 -0.5**
ADKI Addanki 22.91 225 *e*P **P** **21 45 03.1 +0.2**
ADKI *e*pP **pP** **21 45 06.0 -1.0**
ADKI *e*S **S** **21 49 15.6 +3.3**
SNY Shenyang 22.98 60 ⇓P **P** **21 45 03.3 0.0**
SNY S **S** **21 49 15.6 +2.4**
SNY PMZ
comp=Z,22nm,0.7s
SNY PMZ
comp=Z,230nm,2.6s
SNY LN
comp=Z,900nm,11.6s
SNY LE
comp=Z,580nm,10.0s
SNY LZ
comp=Z,750nm,14.5s
KBL Kabul 22.98 281 *e*P **P** **21 45 03.4 -0.3**
KBL pmax pmax
comp=Z,163nm,0.9s
KBL Kabul 22.98 281 *e*P **P** **21 45 03.4 -0.3**
comp=Z,163nm,0.9s
LATR Latur 23.24 236 *e*P **P** **21 45 06.5 +0.3**
HIA Hailar 23.55 40 *e*P **P** **21 45 09.6 +0.5**
HIA *e*S **S** **21 49 23.0 +0.3**
HIA pmax pmax
comp=Z,32nm,1.1s
HIA Hailar 23.55 40 *e*P **P** **21 45 09.6 +0.5**
comp=Z,32nm,1.1s
HIA *e*S **S** **21 49 23.0 +0.3**
NVS Novosibirsk 23.68 340 *e*P **P** **21 45 08.0 -2.3**
NVS *e*S **S** **21 49 20.1 -4.5**
NVS pmax pmax
comp=Z,29nm,1.4s
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS smax smax
comp=N,50nm,2.4s
SURA Surathani 24.00 173 P P 21 45 20.3 +6.7
comp=N,28nm,1.6s
SURT Suratani 24.13 175 P **P** **21 45 18.8 +4.0**
comp=N,16nm,1.2s,comp=N,305nm
SKHT Srikalahasti 24.73 223 *e*P **P** **21 45 20.5 +0.2**
SKHT *e*pP **pP** **21 45 23.6 -1.2**
SKHT *e*S **S** **21 49 40.6 -1.3**
INCN Inchon 24.77 71 *e*P **P** **21 45 21.0 +0.3**
comp=N,57nm,0.6s
CN2 Changchun 24.80 56 *e*P **P** **21 45 20.9 +0.1**
CN2 *e*PP **PnPn** **21 45 57.6 +4.5**
CN2 *e*S **S** **21 49 39.5 -3.3**
CN2 *e*SS **SnSn** **21 50 37.3 +7.5**
CN2 PMZ
comp=N,20nm,0.7s
CN2 PMZ
comp=N,200nm,4.0s
CN2 LN
comp=N,1µm,12.0s
CN2 LE
comp=N,500nm,12.0s
CN2 LZ
comp=N,700nm,12.0s
POO Poona 25.09 240 *e*P **P** **21 45 24.6 +0.9**
POO AMB AMB 21 45 27.2
comp=Z,35nm,0.4s
PKDT Phuket 25.16 176 P P 21 45 30.3 +6.1
comp=Z,37nm,0.7s
URV Uravakonda 25.26 229 *e*P **P** **21 45 25.8 +0.6**
URV *e*pP **pP** **21 45 28.2 -1.4**
URV *e*S **S** **21 49 56.7 +6.1**
TRTT Trang 25.32 173 P **P** **21 45 27.6 +2.0**
comp=Z,50nm,1.2s,comp=Z,678nm
TJN Taejon 25.37 74 *e*P **P** **21 45 25.4 -0.6**
BHJ Bhuj 25.71 254 *e*P **P** **21 45 28.4 -0.7**
BHJ AMB AMB 21 45 49.2
comp=Z,79nm,0.6s
KS15 Wonju Array Si 25.77 72 *e*P **P** **21 45 29.0 -0.6**
KSAR Wonju Array Be 25.77 72 P **P** **21 45 29.0 -0.6**
KSAR Wonju Array Be 25.77 72 P **P** **21 45 29.0 -0.6**
KSRS Korea Array 25.80 72 P **P** **21 45 29.0 -0.9**
KSRS pmax pmax
comp=Z,14nm,0.5s
KSRS Korea Array 25.80 72 P **P** **21 45 29.0 -0.9**
comp=Z,14nm,0.5s,baz=270,slow=10.0,SNR=29
CMBY CAMPBELL BAY 26.11 186 *e*P **P** **21 45 30.0 -2.8**
CMBY AMB AMB 21 45 40.6
comp=Z,66nm,0.0s
GOA Goa 27.14 235 *e*P **P** **21 45 41.7 -0.4**
GOA AMB AMB 21 45 53.8
comp=Z,17nm,0.9s
BOD Bodaibo 27.36 20 *e*P **P** **21 45 47.2 +3.5**
BOD pmax pmax
comp=Z,5.0nm,2.2s
BVAR Borovoye Array 27.39 324 P **P** **21 45 44.4 +0.3**
BVAR pmax pmax
comp=Z,8.0nm,0.9s
BVAR MLR MLR
comp=Z,638nm,18.1s
BVAR Borovoye Array 27.39 324 P **P** **21 45 44.4 +0.3**
comp=Z,8.5nm,0.9s,baz=122,slow=11,SNR=17
BVAR LR LR 21 57 47.5
comp=Z,638nm,18.1s,baz=127,slow=39
BRVK Borovoye 27.46 324 P **P** **21 45 44.1 -0.6**
comp=Z,88nm,1.1s,SNR=7.0
MDJ Mudanjiang 27.89 56 P **P** **21 45 49.6 +0.9**
MDJ PMZ
comp=Z,5.0nm,1.1s
MDJ PMZ
comp=Z,200nm,4.2s
JNU Nakatsue 28.57 81 P **P** **21 45 55.2 +0.3**
comp=Z,15nm,0.8s,baz=344,slow=0.5,SNR=5.4
USRK Ussuriysk Ar. 29.49 58 P **P** **21 46 05.1 +2.1**
comp=Z,1.1nm,0.5s,baz=251,slow=7.4,SNR=4.0
USRK LR LR 21 59 26.1
comp=Z,378nm,18.9s,baz=210,slow=40
PALK Pallekele 29.69 213 LR LR 22 00 04.6
comp=Z,396nm,18.1s,baz=37,slow=41
IKOO Kooshah 31.58 279 *e*P **P** **21 46 21.6 -0.2**
GEYT Alibeck 31.59 290 P **P** **21 46 22.6 +1.0**
comp=Z,5.3nm,1.1s,baz=103,slow=6.5,SNR=9.0
GEYT LR LR 22 00 45.5
comp=Z,426nm,18.0s,baz=110,slow=40
ABKAR Akbulak array 31.62 312 *e*P **P** **21 46 22.1 +0.4**
ITEG Tejag 31.70 280 *e*P **P** **21 46 23.0 +0.3**
KKM Kota Kinabalu 32.50 142 *e*P **P** **21 46 30.1 +0.4**
comp=Z,86nm,1.2s
BKNI Bangkinang 32.88 172 *e*PP PP 21 47 46.9 -0.6
AKTO Aktyubinsk 33.16 313 LR LR 22 00 56.0
comp=Z,336nm,18.3s,slow=38
SBUM Sibu 33.81 151 *e*P **P** **21 46 42.3 +1.1**
comp=Z,24nm,1.2s
KSM Kuching 33.99 155 *e*P **P** **21 46 43.6 +1.0**
comp=Z,20nm,0.9s
MAJO Matsushiro 34.07 72 *e*P **P** **21 46 41.4 -1.8**
MAJO pmax pmax
comp=Z,537nm,2.9s
MAJO Matsushiro 34.07 72 *e*P **P** **21 46 41.4 -1.8**
comp=Z,537nm,2.9s
MJAR Matsushiro Arr 34.07 72 P **P** **21 46 41.4 -1.9**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 34.07 72 P **P** **21 46 41.4 -1.9**
comp=Z,2.6nm,0.8s,baz=288,slow=8.8,SNR=5.0
ARU Arti 35.01 323 P **P** **21 46 51.9 +0.8**
comp=Z,150nm,0.7s,SNR=10
ARU Arti 35.01 323 *c i*P **P** **21 46 51.2 0.0**
ARU 21 48 09.2
ARU 21 49 18.6
ARU S **S** **21 52 24.3 +1.8**
ARU SS **SnSn** **21 54 36.2 -1.9**
ARU pmax pmax
comp=Z,32nm,1.2s
ARU MLR MLR
comp=Z,309nm,18.0s
ARU Arti 35.01 323 *e*P **P** **21 46 51.2 0.0**
comp=Z,21nm,0.9s
YAK Yakutsk 35.76 26 *e*P **P** **21 46 56.3 -1.2**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 35.76 26 P **P** **21 46 58.0 +0.6**
comp=Z,20nm,0.6s,baz=342,slow=1.2,SNR=5.2
IDMV Damavand 36.71 287 *e*P **P** **21 47 06.6 +0.3**
IZEF Zefreh 36.98 282 *e*P **P** **21 47 08.3 -0.3**
ASAJ Asahikawa 37.08 59 *e*P **P** **21 47 08.0 -1.0**
comp=Z,752nm,2.4s
IKLH Kolahrood 37.50 283 *e*P **P** **21 47 13.1 0.0**
IPIR Pirpir 38.21 282 *e*P **P** **21 47 18.0 -1.1**
IRAZ Razeghan 38.43 287 *e*P **P** **21 47 21.1 +0.4**
GNI Garni 41.77 295 P **P** **21 47 50.1 +1.7**
GNI pmax pmax
comp=Z,8.0nm,0.7s
GNI Garni 41.77 295 P **P** **21 47 50.1 +1.7**
comp=Z,8.3nm,0.7s,baz=315,slow=1.4,SNR=3.9
ZEI Tsey 42.12 299 *e*P **P** **21 47 51.3 +0.1**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 42.20 15 ⇑*e*P **P** **21 47 51.3 +0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 42.20 15 *e*P **P** **21 47 51.2 +0.1**
comp=Z,25nm,1.8s
CLDR Caldiran 42.54 294 *e*P **P** **21 47 52.1 -2.7**
GOF Gofitskoye 42.58 302 *e*P **P** **21 47 55.2 +0.5**
KIV Kislovodsk 42.91 301 *e*P **P** **21 47 58.6 +1.1**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,117nm,16.0s
KIV Kislovodsk 42.91 301 *e*P **P** **21 47 57.2 -0.3**
comp=Z,17nm,0.8s
CUKT Cukurca 43.10 291 *e*P **P** **21 47 57.0 -2.3**
PRGR Permogore 43.13 327 *e*P **P** **21 47 56.5 -2.4**
PRGR pmax pmax
comp=Z,21nm,1.0s
AGRB Hanur-Agry 43.18 294 *e*P **P** **21 47 57.0 -2.9**
VRHR Novokhopersk 43.51 311 *e*P **P** **21 48 01.3 -0.9**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.8s
VORD Divnogorie 44.98 311 *e*P **P** **21 48 13.0 -0.9**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,40nm,1.4s
VSR Storozhevoye 45.06 311 *e*P **P** **21 48 13.6 -1.0**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.8s
SEY Seymchan 45.58 32 *e*P **P** **21 48 18.8 +0.3**
RAYN Ar Rayn 45.67 272 *e*P **P** **21 48 22.4 +2.6**
comp=E,12nm,1.8s
MOS Moscow 46.16 318 *e*P **P** **21 48 21.9 -1.3**
MOS *e* 21 48 27.5
MOS *e* 21 55 03.2
MOS pmax pmax
comp=Z,87nm,0.8s
ILIC ilic-Erzincan 46.57 295 *e*P P 21 48 23.0 -3.8
OBN Obninsk 46.73 317 ⇓*e*P **P** **21 48 27.1 -0.5**
OBN *e* 21 50 19.0
OBN *e*SS SS 21 58 30.3 -12
OBN pmax pmax
comp=Z,27nm,1.2s
OBN MLR MLR
comp=Z,116nm,15.0s
OBN Obninsk 46.73 317 *e*P **P** **21 48 27.4 -0.3**
comp=Z,20nm,0.9s
OBN *e*S **S** **21 55 13.2 -3.5**
MALT Malatya 46.91 294 ⇓*i*P **P** **21 48 30.2 +0.7**
TMCR Tamitsa 47.14 329 *e*P **P** **21 48 30.4 -0.3**
TMCR pmax pmax
comp=Z,42nm,1.1s
SVSK Karacayir 47.67 296 *e*P **P** **21 48 35.1 0.0**
KVT Kavak 48.15 298 *e*P **P** **21 48 38.2 -0.8**
KMRS Kahramanmaras 48.27 293 *e*P P 21 48 36.2 -3.8
DIKM Dikmen 48.63 299 *e*P **P** **21 48 41.2 -1.4**
SIM Simferopol' 48.89 303 *e*P **P** **21 48 43.2 -1.4**
SIM pmax pmax
comp=Z,11nm,0.9s
KOZT Kozan 49.10 293 *e*P **P** **21 48 44.6 -1.8**
CORM Corum 49.39 297 *e*P **P** **21 48 46.0 -2.7**
APA Apatity 49.68 333 ⇓*i*P P 21 49 02.0 +12
APA MLR MLR
comp=Z,900nm,14.0s
ASF Jabal al Asfar 49.73 286 P **P** **21 48 50.8 -0.5**
ASF pmax pmax
comp=Z,6.0nm,0.9s
ASF Jabal al Asfar 49.73 286 P **P** **21 48 50.8 -0.5**
comp=Z,5.9nm,0.9s,baz=140,slow=1.1,SNR=9.9
JOF Joensuu 49.93 327 *e*P **P** **21 48 52.2 -0.1**
JOF pmax pmax
comp=Z,15nm,0.7s
JOF Joensuu 49.93 327 *e*p **P** **21 48 52.2 -0.1**
comp=Z,15nm,0.7s
BR101 Keskin Array S 50.24 297 *e*P **P** **21 48 54.6 -0.5**
BRTR Keskin Array B 50.24 297 P **P** **21 48 54.6 -0.5**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 50.24 297 P **P** **21 48 54.6 -0.5**
comp=Z,3.6nm,0.8s,baz=98,slow=7.6,SNR=25
AKASG Malin Array Be 51.37 311 P **P** **21 49 02.5 -0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,182nm,19.2s
AKASG Malin Array Be 51.37 311 P **P** **21 49 02.5 -0.7**
comp=Z,4.1nm,0.5s,baz=73,slow=6.7,SNR=40
AKASG LR LR 22 14 22.4
comp=Z,182nm,19.2s,baz=80,slow=40
AKBB Malin Array Si 51.37 311 *e*P **P** **21 49 02.5 -0.7**
AKBB Malin Array Si 51.37 311 *e*P **P** **21 49 02.5 -0.7**
KIEV Kiev 51.38 311 ⇓*e*P **P** **21 49 02.8 -0.5**
KIEV Kiev 51.38 311 *e*P **P** **21 49 02.5 -0.8**
comp=Z,32nm,1.4s
LFK Lefkose 51.48 291 *e*P P 21 49 00.7 -3.8
CSS Prodhromos 51.73 291 *e*P **P** **21 49 05.2 -1.0**
CSS Prodhromos 51.73 291 *e*P **P** **21 49 05.5 -0.7**
comp=Z,29nm,2.5s
LEF Lefka 52.02 291 *e*P **P** **21 49 06.2 -2.2**
BILL Bilibino 52.12 27 ⇓*i*P **P** **21 49 08.9 +0.3**
BILL *e* 21 51 10.8
BILL pmax pmax
comp=Z,12nm,1.2s
BILL MLR MLR
comp=Z,250nm,24.0s
BILL Bilibino 52.12 27 *e*P **P** **21 49 09.1 +0.4**
comp=Z,13nm,1.1s
VSU Vasula 52.12 321 ⇓*e*P **P** **21 49 08.4 -0.4**
VSU pmax pmax
comp=Z,85nm,1.2s
KAF Kangasniemi 52.23 326 *e*P **P** **21 49 08.7 -0.8**
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 52.23 326 *e*p **P** **21 49 08.7 -0.8**
comp=Z,6.8nm,0.7s
KEV Kevo 52.31 336 *e*P **P** **21 49 10.2 +0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 52.31 336 *e*p **P** **21 49 10.2 +0.2**
comp=Z,0.9nm,0.4s
FIA0 FINESS Array S 52.34 325 *e*P **P** **21 49 10.2 -0.2**
FIA0 FINESS Array S 52.34 325 *e*P **P** **21 49 10.2 -0.2**
FINES FINESS Array B 52.34 325 P **P** **21 49 10.2 -0.2**
FINES pmax pmax
comp=Z,12nm,0.9s
FINES MLR MLR
comp=Z,164nm,20.7s
FINES FINESS Array B 52.34 325 P **P** **21 49 10.2 -0.2**
comp=Z,12nm,0.9s,baz=114,slow=9.4,SNR=21
FINES LR LR 22 13 08.5
comp=Z,164nm,20.7s,baz=86,slow=38
NACGM Naroch 52.37 317 *e* P 21 49 07.0 -3.7
ARA0 ARCESS Array S 52.81 335 *e*P **P** **21 49 13.5 -0.3**
ARCES ARCESS Array B 52.81 335 P **P** **21 49 13.5 -0.3**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES MLR MLR
comp=Z,567nm,18.2s
ARCES ARCESS Array B 52.81 335 P **P** **21 49 13.5 -0.3**
comp=Z,4.9nm,0.7s,baz=84,slow=8.4,SNR=15
ARCES LR LR 22 14 12.4
comp=Z,567nm,18.2s,baz=95,slow=39
TIRR Tirgusor 52.98 304 ⇓*i*P **P** **21 49 14.9 -0.4**
CFR Carcaliu 53.02 305 ⇑*i*P **P** **21 49 15.1 -0.5**
TLB Topalu 53.21 304 ⇓*i*P **P** **21 49 17.0 0.0**
HARR Harsova 53.26 304 ⇓*i*P **P** **21 49 17.8 +0.4**
MSAB Monastry St. A 53.47 303 ⇑*i*P **P** **21 49 19.1 +0.1**
TESR Tescani 53.75 306 ⇑*i*P **P** **21 49 20.5 -0.5**
VRI Vrincioaia 53.84 306 ⇑*i*P **P** **21 49 22.0 +0.3**
PLOR Plostina 53.89 306 ⇑*i*P **P** **21 49 22.6 +0.5**
ISR Istrita 54.13 305 ⇓*i*P **P** **21 49 25.6 +1.7**
MLR Muntele Rosu 54.45 305 ⇑*i*P **P** **21 49 27.2 +0.9**
BURAR Bucovina Array 54.48 308 ⇑*i*P **P** **21 49 26.1 -0.3**
SUW Suwalki 54.57 316 *e*P **P** **21 49 26.1 -0.8**
SUW Suwalki 54.57 316 *e*P **P** **21 49 26.0 -0.8**
SUW Suwalki 54.57 316 *e*P **P** **21 49 26.5 -0.3**
comp=Z,59nm,1.0s
JMB Yambol 54.74 302 ⇑*i*P **P** **21 49 28.5 +0.2**
VOIR 55.08 305 ⇓*i*P **P** **21 49 30.8 0.0**
ARR Arges 55.38 305 ⇑*i*P **P** **21 49 33.0 0.0**
KWP Kalwaria Pacla 55.68 311 *e*P **P** **21 49 35.1 +0.1**
KWP Kalwaria Pacla 55.68 311 *e*P **P** **21 49 35.0 +0.1**
KWP Kalwaria Pacla 55.68 311 ⇑*i*P **P** **21 49 35.4 +0.5**
KDZ Kurdzhali 55.80 301 ⇑*i*P **P** **21 49 36.4 +0.4**
LOT Lotru 55.95 306 ⇓*i*P **P** **21 49 37.2 +0.1**
KOLS Kolonicke sedl 56.11 310 *e*P **P** **21 49 37.7 -0.4**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 56.11 310 *e*P **P** **21 49 37.7 -0.4**
TRPA Tarpa 56.12 309 ⇑*i*P **P** **21 49 38.3 +0.2**
UZH Uzhgorod 56.16 310 *ce*P **P** **21 49 37.8 -0.6**
UZH *e* 21 49 52.8
DRGR 56.33 307 ⇑*i*P **P** **21 49 40.1 +0.3**
CRVS Cervenica-Dubn 56.64 310 *e*P **P** **21 49 42.0 +0.2**
CRVS pmax pmax
comp=Z,4.0nm,1.2s
CRVS Cervenica-Dubn 56.64 310 *e*P **P** **21 49 42.0 +0.2**
GZR Gura Zlata 56.64 306 ⇑*i*P **P** **21 49 42.0 0.0**
STHS Stebnicka Huta 56.65 311 *e*P **P** **21 49 41.7 -0.3**
STHS Stebnicka Huta 56.65 311 *e*P **P** **21 49 41.7 -0.3**
VTS Vitosha 57.11 303 ⇑*i*P **P** **21 49 45.5 0.0**
NIE Niedzica 57.24 311 *e*P **P** **21 49 46.6 +0.5**
KECS Kecovo 57.37 310 *e*P **P** **21 49 46.6 -0.4**
KECS pmax pmax
comp=Z,3.0nm,0.6s
KECS Kecovo 57.37 310 *e*P **P** **21 49 46.6 -0.4**
BZS Buzias 57.37 306 ⇑*i*P **P** **21 49 46.6 -0.4**
OJC Ojcow 57.37 312 *e*P **P** **21 49 46.4 -0.6**
OJC pmax pmax
comp=Z,16nm,0.9s
OJC Ojcow 57.37 312 *e*P **P** **21 49 46.8 -0.2**
OJC Ojcow 57.37 312 *e*P **P** **21 49 46.4 -0.6**
comp=Z,16nm,0.9s
PSZ Piszkesteto 57.89 309 *e*P **P** **21 49 51.0 +0.2**
PSZ pmax pmax
comp=Z,16nm,1.6s
PSZ Piszkesteto 57.89 309 ⇓*i*P **P** **21 49 51.3 +0.5**
PSZ Piszkesteto 57.89 309 *e*P **P** **21 49 51.0 +0.2**
comp=Z,16nm,1.6s
VYHS Vyhne 58.42 310 *e*P **P** **21 49 54.4 0.0**
VYHS pmax pmax
comp=Z,14nm,1.6s
VYHS Vyhne 58.42 310 *e*P **P** **21 49 54.4 0.0**
FURI Furi 58.47 259 *e*P **P** **21 49 57.5 +1.9**
comp=Z,26nm,0.9s
OKC Ostrava-Krasne 58.50 312 *e*P **P** **21 49 55.1 +0.2**
OKC MLR MLR
comp=Z,200nm,13.2s
OKC Ostrava-Krasne 58.50 312 *e*P **P** **21 49 55.1 +0.2**
OKC *e*pP **pP** **21 49 59.0 -0.6**
OKC AMS AMS 22 17 10.0
comp=Z,200nm,13.2s
AGG Agios Georgios 58.84 299 *e*P **P** **21 49 55.8 -1.7**
AGG pmax pmax
comp=Z,40nm,1.5s
AGG Agios Georgios 58.84 299 *e*P **P** **21 49 55.8 -1.7**
comp=Z,40nm,1.5s
MORC Moravsky Berou 58.89 312 ⇑*i*P **P** **21 49 57.8 +0.1**
PKSM Moragy 59.19 308 ⇑*i*P **P** **21 49 59.2 -0.6**
KSP Ksiaz 59.37 313 *e*P **P** **21 50 00.9 -0.1**
KSP Ksiaz 59.37 313 *e*P **P** **21 50 00.8 -0.2**
DPC Dobruska-Polom 59.49 313 *e*P **P** **21 50 02.1 +0.3**
DPC Dobruska-Polom 59.49 313 *e*P **P** **21 50 02.1 +0.3**
DPC *e*pP **pP** **21 50 06.1 -0.5**
DPC AMS AMS 22 17 30.0
DPC Dobruska-Polom 59.49 313 *e*P **P** **21 50 01.6 -0.2**
comp=Z,83nm,0.9s
NB2 NORSAR Subarra 59.51 326 P **P** **21 50 00.8 -1.0**
comp=Z,4.7nm,0.6s,baz=76,slow=6.9
NB200 NORSAR Array S 59.51 326 *e*P **P** **21 50 00.8 -1.0**
NOA NORSAR Array B 59.51 326 P **P** **21 50 00.8 -1.0**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA MLR MLR
comp=Z,129nm,19.7s
NOA NORSAR Array B 59.51 326 P **P** **21 50 00.8 -1.0**
comp=Z,4.4nm,0.6s,baz=77,slow=7.8,SNR=27
NOA LR LR 22 16 02.3
comp=Z,129nm,19.7s,baz=80,slow=36
VRAC Vranov 59.62 312 ⇑*i*P **P** **21 50 03.1 +0.4**
UPC Upice 59.64 313 *e*P **P** **21 50 03.4 +0.6**
UPC Upice 59.64 313 *e*P **P** **21 50 03.4 +0.6**
UPC *e*pP **pP** **21 50 06.9 -0.6**
TREC Trest 60.31 312 *e*P **P** **21 50 07.4 -0.1**
TREC MLR MLR
comp=Z,200nm,14.7s
TREC Trest 60.31 312 *e*P **P** **21 50 07.4 -0.1**
TREC *e*pP **pP** **21 50 11.9 -0.3**
TREC AMS AMS 22 19 40.0
comp=Z,200nm,14.7s
CONA Conrad Observa 60.49 310 ⇑*i*pP **P** **21 50 08.8 0.0**
comp=Z,10nm,1.0s,SNR=6.3
PVCC Panska Ves 60.51 313 *e*P **P** **21 50 09.4 +0.6**
PVCC Panska Ves 60.51 313 *e*P **P** **21 50 09.4 +0.6**
PVCC *e*pP **pP** **21 50 13.5 0.0**
PVCC AMS AMS 22 18 50.0
GOPC GO Pecny, Ondr 60.56 313 *e*P **P** **21 50 09.5 +0.3**
GOPC *e*pP **pP** **21 50 13.0 -0.9**
KONO Kongsberg 60.64 324 *e*P **P** **21 50 06.8 -2.7**
KONO pmax pmax
comp=Z,14nm,0.9s
KONO Kongsberg 60.64 324 *e*P **P** **21 50 06.8 -2.7**

PRU **Pruhonice** 60.69 313 *e*P **P** 21 50 09.7 -0.3
PRU MLR MLR
comp=Z,400nm,14.2s
PRU **Pruhonice** 60.69 313 *e*P **P** 21 50 09.7 -0.3
PRU *e*pP **pP** 21 50 13.9 -0.8
PRU AMS AMS 22 18 20.0
comp=Z,400nm,14.2s
PRA **Prague** 60.73 313 *e*P **P** 21 50 09.5 -0.8
PRA **Prague** 60.73 313 *e*P **P** 21 50 10.9 +0.6
PRA *e*pP **pP** 21 50 15.9 +0.9
BRG **Berggiesshubel** 60.79 314 *e*P **P** 21 50 10.6 -0.1
comp=Z,6.4nm,0.8s
BRG **Berggiesshubel** 60.79 314 *e*P **P** 21 50 10.6 -0.1
BRG pmax pmax
comp=Z,6.0nm,0.8s
CLL **Collm** 61.22 315⇑ *i*P **P** 21 50 13.1 -0.5
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL **Collm** 61.22 315⇑ *i*P **P** 21 50 13.1 -0.5
comp=Z,7.0nm,1.0s
CLL *i* pP **pP** 21 50 16.9 -1.4
comp=Z,8.0nm,0.9s
CLL *i* sP **sP** 21 50 19.0 -1.1
CLL **Collm** 61.22 315 *e*P **P** 21 50 13.1 -0.5
comp=Z,13nm,1.1s
PERS **Pernice** 61.38 309 *i* P **P** 21 50 14.4 -0.4
PERS **Pernice** 61.38 309 P **P** 21 50 14.4 -0.4
SOKA **Soboth** 61.42 309 *i* P **P** 21 50 14.8 -0.3
comp=Z,9.7nm,1.1s,SNR=7.3
GAMB **Gambell** 61.53 30 *e*P **P** 21 50 15.9 +0.5
comp=Z,15.5nm,1.0s
KHC **Kasperske Hory** 61.55 312 *e*P **P** 21 50 15.2 -0.8
KHC MLR MLR
comp=Z,200nm,16.8s
KHC **Kasperske Hory** 61.55 312 *e*P **P** 21 50 15.2 -0.8
KHC *e*pP **pP** 21 50 19.2 -1.5
KHC AMS AMS 22 18 50.0
comp=Z,200nm,16.8s
KHC **Kasperske Hory** 61.55 312 *e*P **P** 21 50 15.3 -0.6
comp=Z,31nm,2.1s
GEC2 **GERESS Array S** 61.57 312 *e*P **P** 21 50 16.3 +0.2
GEC2 **GERESS Array S** 61.57 312 *e*P **P** 21 50 16.3 +0.2
GERES **GERESS Array B** 61.57 312 P **P** 21 50 16.3 +0.2
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES MLR MLR
comp=Z,116nm,19.0s
GERES **GERESS Array B** 61.57 312 P **P** 21 50 16.3 +0.2
comp=Z,4.7nm,0.8s,baz=71,slow=6.0,SNR=6.1
GERES LR LR 22 21 01.1
comp=Z,116nm,19.0s,baz=70,slow=40
CEY **Cerknica** 62.13 308 *i* P **P** 21 50 19.5 -0.4
CEY **Cerknica** 62.13 308 *i* P **P** 21 50 19.5 -0.4
ROBS **Robic** 62.56 309 *e*P **P** 21 50 21.6 -1.1
ROBS **Robic** 62.56 309 *e*P **P** 21 50 21.5 -1.1
TRI **Trieste** 62.58 308 *e*P **P** 21 50 22.2 -0.6
TRI pmax pmax
comp=Z,13nm,0.8s
TRI **Trieste** 62.58 308 *e*P **P** 21 50 22.1 -0.6
comp=Z,13nm,0.8s
GRF **Grafenberg Arr** 62.82 313 *e*P **P** 21 50 25.1 +0.7
comp=Z,7.0nm,0.8s
GRF *e*L L 22 19 54.0
comp=Z,172nm,19.2s
GRFO **Grafenberg** 62.82 313 *e*P **P** 21 50 24.9 +0.5
GRFO pmax pmax
comp=Z,11nm,0.8s
GRFO **Grafenberg** 62.82 313 *e*P **P** 21 50 24.9 +0.5
comp=Z,11nm,0.8s
ABTA **Abfaltersbach** 63.03 310⇓ *i*P **P** 21 50 24.6 -1.4
comp=Z,4.2nm,0.9s
CUC **Castrocucco** 63.22 302 *e*P **P** 21 50 27.2 0.0
comp=Z,8.4nm,0.9s
MOTA **Moosalm** 63.72 311⇑ *i*P **P** 21 50 29.7 -0.9
comp=Z,6.8nm,0.6s
WRAB **Tennant Creek** 63.86 140 P **P** 21 50 31.0 -0.5
comp=Z,151nm,0.7s,SNR=20
WRAB **Tennant Creek** 63.86 140 *de*P **P** 21 50 31.3 -0.3
WRAB pmax pmax
comp=Z,44nm,0.8s
WRAB **Tennant Creek** 63.86 140 *e*P **P** 21 50 31.2 -0.3
comp=Z,17nm,0.7s
WRAB *e*S **S** 21 59 02.7 -3.8
WRA **Warramunga Arr** 63.86 140 P **P** 21 50 31.3 -0.2
WRA pmax pmax
comp=Z,11nm,0.6s
WRA **Warramunga Arr** 63.86 140 P **P** 21 50 31.3 -0.2
comp=Z,11nm,0.6s,baz=319,slow=9.2,SNR=179
RETA **Reutte** 63.88 311⇑ *i*P **P** 21 50 31.1 -0.5
comp=Z,13nm,1.0s
FETA **Feichten** 64.07 311 *i* P **P** 21 50 32.2 -0.7
comp=Z,16nm,0.9s,SNR=11
FUORN **Ofenpass-Fuorn** 64.52 310 *e*P **P** 21 50 35.6 -0.3
comp=Z,74nm,2.3s
BFO **Black Forest** 65.09 313 *e*P **P** 21 50 39.3 -0.1
BFO pmax pmax
comp=Z,10.0nm,1.1s
BFO **Black Forest** 65.09 313 *e*P **P** 21 50 39.2 -0.1
comp=Z,9.6nm,1.1s
TUE **Stuetta** 65.16 310 *e*P **P** 21 50 39.4 -0.7
comp=Z,14nm,0.8s
VLC **Villacollemand** 65.38 308 *e*P **P** 21 50 40.8 -0.6
comp=Z,12nm,0.9s
KMBO **Kilima Mbogo** 65.41 251 P **P** 21 50 42.4 +0.2
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO **Kilima Mbogo** 65.41 251 P **P** 21 50 42.4 +0.2
comp=Z,9.0nm,0.8s,baz=51,slow=12,SNR=6.7
CDF **Champ du Feu** 65.71 313 *e*P **P** 21 50 42.9 -0.5
comp=Z,14nm,1.0s
CDF **Champ du Feu** 65.71 313 *e*P **P** 21 50 42.9 -0.5
CDF pmax pmax
comp=Z,14nm,1.0s
CDF **Champ du Feu** 65.71 313 *e*P **P** 21 50 42.9 -0.5
comp=Z,14nm,1.0s
WLF **Walferdange** 65.89 315 P **P** 21 50 45.2 +0.7
comp=Z,13nm,0.9s
WLF **Walferdange** 65.89 315 *e*P **P** 21 50 45.1 +0.6
WLF pmax pmax
comp=Z,22nm,0.9s
WLF **Walferdange** 65.89 315 *e*P **P** 21 50 45.1 +0.6
comp=Z,22nm,0.9s
BCLA **Clavier** 66.10 316 P **P** 21 50 47.5 +1.7
comp=Z,10nm,1.7s
HINF **Hinteralfeld** 66.20 313 *e*P **P** 21 50 45.9 -0.7
comp=Z,15nm,0.9s
HINF **Hinteralfeld** 66.20 313 *e*P **P** 21 50 45.9 -0.7
HINF pmax pmax
comp=Z,15nm,0.9s
HINF **Hinteralfeld** 66.20 313 *e*P **P** 21 50 45.9 -0.7
comp=Z,15nm,0.9s
HAU **Haudompre** 66.44 313 *e*P **P** 21 50 47.4 -0.7
comp=Z,13nm,1.0s
HAU *e*R
comp=Z,152nm,17.5s
HAU **Haudompre** 66.44 313 *e*P **P** 21 50 47.4 -0.7
HAU pmax pmax
comp=Z,13nm,1.0s
HAU **Haudompre** 66.44 313 *e*P **P** 21 50 47.4 -0.7
comp=Z,13nm,1.0s
SENIN **Lac Senin/Sane** 66.51 311 *e*P **P** 21 50 48.5 -0.3
GIVF **Givet** 66.51 315 *e*P **P** 21 50 48.4 0.0
GIVF **Givet** 66.51 315 *e*P **P** 21 50 48.4 0.0
GIVF **Givet** 66.51 315 *e*P **P** 21 50 48.4 0.0
PAGF **Fort de Pagny** 66.60 314 *e*P **P** 21 50 49.1 +0.1
comp=Z,16nm,1.4s
PAGF **Fort de Pagny** 66.60 314 *e*P **P** 21 50 49.1 +0.1
comp=Z,16nm,1.4s
DOU **Dourbes** 66.65 315 P **P** 21 50 52.2 +3.0
comp=Z,4.5nm,1.2s
AS12 **Alice Springs** 66.70 143 *e*P **P** 21 50 49.9 0.0
ASAR **Alice Springs** 66.70 143 P **P** 21 50 49.9 0.0
ASAR pmax pmax
comp=Z,13nm,0.6s
ASAR **Alice Springs** 66.70 143 P **P** 21 50 49.9 0.0
comp=Z,13nm,0.6s,baz=327,slow=6.8,SNR=205
BAIF **Baives** 66.89 316 *e*P **P** 21 50 50.8 0.0
comp=Z,21nm,1.2s
BAIF **Baives** 66.89 316 *e*P **P** 21 50 50.8 0.0
BAIF pmax pmax
comp=Z,21nm,1.2s
BAIF **Baives** 66.89 316 *e*P **P** 21 50 50.8 0.0
comp=Z,21nm,1.2s
PGF **Pioggiola** 66.95 307 *e*P **P** 21 50 51.1 -0.4
comp=Z,19nm,0.9s
PGF **Pioggiola** 66.95 307 *e*P **P** 21 50 51.1 -0.4
PGF pmax pmax
comp=Z,19nm,0.9s
PGF **Pioggiola** 66.95 307 *e*P **P** 21 50 51.1 -0.4
comp=Z,19nm,0.9s
MEZF **Maizieres J'vi** 67.03 314 *e*P **P** 21 50 51.5 -0.3
comp=Z,28nm,1.1s
MEZF **Maizieres J'vi** 67.03 314 *e*P **P** 21 50 51.5 -0.3
comp=Z,28nm,1.1s
SFTF **Sexfontaines** 67.16 313 *e*P **P** 21 50 52.1 -0.5
comp=Z,24nm,1.0s
SFTF **Sexfontaines** 67.16 313 *e*P **P** 21 50 52.1 -0.5
comp=Z,24nm,1.0s
CABF **La Chapelle** 67.17 312 *e*P **P** 21 50 52.1 -0.7
comp=Z,48nm,1.6s
CABF **La Chapelle** 67.17 312 *e*P **P** 21 50 52.1 -0.7
CABF pmax pmax
comp=Z,48nm,1.6s
CABF **La Chapelle** 67.17 312 *e*P **P** 21 50 52.1 -0.7
comp=Z,48nm,1.6s
LPG **La Plagne** 67.21 310 *e*P **P** 21 50 53.4 +0.1
comp=Z,48nm,0.8s
LPG **La Plagne** 67.21 310 *e*P **P** 21 50 53.4 +0.1
LPG pmax pmax
comp=Z,48nm,0.8s
LPG **La Plagne** 67.21 310 *e*P **P** 21 50 53.4 +0.1
comp=Z,48nm,0.8s
LPL **La Plagne** 67.21 310 *e*P **P** 21 50 53.3 0.0
comp=Z,30nm,0.8s
LPL **La Plagne** 67.21 310 *e*P **P** 21 50 53.3 0.0
LPL pmax pmax
comp=Z,30nm,0.8s
LPL **La Plagne** 67.21 310 *e*P **P** 21 50 53.3 0.0
comp=Z,30nm,0.8s
BNI **Bardonecchia** 67.44 310 *e*P **P** 21 50 54.3 -0.3
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI **Bardonecchia** 67.44 310 *e*P **P** 21 50 54.3 -0.3
comp=Z,6.5nm,0.9s
SBF **Sospel** 67.44 308 *e*P **P** 21 50 54.2 -0.4
comp=Z,28nm,0.7s
SBF **Sospel** 67.44 308 *e*P **P** 21 50 54.2 -0.4
SBF pmax pmax
comp=Z,28nm,0.7s
SBF **Sospel** 67.44 308 *e*P **P** 21 50 54.2 -0.4
comp=Z,28nm,0.7s
MBDF **Montbardon** 67.52 310 *e*P **P** 21 50 54.0 -1.1
comp=Z,15nm,0.7s
MBDF **Montbardon** 67.52 310 *e*P **P** 21 50 54.0 -1.1
MBDF pmax pmax
comp=Z,15nm,0.7s
MBDF **Montbardon** 67.52 310 *e*P **P** 21 50 54.0 -1.1
comp=Z,15nm,0.7s
IM04 **Indian Mountai** 67.58 25 *e*P **P** 21 50 54.2 -0.8
VSL **Villasalto** 67.97 304 *e*P **P** 21 50 57.2 -0.7
comp=Z,9.3nm,0.9s
ORIF **Oris-en-Rattie** 68.01 310 *e*P **P** 21 50 57.5 -0.7
comp=Z,30nm,0.8s
ORIF *e*R
comp=Z,160nm,20.5s
ORIF **Oris-en-Rattie** 68.01 310 *e*P **P** 21 50 57.5 -0.7
ORIF pmax pmax
comp=Z,30nm,0.8s
ORIF **Oris-en-Rattie** 68.01 310 *e*P **P** 21 50 57.5 -0.7
comp=Z,30nm,0.8s
FRF **La Foret Royal** 68.09 308 *e*P **P** 21 50 57.7 -0.9
comp=Z,20nm,1.2s
FRF **La Foret Royal** 68.09 308 *e*P **P** 21 50 57.7 -0.9
FRF pmax pmax
comp=Z,20nm,1.2s
FRF **La Foret Royal** 68.09 308 *e*P **P** 21 50 57.7 -0.9
comp=Z,20nm,1.2s
COLD **Coldfoot** 68.12 23 *e*P **P** 21 50 58.2 -0.1
comp=Z,4.5nm,0.8s
LOR **Lormes** 68.28 313 *e*P **P** 21 50 58.6 -1.1
comp=Z,18nm,1.1s
LOR *e*R
comp=Z,152nm,18.0s
LOR **Lormes** 68.28 313 *e*P **P** 21 50 58.6 -1.1
LOR pmax pmax
comp=Z,18nm,1.1s
LOR **Lormes** 68.28 313 *e*P **P** 21 50 58.6 -1.1
comp=Z,18nm,1.1s
LMR **La Mourre** 68.28 308 *e*P **P** 21 50 59.1 -0.7
comp=Z,22nm,1.0s
LMR **La Mourre** 68.28 308 *e*P **P** 21 50 59.1 -0.7
LMR pmax pmax
comp=Z,22nm,1.0s
LMR **La Mourre** 68.28 308 *e*P **P** 21 50 59.1 -0.7
comp=Z,22nm,1.0s
NWAO **Narrogin (SRO)** 68.50 161 P **P** 21 51 00.2 -0.8
NWAO pmax pmax
comp=Z,7.0nm,0.8s
NWAO **Narrogin (SRO)** 68.50 161 P **P** 21 51 00.2 -0.8
comp=Z,7.1nm,0.8s,baz=27,slow=6.8,SNR=3.9
SMF **Signal de Mont** 68.56 312 *e*P **P** 21 51 00.8 -0.7
comp=Z,24nm,0.9s
SMF **Signal de Mont** 68.56 312 *e*P **P** 21 51 00.8 -0.7
SMF pmax pmax
comp=Z,24nm,0.9s
SMF **Signal de Mont** 68.56 312 *e*P **P** 21 51 00.8 -0.7
comp=Z,24nm,0.9s
SSF **Saint Saulge** 68.58 313 *e*P **P** 21 51 00.9 -0.7
comp=Z,12nm,0.9s
SSF **Saint Saulge** 68.58 313 *e*P **P** 21 51 00.9 -0.7
SSF pmax pmax
comp=Z,12nm,0.9s
SSF **Saint Saulge** 68.58 313 *e*P **P** 21 51 00.9 -0.7
comp=Z,12nm,0.9s
SMRF **Simiane la Rot** 68.61 309 *e*P **P** 21 51 01.7 -0.2
comp=Z,17nm,1.2s
SMRF **Simiane la Rot** 68.61 309 *e*P **P** 21 51 01.7 -0.2
comp=Z,17nm,1.2s
ESK **Eskdalemuir** 68.66 323 *e*P **P** 21 51 01.5 -0.4
ESK pmax pmax
comp=Z,44nm,1.4s
ESK **Eskdalemuir** 68.66 323 *e*P **P** 21 51 01.4 -0.4
comp=Z,44nm,1.4s
AVF **Avril sur Loir** 68.80 313 *e*P **P** 21 51 02.3 -0.6
comp=Z,27nm,0.8s
AVF **Avril sur Loir** 68.80 313 *e*P **P** 21 51 02.3 -0.6
AVF pmax pmax
comp=Z,27nm,0.8s
AVF **Avril sur Loir** 68.80 313 *e*P **P** 21 51 02.3 -0.6
comp=Z,27nm,0.8s
VIVF **Saint-Julien-l** 68.81 310 *e*P **P** 21 51 02.5 -0.6
comp=Z,26nm,1.1s
VIVF **Saint-Julien-l** 68.81 310 *e*P **P** 21 51 02.5 -0.6
VIVF pmax pmax
comp=Z,26nm,1.1s
VIVF **Saint-Julien-l** 68.81 310 *e*P **P** 21 51 02.5 -0.6
comp=Z,26nm,1.1s
HYF **Humbligny** 69.02 313 *e*P **P** 21 51 04.2 -0.2
HYF **Humbligny** 69.02 313 *e*P **P** 21 51 04.2 -0.2
BGF **Bois d'Agland** 69.21 313 *e*P **P** 21 51 04.8 -0.7
comp=Z,28nm,1.0s
BGF **Bois d'Agland** 69.21 313 *e*P **P** 21 51 04.8 -0.7
BGF pmax pmax
comp=Z,28nm,1.0s
BGF **Bois d'Agland** 69.21 313 *e*P **P** 21 51 04.8 -0.7
comp=Z,28nm,1.0s
SVW2 **Sparrevohn** 69.44 30 *e*P **P** 21 51 07.7 +1.0
KEST **Kesra** 69.64 300 P **P** 21 51 07.5 -0.9
comp=Z,2.7nm,1.0s,baz=23,slow=7.7,SNR=7.3
KEST **Kesra** 69.64 300 *e*P **P** 21 51 08.1 -0.4
LASF **Ste Croix** 69.68 310 *e*P **P** 21 51 08.4 -0.1
comp=Z,20nm,0.9s
LASF **Ste Croix** 69.68 310 *e*P **P** 21 51 08.4 -0.1
comp=Z,20nm,0.9s
TCF **Toulx Ste Croi** 69.72 313 *e*P **P** 21 51 08.5 -0.2
comp=Z,35nm,0.9s
TCF **Toulx Ste Croi** 69.72 313 *e*P **P** 21 51 08.5 -0.2
TCF pmax pmax
comp=Z,35nm,0.9s
TCF **Toulx Ste Croi** 69.72 313 *e*P **P** 21 51 08.5 -0.2
comp=Z,35nm,0.9s
PPLA **Purkeypile** 69.82 27 *e*P **P** 21 51 09.8 +0.6
comp=Z,23nm,0.9s
KTH **Kantishna Hill** 69.93 26 *e*P **P** 21 51 10.4 +0.6
comp=Z,22nm,1.4s
LDF **La Druitiere** 70.08 315 *e*P **P** 21 51 10.2 -0.6
comp=Z,37nm,1.2s
LDF **La Druitiere** 70.08 315 *e*P **P** 21 51 10.2 -0.6
LDF pmax pmax
comp=Z,37nm,1.2s
LDF **La Druitiere** 70.08 315 *e*P **P** 21 51 10.2 -0.6
comp=Z,37nm,1.2s
FORT **Forrest** 70.14 152 *e*P **P** 21 51 08.5 -2.7
comp=Z,29nm,0.9s
SUMG **Summit** 70.16 347 *e*P **P** 21 51 14.0 +2.6
SUMG pmax pmax
comp=Z,188nm,3.0s
SUMG **Summit** 70.16 347 *e*P **P** 21 51 14.0 +2.6
comp=Z,188nm,3.0s
FLN **La Foliniere** 70.21 316 *e*P **P** 21 51 11.2 -0.4
FLN *e*R
comp=Z,268nm,18.2s
FLN **La Foliniere** 70.21 316 *e*P **P** 21 51 11.2 -0.4
FLN **La Foliniere** 70.21 316 *e*P **P** 21 51 11.2 -0.4
TRF **Thorofare Moun** 70.22 26 *e*P **P** 21 51 10.3 -1.3
comp=Z,68nm,2.2s
COLA **College** 70.26 24 *e*P **P** 21 51 12.0 +0.4
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA **College** 70.26 24 *e*P **P** 21 51 12.0 +0.4
comp=Z,9.2nm,0.8s
CAF **Calviac** 70.44 311 *e*P **P** 21 51 13.2 0.0
comp=Z,16nm,0.9s
CAF **Calviac** 70.44 311 *e*P **P** 21 51 13.2 0.0
CAF pmax pmax
comp=Z,16nm,0.9s
CAF **Calviac** 70.44 311 *e*P **P** 21 51 13.2 0.0
comp=Z,16nm,0.9s
MCK **McKinley** 70.55 25 *e*P P 21 51 19.9 +6.4
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK **McKinley** 70.55 25 *e*P P 21 51 19.9 +6.4
comp=Z,8.4nm,0.9s
GRR **Gorron** 70.61 316 *e*P **P** 21 51 13.5 -0.5
comp=Z,62nm,1.1s
GRR **Gorron** 70.61 316 *e*P **P** 21 51 13.5 -0.5
GRR pmax pmax
comp=Z,62nm,1.1s
GRR **Gorron** 70.61 316 *e*P **P** 21 51 13.5 -0.5
comp=Z,62nm,1.1s
RJF **Les Rejaudoux** 70.61 312 *e*P **P** 21 51 14.3 +0.2
comp=Z,27nm,1.0s
RJF *e*R
comp=Z,195nm,21.5s
RJF **Les Rejaudoux** 70.61 312 *e*P **P** 21 51 14.3 +0.2
RJF pmax pmax
comp=Z,27nm,1.0s
RJF **Les Rejaudoux** 70.61 312 *e*P **P** 21 51 14.3 +0.2
comp=Z,27nm,1.0s
ILAR **Eielson Array** 70.65 24 P **P** 21 51 13.0 -1.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR **Eielson Array** 70.65 24 P **P** 21 51 13.0 -1.1
comp=Z,1.2nm,0.7s,baz=295,slow=5.3,SNR=15
ILB **Eielson Array** 70.65 24 *e*P **P** 21 51 13.0 -1.1
CTAO **Charters Tower** 70.99 131 *e*P **P** 21 51 16.0 -0.7
CTAO pmax pmax
comp=Z,87nm,2.0s
CTAO **Charters Tower** 70.99 131 *e*P **P** 21 51 16.0 -0.7
comp=Z,87nm,2.0s
MFF **Saint Martin d** 71.02 314 *e*P **P** 21 51 16.0 -0.6
comp=Z,28nm,1.2s
MFF **Saint Martin d** 71.02 314 *e*P **P** 21 51 16.0 -0.6
MFF pmax pmax
comp=Z,28nm,1.2s
MFF **Saint Martin d** 71.02 314 *e*P **P** 21 51 16.0 -0.6
comp=Z,28nm,1.2s
MTLF **Montolieu** 71.08 310 *e*P **P** 21 51 16.7 -0.3
comp=Z,6.8nm,0.9s
MTLF **Montolieu** 71.08 310 *e*P **P** 21 51 16.7 -0.3
MTLF pmax pmax
comp=Z,7.0nm,0.9s
MTLF **Montolieu** 71.08 310 *e*P **P** 21 51 16.7 -0.3
comp=Z,6.8nm,0.9s
LFF **La Frestale** 71.26 312 *e*P **P** 21 51 18.2 +0.1
comp=Z,25nm,1.0s
LFF **La Frestale** 71.26 312 *e*P **P** 21 51 18.2 +0.1
LFF pmax pmax
comp=Z,25nm,1.0s
LFF **La Frestale** 71.26 312 *e*P **P** 21 51 18.2 +0.1
comp=Z,25nm,1.0s
DYA **Yadsworthy** 71.38 318 *e*P P 21 51 15.0 -3.7
comp=Z,43nm,1.3s
SGMF **Saint Gilles** 71.67 316 *e*P **P** 21 51 20.3 -0.2
comp=Z,100nm,1.3s
SGMF **Saint Gilles** 71.67 316 *e*P **P** 21 51 20.3 -0.2
SGMF pmax pmax
comp=Z,100nm,1.3s
SGMF **Saint Gilles** 71.67 316 *e*P **P** 21 51 20.3 -0.2
comp=Z,100nm,1.3s
PMR **Palmer** 71.75 27 *e*P **P** 21 51 20.8 +0.1
PMR pmax pmax
comp=Z,16nm,0.7s
PMR **Palmer** 71.75 27 *e*P **P** 21 51 20.8 +0.1
comp=Z,16nm,0.7s
ROSF **Rostrenen** 72.04 316 *e*P **P** 21 51 22.8 +0.1
comp=Z,61nm,1.1s
ROSF **Rostrenen** 72.04 316 *e*P **P** 21 51 22.8 +0.1
ROSF pmax pmax
comp=Z,61nm,1.1s
ROSF **Rostrenen** 72.04 316 *e*P **P** 21 51 22.8 +0.1
comp=Z,61nm,1.1s
QUIF **Quistinic** 72.19 316 *e*P **P** 21 51 23.3 -0.3
comp=Z,124nm,1.5s
QUIF **Quistinic** 72.19 316 *e*P **P** 21 51 23.3 -0.3
QUIF pmax pmax
comp=Z,124nm,1.5s
QUIF **Quistinic** 72.19 316 *e*P **P** 21 51 23.3 -0.3
comp=Z,124nm,1.5s
RES **Resolute Bay** 72.19 3 *e*P **P** 21 51 24.4 +1.2
RES pmax pmax
comp=Z,14nm,1.5s
RES **Resolute Bay** 72.19 3 *e*P **P** 21 51 24.4 +1.2
comp=Z,14nm,1.5s
INK **Inuvik** 72.23 17 P **P** 21 51 23.6 +0.1
INK pmax pmax
comp=Z,2.0nm,0.8s
INK **Inuvik** 72.23 17 P **P** 21 51 23.6 +0.1
comp=Z,2.0nm,0.8s,baz=331,slow=8.4,SNR=7.9
PAX **Paxson** 72.26 25 *e*P **P** 21 51 21.5 -2.4
PAX pmax pmax
comp=Z,80nm,2.5s
PAX **Paxson** 72.26 25 *e*P **P** 21 51 21.5 -2.4
comp=Z,80nm,2.5s
DOT **Dot Lake** 72.32 24 *e*P **P** 21 51 23.4 -0.8
comp=Z,53nm,2.4s
EPF **Esparros** 72.43 310 *e*P **P** 21 51 24.2 -1.0
comp=Z,13nm,1.0s
EPF **Esparros** 72.43 310 *e*P **P** 21 51 24.2 -1.0
EPF pmax pmax
comp=Z,13nm,1.0s
EPF **Esparros** 72.43 310 *e*P **P** 21 51 24.2 -1.0
comp=Z,13nm,1.0s
KDAK **Kodiak Island** 72.54 32 *e*P **P** 21 51 23.5 -2.0
KDAK pmax pmax
comp=Z,353nm,2.8s
KDAK **Kodiak Island** 72.54 32 *e*P **P** 21 51 23.4 -2.0
comp=Z,353nm,2.8s
MENT **Mentasta** 72.90 25 *e*P **P** 21 51 25.6 -2.0
ETSF **Etsaut** 73.07 310 *e*P **P** 21 51 29.1 0.0
comp=Z,26nm,0.9s
ETSF **Etsaut** 73.07 310 *e*P **P** 21 51 29.1 0.0
ETSF pmax pmax
comp=Z,26nm,0.9s
ETSF **Etsaut** 73.07 310 *e*P **P** 21 51 29.1 0.0
comp=Z,26nm,0.9s
SJPF **Ste Jean** 73.39 311 *e*P **P** 21 51 31.2 +0.3
comp=Z,42nm,1.2s
SJPF **Ste Jean** 73.39 311 *e*P **P** 21 51 31.2 +0.3
SJPF pmax pmax
comp=Z,42nm,1.2s
SJPF **Ste Jean** 73.39 311 *e*P **P** 21 51 31.2 +0.3
comp=Z,42nm,1.2s
DAWY **Dawson** 73.59 22 *e*P **P** 21 51 31.9 +0.1
comp=Z,6.1nm,0.9s
BBOO **Buckleboo** 75.35 146 *e*P **P** 21 51 41.4 -0.8
comp=Z,1.6nm,1.3s
HYT **Haines Junctio** 76.50 24 *e*P **P** 21 51 48.5 -0.1
ESDC **Sonseca Array** 76.92 309 P **P** 21 51 51.2 -0.1
comp=Z,3.7nm,0.9s,baz=48,slow=6.1,SNR=11
SFJD **Kangerlussuaq** 77.14 347 *e*P **P** 21 51 50.9 -1.0
SFJD pmax pmax
comp=Z,526nm,2.8s
SFJD **Kangerlussuaq** 77.14 347 *e*P **P** 21 51 50.9 -1.0
comp=Z,526nm,2.8s
STKA **Stephens Creek** 77.31 142 *e*P **P** 21 51 53.3 0.0
STKA **Stephens Creek** 77.31 142 P **P** 21 51 53.1 -0.2
comp=Z,9.1nm,1.0s,baz=321,slow=5.5,SNR=12
STKA **Stephens Creek** 77.31 142 *e*P **P** 21 51 53.3 0.0

EIDS	**Eidsvold**	**77.87**	**131**	*e*P		**P**	**21 51 53.5**	**-3.1**
	comp=Z,30nm,1.3s								
EVO	**Evora**	**80.18**	**310**	*e*P		**P**	**21 52 09.3**	**0.0**
	comp=Z,55nm,1.5s								
EVO				*e*R					
	comp=Z,88nm,18.5s								
EVOP	**Sao Brissos**	**80.26**	**310**	*e*P		**P**	**21 52 09.3**	**-0.4**
EVOP				pmax	pmax				
	comp=Z,55nm,1.5s								
EVOP	**Sao Brissos**	**80.26**	**310**	*e*P		**P**	**21 52 09.3**	**-0.4**
	comp=Z,55nm,1.5s								
LSZ	**Lusaka**	**81.11**	**245**	*e*P		**P**	**21 52 14.1**	**-0.6**
LSZ				pmax	pmax				
	comp=Z,5.0nm,0.7s								
LSZ	**Lusaka**	**81.11**	**245**	*e*P		**P**	**21 52 14.1**	**-0.6**
	comp=Z,5.4nm,0.7s								
YKA	**Yellowknife Ar**	**81.44**	**14**	P		**P**	**21 52 14.5**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=325,slow=4.7,SNR=19								
YKB5	**Yellowknife Ar**	**81.44**	**14**	*e*P		**P**	**21 52 14.6**	**-1.0**
ARMA	**Armidale**	**81.82**	**134**	*e*P		**P**	**21 52 16.1**	**-2.0**
	comp=Z,290nm,2.8s								
TOA0	**Torodi Ar. Sit**	**87.03**	**284**	*e*P		**P**	**21 52 43.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**87.03**	**284**	P		**P**	**21 52 43.9**	**-0.8**
	comp=Z,5.8nm,0.9s,baz=48,slow=4.8,SNR=22								
TORD				LR		LR	22 34 30.9		
	comp=Z,52nm,18.9s,baz=85,slow=38								
LBTB	**Lobatse**	**88.96**	**239**	*e*P		**P**	**21 52 52.4**	**-1.4**
LBTB				pmax	pmax				
	comp=Z,111nm,3.0s								
LBTB	**Lobatse**	**88.96**	**239**	*e*P		**P**	**21 52 52.4**	**-1.4**
	comp=Z,111nm,3.0s								
SCHQ	**Schefferville**	**91.26**	**351**	*e*P		P	21 52 58.7	-5.4
	comp=Z,96nm,2.8s								
T25A	**Trinidad**	**107.38**	**18**	*e*PKiKP		**PKiKP**	**21 58 25.0**	**-0.8**
URVA	**University of**	**109.46**	**355**	*e*PKiKP		**PKiKP**	**21 58 33.0**	**+3.5**
SWET	**Sewanee**	**111.97**	**2**	*e*PKiKP		**PKiKP**	**21 58 39.3**	**+5.0**
LTX	**Lajitas**	**114.96**	**20**	*e*PKiKP		PKPdf	21 58 37.6	-2.7
LTX	**Lajitas**	**114.96**	**20**	*e*PKiKP		**PKiKP**	**21 58 37.6**	**-2.6**
TXAR	**Lajitas Array**	**114.96**	**20**	PKP		PKPdf	21 58 37.6	-2.6
	comp=Z,0.2nm,0.5s,baz=57,slow=3.3,SNR=3.8								

NIED **13** *21:43:00,23.˚40N×123.˚70E,h8km,Mw4.7 Best double couple: M0 1.07000×10^16 NP1:φs=220.00000°,δ82.00000°, λ-180.00000°. NP2:φs=130.00000°,δ90.00000°, λ-8.00000°.*

BJI **13** *21:43:52.9,23.˚63N×123.˚55E,h14km,mB5.0/34,mb4.6/44, ML4.5/1,Ms4.4/33,Ms7 4.1/32*

JMA **13** *21:43:53.6±0.2,23.˚41N×123.˚66E,h49km±3km,M4.8*

ISCJB **13** *21:43:53.1±0.7,23.˚45N±0.˚03×123.˚62E±0.˚02,h27km±4km, mb4.7/84,MS4.0/8,Error ellipse: s-maj=5.5km s-min=2.7km az=157.8*

IDC **13** *21:43:54.5±0.6,24.˚15N×123.˚47E,h0km,mb4.4/29, mb1 4.5/31,mb1mx4.4/52,mbtmp4.4/31,ML4.1/2,MS3.6/3, Ms1 3.7/3,ms1mx3.0/35,Error ellipse: s-maj=14.5km s-min=14.4km az=72.0*

NEIC **13** *21:43:56.2±0.3,23.˚49N×123.˚54E,h35km,mb5.0/39, MW4.6(NIED),Error ellipse: s-maj=8.8km s-min=5.4km az=158.0*

MOS **13** *21:43:58.5±1.2,24.˚20N×123.˚54E,h33km,mb5.0/31, MS4.2/5,Error ellipse: s-maj=10.7km s-min=5.6km az=106.8*

ISC 13 21:43:55.2±0.5**,23.˚48N**±0.˚04×**123.˚63E**±0.˚03**,h29**km±2km**, h29km:pP-P,n271,σ1§84/306,mb4.8/84,MS4.0/9,22C-17D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.60**	**16**	P		**Pb**	**21 44 06.8**	**-0.4**
HATJ				S		**Sn**	**21 44 16.3**	**-0.2**
JKRS	**Kuro-shima**	**0.83**	**25**	P		**Pn**	**21 44 10.2**	**-0.7**
JKRS				S		**Sn**	**21 44 22.5**	**+0.3**
IRIF	**Iriomote-Funau**	**0.86**	**6**	P		**Pn**	**21 44 10.7**	**-0.6**
IRIF				S		**Sn**	**21 44 23.0**	**+0.1**
JIJ	**Ishigaki jima**	**1.00**	**28**	P		**Pn**	**21 44 12.2**	**-1.0**
JIJ				S		**Sn**	**21 44 25.1**	**-1.3**
YOJ	**Yonaguni jima**	**1.13**	**330**	*e*P		**Pn**	**21 44 14.3**	**-0.8**
YOJ				*e*			21 44 26.4		
YOJ	**Yonaguni jima**	**1.13**	**330**	P		**Pn**	**21 44 14.7**	**-0.4**
YOJ				S		**Sb**	**21 44 29.2**	**-1.3**
YOJ	**Yonaguni jima**	**1.13**	**330**	*e*Pn		**Pn**	**21 44 14.3**	**-0.8**
YOJ				*e*Sn		**Sn**	**21 44 26.4**	**-3.2**
JYNG	**Yonagunijimaku**	**1.15**	**327**	P		**Pn**	**21 44 15.1**	**-0.3**
JYNG				S		**Sb**	**21 44 30.0**	**-1.2**
JISG	**Ishigakijimahi**	**1.27**	**29**	P		**Pn**	**21 44 15.8**	**-1.1**
JISG				S		**Sn**	**21 44 32.6**	**-0.4**
JTJ	**Tarama**	**1.52**	**40**	P		**Pn**	**21 44 19.7**	**-0.7**
JTJ				*e*S		**Sn**	**21 44 38.6**	**-0.5**
JIRB	**Irabujima**	**1.95**	**46**	P		**Pn**	**21 44 25.4**	**-0.9**
JIRB				S		**Sn**	**21 44 48.9**	**-0.9**
NACB	**Ninganchiao**	**1.99**	**291**	*e*Pn		**Pn**	**21 44 24.8**	**-2.0**
NACB				*e*Sn		Sn	21 44 44.3	-6.5
JMJ	**Miyako jima 2**	**2.02**	**48**	P		**Pn**	**21 44 26.4**	**-0.9**
JMJ				S		**Sn**	**21 44 51.2**	**-0.3**
JIKM	**Ikemajima**	**2.06**	**45**	P		**Pn**	**21 44 27.1**	**-0.8**
JIKM				*e*S		**Sn**	**21 44 51.6**	**-1.0**
JOGS	**Gusukube**	**2.06**	**51**	P		**Pn**	**21 44 27.2**	**-0.7**
JOGS				*e*S		**Sn**	**21 44 52.4**	**-0.3**
YULB	**Yu-li**	**2.14**	**268**	*e*Pn		**Pn**	**21 44 26.5**	**-2.5**
YULB				*e*Sn		Sn	21 44 46.1	-8.6
YHNB	**Yeheng**	**2.38**	**300**	*e*Pn		**Pn**	**21 44 31.9**	**-0.4**
YHNB				*e*Sn		Sn	21 44 53.4	-7.2
TWG	**Pinlang**	**2.44**	**255**	*e*Pn		**Pn**	**21 44 30.1**	**-3.0**
TWG				*e*Sn		**Sn**	**21 44 59.3**	**-2.7**
TATO	**Taipei**	**2.46**	**308**	*e*Pn		**Pn**	**21 44 33.6**	**+0.3**
TATO				*e*Sn		**Sn**	**21 45 00.4**	**-2.0**
SSLB	**Suanglung**	**2.47**	**278**	*e*Pn		**Pn**	**21 44 31.9**	**-1.6**
SSLB				*e*Sn		**Sn**	**21 45 00.7**	**-2.1**
TPUB	**Ta-pu**	**2.76**	**267**	*e*Pn		**Pn**	**21 44 36.8**	**-0.7**
TPUB				*e*Sn		**Sn**	**21 45 09.8**	**-0.2**
JKE	**Kume jima 2**	**4.03**	**45**	P		**Pn**	**21 44 52.5**	**-2.4**
JKE				*e*S		**Sn**	**21 45 38.8**	**-2.4**
JAGN	**Aguni-jima**	**4.51**	**46**	P		**Pn**	**21 44 59.6**	**-1.9**
JJT2	**Tamagusuku 2**	**4.59**	**54**	P		**Pn**	**21 45 01.2**	**-1.4**
QZH	**Quanzhou**	**4.83**	**289**	*i*Pn		**Pn**	**21 45 04.3**	**-1.5**
QZH				Sn		**Sn**	**21 45 55.4**	**-5.4**
QZH				SMN				
	720nm,0.5s							
QZH				SME				
	620nm,0.5s							
QZH				LN				
	2μm,7.3s							
QZH				LE				
	4μm,11.8s							
QZH				LZ				
	4μm,12.4s							
JNTH	**Nagotoyohara**	**5.00**	**52**	P		**Pn**	**21 45 05.8**	**-2.5**
JIH	**Iheya**	**5.29**	**47**	P		**Pn**	**21 45 10.7**	**-1.5**
JOW	**Kunigami**	**5.37**	**51**	P		**Pn**	**21 45 10.6**	**-2.8**
JOW	**Kunigami**	**5.37**	**51**	Pn		**Pn**	**21 45 10.8**	**-2.6**
	baz=97,slow=18							
JOW	**Kunigami**	**5.37**	**51**	Pn		**Pn**	**21 45 10.8**	**-2.6**
JOW				*e*Sn		**Sn**	**21 46 10.8**	**-3.5**
JOKE	**Okinoerabujima**	**5.91**	**48**	P		Pn	21 45 17.3	-3.5
JTK	**Tokunoshima**	**6.44**	**47**	P		**Pn**	**21 45 25.5**	**-2.5**
JTK				*e*S		**Sn**	**21 46 40.6**	**+0.1**
JAMN	**Amaminishikomi**	**6.89**	**45**	P		Pn	21 45 30.5	-3.7
JAM	**Amami Oshima**	**7.28**	**46**	P		Pn	21 45 35.8	-3.8
JMZ	**Minamidaito 2**	**7.29**	**70**	P		Pn	21 45 35.3	-4.4
GZH	**Guangzhou**	**9.46**	**270**	P		Pn	21 46 04.5	-5.1
GZH				S		**Sn**	**21 47 52.3**	**-2.7**
GZH				LR		LR		
	comp=N,4μm,11.0s							
GZH				LR		LR		
	comp=E,3μm,9.6s							
NJ2	**Nanjing**	**9.53**	**335**	*e*P		**Pn**	**21 46 11.6**	**+1.2**
JNU	**Nakatsue**	**11.53**	**32**	Pn		**Pn**	**21 46 35.1**	**-2.8**
	comp=E,0.9nm,0.3s,baz=216,slow=16,SNR=6.6							
QIZ	**Qiongzhong**	**13.59**	**254**	P		**Pn**	**21 47 04.9**	**-1.2**
QIZ				S		**Sn**	**21 49 34.6**	**-1.6**
QIZ				LN				
	comp=E,2μm,14.1s							
QIZ				LZ				
	comp=E,3μm,11.2s							
QIZ	**Qiongzhong**	**13.59**	**254**	*e*Pn		**Pn**	**21 47 05.5**	**-0.5**
KS15	**Wonju Array Si**	**14.39**	**14**	*e*Pn		**Pn**	**21 47 15.6**	**-1.3**
KSAR	**Wonju Array Be**	**14.39**	**14**	P		**Pn**	**21 47 15.6**	**-1.3**
KSAR	**Wonju Array Be**	**14.39**	**14**	Pn		**Pn**	**21 47 15.6**	**-1.3**
KSRS	**Korea Array**	**14.41**	**14**	Pn		**Pn**	**21 47 15.6**	**-1.6**
	comp=E,0.7nm,0.3s,baz=191,slow=12,SNR=12							

GYA	**Guiyang**	**15.67**	**284**	*i*P		**Pn**	**21 47 31.8**	**-2.3**
GYA				pP		**P**	**21 47 39.0**	**+1.1**
GYA				PP		**pP**	**21 47 45.3**	**-0.4**
GYA				S		**Sn**	**21 50 25.0**	**-1.9**
GYA				sS		**S**	**21 50 34.3**	**-7.1**
GYA				SS		**SnSn**	**21 50 45.6**	**+5.8**
GYA				PMZ				
	comp=E,30nm,0.8s							
GYA				PMZ				
	comp=E,140nm,4.8s							
GYA				LN				
	comp=E,4μm,13.4s							
GYA				LE				
	comp=E,4μm,14.0s							
GYA				LZ				
	comp=E,5μm,12.1s							
DAV	**Davao City (W)**	**16.42**	**173**	*e*Pn		Pn	21 47 36.3	-7.4
	comp=E,341nm,0.4s							
BJI	**Beijing**	**17.68**	**341**	P		**Pn**	**21 47 58.9**	**-0.2**
BJI				PMZ				
	comp=E,19nm,1.0s							
BJI				PMZ				
	comp=E,210nm,4.4s							
MAJO	**Matsushiro**	**18.11**	**41**	*e*P		**P**	**21 48 05.8**	**+1.1**
MAJO				pmax	pmax			
	comp=Z,95nm,0.7s							
MAJO	**Matsushiro**	**18.11**	**41**	*e*Pn		**P**	**21 48 05.5**	**+0.8**
	comp=E,152nm,2.0s							
MAT	**Matsushiro**	**18.11**	**41**	P		**Pn**	**21 48 04.1**	**-0.4**
MAT				S		**Sn**	**21 51 24.4**	**-1.3**
MJAR	**Matsushiro Arr**	**18.11**	**41**	P		**Pn**	**21 48 04.2**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=225,slow=9.0,SNR=28							
KMI	**Kunming**	**19.11**	**279**	P		**Pn**	**21 48 18.3**	**+1.3**
KMI				pP		**pP**	**21 48 26.3**	**+2.4**
KMI				sP		**sP**	**21 48 29.9**	**+2.2**
KMI				S		**Sn**	**21 51 43.9**	**-6.6**
KMI				SS		**SnSn**	**21 52 08.8**	**+4.2**
KMI				PMZ				
	comp=E,15nm,1.5s							
KMI				PMZ				
	comp=E,250nm,4.4s							
KMI				LN				
	comp=Z,1μm,18.0s							
KMI				LE				
	comp=Z,430nm,13.0s							
KMI				LZ				
	comp=Z,490nm,17.1s							
CD2	**Chengdu**	**19.15**	**297**	*e*P		**Pn**	**21 48 17.3**	**0.0**
CD2				pP		**pP**	**21 48 22.9**	**-1.2**
CD2				sP		**sP**	**21 48 26.9**	**-1.0**
CD2				PP		**PnPn**	**21 48 33.9**	**+3.6**
CD2				S		**Sn**	**21 51 45.4**	**-5.7**
CD2				sS		**S**	**21 51 54.5**	**+2.8**
CD2				SS		**SnSn**	**21 52 11.1**	**+5.9**
CD2				PMZ				
	comp=Z,30nm,0.5s							
CD2				PMZ				
	comp=Z,340nm,5.4s							
CD2				LN				
	comp=Z,970nm,18.6s							
CD2				LE				
	comp=Z,680nm,18.6s							
CD2				LZ				
	comp=Z,640nm,15.2s							
HHC	**Hu-ho-hao-te**	**20.07**	**332**	*e*P		Pn	21 48 30.5	+2.2
HHC				PMZ				
	comp=Z,39nm,1.5s							
HHC				PMZ				
	comp=Z,460nm,3.7s							
HHC				LN				
	comp=Z,530nm,14.9s							
HHC				LE				
	comp=Z,380nm,13.0s							
HHC				LZ				
	comp=Z,450nm,14.9s							
CN2	**Changchun**	**20.33**	**4**	*e*P		**P**	**21 48 28.3**	**-0.6**
CN2				*e*PP		**PnPn**	**21 48 49.3**	**+3.0**
CN2				*e*S		**S**	**21 52 11.8**	**-3.4**
CN2				PMZ				
	comp=Z,60nm,0.9s							
CN2				PMZ				
	comp=Z,200nm,3.0s							
CN2				LN				
	comp=Z,2μm,17.0s							
CN2				LE				
	comp=Z,500nm,17.0s							
CN2				LZ				
	comp=Z,700nm,18.0s							
LZH	**Lanzhou**	**21.23**	**311**	*e*P		**P**	**21 48 40.8**	**+1.9**
LZH				pP		**pP**	**21 48 48.8**	**+1.9**
LZH				PMZ				
	comp=Z,32nm,1.0s							
LZH				PMZ				
	comp=Z,260nm,5.8s							
MDJ	**Mudanjiang**	**21.64**	**12**	P		**P**	**21 48 42.9**	**-0.2**
MDJ				PMZ				
	comp=Z,15nm,0.9s							
MDJ				PMZ				
	comp=Z,130nm,3.5s							
MDJ				LE				
	comp=Z,1μm,16.7s							
MDJ				LZ				
	comp=Z,800nm,13.0s							
MDJ	**Mudanjiang**	**21.64**	**12**	*e*P		P	21 48 35.5	-7.6
	comp=Z,160nm,2.3s							
USRK	**Ussuriysk Ar.**	**21.78**	**16**	P		**P**	**21 48 41.6**	**-2.9**
	comp=Z,4.2nm,0.7s,baz=197,slow=11,SNR=8.2							
CM31	**Chiang Mai Arr**	**23.57**	**262**	*e*P		**P**	**21 49 05.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**23.57**	**262**	*ce*P		P	21 49 12.6	+9.1
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**23.57**	**262**	P		**P**	**21 49 05.5**	**+2.0**
	comp=Z,2.9nm,0.9s,baz=61,slow=7.8,SNR=12							
CMAR				LR		LR	21 58 01.8		
	comp=Z,227nm,21.6s,baz=72,slow=36							
SBUM	**Sibu**	**23.64**	**210**	*e*P		**P**	**21 49 02.8**	**-1.4**
	comp=Z,14nm,1.0s							
ERM	**Erimo**	**24.63**	**37**	*e*P		**P**	**21 49 10.4**	**-2.6**
ERM				pmax	pmax			
	comp=Z,1μm,2.9s							
ERM	**Erimo**	**24.63**	**37**	*e*P		**P**	**21 49 10.4**	**-2.6**
	comp=Z,1μm,2.9s							
KSM	**Kuching**	**25.40**	**212**	*e*P		**P**	**21 49 19.6**	**-0.7**
	comp=Z,16nm,1.2s							
GTA	**Gaotai**	**25.68**	**314**	*e*P		**P**	**21 49 24.3**	**+1.5**
GTA				pP		**pP**	**21 49 31.3**	**0.0**
GTA				sP		**sP**	**21 49 35.1**	**+0.2**
GTA				S		**S**	**21 53 48.8**	**-0.8**
GTA				sS		**sS**	**21 54 00.5**	**-3.2**
GTA				SS		**SnSn**	**21 54 53.4**	**+8.1**
GTA				PMZ				
	comp=E,3.0nm,0.8s							
GTA				PMZ				
	comp=Z,210nm,5.5s							
GTA				LN				
	comp=Z,550nm,21.9s							
GTA				LE				
	comp=Z,500nm,19.0s							
GTA				LZ				
	comp=Z,240nm,15.9s							
ASAJ	**Asahikawa**	**25.81**	**33**	P		**P**	**21 49 23.6**	**-0.1**
	comp=Z,41nm,0.8s,baz=218,slow=14,SNR=13							
YUK	**Yuzh-Kuril'sk**	**27.45**	**36**	*c i*P		P	21 49 33.6	-4.9
YUK				*e*S		**S**	**21 54 10.8**	**-6.4**
YUK				MLR	MLR			
	comp=N,5μm,22.0s							
YUK				MLR	MLR			
	comp=E,3μm,22.0s							
YUK				MLR	MLR			
	comp=Z,1μm,22.0s							
ULN	**Ulaanbaatar**	**27.69**	**336**	*i*P		**P**	**21 49 39.9**	**-1.0**
ULN				pmax	pmax			
	comp=Z,12nm,1.7s							
ULN	**Ulaanbaatar**	**27.69**	**336**	*e*P		**P**	**21 49 38.9**	**-1.9**
	comp=Z,94nm,2.7s							
SONA0	**Songino Array**	**27.92**	**335**	*e*P		**P**	**21 49 41.7**	**-1.2**
SONM	**Songino Array**	**27.92**	**335**	P		**P**	**21 49 41.7**	**-1.2**
	comp=Z,12nm,1.0s,baz=152,slow=9.6,SNR=22							
YSS	**Yuzh-Sakhalins**	**28.01**	**29**	*e*P		**P**	**21 49 43.2**	**-0.3**
YSS				pmax	pmax			
	comp=Z,91nm,1.7s							
MYKOM	**Kota Tinggi**	**28.85**	**225**	*e*P		**P**	**21 49 50.1**	**-1.1**
	comp=Z,16nm,0.9s							
IPM	**Ipoh**	**28.86**	**233**	*e*P		**P**	**21 49 50.0**	**-1.4**
	comp=Z,23nm,1.2s							
TLY	**Talaya**	**32.09**	**336**	*e*P		**P**	**21 50 18.8**	**-0.8**

TLY				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TLY				MLR	MLR			
	comp=Z,197nm,16.0s							
TLY	**Talaya**	**32.09**	**336**	P		**P**	**21 50 17.8**	**-1.7**
	comp=Z,5.9nm,0.6s,baz=104,slow=7.0,SNR=4.7							
TAPN	**Taplejung**	**32.60**	**284**	*e*P		**P**	**21 50 25.6**	**+0.9**
	comp=Z,24nm,0.8s							
ODAN	**Odare**	**32.90**	**284**	*e*P		**P**	**21 50 27.7**	**+0.4**
	comp=Z,16nm,0.8s							
RAMN	**Ramite**	**33.60**	**284**	*e*P		**P**	**21 50 34.1**	**+0.7**
JIRN	**Jiri**	**33.94**	**285**	*e*P		**P**	**21 50 36.0**	**-0.5**
GUN	**Gumba**	**34.21**	**286**	*e*P		**P**	**21 50 39.3**	**+0.5**
	comp=Z,34nm,1.0s							
PKI	**Pulchoki**	**34.64**	**285**	*e*P		**P**	**21 50 42.0**	**-0.5**
PKIN	**Phulchoki**	**34.65**	**285**	*e*P		**P**	**21 50 42.3**	**-0.2**
KKN	**Kakani**	**34.75**	**285**	*e*P		**P**	**21 50 43.4**	**+0.1**
	comp=Z,20nm,0.8s							
BOD	**Bodaibo**	**35.01**	**351**	*e*P		**P**	**21 50 43.0**	**-1.8**
BOD				pmax	pmax			
	comp=Z,7.0nm,0.8s							
GKN	**Gorkha**	**35.31**	**286**	*e*P		**P**	**21 50 47.8**	**-0.3**
	comp=Z,19nm,0.9s							
WMQ	**Urumqi**	**35.76**	**313**	*e*P		**P**	**21 50 53.6**	**+2.0**
WMQ				pP		**pP**	**21 51 01.0**	**+0.7**
WMQ				sP		**sP**	**21 51 04.0**	**+0.1**
WMQ				PP		**PP**	**21 52 14.0**	**+0.9**
WMQ				*e*S		**S**	**21 56 27.0**	**0.0**
WMQ				PMZ				
	comp=Z,8.0nm,0.5s							
WMQ				PMZ				
	comp=Z,170nm,7.0s							
WMQ				LN				
	comp=Z,850nm,22.0s							
WMQ				LE				
	comp=Z,530nm,21.3s							
WMQ				LZ				
	comp=Z,640nm,25.8s							
DANN	**Dangsing**	**36.07**	**286**	*e*P		**P**	**21 50 55.0**	**+0.2**
	comp=Z,30nm,1.0s							
KOLN	**Koldanda**	**36.23**	**285**	*e*P		**P**	**21 50 56.1**	**0.0**
	comp=Z,14nm,0.8s							
PYUN	**Piuthan**	**36.76**	**286**	*e*P		**P**	**21 51 00.9**	**+0.4**
	comp=Z,36nm,0.7s							
YAK	**Yakutsk**	**38.76**	**5**	*i*P		**P**	**21 51 16.4**	**-0.2**
YAK				pmax	pmax			
	comp=Z,18nm,0.6s							
PETK	**Petropavlovsk-**	**39.23**	**32**	P		**P**	**21 51 20.4**	**-0.3**
	comp=Z,5.7nm,0.6s,baz=190,slow=4.5,SNR=7.9							
PEA2	**Petropavlovsk-**	**39.23**	**32**	*e*P		**P**	**21 51 20.4**	**-0.4**
PET	**Petropavlovsk**	**39.66**	**33**	*e*P		**P**	**21 51 23.8**	**-0.5**
PET				*e*S		**S**	**21 57 26.7**	**+1.1**
PET				pmax	pmax			
	comp=Z,92nm,0.8s							
PET				MLR	MLR			
	comp=Z,300nm,22.0s							
PET				MLR	MLR			
	comp=Z,400nm,19.0s							
MK32	**Makanchi Array**	**40.41**	**316**	*e*P		**P**	**21 51 30.5**	**-0.2**
MKAR	**Makanchi Array**	**40.41**	**316**	P		**P**	**21 51 30.5**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=99,slow=9.2,SNR=40							
COEN	**Coen**	**41.83**	**151**	*e*P		**P**	**21 51 43.1**	**+0.4**
	comp=Z,30nm,0.9s							
ZALV	**Zalesovo Beam**	**42.06**	**326**	P		**P**	**21 51 42.8**	**-1.3**
	comp=Z,5.9nm,0.5s,baz=116,slow=8.2,SNR=30							
ZALV				LR		LR	22 10 36.1		
	comp=Z,95nm,18.0s,baz=70,slow=39							
ZAA1	**Zalesovo Array**	**42.06**	**326**	*e*P		**P**	**21 51 42.8**	**-1.4**
KSH	**Kashi**	**43.16**	**303**	P		P	21 51 57.3	+3.9
KSH				sP		sP	21 52 08.0	+2.2
KSH				S		**S**	**21 58 23.5**	**+5.2**
KSH				sS		sS	21 58 35.9	+3.2
KSH				SS		**SS**	**22 01 30.5**	**-0.9**
KSH				ScS		**ScS**	**22 01 53.1**	**+1.1**
KSH				PMZ				
	comp=Z,10.0nm,1.1s							
KSH				PMZ				
	comp=Z,470nm,9.8s							
KSH				LN				
	comp=Z,210nm,7.4s							
KSH				LE				
	comp=Z,130nm,6.2s							
KSH				LZ				
	comp=Z,290nm,12.3s							
SEY	**Seymchan**	**43.90**	**19**	P		**P**	**21 51 58.6**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=60,slow=20							
TKM2	**Tokmak 2**	**43.96**	**308**	*e*P		**P**	**21 52 01.5**	**+1.5**
TKM2				pmax	pmax			
	comp=Z,8.0nm,0.7s							
TKM2	**Tokmak 2**	**43.96**	**308**	*e*P		**P**	**21 52 01.5**	**+1.5**
	comp=Z,8.0nm,0.7s							
KURK	**Kurchatov**	**44.07**	**320**	*e*P		**P**	**21 51 59.9**	**-0.5**
KURK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KURK	**Kurchatov**	**44.07**	**320**	*e*P		**P**	**21 51 59.9**	**-0.5**
	comp=Z,8.6nm,1.0s							
KURBB	**Kurchatov Arra**	**44.09**	**320**	P		**P**	**21 52 00.1**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=115,slow=8.9,SNR=22							
WRAB	**Tennant Creek**	**44.40**	**166**	*i*P		P	21 52 16.3	+13
WRAB				pmax	pmax			
	comp=Z,75nm,2.5s							
WRA	**Warramunga Arr**	**44.40**	**166**	P		P	21 52 12.9	+10
	comp=Z,8.0nm,0.8s,baz=348,slow=8.6,SNR=10.0							
AAK	**Ala-Archa**	**44.71**	**308**	*e*P		**P**	**21 52 08.1**	**+2.2**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AAK	**Ala-Archa**	**44.71**	**308**	P		**P**	**21 52 07.2**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=128,slow=5.3,SNR=9.9							
AAK	**Ala-Archa**	**44.71**	**308**	*e*P		**P**	**21 52 07.0**	**+1.0**
	comp=Z,7.0nm,1.2s							
EKS2	**Erkin-Say**	**45.24**	**307**	*e*P		**P**	**21 52 11.8**	**+1.8**
EKS2				pmax	pmax			
	comp=Z,5.0nm,0.9s							
EKS2	**Erkin-Say**	**45.24**	**307**	*e*P		**P**	**21 52 11.8**	**+1.8**
	comp=Z,4.9nm,0.9s							
KKAR	**Karatay Array**	**47.68**	**308**	*e*P		**P**	**21 52 29.3**	**+0.3**
KKAR	**Karatay Array**	**47.68**	**308**

OHAK	Old Harbor	66.89	36	*e*P		P		21 54 43.7	-0.7
ZEI	Tsey	67.13	308	*e*P		P		21 54 48.4	+1.9
ZEI	comp=Z,17nm,1.4s			pmax		pmax			
VRHR	Novokhopersk	67.17	317	*e*P		P		21 54 48.3	+2.0
VRHR	comp=Z,10.0nm,1.5s			pmax		pmax			
VRHR	comp=N,20nm,0.7s			pmax		pmax			
VRHR	comp=E,40nm,0.8s			pmax		pmax			
KDAK	Kodiak Island	67.19	35	*e*P		P		21 54 43.5	-2.8
KDAK	comp=Z,213nm,2.3s			pmax		pmax			
KDAK	Kodiak Island	67.19	35	*e*P		P		21 54 43.5	-2.8
TMCR	comp=Z,213nm,2.3s Tamitsa	67.23	332	*e*P		P		21 54 46.6	+0.2
TMCR				*e*				21 57 15.7	
TMCR	comp=Z,13nm,0.8s			pmax		pmax			
KTH	Kantishna Hill	67.24	29	*e*P		P		21 54 46.1	-0.6
GOF	comp=Z,8.2nm,1.0s Gofitskoye	67.30	311	*e*P		P		21 54 55.6	+8.3
TRF	Thorofare Moun	67.54	29	*e*P		P		21 54 49.3	+0.6
KIV	comp=Z,42nm,2.0s Kislovodsk	67.77	310	*e*P		P		21 54 52.0	+1.6
KIV	comp=Z,12nm,1.0s			pmax		pmax			
KIV	comp=Z,78nm,17.0s			MLR		MLR			
KIV	Kislovodsk	67.77	310	*e*P		P		21 54 52.2	+1.8
MCK	comp=Z,15nm,0.9s McKinley	68.10	29	*e*P		P		21 54 51.0	-1.0
MCK	comp=Z,12nm,1.0s			pmax		pmax			
MCK	McKinley	68.10	29	*e*P		P		21 54 51.0	-1.0
COLA	comp=Z,12nm,1.0s College	68.39	27⇑	*i*P		P		21 54 54.8	+1.1
COLA	comp=Z,17nm,0.8s			pmax		pmax			
APA	Apatity	68.63	336⇓	*i*P		P		21 54 51.8	-3.4
APA	comp=Z,400nm,16.0s			MLR		MLR			
VORD	Divnogorie	68.64	317	*e*P		P		21 55 01.0	+5.4
VORD	comp=Z,10.0nm,1.5s			pmax		pmax			
VORD	comp=N,10.0nm,0.7s			pmax		pmax			
VORD	comp=E,10.0nm,0.6s			pmax		pmax			
VSR	Storozhevoye	68.67	318	*e*P		P		21 54 58.5	+2.7
VSR	comp=Z,20nm,1.7s			pmax		pmax			
VSR	comp=N,9.0nm,0.9s			pmax		pmax			
VSR	comp=E,10.0nm,1.0s			pmax		pmax			
ILAR	Eielson Array	68.81	27	P		P		21 54 56.2	-0.2
ILB	comp=E,1.2nm,0.5s,baz=250,slow=4.8,SNR=13 Eielson Array	68.81	27	*e*P		P		21 54 56.2	-0.2
OBN	Obninsk	69.44	322⇑	*e*P		P		21 55 02.5	+2.1
OBN				*i* *PP		PcP		21 55 27.2	+3.6
OBN				*e*				21 57 38.5	
OBN	comp=Z,13nm,1.7s			pmax		pmax			
PAX	Paxson	69.77	29	*e*P		P		21 55 03.7	+1.2
PAX	comp=Z,43nm,2.1s			pmax		pmax			
PAX	Paxson	69.77	29	*e*P		P		21 55 03.7	+1.2
DOT	comp=Z,43nm,2.1s Dot Lake	70.25	28	*e*P		P		21 55 05.7	+0.3
JOF	comp=Z,6.3nm,0.8s Joensuu	70.41	331	*e*P		P		21 55 06.0	-0.3
JOF	comp=Z,1.0nm,0.4s			pmax		pmax			
JOF	Joensuu	70.41	331	*e*p		P		21 55 06.0	-0.3
KEV	comp=Z,1.0nm,0.4s Kevo	70.46	338	*e*P		P		21 55 05.3	-1.1
KEV	comp=Z,1.0nm,0.4s			pmax		pmax			
KEV	Kevo	70.46	338	*e*p		P		21 55 05.3	-1.1
RAYN	comp=Z,1.0nm,0.4s Ar Rayn	70.69	288	*e*P		P		21 55 09.0	+0.2
ARA0	comp=Z,12nm,1.4s ARCESS Array S	71.02	338	*e*P		P		21 55 10.1	+0.1
ARCES	ARCESS Array B	71.02	338	P		P		21 55 10.1	+0.1
KBS	comp=Z,2.4nm,0.9s,baz=74,slow=6.4,SNR=5.9 Kingsbay	71.15	349	*e*P		P		21 55 11.0	+0.5
KBS	comp=Z,272nm,2.9s			pmax		pmax			
KBS	Kingsbay	71.15	349	*e*P		P		21 55 11.0	+0.5
DAWY	comp=Z,272nm,2.9s Dawson	72.14	27	*e*P		P		21 55 17.9	+1.1
MALT	Malatya	72.24	305	⇓P		P		21 55 20.1	+2.1
MALT	Malatya	72.24	305	⇓*i*P		P		21 55 20.1	+2.1
KAF	Kangasniemi	72.87	331	*e*P		P		21 55 23.2	+2.1
KAF	comp=Z,1.0nm,0.4s			pmax		pmax			
KAF	Kangasniemi	72.87	331	*e*p		P		21 55 23.2	+2.1
INK	comp=Z,1.0nm,0.4s Inuvik	73.03	22	P		P		21 55 22.3	+0.4
FIA0	comp=Z,5.5nm,0.8s,baz=294,slow=4.3,SNR=13 FINESS Array S	73.18	330	*e*P		P		21 55 22.6	-0.3
FIA0	FINESS Array S	73.18	330	*e*P		P		21 55 22.6	-0.3
FINES	FINESS Array B	73.18	330	P		P		21 55 22.6	-0.3
AKASG	comp=Z,3.8nm,0.7s,baz=70,slow=5.7,SNR=10 Malin Array Be	74.88	319	P		P		21 55 32.5	-0.5
AKBB	comp=Z,2.4nm,0.6s,baz=57,slow=6.1,SNR=11 Malin Array Si	74.88	319	*e*P		P		21 55 32.5	-0.5
AKBB	Malin Array Si	74.88	319	*e*P		P		21 55 32.5	-0.5
NACGM	Naroch	74.92	324	*e*		P		21 55 37.0	+3.8
BR101	Keskin Array S	75.39	307	*e*P		P		21 55 37.0	+0.5
BRTR	Keskin Array B	75.39	307	*ce*P		P		21 55 36.2	-0.2
BRTR	comp=Z,1.0nm,0.7s			pmax		pmax			
BRTR	Keskin Array B	75.39	307	P		P		21 55 37.0	+0.5
CSS	comp=Z,1.0nm,0.7s,baz=102,slow=5.7,SNR=7.3 Prodhromos	77.17	303	*e*P		P		21 55 45.5	-1.0
DAG	comp=Z,22nm,2.3s Danmarks Havn	77.40	352	*i*P		P		21 55 46.3	-0.6
DAG	comp=Z,3.0nm,0.7s			pmax		pmax			
DAG	Danmarks Havn	77.40	352	*i*P		P		21 55 46.3	-0.6
CFR	comp=Z,3.7nm,0.7s Carcaliu	77.42	314	⇑P		P		21 55 47.8	+0.2
CFR	Carcaliu	77.42	314	⇑*i*P		P		21 55 47.8	+0.2
TLB	Topalu	77.69	313	⇓P		P		21 55 39.4	-10
TLB	Topalu	77.69	313	⇓*i*P		P		21 55 39.4	-10
TESR	Tescani	77.91	315	⇓*i*P		P		21 55 51.3	+0.9
VRI	Vrincioaia	78.09	315	⇓P		P		21 55 53.6	+2.2
VRI	Vrincioaia	78.09	315	⇓*i*P		P		21 55 53.6	+2.2
PLOR	Plostina	78.15	315	⇑P		P		21 55 52.4	+0.6
PLOR	Plostina	78.15	315	⇑*i*P		P		21 55 52.4	+0.6
BURAR	Bucovina Array	78.42	317	⇓P		P		21 55 54.6	+1.3
BURAR	Bucovina Array	78.42	317	⇓*i*P		P		21 55 54.6	+1.3
MLR	Muntele Rosu	78.74	315	⇑P		P		21 55 56.4	+1.2
MLR	Muntele Rosu	78.74	315	⇑*i*P		P		21 55 56.4	+1.2
RES	Resolute Bay	78.99	10	P		P		21 55 56.3	+0.5
KWP	comp=Z,6.6nm,0.9s,baz=314,slow=6.0,SNR=22 Kalwaria Pacla	79.17	319	⇑P		P		21 55 58.3	+1.0
KWP	Kalwaria Pacla	79.17	319	*e*P		P		21 55 57.5	+0.2
KWP	Kalwaria Pacla	79.17	319	⇑*i*P		P		21 55 58.3	+1.0
ARR	Arges	79.64	315	⇑*i*P		P		21 56 01.2	+1.2
KOLS	Kolonicke sedl	79.71	319	*e*P		P		21 56 00.7	+0.5
KOLS				*e*				21 56 07.1	
KOLS	Kolonicke sedl	79.71	319	*e*P		P		21 56 00.7	+0.5
KOLS				*e*PCP		PcP		21 56 07.1	-0.9
NB2	NORSAR Subarra	79.88	333	P		P		21 56 01.0	0.0
NB200	comp=Z,0.8nm,0.6s,baz=56,slow=5.6 NORSAR Array S	79.88	333	*e*P		P		21 56 00.7	-0.3
NOA	NORSAR Array B	79.88	333	P		P		21 56 00.7	-0.3
CRVS	comp=Z,1.1nm,0.7s,baz=55,slow=5.5,SNR=6.4 Cervenica-Dubn	80.22	319	*e*P		P		21 56 05.9	+2.9
CRVS				*e*				21 56 11.0	
CRVS	Cervenica-Dubn	80.22	319	*e*P		P		21 56 05.9	+2.9
CRVS				*e*PCP		PcP		21 56 11.0	+0.8
DRGR		80.31	317	⇑P		P		21 56 05.1	+1.5
DRGR		80.31	317	⇑*i*P		P		21 56 05.1	+1.5
OJC	Ojcow	80.64	321	*e*P		P		21 56 06.2	+1.0
KECS	Kecovo	80.98	319	*e*P		P		21 56 08.7	+1.7
KECS	Kecovo	80.98	319	*e*P		P		21 56 08.7	+1.7
VTS	Vitosha	81.69	313	⇑P		P		21 56 12.6	+1.4
VTS	Vitosha	81.69	313	⇑*i*P		P		21 56 12.6	+1.4
VYHS	Vyhne	81.96	319	*e*P		P		21 56 15.8	+3.5
VYHS	Vyhne	81.96	319	*e*P		P		21 56 15.8	+3.5
DPC	Dobruska-Polom	82.58	322	*e*P		P		21 56 15.8	+0.3
DPC				*e*				21 56 23.3	
DPC	Dobruska-Polom	82.58	322	*e*P		P		21 56 15.8	+0.3
DPC				*e*PCP		PcP		21 56 20.7	+0.2
DPC				*e*pP		pP		21 56 23.3	-1.6
YKA	Yellowknife Ar	82.74	23	P		P		21 56 16.3	+0.4
YKB5	comp=Z,2.5nm,0.7s,baz=312,slow=5.0,SNR=24 Yellowknife Ar	82.74	23	*e*P		P		21 56 16.3	+0.3
PKSM	Moragy	83.10	317	⇑P		P		21 56 20.4	+2.2
PKSM	Moragy	83.10	317	⇑*i*P		P		21 56 20.4	+2.2
SUMG	Summit	83.42	355	*e*P		P		21 56 23.3	+3.4
SUMG				pmax		pmax			
SUMG	comp=Z,3.0nm,1.0s Summit	83.42	355	*i*P		P		21 56 23.3	+3.4
TREC	comp=Z,3.2nm,1.0s Trest	83.55	321	*e*P		P		21 56 25.0	+4.5
TREC				*e*				21 56 33.4	
TREC	Trest	83.55	321	*e*P		P		21 56 25.0	+4.5
TREC				*e*pP		pP		21 56 28.4	-1.5
TREC				*ex*		x		21 56 33.4	
PRU	Pruhonice	83.76	322	*e*pP		pP		21 56 31.8	+0.9
CLL	Collm	83.95	324	*e*P		P		21 56 22.0	-0.5
CLL				*e*				21 56 27.0	
CLL				*e*				21 56 36.0	
CLL	Collm	83.95	324	*e*P		P		21 56 22.0	-0.5
CLL				*e*PcP		PcP		21 56 27.0	+0.6
CLL				*es*P		sP		21 56 36.0	+0.7
CLL				Lm		MLR		22 34 00.0	
KHC	comp=Z,100nm,21.4s Kasperske Hory	84.73	322	*e*P		P		21 56 26.3	-0.2
KHC				*e*				21 56 33.0	
KHC	Kasperske Hory	84.73	322	*e*P		P		21 56 26.3	-0.2
KHC				*ex*		x		21 56 33.0	
GEC2	GERESS Array S	84.80	321	*e*P		P		21 56 26.7	-0.3
GEC2	GERESS Array S	84.80	321	*e*P		P		21 56 26.7	-0.3
GERES	GERESS Array B	84.80	321	P		P		21 56 26.4	-0.6
VVHS	comp=Z,1.6nm,0.8s,baz=59,slow=5.1,SNR=12 Vashon High Sc	87.82	38	*e*P		P		21 56 39.8	-1.9
CDF	Champ du Feu	88.63	323	*e*P		P		21 56 47.2	+1.5
CDF	comp=Z,9.5nm,1.1s			pmax		pmax			
CDF	comp=Z,10.0nm,1.1s Champ du Feu	88.63	323	*e*P		P		21 56 47.2	+1.5
B08A	comp=Z,9.5nm,1.1s Colville Reser	89.04	36	*e*P		P		21 56 46.9	-0.6
NEW	comp=Z,1.1nm,1.2s Newport	90.29	36	*e*P		P		21 56 54.8	+1.4
NEW				pmax		pmax			
NEW	comp=Z,6.0nm,0.6s Newport	90.29	36	P		P		21 56 54.4	+1.0
NEW	comp=Z,2.7nm,0.7s,baz=216,slow=6.0,SNR=4.3 Newport	90.29	36	*e*P		P		21 56 54.8	+1.4
LPG	comp=Z,6.2nm,0.6s La Plagne	90.59	321	*e*P		P		21 56 57.1	+1.9
LPG	comp=Z,12nm,0.9s La Plagne	90.59	321	*e*P		P		21 56 57.1	+1.9
LPG				pmax		pmax			
LPG	comp=Z,12nm,0.9s La Plagne	90.59	321	*e*P		P		21 56 57.1	+1.9
LPL	comp=Z,12nm,0.9s La Plagne	90.59	321	*e*P		P		21 56 57.0	+1.9
LPL	comp=Z,7.7nm,0.9s La Plagne	90.59	321	*e*P		P		21 56 57.0	+1.9
LPL				pmax		pmax			
LPL	comp=Z,8.0nm,0.9s La Plagne	90.59	321	*e*P		P		21 56 57.0	+1.9
WALA	comp=Z,7.7nm,0.9s Waterton Lakes	91.48	34	*e*P		P		21 57 00.4	+1.4
SMF	comp=Z,88nm,2.8s Signal de Mont	91.56	323	*e*P		P		21 57 00.6	+1.3
SMF	comp=Z,32nm,1.5s Signal de Mont	91.56	323	*e*P		P		21 57 00.6	+1.3
SMF	Signal de Mont	91.56	323	*e*P		P		21 57 00.6	+1.3
FCC	Fort Churchill	92.32	19	*e*P		P		21 57 02.1	-0.4
FCC				pmax		pmax			
FCC	comp=Z,5.0nm,0.8s Fort Churchill	92.32	19	*e*P		P		21 57 02.1	-0.4
FRB	comp=Z,4.6nm,0.8s Frobisher Bay	92.54	5	P		P		21 57 06.2	+2.8
FFC	comp=Z,3.9nm,0.8s,baz=349,slow=6.6,SNR=5.4 Flin Flon	92.86	25	*e*P		P		21 57 05.4	+0.3
FFC				pmax		pmax			
FFC	comp=Z,6.0nm,0.9s Flin Flon	92.86	25	*e*P		P		21 57 05.3	+0.3
WVOR	comp=Z,6.2nm,0.9s Wild Horse Val	92.87	41	*e*P		P		21 57 02.8	-2.8
WVOR				pmax		pmax			
WVOR	comp=Z,20nm,1.8s Wild Horse Val	92.87	41	*e*P		P		21 57 02.8	-2.8
NV01	comp=Z,20nm,1.8s Mina Array Sit	95.40	44	*e*P		P		21 57 17.8	+0.4
NVAR	Mina Array Bea	95.40	44	P		P		21 57 17.8	+0.4
TUQ	comp=Z,0.4nm,0.7s,baz=291,slow=4.5,SNR=3.7 Turquoise Moun	98.70	45	*e*P		Pdif		21 57 33.1	+0.8
PLM	Palomar	99.31	48	*e*P		Pdif		21 57 39.1	+4.0
PLM	Palomar	99.31	48	*e*P		Pdif		21 57 39.1	+4.0
LPM	Los Pinos Moun	105.28	41	*e*Pdif		Pdif		21 57 59.0	-2.7

BJI ***13*** *21:57:59.6, 30.89N×51.07E, h10km, mB4.8/2, mb4.4/11, Ms4.3/1*

ISCJB ***13*** *21:58:00.9±0.2, 30.69N±0.03×51.41E±0.03, h10km, mb4.4/68, MS3.8/3, Error ellipse: s-maj=4.3km s-min=2.9km az=24.4*

IDC ***13*** *21:58:01.0±0.8, 30.75N×51.47E, h0km, mb4.2/26, mb1 4.3/30, mb1mx4.2/46, mbtmp4.2/30, ML3.9/4, MS3.4/3, Ms1 3.4/3, ms1mx3.0/33, Error ellipse: s-maj=20.4km s-min=11.9km az=170.0*

CSEM ***13*** *21:58:03.3±0.1, 30.73N×51.43E, h15km, mb4.5/37, Ms4.1, Error ellipse: s-maj=5.0km s-min=3.5km az=35.0*

MOS ***13*** *21:58:03.6±1.0, 30.62N×51.43E, h33km, mb4.7/31, Error ellipse: s-maj=8.5km s-min=4.6km az=124.7*

TEH ***13*** *21:58:04.0, 30.73N×51.40E, h16km, ML4.4*

NEIC ***13*** *21:58:04.0, 30.73N×51.40E, h16km, mb4.7/21, ML4.2(THR), MN4.4(TEH), After TEH.*

DSN ***13*** *21:58:17.7±0.2, 30.09N×52.25E, h113km±11km, mb4.1/8, Ms4.5/6, Error ellipse: s-maj=12.8km s-min=6.2km az=248.0*

ISN ***13*** *21:59:19.1±2.0, 32.72N×46.95E, h0km±13km, ML4.1*

ISC 13 21:58:02.7±0.3, 30.74N±0.04×51.42E±0.04, h10km, n469, σ1°**26**/454, **mb4.4**/68, **MS3.9**/3, **43C-18D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.02**	**159**	*e*Pg		**Pg**	**21 58 22.4**	**0.0**
IKAZ				*e*Sn		**Sn**	**21 58 39.1**	**+1.0**
IKAZ				*e*			21 58 46.6	
IKAZ	comp=Z,61μm,0.3s **Kazeroun**	**1.02**	**159**	*e*Pg		**Pg**	**21 58 22.4**	**0.0**
IKAZ				Sn		**Sn**	**21 58 39.0**	**+1.0**
IKAZ	**Kazeroun**	**1.02**	**159**	Pg		**Pg**	**21 58 22.4**	**0.0**
IKAZ				Sn		**Sn**	**21 58 39.0**	**+1.0**
SHI	**Shiraz**	**1.45**	**139**	*e*Pg		**Pb**	**21 58 30.3**	**+0.4**
SHI	**Shiraz**	**1.45**	**139**	*e*Pg		**Pb**	**21 58 30.3**	**+0.4**
IGAR	**Gharneh**	**1.75**	**18**	*e*Pn		**Pn**	**21 58 33.1**	**-0.2**
IPIR	**Pirpir**	**1.99**	**347**	*e*Pn		**Pn**	**21 58 37.1**	**+0.2**
IPIR				*e*			21 59 38.9	
IPIR	comp=Z,13μm,0.3s **Pirpir**	**1.99**	**347**	Pn		**Pn**	**21 58 37.0**	**+0.2**
IPIR	**Pirpir**	**1.99**	**347**	Pn		**Pn**	**21 58 37.0**	**+0.2**
ISAD	**Sadrabad**	**2.27**	**58**	*e*Pn		**Pn**	**21 58 41.1**	**+0.5**
ISAD				*e*			21 59 11.6	
ISAD	comp=Z,70μm,0.3s **Sadrabad**	**2.27**	**58**	*e*Pn		**Pn**	**21 58 41.1**	**+0.5**
ISAD	**Sadrabad**	**2.27**	**58**	Pn		**Pn**	**21 58 41.1**	**+0.5**
IZEF	**Zefreh**	**2.29**	**20**	*e*Pn		**Pn**	**21 58 42.1**	**+1.3**
IZEF				*e*			21 59 23.7	
IZEF	comp=Z,6μm,0.3s **Zefreh**	**2.29**	**20**	*e*Pn		**Pn**	**21 58 42.1**	**+1.3**
IZEF	**Zefreh**	**2.29**	**20**	Pn		**Pn**	**21 58 42.1**	**+1.3**
NASN	**Na'in**	**2.37**	**30**	*e*Pn		**Pn**	**21 58 42.0**	**-0.1**
NASN	**Na'in**	**2.37**	**30**	*e*Pn		**Pn**	**21 58 42.0**	**-0.1**
IKLH	**Kolahrood**	**2.58**	**3**	*e*Pn		**Pn**	**21 58 46.0**	**+1.2**
IKLH				*e*			21 59 31.7	
IKLH	comp=Z,10μm,0.4s **Kolahrood**	**2.58**	**3**	*e*Pn		**Pn**	**21 58 46.0**	**+1.2**
IKLH	**Kolahrood**	**2.58**	**3**	Pn		**Pn**	**21 58 46.0**	**+1.2**
SHGR	**Shooshtar-Gavs**	**2.62**	**302**	*e*Pn		**Pb**	**21 58 48.8**	**-0.9**
SHGR	**Shooshtar-Gavs**	**2.62**	**302**	*e*Pn		**Pb**	**21 58 48.8**	**-0.9**
GHIR	**Ghir-Karzin**	**2.80**	**150**	*e*Pn		**Pn**	**21 58 48.5**	**+0.8**
GHIR	**Ghir-Karzin**	**2.80**	**150**	*e*Pn		**Pn**	**21 58 48.5**	**+0.8**
IMEH	**Mehriz**	**2.82**	**76**	*e*Pn		**Pn**	**21 58 48.9**	**+0.8**
IMEH	**Mehriz**	**2.82**	**76**	*e*Pn		**Pn**	**21 58 48.9**	**+0.8**
IMEH	**Mehriz**	**2.82**	**76**	Pn		**Pn**	**21 58 48.9**	**+0.8**
ICHK	**Chekchek**	**2.96**	**59**	*e*Pn		**Pn**	**21 58 50.4**	**+0.3**
ICHK				*e*			21 59 36.2	
ICHK	comp=Z,12μm,0.3s **Chekchek**	**2.96**	**59**	*e*Pn		**Pn**	**21 58 50.4**	**+0.3**
ICHK	**Chekchek**	**2.96**	**59**	Pn		**Pn**	**21 58 50.4**	**+0.3**
IBAF	**Bafgh**	**3.66**	**75**	*e*Pn		**Pn**	**21 58 59.9**	**+0.3**
IBAF				*e*			22 00 01.0	
IBAF	comp=Z,5μm,0.3s **Bafgh**	**3.66**	**75**	*e*Pn		**Pn**	**21 58 59.9**	**+0.3**
IBAF	**Bafgh**	**3.66**	**75**	Pn		**Pn**	**21 58 59.9**	**+0.3**
GHVR	**GHÖM**	**3.73**	**358**	*e*Pn		**Pn**	**21 59 02.2**	**+1.7**
GHVR	**GHOM**	**3.73**	**358**	*e*Pn		**Pn**	**21 59 02.2**	**+1.7**
NSR	**Nassriya**	**4.54**	**275**	*e*PN		x	21 59 50.9	
NSR				*e*SN		**Sb**	**22 00 14.4**	**-3.0**
NSR	**Nassriya** SNR=39	**4.54**	**275**	*e*Pn		x	21 59 50.8	
NSR	SNR=39			*e*Sn		**Sb**	**22 00 14.4**	**-3.0**
DAMV	**Damavand**	**4.90**	**5**	*e*Pn		**Pn**	**21 59 17.0**	**+0.3**
DAMV	**Damavand**	**4.90**	**5**	*e*Pn		**Pn**	**21 59 17.0**	**+0.3**
CHTH	**Charan**	**5.16**	**357**	*e*Pn		**Pn**	**21 59 21.0**	**+0.7**
CHTH	**Charan**	**5.16**	**357**	*e*Pn		**Pn**	**21 59 21.0**	**+0.7**
IBDR	**Badra**	**5.23**	**298**	*e*PN		Pg	21 59 39.3	-3.6
IBDR				*e*SN		x	21 59 54.8	
BNDS	**Bandar-Abbas**	**5.33**	**127**	*e*Pn		**Pn**	**21 59 22.0**	**-0.5**
BNDS	**Bandar-Abbas**	**5.33**	**127**	*e*Pn		**Pn**	**21 59 22.0**	**-0.5**
IALA	**Alasht**	**5.46**	**12**	*e*			22 01 05.7	
SNGE	comp=E,3μm,0.2s **Sanandaj**	**5.53**	**323**	*e*Pn		**Pn**	**21 59 27.2**	**+1.9**
SNGE	**Sanandaj**	**5.53**	**323**	*e*Pn		**Pn**	**21 59 27.2**	**+1.9**
BANOM	**Banah** SNR=57	**6.44**	**137**	P		**Pn**	**21 59 37.4**	**-0.3**
BANOM	**Banah** SNR=57	**6.44**	**137**	⇓*i*P		**Pn**	**21 59 37.4**	**-0.3**
BANOM	**Banah** SNR=8.1	**6.44**	**137**	P		Pn	21 59 41.7	+3.9
BHD	**Baghdad**	**6.49**	**295**	*e*PN		**Pb**	**21 59 58.1**	**+2.4**
BHD				*e*SN		x	22 00 24.0	
BHD	**Baghdad** SNR=39	**6.49**	**295**	*e*Pn		**Pb**	**21 59 58.1**	**+2.4**
BHD	SNR=39			*e*Sn		x	22 00 24.0	
NAZ	**Nazwa, Dubai** SNR=21	**6.85**	**146**	P		**Pn**	**21 59 43.2**	**-0.1**
NAZ	**Nazwa, Dubai** SNR=21	**6.85**	**146**⇑	*i*P		**Pn**	**21 59 43.2**	**-0.1**
ASUD	**Al Ashush, Dub** SNR=23	**7.01**	**149**	P		**Pn**	**21 59 45.7**	**+0.3**
ASUD	**Al Ashush, Dub** SNR=23	**7.01**	**149**	*i*P		**Pn**	**21 59 45.7**	**+0.3**
FAQ	**Al Faqa, Dubai** SNR=9.4	**7.02**	**147**	P		**Pn**	**21 59 45.6**	**0.0**
FAQ	**Al Faqa, Dubai** SNR=9.4	**7.02**	**147**⇑	*i*P		**Pn**	**21 59 45.6**	**0.0**
HATD	**Hatta, Dubai** SNR=14	**7.22**	**144**	P		**Pn**	**21 59 48.4**	**0.0**
HATD	**Hatta, Dubai** SNR=14	**7.22**	**144**⇓	*i*P		**Pn**	**21 59 48.4**	**0.0**
ASHO	**Ashiyiah** SNR=34	**7.30**	**145**	P		**Pn**	**21 59 49.7**	**+0.2**
ASHO	**Ashiyiah** SNR=48	**7.30**	**145**	*i*P		**Pn**	**21 59 49.3**	**-0.2**
ASHO	**Ashiyiah** SNR=34	**7.30**	**145**	P		**Pn**	**21 59 49.7**	**+0.2**
IKRK	**Kirkuk**	**7.54**	**310**	*e*PN		**Pb**	**22 00 15.3**	**+1.6**
IKRK				*e*SN		x	22 00 53.1	
MSL	**Mosul**	**8.94**	**311**	*e*PN		x	22 00 33.3	
MSL				*e*SN		x	22 01 27.9	
GEYT	**Alibeck**	**9.06**	**36**	Pn		**Pn**	**22 00 14.5**	**+0.8**
CUKT	comp=E,0.9nm,0.3s,baz=226,slow=12,SNR=30 **Cukurca**	**9.17**	**317**	*e*P		**Pn**	**22 00 14.5**	**-0.7**
RTB	**Rutbah**	**9.72**	**286**	*e*PN		x	22 00 44.7	
RTB				*e*SN		x	22 01 44.0	
RTB	**Rutbah** SNR=39	**9.72**	**286**	*e*Pn		x	22 00 44.7	
RTB	SNR=39			*e*Sn		x	22 01 44.0	
SIRT	**Sirnak**	**10.04**	**315**	*e*P		**Pn**	**22 00 24.5**	**-2.6**
GNI	**Garni**	**10.85**	**332**	*e*P		**Pn**	**22 00 40.1**	**+1.9**
GNI	**Garni**	**10.85**	**332**	LR		LR	22 05 37.7	
GNI	comp=E,61nm,18.9s,baz=112,slow=42 **Garni**	**10.85**	**332**	*e*P		**Pn**	**22 00 40.1**	**+1.9**
AGRB	**Hanur-Agry**	**11.19**	**324**	*e*P		Pn	22 00 47.5	+4.6
BNGB	**Bing¶**	**12.06**	**316**	*e*P		**Pn**	**22 00 52.9**	**-1.9**
ASF	**Jabal al Asfar**	**12.48**	**280**	P		**Pn**	**22 01 00.5**	**0.0**
ASF				pmax		pmax		
ASF	comp=Z,1.0nm,0.3s **Jabal al Asfar**	**12.48**	**280**	Pn		**Pn**	**22 01 00.5**	**0.0**
MALT	comp=Z,1.3nm,0.3s,baz=29,slow=4.8,SNR=9.6 **Malatya**	**13.10**	**309**	*e*P		Pn	22 01 03.7	-5.2
MALT	**Malatya**	**13.10**	**309**	⇓P		**P**	**22 01 21.3**	**+2.0**
MALT	**Malatya**	**13.10**	**309**⇓	*i*P		**P**	**22 01 21.3**	**+2.0**
RBK	**Rabkut** SNR=11	**13.42**	**168**	P		**Pn**	**22 01 14.2**	**+0.9**
RBK	**Rabkut** SNR=11	**13.42**	**168**	P		**Pn**	**22 01 14.2**	**+0.9**
ZEI	**Tsey**	**13.44**	**336**	*e*P		**P**	**22 01 23.7**	**+0.5**
ZEI				pmax		pmax		
ILIC	comp=Z,22nm,1.5s **ilic-Erzincan**	**13.63**	**313**	*e*P		Pn	22 01 12.1	-4.2
MMLI	**Mount Malkishu**	**13.74**	**281**	*e*P		**Pn**	**22 01 17.3**	**-0.3**
KMRS	**Kahramanmaras**	**13.78**	**303**	*e*P		Pn	22 01 11.5	-6.7
MMAI	**Mount Meron Ar**	**13.80**	**284**	Pn		**Pn**	**22 01 18.8**	**+0.3**
CHVG	comp=Z,0.6nm,0.3s,baz=96,slow=15,SNR=5.7 **Ch'k'valeri**	**14.09**	**331**	*e*P		**P**	**22 01 30.2**	**0

BODT Bodrum 20.95 294 *e*P P 22 02 41.8 -4.0
NIS1 Nisyros Isl. 20.98 293 *e*P P 22 02 46.6 +0.5
NIS1 Nisyros Isl. 20.98 293 *e*P P 22 02 46.6 +0.5
CTKS Kestanelik-??a 21.23 306 *e*P P 22 02 51.9 +3.1
EKS2 Erkin-Say 21.45 50 *e*P P 22 02 51.1 -0.2
EKS2 pmax pmax
comp=Z,15nm,1.1s
EKS2 Erkin-Say 21.45 50 *e*P P 22 02 51.1 -0.2
comp=Z,15nm,1.1s
EKS2 Erkin-Say 21.45 50 *e*P P 22 02 51.1 -0.2
comp=Z,15nm,1.1s
VRHR Novokhopersk 21.61 343 *e*P P 22 02 52.4 -0.3
VRHR pmax pmax
comp=Z,80nm,0.8s
VRHR pmax pmax
comp=N,100nm,0.9s
VRHR pmax pmax
comp=E,60nm,0.9s
VRHR Novokhopersk 21.61 343 *e*P P 22 02 52.4 -0.3
comp=E,80nm,0.8s
AAK Ala-Archa 21.91 51 *c i*P P 22 03 00.3 +4.0
AAK pmax pmax
comp=Z,40nm,1.0s
AAK Ala-Archa 21.91 51 P P 22 02 56.0 -0.3
comp=Z,5.7nm,0.8s,baz=210,slow=7.2,SNR=5.3
AAK Ala-Archa 21.91 51 *e*P P 22 02 55.5 -0.8
comp=Z,18nm,1.1s
AAK Ala-Archa 21.91 51 P P 22 03 00.7 +4.4
SNR=17
AAK Ala-Archa 21.91 51 *e*P P 22 02 55.5 -0.8
comp=Z,18nm,1.1s
FRU Bishkek 22.08 50 *e*P P 22 03 03.0 +5.1
VORD Divnogorie 22.14 339 *e*P P 22 02 58.7 +0.3
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=N,70nm,0.9s
VORD pmax pmax
comp=E,40nm,0.9s
VORD Divnogorie 22.14 339 *e*P P 22 02 58.7 +0.3
comp=E,10.0nm,0.5s
SANT Santorini 22.32 292 *e*P P 22 03 01.4 +0.8
comp=E,94nm,1.4s
SANT Santorini 22.32 292 *e*P P 22 03 01.4 +0.8
comp=E,94nm,1.4s
APE Apeiranthos 22.36 293 *e*P P 22 02 59.5 -1.5
APE Apeiranthos 22.36 293 *e*P P 22 02 59.5 -1.5
VSR Storozhevoye 22.39 339 *e*P P 22 03 01.3 +0.2
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,9.0nm,1.0s
VSR Storozhevoye 22.39 339 *e*P P 22 03 01.3 +0.2
comp=E,8.0nm,1.1s
THR5 Thira Island, 22.41 292 *e*P P 22 03 03.5 +2.0
THR5 Thira Island, 22.41 292 *e*P P 22 03 03.5 +2.0
IDI Anoyia 22.67 289 P P 22 03 05.2 +0.8
comp=E,15nm,0.6s,baz=68,slow=19,SNR=14
EDRB Edirne 22.69 306 *e*P P 22 03 04.1 -0.3
EDRB Edirne 22.69 306 *e*P P 22 03 04.1 -0.3
TIRR Tirgusor 22.70 314 *e*P P 22 03 03.9 -0.6
TIRR Tirgusor 22.70 314 *e*P P 22 03 03.9 -0.6
TKM2 Tokmak 2 22.77 51 *e*P P 22 03 05.4 -0.1
TKM2 pmax pmax
comp=Z,9.0nm,1.2s
TKM2 Tokmak 2 22.77 51 *e*P P 22 03 05.4 -0.1
comp=Z,9.2nm,1.2s
TKM2 Tokmak 2 22.77 51 *e*P P 22 03 05.4 -0.1
comp=Z,9.2nm,1.2s
PRD Provadia 22.78 310 P P 22 03 07.5 +2.2
PRD Provadia 22.78 310 P P 22 03 07.5 +2.2
ALN Alexandroupoli 22.86 303 *e*P P 22 03 06.1 -0.1
ALN Alexandroupoli 22.86 303 *e*P P 22 03 06.1 -0.1
MSAB Monastry St. A 22.90 312⇑*i*P P 22 03 09.1 +2.6
MSAB Monastry St. A 22.90 312⇑*i*P P 22 03 09.1 +2.6
TLB Topalu 23.00 313⇑P P 22 03 09.4 +1.9
TLB Topalu 23.00 313⇑*i*P P 22 03 09.4 +1.9
TLB Topalu 23.00 313 P P 22 03 09.4 +1.9
JMB Yambol 23.03 307⇑P P 22 03 11.1 +3.1
JMB Yambol 23.03 307⇑*i*P P 22 03 11.1 +3.1
CFR Carcaliu 23.23 315⇓P P 22 03 09.7 -0.2
CFR Carcaliu 23.23 315⇓*i*P P 22 03 09.7 -0.2
CFR Carcaliu 23.23 315 P P 22 03 09.7 -0.2
KDZ Kurdzhali 23.55 305⇑P P 22 03 14.1 +0.8
KDZ Kurdzhali 23.55 305⇑*i*P P 22 03 14.1 +0.8
KDZ Kurdzhali 23.55 305 P P 22 03 14.1 +0.8
SZH Strazhica 23.78 309 P P 22 03 13.3 -2.2
SZH Strazhica 23.78 309 P P 22 03 13.3 -2.2
AOS Alonnisos 24.02 298 *e*P P 22 03 18.3 +0.6
AOS Alonnisos 24.02 298 *e*P P 22 03 18.3 +0.6
VRI Vrincioaia 24.43 315 *e*P P 22 03 19.7 -1.8
VRI Vrincioaia 24.43 315⇑P P 22 03 23.5 +2.0
VRI Vrincioaia 24.43 315⇑*i*P P 22 03 23.5 +2.0
VRI Vrincioaia 24.43 315 P P 22 03 23.5 +2.0
PLOR Plostina 24.47 315⇑P P 22 03 24.7 +2.8
PLOR Plostina 24.47 315⇑*i*P P 22 03 24.7 +2.8
PGB Panagyurishte 24.73 306 P P 22 03 26.5 +2.2
PGB Panagyurishte 24.73 306 P P 22 03 26.5 +2.2
MLR Muntele Rosu 24.73 314⇑P P 22 03 27.5 +3.1
MLR Muntele Rosu 24.73 314⇑*i*P P 22 03 27.5 +3.1
MLR Muntele Rosu 24.73 314 P P 22 03 25.3 +0.9
comp=Z,1.6nm,0.9s,baz=82,slow=5.8
MMB Musomiste 24.74 304⇑P P 22 03 26.1 +1.7
MMB Musomiste 24.74 304⇑*i*P P 22 03 26.1 +1.7
MMB Musomiste 24.74 304 P P 22 03 26.1 +1.7
TESR Tescani 24.80 316⇑*i*P P 22 03 25.3 +0.4
TESR Tescani 24.80 316⇑*i*P P 22 03 25.3 +0.4
HORT Hortiatis 24.93 301 *e*P P 22 03 26.0 -0.1
HORT Hortiatis 24.93 301 *e*P P 22 03 26.0 -0.1
AGG Agios Georgios 25.17 297 *e*P P 22 03 27.5 -0.8
AGG Agios Georgios 25.17 297 *e*P P 22 03 27.5 -0.8
KNT Kendrikon 25.22 302 *e*P P 22 03 29.6 +0.9
KNT Kendrikon 25.22 302 *e*P P 22 03 29.6 +0.9
VOIR 25.27 313⇓P P 22 03 30.7 +1.5
VOIR 25.27 313⇓*i*P P 22 03 30.7 +1.5
VOIR 25.27 313 P P 22 03 30.7 +1.5
DOPR Dopca 25.30 314⇓*i*P P 22 03 29.5 +0.1
DOPR Dopca 25.30 314⇓*i*P P 22 03 29.5 +0.1
MPEP Malo Peshtene 25.30 308 P P 22 03 31.6 +2.2
MPEP Malo Peshtene 25.30 308 P P 22 03 31.6 +2.2
VTS Vitosha 25.41 306⇑P P 22 03 32.3 +1.7
VTS Vitosha 25.41 306⇑*i*P P 22 03 32.3 +1.7
VTS Vitosha 25.41 306 P P 22 03 32.3 +1.7
PRAR RASCA 25.49 318⇑*i*P P 22 03 32.2 +1.1
PRAR RASCA 25.49 318⇑*i*P P 22 03 32.2 +1.1
ARR Arges 25.50 312⇓*i*P P 22 03 32.6 +1.3
ARR Arges 25.50 312⇓*i*P P 22 03 32.6 +1.3
AKASG Malin Array Be 25.91 327 P P 22 03 34.2 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 25.91 327 P P 22 03 34.2 -0.6
comp=Z,2.1nm,0.4s,baz=137,slow=9.3,SNR=18
KIEV Kiev 25.91 327⇑*i*P P 22 03 33.7 -1.1
KIEV Kiev 25.91 327 *e*P P 22 03 34.0 -0.8
comp=Z,13nm,1.0s
KIEV Kiev 25.91 327 *e*P P 22 03 34.0 -0.8
comp=Z,13nm,1.0s
LOT Lotru 26.09 312⇑*i*P P 22 03 37.5 +0.9
LOT Lotru 26.09 312⇑*i*P P 22 03 37.5 +0.9
ARU Arti 26.17 9*d i*P P 22 03 42.6 +5.5
ARU 22 04 21.6
ARU PPP PPP 22 04 32.3
ARU SS 22 09 22.1
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 26.17 9 *e*P P 22 03 37.4 +0.3
comp=Z,7.1nm,0.9s
ARU Arti 26.17 9 *e*P P 22 03 37.4 +0.3
comp=Z,7.1nm,0.9s
BURAR Bucovina Array 26.21 317⇑P P 22 03 38.7 +1.0
BURAR Bucovina Array 26.21 317⇑*i*P P 22 03 38.7 +1.0
BURAR Bucovina Array 26.21 317⇑*i*P P 22 03 38.7 +1.0
BVAR Borovoye Array 26.22 26 P P 22 03 37.6 0.0
BVAR pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 26.22 26 P P 22 03 37.6 0.0
comp=Z,7.9nm,0.8s,baz=220,slow=6.5,SNR=42
FNA Florina 26.25 301 *e*P P 22 03 38.0 0.0
FNA Florina 26.25 301 *e*P P 22 03 38.0 0.0
OBN Obninsk 26.57 341⇓*e*P P 22 03 42.7 +2.0
OBN *e* 22 04 21.9
OBN pmax pmax
comp=Z,23nm,1.7s
OBN MLR MLR
comp=Z,105nm,17.0s
OBN Obninsk 26.57 341 P P 22 03 41.1 +0.4
comp=Z,6.2nm,0.4s,baz=191,slow=17,SNR=3.8
GZR Gura Zlata 26.70 311⇓P P 22 03 44.4 +2.2
GZR Gura Zlata 26.70 311⇓*i*P P 22 03 44.3 +2.1
GZR Gura Zlata 26.70 311 P P 22 03 44.4 +2.2
IGT Igoumenitsa 26.79 298 *e*P P 22 03 40.5 -2.4
IGT Igoumenitsa 26.79 298 *e*P P 22 03 40.5 -2.4
MOS Moscow 26.83 343 *e*P P 22 03 47.6 +4.5
MOS pmax pmax
comp=Z,43nm,1.2s
DRGR 27.33 314⇑P P 22 03 51.4 +3.6
DRGR 27.33 314⇑*i*P P 22 03 51.3 +3.5
PYUN Piuthan 27.58 87 *e*P P 22 03 49.7 -0.7
comp=Z,28nm,0.6s
KOLN Koldanda 28.18 88 *e*P P 22 03 54.5 -1.3
DANN Dangsing 28.19 87 *e*P P 22 03 55.3 -0.6
comp=Z,17nm,0.7s
KURBB Kurchatov Arra 28.33 38 P P 22 03 56.8 +0.2
comp=Z,3.2nm,0.9s,baz=238,slow=9.2,SNR=14
UZH Uzhgorod 28.41 317 *e*P P 22 03 57.6 +0.3
UZH *e* 22 04 06.8
UZH Uzhgorod 28.41 317 *e*P P 22 03 57.6 +0.3
KURK Kurchatov 28.43 38 *e*P P 22 03 58.1 +0.6
KURK Kurchatov 28.43 38 *e*P P 22 03 58.1 +0.6
KURK Kurchatov 28.43 38 *e*P P 22 03 58.1 +0.6
MKAR Makanchi Array 28.69 47 P P 22 03 59.6 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 28.69 47 P P 22 03 59.6 -0.3
comp=Z,1.0nm,0.5s,baz=238,slow=6.9,SNR=15
KKN Kani 29.62 87 *e*P P 22 04 06.3 -2.3
comp=Z,9.3nm,0.6s
PKSM Moragy 29.70 311⇑P P 22 04 09.9 +1.2
PKSM Moragy 29.70 311⇑*i*P P 22 04 09.9 +1.2
PKSM Moragy 29.70 311⇑*i*P P 22 04 09.9 +1.2
PKIN Phulchoki 29.78 87 *e*P P 22 04 07.5 -2.5
comp=Z,7.3nm,0.5s
PKI Pulchoki 29.79 87 *e*P P 22 04 08.4 -1.8
GUN Gumba 30.11 87 *e*P P 22 04 10.1 -3.0
comp=Z,20nm,0.8s
BOJS Bojanci 31.74 308 *i*P P 22 04 27.5 +0.7
CRNS Crni Vrh 32.56 309 *e*P P 22 04 34.8 +0.7
JAVS Javornik 32.65 308 *e*P P 22 04 35.1 +0.2
DPC Dobruska-Polom 32.67 317 *e*P P 22 04 37.4 +2.4
DPC *e* 22 04 48.8
DPC Dobruska-Polom 32.67 317 *e*P P 22 04 37.4 +2.4
DPC *ex* x 22 04 48.8
DPC Dobruska-Polom 32.67 317 P P 22 04 37.4 +2.4
TREC Trest 32.77 315 *e*P P 22 04 40.4 +4.6
TREC Trest 32.77 315 *e*P P 22 04 40.4 +4.6
ZALV Zalesovo Beam 33.38 36 *i*P P 22 04 42.0 +1.0
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 33.38 36 P P 22 04 40.1 -1.0
comp=Z,2.7nm,0.6s,baz=238,slow=8.5,SNR=14
KBA Koelnbreinsper 33.43 310⇑*i*P P 22 04 42.2 +0.3
comp=Z,12nm,0.8s
KBA Koelnbreinsper 33.43 310 P P 22 04 42.2 +0.3
comp=Z,12nm,0.8s
PRU Pruhonice 33.59 316 *e*P P 22 04 43.9 +0.9
PRU Pruhonice 33.59 316 *e*P P 22 04 43.9 +0.9
PRU Pruhonice 33.59 316 P P 22 04 43.9 +0.9
GERES GERESS Array B 33.72 313 P P 22 04 43.7 -0.6
GERES 22 07 24.0
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 33.72 313 P P 22 04 43.7 -0.6
comp=Z,0.5nm,0.5s,baz=113,slow=9.6,SNR=6.4
GERES PcP **PcP** 22 07 23.9 +0.3
comp=Z,0.9nm,0.8s,baz=134,slow=3.9,SNR=5.3
GERES GERESS Array B 33.72 313 PcP **PcP** 22 07 24.0 +0.3
KHC Kasperske Hory 33.89 314 *e*P P 22 04 45.4 -0.2
KHC Kasperske Hory 33.89 314 *e*P P 22 04 45.4 -0.2
KHC Kasperske Hory 33.89 314 P P 22 04 45.4 -0.2
ABTA Abfaltersbach 33.90 309⇑*i*P P 22 04 46.0 +0.2
comp=Z,13nm,1.5s
ABTA Abfaltersbach 33.90 309 P P 22 04 46.0 +0.2
comp=Z,13nm,1.5s
WTTA Wattenberg 34.61 310⇑*i*P P 22 04 51.6 -0.5
comp=Z,19nm,1.0s
WTTA Wattenberg 34.61 310 P P 22 04 51.6 -0.5
comp=Z,19nm,1.0s
JOF Joensuu 34.69 344 *e*P P 22 04 51.9 -0.4
JOF pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 34.69 344 *ep* P 22 04 51.9 -0.4
comp=Z,0.8nm,0.3s
JOF Joensuu 34.69 344 *e*P P 22 04 51.9 -0.4
comp=Z,0.8nm,0.3s
FINES FINESS Array B 34.92 339 P P 22 04 53.6 -0.8
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 34.92 339 P P 22 04 53.6 -0.8
comp=Z,1.1nm,0.5s,baz=147,slow=12,SNR=9.1
MOTA Moosalm 34.98 310⇑*i*P P 22 04 53.2 -2.1
comp=Z,11nm,0.9s
MOTA Moosalm 34.98 310 P P 22 04 53.2 -2.1
comp=Z,11nm,0.9s
FETA Feichten 35.15 309 P 22 04 56.6 -0.2
comp=Z,9.9nm,0.6s
RETA Reutte 35.24 310⇑*i*P P 22 04 56.4 -1.0
comp=Z,4.3nm,0.8s
RETA Reutte 35.24 310 P P 22 04 56.4 -1.0
comp=Z,4.3nm,0.8s
KEST Kesra 35.34 290 P P 22 05 00.8 +2.4
comp=Z,1.8nm,0.9s,baz=263,slow=3.6,SNR=4.8
KAF Kangasniemi 35.37 340 *e*P P 22 04 58.2 0.0
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 35.37 340 *ep* P 22 04 58.2 0.0
comp=Z,0.5nm,0.3s
KAF Kangasniemi 35.37 340 *e*P P 22 04 58.2 0.0
comp=Z,0.5nm,0.3s
PGF Pioggiola 35.67 301 *e*P P 22 05 00.9 -0.3
comp=Z,51nm,1.4s
PGF Pioggiola 35.67 301 *e*P P 22 05 00.9 -0.3
PGF pmax pmax
comp=Z,51nm,1.4s
PGF Pioggiola 35.67 301 *e*P P 22 05 00.9 -0.3
comp=Z,26nm,1.4s
PGF Pioggiola 35.67 301 *e*P P 22 05 00.9 -0.3
comp=Z,51nm,1.4s
DAVA Damuels 35.78 309⇑*i*P P 22 05 01.4 -0.7
comp=Z,20nm,0.4s
DAVA Damuels 35.78 309 P P 22 05 01.4 -0.7
comp=Z,20nm,0.4s
SBF Sospel 36.94 303 *e*P P 22 05 11.8 -0.1
SBF Sospel 36.94 303 *e*P P 22 05 11.8 -0.1
SBF Sospel 36.94 303 *e*P P 22 05 11.8 -0.1
SBF Sospel 36.94 303 *e*P P 22 05 11.8 -0.1
MBDF Montbardon 37.50 305 *e*P P 22 05 16.1 -0.7
comp=Z,12nm,0.6s
MBDF Montbardon 37.50 305 *e*P P 22 05 16.1 -0.7
MBDF pmax pmax
comp=Z,12nm,0.6s
MBDF Montbardon 37.50 305 *e*P P 22 05 16.1 -0.7
comp=Z,5.9nm,0.6s
MBDF Montbardon 37.50 305 *e*P P 22 05 16.1 -0.7
comp=Z,12nm,0.6s
LPG La Plagne 37.60 306 *e*P P 22 05 17.1 -0.8
comp=Z,8.7nm,0.6s
LPG La Plagne 37.60 306 *e*P P 22 05 17.1 -0.8
LPG pmax pmax
comp=Z,9.0nm,0.6s
LPG La Plagne 37.60 306 *e*P P 22 05 17.1 -0.8
comp=Z,4.3nm,0.6s
LPG La Plagne 37.60 306 *e*P P 22 05 17.1 -0.8
comp=Z,8.7nm,0.6s
LPL La Plagne 37.62 306 *e*P P 22 05 17.2 -0.7
comp=Z,18nm,1.0s
LPL La Plagne 37.62 306 *e*P P 22 05 17.2 -0.7
LPL pmax pmax
comp=Z,18nm,1.0s
LPL La Plagne 37.62 306 *e*P P 22 05 17.2 -0.7
comp=Z,9.1nm,1.0s
LPL La Plagne 37.62 306 *e*P P 22 05 17.2 -0.7
comp=Z,18nm,1.0s
CDF Champ du Feu 37.73 311 *e*P P 22 05 17.7 -0.9
CDF Champ du Feu 37.73 311 *e*P P 22 05 17.7 -0.9
CABF La Chapelle 38.21 308 *e*P P 22 05 22.4 -0.4
comp=Z,20nm,1.0s
CABF La Chapelle 38.21 308 *e*P P 22 05 22.4 -0.4
CABF pmax pmax
comp=Z,20nm,1.0s
CABF La Chapelle 38.21 308 *e*P P 22 05 22.4 -0.4
comp=Z,10nm,1.0s
CABF La Chapelle 38.21 308 *e*P P 22 05 22.4 -0.4
comp=Z,20nm,1.0s
HAU Haudompre 38.26 310 *e*P P 22 05 22.9 -0.2
HAU *e*R
comp=Z,152nm,17.5s
HAU Haudompre 38.26 310 *e*P P 22 05 22.9 -0.2
HAU Haudompre 38.26 310 *e*P P 22 05 22.9 -0.2
HAU Haudompre 38.26 310 *e*P P 22 05 22.9 -0.2
PAGF Fort de Pagny 38.77 311 *e*P P 22 05 26.4 -0.9
PAGF Fort de Pagny 38.77 311 *e*P P 22 05 26.4 -0.9
PAGF Fort de Pagny 38.77 311 *e*P P 22 05 26.4 -0.9
VIVF Saint-Julien-l 39.00 305 *e*P P 22 05 28.0 -1.3
VIVF Saint-Julien-l 39.00 305 *e*P P 22 05 28.0 -1.3
VIVF Saint-Julien-l 39.00 305 *e*P P 22 05 28.0 -1.3
VIVF Saint-Julien-l 39.00 305 *e*P P 22 05 28.0 -1.3
SFTF Sexfontaines 39.16 310 *e*P P 22 05 29.7 -0.9
SFTF Sexfontaines 39.16 310 *e*P P 22 05 29.7 -0.9
SFTF Sexfontaines 39.16 310 *e*P P 22 05 29.7 -0.9
MEZF Maizieres J'vi 39.20 310 *e*P P 22 05 30.1 -0.8
MEZF Maizieres J'vi 39.20 310 *e*P P 22 05 30.1 -0.8
MEZF Maizieres J'vi 39.20 310 *e*P P 22 05 30.1 -0.8
LASF Ste Croix 39.53 303 *e*P P 22 05 32.9 -0.8
comp=Z,20nm,1.3s
LASF Ste Croix 39.53 303 *e*P P 22 05 32.9 -0.8
comp=Z,10nm,1.3s
LASF Ste Croix 39.53 303 *e*P P 22 05 32.9 -0.8
comp=Z,20nm,1.3s
SMF Signal de Mont 39.75 307 *e*P P 22 05 34.6 -1.0
SMF Signal de Mont 39.75 307 *e*P P 22 05 34.6 -1.0
SMF Signal de Mont 39.75 307 *e*P P 22 05 34.6 -1.0
SMF Signal de Mont 39.75 307 *e*P P 22 05 34.6 -1.0
LOR Lormes 39.81 308 *e*P P 22 05 34.9 -1.2
comp=Z,6.3nm,0.8s
LOR *e*R
comp=Z,152nm,18.0s
LOR Lormes 39.81 308 *e*P P 22 05 34.9 -1.2
LOR pmax pmax
comp=Z,6.0nm,0.8s
LOR Lormes 39.81 308 *e*P P 22 05 34.9 -1.2
comp=Z,3.2nm,0.8s
LOR Lormes 39.81 308 *e*P P 22 05 34.9 -1.2
comp=Z,6.3nm,0.8s
BAIF Baives 40.02 313 *e*P P 22 05 37.5 -0.2
BAIF Baives 40.02 313 *e*P P 22 05 37.5 -0.2
BAIF Baives 40.02 313 *e*P P 22 05 37.5 -0.2
BAIF Baives 40.02 313 *e*P P 22 05 37.5 -0.2
SSF Saint Saulge 40.03 308 *e*P P 22 05 36.9 -0.9
comp=Z,22nm,1.3s
SSF Saint Saulge 40.03 308 *e*P P 22 05 36.9 -0.9
SSF pmax pmax
comp=Z,22nm,1.3s
SSF Saint Saulge 40.03 308 *e*P P 22 05 36.9 -0.9
comp=Z,11nm,1.3s
SSF Saint Saulge 40.03 308 *e*P P 22 05 36.9 -0.9
comp=Z,22nm,1.3s
AVF Avril sur Loir 40.10 307 *e*P P 22 05 37.5 -0.9
comp=Z,25nm,1.4s
AVF Avril sur Loir 40.10 307 *e*P P 22 05 37.5 -0.9
AVF pmax pmax
comp=Z,25nm,1.4s
AVF Avril sur Loir 40.10 307 *e*P P 22 05 37.5 -0.9
comp=Z,13nm,1.4s
AVF Avril sur Loir 40.10 307 *e*P P 22 05 37.5 -0.9
comp=Z,25nm,1.4s
GTA Gaotai 40.14 64 *e*P P 22 05 39.8 +0.8
GTA pP **pP** 22 05 44.5 +2.4
GTA sP **sP** 22 05 47.5 +4.1
GTA PMZ
comp=Z,3.0nm,1.0s
NB2 NORSAR Subarra 40.15 331 P P 22 05 37.6 -1.1
comp=Z,1.2nm,0.7s,baz=123,slow=8.6
NB2 NORSAR Subarra 40.15 331 P P 22 05 37.6 -1.1
comp=Z,1.2nm,0.7s,SNR=4.3
NOA NORSAR Array B 40.15 331 P P 22 05 36.7 -2.0
comp=Z,0.1nm,0.3s,baz=64,slow=9.9,SNR=4.2
BGF Bois d'Agland 40.43 307 *e*P P 22 05 40.2 -0.9
BGF Bois d'Agland 40.43 307 *e*P P 22 05 40.2 -0.9
BGF Bois d'Agland 40.43 307 *e*P P 22 05 40.2 -0.9
BGF Bois d'Agland 40.43 307 *e*P P 22 05 40.2 -0.9
TCF Toulx Ste Croi 40.84 307 *e*P P 22 05 43.9 -0.7
TCF Toulx Ste Croi 40.84 307 *e*P P 22 05 43.9 -0.7
TCF Toulx Ste Croi 40.84 307 *e*P P 22 05 43.9 -0.7
TCF Toulx Ste Croi 40.84 307 *e*P P 22 05 43.9 -0.7
CAF Calviac 40.85 305 *e*P P 22 05 44.0 -0.7
CAF Calviac 40.85 305 *e*P P 22 05 44.0 -0.7
CAF Calviac 40.85 305 *e*P P 22 05 44.0 -0.7
CAF Calviac 40.85 305 *e*P P 22 05 44.0 -0.7
ARCES ARCESS Array B 41.54 347 P P 22 05 49.9 -0.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 41.54 347 P P 22 05 49.9 -0.1
comp=Z,5.0nm,0.9s,baz=140,slow=6.3,SNR=8.8
MOY Mondy 41.79 45 *e*P P 22 05 53.1 +0.7
LFF La Frestale 41.79 304 *e*P P 22 05 52.0 -0.4
comp=Z,10nm,0.9s
LFF La Frestale 41.79 304 *e*P P 22 05 52.0 -0.4
LFF pmax pmax
comp=Z,10.0nm,0.9s
LFF La Frestale 41.79 304 *e*P P 22 05 52.0 -0.4
comp=Z,5.2nm,0.9s
LFF La Frestale 41.79 304 *e*P P 22 05 52.0 -0.4
comp=Z,10nm,0.9s
EPF Esparros 42.06 302 *e*P P 22 05 54.6 -0.1
comp=Z,12nm,1.2s
EPF Esparros 42.06 302 *e*P P 22 05 54.6 -0.1
EPF pmax pmax
comp=Z,12nm,1.2s
EPF Esparros 42.06 302 *e*P P 22 05 54.6 -0.1
comp=Z,6.1nm,1.2s
EPF Esparros 42.06 302 *e*P P 22 05 54.6 -0.1
comp=Z,12nm,1.2s
MFF Saint Martin d 42.49 307 *e*P P 22 05 57.0 -1.0
MFF Saint Martin d 42.49 307 *e*P P 22 05 57.0 -1.0
MFF Saint Martin d 42.49 307 *e*P P 22 05 57.0 -1.0
MFF Saint Martin d 42.49 307 *e*P P 22 05 57.0 -1.0
LDF La Druitiere 42.62 310 *e*P P 22 05 57.8 -1.3
LDF La Druitiere 42.62 310 *e*P P 22 05 57.8 -1.3
LDF La Druitiere 42.62 310 *e*P P 22 05 57.8 -1.3
LDF La Druitiere 42.62 310 *e*P P 22 05 57.8 -1.3
FLN La Foliniere 42.87 310 *e*P P 22 06 00.6 -0.5
FLN *e*R
comp=Z,268nm,18.2s
FLN La Foliniere 42.87 310 *e*P P 22 06 00.6 -0.5
FLN La Foliniere 42.87 310 *e*P P 22 06 00.6 -0.5
FLN La Foliniere 42.87 310 *e*P P 22 06 00.6 -0.5
ZAK Zakamensk 43.02 48 *e*P P 22 06 02.5 0.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s
GRR Gorron 43.09 309 *e*P P 22 06 01.8 -1.1
comp=Z,15nm,0.8s
GRR Gorron 43.09 309 *e*P P 22 06 01.8 -1.1
GRR pmax pmax
comp=Z,15nm,0.8s
GRR Gorron 43.09 309 *e*P P 22 06 01.8 -1.1
comp=Z,7.3nm,0.8s
GRR Gorron 43.09 309 *e*P P 22 06 01.8 -1.1
comp=Z,15nm,0.8s
TLY Talaya 43.42 46 LR LR 22 26 14.0
comp=Z,155nm,19.5s,baz=240,slow=39
SGMF Saint Gilles 44.21 309 *e*P P 22 06 11.0 -0.9
SGMF Saint Gilles 44.21 309 *e*P P 22 06 11.0 -0.9
SGMF Saint Gilles 44.21 309 *e*P P 22 06 11.0 -0.9
SGMF Saint Gilles 44.21 309 *e*P P 22 06 11.0 -0.9
QUIF Quistinic 44.60 309 *e*P P 22 06 13.9 -1.2
comp=Z,75nm,1.3s
QUIF Quistinic 44.60 309 *e*P P 22 06 13.9 -1.2
QUIF pmax pmax
comp=Z,75nm,1.3s
QUIF Quistinic 44.60 309 *e*P P 22 06 13.9 -1.2
comp=Z,38nm,1.3s
QUIF Quistinic 44.60 309 *e*P P 22 06 13.9 -1.2
comp=Z,75nm,1.3s
CMAR Chiang Mai Arr 44.61 94 P P 22 06 14.3 -1.2
CMAR pmax pmax
comp=Z,1.0nm,0.7s

CMAR	**Chiang Mai Arr**	**44.61**	**94**	P		**P**	**22 06 14.3**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=293,slow=8.6,SNR=13							
ROSF	**Rostrenen**	**44.69**	**309**	*eP*		**P**	**22 06 14.7**	**-1.1**
ROSF	**Rostrenen**	**44.69**	**309**	*eP*		**P**	**22 06 14.7**	**-1.1**
ROSF	**Rostrenen**	**44.69**	**309**	*eP*		**P**	**22 06 14.7**	**-1.1**
ROSF	**Rostrenen**	**44.69**	**309**	*eP*		**P**	**22 06 14.7**	**-1.1**
SONM	**Songino Array**	**44.87**	**51**	P		**P**	**22 06 17.4**	**0.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**44.87**	**51**	P		**P**	**22 06 17.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=267,slow=8.7,SNR=4.1							
ULN	**Ulaanbaatar**	**45.31**	**51**	*eP*		**P**	**22 06 20.7**	**-0.2**
ULN				pmax	pmax			
	comp=Z,8.0nm,2.5s							
KMI	**Kunming**	**45.37**	**84**	P		P	22 06 29.9	+8.1
KMI				pmax	pmax			
	comp=Z,11nm,1.1s							
ESDC	**Sonseca Array**	**45.50**	**297**	P		**P**	**22 06 22.9**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=73,slow=5.5,SNR=6.0							
ESDC				PcP		**PcP**	**22 08 01.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=37,slow=3.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**48.91**	**260**	P		**P**	**22 06 50.0**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=56,slow=8.2,SNR=49							
HHC	**Hu-ho-hao-te**	**48.97**	**61**	*eP*		**P**	**22 06 49.4**	**-0.1**
HHC				PP		**PP**	**22 08 42.6**	**-0.2**
HHC				S		**S**	**22 13 51.6**	**-2.2**
HHC				sS		**sS**	**22 13 59.8**	**+0.8**
HHC				PMZ				
	comp=Z,15nm,1.0s							
BOD	**Bodaibo**	**50.08**	**38**	*eP*		**P**	**22 06 56.8**	**-0.7**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.4s							
DAG	**Danmarks Havn**	**55.77**	**345**	*eP*		**P**	**22 07 41.5**	**+2.2**
DAG				pmax	pmax			
	comp=Z,1.0nm,0.8s							
DAG	**Danmarks Havn**	**55.77**	**345**	*i P*		**P**	**22 07 41.5**	**+2.2**
	comp=Z,1.8nm,0.8s							
TIXI	**Tiksi**	**57.21**	**22**	*eP*		P	22 07 54.4	+4.8
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.1s							
DBIC	**Dimbokro**	**57.75**	**258**	P		**P**	**22 07 55.0**	**+0.7**
DBIC				pmax	pmax			
	comp=Z,13nm,0.9s							
DBIC	**Dimbokro**	**57.75**	**258**	P		**P**	**22 07 55.0**	**+0.7**
	comp=Z,13nm,0.9s,baz=31,slow=8.4,SNR=14							
KIC	**Kosan Boka**	**57.82**	**257**	*eP*		**P**	**22 07 55.3**	**+0.5**
	comp=Z,27nm,0.8s							
TIC	**Toumodi**	**57.90**	**258**	*eP*		**P**	**22 07 55.8**	**+0.4**
	comp=Z,13nm,0.7s							
LIC	**Lamto**	**58.13**	**257**	*eP*		**P**	**22 07 57.7**	**+0.8**
	comp=Z,40nm,0.8s							
LIC	**Lamto**	**58.13**	**257**	*eP*		**P**	**22 07 57.7**	**+0.8**
	comp=Z,60nm,0.8s							
LIC	**Lamto**	**58.13**	**257**	*eP*		**P**	**22 07 57.7**	**+0.8**
	comp=Z,20nm,0.8s							
LIC	**Lamto**	**58.13**	**257**	*eP*		**P**	**22 07 57.7**	**+0.8**
	comp=Z,40nm,0.8s							
SUMG	**Summit**	**60.95**	**340**	*i P*		**P**	**22 08 15.8**	**-0.2**
SUMG				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SUMG	**Summit**	**60.95**	**340**	*i P*		**P**	**22 08 15.8**	**-0.2**
	comp=Z,9.7nm,0.9s							
SUMG	**Summit**	**60.95**	**340**	*i P*		**P**	**22 08 15.8**	**-0.2**
	comp=Z,9.7nm,0.9s							
SEY	**Seymchan**	**67.83**	**29**	P		**P**	**22 09 01.1**	**+0.4**
SEY				pmax	pmax			
	comp=Z,3.0nm,0.5s							
SEY	**Seymchan**	**67.83**	**29**	P		**P**	**22 09 01.1**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=218,slow=20							
BILL	**Bilibino**	**70.42**	**21**	*i P*		P	22 09 20.0	+3.3
BILL				*e*			22 11 53.7	
BILL				*eS*		S	22 18 19.1	-10
BILL				pmax	pmax			
	comp=Z,11nm,1.7s							
BILL				MLR	MLR			
	comp=Z,88nm,16.0s							
FRB	**Frobisher Bay**	**74.68**	**336**	P		**P**	**22 09 41.7**	**-0.4**
FRB				pmax	pmax			
	comp=Z,8.0nm,0.9s							
FRB	**Frobisher Bay**	**74.68**	**336**	P		**P**	**22 09 41.7**	**-0.4**
	comp=Z,7.6nm,0.9s,baz=40,slow=4.3,SNR=6.7							
SCHQ	**Schefferville**	**79.69**	**329**	P		**P**	**22 10 09.6**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=75,slow=16,SNR=3.7							
INK	**Inuvik**	**81.19**	**2**	P		**P**	**22 10 17.0**	**-1.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**81.19**	**2**	P		**P**	**22 10 17.0**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=9.5,slow=6.1,SNR=2.5							
INK	**Inuvik**	**81.19**	**2**	P		**P**	**22 10 17.0**	**-1.2**
ILAR	**Eielson Array**	**83.73**	**8**	P		**P**	**22 10 31.2**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=333,slow=5.4,SNR=4.3							
YKA	**Yellowknife Ar**	**86.42**	**354**	P		**P**	**22 10 45.0**	**-0.1**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**86.42**	**354**	P		**P**	**22 10 45.0**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=8.8,slow=5.3,SNR=5.0							
YKA	**Yellowknife Ar**	**86.42**	**354**	P		**P**	**22 10 45.0**	**-0.1**
YKA	**Yellowknife Ar**	**86.42**	**354**	P		**P**	**22 10 45.0**	**-0.1**
WRA	**Warramunga Arr**	**94.17**	**111**	P		**P**	**22 11 20.3**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=317,slow=3.7,SNR=2.8							

GUC 13 21:58:32.9±0.8, 34.74S×71.81W, h43km±5km, ML3.5,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.54**	**119**	*eP*	Pn	21 58 44.2	-0.1
NICH				*eS*	Sn	21 58 52.3	-0.2
TALC	**Talca**	**0.67**	**168**	*eP*	Pn	21 58 46.3	+0.3
TALC				*eS*	Sn	21 58 55.8	+0.4
LNV	**Longovilo**	**0.85**	**23**	*eP*	Pn	21 58 48.7	+0.2
LNCH	**Linares**	**1.11**	**171**	*eS*	Sn	21 59 08.1	+1.8
CHCH	**Chadas Angostu**	**1.25**	**50**	*eP*	Pn	21 58 54.7	+0.7
RCDM	**Rinconada Maip**	**1.50**	**34**	*eP*	Pn	21 58 57.6	+0.2
RCDM				*eS*	Sn	21 59 17.7	+1.8
COCH	**Cobquecura**	**1.60**	**210**	*eP*	Pn	21 58 59.6	+0.9
CLCH	**Cerro Calan**	**1.71**	**39**	*eP*	Pn	21 59 01.5	+1.2
CLCH				*eS*	Sn	21 59 23.6	+2.6
CLCH				AML	AML	21 59 27.7	
	comp=N,761nm,0.6s						
PEL	**Peldehue**	**1.85**	**31**	*eP*	Pn	21 59 03.6	+1.4
PEL				*eS*	Sn	21 59 27.4	+2.9
PEL				AML	AML	21 59 32.3	
	comp=N,604nm,0.4s						
FCH	**Farellones**	**1.89**	**42**	*eP*	Pn	21 58 57.9	-5.3
FCH				*eS*	Sn	21 59 23.4	-2.8

CSEM 13 21:58:51.8, 46.07N×14.33E, h0km, ML0.6
LJU 13 21:58:51.8, 46.07N×14.33E, h8km, ML0.6, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRNS	**Crni Vrh**	**0.05**	**280**	*i Pg*	Pg	21 58 53.6	0.0
CRNS				*i Sg*	Sg	21 58 54.9	0.0
	comp=Z,94nm,0.1s						
LJU	**Ljubljana**	**0.14**	**102**	*i Pg*	Pg	21 58 55.2	+0.3
	comp=Z,4.0nm,0.1s						
LJU	**Ljubljana**	**0.14**	**102**	*i Pg*	Pg	21 58 55.2	+0.4
	comp=Z,4.0nm,0.1s						
MOZS	**Mozjanca**	**0.23**	**19**	*i Pg*	Pg	21 58 57.0	+0.4
	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.23**	**19**	*i Pg*	Pg	21 58 57.0	+0.4
	comp=Z,2.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.26**	**83**	*i Pg*	Pg	21 58 57.3	+0.3
	comp=Z,1.0nm,0.1s						
JAVS	**Javornik**	**0.26**	**227**	*i Pg*	Pg	21 58 57.1	-0.1
JAVS				*i Sg*	Sg	21 59 01.1	+0.3
	comp=Z,2.0nm,0.1s						
JAVS	**Javornik**	**0.26**	**227**	*i Pg*	Pg	21 58 57.1	0.0
JAVS				*i Sg*	Sg	21 59 01.1	+0.4
	comp=Z,2.0nm,0.1s						
VOJS	**Vojsko**	**0.32**	**263**	*i Pg*	Pg	21 58 58.2	0.0
VOJS				*i Sg*	Sg	21 59 03.2	+0.6
	comp=Z,2.0nm,0.1s						
VOJS	**Vojsko**	**0.32**	**263**	*i Pg*	Pg	21 58 58.2	0.0
VOJS				*i Sg*	Sg	21 59 03.2	+0.7
	comp=Z,2.0nm,0.1s						
CEY	**Cerknica**	**0.34**	**169**	*i Pg*	Pg	21 58 58.4	-0.2
	comp=Z,6.0nm,0.2s						
CEY	**Cerknica**	**0.34**	**169**	*i Pg*	Pg	21 58 58.3	-0.3
	comp=Z,6.0nm,0.2s						
GORS	**Gorjuse**	**0.34**	**316**	*i Pg*	Pg	21 58 58.4	-0.3
GORS	**Gorjuse**	**0.34**	**316**	*i Pg*	Pg	21 58 58.4	-0.3

OTT 13 22:02:07.9±0.6, 76.99N×120.84W, h18km, ML4.1/9, 94km northwest from Mould Bay, Nt
IDC 13 22:02:08.2±1.2, 76.86N×120.28W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.3/47, mbtmp3.6/6, ML3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/42, Error ellipse: s-maj=39.7km s-min=20.2km az=76.0
ISC 13 22:02:08.6±1.0, 76.57N±0.06×119.51W±0.07, h10km, n25,
σ2s47/37, mb3.8/3, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**6.38**	**95**	PN	**Pn**	**22 03 45.4**	**+3.0**
RES				SN	**Sn**	**22 04 56.9**	**+1.7**
RES				Trac		22 05 09.0	
	comp=Z,12nm,0.5s						
RES	**Resolute Bay**	**6.38**	**95**	Pn	**Pn**	**22 03 44.9**	**+2.5**
	0.4nm,0.3s,baz=348,slow=11,SNR=19						
EUNU	**Eureka**	**7.46**	**47**	PN	**Pn**	**22 03 56.3**	**-1.0**
EUNU				SN	Sn	22 05 14.2	-7.6
EUNU				Trac		22 05 25.8	
	comp=Z,43nm,2.1s						
INK	**Inuvik**	**9.28**	**214**	PN	**Pn**	**22 04 22.4**	**+0.2**
INK				SN	**Sn**	**22 06 02.7**	**-3.7**
INK				Trac		22 06 11.9	
	comp=Z,4.6nm,0.4s						
INK	**Inuvik**	**9.28**	**214**	Pn	**Pn**	**22 04 22.4**	**+0.2**
	0.3nm,0.3s,baz=10,slow=19,SNR=11						
INK				Sn	**Sn**	**22 06 03.6**	**-2.7**
	1.3nm,0.3s,baz=254,slow=29,SNR=7.1						
DHRN	**Dharma Camp**	**9.59**	**180**	PN	Pn	22 04 29.7	+3.3
DHRN				SN	**Sn**	**22 06 15.6**	**+1.6**
DHRN				Trac		22 06 19.7	
	comp=Z,6.0nm,0.4s						
STLN	**Stellar Camp,**	**12.23**	**125**	PN	**Pn**	**22 05 05.5**	**+3.0**
STLN				SN	**Sn**	**22 07 17.1**	**-1.7**
STLN				Trac		22 07 22.5	
	comp=Z,12nm,0.5s						
AP3N	**Apex site 3 Nu**	**12.24**	**107**	PN	**Pn**	**22 05 05.0**	**+2.3**
AP3N				SN	**Sn**	**22 07 16.4**	**-2.5**
AP3N				Trac		22 07 21.2	
	comp=Z,4.5nm,0.5s						
CTLN	**Castor Lake**	**12.26**	**173**	PN	**Pn**	**22 05 05.2**	**+2.3**
CTLN				Trac		22 07 27.7	
	comp=Z,56nm,2.2s						
GIFN	**Gifford Fjord,**	**12.47**	**102**	PN	**Pn**	**22 05 08.2**	**+2.5**
GIFN				SN	**Sn**	**22 07 23.0**	**-1.5**
GIFN				Trac		22 07 31.3	
	comp=Z,17nm,1.1s						
GALN	**Gameti Lake**	**12.54**	**176**	PN	**Pn**	**22 05 09.2**	**+2.4**
GALN				SN	**Sn**	**22 07 25.6**	**-0.6**
GALN				Trac		22 07 28.7	
	comp=Z,9.4nm,0.8s						
LAIN	**Lailor River,**	**12.72**	**107**	PN	**Pn**	**22 05 11.7**	**+2.5**
LAIN				SN	**Sn**	**22 07 32.7**	**+2.0**
LAIN				Trac		22 07 53.5	
	comp=Z,198nm,2.6s						
ILON	**Igloolik, Nuna**	**12.90**	**104**	PN	**Pn**	**22 05 13.6**	**+1.9**
ILON				SN	**Sn**	**22 07 32.4**	**-2.7**
ILON				Trac		22 07 52.3	
	comp=Z,4.5nm,0.5s						
BULN	**Bullion Camp,**	**13.02**	**127**	PN	Pn	22 05 18.1	+4.8
BULN				SN	**Sn**	**22 07 34.8**	**-3.0**
BULN				Trac		22 07 36.4	
	comp=Z,4.2nm,0.3s						
QILN	**Qikiltugaq Expl**	**14.13**	**117**	PN	**Pn**	**22 05 31.1**	**+2.7**
QILN				SN	**Sn**	**22 08 01.8**	**-3.1**
QILN				Trac		22 08 13.7	
	comp=Z,46nm,2.0s						
YKW3	**Yellowknife Ar**	**14.17**	**171**	PN	Pn	22 05 32.4	+3.4
YKW3				SN	**Sn**	**22 08 04.3**	**-1.7**
YKW3				SN	**Sn**	**22 08 04.6**	**-1.5**
YKW3				Trac		22 08 10.7	
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**14.24**	**171**	Pn	**Pn**	**22 05 32.2**	**+2.2**
	0.3nm,0.3s,baz=357,slow=13,SNR=12						
YKA				Sn	**Sn**	**22 08 03.1**	**-4.6**
	0.3nm,0.3s,baz=309,slow=32,SNR=8.2						
SNLN	**Sandy Lake, NW**	**14.35**	**158**	PN	Pn	22 05 35.0	+3.6
SNLN				SN	**Sn**	**22 08 09.5**	**-0.9**
SNLN				Trac		22 08 14.3	
	comp=Z,3.4nm,0.3s						
NUNN	**Nunuq Camp, NU**	**14.46**	**126**	PN	**Pn**	**22 05 35.8**	**+2.9**
NUNN				SN	**Sn**	**22 08 09.8**	**-3.2**
NUNN				Trac		22 08 18.2	
	comp=Z,25nm,1.1s						
SEDN	**First Sedna Si**	**16.22**	**130**	PN	**P**	**22 05 58.6**	**-0.7**
SEDN				SN	Sn	22 08 48.2	-7.6
SEDN				Trac		22 08 54.0	
	comp=Z,2.5nm,0.2s						
JOSN	**Second Sedna S**	**16.25**	**130**	PN	**P**	**22 06 01.6**	**+2.1**
JOSN				SN	**Sn**	**22 08 52.5**	**-3.9**
JOSN				Trac		22 08 58.9	
	comp=Z,9.8nm,0.8s						
PDAR	**Pinedale Array**	**34.17**	**167**	P	P	22 08 58.5	+4.7
	0.5nm,0.7s,baz=6.7,slow=8.5,SNR=4.6						
YBH	**Yreka Blue Hor**	**34.97**	**184**	LR	LR	22 23 31.1	
	comp=Z,58nm,20.7s,baz=302,slow=36						
ZALV	**Zalesovo Beam**	**48.83**	**341**	P	**P**	**22 10 51.9**	**-1.4**
	0.6nm,0.4s,baz=354,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**56.13**	**342**	P	**P**	**22 11 46.3**	**-1.3**
	0.6nm,0.6s,baz=359,slow=5.6,SNR=9.7						

MEX 13 22:16:26.7±0.6, 32.94N×115.54W, h16km±15km, MD3.5
ISCJB 13 22:16:27.6±1.0, 32.67N±0.04×115.72W±0.04, h11km±8km, Error ellipse: s-maj=6.5km s-min=5.2km az=43.1
NEIC 13 22:16:28.0, 32.61N×115.72W, h6km, ML3.0(PAS), After PAS.
ISC 13 22:16:27.5±1.2, 32.69N±0.04×115.71W±0.03, h20km±7km,
n10, σ0s73/20, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.43**	**128**	*eP*	**Pb**	**22 16 36.4**	**0.0**
CPBX				*eS*	**Sb**	**22 16 43.8**	**+1.3**
BAR	**Barrett**	**0.81**	**270**	*eP*	**Pb**	**22 16 42.8**	**-0.2**
BAR				*eS*	**Sb**	**22 16 53.5**	**+0.1**
GLA	**Glamis**	**0.83**	**64**	*eP*	**Pb**	**22 16 43.1**	**-0.2**
GLA				*eS*	**Sn**	**22 16 54.9**	**-0.9**
CBX	**Cerro Bola**	**0.89**	**246**	*i P*	**Pb**	**22 16 44.1**	**-0.2**
CBX				*i S*	**Sn**	**22 16 57.5**	**+0.3**
CBX	**Cerro Bola**	**0.89**	**246**	*i P*	**Pb**	**22 16 44.2**	**-0.2**
CBX				*eS*	**Sb**	**22 16 55.2**	**-0.5**
PFO	**Pinyon Flats O**	**1.11**	**326**	*eP*	**Pn**	**22 16 48.0**	**-0.1**
PFO				*eS*	**Sn**	**22 17 02.8**	**-0.1**
SPIG	**San Pedro Mart**	**1.65**	**173**	*eP*	**Pn**	**22 16 55.4**	**-0.2**
SPIG				*i S*	**Sb**	**22 17 17.8**	**-0.1**
SPIG	**San Pedro Mart**	**1.65**	**173**	*eP*	**Pn**	**22 16 55.4**	**-0.2**
SPIG				*i S*	**Sb**	**22 17 17.8**	**-0.1**
SPX	**San Pedro Mart**	**1.65**	**173**	*eP*	**Pn**	**22 16 55.3**	**-0.3**
SPX				*eS*	**Sb**	**22 17 18.4**	**+0.6**
MWC	**Mount Wilson**	**2.49**	**309**	*ePn*	**Pn**	**22 17 09.0**	**+1.9**
MWC				*eSn*	**Sb**	**22 17 40.9**	**-1.1**

ISCJB 13 22:25:27.7±0.3, 10.70N±0.03×62.42W±0.03, h83km±4km, mb3.8/4, Error ellipse: s-maj=5.3km s-min=3.1km az=137.9
IDC 13 22:25:27.5±7.3, 10.70N×62.53W, h69km±84km, mb3.5/4, mb1 3.9/5, mb1mx3.2/35, mbtmp4.0/5, ML4.8/1, Error ellipse: s-maj=65.8km s-min=23.1km az=23.0
TRN 13 22:25:29.7, 10.72N×62.33W, h81km, MD3.9
FUNV 13 22:25:31.5, 10.62N×62.43W, h57km, MW3.7
ISC 13 22:25:28.2±0.8, 10.69N±0.04×62.42W±0.03, h79km±7km,
n41, σ1s33/61, mb4.0/4, 5C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.20**	**104**	*i P*	**Pn**	**22 25 40.4**	**+0.6**
GUIV				*eS*	**Sn**	**22 25 47.9**	**-0.6**
TCE	**Chacachacare**	**0.66**	**90**	*eP*	**Pn**	**22 25 44.0**	**+0.6**
GUNV	**Guanoco**	**0.74**	**224**	*i P*	**Pn**	**22 25 46.2**	**+2.0**
GUNV				*eS*	**Sn**	**22 25 54.9**	**-1.2**
CRUV	**Carupano**	**0.80**	**269**	*i P*	**Pn**	**22 25 45.9**	**+1.0**
CRUV				*eS*	**Sn**	**22 25 56.3**	**-1.0**
TRN	**Trinidad (W)**	**1.00**	**93**	*i P*	**Pn**	**22 25 48.1**	**+0.9**
TRN				*eS*	**Sn**	**22 26 00.6**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.02**	**111**	*i P*	**Pn**	**22 25 49.0**	**+1.5**
TBH	**Brigand Hill**	**1.35**	**99**	*i P*	**Pn**	**22 25 52.6**	**+1.1**
TBH				*eS*	**Sn**	**22 26 08.2**	**-0.9**
GRW	**Mount Saint Ca**	**1.64**	**27**	*eP*	**Pn**	**22 25 55.5**	**+0.1**
GRW				*eS*	**Sn**	**22 26 16.4**	**+0.5**
TPR	**Prospect**	**1.69**	**73**	*eP*	**Pn**	**22 25 56.4**	**+0.4**
TPR				*eS*	**Sn**	**22 26 16.7**	**-0.2**
GRHS	**Sauteurs**	**1.70**	**27**	*eP*	**Pn**	**22 25 57.3**	**+1.2**
GRHS				*eS*	**Sn**	**22 26 17.5**	**+0.2**
BOT	**Bacolet**	**1.73**	**74**	*eP*	**Pn**	**22 25 56.7**	**+0.2**
BOT				*eS*	**Sn**	**22 26 17.9**	**-0.2**
GRSS	**Sisters**	**1.78**	**26**	*eP*	**Pn**	**22 25 58.9**	**+1.7**
GRSS				*eS*	**Sn**	**22 26 18.9**	**-0.2**
ORIV	**Oritupano**	**1.89**	**211**	*i P*	**Pn**	**22 26 00.7**	**+2.1**
TOSP	**Speyside**	**1.94**	**72**	*eP*	**Pn**	**22 25 59.7**	**+0.4**
TOSP				*eS*	**Sn**	**22 26 21.7**	**-1.3**
PCRV	**Puerto La Cruz**	**2.24**	**257**	*eP*	**Pn**	**22 26 05.4**	**+2.0**
PCRV				*eS*	**Sn**	**22 26 28.8**	**-1.4**
RIOV	**Rio Grande**	**2.68**	**167**	*eP*	**Pn**	**22 26 10.8**	**+1.6**
RIOV				*eS*	**Sn**	**22 26 38.8**	**-1.9**
FCV	**Fort Charlotte**	**2.70**	**25**	*eP*	**Pn**	**22 26 10.6**	**+1.0**
FCV				*eS*	**Sn**	**22 26 40.8**	**-0.5**
SVB	**Belmont**	**2.81**	**24**	*eS*	**Sn**	**22 26 42.2**	**-1.6**
SVV	**Soufriere Volc**	**2.86**	**24**	*eP*	**Pn**	**22 26 13.4**	**+1.7**
SVV				*eS*	**Sn**	**22 26 44.1**	**-1.0**
SSV	**Crater Summit**	**2.88**	**25**	*eP*	**Pn**	**22 26 12.2**	**+0.2**
SSV				*eS*	**Sn**	**22 26 44.8**	**-0.9**
PRGV	**PARIAGUAN**	**2.92**	**229**	*eP*	**Pn**	**22 26 13.8**	**+1.3**
PRGV				*eS*	**Sn**	**22 26 45.8**	**-0.7**
GURV	**El Guri**	**2.99**	**193**	*eP*	**Pn**	**22 26 14.3**	**+0.9**
MCLT	**Moule a Chique**	**3.33**	**26**	*eP*	**Pn**	**22 26 18.6**	**+0.6**
MCLT				*eS*	**Sn**	**22 26 54.9**	**-1.5**
CUPV	**Cepira**	**3.37**	**259**	*eP*	**Pn**	**22 26 20.9**	**+2.2**
ORCV	**Isla La Orchil**	**3.87**	**287**	*eP*	**Pn**	**22 26 26.6**	**+1.3**
TRMF	**Trois Ilets**	**4.04**	**19**	*eP*	**Pn**	**22 26 28.8**	**+1.0**
MEMV	**Las Mercedes**	**4.08**	**250**	*eP*	**Pn**	**22 26 29.6**	**+1.3**
ZAM	**Aeronautique**	**4.09**	**19**	*eP*	**Pn**	**22 26 30.1**	**+1.8**
LPMF	**Morne Lapointe**	**4.11**	**20**	*eP*	**Pn**	**22 26 29.7**	**+1.1**
MVM	**Montagne Vaucl**	**4.12**	**21**	*eP*	**Pn**	**22 26 30.1**	**+1.4**
FDF	**Fort de France**	**4.20**	**17**	*eP*	**Pn**	**22 26 31.1**	**+1.1**
FDF				*eS*	**Sn**	**22 27 14.7**	**-3.1**
FUNV	**FUNVISIS**	**4.32**	**267**	*eP*	**Pn**	**22 26 34.0**	**+2.4**
BAUV	**El Baul**	**5.81**	**253**	*eP*	**Pn**	**22 26 52.3**	**+0.4**
BAUV				*eS*	**Sn**	**22 27 53.6**	**-3.5**
SANV	**Sanarito**	**7.11**	**261**	*eP*	**Pn**	**22 27 10.7**	**+0.9**
SIQV	**Siquisique**	**7.26**	**270**	*eP*	**Pn**	**22 27 12.7**	**+1.0**
CURV	**Curarigua**	**7.45**	**265**	*eP*	**Pn**	**22 27 14.7**	**+0.3**
PTGA	**Pitinga**	**11.61**	**168**	P	**Pn**	**22 28 10.8**	**-0.3**
	6.4nm,0.3s,baz=352,slow=19,SNR=52						
PTGA				S	Sn	22 30 12.0	-7.0
	3.7nm,0.3s,baz=55,slow=20,SNR=12						
TXAR	**Lajitas Array**	**42.68**	**302**	P	**P**	**22 33 17.5**	**-0.1**
	0.3nm,0.4s,baz=119,slow=10.0,SNR=12						
SCHQ	**Schefferville**	**44.16**	**356**	P	**P**	**22 33 29.2**	**+0.2**
	1.2nm,0.5s,baz=249,slow=14,SNR=4.8						
PDAR	**Pinedale Array**	**51.90**	**317**	P	**P**	**22 34 27.9**	**-1.3**
	0.8nm,0.6s,baz=116,slow=8.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**62.63**	**81**	P	**P**	**22 35 46.1**	**+1.1**
	0.6nm,0.4s,baz=289,slow=6.6,SNR=16						

ISCJB 13 23:02:04.4±0.7, 1.80N±0.06×127.42E±0.06, h128km, mb4.2/7, Error ellipse: s-maj=9.2km s-min=7.4km az=40.5
IDC 13 23:02:04.9±7.2, 1.80N×127.46E, h120km±68km, mb3.8/7, mb1 4.0/7, mb1mx3.5/32, mbtmp4.2/7, Error ellipse: s-maj=69.5km s-min=15.9km az=71.0
DJA 13 23:02:09.9±0.5, 2°N±4′×12°7E±1′, h27km±9km, M4.3/5, mb4.9/2, mB4.8/1, MLv4.1/5, Mw(mB)4.0/1
ISC 13 23:02:05.9±0.8, 1.78N±0.08×127.40E±0.08, h128km, n30,
σ1s03/32, mb4.2/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.00**	**182**	P	**Pn**	**23 02 26.8**	**-1.9**
LBMI	**Labuha**	**2.41**	**178**	P	**Pn**	**23 02 45.6**	**+0.7**
LBMI				S	**Sn**	**23 03 15.8**	**+1.0**
SGSI	**Sangihe**	**2.66**	**315**	P	**Pn**	**23 02 50.7**	**+2.6**
KMSI	**Cibinong**	**3.63**	**251**	P	**Pn**	**23 03 01.2**	**+0.5**
KMSI				S	**Sn**	**23 03 42.6**	**-0.5**
SANI	**Sanana**	**4.06**	**200**	P	**Pn**	**23 03 05.7**	**-0.8**
SANI				S	**Sn**	**23 03 51.8**	**-1.6**
GTNI	**Gorontalo**	**4.54**	**256**	P	**Pn**	**23 03 14.7**	**+1.9**
NLAI	**Namlea**	**5.00**	**183**	P	**Pn**	**23 03 20.7**	**+1.7**
MSAI	**Masohi**	**5.32**	**163**	P	Pn	23 03 27.0	+3.7
MRSI	**Marisa

HARU	**Harads**	**1.71**	**171**	P		Pb	23 22 42.0	0.0
SGF	**Sodankyl**	**2.41**	**97**	*e*PB		Pb	23 22 54.0	0.0
SGF	**Sodankyl**	**2.41**	**97**	Pb		Pb	23 22 54.0	0.0
ARE0	**ARCESS Array S**	**2.54**	**46**	*e*PG		Pg	23 22 58.2	-0.5
ARE0				*e*SG		Sg	23 23 31.6	0.0
ARE0				MSG			23 23 31.6	
	comp=Z,2.0nm,0.3s							
ARE0	**ARCESS Array S**	**2.54**	**46**	Pg		Pg	23 22 58.2	-0.5
ARE0				Sg		Sg	23 23 31.6	0.0
	comp=Z,2.0nm,0.3s							
RNF	**Rovaniemi**	**2.55**	**117**	*e*PB		Pb	23 22 55.2	-1.0
RNF				MSG		Sg	23 23 30.1	-1.4
	comp=Z,6.4nm,0.3s							
RNF				*e*SG		Sg	23 23 30.1	-1.4
RNF	**Rovaniemi**	**2.55**	**117**	Pb		Pb	23 22 55.2	-1.0
RNF				Sg		Sg	23 23 30.1	-1.5

CSEM ***13*** *23:37:48.5±1.0, 79.4°N×3.4°E, h10km, ML3.8, Error ellipse: s-maj=39.6km s-min=10.4km az=4.0*

ISCJB ***13*** *23:37:50.4±0.5, 78.9°N±0.0°×3.3°E±0.2, h12km, mb3.5/13, MS3.6/2, Error ellipse: s-maj=10.2km s-min=5.2km az=14.7*

IDC ***13*** *23:37:51.3±0.6, 79.2°N×2.8°E, h0km, mb3.6/13, mb1 3.8/18, mb1mx3.6/53, mbtmp3.7/18, ML3.5/4, MS3.0/7, Ms1 3.0/7, ms1mx2.8/53, Error ellipse: s-maj=17.1km s-min=12.3km az=39.0*

NAO ***13*** *23:37:52.6±3.6, 79.2°N×4.4°E, ML3.8*

BER ***13*** *23:37:54.0±2.6, 79.3°N×4.3°E, h10km, MD2.6, ML3.1, ML3.8(NAO)*

ISC 13 23:37:52.1±0.6,**79.10N**±0.07×**3.27E**±0.05,**h12**km,**n55,** σ2s**12**/63,**mb3.5**/13,**2C, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.67**	**92**	Pg		Pn		**23 38 19.1**	**-2.0**
KBS				Lg		Lg		23 38 38.1	
KBS	**Kingsbay**	**1.67**	**92**	⇑*i*P		**Pn**		**23 38 19.4**	**-1.7**
KBS				*e*S		**Sn**		**23 38 37.9**	**-4.5**
KBS				Lg		Lg		23 38 38.1	
KBS				IAML				23 38 39.4	
	comp=Z,403nm,0.3s								
KBS	**Kingsbay**	**1.67**	**92**	Pg		**Pn**		**23 38 19.1**	**-2.0**
KBS	**Kingsbay**	**1.67**	**92**	⇑*i*P		**Pn**		**23 38 19.4**	**-1.7**
	SNR=50								
KBS				*e*S		**Sn**		**23 38 37.9**	**-4.5**
	SNR=50								
KBS				Lg		Lg		23 38 38.1	
SPA0	**Spitsbergen Ar**	**2.75**	**103**	Pn		**Pn**		**23 38 35.5**	**-0.4**
	baz=302,slow=8.6								
SPA0				Sn		**Sn**		**23 39 06.0**	**-3.0**
SPA0	**Spitsbergen Ar**	**2.75**	**103**	Pn		**Pn**		**23 38 35.5**	**-0.4**
	baz=302,slow=8.6								
SPA0				Sn		**Sn**		**23 39 06.0**	**-3.0**
SPA0	**Spitsbergen Ar**	**2.75**	**103**	Pn		**Pn**		**23 38 35.5**	**-0.4**
	SNR=68								
SPA0				Sn		**Sn**		**23 39 06.1**	**-3.0**
SPITS	**Spitsbergen Ar**	**2.75**	**103**	Pn		**Pn**		**23 38 35.5**	**-0.4**
	baz=280,slow=12,SNR=2948								
SPITS				LR		LR		23 39 46.7	
	comp=Z,491nm,18.9s,baz=80,slow=40								
HSP	**Hornsund**	**3.30**	**123**	Pn		**Pn**		**23 38 42.2**	**-1.2**
HSP	**Hornsund**	**3.30**	**123**	*e*P		**Pn**		**23 38 42.2**	**-1.2**
HSP				*e*S		**Sn**		**23 39 18.5**	**-4.0**
HSP	**Hornsund**	**3.30**	**123**	Pn		**Pn**		**23 38 42.2**	**-1.2**
HSPB	**Hornsund (broa**	**3.30**	**123**	*e*P		**Pn**		**23 38 42.4**	**-1.1**
HSPB				*e*S		**Sn**		**23 39 19.6**	**-3.0**
HSPB				IAML				23 39 22.5	
	comp=Z,112nm,0.3s								
HSPB	**Hornsund (broa**	**3.30**	**123**	*e*P		**Pn**		**23 38 42.4**	**-1.1**
	SNR=50								
HSPB				*e*S		**Sn**		**23 39 19.6**	**-3.0**
	SNR=50								
DAG	**Danmarks Havn**	**5.13**	**254**	*i* P		**Pn**		**23 39 07.0**	**-1.5**
DAG				*i* S		Sn		23 39 59.8	-7.7
HOPEN	**Hopen**	**5.26**	**108**	Pn		**Pn**		**23 39 08.9**	**-1.4**
HOPEN	**Hopen**	**5.26**	**108**	*e*P		**Pn**		**23 39 09.0**	**-1.4**
HOPEN				*e*S		**Sn**		**23 40 06.1**	**-4.7**
HOPEN				IAML				23 40 10.8	
	comp=Z,77nm,0.3s								
HOPEN	**Hopen**	**5.26**	**108**	*e*P		**Pn**		**23 39 09.0**	**-1.4**
	SNR=49								
BJO	**Bjornoya**	**5.85**	**134**	*e*P		**Pn**		**23 39 19.8**	**+1.4**
BJO	**Bjornoya**	**5.85**	**134**	*e*P		**Pn**		**23 39 19.8**	**+1.4**
	SNR=49								
JMIC	**Jan Mayen**	**8.67**	**206**	Pn		**Pn**		**23 39 56.5**	**-0.6**
	comp=Z,14nm,0.3s,baz=146,slow=4.8,SNR=6.0								
ARA0	**ARCESS Array S**	**11.20**	**137**	Pn		**Pn**		**23 40 31.8**	**+0.1**
	baz=349,slow=12								
ARA0				Sn		**Sn**		**23 42 31.9**	**-4.6**
ARA0	**ARCESS Array S**	**11.20**	**137**	Pn		**Pn**		**23 40 31.8**	**+0.1**
	baz=349,slow=12								
ARA0				Sn		**Sn**		**23 42 31.9**	**-4.6**
ARA0	**ARCESS Array S**	**11.20**	**137**	Pn		**Pn**		**23 40 31.8**	**+0.1**
	SNR=7.2								
ARCES	**ARCESS Array B**	**11.20**	**137**	Pn		**Pn**		**23 40 32.2**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=346,slow=12,SNR=17								
ARCES				LR		LR		23 44 47.7	
	comp=Z,57nm,20.0s,baz=344,slow=37								
SUMG	**Summit**	**11.79**	**259**	*i* P		Pn		23 40 38.3	-1.8
	SNR=71								
SUMG	**Summit**	**11.79**	**259**	*i* P		Pn		23 40 38.3	-1.8
SUMG				*i* S		Sn		23 42 39.7	-12
APA0	**Apatity Array**	**14.04**	**128**	Pn		**Pn**		**23 41 08.4**	**-2.0**
APA0	**Apatity Array**	**14.04**	**128**	Pn		**Pn**		**23 41 08.4**	**-2.0**
APA0	**Apatity Array**	**14.04**	**128**	Pn		**Pn**		**23 41 08.4**	**-2.0**
NOA	**NORSAR Array B**	**18.31**	**168**	LR		LR		23 48 00.1	
	comp=Z,32nm,19.1s,baz=30,slow=33								
SFJD	**Kangerlussuaq**	**18.77**	**261**	P		**P**		**23 42 07.3**	**-3.3**
	comp=Z,0.9nm,0.3s,baz=347,slow=11,SNR=5.2								
SFJD				LR		LR		23 48 16.8	
	comp=Z,40nm,20.2s,baz=25,slow=33								
FIA0	**FINESS Array S**	**19.04**	**145**	P		**Pn**		**23 42 14.6**	**+0.2**
FIA0	**FINESS Array S**	**19.04**	**145**	P		**Pn**		**23 42 14.6**	**+0.2**
FIA0	**FINESS Array S**	**19.04**	**145**	P		**Pn**		**23 42 14.6**	**+0.2**
FINES	**FINESS Array B**	**19.04**	**145**	P		**Pn**		**23 42 14.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=332,slow=11,SNR=6.8								
FINES				LR		LR		23 49 11.6	
	comp=Z,74nm,22.0s,baz=356,slow=36								
HFS	**Hagfors**	**19.33**	**164**	P		**Pn**		**23 42 18.7**	**+0.9**
	baz=355,slow=10								
HFS	**Hagfors**	**19.33**	**164**	P		**Pn**		**23 42 18.7**	**+0.9**
	baz=355,slow=10								
HFS	**Hagfors**	**19.33**	**164**	P		**Pn**		**23 42 19.8**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=339,slow=7.1,SNR=9.6								
HFS				LR		LR		23 48 43.6	
	comp=Z,43nm,20.7s,baz=331,slow=34								
HFS	**Hagfors**	**19.33**	**164**	P		**Pn**		**23 42 18.7**	**+0.9**
	SNR=4.1								
RES	**Resolute Bay**	**20.08**	**310**	P		**P**		**23 42 22.4**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=34,slow=14,SNR=30								
FRB	**Frobisher Bay**	**25.08**	**275**	P		**P**		**23 43 16.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=26,slow=9.9,SNR=6.0								
OBN	**Obninsk**	**26.50**	**135**	LR		LR		23 54 28.1	
	comp=Z,26nm,19.7s,baz=91,slow=37								
AKASG	**Malin Array Be**	**29.95**	**146**	P		**P**		**23 44 00.9**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=350,slow=9.4,SNR=4.2								
GERES	**GERESS Array B**	**30.61**	**166**	P		**P**		**23 44 08.1**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=22,slow=11,SNR=2.8								
YKA	**Yellowknife Ar**	**34.09**	**313**	P		**P**		**23 44 36.3**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=8.4,slow=8.1,SNR=5.2								
YKA				PP			PnPn	23 45 38.2	-11
	comp=Z,0.2nm,0.8s,baz=23,slow=11,SNR=4.5								
YKA				PcP			**PcP**	**23 47 13.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=10,slow=2.9,SNR=7.6								
BVAR	**Borovoye Array**	**34.20**	**98**	P		P		23 44 40.1	+3.2
	comp=Z,0.8nm,0.7s,baz=334,slow=10,SNR=5.9								
ILAR	**Eielson Array**	**35.29**	**338**	P		**P**		**23 44 46.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=8.1,slow=7.9,SNR=5.2								
ILAR				PcP			**PcP**	**23 47 16.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=338,slow=3.2,SNR=4.8								
KURBB	**Kurchatov Arra**	**38.03**	**91**	P		**P**		**23 45 12.2**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=338,slow=7.8,SNR=9.3								
ESDC	**Sonseca Array**	**39.65**	**189**	P		**P**		**23 45 25.8**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=358,slow=8.9,SNR=4.3								
BRTR	**Keskin Array B**	**41.27**	**144**	P		**P**		**23 45 39.4**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=353,slow=8.7,SNR=3.9								
MKAR	**Makanchi Array**	**42.42**	**89**	P		**P**		**23 45 47.9**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=336,slow=6.2,SNR=10.0								
SONM	**Songino Array**	**45.87**	**66**	P		**P**		**23 46 14.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=339,slow=7.9,SNR=3.8								
SONM				PcP			**PcP**	**23 47 51.3**	**+0.7**
	comp=Z,0.1nm,0.7s,baz=308,slow=4.0,SNR=3.7								
ANMO	**Albuquerque**	**59.53**	**296**	LR		LR		00 13 31.6	

	comp=Z,297nm,19.1s,baz=261,slow=36								
TORD	**Torodi Ar. Bea**	**65.97**	**182**	P		**P**		**23 48 39.7**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=353,slow=7.1,SNR=8.5								
CMAR	**Chiang Mai Arr**	**73.08**	**81**	P		**P**		**23 49 21.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=340,slow=8.0,SNR=6.0								

ISCJB ***13*** *23:49:34.8±0.4, 33.2°N±0.0°×96.6°E±0.0°, h5km±2km, mb6.2/420, MS6.9/329, Error ellipse: s-maj=2.1km s-min=1.6km az=17.6*

IDC ***13*** *23:49:35.1±0.3, 33.2°N×96.7°E, h0km, mb5.8/40, mb1 5.8/44, mb1mx5.8/47, mbtmp5.8/44, ML5.1/4, MS6.8/42, Ms1 6.8/42, ms1mx6.7/48, Error ellipse: s-maj=7.7km s-min=5.6km az=28.0*

BJI ***13*** *23:49:36.1, 33.2°N×96.5°E, h14km, mB6.8/56, mb6.2/56, ML6.6/12, Ms7.3/60, Ms7 7.1/79*

NEIC ***13*** *23:49:37.0±0.0, 33.2°N×96.6°E, h15km Best double couple: NP1:φs29.0000°, δ86.00000°, λ168.00000°. NP2:φs119.00000°, δ78.00000°, λ3.00000°. Principal axes: T 2.1100, Plg10.0000°, Azm343.0000°; N -0.2900, Plg78.0000°, Azm191.0000°; P -1.8200, Plg5.0000°, Azm74.0000°;*

NEIC ***13*** *23:49:38.3±0.1, 33.2°N×96.5°E, h17km, mb6.5/186, ME7.5, MS7.0/223, MW6.8, MW6.7, MW6.9 Error ellipse: s-maj=4.0km s-min=3.1km az=207.0, Moment Tensor Solution. s90 Moment tensor: Scale 10^19Nm; Mrr0.01; Mθθ1.06; Mφφ-1.07; Mrθ-0.10; Mθφ0.73; Mφr0.00; Best double couple: M0 1.30000×10^19 NP1:φs208.00000°, δ86.00000°, λ178.00000°. NP2:φs298.00000°, δ88.00000°, λ4.00000°. Principal axes: T 1.2900, Plg4.0000°, Azm162.0000°; N 0.0000, Plg85.0000°, Azm324.0000°; P -1.2900, Plg1.0000°, Azm72.0000°; Broadband fault plane solution: P waves. NP1:φs123.00000°, δ80.00000°, λ-10.00000°. NP2:φs215.00000°, δ80.00000°, λ-170.00000°. Principal axes: T Plg0.0000°, Azm169.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm79.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least 2,698 people killed, 270 missing, 12,135 injured and 15,000 buildings damaged in the Yushu area. Felt [IV] at Lhasa, Qiaotou and Xining; [II] at Baojishan, Lanzhou and Urumqi. Felt at Aksu, Dazhou, Jinchang, Ya'an, Yumen Dong Zhan and Zhangye. Felt [II] at Thimphu, Bhutan. Also felt at Punakha. Felt at Dibrugarh and Gezing, India. Also felt at Kathmandu, Nepal and at Chiang Mai, Thailand.

GCMT ***13*** *23:49:38.3±0.1, 33.0°N×96.7°E, h16km, MW6.9/141, Moment Tensor Solution. s137, c343; s141, c640; Duration: 6s6 Moment tensor: Scale 10^19Nm; Mrr-0.38±.01; Mθθ2.24±.01; Mφφ-1.86±.01; Mrθ-1.05±.05; Mθφ1.10±.01; Mφr0.19±.04; Best double couple: M0 2.53400×10^19 NP1:φs300.00000°, δ88.00000°, λ23.00000°. NP2:φs210.00000°, δ67.00000°, λ178.00000°. Principal axes: T 2.8160, Plg17.0000°, Azm167.0000°; N -0.5660, Plg67.0000°, Azm304.0000°; P -2.2520, Plg15.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***13*** *23:49:38.2±0.9, 33.1°N×96.6°E, h33km, mb6.5/108, MS6.8/108 Error ellipse: s-maj=5.6km s-min=3.4km az=127.8 Broadband fault plane solution: P waves. M0 1.00000×10^19 NP1:φs225.00000°, δ71.00000°, λ-147.00000°. NP2:φs123.00000°, δ59.00000°, λ-22.00000°. Principal axes: T Plg8.0000°, Azm352.0000°; N Plg53.0000°, Azm252.0000°; P Plg36.0000°, Azm88.0000°;*

SZGRF ***13*** *23:49:46.1, 34.2°N×96.5°E, h33km, mb6.2, MS6.8, Qinghai, China*

NEIC ***13*** *23:49:54.1±0.0, 33.2°N×96.7°E, h10km, Moment Tensor Solution. s137 Moment tensor: Scale 10^19Nm; Mrr-0.15; Mθθ1.91; Mφφ-1.76; Mrθ-1.43; Mθφ0.94; Mφr0.24; Best double couple: M0 2.50000×10^19 NP1:φs301.00000°, δ86.00000°, λ32.00000°. NP2:φs209.00000°, δ58.00000°, λ175.00000°. Principal axes: T 2.7600, Plg25.0000°, Azm169.0000°; N -0.5800, Plg57.0000°, Azm307.0000°; P -2.1900, Plg19.0000°, Azm70.0000°;*

ISC 13 23:49:37.0±0.3,**33.19N**±0.02×**96.75E**±0.02,**h14**km±1km, **h13**km:**pP-P,n2264,** σ1s**70**/1962,**mb6.3**/413,**MS7.0**/339, **294C-281D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.92**	**235**	P		Pn		23 51 08.3	+3.6
LSA				S		**Sb**		**23 52 30.8**	**-0.3**
LSA				LR		LR			
	comp=N,2000μm,12.2s								
LSA				LR		LR			
	comp=E,2000μm,10.7s								
LSA				LR		LR			
	comp=Z,2000μm,11.5s								
LSA	**Lhasa**	**5.92**	**235**	⇓*i*P		Pn		23 51 07.0	+2.3
LSA				*e*				23 52 06.4	
LSA	**Lhasa**	**5.92**	**235**	⇓*i*Pn		Pn		23 51 07.0	+2.3
LSA				*e*Sn		Sn		23 52 06.4	-6.1
CD2	**Chengdu**	**6.37**	**109**	Pn		Pn		23 51 16.3	+5.7
CD2				Pg		Pg		23 51 34.5	-4.5
CD2				Sn		**Sn**		**23 52 24.3**	**+1.1**
CD2				Sg		**Sg**		**23 53 00.3**	**-1.3**
CD2				SMN					
	comp=Z,31μm,1.9s								
CD2				SME					
	comp=Z,27μm,1.8s								
CD2				LE					
	comp=Z,4731μm,11.3s								
CD2				LZ					
	comp=Z,1822μm,10.0s								
LZH	**Lanzhou**	**6.52**	**62**	⇑Pn		Pn		23 51 17.3	+4.6
LZH				Sn		Sn		23 52 32.1	+5.1
LZH				Sg		**Sg**		**23 53 07.0**	**+0.6**
LZH				SMN					
	comp=Z,116μm,1.5s								
LZH				SME					
	comp=Z,125μm,1.6s								
LZH				LN					
	comp=Z,3296μm,10.2s								
LZH				LE					
	comp=Z,1698μm,7.9s								
LZH				LZ					
	comp=Z,2447μm,17.7s								
GTA	**Gaotai**	**6.68**	**21**	⇑P		Pn		23 51 20.1	+5.2
GTA				pP		pP		23 51 24.5	
GTA				sP		sP		23 51 28.0	
GTA				S		Sn		23 52 37.0	+6.1
GTA				sS		sS		23 52 41.3	
GTA				pmax		pmax			
	comp=Z,260nm,1.1s								
GTA				pmax		pmax			
	comp=Z,12μm,4.8s								
GTA				LR		LR			
	comp=N,1270μm,11.9s								
GTA				LR		LR			
	comp=E,3636μm,13.3s								
GTA				LR		LR			
	comp=Z,1075μm,12.6s								
SHL	**Shillong**	**8.70**	**210**	*e*P		**Pn**		**23 51 43.0**	**+0.3**
SHL				AMB		AMB		23 53 20.9	
	comp=Z,6μm,1.9s								
SHL				*ex*		x		23 54 08.7	
GTK	**Tadong**	**9.14**	**232**	*e*P		**Pn**		**23 51 47.5**	**-1.2**
GTK				*ex*		x		23 52 53.5	
KMI	**Kunming**	**9.59**	**145**	P		Pn		23 51 57.5	+2.5
KMI				pP				23 52 03.1	
KMI				sP				23 52 07.8	
KMI				S		**Sn**		**23 53 43.3**	**+0.6**
KMI				sS				23 53 52.1	
KMI				PMZ					
	comp=Z,1μm,1.0s								
KMI				PMZ					
	comp=Z,30μm,6.7s								
KMI				LN					
	comp=Z,2360μm,12.6s								
KMI				LE					
	comp=Z,1390μm,9.6s								
KMI				LZ					

	comp=Z,2240μm,12.6s								
TAPN	**Taplejung**	**9.74**	**236**	*e*P		**Pn**		**23 51 58.6**	**+1.6**
	comp=Z,7μm,1.1s								
XAN	**Xi'an**	**10.19**	**82**	P		Pn		23 52 05.0	+2.1
XAN				PMZ					
	comp=Z,440nm,1.3s								
XAN				PMZ					
	comp=Z,4μm,5.2s								
XAN				LN					
	comp=Z,1089μm,18.7s								
XAN				LE					
	comp=Z,460μm,14.7s								
XAN				LZ					
	comp=Z,431μm,11.8s								
ODAN	**Odare**	**10.27**	**235**	*e*P		**Pn**		**23 52 06.2**	**+1.9**
	comp=Z,9μm,0.7s								
JIRN	**Jiri**	**10.65**	**242**	*e*P		**Pn**		**23 52 08.7**	**-0.8**
	comp=Z,3μm,0.7s								
GUN	**Gumba**	**10.74**	**244**	*e*P		**Pn**		**23 52 10.0**	**-0.8**
	comp=Z,4μm,0.6s								
RAMN	**Ramite**	**10.76**	**237**	*e*P		**Pn**		**23 52 11.2**	**+0.2**
	comp=Z,4μm,0.7s								
GYA	**Guiyang**	**10.91**	**125**	⇓*i*P		**Pn**		**23 52 14.8**	**+1.9**
GYA				PP		PnPn		23 52 27.0	+6.4
GYA				SS		SS		23 54 35.3	
GYA				PMZ					
	comp=Z,1μm,0.8s								
GYA				PMZ					
	comp=Z,7μm,10.8s								
GYA				LZ					
	comp=Z,930μm,9.1s								
ENH	**Enshi**	**11.23**	**102**	*e*Pn		Pn		23 52 20.1	+2.9
ENH				*e*Sn		**Sn**		**23 54 23.0**	**+0.4**
KKN	**Kakani**	**11.26**	**244**	*e*P		**Pn**		**23 52 16.8**	**-0.9**
	comp=Z,2μm,0.5s								
GKN	**Gorkha**	**11.64**	**247**	*e*P		**Pn**		**23 52 23.0**	**+0.1**
	comp=Z,2μm,0.7s								
DANN	**Dangsing**	**12.16**	**250**	*e*P		**Pn**		**23 52 30.3**	**+0.1**
	comp=Z,7μm,0.8s								
KOLN	**Koldanda**	**12.56**	**248**	*e*P		**Pn**		**23 52 34.8**	**-0.7**
	comp=Z,2μm,0.7s								
WMQ	**Urumqi**	**12.75**	**329**	⇑*i*P		**Pn**		**23 52 37.9**	**-0.1**
WMQ				sP				23 52 44.6	
WMQ				PP		**PnPn**		**23 52 48.3**	**+2.5**
WMQ				S		**Sn**		**23 54 57.8**	**-1.9**
WMQ				SS		**SnSn**		**23 55 16.6**	**+4.6**
WMQ				PMZ					
	comp=Z,3μm,1.0s								
WMQ				PMZ					
	comp=Z,28μm,3.5s								
WMQ				LN					
	comp=Z,970μm,11.8s								
WMQ				LE					
	comp=Z,875μm,14.0s								
WMQ				LZ					
	comp=Z,743μm,15.4s								
PYUN	**Piuthan**	**12.88**	**250**	*e*P		**Pn**		**23 52 39.9**	**-0.1**
	comp=Z,6μm,0.9s								
BTO	**Baotou**	**12.94**	**51**	*e*P		**Pn**		**23 52 39.8**	**-0.7**
BTO				S		**Sn**		**23 55 07.6**	**+3.3**
BTO				LN					
	comp=Z,836μm,14.9s								
BTO				LE					
	comp=Z,281μm,13.0s								
CRAI	**Chiangrai**	**13.31**	**165**	P		**Pn**		**23 52 44.2**	**-1.4**
	comp=Z,526nm,2.1s,comp=Z,23μm								
CMAI	**Chiengmai2**	**13.37**	**171**	P		Pn		23 52 48.9	+2.4
	comp=Z,2μm,1.6s,comp=Z,23μm								
TIY	**Taiyuan**	**13.56**	**66**	*e*P		**Pn**		**23 52 47.6**	**-1.4**
TIY				PP		P		23 53 03.8	+5.7
TIY				S		**Sn**		**23 55 19.9**	**+0.4**
TIY				PMZ					
	comp=Z,6μm,5.2s								
TIY				LN					
	comp=Z,251μm,6.1s								
TIY				LE					
	comp=Z,649μm,5.9s								
TIY				LZ					
	comp=Z,1514μm,21.2s								
HHC	**Hu-ho-hao-te**	**14.08**	**53**	⇓P		**Pn**		**23 52 56.1**	**0.0**
HHC				sP				23 53 03.1	
HHC				S		**Sn**		**23 55 36.1**	**+3.9**
HHC				SS		**S**		**23 55 51.0**	**-2.5**
HHC				PMZ					
	comp=Z,380nm,1.7s								
HHC				PMZ					
	comp=Z,8μm,7.5s								
HHC				LN					
	comp=Z,2488μm,17.2s								
HHC				LE					
	comp=Z,1653μm,17.0s								
HHC				LZ					
	comp=Z,885μm,16.2s								
CMMT	**Chiang Mai**	**14.46**	**172**	P		**Pn**		**23 53 01.6**	**+0.3**
	comp=Z,3μm,1.4s,comp=Z,73μm								
PTH	**Pithoragarh**	**14.58**	**260**	*e*P		**Pn**		**23 53 01.1**	**-2.0**
PTH				*ex*		x		23 56 05.9	
CM31	**Chiang Mai Arr**	**14.81**	**172**	*e*Pn		**Pn**		**23 53 05.9**	**-0.2**
CM31				*e*Sn		Sn		23 55 58.9	+8.9
CMAR	**Chiang Mai Arr**	**14.81**	**172**	P		**Pn**		**23 53 05.9**	**-0.2**
CMAR								23 55 58.9	
CMAR				pmax		pmax			
	comp=Z,5.0nm,0.3s								
CMAR				MLR		MLR			
	comp=Z,221μm,19.1s								
CMAR	**Chiang Mai Arr**	**14.81**	**172**	Pn		**Pn**		**23 53 05.9**	**-0.2**
	comp=Z,4.9nm,0.3s,baz=344,slow=12,SNR=434								
CMAR				Sn		Sn		23 55 58.9	+8.9
	baz=28,slow=25,SNR=2.2								
CMAR				Lg		Lg		23 57 27.3	
	comp=Z,0.1nm,0.3s,baz=107,slow=35,SNR=2.6								
CMAR				LR		LR		23 59 15.9	
	comp=Z,1221μm,19.1s,baz=332,slow=39								
LAMP	**Lampang**	**14.84**	**169**	P		**Pn**		**23 53 07.8**	**+1.3**
	comp=Z,709nm,1.0s,comp=Z,5μm								
MHMT	**Maesarieng**	**14.99**	**176**	P		**Pn**		**23 53 09.6**	**+1.0**
	comp=Z,722nm,1.1s,comp=Z,14μm								
WHN	**Wuhan**	**15.19**	**95**	P		**Pn**		**23 53 11.1**	**0.0**
WHN				S		Sn		23 56 05.9	+6.7
WHN				PMZ					
	comp=Z,3μm,1.2s								
WHN				LZ					
	comp=Z,1576μm,18.3s								
UTTA	**Uttaradit**	**15.76**	**167**	P		**Pn**		**23 53 19.3**	**+0.6**
	comp=Z,537nm,0.9s,comp=Z,3μm								
SUKH	**Sukhothai**	**15.86**	**170**	P		**Pn**		**23 53 20.7**	**+0.8**
	comp=Z,387nm,1.0s,comp=Z,5μm								
**BWN

BJT	**Baijiatuau**	**17.00**	**61**	⇓*i*	Pn	**P**	**23 53 35.1**	**-1.1**
	comp=Z,2μm,1.4s									
BJT					*e*Sn	**Sn**	**23 56 43.0**	**-0.1**
BJI	**Beijing**	**17.01**	**61**		P	**P**	**23 53 36.8**	**+0.5**
BJI					S	**S**	**23 56 47.6**	**-5.7**
BJI					PMZ			
	comp=Z,350nm,1.1s							
BJI					PMZ			
	comp=Z,11μm,5.7s							
BJI					LZ			
	comp=Z,626μm,23.5s							
TIA	**Tai'an**	**17.02**	**74**	⇓	P	**P**	**23 53 36.1**	**-0.4**
TIA					sP	sP	23 53 47.1	+4.9
TIA					S	**S**	**23 56 54.5**	**+0.9**
TIA					PMZ			
	comp=Z,34μm,5.0s							
TIA					LN			
	comp=Z,401μm,11.3s							
TIA					LE			
	comp=Z,824μm,19.0s							
TIA					LZ			
	comp=Z,1201μm,19.0s							
DHRM	**DHARAMSHALA**	**17.23**	**272**	*e*P		**Pn**	**23 53 36.4**	**-1.2**
DHRM					AMB	AMB	23 53 43.8	
	comp=Z,3μm,3.1s							
BHK	**Bhakra**	**17.28**	**270**	*e*P		**P**	**23 53 38.8**	**-0.6**
BHK				*ex*		x	23 55 04.6	
NDI	**New Delhi**	**17.34**	**260**	*ex*		**Pn**	**23 53 35.0**	**-3.7**
NDI				*ex*		**Sn**	**23 56 53.0**	**+1.4**
DLH	**Dalhousie**	**17.47**	**274**	*e*P		**P**	**23 53 40.0**	**-1.7**
DLH				*ex*		x	23 54 10.0	
MK32	**Makanchi Array**	**17.49**	**325**	*e*Pn		**Pn**	**23 53 38.1**	**-2.3**
MK32				*e*S		**S**	**23 57 00.2**	**-2.7**
MKAR	**Makanchi Array**	**17.49**	**325**	P		**Pn**	**23 53 38.1**	**-2.3**
	comp=Z,8.0nm,0.3s,baz=149,slow=6.6,SNR=259									
MKAR					S	**S**	**23 57 00.2**	**-2.7**
	baz=126,slow=26,SNR=2.3									
MKAR					Lg	Lg	23 58 52.8			
	baz=85,slow=35,SNR=1.7									
MKAR					LR	LR	00 01 31.0			
	comp=Z,226μm,18.9s,baz=136,slow=41									
KHON	**Khomkaen**	**17.66**	**160**	P		**P**	**23 53 43.5**	**-0.1**
	comp=Z,355nm,0.8s,comp=Z,9μm									
UTHA	**Uthaitani**	**17.73**	**171**	P		**P**	**23 53 44.9**	**+0.6**
	comp=Z,524nm,1.1s,comp=Z,4μm									
GZH	**Guangzhou**	**17.74**	**120**	P		**Pn**	**23 53 41.3**	**-2.4**
GZH				pP		**pP**	**23 53 49.0**	**+0.6**
GZH				LN						
	comp=Z,586μm,9.8s									
GZH				LE						
	comp=Z,304μm,9.9s									
ZAK	**Zakamensk**	**17.84**	**14**	*e*P		**P**	**23 53 47.4**	**+1.9**
ZAK				pmax		pmax				
	comp=Z,973nm,1.6s									
KSH	**Kashi**	**17.87**	**297**	⇑*i*	P	**P**	**23 53 46.3**	**+0.4**
KSH				sP		**sP**	**23 53 53.4**	**+1.8**
KSH				PP		**PnPn**	**23 54 01.1**	**+5.1**
KSH				S		**Sn**	**23 57 02.4**	**-1.9**
KSH				SS		**SnSn**	**23 57 25.0**	**+7.2**
KSH				PMZ						
	comp=Z,1μm,1.5s									
KSH				PMZ						
	comp=Z,13μm,7.8s									
KSH				LN						
	comp=Z,751μm,13.7s									
KSH				LE						
	comp=Z,501μm,13.9s									
KSH				LZ						
	comp=Z,583μm,12.7s									
HVS	**Khovu-Aksy**	**18.07**	**354**	⇓*e*P		**P**	**23 53 49.6**	**+1.6**
HVS				pmax		pmax				
	comp=Z,2μm,1.7s									
QIZ	**Qiongzhong**	**18.34**	**137**	P		**P**	**23 53 51.5**	**+0.5**
QIZ				sP		sP	23 54 03.9	+7.1
QIZ				S		**Sn**	**23 57 16.1**	**+0.4**
QIZ				PMZ						
	comp=Z,920nm,1.8s									
QIZ				PMZ						
	comp=Z,49μm,10.4s									
QIZ				LZ						
	comp=Z,1456μm,11.2s									
QIZ	**Qiongzhong**	**18.34**	**137**	*e*P		**P**	**23 53 51.6**	**+0.5**
	comp=Z,3μm,1.4s									
QIZ				*e*S		**S**	**23 57 20.0**	**-0.5**
JMU	**Jammu**	**18.34**	**275**	*e*P		**P**	**23 53 52.5**	**+1.5**
AAA	**Alma-Ata**	**18.48**	**309**	*e*P		**Pn**	**23 53 54.3**	**+1.5**
AAA				*e*S		**Sn**	**23 57 13.0**	**-6.1**
AAA				pmax		pmax				
	comp=Z,42μm,2.9s									
AAA				smax		smax				
	comp=N,196μm,7.3s									
CHLP	**Challavanipeta**	**18.53**	**221**	*e*P		**Pn**	**23 53 53.1**	**-0.2**
CHLP				*ep*Pn		**pPn**	**23 53 56.7**	**-0.3**
CHLP				lAmb		lAmb	23 54 03.0			
	comp=Z,801nm,1.1s									
CHLP				*e*Sn		**Sn**	**23 57 16.1**	**-4.3**
CHLP				lAMs_20		lAMs_20	00 05 53.0			
	comp=Z,261μm,17.0s									
ULHL	**Ulahol**	**18.53**	**305**	P		**Pn**	**23 53 56.1**	**+2.5**
	SNR=146									
ULHL	**Ulahol**	**18.53**	**305**	*i*	P	**Pn**	**23 53 56.0**	**+2.5**
NJ2	**Nanjing**	**18.66**	**87**	*e*P		**Pn**	**23 53 56.1**	**+1.3**
NJ2				pP		**pP**	**23 53 59.6**	**+1.2**
NJ2				sP		**sP**	**23 54 01.8**	**+1.6**
NJ2				S		**Sn**	**23 57 22.5**	**-0.8**
NJ2				sS		**sS**	**23 57 29.5**	**-3.5**
NJ2				PMZ						
	comp=Z,360nm,0.8s									
NJ2				PMZ						
	comp=Z,60μm,5.6s									
NJ2				LN						
	comp=Z,892μm,10.5s									
NJ2				LZ						
	comp=Z,1366μm,14.1s									
MOY	**Mondy**	**18.72**	**8**	*e*P		Pn	23 53 59.9	+4.3		
MOY				pmax		pmax				
	comp=Z,5μm,3.5s									
HKC	**Hong Kong Obse**	**18.83**	**121**	⇓*i*	P	**Pn**	**23 53 58.0**	**+1.0**
SRDT	**SRDT**	**18.88**	**173**	P		**Pn**	**23 53 58.5**	**+0.8**
	comp=Z,6μm,1.3s,comp=Z,162μm									
TLY	**Talaya**	**19.15**	**13**	*i*	P	**Pn**	**23 54 02.4**	**+1.7**
TLY				*i*	S	**S**	**23 57 34.5**	**-2.0**
TLY				pmax		pmax				
	comp=Z,2μm,2.1s									
TLY				MLR		MLR				
	comp=Z,239μm,11.0s									
TLY	**Talaya**	**19.15**	**13**	P		**Pn**	**23 54 01.9**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=224,slow=7.2,SNR=34									
TLY				S		**S**	**23 57 35.8**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=150,slow=20,SNR=1.4									
TLY				Lg		Lg	23 59 48.2			
	baz=132,slow=5.2,SNR=3.5									
TLY				LR		LR	00 02 10.8			
	comp=Z,412μm,20.7s,baz=188,slow=40									
TLY	**Talaya**	**19.15**	**13**	P		**Pn**	**23 54 02.7**	**+2.0**
	SNR=564									
TLY	**Talaya**	**19.15**	**13**	P		**Pn**	**23 54 01.9**	**+1.2**
TLY				*e*Pn		**pP**	**23 54 02.2**	**-1.5**
TLY				S		**S**	**23 57 35.8**	**-0.7**
TLY				*e*Sn		Sn	23 57 41.5	+6.6
TLY				Lg		Lg	23 59 48.2			
KZA	**Kyzart**	**19.16**	**304**	P		**Pn**	**23 54 01.9**	**+0.6**
	SNR=241									
KZA	**Kyzart**	**19.16**	**304**	*i*	P	**Pn**	**23 54 01.9**	**+0.6**
TKM2	**Tokmak 2**	**19.23**	**306**	P		**Pn**	**23 54 01.8**	**-0.2**
	SNR=217									
TKM2	**Tokmak 2**	**19.23**	**306**	*e*P		**Pn**	**23 54 02.3**	**+0.3**
TKM2				*e*			23 57 22.9			
TKM2				pmax		pmax				
	comp=Z,1μm,1.0s									
TKM2	**Tokmak 2**	**19.23**	**306**	*e*Pn		**Pn**	**23 54 02.3**	**+0.3**
	comp=Z,1μm,1.0s									
TKM2				*e*Sn		Sn	23 57 22.9	-15		
NAYO	**Nakonayok**	**19.25**	**166**	P		**Pn**	**23 54 03.2**	**+1.1**
	comp=Z,3μm,0.9s,comp=Z,49μm									
UBPT	**Khong Chiam**	**19.51**	**154**	P		**Pn**	**23 54 05.2**	**0.0**
	comp=Z,2μm,1.1s,comp=Z,70μm									
VIS	**Vishakhapatnam**	**19.57**	**221**	*i*	P	**Pn**	**23 54 04.9**	**-1.0**
VIS				*i*	x	x	23 57 37.8			
VIS				*i*	x	x	23 57 42.9			
KBK	**Karagaybulak**	**19.57**	**305**	P		**Pn**	**23 54 09.2**	**+3.1**
	SNR=237									
KBK	**Karagaybulak**	**19.57**	**305**	*i*	P	**Pn**	**23 54 09.2**	**+3.1**
BHPL	**Bhopal**	**19.67**	**245**	*e*P		**P**	**23 54 04.5**	**-1.2**
BHPL					AMB	AMB	23 54 11.5			
	comp=Z,5μm,2.0s									
UCH	**Uchtor**	**19.72**	**304**	P		**Pn**	**23 54 10.2**	**+2.1**
	SNR=237									
UCH	**Uchtor**	**19.72**	**304**	*i*	P	**Pn**	**23 54 10.2**	**+2.1**
NGP	**Nagpur**	**19.76**	**237**	*e*P		**Pn**	**23 54 06.7**	**-1.5**
NGP				*ex*		x	23 54 31.0			
	comp=Z,3μm,1.4s									
NGP				*ex*		x	23 57 51.8			
IRK	**Irkutsk**	**19.80**	**14**	⇑*i*	P	**Pn**	**23 54 10.6**	**+2.1**
IRK				*e*S		**S**	**23 57 47.3**	**-2.3**
IRK				pmax		pmax				
	comp=Z,6μm,1.8s									
CHMS	**Chumysh**	**19.84**	**306**	P		**Pn**	**23 54 08.4**	**-0.6**
	SNR=188									
CHMS	**Chumysh**	**19.84**	**306**	*i*	P	**Pn**	**23 54 08.4**	**-0.6**
FRU	**Bishkek**	**19.87**	**305**	⇑*i*	P	**Pn**	**23 54 09.0**	**-0.4**
FRU				*i*	S	**Sn**	**23 57 52.0**	**-0.5**
FRU				pmax		pmax				
	comp=Z,2μm,2.0s									
AAK	**Ala-Archa**	**19.88**	**305**	P		**Pn**	**23 54 09.3**	**-0.3**
	SNR=322									
AAK	**Ala-Archa**	**19.88**	**305**	⇓*e*P		**Pn**	**23 54 09.3**	**-0.3**
AAK				pmax		pmax				
	comp=Z,5μm,2.1s									
AAK				MLR		MLR				
	comp=Z,1006μm,17.0s									
AAK	**Ala-Archa**	**19.88**	**305**	P		**Pn**	**23 54 09.7**	**0.0**
	comp=Z,18nm,0.3s,baz=97,slow=8.0,SNR=126									
AAK				S		**Sn**	**23 57 55.2**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=264,slow=16,SNR=1.8									
AAK				Lg		Lg	00 00 14.5			
	baz=30,slow=20,SNR=1.6									
AAK				LR		LR	00 02 36.4			
	comp=Z,294μm,18.8s,baz=98,slow=39									
AAK	**Ala-Archa**	**19.88**	**305**	P		**Pn**	**23 54 09.7**	**0.0**
	SNR=1065									
AAK	**Ala-Archa**	**19.88**	**305**	*e*P		**Pn**	**23 54 08.5**	**-1.2**
	comp=Z,1μm,1.1s									
AAK				S		**Sn**	**23 57 55.2**	**+2.3**
AAK				Lg		Lg	00 00 14.5			
USP	**Ospenovka**	**20.11**	**306**	P		Pn	23 54 11.1	-1.1		
	SNR=288									
USP	**Ospenovka**	**20.11**	**306**	*i*	P	Pn	23 54 11.1	-1.2		
DGPR	**DIGLIPUR**	**20.23**	**191**	*e*P		**P**	**23 54 11.2**	**-0.5**
DGPR					AMB	AMB	23 54 20.7			
	comp=Z,4μm,1.1s									
AML	**Almayashu**	**20.27**	**303**	P		Pn	23 54 13.6	-1.0		
	SNR=242									
AML	**Almayashu**	**20.27**	**303**	*i*	P	Pn	23 54 13.6	-1.0		
AJM	**Ajmer**	**20.29**	**257**	*ex*		**P**	**23 54 13.0**	**+0.5**
AJM				*ex*		**S**	**23 57 57.0**	**-2.7**
PHET	**Kaeng Krachan**	**20.36**	**172**	P		Pn	23 54 15.0	-0.3		
	comp=Z,5μm,1.1s,comp=Z,34μm									
EKS2	**Erkin-Say**	**20.38**	**304**	P		Pn	23 54 15.0	-0.6		
	SNR=298									
EKS2	**Erkin-Say**	**20.38**	**304**	*e*P		Pn	23 54 14.4	-1.2		
EKS2				*e*S		**S**	**23 57 56.1**	**-5.5**		
EKS2				pmax		pmax				
	comp=Z,1μm,0.9s									
EKS2				MLR		MLR				
	comp=Z,310μm,18.0s									
EKS2	**Erkin-Say**	**20.38**	**304**	*e*P		Pn	23 54 14.4	-1.2		
	comp=Z,1μm,0.9s									
EKS2				*e*S		**S**	**23 57 56.1**	**-5.5**		
EKS2				LR		LR				
	comp=Z,310μm,18.0s									
QZH	**Quanzhou**	**20.76**	**108**	⇓*i*	P	Pn	23 54 19.0	-0.9		
QZH				S		**S**	**23 58 06.6**	**-2.4**		
QZH				PMZ						
	comp=Z,4μm,1.0s									
QZH				PMZ						
	comp=Z,29μm,7.1s									
QZH				LZ						
	comp=Z,1676μm,10.5s									
SSE	**Sheshan**	**20.79**	**89**	P		Pn	23 54 18.8	-1.5		
SSE				pP		pP	23 54 26.1	+4.3		
SSE				sP		sP	23 54 29.6	+6.0		
SSE				S		**S**	**23 58 10.3**	**+0.8**		
SSE				PMZ						
	comp=Z,1μm,0.9s									
SSE				PMZ						
	comp=Z,41μm,7.7s									
SSE				LN						
	comp=Z,696μm,13.3s									
SSE				LE						
	comp=Z,269μm,13.6s									
SSE				LZ						
	comp=Z,867μm,13.4s									
DL2	**Dalian**	**20.88**	**67**	⇓*i*	P	Pn	23 54 21.1	-0.1		
DL2				S		Sn	23 58 17.5	+0.7		
DL2				PMZ						
	comp=Z,2μm,1.2s									
DL2				PMZ						
	comp=Z,25μm,5.4s									
DL2				LN						
	comp=Z,477μm,16.7s									
DL2				LZ						
	comp=Z,555μm,15.2s									
RPR	**Rampur**	**21.16**	**232**	*e*P		**P**	**23 54 21.6**	**-0.3**		
RPR				*ep*P		**pP**	**23 54 25.6**	**-0.2**		
RPR				lAmb		lAmb	23 54 29.4			
	comp=Z,2μm,1.0s									
RPR				*e*S		**S**	**23 58 10.8**	**-6.2**		
RPR				lAMs_20		lAMs_20	00 02 16.1			
	comp=Z,413μm,12.5s									
PBA	**Port Blair**	**21.75**	**191**	*e*P		P	23 54 28.4	+0.2		
PBA				AMB		AMB	23 54 50.0			
	comp=Z,2μm,1.4s									
KURBB	**Kurchatov Arra**	**21.97**	**328**	P		**P**	**23 54 30.1**	**-0.2**		
	comp=Z,604nm,1.0s,baz=134,slow=11,SNR=278									
KURBB				S		Sn	23 58 42.9	+0.1		
	comp=Z,51nm,1.1s,baz=129,slow=13,SNR=3.9									
KURK	**Kurchatov**	**22.00**	**328**	*e*P		**P**	**23 54 29.5**	**-1.1**		
KURK				*e*S		**S**	**23 58 34.9**	**+2.0**		
KURK				pmax		pmax				
	comp=Z,2μm,1.0s									
KURK				MLR		MLR				
	comp=Z,252μm,19.0s									
KURK	**Kurchatov**	**22.00**	**328**	P		**P**	**23 54 30.4**	**-0.2**		
	SNR=2084									
KURK	**Kurchatov**	**22.00**	**328**	*e*P		**P**	**23 54 29.5**	**-1.1**		
	comp=Z,2μm,1.0s									
KURK				*e*S		**S**	**23 58 34.9**	**+2.0**		
KURK				S		Sn	23 58 42.9	-0.6		
KURK				LR		LR				
	comp=Z,252μm,19.0s									
ZALV	**Zalesovo Beam**	**22.41**	**341**	P		**P**	**23 54 35.3**	**+0.2**		
ZALV				S		**S**	**23 58 40.2**	**-0.5**		
ZALV				pmax		pmax				
	comp=Z,197nm,0.9s									
ZALV				smax		smax				
	comp=N,14nm,0.8s									
ZALV	**Zalesovo Beam**	**22.41**	**341**	P		**P**	**23 54 35.2**	**+0.2**		
	comp=N,197nm,0.9s,baz=160,slow=12,SNR=189									
ZALV				S		**S**	**23 58 40.2**	**-0.5**		
	comp=N,14nm,0.8s,baz=128,slow=14,SNR=2.2									
I46RU	**ZALESOVO INFRA**	**22.42**	**341**	P		P	23 54 42.3	+7.2		
	baz=152,slow=11,SNR=0.7									
CIT	**Chita**	**22.42**	**28**	*e*P		**P**	**23 54 37.6**	**+2.4**		
CIT				pmax		pmax				
	comp=Z,2μm,2.0s									
ZAA1	**Zalesovo Array**	**22.42**	**341**	*e*P		**P**	**23 54 35.2**	**+0.1**		
ZAA1				*e*S		**S**	**23 58 40.2**	**-0.6**		
HYBB	**Hyderabad (bro**	**22.69**	**231**	*e*P		**P**	**23 54 37.8**	**-0.5**		
HYBB				*ep*P		**pP**	**23 54 41.7**	**-0.6**		
HYBB				lAmb		lAmb	23 54 49.4			
	comp=Z,5μm,1.6s									
HYBB				*e*S		**S**	**23 58 41.8**	**-4.6**		
HYBB				lAMs_20		lAMs_20	00 03 03.4			
	comp=Z,284μm,11.4s									
HYB	**Hyderabad**	**22.69**	**231**	*e*P		**P**	**23 54 36.5**	**-1.8**		
HYB				*e*S		S	23 58 32.0	-14		
HYB	**Hyderabad**	**22.69**	**231**	*i*	P	**P**	**23 54 36.5**	**-1.8**		
HYB				*e*S		S	23 58 32.0	-14		
HYB				LR		LR	00 03 10.0			
	comp=Z,267nm,12.0s									
HYB	**Hyderabad**	**22.69**	**231**	*e*P		**P**	**23 54 38.5**	**+0.2**		
HYB				AMB		AMB	23 54 50.0			
	comp=Z,2μm,0.4s									
HYB	**Hyderabad**	**22.69**	**231**	*e*P		**P**	**23 54 36.5**	**-1.8**		
HYB				*e*S		S	23 58 32.0	-14		
KKAR	**Karatay Array**	**22.80**	**303**	*e*P		**P**	**23 54 39.2**	**-0.1**		
KKAR				*e*S		**S**	**23 58 44.0**	**-4.1**		
KKAR	**Karatay Array**	**22.80**	**303**	*e*P		**P**	**23 54 39.2**	**-0.1**		
KKAR				*e*S		**S**	**23 58 44.0**	**-4.1**		
NJS	**Nagarjunasagar**	**22.85**	**228**	*e*P		**P**	**23 54 39.0**	**-1.0**		
NJS				*ep*P		**pP**	**23 54 43.7**	**-0.3**		
NJS				lAmb		lAmb	23 54 51.3			
	comp=Z,2μm,1.2s									
NJS				*e*S		**S**	**23 58 44.5**	**-4.7**		
NJS				lAMs_20		lAMs_20	00 03 41.9			
	comp=Z,233μm,12.6s									
SNY	**Shenyang**	**22.89**	**60**	⇓P		**P**	**23 54 40.5**	**+0.3**		
SNY				S		**S**	**23 58 53.6**	**+4.0**		
SNY				PMZ						
	comp=Z,850nm,1.5s									
SNY				PMZ						
	comp=Z,28μm,5.9s									
SNY				LN						
	comp=Z,593μm,13.5s									
SNY				LE						
	comp=Z,281μm,14.2s									
SNY				LZ						
	comp=Z,291μm,31.4s									
KRAR	**Krasnoyarsk**	**22.98**	**354**	⇓*e*P		**P**	**23 54 42.3**	**+1.4**		
KRAR				pmax		pmax				
	comp=Z,621nm,1.2s									
KRAR				MLR		MLR				
	comp=Z,90μm,17.0s									
ADKI	**Addanki**	**22.99**	**225**	*e*P		**P**	**23 54 41.1**	**-0.4**		
ADKI				*ep*P		**pP**	**23 54 45.3**	**-0.1**		
ADKI				*es*P		**sP**	**23 54 48.2**	**+0.9**		
ADKI				lAmb		lAmb	23 54 52.4			
	comp=Z,1μm,1.1s									
ADKI				*e*S		**S**	**23 58 52.3**	**+0.7**		
ADKI				lAMs_20		lAMs_20	00 02 08.6			
	comp=Z,254μm,31.3s									
KBL	**Kabul**	**23.02**	**281**	*e*P		**P**	**23 54 40.3**	**-1.6**		
KBL				*e*S		**S**	**23 58 50.1**	**-2.3**		
KBL				pmax		pmax				
	comp=Z,10μm,1.4s									
KBL	**Kabul**	**23.02**	**281**	*e*P		**P**	**23 54 40.3**	**-1.6**		
	comp=Z,11μm,1.4s									
KBL				*e*S		**S**	**23 58 50.1**	**-2.3**		
TATO	**Taipei**	**23.08**	**104**	*e*P		**P**	**23 54 44.5**	**+2.1**		
	comp=Z,3μm,1.4s									
TATO				*e*S		**S**	**23 58 50.6**	**-2.5**		
TATO				LR		LR				
	comp=Z,237μm,18.0s									
YHNB	**Yeheng**	**23.13**	**105**	*e*P		**P**	**23 54 43.8**	**+0.9**		
	comp=Z,2μm,1.0s									
YHNB				*e*S		**S**	**23 58 51.1**	**-2.9**		
YHNB				LR		LR				
	comp=Z,557μm,21.0s									
TPUB	**Ta-pu**	**23.19**	**109**	*e*P		**P**	**23 54 44.6**	**+1.2**		
	comp=Z,1μm,1.1s									
TPUB				*e*S		**S**	**23 58 56.8**	**+1.9**		
KSBAR	**Backryungdo**	**23.20**	**70**	⇓P		**P**	**23 54 45.6**	**+2.2**		
	SNR=69									
KSBAR	**Backryungdo**	**23.20**	**70**	⇓P		**P**	**23 54 45.6**	**+2.2**		
	SNR=69									
SSLB	**Suanglung**	**23.20**	**108**	*e*P		**P**	**23 54 44.5**	**+0.9**		
	comp=Z,2μm,1.3s									
SSLB				*e*S		**S**	**23 58 55.9**	**+0.6**		
LATR	**Latur**	**23.32**	**236**	*ex*		**P**	**23 54 44.0**	**-0.8**		
HIA	**Hailar**	**23.46**	**40**	⇓*e*P		**P**	**23 54 47.1**	**+1.1**		
HIA				*e*S		**S**	**23 59 01.7**	**+2.6**		
HIA				pmax		pmax				
	comp=Z,1μm,1.3s									
HIA				MLR		MLR				
	comp=Z,264μm,18.0s									
HIA	**Hailar**	**23.46**	**40**	⇓*e*P		**P**	**23 54 47.1**	**+1.1**		
	comp=Z,1μm,1.3s									
HIA				*e*S		**S**	**23 59 01.7**	**+2.6**		
HIA				LR		LR				
	comp=Z,264μm,18.0s									
NACB	**Ninganchiao**	**23.53**	**106**	*e*P		**P**	**23 54 48.0**	**+1.2**		
	comp=Z,3μm,1.2s									
NACB				*e*S		**S**	**23 59 03.4**	**+2.9**		
NVS	**Novosibirsk**	**23.64**	**340**	*e*P		**P**	**23 54 46.6**	**-1.0**		
NVS				pmax		pmax				
	comp=Z,3μm,2.2s									
NVS				pmax		pmax				
	comp=N,2μm,2.1s									
NVS				pmax		pmax				
	comp=E,3μm,2.7s									
YULB	**Yu-li**	**23.67**	**108**	*e*P		**P**	**23 54 48.9**	**+0.6**		
	comp=E,2μm,1.8s									
YULB				*e*Sn		Sn	23 59 16.1	-7.8		
TWG	**Pinlang**	**23.78**	**110**	*e*P		**P**	**23 54 51.0**	**+1.6**		
	comp=E,4μm,1.1s									
TWG				*e*S		**S**	**23 59 07.6**	**+3.1**		
KSHUK	**Heuksando**	**23.83**	**78**	⇓P		**P**	**23 54 52.0**	**+2.3**		
	SNR=28									
KSHUK	**Heuksando**	**23.83**	**78**	⇓P		**P**	**23 54 52.0**	**+2.3**		
	SNR=28									
SURA	**Surathani**	**24.06**	**173**	P		**P**	**23 54 53.6**	**+1.7**		
	comp=E,1μm,2.0s,comp=E,40μm									
SURT	**Suratani**	**24.19**	**175**	P		**P**	**23 54 54.8**	**+1.6**		
	comp=E,920nm,2.3s									
YOJ	**Yonaguni jima**	**24.55**	**104**	*e*P		**P**	**23 54 56.7**	**+0.3**		
YOJ				pmax		pmax				
	comp=Z,203nm,0.8s									
YOJ	**Yonaguni jima**	**24.55**	**104**	*e*P		**P**	**23 54 56.7**	**+0.3**		
	comp=Z,203nm,0.8s									
YOJ				*e*S		S	23 59 23.8	+7.0		
KSSES	**Seosan**	**24.55**	**73**	⇑P		**P**	**23 54 57.8**	**+1.4**		
	SNR=42									
KSSES	**Seosan**	**24.55**	**73**	⇑P		**P**	**23 54 57.8**	**+1.4**		
	SNR=42									
KSGAH	**Ganghwa**	**24.56**	**71**	⇑P		**P**	**23 54 58.0**	**+1.6**		
	SNR=40									
KSGAH	**Ganghwa**	**24.56**	**71**	⇑P		**P**	**23 54 58.0**	**+1.6**		
	SNR=40									
KSGAH				⇓S		**S**	**23 59 18.6**	**+1.9**		
KSJDO	**Jindo**	**24.56**	**79**	P		**P**	**23 54 59.0**	**+2.4**		
	SNR=28									
KSJDO	**Jindo**	**24.56**	**79**	P		**P**	**23 54 59.0**	**+2.4**		
	SNR=28									
INCN	**Inchon**	**24.70**	**72**	P		**P**	**23 54 59.7**	**+1.9**		
	SNR=60									
INCN	**Inchon**	**24.70**	**72

POO *i* LR LR 00 01 39.5
POO *i* PCS PcS 00 02 08.0 -8.6
POO *i* SCS ScS 00 05 56.0 -7.5
POO Poona 25.18 240 *e*P **P** **23 55 02.0 -0.2**
POO AMB AMB 23 55 08.3
comp=Z,2µm,0.9s
PKDT Phuket 25.22 176 P **P** **23 55 04.1 +1.6**
comp=Z,2µm,1.0s
KSJEO Jeonju 25.25 75 ⇓P **P** **23 55 03.4 +0.7**
SNR=15
KSJEO Jeonju 25.25 75 ⇓P **P** **23 55 03.4 +0.7**
SNR=15
TJN Taejon 25.29 74 *i* P **P** **23 55 04.2 +1.1**
URV Uravakonda 25.35 229 *e*P **P** **23 55 03.9 +0.2**
URV *e*pP **pP** **23 55 07.4 -0.5**
URV *e*sP **sP** **23 55 10.4 +0.8**
URV IAmb IAmb 23 55 17.3
comp=Z,1µm,0.9s
URV *e*S **S** **23 59 28.7 -1.0**
URV IAMs_20 IAMs_20 00 04 22.6
comp=Z,253µm,13.0s
KSCHC Chuncheon 25.64 71 ⇓P **P** **23 55 07.6 +1.3**
SNR=30
KSCHC Chuncheon 25.64 71 ⇓P **P** **23 55 07.6 +1.3**
SNR=30
KS15 Wonju Array Si 25.70 72 *e*P **P** **23 55 08.0 +1.3**
KS15 *e*S S 23 59 49.5 +15
KSAR Wonju Array Be 25.70 72 P **P** **23 55 08.0 +1.3**
KSAR Wonju Array Be 25.70 72 P **P** **23 55 08.0 +1.3**
KSAR S S 23 59 49.5 +15
BOM Bombay 25.71 242 *ex* **P** **23 55 09.7 +2.8**
BOM *ex* x 23 59 46.0
KSRS Korea Array 25.73 72 P **P** **23 55 08.0 +1.0**
comp=Z,598nm,1.0s,baz=257,slow=8.4,SNR=124
KSRS S S 23 59 49.5 +14
comp=Z,10nm,1.1s,baz=265,slow=14,SNR=2.5
KSRS LR LR 00 06 18.3
comp=Z,381µm,20.1s,baz=281,slow=39
KSCHJ Chungju 25.77 73 ⇓P **P** **23 55 08.2 +0.7**
SNR=23
KSCHJ Chungju 25.77 73 ⇓P **P** **23 55 08.2 +0.7**
SNR=23
BHJ Bhuj 25.78 254 *e*P **P** **23 55 07.4 -0.2**
BHJ AMB AMB 23 55 13.7
comp=Z,3µm,2.9s
SEHB SEOHWA 26.00 70 ⇑P **P** **23 55 11.1 +1.6**
SNR=17
SEHB SEOHWA 26.00 70 ⇑P **P** **23 55 11.1 +1.6**
SNR=17
PIP Pasuquin 26.02 119⇑ *e*P P 23 55 14.3 +4.5
SKLT Songkhla 26.14 171 P **P** **23 55 12.1 +1.2**
comp=Z,986nm,1.1s,comp=Z,22µm
CMBY CAMPBELL BAY 26.18 186 *e*P **P** **23 55 12.9 +1.6**
KSDGY Daegwallycong 26.32 71 ⇑P **P** **23 55 13.8 +1.3**
SNR=12
KSDGY Daegwallycong 26.32 71 ⇑P **P** **23 55 13.8 +1.3**
SNR=12
KSDAG Daegu 26.57 75 ⇓P **P** **23 55 15.2 +0.6**
SNR=7.3
KSDAG Daegu 26.57 75 ⇓P **P** **23 55 15.2 +0.6**
SNR=7.3
KSULJ Uljin 26.93 73 ⇓P **P** **23 55 18.4 +0.6**
SNR=6.6
KSULJ Uljin 26.93 73 ⇓P **P** **23 55 18.4 +0.6**
SNR=6.6
GOA Goa 27.22 235 *e*P **P** **23 55 20.6 0.0**
GOA AMB AMB 23 55 25.7
comp=Z,338nm,6.8s
BOD Bodaibo 27.27 20 *e*P **P** **23 55 22.9 +2.2**
BOD pmax pmax
comp=Z,280nm,1.7s
BVAR Borovoye Array 27.37 324 P **P** **23 55 22.1 +0.4**
BVAR 23 58 43.9
BVAR S **S** **00 00 03.3 +2.2**
BVAR pmax pmax
comp=Z,38nm,0.6s
BVAR smax smax
comp=N,15nm,1.0s
BVAR MLR MLR
comp=Z,350µm,18.2s
BVAR Borovoye Array 27.37 324 P **P** **23 55 22.1 +0.4**
comp=Z,38nm,0.6s,baz=125,slow=9.7,SNR=76
BVAR PcP **PcP** **23 58 43.9 +3.4**
comp=Z,38nm,0.9s,baz=144,slow=5.2,SNR=3.0
BVAR S **S** **00 00 03.3 +2.2**
comp=Z,15nm,0.9s,baz=133,slow=32,SNR=2.2
BVAR ScP **ScP** **00 02 20.9 +0.4**
comp=Z,30nm,1.0s,baz=127,slow=3.9,SNR=4.8
BVAR LR LR 00 07 37.5
comp=Z,350µm,18.2s,baz=120,slow=40
BRVK Borovoye 27.44 324 *e*P **P** **23 55 22.6 +0.4**
BRVK *e*S **S** **00 00 00.0 -2.2**
BRVK pmax pmax
comp=Z,781nm,1.2s
BRVK MLR MLR
comp=Z,151µm,19.0s
BRVK Borovoye 27.44 324 *e*P **P** **23 55 22.6 +0.4**
comp=Z,781nm,1.2s
BRVK *e*S **S** **23 59 60.0 -2.2**
BRVK LR LR
comp=Z,151µm,19.0s
MDJ Mudanjiang 27.81 56 P **P** **23 55 27.0 +1.3**
MDJ pP **pP** **23 55 30.1 +0.2**
MDJ PcP **PcP** **23 58 41.8 +0.1**
MDJ S **S** **00 00 10.3 +2.1**
MDJ sS **sS** **00 00 15.8 +0.6**
MDJ PMZ
comp=Z,8µm,9.1s
MDJ LN
comp=Z,922µm,16.1s
MDJ LE
comp=Z,262µm,14.0s
MDJ LZ
comp=Z,440µm,14.0s
MDJ Mudanjiang 27.81 56 *e*P **P** **23 55 26.1 +0.4**
comp=Z,183nm,1.1s
MDJ LR LR
comp=Z,461µm,19.0s
LHMI Lhok Sumawe 27.82 180 P P 23 55 30.0 +4.0
comp=Z,942nm,1.1s,comp=Z,26µmcomp=Z,168µm
LHMI Lhok Sumawe 27.82 180 *e*P **P** **23 55 29.8 +3.8**
comp=Z,2µm,1.3s
LHMI *e*S S 23 59 59.2 -10
JOW Kunigami 27.96 95 P **P** **23 55 27.8 +0.6**
comp=Z,6.5nm,0.5s,baz=231,slow=4.4,SNR=5.0
JOW LR LR 00 07 30.6
comp=Z,42µm,18.3s,baz=292,slow=38
JOW Kunigami 27.96 95 *e*P **P** **23 55 27.5 +0.3**
comp=Z,246nm,1.5s
JOW *e*S **S** **00 00 12.2 +1.3**
KULM Kulim 28.00 172 ⇓P **P** **23 55 29.1 +1.5**
KULM Kulim 28.00 172 *e*P **P** **23 55 27.8 +0.2**
comp=Z,2µm,1.6s
KULM *e*S **S** **00 00 10.5 -1.0**
KULM LR LR
comp=Z,526µm,19.0s
PCPH Palayan 28.17 123⇑ *e*P **P** **23 55 29.9 +0.8**
KTGM Kuala Trenggan 28.36 167 ⇑P **P** **23 55 32.5 +1.8**
MNGI Mangalore 28.40 230 *e*P P 23 55 21.9 -9.2
MNGI *e*S S 00 00 05.2 -13
JNU Nakatsue 28.50 81 P **P** **23 55 33.5 +1.5**
comp=Z,182nm,0.8s,baz=283,slow=4.7,SNR=32
JNU PcP PcP 23 58 48.0 +4.3
comp=Z,55nm,0.8s,baz=214,slow=4.1,SNR=5.1
JNU S **S** **00 00 20.2 +0.8**
comp=Z,25nm,1.0s,baz=236,slow=17,SNR=1.8
JNU LR LR 00 07 44.5
comp=Z,267µm,20.6s,baz=280,slow=38
IPM Ipoh 28.84 171 ⇓P P 23 55 37.5 +2.4
IPM Ipoh 28.84 171 *e*P **P** **23 55 34.8 -0.4**
comp=Z,1µm,1.4s
IPM *e*S **S** **00 00 24.2 -0.7**
IPM LR LR
comp=Z,367µm,20.0s
TGY Tagaytay City 29.07 125 P P 23 55 39.3 +2.1
TGY pmax pmax
comp=Z,157nm,0.3s
TGY Tagaytay City 29.07 125 P P 23 55 39.3 +2.1
comp=Z,157nm,0.3s,baz=87,slow=18,SNR=2.2
VLA Vladivostok 29.17 60α *i*P P 23 55 39.7 +1.9
VLA *i* S **S** **00 00 31.2 +1.6**
VLA MLR MLR
comp=E,211µm,16.3s
USRK Ussuriysk Ar. 29.41 58 P P 23 55 41.5 +1.6
comp=E,18nm,0.9s,baz=258,slow=8.2,SNR=14
USRK PcP **PcP** **23 58 45.8 +0.1**
comp=E,8.6nm,0.8s,baz=258,slow=6.6,SNR=3.9
USRK S **S** **00 00 34.9 +1.5**
comp=E,5.9nm,0.9s,baz=275,slow=7.1,SNR=1.9
USRK LR LR 00 08 28.3
comp=E,377µm,18.6s,baz=251,slow=39
KCSI Kotacane, Aceh 29.53 178 P **P** **23 55 42.9 +1.7**
comp=E,297nm,1.5s,comp=E,9µmcomp=E,98µm
TSI Tuntungan 29.59 176 P P 23 55 51.0 +9.3
PALK Pallekele 29.78 214 *e*P **P** **23 55 41.9 -1.6**
PALK S **S** **00 00 40.7 +1.1**
PALK pmax pmax
comp=Z,656nm,2.1s
PALK Pallekele 29.78 214 P **P** **23 55 45.3 +1.8**
comp=Z,112nm,0.9s,baz=18,slow=8.6,SNR=25
PALK S **S** **00 00 40.7 +1.1**
comp=Z,27nm,1.0s,baz=29,slow=16,SNR=1.4
PALK LR LR 00 09 49.6
comp=Z,449µm,18.6s,baz=36,slow=41
PALK Pallekele 29.78 214 P P 23 55 47.8 +4.4
SNR=17
PALK Pallekele 29.78 214 *e*P **P** **23 55 41.9 -1.6**
comp=Z,656nm,2.1s
PALK S **S** **00 00 40.7 +1.1**
TPTI 29.78 179 P P 23 55 45.9 +2.5
comp=Z,213nm,1.1s,comp=Z,14µm
IMYA Miami 30.15 286 *e*P **P** **23 55 47.5 +0.7**
GQP Guinayangan 30.25 123⇓ *e*P **P** **23 55 49.2 +1.6**
SJMP San Jose 30.36 127 *e*P **P** **23 55 48.9 +0.3**
KLR Kul'dur 30.49 48 *e*P **P** **23 55 48.0 -1.4**
KLR *e*S **S** **00 00 49.0 -1.2**
CLNS Chul'man 30.51 31 *e*P P 23 55 52.0 +2.4
CLNS *e**PP pP 23 56 00.4 +6.6
CLNS *e* 23 56 49.9
CLNS *e* 23 58 49.1
CLNS *e*S **S** **00 00 52.5 +2.1**
CLNS *e* 00 02 34.7
CLNS *e* 00 06 19.0
CLNS pmax pmax
comp=Z,60nm,1.1s
CLNS pmax pmax
comp=E,51nm,1.1s
CLNS pmax pmax
comp=N,57nm,1.1s
CLNS pmax pmax
comp=Z,98nm,1.2s
CLNS pmax pmax
comp=E,92nm,1.1s
CLNS smax smax
comp=E,2µm,10.7s
CLNS smax smax
comp=N,10µm,11.9s
CLNS MLR MLR
comp=N,104µm,11.0s
CLNS MLR MLR
comp=Z,133µm,10.0s
CLNS MLR MLR
comp=E,144µm,12.0s
TRD Trivandrum 30.62 221 *e*P **P** **23 55 51.0 +0.1**
SNSI Sinabang, Aceh 30.63 181 P **P** **23 55 50.2 -0.7**
comp=E,963nm,1.3s,comp=E,17µm
ISRO Mashad 30.66 286 *e*P P 23 55 53.6 +2.4
IMOG Moghan 30.79 286 *e*P P 23 55 55.7 +3.1
DDAH Dahanechah 30.84 279 *e*P **P** **23 55 53.4 +0.3**
IPAY Payeh 31.03 287 *e*P **P** **23 55 56.2 +1.5**
OTRP Odiongan 31.04 126 *e*P P 23 55 57.3 +2.7
IKRD Kardeh 31.39 287 *e*P P 23 55 51.8 -6.1
CUYO Cuyo Island 31.48 129 *e*P **P** **23 56 00.4 +1.9**
ABKAR Akbulak array 31.62 312 *e*P **P** **23 55 59.7 +0.3**
ABKAR *e*S **S** **00 01 09.3 +1.4**
IKOO Kooshah 31.62 279 *e*P **P** **23 56 00.1 +0.2**
GEYT Alibeck 31.62 290 P **P** **23 56 00.1 +0.5**
comp=E,58nm,0.9s,baz=84,slow=4.6,SNR=92
GEYT S **S** **00 01 11.0 +2.7**
comp=E,7.2nm,0.8s,baz=12,slow=7.4,SNR=1.9
GEYT ScP **ScP** **00 02 35.5 +1.0**
comp=E,23nm,1.1s,baz=49,slow=4.4,SNR=3.9
GEYT LR LR 00 11 04.3
comp=E,190µm,20.3s,baz=90,slow=41
ITEG Tejag 31.74 280 *e*P **P** **23 56 01.4 +0.6**
ISFR Sfrayin 31.78 288 *e*P P 23 56 04.3 +3.1
MYKOM Kota Tinggi 31.94 166 ⇑P P 23 56 05.8 +3.3
MYKOM Kota Tinggi 31.94 166 *e*P **P** **23 56 03.6 +1.1**
comp=E,1µm,1.3s
MYKOM *e*S **S** **00 01 10.7 -2.7**
MYKOM LR LR
comp=Z,285µm,20.0s
ISHV Shirvan 31.98 289 *e*P P 23 56 06.9 +3.9
RCP Roxas 32.11 126⇑ *e*P **P** **23 56 06.0 +2.0**
KDM Kudat 32.11 140 ⇑P **P** **23 56 05.9 +2.0**
MNSI Mandailing Nat 32.34 175 P **P** **23 56 07.1 +1.2**
comp=Z,184nm,1.3s,comp=Z,8µmcomp=Z,70µm
HABR Khabarovsk 32.37 50*ce* **P** **23 56 06.1 +0.1**
HABR *e**PP pP 23 56 15.7 +5.5
HABR *e**SP sP 23 56 20.2 +8.2
HABR 23 57 14.2
HABR *e*PPP PPP 23 57 24.9
HABR *e* 23 58 52.7
HABR *e*S **S** **00 01 19.3 -0.3**
HABR *e**SS sS 00 01 36.0 +9.4
HABR *e*SS **SnSn** **00 03 15.8 +3.8**
HABR *e*SSS SSS 00 03 32.2
HABR *e* 00 06 32.6
HABR pmax pmax
comp=Z,5µm,5.9s
HABR pmax pmax
comp=Z,267nm,1.3s
HABR MLR MLR
comp=N,114µm,10.0s
HABR MLR MLR
comp=E,399µm,12.0s
HABR MLR MLR
comp=Z,498µm,13.0s
KKM Kota Kinabalu 32.52 142 ⇑P **P** **23 56 09.2 +1.5**
KKM Kota Kinabalu 32.52 142 *e*P **P** **23 56 07.2 -0.5**
comp=Z,2µm,1.0s
KKM *e*S S 00 01 10.1 -13
KKM LR LR
comp=Z,277µm,18.0s
GUIM Jordan 32.68 127 *e*P **P** **23 56 10.9 +1.9**
CNP Catarman 32.77 122 *e*P P 23 56 15.5 +5.7
TPRI Tanjung Pinang 32.93 166 P P 23 56 16.0 +4.9
comp=Z,846nm,1.3s,comp=Z,35µmcomp=Z,81µm
BKNI Bangkinang 32.94 172 P **P** **23 56 13.2 +1.9**
comp=Z,1µm,0.8s,comp=Z,25µmcomp=Z,130µm
BKNI Bangkinang 32.94 172 *e*P **P** **23 56 12.9 +1.6**
comp=Z,1µm,0.9s
BKNI *e*S **S** **00 01 24.1 -4.9**
BKNI LR LR
comp=Z,378µm,22.0s
AKTO Aktyubinsk 33.15 313 LR LR 00 09 55.6
comp=Z,65µm,19.5s,baz=118,slow=37
SDKM Sandakan 33.37 141 ⇓P **P** **23 56 17.2 +2.1**
OCLP Ormoc 33.75 124 *e*P P 23 56 21.4 +3.1
SBUM Sibu 33.85 151 ⇓P P 23 56 22.0 +2.8
SBUM Sibu 33.85 151 *e*P **P** **23 56 20.2 +1.0**
SBUM *e*S **S** **00 01 42.6 -0.5**
SBUM LR LR
comp=Z,342µm,22.0s
PLP Palo 33.92 124⇓ *e*P **P** **23 56 20.9 +1.0**
MAJO Matsushiro 33.99 72 *e*P **P** **23 56 19.8 -0.6**
MAJO *e* 23 59 00.0
MAJO *e*S **S** **00 01 44.8 -0.4**
MAJO pmax pmax
comp=Z,218nm,1.0s
MAJO MLR MLR
comp=Z,238µm,20.0s
MAJO Matsushiro 33.99 72 *e*P **P** **23 56 19.8 -0.6**
comp=Z,218nm,1.0s
MAJO *e*PcP **PcP** **23 58 60.0 +1.7**
MAJO *e*S **S** **00 01 44.8 -0.4**
MAJO *e*ScP **ScP** **00 02 42.7 0.0**
MAJO LR LR
comp=Z,238µm,20.0s
MAT Matsushiro 33.99 72 P **P** **23 56 20.2 -0.2**
MAT S S 00 01 38.0 -7.2
MJAR Matsushiro Arr 34.00 72 P **P** **23 56 21.4 +1.0**
MJAR 23 59 00.0
MJAR S **S** **00 01 44.8 -0.4**
MJAR pmax pmax
comp=Z,75nm,1.1s
MJAR smax smax
comp=N,2.0nm,0.8s
MJAR MLR MLR
comp=Z,217µm,19.0s
MJAR Matsushiro Arr 34.00 72 P **P** **23 56 21.4 +1.0**
comp=Z,75nm,1.1s,baz=278,slow=9.5,SNR=61
MJAR PcP **PcP** **23 58 60.0 +1.7**
comp=Z,21nm,0.9s,baz=227,slow=1.2,SNR=6.2
MJAR S **S** **00 01 44.8 -0.4**
comp=Z,2.2nm,0.8s,baz=194,slow=20,SNR=2.6
MJAR ScP **ScP** **00 02 42.7 0.0**
comp=Z,17nm,1.1s,baz=260,slow=4.4,SNR=5.6
MJAR LR LR 00 11 24.5
comp=Z,217µm,19.0s,baz=275,slow=38
KSM Kuching 34.03 155 ⇑P P 23 56 23.3 +2.6
KSM Kuching 34.03 155 *e*P **P** **23 56 21.6 +0.9**
comp=Z,1µm,1.3s
KSM *e*PP **PP** **23 57 38.2 +0.3**
KSM *e*S S 00 01 36.0 -10
KSM LR LR
comp=Z,263µm,21.0s
SDSI Sungai Dareh 34.23 172 P P 23 56 26.9 +4.4
comp=Z,326nm,1.6s,comp=Z,22µm
DSRI Dabo 34.30 166 P P 23 56 31.0 +7.9
comp=Z,1µm,0.9s,comp=Z,12µm
MSLP Maasin 34.57 125 *e*P P 23 56 27.7 +2.2
IBAF Bafgh 34.65 279 *e*P **P** **23 56 26.4 +0.1**
WBK Wadi Bani Khal 34.84 262 P P 23 56 30.3 +2.4
SNR=58
ARU Arti 34.99 323*c i*P **P** **23 56 28.6 -0.2**
ARU 23 57 44.4
ARU 23 58 58.8
ARU S **S** **00 02 00.2 +0.1**
ARU SS **SnSn** **00 04 17.6 +2.2**
ARU 00 06 38.6
ARU MLR MLR
comp=Z,204µm,18.0s
ARU Arti 34.99 323 *e*P **P** **23 56 28.5 -0.2**
ARU *e*PP **PnPn** **23 57 41.0 -4.7**
ARU LR LR
comp=Z,70µm,18.0s
IANJ Anjilo 35.24 286 *e*P **P** **23 56 30.8 -0.6**
JMBI JAMBI 35.25 168 P P 23 56 37.5 +6.3
comp=Z,3µm,1.1s,comp=Z,35µmcomp=Z,147µm
SMDO Samad 35.42 264 P **P** **23 56 34.6 +1.7**
SNR=131
ICHK Chekchek 35.46 280 *e*P **P** **23 56 33.7 +0.4**
IMEH Mehriz 35.49 279 *e*P **P** **23 56 32.8 -0.8**
JMDO Jabal Madar 35.67 262 P **P** **23 56 35.5 +0.6**
SNR=56
YAK Yakutsk 35.68 26 *e*P P 23 56 37.0 +2.5
YAK *e**PP pP 23 56 44.1 +5.3
YAK *e* 23 57 59.2
YAK *e*PPP PPP 23 58 10.8
YAK *e* 23 59 00.6
YAK *e*S **S** **00 02 11.7 +1.3**
YAK *e**SS sS 00 02 25.7 +8.3
YAK *e* 00 06 44.8
YAK pmax pmax
comp=E,104nm,0.9s
YAK pmax pmax
comp=N,76nm,1.0s
YAK pmax pmax
comp=Z,331nm,1.0s
YAK pmax pmax
comp=Z,486nm,1.9s
YAK pmax pmax
comp=E,497nm,2.3s
YAK pmax pmax
comp=N,123nm,1.2s
YAK smax smax
comp=E,6µm,4.7s
YAK smax smax
comp=N,5µm,4.6s
YAK MLR MLR
comp=Z,123µm,10.0s
YAK MLR MLR
comp=E,108µm,11.0s
YAK MLR MLR
comp=N,55µm,10.0s
YAK Yakutsk 35.68 26 LR LR 00 12 15.7
comp=N,170µm,18.2s,baz=228,slow=38
YAK Yakutsk 35.68 26 *e*P P 23 56 37.1 +2.5
ISHM Shahmirzad 35.69 287 *e*P P 23 56 38.6 +3.3
STKI Sintang 35.75 154 P P 23 56 38.0 +2.4
comp=N,483nm,1.7s,comp=N,21µmcomp=N,71µm
BANOM Banah 35.75 269⇑ *i*P P 23 56 38.0 +2.4
SNR=36
BANOM Banah 35.75 269 P P 23 56 39.8 +4.2
SNR=29
HOQ Hoqain 35.81 265 P **P** **23 56 37.2 +1.1**
SNR=117
ILAS Lasjerd 36.03 286 *e*P **P** **23 56 38.9 +0.7**
ISAD Sadrabad 36.13 280 *e*P **P** **23 56 40.9 +1.7**
IFIR Firoozkooh 36.15 286 *e*P **P** **23 56 40.2 +0.9**
BSY Bisya 36.26 264 P **P** **23 56 40.4 +0.4**
SNR=239
CTBH Cotabato--PC H 36.29 129 *e*P **P** **23 56 41.8 +1.5**
HATD Hatta, Dubai 36.30 268⇑ *i*P P 23 56 43.4 +3.1
SNR=48
BUKP Musuan 36.34 128 *e*P **P** **23 56 42.4 +1.7**
ASHO Ashiyiah 36.42 267⇓ *i*P P 23 56 43.5 +2.1
SNR=20
ASHO Ashiyiah 36.42 267 P P 23 56 44.0 +2.6
SNR=251
ARQ Araqi 36.57 265 P **P** **23 56 43.8 +1.1**
SNR=168
NAZ Nazwa, Dubai 36.63 268⇓ *i*P P 23 56 46.1 +2.9
SNR=27
PMBI Palembang 36.72 167 P P 23 56 49.0 +5.1
comp=N,1µm,1.3s,comp=N,23µmcomp=N,134µm
PMBI Palembang 36.72 167 *e*P P 23 56 48.3 +4.4
comp=N,3µm,1.5s
PMBI *e*PP **PP** **23 58 11.0 +3.4**
PMBI LR LR
comp=Z,212µm,19.0s
IDMV Damavand 36.74 287 *e*P **P** **23 56 45.4 +1.1**
FAQ Al Faqa, Dubai 36.79 268⇓ *i*P P 23 56 47.3 +2.8
SNR=114
ASAJ Asahikawa 37.00 59 P **P** **23 56 47.4 +1.3**
ASAJ S **S** **00 02 28.2 -2.9**
ASAJ pmax pmax
comp=Z,283nm,1.0s
ASAJ MLR MLR
comp=Z,252µm,19.1s
ASAJ Asahikawa 37.00 59 P **P** **23 56 47.4 +1.3**
comp=Z,283nm,1.0s,baz=273,slow=16,SNR=34
ASAJ S **S** **00 02 28.2 -2.9**
baz=243,slow=9.0
ASAJ LR LR 00 12 50.6
comp=Z,252µm,19.1s,baz=276,slow=38
ASAJ Asahikawa 37.00 59 *e*P P 23 56 47.7 +1.6
ASAJ S **S** **00 02 28.2 -2.9**
ASAJ *e*ScP **ScP** **00 02 52.3 -1.1**
UGL Uglegorsk 37.04 51*de* **P** **23 56 46.4 +0.1**
UGL *e**PP pP 23 56 56.2 +5.6
UGL *e**SP sP 23 57 00.3 +8.0
UGL *e* 23 58 11.6
UGL *e*PPP PPP 23 58 28.4
UGL *e* 23 59 06.2
UGL *e*S **S** **00 02 31.2 -0.3**
UGL *e**SS **ScP** **00 02 47.9 -5.6**
UGL *e*SS **SS** **00 05 08.4 -5.1**
UGL *e* 00 06 57.8
ASUD Al Ashush, Dub 37.05 268⇑ *i*P P 23 56 50.0 +3.2
SNR=48
IVRN Varamin 37.09 286 *e*P P 23 56 49.1 +2.0
TPI Tanjungpandan 37.21 162 P P 23 56 51.0 +2.9
comp=Z,483nm,1.6s,comp=Z,11µmcomp=Z,103µm
SOKR Solikamsk 37.24 327*d i*P **P** **23 56 48.7 +0.8**
SOKR S **S** **00 02 37.8 +3.5**
SOKR pmax pmax
comp=Z,1µm,1.4s
SOKR MLR MLR
comp=Z,116µm,18.0s
YSS Yuzh-Sakhalins 37.26 54κ *e*P **P** **23 56 49.0 +0.8**
YSS *e* 23 57 02.1
YSS *i* S **S** **00 02 36.0 +1.1**
YSS *e* 00 07 04.0
YSS pmax pmax
comp=E,140nm,1.0s
YSS pmax pmax
comp=Z,330nm,1.0s
YSS pmax pmax
comp=E,3µm,6.0s
YSS pmax pmax
comp=Z,7µm,6.0s
YSS smax smax
comp=N,16µm,15.0s
YSS smax smax

comp=E,19µm,14.0s
YSS MLR MLR
comp=N,157µm,14.0s
YSS MLR MLR
comp=E,253µm,16.0s
YSS MLR MLR
comp=Z,303µm,16.0s
YSS Yuzh-Sakhalins 37.26 54 *e*P P 23 56 50.1 +1.9
comp=Z,528nm,1.1s
YSS *e*S S 00 02 27.0 -7.9
YSS LR LR
comp=Z,87µm,20.0s
DAV Davao City (W) 37.28 128 P P 23 56 52.0 +3.3
SNR=68
DAV Davao City (W) 37.28 128 *e*P P 23 56 54.1 +5.3
comp=Z,3µm,1.3s
DAV LR LR
comp=Z,194µm,19.0s
LHSI Lahat 37.37 169 P P 23 56 52.3 +2.9
comp=Z,299nm,1.2s,comp=Z,8µmcomp=Z,75µm
ERM Erimo 37.42 63 *e*P P 23 56 52.4 +2.8
ERM *e*S **S 00 02 31.9 -5.6**
ERM MLR MLR
comp=Z,248µm,19.0s
ERM Erimo 37.42 63 *e*P P 23 56 52.4 +2.8
ERM *e*S **S 00 02 31.9 -5.6**
ERM LR LR
comp=Z,248µm,19.0s
GSPH General Santos 37.60 130 ǁ *i*P P 23 56 56.4 +4.8
MNAI Manna 37.81 170 PFAKE 23 57 10.0 +17
MNAI LR LR
comp=Z,318µm,19.0s
IMHD Mahdasht 37.82 287 *e*P P 23 56 56.3 +3.0
MATI Mati 37.82 127 *e*P P 23 56 57.2 +3.9
MTKI Muara Teweh, K 38.02 150 P P 23 56 57.7 +2.8
comp=Z,1µm,1.7s,comp=Z,28µm
IGZV Ghazvin 38.06 288 *e*P **P 23 56 56.0 +0.6**
MDSI Maura Dua 38.13 168 P **P 23 56 56.3 +0.5**
comp=Z,190nm,1.4s,comp=Z,6µm
PBKI Pangkalan Bun 38.39 156 P P 23 57 02.5 +4.5
comp=Z,1µm,1.1s,comp=Z,21µmcomp=Z,60µm
IRAZ Razeghan 38.46 287 *e*P **P 23 56 59.1 +0.3**
KLI Kotabumi 38.62 167 P P 23 57 05.5 +5.5
comp=Z,471nm,2.3s,comp=Z,16µm
LWLI Liwa 38.63 168 P **P 23 57 02.1 +1.9**
comp=Z,590nm,0.8s,comp=Z,28µm
TOLI Toli-Toli 39.09 140 *e*P P 23 57 10.3 +6.4
comp=Z,918nm,0.9s
TOLI *e*S S 00 02 50.7 -12
TOLI LR LR
comp=Z,74µm,22.0s
BKB Balikpapan 39.19 147 P P 23 57 09.9 +5.2
comp=Z,2µm,1.1s,comp=Z,24µmcomp=Z,83µm
BLSI Bandar Lampung 39.19 167 P P 23 57 11.0 +6.3
comp=Z,562nm,1.8s,comp=Z,7µm
KASI Kota Agung 39.20 168 P **P 23 57 05.9 +1.1**
comp=Z,230nm,0.8s,comp=Z,5µmcomp=Z,45µm
MPSI Mapaga 39.27 142 P P 23 57 07.6 +2.2
comp=Z,580nm,0.8s,comp=Z,10µmcomp=Z,51µm
YUK Yuzh-Kuril'sk 39.35 59 *d* *i*P **P 23 57 07.1 +1.3**
YUK *i* 23 58 37.9
YUK *i* S **S 00 03 07.1 +0.5**
YUK *i* SS **SnSn 00 05 59.9 -1.1**
YUK PMAX PMAX
comp=Z,3µm,1.1s
YUK PMAX PMAX
comp=N,301nm,1.0s
YUK PMAX PMAX
comp=E,1µm,1.0s
YUK PMAX PMAX
comp=Z,4µm,1.1s
YUK MLR MLR
comp=N,119µm,19.0s
YUK MLR MLR
comp=E,155µm,19.0s
YUK MLR MLR
comp=Z,189µm,19.0s
MAK Makhachkala 39.48 299 *e*P P 23 57 08.9 +2.0
MAK *e* 23 58 40.0
MAK *e*PPP PPP 23 59 05.1
MAK *e* 23 59 21.2
MAK *e*S **S 00 03 09.2 +0.7**
MAK *e*SS **SS 00 06 00.7 -2.1**
MAK PMAX PMAX
comp=Z,6µm,4.8s
MAK PMAX PMAX
comp=Z,608nm,1.8s
MAK PMAX PMAX
comp=N,843nm,1.5s
MAK PMAX PMAX
comp=E,925nm,2.0s
MAK SMAX SMAX
comp=N,14µm,6.7s
MAK SMAX SMAX
comp=E,10µm,7.0s
MAK MLR MLR
comp=Z,258µm,19.0s
MAK MLR MLR
comp=E,215µm,15.0s
MAK MLR MLR
comp=N,241µm,16.0s
CBIJ Chichi jima 39.52 86 P **P 23 57 06.9 -0.6**
CBIJ *e*PP **PnPn 23 58 40.3 -0.8**
CBIJ *e*S **S 00 03 09.5 -0.1**
JCJ Chichijima 39.52 86 P **P 23 57 06.9 -0.6**
comp=N,357nm,1.1s,baz=310,slow=7.9,SNR=6.4
JCJ LR LR 00 14 45.8
comp=N,87µm,18.9s,baz=289,slow=38
CBI Chichi jima 39.53 86 *e*P **P 23 57 06.9 -0.6**
SHAO Shalim 39.77 258 P P 23 57 12.5 +2.9
SNR=21
SBJI Serang 40.10 165 P P 23 57 21.9 +10
MRSI Marisa 40.25 139 P P 23 57 16.5 +2.9
comp=N,571nm,1.6s,comp=N,15µmcomp=N,557µm
TNG Tangerang 40.26 165 P P 23 57 23.5 +10
BBKI Banjar Baru 40.28 151 P P 23 57 16.3 +2.5
comp=N,921nm,1.1s,comp=N,24µm
PCI Palu 40.30 143 P P 23 57 16.3 +2.3
comp=N,1µm,1.0s,comp=N,23µm
CGJI Cibinong 40.49 166 P **P 23 57 14.8 -0.7**
comp=N,232nm,1.2s,comp=N,5µmcomp=N,50µm
KBKI Kotabaru 40.68 149 P **P 23 57 18.3 +1.2**
comp=N,330nm,1.1s,comp=N,9µmcomp=N,44µm
KUR Kuril'sk 40.76 57 *d* *i*P P 23 57 11.4 -6.1
KUR *e*PPP PPP 23 59 03.8
KUR *i* S **S 00 03 27.4 -0.2**
KUR *e*SSS SSS 00 07 07.6
KUR PMAX PMAX
comp=Z,2µm,2.6s
KUR PMAX PMAX
comp=N,237nm,1.5s
KUR PMAX PMAX
comp=E,607nm,1.5s
KUR PMAX PMAX
comp=Z,964nm,1.5s
KUR MLR MLR
comp=N,88µm,14.0s
KUR MLR MLR
comp=Z,91µm,14.0s
KUR MLR MLR
comp=E,58µm,14.0s
SKJI Sukabumi 41.05 165 P P 23 57 26.4 +6.2
comp=E,260nm,1.6s,comp=E,5µm
LEM Lembang 41.12 163 P P 23 57 27.7 +6.8
comp=E,254nm,1.7s,comp=E,10µm
LEM Lembang 41.12 163 LR LR 00 16 11.4
comp=E,257µm,19.8s,baz=322,slow=39
RBK Rabkut 41.20 258 P **P 23 57 21.9 +0.3**
SNR=108
APSI Ampana 41.25 140 P **P 23 57 23.9 +2.1**
comp=E,1µm,1.0s,comp=E,14µmcomp=E,44µm
KMSI Cibinong 41.33 136 P **P 23 57 24.3 +1.8**
comp=E,3µm,1.0s,comp=E,29µmcomp=E,44µm
CNJI Cibinong 41.47 164 P **P 23 57 25.8 +2.2**
comp=E,286nm,1.0s,comp=E,4µmcomp=E,45µm
TBLG Delisi 41.61 297 *e*P P 23 57 27.6 +2.9
UWJI Ujung Watu 41.64 158 P P 23 57 31.2 +6.2
comp=E,727nm,1.4s,comp=E,16µmcomp=E,47µm
BWJI Bawean 41.66 156 P P 23 57 29.6 +4.4
comp=E,272nm,1.3s,comp=E,4µmcomp=E,128µm
GNI Garni 41.79 295 *c* *i*P **P 23 57 26.6 +0.3**
GNI PMAX PMAX
comp=Z,443nm,1.2s
GNI Garni 41.79 295 S **S 00 03 47.2 +3.7**
comp=Z,10nm,0.9s,baz=52,slow=19,SNR=2.0
GNI LR LR 00 18 39.8
comp=Z,42µm,18.9s,baz=90,slow=42

GNI Garni 41.79 295 ⇑ *i*P P 23 57 29.7 +3.4
SNR=74
GNI Garni 41.79 295 P P 23 57 30.7 +4.4
SNR=59
GNI Garni 41.79 295 *e*P P 23 57 28.2 +1.9
comp=Z,660nm,1.0s
GNI *e*PP **PP 23 59 00.6 -2.3**
GNI S **S 00 03 47.2 +3.7**
CISI Cisompet, Garu 41.87 163 P P 23 57 31.6 +4.7
comp=Z,219nm,1.1s
CISI Cisompet, Garu 41.87 163 *e*P **P 23 57 26.9 -0.1**
comp=Z,180nm,0.9s
CISI *e*PP PP 23 58 57.2 -6.8
CISI LR LR
comp=Z,453µm,18.0s
KPJI Karang Pucung 41.93 162 P **P 23 57 29.3 +1.9**
comp=Z,583nm,1.4s,comp=Z,19µm
ABTO Aybut 42.02 259 P **P 23 57 28.6 +0.3**
SNR=95
SMRI Semarang 42.08 159 P P 23 57 32.8 +4.1
comp=Z,1µm,2.0s,comp=Z,46µmcomp=Z,126µm
SMRI Semarang 42.08 159 *e*P P 23 57 30.9 +2.2
comp=Z,2µm,1.5s
SMRI LR LR
comp=Z,267µm,20.0s
TIXI Tiksi 42.12 15 *d* *e*P **P 23 57 28.9 +0.6**
TIXI PMAX PMAX
comp=Z,44nm,0.6s
TIXI MLR MLR
comp=Z,84µm,15.0s
TIXI Tiksi 42.12 15 *e*P **P 23 57 28.6 +0.3**
TIXI *e*PP PP 23 59 00.0 -5.6
TIXI *e*S **S 00 03 47.8 +0.7**
TIXI LR LR
comp=Z,136µm,19.0s
TTSI Tana Toraja 42.13 144 P **P 23 57 30.7 +1.6**
comp=Z,1µm,1.0s,comp=Z,16µmcomp=Z,45µm
ZEI Tsey 42.13 299 *e*P **P 23 57 29.2 +0.1**
ZEI PMAX PMAX
comp=Z,2µm,8.3s
ZEI PMAX PMAX
comp=Z,235nm,1.3s
ZEI PMAX PMAX
comp=N,397nm,1.0s
ZEI PMAX PMAX
comp=E,798nm,0.9s
ZEI MLR MLR
comp=Z,51µm,14.0s
ZEI MLR MLR
comp=N,52µm,16.0s
ZEI MLR MLR
comp=E,51µm,14.0s
NCK Nalchik 42.30 300 ǁ *e*P **P 23 57 30.4 +0.2**
TBJI Tambak Boyo 42.30 157 P P 23 57 36.7 +6.3
comp=E,926nm,0.8s,comp=E,23µmcomp=E,62µm
CLDR Caldiran 42.56 294 *e*P P 23 57 36.6 +3.9
AKH Akhalkalaki 42.58 297 *e*P P 23 57 37.3 +4.6
EAK Akyaka 42.58 296 *i*P **P 23 57 34.2 +1.4**
GOF Gofitskoye 42.59 302 ⇑ *i*P **P 23 57 33.0 +0.4**
GOF *e*S **S 00 03 58.8 +3.9**
GRJI Gresik 42.60 157 P P 23 57 40.2 +7.4
comp=E,228nm,1.3s,comp=E,3µm
DYDN Diyadin 42.68 294 *i*P P 23 57 35.7 +2.1
DIGO Kars 42.79 296 *i*P P 23 57 38.8 +4.2
SPSI Sidrap Palu 42.91 145 P **P 23 57 36.9 +1.5**
comp=E,1µm,1.1s,comp=E,28µmcomp=E,49µm
KIV Kislovodsk 42.92 301 *e*P **P 23 57 36.1 +0.8**
KIV Kislovodsk 42.92 301 *e*P **P 23 57 35.6 +0.2**
KIV *e* 23 59 16.4
KIV *e*PPP PPP 23 59 46.1
KIV *e*S **S 00 03 58.5 -1.4**
KIV PMAX PMAX
comp=Z,2µm,6.7s
KIV PMAX PMAX
comp=Z,396nm,1.0s
KIV MLR MLR
comp=Z,73µm,16.0s
KIV Kislovodsk 42.92 301 ⇑ *i*P **P 23 57 35.8 +0.4**
SNR=101
KIV Kislovodsk 42.92 301 P **P 23 57 36.1 +0.8**
SNR=183
KIV Kislovodsk 42.92 301 *e*P **P 23 57 35.7 +0.3**
KIV *e*S **S 00 03 58.7 -1.2**
KIV LR LR
comp=Z,70µm,20.0s
UGM Wanagama 42.93 160 P P 23 57 41.0 +5.5
comp=Z,410nm,2.1s,comp=Z,12µm
UGM Wanagama 42.93 160 *e*P P 23 57 39.3 +3.7
comp=Z,1µm,1.8s
UGM *e*PcP **PcP 23 59 23.7 -2.5**
UGM *e*S **S 00 03 57.1 -3.1**
UGM LR LR
comp=Z,214µm,20.0s
NEY Neytrino 42.95 300 *e*P P 23 57 37.9 +2.1
HKR Hakkari 42.97 291 *e*P **P 23 57 36.5 +0.6**
WOJI Wonogiri, Jawa 42.97 159 P P 23 57 39.7 +3.8
comp=Z,586nm,1.5s,comp=Z,9µm
KARS Kars 42.98 296 *e*P P 23 57 40.5 +4.5
HAKT HAKKARI 43.00 291 *i*P **P 23 57 36.8 +0.6**
TVAN Van 43.06 293 *i*P **P 23 57 36.5 -0.2**
VANB Van 43.06 293 *e*P P 23 57 41.4 +4.8
PRGR Permogore 43.11 327 ⇑ *i*P **P 23 57 36.4 -0.1**
PRGR 23 59 17.1
PRGR *i* S **S 00 04 04.1 +2.2**
PRGR PMAX PMAX
comp=Z,512nm,0.8s
CUKT Cukurca 43.13 291 *e*P **P 23 57 37.6 +0.4**
AGRB Hakur-Agry 43.20 294 *e*P **P 23 57 39.3 +1.5**
TNTI Ternate 43.21 132 P **P 23 57 39.1 +1.2**
comp=Z,817nm,1.1s,comp=Z,20µmcomp=Z,50µm
TNTI Ternate 43.21 132 *e*P **P 23 57 39.1 +1.2**
TNTI *e*PP **PP 23 59 17.1 -1.4**
TNTI LR LR
comp=Z,40µm,20.0s
GEVA Gevas 43.36 293 *i*P **P 23 57 38.9 -0.2**
TUTA Tutak 43.37 294 *i*P **P 23 57 36.0 -3.2**
PCJI Pacitan 43.39 159 P P 23 57 44.3 +5.1
comp=Z,282nm,1.5s,comp=Z,7µmcomp=Z,44µm
BNSI Bone 43.45 145 P **P**
comp=Z,543nm,1.1s,comp=Z,11µmcomp=Z,43µm
CHVG Ch'k'valeri 43.47 299 *e*P P 23 57 44.6 +4.9
VRHR Novokhopersk 43.51 311 *e*P **P 23 57 39.6 -0.3**
VRHR *e*S **S 00 04 03.7 -4.4**
VRHR PMAX PMAX
comp=E,80nm,1.1s
VRHR PMAX PMAX
comp=Z,560nm,1.1s
VRHR PMAX PMAX
comp=N,160nm,1.0s
VRHR SMAX SMAX
comp=N,12µm,8.3s
VRHR SMAX SMAX
comp=Z,3µm,4.4s
VRHR SMAX SMAX
comp=E,10µm,8.4s
VRHR MLR MLR
comp=Z,80µm,16.0s
VRHR MLR MLR
comp=N,68µm,15.0s
VRHR MLR MLR
comp=E,54µm,17.0s
EATA Eleskirt 43.54 295 *i*P **P 23 57 41.0 +0.3**
BLJI Banyuglugur 43.75 155 P P 23 57 47.1 +4.9
comp=E,447nm,1.1s,comp=E,12µmcomp=E,56µm
ARTV Artvin 43.77 297 *i*P **P 23 57 43.0 +0.5**
DAGI Agillar 43.80 297 *i*P **P 23 57 42.6 0.0**
KAPI Kappang 43.81 146 P **P 23 57 44.1 +1.4**
SNR=43
KAPI Kappang 43.81 146 *e*P **P 23 57 42.9 +0.2**
KAPI *e*PP **PP 23 59 23.0 -1.9**
KAPI LR LR
comp=Z,106µm,22.0s
TATV Tatvan 43.94 293 *i*P P 23 57 46.9 +3.1
DBOC Borcka 43.95 297 *i*P **P 23 57 45.2 +1.6**
DDEM Demirkent 43.95 297 *i*P **P 23 57 44.0 +0.2**
HOMI Horasan 43.96 295 *i*P **P 23 57 44.6 +0.6**
EKAR Karacoban 43.97 294 *i*P **P 23 57 45.6 +1.5**
BCA Borcka 43.97 297 *e*P P 23 57 45.6 +1.9
DBAD Bademkaya 43.97 297 *i*P **P 23 57 44.6 +0.7**
SIRT Sirnak 44.00 292 *e*P P 23 57 47.4 +3.2
SIRN S¨¨rnak 44.02 292 *i*P **P 23 57 44.3 0.0**
ABJI Asem Bagus 44.02 155 P P 23 57 49.0 +4.6
comp=Z,889nm,1.4s,comp=Z,18µm
GMJI Gumukmas 44.19 156 P **P 23 57 47.0 +1.3**
comp=Z,1µm,1.4s,comp=Z,16µmcomp=Z,54µm

XMIS Christmas Isla 44.25 167 *e*P **P 23 57 46.7 +0.5**
comp=Z,339nm,1.2s
XMIS *e*PP **PcP 23 59 32.0 +1.4**
XMIS *e*S **S 00 04 15.9 -3.6**
BKSI Bulukumba 44.26 146 P **P 23 57 48.1 +1.9**
comp=Z,316nm,1.6s,comp=Z,9µmcomp=Z,37µm
ERZM Erzurum 44.39 295 *i*P **P 23 57 48.6 +1.2**
EZM Erzurum 44.39 295 *e*P P 23 57 50.0 +2.5
LBMI Labuha 44.40 133 P **P 23 57 48.9 +1.5**
comp=Z,1µm,0.8s,comp=Z,22µm
VRTB Varto-Mus 44.45 294 *e*P P 23 57 52.8 +5.0
BTMT Batman 44.60 293 *e*P P 23 57 52.9 +3.9
SANI Sanana 44.62 136 P **P 23 57 48.7 -0.4**
comp=Z,395nm,0.9s,comp=Z,15µmcomp=Z,51µm
SRBI Singaraja 44.65 153 P **P 23 57 51.4 +2.0**
comp=Z,794nm,0.9s,comp=Z,17µmcomp=Z,60µm
BNGL BINGOL 44.72 294 *i*P **P 23 57 51.2 +1.1**
VORD Divnogorie 44.98 311 *e*P **P 23 57 52.4 +0.7**
VORD *e*S **S 00 04 26.7 -2.8**
VORD PMAX PMAX
comp=N,120nm,0.8s
VORD PMAX PMAX
comp=Z,220nm,0.8s
VORD PMAX PMAX
comp=E,480nm,0.9s
VORD SMAX SMAX
comp=E,9µm,8.0s
VORD SMAX SMAX
comp=Z,2µm,5.3s
VORD SMAX SMAX
comp=N,7µm,4.7s
VORD MLR MLR
comp=N,156µm,16.0s
VORD MLR MLR
comp=E,68µm,13.0s
VORD MLR MLR
comp=Z,61µm,13.0s
KOPT Kop Dagi 45.03 296 *i*P **P 23 57 52.9 +0.4**
VOR Voronezh 45.05 312 *e*P **P 23 57 51.0 -1.2**
VOR PMAX PMAX
comp=Z,2µm,1.4s
VSR Storozhevoye 45.06 311 *e*P **P 23 57 52.2 -0.1**
VSR *e*S S 00 04 22.4 -8.3
VSR PMAX PMAX
comp=Z,320nm,0.6s
VSR PMAX PMAX
comp=N,40nm,1.1s
VSR PMAX PMAX
comp=E,140nm,0.9s
VSR SMAX SMAX
comp=N,7µm,4.6s
VSR SMAX SMAX
comp=Z,2µm,6.2s
VSR SMAX SMAX
comp=E,7µm,6.8s
VSR MLR MLR
comp=Z,71µm,14.0s
VSR MLR MLR
comp=N,130µm,18.0s
VSR MLR MLR
comp=E,56µm,13.0s
BNGB Bing¨ǁ 45.07 294 *e*P P 23 57 56.7 +4.0
SOC Sochi 45.10 301 *c* *i*P **P 23 57 52.2 -0.5**
SOC *e* 23 59 36.6
SOC *i* S **S 00 04 32.4 +1.0**
SOC *e*SS **SS 00 07 51.8 -1.6**
SOC *e*SSS SSS 00 08 39.5
SOC PMAX PMAX
comp=Z,343nm,0.9s
SOC MLR MLR
comp=N,46µm,16.0s
SOC MLR MLR
comp=E,87µm,16.0s
SOC MLR MLR
comp=Z,91µm,16.0s
COCO West Island 45.13 180 *e*P **P 23 57 53.4 +0.3**
COCO *e* 23 59 43.7
COCO MLR MLR
comp=Z,104µm,21.0s
COCO West Island 45.13 180 *e*P **P 23 57 53.4 +0.3**
COCO *e*PP PP 23 59 43.7 +4.8
COCO LR LR
comp=Z,104µm,21.0s
BSSI Bau Bau, Buton 45.15 146 P **P 23 57 54.7 +1.3**
comp=Z,1µm,1.1s,comp=Z,18µm
DNP Denpasar 45.20 154 P P 23 58 01.5 +7.8
BAYT Ayd¨¨ntepe-Bay 45.23 296 *e*P P 23 57 58.8 +4.7
IGBI Denpasar 45.30 154 P P 23 58 00.1 +5.6
comp=Z,416nm,1.1s,comp=Z,5µm
MARD Mardin 45.33 292 *i*P **P 23 57 54.7 -0.1**
KTUT Trabzon 45.42 297 *e*P P 23 57 59.6 +4.3
MACK Trabzon 45.42 297 *i*P **P 23 57 57.1 +1.7**
SEY Seymchan 45.49 32 *i*P P 23 57 58.3 +2.8
SEY Seymchan 45.49 32 S S 00 04 41.5 +4.9
comp=Z,3.0nm,0.6s,baz=322,slow=12,SNR=2.0
SEY LR LR 00 18 31.0
comp=Z,152µm,18.5s,baz=258,slow=38
MAZI Mazidag 45.56 292 *e*P P 23 57 59.7 +3.0
KBSD Kabsdagh 45.58 291 *e*P **P 23 57 57.0 +0.3**
EUZM Uzumlu 45.69 295 *i*P **P 23 57 56.6 -1.1**
DYBB Diyarbakir 45.69 293 *e*P **P 23 57 58.4 +0.8**
ERZN Erzincan 45.69 295 *e*P P 23 58 01.1 +3.4
DIYA Diyarbakir 45.71 293 *i*P **P 23 57 58.5 +0.7**
GUMT Gumushane 45.72 296 *e*P **P 23 57 59.4 +1.5**
RAYN Ar Rayn 45.73 272 *e*P **P 23 57 56.5 -1.6**
comp=Z,313nm,1.2s
RAYN *e*PP **PP 23 59 42.8 -2.4**
RAYN *e*S S 00 04 32.9 -8.3
RAYN LR LR
comp=Z,78µm,19.0s
KELT Kelkit 45.94 296 *i*P **P 23 58 00.3 +0.5**
SFNV Sufian 46.05 291 *e*P **P 23 58 01.0 +0.6**
PTK Pertek 46.08 294 *e*P P 23 58 03.3 +2.5
MOS Moscow 46.15 318 *e*P **P 23 58 00.6 -0.3**
MOS *e* 23 58 11.2
MOS *e* 23 59 49.9
MOS *i*S **S 00 04 46.8 +0.5**
MOS *i* 00 07 54.0
MOS *e*SSS SSS 00 09 07.8
MOS PMAX PMAX
comp=E,1µm,1.1s
MOS PMAX PMAX
comp=Z,5µm,1.5s
MOS PMAX PMAX
comp=N,600nm,1.1s
MOS PMAX PMAX
comp=E,1µm,1.1s
MOS PMAX PMAX
comp=Z,3µm,1.0s
MOS SMAX SMAX
comp=N,11µm,3.9s
MOS MLR MLR
comp=N,148µm,14.0s
MOS MLR MLR
comp=Z,87µm,14.0s
MOS MLR MLR
comp=E,98µm,13.0s
SKR Severo-Kuril's 46.20 49 *e*P P 23 57 55.0 -6.3
SKR *e* 23 59 44.0
SKR *e*PPP PPP 00 00 31.0
SKR *e*SS SS 00 07 54.0 -18
SKR PMAX PMAX
comp=Z,4µm,4.0s
SKR PMAX PMAX
comp=N,3µm,8.0s
SKR PMAX PMAX
comp=E,3µm,8.0s
SKR MLR MLR
comp=N,174µm,18.0s
SKR MLR MLR
comp=E,132µm,18.0s
SKR MLR MLR
comp=Z,348µm,18.0s
NLAI Namlea 46.22 136 P P 23 58 04.3 +2.4
comp=Z,669nm,1.0s,comp=Z,11µmcomp=Z,39µm
H08N2 Diego Garcia H 46.28 217 P **P 23 58 03.4 +1.5**
baz=6.9,slow=5.4,SNR=18
H08N1 Diego Carcia H 46.29 217 P **P 23 58 03.4 +1.3**
baz=6.9,slow=5.4,SNR=14
H08N3 Diego Garcia H 46.30 217 P **P 23 58 03.5 +1.4**
baz=6.9,slow=5.4,SNR=16
ELZG Elazig 46.47 294 *i*P P 23 58 07.0 +3.2
DGAR Diego Garcia 46.52 214 PFAKE 23 58 20.0 +16
DGAR LR LR
comp=Z,144µm,22.0s

GRSN	GIRESUNGRSN	46.55	297	*i*	P		P	23 58 05.1	+0.8
ANN	Anapa	46.58	303	*e*	P		P	23 58 04.1	-0.3
ANN				*e*				23 59 56.3	
ANN				*e*	PPP		PPP	00 00 34.5	
ANN				*e*	S		S	00 04 53.1	+0.3
ANN				*e*	SSS		SSS	00 09 23.4	
ANN					pmax	pmax			
	comp=N,202nm,1.3s								
ANN					pmax	pmax			
	comp=Z,744nm,1.3s								
ANN					pmax	pmax			
	comp=E,196nm,1.3s								
ANN					pmax	pmax			
	comp=Z,4µm,4.2s								
ANN					smax	smax			
	comp=N,10µm,6.7s								
ANN					smax	smax			
	comp=E,6µm,6.7s								
ANN					MLR	MLR			
	comp=N,119µm,18.0s								
ANN					MLR	MLR			
	comp=Z,152µm,18.0s								
ANN					MLR	MLR			
	comp=E,149µm,18.0s								
ILIC	ilic-Erzincan	46.59	295	*e*	P		P	23 58 11.1	+6.3
KEMA	Kemaliye	46.69	295	*i*	P		P	23 58 04.8	-0.6
H08S3	Diego Garcia H	46.69	214		P		P	23 58 08.7	+3.5
H08S2	Diego Garcia H	46.70	214		P		P	23 58 08.6	+3.3
H08S1	Diego Garcia H	46.71	214		P		P	23 58 09.2	+3.8
OBN	Obninsk	46.72	317	*c*	iP		P	23 58 05.1	-0.2
OBN				*e*				23 59 40.6	
OBN				*e*				23 59 59.6	
OBN				*e*	PPP		PPP	00 00 39.7	
OBN				*i*	S		S	00 04 53.4	-1.0
OBN				*i*	SS		ScS	00 08 04.7	+5.2
OBN					pmax	pmax			
	comp=Z,927nm,1.7s								
OBN					MLR	MLR			
	comp=Z,74µm,16.0s								
OBN	Obninsk	46.72	317	*e*	P		P	23 58 05.5	+0.2
OBN				*e*	PcP		PcP	23 59 36.8	-1.8
OBN					LR	LR			
	comp=Z,111µm,20.0s								
SUSE	Susehri	46.73	296	*i*	P		P	23 58 06.5	+0.7
URFA	Urfa	46.82	292	*e*	P		P	23 58 09.9	+3.3
MALT	Malatya	46.94	294	*e*	P		P	23 58 08.1	+1.7
MALT	Malatya	46.94	294	⇓	P		P	23 58 08.9	+1.5
MALT	Malatya	46.94	294	⇓	iP		P	23 58 08.9	+1.5
MUKL	Al Mukalla	47.01	258	*e*	P		P	23 58 08.3	+0.2
KSRV	Kasrt alli	47.05	290	*e*	P		P	23 58 13.1	+4.8
TMCR	Tamitsa	47.11	329	*e*	P		P	23 58 09.3	+1.1
TMCR				*e*	S		S	00 05 07.1	+7.3
TMCR					pmax	pmax			
	comp=Z,1µm,1.3s								
PETK	Petropavlovsk-	47.14	46	*i*	P		P	23 58 10.1	+1.4
PETK					S		S	00 05 01.9	+1.3
PETK					pmax	pmax			
	comp=Z,121nm,1.0s								
PETK					smax	smax			
	comp=N,1.0nm,0.4s								
PETK					MLR	MLR			
	comp=Z,146µm,18.1s								
PETK	Petropavlovsk-	47.14	46	*i*	P		P	23 58 10.1	+1.4
	comp=Z,111nm,1.0s,baz=207,slow=3.0,SNR=47								
PETK					S		S	00 05 01.9	+1.3
	comp=Z,1.2nm,0.4s,baz=211,slow=8.1,SNR=2.3								
PETK					LR		LR	00 20 27.8	
	comp=Z,146µm,18.1s,baz=273,slow=39								
PEA2	Petropavlovsk-	47.15	46	*e*	P		P	23 58 10.1	+1.3
PEA2				*e*	S		S	00 05 01.9	+1.2
ATAB	Bozova	47.22	293	*i*	P		P	23 58 10.8	+1.2
RSDY	Resadiye-TOKAT	47.35	297	*e*	P		P	23 58 14.4	+3.9
SCER	sogukcermik	47.60	296	*i*	P		P	23 58 16.2	+3.5
DARE	Darende-Malaty	47.60	294	*e*	P		P	23 58 13.4	+0.8
SVSK	Karacayir	47.69	296	*e*	P		P	23 58 13.9	+0.8
PET	Petropavlovsk	47.72	46	*c*	iP		P	23 58 13.9	+0.7
PET					pmax	pmax			
	comp=Z,3µm,7.2s								
PET					pmax	pmax			
	comp=Z,2µm,7.3s								
PET					pmax	pmax			
	comp=Z,225nm,1.6s								
PET	Petropavlovsk	47.72	46	*e*	P		P	23 58 14.6	+1.4
PET					LR	LR			
	comp=Z,237µm,19.0s								
WBSI	Waikabubak, Su	47.75	149		P		P	23 58 12.7	-1.1
	comp=Z,1µm,1.1s,comp=Z,16µm								
SLMH	Al Salmeh	47.81	291	*e*	P		P	23 58 15.5	+1.3
GZT	Gaziantep	47.82	293	*i*	P		P	23 58 14.7	+0.3
GUMO	Guam	47.82	102		PFAKE			23 58 30.0	+16
GUMO					LR	LR			
	comp=Z,68µm,18.0s								
EDFI	Ende, Flores	47.99	146		P		P	23 58 16.7	+0.9
	comp=Z,223nm,0.8s,comp=Z,7µm,comp=Z,97µm								
WSI	Waingapu	48.17	148		P		P	23 58 20.3	+3.3
	comp=Z,2µm,1.2s,comp=Z,29µm								
KVT	Kavak	48.17	298	*e*	P		P	23 58 17.3	+0.4
KMRS	Kahramanmaras	48.29	293	*e*	P		P	23 58 18.3	+0.4
KUZU	Kuzuini	48.34	292	*i*	P		P	23 58 18.3	0.0
PINB	Pinarbasi	48.41	295	*i*	P		P	23 58 18.7	-0.4
HAVZ	Havza	48.42	298	*i*	P		P	23 58 18.7	-0.1
KAMA	Osmaniye	48.55	293	*i*	P		P	23 58 19.2	-0.8
DIKM	Dikmen	48.65	299	*e*	P		P	23 58 23.9	+3.3
ANDN	Andirin	48.70	293	*i*	P		P	23 58 20.6	-0.6
BASI	Baing, Sumba	48.78	148		P		P	23 58 21.8	+0.1
	comp=Z,1µm,0.9s,comp=Z,15µm								
BNN	Bunyan	48.79	295	*e*	P		P	23 58 25.8	+4.0
RABH	Abou Rabah	48.85	289	*e*	P		P	23 58 22.4	+0.1
SIM	Simferopol'	48.90	303	*c*	eP		P	23 58 22.3	-0.1
SIM				*e*				00 00 20.0	
SIM				*e*	S		S	00 05 27.0	+1.3
SIM					pmax	pmax			
	comp=Z,291nm,0.9s								
SIM					pmax	pmax			
	comp=Z,1µm,8.3s								
SIM					MLR	MLR			
	comp=Z,62µm,16.0s								
BNDI	Bandanaira	48.92	134		P		P	23 58 24.9	+2.1
	comp=Z,1µm,1.0s,comp=Z,22µm								
KFRA	Kufra	48.96	290	*e*	P		P	23 58 23.8	+0.7
BTCH	Batrach	49.00	291	*e*	P		P	23 58 24.8	+1.4
KOZT	Kozan	49.13	293	*e*	P		P	23 58 24.5	+0.2
FAKI	Fak Fak	49.14	130		P		P	23 58 25.1	+0.5
	comp=Z,434nm,1.7s,comp=Z,13µm,comp=Z,31µm								
FAKI	Fak Fak	49.14	130	*e*	P		P	23 58 24.4	-0.2
	comp=Z,397nm,1.0s								
FAKI					LR	LR			
	comp=Z,52µm,22.0s								
WRDH	Warideh	49.18	290	*e*	P		P	23 58 23.8	-1.1
ZALF	Zalf	49.19	287	*e*	P		P	23 58 27.1	+2.2
CTKT	Corum	49.20	297	*i*	P		P	23 58 24.4	-0.6
LVZ	Lovozero	49.24	334	*de*	P		P	23 58 25.1	+0.3
LVZ					pmax	pmax			
	comp=Z,277nm,1.2s								
LVZ					MLR	MLR			
	comp=Z,164µm,16.0s								
LVZ	Lovozero	49.24	334	*e*	P		P	23 58 24.7	-0.1
	comp=Z,873nm,1.4s								
LVZ				*e*	S		S	00 05 35.2	+5.2
LVZ					LR	LR			
	comp=Z,117µm,20.0s								
YAYL	Yayladag	49.28	291	*i*	P		P	23 58 22.9	-2.7
CEYT	Ceyhan	49.31	293	*e*	P		P	23 58 29.1	+3.4
RKPI	Ransiki, Papua	49.36	127		P		P	23 58 28.0	+1.8
	comp=Z,716nm,1.2s,comp=Z,18µm								
BIDA	Albida	49.39	290	*e*	P		P	23 58 28.2	+1.8
CORM	Corum	49.41	297	*e*	P		P	23 58 29.5	+2.9
ARNB	Al Arnab	49.43	291	*e*	P		P	23 58 30.4	+3.7
HAWK	Haweek	49.46	289	*e*	P		P	23 58 27.1	+0.1
BZK	Bozkurt	49.51	299	*e*	P		P	23 58 27.4	+0.3
FKH	Fakeheh	49.53	289	*e*	P		P	23 58 28.0	+0.4
MARH	Ras Al Marh	49.54	289	*e*	P		P	23 58 27.7	-0.1
APA	Apatity	49.64	333	⇓	iP		P	23 58 29.0	+1.2
APA				*i*				00 00 26.0	
APA				*i*	PPP		PPP	00 01 16.0	
APA				*i*	S		S	00 05 36.0	+0.5
APA				*i*	PS		x	00 05 42.0	
APA				*i*				00 08 20.0	
APA					pmax	pmax			
	comp=Z,277nm,1.2s								
APA					MLR	MLR			
	comp=Z,132µm,14.0s								
KAST	KASTAMONU	49.66	299	*i*	P		P	23 58 30.7	+2.4
TOS	Tosya	49.68	298	*e*	P		P	23 58 32.0	+3.4
CDAG	Cicekdag	49.73	296	*i*	P		P	23 58 26.8	-2.2
SALA	Sala	49.73	287	*e*	P		P	23 58 29.4	+0.2
ASF	Jabal al Asfar	49.77	286		LR		LR	00 22 12.2	
	comp=Z,55µm,18.0s,baz=35,slow=39								
KARA	Karaisali	49.78	293	*e*	P		P	23 58 33.1	+3.8
TOTH	TOTAH	49.78	288	*e*	P		P	23 58 31.9	+2.5
QASN	Qassioun	49.85	288	*e*	P		P	23 58 30.4	+0.4
HWQ	Hawqa	49.89	289	*e*	P		P	23 58 30.2	-0.1
ILGA	Ilgaz	49.90	298	*i*	P		P	23 58 30.1	-0.3
NIG	Nigde	49.91	294	*e*	P		P	23 58 31.4	+0.9
JOF	Joensuu	49.91	327	*e*	P		P	23 58 30.1	+0.3
JOF					pmax	pmax			
	comp=Z,235nm,0.7s								
JOF	Joensuu	49.91	327	*ep*	P		P	23 58 30.1	+0.3
	comp=Z,235nm,0.7s								
CANT	Cankiri	50.07	298	*e*	P		P	23 58 34.6	+3.1
SOEI	Soe	50.11	144		P		P	23 58 32.1	0.0
	comp=Z,661nm,1.2s,comp=Z,13µm								
SOEI	Soe	50.11	144	*e*	P		P	23 58 31.1	-1.0
	comp=Z,590nm,0.8s								
SOEI					LR	LR			
	comp=Z,163µm,20.0s								
BDHA	Al Bayda'	50.13	260	*e*	P		P	23 58 32.2	-0.2
BRBR	Barbar	50.15	288	*e*	P		P	23 58 34.0	+1.6
BATI	Baumata	50.20	145		P		P	23 58 32.7	+0.1
	comp=Z,459nm,1.2s,comp=Z,11µm								
BATI	Baumata	50.20	145		S		S	00 05 40.6	-3.9
	comp=Z,21nm,0.7s,baz=139,slow=19,SNR=3.9								
RCY	Rachaya	50.21	288	*e*	P		P	23 58 32.8	0.0
BHL	Bhannes	50.23	289	*e*	P		P	23 58 32.9	0.0
PUL	Pulkovo	50.23	323	‖	eP		P	23 58 33.8	+1.5
PUL					pmax	pmax			
	comp=Z,669nm,0.8s								
PUL					MLR	MLR			
	comp=Z,132µm,18.0s								
BR101	Keskin Array S	50.26	297	*e*	P		P	23 58 32.2	-0.8
BRTR	Keskin Array B	50.26	297		P		P	23 58 32.2	-0.8
BRTR					pmax	pmax			
	comp=Z,103nm,1.0s								
BRTR					MLR	MLR			
	comp=Z,21µm,18.3s								
BRTR	Keskin Array B	50.26	297		P		P	23 58 32.2	-0.8
	comp=Z,103nm,1.0s,baz=114,slow=6.6,SNR=74								
BRTR					LR	LR			
	comp=Z,21µm,18.3s,baz=78,slow=40								
MERS	Mersin	50.29	293	*e*	P		P	23 58 33.2	-0.1
TCHB	Talchebab	50.36	287	*e*	P		P	23 58 35.8	+2.1
DQRL	Deir Qamar	50.36	288	*e*	P		P	23 58 34.2	+0.3
SAFT	Safranbolu	50.62	299	*e*	P		P	23 58 38.8	+3.2
BBAL	Bala	50.69	296	*i*	P		P	23 58 35.2	-1.0
KIZK	Mersin	50.69	292	*i*	P		P	23 58 34.3	-1.9
SULT	Sultanhani-AKS	50.72	295	*e*	P		P	23 58 36.9	+0.4
AFSR	Af´ar-Bala (A	50.75	296	*e*	P		P	23 58 39.1	+2.4
DAMY	Dhamar	50.79	262	*e*	P		P	23 58 38.3	+0.8
DAMY				*e*	ScP		ScP	00 03 48.1	-2.2
DAMY					LR	LR			
	comp=Z,61µm,21.0s								
ANTO	Ankara	50.85	297	*e*	P		P	23 58 37.9	+0.4
ANTO	Ankara	50.85	297	*e*	P		P	23 58 37.7	+0.2
ANTO	Ankara	50.85	297	⇑	iP		P	23 58 38.5	+1.0
ANTO	Ankara	50.85	297		P		P	23 58 38.1	+0.6
	SNR=319								
ANTO	Ankara	50.85	297	*e*	P		P	23 58 37.7	+0.2
ANTO				*e*	ScP		ScP	00 03 52.0	+2.1
MMLI	Mount Malkishu	50.87	287	*e*	P		P	23 58 42.0	+4.4
LOD	Lodumlu	50.87	297	*e*	P		P	23 58 37.7	+0.1
EREN	Erenkoy	50.93	291	*e*	P		P	23 58 40.3	+2.3
SRPI	Serui, Papua	51.02	125		P		P	23 58 41.0	+2.2
	comp=Z,808nm,0.8s,comp=Z,18µm								
BCAM	Yenicaga	51.17	298	*i*	P		P	23 58 38.3	-1.6
AKASG	Malin Array Be	51.36	311		P		P	23 58 40.2	-0.8
AKASG					S		S	00 05 53.0	-6.8
AKASG					pmax	pmax			
	comp=Z,223nm,0.8s								
AKASG					smax	smax			
	comp=N,1.0nm,0.4s								
AKASG	Malin Array Be	51.36	311		P		P	23 58 40.2	-0.8
	comp=N,113nm,0.7s,baz=72,slow=7.0,SNR=100								
AKASG					S		S	00 05 53.0	-6.8
	comp=N,0.6nm,0.4s,baz=30,slow=25,SNR=2.4								
AKBB	Malin Array Si	51.36	311	*e*	P		P	23 58 40.2	-0.8
AKBB				*e*	S		S	00 05 53.0	-6.8
AKBB	Malin Array Si	51.36	311	*e*	P		P	23 58 40.2	-0.8
AKBB				*e*	S		S	00 05 53.0	-6.8
KIEV	Kiev	51.37	311	*c*	iP		P	23 58 40.6	-0.4
KIEV	Kiev	51.37	311	*e*	P		P	23 58 40.6	-0.4
	comp=N,890nm,1.3s								
KIEV					LR	LR			
	comp=Z,116µm,19.0s								
LFK	Lefkose	51.50	291	*e*	P		P	23 58 44.8	+2.4
KDZE	Karadeniz Ereo	51.52	299	*e*	P		P	23 58 44.5	+2.2
LADK	Ladik-KONYA	51.60	295	*e*	P		P	23 58 45.1	+2.0
ERMK	Ermenek	51.60	293	*i*	P		P	23 58 41.7	-1.5
KONT	Konya--Tatoy	51.67	295	*e*	P		P	23 58 45.8	+2.3
KDHN	Kadinhani	51.70	295	*i*	P		P	23 58 42.1	-1.8
CSS	Prodhromos	51.76	291	*e*	P		P	23 58 45.9	+1.6
CSS	Prodhromos	51.76	291	*e*	P		P	23 58 44.5	+0.3
CSS				*e*	S		S	00 05 51.8	-14
MICGM	Minsk	51.76	316	⇑	iP		P	23 58 42.0	-1.9
KIZT	Kizilcal	51.79	296	*e*	P		P	23 58 44.9	+0.4
MDUB	Mudurnu	51.90	298	*e*	P		P	23 58 45.3	-0.1
SVRH	Sivrihisar-ESK	51.91	297	*e*	P		P	23 58 48.6	+3.2
BTAS	Taskesti	52.02	298	*i*	P		P	23 58 41.0	-5.2
HENT	Hendek	52.03	299	*i*	P		P	23 58 45.9	-0.4
BILL	Bilibino	52.03	27	*d*	iP		P	23 58 47.6	+1.8
BILL				*e*				23 59 55.4	
BILL				*e*				00 00 42.2	
BILL				*i*	S		S	00 06 10.7	+2.1
BILL					pmax	pmax			
	comp=Z,189nm,1.0s								
BILL					MLR	MLR			
	comp=Z,138µm,19.0s								
BILL	Bilibino	52.03	27	*e*	P		P	23 58 46.9	+1.1
	comp=Z,399nm,1.0s								
BILL				*e*	PP		PP	00 00 48.4	+4.8
BILL				*e*	S		S	00 06 04.1	-4.5
BILL					LR	LR			
	comp=Z,150µm,20.0s								
LEF	Lefka	52.05	291	*e*	P		P	23 58 48.7	+2.3
VSU	Vasula	52.11	321	*d*	iP		P	23 58 46.7	+0.3
VSU					pmax	pmax			
	comp=Z,552nm,0.8s								
VSU					MLR	MLR			
	comp=Z,166µm,16.0s								
GAZI	Gazipasa	52.17	293	*i*	P		P	23 58 45.2	-2.1
KIS	Kishinev	52.20	307	⇑	P		P	23 58 49.3	+2.0
KIS	Kishinev	52.20	307	⇑	iP		P	23 58 49.3	+2.0
KIS	Kishinev	52.20	307	*e*	P		P	23 58 46.0	-1.3
	comp=Z,1µm,2.8s								
KIS	Kishinev	52.20	307	*i*	PP		PP	00 00 52.0	+6.5
KIS	Kishinev	52.20	307	*i*	PS			00 06 20.0	
KIS				*i*	ScS		ScS	00 08 28.0	-8.9
KIS				*i*	SS		SS	00 09 49.0	+0.4
KIS				*i*	SSS		SSS	00 11 37.0	
KIS				*e*	LQ		LQ	00 15 52.0	
KIS					LRM		MLR	00 23 32.0	
	comp=Z,10µm,16.0s								
KAF	Kangasniemi	52.20	326	*e*	P		P	23 58 47.7	+0.6
KAF					pmax	pmax			
	comp=Z,125nm,0.8s								
KAF	Kangasniemi	52.20	326	*ep*	P		P	23 58 47.7	+0.6
	comp=Z,124nm,0.8s								
KEV	Kevo	52.27	336	*e*	P		P	23 58 48.5	+1.0
KEV				*e*	S		S	00 06 08.6	-3.3
KEV					MLR	MLR			
	comp=Z,154µm,18.0s								
KEV	Kevo	52.27	336	*ep*	P		P	23 58 48.9	+1.4
	comp=Z,116nm,0.8s								
KEV	Kevo	52.27	336	*e*	P		P	23 58 48.5	+1.0
KEV				*e*	S		S	00 06 08.6	-3.3
KEV					LR	LR			
	comp=Z,154µm,18.0s								
FIA0	FINESS Array S	52.32	325	*e*	P		P	23 58 47.7	-0.3
FIA0	FINESS Array S	52.32	325	*e*	P		P	23 58 47.6	-0.3
FINES	FINESS Array B	52.32	325		P		P	23 58 47.7	-0.3
FINES					pmax	pmax			
	comp=Z,140nm,0.8s								
FINES					MLR	MLR			
	comp=Z,81µm,19.4s								
FINES	FINESS Array B	52.32	325		P		P	23 58 47.6	-0.3
	comp=Z,140nm,0.8s,baz=104,slow=5.0,SNR=98								
FINES					LR		LR	00 22 55.7	
	comp=Z,81µm,19.4s,baz=90,slow=38								
NACGM	Naroch	52.36	317	*e*	P		P	23 58 45.0	-3.3
SEYT	Eskypehyr	52.40	297	*i*	P		P	23 58 48.0	-1.0
GULT	Gulveren	52.41	298	*e*	P		P	23 58 52.3	+3.2
SAUI	Saumlaki	52.50	135		P		P	23 58 51.0	+1.1
	comp=Z,1µm,1.3s,comp=Z,28µm,comp=Z,54µm								
SAUI	Saumlaki	52.50	135	*e*	P		P	23 58 50.9	+1.1
SAUI					LR	LR			
	comp=Z,119µm,22.0s								
SPNC	Sapanca-Adapaz	52.50	299	*e*	P		P	23 58 52.7	+3.0
BOLV	Bolvadin	52.53	296	*i*	P		P	23 58 49.2	-0.9
TLCR		52.55	304	⇓	P		P	23 58 51.1	+1.2
TLCR		52.55	304	⇓	iP		P	23 58 51.1	+1.2
BORA	Eskisehir	52.60	298	*i*	P		P	23 58 48.9	-1.6
IIGN	Ignalina	52.63	317	*e*	P		P	23 58 50.6	+0.2
IIGN					AMB	AMB		23 58 58.8	
	comp=Z,395nm,1.0s								
ISAL	Salakas	52.66	318	*e*	P		P	23 58 50.0	-0.6
ISAL					AMB	AMB		23 58 58.9	
	comp=Z,351nm,1.0s								
ARA0	ARCESS Array S	52.78	335	*e*	P		P	23 58 52.0	+0.8
ARCES	ARCESS Array B	52.78	335		P		P	23 58 52.1	+0.8
ARCES					pmax	pmax			
	comp=Z,134nm,0.9s								
ARCES					MLR	MLR			
	comp=Z,108µm,19.1s								
ARCES	ARCESS Array B	52.78	335		P		P	23 58 52.0	+0.8
	comp=Z,134nm,0.9s,baz=84,slow=6.4,SNR=90								
ARCES					LR	LR		00 23 29.0	
	comp=Z,108µm,19.1s,baz=99,slow=39								
SMPI	Sarmi	52.82	123		P		P	23 58 54.4	+2.1
	comp=Z,604nm,1.5s,comp=Z,46µm								
SHUT	Suhut-Afyon	52.88	296	*e*	P		P	23 58 55.8	+3.2
SILT	Sile	52.88	299	*e*	P		P	23 58 54.9	+2.5
GIUM	Giurgiulesti	52.91	305	⇓	P		P	23 58 54.1	+1.5
EFOR	EFORIE	52.91	303	⇓	P		P	23 58 53.7	+1.1
HRT	Hereke	52.94	299	*e*	P		P	23 58 55.2	+2.3
CAVI	Cavuskoy	52.97	298	*e*	P		P	23 58 52.8	-0.4
ADVT	Abdulvahap	52.99	298	*e*	P		P	23 58 55.5	+2.3
TIRR	Tirgusor	52.99	304	*e*	P		P	23 58 53.1	0.0
TIRR	Tirgusor	52.99	304	*e*	P		P	23 58 52.8	-0.4
TIRR				*e*				23 59 58.6	
TIRR					MLR	MLR			
	comp=Z,56µm,18.0s								
TIRR	Tirgusor	52.99	304	⇑	iP		P	23 58 53.6	+0.4
TIRR	Tirgusor	52.99	304	*e*	P		P	23 58 52.8	-0.4
TIRR				*e*	PcP		PcP	23 59 58.6	-3.2
TIRR					LR	LR			
	comp=Z,56µm,18.0s								
IAS	Iasi	53.01	307	⇓	P		P	23 58 54.8	+1.5
IAS	Iasi	53.01	307	⇓	iP		P	23 58 54.8	+1.5
CFR	Carcaliu	53.02	304	⇑	iP		P	23 58 55.8	+2.4
ALT	Altintas	53.07	297	*e*	P		P	23 58 56.2	+2.2
ISP	Isparta	53.10	295	*e*	P		P	23 58 53.1	-1.1
ISP	Isparta	53.10	295	⇓	P		P	23 58 53.8	-0.4
ISP	Isparta	53.10	295	⇓	iP		P	23 58 53.8	-0.4
ISP	Isparta	53.10	295	*e*	P		P	23 58 53.9	-0.4
BCK	Bucak	53.15	295	*e*	P		P	23 58 53.0	-1.6
IZI	Iznik	53.21	298	*e*	P		P	23 58 58.8	+3.8
TLB	Topalu	53.22	304	⇑	P		P	23 58 54.5	-0.3
TLB	Topalu	53.22	304	⇑	iP		P	23 58 54.5	-0.3
ANTB	Antalya	53.26	294	*e*	P		P	23 58 54.8	-0.5
HARR	Harsova	53.27	304	⇑	P		P	23 58 56.9	+1.6
HARR	Harsova	53.27	304	⇑	iP		P	23 58 56.9	+1.6
KLYT	Kilyos	53.29	300	*e*	P		P	23 58 58.1	+2.7
PSN	Preselentsi	53.32	303	⇓	P		P	23 58 56.5	+0.9
PSN	Preselentsi	53.32	303	⇓	iP		P	23 58 56.5	+0.9
PSN	Preselentsi	53.32	303	*i*	P		P	23 58 58.8	+3.2
ISK	Istanbul-Kandi	53.32	299	*e*	P		P	23 58 59.3	+3.6
BUY	Buyukada	53.34	299	*i*	P		P	23 58 54.7	-1.1
GEMT	Gemlik	53.39	298	*e*	P		P	23 58 58.2	+2.0
TVSB	Tavsanli	53.45	297	*e*	P		P	23 58 56.3	-0.5
KORT	Korkueli	53.47	294	*i*	P		P	23 58 55.0	-2.0
MSAB	Monastry St. A	53.48	303	⇓	iP		P	23 58 57.3	+0.5
BGKT	Bogazkoy	53.50	299	*e*	P		P	23 58 59.7	+2.7
ULDT	Uludag	53.51	298	*i*	P		P	23 58 55.9	-1.4
PETR	Petresti	53.53	305	⇓	iP		P	23 58 59.2	+2.1
GDZ	Gediz	53.53	297	*i*	P		P	23 58 55.6	-1.8
ARMT	Armutlu	53.60	299	*e*	P		P	23 58 59.6	+1.8
MDNY	Mudanya-Bursa	53.63	298	*e*	P		P	23 59 00.7	+2.7
CTKS	Kestanelik-??a	53.68	300	*e*	P		P	23 59 01.3	+3.0
AMRR	Amara	53.70	304	⇓	iP		P	23 59 02.3	+3.9
HOPEN	Hopen	53.75	344	*e*	P		P	23 59 00.3	+2.0
HOPEN				*e*				00 06 43.7	
HOPEN				*i*				00 11 00.1	
TESR	Tescani	53.76	306	⇑	iP		P	23 58 58.9	+0.1
GRER		53.78	305	⇓	iP		P	23 59 01.8	+2.8
CTYL	Yal??k??y-??at	53.78	300	*e*	P		P	23 59 02.2	+3.2
VRI	Vrincioaia	53

AYDN	**Tasoluk**	**55.15 296**	*i* P		**P**	**23 59 08.2**	**-0.9**
LPK	**Lapseki**	**55.19 299**	*e*P		P	23 59 12.1	+2.8
ERIK	**Erikli-Kesan**	**55.29 299**	*e*P		P	23 59 12.8	+2.7
HUMR	**Humele**	**55.36 304**	⇑*i*P		**P**	**23 59 11.1**	**+0.6**
ARR	**Arges**	**55.39 305**	⇓*i*P		**P**	**23 59 11.7**	**+0.9**
IZM	**Izmir**	**55.39 297**	*e*P		P	23 59 14.3	+3.4
GELI	**Tayfur-Gelibol**	**55.40 299**	*e*P		P	23 59 14.1	+3.3
ARG	**Arkhangelos**	**55.41 294**	P		**P**	**23 59 12.2**	**+1.2**
ARG	**Arkhangelos**	**55.41 294**	P		**P**	**23 59 12.2**	**+1.2**
ARG	**Arkhangelos**	**55.41 294**	*e*PB		**P**	**23 59 12.1**	**+1.1**
ARG	**Arkhangelos**	**55.41 294**	P		**P**	**23 59 12.2**	**+1.2**
PVL	**Pavlikeni**	**55.45 303**	*i* P		P	23 59 14.7	+3.6
ENEZ	**Enez**	**55.53 300**	*e*P		P	23 59 14.5	+2.7
AYVA	**Ayvalik**	**55.55 298**	*i* P		P	23 59 13.8	+1.9
BLCB	**Balcova**	**55.56 297**	*e*P		P	23 59 14.0	+2.0
ALN	**Alexandroupoli**	**55.57 300**	P		**P**	**23 59 11.1**	**-0.9**
ALN	**Alexandroupoli**	**55.57 300**	*e*P		P	23 59 15.8	+3.8
ALN	**Alexandroupoli**	**55.57 300**	P		**P**	**23 59 11.1**	**-0.9**
ALN	**Alexandroupoli**	**55.57 300**	*e*PB		P	23 59 14.2	+2.2
ALN	**Alexandroupoli**	**55.57 300**	P		**P**	**23 59 11.1**	**-0.9**
BMR	**Baia Mare**	**55.60 308**	⇑*i*P		P	23 59 15.5	+3.3
GCAM	**G?zelcaml?**	**55.63 296**	*i* P		**P**	**23 59 12.0**	**-0.5**
BDRM	**Kayabasi**	**55.66 295**	*i* P		**P**	**23 59 10.9**	**-1.9**
KWP	**Kalwaria Pacla**	**55.67 311**	*e*P		**P**	**23 59 13.0**	**+0.3**
KWP			*e*S		**S**	**00 07 01.5**	**+3.0**
KWP	**Kalwaria Pacla**	**55.67 311**	⇓*i*P		**P**	**23 59 13.4**	**+0.7**
KWP	**Kalwaria Pacla**	**55.67 311**	PFAKE			23 59 20.0	+7.3
KWP			LR	LR			
	comp=Z,108µm,21.0s						
BODT	**Bodrum**	**55.77 295**	*e*P		**P**	**23 59 15.2**	**+1.6**
SPA0	**Spitsbergen Ar**	**55.80 346**	*e*P		P	23 59 15.4	+2.2
KDZ	**Kurdzhali**	**55.81 301**	⇓P		**P**	**23 59 14.3**	**+0.5**
KDZ	**Kurdzhali**	**55.81 301**	⇓*i*P		**P**	**23 59 14.3**	**+0.5**
KDZ	**Kurdzhali**	**55.81 301**	*i* P		P	23 59 16.6	+2.8
BOZC	**Bozcaada**	**55.86 299**	*i* P		**P**	**23 59 12.6**	**-1.6**
RDO	**Rodhopi**	**55.87 300**	P		**P**	**23 59 13.4**	**-0.8**
RDO	**Rodhopi**	**55.87 300**	*e*P		P	23 59 16.3	+2.1
RDO	**Rodhopi**	**55.87 300**	P		**P**	**23 59 13.4**	**-0.8**
PRK	**Paraskevi**	**55.88 298**	P		**P**	**23 59 14.4**	**+0.1**
PRK	**Paraskevi**	**55.88 298**	P		**P**	**23 59 14.4**	**+0.1**
PRK	**Paraskevi**	**55.88 298**	*e*P		**P**	**23 59 15.9**	**+1.6**
PRK	**Paraskevi**	**55.88 298**	P		**P**	**23 59 14.4**	**+0.1**
SMG	**Samos**	**55.92 296**	P		**P**	**23 59 15.2**	**+0.5**
SMG	**Samos**	**55.92 296**	*e*P		P	23 59 16.6	+1.9
SMG	**Samos**	**55.92 296**	P		**P**	**23 59 15.2**	**+0.5**
LOT	**Lotru**	**55.96 306**	⇑*i*P		**P**	**23 59 15.0**	**+0.1**
HSP	**Hornsund**	**55.96 344**	*e*P		**P**	**23 59 14.3**	**0.0**
HSPB	**Hornsund (broa**	**55.96 344**	*e*P		**P**	**23 59 14.5**	**+0.2**
HSPB			*e*			00 07 10.3	
HSPB			*i*			00 11 47.2	
ZEY	**˜zmir**	**56.01 297**	*i* P		**P**	**23 59 14.2**	**-1.0**
NIS1	**Nisyros Isl.**	**56.01 295**	P		**P**	**23 59 16.2**	**+0.9**
NIS1	**Nisyros Isl.**	**56.01 295**	*e*P		P	23 59 18.2	+2.9
NIS1	**Nisyros Isl.**	**56.01 295**	*e*P		**P**	**23 59 16.2**	**+0.9**
NIS1	**Nisyros Isl.**	**56.01 295**	P		**P**	**23 59 16.2**	**+0.9**
SMTH	**Samothraki Isl**	**56.06 299**	P		**P**	**23 59 17.3**	**+1.7**
SMTH	**Samothraki Isl**	**56.06 299**	*e*P		P	23 59 17.5	+1.9
SMTH	**Samothraki Isl**	**56.06 299**	P		**P**	**23 59 17.3**	**+1.7**
KOLS	**Kolonicke sedl**	**56.11 310**	*e*P		**P**	**23 59 15.9**	**+0.1**
KOLS			pmax	pmax			
	comp=Z,281nm,1.2s						
TRPA	**Tarpa**	**56.12 309**	⇑*i*P		**P**	**23 59 16.9**	**+1.0**
TRPA	**Tarpa**	**56.12 309**	⇑*e*P		P	23 59 18.1	+2.2
UZH	**Uzhgorod**	**56.16 310**	*e*P		P	23 59 18.6	+2.4
UZH			*e*			00 01 19.4	
UZH			*e*PPP	PPP		00 02 38.8	
UZH			*e*S	S		**00 07 03.2**	**-1.7**
UZH			*e*PS	PnS		**00 07 19.2**	**+3.9**
UZH			*e*SS	SS		**00 10 48.4**	**-2.6**
UZH			MLR	MLR			
	comp=N,82µm,18.0s						
UZH			MLR	MLR			
	comp=E,74µm,18.0s						
UZH			MLR	MLR			
	comp=Z,45µm,18.0s						
PLD	**Plovdiv**	**56.20 302**	*i* P		P	23 59 19.1	+2.6
SIGR	**SIGRI**	**56.20 298**	P		**P**	**23 59 14.5**	**-2.1**
SIGR	**SIGRI**	**56.20 298**	*e*P		**P**	**23 59 18.1**	**+1.6**
SIGR	**SIGRI**	**56.20 298**	*e*P		**P**	**23 59 18.0**	**+1.4**
SIGR	**SIGRI**	**56.20 298**	P		**P**	**23 59 14.5**	**-2.1**
CHOS	**Chios island**	**56.30 297**	P		**P**	**23 59 17.4**	**0.0**
CHOS	**Chios island**	**56.30 297**	*e*P		P	23 59 19.6	+2.1
CHOS	**Chios island**	**56.30 297**	*e*PB		P	23 59 19.5	+2.1
CHOS	**Chios island**	**56.30 297**	P		**P**	**23 59 17.4**	**0.0**
RZN	**Rozhen**	**56.30 301**	*i* P		P	23 59 20.1	+2.6
DRGR		**56.33 307**	⇓P		**P**	**23 59 18.2**	**+0.7**
DRGR		**56.33 307**	⇓*i*P		**P**	**23 59 18.1**	**+0.6**
KARP	**Karpathos**	**56.37 293**	P		**P**	**23 59 16.0**	**-1.9**
KARP	**Karpathos**	**56.37 293**	*e*PN		**P**	**23 59 16.7**	**-1.2**
KARP	**Karpathos**	**56.37 293**	P		**P**	**23 59 16.0**	**-1.9**
BEL	**Belsk**	**56.39 314**	*e*P		**P**	**23 59 17.9**	**+0.2**
BEL			*e*S	S		00 07 13.4	+5.6
BEL			MLR	MLR			
	comp=Z,147µm,16.3s						
PGB	**Panagyurishte**	**56.45 302**	*i* P		P	23 59 21.5	+3.1
MPEP	**Malo Peshtene**	**56.53 303**	*i* P		P	23 59 22.1	+3.2
STEI	**Steigen**	**56.54 333**	*e*P		**P**	**23 59 19.6**	**+1.1**
CRVS	**Cervenica-Dubn**	**56.63 310**	*e*P		**P**	**23 59 19.4**	**-0.2**
CRVS			pmax	pmax			
	comp=Z,240nm,1.2s						
GZR	**Gura Zlata**	**56.65 306**	⇓P		**P**	**23 59 20.2**	**+0.4**
GZR	**Gura Zlata**	**56.65 306**	⇓*i*P		**P**	**23 59 20.2**	**+0.4**
STHS	**Stebnicka Huta**	**56.65 311**	*e*P		**P**	**23 59 20.2**	**+0.5**
STHS			pmax	pmax			
	comp=Z,158nm,1.0s						
STHS	**Stebnicka Huta**	**56.65 311**	*e*P		**P**	**23 59 20.2**	**+0.5**
KBS	**Kingsbay**	**56.68 347**	*e*P		P	23 59 21.5	+2.1
KBS			MLR	MLR			
	comp=Z,85µm,18.0s						
KBS	**Kingsbay**	**56.68 347**	*e*P		P	23 59 23.7	+4.2
KBS			*e*			00 12 00.3	
KBS	**Kingsbay**	**56.68 347**	*e*P		P	23 59 21.5	+2.1
KBS			LR	LR			
	comp=Z,85µm,18.0s						
NVR	**Nevrokopi**	**57.02 301**	P		**P**	**23 59 22.3**	**-0.1**
NVR	**Nevrokopi**	**57.02 301**	*e*P		P	23 59 24.4	+2.0
NVR	**Nevrokopi**	**57.02 301**	P		**P**	**23 59 22.3**	**-0.1**
SMY	**Shemya**	**57.03 45**	*e*P		P	23 59 24.7	+2.5
SMY			pmax	pmax			
	comp=Z,2µm,1.2s						
SMY	**Shemya**	**57.03 45**	*e*P		P	23 59 24.7	+2.5
	comp=Z,2µm,1.2s						
MMB	**Musomiste**	**57.04 301**	⇑P		**P**	**23 59 22.2**	**-0.4**
MMB	**Musomiste**	**57.04 301**	⇑*i*P		**P**	**23 59 22.2**	**-0.4**
MMB	**Musomiste**	**57.04 301**	*i* P		P	23 59 24.7	+2.1
MOR8	**Moi Rana**	**57.08 331**	*e*P		**P**	**23 59 21.6**	**-0.9**
APE	**Apeiranthos**	**57.11 296**	P		**P**	**23 59 20.5**	**-2.7**
APE	**Apeiranthos**	**57.11 296**	*e*P		P	23 59 25.9	+2.7
APE	**Apeiranthos**	**57.11 296**	*c i*P		**P**	**23 59 23.8**	**+0.6**
APE			pmax	pmax			
	comp=Z,277nm,2.5s						
APE			MLR	MLR			
	comp=Z,29µm,20.0s						
APE	**Apeiranthos**	**57.11 296**	*e*PB		**P**	**23 59 24.0**	**+0.8**
APE	**Apeiranthos**	**57.11 296**	⇑*i*P		**P**	**23 59 24.3**	**+1.1**
APE	**Apeiranthos**	**57.11 296**	P		**P**	**23 59 20.5**	**-2.7**
VTS	**Vitosha**	**57.12 303**	⇓P		**P**	**23 59 23.6**	**+0.3**
VTS	**Vitosha**	**57.12 303**	⇓*i*P		**P**	**23 59 23.6**	**+0.3**
VTS	**Vitosha**	**57.12 303**	*i* P		P	23 59 26.1	+2.8
LOF	**Lofoten**	**57.16 334**	*e*P		**P**	**23 59 22.8**	**-0.1**
LOF			*i*			00 12 10.0	
OUR	**Ouranopolis**	**57.23 300**	P		P	23 59 25.8	+1.9
OUR	**Ouranopolis**	**57.23 300**	*e*P		P	23 59 26.2	+2.2
OUR	**Ouranopolis**	**57.23 300**	P		P	23 59 25.8	+1.9
OUR	**Ouranopolis**	**57.23 300**	*e*P		P	23 59 26.1	+2.2
OUR	**Ouranopolis**	**57.23 300**	P		P	23 59 25.8	+1.9
ZKR	**Zakros**	**57.24 293**	*e*P		**P**	**23 59 25.4**	**+1.3**
NIE	**Niedzica**	**57.24 311**	⇑*e*P		**P**	**23 59 24.4**	**+0.5**
NIE			*e*PP	pP		23 59 35.1	+6.8
NIE			*e*S	S		**00 07 22.0**	**+2.7**
NIE			MLR	MLR			
	comp=Z,109µm,19.4s						
SRS	**Serrai**	**57.28 301**	P		**P**	**23 59 25.7**	**+1.5**
SRS	**Serrai**	**57.28 301**	P		**P**	**23 59 25.7**	**+1.5**
SRS	**Serrai**	**57.28 301**	*e*P		**P**	**23 59 25.8**	**+1.5**
SRS	**Serrai**	**57.28 301**	P		**P**	**23 59 25.7**	**+1.5**
KECS	**Kecovo**	**57.37 310**	*e*P		**P**	**23 59 24.4**	**-0.3**
KECS			pmax	pmax			
	comp=Z,185nm,1.3s						
KECS	**Kecovo**	**57.37 310**	*e*P		**P**	**23 59 24.4**	**-0.3**
OJC	**Ojcow**	**57.37 312**	⇑*e*P		**P**	**23 59 24.9**	**+0.2**
OJC			*e*PP	pP		23 59 35.3	+6.1
OJC			*e*S	S		**00 07 23.9**	**+3.0**
OJC			MLR	MLR			
	comp=Z,79µm,19.1s						
OJC	**Ojcow**	**57.37 312**	*e*P		**P**	**23 59 25.3**	**+0.6**
	comp=Z,1µm,1.3s						
BZS	**Buzias**	**57.37 306**	⇓*i*P		P	23 59 27.3	+2.5
SANT	**Santorini**	**57.40 295**	*e*P		**P**	**23 59 25.6**	**+0.4**
SANT	**Santorini**	**57.40 295**	*e*P		**P**	**23 59 22.8**	**-2.4**
SANT			LR	LR			
	comp=Z,41µm,21.0s						
KKB	**Krupnik**	**57.42 302**	*i* P		P	23 59 27.5	+2.2
THR6	**Thira Island,**	**57.45 295**	P		**P**	**23 59 23.6**	**-1.9**
THR6	**Thira Island,**	**57.45 295**	P		**P**	**23 59 23.6**	**-1.9**
THR5	**Thira Island,**	**57.47 295**	P		**P**	**23 59 26.6**	**+1.0**
SOH	**Sokhos**	**57.54 300**	P		P	23 59 28.1	+1.9
SOH	**Sokhos**	**57.54 300**	P		P	23 59 28.1	+1.9
SOH	**Sokhos**	**57.54 300**	*e*P		P	23 59 28.1	+1.9
SOH	**Sokhos**	**57.54 300**	P		P	23 59 28.1	+1.9
PAIG	**Paliouri**	**57.58 299**	P		P	23 59 28.2	+1.9
PAIG	**Paliouri**	**57.58 299**	P		P	23 59 28.2	+1.9
PAIG	**Paliouri**	**57.58 299**	*e*P		P	23 59 28.3	+1.9
PAIG	**Paliouri**	**57.58 299**	P		P	23 59 28.2	+1.9
PLG	**Polygyros**	**57.61 300**	P		**P**	**23 59 26.6**	**-0.1**
PLG	**Polygyros**	**57.61 300**	P		**P**	**23 59 26.6**	**-0.1**
PLG	**Polygyros**	**57.61 300**	*e*P		**P**	**23 59 28.2**	**+1.5**
PLG	**Polygyros**	**57.61 300**	P		**P**	**23 59 26.6**	**-0.1**
NPS	**Neapolis**	**57.65 294**	P		**P**	**23 59 26.2**	**-0.8**
NPS	**Neapolis**	**57.65 294**	P		**P**	**23 59 26.2**	**-0.8**
NPS	**Neapolis**	**57.65 294**	*e*P		**P**	**23 59 28.3**	**+1.3**
NPS	**Neapolis**	**57.65 294**	P		**P**	**23 59 26.2**	**-0.8**
AOS	**Alonnisos**	**57.67 298**	P		**P**	**23 59 25.8**	**-1.2**
AOS	**Alonnisos**	**57.67 298**	*e*P		**P**	**23 59 26.1**	**-0.9**
AOS	**Alonnisos**	**57.67 298**	*e*PB		**P**	**23 59 28.6**	**+1.6**
AOS	**Alonnisos**	**57.67 298**	P		**P**	**23 59 25.8**	**-1.2**
KNT	**Kendrikon**	**57.77 301**	P		**P**	**23 59 26.6**	**-1.1**
KNT	**Kendrikon**	**57.77 301**	*e*P		**P**	**23 59 29.1**	**+1.4**
KNT	**Kendrikon**	**57.77 301**	P		**P**	**23 59 26.6**	**-1.1**
KNT	**Kendrikon**	**57.77 301**	*e*PN		**P**	**23 59 29.3**	**+1.6**
KNT	**Kendrikon**	**57.77 301**	P		**P**	**23 59 26.6**	**-1.1**
LAST	**Lasithi**	**57.79 293**	*e*PN		P	23 59 29.9	+1.9
HORT	**Hortiatis**	**57.79 300**	P		**P**	**23 59 29.3**	**+1.3**
HORT	**Hortiatis**	**57.79 300**	*e*P		**P**	**23 59 28.1**	**+0.1**
HORT	**Hortiatis**	**57.79 300**	*e*PN		P	23 59 30.4	+2.4
HORT	**Hortiatis**	**57.79 300**	P		**P**	**23 59 29.3**	**+1.3**
THE	**Thessaloniki**	**57.88 300**	P		**P**	**23 59 29.5**	**+1.0**
THE	**Thessaloniki**	**57.88 300**	P		**P**	**23 59 29.5**	**+1.0**
THE	**Thessaloniki**	**57.88 300**	*e*P		**P**	**23 59 30.2**	**+1.7**
THE	**Thessaloniki**	**57.88 300**	P		**P**	**23 59 29.5**	**+1.0**
PSZ	**Piszkesteto**	**57.89 309**	⇑P		**P**	**23 59 29.0**	**+0.4**
PSZ	**Piszkesteto**	**57.89 309**	⇑*i*P		**P**	**23 59 29.0**	**+0.4**
PSZ	**Piszkesteto**	**57.89 309**	*e*P		**P**	**23 59 29.2**	**+0.6**
PSZ			LR	LR			
	comp=Z,52µm,20.0s						
PSZ	**Piszkesteto**	**57.89 309**	⇑*e*P		P	23 59 31.5	+2.9
SKIA	**Skiathos**	**57.98 299**	P		**P**	**23 59 30.9**	**+1.7**
SKIA	**Skiathos**	**57.98 299**	*e*P		P	23 59 31.2	+2.0
FITZ	**Fitzroy Crossi**	**58.00 147**	*e*P		**P**	**23 59 29.6**	**+0.3**
MRKA	**Markates**	**58.03 298**	P		**P**	**23 59 27.2**	**-2.4**
MRKA	**Markates**	**58.03 298**	*e*P		**P**	**23 59 31.0**	**+1.4**
PTL	**Penteli**	**58.04 297**	P		**P**	**23 59 30.7**	**+1.0**
PTL	**Penteli**	**58.04 297**	*e*P		**P**	**23 59 30.9**	**+1.2**
PTL	**Penteli**	**58.04 297**	P		**P**	**23 59 30.7**	**+1.0**
NEO	**Neokhori**	**58.11 299**	P		**P**	**23 59 31.4**	**+1.2**
NEO	**Neokhori**	**58.11 299**	*e*P		**P**	**23 59 31.7**	**+1.5**
NEO	**Neokhori**	**58.11 299**	P		**P**	**23 59 31.4**	**+1.2**
XOR	**Xorichti**	**58.11 299**	P		**P**	**23 59 31.3**	**+1.1**
XOR	**Xorichti**	**58.11 299**	*e*P		**P**	**23 59 31.4**	**+1.2**
XOR	**Xorichti**	**58.11 299**	P		**P**	**23 59 31.3**	**+1.1**
ATHU	**Athens Univers**	**58.13 297**	P		P	23 59 32.1	+1.8
ATHU	**Athens Univers**	**58.13 297**	P		P	23 59 32.1	+1.8
GKP	**Gorka Klasztor**	**58.17 316**	*e*P		**P**	**23 59 31.4**	**+1.1**
GKP			*e*S	S		**00 07 34.8**	**+3.5**
GKP			MLR	MLR			
	comp=Z,131µm,17.6s						
ATH	**Athens Observa**	**58.18 297**	P		**P**	**23 59 31.5**	**+0.9**
ATH	**Athens Observa**	**58.18 297**	P		**P**	**23 59 31.5**	**+0.9**
ATH	**Athens Observa**	**58.18 297**	*e*PB		P	23 59 32.4	+1.8
ATH	**Athens Observa**	**58.18 297**	P		**P**	**23 59 31.5**	**+0.9**
PKSN	**Nyarlorinc**	**58.19 308**	*e*P		P	23 59 33.9	+3.4
SMIA	**Simia**	**58.26 298**	P		**P**	**23 59 32.6**	**+1.4**
SMIA	**Simia**	**58.26 298**	*e*P		**P**	**23 59 32.9**	**+1.7**
SIVA	**Sivas**	**58.35 294**	*e*P		**P**	**23 59 33.5**	**+1.6**
NSS	**Namsos**	**58.38 330**	*e*P		**P**	**23 59 31.9**	**+0.4**
NSS			*e*			00 07 38.8	
LIT	**Litokhoron**	**58.39 300**	P		**P**	**23 59 31.1**	**-1.0**
LIT	**Litokhoron**	**58.39 300**	P		**P**	**23 59 31.1**	**-1.0**
LIT	**Litokhoron**	**58.39 300**	*e*PN		**P**	**23 59 33.2**	**+1.1**
LIT	**Litokhoron**	**58.39 300**	P		**P**	**23 59 31.1**	**-1.0**
RAC	**Raciborz**	**58.40 312**	*e*P		**P**	**23 59 31.8**	**-0.2**
RAC			*e*S	S		**00 07 34.1**	**-0.2**
RAC			MLR	MLR			
	comp=N,150µm,18.3s						
RAC			MLR	MLR			
	comp=Z,103µm,17.1s						
RAC			MLR	MLR			
	comp=E,102µm,17.1s						
NAIG	**Nisos Aigina**	**58.42 297**	*e*P		**P**	**23 59 32.5**	**+0.2**
VYHS	**Vyhne**	**58.42 310**	*e*P		**P**	**23 59 32.3**	**+0.1**
VYHS			pmax	pmax			
	comp=Z,566nm,1.5s						
PKS6	**Bocsa**	**58.47 308**	*e*P		P	23 59 34.6	+2.1
LKR	**Lokris**	**58.49 298**	P		**P**	**23 59 33.5**	**+0.7**
LKR	**Lokris**	**58.49 298**	*e*PN		**P**	**23 59 33.7**	**+0.9**
LKR	**Lokris**	**58.49 298**	P		**P**	**23 59 33.5**	**+0.7**
OKC	**Ostrava-Krasne**	**58.50 312**	*e*P		**P**	**23 59 32.7**	**+0.1**
OKC			*e*S	S		**00 07 35.6**	**0.0**
OKC			MLR	MLR			
	comp=Z,100µm,16.1s						
OKC	**Ostrava-Krasne**	**58.50 312**	*e*P		**P**	**23 59 32.7**	**+0.1**
OKC			*e*pP	**pP**		**23 59 37.4**	**+0.3**
OKC			*e*x	x		00 02 48.3	
OKC			*e*S	S		**00 07 35.6**	**0.0**
OKC			AMS	AMS		00 26 40.0	
	comp=Z,100µm,16.1s						
OKC			*e*PKPPKP	**P'P'df**		**00 29 15.6**	**-1.4**
HFS	**Hagfors**	**58.50 324**	P		**P**	**23 59 32.0**	**-0.5**
HFS			S	S		**00 07 36.7**	**+1.3**
HFS			pmax	pmax			
	comp=Z,44nm,0.7s						
HFS			smax	smax			
	comp=N,8.0nm,1.0s						
HFS	**Hagfors**	**58.50 324**	P		**P**	**23 59 32.0**	**-0.5**
	comp=N,44nm,0.7s,baz=94,slow=5.9,SNR=79						
HFS			S	S		**00 07 36.7**	**+1.3**
	comp=N,7.8nm,1.0s,baz=85,slow=21,SNR=2.3						
FURI	**Furi**	**58.54 259**	*e*P		**P**	**23 59 35.6**	**+1.8**
	comp=N,2µm,1.6s						
FURI			LR	LR			
	comp=Z,57µm,19.0s						
BUD	**Budapest**	**58.58 309**	⇑*e*P		**P**	**23 59 34.0**	**+0.8**
PKS7	**Kunszentmiklos**	**58.61 309**	⇓*e*P		P	23 59 36.8	+3.3
MMPI	**Merauke**	**58.63 127**	P		P	23 59 41.6	+7.7
VAM	**Vamos**	**58.69 294**	P		**P**	**23 59 33.4**	**-0.8**
VAM	**Vamos**	**58.69 294**	P		**P**	**23 59 33.4**	**-0.8**
VAM	**Vamos**	**58.69 294**	*e*P		**P**	**23 59 34.5**	**+0.3**
VAM	**Vamos**	**58.69 294**	P		**P**	**23 59 33.4**	**-0.8**
AXAR	**Agios Charalam**	**58.70 298**	P		**P**	**23 59 35.2**	**+0.9**
AXAR	**Agios Charalam**	**58.70 298**	P		**P**	**23 59 35.2**	**+0.9**
LTK	**Loutraki**	**58.72 297**	P		**P**	**23 59 33.3**	**-1.1**
LTK	**Loutraki**	**58.72 297**	*e*PN		**P**	**23 59 34.1**	**-0.3**
LTK	**Loutraki**	**58.72 297**	P		**P**	**23 59 33.3**	**-1.1**
PKS2	**Kecel**	**58.74 308**	⇑*e*P		P	23 59 37.0	+2.7
KZN	**Kozani**	**58.85 300**	P		**P**	**23 59 34.8**	**-0.6**
KZN	**Kozani**	**58.85 300**	P		**P**	**23 59 34.8**	**-0.6**
KZN	**Kozani**	**58.85 300**	*e*PN		**P**	**23 59 36.7**	**+1.3**
KZN	**Kozani**	**58.85 300**	P		**P**	**23 59 34.8**	**-0.6**
AGG	**Agios Georgios**	**58.86 299**	P		P	23 59 31.0	-4.4
AGG	**Agios Georgios**	**58.86 299**	*e*P		**P**	**23 59 36.5**	**+1.1**
AGG	**Agios Georgios**	**58.86 299**	P		P	23 59 31.0	-4.4
AGG	**Agios Georgios**	**58.86 299**	*e*PN		**P**	**23 59 36.2**	**+0.8**
AGG	**Agios Georgios**	**58.86 299**	P		P	23 59 31.0	-4.4
MORC	**Moravsky Berou**	**58.89 312**	⇓P		**P**	**23 59 36.3**	**+0.8**
MORC	**Moravsky Berou**	**58.89 312**	⇓*i*P		**P**	**23 59 36.3**	**+0.8**
MORC	**Moravsky Berou**	**58.89 312**	*e*P		**P**	**23 59 34.2**	**-1.3**
	comp=Z,291nm,0.9s						
MORC			LR	LR			
	comp=Z,62µm,21.0s						
KARN	**Karanos**	**58.90 294**	*e*PN		**P**	**23 59 37.2**	**+1.4**
THL	**Klokotos Trika**	**58.91 299**	P		**P**	**23 59 35.4**	**-0.3**
THL	**Klokotos Trika**	**58.91 299**	*e*P		**P**	**23 59 36.6**	**+0.9**
FNA	**Florina**	**58.98 301**	P		**P**	**23 59 35.3**	**-0.9**
FNA	**Florina**	**58.98 301**	*e*P		**P**	**23 59 35.1**	**-1.1**
FNA	**Florina**	**58.98 301**	P		**P**	**23 59 35.3**	**-0.9**
FNA	**Florina**	**58.98 301**	*e*PB		**P**	**23 59 37.7**	**+1.5**
FNA	**Florina**	**58.98 301**	P		**P**	**23 59 35.3**	**-0.9**
MAKR	**Makrakomi, Fth**	**59.01 299**	P		P	**23 59 35.4**	**-1.0**
MAKR	**Makrakomi, Fth**	**59.01 299**	*e*PN		**P**	**23 59 37.4**	**+1.0**
MAKR	**Makrakomi, Fth**	**59.01 299**	P		P	**23 59 35.4**	**-1.0**
PKSG		**59.02 309**	*e*P		P	**23 59 36.7**	**+0.4**
BSD	**Bornholm Skovb**	**59.04 318**	*e*P		**P**	**23 59 36.8**	**+0.5**
BSD	**Bornholm Skovb**	**59.04 318**	*i* P		**P**	**23 59 36.8**	**+0.5**
CSKK	**Cs˙‡kako**	**59.11 309**	⇓*e*P		P	**23 59 37.7**	**+0.7**
VLI	**Veliai**	**59.19 296**	P		P	**23 59 35.2**	**-2.5**
VLI	**Veliai**	**59.19 296**	*e*P		P	**23 59 37.0**	**-0.7**
VLI	**Veliai**	**59.19 296**	P		P	**23 59 35.2**	**-2.5**
PKSM	**Moragy**	**59.20 308**	⇓P		P	**23 59 37.6**	**0.0**
PKSM	**Moragy**	**59.20 308**	⇓*i*P		P	**23 59 37.6**	**0.0**
PKSM	**Moragy**	**59.20 308**	⇑*e*P		P	**23 59 37.6**	**0.0**
ANKY	**Antikythira Is**	**59.21 295**	P		P	**23 59 37.9**	**+0.1**
ANKY	**Antikythira Is**	**59.21 295**	*e*PN		P	**23 59 38.3**	**+0.5**
ANKY	**Antikythira Is**	**59.21 295**	P		P	**23 59 37.9**	**+0.1**
KALE	**Kalithea**	**59.21 298**	P		P	**23 59 37.7**	**-0.2**
KALE	**Kalithea**	**59.21 298**	*e*PN		P	**23 59 38.0**	**+0.1**
KALE	**Kalithea**	**59.21 298**	P		P	**23 59 37.7**	**-0.2**
GUR	**Goura**	**59.21 298**	P		P	**23 59 35.4**	**-2.6**
GUR	**Goura**	**59.21 298**	*e*PN		P	**23 59 37.9**	**-0.1**
GUR	**Goura**	**59.21 298**	P		P	**23 59 35.4**	**-2.6**
KYTH	**Kithira**	**59.27 296**	P		P	23 59 40.9	+2.7
KYTH	**Kithira**	**59.27 296**	*e*PN		P	**23 59 37.2**	**-1.0**
KYTH	**Kithira**	**59.27 296**	P		P	23 59 40.9	+2.7
EVR	**Evrytania**	**59.28 299**	P		P	**23 59 36.0**	**-2.4**
EVR	**Evrytania**	**59.28 299**	*e*PN		P	**23 59 39.3**	**+0.9**
EVR	**Evrytania**	**59.28 299**	P		P	**23 59 36.0**	**-2.4**
PKST	**T˜˜s**	**59.29 309**	*e*P		P	**23 59 38.2**	**0.0**
SMOL	**Smolenice**	**59.31 311**	*e*P		P	**23 59 39.4**	**+1.0**
SMOL	**Smolenice**	**59.31 311**	*e*P		P	**23 59 39.4**	**+1.0**
KLV	**Kalavryta, Ach**	**59.32 298**	P		P	**23 59 38.0**	**-0.6**
KLV	**Kalavryta, Ach**	**59.32 298**	*e*PN		P	**23 59 38.4**	**-0.2**
KLV	**Kalavryta, Ach**	**59.32 298**	P		P	**23 59 38.0**	**-0.6**
NEST	**Nestorio**	**59.33 301**	P		P	**23 59 38

LLD Lille Linde 60.47 319 *e*P P 23 59 48.1 +2.0
LLD Lille Linde 60.47 319 *i* P P 23 59 48.1 +2.0
HCY Herceg Novi 60.48 304⇑*i*P **P 23 59 46.9 +0.4**
CONA Conrad Observa 60.49 310⇑*i*P **P 23 59 47.0 +0.5**
comp=Z,720nm,1.4s,SNR=218
PVCC Panska Ves 60.51 313 *e*P **P 23 59 46.9 +0.4**
PVCC *e* 00 03 31.1
PVCC *e*S **S 00 08 03.1 +1.5**
PVCC MLR MLR
comp=Z,106µm,15.5s
PVCC Panska Ves 60.51 313 *e*P **P 23 59 46.9 +0.4**
PVCC *e*pP **pP 23 59 51.6 +0.6**
PVCC *ex* x 00 03 31.1
PVCC *e*S **S 00 08 03.1 +1.5**
PVCC AMS AMS 00 28 10.0
comp=Z,106µm,15.5s
PVCC *e*PKPPKP **P'P'df 00 29 13.6 -0.3**
GOPC GO Pecny, Ondr 60.56 313 *e*P **P 23 59 47.8 +0.9**
GOPC *e*pP **pP 23 59 51.8 +0.4**
GOPC AMS AMS 00 27 50.0
comp=Z,150µm,14.4s
GOPC *e*PKPPKP **P'P'df 00 29 13.5 -0.3**
GOPC *ex* x 00 29 21.6
KONO Kongsberg 60.62 324 *e*P **P 23 59 46.1 -1.0**
KONO *e* 00 02 02.6
KONO MLR MLR
comp=Z,91µm,18.0s
KONO Kongsberg 60.62 324 *e*P P 23 59 49.0 +1.9
KONO *e*S **S 00 08 01.7 -1.0**
KONO Kongsberg 60.62 324 *e*P **P 23 59 46.1 -1.0**
KONO *e*PP **PP 00 02 02.6 +2.3**
KONO LR LR
comp=Z,91µm,18.0s
PRU Pruhonice 60.69 313 *e*P **P 23 59 48.0 +0.3**
PRU *e* 00 03 32.8
PRU *e*S **S 00 08 05.3 +1.4**
PRU MLR MLR
comp=Z,136µm,14.7s
PRU Pruhonice 60.69 313 *e*P **P 23 59 48.0 +0.3**
PRU *e*pP **pP 23 59 52.7 +0.5**
PRU *ex* x 00 03 32.8
PRU *e*S **S 00 08 05.3 +1.4**
PRU AMS AMS 00 27 50.0
comp=Z,136µm,14.7s
PRU *e*PKPPKP P'P'df 00 29 07.8 -5.7
PRU *ex* x 00 29 20.9
PRA Prague 60.73 313 *e*P **P 23 59 47.8 -0.2**
PRA MLR MLR
comp=Z,150µm,14.4s
PRA Prague 60.73 313 *e*P **P 23 59 48.5 +0.5**
PRA *e*pP **pP 23 59 53.1 +0.6**
PRA *ex* x 00 03 32.7
PRA *e*S **S 00 08 06.3 +1.9**
PRA AMS AMS 00 28 00.0
comp=Z,123µm,14.9s
BRG Berggiesshubel 60.78 314 *i* P **P 23 59 48.5 +0.1**
comp=Z,16nm,1.0s
BRG *i* 23 59 52.9
comp=Z,292nm,0.9s
BRG *i* 23 59 55.0
comp=Z,479nm,1.2s
BRG S **S 00 08 09.0 +3.9**
BRG SS **SS 00 12 08.0 +4.6**
BRG PKPPKP P'P'df 00 29 06.9 -6.5
comp=Z,40nm,1.8s
comp=N,124µm,17.3s
comp=E,97µm,15.2s
comp=Z,133µm,16.0s
BRG Berggiesshubel 60.78 314 *e*P **P 23 59 48.4 +0.1**
comp=Z,164nm,0.8s
BRG Berggiesshubel 60.78 314 *i* P **P 23 59 48.5 +0.1**
BRG pmax pmax
comp=Z,292nm,0.9s
STON Ston 60.89 304 P **P 23 59 50.2 +1.0**
ARSA Arzberg 60.92 310⇓*i*P **P 23 59 48.8 -0.6**
comp=Z,333nm,1.3s,SNR=90
SISC Sisak 60.93 307 P **P 23 59 50.2 +0.7**
CLL Collm 61.22 315 *e*P **P 23 59 51.1 -0.3**
comp=Z,151nm,0.9s
CLL Collm 61.22 315 *e*P **P 23 59 51.0 -0.3**
CLL *i* 23 59 58.0
CLL *e*S **S 00 08 14.0 +3.4**
CLL pmax pmax
comp=Z,312nm,1.0s
CLL MLR MLR
comp=Z,83µm,19.3s
CLL Collm 61.22 315 *e*P **P 23 59 51.0 -0.3**
comp=Z,312nm,1.0s
CLL Lmax 00 28 00.0
CLL ⇑*i*Pmax 23 59 55.8
comp=Z,312nm,1.0s
CLL *e*Pmax 23 59 57.0
CLL *i*sP sP 23 59 58.0 +0.6
CLL *e*PP **PP 00 02 06.0 +0.2**
CLL *e* 00 02 27.0
CLL *e*PPPP 00 04 00.0
CLL *e*S **S 00 08 14.0 +3.4**
CLL *e*SS SS 00 12 30.0 +20
CLL *e* 00 13 12.0
CLL *e*SSS SSS 00 14 52.0
CLL LmH 00 27 00.0
comp=N,158µm,20.0s
CLL LmH 00 27 00.0
comp=E,34µm,21.5s
CLL *e*PKPPKPbP'P'bc 00 29 14.0 -7.6
CLL LmV 00 31 00.0
comp=Z,83µm,19.3s
CLL Collm 61.22 315 *e*P **P 23 59 51.2 -0.1**
comp=Z,557nm,1.2s
CLL LR LR
comp=Z,104µm,18.0s
PERS Pernice 61.38 309 *i* P **P 23 59 52.2 -0.4**
PERS *e*PcS x 00 03 47.4
PERS *e*S **S 00 08 15.4 +2.4**
PERS *e*SS SS 00 12 28.4 +15
SOKA Soboth 61.42 309⇑*i*P **P 23 59 52.8 -0.1**
comp=Z,481nm,1.4s,SNR=184
GAMB Gambell 61.44 30 *e*P **P 23 59 54.0 +1.4**
MOA Molln 61.53 311⇑*i*P **P 23 59 52.7 -0.9**
comp=Z,339nm,1.3s,SNR=81
KHC Kasperske Hory 61.55 312 *e*P **P 23 59 52.8 -0.9**
KHC *e* 23 59 57.9
KHC *e* 00 02 18.8
KHC *e* 00 03 41.0
KHC *e*S **S 00 08 14.0 -1.0**
KHC MLR MLR
comp=Z,110µm,16.0s
KHC Kasperske Hory 61.55 312 *e*P **P 23 59 52.8 -0.9**
KHC *e*pP **pP 23 59 57.9 -0.3**
KHC *ex* x 00 02 18.8
KHC *ex* x 00 03 41.0
KHC *e*S **S 00 08 14.0 -1.0**
KHC AMS AMS 00 28 40.0
comp=Z,110µm,16.0s
KHC *e*PKPPKP P'P'df 00 29 01.9 -10
KHC *ex* x 00 29 11.6
KHC Kasperske Hory 61.55 312 *e*P **P 23 59 53.5 -0.2**
KHC *e*PP **PP 00 02 06.6 -2.3**
GEC2 GERESS Array S 61.57 312 *e*P **P 23 59 54.0 +0.1**
GEC2 *e*S **S 00 08 19.7 +4.4**
GEC2 GERESS Array S 61.57 312 *e*P **P 23 59 54.0 +0.1**
GEC2 *e*S **S 00 08 19.7 +4.4**
GEC2 ⇑*e* 00 29 13.2
GERES GERESS Array B 61.57 312 P **P 23 59 53.7 -0.1**
comp=Z,141nm,0.9s,baz=77,slow=6.0,SNR=81
GERES S **S 00 08 19.7 +4.4**
comp=Z,0.9nm,0.9s,baz=161,slow=7.0,SNR=2.4
GERES PKPPKP P'P'df 00 29 02.7 -10
comp=Z,0.8nm,0.9s,baz=336,slow=2.2,SNR=4.0
GERES PKP2bc 00 29 13.3
comp=Z,8.3nm,1.1s,baz=242,slow=2.9,SNR=6.8
GERES LR LR 00 30 29.3
comp=Z,80µm,18.7s,baz=68,slow=40
UDBI Udbina 61.65 307 P **P 23 59 54.7 +0.2**
BOJS Bojanci 61.67 308 *e*P **P 23 59 54.4 -0.1**
BOJS *e*S **S 00 08 18.9 +2.4**
BOJS *e* 00 09 27.1
BOJS *e* 00 10 35.5
MUD Monsted U'grnd 61.78 321 *e*P **P 23 59 56.3 +1.3**
MUD MLR MLR
comp=Z,74µm,16.0s
MUD Monsted U'grnd 61.78 321 *i* P **P 23 59 56.3 +1.3**
comp=Z,74µm,16.0s
OBKA Obir 61.79 309 *i* P **P 23 59 55.4 -0.1**
comp=Z,1µm,1.9s,SNR=82
HYA Hoyanger 61.80 327 *e*P **P 23 59 55.9 +0.9**
HYA *e* 00 08 27.8
TANN Tannenbergstha 61.82 314 *e*P **P 23 59 55.9 +0.4**
comp=Z,104nm,0.9s
BSEG Bad Segeberg 61.95 318 *e*P **P 23 59 55.9 -0.3**
comp=Z,285nm,0.9s
LJU Ljubljana 61.96 309 *e*P **P 23 59 56.5 0.0**
LJU *e*S **S 00 08 24.0 +3.7**
LJU *e* 00 11 16.2
ODD1 Odda 61.98 325 *e*P P 23 59 58.5 +2.1
ODD1 *e* 00 08 30.6
ODD1 *i* 00 15 09.4
WET Wettzell 61.98 312 *e*P **P 23 59 57.2 +0.6**
comp=Z,118nm,0.9s
FOO Floro 62.18 327 *e*P **P 23 59 57.7 +0.1**
FOO *e* 00 08 27.3
ROTZ Rotzenmuhle 62.19 313 *e*P **P 23 59 58.6 +0.7**
comp=Z,222nm,0.9s
SNART Snartemo 62.19 323 *e*P **P 23 59 58.6 +0.8**
SNART *e* 00 08 27.2
SNART *i* 00 21 45.8
NVLJ Novalja 62.24 307 P **P 23 59 57.2 -1.1**
MOX Moxa 62.26 314 *e*P **P 23 59 58.9 +0.5**
comp=Z,117nm,1.0s
MOX *e*L L 00 31 35.8
comp=Z,55µm,21.5s
MYKA Terra Mystica 62.34 309⇑*i*P **P 23 59 58.4 -0.7**
comp=Z,189nm,1.4s,SNR=47
KBA Koelnbreinsper 62.38 310⇑*i*P **P 23 59 58.9 -0.6**
comp=Z,250nm,1.1s,SNR=90
TNA Tin City 62.41 28 *e*P P 00 00 01.0 +1.9
comp=Z,1µm,1.6s
TNA ⇑*e* 00 29 21.1
RUND Rundenannen 62.42 326 *e*P **P 23 59 58.5 -0.8**
ASK Askoy 62.47 326 *e* S 00 08 35.5 +9.3
SUE Sulen 62.49 327 *e*P **P 00 00 01.2 +1.6**
SUE *e* 00 08 33.2
RJOB Jochberg 62.51 311 *e*P **P 00 00 00.8 +0.7**
comp=Z,245nm,1.1s
TRI Trieste 62.58 308 *e*P **P 23 59 59.8 -0.8**
TRI pmax pmax
comp=Z,1µm,1.5s
TRI Trieste 62.58 308 *e*P **P 23 59 59.8 -0.8**
comp=Z,1µm,1.5s
TRI *e*PP PP 00 02 11.2 -6.8
CLZ Clausthal 62.60 316 *e*P **P 00 00 01.4 +0.7**
comp=Z,261nm,0.9s
ADK Adak 62.70 44 PFAKE 00 00 20.0 +19
ADK LR LR
comp=Z,116µm,22.0s
GRF Grafenberg Arr 62.82 313 *e*P **P 00 00 02.9 +0.8**
comp=Z,245nm,0.8s
GRF *e*L L 00 29 14.0
comp=Z,70µm,18.6s
GRFO Grafenberg 62.82 313 *e*P **P 00 00 02.4 +0.3**
GRFO MLR MLR
comp=Z,65µm,18.0s
GRFO Grafenberg 62.82 313 *e*P **P 00 00 02.4 +0.3**
GRFO LR LR
comp=Z,65µm,18.0s
TIP Timpagrande 62.86 301 *e*P **P 00 00 03.0 +0.3**
KMY Karmoy 62.87 325 *e*P P 00 00 04.1 +1.8
KMY *e* 00 08 39.0
KMY *i* 00 15 30.4
ABTA Abfaltersbach 63.03 310⇑*i*P **P 00 00 02.6 -1.1**
comp=Z,178nm,0.9s,SNR=75
WAKE Wake Island 63.19 84 PFAKE 00 00 20.0 +15
WAKE LR LR
comp=Z,26µm,22.0s
CUC Castrocucco 63.23 302 *e*P **P 00 00 04.2 -0.9**
comp=Z,302nm,1.0s
CUC LR LR
comp=Z,48µm,19.0s
FUR Furstenfeldbru 63.31 312 *e*P **P 00 00 06.1 +0.6**
comp=Z,468nm,0.9s
WTTA Wattenberg 63.41 311⇑*i*P **P 00 00 05.6 -0.7**
comp=Z,945nm,1.6s,SNR=125
DAG Danmarks Havn 63.42 347 *i* P **P 00 00 06.8 +1.1**
DAG pmax pmax
comp=Z,31nm,0.9s
DAG Danmarks Havn 63.42 347 *i* P **P 00 00 06.8 +1.1**
comp=Z,36nm,0.9s
H11S3 WAKE ISLAND Hy 63.59 84 P P 00 00 10.3 +2.8
baz=272,slow=5.8,SNR=6.4
H11S1 WAKE ISLAND Hy 63.60 84 P P 00 00 10.1 +2.6
baz=272,slow=5.8,SNR=4.8
H11S2 WAKE ISLAND Hy 63.61 84 P P 00 00 13.2 +5.6
baz=272,slow=5.8,SNR=5.9
JMIC Jan Mayen 63.74 339 *e*P P 00 00 00.2 -7.6
CEL Celeste 63.84 300 *e*P **P 00 00 08.7 -0.4**
comp=Z,986nm,1.1s
CEL LR LR
comp=Z,26µm,22.0s
WRAB Tennant Creek 63.88 140 *d i*P **P 00 00 08.9 -0.5**
WRAB pmax pmax
comp=Z,1µm,1.7s
WRAB MLR MLR
comp=Z,195µm,25.0s
WRAB Tennant Creek 63.88 140 *e*P **P 00 00 08.8 -0.6**
comp=Z,2µm,1.3s
WRAB *e*PP PP 00 02 35.6 +5.4
WRAB *e*S S 00 08 37.9 -6.7
WRAB LR LR
comp=Z,31µm,20.0s
WRA Warramunga Arr 63.88 140 P **P 00 00 09.2 -0.2**
WRA S **S 00 08 45.3 +0.6**
WRA pmax pmax
comp=Z,144nm,0.8s
WRA smax smax
comp=N,8.0nm,1.3s
WRA Warramunga Arr 63.88 140 P **P 00 00 09.2 -0.2**
comp=N,134nm,0.9s,baz=334,slow=6.8,SNR=223
WRA S **S 00 08 45.2 +0.6**
comp=N,8.1nm,1.3s,baz=330,slow=12,SNR=5.4
WRA PKPPKP **P'P'df 00 28 56.0 -1.8**
comp=N,2.4nm,0.9s,baz=129,slow=3.4,SNR=4.2
WRA LR LR 00 31 53.9
comp=N,34µm,19.7s,baz=305,slow=40
RETA Reutte 63.88 311⇑*i*P **P 00 00 09.2 -0.1**
comp=N,547nm,1.5s,SNR=115
IBBN Ibbenburen 63.95 317 *e*P **P 00 00 10.7 +1.2**
comp=Z,143nm,0.9s
PMG Port Moresby 63.97 122 *d i*P **P 00 00 11.4 +1.3**
PMG pmax pmax
comp=Z,191nm,1.0s
PMG Port Moresby 63.97 122 *e*P **P 00 00 11.5 +1.3**
comp=Z,113nm,1.0s
PMG LR LR
comp=Z,34nm,19.0s
AQU L'Aquila 64.04 305 *e*P **P 00 00 10.4 0.0**
AQU pmax pmax
comp=Z,604nm,1.0s
AQU MLR MLR
comp=Z,56µm,22.0s
AQU L'Aquila 64.04 305 *e*P **P 00 00 10.4 0.0**
comp=Z,604nm,1.0s
AQU LR LR
comp=Z,56µm,22.0s
ALE Alert 64.07 357 P **P 00 00 11.0 +1.1**
comp=Z,606nm,1.1s,SNR=68
FETA Feichten 64.07 311 *i* P **P 00 00 10.2 -0.5**
comp=Z,578nm,1.1s,SNR=216
TNS Taunus Mts 64.30 315 *e*P **P 00 00 12.4 +0.4**
comp=Z,110nm,0.9s
STU Stuttgart 64.39 313 *e*P **P 00 00 12.9 +0.4**
comp=Z,190nm,0.9s
STU Stuttgart 64.39 313 *e*P **P 00 00 12.8 +0.3**
STU MLR MLR
comp=Z,51µm,20.0s
STU Stuttgart 64.39 313 *e*P **P 00 00 12.8 +0.3**
STU ⇑*e* 00 29 15.0
STU LR LR
comp=Z,51µm,20.0s
COEN Coen 64.50 129 *e*P **P 00 00 15.0 +1.4**
comp=Z,838nm,1.2s
COEN *e*S **S 00 08 52.5 0.0**
DAVA Damuels 64.51 311⇑*i*P **P 00 00 13.0 -0.5**
comp=Z,424nm,1.8s,SNR=84
FUORN Ofenpass-Fuorn 64.52 310 *e*P **P 00 00 13.3 -0.5**
comp=Z,1µm,1.5s
BUG Bochum--Univer 64.55 316 *e*P **P 00 00 14.1 +0.6**
comp=Z,139nm,0.9s
MRIV Mauritius Mete 65.06 221 *e*P **P 00 00 17.0 -0.2**
BFO Black Forest 65.08 313 *e*P **P 00 00 17.0 -0.2**
BFO Black Forest 65.08 313 *e*P **P 00 00 16.9 -0.2**
BFO *e* 00 02 39.4
BFO pmax pmax
comp=Z,1µm,1.7s
BFO MLR MLR
comp=Z,58µm,20.0s
BFO Black Forest 65.08 313 *e*P **P 00 00 16.9 -0.2**
comp=Z,1µm,1.7s
BFO *e*PP **PP 00 02 39.4 -0.6**
BFO LR LR
comp=Z,58µm,20.0s
TUE Stuetta 65.16 310 PFAKE 00 00 30.0 +12
TUE LR LR
comp=Z,92µm,18.0s
VLC Villacollemand 65.38 308 *e*P **P 00 00 19.4 +0.3**
comp=Z,558nm,1.1s
VLC *e*S S 00 08 48.3 -15
VLC LR LR
comp=Z,47µm,19.0s
KMBO Kilima Mbogo 65.48 251 *c e*P **P 00 00 21.6 +1.2**
KMBO pmax pmax
comp=Z,129nm,0.8s
KMBO Kilima Mbogo 65.48 251 P **P 00 00 21.4 +1.0**
comp=Z,129nm,0.8s,baz=44,slow=10.0,SNR=113
KMBO S **S 00 09 04.9 -0.4**
comp=Z,1.4nm,1.0s,baz=51,slow=18,SNR=2.5
KMBO PKPPKP **P'P'df 00 28 54.9 -5.0**
comp=Z,0.5nm,0.4s,baz=153,slow=4.5,SNR=2.1
KMBO LR LR 00 30 39.3
comp=Z,37µm,18.0s,baz=56,slow=38
LRW Lerwick 65.55 327 *e*P **P 00 00 19.5 -0.3**
LRW AMB AMB 00 00 27.5
comp=Z,290nm,1.7s
LRW *e* 00 08 58.4
LRW AMS AMS 00 30 40.9
comp=Z,80µm,15.9s
HGN Heimansgroeve 65.59 316 *e*P **P 00 00 20.3 0.0**
comp=Z,851nm,2.0s
HGN *e*S **S 00 09 09.3 +4.2**
MEM Membach 65.60 316 P **P 00 00 20.4 0.0**
comp=Z,190nm,1.7s
MEM Membach 65.60 316 *e*P **P 00 00 21.0 +0.7**
MEM pmax pmax
comp=Z,744nm,1.7s
MEM Membach 65.60 316 *e*P **P 00 00 21.0 +0.7**
comp=Z,744nm,1.7s
CDF Champ du Feu 65.70 313 *e*P **P 00 00 20.0 -1.2**
comp=Z,2µm,1.7s
CDF Champ du Feu 65.70 313 *e*P **P 00 00 20.0 -1.2**
CDF pmax pmax
comp=Z,2µm,1.7s
CDF Champ du Feu 65.70 313 *e*P **P 00 00 20.0 -1.2**
comp=Z,2µm,1.7s
BEBN Eben Emael 65.72 316 P **P 00 00 21.4 +0.3**
comp=Z,112nm,1.7s
WLF Walferdange 65.89 315 P **P 00 00 23.5 +1.3**
comp=Z,725nm,1.6s
WLF Walferdange 65.89 315 *e*P **P 00 00 23.0 +0.8**
comp=Z,478nm,0.9s
WLF Walferdange 65.89 315 *e*P **P 00 00 22.6 +0.4**
WLF pmax pmax
comp=Z,659nm,1.0s
WLF MLR MLR
comp=Z,89µm,20.0s
WLF Walferdange 65.89 315 *e*P **P 00 00 22.6 +0.4**
comp=Z,659nm,1.0s
WLF LR LR
comp=Z,89µm,20.0s
CLTB Caltabellotta 66.05 300 *e*P **P 00 00 22.7 -0.8**
comp=Z,170nm,1.5s
CLTB LR LR
comp=Z,17µm,20.0s
BCLA Clavier 66.09 316 P **P 00 00 24.1 +0.6**
comp=Z,222nm,1.8s
HINF Hinteralfeld 66.20 313 *e*P **P 00 00 23.0 -1.3**
comp=Z,1µm,1.7s
HINF Hinteralfeld 66.20 313 *e*P **P 00 00 23.0 -1.3**
HINF pmax pmax
comp=Z,1µm,1.7s
HINF Hinteralfeld 66.20 313 *e*P **P 00 00 23.0 -1.3**
comp=Z,1µm,1.7s
HAU Haudompre 66.43 313 *e*P **P 00 00 24.5 -1.3**
comp=Z,702nm,1.4s
HAU *e*R
comp=Z,68µm,18.2s
HAU Haudompre 66.43 313 *e*P **P 00 00 24.5 -1.3**
HAU pmax pmax
comp=Z,702nm,1.4s
HAU Haudompre 66.43 313 *e*P **P 00 00 24.5 -1.3**
comp=Z,702nm,1.4s
UCC Uccle 66.49 316 P **P 00 00 26.7 +0.7**
comp=Z,376nm,2.1s
GIVF Givet 66.50 315 *e*P **P 00 00 25.3 -0.8**
comp=Z,503nm,1.1s
GIVF Givet 66.50 315 *e*P **P 00 00 25.3 -0.8**
GIVF pmax pmax
comp=Z,503nm,1.1s
GIVF Givet 66.50 315 *e*P **P 00 00 25.3 -0.8**
comp=Z,503nm,1.1s
PAGF Fort de Pagny 66.59 314 *e*P **P 00 00 26.1 -0.7**
comp=Z,609nm,1.6s,baz=77
PAGF Fort de Pagny 66.59 314 *e*P **P 00 00 26.1 -0.7**
comp=Z,609nm,1.6s
DOU Dourbes 66.64 315 P **P 00 00 27.2 +0.2**
comp=Z,160nm,1.9s
SNF Seneffe 66.65 316 P **P 00 00 27.6 +0.6**
AS12 Alice Springs 66.72 143 *e*P **P 00 00 27.5 -0.3**
AS12 *e*S **S 00 09 18.1 -1.3**
AS12 *e*P'P'df P'P'df 00 29 02.9 +10
ASAR Alice Springs 66.72 143 P **P 00 00 27.5 -0.3**
ASAR S **S 00 09 18.1 -1.3**
ASAR pmax pmax
comp=Z,102nm,0.6s
ASAR smax smax
comp=N,2.0nm,1.0s
ASAR MLR MLR
comp=Z,39µm,19.2s
ASAR Alice Springs 66.72 143 P **P 00 00 27.5 -0.3**
comp=Z,102nm,0.6s,baz=327,slow=6.5,SNR=331
ASAR S **S 00 09 18.1 -1.3**
comp=Z,2.4nm,1.0s,baz=312,slow=7.0,SNR=3.1
ASAR PKP2ab 00 29 02.9
comp=Z,8.4nm,0.9s,baz=136,slow=3.1,SNR=7.2
ASAR LR LR 00 32 14.5
comp=Z,39µm,19.2s,baz=319,slow=38
BAIF Baives 66.88 316 *e*P **P 00 00 27.8 -0.7**
comp=Z,1µm,1.5s
BAIF Baives 66.88 316 *e*P **P 00 00 27.8 -0.7**
BAIF pmax pmax
comp=Z,1µm,1.5s
BAIF Baives 66.88 316 *e*P **P 00 00 27.8 -0.7**
comp=Z,1µm,1.5s
PGF Pioggiola 66.95 307 *e*P **P 00 00 28.2 -1.1**
comp=Z,3µm,1.7s
PGF Pioggiola 66.95 307 *e*P **P 00 00 28.2 -1.1**
PGF pmax pmax
comp=Z,3µm,1.7s
PGF Pioggiola 66.95 307 *e*P **P 00 00 28.2 -1.1**
comp=Z,3µm,1.7s
MEZF Maizieres J'vi 67.02 314 *e*P **P 00 00 28.7 -0.8**
comp=Z,2µm,1.7s,baz=63
MEZF Maizieres J'vi 67.02 314 *e*P **P 00 00 28.7 -0.8**
comp=Z,2µm,1.7s
SFTF Sexfontaines 67.15 313 *e*P **P 00 00 29.2 -1.1**
comp=Z,2µm,1.4s,baz=74
SFTF Sexfontaines 67.15 313 *e*P **P 00 00 29.2 -1.1**
comp=Z,2µm,1.4s
CABF La Chapelle 67.17 312 *e*P **P 00 00 29.2 -1.4**
comp=Z,429nm,1.3s
CABF La Chapelle 67.17 312 *e*P **P 00 00 29.2 -1.4**
CABF pmax pmax
comp=Z,429nm,1.3s
CABF La Chapelle 67.17 312 *e*P **P 00 00 29.2 -1.4**
comp=Z,429nm,1.3s
LPG La Plagne 67.21 310 *e*P **P 00 00 30.5 -0.6**
comp=Z,921nm,0.9s
LPG La Plagne 67.21 310 *e*P **P 00 00 30.5 -0.6**
LPG pmax pmax
comp=Z,921nm,0.9s
LPG La Plagne 67.21 310 *e*P **P 00 00 30.5 -0.6**
comp=Z,921nm,0.9s
LPL La Plagne 67.21 310 *e*P **P 00 00 30.3 -0.8**
comp=Z,2µm,1.2s
LPL La Plagne 67.21 310 *e*P **P 00 00 30.3 -0.8**
LPL pmax pmax
comp=Z,2µm,1.2s
LPL La Plagne 67.21 310 *e*P **P 00 00 30.3 -0.8**
comp=Z,2µm,1.2s

MLA1 Latheron 67.35 326 *e*P **P 00 00 31.6 +0.2**
BNI Bardonecchia 67.44 310 *e*P **P 00 00 31.9 -0.5**
BNI pmax pmax
comp=Z,318nm,1.1s
BNI MLR MLR
comp=Z,48µm,20.0s
BNI Bardonecchia 67.44 310 *e*P **P 00 00 31.9 -0.5**
comp=Z,318nm,1.1s
BNI LR LR
comp=Z,48µm,20.0s
SBF Sospel 67.45 308 *e*P **P 00 00 31.1 -1.3**
comp=Z,2µm,1.2s
SBF Sospel 67.45 308 *e*P **P 00 00 31.1 -1.3**
SBF pmax pmax
comp=Z,2µm,1.2s
SBF Sospel 67.45 308 *e*P **P 00 00 31.1 -1.3**
comp=Z,2µm,1.2s
IM04 Indian Mountai 67.50 25 *e*P **P 00 00 33.3 +1.1**
MBDF Montbardon 67.52 310 *e*P **P 00 00 31.0 -1.9**
comp=Z,511nm,1.0s
MBDF Montbardon 67.52 310 *e*P **P 00 00 31.0 -1.9**
MBDF pmax pmax
comp=Z,511nm,1.0s
MBDF Montbardon 67.52 310 *e*P **P 00 00 31.0 -1.9**
comp=Z,511nm,1.0s
BIGH Upper Bighouse 67.53 326 *e*P **P 00 00 33.2 +0.7**
BIGH AMB AMB 00 00 39.6
comp=Z,946nm,1.8s
DRUM Mains of Drumt 67.55 324 *e*P **P 00 00 32.4 -0.3**
DRUM AMB AMB 00 00 39.5
comp=Z,378nm,1.6s
DRUM *e* 00 09 24.2
DRUM AMB AMB 00 32 28.1
comp=Z,46µm,16.4s
MME1 Meikle Cairn 67.61 325 *e*P **P 00 00 32.4 -0.7**
MCD Coleburn Disti 67.63 325 *e*P **P 00 00 33.4 +0.2**
UNV Unalaska Valle 67.63 40 *e*P **P 00 00 34.7 +1.4**
comp=Z,207nm,1.1s
AKUT Akutan 67.89 39 *e*P **P 00 00 35.7 +0.8**
comp=Z,356nm,1.0s
MVH1 Achvaich 67.91 326 *e*P **P 00 00 34.3 -0.6**
EDU Dundee 67.98 324 *e*P **P 00 00 35.9 +0.5**
VSL Villasalto 67.98 304 *e*P **P 00 00 35.0 -0.7**
comp=Z,346nm,1.1s
VSL *e*P'P'df **P'P'df 00 29 04.5 +3.6**
VSL LR LR
comp=Z,21µm,19.0s
ORIF Oris-en-Rattie 68.01 310 *e*P **P 00 00 34.6 -1.3**
comp=Z,836nm,1.1s
ORIF *e*R
comp=Z,84µm,17.2s
ORIF Oris-en-Rattie 68.01 310 *e*P **P 00 00 34.6 -1.3**
ORIF pmax pmax
comp=Z,836nm,1.1s
ORIF Oris-en-Rattie 68.01 310 *e*P **P 00 00 34.6 -1.3**
comp=Z,836nm,1.1s
COLD Coldfoot 68.03 23 *e*P P 00 00 37.5 +1.9
comp=Z,274nm,1.2s
ESY Stoneypath 68.06 323 *e*P **P 00 00 37.1 +1.1**
FRF La Foret Royal 68.09 308 *e*P **P 00 00 34.9 -1.5**
comp=Z,1µm,1.5s
FRF La Foret Royal 68.09 308 *e*P **P 00 00 34.9 -1.5**
FRF pmax pmax
comp=Z,1µm,1.5s
FRF La Foret Royal 68.09 308 *e*P **P 00 00 34.9 -1.5**
comp=Z,1µm,1.5s
RSC Scourie 68.18 326 *e*P **P 00 00 36.4 -0.2**
ELSH Elham, Standar 68.19 318 *e*P P 00 00 38.7 +2.0
ELSH AMB AMB 00 00 43.9
comp=Z,717nm,1.4s
MDO Dochfour 68.22 325 *e*P **P 00 00 36.5 -0.5**
LOR Lormes 68.27 313 *e*P **P 00 00 35.8 -1.6**
comp=Z,709nm,1.4s,baz=65
LOR *e*R
comp=Z,54µm,18.5s
LOR Lormes 68.27 313 *e*P **P 00 00 35.8 -1.6**
LOR pmax pmax
comp=Z,709nm,1.4s
LOR Lormes 68.27 313 *e*P **P 00 00 35.8 -1.6**
comp=Z,709nm,1.4s
LMR La Mourre 68.28 308 *e*P **P 00 00 36.2 -1.3**
comp=Z,2µm,1.6s
LMR La Mourre 68.28 308 *e*P **P 00 00 36.2 -1.3**
LMR pmax pmax
comp=Z,2µm,1.6s
LMR La Mourre 68.28 308 *e*P **P 00 00 36.2 -1.3**
comp=Z,2µm,1.6s
XAL Allendale 68.34 322⇑ *e*P **P 00 00 38.0 +0.3**
EBL Broad Law 68.35 323 *e*P **P 00 00 38.3 +0.6**
EDI Edinburgh 68.35 323 AMB AMB 00 00 30.8
comp=Z,391nm,1.8s
EDI AMS AMS 00 34 10.4
comp=Z,55µm,14.2s
HPK Haverah Park 68.44 321 *e*P **P 00 00 39.7 +1.3**
HPK AMB AMB 00 00 45.9
comp=Z,426nm,1.5s
HPK *e* 00 09 34.4
HPK AMS AMS 00 39 03.6
comp=Z,45µm,17.5s
NWAO Narrogin (SRO) 68.54 162 P **P 00 00 38.9 -0.2**
NWAO pmax pmax
comp=Z,86nm,0.8s
NWAO Narrogin (SRO) 68.54 162 P **P 00 00 38.9 -0.2**
comp=Z,86nm,0.8s,baz=353,slow=9.6,SNR=2.5
SMF Signal de Mont 68.55 312 *e*P **P 00 00 37.9 -1.3**
comp=Z,3µm,1.5s
SMF Signal de Mont 68.55 312 *e*P **P 00 00 37.9 -1.3**
SMF pmax pmax
comp=Z,3µm,1.5s
SMF Signal de Mont 68.55 312 *e*P **P 00 00 37.9 -1.3**
comp=Z,3µm,1.5s
SSF Saint Saulge 68.58 313 *e*P **P 00 00 37.9 -1.4**
comp=Z,1µm,1.6s
SSF Saint Saulge 68.58 313 *e*P **P 00 00 37.9 -1.4**
SSF pmax pmax
comp=Z,1µm,1.6s
SSF Saint Saulge 68.58 313 *e*P **P 00 00 37.9 -1.4**
comp=Z,1µm,1.6s
SMRF Simiane la Rot 68.61 309 *e*P **P 00 00 38.7 -1.0**
comp=Z,1µm,1.8s
SMRF Simiane la Rot 68.61 309 *e*P **P 00 00 38.7 -1.0**
comp=Z,1µm,1.8s
ESK Eskdalemuir 68.64 323 *e*P **P 00 00 39.9 +0.3**
ESK pmax pmax
comp=Z,125nm,1.1s
ESK MLR MLR
comp=Z,70µm,19.0s
ESK Eskdalemuir 68.64 323 *e*P **P 00 00 39.9 +0.3**
ESK AMB AMB 00 00 46.4
comp=Z,402nm,1.5s
ESK *e* 00 09 36.0
ESK AMS AMS 00 34 21.7
comp=Z,76µm,16.8s
ESK Eskdalemuir 68.64 323 *e*P **P 00 00 39.9 +0.3**
comp=Z,125nm,1.1s
ESK LR LR
comp=Z,70µm,19.0s
KAC Achnashellach 68.64 325 *e*P **P 00 00 39.7 +0.1**
ECK Cauldkaine Hil 68.66 323 *e*P **P 00 00 40.1 +0.4**
KBI1 Birley Grange 68.71 320 *e*P **P 00 00 41.6 +1.6**
RRR Rubha Reidh 68.71 326 *e*P **P 00 00 39.5 -0.5**
LHO Holmfirth 68.75 321 *e*P **P 00 00 39.8 -0.6**
HMNX Herstmonceux 68.76 318 *e*P **P 00 00 40.1 -0.3**
HMNX AMB AMB 00 00 47.6
comp=Z,831nm,1.3s
HMNX AMS AMS 00 33 58.1
comp=Z,116µm,14.3s
AVF Avril sur Loir 68.79 313 *e*P **P 00 00 39.4 -1.3**
comp=Z,2µm,1.5s
AVF Avril sur Loir 68.79 313 *e*P **P 00 00 39.4 -1.3**
AVF pmax pmax
comp=Z,2µm,1.5s
AVF Avril sur Loir 68.79 313 *e*P **P 00 00 39.4 -1.3**
comp=Z,2µm,1.5s
FALS False Pass 68.79 38 *e*P **P 00 00 41.0 +0.5**
EAB Aberfoyle 68.80 324 *e*P **P 00 00 41.0 +0.4**
VIVF Saint-Julien-l 68.81 310 *e*P **P 00 00 39.7 -1.2**
comp=Z,2µm,1.6s
VIVF Saint-Julien-l 68.81 310 *e*P **P 00 00 39.7 -1.2**
VIVF pmax pmax
comp=Z,2µm,1.6s
VIVF Saint-Julien-l 68.81 310 *e*P **P 00 00 39.7 -1.2**
comp=Z,2µm,1.6s
KSB Sheil Bridge 68.84 325 *e*P **P 00 00 40.9 +0.2**
KPL Plockton 68.89 325 *e*P **P 00 00 41.8 +0.7**
KPL AMB AMB 00 00 54.3
comp=Z,192nm,1.3s
KPL AMS AMS 00 33 49.1
comp=Z,44µm,13.6s
KESW Keswick, Cumbr 68.92 322 *e*P **P 00 00 41.9 +0.6**
KESW AMB AMB 00 00 48.3
comp=Z,648nm,1.4s
KESW *e* 00 09 40.1
KESW AMS AMS 00 34 07.5
comp=Z,53µm,15.7s
HYF Humbligny 69.02 313 *e*P **P 00 00 41.3 -0.8**
HYF Humbligny 69.02 313 *e*P **P 00 00 41.3 -0.8**
PGBU Glenifferbraes 69.05 324 *e*P **P 00 00 42.8 +0.7**
PGBU AMB AMB 00 00 49.1
comp=Z,542nm,1.6s
PGBU *e* 00 09 38.2
PGBU AMS AMS 00 34 19.1
comp=Z,53µm,15.4s
RRH Rhenigidale 69.09 326 *e*P **P 00 00 40.4 -1.9**
BGF Bois d'Agland 69.21 313 *e*P **P 00 00 42.0 -1.3**
comp=Z,795nm,1.3s
BGF Bois d'Agland 69.21 313 *e*P **P 00 00 42.0 -1.3**
BGF pmax pmax
comp=Z,795nm,1.3s
BGF Bois d'Agland 69.21 313 *e*P **P 00 00 42.0 -1.3**
comp=Z,795nm,1.3s
GCD Castle Douglas 69.22 323 *e*P **P 00 00 42.4 -0.8**
SVW2 Sparrevohn 69.35 30 *e*P P 00 00 45.5 +1.6
comp=Z,533nm,1.2s
WOL Wolverton 69.44 318⇑ *e*P **P 00 00 45.6 +1.0**
WOL AMB AMB 00 00 51.5
comp=Z,649nm,1.7s
WOL AMS AMS 00 34 15.2
comp=Z,65µm,13.9s
CAST Castle Rocks 69.49 27 *e*P P 00 00 47.1 +2.4
comp=Z,348nm,1.2s
GAL1 Galloway 69.61 323 *e*P **P 00 00 46.1 +0.5**
GAL1 AMB AMB 00 00 53.4
comp=Z,290nm,2.0s
GAL1 AMS AMS 00 34 52.5
comp=Z,48µm,15.1s
KEST Kesra 69.65 300 P **P 00 00 45.8 -0.5**
comp=Z,29nm,0.9s,baz=337,slow=3.1,SNR=61
KEST S **S 00 09 54.2 -0.3**
comp=Z,1.9nm,1.2s,baz=72,slow=19,SNR=1.9
KEST PKPPKP P'P'df 00 28 50.3 -7.6
comp=Z,2.0nm,1.0s,baz=169,slow=2.5,SNR=4.8
KEST Kesra 69.65 300 P **P 00 00 45.8 -0.5**
KEST S **S 00 09 54.2 -0.3**
KEST P'P' 00 28 50.3
KEST ⇑*e* 00 28 55.4
SWN1 Swindon 69.66 319 *e*P **P 00 00 45.7 -0.3**
SWN1 AMB AMB 00 00 53.0
comp=Z,582nm,1.6s
SWN1 AMS AMS 00 34 35.1
comp=Z,55µm,13.7s
LASF Ste Croix 69.68 310 *e*P **P 00 00 45.4 -0.9**
comp=Z,967nm,1.3s
LASF Ste Croix 69.68 310 *e*P **P 00 00 45.4 -0.9**
comp=Z,967nm,1.3s
TCF Toulx Ste Croi 69.72 313 *e*P **P 00 00 45.6 -0.9**
comp=Z,1µm,1.1s
TCF Toulx Ste Croi 69.72 313 *e*P **P 00 00 45.6 -0.9**
TCF pmax pmax
comp=Z,1µm,1.1s
TCF Toulx Ste Croi 69.72 313 *e*P **P 00 00 45.6 -0.9**
comp=Z,1µm,1.1s
PPLA Purkeypile 69.74 27 *e*P **P 00 00 47.6 +1.1**
comp=Z,2µm,1.3s
STRD Stroud 69.74 319 *e*P **P 00 00 45.8 -0.7**
STRD AMB AMB 00 00 54.0
comp=Z,799nm,1.7s
STRD *e* 00 09 49.7
STRD AMS AMS 00 34 14.5
comp=Z,62µm,15.9s
FOEL Foel Wylfa 69.78 321 *e*P **P 00 00 47.2 +0.5**
FOEL AMB AMB 00 00 53.8
comp=Z,526nm,1.6s
HLM1 Long Mynd 69.78 320 *e*P **P 00 00 47.0 +0.3**
HLM1 AMB AMB 00 00 53.8
comp=Z,612nm,1.4s
HLM1 *e* 00 09 51.1
HLM1 AMS AMS 00 34 15.7
comp=Z,71µm,16.4s
KTH Kantishna Hill 69.85 26 *e*P P 00 00 49.1 +2.1
comp=Z,1µm,1.3s
KTH *e*P'P'df P'P'df 00 28 41.0 -18
WPM1 Penmaenmawr 69.97 321⇑ *e*P **P 00 00 49.2 +1.4**
BATH Bath 69.99 319 *e*P **P 00 00 48.3 +0.4**
BATH AMB AMB 00 00 54.7
comp=Z,517nm,1.5s
BATH AMS AMS 00 33 29.2
comp=Z,50µm,15.4s
OLDB Oldbury-Upon-S 70.01 319 *e*P **P 00 00 48.7 +0.6**
OLDB AMB AMB 00 00 54.8
comp=Z,655nm,1.6s
OLDB *e* 00 09 50.8
OLDB AMS AMS 00 38 29.8
comp=Z,73µm,15.0s
MONM Monmouth 70.06 319 *e*P **P 00 00 48.0 -0.5**
MONM AMB AMB 00 00 55.3
comp=Z,522nm,1.5s
MONM *e* 00 09 52.3
MONM AMS AMS 00 34 24.1
comp=Z,85µm,17.1s
LDF La Druitiere 70.07 315 *e*P **P 00 00 47.2 -1.3**
comp=Z,961nm,1.3s
LDF La Druitiere 70.07 315 *e*P **P 00 00 47.2 -1.3**
LDF pmax pmax
comp=Z,961nm,1.3s
LDF La Druitiere 70.07 315 *e*P **P 00 00 47.2 -1.3**
comp=Z,961nm,1.3s
MCH1 Michaelchurch 70.09 320 *e*P **P 00 00 48.7 +0.1**
MCH1 AMB AMB 00 00 55.1
comp=Z,405nm,2.0s
MCH1 *e* 00 09 52.3
MCH1 AMS AMS 00 34 25.8
comp=Z,86µm,18.2s
SUMG Summit 70.10 347 *e*P **P 00 00 48.0 -0.8**
SUMG pmax pmax
comp=Z,674nm,1.5s
SUMG MLR MLR
comp=Z,50µm,22.0s
SUMG Summit 70.10 347 *e*P **P 00 00 48.0 -0.8**
comp=Z,674nm,1.5s
SUMG LR LR
comp=Z,50µm,22.0s
SUMG Summit 70.10 347 *i* P **P 00 00 48.7 -0.1**
comp=Z,209nm,0.9s
comp=Z,55µm,25.0s
TRF Thorofare Moun 70.14 26 *e*P P 00 00 50.8 +1.9
comp=Z,179nm,1.0s
YLL Llanberis 70.17 321⇑ *e*P **P 00 00 49.7 +0.7**
COLA College 70.17 24 *d i*P **P 00 00 50.0 +1.2**
COLA pmax pmax
comp=Z,822nm,1.0s
COLA MLR MLR
comp=Z,383µm,19.0s
COLA College 70.17 24 *e*P **P 00 00 50.0 +1.2**
comp=Z,485nm,1.1s
COLA LR LR
comp=Z,99µm,18.0s
FORT Forrest 70.18 152 *e*P **P 00 00 49.4 +0.1**
comp=Z,637nm,1.0s
FLN La Foliniere 70.20 316 *e*P **P 00 00 48.1 -1.2**
comp=Z,1µm,1.4s,baz=61
FLN *e*R
comp=Z,85µm,17.8s
FLN La Foliniere 70.20 316 *e*P **P 00 00 48.1 -1.2**
FLN pmax pmax
comp=Z,1µm,1.4s
FLN La Foliniere 70.20 316 *e*P **P 00 00 48.1 -1.2**
comp=Z,1µm,1.4s
ABPO Ambohimpanom 70.21 230 *e*P **P 00 00 50.5 +0.6**
ABPO pmax pmax
comp=Z,451nm,1.4s
ABPO MLR MLR
comp=Z,53µm,19.0s
ABPO Ambohimpanom 70.21 230 *e*P **P 00 00 50.5 +0.6**
comp=Z,451nm,1.4s
ABPO LR LR
comp=Z,53µm,19.0s
WLF1 Llynfaes 70.22 321⇑ *e*P **P 00 00 49.4 +0.1**
WLF1 AMB AMB 00 00 56.3
comp=Z,468nm,1.5s
WLF1 *e* 00 09 56.4
WLF1 AMS AMS 00 37 44.9
comp=Z,41µm,17.6s
YRC Rhoscolyn 70.33 321 *e*P **P 00 00 50.6 +0.6**
YRE Yr Eifl 70.38 321⇑ *e*P **P 00 00 50.9 +0.6**
CAF Calviac 70.44 311 *e*P **P 00 00 50.2 -0.7**
comp=Z,742nm,1.3s
CAF Calviac 70.44 311 *e*P **P 00 00 50.2 -0.7**
CAF pmax pmax
comp=Z,742nm,1.3s
CAF Calviac 70.44 311 *e*P **P 00 00 50.2 -0.7**
comp=Z,742nm,1.3s
MCK McKinley 70.47 25 *e*P **P 00 00 51.8 +1.0**
MCK pmax pmax
comp=Z,187nm,0.9s
MCK McKinley 70.47 25 *e*P **P 00 00 51.8 +1.0**
comp=Z,187nm,0.9s
GMM Mts of Mourne 70.55 323 *e*P **P 00 00 50.9 -0.5**
ILAR Eielson Array 70.57 24 P **P 00 00 51.5 +0.1**
comp=Z,62nm,1.0s,baz=293,slow=4.6,SNR=219
ILAR LR LR 00 34 11.6
comp=Z,98µm,18.8s,baz=310,slow=38
ILB Eielson Array 70.57 24 *e*P **P 00 00 51.5 +0.1**
GRR Gorron 70.60 316 *e*P **P 00 00 50.5 -1.3**
comp=Z,466nm,0.7s
GRR Gorron 70.60 316 *e*P **P 00 00 50.5 -1.3**
GRR pmax pmax
comp=Z,466nm,0.7s
GRR Gorron 70.60 316 *e*P **P 00 00 50.5 -1.3**
comp=Z,466nm,0.7s
RJF Les Rejaudoux 70.60 312 *e*P **P 00 00 51.4 -0.5**
comp=Z,2µm,1.6s
RJF *e*R
comp=Z,98µm,19.0s
RJF Les Rejaudoux 70.60 312 *e*P **P 00 00 51.4 -0.5**
RJF pmax pmax
comp=Z,2µm,1.6s
RJF Les Rejaudoux 70.60 312 *e*P **P 00 00 51.4 -0.5**
comp=Z,2µm,1.6s
LPW Lampeter 70.61 320 *e*P **P 00 00 52.0 +0.3**
LPW AMB AMB 00 00 58.7
comp=Z,2µm,1.6s
LPW *e* 00 09 58.6
LPW AMS AMS 00 34 51.0
comp=Z,74µm,17.6s
RSO Redoubt South 70.87 29 *e*P P 00 00 55.8 +2.3
JSA Saint Aubin 70.98 317 *e*P **P 00 00 54.4 +0.3**
JSA AMB AMB 00 01 00.8
comp=Z,468nm,1.4s
JSA *e* 00 10 03.7
JSA AMS AMS 00 35 27.0
comp=Z,105µm,15.7s
CTA Charters Tower 70.99 131 P **P 00 00 54.5 0.0**
CTA pmax pmax
comp=Z,128nm,0.9s
CTA Charters Tower 70.99 131 P **P 00 00 54.5 0.0**
comp=Z,128nm,0.9s,baz=324,slow=8.1,SNR=55
CTAO Charters Tower 70.99 131 *e*P **P 00 00 55.2 +0.8**
CTAO pmax pmax
comp=Z,661nm,1.1s
CTAO MLR MLR
comp=Z,43µm,22.0s
CTAO Charters Tower 70.99 131 *e*P **P 00 00 55.2 +0.8**
comp=Z,661nm,1.1s
CTAO LR LR
comp=Z,43µm,22.0s
MFF Saint Martin d 71.02 314 *e*P **P 00 00 53.3 -1.1**
comp=Z,1µm,1.5s
MFF Saint Martin d 71.02 314 *e*P **P 00 00 53.3 -1.1**
MFF pmax pmax
comp=Z,1µm,1.5s
MFF Saint Martin d 71.02 314 *e*P **P 00 00 53.3 -1.1**
comp=Z,1µm,1.5s
MTLF Montolieu 71.08 310 *e*P **P 00 00 53.8 -1.0**
comp=Z,1µm,1.8s
MTLF Montolieu 71.08 310 *e*P **P 00 00 53.8 -1.0**
MTLF pmax pmax
comp=Z,1µm,1.8s
MTLF Montolieu 71.08 310 *e*P **P 00 00 53.8 -1.0**
comp=Z,1µm,1.8s
KULLO Kullorsuaq 71.13 353 *i* P **P 00 00 54.3 -0.2**
KULLO pmax pmax
comp=Z,200nm,0.9s
KULLO MLR MLR
comp=Z,54µm,17.0s
KULLO Kullorsuaq 71.13 353 *i* P **P 00 00 54.3 -0.2**
comp=Z,197nm,0.9s
comp=Z,54µm,17.0s
BORG Borgarnes 71.16 336 PFAKE 00 01 10.0 +15
BORG LR LR
comp=Z,46µm,18.0s
LFF La Frestale 71.26 312 *e*P **P 00 00 55.3 -0.5**
comp=Z,2µm,1.6s
LFF La Frestale 71.26 312 *e*P **P 00 00 55.3 -0.5**
LFF pmax pmax
comp=Z,2µm,1.6s
LFF La Frestale 71.26 312 *e*P **P 00 00 55.3 -0.5**
comp=Z,2µm,1.6s
DSB Dublin 71.27 322 *e*P **P 00 00 56.6 +0.9**
comp=Z,217nm,1.2s
DSB LR LR
comp=Z,31µm,22.0s
DYA Yadsworthy 71.36 318 *e*P **P 00 00 56.0 -0.3**
DYA AMB AMB 00 01 03.1
comp=Z,300nm,1.6s
DYA *e* 00 10 09.5
DYA AMS AMS 00 35 20.3
comp=Z,93µm,14.3s
DYA Yadsworthy 71.36 318 *e*P P 00 00 58.5 +2.1
comp=Z,582nm,1.6s
SGMF Saint Gilles 71.66 316 *e*P **P 00 00 57.5 -0.7**
comp=Z,2µm,1.6s
SGMF Saint Gilles 71.66 316 *e*P **P 00 00 57.5 -0.7**
SGMF pmax pmax
comp=Z,2µm,1.6s
SGMF Saint Gilles 71.66 316 *e*P **P 00 00 57.5 -0.7**
comp=Z,2µm,1.6s
PMR Palmer 71.66 27 *e*P **P 00 00 57.8 -0.1**
PMR Palmer 71.66 27 *e*P **P 00 00 57.8 -0.1**
RC01 Rabbit Creek A 71.72 28 *e*P P 00 01 00.5 +2.2
comp=Z,822nm,1.2s
ROSF Rostrenen 72.03 316 *e*P **P 00 00 59.8 -0.6**
comp=Z,1µm,1.3s
ROSF Rostrenen 72.03 316 *e*P **P 00 00 59.8 -0.6**
ROSF pmax pmax
comp=Z,1µm,1.3s
ROSF Rostrenen 72.03 316 *e*P **P 00 00 59.8 -0.6**
comp=Z,1µm,1.3s
RES Resolute Bay 72.12 3 P **P 00 01 01.2 +0.7**
RES S **S 00 10 19.2 -2.6**
RES pmax pmax
comp=Z,43nm,1.0s
RES smax smax
comp=N,1.0nm,0.7s
RES MLR MLR
comp=Z,45µm,19.9s
RES Resolute Bay 72.12 3 P **P 00 01 01.2 +0.7**
comp=Z,43nm,1.0s,baz=7.7,slow=8.8,SNR=31
RES S **S 00 10 19.2 -2.6**
comp=Z,1.1nm,0.7s,baz=243,slow=18,SNR=1.9
RES LR LR 00 35 07.7
comp=Z,45µm,19.9s,baz=306,slow=38
RES Resolute Bay 72.12 3 P **P 00 01 01.2 +0.7**
RES S **S 00 10 19.2 -2.6**
RES *e*P'P'df **P'P'df 00 28 50.2 -4.6**
INK Inuvik 72.15 17 P **P 00 01 01.7 +0.9**
INK S **S 00 10 20.9 -1.4**
INK pmax pmax
comp=Z,93nm,0.8s
INK smax smax
comp=N,3.0nm,1.1s
INK MLR MLR
comp=Z,96µm,20.5s
INK Inuvik 72.15 17 P **P 00 01 01.6 +0.9**
comp=Z,93nm,0.8s,baz=336,slow=6.8,SNR=118
INK S **S 00 10 20.9 -1.4**
comp=Z,3.2nm,1.1s,baz=356,slow=15,SNR=2.0
INK LR LR 00 37 23.3
comp=Z,96µm,20.5s,baz=270,slow=40
INK Inuvik 72.15 17 P **P 00 01 01.6 +0.9**
INK S **S 00 10 20.9 -1.4**
INK *e*P'P'df **P'P'df 00 28 50.9 -3.8**
PAX Paxson 72.17 25 *e*P **P 00 01 02.2 +1.1**
PAX pmax pmax
comp=Z,251nm,1.4s
PAX Paxson 72.17 25 *e*P **P 00 01 02.2 +1.1**
comp=Z,251nm,1.4s
PAX *e*P'P'df P'P'df 00 28 46.0 -8.8

QUIF Quistinic 72.18 316 *e*P **P** **00 01 00.4 -0.9**
comp=Z,900nm,1.3s
QUIF Quistinic 72.18 316 *e*P **P** **00 01 00.4 -0.9**
QUIF pmax pmax
comp=Z,900nm,1.3s
QUIF Quistinic 72.18 316 *e*P **P** **00 01 00.4 -0.9**
comp=Z,900nm,1.3s
CCA1 Carnmenellis 72.21 319 *e*P **P** **00 01 02.2 +0.8**
CCA1 AMB AMB 00 01 08.3
comp=Z,244nm,1.6s
DOT Dot Lake 72.23 24 *e*P **P** **00 01 02.7 +1.3**
comp=Z,136nm,1.1s
DOT *e*P'P'df **P'P'df** **00 28 50.7 -3.9**
SEW Seward 72.42 29 *e*P P 00 01 04.4 +1.9
comp=Z,1µm,1.6s
EPF Esparros 72.43 310 *e*P **P** **00 01 01.4 -1.6**
comp=Z,821nm,1.5s
EPF Esparros 72.43 310 *e*P **P** **00 01 01.4 -1.6**
EPF pmax pmax
comp=Z,821nm,1.5s
EPF Esparros 72.43 310 *e*P **P** **00 01 01.4 -1.6**
comp=Z,821nm,1.5s
KDAK Kodiak Island 72.45 32 *e*P **P** **00 01 03.8 +1.1**
KDAK pmax pmax
comp=Z,609nm,1.1s
KDAK MLR MLR
comp=Z,161µm,21.0s
KDAK Kodiak Island 72.45 32 *e*P **P** **00 01 03.8 +1.1**
comp=Z,609nm,1.1s
KDAK LR LR
comp=Z,161µm,21.0s
EGAK Eagle 72.46 22 *e*P **P** **00 01 03.1 +0.4**
comp=Z,280nm,1.1s
EGAK *e*P'P'df P'P'df 00 28 59.6 +5.5
EGAK LR LR
comp=Z,139µm,19.0s
AIS Amsterdam Isla 72.85 196 P P 00 00 47.0 -18
AIS S S 00 10 06.0 -25
AIS SS SS 00 14 57.0 -15
AIS L L 00 18 00.0
AIS R 00 23 00.0
ETSF Etsaut 73.07 310 *e*P **P** **00 01 06.2 -0.6**
comp=Z,361nm,0.9s
ETSF Etsaut 73.07 310 *e*P **P** **00 01 06.2 -0.6**
ETSF pmax pmax
comp=Z,361nm,0.9s
ETSF Etsaut 73.07 310 *e*P **P** **00 01 06.2 -0.6**
comp=Z,361nm,0.9s
DIV Divide 73.22 27 *e*P **P** **00 01 08.8 +1.3**
comp=Z,915nm,1.4s
SJPF Ste Jean 73.39 311 *e*P **P** **00 01 08.3 -0.3**
comp=Z,258nm,1.1s
SJPF Ste Jean 73.39 311 *e*P **P** **00 01 08.3 -0.3**
SJPF pmax pmax
comp=Z,258nm,1.0s
SJPF Ste Jean 73.39 311 *e*P **P** **00 01 08.3 -0.3**
comp=Z,258nm,1.0s
HNR Honiara 73.48 113 PFAKE 00 01 20.0 +11
HNR LR LR
comp=Z,43µm,22.0s
DAWY Dawson 73.50 22 *e*P **P** **00 01 09.3 +0.3**
BMRM Bremner River 73.77 26 *e*P **P** **00 01 11.9 +1.4**
comp=Z,518nm,0.8s
BMRM *e*P'P'df **P'P'df** **00 28 47.0 -4.8**
VAL Valentia 73.96 322 *e*P **P** **00 01 11.7 -0.1**
VAL Valentia 73.96 322 ⇑*i*S **S** **00 10 46.4 +3.0**
RAGM Ragged Mountai 74.11 27 *e*P P 00 01 15.7 +3.1
comp=Z,526nm,1.1s
ILULI Ilulissat 75.19 349 *i* P P 00 01 20.6 +2.0
ILULI pmax pmax
comp=Z,93nm,0.8s
ILULI MLR MLR
comp=Z,47µm,17.0s
ILULI Ilulissat 75.19 349 *i* P P 00 01 20.6 +2.0
comp=Z,93nm,0.8s
comp=Z,47µm,16.0s
BBOO Buckleboo 75.38 147 *e*P **P** **00 01 19.9 -0.2**
comp=Z,11µm,1.9s
HYT Haines Junctio 76.41 24 *e*P **P** **00 01 27.5 +1.6**
ESDC Sonseca Array 76.92 309 P **P** **00 01 29.6 +0.4**
comp=Z,47nm,0.9s,baz=47,slow=5.8,SNR=57
ESDC S **S** **00 11 18.4 +1.5**
comp=Z,0.8nm,0.9s,baz=51,slow=10,SNR=3.4
ESDC PKPPKP P'P'df 00 28 39.7 -5.7
comp=Z,0.5nm,0.8s,baz=241,slow=3.1,SNR=4.0
ESDC LR LR 00 40 51.5
comp=Z,17µm,18.9s,baz=55,slow=40
SFJD Kangerlussuaq 77.08 347 P **P** **00 01 28.6 -0.8**
SFJD pmax pmax
comp=Z,180nm,0.8s
SFJD MLR MLR
comp=Z,57nm,19.9s
SFJD Kangerlussuaq 77.08 347 P **P** **00 01 28.6 -0.8**
comp=Z,180nm,0.8s,baz=36,slow=6.2,SNR=26
SFJD LR LR 00 38 32.9
comp=Z,57nm,19.9s,baz=13,slow=38
SFJD Kangerlussuaq 77.08 347 *i* P **P** **00 01 29.0 -0.4**
comp=Z,42µm,22.0s
PAB San Pablo 77.25 309 *e*P **P** **00 01 32.4 +1.4**
PAB pmax pmax
comp=Z,372nm,1.6s
PAB MLR MLR
comp=Z,36µm,19.0s
PAB San Pablo 77.25 309 *e*P **P** **00 01 32.4 +1.4**
comp=Z,372nm,1.6s
PAB LR LR
comp=Z,36µm,19.0s
STKA Stephens Creek 77.33 142 P **P** **00 01 31.2 0.0**
STKA S **S** **00 11 18.3 -2.6**
STKA pmax pmax
comp=Z,109nm,0.7s
STKA smax smax
comp=N,3.0nm,1.0s
STKA MLR MLR
comp=Z,39µm,19.3s
STKA Stephens Creek 77.33 142 P **P** **00 01 31.2 0.0**
comp=Z,108nm,0.7s,baz=321,slow=5.9,SNR=96
STKA S **S** **00 11 18.3 -2.6**
comp=Z,2.7nm,1.0s,baz=295,slow=18,SNR=1.8
STKA LR LR 00 39 51.5
comp=Z,39µm,19.3s,baz=306,slow=39
PBRG Braganca 77.55 312 *e*P **P** **00 01 34.0 +1.4**
comp=Z,305nm,1.6s
PBRG Braganca 77.55 312 *e*PP PP 00 04 28.9 +1.9
TARA Tarawa 77.70 96 *e*P P 00 01 37.0 +3.3
comp=Z,3µm,1.9s
TARA *e*PP PP 00 04 22.9 -6.2
TARA LR LR
comp=Z,24µm,20.0s
EIDS Eidsvold 77.87 131 *e*P **P** **00 01 35.8 +1.5**
comp=Z,971nm,1.4s
MVO Moncorvo 78.08 311 *e*P **P** **00 01 36.7 +1.1**
comp=Z,318nm,1.2s
MVO *e*S **S** **00 11 30.9 +1.5**
MVO *e*SS SS 00 16 21.6 -8.5
MVO Moncorvo 78.08 311 *e*LR LR 00 34 09.9
comp=Z,21µm,18.0s
PCAB Cabril 78.40 312 *e*P P 00 01 39.3 +2.0
comp=Z,508nm,1.6s
PGAV Gavieira, Arco 78.41 313 *e*P **P** **00 01 38.7 +1.3**
comp=Z,457nm,1.6s
PGAV *e*S **S** **00 11 32.1 -0.8**
PGAV *e*SS **SS** **00 16 34.8 -0.2**
PGAV Gavieira, Arco 78.41 313 *e*LR LR 00 34 07.7
comp=Z,23µm,20.0s
POLO Lamas de Olo 78.44 312 *e*P P 00 01 39.6 +2.0
comp=Z,95nm,1.9s
PVRL Vila Real 78.45 312 *e*P P 00 01 39.4 +1.8
comp=Z,198nm,1.9s
MTE Manteigas 78.83 311 *e*P **P** **00 01 40.8 +1.1**
comp=Z,484nm,1.6s
MTE *e*S **S** **00 11 38.4 +1.0**
MTE *e*SS SS 00 16 32.4 -9.0
MTE Manteigas 78.83 311 *e*LR LR 00 34 39.3
comp=Z,29µm,18.0s
MTE Manteigas 78.83 311 *e*P **P** **00 01 40.9 +1.1**
comp=Z,691nm,1.6s
MTE LR LR
comp=Z,34µm,20.0s
PVIS Viseu 78.88 311 *e*P **P** **00 01 41.0 +1.0**
comp=Z,396nm,1.6s
PTO Porto 79.08 312 *e*P P 00 01 44.0 +3.0
comp=Z,258nm,1.3s
PCBR Castelo Branco 79.10 311 *e*P P 00 01 43.3 +2.2
comp=Z,245nm,1.7s
PCBR Castelo Branco 79.10 311 *e*PP PP 00 04 38.2 -1.7
PMRV Marv??o 79.28 310 *e*P **P** **00 01 43.5 +1.3**
comp=Z,529nm,1.6s
PMRV Marv??o 79.28 310 *e*PP PP 00 04 42.1 +0.6
PMRV *e*S **S** **00 11 41.4 -0.7**
PMRV *e*SS **SS** **00 16 47.3 -0.8**
PMRV Marv??o 79.28 310 *e*LR LR 00 36 38.2
comp=Z,25µm,16.0s
PCAS Casmilo, Conde 79.63 311 *e*P P 00 01 46.3 +2.3
comp=Z,297nm,1.7s
PCAS Casmilo, Conde 79.63 311 *e*PP PP 00 04 48.1 +3.8
PESTR Estremoz 79.72 310 *e*PP PP 00 04 50.8 +5.6
PBAR Barrancos 79.75 309 *e*P **P** **00 01 45.7 +1.0**
comp=Z,1µm,1.7s
PBAR Barrancos 79.75 309 *e*PP PP 00 04 52.7 +7.3
PTOM Tomar 79.82 311 *e*P **P** **00 01 46.4 +1.3**
comp=Z,375nm,2.2s
SIT Sitka 79.94 26 *e*P P 00 01 48.0 +2.7
SIT Sitka 79.94 26 *e*P P 00 01 48.0 +2.7
EVO Evora 80.18 310 *e*P **P** **00 01 47.7 +0.6**
comp=Z,915nm,1.5s
EVO *e*R
comp=Z,53µm,21.2s
EVO Evora 80.18 310 *e*P **P** **00 01 48.1 +1.0**
comp=Z,451nm,1.7s
EVOP Sao Brissos 80.26 310 *e*P **P** **00 01 47.7 +0.3**
EVOP pmax pmax
comp=Z,915nm,1.5s
EVOP Sao Brissos 80.26 310 *e*P **P** **00 01 47.7 +0.3**
comp=Z,915nm,1.5s
PACT Alcochete 80.58 310 *e*P P 00 01 55.2 +6.1
comp=Z,697nm,1.5s
PVAQ Vaqueiros 80.63 309 *e*P **P** **00 01 51.1 +1.6**
comp=Z,327nm,1.6s
PVAQ Vaqueiros 80.63 309 *e*PP PP 00 04 57.4 +4.7
PVAQ *e*S **S** **00 11 57.9 +1.5**
PVAQ *e*SS **SS** **00 17 12.4 +4.1**
PVAQ Vaqueiros 80.63 309 *e*LR LR 00 36 41.5
comp=Z,22µm,20.0s
MESJ Messejana 80.71 309 *e*P **P** **00 01 50.8 +0.9**
MESJ *e*S **S** **00 11 59.0 +1.7**
MESJ AMS AMS 00 42 39.8
comp=Z,45µm,16.3s
MESJ Messejana 80.71 309 *e*P **P** **00 01 51.0 +1.1**
comp=Z,392nm,1.6s
MESJ Messejana 80.71 309 *e*PP PP 00 04 59.3 +6.0
MESJ Messejana 80.71 309 *e*P **P** **00 01 50.8 +0.9**
MESJ *e*S **S** **00 11 58.9 +1.7**
PCVE Castro Verde 80.71 309 *e*P **P** **00 01 51.0 +1.1**
comp=Z,71nm,1.9s
PCVE Castro Verde 80.71 309 *e*PP PP 00 04 56.3 +2.9
DLBC Dease Lake 80.71 23 P **P** **00 01 51.0 +1.3**
comp=Z,81nm,1.1s,baz=323,slow=6.4,SNR=57
PNCL Nicolau / Gran 80.76 310 *e*P P 00 01 51.9 +1.8
comp=Z,440nm,1.7s
PNCL Nicolau / Gran 80.76 310 *e*PP PP 00 04 59.4 +5.7
LIS Lisbon 80.81 310 *e*P **P** **00 01 51.3 +0.9**
LIS *e*PP **PP** **00 04 54.9 +0.8**
LIS *e*S **S** **00 11 59.4 +1.2**
LIS AMS AMS 00 46 43.9
comp=E,33µm,16.8s
LIS Lisbon 80.81 310 *e*P **P** **00 01 51.3 +0.9**
LIS *e* 00 04 54.9
LIS *e*S **S** **00 11 59.4 +1.2**
PMST Lisbon--Monsan 80.82 310 *e*P P 00 01 55.5 +5.1
comp=E,504nm,1.5s
PMST Lisbon--Monsan 80.82 310 *e*PP PP 00 05 00.1 +5.9
PBDV Barranco-do-Ve 80.86 309 *e*P P 00 01 53.5 +2.7
comp=E,428nm,2.0s
PBDV Barranco-do-Ve 80.86 309 *e*PP PP 00 04 54.9 +0.2
LSZ Lusaka 81.19 245 *e*P **P** **00 01 54.0 +1.2**
LSZ Lusaka 81.19 245 P **P** **00 01 54.0 +1.2**
LSZ MLR MLR
comp=Z,67µm,18.0s
LSZ Lusaka 81.19 245 P **P** **00 01 54.2 +1.4**
SNR=97
LSZ Lusaka 81.19 245 P **P** **00 01 54.0 +1.2**
LSZ LR LR
comp=Z,67µm,18.0s
PTEO Sao Teotonio 81.21 309 *e*P P 00 01 54.6 +2.1
comp=Z,505nm,1.6s
PTEO Sao Teotonio 81.21 309 *e*PP PP 00 05 03.8 +6.4
MORF Marmelete 81.30 309 *e*P **P** **00 01 54.1 +0.9**
MORF *e*PP **PP** **00 04 58.8 +0.5**
MORF *e*S **S** **00 12 04.5 +1.0**
MORF AMS AMS 00 43 05.2
comp=Z,49µm,15.7s
MORF Marmelete 81.30 309 *e*P P 00 01 55.4 +2.3
comp=Z,412nm,1.7s
MORF Marmelete 81.30 309 *e*PP PP 00 05 04.5 +6.2
MORF Marmelete 81.30 309 *e*P **P** **00 01 54.0 +0.9**
MORF *e* 00 04 58.7
MORF *e*S **S** **00 12 04.4 +1.0**
YKA Yellowknife Ar 81.37 14 P **P** **00 01 52.5 -0.3**
comp=Z,31nm,0.9s,baz=333,slow=5.0,SNR=153
YKA PKPPKP P'P'df 00 28 30.2 -7.7
comp=Z,0.5nm,0.8s,baz=131,slow=2.8,SNR=5.0
YKB5 Yellowknife Ar 81.37 14 *e*P **P** **00 01 52.5 -0.3**
WRAK Wrangell Islan 81.50 25 *e*P P 00 01 56.5 +2.8
comp=Z,174nm,0.9s
WRAK LR LR
comp=Z,122µm,22.0s
PFVI Vila Bisbo 81.51 309 *e*P P 00 01 56.0 +1.8
comp=Z,426nm,1.3s
PFVI Vila Bisbo 81.51 309 *e*PP PP 00 05 04.9 +4.9
ARMA Armidale 81.83 134 *e*P P 00 01 59.0 +3.1
comp=Z,2µm,2.1s
CRAG Craig 81.94 26 *e*P P 00 01 58.7 +2.7
RTC Rabat Centre 81.99 305 *e*P P 00 02 01.4 +4.6
comp=Z,276nm,1.0s
RTC LR LR
comp=Z,16µm,19.0s
FRB Frobisher Bay 82.68 353 P **P** **00 01 58.9 -0.9**
FRB S **S** **00 12 15.2 -1.4**
FRB pmax pmax
comp=Z,81nm,0.8s
FRB smax smax
comp=N,5.0nm,1.1s
FRB MLR MLR
comp=Z,29µm,20.5s
FRB Frobisher Bay 82.68 353 P **P** **00 01 58.9 -0.9**
comp=Z,80nm,0.8s,baz=22,slow=5.8,SNR=49
FRB S **S** **00 12 15.2 -1.4**
comp=Z,4.5nm,1.1s,baz=246,slow=20,SNR=3.0
FRB LR LR 00 41 17.3
comp=Z,29µm,20.5s,baz=347,slow=38
MSKU Masuku 85.15 265 *e*P **P** **00 02 14.3 +1.0**
comp=Z,474nm,1.1s
MSKU *e*PP **PP** **00 05 33.8 +3.0**
MSKU LR LR
comp=Z,52µm,21.0s
PAF Port-aux-Franc 85.51 197 P P 00 01 56.0 -18
PAF Port-aux-Franc 85.51 197 S S 00 12 24.0 -21
PAF L L 00 24 00.0
PAF R 00 31 00.0
BBB Bella Bella 86.36 26 P **P** **00 02 19.4 +0.8**
comp=Z,48nm,1.1s,baz=267,slow=7.8,SNR=3.4
TOA0 Torodi Ar. Sit 87.06 284 *e*P **P** **00 02 21.9 -0.9**
TOA0 *e*PP PP 00 05 50.5 +4.5
TOA0 *e*SKSac **SKSac** **00 12 50.5 +0.4**
TOA0 *e*P'P'df **P'P'df** **00 28 20.4 -4.6**
TORD Torodi Ar. Bea 87.06 284 P **P** **00 02 21.9 -0.9**
comp=Z,60nm,0.7s,baz=48,slow=4.0,SNR=87
TORD PP PP 00 05 50.5 +4.5
comp=Z,30nm,0.9s,baz=60,slow=7.4,SNR=3.7
TORD S S 00 12 50.5 -11
comp=Z,1.8nm,1.1s,baz=66,slow=3.6,SNR=3.4
TORD PKPPKP **P'P'df** **00 28 20.4 -4.6**
comp=Z,0.9nm,0.9s,baz=264,slow=1.2,SNR=3.2
TORD LR LR 00 45 54.2
comp=Z,55µm,18.1s,baz=60,slow=39
SLR Silverton 87.58 237 *e*P **P** **00 02 25.1 0.0**
SLR AMS AMS 00 37 10.3
comp=Z,67µm,25.0s
SLR Silverton 87.58 237 P **P** **00 02 25.1 0.0**
SLR Silverton 87.58 237 P **P** **00 02 25.1 0.0**
FCC Fort Churchill 87.95 6 *e*P **P** **00 02 26.2 +0.1**
FCC pmax pmax
comp=Z,507nm,1.4s
FCC Fort Churchill 87.95 6 *e*P **P** **00 02 26.2 +0.1**
comp=Z,507nm,1.4s
ERPM east rand prop 87.98 237 *e*P **P** **00 02 27.3 +0.3**
ERPM east rand prop 87.98 237 P **P** **00 02 27.3 +0.3**
KLOF Kloof 88.43 237 *e*P P 00 02 33.1 +4.0
KLOF Kloof 88.43 237 P P 00 02 33.1 +4.0
WDLM Western Deep L 88.61 237 *e*P P 00 02 33.6 +3.6
TAU Tasmania Unive 88.76 145 *e*P P 00 02 34.8 +4.8
TAU pmax pmax
comp=Z,2µm,2.3s
TAU MLR MLR
comp=Z,81µm,21.0s
TAU Tasmania Unive 88.76 145 *e*P P 00 02 34.8 +4.8
comp=Z,2µm,2.3s
TAU LR LR
comp=Z,81µm,21.0s
PMPS Porto Santo 88.87 309 *e*P P 00 02 38.0 +7.0
PMPS Porto Santo 88.87 309 *e*PP PP 00 06 01.4 +1.6
PRYS Parys 88.96 237 *e*P **P** **00 02 30.7 -0.9**
PRYS AMS AMS 00 39 13.5
comp=Z,28µm,22.1s
PRYS Parys 88.96 237 P **P** **00 02 30.7 -0.9**
CRZF Crozet Islands 89.00 209 S SKSac 00 12 53.0 -7.0
CRZF SS SS 00 18 33.0 -40
CRZF L L 00 25 00.0
CRZF R 00 31 00.0
LBTB Lobatse 89.05 239 *e*P **P** **00 02 33.0 +1.1**
LBTB AMS AMS 00 35 48.3
comp=Z,31µm,28.5s
LBTB Lobatse 89.05 239 *e*P **P** **00 02 32.7 +0.7**
LBTB pmax pmax
comp=Z,116nm,0.9s
LBTB Lobatse 89.05 239 *e*P **P** **00 02 32.7 +0.7**
comp=Z,116nm,0.9s
RUDU RUNDU 89.27 248 *e*P P 00 02 35.4 +2.2
RUDU AMS AMS 00 44 56.9
comp=Z,42µm,17.9s
RUDU RUNDU 89.27 248 P P 00 02 35.4 +2.2
PMAR Madeira 89.45 309 *e*P P 00 02 39.7 +5.6
comp=Z,420nm,1.3s
PMAR Madeira 89.45 309 *e*PP PP 00 06 07.9 +3.2
PMOZ Porto Moniz, M 89.58 310 *e*PP PP 00 06 11.5 +5.9
PMOZ Porto Moniz, M 89.58 310 *e*SS SS 00 19 21.0 +0.7
PMOZ A A 00 50 31.6
comp=Z,14µm,18.0s
SEK Senekal 89.64 235 *e*P **P** **00 02 35.1 +0.3**
SEK AMS AMS 00 40 37.2
comp=Z,60µm,22.0s
SEK Senekal 89.64 235 P **P** **00 02 35.1 +0.3**
EDM Edmonton 90.05 18 *e*P **P** **00 02 37.3 +1.1**
EDM Edmonton 90.05 18 *e*P **P** **00 02 37.3 +1.1**
KIP Kipapa 90.43 64 *e*P P 00 02 40.4 +1.9
KIP pmax pmax
comp=Z,436nm,2.5s
KIP Kipapa 90.43 64 PFAKE 00 02 50.0 +11
KIP LR LR
comp=Z,46µm,22.0s
FFC Flin Flon 90.96 11 *e*P **P** **00 02 40.8 +0.4**
FFC pmax pmax
comp=Z,398nm,1.5s
FFC MLR MLR
comp=Z,54µm,22.0s
FFC Flin Flon 90.96 11 *e*P **P** **00 02 40.8 +0.4**
comp=Z,398nm,1.5s
FFC LR LR
comp=Z,54µm,22.0s
PGC Sidney 90.97 25 *e*P P 00 02 42.2 +1.7
comp=Z,226nm,1.4s
VDB Vedder Mountai 91.12 24 P P 00 02 43.6 +2.3
A05A Maple Falls 91.16 24 *e*P P 00 02 43.7 +2.3
comp=Z,488nm,1.8s
MCW Mount Constitu 91.16 25 P P 00 02 45.0 +3.4
MCW Mount Constitu 91.16 25 P P 00 02 45.0 +3.4
SCHQ Schefferville 91.20 351 P **P** **00 02 42.6 +1.1**
comp=Z,32nm,0.8s,baz=31,slow=4.9,SNR=41
SCHQ S **SKSac** **00 13 11.0 -2.3**
comp=Z,3.8nm,1.2s,baz=189,slow=19,SNR=2.4
SCHQ LR LR 00 46 14.2
comp=Z,37µm,20.8s,baz=356,slow=37
MBW Mount Baker 91.40 24 P P 00 02 45.4 +2.6
OSD Olympics--Snow 91.57 26 P P 00 02 47.1 +3.5
TSUM Tsumeb 91.67 248 *e*P **P** **00 02 44.6 +0.3**
TSUM Tsumeb 91.67 248 S **SKSac** **00 13 21.3 +4.2**
comp=Z,1.3nm,0.9s,baz=59,slow=19,SNR=2.1
TSUM Tsumeb 91.67 248 P **P** **00 02 44.6 +0.3**
TSUM S **SKSac** **00 13 21.3 +4.2**
TSUM LR LR
comp=Z,60µm,19.0s
B06A Marblemount 91.77 24 *e*P P 00 02 47.0 +2.8
NLWA Neilton Lookou 91.87 26 *e*P P 00 02 49.0 +4.2
comp=Z,219nm,1.4s
NLWA LR LR
comp=Z,58µm,21.0s
MSVF Nonsavu 92.53 109 *e*P P 00 02 51.2 +2.9
MSVF pmax pmax
comp=Z,138nm,1.5s
MSVF Nonsavu 92.53 109 *e*PP PP 00 02 51.2 +2.9
comp=Z,138nm,1.5s
B08A Colville Reser 92.64 23 *e*P **P** **00 02 49.9 +1.5**
comp=Z,145nm,1.1s
B08A *e*SS SS 00 20 04.2 +1.1
D05A Enumclaw 92.73 25 *e*P P 00 02 52.2 +3.5
comp=Z,229nm,1.4s
KNTN Kanton 92.79 91 *e*P P 00 02 52.1 +2.5
comp=Z,235nm,0.8s
KNTN LR LR
comp=Z,27µm,22.0s
ETW Entiat 92.95 24 P P 00 02 52.4 +2.4
WTV Waterville 93.00 24 P P 00 02 52.6 +2.5
LTY Liberty 93.14 24 *e*P P 00 02 53.1 +2.4
comp=Z,549nm,2.3s
LON Longmire 93.17 25 *e*P P 00 02 53.6 +2.7
LON Longmire 93.17 25 *e*P P 00 02 53.6 +2.7
comp=Z,29nm,1.0s
SAW Saint Andrews 93.19 24 P P 00 02 53.5 +2.6
POHA Pohakuloa 93.28 64 PFAKE 00 03 00.0 +7.9
POHA LR LR
comp=Z,50µm,22.0s
F04D Rainier, OR 93.29 26 ⇑P **P** **00 02 51.8 +0.4**
baz=93
TDL Tradedollar La 93.36 26 P P 00 02 54.8 +2.9
NEW Newport 93.43 22 P P 00 02 54.8 +2.8
comp=Z,28nm,1.1s,baz=322,slow=4.8,SNR=20
NEW Newport 93.43 22 ⇑P **P** **00 02 51.8 -0.2**
baz=93
NEW Newport 93.43 22 P P 00 02 54.8 +2.8
NEW *e*SS SS 00 20 02.2 -12
NEW LR LR
comp=Z,64µm,20.0s
C09A Chrisman Ranch 93.47 23 *e*P P 00 02 55.1 +2.9
comp=Z,193nm,1.4s
F04A Amboy 93.64 26 *e*P P 00 02 55.7 +2.7
WALA Waterton Lakes 93.67 20 *e*P P 00 02 55.1 +1.9
comp=Z,5µm,1.7s
SOE Somerset East 93.73 233 *e*P **P** **00 02 54.7 +1.2**
SOE Somerset East 93.73 233 P **P** **00 02 54.7 +1.2**
ASR Mount Adams--S 93.76 26 P P 00 02 56.7 +3.0
D08A Wollman Farm, 93.91 24 *e*P P 00 02 57.0 +2.8
G03D McMinnville, O 93.93 27 ⇓P **P** **00 02 54.2 -0.1**
baz=94
WIN Windhoek 93.93 246 *e*P **P** **00 02 54.6 -0.2**
WIN AMS AMS 00 48 35.2
comp=Z,16µm,19.9s
WIN Windhoek 93.93 246 P **P** **00 02 54.6 -0.2**
WIN Windhoek 93.93 246 P **P** **00 02 54.6 -0.2**
E07A Sunnyside 94.02 24 *e*P P 00 02 57.8 +3.0
UPI Upington 94.15 239 *e*P **P** **00 02 57.0 +1.4**
UPI Upington 94.15 239 P **P** **00 02 57.0 +1.4**
HAWA Hanford 94.28 24 *e*P P 00 02 58.9 +2.9
comp=Z,85nm,1.3s
HAWA *e*PP **PP** **00 06 38.9 -3.0**
HAWA LR LR
comp=Z,67µm,20.0s
COR Corvallis 94.44 27 PFAKE 00 03 10.0 +13
COR LR LR
comp=Z,40µm,22.0s
BLMT Blacktail Moun 94.49 20 *e*P P 00 02 59.4 +2.3
comp=Z,193nm,1.2s
BSMT Bassoo Peak 94.51 21 P P 00 02 59.7 +2.5
BSMT *e*PP **PP** **00 06 41.1 -2.8**
VFP Flag Point 94.52 26 P P 00 03 00.2 +2.9
G05D Wamic, OR 94.63 26 ⇓P **P** **00 02 56.6 -1.0**
baz=94
E09A Wood Farm, Sta 94.64 23 *e*P P 00 03 00.3 +2.8
comp=Z,108nm,1.5s
YBMT Yellow Bay 94.72 20 *e*P P 00 03 00.6 +2.5
JTMT Jette 94.75 20 *e*P P 00 03 00.7 +2.5
JTMT *e*PP PP 00 06 51.5 +5.8
DRLN Deer Lake 94.77 343 *e*P P 00 03 00.1 +2.0
comp=Z,66nm,0.9s
H04A Detroit Lake 94.79 27 *e*P P 00 03 01.2 +2.9

comp=Z,57nm,1.2s
G06A Carlson Farm, 94.89 26 *e*P P 00 03 01.8 +3.0
SWMT Swartz Lake 95.05 20 *e*P P 00 03 01.7 +2.2
A19A Klindworth Far 95.14 17 ⇑P **P 00 02 58.4 -1.5**
baz=95,SNR=10
I03D Drain, OR 95.17 28 ⇑P **P 00 02 59.0 -1.0**
baz=95
A20A Cobblestone Ra 95.38 16 ⇑P **P 00 02 59.5 -1.5**
baz=95,SNR=14
I05D Terrebonne, OR 95.40 26 ⇓P **P 00 02 59.5 -1.6**
baz=95
F10A Beach Ranch, E 95.42 23 *e*P P 00 03 04.0 +2.7
comp=Z,702nm,2.5s
G08A Pilot Rock 95.43 24 *e*P P 00 03 03.9 +2.5
comp=Z,30nm,1.1s
G08A *e*PKKPbc PKKPbc 00 19 57.4 +4.1
SLMT Seeley Lake 95.44 20 *e*P **P 00 03 02.6 +1.2**
I04A Tendick Farm, 95.45 27 ⇑P **P 00 02 59.9 -1.5**
baz=95
A21A Bergtoll Ranch 95.50 15 ⇑P **P 00 02 59.6 -1.9**
baz=95,SNR=16
B19A Brinkman Farms 95.53 17 ⇑P **P 00 03 00.1 -1.6**
baz=95,SNR=16
MSO Missoula 95.68 21 ⇑P **P 00 03 01.3 -1.2**
baz=95,SNR=26
MSO Missoula 95.68 21 *e*P **P 00 03 04.1 +1.6**
comp=Z,184nm,1.9s
MSO *e*PKKPbc PKKPbc 00 19 57.0 +4.4
MSO LR LR
comp=Z,65µm,20.0s
A22A Carney Farms, 95.72 15 ⇓P **P 00 03 01.3 -1.2**
baz=95
EGMT Eagleton 95.73 18 ⇑P **P 00 03 01.6 -1.0**
baz=96
EGMT Eagleton 95.73 18 P **P 00 03 02.1 -0.6**
comp=Z,112nm,1.1s
EGMT LR LR
comp=Z,83µm,19.0s
B20A Solberg Farm, 95.77 16 ⇓P **P 00 03 02.5 -0.2**
baz=96
CHMT Chamberlain Mo 95.80 20 *e*P **P 00 03 04.7 +1.5**
A23A Redstone 95.97 14 ⇑P **P 00 03 02.8 -0.9**
baz=96
DBIC Dimbokro 96.01 282 *e*P **P 00 03 06.2 +1.8**
DBIC Dimbokro 96.01 282 *e*P **P 00 03 04.4 +0.1**
DBIC *e* 00 06 57.0
DBIC pmax pmax
comp=Z,93nm,1.3s
DBIC Dimbokro 96.01 282 P **P 00 03 04.7 +0.3**
comp=Z,40nm,0.9s,baz=37,slow=5.1,SNR=20
DBIC LR LR 00 50 40.8
comp=Z,59µm,19.9s,baz=34,slow=38
DBIC Dimbokro 96.01 282 *e*P **P 00 03 04.4 +0.1**
comp=Z,92nm,1.3s
DBIC *e*PP **PP 00 06 57.0 +0.2**
B21A Ellsworth Farm 96.01 16 ⇑P **P 00 03 03.0 -0.8**
baz=96
J04D Umpqua Nationa 96.04 27 ⇓P **P 00 03 02.7 -1.6**
baz=96,SNR=12
KIC Kosan Boka 96.09 282 *e*P **P 00 03 04.5 -0.2**
comp=Z,339nm,1.6s
TIC Toumodi 96.16 282 *e*P **P 00 03 04.7 -0.4**
comp=Z,79nm,1.2s
ULM Lac du Bonnet 96.17 8 P **P 00 03 04.8 +0.3**
comp=Z,22nm,1.1s,baz=323,slow=4.3,SNR=11
ULM LR LR 00 50 07.8
comp=Z,38µm,19.1s,baz=344,slow=38
A24A Westby 96.18 14 ⇑P **P 00 03 02.7 -1.9**
baz=96
C19A Slack Wire Ran 96.18 17 ⇓P **P 00 03 02.4 -2.3**
baz=96,SNR=16
HUMO Hull Mountain 96.24 28 *e*P P 00 03 08.1 +3.1
comp=Z,44nm,1.1s
HUMO *e*PP PP 00 07 03.5 +6.2
HUMO LR LR
comp=Z,64µm,21.0s
I07A Izee 96.29 25 *e*P P 00 03 08.2 +2.9
comp=Z,49nm,1.2s
A25A Svangstu Ranch 96.34 13 ⇑P **P 00 03 02.8 -2.5**
baz=96
J05D Fort Rock, OR 96.34 27 ⇑P **P 00 03 03.2 -2.4**
baz=96,SNR=15
B22A Reddig Ranch S 96.36 15 ⇓P **P 00 03 03.8 -1.7**
baz=96
L02D Cave Junction, 96.36 29 ⇑P **P 00 03 04.0 -1.6**
baz=96
BMO Blue Mountains 96.38 24 *e*P **P 00 03 07.3 +1.6**
BMO pmax pmax
comp=Z,24nm,1.0s
BMO MLR MLR
comp=Z,58µm,20.0s
BMO Blue Mountains 96.38 24 *e*P **P 00 03 07.3 +1.6**
comp=Z,24nm,1.0s
BMO *e*PKKPbc **PKKPbc 00 19 54.1 +3.4**
BMO LR LR
comp=Z,58µm,20.0s
HRY Holter Researc 96.39 19 *e*P P 00 03 07.7 +2.0
LIC Lamto 96.40 282 *e*P **P 00 03 06.2 +0.1**
comp=Z,70nm,1.1s,baz=59
LIC *e*R
comp=Z,108µm,21.0s
LIC Lamto 96.40 282 *e*P **P 00 03 06.5 +0.4**
comp=Z,190nm,1.7s
LIC Lamto 96.40 282 *e*P **P 00 03 06.2 +0.1**
comp=Z,70nm,1.1s
B23A Brockton 96.42 14 ⇓P **P 00 03 03.8 -1.9**
baz=96
C20A Veseth Ranch, 96.45 17 ⇑P **P 00 03 03.5 -2.4**
baz=96,SNR=6.8
DGMT Dagmar 96.57 14 ⇓P **P 00 03 05.2 -1.2**
baz=96
DGMT Dagmar 96.57 14 *e*P P 00 03 08.9 +2.5
comp=Z,248nm,1.5s
DGMT LR LR
comp=Z,99µm,20.0s
A26A Wade Farm, Ken 96.57 12 ⇑P **P 00 03 04.6 -1.8**
baz=96
A27A Ledoux Ranch, 96.66 12 ⇓P **P 00 03 06.5 -0.2**
baz=96
K04D Chiloquin, OR 96.70 28 ⇑P **P 00 03 05.7 -1.5**
baz=96
D19A Cripps Ranch, 96.75 17 ⇑P **P 00 03 06.7 -0.6**
baz=96
SUR Sutherland 96.78 236 *e*P **P 00 03 07.2 -0.4**
SUR AMS AMS 00 43 44.9
comp=Z,50µm,21.5s
SUR Sutherland 96.78 236 P **P 00 03 07.2 -0.4**
SUR LR LR
comp=Z,106µm,21.0s
A28A Rude Farm, Bot 96.86 11 ⇓P **P 00 03 07.1 -0.6**
baz=97
C22A Vida 96.91 15 ⇓P **P 00 03 07.0 -0.9**
baz=97
K05A Summer Lake 96.94 27 *e*P P 00 03 11.7 +3.3
B25A Knox Farm, Ray 96.97 13 ⇑P **P 00 03 06.9 -1.2**
baz=97,SNR=10
D20A Manuel Ranch, 97.00 17 ⇓P **P 00 03 07.2 -1.2**
baz=97
C23A Lambert 97.00 15 ⇑P **P 00 03 07.2 -1.2**
baz=97
A29A Manning Farm, 97.02 11 ⇓P **P 00 03 07.4 -0.9**
baz=97
LRM Limekiln Ridge 97.03 20 *e*P P 00 03 10.7 +1.9
LRM *e*PP PP 00 07 13.5 +10
LRM *e*PKKPbc **PKKPdf 00 19 53.2 +3.9**
B26A Jensen Ranch, 97.04 13 ⇓P **P 00 03 07.6 -0.9**
baz=97
YBH Yreka Blue Hor 97.08 29 P Pdif 00 03 14.3 +5.3
comp=Z,0.6nm,0.3s,baz=107,slow=7.1,SNR=3.2
YBH Yreka Blue Hor 97.08 29 P Pdif 00 03 14.3 +5.3
YBH LR LR
comp=Z,61µm,21.0s
A30A Hoffart Farm, 97.14 10 ⇑P **P 00 03 07.3 -1.6**
baz=97
B27A Peters Farms, 97.19 12 ⇑P Pdif 00 03 08.6 -0.6
baz=97
B28A Dugan Ranch, T 97.30 11 ⇓P Pdif 00 03 09.3 -0.4
baz=97
D21A La Casta Ranch 97.30 16 ⇑P Pdif 00 03 09.3 -0.6
baz=97
M02C Callahan 97.31 29 ⇑P Pdif 00 03 10.3 +0.3
baz=97
M04C Macdoel 97.38 28 ⇓P Pdif 00 03 09.8 -0.6
baz=97
D22A Cohagen 97.41 16 ⇓P Pdif 00 03 10.9 +0.6
baz=97
DLMT Dillon 97.41 20 *e*P Pdif 00 03 12.9 +2.5
comp=Z,62nm,1.4s
BOZ Bozeman (W) 97.42 20 *e*P Pdif 00 03 11.7 +1.2
BOZ pmax pmax
comp=Z,80nm,1.5s
BOZ MLR MLR
comp=Z,81µm,18.0s
BOZ Bozeman (W) 97.42 20 *e*P Pdif 00 03 11.7 +1.2
comp=Z,80nm,1.5s
BOZ LR LR
comp=Z,81µm,18.0s
C24A Savage 97.42 14 ⇓P Pdif 00 03 09.6 -0.7
baz=97
E19A Rath Farm, Rou 97.43 17 ⇑P Pdif 00 03 09.7 -0.7
baz=97,SNR=16
B29A Wagenman Farm, 97.44 11 ⇑P Pdif 00 03 09.3 -1.0
baz=97
C25A Freed Ranch, W 97.48 13 ⇓P Pdif 00 03 10.2 -0.4
baz=97
E20A Meyer Farm, Mu 97.55 17 ⇓P Pdif 00 03 10.3 -0.7
baz=97
C26A Wahner Farm, P 97.59 13 ⇓P Pdif 00 03 09.7 -1.3
baz=97
D23A Lindsay 97.60 15 ⇓P Pdif 00 03 11.0 -0.2
baz=97
B30A Myrvik Farm, E 97.61 10 ⇓P Pdif 00 03 09.8 -1.3
baz=97
KOMG Komaggas 97.68 240 *e*P Pdif 00 03 12.8 +1.2
KOMG Komaggas 97.68 240 P Pdif 00 03 12.8 +1.2
N02D Trinity Center 97.72 29 ⇓P Pdif 00 03 12.2 +0.3
baz=98
C27A Sayler Ranch, 97.81 12 ⇑P Pdif 00 03 12.9 +0.9
baz=98
MCMT McKenzie Canyo 97.82 21 *e*P Pdif 00 03 15.0 +2.5
MCMT *e*PP PP 00 07 16.0 +6.5
LAO LASA Array 97.83 16 *e*P Pdif 00 03 18.0 +5.8
LAO LR LR
comp=Z,75µm,19.0s
D24A Glendive 97.84 14 ⇓P Pdif 00 03 11.9 -0.3
baz=98
MOD Modoc Plateau 97.88 27 *e*P Pdif 00 03 15.6 +3.0
comp=Z,52nm,1.1s
MOD LR LR
comp=Z,46µm,20.0s
F19A Roth Farm, Mol 97.95 18 ⇓P Pdif 00 03 12.5 -0.3
baz=98,SNR=14
C28A Hausauer Farms 98.00 12 ⇓P Pdif 00 03 12.0 -0.9
baz=98
MDND Maddock 98.00 11 ⇑P Pdif 00 03 12.1 -0.8
baz=98
D25A Fairfield 98.01 14 ⇑P Pdif 00 03 12.4 -0.6
baz=98
WVOR Wild Horse Val 98.04 26 *e*P Pdif 00 03 16.0 +2.7
WVOR *e* 00 07 18.2
WVOR pmax pmax
comp=Z,53nm,1.4s
WVOR MLR MLR
comp=Z,54µm,19.0s
WVOR Wild Horse Val 98.04 26 *e*P Pdif 00 03 16.0 +2.7
comp=Z,53nm,1.4s
WVOR *e*PP PP 00 07 18.1 +7.0
WVOR LR LR
comp=Z,54µm,19.0s
AGMN Agassiz Nation 98.09 8 ⇑P Pdif 00 03 11.9 -1.4
baz=98
AGMN Agassiz Nation 98.09 8 *e*P Pdif 00 03 16.8 +3.6
comp=Z,43nm,1.1s
AGMN LR LR
comp=Z,59µm,20.0s
WDC Whiskeytown Da 98.12 29 *e*P Pdif 00 03 22.7 +9.2
WDC MLR MLR
comp=Z,63µm,22.0s
WDC Whiskeytown Da 98.12 29 *e*pP pP 00 03 22.7 +4.6
WDC *e*PKKPdf **PKKPdf 00 19 49.0 +1.9**
WDC LR LR
comp=Z,63µm,22.0s
E22A Miles City 98.13 16 ⇑P Pdif 00 03 12.7 -0.8
baz=98
MFID Camas Ranch 98.15 23 *e*P Pdif 00 03 16.0 +2.2
comp=Z,21nm,1.1s
MFID *e*PKKPbc **PKKPdf 00 19 50.0 +2.9**
MFID LR LR
comp=Z,49µm,21.0s
F20A Billings 98.20 17 ⇑P Pdif 00 03 12.7 -1.2
baz=98
E23A Ismay 98.22 15 ⇑P **P 00 03 12.0 -1.9**
baz=98
D26A Manning 98.30 13 ⇓P Pdif 00 03 13.1 -1.2
baz=98
C30A Mose, Pekin 98.32 10 ⇑P Pdif 00 03 14.0 -0.3
baz=98
E24A Baker 98.37 15 ⇑P Pdif 00 03 14.5 -0.1
baz=98
CER Ceres 98.38 236 *e*P Pdif 00 03 16.6 +1.9
CER AMS AMS 00 45 43.7
comp=Z,80µm,20.0s
CER Ceres 98.38 236 P Pdif 00 03 16.6 +1.9
D27A Center 98.39 13 ⇑P Pdif 00 03 14.3 -0.3
baz=98
F21A Absaloka Mine, 98.44 17 ⇓P Pdif 00 03 14.4 -0.6
baz=98
HLID Hailey 98.48 22 ⇓P Pdif 00 03 14.8 -0.5
baz=98,SNR=42
HLID Hailey 98.48 22 *e*P Pdif 00 03 17.8 +2.5
comp=Z,43nm,1.4s
HLID LR LR
comp=Z,73µm,22.0s
D28A Regan 98.48 12 ⇓P Pdif 00 03 14.3 -0.7
baz=98
RLMT Red Lodge 98.55 18 *e*P Pdif 00 03 17.5 +1.9
comp=Z,28nm,1.3s
RLMT LR LR
comp=Z,76µm,21.0s
E25A Miller Ranch, 98.61 14 ⇑P Pdif 00 03 15.7 0.0
baz=98
F22A Rosebud 98.68 16 ⇓P Pdif 00 03 14.7 -1.3
baz=98
AFI Afiamalu 98.69 101 PFAKE 00 03 30.0 +14
AFI LR LR
comp=Z,21µm,21.0s
G20A Bridger 98.73 18 ⇓Pdif Pdif 00 03 15.3 -1.0
baz=98
LKWY Lake 98.76 19 PFAKE 00 03 30.0 +13
LKWY LR LR
comp=Z,126µm,20.0s
E26A Carlson Angus 98.83 13 ⇑Pdif Pdif 00 03 15.2 -1.4
baz=98
D30A Buchanan 98.86 11 ⇓Pdif **P 00 03 15.0 -1.6**
baz=99
H18A Shoshone NF, C 98.86 19 ⇑Pdif **P 00 03 15.4 -1.6**
baz=99
H17A Grant Village 98.87 19 ⇓Pdif Pdif 00 03 16.7 -0.4
baz=99
H17A Grant Village 98.87 19 *e*P Pdif 00 03 21.4 +4.3
comp=Z,61nm,1.4s
H17A *e*PP PP 00 07 22.1 +4.6
EYMN Ely 98.89 6 *e*P Pdif 00 03 20.6 +3.8
comp=Z,76nm,1.3s
EYMN LR LR
comp=Z,64µm,20.0s
F23A Volborg 98.93 16 ⇓Pdif Pdif 00 03 16.0 -1.1
baz=99
G21A Lodge Grass 98.98 17 ⇑Pdif Pdif 00 03 16.9 -0.5
baz=99
OUZ Omahuta 99.01 126 PFAKE 00 03 30.0 +13
OUZ LR LR
comp=Z,38µm,21.0s
F24A Ekalaka 99.02 15 ⇑Pdif Pdif 00 03 16.9 -0.6
baz=99
E27A Carson 99.04 13 ⇑Pdif Pdif 00 03 17.5 -0.1
baz=99
H19A Powell 99.04 18 ⇓Pdif Pdif 00 03 17.5 -0.2
baz=99
E28A Huff 99.05 12 ⇓Pdif **Pdif 00 03 16.5 -1.0**
baz=99
FLWY Flagg Ranch 99.12 20 *e*P **Pdif 00 03 21.2 +3.0**
comp=Z,55nm,1.1s
FLWY *e*PP PP 00 07 28.3 +8.9
FLWY *e*PKKPdf **PKKPdf 00 19 46.8 +1.3**
F25A Bowman 99.15 14 ⇑Pdif **Pdif 00 03 17.5 -0.6**
baz=99
G22A Birney 99.20 16 ⇓Pdif **Pdif 00 03 17.7 -0.6**
baz=99
IMW Indian Meadow 99.22 20 *e*P **Pdif 00 03 21.6 +2.9**
comp=Z,37nm,1.1s
IMW *e*PKKPbc **PKKPdf 00 19 43.8 -1.6**
HOPS Hopland Field 99.23 30 PFAKE 00 03 30.0 +12
HOPS LR LR
comp=Z,49µm,21.0s
E29A Napoleon 99.24 11 ⇑Pdiff **Pdif 00 03 17.0 -1.4**
baz=99
I17A Pilgrim Ck. 99.31 20 ⇑Pdiff **Pdif 00 03 17.8 -1.2**
baz=99
F26A Lodgepole 99.38 14 ⇑Pdiff **Pdif 00 03 18.3 -0.8**
baz=99
E30A Jud 99.42 11 ⇑Pdiff **Pdif 00 03 18.8 -0.4**
baz=99
G23A Biddle 99.43 16 ⇓Pdiff **Pdif 00 03 18.0 -1.4**
baz=99
FXWY Fox Creek 99.44 20 *e*P **Pdif 00 03 22.1 +2.4**
FXWY *e*PKKPbc **PKKPdf 00 19 43.7 -1.3**
H20A Greybull 99.47 18 ⇓Pdiff **Pdif 00 03 18.1 -1.5**
baz=99
F27A Lemmon 99.49 13 ⇑Pdiff **Pdif 00 03 18.1 -1.5**
baz=99
G24A Alzada 99.52 15 ⇑Pdiff **Pdif 00 03 17.5 -2.2**
baz=99
H21A Big Horn, Sher 99.58 17 ⇓Pdiff **Pdif 00 03 18.0 -2.1**
baz=99
LOHW Long Hollow 99.58 20 *e*P'P'df P'P'df 00 28 00.3 -3.4
TPAW Teton Pass 99.59 20 *e*Pdif **Pdif 00 03 25.1 +4.7**
comp=Z,43nm,1.6s
TPAW *e*PP PKiKP 00 07 36.2 -13
TPAW *e*PKKPbc **PKKPdf 00 19 43.2 -1.6**
I19A Meeteetse 99.63 19 ⇓Pdiff **Pdif 00 03 18.3 -2.1**
baz=99
CASY Casey 99.72 174 PFAKE 00 03 30.0 +10
CASY LR LR
comp=Z,46µm,22.0s
F28A McLaughlin 99.74 12 ⇓Pdiff **Pdif 00 03 18.6 -2.0**
baz=99
REDW Red Top Meadow 99.74 20 *e*Pdif **Pdif 00 03 24.7 +3.7**
comp=Z,22nm,1.3s
REDW *e*PKKPdf **PKKPdf 00 19 45.5 +1.0**
H22A Clearmont 99.78 17 ⇓Pdiff **Pdif 00 03 19.4 -1.5**
baz=100
G25A Newell 99.86 14 ⇓Pdiff **Pdif 00 03 19.8 -1.4**
baz=100
F29A Eureka 99.92 12 ⇓Pdiff **Pdif 00 03 19.7 -1.7**
baz=100
G26A Maurine 99.93 14 ⇑Pdiff **Pdif 00 03 19.8 -1.7**
baz=100
I20A Worland 99.94 18 ⇓Pdiff **Pdif 00 03 20.3 -1.4**
baz=100
G27A Dupree 99.98 13 ⇓Pdiff **Pdif 00 03 20.6 -1.1**
baz=100
MCCM Marconi Confer 100.02 31 PFAKE 00 03 30.0 +8.0
MCCM LR LR
comp=Z,45µm,20.0s
H23A Clabaugh Cattl 100.03 16 ⇓Pdiff **Pdif 00 03 20.6 -1.5**
baz=100
H24A Dirks Ranch, A 100.04 15 ⇓Pdiff **Pdif 00 03 21.6 -0.5**
baz=100
F30A Leola 100.05 11 ⇓Pdiff **Pdif 00 03 20.9 -1.1**
baz=100
AHID Auburn Hatcher 100.22 20 PFAKE 00 03 40.0 +17
AHID LR LR
comp=Z,54µm,20.0s
I21A Big Trails, Te 100.28 17 ⇑Pdiff **Pdif 00 03 22.4 -0.9**
baz=100
BMN Battle Mountai 100.30 26 PFAKE 00 03 40.0 +17
BMN LR LR
comp=Z,54µm,20.0s
J19A Crowheart 100.33 19 ⇓Pdiff **Pdif 00 03 23.0 -0.6**
baz=100
H25A Fruitdale 100.37 15 ⇓Pdiff **Pdif 00 03 22.5 -1.0**
baz=100
I22A 9 Mile Ranch, 100.41 17 ⇓Pdiff **Pdif 00 03 22.6 -1.2**
baz=100
G28A Parade 100.46 13 ⇑Pdiff **Pdif 00 03 22.0 -1.9**
baz=100
J20A Shoshoni 100.51 18 ⇑Pdiff **Pdif 00 03 23.2 -1.1**
baz=100
G29A Hoven 100.53 12 ⇓Pdiff **Pdif 00 03 22.7 -1.4**
baz=100
H26A Fairpoint 100.55 14 ⇑Pdiff **Pdif 00 03 24.0 -0.3**
baz=100
I23A Meade Ranch, G 100.58 16 ⇓Pdiff **Pdif 00 03 24.0 -0.6**
baz=100
HVU Hansel Valley 100.61 22 *e*P **Pdif 00 03 30.3 +5.5**
HVU Hansel Valley 100.61 22 *e*Pdif **Pdif 00 03 30.3 +5.5**
HVU *e*PKKPdf **PKKPdf 00 19 43.0 +0.2**
BW06 Boulder Array 100.66 19 PFAKE 00 03 40.0 +15
BW06 LR LR
comp=Z,47µm,20.0s
PD31 Pinedale Array 100.66 19 *e*Pdif **Pdif 00 03 27.2 +2.2**
PD31 *e*PP PP **00 07 26.8 -4.3**
PD31 *e*PKKPbc **PKKPbc 00 19 38.2 -0.8**
PDAR Pinedale Array 100.66 19 P **Pdif 00 03 27.2 +2.2**
comp=Z,1.1nm,0.6s,baz=14,slow=3.1,SNR=7.0
PDAR PP PP **00 07 26.8 -4.3**
comp=Z,5.3nm,1.0s,baz=16,slow=3.5,SNR=4.3
PDAR PKKPbc **PKKPbc 00 19 38.2 -0.8**
comp=Z,1.6nm,0.8s,baz=150,slow=4.8,SNR=9.0
H27A Howes 100.67 14 ⇓Pdiff **Pdif 00 03 23.5 -1.4**
baz=100
J21A Lysite 100.68 18 ⇑Pdiff **Pdif 00 03 23.8 -1.3**
baz=100
G30A Faulkton 100.72 11 ⇓Pdiff **Pdif 00 03 23.3 -1.7**
baz=100
ELK Elko 100.72 24 P **Pdif 00 03 28.3 +2.9**
comp=Z,1.9nm,0.9s,baz=358,slow=4.3,SNR=6.6
ELK PP PP 00 07 26.0 -5.8
comp=Z,3.6nm,0.9s,baz=357,slow=3.6,SNR=3.5
ELK Elko 100.72 24 P **Pdif 00 03 28.3 +2.9**
ELK PP PP 00 07 26.0 -5.8
ELK *e*PKKPdf **PKKPdf 00 19 42.2 -0.5**
RSSD Black Hills 100.75 15 *e*P **Pdif 00 03 27.6 +2.1**
RSSD MLR MLR
comp=Z,67µm,20.0s
RSSD Black Hills 100.75 15 *e*Pdif **Pdif 00 03 27.6 +2.1**
RSSD LR LR
comp=Z,67µm,20.0s
H28A Mission Ridge 100.83 13 ⇓Pdiff **Pdif 00 03 24.4 -1.1**
baz=100
J22A Midwest 100.86 17 ⇓Pdiff **Pdif 00 03 24.0 -1.8**
baz=101
I24A Kuemmerle Ranc 100.87 16 ⇓Pdiff **Pdif 00 03 24.6 -1.2**
baz=101
PKME Peaks-Kenny Pk 100.89 350 *e*Pdif **Pdif 00 03 30.1 +4.4**
PKME LR LR
comp=Z,29µm,22.0s
I25A Rochford 100.92 15 ⇑Pdiff **Pdif 00 03 26.4 +0.3**
baz=101
H29A Onida 101.03 12 ⇑Pdiff **Pdif 00 03 26.1 -0.2**
baz=101
I26A New Underwood 101.09 14 ⇓Pdiff **Pdif 00 03 25.9 -0.8**
baz=101
J23A Dilts Ranch, B 101.09 16 ⇑Pdiff **Pdif 00 03 26.3 -0.6**
baz=101
HWUT Hardware Ranch 101.14 21 *e*Pdif **Pdif 00 03 30.4 +3.2**
HWUT *e*PKiKP PKiKP 00 07 46.7 -5.3
HWUT LR LR
comp=Z,51µm,19.0s
WAKR Walker 101.14 28 *e*Pdif **Pdif 00 03 31.1 +3.9**
CMB Columbia Colle 101.16 29 *e*P **Pdif 00 03 33.2 +6.1**
CMB MLR MLR
comp=Z,41µm,20.0s
CMB Columbia Colle 101.16 29 *e*Pdif **Pdif 00 03 33.2 +6.1**
CMB *e*PKiKP **PKiKP 00 07 47.7 -4.3**
CMB LR LR
comp=Z,41µm,20.0s
I27A Quinn 101.22 14 ⇓Pdiff **Pdif 00 03 25.5 -1.8**
baz=101
BGU Big Grassy Mou 101.30 23 *e*Pdif **Pdif 00 03 33.4 +5.6**
J24A Dixon Ranch, L 101.37 16 ⇑Pdiff **Pdif 00 03 27.0 -1.1**
baz=101
K21A Alcova 101.40 18 ⇓Pdiff **Pdif 00 03 27.1 -1.2**
baz=101
I28A Midland 101.45 13 ⇓Pdiff **Pdif 00 03 27.1 -1.3**
baz=101
SPMN Marine on St. 101.47 7 ⇑Pdiff **Pdif 00 03 28.1 -0.2**
baz=101
J25A Sunshine Ranch 101.50 15 ⇓Pdiff **Pdif 00 03 29.0 +0.4**
baz=101
K22A Casper 101.56 17 ⇑Pdiff **Pdif 00 03 28.4 -0.6**
baz=101
I29A Vivian Onida 101.59 12 ⇑Pdiff **Pdif 00 03 28.7 -0.3**
baz=101
WHZ Wether Hill Ro 101.61 138 PFAKE 00 03 40.0 +11
WHZ LR LR
comp=Z,46µm,21.0s
NV01 Mina Array Sit 101.65 27 *e*Pdif **Pdif 00 03 32.5 +3.0**
NV01 *e*PP PP 00 07 31.6 -7.1
NV01 *e*PKKPbc **PKKPbc 00 19 37.0 +1.0**

NVAR Mina Array Bea 101.65 27 P Pdif 00 03 32.5 +3.0
comp=Z,2.8nm,1.0s,baz=322,slow=3.2,SNR=12
NVAR PP PP 00 07 31.6 -7.1
comp=Z,4.6nm,1.0s,baz=305,slow=5.0,SNR=4.6
NVAR PKKPbc PKKPbc 00 19 37.0 +1.0
comp=Z,4.1nm,0.9s,baz=146,slow=4.2,SNR=5.2
K23A Bowen Ranch, D 101.69 17 ⇓Pdiff Pdif 00 03 29.0 -0.5
baz=101
J26A Sides Ranch, S 101.73 15 ⇑Pdiff Pdif 00 03 29.7 +0.1
baz=101
SAO San Andreas Ge 101.80 30 ePKiKP PKiKP 00 07 52.7 -0.4
SAO LR LR
comp=Z,58μm,19.0s
RAO Raoul Island 101.85 117 PFAKE 00 03 40.0 +10
RAO LR LR
comp=Z,17μm,22.0s
I30A Oacoma 101.85 12 ⇓Pdiff Pdif 00 03 29.3 -0.8
baz=102
K24A Anderson Ranch 101.91 16 ⇓Pdiff Pdif 00 03 28.9 -1.6
baz=102
CTU Camp Tracy 101.91 22 ePdif Pdif 00 03 34.2 +3.6
CTU ePKiKP PKiKP 00 07 52.7 -0.8
J28A Allard Ranch, 102.00 13 ⇓Pdiff Pdif 00 03 30.2 -0.6
baz=102
J27A Elkhorn Farm, 102.01 14 ⇓Pdiff Pdif 00 03 29.0 -1.8
baz=102
DUG Dugway, Tooele 102.03 23 eP Pdif 00 03 34.1 +3.0
DUG MLR MLR
comp=Z,58μm,22.0s
DUG Dugway, Tooele 102.03 23 ⇓Pdiff Pdif 00 03 29.6 -1.5
baz=102
DUG Dugway, Tooele 102.03 23 ePdif Pdif 00 03 34.1 +3.0
DUG LR LR
comp=Z,58μm,22.0s
XMAS Kiritimati 102.06 80 PFAKE 00 03 40.0 +8.5
XMAS LR LR
comp=Z,44μm,19.0s
MLAC Mammoth, Mammt 102.13 28 ⇑PKiKP PKiKP 00 07 50.8 -3.2
baz=102
LONY Lake Ozonia 102.16 354 ePdif Pdif 00 03 33.8 +2.4
LONY LR LR
comp=Z,44μm,21.0s
RPZ Rata Peaks 102.17 134 PP PP 00 07 49.1 +5.4
comp=Z,29nm,1.0s,baz=356,slow=12,SNR=4.0
RPZ Rata Peaks 102.17 134 PP PP 00 07 49.1 +5.4
RPZ LR LR
comp=Z,60μm,20.0s
L22A Ellis Ranch, M 102.17 17 ⇑PKiKP PKiKP 00 07 47.8 -6.1
baz=102
K25A Mack Ranch, Ha 102.23 15 ⇓PKiKP PKiKP 00 07 50.9 -3.0
baz=102
PTN Potsdam (NY) 102.24 354 eP Pdif 00 03 36.2 +4.4
PTN Potsdam (NY) 102.24 354 ePdif Pdif 00 03 36.1 +4.4
LBNH Lisbon 102.25 352 eP Pdif 00 03 36.9 +5.1
LBNH MLR MLR
comp=Z,44μm,22.0s
LBNH Lisbon 102.25 352 ePdif Pdif 00 03 36.9 +5.1
LBNH LR LR
comp=Z,44μm,22.0s
L23A Garrett 102.27 17 ⇑PKiKP PKiKP 00 07 47.6 -6.6
baz=102
SADO Sadowa 102.32 357 P Pdif 00 03 35.3 +3.2
comp=Z,7.0nm,0.8s,baz=4.9,slow=5.4,SNR=10.0
SADO PKiKP PKiKP 00 07 52.5 -1.3
comp=Z,15nm,1.3s,baz=15,slow=5.2,SNR=3.9
TPH Tonopah 102.37 27 ePKiKP PKiKP 00 07 56.2 +1.9
TPH ePKKPdf PKKPdf 00 19 38.8 -0.8
TPH LR LR
comp=Z,59μm,21.0s
J30A Dallas 102.41 12 ⇑PKiKP PKiKP 00 07 49.7 -4.4
baz=102
NLU North Lily Min 102.48 22 ePdif Pdif 00 03 39.7 +6.5
NLU ePKiKP PKiKP 00 08 00.5 +5.9
NLU ePKKPbc PKKPbc 00 19 34.5 +0.8
K27A Flueckinger Fa 102.49 14 ⇑PKiKP PKiKP 00 07 49.8 -4.5
baz=102
L24A Wheatland 102.52 16 ⇓PKiKP PKiKP 00 07 49.0 -5.5
baz=102
K28A Ten Mile Ranch 102.66 14 ⇑PKiKP PKiKP 00 07 53.1 -1.5
baz=102
ODZ Otahua Downs 102.67 136 PFAKE 00 03 50.0 +17
ODZ LR LR
comp=Z,37μm,22.0s
R11A Troy Canyon, C 102.73 26 ⇓PKiKP PKiKP 00 07 50.1 -4.9
baz=102
R11A Troy Canyon, C 102.73 26 ePdif Pdif 00 03 37.5 +3.1
NCB Newcomb 102.76 353 PFAKE 00 03 50.0 +16
NCB LR LR
comp=Z,39μm,20.0s
N20A Spence Gulch, 102.81 19 ⇑PKiKP PKiKP 00 07 50.6 -4.5
baz=102
M23A Laramie 102.88 17 ⇑Pdiff Pdif 00 03 35.3 +0.4
baz=103
M23A ⇑PKiKP PKiKP 00 07 51.2 -4.0
baz=103
KHZ Kahutara 102.96 132 PFAKE 00 03 50.0 +15
KHZ LR LR
comp=Z,48μm,20.0s
URZ Urewera 103.03 127 PFAKE 00 03 50.0 +15
URZ LR LR
comp=Z,30μm,20.0s
L27A T5 Ranch, Ells 103.07 14 ⇓PKiKP PKiKP 00 07 52.0 -3.4
baz=103
SNZO South Karori 103.09 131 PFAKE 00 03 50.0 +15
SNZO LR LR
comp=Z,25μm,20.0s
M24A Cheyenne 103.09 16 ⇓PKiKP PKiKP 00 07 53.2 -2.4
baz=103
BKZ Black Stump Fm 103.10 128 PFAKE 00 03 50.0 +14
BKZ LR LR
comp=Z,65μm,22.0s
M25A Palm-Egli Farm 103.31 16 ⇑PKiKP PKiKP 00 07 53.1 -2.8
baz=103
N22A Wattenberg Ran 103.32 18 ⇑PKiKP PKiKP 00 07 54.2 -1.9
baz=103
TMUT Trail Mountain 103.36 22 ePKKPdf PKKPdf 00 19 35.6 -2.4
N23A Red Feather La 103.36 17 ⇓PKiKP PKiKP 00 07 55.3 -0.8
baz=103
N23A Red Feather La 103.36 17 ePdif Pdif 00 03 45.1 +7.9
N23A LR LR
comp=Z,74μm,22.0s
L29A Maesberg Ranch 103.45 13 ⇑Pdiff Pdif 00 03 37.7 +0.4
baz=103
L29A ⇓PKiKP PKiKP 00 07 52.7 -3.3
baz=103
O20A White River Ci 103.46 19 ⇓PKiKP PKiKP 00 07 53.2 -3.1
baz=103
O20A White River Ci 103.46 19 ePdif Pdif 00 03 46.5 +8.9
O20A LR LR
comp=Z,50μm,22.0s
M26A McRoberts Ranc 103.48 15 ⇓Pdiff Pdif 00 03 36.5 -1.0
baz=103
M26A ⇓PKiKP PKiKP 00 07 53.5 -2.7
baz=103
VES Vestal, Richgr 103.58 29 ⇓PKiKP PKiKP 00 07 54.6 -1.7
baz=103
M27A Reverse DX Ran 103.59 15 ⇑PKiKP PKiKP 00 07 54.3 -2.0
baz=103
N24A Carr 103.69 17 ⇓PKiKP PKiKP 00 07 54.2 -2.5
baz=103
L30A Spencer Herefo 103.71 13 ⇑PKiKP PKiKP 00 07 57.1 +0.6
baz=103
TPNV Topopah Spring 103.72 27 ⇑PKiKP PKiKP 00 07 53.6 -3.2
baz=104
TPNV Topopah Spring 103.72 27 PFAKE 00 03 50.0 +11
TPNV LR LR
comp=Z,62μm,19.0s
SRU San Rafael Swe 103.74 22 eP Pdif 00 03 40.0 +1.2
SRU San Rafael Swe 103.74 22 ePdif Pdif 00 03 40.0 +1.2
SRU ePKKPbc PKKPdf 00 19 33.9 -3.3
BFZ Birch Farm 103.75 130 PFAKE 00 03 50.0 +12
BFZ LR LR
comp=Z,74μm,22.0s
MVU Marysvale 103.76 23 ePdif Pdif 00 03 45.3 +6.3
MVU LR LR
comp=Z,49μm,22.0s
DAC Darwin (Calif) 103.80 28 PFAKE 00 03 50.0 +11
DAC LR LR
comp=Z,65μm,21.0s
N25A Grover 103.89 16 ⇓PKiKP PKiKP 00 07 55.7 -1.3
baz=104
O22A Kremmling 103.90 18 ⇑PKiKP PKiKP 00 07 53.8 -3.4
baz=104
HRV Adam Dziewonsk 103.91 351 PFAKE 00 03 50.0 +11
HRV LR LR
comp=Z,28μm,20.0s

ISA Isabella, Lake 103.98 29 eP Pdif 00 03 51.4 +12
ISA Isabella, Lake 103.98 29 eP Pdif 00 03 51.4 +12
JFWS Jewell Farm 103.99 5 PFAKE 00 03 50.0 +10
JFWS LR LR
comp=Z,46μm,19.0s
O23A Lake Granby, G 104.01 18 ⇑PKiKP PKiKP 00 07 55.3 -2.1
baz=104
WWPM Walker Pass 104.07 29 ePP PP 00 07 59.1 +2.2
N26A Koester Ranch, 104.07 15 ⇑PKiKP PKiKP 00 07 55.5 -1.8
baz=104
OGNE Ogallala 104.22 15 ⇓PKiKP PKiKP 00 07 56.1 -1.4
baz=104
N27A Anderson Farm, 104.25 15 ⇓PKiKP PKiKP 00 07 56.2 -1.4
baz=104
MMNY Mt. Morris Dam 104.28 356 ePdif Pdif 00 03 45.3 +4.4
MMNY ePKKPbc PKKPdf 00 19 31.6 -4.2
ARVC Arvin 104.30 29 ⇑PKiKP PKiKP 00 07 54.9 -2.8
baz=104
O24A Longmont 104.31 17 ⇓PKiKP PKiKP 00 07 54.7 -3.1
baz=104
LRMC Laurel Mtn Rad 104.45 28 ⇓PKiKP PKiKP 00 07 57.9 -0.3
baz=104
ISCO Idaho Springs 104.48 18 eP Pdif 00 03 48.5 +6.3
ISCO MLR MLR
comp=Z,87μm,19.0s
ISCO Idaho Springs 104.48 18 ⇑PKiKP PKiKP 00 07 58.0 -0.3
baz=104
ISCO Idaho Springs 104.48 18 ePdif Pdif 00 03 48.5 +6.3
ISCO ePKKPbc PKKPbc 00 19 28.3 +0.4
ISCO LR LR
comp=Z,87μm,19.0s
BRYW Bryant College 104.48 351 ePdif Pdif 00 03 50.5 +8.7
SBC Santa Barbara 104.51 30 ⇑PKiKP PKiKP 00 07 55.9 -2.2
baz=104
O25A Wiggins 104.55 16 ⇑PKiKP PKiKP 00 07 58.0 -0.2
baz=104
O26A Horse Wrangler 104.61 16 ⇓Pdiff Pdif 00 03 42.9 +0.3
baz=104
N29A Votaw Ranch, W 104.63 14 ⇓PKiKP PKiKP 00 07 57.6 -0.6
baz=104
SHOC Shoshone, Teco 104.64 27 ⇑PKiKP PKiKP 00 07 59.3 +1.0
baz=104
BINY Binghamton 104.68 354 ePKKPdf PKKPdf 00 19 34.1 -1.1
BINY LR LR
comp=Z,38μm,19.0s
SMCO Snowmass 104.71 19 ePdif Pdif 00 03 45.6 +2.2
SMCO ePKKPbc PKKPdf 00 19 31.2 -4.4
SCIA State Center 104.71 8 PFAKE 00 03 50.0 +7.2
SCIA LR LR
comp=Z,69μm,20.0s
PV09 Paradox Valley 104.72 21 ePdif Pdif 00 03 52.1 +8.8
P23A Jefferson 104.82 18 ⇑PKiKP PKiKP 00 07 56.6 -2.4
baz=104
O27A Beecher Island 104.85 15 ⇓PKiKP PKiKP 00 07 57.7 -1.1
baz=105
EDW2 Edwards Air Fo 104.85 29 ⇓PKiKP PKiKP 00 08 03.9 +5.1
baz=105
DRV Dumont d'Urvil 104.86 164 Pdif Pdif 00 03 38.0 -4.5
DRV PP PKiKP 00 07 47.0 -10
DRV SKKS 00 14 04.0
DRV SP SP 00 17 00.0 -14
DRV SS SS 00 22 40.0 -16
DRV L L 00 34 00.0
DRV R 00 39 00.0
AAM Ann Arbor 104.87 0 PFAKE 00 04 00.0 +17
AAM LR LR
comp=Z,100μm,20.0s
KNB Kanab 104.90 24 eP Pdif 00 03 51.0 +7.0
KNB Kanab 104.90 24 ePdif Pdif 00 03 51.0 +7.0
KNB ePKKPbc PKKPdf 00 19 31.0 -4.0
P24A Kohler Place, 104.92 17 ⇑PKiKP PKiKP 00 07 58.7 -0.3
baz=105
GSC Goldstone, Bar 104.96 28 eP Pdif 00 03 56.4 +12
GSC e 00 08 05.3
GSC Goldstone, Bar 104.96 28 ⇑PKiKP PKiKP 00 07 55.2 -3.8
baz=105
GSC Goldstone, Bar 104.96 28 eP Pdif 00 03 56.4 +12
GSC ePP PP 00 08 05.3 +1.9
ERPA Erie 105.00 357 PFAKE 00 08 10.0
ERPA LR LR
comp=Z,63μm,22.0s
P25A Willow Gulch B 105.11 17 ⇓PKiKP PKiKP 00 07 59.2 -0.1
baz=105
PV05 Paradox Valley 105.12 21 ePKiKP PKiKP 00 07 59.8 +0.3
TUQ Turquoise Moun 105.18 27 ⇓Pdiff Pdif 00 03 45.4 +0.2
baz=105
TUQ ⇑PKiKP PKiKP 00 07 57.8 -1.7
baz=105
P26A Davis Ranch, A 105.25 16 ⇓PKiKP PKiKP 00 07 59.5 -0.1
baz=105
Q23A Hartsel 105.27 18 ⇑PKiKP PKiKP 00 08 01.9 +2.1
baz=105
Q24A Divide 105.39 18 ⇓PKiKP PKiKP 00 07 59.8 -0.2
baz=105
Q24A Divide 105.39 18 PFAKE 00 08 10.0
Q24A LR LR
comp=Z,74μm,20.0s
PASC Pasadena Art C 105.39 29 PFAKE 00 08 10.0
PASC LR LR
comp=Z,44μm,22.0s
MWC Mount Wilson 105.39 29 ePP PP 00 08 04.8 -2.0
BFSC Mount Baldy Ra 105.54 29 ⇓PKiKP PKiKP 00 08 00.3 +0.1
baz=105
HEC Hector,Ludlow 105.56 28 ⇑PKiKP PKiKP 00 08 00.4 +0.3
baz=105
U15A North Rim 105.61 24 ⇓PKiKP PKiKP 00 08 00.6 +0.2
baz=105
SACV Santiago Islan 105.64 300 PFAKE 00 08 10.0
SACV LR LR
comp=Z,20μm,19.0s
PAL Palisades 105.67 353 PFAKE 00 08 10.0
PAL LR LR
comp=Z,29μm,19.0s
FMP Fort Macarthur 105.74 30 ⇓PKiKP PKiKP 00 08 02.3 +2.0
baz=106
Q26A Hugo 105.82 16 ⇓PKiKP PKiKP 00 08 00.4 -0.2
baz=106
GMRC Granite Mounta 105.86 27 ⇓PKiKP PKiKP 00 07 59.7 -1.1
baz=106
R23A Moffat 105.94 18 ⇑PKiKP PKiKP 00 08 01.6 +0.5
baz=106
CIS Catalina Islan 105.96 30 ⇓PKiKP PKiKP 00 08 01.6 +0.8
baz=106
S22A 4UR Ranch, Cre 106.08 19 ⇑PKiKP PKiKP 00 08 01.8 +0.5
baz=106
S22A 4UR Ranch, Cre 106.08 19 PFAKE 00 08 10.0
S22A LR LR
comp=Z,76μm,22.0s
R24A Sanders Place, 106.09 18 ⇓PKiKP PKiKP 00 08 01.8 +0.6
baz=106
MVCO Mesa Verde 106.11 21 ⇓PKiKP PKiKP 00 08 01.5 +0.2
baz=106
MVCO Mesa Verde 106.11 21 ePdif Pdif 00 03 58.3 +8.9
MVCO LR LR
comp=Z,37μm,20.0s
P31A Stockton 106.12 13 ⇓PKiKP PKiKP 00 08 01.5 +0.5
baz=106
P32A Huiting Farm, 106.17 12 ⇑PKiKP PKiKP 00 08 00.1 -0.9
baz=106
SSPA Standing Stone 106.37 356 PFAKE 00 08 10.0
SSPA LR LR
comp=Z,38μm,20.0s
R25A Fountain Ranch 106.37 17 ⇓PKiKP PKiKP 00 08 01.8 +0.2
baz=106
Q29A Oakley 106.42 14 ⇓PKiKP PKiKP 00 07 59.9 -1.7
baz=106
R26A Arlington 106.43 16 ⇓PKiKP PKiKP 00 08 02.5 +0.8
baz=106
SDCO Great Sand Dun 106.44 18 ⇑PKiKP PKiKP 00 08 03.2 +1.3
baz=106
SDCO Great Sand Dun 106.44 18 PFAKE 00 08 10.0
SDCO LR LR
comp=Z,69μm,19.0s
Q30A Quinter 106.49 14 ⇑PKiKP PKiKP 00 08 02.2 +0.4
baz=106
PFO Pinyon Flats O 106.58 28 ⇑PKiKP PKiKP 00 08 03.2 +1.1
baz=106
PFO Pinyon Flats O 106.58 28 PFAKE 00 08 10.0
PFO LR LR
comp=Z,86μm,21.0s
R27A Eads 106.60 16 ⇓PKiKP PKiKP 00 08 01.0 -1.1
baz=106
IRM Iron Mountain 106.61 27 ⇑PKiKP PKiKP 00 08 03.0 +1.0
baz=106
S24A Houchin Ranch, 106.62 18 ⇑PKiKP PKiKP 00 08 03.6 +1.2
baz=106

SFIN Lafayette 106.71 3 ⇑PKiKP PKiKP 00 08 03.2 +1.2
baz=106
SFIN Lafayette 106.71 3 ePKKPab PKKPab 00 19 43.0 +3.3
WUAZ Wupatki 106.75 24 ⇑PKiKP PKiKP 00 08 03.5 +1.1
baz=106
WUAZ Wupatki 106.75 24 PFAKE 00 08 10.0
WUAZ LR LR
comp=Z,37μm,20.0s
R28A Tribune 106.77 15 ⇑PKiKP PKiKP 00 08 04.1 +1.8
baz=106
Q32A Meitler Ranch, 106.79 12 ⇑PKiKP PKiKP 00 08 01.5 -0.7
baz=106
S25A Robets Cordova 106.80 17 ⇓PKiKP PKiKP 00 08 02.9 +0.4
baz=106
PDMCI Parker Dam,Lak 106.86 26 ⇑PKiKP PKiKP 00 08 02.5 0.0
baz=107
BORC Borrego Spring 106.89 29 ePKiKP PKiKP 00 08 01.8 -0.8
MVL Millersville 106.89 354 ePKPdf PKKPdf 00 19 28.2 -2.9
Q33A Connelly Farm, 106.91 12 ⇑PKiKP PKiKP 00 08 03.4 +1.0
baz=107
BC3 Big Chuckawall 106.93 28 ⇓PKiKP PKiKP 00 08 06.7 +3.9
baz=107
ACSO Alum Creek Sta 106.94 360 PFAKE 00 08 10.0
ACSO LR LR
comp=Z,63μm,20.0s
109C Camp Elliot, M 106.94 29 ⇑PKiKP PKiKP 00 08 07.4 +4.8
baz=107
KSU1 Kansas State U 107.01 11 ⇓PKiKP PKiKP 00 08 06.7 +4.1
baz=107
KSU1 Kansas State U 107.01 11 PFAKE 00 08 10.0
KSU1 LR LR
comp=Z,69μm,20.0s
S26A Kim 107.07 17 ⇑PKiKP PKiKP 00 08 03.1 +0.1
baz=107
Y12C Blythe 107.21 27 ⇓PKiKP PKiKP 00 08 05.4 +2.3
baz=107
R31A Burdett 107.29 13 ⇓PKiKP PKiKP 00 08 03.6 +0.4
baz=107
T25A Trinidad 107.30 18 ⇓PKiKP PKiKP 00 08 06.1 +2.6
baz=107
T25A Trinidad 107.30 18 ePKKPbc PKKPbc 00 19 23.8 +4.6
T25A ePKKPab PKKPab 00 19 38.0 +0.8
T25A LR LR
comp=Z,90μm,21.0s
R32A Long Quarter, 107.31 13 ⇓PKiKP PKiKP 00 08 02.3 -1.0
baz=107
SWSC Sam W. Stewart 107.43 28 ⇓PKiKP PKiKP 00 08 03.3 -0.2
baz=107
T26A Comanche Natio 107.47 17 ⇑PKiKP PKiKP 00 08 05.4 +1.7
baz=107
R33A Olander Ranch, 107.55 12 ⇑PKiKP PKiKP 00 08 03.4 -0.2
baz=107
W18A Petrified Fore 107.65 23 ⇑PKiKP PKiKP 00 08 06.5 +2.3
baz=107
X16A Lo Mia Camp, P 107.72 24 ⇑PKiKP PKiKP 00 08 06.0 +1.7
baz=108
T28A Walsh 107.87 16 ⇑PKiKP PKiKP 00 08 06.2 +1.8
baz=108
R36A Gordon, Harris 107.94 10 ⇓PKiKP PKiKP 00 08 06.3 +1.9
baz=108
S31A Mullinville 107.94 13 ⇓PKiKP PKiKP 00 08 03.1 -1.4
baz=108
S32A Newby Ranch, P 107.97 13 ⇑PKiKP PKiKP 00 08 06.3 +1.9
baz=108
U25A Circle Dot Ran 108.00 18 ⇑PKiKP PKiKP 00 08 05.7 +0.9
baz=108
T29A Hugoton 108.02 15 ⇑PKiKP PKiKP 00 08 04.5 -0.1
baz=108
X18A Snowflake 108.12 23 ⇑PKiKP PKiKP 00 08 05.8 +0.7
baz=108
Z14A Wintersburg 108.14 26 ⇑PKiKP PKiKP 00 08 07.5 +2.6
baz=108
U26A Atchley Ranch, 108.17 17 ⇑PKiKP PKiKP 00 08 02.5 -2.6
baz=108
S33A Kaszmaul Farm, 108.25 12 ⇓PKiKP PKiKP 00 08 04.9 -0.1
baz=108
T30A Plains 108.28 14 ⇓PKiKP PKiKP 00 08 03.4 -1.7
baz=108
S34A Willow Spring 108.30 12 ⇑PKiKP PKiKP 00 08 06.3 +1.3
baz=108
U27A Thompson Grove 108.37 17 ⇑PKiKP PKiKP 00 08 05.0 -0.4
baz=108
S35A Otter Creek Ra 108.44 11 ⇑PKiKP PKiKP 00 08 05.3 0.0
baz=108
S36A Lake Cedric, C 108.52 10 ⇑PKiKP PKiKP 00 08 05.4 0.0
baz=108
T33A Patterson Ranc 108.70 13 ⇑PKiKP PKiKP 00 08 06.4 +0.6
baz=108
CBN Corbin Frederi 108.75 355 PFAKE 00 08 20.0
CBN LR LR
comp=Z,41μm,19.0s
U30A WK&E Inc. Balk 108.76 15 ⇓PKiKP PKiKP 00 08 03.0 -3.1
baz=108
ANMO Albuquerque 108.81 20 Pdiff Pdif 00 04 09.3 +7.9
comp=Z,6.0nm,1.1s,baz=318,slow=4.4,SNR=8.2
ANMO PKiKP PKiKP 00 08 09.8 +3.5
comp=Z,4.8nm,1.0s,baz=344,slow=7.8,SNR=3.3
ANMO Albuquerque 108.81 20 Pdif Pdif 00 04 09.3 +7.9
ANMO PKiKP PKiKP 00 08 09.8 +3.5
ANMO ePKKPbc PKKPdf 00 19 25.2 -2.7
ANMO LR LR
comp=Z,54μm,22.0s
SHEL Horse Pasture 108.87 263 PFAKE 00 08 20.0
SHEL LR LR
comp=Z,24μm,19.0s
WCI Wyandotte Cave 108.89 3 ePKKPab PKKPab 00 19 25.1 -4.9
WCI LR LR
comp=Z,49μm,19.0s
V27A Dan Oppiter Fa 109.00 17 ⇑PKiKP PKiKP 00 08 08.0 +1.4
baz=109
U31A Nine Bar Ranch 109.08 14 ⇑PKiKP PKiKP 00 08 06.3 -0.3
baz=109
LAZ Ladron 109.12 21 ePKKPbc PKKPbc 00 19 18.4 +5.0
V28A Channing 109.15 16 ⇑PKiKP PKiKP 00 08 05.7 -1.1
baz=109
U32A Winter Ranch, 109.24 13 ⇓PKiKP PKiKP 00 08 08.1 +1.2
baz=109
U33A Lingo Farm, Me 109.36 13 ⇓PKiKP PKiKP 00 08 08.9 +1.9
baz=109
U34A Anderson Ranch 109.45 12 ⇑PKiKP PKiKP 00 08 09.5 +2.2
baz=109
U34A Anderson Ranch 109.45 12 PFAKE 00 08 20.0
U34A LR LR
comp=Z,59μm,21.0s
V30A Spur Ranch, Mi 109.49 15 ⇓PKiKP PKiKP 00 08 08.6 +1.1
baz=109
W28A Vega 109.63 16 ⇓PKiKP PKiKP 00 08 05.2 -2.6
baz=109
TUC Tucson 109.86 25 ePKiKP PKiKP 00 08 12.6 +4.3
TUC LR LR
comp=Z,39μm,20.0s
V32A Arapaho 109.87 14 ⇑PKiKP PKiKP 00 08 10.9 +2.8
baz=110
BLA Blacksburg 109.91 358 PFAKE 00 08 20.0
BLA LR LR
comp=Z,70μm,20.0s
V34A Guthrie 110.05 12 ⇓PKiKP PKiKP 00 08 09.3 +0.9
baz=110
V34A Guthrie 110.05 12 PFAKE 00 08 20.0
V34A LR LR
comp=Z,53μm,21.0s
AMTX Amarillo 110.11 16 ⇑PKiKP PKiKP 00 08 06.2 -2.5
baz=110
AMTX Amarillo 110.11 16 ePKKPab PKKPab 00 19 25.1 +0.6
AMTX LR LR
comp=Z,56μm,20.0s
W31A Holland Ranch, 110.20 15 ⇓PKiKP PKiKP 00 08 06.0 -2.7
baz=110
V35A Meyer Ranch, C 110.23 12 ⇑PKiKP PKiKP 00 08 08.3 -0.4
baz=110
TUL1 Leonard 110.26 11 ⇑PKiKP PKiKP 00 08 05.4 -3.3
baz=110
W32A Sentinel 110.41 14 ⇓PKiKP PKiKP 00 08 08.3 -0.8
baz=110
X29A Tulia 110.52 16 ⇑PKiKP PKiKP 00 08 07.3 -2.2
baz=110
W34A Bridge Creek, 110.58 13 ⇓PKiKP PKiKP 00 08 08.3 -1.1
baz=110
W34A Bridge Creek, 110.58 13 ePKKPab PKKPab 00 19 24.0 +1.6
W34A LR LR
comp=Z,57μm,20.0s
121A Cookes Peak, D 110.66 22 ⇑PKiKP PKiKP 00 08 05.0 -4.9
baz=110
X30A Coker Ranch, T 110.71 16 ⇑PKiKP PKiKP 00 08 09.4 -0.4
baz=110
MSTX Muleshoe 110.72 17 ⇓PKiKP PKiKP 00 08 09.0 -0.9
baz=110

MSTX	**Muleshoe**	**110.72**	**17**	*e*PKKPbc	PKKPbc	00 19 17.3	+9.2
X31A	**McDonald Ranch**	**110.73**	**15**	⇑PKiKP	**PKiKP**	**00 08 07.3**	**-2.4**
	baz=110							
WMOK	**Wichita Mounta**	**110.87**	**14**	*e*P	**Pdif**	**00 04 04.6**	**-5.8**
WMOK				MLR	MLR			
	comp=Z,62µm,19.0s							
WMOK	**Wichita Mounta**	**110.87**	**14**	*e*Pdif	**Pdif**	**00 04 04.6**	**-5.8**
WMOK				*e*PKKPbc	PKKPbc	00 19 11.8	+4.3
WMOK				LR	LR			
	comp=Z,62µm,19.0s							
WVT	**Waverly**	**110.90**	**4**	*e*PKiKP	**PKiKP**	**00 08 11.2**	**+1.2**
WVT				MLR	MLR			
	comp=Z,75µm,21.0s							
WVT	**Waverly**	**110.90**	**4**	*e*PKiKP	**PKiKP**	**00 08 11.2**	**+1.2**
WVT				*e*PKKPbc	**PKKPbc**	**00 19 09.1**	**+1.7**
WVT				LR	LR			
	comp=Z,75µm,21.0s							
Y28A	**McKinney Farm,**	**110.91**	**17**	⇑PKiKP	**PKiKP**	**00 08 07.4**	**-2.8**
	baz=111							
Y29A	**Porterfield Fa**	**111.09**	**16**	⇓PKiKP	**PKiKP**	**00 08 09.3**	**-1.2**
	baz=111							
X34A	**Smith Ranch, M**	**111.19**	**13**	⇓PKiKP	**PKiKP**	**00 08 11.1**	**+0.5**
	baz=111							
319A	**Douglas**	**111.23**	**24**	⇓PKiKP	**PKiKP**	**00 08 09.0**	**-1.9**
	baz=111							
Y31A	**Rekieta Farm,**	**111.31**	**15**	⇑PKiKP	**PKiKP**	**00 08 10.1**	**-0.8**
	baz=111							
Y32A	**R-V Farms, Ver**	**111.45**	**14**	⇓PKiKP	**PKiKP**	**00 08 11.6**	**+0.5**
	baz=111							
Z28A	**Tucker Farm, M**	**111.46**	**17**	⇓PKiKP	**PKiKP**	**00 08 10.7**	**-0.6**
	baz=111							
Y33A	**Hilltop Ranch,**	**111.61**	**14**	⇓PKiKP	**PKiKP**	**00 08 11.3**	**-0.1**
	baz=111							
Z29A	**Hungry Hill Ra**	**111.66**	**17**	⇓PKiKP	**PKiKP**	**00 08 11.1**	**-0.5**
	baz=111							
CNNC	**Cliffs of the**	**111.74**	**355**	PFAKE		00 08 20.0		
CNNC				LR	LR			
	comp=Z,44µm,19.0s							
Z30A	**Sanderson Ranc**	**111.77**	**16**	⇓PKiKP	**PKiKP**	**00 08 10.0**	**-1.8**
	baz=112							
Y34A	**Reagan Ranch,**	**111.83**	**13**	⇑PKiKP	**PKiKP**	**00 08 10.0**	**-1.7**
	baz=112							
SWET	**Sewanee**	**111.90**	**2**	*e*PKKPab	PKKPab	00 19 16.9	+0.4
MIAR	**Mount Ida**	**111.92**	**9**	*e*PKiKP		00 08 15.1		
MIAR				MLR	MLR			
	comp=Z,69µm,20.0s							
MIAR	**Mount Ida**	**111.92**	**9**	*e*PKiKP	**PKiKP**	**00 08 15.1**	**+3.1**
MIAR				*e*PKKPbc	**PKKPab**	**00 19 11.4**	**-5.0**
MIAR				LR	LR			
	comp=Z,69µm,20.0s							
ASCN	**Ascension**	**111.95**	**275**	PFAKE		00 08 20.0		
ASCN				LR	LR			
	comp=Z,17µm,20.0s							
Z31A	**Sharp Cattle R**	**111.96**	**15**	⇓PKiKP	**PKiKP**	**00 08 12.6**	**+0.5**
	baz=112							
KMSC	**Kings Mountain**	**112.00**	**358**	⇑PKiKP	**PKiKP**	**00 08 11.6**	**-0.5**
	baz=112							
128A	**Castleberry Fa**	**112.07**	**17**	⇓PKiKP	**PKiKP**	**00 08 12.2**	**-0.2**
	baz=112							
Z32A	**Haskell**	**112.11**	**15**	⇑PKiKP	**PKiKP**	**00 08 11.9**	**-0.5**
	baz=112							
MNTX	**Cornudas Mount**	**112.16**	**20**	⇑PKiKP	**PKiKP**	**00 08 11.7**	**-0.8**
	baz=112							
MNTX	**Cornudas Mount**	**112.16**	**20**	PFAKE		00 08 20.0		
MNTX				LR	LR			
	comp=Z,49µm,22.0s							
129A	**Stewart Farms,**	**112.22**	**17**	⇑PKiKP	**PKiKP**	**00 08 11.8**	**-0.9**
	baz=112							
RAR	**Rarotonga**	**112.23**	**101**	PFAKE		00 08 30.0		
RAR				LR	LR			
	comp=Z,18µm,21.0s							
Z33A	**Whitaker Ranch**	**112.28**	**14**	⇑PKiKP	**PKiKP**	**00 08 12.5**	**-0.1**
	baz=112							
Z34A	**Collier Ranch,**	**112.36**	**13**	⇓PKiKP	**PKiKP**	**00 08 12.7**	**-0.1**
	baz=112							
OXF	**Oxford**	**112.40**	**5**	PFAKE		00 08 30.0		
OXF				LR	LR			
	comp=Z,42µm,19.0s							
130A	**Snyder**	**112.47**	**16**	⇓PKiKP	**PKiKP**	**00 08 11.3**	**-1.8**
	baz=112							
BBSR	**BB Station**	**112.48**	**343**	PFAKE		00 08 30.0		
BBSR				LR	LR			
	comp=Z,40µm,21.0s							
131A	**Roby**	**112.52**	**16**	⇑PKiKP	**PKiKP**	**00 08 13.7**	**+0.5**
	baz=112							
228A	**UT Block 9, Go**	**112.53**	**18**	⇑PKiKP	**PKiKP**	**00 08 12.4**	**-0.9**
	baz=112							
Z35A	**Perchaven, San**	**112.53**	**13**	⇓PKiKP	**PKiKP**	**00 08 11.1**	**-2.1**
	baz=112							
ABTX	**Abilene, Hawle**	**112.74**	**15**	⇓PKiKP	**PKiKP**	**00 08 13.1**	**-0.5**
	baz=112							
ABTX	**Abilene, Hawle**	**112.74**	**15**	*e*PKiKP	**PKiKP**	**00 08 12.8**	**-0.8**
229A	**Bryant Ranch,**	**112.86**	**17**	⇓PKiKP	**PKiKP**	**00 08 13.4**	**-0.6**
	baz=113							
133A	**Hamilton Ranch**	**112.91**	**14**	⇓PKiKP	**PKiKP**	**00 08 13.7**	**-0.2**
	baz=113							
134A	**White-Moore Ra**	**113.11**	**14**	⇓PKiKP	**PKiKP**	**00 08 12.8**	**-1.5**
	baz=113							
230A	**Sterling City**	**113.11**	**16**	⇓PKiKP	**PKiKP**	**00 08 15.4**	**+1.1**
	baz=113							
231A	**Bronte**	**113.25**	**16**	⇓PKiKP	**PKiKP**	**00 08 14.7**	**+0.1**
	baz=113							
135A	**Vickery Place,**	**113.25**	**13**	⇑PKiKP	**PKiKP**	**00 08 17.0**	**+2.4**
	baz=113							
329A	**Wagon Wheel Ra**	**113.28**	**17**	⇓PKiKP	**PKiKP**	**00 08 17.1**	**+2.4**
	baz=113							
232A	**Coleman**	**113.44**	**15**	⇑PKiKP	**PKiKP**	**00 08 15.1**	**+0.1**
	baz=113							
233A	**Rising Star**	**113.48**	**14**	⇑PKiKP	**PKiKP**	**00 08 12.2**	**-2.8**
	baz=113							
137A	**Heron Place, G**	**113.51**	**11**	⇓PKiKP	**PKiKP**	**00 08 14.2**	**-0.8**
	baz=113							
330A	**Mertzon**	**113.56**	**17**	⇓PKiKP	**PKiKP**	**00 08 16.0**	**+0.7**
	baz=113							
GOGA	**Godfrey**	**113.75**	**0**	*e*PP	PP	00 09 18.4	+12
GOGA				LR	LR			
	comp=Z,69µm,20.0s							
WHTX	**Lake Whitney,**	**113.79**	**13**	⇑PKiKP	**PKiKP**	**00 08 17.1**	**+1.5**
	baz=114							
331A	**San Angelo**	**113.83**	**16**	⇑PKiKP	**PKiKP**	**00 08 15.5**	**-0.2**
	baz=114							
332A	**Millersview**	**113.91**	**15**	⇓PKiKP	**PKiKP**	**00 08 17.0**	**+1.1**
	baz=114							
NHSC	**New Hope**	**113.99**	**357**	PFAKE		00 08 30.0		
NHSC				LR	LR			
	comp=Z,78µm,22.0s							
LRAL	**Lakeview Retre**	**114.03**	**3**	*e*PKKPbc	PKKPbc	00 19 03.8	+6.8
LRAL				LR	LR			
	comp=Z,68µm,20.0s							
237A	**Washetta, Mont**	**114.08**	**12**	⇓PKiKP	PKPdf	00 08 15.6	-0.5
	baz=114							
429A	**Davenport Ranc**	**114.12**	**18**	⇑PKiKP	PKPdf	00 08 16.8	+0.4
	baz=114							
333A	**Richland Sprin**	**114.13**	**15**	⇓PKiKP	PKPdf	00 08 16.4	+0.1
	baz=114							
430A	**Baggett Ranch,**	**114.13**	**17**	⇓PKiKP	PKPdf	00 08 16.4	+0.1
	baz=114							
334A	**Lometa**	**114.28**	**14**	⇑PKiKP	PKPdf	00 08 17.0	+0.4
	baz=114							
239A	**Gary**	**114.28**	**10**	⇓PKiKP	**PKiKP**	**00 08 14.0**	**-2.5**
	baz=114							
431A	**Sonora**	**114.38**	**16**	⇓PKiKP	PKPdf	00 08 16.9	+0.1
	baz=114							
432A	**Menard**	**114.39**	**16**	⇑PKiKP	PKPdf	00 08 16.6	-0.2
	baz=114							
335A	**Moody**	**114.49**	**13**	⇑PKiKP	PKPdf	00 08 18.1	+1.1
	baz=114							
336A	**Riesel**	**114.50**	**13**	⇑PKiKP	PKPdf	00 08 17.1	+0.2
	baz=114							
NATX	**Nacogdoches**	**114.50**	**11**	PFAKE		00 08 30.0	+13
NATX				LR	LR			
	comp=Z,77µm,20.0s							
529A	**Stev Forest Ra**	**114.52**	**18**	⇓PKiKP	PKPdf	00 08 15.9	-1.2
	baz=114							
VBMS	**Vicksburg**	**114.58**	**7**	*e*SP	SP	00 18 47.5	-2.1
VBMS				LR	LR			
	comp=Z,56µm,18.0s							
433A	**Art**	**114.66**	**15**	⇓PKiKP	PKPdf	00 08 17.1	-0.2
	baz=114							
530A	**J-C Ranch, Com**	**114.72**	**17**	⇑PKiKP	PKPdf	00 08 17.9	+0.4
	baz=114							
JCT	**Junction City**	**114.77**	**16**	*e*PKiKP	PKPdf	00 08 18.3	+0.7
JCT				*e*SP	SP	00 18 54.6	+3.0
JCT				MLR	MLR			
	comp=Z,67µm,22.0s							
JCT	**Junction City**	**114.77**	**16**	⇓PKiKP	PKPdf	00 08 18.9	+1.4
	baz=114							
JCT	**Junction City**	**114.77**	**16**	*e*PKiKP	PKPdf	00 08 18.2	+0.7
JCT				*e*SP	SP	00 18 54.6	+3.0
JCT				LR	LR			
	comp=Z,67µm,22.0s							
434A	**Burnet**	**114.77**	**14**	⇓PKiKP	PKPdf	00 08 16.7	-0.9
	baz=114							
338A	**Crockett**	**114.79**	**11**	⇑PKiKP	PKPdf	00 08 16.4	-1.2
	baz=114							
LTX	**Lajitas**	**114.87**	**20**	*e*PKiKP	PKPdf	00 08 17.8	-0.1
LTX				*e*SP	SP	00 18 55.7	+3.0
LTX	**Lajitas**	**114.87**	**20**	*e*PKiKP	PKPdf	00 08 17.8	-0.1
LTX				*e*SP	SP	00 18 55.7	+3.0
TXAR	**Lajitas Array**	**114.87**	**20**	PKP	PKPdf	00 08 17.8	-0.1
	comp=Z,4.6nm,0.7s,baz=166,slow=1.5,SNR=18							
TXAR				PKKPab	**PKKPbc**	**00 18 55.7**	**+1.5**
JCT	comp=Z,5.6nm,0.8s,baz=169,slow=7.4,SNR=14							
TXAR				SKKP		00 22 55.1		
	comp=Z,2.4nm,1.0s,baz=145,slow=3.3,SNR=3.9							
531A	**Rocksprings**	**114.89**	**16**	⇓PKiKP	PKPdf	00 08 17.6	-0.3
	baz=115							
435B	**Jarrell**	**114.94**	**14**	⇑PKiKP	PKPdf	00 08 18.0	+0.1
	baz=115							
532A	**Rocksprings**	**115.08**	**16**	⇑PKiKP	**PKPdf**	**00 08 17.9**	**-0.3**
	baz=115							
436A	**Wall Ranch, Ga**	**115.11**	**13**	⇓PKiKP	**PKiKP**	**00 08 16.3**	**-1.8**
	baz=115							
533A	**Kerrville**	**115.33**	**15**	⇑PKiKP	**PKPdf**	**00 08 18.4**	**-0.3**
	baz=115							
534A	**Blanco**	**115.49**	**15**	⇓PKiKP	**PKPdf**	**00 08 18.4**	**-0.6**
	baz=115							
631A	**Perdido Creek**	**115.61**	**17**	⇑PKiKP	**PKPdf**	**00 08 19.6**	**+0.4**
	baz=115							
535A	**Dale**	**115.68**	**14**	⇑PKiKP	**PKPdf**	**00 08 20.7**	**+1.4**
	baz=115							
632A	**Uvalde**	**115.70**	**16**	⇑PKiKP	**PKPdf**	**00 08 19.8**	**+0.4**
	baz=115							
TIGA	**Tifton**	**115.72**	**0**	⇑PKiKP	**PKPdf**	**00 08 18.7**	**-0.6**
	baz=115							
538A	**Hanners Horsep**	**115.87**	**12**	⇑PKiKP	**PKPdf**	**00 08 19.9**	**+0.3**
	baz=116							
BRAL	**Brewton**	**116.04**	**4**	PFAKE		00 08 30.0	+10
BRAL				LR	LR			
	comp=Z,55µm,21.0s							
HKT	**Hockley**	**116.08**	**12**	*e*PKiKP	PKPdf	00 08 24.0	+4.1
HKT				MLR	MLR			
	comp=Z,68µm,20.0s							
HKT	**Hockley**	**116.08**	**12**	*e*PKPdf	PKPdf	00 08 24.0	+4.1
HKT				*e*SP	SP	00 18 54.0	-9.3
HKT				LR	LR			
	comp=Z,68µm,20.0s							
635A	**Leesville**	**116.26**	**14**	⇓PKiKP	**PKiKP**	**00 08 17.2**	**-3.1**
	baz=116							
636A	**Smothers Creek**	**116.31**	**13**	⇓PKiKP	**PKiKP**	**00 08 19.0**	**-1.5**
	baz=116							
732A	**Laxson Ranch,**	**116.41**	**16**	⇓PKiKP	**PKPdf**	**00 08 20.5**	**-0.2**
	baz=116							
733A	**Divot King Ran**	**116.57**	**16**	⇓PKiKP	**PKiKP**	**00 08 20.5**	**-0.5**
	baz=116							
833A	**Chaparral WMA,**	**116.93**	**16**	⇓PKiKP	**PKiKP**	**00 08 20.8**	**-0.9**
	baz=117							
VNDA	**Vanda**	**117.07**	**167**	*e*PKiKP	**PKPdf**	**00 08 16.3**	**-4.0**
VNDA	**Vanda**	**117.07**	**167**	PKKPbc	PKKPbc	00 18 44.2	-3.0
	comp=Z,1.4nm,0.3s,baz=191,slow=5.2,SNR=29							
VNDA	**Vanda**	**117.07**	**167**	*e*PKPdf	**PKPdf**	**00 08 16.3**	**-4.0**
VNDA				PKKPbc	**PKKPab**	**00 18 44.2**	**-2.5**
738A	**Farr-Stevens R**	**117.19**	**12**	⇑PKiKP	**PKPdf**	**00 08 20.3**	**-1.8**
	baz=117							
835A	**Beeville**	**117.31**	**14**	⇓PKiKP	**PKiKP**	**00 08 21.9**	**-0.6**
	baz=117							
834A	**Tilden**	**117.31**	**15**	⇑PKiKP	**PKiKP**	**00 08 23.5**	**+1.1**
	baz=117							
933A	**Laredo**	**117.64**	**16**	⇓PKiKP	**PKiKP**	**00 08 23.5**	**+0.4**
	baz=117							
934A	**Benavides**	**117.82**	**15**	⇓PKiKP	**PKiKP**	**00 08 24.2**	**+0.7**
	baz=118							
SLBS	**Sierra La Lagu**	**117.98**	**28**	PFAKE		00 08 40.0	+16
SLBS				LR	LR			
	comp=Z,22µm,21.0s							
SBA	**Scott Base**	**118.15**	**167**	*e*PKiKP	**PKPdf**	**00 08 24.3**	**+1.9**
SBA				MLR	MLR			
	comp=Z,27µm,20.0s							
SBA	**Scott Base**	**118.15**	**167**	*e*PKPdf	**PKPdf**	**00 08 24.3**	**+1.9**
SBA				LR	LR			
	comp=Z,27µm,20.0s							
034A	**Hebbronville**	**118.31**	**16**	⇑PKiKP	**PKiKP**	**00 08 24.1**	**-0.3**
	baz=118							
035A	**Encino**	**118.56**	**15**	⇑PKiKP	**PKiKP**	**00 08 24.6**	**-0.3**
	baz=118							
PPT	**Papeete**	**118.99**	**93**	PKiKP	**PKPdf**	**00 08 27.5**	**+1.7**
PPT				pmax	pmax			
	comp=Z,20nm,0.4s							
PPT	**Papeete**	**118.99**	**93**	PKP	**PKPdf**	**00 08 27.5**	**+1.7**
	comp=Z,20nm,0.4s,baz=90,slow=1.0,SNR=3.0							
PPT2	**Papeete2**	**119.00**	**93**	*e*PKiKP	**PKPdf**	**00 08 24.1**	**-1.8**
	comp=Z,142nm,1.3s							
PPT2	**Papeete2**	**119.00**	**93**	*e*PP	PP	00 09 43.6	-2.0
	comp=Z,2µm,31.2s							
PPT2				*e*Sdif	Sdif	00 17 34.9	-0.5
	comp=Z,2µm,28.2s							
PPT2	**Papeete2**	**119.00**	**93**	*e*PS	PS	00 19 32.6	-0.7
	comp=Z,10µm,27.0s							
PPT2				*e*SS	SS	00 26 02.0	-4.0
	comp=Z,41µm,31.0s							
PPT2	**Papeete2**	**119.00**	**93**	*e*LQ	LQ	00 39 51.5		
	comp=Z,150µm,35.8s							
PPT2				*e*LR	LR	00 44 52.5		
	comp=Z,145µm,32.0s							
035Z	**Hargill**	**119.02**	**15**	⇑PKiKP	**PKiKP**	**00 08 25.8**	**0.0**
	baz=119							
PAE	**Paea**	**119.03**	**93**	*e*PKiKP	**PKPdf**	**00 08 23.8**	**-2.0**
	comp=Z,31nm,1.4s							
PMOR	**Pomariorio Ree**	**119.16**	**89**	*e*PKiKP	**PKPdf**	**00 08 23.3**	**-2.8**
	comp=Z,174nm,1.1s							
TIAR	**Tiarei**	**119.18**	**93**	*e*PKiKP	**PKPdf**	**00 08 24.2**	**-2.0**
	comp=Z,17nm,1.1s							
NVL	**N'lazarevskaya**	**119.31**	**202**	⇑/PKiKP	**PKPdf**	**00 08 26.7**	**+1.9**
NVL				*e**PP	PKiKP	00 08 34.3	+9.5
NVL				pmax	pmax			
	comp=Z,14nm,0.6s							
TVO	**Taravao**	**119.37**	**93**	*e*PKiKP	**PKPdf**	**00 08 24.8**	**-1.8**
	comp=Z,82nm,1.5s							
VAH	**Vaihoa**	**119.50**	**89**	*e*PKiKP	**PKPdf**	**00 08 24.9**	**-1.9**
	comp=Z,108nm,1.2s							
MEH	**Mehetia**	**120.40**	**92**	*e*PKiKP	**PKPdf**	**00 08 26.1**	**-2.4**
TBI	**Tubuai**	**121.71**	**99**	*e*PKiKP	**PKPdf**	**00 08 28.7**	**-2.1**
	comp=Z,220nm,1.0s							
TBI	**Tubuai**	**121.71**	**99**	*e*PP	PP	00 10 03.1	-0.9
	comp=Z,990nm,32.2s							
TBI				*e*Sdif	Sdif	00 17 58.0	+0.4
	comp=Z,2µm,32.2s							
TBI	**Tubuai**	**121.71**	**99**	*e*PS	PS	00 19 56.9	-0.4
	comp=Z,4µm,28.8s							
TBI				*e*SS	SS	00 26 37.6	-3.0
	comp=Z,28µm,34.5s							
TBI	**Tubuai**	**121.71**	**99**	*e*LQ	LQ	00 40 52.6		
	comp=Z,34µm,33.8s							
TBI				*e*LR	LR	00 46 05.8		
	comp=Z,51µm,26.2s							
QSPA	**South Pole Qui**	**122.97**	**180**	PKP	**PKPdf**	**00 08 32.2**	**+0.2**
	comp=Z,46nm,1.0s,baz=250,slow=0.7,SNR=20							
QSPA				PKKPbc	**PKKPbc**	**00 18 28.6**	**+2.9**
	comp=Z,6.0nm,0.8s,baz=82,slow=1.1,SNR=7.3							
TRIS	**Tristan da Cun**	**123.10**	**244**	PFAKE		00 08 50.0	+17
TRIS				LR	LR			
	comp=Z,40µm,22.0s							
SNAA	**Sanae**	**124.13**	**202**	PKP	**PKPdf**	**00 08 35.3**	**+1.1**
	comp=Z,5.3nm,0.8s,baz=93,slow=2.0							
SNAA				PKKPbc	**PKKPbc**	**00 18 22.6**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=266,slow=9.1,SNR=6.8							
GRTK	**Grand Turk**	**124.39**	**346**	PFAKE		00 08 50.0	+14
GRTK				LR	LR			
	comp=Z,41µm,20.0s							
ANWB	**Willy Bob**	**125.42**	**335**	PFAKE		00 08 50.0	+12
ANWB				LR	LR			
	comp=Z,24µm,21.0s							
VNA2	**Neumayer--Watz**	**125.59**	**203**	P	**PKPdf**	**00 08 38.5**	**+1.6**
	baz=39,slow=2.3							
STVI	**Saint Thomas**	**125.84**	**338**	*e*PKPdf	**PKPdf**	**00 08 42.1**	**+3.1**
VNA1	**Neumayer--Stat**	**125.88**	**203**	P	**PKPdf**	**00 08 39.3**	**+1.9**
HUMP	**Col San Antoni**	**126.31**	**339**	*e*PKPdf	**PKPdf**	**00 08 41.4**	**+1.5**
VNA3	**Neumayer Olymp**	**126.32**	**203**	P	**PKPdf**	**00 08 41.8**	**+3.5**
SJG	**San Juan**	**126.43**	**340**	PFAKE		00 08 50.0	+10
SJG				LR	LR			
	comp=Z,25µm,20.0s							
LRS	**Lares**	**126.46**	**341**	*e*PKPdf	**PKPdf**	**00 08 43.3**	**+3.0**
CELP	**Cerrillos**	**126.59**	**340**	*e*PKPdf	**PKPdf**	**00 08 41.2**	**+0.8**
GTBY	**Guantanamo Bay**	**126.61**	**350**	PFAKE		00 08 50.0	+10
GTBY				LR	LR			
	comp=Z,46µm,19.0s							
OBIP	**Obispado Ponce**	**126.63**	**340**	*e*PKPdf	**PKPdf**	**00 08 41.5**	**+1.0**
LSP	**Las Mesas**	**126.64**	**341**	*e*PKPdf	**PKPdf**	**00 08 43.9**	**+3.3**
TEIG	**Tepich**	**126.67**	**6**	PFAKE		00 08 50.0	+9.4
TEIG				LR	LR			
	comp=Z,39µm,21.0s							
ICMP	**Isla Caja de M**	**126.75**	**340**	*e*PKPdf	**PKPdf**	**00 08 41.5**	**+0.7**
SDDR	**Presa de Saban**	**126.87**	**346**	*e*PKPdf	**PKPdf**	**00 08 44.8**	**+3.7**
SDDR				LR	LR			
	comp=Z,25µm,20.0s							
RCBR	**Riachuelo**	**128.33**	**291**	*e*PKPdf	PKPdf	00 08 48.4	+4.5
RCBR				*e*PP	PP	00 10 58.2	+10
RCBR				LR	LR			
	comp=Z,30µm,22.0s							
MTDJ	**Mount Denham**	**128.58**	**353**	*e*PKPdf	PKPdf	00 08 48.6	+4.2
MTDJ				LR	LR			
	comp=Z,31µm,20.0s							
BBGH	**Gun Hill**	**128.67**	**330**	PFAKE		00 09 00.0	+15
BBGH				LR	LR			
	comp=Z,31µm,22.0s							
GRGR	**Grenville**	**130.44**	**332**	PFAKE		00 09 00.0	+12
GRGR				LR	LR			
	comp=Z,24µm,21.0s							
TPR	**Prospect**	**130.94**	**330**	*e*		**SKPbc**	**00 12 16.1**	**+3.3**
TRN	**Trinidad (W)**	**131.68**	**331**	*e*		**SKPbc**	**00 12 16.4**	**+0.9**
TBH	**Brigand Hill**	**131.69**	**330**	*e*		**SKPbc**	**00 12 20.5**	**+5.0**
TPP	**Pointe-a-Pierr**	**132.00**	**331**	*e*		**SKPbc**	**00 12 20.8**	**+4.2**
RKT	**Rikitea**	**133.71**	**91**	*e*PKiKP	PKPdf	**00 08 51.7**	**-2.0**
	comp=Z,68nm,1.1s							
RKT	**Rikitea**	**133.71**	**91**	*e*PP	PP	00 11 20.5	-2.6
	comp=Z,2µm,32.0s							
RKT	**Rikitea**	**133.71**	**91**	*e*SS	SS	00 29 09.1	-0.7
	comp=Z,21µm,36.5s							
RKT	**Rikitea**	**133.71**	**91**	*e*LQ	LQ	00 46 01.7		
	comp=Z,53µm,35.8s							
RKT				*e*LR	LR	00 51 41.5		
	comp=Z,85µm,38.0s							
SDV	**Santo Domingo**	**136.46**	**342**	*e*PKPpre	PKPpre	00 08 48.6		
SDV				*e*PKPdf	**PKiKP**	**00 09 02.7**	**+1.5**
SDV				LR	LR			
	comp=Z,20µm,22.0s							
JTS	**JuntasAbangare**	**136.73**	**2**	PFAKE		00 09 10.0	+10
JTS				LR	LR			
	comp=Z,27µm,21.0s							
BCIP	**Isla Barro Col**	**137.75**	**355**	PFAKE		00 09 10.0	+8.4
BCIP				LR	LR			
	comp=Z,28µm,21.0s							
PTCN	**Pitcairn Islan**	**138.57**	**91**	PFAKE		00 09 20.0	+17
PTCN				LR	LR			
	comp=Z,20µm,21.0s							
PTGA	**Pitinga**	**140.99**	**321**	PKhKP	PKPpre	00 09 02.6		
	comp=Z,3.4nm,0.5s,baz=1.3,slow=6.5,SNR=4.7							
PTGA	**Pitinga**	**140.99**	**321**	PKPpre	PKPpre	00 09 02.6		
PTGA				LR	LR			
	comp=Z,21µm,22.0s							
HOPE	**Hope Point**	**141.09**	**223**	PFAKE		00 09 20.0	+14
HOPE				LR	LR			
	comp=Z,18µm,20.0s							
ROSC	**El Rosal**	**141.22**	**346**	PKhKP	PKPpre	00 09 02.9		
	comp=Z,22nm,0.5s,baz=110,slow=5.9,SNR=13							
BDFB	**Brasilia**	**143.69**	**290**	PKP	**PKPdf**	**00 09 11.2**	**-1.2**
	comp=Z,20nm,0.7s,baz=35,slow=3.2,SNR=18							
PMSA	**Palmer Station**	**146.27**	**195**	PKPbc	**PKPab**	**00 09 19.7**	**+2.7**
	comp=Z,92nm,1.0s,baz=194,slow=6.1,SNR=5.8							
PMSA	**Palmer Station**	**146.27**	**195**	PKPbc	**PKPab**	**00 09 19.7**	**+2.7**
PMSA				LR	LR			
	comp=Z,30µm,18.0s							
OTAV	**Otavalo**	**146.44**	**351**	*e*PKPdf	**PKPab**	**00 09 19.3**	**-0.5**
OTAV				LR	LR			
	comp=Z,21µm,21.0s							
PAYG	**Puerto Ayora**	**146.98**	**13**	*e*PKPdf	**PKPab**	**00 09 22.5**	**+1.2**
PAYG				LR	LR			
	comp=Z,14µm,21.0s							
SAML	**Samuel**	**149.58**	**318**	*e*PKPdf	**PKPbc**	**00 09 23.3**	**-3.4**
SAML				LR	LR			
	comp=Z,10µm,21.0s							
SIV	**San Ignacio**	**153.63**	**305**	PKP	**PKPdf**	**00 09 29.6**	**+1.3**
	comp=Z,15nm,1.2s,baz=98,slow=2.9,SNR=7.7							
SIV				PKPbc	**PKiKP**	**00 09 38.6**	**+2.5**
	comp=Z,23nm,0.9s,baz=69,slow=3.4,SNR=20							
ATAH	**Atahualpa**	**153.68**	**349**	PKP	**PKPbc**	**00 09 31.8**	**-4.9**
	comp=Z,19nm,1.0s,baz=352,slow=1.9,SNR=8.5							
**EF

GOPC	**GO Pecny, Ondr**	**2.63**	**262**	*e*SG	Sg	23 55 44.1	-0.7
PVCC	**Panska Ves**	**2.72**	**275**	*e*SG	Sg	23 55 47.2	-0.5
	comp=Z,4.5nm,0.4s						
PRU	**Pruhonice**	**2.77**	**264**	*e*SG	Sg	23 55 48.7	-0.7
KHC	**Kasperske Hory**	**3.61**	**252**	*e*SG	Sg	23 56 15.2	-1.2
	comp=Z,1.3nm,0.5s						

MAN 14 00:00:59.6 88N×124.92E, h131km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.00**	**8**	*e*P	Pn	00 01 22.1	0.0
BUKP				*e*S	Sn	00 01 36.8	-2.9
CGP	**Cagayan de Oro**	**1.58**	**352**	⇑*i*P	Pn	00 01 29.8	+1.7
CGP				*i* S	Sn	00 01 51.3	+1.0
PAGZ	**Pagadian**	**1.80**	**302**	*e*P	Pn	00 01 32.6	+2.0
PAGZ				*e*S	Sn	00 01 56.2	+1.3
IPIL	**Ipil**	**2.50**	**291**	*e*P	Pn	00 01 39.1	-0.1

IDC **14** *00:01:14.0±0.4, 32.°95N×96.°94E, h0km, mb4.6/37, mb1 4.7/41, mb1mx4.6/57, mbtmp4.6/41, ML4.0/4, Error ellipse: s-maj=13.0km s-min=9.5km az=47.0*

BJI **14** *00:01:15.8, 33.°00N×96.°89E, h6km, mB5.3/2, mb5.2/17, ML4.7/12, Ms4.9/2, Ms7 4.8/3*

ISCJB **14** *00:01:15.4±0.2, 32.°89N±0.°03×96.°87E±0.°03, h19km, mb5.0/129, Error ellipse: s-maj=3.8km s-min=3.1km az=2.4*

MOS **14** *00:01:17.3±1.1, 32.°93N×96.°89E, h33km, mb5.3/57, Error ellipse: s-maj=7.4km s-min=4.3km az=123.9*

NEIC **14** *00:01:17.6±1.4, 32.°93N×96.°86E, h23km±10km, mb5.4/69, Error ellipse: s-maj=4.7km s-min=3.8km az=218.0*

SZGRF **14** *00:01:21.5, 34.°00N×97.°25E, h33km, mb4.7, Qinghai, China*

ISC 14 00:01:18.7±0.6, 32.°96N±0.°04×96.°88E±0.°04, h30km±4km, n405, σ1§27/401, mb5.0/131, **29C-23D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.88**	**238**	P	**Pn**	**00 02 41.9**	**-2.4**
LSA				*e*		00 03 51.7	
LSA	**Lhasa**	**5.88**	**238**	Pn	**Pn**	**00 02 41.9**	**-2.4**
LSA				*e*Sn	**Sn**	**00 03 51.7**	**+0.8**
CD2	**Chengdu**	**6.19**	**107**	Pn	**Pn**	**00 02 47.0**	**-1.1**
CD2				Pg	**Pb**	**00 03 07.4**	**+1.6**
CD2				Sn	**Sn**	**00 03 53.8**	**-4.1**
CD2				Sg	Sb	00 04 27.8	+8.4
CD2				SMN			
	1μm,1.5s						
CD2				SME			
	2μm,1.2s						
LZH	**Lanzhou**	**6.54**	**60**	Pn	**Pn**	**00 02 54.3**	**+1.3**
LZH				Sg	Sb	00 04 44.3	+15
LZH				SMN			
	1μm,1.4s						
LZH				SME			
	710nm,1.5s						
LZH				LN			
	3μm,8.2s						
LZH				LE			
	4μm,9.0s						
LZH				LZ			
	6μm,10.1s						
GTA	**Gaotai**	**6.86**	**19**	*e*P	Pn	00 03 04.4	+7.0
GTA				pP	pP	00 03 07.6	
GTA				sP	sP	00 03 10.9	
GTA				S	Sn	00 04 26.1	+11
GTA				sS	sS	00 04 32.3	
GTA				pmax	pmax		
	comp=Z,100nm,0.1s						
GTA				pmax	pmax		
	comp=Z,79μm,5.7s						
GTA				LR	LR		
	comp=N,48μm,9.0s						
GTA				LR	LR		
	comp=E,42μm,12.1s						
GTA				LR	LR		
	comp=Z,45μm,9.0s						
KMI	**Kunming**	**9.34**	**145**	P	**Pn**	**00 03 32.3**	**+0.8**
KMI				PMZ			
	comp=Z,120nm,1.2s						
TAPN	**Taplejung**	**9.71**	**237**	*e*P	**Pn**	**00 03 36.8**	**+0.1**
	comp=Z,240nm,0.9s						
XAN	**Xi'an**	**10.11**	**81**	P	**Pn**	**00 03 41.8**	**-0.1**
ODAN	**Odare**	**10.23**	**236**	*e*P	**Pn**	**00 03 44.1**	**+0.3**
	comp=Z,337nm,0.5s						
JIRN	**Jiri**	**10.64**	**243**	*e*P	**Pn**	**00 03 49.4**	**-0.1**
	comp=Z,172nm,0.6s						
GYA	**Guiyang**	**10.68**	**125**	⇑*i*P	**Pn**	**00 03 51.0**	**+1.1**
GYA				PP	**PnPn**	**00 04 00.6**	**+3.0**
GYA				S	**Sn**	**00 05 50.3**	**+1.8**
GYA				SS	**SnSn**	**00 06 03.8**	**+3.4**
GYA				PMZ			
	comp=Z,50nm,0.6s						
GYA				PMZ			
	comp=Z,190nm,4.5s						
GYA				LN			
	comp=Z,6μm,9.8s						
GYA				LE			
	comp=Z,5μm,9.8s						
GYA				LZ			
	comp=Z,4μm,10.2s						
RAMN	**Ramite**	**10.74**	**239**	*e*P	**Pn**	**00 03 50.8**	**+0.1**
	comp=Z,145nm,0.6s						
GUN	**Gumba**	**10.75**	**245**	*e*P	**Pn**	**00 03 51.1**	**+0.2**
	comp=Z,416nm,0.6s						
ENH	**Enshi**	**11.07**	**101**	*e*Pn	**Pn**	**00 03 54.8**	**-0.3**
KKN	**Kakani**	**11.27**	**246**	*e*P	**Pn**	**00 03 57.2**	**-0.7**
	comp=Z,162nm,0.7s						
PKI	**Pulchoki**	**11.28**	**245**	*e*P	**Pn**	**00 03 57.9**	**-0.3**
	comp=Z,238nm,0.5s						
PKIN	**Phulchoki**	**11.28**	**245**	*e*P	**Pn**	**00 03 57.7**	**-0.5**
	comp=Z,160nm,0.4s						
GKN	**Gorkha**	**11.66**	**248**	*e*P	**Pn**	**00 04 02.6**	**-0.6**
	comp=Z,128nm,0.5s						
DANN	**Dangsing**	**12.20**	**251**	*e*P	**Pn**	**00 04 09.4**	**-1.3**
	comp=Z,237nm,0.8s						
KOLN	**Koldanda**	**12.58**	**249**	*e*P	**Pn**	**00 04 14.8**	**-1.1**
	comp=Z,103nm,0.7s						
PYUN	**Piuthan**	**12.92**	**252**	*e*P	**Pn**	**00 04 19.1**	**-1.4**
	comp=Z,438nm,0.8s						
WMQ	**Urumqi**	**13.01**	**329**	*e*P	**Pn**	**00 04 22.3**	**+0.8**
WMQ				pP	pP	00 04 29.0	
WMQ				sP	sP	00 04 33.0	
WMQ				PMZ			
	comp=Z,320nm,1.1s						
HHC	**Hu-ho-hao-te**	**14.13**	**52**	*e*P	**P**	**00 04 41.3**	**-2.8**
HHC				S	Sn	00 07 22.3	+10
HHC				PMZ			
	comp=Z,100nm,0.5s						
CM31	**Chiang Mai Arr**	**14.56**	**172**	*e*Pn	**Pn**	**00 04 42.7**	**0.0**
CMAR	**Chiang Mai Arr**	**14.56**	**172**	P	**Pn**	**00 04 42.7**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**14.56**	**172**	Pn	**Pn**	**00 04 42.7**	**0.0**
	comp=Z,0.9nm,0.3s,baz=345,slow=12,SNR=61						
SONA0	**Songino Array**	**16.51**	**23**	*e*Pn	**Pn**	**00 05 06.9**	**-1.3**
SONM	**Songino Array**	**16.51**	**23**	Pn	**Pn**	**00 05 06.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=204,slow=13,SNR=6.2						
ULN	**Ulaanbaatar**	**16.76**	**24**	⇓*e*P	**P**	**00 05 13.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,276nm,2.9s						
ULN	**Ulaanbaatar**	**16.76**	**24**	*e*Pn	**Pn**	**00 05 11.3**	**0.0**
MK32	**Makanchi Array**	**17.75**	**325**	*e*Pn	**Pn**	**00 05 23.7**	**+0.3**
MKAR	**Makanchi Array**	**17.75**	**325**	P	**Pn**	**00 05 23.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**17.75**	**325**	P	**Pn**	**00 05 23.7**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=137,slow=11,SNR=30						
KSH	**Kashi**	**18.07**	**297**	*e*P	P	00 05 34.8	+6.9
KSH				sP	sP	00 05 38.4	-1.4
KSH				S	**S**	**00 08 57.8**	**+4.2**
KSH				sS	sS	00 09 03.8	-2.5
QIZ	**Qiongzhong**	**18.09**	**137**	*e*Pn	**Pn**	**00 05 25.0**	**-2.9**
	comp=Z,2μm,3.0s						
HVS	**Khovu-Aksy**	**18.31**	**354**	⇓*e*P	**Pn**	**00 05 34.8**	**+4.3**
HVS				pmax	pmax		
	comp=Z,143nm,1.2s						
NJ2	**Nanjing**	**18.55**	**87**	*e*P	**Pn**	**00 05 34.8**	**+1.4**
TLY	**Talaya**	**19.35**	**13**	P	**P**	**00 05 42.1**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=176,slow=16,SNR=2.5						
TKM2	**Tokmak 2**	**19.47**	**307**	*e*P	**P**	**00 05 43.6**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,687nm,2.8s						
TKM2	**Tokmak 2**	**19.47**	**307**	*e*P	**P**	**00 05 43.6**	**+0.4**
	comp=Z,687nm,2.8s						
AAK	**Ala-Archa**	**20.11**	**305**	⇑*e*P	Pn	00 05 51.8	-0.4
AAK				pmax	pmax		
	comp=Z,270nm,1.5s						
AAK	**Ala-Archa**	**20.11**	**305**	P	Pn	00 05 51.4	-0.8
	comp=Z,12nm,0.6s,baz=127,slow=8.6,SNR=14						
EKS2	**Erkin-Say**	**20.61**	**305**	*e*P	**P**	**00 05 56.6**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,2μm,3.0s						
EKS2	**Erkin-Say**	**20.61**	**305**	*e*P	**P**	**00 05 56.6**	**+1.0**
	comp=Z,2μm,3.0s						
KURBB	**Kurchatov Arra**	**22.23**	**328**	P	**P**	**00 06 11.6**	**-1.1**
	comp=Z,26nm,0.9s,baz=134,slow=11,SNR=17						
KURK	**Kurchatov**	**22.25**	**328**	P	**P**	**00 06 11.6**	**-1.4**
KURK				pmax	pmax		
	comp=Z,26nm,0.9s						
KURK	**Kurchatov**	**22.25**	**328**	P	**P**	**00 06 11.6**	**-1.4**
ZALV	**Zalesovo Beam**	**22.67**	**341**	P	**P**	**00 06 16.4**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,13nm,0.8s						
ZALV	**Zalesovo Beam**	**22.67**	**341**	P	**P**	**00 06 16.4**	**-1.0**
	comp=Z,18nm,0.8s,baz=151,slow=8.3,SNR=8.0						
ZAA1	**Zalesovo Array**	**22.68**	**341**	*e*P	**P**	**00 06 16.4**	**-1.1**
KKAR	**Karatay Array**	**23.03**	**304**	*e*P	**P**	**00 06 22.1**	**+0.8**
KKAR	**Karatay Array**	**23.03**	**304**	*e*P	**P**	**00 06 22.1**	**+0.8**
KBL	**Kabul**	**23.18**	**282**	*e*P	**P**	**00 06 23.3**	**+0.2**
KBL				pmax	pmax		
	comp=Z,179nm,0.9s						
KBL	**Kabul**	**23.18**	**282**	*e*P	**P**	**00 06 23.3**	**+0.2**
	comp=Z,179nm,0.9s						
CN2	**Changchun**	**24.75**	**56**	*e*P	**P**	**00 06 38.0**	**+0.4**
CN2				PMZ			
	comp=Z,20nm,0.6s						
TJN	**Taejon**	**25.25**	**74**	*e*P	**P**	**00 06 42.8**	**+0.7**
KS15	**Wonju Array Si**	**25.66**	**71**	*e*P	**P**	**00 06 45.2**	**-0.6**
KSAR	**Wonju Array Be**	**25.66**	**71**	P	**P**	**00 06 45.3**	**-0.6**
KSAR	**Wonju Array Be**	**25.66**	**71**	P	**P**	**00 06 45.2**	**-0.6**
KSRS	**Korea Array**	**25.69**	**71**	P	**P**	**00 06 45.3**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,17nm,0.8s						
KSRS	**Korea Array**	**25.69**	**71**	P	**P**	**00 06 45.3**	**-0.8**
	comp=Z,17nm,0.8s,baz=264,slow=9.1,SNR=20						
BVAR	**Borovoye Array**	**27.62**	**324**	P	**P**	**00 07 04.4**	**+1.0**
BVAR						00 10 19.9	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**27.62**	**324**	P	**P**	**00 07 04.4**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=123,slow=7.2,SNR=3.9						
BVAR				PcP	**PcP**	**00 10 19.9**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=140,slow=3.4,SNR=5.1						
BRVK	**Borovoye**	**27.69**	**324**	*e*P	**P**	**00 07 03.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,189nm,1.8s						
BRVK	**Borovoye**	**27.69**	**324**	*e*P	**P**	**00 07 03.9**	**-0.1**
	comp=Z,189nm,1.8s						
MDJ	**Mudanjiang**	**27.84**	**56**	P	**P**	**00 07 07.3**	**+1.8**
MDJ				PMZ			
	comp=Z,37nm,1.6s						
PALK	**Pallekele**	**29.65**	**214**	P	**P**	**00 07 21.8**	**+0.1**
PALK				pmax	pmax		
	comp=Z,35nm,1.1s						
PALK	**Pallekele**	**29.65**	**214**	P	**P**	**00 07 21.8**	**+0.1**
	comp=Z,35nm,1.1s,baz=5.0,slow=11,SNR=1.6						
GEYT	**Alibeck**	**31.81**	**290**	P	**P**	**00 07 41.8**	**+1.1**
	comp=Z,4.1nm,0.6s,baz=98,slow=10,SNR=3.9						
ABKAR	**Akbulak array**	**31.86**	**312**	*e*P	**P**	**00 07 40.6**	**-0.4**
KKM	**Kota Kinabalu**	**32.26**	**142**	*e*P	**P**	**00 07 44.9**	**0.0**
	comp=Z,47nm,1.0s						
HABR	**Khabarovsk**	**32.43**	**50**	*e*P	**P**	**00 07 46.3**	**+0.3**
HABR				*e**PP	**pP**	**00 07 55.9**	**+1.2**
HABR				*e**SP	**sP**	**00 08 00.2**	**+1.8**
HABR						00 10 33.8	
HABR				*e*SS	**SnSn**	**00 14 55.7**	**+3.1**
HABR				*e*SSS	SSS	00 15 12.2	
HABR				*e*		00 18 12.5	
HABR				pmax	pmax		
	comp=Z,190nm,1.9s						
HABR				MLR	MLR		
	comp=Z,31μm,16.0s						
AKTO	**Aktyubinsk**	**33.40**	**313**	P	**P**	**00 07 55.1**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKTO	**Aktyubinsk**	**33.40**	**313**	P	**P**	**00 07 55.1**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=117,slow=9.0,SNR=3.9						
SBUM	**Sibu**	**33.59**	**151**	*e*P	P	00 07 52.4	-3.9
	comp=Z,35nm,1.1s						
MAJO	**Matsushiro**	**33.96**	**72**	*e*P	**P**	**00 07 59.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,464nm,2.7s						
MAJO	**Matsushiro**	**33.96**	**72**	*e*P	**P**	**00 07 59.8**	**+0.3**
	comp=Z,464nm,2.7s						
MJAR	**Matsushiro Arr**	**33.96**	**72**	P	**P**	**00 07 59.8**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**33.96**	**72**	P	**P**	**00 07 59.8**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=272,slow=9.3,SNR=3.2						
ARU	**Arti**	**35.25**	**323**	*d*/*i*P	P	00 08 15.1	+4.7
ARU						00 09 26.2	
ARU				S	S	00 13 51.3	+9.3
ARU				pmax	pmax		
	comp=Z,251nm,2.5s						
ARU	**Arti**	**35.25**	**323**	*e*P	**P**	**00 08 07.9**	**-2.5**
	comp=Z,1μm,2.7s						
YAK	**Yakutsk**	**35.84**	**26**	*e*P	**P**	**00 08 13.4**	**-1.9**
YAK				*e*S	**S**	**00 13 49.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				smax	smax		
	comp=N,57μm,6.3s						
YAK				smax	smax		
	comp=E,74μm,9.3s						
GNI	**Garni**	**41.99**	**295**	P	**P**	**00 09 08.2**	**+0.8**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI	**Garni**	**41.99**	**295**	P	**P**	**00 09 08.2**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=17,slow=19,SNR=3.2						
ZEI	**Tsey**	**42.35**	**299**	*e*P	P	00 09 17.8	+7.5
ZEI				pmax	pmax		
	comp=Z,17nm,1.4s						
GOF	**Gofitskoye**	**42.81**	**303**	*e*P	P	00 09 18.7	+4.9
KIV	**Kislovodsk**	**43.14**	**301**	*e*P	P	00 09 20.5	+4.0
KIV				pmax	pmax		
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**	**43.14**	**301**	*e*P	**P**	**00 09 16.4**	**-0.1**
	comp=Z,19nm,0.8s						
SEY	**Seymchan**	**45.63**	**32**	P	**P**	**00 09 36.6**	**+0.6**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SEY	**Seymchan**	**45.63**	**32**	P	**P**	**00 09 36.6**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=247,slow=12,SNR=3.2						
RAYN	**Ar Rayn**	**45.85**	**272**	*e*P	**P**	**00 09 37.4**	**-1.0**
	comp=Z,127nm,3.0s						
ANN	**Anapa**	**46.81**	**303**	*e*P	P	00 09 50.3	+4.8
ANN				pmax	pmax		
	comp=Z,46nm,1.8s						
PETK	**Petropavlovsk-**	**47.22**	**46**	P	**P**	**00 09 49.6**	**+0.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**47.22**	**46**	P	**P**	**00 09 49.6**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=270,slow=9.1,SNR=2.3						
PEA2	**Petropavlovsk-**	**47.23**	**46**	*e*P	**P**	**00 09 49.6**	**+0.9**
SIM	**Simferopol'**	**49.12**	**303**	P	P	00 10 06.8	+3.3
SIM				pmax	pmax		
	comp=Z,13nm,0.9s						
APA	**Apatity**	**49.90**	**333**	⇑*i*P	P	00 10 14.6	+5.5
APA				MLR	MLR		
	comp=Z,32μm,16.0s						
ASF	**Jabal al Asfar**	**49.94**	**286**	P	**P**	**00 10 10.7**	**+0.7**
ASF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASF	**Jabal al Asfar**	**49.94**	**286**	P	**P**	**00 10 10.7**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=71,slow=5.7,SNR=5.2						
BATI	**Baumata**	**49.95**	**145**	P	**P**	**00 10 10.4**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=263,slow=1.8,SNR=4.4						
JOF	**Joensuu**	**50.17**	**327**	*e*P	**P**	**00 10 09.4**	**-1.8**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	**Joensuu**	**50.17**	**327**	*e*p	**P**	**00 10 09.4**	**-1.8**
	comp=Z,1.7nm,0.4s						
BR101	**Keskin Array S**	**50.46**	**297**	*e*P	**P**	**00 10 13.7**	**-0.3**
BRTR	**Keskin Array B**	**50.46**	**297**	P	**P**	**00 10 13.6**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**50.46**	**297**	P	**P**	**00 10 13.6**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=72,slow=6.7,SNR=6.8						
ANTO	**Ankara**	**51.06**	**297**	⇓P	**P**	**00 10 20.3**	**+1.9**
ANTO	**Ankara**	**51.06**	**297**	⇓*i*P	**P**	**00 10 20.3**	**+1.9**
AKASG	**Malin Array Be**	**51.60**	**311**	*ce*P	**P**	**00 10 24.1**	**+1.9**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AKASG	**Malin Array Be**	**51.60**	**311**	P	**P**	**00 10 21.4**	**-0.8**
	comp=Z,7.3nm,0.5s,baz=68,slow=7.5,SNR=9.5						
AKBB	**Malin Array Si**	**51.60**	**311**	*e*P	**P**	**00 10 21.4**	**-0.8**
AKBB	**Malin Array Si**	**51.60**	**311**	*e*P	**P**	**00 10 21.4**	**-0.8**
KIEV	**Kiev**	**51.62**	**311**	⇓*i*P	**P**	**00 10 24.5**	**+2.3**
BILL	**Bilibino**	**52.19**	**26**	⇓*i*P	**P**	**00 10 28.8**	**+2.6**
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
BILL	**Bilibino**	**52.19**	**26**	*e*P	**P**	**00 10 28.9**	**+2.6**
	comp=Z,14nm,0.8s						
VSU	**Vasula**	**52.36**	**321**	⇓*e*P	**P**	**00 10 28.1**	**+0.5**
VSU				pmax	pmax		
	comp=Z,57nm,1.3s						
KAF	**Kangasniemi**	**52.46**	**326**	*e*P	**P**	**00 10 27.3**	**-1.0**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	**52.46**	**326**	*e*p	**P**	**00 10 27.3**	**-1.0**
	comp=Z,3.4nm,0.6s						
KEV	**Kevo**	**52.53**	**336**	*e*P	**P**	**00 10 27.5**	**-1.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	**Kevo**	**52.53**	**336**	*e*p	**P**	**00 10 27.5**	**-1.3**
	comp=Z,0.8nm,0.4s						
FIA0	**FINESS Array S**	**52.58**	**325**	*e*P	**P**	**00 10 28.6**	**-0.6**
FIA0	**FINESS Array S**	**52.58**	**325**	*e*P	**P**	**00 10 28.6**	**-0.6**
FINES	**FINESS Array B**	**52.58**	**325**	P	**P**	**00 10 28.6**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**52.58**	**325**	P	**P**	**00 10 28.6**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=103,slow=9.0,SNR=12						
ARA0	**ARCESS Array S**	**53.04**	**335**	*e*P	**P**	**00 10 31.8**	**-0.8**
ARCES	**ARCESS Array B**	**53.04**	**335**	P	**P**	**00 10 31.8**	**-0.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**53.04**	**335**	P	**P**	**00 10 31.8**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=83,slow=7.4,SNR=12						
CFR	**Carcaliu**	**53.25**	**305**	⇑P	**P**	**00 10 36.8**	**+2.4**
CFR	**Carcaliu**	**53.25**	**305**	⇑*i*P	**P**	**00 10 36.8**	**+2.4**
TLB	**Topalu**	**53.44**	**304**	⇓P	**P**	**00 10 36.4**	**+0.5**
TLB	**Topalu**	**53.44**	**304**	⇓*i*P	**P**	**00 10 36.4**	**+0.5**
HARR	**Harsova**	**53.50**	**304**	⇑P	**P**	**00 10 38.7**	**+2.4**
HARR	**Harsova**	**53.50**	**304**	⇑*i*P	**P**	**00 10 38.7**	**+2.4**
MSAB	**Monastry St. A**	**53.70**	**303**	⇑*i*P	**P**	**00 10 39.6**	**+1.8**
VRI	**Vrincioaia**	**54.07**	**306**	⇓P	**P**	**00 10 42.1**	**+1.6**
VRI	**Vrincioaia**	**54.07**	**306**	⇓*i*P	**P**	**00 10 42.1**	**+1.6**
PLOR	**Plostina**	**54.13**	**306**	⇓P	**P**	**00 10 42.3**	**+1.3**
PLOR	**Plostina**	**54.13**	**306**	⇓*i*P	**P**	**00 10 42.3**	**+1.3**
MLR	**Muntele Rosu**	**54.69**	**305**	⇑P	**P**	**00 10 46.8**	**+1.6**
MLR	**Muntele Rosu**	**54.69**	**305**	⇑*i*P	**P**	**00 10 46.8**	**+1.6**
BURAR	**Bucovina Array**	**54.72**	**308**	⇓P	**P**	**00 10 45.4**	**+0.1**
BURAR	**Bucovina Array**	**54.72**	**308**	⇓*i*P	**P**	**00 10 45.4**	**+0.1**
JMB	**Yambol**	**54.98**	**302**	⇑P	**P**	**00 10 47.7**	**+0.6**
JMB	**Yambol**	**54.98**	**302**	⇑*i*P	**P**	**00 10 47.7**	**+0.6**
VOIR		**55.32**	**306**	⇓P	**P**	**00 10 51.0**	**+1.4**
VOIR		**55.32**	**306**	⇓*i*P	**P**	**00 10 51.0**	**+1.4**
ARR	**Arges**	**55.62**	**306**	⇑*i*P	**P**	**00 10 52.0**	**+0.2**
BMR	**Baia Mare**	**55.84**	**308**	⇑P	**P**	**00 10 53.7**	**+0.5**
BMR	**Baia Mare**	**55.84**	**308**	⇑*i*P	**P**	**00 10 53.7**	**+0.5**
KWP	**Kalwaria Pacla**	**55.91**	**311**	⇑P	**P**	**00 10 54.3**	**+0.5**
KWP	**Kalwaria Pacla**	**55.91**	**311**	⇑*i*P	**P**	**00 10 54.3**	**+0.5**
KWP	**Kalwaria Pacla**	**55.91**	**311**	*e*P	**P**	**00 10 55.3**	**+1.5**
	comp=Z,51nm,0.9s						
LOT	**Lotru**	**56.19**	**306**	⇓*i*P	**P**	**00 10 56.4**	**+0.5**
TRPA	**Tarpa**	**56.36**	**309**	⇓*i*P	**P**	**00 10 56.2**	**-0.7**
DRGR		**56.57**	**308**	⇑P	**P**	**00 10 59.1**	**+0.6**
DRGR		**56.57**	**308**	⇑*i*P	**P**	**00 10 59.1**	**+0.6**
KBS	**Kingsbay**	**56.94**	**347**	*e*P	**P**	**00 10 59.5**	**-1.1**
KBS				pmax	pmax		
	comp=Z,300nm,2.8s						
KBS	**Kingsbay**	**56.94**	**347**	*e*P	**P**	**00 10 59.5**	**-1.1**
	comp=Z,300nm,2.8s						
SANT	**Santorini**	**57.60**	**295**	*e*P	**P**	**00 11 04.5**	**-1.5**
	comp=Z,91nm,1.8s						
KECS	**Kecovo**	**57.60**	**310**	*e*P	**P**	**00 11 05.9**	**+0.2**
KECS	**Kecovo**	**57.60**	**310**	*e*P	**P**	**00 11 05.9**	**+0.2**
OJC	**Ojcow**	**57.61**	**312**	*e*P	**P**	**00 11 05.6**	**-0.2**
OJC				pmax	pmax		
	comp=Z,161nm,2.4s						
OJC	**Ojcow**	**57.61**	**312**	*e*P	**P**	**00 11 05.6**	**-0.2**
	comp=Z,161nm,2.4s						
VYHS	**Vyhne**	**58.66**	**310**	*e*P	**P**	**00 11 14.6**	**+1.4**
VYHS	**Vyhne**	**58.66**	**310**	*e*P	**P**	**00 11 14.6**	**+1.4**
OKC	**Ostrava-Krasne**	**58.74**	**312**	*e*P	**P**	**00 11 15.8**	**+2.2**
OKC				*e*		00 11 21.0	
OKC	**Ostrava-Krasne**	**58.74**	**312**	*e*P	**P**	**00 11 15.8**	**+2.2**
OKC				*e*pP	**pP**	**00 11 21.0**	**-1.9**
HFS	**Hagfors**	**58.76**	**324**	P	**P**	**00 11 13.1**	**-0.5**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HFS	**Hagfors**	**58.

BRG pmax pmax
comp=Z,11nm,0.9s
GROS Grobnik 61.42 309 *i* P **P 00 11 31.8 -0.5**
CLL Collm 61.46 315 *e*P **P 00 11 34.3 +2.0**
comp=Z,5.0nm,1.0s
CLL Collm 61.46 315 *e*P **P 00 11 34.0 +1.7**
CLL Collm 61.46 315 *e*P **P 00 11 34.0 +1.7**
CLL *e*PP **PP 00 13 47.0 -0.4**
PERS Pernice 61.62 309 *i* P **P 00 11 33.8 +0.2**
MOA Mollin 61.77 311⇑ *i*P **P 00 11 36.5 +2.0**
comp=Z,16nm,1.5s
KHC Kasperske Hory 61.79 312 *e*P **P 00 11 35.4 +0.8**
KHC *e* 00 11 41.8
KHC Kasperske Hory 61.79 312 *e*P **P 00 11 35.4 +0.8**
KHC *e*pP **pP 00 11 41.8 -2.1**
KHC Kasperske Hory 61.79 312 *e*P **P 00 11 34.1 -0.5**
comp=Z,128nm,2.6s
GEC2 GERESS Array S 61.81 312 *e*P **P 00 11 36.6 +1.8**
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 61.81 312 *e*P **P 00 11 32.9 -1.9**
GEC2 GERESS Array S 61.81 312 *e*P **P 00 11 32.9 -1.9**
GERES GERESS Array B 61.81 312 P **P 00 11 34.8 0.0**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 61.81 312 P **P 00 11 34.8 0.0**
comp=Z,3.4nm,0.8s,baz=69,slow=5.6,SNR=12
BOJS Bojanci 61.90 308 *i* P P 00 11 38.5 +3.1
TANN Tannenbergstha 62.07 314 *e*P **P 00 11 37.8 +1.3**
comp=Z,3.0nm,0.8s
VISS Visnje 62.07 308 *e*P **P 00 11 36.4 -0.1**
BSEG Bad Segeberg 62.20 318 *e*P **P 00 11 39.4 +2.3**
comp=Z,4.0nm,0.8s
WET Wettzell 62.23 312 *e*P **P 00 11 39.8 +2.3**
comp=Z,4.0nm,0.9s
ROTZ Rotzenmuhle 62.43 313 *e*P **P 00 11 41.8 +2.9**
comp=Z,11nm,1.1s
MOX Moxa 62.50 314 *e*P **P 00 11 41.6 +2.3**
comp=Z,3.0nm,1.0s
JAVS Javornik 62.55 309 *i* P **P 00 11 41.2 +1.3**
RJOB Jochberg 62.74 311 *e*P P 00 11 44.5 +3.4
comp=Z,4.0nm,0.8s
NRDL Niedersach Rie 62.78 317 *e*P **P 00 11 43.8 +2.8**
comp=Z,12nm,1.0s
CLZ Clausthal 62.84 316 *e*P **P 00 11 42.9 +1.3**
comp=Z,3.0nm,0.7s
GRF Grafenberg Arr 63.06 313 *e*P **P 00 11 45.9 +2.8**
comp=Z,8.0nm,0.8s
ABTA Abfaltersbach 63.27 310⇑ *i*P **P 00 11 45.3 +0.7**
comp=Z,14nm,1.5s
CUC Castrocucco 63.45 302 *e*P **P 00 11 48.4 +2.5**
comp=Z,7.9nm,0.8s
FUR Furstenfeldbru 63.56 312 *e*P **P 00 11 48.9 +2.5**
comp=Z,23nm,1.0s
WRAB Tennant Creek 63.62 140 P **P 00 11 46.3 -0.7**
comp=Z,144nm,0.9s,SNR=7.6
WRAB Tennant Creek 63.62 140⇓ *e*P **P 00 11 46.8 -0.2**
WRAB pmax pmax
comp=Z,110nm,2.5s
WRAB Tennant Creek 63.62 140 *e*P **P 00 11 46.6 -0.4**
comp=Z,20nm,0.8s
WRA Warramunga Arr 63.62 140 P **P 00 11 46.4 -0.6**
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 63.62 140 P **P 00 11 46.4 -0.6**
comp=Z,6.3nm,0.6s,baz=332,slow=7.0,SNR=14
WB2 Warramunga Arr 63.63 140 *e*P **P 00 11 46.1 -1.0**
PMG Port Moresby 63.75 122⇑ *e*P **P 00 11 49.8 +1.8**
PMG pmax pmax
comp=Z,79nm,2.5s
MOTA Moosalm 63.96 311⇑ *i*P **P 00 11 48.1 -1.1**
comp=Z,6.7nm,0.7s
CEL Celeste 64.05 300 *e*P **P 00 11 52.0 +2.1**
comp=Z,28nm,0.9s
COEN Coen 64.26 129 *e*P **P 00 11 49.4 -1.9**
comp=Z,15nm,1.0s
AQU L'Aquila 64.27 305 *e*P **P 00 11 51.5 +0.3**
AQU pmax pmax
comp=Z,113nm,2.0s
AQU L'Aquila 64.27 305 *e*P **P 00 11 51.5 +0.3**
comp=Z,113nm,2.0s
FETA Feichten 64.31 311⇑ *i*P **P 00 11 51.7 +0.2**
comp=Z,12nm,0.8s
TNS Taunus Mts 64.55 315 *e*P **P 00 11 55.4 +2.5**
comp=Z,4.0nm,0.9s
FUORN Ofenpass-Fuorn 64.76 310 *e*P **P 00 11 57.2 +2.7**
comp=Z,25nm,1.3s
BFO Black Forest 65.33 313 *e*P **P 00 11 59.8 +1.8**
comp=Z,4.0nm,0.9s
BFO Black Forest 65.33 313 *e*P **P 00 11 59.6 +1.6**
BFO pmax pmax
comp=Z,19nm,1.3s
BFO Black Forest 65.33 313 *e*P **P 00 11 59.6 +1.6**
comp=Z,19nm,1.3s
TUE Stuetta 65.40 311 *e*P **P 00 11 58.4 -0.3**
comp=Z,12nm,0.7s
KMBO Kilima Mbogo 65.52 251 P **P 00 12 00.2 +0.3**
KMBO pmax pmax
comp=Z,6.0nm,0.7s
KMBO Kilima Mbogo 65.52 251 P **P 00 12 00.2 +0.3**
comp=Z,6.1nm,0.7s,baz=46,slow=9.3,SNR=11
CDF Champ du Feu 65.94 313 *e*P **P 00 12 02.7 +0.7**
comp=Z,15nm,0.8s
CDF Champ du Feu 65.94 313 *e*P **P 00 12 02.7 +0.7**
CDF pmax pmax
comp=Z,15nm,0.8s
CDF Champ du Feu 65.94 313 *e*P **P 00 12 02.7 +0.7**
comp=Z,15nm,0.8s
WLF Walferdange 66.13 315 *e*P **P 00 12 05.0 +1.9**
comp=Z,8.0nm,0.8s
WLF Walferdange 66.13 315 *e*P P 00 12 06.5 +3.4
WLF pmax pmax
comp=Z,17nm,0.9s
WLF Walferdange 66.13 315 *e*P P 00 12 06.5 +3.4
comp=Z,17nm,0.9s
HINF Hinteralfeld 66.44 313 *e*P **P 00 12 05.3 +0.1**
HINF Hinteralfeld 66.44 313 *e*P **P 00 12 05.3 +0.1**
HINF Hinteralfeld 66.44 313 *e*P **P 00 12 05.3 +0.1**
AS12 Alice Springs 66.46 143 *e*P **P 00 12 05.0 -0.5**
ASAR Alice Springs 66.46 143 P **P 00 12 05.0 -0.5**
ASAR pmax pmax
comp=Z,10.0nm,0.5s
ASAR Alice Springs 66.46 143 P **P 00 12 05.0 -0.5**
comp=Z,10nm,0.5s,baz=326,slow=6.6,SNR=30
HAU Haudompre 66.68 313 *e*P **P 00 12 06.5 -0.1**
HAU Haudompre 66.68 313 *e*P **P 00 12 06.5 -0.1**
HAU Haudompre 66.68 313 *e*P **P 00 12 06.5 -0.1**
PGF Pioggiola 67.19 307 *e*P **P 00 12 10.2 +0.1**
comp=Z,49nm,1.2s
PGF Pioggiola 67.19 307 *e*P **P 00 12 10.2 +0.1**
PGF pmax pmax
comp=Z,49nm,1.2s
PGF Pioggiola 67.19 307 *e*P **P 00 12 10.2 +0.1**
comp=Z,49nm,1.2s
MEZF Maizieres J'vi 67.27 314 *e*P **P 00 12 09.9 -0.4**
comp=Z,36nm,1.2s
MEZF Maizieres J'vi 67.27 314 *e*P **P 00 12 09.9 -0.4**
comp=Z,36nm,1.3s
SFTF Sexfontaines 67.40 314 *e*P **P 00 12 11.8 +0.6**
SFTF Sexfontaines 67.40 314 *e*P **P 00 12 11.8 +0.6**
LPG La Plagne 67.45 310 *e*P **P 00 12 11.2 -0.7**
comp=Z,42nm,0.9s
LPG La Plagne 67.45 310 *e*P **P 00 12 11.2 -0.7**
LPG pmax pmax
comp=Z,42nm,0.9s
LPG La Plagne 67.45 310 *e*P **P 00 12 11.2 -0.7**
comp=Z,42nm,0.9s
LPL La Plagne 67.45 310 *e*P **P 00 12 11.1 -0.8**
comp=Z,37nm,0.9s
LPL La Plagne 67.45 310 *e*P **P 00 12 11.1 -0.8**
LPL pmax pmax
comp=Z,37nm,0.9s
LPL La Plagne 67.45 310 *e*P **P 00 12 11.1 -0.8**
comp=Z,37nm,0.9s
BNI Bardonecchia 67.68 310 *e*P **P 00 12 12.2 -1.0**
BNI pmax pmax
comp=Z,123nm,2.4s
BNI Bardonecchia 67.68 310 *e*P **P 00 12 12.2 -1.0**
comp=Z,123nm,2.4s
SBF Sospel 67.68 309 *e*P **P 00 12 12.1 -1.0**
comp=Z,73nm,1.3s
SBF Sospel 67.68 309 *e*P **P 00 12 12.1 -1.0**
SBF pmax pmax
comp=Z,73nm,1.3s
SBF Sospel 67.68 309 *e*P **P 00 12 12.1 -1.0**
comp=Z,73nm,1.3s
MBDF Montbardon 67.75 310 *e*P **P 00 12 14.4 +0.7**
comp=Z,21nm,1.0s
MBDF Montbardon 67.75 310 *e*P **P 00 12 14.4 +0.7**
MBDF pmax pmax
comp=Z,21nm,1.0s
MBDF Montbardon 67.75 310 *e*P **P 00 12 14.4 +0.7**
comp=Z,21nm,1.0s
COLD Coldfoot 68.20 23 *e*P **P 00 12 17.9 +1.9**
comp=Z,13nm,1.0s
VSL Villasalto 68.20 304 *e*P **P 00 12 16.7 +0.3**
comp=Z,67nm,2.0s
ORIF Oris-en-Rattie 68.25 310 *e*P **P 00 12 16.0 -0.7**
comp=Z,27nm,0.9s
ORIF Oris-en-Rattie 68.25 310 *e*P **P 00 12 16.0 -0.7**
ORIF pmax pmax
comp=Z,27nm,0.9s
ORIF Oris-en-Rattie 68.25 310 *e*P **P 00 12 16.0 -0.7**
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 68.28 162 P **P 00 12 16.2 -0.6**
NWAO pmax pmax
comp=Z,12nm,0.8s
NWAO Narrogin (SRO) 68.28 162 P **P 00 12 16.1 -0.6**
comp=Z,12nm,0.8s,baz=270,slow=2.0,SNR=2.4
FRF La Foret Royal 68.33 309 *e*P **P 00 12 17.1 0.0**
comp=Z,13nm,0.9s
FRF La Foret Royal 68.33 309 *e*P **P 00 12 17.1 0.0**
FRF pmax pmax
comp=Z,13nm,0.9s
FRF La Foret Royal 68.33 309 *e*P **P 00 12 17.1 0.0**
comp=Z,13nm,0.9s
LMR La Mourre 68.52 308 *e*P **P 00 12 18.7 +0.4**
comp=Z,6.4nm,0.6s
LMR La Mourre 68.52 308 *e*P **P 00 12 18.7 +0.4**
LMR pmax pmax
comp=Z,6.0nm,0.6s
LMR La Mourre 68.52 308 *e*P **P 00 12 18.7 +0.4**
comp=Z,6.4nm,0.6s
SMF Signal de Mont 68.80 312 *e*P **P 00 12 19.4 -0.6**
comp=Z,27nm,1.0s
SMF Signal de Mont 68.80 312 *e*P **P 00 12 19.4 -0.6**
SMF pmax pmax
comp=Z,27nm,1.0s
SMF Signal de Mont 68.80 312 *e*P **P 00 12 19.4 -0.6**
comp=Z,27nm,1.0s
ESK Eskdalemuir 68.89 323 *e*P **P 00 12 19.0 -1.4**
ESK pmax pmax
comp=Z,56nm,2.3s
ESK Eskdalemuir 68.89 323 *e*P **P 00 12 19.0 -1.4**
comp=Z,56nm,2.3s
AVF Avril sur Loir 69.03 313 *e*P **P 00 12 21.0 -0.4**
comp=Z,35nm,1.1s
AVF Avril sur Loir 69.03 313 *e*P **P 00 12 21.0 -0.4**
AVF pmax pmax
comp=Z,35nm,1.1s
AVF Avril sur Loir 69.03 313 *e*P **P 00 12 21.0 -0.4**
comp=Z,35nm,1.1s
VIVF Saint-Julien-l 69.05 310 *e*P **P 00 12 21.2 -0.4**
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 69.05 310 *e*P **P 00 12 21.2 -0.4**
VIVF pmax pmax
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 69.05 310 *e*P **P 00 12 21.2 -0.4**
comp=Z,16nm,1.0s
BGF Bois d'Agland 69.45 313 *e*P **P 00 12 24.3 +0.3**
BGF Bois d'Agland 69.45 313 *e*P **P 00 12 24.3 +0.3**
BGF Bois d'Agland 69.45 313 *e*P **P 00 12 24.3 +0.3**
SVW2 Sparrevohn 69.50 30 *e*P **P 00 12 26.7 +2.6**
comp=Z,127nm,2.4s
KEST Kesra 69.87 300 P **P 00 12 27.4 +0.5**
comp=Z,2.1nm,0.8s,baz=8.4,slow=4.6,SNR=10.0
PPLA Purkeypile 69.89 27 *e*P **P 00 12 28.9 +2.3**
comp=Z,62nm,1.3s
LASF Ste Croix 69.92 310 *e*P **P 00 12 27.2 +0.2**
comp=Z,16nm,0.9s
LASF Ste Croix 69.92 310 *e*P **P 00 12 27.2 +0.2**
comp=Z,16nm,0.9s
TCF Toulx Ste Croi 69.96 313 *e*P **P 00 12 26.3 -1.0**
comp=Z,35nm,1.0s
TCF Toulx Ste Croi 69.96 313 *e*P **P 00 12 26.3 -1.0**
TCF pmax pmax
comp=Z,35nm,1.0s
TCF Toulx Ste Croi 69.96 313 *e*P **P 00 12 26.3 -1.0**
comp=Z,35nm,1.0s
KTH Kantishna Hill 70.00 26 *e*P **P 00 12 30.2 +2.9**
comp=Z,29nm,1.1s
SDPT Sand Point 70.16 36 P **P 00 12 27.6 -0.6**
TRF Thorofare Moun 70.30 26 *e*P **P 00 12 31.2 +2.1**
comp=Z,165nm,2.5s
COLA College 70.34 24 *de*P **P 00 12 31.0 +1.9**
COLA pmax pmax
comp=Z,75nm,1.0s
COLA College 70.34 24 *e*P **P 00 12 30.8 +1.7**
comp=Z,19nm,1.0s
SUMG Summit 70.36 347 *e*P **P 00 12 28.0 -1.7**
SUMG pmax pmax
comp=Z,218nm,2.9s
SUMG Summit 70.36 347 *e*P **P 00 12 27.9 -1.7**
comp=Z,218nm,2.9s
SUMG Summit 70.36 347 *i*P **P 00 12 32.3 +2.6**
MCK McKinley 70.63 25 *e*P **P 00 12 32.5 +1.5**
MCK pmax pmax
comp=Z,200nm,2.7s
MCK McKinley 70.63 25 *e*P **P 00 12 32.5 +1.5**
comp=Z,200nm,2.7s
CAF Calviac 70.68 311 *e*P **P 00 12 31.3 -0.3**
comp=Z,17nm,1.0s
CAF Calviac 70.68 311 *e*P **P 00 12 31.3 -0.3**
CAF pmax pmax
comp=Z,17nm,1.0s
CAF Calviac 70.68 311 *e*P **P 00 12 31.3 -0.3**
comp=Z,17nm,1.0s
ILAR Eielson Array 70.73 24 P **P 00 12 30.6 -1.0**
ILAR pmax pmax
comp=Z,7.0nm,1.0s
ILAR Eielson Array 70.73 24 P **P 00 12 30.6 -1.0**
comp=Z,7.4nm,1.0s,baz=291,slow=5.2,SNR=15
ILB Eielson Array 70.73 24 *e*P **P 00 12 30.6 -1.0**
CTA Charters Tower 70.75 131 P **P 00 12 31.8 -0.5**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTA Charters Tower 70.75 131 P **P 00 12 31.8 -0.5**
comp=Z,8.6nm,0.9s,baz=315,slow=4.3,SNR=3.2
CTAO Charters Tower 70.75 131 *e*P P 00 12 36.2 +3.9
CTAO pmax pmax
comp=Z,19nm,1.0s
CTAO Charters Tower 70.75 131 *e*P P 00 12 36.2 +3.9
comp=Z,20nm,1.0s
GRR Gorron 70.84 316 *e*P **P 00 12 32.2 -0.3**
comp=Z,29nm,0.8s
GRR Gorron 70.84 316 *e*P **P 00 12 32.2 -0.3**
GRR pmax pmax
comp=Z,29nm,0.8s
GRR Gorron 70.84 316 *e*P **P 00 12 32.2 -0.3**
comp=Z,29nm,0.8s
RJF Les Rejaudoux 70.85 312 *e*P **P 00 12 33.0 +0.4**
RJF Les Rejaudoux 70.85 312 *e*P **P 00 12 33.0 +0.4**
RJF Les Rejaudoux 70.85 312 *e*P **P 00 12 33.0 +0.4**
RSO Redoubt South 71.01 29 *e*P P 00 12 37.1 +3.5
MFF Saint Martin d 71.26 314 *e*P **P 00 12 34.8 -0.3**
comp=Z,19nm,1.0s
MFF Saint Martin d 71.26 314 *e*P **P 00 12 34.8 -0.3**
MFF pmax pmax
comp=Z,19nm,1.0s
MFF Saint Martin d 71.26 314 *e*P **P 00 12 34.8 -0.3**
comp=Z,19nm,1.0s
MTLF Montolieu 71.31 310 *e*P **P 00 12 35.5 0.0**
MTLF Montolieu 71.31 310 *e*P **P 00 12 35.5 0.0**
MTLF Montolieu 71.31 310 *e*P **P 00 12 35.5 0.0**
LFF La Frestale 71.50 312 *e*P **P 00 12 36.4 -0.2**
LFF La Frestale 71.50 312 *e*P **P 00 12 36.4 -0.2**
LFF La Frestale 71.50 312 *e*P **P 00 12 36.4 -0.2**
PMR Palmer 71.81 27 *e*P **P 00 12 40.2 +2.1**
PMR pmax pmax
comp=Z,27nm,1.0s
PMR Palmer 71.81 27 *e*P **P 00 12 40.2 +2.1**
comp=Z,27nm,1.0s
SGMF Saint Gilles 71.90 316 *e*P **P 00 12 39.3 +0.4**
comp=Z,11nm,0.6s
SGMF Saint Gilles 71.90 316 *e*P **P 00 12 39.3 +0.4**
SGMF pmax pmax
comp=Z,11nm,0.6s
SGMF Saint Gilles 71.90 316 *e*P **P 00 12 39.3 +0.4**
comp=Z,11nm,0.6s
ROSF Rostrenen 72.28 316 *e*P **P 00 12 40.7 -0.5**
ROSF Rostrenen 72.28 316 *e*P **P 00 12 40.7 -0.5**
ROSF Rostrenen 72.28 316 *e*P **P 00 12 40.7 -0.5**
INK Inuvik 72.34 17 P **P 00 12 41.0 -0.1**
INK pmax pmax
comp=Z,16nm,0.8s
INK Inuvik 72.34 17 P **P 00 12 41.0 -0.1**
comp=Z,16nm,0.8s,baz=337,slow=7.0,SNR=30
RES Resolute Bay 72.34 3 P **P 00 12 42.0 +0.9**
RES pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 72.34 3 P **P 00 12 42.0 +0.9**
comp=Z,4.7nm,0.9s,baz=291,slow=8.6,SNR=4.5
KDAK Kodiak Island 72.59 32 *e*P **P 00 12 42.4 -0.4**
KDAK Kodiak Island 72.59 32 *e*P **P 00 12 42.4 -0.4**
EGAK Eagle 72.63 22 *e*P **P 00 12 43.8 +0.9**
comp=Z,13nm,1.0s
ETSF Etsaut 73.31 310 *e*P **P 00 12 47.4 -0.1**
comp=Z,9.1nm,0.6s
ETSF Etsaut 73.31 310 *e*P **P 00 12 47.4 -0.1**
ETSF pmax pmax
comp=Z,9.0nm,0.6s
ETSF Etsaut 73.31 310 *e*P **P 00 12 47.4 -0.1**
comp=Z,9.1nm,0.6s
SJPF Ste Jean 73.63 311 *e*P **P 00 12 49.2 -0.1**
SJPF Ste Jean 73.63 311 *e*P **P 00 12 49.2 -0.1**
SJPF Ste Jean 73.63 311 *e*P **P 00 12 49.2 -0.1**
DAWY Dawson 73.68 22 *e*P **P 00 12 51.2 +1.9**
BMRM Bremner River 73.92 26 *e*P **P 00 12 52.1 +1.4**
comp=Z,47nm,1.1s
BBOO Buckleboo 75.12 147 *e*P **P 00 12 55.4 -2.5**
comp=Z,272nm,2.5s
HYT Haines Junctio 76.58 24 *e*P **P 00 13 08.0 +1.8**
STKA Stephens Creek 77.07 142 P **P 00 13 08.6 -0.4**
STKA pmax pmax
comp=Z,8.0nm,0.7s
STKA Stephens Creek 77.07 142 P **P 00 13 08.6 -0.4**
comp=Z,11nm,0.9s,baz=333,slow=7.6,SNR=13
ESDC Sonseca Array 77.16 309 P **P 00 13 10.1 +0.3**
comp=Z,2.2nm,0.9s,baz=45,slow=5.9,SNR=8.3
SFJD Kangerlussuaq 77.34 348 P **P 00 13 09.8 -0.3**
SFJD pmax pmax
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 77.34 348 P **P 00 13 09.8 -0.3**
comp=Z,8.7nm,0.8s,baz=15,slow=5.6,SNR=3.5
EVO Evora 80.42 310 *e*P P 00 13 31.8 +4.2
comp=Z,49nm,1.3s
EVOP Sao Brissos 80.50 310 *e*P P 00 13 31.8 +3.9
EVOP pmax pmax
comp=Z,49nm,1.3s
EVOP Sao Brissos 80.50 310 *e*P P 00 13 31.8 +3.9
comp=Z,49nm,1.3s
LSZ Lusaka 81.20 245 *e*P **P 00 13 33.7 +1.6**
LSZ pmax pmax
comp=Z,56nm,2.1s
LSZ Lusaka 81.20 245 *e*P **P 00 13 33.7 +1.6**
comp=Z,56nm,2.1s
YKA Yellowknife Ar 81.56 14 P **P 00 13 32.3 -0.9**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 81.56 14 P **P 00 13 32.3 -0.9**
comp=Z,5.9nm,0.8s,baz=336,slow=5.1,SNR=28
YKB5 Yellowknife Ar 81.56 14 *e*P **P 00 13 32.3 -0.9**
FRB Frobisher Bay 82.93 354 P **P 00 13 40.3 0.0**
FRB pmax pmax
comp=Z,7.0nm,0.7s
FRB Frobisher Bay 82.93 354 P **P 00 13 40.3 0.0**
comp=Z,6.5nm,0.7s,baz=359,slow=6.9,SNR=11
TOA0 Torodi Ar. Sit 87.23 284 *e*P **P 00 14 03.0 +0.3**
TORD Torodi Ar. Bea 87.23 284 P **P 00 14 03.0 +0.3**
comp=Z,5.8nm,0.7s,baz=46,slow=4.4,SNR=21
LBTB Lobatse 89.03 239 *e*P **P 00 14 09.6 -1.5**
LBTB pmax pmax
comp=Z,83nm,2.3s
LBTB Lobatse 89.03 239 *e*P **P 00 14 09.6 -1.5**
comp=Z,82nm,2.3s
EDM Edmonton 90.24 18 *e*P **P 00 14 16.7 +0.4**
EDM pmax pmax
comp=Z,17nm,1.0s
EDM Edmonton 90.24 18 *e*P **P 00 14 16.7 +0.4**
comp=Z,17nm,1.0s
BOSA Boshof 91.43 237 *e*P **P 00 14 21.6 -0.7**
BOSA Boshof 91.43 237 *e*P **P 00 14 21.6 -0.7**
SCHQ Schefferville 91.45 351 P **P 00 14 22.2 +0.4**
comp=Z,2.4nm,0.9s,baz=39,slow=13,SNR=2.7
YUH Yuha Desert 107.78 29 *e*PKIKP **PKiKP 00 19 43.8 +0.5**

*ISCJB **14** 00:05:30.3±0.3, 32°.84N±0°.04×96°.80E±0°.05, h10km, mb4.3/28, Error ellipse: s-maj=6.4km s-min=6.0km az=42.7*
*IDC **14** 00:05:30.6±0.6, 32°.91N×96°.83E, h0km, mb4.0/19, mb1 4.2/22, mb1mx4.0/53, mbtmp4.0/22, ML3.6/3, Error ellipse: s-maj=20.7km s-min=13.4km az=48.0*
*BJI **14** 00:05:31.3, 32°.91N×96°.72E, h8km, ML3.9/8*
*NEIC **14** 00:05:32.1±0.2, 32°.89N×96°.81E, h10km, mb4.9/8, Error ellipse: s-maj=6.3km s-min=4.5km az=62.0*
ISC 14 00:05:31.8±0.4, **32°.92N**±0°.07×**96°.85E**±0°.06, **h10**km, **n59,** σ1§**16**/60, **mb4.3**/29, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.84**	**238**	*e*Pn	Pn		**Pn**	**00 06 59.3**	**+0.3**
LSA				*e*Sn	Sn		**Sn**	**00 08 03.9**	**-2.3**
CD2	**Chengdu**	**6.21**	**107**	Pn	Pn		**Pn**	**00 07 03.8**	**+0.2**
CD2				Pg	Pb			00 07 26.0	+5.9
CD2				Sn	Sn		**Sn**	**00 08 11.1**	**-3.5**
CD2				Sg	Sg			00 08 46.8	-4.3
CD2	140nm,1.2s			SMN					
CD2	210nm,1.2s			SME					
WMQ	**Urumqi**	**13.03**	**329**	*e*P			**Pn**	**00 08 34.1**	**-2.9**
WMQ				pP				00 08 41.0	
CM31	**Chiang Mai Arr**	**14.53**	**172**	*e*Pn			**Pn**	**00 08 58.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**14.53**	**172**	Pn			**Pn**	**00 08 58.6**	**+1.0**
	0.2nm,0.3s,baz=344,slow=11,SNR=10.0								
SONA0	**Songino Array**	**16.55**	**23**	*e*Pn			**P**	**00 09 25.7**	**-1.1**
SONM	**Songino Array**	**16.55**	**23**	Pn			**P**	**00 09 25.7**	**-1.1**
	0.1nm,0.3s,baz=199,slow=13,SNR=2.6								
MK32	**Makanchi Array**	**17.76**	**326**	*e*Pn			**P**	**00 09 40.5**	**+0.6**
MKAR	**Makanchi Array**	**17.76**	**326**	P			**P**	**00 09 40.5**	**+0.6**
	0.2nm,0.3s,baz=132,slow=14,SNR=5.5								
AAK	**Ala-Archa**	**20.10**	**305**	*e*P			Pn	00 10 06.3	-1.4
KURBB	**Kurchatov Array**	**22.24**	**328**	P			**P**	**00 10 30.6**	**+2.0**
	4.0nm,0.9s,baz=137,slow=11,SNR=4.2								
KURK	**Kurchatov**	**22.27**	**328**	P			**P**	**00 10 30.6**	**+1.7**
ZALV	**Zalesovo Beam**	**22.70**	**341**	P			**P**	**00 10 34.3**	**+0.9**
	2.3nm,0.8s,baz=156,slow=14,SNR=2.6								
ZAA1	**Zalesovo Array**	**22.70**	**341**	*e*P			**P**	**00 10 34.3**	**+0.8**
KKAR	**Karatay Array**	**23.02**	**304**	*e*P			**P**	**00 10 37.8**	**+0.8**
KBL	**Kabul**	**23.16**	**282**	*e*P			**P**	**00 10 40.1**	**+1.4**
	28nm,0.9s								
CN2	**Changchun**	**24.80**	**56**	*e*P			**P**	**00 10 57.5**	**+3.6**
KS15	**Wonju Array Si**	**25.70**	**71**	*e*P			**P**	**00 11 02.9**	**+0.8**
KSAR	**Wonju Array Be**	**25.70**	**71**	P			**P**	**00 11 02.9**	**+0.8**
KSRS	**Korea Array**	**25.73**	**71**	P			**P**	**00 11 02.9**	**+0.5**
	6.2nm,0.9s,baz=264,slow=9.0,SNR=8.4								
KULM	**Kulim**	**27.72**	**172**	*e*P			**P**	**00 11 19.8**	**-0.7**
KKM	**Kota Kinabalu**	**32.25**	**142**	*e*P			**P**	**00 12 00.1**	**-0.7**
	260nm,3.0s								
RAYN	**Ar Rayn**	**45.82**	**272**	*e*P			**P**	**00 13 52.9**	**-1.4**
	19nm,2.1s								
ASF	**Jabal al Asfar**	**49.92**	**286**	P			**P**	**00 14 27.2**	**+1.2**
	1.1nm,0.5s,baz=82,slow=7.1,SNR=2.9								
BR101	**Keskin Array S**	**50.45**	**297**	*e*P			**P**	**00 14 30.0**	**0.0**
BRTR	**Keskin Array B**	**50.45**	**297**	P			**P**	**00 14 30.0**	**0.0**
	0.8nm,0.9s,baz=104,slow=6.1,SNR=3.9								
AKASG	**Malin Array Be**	**51.61**	**311**	P			**P**	**00 14 38.3**	**0.0**
	0.4nm,0.4s,baz=68,slow=6.1,SNR=3.8								
AKBB	**Malin Array Si**	**51.61**	**311**	*e*P			**P**	**00 14 38.3**	**0.0**
FIA0	**FINESS Array S**	**52.59**	**325**	*e*P			**P**	**00 14 45.0**	**-0.4**
FINES	**FINESS Array B**	**52.59**	**325**	P			**P**	**00 14 45.0**	**-0.4**
	2.5nm,1.0s,baz=90,slow=11,SNR=3.5								
ARA0	**ARCESS Array S**	**53.06**	**335**	*e*P			**P**	**00 14 49.9**	**+1.1**
ARCES	**ARCESS Array B**	**53.06**	**335**	P			**P**	**00 14 49.9**	**+1.1**
	4.9nm,1.1s,baz=92,slow=8.1,SNR=3.9								
KWP	**Kalwaria Pacla**	**55.92**	**311**	*e*P			**P**	**00 15 09.8**	**-0.1**
	236nm,2.2s								
HFS	**Hagfors**	**58.77**	**324**	P			**P**	**00 15 29.3**	**-0.5**
	1.1nm,0.5s,baz=93,slow=11,SNR=5.6								
NB2	**NORSAR Subarra**	**59.76**	**326**	P			**P**	**00 15 35.7**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=78,slow=6.9								
NB200	**NORSAR Array S**	**59.76**	**326**	*e*P			**P**	**00 15 35.2**	**-1.4**
NOA	**NORSAR Array B**	**59.76**	**326**	P			**P**	**00 15 35.2**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=75,slow=6.8,SNR=4.3								
GEC2	**GERESS Array S**	**61.81**	**312**	*e*P			**P**	**00 15 51.6**	**+0.6**
GERES	**GERESS Array B**	**61.81**	**312**	P			**P**	**00 15 51.6**	**+0.6**

comp=Z,0.5nm,0.7s,baz=82,slow=8.0,SNR=4.0
WRAB Tennant Creek 63.61 140 *e*P **P 00 16 03.0 -0.1**
comp=Z,3.3nm,0.7s
WRA Warramunga Arr 63.61 140 P **P 00 16 03.1 0.0**
comp=Z,2.3nm,0.8s,baz=336,slow=7.1,SNR=9.2
AQU L'Aquila 64.26 305 *e*P **P 00 16 07.0 -0.3**
comp=Z,15nm,1.2s
FUORN Ofenpass-Fuorn 64.76 310 *e*P **P 00 16 10.3 -0.4**
comp=Z,74nm,2.6s
KMBO Kilima Mbogo 65.48 251 P **P 00 16 16.8 +0.9**
comp=Z,1.3nm,0.5s,baz=37,slow=14,SNR=3.6
AS12 Alice Springs 66.45 143 *e*P **P 00 16 21.8 +0.2**
ASAR Alice Springs 66.45 143 P **P 00 16 21.8 +0.2**
comp=Z,1.6nm,0.4s,baz=327,slow=6.4,SNR=14
LPG La Plagne 67.45 310 *e*P **P 00 16 27.5 -0.6**
comp=Z,11nm,0.9s
LPG La Plagne 67.45 310 *e*P **P 00 16 27.5 -0.6**
comp=Z,11nm,0.9s
LPL La Plagne 67.45 310 *e*P **P 00 16 27.7 -0.3**
comp=Z,18nm,1.3s
LPL La Plagne 67.45 310 *e*P **P 00 16 27.7 -0.3**
comp=Z,18nm,1.3s
BNI Bardonecchia 67.68 310 *e*P **P 00 16 28.8 -0.6**
comp=Z,2.8nm,0.8s
ILAR Eielson Array 70.78 24 P **P 00 16 49.2 +1.2**
comp=Z,0.7nm,0.9s,baz=309,slow=5.7,SNR=3.6
ILB Eielson Array 70.78 24 *e*P **P 00 16 49.2 +1.2**
INK Inuvik 72.38 17 P **P 00 16 58.1 +0.5**
comp=Z,2.6nm,1.0s,baz=325,slow=9.5,SNR=5.1
STKA Stephens Creek 77.06 142 P **P 00 17 26.3 +1.1**
comp=Z,3.1nm,0.9s,baz=344,slow=7.9,SNR=4.4
YKA Yellowknife Ar 81.61 14 P **P 00 17 49.5 -0.1**
comp=Z,0.9nm,0.8s,baz=329,slow=5.1,SNR=6.5
YKB5 Yellowknife Ar 81.61 14 *e*P **P 00 17 49.5 -0.1**
TOA0 Torodi Ar. Sit 87.21 284 *e*P **P 00 18 18.9 0.0**
TORD Torodi Ar. Bea 87.21 284 P **P 00 18 18.9 -0.1**
comp=Z,0.9nm,0.9s,baz=48,slow=5.0,SNR=3.4

ISCJB **14** *00:08:51.8±0.6,33.˚17N±0.˚09×97.˚31E±0.˚08, h10km, mb3.7/9, Error ellipse: s-maj=14.6km s-min=5.7km az=35.1*

IDC **14** *00:08:52.4±0.8,33.˚22N×97.˚31E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.6/49, mbtmp3.7/12, ML3.3/3, Error ellipse: s-maj=51.2km s-min=16.0km az=60.0*

BJI **14** *00:08:55.1,32.˚98N×96.˚80E, h12km, ML3.6/8*

ISC 14 00:08:53.6±0.8,33.˚2N±0.˚1×97.˚26E±0.˚09,h10km,n14,
σ1९17/16,mb3.9/9,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CD2	**Chengdu**	**5.98**	**111**	Pn		Pn	00 10 25.0	+2.8
CD2				Pg		**Pg**	**00 10 46.9**	**-1.2**
CD2				Sn		**Sn**	**00 11 31.8**	**+1.1**
CD2				Sg		**Sg**	**00 12 07.1**	**+1.6**
CD2				SMN				
	90nm,1.2s							
CD2				SME				
	150nm,1.2s							
WMQ	**Urumqi**	**12.96**	**328**	*e*P		**Pn**	**00 11 58.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**14.78**	**174**	Pn		**Pn**	**00 12 21.5**	**-1.2**
	0.1nm,0.3s,baz=345,slow=12,SNR=9.5							
SONM	**Songino Array**	**16.15**	**23**	Pn		**P**	**00 12 41.9**	**-2.1**
	0.0nm,0.3s,baz=201,slow=7.7,SNR=1.9							
MKAR	**Makanchi Array**	**17.72**	**324**	P		**P**	**00 13 01.0**	**-0.3**
	0.2nm,0.3s,baz=136,slow=12,SNR=8.4							
KURBB	**Kurchatov Arra**	**22.18**	**327**	P		**P**	**00 13 50.9**	**+1.2**
	1.8nm,0.9s,baz=132,slow=11,SNR=5.6							
ZALV	**Zalesovo Beam**	**22.53**	**341**	P		**P**	**00 13 53.6**	**+0.1**
	0.8nm,0.6s,baz=158,slow=12,SNR=3.3							
BVAR	**Borovoye Array**	**27.60**	**324**	P		**P**	**00 14 42.3**	**+1.4**
	0.6nm,0.8s,baz=116,slow=6.6,SNR=2.4							
FINES	**FINESS Array B**	**52.55**	**325**	P		**P**	**00 18 06.5**	**-0.3**
	1.8nm,1.0s,baz=87,slow=6.7,SNR=2.7							
ARCES	**ARCESS Array B**	**52.94**	**335**	P		**P**	**00 18 08.7**	**-1.0**
	1.5nm,0.8s,baz=101,slow=4.7,SNR=2.2							
NOA	**NORSAR Array B**	**59.70**	**326**	P		**P**	**00 18 59.0**	**+0.9**
	0.5nm,0.7s,baz=77,slow=7.8,SNR=5.0							
WRA	**Warramunga Arr**	**63.62**	**141**	P		**P**	**00 19 25.4**	**+0.4**
	0.6nm,0.7s,baz=332,slow=7.2,SNR=4.3							
ASAR	**Alice Springs**	**66.48**	**143**	P		**P**	**00 19 43.8**	**+0.2**
	0.7nm,0.5s,baz=325,slow=6.2,SNR=6.8							
TORD	**Torodi Ar. Bea**	**87.48**	**284**	P		**P**	**00 21 43.1**	**+1.1**
	1.2nm,0.9s,baz=64,slow=5.2,SNR=2.1							

ISCJB **14** *00:10:41.0±0.7,32.˚97N±0.˚10×96.˚3E±0.˚2, h10km, mb3.6/9, Error ellipse: s-maj=26.0km s-min=10.9km az=158.4*

IDC **14** *00:10:41.4±0.9,32.˚95N×96.˚23E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.6/47, mbtmp3.7/12, ML3.6/3, Error ellipse: s-maj=52.4km s-min=15.9km az=59.0*

ISC 14 00:10:43.1±0.8,33.˚0N±0.˚1×96.˚3E±0.˚2,h10km,n12,
σ0९87/11,mb3.8/9,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CMAR	**Chiang Mai Arr**	**14.68**	**170**	Pn		**Pn**	**00 14 10.7**	**-0.1**
	0.1nm,0.3s,baz=352,slow=11,SNR=3.1							
SONM	**Songino Array**	**16.67**	**24**	Pn		**Pn**	**00 14 36.5**	**-0.3**
	0.2nm,0.3s,baz=208,slow=14,SNR=5.9							
MKAR	**Makanchi Array**	**17.44**	**326**	P		**Pn**	**00 14 46.0**	**-0.5**
	0.2nm,0.3s,baz=134,slow=14,SNR=5.5							
KURBB	**Kurchatov Arra**	**21.94**	**329**	P		**P**	**00 15 35.9**	**-0.7**
	4.0nm,1.1s,baz=134,slow=11,SNR=5.3							
ZALV	**Zalesovo Beam**	**22.48**	**342**	P		**P**	**00 15 41.3**	**-1.1**
	1.3nm,0.8s,baz=153,slow=8.3,SNR=3.6							
BVAR	**Borovoye Array**	**27.31**	**325**	P		**P**	**00 16 28.9**	**+1.1**
	0.5nm,0.7s,baz=141,slow=5.0,SNR=2.5							
FINES	**FINESS Array B**	**52.27**	**325**	P		P	00 19 53.1	-1.2
	0.5nm,0.7s,baz=85,slow=6.1,SNR=3.1							
ARCES	**ARCESS Array B**	**52.80**	**335**	P		**P**	**00 19 59.0**	**+0.8**
	1.7nm,0.9s,baz=77,slow=7.8,SNR=2.7							
NOA	**NORSAR Array B**	**59.43**	**326**	P		**P**	**00 20 45.2**	**-0.6**
	0.7nm,0.7s,baz=77,slow=6.9,SNR=3.7							
WRA	**Warramunga Arr**	**63.97**	**140**	P		**P**	**00 21 16.2**	**-0.5**
	1.0nm,0.7s,baz=334,slow=7.0,SNR=5.8							
ASAR	**Alice Springs**	**66.79**	**143**	P		**P**	**00 21 34.9**	**-0.1**
	0.5nm,0.5s,baz=326,slow=6.4,SNR=4.9							
YKA	**Yellowknife Ar**	**81.64**	**14**	P		**P**	**00 23 02.3**	**+1.2**
	0.1nm,0.6s,baz=323,slow=4.7,SNR=2.4							

IDC **14** *00:12:22.4±0.5,33.˚16N×96.˚63E, h0km, mb4.4/23, mb1 4.5/28, mb1mx4.4/47, mbtmp4.4/28, ML3.9/5, Error ellipse: s-maj=17.6km s-min=10.9km az=45.0*

ISCJB **14** *00:12:22.7±0.1,33.˚14N±0.˚02×96.˚54E±0.˚02, h10km, mb4.9/121, MS5.7/1, Error ellipse: s-maj=3.3km s-min=2.8km az=25.3*

BJI **14** *00:12:23.9,33.˚04N×96.˚40E, h9km, mb5.0/21, ML4.7/12, Ms4.9/4, Ms7 4.8/6*

NEIC **14** *00:12:24.1±0.2,33.˚13N×96.˚55E, h10km, mb5.2/79, Error ellipse: s-maj=5.6km s-min=3.8km az=36.0*

MOS **14** *00:12:25.7±1.1,33.˚17N×96.˚65E, h33km, mb5.2/53, Error ellipse: s-maj=8.0km s-min=3.9km az=124.3*

SZGRF **14** *00:12:32.9,33.˚34N×95.˚93E, h33km, mb4.6, Qinghai, China*

ISC 14 00:12:23.9±0.3,33.˚26N±0.˚04×96.˚69E±0.˚03,h10km,n433,
σ1९20/378,mb5.0/126,23C-15D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LSA	**Lhasa**	**5.92**	**235**	*e*P		Pn	00 13 54.2	+2.1
LSA				*e*			00 14 59.6	
LSA	**Lhasa**	**5.92**	**235**	*e*Pn		Pn	00 13 54.2	+2.1
LSA				*e*Sn		**Sn**	**00 14 59.6**	**-0.6**
CD2	**Chengdu**	**6.44**	**109**	Pn		Pn	00 14 04.9	+6.1
CD2				Sn		**Sn**	**00 15 13.3**	**+0.9**
CD2				Sg		**Sg**	**00 15 52.4**	**+1.9**
CD2				SMN				
	1μm,1.5s							
CD2				SME				
	1μm,1.6s							
LZH	**Lanzhou**	**6.53**	**62**	Pn		Pn	00 14 05.0	+4.9
LZH				Pg		**Pg**	**00 14 26.0**	**-2.9**
LZH				Sn		**Sb**	**00 15 32.0**	**-3.8**
LZH				Sg		**Sg**	**00 15 52.1**	**-1.4**
LZH				SMN				
	1μm,1.4s							
LZH				SME				
	920nm,1.5s							
LZH				LN				
	4μm,7.4s							
LZH				LE				
	5μm,8.3s							
LZH				LZ				
	7μm,9.2s							
GTA	**Gaotai**	**6.63**	**21**	*e*Pn		Pn	00 14 08.6	+7.1
KMI	**Kunming**	**9.68**	**145**	P		Pn	00 14 44.6	+1.2
KMI				pP			00 14 51.0	
KMI				sP			00 14 54.6	
KMI				PMZ				
	41nm,0.9s							
TAPN	**Taplejung**	**9.74**	**235**	*e*P		**Pn**	**00 14 43.8**	**-0.6**
	66nm,0.4s							
XAN	**Xi'an**	**10.22**	**82**	P		Pn	00 14 53.9	+3.2
ODAN	**Odare**	**10.28**	**234**	*e*P		**Pn**	**00 14 51.6**	**-0.1**
	298nm,0.6s							
JIRN	**Jiri**	**10.64**	**241**	*e*P		**Pn**	**00 14 56.0**	**-0.8**
	152nm,0.7s							
GUN	**Gumba**	**10.74**	**243**	*e*P		**Pn**	**00 14 56.9**	**-1.1**
	159nm,0.5s							
RAMN	**Ramite**	**10.77**	**237**	*e*P		**Pn**	**00 14 57.3**	**-1.1**
	98nm,0.5s							
GYA	**Guiyang**	**10.99**	**125⇑**	*i*P		Pn	00 15 03.3	+2.0
GYA				PP		**PnPn**	**00 15 14.0**	**+5.0**
GYA				S		Sn	00 17 09.0	+4.6
GYA				SS		**SnSn**	**00 17 22.6**	**+6.4**
GYA				PMZ				
	20nm,0.8s							
GYA				LN				
	4μm,9.9s							
GYA				LE				
	3μm,9.6s							
GYA				LZ				
	5μm,10.0s							
KKN	**Kakani**	**11.25**	**244**	*e*P		**Pn**	**00 15 04.0**	**-1.0**
	36nm,0.4s							
PKI	**Pulchoki**	**11.27**	**243**	*e*P		**Pn**	**00 15 03.6**	**-1.7**
	104nm,0.5s							
PKIN	**Phulchoki**	**11.28**	**243**	*e*P		**Pn**	**00 15 03.7**	**-1.7**
	73nm,0.4s							
ENH	**Enshi**	**11.29**	**102**	*e*Pn		Pn	00 15 09.8	+4.4
GKN	**Gorkha**	**11.63**	**246**	*e*P		**Pn**	**00 15 08.0**	**-2.1**
	68nm,0.8s							
DANN	**Dangsing**	**12.15**	**250**	*e*P		**Pn**	**00 15 15.1**	**-2.2**
	116nm,0.7s							
KOLN	**Koldanda**	**12.54**	**248**	*e*P		**Pn**	**00 15 20.1**	**-2.5**
	55nm,0.8s							
WMQ	**Urumqi**	**12.67**	**329**	*e*P		**Pn**	**00 15 25.8**	**+1.6**
WMQ				pP			00 15 32.0	
WMQ				sP			00 15 37.0	
WMQ				PMZ				
	60nm,1.0s							
PYUN	**Piuthan**	**12.87**	**250**	*e*P		**Pn**	**00 15 24.8**	**-2.3**
	310nm,0.9s							
HHC	**Hu-ho-hao-te**	**14.07**	**53**	*e*P		**P**	**00 15 48.5**	**-2.7**
HHC				S		Sn	00 18 27.5	+7.9
HHC				PMZ				
	19nm,0.5s							
CMMT	**Chiang Mai**	**14.53**	**171**	P		P	00 15 51.0	-5.3
	64nm,1.0s							
CM31	**Chiang Mai Arr**	**14.88**	**172**	*e*Pn		**Pn**	**00 15 54.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.88**	**172**	Pn		**Pn**	**00 15 54.5**	**+0.1**
	0.2nm,0.3s,baz=345,slow=12,SNR=44							
LAMP	**Lampang**	**14.91**	**169**	P		P	00 15 55.7	-4.9
	7.1nm,0.8s							
MHMT	**Maesarieng**	**15.06**	**175**	P		P	00 16 05.8	+3.6
WHN	**Wuhan**	**15.24**	**95**	P		**P**	**00 16 03.3**	**-0.8**
UTTA	**Uttaradit**	**15.84**	**166**	P		**P**	**00 16 07.8**	**-3.0**
	8.2nm,1.1s							
SUKH	**Sukhothai**	**15.94**	**170**	P		**P**	**00 16 09.2**	**-2.7**
	10.0nm,0.8s							
SONA0	**Songino Array**	**16.30**	**24**	*e*Pn		**P**	**00 16 15.3**	**-0.5**
SONM	**Songino Array**	**16.30**	**24**	P		**P**	**00 16 15.3**	**-0.6**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**16.30**	**24**	Pn		**P**	**00 16 15.3**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=201,slow=4.7,SNR=17							
ULN	**Ulaanbaatar**	**16.55**	**25⇑**	*i*P		**P**	**00 16 18.5**	**-0.2**
ULN				pmax		pmax		
	comp=Z,61nm,1.7s							
ULN	**Ulaanbaatar**	**16.55**	**25**	*e*Pn		**P**	**00 16 18.7**	**0.0**
	comp=Z,48nm,1.4s							
PDGK	**Podgornoye**	**16.81**	**312**	P		**P**	**00 16 23.0**	**+1.6**
PDGK				pmax		pmax		
	comp=Z,79nm,2.1s							
PBKT	**Sadao Pong**	**17.06**	**166**	P		**P**	**00 16 26.4**	**+2.0**
	comp=Z,82nm,0.8s							
MK31	**Makanchi Array**	**17.41**	**325**	P		**Pn**	**00 16 25.9**	**-0.9**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MK32	**Makanchi Array**	**17.41**	**325**	*e*Pn		**P**	**00 16 28.0**	**-0.1**
MK32				*e*PcP		**PcP**	**00 21 07.7**	**-0.4**
MK32				*e*ScP		**ScP**	**00 24 45.8**	**+2.7**
MKAR	**Makanchi Array**	**17.41**	**325**	P		**P**	**00 16 28.0**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=131,slow=15,SNR=20							
MKAR				PcP		**PcP**	**00 21 07.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=144,slow=2.1,SNR=4.4							
MKAR				ScP		**ScP**	**00 24 45.8**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=126,slow=2.5,SNR=5.7							
KHON	**Khomkaen**	**17.74**	**160**	P		**P**	**00 16 31.9**	**0.0**
	comp=Z,12nm,1.0s							
ZAK	**Zakamensk**	**17.78**	**14**	*e*P		**P**	**00 16 34.9**	**+2.6**
ZAK				pmax		pmax		
	comp=Z,18nm,1.5s							
KSH	**Kashi**	**17.80**	**296**	P		**P**	**00 16 34.8**	**+2.2**
KSH				sP		sP	00 16 41.8	+5.1
KSH				PP		PnPn	00 16 49.6	+7.2
KSH				S		**Sn**	**00 19 51.6**	**+1.4**
KSH				sS		**S**	**00 19 57.5**	**+0.3**
KSH				SS		SnSn	00 20 14.4	+11
KSH				PMZ				
	comp=Z,22nm,1.5s							
UTHA	**Uthaitani**	**17.80**	**171**	P		**P**	**00 16 34.7**	**+2.1**
	comp=Z,7.8nm,0.8s							
HVS	**Khovu-Aksy**	**17.99**	**354⇓**	*e*P		**P**	**00 16 36.7**	**+2.1**
HVS				pmax		pmax		
	comp=Z,225nm,1.7s							
QIZ	**Qiongzhong**	**18.42**	**137**	*e*P		**P**	**00 16 39.4**	**0.0**
	comp=Z,288nm,1.8s							
ULHL	**Ulahol**	**18.46**	**305**	P		Pn	00 16 43.9	+3.9
	SNR=7.4							
ULHL	**Ulahol**	**18.46**	**305**	*i* P		Pn	00 16 43.8	+3.9
NJ2	**Nanjing**	**18.70**	**88**	*e*P		**Pn**	**00 16 44.3**	**+1.6**
NJ2				PMZ				
	comp=Z,140nm,1.0s							
SRDT	**SRDT**	**18.96**	**173**	P		Pn	00 16 50.2	+4.2
	comp=Z,1μm,1.8s							
KZA	**Kyzart**	**19.08**	**304**	P		**Pn**	**00 16 49.4**	**+1.6**
	SNR=9.7							
KZA	**Kyzart**	**19.08**	**304**	*i* P		**Pn**	**00 16 49.4**	**+1.6**
TLY	**Talaya**	**19.09**	**13**	P		**Pn**	**00 16 48.7**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=154,slow=9.5,SNR=3.5							
TKM2	**Tokmak 2**	**19.16**	**306**	P		Pn	00 16 54.0	+5.5
	SNR=7.4							
TKM2	**Tokmak 2**	**19.16**	**306**	*e*P		**Pn**	**00 16 49.6**	**+1.1**
TKM2				pmax		pmax		
	comp=Z,29nm,1.3s							
TKM2	**Tokmak 2**	**19.16**	**306**	*e*P		**Pn**	**00 16 49.5**	**+1.1**
	comp=Z,29nm,1.3s							
KBK	**Karagaybulak**	**19.50**	**305**	P		Pn	00 16 56.5	+4.0
	SNR=7.7							
KBK	**Karagaybulak**	**19.50**	**305**	*i* P		Pn	00 16 56.5	+4.0
UBPT	**Khong Chiam**	**19.59**	**154**	P		**Pn**	**00 16 53.8**	**+0.2**
AAK	**Ala-Archa**	**19.80**	**305**	P		**Pn**	**00 16 56.8**	**+0.7**
	comp=Z,112nm,1.3s,SNR=8.0							
AAK	**Ala-Archa**	**19.80**	**305**	P		**Pn**	**00 16 57.0**	**+0.8**
	SNR=9.0							
AAK	**Ala-Archa**	**19.80**	**305⇑**	*e*P		**Pn**	**00 16 56.3**	**+0.2**
AAK				pmax		pmax		
	comp=Z,99nm,1.1s							
AAK	**Ala-Archa**	**19.80**	**305**	P		**Pn**	**00 16 56.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=124,slow=7.1,SNR=17							
AAK	**Ala-Archa**	**19.80**	**305**	*e*P		**Pn**	**00 16 56.5**	**+0.4**
AAK				*e*ScS		ScS	00 28 31.8	+0.8
AML	**Almayashu**	**20.19**	**303**	P		Pn	00 17 02.6	+1.5
	SNR=5.9							
AML	**Almayashu**	**20.19**	**303**	*i* P		Pn	00 17 02.6	+1.5
EKS2	**Erkin-Say**	**20.31**	**304**	*e*P		Pn	00 17 02.5	+0.4
EKS2				*e*			00 28 29.1	
EKS2				pmax		pmax		
	comp=Z,263nm,2.2s							
EKS2	**Erkin-Say**	**20.31**	**304**	*e*P		Pn	00 17 02.5	+0.4
	comp=Z,263nm,2.2s							
EKS2				*e*ScS		ScS	00 28 29.1	-3.5
PHET	**Kaeng Krachan**	**20.44**	**172**	P		Pn	00 17 03.4	-0.2
	comp=Z,67nm,0.7s							
CHBT	**CHBT**	**21.06**	**165**	P		P	00 17 12.7	+4.5
	comp=Z,1μm,1.7s							
MNAS	**Manas**	**21.14**	**303**	P		**P**	**00 17 10.4**	**+1.3**
KURBB	**Kurchatov Arra**	**21.89**	**328**	P		**P**	**00 17 17.7**	**+0.9**
	comp=Z,13nm,0.7s,baz=151,slow=8.6,SNR=55							
KURBB				ScP		**ScP**	**00 24 55.8**	**+2.6**
KURK	**Kurchatov**	**21.91**	**328**	P		**P**	**00 17 17.7**	**+0.6**
KURK				pmax		pmax		
	comp=Z,11nm,0.7s							
KURK				pmax		pmax		
	comp=N,2.0nm,0.9s							
KURK	**Kurchatov**	**21.91**	**328**	*e*P		**P**	**00 17 18.6**	**+1.5**
KURK				ScP		**ScP**	**00 24 55.8**	**+2.5**
ZALV	**Zalesovo Beam**	**22.33**	**341**	P		**P**	**00 17 22.2**	**+0.6**
ZALV				pmax		pmax		
	comp=Z,15nm,0.9s							
ZALV	**Zalesovo Beam**	**22.33**	**341**	P		**P**	**00 17 22.2**	**+0.6**
	comp=Z,15nm,0.8s,baz=157,slow=11,SNR=25							
ZAA1	**Zalesovo Array**	**22.34**	**341**	*e*P		**P**	**00 17 22.2**	**+0.6**
HYB	**Hyderabad**	**22.70**	**230**	*i* P		**P**	**00 17 25.0**	**-0.8**
KK31	**Karatay Array**	**22.73**	**303**	P		**P**	**00 17 27.4**	**+1.4**
KK31				pmax		pmax		
	comp=Z,21nm,1.1s							
KKAR	**Karatay Array**	**22.73**	**303**	*e*P		**P**	**00 17 27.9**	**+2.0**
KKAR	**Karatay Array**	**22.73**	**303**	*e*P		**P**	**00 17 27.9**	**+2.0**
KRAR	**Krasnoyarsk**	**22.90**	**354⇓**	*e*P		**P**	**00 17 29.8**	**+2.2**
KRAR				pmax		pmax		
	comp=Z,27nm,0.5s							
KBL	**Kabul**	**22.96**	**281**	*e*P		**P**	**00 17 28.9**	**+0.2**
KBL				pmax		pmax		
	comp=Z,137nm,1.4s							
KBL	**Kabul**	**22.96**	**281**	*e*P		**P**	**00 17 28.9**	**+0.2**
	comp=Z,137nm,1.4s							
YHNB	**Yeheng**	**23.19**	**105**	*e*P		**P**	**00 17 32.2**	**+1.2**
	comp=Z,697nm,2.6s							
SSLB	**Suanglung**	**23.27**	**108**	*e*P		**P**	**00 17 34.7**	**+3.0**
	comp=Z,403nm,2.6s							
HIA	**Hailar**	**23.44**	**40⇑**	*i*P		**P**	**00 17 37.4**	**+4.2**
HIA				pmax		pmax		
	comp=Z,87nm,2.5s							
OTUK	**Ortayu**	**23.62**	**317**	P		**P**	**00 17 35.6**	**+0.6**
YULB	**Yu-li**	**23.73**	**108**	*e*P		**P**	**00 17 37.3**	**+1.0**
	comp=Z,180nm,2.2s							
SURT	**Suratani**	**24.27**	**175**	P		P	00 17 46.2	+4.9
	comp=Z,147nm,2.2s							
CN2	**Changchun**	**24.72**	**56**	*e*P		**P**	**00 17 47.8**	**+2.6**
CN2				PMZ				
	comp=Z,70nm,0.5s							
KS15	**Wonju Array Si**	**25.71**	**72**	*e*P		**P**	**00 17 55.7**	**+1.4**
KSAR	**Wonju Array Be**	**25.71**	**72**	P		**P**	**00 17 55.7**	**+1.4**
KSAR	**Wonju Array Be**	**25.71**	**72**	P		**P**	**00 17 55.7**	**+1.4**
KSRS	**Korea Array**	**25.75**	**72**	P		**P**	**00 17 55.7**	**+1.1**
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KSRS	**Korea Array**	**25.75**	**72**	P		**P**	**00 17 55.7**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=263,slow=9.8,SNR=8.4							
BVAR	**Borovoye Array**	**27.28**	**324**	P		**P**	**00 18 09.3**	**+1.0**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BVAR				pmax		pmax		
	comp=N,4.0nm,1.0s							
BVAR	**Borovoye Array**	**27.28**	**324**	P		**P**	**00 18 09.3**	**+1.0**
	comp=N,1.0nm,0.4s,baz=125,slow=9.9,SNR=10							
BVAR				ScP		**ScP**	**00 25 08.7**	**+0.4**
	comp=N,3.5nm,1.0s,baz=151,slow=3.4,SNR=7.8							
BRVK	**Borovoye**	**27.36**	**324**	*e*P		**P**	**00 18 09.8**	**+0.8**
BRVK				pmax		pmax		
	comp=Z,18nm,1.1s							
BRVK	**Borovoye**	**27.36**	**324**	*e*P		**P**	**00 18 09.8**	**+0.8**
	comp=Z,18nm,1.1s							
MDJ	**Mudanjiang**	**27.81**	**56**	P		**P**	**00 18 15.8**	**+2.7**
MDJ				PMZ				
	comp=Z,25nm,1.5s							
JOW	**Kunigami**	**28.01**	**95**	*e*P		**P**	**00 18 14.4**	**-0.7**
	comp=Z,90nm,1.3s							
KULM	**Kulim**	**28.07**	**172**	*e*P		**P**	**00 18 13.7**	**-2.1**
	comp=Z,66nm,1.8s							
JNU	**Nakatsue**	**28.54**	**81**	*e*P		**P**	**00 18 20.9**	**+1.1**
	comp=Z,218nm,2.1s							
AB31	**Akbulak array**	**31.54**	**311**	P		**P**	**00 18 47.1**	**+0.9**
AB31				pmax		pmax		
	comp=Z,9.0nm,1.2s							
ABKAR	**Akbulak array**	**31.54**	**311**	*e*P		**P**	**00 18 48.1**	**+1.9**
GEYT	**Alibeck**	**31.56**	**290**	P		**P**	**00 18 47.1**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=76,slow=6.1,SNR=3.8							
HABR	**Khabarovsk**	**32.36**	**50**	*e*P		**P**	**00 18 50.4**	**-2.9**
HABR				*SP		sP	00 19 04.2	+6.5
HABR				*e*PPP		PPP	00 20 08.8	
HABR				*e*S		**S**	**00 24 03.7**	**-3.6**
HABR				*e*SS		sS	00 24 20.2	+7.9
HABR				*e*SS		**SnSn**	**00 26 00.1**	**+0.8**
HABR				*e*			00 29 16.9	
HABR				pmax		pmax		
	comp=Z,183nm,2.2s							
HABR				MLR		MLR		
	comp=Z,11μm,15.0s							
KKM	**Kota Kinabalu**	**32.60**	**142**	*e*P		**P**	**00 18 56.6**	**+0.7**
	comp=Z,37nm,1.0s							
AKTO	**Aktyubinsk**	**33.07**	**313**	P		**P**	**00 19 01.1**	**+1.5**
AKTO				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AKTO	**Aktyubinsk**	**33.07**	**313**	P		**P**	**00 19 01.1**	**+1.5**
	comp=Z,4.6nm,0.9s,baz=102,slow=12,SNR=7.5							
MAJO	**Matsushiro**	**34.02

KIEV Kiev 51.30 311⇓ *e*P P 00 21 29.3 +1.3
CSS Prodhromos 51.69 291 *e*P P 00 21 30.9 -0.3
comp=Z,9,3nm,1.9s
BILL Bilibino 51.99 27⇑ *e*P P 00 21 35.6 +2.7
BILL pmax pmax
comp=Z,64nm,2.5s
BILL Bilibino 51.99 27 *e*P P 00 21 35.0 +2.1
comp=Z,121nm,3.0s
VSU Vasula 52.02 321⇑ *e*P P 00 21 35.7 +2.4
VSU pmax pmax
comp=Z,109nm,1.2s
KAF Kangasniemi 52.12 326 *e*P P 00 21 33.8 -0.1
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 52.12 326 *e*p P 00 21 33.8 -0.1
comp=Z,2.8nm,0.5s
FIA0 FINESS Array S 52.24 325 *e*P P 00 21 35.1 +0.3
FIA0 FINESS Array S 52.24 325 *e*P P 00 21 35.1 +0.3
FINES FINESS Array B 52.24 325 P P 00 21 35.1 +0.3
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 52.24 325 P P 00 21 35.1 +0.3
comp=Z,5.7nm,0.8s,baz=98,slow=8.7,SNR=22
ARA0 ARCESS Array S 52.70 335 *e*P P 00 21 37.6 -0.5
ARCES ARCESS Array B 52.70 335 P P 00 21 37.6 -0.5
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 52.70 335 P P 00 21 37.6 -0.5
comp=Z,2.1nm,0.5s,baz=88,slow=8.1,SNR=12
MSAB Monastry St. A 53.40 303⇑ *i*P P 00 21 43.9 +0.2
VRI Vrincioaia 53.77 306⇓ P P 00 21 47.6 +1.2
VRI Vrincioaia 53.77 306⇓ *i*P P 00 21 47.6 +1.2
PLOR Plostina 53.82 306⇓ P P 00 21 47.9 +1.1
PLOR Plostina 53.82 306⇓ *i*P P 00 21 47.9 +1.1
MLR Muntele Rosu 54.38 305⇑ P P 00 21 52.7 +1.6
MLR Muntele Rosu 54.38 305⇑ *i*P P 00 21 52.7 +1.6
BURAR Bucovina Array 54.40 308⇓ P P 00 21 51.2 +0.1
BURAR Bucovina Array 54.40 308⇓ *i*P P 00 21 51.2 +0.1
SUW Suwalki 54.48 316 *e*P P 00 21 51.6 +0.2
SUW Suwalki 54.48 316 *e*P P 00 21 51.5 +0.2
SUW Suwalki 54.48 316 *e*P P 00 21 51.6 +0.2
comp=Z,658nm,3.0s
JMB Yambol 54.68 301⇓ P P 00 21 54.1 +1.0
JMB Yambol 54.68 301⇓ *i*P P 00 21 54.1 +1.0
VOIR 55.01 305⇑ P P 00 21 52.4 -3.1
VOIR 55.01 305⇑ *i*P P 00 21 52.4 -3.1
ARI Arges 55.31 305⇓ *i*P P 00 21 58.1 +0.4
BMR Baia Mare 55.52 308⇑ P P 00 22 01.8 +2.7
BMR Baia Mare 55.52 308⇑ *i*P P 00 22 01.8 +2.7
KWP Kalwaria Pacla 55.59 311⇑ P P 00 22 00.3 +0.7
KWP Kalwaria Pacla 55.59 311 *e*P P 00 22 01.8 +2.2
KWP Kalwaria Pacla 55.59 311⇑ *i*P P 00 22 00.3 +0.7
KWP Kalwaria Pacla 55.59 311 *e*P P 00 22 00.4 +0.8
comp=Z,809nm,2.9s
LOT Lotru 55.88 306⇑ *i*P P 00 22 02.5 +0.6
STHS Stebnicka Huta 56.57 311 *e*P P 00 22 07.1 +0.5
STHS Stebnicka Huta 56.57 311 *e*P P 00 22 07.1 +0.5
KBS Kingsbay 56.60 347 *e*P P 00 22 07.1 +0.8
KBS pmax pmax
comp=Z,87nm,2.0s
KBS Kingsbay 56.60 347 *e*P P 00 22 07.1 +0.8
comp=Z,87nm,2.0s
KECS Kecovo 57.29 310 *e*P P 00 22 11.9 +0.2
KECS Kecovo 57.29 310 *e*P P 00 22 11.9 +0.2
OJC Ojcow 57.29 312 *e*P P 00 22 13.6 +1.9
SANT Santorini 57.33 295 *e*P P 00 22 09.9 -2.3
comp=Z,17nm,1.3s
VYHS Vyhne 58.34 310 *e*P P 00 22 20.2 +1.1
VYHS Vyhne 58.34 310 *e*P P 00 22 20.2 +1.1
OKC Ostrava-Krasne 58.42 312 *e*P P 00 22 21.6 +2.0
OKC *e* 00 22 29.7
OKC Ostrava-Krasne 58.42 312 *e*P P 00 22 21.6 +2.0
OKC *ex* x 00 22 29.7
FURI Furi 58.51 259 *e*P P 00 22 23.2 +2.1
comp=Z,17nm,1.0s
FURI *e*PKiKP **PKiKP** **00 29 35.0 +0.1**
AGG Agios Georgios 58.79 299 *e*P P 00 22 20.4 -2.0
AGG pmax pmax
comp=Z,22nm,1.4s
AGG Agios Georgios 58.79 299 *e*P P 00 22 20.4 -2.0
comp=Z,22nm,1.4s
MORC Moravsky Berou 58.81 312⇑ P P 00 22 22.5 +0.1
MORC Moravsky Berou 58.81 312⇑ *i*P P 00 22 22.5 +0.1
MORC Moravsky Berou 58.81 312 *e*P P 00 22 24.3 +1.9
comp=Z,184nm,3.0s
KSP Ksiaz 59.29 313 *e*P P 00 22 27.2 +1.6
NB2 NORSAR Subarra 59.40 326 P P 00 22 25.8 -0.5
comp=Z,4.4nm,0.5s,baz=76,slow=6.9
NB200 NORSAR Array S 59.40 326 *e*P P 00 22 26.0 -0.3
NOA NORSAR Array B 59.40 326 P P 00 22 26.0 -0.3
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 59.40 326 P P 00 22 26.0 -0.3
comp=Z,3.3nm,0.8s,baz=78,slow=7.8,SNR=38
DPC Dobruska-Polom 59.41 313 *e*P P 00 22 28.5 +2.0
DPC *e* 00 22 36.6
DPC Dobruska-Polom 59.41 313 *e*P P 00 22 28.5 +2.0
DPC *ex* x 00 22 36.6
DPC Dobruska-Polom 59.41 313 *e*P P 00 22 27.5 +1.0
comp=Z,86nm,0.9s
UPC Upice 59.55 313 *e*P P 00 22 29.6 +2.1
UPC *e* 00 22 38.0
UPC Upice 59.55 313 *e*P P 00 22 29.6 +2.1
UPC *ex* x 00 22 38.0
TREC Trest 60.23 312 *e*P P 00 22 34.3 +2.1
TREC *e* 00 22 42.7
TREC Trest 60.23 312 *e*P P 00 22 34.3 +2.1
TREC *ex* x 00 22 42.7
CONA Conrad Observa 60.41 310⇑ *i*pP pP 00 22 34.5 -2.3
comp=Z,18nm,1.4s,SNR=4.6
PVCC Panska Ves 60.43 313 *e*P P 00 22 35.1 +1.6
PVCC *e* 00 22 43.0
PVCC Panska Ves 60.43 313 *e*P P 00 22 35.1 +1.6
PVCC *ex* x 00 22 43.0
GOPC GO Pecny, Ondr 60.48 313 *e*P P 00 22 34.4 +0.6
KONO Kongsberg 60.54 324 *e*P P 00 22 34.5 +0.4
KONO pmax pmax
comp=Z,276nm,3.0s
KONO Kongsberg 60.54 324 *e*P P 00 22 34.5 +0.4
comp=Z,276nm,3.0s
PRU Pruhonice 60.61 313 *e*P P 00 22 36.5 +1.8
PRU Pruhonice 60.61 313 *e*P P 00 22 36.5 +1.8
PRA Prague 60.65 313 *e*P P 00 22 34.4 -0.6
PRA Prague 60.65 313 *e*P P 00 22 37.3 +2.3
BRG Berggiesshubel 60.70 314 *e*P P 00 22 36.8 +1.5
comp=Z,43nm,1.8s
BRG *e*PKPPKP P'P'df 00 51 46.8 -15
comp=Z,1.3nm,0.9s
BRG Berggiesshubel 60.70 314 *e*P P 00 22 37.8 +2.5
comp=Z,4.0nm,0.7s
BRG Berggiesshubel 60.70 314 *e*P P 00 22 36.8 +1.5
BRG pmax pmax
comp=Z,43nm,1.8s
CLL Collm 61.13 315 *e*P P 00 22 40.4 +2.2
comp=Z,3.0nm,0.7s
CLL Collm 61.13 315 *e*P P 00 22 39.0 +0.8
CLL Collm 61.13 315 *e*P P 00 22 39.0 +0.8
PERS Pernice 61.30 309 *i*P P 00 22 39.4 -0.2
PERS Pernice 61.30 309 *i*P P 00 22 39.4 -0.2
GAMB Gambell 61.40 30 *e*P P 00 22 40.6 +0.8
comp=Z,24nm,1.9s
KHC Kasperske Hory 61.47 312 *e*P P 00 22 40.3 -0.3
KHC pmax pmax
comp=Z,98nm,2.8s
KHC Kasperske Hory 61.47 312 *e*P P 00 22 42.3 +1.7
KHC Kasperske Hory 61.47 312 *e*P P 00 22 40.3 -0.3
comp=Z,98nm,2.8s
GEC2 GERESS Array S 61.49 312 *e*P P 00 22 43.4 +2.6
comp=Z,3.0nm,0.8s
GEC2 GERESS Array S 61.49 312 *e*P P 00 22 43.1 +2.3
GEC2 GERESS Array S 61.49 312 *e*P P 00 22 43.0 +2.3
GERES GERESS Array B 61.49 312 P P 00 22 41.2 +0.4
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 61.49 312 P P 00 22 41.1 +0.4
comp=Z,2.1nm,0.6s,baz=69,slow=6.6,SNR=18
BOJS Bojanci 61.59 308 *e*P P 00 22 43.5 +2.1
BOJS Bojanci 61.59 308 *e*P P 00 22 43.5 +2.1
TANN Tannenbergstha 61.74 314 *e*P P 00 22 45.0 +2.5
comp=Z,3.0nm,0.9s
VISS Visnje 61.76 308 *i*P P 00 22 43.3 +0.7
VISS Visnje 61.76 308 *i*P P 00 22 43.3 +0.7
BSEG Bad Segeberg 61.86 318 *e*P P 00 22 46.3 +3.2
comp=Z,9.0nm,1.0s
WET Wettzell 61.90 312 *e*P P 00 22 46.3 +2.8
comp=Z,5.0nm,1.1s
ROTZ Rotzenmuhle 62.11 313 *e*P P 00 22 47.9 +3.0
comp=Z,5.0nm,0.8s
MOX Moxa 62.18 314 *e*P P 00 22 47.6 +2.3
comp=Z,4.0nm,1.0s
JAVS Javornik 62.24 308 *i*P P 00 22 47.4 +1.5
JAVS Javornik 62.24 308 *i*P P 00 22 47.4 +1.5
TNA Tin City 62.37 28 *e*P P 00 22 49.2 +2.9
comp=Z,20nm,1.4s
NRDL Niedersach Rie 62.45 316 *e*P P 00 22 50.1 +3.1
comp=Z,7.0nm,0.8s
CLZ Clausthal 62.52 316 *e*P P 00 22 50.3 +2.7
comp=Z,7.0nm,0.9s
GRF Grafenberg Arr 62.74 313 *e*P P 00 22 52.0 +2.9
comp=Z,6.0nm,0.9s
MOTA Moosalm 63.64 311⇑ *i*P P 00 22 55.2 -0.1
comp=Z,11nm,1.0s
RETA Reutte 63.80 311⇑ *i*P P 00 22 56.6 +0.3
comp=Z,7.2nm,1.2s,SNR=5.3
WRAB Tennant Creek 63.96 140 P P 00 22 57.9 +0.5
comp=Z,138nm,0.7s,SNR=19
WRAB Tennant Creek 63.96 140⇓ *e*P P 00 22 58.6 +1.2
WRAB pmax pmax
comp=Z,53nm,0.8s
WRAB Tennant Creek 63.96 140 *e*P P 00 22 57.0 -0.4
comp=Z,14nm,0.6s
WRA Warramunga Arr 63.96 140 P P 00 22 57.6 +0.2
WRA pmax pmax
comp=Z,14nm,0.9s
WRA Warramunga Arr 63.96 140 P P 00 22 57.6 +0.2
comp=Z,14nm,0.9s,baz=335,slow=7.0,SNR=85
WB2 Warramunga Arr 63.97 140 *e*P P 00 22 57.1 -0.3
FETA Feichten 63.99 311 *i*P P 00 22 57.7 +0.1
comp=Z,7.5nm,0.7s,SNR=4.7
FUORN Ofenpass-Fuorn 64.44 310 *e*P P 00 23 01.4 +0.7
comp=Z,28nm,1.6s
BFO Black Forest 65.00 313 *e*P P 00 23 06.1 +2.0
comp=Z,6.0nm,1.0s
BFO Black Forest 65.00 313 *e*P P 00 23 05.9 +1.8
BFO pmax pmax
comp=Z,28nm,1.6s
BFO Black Forest 65.00 313 *e*P P 00 23 05.9 +1.8
comp=Z,28nm,1.6s
KMBO Kilima Mbogo 65.47 251 P P 00 23 07.1 -0.7
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 65.47 251 P P 00 23 07.1 -0.7
comp=Z,2.8nm,0.6s,baz=36,slow=9.9,SNR=6.5
CDF Champ du Feu 65.62 313 *e*P P 00 23 07.8 -0.3
comp=Z,7.7nm,0.7s
CDF Champ du Feu 65.62 313 *e*P P 00 23 07.8 -0.3
CDF pmax pmax
comp=Z,8.0nm,0.7s
CDF Champ du Feu 65.62 313 *e*P P 00 23 07.8 -0.3
comp=Z,7.7nm,0.7s
WLF Walferdange 65.81 315 P P 00 23 11.7 +2.5
WLF Walferdange 65.81 315 *e*P P 00 23 12.2 +3.0
comp=Z,11nm,0.8s
WLF Walferdange 65.81 315 *e*P P 00 23 12.4 +3.2
WLF pmax pmax
comp=Z,29nm,1.1s
WLF Walferdange 65.81 315 *e*P P 00 23 12.4 +3.2
comp=Z,29nm,1.1s
HINF Hinteralfeld 66.12 313 *e*P P 00 23 10.7 -0.6
comp=Z,4.1nm,0.5s
HINF Hinteralfeld 66.12 313 *e*P P 00 23 10.7 -0.6
HINF pmax pmax
comp=Z,4.0nm,0.5s
HINF Hinteralfeld 66.12 313 *e*P P 00 23 10.7 -0.6
comp=Z,4.1nm,0.5s
HAU Haudompre 66.35 313 *e*P P 00 23 12.3 -0.5
comp=Z,10.0nm,0.8s
HAU Haudompre 66.35 313 *e*P P 00 23 12.3 -0.5
HAU pmax pmax
comp=Z,10.0nm,0.8s
HAU Haudompre 66.35 313 *e*P P 00 23 12.3 -0.5
comp=Z,10.0nm,0.8s
PAGF Fort de Pagny 66.51 314 *e*P P 00 23 13.9 +0.2
comp=Z,3.5nm,0.8s
PAGF Fort de Pagny 66.51 314 *e*P P 00 23 13.9 +0.2
comp=Z,3.5nm,0.8s
BAIF Baives 66.80 316 *e*P P 00 23 15.6 +0.1
BAIF Baives 66.80 316 *e*P P 00 23 15.6 +0.1
BAIF Baives 66.80 316 *e*P P 00 23 15.6 +0.1
AS12 Alice Springs 66.80 143 *e*P P 00 23 15.8 0.0
ASAR Alice Springs 66.80 143 P P 00 23 15.8 0.0
ASAR pmax pmax
comp=Z,11nm,0.5s
ASAR Alice Springs 66.80 143 P P 00 23 15.8 0.0
comp=Z,11nm,0.5s,baz=327,slow=6.7,SNR=110
PGF Pioggiola 66.88 307 *e*P P 00 23 16.0 -0.3
comp=Z,23nm,1.0s
PGF Pioggiola 66.88 307 *e*P P 00 23 16.0 -0.3
PGF pmax pmax
comp=Z,23nm,1.0s
PGF Pioggiola 66.88 307 *e*P P 00 23 16.0 -0.3
comp=Z,23nm,1.0s
MEZF Maizieres J'vi 66.94 314 *e*P P 00 23 16.5 0.0
MEZF Maizieres J'vi 66.94 314 *e*P P 00 23 16.5 0.0
SFTF Sexfontaines 67.07 313 *e*P P 00 23 17.2 -0.1
comp=Z,15nm,0.8s
SFTF Sexfontaines 67.07 313 *e*P P 00 23 17.2 -0.1
comp=Z,15nm,0.8s
CABF La Chapelle 67.09 312 *e*P P 00 23 17.0 -0.6
CABF La Chapelle 67.09 312 *e*P P 00 23 17.0 -0.6
CABF La Chapelle 67.09 312 *e*P P 00 23 17.0 -0.6
LPG La Plagne 67.13 310 *e*P P 00 23 18.3 +0.2
comp=Z,27nm,0.8s
LPG La Plagne 67.13 310 *e*P P 00 23 18.3 +0.2
LPG pmax pmax
comp=Z,27nm,0.8s
LPG La Plagne 67.13 310 *e*P P 00 23 18.3 +0.2
comp=Z,27nm,0.8s
LPL La Plagne 67.13 310 *e*P P 00 23 18.2 +0.2
comp=Z,16nm,0.6s
LPL La Plagne 67.13 310 *e*P P 00 23 18.2 +0.2
LPL pmax pmax
comp=Z,16nm,0.6s
LPL La Plagne 67.13 310 *e*P P 00 23 18.2 +0.2
comp=Z,16nm,0.6s
BNI Bardonecchia 67.36 310 *e*P P 00 23 19.4 0.0
BNI pmax pmax
comp=Z,14nm,1.3s
BNI Bardonecchia 67.36 310 *e*P P 00 23 19.4 0.0
comp=Z,14nm,1.3s
SBF Sospel 67.37 308 *e*P P 00 23 19.0 -0.4
comp=Z,29nm,0.8s
SBF Sospel 67.37 308 *e*P P 00 23 19.0 -0.4
SBF pmax pmax
comp=Z,29nm,0.8s
SBF Sospel 67.37 308 *e*P P 00 23 19.0 -0.4
comp=Z,29nm,0.8s
MBDF Montbardon 67.44 309 *e*P P 00 23 18.8 -1.1
comp=Z,14nm,0.7s
MBDF Montbardon 67.44 309 *e*P P 00 23 18.8 -1.1
MBDF pmax pmax
comp=Z,14nm,0.7s
MBDF Montbardon 67.44 309 *e*P P 00 23 18.8 -1.1
comp=Z,14nm,0.7s
IM04 Indian Mountai 67.45 25 *e*P P 00 23 19.9 +0.4
VSL Villasalto 67.90 303 *e*P P 00 23 21.9 -0.8
comp=Z,11nm,1.2s
ORIF Oris-en-Rattie 67.93 310 *e*P P 00 23 22.4 -0.5
comp=Z,10nm,0.5s
ORIF Oris-en-Rattie 67.93 310 *e*P P 00 23 22.4 -0.5
ORIF pmax pmax
comp=Z,10.0nm,0.5s
ORIF Oris-en-Rattie 67.93 310 *e*P P 00 23 22.4 -0.5
comp=Z,10nm,0.5s
COLD Coldfoot 67.98 23 *e*P P 00 23 25.7 +3.0
comp=Z,9.1nm,1.1s
FRF La Foret Royal 68.02 308 *e*P P 00 23 22.6 -0.8
FRF La Foret Royal 68.02 308 *e*P P 00 23 22.6 -0.8
FRF La Foret Royal 68.02 308 *e*P P 00 23 22.6 -0.8
LOR Lormes 68.19 313 *e*P P 00 23 23.6 -0.8
comp=Z,14nm,1.1s
LOR Lormes 68.19 313 *e*P P 00 23 23.6 -0.8
LOR pmax pmax
comp=Z,14nm,1.1s
LOR Lormes 68.19 313 *e*P P 00 23 23.6 -0.8
comp=Z,14nm,1.1s
LMR La Mourre 68.20 308 *e*P P 00 23 24.0 -0.5
comp=Z,11nm,0.7s
LMR La Mourre 68.20 308 *e*P P 00 23 24.0 -0.5
LMR pmax pmax
comp=Z,11nm,0.7s
LMR La Mourre 68.20 308 *e*P P 00 23 24.0 -0.5
comp=Z,11nm,0.7s
SMF Signal de Mont 68.47 312 *e*P P 00 23 25.8 -0.4
comp=Z,33nm,1.1s
SMF Signal de Mont 68.47 312 *e*P P 00 23 25.8 -0.4
SMF pmax pmax
comp=Z,33nm,1.1s
SMF Signal de Mont 68.47 312 *e*P P 00 23 25.8 -0.4
comp=Z,33nm,1.1s
SSF Saint Saulge 68.50 313 *e*P P 00 23 25.7 -0.6
SSF Saint Saulge 68.50 313 *e*P P 00 23 25.7 -0.6
SSF Saint Saulge 68.50 313 *e*P P 00 23 25.7 -0.6
SMRF Simiane la Rot 68.54 309 *e*P P 00 23 26.7 0.0
SMRF Simiane la Rot 68.54 309 *e*P P 00 23 26.7 0.0
AVF Avril sur Loir 68.71 313 *e*P P 00 23 27.2 -0.4
comp=Z,28nm,1.0s
AVF Avril sur Loir 68.71 313 *e*P P 00 23 27.2 -0.4
AVF pmax pmax
comp=Z,28nm,1.0s
AVF Avril sur Loir 68.71 313 *e*P P 00 23 27.2 -0.4
comp=Z,28nm,1.0s
VIVF Saint-Julien-l 68.73 310 *e*P P 00 23 27.5 -0.4
VIVF Saint-Julien-l 68.73 310 *e*P P 00 23 27.5 -0.4
VIVF Saint-Julien-l 68.73 310 *e*P P 00 23 27.5 -0.4
BGF Bois d'Agland 69.13 313 *e*P P 00 23 29.7 -0.6
comp=Z,5.3nm,0.4s
BGF Bois d'Agland 69.13 313 *e*P P 00 23 29.7 -0.6
BGF pmax pmax
comp=Z,5.0nm,0.4s
BGF Bois d'Agland 69.13 313 *e*P P 00 23 29.7 -0.6
comp=Z,5.3nm,0.4s
SVW2 Sparrevohn 69.31 30 *e*P P 00 23 33.9 +2.7
comp=Z,14nm,1.0s
KEST Kesra 69.58 300 P P 00 23 33.4 +0.1
comp=Z,0.9nm,0.5s,baz=316,slow=5.3,SNR=18
LASF Ste Croix 69.60 310 *e*P P 00 23 33.2 -0.1
comp=Z,18nm,1.0s
LASF Ste Croix 69.60 310 *e*P P 00 23 33.2 -0.1
comp=Z,18nm,1.0s
TCF Toulx Ste Croi 69.64 312 *e*P P 00 23 33.4 -0.1
comp=Z,32nm,1.0s
TCF Toulx Ste Croi 69.64 312 *e*P P 00 23 33.4 -0.1
TCF pmax pmax
comp=Z,32nm,1.0s
TCF Toulx Ste Croi 69.64 312 *e*P P 00 23 33.4 -0.1
comp=Z,32nm,1.0s
PPLA Purkeypile 69.69 27 *e*P P 00 23 35.6 +1.9
comp=Z,23nm,0.9s
KTH Kantishna Hill 69.80 26 *e*P P 00 23 37.1 +2.9
comp=Z,24nm,1.2s
LDF La Druitiere 69.99 315 *e*P P 00 23 35.0 -0.5
comp=Z,15nm,0.8s
LDF La Druitiere 69.99 315 *e*P P 00 23 35.0 -0.5
LDF pmax pmax
comp=Z,15nm,0.8s
LDF La Druitiere 69.99 315 *e*P P 00 23 35.0 -0.5
comp=Z,15nm,0.8s
SUMG Summit 70.03 347 *e*P P 00 23 35.1 -0.7
SUMG pmax pmax
comp=Z,46nm,1.7s
SUMG Summit 70.03 347 *e*P P 00 23 35.1 -0.7
comp=Z,46nm,1.7s
SUMG Summit 70.03 347 *i*P P 00 23 37.2 +1.4
comp=Z,4.9nm,1.0s
TRF Thorofare Moun 70.09 26 *e*P P 00 23 36.8 +0.6
comp=Z,12nm,1.1s
COLA College 70.13 24⇓ *i*P P 00 23 38.1 +2.0
COLA pmax pmax
comp=Z,75nm,1.2s
CAF Calviac 70.36 311 *e*P P 00 23 38.1 +0.2
CAF Calviac 70.36 311 *e*P P 00 23 38.1 +0.2
CAF Calviac 70.36 311 *e*P P 00 23 38.1 +0.2
MCK McKinley 70.42 25 *e*P P 00 23 38.9 +0.9
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 70.42 25 *e*P P 00 23 38.9 +0.9
comp=Z,7.4nm,0.9s
GRR Gorron 70.52 315 *e*P P 00 23 38.4 -0.4
comp=Z,28nm,0.8s
GRR Gorron 70.52 315 *e*P P 00 23 38.4 -0.4
GRR pmax pmax
comp=Z,28nm,0.8s
GRR Gorron 70.52 315 *e*P P 00 23 38.4 -0.4
comp=Z,28nm,0.8s
ILAR Eielson Array 70.52 24 P P 00 23 39.4 +0.9
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 70.52 24 P P 00 23 39.4 +0.9
comp=Z,3.9nm,0.9s,baz=293,slow=5.3,SNR=22
ILB Eielson Array 70.52 24 *e*P P 00 23 39.4 +0.9
RJF Les Rejaudoux 70.52 312 *e*P P 00 23 39.3 +0.4
RJF Les Rejaudoux 70.52 312 *e*P P 00 23 39.3 +0.4
RJF Les Rejaudoux 70.52 312 *e*P P 00 23 39.3 +0.4
RSO Redoubt South 70.83 29 *e*P P 00 23 44.5 +3.8
MFF Saint Martin d 70.94 314 *e*P P 00 23 41.4 0.0
MFF Saint Martin d 70.94 314 *e*P P 00 23 41.4 0.0
MFF Saint Martin d 70.94 314 *e*P P 00 23 41.4 0.0
MTLF Montolieu 71.00 310 *e*P P 00 23 41.6 -0.2
comp=Z,5.5nm,0.7s
MTLF Montolieu 71.00 310 *e*P P 00 23 41.6 -0.2
MTLF pmax pmax
comp=Z,6.0nm,0.7s
MTLF Montolieu 71.00 310 *e*P P 00 23 41.6 -0.2
comp=Z,5.5nm,0.7s
CTA Charters Tower 71.07 131 P P 00 23 41.4 -1.0
baz=315,slow=8.2
LFF La Frestale 71.18 312 *e*P P 00 23 43.1 +0.2
comp=Z,9.6nm,0.5s
LFF La Frestale 71.18 312 *e*P P 00 23 43.1 +0.2
LFF pmax pmax
comp=Z,10.0nm,0.5s
LFF La Frestale 71.18 312 *e*P P 00 23 43.1 +0.2
comp=Z,9.6nm,0.5s
DSB Dublin 71.19 322 *e*P P 00 23 42.0 -0.7
comp=Z,22nm,1.1s
SGMF Saint Gilles 71.57 316 *e*P P 00 23 45.3 +0.1
comp=Z,14nm,0.7s
SGMF Saint Gilles 71.57 316 *e*P P 00 23 45.3 +0.1
SGMF pmax pmax
comp=Z,14nm,0.7s
SGMF Saint Gilles 71.57 316 *e*P P 00 23 45.3 +0.1
comp=Z,14nm,0.7s
ROSF Rostrenen 71.95 316 *e*P P 00 23 47.7 +0.3
comp=Z,25nm,0.9s
ROSF Rostrenen 71.95 316 *e*P P 00 23 47.7 +0.3
ROSF pmax pmax
comp=Z,25nm,0.9s
ROSF Rostrenen 71.95 316 *e*P P 00 23 47.7 +0.3
comp=Z,25nm,0.9s
INK Inuvik 72.09 17 P P 00 23 48.8 +0.9
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 72.09 17 P P 00 23 48.8 +0.9
comp=Z,6.6nm,0.9s,baz=336,slow=7.7,SNR=13
INK Inuvik 72.09 17 *e*PKKSdf P 00 23 48.8 +0.9
QUIF Quistinic 72.10 316 *e*P P 00 23 48.2 -0.1
QUIF Quistinic 72.10 316 *e*P P 00 23 48.2 -0.1
QUIF Quistinic 72.10 316 *e*P P 00 23 48.2 -0.1
EPF Esparros 72.35 310 *e*P P 00 23 49.2 -0.8
EPF Esparros 72.35 310 *e*P P 00 23 49.2 -0.8
EPF Esparros 72.35 310 *e*P P 00 23 49.2 -0.8
EGAK Eagle 72.41 22 *e*P P 00 23 52.2 +2.3
comp=Z,7.8nm,1.0s
KDAK Kodiak Island 72.41 32 *i*P P 00 23 50.7 +0.7
ETSF Etsaut 72.99 310 *e*P P 00 23 54.0 +0.1
comp=Z,8.6nm,0.5s
ETSF Etsaut 72.99 310 *e*P P 00 23 54.0 +0.1
ETSF pmax pmax
comp=Z,9.0nm,0.5s
ETSF Etsaut 72.99 310 *e*P P 00 23 54.0 +0.1
comp=Z,8.6nm,0.5s
SJPF Ste Jean 73.31 311 *e*P P 00 23 55.2 -0.5
comp=Z,7.0nm,0.5s
SJPF Ste Jean 73.31 311 *e*P P 00 23 55.2 -0.5
SJPF pmax pmax
comp=Z,7.0nm,0.5s
SJPF Ste Jean 73.31 311 *e*P P 00 23 55.2 -0.5
comp=Z,7.0nm,0.5s
DAWY Dawson 73.46 22 *e*P P 00 23 58.5 +2.3
BMRM Bremner River 73.72 26 *e*P P 00 23 58.4 +0.6
comp=Z,311nm,2.6s
ESDC Sonseca Array 76.85 309 P P 00 24 15.8 -0.4
comp=Z,0.9nm,0.6s,baz=40,slow=6.3,SNR=6.7
STKA Stephens Creek 77.41 142 P P 00 24 19.4 +0.2

STKA pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 77.41 142 P **P** **00 24 19.4 +0.2**
comp=Z,5.7nm,0.7s,baz=318,slow=4.6,SNR=14
STKA Stephens Creek 77.41 142 *eP* **P** **00 24 19.7 +0.5**
EVO Evora 80.11 310 *eP* **P** **00 24 34.6 +0.5**
comp=Z,19nm,1.0s
EVOP Sao Brissos 80.18 310 *eP* **P** **00 24 34.6 +0.1**
EVOP pmax pmax
comp=Z,19nm,1.0s
EVOP Sao Brissos 80.18 310 *eP* **P** **00 24 34.6 +0.1**
comp=Z,19nm,1.0s
LSZ Lusaka 81.18 245 *eP* **P** **00 24 37.6 -2.7**
LSZ pmax pmax
comp=Z,28nm,2.1s
LSZ Lusaka 81.18 245 *eP* **P** **00 24 37.6 -2.7**
comp=Z,28nm,2.1s
YKA Yellowknife Ar 81.31 14 P **P** **00 24 40.1 +0.1**
comp=Z,1.9nm,0.8s,baz=330,slow=4.8,SNR=20
YKB5 Yellowknife Ar 81.31 14 *eP* **P** **00 24 40.1 +0.1**
TOA0 Torodi Ar. Sit 87.00 284 *eP* **P** **00 25 09.3 -0.6**
TORD Torodi Ar. Bea 87.00 284 P **P** **00 25 09.3 -0.6**
comp=Z,2.1nm,0.6s,baz=51,slow=4.3,SNR=24
LBTB Lobatse 89.04 239 *eP* **P** **00 25 18.4 -1.1**
LBTB pmax pmax
comp=Z,118nm,2.8s
LBTB Lobatse 89.04 239 *eP* **P** **00 25 18.4 -1.1**
comp=Z,118nm,2.8s
EDM Edmonton 90.00 18 *eP* **P** **00 25 23.8 +0.3**
EDM pmax pmax
comp=Z,22nm,1.1s
EDM Edmonton 90.00 18 *eP* **P** **00 25 23.8 +0.3**
comp=Z,22nm,1.1s
FFC Flin Flon 90.90 11 *eP* **P** **00 25 28.8 +1.1**
FFC Flin Flon 90.90 11 *eP* **P** **00 25 28.8 +1.1**
B08A Colville Reser 92.59 23 *eP* P 00 25 38.0 +2.4
comp=Z,4.4nm,1.0s
LTX Lajitas 114.82 20 *e*PKIKP PKPdf 00 31 05.9 +0.6
LTX Lajitas 114.82 20 *e*PKIKP PKPdf 00 31 05.9 +0.6
TXAR Lajitas Array 114.82 20 PKP PKPdf 00 31 05.9 +0.6
comp=Z,0.3nm,0.5s,baz=41,slow=1.6,SNR=5.3
OTAV Otavalo 146.37 351 *e*PKPdf **PKPab** **00 32 06.8 -0.2**
SAML Samuel 149.50 318 *e*PKPbc **PKPbc** **00 32 13.7 -0.4**

GUC 14 00:17:10.1±0.6, 34°57S×72°99W, h22km±5km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
TALC	**Talca**	**1.39**	**127**	*eP*	Pn	00	17 33.3	-0.9
TALC				*eS*	Sn	00	17 51.0	-0.8
NICH	**Los Niches**	**1.51**	**107**	*eP*	Pn	00	17 35.4	-0.5
NICH				*eS*	Sn	00	17 54.8	-0.1
LNCH	**Linares**	**1.71**	**139**	*eP*	Pn	00	17 38.4	-0.2
LNCH				*eS*	Sn	00	17 59.9	+0.1
CLCH	**Cerro Calan**	**2.35**	**61**	*eP*	Pn	00	17 48.3	+0.8
CLCH				*eS*	Sn	00	18 16.6	+0.8
CLCH				AML	AML	00	18 32.3	
	comp=N,712nm,0.7s							
PEL	**Peldehue**	**2.39**	**54**	*eP*	Pn	00	17 48.7	+0.7
PEL				*eS*	Sn	00	18 18.1	+1.4
PEL				AML	AML	00	18 31.1	
	comp=N,700nm,0.5s							
YECH	**El Yeso**	**2.58**	**70**	*eS*	Sn	00	18 23.7	+1.8

BJI **14** *00:18:28.3, 18°.05N×145°.61E, h197km, mB4.8/3, mb4.8/20*
MOS **14** *00:18:28.4±1.1, 18°.00N×145°.28E, h202km, mb4.9/26, Error ellipse: s-maj=11.0km s-min=6.1km az=91.6*
ISCJB **14** *00:18:29.1±0.7, 17°.94N±0°.03×145°.54E±0°.03, h201km±6km, mb4.8/133, Error ellipse: s-maj=4.8km s-min=4.5km az=146.5*
NEIC **14** *00:18:30.2±0.9, 17°.95N×145°.54E, h200km±8km, mb4.9/89, Error ellipse: s-maj=5.2km s-min=4.1km az=104.0*
IDC **14** *00:18:30.3±0.6, 17°.99N×145°.55E, h206km±5km, mb4.2/24, mb1 4.3/26, mb1mx4.2/35, mbtmp4.7/26, Error ellipse: s-maj=13.5km s-min=7.2km az=85.0*
ISC 14 00:18:29.3±0.4, 17°.95N±0°.04×145°.64E±0°.06, h196km±3km, h195km: pP-P, n398, σ1.29/427, mb4.8/132, 7C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
GUMO	**Guam**	**4.39**	**190**	*eP*	**Pn**	**00**	**19 35.9**	**0.0**
GUMO				*eS*	**Sn**	**00**	**20 27.2**	**-1.1**
GUMO	**Guam**	**4.39**	**190**	*e*Pn	**Pn**	**00**	**19 35.9**	**0.0**
GUMO				*eS*	**Sn**	**00**	**20 27.2**	**-1.1**
CBI	**Chichi jima**	**9.64**	**341**	*e*Pn	**Pn**	**00**	**20 45.7**	**+1.8**
CBI				*eS*	Sn	00	22 24.6	-7.0
CBIJ	**Chichi jima**	**9.65**	**341**	P	**Pn**	**00**	**20 45.7**	**+1.7**
CBIJ				S	Sn	00	22 24.6	-7.2
JCJ	**Chichijima**	**9.65**	**341**	P	**Pn**	**00**	**20 45.7**	**+1.7**
	11nm,0.3s,baz=220,slow=23,SNR=6.5							
JCJ				S	Sn	00	22 24.6	-7.2
	18nm,0.3s,baz=104,slow=23,SNR=7.3							
JOW	**Kunigami**	**18.31**	**302**	P	**Pn**	**00**	**22 30.8**	**-0.5**
	2.6nm,0.3s,baz=133,slow=11,SNR=18							
JOW	**Kunigami**	**18.31**	**302**	P	**Pn**	**00**	**22 30.8**	**-0.5**
JOW				*e*Pn	**P**	**00**	**22 31.4**	**+2.6**
MJAR	**Matsushiro Arr**	**19.65**	**342**	P	**P**	**00**	**22 42.9**	**-0.3**
	2.5nm,0.3s,baz=165,slow=9.6,SNR=16							
MAJO	**Matsushiro**	**19.65**	**342**	*eP*	**P**	**00**	**22 43.0**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,595nm,2.5s							
MAJO	**Matsushiro**	**19.65**	**342**	*eP*	**P**	**00**	**22 40.5**	**-2.7**
	comp=Z,400nm,2.5s							
MAT	**Matsushiro**	**19.65**	**342**	P	**P**	**00**	**22 43.4**	**+0.2**
JAY	**Jayapura**	**20.90**	**194**	P	**P**	**00**	**22 56.8**	**+0.1**
	comp=Z,52nm,0.8s,baz=351,slow=6.2,SNR=16							
YOJ	**Yonaguni jima**	**22.05**	**291**	*eP*	**P**	**00**	**23 07.5**	**-0.9**
YOJ				pmax	pmax			
	comp=Z,193nm,1.1s							
YOJ	**Yonaguni jima**	**22.05**	**291**	*eP*	**P**	**00**	**23 07.5**	**-0.9**
	comp=Z,193nm,1.1s							
NACB	**Ninganchiao**	**23.26**	**290**	*eP*	**P**	**00**	**23 20.3**	**+0.9**
	comp=Z,32nm,0.9s							
YULB	**Yu-li**	**23.39**	**288**	*eP*	**P**	**00**	**23 21.4**	**+0.7**
	comp=Z,207nm,2.1s							
TATO	**Taipei**	**23.52**	**291**	*eP*	**P**	**00**	**23 22.6**	**+0.8**
	comp=Z,521nm,1.6s							
TWG	**Pinlang**	**23.52**	**286**	*eP*	**P**	**00**	**23 22.4**	**+0.6**
	comp=Z,262nm,1.1s							
YHNB	**Yeheng**	**23.55**	**291**	*eP*	**P**	**00**	**23 23.8**	**+1.6**
	comp=Z,96nm,0.5s							
SSLB	**Suanglung**	**23.77**	**288**	*eP*	**P**	**00**	**23 25.2**	**+1.1**
	comp=Z,90nm,1.1s							
FAKI	**Fak Fak**	**24.58**	**214**	*eP*	**P**	**00**	**23 31.4**	**0.0**
	comp=Z,57nm,0.6s							
TNTI	**Ternate**	**24.77**	**228**	*eP*	**P**	**00**	**23 34.4**	**+1.1**
	comp=Z,70nm,0.9s							
KSRS	**Korea Array**	**24.89**	**325**	P	**P**	**00**	**23 32.7**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=150,slow=8.6,SNR=12							
KS15	**Wonju Array Si**	**24.90**	**325**	*eP*	**P**	**00**	**23 32.7**	**-1.5**
KSAR	**Wonju Array Be**	**24.90**	**325**	P	**P**	**00**	**23 32.7**	**-1.5**
KSAR	**Wonju Array Be**	**24.90**	**325**	P	**P**	**00**	**23 32.7**	**-1.5**
PMG	**Port Moresby**	**27.22**	**177**	*eP*	**P**	**00**	**23 55.0**	**-0.2**
PMG				pmax	pmax			
	comp=Z,49nm,1.2s							
PMG	**Port Moresby**	**27.22**	**177**	P	**P**	**00**	**23 55.2**	**0.0**
	comp=Z,16nm,0.4s,baz=357,slow=5.4,SNR=5.9							
NJ2	**Nanjing**	**27.95**	**305**	*eP*	**P**	**00**	**24 00.5**	**-1.0**
NJ2				PMZ				
	comp=Z,120nm,1.0s							
USRK	**Ussuriysk Ar.**	**28.58**	**339**	P	**P**	**00**	**24 07.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=155,slow=8.3,SNR=5.1							
MDJ	**Mudanjiang**	**29.80**	**337**	P	**P**	**00**	**24 20.9**	**+3.1**
MDJ				PMZ				
	comp=Z,24nm,1.5s							
CN2	**Changchun**	**30.89**	**331**	*eP*	**P**	**00**	**24 28.5**	**+1.2**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
KKM	**Kota Kinabalu**	**31.05**	**251**	*eP*	**P**	**00**	**24 30.7**	**+1.5**
	comp=Z,42nm,0.5s							
HABR	**Khabarovsk**	**31.65**	**347**	*eP*	**P**	**00**	**24 31.0**	**-2.9**
HABR				*e**PP	**pP**	**00**	**25 10.2**	**-3.9**
HABR				*e**SP	**sP**	**00**	**25 32.3**	**-4.3**
HABR				*e*		00	25 43.0	
HABR				*e*		00	27 18.8	
HABR				*e*		00	34 41.8	
HABR				pmax	pmax			
	comp=Z,333nm,2.8s							
HABR				MLR	MLR			
	comp=Z,11μm,17.0s							

COEN Coen 31.79 185 *eP* **P** **00 24 35.7 +0.2**
comp=Z,26nm,0.6s
KAPI Kappang 34.25 231 *eP* **P** **00 24 55.1 -1.8**
comp=Z,12nm,0.6s
SOEI Soe 34.68 219 *eP* **P** **00 25 00.3 -0.4**
comp=Z,29nm,0.9s
SBUM Sibu 36.21 249 *eP* **P** **00 25 16.1 +2.5**
comp=Z,16nm,0.4s
PEA2 Petropavlovsk- 36.33 12 *eP* **P** **00 25 14.0 -0.2**
PETK Petropavlovsk- 36.33 12 P **P** **00 25 14.0 -0.2**
PETK Petropavlovsk- 36.33 12 P **P** **00 25 14.0 -0.2**
comp=Z,9.3nm,0.7s,baz=185,slow=9.6,SNR=10
PET Petropavlovsk 36.45 13 *eP* **P** **00 25 16.7 +1.5**
PET pmax pmax
comp=Z,18nm,0.6s
PET Petropavlovsk 36.45 13 *eP* **P** **00 25 14.7 -0.5**
comp=Z,64nm,1.5s
XAN Xi'an 36.45 303 P **P** **00 25 16.3 +0.7**
GYA Guiyang 36.95 290 P **P** **00 25 20.0 +0.1**
GYA pP **pP** **00 26 01.4 +0.5**
GYA sP **sP** **00 26 22.4 -0.9**
GYA PP **PnPn** **00 26 50.8 -0.5**
GYA ScP **ScP** **00 31 05.3 -0.1**
GYA sS **sS** **00 32 01.5 -1.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
HHC Hu-ho-hao-te 37.09 315 *eP* **P** **00 25 19.3 -1.6**
HHC S **S** **00 30 47.5 -4.8**
HHC PMZ
comp=Z,28nm,0.8s
CTAO Charters Tower 37.80 179 *eP* **P** **00 25 26.3 -0.6**
CTAO pmax pmax
comp=Z,11nm,0.6s
CTAO Charters Tower 37.80 179 *eP* **P** **00 25 26.3 -0.6**
comp=Z,11nm,0.6s
WRAB Tennant Creek 39.24 197 P **P** **00 25 39.3 +0.3**
comp=Z,454nm,1.0s,SNR=69
WRAB Tennant Creek 39.24 197 *ce*P **P** **00 25 39.5 +0.6**
WRAB pmax pmax
comp=Z,199nm,1.2s
WRAB Tennant Creek 39.24 197 *eP* **P** **00 25 39.2 +0.3**
comp=Z,57nm,0.9s
WRA Warramunga Arr 39.25 197 P **P** **00 25 39.3 +0.3**
comp=Z,34nm,0.8s,baz=17,slow=8.7,SNR=49
WRA PcP **PcP** **00 27 44.5 +0.5**
comp=Z,1.4nm,0.4s,baz=18,slow=4.0,SNR=3.7
WRA ScP **ScP** **00 31 12.2 -1.8**
comp=Z,3.6nm,0.9s,baz=16,slow=4.0,SNR=4.8
WRA S **S** **00 31 24.1 -0.9**
comp=Z,0.4nm,0.3s,baz=20,slow=17,SNR=9.9
KHON Khomkaen 40.88 274 P **P** **00 25 55.1 +2.6**
comp=Z,9.5nm,0.9s
LZH Lanzhou 41.02 305 *eP* **P** **00 25 53.3 -0.3**
LZH pP **pP** **00 26 34.0 -1.3**
LZH sP **sP** **00 26 55.8 -1.7**
LZH PMZ
comp=Z,16nm,1.0s
PBKT Sadao Pong 42.60 275 P **P** **00 26 08.8 +2.4**
comp=Z,48nm,1.5s
UTTA Uttaradit 42.83 277 P **P** **00 26 10.0 +1.7**
comp=Z,14nm,0.7s
AS12 Alice Springs 42.92 196 *eP* **P** **00 26 09.2 +0.4**
AS12 *e*PP **PcP** **00 27 56.5 +0.5**
AS12 *e*ScP **ScP** **00 31 26.9 -1.6**
AS12 *eS* **S** **00 32 17.4 -1.6**
ASAR Alice Springs 42.92 196 P **P** **00 26 09.2 +0.4**
comp=Z,15nm,0.6s,baz=15,slow=7.9,SNR=104
ASAR PcP **PcP** **00 27 56.5 +0.5**
comp=Z,2.3nm,0.7s,baz=14,slow=4.8,SNR=3.6
ASAR ScP **ScP** **00 31 26.9 -1.6**
comp=Z,1.7nm,0.7s,baz=8.0,slow=4.0,SNR=5.1
ASAR S **S** **00 32 17.4 -1.6**
comp=Z,1.1nm,0.8s,baz=20,slow=20,SNR=4.1
UGM Wanagama 43.15 236 *eP* **P** **00 26 10.0 -1.0**
comp=Z,342nm,1.9s
ULN Ulaanbaatar 43.32 322 *eP* **P** **00 26 11.9 -0.2**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 43.32 322 *eP* **P** **00 26 11.9 -0.2**
comp=Z,5.2nm,1.0s
LAMP Lampang 43.60 278 P **P** **00 26 16.5 +2.0**
comp=Z,6.4nm,0.7s
SONA0 Songino Array 43.69 322 *eP* **P** **00 26 14.6 -0.4**
SONM Songino Array 43.69 322 P **P** **00 26 14.6 -0.4**
comp=Z,4.0nm,0.6s,baz=137,slow=8.7,SNR=28
SONM pP **pP** **00 26 60.0 +2.8**
comp=Z,2.7nm,0.7s,baz=136,slow=8.8,SNR=2.7
SUKH Sukhothai 43.74 277 P **P** **00 26 17.6 +2.0**
comp=Z,19nm,0.6s
CMAI Chiengmai2 44.01 280 P **P** **00 26 19.7 +1.8**
comp=Z,102nm,1.1s
UTHA Uthaitani 44.21 274 P **P** **00 26 22.1 +2.8**
comp=Z,5.8nm,0.8s
CMMT Chiang Mai 44.22 279 P **P** **00 26 21.0 +1.6**
comp=Z,153nm,2.5s
CM31 Chiang Mai Arr 44.26 278 *eP* **P** **00 26 22.0 +2.2**
CMAR Chiang Mai Arr 44.26 278 P **P** **00 26 22.0 +2.2**
comp=Z,20nm,0.7s,baz=69,slow=7.0,SNR=154
SRDT SRDT 44.74 272 P **P** **00 26 25.8 +2.3**
comp=Z,4μm,1.6s
ADK Adak 44.98 32 *eP* **P** **00 26 25.1 +0.2**
ADK pmax pmax
comp=Z,121nm,1.4s
ADK Adak 44.98 32 *eP* **P** **00 26 25.1 +0.2**
comp=Z,121nm,1.4s
SEY Seymchan 45.19 4 P **P** **00 26 26.6 +0.2**
comp=Z,3.6nm,0.4s,baz=199,slow=6.8,SNR=9.6
MHMT Maesarieng 45.25 278 P **P** **00 26 29.7 +2.2**
GSTR Great Sitkin T 45.42 32 *eP* **P** **00 26 29.3 +0.9**
YAK Yakutsk 45.45 350 *eP* **P** **00 26 25.9 -2.5**
YAK *e* 00 27 05.7
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 45.45 350 *eP* **P** **00 26 27.3 -1.1**
comp=N,65nm,0.6s
KULM Kulim 45.69 260 *eP* **P** **00 26 33.5 +2.4**
comp=N,27nm,1.3s
MSVF Nonsavu 47.69 136 *eP* **P** **00 26 47.8 +1.3**
MSVF pmax pmax
comp=Z,9.0nm,0.8s
MSVF Nonsavu 47.69 136 *eP* **P** **00 26 47.8 +1.3**
comp=Z,8.7nm,0.8s
ARMA Armidale 48.43 173 *eP* **P** **00 26 51.6 -0.4**
comp=Z,25nm,1.2s
STKA Stephens Creek 49.69 185 *eP* **P** **00 27 01.5 +0.1**
STKA Stephens Creek 49.69 185 P **P** **00 27 01.1 -0.3**
comp=Z,5.1nm,0.4s,baz=5.9,slow=7.1,SNR=26
STKA Stephens Creek 49.69 185 *eP* **P** **00 27 01.5 +0.1**
LSA Lhasa 50.79 294 *eP* **P** **00 27 12.6 +2.1**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 50.79 294 *eP* **P** **00 27 12.6 +2.1**
comp=Z,8.4nm,0.6s
BBOO Buckleboo 51.29 190 *eP* **P** **00 27 13.6 +0.2**
comp=Z,2.4nm,0.6s
UNV Unalaska Valle 51.31 34 *eP* **P** **00 27 13.6 +0.3**
comp=Z,294nm,1.8s
FORT Forrest 51.31 199 *eP* **P** **00 27 14.4 +0.9**
comp=Z,38nm,0.7s
BILL Bilibino 51.77 10 *eP* **P** **00 27 16.7 +0.3**
BILL pmax pmax
comp=Z,21nm,0.6s
BILL Bilibino 51.77 10 *eP* **P** **00 27 16.7 +0.3**
comp=Z,21nm,0.6s
AKUT Akutan 51.82 34 *eP* **P** **00 27 17.7 +0.6**
comp=Z,2μm,2.7s
TAPN Taplejung 53.87 291 *eP* **P** **00 27 34.1 +1.2**
comp=Z,8.5nm,0.4s
GAMB Gambell 54.17 22 *eP* **P** **00 27 34.9 +0.9**
TIXI Tiksi 54.61 354 *ce*P **P** **00 27 36.3 -0.8**
TIXI pmax pmax
comp=Z,27nm,2.5s
TIXI Tiksi 54.61 354 *eP* **P** **00 27 36.9 -0.1**
comp=Z,58nm,2.2s
RAMN Ramite 54.88 291 *eP* **P** **00 27 40.8 +0.6**
comp=Z,9.9nm,0.5s
JIRN Jiri 55.20 292 *eP* **P** **00 27 43.4 +0.8**
comp=Z,27nm,0.5s
GUN Gumba 55.46 292 *eP* **P** **00 27 45.4 +1.0**
comp=Z,12nm,0.3s

PKI Pulchoki 55.90 291 *eP* **P** **00 27 47.3 -0.2**
comp=Z,14nm,0.5s
PKIN Phulchoki 55.91 291 *eP* **P** **00 27 47.7 +0.2**
comp=Z,8.6nm,0.4s
KKN Kakani 56.00 292 *eP* **P** **00 27 48.6 +0.5**
comp=Z,5.7nm,0.3s
TNA Tin City 56.54 21 *eP* **P** **00 27 50.6 -0.3**
comp=Z,67nm,1.8s
GKN Gorkha 56.55 292 *eP* **P** **00 27 52.4 +0.5**
comp=Z,11nm,0.4s
DANN Dangsing 57.30 293 *eP* **P** **00 27 57.8 +0.5**
comp=Z,52nm,0.6s
KOLN Koldanda 57.49 292 *eP* **P** **00 27 57.8 -0.7**
comp=Z,11nm,0.5s
PYUN Piuthan 58.00 292 *eP* **P** **00 28 02.2 +0.1**
comp=Z,27nm,0.5s
ZAA1 Zalesovo Array 58.57 323 *eP* **P** **00 28 04.4 -1.0**
ZALV Zalesovo Beam 58.57 323 P **P** **00 28 04.4 -1.0**
comp=Z,2.4nm,0.3s,baz=120,slow=6.5,SNR=21
MK32 Makanchi Array 58.94 314 *eP* **P** **00 28 07.6 -0.4**
MKAR Makanchi Array 58.94 314 P **P** **00 28 07.6 -0.4**
comp=Z,3.1nm,0.5s,baz=86,slow=8.2,SNR=56
OUZ Omahuta 59.16 153 *eP* **P** **00 28 10.7 +1.1**
comp=Z,459nm,2.9s
KDAK Kodiak Island 60.02 33 P **P** **00 28 16.0 +0.9**
comp=Z,108nm,0.5s,SNR=12
KDAK Kodiak Island 60.02 33 *ce*P **P** **00 28 15.6 +0.5**
KDAK Kodiak Island 60.02 33 *eP* **P** **00 28 16.1 +0.9**
comp=Z,52nm,1.4s
RSO Redoubt South 60.64 30 *eP* **P** **00 28 19.8 +0.2**
PDGK Podgornoye 60.64 310 P **P** **00 28 19.9 +0.3**
PDGK pmax pmax
comp=Z,7.0nm,0.5s
KURK Kurchatov 61.79 318 P **P** **00 28 24.7 -2.5**
comp=Z,61nm,0.6s,SNR=15
KURK Kurchatov 61.79 318 *eP* **P** **00 28 24.3 -2.9**
KURK **PP* **pP** **00 29 14.5 +2.2**
KURK Kurchatov 61.79 318 *eP* **P** **00 28 24.3 -2.9**
KURK pP **pP** **00 29 14.5 +2.2**
CAST Castle Rocks 61.79 27 *eP* **P** **00 28 26.1 -1.0**
comp=Z,201nm,2.2s
KURBB Kurchatov Arra 61.84 318 P **P** **00 28 26.5 -1.1**
comp=Z,11nm,0.4s,baz=93,slow=7.1,SNR=143
KURBB pP **pP** **00 29 14.5 +1.8**
comp=Z,3.6nm,0.7s,baz=95,slow=7.5,SNR=2.1
IM04 Indian Mountai 61.91 24 *eP* **P** **00 28 28.5 +0.7**
SEW Seward 62.15 31 *eP* **P** **00 28 29.8 +0.5**
comp=Z,128nm,1.7s
KTH Kantishna Hill 62.33 27 *eP* **P** **00 28 28.2 -2.5**
TRF Thorofare Moun 62.57 27 *eP* **P** **00 28 32.6 +0.2**
comp=Z,70nm,1.6s
MCK McKinley 63.23 27 *eP* **P** **00 28 37.5 +0.9**
MCK pmax pmax
comp=Z,30nm,1.3s
MCK McKinley 63.23 27 *eP* **P** **00 28 37.5 +0.9**
comp=Z,30nm,1.3s
URZ Urewera 63.24 153 *eP* **P** **00 28 35.9 -1.0**
comp=Z,46nm,1.1s
KSH Kashi 63.26 306 P **P** **00 28 39.3 +2.0**
KSH pP **pP** **00 29 23.8 +1.2**
KSH PP **PP** **00 31 02.1 +3.3**
KSH PcS 00 33 17.3
KSH S **S** **00 36 52.8 -0.8**
KSH ScS **SKSac** **00 38 09.3 -2.1**
KSH SS **SS** **00 41 05.4 +1.9**
KSH PMZ
comp=Z,20nm,1.3s
KSH LN
comp=Z,4μm,13.4s
KSH LE
comp=Z,2μm,10.5s
KSH LZ
comp=Z,3μm,11.2s
TKM2 Tokmak 2 63.48 309 *eP* **P** **00 28 39.3 +0.5**
TKM2 pmax pmax
comp=Z,190nm,2.6s
TKM2 Tokmak 2 63.48 309 *eP* **P** **00 28 39.3 +0.5**
comp=Z,190nm,2.6s
COLD Coldfoot 63.67 23 *eP* **P** **00 28 40.3 +1.0**
BKZ Black Stump Fm 63.73 154 *eP* **P** **00 28 40.4 +0.2**
comp=Z,22nm,0.6s
COLA College 63.97 26 *eP* **P** **00 28 42.6 +1.3**
COLA *i* *PP **pP** **00 29 26.1 -0.6**
COLA pmax pmax
comp=Z,279nm,5.0s
AAK Ala-Archa 64.29 309 *ce*P P 00 28 40.2 -3.9
AAK pmax pmax
comp=Z,82nm,1.7s
AAK Ala-Archa 64.29 309 P **P** **00 28 43.7 -0.4**
comp=Z,6.1nm,1.0s,baz=90,slow=4.0,SNR=8.8
ILAR Eielson Array 64.34 26 P **P** **00 28 42.6 -1.1**
comp=Z,6.6nm,0.6s,baz=249,slow=6.0,SNR=97
ILB Eielson Array 64.34 26 *eP* **P** **00 28 42.6 -1.1**
RAGM Ragged Mountai 64.54 31 *eP* **P** **00 28 46.1 +0.9**
comp=Z,344nm,2.4s
KHZ Kahutara 65.35 158 *eP* **P** **00 28 49.4 -1.0**
comp=Z,628nm,2.6s
RPZ Rata Peaks 65.64 160 *eP* **P** **00 28 52.0 -0.3**
comp=Z,530nm,2.5s
BVA0 Borovoye Array 67.01 321 *eP* **P** **00 28 59.7 -1.4**
BVA0 pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 67.01 321 P **P** **00 29 00.4 -0.7**
comp=Z,10nm,0.5s,baz=103,slow=7.5,SNR=69
BVAR pP **pP** **00 29 48.6 +1.7**
comp=Z,2.0nm,0.5s,baz=95,slow=7.7,SNR=1.2
BRVK Borovoye 67.08 321 P **P** **00 29 00.4 -1.1**
comp=Z,103nm,0.4s,SNR=5.9
BRVK Borovoye 67.08 321 *eP* **P** **00 29 01.6 +0.1**
BRVK pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 67.08 321 *eP* **P** **00 29 01.6 +0.1**
comp=Z,10nm,0.5s
KK31 Karatay Array 67.20 310 *eP* **P** **00 29 02.4 -0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 67.20 310 *eP* **P** **00 29 02.0 -0.5**
KKAR Karatay Array 67.20 310 *eP* **P** **00 29 02.0 -0.5**
HYT Haines Junctio 68.10 31 *eP* **P** **00 29 09.6 +1.7**
SKAG Skagway 69.16 32 *eP* **P** **00 29 13.9 -0.4**
INK Inuvik 70.09 23 *eP* **P** **00 29 20.1 +0.3**
INK pmax pmax
comp=Z,22nm,0.8s
INK Inuvik 70.09 23 *eP* **P** **00 29 20.1 +0.3**
comp=Z,22nm,0.8s
DLBC Dease Lake 71.95 33 *eP* **P** **00 29 32.8 +1.5**
ARU Arti 73.64 325 *c iP* **P** **00 29 40.7 -0.5**
ARU 00 32 26.8
ARU S **S** **00 38 55.1 -0.2**
ARU SS **SS** **00 43 47.6 +5.4**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 73.64 325 *eP* **P** **00 29 39.9 -1.3**
comp=Z,9.4nm,0.5s
AB31 Akbulak array 73.85 317 *eP* **P** **00 29 41.5 -1.0**
AB31 pmax pmax
comp=Z,6.0nm,0.3s
ABKAR Akbulak array 73.85 317 *eP* **P** **00 29 41.6 -0.9**
GEYT Alibeck 77.29 306 P **P** **00 30 02.0 -0.3**
comp=Z,4.1nm,1.0s,baz=15,slow=6.0,SNR=4.0
PGC Sidney 77.34 43 *eP* **P** **00 30 02.6 +0.3**
comp=Z,2μm,2.2s
NLWA Neilton Lookou 77.34 44 *eP* **P** **00 30 02.6 +0.2**
comp=Z,46nm,1.4s
OSD Olympics--Snow 77.36 44 P **P** **00 30 04.6 +1.9**
F03A Seaside 77.88 46 *eP* **P** **00 30 06.2 +0.8**
comp=Z,249nm,1.5s
KEBM Edson Butte 78.04 49 *eP* **P** **00 30 06.5 +0.1**
comp=Z,511nm,2.5s
A05A Maple Falls 78.14 42 *eP* **P** **00 30 07.0 +0.2**
comp=Z,141nm,2.5s
JCW Jim Creek 78.43 43 P **P** **00 30 09.9 +1.5**
D05A Enumclaw 78.64 44 *eP* **P** **00 30 11.6 +2.1**
comp=Z,19nm,0.6s
F04A Amboy 78.65 45 *eP* **P** **00 30 11.5 +1.9**
YKA Yellowknife Ar 78.68 28 P **P** **00 30 09.3 -0.1**
comp=Z,12nm,0.5s,baz=285,slow=5.5,SNR=270
YKA pP **pP** **00 30 58.4 +1.8**
comp=Z,1.8nm,0.6s,baz=291,slow=5.4,SNR=2.7
YKB5 Yellowknife Ar 78.68 28 *eP* **P** **00 30 09.3 -0.1**
TDL Tradedollar La 78.69 45 P **P** **00 30 11.8 +1.8**
LON Longmire 78.86 44 *eP* **P** **00 30 12.0 +1.2**
LON Longmire 78.86 44 *eP* **P** **00 30 12.0 +1.2**
HUMO Hull Mountain 79.09 49 *eP* **P** **00 30 14.4 +2.3**
H04A Detroit Lake 79.12 47 *eP* **P** **00 30 13.3 +1.1**
comp=Z,7.5nm,0.6s

ASR	Mount Adams--S	79.16	45	P		P	00 30 13.9 +1.4
I04A	Tendick Farm, baz=79	79.18	47	P		P	00 30 13.4 +0.8
VLL	Laurance Lake	79.27	46	P		P	00 30 14.7 +1.6
KCPM	Cahto Peak comp=Z,114nm,2.3s	79.35	52	eP		P	00 30 14.9 +1.1
M02C	Callahan baz=79	79.46	50	P		P	00 30 15.8 +1.6
YBH	Yreka Blue Hor	79.48	50	eP		P	00 30 16.2 +1.8
YBH	Yreka Blue Hor	79.48	50	eP		P	00 30 16.2 +1.8
J04D	Umpqua Nationa baz=80	79.53	48	P		P	00 30 15.8 +1.1
ETW	Entiat	79.62	43	P		P	00 30 15.9 +0.9
N02D	Trinity Center baz=80	79.68	50	P		P	00 30 16.9 +1.5
WTV	Waterville	79.84	43	P		P	00 30 16.9 +0.8
K04D	Chiloquin, OR baz=80	79.94	48	P		P	00 30 18.0 +1.1
B08A	Colville Reser comp=Z,20nm,1.1s	80.07	42	eP		P	00 30 18.2 +0.9
M04C	Macdoel baz=80	80.10	49	P		P	00 30 19.2 +1.4
J05D	Fort Rock, OR baz=80	80.14	48	P		P	00 30 19.2 +1.3
RES	Resolute Bay	80.17	14	eP		P	00 30 16.8 -0.4
RES	comp=Z,60nm,2.6s				pmax	pmax	
RES	Resolute Bay comp=Z,60nm,2.6s	80.17	14	eP		P	00 30 16.8 -0.4
SAW	Saint Andrews	80.20	43	P		P	00 30 18.8 +0.8
E07A	Sunnyside comp=Z,9.8nm,0.9s	80.21	44	eP		P	00 30 19.6 +1.5
HAWA	Hanford	80.47	44	eP		P	00 30 20.9 +1.4
K05A	Summer Lake comp=Z,17nm,0.6s	80.53	48	eP		P	00 30 21.6 +1.5
D08A	Wollman Farm, comp=Z,12nm,1.0s	80.69	44	eP		P	00 30 21.7 +1.1
C09A	Chrisman Ranch	80.90	43	eP		P	00 30 22.6 +0.9
MOD	Modoc Plateau	81.17	49	eP		P	00 30 24.7 +1.3
E09A	Wood Farm, Sta	81.36	44	eP		P	00 30 25.4 +1.3
NEW	Newport	81.51	42	eP		P	00 30 25.6 +0.7
NEW	Newport baz=81	81.51	42	P		P	00 30 25.5 +0.5
NEW	Newport	81.51	42	ePKiKP		P	00 30 25.6 +0.7
NEW	Newport	81.51	42	eP		P	00 30 25.6 +0.7
CMB	Columbia Colle	82.20	53	eP		P	00 30 30.0 +1.3
CMB	Columbia Colle	82.20	53	eP		P	00 30 30.0 +1.3
EDM	Edmonton	82.22	37	eP		P	00 30 29.4 +0.8
EDM	Edmonton	82.22	37	eP		P	00 30 29.4 +0.8
BMO	Blue Mountains	82.41	45	eP		P	00 30 30.6 +0.8
BMO	Blue Mountains	82.41	45	ePKiKP		P	00 30 30.6 +0.8
KEV	Kevo	82.63	342	eP		P	00 30 26.9 -3.3
KEV	comp=Z,1.0nm,0.4s				pmax	pmax	
KEV	Kevo comp=Z,1.3nm,0.4s	82.63	342	ep		P	00 30 26.9 -3.3
WAKR	Walker	82.78	52	eP		P	00 30 33.5 +1.6
BSMT	Bassoo Peak	83.13	42	eP		P	00 30 34.7 +1.2
ARA0	ARCESS Array S	83.19	342	eP		P	00 30 31.9 -1.2
ARCES	ARCESS Array B comp=Z,3.4nm,0.6s,baz=61,slow=7.5,SNR=20	83.19	342	P		P	00 30 31.9 -1.2
WALA	Waterton Lakes comp=Z,5.5nm,0.7s	83.28	41	eP		P	00 30 35.6 +1.4
BLMT	Blacktail Moun	83.34	42	eP		P	00 30 35.8 +1.2
JTMT	Jette	83.48	42	eP		P	00 30 36.3 +1.0
YBMT	Yellow Bay	83.61	42	eP		P	00 30 37.0 +1.1
NV01	Mina Array Sit	83.65	52	eP		P	00 30 37.6 +1.2
NVAR	Mina Array Bea comp=Z,7.4nm,0.5s,baz=272,slow=5.9,SNR=46	83.65	52	P		P	00 30 37.6 +1.1
NVAR	comp=Z,4.0nm,0.8s,baz=262,slow=6.6,SNR=4.0				pP	pP	00 31 26.1 +1.8
SWMT	Swartz Lake	83.74	42	eP		P	00 30 37.3 +0.7
MFID	Camas Ranch	83.87	46	ePKiKP		P	00 30 38.2 +1.0
MFID	Camas Ranch	83.87	46	eP		P	00 30 38.3 +1.0
MSO	Missoula baz=84	84.01	43	P		P	00 30 38.3 +0.4
SLMT	Seeley Lake	84.16	42	eP		P	00 30 40.2 +1.5
CHMT	Chamberlain Mo	84.42	43	eP		P	00 30 40.4 +0.2
TPH	Tonopah	84.57	52	eP		P	00 30 42.3 +1.3
TPH	Tonopah	84.57	52	ePKiKP		P	00 30 42.3 +1.3
TPH	Tonopah	84.57	52	eP		P	00 30 42.3 +1.3
JOF	Joensuu	84.67	335	eP		P	00 30 37.1 -3.6
JOF	comp=Z,7.0nm,0.5s				pmax	pmax	
JOF	Joensuu comp=Z,7.0nm,0.5s	84.67	335	ep		P	00 30 37.1 -3.6
HLID	Hailey baz=85	84.79	46	P		P	00 30 42.7 +0.6
HLID	Hailey	84.79	46	eP		P	00 30 42.5 +0.4
MPMC	Manual Prospec baz=85	85.00	54	P		P	00 30 43.6 +0.3
LRMC	Laurel Mtn Rad baz=85	85.03	54	P		P	00 30 43.8 +0.5
ELK	Elko	85.16	49	eP		P	00 30 45.1 +1.1
ELK	Elko	85.16	49	ePKiKP		P	00 30 45.1 +1.1
LRM	Limekiln Ridge	85.33	43	eP		P	00 30 45.3 +0.6
DLMT	Dillon comp=Z,25nm,1.6s	85.39	44	eP		P	00 30 45.7 +0.8
HRY	Holter Researc	85.41	42	eP		P	00 30 45.7 +0.8
MCMT	McKenzie Canyo	85.42	44	eP		P	00 30 46.2 +1.0
TPNV	Topopah Spring	85.66	53	eP		P	00 30 47.6 +1.2
TPNV	Topopah Spring baz=86	85.66	53	P		P	00 30 47.1 +0.7
TPNV	Topopah Spring	85.66	53	eP		P	00 30 47.6 +1.2
R11A	Troy Canyon, C baz=86	85.70	51	P		P	00 30 46.9 +0.3
BOZ	Bozeman (W)	85.92	43	eP		P	00 30 48.3 +0.8
BOZ	comp=Z,6.0nm,0.7s				pmax	pmax	
BOZ	Bozeman (W) comp=Z,5.5nm,0.7s	85.92	43	eP		P	00 30 48.3 +0.8
QLMT	Earthquake Lak	86.36	44	eP		P	00 30 51.3 +1.5
TUQ	Turquoise Moun baz=86	86.41	54	P		P	00 30 50.7 +0.6
A19A	Klindworth Far baz=86	86.49	40	P		P	00 30 50.6 +0.4
HVU	Hansel Valley	86.55	47	eP		P	00 30 52.1 +1.4
HVU	Hansel Valley	86.55	47	eP		P	00 30 52.1 +1.4
B19A	Brinkman Farms baz=86	86.56	40	P		P	00 30 51.2 +0.7
PFO	Pinyon Flats O	86.59	56	eP		P	00 30 50.1 -1.0
PFO	Pinyon Flats O baz=86	86.59	56	P		P	00 30 50.1 -1.0
PFO	Pinyon Flats O	86.59	56	ePKiKP		P	00 30 50.1 -1.0
BGU	Big Grassy Mou comp=Z,1.9nm,0.9s	86.67	48	eP		P	00 30 52.3 +1.0
YMR	Madison River	86.72	44	eP		P	00 30 53.9 +2.3
C19A	Slack Wire Ran baz=87	86.78	41	P		P	00 30 51.8 +0.3
GMRC	Granite Mounta baz=87	86.83	55	P		P	00 30 52.5 +0.3
YNR	Norris Junctio	86.89	44	eP		P	00 30 55.4 +2.9
A20A	Cobblestone Ra baz=87	87.01	39	P		P	00 30 53.0 +0.3
IMW	Indian Meadow comp=Z,5.8nm,0.8s	87.03	45	eP		P	00 30 54.6 +1.5
FXWY	Fox Creek comp=Z,3.0nm,0.9s	87.07	45	eP		P	00 30 54.2 +0.9
KAF	Kangasniemi	87.07	336	eP		P	00 30 48.9 -3.6
KAF	comp=Z,2.0nm,0.5s				pmax	pmax	
KAF	Kangasniemi comp=Z,1.7nm,0.5s	87.07	336	ep		P	00 30 48.9 -3.6
H17A	Grant Village comp=Z,10.0nm,1.2s	87.08	44	eP		P	00 30 56.2 +2.9
DUG	Dugway, Tooele	87.08	49	eP		P	00 30 54.2 +0.9
DUG	Dugway, Tooele baz=87	87.08	49	P		P	00 30 54.0 +0.7
DUG	Dugway, Tooele	87.08	49	eP		P	00 30 54.2 +0.9
D19A	Cripps Ranch, baz=87	87.11	41	P		P	00 30 53.4 +0.2
FLWY	Flagg Ranch comp=Z,8.3nm,0.8s	87.12	45	eP		P	00 30 55.3 +1.9
B20A	Solberg Farm, baz=87	87.13	40	P		P	00 30 53.3 +0.1
TPAW	Teton Pass comp=Z,4.7nm,0.6s	87.17	45	eP		P	00 30 56.4 +2.6
I17A	Pilgrim Ck. baz=87	87.26	45	P		P	00 30 55.5 +1.3
REDW	Red Top Meadow comp=Z,21nm,1.9s	87.29	45	eP		P	00 30 55.4 +1.1
LOHW	Long Hollow comp=Z,30nm,2.4s	87.36	45	eP		P	00 30 56.8 +2.1
C20A	Veseth Ranch, baz=87	87.43	40	P		P	00 30 55.3 +0.6
IRM	Iron Mountain baz=87	87.43	55	P		P	00 30 55.9 +0.9
E19A	Rath Farm, Rou baz=87	87.45	42	P		P	00 30 55.2 +0.4
HWUT	Hardware Ranch comp=Z,10nm,0.8s	87.45	47	eP		P	00 30 56.1 +1.0
ARUT	Antelope Range	87.48	51	eP		P	00 30 56.8 +1.6
ARUT	Antelope Range	87.48	51	eP		P	00 30 56.8 +1.6
FIA0	FINESS Array S	87.54	335	eP		P	00 30 51.9 -2.9
FIA0	FINESS Array S	87.54	335	eP		P	00 30 51.9 -2.9
FINES	FINESS Array B comp=Z,3.7nm,0.4s,baz=81,slow=4.3,SNR=59	87.54	335	P		P	00 30 51.9 -2.9
A21A	Bergtoll Ranch baz=87	87.56	39	P		P	00 30 55.3 0.0
F19A	Roth Farm, Mol baz=88	87.59	42	P		P	00 30 56.2 +0.7
D20A	Manuel Ranch, baz=88	87.60	41	P		P	00 30 56.0 +0.5
CCUT	Cedar City comp=Z,6.3nm,0.8s	87.62	51	eP		P	00 30 57.6 +1.6
CTU	Camp Tracy comp=Z,7.1nm,0.7s	87.66	48	eP		P	00 30 57.5 +1.4
RLMT	Red Lodge comp=Z,3.9nm,0.5s	87.67	43	eP		P	00 30 57.5 +1.4
NLU	North Lily Min comp=Z,8.0nm,0.9s	87.70	49	eP		P	00 30 57.5 +1.2
FFC	Flin Flon comp=Z,120nm,0.7s,SNR=9.9	87.76	32	P		P	00 30 56.0 +0.1
FFC	Flin Flon	87.76	32	eP		P	00 30 56.1 +0.1
FFC	comp=Z,13nm,0.8s				pmax	pmax	
FFC	Flin Flon comp=Z,13nm,0.8s	87.76	32	eP		P	00 30 56.1 +0.1
MPU	Maple Canyon comp=Z,6.3nm,0.8s	87.99	49	eP		P	00 30 58.2 +0.5
W13A	Hualapai Mount baz=88	88.09	54	P		P	00 30 57.9 -0.3
DAU	Daniels Canyon	88.11	48	eP		P	00 30 59.6 +1.2
DAU	Daniels Canyon	88.11	48	eP		P	00 30 59.6 +1.2
MVU	Marysvale comp=Z,7.0nm,0.8s	88.13	50	eP		P	00 31 00.0 +1.6
A22A	Carney Farms, baz=88	88.17	39	P		P	00 30 57.7 -0.4
KNB	Kanab	88.22	52	eP		P	00 31 01.0 +2.2
KNB	comp=Z,12nm,0.9s				pmax	pmax	
KNB	Kanab comp=Z,12nm,0.9s	88.22	52	eP		P	00 31 01.0 +2.2
G20A	Bridger baz=88	88.31	43	P		P	00 30 59.1 +0.1
D21A	La Casta Ranch baz=88	88.33	41	P		P	00 30 59.3 +0.3
BW06	Boulder Array comp=Z,2.4nm,0.9s	88.39	45	eP		P	00 30 59.0 -0.5
PD31	Pinedale Array	88.39	45	eP		P	00 30 58.9 -0.6
PDAR	Pinedale Array comp=Z,1.1nm,0.4s,baz=247,slow=1.9,SNR=19	88.39	45	P		P	00 30 58.9 -0.6
PDAR	comp=Z,0.7nm,0.7s,baz=291,slow=2.6,SNR=2.4				pP	pP	00 31 48.9 +1.1
J19A	Crowheart baz=88	88.54	45	P		P	00 31 01.0 +0.9
C22A	Vida baz=89	88.72	40	P		P	00 31 00.8 +0.1
U15A	North Rim baz=89	88.83	52	P		P	00 31 03.0 +1.2
I20A	Worland baz=89	88.88	44	P		P	00 31 02.1 +0.5
B23A	Brockton baz=89	88.95	39	P		P	00 31 01.3 -0.5
G21A	Lodge Grass baz=89	88.96	42	P		P	00 31 02.7 +0.7
C23A	Lambert baz=89	89.12	40	P		P	00 31 03.1 +0.5
SRU	San Rafael Swe comp=Z,15nm,0.7s	89.13	49	eP		P	00 31 03.5 +0.5
SRU					pmax	pmax	
SRU	San Rafael Swe comp=Z,15nm,0.7s	89.13	49	eP		P	00 31 03.5 +0.5
Y14A	Wickenburg baz=89	89.18	55	P		P	00 31 04.5 +1.4
E22A	Miles City baz=89	89.24	41	P		P	00 31 03.4 +0.2
H21A	Big Horn, Sher baz=89	89.31	43	P		P	00 31 04.7 +1.0
A24A	Westby baz=89	89.33	38	P		P	00 31 03.6 0.0
F22A	Rosebud baz=89	89.33	42	P		P	00 31 03.9 +0.2
FCC	Fort Churchill comp=Z,99nm,2.7s	89.36	27	eP		P	00 31 03.0 -0.3
FCC					pmax	pmax	
FCC	Fort Churchill comp=Z,99nm,2.7s	89.36	27	eP		P	00 31 03.0 -0.3
I21A	Big Trails, Te baz=89	89.49	44	P		P	00 31 05.1 +0.5
E23A	Ismay baz=90	89.62	41	P		P	00 31 05.2 +0.2
H22A	Clearmont baz=90	89.77	43	P		P	00 31 06.1 +0.3
A25A	Svangstu Ranch baz=90	89.84	38	P		P	00 31 06.4 +0.5
WUAZ	Wupatki baz=90	89.85	53	P		P	00 31 07.2 +0.8
WUAZ	Wupatki comp=Z,8.9nm,0.9s	89.85	53	eP		P	00 31 08.2 +1.8
I22A	9 Mile Ranch, baz=90	89.98	43	P		P	00 31 07.3 +0.4
K21A	Alcova baz=90	90.00	45	P		P	00 31 07.4 +0.3
214A	Organ Pipe Nat baz=90	90.04	56	P		P	00 31 08.3 +1.1
N20A	Spence Gulch, baz=90	90.05	47	P		P	00 31 08.0 +0.6
B25A	Knox Farm, Ray baz=90	90.12	39	P		P	00 31 07.6 +0.3
G23A	Biddle baz=90	90.13	42	P		P	00 31 07.6 +0.2
O20A	White River Ci baz=90	90.35	47	P		P	00 31 09.0 +0.3
O20A	White River Ci comp=Z,7.1nm,0.8s	90.35	47	eP		P	00 31 09.4 +0.7
PV09	Paradox Valley	90.37	49	eP		P	00 31 10.0 +1.1
PV10	Paradox Valley	90.48	49	eP		P	00 31 10.5 +1.0
A26A	Wade Farm, Ken baz=90	90.49	38	P		P	00 31 09.1 +0.2
PV05	Paradox Valley	90.56	50	eP		P	00 31 10.8 +1.0
B26A	Jensen Ranch, baz=90	90.62	38	P		P	00 31 09.9 +0.3
H24A	Dirks Ranch, A baz=91	90.86	42	P		P	00 31 10.6 -0.2
PV01	Paradox Valley	90.92	49	eP		P	00 31 12.2 +0.8
M22A	Cedar Creek Ra baz=91	90.96	46	P		P	00 31 12.4 +0.8
C26A	Wahner Farm, P baz=91	90.96	39	P		P	00 31 11.4 +0.3
F25A	Bowman baz=91	91.02	41	P		P	00 31 12.2 +0.7
D26A	Manning baz=91	91.14	39	P		P	00 31 12.1 +0.1
L23A	Garrett baz=91	91.26	45	P		P	00 31 13.3 +0.4
X18A	Snowflake baz=91	91.31	53	P		P	00 31 14.4 +1.2
N22A	Wattenberg Ran baz=91	91.31	46	P		P	00 31 14.1 +0.9
C27A	Sayler Ranch, baz=91	91.37	38	P		P	00 31 13.0 0.0
E26A	Carlson Angus baz=91	91.38	40	P		P	00 31 13.4 +0.2
RSSD	Black Hills comp=Z,6.0nm,0.6s	91.47	42	eP		P	00 31 14.0 +0.1
RSSD					pmax	pmax	
RSSD	Black Hills comp=Z,5.8nm,0.6s	91.47	42	eP		P	00 31 14.0 +0.1
O22A	Kremmling baz=91	91.52	47	P		P	00 31 14.8 +0.5
F26A	Lodgepole baz=91	91.54	41	P		P	00 31 14.4 +0.4
P22A	Eagle baz=92	91.61	47	P		P	00 31 15.2 +0.6
N23A	Red Feather La baz=92	91.62	46	P		P	00 31 15.2 +0.6
N23A	Red Feather La comp=Z,10.0nm,0.9s	91.62	46	eP		P	00 31 16.2 +1.6
SMCO	Snowmass comp=Z,8.9nm,0.8s	91.63	48	eP		P	00 31 16.1 +1.2
D27A	Center baz=92	91.65	39	P		P	00 31 14.6 +0.3
I25A	Rochford baz=92	91.71	42	P		P	00 31 14.3 -0.7
G26A	Maurine baz=92	91.85	41	P		P	00 31 15.4 +0.1
O23A	Lake Granby, G baz=92	91.93	47	P		P	00 31 17.1 +1.0
E27A	Carson baz=92	91.95	40	P		P	00 31 16.4 +0.6
J25A	Sunshine Ranch baz=92	91.95	43	P		P	00 31 16.2 +0.3
G27A	Dupree baz=92	92.22	41	P		P	00 31 17.0 0.0
ISCO	Idaho Springs	92.32	47	eP		P	00 31 19.3 +1.3
ISCO	comp=Z,4.0nm,0.8s				pmax	pmax	
ISCO	Idaho Springs baz=92	92.32	47	P		P	00 31 18.5 +0.5
ISCO	Idaho Springs comp=Z,4.1nm,0.8s	92.32	47	eP		P	00 31 19.2 +1.3
S22A	4UR Ranch, Cre baz=92	92.33	49	P		P	00 31 19.0 +1.0
P23A	Jefferson baz=92	92.35	47	P		P	00 31 19.1 +1.0
E28A	Huff baz=92	92.40	39	P		P	00 31 17.9 +0.1
H27A	Howes baz=92	92.48	41	P		P	00 31 17.8 -0.4
O24A	Longmont baz=92	92.56	46	P		P	00 31 19.7 +0.8
A30A	Hoffart Farm, baz=92	92.61	36	P		P	00 31 19.1 +0.4
B30A	Myrvik Farm, E baz=93	92.85	37	P		P	00 31 19.9 +0.1
NB2	NORSAR Subarra comp=Z,2.1nm,0.9s,baz=44,slow=5.1	93.25	340	P		P	00 31 18.3 -3.1
NB200	NORSAR Array S	93.25	340	eP		P	00 31 19.7 -1.7
NOA	NORSAR Array B comp=Z,0.4nm,0.5s,baz=44,slow=4.6,SNR=4.2	93.25	340	P		P	00 31 19.7 -1.7
SDCO	Great Sand Dun baz=93	93.28	49	P		P	00 31 22.6 +0.1
ANMO	Albuquerque	93.77	52	ceP		P	00 31 26.5 +1.9
ANMO	comp=Z,9.0nm,1.0s				pmax	pmax	
ANMO	Albuquerque comp=Z,7.3nm,1.5s	93.77	52	eP		P	00 31 25.7 +1.1
BR101	Keskin Array S	94.59	314	eP		P	00 31 26.6 -1.5
BRTR	Keskin Array B comp=Z,0.8nm,0.8s,baz=104,slow=6.1,SNR=3.6	94.59	314	P		P	00 31 26.6 -1.5
LTX	Lajitas	98.31	56	eP		Pdif	00 31 45.7 +0.5
LTX	Lajitas	98.31	56	eP		Pdif	00 31 45.7 +0.5
TXAR	Lajitas Array comp=Z,0.2nm,0.5s,baz=285,slow=3.5,SNR=4.9	98.31	56	P		Pdif	00 31 45.7 +0.5
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.7s,baz=63,slow=1.3,SNR=6.7	132.88	309	PKP		PKPdf	00 37 20.7 -1.4
TORD				SKPbc		SKPbc	00 40 28.2 -3.1
CFAA	Coronel Fontan comp=Z,0.9nm,0.4s,baz=258,slow=4.1,SNR=10	146.52	120	PKPbc		PKPbc	00 37 47.4 -0.6
LPAZ	La Paz comp=Z,4.4nm,0.5s,baz=270,slow=2.3,SNR=24	147.71	92	PKPbc		PKPbc	00 37 53.4 +0.9

GUC 14 00:39:02.9±0.4, 34.52S×71.88W, h54km±5km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	0.72	132	eP		Pn	00 39 17.4 +0.3
NICH				eS		Sn	00 39 27.9 +0.5
TALC	Talca	0.90	167	eP		Pn	00 39 19.7 +0.3
TALC				eS		Sn	00 39 32.3 +0.8
LNCH	Linares	1.35	170	eP		Pn	00 39 26.9 +1.6
LNCH				eS		Sn	00 39 44.5 +2.3
CLCH	Cerro Calan	1.58	45	eP		Pn	00 39 29.4 +0.8
CLCH				eS		Sn	00 39 49.7 +1.6
CLCH				AML	AML	00 39 53.8	
	comp=E,2μm,0.4s						
PEL	Peldehue	1.69	36	eP		Pn	00 39 30.8 +0.6
PEL				eS		Sn	00 39 52.5 +1.7
PEL				AML	AML	00 39 59.7	
	comp=E,2μm,0.6s						

IDC 14 00:49:18.6±2.9, 32.91N×97.22E, h0km, mb2.9/1, mb1 3.2/4, mb1mx3.0/38, mbtmp3.1/4, ML3.1/3, Error ellipse: s-maj=72.7km s-min=37.3km az=75.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	14.47	173	Pn		Pn	00 52 44.8 0.0
	0.0nm,0.3s,baz=347,slow=15,SNR=3.1						
SONM	Songino Array	16.45	22	Pn		Pn	00 53 10.7 -0.2
	0.1nm,0.3s,baz=213,slow=16,SNR=3.2						
MKAR	Makanchi Array	17.95	325	P		P	00 53 31.0 +0.8
	0.1nm,0.3s,baz=139,slow=13,SNR=5.9						
KURBB	Kurchatov Arra	22.42	328	P		P	00 54 18.2 -0.6
	0.1nm,0.2s,baz=137,slow=11,SNR=3.0						

CSEM 14 00:57:05.1, 35.12N×24.28E, h22km, MD3.5

ATH 14 00:57:05.1, 35.12N×24.28E, h22km±2km, MD3.5/10, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	Vamos	0.29	347	ePB		Pb	00 57 12.2 +0.4
VAM	Vamos	0.29	347	ePb		Pb	00 57 12.2 +0.4
KARN	Karanos	0.41	314	ePB		Pb	00 57 13.5 -0.2
KARN	Karanos	0.41	314	ePb		Pb	00 57 13.5 -0.2
SIVA	Sivas	0.45	103	ePB		Pb	00 57 15.0 +0.7
SIVA	Sivas	0.45	103	ePb		Pb	00 57 15.0 +0.7
LAST	Lasithi	0.98	87	ePB		Pb	00 57 23.2 -0.4
LAST	Lasithi	0.98	87	ePb		Pb	00 57 23.2 -0.4
NPS	Neapolis	1.10	82	ePN		Pb	00 57 25.4 -0.1
NPS	Neapolis	1.10	82	ePn		Pb	00 57 25.4 -0.1
KYTH	Kithira	1.54	319	ePN		Pb	00 57 32.9 -0.1
KYTH	Kithira	1.54	319	ePn		Pb	00 57 32.9 -0.1
ZKR	Zakros	1.59	90	ePN		Pb	00 57 34.8 +1.0
ZKR	Zakros	1.59	90	ePn		Pb	00 57 34.8 +1.0
VLI	Veliai	1.93	326	ePN		Pb	00 57 39.3 -0.3
VLI	Veliai	1.93	326	ePn		Pb	00 57 39.3 -0.3
KARP	Karpathos	2.39	79	ePN		Pn	00 57 42.5 -0.5
KARP				eSN		Sb	00 58 15.3 -1.4
KARP	Karpathos	2.39	79	ePn		Pn	00 57 42.5 -0.5
KARP				eSn		Sb	00 58 15.3 -1.4
ARG	Arkhangelos	3.32	70	ePN		Pn	00 57 55.4 -0.3
ARG				eSN		Sn	00 58 37.4 +3.0
ARG	Arkhangelos	3.32	70	ePn		Pn	00 57 55.4 -0.3
ARG				eSn		Sn	00 58 37.4 +3.0

NNC 14 00:58:22.6±4.0, 36.84N×70.72E, h0km, mb3.6, mpv3.3, 6C-5D, Error ellipse: s-maj=33.0km s-min=15.7km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.47	323	⇓Pn		Pn	00 59 03.5 -0.7
	4.3nm,0.4s						
DZET				⇑Sn		Sn	00 59 36.9 +1.6
	135nm,0.6s						
SFK	Sufi-Kurgan	3.85	34	⇑Pn		Pn	00 59 25.4 +2.0
	1.7nm,0.4s						
SFK				⇑Sn		Sn	01 00 12.4 +2.9
	5.5nm,0.4s						
MNAS	Manas	5.80	13	⇑Pn		Pn	00 59 49.5 -0.6
	1.5nm,0.4s						
MNAS				⇓Sn		Sn	01 00 57.9 +0.3
	4.8nm,0.5s						
KK31	Karatay Array	6.25	359	⇓Pn		Pn	00 59 55.1 -1.1
	0.4nm,0.2s,baz=170,slow=12,SNR=13						
KK31				⇓Sn		Sn	01 01 06.8 -1.6
	3.7nm,0.7s,baz=189,slow=25						
AAK	Ala-Archa	6.47	26	⇓Pn		Pn	00 59 58.8 -0.6
	1.0nm,0.3s						
AAK				⇑Sn		Sn	01 01 14.6 +0.5
	4.1nm,0.7s						
TKM2	Tokmak 2	7.13	30	⇑Pn		Pn	01 00 07.4 -1.1
	4.1nm,0.5s						
AB31	Akbulak array	14.68	331	P		Pn	01 01 45.2 -6.2
	0.2nm,0.3s,baz=164,slow=11,SNR=8.6						

ISCJB 14 00:59:44.3±0.3, 32.89N±0.04×96.99E±0.04, h10km, mb4.3/29, Error ellipse: s-maj=5.5km s-min=4.4km

az=152.3
IDC ***14*** *00:59:44.7±0.6, 33°.00N×97°.11E, h0km, mb3.9/18, mb1 4.1/21,mb1mx3.9/43, mbtmp3.9/21, ML3.8/3, Error ellipse: s-maj=21.1km s-min=13.0km az=53.0*
BJI ***14*** *00:59:45.0, 32°.77N×97°.01E, h7km, mb4.2/4, ML4.0/12*
NEIC ***14*** *00:59:46.2±0.3, 32°.96N×97°.10E, h10km, mb4.5/9, Error ellipse: s-maj=6.6km s-min=4.9km az=221.0*
ISC 14 00:59:46.1±0.4, **33°.07N**±0°.05×**97°.12E**±0°.04, **h10**km, **n80,** σ1§**50**/76, **mb4.2**/29, **1C, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**6.04**	**109**	Pn		Pn	01 01 11.3	-4.2
CD2				Pg		Pb	01 01 34.4	+3.0
CD2				Sg		**Sg**	**01 02 57.5**	**-2.4**
CD2				SMN				
	120nm,1.2s							
CD2				SME				
	130nm,1.2s							
LSA	**Lhasa**	**6.11**	**238**	Pn		**Pn**	**01 01 16.0**	**-0.9**
LSA	**Lhasa**	**6.11**	**238**	*e*Pn		**Pn**	**01 01 16.6**	**-0.3**
LSA				*e*Sn		**Sn**	**01 02 25.4**	**-1.7**
LZH	**Lanzhou**	**6.31**	**60**	Pn		Pn	01 01 24.0	+4.7
LZH				Pg		**Pg**	**01 01 45.1**	**-1.8**
LZH				Sg		**Sg**	**01 03 11.0**	**+2.4**
KMI	**Kunming**	**9.32**	**147**	P		Pn	01 02 03.8	+3.1
TAPN	**Taplejung**	**9.94**	**237**	*e*P		**Pn**	**01 02 06.9**	**-2.3**
	17nm,0.5s							
ODAN	**Odare**	**10.46**	**236**	*e*P		**Pn**	**01 02 15.2**	**-1.2**
	42nm,0.4s							
GYA	**Guiyang**	**10.59**	**126**	*i*P		**Pn**	**01 02 19.3**	**+1.3**
JIRN	**Jiri**	**10.87**	**243**	*e*P		**Pn**	**01 02 20.9**	**-1.2**
	15nm,0.5s							
ENH	**Enshi**	**10.90**	**102**	*e*Pn		**Pn**	**01 02 20.3**	**-1.9**
RAMN	**Ramite**	**10.97**	**239**	*e*P		**Pn**	**01 02 20.9**	**-2.4**
	23nm,0.5s							
GUN	**Gumba**	**10.97**	**245**	*e*P		**Pn**	**01 02 22.2**	**-1.3**
	34nm,0.4s							
KKN	**Kakani**	**11.49**	**246**	*e*P		**Pn**	**01 02 28.5**	**-2.0**
	15nm,0.4s							
PKI	**Pulchoki**	**11.50**	**245**	*e*P		**Pn**	**01 02 28.0**	**-2.8**
	31nm,0.4s							
PKIN	**Phulchoki**	**11.51**	**245**	*e*P		**Pn**	**01 02 27.8**	**-3.0**
	27nm,0.5s							
DANN	**Dangsing**	**12.42**	**251**	*e*P		**Pn**	**01 02 40.1**	**-3.1**
	21nm,0.4s							
KOLN	**Koldanda**	**12.80**	**249**	*e*P		**Pn**	**01 02 45.5**	**-2.9**
	21nm,0.7s							
WMQ	**Urumqi**	**13.02**	**328**	*e*P		**Pn**	**01 02 52.1**	**+0.9**
WMQ				pP		**P**	**01 02 58.6**	**-3.1**
WMQ				sP			01 03 02.3	
PYUN	**Piuthan**	**13.14**	**252**	*e*P		Pn	01 02 49.3	-3.7
	42nm,0.5s							
CM31	**Chiang Mai Arr**	**14.64**	**173**	*e*Pn		**Pn**	**01 03 11.8**	**-1.6**
CM31				*e*Sn		**Sn**	**01 05 58.1**	**+2.3**
CMAR	**Chiang Mai Arr**	**14.64**	**173**	Pn		**Pn**	**01 03 11.8**	**-1.6**
	0.4nm,0.3s,baz=345,slow=11,SNR=32							
CMAR				Sn		**Sn**	**01 05 58.1**	**+2.3**
	0.2nm,0.3s,baz=12,slow=22,SNR=4.1							
SONA0	**Songino Array**	**16.33**	**23**	*e*Pn		**P**	**01 03 37.6**	**-0.9**
SONM	**Songino Array**	**16.33**	**23**	Pn		**P**	**01 03 37.6**	**-0.9**
	0.1nm,0.3s,baz=204,slow=12,SNR=23							
ULN	**Ulaanbaatar**	**16.58**	**24**	*e*Pn		**P**	**01 03 39.8**	**-1.5**
	2.5nm,0.7s							
MK32	**Makanchi Array**	**17.77**	**325**	*e*Pn		**P**	**01 03 55.8**	**+1.5**
MKAR	**Makanchi Array**	**17.77**	**325**	P		**P**	**01 03 55.8**	**+1.5**
	0.3nm,0.3s,baz=139,slow=14,SNR=32							
MKAR	**Makanchi Array**	**17.77**	**325**	*e*Pn		**P**	**01 03 55.6**	**+1.3**
ULHL	**Ulahol**	**18.86**	**305**	P		**Pn**	**01 04 10.8**	**+3.7**
	SNR=10							
KZA	**Kyzart**	**19.49**	**304**	P		Pn	01 04 16.1	+1.3
	SNR=7.7							
TKM2	**Tokmak 2**	**19.56**	**306**	P		Pn	01 04 19.3	+3.8
	SNR=6.3							
TKM2	**Tokmak 2**	**19.56**	**306**	*e*Pn		**Pn**	**01 04 16.9**	**+1.4**
	4.1nm,0.8s							
KBK	**Karagaybulak**	**19.90**	**305**	P		Pn	01 04 23.6	+4.1
	SNR=11							
UCH	**Uchtor**	**20.05**	**304**	P		Pn	01 04 24.8	+3.0
	SNR=6.2							
AAK	**Ala-Archa**	**20.21**	**305**	P		Pn	01 04 21.2	-1.9
	4.4nm,0.8s,baz=113,slow=7.5,SNR=15							
AAK	**Ala-Archa**	**20.21**	**305**	*e*P		**P**	**01 04 20.4**	**-0.8**
	6.6nm,0.7s							
EKS2	**Erkin-Say**	**20.71**	**304**	P		Pn	01 04 29.0	-0.1
	SNR=6.8							
EKS2	**Erkin-Say**	**20.71**	**304**	*e*P		Pn	01 04 28.2	-0.8
	11nm,0.9s							
KURBB	**Kurchatov Arra**	**22.24**	**328**	P		**P**	**01 04 43.1**	**+0.3**
	4.7nm,1.1s,baz=136,slow=11,SNR=17							
KURK	**Kurchatov**	**22.27**	**328**	*e*P		**P**	**01 04 43.0**	**-0.1**
	9.7nm,0.9s							
ZALV	**Zalesovo Beam**	**22.63**	**341**	P		**P**	**01 04 48.6**	**+1.6**
	5.8nm,0.8s,baz=152,slow=10,SNR=17							
ZAA1	**Zalesovo Array**	**22.64**	**341**	*e*P		**P**	**01 04 48.6**	**+1.5**
KKAR	**Karatay Array**	**23.13**	**303**	*e*P		**P**	**01 04 52.4**	**0.0**
	25nm,1.2s							
KBL	**Kabul**	**23.35**	**281**	*e*P		**P**	**01 04 55.1**	**+0.2**
	18nm,0.7s							
YOJ	**Yonaguni jima**	**24.21**	**104**	*e*P		**P**	**01 05 04.8**	**+1.8**
	185nm,1.0s							
CN2	**Changchun**	**24.53**	**56**	*e*P		**P**	**01 05 07.5**	**+1.8**
CN2				PMZ				
	10.0nm,0.7s							
KS15	**Wonju Array Si**	**25.44**	**71**	*e*P		**P**	**01 05 15.8**	**+1.8**
KSAR	**Wonju Array Be**	**25.44**	**71**	P		**P**	**01 05 15.8**	**+1.8**
KSRS	**Korea Array**	**25.47**	**71**	P		**P**	**01 05 15.8**	**+1.5**
	3.4nm,0.7s,baz=267,slow=8.5,SNR=8.9							
BVAR	**Borovoye Array**	**27.65**	**324**	P		**P**	**01 05 35.2**	**+1.4**
	0.5nm,0.7s,baz=125,slow=9.2,SNR=2.8							
ABKAR	**Akbulak array**	**31.94**	**312**	*e*P		P	01 06 14.2	+2.4
MAJO	**Matsushiro**	**33.73**	**72**	*e*P		**P**	**01 06 27.7**	**0.0**
	293nm,2.5s							
CBIJ	**Chichi jima**	**39.22**	**87**	*e*P		**P**	**01 07 16.0**	**+1.4**
	203nm,1.3s							
FAKI	**Fak Fak**	**48.82**	**130**	*e*P		**P**	**01 08 31.0**	**-0.8**
	10nm,1.1s							
BR101	**Keskin Array S**	**50.59**	**297**	*e*P		**P**	**01 08 46.9**	**+1.6**
BRTR	**Keskin Array B**	**50.59**	**297**	P		**P**	**01 08 46.8**	**+1.6**
	0.6nm,0.8s,baz=101,slow=6.4,SNR=5.9							
FINES	**FINESS Array B**	**52.60**	**325**	P		**P**	**01 08 59.9**	**+0.2**
	1.4nm,0.7s,baz=100,slow=9.9,SNR=7.3							
ARCES	**ARCESS Array B**	**53.02**	**335**	P		**P**	**01 09 02.8**	**0.0**
	4.1nm,1.0s,baz=79,slow=9.3,SNR=5.0							
NB2	**NORSAR Subarra**	**59.76**	**326**	P		**P**	**01 09 50.4**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=76,slow=6.9							
NOA	**NORSAR Array B**	**59.76**	**326**	P		**P**	**01 09 50.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=75,slow=6.9,SNR=8.2							
GERES	**GERESS Array B**	**61.88**	**312**	P		**P**	**01 10 06.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=78,slow=8.3,SNR=4.4							
WRAB	**Tennant Creek**	**63.58**	**141**	*e*P		**P**	**01 10 16.7**	**-0.4**
	comp=Z,6.0nm,1.0s							
WRA	**Warramunga Arr**	**63.58**	**141**	P		**P**	**01 10 17.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=334,slow=7.0,SNR=8.4							
WRA	**Warramunga Arr**	**63.58**	**141**	P		**P**	**01 10 17.0**	**-0.2**
KMBO	**Kilima Mbogo**	**65.74**	**252**	P		**P**	**01 10 32.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=60,slow=7.9,SNR=4.7							
ASAR	**Alice Springs**	**66.43**	**143**	P		**P**	**01 10 35.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=325,slow=6.7,SNR=8.9							
LPG	**La Plagne**	**67.53**	**310**	*e*P		**P**	**01 10 42.3**	**-0.5**
	comp=Z,6.0nm,0.8s							
LPG	**La Plagne**	**67.53**	**310**	*e*P		**P**	**01 10 42.3**	**-0.5**
	comp=Z,6.0nm,0.8s							
LPL	**La Plagne**	**67.53**	**310**	*e*P		**P**	**01 10 42.4**	**-0.4**
LPL	**La Plagne**	**67.53**	**310**	*e*P		**P**	**01 10 42.4**	**-0.4**
SMF	**Signal de Mont**	**68.87**	**312**	*e*P		**P**	**01 10 50.5**	**-0.4**
	comp=Z,1.1nm,1.0s							
SMF	**Signal de Mont**	**68.87**	**312**	*e*P		**P**	**01 10 50.5**	**-0.4**
	comp=Z,1.1nm,1.0s							
AVF	**Avril sur Loir**	**69.11**	**313**	*e*P		**P**	**01 10 51.8**	**-0.5**
	comp=Z,12nm,1.2s							
AVF	**Avril sur Loir**	**69.11**	**313**	*e*P		**P**	**01 10 51.8**	**-0.5**
	comp=Z,12nm,1.2s							
TCF	**Toulx Ste Croi**	**70.03**	**313**	*e*P		**P**	**01 10 57.5**	**-0.6**
	comp=Z,9.7nm,1.0s							
TCF	**Toulx Ste Croi**	**70.03**	**313**	*e*P		**P**	**01 10 57.5**	**-0.6**
	comp=Z,9.7nm,1.0s							
ILAR	**Eielson Array**	**70.55**	**24**	P		**P**	**01 11 00.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=290,slow=6.4,SNR=5.5							
INK	**Inuvik**	**72.17**	**18**	P		**P**	**01 11 10.5**	**0.0**
	comp=Z,0.9nm,0.4s,baz=313,slow=4.9,SNR=6.3							
STKA	**Stephens Creek**	**77.04**	**142**	P		**P**	**01 11 39.3**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=334,slow=9.3,SNR=2.6							
YKA	**Yellowknife Ar**	**81.41**	**14**	P		**P**	**01 12 03.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=327,slow=4.8,SNR=20							
TORD	**Torodi Ar. Bea**	**87.40**	**284**	P		**P**	**01 12 33.6**	**-0.4**

comp=Z,0.4nm,0.7s,baz=46,slow=6.2,SNR=3.4

ISCJB ***14*** *01:03:04.5±0.7, 45°.01N±0°.05×18°.27E±0°.04, h7km±7km, Error ellipse: s-maj=7.9km s-min=4.6km az=3.4*
CSEM ***14*** *01:03:05.3±0.3, 45°.03N×18°.29E, h10km, ML2.2, Error ellipse: s-maj=8.7km s-min=3.5km az=6.0*
BEO ***14*** *01:03:07.1±0.5, 44°.99N×18°.27E, h0km, ML2.2/6*
ISC 14 01:03:05.5±1.2, **45°.05N**±0°.05×**18°.25E**±0°.02, **h8**km±10km, **n22,** σ0§**67**/42, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BLY	**Banja Luka**	**0.82**	**249**	*e*Pg		**Pg**	**01 03 21.9**	**+0.6**
BLY				*e*Sg		**Sg**	**01 03 32.1**	**+0.2**
BLY	**Banja Luka**	**0.82**	**249**	*e*Pg		**Pg**	**01 03 21.9**	**+0.6**
BLY				*e*Sg		**Sg**	**01 03 32.1**	**+0.2**
TEKS	**Tekeris**	**1.04**	**118**	*e*Pg		**Pg**	**01 03 25.4**	**-0.1**
TEKS				*e*Sg		**Sg**	**01 03 38.6**	**-0.3**
TEKS	**Tekeris**	**1.04**	**118**	*e*Pg		**Pg**	**01 03 25.4**	**-0.1**
TEKS				*e*Sg		**Sg**	**01 03 38.6**	**-0.3**
HAPS	**Han Pijesak,Bl**	**1.09**	**152**	*e*Pg		**Pg**	**01 03 25.8**	**-0.6**
HAPS				*e*Sg		**Sg**	**01 03 40.1**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.09**	**152**	*e*Pg		**Pg**	**01 03 25.8**	**-0.6**
HAPS				*e*Sg		**Sg**	**01 03 40.1**	**-0.4**
FGSL	**Fruska Gora**	**1.11**	**84**	*e*Pg		**Pg**	**01 03 26.6**	**-0.2**
FGSL				*e*Sg		**Sb**	**01 03 42.1**	**+0.6**
FRGS	**Fruska Gora**	**1.11**	**84**	*e*Pg		**Pg**	**01 03 26.6**	**-0.2**
FRGS				*e*Sg		**Sb**	**01 03 42.1**	**+0.6**
BBLS	**Lazići**	**1.44**	**145**	*e*Pg		**Pn**	**01 03 31.0**	**-1.0**
BBLS	**Lazići**	**1.44**	**145**	*e*Pg		**Pn**	**01 03 31.0**	**-1.0**
DIVS	**Divibare**	**1.57**	**127**	*e*Pg		**Pb**	**01 03 34.9**	**+0.1**
DIVS				*e*Sg		**Sn**	**01 03 54.6**	**+0.4**
DIVS	**Divibare**	**1.57**	**127**	*e*Pg		**Pb**	**01 03 34.9**	**+0.1**
DIVS				*e*Sg		**Sn**	**01 03 54.6**	**+0.4**
TRUS	**Trudelj**	**1.75**	**118**	*e*Pg		**Pn**	**01 03 37.1**	**+1.0**
TRUS				*e*Sg		**Sg**	**01 04 00.8**	**-0.8**
TRUS	**Trudelj**	**1.75**	**118**	*e*Pg		**Pn**	**01 03 37.1**	**+1.0**
TRUS				*e*Sg		**Sg**	**01 04 00.8**	**-0.8**
UDBI	**Udbina**	**1.85**	**254**	*e*Pn		**Pn**	**01 03 37.6**	**+0.1**
UDBI				Sn		**Sn**	**01 04 00.1**	**-1.0**
UDBI	**Udbina**	**1.85**	**254**	*e*Pn		**Pn**	**01 03 37.6**	**+0.1**
UDBI				Sn		**Sn**	**01 04 00.1**	**-1.0**
GRUS	**Gruza**	**2.11**	**123**	*e*Pg		**Pb**	**01 03 44.3**	**+0.3**
GRUS				*e*Sg		**Sg**	**01 04 13.3**	**-0.1**
GRUS	**Gruza**	**2.11**	**123**	*e*Pg		**Pb**	**01 03 44.3**	**+0.3**
GRUS				*e*Sg		**Sg**	**01 04 13.3**	**-0.1**
STON	**Ston**	**2.22**	**191**	*i*Pn		**Pn**	**01 03 43.0**	**+0.5**
STON				Sn		**Sn**	**01 04 10.8**	**+0.7**
STON	**Ston**	**2.22**	**191**	*i*Pn		**Pn**	**01 03 43.0**	**+0.5**
STON				Sn		**Sn**	**01 04 10.7**	**+0.7**
NVLJ	**Novalja**	**2.46**	**260**	*e*Pn		**Pn**	**01 03 45.6**	**-0.2**
NVLJ				Sn		**Sn**	**01 04 14.4**	**-1.6**
NVLJ	**Novalja**	**2.46**	**260**	*e*Pn		**Pn**	**01 03 45.6**	**-0.2**
NVLJ				Sn		**Sn**	**01 04 14.4**	**-1.6**

ISCJB ***14*** *01:04:08.5±0.6, 33°.45N±0°.08×96°.4E±0°.2, h10km, mb3.5/9, Error ellipse: s-maj=21.8km s-min=10.8km az=163.7*
IDC ***14*** *01:04:08.6±0.8, 33°.43N×96°.38E, h0km, mb3.5/9, mb1 3.7/13,mb1mx3.5/42, mbtmp3.6/13, ML3.4/3, Error ellipse: s-maj=38.6km s-min=16.3km az=62.0*
ISC 14 01:04:09.2±0.9, **33°.4N**±0°.1×**96°.5E**±0°.2, **h10**km, **n13,** σ1§**37**/13, **mb3.5**/9, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.03**	**171**	Pn		**P**	**01 07 44.7**	**-2.5**
	baz=345,slow=10,SNR=4.7							
SONM	**Songino Array**	**16.27**	**25**	Pn		**P**	**01 07 59.8**	**-1.1**
	0.3nm,0.3s,baz=210,slow=14,SNR=6.9							
MKAR	**Makanchi Array**	**17.19**	**325**	P		**P**	**01 08 09.5**	**-1.5**
	0.2nm,0.3s,baz=133,slow=13,SNR=10							
TLY	**Talaya**	**19.02**	**14**	P		**Pn**	**01 08 31.1**	**-0.7**
	0.0nm,0.3s,baz=230,slow=18,SNR=2.3							
KURBB	**Kurchatov Arra**	**21.67**	**328**	P		**P**	**01 08 59.5**	**-0.4**
	1.1nm,0.7s,baz=134,slow=11,SNR=6.4							
ZALV	**Zalesovo Beam**	**22.15**	**342**	P		**P**	**01 09 05.7**	**+0.7**
	0.9nm,0.7s,baz=151,slow=9.2,SNR=4.3							
FINES	**FINESS Array B**	**52.02**	**325**	P		**P**	**01 13 19.5**	**+1.0**
	1.0nm,1.0s,baz=91,slow=7.8,SNR=2.8							
ARCES	**ARCESS Array B**	**52.50**	**335**	P		**P**	**01 13 23.2**	**+1.3**
	8.0nm,1.2s,baz=94,slow=7.5,SNR=4.1							
NOA	**NORSAR Array B**	**59.18**	**326**	P		**P**	**01 14 10.0**	**0.0**
	1.1nm,1.0s,baz=199,slow=6.1,SNR=2.9							
WRA	**Warramunga Arr**	**64.19**	**140**	P		**P**	**01 14 46.4**	**+2.2**
	0.3nm,0.7s,baz=309,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**67.02**	**143**	P		**P**	**01 15 03.4**	**+0.9**
	0.1nm,0.3s,baz=328,slow=5.7,SNR=3.3							
YKA	**Yellowknife Ar**	**81.24**	**14**	P		**P**	**01 16 24.8**	**-0.2**
	0.1nm,0.7s,baz=328,slow=4.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**86.77**	**284**	P		**P**	**01 16 54.4**	**+0.3**
	0.2nm,0.8s,baz=42,slow=5.1,SNR=2.7							

ISCJB ***14*** *01:04:22.8±0.5, 33°.22N±0°.05×96°.37E±0°.07, h10km, mb4.0/14, Error ellipse: s-maj=8.2km s-min=6.5km az=9.3*
IDC ***14*** *01:04:22.9±0.9, 33°.29N×96°.49E, h0km, mb3.8/10, mb1 4.0/14,mb1mx3.8/42, mbtmp3.9/14, ML4.0/4, Error ellipse: s-maj=33.4km s-min=17.9km az=62.0*
NEIC ***14*** *01:04:24.5±0.3, 33°.32N×96°.62E, h10km, mb4.1/7, Error ellipse: s-maj=9.1km s-min=5.6km az=56.0*
DMN ***14*** *01:05:27.0±7.2, 31°.26N×91°.23E, h10km, Mb5.0/9, Error ellipse: s-maj=168.7km s-min=12.4km az=53.0*
ISC 14 01:04:24.0±0.6, **33°.35N**±0°.07×**96°.57E**±0°.07, **h10**km, **n38,** σ1§**41**/37, **mb4.1**/14, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.88**	**233**	*e*Pn		Pn	01 05 52.7	+1.0
	36nm,0.6s							
LSA				*e*Sn		**Sn**	**01 07 00.5**	**+1.1**
TAPN	**Taplejung**	**9.71**	**234**	*e*P		**Pn**	**01 06 44.0**	**0.0**
	18nm,0.5s							
ODAN	**Odare**	**10.24**	**233**	*e*P		**Pn**	**01 06 51.8**	**+0.5**
	31nm,0.4s							
GUN	**Gumba**	**10.68**	**242**	*e*P		**Pn**	**01 06 55.0**	**-2.4**
	14nm,0.3s							
RAMN	**Ramite**	**10.72**	**236**	*e*P		**Pn**	**01 06 56.7**	**-1.2**
	17nm,0.3s							
PKI	**Pulchoki**	**11.21**	**242**	*e*P		**Pn**	**01 07 02.3**	**-2.4**
	30nm,0.6s							
PKIN	**Phulchoki**	**11.22**	**242**	*e*P		**Pn**	**01 07 02.3**	**-2.4**
	20nm,0.6s							
ENH	**Enshi**	**11.41**	**102**	*e*Pn		**Pn**	**01 07 05.5**	**-1.6**
GKN	**Gorkha**	**11.56**	**246**	*e*P		**Pn**	**01 07 07.1**	**-2.3**
	8.7nm,0.4s							
DANN	**Dangsing**	**12.08**	**249**	*e*P		**Pn**	**01 07 14.4**	**-2.1**
	31nm,0.7s							
KOLN	**Koldanda**	**12.48**	**247**	*e*P		**Pn**	**01 07 19.4**	**-2.5**
	11nm,0.5s							
PYUN	**Piuthan**	**12.79**	**249**	*e*P		**Pn**	**01 07 23.7**	**-2.5**
	55nm,0.5s							
CHTO	**Chiang Mai**	**14.63**	**171**	*e*Pn		**Pn**	**01 07 51.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**14.98**	**171**	Pn		**Pn**	**01 07 56.6**	**+0.7**
	0.1nm,0.3s,baz=341,slow=11,SNR=8.2							
SONM	**Songino Array**	**16.26**	**24**	Pn		**P**	**01 08 14.5**	**-1.1**
	0.9nm,0.3s,baz=208,slow=15,SNR=15							
MK31	**Makanchi Array**	**17.28**	**325**	*e*Pn		**P**	**01 08 25.7**	**-1.1**
MKAR	**Makanchi Array**	**17.28**	**325**	P		**P**	**01 08 25.8**	**-1.0**
	0.7nm,0.3s,baz=135,slow=13,SNR=15							
TKM2	**Tokmak 2**	**19.02**	**306**	*e*P		**Pn**	**01 08 49.1**	**+2.1**
	12nm,1.2s							
AAK	**Ala-Archa**	**19.67**	**305**	P		**Pn**	**01 08 54.2**	**-0.5**
	0.4nm,0.3s,baz=87,slow=7.1,SNR=7.2							
AAK	**Ala-Archa**	**19.67**	**305**	*e*P		**Pn**	**01 08 54.1**	**-0.6**
	3.3nm,0.6s							
EKS2	**Erkin-Say**	**20.17**	**304**	*e*P		Pn	01 09 00.0	-0.6
	6.7nm,0.9s							
KURBB	**Kurchatov Arra**	**21.76**	**328**	P		**P**	**01 09 16.4**	**+0.8**
	4.4nm,0.8s,baz=134,slow=11,SNR=16							
KURK	**Kurchatov**	**21.79**	**328**	*e*P		**P**	**01 09 17.5**	**+1.5**
	17nm,1.0s							
ZALV	**Zalesovo Beam**	**22.22**	**341**	P		**P**	**01 09 22.0**	**+1.4**
	2.6nm,0.7s,baz=157,slow=11,SNR=7.3							
KKAR	**Karatay Array**	**22.59**	**303**	*e*P		**P**	**01 09 27.0**	**+2.3**
	6.1nm,1.0s							
KBL	**Kabul**	**22.84**	**281**	*e*P		**P**	**01 09 27.1**	**-0.5**
	15nm,0.7s							
ABKAR	**Akbulak array**	**31.41**	**311**	*e*P		**P**	**01 10 45.5**	**+0.4**
KAPI	**Kappang**	**44.02**	**146**	*e*P		**P**	**01 12 32.4**	**+0.4**
FINES	**FINESS Array B**	**52.11**	**325**	P		**P**	**01 13 34.2**	**+0.2**
	0.6nm,0.5s,baz=99,slow=6.3,SNR=1.9							

ARCES	**ARCESS Array B**	**52.58**	**335**	P		**P**	**01 13 38.1**	**+0.7**
	1.7nm,0.7s,baz=94,slow=7.5,SNR=1.7							
NB2	**NORSAR Subarra**	**59.27**	**326**	P		**P**	**01 14 25.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=76,slow=6.9							
NOA	**NORSAR Array B**	**59.27**	**326**	P		**P**	**01 14 25.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=77,slow=7.8,SNR=2.5							
WRAB	**Tennant Creek**	**64.09**	**140**	*e*P		**P**	**01 14 58.5**	**0.0**
	comp=Z,1.1nm,1.3s							
WRA	**Warramunga Arr**	**64.09**	**140**	P		**P**	**01 14 59.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=329,slow=7.6,SNR=3.2							
KMBO	**Kilima Mbogo**	**65.39**	**251**	P		**P**	**01 15 06.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=51,slow=17,SNR=3.7							
ASAR	**Alice Springs**	**66.93**	**143**	P		**P**	**01 15 17.6**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=326,slow=6.7,SNR=3.4							
YKA	**Yellowknife Ar**	**81.25**	**14**	P		**P**	**01 16 40.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=336,slow=5.2,SNR=7.1							
TORD	**Torodi Ar. Bea**	**86.88**	**284**	P		**P**	**01 17 10.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=59,slow=4.9,SNR=2.9							

LJU ***14*** *01:04:50.2, 46°.39N×15°.07E, h0km Rockburst*
CSEM 14 01:04:50.2±99.0, **46°.39N×15°.07E, h0**km, **Suspected Mining induced., Northwestern Balkan Peninsula**

GUC 14 01:10:57.7±0.8, **35°.98S×73°.17W, h15**km±20km, **ML3.6, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.35**	**115**	*i*P		Pg	01 11 05.1	+0.3
COCH				*i*S		Sg	01 11 09.9	+0.3
COCH				AML		AML	01 11 10.2	
	comp=N,10μm,0.2s							
LNCH	**Linares**	**1.28**	**84**	*i*P		Pn	01 11 20.0	-1.1
LNCH				*i*S		Sb	01 11 36.7	-1.2
TALC	**Talca**	**1.38**	**65**	*e*P		Pn	01 11 21.3	-1.1
TALC				*i*S		Sn	01 11 39.7	-0.8
NICH	**Los Niches**	**1.86**	**59**	*e*P		Pn	01 11 28.6	-0.4
NICH				*i*S		Sn	01 11 52.6	+0.3

ISCJB ***14*** *01:16:56.9±0.3, 29°.12S±0°.06×61°.35E±0°.06, h11km, mb4.8/75, Error ellipse: s-maj=8.9km s-min=7.2km az=30.1*
MOS ***14*** *01:16:56.8±0.8, 29°.10S×61°.33E, h10km, mb5.4/29, Error ellipse: s-maj=14.2km s-min=6.9km az=105.2*
IDC ***14*** *01:16:57.1±0.5, 29°.09S×61°.38E, h0km, mb4.5/26, mb1 4.6/27,mb1mx4.4/48, mbtmp4.5/27, ML4.5/1, Error ellipse: s-maj=15.5km s-min=13.5km az=51.0*
BJI ***14*** *01:16:58.2, 29°.10S×61°.40E, h10km, mB5.1/1, mb5.4/8, Ms5.2/1, Ms7.4.8/1*
NEIC ***14*** *01:16:58.5±0.2, 29°.08S×61°.37E, h10km, mb5.1/35, Error ellipse: s-maj=6.6km s-min=4.8km az=34.0*
ISC 14 01:16:58.8±0.4, **29°.09S**±0°.07×**61°.31E**±0°.07, **h11**km, **n226,** σ1§**10**/229, **mb5.0**/75, **27C-13D

GYA SS **SS** **01 42 01.0 +5.0**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,620nm,19.2s
GYA LE
comp=Z,530nm,18.6s
GYA LZ
comp=Z,510nm,18.4s
TORD Torodi Ar. Bea 71.22 297 P **P** **01 28 18.3 0.0**
comp=Z,3.4nm,0.8s,baz=110,slow=4.9,SNR=23
AML Almayashu 71.78 10 P **P** **01 28 22.2 +0.6**
SNR=21
AML Almayashu 71.78 10 *i* P **P** **01 28 22.2 +0.6**
KZA Kyzart 71.97 11 P **P** **01 28 23.4 +0.6**
SNR=8.5
KZA Kyzart 71.97 11 *i* P **P** **01 28 23.3 +0.6**
UCH Uchtor 72.00 10 P **P** **01 28 23.4 +0.4**
SNR=5.5
UCH Uchtor 72.00 10 *i* P **P** **01 28 23.4 +0.4**
ULHL Ulahol 72.31 12 P **P** **01 28 25.1 +0.6**
SNR=10.0
ULHL Ulahol 72.31 12 *i* P **P** **01 28 25.1 +0.6**
EKS2 Erkin-Say 72.31 10 P **P** **01 28 25.9 +1.5**
SNR=11
EKS2 Erkin-Say 72.31 10 *eP* **P** **01 28 25.0 +0.5**
EKS2 pmax pmax
comp=Z,22nm,0.8s
EKS2 Erkin-Say 72.31 10 *eP* **P** **01 28 25.0 +0.5**
comp=Z,22nm,0.8s
KKAR Karatay Array 72.34 7 *eP* **P** **01 28 24.9 +0.5**
KKAR pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 72.34 7 *eP* **P** **01 28 24.9 +0.5**
comp=Z,15nm,0.9s
AAK Ala-Archa 72.39 10 P **P** **01 28 25.2 +0.2**
comp=Z,70nm,1.2s,SNR=11
AAK Ala-Archa 72.39 10 P **P** **01 28 26.3 +1.3**
SNR=9.6
AAK Ala-Archa 72.39 10 *i* P **P** **01 28 25.6 +0.6**
AAK pmax pmax
comp=Z,59nm,1.6s
AAK Ala-Archa 72.39 10 P **P** **01 28 25.8 +0.8**
comp=Z,6.1nm,0.8s,baz=176,slow=5.3,SNR=25
AAK Ala-Archa 72.39 10 *eP* **P** **01 28 25.6 +0.6**
comp=Z,18nm,1.1s
KIC Kosan Boka 72.55 288 *eP* **P** **01 28 27.2 +0.8**
comp=Z,61nm,1.4s
LIC Lamto 72.72 288 *eP* **P** **01 28 27.7 +0.3**
comp=Z,30nm,1.1s,baz=160
LIC Lamto 72.72 288 *eP* **P** **01 28 27.9 +0.5**
comp=Z,47nm,1.3s
LIC Lamto 72.72 288 *eP* **P** **01 28 27.7 +0.3**
comp=Z,30nm,1.1s
DBIC Dimbokro 72.82 288 *eP* **P** **01 28 28.1 +0.2**
DBIC pmax pmax
comp=Z,13nm,0.9s
DBIC Dimbokro 72.82 288 P **P** **01 28 28.9 +1.0**
comp=Z,8.0nm,0.8s,baz=112,slow=6.1,SNR=11
DBIC Dimbokro 72.82 288 *eP* **P** **01 28 28.1 +0.2**
comp=Z,13nm,0.9s
TKM2 Tokmak 2 72.85 11 P **P** **01 28 28.0 +0.2**
SNR=18
TKM2 Tokmak 2 72.85 11 *i* P **P** **01 28 27.9 +0.2**
TKM2 Tokmak 2 72.85 11 *eP* **P** **01 28 27.4 -0.4**
comp=Z,12nm,0.8s
TIC Toumodi 72.94 288 *eP* **P** **01 28 29.5 +0.8**
comp=Z,15nm,0.7s
USP Ospenovka 73.02 10 P **P** **01 28 29.1 +0.5**
SNR=20
USP Ospenovka 73.02 10 *i* P **P** **01 28 29.0 +0.5**
BRTR Keskin Array B 73.15 338 P **P** **01 28 29.4 -0.1**
comp=Z,2.4nm,1.0s,baz=168,slow=6.3,SNR=18
NEY Neytrino 73.98 346 *eP* **P** **01 28 36.1 +1.7**
NEY pmax pmax
comp=Z,4.0nm,1.7s
NCK Nalchik 74.04 347 ⇑*iP* **P** **01 28 35.0 +0.5**
TAM Tamanrasset 74.47 308 *eP* **P** **01 28 38.4 +0.8**
TAM pmax pmax
comp=Z,4.0nm,1.3s
TAM Tamanrasset 74.47 308 *eP* **P** **01 28 38.4 +0.8**
comp=Z,3.6nm,1.3s
KIV Kislovodsk 74.67 346 *eP* **P** **01 28 35.8 -2.4**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 74.67 346 *eP* **P** **01 28 37.7 -0.5**
comp=Z,14nm,0.9s
GOF Gofitskoye 75.65 347 *eP* P 01 28 40.0 -3.7
XAN Xi'an 77.26 39 P **P** **01 28 54.5 +1.3**
XAN PMZ
comp=Z,89nm,1.5s
KDZ Kurdzhali 77.81 333 ⇑P **P** **01 28 56.1 0.0**
KDZ Kurdzhali 77.81 333 ⇑*iP* **P** **01 28 56.1 0.0**
MKAR Makanchi Array 77.88 15 P **P** **01 28 56.3 0.0**
comp=Z,5.3nm,0.8s,baz=197,slow=3.8,SNR=64
ABKAR Akbulak array 78.00 359 *eP* **P** **01 28 56.8 -0.1**
comp=Z,13nm,0.8s
MMB Musomiste 78.44 332 ⇑P **P** **01 28 58.4 -1.2**
MMB Musomiste 78.44 332 ⇑*iP* **P** **01 28 58.4 -1.2**
TIRR Tirgusor 79.13 337 ⇓P **P** **01 29 03.3 +0.1**
TIRR Tirgusor 79.13 337 ⇓*iP* **P** **01 29 03.3 +0.1**
TIRR Tirgusor 79.13 337 *eP* **P** **01 29 03.0 -0.2**
AKTO Aktyubinsk 79.23 358 P **P** **01 29 03.6 0.0**
comp=Z,6.3nm,0.8s,baz=181,slow=5.3,SNR=24
TLB Topalu 79.37 336 ⇑P **P** **01 29 04.6 +0.1**
TLB Topalu 79.37 336 ⇑*iP* **P** **01 29 04.6 +0.1**
TIP Timpagrande 79.61 326 *eP* **P** **01 29 05.2 -0.9**
comp=Z,17nm,1.4s
CFR Carcaliu 79.85 337 ⇓P **P** **01 29 07.3 +0.2**
CFR Carcaliu 79.85 337 ⇓*iP* **P** **01 29 07.3 +0.2**
KURBB Kurchatov Arra 80.81 11 P **P** **01 29 12.3 +0.2**
comp=Z,6.4nm,0.8s,baz=208,slow=6.2,SNR=14
MLR Muntele Rosu 80.90 336 ⇑*iP* **P** **01 29 13.0 0.0**
MLR Muntele Rosu 80.90 336 P **P** **01 29 13.0 0.0**
comp=Z,1.4nm,0.8s,baz=187,slow=5.1,SNR=13
KURK Kurchatov 80.92 11 P **P** **01 29 13.7 +0.9**
comp=Z,52nm,0.9s,SNR=13
KURK Kurchatov 80.92 11 *eP* **P** **01 29 12.9 +0.2**
KURK pmax pmax
comp=Z,30nm,1.2s
KURK Kurchatov 80.92 11 *eP* **P** **01 29 12.9 +0.2**
comp=Z,30nm,1.2s
KEST Kesra 80.94 320 P **P** **01 29 14.0 +0.6**
comp=Z,1.0nm,0.8s,baz=135,slow=4.3,SNR=4.7
KEST Kesra 80.94 320 *eP* **P** **01 29 12.8 -0.6**
VRI Vrincioaia 80.94 336 ⇑P **P** **01 29 13.3 +0.3**
VRI Vrincioaia 80.94 336 ⇑*iP* **P** **01 29 13.3 +0.3**
PLOR Plostina 80.95 336 ⇑P **P** **01 29 13.4 +0.2**
PLOR Plostina 80.95 336 ⇑*iP* **P** **01 29 13.4 +0.2**
VOIR 81.18 335 ⇑P **P** **01 29 13.6 -0.8**
VOIR 81.18 335 ⇑*iP* **P** **01 29 13.6 -0.8**
KIS Kishinev 81.22 338 *eP* **P** **01 29 14.0 -0.5**
ARR Arges 81.27 335 ⇓*iP* **P** **01 29 14.2 -0.7**
LOT Lotru 81.67 334 ⇑*iP* **P** **01 29 15.8 -1.2**
VRHR Novokhopersk 81.71 348 *eP* **P** **01 29 16.7 -0.2**
VRHR pmax pmax
comp=Z,8.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=E,9.0nm,0.8s
NJ2 Nanjing 81.75 46 *eP* **P** **01 29 17.8 +0.2**
NJ2 PMZ
comp=E,70nm,1.5s
PMG Port Moresby 81.89 96 *eP* **P** **01 29 18.4 -0.5**
PMG Port Moresby 81.89 96 *eP* **P** **01 29 18.4 -0.5**
VORD Divnogorie 82.05 346 *eP* **P** **01 29 17.7 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.3s
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=E,150nm,0.9s
BVAR Borovoye Array 82.15 6 P **P** **01 29 19.3 0.0**
comp=E,6.5nm,0.7s,baz=167,slow=7.1,SNR=53
BRVK Borovoye 82.17 5 P **P** **01 29 19.7 +0.3**
comp=E,54nm,0.7s,SNR=7.0
VSR Storozhevoye 82.31 346 *eP* **P** **01 29 19.3 -0.8**
VSR pmax pmax
comp=Z,20nm,1.6s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,8.0nm,0.8s

BZS Buzias 82.64 333 ⇓P **P** **01 29 21.9 -0.1**
BZS Buzias 82.64 333 ⇓*iP* **P** **01 29 21.9 -0.1**
BURAR Bucovina Array 82.97 336 ⇑P **P** **01 29 24.6 +0.8**
BURAR Bucovina Array 82.97 336 ⇑*iP* **P** **01 29 24.6 +0.8**
DRGR 83.19 334 ⇑P **P** **01 29 24.9 0.0**
DRGR 83.19 334 ⇑*iP* **P** **01 29 24.9 0.0**
AQU L'Aquila 83.67 326 *eP* **P** **01 29 25.0 -2.5**
AQU pmax pmax
comp=Z,15nm,1.2s
AQU L'Aquila 83.67 326 *eP* **P** **01 29 25.0 -2.5**
comp=Z,15nm,1.2s
HHC Hu-ho-hao-te 83.72 36 *eP* **P** **01 29 28.8 +1.0**
HHC S **S** **01 39 48.8 -1.8**
HHC PMZ
comp=Z,57nm,1.2s
KIEV Kiev 84.36 340 ⇑*iP* **P** **01 29 30.2 -0.4**
KIEV Kiev 84.36 340 *eP* **P** **01 29 30.2 -0.4**
AKASG Malin Array Be 84.36 340 *i* P **P** **01 29 30.1 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 84.36 340 P **P** **01 29 30.1 -0.6**
comp=Z,2.3nm,0.6s,baz=161,slow=4.6,SNR=18
ZALV Zalesovo Beam 85.17 14 *i* P **P** **01 29 34.7 0.0**
ZALV pmax pmax
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 85.17 14 P **P** **01 29 34.7 0.0**
comp=Z,11nm,0.8s,baz=198,slow=4.2,SNR=48
PSZ Piszkesteto 85.21 333 *eP* **P** **01 29 34.2 -0.9**
PSZ pmax pmax
comp=Z,3.0nm,1.0s
PSZ Piszkesteto 85.21 333 *eP* **P** **01 29 34.2 -0.9**
comp=Z,3.1nm,1.0s
ARU Arti 85.21 358 P **P** **01 29 35.4 +0.6**
comp=Z,106nm,1.1s,SNR=8.6
ARU Arti 85.21 358 *d iP* **P** **01 29 35.1 +0.3**
ARU S **S** **01 39 59.0 -5.5**
ARU SS **SS** **01 45 35.4 -4.1**
ARU pmax pmax
comp=Z,47nm,1.7s
ARU Arti 85.21 358 *eP* **P** **01 29 35.1 +0.3**
comp=Z,21nm,1.0s
CRVS Cervenica-Dubn 85.42 335 *eP* **P** **01 29 36.1 0.0**
CRVS pmax pmax
comp=Z,22nm,2.2s
CRVS Cervenica-Dubn 85.42 335 *eP* **P** **01 29 36.1 0.0**
KECS Kecovo 85.44 334 *eP* **P** **01 29 35.7 -0.5**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 85.44 334 *eP* **P** **01 29 35.7 -0.5**
KWP Kalwaria Pacla 85.57 336 ⇓P **P** **01 29 36.4 -0.4**
KWP Kalwaria Pacla 85.57 336 ⇓*iP* **P** **01 29 36.4 -0.4**
BJI Beijing 85.60 39 P **P** **01 29 38.6 +1.4**
BJI PMZ
comp=Z,120nm,1.6s
NVS Novosibirsk 85.69 13 *eP* **P** **01 29 36.3 -1.0**
NVS pmax pmax
comp=N,10.0nm,1.4s
NVS pmax pmax
comp=Z,26nm,1.4s
VYHS Vyhne 86.09 333 *eP* **P** **01 29 38.4 -1.0**
VYHS pmax pmax
comp=Z,11nm,2.1s
VYHS Vyhne 86.09 333 *eP* **P** **01 29 38.4 -1.0**
OBN Obninsk 86.52 346 ⇓*iP* **P** **01 29 41.2 -0.1**
OBN pmax pmax
comp=Z,49nm,1.7s
OBN Obninsk 86.52 346 *eP* **P** **01 29 41.2 -0.1**
comp=Z,65nm,1.4s
CONA Conrad Observa 86.85 331 ⇑*iP* **P** **01 29 42.5 -0.8**
comp=Z,12nm,1.7s
MOS Moscow 86.88 347 *eP* **P** **01 29 42.7 -0.4**
MOS pmax pmax
comp=Z,38nm,1.0s
ABTA Abfaltersbach 87.41 329 ⇑*iP* **P** **01 29 46.4 +0.3**
comp=Z,5.8nm,1.3s
OKC Ostrava-Krasne 87.44 334 *eP* **P** **01 29 45.6 -0.4**
OKC *e* 01 29 52.2
OKC Ostrava-Krasne 87.44 334 *eP* **P** **01 29 45.6 -0.4**
OKC *epP* **pP** **01 29 52.2 +2.6**
MOA Molln 87.47 330 ⇓*iP* **P** **01 29 46.0 -0.2**
comp=Z,4.3nm,1.2s
MORC Moravsky Berou 87.62 333 *eP* **P** **01 29 46.2 -0.8**
MORC pmax pmax
comp=Z,2.0nm,0.7s
MORC Moravsky Berou 87.62 333 *eP* **P** **01 29 46.2 -0.8**
comp=Z,1.8nm,0.7s
SBF Sospel 87.75 324 *eP* **P** **01 29 48.1 +0.4**
comp=Z,20nm,1.0s
SBF Sospel 87.75 324 *eP* **P** **01 29 48.1 +0.4**
SBF pmax pmax
comp=Z,20nm,1.0s
SBF Sospel 87.75 324 *eP* **P** **01 29 48.1 +0.4**
comp=Z,20nm,1.0s
LMR La Mourre 87.86 323 *eP* **P** **01 29 47.9 -0.3**
comp=Z,5.1nm,0.9s
LMR La Mourre 87.86 323 *eP* **P** **01 29 47.9 -0.3**
LMR pmax pmax
comp=Z,5.0nm,0.9s
LMR La Mourre 87.86 323 *eP* **P** **01 29 47.9 -0.3**
comp=Z,5.1nm,0.9s
FRF La Foret Royal 87.95 324 *eP* **P** **01 29 48.3 -0.3**
comp=Z,13nm,1.2s
FRF La Foret Royal 87.95 324 *eP* **P** **01 29 48.3 -0.3**
FRF pmax pmax
comp=Z,13nm,1.2s
FRF La Foret Royal 87.95 324 *eP* **P** **01 29 48.3 -0.3**
comp=Z,13nm,1.2s
TREC Trest 88.07 332 *eP* **P** **01 29 47.2 -1.9**
TREC Trest 88.07 332 *eP* **P** **01 29 47.2 -1.9**
FETA Feichten 88.43 328 ⇑*iP* **P** **01 29 48.2 -2.8**
comp=Z,12nm,1.1s
GERES GERESS Array B 88.47 331 P **P** **01 29 50.0 -1.1**
comp=Z,0.2nm,0.5s,baz=152,slow=4.4,SNR=4.7
DPC Dobruska-Polom 88.56 333 *eP* **P** **01 29 50.2 -1.2**
DPC Dobruska-Polom 88.56 333 *eP* **P** **01 29 50.2 -1.2**
DPC *ex* x 01 30 06.0
DAVOX Davos/Dischmat 88.65 327 P **P** **01 29 51.8 -0.3**
comp=Z,4.1nm,0.7s,baz=166,slow=1.6,SNR=7.3
MBDF Montbardon 88.70 324 ⇑*iP* **P** **01 29 53.2 +0.9**
comp=Z,12nm,0.8s
MBDF Montbardon 88.70 324 ⇑*iP* **P** **01 29 53.2 +0.9**
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 88.70 324 ⇑*iP* **P** **01 29 53.2 +0.9**
comp=Z,12nm,0.8s
KHC Kasperske Hory 88.74 331 *eP* **P** **01 29 49.1 -3.2**
KHC Kasperske Hory 88.74 331 *eP* **P** **01 29 49.1 -3.2**
KHC *ex* x 01 29 59.6
KHC *ex* x 01 30 06.8
UPC Upice 88.81 333 *eP* **P** **01 29 51.2 -1.3**
UPC Upice 88.81 333 *eP* **P** **01 29 51.2 -1.3**
BNI Bardonecchia 88.97 325 *eP* **P** **01 29 53.7 +0.1**
BNI pmax pmax
comp=Z,8.0nm,1.2s
BNI Bardonecchia 88.97 325 *eP* **P** **01 29 53.6 +0.1**
comp=Z,7.8nm,1.2s
PRU Pruhonice 89.00 332 *eP* **P** **01 29 52.2 -1.2**
PRU Pruhonice 89.00 332 *eP* **P** **01 29 52.2 -1.2**
SUW Suwalki 89.09 339 *eP* **P** **01 29 53.6 -0.1**
SUW Suwalki 89.09 339 *eP* **P** **01 29 53.5 -0.2**
SUW Suwalki 89.09 339 *eP* **P** **01 29 52.9 -0.8**
comp=Z,24nm,1.1s
PRA Prague 89.11 332 *eP* **P** **01 29 53.8 -0.1**
PRA *e* 01 30 02.8
PRA Prague 89.11 332 *eP* **P** **01 29 53.8 -0.1**
PRA *ex* x 01 30 02.8
PVCC Panska Ves 89.40 332 *eP* **P** **01 29 55.6 +0.3**
PVCC *e* 01 30 02.0
PVCC Panska Ves 89.40 332 *eP* **P** **01 29 55.6 +0.3**
PVCC *epP* **pP** **01 30 02.0 +3.1**
LASF Ste Croix 89.77 323 *eP* **P** **01 29 57.1 -0.1**
LASF Ste Croix 89.77 323 *eP* **P** **01 29 57.1 -0.1**
VIVF Saint-Julien-l 89.87 324 *eP* **P** **01 29 57.5 -0.1**
comp=Z,12nm,1.2s
VIVF Saint-Julien-l 89.87 324 *eP* **P** **01 29 57.5 -0.1**
VIVF pmax pmax
comp=Z,12nm,1.2s
VIVF Saint-Julien-l 89.87 324 *eP* **P** **01 29 57.5 -0.1**
comp=Z,12nm,1.2s
BRG Berggiesshubel 89.92 332 *eP* **P** **01 29 57.9 +0.2**
comp=Z,24nm,1.9s
BRG Berggiesshubel 89.92 332 *eP* **P** **01 29 57.9 +0.2**
BRG pmax pmax
comp=Z,24nm,2.0s
CLL Collm 90.64 332 *eP* **P** **01 29 59.0 -2.0**
CLL pmax pmax
comp=Z,19nm,2.0s
CLL Collm 90.64 332 *e*(P) **P** **01 29 59.0 -2.0**
comp=Z,19nm,2.0s
PRGR Permogore 91.30 353 *eP* P 01 30 00.0 -3.8
PRGR pmax pmax
comp=Z,26nm,1.2s
ESDC Sonseca Array 91.44 315 P **P** **01 30 06.3 +1.2**
comp=Z,1.2nm,0.8s,baz=102,slow=3.7,SNR=5.2
CN2 Changchun 93.28 41 *eP* **P** **01 30 13.0 -0.4**
CN2 PMZ
comp=Z,10.0nm,0.7s
TRQA Tornquist 94.72 221 *eP* **P** **01 30 20.0 -0.5**
comp=Z,6.4nm,0.7s
MAJO Matsushiro 97.29 52 *eP* **P** **01 30 31.6 -0.4**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 97.29 52 *eP* **P** **01 30 31.6 -0.4**
comp=Z,12nm,0.9s
OTAV Otavalo 132.08 240 *e*PKPdf **PKPdf** **01 36 13.0 -1.0**
FCC Fort Churchill 145.85 337 *e*PKP2 **PKPdf** **01 36 36.7 -0.3**
FCC Fort Churchill 145.85 337 *e*PKPbc **PKPdf** **01 36 36.6 -0.3**
YKA Yellowknife Ar 146.49 357 PKPbc **PKPdf** **01 36 38.5 +0.5**
comp=Z,2.5nm,0.7s,baz=354,slow=3.2,SNR=62
FFC Flin Flon 151.68 339 *e*PKIKP **PKPbc** **01 36 52.0 -0.9**
FFC Flin Flon 151.68 339 *e*PKPbc **PKPbc** **01 36 52.0 -0.9**
FFC *e*PKPab **PKPab** **01 37 01.4 -0.3**
EDM Edmonton 155.57 352 *e*PKIKP **PKPdf** **01 36 52.1 -0.2**
EDM Edmonton 155.57 352 *e*PKPdf **PKPdf** **01 36 52.1 -0.2**
EDM *e*PKPab **PKPab** **01 37 18.3 +0.1**
PDAR Pinedale Array 164.49 334 PKP **PKPdf** **01 37 02.4 -0.5**
comp=Z,0.4nm,0.9s,baz=24,slow=1.8,SNR=2.9
PDAR PKPab **PKPab** **01 37 56.5 -1.1**
comp=Z,1.1nm,1.0s,baz=64,slow=3.4,SNR=4.1
TXAR Lajitas Array 166.88 275 PKPab **PKPab** **01 38 09.3 +0.8**
comp=Z,0.6nm,0.7s,baz=114,slow=6.0,SNR=5.3

IDC **14** *01:25:14.6±0.4, 33°.25N×96°.53E, h0km, mb5.2/40, mb1 5.2/42, mb1mx5.2/44, mbtmp5.1/42, ML4.2/4, MS5.9/35, Ms1 5.9/35, ms1mx5.8/42, Error ellipse: s-maj=11.6km s-min=8.6km az=29.0*

NEIC **14** *01:25:15.6±2.0, 33°.20N×96°.45E, h8km±12km, mb5.9/151, MS6.0/153, Error ellipse: s-maj=4.2km s-min=2.7km az=205.0*

GCMT **14** *01:25:15.6±0.2, 33°.18N×96°.53E, h18km±1km, MW6.1/132, Moment Tensor Solution. s52,c75; s132,c280; Duration: 26 Moment tensor: Scale 1018Nm; Mrr=0.30±.04; Mθθ=1.22±.03; Mϕϕ=-0.92±.03; Mrθ=0.57±.09; Mθϕ=0.94±.03; Mϕr=0.50±.09; Best double couple: M=1.58400×1018 NP1:ϕs=205.00000°, δ89.00000°, λ155.00000°. NP2:ϕs=296.00000°, δ65.00000°, λ2.00000°. Principal axes: T 1.8090, Plg19.0000°, Azm158.0000°; N -0.4550, Plg65.0000°, Azm23.0000°; P -1.3580, Plg17.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB **14** *01:25:16.6±0.1, 33°.15N±0°.02×96°.41E±0°.01, h24km, mb5.6/283, MS6.0/236 Error ellipse: s-maj=2.2km s-min=1.8km az=12.1*

BJI **14** *01:25:16.2, 33°.22N×96°.57E, h17km, mB6.2/42, mb5.5/70, ML5.8/11, Ms6.4/60, Ms7 6.3/76*

MOS **14** *01:25:16.0±0.9, 33°.25N×96°.56E, h21km, mb5.9/115, MS6.0/85, Error ellipse: s-maj=6.1km s-min=3.7km az=127.2*

SZGRF **14** *01:25:24.8, 33°.82N×94°.86E, h33km, mb5.5, MS6.1, Qinghai, China*

ISC 14 01:25:16.5±0.3, 33°.15N±0°.02×96°.49E±0°.02, h12km±1km, h12km:pP-P, n1348, σ1944/1334, mb5.7/294, MS6.0/243, 133C-109D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LSA	**Lhasa**	**5.71**	**234**	Pn	Pn	01 26 45.1	+3.6
LSA				Sg	**Sg**	**01 28 20.5**	**+0.5**
LSA				LN			
	200μm,13.2s						
LSA				LE			
	200μm,12.8s						
LSA				LZ			
	300μm,12.0s						
LSA	**Lhasa**	**5.71**	**234**	*e*P	Pn	01 26 44.8	+3.2
LSA				pmax	pmax		
	comp=Z,5μm,1.5s						
LSA	**Lhasa**	**5.71**	**234**	*e*Pn	Pn	01 26 44.8	+3.2
	comp=Z,5μm,1.5s						
CD2	**Chengdu**	**6.56**	**108**	Pg	Pb	01 27 16.0	+5.4
CD2				Sn	**Sn**	**01 28 02.6**	**-5.0**
CD2				Sg	**Sg**	**01 28 44.1**	**-3.0**
CD2				SMN			
	comp=Z,6μm,1.8s						
CD2				SME			
	comp=Z,5μm,1.8s						
CD2				LZ			
	comp=Z,237μm,5.7s						
LZH	**Lanzhou**	**6.73**	**62**	Pn	**Pn**	**01 26 56.5**	**+1.2**
LZH				Pg	Pb	01 27 17.6	+4.1
LZH				Sg	Sb	01 28 40.5	+6.5
LZH				SMN			
	comp=Z,15μm,1.6s						
LZH				SME			
	comp=Z,20μm,1.8s						
LZH				LN			
	comp=Z,161μm,6.6s						
LZH				LE			
	comp=Z,244μm,8.7s						
LZH				LZ			
	comp=Z,267μm,9.9s						
GTA	**Gaotai**	**6.80**	**22**	⇑Pn	**Pn**	**01 26 56.9**	**+0.8**
GTA				Sn	**Sn**	**01 28 13.3**	**-0.2**
GTA				LZ			
	comp=Z,78μm,8.5s						
SHL	**Shillong**	**8.56**	**209**	*e*P	**Pn**	**01 27 19.0**	**-1.3**
SHL				AMB	AMB	01 27 25.9	
	comp=Z,153nm,0.9s						
SHL				*ex*	x	01 28 52.0	
IMP	**Imphal**	**8.63**	**196**	*ex*	**Pn**	**01 27 21.0**	**-0.3**
IMP				*ex*	**Sn**	**01 28 59.0**	**+0.4**
TAPN	**Taplejung**	**9.54**	**235**	*e*P	**Pn**	**01 27 34.3**	**+0.4**
	comp=Z,542nm,1.0s						
KMI	**Kunming**	**9.68**	**144**	P	**Pn**	**01 27 37.1**	**+1.3**
KMI				pP		01 27 40.8	
KMI				sP		01 27 43.8	
KMI				S	**Sn**	**01 29 29.1**	**+4.4**
KMI				PMZ			
	comp=Z,390nm,1.2s						
KMI				PMZ			
	comp=Z,3μm,4.6s						
KMI				LN			
	comp=Z,226μm,10.4s						
KMI				LE			
	comp=Z,132μm,10.0s						
KMI				LZ			
	comp=Z,175μm,13.1s						
ODAN	**Odare**	**10.07**	**234**	*e*P	**Pn**	**01 27 41.2**	**0.0**
	comp=Z,593nm,0.5s						
XAN	**Xi'an**	**10.41**	**82**	P	**Pn**	**01 27 45.1**	**-0.5**
XAN				S	**Sn**	**01 29 41.3**	**-0.8**
XAN				PMZ			
	comp=Z,140nm,1.4s						
XAN				LN			
	comp=Z,108μm,19.8s						
XAN				LE			
	comp=Z,17μm,18.8s						
XAN				LZ			
	comp=Z,42μm,14.9s						
JIRN	**Jiri**	**10.44**	**241**	*e*P	**Pn**	**01 27 47.1**	**+0.8**
	comp=Z,491nm,0.9s						
GUN	**Gumba**	**10.53**	**243**	*e*P	**Pn**	**01 27 48.1**	**+0.6**
	comp=Z,1μm,1.0s						
RAMN	**Ramite**	**10.56**	**237**	*e*P	**Pn**	**01 27 47.5**	**-0.4**
	comp=Z,353nm,0.6s						
KKN	**Kakani**	**11.04**	**244**	*e*P	**Pn**	**01 27 54.0**	**-0.5**
	comp=Z,527nm,1.0s						
PKI	**Pulchoki**	**11.06**	**243**	*e*P	**Pn**	**01 27 53.9**	**-0.9**
	comp=Z,305nm,0.5s						
GYA	**Guiyang**	**11.06**	**124**	⇑*iP*	**Pn**	**01 27 54.0**	**-0.7**
GYA				S	**Sn**	**01 29 54.5**	**-3.9**
GYA				SS	**SnSn**	**01 30 16.8**	**+6.5**
GYA				PMZ			
	comp=Z,130nm,0.8s						

GYA PMZ
comp=Z,10µm,6.9s
GYA LZ
comp=Z,92µm,10.3s
PKIN Phulchoki 11.07 243 *e*P **Pn 01 27 54.1 -0.8**
comp=Z,253nm,0.6s
GKN Gorkha 11.43 246 *e*P **Pn 01 27 58.9 -0.7**
comp=Z,694nm,1.1s
ENH Enshi 11.43 101 *e*Pn **Pn 01 28 00.1 +0.5**
comp=Z,541nm,1.4s
DANN Dangsing 11.95 250 *e*P **Pn 01 28 05.8 -1.1**
comp=Z,623nm,0.7s
KOLN Koldanda 12.34 248 *e*P **Pn 01 28 10.8 -1.4**
comp=Z,219nm,0.6s
PYUN Piuthan 12.66 250 *e*P **Pn 01 28 14.9 -1.7**
comp=Z,2µm,0.9s
WMQ Urumqi 12.68 330⇑ *i*P **Pn 01 28 15.5 -1.1**
WMQ PP **PnPn 01 28 25.4 +0.9**
WMQ S **Sn 01 30 38.3 +0.6**
WMQ SS **SnSn 01 30 51.0 +1.1**
WMQ PMZ
comp=Z,1µm,1.5s
WMQ PMZ
comp=Z,9µm,4.0s
WMQ LN
comp=Z,185µm,12.5s
WMQ LE
comp=Z,94µm,12.0s
WMQ LZ
comp=Z,109µm,18.2s
BTO Baotou 13.13 52 *e*P **Pn 01 28 19.9 -2.9**
BTO S **Sn 01 30 44.8 -4.1**
BTO PMZ
comp=Z,65nm,1.9s
BTO LN
comp=Z,45µm,14.1s
BTO LE
comp=Z,38µm,12.9s
CRAI Chiangrai 13.33 164 P **Pn 01 28 23.3 -2.2**
comp=Z,278nm,1.5s,comp=Z,4µm
CMAI Chiengmai2 13.36 170 P **Pn 01 28 27.6 +1.5**
comp=Z,193nm,2.3s,comp=Z,5µm
TIY Taiyuan 13.77 66 *e*P **Pn 01 28 28.8 -2.8**
TIY PP P 01 28 47.4 +7.3
TIY S **Sn 01 31 06.1 +1.6**
TIY PMZ
comp=Z,110nm,1.4s
TIY PMZ
comp=Z,4µm,11.8s
TIY LN
comp=Z,37µm,6.8s
TIY LE
comp=Z,61µm,5.7s
TIY LZ
comp=Z,157µm,20.8s
HHC Hu-ho-hao-te 14.28 53 *e*P **Pn 01 28 35.5 -3.0**
HHC pP P 01 28 41.3 -4.5
HHC sP 01 28 47.3
HHC S **Sn 01 31 13.5 -3.3**
HHC SS **SnSn 01 31 30.8 +1.6**
HHC PMZ
comp=Z,70nm,1.0s
HHC PMZ
comp=Z,3µm,4.3s
HHC LN
comp=Z,50µm,7.4s
HHC LE
comp=Z,37µm,7.9s
HHC LZ
comp=Z,29µm,7.2s
LGTI Lohaghat 14.37 259 *ex* **Pn 01 28 42.8 +3.1**
LGTI *ex* S 01 31 46.8 +7.7
CMMT Chiang Mai 14.45 171 P **Pn 01 28 41.6 +0.8**
comp=Z,793nm,1.5s,comp=Z,17µm
CMAR Chiang Mai Arr 14.80 171 P **Pn 01 28 46.9 +1.3**
CMAR 01 31 36.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 14.80 171 Pn **Pn 01 28 46.9 +1.3**
comp=Z,1.4nm,0.3s,baz=343,slow=13,SNR=210
CMAR Sn Sn 01 31 36.7 +7.2
baz=0.4,slow=23,SNR=2.2
LAMP Lampang 14.84 168 P **Pn 01 28 47.0 +0.9**
comp=Z,69nm,1.0s,comp=Z,711nm
MHMT Maesarieng 14.97 175 P **Pn 01 28 48.7 +0.8**
comp=Z,125nm,1.5s,comp=Z,2µm
WHN Wuhan 15.40 95⇑ P **Pn 01 28 51.6 -2.0**
WHN S **Sn 01 31 38.3 -5.8**
WHN sS **S 01 31 54.4 -5.8**
WHN SS **SnSn 01 32 01.3 +4.6**
WHN PMZ
comp=Z,760nm,1.2s
WHN LZ
comp=Z,254µm,10.5s
UTTA Uttaradit 15.77 166 P **Pn 01 28 58.5 +0.1**
comp=Z,61nm,1.4s,comp=Z,879nm
SUKH Sukhothai 15.86 169 P **Pn 01 28 59.8 +0.3**
comp=Z,49nm,1.3s,comp=Z,639nm
DDI Dehra Dun 15.94 265 *e*P **Pn 01 28 59.3 -1.3**
DDI AMB AMB 01 29 07.8
comp=Z,303nm,1.1s
BWNR Bhubaneshwar 15.95 219 *e*P **P 01 29 04.0 -0.3**
SONM Songino Array 16.47 24 P **Pn 01 29 05.4 -2.0**
SONM 01 32 15.3
SONM pmax pmax
comp=Z,1.0nm,0.3s
SONM MLR MLR
comp=Z,25µm,19.1s
SONM Songino Array 16.47 24 Pn **Pn 01 29 05.4 -2.0**
comp=Z,0.6nm,0.3s,baz=208,slow=12,SNR=75
SONM Sn **Sn 01 32 15.3 +5.3**
comp=Z,0.0nm,0.3s,baz=223,slow=31,SNR=2.2
SONM LR LR 01 36 04.8
comp=Z,25µm,19.1s,baz=208,slow=40
SMLA Simla 16.49 268 *i*P **Pn 01 29 04.4 -3.2**
SMLA AMB AMB 01 29 10.0
comp=Z,838nm,0.6s
SMLA *i* x **S 01 32 16.1 -6.5**
SDNR Sundarnagar 16.58 270 *e*P **Pn 01 29 07.0 -1.8**
SDNR *ex* **S 01 32 19.0 -5.5**
ULN Ulaanbaatar 16.73 25 *ce*P **Pn 01 29 08.5 -2.2**
ULN pmax pmax
comp=Z,171nm,1.7s
ULN Ulaanbaatar 16.73 25 Pn **Pn 01 29 08.7 -1.9**
SNR=164
ULN Ulaanbaatar 16.73 25 *e*Pn **Pn 01 29 08.9 -1.8**
comp=Z,762nm,1.7s
PDGK Podgornoye 16.75 312 P **Pn 01 29 08.5 -2.4**
PDGK pmax pmax
comp=Z,543nm,1.4s
PBKT Sadao Pong 17.00 165 P **Pn 01 29 13.8 -0.3**
comp=Z,320nm,2.0s,comp=Z,7µm
DHRM DHARAMSHALA 17.02 272 *e*P **Pn 01 29 12.5 -2.1**
DHRM AMB AMB 01 29 18.2
comp=Z,460nm,0.8s
BHK Bhakra 17.06 270 *ex* **P 01 29 18.2 +1.5**
NDI New Delhi 17.12 260 *e*P **Pn 01 29 12.5 -3.1**
NDI *ex* **S 01 32 31.0 -4.5**
BJT Baijiatuau 17.21 61 *e*P **Pn 01 29 17.2 +0.6**
BJT pmax pmax
comp=Z,3µm,2.2s
BJT Baijiatuau 17.21 61 *e*Pn **Pn 01 29 17.2 +0.6**
comp=Z,3µm,2.2s
BJI Beijing 17.22 61 P **Pn 01 29 16.6 -0.2**
BJI S **Sn 01 32 29.8 +1.6**
BJI PMZ
comp=Z,350nm,2.2s
BJI PMZ
comp=Z,5µm,5.0s
BJI LN
comp=Z,121µm,13.1s
BJI LE
comp=Z,95µm,14.2s
BJI LZ
comp=Z,57µm,23.1s
TIA Tai'an 17.24 74⇑ P **Pn 01 29 16.0 -1.1**
TIA pP **pP 01 29 22.3 +0.3**
TIA S **S 01 32 33.8 -4.1**
TIA PMZ
comp=Z,430nm,1.9s
TIA LN
comp=Z,43µm,6.8s
TIA LE
comp=Z,100µm,14.3s
TIA LZ
comp=Z,130µm,16.1s

DLH Dalhousie 17.26 274 *e*P **Pn 01 29 17.0 -0.5**
MK31 Makanchi Array 17.40 326 *i*P **Pn 01 29 15.4 -3.6**
MK31 pmax pmax
comp=Z,587nm,1.4s
MKAR Makanchi Array 17.40 326 P **Pn 01 29 16.3 -2.7**
comp=Z,6.2nm,0.3s,baz=128,slow=14,SNR=101
MKAR S **S 01 32 40.4 -0.6**
baz=126,slow=19,SNR=2.2
MKAR LR LR 01 36 49.6
comp=Z,61µm,21.2s,baz=142,slow=40
MKAR ScP **ScP 01 37 36.4 +1.4**
baz=132,slow=1.8,SNR=5.1
KHON Khomkaen 17.69 160 P **P 01 29 23.8 +0.2**
comp=Z,70nm,1.0s,comp=Z,965nm
KSH Kashi 17.69 297 P **P 01 29 24.8 +1.1**
KSH PP **PnPn 01 29 39.6 +6.3**
KSH S **Sn 01 32 40.8 +0.9**
KSH SS **SnSn 01 33 02.8 +10**
KSH PcP **PcP 01 34 04.3 +3.3**
KSH PMZ
comp=Z,910nm,2.0s
KSH PMZ
comp=Z,2µm,3.1s
KSH LN
comp=Z,66µm,9.3s
KSH LE
comp=Z,69µm,12.6s
KSH LZ
comp=Z,134µm,14.3s
UTHA Uthaitani 17.72 171 P **P 01 29 24.3 +0.4**
comp=Z,82nm,1.2s,comp=Z,1µm
GZH Guangzhou 17.91 120 P **Pn 01 29 23.8 -1.6**
GZH S Sn 01 32 32.8 -12
GZH LN
comp=Z,68µm,8.3s
GZH LE
comp=Z,42µm,9.7s
ZAK Zakamensk 17.93 14⇑ *i*P **Pn 01 29 24.3 -1.4**
ZAK pmax pmax
comp=Z,120nm,2.0s
HVS Khovu-Aksy 18.09 354 *ce*P **P 01 29 27.8 -0.1**
HVS pmax pmax
comp=Z,2µm,1.7s
HVS Khovu-Aksy 18.09 354 *ce*P **P 01 29 27.8 -0.1**
HVS pmax pmax
comp=Z,2µm,1.7s
AAA Alma-Ata 18.34 309 *e*P **P 01 29 33.9 +3.1**
AAA *e*S **S 01 32 58.5 -1.7**
AAA pmax pmax
comp=Z,18µm,3.1s
AAA smax smax
comp=E,32µm,9.1s
AAA MLR MLR
comp=Z,88µm,16.0s
CHLP Challavanipeta 18.36 220 *e*P **P 01 29 31.4 +0.4**
CHLP IAmb IAmb 01 29 35.0
comp=Z,80nm,1.0s
CHLP *e*Sn **Sn 01 32 49.8 -6.1**
CHLP *e*S **S 01 32 59.7 -0.9**
CHLP IAMs_20 IAMs_20 01 36 19.2
comp=Z,33µm,14.6s
ULHL Ulahol 18.38 305 P **P 01 29 31.8 +0.4**
SNR=118
ULHL Ulahol 18.38 305 *i*P **P 01 29 31.8 +0.4**
QIZ Qiongzhong 18.45 136 P **Pn 01 29 32.4 +0.3**
QIZ sP **sP 01 29 39.8 +2.7**
QIZ PP **PnPn 01 29 44.8 +1.0**
QIZ S **S 01 33 00.8 -1.8**
QIZ PMZ
comp=Z,420nm,1.4s
QIZ PMZ
comp=Z,4µm,10.2s
QIZ LN
comp=Z,155µm,13.0s
QIZ LE
comp=Z,87µm,14.5s
QIZ LZ
comp=Z,145µm,12.4s
QIZ Qiongzhong 18.45 136 *e*P **P 01 29 32.0 0.0**
comp=Z,946nm,1.4s
MOY Mondy 18.80 9 *e*P **Pn 01 29 36.5 +0.3**
MOY *e* 01 33 16.8
MOY pmax pmax
comp=Z,802nm,3.6s
MOY Mondy 18.80 9 *e*P **Pn 01 29 36.5 +0.3**
MOY pmax pmax
comp=Z,802nm,3.6s
SRDT SRDT 18.87 172 P **Pn 01 29 37.4 +0.2**
comp=Z,2µm,1.4s,comp=Z,39µm
NJ2 Nanjing 18.87 87 *e*P **Pn 01 29 37.8 +0.7**
NJ2 pP **pP 01 29 44.6 +4.6**
NJ2 sP *sP* 01 29 48.9 +7.3
NJ2 S **S 01 33 12.0 +1.0**
NJ2 PMZ
comp=Z,470nm,1.5s
NJ2 PMZ
comp=Z,14µm,8.6s
KZA Kyzart 19.00 304 P **Pn 01 29 40.6 +1.5**
SNR=15
KZA Kyzart 19.00 304 *i*P **Pn 01 29 40.6 +1.5**
TKM2 Tokmak 2 19.09 307 P **Pn 01 29 40.7 +0.8**
SNR=90
TKM2 Tokmak 2 19.09 307 P **Pn 01 29 40.4 +0.5**
TKM2 pmax pmax
comp=Z,156nm,1.3s
TKM2 Tokmak 2 19.09 307 *e*Pn **Pn 01 29 40.3 +0.5**
comp=Z,3µm,2.3s
TLY Talaya 19.24 14 P **P 01 29 40.0 -0.5**
comp=Z,383nm,1.9s,SNR=47
TLY Talaya 19.24 14 *c*/P **P 01 29 40.3 -0.2**
TLY 01 35 21.4
TLY pmax pmax
comp=Z,274nm,2.2s
TLY Talaya 19.24 14 *c*/P **P 01 29 40.3 -0.2**
TLY *i* S **Sn 01 33 14.3 -2.6**
TLY pmax pmax
comp=Z,274nm,2.2s
TLY MLR MLR
comp=Z,39µm,15.0s
TLY Talaya 19.24 14 P **P 01 29 38.8 -1.7**
comp=Z,0.0nm,0.3s,baz=203,slow=12,SNR=22
TLY S **S 01 33 22.5 +4.4**
comp=Z,0.0nm,0.3s,baz=162,slow=20,SNR=2.0
TLY LR LR 01 37 38.7
comp=Z,30µm,21.3s,baz=189,slow=39
TLY Talaya 19.24 14 P **Pn 01 29 41.0 -0.4**
SNR=77
TLY Talaya 19.24 14 P **P 01 29 38.8 -1.7**
TLY *e*Pn **Pn 01 29 40.8 -0.7**
TLY S **S 01 33 22.5 +4.4**
NAYO Nakonayok 19.26 166 P **Pn 01 29 42.3 +0.4**
comp=Z,251nm,2.0s,comp=Z,9µm
VIS Vishakhapatnam 19.39 221 *i*P **P 01 29 39.9 -2.5**
VIS *i* S **Sn 01 33 20.3 -0.7**
VIS *i* S **S 01 33 22.2 +0.7**
KBK Karagaybulak 19.42 305 P **Pn 01 29 44.5 +0.6**
SNR=72
KBK Karagaybulak 19.42 305 *i*P **Pn 01 29 44.5 +0.6**
BHPL Bhopal 19.46 244 *e*P **P 01 29 41.1 -2.0**
BHPL AMB AMB 01 29 45.9
comp=Z,435nm,2.5s
NGP Nagpur 19.55 237 *e*P **P 01 29 43.9 -0.2**
NGP *ex* x 01 29 59.2
comp=Z,381nm,1.5s
NGP *e*S **Sn 01 33 27.5 +2.6**
UBPT Khong Chiam 19.57 153 P **P 01 29 44.9 +0.7**
comp=Z,915nm,1.5s,comp=Z,16µm
UCH Uchtor 19.57 304 P **Pn 01 29 46.4 +0.5**
SNR=116
UCH Uchtor 19.57 304 *i*P **Pn 01 29 46.4 +0.5**
SFK Sufi-Kurgan 19.66 297 P **Pn 01 29 46.5 -0.3**
SFK pmax pmax
comp=Z,468nm,1.1s
CHMS Chumysh 19.69 306 P **Pn 01 29 48.7 +1.8**
SNR=63
FRU Bishkek 19.72 306⇑ *i*P **Pn 01 29 47.0 -0.3**
FRU *e*S **Sn 01 33 31.0 +2.4**
FRU pmax pmax
comp=Z,5µm,2.8s
AAK Ala-Archa 19.73 305 Pn **Pn 01 29 47.3 -0.2**
comp=Z,2µm,2.0s
AAK Ala-Archa 19.73 305 P **Pn 01 29 48.0 +0.4**
SNR=123
AAK Ala-Archa 19.73 305⇑ *e*P **Pn 01 29 47.8 +0.3**
AAK pmax pmax
comp=Z,2µm,2.2s

AAK Ala-Archa 19.73 305 P **Pn 01 29 47.9 +0.4**
comp=Z,3.6nm,0.3s,baz=104,slow=7.2,SNR=88
AAK S **Sn 01 33 31.4 +2.4**
baz=343,slow=19,SNR=1.6
AAK LR LR 01 38 20.7
comp=Z,85µm,19.2s,baz=99,slow=40
AAK Ala-Archa 19.73 305 P **Pn 01 29 48.2 +0.7**
SNR=164
AAK Ala-Archa 19.73 305 *e*Pn **Pn 01 29 47.9 +0.4**
comp=Z,900nm,1.5s
AAK S **Sn 01 33 31.4 +2.4**
IRK Irkutsk 19.90 14 *e*P **P 01 29 47.8 +0.1**
IRK pmax pmax
comp=Z,860nm,1.9s
IRK Irkutsk 19.90 14 *e*P **P 01 29 47.8 +0.1**
IRK pmax pmax
comp=Z,860nm,1.9s
USP Ospenovka 19.96 307 P **Pn 01 29 49.4 -0.8**
SNR=92
USP Ospenovka 19.96 307 *i*P **Pn 01 29 49.3 -0.8**
AML Almayashu 20.11 303 P Pn 01 29 51.6 -0.8
SNR=84
AML Almayashu 20.11 303 *i*P Pn 01 29 51.6 -0.8
DGPR DIGLÍPUR 20.14 190 *e*P **P 01 29 50.1 -0.4**
DGPR AMB AMB 01 29 55.9
comp=Z,824nm,0.0s
EKS2 Erkin-Say 20.23 305 P Pn 01 29 53.2 -0.3
SNR=96
EKS2 Erkin-Say 20.23 305 *i*P Pn 01 29 53.1 -0.4
EKS2 Erkin-Say 20.23 305 *e*Pn Pn 01 29 53.1 -0.4
comp=Z,3µm,2.5s
EKS2 LR LR
comp=Z,96µm,19.0s
PHET Kaeng Krachan 20.35 171 P Pn 01 29 54.0 -0.8
comp=Z,608nm,1.4s,comp=Z,7µm
QZH Quanzhou 20.95 107⇑ *i*P **P 01 30 00.3 +1.0**
QZH S **S 01 33 52.8 +0.2**
QZH PMZ
comp=Z,760nm,1.0s
QZH LZ
comp=Z,177µm,10.6s
RPR Rampur 20.97 231 *e*P **P 01 29 58.9 -0.5**
RPR *ep*P Pn 01 30 01.2 -0.9
RPR IAmb IAmb 01 30 02.0
comp=Z,393nm,1.3s
RPR *e*S **S 01 33 47.9 -5.1**
RPR IAMs_20 IAMs_20 01 38 04.0
comp=Z,84µm,12.5s
CHBT CHBT 20.99 164 P **P 01 30 01.1 +1.4**
comp=Z,896nm,1.6s,comp=Z,13µm
SSE Sheshan 21.01 89 P **P 01 29 59.9 +0.1**
SSE pP **pP 01 30 02.8 -0.5**
SSE S **S 01 33 54.0 +0.4**
SSE sS **sS 01 33 58.8 -0.4**
SSE PMZ
comp=Z,220nm,1.1s
SSE PMZ
comp=Z,5µm,11.4s
SSE LN
comp=Z,40µm,9.2s
SSE LE
comp=Z,53µm,9.2s
SSE LZ
comp=Z,76µm,13.8s
MNAS Manas 21.06 303 P **P 01 30 01.5 +1.0**
MNAS pmax pmax
comp=Z,860nm,1.6s
DL2 Dalian 21.10 67 P **P 01 30 00.8 +0.1**
DL2 S **S 01 33 55.9 +0.6**
DL2 PMZ
comp=Z,230nm,1.8s
DL2 PMZ
comp=Z,5µm,4.9s
DL2 LN
comp=Z,20µm,11.1s
DL2 LE
comp=Z,40µm,15.2s
DL2 LZ
comp=Z,57µm,15.7s
PBA Port Blair 21.67 190 *e*P P 01 30 05.7 -1.3
PBA AMB AMB 01 30 14.7
comp=Z,515nm,0.8s
KURBB Kurchatov Arra 21.89 328 P **P 01 30 08.9 -0.3**
comp=Z,347nm,1.1s,baz=140,slow=11,SNR=133
KURBB S **S 01 34 11.1 +0.4**
comp=Z,25nm,1.3s,baz=136,slow=19,SNR=3.5
KURBB ScP **ScP 01 37 46.3 +1.1**
comp=Z,20nm,1.2s,baz=137,slow=1.6,SNR=5.8
KURK Kurchatov 21.92 328 P **P 01 30 08.7 -0.8**
comp=Z,2µm,1.2s
KURK Kurchatov 21.92 328 *e*P **P 01 30 08.2 -1.2**
KURK S **S 01 34 11.1 -0.1**
KURK pmax pmax
comp=Z,1µm,1.3s
KURK MLR MLR
comp=Z,157µm,20.0s
KURK Kurchatov 21.92 328 P **P 01 30 08.9 -0.5**
SNR=139
KURK Kurchatov 21.92 328 *e*P **P 01 30 08.2 -1.2**
comp=Z,1µm,1.3s
KURK S **S 01 34 11.1 -0.1**
KURK ScP **ScP 01 37 46.3 +1.0**
KURK LR LR
comp=Z,157µm,20.0s
ZALV Zalesovo Beam 22.39 342 P **P 01 30 13.5 -1.0**
ZALV pmax pmax
comp=Z,92nm,0.9s
ZALV MLR MLR
comp=Z,30µm,20.7s
ZALV Zalesovo Beam 22.39 342 P **P 01 30 13.5 -1.0**
comp=Z,92nm,0.9s,baz=157,slow=8.0,SNR=34
ZALV LR LR 01 39 31.9
comp=Z,30µm,20.7s,baz=156,slow=38
HYB Hyderabad 22.49 230 *i*P **P 01 30 14.5 -1.4**
HYB *e*S **S 01 34 20.0 -2.6**
HYB LR LR 01 39 04.0
comp=Z,61nm,12.0s
HYB Hyderabad 22.49 230 *e*P **P 01 30 15.4 -0.6**
HYB AMB AMB 01 30 18.5
comp=Z,163nm,12.2s
HYBB Hyderabad (bro 22.49 230 *e*P **P 01 30 14.8 -1.1**
HYBB IAmb IAmb 01 30 20.0
comp=Z,118nm,1.2s
HYBB *e*sP **sP 01 30 22.5 +1.6**
HYBB *e*PnPn **PnPn 01 30 36.6 -2.5**
HYBB *e*S **S 01 34 19.1 -3.6**
HYBB IAMs_20 IAMs_20 01 38 57.5
comp=Z,64µm,12.7s
CIT Chita 22.56 28 *e*P **P 01 30 17.6 +1.2**
CIT pmax pmax
comp=Z,239nm,2.4s
CIT Chita 22.56 28 *e*P **P 01 30 17.6 +1.2**
CIT *e* 01 30 45.7
CIT pmax pmax
comp=Z,239nm,2.4s
KK31 Karatay Array 22.64 304 P **P 01 30 16.8 -0.6**
KK31 pmax pmax
comp=Z,659nm,1.4s
KKAR Karatay Array 22.64 304 *e*P **P 01 30 17.3 -0.1**
KKAR Karatay Array 22.64 304 *e*P **P 01 30 17.2 -0.1**
NJS Nagarjunasagar 22.66 227 *e*P **P 01 30 16.6 -1.1**
NJS *es*P **sP 01 30 24.4 +1.7**
NJS IAmb IAmb 01 30 26.2
comp=Z,115nm,1.1s
NJS *e*PnPn **PnPn 01 30 39.4 -2.1**
NJS *e*S **S 01 34 25.3 -0.4**
NJS IAMs_20 IAMs_20 01 39 09.2
comp=Z,39µm,14.8s
KBL Kabul 22.82 281 *e*P **P 01 30 18.6 -0.8**
KBL pmax pmax
comp=Z,2µm,1.3s
KBL Kabul 22.82 281 *e*P **P 01 30 18.6 -0.8**
comp=Z,2µm,1.3s
KRAR Krasnoyarsk 23.00 355⇓ *e*P **P 01 30 21.7 +0.8**
KRAR pmax pmax
comp=Z,726nm,1.7s
SNY Shenyang 23.10 60⇓ P **P 01 30 21.3 -0.8**
SNY S **S 01 34 34.3 +1.3**
SNY PMZ
comp=Z,170nm,2.1s
SNY LN
comp=Z,38µm,11.1s
SNY LE
comp=Z,40µm,15.3s
SNY LZ
comp=Z,44µm,12.3s

LATR	**Latur**	**23.12**	**236**	*ex*		**P**	**01 30 22.0**	**-0.4**
TATO	**Taipei**	**23.28**	**104**	PFAKE			01 30 40.0	+16
TATO				LR	LR			
	comp=Z,12µm,20.0s							
YHNB	**Yeheng**	**23.32**	**105**	*e*P		**P**	**01 30 24.3**	**-0.2**
	comp=Z,396nm,1.3s							
YHNB				LR	LR			
	comp=Z,9µm,19.0s							
SSLB	**Suanglung**	**23.40**	**107**	*e*P		**P**	**01 30 24.8**	**-0.5**
	comp=Z,100nm,1.0s							
KSBAR	**Backryungdo**	**23.42**	**70**	P		**P**	**01 30 26.6**	**+1.4**
	SNR=15							
OTUK	**Ortayu**	**23.58**	**317**	P		**P**	**01 30 27.5**	**+0.6**
OTUK				pmax	pmax			
	comp=Z,656nm,1.4s							
NVS	**Novosibirsk**	**23.61**	**341**	*e*P		**P**	**01 30 24.2**	**-2.8**
NVS				*e*S		S	01 34 30.3	-11
NVS				pmax	pmax			
	comp=Z,2µm,2.2s							
NVS				pmax	pmax			
	comp=N,1µm,2.0s							
NVS				pmax	pmax			
	comp=E,964nm,2.3s							
HIA	**Hailar**	**23.63**	**40**	*e*P		**P**	**01 30 27.9**	**+0.5**
	comp=E,790nm,1.8s							
HIA				LR	LR			
	comp=E,27µm,19.0s							
NACB	**Ninganchiao**	**23.73**	**106**	*e*P		**P**	**01 30 28.8**	**+0.3**
	comp=Z,825nm,1.5s							
YULB	**Yu-li**	**23.86**	**108**	*e*P		**P**	**01 30 30.3**	**+0.5**
	comp=Z,136nm,1.3s							
TWG	**Pinlang**	**23.97**	**109**	*e*P		**P**	**01 30 31.5**	**+0.7**
	comp=Z,1µm,1.3s							
SURA	**Surathani**	**24.04**	**172**	P		**P**	**01 30 32.6**	**+1.1**
	comp=Z,317nm,2.0s,comp=Z,7µm							
KSHUK	**Heuksando**	**24.05**	**78**	P		**P**	**01 30 32.1**	**+0.7**
	SNR=5.9							
SURT	**Suratani**	**24.17**	**174**	P		**P**	**01 30 33.9**	**+1.3**
	comp=Z,225nm,2.0s,comp=Z,6µm							
SKHT	**Srikalahasti**	**24.64**	**222**	*e*P		**P**	**01 30 37.2**	**+0.3**
SKHT				*ep*P		**pP**	**01 30 39.0**	**-1.6**
SKHT				IAmb	IAmb		01 30 40.4	
	comp=Z,74nm,1.5s							
SKHT				*e*S		**S**	**01 35 00.4**	**+2.3**
SKHT				IAMs_20	IAMs_20		01 40 13.8	
	comp=Z,19µm,15.2s							
KSSES	**Seosan**	**24.77**	**73**	P		**P**	**01 30 38.4**	**+0.4**
	SNR=8.7							
KSGAH	**Ganghwa**	**24.77**	**71**	P		**P**	**01 30 38.4**	**+0.4**
	SNR=10							
INCN	**Inchon**	**24.92**	**71**	P		**P**	**01 30 40.4**	**+1.0**
	SNR=9.6							
INCN	**Inchon**	**24.92**	**71**	*e*P		**P**	**01 30 38.9**	**-0.5**
	comp=Z,1µm,2.1s							
INCN				LR	LR			
	comp=Z,56µm,22.0s							
CN2	**Changchun**	**24.92**	**56**	⇓P		**P**	**01 30 39.3**	**0.0**
CN2				*ep*P		**pP**	**01 30 44.9**	**+1.9**
CN2				*es*P		**sP**	**01 30 48.0**	**+3.4**
CN2				*e*PP		**PnPn**	**01 31 16.6**	**+4.5**
CN2				*e*S		**S**	**01 34 59.0**	**-3.4**
CN2				SS		**SnSn**	**01 35 55.0**	**+4.7**
CN2				PMZ				
	comp=Z,40nm,1.1s							
CN2				PMZ				
	comp=Z,200nm,3.0s							
CN2				LN				
	comp=Z,58µm,10.0s							
CN2				LE				
	comp=Z,42µm,10.0s							
CN2				LZ				
	comp=Z,59µm,11.0s							
POO	**Poona**	**24.97**	**240**	⇑*i*PS		**P**	**01 30 38.0**	**-2.0**
	comp=Z,227nm,1.2s							
POO				*e*P		**pP**	**01 30 39.3**	**-4.4**
POO				AMB	AMB		01 30 43.4	
	comp=Z,164nm,1.3s							
KSGUS	**GUNSAN**	**25.06**	**75**	P		**P**	**01 30 39.7**	**-0.8**
	SNR=13							
KSMOK	**Mokpo**	**25.10**	**78**	P		**P**	**01 30 42.5**	**+1.4**
	SNR=7.4							
KSWAN	**Wando**	**25.11**	**79**	P		**P**	**01 30 42.6**	**+1.6**
	SNR=6.0							
KSSEO	**Seoul**	**25.15**	**71**	P		**P**	**01 30 42.4**	**+1.0**
	SNR=10.0							
URV	**Uravakonda**	**25.16**	**228**	*e*P		**P**	**01 30 42.3**	**+0.6**
URV				*es*P		**sP**	**01 30 45.1**	**-1.7**
URV				IAmb	IAmb		01 30 45.5	
	comp=Z,124nm,1.2s							
URV				*e*S		**S**	**01 35 03.2**	**-3.4**
URV				IAMs_20	IAMs_20		01 39 58.0	
	comp=Z,45µm,12.4s							
KSSWO	**Suwon**	**25.18**	**72**	P		**P**	**01 30 42.0**	**+0.2**
	SNR=9.5							
PKDT	**Phuket**	**25.19**	**176**	P		**P**	**01 30 44.1**	**+2.2**
	comp=Z,272nm,2.0s,comp=Z,8µm							
KSJEU	**Jeongeup**	**25.20**	**76**	P		**P**	**01 30 42.0**	**+0.1**
	SNR=7.5							
KSDDC	**Dongducheon**	**25.26**	**70**	P		**P**	**01 30 42.7**	**+0.2**
	SNR=5.6							
KSJEO	**Jeonju**	**25.47**	**75**	P		**P**	**01 30 44.6**	**+0.2**
	SNR=5.2							
TJN	**Taejon**	**25.51**	**74**	*i* P		**P**	**01 30 44.9**	**+0.2**
KSICN	**Icheon**	**25.54**	**72**	P		**P**	**01 30 44.9**	**-0.1**
	SNR=18							
BHJ	**Bhuj**	**25.56**	**254**	*e*P		**P**	**01 30 44.8**	**-0.4**
BHJ				AMB	AMB		01 30 49.2	
	comp=Z,285nm,0.4s							
KSCWO	**Cheorwon**	**25.63**	**70**	P		**P**	**01 30 46.9**	**+1.0**
	SNR=6.5							
KSBON	**Boeun**	**25.86**	**74**	P		**P**	**01 30 48.9**	**+1.0**
	SNR=7.1							
KSCHC	**Chuncheon**	**25.86**	**71**	P		**P**	**01 30 49.2**	**+1.3**
	SNR=6.2							
KSAR	**Wonju Array Be**	**25.91**	**72**	P		**P**	**01 30 47.7**	**-0.7**
KSAR	**Wonju Array Be**	**25.91**	**72**	P		**P**	**01 30 47.6**	**-0.7**
KSRS	**Korea Array**	**25.95**	**72**	P		**P**	**01 30 47.7**	**-1.0**
KSRS				pmax	pmax			
	comp=Z,43nm,0.9s							
KSRS				MLR	MLR			
	comp=Z,28µm,21.5s							
KSRS	**Korea Array**	**25.95**	**72**	P		**P**	**01 30 47.6**	**-1.0**
	comp=Z,43nm,0.9s,baz=263,slow=7.9,SNR=44							
KSRS				LR	LR		01 41 37.5	
	comp=Z,28µm,21.5s,baz=298,slow=38							
KSCHJ	**Chungju**	**25.99**	**73**	P		**P**	**01 30 50.0**	**+0.9**
	SNR=7.0							
KSWJU	**Wonju**	**26.05**	**72**	P		**P**	**01 30 51.2**	**+1.6**
	SNR=10							
KSIJA	**INJE**	**26.10**	**70**	P		**P**	**01 30 50.1**	**+0.1**
	SNR=13							
SKLT	**Songkhla**	**26.13**	**171**	P		**P**	**01 30 51.9**	**+1.4**
	comp=Z,237nm,2.0s,comp=Z,5µm							
SEHB	**SEOHWA**	**26.22**	**70**	P		**P**	**01 30 52.6**	**+1.4**
	SNR=6.1							
GOA	**Goa**	**27.02**	**235**	*e*P		**P**	**01 30 57.8**	**-0.7**
GOA				AMB	AMB		01 31 01.9	
	comp=Z,35nm,1.2s							
GOA				*ex*		x	01 35 51.6	
BVA0	**Borovoye Array**	**27.28**	**325**	*i* P		**P**	**01 30 59.6**	**-0.9**
BVA0				pmax	pmax			
	comp=Z,89nm,1.5s							
BVAR	**Borovoye Array**	**27.28**	**325**	P		**P**	**01 31 00.4**	**-0.1**
BVAR				pmax	pmax			
	comp=Z,37nm,1.1s							
BVAR				pmax	pmax			
	comp=N,12nm,1.0s							
BVAR				MLR	MLR			
	comp=Z,70µm,20.6s							
BVAR	**Borovoye Array**	**27.28**	**325**	P		**P**	**01 31 00.4**	**-0.1**
	comp=Z,37nm,1.1s,baz=124,slow=7.9,SNR=44							
BVAR				ScP		**ScP**	**01 38 00.7**	**+0.5**
	comp=Z,12nm,1.0s,baz=113,slow=3.9,SNR=7.2							
BVAR				LR	LR		01 42 56.4	
	comp=Z,70µm,20.6s,baz=126,slow=39							
BRVK	**Borovoye**	**27.35**	**325**	P		**P**	**01 31 01.5**	**+0.4**
	comp=Z,492nm,1.2s,SNR=27							
BOD	**Bodaibo**	**27.39**	**20**	*e*P		**P**	**01 31 00.8**	**-0.7**
BOD				pmax	pmax			
	comp=Z,47nm,1.9s							
KULM	**Kulim**	**27.99**	**171**	⇑P		**P**	**01 31 09.0**	**+1.8**
MDJ	**Mudanjiang**	**28.01**	**56**	P		**P**	**01 31 07.5**	**+0.3**
MDJ				PcP		**PcP**	**01 34 22.1**	**+0.2**
MDJ				ScP		**ScP**	**01 38 00.8**	**-1.8**
MDJ				PMZ				
	comp=Z,33nm,1.4s							
MDJ				PMZ				
	comp=Z,3µm,10.9s							
MDJ				LN				
	comp=Z,59µm,13.6s							
MDJ				LE				
	comp=Z,18µm,14.5s							
MDJ				LZ				
	comp=Z,35µm,13.1s							
MDJ	**Mudanjiang**	**28.01**	**56**	*e*P		**P**	**01 31 06.9**	**-0.2**
	comp=Z,177nm,1.9s							
MDJ				LR	LR			
	comp=Z,33µm,21.0s							
KTGM	**Kuala Trenggan**	**28.36**	**166**	⇑P		**P**	**01 31 12.4**	**+1.9**
JNU	**Nakatsue**	**28.72**	**80**	P		**P**	**01 31 13.8**	**+0.1**
	comp=Z,39nm,1.0s,baz=279,slow=8.0,SNR=13							
JNU				LR	LR		01 43 36.0	
	comp=Z,26µm,20.2s,baz=282,slow=38							
JNU	**Nakatsue**	**28.72**	**80**	*e*P		**P**	**01 31 14.0**	**+0.3**
	comp=Z,389nm,2.1s							
IPM	**Ipoh**	**28.84**	**171**	⇑P		**P**	**01 31 15.4**	**+0.6**
VLA	**Vladivostok**	**29.38**	**60**	⇓*i*P		**P**	**01 31 19.1**	**-0.2**
VLA				*e*			01 32 12.4	
VLA				S		**S**	**01 36 11.9**	**-0.8**
VLA				pmax	pmax			
	comp=Z,518nm,3.2s							
USRK	**Ussuriysk Ar.**	**29.62**	**58**	P		**P**	**01 31 22.3**	**+0.8**
	comp=Z,7.4nm,1.0s,baz=245,slow=8.2,SNR=5.7							
USRK				PcP		**PcP**	**01 34 26.6**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=235,slow=1.5,SNR=4.7							
USRK				LR	LR		01 44 34.9	
	comp=Z,23µm,18.2s,baz=252,slow=39							
PALK	**Pallekele**	**29.62**	**213**	*e*P		**P**	**01 31 23.2**	**+1.4**
PALK				pmax	pmax			
	comp=Z,48nm,1.5s							
PALK	**Pallekele**	**29.62**	**213**	P		**P**	**01 31 24.2**	**+2.4**
	comp=Z,35nm,0.8s,baz=26,slow=7.7,SNR=7.6							
PALK				LR	LR		01 43 57.9	
	comp=Z,37µm,20.8s,baz=36,slow=38							
PALK	**Pallekele**	**29.62**	**213**	*e*P		**P**	**01 31 23.2**	**+1.4**
	comp=Z,48nm,1.5s							
FRIM	**Kepong**	**30.14**	**170**	⇑P		**P**	**01 31 27.6**	**+1.3**
IDAH	**Dahanechah**	**30.64**	**279**	*e*P		**P**	**01 31 31.6**	**+0.6**
CLNS	**Chul'man**	**30.66**	**31**	*e*P		**P**	**01 31 31.3**	**+0.7**
CLNS				pmax	pmax			
	comp=N,10.0nm,1.1s							
CLNS				pmax	pmax			
	comp=Z,16nm,0.9s							
CLNS				MLR	MLR			
	comp=E,18µm,13.0s							
CLNS				MLR	MLR			
	comp=N,10µm,9.0s							
CLNS				MLR	MLR			
	comp=Z,27nm,12.0s							
KLR	**Kul'dur**	**30.68**	**48**	*e*P		P	01 31 24.2	-6.6
KLR				pmax	pmax			
	comp=E,240nm,1.8s							
KLR				pmax	pmax			
	comp=Z,280nm,1.8s							
IKOO	**Kooshah**	**31.41**	**279**	*e*P		**P**	**01 31 37.7**	**-0.1**
GEYT	**Alibeck**	**31.43**	**290**	P		**P**	**01 31 38.3**	**+0.7**
	comp=Z,35nm,1.1s,baz=114,slow=6.6,SNR=28							
GEYT				LR	LR		01 46 31.7	
	comp=Z,28µm,19.3s,baz=90,slow=41							
AB31	**Akbulak array**	**31.49**	**312**	*i* P		**P**	**01 31 37.8**	**-0.1**
AB31				pmax	pmax			
	comp=Z,213nm,1.6s							
ABKAR	**Akbulak array**	**31.49**	**312**	*e*P		**P**	**01 31 38.2**	**+0.3**
	comp=Z,60nm,1.1s							
ITEG	**Tejag**	**31.53**	**280**	*e*P		**P**	**01 31 38.6**	**-0.1**
MYKOM	**Kota Tinggi**	**31.95**	**166**	⇑P		**P**	**01 31 44.3**	**+2.1**
KDM	**Kudat**	**32.22**	**140**	⇓P		P	01 31 47.9	+3.3
HABR	**Khabarovsk**	**32.56**	**50**	*de*P		**P**	**01 31 45.6**	**-1.8**
HABR				*e**SP		**sP**	**01 31 50.0**	**-2.6**
HABR				*e*			01 32 52.8	
HABR				*e*			01 34 31.7	
HABR				*e*S		**S**	**01 37 01.7**	**-0.8**
HABR				*e**SS		**sS**	**01 37 06.8**	**-1.8**
HABR				*e*SS		**SnSn**	**01 38 55.8**	**-0.6**
HABR				*e*			01 42 15.5	
HABR				pmax	pmax			
	comp=E,99nm,1.1s							
HABR				pmax	pmax			
	comp=Z,51nm,1.1s							
HABR				pmax	pmax			
	comp=N,75nm,1.8s							
HABR				pmax	pmax			
	comp=Z,1µm,3.7s							
HABR				MLR	MLR			
	comp=N,22µm,11.0s							
HABR				MLR	MLR			
	comp=E,41µm,12.0s							
HABR				MLR	MLR			
	comp=Z,48µm,12.0s							
KKM	**Kota Kinabalu**	**32.62**	**141**	⇑P		**P**	**01 31 50.6**	**+2.4**
BKNI	**Bangkinang**	**32.93**	**172**	*e*P		**P**	**01 31 51.7**	**+0.9**
	comp=Z,925nm,1.8s							
AKTO	**Aktyubinsk**	**33.02**	**313**	P		**P**	**01 31 50.8**	**-0.6**
AKTO				pmax	pmax			
	comp=Z,142nm,1.4s							
AKTO	**Aktyubinsk**	**33.02**	**313**	P		**P**	**01 31 51.8**	**+0.3**
	comp=Z,53nm,1.1s,baz=109,slow=8.8,SNR=52							
AKTO				LR	LR		01 45 56.4	
	comp=Z,25µm,20.9s,baz=113,slow=38							
SDKM	**Sandakan**	**33.48**	**140**	⇑P		**P**	**01 31 58.3**	**+2.6**
SBUM	**Sibu**	**33.91**	**151**	⇑P		**P**	**01 32 02.4**	**+3.0**
MAJO	**Matsushiro**	**34.21**	**72**	*e*P		**P**	**01 32 01.1**	**-0.8**
MAJO				pmax	pmax			
	comp=Z,105nm,1.7s							
MAJO				MLR	MLR			
	comp=Z,22µm,19.0s							
MAJO	**Matsushiro**	**34.21**	**72**	*e*P		**P**	**01 32 01.1**	**-0.8**
	comp=Z,105nm,1.7s							
MAJO				LR	LR			
	comp=Z,22µm,19.0s							
MAT	**Matsushiro**	**34.21**	**72**	P		**P**	**01 32 01.0**	**-1.0**
MJAR	**Matsushiro Arr**	**34.22**	**72**	P		**P**	**01 32 01.2**	**-0.7**
	comp=Z,6.1nm,1.0s,baz=275,slow=9.2,SNR=8.5							
MJAR				PcP		**PcP**	**01 34 40.5**	**+2.0**
	comp=Z,7.1nm,0.9s,baz=274,slow=2.1,SNR=7.7							
MJAR				LR	LR		01 47 23.7	
	comp=Z,18µm,18.4s,baz=280,slow=39							
IBAF	**Bafgh**	**34.45**	**279**	*e*P		**P**	**01 32 03.9**	**-0.3**
ARU	**Arti**	**34.90**	**323**	P		**P**	**01 32 07.2**	**-0.4**
	comp=Z,948nm,1.4s,SNR=58							
ARU	**Arti**	**34.90**	**323**	*c i*P		**P**	**01 32 07.4**	**-0.2**
ARU							01 33 21.5	
ARU				PPP	PPP		01 33 40.2	
ARU							01 34 37.8	
ARU				S		**S**	**01 37 39.6**	**+1.1**
ARU				SS		**SnSn**	**01 39 49.4**	**-3.4**
ARU				pmax	pmax			
	comp=Z,433nm,1.7s							
ARU				MLR	MLR			
	comp=Z,39µm,19.0s							
ARU	**Arti**	**34.90**	**323**	*e*P		**P**	**01 32 07.5**	**-0.2**
	comp=Z,543nm,1.5s							
ARU				LR	LR			
	comp=Z,44µm,20.0s							
TSM	**Tawau**	**34.97**	**141**	⇑P		**P**	**01 32 11.4**	**+2.9**
SMDO	**Samad**	**35.20**	**263**	P		**P**	**01 32 11.1**	**+0.4**
	SNR=9.9							
ICHK	**Chekchek**	**35.26**	**280**	*e*P		**P**	**01 32 11.6**	**+0.4**
IMEH	**Mehriz**	**35.28**	**279**	*e*P		**P**	**01 32 11.0**	**-0.5**
YAK	**Yakutsk**	**35.81**	**26**	*e*P		**P**	**01 32 14.5**	**-0.8**
YAK				*e**PP		**pP**	**01 32 23.0**	**+3.9**
YAK				*e*			01 33 35.1	
YAK				*e*PPP	PPP		01 33 49.4	
YAK				*e*			01 34 41.1	
YAK				*e*S		**S**	**01 37 52.9**	**+0.6**
YAK				*e*SSS	SSS		01 40 45.0	
YAK				*e*			01 42 28.9	
YAK				pmax	pmax			
	comp=Z,42nm,1.0s							
YAK				pmax	pmax			
	comp=E,21nm,1.1s							
YAK				pmax	pmax			
	comp=N,16nm,1.0s							
YAK				pmax	pmax			
	comp=Z,171nm,2.3s							
YAK				pmax	pmax			
	comp=N,141nm,2.2s							
YAK				pmax	pmax			
	comp=E,145nm,2.3s							
YAK				smax	smax			
	comp=N,1µm,4.4s							
YAK				smax	smax			
	comp=E,2µm,3.8s							
YAK				MLR	MLR			
	comp=Z,17µm,14.0s							
YAK				MLR	MLR			
	comp=N,17µm,17.0s							
YAK				MLR	MLR			
	comp=E,12µm,15.0s							
YAK	**Yakutsk**	**35.81**	**26**	P		**P**	**01 32 15.0**	**-0.3**
	comp=E,44nm,0.7s,baz=233,slow=3.4,SNR=9.9							
YAK	**Yakutsk**	**35.81**	**26**	*e*P		**P**	**01 32 15.7**	**+0.3**
	comp=E,61nm,0.8s							
YAK				LR	LR			
	comp=Z,8µm,19.0s							
BSY	**Bisya**	**36.04**	**264**	P		**P**	**01 32 18.5**	**+0.6**
	SNR=18							
ASHO	**Ashiyiah**	**36.20**	**267**	*i* P		**P**	**01 32 20.4**	**+1.2**
	SNR=10							
ASHO	**Ashiyiah**	**36.20**	**267**	P		**P**	**01 32 20.1**	**+0.9**
	SNR=13							
ARQ	**Araqi**	**36.36**	**265**	P		**P**	**01 32 22.0**	**+1.5**
	SNR=9.7							
IZEF	**Zefreh**	**36.82**	**282**	*e*P		**P**	**01 32 24.7**	**0.0**
SOKR	**Solikamsk**	**37.16**	**327**	*c i*P		**P**	**01 32 26.0**	**-0.9**
SOKR				pmax	pmax			
	comp=Z,320nm,1.8s							
SOKR				MLR	MLR			
	comp=Z,39µm,18.0s							
ASAJ	**Asahikawa**	**37.20**	**59**	P		**P**	**01 32 25.9**	**-1.6**
ASAJ				pmax	pmax			
	comp=Z,12nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,25µm,18.5s							
ASAJ	**Asahikawa**	**37.20**	**59**	P		**P**	**01 32 25.9**	**-1.6**
	comp=Z,12nm,0.3s,baz=266,slow=13,SNR=4.8							
ASAJ				LR	LR		01 48 26.9	
	comp=Z,25µm,18.5s,baz=283,slow=38							
IKLH	**Kolahrood**	**37.34**	**283**	*e*P		**P**	**01 32 29.2**	**+0.1**
DAV	**Davao City (W)**	**37.42**	**127**	P		P	01 32 34.1	+4.4
	SNR=6.0							
DAV	**Davao City (W)**	**37.42**	**127**	PFAKE			01 32 40.0	+10
DAV				LR	LR			
	comp=Z,15µm,19.0s							
YSS	**Yuzh-Sakhalins**	**37.46**	**54**	⇑*e*P		**P**	**01 32 28.6**	**-1.0**
YSS				*i* *SP		**sP**	**01 32 30.6**	**-4.3**
YSS				*e*			01 32 37.2	
YSS				*e*S		**S**	**01 38 16.0**	**-1.8**
YSS				*e*SSS		SSS	01 41 14.0	
YSS				pmax	pmax			
	comp=Z,40nm,1.1s							
YSS				MLR	MLR			
	comp=Z,21µm,14.0s							
YSS				MLR	MLR			
	comp=N,24µm,12.0s							
YSS				MLR	MLR			
	comp=E,16µm,13.0s							
YSS	**Yuzh-Sakhalins**	**37.46**	**54**	*e*P		**P**	**01 32 28.9**	**-0.7**
	comp=E,347nm,1.6s							
YSS				LR	LR			
	comp=Z,10µm,22.0s							
ERM	**Erimo**	**37.63**	**63**	PFAKE			01 32 40.0	+8.9
ERM				LR	LR			
	comp=Z,13µm,19.0s							
IKAZ	**Kazeroun**	**38.02**	**277**	*e*P		**P**	**01 32 34.7**	**-0.3**
IPIR	**Pirpir**	**38.05**	**282**	*e*P		**P**	**01 32 33.2**	**-2.0**
MAK	**Makhachkala**	**39.31**	**299**	*e*P		**P**	**01 32 42.5**	**-2.7**
MAK				*e*			01 34 44.3	
MAK				*e*S		**S**	**01 38 44.2**	**-1.7**
MAK				*e*SS		**SS**	**01 41 34.1**	**-5.2**
MAK				*e*			01 42 49.1	
MAK				pmax	pmax			
	comp=Z,249nm,1.4s							
MAK				MLR	MLR			
	comp=Z,37µm,16.0s							
YUK	**Yuzh-Kuril'sk**	**39.56**	**59**	*i* P		**P**	**01 32 49.7**	**+2.4**
YUK				pmax	pmax			
	comp=N,161nm,1.2s							
YUK				pmax	pmax			
	comp=E,394nm,1.2s							
YUK				pmax	pmax			
	comp=Z,857nm,1.2s							
YUK				MLR	MLR			
	comp=Z,19µm,19.0s							
YUK				MLR	MLR			
	comp=N,21µm,19.0s							
YUK				MLR	MLR			
	comp=E,14µm,19.0s							
CBIJ	**Chichi jima**	**39.74**	**86**	P		**P**	**01 32 48.1**	**-0.9**
JCJ	**Chichijima**	**39.74**	**86**	P		**P**	**01 32 48.1**	**-1.0**
	comp=E,72nm,0.8s,baz=287,slow=20,SNR=2.3							
JCJ				LR	LR		01 50 36.4	
	comp=E,6µm,19.0s,baz=288,slow=38							
KUR	**Kuril'sk**	**40.96**	**57**	P		P	01 32 46.2	-13
KUR				MLR	MLR			
	comp=N,5µm,14.0s							
KUR				MLR	MLR			
	comp=E,16µm,14.0s							
KUR				MLR	MLR			
	comp=Z,10µm,14.0s							
RBK	**Rabkut**	**40.98**	**258**	P		**P**	**01 32 59.0**	**-0.4**
	SNR=7.0							
DGRG	**David-gareji**	**40.99**	**297**	P		**P**	**01 33 02.5**	**+3.2**
TBLG	**Delisi**	**41.44**	**297**	*e*P		**P**	**01 33 05.3**	**+2.4**
TBLG	**Delisi**	**41.44**	**297**	P		**P**	**01 33 04.8**	**+1.9**
GNI	**Garni**	**41.61**	**295**	⇑*e*P		**P**	**01 33 05.7**	**+1.2**
GNI				pmax	pmax			
	comp=Z,124nm,2.5s							
GNI				MLR	MLR			
	comp=Z,6µm,20.0s							
GNI	**Garni**	**41.61**	**295**	P		**P**	**01 33 06.8**	**+2.3**
	comp=Z,28nm,0.8s,baz=221,slow=5.6,SNR=8.5							
GNI				LR	LR		01 52 11.7	
	comp=Z,6µm,20.2s,baz=68,slow=39							
GNI	**Garni**	**41.61**	**295**	⇓*i*P		**P**	**01 33 07.1**	**+2.6**
	SNR=9.2							
GNI	**Garni**	**41.61**	**295**	*e*P		**P**	**01 33 02.8**	**-1.7**
	comp=Z,189nm,1.4s							
GNI				LR	LR			
	comp=Z,7µm,20.0s							
ABTO	**Aybut**	**41.80**	**259**	P		**P**	**01 33 05.6**	**-0.6**
	SNR=9.3							
ZEI	**Tsey**	**41.96**	**299**	*e*P		**P**	**01 33 07.0**	**-0.4**
ZEI				pmax	pmax			
	comp=Z,98nm,2.1s							
SMRI	**Semarang**	**42.12**	**159**	*e*P		**P**	**01 33 10.2**	**+1.5**
	comp=Z,1µm,2.0s							
NCK	**Nalchik**	**42.13**	**300**	⇓*e*P		**P**	**01 33 08.6**	**0.0**
TIXI	**Tiksi**	**42.21**	**15**	⇓*e*P		**P**	**01 33 07.7**	**-1.1**
TIXI				pmax	pmax			
	comp=Z,114nm,1.7s							
TIXI				MLR	MLR			
	comp=Z,10µm,15.0s							
TIXI	**Tiksi**	**42.21**	**15**	*e*P		**P**	**01 33 07.2**	**-1.6**
	comp=Z,313nm,2.0s							
TIXI				LR	LR			
	comp=Z,12µm,19.0s							
ONI	**Oni**	**42.31**	**299**	P		**P**	**01 33 12.1**	**+2.0**
CLDR	**Calderian**	**42.38**	**294**	*e*P		**P**	**01 33 10.5**	**-0.4**
AKH	**Akhalkalaki**	**42.40**	**297**	*e*P		**P**	**01 33 11.2**	**+0.2**
AKH	**Akhalkalaki**	**42.40**	**297**	P		**P**	**01 33 14.1**	**+3.1**
EAK	**Akyaka**	**42.40**	**296**	*i* P		**P**	**01 33 12.3**	**+1.3**
GOF	**Gofitskoye**	**42.43**	**302**	*e*P		**P**	**01 33 11.3**	**

comp=Z,138nm,2.5s
KARS Kars 42.81 296 *e*P **P** **01 33 15.1 +0.8**
HAKT HAKKARI 42.81 291 *i* P **P** **01 33 16.4 +2.0**
CUKT Cukurca 42.95 291 *e*P **P** **01 33 16.9 +1.5**
AGRB Hanur-Agry 43.02 294 *e*P **P** **01 33 15.6 -0.5**
PRGR Permogore 43.03 327⇓ *i*P **P** **01 33 15.3 -0.2**
PRGR 01 34 55.8
PRGR *e* 01 35 03.1
PRGR *i* S **S** **01 39 43.0 +2.4**
PRGR pmax pmax
comp=Z,700nm,1.5s
GEVA Gevas 43.18 293 *i* P **P** **01 33 19.5 +2.1**
TUTA Tutak 43.19 294 *i* P **P** **01 33 14.7 -2.8**
CHVG Ch'k'valeri 43.30 299 P **P** **01 33 20.3 +2.2**
TNTI Ternate 43.34 132 *e*P **P** **01 33 17.0 -1.6**
EATA Eleskirt 43.36 295 *i* P **P** **01 33 21.4 +2.4**
VRHR Novokhopersk 43.38 311 *e*P **P** **01 33 17.7 -0.8**
VRHR *e*S **S** **01 39 45.1 -0.9**
VRHR pmax pmax
comp=Z,180nm,1.3s
VRHR pmax pmax
comp=N,60nm,2.0s
VRHR pmax pmax
comp=E,170nm,1.4s
VRHR smax smax
comp=E,1μm,8.6s
VRHR smax smax
comp=Z,1μm,7.0s
VRHR smax smax
comp=N,1μm,4.7s
VRHR MLR MLR
comp=Z,13μm,18.0s
VRHR MLR MLR
comp=N,9μm,16.0s
VRHR MLR MLR
comp=E,9μm,14.0s
ARTV Artvin 43.60 297 *i* P **P** **01 33 20.3 -0.4**
DAGI Agillar 43.62 297 *i* P **P** **01 33 21.2 +0.4**
DDEM Demirkent 43.77 297 *i* P **P** **01 33 23.4 +1.4**
DBOC Borcka 43.77 297 *i* P **P** **01 33 22.7 +0.7**
HOMI Horasan 43.78 295 *i* P **P** **01 33 24.6 +2.4**
EKAR Karacoban 43.79 294 *i* P **P** **01 33 23.4 +1.1**
BCA Borcka 43.79 297 *e*P **P** **01 33 21.1 -1.0**
DBAD Bademkaya 43.80 297 *i* P **P** **01 33 24.1 +1.9**
SIRT Sirnak 43.81 292 *e*P **P** **01 33 20.9 -1.5**
KAPI Kappang 43.90 145 P **P** **01 33 24.0 +0.9**
comp=E,228nm,1.2s,SNR=6.4
KAPI Kappang 43.90 145 P **P** **01 33 25.7 +2.7**
SNR=9.0
KAPI Kappang 43.90 145 *e*P **P** **01 33 23.0 -0.1**
comp=E,13nm,1.2s
KAPI LR LR
comp=Z,13μm,19.0s
VRTB Varto-Mus 44.27 294 *e*P **P** **01 33 26.2 +0.1**
BNGL BINGOL 44.54 294 *i* P P 01 33 31.5 +3.2
JAGI Jajag, Banyuwa 44.67 155 *e*P **P** **01 33 29.8 +0.5**
comp=Z,150nm,1.5s
KOPT Kop Dagi 44.85 295 *i* P **P** **01 33 32.0 +1.1**
BNGB Bing"ll 44.89 294 *e*P **P** **01 33 30.1 -0.9**
VOR Voronezh 44.92 312 P P 01 33 36.0 +5.2
VOR pmax pmax
comp=Z,250nm,1.2s
VSR Storozhevoye 44.93 311 *e*P **P** **01 33 30.3 -0.7**
VSR *e*S **S** **01 40 08.1 -0.5**
VSR pmax pmax
comp=Z,90nm,0.6s
VSR pmax pmax
comp=N,40nm,1.0s
VSR pmax pmax
comp=E,180nm,1.0s
VSR smax smax
comp=N,1μm,6.9s
VSR smax smax
comp=Z,1μm,5.9s
VSR smax smax
comp=E,980nm,8.7s
VSR MLR MLR
comp=Z,10μm,14.0s
VSR MLR MLR
comp=N,15μm,16.0s
VSR MLR MLR
comp=E,8μm,13.0s
SOC Sochi 44.93 301 *e*P **P** **01 33 31.2 +0.1**
SOC *e* 01 35 16.0
SOC *e*PPP PPP 01 35 52.4
SOC *e*S **S** **01 40 10.7 +1.8**
SOC *e*SSS SSS 01 44 22.1
SOC pmax pmax
comp=Z,60nm,1.0s
SOC MLR MLR
comp=Z,13μm,15.0s
BAYT Ayd¨-ntepe-Bay 45.06 296 *e*P **P** **01 33 31.5 -0.9**
COCO West Island 45.09 180 PFAKE 01 33 40.0 +7.5
COCO LR LR
comp=Z,6μm,21.0s
MARD Mardin 45.14 292 *i* P **P** **01 33 34.4 +1.3**
KTUT Trabzon 45.25 297 *e*P **P** **01 33 36.5 +2.9**
MACK Trabzon 45.25 297 *i* P **P** **01 33 34.4 +0.7**
RAYN Ar Rayn 45.51 271 P **P** **01 33 37.0 +0.9**
comp=Z,66nm,1.6s,SNR=5.2
RAYN Ar Rayn 45.51 271 *e*P **P** **01 33 35.0 -1.0**
comp=Z,23nm,1.1s
DIYA Diyarbakir 45.53 293 *i* P **P** **01 33 37.4 +1.4**
SEY Seymchan 45.64 32 P **P** **01 33 36.1 -0.3**
comp=Z,7.3nm,0.6s,baz=256,slow=6.2,SNR=19
SEY LR LR 01 54 15.9
comp=Z,17μm,18.1s,baz=259,slow=38
KELT Kelkit 45.77 296 *i* P **P** **01 33 36.9 -1.2**
MOS Moscow 46.04 318α *i*P **P** **01 33 39.3 -0.4**
MOS *e* 01 35 28.0
MOS *e*PPP PPP 01 36 10.9
MOS *i* S **S** **01 40 24.6 +0.1**
MOS pmax pmax
comp=Z,2μm,2.2s
MOS pmax pmax
comp=Z,712nm,1.5s
MOS pmax pmax
comp=E,230nm,1.0s
MOS smax smax
comp=E,2μm,5.4s
MOS smax smax
comp=N,2μm,7.2s
MOS MLR MLR
comp=E,14μm,12.0s
MOS MLR MLR
comp=Z,18μm,12.0s
DGAR Diego Garcia 46.36 214 PFAKE 01 33 50.0 +7.4
DGAR LR LR
comp=Z,9μm,19.0s
GRSN GIRESUNGRSN 46.38 297 *i* P **P** **01 33 40.7 -2.0**
ANN Anapa 46.42 303 *e*P **P** **01 33 42.1 -0.8**
ANN *e* 01 35 31.3
ANN *e*PPP PPP 01 36 13.0
ANN *e*S **S** **01 40 29.7 -0.7**
ANN pmax pmax
comp=Z,76nm,0.9s
ANN MLR MLR
comp=E,17μm,15.0s
ANN MLR MLR
comp=N,14μm,15.0s
ANN MLR MLR
comp=Z,21μm,15.0s
KEMA Kemaliye 46.51 295 *i* P **P** **01 33 44.9 +1.1**
SUSE Susehri 46.55 296 *i* P **P** **01 33 45.6 +1.4**
OBN Obninsk 46.60 317 P **P** **01 33 44.5 +0.4**
comp=Z,868nm,1.4s,SNR=12
OBN Obninsk 46.60 317 *de*P **P** **01 33 44.1 0.0**
OBN *e*S S 01 40 43.0 +10
OBN *e*SS **SS** **01 43 55.8 -2.6**
OBN pmax pmax
comp=Z,377nm,1.7s
OBN MLR MLR
comp=Z,9μm,14.0s
OBN Obninsk 46.60 317 LR LR 01 53 28.8
comp=Z,12μm,18.6s,baz=93,slow=36
OBN Obninsk 46.60 317 *e*P **P** **01 33 43.7 -0.4**
comp=Z,455nm,1.5s
URFA Urfa 46.64 292 *e*P **P** **01 33 45.8 +0.9**
MALT Malatya 46.75 294 *e*P **P** **01 33 45.0 -0.7**
MALT Malatya 46.75 294 ⇓P **P** **01 33 46.9 +1.2**
MALT Malatya 46.75 294⇓ *i*P **P** **01 33 46.9 +1.2**
TMCR Tamitsa 47.04 329 *e*P **P** **01 33 47.9 +0.5**
TMCR *e* 01 35 40.2
TMCR pmax pmax
comp=Z,273nm,1.2s

AKCD Akcadag 47.15 294 *i* P **P** **01 33 49.3 +0.5**
PETK Petropavlovsk- 47.33 46 P **P** **01 33 49.1 -0.8**
PETK pmax pmax
comp=Z,19nm,1.0s
PETK MLR MLR
comp=Z,11μm,18.8s
PETK Petropavlovsk- 47.33 46 P **P** **01 33 49.1 -0.8**
comp=Z,18nm,1.0s,baz=222,slow=3.2,SNR=11
PETK LR LR 01 53 39.0
comp=Z,11μm,18.8s,baz=273,slow=36
SVSK Karacayir 47.52 296 *e*P **P** **01 33 50.3 -1.1**
GZT Gaziantep 47.63 293 *i* P **P** **01 33 52.2 -0.4**
PET Petropavlovsk 47.91 46 *i* P **P** **01 33 54.9 +0.6**
PET pmax pmax
comp=Z,80nm,2.5s
PET Petropavlovsk 47.91 46 PFAKE 01 34 10.0 +16
PET LR LR
comp=Z,19μm,19.0s
GUMO Guam 48.02 102 PFAKE 01 34 10.0 +14
GUMO LR LR
comp=Z,672nm,19.0s
KUZU Kuzuini 48.15 292 *i* P **P** **01 33 56.2 -0.3**
PINB Pinarbasi 48.23 295 *i* P **P** **01 33 56.7 -0.7**
HAVZ Havza 48.25 298 *i* P P 01 33 49.0 -8.2
KAMA Osmaniye 48.37 293 *i* P **P** **01 33 58.5 +0.2**
ANDN Andirin 48.52 293 *i* P **P** **01 33 59.6 +0.1**
SIM Simferopol' 48.74 303 *ce*P **P** **01 34 01.0 +0.1**
SIM 01 35 53.0
SIM S **S** **01 41 06.3 +2.9**
SIM pmax pmax
comp=Z,38nm,0.8s
SIM MLR MLR
comp=Z,7μm,17.0s
KOZT Kozan 48.95 293 *e*P **P** **01 34 01.6 -1.0**
CTKT Corum 49.03 297 *i* P **P** **01 34 03.5 +0.1**
YAYL Yayladag 49.09 291 *i* P **P** **01 34 01.2 -2.7**
CEYT Ceyhan 49.12 293 *e*P **P** **01 34 02.1 -1.8**
LVZ Lovozero 49.19 334 P **P** **01 34 05.0 +1.0**
comp=Z,498nm,1.5s,SNR=5.9
LVZ Lovozero 49.19 334⇑ *e*P **P** **01 34 05.2 +1.2**
LVZ pmax pmax
comp=Z,127nm,1.2s
LVZ MLR MLR
comp=Z,44μm,19.0s
LVZ Lovozero 49.19 334 *e*P **P** **01 34 02.8 -1.3**
comp=Z,160nm,1.3s
LVZ LR LR
comp=Z,37μm,19.0s
CORM Corum 49.24 297 *e*P **P** **01 34 02.9 -2.0**
FAKI Fak Fak 49.28 130 *e*P **P** **01 34 04.7 -0.6**
comp=Z,49nm,0.9s
BZK Bozkurt 49.34 299 *e*P **P** **01 34 05.9 +0.4**
APA Apatity 49.59 333⇓ *i*P **P** **01 34 08.0 +1.0**
APA *i* 01 35 32.0
APA *i* 01 36 08.0
APA *i* S **S** **01 41 14.0 -0.6**
APA *i* PS x 01 41 34.0
APA pmax pmax
comp=Z,108nm,1.4s
APA MLR MLR
comp=Z,32μm,16.0s
KARA Karaisali 49.60 293 *e*P **P** **01 34 08.5 +0.9**
ILGA Ilgaz 49.73 298 *i* P **P** **01 34 09.0 +0.1**
JOF Joensuu 49.83 327 *e*P **P** **01 34 07.0 -1.9**
JOF pmax pmax
comp=Z,37nm,0.7s
JOF Joensuu 49.83 327 *ep* **P** **01 34 07.0 -1.9**
comp=Z,37nm,0.7s
CANT Cankiri 49.90 298 *e*P **P** **01 34 09.3 -0.6**
ELDT Eldivan 50.07 298 *i* P **P** **01 34 12.0 +0.7**
BRTR Keskin Array B 50.08 297 *ce*P **P** **01 34 10.6 -0.8**
BRTR pmax pmax
comp=Z,22nm,1.1s
BRTR Keskin Array B 50.08 297 P **P** **01 34 10.7 -0.7**
comp=Z,22nm,1.1s,baz=110,slow=6.0,SNR=46
MERS Mersin 50.11 293 *e*P **P** **01 34 10.5 -1.0**
PUL Pulkovo 50.14 323⇓ *e*P **P** **01 34 12.7 +1.4**
PUL pmax pmax
comp=Z,730nm,2.5s
PUL MLR MLR
comp=Z,30μm,24.0s
SOEI Soe 50.20 143 *e*P **P** **01 34 11.0 -1.5**
comp=Z,229nm,1.3s
KIZK Mersin 50.51 292 *i* P **P** **01 34 13.2 -1.2**
BBAL Bala 50.51 296 *i* P **P** **01 34 14.1 -0.6**
SULT Sultanhani-AKS 50.54 295 *e*P **P** **01 34 14.2 -0.7**
AFSR Af'ar-Bala (A 50.57 296 *e*P **P** **01 34 13.6 -1.5**
DAMY Dhamar 50.58 262 *e*P **P** **01 34 16.3 +0.7**
comp=Z,59nm,1.2s
MMLI Mount Malkishu 50.67 287 *e*P **P** **01 34 14.5 -1.4**
ANTO Ankara 50.68 297 *e*P **P** **01 34 15.2 -0.6**
ANTO Ankara 50.68 297 ⇑P **P** **01 34 15.8 0.0**
ANTO Ankara 50.68 297⇑ *i*P **P** **01 34 15.8 0.0**
ANTO Ankara 50.68 297 P **P** **01 34 16.1 +0.3**
SNR=33
ANTO Ankara 50.68 297 *e*P **P** **01 34 15.9 0.0**
comp=Z,59nm,1.0s
ANTO LR LR
comp=Z,5μm,21.0s
BCAM Yenicaga 51.01 298 *i* P **P** **01 34 18.2 -0.1**
AKASG Malin Array Be 51.23 311 P **P** **01 34 19.0 -0.7**
AKASG pmax pmax
comp=Z,28nm,0.6s
AKASG MLR MLR
comp=Z,18μm,18.0s
AKASG Malin Array Be 51.23 311 P **P** **01 34 18.9 -0.7**
comp=Z,28nm,0.6s,baz=75,slow=6.6,SNR=88
AKASG LR LR 02 00 15.6
comp=Z,18μm,18.0s,baz=85,slow=41
KIEV Kiev 51.24 311 *ce*P **P** **01 34 19.0 -0.8**
KIEV Kiev 51.24 311 *e*P **P** **01 34 18.2 -1.5**
comp=Z,122nm,1.2s
KIEV LR LR
comp=Z,16μm,20.0s
ERMK Ermenek 51.41 293 *i* P **P** **01 34 20.1 -1.5**
KDHN Kadinhani 51.52 295 *i* P **P** **01 34 19.8 -2.5**
CSS Prodhromos 51.57 291 *e*P **P** **01 34 21.3 -1.2**
comp=Z,6.6nm,0.7s
CSS LR LR
comp=Z,2μm,20.0s
MICGM Minsk 51.64 316⇑ *e*P **P** **01 34 21.0 -1.7**
MNK Minsk 51.67 316⇑ *e*P **P** **01 34 21.0 -1.9**
MNK *e* 01 35 30.0
MNK *e* 01 36 24.0
MNK *e*S **S** **01 41 40.0 -3.9**
MNK *e*PS x 01 41 54.0
MNK *e*SS **SS** **01 45 22.0 +2.2**
MNK pmax pmax
comp=E,640nm,1.6s
MNK pmax pmax
comp=Z,510nm,1.5s
MNK MLR MLR
comp=Z,20μm,12.0s
MNK MLR MLR
comp=E,18μm,13.0s
MNK MLR MLR
comp=N,22μm,13.0s
MDUB Mudurnu 51.73 298 *e*P **P** **01 34 22.1 -1.6**
SVRH Sivrihisar-ESK 51.74 297 *e*P P 01 34 20.1 -3.7
HRFI Mount Harif 51.78 284 *e*P **P** **01 34 23.3 -0.8**
BTAS Taskesti 51.85 298 *i* P **P** **01 34 23.9 -0.7**
LEF Lefka 51.87 291 *e*P **P** **01 34 23.4 -1.3**
EIL Elat 51.98 284 *e*P P 01 34 22.0 -3.6
KZIT Kziot 52.00 285 *e*P **P** **01 34 23.6 -2.2**
VSU Vasula 52.01 321 *c i*P **P** **01 34 25.1 -0.2**
VSU pmax pmax
comp=Z,505nm,1.0s
VSU MLR MLR
comp=Z,53μm,25.0s
KIS Kishinev 52.05 307 *e*P **P** **01 34 25.0 -0.9**
comp=Z,400nm,2.0s
KIS *e*S **S** **01 41 46.0 -3.3**
KIS LRM MLR 02 00 52.0
comp=Z,7μm,16.0s
KAF Kangasniemi 52.12 326 *e*P **P** **01 34 24.8 -1.3**
KAF pmax pmax
comp=Z,21nm,0.8s
KAF Kangasniemi 52.12 326 *ep* **P** **01 34 24.8 -1.3**
comp=Z,21nm,0.8s
BILL Bilibino 52.17 27⇓ *i*P **P** **01 34 26.6 +0.1**
BILL *e* 01 36 24.2
BILL *e*S **S** **01 41 51.2 +0.8**
BILL pmax pmax
comp=Z,97nm,1.7s

BILL Bilibino 52.17 27 *e*P **P** **01 34 26.5 +0.1**
comp=Z,214nm,1.9s
BILL LR LR
comp=Z,17μm,21.0s
KEV Kevo 52.23 336 *e*P **P** **01 34 25.5 -1.3**
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 52.23 336 *ep* **P** **01 34 25.5 -1.3**
comp=Z,12nm,0.7s
KEV Kevo 52.23 336 *e*P **P** **01 34 26.2 -0.6**
comp=Z,153nm,1.3s
KEV LR LR
comp=Z,32μm,19.0s
FINES FINESS Array B 52.23 325 *i* P **P** **01 34 26.3 -0.7**
FINES pmax pmax
comp=Z,34nm,0.7s
FINES FINESS Array B 52.23 325 P **P** **01 34 26.4 -0.6**
comp=Z,56nm,0.9s,baz=105,slow=8.6,SNR=60
FINES LR LR 01 58 14.9
comp=Z,24μm,20.4s,baz=92,slow=38
GULT Gulveren 52.24 298 *e*P **P** **01 34 27.0 -0.6**
NACGM Naroch 52.24 317 *e*P P 01 34 24.0 -3.2
BOLV Bolvadin 52.35 296 *i* P **P** **01 34 26.8 -1.6**
TLCR 52.40 304⇑ P **P** **01 34 28.9 +0.4**
TLCR 52.40 304⇑ *i*P **P** **01 34 28.9 +0.4**
IIGN Ignalina 52.52 317 *e*P **P** **01 34 29.6 +0.4**
IIGN AMB AMB 01 34 32.1
comp=Z,87nm,1.1s
LEOM Leova 52.54 306 *e*P **P** **01 34 28.0 -1.5**
LEOM Leova 52.54 306 ⇓P **P** **01 34 29.5 0.0**
LEOM Leova 52.54 306⇓ *i*P **P** **01 34 29.5 0.0**
ISAL Salakas 52.55 318 *e*P **P** **01 34 29.5 +0.1**
ISAL AMB AMB 01 34 32.2
comp=Z,72nm,1.2s
SHUT Suhut-Afyon 52.70 296 *e*P **P** **01 34 29.3 -1.7**
ARCES ARCESS Array B 52.73 335 P **P** **01 34 29.6 -1.0**
ARCES pmax pmax
comp=Z,15nm,0.5s
ARCES MLR MLR
comp=Z,46μm,18.3s
ARCES ARCESS Array B 52.73 335 P **P** **01 34 29.6 -1.0**
comp=Z,15nm,0.5s,baz=88,slow=7.6,SNR=87
ARCES LR LR 01 59 21.3
comp=Z,46μm,18.3s,baz=104,slow=39
HRT Hereke 52.77 299 *e*P **P** **01 34 29.4 -2.0**
ADVT Abdulvahap 52.82 298 *e*P **P** **01 34 33.1 +1.5**
TIRR Tirgusor 52.83 304 *e*P **P** **01 34 30.0 -1.7**
TIRR Tirgusor 52.83 304 *e*P **P** **01 34 31.1 -0.6**
TIRR pmax pmax
comp=Z,591nm,2.8s
TIRR Tirgusor 52.83 304⇓ *i*P **P** **01 34 31.5 -0.2**
TIRR Tirgusor 52.83 304 *e*P **P** **01 34 31.1 -0.6**
comp=Z,592nm,2.8s
ISP Isparta 52.92 295 *e*P **P** **01 34 32.0 -0.7**
ISP Isparta 52.92 295 *e*P **P** **01 34 31.8 -0.8**
ISP MLR MLR
comp=Z,8μm,20.0s
ISP Isparta 52.92 295⇓ *i*P **P** **01 34 32.4 -0.3**
ISP Isparta 52.92 295 *e*P **P** **01 34 31.8 -0.8**
ISP LR LR
comp=Z,8μm,20.0s
TLB Topalu 53.06 304⇑ P **P** **01 34 33.2 -0.2**
TLB Topalu 53.06 304⇑ *i*P **P** **01 34 33.2 -0.2**
HARR Harsova 53.12 304⇑ P **P** **01 34 34.7 +0.9**
HARR Harsova 53.12 304⇑ *i*P **P** **01 34 34.7 +0.9**
PSN Preselentsi 53.16 303⇑ P **P** **01 34 35.4 +1.2**
PSN Preselentsi 53.16 303⇑ *i*P **P** **01 34 35.4 +1.2**
PSN Preselentsi 53.16 303 *i* P **P** **01 34 34.3 +0.1**
BUY Buyukada 53.17 299 *i* P **P** **01 34 33.9 -0.4**
KORT Korkueli 53.29 294 *i* P **P** **01 34 36.2 +0.8**
MSAB Monastry St. A 53.32 303⇑ *i*P **P** **01 34 36.5 +1.2**
BGKT Bogazkoy 53.34 299 *e*P **P** **01 34 34.0 -1.5**
GDZ Gediz 53.36 297 *i* P P 01 34 32.4 -3.5
PETR Petresti 53.38 305⇓ *i*P **P** **01 34 37.4 +1.7**
TESR Tescani 53.61 306⇓ *i*P **P** **01 34 36.8 -0.7**
VRI Vrincioaia 53.69 306 *e*P **P** **01 34 36.8 -1.2**
VRI Vrincioaia 53.69 306 ⇑P **P** **01 34 38.7 +0.6**
VRI Vrincioaia 53.69 306⇑ *i*P **P** **01 34 38.7 +0.6**
PRAR RASCA 53.72 307⇑ *i*P **P** **01 34 38.6 +0.3**
SLVT Silivri 53.73 300 *e*P **P** **01 34 38.2 -0.2**
PLOR Plostina 53.75 306 ⇓P **P** **01 34 39.1 +0.6**
PLOR Plostina 53.75 306⇓ *i*P **P** **01 34 39.1 +0.6**
PRD Provadia 53.83 302 *i* P **P** **01 34 40.2 +1.1**
DEMI Demirci 53.95 297 *i* P **P** **01 34 38.1 -2.0**
ISR Istrita 53.98 305 ⇓P **P** **01 34 41.9 +1.6**
ISR Istrita 53.98 305⇓ *i*P **P** **01 34 41.9 +1.6**
MSEY Mahe Island 54.06 234 PFAKE 01 34 50.0 +8.8
MSEY LR LR
comp=Z,10μm,19.0s
SULR 54.28 304⇑ *i*P **P** **01 34 44.9 +2.5**
MLR Muntele Rosu 54.31 305 ⇓P **P** **01 34 44.0 +1.3**
MLR Muntele Rosu 54.31 305⇓ *i*P **P** **01 34 44.0 +1.3**
MLR Muntele Rosu 54.31 305 P **P** **01 34 43.1 +0.3**
comp=Z,9.1nm,1.0s,baz=48,slow=4.1,SNR=44
BURAR Bucovina Array 54.34 308⇑ P **P** **01 34 43.2 +0.3**
BURAR Bucovina Array 54.34 308⇑ *i*P **P** **01 34 43.2 +0.3**
BALB Balikesir 54.40 298 *e*P **P** **01 34 40.8 -2.5**
SUW Suwalki 54.44 316 *e*P **P** **01 34 42.7 -0.6**
SUW *e*S **S** **01 42 25.1 +3.5**
SUW MLR MLR
comp=Z,12μm,21.4s
SUW Suwalki 54.44 316 *e*P **P** **01 34 42.6 -0.8**
SUW *e*S **S** **01 42 25.1 +3.5**
SUW LMZ LR 01 58 14.2
SUW Suwalki 54.44 316 *e*P **P** **01 34 42.7 -0.6**
comp=Z,276nm,1.0s
BALY Balya 54.57 298 *i* P **P** **01 34 44.2 -0.4**
DOPR Dopca 54.58 306⇓ *i*P **P** **01 34 44.6 0.0**
JMB Yambol 54.59 302 ⇓P **P** **01 34 45.2 +0.5**
JMB Yambol 54.59 302⇓ *i*P **P** **01 34 45.2 +0.5**
JMB Yambol 54.59 302 *i* P **P** **01 34 47.1 +2.4**
LVV L'vov 54.66 311 *e*P **P** **01 34 44.7 -0.4**
LVV *e* 01 36 53.1
LVV *e* 01 38 05.3
LVV *e*S **S** **01 42 21.5 -3.2**
LVV MLR MLR
comp=Z,7μm,17.0s
LVV MLR MLR
comp=N,13μm,18.0s
LVV MLR MLR
comp=E,6μm,16.0s
JAY Jayapura 54.76 121 LR LR 01 56 37.1
comp=E,4μm,21.5s,slow=34
SZH Strazhica 54.85 303 *i* P **P** **01 34 48.1 +1.5**
VOIR 54.94 305 ⇓P **P** **01 34 47.1 -0.1**
VOIR 54.94 305⇓ *i*P **P** **01 34 47.1 -0.1**
AYDN Tasoluk 54.97 296 *i* P **P** **01 34 49.2 +1.7**
MTUR Matau 54.98 305⇑ P **P** **01 34 50.2 +2.7**
MTUR Matau 54.98 305⇑ *i*P **P** **01 34 50.2 +2.7**
TRO Tromso 55.04 335 *e*P **P** **01 34 45.1 -2.3**
ERIK Erikli-Kesan 55.12 299 *e*P **P** **01 34 47.1 -1.4**
GELI Tayfur-Gelibol 55.23 299 *e*P **P** **01 34 50.5 +1.2**
ARG Arkhangelos 55.23 294 P **P** **01 34 49.5 +0.1**
ARG Arkhangelos 55.23 294 P **P** **01 34 49.5 +0.1**
ARG Arkhangelos 55.23 294 P **P** **01 34 49.5 +0.1**
ARR Arges 55.24 305⇑ *i*P **P** **01 34 49.4 0.0**
ALN Alexandroupoli 55.40 300 P **P** **01 34 50.9 +0.4**
ALN Alexandroupoli 55.40 300 *e*P **P** **01 34 50.0 -0.5**
ALN Alexandroupoli 55.40 300 P **P** **01 34 50.9 +0.4**
ALN Alexandroupoli 55.40 300 *e*P **P** **01 34 50.5 0.0**
ALN Alexandroupoli 55.40 300 P **P** **01 34 50.9 +0.4**
GCAM G?zelcamI? 55.45 296 *i* P **P** **01 34 50.0 -1.0**
BMR Baia Mare 55.46 308⇑ P **P** **01 34 52.1 +1.2**
BMR Baia Mare 55.46 308⇑ *i*P **P** **01 34 52.1 +1.2**
KWP Kalwaria Pacla 55.54 311 *e*P **P** **01 34 51.5 +0.1**
KWP *e* 01 36 54.8
KWP pmax pmax
comp=Z,296nm,1.0s
KWP MLR MLR
comp=Z,13μm,20.0s
KWP Kalwaria Pacla 55.54 311 *e*P **P** **01 34 51.6 +0.1**
KWP *e*S **S** **01 42 39.5 +3.0**
KWP LMZ LR 02 03 19.3
KWP Kalwaria Pacla 55.54 311⇓ *i*P **P** **01 34 52.1 +0.7**
KWP Kalwaria Pacla 55.54 311 *e*P **P** **01 34 51.5 +0.1**
comp=Z,296nm,1.0s
KWP *e*PP **PP** **01 36 54.8 -0.5**
KWP LR LR
comp=Z,13μm,20.0s
CJR Cluj-Napoca 55.62 307 ⇓P **P** **01 34 53.2 +1.1**
CJR Cluj-Napoca 55.62 307⇓ *i*P **P** **01 34 53.2 +1.1**
KDZ Kurdzhali 55.65 301 *i* P **P** **01 34 54.0 +1.7**
RDO Rodhopi 55.70 300 P **P** **01 34 52.8 +0.1**

RDO	Rodhopi	55.70 300	eP		P	01 34 53.5	+0.8		
RDO	Rodhopi	55.70 300	P		P	01 34 52.8	+0.1		
PRK	Paraskevi	55.71 298	eP		P	01 34 52.3	-0.5		
SMG	Samos	55.75 296	P		P	01 34 54.1	+1.0		
SMG	Samos	55.75 296	eP		P	01 34 52.5	-0.6		
SMG	Samos	55.75 296	P		P	01 34 54.1	+1.0		
SPA0	Spitsbergen Ar	55.79 346	eP		P	01 34 51.6	-1.2		
LOT	Lotru	55.81 306	eP		P	01 34 51.1	-2.5		
LOT	Lotru	55.81 306	⇑iP		P	01 34 54.1	+0.5		
ZEY	ˇzmir	55.84 297	iP		P	01 34 51.5	-2.2		
SMTH	Samothraki Isl	55.90 299	eP		P	01 34 52.4	-1.7		
KOLS	Kolonicke sedl	55.97 310	eP		P	01 34 54.1	-0.5		
KOLS	Kolonicke sedl	55.97 310	eP		P	01 34 54.0	-0.5		
KOLS			eS		S	01 42 43.6	+1.3		
TRPA	Tarpa	55.98 309	⇑iP		P	01 34 55.6	+1.0		
TRPA	Tarpa	55.98 309	⇓eSKKPdf		P	01 34 55.3	+0.7		
UZH	Uzhgorod	56.03 310	eP		P	01 34 53.2	-1.7		
UZH			i			01 35 05.8			
UZH			e			01 35 53.6			
UZH			eS	S		01 42 36.2	-6.8		
UZH			MLR	MLR					
	comp=N,7µm,14.0s								
UZH			MLR	MLR					
	comp=E,7µm,14.0s								
UZH			MLR	MLR					
	comp=Z,5µm,14.0s								
PLD	Plovdiv	56.03 302	iP		P	01 34 55.6	+0.5		
CHOS	Chios island	56.13 297	P		P	01 34 56.9	+1.0		
CHOS	Chios island	56.13 297	eP		P	01 34 54.9	-1.0		
CHOS	Chios island	56.13 297	P		P	01 34 56.9	+1.0		
RZN	Rozhen	56.14 301	iP		P	01 34 57.4	+1.3		
KARP	Karpathos	56.19 293	P		P	01 34 55.5	-0.8		
KARP	Karpathos	56.19 293	eP		P	01 34 55.5	-0.8		
KARP	Karpathos	56.19 293	P		P	01 34 55.5	-0.8		
DRGR		56.19 307	⇓P		P	01 34 56.5	+0.3		
DRGR		56.19 307	⇓iP		P	01 34 56.5	+0.3		
BEL	Belsk	56.26 314	eP		P	01 34 56.7	+0.2		
BEL			MLR	MLR					
	comp=Z,20µm,17.1s								
BEL	Belsk	56.26 314	eP		P	01 34 56.7	+0.2		
BEL			LMZ	LR		02 00 40.4			
PGB	Panagyurishte	56.29 302	iP		P	01 34 58.6	+1.6		
MPEP	Malo Peshtene	56.37 303	iP		P	01 34 47.4	-10		
GZR	Gura Zlata	56.50 306	⇑P		P	01 34 58.3	-0.1		
GZR	Gura Zlata	56.50 306	⇑iP		P	01 34 58.3	-0.1		
CRVS	Cervenica-Dubn	56.50 310	eP		P	01 34 58.1	-0.2		
CRVS			pmax	pmax					
	comp=Z,64nm,1.5s								
CRVS	Cervenica-Dubn	56.50 310	eP		P	01 34 58.1	-0.2		
CRVS			eS		S	01 42 49.1	-0.2		
STHS	Stebnicka Huta	56.52 311	eP		P	01 34 58.4	0.0		
STHS			pmax	pmax					
	comp=Z,24nm,1.1s								
STHS	Stebnicka Huta	56.52 311	eP		P	01 34 58.4	0.0		
KBS	Kingsbay	56.67 347	PFAKE			01 35 10.0	+11		
KBS			LR	LR					
	comp=Z,15µm,20.0s								
NVR	Nevrokopi	56.85 301	P		P	01 35 02.0	+1.0		
NVR	Nevrokopi	56.85 301	eP		P	01 34 59.7	-1.3		
NVR	Nevrokopi	56.85 301	P		P	01 35 02.0	+1.0		
MMB	Musomiste	56.88 301	⇓P		P	01 35 01.2	0.0		
MMB	Musomiste	56.88 301	⇓iP		P	01 35 01.2	0.0		
MMB	Musomiste	56.88 301	iP		P	01 35 02.5	+1.3		
APE	Apeiranthos	56.94 296	P		P	01 35 01.4	-0.2		
APE	Apeiranthos	56.94 296	⇑eP		P	01 35 03.8	+2.2		
APE			pmax	pmax					
	comp=Z,35nm,1.7s								
APE	Apeiranthos	56.94 296	eP		P	01 35 01.0	-0.6		
APE	Apeiranthos	56.94 296	P		P	01 35 01.4	-0.2		
VTS	Vitosha	56.96 302	P		P	01 35 02.6	+0.3		
VTS	Vitosha	56.96 302	⇑iP		P	01 35 02.2	+0.3		
VTS	Vitosha	56.96 302	iP		P	01 35 03.5	+1.6		
ZKR	Zakros	57.06 293	eP		P	01 35 01.3	-1.2		
OUR	Ouranopolis	57.07 300	P		P	01 35 03.2	+0.8		
OUR	Ouranopolis	57.07 300	eP		P	01 35 01.0	-1.4		
OUR	Ouranopolis	57.07 300	P		P	01 35 03.2	+0.8		
OUR	Ouranopolis	57.07 300	eP		P	01 35 02.8	+0.4		
OUR	Ouranopolis	57.07 300	P		P	01 35 03.2	+0.8		
LOF	Lofoten	57.10 334	eP		P	01 35 00.3	-1.9		
NIE	Niedzica	57.11 311	eP		P	01 35 02.9	+0.3		
NIE			eS		S	01 42 57.7	+0.3		
NIE			MLR	MLR					
	comp=Z,13µm,20.8s								
NIE	Niedzica	57.11 311	eS		S	01 42 57.6	+0.2		
NIE			LMZ	LR		02 04 33.0			
SRS	Serrai	57.12 301	P		P	01 35 03.2	+0.4		
SRS	Serrai	57.12 301	P		P	01 35 03.2	+0.4		
SRS	Serrai	57.12 301	eP		P	01 35 02.2	-0.6		
SRS	Serrai	57.12 301	P		P	01 35 03.2	+0.4		
SANT	Santorini	57.22 295	eP		P	01 35 01.4	-2.2		
SANT	Santorini	57.22 295	eP		P	01 35 00.9	-2.8		
SANT	comp=Z,23nm,0.7s		LR	LR					
	comp=Z,5µm,19.0s								
BZS	Buzias	57.23 306	eP		P	01 35 01.5	-2.0		
BZS	Buzias	57.23 306	⇓P		P	01 35 04.0	+0.5		
BZS	Buzias	57.23 306	⇓iP		P	01 35 04.0	+0.5		
KECS	Kecovo	57.23 310	eP		P	01 35 03.9	+0.4		
KECS			pmax	pmax					
	comp=Z,30nm,1.4s								
KECS	Kecovo	57.23 310	eP		P	01 35 03.9	+0.4		
OJC	Ojcow	57.24 312	eP		P	01 35 03.3	-0.3		
OJC			eS		S	01 43 00.0	+1.0		
OJC			MLR	MLR					
	comp=Z,14µm,20.6s								
OJC	Ojcow	57.24 312	eP		P	01 35 03.2	-0.3		
OJC			eS		S	01 42 59.7	+0.7		
OJC			LMZ	LR		02 01 14.9			
KKB	Krupnik	57.26 302	iP		P	01 35 05.3	+1.5		
THR6	Thira Island,	57.27 295	P		P	01 35 02.9	-1.0		
THR6	Thira Island,	57.27 295	P		P	01 35 02.9	-1.0		
SOH	Sokhos	57.38 300	eP		P	01 35 02.8	-1.9		
PAIG	Paliouri	57.41 299	P		P	01 35 05.6	+0.7		
PAIG	Paliouri	57.41 299	P		P	01 35 05.8	+0.7		
PAIG	Paliouri	57.41 299	eP		P	01 35 04.5	-0.4		
PAIG	Paliouri	57.41 299	P		P	01 35 05.6	+0.7		
PLG	Polygyros	57.45 300	P		P	01 35 06.0	+0.8		
PLG	Polygyros	57.45 300	P		P	01 35 06.0	+0.8		
PLG	Polygyros	57.45 300	eP		P	01 35 04.4	-0.8		
PLG	Polygyros	57.45 300	P		P	01 35 06.0	+0.8		
NPS	Neapolis	57.47 294	P		P	01 35 05.8	+0.4		
NPS	Neapolis	57.47 294	P		P	01 35 05.8	+0.4		
NPS	Neapolis	57.47 294	eP		P	01 35 03.8	-1.6		
NPS	Neapolis	57.47 294	P		P	01 35 05.8	+0.4		
AOS	Alonnisos	57.50 298	eP		P	01 35 04.4	-1.1		
KNT	Kendrikon	57.60 301	P		P	01 35 06.8	+0.6		
KNT	Kendrikon	57.60 301	P		P	01 35 06.8	+0.6		
KNT	Kendrikon	57.60 301	eP		P	01 35 04.3	-1.9		
KNT	Kendrikon	57.60 301	P		P	01 35 06.8	+0.6		
LAST	Lasithi	57.61 293	eP		P	01 35 05.7	-0.8		
HORT	Hortiatis	57.63 300	eP		P	01 35 05.2	-1.3		
LANS	Liptovska Anna	57.71 311	eP		P	01 35 07.5	+0.6		
THE	Thessaloniki	57.72 300	eP		P	01 35 05.1	-1.9		
PSZ	Piszkesteto	57.76 309	⇓P		P	01 35 07.6	+0.3		
PSZ	Piszkesteto	57.76 309	⇓iP		P	01 35 07.6	+0.3		
PSZ	Piszkesteto	57.76 309	eP		P	01 35 06.1	-1.2		
PSZ	comp=Z,747nm,2.9s		LR	LR					
	comp=Z,5µm,19.0s								
PSZ	Piszkesteto	57.76 309	⇓e		P	01 35 08.1	+0.8		
SKIA	Skiathos	57.81 299	eP		P	01 35 08.9	+1.2		
MRKA	Markates	57.87 298	P		P	01 35 08.5	+0.4		
MRKA	Markates	57.87 298	eP		P	01 35 07.7	-0.4		
PTL	Penteli	57.87 297	P		P	01 35 08.4	+0.2		
PTL	Penteli	57.87 297	eP		P	01 35 08.8	+0.6		
PTL	Penteli	57.87 297	P		P	01 35 08.4	+0.2		
NEO	Neokhori	57.94 299	eP		P	01 35 09.3	+0.6		
XOR	Xorichti	57.95 299	eP		P	01 35 06.7	-2.0		
IDI	Anoyia	58.02 294	P		P	01 35 08.4	-1.0		
	comp=Z,17nm,0.6s,baz=69,slow=11,SNR=3.7								
PKSN	Nyarlorinc	58.05 308	⇓ePKiKP		P	01 35 09.1	-0.1		
GKP	Gorka Klasztor	58.05 316	eP		P	01 35 09.1	-0.1		
GKP			eS		S	01 43 10.7	+1.1		
GKP			MLR	MLR					
	comp=Z,17µm,18.6s								
GKP	Gorka Klasztor	58.05 316	eP		P	01 35 09.0	-0.1		
GKP			eS		S	01 43 10.7	+1.1		
GKP			LMZ	LR		02 00 39.5			
SMIA	Simia	58.09 298	eP		P	01 35 09.9	+0.2		
SIVA	Sivas	58.17 294	eP		P	01 35 09.1	-1.2		
LIT	Litokhoron	58.23 300	P		P	01 35 10.7	0.0		
LIT	Litokhoron	58.23 300	eP		P	01 35 09.8	-0.9		
LIT	Litokhoron	58.23 300	P		P	01 35 10.7	0.0		
NAIG	Nisos Aigina	58.25 297	eP		P	01 35 08.7	-2.1		
RAC	Raciborz	58.27 312	eP		P	01 35 11.5	+0.8		
RAC			MLR	MLR					
	comp=Z,26µm,15.7s								
VYHS	Vyhne	58.28 310	eP		P	01 35 11.1	+0.1		
VYHS	Vyhne	58.28 310	eP		P	01 35 11.0	+0.1		
VYHS			eS		S	01 43 16.3	+3.5		
NSS	Namsos	58.31 330	eP		P	01 35 09.6	-1.2		
LKR	Lokris	58.32 298	eP		P	01 35 09.5	-1.8		
OKC	Ostrava-Krasne	58.36 312	eP		P	01 35 12.0	+0.6		
OKC			e			01 35 19.6			
OKC			MLR	MLR					
	comp=Z,15µm,15.1s								
OKC	Ostrava-Krasne	58.36 312	eP		P	01 35 12.0	+0.6		
OKC			ex	x		01 35 19.6			
OKC			ex	x		01 35 25.6			
OKC			AMS	AMS		02 02 10.0			
	comp=Z,15µm,15.1s								
HFS	Hagfors	58.41 324	LR	LR		02 02 07.1			
	comp=Z,17µm,18.7s,baz=90,slow=38								
BUD	Budapest	58.44 309	⇓epPKiKP		P	01 35 12.6	+0.6		
PKS7	Kunszentmiklos	58.47 308	⇓epPKiKP		P	01 35 12.4	+0.2		
VAM	Vamos	58.51 294	eP		P	01 35 11.5	-1.2		
AXAR	Agios Charalam	58.53 298	P		P	01 35 10.9	-1.9		
AXAR	Agios Charalam	58.53 298	eP		P	01 35 10.7	-2.1		
AXAR	Agios Charalam	58.53 298	P		P	01 35 10.9	-1.9		
LTK	Loutraki	58.55 297	eP		P	01 35 12.8	-0.1		
PKS2	Kecel	58.59 308	⇑epPKiKP		P	01 35 14.8	+1.8		
KZN	Kozani	58.68 300	eP		P	01 35 14.1	+0.2		
AGG	Agios Georgios	58.69 299	eP		P	01 35 12.2	-1.7		
KARN	Karanos	58.73 294	eP		P	01 35 12.7	-1.5		
DESF	Desfina	58.74 298	eP		P	01 35 17.5	+3.2		
THL	Klokotos Trika	58.74 299	P		P	01 35 15.8	+1.6		
THL	Klokotos Trika	58.74 299	eP		P	01 35 13.9	-0.3		
MORC	Moravsky Berou	58.76 312	⇑P		P	01 35 15.2	+1.0		
MORC	Moravsky Berou	58.76 312	⇑iP		P	01 35 15.2	+1.0		
MORC	Moravsky Berou	58.76 312	eP		P	01 35 13.7	-0.5		
	comp=Z,86nm,1.2s								
FNA	Florina	58.81 301	eP		P	01 35 13.0	-1.8		
MAKR	Makrakomi, Fth	58.84 299	eP		P	01 35 13.0	-2.0		
PKSG		58.88 309	⇓epPKiKP		P	01 35 15.3	+0.3		
BSD	Bornholm Skovb	58.93 318	iP		P	01 35 15.8	+0.6		
BSD			pmax	pmax					
	comp=Z,29nm,0.9s								
BSD			MLR	MLR					
	comp=Z,23µm,16.0s								
BSD	Bornholm Skovb	58.93 318	iP		P	01 35 15.8	+0.6		
	comp=Z,29nm,0.8s								
	comp=Z,23µm,16.0s								
CSKK	Cs˘ˇtako	58.97 309	⇑epPKiKP		P	01 35 15.8	+0.1		
VLI	Veliai	59.01 296	eP		P	01 35 13.6	-2.6		
KALE	Kalithea	59.04 298	eP		P	01 35 12.2	-4.2		
PKSM	Moragy	59.05 308	⇓epPKiKP		P	01 35 16.3	0.0		
KYTH	Kithira	59.09 295	eP		P	01 35 15.1	-1.6		
EVR	Evrytania	59.11 299	P		P	01 35 16.8	-0.1		
EVR	Evrytania	59.11 299	eP		P	01 35 13.6	-3.3		
EVR	Evrytania	59.11 299	P		P	01 35 16.8	-0.1		
PKST	T˘ˇs	59.15 309	⇓epPKiKP		P	01 35 17.0	+0.1		
KLV	Kalavryta, Ach	59.15 298	eP		P	01 35 14.5	-2.7		
NEST	Nestorio	59.17 301	eP		P	01 35 15.6	-1.7		
SMOL	Smolenice	59.18 311	eP		P	01 35 18.2	+1.1		
SMOL	Smolenice	59.18 311	eP		P	01 35 18.2	+1.1		
EFP	Efpalio	59.20 298	eP		P	01 35 13.6	-3.8		
VLX	Vlachokerasia	59.21 297	eP		P	01 35 16.3	-1.3		
KSP	Ksiaz	59.24 313	⇓eP		P	01 35 17.5	+0.1		
KSP			MLR	MLR					
	comp=Z,57µm,19.8s								
KSP	Ksiaz	59.24 313	eP		P	01 35 17.6	+0.1		
KSP			eS		S	01 43 23.6	-1.5		
KSP			LMZ	LR		02 01 50.2			
DPC	Dobruska-Polom	59.36 313	eP		P	01 35 18.1	-0.3		
DPC			e			01 35 26.1			
DPC			e			01 38 50.6			
DPC			eS		S	01 43 30.3	+3.5		
DPC	Dobruska-Polom	59.36 313	eP		P	01 35 18.1	-0.3		
DPC			ex	x		01 35 26.1			
DPC			ex	x		01 35 33.0			
DPC			ex	x		01 38 50.6			
DPC			eS	S		01 43 30.3	+3.5		
DPC			AMS	AMS		02 02 40.0			
DPC	Dobruska-Polom	59.36 313	eP		P	01 35 18.8	+0.4		
	comp=Z,764nm,1.2s								
NB2	NORSAR Subarra	59.40 326	P		P	01 35 17.3	-1.2		
	comp=Z,129nm,1.2s,baz=77,slow=7.4								
NB2	NORSAR Subarra	59.40 326	P		P	01 35 17.3	-1.2		
	baz=77,slow=7.4								
NOA	NORSAR Array B	59.40 326	P		P	01 35 17.3	-1.2		
NOA			pmax	pmax					
	comp=Z,25nm,0.7s								
NOA			MLR	MLR					
	comp=Z,20µm,20.0s								
NOA	NORSAR Array B	59.40 326	P		P	01 35 17.2	-1.2		
	comp=Z,25nm,0.7s,baz=75,slow=6.9,SNR=52								
NOA			LR	LR		02 02 27.1			
	comp=Z,20µm,19.9s,baz=70,slow=38								
VRAC	Vranov	59.48 312	⇑P		P	01 35 20.3	+1.1		
VRAC	Vranov	59.48 312	⇑iP		P	01 35 20.3	+1.1		
VRAC	Vranov	59.48 312	P		P	01 35 19.6	+0.4		
	comp=Z,40nm,1.0s,baz=73,slow=7.2,SNR=41								
UPC	Upice	59.50 313	eP		P	01 35 19.4	+0.1		
UPC			e			01 35 25.0			
UPC			eS		S	01 43 32.9	+4.3		
UPC	Upice	59.50 313	eP		P	01 35 19.4	+0.1		
UPC			epP		pP	01 35 25.0	+1.7		
UPC			eS		S	01 43 32.9	+4.3		
DRO	Drossia	59.51 298	eP		P	01 35 19.2	-0.4		
DSL	Palaion Diasel	59.56 299	P		P	01 35 18.5	-1.4		
DSL	Palaion Diasel	59.56 299	eP		P	01 35 18.3	-1.6		
DSL	Palaion Diasel	59.56 299	P		P	01 35 18.5	-1.4		
ITM	Ithomi	59.61 297	eP		P	01 35 17.9	-2.4		
RLS	Riolos of Patr	59.65 298	eP		P	01 35 21.3	+0.8		
PDO	Prodromos	59.68 299	eP		P	01 35 18.8	-1.9		
PYL	PYLOS	59.85 297	eP		P	01 35 18.5	-3.4		
OSL	Oslo	59.91 325	eP		P	01 35 20.9	-1.0		
RGN	Rugen	59.97 318	eP		P	01 35 22.6	+0.2		
	comp=Z,178nm,1.1s								
SOP	Sopron	59.98 310	⇓epPKiKP		P	01 35 23.2	+0.6		
IGT	Igoumenitsa	59.98 300	eP		P	01 35 16.8	-6.0		
IGT	Igoumenitsa	59.98 300	eP		P	01 35 20.3	-2.5		
LKD2	Lefkada island	60.00 299	eP		P	01 35 21.3	-1.7		
COP	Copenhagen	60.15 320	iP		P	01 35 24.7	+1.1		
COP			pmax	pmax					
	comp=Z,24nm,0.9s								
COP			MLR	MLR					
	comp=Z,8µm,17.0s								
COP	Copenhagen	60.15 320	iP		P	01 35 24.7	+1.1		
	comp=Z,24nm,0.9s								
	comp=Z,8µm,17.0s								
TREC	Trest	60.18 312	eP		P	01 35 24.3	+0.3		
TREC			e			01 35 31.6			
TREC			e			01 39 03.8			
TREC			MLR	MLR					
	comp=Z,15µm,14.9s								
TREC	Trest	60.18 312	eP		P	01 35 24.3	+0.3		
TREC			ex	x		01 35 31.6			
TREC			ex	x		01 39 03.8			
TREC			AMS	AMS		02 03 10.0			
	comp=Z,15µm,14.9s								
BEHE	Becsehely	60.21 308	⇓esPKiKP		P	01 35 24.6	+0.4		
VLS	Valsamata	60.26 298	eP		P	01 35 22.5	-2.2		
RUE	Ruedersdorf	60.28 316	eP		P	01 35 25.2	+0.6		
	comp=Z,108nm,1.1s								
CONA	Conrad Observa	60.35 310	iP		P	01 35 25.5	+0.2		
	comp=Z,80nm,1.2s,SNR=54								
LLD	Lille Linde	60.37 319	iP		P	01 35 26.9	+1.8		
LLD			pmax	pmax					
	comp=Z,50nm,1.2s								
LLD	Lille Linde	60.37 319	iP		P	01 35 26.9	+1.8		
	comp=Z,50nm,1.1s								
PVCC	Panska Ves	60.38 313	eP		P	01 35 26.0	+0.7		
PVCC			e			01 35 32.8			
PVCC			e			01 39 03.8			
PVCC			MLR	MLR					
	comp=Z,12µm,15.3s								
PVCC	Panska Ves	60.38 313	eP		P	01 35 26.0	+0.7		
PVCC			ex	x		01 35 32.8			
PVCC			ex	x		01 39 03.8			
PVCC			AMS	AMS		02 03 20.0			
	comp=Z,12µm,15.3s								
GOPC	GO Pecny, Ondr	60.43 313	eP		P	01 35 25.8	+0.1		
GOPC			ex	x		01 35 33.2			
GOPC			eS	S		01 43 43.3	+2.8		
KONO	Kongsberg	60.53 324	eP		P	01 35 25.8	-0.4		
KONO			pmax	pmax					
	comp=Z,103nm,1.2s								
KONO			MLR	MLR					
	comp=Z,17µm,19.0s								
KONO	Kongsberg	60.53 324	eP		P	01 35 25.1	-1.1		
KONO			IAMs_20	IAMs_20		02 02 55.6			
	comp=Z,17µm,19.5s								
KONO	Kongsberg	60.53 324	eP		P	01 35 25.8	-0.4		
	comp=Z,103nm,1.2s								
KONO			LR	LR					
	comp=Z,17µm,19.0s								
PRU	Pruhonice	60.56 313	eP		P	01 35 26.6	0.0		
PRU			e			01 35 34.1			
PRU			e			01 39 05.8			
PRU			eS	S		01 43 46.4	+4.3		
PRU			MLR	MLR					
	comp=Z,22µm,14.0s								
PRU	Pruhonice	60.56 313	eP		P	01 35 26.6	0.0		
PRU			ex	x		01 35 34.1			
PRU			ex	x		01 35 41.1			
PRU			ex	x		01 39 05.8			
PRU			eS	S		01 43 46.4	+4.3		
PRU			AMS	AMS		02 03 30.0			
	comp=Z,22µm,14.0s								
PRA	Prague	60.60 313	eP		P	01 35 25.8	-1.0		
PRA			e			01 35 33.2			
PRA			eS		S	01 43 43.3	+0.7		
PRA	Prague	60.60 313	eP		P	01 35 27.1	+0.3		
PRA			ex	x		01 35 34.0			
PRA			ex	x		01 39 06.2			
BRG	Berggiesshubel	60.66 314	eP		P	01 35 27.1	-0.1		
	comp=Z,125nm,1.4s								
	comp=N,10µm,14.8s								
	comp=E,10µm,15.3s								
	comp=Z,16µm,15.7s								
BRG	Berggiesshubel	60.66 314	eP		P	01 35 27.1	-0.1		
	comp=Z,32nm,1.0s								
BRG	Berggiesshubel	60.66 314	eP		P	01 35 27.1	-0.1		
BRG			pmax	pmax					
	comp=Z,125nm,1.4s								
BRG			MLR	MLR					
	comp=N,10µm,14.8s								
BRG			MLR	MLR					
	comp=E,10µm,15.3s								
BRG			MLR	MLR					
	comp=Z,16µm,15.7s								
STON	Ston	60.73 304	P		P	01 35 27.8	-0.1		
ARSA	Arzberg	60.78 310	⇑iPP		P	01 35 27.8	-0.4		
	comp=Z,42nm,1.4s,SNR=14								
SISC	Sisak	60.79 307	P		P	01 35 28.6	+0.4		
CLL	Collm	61.09 315	eP		P	01 35 30.2	0.0		
	comp=Z,51nm,1.1s								
CLL	Collm	61.09 315	⇑iP		P	01 35 29.6	-0.6		
CLL			i			01 35 33.7			
CLL			eS	S		01 43 52.0	+3.1		
CLL			pmax	pmax					
	comp=Z,131nm,1.4s								
CLL	Collm	61.09 315	⇑iP		P	01 35 29.6	-0.6		
	comp=Z,131nm,1.4s								
CLL			iS	sP		01 35 33.7	-1.9		
CLL			ePP	PP		01 37 45.0	+0.6		
CLL			eS	S		01 43 52.0	+3.1		
CLL			LmH			02 02 00.0			
	comp=N,18µm,21.6s								
CLL			LmH			02 02 00.0			
	comp=E,4µm,20.3s								
CLL			LmV			02 06 00.0			
	comp=Z,14µm,19.3s								
CLL	Collm	61.09 315	eP		P	01 35 30.1	0.0		
GOLS	Golise	61.11 308	iP		P	01 35 30.9	+0.4		
GOLS	Golise	61.11 308	iP		P	01 35 30.9	+0.5		
PERS	Pernice	61.24 309	iP		P	01 35 31.7	+0.4		
PERS	Pernice	61.24 309	iP		P	01 35 31.7	+0.3		
SOKA	Soboth	61.28 309	⇑iPP		P	01 35 31.5	-0.2		
	comp=Z,74nm,1.4s,SNR=38								
MOA	Molln	61.40 311	⇓iPP		P	01 35 32.4	0.0		
	comp=Z,41nm,1.4s,SNR=19								
KHC	Kasperske Hory	61.42 312	eP		P	01 35 31.5	-1.0		
KHC			e			01 35 39.2			
KHC			eS	S		01 43 57.3	+4.1		
KHC			MLR	MLR					
	comp=Z,18µm,15.1s								
KHC	Kasperske Hory	61.42 312	eP		P	01 35 31.5	-1.0		
KHC			ex	x		01 35 39.2			
KHC			ex	x		01 35 46.4			
KHC			eS	S		01 43 57.3	+4.1		
KHC			AMS	AMS		02 04 00.0			
	comp=Z,18µm,15.1s								
KHC	Kasperske Hory	61.42 312	eP		P	01 35 31.6	-1.0		
	comp=Z,84nm,1.5s								
GEC2	GERESS Array S	61.43 312	eP		P	01 35 32.8	+0.1		
	comp=Z,37nm,1.1s								
GEC2	GERESS Array S	61.43 312	eP		P	01 35 33.1	+0.4		
GEC2	GERESS Array S	61.43 312	eP		P	01 35 33.1	+0.4		
GERES	GERESS Array B	61.43 312	P		P	01 35 32.7	0.0		
	comp=Z,18nm,1.0s,baz=76,slow=5.6,SNR=53								
GERES			PKP2bc			02 04 55.6			
	comp=Z,0.7nm,1.0s,baz=284,slow=2.2,SNR=3.6								
UDBI	Udbina	61.51 307	P		P	01 35 32.2	-1.0		
BOJS	Bojanci	61.52 308	iP		P	01 35 33.4	+0.2		
BOJS	Bojanci	61.52 308	iP		P	01 35 33.4	+0.2		

comp=Z,5µm,20.0s
ADK Adak 62.88 44 PFAKE 01 35 50.0 +7.9
ADK LR LR
comp=Z,9µm,19.0s
ABTA Abfaltersbach 62.89 310⇑ *i*P **P 01 35 40.8 -1.7**
comp=Z,32nm,1.1s,SNR=15
UBBA Unterbreizbach 63.04 315 *e*P **P 01 35 44.4 +1.3**
comp=Z,33nm,1.2s
CUC Castrocucco 63.07 302 *e*P **P 01 35 43.4 -0.3**
comp=Z,29nm,1.1s
CUC LR LR
comp=Z,6µm,20.0s
FUR Furstenfeldbru 63.18 312 *e*P **P 01 35 44.8 +0.5**
comp=Z,159nm,1.1s
WTTA Wattenberg 63.27 311⇑ *i*pP **P 01 35 44.5 -0.6**
comp=Z,120nm,1.6s,SNR=35
WATA Walderalm 63.28 311⇓ *i*P **P 01 35 44.5 -0.7**
comp=Z,89nm,1.4s,SNR=14
WAKE Wake Island 63.41 84 PFAKE 01 36 00.0 +14
WAKE LR LR
comp=Z,5µm,21.0s
DAG Danmarks Havn 63.41 347 *i* P **P 01 35 44.3 -1.0**
comp=Z,4.2nm,1.0s
comp=Z,12µm,17.0s
MOTA Moosalm 63.58 311⇓ *i*pP **P 01 35 46.8 -0.3**
comp=Z,82nm,1.1s,SNR=23
CEL Celeste 63.67 300 *e*P **P 01 35 46.3 -1.4**
comp=Z,67nm,1.0s
CEL LR LR
comp=Z,4µm,19.0s
RETA Reutte 63.75 311⇑ *i*pP **P 01 35 47.5 -0.6**
comp=Z,64nm,1.3s,SNR=27
IBBN Ibbenburen 63.83 317 *e*P **P 01 35 48.9 +0.4**
comp=Z,40nm,1.0s
AQU L'Aquila 63.89 305 *e*P **P 01 35 48.4 -0.7**
AQU pmax pmax
comp=Z,105nm,1.1s
AQU MLR MLR
comp=Z,6µm,22.0s
AQU L'Aquila 63.89 305 *e*P **P 01 35 48.4 -0.7**
comp=Z,105nm,1.1s
AQU LR LR
comp=Z,6µm,22.0s
FETA Feichten 63.94 311⇑ *i*P **P 01 35 48.7 -0.8**
comp=Z,84nm,1.3s,SNR=37
WRAB Tennant Creek 63.98 140 P **P 01 35 49.0 -0.8**
comp=Z,613nm,1.5s,SNR=48
WRAB Tennant Creek 63.98 140 *ce*P **P 01 35 49.5 -0.3**
WRAB pmax pmax
comp=Z,441nm,1.2s
WRAB MLR MLR
comp=Z,17µm,24.0s
WRAB Tennant Creek 63.98 140 *e*P **P 01 35 49.5 -0.3**
comp=Z,186nm,1.2s
WRAB LR LR
comp=Z,6µm,20.0s
WRA Warramunga Arr 63.98 140 P **P 01 35 49.5 -0.3**
WRA pmax pmax
comp=Z,83nm,1.2s
WRA MLR MLR
comp=Z,4µm,18.2s
WRA Warramunga Arr 63.98 140 P **P 01 35 49.5 -0.3**
comp=Z,83nm,1.2s,baz=334,slow=7.0,SNR=100
WRA LR LR 02 08 51.8
comp=Z,4µm,18.2s,baz=300,slow=41
WB2 Warramunga Arr 63.99 140 *e*P **P 01 35 49.1 -0.7**
ALE Alert 64.10 357 P **P 01 35 48.1 -1.7**
comp=Z,148nm,1.3s,SNR=7.5
PMG Port Moresby 64.13 122⇑ *e*P **P 01 35 53.2 +2.3**
PMG pmax pmax
comp=Z,79nm,1.0s
PMG Port Moresby 64.13 122 LR LR 02 07 10.2
comp=Z,1µm,18.6s,baz=294,slow=39
PMG Port Moresby 64.13 122 *e*P **P 01 35 50.1 -0.8**
TNS Taunus Mts 64.18 315 *e*P **P 01 35 51.3 +0.4**
comp=Z,29nm,1.1s
STU Stuttgart 64.26 313 *e*P **P 01 35 51.9 +0.5**
comp=Z,61nm,1.2s
STU Stuttgart 64.26 313 *e*P **P 01 35 50.2 -1.1**
STU pmax pmax
comp=Z,133nm,1.4s
STU Stuttgart 64.26 313 *e*P **P 01 35 50.2 -1.1**
comp=Z,133nm,1.4s
DAVA Damuels 64.38 311⇑ *i*P **P 01 35 51.2 -1.2**
comp=Z,34nm,1.3s,SNR=11
BUG Bochum--Univer 64.43 316 *e*P **P 01 35 52.7 +0.3**
comp=Z,41nm,1.1s
WTSB Winterswijk 64.51 317 *e*P **P 01 35 53.3 +0.4**
comp=Z,163nm,1.5s
DAVOX Davos/Dischmat 64.57 311 P **P 01 35 53.0 -0.7**
DAVOX pmax pmax
comp=Z,30nm,0.6s
DAVOX Davos/Dischmat 64.57 311 P **P 01 35 53.0 -0.7**
comp=Z,30nm,0.6s,baz=90,slow=4.9,SNR=44
COEN Coen 64.64 129 *e*P **P 01 35 53.3 -0.9**
BFO Black Forest 64.96 313 P **P 01 35 55.0 -1.0**
comp=Z,290nm,1.3s,SNR=18
BFO Black Forest 64.96 313 *e*P **P 01 35 55.8 -0.2**
comp=Z,33nm,1.0s
BFO Black Forest 64.96 313 *e*P **P 01 35 55.5 -0.5**
BFO pmax pmax
comp=Z,124nm,1.5s
BFO MLR MLR
comp=Z,10µm,19.0s
BFO Black Forest 64.96 313 *e*P **P 01 35 55.5 -0.5**
comp=Z,124nm,1.5s
BFO LR LR
comp=Z,10µm,19.0s
TUE Stuetta 65.02 310 *e*P **P 01 35 55.1 -1.5**
comp=Z,90nm,1.2s
TUE LR LR
comp=Z,17µm,19.0s
VLC Villacollemand 65.24 308 *e*P **P 01 35 57.3 -0.6**
comp=Z,210nm,1.7s
VLC LR LR
comp=Z,10µm,20.0s
KMBO Kilima Mbogo 65.27 251 *ce*P **P 01 36 00.6 +1.9**
KMBO pmax pmax
comp=Z,60nm,1.1s
KMBO Kilima Mbogo 65.27 251 P **P 01 35 58.9 +0.2**
comp=Z,60nm,1.1s,baz=42,slow=10,SNR=30
KMBO LR LR 02 05 37.1
comp=Z,6µm,18.3s,baz=128,slow=37
HGN Heimansgroeve 65.47 316 *e*P **P 01 35 59.4 +0.2**
comp=Z,87nm,1.4s
HGN *e*S S 01 44 28.4 -15
HGN Heimansgroeve 65.47 316 *e*L L 02 09 39.9
comp=Z,8µm,19.2s
LRW Lerwick 65.47 327 AMS AMS 02 05 58.2
comp=Z,18µm,18.6s
MEM Membach 65.48 316 P **P 01 35 59.5 +0.2**
comp=Z,37nm,1.7s
CDF Champ du Feu 65.57 313 *e*P **P 01 35 58.8 -1.2**
comp=Z,337nm,1.7s
CDF Champ du Feu 65.57 313 *e*P **P 01 35 58.8 -1.2**
CDF pmax pmax
comp=Z,337nm,1.7s
CDF Champ du Feu 65.57 313 *e*P **P 01 35 58.8 -1.2**
comp=Z,337nm,1.7s
BEBN Eben Emael 65.60 316 P **P 01 36 01.7 +1.7**
WDD Wield Dalam 65.62 298 PFAKE 01 36 10.0 +10
WDD LR LR
comp=Z,4µm,19.0s
ECH Echery 65.72 313 *e*P **P 01 35 59.9 -1.0**
ECH pmax pmax
comp=Z,53nm,1.3s
ECH MLR MLR
comp=Z,9µm,22.0s
ECH Echery 65.72 313 *e*P **P 01 35 59.9 -1.0**
comp=Z,53nm,1.3s
ECH LR LR
comp=Z,9µm,22.0s
WLF Walferdange 65.76 315 P **P 01 36 01.5 +0.4**
comp=Z,140nm,1.7s
WLF Walferdange 65.76 315 *e*P **P 01 36 02.0 +0.8**
comp=Z,123nm,1.1s
WLF Walferdange 65.76 315 *e*P **P 01 36 01.9 +0.8**
WLF pmax pmax
comp=Z,196nm,1.2s
WLF MLR MLR
comp=Z,12µm,19.0s
WLF Walferdange 65.76 315 *e*P **P 01 36 01.9 +0.8**
comp=Z,196nm,1.2s
WLF LR LR
comp=Z,12µm,19.0s
CLTB Caltabellotta 65.89 300 PFAKE 01 36 10.0 +7.8
CLTB LR LR
comp=Z,3µm,19.0s
BCLA Clavier 65.97 316 P **P 01 36 00.8 -1.7**
comp=Z,37nm,1.7s
HINF Hinteralfeld 66.07 312 *e*P **P 01 36 01.8 -1.4**
comp=Z,272nm,1.7s
HINF Hinteralfeld 66.07 312 *e*P **P 01 36 01.8 -1.4**
HINF pmax pmax
comp=Z,272nm,1.7s
HINF Hinteralfeld 66.07 312 *e*P **P 01 36 01.8 -1.4**
comp=Z,272nm,1.7s
HAU Haudompre 66.30 313 *e*P **P 01 36 03.3 -1.4**
comp=Z,197nm,1.7s
HAU *e*R
comp=Z,13µm,18.5s
HAU Haudompre 66.30 313 *e*P **P 01 36 03.3 -1.4**
HAU pmax pmax
comp=Z,197nm,1.7s
HAU Haudompre 66.30 313 *e*P **P 01 36 03.3 -1.4**
comp=Z,197nm,1.7s
UCC Uccle 66.37 316 P **P 01 36 06.3 +1.3**
comp=Z,97nm,2.4s
GIVF Givet 66.38 315 *e*P **P 01 36 04.1 -1.0**
comp=Z,264nm,1.5s
GIVF Givet 66.38 315 *e*P **P 01 36 04.1 -1.0**
GIVF pmax pmax
comp=Z,264nm,1.5s
GIVF Givet 66.38 315 *e*P **P 01 36 04.1 -1.0**
comp=Z,264nm,1.5s
PAGF Fort de Pagny 66.46 314 *e*P **P 01 36 04.9 -0.8**
comp=Z,188nm,1.9s
PAGF Fort de Pagny 66.46 314 *e*P **P 01 36 04.9 -0.8**
comp=Z,188nm,1.9s
DOU Dourbes 66.52 315 P **P 01 36 07.4 +1.4**
comp=Z,35nm,2.0s
SNF Seneffe 66.53 316 P **P 01 36 07.6 +1.6**
RER Riviere de l'E 66.55 222 PFAKE 01 36 20.0 +13
RER LR LR
comp=Z,7µm,20.0s
BAIF Baives 66.76 316 *e*P **P 01 36 06.7 -0.8**
comp=Z,224nm,1.6s
BAIF Baives 66.76 316 *e*P **P 01 36 06.7 -0.8**
BAIF pmax pmax
comp=Z,224nm,1.6s
BAIF Baives 66.76 316 *e*P **P 01 36 06.7 -0.8**
comp=Z,224nm,1.6s
PGF Pioggiola 66.81 307 *e*P **P 01 36 07.0 -1.1**
comp=Z,297nm,1.5s
PGF Pioggiola 66.81 307 *e*P **P 01 36 07.0 -1.1**
PGF pmax pmax
comp=Z,297nm,1.5s
PGF Pioggiola 66.81 307 *e*P **P 01 36 07.0 -1.1**
comp=Z,297nm,1.5s
AS31 Alice Springs 66.81 143 *e*P **P 01 36 07.8 -0.3**
ASAR Alice Springs 66.81 143 P **P 01 36 08.1 0.0**
comp=Z,29nm,0.8s,baz=327,slow=6.6,SNR=103
ASAR PKP2ab 02 04 43.8
comp=Z,1.0nm,0.8s,baz=132,slow=3.0,SNR=5.3
ASAR LR LR 02 07 09.1
comp=Z,3µm,22.0s,baz=306,slow=38
MEZF Maizieres J'vi 66.89 314 *e*P **P 01 36 07.5 -0.9**
comp=Z,428nm,1.6s
MEZF Maizieres J'vi 66.89 314 *e*P **P 01 36 07.5 -0.9**
comp=Z,428nm,1.6s
SFTF Sexfontaines 67.03 313 *e*P **P 01 36 07.9 -1.3**
comp=Z,262nm,1.3s
SFTF Sexfontaines 67.03 313 *e*P **P 01 36 07.9 -1.3**
comp=Z,262nm,1.3s
CABF La Chapelle 67.03 312 *e*P **P 01 36 08.1 -1.3**
comp=Z,121nm,1.6s
CABF La Chapelle 67.03 312 *e*P **P 01 36 08.1 -1.3**
CABF pmax pmax
comp=Z,121nm,1.6s
CABF La Chapelle 67.03 312 *e*P **P 01 36 08.1 -1.3**
comp=Z,121nm,1.6s
LPG La Plagne 67.07 310 *e*P **P 01 36 09.3 -0.6**
comp=Z,111nm,0.8s
LPG La Plagne 67.07 310 *e*P **P 01 36 09.3 -0.6**
LPG pmax pmax
comp=Z,111nm,0.8s
LPG La Plagne 67.07 310 *e*P **P 01 36 09.3 -0.6**
comp=Z,111nm,0.8s
LPL La Plagne 67.08 310 *e*P **P 01 36 09.2 -0.7**
comp=Z,226nm,1.1s
LPL La Plagne 67.08 310 *e*P **P 01 36 09.2 -0.7**
LPL pmax pmax
comp=Z,226nm,1.1s
LPL La Plagne 67.08 310 *e*P **P 01 36 09.2 -0.7**
comp=Z,226nm,1.1s
MLA1 Latheron 67.27 326 *e*P **P 01 36 11.6 +1.1**
BNI Bardonecchia 67.30 310 *e*P **P 01 36 10.4 -0.8**
BNI pmax pmax
comp=Z,38nm,1.0s
BNI MLR MLR
comp=Z,7µm,20.0s
BNI Bardonecchia 67.30 310 *e*P **P 01 36 10.4 -0.8**
comp=Z,38nm,1.0s
BNI LR LR
comp=Z,7µm,20.0s
SBF Sospel 67.31 308 *e*P **P 01 36 09.9 -1.3**
comp=Z,142nm,1.0s
SBF Sospel 67.31 308 *e*P **P 01 36 09.9 -1.3**
SBF pmax pmax
comp=Z,142nm,1.0s
SBF Sospel 67.31 308 *e*P **P 01 36 09.9 -1.3**
comp=Z,142nm,1.0s
MBDF Montbardon 67.38 309 *e*P **P 01 36 09.8 -1.9**
comp=Z,50nm,0.9s
MBDF Montbardon 67.38 309 *e*P **P 01 36 09.8 -1.9**
MBDF pmax pmax
comp=Z,50nm,0.9s
MBDF Montbardon 67.38 309 *e*P **P 01 36 09.8 -1.9**
comp=Z,50nm,0.9s
BIGH Upper Bighouse 67.44 326 *e*P **P 01 36 11.7 +0.1**
BIGH AMB AMB 01 36 14.8
comp=Z,210nm,1.4s
DRUM Mains of Drumt 67.46 324 AMS AMS 02 07 19.8
comp=Z,8µm,17.1s
MME1 Meikle Cairn 67.52 325 *e*P **P 01 36 13.1 +0.9**
MCD Coleburn Disti 67.54 325 *e*P **P 01 36 13.4 +1.1**
IM04 Indian Mountai 67.63 25 *e*P **P 01 36 12.7 -0.1**
VSL Villasalto 67.82 303 *e*P **P 01 36 13.6 -0.8**
comp=Z,47nm,1.3s
VSL LR LR
comp=Z,5µm,19.0s
MVH1 Achvaich 67.83 326 *e*P **P 01 36 15.0 +0.9**
ORIF Oris-en-Rattie 67.87 310 *e*P **P 01 36 13.5 -1.3**
comp=Z,90nm,0.9s
ORIF *e*R
comp=Z,14µm,17.5s
ORIF Oris-en-Rattie 67.87 310 *e*P **P 01 36 13.5 -1.3**
ORIF pmax pmax
comp=Z,90nm,0.9s
ORIF Oris-en-Rattie 67.87 310 *e*P **P 01 36 13.5 -1.3**
comp=Z,90nm,0.9s
EDU Dundee 67.89 324 *e*P **P 01 36 15.3 +0.8**
FRF La Foret Royal 67.95 308 *e*P **P 01 36 13.8 -1.4**
comp=Z,278nm,1.8s
FRF La Foret Royal 67.95 308 *e*P **P 01 36 13.8 -1.4**
FRF pmax pmax
comp=Z,278nm,1.8s
FRF La Foret Royal 67.95 308 *e*P **P 01 36 13.8 -1.4**
comp=Z,278nm,1.8s
MDO Dochfour 68.14 325 *e*P **P 01 36 15.8 -0.3**
LMR La Mourre 68.14 308 *e*P **P 01 36 15.1 -1.2**
comp=Z,285nm,1.7s
LMR La Mourre 68.14 308 *e*P **P 01 36 15.1 -1.2**
LMR pmax pmax
comp=Z,285nm,1.7s
LMR La Mourre 68.14 308 *e*P **P 01 36 15.1 -1.2**
comp=Z,285nm,1.7s
LOR Lormes 68.14 313 *e*P **P 01 36 14.6 -1.7**
comp=Z,183nm,1.6s
LOR *e*R
comp=Z,10µm,22.0s
LOR Lormes 68.14 313 *e*P **P 01 36 14.6 -1.7**
LOR pmax pmax
comp=Z,183nm,1.6s
LOR Lormes 68.14 313 *e*P **P 01 36 14.6 -1.7**
comp=Z,183nm,1.6s
COLD Coldfoot 68.16 23 *e*P **P 01 36 16.0 -0.1**
comp=Z,64nm,1.4s
EBL Broad Law 68.25 323 *e*P **P 01 36 17.8 +1.0**
EDI Edinburgh 68.25 323 AMS AMS 02 09 16.1
comp=Z,9µm,14.0s
HPK Haverah Park 68.34 321 AMS AMS 02 07 06.3
comp=Z,12µm,20.2s
SMF Signal de Mont 68.42 312 *e*P **P 01 36 16.7 -1.4**
comp=Z,306nm,1.4s
SMF Signal de Mont 68.42 312 *e*P **P 01 36 16.7 -1.4**
SMF pmax pmax
comp=Z,307nm,1.4s
SMF Signal de Mont 68.42 312 *e*P **P 01 36 16.7 -1.4**
comp=Z,306nm,1.4s
SSF Saint Saulge 68.45 313 *e*P **P 01 36 16.7 -1.5**
comp=Z,231nm,1.6s
SSF Saint Saulge 68.45 313 *e*P **P 01 36 16.7 -1.5**
SSF pmax pmax
comp=Z,231nm,1.6s
SSF Saint Saulge 68.45 313 *e*P **P 01 36 16.7 -1.5**
comp=Z,231nm,1.6s
SMRF Simiane la Rot 68.47 309 *e*P **P 01 36 17.5 -1.0**
comp=Z,217nm,1.8s
SMRF Simiane la Rot 68.47 309 *e*P **P 01 36 17.5 -1.0**
comp=Z,217nm,1.8s
EKA Eskdalemuir Ar 68.51 323 P **P 01 36 17.6 -0.9**
EKA pmax pmax
comp=Z,53nm,1.1s
EKA Eskdalemuir Ar 68.51 323 P **P 01 36 17.6 -0.9**
comp=Z,53nm,1.1s,baz=64,slow=7.5,SNR=25
ESK Eskdalemuir 68.54 323 *e*P **P 01 36 18.3 -0.3**
ESK pmax pmax
comp=Z,118nm,1.3s
ESK MLR MLR
comp=Z,8µm,19.0s
ESK Eskdalemuir 68.54 323 *e*P **P 01 36 19.3 +0.7**
ESK AMB AMB 01 36 20.6
comp=Z,83nm,1.5s
ESK AMS AMS 02 09 55.6
comp=Z,8µm,13.6s
ESK AMS AMS 02 09 55.9
comp=Z,29µm,13.6s
ESK Eskdalemuir 68.54 323 *e*P **P 01 36 18.3 -0.3**
comp=Z,118nm,1.3s
ESK LR LR
comp=Z,8µm,19.0s
KAC Achnashellach 68.56 325 *e*P **P 01 36 19.4 +0.6**
ECK Cauldkaine Hil 68.56 323 *e*P **P 01 36 19.4 +0.6**
SSB Saint Sauveur 68.57 311 *e*P **P 01 36 17.8 -1.3**
SSB pmax pmax
comp=Z,165nm,2.0s
SSB MLR MLR
comp=Z,4µm,20.0s
SSB Saint Sauveur 68.57 311 *e*P **P 01 36 17.8 -1.3**
comp=Z,165nm,2.0s
SSB LR LR
comp=Z,4µm,20.0s
LHO Holmfirth 68.65 321 *e*P **P 01 36 20.2 +0.8**
HMNX Herstmonceux 68.65 317 AMS AMS 02 09 24.5
comp=Z,22µm,14.1s
AVF Avril sur Loir 68.66 313 *e*P **P 01 36 18.2 -1.3**
comp=Z,269nm,1.3s
AVF Avril sur Loir 68.66 313 *e*P **P 01 36 18.2 -1.3**
AVF pmax pmax
comp=Z,269nm,1.3s
AVF Avril sur Loir 68.66 313 *e*P **P 01 36 18.2 -1.3**
comp=Z,269nm,1.3s
VIVF Saint-Julien-l 68.67 310 *e*P **P 01 36 18.4 -1.3**
comp=Z,240nm,1.6s
VIVF Saint-Julien-l 68.67 310 *e*P **P 01 36 18.4 -1.3**
VIVF pmax pmax
comp=Z,240nm,1.6s
VIVF Saint-Julien-l 68.67 310 *e*P **P 01 36 18.4 -1.3**
comp=Z,240nm,1.6s
KESW Keswick, Cumbr 68.83 322 AMS AMS 02 09 25.4
comp=Z,7µm,17.1s
HYF Humbligny 68.89 313 *e*P **P 01 36 19.9 -1.1**
HYF Humbligny 68.89 313 *e*P **P 01 36 19.9 -1.1**
PGBU Glenifferbraes 68.95 324 *e*P **P 01 36 20.9 -0.3**
PGBU AMS AMS 02 08 17.6
comp=Z,9µm,17.0s
BGF Bois d'Agland 69.08 312 *e*P **P 01 36 20.8 -1.4**
comp=Z,200nm,1.5s
BGF Bois d'Agland 69.08 312 *e*P **P 01 36 20.8 -1.4**
BGF pmax pmax
comp=Z,200nm,1.5s
BGF Bois d'Agland 69.08 312 *e*P **P 01 36 20.8 -1.4**
comp=Z,200nm,1.5s
KEST Kesra 69.48 300 P **P 01 36 24.5 -0.5**
comp=Z,2.6nm,0.5s,baz=3.4,slow=1.6,SNR=22
KEST Kesra 69.48 300 *e*P **P 01 36 24.3 -0.7**
SVW2 Sparrevohn 69.50 30 *e*P **P 01 36 25.1 +0.6**
comp=Z,175nm,1.6s
GAL1 Galloway 69.52 323 AMS AMS 02 09 39.2
comp=Z,8µm,18.6s
LASF Ste Croix 69.54 310 *e*P **P 01 36 24.2 -0.9**
comp=Z,272nm,1.7s
LASF Ste Croix 69.54 310 *e*P **P 01 36 24.2 -0.9**
comp=Z,272nm,1.7s
TCF Toulx Ste Croi 69.59 312 *e*P **P 01 36 24.4 -1.0**
comp=Z,456nm,1.6s
TCF Toulx Ste Croi 69.59 312 *e*P **P 01 36 24.4 -1.0**
TCF pmax pmax
comp=Z,456nm,1.6s
TCF Toulx Ste Croi 69.59 312 *e*P **P 01 36 24.4 -1.0**
comp=Z,456nm,1.6s
FOEL Foel Wylfa 69.67 320 *e*P **P 01 36 26.9 +1.2**
FOEL AMB AMB 01 36 28.1
comp=Z,118nm,1.5s
HLM1 Long Mynd 69.67 320 *e*P **P 01 36 25.1 -0.7**
HLM1 AMB AMB 01 36 28.0
comp=Z,111nm,1.5s
HLM1 AMS AMS 02 08 12.9
comp=Z,14µm,21.0s
PPLA Purkeypile 69.87 27 *e*P **P 01 36 27.3 +0.3**
comp=Z,534nm,1.5s
LDF La Druitiere 69.95 315 *e*P **P 01 36 26.1 -1.4**
comp=Z,171nm,1.4s
LDF La Druitiere 69.95 315 *e*P **P 01 36 26.1 -1.4**
LDF pmax pmax
comp=Z,171nm,1.4s
LDF La Druitiere 69.95 315 *e*P **P 01 36 26.1 -1.4**
comp=Z,171nm,1.4s
KTH Kantishna Hill 69.98 26 *e*P **P 01 36 27.5 0.0**
comp=Z,246nm,1.6s
MCH1 Michaelchurch 69.98 320 *e*P **P 01 36 27.4 -0.3**
MCH1 AMB AMB 01 36 29.4
comp=Z,112nm,1.6s
MCH1 AMS AMS 02 10 51.7
comp=Z,11µm,15.1s
ABPO Ambohimpanom 70.02 230 PFAKE 01 36 40.0 +12
ABPO LR LR
comp=Z,6µm,19.0s
FLN La Foliniere 70.08 316 *e*P **P 01 36 27.0 -1.3**
comp=Z,322nm,1.6s
FLN *e*R
comp=Z,15µm,18.5s
FLN La Foliniere 70.08 316 *e*P **P 01 36 27.0 -1.3**
FLN pmax pmax
comp=Z,322nm,1.6s
FLN La Foliniere 70.08 316 *e*P **P 01 36 27.0 -1.3**
comp=Z,322nm,1.6s
SUMG Summit 70.10 347 *i* P **P 01 36 26.9 -1.6**
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG MLR MLR
comp=Z,8µm,23.0s
SUMG Summit 70.10 347 *e*P **P 01 36 27.1 -1.4**
comp=Z,801nm,2.7s
SUMG Summit 70.10 347 *i* P **P 01 36 26.9 -1.6**
comp=Z,17nm,1.1s
comp=Z,8µm,23.0s
WLF1 Llynfaes 70.11 321 *e*P **P 01 36 29.2 +0.8**
WLF1 AMS AMS 02 08 08.9
comp=Z,8µm,23.7s
FORT Forrest 70.24 151 *e*P **P 01 36 31.3 +1.9**
comp=Z,215nm,1.4s
TRF Thorofare Moun 70.27 26 *e*P **P 01 36 28.6 -0.9**
comp=Z,67nm,1.4s
YRE Yr Eifl 70.28 321 *e*P **P 01 36 30.4 +1.0**
CAF Calviac 70.30 311 *e*P **P 01 36 29.0 -0.8**
comp=Z,166nm,1.5s
CAF Calviac 70.30 311 *e*P **P 01 36 29.0 -0.8**
CAF pmax pmax
comp=Z,166nm,1.5s
CAF Calviac 70.30 311 *e*P **P 01 36 29.0 -0.8**
comp=Z,166nm,1.5s
COLA College 70.30 24 *e*P **P 01 36 29.1 -0.2**
comp=Z,143nm,1.4s
COLA LR LR
comp=Z,10µm,19.0s
RJF Les Rejaudoux 70.47 312 *e*P **P 01 36 30.2 -0.6**
comp=Z,426nm,1.6s
RJF *e*R
comp=Z,13µm,18.5s

RJF Les Rejaudoux 70.47 312 eP P 01 36 30.2 -0.6
RJF pmax pmax
comp=Z,426nm,1.6s
RJF Les Rejaudoux 70.47 312 eP P 01 36 30.2 -0.6
comp=Z,426nm,1.6s
CMAH Djebel Manchou 70.47 301 P P 01 36 31.8 +0.8
GRR Gorron 70.48 315 eP P 01 36 29.5 -1.2
comp=Z,127nm,1.1s
GRR Gorron 70.48 315 eP P 01 36 29.5 -1.2
GRR pmax pmax
comp=Z,127nm,1.1s
GRR Gorron 70.48 315 eP P 01 36 29.5 -1.2
comp=Z,127nm,1.1s
ABSA Djebel Ababsia 70.59 301 P P 01 36 31.7 -0.1
MCK McKinley 70.60 25 eP P 01 36 31.6 +0.3
comp=Z,21nm,0.9s
ILAR Eielson Array 70.69 24 P P 01 36 30.9 -0.9
comp=Z,17nm,1.1s,baz=292,slow=4.9,SNR=50
ILAR PKPPKP P'P'df 02 04 31.4 -5.6
comp=Z,0.4nm,0.8s,baz=132,slow=2.5,SNR=4.8
ILAR LR LR 02 09 24.6
comp=Z,7µm,18.5s,baz=296,slow=38
JSA Saint Aubin 70.86 317 AMS AMS 02 10 53.7
comp=Z,17µm,14.7s
MFF Saint Martin d 70.89 314 eP P 01 36 32.0 -1.3
comp=Z,332nm,1.7s
MFF Saint Martin d 70.89 314 eP P 01 36 32.0 -1.3
MFF pmax pmax
comp=Z,332nm,1.7s
MFF Saint Martin d 70.89 314 eP P 01 36 32.0 -1.3
comp=Z,332nm,1.7s
MTLF Montolieu 70.94 310 eP P 01 36 32.6 -1.0
comp=Z,178nm,1.7s
MTLF Montolieu 70.94 310 eP P 01 36 32.6 -1.0
MTLF pmax pmax
comp=Z,178nm,1.7s
MTLF Montolieu 70.94 310 eP P 01 36 32.6 -1.0
comp=Z,178nm,1.7s
RSO Redoubt South 71.01 29 eP P 01 36 33.9 -0.2
CKFL Kef-Lekhel 71.08 301 P P 01 36 35.3 +0.5
BORG Borgarnes 71.11 336 eP P 01 36 33.8 -0.5
BORG pmax pmax
comp=Z,130nm,1.5s
BORG MLR MLR
comp=Z,12µm,22.0s
BORG Borgarnes 71.11 336 eP P 01 36 33.8 -0.5
comp=Z,130nm,1.5s
BORG LR LR
comp=Z,12µm,22.0s
CTAO Charters Tower 71.13 131 eP P 01 36 35.0 0.0
CTAO pmax pmax
comp=Z,77nm,1.1s
CTAO MLR MLR
comp=Z,3µm,21.0s
CTAO Charters Tower 71.13 131 eP P 01 36 35.0 0.0
comp=Z,77nm,1.1s
CTAO LR LR
comp=Z,3µm,21.0s
LFF La Frestale 71.13 312 eP P 01 36 34.1 -0.7
comp=Z,268nm,1.6s
LFF La Frestale 71.13 312 eP P 01 36 34.1 -0.7
LFF pmax pmax
comp=Z,268nm,1.6s
LFF La Frestale 71.13 312 eP P 01 36 34.1 -0.7
comp=Z,268nm,1.6s
KULLO Kullorsuaq 71.14 353 i P P 01 36 34.3 0.0
KULLO pmax pmax
comp=Z,36nm,0.9s
KULLO MLR MLR
comp=Z,12µm,19.0s
KULLO Kullorsuaq 71.14 353 i P P 01 36 34.3 0.0
comp=Z,36nm,0.9s
comp=Z,12µm,18.0s
CASM Ain Smara 71.31 301 P P 01 36 35.4 -0.7
SGMF Saint Gilles 71.54 316 eP P 01 36 36.3 -0.9
comp=Z,303nm,1.4s
SGMF Saint Gilles 71.54 316 eP P 01 36 36.3 -0.9
SGMF pmax pmax
comp=Z,303nm,1.4s
SGMF Saint Gilles 71.54 316 eP P 01 36 36.3 -0.9
comp=Z,303nm,1.4s
DFRA Djebel Bou Aff 71.61 302 P P 01 36 38.9 +0.9
PMR Palmer 71.80 27 eP P 01 36 38.1 -0.3
RC01 Rabbit Creek A 71.86 28 eP P 01 36 39.0 +0.1
comp=Z,130nm,1.3s
ROSF Rostrenen 71.91 316 eP P 01 36 38.6 -0.8
comp=Z,147nm,1.1s
ROSF Rostrenen 71.91 316 eP P 01 36 38.6 -0.8
ROSF pmax pmax
comp=Z,147nm,1.1s
ROSF Rostrenen 71.91 316 eP P 01 36 38.6 -0.8
comp=Z,147nm,1.1s
QUIF Quistinic 72.06 316 eP P 01 36 39.2 -1.1
comp=Z,414nm,1.8s
QUIF Quistinic 72.06 316 eP P 01 36 39.2 -1.1
QUIF pmax pmax
comp=Z,414nm,1.8s
QUIF Quistinic 72.06 316 eP P 01 36 39.2 -1.1
comp=Z,414nm,1.8s
SET Setif 72.11 302 P P 01 36 42.0 +1.0
CKHR Kef el Ahmar 72.12 302 P P 01 36 41.1 0.0
RES Resolute Bay 72.17 3 eP P 01 36 39.9 -0.6
RES pmax pmax
comp=Z,71nm,0.9s
RES Resolute Bay 72.17 3 eP P 01 36 39.9 -0.6
comp=Z,71nm,0.9s
INK Inuvik 72.25 17 ePKIKP P 01 36 40.0 -1.1
INK Inuvik 72.25 17 eP P 01 36 40.8 -0.3
INK pmax pmax
comp=Z,118nm,1.4s
INK Inuvik 72.25 17 P P 01 36 40.0 -1.1
comp=Z,60nm,1.2s,baz=316,slow=7.7,SNR=45
INK Inuvik 72.25 17 eP P 01 36 40.8 -0.3
comp=Z,118nm,1.4s
EPF Esparros 72.29 310 eP P 01 36 40.2 -1.7
comp=Z,127nm,1.7s
EPF Esparros 72.29 310 eP P 01 36 40.2 -1.7
EPF pmax pmax
comp=Z,127nm,1.7s
EPF Esparros 72.29 310 eP P 01 36 40.2 -1.7
comp=Z,127nm,1.7s
PAX Paxson 72.31 25 eP P 01 36 41.4 -0.3
comp=Z,50nm,1.4s
SEW Seward 72.56 29 eP P 01 36 42.7 -0.4
comp=Z,103nm,1.4s
EGAK Eagle 72.58 22 eP P 01 36 42.8 -0.3
comp=Z,84nm,1.4s
EGAK LR LR
comp=Z,11µm,19.0s
KDAK Kodiak Island 72.60 32 P P 01 36 43.3 0.0
comp=Z,475nm,1.5s,SNR=12
KDAK Kodiak Island 72.60 32 PFAKE 01 36 50.0 +6.7
KDAK LR LR
comp=Z,13µm,22.0s
OHAK Old Harbor 72.61 32 eP P 01 36 43.3 -0.1
comp=Z,181nm,1.6s
ETSF Etsaut 72.93 310 eP P 01 36 45.2 -0.5
ETSF Etsaut 72.93 310 eP P 01 36 45.2 -0.5
ETSF Etsaut 72.93 310 eP P 01 36 45.2 -0.5
SJPF Ste Jean 73.25 311 eP P 01 36 46.9 -0.6
comp=Z,138nm,1.6s
SJPF Ste Jean 73.25 311 eP P 01 36 46.9 -0.6
SJPF pmax pmax
comp=Z,138nm,1.6s
SJPF Ste Jean 73.25 311 eP P 01 36 46.9 -0.6
comp=Z,138nm,1.6s
DIV Divide 73.36 27 eP P 01 36 48.0 +0.1
comp=Z,34nm,0.8s
ADJB Djebel Djouab 73.53 303 P P 01 36 51.1 +1.7
VAL Valentia 73.87 322 eP P 01 36 49.0 -1.9
BMRM Bremner River 73.90 26 eP P 01 36 51.6 +0.5
comp=Z,133nm,1.1s
ILULI Ilulissat 75.19 349 i P P 01 36 57.6 -0.7
ILULI pmax pmax
comp=Z,18nm,1.0s
ILULI MLR MLR
comp=Z,9µm,18.0s
ILULI Ilulissat 75.19 349 i P P 01 36 57.6 -0.7
comp=Z,18nm,1.0s
comp=Z,9µm,18.0s
BBOO Buckleboo 75.46 146 eP P 01 37 00.1 -0.2
ESDC Sonseca Array 76.78 309 P P 01 37 08.0 -0.1
comp=Z,5.4nm,0.9s,baz=47,slow=5.8,SNR=18
ESDC LR LR 02 14 03.4
comp=Z,2µm,20.4s,baz=35,slow=38
SFJD Kangerlussuaq 77.08 347 eP P 01 37 07.9 -1.2
SFJD pmax pmax
comp=Z,110nm,1.2s
SFJD MLR MLR
comp=Z,13µm,22.0s
SFJD Kangerlussuaq 77.08 347 eP P 01 37 07.9 -1.2
comp=Z,110nm,1.2s
SFJD LR LR
comp=Z,13µm,22.0s
SFJD Kangerlussuaq 77.08 347 i P P 01 37 08.3 -0.8
comp=Z,29nm,1.1s
comp=Z,9µm,19.0s
PAB San Pablo 77.11 309 eP P 01 37 07.8 -2.1
PAB pmax pmax
comp=Z,41nm,1.5s
PAB MLR MLR
comp=Z,4µm,21.0s
PAB San Pablo 77.11 309 eP P 01 37 07.8 -2.1
comp=Z,41nm,1.5s
PAB LR LR
comp=Z,4µm,21.0s
STKA Stephens Creek 77.42 142 P P 01 37 11.0 -0.4
STKA pmax pmax
comp=Z,21nm,0.8s
STKA MLR MLR
comp=Z,4µm,19.0s
STKA Stephens Creek 77.42 142 P P 01 37 11.0 -0.4
comp=Z,29nm,1.0s,baz=325,slow=5.9,SNR=16
STKA LR LR 02 16 20.8
comp=Z,4µm,19.0s,baz=294,slow=40
MVO Moncorvo 77.95 311 eP P 01 37 16.1 +1.5
comp=Z,57nm,1.9s
EIDS Eidsvold 78.00 131 eP P 01 37 15.9 +1.1
comp=Z,60nm,1.1s
PGAV Gavieira, Arco 78.28 313 eP P 01 37 16.0 -0.4
comp=Z,94nm,1.8s
SKAG Skagway 78.28 24 eP P 01 37 15.8 -0.2
comp=Z,196nm,1.3s
TAM Tamanrasset 78.66 290 eP P 01 37 17.8 -1.1
TAM pmax pmax
comp=Z,34nm,1.8s
TAM MLR MLR
comp=Z,5µm,20.0s
TAM Tamanrasset 78.66 290 eP P 01 37 17.8 -1.1
comp=Z,34nm,1.8s
TAM LR LR
comp=Z,5µm,20.0s
MTE Manteigas 78.70 311 eP P 01 37 19.9 +1.2
comp=Z,120nm,1.7s
MTE Manteigas 78.70 311 PFAKE 01 37 30.0 +11
MTE LR LR
comp=Z,4µm,20.0s
PVIS Viseu 78.74 311 eP P 01 37 21.3 +2.4
comp=Z,88nm,1.7s
PMRV Marv??o 79.14 310 eP P 01 37 22.8 +1.7
comp=Z,75nm,1.7s
PESTR Estremoz 79.58 310 eP P 01 37 25.1 +1.6
comp=Z,51nm,1.5s
PBAR Barrancos 79.61 309 eP P 01 37 25.8 +2.1
comp=Z,175nm,1.8s
PTOM Tomar 79.69 311 eP P 01 37 26.0 +2.0
comp=Z,94nm,1.8s
EVO Evora 80.05 310 eP P 01 37 26.7 +0.7
comp=Z,206nm,1.6s
EVO eR
comp=Z,8µm,21.5s
EVO Evora 80.05 310 eP P 01 37 27.2 +1.2
comp=Z,73nm,1.9s
SIT Sitka 80.07 26 eP P 01 37 28.3 +2.6
SIT Sitka 80.07 26 eP P 01 37 28.3 +2.6
EVOP Sao Brissos 80.12 310 eP P 01 37 26.7 +0.3
EVOP pmax pmax
comp=Z,206nm,1.6s
EVOP Sao Brissos 80.12 310 eP P 01 37 26.7 +0.3
comp=Z,206nm,1.6s
MESJ Messejana 80.57 309 eP P 01 37 30.8 +2.0
comp=Z,108nm,2.0s
PNCL Nicolau / Gran 80.62 309 eP P 01 37 30.3 +1.2
comp=Z,89nm,1.6s
DLBC Dease Lake 80.84 23 eP P 01 37 29.4 -0.6
MDT Midelt 80.94 303 P P 01 37 30.4 -0.7
comp=Z,5.4nm,1.0s,baz=86,slow=7.5,SNR=8.0
MDT PP PP 01 40 38.1 +2.8
comp=Z,3.1nm,0.9s,baz=64,slow=12,SNR=6.1
LSZ Lusaka 80.98 245 eP P 01 37 31.1 -0.3
LSZ Lusaka 80.98 245 eP P 01 37 30.4 -1.0
LSZ pmax pmax
comp=Z,41nm,1.1s
LSZ MLR MLR
comp=Z,10µm,19.0s
LSZ Lusaka 80.98 245 P P 01 37 32.0 +0.6
SNR=14
LSZ Lusaka 80.98 245 eP P 01 37 30.4 -1.0
comp=Z,41nm,1.1s
LSZ LR LR
comp=Z,10µm,19.0s
PFVI Vila Bisbo 81.37 309 eP P 01 37 37.2 +4.1
comp=Z,133nm,1.5s
YKA Yellowknife Ar 81.46 14 P P 01 37 32.1 -1.0
comp=Z,26nm,1.1s,baz=335,slow=4.8,SNR=30
YKA PKKPbc **PKKPbc 01 56 06.1 -1.0**
comp=Z,0.2nm,0.5s,baz=162,slow=2.2,SNR=12
YKA PKPPKP **P'P'df 02 04 12.8 -4.8**
comp=Z,0.2nm,0.9s,baz=169,slow=1.6,SNR=3.9
WRAK Wrangell Islan 81.63 25 eP P 01 37 36.7 +2.6
comp=Z,116nm,1.5s
WRAK LR LR
comp=Z,9µm,21.0s
RTC Rabat Centre 81.84 305 PFAKE 01 37 50.0 +14
RTC LR LR
comp=Z,4µm,19.0s
ARMA Armidale 81.95 134 eP P 01 37 38.8 +2.6
CAN Canberra 84.01 139 PFAKE 01 38 00.0 +13
CAN LR LR
comp=Z,5µm,21.0s
PAF Port-aux-Franc 85.40 197 PFAKE 01 38 00.0 +6.8
PAF LR LR
comp=Z,10µm,20.0s
TORD Torodi Ar. Bea 86.86 284 P P 01 38 00.8 -0.7
comp=Z,5.1nm,0.7s,baz=51,slow=4.7,SNR=35
TORD PP **PP 01 41 25.2 +1.1**
comp=Z,2.8nm,1.0s,baz=58,slow=5.7,SNR=3.5
TORD PKKPbc **PKKPbc 01 55 55.2 +1.5**
comp=Z,0.9nm,1.1s,baz=214,slow=1.8,SNR=3.8
TORD LR LR 02 21 29.1
comp=Z,7µm,18.6s,baz=55,slow=39
SLR Silverton 87.37 237 eP P 01 38 05.8 +2.0
SLR AMS AMS 02 10 53.8
comp=Z,8µm,21.9s
ERPM east rand prop 87.78 237 eP P 01 38 06.8 +1.0
FCC Fort Churchill 88.01 5 eP P 01 38 04.6 -1.6
FCC pmax pmax
comp=Z,88nm,1.4s
FCC Fort Churchill 88.01 5 eP P 01 38 04.6 -1.6
comp=Z,88nm,1.4s
PRYS Parys 88.76 237 eP P 01 38 11.3 +0.9
PRYS AMS AMS 02 17 40.7
comp=Z,4µm,15.7s
LBTB Lobatse 88.84 239 eP P 01 38 11.1 +0.4
LBTB AMS AMS 02 11 18.7
comp=Z,6µm,22.1s
LBTB Lobatse 88.84 239 eP P 01 38 11.4 +0.7
LBTB pmax pmax
comp=Z,27nm,1.1s
LBTB Lobatse 88.84 239 eP P 01 38 11.4 +0.7
comp=Z,27nm,1.1s
TAU Tasmania Unive 88.85 145 PFAKE 01 38 20.0 +10
TAU LR LR
comp=Z,9µm,21.0s
SEK Senekal 89.44 235 eP P 01 38 12.1 -1.4
SEK AMS AMS 02 16 45.2
comp=Z,6µm,19.4s
EDM Edmonton 90.16 17 eP P 01 38 16.5 0.0
EDM Edmonton 90.16 17 eP P 01 38 16.5 0.0
KIP Kipapa 90.64 64 PFAKE 01 38 30.0 +11
KIP LR LR
comp=Z,6µm,20.0s
FFC Flin Flon 91.05 11 P P 01 38 19.2 -1.3
comp=Z,202nm,1.4s,SNR=7.9
FFC Flin Flon 91.05 11 eP P 01 38 19.3 -1.3
FFC pmax pmax
comp=Z,99nm,1.5s
FFC MLR MLR
comp=Z,6µm,22.0s
FFC Flin Flon 91.05 11 eP P 01 38 19.3 -1.2
comp=Z,99nm,1.5s
FFC LR LR
comp=Z,6µm,22.0s
SCHQ Schefferville 91.21 350 P P 01 38 19.7 -1.6
comp=Z,8.6nm,1.0s,baz=17,slow=9.2,SNR=7.8
SCHQ LR LR 02 22 42.5
comp=Z,7µm,18.6s,baz=292,slow=38
PSMN Pico do Norte, 91.45 317 eLR LR 02 08 41.6
comp=Z,843nm,20.3s
TSUM Tsumeb 91.45 248 eP P 01 38 23.6 +0.5
comp=Z,19nm,1.2s
TSUM LR LR
comp=Z,8µm,22.0s
PGRA Graciosa 91.63 320 eLR LR 02 09 10.5
comp=Z,856nm,21.2s
OSD Olympics--Snow 91.71 26 P P 01 38 26.7 +2.7
B06A Marblemount 91.90 24 eP P 01 38 26.6 +2.1
ROSA Rosais 92.00 320 eLR LR 02 08 58.1
comp=Z,923nm,17.7s
NLWA Neilton Lookou 92.01 26 PFAKE 01 38 40.0 +15
NLWA LR LR
comp=Z,7µm,21.0s
JCW Jim Creek 92.02 25 P P 01 38 27.4 +2.2
NLW Nelson Butte 92.67 24 P P 01 38 30.4 +2.0
MSVF Nonsavu 92.72 109 PFAKE 01 38 40.0 +11
MSVF LR LR
comp=Z,3µm,20.0s
B08A Colville Reser 92.76 23 eP P 01 38 30.8 +2.2
ETW Entiat 93.08 24 P P 01 38 32.2 +1.9
SAW Saint Andrews 93.31 23 P P 01 38 33.5 +2.3
POHA Pohakuloa 93.50 64 PFAKE 01 38 40.0 +7.2
POHA LR LR
comp=Z,6µm,20.0s
NEW Newport 93.55 22 eP P 01 38 32.9 +0.6
NEW pmax pmax
comp=Z,47nm,1.5s
NEW MLR MLR
comp=Z,7µm,19.0s
NEW Newport 93.55 22 ⇑P P 01 38 33.4 +1.1
baz=93,SNR=13
NEW Newport 93.55 22 eP P 01 38 32.9 +0.6
comp=Z,47nm,1.5s
NEW LR LR
comp=Z,7µm,19.0s
WIN Windhoek 93.72 246 eP P 01 38 34.3 +0.8
WIN AMS AMS 01 59 51.9
comp=Z,2µm,21.2s
UPI Upington 93.94 239 eP P 01 38 38.1 +3.8
HAWA Hanford 94.41 24 PFAKE 01 38 50.0 +14
HAWA LR LR
comp=Z,7µm,20.0s
BLMT Blacktail Moun 94.61 20 eP P 01 38 37.2 -0.1
comp=Z,89nm,1.5s
BSMT Bassoo Peak 94.62 21 eP P 01 38 36.0 -1.4
comp=Z,34nm,1.7s
YBMT Yellow Bay 94.84 20 eP P 01 38 38.6 +0.2
comp=Z,41nm,1.5s
JTMT Jette 94.87 20 eP P 01 38 39.6 +1.1
comp=Z,33nm,1.4s
SWMT Swartz Lake 95.16 20 eP P 01 38 40.5 +0.7
comp=Z,24nm,1.5s
A19A Klindworth Far 95.24 16 ⇑P P 01 38 40.2 +0.1
baz=95,SNR=9.6
I03D Drain, OR 95.31 28 ⇑P P 01 38 40.8 +0.4
baz=95
A20A Cobblestone Ra 95.48 16 ⇑P P 01 38 41.7 +0.6
baz=95,SNR=12
I05D Terrebonne, OR 95.53 26 ⇑P P 01 38 42.4 +0.9
baz=95
I04A Tendick Farm, 95.59 27 ⇓P P 01 38 42.4 +0.7
baz=95
A21A Bergtoll Ranch 95.60 15 ⇓P P 01 38 42.4 +0.7
baz=95
B19A Brinkman Farms 95.64 17 ⇑P P 01 38 42.2 +0.3
baz=95
MSO Missoula 95.80 20 ⇑P P 01 38 43.4 +0.7
baz=95,SNR=7.9
DBIC Dimbokro 95.81 282 eP P 01 38 43.9 +0.8
DBIC Dimbokro 95.81 282 P P 01 38 43.3 +0.1
DBIC pmax pmax
comp=Z,10.0nm,1.1s
DBIC Dimbokro 95.81 282 P P 01 38 43.3 +0.1
comp=Z,10nm,1.1s,baz=42,slow=1.8,SNR=5.2
A22A Carney Farms, 95.82 15 ⇓P P 01 38 43.1 +0.4
baz=95
EGMT Eagleton 95.84 17 ⇓P P 01 38 42.9 +0.1
baz=96,SNR=6.4
EGMT Eagleton 95.84 17 PFAKE 01 38 50.0 +7.2
EGMT LR LR
comp=Z,11µm,19.0s
B20A Solberg Farm, 95.87 16 ⇑P P 01 38 43.5 +0.6
baz=96
B21A Ellsworth Farm 96.11 15 ⇑P P 01 38 44.8 +0.8
baz=96
J04D Umpqua Nationa 96.18 27 ⇑P P 01 38 45.6 +0.9
baz=96
ULM Lac du Bonnet 96.25 8 P P 01 38 44.5 0.0
ULM pmax pmax
comp=Z,11nm,1.2s
ULM MLR MLR
comp=Z,5µm,20.1s
ULM Lac du Bonnet 96.25 8 P P 01 38 44.5 0.0
comp=Z,11nm,1.1s,baz=359,slow=7.4,SNR=6.9
ULM LR LR 02 25 09.4
comp=Z,5µm,20.1s,baz=21,slow=37
A24A Westby 96.27 13 ⇓P P 01 38 45.4 +0.7
baz=96
C19A Slack Wire Ran 96.28 17 ⇑P P 01 38 45.5 +0.7
baz=96,SNR=7.8
A25A Svangstu Ranch 96.43 13 ⇑P P 01 38 46.2 +0.8
baz=96,SNR=6.3
J05D Fort Rock, OR 96.47 27 ⇑P P 01 38 46.8 +0.9
baz=96
L02D Cave Junction, 96.50 29 ⇑P P 01 38 46.6 +0.7
baz=96
HRY Holter Researc 96.50 19 eP P 01 38 46.7 +0.7
comp=Z,30nm,1.8s
BMO Blue Mountains 96.51 23 PFAKE 01 39 00.0 +14
BMO LR LR
comp=Z,5µm,19.0s
B23A Brockton 96.51 14 ⇑P P 01 38 46.6 +0.8
baz=96
C20A Veseth Ranch, 96.55 16 ⇑P P 01 38 46.1 +0.1
baz=96
SUR Sutherland 96.57 236 PFAKE 01 39 00.0 +14
SUR LR LR
comp=Z,6µm,20.0s
A26A Wade Farm, Ken 96.66 12 ⇑P P 01 38 47.7 +1.2
baz=96,SNR=6.3
DGMT Dagmar 96.67 14 ⇓P P 01 38 47.3 +0.8
baz=96
DGMT Dagmar 96.67 14 PFAKE 01 39 00.0 +13
DGMT LR LR
comp=Z,7µm,20.0s
D19A Cripps Ranch, 96.86 17 ⇓P P 01 38 48.2 +0.8
baz=96,SNR=6.2
B25A Knox Farm, Ray 97.06 13 ⇓P Pdif 01 38 49.1 +0.7
baz=97
A29A Manning Farm, 97.10 10 ⇓P Pdif 01 38 49.4 +0.8
baz=97
C23A Lambert 97.10 15 ⇓P Pdif 01 38 49.3 +0.7
baz=97,SNR=7.1
D20A Manuel Ranch, 97.11 17 ⇑P Pdif 01 38 49.5 +0.8
baz=97
B26A Jensen Ranch, 97.13 12 ⇑P Pdif 01 38 49.5 +0.8
baz=97
D21A La Casta Ranch 97.40 16 ⇑P Pdif 01 38 50.6 +0.7
baz=97
M02C Callahan 97.45 29 ⇓P Pdif 01 38 51.2 +0.9
baz=97
D22A Cohagen 97.50 15 ⇓P Pdif 01 38 50.9 +0.4
baz=97
M04C Macdoel 97.52 28 ⇑P Pdif 01 38 51.4 +0.7
baz=97
BOZ Bozeman (W) 97.53 19 PFAKE 01 39 00.0 +9.3
BOZ LR LR
comp=Z,5µm,20.0s
E19A Rath Farm, Rou 97.53 17 ⇓P Pdif 01 38 51.5 +0.9
baz=97,SNR=5.6
E20A Meyer Farm, Mu 97.66 17 ⇓P Pdif 01 38 51.8 +0.7
baz=97
C26A Wahner Farm, P 97.68 13 ⇓P Pdif 01 38 51.9 +0.7
baz=97
B30A Myrvik Farm, E 97.69 10 ⇑P Pdif 01 38 51.6 +0.5
baz=97
D23A Lindsay 97.69 15 ⇑P Pdif 01 38 52.0 +0.7
baz=97
N02D Trinity Center 97.86 29 ⇓P Pdif 01 38 53.2 +1.0
baz=98
LAO LASA Array 97.93 16 PFAKE 01 39 00.0 +7.7
LAO LR LR

comp=Z,8μm,19.0s
D24A Glendive 97.93 14 ⇑P Pdif 01 38 53.3 +0.9
baz=98
MCMT McKenzie Canyo 97.93 21 *e*P Pdif 01 38 53.8 +1.1
comp=Z,4.3nm,1.4s
MCMT *e*PP **PP 01 42 47.5 -2.7**
F19A Roth Farm, Mol 98.06 18 ⇓P Pdif 01 38 53.9 +0.9
baz=98,SNR=5.1
D25A Fairfield 98.10 14 ⇓P Pdif 01 38 54.1 +1.0
baz=98
WVOR Wild Horse Val 98.17 25 *e*P P 01 38 49.8 -3.8
WVOR pmax pmax
comp=Z,2.0nm,1.0s
WVOR MLR MLR
comp=Z,6μm,19.0s
WVOR Wild Horse Val 98.17 25 *e*P P 01 38 49.8 -3.8
comp=Z,2.1nm,1.0s
WVOR LR LR
comp=Z,6μm,19.0s
AGMN Agassiz Nation 98.17 8 ⇑P Pdif 01 38 54.1 +0.9
baz=98
AGMN Agassiz Nation 98.17 8 PFAKE 01 39 00.0 +6.7
AGMN LR LR
comp=Z,7μm,19.0s
E22A Miles City 98.23 15 ⇑P Pdif 01 38 54.0 +0.3
baz=98
F20A Billings 98.31 17 ⇑P Pdif 01 38 54.5 +0.4
baz=98
D26A Manning 98.39 13 ⇑P Pdif 01 38 55.0 +0.7
baz=98
D27A Center 98.48 12 ⇑P Pdif 01 38 55.7 +0.9
baz=98
D28A Regan 98.56 12 ⇓P Pdif 01 38 55.9 +0.8
baz=98
HLID Hailey 98.60 22 ⇓P Pdif 01 38 56.2 +0.7
baz=98
HLID Hailey 98.60 22 *e*P Pdif 01 38 56.4 +0.8
comp=Z,14nm,1.6s
HLID LR LR
comp=Z,6μm,21.0s
RLMT Red Lodge 98.66 18 PFAKE 01 39 10.0 +14
RLMT LR LR
comp=Z,7μm,20.0s
G20A Bridger 98.84 17 ⇓Pdiff Pdif 01 38 56.7 +0.2
baz=98
LKWY Lake 98.87 19 PFAKE 01 39 10.0 +13
LKWY LR LR
comp=Z,12μm,21.0s
AFI Afiamalu 98.90 101 PFAKE 01 39 10.0 +13
AFI LR LR
comp=Z,4μm,19.0s
E26A Carlson Angus 98.92 13 ⇓Pdiff Pdif 01 38 57.4 +0.7
baz=98
EYMN Ely 98.95 5 PFAKE 01 39 10.0 +13
EYMN LR LR
comp=Z,8μm,20.0s
H17A Grant Village 98.98 19 ⇓Pdiff Pdif 01 38 58.7 +1.4
baz=99
E28A Huff 99.14 12 ⇓Pdiff **Pdif 01 38 58.9 +1.2**
baz=99
H19A Powell 99.15 18 ⇓Pdiff **Pdif 01 38 59.2 +1.3**
baz=99
I17A Pilgrim Ck. 99.42 19 ⇓Pdiff **Pdif 01 39 00.7 +1.4**
baz=99
F27A Lemmon 99.58 13 ⇑Pdiff **Pdif 01 39 00.4 +0.8**
baz=99
CASY Casey 99.70 174 PFAKE 01 39 10.0 +11
CASY LR LR
comp=Z,6μm,20.0s
I19A Meeteetse 99.74 18 ⇓Pdiff **Pdif 01 39 01.2 +0.6**
baz=99
H22A Clearmont 99.88 16 ⇓Pdiff **Pdif 01 39 01.9 +0.8**
baz=100
G26A Maurine 100.03 14 ⇓Pdiff **Pdif 01 39 01.9 +0.2**
baz=100
AHID Auburn Hatcher 100.33 20 PFAKE 01 39 10.0 +6.7
AHID LR LR
comp=Z,6μm,20.0s
I21A Big Trails, Te 100.39 17 ⇓Pdiff **Pdif 01 39 03.7 +0.2**
baz=100
J19A Crowheart 100.44 19 ⇑Pdiff **Pdif 01 39 04.0 +0.2**
baz=100
I22A 9 Mile Ranch, 100.51 17 ⇑Pdiff **Pdif 01 39 03.5 -0.5**
baz=100
J20A Shoshoni 100.62 18 ⇑Pdiff **Pdif 01 39 04.2 -0.2**
baz=100
BW06 Boulder Array 100.77 19 *e*P **Pdif 01 39 05.2 -0.1**
BW06 LR LR
comp=Z,6μm,19.0s
PDAR Pinedale Array 100.77 19 P **Pdif 01 39 04.5 -0.8**
comp=Z,0.4nm,0.9s,baz=332,slow=3.1,SNR=3.2
PDAR PP **PP 01 43 12.1 +0.5**
comp=Z,1.6nm,1.0s,baz=319,slow=4.3,SNR=5.0
PDAR PKKPbc **PKKPbc 01 55 18.1 -0.4**
comp=Z,0.3nm,0.6s,baz=142,slow=5.1,SNR=3.7
RSSD Black Hills 100.85 15 *e*P **Pdif 01 39 05.4 -0.2**
RSSD pmax pmax
comp=Z,11nm,1.3s
RSSD Black Hills 100.85 15 *e*P **Pdif 01 39 05.4 -0.2**
comp=Z,11nm,1.3s
PKME Peaks-Kenny Pk 100.89 350 PFAKE 01 39 20.0 +15
PKME LR LR
comp=Z,5μm,22.0s
I25A Rochford 101.01 15 ⇓Pdiff **Pdif 01 39 05.2 -1.1**
baz=101
HWUT Hardware Ranch 101.25 21 PFAKE 01 39 20.0 +13
HWUT LR LR
comp=Z,6μm,20.0s
NVAR Mina Array Bea 101.78 27 P **Pdif 01 39 10.1 +0.3**
comp=Z,0.4nm,0.7s,baz=289,slow=5.6,SNR=3.5
NVAR PP **PP 01 43 19.2 -0.3**
comp=Z,1.4nm,1.0s,baz=311,slow=6.8,SNR=5.4
NVAR PKKPbc **PKKPbc 01 55 16.0 +0.7**
comp=Z,0.1nm,0.3s,baz=186,slow=3.0,SNR=3.6
RAO Raoul Island 102.02 117 PFAKE 01 39 20.0 +9.4
RAO LR LR
comp=Z,3μm,21.0s
DUG Dugway, Tooele 102.15 23 *e*P **Pdif 01 39 12.5 +1.2**
DUG pmax pmax
comp=Z,7.0nm,1.4s
DUG MLR MLR
comp=Z,5μm,19.0s
DUG Dugway, Tooele 102.15 23 *e*Pdif **Pdif 01 39 12.5 +1.2**
comp=Z,7.1nm,1.4s
DUG LR LR
comp=Z,5μm,19.0s
LONY Lake Ozonia 102.17 353 PFAKE 01 39 20.0 +8.8
LONY LR LR
comp=Z,5μm,19.0s
LBNH Lisbon 102.26 352 PFAKE 01 39 20.0 +8.4
LBNH LR LR
comp=Z,8μm,22.0s
XMAS Kiritimati 102.28 79 PFAKE 01 39 20.0 +7.8
XMAS LR LR
comp=Z,6μm,20.0s
NCB Newcomb 102.78 353 PFAKE 01 39 20.0 +6.1
NCB LR LR
comp=Z,4μm,19.0s
SNZO South Karori 103.23 131 PFAKE 01 39 30.0 +14
SNZO LR LR
comp=Z,5μm,22.0s
JFWS Jewell Farm 104.05 5 PFAKE 01 39 30.0 +10
JFWS LR LR
comp=Z,7μm,20.0s
OGNE Ogallala 104.32 14 PFAKE 01 39 30.0 +9.1
OGNE LR LR
comp=Z,8μm,21.0s
ISCO Idaho Springs 104.58 17 PFAKE 01 39 30.0 +7.6
ISCO LR LR
comp=Z,5μm,19.0s
BINY Binghamton 104.70 354 PFAKE 01 39 30.0 +7.5
BINY LR LR
comp=Z,7μm,21.0s
SCIA State Center 104.78 7 PFAKE 01 39 30.0 +7.2
SCIA LR LR
comp=Z,7μm,20.0s
AAM Ann Arbor 104.92 0 PFAKE 01 39 30.0 +6.6
AAM LR LR
comp=Z,8μm,22.0s
EDW2 Edwards Air Fo 105.00 29 ⇓Pdiff **Pdif 01 39 22.4 -1.6**
baz=105
ERPA Erie 105.03 357 PFAKE 01 39 30.0 +6.1
ERPA LR LR
comp=Z,11μm,20.0s
SACV Santiago Islan 105.48 300 PFAKE 01 43 50.0
SACV LR LR
comp=Z,3μm,20.0s
P31A Stockton 106.21 13 ⇓PKiKP **PKiKP 01 43 41.3 +0.4**
baz=106
MVCO Mesa Verde 106.22 21 PFAKE 01 43 50.0
MVCO LR LR
comp=Z,4μm,20.0s
PFO Pinyon Flats O 106.72 28 PFAKE 01 43 50.0
PFO LR LR
comp=Z,5μm,20.0s
WUAZ Wupatki 106.87 23 PFAKE 01 43 50.0
WUAZ LR LR
comp=Z,5μm,20.0s
ACSO Alum Creek Sta 106.98 360 PFAKE 01 43 50.0
ACSO LR LR
comp=Z,9μm,20.0s
KSU1 Kansas State U 107.09 11 PFAKE 01 43 50.0
KSU1 LR LR
comp=Z,6μm,20.0s
S26A Kim 107.17 16 ⇑PKiKP **PKiKP 01 43 42.6 -0.3**
baz=107
R30A Dighton 107.24 14 ⇓PKiKP **PKiKP 01 43 42.8 0.0**
baz=107
R33A Olander Ranch, 107.64 12 ⇓PKiKP **PKiKP 01 43 43.9 +0.4**
baz=107
S36A Lake Cedric, C 108.60 10 ⇓PKiKP **PKiKP 01 43 45.8 +0.5**
baz=108
SHEL Horse Pasture 108.65 263 PFAKE 01 44 00.0
SHEL LR LR
comp=Z,4μm,21.0s
CBN Corbin Frederi 108.78 355 PFAKE 01 44 00.0
CBN LR LR
comp=Z,8μm,21.0s
ANMO Albuquerque 108.92 20 *e*PKP **PKiKP 01 43 46.5 +0.2**
ANMO LR LR
comp=Z,5μm,20.0s
Y22D IRIS PASSCAL I 109.60 20 ⇑PKiKP **PKiKP 01 43 48.0 +0.5**
baz=109
BLA Blacksburg 109.94 357 PFAKE 01 44 00.0
BLA LR LR
comp=Z,14μm,20.0s
TUC Tucson 109.99 24 PFAKE 01 44 00.0
TUC LR LR
comp=Z,4μm,22.0s
WMOK Wichita Mounta 110.96 13 *e*PKiKP **PKiKP 01 43 49.5 -0.4**
WMOK MLR MLR
comp=Z,4μm,19.0s
WMOK Wichita Mounta 110.96 13 *e*PKP **PKiKP 01 43 49.5 -0.4**
WMOK LR LR
comp=Z,4μm,19.0s
Z28A Tucker Farm, M 111.57 17 ⇓PKiKP **PKiKP 01 43 51.8 +0.7**
baz=111
ASCN Ascension 111.74 275 *e*PKP **PKiKP 01 43 50.8 -1.0**
ASCN LR LR
comp=Z,3μm,21.0s
Z29A Hungry Hill Ra 111.76 16 ⇓PKiKP **PKiKP 01 43 52.7 +1.2**
baz=111
CNNC Cliffs of the 111.77 355 PFAKE 01 44 00.0
CNNC LR LR
comp=Z,10μm,20.0s
MIAR Mount Ida 112.00 9 PFAKE 01 44 00.0
MIAR LR LR
comp=Z,6μm,19.0s
MNTX Cornudas Mount 112.27 20 ⇑PKiKP **PKiKP 01 43 52.5 0.0**
baz=112
BBSR BB Station 112.46 343 PFAKE 01 44 00.0
BBSR LR LR
comp=Z,5μm,21.0s
134A White-Moore Ra 113.20 13 ⇑PKiKP **PKiKP 01 43 54.8 +0.6**
baz=113
230A Sterling City 113.21 16 ⇓PKiKP **PKiKP 01 43 54.6 +0.3**
baz=113
GOGA Godfrey 113.79 360 PFAKE 01 44 10.0
GOGA LR LR
comp=Z,10μm,19.0s
331A San Angelo 113.93 16 ⇑PKiKP **PKiKP 01 43 56.0 +0.3**
baz=114
332A Millersview 114.01 15 ⇓PKiKP **PKiKP 01 43 56.2 +0.5**
baz=114
333A Richland Sprin 114.23 14 ⇓PKiKP **PKiKP 01 43 56.0 -0.2**
baz=114
429A Davenport Ranc 114.23 17 ⇑PKiKP **PKiKP 01 43 56.1 -0.2**
baz=114
430A Baggett Ranch, 114.24 17 ⇑PKiKP PKPdf 01 43 56.4 +0.1
baz=114
334A Lometa 114.37 14 ⇓PKiKP PKPdf 01 43 57.3 +0.8
baz=114
431A Sonora 114.48 16 ⇓PKiKP PKPdf 01 43 57.7 +0.9
baz=114
NATX Nacogdoches 114.59 10 *e*PKP PKPdf 01 43 56.8 0.0
NATX LR LR
comp=Z,6μm,19.0s
529A Stev Forest Ra 114.62 18 ⇓PKiKP PKPdf 01 43 57.4 +0.4
baz=114
530A J-C Ranch, Com 114.82 17 ⇑PKiKP **PKiKP 01 43 57.2 -0.2**
baz=114
JCT Junction City 114.86 15 *e*PKIKP PKPdf 01 43 57.1 -0.4
JCT MLR MLR
comp=Z,8μm,20.0s
JCT Junction City 114.86 15 ⇑PKiKP PKPdf 01 43 57.8 +0.3
baz=114
JCT Junction City 114.86 15 *e*PKP PKPdf 01 43 57.1 -0.4
JCT LR LR
comp=Z,8μm,20.0s
434A Burnet 114.87 14 ⇓PKiKP **PKiKP 01 43 57.3 -0.2**
baz=114
TXAR Lajitas Array 114.99 19 PKIKP PKPdf 01 43 59.2 +1.4
TXAR 01 54 34.2
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 114.99 19 PKP PKPdf 01 43 59.2 +1.4
comp=Z,0.6nm,0.5s,baz=38,slow=1.6,SNR=7.2
TXAR PKKPbc **PKKPbc 01 54 34.2 +0.7**
comp=Z,1.3nm,1.1s,baz=160,slow=4.0,SNR=6.6
531A Rocksprings 115.00 16 ⇑PKiKP PKPdf 01 43 58.3 +0.5
baz=115
532A Rocksprings 115.18 16 ⇑PKiKP **PKiKP 01 43 58.1 0.0**
baz=115
438A Sam Houston St 115.45 11 ⇑PKiKP **PKiKP 01 43 58.0 -0.5**
baz=115
536A Bastrop 115.82 13 ⇓PKiKP **PKPdf 01 43 59.5 +0.2**
baz=116
633A Saathoff Ranch 115.99 15 ⇓PKiKP **PKiKP 01 43 59.4 -0.2**
baz=116
BRAL Brewton 116.10 3 PFAKE 01 44 10.0 +10
BRAL LR LR
comp=Z,8μm,20.0s
HKT Hockley 116.17 12 *e*PKIKP **PKPdf 01 44 00.2 +0.4**
HKT *e* 01 45 04.0
HKT Hockley 116.17 12 *e*PKPdf **PKPdf 01 44 00.1 +0.4**
HKT *e*PP **PP 01 45 04.0 +0.5**
733A Divot King Ran 116.67 16 ⇓PKiKP **PKiKP 01 44 01.5 +0.6**
baz=116
734A La Parita Cree 116.71 15 ⇑PKiKP **PKiKP 01 44 01.6 +0.6**
baz=116
VNDA Vanda 117.07 167 *e*PKIKP **PKPdf 01 44 00.7 +0.6**
VNDA Vanda 117.07 167 PKP **PKPdf 01 44 01.1 +1.0**
comp=Z,1.2nm,0.9s,baz=271,slow=5.5,SNR=4.7
VNDA PKKPbc **PKKPab 01 54 26.3 -0.2**
comp=Z,1.4nm,0.9s,baz=155,slow=4.3,SNR=4.1
VNDA Vanda 117.07 167 *e*PKPdf **PKPdf 01 44 00.7 +0.6**
VNDA PKP **PKPdf 01 44 01.1 +1.0**
VNDA PKKPbc **PKKPab 01 54 26.3 -0.2**
SBA Scott Base 118.16 167 *e*PKIKP **PKPdf 01 44 03.3 +1.1**
SBA MLR MLR
comp=Z,4μm,19.0s
SBA Scott Base 118.16 167 *e*PKPdf **PKPdf 01 44 03.3 +1.1**
SBA LR LR
comp=Z,4μm,19.0s
936A North Padre Is 118.35 14 ⇑PKiKP **PKiKP 01 44 04.8 +0.6**
baz=118
035Z Hargill 119.12 15 ⇑PKiKP **PKiKP 01 44 05.8 +0.1**
baz=119
PPT2 Papeete2 119.22 93 *e*LR LR 02 20 45.0
comp=Z,7μm,28.0s
TBI Tubuai 121.92 99 *e*LR LR 02 21 59.1
comp=Z,3μm,26.2s
TRIS Tristan da Cun 122.89 244 PFAKE 01 44 20.0 +7.6
TRIS LR LR
comp=Z,4μm,21.0s
GRTK Grand Turk 124.38 346 PFAKE 01 44 30.0 +14
GRTK LR LR
comp=Z,5μm,21.0s
ANWB Willy Bob 125.37 334 PFAKE 01 44 30.0 +12
ANWB LR LR
comp=Z,3μm,22.0s
VNA2 Neumayer--Watz 125.46 203 P **PKPdf 01 44 16.1 -0.3**
baz=34,slow=2.6
VNA3 Neumayer Olymp 126.19 203 P **PKPdf 01 44 15.0 -2.8**
SJG San Juan 126.40 339 PFAKE 01 44 30.0 +10
SJG LR LR
comp=Z,3μm,20.0s
GTBY Guantanamo Bay 126.62 350 PFAKE 01 44 30.0 +10
GTBY LR LR
comp=Z,4μm,20.0s
SDDR Presa de Saban 126.86 345 PFAKE 01 44 30.0 +9.2
SDDR LR LR
comp=Z,5μm,20.0s
FDF Fort de France 127.81 332 PFAKE 01 44 30.0 +7.4
FDF LR LR
comp=Z,3μm,20.0s
RCBR Riachuelo 128.14 291 *e*PKPdf **PKPdf 01 44 24.4 +1.1**
RCBR LR LR
comp=Z,3μm,21.0s
MTDJ Mount Denham 128.60 353 PFAKE 01 44 40.0 +16
MTDJ LR LR
comp=Z,6μm,20.0s
BBGH Gun Hill 128.60 330 PFAKE 01 44 40.0 +16
BBGH LR LR
comp=Z,10μm,21.0s
GRGR Grenville 130.38 331 PFAKE 01 44 40.0 +13
GRGR LR LR
comp=Z,2μm,22.0s
RKT Rikitea 133.92 91 *e*LR LR 02 27 34.2
comp=Z,5μm,32.8s
SDV Santo Domingo 136.44 341 *e*PKPdf **PKPdf 01 44 38.3 -0.8**
SDV *e*SKPbc **SKPbc 01 48 13.4 +2.1**
SDV LR LR
comp=Z,3μm,21.0s
JTS JuntasAbangare 136.78 2 PFAKE 01 44 50.0 +10
JTS LR LR
comp=Z,3μm,19.0s
BCIP Isla Barro Col 137.78 355 PFAKE 01 44 50.0 +8.6
BCIP LR LR
comp=Z,3μm,20.0s
PTCN Pitcairn Islan 138.78 91 PFAKE 01 44 50.0 +7.1
PTCN LR LR
comp=Z,3μm,19.0s
PTGA Pitinga 140.89 321 PFAKE 01 45 00.0 +13
PTGA LR LR
comp=Z,3μm,21.0s
HOPE Hope Point 140.91 223 PFAKE 01 45 00.0 +14
HOPE LR LR
comp=Z,3μm,21.0s
BDFB Brasilia 143.50 290 PKIKP **PKPdf 01 44 51.3 -0.4**
BDFB pmax pmax
comp=Z,11nm,1.0s
BDFB Brasilia 143.50 290 PKP **PKPdf 01 44 51.3 -0.4**
comp=Z,11nm,1.0s,baz=73,slow=3.7,SNR=8.2
PMSA Palmer Station 146.17 195 PFAKE 01 45 10.0 +14
PMSA LR LR
comp=Z,2μm,19.0s
OTAV Otavalo 146.45 351 *e*PKPbc **PKPdf 01 44 57.9 +0.5**
OTAV *e*SKPdf **SKPdf 01 48 31.7 +0.3**
OTAV LR LR
comp=Z,2μm,21.0s
PAYG Puerto Ayora 147.07 13 PFAKE 01 45 10.0 +8.6
PAYG LR LR
comp=Z,3μm,20.0s
SAML Samuel 149.47 318 *e*PKPdf **PKPdf 01 45 01.6 -0.1**
SAML *e*PKPbc **PKPbc 01 45 06.6 +0.4**
SAML *e*PKPab **PKPab 01 45 11.1 +0.2**
SAML LR LR
comp=Z,4μm,22.0s
ATAH Atahualpa 153.68 348 PKP **PKPdf 01 45 10.2 +1.6**
comp=Z,4.7nm,0.8s,baz=262,slow=1.7,SNR=5.9
ATAH PKPbc **PKiKP 01 45 18.8 +2.2**
comp=Z,37nm,1.2s,baz=58,slow=2.0,SNR=13
ATAH PKPab **PKPab 01 45 29.7 +0.8**
comp=Z,29nm,1.0s,baz=351,slow=5.0,SNR=11
EFI East Falkland 153.84 217 PFAKE 01 45 20.0 +5.0
EFI LR LR
comp=Z,3μm,21.0s
NNA Nana 158.07 342 PKP2 **PKPab 01 45 47.1 -0.1**
NNA pmax pmax
comp=Z,7.0nm,0.7s
NNA Nana 158.07 342 PKPab **PKPab 01 45 47.1 -0.1**
comp=Z,7.1nm,0.7s,baz=350,slow=4.7,SNR=5.2
NNA Nana 158.07 342 PKPab **PKPab 01 45 47.1 -0.1**
NNA LR LR
comp=Z,2μm,20.0s
LPAZ La Paz 158.21 317 *e*PKIKP **PKPdf 01 45 14.4 -0.4**
LPAZ *e* 01 45 47.5
LPAZ La Paz 158.21 317 PKP **PKPdf 01 45 13.9 -0.9**
comp=Z,6.4nm,1.1s,baz=31,slow=4.1,SNR=8.0
LPAZ La Paz 158.21 317 *e*PKPdf **PKPdf 01 45 14.4 -0.4**
LPAZ *e*PKPab **PKPab 01 45 47.5 -1.1**
TRQA Tornquist 161.83 248 *e*PKPab **PKPab 01 46 03.4 +0.1**
TRQA LR LR
comp=Z,4μm,21.0s
CFAA Coronel Fontan 167.00 273 PKP **PKPdf 01 45 21.6 -0.7**
comp=Z,0.2nm,0.5s,baz=230,slow=3.2,SNR=4.2
CFAA PKPab **PKPab 01 46 27.4 +1.2**
comp=Z,1.5nm,0.9s,baz=65,slow=4.4,SNR=6.6
PLCA Paso Flores 167.17 230 *e*PKIKP **PKPdf 01 45 20.9 -1.3**
PLCA *e* 01 46 26.9
PLCA Paso Flores 167.17 230 *e*PKPdf **PKPdf 01 45 20.9 -1.3**
PLCA *e*PKPab **PKPab 01 46 26.9 +0.2**
LCO Las Campanas 168.27 287 *e*PKPdf **PKPdf 01 45 23.8 +0.2**

ATH **14** *01:25:42.8,36°.14N×21°.68E,h18km±2km,MD3.7/35*
CSEM **14** *01:25:43.3±0.6,36°.16N×21°.85E,h2km,ML2.6,Error ellipse: s-maj=15.3km s-min=5.8km az=50.0*
THE **14** *01:25:46.0,36°.33N×21°.86E,h0km±6km,ML2.6/3,Error ellipse: s-maj=7.5km s-min=1.5km az=216.0*

ISC 14 01:25:42.8±1.5,36°.16N±0°.05×21°.73E±0°.05,h8km±10km, n84,σ1s37/93,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.74**	**1**	P	P	**Pg**	**01 25 56.4**	**-0.5**
PYL				S	S	**Sg**	**01 26 06.1**	**-0.4**
PYL	**PYLOS**	**0.74**	**1**	*e*PB	P	**Pg**	**01 25 56.5**	**-0.5**
PYL				*e*SN	S	**Sb**	**01 26 08.2**	**+0.2**
PYL	**PYLOS**	**0.74**	**1**	*e*Pb	P	**Pg**	**01 25 56.5**	**-0.5**
PYL				*e*Sn	S	**Sb**	**01 26 08.2**	**+0.2**
ITM	**Ithomi**	**1.03**	**9**	P	P	**Pb**	**01 26 02.1**	**-0.7**
ITM	**Ithomi**	**1.03**	**9**	*e*PB	P	**Pb**	**01 26 02.3**	**-0.5**
ITM				*e*SN	S	**Sn**	**01 26 17.8**	**-0.3**
ITM	**Ithomi**	**1.03**	**9**	*e*Pb	P	**Pb**	**01 26 02.3**	**-0.5**
ITM				*e*Sn	S	**Sn**	**01 26 17.8**	**-0.3**
KYTH	**Kithira**	**1.06**	**83**	*e*PN	P	**Pn**	**01 26 04.2**	**+0.3**
KYTH	**Kithira**	**1.06**	**83**	*e*Pn	P	**Pn**	**01 26 04.2**	**+0.3**
VLI	**Veliai**	**1.12**	**60**	P	P	**Pn**	**01 26 04.6**	**-0.1**
VLI				S	S	**Sb**	**01 26 18.3**	**-0.8**
VLI	**Veliai**	**1.12**	**60**	*e*PN	P	**Pn**	**01 26 04.9**	**+0.2**
VLI				*e*SN	S	**Sn**	**01 26 21.2**	**+0.9**
VLI	**Veliai**	**1.12**	**60**	P	P	**Pn**	**01 26 04.6**	**-0.1**
VLI	**Veliai**	**1.12**	**60**	*e*Pn	P	**Pn**	**01 26 04.9**	**+0.2**
VLI				*e*Sn	S	**Sn**	**01 26 21.2**	**+0.9**
ANKY	**Antikythira Is**	**1.30**	**102**	P	P	**Pg**	**01 26 09.0**	**+1.2**
ANKY	**Antikythira Is**	**1.30**	**102**	*e*PN	P	**Pg**	**01 26 08.9**	**+1.2**
ANKY	**Antikythira Is**	**1.30**	**102**	*e*Pn	P	**Pg**	**01 26 08.9**	**+1.2**
VLX	**Vlachokerasia**	**1.32**	**23**	P	P	**Pn**	**01 26 07.0**	**-0.5**
VLX				S	S	**Sb**	**01 26 22.6**	**-2.2**
VLX	**Vlachokerasia**	**1.32**	**23**	*e*PB	P	**Pb**	**01 26 07.4**	**-0.4**
VLX				*e*SN	S	**Sg**	**01 26 26.9**	**+1.8**
VLX	**Vlachokerasia**	**1.32**	**23**	P	P	**Pn**	**01 26 07.0**	**-0.5**
VLX	**Vlachokerasia**	**1.32**	**23**	*e*Pb	P	**Pb**	**01 26 07.4**	**-0.4**
VLX				*e*Sn	S	**Sg**	**01 26 26.9**	**+1.8**
AMT	**Artemida-Makis**	**1.37**	**359**	P	P	**Pb**	**01 26 08.2**	**-0.5**
AMT	**Artemida-Makis**	**1.37**	**359**	*e*PN	P	**Pg**	**01 26 08.7**	**-0.4**
AMT	**Artemida-Makis**	**1.37**	**359**	P	P	**Pb**	**01 26 08.2**	**-0.5**
AMT	**Artemida-Makis**	**1.37**	**359**	*e*Pn	P	**Pg**	**01 26 08.7**	**-0.4**
DRO	**Drossia**	**1.79**	**359**	P	P	**Pb**	**01 26 15.4**	**-0.4**
DRO	**Drossia**	**1.79**	**359**	*e*PN	P	**Pb**	**01 26 16.0**	**+0.2**
DRO	**Drossia**	**1.79**	**359**	P	P	**Pb**	**01 26 15.4**	**-0.4**
DRO	**Drossia**	**1.79**	**359**	*e*Pn	P	**Pb**	**01 26 16.0**	**+0.2**
GUR	**Goura**	**1.84**	**15**	P	P	**Pb**	**01 26 16.3**	**-0.4**
GUR	**Goura**	**1.84**	**15**	*e*PN	P	**Pb**	**01 26 16.4**	**-0.3**
GUR	**Goura**	**1.84**	**15**	P	P	**Pb**	**01 26 16.3**	**-0.4**
RLS	**Riolos of Patr**	**1.91**	**354**	*e*PN	P	**Pb**	**01 26 18.0**	**+0.2**
RLS	**Riolos of Patr**	**1.91**	**354**	*e*Pn	P	**Pb**	**01 26 18.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.91**	**10**	*e*PN	P	**Pb**	**01 26 17.2**	**-0.7**
KLV	**Kalavryta, Ach**	**1.91**	**10**	*e*Pn	P	**Pb**	**01 26 17.2**	**-0.7**
KARN	**Karanos**	**1.93**	**112**	*e*PB	P	**Pb**	**01 26 16.6**	**-1.6**
KARN	**Karanos**	**1.93**	**112**	*e*Pb	P	**Pb**	**01 26 16.6**	**-1.6**
LTK	**Loutraki**	**2.11**	**28**	*e*PN	P	**Pb**	**01 26 20.3**	**-0.9**
LTK	**Loutraki**	**2.11**	**28**	*e*Pn	P	**Pb**	**01 26 20.3**	**-0.9**
NAIG	**Nisos Aigina**	**2.13**	**41**	*e*PN	P	**Pb**	**01 26 20.2**	**-1.3**

NAIG	Nisos Aigina	2.13	41	*e*Pn		Pb	01 26 20.2	-1.3
VAM	Vamos	2.14	110	*e*PB		Pb	01 26 20.1	-1.6
VAM	Vamos	2.14	110	*e*Pb		Pb	01 26 20.1	-1.6
VLS	Valsamata	2.21	336	*e*PB		Pn	01 26 20.5	+0.8
VLS	Valsamata	2.21	336	*e*Pb		Pn	01 26 20.5	+0.8
KALE	Kalithea	2.25	8	*e*PN		Pb	01 26 22.2	-1.5
KALE	Kalithea	2.25	8	*e*Pn		Pb	01 26 22.2	-1.5
EFP	Efpalio	2.27	3	*e*PN		Pb	01 26 22.5	-1.4
EFP	Efpalio	2.27	3	*e*Pn		Pb	01 26 22.5	-1.4
PDO	Prodromos	2.48	350	*e*PB		Pb	01 26 25.4	-2.0
PDO	Prodromos	2.48	350	*e*Pb		Pb	01 26 25.4	-2.0
PTL	Penteli	2.54	41	*e*PB		Pb	01 26 26.5	-2.1
PTL	Penteli	2.54	41	*e*Pb		Pb	01 26 26.5	-2.1
LKR	Lokris	2.68	22	*e*PB		Pb	01 26 29.3	-1.7
LKR	Lokris	2.68	22	*e*Pb		Pb	01 26 29.3	-1.7
AXAR	Agios Charalam	2.71	16	*e*PN		Pb	01 26 28.5	-2.9
AXAR	Agios Charalam	2.71	16	*e*Pn		Pb	01 26 28.5	-2.9
EVR	Evrytania	2.75	1	*e*PB		Pb	01 26 29.4	-2.9
EVR	Evrytania	2.75	1	*e*Pb		Pb	01 26 29.4	-2.9
SIVA	Sivas	2.75	114	*e*PB		Pb	01 26 30.0	-2.2
SIVA	Sivas	2.75	114	*e*Pb		Pb	01 26 30.0	-2.2
LKD2	Lefkada island	2.76	342	*e*PN		Pn	01 26 28.5	+1.2
LKD2	Lefkada island	2.76	342	*e*Pn		Pn	01 26 28.5	+1.2
MAKR	Makrakomi, Fth	2.87	6	*e*PN		Pn	01 26 30.7	+1.9
MAKR	Makrakomi, Fth	2.87	6	*e*Pn		Pn	01 26 30.7	+1.9
AGG	Agios Georgios	2.90	9	*e*PN		Pn	01 26 31.0	+1.8
AGG	Agios Georgios	2.90	9	*e*Pn		Pn	01 26 31.0	+1.8
DSL	Palaion Diasel	3.01	351	*e*PN		Pn	01 26 31.6	+0.8
DSL	Palaion Diasel	3.01	351	*e*Pn		Pn	01 26 31.6	+0.8
LAST	Lasithi	3.21	107	*e*PN		Pn	01 26 34.7	+1.2
LAST	Lasithi	3.21	107	*e*Pn		Pn	01 26 34.7	+1.2
THL	Klokotos Trika	3.41	4	*e*PN		Pn	01 26 38.8	+2.7
THL	Klokotos Trika	3.41	4	*e*Pn		Pn	01 26 38.8	+2.7
LIT	Litokhoron	3.98	8	*e*PN		Pn	01 26 46.5	+2.4
LIT	Litokhoron	3.98	8	*e*Pn		Pn	01 26 46.5	+2.4
NEST	Nestorio	4.28	353	*e*PN		Pn	01 26 49.3	+1.0
NEST	Nestorio	4.28	353	*e*Pn		Pn	01 26 49.3	+1.0
HORT	Hortiatis	4.56	13	*e*PN		Pn	01 26 54.0	+1.9
HORT	Hortiatis	4.56	13	*e*Pn		Pn	01 26 54.0	+1.9
FNA	Florina	4.63	357	*e*PN		Pn	01 26 53.9	+0.9
FNA	Florina	4.63	357	*e*Pn		Pn	01 26 53.9	+0.9
SOH	Sokhos	4.83	15	*e*PN		Pn	01 26 57.2	+1.5
SOH	Sokhos	4.83	15	*e*Pn		Pn	01 26 57.2	+1.5
KNT	Kendrikon	5.08	10	*e*PN		Pn	01 27 00.4	+1.3
KNT	Kendrikon	5.08	10	*e*Pn		Pn	01 27 00.4	+1.3

IDC 14 01:33:48.1±1.6, 18°.21S×72°.30W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/36, mbtmpb3.5/5, ML3.5/2, Error ellipse: s-maj=38.7km s-min=29.2km az=136.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.42	65	Pn	Pn	01 34 58.6	+1.4
	2.2nm,0.3s,baz=268,slow=7.9,SNR=84						
LPAZ				Sn	Sn	01 35 47.9	-2.1
	baz=242,slow=17,SNR=1.6						
SIV	San Ignacio	10.96	80	Pn	Pn	01 36 27.1	+0.7
	0.2nm,0.3s,baz=261,slow=6.8,SNR=3.6						
PLCA	Paso Flores	22.49	177	P	P	01 38 49.4	+0.1
	1.2nm,0.6s,baz=328,slow=13,SNR=4.5						
TORD	Torodi Ar. Bea	79.33	72	P	P	01 45 55.6	-0.7
	0.2nm,0.5s,baz=261,slow=5.5,SNR=4.8						
YKA	Yellowknife Ar	87.06	342	P	P	01 46 35.4	+0.2
	0.1nm,0.6s,baz=135,slow=5.3,SNR=5.2						

KRSC 14 01:34:20.9±1.2, 54°.93N×164°.01E, h54km±18km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.16	75	*e*P	Pn	01 34 41.9	+1.1
BKI				*e*S	Sn	01 34 55.9	+0.2
MKZ	Mys Kozlova	1.37	255	*i* P	Pn	01 34 46.0	+2.3
MKZ				*i* S	Sn	01 35 02.5	+1.8
KBTR	Krutoberegovo	1.45	333	*i* P	Pn	01 34 45.4	+0.7
KBTR				*e*S	Sn	01 35 02.8	+0.1
KZV	Kizimen	2.15	276	*e*P	Pn	01 34 57.6	+3.1
SMKR	Semkarok	2.19	320	*i* P	Pn	01 34 58.2	+3.2
SMKR				*e*S	Sn	01 35 25.1	+4.1
TUMR	Tumrok	2.25	281	*e*P	Pn	01 34 59.1	+3.3
BDR	Baidarnaya	2.28	317	*e*P	Pn	01 34 59.2	+3.0
BDR				*e*S	Sn	01 35 26.4	+3.2
KMNR	Kamenistaya	2.31	293	*i* P	Pn	01 34 59.9	+3.3
KMNR				*e*S	Sn	01 35 27.5	+3.6
KLY	Klyuchi	2.35	307	*e*P	Pn	01 34 58.8	+1.7
KLY				*e*S	Sn	01 35 25.6	+0.8
SRKR	Sorokina	2.36	318	*e*P	Pn	01 35 00.0	+2.8
SRKR				*e*S	Sn	01 35 28.8	+3.8
SRDR	Sredinnyy	2.80	302	*e*P	Pn	01 35 07.2	+3.9
SRDR				*e*S	Sn	01 35 39.2	+3.3
KII	Karymskiy	2.81	253	*e*P	Pn	01 35 06.5	+3.1
KII				*e*S	Sn	01 35 38.7	+2.7
SPN	Mys Shipunski	2.98	234	*e*P	Pn	01 35 08.5	+2.8
SPN				*e*S	Sn	01 35 40.9	+0.7
ESO	Esso	3.19	290	*e*P	Pn	01 35 10.2	+1.7
ESO				*e*S	Sn	01 35 47.6	+2.4
SDLR	Sedlovina	3.44	243	*e*P	Pn	01 35 15.8	+3.7
SDLR				*e*S	Sn	01 35 54.6	+2.9
SMAR	Somma	3.49	244	*e*P	Pn	01 35 16.6	+3.7
KRER	Koryakskii	3.50	244	*e*P	Pn	01 35 16.9	+3.9
KRER				*e*S	Sn	01 35 56.3	+3.0
UGLR	Uglovaya	3.51	243	*i* P	Pn	01 35 17.2	+4.2
AVH	Avacha	3.52	244	*e*P	Pn	01 35 17.6	+4.4
KRX	Arik	3.52	246	*e*P	Pn	01 35 17.4	+4.1
KOK	Koryaka	3.56	245	*e*P	Pn	01 35 17.7	+4.0
GNL	Ganaly	3.76	253	*e*P	Pn	01 35 21.0	+4.5
RUS	Russkaya	4.11	235	*e*P	Pn	01 35 24.5	+3.4
RUS				*e*S	Sn	01 36 09.1	+1.2
MTVR	Mutnovka	4.24	237	*e*P	Pn	01 35 27.1	+4.0
MTVR				*e*S	Sn	01 36 12.9	+1.5
ASAK	Asacha	4.44	237	*e*P	Pn	01 35 30.6	+4.9
ASAK				*e*S	Sn	01 36 19.9	+3.7

ISCJB 14 01:41:47.8±0.6, 33°.07N±0°.05×96°.44E±0°.08, h10km, mb3.8/12, Error ellipse: s-maj=9.8km s-min=7.1km az=11.4
IDC 14 01:41:47.8±0.8, 33°.08N×96°.54E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.6/48, mbtmpb3.7/12, ML3.8/2, Error ellipse: s-maj=45.5km s-min=15.1km az=56.0
NEIC 14 01:41:49.4±0.4, 33°.21N×96°.71E, h10km, mb4.1/3, Error ellipse: s-maj=11.0km s-min=6.4km az=57.0
ISC 14 01:41:49.2±0.7, 33°.12N±0°.09×96°.58E±0°.09, h10km, n31, σ0s92/29, mb3.7/12, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.76	235	*e*Pn	Pn	01 43 18.6	+3.4
TAPN	Taplejung	9.58	235	*e*P	Pn	01 44 08.4	+0.8
	11nm,0.3s						
ODAN	Odare	10.11	234	*e*P	Pn	01 44 14.2	-0.6
	21nm,0.4s						
JIRN	Jiri	10.49	241	*e*P	Pn	01 44 20.7	+0.7
	7.9nm,0.4s						
GUN	Gumba	10.58	243	*e*P	Pn	01 44 21.3	0.0
	18nm,0.5s						
RAMN	Ramite	10.61	237	*e*P	Pn	01 44 21.5	0.0
	14nm,0.4s						
PKI	Pulchoki	11.12	243	*e*P	Pn	01 44 27.7	-0.9
	16nm,0.4s						
PKIN	Phulchoki	11.12	243	*e*P	Pn	01 44 27.9	-0.7
	9.6nm,0.4s						
ENH	Enshi	11.36	101	*e*Pn	Pn	01 44 30.2	-1.4
GKN	Gorkha	11.48	247	*e*P	Pn	01 44 33.0	-0.4
	8.5nm,0.5s						
DANN	Dangsing	12.01	250	*e*P	Pn	01 44 39.7	-1.0
	27nm,0.7s						
KOLN	Koldanda	12.40	248	*e*P	Pn	01 44 44.2	-1.8
	11nm,0.5s						
PYUN	Piuthan	12.72	250	*e*P	Pn	01 44 49.1	-1.4
	28nm,0.6s						
CHTO	Chiang Mai	14.40	171	*e*Pn	Pn	01 45 14.8	+1.5
CMAR	Chiang Mai Arr	14.76	171	Pn	Pn	01 45 18.5	+0.5
	0.1nm,0.3s,baz=343,slow=12,SNR=10.0						
MK31	Makanchi Array	17.47	326	*e*Pn	P	01 45 53.9	-0.2
MKAR	Makanchi Array	17.47	326	P	Pn	01 45 52.1	-0.8
	0.4nm,0.3s,baz=136,slow=14,SNR=22						
AAK	Ala-Archa	19.80	305	*e*P	Pn	01 46 19.8	-1.7
	5.6nm,1.0s						
KURBB	Kurchatov Arra	21.96	328	P	P	01 46 42.1	-0.9
	1.9nm,0.8s,baz=135,slow=11,SNR=14						
KURK	Kurchatov	21.98	328	P	P	01 46 42.1	-1.2
ZALV	Zalesovo Beam	22.44	342	P	P	01 46 48.4	+0.3
	1.1nm,0.4s,baz=150,slow=11,SNR=6.2						
KKAR	Karatay Array	22.72	304	*e*P	P	01 46 51.7	+0.5
	6.9nm,1.1s						
KBL	Kabul	22.89	281	*e*P	P	01 46 53.9	+0.5
	17nm,1.0s						
BVAR	Borovoye Array	27.34	325	P	P	01 47 34.2	0.0
	0.2nm,0.3s,baz=133,slow=8.5,SNR=2.5						
BRTR	Keskin Array B	50.16	297	P	P	01 50 46.3	+1.1
	0.4nm,0.8s,baz=101,slow=4.8,SNR=2.9						
ARCES	ARCESS Array B	52.78	335	P	P	01 51 05.0	+0.9
	3.8nm,1.0s,baz=82,slow=8.9,SNR=4.8						
NOA	NORSAR Array B	59.46	326	P	P	01 51 52.2	+0.2
	0.3nm,0.6s,baz=76,slow=7.0,SNR=3.4						
WRA	Warramunga Arr	63.91	140	P	P	01 52 22.1	-0.4
	2.3nm,0.7s,baz=332,slow=7.5,SNR=21						
ASAR	Alice Springs	66.75	143	P	P	01 52 41.0	+0.2
	1.3nm,0.6s,baz=328,slow=6.9,SNR=17						
YKA	Yellowknife Ar	81.47	14	P	P	01 54 07.7	+1.4
	0.3nm,0.7s,baz=332,slow=4.2,SNR=5.8						
TORD	Torodi Ar. Bea	86.94	284	P	P	01 54 34.6	-0.4
	0.3nm,0.8s,baz=70,slow=5.1,SNR=2.8						

ISCJB 14 01:46:11.2±0.6, 30°.49S±0°.04×177°.9W±0°.1, h46km, mb4.6/10, MS5.7/1, Error ellipse: s-maj=14.0km s-min=4.6km az=9.1
IDC 14 01:46:12.1±4.5, 30°.19S×177°.75W, h33km±33km, mb4.3/7, mb1 4.4/8, mb1mx4.0/32, mbtmpb4.4/8, ML2.9/1, MS5.6/1, Ms1 5.6/1, ms1mx4.1/26, Error ellipse: s-maj=23.2km s-min=16.4km az=105.0
NEIC 14 01:46:14.4±1.1, 30°.21S×177°.83W, h56km±9km, mb4.8/4, Error ellipse: s-maj=11.8km s-min=8.9km az=124.0
ISC 14 01:46:13.2±0.5, 30°.31S±0°.05×177°.9W±0°.1, h46km, n66, σ1s52/71, mb4.8/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.05	1	Pn	Pn	01 46 30.3	-1.3
	1μm,0.3s,baz=240,slow=20,SNR=87						
RAO				Sn	Sn	01 46 42.0	-3.0
	6μm,0.3s,baz=287,slow=19,SNR=55						
RAO				LR	LR	01 47 04.0	
	comp=Z,2μm,18.7s,baz=74,slow=55						
WMGZ	Waiomatatini S	8.08	201	PN	Pn	01 48 06.2	-1.7
WMGZ				SN	Sn	01 49 38.6	+0.6
TWGZ	Tauwhareparae	8.55	202	PN	Pn	01 48 12.2	-2.2
TWGZ				SN	Sn	01 49 48.4	-1.1
OUZ	Omahuta	8.65	233	*e*Pn	Pn	01 48 23.1	+7.3
	23nm,0.4s						
CNGZ	Carnagh Statio	8.76	200	PN	Pn	01 48 15.6	-1.6
CNGZ				SN	Sn	01 49 53.3	-1.3
MWZ	Matawai	8.85	204	PN	Pn	01 48 16.5	-1.9
MWZ				SN	Sn	01 49 55.2	-1.5
URZ	Urewera	8.93	206	Pn	Pn	01 48 16.4	-3.2
	1.6nm,0.3s,baz=260,slow=5.8,SNR=17						
URZ				Sn	Sn	01 49 56.1	-2.6
	14nm,0.3s,baz=0.0,slow=20,SNR=20						
URZ	Urewera	8.93	206	PN	Pn	01 48 16.6	-2.9
URZ				SN	Sn	01 49 57.5	-1.3
RIGZ	Rimuhau	9.10	202	PN	Pn	01 48 20.3	-1.6
SNGZ	Shannon Statio	9.31	203	PN	Pn	01 48 22.8	-2.0
SNGZ				SN	Sn	01 50 07.3	-0.8
KNZ	Kokohu	9.42	201	PN	Pn	01 48 24.0	-2.1
NMHZ	Naumai	9.78	205	PN	Pn	01 48 28.8	-2.5
ARHZ	Aropaoanui	9.86	204	PN	Pn	01 48 28.9	-3.4
MCHZ	McNeill Hill	10.12	204	PN	Pn	01 48 32.6	-3.4
MRZ	Mangatainoka R	11.60	205	PN	Pn	01 48 51.5	-4.6
MSVF	Nonsavu	13.04	343	*e*Pn	Pn	01 49 17.3	+1.3
	12nm,0.8s						
THZ	Tophouse	13.62	210	PN	Pn	01 49 17.9	-5.7
THZ				eSN	Sn	01 51 42.9	-11
RPZ	Rata Peaks	16.00	210	Pn	Pn	01 49 53.6	-1.4
	0.9nm,0.3s,baz=17,slow=11,SNR=3.6						
RPZ				Sn	Sn	01 52 35.5	-16
	1.2nm,0.3s,baz=38,slow=19,SNR=5.5						
RPZ	Rata Peaks	16.00	210	*e*Pn	P	01 49 56.8	-1.0
RPZ				Sn	Sn	01 52 35.5	-16
DZM	Mont Dzumac	16.24	297	Pn	P	01 50 00.7	+0.1
	0.1nm,0.3s,baz=133,slow=19,SNR=1.7						
CTA	Charters Tower	33.84	279	P	P	01 52 54.3	+2.9
	12nm,0.7s,baz=107,slow=9.8,SNR=11						
CTAO	Charters Tower	33.84	279	*e*P	P	01 52 53.9	+2.5
	11nm,0.7s						
STKA	Stephens Creek	34.56	257	P	P	01 52 59.5	+2.0
	15nm,0.8s,baz=96,slow=8.9,SNR=31						
BBOO	Buckleboo	39.05	254	*e*P	P	01 53 36.9	+1.2
COEN	Coen	39.30	286	*e*P	P	01 53 37.4	-0.6
ASAR	Alice Springs	43.17	267	P	P	01 54 10.8	+1.1
	2.2nm,0.5s,baz=102,slow=7.7,SNR=21						
WB2	Warramunga Arr	44.15	272	*e*P	P	01 54 17.2	-0.3
WRAB	Tennant Creek	44.15	272	*e*P	P	01 54 17.5	-0.1
	12nm,0.7s						
WRA	Warramunga Arr	44.16	272	P	P	01 54 18.1	+0.5
	7.7nm,0.4s,baz=111,slow=7.9,SNR=40						
FORT	Forrest	46.13	255	*e*P	P	01 54 33.2	+0.1
	7.1nm,0.6s						
VNDA	Vanda	48.19	186	P	P	01 54 49.9	+1.3
	1.1nm,0.7s,baz=15,slow=7.5,SNR=5.5						
QSPA	South Pole Qui	59.80	180	P	P	01 56 15.9	+2.4
	22nm,0.8s,baz=14,slow=1.5,SNR=14						
KAPI	Kappang	63.65	280	*e*P	P	01 56 40.4	+0.4
VNA3	Neumayer Olymp	78.39	176	P	P	01 58 09.9	+1.5
VNA2	Neumayer--Watz	78.83	177	P	P	01 58 12.6	+1.7
	baz=180,slow=4.0						
VNA1	Neumayer--Stat	79.06	177	P	P	01 58 10.5	-1.5
NVAR	Mina Array Bea	88.13	43	P	P	01 58 59.7	+0.5
	1.2nm,0.8s,baz=222,slow=8.2,SNR=10						
TUC	Tucson	89.01	51	*e*P	P	01 59 04.2	+0.9
	2.5nm,1.1s						
TXAR	Lajitas Array	92.29	57	LR	LR	02 32 33.0	
	comp=Z,3μm,21.6s,baz=0.0,slow=30						
MKAR	Makanchi Array	117.76	310	PKP	PKPdf	02 04 53.5	-0.7
	0.6nm,0.7s,baz=64,slow=2.8,SNR=6.9						
KURK	Kurchatov	121.03	314	PKP	PKPdf	02 04 58.8	-1.4
KURBB	Kurchatov Arra	121.07	314	PKP	PKPdf	02 04 58.8	-1.5
	2.2nm,0.7s,baz=102,slow=1.9,SNR=23						
EKS2	Erkin-Say	122.63	304	*e*PKPdf	PKPdf	02 05 03.7	-0.1
KKAR	Karatay Array	125.07	304	*e*PKPdf	PKPdf	02 05 08.2	-0.1
BRVK	Borovoye	126.45	316	*e*PKPdf	PKPdf	02 05 10.4	-0.1
LSZ	Lusaka	128.17	213	*e*PKPdf	PKPdf	02 05 15.8	+0.6
ABKAR	Akbulak array	132.90	311	*e*PKPdf	PKPdf	02 05 23.5	+0.5
ARU	Arti	133.06	321	*e*PKPdf	PKPdf	02 05 23.3	+0.3
JOF	Joensuu	142.35	339	*e*pkp	PKPdf	02 05 36.3	-3.6
KAF	Kangasniemi	144.48	341	*e*pkp	PKPab	02 05 40.7	-1.4
FINES	FINESS Array B	145.08	340	PKPbc	PKPbc	02 05 43.5	-0.7
	17nm,0.8s,baz=82,slow=4.2,SNR=54						
KIV	Kislovodsk	145.23	304	*e*PKPdf	PKPdf	02 05 46.0	+0.3
NB2	NORSAR Subarra	148.67	351	PKP	PKPbc	02 05 54.2	-0.5
	comp=Z,2.0nm,0.7s,baz=11,slow=2.8						
NOA	NORSAR Array B	148.67	351	PKPbc	PKPbc	02 05 54.5	-0.2
	comp=Z,3.7nm,0.8s,baz=14,slow=4.4,SNR=11						
NAO01	NORSAR Array S	148.90	352	*e*PKPdf	PKPdf	02 05 51.2	0.0
HFS	Hagfors	149.17	349	PKPbc	PKPbc	02 05 55.3	-0.6
	comp=Z,5.6nm,0.7s,baz=153,slow=1.7,SNR=9.6						
AKASG	Malin Array Be	151.26	323	PKPbc	PKPbc	02 06 00.7	-0.5
	comp=Z,7.3nm,0.8s,baz=47,slow=3.4,SNR=31						
AKBB	Malin Array Si	151.26	323	*e*PKPbc	PKPbc	02 06 00.7	-0.5
AKBB				*e*PKPab	PKPab	02 06 08.9	-0.4
KIEV	Kiev	151.28	323	*e*PKPbc	PKPbc	02 06 00.3	-0.9
BR131	Keskin Array S	152.61	299	*e*PKPbc	PKPbc	02 06 04.5	-0.3
BR131				*e*PKPab	PKPab	02 06 15.1	-0.4
BRTR	Keskin Array B	152.61	299	PKPbc	PKPbc	02 06 04.2	-0.6
	comp=Z,1.8nm,0.9s,baz=104,slow=2.5,SNR=8.1						
CLL	Collm	157.50	342	*e*PKPab	PKPab	02 06 35.0	-0.7
BRG	Berggiesshubel	157.62	340	*e*(P)	PKPab	02 06 39.8	+3.5
	comp=Z,9.5nm,1.6s						
GERES	GERESS Array B	159.47	338	PKPab	PKPab	02 06 45.3	+0.8
	comp=Z,0.9nm,0.8s,baz=22,slow=4.6,SNR=4.2						
TOA0	Torodi Ar. Sit	162.92	179	*e*PKPab	PKPab	02 07 00.6	+0.5
TORD	Torodi Ar. Bea	162.92	179	PKP	PKPdf	02 06 11.5	+0.5
	comp=Z,0.7nm,1.1s,baz=349,slow=40,SNR=2.6						
TORD				PKPab	PKPab	02 07 00.9	+0.7
	comp=Z,2.7nm,0.8s,baz=186,slow=3.9,SNR=13						

IDC 14 01:46:56.7±2.7, 33°.28N×96°.24E, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.2/38, mbtmpb3.3/4, ML3.2/3, Error ellipse: s-maj=74.8km s-min=40.6km az=77.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.96	170	Pn	Pn	01 50 30.3	+0.7
	0.0nm,0.3s,baz=348,slow=8.3,SNR=3.1						
SONM	Songino Array	16.43	25	Pn	Pn	01 50 49.5	+0.7
	0.2nm,0.3s,baz=208,slow=16,SNR=4.0						
MKAR	Makanchi Array	17.17	326	P	P	01 50 59.7	0.0
	0.1nm,0.3s,baz=130,slow=14,SNR=3.2						
FINES	FINESS Array B	52.00	325	P	P	01 56 06.7	-0.8
	1.0nm,0.9s,baz=76,slow=8.0,SNR=5.1						

IDC 14 01:58:27.5±0.8, 1°.98N×97°.07E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.0/44, mbtmpb4.1/18, ML4.0/1, MS5.2/1, Ms1 5.2/1, ms1mx3.9/33, Error ellipse: s-maj=31.3km s-min=15.3km az=49.0
ISCJB 14 01:58:29.6±0.4, 1°.85N±0°.06×96°.97E±0°.06, h28km, mb4.2/25, MS6.0/2, Error ellipse: s-maj=10.5km s-min=6.0km az=139.1
DJA 14 01:58:30.8±0.6, 2°.N±3°.×9°.7E±°, h10km, M4.4/6, mb4.6/3, mB6.1/1, MLv4.3/6, Mw(mB)5.7/1
NEIC 14 01:58:33.4±1.3, 1°.98N×97°.07E, h41km±11km, mb4.4/9, Error ellipse: s-maj=14.1km s-min=6.0km az=61.0
ISC 14 01:58:31.6±0.6, 1°.86N±0°.07×96°.92E±0°.07, h28km, n58, σ1s09/54, mb4.2/25, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.81	312	P	Pn	01 58 46.4	-0.7
TPTI		1.41	10	P	Pn	01 58 54.5	-0.9
TPTI				S	Sb	01 59 16.0	+1.1
KCSI	Kotacane, Aceh	1.85	27	P	Pn	01 59 02.5	+0.9
KCSI				S	Sb	01 59 30.0	+2.4
TSI	Tuntungan	2.31	45	P	Pb	01 59 16.5	+3.9
MNSI	Mandailing Nat	2.86	112	P	Pn	01 59 16.6	+1.2
LHMI	Lhok Sumawe	3.34	0	P	Pb	01 59 35.6	+5.4
BKNI	Bangkinang	4.39	110	P	Pb	01 59 58.5	+10
IPM	Ipoh	4.85	58	*e*Pn	Pn	01 59 42.6	-0.2
KULM	Kulim	5.04	47	*e*Pn	Pn	01 59 44.9	-0.6
MNAI	Manna	8.63	136	*e*Pn	Pn	02 00 35.3	+0.5
MDSI	Maura Dua	9.61	131	P	Pn	02 00 48.4	+0.2
	16nm,0.7s						
CMAR	Chiang Mai Arr	16.61	7	Pn	Pn	02 02 20.5	-2.1
	0.2nm,0.3s,baz=197,slow=12,SNR=22						
CHTO	Chiang Mai	16.96	7	*e*Pn	Pn	02 02 25.4	-1.6
HYB	Hyderabad	23.77	312	*i* P	P	02 03 45.0	+3.0
H08S2	Diego Garcia H	26.14	249	T	T	02 31 19.9	
	baz=70,slow=75,SNR=550						
H08S3	Diego Garcia H	26.14	249	T	T	02 31 16.0	
	baz=70,slow=75,SNR=446						
H08S1	Diego Garcia H	26.16	249	T	T	02 31 19.2	
	baz=70,slow=75,SNR=542						
ODAN	Odare	26.48	341	*e*P	P	02 04 07.2	+0.3
	41nm,1.0s						
TAPN	Taplejung	26.84	342	*e*P	P	02 04 10.6	+0.4
	50nm,0.9s						
RAMN	Ramite	26.84	339	*e*P	P	02 04 10.9	+0.8
	38nm,1.0s						
JIRN	Jiri	27.63	339	*e*P	P	02 04 17.7	+0.3
	38nm,1.0s						
GUN	Gumba	27.97	339	*e*P	P	02 04 20.9	+0.5
	42nm,1.1s						
KKN	Kakani	28.09	338	*e*P	P	02 04 21.8	+0.5
DANN	Dangsing	29.19	336	*e*P	P	02 04 31.5	+0.3
	16nm,0.9s						
WRA	Warramunga Arr	42.62	122	P	P	02 06 25.3	-0.6
	0.9nm,0.6s,baz=301,slow=9.1,SNR=8.6						
WRAB	Tennant Creek	42.62	122	*e*P	P	02 06 25.2	-0.7
	2.9nm,0.7s						
ASAR	Alice Springs	44.01	127	P	P	02 06 36.8	-0.3
	0.9nm,0.7s,baz=303,slow=7.5,SNR=7.5						
TKM2	Tokmak 2	45.10	338	*e*P	P	02 06 45.2	-0.5
	10.0nm,1.1s						
TKM2				*ep*P	pP	02 06 54.5	+0.4
AAK	Ala-Archa	45.28	337	P	P	02 06 49.4	+2.3
	0.7nm,0.4s,baz=153,slow=9.0,SNR=2.7						

ISC 14 02:31:22.2±2.2, 25°02'N±0°08×121°82'E±0°04, h142km±12km, n35, σ0°54/65, 3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
NWF	**Wu-fen Shan**	**0.06**	**321**	*eP*		**Pn**		**02 31 41.2**	**-0.2**
	baz=336								
NWF				*eS*		**Sn**		**02 31 55.4**	**-0.6**
	baz=336								
TWB1	**Santiao Chiao**	**0.15**	**96**	P		**Pn**		**02 31 41.6**	**+0.2**
	baz=101								
TWB1				*eS*		**Sn**		**02 31 56.5**	**+0.6**
	baz=101								
TWA	**Mucha**	**0.22**	**259**	*i*P		**Pn**		**02 31 42.0**	**+0.4**
	baz=265								
TWA				S		**Sn**		**02 31 55.6**	**-0.6**
	baz=265								
TWY	**Chenhua**	**0.32**	**321**	P		**Pn**		**02 31 42.1**	**+0.2**
	baz=329								
TWY				*eS*		**Sn**		**02 31 56.3**	**-0.5**
	baz=329								
TWE	**Neicheng**	**0.33**	**205**	*eP*		**Pn**		**02 31 42.3**	**+0.4**
	baz=196								
TWE				*eS*		**Sn**		**02 31 57.0**	**+0.1**
	baz=196								
TWS1	**Kuangyinshan**	**0.38**	**282**	*eP*		**Pn**		**02 31 42.3**	**+0.3**
	baz=278								
TWS1				*eS*		**Sn**		**02 31 57.0**	**-0.1**
	baz=278								
TWC	**Suao**	**0.41**	**177**	*i*P		**Pn**		**02 31 42.8**	**+0.5**
	baz=164								
TWC				S		**Sn**		**02 31 57.6**	**+0.1**
	baz=164								
ENTT	**Nioudou**	**0.45**	**212**	P		**Pn**		**02 31 42.6**	**+0.2**
	baz=217								
ENTT				*eS*		**Sn**		**02 31 57.3**	**-0.5**
	baz=217								
NSK	**Sanguang**	**0.55**	**231**	*i*P		**Pn**		**02 31 42.8**	**-0.2**
	baz=220								
NSK				S		**Sn**		**02 31 57.2**	**-1.5**
	baz=220								
NCU	**National Centr**	**0.58**	**265**	*eP*		**Pn**		**02 31 43.4**	**+0.4**
	baz=261								
NCU				S		**Sn**		**02 31 58.5**	**-0.4**
	baz=261								
ENA	**Nanau**	**0.60**	**187**	*eP*		**Pn**		**02 31 43.9**	**+0.7**
	baz=196								
ENA				*eS*		**Sn**		**02 31 60.0**	**+0.8**
	baz=196								
NNS	**Nan Shan**	**0.71**	**215**	*i*P		**Pn**		**02 31 44.5**	**+0.4**
	baz=211								
NNS				*eS*		**Sn**		**02 32 00.3**	**-0.4**
	baz=211								
NSTT	**Nanjuang**	**0.84**	**243**	⇓*i*P		**Pn**		**02 31 45.2**	**+0.3**
	baz=240								
NSTT				*eS*		**Sn**		**02 32 01.5**	**-0.6**
	baz=240								
TWD	**Chiawan**	**0.96**	**192**	*eP*		**Pn**		**02 31 45.4**	**-0.5**
	baz=198								
TWD				*eS*		**Sn**		**02 32 03.0**	**-0.9**
	baz=198								
TWT	**Tachien**	**0.97**	**218**	*eP*		**Pn**		**02 31 46.8**	**+0.6**
	baz=221								
TWT				S		**Sn**		**02 32 04.4**	**+0.1**
	baz=221								
WHF	**Hehuan Shan**	**1.01**	**210**	⇓*i*P		**Pn**		**02 31 47.5**	**+0.7**
	baz=204								
WHF				S		**Sn**		**02 32 05.1**	**-0.4**
	baz=204								
NSY	**Sanyi**	**1.14**	**238**	*eP*		**Pn**		**02 31 47.9**	**+0.4**
	baz=241								
JYNG	**Yonagunijimaku**	**1.17**	**119**	P		**Pn**		**02 31 48.0**	**+0.3**
JYNG				*eS*		**Sn**		**02 32 06.8**	**-0.4**
TWQ1	**Liyutan**	**1.17**	**235**	P		**Pn**		**02 31 48.1**	**+0.4**
	baz=233								
TWQ1				S		**Sn**		**02 32 07.0**	**-0.3**
	baz=233								
YOJ	**Yonaguni jima**	**1.22**	**117**	P		**Pn**		**02 31 48.3**	**+0.1**
YOJ				*eS*		**Sn**		**02 32 07.7**	**-0.3**
WDT	**Danda**	**1.41**	**207**	*eP*		**Pn**		**02 31 51.1**	**+0.6**
	baz=210								
WDT				*eS*		**Sn**		**02 32 12.3**	**+0.2**
	baz=210								
SMLT	**Sun Moon Lake**	**1.41**	**217**	*eP*		**Pn**		**02 31 50.9**	**+0.5**
	baz=209								
TYC	**Yuchr**	**1.42**	**219**	P		**Pn**		**02 31 50.6**	**+0.3**
	baz=224								
TYC				S		**Sn**		**02 32 11.5**	**-0.2**
	baz=224								
EHY	**Hungye**	**1.58**	**197**	*eP*		**Pn**		**02 31 52.3**	**+0.2**
	baz=188								
EHY				*eS*		**Sn**		**02 32 14.8**	**-0.1**
	baz=188								
YUS	**Yu-Shan**	**1.72**	**208**	*eP*		**Pn**		**02 31 54.7**	**+0.5**
	baz=214								
YUS				*eS*		**Sn**		**02 32 19.1**	**+0.6**
	baz=214								
TWF1	**Yuli**	**1.73**	**196**	*eP*		**Pn**		**02 31 53.6**	**-0.2**
	baz=192								
CHN5	**Tsauling**	**1.76**	**217**	P		**Pn**		**02 31 54.9**	**+0.7**
	baz=222								
CHN5				S		**Sn**		**02 32 18.9**	**+0.3**
	baz=222								
ALS	**Alishan**	**1.77**	**212**	*eP*		**Pn**		**02 31 55.1**	**+0.6**
	baz=217								
IRIF	**Iriomote-Funau**	**1.86**	**111**	P		**Pn**		**02 31 54.9**	**-0.3**
IRIF				*eS*		**Sn**		**02 32 20.1**	**-0.4**
CHN4	**Tsaushan**	**2.01**	**214**	*eP*		**Pn**		**02 31 57.2**	**+0.3**
	baz=213								
CHN4				*eS*		**Sn**		**02 32 23.3**	**-0.4**
	baz=213								
STYT	**Tauyuan**	**2.09**	**208**	*eP*		**Pn**		**02 31 56.3**	**-1.8**
	baz=206								
JKRS	**Kuro-shima**	**2.14**	**111**	P		**Pn**		**02 31 58.9**	**+0.4**
JKRS				*eS*		**Sn**		**02 32 26.4**	**+0.1**
CHN1	**Nanshi**	**2.18**	**213**	P		**Pn**		**02 31 59.3**	**+0.3**
	baz=212								
CHN1				*eS*		**Sn**		**02 32 26.7**	**-0.6**
	baz=212								
JIJ	**Ishigaki jima**	**2.21**	**107**	P		**Pn**		**02 31 59.6**	**+0.3**
JIJ				*eS*		**Sn**		**02 32 27.4**	**-0.5**
JISG	**Ishigakijimahi**	**2.30**	**100**	P		**Pn**		**02 32 01.1**	**+0.7**
JISG				*eS*		**Sn**		**02 32 29.6**	**-0.3**

IDC 14 02:48:42.6±2.1, 32°98N×97°36E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.2/43, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=132.2km s-min=35.3km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
CMAR	**Chiang Mai Arr**	**14.54**	**174**	Pn		Pn		02 52 10.5	+0.8
	0.1nm,0.3s,baz=341,slow=14,SNR=3.4								
MKAR	**Makanchi Array**	**17.95**	**325**	P		Pn		02 52 54.0	+0.3
	0.1nm,0.3s,baz=134,slow=13,SNR=6.3								
ASAR	**Alice Springs**	**66.24**	**143**	P		P		02 59 32.4	-0.2
	0.2nm,0.3s,baz=326,slow=6.4,SNR=5.8								

IDC 14 02:51:35.6±1.9, 37°86S×73°62W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/27, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=42.2km s-min=19.7km az=65.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
PLCA	**Paso Flores**	**3.73**	**141**	Pn		Pn		02 52 34.1	-0.4
	1.9nm,0.3s,baz=318,slow=13,SNR=10								
PLCA				Lg		Lg		02 53 36.4	
	1.5nm,0.3s,baz=32,slow=18,SNR=3.0								
CFAA	**Coronel Fontan**	**7.65**	**37**	Pn		Pn		02 53 29.4	+1.0
	0.2nm,0.3s,baz=207,slow=13,SNR=8.7								
CFAA				Sn		Sn		02 54 58.5	+2.7
	0.1nm,0.3s,baz=162,slow=20,SNR=3.2								
LPAZ	**La Paz**	**22.03**	**14**	P		P		02 56 32.4	-0.2
	0.9nm,0.3s,baz=187,slow=13,SNR=11								
TXAR	**Lajitas Array**	**72.52**	**333**	P		P		03 03 05.3	+1.0
	0.4nm,0.8s,baz=151,slow=7.9,SNR=4.2								
TORD	**Torodi Ar. Bea**	**86.71**	**71**	P		P		03 04 19.8	-1.9
	1.1nm,1.1s,baz=234,slow=4.6,SNR=3.9								

*ISCJB **14** 02:59:30.1±0.8, 6°35S±0°08×128°54E±0°09, h334km, mb3.3/5, Error ellipse: s-maj=12.9km s-min=9.2km az=149.5*
*IDC **14** 02:59:33.8±2.6, 6°56S×128°27E, h360km±30km, mb3.1/5, mb1 3.5/8, mb1mx3.2/32, mbtmp4.1/8, Error ellipse: s-maj=34.8km s-min=10.6km az=57.0*

ISC 14 02:59:31.5±0.9, 6°45S±0°09×128°5E±0°1, h334km, n8, σ1°07/12, mb3.4/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
BATI	**Baumata**	**6.05**	**232**	P		**Pn**		**03 01 03.1**	**+0.7**
	29nm,0.3s,baz=45,slow=4.3,SNR=15								
BATI				S		**S**		**03 02 15.6**	**-0.5**
	14nm,0.3s,baz=281,slow=22,SNR=14								
WRA	**Warramunga Arr**	**14.57**	**158**	P		**P**		**03 02 42.5**	**+0.2**
	0.6nm,0.3s,baz=340,slow=11,SNR=44								
WRA				S		**S**		**03 05 18.2**	**-2.3**
	0.4nm,0.3s,baz=339,slow=21,SNR=6.5								
ASAR	**Alice Springs**	**17.90**	**164**	P		**P**		**03 03 19.3**	**+1.0**
	2.5nm,0.3s,baz=346,slow=12,SNR=132								
ASAR				S		**S**		**03 06 25.9**	**-0.4**
	0.5nm,0.3s,baz=345,slow=20,SNR=35								
CTA	**Charters Tower**	**21.95**	**130**	P		**P**		**03 03 59.8**	**+1.2**
	3.3nm,0.6s,baz=303,slow=13,SNR=3.1								
STKA	**Stephens Creek**	**28.11**	**156**	P		**P**		**03 04 54.1**	**+0.5**
	2.0nm,0.6s,baz=322,slow=9.3,SNR=6.0								
CMAR	**Chiang Mai Arr**	**38.22**	**311**	P		**P**		**03 06 20.9**	**+0.3**
	0.5nm,0.3s,baz=142,slow=7.3,SNR=5.3								
SONM	**Songino Array**	**57.45**	**343**	P		**P**		**03 08 46.1**	**-0.3**
	0.2nm,0.6s,baz=159,slow=4.5,SNR=2.7								
MKAR	**Makanchi Array**	**66.94**	**327**	P		**P**		**03 09 48.3**	**-0.5**
	0.5nm,0.6s,baz=127,slow=8.4,SNR=9.3								
MKAR				PcP		**PcP**		**03 10 13.7**	**-0.9**
	0.2nm,0.7s,baz=104,slow=6.1,SNR=2.6								

*ISCJB **14** 03:11:18.9±0.7, 33°02N±0°07×96°8E±0°1, h33km, mb3.3/5, Error ellipse: s-maj=13.5km s-min=9.4km az=25.9*
*IDC **14** 03:11:22.0±4.4, 33°05N×96°75E, h49km±49km, mb3.0/5, mb1 3.2/8, mb1mx3.0/28, mbtmp3.2/8, ML3.1/2, Error ellipse: s-maj=63.5km s-min=20.3km az=68.0*

ISC 14 03:11:21.3±0.9, 33°09N±0°09×96°8E±0°1, h35km, n14, σ1°27/12, mb3.3/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
TAPN	**Taplejung**	**9.71**	**236**	*eP*		**Pn**		**03 13 40.9**	**+2.2**
	4.4nm,0.4s								
ODAN	**Odare**	**10.23**	**235**	*eP*		**Pn**		**03 13 46.2**	**+0.3**
	12nm,0.5s								
JIRN	**Jiri**	**10.62**	**242**	*eP*		**Pn**		**03 13 51.9**	**+0.6**
	6.6nm,0.5s								
GUN	**Gumba**	**10.72**	**244**	*eP*		**Pn**		**03 13 52.8**	**+0.2**
	10.0nm,0.6s								
PKI	**Pulchoki**	**11.25**	**244**	*eP*		**Pn**		**03 13 57.6**	**-2.3**
	6.7nm,0.5s								
DANN	**Dangsing**	**12.15**	**251**	*eP*		Pn		03 14 07.4	-4.8
CMAR	**Chiang Mai Arr**	**14.70**	**172**	P		**Pn**		**03 14 46.0**	**-0.7**
	baz=341,slow=11,SNR=3.1								
SONM	**Songino Array**	**16.43**	**23**	P		**Pn**		**03 15 10.0**	**+0.9**
	0.1nm,0.3s,baz=203,slow=14,SNR=5.4								
MKAR	**Makanchi Array**	**17.59**	**325**	P		**Pn**		**03 15 24.0**	**+0.5**
	0.1nm,0.3s,baz=139,slow=14,SNR=5.8								
KURBB	**Kurchatov Arra**	**22.07**	**328**	P		**P**		**03 16 13.5**	**+0.5**
	1.0nm,0.7s,baz=134,slow=11,SNR=9.4								
ZALV	**Zalesovo Beam**	**22.52**	**341**	P		**P**		**03 16 16.8**	**-0.9**
	0.3nm,0.5s,baz=154,slow=10,SNR=2.8								
WRA	**Warramunga Arr**	**63.78**	**140**	P		**P**		**03 21 50.5**	**+0.6**
	0.3nm,0.9s,baz=317,slow=10,SNR=3.0								
ASAR	**Alice Springs**	**66.62**	**143**	P		P		03 22 05.5	-2.8
	0.3nm,0.4s,baz=331,slow=6.4,SNR=4.2								
YKA	**Yellowknife Ar**	**81.46**	**14**	P		**P**		**03 23 33.5**	**-0.9**
	0.1nm,0.5s,baz=336,slow=5.4,SNR=3.4								

*ISCJB **14** 03:15:44.5±0.2, 33°02N±0°02×96°59E±0°03, h10km, mb4.6/93, MS4.5/2, Error ellipse: s-maj=3.7km s-min=3.2km az=29.8*
*NEIC **14** 03:15:46.2±0.2, 33°07N×96°62E, h10km, mb5.0/46, Error ellipse: s-maj=6.1km s-min=3.8km az=216.0*
*IDC **14** 03:15:46.9±3.2, 33°11N×96°64E, h14km±19km, mb4.2/26, mb1 4.3/30, mb1mx4.3/36, mbtmp4.3/30, ML3.9/4, Error ellipse: s-maj=16.7km s-min=11.0km az=41.0*
*MOS **14** 03:15:46.0±0.8, 33°05N×96°65E, h21km, mb4.8/51, Error ellipse: s-maj=10.4km s-min=4.1km az=129.6*
*BJI **14** 03:15:47.0, 33°03N×96°51E, h12km, mb4.4/13, ML4.0/13, Ms4.2/24, Ms7 4.1/24*

ISC 14 03:15:47.1±0.3, 33°06N±0°04×96°56E±0°04, h10km, n362, σ1°24/364, mb4.8/94, 19C-78D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
LSA	**Lhasa**	**5.71**	**236**	Pn		Pn		03 17 16.3	+3.9
LSA	**Lhasa**	**5.71**	**236**	*eP*		Pn		03 17 16.6	+4.2
LSA				*eS*		**Sn**		**03 18 22.2**	**+4.0**
LSA	**Lhasa**	**5.71**	**236**	*ePn*		Pn		03 17 16.6	+4.2
LSA				*eS*		**Sn**		**03 18 22.2**	**+4.0**
CD2	**Chengdu**	**6.48**	**107**	Pn		**Pn**		**03 17 20.0**	**-2.5**
CD2				Pg		Pg		03 17 44.4	-6.7
CD2				Sg		Sg		03 19 05.6	-9.4
CD2				SMN					
	130nm,1.4s								
CD2				SME					
	160nm,1.1s								
CD2				LE					
	3μm,6.7s								
LZH	**Lanzhou**	**6.72**	**61**	Pn		**Pn**		**03 17 27.5**	**+1.5**
LZH				Pg		Pg		03 17 48.6	-7.2
LZH				Sg		Sg		03 19 13.8	-9.1
LZH				LN					
	2μm,8.0s								
LZH				LE					
	3μm,7.6s								
LZH				LZ					
	4μm,8.3s								
GTA	**Gaotai**	**6.86**	**22**	*ePn*		Pn		03 17 32.3	+4.4
GTA				Sn		Sn		03 18 53.3	+7.2
GTA				LN					
	730nm,11.6s								
GTA				LE					
	2μm,9.3s								
GTA				LZ					
	880nm,10.0s								
SHL	**Shillong**	**8.51**	**210**	*eP*		Pn		03 17 47.0	-3.5
SHL				*eS*		Sn		03 19 17.5	-9.2
IMP	**Imphal**	**8.56**	**196**	*eP*		Pn		03 17 56.0	+4.9
IMP				*eS*		**Sn**		**03 19 26.0**	**-1.8**
TAPN	**Taplejung**	**9.54**	**236**	*eP*		**Pn**		**03 18 05.3**	**+0.6**
	58nm,0.5s								
KMI	**Kunming**	**9.57**	**144**	P		**Pn**		**03 18 06.4**	**+1.2**
KMI				pP				03 18 09.4	
ODAN	**Odare**	**10.07**	**235**	*eP*		**Pn**		**03 18 12.9**	**+0.9**
	212nm,0.5s								
XAN	**Xi'an**	**10.36**	**81**	P		**Pn**		**03 18 15.1**	**-0.7**
XAN				PMZ					
	3.0nm,0.9s								
XAN				LN					
	470nm,13.9s								
XAN				LE					
	510nm,16.4s								
XAN				LZ					
	430nm,15.9s								
JIRN	**Jiri**	**10.45**	**242**	*eP*		**Pn**		**03 18 18.1**	**+0.8**
	125nm,0.8s								
GUN	**Gumba**	**10.54**	**244**	*eP*		**Pn**		**03 18 19.2**	**+0.6**
	96nm,0.4s								
RAMN	**Ramite**	**10.56**	**237**	*eP*		**Pn**		**03 18 19.4**	**+0.7**
	76nm,0.5s								
GYA	**Guiyang**	**10.96**	**124**	⇓*i*P		**Pn**		**03 18 24.3**	**+0.2**
GYA				PP		**PnPn**		**03 18 32.4**	**+0.6**
GYA				S		**Sn**		**03 20 28.9**	**+2.0**
GYA				SS		**SnSn**		**03 20 41.3**	**+2.6**
GYA				LN					
	1μm,9.9s								
GYA				LE					
	830nm,9.6s								
GYA				LZ					
	1μm,10.0s								
KKN	**Kakani**	**11.06**	**245**	*eP*		**Pn**		**03 18 25.7**	**+0.2**
	76nm,0.4s								
PKI	**Pulchoki**	**11.08**	**243**	*eP*		**Pn**		**03 18 25.8**	**-0.1**
	87nm,0.4s								
PKIN	**Phulchoki**	**11.08**	**243**	*eP*		**Pn**		**03 18 25.8**	**-0.1**
	81nm,0.4s								
ENH	**Enshi**	**11.36**	**101**	*ePn*		**Pn**		**03 18 26.9**	**-2.5**
	10nm,0.8s								
GKN	**Gorkha**	**11.45**	**247**	*eP*		**Pn**		**03 18 30.2**	**-0.6**
	50nm,0.4s								
DANN	**Dangsing**	**11.97**	**250**	*eP*		**Pn**		**03 18 37.6**	**-0.5**
	76nm,0.4s								
KOLN	**Koldanda**	**12.36**	**248**	*eP*		**Pn**		**03 18 42.8**	**-0.6**
	44nm,0.5s								
PYUN	**Piuthan**	**12.69**	**251**	*eP*		**Pn**		**03 18 47.2**	**-0.7**
	190nm,0.5s								
WMQ	**Urumqi**	**12.79**	**330**	P		**Pn**		**03 18 49.8**	**+0.8**
WMQ				pP				03 18 53.0	
WMQ				sP				03 18 56.3	
WMQ				*eS*		**Sn**		**03 21 14.0**	**+2.6**
WMQ				LN					
	540nm,10.3s								
WMQ				LE					
	240nm,11.7s								
WMQ				LZ					
	450nm,11.8s								
CRAI	**Chiangrai**	**13.22**	**164**	P		**Pn**		**03 18 54.5**	**-0.4**
	27nm,1.4s								
CMAI	**Chiengmai2**	**13.26**	**170**	P		Pn		03 18 59.0	+3.4
	7.9nm,0.9s								
HHC	**Hu-ho-hao-te**	**14.28**	**53**	*eP*		**Pn**		**03 19 10.5**	**+1.1**
HHC				pP		**P**		**03 19 17.8**	**+1.1**
HHC				sP				03 19 22.1	
HHC				S		Sn		03 21 54.5	+6.5
HHC				sS		S		03 21 59.8	-8.8
HHC				SS		**SnSn**		**03 22 05.5**	**+5.1**
HHC				PMZ					
	13nm,0.6s								
HHC				LN					
	690nm,8.8s								
HHC				LE					
	1μm,9.4s								
HHC				LZ					
	740nm,8.7s								
CMAR	**Chiang Mai Arr**	**14.69**	**171**	P		**Pn**		**03 19 15.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**14.69**	**171**	Pn		**Pn**		**03 19 15.0**	**-0.1**
	0.2nm,0.3s,baz=346,slow=12,SNR=54								
LAMP	**Lampang**	**14.73**	**168**	P		**P**		**03 19 22.4**	**+0.7**
	3.9nm,0.9s,274nm								
WHN	**Wuhan**	**15.33**	**95**	P		**Pn**		**03 19 21.8**	**-1.7**
UTTA	**Uttaradit**	**15.66**	**166**	P		P		03 19 36.9	+4.9
	3.6nm,0.7s								
SUKH	**Sukhothai**	**15.75**	**169**	P		**P**		**03 19 34.9**	**+1.9**
	2.5nm,0.7s								
SONM	**Songino Array**	**16.53**	**24**	Pn		**Pn**		**03 19 38.0**	**-1.0**
	0.3nm,0.3s,baz=211,slow=9.9,SNR=32								
ULN	**Ulaanbaatar**	**16.78**	**25**	⇓*i*P		**P**		**03 19 45.7**	**+1.2**
ULN				pmax		pmax			
	comp=Z,10.0nm,1.2s								
ULN	**Ulaanbaatar**	**16.78**	**25**	*ePn*		**P**		**03 19 44.5**	**-0.1**
	comp=Z,8.4nm,1.1s								
PDGK	**Podgornoye**	**16.86**	**312**	P		**P**		**03 19 43.8**	**-1.4**
PDGK				pmax		pmax			
	comp=Z,19nm,1.1s								
PBKT	**Sadao Pong**	**16.89**	**165**	P		**P**		**03 19 44.7**	**-0.9**
	comp=Z,18nm,1.0s,comp=Z,2μm								
UMPA	**Umpang Tak**	**16.91**	**172**	P		P		03 19 53.3	+7.4
	comp=Z,54nm,0.8s,comp=Z,5μm								
MK31	**Makanchi Array**	**17.51**	**326**	P		**P**		**03 19 51.8**	**-0.6**
MK31				pmax		pmax			
	comp=Z,10.0nm,0.7s								
MKAR	**Makanchi Array**	**17.51**	**326**	*eP*		**P**		**03 19 51.8**	**-0.6**
MKAR	**Makanchi Array**	**17.51**	**326**	P		**Pn**		**03 19 50.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=137,slow=14,SNR=60								
MKAR				ScP		**ScP**		**03 28 05.4**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=131,slow=3.4,SNR=4.5								
MKAR	**Makanchi Array**	**17.51**	**326**	*ePn*		**P**		**03 19 51.8**	**-0.6**
MKAR				ScP		**ScP**		**03 28 05.4**	**-1.1**
KHON	**Khomkaen**	**17.58**	**160**	P		**P**		**03 19 56.0**	**+2.7**
	comp=Z,6.6nm,0.9s,comp=Z,711nm								
UTHA	**Uthaitani**	**17.61**	**171**	P		**P**		**03 19 56.2**	**+2.5**
	comp=Z,3.7nm,0.9s,comp=Z,61nm								
KSH	**Kashi**	**17.79**	**297**	P		**P**		**03 19 57.3**	**+1.6**
KSH				sP		**sP**		**03 20 04.3**	**+4.5**
KSH				PP		**PnPn**		**03 20 12.1**	**+6.6**
KSH				S		**Sn**		**03 23 15.3**	**+2.0**
KSH				SS		SnSn		03 23 37.9	+11
KSH				LN					
	comp=Z,440nm,12.6s								
KSH				LE					
	comp=Z,330nm,7.8s								
KSH				LZ					
	comp=Z,1μm,22.2s								
ZAK	**Zakamensk**	**18.01**	**14**	*eP*		**P**		**03 19 57.8**	**-0.2**
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.2s								
ULHL	**Ulahol**	**18.49**	**306**	P		**Pn**		**03 20 06.8**	**+3.3**
	SNR=19								
SRDT	**SRDT**	**18.77**	**172**	P		**Pn**		**03 20 10.1**	**+3.3**
	comp=Z,85nm,1.3s,comp=Z,13μm								
NJ2	**Nanjing**	**18.82**	**87**	*eP*		**Pn**		**03 20 06.8**	**-0.5**
NJ2				PMZ					
	comp=Z,50nm,1.4s								
KZA	**Kyzart**	**19.11**	**304**	P		**Pn**		**03 20 12.1**	**+0.9**
	SNR=15								
KZA	**Kyzart**	**19.11**	**304**	*i*P		**Pn**		**03 20 12.1**	**+0.9**
NAYO	**Nakonayok**	**19.15**	**166**	P		**Pn**		**03 20 13.6**	**+2.1**
	comp=Z,17nm,1.2s,comp=Z,741nm								
TKM2	**Tokmak 2**	**19.19**	**307**	P		**Pn**		**03 20 12.7**	**+0.6**
	SNR=14								
TKM2	**Tokmak 2**	**19.19**	**307**	*eP*		**P**		**03 20 11.0**	**-0.2**
TKM2				pmax		pmax			
	comp=Z,20nm,1.1s								
TKM2	**Tokmak 2**	**19.19**	**307**	*eP*		**P**		**03 20 11.0**	**-0.2**
	comp=Z,20nm,1.1s								
UBPT	**Khong Chiam**	**19.45**	**153**	P		**P**		**03 20 13.0**	**-0.9**
KBK	**Karagaybulak**	**19.53**	**306**	P		**Pn**		**03 20 17.6**	**+1.6**
	SNR=13								
KBK	**Karagaybulak**	**19.53**	**306**	*i*P		**Pn**		**03 20 17.6**	**+1.6**
UCH	**Uchtor**	**19.67**	**304**	P		**Pn**		**03 20 18.8**	**+0.8**
	SNR=15								
UCH	**Uchtor**	**19.67**	**304**	*i*P		**Pn**		**03 20 18.8**	**+0.8**
SFK	**Sufi-Kurgan**	**19.76**	**297**	P		**Pn**		**03 20 18.3**	**-0.6**
SFK				pmax		pmax			
	comp=Z,24nm,1.1s								
FRU	**Bishkek**	**19.82**	**306**	*eP*		**Pn**		**03 20 23.0**	**+3.6**
FRU				pmax		pmax			
	comp=Z,84nm,2.3s								
AAK	**Ala-Archa**	**19.83**	**305**	P		**Pn**		**03 20 20.0**	**+0.3**
	SNR=12								
AAK	**Ala-Archa**	**19.83**	**305**	*d*i*P*		**Pn**		**03 20 19.5**	**-0.2**
AAK				pmax		pmax			
	comp=Z

KBL Kabul 22.89 281 P P 03 20 50.2 -1.0
KBL pmax pmax
comp=Z,46nm,1.0s
KBL Kabul 22.89 281 P P 03 20 50.1 -1.0
comp=Z,46nm,1.0s
SNY Shenyang 23.09 60 ⇓P P 03 20 54.3 +1.4
SNY S S 03 25 06.8 +2.8
SNY LN
comp=Z,450nm,15.3s
SNY LE
comp=Z,630nm,15.3s
SNY LZ
comp=Z,740nm,19.0s
NVS Novosibirsk 23.72 341 eP P 03 21 00.6 +1.6
SKHT Srikalahasti 24.61 223 eP P 03 21 07.2 -0.4
CN2 Changchun 24.92 56 eP P 03 21 09.5 -0.8
CN2 epP pP 03 21 15.1 +1.8
CN2 esP sP 03 21 18.3 +3.7
CN2 PMZ
comp=Z,20nm,0.7s
POO Poona 24.97 240 ⇓iP P 03 21 09.0 -2.0
comp=Z,30nm,1.0s
URV Uravakonda 25.14 229 eP P 03 21 09.2 -3.3
URV e 03 21 11.8
KSAR Wonju Array Be 25.89 71 P P 03 21 17.5 -1.5
KSAR Wonju Array Be 25.89 71 P P 03 21 17.5 -1.5
KSRS Korea Array 25.92 71 P P 03 21 17.5 -1.8
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KSRS Korea Array 25.92 71 P P 03 21 17.5 -1.8
comp=Z,3.3nm,0.8s,baz=265,slow=11,SNR=5.4
BVAR Borovoye Array 27.39 325 P P 03 21 32.4 -0.1
BVAR pmax pmax
comp=Z,3.0nm,0.9s
BVAR pmax pmax
comp=N,1.0nm,0.7s
BVAR Borovoye Array 27.39 325 P P 03 21 32.4 -0.1
comp=N,2.7nm,0.9s,baz=120,slow=10,SNR=11
BVAR ScP ScP 03 28 29.8 -2.0
comp=N,0.5nm,0.7s,baz=133,slow=6.3,SNR=3.8
IDAH Dahanechah 30.71 280 eP P 03 22 04.7 +2.1
IKRD Kardeh 31.28 288 eP P 03 22 02.3 -5.3
IKOO Kooshah 31.49 279 eP P 03 22 09.7 +0.3
GEYT Alibeck 31.52 290 P P 03 22 09.6 +0.2
comp=N,2.5nm,0.7s,baz=96,slow=9.1,SNR=5.8
AB31 Akbulak array 31.60 312 P P 03 22 09.9 +0.1
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 31.60 312 eP P 03 22 09.6 -0.3
comp=Z,3.9nm,0.9s
ITEG Tejag 31.61 280 eP P 03 22 10.9 +0.5
HABR Khabarovsk 32.58 50 eP P 03 22 18.3 -0.1
HABR e 03 23 27.5
HABR e 03 25 03.4
HABR eS S **03 27 33.7 -0.1**
HABR eSS SnSn **03 29 32.6 +4.9**
HABR eSSS SSS 03 29 48.9
HABR e 03 32 44.3
HABR pmax pmax
comp=Z,186nm,2.2s
HABR MLR MLR
comp=Z,415nm,18.0s
AKTO Aktyubinsk 33.13 313 P P 03 22 23.2 -0.1
AKTO pmax pmax
comp=Z,9.0nm,0.9s
AKTO Aktyubinsk 33.13 313 P P 03 22 23.8 +0.4
comp=Z,6.1nm,0.8s,baz=116,slow=7.8,SNR=27
IBAF Bafgh 34.52 279 eP P 03 22 36.3 +0.5
ARU Arti 35.01 323 *d* **iP P 03 22 38.8 -0.7**
ARU 03 23 54.0
ARU S S **03 28 10.3 -1.1**
ARU SS SnSn **03 30 27.9 +1.3**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 35.01 323 eP P 03 22 36.3 -3.2
comp=Z,9.5nm,1.0s
ICHK Chekchek 35.33 280 eP P 03 22 43.2 +0.3
IMEH Mehriz 35.36 279 eP P 03 22 43.1 0.0
YAK Yakutsk 35.87 26 eP P 03 22 48.1 +1.3
YAK pmax pmax
comp=Z,11nm,0.5s
ZEI Tsey 42.06 299 eP P 03 23 38.7 -0.5
ZEI pmax pmax
comp=Z,5.0nm,0.9s
GOF Gofitskoye 42.54 303 eP P 03 23 43.4 +0.6
KIV Kislovodsk 42.86 301 eP P 03 23 46.6 +1.1
KIV pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 42.86 301 eP P 03 23 45.6 +0.1
PRGR Permogore 43.14 327 P P 03 23 44.8 -2.6
PRGR pmax pmax
comp=Z,7.0nm,0.7s
VRHR Novokhopersk 43.48 311 eP P 03 23 49.5 -0.8
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,5.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie 44.95 311 eP P 03 24 01.6 -0.5
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 45.04 312 eP P 03 24 01.9 -0.9
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,9.0nm,1.4s
VSR pmax pmax
comp=E,20nm,1.2s
RAYN Ar Rayn 45.58 272 eP P 03 24 06.0 -1.5
comp=E,1.8nm,0.5s
SEY Seymchan 45.69 32 P P 03 24 07.5 -0.2
SEY pmax pmax
comp=Z,1.0nm,0.6s
SEY Seymchan 45.69 32 P P 03 24 07.5 -0.2
comp=Z,1.2nm,0.6s,baz=262,slow=4.9,SNR=5.8
MOS Moscow 46.15 318 eP P 03 24 03.8 -7.7
MOS e 03 24 10.7
OBN Obninsk 46.72 317 ⇓eP P 03 24 16.4 +0.5
OBN pmax pmax
comp=Z,10.0nm,0.5s
MALT Malatya 46.85 294 ⇓iP P 03 24 18.1 +0.7
ASF Jabal al Asfar 49.66 286 P P 03 24 40.0 +0.8
ASF pmax pmax
comp=Z,5.0nm,0.8s
ASF Jabal al Asfar 49.66 286 P P 03 24 40.0 +0.8
comp=Z,5.1nm,0.8s,baz=46,slow=6.4,SNR=10
APA Apatity 49.70 333 eP P 03 24 45.2 +6.4
APA MLR MLR
comp=Z,700nm,13.0s
BRTR Keskin Array B 50.18 297 *ce* **P P 03 24 42.5 -0.6**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 50.18 297 P P 03 24 42.6 -0.6
comp=Z,3.9nm,0.8s,baz=98,slow=7.1,SNR=32
AKASG Malin Array Be 51.34 311 P P 03 24 50.5 -0.9
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 51.34 311 P P 03 24 50.5 -0.9
comp=Z,0.6nm,0.3s,baz=74,slow=6.6,SNR=29
KIEV Kiev 51.35 311 *c* **iP P 03 24 50.8 -0.7**
KIEV Kiev 51.35 311 eP P 03 24 50.5 -1.1
comp=Z,8.7nm,1.0s
VSU Vasula 52.12 321 ⇑eP P 03 24 57.1 0.0
VSU pmax pmax
comp=Z,23nm,0.6s
BILL Bilibino 52.23 27 ⇓eP P 03 25 00.3 +2.5
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 52.23 27 eP P 03 24 57.1 -0.7
comp=Z,3.2nm,0.8s
FINES FINESS Array B 52.35 325 P P 03 24 58.0 -0.8
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 52.35 325 P P 03 24 58.0 -0.8
comp=Z,1.9nm,0.5s,baz=86,slow=8.7,SNR=11
ARCES ARCESS Array B 52.84 335 P P 03 25 01.8 -0.6
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 52.84 335 P P 03 25 01.8 -0.6
comp=Z,4.6nm,1.0s,baz=89,slow=7.5,SNR=6.3

TIRR Tirgusor 52.93 304 ⇓iP P 03 25 02.9 -0.5
CFR Carcaliu 52.97 305 ⇓iP P 03 25 02.9 -0.8
TLB Topalu 53.16 304 ⇑iP P 03 25 05.0 -0.1
MSAB Monastry St. A 53.42 303 ⇓iP P 03 25 07.3 +0.2
TESR Tescani 53.72 306 ⇓iP P 03 25 08.8 -0.4
VRI Vrincioaia 53.80 306 ⇑iP P 03 25 10.3 +0.5
PLOR Plostina 53.85 306 ⇑iP P 03 25 10.9 +0.7
ISR Istrita 54.09 305 ⇑iP P 03 25 13.2 +1.2
MLR Muntele Rosu 54.41 305 ⇑iP P 03 25 15.0 +0.5
MLR Muntele Rosu 54.41 305 P P 03 25 14.7 +0.3
baz=126,slow=5.8,SNR=1.6
BURAR Bucovina Array 54.44 308 ⇓iP P 03 25 14.4 -0.2
SUW Suwalki 54.55 316 eP P 03 25 14.6 -0.5
SUW Suwalki 54.55 316 eP P 03 25 14.6 -0.5
DOPR Dopca 54.69 306 ⇑iP P 03 25 08.1 -8.2
JMB Yambol 54.70 302 ⇑iP P 03 25 17.3 +0.9
LVV L'vov 54.77 311 eP P 03 25 16.3 -0.5
VOIR 55.04 305 ⇑iP P 03 25 18.5 -0.4
ARR Arges 55.34 305 ⇓iP P 03 25 21.1 0.0
KWP Kalwaria Pacla 55.65 311 eP P 03 25 22.8 -0.4
KWP Kalwaria Pacla 55.65 311 eP P 03 25 22.7 -0.4
KWP Kalwaria Pacla 55.65 311 ⇑iP P 03 25 23.5 +0.3
KWP Kalwaria Pacla 55.65 311 eP P 03 25 22.9 -0.2
comp=Z,34nm,1.0s
KDZ Kurdzhali 55.75 301 ⇑iP P 03 25 24.3 +0.3
LOT Lotru 55.91 306 ⇑iP P 03 25 25.4 +0.1
KOLS Kolonicke sedl 56.08 310 eP P 03 25 26.1 -0.2
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 56.08 310 eP P 03 25 26.1 -0.2
TRPA Tarpa 56.09 309 ⇓iP P 03 25 26.3 0.0
DRGR 56.30 308 ⇓iP P 03 25 27.4 -0.5
GZR Gura Zlata 56.60 306 ⇓iP P 03 25 29.7 -0.4
CRVS Cervenica-Dubn 56.61 310 eP P 03 25 28.1 -1.9
CRVS Cervenica-Dubn 56.61 310 eP P 03 25 28.1 -1.9
STHS Stebnicka Huta 56.62 311 eP P 03 25 29.9 -0.3
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 56.62 311 eP P 03 25 29.9 -0.3
NIE Niedzica 57.22 311 eP P 03 25 34.8 +0.4
BZS Buzias 57.33 306 ⇓iP P 03 25 34.8 -0.4
KECS Kecovo 57.34 310 eP P 03 25 35.1 -0.1
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 57.34 310 eP P 03 25 35.1 -0.1
OJC Ojcow 57.35 312 eP P 03 25 34.6 -0.6
IDI Anoyia 58.11 294 P P 03 25 39.2 -1.7
comp=Z,3.1nm,0.6s,baz=60,slow=11,SNR=8.1
VYHS Vyhne 58.39 310 eP P 03 25 42.4 -0.2
VYHS pmax pmax
comp=Z,8.0nm,1.7s
VYHS Vyhne 58.39 310 eP P 03 25 42.4 -0.2
MORC Moravsky Berou 58.87 312 ⇑iP P 03 25 46.2 +0.2
PKSM Moragy 59.15 308 ⇓iP P 03 25 47.4 -0.5
DPC Dobruska-Polom 59.47 313 eP P 03 25 50.1 0.0
DPC Dobruska-Polom 59.47 313 eP P 03 25 50.1 0.0
DPC Dobruska-Polom 59.47 313 eP P 03 25 50.1 0.0
comp=Z,40nm,0.8s
NB2 NORSAR Subarra 59.51 326 P P 03 25 48.4 -1.8
comp=Z,2.4nm,0.6s,baz=76,slow=6.9
NOA NORSAR Array B 59.51 326 P P 03 25 48.9 -1.3
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 59.51 326 P P 03 25 48.9 -1.3
comp=Z,2.6nm,0.7s,baz=78,slow=7.8,SNR=15
VRAC Vranov 59.59 312 ⇑iP P 03 25 51.2 +0.3
TREC Trest 60.29 312 eP P 03 25 55.7 0.0
TREC Trest 60.29 312 eP P 03 25 55.7 0.0
CONA Conrad Observa 60.46 310 *i* **pP P 03 25 57.3 +0.3**
comp=Z,9.5nm,1.0s,SNR=5.3
PRU Pruhonice 60.67 313 eP P 03 25 58.2 -0.1
PRU Pruhonice 60.67 313 eP P 03 25 58.2 -0.1
BRG Berggiesshubel 60.77 314 eP P 03 25 58.5 -0.5
comp=Z,16nm,1.6s
BRG Berggiesshubel 60.77 314 eP P 03 25 58.5 -0.5
BRG pmax pmax
comp=Z,17nm,1.6s
GROS Grobnik 61.15 309 *i* **P P 03 26 01.3 -0.5**
CLL Collm 61.20 315 ⇓iP P 03 26 00.9 -1.0
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 61.20 315 ⇓iP P 03 26 00.9 -1.0
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 61.53 312 eP P 03 26 03.0 -1.2
KHC Kasperske Hory 61.53 312 eP P 03 26 03.0 -1.2
GEC2 GERESS Array S 61.54 312 eP P 03 26 04.4 0.0
GEC2 GERESS Array S 61.54 312 eP P 03 26 04.4 0.0
GERES GERESS Array B 61.54 312 P P 03 26 03.7 -0.7
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 61.54 312 P P 03 26 03.7 -0.7
comp=Z,2.1nm,0.7s,baz=76,slow=5.6,SNR=16
CUC Castrocucco 63.17 302 eP P 03 26 15.3 -0.1
comp=Z,7.7nm,0.9s
MOTA Moosalm 63.69 311 ⇑iP P 03 26 17.9 -0.9
comp=Z,10.0nm,1.0s,SNR=5.9
CEL Celeste 63.77 300 eP P 03 26 18.4 -0.9
comp=Z,25nm,1.0s
RETA Reutte 63.85 311 ⇑iP P 03 26 19.3 -0.5
comp=Z,7.5nm,1.1s
WRAB Tennant Creek 63.87 140 ⇓eP P 03 26 19.2 -0.8
WRAB pmax pmax
comp=Z,32nm,1.0s
WRAB Tennant Creek 63.87 140 eP P 03 26 19.0 -1.0
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 63.87 140 P P 03 26 19.1 -1.0
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 63.87 140 P P 03 26 19.1 -1.0
comp=Z,6.6nm,0.7s,baz=334,slow=7.1,SNR=52
WB2 Warramunga Arr 63.88 140 eP P 03 26 18.9 -1.2
FETA Feichten 64.05 311 *i* **P P 03 26 20.5 -0.6**
comp=Z,8.3nm,0.9s,SNR=5.1
FUORN Ofenpass-Fuorn 64.49 310 eP P 03 26 23.6 -0.6
comp=Z,6.3nm,0.9s
BFO Black Forest 65.06 313 *i* **P P 03 26 28.4 +0.8**
TUE Stuetta 65.13 310 eP P 03 26 26.9 -1.4
comp=Z,4.9nm,0.7s
KMBO Kilima Mbogo 65.30 251 *ce* **P P 03 26 30.0 +0.2**
KMBO pmax pmax
comp=Z,7.0nm,0.7s
KMBO Kilima Mbogo 65.30 251 P P 03 26 29.6 -0.2
comp=Z,6.7nm,0.7s,baz=43,slow=11,SNR=20
CDF Champ du Feu 65.68 313 ⇓iP P 03 26 30.6 -1.1
comp=Z,7.1nm,0.9s
CDF Champ du Feu 65.68 313 ⇓iP P 03 26 30.6 -1.1
CDF pmax pmax
comp=Z,7.0nm,0.9s
CDF Champ du Feu 65.68 313 ⇓iP P 03 26 30.6 -1.1
comp=Z,7.1nm,0.9s
WLF Walferdange 65.87 315 P P 03 26 33.2 +0.4
HINF Hinteralfeld 66.18 313 ⇓iP P 03 26 33.6 -1.2
comp=Z,5.6nm,0.7s
HINF Hinteralfeld 66.18 313 ⇓iP P 03 26 33.6 -1.2
HINF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 66.18 313 ⇓iP P 03 26 33.6 -1.2
comp=Z,5.6nm,0.7s
HAU Haudompre 66.41 313 eP P 03 26 35.2 -1.1
HAU Haudompre 66.41 313 eP P 03 26 35.2 -1.1
HAU Haudompre 66.41 313 eP P 03 26 35.2 -1.1
GIVF Givet 66.49 315 eP P 03 26 36.0 -0.7
GIVF Givet 66.49 315 eP P 03 26 36.0 -0.7
GIVF Givet 66.49 315 eP P 03 26 36.0 -0.7
PAGF Fort de Pagny 66.57 314 eP P 03 26 36.9 -0.4
PAGF Fort de Pagny 66.57 314 eP P 03 26 36.9 -0.4
AS31 Alice Springs 66.70 143 eP P 03 26 37.4 -1.0
ASAR Alice Springs 66.70 143 P P 03 26 37.8 -0.6
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR Alice Springs 66.70 143 P P 03 26 37.8 -0.6
comp=Z,4.5nm,0.7s,baz=326,slow=6.7,SNR=62
BAIF Baives 66.87 316 eP P 03 26 38.5 -0.6
BAIF Baives 66.87 316 eP P 03 26 38.5 -0.6
BAIF Baives 66.87 316 eP P 03 26 38.5 -0.6
PGF Pioggiola 66.91 307 eP P 03 26 38.9 -0.8
comp=Z,40nm,1.0s
PGF Pioggiola 66.91 307 eP P 03 26 38.9 -0.8
PGF pmax pmax
comp=Z,40nm,1.0s
PGF Pioggiola 66.91 307 eP P 03 26 38.9 -0.8
comp=Z,40nm,1.0s
MEZF Maizieres J'vi 67.00 314 eP P 03 26 39.3 -0.7
MEZF Maizieres J'vi 67.00 314 eP P 03 26 39.3 -0.7

SFTF Sexfontaines 67.13 313 eP P 03 26 40.0 -0.9
SFTF Sexfontaines 67.13 313 eP P 03 26 40.0 -0.9
CABF La Chapelle 67.14 312 eP P 03 26 40.5 -0.6
CABF La Chapelle 67.14 312 eP P 03 26 40.5 -0.6
CABF La Chapelle 67.14 312 eP P 03 26 40.5 -0.6
LPG La Plagne 67.18 310 ⇓iP P 03 26 41.1 -0.5
comp=Z,24nm,0.9s
LPG La Plagne 67.18 310 ⇓iP P 03 26 41.1 -0.5
LPG pmax pmax
comp=Z,24nm,0.9s
LPG La Plagne 67.18 310 ⇓iP P 03 26 41.1 -0.5
comp=Z,24nm,0.9s
LPL La Plagne 67.18 310 ⇓iP P 03 26 41.0 -0.5
comp=Z,24nm,0.8s
LPL La Plagne 67.18 310 ⇓iP P 03 26 41.0 -0.5
LPL pmax pmax
comp=Z,24nm,0.8s
LPL La Plagne 67.18 310 ⇓iP P 03 26 41.0 -0.5
comp=Z,24nm,0.8s
BNI Bardonecchia 67.41 310 eP P 03 26 42.3 -0.6
BNI pmax pmax
comp=Z,12nm,1.5s
BNI Bardonecchia 67.41 310 eP P 03 26 42.3 -0.6
comp=Z,12nm,1.5s
SBF Sospel 67.41 308 eP P 03 26 41.9 -0.9
SBF Sospel 67.41 308 eP P 03 26 41.9 -0.9
SBF Sospel 67.41 308 eP P 03 26 41.9 -0.9
MBDF Montbardon 67.49 309 eP P 03 26 41.7 -1.7
comp=Z,11nm,0.9s
MBDF Montbardon 67.49 309 eP P 03 26 41.7 -1.7
MBDF pmax pmax
comp=Z,11nm,0.9s
MBDF Montbardon 67.49 309 eP P 03 26 41.7 -1.7
comp=Z,11nm,0.9s
VSL Villasalto 67.93 303 eP P 03 26 45.1 -0.9
comp=Z,13nm,1.2s
ORIF Oris-en-Rattie 67.98 310 ⇓iP P 03 26 45.3 -1.1
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 67.98 310 ⇓iP P 03 26 45.3 -1.1
ORIF pmax pmax
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 67.98 310 ⇓iP P 03 26 45.3 -1.1
comp=Z,15nm,0.9s
FRF La Foret Royal 68.06 308 ⇓iP P 03 26 45.6 -1.2
comp=Z,8.9nm,0.9s
FRF La Foret Royal 68.06 308 ⇓iP P 03 26 45.6 -1.2
FRF pmax pmax
comp=Z,9.0nm,0.9s
FRF La Foret Royal 68.06 308 ⇓iP P 03 26 45.6 -1.2
comp=Z,8.9nm,0.9s
LMR La Mourre 68.25 308 ⇓iP P 03 26 46.8 -1.2
comp=Z,15nm,1.0s
LMR La Mourre 68.25 308 ⇓iP P 03 26 46.8 -1.2
LMR pmax pmax
comp=Z,15nm,1.0s
LMR La Mourre 68.25 308 ⇓iP P 03 26 46.8 -1.2
comp=Z,15nm,1.0s
LOR Lormes 68.25 313 eP P 03 26 46.4 -1.6
comp=Z,7.2nm,0.9s
LOR Lormes 68.25 313 eP P 03 26 46.4 -1.6
LOR pmax pmax
comp=Z,7.0nm,0.9s
LOR Lormes 68.25 313 eP P 03 26 46.4 -1.6
comp=Z,7.2nm,0.9s
SMF Signal de Mont 68.53 312 ⇓iP P 03 26 48.6 -1.1
comp=Z,18nm,1.0s
SMF Signal de Mont 68.53 312 ⇓iP P 03 26 48.6 -1.1
SMF pmax pmax
comp=Z,18nm,1.0s
SMF Signal de Mont 68.53 312 ⇓iP P 03 26 48.6 -1.1
comp=Z,18nm,1.0s
SSF Saint Saulge 68.56 313 ⇓iP P 03 26 48.6 -1.3
comp=Z,7.2nm,0.8s
SSF Saint Saulge 68.56 313 ⇓iP P 03 26 48.6 -1.3
SSF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 68.56 313 ⇓iP P 03 26 48.6 -1.3
comp=Z,7.2nm,0.8s
AVF Avril sur Loir 68.77 313 ⇓iP P 03 26 50.1 -1.1
comp=Z,15nm,0.9s
AVF Avril sur Loir 68.77 313 ⇓iP P 03 26 50.1 -1.1
AVF pmax pmax
comp=Z,15nm,0.9s
AVF Avril sur Loir 68.77 313 ⇓iP P 03 26 50.1 -1.1
comp=Z,15nm,0.9s
VIVF Saint-Julien-l 68.78 310 ⇓iP P 03 26 50.4 -1.0
comp=Z,4.6nm,0.8s
VIVF Saint-Julien-l 68.78 310 ⇓iP P 03 26 50.4 -1.0
VIVF pmax pmax
comp=Z,5.0nm,0.8s
VIVF Saint-Julien-l 68.78 310 ⇓iP P 03 26 50.4 -1.0
comp=Z,4.6nm,0.8s
HYF Humbligny 69.00 313 eP P 03 26 51.9 -0.7
HYF Humbligny 69.00 313 eP P 03 26 51.9 -0.7
BGF Bois d'Agland 69.19 313 ⇓iP P 03 26 52.6 -1.2
comp=Z,8.0nm,0.8s
BGF Bois d'Agland 69.19 313 ⇓iP P 03 26 52.6 -1.2
BGF pmax pmax
comp=Z,8.0nm,0.8s
BGF Bois d'Agland 69.19 313 ⇓iP P 03 26 52.6 -1.2
comp=Z,8.0nm,0.8s
KEST Kesra 69.59 300 P P 03 26 54.8 -1.8
comp=Z,1.4nm,0.6s,baz=47,slow=8.6,SNR=5.6
LASF Ste Croix 69.65 310 eP P 03 26 56.0 -0.8
LASF Ste Croix 69.65 310 eP P 03 26 56.0 -0.8
TCF Toulx Ste Croi 69.70 313 ⇓iP P 03 26 56.3 -0.7
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 69.70 313 ⇓iP P 03 26 56.3 -0.7
TCF pmax pmax
comp=Z,20nm,0.9s
TCF Toulx Ste Croi 69.70 313 ⇓iP P 03 26 56.3 -0.7
comp=Z,20nm,0.9s
PPLA Purkeypile 69.93 27 eP P 03 26 57.8 -0.5
comp=Z,17nm,1.2s
KTH Kantishna Hill 70.04 26 eP P 03 27 00.0 +1.2
comp=Z,11nm,1.3s
LDF La Druitiere 70.06 315 eP P 03 26 58.0 -1.1
LDF La Druitiere 70.06 315 eP P 03 26 58.0 -1.1
LDF La Druitiere 70.06 315 eP P 03 26 58.0 -1.1
FLN La Foliniere 70.19 316 eP P 03 26 58.8 -1.1
FLN La Foliniere 70.19 316 eP P 03 26 58.8 -1.1
FLN La Foliniere 70.19 316 eP P 03 26 58.8 -1.1
COLA College 70.36 24 *d* **iP** P 03 27 03.1 +2.4
COLA pmax pmax
comp=Z,13nm,1.2s
CAF Calviac 70.41 311 eP P 03 27 00.9 -0.5
comp=Z,6.3nm,0.9s
CAF Calviac 70.41 311 eP P 03 27 00.9 -0.5
CAF pmax pmax
comp=Z,6.0nm,0.9s
CAF Calviac 70.41 311 eP P 03 27 00.9 -0.5
comp=Z,6.3nm,0.9s
RJF Les Rejaudoux 70.58 312 ⇓iP P 03 27 02.0 -0.4
comp=Z,24nm,1.1s
RJF Les Rejaudoux 70.58 312 ⇓iP P 03 27 02.0 -0.4
RJF pmax pmax
comp=Z,24nm,1.1s
RJF Les Rejaudoux 70.58 312 ⇓iP P 03 27 02.0 -0.4
comp=Z,24nm,1.1s
GRR Gorron 70.59 316 ⇓iP P 03 27 02.0 -0.4
comp=Z,48nm,1.0s
GRR Gorron 70.59 316 ⇓iP P 03 27 02.0 -0.4
GRR pmax pmax
comp=Z,48nm,1.0s
GRR Gorron 70.59 316 ⇓iP P 03 27 02.0 -0.4
comp=Z,48nm,1.0s
ILAR Eielson Array 70.75 24 P P 03 27 01.3 -1.8
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 70.75 24 P P 03 27 01.3 -1.8
comp=Z,1.2nm,0.9s,baz=292,slow=5.5,SNR=11
MFF Saint Martin d 71.00 314 eP P 03 27 03.9 -1.0
MFF Saint Martin d 71.00 314 eP P 03 27 03.9 -1.0
MFF Saint Martin d 71.00 314 eP P 03 27 03.9 -1.0
CTA Charters Tower 71.02 131 P P 03 27 05.0 -0.3
CTA pmax pmax
comp=Z,5.0nm,0.8s
CTA Charters Tower 71.02 131 P P 03 27 05.0 -0.3
comp=Z,4.9nm,0.8s,baz=305,slow=8.5,SNR=4.2
MTLF Montolieu 71.04 310 ⇓iP P 03 27 04.5 -0.8
comp=Z,7.9nm,1.0s
MTLF Montolieu 71.04 310 ⇓iP P 03 27 04.5 -0.8
MTLF pmax pmax
comp=Z,8.0nm,1.0s
MTLF Montolieu 71.04 310 ⇓iP P 03 27 04.5 -0.8
comp=Z,7.9nm,1.0s

LFF	**La Frestale**	**71.24**	**312**	⇓*i*P		**P**	**03 27 05.9**	**-0.5**
	comp=Z,13nm,0.8s							
LFF	**La Frestale**	**71.24**	**312**	⇓*i*P		**P**	**03 27 05.9**	**-0.5**
LFF				pmax	pmax			
	comp=Z,13nm,0.8s							
LFF	**La Frestale**	**71.24**	**312**	⇓*i*P		**P**	**03 27 05.9**	**-0.5**
	comp=Z,13nm,0.8s							
SGMF	**Saint Gilles**	**71.65**	**316**	⇓*i*P		**P**	**03 27 08.1**	**-0.7**
SGMF	**Saint Gilles**	**71.65**	**316**	⇓*i*P		**P**	**03 27 08.1**	**-0.7**
SGMF	**Saint Gilles**	**71.65**	**316**	⇓*i*P		**P**	**03 27 08.1**	**-0.7**
ROSF	**Rostrenen**	**72.02**	**316**	*e*P		**P**	**03 27 10.2**	**-0.9**
	comp=Z,42nm,1.1s							
ROSF	**Rostrenen**	**72.02**	**316**	*e*P		**P**	**03 27 10.2**	**-0.9**
ROSF				pmax	pmax			
	comp=Z,42nm,1.1s							
ROSF	**Rostrenen**	**72.02**	**316**	*e*P		**P**	**03 27 10.2**	**-0.9**
	comp=Z,42nm,1.1s							
QUIF	**Quistinic**	**72.17**	**316**	*e*P		**P**	**03 27 11.1**	**-0.8**
QUIF	**Quistinic**	**72.17**	**316**	*e*P		**P**	**03 27 11.1**	**-0.8**
QUIF	**Quistinic**	**72.17**	**316**	*e*P		**P**	**03 27 11.1**	**-0.8**
INK	**Inuvik**	**72.33**	**17**	P		**P**	**03 27 11.4**	**-1.1**
INK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**72.33**	**17**	P		**P**	**03 27 11.4**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=311,slow=9.9,SNR=5.9							
ETSF	**Etsaut**	**73.04**	**310**	*e*P		**P**	**03 27 17.0**	**-0.3**
	comp=Z,8.3nm,0.7s							
ETSF	**Etsaut**	**73.04**	**310**	*e*P		**P**	**03 27 17.0**	**-0.3**
ETSF				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ETSF	**Etsaut**	**73.04**	**310**	*e*P		**P**	**03 27 17.0**	**-0.3**
	comp=Z,8.3nm,0.7s							
SJPF	**Ste Jean**	**73.36**	**311**	*e*P		**P**	**03 27 19.6**	**+0.5**
	comp=Z,24nm,1.2s							
SJPF	**Ste Jean**	**73.36**	**311**	*e*P		**P**	**03 27 19.6**	**+0.5**
SJPF				pmax	pmax			
	comp=Z,24nm,1.2s							
SJPF	**Ste Jean**	**73.36**	**311**	*e*P		**P**	**03 27 19.6**	**+0.5**
	comp=Z,24nm,1.2s							
ESDC	**Sonseca Array**	**76.89**	**309**	P		**P**	**03 27 38.5**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=47,slow=6.5,SNR=5.3							
STKA	**Stephens Creek**	**77.31**	**142**	P		**P**	**03 27 40.8**	**-1.0**
STKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
STKA	**Stephens Creek**	**77.31**	**142**	P		**P**	**03 27 40.8**	**-1.0**
	comp=Z,2.1nm,0.6s,baz=312,slow=5.6,SNR=8.3							
YKA	**Yellowknife Ar**	**81.54**	**14**	P		**P**	**03 28 02.8**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=336,slow=5.1,SNR=13							
TORD	**Torodi Ar. Bea**	**86.95**	**284**	P		**P**	**03 28 31.9**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=47,slow=4.8,SNR=45							
TORD				PP		**PP**	**03 31 55.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=60,slow=4.9,SNR=4.2							

CSEM ***14*** *03:43:11.4±0.4, 37.40N×20.31E, h2km, MD3.6, Error ellipse: s-maj=8.2km s-min=4.2km az=62.0*
ATH ***14*** *03:43:11.4, 37.41N×20.32E, h16km±1km, MD3.6/22*
THE ***14*** *03:43:12.3, 37.41N×20.40E, h0km±2km, ML2.4/5, Error ellipse: s-maj=2.9km s-min=1.0km az=231.0*

ISC 14 03:43:11.8±1.6, 37.42N±0.04×20.34E±0.06, h9km±9km, n58, σ0.85/89, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.56**	**107**	*e*Pn		**Pg**		**03 43 22.8**	**0.0**
SFD				*e*Sn		**Sg**		**03 43 30.6**	**+0.4**
SFD	**Strofades**	**0.56**	**107**	*e*Pn		**Pg**		**03 43 22.8**	**0.0**
SFD				*e*Sn		**Sg**		**03 43 30.6**	**+0.4**
KFL	**Anninata**	**0.78**	**27**	P		**Pg**		**03 43 26.2**	**-0.6**
KFL				S		**Sb**		**03 43 38.2**	**+0.1**
KFL	**Anninata**	**0.78**	**27**	P		**Pg**		**03 43 26.2**	**-0.6**
KFL				S		**Sb**		**03 43 38.2**	**+0.1**
VLS	**Valsamata**	**0.78**	**15**	P		**Pg**		**03 43 26.2**	**-0.6**
VLS				S		**Sb**		**03 43 38.5**	**+0.1**
VLS	**Valsamata**	**0.78**	**15**	*e*PB		**Pg**		**03 43 26.3**	**-0.6**
VLS				*e*SN		**Sb**		**03 43 37.8**	**-0.6**
VLS	**Valsamata**	**0.78**	**15**	*e*Pb		**Pg**		**03 43 26.3**	**-0.6**
VLS				*e*Sn		**Sb**		**03 43 37.8**	**-0.6**
VLS				S		**Sb**		**03 43 38.5**	**+0.1**
AMT	**Artemida-Makis**	**1.09**	**84**	P		**Pn**		**03 43 33.1**	**-0.3**
AMT				S		**Sn**		**03 43 48.5**	**-0.2**
AMT	**Artemida-Makis**	**1.09**	**84**	*e*PN		**Pn**		**03 43 33.0**	**-0.3**
AMT	**Artemida-Makis**	**1.09**	**84**	P		**Pn**		**03 43 33.1**	**-0.3**
AMT				S		**Sn**		**03 43 48.5**	**-0.2**
RLS	**Riolos of Patr**	**1.10**	**54**	P		**Pb**		**03 43 32.0**	**-1.0**
RLS				S		**Sn**		**03 43 48.1**	**-0.6**
RLS	**Riolos of Patr**	**1.10**	**54**	*e*PN		**Pb**		**03 43 32.5**	**-0.5**
RLS				*e*SN		**Sn**		**03 43 48.1**	**-0.6**
RLS	**Riolos of Patr**	**1.10**	**54**	P		**Pb**		**03 43 32.0**	**-1.0**
RLS	**Riolos of Patr**	**1.10**	**54**	*e*Pn		**Pb**		**03 43 32.5**	**-0.5**
RLS				S		**Sn**		**03 43 48.1**	**-0.6**
DRO	**Drossia**	**1.21**	**64**	P		**Pn**		**03 43 34.0**	**-1.0**
DRO				S		**Sn**		**03 43 52.2**	**+0.7**
DRO	**Drossia**	**1.21**	**64**	*e*PN		**Pn**		**03 43 34.6**	**-0.4**
DRO	**Drossia**	**1.21**	**64**	P		**Pn**		**03 43 34.0**	**-1.0**
DRO	**Drossia**	**1.21**	**64**	*e*Pn		**Pn**		**03 43 34.6**	**-0.4**
DRO				S		**Sn**		**03 43 52.2**	**+0.7**
PYL	**PYLOS**	**1.24**	**115**	P		**Pn**		**03 43 34.7**	**-0.6**
PYL				S		**Sn**		**03 43 52.0**	**-0.1**
PYL	**PYLOS**	**1.24**	**115**	*e*PN		**Pn**		**03 43 34.7**	**-0.6**
PYL				*e*SN		**Sg**		**03 43 51.8**	**+0.2**
PYL	**PYLOS**	**1.24**	**115**	P		**Pn**		**03 43 34.7**	**-0.6**
PYL				S		**Sn**		**03 43 52.0**	**-0.1**
ITM	**Ithomi**	**1.29**	**100**	P		**Pn**		**03 43 35.8**	**-0.3**
ITM				S		**Sg**		**03 43 54.4**	**+1.1**
ITM	**Ithomi**	**1.29**	**100**	*e*PN		**Pn**		**03 43 35.7**	**-0.3**
ITM				*e*SN		**Sg**		**03 43 54.2**	**+0.9**
ITM	**Ithomi**	**1.29**	**100**	P		**Pn**		**03 43 35.8**	**-0.3**
ITM				S		**Sg**		**03 43 54.4**	**+1.1**
PDO	**Prodromos**	**1.35**	**29**	P		**Pg**		**03 43 37.6**	**-0.2**
PDO				S		**Sg**		**03 43 57.6**	**+2.3**
PDO	**Prodromos**	**1.35**	**29**	*e*PN		**Pg**		**03 43 37.8**	**0.0**
PDO	**Prodromos**	**1.35**	**29**	*e*Pn		**Pg**		**03 43 37.8**	**0.0**
PDO				S		**Sg**		**03 43 57.6**	**+2.3**
LKD2	**Lefkada island**	**1.39**	**10**	P		**Pg**		**03 43 38.1**	**-0.4**
LKD2				S		**Sg**		**03 43 58.0**	**+1.4**
LKD2	**Lefkada island**	**1.39**	**10**	*e*PN		**Pg**		**03 43 38.0**	**-0.4**
LKD2	**Lefkada island**	**1.39**	**10**	P		**Pg**		**03 43 38.1**	**-0.4**
LKD2				S		**Sg**		**03 43 58.0**	**+1.4**
KLV	**Kalavryta, Ach**	**1.56**	**66**	P		**Pb**		**03 43 40.6**	**-0.4**
KLV				S		**Sg**		**03 44 01.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.56**	**66**	*e*PN		**Pb**		**03 43 40.6**	**-0.4**
KLV	**Kalavryta, Ach**	**1.56**	**66**	P		**Pb**		**03 43 40.6**	**-0.4**
KLV				S		**Sg**		**03 44 01.9**	**-0.2**
EFP	**Efpalio**	**1.59**	**50**	P		**Pb**		**03 43 40.8**	**-0.7**
EFP				S		**Sg**		**03 44 02.9**	**-0.2**
EFP	**Efpalio**	**1.59**	**50**	*e*PN		**Pb**		**03 43 40.9**	**-0.6**
EFP	**Efpalio**	**1.59**	**50**	*e*Pn		**Pb**		**03 43 40.9**	**-0.6**
EFP				S		**Sg**		**03 44 02.9**	**-0.2**
KALE	**Kalithea**	**1.72**	**55**	P		**Pb**		**03 43 43.0**	**-0.7**
KALE	**Kalithea**	**1.72**	**55**	*e*PN		**Pb**		**03 43 43.2**	**-0.5**
KALE	**Kalithea**	**1.72**	**55**	*e*Pn		**Pb**		**03 43 43.2**	**-0.5**
DSL	**Palaion Diasel**	**1.81**	**19**	*e*PN		**Pb**		**03 43 44.4**	**-0.8**
DSL	**Palaion Diasel**	**1.81**	**19**	*e*Pn		**Pb**		**03 43 44.4**	**-0.8**
EVR	**Evrytania**	**1.89**	**37**	*e*PN		**Pb**		**03 43 46.0**	**-0.6**
EVR	**Evrytania**	**1.89**	**37**	*e*Pn		**Pb**		**03 43 46.0**	**-0.6**
IGT	**Igoumenitsa**	**2.11**	**360**	*e*PN		**Pb**		**03 43 49.5**	**-0.8**
IGT	**Igoumenitsa**	**2.11**	**360**	*e*Pn		**Pb**		**03 43 49.5**	**-0.8**
LTK	**Loutraki**	**2.17**	**73**	*e*PN		**Pn**		**03 43 49.1**	**+1.0**
LTK	**Loutraki**	**2.17**	**73**	*e*Pn		**Pn**		**03 43 49.1**	**+1.0**
VLI	**Veliai**	**2.19**	**108**	*e*PN		**Pb**		**03 43 50.2**	**-1.4**
VLI				*e*SN		**Sn**		**03 44 17.1**	**+1.4**
VLI	**Veliai**	**2.19**	**108**	*e*Pn		**Pb**		**03 43 50.2**	**-1.4**
VLI				*e*Sn		**Sn**		**03 44 17.1**	**+1.4**
AGG	**Agios Georgios**	**2.24**	**44**	*e*PN		**Pn**		**03 43 50.4**	**+1.3**
AGG	**Agios Georgios**	**2.24**	**44**	*e*Pn		**Pn**		**03 43 50.4**	**+1.3**
AXAR	**Agios Charalam**	**2.27**	**53**	*e*PB		**Pn**		**03 43 50.5**	**+1.0**
KYTH	**Kithira**	**2.44**	**117**	P		**Pn**		**03 43 53.0**	**+1.1**
KYTH	**Kithira**	**2.44**	**117**	*e*PN		**Pn**		**03 43 53.1**	**+1.1**
KYTH	**Kithira**	**2.44**	**117**	P		**Pn**		**03 43 53.0**	**+1.1**
THL	**Klokotos Trika**	**2.51**	**31**	*e*PB		**Pb**		**03 43 54.5**	**-2.6**
LAST	**Lasithi**	**4.72**	**117**	*e*PN		**Pn**		**03 44 24.3**	**+1.0**
LAST	**Lasithi**	**4.72**	**117**	*e*Pn		**Pn**		**03 44 24.3**	**+1.0**

IDC 14 03:53:30.1±1.4, 32.94N×96.63E, h0km, mb3.2/3, mb1 3.3/5, mb1mx3.1/58, mbtmp3.2/5, ML2.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/23, Error ellipse: s-maj=76.8km s-min=23.4km az=60.0, Qinghai

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

SONM	**Songino Array**	**16.62**	**24**	Pn		Pn		03 57 24.2	-0.3
	0.0nm,0.3s,baz=207,slow=13,SNR=2.6							
MKAR	**Makanchi Array**	**17.64**	**326**	P		Pn		03 57 36.3	-1.0
	0.1nm,0.3s,baz=138,slow=12,SNR=4.0							
KURBB	**Kurchatov Arra**	**22.14**	**328**	P		P		03 58 27.6	+0.5
	0.2nm,0.6s,baz=140,slow=10,SNR=2.6							
TGY	**Tagaytay City**	**29.00**	**125**	LR		LR		04 11 20.9	
	comp=Z,186nm,21.7s,baz=301,slow=37							
WRA	**Warramunga Arr**	**63.74**	**140**	P		P		04 04 03.7	-0.1
	0.2nm,0.5s,baz=334,slow=6.7,SNR=5.0							
ASAR	**Alice Springs**	**66.57**	**143**	P		P		04 04 22.2	+0.1
	0.3nm,0.4s,baz=320,slow=6.3,SNR=6.3							

IDC ***14*** *03:54:51.1±5.9, 15.16S×167.47E, h138km±55km, mb3.6/7, mb1 3.7/8, mb1mx3.5/20, mbtmp3.9/8, Error ellipse: s-maj=47.1km s-min=34.8km az=156.0*

ISC 14 03:54:49.9±1.5, 15.10S±0.10×167.5E±0.3, h129km, n11, σ1§00/11, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.01**	**188**	P		**Pn**		**03 56 30.0**	**-0.1**
	2.3nm,0.3s,baz=1.2,slow=15,SNR=16								
DZM				S		**Sn**		**03 57 48.6**	**+0.1**
	6.9nm,0.3s,baz=302,slow=24,SNR=13								
STKA	**Stephens Creek**	**28.95**	**230**	P		**P**		**04 00 38.4**	**+1.3**
	0.5nm,0.3s,baz=58,slow=10,SNR=5.1								
WRA	**Warramunga Arr**	**31.98**	**256**	P		**P**		**04 01 03.2**	**-0.8**
	0.2nm,0.4s,baz=84,slow=8.6,SNR=7.4								
ASAR	**Alice Springs**	**32.78**	**250**	P		**P**		**04 01 10.4**	**-0.6**
	1.0nm,0.4s,baz=77,slow=9.3,SNR=23								
CMAR	**Chiang Mai Arr**	**75.33**	**294**	P		**P**		**04 06 19.9**	**+0.4**
	0.6nm,0.3s,baz=133,slow=6.3,SNR=3.9								
SONM	**Songino Array**	**82.94**	**324**	P		**P**		**04 07 01.3**	**+0.8**
	0.4nm,0.6s,baz=134,slow=6.2,SNR=3.8								
MKAR	**Makanchi Array**	**97.64**	**316**	P		Pdif		04 08 10.6	+0.7
	0.4nm,0.7s,baz=93,slow=5.1,SNR=5.2								
ZALV	**Zalesovo Beam**	**97.83**	**324**	P		**P**		**04 08 10.5**	**0.0**
	0.4nm,0.6s,baz=75,slow=6.1,SNR=3.0								
ARCES	**ARCESS Array B**	**120.67**	**345**	PKP		**PKPdf**		**04 13 25.9**	**0.0**
	2.7nm,1.0s,baz=67,slow=3.0,SNR=5.8								
DAVOX	**Davos/Dischmat**	**143.32**	**334**	PKP		PKPbc		04 14 07.9	+1.3
	2.3nm,0.6s,baz=177,slow=3.7,SNR=8.4								
TORD	**Torodi Ar. Bea**	**166.12**	**264**	PKP		**PKPdf**		**04 14 40.1**	**-0.4**
	0.2nm,0.6s,baz=72,slow=0.7,SNR=2.2								
TORD				PKPab		**PKPab**		**04 15 39.9**	**-2.0**
	0.7nm,1.1s,baz=102,slow=3.9,SNR=3.2								

ISCJB ***14*** *04:06:42.5±0.5, 63.49N±0.06×164.91W±0.09, h10km, mb3.4/4, MS3.8/1, Error ellipse: s-maj=9.4km s-min=5.4km az=11.1*
IDC ***14*** *04:06:44.9±1.6, 63.17N×164.98W, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/30, mbtmp3.2/6, ML3.1/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/25, Error ellipse: s-maj=44.9km s-min=15.9km az=175.0*
NEIC ***14*** *04:06:45.1, 63.48N×164.99W, h25km, ML3.4(AEIC), After AEIC.*

ISC 14 04:06:45.0±0.9, 63.57N±0.08×164.94W±0.05, h10km, n25, σ1§61/25, mb3.4/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.38**	**329**	*e*Pn		**Pn**		**04 07 23.9**	**0.0**
TNA				*e*S		**Sg**		**04 08 02.2**	**+1.0**
GAMB	**Gambell**	**3.02**	**277**	P		**Pn**		**04 07 32.0**	**-0.8**
GAMB				S		**Sn**		**04 08 07.7**	**-1.2**
TT01	**Tatalina**	**4.09**	**95**	P		**Pn**		**04 07 46.8**	**-0.7**
SVW2	**Sparrevohn**	**5.02**	**115**	P		**Pn**		**04 07 59.9**	**-0.5**
IM3	**Indian Mountai**	**5.36**	**58**	P		**Pn**		**04 08 03.9**	**-1.1**
CHUM	**Lake Minchumin**	**5.62**	**81**	P		**Pn**		**04 08 08.9**	**+0.4**
CHUM				S		**Sn**		**04 09 15.3**	**+2.3**
PPLA	**Purkeypile**	**5.80**	**91**	P		**Pn**		**04 08 10.9**	**-0.3**
KTH	**Kantishna Hill**	**6.26**	**84**	*e*Pn		**Pn**		**04 08 16.7**	**-0.7**
KTH				*e*S		Sn		04 09 36.9	+7.9
SKT	**Skwentna**	**6.36**	**99**	P		**Pn**		**04 08 18.4**	**-0.3**
KELA	**Mount Kelaz**	**6.82**	**135**	P		**Pn**		**04 08 23.7**	**-1.4**
PLK1	**Peulik 1**	**7.08**	**141**	P		**Pn**		**04 08 27.6**	**-1.0**
KCE	**Katmai Mt Cerb**	**7.15**	**134**	P		**Pn**		**04 08 28.6**	**-1.0**
COLD	**Coldfoot**	**7.15**	**53**	P		**Pn**		**04 08 29.0**	**-0.6**
PLK4	**Peulik 4**	**7.30**	**141**	P		**Pn**		**04 08 30.3**	**-1.3**
COLA	**College**	**7.56**	**72**	P		**Pn**		**04 08 34.3**	**-0.8**
IL1	**Eielson Array**	**7.97**	**73**	P		**Pn**		**04 08 39.4**	**-1.4**
ILAR	**Eielson Array**	**7.97**	**73**	Pn		**Pn**		**04 08 39.3**	**-1.5**
	0.1nm,0.3s,baz=270,slow=13,SNR=8.5								
ILAR				Sn		**Sn**		**04 10 05.6**	**-5.3**
	0.2nm,0.3s,baz=267,slow=24,SNR=5.0								
KDAK	**Kodiak Island**	**8.39**	**128**	*e*Pn		**Pn**		**04 08 45.2**	**-1.3**
INK	**Inuvik**	**13.55**	**56**	Pn		Pn		04 10 01.1	+4.1
	0.1nm,0.3s,baz=261,slow=13,SNR=2.3								
YKA	**Yellowknife Ar**	**22.38**	**70**	P		**P**		**04 11 44.5**	**+1.5**
	0.5nm,0.8s,baz=293,slow=9.3,SNR=9.1								
NVAR	**Mina Array Bea**	**37.36**	**110**	P		**P**		**04 13 59.1**	**+1.4**
	0.5nm,0.7s,baz=311,slow=7.0,SNR=4.3								
SONM	**Songino Array**	**48.09**	**295**	P		**P**		**04 15 25.5**	**+0.9**
	0.2nm,0.7s,baz=31,slow=8.7,SNR=2.7								
JCJ	**Chichijima**	**49.76**	**249**	LR		LR		04 32 35.7	
	comp=Z,92nm,20.4s,baz=254,slow=31								
KURK	**Kurchatov**	**55.69**	**316**	P		P		04 16 26.5	+5.6
KURBB	**Kurchatov Arra**	**55.80**	**316**	P		P		04 16 26.5	+4.8
	0.2nm,0.2s,baz=46,slow=6.6,SNR=2.8								

IDC ***14*** *04:19:02.5±0.9, 41.61N×79.60E, h0km, mb3.7/10, mb1 3.8/17, mb1mx3.7/33, mbtmp3.7/17, ML3.5/7, Error ellipse: s-maj=15.2km s-min=13.8km az=54.0*
BJI ***14*** *04:19:05.5, 41.83N×79.53E, h5km, ML3.7/10*
KRNET ***14*** *04:19:05.0±0.1, 41.62N×79.49E, h2km, mb4.6*
MOS ***14*** *04:19:06.8±1.2, 41.74N×79.80E, h33km, mb4.0/6, Error ellipse: s-maj=11.7km s-min=8.2km az=112.8*
NNC ***14*** *04:19:07.9±1.4, 41.92N×79.58E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=11.0km s-min=5.1km az=127.0*

ISC 14 04:19:07.8±0.8, 41.94N±0.04×79.55E±0.04, h14km±4km, n72, σ1§78/81, mb3.7/10, 20C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.39**	**358**	⇓P		**Pb**		**04 19 34.3**	**+0.7**
	778nm,0.4s								
PDGK				⇑S		**Sg**		**04 19 53.8**	**+1.1**
	485nm,0.4s								
PDGK				⇑Rg		Rg		04 19 58.2	
	2μm,0.4s								
PDGK	**Podgornoye**	**1.39**	**358**	PN		**Pb**		**04 19 34.2**	**+0.6**
PDGK				S		**Sg**		**04 19 53.5**	**+0.8**
PDGK								04 19 58.1	
PDGK				pmax	pmax				
	comp=Z,778nm,0.4s								
PDGK				smax	smax				
	comp=N,490nm,0.5s								
PDGK				smax	smax				
	comp=N,2μm,0.4s								
KDJ	**Kajisay**	**1.77**	**277**	⇓*i*P		**Pn**		**04 19 39.0**	**+0.7**
	baz=287								
KDJ				⇓*e*S		**Sb**		**04 20 03.0**	**+0.6**
	baz=287								
KNDC	**Almaty**	**2.30**	**305**	⇓Pn		**Pb**		**04 19 47.7**	**-1.4**
	comp=N,103nm,0.5s								
KNDC				⇓Sn		**Sb**		**04 20 19.1**	**+1.7**
	comp=N,962nm,0.6s								
AAA	**Alma-Ata**	**2.34**	**306**	*e*PN		**Pb**		**04 19 50.8**	**+1.0**
AAA				*e*S		Sn		04 20 01.0	-14
AAA				pmax	pmax				
	comp=Z,1μm,0.6s								
ULHL	**Ulahol**	**2.48**	**278**	P		**Pn**		**04 19 49.6**	**+1.6**
	SNR=62								
ULHL	**Ulahol**	**2.48**	**278**	*i* PN		**Pn**		**04 19 49.6**	**+1.6**
ULHL	**Ulahol**	**2.48**	**278**	⇑*i*P		**Pn**		**04 19 49.4**	**+1.4**
	baz=286								
ULHL				⇑*i*S		**Sb**		**04 20 23.3**	**+0.5**
	baz=286								
NRN	**Naryn**	**2.70**	**260**	*e*P		**Pn**		**04 19 53.1**	**+1.9**
	baz=267								
BOOM	**Boomskoye usch**	**2.73**	**283**	*e*P		**Pn**		**04 19 51.0**	**-0.5**
	baz=289								
BOOM				*e*S		**Sb**		**04 20 28.5**	**-1.6**
	baz=289								
TKM2	**Tokmak 2**	**3.08**	**290**	⇑Pn		**Pn**		**04 19 58.3**	**+1.9**
	comp=Z,15nm,0.7s								
TKM2				⇑Pg		**Pb**		**04 20 02.8**	**+0.1**
	comp=Z,38nm,0.6s								
TKM2						Lg	Lg	04 20 43.6	
	comp=Z,446nm,0.5s								
TKM2	**Tokmak 2**	**3.08**	**290**	P		**Pn**		**04 19 58.5**	**+2.1**
	SNR=45								
TKM2	**Tokmak 2**	**3.08**	**290**	PN		**Pn**		**04 19 58.2**	**+1.9**
TKM2								04 20 37.2	
TKM2				pmax	pmax				
	comp=Z,38nm,0.6s								
TKM2				smax	smax				
	comp=N,44nm,0.5s								
TKM2	**Tokmak 2**	**3.08**	**290**	⇑*i*P		**Pn**		**04 19 58.3**	**+1.9**
	baz=296								
TKM2				⇑*i*S		**Sb**		**04 20 42.2**	**+2.0**
	baz=296								
KZA	**Kyzart**	**3.21**	**274**	P		**Pn**		**04 20 00.0**	**+1.8**
	SNR=13								
KZA	**Kyzart**	**3.21**	**274**	*i* PN		**Pn**		**04 20 00.0**	**+1.8**
KZA	**Kyzart**	**3.21**	**274**	⇑*i*P		**Pn**		**04 19 59.7**	**+1.5**
	baz=280								
KZA				⇑*i*S		**Sb**		**04 20 45.6**	**+1.7**
	baz=280								
KBK	**Karagaybulak**	**3.49**	**283**	P		**Pn**		**04 20 03.9**	**+2.0**
	SNR=12								
KBK	**Karagaybulak**	**3.49**	**283**	*i* PN		**Pn**		**04 20 03.9**	**+2.0**
KSH	**Kashi**	**3.63**	**229**	Pg		**Pg**		**04 20 16.9**	**-0.5**
KSH				Sg		**Sg**		**04 21 06.3**	**+1.8**
KSH				SMN					
	comp=N,250nm,1.0s								
KSH				SME					
	comp=N,160nm,0.7s								
CHMS	**Chumysh**	**3.70**	**288**	P		**Pg**		**04 20 18.2**	**-0.5**
	SNR=17								
UCH	**Uchtor**	**3.76**	**276**	P		**Pb**		**04 20 15.6**	**+1.4**
	SNR=13								
AAK	**Ala-Archa**	**3.81**	**282**	⇑Pn		**Pn**		**04 20 08.5**	**+2.2**
	comp=N,8.4nm,0.8s								
AAK				⇓Pg		**Pb**		**04 20 16.9**	**+1.9**
	comp=N,32nm,0.7s								
AAK				⇑Lg		Lg		04 21 06.4	
	comp=N,104nm,0.7s								
AAK	**Ala-Archa**	**3.81**	**282**	P		**Pg**		**04 20 19.9**	**-1.0**
	SNR=11								
AAK	**Ala-Archa**	**3.81**	**282**	⇓*e*PN		**Pn**		**04 20 08.2**	**+1.9**
AAK				*e*S		**Sg**		**04 21 07.2**	**-3.0**
AAK	**Ala-Archa**	**3.81**	**282**	Pn		**Pn**		**04 20 08.5**	**+2.2**
	comp=N,1.2nm,0.3s,baz=103,slow=5.5,SNR=16								
AAK				Lg		Lg		04 21 06.5	
	comp=N,17nm,0.3s,baz=206,slow=22,SNR=10								
ARLS	**Aral**	**3.90**	**271**	*i* P		**Pb**		**04 20 16.0**	**-0.5**
	baz=275								
ARLS				⇓*i*S		**Sb**		**04 21 05.9**	**+2.3**
	baz=275								
USP	**Ospenovka**	**3.96**	**291**	P		**Pn**		**04 20 10.8**	**+2.7**
	SNR=5.1								
USP	**Ospenovka**	**3.96**	**291**	*i* PN		**Pn**		**04 20 10.8**	**+2.7**
EKS2	**Erkin-Say**	**4.34**	**282**	P		Pg		04 20 27.4	-3.5
	SNR=20								
AML	**Almayashu**	**4.36**	**275**	P		**Pg**		**04 20 28.6**	**-2.8**
	SNR=19								
SFK	**Sufi-Kurgan**	**4.96**	**249**	⇑Pg		Pb		04 20 37.8	+3.1
	comp=N,10nm,0.6s								
SFK				⇓Lg		Lg		04 21 45.8	
	comp=N,29nm,0.7s								
SFK	**Sufi-Kurgan**	**4.96**	**249

comp=Z,1.0nm,0.7s,baz=95,slow=7.7,SNR=7.6
FINES FINESS Array B 37.12 320 *i* P P 04 26 16.2 -1.4
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 37.12 320 P P 04 26 15.6 -2.0
comp=Z,1.5nm,0.8s,baz=103,slow=8.2,SNR=4.2
ARCES ARCESS Array B 38.98 333 P P 04 26 31.8 -1.4
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 38.98 333 P P 04 26 31.8 -1.4
comp=Z,3.8nm,1.0s,baz=109,slow=6.6,SNR=4.7
NB2 NORSAR Subarra 44.30 320 P P 04 27 14.9 -2.0
comp=Z,0.6nm,0.5s,baz=84,slow=8.6
NOA NORSAR Array B 44.30 320 P P 04 27 15.2 -1.7
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 44.30 320 P P 04 27 15.2 -1.7
comp=Z,0.5nm,0.5s,baz=84,slow=7.9,SNR=5.2
INK Inuvik 67.32 13 P P 04 30 00.0 -1.7
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 67.32 13 P P 04 29 60.0 -1.7
comp=Z,0.7nm,0.6s,baz=349,slow=10,SNR=3.0
ILAR Eielson Array 67.59 20 P P 04 30 01.1 -2.5
comp=Z,0.3nm,0.7s,baz=318,slow=4.9,SNR=5.0
TORD Torodi Ar. Bea 72.33 272 P P 04 30 29.2 -4.3
comp=Z,0.2nm,0.5s,baz=46,slow=5.3,SNR=3.6
YKA Yellowknife Ar 75.30 7 P P 04 30 47.8 -2.2
comp=Z,0.4nm,0.6s,baz=344,slow=5.9,SNR=15
WRA Warramunga Arr 79.69 129 P P 04 31 12.0 -3.2
WRA Warramunga Arr 79.69 129 P P 04 31 12.0 -3.2
comp=Z,0.2nm,0.6s,baz=330,slow=5.0,SNR=3.7
ASAR Alice Springs 82.36 131 P P 04 31 25.9 -3.5
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 82.36 131 P P 04 31 25.9 -3.5
comp=Z,0.6nm,0.9s,baz=323,slow=4.9,SNR=4.1

IDC ***14*** *04:46:53.3±0.5, 35˚.29S×73˚.02W, h0km, mb4.6/15, mb1 4.7/17, mb1mx4.6/21, mbtmp4.6/17, ML4.3/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/26, Error ellipse: s-maj=20.1km s-min=14.3km az=95.0*

ISCJB ***14*** *04:46:54.8±1.1, 35˚.29S±0˚.04×73˚.06W±0˚.05, h15km±8km, mb4.7/77, MS3.9/6, Error ellipse: s-maj=6.9km s-min=5.4km az=35.8*

GUC ***14*** *04:46:55.4±0.7, 35˚.33S×73˚.12W, h29km±6km, ML5.0*

NEIC ***14*** *04:46:58.9±0.2, 35˚.30S×72˚.80W, h35km, mb4.8/60, Error ellipse: s-maj=6.2km s-min=4.7km az=67.0*

NEIC Felt at Machali and Santiago.

BJI ***14*** *04:46:58.1, 35˚.72S×72˚.70W, h40km, mB5.1/6, Ms5.2/2, Ms7 4.9/2*

ISC 14 04:46:57.8±0.7, 35˚.33S±0˚.04×73˚.03W±0˚.06, h31km±4km, n402, σ1°14/437, mb4.7/77, MS3.9/6, 138C-126D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.82**	**166**	*i*P	**Pb**	**04 47 10.7**	**-2.9**
COCH				*i* S	**Sb**	**04 47 22.5**	**-1.8**
TALC	**Talca**	**1.14**	**94**	↑*i*P	**Pn**	**04 47 16.8**	**-0.9**
TALC				*i* S	**Sb**	**04 47 32.4**	**-1.1**
LNCH	**Linares**	**1.27**	**114**	↑*i*P	**Pn**	**04 47 18.9**	**-0.6**
LNCH				*i* S	**Sb**	**04 47 35.9**	**-1.3**
CCSP	**San Pedro de C**	**1.51**	**182**	*e*P	**Pn**	**04 47 21.1**	**-1.6**
NICH	**Los Niches**	**1.51**	**78**	↑*i*P	**Pn**	**04 47 22.6**	**-0.2**
NICH				*i* S	**Sb**	**04 47 43.2**	**-0.8**
RCDM	**Rinconada Maip**	**2.60**	**46**	*e*P	**Pn**	**04 47 36.6**	**-1.2**
CLCH	**Cerro Calan**	**2.83**	**48**	↑*i*P	**Pn**	**04 47 40.5**	**-0.4**
CLCH				AML	AML	04 48 31.8	
	comp=N,8μm,0.6s						
PEL	**Peldehue**	**2.92**	**42**	*e*P	**Pn**	**04 47 41.9**	**-0.4**
PEL				AML	AML	04 48 38.6	
	comp=N,6μm,0.5s						
YECH	**El Yeso**	**2.95**	**56**	*e*P	**Pn**	**04 47 43.4**	**+0.6**
YECH				*e*S	**Sn**	**04 48 19.5**	**+2.2**
YECH				AML	AML	04 48 34.8	
	comp=N,2μm,0.8s						
CFAA	**Coronel Fontan**	**5.47**	**48**	Pn	**Pn**	**04 48 16.3**	**-0.9**
	comp=N,0.5nm,0.3s,baz=232,slow=11,SNR=82						
CFAA				Sn	**Sn**	**04 49 21.0**	**+1.9**
	comp=N,1.1nm,0.3s,baz=230,slow=19,SNR=4.0						
CFAA				LR	LR	04 50 21.6	
	comp=N,100nm,18.4s,baz=236,slow=38						
PLCA	**Paso Flores**	**5.74**	**161**	Pn	**Pn**	**04 48 20.7**	**-0.2**
	comp=N,2.0nm,0.3s,baz=332,slow=10,SNR=58						
PLCA				Sn	Sb	04 49 36.9	-8.5
	comp=N,1.9nm,0.3s,baz=227,slow=16,SNR=3.1						
PLCA				LR	LR	04 49 59.7	
	comp=N,246nm,20.3s,baz=5.0,slow=32						
PLCA	**Paso Flores**	**5.74**	**161**	*e*Pn	**Pn**	**04 48 20.2**	**-0.7**
	comp=N,59nm,1.0s						
PLCA				*e*S	**Sn**	**04 49 30.7**	**+5.0**
LCO	**Las Campanas**	**6.61**	**18**	*e*Pn	**Pn**	**04 48 30.4**	**-2.7**
LCO				*e*S	**Sn**	**04 49 42.1**	**-5.3**
TRQA	**Tornquist**	**9.28**	**110**	*e*Pn	**Pn**	**04 49 09.0**	**-0.5**
	comp=N,24nm,1.0s						
LVC	**Limon Verde**	**13.18**	**17**	*e*Pn	**Pn**	**04 50 01.9**	**-1.1**
LPAZ	**La Paz**	**19.47**	**14**	P	**P**	**04 51 21.9**	**-0.9**
	comp=N,0.5nm,0.3s,baz=189,slow=9.3,SNR=34						
LPAZ	**La Paz**	**19.47**	**14**	*e*P	**P**	**04 51 23.2**	**+0.5**
	comp=N,18nm,0.9s						
SIV	**San Ignacio**	**22.04**	**32**	P	**P**	**04 51 49.0**	**-1.0**
	comp=N,21nm,1.0s,baz=229,slow=14,SNR=32						
SAML	**Samuel**	**27.76**	**21**	*e*P	**P**	**04 52 43.2**	**-0.7**
	comp=N,4.6nm,1.3s						
ATAH	**Atahualpa**	**28.49**	**349**	LR	LR	05 02 13.5	
	comp=N,210nm,19.8s,baz=157,slow=32						
BDFB	**Brasilia**	**29.76**	**55**	P	**P**	**04 53 00.3**	**-1.6**
	comp=N,6.2nm,0.8s,baz=212,slow=4.8,SNR=7.7						
BDFB				LR	LR	05 06 30.7	
	comp=N,164nm,20.6s,baz=234,slow=40						
OTAV	**Otavalo**	**35.75**	**351**	*e*P	**P**	**04 53 54.9**	**+0.4**
	comp=N,5.4nm,0.9s						
OTAV				*e*PcP	**PcP**	**04 56 23.2**	**+1.0**
PTGA	**Pitinga**	**36.52**	**22**	P	**P**	**04 54 00.0**	**-0.6**
	comp=N,17nm,0.7s,baz=206,slow=10,SNR=31						
PTGA	**Pitinga**	**36.52**	**22**	*e*P	**P**	**04 53 60.0**	**-0.6**
	comp=N,20nm,0.8s						
ROSC	**El Rosal**	**39.99**	**358**	P	**P**	**04 54 32.9**	**+2.6**
	comp=N,8.0nm,0.6s,baz=228,slow=3.9,SNR=4.8						
SDV	**Santo Domingo**	**44.04**	**3**	*e*P	**P**	**04 55 02.2**	**-0.8**
	comp=N,12nm,0.9s						
RCBR	**Riachuelo**	**45.04**	**58**	P	**P**	**04 55 11.3**	**+0.3**
	comp=N,12nm,1.0s,baz=213,slow=14,SNR=4.3						
RCBR				LR	LR	05 15 42.6	
	comp=N,213nm,19.4s,baz=199,slow=38						
VNA3	**Neumayer Olymp**	**48.44**	**157**	P	**P**	**04 55 37.6**	**+0.8**
VNA2	**Neumayer--Watz**	**49.11**	**157**	P	**P**	**04 55 42.7**	**+0.7**
	baz=298,slow=9.3						
SNAA	**Sanae**	**50.67**	**157**	P	**P**	**04 55 54.4**	**+0.5**
	comp=N,7.9nm,0.9s,baz=256,slow=6.4,SNR=21						
FDF	**Fort de France**	**51.05**	**15**	*e*P	**P**	**04 55 56.4**	**-0.9**
	comp=N,19nm,0.6s						
APG	**El Apazote**	**52.72**	**339**	P	P	04 56 05.4	-4.6
	comp=N,2.3nm,0.7s,baz=147,slow=10,SNR=5.0						
QSPA	**South Pole Qui**	**54.91**	**180**	P	**P**	**04 56 26.0**	**+0.6**
	comp=N,4.3nm,0.9s,baz=151,slow=6.2,SNR=8.8						
QSPA				LR	LR	05 21 07.3	
	comp=N,29nm,20.2s,baz=208,slow=37						
034A	**Hebbronville**	**66.63**	**335**	↑P	**P**	**04 57 47.2**	**+1.9**
	baz=67						
933A	**Laredo**	**67.34**	**335**	⇓P	**P**	**04 57 51.3**	**+1.4**
	baz=68						
835A	**Beeville**	**67.47**	**336**	⇓P	**P**	**04 57 52.8**	**+2.2**
	baz=68						
834A	**Tilden**	**67.56**	**336**	⇓P	**P**	**04 57 52.7**	**+1.5**
	baz=68						
735A	**Kenedy**	**67.99**	**337**	⇓P	**P**	**04 57 55.4**	**+1.5**
	baz=68						
833A	**Chaparral WMA,**	**68.03**	**335**	↑P	**P**	**04 57 55.4**	**+1.2**
	baz=68						
636A	**Smothers Creek**	**68.33**	**338**	⇓P	**P**	**04 57 57.0**	**+1.0**
	baz=69						
733A	**Divot King Ran**	**68.36**	**335**	↑P	**P**	**04 57 57.2**	**+1.0**
	baz=69						
732A	**Laxson Ranch,**	**68.60**	**335**	⇓P	**P**	**04 57 58.7**	**+1.0**
	baz=69						
340A	**Bronson**	**69.23**	**341**	↑P	**P**	**04 58 02.7**	**+1.1**
	baz=70						
632A	**Uvalde**	**69.25**	**335**	↑P	**P**	**04 58 03.2**	**+1.4**
	baz=70						
339A	**Huntington**	**69.33**	**340**	⇓P	**P**	**04 58 03.3**	**+1.1**
	baz=70						
631A	**Perdido Creek**	**69.44**	**334**	⇓P	**P**	**04 58 04.6**	**+1.7**
	baz=70						
436A	**Wall Ranch, Ga**	**69.45**	**338**	⇓P	**P**	**04 58 04.6**	**+1.6**
	baz=70						
533A	**Kerrville**	**69.52**	**336**	↑P	**P**	**04 58 04.4**	**+0.9**
	baz=70						
338A	**Crockett**	**69.57**	**340**	↑P	**P**	**04 58 05.4**	**+1.8**
	baz=70						
337A	**Centerville**	**69.69**	**339**	⇓P	**P**	**04 58 05.9**	**+1.5**
	baz=70						
435B	**Jarrell**	**69.71**	**338**	↑P	**P**	**04 58 05.4**	**+0.9**
	baz=70						
532A	**Rocksprings**	**69.86**	**335**	↑P	**P**	**04 58 06.5**	**+0.9**
	baz=70						
434A	**Burnet**	**69.95**	**337**	⇓P	**P**	**04 58 06.3**	**+0.2**
	baz=70,SNR=6.8						
336A	**Riesel**	**70.04**	**338**	↑P	**P**	**04 58 07.5**	**+0.9**
	baz=70						
531A	**Rocksprings**	**70.11**	**335**	↑P	**P**	**04 58 07.9**	**+0.8**
	baz=70						
335A	**Moody**	**70.12**	**338**	⇓P	**P**	**04 58 07.8**	**+0.8**
	baz=70						
JCT	**Junction City**	**70.15**	**336**	↑P	**P**	**04 58 08.3**	**+1.0**
	baz=70						
JCT	**Junction City**	**70.15**	**336**	*e*P	**P**	**04 58 08.3**	**+1.0**
	comp=N,12nm,0.9s						
433A	**Art**	**70.16**	**336**	↑P	**P**	**04 58 07.7**	**+0.3**
	baz=70						
530A	**J-C Ranch, Com**	**70.38**	**334**	⇓P	**P**	**04 58 09.6**	**+0.8**
	baz=71						
334A	**Lometa**	**70.42**	**337**	⇓P	**P**	**04 58 09.1**	**+0.1**
	baz=71,SNR=6.3						
432A	**Menard**	**70.51**	**336**	↑P	**P**	**04 58 09.6**	**+0.1**
	baz=71						
TXAR	**Lajitas Array**	**70.51**	**332**	P	**P**	**04 58 10.4**	**+0.8**
	comp=N,2.4nm,0.8s,baz=152,slow=7.4,SNR=20						
431A	**Sonora**	**70.61**	**335**	↑P	**P**	**04 58 10.5**	**+0.4**
	baz=71						
333A	**Richland Sprin**	**70.65**	**337**	↑P	**P**	**04 58 10.2**	**-0.1**
	baz=71,SNR=6.9						
529A	**Stev Forest Ra**	**70.67**	**333**	⇓P	**P**	**04 58 11.4**	**+0.8**
	baz=71						
WHTX	**Lake Whitney,**	**70.79**	**338**	⇓P	**P**	**04 58 11.8**	**+0.6**
	baz=71						
137A	**Heron Place, G**	**70.86**	**340**	↑P	**P**	**04 58 12.2**	**+0.7**
	baz=71						
430A	**Baggett Ranch,**	**70.92**	**335**	⇓P	**P**	**04 58 12.6**	**+0.5**
	baz=71						
332A	**Millersview**	**70.96**	**336**	↑P	**P**	**04 58 12.4**	**+0.2**
	baz=71,SNR=7.5						
429A	**Davenport Ranc**	**71.01**	**334**	↑P	**P**	**04 58 13.1**	**+0.5**
	baz=71						
331A	**San Angelo**	**71.12**	**335**	⇓P	**P**	**04 58 13.6**	**+0.3**
	baz=72						
233A	**Rising Star**	**71.27**	**337**	⇓P	**P**	**04 58 14.4**	**+0.3**
	baz=72						
135A	**Vickery Place,**	**71.30**	**338**	↑P	**P**	**04 58 14.8**	**+0.5**
	baz=72						
TKL	**Tuckaleechee C**	**71.33**	**351**	P	**P**	**04 58 13.8**	**-0.6**
	comp=N,5.6nm,0.8s,baz=174,slow=12,SNR=3.7						
232A	**Coleman**	**71.39**	**336**	↑P	**P**	**04 58 15.4**	**+0.6**
	baz=72						
330A	**Mertzon**	**71.46**	**335**	⇓P	**P**	**04 58 15.8**	**+0.4**
	baz=72						
231A	**Bronte**	**71.65**	**336**	⇓P	**P**	**04 58 16.7**	**+0.2**
	baz=72						
133A	**Hamilton Ranch**	**71.82**	**337**	↑P	**P**	**04 58 17.5**	**+0.1**
	baz=72,SNR=6.2						
329A	**Wagon Wheel Ra**	**71.82**	**334**	↑P	**P**	**04 58 17.9**	**+0.4**
	baz=72						
230A	**Sterling City**	**71.88**	**335**	⇓P	**P**	**04 58 18.3**	**+0.4**
	baz=72						
Z35A	**Penaven, San**	**71.98**	**339**	↑P	**P**	**04 58 19.1**	**+0.8**
	baz=72						
ABTX	**Abilene, Hawle**	**72.06**	**337**	↑P	**P**	**04 58 19.1**	**+0.2**
	baz=72						
ABTX	**Abilene, Hawle**	**72.06**	**337**	*e*P	**P**	**04 58 19.2**	**+0.4**
	comp=N,14nm,0.9s						
MAW	**Mawson**	**72.13**	**164**	LR	LR	05 32 20.1	
	comp=N,184nm,18.8s,baz=240,slow=38						
229A	**Bryant Ranch,**	**72.20**	**335**	⇓P	**P**	**04 58 20.4**	**+0.7**
	baz=73						
Z34A	**Collier Ranch,**	**72.21**	**338**	↑P	**P**	**04 58 20.5**	**+0.8**
	baz=73						
131A	**Roby**	**72.36**	**336**	↑P	**P**	**04 58 21.4**	**+0.7**
	baz=73						
Z33A	**Whitaker Ranch**	**72.40**	**338**	↑P	**P**	**04 58 21.3**	**+0.5**
	baz=73						
WVT	**Waverly**	**72.42**	**347**	*e*P	**P**	**04 58 20.6**	**-0.3**
	comp=N,20nm,0.9s						
130A	**Snyder**	**72.48**	**336**	↑P	**P**	**04 58 21.8**	**+0.5**
	baz=73						
228A	**UT Block 9, Go**	**72.61**	**334**	↑P	**P**	**04 58 22.8**	**+0.5**
	baz=73						
Z32A	**Haskell**	**72.64**	**337**	↑P	**P**	**04 58 22.7**	**+0.4**
	baz=73,SNR=9.8						
Y34A	**Reagan Ranch,**	**72.71**	**339**	↑P	**P**	**04 58 23.0**	**+0.3**
	baz=73						
Z31A	**Sharp Cattle R**	**72.86**	**336**	↑P	**P**	**04 58 24.0**	**+0.4**
	baz=73,SNR=5.5						
Y33A	**Hilltop Ranch,**	**73.02**	**338**	↑P	**P**	**04 58 24.7**	**+0.2**
	baz=73						
128A	**Castleberry Fa**	**73.03**	**334**	⇓P	**P**	**04 58 24.9**	**+0.2**
	baz=73						
Z30A	**Sanderson Ranc**	**73.16**	**336**	⇓P	**P**	**04 58 25.2**	**-0.3**
	baz=74,SNR=5.0						
Y32A	**R-V Farms, Ver**	**73.27**	**337**	↑P	**P**	**04 58 26.5**	**+0.5**
	baz=74						
MNTX	**Cornudas Mount**	**73.28**	**332**	↑P	**P**	**04 58 26.1**	**0.0**
	baz=74						
MNTX	**Cornudas Mount**	**73.28**	**332**	*e*P	**P**	**04 58 26.0**	**-0.1**
	comp=N,3.1nm,0.8s						
X34A	**Smith Ranch, M**	**73.33**	**339**	⇓P	**P**	**04 58 26.8**	**+0.4**
	baz=74						
Z29A	**Hungry Hill Ra**	**73.33**	**335**	↑P	**P**	**04 58 26.7**	**+0.2**
	baz=74						
Y31A	**Rekieta Farm,**	**73.50**	**337**	↑P	**P**	**04 58 27.4**	**0.0**
	baz=74,SNR=5.2						
Z28A	**Tuer Farm, M**	**73.60**	**335**	⇓P	**P**	**04 58 28.5**	**+0.4**
	baz=74						
X32A	**Elmer**	**73.61**	**338**	↑P	**P**	**04 58 28.3**	**+0.3**
	baz=74						
WMOK	**Wichita Mounta**	**73.75**	**338**	*e*P	**P**	**04 58 28.9**	**+0.1**
	comp=N,7.0nm,1.2s						
Y29A	**Porterfield Fa**	**73.87**	**335**	↑P	**P**	**04 58 29.8**	**+0.2**
	baz=74						
W34A	**Bridge Creek,**	**73.91**	**339**	⇓P	**P**	**04 58 30.1**	**+0.4**
	baz=74						
TUL1	**Leonard**	**73.99**	**341**	⇓P	**P**	**04 58 30.3**	**+0.2**
	baz=74						
TUL1	**Leonard**	**73.99**	**341**	*e*P	**P**	**04 58 30.4**	**+0.2**
	comp=N,12nm,0.9s						
X31A	**McDonald Ranch**	**74.02**	**337**	⇓P	**P**	**04 58 30.8**	**+0.4**
	baz=74						
W33A	**Caddo, Fort Co**	**74.03**	**339**	⇓P	**P**	**04 58 31.2**	**+0.8**
	baz=74						
Y28A	**McKinney Farm,**	**74.11**	**335**	↑P	**P**	**04 58 31.6**	**+0.5**
	baz=74						
V35A	**Meyer Ranch, C**	**74.13**	**340**	↑P	**P**	**04 58 31.4**	**+0.4**
	baz=74						
X30A	**Coker Ranch, T**	**74.14**	**336**	↑P	**P**	**04 58 31.5**	**+0.4**
	baz=74						
W32A	**Sentinel**	**74.25**	**338**	↑P	**P**	**04 58 32.5**	**+0.8**
	baz=75						
MSTX	**Muleshoe**	**74.35**	**335**	↑P	**P**	**04 58 33.1**	**+0.6**
	baz=75						
MSTX	**Muleshoe**	**74.35**	**335**	*e*P	**P**	**04 58 33.0**	**+0.5**
	comp=N,10.0nm,0.8s						
V34A	**Guthrie**	**74.39**	**340**	↑P	**P**	**04 58 32.9**	**+0.4**
	baz=75						
V34A	**Guthrie**	**74.39**	**340**	*e*P	**P**	**04 58 32.8**	**+0.2**
	comp=N,18nm,1.1s						
X29A	**Tulia**	**74.41**	**336**	↑P	**P**	**04 58 33.2**	**+0.4**
	baz=75						
W31A	**Holland Ranch,**	**74.52**	**337**	⇓P	**P**	**04 58 33.6**	**+0.2**
	baz=75						
V33A	**Lossen Ranch,**	**74.60**	**339**	↑P	**P**	**04 58 34.4**	**+0.7**
	baz=75						
AMTX	**Amarillo**	**74.81**	**336**	⇓P	**P**	**04 58 35.5**	**+0.4**
	baz=75						
AMTX	**Amarillo**	**74.81**	**336**	*e*P	**P**	**04 58 36.1**	**+1.1**
	comp=N,22nm,1.1s						
U34A	**Anderson Ranch**	**74.96**	**340**	↑P	**P**	**04 58 36.2**	**+0.4**
	baz=75						
U34A	**Anderson Ranch**	**74.96**	**340**	*e*P	**P**	**04 58 36.4**	**+0.6**
	comp=N,23nm,1.3s						
W29A	**Amarillo**	**75.01**	**336**	⇓P	**P**	**04 58 36.8**	**+0.5**
	baz=75						
U33A	**Lingo Farm, Me**	**75.12**	**339**	⇓P	**P**	**04 58 37.2**	**+0.4**
	baz=76						
U32A	**Winter Ranch,**	**75.33**	**339**	↑P	**P**	**04 58 38.5**	**+0.5**
	baz=76						
S36A	**Lake Cedric, C**	**75.64**	**342**	⇓P	**P**	**04 58 39.8**	**+0.1**
	baz=76						
ACSO	**Alum Creek Sta**	**75.75**	**352**	*e*P	**P**	**04 58 40.0**	**-0.3**
	comp=N,17nm,0.7s						
T33A	**Patterson Ranc**	**75.77**	**339**	⇓P	**P**	**04 58 41.5**	**+1.1**
	baz=76						
V28A	**Channing**	**75.78**	**336**	⇓P	**P**	**04 58 41.7**	**+1.0**
	baz=76						
S35A	**Otter Creek Ra**	**75.80**	**341**	⇓P	**P**	**04 58 41.5**	**+0.9**
	baz=76						
LIC	**Lamto**	**75.97**	**72**	*e*P	**P**	**04 58 41.9**	**-0.2**
	comp=N,39nm,1.1s						
U30A	**WK&E Inc. Balk**	**75.98**	**337**	⇓P	**P**	**04 58 42.8**	**+1.1**
	baz=76						
V27A	**Dan Oppiter Fa**	**75.99**	**335**	↑P	**P**	**04 58 42.6**	**+0.8**
	baz=76						
R37A	**Teagarden Farm**	**76.01**	**342**	⇓P	**P**	**04 58 42.6**	**+0.8**
	baz=76						
TUC	**Tucson**	**76.05**	**328**	*e*P	**P**	**04 58 42.9**	**+0.6**
	comp=N,8.2nm,1.3s						
T32A	**Huddler Ranch,**	**76.05**	**339**	↑P	**P**	**04 58 43.0**	**+0.9**
	baz=76						
TIC	**Toumodi**	**76.24**	**72**	*e*P	**P**	**04 58 43.5**	**-0.2**
	comp=N,23nm,1.0s						
KIC	**Kosan Boka**	**76.28**	**72**	*e*P	**P**	**04 58 44.0**	**+0.1**
	comp=N,62nm,1.0s						
LAZ	**Ladron**	**76.35**	**332**	*e*P	**P**	**04 58 45.4**	**+1.4**
	comp=N,3.7nm,1.5s						
V26A	**Tequesquite Ra**	**76.35**	**335**	↑P	**P**	**04 58 44.7**	**+0.8**
	baz=77						
DBIC	**Dimbokro**	**76.38**	**72**	P	**P**	**04 58 44.7**	**+0.3**
	comp=N,14nm,0.8s,baz=206,slow=7.0,SNR=13						
DBIC	**Dimbokro**	**76.38**	**72**	*e*P	**P**	**04 58 44.5**	**0.0**
	comp=N,17nm,0.9s						
ANMO	**Albuquerque**	**76.57**	**332**	*e*P	**P**	**04 58 46.3**	**+1.0**
	comp=N,7.3nm,1.1s						
U27A	**Thompson Grove**	**76.59**	**336**	↑P	**P**	**04 58 46.4**	**+1.1**
	baz=77						
T29A	**Hugoton**	**76.76**	**337**	⇓P	**P**	**04 58 47.1**	**+1.0**
	baz=77						
R33A	**Olander Ranch,**	**76.83**	**340**	⇓P	**P**	**04 58 47.1**	**+0.7**
	baz=77						
S30A	**Montezuma**	**76.94**	**338**	↑P	**P**	**04 58 48.1**	**+1.0**
	baz=77						
T28A	**Walsh**	**76.99**	**336**	⇓P	**P**	**04 58 47.7**	**+0.2**
	baz=77,SNR=5.9						
U25A	**Circle Dot Ran**	**77.11**	**334**	⇓P	**P**	**04 58 49.1**	**+0.8**
	baz=78						
S29A	**Ulysses**	**77.12**	**337**	↑P	**P**	**04 58 48.8**	**+0.6**
	baz=78						
T27A	**Campo**	**77.13**	**336**	⇓P	**P**	**04 58 48.9**	**+0.5**
	baz=78						
R32A	**Long Quarter,**	**77.15**	**340**	⇓P	**P**	**04 58 48.8**	**+0.5**
	baz=78						
R31A	**Burdett**	**77.26**	**339**	⇓P	**P**	**04 58 49.5**	**+0.6**
	baz=78						
S28A	**Manter**	**77.34**	**337**	↑P	**P**	**04 58 49.9**	**+0.4**
	baz=78,SNR=6.6						
X18A	**Snowflake**	**77.59**	**329**	⇓P	**P**	**04 58 51.8**	**+0.8**
	baz=78						
TRY	**Troy**	**77.69**	**360**	*e*P	**P**	**04 58 52.9**	**+1.7**
	comp=N,15nm,1.1s						
T25A	**Trinidad**	**77.78**	**335**	⇓P	**P**	**04 58 53.3**	**+1.3**
	baz=78,SNR=5.1						
T25A	**Trinidad**	**77.78**	**335**	*e*P	**P**	**04 58 53.8**	**+1.8**
	comp=N,25nm,1.2s						
MMNY	**Mt. Morris Dam**	**77.82**	**356**	*e*P	**P**	**04 58 52.3**	**+0.4**
	comp=N,51nm,1.3s						
Q31A	**Ellis**	**77.88**	**339**	↑P	**P**	**04 58 54.0**	**+1.6**
	baz=78						
S26A	**Kim**	**77.89**	**336**	⇓P	**P**	**04 58 53.4**	**+0.9**
	baz=78,SNR=8.9						
R28A	**Tribune**	**78.00**	**337**	↑P	**P**	**04 58 53.8**	**+0.7**
	baz=78						
W18A	**Petrified Fore**	**78.02**	**330**	⇓P	**P**	**04 58 54.3**	**+0.9**
	baz=78						
Q30A	**Quinter**	**78.10**	**339**	↑P	**P**	**04 58 54.3**	**+0.7**
	baz=78						
X16A	**Lo Mia Camp, P**	**78.13**	**328**	⇓P	**P**	**04 58 55.4**	**+1.4**
	baz=78						
Q29A	**Oakley**	**78.25**	**338**	⇓P	**P**	**04 58 55.3**	**+0.9**
	baz=79						
S25A	**Robets Cordova**	**78.25**	**335**	↑P	**P**	**04 58 55.7**	**+1.1**
	baz=79,SNR=7.1						
ACCN	**Adirondack Com**	**78.35**	**360**	*e*P	**P**	**04 58 56.1**	**+1.4**
	comp=N,9.9nm,1.0s						
R26A	**Arlington**	**78.50**	**336**	↑P	**P**	**04 58 56.7**	**+0.8**
	baz=79,SNR=7.8						
S24A	**Houchin Ranch,**	**78.51**	**334**	⇓P	**P**	**04 58 57.6**	**+1.4**
	baz=79,SNR=7.9						
P30A	**Selden**	**78.63**	**339**	⇓P	**P**	**04 58 57.6**	**+1.1**
	baz=79						
R25A	**Fountain Ranch**	**78.64**	**335**	↑P	**P**	**04 58 57.2**	**+0.5**
	baz=79						
Q28A	**Sharon Springs**	**78.67**	**338**	⇓P	**P**	**04 58 58.0**	**+1.2**
	baz=79						
SDCO	**Great Sand Dun**	**78.70**	**334**	↑P	**P**	**04 58 57.9**	**+0.7**
	baz=79,SNR=5.4						
SDCO	**Great Sand Dun**	**78.70**	**334**	*e*P	**P**	**04 58 58.5**	**+1.3**
KSCO	**Kaye Shedlock'**	**78.88**	**337**	⇓P	**P**	**04 58 59.2**	**+1.3**
	baz=79						
R24A	**Sanders Place,**	**79.00**	**335**	⇓P	**P**	**04 58 59.9**	**+1.2**
	baz=79,SNR=8.0						
WUAZ	**Wupatki**	**79.04**	**329**	⇓P	**P**	**04 59 00.5**	**+1.5**
	baz=79					

baz=81
SMCO **Snowmass** 80.50 334 *e*P P 04 59 08.4 +1.3
comp=N,8.7nm,1.1s
ISCO **Idaho Springs** 80.58 335 ⇓P P 04 59 08.7 +1.3
baz=81
ISCO **Idaho Springs** 80.58 335 *e*P P 04 59 08.1 +0.7
comp=N,8.4nm,1.3s
L31A **Butterfield Fa** 80.68 341 ⇓P P 04 59 09.3 +1.8
baz=81
P22A **Eagle** 80.80 334 ⇑P P 04 59 10.2 +1.7
baz=81
TUQ **Turquoise Moun** 80.98 326 ⇑P P 04 59 11.1 +1.6
baz=81
O23A **Lake Granby, G** 81.05 335 ⇑P P 04 59 10.9 +1.0
baz=81,SNR=7.6
M27A **Reverse DX Ran** 81.09 338 ⇑P P 04 59 11.3 +1.4
baz=82
O22A **Kremmling** 81.23 335 ⇓P P 04 59 11.5 +0.6
baz=82,SNR=7.7
K30A **Basset** 81.35 341 ⇑P P 04 59 12.6 +1.5
baz=82
SHPR **Sheep Range** 81.52 327 *e*P P 04 59 13.7 +1.4
CCUT **Cedar City** 81.61 329 *e*P P 04 59 15.1 +2.2
comp=N,6.6nm,1.1s
K29A **Lazy Trails An** 81.62 340 ⇑P P 04 59 13.6 +1.0
baz=82
N23A **Red Feather La** 81.67 335 ⇓P P 04 59 14.0 +0.8
baz=82
N23A **Red Feather La** 81.67 335 *e*P P 04 59 13.6 +0.5
comp=N,7.9nm,1.1s
N22A **Wattenberg Ran** 81.76 335 ⇑P P 04 59 14.6 +0.9
baz=82,SNR=6.9
SRU **San Rafael Swe** 81.78 331 *e*P P 04 59 14.0 +0.4
comp=N,5.1nm,1.0s
O20A **White River Ci** 81.81 333 ⇓P P 04 59 15.3 +1.5
baz=82
M24A **Cheyenne** 81.81 336 ⇓P P 04 59 15.1 +1.3
baz=82
K28A **Ten Mile Ranch** 81.88 339 ⇑P P 04 59 15.5 +1.6
baz=82
J30A **Dallas** 81.92 341 ⇑P P 04 59 15.7 +1.6
baz=82
MVU **Marysvale** 81.93 330 *e*P P 04 59 15.8 +1.3
comp=N,6.4nm,1.1s
M23A **Laramie** 82.11 336 ⇓P P 04 59 16.5 +1.1
baz=82
K27A **Flueckinger Fa** 82.12 339 ⇑P P 04 59 16.6 +1.3
baz=82
URZ **Urewera** 82.16 228 LR LR 05 28 22.6
comp=N,151nm,20.0s,baz=5.0,slow=30
MPMC **Manual Prospec** 82.22 325 ⇓P P 04 59 17.4 +1.4
baz=83
J29A **Okreek** 82.22 340 ⇑P P 04 59 16.9 +1.3
baz=83
FURC **Furnace Creek,** 82.26 326 ⇑P P 04 59 18.0 +2.1
baz=83
M22A **Cedar Creek Ra** 82.35 335 ⇓P P 04 59 18.7 +2.1
baz=83
ISA **Isabella, Lake** 82.36 324 ⇓P P 04 59 18.6 +1.9
baz=83
TPNV **Topopah Spring** 82.37 326 ⇓P P 04 59 18.5 +1.7
baz=83
TPNV **Topopah Spring** 82.37 326 *e*P P 04 59 17.7 +0.9
comp=N,10nm,1.7s
N20A **Spence Gulch,** 82.43 334 ⇑P P 04 59 18.2 +1.1
baz=83
DAC **Darwin (Calif)** 82.44 325 *e*P P 04 59 18.5 +1.3
comp=N,3.5nm,0.9s
LBTB **Lobatse** 82.48 115 *e*P P 04 59 17.7 -0.1
comp=N,9.4nm,0.8s
J28A **Allard Ranch,** 82.49 340 ⇓P P 04 59 18.5 +1.3
baz=83
J27A **Elkhorn Farm,** 82.56 339 ⇑P P 04 59 18.9 +1.4
baz=83
I29A **Vivian Onida** 82.79 341 ⇑P P 04 59 20.7 +2.1
baz=83
VES **Vestal, Richgr** 82.80 324 ⇑P P 04 59 21.0 +2.2
baz=83
GRAC **Grapevine Rang** 82.93 326 ⇓P P 04 59 21.1 +1.6
baz=83
J26A **Sides Ranch, S** 82.93 338 ⇑P P 04 59 20.6 +1.2
baz=83
I28A **Midland** 83.01 340 ⇓P P 04 59 20.4 +0.6
baz=83
J25A **Sunshine Ranch** 83.22 338 ⇓P P 04 59 22.2 +1.3
baz=84
R11A **Troy Canyon, C** 83.23 328 ⇓P P 04 59 22.7 +1.5
baz=84
R11A **Troy Canyon, C** 83.23 328 *e*P P 04 59 23.1 +1.9
comp=N,6.7nm,1.3s
I27A **Quinn** 83.32 339 ⇑P P 04 59 22.6 +1.2
baz=84
H29A **Onida** 83.32 341 ⇓P P 04 59 22.2 +0.9
baz=84
K22A **Casper** 83.43 336 ⇓P P 04 59 23.2 +1.1
baz=84
K22A **Casper** 83.43 336 *e*P P 04 59 23.2 +1.1
comp=N,12nm,1.1s
G30A **Faulkton** 83.51 342 ⇓P P 04 59 23.3 +1.0
baz=84
I26A **New Underwood** 83.52 339 ⇑P P 04 59 23.5 +1.1
baz=84
H28A **Mission Ridge** 83.59 340 ⇓P P 04 59 24.0 +1.2
baz=84
DUG **Dugway, Tooele** 83.62 330 ⇓P P 04 59 24.7 +1.5
baz=84
DUG **Dugway, Tooele** 83.62 330 *e*P P 04 59 24.4 +1.2
comp=N,14nm,1.2s
K21A **Alcova** 83.66 335 ⇑P P 04 59 24.5 +1.1
baz=84
I25A **Rochford** 83.77 338 ⇓P P 04 59 24.7 +0.8
baz=84
H27A **Howes** 83.84 340 ⇑P P 04 59 24.4 +0.3
baz=84
G28A **Parade** 83.93 341 ⇑P P 04 59 25.1 +0.6
baz=84
RSSD **Black Hills** 83.96 338 *e*P P 04 59 25.2 +0.3
comp=N,3.9nm,0.9s
J22A **Midwest** 84.09 336 ⇑P P 04 59 26.2 +0.7
baz=84
H25A **Fruitdale** 84.28 339 ⇓P P 04 59 27.3 +1.1
baz=85
HWUT **Hardware Ranch** 84.33 332 *e*P P 04 59 27.2 +0.5
comp=N,30nm,1.7s
F29A **Eureka** 84.34 342 ⇑P P 04 59 27.4 +0.9
baz=85
J21A **Lysite** 84.36 336 ⇑P P 04 59 27.5 +0.6
baz=85
G27A **Dupree** 84.49 340 ⇑P P 04 59 27.6 +0.3
baz=85
NVAR **Mina Array Bea** 84.52 326 P P 04 59 28.3 +0.4
comp=N,1.9nm,0.9s,baz=142,slow=5.9,SNR=12
I22A **9 Mile Ranch,** 84.53 336 ⇓P P 04 59 27.7 +0.1
baz=85
J20A **Shoshoni** 84.58 335 ⇓P P 04 59 28.9 +0.9
baz=85,SNR=5.3
PDAR **Pinedale Array** 84.59 334 P P 04 59 28.0 -0.1
comp=N,1.4nm,1.0s,baz=145,slow=5.4,SNR=7.7
G26A **Maurine** 84.60 340 ⇑P P 04 59 28.5 +0.6
baz=85
F28A **McLaughlin** 84.61 341 ⇓P P 04 59 28.4 +0.5
baz=85
H24A **Dirks Ranch, A** 84.68 338 ⇑P P 04 59 28.5 +0.1
baz=85
I21A **Big Trails, Te** 84.72 336 ⇓P P 04 59 28.5 -0.2
baz=85,SNR=5.2
G25A **Newell** 84.74 339 ⇓P P 04 59 29.1 +0.4
baz=85
J19A **Crowheart** 84.84 334 ⇓P P 04 59 29.6 +0.3
baz=85,SNR=5.2
F27A **Lemmon** 84.97 340 ⇓P P 04 59 30.2 +0.5
baz=85
ELK **Elko** 85.08 329 *e*P P 04 59 31.9 +1.3
comp=N,5.1nm,1.1s
H22A **Clearmont** 85.11 337 ⇑P P 04 59 31.3 +0.7
baz=86
I20A **Worland** 85.12 335 ⇓P P 04 59 30.7 +0.1
baz=86,SNR=6.8
F26A **Lodgepole** 85.13 340 ⇑P P 04 59 31.3 +0.8
baz=86
E28A **Huff** 85.25 341 ⇓P P 04 59 31.8 +0.7
baz=86
G23A **Biddle** 85.35 338 ⇓P P 04 59 32.1 +0.4
baz=86
H21A **Big Horn, Sher** 85.36 336 ⇑P P 04 59 32.2 +0.3
baz=86
F25A **Bowman** 85.42 339 ⇓P P 04 59 33.1 +1.0
baz=86
TORD **Torodi Ar. Bea** 85.43 71 P P 04 59 31.9 -0.8
comp=N,4.8nm,0.9s,baz=251,slow=4.2,SNR=24
I19A **Meeteetse** 85.50 335 ⇑P P 04 59 33.5 +0.8
baz=86
H20A **Greybull** 85.56 336 ⇑P P 04 59 32.7 0.0
baz=86,SNR=8.5
REDW **Red Top Meadow** 85.58 333 *e*P P 04 59 33.4 +0.3
comp=N,12nm,1.4s
F24A **Ekalaka** 85.64 339 ⇑P P 04 59 33.5 +0.4
baz=86
LOHW **Long Hollow** 85.70 334 *e*P P 04 59 34.4 +0.7
comp=N,10nm,1.4s
AGMN **Agassiz Nation** 85.72 345 ⇑P P 04 59 33.5 +0.1
baz=86
F23A **Volborg** 85.82 338 ⇑P P 04 59 34.0 0.0
baz=86
FXWY **Fox Creek** 85.88 333 *e*P P 04 59 34.4 -0.2
comp=N,3.7nm,1.4s
E25A **Miller Ranch,** 85.93 340 ⇑P P 04 59 34.9 +0.4
baz=86
G21A **Lodge Grass** 85.95 337 ⇑P P 04 59 35.0 +0.4
baz=86
I17A **Pilgrim Ck.** 85.96 334 ⇑P P 04 59 35.5 +0.6
baz=86
H19A **Powell** 86.05 335 ⇓P P 04 59 35.9 +0.7
baz=86
IMW **Indian Meadow** 86.07 334 *e*P P 04 59 36.4 +0.8
comp=N,7.7nm,1.3s
F22A **Rosebud** 86.14 337 ⇑P P 04 59 36.2 +0.7
baz=86
D26A **Manning** 86.14 340 ⇓P P 04 59 36.5 +1.0
baz=86
FLWY **Flagg Ranch** 86.14 334 *e*P P 04 59 36.3 +0.4
comp=N,11nm,1.2s
E24A **Baker** 86.25 339 ⇑P P 04 59 36.9 +0.8
baz=87
G20A **Bridger** 86.27 336 ⇑P P 04 59 36.0 -0.3
baz=87,SNR=7.1
H18A **Shoshone NF, C** 86.29 335 ⇑P P 04 59 36.9 +0.3
baz=87
B30A **Myrvik Farm, E** 86.41 343 ⇑P P 04 59 37.3 +0.5
baz=87
E23A **Ismay** 86.49 338 ⇑P P 04 59 37.8 +0.6
baz=87
D25A **Fairfield** 86.50 340 ⇑P P 04 59 38.2 +0.9
baz=87
C27A **Sayler Ranch,** 86.52 341 ⇑P P 04 59 38.7 +1.3
baz=87
B29A **Wagenman Farm,** 86.67 343 ⇓P P 04 59 39.4 +1.4
baz=87
YMR **Madison River** 86.75 334 *e*P P 04 59 39.6 +0.8
D24A **Glendive** 86.75 339 ⇓P P 04 59 39.6 +1.1
baz=87
C26A **Wahner Farm, P** 86.78 341 ⇓P P 04 59 39.4 +0.8
baz=87
B28A **Dugan Ranch, T** 86.91 342 ⇓P P 04 59 40.4 +1.2
baz=87
QLMT **Earthquake Lak** 87.05 334 *e*P P 04 59 41.3 +1.0
D23A **Lindsay** 87.06 339 ⇓P P 04 59 41.2 +1.1
baz=87
F19A **Roth Farm, Mol** 87.08 336 ⇓P P 04 59 40.8 +0.6
baz=88
HLID **Hailey** 87.10 331 ⇓P P 04 59 41.8 +1.3
baz=88
HLID **Hailey** 87.10 331 *e*P P 04 59 41.9 +1.4
comp=N,6.2nm,1.3s
C24A **Savage** 87.16 339 ⇓P P 04 59 41.9 +1.4
baz=88
A28A **Rude Farm, Bot** 87.31 342 ⇑P P 04 59 42.0 +0.8
baz=88
B26A **Jensen Ranch,** 87.32 341 ⇓P P 04 59 41.9 +0.7
baz=88
D22A **Cohagen** 87.34 338 ⇓P P 04 59 42.0 +0.7
baz=88
E20A **Meyer Farm, Mu** 87.38 337 ⇑P P 04 59 41.6 0.0
baz=88,SNR=6.9
B25A **Knox Farm, Ray** 87.48 340 ⇑P P 04 59 42.8 +0.8
baz=88
E19A **Rath Farm, Rou** 87.56 336 ⇑P P 04 59 42.5 0.0
baz=88,SNR=6.8
MCMT **McKenzie Canyo** 87.57 333 *e*P P 04 59 44.1 +1.3
comp=N,5.3nm,1.3s
ULM **Lac du Bonnet** 87.58 346 P P 04 59 41.7 -0.7
comp=N,5.0nm,0.7s,baz=194,slow=6.7,SNR=6.1
A27A **Ledoux Ranch,** 87.59 342 ⇓P P 04 59 43.2 +0.7
baz=88
C23A **Lambert** 87.62 339 ⇑P P 04 59 43.4 +0.7
baz=88
A26A **Wade Farm, Ken** 87.75 341 ⇑P P 04 59 43.9 +0.7
baz=88
D20A **Manuel Ranch,** 87.90 337 ⇑P P 04 59 44.1 0.0
baz=88,SNR=5.1
WVOR **Wild Horse Val** 87.91 328 *e*P P 04 59 45.3 +0.9
comp=N,15nm,1.6s
DLMT **Dillon** 87.93 333 *e*P P 04 59 45.3 +0.9
comp=N,9.5nm,1.4s
DGMT **Dagmar** 87.94 340 ⇓P P 04 59 45.0 +0.8
baz=88
A25A **Svangstu Ranch** 88.07 341 ⇓P P 04 59 45.6 +0.8
baz=88
B23A **Brockton** 88.17 339 ⇑P P 04 59 46.1 +0.8
baz=88
D19A **Cripps Ranch,** 88.20 336 ⇑P P 04 59 46.3 +0.7
baz=89
MOD **Modoc Plateau** 88.22 327 *e*P P 04 59 46.2 +0.3
comp=N,12nm,1.1s
A24A **Westby** 88.30 340 ⇑P P 04 59 46.7 +0.8
baz=89
B22A **Reddig Ranch S** 88.31 339 ⇓P P 04 59 46.7 +0.7
baz=89
C20A **Veseth Ranch,** 88.41 337 ⇑P P 04 59 46.8 +0.4
baz=89
M04C **Macdoel** 88.82 326 ⇓P P 04 59 49.3 +0.7
baz=89
K05A **Summer Lake** 89.14 327 *e*P P 04 59 51.2 +1.0
comp=N,16nm,1.1s
A20A **Cobblestone Ra** 89.41 338 ⇑P P 04 59 51.7 +0.5
baz=90
A19A **Klindworth Far** 89.71 337 ⇓P P 04 59 53.2 +0.6
baz=90
J05D **Fort Rock, OR** 89.74 327 ⇑P P 04 59 54.7 +1.8
baz=90
SCHQ **Schefferville** 89.96 4 P P 04 59 52.7 -0.8
comp=N,5.1nm,1.1s,baz=123,slow=7.1,SNR=3.6
J04D **Umpqua Nationa** 90.09 326 ⇑P P 04 59 56.4 +1.7
baz=90
G08A **Pilot Rock** 90.36 330 *e*P P 04 59 57.1 +1.3
comp=N,8.0nm,1.4s
WALA **Waterton Lakes** 91.55 334 *e*P P 05 00 01.8 +0.6
FCC **Fort Churchill** 95.38 349 *e*P P 05 00 18.5 +0.1
YKA **Yellowknife Ar** 103.06 342 Pdiff Pdif 05 00 52.2 -0.5
comp=N,0.5nm,0.8s,baz=138,slow=4.1,SNR=7.3
ILAR **Eielson Array** 115.01 333 PKP PKPdf 05 05 35.1 +0.3
comp=N,0.4nm,0.8s,baz=130,slow=1.4,SNR=3.9
ASAR **Alice Springs** 116.01 208 PKP PKPdf 05 05 37.9 -0.3
comp=N,0.6nm,0.8s,baz=100,slow=2.8,SNR=4.2
WRA **Warramunga Arr** 119.20 210 PKP PKPdf 05 05 43.8 -0.5
comp=N,1.3nm,0.8s,baz=170,slow=1.4,SNR=11
BRTR **Keskin Array B** 123.19 62 PKP PKPdf 05 05 50.8 -0.6
comp=N,1.1nm,0.9s,baz=169,slow=1.3,SNR=5.7
KIEV **Kiev** 123.68 48 *e*PKPdf PKPdf 05 05 51.3 -0.5
AKASG **Malin Array Be** 123.69 48 PKP PKPdf 05 05 51.0 -0.8
comp=N,0.4nm,0.3s,baz=264,slow=2.4,SNR=10.0
ARCES **ARCESS Array B** 125.57 25 PKP PKPdf 05 05 55.1 +0.2
comp=N,3.8nm,1.1s,baz=211,slow=1.6,SNR=4.4
ABKAR **Akbulak array** 143.14 53 *e*PKPdf PKPbc 05 06 24.8 -0.5
BVAR **Borovoye Array** 148.81 44 PKP PKPdf 05 06 38.7 +1.0
comp=N,5.4nm,0.7s,baz=260,slow=4.4,SNR=10
BVAR PKPbc **PKiKP** 05 06 42.6 -0.5
comp=N,5.4nm,0.7s,baz=303,slow=3.4,SNR=24
YAK **Yakutsk** 149.69 339 PKPbc PKPbc 05 06 43.2 -0.4
comp=N,24nm,0.4s,baz=359,slow=1.0,SNR=5.3
YAK PKPab PKPab 05 06 48.9 0.0
comp=N,14nm,0.3s,baz=347,slow=1.2,SNR=5.1
KKAR **Karatay Array** 150.89 63 *e*PKPdf PKPdf 05 06 41.9 +0.5
KKAR *e*PKPbc PKPbc 05 06 47.1 0.0
EKS2 **Erkin-Say** 153.31 64 *e*PKPbc PKPbc 05 06 53.7 +1.0
AAK **Ala-Archa** 153.84 64 PKPbc PKPbc 05 06 54.8 +0.9
comp=N,4.3nm,0.9s,baz=210,slow=1.7,SNR=9.3
AAK PKPab PKPab 05 07 07.5 +0.4
comp=N,1.3nm,0.5s,baz=243,slow=6.8,SNR=4.6
AAK **Ala-Archa** 153.84 64 *e*PKPdf PKPdf 05 06 46.8 +0.8
AAK PKPbc PKPbc 05 06 54.8 +0.9
AAK *e*PKPbc PKPbc 05 06 55.0 +1.0
AAK PKPab PKPab 05 07 07.5 +0.4
KURBB **Kurchatov Arra** 154.40 45 PKPbc PKPbc 05 06 54.9 +0.3
comp=N,5.3nm,0.8s,baz=287,slow=2.7,SNR=4.8
KURBB PKPab PKPab 05 07 08.3 -0.7
comp=N,1.1nm,0.6s,baz=285,slow=3.1,SNR=7.9
KURK **Kurchatov** 154.41 44 *e*PKPdf PKPdf 05 06 46.6 +0.4
KURK *e*PKPbc PKPbc 05 06 54.8 +0.1
KURK PKPbc PKiKP 05 06 54.9 +0.2
KURK PKPab PKPab 05 07 08.3 -0.7
TKM2 **Tokmak 2** 154.62 63 *e*PKPdf PKPdf 05 06 47.3 +0.2
TKM2 *e*PKPdf PKiKP 05 06 56.1 +0.4
TKM2 *e*PKPab PKPab 05 07 10.3 -0.2
KSH **Kashi** 155.10 71 *e*PKPbc PKPdf 05 06 45.8 -2.0
KSH pPKP pPKPdf 05 06 56.8 -1.2
KSH PKS PKSdf 05 10 18.9 -3.1
KSH PP PP 05 10 43.1 -6.2
KSH SKS SKSdf 05 13 48.1 -4.1
KSH SKKS SKKSac 05 17 27.1 -9.4
KSH PPMZ
comp=N,48nm,3.3s
KSH LN
comp=N,85nm,6.7s
KSH LE
comp=N,75nm,5.7s
KSH LZ
comp=N,140nm,5.2s
ZALV **Zalesovo Beam** 155.79 33 PKP PKPdf 05 06 47.8 -0.2
comp=N,3.6nm,1.0s,baz=282,slow=2.9,SNR=13
ZALV PKPbc PKPbc 05 06 57.9
comp=N,4.4nm,0.7s,baz=298,slow=3.2,SNR=12
ZALV PKPab PKPab 05 07 15.4 +0.6
comp=N,11nm,0.9s,baz=298,slow=5.8,SNR=14
MKAR **Makanchi Array** 158.25 51 PKP PKPdf 05 06 51.7 +0.1
comp=N,1.1nm,0.9s,baz=298,slow=2.6,SNR=9.1
MKAR PKPab PKPab 05 07 25.5 -0.2
comp=N,1.7nm,0.9s,baz=274,slow=3.9,SNR=8.1
MKAR PP PP 05 11 09.2 +3.1
comp=N,0.2nm,0.5s,baz=299,slow=3.7,SNR=4.6
DANN **Dangsing** 159.12 103 *e*P PKPab 05 07 30.0 -0.4
GKN **Gorkha** 159.66 105 *e*P PKPab 05 07 31.9 -0.7
PKIN **Phulchoki** 160.06 107 *e*P PKPab 05 07 34.4 -0.1
PKI **Pulchoki** 160.07 107 *e*P PKPab 05 07 34.4 -0.2
KKN **Kakani** 160.07 106 *e*P PKPab 05 07 34.6 +0.1
GUN **Gumba** 160.60 107 *e*P PKPab 05 07 36.9 0.0
RAMN **Ramite** 160.69 110 *e*P PKPab 05 07 37.4 +0.2
JIRN **Jiri** 160.72 108 *e*P PKPab 05 07 37.5 0.0
ODAN **Odare** 161.25 111 *e*P PKPab 05 07 39.0 -0.6
CMAR **Chiang Mai Arr** 161.75 155 PKP PKPdf 05 06 56.8 +0.6
comp=N,0.9nm,0.7s,baz=243,slow=2.4,SNR=6.8
CMAR PKPab PKPab 05 07 41.6 +0.2
comp=N,0.3nm,0.5s,baz=232,slow=4.4,SNR=5.0
WMQ **Urumqi** 162.92 54 *e*PKP PKPdf 05 06 58.5 +1.7
WMQ pPKP pPKPdf 05 07 13.0 +6.0
SONM **Songino Array** 167.50 2 PKP PKPdf 05 07 00.5 -0.1
comp=N,0.5nm,0.9s,baz=126,slow=2.6,SNR=4.3
SONM PKPab PKPab 05 08 07.1 +0.9
comp=N,2.0nm,0.9s,baz=329,slow=4.2,SNR=12
HHC **Hu-ho-hao-te** 173.41 328 *e*PKP PKPdf 05 07 04.1 +0.1
HHC pPKP pPKPdf 05 07 11.6 -2.6
HHC sPKP 05 07 16.3
HHC PKS PKSdf 05 10 34.3 -2.0
HHC PP PP 05 12 25.3 +1.1
HHC SS SS 05 33 39.1 +1.5
HHC PPMZ
comp=N,86nm,9.6s
HHC LN
comp=N,160nm,22.2s
HHC LE
comp=N,220nm,22.1s
HHC LZ
comp=N,88nm,22.6s
CD2 **Chengdu** 174.83 148 PKP PKPdf 05 07 04.0 -0.7
CD2 pPKP pPKPdf 05 07 16.0 +1.0
CD2 sPKP 05 07 19.8
CD2 PKS PKSdf 05 10 35.5 -1.5
CD2 PP PP 05 12 34.6 +3.6
CD2 SKS SKSdf 05 14 02.3 -3.4
CD2 SKKS SKKSac 05 19 15.1 -0.6
CD2 PPMZ
comp=N,120nm,6.2s
LZH **Lanzhou** 177.35 73 *e*PKP PKPdf 05 07 05.6 +0.3
LZH pPKP pPKPdf 05 07 16.6 +1.1
LZH sPKP 05 07 20.1

ISCJB ***14*** *04:49:32.3±0.3, 18°.36N±0°.04×72°.90W±0°.02, h6km, mb3.9/18, Error ellipse: s-maj=5.4km s-min=2.9km az=171.4*
IDC ***14*** *04:49:33.1±0.7, 18°.39N×72°.90W, h0km, mb3.9/13, mb1 4.1/16, mb1mx3.9/36, mbtmp4.0/16, ML3.5/3, Error ellipse: s-maj=23.0km s-min=14.2km az=47.0*
JSN ***14*** *04:49:33.2±1.7, 19°.50N×72°.90W, h12km±999km, MD5.0*
NEIC ***14*** *04:49:34.3±0.3, 18°.40N×72°.90W, h10km, mb4.1/5, Error ellipse: s-maj=6.5km s-min=4.4km az=191.0*
NEIC Felt at Grand Goave.

ISC 14 04:49:33.7±0.4, 18°.40N±0°.05×72°.87W±0°.03, h6km, n51, σ1s58/63, mb3.9/18, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGNH	**LØogne**	**0.27**	**67**	*e*Pg	**Pg**	**04 49 39.3**	**+0.3**
JAKH	**Jacmel**	**0.37**	**116**	*e*Pn	**Pg**	**04 49 40.5**	**-0.4**
PAPH	**Port-au-Prince**	**0.55**	**77**	*e*Pg	**Pg**	**04 49 44.7**	**+0.3**
PAPH				*e*Sg	**Sb**	**04 49 54.4**	**+0.4**
SDDR	**Presa de Saban**	**1.60**	**69**	*e*Pn	**Pn**	**04 50 02.3**	**-0.3**
SDDR				*e*S	**Sg**	**04 50 26.5**	**+1.2**
CMJ	**Castle Mountai**	**3.34**	**266**	*i* P	**Pn**	**04 50 27.2**	**+0.7**
SMN1	**Samana, DR**	**3.49**	**77**	*e*Pn	**Pn**	**04 50 29.8**	**+1.1**
SMN1				*e*S	**Sb**	**04 51 18.1**	**-0.7**
GRTK	**Grand Turk**	**3.50**	**28**	*e*Pn	**Pn**	**04 50 29.0**	**+0.4**
GRTK				*e*S	**Sn**	**04 51 11.4**	**+1.1**
GWJ	**Greenwich**	**3.68**	**266**	*i* P	**Pn**	**04 50 31.7**	**+0.3**
GWJ				*i* S	**Sn**	**04 51 15.3**	**+0.1**
HOJ	**Hope**	**3.71**	**264**	*i* P	**Pn**	**04 50 32.3**	**+0.7**
HOJ				*i* S	**Sn**	**04 51 18.1**	**+2.5**
STH	**Stony Hill**	**3.76**	**266**	*i* P	**Pn**	**04 50 32.3**	**0.0**
STH				*i* S	**Sn**	**04 51 16.9**	**0.0**
BBJ	**Bamboo Saint A**	**4.18**	**270**	*i* P	**Pn**	**04 50 37.2**	**-0.9**
CVJ	**Coleyville**	**4.44**	**268**	*i* P	**Pn**	**04 50 40.7**	**-0.9**
MTDJ	**Mount Denham**	**4.44**	**268**	*e*Pn	**Pn**	**04 50 41.4**	**-0.2**
MTDJ				*e*S	**Sn**	**04 51 38.8**	**+5.1**
MCJ	**Malvern**	**4.61**	**265**	*i* P	**Pn**	**04 50 45.6**	**+1.6**
AGPR	**Aguadilla, PR**	**5.46**	**88**	*e*Pn	**Pn**	**04 50 55.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**5.49**	**93**	*e*Pn	**Pn**	**04 50 56.1**	**+0.1**
CRPR				*e*S	**Sg**	**04 52 27.8**	**-2.2**
LSP	**Las Mesas**	**5.50**	**91**	*e*Pn	**Pn**	**04 50 56.7**	**+0.5**
LRS	**Lares**	**5.72**	**90**	Pn	**Pn**	**04 51 00.8**	**+1.5**
LRS				*e*S	Sn	04 52 12.5	+7.2
AOPR	**Arecibo Observ**	**5.81**	**90**	*e*Pn	**Pn**	**04 51 02.2**	**+1.8**
CELP	**Cerrillos**	**5.99**	**92**	*e*Pn	**Pn**	**04 51 01.9**	**-1.0**
CELP				*e*S	**Sn**	**04 52 13.9**	**+2.1**
SJG	**San Juan**	**6.39**	**92**	Pn	**Pn**	**04 51 10.6**	**+2.2**
	0.0nm,0.3s,baz=271,slow=15,SNR=3.4						
SJG				Sn	**Sn**	**04 52 25.2**	**+3.4**
	baz=270,slow=20,SNR=3.1						
SJG	**San Juan**	**6.39**	**92**	*e*Pn	**Pn**	**04 51 11.2**	**+2.8**
SJG				*e*S	Sb	04 52 32.5	-10
SDV	**Santo Domingo**	**9.71**	**167**	*e*Pn	**Pn**	**04 51 53.5**	**-0.7**
SDV				*e*S	**Sn**	**04 53 40.2**	**-3.5**
BCIP	**Isla Barro Col**	**11.40**	**217**	*e*Pn	**Pn**	**04 52 16.8**	**-0.4**
PCRV	**Puerto La Cruz**	**11.42**	**135**	Pn	**Pn**	**04 52 19.0**	**+1.5**
	3.1nm,0.3s,baz=302,slow=5.0,SNR=16						
PCRV				Sn	Sn	04 54 16.4	-9.2
	0.5nm,0.3s,baz=349,slow=19,SNR=2.7						
ROSC	**El Rosal**	**13.54**	**186**	Pn	**Pn**	**04 52 48.0**	**+1.2**
	0.7nm,0.3s,baz=6.6,slow=5.8,SNR=4.4						
ROSC				Sn	**Sn**	**04 55 18.3**	**+0.4**
	baz=301,slow=19,SNR=2.2						
TEIG	**Tepich**	**14.66**	**280**	*e*Pn	**Pn**	**04 52 59.7**	**-2.1**
CBN	**Corbin Frederi**	**20.12**	**350**	*e*P	**P**	**04 54 07.2**	**-1.1**
	16nm,0.5s						
TXAR	**Lajitas Array**	**30.11**	**297**	P	**P**	**04 55 44.9**	**+0.5**
	0.4nm,0.9s,baz=116,slow=8.5,SNR=4.3						
SIV	**San Ignacio**	**36.10**	**161**	P	**P**	**04 56 37.1**	**+0.5**
	1.4nm,0.8s,baz=340,slow=2.9,SNR=2.9						
SCHQ	**Schefferville**	**36.66**	**6**	P	**P**	**04 56 43.1**	**+2.1**
	1.3nm,0.8s,baz=216,slow=12,SNR=3.9						
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**	**04 57 04.3**	**-0.1**
	0.5nm,0.6s,baz=114,slow=8.4,SNR=5.9						
LOHW	**Long Hollow**	**40.44**	**317**	*e*P	**P**	**04 57 12.2**	**-1.0**
	4.3nm,0.9s						
REDW	**Red Top Meadow**	**40.49**	**316**	*e*P	**P**	**04 57 12.8**	**-0.9**
	3.6nm,0.8s						
FXWY	**Fox Creek**	**40.73**	**317**	*e*P	**P**	**04 57 14.4**	**-1.2**
	2.6nm,0.9s						
BDFB	**Brasilia**	**41.76**	**143**	P	**P**	**04 57 24.0**	**-0.2**

3.6nm,0.7s,baz=343,slow=11,SNR=4.8
MCMT McKenzie Canyo 42.42 317 *e*P **P** **04 57 30.7 +1.2**
0.8nm,0.8s
NVAR Mina Array Bea 44.15 307 P **P** **04 57 44.9 +1.4**
0.6nm,0.8s,baz=95,slow=8.1,SNR=5.0
YKA Yellowknife Ar 52.64 337 P **P** **04 58 48.0 -0.3**
1.1nm,0.7s,baz=125,slow=7.4,SNR=28
YKA Yellowknife Ar 52.64 337 P **P** **04 58 48.0 -0.3**
DLBC Dease Lake 57.47 328 P **P** **04 59 24.0 +0.5**
3.5nm,0.9s,baz=123,slow=5.2,SNR=5.8
SUMG Summit 57.64 12 *e*P **P** **04 59 24.5 -0.3**
117nm,2.8s
ILAR Eielson Array 66.70 333 P **P** **05 00 24.6 -0.6**
0.5nm,0.8s,baz=175,slow=5.3,SNR=5.0
TORD Torodi Ar. Bea 71.51 82 P **P** **05 00 55.9 -0.1**
1.0nm,0.7s,baz=284,slow=4.2,SNR=2.8
GERES GERESS Array B 74.15 43 P **P** **05 01 11.8 +0.6**
1.6nm,0.7s,baz=262,slow=3.6,SNR=8.1
FINES FINESS Array B 78.22 29 P **P** **05 01 34.6 +0.7**
1.2nm,0.8s,baz=305,slow=4.9,SNR=3.8
BRTR Keskin Array B 90.48 48 P **P** **05 02 36.9 +0.1**
0.4nm,0.7s,baz=290,slow=6.0,SNR=4.2
HHC Hu-ho-hao-te 120.91 356 *e*PKP **PKPdf** **05 08 24.6 -2.9**
HHC PP **PP** **05 09 50.3 -4.5**
HHC Hu-ho-hao-te 120.91 356 SS SS 05 26 19.8 -6.2
HHC AMB AMB
comp=Z,80nm,10.0s
LZH Lanzhou 125.72 3 *e*PKP PKPdf 05 08 28.3 -8.7
LZH sPKP 05 08 32.3
CD2 Chengdu 130.87 4 PKP **PKPdf** **05 08 45.3 -1.5**

IDC ***14*** *05:03:32.0±1.1, 10.43S×161.23E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.9/21, mbtmp3.8/11, ML3.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/29, Error ellipse: s-maj=35.7km s-min=22.2km az=128.0*

ISCJB ***14*** *05:03:38.0±0.7, 10.66S±0.09×161.2E±0.1, h61km, mb3.7/10, Error ellipse: s-maj=18.2km s-min=10.0km az=143.8*

ISC 14 05:03:39.6±0.8, 10.6S±0.1×161.2E±0.1, h61km, n13, σ1.9 40/12, mb3.7/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HNR	**Honiara**	**1.72**	**312**	LR		LR	05 04 54.2	
	comp=Z,308nm,21.9s,baz=192,slow=51							
HNR	**Honiara**	**1.72**	**312**	*e*P		Pn	05 04 05.0	-2.3
HNR				e*S*		**Sn**	**05 04 26.0**	**-2.2**
DZM	**Mont Dzumac**	**12.46**	**157**	Pn		**Pn**	**05 06 32.5**	**-1.8**
	0.1nm,0.3s,baz=348,slow=17,SNR=4.0							
DZM				Sn		Sn	05 08 38.5	-13
	0.1nm,0.3s,baz=143,slow=20,SNR=2.0							
WRA	**Warramunga Arr**	**27.52**	**247**	P		**P**	**05 09 20.4**	**-0.5**
	1.7nm,0.8s,baz=74,slow=10,SNR=10							
STKA	**Stephens Creek**	**27.90**	**218**	P		**P**	**05 09 26.6**	**+2.6**
	2.0nm,0.8s,baz=36,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**29.10**	**240**	P		**P**	**05 09 34.3**	**-0.6**
	0.7nm,0.9s,baz=77,slow=9.6,SNR=6.0							
ASAR				LR		LR	05 20 21.4	
	comp=Z,132nm,20.8s,baz=56,slow=35							
CMAR	**Chiang Mai Arr**	**67.89**	**295**	P		**P**	**05 14 33.3**	**+1.1**
	0.3nm,0.3s,baz=127,slow=4.6,SNR=4.2							
SONM	**Songino Array**	**75.73**	**325**	P		**P**	**05 15 19.4**	**+0.6**
	1.2nm,0.9s,baz=119,slow=5.6,SNR=2.4							
ILAR	**Eielson Array**	**84.54**	**20**	P		**P**	**05 16 06.5**	**+0.7**
	0.2nm,0.4s,baz=243,slow=7.0,SNR=4.2							
NVAR	**Mina Array Bea**	**89.15**	**51**	P		**P**	**05 16 29.0**	**0.0**
	0.3nm,0.7s,baz=246,slow=4.5,SNR=2.7							
MKAR	**Makanchi Array**	**90.18**	**318**	P		**P**	**05 16 33.5**	**0.0**
	0.4nm,0.5s,baz=96,slow=5.7,SNR=7.6							
KURBB	**Kurchatov Arra**	**93.51**	**321**	P		**P**	**05 16 48.3**	**-0.4**
	0.2nm,0.3s,baz=101,slow=4.8,SNR=3.9							
YKA	**Yellowknife Ar**	**96.62**	**28**	P		**P**	**05 17 02.4**	**-0.3**
	0.1nm,0.8s,baz=256,slow=4.4,SNR=2.4							

ISCJB ***14*** *05:05:52.6±2.4, 36.4S±0.4×99.9W±0.3, h10km, mb3.8/8, MS3.6/2, Error ellipse: s-maj=68.4km s-min=19.9km az=32.6*

IDC ***14*** *05:05:52.7±1.4, 36.38S×99.89W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.1/17, mbtmp4.0/7, MS3.6/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=39.7km s-min=23.6km az=22.0*

ISC 14 05:05:54.1±1.5, 36.4S±0.3×99.9W±0.2, h10km, n11, σ0.9 91/9, mb4.0/8, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PLCA	**Paso Flores**	**23.29**	**110**	P		**P**	**05 11 01.9**	**-0.1**
	0.8nm,0.6s,baz=285,slow=9.4,SNR=3.0							
CFAA	**Coronel Fontan**	**26.60**	**89**	P		**P**	**05 11 32.6**	**0.0**
	0.1nm,0.5s,baz=253,slow=11,SNR=3.7							
NNA	**Nana**	**31.97**	**46**	LR		LR	05 20 25.1	
	comp=Z,56nm,21.0s,baz=136,slow=27							
LPAZ	**La Paz**	**34.57**	**63**	P		**P**	**05 12 45.1**	**+1.3**
	6.8nm,1.0s,baz=234,slow=8.7,SNR=16							
SIV	**San Ignacio**	**39.97**	**70**	P		**P**	**05 13 28.5**	**-0.4**
	2.1nm,0.6s,baz=247,slow=8.7,SNR=5.9							
TXAR	**Lajitas Array**	**65.49**	**356**	P		**P**	**05 16 37.6**	**+0.1**
	0.9nm,0.9s,baz=178,slow=8.7,SNR=8.9							
MAW	**Mawson**	**75.49**	**173**	LR		LR	05 48 05.0	
	comp=Z,59nm,19.2s,baz=243,slow=34							
NVAR	**Mina Array Bea**	**76.39**	**345**	P		**P**	**05 17 44.6**	**+1.0**
	1.4nm,0.8s,baz=171,slow=8.4,SNR=8.7							
PDAR	**Pinedale Array**	**79.29**	**353**	P		**P**	**05 17 59.5**	**-0.2**
	1.3nm,0.9s,baz=170,slow=6.0,SNR=9.2							
SADO	**Sadowa**	**82.96**	**15**	P		**P**	**05 18 17.5**	**-1.4**
	2.2nm,0.6s,baz=188,slow=7.1,SNR=4.8							
CMAR	**Chiang Mai Arr**	**155.60**	**228**	PKPab		**PKPab**	**05 26 14.8**	**+0.3**
	0.4nm,0.3s,baz=156,slow=2.7,SNR=5.5							

MOS ***14*** *05:16:11.5±0.9, 18.25N×101.43W, h33km, mb5.5/66, MS4.4/18, Error ellipse: s-maj=7.4km s-min=4.3km az=82.4*

ISCJB ***14*** *05:16:12.7±0.2, 18.15N±0.02×101.57W±0.02, h50km, mb5.2/219, MS4.3/82, Error ellipse: s-maj=3.0km s-min=1.8km az=41.8*

IDC ***14*** *05:16:13.2±0.5, 18.19N×101.40W, h40km±2km, mb4.7/25, mb1 4.8/26, mb1mx4.7/29, mbtmp4.9/26, ML4.5/1, MS4.1/21, Ms1 4.1/21, ms1mx4.0/26, Error ellipse: s-maj=15.8km s-min=7.9km az=56.0*

MEX ***14*** *05:16:14.4±0.5, 17.97N×101.74W, h43km±6km, MD4.9*

NEIC ***14*** *05:16:14.4, 17.97N×101.74W, h43km, mb5.2/178, MS4.4/63, MD4.9(MEX), After MEX.*

NEIC Felt [IV] at Ixtapa and Zihuatanejo and [II] at Lazaro Cardenas, Metepec, Mexico and Patzcuaro. Also felt at Acambaro, Atizapan, Huetamo, Huixquilucan, Ixtapan, Juxtlahuaca, Leon, Morelia, Nezahualcoyotl, Puebla, Queretaro, San Jose Ixtapa, Tlalnepantla, Toluca and Uruapan.

BJI ***14*** *05:16:14.5, 18.20N×101.40W, h71km, mB5.1/9, Ms5.2/4, Ms7 4.9/4*

ISC 14 05:16:12.7±0.3, 17.99N±0.03×101.71W±0.03, h48km±1km, h48km:pP-P, n1065, σ1.9 60/1172, mb5.2/222, MS4.3/84, 235C-230D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ZIIG	**Zihuatanejo**	**0.45**	**148**	*i* P		**Pn**	**05 16 22.7**	**-0.5**
ZIIG				*i* S		**Sn**	**05 16 30.1**	**-0.6**
ZIIG	**Zihuatanejo**	**0.45**	**148**	*i* P		**Pn**	**05 16 22.7**	**-0.5**
ZIIG				*i* S		**Sn**	**05 16 30.1**	**-0.6**
ARIG	**Puente Sto Nin**	**1.33**	**77**	*e*P		**Pn**	**05 16 35.0**	**+0.1**
ARIG				*i* S		**Sn**	**05 16 51.2**	**-0.3**
URUA	**Uruapan**	**1.46**	**347**	*e*P		**Pn**	**05 16 37.5**	**+0.6**
URUA				*i* S		**Sn**	**05 16 55.4**	**+0.4**
MMIG	**Aquila**	**1.58**	**281**	*i* P		**Pn**	**05 16 38.0**	**-0.3**
MMIG				*i* S		**Sn**	**05 16 57.3**	**-0.3**
MMIG	**Aquila**	**1.58**	**281**	*i* P		**Pn**	**05 16 38.0**	**-0.3**
MMIG				*i* S		**Sn**	**05 16 57.3**	**-0.3**
CAIG	**El Cayaco**	**1.67**	**124**	*e*P		**Pn**	**05 16 39.2**	**-0.2**
CAIG				*i* S		**Sn**	**05 16 59.5**	**-0.2**
CAIG	**El Cayaco**	**1.67**	**124**	*e*P		**Pn**	**05 16 39.2**	**-0.2**
CAIG				*i* S		**Sn**	**05 16 59.5**	**-0.2**
MOIG	**Morelia**	**1.75**	**16**	*e*P		**Pn**	**05 16 41.3**	**+0.4**
MOIG				*i* S		**Sn**	**05 17 01.6**	**-0.5**
MOIG	**Morelia**	**1.75**	**16**	*e*P		**Pn**	**05 16 41.3**	**+0.4**
MOIG				*i* S		**Sn**	**05 17 01.6**	**-0.5**
MEIG	**Mezcala**	**1.99**	**92**	*e*P		**Pn**	**05 16 44.7**	**+0.7**
MEIG				e*S*		**Sn**	**05 17 08.5**	**+0.6**
MEIG	**Mezcala**	**1.99**	**92**	*e*P		**Pn**	**05 16 44.7**	**+0.7**
MEIG				e*S*		**Sn**	**05 17 08.5**	**+0.6**
ACP2	**Acapulco**	**2.07**	**122**	*e*P		**Pn**	**05 16 45.1**	**+0.1**
ACP2				*i* S		**Sn**	**05 17 10.2**	**+0.6**
PLIG	**Platanillo**	**2.14**	**79**	*e*P		**Pn**	**05 16 46.5**	**+0.5**
PLIG				*i* S		**Sn**	**05 17 11.9**	**+0.4**
PLIG	**Platanillo**	**2.14**	**79**	*e*P		**Pn**	**05 16 46.5**	**+0.5**
PLIG				*i* S		**Sn**	**05 17 11.9**	**+0.4**
MAVM	**Malinalco, Edo**	**2.31**	**65**	*e*P		**Pn**	**05 16 49.2**	**+0.6**
MAVM				*i* S		**Sn**	**05 17 17.2**	**+1.3**
EZ5V		**2.32**	**310**	*e*P		**Pn**	**05 16 49.4**	**+0.7**
EZ5V				*i* S		**Sn**	**05 17 16.3**	**+0.1**
R15V		**2.45**	**299**	*e*P		**Pn**	**05 16 50.8**	**+0.5**
R15V				*i* S		**Sn**	**05 17 18.3**	**-0.7**
YAIG	**Yautepec**	**2.66**	**71**	*e*P		**Pn**	**05 16 53.7**	**+0.5**
YAIG				*i* S		**Sn**	**05 17 25.3**	**+1.0**
YAIG	**Yautepec**	**2.66**	**71**	*e*P		**Pn**	**05 16 53.7**	**+0.5**
YAIG				*i* S		**Sn**	**05 17 25.3**	**+1.0**
UNM	**Universidad Na**	**2.75**	**61**	*e*P		**Pn**	**05 16 55.4**	**+0.9**
UNM				e*S*		**Sn**	**05 17 27.4**	**+0.7**
UNM	**Universidad Na**	**2.75**	**61**	*e*P		**Pn**	**05 16 55.4**	**+0.9**
UNM				e*S*		**Sn**	**05 17 27.4**	**+0.7**
UNM	**Universidad Na**	**2.75**	**61**	*e*P		**Pn**	**05 16 55.4**	**+0.9**
UNM				e*S*		**Sn**	**05 17 27.4**	**+0.7**
IGIG	**Irapuato, Guan**	**2.77**	**7**	*i* P		**Pn**	**05 16 54.6**	**-0.2**
IGIG				*i* S		**Sn**	**05 17 26.9**	**-0.3**
TLIG	**Tlapa**	**3.03**	**98**	*i* P		**Pn**	**05 16 59.6**	**+1.3**
TLIG				*i* S		**Sn**	**05 17 34.5**	**+1.1**
PNIG	**Pinotepa**	**3.78**	**114**	*e*P		**Pn**	**05 17 09.3**	**+0.8**
PNIG				*i* S		**Sn**	**05 17 52.4**	**+0.6**
PNIG	**Pinotepa**	**3.78**	**114**	*e*P		**Pn**	**05 17 09.3**	**+0.8**
PNIG				*i* S		**Sn**	**05 17 52.4**	**+0.6**
TPIG	**Tehuac#an**	**4.16**	**83**	*e*P		**Pn**	**05 17 15.2**	**+1.4**
TPIG				*i* S		**Sn**	**05 18 02.2**	**+0.9**
TPIG	**Tehuac#an**	**4.16**	**83**	*e*P		**Pn**	**05 17 15.2**	**+1.4**
TPIG				*i* S		**Sn**	**05 18 02.2**	**+0.9**
VHO	**Vista Hermosa**	**4.84**	**100**	*e*P		**Pn**	**05 17 25.1**	**+1.9**
VHO				e*S*		**Sn**	**05 18 19.6**	**+1.5**
VHO	**Vista Hermosa**	**4.84**	**100**	*e*P		**Pn**	**05 17 25.1**	**+1.9**
VHO				e*S*		**Sn**	**05 18 19.6**	**+1.5**
HUIG	**Huatulco**	**5.80**	**112**	*e*P		**Pn**	**05 17 38.3**	**+2.0**
HUIG				*i* S		**Sn**	**05 18 43.1**	**+1.6**
HUIG	**Huatulco**	**5.80**	**112**	*e*P		**Pn**	**05 17 38.3**	**+2.0**
HUIG				*i* S		**Sn**	**05 18 43.1**	**+1.6**
035Z	**Hargill**	**9.08**	**21**	⇓P		**Pn**	**05 18 21.3**	**+0.1**
	baz=9.1							
034A	**Hebbronville**	**9.46**	**17**	⇑P		**Pn**	**05 18 26.8**	**+0.5**
	baz=9.5							
035A	**Encino**	**9.51**	**20**	⇓P		**Pn**	**05 18 27.3**	**+0.3**
	baz=9.6							
933A	**Laredo**	**9.84**	**13**	⇓P		**Pn**	**05 18 31.5**	**-0.1**
	baz=9.9,SNR=11							
934A	**Benavides**	**10.01**	**17**	⇑P		**Pn**	**05 18 33.5**	**-0.3**
	baz=10							
LPIG	**La Paz**	**10.07**	**309**	P		Pn	05 18 43.6	+8.9
	0.4nm,0.3s,baz=322,slow=1.9,SNR=4.7							
834A	**Tilden**	**10.50**	**16**	⇑P		**Pn**	**05 18 40.3**	**-0.2**
	baz=11							
833A	**Chaparral WMA,**	**10.50**	**11**	⇓P		**Pn**	**05 18 41.3**	**+0.7**
	baz=11,SNR=16							
732A	**Laxson Ranch,**	**10.81**	**8**	⇓P		**Pn**	**05 18 46.2**	**+1.4**
	baz=11,SNR=14							
835A	**Beeville**	**10.85**	**18**	⇑P		**Pn**	**05 18 45.9**	**+0.5**
	baz=11							
733A	**Divot King Ran**	**10.91**	**11**	⇓P		**Pn**	**05 18 46.6**	**+0.4**
	baz=11							
734A	**La Parita Cree**	**11.19**	**14**	⇓P		**Pn**	**05 18 50.4**	**+0.5**
	baz=11,SNR=8.8							
APG	**El Apazote**	**11.19**	**104**	P		Pn	05 18 46.1	-4.2
	3.4nm,0.3s,baz=316,slow=18,SNR=25							
APG				S		**Sn**	**05 20 51.1**	**-3.0**
	0.3nm,0.3s,baz=202,slow=19,SNR=1.9							
APG				LR		LR	05 23 07.5	
	comp=Z,1μm,21.0s,baz=288,slow=38							
735A	**Kenedy**	**11.39**	**18**	⇓P		**Pn**	**05 18 53.1**	**+0.4**
	baz=12,SNR=6.4							
631A	**Perdido Creek**	**11.42**	**5**	⇓P		**Pn**	**05 18 54.9**	**+1.8**
	baz=12,SNR=14							
TXAR	**Lajitas Array**	**11.43**	**351**	P		Pn	05 18 56.5	+3.1
	0.2nm,0.3s,baz=163,slow=16,SNR=69							
632A	**Uvalde**	**11.60**	**8**	⇓P		**Pn**	**05 18 57.3**	**+1.6**
	baz=12,SNR=30							
634A	**China Grove, S**	**11.75**	**15**	⇓P		**Pn**	**05 18 58.3**	**+0.7**
	baz=12							
635A	**Leesville**	**11.90**	**17**	⇑P		**Pn**	**05 19 00.3**	**+0.5**
	baz=12							
529A	**Stev Forest Ra**	**12.09**	**358**	⇑P		**Pn**	**05 19 04.9**	**+2.6**
	baz=12,SNR=30							
530A	**J-C Ranch, Com**	**12.11**	**2**	⇑P		**Pn**	**05 19 04.9**	**+2.3**
	baz=12,SNR=32							
738A	**Farr-Stevens R**	**12.15**	**26**	⇓P		**Pn**	**05 19 02.9**	**-0.2**
	baz=12							
531A	**Rocksprings**	**12.17**	**5**	⇑P		**Pn**	**05 19 05.4**	**+2.0**
	baz=12,SNR=16							
532A	**Rocksprings**	**12.20**	**7**	⇑P		**Pn**	**05 19 05.5**	**+1.7**
	baz=12,SNR=80							
636A	**Smothers Creek**	**12.21**	**20**	⇓P		**Pn**	**05 19 04.6**	**+0.7**
	baz=12,SNR=5.6							
533A	**Kerrville**	**12.27**	**11**	⇑P		**Pn**	**05 19 05.3**	**+0.4**
	baz=12,SNR=17							
534A	**Blanco**	**12.34**	**13**	⇓P		**Pn**	**05 19 06.7**	**+0.9**
	baz=12,SNR=29							
JCT	**Junction City**	**12.55**	**8**	⇓P		**Pn**	**05 19 09.4**	**+0.7**
	baz=13,SNR=14							
535A	**Dale**	**12.57**	**17**	⇓P		**Pn**	**05 19 09.5**	**+0.7**
	baz=13,SNR=5.6							
429A	**Davenport Ranc**	**12.58**	**359**	⇓P		**Pn**	**05 19 12.0**	**+3.0**
	baz=13,SNR=40							
431A	**Sonora**	**12.68**	**4**	⇑P		**Pn**	**05 19 12.3**	**+1.9**
	baz=13,SNR=29							
430A	**Baggett Ranch,**	**12.75**	**2**	⇓P		**Pn**	**05 19 13.0**	**+1.6**
	baz=13,SNR=35							
536A	**Bastrop**	**12.76**	**19**	⇓P		**Pn**	**05 19 11.2**	**-0.2**
	baz=13							
433A	**Art**	**12.93**	**10**	⇑P		**Pn**	**05 19 14.3**	**+0.5**
	baz=13,SNR=14							
432A	**Menard**	**12.95**	**7**	⇑P		**Pn**	**05 19 14.8**	**+0.7**
	baz=13,SNR=22							
537A	**Green Hill Far**	**13.00**	**21**	⇑P		**Pn**	**05 19 15.1**	**+0.4**
	baz=13,SNR=8.1							
HKT	**Hockley**	**13.06**	**23**	*e*P		**Pn**	**05 19 15.5**	**0.0**
HKT	**Hockley**	**13.06**	**23**	*e*Pn		**Pn**	**05 19 15.5**	**0.0**
434A	**Burnet**	**13.14**	**13**	⇑P		**Pn**	**05 19 17.3**	**+0.5**
	baz=13							
435B	**Jarrell**	**13.28**	**16**	⇑P		**Pn**	**05 19 19.0**	**+0.5**
	baz=13							
331A	**San Angelo**	**13.31**	**5**	⇑P		**Pn**	**05 19 20.1**	**+1.0**
	baz=13,SNR=20							
330A	**Mertzon**	**13.37**	**2**	⇑P		**Pn**	**05 19 20.6**	**+0.8**
	baz=13,SNR=32							
538A	**Harpers Horsep**	**13.43**	**24**	⇓P		**Pn**	**05 19 20.5**	**-0.1**
	baz=14							
329A	**Wagon Wheel Ra**	**13.44**	**359**	⇑P		**Pn**	**05 19 22.6**	**+1.8**
	baz=14,SNR=12							
332A	**Millersview**	**13.45**	**7**	⇑P		**Pn**	**05 19 21.8**	**+0.8**
	baz=14,SNR=29							
436A	**Wall Ranch, Ga**	**13.48**	**18**	⇓P		**Pn**	**05 19 21.1**	**-0.3**
	baz=14,SNR=5.3							
333A	**Richland Sprin**	**13.51**	**10**	⇓P		**Pn**	**05 19 22.1**	**+0.4**
	baz=14,SNR=14							
334A	**Lometa**	**13.65**	**13**	⇓P		**Pn**	**05 19 23.5**	**-0.2**
	baz=14,SNR=12							
437A	**Phantom Ranch,**	**13.75**	**21**	⇑P		**Pn**	**05 19 24.3**	**-0.6**
	baz=14							
335A	**Moody**	**13.79**	**16**	⇑P		**Pn**	**05 19 24.8**	**-0.8**
	baz=14							
230A	**Sterling City**	**13.85**	**2**	⇑P		**Pn**	**05 19 28.1**	**+1.8**
	baz=14,SNR=7.9							
438A	**Sam Houston St**	**13.91**	**23**	⇑P		**Pn**	**05 19 26.4**	**-0.7**
	baz=14,SNR=5.4							
229A	**Bryant Ranch,**	**13.92**	**360**	⇓P		**Pn**	**05 19 28.9**	**+1.5**
	baz=14,SNR=22							
231A	**Bronte**	**13.94**	**5**	⇑P		**Pn**	**05 19 28.5**	**+0.9**
	baz=14,SNR=23							
232A	**Coleman**	**13.96**	**7**	⇓P		**Pn**	**05 19 28.5**	**+0.6**
	baz=14,SNR=23							
MNTX	**Cornudas Mount**	**14.05**	**347**	⇓P		**Pn**	**05 19 30.3**	**+1.3**
	baz=14,SNR=18							
MNTX	**Cornudas Mount**	**14.05**	**347**	*e*Pn		**Pn**	**05 19 31.2**	**+2.1**
336A	**Riesel**	**14.05**	**17**	⇑P		**Pn**	**05 19 28.3**	**-0.8**
	baz=14,SNR=21							
228A	**UT Block 9, Go**	**14.09**	**357**	⇑P		**Pn**	**05 19 30.6**	**+0.9**
	baz=14							
233A	**Rising Star**	**14.20**	**10**	⇓P		**Pn**	**05 19 31.0**	**0.0**
	baz=14,SNR=16							
337A	**Centerville**	**14.28**	**21**	⇑P		**Pn**	**05 19 32.1**	**0.0**
	baz=14,SNR=18							
GDL2	**Guadalupe Moun**	**14.35**	**351**	*e*Pn		**Pn**	**05 19 36.0**	**+2.9**
WHTX	**Lake Whitney,**	**14.46**	**15**	⇑P		**Pn**	**05 19 33.9**	**-0.6**
	baz=14							
WHTX	**Lake Whitney,**	**14.46**	**15**	*e*Pn		**Pn**	**05 19 35.3**	**+0.8**
338A	**Crockett**	**14.52**	**22**	⇑P		**Pn**	**05 19 34.3**	**-0.9**
	baz=15,SNR=12							
130A	**Snyder**	**14.56**	**3**	⇑P		**Pn**	**05 19 35.8**	**-0.1**
	baz=15,SNR=29							
129A	**Stewart Farms,**	**14.58**	**359**	⇓P		**Pn**	**05 19 36.7**	**+0.5**
	baz=15,SNR=8.1							
128A	**Castleberry Fa**	**14.59**	**357**	⇑P		**Pn**	**05 19 37.2**	**+0.9**
	baz=15,SNR=28							
131A	**Roby**	**14.67**	**4**	⇑P		**Pn**	**05 19 37.5**	**+0.2**
	baz=15,SNR=18							
ABTX	**Abilene, Hawle**	**14.69**	**7**	⇑P		**Pn**	**05 19 37.6**	**0.0**
	baz=15,SNR=18							
ABTX	**Abilene, Hawle**	**14.69**	**7**	*e*Pn		**Pn**	**05 19 39.0**	**+1.4**
133A	**Hamilton Ranch**	**14.77**	**9**	⇑P		**Pn**	**05 19 38.2**	**-0.4**
	baz=15,SNR=9.9							
339A	**Huntington**	**14.78**	**25**	⇑P		**Pn**	**05 19 37.4**	**-1.4**
	baz=15,SNR=9.9							
134A	**White-Moore Ra**	**14.88**	**12**	⇓P		**Pn**	**05 19 39.3**	**-0.8**
	baz=15,SNR=14							
237A	**Washetta, Mont**	**14.94**	**20**	⇑P		**Pn**	**05 19 39.6**	**-1.2**
	baz=15,SNR=9.0							
319A	**Douglas**	**14.99**	**334**	⇑P		**P**	**05 19 43.9**	**-2.2**
	baz=15							
135A	**Vickery Place,**	**15.02**	**14**	⇓P		**Pn**	**05 19 41.0**	**-0.8**
	baz=15							
NATX	**Nacogdoches**	**15.12**	**24**	*e*Pn		**Pn**	**05 19 41.3**	**-1.9**
	2μm,1.5s							
340A	**Bronson**	**15.13**	**26**	⇑P		**Pn**	**05 19 41.9**	**-1.4**
	baz=15,SNR=9.9							
238A	**Jacksonville**	**15.17**	**22**	⇓P		**Pn**	**05 19 43.1**	**-0.7**
	baz=15,SNR=13							
Z29A	**Hungry Hill Ra**	**15.21**	**0**	⇓P		**Pn**	**05 19 44.3**	**-0.1**
	baz=15,SNR=72							
Z30A	**Sanderson Ranc**	**15.24**	**2**	⇑P		**Pn**	**05 19 44.7**	**-0.1**
	baz=15,SNR=30							
Z28A	**Tucker Farm, M**	**15.25**	**358**	⇓P		**Pn**	**05 19 45.4**	**+0.5**
	baz=15,SNR=25							
Z31A	**Sharp Cattle R**	**15.33**	**5**	⇑P		**Pn**	**05 19 45.8**	**-0.1**
	baz=15,SNR=37							
Z32A	**Haskell**	**15.38**	**7**	⇓P		**Pn**	**05 19 46.4**	**-0.2**
	baz=16,SNR=55							
239A	**Gary**	**15.42**	**24**	⇑P		**Pn**	**05 19 45.6**	**-1.5**
	baz=16							
Z33A	**Whitaker Ranch**	**15.46**	**9**	⇑P		**Pn**	**05 19 46.7**	**-0.9**
	baz=16,SNR=11							
121A	**Cookes Peak, D**	**15.48**	**340**	⇓P		**P**	**05 19 50.0**	**-1.7**
	baz=16,SNR=14							
121A	**Cookes Peak, D**	**15.48**	**340**	*e*Pn		**Pn**	**05 19 49.7**	**+1.7**
	44nm,0.9s							
137A	**Heron Place, G**	**15.50**	**19**	⇓P		**Pn**	**05 19 47.2**	**-0.9**
	baz=16,SNR=13							
Z34A	**Collier Ranch,**	**15.69**	**12**	⇑P		**Pn**	**05 19 49.2**	**-1.3**
	baz=16							
138A	**Matatall Enter**	**15.78**	**21**	⇑P		**Pn**	**05 19 50.5**	**-1.2**
	baz=16,SNR=6.7							
Z35A	**Perchaven, San**	**15.79**	**14**	⇑P		**Pn**	**05 19 50.1**	**-1.7**
	baz=16							
Y29A	**Porterfield Fa**	**15.80**	**0**	⇓P		**Pn**	**05 19 51.9**	**-0.2**
	baz=16,SNR=55							
Y30A	**Stafford Cattl**	**15.84**	**2**	⇑P		**Pn**	**05 19 52.1**	**-0.3**
	baz=16							
Y28A	**McKinney Farm,**	**15.86**	**358**	⇑P		**Pn**	**05 19 52.5**	**-0.3**
	baz=16,SNR=22							
MSTX	**Muleshoe**	**15.94**	**357**	⇓P		**Pn**	**05 19 54.1**	**+0.3**
	baz=16,SNR=12							
MSTX	**Muleshoe**	**15.94**	**357**	*e*Pn		**Pn**	**05 19 53.8**	**0.0**
	258nm,1.0s							
Y31A	**Rekieta Farm,**	**15.96**	**4**	⇓P		**Pn**	**05 19 53.4**	**-0.6**
	baz=16,SNR=25							
Y32A	**R-V Farms, Ver**	**16.08**	**7**	⇓P		**Pn**	**05 19 54.6**	**-0.9**
	baz=16,SNR=7.3							
Y33A	**Hilltop Ranch,**

MIAR Mount Ida 18.02 22 eP Pn 05 20 17.9 -1.7
MIAR pmax pmax
comp=Z,1µm,2.3s
MIAR Mount Ida 18.02 22 eP Pn 05 20 17.9 -1.7
comp=Z,1µm,2.3s
V33A Lossen Ranch, 18.02 9 ⇓P Pn 05 20 18.2 -1.4
baz=18,SNR=14
X18A Snowflake 18.04 338 ⇑P Pn 05 20 22.3 +2.3
baz=18,SNR=14
V34A Guthrie 18.16 11 ⇑P P 05 20 19.9 -1.3
baz=18,SNR=18
V34A Guthrie 18.16 11 ePn P 05 20 20.4 -0.7
comp=Z,105nm,0.8s
V35A Meyer Ranch, C 18.22 13 ⇑P P 05 20 20.1 -1.8
baz=18,SNR=15
113A Mohawk Valley, 18.28 326 ⇑P Pn 05 20 24.8 +2.0
baz=18,SNR=9.4
U28A Mallet 18.32 359 ⇑P Pn 05 20 23.2 -0.2
baz=18,SNR=11
Z14A Wintersburg 18.33 329 ⇓P Pn 05 20 25.1 +1.7
baz=18
U31A Nine Bar Ranch 18.38 5 ⇓P P 05 20 23.2 -0.4
baz=18,SNR=6.6
U27A Thompson Grove 18.39 357 ⇑P Pn 05 20 24.1 -0.1
baz=18,SNR=14
U29A Oasis Ranch, S 18.39 1 ⇑P P 05 20 23.8 0.0
baz=18
U26A Atchley Ranch, 18.42 355 ⇑P Pn 05 20 24.9 +0.2
baz=18,SNR=13
U32A Winter Ranch, 18.47 7 ⇓P P 05 20 24.2 -0.4
baz=19,SNR=16
U25A Circle Dot Ran 18.49 353 ⇑P Pn 05 20 25.4 -0.1
baz=19,SNR=20
W18A Petrified Fore 18.49 339 ⇓P Pn 05 20 26.7 +1.2
baz=19
U30A WK&E Inc. Balk 18.49 3 ⇑P P 05 20 25.1 +0.2
baz=19,SNR=6.9
X16A Lo Mia Camp, P 18.52 334 ⇑P Pn 05 20 27.4 +1.4
baz=19,SNR=22
BRAL Brewton 18.57 43 eP P 05 20 23.6 -2.1
comp=Z,65nm,0.3s
TUL1 Leonard 18.61 15 ⇓P P 05 20 24.9 -1.1
baz=19,SNR=19
TUL1 Leonard 18.61 15 ePn P 05 20 25.3 -0.7
comp=Z,86nm,0.9s
U33A Lingo Farm, Me 18.64 9 ⇑P P 05 20 25.3 -1.2
baz=19,SNR=14
U34A Anderson Ranch 18.74 11 ⇓P P 05 20 26.7 -0.9
baz=19,SNR=29
U34A Anderson Ranch 18.74 11 ePn P 05 20 27.1 -0.5
comp=Z,217nm,0.8s
Y14A Wickenburg 18.82 330 ⇓P Pn 05 20 30.9 +1.5
baz=19,SNR=10
T27A Campo 19.02 358 ⇑P P 05 20 31.0 +0.3
baz=19,SNR=12
T30A Plains 19.02 3 ⇑P P 05 20 30.6 -0.1
baz=19
T28A Walsh 19.06 359 ⇑P P 05 20 31.0 -0.1
baz=19,SNR=15
GLA Glamis 19.07 324 eP Pn 05 20 34.1 +1.7
GLA pmax pmax
comp=Z,45nm,1.0s
GLA Glamis 19.07 324 ⇑P Pn 05 20 33.9 +1.4
baz=19,SNR=5.8
GLA Glamis 19.07 324 eP Pn 05 20 34.1 +1.7
comp=Z,45nm,1.0s
T29A Hugoton 19.10 1 ⇑P P 05 20 31.2 -0.3
baz=19
T31A Randall Ranch, 19.12 5 ⇑P P 05 20 31.4 -0.3
baz=19,SNR=22
T26A Comanche Natio 19.18 355 ⇑P P 05 20 33.0 +0.4
baz=19,SNR=33
T25A Trinidad 19.22 353 ⇑P Pn 05 20 33.8 -0.6
baz=19,SNR=16
T25A Trinidad 19.22 353 ePn Pn 05 20 34.7 +0.4
comp=Z,302nm,2.0s
T33A Patterson Ranc 19.26 8 ⇓P P 05 20 32.5 -0.7
baz=19
T32A Huddler Ranch, 19.27 7 ⇑P P 05 20 32.7 -0.6
baz=19,SNR=15
Y12C Blythe 19.44 326 ⇓P Pn 05 20 37.3 +0.5
baz=20,SNR=16
WUAZ Wupatki 19.45 336 ⇓P Pn 05 20 38.3 +1.3
baz=20,SNR=55
WUAZ Wupatki 19.45 336 ePn Pn 05 20 38.6 +1.6
comp=Z,62nm,0.9s
S28A Manter 19.53 360 ⇑P P 05 20 36.3 +0.1
baz=20,SNR=26
SWSC Sam W. Stewart 19.55 322 ⇑P Pn 05 20 39.0 +1.0
baz=20
S29A Ulysses 19.56 1 ⇓P P 05 20 36.2 -0.3
baz=20,SNR=14
S30A Montezuma 19.61 3 ⇑P P 05 20 36.9 -0.2
baz=20,SNR=9.4
S26A Kim 19.62 356 ⇓P P 05 20 37.7 +0.4
baz=20,SNR=28
S27A Las Animas 19.65 357 ⇓P P 05 20 37.2 -0.4
baz=20,SNR=16
S31A Mullinville 19.65 5 ⇓P P 05 20 37.3 -0.2
baz=20,SNR=12
PDMCI Parker Dam,Lak 19.67 328 ⇑P Pn 05 20 40.2 +0.7
baz=20,SNR=34
S25A Robets Cordova 19.74 354 ⇓P P 05 20 39.4 +0.8
baz=20,SNR=72
OXF Oxford 19.78 31 eP P 05 20 37.3 -1.6
OXF pmax pmax
comp=Z,251nm,1.1s
OXF Oxford 19.78 31 eP P 05 20 37.3 -1.6
comp=Z,251nm,1.1s
S32A Newby Ranch, P 19.79 7 ⇓P P 05 20 38.0 -1.0
baz=20
S33A Kaszmaul Farm, 19.80 9 ⇓P P 05 20 37.6 -1.5
baz=20
S24A Houchin Ranch, 19.82 352 ⇓P Pn 05 20 40.9 -0.6
baz=20,SNR=58
BC3 Big Chuckawall 19.87 324 ⇑P Pn 05 20 42.6 +0.6
baz=20,SNR=17
MONP Monument Peak, 19.88 321 ⇑P Pn 05 20 42.7 +0.6
baz=20,SNR=9.8
BAR Barrett 19.88 320 eP Pn 05 20 42.5 +0.5
comp=Z,5.0nm,0.9s
SDCO Great Sand Dun 19.96 351 ⇑P P 05 20 42.1 +1.0
baz=20,SNR=110
SDCO Great Sand Dun 19.96 351 eP Pn 05 20 42.2 -0.9
comp=Z,87nm,1.3s
LRAL Lakeview Retre 19.98 39 eP P 05 20 39.0 -2.1
comp=Z,117nm,1.2s
S23A Nye Farm, Mont 20.00 350 ⇓P Pn 05 20 42.8 -0.7
baz=20,SNR=7.3
S34A Willow Spring 20.05 11 ⇑P P 05 20 40.1 -1.7
baz=20,SNR=11
MVCO Mesa Verde 20.06 344 ⇓P Pn 05 20 43.3 -1.0
baz=20,SNR=58
MVCO Mesa Verde 20.06 344 eP P 05 20 43.2 +1.1
comp=Z,66nm,0.9s
MVCO LR LR
comp=Z,1µm,20.0s
HBAR Harrisburg 20.06 27 ePn P 05 20 41.5 -0.4
IRM Iron Mountain 20.09 326 ⇑P Pn 05 20 44.8 +0.3
baz=20,SNR=52
S35A Otter Creek Ra 20.18 12 ⇑P P 05 20 41.4 -1.8
baz=20,SNR=9.5
S22A 4UR Ranch, Cre 20.19 348 ⇓P Pn 05 20 44.9 -1.1
baz=20,SNR=45
S22A 4UR Ranch, Cre 20.19 348 eP Pn 05 20 45.3 -0.6
comp=Z,98nm,1.1s
W13A Hualapai Mount 20.19 330 ⇓P Pn 05 20 45.5 -0.4
baz=20,SNR=23
R25A Fountain Ranch 20.21 354 ⇓P P 05 20 44.2 +0.6
baz=20,SNR=32
R27A Eads 20.24 358 ⇑P P 05 20 44.4 +0.4
baz=20,SNR=86
R30A Dighton 20.26 3 ⇓P P 05 20 43.7 -0.4
baz=20,SNR=28
R28A Tribune 20.28 360 ⇑P P 05 20 44.0 -0.4
baz=20,SNR=36
NEE2 Needles Airpor 20.29 328 ⇑P Pn 05 20 46.8 +0.1
baz=20
109C Camp Elliot, M 20.29 320 ⇑P Pn 05 20 46.6 -0.2
baz=20
R26A Arlington 20.29 356 ⇑P P 05 20 44.8 +0.2
baz=20,SNR=73
R31A Burdett 20.31 5 ⇑P P 05 20 44.3 -0.4
baz=20,SNR=17
R29A Marienthal 20.36 1 ⇑P P 05 20 44.7 -0.6
baz=20
S36A Lake Cedric, C 20.38 14 ⇑P P 05 20 43.6 -1.8
baz=20,SNR=15

R24A Sanders Place, 20.38 352 ⇑P Pn 05 20 46.9 -1.3
baz=20,SNR=20
PFO Pinyon Flats O 20.41 322 P Pn 05 20 48.9 +0.5
comp=Z,195nm,0.9s,SNR=8.7
PFO Pinyon Flats O 20.41 322 eP Pn 05 20 47.6 -0.8
PFO pmax pmax
comp=Z,41nm,1.1s
PFO Pinyon Flats O 20.41 322 ⇓P Pn 05 20 48.5 +0.1
baz=20,SNR=14
PFO Pinyon Flats O 20.41 322 eP Pn 05 20 47.5 -0.8
comp=Z,41nm,1.1s
BELC Belle Mtn. Jos 20.43 324 ⇓P Pn 05 20 48.4 -0.3
baz=20,SNR=24
R23A Moffat 20.45 351 ⇑P P 05 20 47.5 +1.1
baz=20
R33A Olander Ranch, 20.50 8 ⇓P P 05 20 47.3 +0.5
baz=21,SNR=6.3
R32A Long Quarter, 20.53 7 ⇑P P 05 20 46.0 -1.0
baz=21
U15A North Rim 20.61 335 ⇓P Pn 05 20 50.2 -0.7
baz=21,SNR=62
GNAR Gosnell 20.68 28 ePn P 05 20 48.4 -0.2
LDFC Landfair 20.78 328 eP Pn 05 20 53.6 +0.9
comp=Z,183nm,1.2s
GMRC Granite Mounta 20.83 326 ⇑P Pn 05 20 52.4 -1.1
baz=21,SNR=28
Q29A Oakley 20.84 2 ⇑P P 05 20 49.8 -0.6
baz=21,SNR=51
MURC Murrieta 20.84 321 ⇑P Pn 05 20 52.8 -0.6
baz=21,SNR=19
Q26A Hugo 20.92 356 ⇑P P 05 20 52.0 +0.7
baz=21,SNR=44
HALT Halls 20.95 29 eP Pn 05 20 54.9 +0.4
PV01 Paradox Valley 20.95 345 eP P 05 20 53.1 +1.3
comp=Z,3µm,1.1s
Q30A Quinter 20.95 3 ⇓P P 05 20 51.1 -0.6
baz=21,SNR=54
KSCO Kaye Shedlock' 20.96 358 ⇑P P 05 20 52.2 +0.4
baz=21,SNR=39
KSCO Kaye Shedlock' 20.96 358 eP P 05 20 51.8 0.0
comp=Z,292nm,0.9s
Q25A Bedland, Calha 20.96 354 ⇓P P 05 20 52.3 +0.3
baz=21,SNR=30
R36A Gordon, Harris 20.97 14 ⇑P P 05 20 49.8 -2.0
baz=21,SNR=14
Q28A Sharon Springs 21.00 360 ⇓P P 05 20 51.4 -0.8
baz=21,SNR=26
Q31A Ellis 21.04 5 ⇓P P 05 20 51.2 -1.3
baz=21,SNR=9.6
Q32A Meitler Ranch, 21.10 7 ⇓P P 05 20 51.7 -1.5
baz=21
Q24A Divide 21.11 353 ⇓P P 05 20 54.1 +0.5
baz=21,SNR=12
Q24A Divide 21.11 353 eP P 05 20 54.7 +1.1
comp=Z,36nm,1.0s
R37A Teagarden Farm 21.12 15 ⇓P P 05 20 51.5 -1.9
baz=21,SNR=36
BBRC Big Bear Solar 21.15 323 ⇓P P 05 20 56.5 +2.5
baz=21,SNR=12
Q23A Hartsel 21.15 351 ⇑P P 05 20 53.8 -0.2
baz=21
TIGA Tifton 21.18 47 ⇓P P 05 20 51.7 -2.4
baz=21,SNR=7.0
TIGA Tifton 21.18 47 eP P 05 20 52.3 -1.7
comp=Z,130nm,1.1s
PBMO Poplar Bluff 21.20 26 eP P 05 20 53.0 -1.1
comp=Z,84nm,0.8s
Q33A Connelly Farm, 21.20 8 ⇓P P 05 20 52.9 -1.3
baz=21,SNR=17
HEC Hector,Ludlow 21.23 325 ⇓P P 05 20 56.7 +2.0
baz=21,SNR=32
SCI San Clemente I 21.25 318 ⇑P P 05 20 56.7 +1.8
baz=21
GLAT Glass 21.27 29 eP P 05 20 54.5 -0.5
PARMO Parma 21.39 27 eP P 05 20 55.2 -1.0
CIS Catalina Islan 21.44 319 ⇑P P 05 20 58.8 +1.9
baz=22
TUQ Turquoise Moun 21.47 327 ⇓P P 05 20 59.5 +2.2
baz=22,SNR=79
KSU1 Kansas State U 21.50 11 ⇓P P 05 20 56.0 -1.4
baz=22
KSU1 Kansas State U 21.50 11 eP P 05 20 56.4 -1.0
comp=Z,168nm,1.4s
KSU1 epP pP 05 21 13.8 +5.0
KSU1 LR LR
comp=Z,2µm,22.0s
P27A Ficken Ranch, 21.50 358 ⇑P P 05 20 57.9 +0.3
baz=22,SNR=36
P28A Saint Francis 21.51 360 ⇓P P 05 20 57.4 -0.2
baz=22,SNR=26
P30A Selden 21.52 3 ⇑P P 05 20 56.6 -1.0
baz=22,SNR=22
P26A Davis Ranch, A 21.54 357 ⇓P P 05 20 58.2 +0.2
baz=22,SNR=20
P29A Atwood 21.55 2 ⇓P P 05 20 57.5 -0.4
baz=22,SNR=17
P31A Stockton 21.55 5 ⇓P P 05 20 57.0 -1.0
baz=22,SNR=20
P25A Willow Gulch B 21.55 355 ⇑P P 05 20 57.9 -0.3
baz=22,SNR=17
BFSC Mount Baldy Ra 21.56 322 ⇑P P 05 21 00.2 +2.0
baz=22,SNR=9.5
FMP Fort Macarthur 21.58 320 ⇓P P 05 20 59.8 +1.5
baz=22
SMCO Snowmass 21.60 349 eP P 05 21 00.0 +1.1
comp=Z,56nm,1.1s
P23A Jefferson 21.61 351 ⇓P P 05 20 59.6 +0.7
baz=22,SNR=21
P24A Kohler Place, 21.63 353 ⇓P P 05 20 59.5 +0.6
baz=22,SNR=6.6
RRX Edison Barstow 21.64 324 ⇓P P 05 21 00.9 +1.9
baz=22
P33A Williams Farm, 21.65 8 ⇓P P 05 20 57.6 -1.4
baz=22
PAYG Puerto Ayora 21.69 148 PFAKE 05 21 10.0 +10
PAYG LR LR
comp=Z,1µm,21.0s
P32A Huiting Farm, 21.72 7 ⇓P P 05 20 58.0 -1.8
baz=22
Q37A Longview Farm, 21.75 15 ⇓P P 05 20 58.1 -2.0
baz=22,SNR=5.5
MWC Mount Wilson 21.79 321 eP P 05 21 03.0 +2.3
MWC pmax pmax
comp=Z,31nm,1.1s
MWC Mount Wilson 21.79 321 eP P 05 21 03.0 +2.3
comp=Z,31nm,1.1s
GSC Goldstone, Bar 21.84 325 eP P 05 21 03.4 +2.1
GSC pmax pmax
comp=Z,50nm,1.2s
GSC Goldstone, Bar 21.84 325 ⇑P P 05 21 02.9 +1.7
baz=22,SNR=22
GSC Goldstone, Bar 21.84 325 eP P 05 21 03.4 +2.1
comp=Z,50nm,1.2s
WVT Waverly 21.85 31 eP P 05 20 58.9 -2.3
WVT pmax pmax
comp=Z,65nm,0.9s
WVT Waverly 21.85 31 eP P 05 20 58.9 -2.3
comp=Z,65nm,0.9s
SHPR Sheep Range 21.93 330 eP P 05 21 03.9 +1.6
DECC Green Verdugo 21.97 321 ⇑P P 05 21 04.4 +1.9
baz=22
P22A Eagle 21.97 350 ⇓P P 05 21 03.3 +0.6
baz=22,SNR=18
ISCO Idaho Springs 21.99 352 eP P 05 21 03.9 +0.8
ISCO pmax pmax
comp=Z,67nm,0.8s
ISCO MLR MLR
comp=Z,2µm,22.0s
ISCO Idaho Springs 21.99 352 ⇑P P 05 21 03.1 0.0
baz=22,SNR=40
ISCO Idaho Springs 21.99 352 eP P 05 21 03.9 +0.8
comp=Z,67nm,0.8s
ISCO LR LR
comp=Z,2µm,22.0s
CCUT Cedar City 22.01 335 eP P 05 21 05.4 +2.3
comp=Z,22nm,1.0s
SHOC Shoshone, Teco 22.02 327 ⇓P P 05 21 05.0 +2.0
baz=22,SNR=10
O28A Krutsinger Ran 22.06 360 ⇑P P 05 21 02.9 -0.6
baz=22,SNR=12
O29A 4D Ranch, Culb 22.07 2 ⇑P P 05 21 02.6 -1.0
baz=22,SNR=14
O27A Beecher Island 22.13 358 ⇓P P 05 21 04.4 +0.1
baz=22,SNR=42
O25A Wiggins 22.14 355 ⇑P P 05 21 04.2 -0.3
baz=22,SNR=9.4
O30A MW Ranch, Wils 22.16 3 ⇓P P 05 21 03.6 -0.9
baz=22,SNR=46

O31A Woolen Ranch, 22.18 5 ⇑P P 05 21 03.9 -0.9
baz=22,SNR=15
EDW2 Edwards Air Fo 22.20 322 ⇑P P 05 21 06.7 +1.6
baz=22,SNR=13
O26A Horse Wrangler 22.22 357 ⇑P P 05 21 05.0 -0.3
baz=22,SNR=14
ARUT Antelope Range 22.24 335 eP P 05 21 07.4 +1.8
ARUT pmax pmax
comp=Z,17nm,0.9s
ARUT Antelope Range 22.24 335 eP P 05 21 07.4 +1.8
comp=Z,16nm,0.9s
O24A Longmont 22.25 353 ⇑P P 05 21 05.5 -0.1
baz=22,SNR=22
O32A Brockman Farm, 22.39 7 ⇓P P 05 21 05.6 -1.4
baz=22,SNR=11
SRU San Rafael Swe 22.40 342 eP P 05 21 08.2 +0.9
SRU pmax pmax
comp=Z,21nm,0.9s
SRU San Rafael Swe 22.40 342 eP P 05 21 08.2 +0.9
comp=Z,21nm,0.9s
MVU Marysvale 22.40 338 eP P 05 21 09.2 +1.8
comp=Z,20nm,0.9s
O23A Lake Granby, G 22.44 352 ⇑P P 05 21 08.1 +0.2
baz=22,SNR=15
GOGA Godfrey 22.44 43 eP P 05 21 04.6 -3.0
GOGA pmax pmax
comp=Z,58nm,0.8s
GOGA Godfrey 22.44 43 eP P 05 21 04.6 -3.0
comp=Z,58nm,0.8s
OSI Osito Audit: C 22.45 321 ⇓P P 05 21 09.2 +1.5
baz=22
OSI Osito Audit: C 22.45 321 eP P 05 21 09.0 +1.2
LRMC Laurel Mtn Rad 22.46 324 ⇓P P 05 21 09.9 +2.0
baz=22,SNR=14
O22A Kremmling 22.49 350 ⇓P P 05 21 08.6 +0.3
baz=23,SNR=43
SIUC Southern Illin 22.50 27 eP P 05 21 05.7 -2.4
comp=Z,174nm,0.8s
BSC Santa Cruz Isl 22.60 318 ⇓P P 05 21 11.5 +2.2
baz=23
N28A Pribbeno Ranch 22.62 0 ⇓P P 05 21 08.8 -0.7
baz=23,SNR=19
N27A Anderson Farm, 22.75 358 ⇓P P 05 21 10.3 -0.6
baz=23,SNR=39
FURC Furnace Creek, 22.75 327 ⇑P P 05 21 11.9 +1.1
baz=23,SNR=13
N29A Votaw Ranch, W 22.77 2 ⇓P P 05 21 10.3 -0.8
baz=23,SNR=8.5
N30A Hueftle Ranch, 22.77 3 ⇑P P 05 21 10.5 -0.6
baz=23,SNR=8.0
TMUT Trail Mountain 22.78 341 eP P 05 21 12.7 +1.3
comp=Z,272nm,2.2s
MPMC Manual Prospec 22.78 325 ⇑P P 05 21 12.9 +1.6
baz=23,SNR=47
O20A White River Ci 22.78 347 ⇑P P 05 21 11.9 +0.6
baz=23,SNR=14
O20A White River Ci 22.78 347 eP P 05 21 11.9 +0.6
comp=Z,86nm,1.3s
N26A Koester Ranch, 22.80 357 ⇑P P 05 21 11.1 -0.3
baz=23,SNR=13
TPNV Topopah Spring 22.82 329 ⇓P P 05 21 13.5 +1.8
baz=23,SNR=67
N25A Grover 22.84 355 ⇑P P 05 21 11.5 -0.3
baz=23
ARVC Arvin 22.87 322 ⇓P P 05 21 14.0 +1.9
baz=23,SNR=9.8
SLM Saint Louis 22.88 24 eP P 05 21 10.1 -2.0
SLM pmax pmax
comp=Z,72nm,0.9s
SLM Saint Louis 22.88 24 eP P 05 21 10.1 -2.0
comp=Z,72nm,0.9s
N31A Bailey Ranch, 22.88 5 ⇓P P 05 21 11.3 -0.8
baz=23
OGNE Ogallala 22.88 359 ⇑P P 05 21 11.7 -0.5
baz=23,SNR=23
OGNE Ogallala 22.88 359 eP P 05 21 11.9 -0.4
comp=Z,248nm,1.3s
OGNE LR LR
comp=Z,3µm,19.0s
N32A Stulken Farm, 22.89 7 ⇑P P 05 21 11.6 -0.6
baz=23,SNR=11
N24A Carr 22.92 354 ⇓P P 05 21 12.8 0.0
baz=23,SNR=19
SBC Santa Barbara 22.94 319 ⇑P P 05 21 15.9 +3.1
baz=23
BCIP Isla Barro Col 22.98 110 PFAKE 05 21 30.0 +17
BCIP LR LR
comp=Z,444nm,21.0s
MTDJ Mount Denham 22.98 86 eP P 05 21 15.9 +2.4
comp=Z,1µm,1.9s
MTDJ LR LR
comp=Z,446nm,20.0s
DAC Darwin (Calif) 23.00 326 eP P 05 21 15.3 +1.7
DAC pmax pmax
comp=Z,50nm,1.3s
DAC Darwin (Calif) 23.00 326 eP P 05 21 15.2 +1.7
comp=Z,50nm,1.3s
ISA Isabella, Lake 23.04 323 eP P 05 21 15.6 +1.8
ISA pmax pmax
comp=Z,51nm,1.1s
ISA Isabella, Lake 23.04 323 ⇓P P 05 21 15.4 +1.6
baz=23,SNR=34
ISA Isabella, Lake 23.04 323 eP P 05 21 15.6 +1.8
comp=Z,51nm,1.1s
N22A Wattenberg Ran 23.10 351 ⇓P P 05 21 14.4 -0.2
baz=23,SNR=19
N23A Red Feather La 23.11 352 ⇓P P 05 21 14.7 -0.1
baz=23,SNR=38
N23A Red Feather La 23.11 352 eP P 05 21 15.1 +0.3
comp=Z,49nm,0.9s
M28A Bar X Bar Ranc 23.33 1 ⇓P P 05 21 16.3 -0.4
baz=23,SNR=7.4
M29A Burnside Ranch 23.39 2 ⇓P P 05 21 16.8 -0.5
baz=24,SNR=13
M31A Lambtecht Ranc 23.39 5 ⇓P P 05 21 16.9 -0.4
baz=24,SNR=25
USIN University of 23.39 29 eP P 05 21 15.8 -1.4
comp=Z,174nm,0.8s
GRAC Grapevine Rang 23.42 327 ⇓P P 05 21 19.6 +2.0
baz=24,SNR=12
M26A McRoberts Ranc 23.43 357 ⇓P P 05 21 17.4 -0.3
baz=24,SNR=6.1
M25A Palm-Egli Farm 23.45 356 ⇓P P 05 21 17.7 -0.3
baz=24
N20A Spence Gulch, 23.45 347 ⇑P P 05 21 18.4 +0.3
baz=24,SNR=15
PHWY Pilot Hill 23.45 353 eP P 05 21 18.2 +0.1
comp=Z,97nm,1.1s
PHWY epP pP 05 21 30.8 +0.8
M27A Reverse DX Ran 23.47 359 ⇑P P 05 21 17.5 -0.5
baz=24,SNR=16
VES Vestal, Richgr 23.51 323 ⇑P P 05 21 20.2 +1.8
baz=24,SNR=12
M30A Dale-Ortello V 23.52 3 ⇓P P 05 21 17.4 -1.1
baz=24
BGNE Belgrade 23.54 7 ⇓P P 05 21 17.6 -1.0
baz=24,SNR=11
BGNE Belgrade 23.54 7 eP P 05 21 18.4 -0.2
comp=Z,309nm,1.1s
M24A Cheyenne 23.55 354 ⇓P P 05 21 18.8 -0.1
baz=24,SNR=16
MPU Maple Canyon 23.57 341 eP P 05 21 19.9 +0.8
comp=Z,31nm,1.2s
R11A Troy Canyon, C 23.63 332 ⇓P P 05 21 20.9 +1.2
baz=24,SNR=63
R11A Troy Canyon, C 23.63 332 eP P 05 21 21.2 +1.5
M23A Laramie 23.65 352 ⇓P P 05 21 20.0 +0.2
baz=24,SNR=9.6
NLU North Lily Min 23.65 340 eP P 05 21 21.3 +1.4
comp=Z,11nm,0.9s
SMMC Simmler 23.69 320 ⇓P P 05 21 22.2 +2.0
baz=24
M22A Cedar Creek Ra 23.71 351 ⇓P P 05 21 20.5 +0.1
baz=24,SNR=16
TKL Tuckaleechee C 23.72 39 P P 05 21 17.7 -2.7
comp=Z,42nm,0.7s,baz=206,slow=10.0,SNR=75
DAU Daniels Canyon 23.82 342 eP P 05 21 22.0 +0.5
DAU Daniels Canyon 23.82 342 eP P 05 21 21.9 +0.5
OLIL Olney 23.83 27 eP P 05 21 19.4 -1.9
comp=Z,212nm,1.5s
TIN Tinemaha, Big 23.91 326 ⇓P P 05 21 24.3 +2.1
baz=24
RCTC Rector, Farmer 23.93 323 ⇑P P 05 21 24.6 +2.3
baz=24,SNR=6.1
L28A Connealy Angus 23.94 0 ⇓P P 05 21 22.1 -0.3
baz=24,SNR=8.6
L30A Spencer Herefo 23.94 4 ⇓P P 05 21 22.1 -0.3
baz=24,SNR=19

L26A **Underwood Farm** 24.00 357 ⇑P P 05 21 22.8 -0.1
baz=24
L29A **Maesberg Ranch** 24.02 2 ⇑P P 05 21 23.0 -0.1
baz=24,SNR=12
L27A **T5 Ranch, Ells** 24.02 359 ⇓P P 05 21 22.7 -0.5
baz=24
DUG **Dugway, Tooele** 24.12 339 *e*P P 05 21 25.1 +1.0
DUG pmax pmax
comp=Z,34nm,1.0s
DUG MLR MLR
comp=Z,3μm,20.0s
DUG **Dugway, Tooele** 24.12 339 ⇓P P 05 21 25.1 +1.0
baz=24,SNR=35
DUG **Dugway, Tooele** 24.12 339 *e*P P 05 21 25.1 +1.0
comp=Z,34nm,1.0s
DUG LR LR
comp=Z,3μm,20.0s
L24A **Wheatland** 24.13 354 ⇑P P 05 21 24.1 -0.1
baz=24
L25A **Engebretsen Ra** 24.16 356 ⇓P P 05 21 24.5 0.0
baz=24
TPH **Tonopah** 24.18 329 *e*P P
TPH pmax pmax 05 21 26.4 +1.6
comp=Z,32nm,1.0s
TPH **Tonopah** 24.18 329 *e*P P 05 21 26.4 +1.6
comp=Z,32nm,1.0s
CTU **Camp Tracy** 24.22 341 *e*P P 05 21 26.0 +0.9
comp=Z,24nm,1.2s
L31A **Butterfield Fa** 24.23 5 ⇓P P 05 21 24.3 -0.7
baz=24,SNR=20
WCI **Wyandotte Cave** 24.25 31 *e*P P
WCI pmax pmax 05 21 23.2 -2.0
comp=Z,137nm,1.1s
WCI **Wyandotte Cave** 24.25 31 *e*P P 05 21 23.2 -2.0
comp=Z,137nm,1.1s
L23A **Garrett** 24.29 353 ⇑P P 05 21 25.7 0.0
baz=24,SNR=6.2
L22A **Ellis Ranch, M** 24.30 351 ⇓P P 05 21 26.1 +0.3
baz=24,SNR=21
TCUT **Toone Canyon** 24.51 342 *e*P P 05 21 28.5 +0.7
comp=Z,20nm,0.9s
K25A **Mack Ranch, Ha** 24.61 356 ⇑P P 05 21 28.6 0.0
baz=25,SNR=12
K27A **Flueckinger Fa** 24.64 359 ⇑P P 05 21 28.8 0.0
baz=25,SNR=85
K28A **Ten Mile Ranch** 24.65 1 ⇓P P 05 21 28.4 -0.4
baz=25,SNR=15
K26A **Motz Farm, Whi** 24.66 357 ⇓P P 05 21 28.8 -0.2
baz=25,SNR=46
MLAC **Mammoth, Mammo** 24.66 326 ⇓P P 05 21 31.8 +2.5
baz=25,SNR=20
K30A **Basset** 24.67 4 ⇓P P 05 21 28.6 -0.4
baz=25,SNR=20
K29A **Lazy Trails An** 24.72 2 ⇓P P 05 21 29.1 -0.3
baz=25,SNR=95
K24A **Anderson Ranch** 24.79 355 ⇑P P 05 21 30.5 +0.2
baz=25
BGU **Big Grassy Mou** 24.84 339 *e*P P 05 21 31.2 +0.4
comp=Z,21nm,1.3s
BLO **Bloomington** 24.90 29 *e*P P
BLO pmax pmax 05 21 29.5 -1.5
comp=Z,65nm,0.8s
BLO **Bloomington** 24.90 29 *e*P P 05 21 29.5 -1.5
comp=Z,65nm,0.8s
KMSC **Kings Mountain** 24.90 43 ⇑P P 05 21 29.1 -2.0
baz=25,SNR=29
KMSC **Kings Mountain** 24.90 43 *e*P P 05 21 29.4 -1.8
comp=Z,79nm,0.8s
K23A **Bowen Ranch, D** 24.91 353 ⇑P P 05 21 31.4 0.0
baz=25
NV11 **Mina Array Sit** 24.92 328 *e*P P 05 21 33.3 +1.8
K22A **Casper** 24.92 352 ⇑P P 05 21 31.2 -0.3
baz=25,SNR=50
K22A **Casper** 24.92 352 *e*P P 05 21 31.8 +0.4
comp=Z,174nm,0.9s
SCIA **State Center** 24.92 15 *e*P P 05 21 29.9 -1.3
comp=Z,112nm,1.1s
SCIA *e*pP pP 05 21 47.2 +3.4
SCIA LR LR
comp=Z,901nm,20.0s
NVAR **Mina Array Bea** 24.99 328 P P 05 21 34.4 +2.2
comp=Z,56nm,0.8s,baz=148,slow=8.6,SNR=156
HWUT **Hardware Ranch** 25.00 342 *e*P P 05 21 32.4 +0.2
comp=Z,21nm,0.8s
HWUT LR LR
comp=Z,1μm,22.0s
K21A **Alcova** 25.01 350 ⇓P P 05 21 32.1 -0.2
baz=25,SNR=47
J27A **Elkhorn Farm,** 25.18 359 ⇑P P 05 21 34.0 +0.3
baz=25,SNR=49
GTBY **Guantanamo Bay** 25.23 81 *e*P P 05 21 36.3 +2.1
comp=Z,275nm,1.0s
GTBY LR LR
comp=Z,594nm,22.0s
J26A **Sides Ranch, S** 25.27 358 ⇑P P 05 21 34.3 -0.2
baz=25,SNR=95
J30A **Dallas** 25.32 4 ⇑P P 05 21 34.2 -0.7
baz=25,SNR=17
J28A **Allard Ranch,** 25.36 1 ⇓P P 05 21 34.8 -0.5
baz=26,SNR=32
J29A **Okreek** 25.36 2 ⇓P P 05 21 34.7 -0.5
baz=26,SNR=28
J25A **Sunshine Ranch** 25.38 356 ⇑P P 05 21 35.5 -0.1
baz=26
J24A **Dixon Ranch, L** 25.38 355 ⇓P P 05 21 35.6 0.0
baz=26
ELK **Elko** 25.49 336 P P 05 21 38.2 +1.5
comp=Z,6.7nm,0.9s,baz=180,slow=6.8,SNR=23
ELK PcP PcP 05 25 09.1 +1.6
comp=Z,1.8nm,0.9s,baz=248,slow=1.4,SNR=3.8
HVU **Hansel Valley** 25.53 341 *e*P P
HVU pmax pmax 05 21 37.5 +0.5
comp=Z,20nm,0.8s
HVU **Hansel Valley** 25.53 341 *e*P P 05 21 37.5 +0.5
comp=Z,20nm,0.8s
J23A **Dilts Ranch, B** 25.54 354 ⇓P P 05 21 36.8 -0.2
baz=26
BW06 **Boulder Array** 25.58 347 *e*P P 05 21 37.4 -0.1
comp=Z,67nm,1.3s
BW06 LR LR
comp=Z,1μm,19.0s
PDAR **Pinedale Array** 25.58 347 P P 05 21 37.9 +0.3
comp=Z,14nm,0.9s,baz=153,slow=10,SNR=78
PDAR pP pP 05 21 50.3 +0.3
comp=Z,12nm,1.1s,baz=154,slow=9.0,SNR=6.1
PDAR PcP PcP 05 25 08.4 +0.8
comp=Z,2.9nm,0.9s,baz=145,slow=3.3,SNR=3.6
SFIN **Lafayette** 25.63 26 ⇓P P 05 21 35.8 -1.9
baz=26,SNR=11
SFIN **Lafayette** 25.63 26 *e*P P 05 21 36.2 -1.4
comp=Z,247nm,1.4s
WAKR **Walker** 25.63 326 *e*P P 05 21 40.5 +2.5
J22A **Midwest** 25.66 352 ⇓P P 05 21 37.8 -0.4
baz=26,SNR=16
J21A **Lysite** 25.74 350 ⇓P P 05 21 39.0 +0.2
baz=26,SNR=11
J20A **Shoshoni** 25.85 349 ⇓P P 05 21 40.5 +0.6
baz=26,SNR=18
I24A **Kuemmerle Ranc** 25.91 355 ⇑P P 05 21 39.9 -0.4
baz=26
I30A **Oacoma** 25.92 4 ⇓P P 05 21 39.2 -1.1
baz=26
I28A **Midland** 25.93 1 ⇑P P 05 21 39.9 -0.6
baz=26,SNR=16
J19A **Crowheart** 25.95 348 ⇓P P 05 21 40.8 +0.1
baz=26
AHID **Auburn Hatcher** 25.95 344 *e*P P 05 21 40.5 -0.3
comp=Z,38nm,0.9s
AHID *e*pP pP 05 21 57.1 +3.8
AHID LR LR
comp=Z,511nm,19.0s
I26A **New Underwood** 25.98 358 ⇑P P 05 21 40.5 -0.4
baz=26
I29A **Vivian Onida** 25.98 2 ⇓P P 05 21 40.4 -0.4
baz=26,SNR=17
I27A **Quinn** 26.00 359 ⇑P P 05 21 41.3 +0.2
baz=26,SNR=38
I25A **Rochford** 26.00 357 ⇓P P 05 21 41.4 +0.1
baz=26,SNR=21
ECSD **EROS Data Cent** 26.02 8 *e*P P 05 21 39.4 -1.8
comp=Z,57nm,1.0s
ECSD LR LR
comp=Z,2μm,20.0s
BMN **Battle Mountai** 26.06 332 *e*P P 05 21 43.5 +1.7
BMN pmax pmax
comp=Z,32nm,0.9s
BMN **Battle Mountai** 26.06 332 *e*P P 05 21 43.5 +1.7
comp=Z,32nm,0.9s

I23A **Meade Ranch, G** 26.08 354 ⇑P P 05 21 41.1 -0.8
baz=26
RSSD **Black Hills** 26.12 356 *e*P P
RSSD pmax pmax 05 21 41.7 -0.7
comp=Z,16nm,0.8s
RSSD **Black Hills** 26.12 356 *e*P P 05 21 41.6 -0.7
comp=Z,16nm,0.8s
I22A **9 Mile Ranch,** 26.13 352 ⇓P P 05 21 43.1 +0.8
baz=26,SNR=17
I21A **Big Trails, Te** 26.17 351 ⇓P P 05 21 42.9 +0.2
baz=26,SNR=27
I20A **Worland** 26.44 350 ⇓P P 05 21 45.8 +0.7
baz=26,SNR=31
REDW **Red Top Meadow** 26.45 345 *e*P P 05 21 45.8 +0.5
comp=Z,59nm,0.9s
BRSD **Miller** 26.47 4 ⇑P P 05 21 43.7 -1.6
baz=27
BRSD **Miller** 26.47 4 *e*P P 05 21 45.2 -0.1
comp=Z,119nm,1.0s
BRSD *e*pP pP 05 22 01.4 +3.5
H26A **Fairpoint** 26.56 358 ⇑P P 05 21 45.8 -0.3
baz=27,SNR=10
H27A **Howes** 26.56 359 ⇓P P 05 21 45.5 -0.6
baz=27,SNR=32
H29A **Onida** 26.59 2 ⇓P P 05 21 45.5 -0.8
baz=27
TPAW **Teton Pass** 26.59 345 *e*P P 05 21 47.7 +1.0
comp=Z,78nm,1.3s
H25A **Fruitdale** 26.60 357 ⇓P P 05 21 46.9 +0.5
baz=27,SNR=50
H28A **Mission Ridge** 26.61 1 ⇓P P 05 21 46.2 -0.3
baz=27
LOHW **Long Hollow** 26.62 345 *e*P P 05 21 47.6 +0.6
H23A **Clabaugh Cattl** 26.67 354 ⇓P P 05 21 46.5 -0.7
baz=27
I19A **Meeteetse** 26.68 348 ⇑P P 05 21 47.6 +0.2
baz=27,SNR=15
JFWS **Jewell Farm** 26.68 19 *e*P P
JFWS pmax pmax 05 21 45.0 -2.2
comp=Z,95nm,1.4s
JFWS MLR MLR
comp=Z,956nm,21.0s
JFWS **Jewell Farm** 26.68 19 *e*P P 05 21 45.0 -2.2
comp=Z,95nm,1.4s
JFWS LR LR
comp=Z,956nm,21.0s
BLA **Blacksburg** 26.77 40 *e*P P
BLA pmax pmax 05 21 45.9 -2.2
comp=Z,75nm,0.8s
BLA MLR MLR
comp=Z,356nm,22.0s
BLA **Blacksburg** 26.77 40 *e*P P 05 21 45.9 -2.2
comp=Z,75nm,0.8s
BLA LR LR
comp=Z,356nm,22.0s
H24A **Dirks Ranch, A** 26.78 356 ⇑P P 05 21 47.7 -0.5
baz=27,SNR=11
H22A **Clearmont** 26.81 353 ⇑P P 05 21 48.8 +0.4
baz=27,SNR=8.7
I17A **Pilgrim Ck.** 26.91 346 ⇑P P 05 21 49.9 +0.5
baz=27,SNR=21
H21A **Big Horn, Sher** 26.93 352 ⇑P P 05 21 49.6 0.0
baz=27,SNR=12
H20A **Greybull** 26.94 350 ⇑P P 05 21 49.4 -0.2
baz=27,SNR=12
G28A **Parade** 27.01 1 ⇑P P 05 21 49.3 -0.8
baz=27
VWCC **Virginia Weste** 27.07 41 *e*P P 05 21 48.9 -1.8
G30A **Faulkton** 27.14 4 ⇓P P 05 21 50.1 -1.2
baz=27,SNR=20
G25A **Newell** 27.16 357 ⇓P P 05 21 51.7 +0.2
baz=27,SNR=5.8
G29A **Hoven** 27.16 3 ⇑P P 05 21 50.7 -0.8
baz=27
G26A **Maurine** 27.23 359 ⇑P P 05 21 51.9 -0.2
baz=27,SNR=26
CNNC **Cliffs of the** 27.25 46 *e*P P 05 21 50.8 -1.6
comp=Z,44nm,0.8s
CNNC LR LR
comp=Z,446nm,21.0s
H19A **Powell** 27.29 349 ⇑P P 05 21 53.2 +0.4
baz=27,SNR=26
G23A **Biddle** 27.30 354 ⇑P P 05 21 52.1 -0.8
baz=27,SNR=9.0
G27A **Dupree** 27.31 360 ⇑P P 05 21 52.1 -0.8
baz=27,SNR=17
OHCM **Honcut** 27.33 325 *e*pP pP 05 22 11.4 +5.8
G24A **Alzada** 27.35 356 ⇓P P 05 21 52.9 -0.4
baz=27,SNR=12
H17A **Grant Village** 27.36 346 *e*P P 05 21 56.3 +2.7
comp=Z,15nm,1.1s
G22A **Birney** 27.42 353 ⇓P P 05 21 53.3 -0.6
baz=28,SNR=15
H18A **Shoshone NF, C** 27.43 348 ⇑P P 05 21 53.9 -0.3
baz=28
ACSO **Alum Creek Sta** 27.44 32 *e*P P 05 21 51.9 -2.1
comp=Z,50nm,1.2s
ACSO LR LR
comp=Z,877nm,21.0s
YFT **Old Faithful** 27.47 346 *e*P P 05 21 56.5 +2.0
comp=Z,17nm,1.0s
LKWY **Lake** 27.48 346 *e*P P
LKWY pmax pmax 05 21 54.2 -0.5
comp=Z,11nm,1.0s
LKWY MLR MLR
comp=Z,2μm,19.0s
LKWY **Lake** 27.48 346 *e*P P 05 21 54.1 -0.5
comp=Z,11nm,1.0s
LKWY LR LR
comp=Z,2μm,19.0s
G21A **Lodge Grass** 27.54 352 ⇑P P 05 21 54.6 -0.4
baz=28,SNR=6.0
HLID **Hailey** 27.66 340 ⇓P P 05 21 56.7 +0.6
baz=28,SNR=22
HLID **Hailey** 27.66 340 *e*P P 05 21 56.9 +0.7
comp=Z,8.6nm,0.8s
HLID LR LR
comp=Z,2μm,19.0s
YNR **Norris Junctio** 27.69 346 *e*P P 05 21 58.1 +1.7
comp=Z,13nm,1.0s
G20A **Bridger** 27.69 350 ⇑P P 05 21 55.7 -0.6
baz=28
YMR **Madison River** 27.71 346 *e*P P 05 21 58.2 +1.6
comp=Z,35nm,1.4s
RLMT **Red Lodge** 27.78 348 PFAKE
RLMT LR LR 05 22 10.0 +13
comp=Z,1μm,20.0s
F28A **McLaughlin** 27.79 1 ⇓P P 05 21 55.9 -1.2
baz=28
F26A **Lodgepole** 27.79 359 ⇑P P 05 21 56.9 -0.2
baz=28,SNR=8.4
F27A **Lemmon** 27.80 360 ⇑P P 05 21 56.2 -1.0
baz=28,SNR=22
F29A **Eureka** 27.81 3 ⇑P P 05 21 56.0 -1.3
baz=28
F23A **Volborg** 27.82 354 ⇓P P 05 21 57.0 -0.4
baz=28,SNR=18
F30A **Leola** 27.86 4 ⇑P P 05 21 56.1 -1.6
baz=28
F24A **Ekalaka** 27.87 356 ⇓P P 05 21 57.5 -0.4
baz=28,SNR=31
F25A **Bowman** 27.89 357 ⇓P P 05 21 57.4 -0.7
baz=28,SNR=5.2
F22A **Rosebud** 27.97 353 ⇑P P 05 21 58.0 -0.7
baz=28,SNR=7.0
QLMT **Earthquake Lak** 27.97 345 *e*P P 05 22 00.6 +1.7
QLMT *e*pP pP 05 22 14.2 +2.7
MFID **Camas Ranch** 28.02 338 *e*P P 05 21 59.8 +0.6
comp=Z,7.7nm,0.9s
F21A **Absaloka Mine,** 28.11 352 ⇑P P 05 21 59.7 -0.4
baz=28
SPMN **Marine on St.** 28.16 13 ⇑P P 05 21 58.5 -1.8
baz=28,SNR=6.9
SPMN **Marine on St.** 28.16 13 *e*P P 05 21 58.6 -1.8
comp=Z,26nm,0.9s
F20A **Billings** 28.24 350 ⇓P P 05 22 00.9 -0.4
baz=28,SNR=12
WVOR **Wild Horse Val** 28.31 333 *e*P P
WVOR pmax pmax 05 22 00.5 -1.4
comp=Z,39nm,1.8s
WVOR MLR MLR
comp=Z,553nm,19.0s
WVOR **Wild Horse Val** 28.31 333 *e*P P 05 22 00.5 -1.4
comp=Z,39nm,1.8s
WVOR LR LR
comp=Z,553nm,19.0s
E27A **Carson** 28.36 0 ⇑P P 05 22 02.1 0.0
baz=28,SNR=6.0

E26A **Carlson Angus** 28.41 359 ⇑P P 05 22 01.9 -0.7
baz=28,SNR=13
F19A **Roth Farm, Mol** 28.43 349 ⇓P P 05 22 02.3 -0.6
baz=28
E25A **Miller Ranch,** 28.46 358 ⇑P P 05 22 02.6 -0.6
baz=29
E28A **Huff** 28.52 1 ⇑P P 05 22 02.7 -0.8
baz=29
E30A **Jud** 28.53 4 ⇑P P 05 22 02.3 -1.3
baz=29
E29A **Napoleon** 28.55 3 ⇓P P 05 22 02.8 -1.0
baz=29
E24A **Baker** 28.57 356 ⇑P P 05 22 03.2 -0.9
baz=29
E23A **Ismay** 28.58 355 ⇑P P 05 22 03.3 -0.9
baz=29,SNR=7.1
E22A **Miles City** 28.59 354 ⇑P P 05 22 03.5 -0.7
baz=29,SNR=6.7
MOD **Modoc Plateau** 28.64 330 *e*P P 05 22 06.2 +1.3
comp=Z,20nm,0.8s
JSRW **J. Sargeant Re** 28.66 42 *e*P P 05 22 02.9 -1.9
AAM **Ann Arbor** 28.70 29 *e*P P
AAM pmax pmax 05 22 03.5 -1.7
comp=Z,45nm,0.7s
AAM MLR MLR
comp=Z,372nm,21.0s
AAM **Ann Arbor** 28.70 29 *e*P P 05 22 03.5 -1.7
comp=Z,45nm,0.7s
AAM LR LR
comp=Z,372nm,21.0s
BOZ **Bozeman (W)** 28.79 345 *e*P P
BOZ pmax pmax 05 22 06.2 +0.1
comp=Z,21nm,1.0s
BOZ MLR MLR
comp=Z,662nm,22.0s
BOZ **Bozeman (W)** 28.79 345 *e*P P 05 22 06.2 +0.1
comp=Z,21nm,1.0s
BOZ LR LR
comp=Z,662nm,22.0s
E21A **Keefer Ranch,** 28.81 352 ⇓P P 05 22 05.9 -0.4
baz=29
SDDR **Presa de Saban** 28.86 83 *e*P P 05 22 09.2 +2.2
comp=Z,116nm,0.8s
SDDR LR LR
comp=Z,332nm,21.0s
LAO **LASA Array** 28.86 354 *e*P P 05 22 06.0 -0.7
comp=Z,26nm,1.1s
LAO LR LR
comp=Z,932nm,20.0s
OTAV **Otavalo** 28.88 125 *e*P P 05 22 03.6 -4.0
OTAV LR LR
comp=Z,407nm,20.0s
E20A **Meyer Farm, Mu** 28.93 351 ⇓P P 05 22 07.2 -0.1
baz=29,SNR=18
D26A **Manning** 28.97 359 ⇑P P 05 22 07.2 -0.3
baz=29,SNR=5.1
GRTK **Grand Turk** 28.97 78 PFAKE 05 22 20.0 +12
GRTK LR LR
comp=Z,774nm,20.0s
E19A **Rath Farm, Rou** 28.99 350 ⇓P P 05 22 07.9 +0.1
baz=29,SNR=16
LCCM **Lewis and Clar** 29.03 345 P P 05 22 09.6 +1.4
D27A **Center** 29.04 0 ⇓P P 05 22 07.4 -0.8
baz=29
D29A **Pettibone, Tap** 29.04 3 ⇑P P 05 22 07.0 -1.3
baz=29
D25A **Fairfield** 29.11 358 ⇑P P 05 22 09.0 +0.1
baz=29
D24A **Glendive** 29.12 356 ⇓P P 05 22 09.0 0.0
baz=29,SNR=21
D28A **Regan** 29.14 2 ⇓P P 05 22 08.6 -0.5
baz=29
D30A **Buchanan** 29.14 4 ⇑P P 05 22 07.8 -1.3
baz=29,SNR=13
LRM **Limekiln Ridge** 29.15 344 *e*P P 05 22 10.5 +1.0
N02D **Trinity Center** 29.15 326 ⇑P P 05 22 10.9 +1.5
baz=29
D23A **Lindsay** 29.25 355 ⇑P P 05 22 09.9 -0.2
baz=29,SNR=7.9
CBN **Corbin Frederi** 29.28 42 PFAKE 05 22 30.0 +20
CBN LR LR
comp=Z,392nm,20.0s
M04C **Macdoel** 29.30 328 ⇑P P 05 22 12.0 +1.4
baz=29,SNR=13
D22A **Cohagen** 29.31 354 ⇓P P 05 22 10.6 -0.1
baz=29,SNR=25
D21A **La Casta Ranch** 29.32 353 ⇓P P 05 22 10.8 +0.1
baz=29,SNR=13
D20A **Manuel Ranch,** 29.50 351 ⇑P P 05 22 12.2 -0.1
baz=30,SNR=14
M02C **Callahan** 29.53 327 ⇓P P 05 22 12.9 +0.2
baz=30
C24A **Savage** 29.55 356 ⇓P P 05 22 12.7 0.0
baz=30
KHMM **Horse Mountain** 29.64 325 *e*P P 05 22 16.1 +2.4
comp=Z,25nm,1.0s
C27A **Sayler Ranch,** 29.64 0 ⇓P P 05 22 13.3 -0.3
baz=30,SNR=5.8
C28A **Hausauer Farms** 29.67 2 ⇓P P 05 22 12.8 -1.0
baz=30,SNR=5.6
C25A **Freed Ranch, W** 29.67 358 ⇓P P 05 22 13.6 -0.2
baz=30,SNR=8.3
D19A **Cripps Ranch,** 29.69 350 ⇓P P 05 22 13.8 -0.2
baz=30,SNR=28
C30A **Mose, Pekin** 29.75 4 ⇓P P 05 22 13.5 -1.0
baz=30,SNR=5.5
C26A **Wahner Farm, P** 29.76 359 ⇓P P 05 22 14.1 -0.5
baz=30,SNR=17
ROSC **El Rosal** 29.79 113 LR LR 05 33 19.2
comp=Z,102nm,20.0s,baz=216,slow=35
ROSC **El Rosal** 29.79 113 *e*P P 05 22 22.1 +6.5
BMO **Blue Mountains** 29.80 337 PFAKE 05 22 30.0 +15
BMO LR LR
comp=Z,1μm,20.0s
MDND **Maddock** 29.83 3 ⇓P P 05 22 14.0 -1.1
baz=30
MDND **Maddock** 29.83 3 *e*P P 05 22 14.6 -0.6
comp=Z,244nm,1.0s
MDND *e*pP pP 05 22 31.2 +3.4
HRY **Holter Researc** 29.84 346 *e*P P 05 22 16.2 +0.8
C23A **Lambert** 29.87 355 ⇑P P 05 22 15.3 -0.3
baz=30,SNR=21
C22A **Vida** 29.87 354 ⇑P P 05 22 15.4 -0.2
baz=30,SNR=7.0
K04D **Chiloquin, OR** 29.88 329 ⇓P P 05 22 16.6 +0.7
baz=30
ALLY **Alegheny Colle** 29.94 34 *e*P P 05 22 13.6 -2.7
comp=Z,12nm,0.3s
C20A **Veseth Ranch,** 30.09 352 ⇑P P 05 22 17.7 +0.1
baz=30,SNR=9.3
J05D **Fort Rock, OR** 30.14 331 ⇓P P 05 22 19.0 +0.8
baz=30
B25A **Knox Farm, Ray** 30.23 358 ⇑P P 05 22 18.3 -0.4
baz=30,SNR=14
C19A **Slack Wire Ran** 30.27 350 ⇑P P 05 22 19.1 -0.1
baz=30,SNR=13
B26A **Jensen Ranch,** 30.31 359 ⇑P P 05 22 18.8 -0.6
baz=30
B27A **Peters Farms,** 30.34 1 ⇓P P 05 22 18.9 -0.8
baz=30
ERPA **Erie** 30.36 33 PFAKE 05 22 30.0 +10
ERPA LR LR
comp=Z,778nm,21.0s
B28A **Dugan Ranch, T** 30.40 2 ⇑P P 05 22 19.6 -0.6
baz=30,SNR=17
B22A **Reddig Ranch S** 30.43 354 ⇑P P 05 22 20.1 -0.5
baz=30
B29A **Wagenman Farm,** 30.46 3 ⇑P P 05 22 20.1 -0.7
baz=31,SNR=5.5
DGMT **Dagmar** 30.47 357 ⇓P P 05 22 20.4 -0.5
baz=31,SNR=12
DGMT **Dagmar** 30.47 357 *e*P P 05 22 21.2 +0.4
comp=Z,69nm,0.9s
DGMT LR LR
comp=Z,1μm,20.0s
L02D **Cave Junction,** 30.47 327 ⇑P P 05 22 22.5 +1.5
baz=30
MSO **Missoula** 30.48 343 ⇑P P 05 22 21.5 +0.5
baz=31,SNR=17
SSPA **Standing Stone** 30.49 37 *e*P P 05 22 19.0 -2.1
B30A **Myrvik Farm, E** 30.51 4 ⇑P P 05 22 20.3 -0.8
baz=31,SNR=9.6
B23A **Brockton** 30.51 356 ⇑P P 05 22 21.2 -0.1
baz=31,SNR=16
J04D **Umpqua Nationa** 30.52 330 ⇑P P 05 22 22.6 +1.1
baz=31,SNR=6.7
AGMN **Agassiz Nation** 30.60 8 ⇑P P 05 22 20.5 -1.5
baz=31,SNR=25

AGMN **Agassiz Nation** 30.60 8 *e*P P 05 22 20.7 -1.3
comp=Z,91nm,0.8s
AGMN LR LR
comp=Z,966nm,20.0s
EGMT Eagleton 30.67 349 ⇓P P 05 22 22.9 +0.2
baz=31
EGMT Eagleton 30.67 349 PFAKE 05 22 40.0 +17
EGMT LR LR
comp=Z,1μm,22.0s
SMN1 Samana, DR 30.75 83 *e*pP pP 05 22 38.6 +2.3
B20A Solberg Farm, 30.80 352 ⇑P P 05 22 23.4 -0.4
baz=31
A26A Wade Farm, Ken 30.83 360 ⇓P P 05 22 23.4 -0.6
baz=31,SNR=8.7
A28A Rude Farm, Bot 30.86 2 ⇓P P 05 22 23.5 -0.9
baz=31
A27A Ledoux Ranch, 30.89 1 ⇓P P 05 22 23.6 -0.9
baz=31
A25A Svangstu Ranch 30.89 358 ⇑P P 05 22 24.5 0.0
baz=31,SNR=11
A24A Westby 30.91 357 ⇑P P 05 22 24.8 0.0
baz=31,SNR=16
A29A Manning Farm, 30.92 3 ⇓P P 05 22 23.5 -1.3
baz=31
B19A Brinkman Farms 30.95 351 ⇑P P 05 22 25.2 +0.1
baz=31
A30A Hoffart Farm, 31.00 4 ⇓P P 05 22 24.4 -1.1
baz=31
A23A Redstone 31.00 356 ⇓P P 05 22 25.3 -0.2
baz=31
I05D Terrebonne, OR 31.01 332 ⇑P P 05 22 27.0 +1.3
baz=31
EYMN Ely 31.02 13 *e*P P 05 22 24.0 -1.8
comp=Z,42nm,0.9s
EYMN *ep*P *p*P 05 22 40.0 +1.6
EYMN LR LR
comp=Z,1μm,21.0s
I04A Tendick Farm, 31.08 330 ⇑P P 05 22 26.8 +0.5
baz=31
A22A Carney Farms, 31.11 355 ⇑P P 05 22 26.4 -0.2
baz=31
SWMT Swartz Lake 31.12 344 *e*P P 05 22 26.8 +0.1
A21A Bergtoll Ranch 31.21 353 ⇓P P 05 22 27.7 +0.3
baz=31
A20A Cobblestone Ra 31.22 352 ⇑P P 05 22 27.0 -0.5
baz=31
KEBM Edson Butte 31.36 327 *e*pP pP 05 22 48.4 +7.0
A19A Klindworth Far 31.38 351 ⇓P P 05 22 28.8 -0.1
baz=32,SNR=11
JTMT Jette 31.41 344 *e*P P 05 22 29.2 -0.1
I03D Drain, OR 31.46 329 ⇑P P 05 22 30.8 +1.2
baz=32
SDV Santo Domingo 31.51 103 *e*P P 05 22 32.7 +2.1
SDV LR LR
comp=Z,336nm,21.0s
G05D Wamic, OR 31.72 333 ⇑P P 05 22 33.0 +1.1
baz=32
RNO Roman Nose 31.81 329 P P 05 22 35.1 +2.3
MMNY Mt. Morris Dam 31.88 34 *e*pP pP 05 22 45.5 -0.5
HAWA Hanford 31.93 336 PFAKE 05 22 50.0 +16
HAWA LR LR
comp=Z,430nm,21.0s
E07A Sunnyside 32.19 336 *e*P P 05 22 37.6 +1.6
comp=Z,7.5nm,0.9s
GULW Guler Mountain 32.38 334 P P 05 22 39.7 +1.9
ULM Lac du Bonnet 32.52 7 P P 05 22 36.9 -1.9
comp=Z,49nm,0.9s,baz=196,slow=10,SNR=35
ULM pP *p*P 05 22 48.9 -2.5
comp=Z,22nm,0.8s,baz=193,slow=10,SNR=6.7
ULM sP *s*P 05 22 54.0 -3.2
comp=Z,39nm,0.9s,baz=199,slow=9.9,SNR=8.1
ULM Lac du Bonnet 32.52 7 *e*P P 05 22 37.2 -1.6
ULM pP *p*P 05 22 48.9 -2.5
ULM sP *s*P 05 22 54.0 -3.2
WALA Waterton Lakes 32.53 345 *e*P P 05 22 39.5 +0.5
G03D McMinnville, O 32.56 331 ⇑P P 05 22 40.4 +1.2
baz=33,SNR=5.7
BINY Binghamton 32.59 37 *e*P P 05 22 37.3 -2.3
comp=Z,46nm,0.9s
BINY LR LR
comp=Z,641nm,22.0s
NEW Newport 32.71 341 *e*P P 05 22 41.0 +0.5
NEW pmax pmax
comp=Z,11nm,0.9s
NEW MLR MLR
comp=Z,1μm,19.0s
NEW Newport 32.71 341 ⇓P P 05 22 40.5 0.0
baz=33,SNR=16
NEW Newport 32.71 341 *e*P P 05 22 41.0 +0.5
comp=Z,11nm,0.9s
NEW LR LR
comp=Z,1μm,19.0s
SADO Sadowa 32.71 30 P P 05 22 37.4 -3.1
comp=Z,9.6nm,0.6s,baz=246,slow=8.9,SNR=22
SADO sP *s*P 05 22 55.9 -3.0
comp=Z,18nm,0.7s,baz=257,slow=9.0,SNR=9.9
TDL Tradedollar La 32.98 334 P P 05 22 44.5 +1.5
PAL Palisades 33.09 40 *e*pP pP 05 22 58.6 +1.9
LRS Lares 33.11 84 *e*P P 05 22 43.9 -0.5
WTV Waterville 33.18 337 P P 05 22 45.7 +0.9
AOPR Arecibo Observ 33.19 84 *e*pP pP 05 22 60.0 +2.2
ETW Entiat 33.24 337 P P 05 22 46.3 +1.0
OBIP Obispado Ponce 33.36 84 *e*P P 05 22 45.9 -0.6
comp=Z,102nm,0.8s
CELP Cerrillos 33.38 84 *e*P P 05 22 44.9 -1.8
ICMP Isla Caja de M 33.45 85 *e*pP pP 05 23 01.7 +1.7
NLW Nelson Butte 33.64 337 P P 05 22 50.0 +1.2
SJG San Juan 33.78 84 *e*P P 05 22 50.1 -0.1
SJG *SP *s*P 05 23 04.4 -4.2
SJG pmax pmax
comp=Z,11nm,1.0s
SJG San Juan 33.78 84 P P 05 22 48.8 -1.5
comp=Z,49nm,0.9s,baz=270,slow=5.9,SNR=9.7
SJG sP *s*P 05 23 04.4 -4.2
comp=Z,189nm,0.8s,baz=270,slow=7.6,SNR=7.0
SJG LR LR 05 36 45.6
comp=Z,390nm,21.6s,baz=270,slow=37
SJG San Juan 33.78 84 *e*P P 05 22 50.1 -0.1
comp=Z,11nm,1.0s
SJG sP *s*P 05 23 04.3 -4.2
YLE Yale 33.87 41 *e*P P 05 22 49.1 -1.6
ATAH Atahualpa 33.96 135 P P 05 22 55.9 +3.7
comp=Z,13nm,0.7s,baz=319,slow=11,SNR=6.3
HUMP Col San Antoni 34.06 84 *e*pP pP 05 23 12.2 +6.9
NLWA Neilton Lookou 34.50 333 PFAKE 05 23 10.0 +14
NLWA LR LR
comp=Z,612nm,20.0s
ACCN Adirondack Com 34.66 37 *e*P P 05 22 55.5 -2.1
comp=Z,13nm,0.8s
STVI Saint Thomas 34.89 84 *e*pP pP 05 23 17.9 +5.4
LONY Lake Ozonia 34.94 35 *e*P P 05 22 57.5 -2.4
comp=Z,10nm,0.9s
LONY LR LR
comp=Z,312nm,22.0s
VDB Vedder Mountai 35.09 336 P P 05 23 01.5 +0.4
CDVI St. Croix 35.13 85 *e*pP pP 05 23 20.7 +6.1
MDV Middlebury 35.32 37 *e*P P 05 23 00.8 -2.4
LBNH Lisbon 36.19 37 *e*P P 05 23 08.9 -1.8
LBNH pmax pmax
comp=Z,13nm,1.2s
LBNH MLR MLR
comp=Z,492nm,21.0s
LBNH Lisbon 36.19 37 *e*P P 05 23 08.9 -1.8
comp=Z,13nm,1.2s
LBNH LR LR
comp=Z,492nm,21.0s
EDM Edmonton 36.31 348 *e*P P 05 23 11.4 -0.3
EDM Edmonton 36.31 348 *e*P P 05 23 11.4 -0.3
FFC Flin Flon 36.67 360 P P 05 23 13.9 -0.7
comp=Z,369nm,0.9s,SNR=28
FFC Flin Flon 36.67 360 *e*P P 05 23 13.3 -1.3
FFC pmax pmax
comp=Z,56nm,0.9s
FFC MLR MLR
comp=Z,2μm,22.0s
FFC Flin Flon 36.67 360 *e*P P 05 23 13.2 -1.3
comp=Z,56nm,0.9s
FFC LR LR
comp=Z,2μm,22.0s
WVL Waterville 37.70 38 *e*P P 05 23 22.3 -1.1
FDF Fort de France 39.00 89 PFAKE 05 23 50.0 +15
FDF LR LR
comp=Z,336nm,19.0s
WRAK Wrangell Islan 44.74 336 PFAKE 05 24 30.0 +8.9
WRAK LR LR
comp=Z,489nm,21.0s

PTGA Pitinga 45.08 110 P P 05 24 24.9 +0.5
comp=Z,9.0nm,0.8s,baz=311,slow=10,SNR=14
PTGA pP *p*P 05 24 35.8 -1.6
comp=Z,7.4nm,0.7s,baz=267,slow=8.3,SNR=6.6
PTGA Pitinga 45.08 110 *e*P P 05 24 24.2 -0.2
PTGA pP *p*P 05 24 35.8 -1.6
YKA Yellowknife Ar 45.36 352 P P 05 24 24.7 -1.2
comp=Z,11nm,0.8s,baz=160,slow=7.4,SNR=217
YKA pP *p*P 05 24 37.8 -1.2
comp=Z,11nm,0.9s,baz=161,slow=7.5,SNR=15
YKA sP *s*P 05 24 41.6 -3.0
comp=Z,11nm,0.9s,baz=160,slow=6.7,SNR=14
YKA PcP *Pc*P 05 26 05.4 +0.8
comp=Z,2.7nm,0.9s,baz=155,slow=3.3,SNR=7.4
SCHQ Schefferville 45.40 28 P P 05 24 24.4 -2.0
comp=Z,20nm,0.9s,baz=226,slow=6.3,SNR=27
SCHQ pP *p*P 05 24 37.0 -2.5
comp=Z,4.1nm,0.7s,baz=225,slow=4.3,SNR=3.0
SCHQ sP *s*P 05 24 41.6 -3.5
comp=Z,5.1nm,0.5s,baz=227,slow=7.6,SNR=4.0
SCHQ PcP *Pc*P 05 26 05.1 +0.1
comp=Z,9.0nm,0.9s,baz=142,slow=1.6,SNR=4.6
SCHQ LR LR 05 45 13.6
comp=Z,258nm,19.9s,baz=261,slow=39
DLBC Dease Lake 45.43 340 P P 05 24 28.8 +2.2
comp=Z,12nm,0.8s,baz=150,slow=6.5,SNR=28
DLBC pP *p*P 05 24 38.9 -0.8
comp=Z,5.6nm,0.7s,baz=162,slow=9.6,SNR=5.0
DLBC sP *s*P 05 24 43.7 -1.7
comp=Z,16nm,1.0s,baz=162,slow=3.2,SNR=8.0
DLBC Dease Lake 45.43 340 *e*P P 05 24 28.2 +1.6
comp=Z,26nm,1.1s
DLBC pP *p*P 05 24 38.9 -0.8
DLBC sP *s*P 05 24 43.7 -1.7
TAOE Nuku Hiva Isla 46.39 238 *e*T T 06 13 56.7
comp=Z,136nm,0.2s
LPAZ La Paz 47.48 134 *e*P P 05 24 44.5 +0.7
LPAZ *PP *p*P 05 24 55.9 -1.1
LPAZ *SP *s*P 05 25 01.2 -1.4
LPAZ pmax pmax
comp=Z,6.0nm,0.8s
LPAZ La Paz 47.48 134 P P 05 24 44.9 +1.0
comp=Z,4.4nm,0.7s,baz=330,slow=6.7,SNR=22
LPAZ pP *p*P 05 24 55.9 -1.1
comp=Z,4.0nm,0.7s,baz=331,slow=13,SNR=7.7
LPAZ sP *s*P 05 25 01.2 -1.4
comp=Z,5.7nm,1.0s,baz=334,slow=10,SNR=5.2
LPAZ LR LR 05 42 59.0
comp=Z,293nm,20.3s,baz=316,slow=34
LPAZ La Paz 47.48 134 *e*P P 05 24 44.5 +0.7
comp=Z,5.9nm,0.8s
LPAZ pP *p*P 05 24 55.9 -1.1
LPAZ sP *s*P 05 25 01.2 -1.4
HYT Haines Junctio 49.77 338 *e*P P 05 25 01.5 +1.2
LVC Limon Verde 51.55 140 *e*P P 05 25 16.3 +1.9
comp=Z,16nm,1.3s
RKT Rikitea 52.21 220 *e*LR LR 05 40 38.2
comp=Z,624nm,28.8s,baz=36
RKT Rikitea 52.21 220 *e*T T 06 21 14.2
comp=Z,11nm,0.2s
SIV San Ignacio 52.37 128 P P 05 25 20.8 +0.5
comp=Z,14nm,0.8s,baz=311,slow=9.4,SNR=32
SIV pP *p*P 05 25 31.7 -2.0
comp=Z,6.0nm,0.7s,baz=303,slow=10,SNR=6.9
SIV LR LR 05 45 35.4
comp=Z,212nm,20.6s,baz=314,slow=34
BMRM Bremner River 52.55 335 *e*P P 05 25 22.9 +1.8
comp=Z,83nm,1.3s
DAWY Dawson 52.63 340 *e*P P 05 25 22.4 +0.8
comp=Z,14nm,1.0s
DIV Divide 53.11 335 *e*P P 05 25 25.5 +0.3
comp=Z,43nm,1.1s
EGAK Eagle 53.68 340 *e*P P 05 25 29.7 +0.5
comp=Z,19nm,0.9s
EGAK LR LR
comp=Z,303nm,19.0s
DOT Dot Lake 53.94 338 *e*P P 05 25 32.4 +1.2
comp=Z,56nm,1.3s
DOT *epP *p*P 05 25 49.0 +4.4
PAX Paxson 54.05 337 *e*P P 05 25 33.1 +1.0
PAX pmax pmax
comp=Z,50nm,1.2s
PAX Paxson 54.05 337 *e*P P 05 25 33.1 +1.0
comp=Z,50nm,1.2s
INK Inuvik 54.15 346 *e*P P 05 25 32.8 +0.2
INK pmax pmax
comp=Z,44nm,1.0s
INK Inuvik 54.15 346 *e*P P 05 25 32.8 +0.2
comp=Z,44nm,1.0s
KDAK Kodiak Island 54.48 329 *i*P P 05 25 36.9 +1.7
OHAK Old Harbor 54.60 328 *e*P P 05 25 38.0 +1.9
comp=Z,186nm,1.4s
LCO Las Campanas 55.51 147 *e*P P 05 25 44.1 +0.8
ILAR Eielson Array 55.60 338 P P 05 25 44.1 +0.9
comp=Z,26nm,1.0s,baz=146,slow=5.4,SNR=157
ILAR pP *p*P 05 25 56.5 -0.1
comp=Z,21nm,1.0s,baz=140,slow=5.9,SNR=8.8
ILAR sP *s*P 05 26 00.8 -1.3
comp=Z,20nm,1.0s,baz=149,slow=2.4,SNR=12
ILAR LR LR 05 51 59.1
comp=Z,306nm,20.0s,baz=134,slow=39
RSO Redoubt South 55.73 332 *e*P P 05 25 45.3 +0.9
comp=Z,190nm,0.8s
MCK McKinley 55.77 337 *e*P P 05 25 45.5 +1.1
MCK pmax pmax
comp=Z,63nm,1.2s
MCK McKinley 55.77 337 *e*P P 05 25 45.5 +1.1
comp=Z,63nm,1.2s
COLA College 56.00 338 *d*/P P 05 25 46.6 +0.6
COLA *i* *PP *p*P 05 26 03.1 +3.7
COLA pmax pmax
comp=Z,94nm,1.0s
COLA College 56.00 338 *e*P P 05 25 46.5 +0.6
comp=Z,34nm,1.1s
COLA LR LR
comp=Z,386nm,22.0s
VAH Vaihoa 56.01 237 *e*T T 06 25 52.9
comp=Z,5.4nm,0.3s
PMOR Pomariorio Ree 56.10 237 *e*T T 06 26 12.4
comp=Z,10nm,0.2s
TRF Thorofare Moun 56.14 336 *e*P P 05 25 48.3 +1.0
comp=Z,92nm,0.9s
KTH Kantishna Hill 56.43 336 *e*P P 05 25 49.9 +0.6
comp=Z,70nm,1.4s
PPLA Purkeypile 56.61 335 *e*P P 05 25 51.4 +0.8
comp=Z,126nm,1.3s
RES Resolute Bay 56.83 2 *e*P P 05 25 50.5 -1.3
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 56.83 2 *e*P P 05 25 50.5 -1.3
comp=Z,6.0nm,0.9s
COLD Coldfoot 58.11 340 *e*P P 05 26 02.0 +1.1
comp=Z,31nm,1.1s
COLD *epP *p*P 05 26 18.9 +4.5
TIAR Tiarei 58.68 236 *e*T T 06 29 25.9
comp=Z,4.8nm,0.3s
CFAA Coronel Fontan 58.85 147 P P 05 26 08.5 +1.9
comp=Z,1.5nm,1.0s,baz=316,slow=5.1,SNR=15
CFAA pP *p*P 05 26 19.6 -0.5
comp=Z,0.9nm,0.9s,baz=312,slow=8.4,SNR=5.5
CFAA LR LR 05 46 40.9
comp=Z,29nm,19.1s,slow=31
SFJD Kangerlussuaq 58.85 21 *e*P P 05 26 04.9 -1.2
SFJD pmax pmax
comp=Z,9.0nm,1.0s
SFJD Kangerlussuaq 58.85 21 LR LR 05 52 24.8
comp=Z,170nm,20.6s,baz=228,slow=37
SFJD Kangerlussuaq 58.85 21 *i*P P 05 26 04.9 -1.2
comp=Z,9.2nm,1.0s
PPT Papeete 58.87 236 LR LR 05 44 25.7
comp=Z,160nm,19.8s,baz=82,slow=29
PPT2 Papeete2 58.88 236 *e*LR LR 05 43 19.7
comp=Z,656nm,26.5s,baz=49
ILULI Ilulissat 59.84 19 *e*P P 05 26 11.9 -1.0
ILULI pmax pmax
comp=Z,12nm,1.1s
ILULI Ilulissat 59.84 19 *i*P P 05 26 11.9 -1.0
comp=Z,12nm,1.1s
KULLO Kullorsuaq 61.48 12 ⇓/P P 05 26 23.3 -0.7
KULLO pmax pmax
comp=Z,16nm,0.8s
KULLO Kullorsuaq 61.48 12 ⇓/P P 05 26 23.3 -0.7
comp=Z,16nm,0.8s
TBI Tubuai 62.15 230 *e*LR LR 05 45 03.4
comp=Z,605nm,27.2s,baz=42
TBI Tubuai 62.15 230 *e*T T 06 33 46.1
comp=Z,5.9nm,0.3s

BDFB Brasilia 62.58 119 P P 05 26 33.5 +1.2
comp=Z,14nm,0.7s,baz=291,slow=7.4,SNR=23
BDFB pP *p*P 05 26 45.1 -0.8
comp=Z,20nm,0.8s,baz=285,slow=7.4,SNR=13
BDFB LR LR 05 53 56.0
comp=Z,111nm,18.1s,baz=214,slow=36
TNA Tin City 63.97 335 *e*P P 05 26 41.6 +1.0
comp=Z,49nm,1.1s
SUMG Summit 65.06 17 ⇓/P P 05 26 47.9 -0.2
SUMG pmax pmax
comp=Z,36nm,1.0s
SUMG Summit 65.06 17 *e*P P 05 26 47.6 -0.6
comp=Z,47nm,1.0s
SUMG Summit 65.06 17 ⇓/P P 05 26 47.9 -0.2
comp=Z,36nm,1.0s
GAMB Gambell 65.18 333 *e*P P 05 26 49.3 +0.8
comp=Z,6.3nm,0.9s
PLCA Paso Flores 65.21 154 LR LR 05 49 36.5
comp=Z,175nm,19.8s,baz=315,slow=31
ALE Alert 66.36 5 P P 05 26 55.9 -0.1
comp=Z,42nm,1.2s,SNR=5.0
DAG Danmarks Havn 71.02 14 ⇓/P P 05 27 24.3 -0.7
DAG pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 71.02 14 ⇓/P P 05 27 24.3 -0.7
comp=Z,15nm,0.9s
BILL Bilibino 74.22 337 *d*/P P 05 27 45.2 +1.0
BILL *i* 05 28 00.2
BILL pmax pmax
comp=Z,45nm,1.7s
BILL MLR MLR
comp=Z,533nm,17.0s
BILL Bilibino 74.22 337 *e*P P 05 27 44.9 +0.7
comp=Z,41nm,1.4s
BILL LR LR
comp=Z,666nm,19.0s
KBS Kingsbay 76.86 10 PFAKE 05 28 10.0 +11
KBS LR LR
comp=Z,493nm,20.0s
USHA Ushuaia 77.88 161 LR LR 05 54 11.8
comp=Z,152nm,19.1s,baz=292,slow=29
SPA0 Spitsbergen Ar 77.99 11 *e*P P 05 28 16.8 +11
HSPB Hornsund (broa 78.44 12 IAMs_20 IAMs_20 06 03 41.0
comp=Z,358nm,21.8s
ESK Eskdalemuir 80.13 35 P P 05 28 17.0 -0.5
comp=Z,207nm,1.0s,SNR=5.2
ESK Eskdalemuir 80.13 35 *i*P P 05 28 18.6 +1.1
ESK Eskdalemuir 80.13 35 *e*P P 05 28 17.2 -0.3
comp=Z,65nm,1.3s
ESK LR LR
comp=Z,215nm,20.0s
HOPEN Hopen 80.51 11 *e*P P 05 28 21.0 +1.8
PGAV Gavieira, Arco 80.68 49 *e*pP pP 05 28 39.2 +4.2
PGAV A A 05 28 40.9
comp=Z,102nm,1.6s
PCAS Casmilo, Conde 81.04 51 *e*P P 05 28 23.5 +0.8
comp=Z,120nm,1.6s
PCAS *epP *p*P 05 28 41.5 +4.7
SEY Seymchan 81.16 334 *i*P P 05 28 24.7 +1.8
POLO Lamas de Olo 81.19 49 *e*P P 05 28 24.9 +1.3
comp=Z,36nm,2.0s
POLO *epP *p*P 05 28 42.1 +4.4
PTOM Tomar 81.22 51 *e*P P 05 28 25.4 +1.7
comp=Z,100nm,1.7s
PTOM *epP pP 05 28 42.9 +5.1
PVRL Vila Real 81.27 50 *e*pP *p*P 05 28 42.4 +4.3
PVRL A A 05 28 43.8
comp=Z,64nm,1.7s
PVIS Viseu 81.30 50 *e*P P 05 28 29.2 +5.0
comp=Z,61nm,2.1s
PVIS *epP pP 05 28 42.7 +4.5
PET Petropavlovsk 81.46 323 *e*P P 05 28 25.3 +0.6
PET pmax pmax
comp=Z,68nm,1.7s
PNCL Nicolau / Gran 81.55 53 *e*P P 05 28 26.2 +0.7
PNCL *epP pP 05 28 44.8 +5.3
PTEO Sao Teotonio 81.56 53 *e*P P 05 28 27.3 +1.8
comp=Z,145nm,1.9s
PTEO *epP pP 05 28 45.2 +5.6
PFVI Vila Bisbo 81.59 54 *e*P P 05 28 27.5 +1.8
comp=Z,140nm,1.5s
PFVI *epP pP 05 28 45.5 +5.7
MTE Manteigas 81.64 50 *e*P P 05 28 27.1 +1.1
comp=Z,64nm,1.0s
MTE *epP *p*P 05 28 44.4 +4.3
EVOP Sao Brissos 81.74 52 ⇓/P P 05 28 27.1 +0.7
EVOP *e*PP *p*P 05 28 44.5 +4.0
EVOP pmax pmax
comp=Z,73nm,1.1s
EVOP Sao Brissos 81.74 52 ⇓/P P 05 28 27.1 +0.7
comp=Z,73nm,1.1s
EVOP *epP *p*P 05 28 44.5 +4.0
MVO Moncorvo 81.80 49 *e*P P 05 28 28.3 +1.5
comp=Z,113nm,1.7s
MVO *epP *p*P 05 28 45.5 +4.6
EVO Evora 81.82 52 ⇓/P P 05 28 27.1 +0.2
comp=Z,73nm,1.1s
EVO *epP *p*P 05 28 44.5 +3.5
EVO eR
comp=Z,132nm,20.8s
EVO Evora 81.82 52 *e*P P 05 28 28.0 +1.1
comp=Z,59nm,1.8s
EVO *epP *p*P 05 28 45.2 +4.2
PBRG Braganca 81.83 49 *e*P P 05 28 28.1 +1.2
comp=Z,76nm,1.7s
PBRG *epP *p*P 05 28 45.4 +4.4
PCBR Castelo Branco 81.85 51 *e*P P 05 28 28.3 +1.3
PCBR *epP pP 05 28 46.0 +4.9
MESJ Messejana 81.86 53 *e*P P 05 28 28.6 +1.5
comp=Z,60nm,1.4s
PETK Petropavlovsk- 81.98 323 P P 05 28 29.1 +1.7
comp=Z,13nm,0.9s,baz=92,slow=8.7,SNR=10
PMRV Marv??o 82.03 51 *e*P P 05 28 28.7 +0.7
comp=Z,67nm,1.2s
PMRV *epP *p*P 05 28 46.6 +4.5
PESTR Estremoz 82.04 52 *e*P P 05 28 29.2 +1.1
comp=Z,58nm,1.9s
PESTR *epP *p*P 05 28 46.9 +4.7
PCVE Castro Verde 82.06 53 *e*P P 05 28 29.9 +1.7
comp=Z,13nm,1.9s
PCVE *epP pP 05 28 47.6 +5.4
ROSF Rostrenen 82.22 42 *e*P P 05 28 29.2 +0.4
comp=Z,43nm,0.9s
ROSF *epP *p*P 05 28 46.6 +3.7
ROSF Rostrenen 82.22 42 *e*P P 05 28 29.2 +0.4
ROSF *e*PP *p*P 05 28 46.6 +3.7
ROSF pmax pmax
comp=Z,43nm,0.9s
ROSF Rostrenen 82.22 42 *e*P P 05 28 29.2 +0.4
comp=Z,43nm,0.9s
ROSF *epP *p*P 05 28 46.6 +3.7
PVAQ Vaqueiros 82.36 53 *e*P P 05 28 31.3 +1.5
comp=Z,76nm,1.5s
LOF Lofoten 82.39 20 *e*P P 05 28 29.9 +0.7
QUIF Quistinic 82.42 42 *e*P P 05 28 30.4 +0.6
QUIF Quistinic 82.42 42 *e*P P 05 28 30.4 +0.6
QUIF Quistinic 82.42 42 *e*P P 05 28 30.4 +0.6
PBAR Barrancos 82.66 52 *e*P P 05 28 32.8 +1.5
comp=Z,90nm,1.7s
PBAR *epP *p*P 05 28 50.1 +4.7
SGMF Saint Gilles 82.69 42 *e*P P 05 28 31.6 +0.3
comp=Z,56nm,1.1s
SGMF Saint Gilles 82.69 42 *e*P P 05 28 31.6 +0.3
SGMF pmax pmax
comp=Z,56nm,1.1s
SGMF Saint Gilles 82.69 42 *e*P P 05 28 31.6 +0.3
comp=Z,56nm,1.1s
STEI Steigen 83.04 20 *e*P P 05 28 33.8 +1.2
KONS Konsvik 83.05 22 *e*P P 05 28 34.7 +1.9
KMY Karmoy 83.08 30 *e*P P 05 28 34.5 +1.5
TRO Tromso 83.24 18 *e*P P 05 28 34.6 +1.0
ODD1 Odda 83.44 29 *e*P P 05 28 36.7 +1.8
GRR Gorron 83.72 41 *e*P P 05 28 37.6 +1.1
comp=Z,254nm,1.4s
GRR Gorron 83.72 41 *e*P P 05 28 37.6 +1.1
GRR pmax pmax
comp=Z,254nm,1.4s
GRR Gorron 83.72 41 *e*P P 05 28 37.6 +1.1
comp=Z,254nm,1.4s
FLN La Foliniere 83.83 41 *e*P P 05 28 38.2 +1.1
comp=Z,270nm,1.0s
FLN *epP pP 05 28 55.6 +4.4
FLN eR
comp=Z,104nm,22.2s
FLN La Foliniere 83.83 41 *e*P P 05 28 38.2 +1.1

FLN e*PP **pP** **05 28 55.6 +4.4**
FLN pmax pmax
comp=Z,270nm,1.0s
FLN La Foliniere 83.83 41 *e*P **P** **05 28 38.2 +1.1**
comp=Z,270nm,1.0s
FLN *e*pP **pP** **05 28 55.6 +4.4**
LDF La Druitiere 84.11 41 *e*P **P** **05 28 39.6 +1.1**
comp=Z,139nm,1.0s
LDF *e*pP **pP** **05 28 57.0 +4.3**
LDF La Druitiere 84.11 41 *e*P **P** **05 28 39.6 +1.1**
LDF *e*PP **pP** **05 28 57.0 +4.3**
LDF pmax pmax
comp=Z,139nm,1.0s
LDF La Druitiere 84.11 41 *e*P **P** **05 28 39.6 +1.1**
comp=Z,139nm,1.0s
LDF *e*pP **pP** **05 28 57.0 +4.3**
PAB San Pablo 84.24 50 *e*P **P** **05 28 39.4 -0.1**
PAB pmax pmax
comp=Z,23nm,1.1s
PAB MLR MLR
comp=Z,148nm,20.0s
PAB San Pablo 84.24 50 *e*P **P** **05 28 39.4 -0.1**
comp=Z,23nm,1.1s
PAB LR LR
comp=Z,148nm,20.0s
TIXI Tiksi 84.28 346 *d i*P **P** **05 28 39.1 +0.2**
TIXI pmax pmax
comp=Z,75nm,1.2s
TIXI Tiksi 84.28 346 *e*P **P** **05 28 38.9 0.0**
comp=Z,91nm,1.3s
TIXI LR LR
comp=Z,194nm,19.0s
SNART Snartemo 84.38 30 *e*P **P** **05 28 41.9 +2.2**
ESDC Sonseca Array 84.48 50 P **P** **05 28 41.3 +0.6**
comp=Z,3.0nm,0.8s,baz=305,slow=4.9,SNR=15
ESDC pP **pP** **05 28 52.6 -2.2**
comp=Z,2.0nm,0.8s,baz=294,slow=4.3,SNR=2.4
MFF Saint Martin d 84.79 43 *e*P **P** **05 28 42.8 +0.8**
comp=Z,142nm,1.3s
MFF Saint Martin d 84.79 43 *e*P **P** **05 28 42.8 +0.8**
MFF pmax pmax
comp=Z,142nm,1.3s
MFF Saint Martin d 84.79 43 *e*P **P** **05 28 42.8 +0.8**
comp=Z,142nm,1.3s
KONO Kongsberg 84.91 28 *e*P **P** **05 28 43.3 +1.0**
KONO pmax pmax
comp=Z,57nm,0.9s
KONO MLR MLR
comp=Z,305nm,21.0s
KONO Kongsberg 84.91 28 *e*P **P** **05 28 43.7 +1.4**
KONO Kongsberg 84.91 28 *e*P **P** **05 28 43.3 +1.0**
comp=Z,57nm,0.9s
KONO LR LR
comp=Z,305nm,21.0s
NB2 NORSAR Subarra 84.97 27 P **P** **05 28 43.5 +0.8**
comp=Z,1.5nm,0.8s,baz=304,slow=5.3
NB2 NORSAR Subarra 84.97 27 P **P** **05 28 43.5 +0.8**
baz=304,slow=5.3
NOA NORSAR Array B 84.97 27 P **P** **05 28 43.6 +1.0**
comp=Z,13nm,0.8s,baz=301,slow=4.9,SNR=44
NOA pP **pP** **05 28 55.3 -1.5**
comp=Z,4.3nm,0.7s,baz=303,slow=5.0,SNR=6.5
NOA sP **sP** **05 29 00.6 -1.6**
comp=Z,6.0nm,0.8s,baz=302,slow=5.2,SNR=6.1
NOA LR LR 06 08 09.6
comp=Z,87nm,19.6s,baz=295,slow=37
ARCES ARCESS Array B 85.13 16 P **P** **05 28 43.6 +0.3**
comp=Z,9.7nm,0.7s,baz=305,slow=5.2,SNR=32
ARCES pP **pP** **05 28 56.4 -1.1**
comp=Z,6.3nm,0.7s,baz=305,slow=5.1,SNR=4.4
ARCES sP **sP** **05 29 00.9 -1.9**
comp=Z,14nm,0.8s,baz=309,slow=3.0,SNR=5.8
ARCES LR LR 06 07 31.0
comp=Z,155nm,21.7s,baz=314,slow=36
SJPF Ste Jean 85.29 46 *e*P **P** **05 28 45.5 +0.9**
comp=Z,92nm,1.4s
SJPF Ste Jean 85.29 46 *e*P **P** **05 28 45.5 +0.9**
SJPF pmax pmax
comp=Z,92nm,1.4s
SJPF Ste Jean 85.29 46 *e*P **P** **05 28 45.5 +0.9**
comp=Z,92nm,1.4s
KEV Kevo 85.38 16 *e*P P 05 28 41.3 -3.2
KEV pmax pmax
comp=Z,12nm,0.7s
KEV Kevo 85.38 16 *e*p P 05 28 41.3 -3.2
comp=Z,12nm,0.7s
ETSF Etsaut 85.82 46 *e*P **P** **05 28 48.2 +0.9**
comp=Z,95nm,1.1s
ETSF Etsaut 85.82 46 *e*P **P** **05 28 48.2 +0.9**
ETSF pmax pmax
comp=Z,95nm,1.1s
ETSF Etsaut 85.82 46 *e*P **P** **05 28 48.2 +0.9**
comp=Z,95nm,1.1s
LFF La Frestale 85.97 44 *e*P **P** **05 28 48.6 +0.7**
comp=Z,172nm,1.3s
LFF La Frestale 85.97 44 *e*P **P** **05 28 48.6 +0.7**
LFF pmax pmax
comp=Z,172nm,1.3s
LFF La Frestale 85.97 44 *e*P **P** **05 28 48.6 +0.7**
comp=Z,172nm,1.3s
UCC Uccle 85.98 38 P **P** **05 28 47.1 -0.7**
UCC AP **pP** **05 29 06.5 +4.5**
MUD Monsted U'grnd 86.16 31 *e*P **P** **05 28 50.0 +1.4**
MUD pmax pmax
comp=Z,11nm,0.9s
MUD Monsted U'grnd 86.16 31 *i* P **P** **05 28 50.0 +1.4**
comp=Z,11nm,0.9s
BAIF Baives 86.19 38 *e*P **P** **05 28 50.0 +1.1**
comp=Z,49nm,1.0s
BAIF *e*pP **pP** **05 29 07.5 +4.4**
BAIF Baives 86.19 38 *e*P **P** **05 28 50.0 +1.1**
BAIF *e*PP **pP** **05 29 07.5 +4.4**
BAIF pmax pmax
comp=Z,49nm,1.0s
BAIF Baives 86.19 38 *e*P **P** **05 28 50.0 +1.1**
comp=Z,49nm,1.0s
BAIF *e*pP **pP** **05 29 07.5 +4.4**
RJF Les Rejaudoux 86.34 44 *e*P **P** **05 28 50.5 +0.7**
comp=Z,88nm,1.1s
RJF *e*pP **pP** **05 29 08.2 +4.2**
RJF eR
comp=Z,108nm,19.5s
RJF Les Rejaudoux 86.34 44 *e*P **P** **05 28 50.5 +0.7**
RJF *e*PP **pP** **05 29 08.2 +4.2**
RJF pmax pmax
comp=Z,88nm,1.1s
RJF Les Rejaudoux 86.34 44 *e*P **P** **05 28 50.5 +0.7**
comp=Z,88nm,1.1s
RJF *e*pP **pP** **05 29 08.2 +4.2**
EPF Esparros 86.39 46 *e*P **P** **05 28 50.7 +0.6**
comp=Z,99nm,1.3s
EPF *e*pP **pP** **05 29 08.5 +4.2**
EPF Esparros 86.39 46 *e*P **P** **05 28 50.7 +0.6**
EPF *e*PP **pP** **05 29 08.5 +4.2**
EPF pmax pmax
comp=Z,99nm,1.3s
EPF Esparros 86.39 46 *e*P **P** **05 28 50.7 +0.6**
comp=Z,99nm,1.3s
EPF *e*pP **pP** **05 29 08.5 +4.2**
DOU Dourbes 86.40 38 P **P** **05 28 49.7 -0.2**
comp=Z,17nm,1.7s
DOU AP **pP** **05 29 08.8 +4.7**
TCF Toulx Ste Croi 86.42 42 *e*P **P** **05 28 50.8 +0.6**
comp=Z,85nm,1.1s
TCF *e*pP **pP** **05 29 08.4 +4.0**
TCF Toulx Ste Croi 86.42 42 *e*P **P** **05 28 50.8 +0.6**
TCF *e*PP **pP** **05 29 08.4 +4.0**
TCF pmax pmax
comp=Z,85nm,1.1s
TCF Toulx Ste Croi 86.42 42 *e*P **P** **05 28 50.8 +0.6**
comp=Z,85nm,1.1s
TCF *e*pP **pP** **05 29 08.4 +4.0**
MSVF Nonsavu 86.51 250 *e*P **P** **05 28 53.2 +2.1**
MSVF pmax pmax
comp=Z,20nm,1.0s
MSVF Nonsavu 86.51 250 *e*P **P** **05 28 53.2 +2.1**
comp=Z,20nm,1.0s
GIVF Givet 86.54 38 *e*P **P** **05 28 50.9 +0.3**
comp=Z,44nm,1.1s
GIVF Givet 86.54 38 *e*P **P** **05 28 50.9 +0.3**
GIVF pmax pmax
comp=Z,44nm,1.1s
GIVF Givet 86.54 38 *e*P **P** **05 28 50.9 +0.3**
comp=Z,44nm,1.1s
BCLA Clavier 86.69 38 P **P** **05 28 52.2 +0.9**
comp=Z,12nm,1.3s

BCLA AP pP 05 29 10.3 +4.8
BGF Bois d'Agland 86.73 42 *e*P **P** **05 28 52.3 +0.7**
comp=Z,43nm,0.9s
BGF *e*pP **pP** **05 29 09.9 +4.1**
BGF Bois d'Agland 86.73 42 *e*P **P** **05 28 52.3 +0.7**
BGF *e*PP **pP** **05 29 09.9 +4.1**
BGF pmax pmax
comp=Z,43nm,0.9s
BGF Bois d'Agland 86.73 42 *e*P **P** **05 28 52.3 +0.7**
comp=Z,43nm,0.9s
BGF *e*pP **pP** **05 29 09.9 +4.1**
CAF Calviac 86.84 44 *e*P **P** **05 28 52.8 +0.5**
comp=Z,14nm,0.9s
CAF Calviac 86.84 44 *e*P **P** **05 28 52.8 +0.5**
CAF pmax pmax
comp=Z,15nm,0.9s
CAF Calviac 86.84 44 *e*P **P** **05 28 52.8 +0.5**
comp=Z,14nm,0.9s
SSF Saint Saulge 86.95 41 *e*P **P** **05 28 53.3 +0.6**
comp=Z,50nm,1.0s
SSF Saint Saulge 86.95 41 *e*P **P** **05 28 53.3 +0.6**
SSF pmax pmax
comp=Z,50nm,1.0s
SSF Saint Saulge 86.95 41 *e*P **P** **05 28 53.3 +0.6**
comp=Z,50nm,1.0s
AVF Avril sur Loir 86.96 42 *e*P **P** **05 28 53.0 +0.3**
comp=Z,29nm,1.0s
AVF *e*pP **pP** **05 29 10.7 +3.8**
AVF Avril sur Loir 86.96 42 *e*P **P** **05 28 53.0 +0.3**
AVF *e*PP **pP** **05 29 10.7 +3.8**
AVF pmax pmax
comp=Z,29nm,1.0s
AVF Avril sur Loir 86.96 42 *e*P **P** **05 28 53.0 +0.3**
comp=Z,29nm,1.0s
AVF *e*pP **pP** **05 29 10.7 +3.8**
MEM Membach 87.02 37 P **P** **05 28 54.0 +1.1**
comp=Z,15nm,1.3s
MEM AP **pP** **05 29 11.4 +4.3**
LOR Lormes 87.09 41 *e*P **P** **05 28 53.1 -0.3**
comp=Z,103nm,1.2s
LOR *e*pP **pP** **05 29 11.9 +4.3**
LOR eR
comp=Z,83nm,22.2s
LOR Lormes 87.09 41 *e*P **P** **05 28 53.1 -0.3**
LOR *e*PP **pP** **05 29 11.9 +4.3**
LOR pmax pmax
comp=Z,103nm,1.2s
LOR Lormes 87.09 41 *e*P **P** **05 28 53.1 -0.3**
comp=Z,103nm,1.2s
LOR *e*pP **pP** **05 29 11.9 +4.3**
SMF Signal de Mont 87.32 42 *e*P **P** **05 28 54.7 +0.1**
comp=Z,18nm,0.9s
SMF Signal de Mont 87.32 42 *e*P **P** **05 28 54.7 +0.1**
SMF pmax pmax
comp=Z,18nm,0.9s
SMF Signal de Mont 87.32 42 *e*P **P** **05 28 54.7 +0.1**
comp=Z,18nm,0.9s
MEZF Maizieres J'vi 87.33 40 *e*P **P** **05 28 54.4 -0.1**
MEZF Maizieres J'vi 87.33 40 *e*P **P** **05 28 54.4 -0.1**
SFTF Sexfontaines 87.44 40 *e*pP pP 05 29 13.5 +4.2
SFTF Sexfontaines 87.44 40 *e*pP pP 05 29 13.5 +4.2
WLF Walferdange 87.50 38 P **P** **05 28 55.9 +0.6**
comp=Z,22nm,1.1s
WLF AP **pP** **05 29 13.8 +4.2**
MTLF Montolieu 87.55 45 *e*P **P** **05 28 56.4 +0.7**
comp=Z,36nm,1.0s
MTLF *e*pP **pP** **05 29 14.2 +4.3**
MTLF Montolieu 87.55 45 *e*P **P** **05 28 56.4 +0.7**
MTLF *e*PP **pP** **05 29 14.2 +4.3**
MTLF pmax pmax
comp=Z,36nm,1.0s
MTLF Montolieu 87.55 45 *e*P **P** **05 28 56.4 +0.7**
comp=Z,36nm,1.0s
MTLF *e*pP **pP** **05 29 14.2 +4.3**
PAGF Fort de Pagny 87.71 39 *e*P **P** **05 28 56.4 0.0**
PAGF Fort de Pagny 87.71 39 *e*P **P** **05 28 56.4 0.0**
HAU Haudompre 88.32 40 *e*P **P** **05 28 58.9 -0.4**
comp=Z,49nm,1.2s
HAU *e*pP **pP** **05 29 18.1 +4.6**
HAU eR
comp=Z,176nm,20.2s
HAU Haudompre 88.32 40 *e*P **P** **05 28 58.9 -0.4**
HAU pmax pmax
comp=Z,49nm,1.2s
HAU Haudompre 88.32 40 *e*P **P** **05 28 58.9 -0.4**
comp=Z,49nm,1.2s
HAU *e*pP **pP** **05 29 18.1 +4.6**
SSB Saint Sauveur 88.32 43 *e*P **P** **05 28 58.8 -0.6**
SSB pmax pmax
comp=Z,13nm,1.3s
SSB MLR MLR
comp=Z,131nm,21.0s
SSB Saint Sauveur 88.32 43 *e*P **P** **05 28 58.8 -0.6**
comp=Z,12nm,1.3s
SSB LR LR
comp=Z,131nm,21.0s
LASF Ste Croix 88.36 44 *e*P **P** **05 28 59.9 +0.4**
comp=Z,81nm,1.3s
LASF *e*pP pP 05 29 18.9 +5.1
LASF Ste Croix 88.36 44 *e*P **P** **05 28 59.9 +0.4**
comp=Z,81nm,1.3s
LASF *e*pP pP 05 29 18.9 +5.1
VIVF Saint-Julien-l 88.58 43 *e*P **P** **05 29 01.7 +1.1**
comp=Z,55nm,1.5s
VIVF *e*pP pP 05 29 19.7 +4.9
VIVF Saint-Julien-l 88.58 43 *e*P **P** **05 29 01.7 +1.1**
VIVF *e*PP pP 05 29 19.7 +4.9
VIVF pmax pmax
comp=Z,55nm,1.5s
VIVF Saint-Julien-l 88.58 43 *e*P **P** **05 29 01.7 +1.1**
comp=Z,55nm,1.5s
VIVF *e*pP pP 05 29 19.7 +4.9
LVZ Lovozero 88.65 15 PFAKE 05 29 10.0 +10
LVZ LR LR
comp=Z,191nm,20.0s
CDF Champ du Feu 88.70 39 *e*P **P** **05 29 00.7 -0.5**
comp=Z,12nm,0.9s
CDF Champ du Feu 88.70 39 *e*P **P** **05 29 00.7 -0.5**
CDF pmax pmax
comp=Z,13nm,0.9s
CDF Champ du Feu 88.70 39 *e*P **P** **05 29 00.7 -0.5**
comp=Z,12nm,0.9s
HINF Hinteralfeld 88.71 40 *e*P **P** **05 29 00.6 -0.6**
HINF Hinteralfeld 88.71 40 *e*P **P** **05 29 00.6 -0.6**
HINF Hinteralfeld 88.71 40 *e*P **P** **05 29 00.6 -0.6**
CABF La Chapelle 88.75 41 *e*P **P** **05 29 01.1 -0.3**
comp=Z,69nm,1.5s
CABF La Chapelle 88.75 41 *e*P **P** **05 29 01.1 -0.3**
CABF pmax pmax
comp=Z,69nm,1.5s
CABF La Chapelle 88.75 41 *e*P **P** **05 29 01.1 -0.3**
comp=Z,69nm,1.5s
ORIF Oris-en-Rattie 89.33 43 *e*P **P** **05 29 04.0 -0.2**
ORIF eR
comp=Z,148nm,20.2s
ORIF Oris-en-Rattie 89.33 43 *e*P **P** **05 29 04.0 -0.2**
ORIF Oris-en-Rattie 89.33 43 *e*P **P** **05 29 04.0 -0.2**
BFO Black Forest 89.37 39 *i* P **P** **05 29 05.1 +0.9**
SMRF Simiane la Rot 89.53 44 *e*P **P** **05 29 05.3 +0.2**
comp=Z,40nm,1.6s
SMRF *e*pP pP 05 29 24.9 +5.6
SMRF Simiane la Rot 89.53 44 *e*P **P** **05 29 05.3 +0.2**
comp=Z,40nm,1.6s
SMRF *e*pP pP 05 29 24.9 +5.6
LPL La Plagne 89.62 42 *e*P **P** **05 29 05.9 +0.2**
comp=Z,21nm,1.1s
LPL La Plagne 89.62 42 *e*P **P** **05 29 05.9 +0.2**
LPL pmax pmax
comp=Z,21nm,1.1s
LPL La Plagne 89.62 42 *e*P **P** **05 29 05.9 +0.2**
comp=Z,21nm,1.1s
LPG La Plagne 89.64 42 *e*P **P** **05 29 06.2 +0.3**
comp=Z,58nm,1.5s
LPG La Plagne 89.64 42 *e*P **P** **05 29 06.2 +0.3**
LPG pmax pmax
comp=Z,58nm,1.5s
LPG La Plagne 89.64 42 *e*P **P** **05 29 06.2 +0.3**
comp=Z,58nm,1.5s
BNI Bardonecchia 89.79 42 *e*P **P** **05 29 06.4 0.0**
BNI pmax pmax
comp=Z,32nm,1.6s
BNI MLR MLR
comp=Z,219nm,21.0s
BNI Bardonecchia 89.79 42 *e*P **P** **05 29 06.3 0.0**
comp=Z,32nm,1.6s

BNI LR LR
comp=Z,219nm,21.0s
MBDF Montbardon 89.99 43 *e*P **P** **05 29 07.2 -0.2**
comp=Z,33nm,1.3s
MBDF Montbardon 89.99 43 *e*P **P** **05 29 07.2 -0.2**
MBDF pmax pmax
comp=Z,33nm,1.3s
MBDF Montbardon 89.99 43 *e*P **P** **05 29 07.2 -0.2**
comp=Z,33nm,1.3s
KAF Kangasniemi 90.27 22 *e*P **P** **05 29 06.3 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.7s
KAF Kangasniemi 90.27 22 *e*p **P** **05 29 06.3 -1.8**
comp=Z,5.2nm,0.7s
FRF La Foret Royal 90.41 44 *e*P **P** **05 29 08.7 -0.4**
FRF La Foret Royal 90.41 44 *e*P **P** **05 29 08.7 -0.4**
FRF La Foret Royal 90.41 44 *e*P **P** **05 29 08.7 -0.4**
LMR La Mourre 90.42 44 *e*P **P** **05 29 08.8 -0.4**
comp=Z,16nm,1.0s
LMR La Mourre 90.42 44 *e*P **P** **05 29 08.8 -0.4**
LMR pmax pmax
comp=Z,16nm,1.0s
LMR La Mourre 90.42 44 *e*P **P** **05 29 08.8 -0.4**
comp=Z,16nm,1.0s
YAK Yakutsk 90.53 338 *e*P **P** **05 29 09.9 +0.6**
YAK *e* 05 29 28.1
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
CLL Collm 90.62 35 *i* P **P** **05 29 09.2 -0.7**
CLL *i* *PP **pP** **05 29 27.1 +2.9**
CLL pmax pmax
comp=Z,16nm,1.5s
CLL Collm 90.62 35 *i* P **P** **05 29 09.2 -0.7**
comp=Z,16nm,1.5s
CLL *i* pP **pP** **05 29 27.1 +2.9**
CLL *e* 05 29 36.0
CLL *e*SSS SSS 05 49 48.0
FINES FINESS Array B 90.63 22 P **P** **05 29 09.5 -0.2**
comp=Z,4.2nm,0.9s,baz=333,slow=2.1,SNR=10.0
FINES pP **pP** **05 29 22.6 -1.4**
comp=Z,3.2nm,0.8s,baz=329,slow=4.9,SNR=4.5
FINES LR LR 06 09 46.8
comp=Z,273nm,22.0s,baz=296,slow=36
SBF Sospel 90.79 43 *e*P **P** **05 29 10.5 -0.5**
SBF Sospel 90.79 43 *e*P **P** **05 29 10.5 -0.5**
SBF Sospel 90.79 43 *e*P **P** **05 29 10.5 -0.5**
BRG Berggiesshubel 91.35 35 *e*P **P** **05 29 13.7 +0.3**
comp=Z,15nm,1.1s
BRG *e*pP **pP** **05 29 30.9 +3.3**
comp=Z,24nm,1.3s
comp=N,150nm,23.9s
comp=E,159nm,34.7s
comp=Z,227nm,25.5s
BRG Berggiesshubel 91.35 35 *e*P **P** **05 29 13.7 +0.3**
BRG *e*PP **pP** **05 29 30.9 +3.3**
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,24nm,1.3s
BRG MLR MLR
comp=N,150nm,23.9s
BRG MLR MLR
comp=E,159nm,34.7s
BRG MLR MLR
comp=Z,227nm,25.5s
JOF Joensuu 91.39 20 *e*P **P** **05 29 12.4 -0.9**
JOF pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 91.39 20 *e*p **P** **05 29 12.4 -0.9**
comp=Z,1.9nm,0.8s
FETA Feichten 91.42 39⇑ *i*P **P** **05 29 14.7 +0.8**
comp=Z,8.6nm,1.1s
KHC Kasperske Hory 92.04 36 *e*P **P** **05 29 16.9 +0.3**
KHC *e*PP **pP** **05 29 34.4 +3.5**
KHC Kasperske Hory 92.04 36 *e*P **P** **05 29 16.9 +0.3**
KHC *e*pP **pP** **05 29 34.4 +3.5**
KHC Kasperske Hory 92.04 36 *e*P **P** **05 29 16.0 -0.7**
comp=Z,11nm,1.4s
KHC *e*pP **pP** **05 29 34.0 +3.1**
PRU Pruhonice 92.14 35 *e*P **P** **05 29 17.4 +0.4**
PRU *e*PP **pP** **05 29 35.1 +3.8**
PRU Pruhonice 92.14 35 *e*P **P** **05 29 17.4 +0.4**
PRU *e*pP **pP** **05 29 35.1 +3.8**
GERES GERESS Array B 92.25 37 P **P** **05 29 17.9 +0.2**
comp=Z,1.8nm,0.7s,baz=331,slow=5.9,SNR=11
GERES sP **sP** **05 29 35.1 -2.2**
comp=Z,3.0nm,0.8s,baz=318,slow=4.2,SNR=6.3
GERES LR LR 06 12 34.6
comp=Z,120nm,19.8s,baz=274,slow=37
TMCR Tamitsa 92.42 16 *e*P **P** **05 29 17.9 -0.1**
TMCR *e* 05 32 56.9
TMCR pmax pmax
comp=Z,39nm,1.3s
VLC Villacollemand 92.56 42 PFAKE 05 29 30.0 +11
VLC LR LR
comp=Z,159nm,22.0s
ABTA Abfaltersbach 92.62 39⇑ *i*P **P** **05 29 20.2 +0.8**
comp=Z,7.3nm,0.7s
KSP Ksiaz 92.63 34 *e*P **P** **05 29 20.2 +0.9**
KSP *e* 05 29 37.4
UPC Upice 92.66 34 *e*P **P** **05 29 20.6 +1.2**
UPC *e*PP **pP** **05 29 37.7 +4.0**
UPC Upice 92.66 34 *e*P **P** **05 29 20.6 +1.2**
UPC *e*pP **pP** **05 29 37.7 +4.0**
VSU Vasula 92.86 24⇑ *e*P **P** **05 29 19.8 -0.3**
VSU pmax pmax
comp=Z,73nm,1.7s
DPC Dobruska-Polom 92.92 34 *e*P **P** **05 29 21.1 +0.4**
DPC *e*PP **pP** **05 29 39.0 +4.1**
DPC Dobruska-Polom 92.92 34 *e*P **P** **05 29 21.1 +0.4**
DPC *e*pP **pP** **05 29 39.0 +4.1**
MORC Moravsky Berou 93.89 35 *e*P **P** **05 29 25.3 +0.1**
MORC *e*PP **pP** **05 29 43.1 +3.7**
MORC pmax pmax
comp=Z,23nm,1.3s
MORC Moravsky Berou 93.89 35 *e*P **P** **05 29 25.3 +0.1**
comp=Z,23nm,1.3s
MORC *e*pP **pP** **05 29 43.1 +3.7**
CONA Conrad Observa 93.96 37⇑ *i*P **P** **05 29 25.5 -0.1**
comp=Z,5.2nm,0.9s
OKC Ostrava-Krasne 94.18 34 *e*P **P** **05 29 27.4 +1.0**
OKC *e*PP **pP** **05 29 44.6 +3.9**
OKC Ostrava-Krasne 94.18 34 *e*P **P** **05 29 27.4 +1.0**
OKC *e*pP **pP** **05 29 44.6 +3.9**
TIC Toumodi 94.30 82 *e*P **P** **05 29 27.1 -0.6**
comp=Z,2.9nm,0.2s
LIC Lamto 94.42 82 *e*P **P** **05 29 27.5 -0.7**
comp=Z,21nm,0.9s
LIC *e*R
comp=Z,148nm,20.0s
LIC Lamto 94.42 82 *e*P **P** **05 29 27.7 -0.5**
comp=Z,30nm,0.9s
LIC Lamto 94.42 82 *e*P **P** **05 29 27.5 -0.7**
comp=Z,21nm,0.9s
DBIC Dimbokro 94.44 82 P **P** **05 29 27.7 -0.6**
comp=Z,6.8nm,0.8s,baz=276,slow=3.5,SNR=7.6
DBIC sP **sP** **05 29 45.9 -2.1**
comp=Z,2.7nm,0.8s,baz=335,slow=9.9,SNR=1.9
DBIC LR LR 06 07 46.4
comp=Z,81nm,21.4s,baz=270,slow=33
KIC Kosan Boka 94.65 82 *e*P **P** **05 29 29.1 -0.2**
comp=Z,32nm,1.0s
OJC Ojcow 94.83 33 *e*P **P** **05 29 30.1 +0.7**
OJC *e* 05 29 46.7
VYHS Vyhne 95.31 35 *e*P **P** **05 29 32.6 +0.9**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 95.31 35 *e*P **P** **05 29 32.6 +0.9**
VYHS *e*sP **sP** **05 29 50.0 -1.3**
AQU L'Aquila 95.36 42 PFAKE 05 29 50.0 +18
AQU LR LR
comp=Z,168nm,21.0s
NIE Niedzica 95.57 34 *e*P **P** **05 29 33.6 +0.7**
NIE Niedzica 95.57 34 *e*P **P** **05 29 33.6 +0.7**
NIE *e* 05 29 51.2
KEST Kesra 95.72 50 P **P** **05 29 34.2 +0.3**
comp=Z,3.3nm,0.9s,baz=341,slow=5.6,SNR=7.0
KEST Kesra 95.72 50 *e*P **P** **05 29 34.4 +0.4**
KEST *e*sP **sP** **05 29 52.9 -0.7**
STHS Stebnicka Huta 96.06 33 *e*P **P** **05 29 36.6 +1.5**
STHS pmax pmax

	comp=Z,8.0nm,0.9s								
STHS	**Stebnicka Huta**	**96.06**	**33**	*e*P		**P**	**05 29 36.6**	**+1.5**
STHS				*e*			05 29 52.9	
KECS	**Kecovo**	**96.21**	**34**	*e*P		**P**	**05 29 36.4**	**+0.7**
KECS				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KECS	**Kecovo**	**96.21**	**34**	*e*P		**P**	**05 29 36.4**	**+0.7**
KECS				*e*sP		**sP**	**05 29 54.6**	**-0.8**
PSZ	**Piszkesteto**	**96.22**	**35**	*e*P		**P**	**05 29 36.3**	**+0.4**
PSZ				*e**PP		**pP**	**05 29 54.4**	**+4.2**
PSZ				pmax	pmax			
	comp=Z,17nm,1.1s							
PSZ				MLR	MLR			
	comp=Z,174nm,21.0s							
PSZ	**Piszkesteto**	**96.22**	**35**	*e*P		**P**	**05 29 36.3**	**+0.4**
	comp=Z,17nm,1.1s							
PSZ				*e*pP		**pP**	**05 29 54.4**	**+4.2**
PSZ				LR	LR			
	comp=Z,174nm,21.0s							
PSZ	**Piszkesteto**	**96.22**	**35⇓**	*e*P		**P**	**05 29 37.0**	**+1.1**
PRGR	**Permogore**	**96.48**	**15**	*e*P		P	05 29 32.8	-3.8
PRGR				pmax	pmax			
	comp=Z,72nm,1.3s							
CRVS	**Cervenica-Dubn**	**96.49**	**34**	*e*P		**P**	**05 29 38.0**	**+1.0**
CRVS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**96.49**	**34**	*e*P		**P**	**05 29 38.0**	**+1.0**
CRVS				*e*sP		**sP**	**05 29 54.8**	**-1.8**
KWP	**Kalwaria Pacla**	**96.69**	**33**	*e*P		**P**	**05 29 38.2**	**+0.3**
KWP	**Kalwaria Pacla**	**96.69**	**33**	*e*P		**P**	**05 29 38.1**	**+0.2**
KWP	**Kalwaria Pacla**	**96.69**	**33**	*e*P		**P**	**05 29 37.9**	**0.0**
	comp=Z,2.9nm,0.8s							
KOLS	**Kolonicke sedl**	**96.89**	**33**	*e*P		**P**	**05 29 40.0**	**+1.1**
KOLS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KOLS	**Kolonicke sedl**	**96.89**	**33**	*e*P		**P**	**05 29 39.9**	**+1.1**
KOLS				*e*sP		**sP**	**05 29 57.4**	**-1.1**
UZH	**Uzhgorod**	**97.09**	**34**	*d* *i*P		**P**	**05 29 39.8**	**+0.1**
UZH				*i*			05 29 56.4	
TRPA	**Tarpa**	**97.52**	**34⇑**	*e*P		Pdif	05 29 42.8	+1.1
TAM	**Tamanrasset**	**98.16**	**63**	*e*P		**P**	**05 29 45.4**	**+0.1**
TAM				pmax	pmax			
	comp=Z,5.0nm,1.3s							
TAM				MLR	MLR			
	comp=Z,120nm,19.0s							
TAM	**Tamanrasset**	**98.16**	**63**	*e*P		**P**	**05 29 45.4**	**+0.1**
	comp=Z,4.9nm,1.3s							
TAM				LR	LR			
	comp=Z,120nm,19.0s							
DZM	**Mont Dzumac**	**98.23**	**250**	*e*LR		LR	06 01 56.8	
	comp=Z,537nm,27.9s							
TORD	**Torodi Ar. Bea**	**98.37**	**73**	P		**P**	**05 29 44.9**	**-1.3**
	comp=Z,3.3nm,1.1s,baz=290,slow=5.3,SNR=12							
TORD				pP		**pP**	**05 29 56.9**	**-3.6**
	comp=Z,1.2nm,0.9s,baz=304,slow=5.3,SNR=4.1							
TORD				PP		**PP**	**05 33 46.4**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=312,slow=6.4,SNR=2.8							
TORD				PKKP		**PKKPdf**	**05 46 19.2**	**-0.1**
	comp=Z,1.5nm,1.1s,baz=98,slow=3.2,SNR=5.3							
TORD				LR		LR	06 14 45.8	
	comp=Z,88nm,18.1s,baz=310,slow=36							
OBN	**Obninsk**	**99.03**	**23⇑**	*e*P		**Pdif**	**05 29 47.9**	**-0.3**
OBN				*i*			05 30 05.5	
OBN				*e*			05 33 49.2	
OBN				pmax	pmax			
	comp=Z,66nm,3.0s							
OBN				MLR	MLR			
	comp=Z,194nm,18.0s							
OBN	**Obninsk**	**99.03**	**23**	PFAKE			05 30 00.0	+12
OBN				LR		LR		
	comp=Z,335nm,20.0s							
KIEV	**Kiev**	**99.18**	**29⇓**	*e*P		**Pdif**	**05 29 48.0**	**-1.0**
AKASG	**Malin Array Be**	**99.19**	**29**	P		**Pdif**	**05 29 48.1**	**-1.0**
	comp=Z,0.3nm,0.2s,baz=297,slow=3.3,SNR=9.7							
AKASG				pP		**pP**	**05 30 00.7**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=298,slow=3.6,SNR=1.5							
AKASG				sP		**sP**	**05 30 05.6**	**-3.1**
	comp=Z,0.5nm,0.2s,baz=296,slow=3.6,SNR=3.0							
AKASG				LR		LR	06 16 49.8	
	comp=Z,64nm,20.1s,baz=330,slow=37							
VSR	**Storozhevoye**	**103.05**	**24**	*e*P		**Pdif**	**05 30 06.0**	**-0.2**
VSR				pmax	pmax			
	comp=Z,20nm,1.2s							
VSR				pmax	pmax			
	comp=N,10.0nm,1.0s							
VSR				pmax	pmax			
	comp=E,4.0nm,0.7s							
VORD	**Divnogorie**	**103.29**	**24**	*e*P		**Pdif**	**05 30 06.7**	**-0.6**
VORD				pmax	pmax			
	comp=Z,4.0nm,0.6s							
VORD				pmax	pmax			
	comp=N,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s							
VRHR	**Novokhopersk**	**104.07**	**23**	*e*P		**Pdif**	**05 30 09.4**	**-1.4**
VRHR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.8s							
ZALV	**Zalesovo Beam**	**108.14**	**356**	PP		PP	05 34 50.8	-6.8
	comp=E,0.9nm,0.7s,baz=353,slow=6.4,SNR=3.6							
BVAR	**Borovoye Array**	**108.95**	**5**	PP		PP	05 35 02.6	-0.9
	comp=E,0.9nm,0.8s,baz=335,slow=6.4,SNR=3.7							
BRTR	**Keskin Array B**	**109.07**	**35**	PP		PP	05 35 01.2	-4.1
	comp=E,1.1nm,0.9s,baz=339,slow=3.6,SNR=4.9							
SONM	**Songino Array**	**109.80**	**340**	PP		PP	05 35 08.0	-2.1
	comp=E,0.5nm,0.9s,baz=25,slow=4.8,SNR=3.8							
SONM	**Songino Array**	**109.80**	**340**	PP		PP	05 35 08.0	-2.1
KURK	**Kurchatov**	**111.59**	**360**	PP		PP	05 35 16.5	-6.1
KURK				PKKPbc		**PKKPbc**	**05 45 36.3**	**-1.1**
KURBB	**Kurchatov Arra**	**111.69**	**360**	PP		PP	05 35 16.5	-6.7
	comp=E,1.2nm,1.1s,baz=351,slow=5.0,SNR=5.8							
KURBB				PKKPbc		**PKKPbc**	**05 45 36.3**	**-0.8**
	comp=E,0.3nm,0.7s,baz=198,slow=2.4,SNR=4.3							
HHC	**Hu-ho-hao-te**	**113.80**	**333**	*e*PKP		**PKiKP**	**05 34 43.8**	**-2.7**
HHC				PP		**PP**	**05 35 38.4**	**-0.5**
HHC				PKS	PKSdf		05 38 15.3	-8.0
HHC				SKS		**SKSdf**	**05 41 49.4**	**-5.6**
HHC				SS		**SS**	**05 51 24.8**	**+1.2**
HHC				PPMZ				
	comp=E,120nm,9.1s							
HHC				LN				
	comp=E,250nm,20.5s							
HHC				LE				
	comp=E,320nm,20.8s							
HHC				LZ				
	comp=E,120nm,20.5s							
MKAR	**Makanchi Array**	**115.42**	**357**	PKP		**PKPdf**	**05 34 49.0**	**-0.3**
	comp=E,0.9nm,0.9s,baz=12,slow=3.5,SNR=6.5							
MKAR				PKKPbc		**PKKPab**	**05 45 28.2**	**-3.0**
	comp=E,0.7nm,0.8s,baz=159,slow=4.8,SNR=6.8							
WMQ	**Urumqi**	**117.89**	**352**	*e*PKP		**PKPdf**	**05 34 50.8**	**-3.4**
WMQ				sPKP			05 35 16.0	
WMQ				*e*PP		**PP**	**05 36 10.0**	**+2.9**
WMQ				PKS		**PKSdf**	**05 38 26.0**	**-5.0**
WMQ				SKKS			05 42 51.0	
WMQ				SS		**SS**	**05 52 11.0**	**-5.3**
WMQ				PPMZ				
	comp=E,120nm,4.4s							
WMQ				LN				
	comp=E,270nm,25.7s							
WMQ				LE				
	comp=E,340nm,28.2s							
WMQ				LZ				
	comp=E,270nm,23.2s							
TKM2	**Tokmak 2**	**119.34**	**2**	PFAKE			05 35 10.0	+13
TKM2				LR		LR		
	comp=Z,315nm,20.0s							
EKS2	**Erkin-Say**	**119.51**	**4**	PFAKE			05 35 10.0	+13
EKS2				LR		LR		
	comp=Z,275nm,21.0s							
AAK	**Ala-Archa**	**119.58**	**3***c*	*i*PKIKP		**PKPdf**	**05 34 59.7**	**+2.0**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
WHN	**Wuhan**	**120.56**	**324**	PKP		**PKPdf**	**05 34 57.6**	**-2.0**
XAN	**Xi'an**	**120.59**	**331**	PKP		**PKPdf**	**05 35 00.1**	**+0.4**
LZH	**Lanzhou**	**121.03**	**336**	*e*PKP		**PKPdf**	**05 34 57.4**	**-3.2**
LZH				sPKP			05 35 26.8	
STKA	**Stephens Creek**	**121.67**	**243**	PKP		**PKPdf**	**05 35 02.7**	**+1.1**
	comp=Z,9.2nm,0.8s,baz=72,slow=2.1,SNR=13							
STKA				pPKP		**pPKPdf**	**05 35 14.9**	**-1.4**
	comp=Z,3.5nm,0.6s,baz=115,slow=1.7,SNR=1.9							
STKA				PKKPbc		**PKKPbc**	**05 45 02.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=307,slow=7.4,SNR=3.6							
KSH	**Kashi**	**122.75**	**2**	*e*PKP		**PKPdf**	**05 35 03.3**	**-0.5**
KSH				PP		PP	05 36 51.3	+11
KSH				PKS		**PKSdf**	**05 38 38.8**	**-1.8**
KSH				SKS		SKSdf	05 42 03.8	-8.3
KSH				SKKS		**SKKSac**	**05 43 32.3**	**-4.9**
KSH				PPMZ				
	comp=Z,50nm,3.6s							
KSH				LN				
	comp=Z,91nm,8.4s							
KSH				LE				
	comp=Z,66nm,6.5s							
KSH				LZ				
	comp=Z,130nm,8.6s							
CD2	**Chengdu**	**125.56**	**333**	PKP		**PKPdf**	**05 35 08.0**	**-1.3**
CD2				sPKP			05 35 37.3	
CD2				PP		**PP**	**05 37 03.6**	**+3.9**
CD2				PKS		**PKSdf**	**05 38 43.9**	**-2.2**
CD2				SKS		**SKSdf**	**05 42 11.5**	**-6.1**
CD2				SKKS		SKKSac	05 43 47.4	-7.9
CD2				SS		**SS**	**05 53 52.3**	**-2.6**
CD2				PPMZ				
	comp=Z,120nm,6.2s							
WRAB	**Tennant Creek**	**127.15**	**258***c*	*i*PKIKP		**PKPdf**	**05 35 13.8**	**+1.3**
WRAB				pmax	pmax			
	comp=Z,29nm,1.0s							
WRA	**Warramunga Arr**	**127.16**	**258**	PKP		**PKPdf**	**05 35 13.5**	**+1.0**
	comp=Z,8.0nm,0.8s,baz=77,slow=2.0,SNR=52							
WRA				pPKP		**pPKPdf**	**05 35 26.1**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=80,slow=2.4,SNR=8.8							
GYA	**Guiyang**	**127.92**	**327**	*e*Pdif		**Pdif**	**05 31 54.0**	**-3.6**
GYA				PKP		**PKPdf**	**05 35 14.0**	**0.0**
GYA				sPKP			05 35 41.6	
GYA				PP		**PP**	**05 37 19.6**	**+4.0**
GYA				PPMZ				
	comp=Z,120nm,7.6s							
ASAR	**Alice Springs**	**127.97**	**254**	PKP		**PKPdf**	**05 35 14.9**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=93,slow=1.9,SNR=44							
ASAR				pPKP		**pPKPdf**	**05 35 27.5**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=94,slow=1.4,SNR=6.0							
CMAR	**Chiang Mai Arr**	**138.48**	**330**	PKP		**PKPdf**	**05 35 35.1**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=332,slow=2.0,SNR=17							
CMAR				pPKP		**pPKPdf**	**05 35 47.5**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=333,slow=2.2,SNR=3.8							
HYBB	**Hyderabad (bro**	**144.81**	**360**	*e*PKPbc		**PKPab**	**05 35 44.1**	**0.0**
HYB	**Hyderabad**	**144.81**	**360**	*i* PKP		**PKPab**	**05 35 44.0**	**-0.2**
HYB				*e*pPKP		**pPKPdf**	**05 35 56.0**	**-4.0**
HYB				*e*sPKP			05 36 02.0	
NJS	**Nagarjunasagar**	**145.66**	**358**	*e*PKPdf		**PKPdf**	**05 35 46.9**	**+0.2**
URV	**Uravakonda**	**147.25**	**2**	*e*PKPbc		**PKPbc**	**05 35 51.8**	**+0.1**
KULM	**Kulim**	**148.03**	**314**	*e*PKPbc		**PKPbc**	**05 35 55.0**	**+1.1**
IPM	**Ipoh**	**148.35**	**313**	*e*PKPbc		**PKPbc**	**05 35 55.6**	**+0.9**
SKHT	**Śrikalahasti**	**148.44**	**357**	*e*PKPdf		**PKPdf**	**05 35 52.0**	**+0.7**
SKHT				*e*PKPbc		**PKPbc**	**05 35 55.6**	**+0.7**
CISI	**Cisompet, Garu**	**149.44**	**286**	*e*PKPbc		**PKPbc**	**05 35 57.4**	**-0.2**
ABPO	**Ambohimpanom**	**150.55**	**97**	*e*PKIKP		**PKPdf**	**05 35 55.4**	**+0.6**
ABPO				*e*			05 36 01.4	
ABPO	**Ambohimpanom**	**150.55**	**97**	*e*PKPdf		**PKPdf**	**05 35 55.4**	**+0.6**
ABPO				*e*PKPbc		**PKiKP**	**05 36 01.4**	**+0.5**

*ISCJB **14** 05:17:56.5±0.6, 33.°16N±0.°07×96.°92E±0.°09, h10km, mb3.5/6, MS3.5/1, Error ellipse: s-maj=12.2km s-min=7.8km az=41.7*
*IDC **14** 05:17:56.6±1.2, 33.°29N×97.°22E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.6/27, mbtmp3.5/8, ML3.6/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/32, Error ellipse: s-maj=61.1km s-min=18.1km az=65.0*

ISC 14 05:17:58.0±0.8, 33.°29N±0.°10×97.°0E±0.°1, h10km, n20, σ0.°81/19, mb3.5/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TAPN	**Taplejung**	**9.96**	**236**	*e*P		**Pn**	**05 20 22.5**	**+1.0**
ODAN	**Odare**	**10.48**	**235**	*e*P		**Pn**	**05 20 29.4**	**+0.7**
	16nm,0.5s							
GUN	**Gumba**	**10.96**	**244**	*e*P		**Pn**	**05 20 35.2**	**-0.1**
	9.7nm,0.4s							
RAMN	**Ramite**	**10.98**	**238**	*e*P		**Pn**	**05 20 35.5**	**+0.1**
	7.3nm,0.4s							
PKI	**Pulchoki**	**11.49**	**243**	*e*P		**Pn**	**05 20 41.9**	**-0.6**
	12nm,0.4s							
PKIN	**Phulchoki**	**11.50**	**243**	*e*P		**Pn**	**05 20 41.8**	**-0.8**
	10nm,0.4s							
GKN	**Gorkha**	**11.86**	**247**	*e*P		**Pn**	**05 20 47.2**	**-0.2**
DANN	**Dangsing**	**12.38**	**250**	*e*P		**Pn**	**05 20 54.0**	**-0.6**
	8.5nm,0.5s							
KOLN	**Koldanda**	**12.77**	**248**	*e*P		**Pn**	**05 20 59.6**	**-0.3**
	4.6nm,0.5s							
PYUN	**Piuthan**	**13.10**	**250**	*e*P		**Pn**	**05 21 03.0**	**-1.4**
	14nm,0.5s							
CMAR	**Chiang Mai Arr**	**14.88**	**173**	Pn		**Pn**	**05 21 28.9**	**+0.4**
	0.1nm,0.3s,baz=341,slow=13,SNR=7.5							
SONM	**Songino Array**	**16.18**	**23**	Pn		**P**	**05 21 48.4**	**-0.3**
	0.2nm,0.3s,baz=219,slow=12,SNR=8.4							
MKAR	**Makanchi Array**	**17.52**	**325**	P		**P**	**05 22 04.4**	**+0.9**
	0.1nm,0.3s,baz=133,slow=14,SNR=7.8							
KURBB	**Kurchatov Arra**	**21.92**	**327**	P		**P**	**05 22 52.3**	**+0.2**
	0.7nm,0.7s,baz=142,slow=12,SNR=7.6							
ZALV	**Zalesovo Beam**	**22.39**	**341**	P		**P**	**05 22 58.2**	**+1.9**
	0.7nm,0.6s,baz=156,slow=11,SNR=4.2							
IDI	**Anoyia**	**58.34**	**294**	LR		LR	05 56 13.4	
	comp=Z,36nm,19.0s,baz=320,slow=39							
WRA	**Warramunga Arr**	**63.83**	**140**	P		**P**	**05 28 30.0**	**-0.8**
	0.7nm,0.7s,baz=316,slow=9.8,SNR=10							
ASAR	**Alice Springs**	**66.68**	**143**	P		**P**	**05 28 48.6**	**-0.6**
	0.7nm,0.5s,baz=329,slow=6.6,SNR=13							
ILAR	**Eielson Array**	**70.40**	**24**	P		**P**	**05 29 11.7**	**-0.3**
	0.3nm,0.6s,baz=314,slow=5.7,SNR=3.6							
YKA	**Yellowknife Ar**	**81.23**	**14**	P		**P**	**05 30 13.8**	**0.0**
	0.2nm,0.7s,baz=337,slow=5.1,SNR=5.2							

CASC 14 05:19:33.2±1.9, 8.°71N×82.°50W, h9km±3km, MD4.0, 4C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BRU	**Baru**	**0.11**	**326**	*i*P		Pg	05 19 36.3	-0.2
TBS2		**0.18**	**297**	*i* P		Pg	05 19 37.8	+0.6
TBS2				*e*S		Sg	05 19 40.8	+0.9
BRU2	**Volcan**	**0.21**	**293**	*i*P		Pg	05 19 38.5	+0.8
BRU2				*e*S		Sg	05 19 42.4	+1.6
ACR	**Cerro Adams**	**0.67**	**265**	*i*P		Pg	05 19 45.9	-0.3
ACR				*e*S		Sg	05 19 54.7	-0.2
CNI	**Changuinola**	**0.70**	**358**	*i*P		Pg	05 19 45.1	-1.7
BUS	**Buena Vista**	**1.50**	**304**	*i*P		Pn	05 19 59.6	-1.3
BUS				*e*S		Sn	05 20 18.7	-2.3
URSC	**Urasca**	**1.69**	**312**	*i*P		Pn	05 20 02.6	-0.5
URSC				*e*S		Sn	05 20 25.4	+0.4
QCR	**Quepos**	**1.79**	**293**	*e*P		Pn	05 20 03.7	-0.6
SJS	**Escuela Geolog**	**1.96**	**309**	*e*P		Pn	05 20 07.5	+0.6
SJS				*e*S		Sb	05 20 33.0	-1.0
CGA2	**Cerro Gallo 2**	**2.33**	**304**	*e*P		Pn	05 20 12.6	+0.6
CGA2				*e*S		Sn	05 20 41.7	+0.7
BCIP	**Isla Barro Col**	**2.67**	**80**	*e*P		Pn	05 20 15.8	-0.5
BCIP				*e*S		Sn	05 20 48.8	0.0
JCR	**Jicaral**	**2.82**	**294**	*e*P		Pn	05 20 20.9	+2.3
UPA	**Univ. de Panam**	**2.94**	**85**	*i*P		Pn	05 20 20.8	+0.7
UPA				*e*S		Sb	05 21 02.8	+0.9

IDC 14 05:28:58.2±6.8, 21.°42S×175.°32W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/20, mbtmp3.5/2, Error ellipse: s-maj=332.4km s-min=51.9km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.75**	**257**	P		P	05 37 29.9	+0.3
	1.1nm,1.0s,baz=99,slow=7.2,SNR=5.6							
WRA	**Warramunga Arr**	**46.96**	**262**	P		P	05 37 30.2	-1.0
	0.5nm,0.9s,baz=96,slow=8.2,SNR=2.9							
AKASG	**Malin Array Be**	**145.00**	**333**	PKPbc		PKPbc	05 48 36.3	-0.3
	0.7nm,0.5s,baz=43,slow=4.1,SNR=4.9							
BRTR	**Keskin Array B**	**149.30**	**313**	PKPbc		PKPbc	05 48 48.2	-1.2
	0.3nm,0.5s,baz=45,slow=3.4,SNR=2.4							

*IDC **14** 05:36:51.6±1.2, 3.°61S×142.°23E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, ML3.3/1, MS3.9/3, Ms1 3.9/3, ms1mx3.0/28, Error ellipse: s-maj=37.5km s-min=25.8km az=93.0*
*ISCJB **14** 05:36:55.3±0.9, 3.°68S±0.°09×142.°1E±0.°1, h33km, mb3.7/6, MS4.0/3, Error ellipse: s-maj=19.5km s-min=10.7km az=149.4*

ISC 14 05:36:57.0±1.2, 3.°6S±0.°1×142.°0E±0.°2, h35km, n11, σ0.°81/9, mb3.9/5, MS4.1/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.74**	**310**	Pn		**Pn**	**05 37 24.4**	**-0.4**
	8.9nm,0.3s,baz=132,slow=14,SNR=26							
JAY				Sn		**Sn**	**05 37 45.8**	**-0.2**
	20nm,0.3s,baz=107,slow=20,SNR=8.9							
WRA	**Warramunga Arr**	**17.86**	**204**	P		**Pn**	**05 41 02.0**	**-0.9**
	0.1nm,0.3s,baz=28,slow=12,SNR=7.1							
ASAR	**Alice Springs**	**21.40**	**201**	P		**P**	**05 41 42.6**	**+0.7**
	0.4nm,0.6s,baz=30,slow=9.6,SNR=5.3							
PETK	**Petropavlovsk-**	**58.06**	**11**	LR		LR	06 10 00.9	
	comp=Z,40nm,21.0s,baz=21,slow=34							
MKAR	**Makanchi Array**	**72.57**	**322**	P		**P**	**05 48 21.9**	**+1.1**
	1.0nm,0.7s,baz=117,slow=7.1,SNR=12							
ZALV	**Zalesovo Beam**	**74.43**	**329**	LR		LR	06 23 39.9	
	comp=Z,87nm,19.0s,baz=68,slow=38							
KURBB	**Kurchatov Arra**	**76.42**	**324**	P		**P**	**05 48 43.2**	**+0.3**
	0.3nm,0.2s,baz=117,slow=5.9,SNR=5.7							
BVAR	**Borovoye Array**	**81.98**	**325**	P		**P**	**05 49 13.9**	**+0.5**
	1.4nm,0.7s,baz=116,slow=6.6,SNR=6.1							
ILAR	**Eielson Array**	**85.31**	**24**	P		**P**	**05 49 29.2**	**-0.9**
	1.4nm,0.7s,baz=254,slow=5.3,SNR=18							
GEYT	**Alibeck**	**87.43**	**308**	LR		LR	06 31 52.4	
	comp=Z,129nm,21.4s,baz=350,slow=38							
YKA	**Yellowknife Ar**	**99.38**	**27**	P		**Pdif**	**05 50 35.6**	**0.0**
	0.1nm,0.8s,baz=276,slow=4.9,SNR=3.6							

*IDC **14** 05:39:49.6±4.7, 28.°87N×79.°89E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.1/50, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=88.7km s-min=69.2km az=50.0*

ISC 14 05:40:03.0±1.7, 30.°0N±0.°2×80.°7E±0.°4, h10km, n5, σ0.°86/5, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**0.68**	**216**	*e*P		**Pn**	**05 40 18.1**	**-0.6**
LGTI				*e*S		**Sn**	**05 40 30.2**	**+0.8**
MKAR	**Makanchi Array**	**16.81**	**4**	P		**P**	**05 44 01.2**	**+0.5**
	0.1nm,0.3s,baz=185,slow=11,SNR=5.4							
KURBB	**Kurchatov Arra**	**20.66**	**356**	P		**P**	**05 44 42.5**	**-0.4**
	0.6nm,0.6s,baz=182,slow=10,SNR=14							
SONM	**Songino Array**	**26.58**	**41**	P		**P**	**05 45 41.5**	**+0.1**
	0.5nm,0.9s,baz=224,slow=8.1,SNR=3.4							
YKA	**Yellowknife Ar**	**87.01**	**7**	P		P	05 52 42.2	-6.1
	0.1nm,0.6s,baz=337,slow=5.1,SNR=4.8							

*ISCJB **14** 05:52:19.9±1.0, 32.°61N±0.°04×115.°78W±0.°03, h11km±7km, n15, σ0.°39/25, 5C-6D, California-Baja California border region*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**47⇑**	*i*P		**Pg**	**05 52 21.6**	**-0.7**
YUH	**Yuha Desert**	**0.13**	**287⇑**	*i*P		**Pg**	**05 52 23.2**	**+0.1**
COK	**Cook Ranch**	**0.24**	**10⇓**	*i*P		**Pg**	**05 52 25.3**	**+0.3**
RMX	**La Rumorosa**	**0.26**	**268⇑**	*e*P		**Pg**	**05 52 25.6**	**+0.3**
RMX				*e*S		**Sg**	**05 52 29.4**	**+0.5**
CRR	**Carrizo Plain**	**0.32**	**330**	*i*P		**Pg**	**05 52 26.5**	**+0.1**
CPBX	**Cerro Prieto**	**0.44**	**116**	*e*P		**Pg**	**05 52 29.0**	**+0.4**
CPBX				*e*S		**Sb**	**05 52 36.1**	**-0.2**
CPBX				*⇓e*			05 52 42.3	
CPBX				AML		AML	05 52 42.3	
	comp=E,5μm,0.3s							
MBIG	**Mexicali**	**0.53**	**112**	*e*P		**Pg**	**05 52 30.2**	**-0.1**
MBIG				*e*S		**Sg**	**05 52 38.2**	**+1.0**
RDX	**Rancho Dawling**	**0.69**	**192⇓**	*e*P		**Pg**	**05 52 33.3**	**-0.2**
RDX				*e*S		**Sg**	**05 52 43.0**	**+0.5**
BAR	**Barrett**	**0.76**	**276**	*e*P		**Pg**	**05 52 34.6**	**-0.1**
CBX	**Cerro Bola**	**0.81**	**249**	*e*P		**Pg**	**05 52 35.5**	**0.0**
CBX				*e*S		**Sb**	**05 52 46.9**	**-0.1**
CBX	**Cerro Bola**	**0.81**	**249**	*e*P		**Pg**	**05 52 35.7**	**+0.2**
CBX				*e*S		**Sb**	**05 52 46.6**	**-0.3**
CBX				AML		AML	05 52 50.9	
	comp=E,643nm,0.6s							
CBX				*⇓e*			05 52 50.9	
ZAX	**El Zacaton**	**1.17**	**201**	*e*P		**Pn**	**05 52 42.0**	**-0.4**
ZAX				*e*S		**Sb**	**05 52 57.8**	**+0.4**
ZAX				AML		AML	05 53 00.8	
	comp=E,282nm,0.3s							
ZAX				*⇑e*			05 53 00.8	
ZAX				AML		AML	05 53 00.9	
	comp=N,343nm,0.5s

ellipse: s-maj=2.4km s-min=0.9km az=235.0

ISC 14 06:26:34.9±1.5,**37°38N**±0°03×**20°28E**±0°04,**h4**km±9km, **n195**,σ1**911**/240,**mb3.9**/12,**4C-13D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.60**	**102**	P	**Pb**	**06 26 48.0**	**+0.1**
SFD				S	**Sb**	**06 26 56.5**	**-0.3**
SFD	**Strofades**	**0.60**	**102**	*e*PN	**Pb**	**06 26 48.5**	**+0.6**
SFD				*e*SN	**Sb**	**06 26 58.1**	**+1.3**
SFD	**Strofades**	**0.60**	**102**	P	**Pb**	**06 26 48.0**	**+0.1**
SFD	**Strofades**	**0.60**	**102**	*e*Pn	**Pb**	**06 26 48.5**	**+0.6**
SFD				*e*Sn	**Sb**	**06 26 58.1**	**+1.3**
KFL	**Anninata**	**0.83**	**29**	P	**Pb**	**06 26 51.5**	**-0.4**
KFL				S	**Sb**	**06 27 02.3**	**-1.2**
KFL	**Anninata**	**0.83**	**29**	P	**Pb**	**06 26 51.5**	**-0.4**
VLS	**Valsamata**	**0.83**	**17**	P	**Pg**	**06 26 51.2**	**+0.4**
VLS				S	**Sg**	**06 27 01.6**	**0.0**
VLS	**Valsamata**	**0.83**	**17**	*e*PN	**Pn**	**06 26 53.0**	**-0.4**
VLS				*e*SN	**Sb**	**06 27 04.0**	**+0.5**
VLS	**Valsamata**	**0.83**	**17**	P	**Pg**	**06 26 51.2**	**+0.4**
VLS	**Valsamata**	**0.83**	**17**	*e*Pn	**Pn**	**06 26 53.0**	**-0.4**
VLS				*e*Sn	**Sb**	**06 27 04.0**	**+0.5**
VTN	**Vitineika**	**0.90**	**53**	P	**Pb**	**06 26 52.9**	**-0.1**
VTN				S	**Sb**	**06 27 05.2**	**-0.1**
VTN	**Vitineika**	**0.90**	**53**	P	**Pb**	**06 26 52.9**	**-0.1**
AMT	**Artemida-Makis**	**1.15**	**82**	P	**Pb**	**06 26 57.5**	**+0.2**
AMT	**Artemida-Makis**	**1.15**	**82**	*e*PN	**Pn**	**06 26 58.8**	**+1.0**
AMT				*e*SN	**Sn**	**06 27 15.5**	**+1.6**
AMT	**Artemida-Makis**	**1.15**	**82**	P	**Pb**	**06 26 57.5**	**+0.2**
AMT	**Artemida-Makis**	**1.15**	**82**	*e*Pn	**Pn**	**06 26 58.8**	**+1.0**
AMT				*e*Sn	**Sn**	**06 27 15.5**	**+1.6**
RLS	**Riolos of Patr**	**1.16**	**54**	P	**Pg**	**06 26 57.1**	**0.0**
RLS				S	**Sb**	**06 27 12.9**	**+0.1**
RLS	**Riolos of Patr**	**1.16**	**54**	*e*PN	**Pn**	**06 26 58.6**	**+0.7**
RLS				*e*SN	**Sn**	**06 27 15.1**	**+0.9**
RLS	**Riolos of Patr**	**1.16**	**54**	P	**Pg**	**06 26 57.1**	**0.0**
RLS	**Riolos of Patr**	**1.16**	**54**	*e*Pn	**Pn**	**06 26 58.6**	**+0.7**
RLS				*e*Sn	**Sn**	**06 27 15.1**	**+0.9**
PYL	**PYLOS**	**1.26**	**112**	P	**Pb**	**06 26 59.7**	**+0.4**
PYL				S	**Sn**	**06 27 16.9**	**+0.1**
PYL	**PYLOS**	**1.26**	**112**	*e*PN	**Pb**	**06 26 59.6**	**+0.3**
PYL				*e*SN	**Sn**	**06 27 17.7**	**+0.9**
PYL	**PYLOS**	**1.26**	**112**	P	**Pb**	**06 26 59.7**	**+0.4**
PYL				S	**Sn**	**06 27 16.9**	**+0.1**
PYL				*e*Sn	**Sn**	**06 27 17.7**	**+0.9**
DRO	**Drossia**	**1.27**	**63**	P	**Pb**	**06 26 59.4**	**0.0**
DRO	**Drossia**	**1.27**	**63**	*e*PN	**Pn**	**06 27 00.8**	**+1.4**
DRO				*e*SN	**Sn**	**06 27 19.6**	**+2.6**
DRO	**Drossia**	**1.27**	**63**	P	**Pb**	**06 26 59.4**	**0.0**
DRO	**Drossia**	**1.27**	**63**	*e*Pn	**Pn**	**06 27 00.8**	**+1.4**
DRO				*e*Sn	**Sn**	**06 27 19.6**	**+2.6**
ITM	**Ithomi**	**1.33**	**98**	P	**Pn**	**06 27 00.8**	**+0.6**
ITM	**Ithomi**	**1.33**	**98**	*e*PN	**Pn**	**06 27 01.0**	**+0.8**
ITM				*e*SN	**Sn**	**06 27 20.5**	**+2.1**
ITM	**Ithomi**	**1.33**	**98**	P	**Pn**	**06 27 00.8**	**+0.6**
ITM				*e*Sn	**Sn**	**06 27 20.5**	**+2.1**
PDO	**Prodromos**	**1.41**	**30**	P	**Pb**	**06 27 02.1**	**+0.3**
PDO				S	**Sn**	**06 27 21.2**	**+0.8**
PDO	**Prodromos**	**1.41**	**30**	*e*PN	**Pb**	**06 27 03.4**	**+1.6**
PDO				*e*SN	**Sn**	**06 27 23.3**	**+2.9**
PDO	**Prodromos**	**1.41**	**30**	P	**Pb**	**06 27 02.1**	**+0.3**
PDO	**Prodromos**	**1.41**	**30**	*e*Pn	**Pb**	**06 27 03.4**	**+1.6**
PDO				S	**Sn**	**06 27 21.2**	**+0.8**
PDO				*e*Sn	**Sn**	**06 27 23.3**	**+2.9**
LKD2	**Lefkada island**	**1.44**	**12**	P	**Pb**	**06 27 02.4**	**+0.1**
LKD2				S	**Sn**	**06 27 22.6**	**+1.5**
LKD2	**Lefkada island**	**1.44**	**12**	*e*PN	**Pb**	**06 27 03.7**	**+1.4**
LKD2	**Lefkada island**	**1.44**	**12**	P	**Pb**	**06 27 02.4**	**+0.1**
LKD2	**Lefkada island**	**1.44**	**12**	*e*Pn	**Pb**	**06 27 03.7**	**+1.4**
LKD2				S	**Sn**	**06 27 22.6**	**+1.5**
KLV	**Kalavryta, Ach**	**1.62**	**65**	P	**Pg**	**06 27 05.9**	**-0.1**
KLV				S	**Sg**	**06 27 26.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.62**	**65**	*e*PN	**Pg**	**06 27 06.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.62**	**65**	P	**Pg**	**06 27 05.9**	**-0.1**
KLV				S	**Sg**	**06 27 26.5**	**-0.5**
EFP	**Efpalio**	**1.66**	**50**	P	**Pb**	**06 27 05.7**	**-0.2**
EFP				S	**Sg**	**06 27 28.6**	**+0.5**
EFP	**Efpalio**	**1.66**	**50**	*e*PN	**Pg**	**06 27 06.8**	**+0.2**
EFP	**Efpalio**	**1.66**	**50**	P	**Pb**	**06 27 05.7**	**-0.2**
EFP	**Efpalio**	**1.66**	**50**	*e*Pn	**Pg**	**06 27 06.8**	**+0.2**
EFP				S	**Sg**	**06 27 28.6**	**+0.5**
VLX	**Vlachokerasia**	**1.67**	**90**	P	**Pn**	**06 27 05.9**	**+0.9**
VLX				S	**Sg**	**06 27 29.5**	**+1.0**
VLX	**Vlachokerasia**	**1.67**	**90**	*e*PN	**Pg**	**06 27 07.1**	**+0.2**
VLX	**Vlachokerasia**	**1.67**	**90**	P	**Pn**	**06 27 05.9**	**+0.9**
VLX	**Vlachokerasia**	**1.67**	**90**	*e*Pn	**Pg**	**06 27 07.1**	**+0.2**
VLX				S	**Sg**	**06 27 29.5**	**+1.0**
GUR	**Goura**	**1.73**	**71**	P	**Pb**	**06 27 07.2**	**0.0**
GUR	**Goura**	**1.73**	**71**	*e*PN	**Pb**	**06 27 07.3**	**0.0**
GUR	**Goura**	**1.73**	**71**	P	**Pb**	**06 27 07.2**	**0.0**
KALE	**Kalithea**	**1.78**	**55**	P	**Pn**	**06 27 07.5**	**+0.9**
KALE	**Kalithea**	**1.78**	**55**	*e*PN	**Pg**	**06 27 08.9**	**-0.1**
KALE	**Kalithea**	**1.78**	**55**	P	**Pn**	**06 27 07.5**	**+0.9**
KALE	**Kalithea**	**1.78**	**55**	*e*Pn	**Pg**	**06 27 08.9**	**-0.1**
DSL	**Palaion Diasel**	**1.86**	**20**	P	**Pb**	**06 27 09.7**	**+0.2**
DSL				S	**Sg**	**06 27 33.9**	**-0.9**
DSL	**Palaion Diasel**	**1.86**	**20**	*e*PN	**Pb**	**06 27 09.6**	**+0.1**
DSL	**Palaion Diasel**	**1.86**	**20**	*e*Pn	**Pb**	**06 27 09.6**	**+0.1**
DSL				S	**Sg**	**06 27 33.9**	**-0.9**
EVR	**Evrytania**	**1.95**	**38**	P	**Pb**	**06 27 10.2**	**-0.8**
EVR	**Evrytania**	**1.95**	**38**	*e*PN	**Pb**	**06 27 10.4**	**-0.6**
EVR	**Evrytania**	**1.95**	**38**	P	**Pb**	**06 27 10.2**	**-0.8**
IGT	**Igoumenitsa**	**2.15**	**1**	P	**Pn**	**06 27 12.9**	**+1.4**
IGT	**Igoumenitsa**	**2.15**	**1**	P	**Pn**	**06 27 12.9**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.19**	**41**	P	**Pb**	**06 27 13.8**	**-1.2**
MAKR				S	**Sn**	**06 27 40.4**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.19**	**41**	*e*PB	**Pb**	**06 27 13.9**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.19**	**41**	P	**Pb**	**06 27 13.8**	**-1.2**
MAKR				S	**Sn**	**06 27 40.4**	**+0.8**
LTK	**Loutraki**	**2.22**	**72**	P	**Pn**	**06 27 13.6**	**+1.0**
LTK				S	**Sn**	**06 27 41.2**	**+0.7**
LTK	**Loutraki**	**2.22**	**72**	*e*PB	**Pn**	**06 27 13.6**	**+1.0**
LTK	**Loutraki**	**2.22**	**72**	P	**Pn**	**06 27 13.6**	**+1.0**
LTK				S	**Sn**	**06 27 41.2**	**+0.7**
VLI	**Veliai**	**2.23**	**106**	P	**Pb**	**06 27 14.9**	**-0.7**
VLI	**Veliai**	**2.23**	**106**	*e*PN	**Pb**	**06 27 15.8**	**+0.2**
VLI	**Veliai**	**2.23**	**106**	P	**Pb**	**06 27 14.9**	**-0.7**
VLI	**Veliai**	**2.23**	**106**	*e*Pn	**Pb**	**06 27 15.8**	**+0.2**
AGG	**Agios Georgios**	**2.30**	**44**	P	**Pn**	**06 27 14.0**	**+0.4**
AGG	**Agios Georgios**	**2.30**	**44**	*e*PN	**Pb**	**06 27 15.8**	**-1.2**
AGG	**Agios Georgios**	**2.30**	**44**	P	**Pn**	**06 27 14.0**	**+0.4**
AGG	**Agios Georgios**	**2.30**	**44**	*e*Pn	**Pb**	**06 27 15.8**	**-1.2**
AXAR	**Agios Charalam**	**2.33**	**53**	P	**Pn**	**06 27 14.8**	**+0.8**
AXAR	**Agios Charalam**	**2.33**	**53**	*e*PN	**Pb**	**06 27 16.0**	**-1.5**
AXAR	**Agios Charalam**	**2.33**	**53**	P	**Pn**	**06 27 14.8**	**+0.8**
AXAR	**Agios Charalam**	**2.33**	**53**	*e*Pn	**Pb**	**06 27 16.0**	**-1.5**
KYTH	**Kithira**	**2.47**	**116**	P	**Pn**	**06 27 17.0**	**+1.1**
KYTH	**Kithira**	**2.47**	**116**	*e*PB	**Pb**	**06 27 18.4**	**-1.4**
KYTH	**Kithira**	**2.47**	**116**	P	**Pn**	**06 27 17.0**	**+1.1**
KYTH	**Kithira**	**2.47**	**116**	*e*Pb	**Pb**	**06 27 18.4**	**-1.4**
LKR	**Lokris**	**2.49**	**59**	P	**Pn**	**06 27 17.3**	**+1.1**
LKR				S	**Sn**	**06 27 48.2**	**+1.1**
LKR	**Lokris**	**2.49**	**59**	P	**Pn**	**06 27 17.3**	**+1.1**
LKR				S	**Sn**	**06 27 48.2**	**+1.1**
MEV	**Metsovon**	**2.51**	**17**	P	**Pn**	**06 27 17.8**	**+1.1**
MEV	**Metsovon**	**2.51**	**17**	P	**Pn**	**06 27 17.8**	**+1.1**
THL	**Klokotos Trika**	**2.57**	**31**	P	**Pb**	**06 27 19.7**	**-1.8**
THL				S	**Sn**	**06 27 50.9**	**+1.9**
THL	**Klokotos Trika**	**2.57**	**31**	P	**Pb**	**06 27 19.7**	**-1.8**
THL				S	**Sn**	**06 27 50.9**	**+1.9**
NAIG	**Nisos Aigina**	**2.58**	**81**	*e*PN	**Pb**	**06 27 19.8**	**-1.8**
NAIG	**Nisos Aigina**	**2.58**	**81**	*e*Pn	**Pb**	**06 27 19.8**	**-1.8**
SMIA	**Simia**	**2.75**	**56**	P	**Pn**	**06 27 21.0**	**+1.1**
SMIA	**Simia**	**2.75**	**56**	*e*PN	**Pn**	**06 27 20.9**	**+1.1**
SMIA	**Simia**	**2.75**	**56**	*e*Pn	**Pn**	**06 27 20.9**	**+1.1**
MRKA	**Markates**	**2.93**	**62**	P	**Pn**	**06 27 22.9**	**+0.7**
MRKA	**Markates**	**2.93**	**62**	*e*PN	**Pn**	**06 27 23.6**	**+1.4**
MRKA	**Markates**	**2.93**	**62**	P	**Pn**	**06 27 22.9**	**+0.7**
MRKA	**Markates**	**2.93**	**62**	*e*Pn	**Pn**	**06 27 23.6**	**+1.4**
NEO	**Neokhori**	**3.01**	**49**	P	**Pn**	**06 27 24.1**	**+0.7**
NEO	**Neokhori**	**3.01**	**49**	P	**Pn**	**06 27 24.1**	**+0.7**
XOR	**Xorichti**	**3.03**	**48**	P	**Pn**	**06 27 24.2**	**+0.6**
XOR	**Xorichti**	**3.03**	**48**	P	**Pn**	**06 27 24.2**	**+0.6**
NEST	**Nestorio**	**3.09**	**11**	P	**Pn**	**06 27 27.1**	**+2.6**
NEST	**Nestorio**	**3.09**	**11**	*e*PN	**Pn**	**06 27 27.1**	**+2.6**
NEST	**Nestorio**	**3.09**	**11**	P	**Pn**	**06 27 27.1**	**+2.6**
KZN	**Kozani**	**3.15**	**21**	P	**Pn**	**06 27 27.3**	**+2.0**
KZN	**Kozani**	**3.15**	**21**	P	**Pn**	**06 27 27.3**	**+2.0**
LIT	**Litokhoron**	**3.22**	**32**	P	**Pn**	**06 27 27.3**	**+1.0**
LIT	**Litokhoron**	**3.22**	**32**	P	**Pn**	**06 27 27.3**	**+1.0**
AOS	**Alonnisos**	**3.35**	**57**	P	**Pn**	**06 27 28.5**	**+0.5**
AOS	**Alonnisos**	**3.35**	**57**	P	**Pn**	**06 27 28.5**	**+0.5**
FNA	**Florina**	**3.50**	**14**	P	**Pn**	**06 27 31.5**	**+1.3**
FNA	**Florina**	**3.50**	**14**	*e*PN	**Pn**	**06 27 31.5**	**+1.3**
FNA	**Florina**	**3.50**	**14**	P	**Pn**	**06 27 31.5**	**+1.3**
PAIG	**Paliouri**	**3.68**	**45**	P	**Pn**	**06 27 33.6**	**+1.0**
PAIG	**Paliouri**	**3.68**	**45**	P	**Pn**	**06 27 33.6**	**+1.0**
OHR	**Ohrid**	**3.75**	**6**	*i* Pn	**Pn**	**06 27 34.0**	**+0.5**
OHR	**Ohrid**	**3.75**	**6**	*i* Pn	**Pn**	**06 27 34.0**	**+0.5**
SOH	**Sokhos**	**4.18**	**34**	P	**Pn**	**06 27 41.2**	**+1.6**
SOH	**Sokhos**	**4.18**	**34**	P	**Pn**	**06 27 41.2**	**+1.6**
APE	**Apeiranthos**	**4.20**	**93**	⇑*i*P	**Pn**	**06 27 39.8**	**0.0**
APE	**Apeiranthos**	**4.20**	**93**	S	**Sn**	**06 28 28.8**	**-0.5**
APE	**Apeiranthos**	**4.20**	**93**	⇑*i*P	**Pn**	**06 27 39.8**	**0.0**
IDI	**Anoyia**	**4.27**	**118**	Pn	**Pn**	**06 27 41.1**	**+0.4**
	0.5nm,0.3s,baz=293,slow=16,SNR=3.7						
IDI				Sn	**Sn**	**06 28 29.9**	**-1.1**
	14nm,0.3s,baz=289,slow=22,SNR=20						
KNT	**Kendrikon**	**4.29**	**27**	P	**Pn**	**06 27 42.0**	**+1.1**
KNT	**Kendrikon**	**4.29**	**27**	P	**Pn**	**06 27 42.0**	**+1.1**
VAY	**Valandovo**	**4.32**	**24**	*i* Pn	**Pn**	**06 27 41.4**	**+0.1**
VAY	**Valandovo**	**4.32**	**24**	*i* Pn	**Pn**	**06 27 41.4**	**+0.1**
SRS	**Serrai**	**4.53**	**34**	P	**Pn**	**06 27 45.2**	**+0.9**
SRS	**Serrai**	**4.53**	**34**	P	**Pn**	**06 27 45.2**	**+0.9**
SKO	**Skopje**	**4.67**	**11**	*e*Pn	**Pn**	**06 27 46.7**	**+0.4**
SKO	**Skopje**	**4.67**	**11**	*e*Pn	**Pn**	**06 27 46.6**	**+0.4**
NVR	**Nevrokopi**	**4.84**	**34**	P	**Pn**	**06 27 49.5**	**+1.0**
NVR	**Nevrokopi**	**4.84**	**34**	P	**Pn**	**06 27 49.5**	**+1.0**
KKB	**Krupnik**	**4.97**	**25**	*i* P	**Pn**	**06 27 51.1**	**+0.7**
KKB	**Krupnik**	**4.97**	**25**	*i* P	**Pn**	**06 27 51.1**	**+0.7**
MMB	**Musomiste**	**4.98**	**31**	⇓*i*P	**Pn**	**06 27 50.7**	**+0.3**
MMB	**Musomiste**	**4.98**	**31**	S	**Sn**	**06 28 47.4**	**-1.1**
MMB	**Musomiste**	**4.98**	**31**	*i* P	**Pn**	**06 27 50.8**	**+0.3**
MMB	**Musomiste**	**4.98**	**31**	⇓*i*P	**Pn**	**06 27 50.7**	**+0.3**
RZN	**Rozhen**	**5.50**	**37**	*i* P	**Pn**	**06 27 58.1**	**+0.4**
RZN	**Rozhen**	**5.50**	**37**	*i* P	**Pn**	**06 27 58.1**	**+0.4**
BARS	**Barje**	**5.55**	**12**	*e*Pn	**Pn**	**06 27 58.2**	**-0.1**
VTS	**Vitosha**	**5.67**	**22**	⇓*i*P	**Pn**	**06 28 01.6**	**+1.6**
VTS	**Vitosha**	**5.67**	**22**	S	**Sn**	**06 29 06.9**	**+1.2**
VTS	**Vitosha**	**5.67**	**22**	*i* P	**Pn**	**06 28 01.2**	**+1.2**
VTS	**Vitosha**	**5.67**	**22**	*i* P	**Pn**	**06 28 01.2**	**+1.2**
KDZ	**Kurdzhali**	**5.83**	**41**	⇓*i*P	**Pn**	**06 28 01.8**	**-0.3**
KDZ	**Kurdzhali**	**5.83**	**41**	⇓*i*P	**Pn**	**06 28 01.8**	**-0.3**
SJES	**Sjenica**	**5.88**	**358**	*e*Pn	**Pn**	**06 28 03.9**	**+1.0**
PGB	**Panagyurishte**	**5.96**	**29**	*e*P	**Pn**	**06 28 06.3**	**+2.3**
PGB	**Panagyurishte**	**5.96**	**29**	*e*P	**Pn**	**06 28 06.3**	**+2.3**
IVAS	**Ivanjica**	**6.19**	**359**	*i* Pn	**Pn**	**06 28 07.5**	**+0.4**
GRUS	**Gruza**	**6.51**	**3**	*e*Pn	**Pn**	**06 28 11.3**	**-0.1**
MPEP	**Malo Peshtene**	**6.53**	**23**	*i* P	**Pn**	**06 28 12.5**	**+0.8**
MPEP	**Malo Peshtene**	**6.53**	**23**	*i* P	**Pn**	**06 28 12.5**	**+0.8**
TRUS	**Trudelj**	**6.84**	**1**	*e*Pn	**Pn**	**06 28 14.3**	**-1.6**
TEKS	**Tekeris**	**7.18**	**356**	*e*Pn	**Pn**	**06 28 20.3**	**-0.4**
FGSL	**Fruska Gora**	**7.78**	**358**	*e*Pn	**Pn**	**06 28 26.6**	**-2.3**
GZR	**Gura Zlata**	**8.22**	**12**	⇑*i*P	**Pn**	**06 28 35.0**	**0.0**
GZR	**Gura Zlata**	**8.22**	**12**	⇑*i*P	**Pn**	**06 28 35.0**	**0.0**
ARR	**Arges**	**8.62**	**21**	⇓*i*P	**Pn**	**06 28 40.6**	**+0.1**
ARR	**Arges**	**8.62**	**21**	⇓*i*P	**Pn**	**06 28 40.6**	**+0.1**
VOIR		**8.81**	**22**	⇓*i*P	**Pn**	**06 28 43.6**	**+0.6**
VOIR		**8.81**	**22**	⇓*i*P	**Pn**	**06 28 43.6**	**+0.6**
MLR	**Muntele Rosu**	**9.15**	**26**	⇓*i*P	**Pn**	**06 28 50.2**	**+2.4**
MLR	**Muntele Rosu**	**9.15**	**26**	Pn	**Pn**	**06 28 49.6**	**+1.8**
	0.3nm,0.3s,baz=188,slow=14,SNR=23						
MLR				LR	LR	06 32 21.0	
	comp=Z,16nm,20.3s,baz=40,slow=38						
MLR	**Muntele Rosu**	**9.15**	**26**	⇓*i*P	**Pn**	**06 28 50.2**	**+2.4**
VRI	**Vrincioaia**	**9.75**	**28**	⇓*i*P	**Pn**	**06 28 57.7**	**+1.8**
VRI	**Vrincioaia**	**9.75**	**28**	⇓*i*P	**Pn**	**06 28 57.7**	**+1.8**
BRTR	**Keskin Array B**	**10.72**	**73**	Pn	**Pn**	**06 29 11.4**	**+2.0**
	0.1nm,0.3s,baz=257,slow=13,SNR=2.3						
VYHS	**Vyhne**	**11.16**	**355**	*e*Pn	**Pn**	**06 29 14.6**	**-0.6**
VYHS	**Vyhne**	**11.16**	**355**	*e*PN	**Pn**	**06 29 14.6**	**-0.6**
CRVS	**Cervenica-Dubn**	**11.55**	**4**	*e*Pn	**Pn**	**06 29 19.9**	**-0.6**
CRVS	**Cervenica-Dubn**	**11.55**	**4**	*e*PN	**Pn**	**06 29 19.9**	**-0.6**
CRVS				*e*PG		06 29 38.6	
CRVS				*e*SG		06 29 43.0	
GERES	**GERESS Array B**	**12.42**	**339**	Pn	**Pn**	**06 29 33.4**	**+0.9**
	0.1nm,0.3s,baz=155,slow=12,SNR=3.2						
AKASG	**Malin Array Be**	**14.77**	**23**	Pn	**Pn**	**06 30 01.7**	**-2.8**
	0.3nm,0.3s,baz=211,slow=11,SNR=6.8						
CLL	**Collm**	**14.85**	**342**	*e*P	**Pn**	**06 30 07.0**	**+1.4**
	comp=Z,6.0nm,1.0s						
CLL				*e*PP	**PnPn**	**06 30 14.0**	**+0.4**
CLL				*e*		06 30 19.0	
HFS	**Hagfors**	**23.16**	**352**	P	**P**	**06 31 41.3**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=152,slow=13,SNR=5.3						
EKA	**Eskdalemuir Ar**	**23.98**	**326**	P	**P**	**06 31 51.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=119,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**24.36**	**7**	P	**P**	**06 31 52.2**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=168,slow=13,SNR=6.7						
NB2	**NORSAR Subarra**	**24.36**	**349**	P	**P**	**06 31 52.7**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=160,slow=11						
NB2	**NORSAR Subarra**	**24.36**	**349**	P	**P**	**06 31 52.7**	**-1.1**
	comp=Z,3.1nm,0.8s,SNR=7.6						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**06 31 53.6**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=157,slow=9.2,SNR=3.3						
NOA				LR	LR	06 42 17.7	
	comp=Z,16nm,21.7s,baz=85,slow=39						
TORD	**Torodi Ar. Bea**	**29.29**	**219**	P	**P**	**06 32 39.1**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=30,slow=9.3,SNR=18						
ARCES	**ARCESS Array B**	**32.34**	**3**	P	**P**	**06 33 03.6**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=185,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**45.88**	**58**	P	**P**	**06 34 56.5**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=272,slow=7.1,SNR=13						
ZALV	**Zalesovo Beam**	**46.37**	**48**	P	**P**	**06 35 00.4**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=270,slow=8.9,SNR=7.2						
SCHQ	**Schefferville**	**58.92**	**318**	P	**P**	**06 36 35.6**	**+0.7**
	comp=Z,1.7nm,1.1s,baz=79,slow=5.2,SNR=2.7						
SONM	**Songino Array**	**61.11**	**50**	P	**P**	**06 36 49.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=302,slow=8.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**70.19**	**82**	P	**P**	**06 37 49.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=318,slow=7.9,SNR=3.0						
YKA	**Yellowknife Ar**	**74.07**	**340**	P	**P**	**06 38 11.8**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=36,slow=5.4,SNR=4.1						

IGQ 14 06:34:12±0.9,**0°21S**×**81°47W**,**h6**km±7km,**Mb4.1,7C-4D, Error ellipse: s-maj=5.7km s-min=2.7km az=13.2,Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**1.12**	**159**	⇑P	**Pb**	**06 34 33.9**	**+0.1**
ISPT	**Isla de la Pla**	**1.12**	**159**	⇑S	**Sg**	**06 34 45.2**	**-2.8**
JAMA	**Jama**	**1.27**	**92**	⇓P	**Pb**	**06 34 36.6**	**+0.2**
PECV	**Mancha de Ca P**	**1.53**	**112**	S	**Sn**	**06 34 49.5**	**-11**
PECV	**Mancha de Ca P**	**1.53**	**112**	P	**Pn**	**06 34 35.1**	**-4.9**
JUA2	**San Juan 2**	**2.87**	**90**	P	**Pn**	**06 35 00.9**	**+2.0**
GGP	**Refugio Guagua**	**2.88**	**89**	P	**Pb**	**06 35 02.0**	**-2.6**
YANA	**Yana**	**2.90**	**88**	P	**Pn**	**06 34 59.3**	**-0.1**
CAMI	**Rancho Maria**	**3.00**	**99**	P	**Pn**	**06 35 02.9**	**+2.1**
OTAV	**Otavalo**	**3.05**	**82**	⇑P	**Pn**	**06 35 01.2**	**-0.3**
BMOR	**Cotopaxi Volca**	**3.06**	**100**	⇑P	**Pn**	**06 35 03.6**	**+1.9**
BREF	**Cotopaxi Volca**	**3.06**	**99**	⇑P	**Pn**	**06 35 03.3**	**+1.4**
VC1	**Cotopaxi 1**	**3.10**	**98**	P	**Pn**	**06 35 03.4**	**+1.2**
IGUA	**Igualata**	**3.10**	**114**	P	**Pn**	**06 35 03.5**	**+1.1**
BTAM	**Cotopaxi Volca**	**3.11**	**99**	P	**Pn**	**06 35 04.7**	**+2.3**
TAMB	**Tambo**	**3.14**	**99**	P	**Pn**	**06 35 04.5**	**+1.7**
COV1	**Cotopaxi Volc**	**3.16**	**98**	P	**Pn**	**06 35 03.2**	**0.0**
PISA	**Pisayambo**	**3.20**	**105**	P	**Pn**	**06 35 04.3**	**+0.8**
BMAS	**Trigal station**	**3.25**	**113**	⇑P	**Pn**	**06 35 06.8**	**+2.6**
LITE	**Lita**	**3.27**	**72**	P	**Pn**	**06 35 04.1**	**+0.1**
ARRY	**Arrayan**	**3.28**	**113**	⇓P	**Pn**	**06 35 06.1**	**+1.6**
ARRY	**Arrayan**	**3.28**	**113**	⇓S	**Sn**	**06 35 44.0**	**-0.2**
BRUN	**Tungurahua Vol**	**3.29**	**111**	⇑P	**Pn**	**06 35 06.4**	**+1.8**
BULB	**Ulba Tungurahu**	**3.29**	**112**	⇓P	**Pn**	**06 35 08.0**	**+3.2**
PAT1	**Patacocha**	**3.29**	**113**	P	**Pn**	**06 35 07.7**	**+2.9**
BPAT	**Tungurahua Vol**	**3.30**	**113**	P	**Pn**	**06 35 07.6**	**+2.7**
BPAT	**Tungurahua Vol**	**3.30**	**113**	S	**Sn**	**06 35 45.0**	**+0.1**
ULBA	**Ulba**	**3.30**	**112**	P	**Pn**	**06 35 07.8**	**+3.0**
ANTI	**Antisana**	**3.32**	**94**	P	**Pn**	**06 35 07.9**	**+2.6**
CAYA	**Cayambe**	**3.49**	**85**	P	**Pn**	**06 35 09.3**	**+1.7**

*DHMR **14** 06:36:51.0±0.6, 11°.84N×43°.86E, h4km±135km, ML3.9*
*ISCJB **14** 06:36:53.3±1.1, 11°.80N±0°.09×43°.72E±0°.08, h10km, Error ellipse: s-maj=16.3km s-min=4.8km az=137.4*
*ARO **14** 06:36:56.0, 12°.N±2°.×4°.4E±°, h15km±1km, ML4.0*
ISC 14 06:36:52.5±1.4,**11°.84N**±0°.08×**43°.72E**±0°.08,**h10**km,**n10,** σ0**999**/14,**Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.44**	**290**	*e*P	**Pb**	**06 37 02.2**	**-0.2**
ATA	**Atar**	**0.63**	**233**	*e*P	**Pn**	**06 37 07.2**	**-0.2**
TDD	**Tadjoura Ara**	**0.80**	**268**	*e*P	**Pg**	**06 37 08.3**	**+0.5**
ATD	**Arta Tunnel**	**0.91**	**251**	*e*P	**Pb**	**06 37 10.7**	**+0.4**
ATD				*e*S	**Sb**	**06 37 22.9**	**+0.3**
SGH	**Sud-Ghoubbet**	**1.14**	**250**	*e*P	**Pb**	**06 37 14.3**	**0.0**
GBR	**Grand-Bara**	**1.41**	**241**	*e*P	**Pb**	**06 37 18.8**	**-0.1**
MAOD	**Malaho**	**1.48**	**280**	*e*P	**Pn**

LKD2	**Lefkada island**	**1.48**	**14**	*e*PB	**Pg**		**06 52 20.4**	**+0.5**
LKD2				*e*SB	**Sb**		**06 52 39.0**	**-0.3**
LKD2	**Lefkada island**	**1.48**	**14**	*e*Pb	**Pg**		**06 52 20.4**	**+0.5**
LKD2				*e*Sb	**Sb**		**06 52 39.0**	**-0.3**
KLV	**Kalavryta, Ach**	**1.69**	**65**	P	**Pn**		**06 52 22.2**	**-0.2**
KLV	**Kalavryta, Ach**	**1.69**	**65**	*e*PG	**Pn**		**06 52 22.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.69**	**65**	P	**Pn**		**06 52 22.2**	**-0.2**
KALE	**Kalithea**	**1.85**	**55**	P	**Pn**		**06 52 25.3**	**+0.7**
KALE	**Kalithea**	**1.85**	**55**	*e*PN	**Pn**		**06 52 25.5**	**+0.9**
KALE	**Kalithea**	**1.85**	**55**	P	**Pn**		**06 52 25.3**	**+0.7**
EVR	**Evrytania**	**2.01**	**39**	P	**Pb**		**06 52 28.3**	**-0.8**
EVR	**Evrytania**	**2.01**	**39**	*e*PN	**Pn**		**06 52 28.1**	**+1.2**
EVR	**Evrytania**	**2.01**	**39**	*e*Pn	**Pn**		**06 52 28.1**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.25**	**42**	*e*PN	**Pn**		**06 52 31.3**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.25**	**42**	*e*Pn	**Pn**		**06 52 31.3**	**+1.2**

IDC 14 06:54:05.1±1.8, 0.25°N×125.73°E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/28, mbtmp3.7/3, Error ellipse: s-maj=184.4km s-min=23.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**158**	P	P	06 58 57.4	-1.1
	1.5nm,0.6s,baz=336,slow=11,SNR=17						
ASAR	**Alice Springs**	**25.06**	**162**	P	P	06 59 32.1	+0.8
	1.0nm,0.4s,baz=343,slow=10,SNR=20						
MKAR	**Makanchi Array**	**59.87**	**327**	P	P	07 04 12.5	-0.1
	0.4nm,0.4s,baz=121,slow=7.4,SNR=12						

IDC 14 06:59:44.0±2.6, 53.94N×86.54E, h0km, mb1 2.7/2, mb1mx2.6/29, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=20.7km s-min=12.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**271**	*i*		07 06 40.0	
	baz=88,slow=327,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.02**	**271**	Pg	Pg	07 00 02.2	-1.2
	0.6nm,0.3s,baz=90,slow=16,SNR=13						
ZALV				Lg	Lg	07 00 18.3	
	2.0nm,0.3s,baz=94,slow=30,SNR=22						
KURBB	**Kurchatov Arra**	**5.93**	**239**	Pn	Pn	07 01 13.7	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=7.0						
KURBB				Lg	Lg	07 02 49.9	
	0.0nm,0.3s,baz=57,slow=34,SNR=3.1						
MKAR	**Makanchi Array**	**7.65**	**202**	Pn	Pn	07 01 37.8	+1.1
	0.1nm,0.3s,baz=19,slow=14,SNR=5.9						
MKAR				Lg	Lg	07 03 50.0	
	0.0nm,0.3s,baz=24,slow=28,SNR=3.6						

*ISCJB **14** 07:18:34.0±0.8, 37.36N±0.03×20.15E±0.04, h0km±4km, mb3.6/4, Error ellipse: s-maj=6.0km s-min=4.2km az=148.9*
*IDC **14** 07:18:33.9±1.4, 37.50N×20.39E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/35, mbtmp3.5/4, Error ellipse: s-maj=66.8km s-min=26.2km az=128.0*
*ATH **14** 07:18:35.8, 37.36N×20.23E, h14km±2km, MD3.3/21*
*CSEM **14** 07:18:36.0±0.4, 37.37N×20.25E, h2km, ML3.5, Error ellipse: s-maj=6.8km s-min=3.7km az=57.0*
*THE **14** 07:18:37.5, 37.41N×20.33E, h1km±2km, ML3.5/7, Error ellipse: s-maj=2.7km s-min=1.1km az=232.0*
ISC 14 07:18:34.7±1.5, 37.32N±0.03×20.22E±0.05, h6km±9km, n100, σ0.80/143, mb3.6/4, 4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.64**	**96**	P	**Pb**	**07 18 48.5**	**+0.2**
SFD				S	**Sb**	**07 18 56.9**	**-0.6**
SFD	**Strofades**	**0.64**	**96**	*e*PB	**Pb**	**07 18 48.7**	**+0.4**
SFD				*e*SB	**Sb**	**07 18 57.3**	**-0.2**
SFD	**Strofades**	**0.64**	**96**	*e*Pb	**Pb**	**07 18 48.7**	**+0.4**
SFD				S	**Sb**	**07 18 56.9**	**-0.6**
SFD				*e*Sb	**Sb**	**07 18 57.3**	**-0.2**
VLS	**Valsamata**	**0.91**	**19**	P	**Pg**	**07 18 51.5**	**-0.6**
VLS				S	**Sg**	**07 19 03.5**	**-0.4**
VLS	**Valsamata**	**0.91**	**19**	*e*PB	**Pg**	**07 18 51.6**	**-0.6**
VLS				*e*SB	**Sg**	**07 19 04.2**	**+0.3**
VLS	**Valsamata**	**0.91**	**19**	P	**Pg**	**07 18 51.5**	**-0.6**
VLS				S	**Sg**	**07 19 03.5**	**-0.4**
VLS				*e*Sb	**Sg**	**07 19 04.2**	**+0.3**
KFL	**Anninata**	**0.91**	**30**	P	**Pg**	**07 18 51.6**	**-0.6**
KFL				S	**Sg**	**07 19 03.6**	**-0.4**
KFL	**Anninata**	**0.91**	**30**	P	**Pg**	**07 18 51.6**	**-0.6**
KFL				S	**Sg**	**07 19 03.6**	**-0.4**
VTN	**Vitineika**	**0.97**	**52**	P	**Pg**	**07 18 53.2**	**-0.2**
VTN				S	**Sb**	**07 19 07.2**	**+0.1**
VTN	**Vitineika**	**0.97**	**52**	P	**Pg**	**07 18 53.2**	**-0.2**
VTN				S	**Sb**	**07 19 07.2**	**+0.1**
AMT	**Artemida-Makis**	**1.21**	**79**	P	**Pn**	**07 18 58.8**	**+0.7**
AMT				S	**Sn**	**07 19 14.6**	**-0.2**
AMT	**Artemida-Makis**	**1.21**	**79**	*e*PB	**Pn**	**07 18 58.3**	**+0.2**
AMT				*e*SB	**Sn**	**07 19 14.9**	**+0.1**
AMT	**Artemida-Makis**	**1.21**	**79**	*e*Pb	**Pn**	**07 18 58.3**	**+0.2**
AMT	**Artemida-Makis**	**1.21**	**79**	P	**Pn**	**07 18 58.8**	**+0.7**
AMT				S	**Sn**	**07 19 14.6**	**-0.2**
AMT				*e*Sb	**Sn**	**07 19 14.9**	**+0.1**
RLS	**Riolos of Patr**	**1.24**	**53**	P	**Pn**	**07 18 59.0**	**+0.5**
RLS				S	**Sb**	**07 19 14.3**	**-0.3**
RLS	**Riolos of Patr**	**1.24**	**53**	*e*PB	**Pn**	**07 18 59.0**	**+0.5**
RLS				*e*SB	**Sb**	**07 19 14.7**	**+0.1**
RLS	**Riolos of Patr**	**1.24**	**53**	P	**Pn**	**07 18 59.0**	**+0.5**
RLS				S	**Sb**	**07 19 14.3**	**-0.3**
RLS				*e*Sb	**Sb**	**07 19 14.7**	**+0.1**
PYL	**PYLOS**	**1.29**	**109**	P	**Pg**	**07 18 59.7**	**+0.2**
PYL	**PYLOS**	**1.29**	**109**	*e*PG	**Pg**	**07 18 59.7**	**+0.2**
PYL				*e*SB	**Sn**	**07 19 17.3**	**+0.4**
PYL	**PYLOS**	**1.29**	**109**	P	**Pg**	**07 18 59.7**	**+0.2**
PYL				*e*Sb	**Sn**	**07 19 17.3**	**+0.4**
DRO	**Drossia**	**1.34**	**62**	P	**Pg**	**07 19 00.9**	**+0.4**
DRO				S	**Sn**	**07 19 19.3**	**+1.1**
DRO	**Drossia**	**1.34**	**62**	*e*PB	**Pg**	**07 19 00.8**	**+0.3**
DRO				*e*SB	**Sn**	**07 19 19.6**	**+1.4**
DRO	**Drossia**	**1.34**	**62**	P	**Pg**	**07 19 00.9**	**+0.4**
DRO				S	**Sn**	**07 19 19.3**	**+1.1**
DRO				*e*Sb	**Sn**	**07 19 19.6**	**+1.4**
ITM	**Ithomi**	**1.37**	**95**	P	**Pg**	**07 19 01.1**	**+0.1**
ITM				S	**Sn**	**07 19 19.5**	**+0.6**
ITM	**Ithomi**	**1.37**	**95**	*e*PN	**Pb**	**07 19 00.7**	**-0.1**
ITM				*e*SB	**Sn**	**07 19 19.5**	**+0.6**
ITM	**Ithomi**	**1.37**	**95**	*e*Pn	**Pb**	**07 19 00.7**	**-0.1**
ITM	**Ithomi**	**1.37**	**95**	P	**Pg**	**07 19 01.1**	**+0.1**
ITM				S	**Sn**	**07 19 19.5**	**+0.6**
PDO	**Prodromos**	**1.49**	**31**	P	**Pb**	**07 19 02.8**	**+0.1**
PDO				S	**Sb**	**07 19 22.0**	**+0.1**
PDO	**Prodromos**	**1.49**	**31**	*e*PB	**Pg**	**07 19 03.4**	**+0.2**
PDO	**Prodromos**	**1.49**	**31**	P	**Pb**	**07 19 02.8**	**+0.1**
PDO	**Prodromos**	**1.49**	**31**	*e*Pb	**Pg**	**07 19 03.4**	**+0.2**
PDO				S	**Sb**	**07 19 22.0**	**+0.1**
LKD2	**Lefkada island**	**1.51**	**13**	P	**Pn**	**07 19 02.5**	**+0.2**
LKD2				S	**Sg**	**07 19 24.4**	**+1.2**
LKD2	**Lefkada island**	**1.51**	**13**	*e*PB	**Pg**	**07 19 04.2**	**+0.6**
LKD2	**Lefkada island**	**1.51**	**13**	P	**Pn**	**07 19 02.5**	**+0.2**
LKD2	**Lefkada island**	**1.51**	**13**	*e*Pb	**Pg**	**07 19 04.2**	**+0.6**
LKD2				S	**Sg**	**07 19 24.4**	**+1.2**
KLV	**Kalavryta, Ach**	**1.70**	**64**	P	**Pb**	**07 19 06.1**	**-0.2**
KLV				S	**Sb**	**07 19 27.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.70**	**64**	*e*PB	**Pb**	**07 19 05.8**	**-0.5**
KLV	**Kalavryta, Ach**	**1.70**	**64**	*e*Pb	**Pb**	**07 19 05.8**	**-0.5**
KLV	**Kalavryta, Ach**	**1.70**	**64**	P	**Pb**	**07 19 06.1**	**-0.2**
KLV				S	**Sb**	**07 19 27.5**	**-0.5**
VLX	**Vlachokerasia**	**1.73**	**88**	P	**Pb**	**07 19 06.6**	**-0.2**
VLX				S	**Sg**	**07 19 30.0**	**-0.1**
VLX	**Vlachokerasia**	**1.73**	**88**	*e*PG	**Pg**	**07 19 08.2**	**+0.4**
VLX	**Vlachokerasia**	**1.73**	**88**	P	**Pb**	**07 19 06.6**	**-0.2**
VLX	**Vlachokerasia**	**1.73**	**88**	*e*Pg	**Pg**	**07 19 08.2**	**+0.4**
VLX				S	**Sg**	**07 19 30.0**	**-0.1**
EFP	**Efpalio**	**1.73**	**50**	P	**Pb**	**07 19 06.9**	**0.0**
EFP				S	**Sb**	**07 19 29.0**	**0.0**
EFP	**Efpalio**	**1.73**	**50**	*e*PN	**Pb**	**07 19 06.9**	**0.0**
EFP	**Efpalio**	**1.73**	**50**	P	**Pb**	**07 19 06.9**	**0.0**
EFP				S	**Sb**	**07 19 29.0**	**0.0**
GUR	**Goura**	**1.80**	**69**	P	**Pn**	**07 19 07.1**	**+0.8**
GUR				S	**Sb**	**07 19 30.4**	**-0.5**
GUR	**Goura**	**1.80**	**69**	*e*PN	**Pb**	**07 19 07.5**	**-0.6**
GUR	**Goura**	**1.80**	**69**	P	**Pn**	**07 19 07.1**	**+0.8**
GUR	**Goura**	**1.80**	**69**	*e*Pn	**Pb**	**07 19 07.5**	**-0.6**
GUR				S	**Sb**	**07 19 30.4**	**-0.5**
KALE	**Kalithea**	**1.86**	**54**	P	**Pb**	**07 19 08.4**	**-0.7**
KALE	**Kalithea**	**1.86**	**54**	*e*PN	**Pb**	**07 19 09.1**	**0.0**
KALE	**Kalithea**	**1.86**	**54**	P	**Pb**	**07 19 08.4**	**-0.7**
KALE	**Kalithea**	**1.86**	**54**	*e*Pn	**Pb**	**07 19 09.1**	**0.0**
DSL	**Palaion Diasel**	**1.94**	**21**	P	**Pb**	**07 19 09.6**	**-0.9**
DSL	**Palaion Diasel**	**1.94**	**21**	*e*PN	**Pb**	**07 19 09.6**	**-0.9**
DSL	**Palaion Diasel**	**1.94**	**21**	P	**Pb**	**07 19 09.6**	**-0.9**
EVR	**Evrytania**	**2.03**	**38**	P	**Pb**	**07 19 11.5**	**-0.5**
EVR				S	**Sn**	**07 19 35.3**	**0.0**
EVR	**Evrytania**	**2.03**	**38**	*e*PN	**Pb**	**07 19 11.9**	**-0.1**
EVR	**Evrytania**	**2.03**	**38**	P	**Pb**	**07 19 11.5**	**-0.5**
EVR	**Evrytania**	**2.03**	**38**	*e*Pn	**Pb**	**07 19 11.9**	**-0.1**
EVR				S	**Sn**	**07 19 35.3**	**0.0**
VLI	**Veliai**	**2.26**	**105**	P	**Pb**	**07 19 15.2**	**-0.7**
VLI	**Veliai**	**2.26**	**105**	*e*PN	**Pb**	**07 19 15.9**	**0.0**
VLI	**Veliai**	**2.26**	**105**	P	**Pb**	**07 19 15.2**	**-0.7**
VLI	**Veliai**	**2.26**	**105**	*e*Pn	**Pb**	**07 19 15.9**	**0.0**
MAKR	**Makrakomi, Fth**	**2.27**	**41**	P	**Pn**	**07 19 14.2**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.27**	**41**	*e*PN	**Pb**	**07 19 14.9**	**-1.1**
MAKR	**Makrakomi, Fth**	**2.27**	**41**	P	**Pn**	**07 19 14.2**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.27**	**41**	*e*Pn	**Pb**	**07 19 14.9**	**-1.1**
LTK	**Loutraki**	**2.29**	**71**	P	**Pn**	**07 19 13.4**	**+0.3**
LTK	**Loutraki**	**2.29**	**71**	P	**Pn**	**07 19 13.4**	**+0.3**
AGG	**Agios Georgios**	**2.38**	**44**	P	**Pn**	**07 19 15.8**	**+1.5**
AGG	**Agios Georgios**	**2.38**	**44**	*e*PB	**Pn**	**07 19 15.8**	**+1.5**
AGG	**Agios Georgios**	**2.38**	**44**	P	**Pn**	**07 19 15.8**	**+1.5**
KYTH	**Kithira**	**2.49**	**114**	P	**Pn**	**07 19 18.3**	**-1.5**
KYTH	**Kithira**	**2.49**	**114**	*e*PN	**Pb**	**07 19 18.3**	**-1.5**
KYTH	**Kithira**	**2.49**	**114**	P	**Pb**	**07 19 18.3**	**-1.5**
NEST	**Nestorio**	**3.16**	**12**	P	**Pn**	**07 19 27.5**	**+2.5**
NEST	**Nestorio**	**3.16**	**12**	*e*PN	**Pn**	**07 19 27.3**	**+2.3**
NEST	**Nestorio**	**3.16**	**12**	*e*Pn	**Pn**	**07 19 27.3**	**+2.3**
OHR	**Ohrid**	**3.81**	**7**	*e*Pn	**Pn**	**07 19 32.2**	**-1.8**
OHR				*e*Sg	**Sg**	**07 20 37.9**	**+0.8**
OHR	**Ohrid**	**3.81**	**7**	*e*Pn	**Pn**	**07 19 32.2**	**-1.8**
OHR				*e*Sg	**Sg**	**07 20 37.9**	**+0.8**
VAY	**Valandovo**	**4.39**	**24**	*e*Pn	**Pn**	**07 19 41.6**	**-0.4**
VAY	**Valandovo**	**4.39**	**24**	*e*Pn	**Pn**	**07 19 41.5**	**-0.4**
KKB	**Krupnik**	**5.05**	**25**	*e*P	**Pn**	**07 19 51.2**	**+0.2**
KKB	**Krupnik**	**5.05**	**25**	*e*P	**Pn**	**07 19 51.2**	**+0.2**
MMB	**Musomiste**	**5.06**	**31**	*i* P	**Pn**	**07 19 51.2**	**+0.1**
MMB	**Musomiste**	**5.06**	**31**	*i* P	**Pn**	**07 19 51.2**	**+0.1**
RZN	**Rozhen**	**5.58**	**37**	*i* P	**Pn**	**07 19 58.1**	**-0.3**
RZN	**Rozhen**	**5.58**	**37**	*i* P	**Pn**	**07 19 58.1**	**-0.3**
VTS	**Vitosha**	**5.75**	**23**	*i* P	**Pn**	**07 20 01.4**	**+0.8**
VTS	**Vitosha**	**5.75**	**23**	*i* P	**Pn**	**07 20 01.4**	**+0.8**
VOIR		**8.88**	**23**	⇓*i*P	**Pn**	**07 20 44.8**	**+1.2**
VOIR		**8.88**	**23**	⇓*i*P	**Pn**	**07 20 44.8**	**+1.2**
MLR	**Muntele Rosu**	**9.23**	**26**	⇓*i*P	Pn	07 20 52.0	+3.6
MLR	**Muntele Rosu**	**9.23**	**26**	⇓*i*P	Pn	07 20 52.0	+3.6
FINES	**FINESS Array B**	**24.43**	**7**	P	**P**	**07 23 52.4**	**-1.4**
	1.0nm,0.6s,baz=193,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**29.21**	**219**	P	**P**	**07 24 39.3**	**+2.1**
	0.4nm,0.6s,baz=30,slow=8.8,SNR=5.4						
MKAR	**Makanchi Array**	**45.96**	**58**	P	**P**	**07 26 57.7**	**-0.7**
	0.3nm,0.5s,baz=284,slow=7.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.45**	**47**	P	**P**	**07 26 59.5**	**-2.6**
	0.4nm,0.4s,baz=287,slow=7.4,SNR=3.4						

IDC 14 07:21:38.2±2.4, 54.11N×86.44E, h0km, mb1 3.1/2, mb1mx2.9/29, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=19.2km s-min=11.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**261**	*i*		07 28 20.0	
	baz=80,slow=324,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.97**	**261**	Pg	Pg	07 21 55.4	-1.4
	1.2nm,0.3s,baz=81,slow=17,SNR=18						
ZALV				Lg	Lg	07 22 10.4	
	3.0nm,0.3s,baz=79,slow=31,SNR=17						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	07 23 09.0	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=10						
KURBB				Lg	Lg	07 24 49.7	
	0.0nm,0.3s,baz=57,slow=31,SNR=4.8						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	07 23 33.7	+0.9
	0.4nm,0.3s,baz=24,slow=12,SNR=14						
MKAR				Lg	Lg	07 25 43.2	
	0.0nm,0.3s,baz=15,slow=34,SNR=2.9						

NNC 14 07:22:36.7±2.1, 48.96N×68.85E, h0km, mb3.5, mpv3.1, 4C-2D, Error ellipse: s-maj=21.9km s-min=15.4km az=87.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**4.18**	**13**	⇑Pg	Pb	07 23 53.9	+2.8
	2.0nm,0.5s,baz=193,slow=16,SNR=11						
BVA0				⇓Lg	Lg	07 24 47.4	
	3.4nm,0.7s,baz=192,slow=30,SNR=4.4						
AB31	**Akbulak array**	**5.86**	**276**	⇑Lg	Lg	07 25 39.6	
	2.1nm,0.7s,baz=91,slow=27,SNR=3.8						
KK31	**Karatay Array**	**5.97**	**168**	Sn	Sn	07 25 16.7	+1.2
	1.2nm,0.6s,baz=346,slow=24,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.49**	**71**	⇑Pn	Pn	07 24 15.0	+1.6
	2.0nm,1.0s,baz=265,slow=12						
KURK	**Kurchatov**	**6.56**	**71**	⇓Pn	Pn	07 24 12.7	-1.6
	1.4nm,0.8s						
AKTO	**Aktyubinsk**	**7.18**	**286**	⇑Lg	Lg	07 26 24.7	
	4.0nm,1.0s						

CASC 14 07:26:48.3±3.2, 12.47N×87.73W, h35km±20km, MD3.8, ML3.4, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.81**	**353**	*e*P	Pn	07 27 04.0	+0.5
CNCH				*e*S	Sn	07 27 14.0	-0.4
VSM	**San Miguel**	**1.09**	**331**	*e*P	Pn	07 27 08.3	+0.8
COPN	**Copaltepe**	**1.15**	**104**	*e*P	Pn	07 27 08.6	+0.7
COPN				*e*S	Sn	07 27 23.7	+1.4
CAHU	**Cacacuatique**	**1.38**	**340**	*e*P	Pn	07 27 11.7	+0.4
CAHU				*e*S	Sn	07 27 28.4	-0.2
CAHU				*i* S	Sn	07 27 28.4	-0.2
HUEN		**1.52**	**95**	⇓*e*P	Pn	07 27 14.4	+1.4
SNVI	**San Vicente**	**1.57**	**317**	*e*P	Pn	07 27 14.5	+0.5
LFRS	**El Faro**	**1.74**	**312**	⇑*e*P	Pn	07 27 16.5	+0.4
LFRS				*e*S	Sn	07 27 37.3	+0.1
LBRS	**Las Brisas**	**1.80**	**315**	*e*P	Pn	07 27 17.4	+0.4
SNET	**Serv Nac Est T**	**1.90**	**310**	*e*P	Pn	07 27 19.0	+0.6
SNET				AML	AML	07 27 42.4	
	comp=Z,416nm,0.3s						
BOQS	**Boqueron**	**1.97**	**310**	*e*P	Pn	07 27 20.4	+0.9
BOQS				*e*S	Sn	07 27 44.2	+1.0
SBLS	**San Blas**	**2.30**	**307**	*e*P	Pn	07 27 25.3	+1.3
VCR	**Vista de Mar**	**3.10**	**138**	*e*P	Pn	07 27 34.9	0.0
VCR				*e*S	Sn	07 28 10.6	-0.4
JCR	**Jicaral**	**3.65**	**135**	*e*P	Pn	07 27 43.6	+1.1
JCR				*e*S	Sn	07 28 20.3	-4.1
BUS	**Buena Vista**	**4.85**	**126**	*e*P	Pn	07 28 02.6	+3.1
BUS				*e*S	Sn	07 28 56.0	+1.2

*ISCJB **14** 07:33:56.9±1.1, 4.6S±0.2×153.7E±0.2, h100km, mb3.4/7, Error ellipse: s-maj=33.2km s-min=11.5km az=39.8*
*IDC **14** 07:34:01.1±6.3, 4.57S×153.66E, h124km±49km, mb3.2/7, mb1 3.5/8, mb1mx3.3/21, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=50.3km s-min=29.1km az=95.0*
ISC 14 07:33:57.6±1.5, 4.5S±0.2×153.9E±0.2, h100km, n10, σ0.86/10, mb3.4/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.22**	**234**	P	**Pn**	**07 35 55.3**	**+1.1**
	5.6nm,0.3s,baz=42,slow=14,SNR=13						
PMG				S	**Sn**	**07 37 24.2**	**-1.3**
	2.4nm,0.3s,baz=114,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**24.41**	**229**	P	**P**	**07 39 07.4**	**+0.4**
	2.6nm,0.5s,baz=53,slow=9.9,SNR=38						
ASAR	**Alice Springs**	**27.06**	**223**	P	**P**	**07 39 30.6**	**-0.3**
	0.4nm,0.6s,baz=56,slow=9.1,SNR=4.5						
STKA	**Stephens Creek**	**29.54**	**201**	P	**P**	**07 39 52.8**	**0.0**
	1.0nm,0.6s,baz=30,slow=12,SNR=4.6						
TGY	**Tagaytay City**	**37.54**	**300**	LR	LR	07 53 58.9	
	comp=Z,37nm,19.5s,baz=183,slow=32						
CMAR	**Chiang Mai Arr**	**58.72**	**295**	P	**P**	**07 43 45.7**	**+0.3**

	0.4nm,0.6s,baz=109,slow=5.2,SNR=4.0							
MKAR	**Makanchi Array**	**80.82**	**319**	P	**P**	**07 46 01.1**	**+0.6**
	0.2nm,0.7s,baz=107,slow=4.8,SNR=2.8							
KURBB	**Kurchatov Arra**	**84.24**	**322**	P	**P**	**07 46 17.2**	**-0.8**
	0.4nm,0.8s,baz=103,slow=4.0,SNR=3.5							
YKA	**Yellowknife Ar**	**94.70**	**28**	P		07 47 09.2	+1.9
	0.1nm,0.7s,baz=273,slow=4.3,SNR=2.8							
TORD	**Torodi Ar. Bea**	**151.22**	**289**	PKPbc	**PKPbc**	**07 53 39.5**	**-0.9**
	0.9nm,0.7s,baz=73,slow=1.9,SNR=6.5							
TORD				PKPab	**PKPab**	**07 53 48.3**	**-0.3**
	0.4nm,0.7s,baz=70,slow=4.1,SNR=3.1							

IDC 14 07:39:13.2±3.5, 31.65N×94.33E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=485.7km s-min=25.4km az=58.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.73**	**332**	P	P	07 43 22.0	-0.4
	0.0nm,0.3s,baz=144,slow=13,SNR=4.1						
KURBB	**Kurchatov Arra**	**22.29**	**333**	P	P	07 44 11.6	-0.4
	0.2nm,0.4s,baz=140,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**64.06**	**138**	P	P	07 49 48.4	-0.7
	0.2nm,0.5s,baz=324,slow=8.4,SNR=3.8						
ASAR	**Alice Springs**	**66.78**	**141**	P	P	07 50 07.2	+0.6
	0.2nm,0.4s,baz=327,slow=6.7,SNR=5.9						

IDC 14 07:54:39.6±4.7, 23.27S×177.43W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/33, mbtmp3.8/4, Error ellipse: s-maj=301.3km s-min=25.7km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.47**	**259**	P	P	08 02 53.1	+0.2
	1.0nm,0.5s,baz=90,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**44.81**	**265**	P	P	08 02 55.7	0.0
	1.0nm,0.4s,baz=101,slow=8.3,SNR=42						
NVAR	**Mina Array Bea**	**82.68**	**43**	P	P	08 07 06.5	+1.1
	0.2nm,0.4s,baz=221,slow=4.8,SNR=3.0						
PDAR	**Pinedale Array**	**90.61**	**43**	P	P	08 07 43.6	-0.6
	0.3nm,0.7s,baz=205,slow=6.0,SNR=2.9						
ARCES	**ARCESS Array B**	**131.73**	**349**	PKP	PKPdf	08 13 52.5	-1.4
	1.6nm,0.8s,baz=18,slow=3.1,SNR=3.7						
AKASG	**Malin Array Be**	**145.67**	**330**	PKPbc	PKPdf	08 14 19.2	-0.6
	1.1nm,0.5s,baz=38,slow=3.9,SNR=6.1						
BRTR	**Keskin Array B**	**149.04**	**309**	PKPbc	PKPbc	08 14 28.6	-1.5
	0.7nm,0.6s,baz=74,slow=2.9,SNR=3.6						

IDC 14 07:57:47.7±2.8, 54.21N×86.29E, h0km, mb1 2.5/2, mb1mx2.5/29, mbtmp2.5/2, ML2.4/2, Error ellipse: s-maj=22.2km s-min=13.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**254**	*i*		08 04 30.0	
	baz=73,slow=328,SNR=0.6						
ZALV	**Zalesovo Beam**	**0.90**	**254**	Pg	Pg	07 58 03.9	-1.1
	1.2nm,0.3s,baz=69,slow=16,SNR=24						
ZALV				Lg	Lg	07 58 17.9	
	1.3nm,0.3s,baz=76,slow=33,SNR=4.8						
KURBB	**Kurchatov Arra**	**5.95**	**236**	Pn	Pn	07 59 18.1	+1.2
	0.1nm,0.3s,baz=53,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**7.84**	**201**	Pn	Pn	07 59 44.0	+1.0
	0.1nm,0.3s,baz=23,slow=12,SNR=6.2						

*IDC **14** 08:04:26.5±1.2, 36.28S×73.08W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, ML3.9

MKAR				Lg	Lg	08 12 41.5		
	comp=Z,7.1nm,0.3s,baz=63,slow=29,SNR=4.5							
MKAR				LR	LR	08 13 42.3		
	comp=Z,73nm,19.1s,baz=356,slow=40							
NVS	**Novosibirsk**	**6.74**	**320**	*e*PN	**Pb**	**08 11 18.0**	**-2.7**	
NVS				*e*		08 11 27.5		
NVS	**Novosibirsk**	**6.74**	**320**	*e*Pg	Pg	08 11 27.5	-5.0	
NVS				*e*Sg	**Sg**	**08 12 57.6**	**-2.0**	
MOY	**Mondy**	**6.79**	**71**	*e*PN	**Pn**	**08 11 04.5**	**+1.1**	
MOY				*e*		08 11 25.0		
MOY				pmax	pmax			
	comp=Z,25nm,0.5s							
KURK	**Kurchatov**	**7.76**	**281**	P	**Pn**	**08 11 17.9**	**+1.4**	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**7.81**	**280**	Pn	**Pn**	**08 11 17.9**	**+0.7**	
	comp=Z,0.6nm,0.3s,baz=94,slow=14,SNR=31							
KURBB				Pg	Pb	08 11 34.6	-4.4	
	comp=Z,0.5nm,0.3s,baz=90,slow=14,SNR=11							
KURBB				Lg	Lg	08 13 30.8		
	comp=Z,0.7nm,0.3s,baz=92,slow=32,SNR=5.5							
TLY	**Talaya**	**8.43**	**73**	*e*P	Pn	08 11 29.8	+4.2	
TLY				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TLY	**Talaya**	**8.43**	**73**	Pn	**Pn**	**08 11 28.0**	**+2.4**	
	comp=Z,0.0nm,0.3s,baz=246,slow=12,SNR=2.0							
TLY				Lg	Lg	08 13 41.1		
	comp=Z,0.0nm,0.3s,baz=31,slow=13,SNR=6.9							
SONM	**Songino Array**	**10.57**	**95**	Pn	**Pn**	**08 11 53.7**	**-1.4**	
	comp=Z,0.1nm,0.3s,baz=282,slow=14,SNR=8.2							
SONM				Pg		08 12 31.8		
	comp=Z,0.2nm,0.3s,baz=281,slow=19,SNR=4.5							
SONM				Lg	Lg	08 14 45.4		
	comp=Z,0.5nm,0.3s,baz=281,slow=29,SNR=3.8							
BVAR	**Borovoye Array**	**13.02**	**292**	Pn	**Pn**	**08 12 31.5**	**+2.9**	
	comp=Z,0.4nm,0.3s,baz=89,slow=13,SNR=3.2							
BVAR				Sn	**Sn**	**08 14 48.2**	**-5.2**	
	comp=Z,0.3nm,0.3s,baz=104,slow=24,SNR=3.4							
BVAR				LR	LR	08 17 45.7		
	comp=Z,36nm,18.9s,baz=79,slow=38							
AAK	**Ala-Archa**	**13.31**	**243**	*e*P	**Pn**	**08 12 33.5**	**+0.9**	
AAK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AAK	**Ala-Archa**	**13.31**	**243**	Pn	**Pn**	**08 12 32.4**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=49,slow=11,SNR=2.0							
AAK				Lg	Lg	08 16 25.1		
	comp=Z,0.1nm,0.3s,baz=216,slow=19,SNR=8.2							
ARU	**Arti**	**20.20**	**301**	P	**P**	**08 13 58.2**	**0.0**	
ARU						08 14 14.2		
ARU				S	Sn	08 17 48.1	+0.8	
AKTO	**Aktyubinsk**	**20.84**	**284**	P	Pn	08 14 08.0	+0.4	
AKTO	**Aktyubinsk**	**20.84**	**284**	P	Pn	08 14 08.0	+0.3	
	comp=Z,1.0nm,0.7s,baz=86,slow=13,SNR=4.4							
CMAR	**Chiang Mai Arr**	**32.04**	**165**	P	**P**	**08 15 49.7**	**-0.6**	
	comp=Z,0.3nm,0.5s,baz=353,slow=11,SNR=5.2							
FINES	**FINESS Array B**	**36.67**	**313**	P	**P**	**08 16 31.0**	**+1.1**	
	comp=Z,0.4nm,0.3s,baz=257,slow=35,SNR=4.0							
AKASG	**Malin Array Be**	**38.26**	**296**	P	**P**	**08 16 43.7**	**+0.1**	
	comp=Z,0.4nm,0.3s,baz=58,slow=9.3,SNR=3.8							
BRTR	**Keskin Array B**	**40.80**	**278**	P	**P**	**08 17 06.5**	**+1.4**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRTR	**Keskin Array B**	**40.80**	**278**	P	**P**	**08 17 06.5**	**+1.4**	
	comp=Z,1.5nm,0.8s,baz=93,slow=9.1,SNR=3.6							
NB2	**NORSAR Subarra**	**43.63**	**316**	P	**P**	**08 17 28.5**	**+0.7**	
	comp=Z,1.1nm,0.5s,baz=62,slow=7.9							
NOA	**NORSAR Array B**	**43.63**	**316**	P	**P**	**08 17 28.7**	**+0.9**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA				MLR	MLR			
	comp=Z,16nm,19.0s							
NOA	**NORSAR Array B**	**43.63**	**316**	P	**P**	**08 17 28.7**	**+0.9**	
	comp=Z,0.7nm,0.5s,baz=63,slow=7.5,SNR=8.3							
NOA				LR	LR	08 37 22.5		
	comp=Z,16nm,19.0s,baz=0.0,slow=38							
DAVOX	**Davos/Dischmat**	**51.31**	**300**	LR	LR	08 42 58.0		
	comp=Z,17nm,19.6s,baz=150,slow=39							
ILAR	**Eielson Array**	**57.31**	**25**	*e*P	**P**	**08 19 10.2**	**-0.8**	
ILAR	**Eielson Array**	**57.31**	**25**	P	**P**	**08 19 10.8**	**-0.2**	
	comp=Z,0.2nm,0.6s,baz=325,slow=6.2,SNR=4.6							
INK	**Inuvik**	**57.63**	**18**	P	**P**	**08 19 13.6**	**+0.4**	
INK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**57.63**	**18**	P	**P**	**08 19 13.6**	**+0.4**	
	comp=Z,0.9nm,0.7s,baz=340,slow=6.9,SNR=6.0							
ESDC	**Sonseca Array**	**63.60**	**301**	P	**P**	**08 19 55.1**	**+0.7**	
	comp=Z,0.7nm,0.5s,baz=42,slow=6.4,SNR=3.3							
YKA	**Yellowknife Ar**	**66.19**	**13**	P	**P**	**08 20 10.9**	**+0.1**	
	comp=Z,0.4nm,0.9s,baz=339,slow=7.3,SNR=5.9							
TORD	**Torodi Ar. Bea**	**79.42**	**278**	P	**P**	**08 21 31.4**	**+1.4**	
	comp=Z,0.3nm,0.8s,baz=30,slow=6.1,SNR=2.4							
WRA	**Warramunga Arr**	**79.53**	**139**	*e*P	**P**	**08 21 29.7**	**-0.8**	
WRA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**79.53**	**139**	P	**P**	**08 21 28.4**	**-2.1**	
	comp=Z,0.6nm,1.0s,baz=342,slow=5.9,SNR=8.0							
ASAR	**Alice Springs**	**82.66**	**141**	P	**P**	**08 21 45.3**	**-1.8**	
	comp=Z,0.3nm,0.6s,baz=337,slow=4.3,SNR=4.9							

NIED **14** *08:16:00.31˚.90N×140˚.60E,h86km,Mw4.8 Best double couple: M0 1.63000×10^16 NP1:φs336.00000°,δ12.00000°, λ78.00000°. NP2:φs168.00000°,δ78.00000°,λ93.00000°.*

BJI **14** *08:16:21.7,31˚.80N×140˚.00E,h108km,mB5.0/34, mb4.7/45*

IDC **14** *08:16:21.7±0.5,31˚.78N×140˚.04E,h93km±4km,mb4.4/26, mb1 4.6/28,mb1mx4.5/32,mbtmp4.7/28,MS3.3/19, Ms1 3.3/19,ms1mx3.2/40,Error ellipse: s-maj=11.9km s-min=9.0km az=79.0*

MOS **14** *08:16:21.4±0.9,31˚.86N×140˚.03E,h99km,mb4.9/65,Error ellipse: s-maj=7.8km s-min=4.4km az=109.1*

ISCJB **14** *08:16:21.7±0.4,31˚.72N±0˚.03×140˚.06E±0˚.02, h105km±3km,mb4.9/171,Error ellipse: s-maj=4.5km s-min=3.0km az=174.6*

JMA **14** *08:16:22.8±0.2,31˚.88N×140˚.57E,h72km±5km,M4.9*

NEIC **14** *08:16:22.6±0.5,31˚.73N×140˚.00E,h103km±4km,mb5.1/84, MW4.7(NIED),Error ellipse: s-maj=3.9km s-min=3.3km az=164.0*

ISC 14 08:16:22.7±0.3,31˚.79N±0˚.04×140˚.15E±0˚.04,h106km±2km, h105km;pP-P,n886,σ1s16/982,mb4.9/177,193C-157D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.31**	**347**	P	**Pn**	**08 16 46.2**	**-0.9**	
JHCJ				S	**Sn**	**08 17 03.8**	**-1.7**	
JHJ2	**Mitsune**	**1.35**	**348**	P	**Pn**	**08 16 46.8**	**-0.6**	
JHJ2	**Mitsune**	**1.35**	**348**	*e*Pn	**Pn**	**08 16 46.8**	**-0.6**	
JKO	**Kozu shima**	**2.54**	**341**	P	**Pn**	**08 17 03.4**	**+0.9**	
JKO				*e*S	**Sn**	**08 17 34.1**	**+1.1**	
JNIO	**Niijimaoohara**	**2.66**	**344**	P	**Pn**	**08 17 05.1**	**+1.0**	
JNIO				S	**Sn**	**08 17 37.5**	**+1.6**	
BSO1	**Boso 1**	**2.94**	**13**	P	**Pn**	**08 17 05.8**	**-1.4**	
TK02	**Tokai 2**	**2.95**	**318**	P	**Pn**	**08 17 10.0**	**+2.4**	
TK02				S	**Sn**	**08 17 46.5**	**+4.2**	
TTO1	**TONANKAI O.B.S**	**3.38**	**304**	P	**Pn**	**08 17 15.6**	**+2.3**	
JOD2	**Odawara 2**	**3.58**	**346**	P	**Pn**	**08 17 16.6**	**+0.3**	
JOD2				S	**Sn**	**08 18 00.0**	**+2.3**	
JIE	**Ise**	**3.88**	**313**	P	**Pn**	**08 17 22.0**	**+1.6**	
JIE				S	**Sn**	**08 18 05.9**	**+0.8**	
JYN	**Shimob**	**3.93**	**341**	P	**Pn**	**08 17 22.5**	**+1.4**	
JWZ	**Kozaga**	**4.12**	**296**	P	**Pn**	**08 17 25.1**	**+1.5**	
JWZ				S	**Sn**	**08 18 12.1**	**+1.2**	
JRY	**Ryogami san**	**4.34**	**347**	P	**Pn**	**08 17 27.1**	**+0.5**	
JWY	**Kouya**	**4.53**	**304**	P	**Pn**	**08 17 31.5**	**+2.3**	
JAG	**Ashikaga**	**4.66**	**353**	P	**Pn**	**08 17 29.4**	**-1.4**	
JGM	**Miyama**	**4.83**	**325**	P	**Pn**	**08 17 35.4**	**+2.2**	
CBIJ	**Chichi jima**	**5.00**	**159**	P	**Pn**	**08 17 32.8**	**-2.7**	
CBIJ	**Chichi jima**	**5.00**	**159**	*e*Pn	**Pn**	**08 17 33.8**	**-1.7**	
CBIJ				S	**Sn**	**08 18 27.3**	**-4.9**	
JCJ	**Chichijima**	**5.00**	**159**	P	**Pn**	**08 17 33.5**	**-2.0**	
	baz=302,slow=13							
JCJ				S	**Sn**	**08 18 27.3**	**-4.9**	
	baz=270,slow=20							
MJAR	**Matsushiro Arr**	**5.01**	**342**	P	**Pn**	**08 17 36.4**	**+0.9**	
MJAR				pmax	pmax			
	comp=Z,7.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,101nm,18.6s							
MJAR	**Matsushiro Arr**	**5.01**	**342**	P	**Pn**	**08 17 36.4**	**+0.9**	
	comp=Z,7.3nm,0.3s,baz=110,slow=16,SNR=29							
MJAR				LR	LR	08 18 55.4		
	comp=Z,101nm,18.6s,baz=165,slow=31							
MAJO	**Matsushiro**	**5.01**	**342**	*e*P	**Pn**	**08 17 38.4**	**+2.8**	
MAJO	**Matsushiro**	**5.01**	**342**	*e*Pn	**Pn**	**08 17 38.4**	**+2.8**	
MAT	**Matsushiro**	**5.01**	**342**	P	**Pn**	**08 17 36.5**	**+0.9**	
MAT				*e*S	**Sn**	**08 18 34.0**	**+1.7**	
MAT	**Matsushiro**	**5.01**	**342**	P	**Pn**	**08 17 37.7**	**+2.1**	
JWT	**Wachi**	**5.28**	**313**	P	**Pn**	**08 17 41.8**	**+2.6**	
JWT				S	**Sn**	**08 18 39.8**	**+1.0**	
JFT	**Otama**	**5.72**	**1**	P	**Pn**	**08 17 43.1**	**-2.1**	
JFT				*e*S	**Sn**	**08 18 44.4**	**-5.0**	
JNU	**Nakatsue**	**7.95**	**282**	P	Pn	08 18 18.9	+3.4	
	comp=Z,2.9nm,0.3s,baz=83,slow=6.0,SNR=14							
JNU				LR	LR	08 21 31.9		
	comp=Z,84nm,18.0s,baz=122,slow=40							
JNU	**Nakatsue**	**7.95**	**282**	*e*Pn	Pn	08 18 19.3	+3.8	
ERM	**Erimo**	**10.48**	**12**	*i* P	**Pn**	**08 18 49.7**	**-0.1**	
KSRS	**Korea Array**	**11.54**	**303**	P	Pn	08 19 08.3	+4.2	
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KSRS				MLR	MLR			
	comp=Z,78nm,18.5s							
KSRS	**Korea Array**	**11.54**	**303**	P	Pn	08 19 08.3	+4.2	
	comp=Z,2.7nm,0.3s,baz=114,slow=14,SNR=56							
KSRS				LR	LR	08 23 43.8		
	comp=Z,78nm,18.5s,baz=130,slow=38							
TJN	**Taejon**	**11.54**	**297**	*e*P	**Pn**	**08 19 04.5**	**+0.4**	
KSAR	**Wonju Array Be**	**11.57**	**303**	P	Pn	08 19 08.3	+3.9	
KSAR	**Wonju Array Be**	**11.57**	**303**	P	Pn	08 19 08.3	+3.9	
ASAJ	**Asahikawa**	**12.46**	**8**	P	**Pn**	**08 19 13.8**	**-2.3**	
	comp=Z,1.6nm,0.3s,baz=183,slow=12,SNR=6.9							
ASAJ				S	Sn	08 21 21.2	-12	
	comp=Z,1.2nm,0.3s,baz=258,slow=20,SNR=3.3							
INCN	**Inchon**	**12.49**	**301**	*e*Pn	**Pn**	**08 19 19.9**	**+3.2**	
USRK	**Ussuriysk Ar.**	**13.95**	**335**	P	**Pn**	**08 19 33.9**	**-1.7**	
	comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=6.0							
USRK				LR	LR	08 24 51.0		
	comp=Z,47nm,19.7s,baz=134,slow=37							
MDJ	**Mudanjiang**	**15.24**	**330**	P	**Pn**	**08 19 52.9**	**+0.8**	
MDJ				PMZ				
	comp=Z,12nm,0.8s							
MDJ				PMZ				
	comp=Z,370nm,5.2s							
YSS	**Yuzh-Sakhalins**	**15.28**	**7**	*e*P	**Pn**	**08 19 51.0**	**-1.5**	
YSS	**Yuzh-Sakhalins**	**15.28**	**7**	*e*Pn	**Pn**	**08 19 51.8**	**-0.7**	
	comp=Z,1μm,2.8s							
CN2	**Changchun**	**16.67**	**320**	*e*P	**Pn**	**08 20 09.4**	**-0.4**	
CN2				*es*P	**sP**	**08 20 41.4**	**-1.8**	
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
CN2				PMZ				
	comp=Z,200nm,5.0s							
HABR	**Khabarovsk**	**17.11**	**348**	*e*P	**Pn**	**08 20 12.8**	**-2.3**	
HABR				*e*S	**Sn**	**08 23 22.3**	**-2.9**	
HABR				pmax	pmax			
	comp=Z,49nm,2.3s							
TATO	**Taipei**	**17.76**	**252**	*e*Pn	**Pn**	**08 20 25.7**	**+2.5**	
	comp=Z,161nm,0.7s							
SSLB	**Suanglung**	**18.74**	**250**	*e*Pn	**Pn**	**08 20 35.5**	**+0.5**	
	comp=Z,277nm,1.4s							
BJI	**Beijing**	**21.05**	**300**	P	**P**	**08 20 58.4**	**+0.3**	
BJI				S	**S**	**08 24 45.3**	**-1.1**	
BJI				PMZ				
	comp=Z,24nm,0.9s							
BJI				PMZ				
	comp=Z,260nm,4.9s							
BJI				LN				
	comp=Z,140nm,34.4s							
BJI				LE				
	comp=Z,160nm,37.9s							
BJI				LZ				
	comp=Z,190nm,43.6s							
WHN	**Wuhan**	**22.10**	**274**	P	**P**	**08 21 10.5**	**+1.1**	
WHN				pP	**pP**	**08 21 34.3**	**+4.6**	
HIA	**Hailar**	**23.23**	**325**	*e*P	**P**	**08 21 20.1**	**-0.4**	
HIA				pmax	pmax			
	comp=Z,14nm,0.8s							
HIA	**Hailar**	**23.23**	**325**	*e*P	**P**	**08 21 20.1**	**-0.4**	
	comp=Z,14nm,0.8s							
HHC	**Hu-ho-hao-te**	**24.66**	**300**	*e*P	**P**	**08 21 33.4**	**-0.2**	
HHC				pP	**pP**	**08 21 55.4**	**-1.2**	
HHC				sP	**sP**	**08 22 08.4**	**-0.7**	
HHC				PP	**PnPn**	**08 22 15.6**	**+3.7**	
HHC				S	**S**	**08 25 42.3**	**-5.2**	
HHC				sS	**sS**	**08 26 24.1**	**-3.8**	
HHC				SS	**SnSn**	**08 26 45.8**	**+0.5**	
HHC				PMZ				
	comp=Z,22nm,0.7s							
HHC				LN				
	comp=Z,410nm,12.6s							
HHC				LE				
	comp=Z,600nm,11.8s							
HHC				LZ				
	comp=Z,190nm,12.1s							
XAN	**Xi'an**	**26.26**	**283**	P	**P**	**08 21 48.0**	**-0.2**	
XAN				pP	**pP**	**08 22 10.9**	**-0.4**	
XAN				PMZ				
	comp=Z,9.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**26.84**	**110**	T	T	08 51 03.2		
	baz=303,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**26.84**	**110**	T	T	08 51 04.5		
	baz=303,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**26.86**	**110**	T	T	08 50 53.7		
	baz=303,slow=75,SNR=22							
CLNS	**Chul'man**	**27.19**	**342**	*e*P	**P**	**08 21 57.1**	**+0.9**	
CLNS				pmax	pmax			
	comp=Z,32nm,0.9s							
CLNS				pmax	pmax			
	comp=N,17nm,1.0s							
CLNS				pmax	pmax			
	comp=E,16nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**27.34**	**113**	T	T	08 50 39.4		
	baz=304,slow=75,SNR=155							
H11S1	**WAKE ISLAND Hy**	**27.34**	**113**	T	T	08 50 39.5		
	baz=304,slow=75,SNR=98							
H11S2	**WAKE ISLAND Hy**	**27.36**	**113**	T	T	08 50 40.6		
	baz=304,slow=75,SNR=100							
GYA	**Guiyang**	**29.66**	**268**	P	**P**	**08 22 20.0**	**+1.4**	
GYA				pP	**pP**	**08 22 43.8**	**+1.8**	
GYA				sP	**sP**	**08 22 56.4**	**+2.2**	
GYA				PP	**PnPn**	**08 23 19.6**	**+1.0**	
GYA				PcP	**PcP**	**08 25 22.8**	**+2.3**	
GYA				S	**S**	**08 27 05.3**	**-1.3**	
GYA				sS	**sS**	**08 27 46.9**	**-0.5**	
GYA				ScP	**ScP**	**08 28 55.0**	**+2.2**	
GYA				ScS	**ScS**	**08 32 45.6**	**-2.5**	
GYA				PMZ				
	comp=E,20nm,0.8s							
GYA				PMZ				
	comp=E,130nm,4.9s							
ULN	**Ulaanbaatar**	**29.78**	**312**	*e*P	**P**	**08 22 20.7**	**+1.3**	
ULN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ULN	**Ulaanbaatar**	**29.78**	**312**	*e*P	**P**	**08 22 20.7**	**+1.3**	
	comp=Z,8.8nm,1.0s							
QIZ	**Qiongzhong**	**30.07**	**252**	P	**P**	**08 22 20.8**	**-1.3**	
QIZ				S	**S**	**08 27 12.9**	**-0.1**	
SONM	**Songino Array**	**30.18**	**312**	P	**P**	**08 22 23.7**	**+0.7**	
SONM						08 25 22.4		
SONM						08 28 54.1		
SONM				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SONM				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SONM				pmax	pmax			
	comp=N,3.0nm,0.7s							
SONM	**Songino Array**	**30.18**	**312**	P	**P**	**08 22 23.7**	**+0.7**	
	comp=N,4.1nm,0.7s,baz=111,slow=8.0,SNR=28							
SONM				PcP	**PcP**	**08 25 22.4**	**+0.9**	
	comp=N,1.5nm,0.5s,baz=124,slow=3.1,SNR=9.2							
SONM				ScP	**ScP**	**08 28 54.1**	**0.0**	
	comp=N,2.9nm,0.7s,baz=109,slow=2.3,SNR=18							
LZH	**Lanzhou**	**30.31**	**288**	P	**P**	**08 22 24.5**	**+0.2**	
LZH				pP	**pP**	**08 22 46.0**	**-1.8**	
LZH				sP	**sP**	**08 23 00.4**	**+0.4**	
LZH				S	**S**	**08 27 14.0**	**-2.8**	
LZH				sS	**sS**	**08 27 55.3**	**-2.3**	
LZH				PMZ				
	comp=N,24nm,1.4s							
LZH				PMZ				
	comp=N,96nm,4.1s							
LZH				LN				
	comp=N,490nm,14.6s							
LZH				LE				
	comp=N,560nm,13.0s							
LZH				LZ				
	comp=N,920nm,15.1s							
CD2	**Chengdu**	**31.00**	**278**	*e*P	**P**	**08 22 30.0**	**-0.3**	
CD2				pP	**pP**	**08 22 54.1**	**+0.3**	
CD2				sP	**sP**	**08 23 07.3**	**+1.3**	
CD2				PP	**PnPn**	**08 23 35.5**	**-0.2**	
CD2				S	**S**	**08 27 24.4**	**-3.1**	
CD2				sS	**sS**	**08 28 06.8**	**-1.6**	
CD2				SS	**SnSn**	**08 29 15.3**	**-4.2**	
CD2				PMZ				
	comp=N,20nm,0.5s							
CD2				PMZ				
	comp=N,160nm,5.4s							
YAK	**Yakutsk**	**31.01**	**350**	P	**P**	**08 22 30.1**	**+0.3**	
YAK				pmax	pmax			
	comp=Z,23nm,1.1s							
BOD	**Bodaibo**	**31.58**	**333**	*e*P	**P**	**08 22 34.4**	**-0.5**	
BOD				*e*		08 32 53.6		
BOD				pmax	pmax			
	comp=Z,11nm,1.1s							
SEY	**Seymchan**	**32.12**	**11**	P	**P**	**08 22 40.1**	**+0.4**	
SEY				pmax	pmax			
	comp=Z,5.0nm,0.7s							
SEY	**Seymchan**	**32.12**	**11**	P	**P**	**08 22 40.0**	**+0.4**	
	comp=Z,5.4nm,0.7s,baz=196,slow=11,SNR=31							
ZAK	**Zakamensk**	**32.98**	**315**	*e*P	**P**	**08 22 47.5**	**+0.1**	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
TLY	**Talaya**	**33.24**	**317**	*e*P	**P**	**08 22 50.9**	**+1.3**	
TLY				*e*		08 23 58.1		
TLY				pmax	pmax			
	comp=Z,9.0nm,1.4s							
GTA	**Gaotai**	**33.45**	**295**	*e*P	**P**	**08 22 51.3**	**-0.4**	
GTA				pP	**pP**	**08 23 15.8**	**+0.4**	
GTA				sP	**sP**	**08 23 28.8**	**+1.2**	
GTA				PP	**PnPn**	**08 24 04.4**	**-2.1**	
GTA				PcP	**PcP**	**08 25 32.3**	**+1.7**	
GTA				S	**S**	**08 28 02.4**	**-3.1**	
GTA				sS	**sS**	**08 28 44.8**	**-1.8**	
GTA				SS	**SnSn**	**08 30 09.8**	**-8.9**	
GTA				PMZ				
	comp=Z,6.0nm,0.9s							
GTA				PMZ				
	comp=Z,160nm,5.7s							
GTA				LN				
	comp=Z,240nm,15.0s							
GTA				LE				
	comp=Z,300nm,16.4s							
GTA				LZ				
	comp=Z,150nm,16.1s							
MRSI	**Marisa**	**35.59**	**212**	P	P	08 23 16.4	+6.3	
SANI	**Sanana**	**36.24**	**204**	P	**P**	**08 23 14.3**	**-1.4**	
	comp=Z,34nm,0.5s							
APSI	**Ampana**	**36.95**	**212**	P	**P**	**08 23 21.9**	**+0.2**	
	comp=Z,79nm,0.6s,comp=Z,868nm							
KHON	**Khomkaen**	**37.18**	**254**	P	**P**	**08 23 24.3**	**+0.6**	
	comp=Z,9.7nm,0.8s,comp=Z,518nm							
UTTA	**Uttaradit**	**38.36**	**258**	P	**P**	**08 23 33.6**	**0.0**	
	comp=Z,15nm,0.8s,comp=Z,107nm							
PBKT	**Sadao Pong**	**38.59**	**256**	P	**P**	**08 23 35.6**	**0.0**	
	comp=Z,39nm,0.8s,comp=Z,676nm							
LAMP	**Lampang**	**38.76**	**260**	P	**P**	**08 23 38.0**	**+1.0**	
	comp=Z,6.2nm,0.8s,comp=Z,274nm							
HVS	**Khovu-Aksy**	**39.03**	**314**	*e*P	**P**	**08 23 39.6**	**+0.6**	
HVS				pmax	pmax			
	comp=Z,91nm,1.4s							
CMMT	**Chiang Mai**	**39.20**	**261**	P	**P**	**08 23 40.8**	**+0.1**	
	comp=Z,18nm,0.9s							
SUKH	**Sukhothai**	**39.25**	**259**	P	**P**	**08 23 41.9**	**+0.8**	
	comp=Z,4.9nm,0.8s							
BILL	**Bilibino**	**39.34**	**15**	*i*P	**P**	**08 23 41.3**	**0.0**	
BILL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BILL	**Bilibino**	**39.34**	**15**	*e*P	**P**	**08 23 40.5**	**-0.8**	
	comp=Z,6.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**39.37**	**260**	P	**P**	**08 23 41.7**	**-0.4**	
CMAR						08 25 50.2		
CMAR						08 29 28.8		
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CMAR				pmax	pmax			
	comp=N,1.0nm,0.7s							
CMAR				MLR	MLR			
	comp=Z,64nm,18.3s							
CMAR	**Chiang Mai Arr**	**39.37**	**260**	P	**P**	**08 23 41.6**	**-0.4**	
	comp=Z,4.1nm,0.7s,baz=54,slow=7.1,SNR=34							
CMAR				PcP	**PcP**	**08 25 50.1**	**+1.6**	
	comp=Z,1.9nm,0.9s,baz=64,slow=2.1,SNR=8.0							
CMAR				ScP	**ScP**	**08 29 28.8**	**+1.4**	
	comp=Z,0.9nm,0.7s,baz=45,slow=4.8,SNR=5.3							
CMAR				LR	LR	08 41 27.8		
	comp=Z,64nm,18.3s,baz=94,slow=38							
UTHA	**Uthaitani**	**40.37**	**256**	P	**P**	**08 23 51.0**	**+0.7**	
	comp=Z,6.3nm,0.6s,comp=Z,71nm							
TIXI	**Tiksi**	**40.38**	**355**	*i*P	**P**	**08 23 49.6**	**-0.1**	
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TIXI	**Tiksi**	**40.38**	**355**	*e*P	**P**	**08 23 49.1**	**-0.7**	
	comp=Z,3.4nm,0.5s							
KSM	**Kuching**	**41.25**	**229**	*e*P	**P**	**08 23 57.7**	**+0.1**	
	comp=Z,16nm,0.6s							
SRDT	**SRDT**	**41.26**	**255**	P	**P**	**08 23 58.5**	**+0.8**	
	comp=Z,51nm,0.7s,comp=Z,11μm							
WMQ	**Urumqi**	**42.49**	**302**	P	**P**	**08 24 08.0**	**

MKAR pmax pmax
comp=N,3.0nm,0.5s
MKAR MLR MLR
comp=Z,30nm,20.1s
MKAR Makanchi Array 46.20 306 P **P** **08 24 36.1 -0.8**
comp=Z,6.1nm,0.5s,baz=89,slow=8.7,SNR=118
MKAR PcP **PcP** **08 26 11.6 +0.6**
comp=Z,2.7nm,0.7s,baz=72,slow=4.7,SNR=4.1
MKAR ScP **ScP** **08 29 54.0 -0.6**
comp=Z,3.1nm,0.5s,baz=81,slow=5.6,SNR=29
MKAR LR LR 08 44 35.5
comp=Z,30nm,20.1s,baz=88,slow=37
MKAR Makanchi Array 46.20 306 *eP* **P** **08 24 36.5 -0.4**
MKAR PcP **PcP** **08 26 11.6 +0.6**
MKAR ScP **ScP** **08 29 54.0 -0.6**
RAMN Ramite 46.53 278 *eP* **P** **08 24 39.7 -0.4**
comp=Z,14nm,0.3s
JIRN Jiri 46.65 279 *eP* **P** **08 24 41.2 +0.1**
comp=Z,62nm,0.6s
GUN Gumba 46.83 280 *eP* **P** **08 24 42.3 -0.2**
comp=Z,35nm,0.7s
PKI Pulchoki 47.33 280 *eP* **P** **08 24 45.7 -0.7**
KKN Kakani 47.37 280 *eP* **P** **08 24 46.2 -0.3**
comp=Z,33nm,0.8s
GKN Gorkha 47.84 281 *eP* **P** **08 24 49.8 -0.3**
comp=Z,33nm,0.9s
PWJI Pagerwojo 47.97 219 P **P** **08 24 50.7 -0.2**
comp=Z,26nm,0.6s
DANN Dangsing 48.46 281 *eP* **P** **08 24 54.3 -0.8**
comp=Z,26nm,0.5s
PDGK Podgornoye 48.48 302 P **P** **08 24 53.3 -1.3**
PDGK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 48.49 312 P **P** **08 24 53.7 -0.9**
comp=Z,64nm,0.9s,SNR=17
KURK Kurchatov 48.49 312 P **P** **08 24 54.2 -0.4**
KURK pmax pmax
comp=Z,5.0nm,0.3s
KURK Kurchatov 48.49 312 *eP* **P** **08 24 53.9 -0.7**
KURBB Kurchatov Arra 48.55 312 P **P** **08 24 54.2 -0.9**
comp=Z,4.7nm,0.3s,baz=88,slow=7.3,SNR=74
KOLN Koldanda 48.78 281 *eP* **P** **08 24 57.1 -0.3**
PYUN Piuthan 49.19 281 *eP* **P** **08 25 00.1 -0.4**
comp=Z,61nm,0.5s
MDSI Maura Dua 49.73 230 P **P** **08 25 04.0 -0.4**
comp=Z,22nm,0.9s,comp=Z,666nm
ULHL Ulahol 51.01 301 P **P** **08 25 13.5 -0.6**
SNR=6.8
ULHL Ulahol 51.01 301 *i* P **P** **08 25 13.4 -0.6**
TKM2 Tokmak 2 51.35 302 P **P** **08 25 16.4 -0.2**
SNR=9.2
TKM2 Tokmak 2 51.35 302 *eP* **P** **08 25 16.6 0.0**
TKM2 pmax pmax
comp=Z,33nm,1.8s
TKM2 Tokmak 2 51.35 302 *eP* **P** **08 25 16.6 0.0**
comp=Z,33nm,1.8s
IM04 Indian Mountai 51.70 28 *eP* **P** **08 25 19.3 +0.7**
RSO Redoubt South 51.71 36 *eP* **P** **08 25 19.8 +0.7**
WRAB Tennant Creek 51.73 187 P **P** **08 25 17.3 -2.0**
comp=Z,104nm,0.4s,SNR=52
WRAB Tennant Creek 51.73 187⇑ *eP* **P** **08 25 20.6 +1.3**
WRAB pmax pmax
comp=Z,33nm,1.2s
WRAB Tennant Creek 51.73 187 *eP* **P** **08 25 18.0 -1.3**
comp=Z,7.9nm,0.6s
WB2 Warramunga Arr 51.74 187 *eP* **P** **08 25 17.7 -1.6**
WRA Warramunga Arr 51.74 187 P **P** **08 25 17.9 -1.5**
WRA 08 26 32.7
WRA S S 08 32 25.1 -8.1
WRA pmax pmax
comp=Z,10.0nm,0.4s
WRA pmax pmax
comp=Z,14nm,0.5s
WRA pmax pmax
comp=N,4.0nm,0.8s
WRA smax smax
comp=N,2.0nm,1.1s
WRA Warramunga Arr 51.74 187 P **P** **08 25 17.9 -1.5**
comp=N,8.8nm,0.5s,baz=4.3,slow=7.7,SNR=381
WRA PcP **PcP** **08 26 32.7 +1.4**
comp=N,14nm,0.5s,baz=359,slow=4.1,SNR=20
WRA ScP **ScP** **08 30 18.2 -0.1**
comp=N,3.8nm,0.8s,baz=1.3,slow=4.5,SNR=11
WRA S S 08 32 25.1 -8.1
comp=N,1.6nm,1.1s,baz=11,slow=14,SNR=5.1
KSH Kashi 51.74 298 P **P** **08 25 22.3 +2.8**
KSH pP **pP** **08 25 48.8 +4.1**
KSH sP **sP** **08 26 01.3 +4.8**
KSH S **S** **08 32 34.6 +1.2**
KSH sS **sS** **08 33 20.6 +3.9**
KSH PMZ
comp=N,9.0nm,0.8s
KSH PMZ
comp=N,110nm,4.8s
KSH LN
comp=N,190nm,6.8s
KSH LE
comp=N,140nm,5.6s
KSH LZ
comp=N,230nm,4.9s
KDAK Kodiak Island 51.76 39 P **P** **08 25 19.0 -0.1**
comp=N,418nm,0.6s,SNR=21
KDAK Kodiak Island 51.76 39 *eP* **P** **08 25 19.5 +0.4**
KDAK pmax pmax
comp=Z,57nm,0.9s
KDAK Kodiak Island 51.76 39 *eP* **P** **08 25 19.5 +0.4**
comp=Z,56nm,0.9s
KZA Kyzart 51.76 301 P **P** **08 25 20.5 +0.6**
SNR=7.2
KZA Kyzart 51.76 301 *i* P **P** **08 25 20.5 +0.6**
KBK Karagaybulak 51.87 302 P **P** **08 25 20.4 -0.1**
SNR=7.1
KBK Karagaybulak 51.87 302 *i* P **P** **08 25 20.4 -0.1**
PPLA Purkeypile 52.10 32 *eP* **P** **08 25 23.2 +1.5**
comp=Z,24nm,0.6s
CAST Castle Rocks 52.18 32 *eP* **P** **08 25 23.9 +1.7**
comp=Z,19nm,1.1s
AAK Ala-Archa 52.21 302 P **P** **08 25 22.9 0.0**
comp=Z,41nm,0.6s,SNR=5.9
AAK Ala-Archa 52.21 302 P **P** **08 25 22.6 -0.4**
SNR=6.0
AAK Ala-Archa 52.21 302⇓ *i* P **P** **08 25 22.3 -0.6**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 52.21 302 *eP* **P** **08 25 22.2 -0.6**
UCH Uchtor 52.27 301 P **P** **08 25 24.3 +0.6**
SNR=8.7
UCH Uchtor 52.27 301 *i* P **P** **08 25 24.3 +0.6**
KTH Kantishna Hill 52.71 32 *eP* **P** **08 25 27.0 +0.8**
comp=Z,20nm,1.3s
EKS2 Erkin-Say 52.72 302 *eP* **P** **08 25 26.5 -0.2**
EKS2 pmax pmax
comp=Z,43nm,2.3s
EKS2 Erkin-Say 52.72 302 *eP* **P** **08 25 26.5 -0.2**
comp=Z,43nm,2.3s
AML Almayashu 52.89 301 P **P** **08 25 28.4 +0.2**
SNR=23
AML Almayashu 52.89 301 *i* P **P** **08 25 28.4 +0.2**
TRF Thorofare Moun 52.99 32 *eP* **P** **08 25 29.2 +0.8**
comp=Z,11nm,0.8s
RC01 Rabbit Creek A 53.20 35 *eP* **P** **08 25 30.1 +0.3**
comp=Z,30nm,0.5s
COLD Coldfoot 53.26 27 *eP* **P** **08 25 31.5 +1.4**
SEW Seward 53.36 36 *eP* **P** **08 25 30.9 +0.1**
comp=Z,25nm,0.7s
BVA0 Borovoye Array 53.44 315 *i* P **P** **08 25 30.7 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 53.44 315 P **P** **08 25 31.1 -0.5**
BVAR 08 26 38.2
BVAR pmax pmax
comp=Z,6.0nm,0.8s
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR Borovoye Array 53.44 315 P **P** **08 25 31.1 -0.5**
comp=Z,3.4nm,0.6s,baz=96,slow=9.1,SNR=23
BVAR PcP **PcP** **08 26 38.2 +0.9**
comp=Z,9.4nm,0.6s,baz=97,slow=4.0,SNR=7.6
BVAR ScP **ScP** **08 30 24.7 -0.7**
baz=67,slow=3.7
SFK Sufi-Kurgan 53.49 299 P **P** **08 25 32.0 -0.5**
SFK pmax pmax
comp=Z,8.0nm,0.6s
PMR Palmer 53.50 34 *eP* **P** **08 25 31.8 0.0**
PMR pmax pmax
comp=Z,29nm,0.9s
PMR Palmer 53.50 34 *eP* **P** **08 25 31.8 0.0**
comp=Z,29nm,0.9s
MCK McKinley 53.60 31 *eP* **P** **08 25 33.4 +0.7**
MCK pmax pmax
comp=Z,15nm,0.7s
MCK McKinley 53.60 31 *eP* **P** **08 25 33.4 +0.7**
comp=Z,15nm,0.7s
COLA College 54.10 30⇓ *iP* **P** **08 25 37.6 +1.4**
COLA pmax pmax
comp=Z,53nm,0.8s
COLA College 54.10 30 *eP* **P** **08 25 36.1 0.0**
comp=Z,14nm,0.6s
ILAR Eielson Array 54.51 30 P **P** **08 25 38.9 -0.3**
ILAR pmax pmax
comp=Z,10.0nm,0.7s
ILAR Eielson Array 54.51 30 P **P** **08 25 38.9 -0.3**
comp=Z,9.8nm,0.7s,baz=268,slow=6.2,SNR=164
KK31 Karatay Array 54.97 303 *i* P **P** **08 25 42.2 -0.7**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 54.97 303 *eP* **P** **08 25 42.5 -0.4**
KKAR Karatay Array 54.97 303 *eP* **P** **08 25 42.5 -0.4**
DIV Divide 55.13 35 *eP* **P** **08 25 44.7 +0.9**
comp=Z,80nm,1.5s
PAX Paxson 55.17 32 *eP* **P** **08 25 44.6 +0.5**
PAX pmax pmax
comp=Z,10.0nm,0.7s
PAX Paxson 55.17 32 *eP* **P** **08 25 44.6 +0.5**
comp=Z,9.9nm,0.7s
AS31 Alice Springs 55.46 187 *eP* **P** **08 25 45.2 -1.4**
ASAR Alice Springs 55.47 187 P **P** **08 25 45.5 -1.0**
ASAR 08 26 47.1
ASAR S **S** **08 33 21.1 -2.4**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASAR pmax pmax
comp=N,1.0nm,0.9s
ASAR smax smax
comp=N,1.0nm,1.1s
ASAR Alice Springs 55.47 187 P **P** **08 25 45.5 -1.0**
comp=N,2.4nm,0.5s,baz=6.3,slow=7.6,SNR=60
ASAR PcP **PcP** **08 26 47.1 +1.7**
comp=N,3.6nm,0.5s,baz=4.6,slow=4.1,SNR=9.4
ASAR ScP **ScP** **08 30 34.7 +0.1**
comp=N,0.9nm,0.9s,baz=1.1,slow=5.2,SNR=4.7
ASAR S **S** **08 33 21.1 -2.4**
comp=N,1.4nm,1.1s,baz=16,slow=18,SNR=6.0
BMRM Bremner River 55.71 35 *eP* **P** **08 25 49.3 +1.4**
comp=N,42nm,1.0s
DOT Dot Lake 55.77 32 *eP* **P** **08 25 48.7 +0.4**
EGAK Eagle 56.96 30 *eP* **P** **08 25 56.8 +0.1**
comp=N,13nm,0.5s
DZET Dzherino 57.30 298 P **P** **08 25 58.5 -1.2**
DZET pmax pmax
comp=Z,15nm,0.4s
DAWY Dawson 57.80 31 *eP* **P** **08 26 03.6 +1.0**
HYT Haines Junctio 59.16 34 *eP* **P** **08 26 14.1 +1.8**
DZM Mont Dzumac 59.18 151 P **P** **08 26 14.6 +1.8**
comp=Z,13nm,0.5s,baz=354,slow=2.9,SNR=29
INK Inuvik 59.54 25 P **P** **08 26 15.1 +0.5**
INK pmax pmax
comp=Z,15nm,0.4s
INK Inuvik 59.54 25 P **P** **08 26 15.1 +0.5**
comp=Z,15nm,0.4s,baz=292,slow=5.8,SNR=92
ARU Arti 59.66 320 *d iP* **P** **08 26 15.3 -0.3**
ARU *PP **pP** **08 26 40.1 -1.3**
ARU 08 26 58.7
ARU 08 28 23.7
ARU S **S** **08 34 18.3 +0.6**
ARU SS **SS** **08 38 08.2 -6.2**
ARU pmax pmax
comp=Z,18nm,0.8s
ARU Arti 59.66 320 *eP* **P** **08 26 15.4 -0.2**
AB31 Akbulak array 60.60 312 *i* P **P** **08 26 21.5 -0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.3s
ABKAR Akbulak array 60.60 312 *eP* **P** **08 26 21.7 -0.4**
POO Poona 60.64 275 *eP* **P** **08 26 20.0 -2.9**
AKTO Aktyubinsk 61.47 314 P **P** **08 26 27.3 -0.7**
AKTO pmax pmax
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 61.47 314 LR LR 08 52 45.6
comp=Z,46nm,19.1s,baz=67,slow=36
STKA Stephens Creek 63.34 179 P **P** **08 26 40.7 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 63.34 179 P **P** **08 26 40.6 +0.2**
comp=Z,3.4nm,0.7s,baz=358,slow=4.8,SNR=9.1
DLBC Dease Lake 63.43 36 P **P** **08 26 42.7 +1.7**
comp=Z,7.8nm,0.8s,baz=290,slow=8.2,SNR=12
DLBC Dease Lake 63.43 36 *eP* **P** **08 26 42.2 +1.2**
PRGR Permogore 64.62 328 *eP* **P** **08 26 46.8 -1.8**
PRGR pmax pmax
comp=Z,75nm,1.0s
ALE Alert 65.39 3 P **P** **08 26 54.3 +0.9**
comp=Z,43nm,0.7s,SNR=5.2
SPITS Spitsbergen Ar 65.46 349 LR LR 08 56 53.2
comp=Z,12nm,18.1s,baz=175,slow=37
GEYT Alibeck 65.53 301 P **P** **08 26 55.1 +0.1**
comp=Z,3.0nm,0.3s,baz=58,slow=3.6,SNR=6.1
TMCR Tamitsa 66.86 332 *eP* **P** **08 27 03.2 +0.3**
TMCR *e* 08 29 32.8
TMCR pmax pmax
comp=Z,54nm,1.4s
APA Apatity 67.05 336 *eP* P 08 26 57.0 -7.1
APA MLR MLR
comp=Z,500nm,15.0s
RES Resolute Bay 67.93 14 P **P** **08 27 09.5 0.0**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 67.93 14 P **P** **08 27 09.5 0.0**
comp=Z,6.5nm,0.8s,baz=317,slow=3.6,SNR=20
KEV Kevo 67.98 340 *eP* **P** **08 27 10.5 +0.6**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 67.98 340 *ep* **P** **08 27 10.5 +0.6**
comp=Z,1.3nm,0.3s
ARCES ARCESS Array B 68.54 340 P **P** **08 27 14.2 +0.8**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES MLR MLR
comp=Z,23nm,20.5s
ARCES ARCESS Array B 68.54 340 P **P** **08 27 14.2 +0.8**
comp=Z,9.9nm,0.8s,baz=59,slow=6.5,SNR=27
ARCES LR LR 09 00 50.2
comp=Z,23nm,20.4s,baz=56,slow=39
YKA Yellowknife Ar 68.88 29 P **P** **08 27 15.6 0.0**
YKA pmax pmax
comp=Z,6.0nm,0.5s
YKA Yellowknife Ar 68.88 29 P **P** **08 27 15.6 0.0**
comp=Z,5.7nm,0.5s,baz=301,slow=6.3,SNR=268
JOF Joensuu 70.11 333 *eP* **P** **08 27 23.0 -0.2**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 70.11 333 *ep* **P** **08 27 23.0 -0.2**
comp=Z,11nm,0.6s
DAG Danmarks Havn 70.89 355 *i* P **P** **08 27 28.2 +0.5**
DAG *e* 08 27 52.5
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 70.89 355 *i* P **P** **08 27 28.2 +0.5**
comp=Z,9.0nm,0.7s
DAG *e* 08 27 52.5
VRHR Novokhopersk 70.90 319 *eP* **P** **08 27 26.0 -2.2**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,20nm,1.3s
NLWA Neilton Lookou 71.07 46 *eP* **P** **08 27 31.8 +2.4**
comp=E,23nm,0.8s
VDB Vedder Mountai 71.39 43 P **P** **08 27 32.1 +0.9**
A05A Maple Falls 71.41 44 *eP* **P** **08 27 32.5 +1.2**
OBN Obninsk 71.69 324⇑ *iP* **P** **08 27 33.3 +0.5**
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,49nm,20.0s
JCW Jim Creek 71.88 44 P **P** **08 27 35.8 +1.6**
B06A Marblemount 71.99 44 *eP* **P** **08 27 36.0 +1.2**
comp=Z,30nm,0.9s
F04D Rainier, OR 72.19 47⇑ P **P** **08 27 37.8 +1.7**
baz=72
VSR Storozhevoye 72.21 320 *eP* **P** **08 27 35.9 -0.2**
VSR pmax pmax
comp=Z,40nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,30nm,1.0s
VORD Divnogorie 72.26 319 *eP* **P** **08 27 34.5 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,8.0nm,0.4s
VORD pmax pmax
comp=E,30nm,1.6s
D05A Enumclaw 72.31 45 *eP* **P** **08 27 38.9 +2.2**
comp=E,23nm,1.0s
KAF Kangasniemi 72.49 333 *eP* **P** **08 27 36.5 -1.0**
KAF pmax pmax
comp=Z,13nm,0.6s
KAF Kangasniemi 72.49 333 *ep* **P** **08 27 36.5 -1.0**
comp=Z,13nm,0.6s
TDL Tradedollar La 72.56 46 P **P** **08 27 39.9 +1.5**
LON Longmire 72.62 46 *eP* **P** **08 27 40.0 +1.3**
LON pmax pmax
comp=Z,9.0nm,1.2s
LON Longmire 72.62 46 *eP* **P** **08 27 40.0 +1.3**
comp=Z,8.5nm,1.2s
F04A Amboy 72.63 46 *eP* **P** **08 27 40.0 +1.4**
comp=Z,34nm,0.8s
NLW Nelson Butte 72.87 44 P **P** **08 27 41.4 +1.2**
FINES FINESS Array B 72.97 333 P **P** **08 27 40.7 +0.3**
FINES pmax pmax
comp=Z,18nm,0.8s
FINES MLR MLR
comp=Z,19nm,18.4s
FINES FINESS Array B 72.97 333 P **P** **08 27 40.7 +0.3**
comp=Z,16nm,0.8s,baz=69,slow=5.1,SNR=46
FINES LR LR 09 02 06.2
comp=Z,18nm,18.4s,baz=2.5,slow=38
ASR Mount Adams--S 73.03 46 P **P** **08 27 42.5 +1.3**
LTY Liberty 73.06 45 *eP* **P** **08 27 42.2 +0.9**
comp=Z,26nm,1.4s
I03D Drain, OR 73.08 49⇑ P **P** **08 27 42.4 +1.0**
baz=73
ETW Entiat 73.10 44 P **P** **08 27 42.6 +1.0**
WTV Waterville 73.28 44 P **P** **08 27 43.4 +0.8**
KULLO Kullorsuaq 73.28 5 *iP* **P** **08 27 42.4 +0.4**
KULLO pmax pmax
comp=Z,7.0nm,0.9s
KULLO Kullorsuaq 73.28 5 *i* P **P** **08 27 42.4 +0.4**
comp=Z,6.5nm,0.9s
B08A Colville Reser 73.33 43 *eP* **P** **08 27 43.7 +0.9**
ZEI Tsey 73.35 310 *eP* **P** **08 27 42.3 -0.9**
ZEI pmax pmax
comp=Z,11nm,0.7s
H04A Detroit Lake 73.36 48 *eP* **P** **08 27 44.4 +1.3**
comp=Z,30nm,0.8s
VFP Flag Point 73.51 47 P **P** **08 27 45.8 +1.7**
KIV Kislovodsk 73.58 312 *eP* **P** **08 27 45.1 +0.7**
KIV pmax pmax
comp=Z,42nm,0.9s
KIV MLR MLR
comp=Z,29nm,18.0s
KIV Kislovodsk 73.58 312 *eP* **P** **08 27 45.5 +1.1**
SAW Saint Andrews 73.61 44 P **P** **08 27 45.3 +0.8**
G05D Wamic, OR 73.64 47⇓ P **P** **08 27 46.0 +1.4**
baz=74
I04A Tendick Farm, 73.64 48⇑ P **P** **08 27 45.7 +1.0**
baz=74
L02D Cave Junction, 73.64 50⇑ P **P** **08 27 45.7 +0.9**
baz=74
HUMO Hull Mountain 73.85 50 *eP* **P** **08 27 44.4 -1.6**
comp=Z,50nm,2.0s
NEY Neytrino 73.89 311 *i* P **P** **08 27 47.5 +1.1**
NEY pmax pmax
comp=Z,4.0nm,1.2s
E07A Sunnyside 73.89 45 *eP* **P** **08 27 47.5 +1.4**
comp=Z,23nm,1.0s
GBB Gable Butte 74.00 45 P **P** **08 27 48.2 +1.5**
I05D Terrebonne, OR 74.06 48⇓ P **P** **08 27 48.1 +1.0**
baz=74
G06A Carlson Farm, 74.06 46 *eP* **P** **08 27 48.5 +1.4**
J04D Umpqua Nationa 74.09 49⇓ P **P** **08 27 48.8 +1.2**
baz=74
EDM Edmonton 74.13 37 *eP* **P** **08 27 47.9 +0.5**
EDM Edmonton 74.13 37 *eP* **P** **08 27 47.9 +0.5**
KHMM Horse Mountain 74.16 52 *eP* **P** **08 27 50.1 +2.2**
comp=Z,18nm,0.9s
HAWA Hanford 74.17 45 *eP* **P** **08 27 49.3 +1.6**
comp=Z,28nm,1.3s
D08A Wollman Farm, 74.21 44 *eP* **P** **08 27 49.0 +1.1**
comp=Z,26nm,0.9s
C09A Chrisman Ranch 74.22 43 *eP* **P** **08 27 49.0 +1.0**
comp=Z,48nm,1.4s
YBH Yreka Blue Hor 74.43 50 *eP* **P** **08 27 51.4 +2.0**
YBH Yreka Blue Hor 74.43 50 *eP* **P** **08 27 51.4 +2.0**
VSU Vasula 74.45 330 *d iP* **P** **08 27 49.7 +0.7**
VSU pmax pmax
comp=Z,66nm,1.1s
M02C Callahan 74.50 51⇑ P **P** **08 27 51.7 +1.8**
baz=74
K04D Chiloquin, OR 74.62 49⇓ P **P** **08 27 51.5 +0.9**
baz=75
J05D Fort Rock, OR 74.63 48⇑ P **P** **08 27 52.0 +1.4**
baz=75
NEW Newport 74.65 43 *eP* **P** **08 27 51.5 +1.0**
NEW Newport 74.65 43⇑ P **P** **08 27 51.6 +1.1**
baz=75
NEW Newport 74.65 43 *eP* **P** **08 27 51.5 +1.0**
N02D Trinity Center 74.80 51⇑ P **P** **08 27 52.8 +1.2**
baz=75
KCPM Cahto Peak 74.83 53 *eP* **P** **08 27 53.1 +1.3**
comp=Z,17nm,1.1s
E09A Wood Farm, Sta 74.94 44 *eP* **P** **08 27 53.5 +1.4**
M04C Macdoel 74.97 50⇓ P **P** **08 27 53.5 +0.9**
baz=75
G08A Pilot Rock 75.06 46 *eP* **P** **08 27 54.2 +1.2**
comp=Z,8.9nm,0.9s
WDC Whiskeytown Da 75.10 51 *eP* **P** **08 27 54.3 +1.2**
WDC pmax pmax
comp=Z,12nm,1.1s
WDC Whiskeytown Da 75.10 51 *eP* **P** **08 27 54.3 +1.2**
comp=Z,12nm,1.1s
K05A Summer Lake 75.12 49 *eP* **P** **08 27 55.1 +1.5**
comp=Z,42nm,0.9s
I07A Izee 75.33 47 *eP* **P** **08 27 56.0 +1.4**
comp=Z,11nm,1.1s
F10A Beach Ranch, E 75.76 45 *eP* **P** **08 27 58.1 +1.1**
comp=Z,8.6nm,0.8s
SUMG Summit 75.91 360 *i* P **P** **08 27 58.9 +1.2**
SUMG *i* 08 28 24.8
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 75.91 360 *eP* **P** **08 27 59.2 +1.4**
SUMG Summit 75.91 360 *i* P **P** **08 27 58.9 +1.2**
comp=Z,14nm,0.9s
SUMG *i* 08 28 24.8
MOD Modoc Plateau 75.91 49 *eP* **P** **08 27 59.1 +1.1**
comp=Z,12nm,1.0s
WALA Waterton Lakes 76.05 41 *eP* **P** **08 27 59.8 +1.1**
BSMT Bassoo Peak 76.20 42 *eP* **P** **08 28 01.1 +1.5**
BMO Blue Mountains 76.29 46 *eP* **P** **08 28 01.1 +1.0**
BMO pmax pmax
comp=Z,22nm,0.9s
BMO Blue Mountains 76.29 46 *eP* **P** **08 28 01.1 +1.0**
comp=Z,22nm,0.9s
IDID Didziasalis 76.31 327 *eP* **P** **08 28 00.2 +0.5**
IDID AMB AMB 08 28 01.5
comp=Z,9.5nm,1.1s
OHCM Honcut 76.42 52 *eP* **P** **08 28 01.4 +0.7**
ANN Anapa 76.43 314 *eP* **P** **08 28 00.7 +0.1**
ANN *e*PP **pP** **08 28 27.6 +0.1**
ANN *eS* **S** **08 37 38.3 +0.9**
ANN pmax pmax
comp=Z,59nm,1.2s
ISAL Salakas 76.43 328 *eP* **P** **08 28 00.9 +0.4**
ISAL AMB AMB 08 28 03.5
comp=Z,11nm,1.5s
IIGN Ignalina 76.52 328 *eP* **P** **08 28 01.4 +0.4**
IIGN AMB AMB 08 28 02.8
comp=Z,6.0nm,0.9s
NACGM Naroch 76.53 327 *e* **P** **08 27 59.0 -2.0**
JTMT Jette 76.55 42 *eP* **P** **08 28 02.7 +1.2**
YBMT Yellow Bay 76.64 42 *eP* **P** **08 28 03.4 +1.4**
WVOR Wild Horse Val 76.71 48 *eP* **P** **08 28 03.6 +1.1**
WVOR pmax pmax

comp=Z,22nm,1.2s
WVOR Wild Horse Val 76.71 48 *e*P P 08 28 03.6 +1.1
comp=Z,22nm,1.2s
SWMT Swartz Lake 76.84 42 *e*P P 08 28 04.0 +0.9
MSO Missoula 77.24 43 ⇓P P 08 28 05.7 +0.4
baz=77
MSO Missoula 77.24 43 *e*P P 08 28 05.7 +0.4
comp=Z,5.3nm,0.7s
SLMT Seeley Lake 77.27 42 *e*P P 08 28 06.2 +0.7
CHMT Chamberlain Mo 77.59 42 *e*P P 08 27 59.7 -7.7
URZ Urewera 77.74 151 P P 08 28 07.4 -0.5
comp=Z,8.8nm,0.7s,baz=321,slow=5.3,SNR=7.7
AKASG Malin Array Be 77.81 323 P P 08 28 07.9 -0.3
AKASG *PP **pP** 08 28 32.0 -3.2
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG MLR MLR
comp=Z,41nm,19.7s
AKASG Malin Array Be 77.81 323 P P 08 28 07.9 -0.3
comp=Z,2.8nm,0.3s,baz=48,slow=6.2,SNR=63
AKASG pP **pP** 08 28 32.0 -3.2
comp=Z,2.0nm,0.5s,baz=49,slow=6.2,SNR=1.9
AKASG LR LR 09 05 10.3
comp=Z,41nm,19.7s,baz=10.0,slow=38
CMB Columbia Colle 77.81 53 *e*P P 08 28 09.5 +0.9
CMB Columbia Colle 77.81 53 *e*P P 08 28 09.5 +0.9
KIEV Kiev 77.82 323 *e*P P 08 28 08.3 0.0
KIEV Kiev 77.82 323 *e*P P 08 28 08.3 0.0
MFID Camas Ranch 77.95 46 *e*P P 08 28 10.7 +1.3
comp=Z,42nm,1.4s
WAKR Walker 78.21 52 *e*P P 08 28 12.3 +1.3
BKZ Black Stump Fm 78.26 152 *e*P P 08 28 11.7 +0.9
comp=Z,205nm,2.2s
HRY Holter Researc 78.51 42 *e*P P 08 28 13.7 +1.3
NB2 NORSAR Subarra 78.61 337 P P 08 28 12.8 +0.3
comp=Z,19nm,0.9s,baz=42,slow=5.6
NB2 NORSAR Subarra 78.61 337 P P 08 28 12.8 +0.3
baz=42,slow=5.6
NOA NORSAR Array B 78.61 337 P P 08 28 12.9 +0.3
NOA *PP **pP** 08 28 37.4 -2.2
NOA pmax pmax
comp=Z,14nm,0.8s
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,13nm,21.9s
NOA NORSAR Array B 78.61 337 P P 08 28 12.8 +0.3
comp=Z,14nm,0.8s,baz=42,slow=5.5,SNR=30
NOA pP **pP** 08 28 37.4 -2.2
comp=Z,4.6nm,0.7s,baz=43,slow=5.4,SNR=4.0
NOA LR LR 09 05 57.3
comp=Z,13nm,21.9s,baz=50,slow=38
LRM Limekiln Ridge 78.66 43 *e*P P 08 28 07.1 -6.3
LRM *epP* pP 08 28 41.8 +1.4
BMN Battle Mountai 78.66 49 *e*P P 08 28 14.8 +1.4
BMN Battle Mountai 78.66 49 *e*P P 08 28 14.8 +1.4
FFC Flin Flon 78.69 32 P P 08 28 13.9 +0.8
comp=Z,118nm,0.6s,SNR=9.1
FFC Flin Flon 78.69 32 *e*P P 08 28 13.0 -0.1
FFC Flin Flon 78.69 32 *e*P P 08 28 13.0 -0.1
HLID Hailey 78.74 46 ⇑P P 08 28 14.8 +1.0
baz=79
HLID Hailey 78.74 46 *e*P P 08 28 15.0 +1.2
comp=Z,11nm,1.1s
DLMT Dillon 78.83 43 *e*P P 08 28 15.1 +0.8
A19A Klindworth Far 78.94 39 ⇑P P 08 28 15.3 +0.7
baz=79,SNR=10
MCMT McKenzie Canyo 78.98 44 *e*P P 08 28 15.7 +0.5
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 79.01 52 P P 08 28 16.5 +1.1
comp=Z,9.2nm,0.7s,baz=289,slow=5.6,SNR=93
NVAR pP **pP** 08 28 41.7 -0.8
comp=Z,4.7nm,0.8s,baz=281,slow=7.2,SNR=5.2
MLAC Mammoth, Mammo 79.07 53 ⇑P P 08 28 16.9 +1.1
baz=79
B19A Brinkman Farms 79.11 39 ⇑P P 08 28 16.2 +0.6
baz=79,SNR=19
MALT Malatya 79.19 308 ⇑*iP* P 08 28 17.9 +1.7
BOZ Bozeman (W) 79.23 43 *e*P P 08 28 17.4 +1.0
BOZ pmax pmax
comp=Z,16nm,1.0s
BOZ Bozeman (W) 79.23 43 *e*P P 08 28 17.4 +1.0
comp=Z,16nm,1.0s
MTUM Tungsten Hills 79.40 53 *e*P P 08 28 18.7 +1.2
A20A Cobblestone Ra 79.40 39 ⇑P P 08 28 17.5 +0.3
baz=79
C19A Slack Wire Ran 79.48 40 ⇑P P 08 28 18.5 +0.9
baz=79,SNR=16
SMMC Simmler 79.48 55 ⇓P P 08 28 18.7 +0.9
baz=79
RCTC Rector, Farmer 79.49 54 ⇓P P 08 28 18.6 +0.8
baz=79
B20A Solberg Farm, 79.62 39 ⇑P P 08 28 18.5 +0.2
baz=80,SNR=10
ELK Elko 79.77 48 *e*P P 08 28 20.8 +1.3
ELK Elko 79.77 48 *e*P P 08 28 20.8 +1.3
TIN Tinemaha, Big 79.79 53 ⇓P P 08 28 20.5 +1.0
baz=80
QLMT Earthquake Lak 79.81 43 *e*P P 08 28 21.2 +1.6
VES Vestal, Richgr 79.84 54 ⇓P P 08 28 19.6 -0.1
baz=80,SNR=9.5
A21A Bergtoll Ranch 79.86 38 ⇑P P 08 28 20.0 +0.3
baz=80,SNR=9.7
D19A Cripps Ranch, 79.91 40 ⇑P P 08 28 20.2 +0.3
baz=80,SNR=20
TPH Tonopah 79.92 51 *e*P P 08 28 21.2 +0.9
TPH Tonopah 79.92 51 *e*P P 08 28 21.2 +0.9
C20A Veseth Ranch, 80.06 40 ⇑P P 08 28 21.3 +0.6
baz=80
B21A Ellsworth Farm 80.16 39 ⇑P P 08 28 21.4 +0.2
baz=80,SNR=5.5
YMR Madison River 80.18 43 *e*P P 08 28 23.6 +2.0
YNR Norris Junctio 80.31 43 *e*P P 08 28 24.9 +2.5
comp=Z,13nm,1.1s
D20A Manuel Ranch, 80.36 40 ⇑P P 08 28 23.3 +0.9
baz=80,SNR=11
ISA Isabella, Lake 80.36 54 *e*P P 08 28 22.9 +0.3
ISA Isabella, Lake 80.36 54 ⇓P P 08 28 22.5 -0.1
baz=80,SNR=9.4
ISA Isabella, Lake 80.36 54 *e*P P 08 28 22.9 +0.3
E19A Rath Farm, Rou 80.37 41 ⇓P P 08 28 23.4 +0.9
baz=80,SNR=25
YFT Old Faithful 80.38 43 *e*P P 08 28 26.4 +3.6
A22A Carney Farms, 80.39 38 ⇑P P 08 28 22.4 -0.1
baz=80,SNR=8.1
ARVC Arvin 80.39 55 ⇓P P 08 28 23.5 +0.8
baz=80
GRAC Grapevine Rang 80.40 52 ⇓P P 08 28 23.8 +1.1
baz=80,SNR=11
H17A Grant Village 80.56 43 ⇑P P 08 28 26.3 +2.6
baz=80,SNR=13
H17A Grant Village 80.56 43 *e*P P 08 28 26.7 +3.0
DAC Darwin (Calif) 80.63 53 *e*P P 08 28 24.8 +0.6
DAC Darwin (Calif) 80.63 53 *e*P P 08 28 24.8 +0.6
IMW Indian Meadow 80.64 44 *e*P P 08 28 25.9 +1.7
IMW *epP* **pP** 08 28 53.8 +2.5
F19A Roth Farm, Mol 80.64 41 ⇓P P 08 28 24.2 +0.3
baz=80,SNR=6.1
FLWY Flagg Ranch 80.67 44 *e*P P 08 28 26.7 +2.4
E20A Meyer Farm, Mu 80.71 41 ⇓P P 08 28 25.0 +0.8
baz=81,SNR=14
FXWY Fox Creek 80.73 44 *e*P P 08 28 26.2 +1.5
comp=Z,13nm,1.3s
HVU Hansel Valley 80.74 46 *e*P P 08 28 26.0 +1.4
HVU Hansel Valley 80.74 46 *e*P P 08 28 26.0 +1.4
OSI Osito Audit: C 80.74 55 ⇑P P 08 28 25.6 +1.0
baz=81
B22A Reddig Ranch S 80.78 38 ⇑P P 08 28 25.0 +0.4
baz=81
MPMC Manual Prospec 80.82 53 ⇑P P 08 28 25.8 +0.6
baz=81,SNR=17
I17A Pilgrim Ck. 80.84 44 ⇑P P 08 28 26.9 +1.7
baz=81,SNR=14
R11A Troy Canyon, C 80.85 51 ⇓P P 08 28 26.2 +0.9
baz=81,SNR=18
R11A Troy Canyon, C 80.85 51 *e*P P 08 28 25.8 +0.5
TPAW Teton Pass 80.86 44 *e*P P 08 28 27.3 +1.9
RLMT Red Lodge 80.89 42 *e*P P 08 28 26.6 +1.1
comp=Z,14nm,0.9s
H18A Shoshone NF, C 80.93 43 ⇓P P 08 28 26.6 +1.0
baz=81,SNR=5.5
LVV L'vov 80.99 324 *e*P P 08 28 24.9 -0.7
D21A La Casta Ranch 81.00 40 ⇓P P 08 28 26.4 +0.7
baz=81
LRMC Laurel Mtn Rad 81.00 54 ⇓P P 08 28 26.4 +0.4
baz=81,SNR=12
REDW Red Top Meadow 81.00 44 *e*P P 08 28 27.3 +1.2
comp=Z,11nm,1.3s
LOHW Long Hollow 81.00 44 *e*P P 08 28 27.4 +1.4
FURC Furnace Creek, 81.03 53 ⇓P P 08 28 26.7 +0.7
baz=81,SNR=13
BGU Big Grassy Mou 81.06 47 *e*P P 08 28 27.6 +1.2
EDW2 Edwards Air Fo 81.11 55 ⇓P P 08 28 27.5 +0.9
baz=81,SNR=18
C22A Vida 81.18 39 ⇑P P 08 28 26.7 +0.1
baz=81
TPNV Topopah Spring 81.18 52 *e*P P 08 28 27.9 +0.9
TPNV pmax pmax
comp=Z,23nm,0.8s
TPNV Topopah Spring 81.18 52 ⇑P P 08 28 27.9 +0.9
baz=81,SNR=31
TPNV Topopah Spring 81.18 52 *e*P P 08 28 27.9 +0.9
comp=Z,23nm,0.8s
B23A Brockton 81.20 38 ⇓P P 08 28 27.1 +0.3
baz=81,SNR=7.8
DECC Green Verdugo 81.21 55 ⇓P P 08 28 27.5 +0.5
baz=81
E21A Keefer Ranch, 81.27 40 ⇑P P 08 28 27.8 +0.6
baz=81
H19A Powell 81.32 42 ⇓P P 08 28 28.9 +1.3
baz=81,SNR=11
D22A Cohagen 81.39 39 ⇓P P 08 28 28.3 +0.6
baz=81
MWC Mount Wilson 81.41 55 *e*P P 08 28 29.2 +0.9
MWC Mount Wilson 81.41 55 *e*P P 08 28 29.2 +0.9
A24A Westby 81.42 37 ⇑P P 08 28 28.5 +0.6
baz=81
G20A Bridger 81.43 42 ⇓P P 08 28 28.4 +0.2
baz=81
C23A Lambert 81.51 38 ⇓P P 08 28 29.0 +0.6
baz=81,SNR=5.8
BRTR Keskin Array B 81.54 312 *ce*P P 08 28 29.6 +0.7
BRTR pmax pmax
comp=Z,19nm,0.8s
BRTR Keskin Array B 81.54 312 P P 08 28 29.2 +0.3
comp=Z,19nm,0.8s,baz=100,slow=4.4,SNR=88
BRTR pP **pP** 08 28 52.8 -3.3
comp=Z,4.8nm,0.8s,baz=75,slow=4.2,SNR=3.3
BRTR LR LR 09 06 31.3
comp=Z,11nm,18.7s,baz=74,slow=37
HWUT Hardware Ranch 81.58 46 *e*P P 08 28 29.7 +0.6
comp=Z,20nm,1.1s
DGMT Dagmar 81.61 37 ⇑P P 08 28 29.1 +0.2
baz=82
DUG Dugway, Tooele 81.61 48 *e*P P 08 28 30.5 +1.3
DUG Dugway, Tooele 81.61 48 ⇓P P 08 28 30.1 +0.9
baz=82,SNR=32
DUG Dugway, Tooele 81.61 48 *e*P P 08 28 30.5 +1.3
LAO LASA Array 81.64 40 *e*P P 08 28 29.4 +0.2
comp=Z,17nm,1.0s
CFR Carcaliu 81.67 318 ⇑*iP* P 08 28 29.6 +0.4
RAYN Ar Rayn 81.68 292 P P 08 28 29.2 -0.5
comp=Z,88nm,0.8s,SNR=6.2
RAYN Ar Rayn 81.68 292 *e*P P 08 28 29.8 +0.1
BFSC Mount Baldy Ra 81.68 55 ⇓P P 08 28 29.9 +0.2
baz=82
TESR Tescani 81.69 320 ⇑*iP* P 08 28 29.7 +0.4
I19A Meeteetse 81.69 43 ⇑P P 08 28 31.0 +1.4
baz=82,SNR=6.3
GSC Goldstone, Bar 81.70 54 *e*P P 08 28 30.4 +0.7
GSC Goldstone, Bar 81.70 54 ⇑P P 08 28 30.2 +0.5
baz=82,SNR=11
GSC Goldstone, Bar 81.70 54 *e*P P 08 28 30.4 +0.7
SHOC Shoshone, Teco 81.73 53 ⇑P P 08 28 30.6 +0.9
baz=82,SNR=9.0
SCI San Clemente I 81.74 56 ⇓P P 08 28 32.2 +2.4
baz=82
BURAR Bucovina Array 81.77 322 ⇑*iP* P 08 28 30.7 +0.8
KWP Kalwaria Pacla 81.77 324 *e*P P 08 28 31.1 +1.3
KWP Kalwaria Pacla 81.77 324 *e*P P 08 28 31.0 +1.3
KWP *e* 08 28 48.5
A25A Svangstu Ranch 81.86 37 ⇑P P 08 28 30.7 +0.4
baz=82
D23A Lindsay 81.89 39 ⇓P P 08 28 31.1 +0.6
baz=82,SNR=13
E22A Miles City 81.95 40 ⇑P P 08 28 31.4 +0.7
baz=82,SNR=5.6
TCUT Toone Canyon 81.96 46 *e*P P 08 28 32.1 +0.9
comp=Z,12nm,0.7s
CTU Camp Tracy 81.99 47 *e*P P 08 28 32.6 +1.4
H20A Greybull 82.00 42 ⇑P P 08 28 31.7 +0.6
baz=82,SNR=6.2
G21A Lodge Grass 82.00 41 ⇑P P 08 28 31.3 +0.2
baz=82
ANTO Ankara 82.00 312 *e*P P 08 28 32.3 +1.1
ANTO pmax pmax
comp=Z,15nm,0.7s
ANTO Ankara 82.00 312 ⇓*iP* P 08 28 32.3 +1.1
ANTO Ankara 82.00 312 *e*P P 08 28 32.3 +1.1
comp=Z,15nm,0.7s
VRI Vrincioaia 82.04 320 ⇑*iP* P 08 28 32.3 +1.1
C24A Savage 82.08 38 ⇓P P 08 28 32.0 +0.5
baz=82,SNR=5.5
TLB Topalu 82.08 318 ⇑*iP* P 08 28 32.1 +0.7
BW06 Boulder Array 82.11 44 *e*P P 08 28 32.0 +0.1
comp=Z,2.2nm,0.6s
PDAR Pinedale Array 82.11 44 P P 08 28 32.2 +0.3
comp=Z,3.3nm,0.7s,baz=270,slow=1.4,SNR=31
PDAR pP **pP** 08 28 57.2 -2.0
comp=Z,2.5nm,0.7s,baz=264,slow=4.2,SNR=5.2
J19A Crowheart 82.12 44 ⇑P P 08 28 32.9 +1.0
baz=82,SNR=19
SHPR Sheep Range 82.15 52 *e*P P 08 28 33.1 +1.0
BBRC Big Bear Solar 82.19 55 ⇓P P 08 28 32.8 +0.3
baz=82,SNR=9.7
F22A Rosebud 82.19 40 ⇑P P 08 28 32.6 +0.5
baz=82
NLU North Lily Min 82.21 48 *e*P P 08 28 33.8 +1.3
TUQ Turquoise Moun 82.23 53 ⇑P P 08 28 33.0 +0.4
baz=82,SNR=20
I20A Worland 82.25 43 ⇓P P 08 28 33.3 +0.8
baz=82,SNR=12
E23A Ismay 82.26 39 ⇓P P 08 28 33.0 +0.7
baz=82,SNR=8.6
HEC Hector,Ludlow 82.28 54 ⇑P P 08 28 33.5 +0.8
baz=82
MURC Murrieta 82.35 55 ⇑P P 08 28 33.6 +0.5
baz=82,SNR=7.4
D24A Glendive 82.40 38 ⇑P P 08 28 33.5 +0.4
baz=82,SNR=15
A26A Wade Farm, Ken 82.43 36 ⇑P P 08 28 33.7 +0.5
baz=82
KOLS Kolonicke sedl 82.44 324 *e*P P 08 28 33.9 +0.7
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 82.44 324 *e*P P 08 28 33.9 +0.7
H21A Big Horn, Sher 82.45 42 ⇓P P 08 28 34.2 +0.7
baz=82,SNR=5.7
MPU Maple Canyon 82.45 47 *e*P P 08 28 35.1 +1.4
DAU Daniels Canyon 82.46 47 *e*P P 08 28 35.2 +1.3
DAU Daniels Canyon 82.46 47 *e*P P 08 28 35.2 +1.3
G22A Birney 82.51 41 ⇓P P 08 28 34.4 +0.6
baz=82
ARUT Antelope Range 82.57 50 *e*P P 08 28 35.2 +0.9
ARUT pmax pmax
comp=Z,1.0nm,1.1s
ARUT Antelope Range 82.57 50 *e*P P 08 28 35.2 +0.9
comp=Z,1.1nm,1.1s
C25A Freed Ranch, W 82.58 38 ⇓P P 08 28 34.8 +0.8
baz=82
UZH Uzhgorod 82.63 324 *d*⇑*iP* P 08 28 34.2 0.0
UZH *e* 08 28 59.6
J20A Shoshoni 82.63 43 ⇓P P 08 28 35.3 +0.8
baz=82,SNR=14
STHS Stebnicka Huta 82.64 325 *e*P P 08 28 35.6 +1.4
STHS pmax pmax
comp=Z,12nm,1.3s
STHS Stebnicka Huta 82.64 325 *e*P P 08 28 35.6 +1.4
B26A Jensen Ranch, 82.67 37 ⇓P P 08 28 35.0 +0.5
baz=82
F23A Volborg 82.69 40 ⇑P P 08 28 35.0 +0.4
baz=83,SNR=8.2
MLR Muntele Rosu 82.70 320 ⇑*iP* P 08 28 36.3 +1.5
DOPR Dopca 82.71 320 ⇑*iP* P 08 28 36.1 +1.4
CCUT Cedar City 82.76 50 *e*P P 08 28 36.4 +1.0
E24A Baker 82.76 39 ⇑P P 08 28 35.7 +0.8
baz=83
GMRC Granite Mounta 82.77 54 ⇑P P 08 28 36.0 +0.7
baz=83
A27A Ledoux Ranch, 82.79 36 ⇓P P 08 28 35.7 +0.7
baz=83
OJC Ojcow 82.80 326 *e*P P 08 28 35.5 +0.5
OJC *e**PP **pP** 08 29 02.0 -0.3
OJC Ojcow 82.80 326 *e*P P 08 28 35.8 +0.8
OJC *e* 08 29 02.8
109C Camp Elliot, M 82.80 56 ⇓P P 08 28 35.6 +0.2
baz=83
I21A Big Trails, Te 82.81 42 ⇓P P 08 28 35.7 +0.3
baz=83,SNR=7.1
TRPA Tarpa 82.83 323 ⇑*iP* P 08 28 36.3 +1.1
PFO Pinyon Flats O 82.87 55 P P 08 28 36.6 +0.7
comp=Z,142nm,0.7s,SNR=6.2
PFO Pinyon Flats O 82.87 55 *e*P P 08 28 36.2 +0.3
PFO pmax pmax
comp=Z,16nm,0.9s
PFO Pinyon Flats O 82.87 55 ⇑P P 08 28 36.3 +0.4
baz=83,SNR=9.3
PFO Pinyon Flats O 82.87 55 *e*P P 08 28 36.1 +0.3
comp=Z,16nm,0.9s
CRVS Cervenica-Dubn 82.87 324 *e*P P 08 28 36.6 +1.1
CRVS pmax pmax
comp=Z,25nm,1.7s
CRVS Cervenica-Dubn 82.87 324 *e*P P 08 28 36.5 +1.1
D25A Fairfield 82.90 38 ⇓P P 08 28 36.2 +0.5
baz=83
MVU Marysvale 82.96 49 *e*P P 08 28 37.7 +1.3
BELC Belle Mtn. Jos 82.97 54 ⇓P P 08 28 36.6 +0.2
baz=83,SNR=19
LDFC Landfair 82.98 53 *e*P P 08 28 37.4 +1.0
J21A Lysite 83.00 43 ⇓P P 08 28 36.7 +0.2
baz=83,SNR=7.9
G23A Biddle 83.02 40 ⇑P P 08 28 36.5 +0.1
baz=83
NIE Niedzica 83.09 325 *e*P P 08 28 38.0 +1.4
NIE *e* 08 29 04.9
C26A Wahner Farm, P 83.10 37 ⇑P P 08 28 36.6 -0.1
baz=83
F24A Ekalaka 83.14 39 ⇓P P 08 28 37.7 +0.7
baz=83
I22A 9 Mile Ranch, 83.22 42 ⇓P P 08 28 37.7 +0.2
baz=83,SNR=11
BAR Barrett 83.22 56 *e*P P 08 28 38.5 +0.9
VOIR 83.23 320 ⇑*iP* P 08 28 38.2 +0.8
E25A Miller Ranch, 83.28 39 ⇓P P 08 28 38.0 +0.4
baz=83,SNR=8.2
MONP Monument Peak, 83.28 55 ⇑P P 08 28 38.6 +0.5
baz=83,SNR=5.9
PPT Papeete 83.29 115 LR LR 08 58 27.7
comp=Z,41nm,21.9s,baz=184,slow=30
A28A Rude Farm, Bot 83.30 35 ⇑P P 08 28 38.1 +0.4
baz=83
D26A Manning 83.44 38 ⇑P P 08 28 39.0 +0.5
baz=83
IRM Iron Mountain 83.46 54 ⇓P P 08 28 39.5 +0.7
baz=83,SNR=7.9
C27A Sayler Ranch, 83.48 37 ⇑P P 08 28 39.1 +0.5
baz=83
ARR Arges 83.50 320 ⇑*iP* P 08 28 40.4 +1.6
J22A Midwest 83.52 42 ⇓P P 08 28 39.6 +0.5
baz=83,SNR=12
BC3 Big Chuckawall 83.54 54 ⇓P P 08 28 40.0 +0.7
baz=84,SNR=16
K21A Alcova 83.55 43 ⇑P P 08 28 39.7 +0.3
baz=83,SNR=14
DRGR 83.61 322 ⇑*iP* P 08 28 40.0 +0.6
F25A Bowman 83.62 39 ⇑P P 08 28 39.8 +0.4
baz=84
KECS Kecovo 83.63 324 *e*P P 08 28 39.6 +0.3
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 83.63 324 *e*P P 08 28 39.6 +0.3
SRU San Rafael Swe 83.68 48 *e*P P 08 28 40.9 +0.9
SRU San Rafael Swe 83.68 48 *e*P P 08 28 40.9 +0.9
I23A Meade Ranch, G 83.76 41 ⇑P P 08 28 40.6 +0.3
baz=84
H24A Dirks Ranch, A 83.77 40 ⇑P P 08 28 40.2 0.0
baz=84
E26A Carlson Angus 83.79 38 ⇓P P 08 28 40.5 +0.2
baz=84,SNR=5.9
W13A Hualapai Mount 83.80 52 ⇑P P 08 28 40.9 +0.2
baz=84,SNR=5.3
A29A Manning Farm, 83.80 35 ⇑P P 08 28 40.8 +0.5
baz=84
OKC Ostrava-Krasne 83.84 326 *e*P P 08 28 41.7 +1.3
OKC *e**PP **pP** 08 29 08.2 +0.5
OKC Ostrava-Krasne 83.84 326 *e*P P 08 28 41.7 +1.3
OKC *epP* **pP** 08 29 08.2 +0.5
D27A Center 83.86 37 ⇑P P 08 28 41.1 +0.5
baz=84
K22A Casper 83.97 43 ⇑P P 08 28 41.9 +0.5
baz=84
KSP Ksiaz 83.99 328 ⇓*eP* P 08 28 42.0 +0.9
KSP *e**PP **pP** 08 29 08.5 0.0
KSP Ksiaz 83.99 328 *eP* P 08 28 42.0 +0.9
KSP *e* 08 29 08.6
N20A Spence Gulch, 84.05 45 ⇓P P 08 28 42.9 +0.9
baz=84,SNR=20
PDMCI Parker Dam,Lak 84.08 53 ⇑P P 08 28 42.5 +0.6
baz=84,SNR=7.8
F26A Lodgepole 84.08 39 ⇑P P 08 28 42.3 +0.5
baz=84,SNR=7.0
U15A North Rim 84.10 51 ⇑P P 08 28 43.2 +0.8
baz=84,SNR=15
G25A Newell 84.11 40 ⇑P P 08 28 41.8 -0.1
baz=84
Y12C Blythe 84.12 54 ⇑P P 08 28 42.9 +0.7
baz=84,SNR=8.4
JMB Yambol 84.22 317 ⇑*iP* P 08 28 44.2 +1.8
A30A Hoffart Farm, 84.24 34 ⇑P P 08 28 43.0 +0.5
baz=84
E27A Carson 84.29 38 ⇓P P 08 28 43.3 +0.5
baz=84,SNR=5.3
I24A Kuemmerle Ranc 84.29 41 ⇓P P 08 28 42.9 -0.1
baz=84
PSZ Piszkesteto 84.30 324 *eP* P 08 28 43.5 +0.7
PSZ Piszkesteto 84.30 324 ⇑*iP* P 08 28 43.6 +0.7
PSZ Piszkesteto 84.30 324 *eP* P 08 28 43.5 +0.7
DPC Dobruska-Polom 84.33 328 *eP* P 08 28 43.8 +0.9
DPC *e**PP **pP** 08 29 10.8 +0.5
DPC Dobruska-Polom 84.33 328 *eP* P 08 28 43.8 +0.9
DPC *epP* **pP** 08 29 10.8 +0.5
DPC Dobruska-Polom 84.33 328 *eP* P 08 28 43.7 +0.9
UPC Upice 84.36 328 *eP* P 08 28 44.0 +1.0
UPC Upice 84.36 328 *eP* P 08 28 44.0 +1.0
H25A Fruitdale 84.38 40 ⇑P P 08 28 43.9 +0.6
baz=84
L22A Ellis Ranch, M 84.40 43 ⇑P P 08 28 44.5 +0.8
baz=84
F27A Lemmon 84.42 38 ⇑P P 08 28 43.8 +0.4
baz=84,SNR=7.1
VYHS Vyhne 84.43 325 *eP* P 08 28 44.3 +0.9
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 84.43 325 *eP* P 08 28 44.3 +0.9
CSS Prodhromos 84.45 308 *eP* P 08 28 43.5 -0.3
RSSD Black Hills 84.45 41 *eP* P 08 28 45.6 +1.7
RSSD Black Hills 84.45 41 *eP* P 08 28 45.5 +1.7
O20A White River Ci 84.48 46 ⇓P P 08 28 44.8 +0.7
baz=84,SNR=9.2
O20A White River Ci 84.48 46 *eP* P 08 28 44.7 +0.6
comp=Z,16nm,0.9s
G26A Maurine 84.48 39 ⇑P P 08 28 44.3 +0.5
baz=84,SNR=7.7
GZR Gura Zlata 84.48 321 ⇑*iP* P 08 28 44.3 +0.5
B30A Myrvik Farm, E 84.56 35 ⇓P P 08 28 44.6 +0.5
baz=84
I25A Rochford 84.69 41 ⇑P P 08 28 45.4 +0.3
baz=85
M22A Cedar Creek Ra 84.69 44 ⇓P P 08 28 45.8 +0.6
baz=85,SNR=6.0
L23A Garrett 84.78 43 ⇓P P 08 28 45.7 +0.2
baz=85,SNR=6.8
G27A Dupree 84.79 39 ⇓P P 08 28 45.7 +0.4
baz=85,SNR=9.1
H26A Fairpoint 84.83 40 ⇑P P 08 28 46.0 +0.5
baz=85
VRAC Vranov 84.94 327 ⇑*iP* P 08 28 46.3 +0.4
BZS Buzias 84.95 322 ⇑*iP* P 08 28 46.3 +0.2
PVCC Panska Ves 84.99 329 *eP* P 08 28 47.0 +0.8
PVCC Panska Ves 84.99 329 *eP* P 08 28 47.0 +0.8
BRG Berggiesshubel 85.02 329 *eP* P 08 28 47.0 +0.7
comp=Z,9.7nm,0.7s
BRG *epP* **pP** 08 29 13.0 -0.7
comp=Z,11nm,0.9s
BRG S **S** 08 39 05.0 -1.6
BRG Berggiesshubel 85.02 329 *eP* P 08 28 47.0 +0.7

BRG e*PP pP 08 29 13.0 -0.7
BRG S S 08 39 05.0 -1.6
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG pmax pmax
comp=Z,11nm,0.9s
Y14A Wickenburg 85.06 53 ⇑P P 08 28 47.7 +0.7
baz=85,SNR=13
F28A McLaughlin 85.07 38 ⇓P P 08 28 47.3 +0.6
baz=85
CLL Collm 85.11 330 ⇓*i*P P 08 28 46.8 +0.1
CLL *i* *PP pP 08 29 13.4 -0.7
CLL pmax pmax
comp=Z,27nm,1.1s
CLL Collm 85.11 330 ⇓*i*P P 08 28 46.8 +0.1
comp=Z,27nm,1.1s
CLL *i* pP pP 08 29 13.4 -0.7
CLL Collm 85.11 330 *e*P P 08 28 46.5 -0.2
N22A Wattenberg Ran 85.15 44 ⇓P P 08 28 48.3 +0.7
baz=85,SNR=6.4
I26A New Underwood 85.16 40 ⇑P P 08 28 47.7 +0.5
baz=85
M23A Laramie 85.17 43 ⇑P P 08 28 48.2 +0.7
baz=85
H27A Howes 85.20 39 ⇑P P 08 28 48.0 +0.6
baz=85,SNR=7.0
113A Mohawk Valley, 85.20 54 ⇓P P 08 28 48.3 +0.7
baz=85,SNR=12
WUAZ Wupatki 85.24 51 ⇑P P 08 28 48.7 +0.8
baz=85,SNR=8.1
WUAZ Wupatki 85.24 51 *e*P P 08 28 49.0 +1.1
L24A Wheatland 85.27 43 ⇓P P 08 28 48.4 +0.5
baz=85
GOPC GO Pecny, Ondr 85.33 328 *e*P P 08 28 48.4 +0.5
PRA Prague 85.38 328 *e*P P 08 28 48.4 +0.3
PRU Pruhonice 85.39 328 *e*P P 08 28 48.6 +0.4
PRU *e**PP pP 08 29 15.6 0.0
PRU Pruhonice 85.39 328 *e*P P 08 28 48.6 +0.4
PRU *e*pP pP 08 29 15.6 0.0
N23A Red Feather La 85.39 44 ⇓P P 08 28 49.7 +1.0
baz=85,SNR=9.1
N23A Red Feather La 85.39 44 *e*P P 08 28 50.0 +1.3
PHWY Pilot Hill 85.43 44 *e*P P 08 28 49.9 +1.0
Z14A Wintersburg 85.43 53 ⇑P P 08 28 49.4 +0.7
baz=85
PV01 Paradox Valley 85.49 47 *e*P P 08 28 49.7 +0.4
comp=Z,515nm,0.6s
O22A Kremmling 85.49 45 ⇑P P 08 28 49.8 +0.6
baz=85,SNR=12
J26A Sides Ranch, S 85.51 41 ⇑P P 08 28 49.5 +0.5
baz=85
G28A Parade 85.53 38 ⇓P P 08 28 49.6 +0.6
baz=85
I27A Quinn 85.58 40 ⇑P P 08 28 49.8 +0.5
baz=85,SNR=7.2
F29A Eureka 85.59 37 ⇑P P 08 28 49.9 +0.6
baz=85
M24A Cheyenne 85.69 43 ⇑P P 08 28 51.3 +1.2
baz=86,SNR=7.4
P22A Eagle 85.71 45 ⇑P P 08 28 51.5 +1.2
baz=86,SNR=19
H28A Mission Ridge 85.73 39 ⇑P P 08 28 50.5 +0.5
baz=86
L25A Engebretsen Ra 85.75 42 ⇓P P 08 28 50.9 +0.6
baz=86
X16A Lo Mia Camp, P 85.83 52 ⇓P P 08 28 51.6 +0.7
baz=86,SNR=10.0
O23A Lake Granby, G 85.84 45 ⇑P P 08 28 51.8 +0.8
baz=86,SNR=7.7
SMCO Snowmass 85.84 46 *e*P P 08 28 52.1 +0.9
N24A Carr 86.06 44 ⇑P P 08 28 52.8 +0.8
baz=86,SNR=5.2
PKSM Moragy 86.09 324 ⇑*i*P P 08 28 51.7 0.0
MVCO Mesa Verde 86.09 48 ⇓P P 08 28 52.2 -0.1
baz=86
MVCO Mesa Verde 86.09 48 *e*P P 08 28 52.9 +0.7
I28A Midland 86.10 39 ⇓P P 08 28 52.1 +0.2
baz=86,SNR=10
J27A Elkhorn Farm, 86.14 40 ⇓P P 08 28 52.6 +0.4
baz=86
H29A Onida 86.20 38 ⇓P P 08 28 52.7 +0.4
baz=86
CONA Conrad Observa 86.25 326 ⇑*i*PcP P 08 28 53.1 +0.5
comp=Z,15nm,1.7s
ISCO Idaho Springs 86.28 45 *e*P P 08 28 54.5 +1.3
ISCO *e**PP pP 08 29 22.4 +1.8
ISCO Idaho Springs 86.28 45 ⇓P P 08 28 54.1 +0.9
baz=86
ISCO Idaho Springs 86.28 45 *e*P P 08 28 54.5 +1.3
ISCO *e*pP pP 08 29 22.4 +1.8
214A Organ Pipe Nat 86.33 55 ⇓P P 08 28 54.0 +0.8
baz=86
K27A Flueckinger Fa 86.37 41 ⇓P P 08 28 53.6 +0.3
baz=86
O24A Longmont 86.40 44 ⇓P P 08 28 54.9 +1.4
baz=86
P23A Jefferson 86.41 45 ⇑P P 08 28 55.4 +1.5
baz=86
G30A Faulkton 86.42 38 ⇑P P 08 28 53.9 +0.5
baz=86
KHC Kasperske Hory 86.44 328 *e*P P 08 28 53.3 -0.1
KHC *e**PP pP 08 29 21.8 +0.9
KHC Kasperske Hory 86.44 328 *e*P P 08 28 53.3 -0.1
KHC *e*pP pP 08 29 21.8 +0.9
KHC Kasperske Hory 86.44 328 *e*P P 08 28 53.4 0.0
J28A Allard Ranch, 86.45 40 ⇑P P 08 28 53.9 +0.3
baz=86,SNR=5.4
I29A Vivian Onida 86.55 39 ⇑P P 08 28 54.3 +0.2
baz=86
GERES GERESS Array B 86.60 328 P P 08 28 54.2 -0.1
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,28nm,18.1s
GERES GERESS Array B 86.60 328 P P 08 28 54.2 -0.1
comp=Z,3.9nm,0.9s,baz=51,slow=5.3,SNR=9.2
GERES LR LR 09 10 56.1
comp=Z,28nm,18.1s,baz=74,slow=38
X18A Snowflake 86.76 51 ⇓P P 08 28 56.3 +0.8
baz=87
S22A 4UR Ranch, Cre 86.81 47 ⇑P P 08 28 57.1 +1.3
baz=87
K28A Ten Mile Ranch 86.85 40 ⇑P P 08 28 55.9 +0.3
baz=87
P24A Kohler Place, 86.88 45 ⇓P P 08 28 57.0 +1.1
baz=87
J29A Okreek 86.95 39 ⇓P P 08 28 56.5 +0.5
baz=87
O25A Wiggins 86.97 44 ⇓P P 08 28 56.9 +0.6
baz=87
BRSD Miller 86.98 38 ⇓P P 08 28 56.0 -0.1
baz=87
Q24A Divide 87.08 45 ⇓P P 08 28 58.3 +1.2
baz=87
I30A Oacoma 87.09 39 ⇓P P 08 28 57.3 +0.6
baz=87
R23A Moffat 87.16 46 ⇓P P 08 28 58.7 +1.2
baz=87
P25A Willow Gulch B 87.32 44 ⇓P P 08 28 58.9 +0.8
baz=87
K29A Lazy Trails An 87.39 40 ⇑P P 08 28 58.9 +0.7
baz=87
N27A Anderson Farm, 87.44 42 ⇑P P 08 28 59.0 +0.5
baz=87
J30A Dallas 87.46 39 ⇑P P 08 28 58.4 0.0
baz=87,SNR=5.3
TUC Tucson 87.52 53 *e*P P 08 29 00.7 +1.7
TUC Tucson 87.52 53 *e*P P 08 29 00.7 +1.7
SOKA Soboth 87.54 326 ⇓*i*PcP P 08 28 58.7 -0.2
comp=Z,6.1nm,1.1s
R24A Sanders Place, 87.57 46 ⇑P P 08 29 00.6 +1.3
baz=88
SDCO Great Sand Dun 87.64 46 ⇑P P 08 29 00.3 +0.6
baz=88
SDCO Great Sand Dun 87.64 46 *e*P P 08 29 00.9 +1.1
Q25A Bedland, Calha 87.66 45 ⇑P P 08 29 00.1 +0.4
baz=88
L29A Maesberg Ranch 87.77 40 ⇓P P 08 28 59.7 -0.3
baz=88
O27A Beecher Island 87.88 43 ⇓P P 08 29 01.9 +1.3
baz=88
S24A Houchin Ranch, 87.88 46 ⇓P P 08 29 02.0 +1.0
baz=88
KBA Koelnbreinsper 88.05 327 ⇓*i*PcP P 08 29 01.8 +0.4
comp=Z,3.4nm,0.8s
M29A Burnside Ranch 88.07 41 ⇓P P 08 29 01.5 0.0
baz=88
Q26A Hugo 88.09 44 ⇑P P 08 29 02.2 +0.5
baz=88
N28A Pribbeno Ranch 88.09 42 ⇑P P 08 29 02.0 +0.4
baz=88
R25A Fountain Ranch 88.12 45 ⇓P P 08 29 02.4 +0.5
baz=88
P27A Ficken Ranch, 88.23 43 ⇑P P 08 29 02.8 +0.5
baz=88
VISS Visnje 88.26 325 *e*P P 08 29 01.9 -0.3
BOJS Bojanci 88.28 325 *i* P P 08 29 01.9 -0.3
O28A Krutsinger Ran 88.33 43 ⇓P P 08 29 03.6 +0.9
baz=88
S25A Robets Cordova 88.34 46 ⇑P P 08 29 04.0 +1.0
baz=88
N29A Votaw Ranch, W 88.52 41 ⇑P P 08 29 04.0 +0.4
baz=88
R26A Arlington 88.53 45 ⇓P P 08 29 04.1 +0.4
baz=88
KSCO Kaye Shedlock' 88.56 44 ⇑P P 08 29 04.2 +0.4
baz=88
JAVS Javornik 88.57 326 *e*P P 08 29 01.8 -2.0
L31A Butterfield Fa 88.59 40 ⇓P P 08 29 04.3 +0.4
baz=88
ABTA Abfaltersbach 88.68 327 ⇑*i*PcP P 08 29 03.7 -0.6
comp=Z,5.4nm,0.7s
T25A Trinidad 88.69 46 ⇓P P 08 29 05.1 +0.4
baz=89
T25A Trinidad 88.69 46 *e*P P 08 29 05.8 +1.2
P28A Saint Francis 88.70 43 ⇓P P 08 29 04.4 -0.1
baz=89
ANMO Albuquerque 88.79 49 *e*P P 08 29 05.3 +0.2
ANMO Albuquerque 88.79 49 *e*P P 08 29 05.3 +0.2
O29A 4D Ranch, Culb 88.89 42 ⇑P P 08 29 06.0 +0.7
baz=89
R27A Eads 88.93 45 ⇓P P 08 29 05.8 +0.1
baz=89
S26A Kim 88.95 45 ⇓P P 08 29 06.1 +0.4
baz=89
Q28A Shron Springs 88.99 43 ⇓P P 08 29 05.5 -0.4
baz=89
Y22D IRIS PASSCAL I 89.03 50 ⇓P P 08 29 06.9 +0.6
baz=89
M31A Lambtecht Ranc 89.08 40 ⇑P P 08 29 05.6 -0.6
baz=89
319A Douglas 89.10 53 ⇓P P 08 29 07.5 +1.0
baz=89
U25A Circle Dot Ran 89.16 47 ⇓P P 08 29 07.4 +0.5
baz=89
O30A MW Ranch, Wils 89.27 42 ⇑P P 08 29 07.3 +0.2
baz=89
FETA Feichten 89.29 328 ⇑*i*PcP P 08 29 07.1 -0.1
comp=Z,7.1nm,0.9s
BFO Black Forest 89.34 330 *ce*P P 08 29 08.3 +1.1
121A Cookes Peak, D 89.41 52 ⇑P P 08 29 08.9 +0.9
baz=89
DAVA Damuels 89.47 329 ⇑*i*PcP P 08 29 08.4 +0.4
comp=Z,12nm,0.8s
R28A Tribune 89.48 44 ⇑P P 08 29 08.8 +0.6
baz=89
BGNE Belgrade 89.49 40 ⇓P P 08 29 07.9 -0.2
baz=89
SPMN Marine on St. 89.52 34 ⇑P P 08 29 08.5 +0.4
baz=89
U26A Atchley Ranch, 89.58 46 ⇓P P 08 29 09.8 +1.0
baz=90
P30A Selden 89.59 42 ⇓P P 08 29 08.7 0.0
baz=90
Q29A Oakley 89.60 43 ⇑P P 08 29 08.5 -0.2
baz=90
O31A Woolen Ranch, 89.70 41 ⇑P P 08 29 08.8 -0.3
baz=90
CDF Champ du Feu 89.72 331 *e*P P 08 29 08.8 -0.3
CDF Champ du Feu 89.72 331 *e*P P 08 29 08.8 -0.3
CDF Champ du Feu 89.72 331 *e*P P 08 29 08.8 -0.3
FUORN Ofenpass-Fuorn 89.80 328 *e*P P 08 29 10.1 +0.4
R29A Marienthal 89.82 44 ⇑P P 08 29 10.3 +0.5
baz=90
V26A Tequesquite Ra 89.94 47 ⇑P P 08 29 10.9 +0.5
baz=90
P31A Stockton 90.10 42 ⇓P P 08 29 11.4 +0.4
baz=90
U27A Thompson Grove 90.13 46 ⇑P P 08 29 11.9 +0.6
baz=90
TUE Stuetta 90.33 328 *e*P P 08 29 12.0 -0.1
HINF Hinteralfeld 90.36 331 *e*P P 08 29 11.4 -0.6
HINF Hinteralfeld 90.36 331 *e*P P 08 29 11.4 -0.6
HINF Hinteralfeld 90.36 331 *e*P P 08 29 11.4 -0.6
R30A Dighton 90.42 43 ⇑P P 08 29 12.9 +0.4
baz=90
HAU Haudompre 90.42 331 *e*P P 08 29 13.1 +0.8
HAU *e*R
comp=Z,31nm,18.0s
HAU Haudompre 90.42 331 *e*P P 08 29 13.1 +0.8
HAU Haudompre 90.42 331 *e*P P 08 29 13.1 +0.8
P32A Huiting Farm, 90.47 41 ⇑P P 08 29 12.6 -0.1
baz=90
V27A Dan Oppiter Fa 90.55 46 ⇓P P 08 29 13.9 +0.6
baz=90
SCHQ Schefferville 90.66 15 P P 08 29 13.7 +0.5
comp=Z,1.8nm,0.7s,baz=292,slow=7.8,SNR=8.4
S30A Montezuma 90.74 44 ⇓P P 08 29 14.2 +0.1
baz=91
SFTF Sexfontaines 90.80 332 *e*P P 08 29 13.8 -0.2
SFTF Sexfontaines 90.80 332 *e*P P 08 29 13.8 -0.2
R31A Burdett 90.85 43 ⇓P P 08 29 14.7 +0.2
baz=91
V29A Stinnett 91.28 46 ⇓P P 08 29 17.5 +0.9
baz=91
S31A Mullinville 91.33 43 ⇓P P 08 29 16.9 +0.2
baz=91
Q33A Connelly Farm, 91.33 41 ⇑P P 08 29 16.5 -0.2
baz=91
MNTX Cornudas Mount 91.52 51 ⇑P P 08 29 18.2 +0.5
baz=91
MNTX Cornudas Mount 91.52 51 *e*P P 08 29 18.7 +1.0
T31A Randall Ranch, 91.57 44 ⇓P P 08 29 18.3 +0.4
baz=92
S32A Newby Ranch, P 91.59 43 ⇑P P 08 29 18.2 +0.3
baz=92
CABF La Chapelle 91.63 330 *e*P P 08 29 17.7 -0.3
comp=Z,9.1nm,0.8s
CABF La Chapelle 91.63 330 *e*P P 08 29 17.7 -0.3
CABF pmax pmax
comp=Z,9.0nm,0.8s
CABF La Chapelle 91.63 330 *e*P P 08 29 17.7 -0.3
comp=Z,9.1nm,0.8s
R33A Olander Ranch, 91.72 42 ⇑P P 08 29 18.3 -0.2
baz=92
X28A Dimmitt 91.75 47 ⇓P P 08 29 19.1 +0.2
baz=92
GDL2 Guadalupe Moun 91.87 50 *e*P P 08 29 20.6 +1.2
T32A Huddler Ranch, 91.95 43 ⇑P P 08 29 19.9 +0.3
baz=92
LOR Lormes 92.03 332 *e*P P 08 29 19.5 -0.2
comp=Z,20nm,1.0s
LOR *e*R
comp=Z,46nm,21.0s
LOR Lormes 92.03 332 *e*P P 08 29 19.5 -0.2
LOR pmax pmax
comp=Z,21nm,1.0s
LOR Lormes 92.03 332 *e*P P 08 29 19.5 -0.2
comp=Z,20nm,1.0s
X29A Tulia 92.11 47 ⇑P P 08 29 21.3 +0.9
baz=92
Y28A McKinney Farm, 92.12 48 ⇓P P 08 29 20.9 +0.4
baz=92
S33A Kaszmaul Farm, 92.20 42 ⇓P P 08 29 21.3 +0.5
baz=92
LPL La Plagne 92.22 329 *e*P P 08 29 20.7 -0.2
comp=Z,15nm,0.7s
LPL La Plagne 92.22 329 *e*P P 08 29 20.7 -0.2
LPL pmax pmax
comp=Z,15nm,0.7s
LPL La Plagne 92.22 329 *e*P P 08 29 20.7 -0.2
comp=Z,15nm,0.7s
LPG La Plagne 92.23 329 *e*P P 08 29 20.9 -0.1
comp=Z,20nm,0.6s
LPG La Plagne 92.23 329 *e*P P 08 29 20.9 -0.1
LPG pmax pmax
comp=Z,20nm,0.6s
LPG La Plagne 92.23 329 *e*P P 08 29 20.9 -0.1
comp=Z,20nm,0.6s
SSF Saint Saulge 92.33 332 *e*P P 08 29 21.0 -0.1
comp=Z,22nm,0.9s
SSF Saint Saulge 92.33 332 *e*P P 08 29 21.0 -0.1
SSF pmax pmax
comp=Z,22nm,0.9s
SSF Saint Saulge 92.33 332 *e*P P 08 29 21.0 -0.1
comp=Z,22nm,0.9s
V31A Spring Creek L 92.36 45 ⇑P P 08 29 22.2 +0.6
baz=92
T33A Patterson Ranc 92.42 43 ⇓P P 08 29 21.9 +0.2
baz=92
FLN La Foliniere 92.44 335 *e*P P 08 29 21.3 -0.2
comp=Z,72nm,1.3s
FLN *e*R
comp=Z,57nm,22.0s
FLN La Foliniere 92.44 335 *e*P P 08 29 21.3 -0.2
FLN pmax pmax
comp=Z,72nm,1.3s
FLN La Foliniere 92.44 335 *e*P P 08 29 21.3 -0.2
comp=Z,72nm,1.3s
Z28A Tucker Farm, M 92.44 48 ⇑P P 08 29 22.9 +0.9
baz=92
LDF La Druitiere 92.45 335 *e*P P 08 29 21.4 -0.2
LDF *e*pP pP 08 29 49.3 0.0
LDF La Druitiere 92.45 335 *e*P P 08 29 21.4 -0.2
LDF *e**PP pP 08 29 49.3 0.0
LDF La Druitiere 92.45 335 *e*P P 08 29 21.4 -0.2
LDF *e*pP pP 08 29 49.3 0.0
U32A Winter Ranch, 92.45 44 ⇑P P 08 29 22.6 +0.7
baz=92
Y29A Porterfield Fa 92.52 47 ⇓P P 08 29 23.0 +0.6
baz=92
SMF Signal de Mont 92.54 332 *e*P P 08 29 21.8 -0.3
comp=Z,31nm,1.2s
SMF Signal de Mont 92.54 332 *e*P P 08 29 21.8 -0.3
SMF pmax pmax
comp=Z,31nm,1.2s
SMF Signal de Mont 92.54 332 *e*P P 08 29 21.8 -0.3
comp=Z,31nm,1.2s
AVF Avril sur Loir 92.61 332 *e*P P 08 29 22.3 -0.1
comp=Z,23nm,0.7s
AVF *e*pP pP 08 29 49.3 -0.8
AVF Avril sur Loir 92.61 332 *e*P P 08 29 22.3 -0.1
AVF *e**PP pP 08 29 49.3 -0.8
AVF pmax pmax
comp=Z,23nm,0.7s
AVF Avril sur Loir 92.61 332 *e*P P 08 29 22.3 -0.1
comp=Z,23nm,0.7s
AVF *e*pP pP 08 29 49.3 -0.8
X30A Coker Ranch, T 92.62 46 ⇓P P 08 29 23.3 +0.5
baz=92
S34A Willow Spring 92.64 42 ⇓P P 08 29 23.4 +0.7
baz=92
W31A Holland Ranch, 92.70 45 ⇓P P 08 29 23.7 +0.7
baz=93,SNR=5.8
128A Castleberry Fa 92.81 49 ⇑P P 08 29 24.1 +0.4
baz=93
V32A Arapaho 92.88 44 ⇑P P 08 29 24.9 +1.0
baz=93
GRR Gorron 92.89 335 *e*P P 08 29 23.2 -0.4
comp=Z,37nm,1.0s
GRR Gorron 92.89 335 *e*P P 08 29 23.2 -0.4
GRR pmax pmax
comp=Z,37nm,1.0s
GRR Gorron 92.89 335 *e*P P 08 29 23.2 -0.4
comp=Z,37nm,1.0s
Z29A Hungry Hill Ra 92.89 48 ⇑P P 08 29 24.7 +0.6
baz=93
U33A Lingo Farm, Me 92.94 43 ⇓P P 08 29 24.7 +0.5
baz=93
X31A McDonald Ranch 93.05 46 ⇑P P 08 29 24.8 0.0
baz=93,SNR=9.0
ORIF Oris-en-Rattie 93.06 329 *e*P P 08 29 24.3 -0.3
ORIF *e*R
comp=Z,46nm,21.0s
ORIF Oris-en-Rattie 93.06 329 *e*P P 08 29 24.3 -0.3
ORIF Oris-en-Rattie 93.06 329 *e*P P 08 29 24.3 -0.3
228A UT Block 9, Go 93.07 49 ⇓P P 08 29 24.7 -0.2
baz=93
S35A Otter Creek Ra 93.10 41 ⇑P P 08 29 25.4 +0.5
baz=93
R36A Gordon, Harris 93.10 41 ⇑P P 08 29 24.9 0.0
baz=93
W32A Sentinel 93.16 45 ⇑P P 08 29 26.0 +0.8
baz=93
SBF Sospel 93.20 328 *e*P P 08 29 24.0 -1.3
comp=Z,21nm,0.8s
SBF Sospel 93.20 328 *e*P P 08 29 24.0 -1.3
SBF pmax pmax
comp=Z,21nm,0.8s
SBF Sospel 93.20 328 *e*P P 08 29 24.0 -1.3
comp=Z,21nm,0.8s
Z30A Sanderson Ranc 93.23 47 ⇑P P 08 29 25.9 +0.3
baz=93
V33A Lossen Ranch, 93.26 44 ⇓P P 08 29 25.9 +0.3
baz=93
U34A Anderson Ranch 93.27 43 ⇓P P 08 29 26.0 +0.3
baz=93
Y31A Rekieta Farm, 93.32 46 ⇓P P 08 29 26.2 +0.2
baz=93
S36A Lake Cedric, C 93.48 41 ⇑P P 08 29 26.6 0.0
baz=93
TCF Toulx Ste Croi 93.48 332 *e*P P 08 29 26.5 0.0
comp=Z,29nm,1.1s
TCF Toulx Ste Croi 93.48 332 *e*P P 08 29 26.5 0.0
TCF pmax pmax
comp=Z,29nm,1.1s
TCF Toulx Ste Croi 93.48 332 *e*P P 08 29 26.5 0.0
comp=Z,29nm,1.1s
R37A Teagarden Farm 93.48 40 ⇑P P 08 29 26.4 -0.2
baz=93
PGF Pioggiola 93.49 326 *e*P P 08 29 25.5 -1.2
comp=Z,24nm,1.1s
PGF Pioggiola 93.49 326 *e*P P 08 29 25.5 -1.2
PGF pmax pmax
comp=Z,24nm,1.1s
PGF Pioggiola 93.49 326 *e*P P 08 29 25.5 -1.2
comp=Z,24nm,1.1s
W33A Caddo, Fort Co 93.61 45 ⇓P P 08 29 28.0 +0.8
baz=94
X32A Elmer 93.61 45 ⇑P P 08 29 27.6 +0.3
baz=94
VIVF Saint-Julien-l 93.63 330 *e*P P 08 29 26.9 -0.3
comp=Z,24nm,1.0s
VIVF *e*pP pP 08 29 53.8 -1.1
VIVF Saint-Julien-l 93.63 330 *e*P P 08 29 26.9 -0.3
VIVF *e**PP pP 08 29 53.8 -1.1
VIVF pmax pmax
comp=Z,24nm,1.0s
VIVF Saint-Julien-l 93.63 330 *e*P P 08 29 26.9 -0.3
comp=Z,24nm,1.0s
VIVF *e*pP pP 08 29 53.8 -1.1
229A Bryant Ranch, 93.67 49 ⇑P P 08 29 28.3 +0.6
baz=94
V34A Guthrie 93.70 43 ⇑P P 08 29 27.9 +0.3
baz=94
ROSF Rostrenen 93.78 337 *e*P P 08 29 28.0 +0.3
ROSF Rostrenen 93.78 337 *e*P P 08 29 28.0 +0.3
ROSF Rostrenen 93.78 337 *e*P P 08 29 28.0 +0.3
130A Snyder 93.79 48 ⇑P P 08 29 28.5 +0.3
baz=94
Y32A R-V Farms, Ver 93.80 46 ⇑P P 08 29 28.3 +0.2
baz=94,SNR=5.4
Z31A Sharp Cattle R 93.83 47 ⇓P P 08 29 28.4 0.0
baz=94,SNR=5.1
329A Wagon Wheel Ra 93.88 49 ⇓P P 08 29 28.9 +0.3
baz=94,SNR=7.3
SMRF Simiane la Rot 93.94 329 *e*P P 08 29 28.3 -0.3
SMRF Simiane la Rot 93.94 329 *e*P P 08 29 28.3 -0.3
W34A Bridge Creek, 93.96 44 ⇓P P 08 29 29.0 +0.1
baz=94
X33A Lawton 94.00 45 ⇑P P 08 29 29.2 +0.2
baz=94
LMR La Mourre 94.03 328 *e*P P 08 29 28.2 -0.8
LMR La Mourre 94.03 328 *e*P P 08 29 28.2 -0.8
LMR La Mourre 94.03 328 *e*P P 08 29 28.2 -0.8
131A Roby 94.10 47 ⇓P P 08 29 30.3 +0.6
baz=94
MFF Saint Martin d 94.13 334 *e*P P 08 29 29.7 +0.3
comp=Z,28nm,1.0s
MFF *e*pP pP 08 29 56.7 -0.4
MFF Saint Martin d 94.13 334 *e*P P 08 29 29.7 +0.3
MFF *e**PP pP 08 29 56.7 -0.4
MFF pmax pmax
comp=Z,28nm,1.0s
MFF Saint Martin d 94.13 334 *e*P P 08 29 29.7 +0.3
comp=Z,28nm,1.0s
MFF *e*pP pP 08 29 56.7 -0.4
TXAR Lajitas Array 94.16 52 P P 08 29 31.0 +1.0
TXAR *e**PP pP 08 29 54.8 -2.9
TXAR pmax pmax

	comp=Z,13nm,0.7s								
TXAR					pmax		pmax		
	comp=Z,7.0nm,0.8s								
TXAR	**Lajitas Array**	**94.16**	**52**	P		**P**		**08 29 31.0**	**+1.0**
	comp=Z,13nm,0.7s,baz=295,slow=3.2,SNR=201								
TXAR				pP		**pP**		**08 29 54.8**	**-2.9**
	comp=Z,9.0nm,0.9s,baz=298,slow=2.8,SNR=3.0								
TXAR				LR		LR		09 05 22.2	
	comp=Z,15nm,21.8s,baz=0.0,slow=31								
230A	**Sterling City**	**94.17**	**48**	⇓P		**P**		**08 29 30.3**	**+0.4**
	baz=94								
Z32A	**Haskell**	**94.25**	**46**	⇓P		**P**		**08 29 30.5**	**+0.3**
	baz=94,SNR=9.6								
Y33A	**Hilltop Ranch,**	**94.29**	**45**	⇓P		**P**		**08 29 30.7**	**+0.3**
	baz=94								
330A	**Mertzon**	**94.45**	**49**	⇑P		**P**		**08 29 31.4**	**+0.1**
	baz=94								
429A	**Davenport Ranc**	**94.50**	**50**	⇓P		**P**		**08 29 31.6**	**+0.1**
	baz=94								
RJF	**Les Rejaudoux**	**94.57**	**332**	*e*P		**P**		**08 29 31.7**	**+0.3**
RJF				*e*R					
	comp=Z,39nm,18.8s								
RJF	**Les Rejaudoux**	**94.57**	**332**	*e*P		**P**		**08 29 31.7**	**+0.3**
RJF	**Les Rejaudoux**	**94.57**	**332**	*e*P		**P**		**08 29 31.7**	**+0.3**
ABTX	**Abilene, Hawle**	**94.60**	**47**	⇑P		**P**		**08 29 32.4**	**+0.5**
	baz=94								
LASF	**Ste Croix**	**94.61**	**330**	*e*P		**P**		**08 29 31.6**	**-0.1**
	comp=Z,16nm,1.0s								
LASF	**Ste Croix**	**94.61**	**330**	*e*P		**P**		**08 29 31.6**	**-0.1**
	comp=Z,16nm,1.0s								
529A	**Stev Forest Ra**	**94.61**	**50**	⇑P		**P**		**08 29 32.8**	**+0.8**
	baz=94								
231A	**Bronte**	**94.64**	**48**	⇓P		**P**		**08 29 31.9**	**-0.2**
	baz=94								
TUL1	**Leonard**	**94.65**	**42**	⇑P		**P**		**08 29 32.1**	**+0.1**
	baz=94								
CAF	**Calviac**	**94.66**	**332**	*e*P		**P**		**08 29 32.4**	**+0.5**
	comp=Z,40nm,1.3s								
CAF	**Calviac**	**94.66**	**332**	*e*P		**P**		**08 29 32.4**	**+0.5**
CAF					pmax		pmax		
	comp=Z,40nm,1.3s								
CAF	**Calviac**	**94.66**	**332**	*e*P		**P**		**08 29 32.4**	**+0.5**
	comp=Z,40nm,1.3s								
Z33A	**Whitaker Ranch**	**94.70**	**46**	⇑P		**P**		**08 29 32.7**	**+0.4**
	baz=95								
430A	**Baggett Ranch,**	**94.82**	**49**	⇑P		**P**		**08 29 33.1**	**+0.1**
	baz=95								
Y34A	**Reagan Ranch,**	**94.85**	**45**	⇓P		**P**		**08 29 33.5**	**+0.5**
	baz=95								
331A	**San Angelo**	**94.99**	**48**	⇓P		**P**		**08 29 34.1**	**+0.4**
	baz=95								
133A	**Hamilton Ranch**	**95.07**	**47**	⇓P		**P**		**08 29 34.1**	**+0.1**
	baz=95								
232A	**Coleman**	**95.10**	**48**	⇑P		**P**		**08 29 34.5**	**+0.4**
	baz=95								
Z34A	**Collier Ranch,**	**95.16**	**45**	⇑P		**P**		**08 29 34.8**	**+0.4**
	baz=95								
530A	**J-C Ranch, Com**	**95.17**	**50**	⇓P		**P**		**08 29 35.1**	**+0.5**
	baz=95,SNR=7.7								
LFF	**La Frestale**	**95.18**	**332**	*e*P		**P**		**08 29 34.8**	**+0.6**
LFF	**La Frestale**	**95.18**	**332**	*e*P		**P**		**08 29 34.8**	**+0.6**
LFF	**La Frestale**	**95.18**	**332**	*e*P		**P**		**08 29 34.8**	**+0.6**
431A	**Sonora**	**95.29**	**49**	⇑P		**P**		**08 29 34.3**	**-0.8**
	baz=95								
332A	**Millersview**	**95.38**	**48**	⇓P		**P**		**08 29 35.4**	**0.0**
	baz=95								
233A	**Rising Star**	**95.48**	**47**	⇓P		**P**		**08 29 36.1**	**+0.2**
	baz=95								
134A	**White-Moore Ra**	**95.61**	**46**	⇑P		**P**		**08 29 37.2**	**+0.8**
	baz=96								
531A	**Rocksprings**	**95.67**	**49**	⇑P		**P**		**08 29 37.3**	**+0.5**
	baz=96								
432A	**Menard**	**95.68**	**48**	⇑P		**P**		**08 29 37.2**	**+0.3**
	baz=96								
333A	**Richland Sprin**	**95.89**	**48**	⇑P		**P**		**08 29 38.4**	**+0.6**
	baz=96								
SFIN	**Lafayette**	**95.93**	**34**	⇓P		**P**		**08 29 37.7**	**0.0**
	baz=96								
JCT	**Junction City**	**95.94**	**49**	⇑P		**P**		**08 29 38.4**	**+0.4**
	baz=96								
532A	**Rocksprings**	**96.11**	**49**	⇑P		**P**		**08 29 39.0**	**+0.2**
	baz=96								
631A	**Perdido Creek**	**96.15**	**50**	⇑P		**P**		**08 29 40.4**	**+1.4**
	baz=96								
433A	**Art**	**96.21**	**48**	⇑P		**P**		**08 29 40.3**	**+1.1**
	baz=96								
534A	**Blanco**	**97.09**	**48**	⇑P		**P**		**08 29 43.3**	**+0.1**
	baz=97								
ETSF	**Etsaut**	**97.40**	**332**	*e*P		**P**		**08 29 44.3**	**-0.1**
ETSF	**Etsaut**	**97.40**	**332**	*e*P		**P**		**08 29 44.3**	**-0.1**
ETSF	**Etsaut**	**97.40**	**332**	*e*P		**P**		**08 29 44.3**	**-0.1**
SJPF	**Ste Jean**	**97.48**	**333**	*e*P		**P**		**08 29 44.4**	**-0.3**
SJPF	**Ste Jean**	**97.48**	**333**	*e*P		**P**		**08 29 44.4**	**-0.3**
SJPF	**Ste Jean**	**97.48**	**333**	*e*P		**P**		**08 29 44.4**	**-0.3**
833A	**Chaparral WMA,**	**97.65**	**50**	⇑P		Pdif		08 29 46.2	+0.5
	baz=98								
536A	**Bastrop**	**97.95**	**47**	⇓P		Pdif		08 29 47.4	+0.3
	baz=98								
TORD	**Torodi Ar. Bea**	**120.16**	**312**	PKP		**PKPdf**		**08 35 01.5**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=31,slow=1.2,SNR=80								
TORD				pPKP		**pPKPdf**		**08 35 27.3**	**-3.4**
	comp=Z,0.5nm,0.5s,baz=22,slow=1.6,SNR=1.7								
DBIC	**Dimbokro**	**129.23**	**313**	PKIKP		**PKPdf**		**08 35 19.5**	**+0.2**
DBIC				pmax		pmax			
	comp=Z,3.0nm,0.5s								
DBIC	**Dimbokro**	**129.23**	**313**	PKP		**PKPdf**		**08 35 19.5**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=44,slow=2.6,SNR=7.1								
USHA	**Ushuaia**	**149.34**	**147**	PKPbc		**PKPbc**		**08 35 59.9**	**+1.3**
	baz=236,slow=6.3								
LPAZ	**La Paz**	**150.03**	**66**	PKIKP		**PKPbc**		**08 36 03.4**	**+1.1**
LPAZ				pmax		pmax			
	comp=Z,15nm,0.7s								
LPAZ	**La Paz**	**150.03**	**66**	PKPbc		**PKPbc**		**08 36 03.4**	**+1.1**
	comp=Z,15nm,0.7s,baz=327,slow=2.5,SNR=49								
PLCA	**Paso Flores**	**153.79**	**119**	PKIKP		**PKPbc**		**08 36 10.4**	**+1.0**
PLCA				pmax		pmax			
	comp=Z,2.0nm,0.4s								
PLCA	**Paso Flores**	**153.79**	**119**	PKPbc		**PKPbc**		**08 36 10.4**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=272,slow=1.8,SNR=6.5								

*ISK **14** 08:26:53.6, 36.70N 27.94E, h27km, MD2.4*
*DDA **14** 08:26:59.4, 37.17N 27.86E, h7km, MD2.6*
CSEM 14 08:26:56.4±0.7, 36.91N 27.84E, h10km, MD2.4, Error ellipse: s-maj=20.3km s-min=11.6km az=168.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.35**	**296**	*i* P	Pb	08 27 05.9	+1.0
BDRM				*i* S	Sb	08 27 12.3	+1.7
BDRM	**Kayabasi**	**0.35**	**296**	*i* P	Pb	08 27 05.9	+1.0
BDRM				*i* S	Sb	08 27 12.3	+1.8
YER	**Yerkesik**	**0.42**	**57**	*e*PG	Pg	08 27 04.9	+0.2
YER	**Yerkesik**	**0.42**	**57**	*e*Pg	Pg	08 27 04.9	+0.2
BODT	**Bodrum**	**0.45**	**290**	*e*Pg	Pb	08 27 06.6	0.0
BODT				*e*SG	Sb	08 27 16.1	+2.8
BODT	**Bodrum**	**0.45**	**290**	*e*Pg	Pb	08 27 06.6	+0.1
BODT				*e*Sg	Sb	08 27 16.1	+2.7
TURN	**Turunc**	**0.61**	**93**	*i* P	Pb	08 27 09.0	-0.1
TURN				*i* S	Sb	08 27 17.2	-0.6
TURN	**Turunc**	**0.61**	**93**	*i* P	Pb	08 27 09.0	-0.2
TURN				*i* S	Sb	08 27 17.2	-0.6
NIS1	**Nisyros Isl.**	**0.62**	**240**	*e*PG	Pg	08 27 06.6	-1.8
NIS1				*e*SG	Sg	08 27 16.2	-0.4
NIS1	**Nisyros Isl.**	**0.62**	**240**	*e*Pg	Pg	08 27 06.6	-1.8
NIS1				*e*Sg	Sg	08 27 16.2	-0.4
AYDN	**Tasoluk**	**0.75**	**2**	*i* P	Pg	08 27 09.8	-1.2
AYDN				*i* S	Sg	08 27 16.7	-4.1
AYDN	**Tasoluk**	**0.75**	**2**	*i* P	Pg	08 27 09.8	-1.2
AYDN				*i* S	Sg	08 27 16.7	-4.2
AYDB	**Zeytinkoy-Aydi**	**1.03**	**2**	*e*PN	Pg	08 27 15.7	-0.8
AYDB	**Zeytinkoy-Aydi**	**1.03**	**2**	*e*Pn	Pg	08 27 15.7	-0.8

IDC 14 08:29:59.0±3.1, 3.46S 151.20E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/29, mbtmp3.2/2, Error ellipse: s-maj=129.8km s-min=43.3km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**224**	P	P	08 35 08.6	+0.7
	0.4nm,0.3s,baz=50,slow=10,SNR=13						
ASAR	**Alice Springs**	**26.13**	**218**	P	P	08 35 34.7	-0.3
	0.1nm,0.4s,baz=55,slow=7.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.37**	**290**	PKPbc	PKPbc	08 49 47.5	-1.0
	0.3nm,0.5s,baz=75,slow=2.6,SNR=5.8						

*IDC **14** 09:01:12.2±1.4, 36.94S 73.76W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.7/21, mbtmp3.6/7, ML3.4/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/19, Error ellipse: s-maj=36.6km s-min=29.2km az=68.0*
*GUC **14** 09:01:12.9±0.7, 36.80S 73.99W, h17km±8km, ML3.7*
*ISCJB **14** 09:01:15.3±0.9, 36.99S±0.09 73.90W±0.10, h33km, mb3.6/5, MS3.3/2, Error ellipse: s-maj=13.1km s-min=9.1km az=152.6*
ISC 14 09:01:17.2±1.1, 36.93S±0.09 73.82W±0.10, h35km, n14, σ1§38/17, mb3.6/5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.57**	**81**	⇓*i*P	**Pn**	**09 01 27.3**	**-1.6**
CCSP				*i* S	**Sn**	**09 01 37.6**	**+0.6**
CCSP				AML	AML	09 01 44.2	
	comp=E,12μm,0.5s						
COCH	**Cobquecura**	**1.15**	**46**	⇑*i*P	**Pn**	**09 01 34.8**	**-1.9**
COCH				*i* S	**Sn**	**09 01 51.3**	**0.0**
COCH				AML	AML	09 02 02.7	
	comp=E,1μm,0.4s						
LNCH	**Linares**	**2.09**	**59**	*e*P	**Pn**	**09 01 49.3**	**-0.4**
LNCH				*e*S	**Sn**	**09 02 17.6**	**+3.1**
TALC	**Talca**	**2.34**	**50**	*e*P	**Pn**	**09 01 53.7**	**+0.6**
VLCH	**Valdivia**	**2.90**	**171**	*e*P	**Pn**	**09 01 59.1**	**-1.7**
PLCA	**Paso Flores**	**4.57**	**147**	Pn	**Pn**	**09 02 23.8**	**-0.1**
	comp=E,0.6nm,0.3s,baz=323,slow=10,SNR=24						
PLCA				Lg	Lg	09 03 36.2	
	comp=E,1.3nm,0.3s,baz=19,slow=13,SNR=4.6						
CFAA	**Coronel Fontan**	**7.04**	**43**	Pn	**Pn**	**09 02 55.9**	**-1.9**
	comp=E,0.2nm,0.3s,baz=213,slow=13,SNR=14						
CFAA				Sn	**Sn**	**09 04 15.3**	**-1.3**
	comp=E,0.1nm,0.3s,baz=228,slow=18,SNR=1.9						
LPAZ	**La Paz**	**21.17**	**15**	P	**P**	**09 06 00.9**	**+0.8**
	comp=E,3.0nm,1.0s,baz=204,slow=5.8,SNR=7.6						
SIV	**San Ignacio**	**23.73**	**32**	P	**P**	**09 06 26.1**	**0.0**
	comp=E,2.0nm,0.6s,baz=231,slow=9.6,SNR=6.7						
SIV				LR	LR	09 17 02.1	
	comp=E,48nm,20.5s,baz=226,slow=40						
TXAR	**Lajitas Array**	**71.63**	**333**	P	**P**	**09 12 35.5**	**+0.4**
	comp=E,0.3nm,0.5s,baz=156,slow=8.5,SNR=6.2						
NVAR	**Mina Array Bea**	**85.49**	**326**	P	**P**	**09 13 52.3**	**+0.9**
	comp=E,0.2nm,0.5s,baz=163,slow=7.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.56**	**71**	P	**P**	**09 13 56.5**	**-0.4**
	comp=E,0.3nm,0.6s,baz=226,slow=3.2,SNR=3.7						
MDT	**Midelt**	**94.77**	**52**	LR	LR	09 59 36.0	
	comp=E,22nm,18.7s,slow=37						
MKAR	**Makanchi Array**	**159.73**	**53**	PKPab	**PKPab**	**09 21 50.6**	**-0.3**
	comp=E,0.2nm,0.7s,baz=343,slow=4.5,SNR=3.2						

*DJA **14** 09:01:40.3±0.9, 2.1N 4.9E, h160km±6km, M4.7/8, mb4.8/2, mB5.1/1, MLv4.6/8, Mw(mB)4.4/1*
*IDC **14** 09:01:46.2±0.9, 1.51N 96.99E, h0km, mb4.1/15, mb1 4.1/16, mb1mx4.0/38, mbtmp4.1/16, ML4.1/1, MS3.6/2, Ms1 3.5/2, ms1mx2.8/46, Error ellipse: s-maj=35.2km s-min=16.2km az=52.0*
*ISCJB **14** 09:01:48.7±0.6, 1.52N±0.08 97.06E±0.09, h28km, mb4.1/16, MS3.6/2, Error ellipse: s-maj=16.5km s-min=7.1km az=140.9*
ISC 14 09:01:50.7±0.8, 1.71N±0.09 96.99E±0.09, h28km, n39, σ1§87/29, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.96**	**316**	P	**Pb**	**09 02 07.4**	**-1.3**
SNSI				S	Sn	09 02 24.8	+3.8
TPTI		**1.55**	**7**	P	**Pn**	**09 02 16.5**	**+0.1**
TPTI				S	Sb	09 02 46.1	+8.2
KCSI	**Kotacane, Aceh**	**1.96**	**24**	P	**Pn**	**09 02 24.3**	**+2.2**
KCSI				S	Sb	09 02 58.8	+9.0
MNSI	**Mandailing Nat**	**2.75**	**109**	P	Pb	09 02 43.9	+4.7
LHMI	**Lhok Sumawe**	**3.49**	**359**	P	Pn	09 02 32.5	-11
LHMI				S	**Sn**	**09 03 17.8**	**-5.8**
BKNI	**Bangkinang**	**4.28**	**109**	P	**Pb**	**09 03 05.0**	**-0.3**
PDSI	**Padang**	**4.34**	**127**	P	Pb	09 03 02.4	-4.0
	65nm,0.8s,0.3nm						
MDSI	**Maura Dua**	**9.46**	**131**	P	**Pn**	**09 04 03.7**	**-1.6**
CMAR	**Chiang Mai Arr**	**16.75**	**6**	Pn	**P**	**09 05 45.0**	**-0.5**
	0.2nm,0.3s,baz=197,slow=11,SNR=4.1						
H08S2	**Diego Garcia H**	**26.14**	**249**	T	T	09 34 23.7	
	baz=70,slow=76,SNR=1105						
H08S3	**Diego Garcia H**	**26.15**	**249**	T	T	09 34 24.9	
	baz=70,slow=76,SNR=1297						
H08S1	**Diego Garcia H**	**26.16**	**249**	T	T	09 34 26.0	
	baz=70,slow=76,SNR=2109						
ODAN	**Odare**	**26.65**	**341**	*e*P	**P**	**09 07 29.8**	**+2.3**
TAPN	**Taplejung**	**27.00**	**342**	*e*P	**P**	**09 07 33.7**	**+3.0**
	22nm,0.9s						
RAMN	**Ramite**	**27.00**	**339**	*e*P	**P**	**09 07 33.5**	**+2.8**
	11nm,0.6s						
JIRN	**Jiri**	**27.80**	**339**	*e*P	**P**	**09 07 40.7**	**+2.7**
GUN	**Gumba**	**28.13**	**339**	*e*P	**P**	**09 07 42.4**	**+1.4**
KOLN	**Koldanda**	**28.91**	**335**	*e*P	P	09 07 50.0	+2.3
	13nm,0.7s						
DANN	**Dangsing**	**29.35**	**336**	*e*P	**P**	**09 07 53.2**	**+1.5**
XAN	**Xi'an**	**34.04**	**18**	P	**P**	**09 08 32.8**	**+0.2**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
H01W3	**Cape Leeuwin H**	**39.80**	**158**	T	T	09 51 29.4	
	baz=334,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**39.81**	**158**	T	T	09 51 38.9	
	baz=334,slow=76,SNR=19						
H01W1	**Cape Leeuwin H**	**39.81**	**158**	T	T	09 51 31.8	
	baz=334,slow=76,SNR=12						
WRA	**Warramunga Arr**	**42.49**	**122**	P	**P**	**09 09 42.4**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=302,slow=9.0,SNR=7.2						
ASAR	**Alice Springs**	**43.87**	**127**	P	**P**	**09 09 53.5**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=293,slow=8.1,SNR=7.9						
AAK	**Ala-Archa**	**45.45**	**337**	P	P	09 10 10.2	+2.8
	comp=Z,1.8nm,0.9s,baz=177,slow=16,SNR=2.4						
KSRS	**Korea Array**	**45.55**	**35**	P	**P**	**09 10 08.0**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=226,slow=9.1,SNR=5.2						
KSRS				LR	LR	09 29 30.3	
	comp=Z,33nm,19.0s,baz=155,slow=36						
SONM	**Songino Array**	**46.66**	**9**	P	**P**	**09 10 18.1**	**+1.2**
	comp=Z,4.7nm,0.7s,baz=189,slow=8.5,SNR=22						
SONM				PcP	**PcP**	**09 11 50.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=195,slow=2.2,SNR=2.1						
MKAR	**Makanchi Array**	**46.70**	**346**	P	**P**	**09 10 18.6**	**+1.5**
	comp=Z,5.1nm,0.7s,baz=161,slow=8.4,SNR=39						
USRK	**Ussuriysk Ar.**	**52.44**	**31**	P	**P**	**09 11 02.2**	**+1.3**
	comp=Z,3.0nm,0.9s,baz=235,slow=5.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.02**	**351**	P	**P**	**09 11 06.6**	**+1.6**
	comp=Z,4.0nm,0.5s,baz=177,slow=7.0,SNR=20						
STKA	**Stephens Creek**	**53.86**	**132**	P	**P**	**09 11 11.1**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=312,slow=7.7,SNR=3.2						
STKA				LR	LR	09 36 35.4	
	comp=Z,91nm,19.2s,baz=206,slow=39						
BVAR	**Borovoye Array**	**55.70**	**341**	P	**P**	**09 11 24.8**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=147,slow=8.6,SNR=12						
AKTO	**Aktyubinsk**	**58.68**	**332**	P	**P**	**09 11 45.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=107,slow=7.1,SNR=4.9						
BRTR	**Keskin Array B**	**68.61**	**312**	P	**P**	**09 12 51.0**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=115,slow=9.7,SNR=3.7						
FINES	**FINESS Array B**	**79.45**	**332**	P	**P**	**09 13 54.6**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=97,slow=4.6,SNR=3.7						
ARCES	**ARCESS Array B**	**81.98**	**340**	P	**P**	**09 14 08.2**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=97,slow=7.6,SNR=3.2						
GERES	**GERESS Array B**	**84.29**	**319**	P	P	09 14 22.9	+2.6
	comp=Z,0.3nm,0.2s,baz=82,slow=2.1,SNR=2.5						
TXAR	**Lajitas Array**	**143.34**	**31**	PKP	**PKPdf**	**09 21 22.8**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=222,slow=1.2,SNR=2.6						

*ISCJB **14** 09:05:47.2±0.7, 33.21N±0.08 96.99E±0.10, h10km, mb3.5/7, MS3.0/1, Error ellipse: s-maj=13.9km s-min=8.1km az=137.2*
*IDC **14** 09:05:47.8±0.8, 33.13N 96.66E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/43, mbtmp3.5/9, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/40, Error ellipse: s-maj=54.2km s-min=16.8km az=59.0*
*BJI **14** 09:05:55.2, 32.86N 97.00E, h5km, ML3.5/5*
ISC 14 09:05:49.1±0.8, 33.11N±0.08 96.8E±0.1, h10km, n13, σ1§07/12, mb3.6/7, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**6.30**	**108**	Pn	**Pn**	09 07 26.0	+3.8
CD2				Pg	Pg	09 07 47.6	-2.3
CD2				Sn	**Sn**	**09 08 32.9**	**-1.4**
CD2				SMN			
	30nm,0.6s						
CD2				SME			
	20nm,1.4s						
GTA	**Gaotai**	**6.74**	**20**	*e*Pg	**Pg**	**09 07 57.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.72**	**172**	Pn	**Pn**	**09 09 17.3**	**-0.2**
	0.1nm,0.3s,baz=344,slow=12,SNR=9.2						
SONM	**Songino Array**	**16.40**	**23**	Pn	**P**	**09 09 44.1**	**+1.9**
	0.1nm,0.3s,baz=198,slow=8.9,SNR=2.0						
MKAR	**Makanchi Array**	**17.58**	**325**	P	**P**	**09 09 54.5**	**-0.7**
	0.1nm,0.3s,baz=141,slow=14,SNR=7.6						
KURBB	**Kurchatov Arra**	**22.06**	**328**	P	**P**	**09 10 43.0**	**-1.0**
	0.9nm,0.6s,baz=137,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**22.51**	**341**	P	**P**	**09 10 48.8**	**+0.1**
	0.8nm,0.8s,baz=155,slow=7.9,SNR=3.2						
BVAR	**Borovoye Array**	**27.46**	**324**	LR	LR	09 23 05.2	
	comp=Z,37nm,18.1s,baz=48,slow=38						
NOA	**NORSAR Array B**	**59.58**	**326**	P	**P**	**09 15 52.0**	**-0.7**
	0.3nm,0.6s,baz=63,slow=6.8,SNR=2.8						
WRA	**Warramunga Arr**	**63.79**	**140**	P	**P**	**09 16 22.2**	**+0.7**
	0.8nm,0.8s,baz=335,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**66.63**	**143**	P	**P**	**09 16 41.4**	**+1.4**
	0.8nm,0.5s,baz=328,slow=6.5,SNR=15						
YKA	**Yellowknife Ar**	**81.44**	**14**	P	**P**	**09 18 06.1**	**+0.1**
	0.1nm,0.5s,baz=338,slow=5.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**87.12**	**284**	P	**P**	**09 18 35.5**	**-0.2**
	0.4nm,0.7s,baz=53,slow=5.0,SNR=3.5						

*ISCJB **14** 09:18:57.3±0.7, 30.32S±0.08 179.2W±0.1, h200km, mb3.6/5, Error ellipse: s-maj=17.4km s-min=8.7km az=31.9*
*IDC **14** 09:18:59.0±1.2, 30.29S 178.91W, h222km±12km, mb3.5/5, mb1 3.7/6, mb1mx3.4/27, mbtmp4.0/6, Error ellipse: s-maj=28.0km s-min=20.3km az=164.0*
ISC 14 09:18:58.0±0.8, 30.45S±0.1 179.0W±0.1, h200km, n12, σ2§04/13, mb3.7/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.48**	**42**	P	**Pn**	**09 19 33.4**	**+1.8**
	217nm,0.3s,baz=281,slow=19,SNR=13						
RAO				S	**Sn**	**09 19 57.8**	**+0.3**
	302nm,0.3s,baz=78,slow=22,SNR=9.1						
URZ	**Urewera**	**8.49**	**201**	P	**Pn**	**09 20 58.1**	**+0.5**
	0.4nm,0.3s,baz=263,slow=4.0,SNR=10						
URZ				S	**Sn**	**09 22 32.5**	**-0.5**
	6.9nm,0.3s,baz=257,slow=6.3,SNR=15						
RPZ	**Rata Peaks**	**15.48**	**208**	P	P	09 22 22.5	-3.6
	0.4nm,0.3s,baz=39,slow=14,SNR=2.4						
RPZ				S	S	09 25 06.0	-12
	1.6nm,0.3s,baz=30,slow=15,SNR=6.4						
CTA	**Charters Tower**	**32.90**	**280**	P	**P**	**09 25 14.4**	**+0.9**
	4.2nm,0.6s,baz=94,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**33.61**	**257**	P	**P**	**09 25 21.4**	**+1.8**
	2.0nm,0.6s,baz=101,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**42.21**	**267**	P	**P**	**09 26 30.7**	**-0.9**
	0.6nm,0.5s,baz=105,slow=7.1,SNR=11						
ASAR				ScP	**ScP**	**09 31 48.3**	**-5.0**
	0.3nm,0.8s,baz=125,slow=4.9,SNR=4.1						
WRA	**Warramunga Arr**	**43.19**	**273**	P	**P**	**09 26 38.5**	**-0.9**
	1.1nm,0.5s,baz=111,slow=8.0,SNR=20						
VNA3	**Neumayer Olymp**	**78.40**	**177**	P	**P**	**09 30 36.6**	**+0.6**
VNA2	**Neumayer--Watz**	**78.82**	**177**	P	**P**	**09 30 39.0**	**+0.7**
	baz=178,slow=4.2						
NVAR	**Mina Array Bea**	**88.83**	**43**	P	**P**	**09 31 27.2**	**-2.3**
	0.3nm,0.7s,baz=211,slow=5.7,SNR=4.0						
FINES	**FINESS Array B**	**144.80**	**339**	PKP	PKPbc	09 38 06.9	-2.8
	2.3nm,0.3s,baz=62,slow=3.7,SNR=38						
TORD	**Torodi Ar. Bea**	**162.85**	**182**	PKPab	**PKPab**	**09 39 26.4**	**-0.4**
	1.1nm,0.5s,baz=176,slow=4.0,SNR=15						

*ISCJB **14** 10:02:02.8±0.7, 46.9N±0.1 150.7E±0.2, h166km, mb3.6/17, Error ellipse: s-maj=18.2km s-min=13.5km az=35.6*
*IDC **14** 10:02:07.8±2.2, 47.03N 150.77E, h194km±20km, mb3.3/17, mb1 3.5/20

TDD	Tadjoura Ara	0.74	261	*e*P		Pb	10 13 20.9	0.0
ATD	Arta Tunnel	0.88	244	*e*P		Pb	10 13 23.3	-0.1
ATD				*e*S		Sb	10 13 35.3	+0.1
SGH	Sud-Ghoubbet	1.11	244	*e*P		Pb	10 13 26.9	-0.4
GBR	Grand-Bara	1.39	237	*e*P		Pn	10 13 31.2	-0.3
MAOD	Malaho	1.41	277	*e*P		Pn	10 13 31.6	0.0
UDYN	Al 'Udayn	2.06	9	*i* P		Pn	10 13 40.1	-0.6
UDYN				*i* S		Sb	10 14 09.2	0.0
UDYN				AML		AML	10 14 13.8	
	comp=N,492nm,0.3s							
DHBB	Dhamar BB	2.73	15	*i* P		Pn	10 13 51.4	+1.2
DHBB				*i* S		Sb	10 14 28.3	-0.4
BDHA	Al Bayda'	2.77	42	*i* P		Pn	10 13 50.8	+0.2
BDHA				*i* S		Sb	10 14 28.7	-1.0
BDHA				AML		AML	10 14 35.6	
	comp=N,269nm,0.5s							

IDC ***14*** *10:13:21.8±0.9,51°.51N×175°.13W,h0km,mb3.5/9, mb1 3.8/10,mb1mx3.6/52,mbtmp3.5/10,ML3.9/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/48,Error ellipse: s-maj=32.7km s-min=18.4km az=151.0*

ISCJB ***14*** *10:13:27.6±0.6,51°.59N±0°.07×175°.14W±0°.05,h40km, mb3.5/8,MS3.1/1,Error ellipse: s-maj=10.5km s-min=4.3km az=178.7*

NEIC ***14*** *10:13:29.0,51°.73N×175°.24W,h23km,mb3.8/2, ML3.5(AEIC),After AEIC.*

ISC 14 10:13:28.6±0.8,51°.66N±0°.10×175°.24W±0°.04,h40km,n40, σ1963/35,mb3.6/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	Great Sitkin M	0.64	307	P	Pn	10 13 41.2	-0.1
GSTR	Great Sitkin T	0.67	311	*e*Pg	Pn	10 13 42.0	+0.3
GSTR				*e*S	Sn	10 13 51.5	+0.4
GSCK	Great Sitkin C	0.67	302	P	Pn	10 13 41.7	-0.1
GSTD	Great Sitkin T	0.69	305	P	Pn	10 13 42.0	0.0
GSTD				S	Sn	10 13 52.1	+0.5
ETKA	Kagalaska Isla	0.75	286	P	Pn	10 13 42.7	-0.1
ADAG	Mount Adagdak	0.91	291	P	Pn	10 13 45.7	+0.8
KOKL	Mount Kliuchef	0.92	44	P	Pn	10 13 45.4	+0.3
ADK	Adak	0.93	284	P	Pn	10 13 44.9	-0.2
ADK				S	Sn	10 13 58.2	+1.0
KOFP	Korovin Flat P	0.94	48	P	Pn	10 13 45.5	+0.2
KIRH	Kanaga Island	1.18	282	P	Pn	10 13 48.9	+0.2
KIKV	Kanaga Island	1.22	281	P	Pn	10 13 49.4	+0.1
TAFL	Tanaga Flats	1.66	274	P	Pn	10 13 57.0	+1.8
TAFP	Tanaga Falls P	1.72	279	P	Pn	10 13 57.2	+1.1
TAFP				S	Sn	10 14 21.1	+4.2
TASE	Tanaga Southea	1.75	277	P	Pn	10 13 58.4	+1.9
GAEA	Gareloi East	2.19	275	P	Pn	10 14 04.6	+2.1
GALAA	Gareloi Lava P	2.20	274	P	Pn	10 14 05.2	+2.5
NIKH	Nikolski High	4.13	64	P	Pn	10 14 30.4	+1.2
MREP	Makushin Rep't	5.59	64	P	Pn	10 14 51.8	+2.6
UNV	Unalaska Valle	5.74	64	P	Pn	10 14 53.9	+2.7
SPIA	Saint Paul Isl	6.25	26	P	Pn	10 15 00.1	+2.0
PETK	Petropavlovsk-comp=Z,30nm,21.5s,baz=278,slow=30	16.55	286	LR	LR	10 21 47.5	
KTH	Kantishna Hill 11nm,1.2s	17.51	38	*e*Pn	P	10 17 31.8	+1.5
ILAR	Eielson Array 0.2nm,0.3s,baz=230,slow=8.7,SNR=13	19.65	37	P	P	10 17 53.2	-0.5
COLD	Coldfoot 4.7nm,0.9s	19.90	29	*e*P	Pn	10 18 01.8	+3.6
SEY	Seymchan 2.2nm,0.8s,baz=117,slow=11,SNR=9.8	20.56	316	P	Pn	10 18 05.3	-0.7
INK	Inuvik 0.4nm,0.6s,baz=285,slow=7.7,SNR=12	25.96	34	P	P	10 18 55.9	-1.0
YKA	Yellowknife Ar 0.1nm,0.6s,baz=279,slow=7.6,SNR=4.8	33.41	47	P	P	10 20 01.8	-1.1
H11N2	WAKE ISLAND Hy baz=20,slow=76,SNR=22	34.81	210	T	T	10 57 44.1	
H11N3	WAKE ISLAND Hy baz=20,slow=76,SNR=24	34.82	210	T	T	10 57 40.7	
H11N1	WAKE ISLAND Hy baz=20,slow=76,SNR=21	34.83	210	T	T	10 57 45.3	
H11S1	WAKE ISLAND Hy baz=18,slow=74	36.02	210	T	T	10 59 12.7	
H11S2	WAKE ISLAND Hy baz=18,slow=74	36.04	210	T	T	10 59 14.8	
H11S3	WAKE ISLAND Hy baz=18	36.04	210	T	T	10 59 16.9	
PDAR	Pinedale Array 0.9nm,0.5s,baz=309,slow=3.8,SNR=12	44.09	75	P	P	10 21 33.0	+0.1
TLY	Talaya comp=Z,19nm,19.0s,baz=160,slow=36	47.77	304	LR	LR	10 42 20.6	
FRB	Frobisher Bay 1.4nm,0.9s,baz=304,slow=8.7,SNR=3.4	51.60	33	P	P	10 22 28.6	-1.8
TXAR	Lajitas Array 0.3nm,0.9s,baz=308,slow=6.2,SNR=3.4	56.41	84	P	P	10 23 04.2	-1.9
CMAR	Chiang Mai Arr 1.0nm,0.9s,baz=26,slow=6.6,SNR=3.7	73.19	279	P	P	10 24 54.6	-0.7
WRA	Warramunga Arr 0.3nm,1.0s,baz=35,slow=6.2,SNR=4.2	83.80	227	P	P	10 25 52.3	-1.3
ASAR	Alice Springs 0.5nm,0.8s,baz=32,slow=5.5,SNR=5.2	87.24	225	P	P	10 26 10.0	-0.7

CSEM ***14*** *10:24:56.0,39°.08N×23°.25E,h16km,ML1.7/4*

THE 14 10:24:56.0,39°.08N×23°.25E,h16km±1km,ML1.7/4,Error ellipse: s-maj=1.7km s-min=0.4km az=284.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	Skiathos	0.18	63	P	Pg	10 25 00.6	0.0
SKIA				S	Sg	10 25 04.0	+0.4
SKIA	Skiathos	0.18	63	P	Pg	10 25 00.6	0.0
SKIA				S	Sg	10 25 04.0	+0.4
SMIA	Simia	0.20	190	P	Pg	10 25 00.6	-0.3
SMIA				S	Sg	10 25 04.5	+0.4
SMIA	Simia	0.20	190	P	Pg	10 25 00.6	-0.3
SMIA				S	Sg	10 25 04.5	+0.4
XOR	Xorichti	0.29	350	P	Pg	10 25 02.1	-0.2
XOR				S	Sg	10 25 06.5	0.0
XOR	Xorichti	0.29	350	P	Pg	10 25 02.1	-0.2
XOR				S	Sg	10 25 06.5	0.0
MRKA	Markates	0.46	145	P	Pg	10 25 05.2	0.0
MRKA				S	Sg	10 25 11.7	+0.2
MRKA	Markates	0.46	145	P	Pg	10 25 05.2	0.0
MRKA				S	Sg	10 25 11.7	+0.2
AOS	Alonnisos	0.49	80	P	Pg	10 25 05.6	-0.3
AOS				S	Sg	10 25 12.6	0.0
AOS	Alonnisos	0.49	80	P	Pg	10 25 05.6	-0.3
AOS				S	Sg	10 25 12.6	0.0

IDC ***14*** *10:25:27.8±0.8,28°.07S×72°.38W,h0km,mb4.1/6, mb1 4.1/10,mb1mx4.0/29,mbtmp4.0/10,ML3.7/4,MS3.0/4, Ms1 3.0/4,ms1mx2.7/23,Error ellipse: s-maj=27.3km s-min=23.3km az=55.0*

ISC 14 10:25:33.6±0.9,27°.9S±0°.1×72°.2W±0°.2,h35km,n17, σ1820/18,mb3.9/6,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan 1.4nm,0.3s,baz=318,slow=12,SNR=50	5.03	138	P	Pn	10 26 46.8	+0.1
CFAA				Sn	Sn	10 27 42.9	-0.8
CFAA	1.4nm,0.3s,baz=56,slow=18,SNR=11			LR	LR	10 28 46.8	
LPAZ	comp=Z,21nm,20.8s,baz=311,slow=40 La Paz 0.1nm,0.3s,baz=197,slow=8.3,SNR=4.0	12.13	19	Pn	Pn	10 28 23.6	-0.9
PLCA	Paso Flores 0.2nm,0.3s,baz=342,slow=13,SNR=5.8	12.88	175	Pn	Pn	10 28 28.4	-5.9
PLCA				LR	LR	10 33 52.0	
SIV	comp=Z,122nm,19.1s,baz=203,slow=40 San Ignacio 0.4nm,0.3s,baz=229,slow=10,SNR=12	15.66	43	Pn	P	10 29 14.5	-1.1
BDFB	Brasilia 3.9nm,0.7s,baz=204,slow=12,SNR=4.7	25.46	66	P	P	10 30 59.9	+1.2
BDFB				LR	LR	10 42 25.9	
TXAR	comp=Z,82nm,18.8s,baz=230,slow=40 Lajitas Array 0.5nm,0.8s,baz=145,slow=5.4,SNR=4.4	64.39	330	P	P	10 36 06.0	-0.3
DBIC	Dimbokro 3.3nm,0.9s,baz=207,slow=6.4,SNR=3.0	73.40	73	P	P	10 37 03.5	+1.0
DBIC				LR	LR	11 09 36.4	
PDAR	comp=Z,18nm,18.1s,baz=152,slow=36 Pinedale Array 0.1nm,0.3s,baz=163,slow=3.5,SNR=6.6	78.28	333	P	P	10 37 31.4	+1.3
TORD	Torodi Ar. Bea	82.26	71	P	P	10 37 52.6	+0.7

	1.6nm,0.6s,baz=266,slow=4.4,SNR=17							
YKA	Yellowknife Ar 0.2nm,0.7s,baz=143,slow=4.4,SNR=7.7	96.25	342	P		P	10 38 56.6	-1.0
ASAR	Alice Springs 0.6nm,0.7s,baz=131,slow=1.6,SNR=7.4	122.92	209	PKP		PKPdf	10 44 25.1	-1.7
WRA	Warramunga Arr 1.6nm,0.8s,baz=152,slow=1.7,SNR=24	125.98	211	PKP		PKPdf	10 44 31.4	-1.3
KURBB	Kurchatov Arra 2.4nm,0.4s,baz=302,slow=3.0,SNR=7.6	148.24	36	PKPbc		PKPbc	10 45 16.4	+0.7
ZALV	Zalesovo Beam 5.2nm,0.5s,baz=290,slow=3.0,SNR=24	148.96	27	PKPbc		PKPbc	10 45 18.0	+0.6
AAK	Ala-Archa 2.7nm,0.8s,baz=230,slow=4.2,SNR=7.6	149.28	53	PKPbc		PKPbc	10 45 20.4	+1.6
MKAR	Makanchi Array 1.3nm,0.7s,baz=337,slow=2.1,SNR=14	152.47	40	PKPbc		PKPbc	10 45 26.4	+0.4
MKAR				PKPab		PKPab	10 45 34.4	-2.0
SONM	0.7nm,0.6s,baz=312,slow=1.7,SNR=5.7 Songino Array 0.1nm,0.3s,baz=307,slow=2.9,SNR=2.7	160.05	3	PKPab		PKPab	10 46 10.0	+1.1

CSEM ***14*** *10:28:37.4±0.6,51°.52N×16°.22E,h1km,ML2.8/4,Error ellipse: s-maj=9.5km s-min=6.2km az=3.0*

PRU ***14*** *10:28:38.6,51°.50N×16°.18E,h0km*

ISC 14 10:28:36.6±2.0,51°.58N±0°.08×16°.25E±0°.06,h0km,n18, σ0876/29,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	178	*e*Pg	Pg	10 28 51.2	+0.4
KSP				*e*Sg	Sg	10 29 00.3	0.0
KSP	Ksiaz	0.74	178	*e*Pg	Pg	10 28 51.2	+0.4
KSP				*e*Sg	Sg	10 29 00.3	0.0
UPC	Upice	1.08	188	*e*PG	Pg	10 28 57.5	+0.1
UPC	Upice	1.08	188	Pg	Pg	10 28 57.5	+0.1
DPC	Dobruska-Polom	1.23	178	*e*PG	Pg	10 29 00.1	-0.1
DPC				*e*SG	Sg	10 29 15.5	-0.7
DPC	Dobruska-Polom	1.23	178	Pg	Pg	10 29 00.1	-0.1
DPC				Sg	Sg	10 29 15.5	-0.7
PVCC	Panska Ves	1.50	226	*e*PG	Pg	10 29 05.3	0.0
PVCC	comp=Z,32nm,0.2s			*e*SG	Sn	10 29 24.6	-0.3
PVCC	Panska Ves 32nm,0.2s	1.50	226	Pg	Pg	10 29 05.3	0.0
PVCC				Sg	Sn	10 29 24.6	-0.3
BRG	Berggiesshubel 16nm,0.4s	1.62	245	SG	Sn	10 29 27.6	-0.3
GOPC	GO Pecny, Ondr	1.91	210	*e*PG	Pb	10 29 12.8	+0.5
GOPC	comp=Z,2.9nm,0.2s			*e*SG	Sg	10 29 36.7	-1.3
GOPC	GO Pecny, Ondr 2.9nm,0.2s	1.91	210	Pg	Pb	10 29 12.8	+0.5
GOPC				Sg	Sg	10 29 36.7	-1.3
PRU	Pruhonice comp=Z,7.8nm,0.6s	1.93	215	*e*SG	Sg	10 29 37.7	-0.8
PRU	Pruhonice 7.8nm,0.6s	1.93	215	Sg	Sg	10 29 37.7	-0.8
MORC	Moravsky Berou	1.98	155	*e*Pn	Pn	10 29 11.0	-0.5
MORC				*e*Sg	Sb	10 29 39.5	+0.7
CLL	Collm	2.05	264	*e*(Pg)	Pb	10 29 15.0	+0.2
CLL				*e*Sg	Sg	10 29 42.0	-0.5
VRAC	Vranov	2.28	174	*e*Sg	Sg	10 29 48.4	-1.6
KHC	Kasperske Hory	2.99	216	*e*PG	Pb	10 29 31.0	+0.2
KHC	comp=Z,3.1nm,0.5s			*e*SG	Sb	10 30 09.4	+1.6
KHC	Kasperske Hory 3.1nm,0.5s	2.99	216	Sg	Sb	10 30 09.4	+1.6

ISCJB ***14*** *10:40:18.6±0.8,24°.92N±0°.07×109°.14W±0°.05,h10km, mb4.2/12,MS3.5/7,Error ellipse: s-maj=10.4km s-min=6.3km az=161.9*

IDC ***14*** *10:40:19.1±1.6,25°.35N×109°.50W,h0km,mb3.0/2, mb1 3.5/5,mb1mx3.2/48,mbtmp3.1/5,ML3.5/3,MS3.6/10, Ms1 3.6/10,ms1mx3.6/11,Error ellipse: s-maj=32.3km s-min=18.1km az=130.0*

NEIC ***14*** *10:40:23.2±1.1,24°.98N×109°.43W,h10km,mb4.3/26, Error ellipse: s-maj=17.4km s-min=11.1km az=126.0*

ISC 14 10:40:21.5±1.1,25°.0N±0°.1×109°.21W±0°.08,h10km,n145, σ2914/124,mb4.2/12,MS3.4/7,47C-38D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz 13nm,0.3s,baz=32,slow=1.9,SNR=5.6	1.31	230	Pg	Pb	10 40 45.8	-0.3
LPIG				LR	LR	10 40 58.0	
319A	comp=Z,188nm,19.9s,baz=310,slow=27 Douglas baz=6.4	6.41	359	⇑P	Pn	10 41 50.1	-6.0
TXAR	Lajitas Array 0.2nm,0.3s,baz=230,slow=13,SNR=9.8	6.59	47	Pn	Pn	10 41 57.6	-1.0
TXAR	0.3nm,0.3s,baz=219,slow=21,SNR=4.8			Sn	Sn	10 43 13.5	-0.5
TXAR	0.2nm,0.3s,baz=231,slow=34,SNR=2.4			Lg	Lg	10 43 44.3	
TUC	Tucson	7.46	350	*e*Pn	Pn	10 42 08.2	-2.4
TUC				*e*Sn	Sn	10 43 22.4	-13
MNTX	Cornudas Mount baz=7.6	7.52	26	⇑P	Pn	10 42 09.6	-1.7
MNTX	Cornudas Mount	7.52	26	*e*Pg	Pg	10 42 44.6	-1.0
121A	Cookes Peak, D baz=7.7,SNR=5.8	7.66	9	⇑P	Pn	10 42 12.0	-1.3
X18A	Snowflake baz=9.6	9.57	356	⇓P	Pn	10 42 36.6	-3.0
X16A	Lo Mia Camp, P baz=9.6,SNR=6.6	9.63	349	⇓P	Pn	10 42 37.0	-3.4
128A	Castleberry Fa baz=9.8	9.65	36	⇓P	Pn	10 42 40.5	-0.2
BAR	Barrett	10.10	321	Pn	Pn	10 42 44.0	-2.7
BAR				*e*Sn	Sn	10 44 43.4	+3.2
ANMO	Albuquerque 0.1nm,0.3s,baz=219,slow=12,SNR=4.5	10.25	13	Pn	Pn	10 42 46.9	-2.0
ANMO				Lg	Lg	10 45 27.2	
ANMO	0.1nm,0.3s,baz=93,slow=17,SNR=2.4			LR	LR	10 46 10.5	
Z29A	comp=Z,149nm,19.3s,baz=198,slow=35 Hungry Hill Ra baz=11	10.56	37	⇑P	Pn	10 42 52.1	-1.0
WUAZ	Wupatki	10.70	350	*e*Pn	Pn	10 42 58.0	+3.0
W13A	Hualapai Mount baz=11,SNR=5.1	10.90	339	⇓P	Pn	10 42 53.9	-3.9
LDFC	Landfair	11.31	335	*e*Pn	Pn	10 43 04.2	+0.8
U15A	North Rim baz=12,SNR=5.7	11.74	348	⇑P	Pn	10 43 05.3	-4.1
U25A	Circle Dot Ran baz=12	12.14	19	⇓P	Pn	10 43 16.0	+1.3
MVCO	Mesa Verde baz=12	12.24	3	⇑P	Pn	10 43 16.9	+0.8
MVCO	Mesa Verde	12.24	3	*e*Pn	Pn	10 43 17.0	+0.9
U26A	Atchley Ranch, baz=12	12.34	21	⇑P	Pn	10 43 18.0	+0.6
LRMC	Laurel Mtn Rad baz=13	12.79	327	⇑P	Pn	10 43 17.0	-6.6
SDCO	Great Sand Dun	13.14	13	*e*Pn	P	10 43 34.5	-4.3
ARUT	Antelope Range 1.0nm,1.4s	13.30	345	*e*Pn	Pn	10 43 28.2	-2.3
MVU	Marysvale	13.75	350	*e*Pn	P	10 43 42.5	-3.0
SRU	San Rafael Swe	14.16	356	*e*Pn	Pn	10 43 44.1	+1.7
SMCO	Snowmass	14.31	7	*e*Pn	P	10 43 49.8	-2.1
ISCO	Idaho Springs	15.12	11	*e*P	P	10 44 02.6	+1.9
P25A	Willow Gulch B baz=15	15.13	15	⇑P	Pn	10 43 58.0	+2.5
O20A	White River Ci	15.17	3	*e*P	P	10 44 01.9	+0.7
U34A	Anderson Ranch baz=15	15.22	38	⇓P	Pn	10 43 60.0	+3.5
U34A	Anderson Ranch 44nm,1.2s	15.22	38	*e*Pn	Pn	10 43 59.4	+2.9
R30A	Dighton baz=15,SNR=15	15.31	28	⇓P	P	10 44 01.8	-0.7
O22A	Kremmling baz=15,SNR=5.2	15.34	8	⇑P	Pn	10 44 01.1	+2.7
P26A	Davis Ranch, A baz=16,SNR=5.0	15.38	17	⇑P	P	10 44 02.1	-1.4
Q28A	Sharon Springs baz=16,SNR=8.1	15.39	22	⇑P	P	10 44 02.3	-1.3
NVAR	Mina Array Bea 0.0nm,0.3s,baz=157,slow=11,SNR=6.4	15.50	332	Pn	Pn	10 43 56.8	-3.6
DUG	Dugway, Tooele baz=16,SNR=8.5	15.50	350	⇓P	Pn	10 44 01.1	+0.7
DUG	Dugway, Tooele 15nm,1.3s	15.50	350	*e*Pn	Pn	10 44 02.1	+1.8
DAU	Daniels Canyon	15.52	354	*e*Pn	Pn	10 44 02.5	+1.8
R31A	Burdett baz=16,SNR=10.0	15.64	29	⇑P	P	10 44 05.5	-0.7

N20A	Spence Gulch, baz=16	15.86	3	⇑P	Pn	10 44 04.6	-0.6
P28A	Saint Francis baz=16	15.88	22	⇓P	Pn	10 44 05.7	+0.4
Q30A	Quinter baz=16,SNR=12	15.92	26	⇑P	P	10 44 08.6	-0.8
N22A	Wattenberg Ran baz=16,SNR=5.6	15.98	8	⇑P	Pn	10 44 08.9	+2.2
O26A	Horse Wrangler baz=16	16.03	17	⇑P	Pn	10 44 09.3	+2.1
N23A	Red Feather La baz=16	16.14	9	⇑P	Pn	10 44 10.0	+1.3
CMB	Columbia Colle 13nm,1.5s	16.14	327	*e*Pn	P	10 44 11.0	-0.8
Q31A	Ellis baz=16	16.29	28	⇑P	Pn	10 44 12.6	+2.2
O28A	Krutsinger Ran baz=16	16.37	21	⇓P	P	10 44 13.8	-0.6
P30A	Selden baz=16,SNR=5.7	16.40	25	⇓P	P	10 44 14.2	-0.5
ELK	Elko 0.0nm,0.3s,baz=183,slow=8.2,SNR=13	16.54	344	Pn	Pn	10 44 14.4	+0.6
ELK	comp=Z,272nm,19.7s,baz=180,slow=37			LR	LR	10 50 20.8	
Q32A	Meitler Ranch, baz=17	16.64	30	⇑P	P	10 44 17.4	0.0
O29A	4D Ranch, Culb baz=17,SNR=5.7	16.70	23	⇑P	Pn	10 44 17.4	+1.7
P31A	Stockton baz=17	16.73	27	⇑P	P	10 44 18.6	+0.3
N27A	Anderson Farm, baz=17	16.77	18	⇑P	Pn	10 44 18.2	+1.6
S35A	Otter Creek Ra baz=17	16.79	38	⇑P	Pn	10 44 18.8	+2.0
M24A	Cheyenne baz=17	16.88	11	⇓P	Pn	10 44 18.8	+0.8
N28A	Pribbeno Ranch baz=17	16.96	20	⇓P	Pn	10 44 20.4	+1.5
Q33A	Connelly Farm, baz=17	16.99	32	⇓P	Pn	10 44 21.1	+1.8
O30A	MW Ranch, Wils baz=17	17.02	25	⇓P	P	10 44 21.8	+0.2
OGNE	Ogallala 46nm,1.5s	17.04	19	*e*P	P	10 44 22.9	+1.0
HVU	Hansel Valley 32nm,1.6s	17.05	351	*e*Pn	Pn	10 44 18.4	-1.7
P32A	Huiting Farm, baz=17	17.14	29	⇑P	P	10 44 22.9	0.0
N29A	Votaw Ranch, W baz=18	17.38	22	⇓P	P	10 44 25.8	+0.3
K21A	Alcova baz=18	17.71	5	⇑P	Pn	10 44 26.8	-1.7
BW06	Boulder Array 36nm,1.8s	17.78	359	*e*Pn	Pn	10 44 25.7	-3.6
PDAR	Pinedale Array 0.0nm,0.3s,baz=166,slow=8.0,SNR=4.2	17.78	359	P	Pn	10 44 24.1	-5.3
PDAR	comp=Z,171nm,18.8s,baz=190,slow=38			LR	LR	10 51 15.3	
K22A	Casper 11nm,1.2s	17.80	6	*e*P	P	10 44 33.2	+2.9
J20A	Shoshoni baz=18,SNR=6.8	18.38	3	⇑P	Pn	10 44 34.1	-2.6
K26A	Motz Farm, Whi baz=18	18.39	14	⇓P	Pn	10 44 34.8	-2.0
REDW	Red Top Meadow 14nm,1.5s	18.42	356	*e*P	P	10 44 43.5	+6.3
J22A	Midwest baz=19	18.56	6	⇑P	P	10 44 36.0	-2.6
FXWY	Fox Creek 22nm,2.0s	18.70	356	*e*P	P	10 44 39.1	-1.2
BGNE	Belgrade baz=19	18.82	27	⇑P	P	10 44 40.9	-0.4
BGNE	Belgrade	18.82	27	*e*Pn	Pn	10 44 47.7	+5.8
I21A	Big Trails, Te baz=19	18.89	4	⇑P	P	10 44 40.3	-1.9
IMW	Indian Meadow 8.3nm,1.2s	18.96	356	*e*P	P	10 44 41.6	-1.6
I20A	Worland baz=19,SNR=7.0	18.98	2	⇑P	P	10 44 40.4	-2.8
HLID	Hailey baz=19	19.05	348	⇑P	P	10 44 40.8	-3.3
HLID	Hailey 11nm,1.5s	19.05	348	*e*P	Pn	10 44 44.5	-0.3
WVOR	Wild Horse Val 47nm,2.0s	19.10	338	*e*Pn	Pn	10 44 46.1	+0.8
MOD	Modoc Plateau 36nm,2.1s	19.25	334	*e*P	Pn	10 44 46.6	-0.5
H17A	Grant Village 29nm,1.4s	19.43	357	*e*P	P	10 44 45.7	-2.6
KMRM	Mail Ridge 45nm,1.4s	19.48	325	*e*Pn	Pn	10 44 50.4	+0.4
J28A	Allard Ranch, baz=20	19.56	18	⇑P	P	10 44 48.5	-1.0
MCMT	McKenzie Canyo 3.5nm,1.2s	20.05	352	*e*P	Pn	10 44 57.6	+0.7
YBH	Yreka Blue Hor comp=Z,204nm,21.6s,baz=144,slow=34	20.14	330	LR	LR	10 51 30.3	
K05A	Summer Lake 111nm,2.3s	20.18	334	*e*P	Pn	10 44 57.5	-0.8
APG	El Apazote comp=Z,412nm,21.6s,baz=271,slow=38	20.18	116	LR	LR	10 53 13.1	
H27A	Howes baz=20,SNR=5.5	20.48	15	⇓P	P	10 44 57.5	-2.0
F20A	Billings baz=21	20.82	2	⇑P	P	10 45 00.5	-2.8
I07A	Izee 25nm,1.6s	20.86	339	*e*P	P	10 45 04.5	+0.9
F23A	Volborg baz=21,SNR=6.6	20.95	7	⇑P	P	10 45 00.7	-3.9
G26A	Maurine baz=21	20.99	13	⇓P	P	10 45 03.4	-1.7
G28A	Parade baz=21	21.18	16	⇓P	P	10 45 06.1	-0.9
F24A	Ekalaka baz=21	21.20	9	⇓P	P	10 45 05.8	-1.5
G27A	Dupree baz=21	21.22	14	⇓P	P	10 45 05.7	-1.8
WVT	Waverly 15nm,1.3s	21.48	54	*e*P	P	10 45 13.3	+3.0
F26A	Lodgepole baz=22	21.51	13	⇑P	P	10 45 08.6	-2.0
E20A	Meyer Farm, Mu baz=22	21.53	2	⇓P	P	10 45 06.8	-4.1
E21A	Keefer Ranch, baz=22	21.62	4	⇑P	P	10 45 08.3	-3.5
F27A	Lemmon baz=22	21.67	14	⇓P	P	10 45 11.0	-1.3
E23A	Ismay baz=22	21.73	7	⇓P	P	10 45 09.9	-3.0
G08A	Pilot Rock 19nm,1.9s	21.77	341	*e*P	P	10 45 14.3	+0.8
LAO	LASA Array 63nm,1.9s	21.83	6	*e*P	P	10 45 11.3	-2.7
E24A	Baker baz=22	21.92	9	⇓P	P	10 45 12.6	-2.4
F10A	Beach Ranch, E 40nm,1.9s	21.95	345	*e*P	P	10 45 16.3	+0.9
E25A	Miller Ranch, baz=22	22.01	11	⇓P	P	10 45 13.2	-2.8
D20A	Manuel Ranch, baz=22	22.11	2	⇓P	P	10 45 13.1	-4.0
D21A	La Casta Ranch baz=22	22.14	4	⇓P	P	10 45 13.5	-3.9
E26A	Carlson Angus baz=22	22.15	12	⇓P	P	10 45 14.6	-2.9
MSO	Missoula baz=22,SNR=9.0	22.16	351	⇑P	P	10 45 13.1	-4.6
F29A	Eureka baz=22	22.17	18	⇑P	P	10 45 15.2	-2.5
D19A	Cripps Ranch, baz=22	22.17	1	⇑P	P	10 45 13.4	-4.3
D22A	Cohagen baz=22	22.29	5	⇓P	P	10 45 15.7	-3.2
E27A	Carson baz=22	22.30	14	⇑P	P	10 45 16.5	-2.5
D23A	Lindsay baz=22,SNR=6.4	22.41	7	⇑P	P	10 45 15.6	-4.6
E28A	Huff baz=23	22.63	15	⇓P	P	10 45 20.4	-2.2
D26A	Manning baz=23	22.69	12	⇑P	P	10 45 20.2	-3.1
C20A	Veseth Ranch, baz=23	22.74

	baz=23								
B20A	**Solberg Farm,**	**23.47**	**2**	⇑P		**P**		**10 45 29.2**	**-2.0**
	baz=24								
B23A	**Brockton**	**23.71**	**7**	⇓P		**P**		**10 45 31.3**	**-2.3**
	baz=24								
C09A	**Chrisman Ranch**	**23.91**	**345**	*eP*		**P**		**10 45 36.6**	**+1.1**
	9.9nm,1.4s								
A19A	**Klindworth Far**	**23.94**	**1**	⇑P		**P**		**10 45 32.9**	**-3.0**
	baz=24								
LON	**Longmire**	**23.97**	**338**	*eP*		**P**		**10 45 37.0**	**+0.8**
	27nm,1.8s								
NEW	**Newport**	**24.10**	**347**	P		**P**		**10 45 36.8**	**-0.5**
	2.4nm,0.8s,baz=171,slow=11,SNR=7.7								
NEW				LR		LR		10 55 19.9	
	comp=Z,136nm,20.3s,baz=174,slow=38								
NEW	**Newport**	**24.10**	**347**	⇓P		P		10 45 31.9	-5.3
	baz=24,SNR=6.0								
A24A	**Westby**	**24.28**	**8**	⇓P		**P**		**10 45 37.3**	**-1.6**
	baz=24								
WALA	**Waterton Lakes**	**24.35**	**352**	*eP*		**P**		**10 45 41.4**	**+1.7**
TKL	**Tuckaleechee C**	**24.35**	**58**	LR		LR		10 56 10.1	
	comp=Z,106nm,18.7s,baz=214,slow=39								
B08A	**Colville Reser**	**24.69**	**344**	*eP*		**P**		**10 45 38.7**	**-4.0**
	49nm,1.8s								
B30A	**Myrvik Farm, E**	**24.98**	**17**	⇑P		**P**		**10 45 44.0**	**-1.2**
	baz=25								
A29A	**Manning Farm,**	**25.18**	**16**	⇓P		**P**		**10 45 45.4**	**-1.6**
	baz=25								
JTS	**JuntasAbangare**	**27.26**	**118**	LR		LR		10 57 22.6	
	comp=Z,145nm,21.2s,baz=314,slow=37								
ULM	**Lac du Bonnet**	**27.29**	**19**	LR		LR		10 57 09.4	
	comp=Z,114nm,18.5s,baz=359,slow=37								
ERPA	**Erie**	**29.57**	**47**	*eP*		P		10 46 32.1	+5.5
	20nm,0.3s								
YKA	**Yellowknife Ar**	**37.71**	**356**	P		P		10 47 31.6	-5.3
	0.1nm,0.6s,baz=167,slow=9.7,SNR=4.2								
ROSC	**El Rosal**	**38.98**	**115**	LR		LR		11 06 49.2	
	comp=Z,48nm,20.6s,baz=114,slow=40								
ILAR	**Eielson Array**	**46.61**	**339**	P		P		10 48 44.5	-5.1
	0.7nm,1.0s,baz=156,slow=5.8,SNR=4.1								
TRF	**Thorofare Moun**	**46.98**	**336**	P		**P**		**10 48 53.6**	**+0.9**
PPLA	**Purkeypile**	**47.38**	**335**	*eP*		**P**		**10 48 57.7**	**+1.9**

*IDC **14** 10:45:28.6±0.7, 16°.30N×119°.90E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/56, mbtmp3.8/10, MS3.3/5, Ms1 3.4/5, ms1mx2.9/41, Error ellipse: s-maj=36.9km s-min=15.4km az=64.0*

*ISCJB **14** 10:45:31.5±1.4, 16°.25N±0°.06×119°.49E±0°.05, h29km±10km, mb3.8/9, MS3.3/4, Error ellipse: s-maj=9.7km s-min=8.6km az=169.7*

*MAN **14** 10:45:36, 16°.41N×120°.09E, h1km, mb4.7, ML3.6, MS3.6*

ISC 14 10:45:32.3±1.7, 16°.24N±0°.06×119°.60E±0°.08, h24km±12km, n21,σ1°9°07/21, mb3.8/9, MS3.4/4, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.33**	**65**	*eP*	**Pb**	**10 45 39.5**	**-0.2**
BCPH	**Baguio City Da**	**0.95**	**81**	⇑*i*P	Pb	10 45 45.9	-4.4
BCPH				*i* S	**Sn**	**10 46 05.0**	**+1.8**
PCPH	**Palayan**	**1.59**	**115**	⇑*i*P	**Pb**	**10 46 00.1**	**-0.9**
ABRA	**Dolores**	**1.76**	**37**	*eP*	**Pb**	**10 46 02.6**	**-1.3**
ABRA				*eS*	**Sn**	**10 46 23.4**	**+0.5**
SIPP	**Brgy, Tapao**	**1.86**	**26**	⇑*eP*	**Pn**	**10 46 01.9**	**-0.9**
BALP	**Baler**	**1.96**	**104**	*eP*	**Pb**	**10 46 06.2**	**-1.2**
BALP				*eS*	**Sb**	**10 46 32.2**	**+0.8**
APYP	**Conner**	**2.25**	**44**	*eP*	**Pn**	**10 46 09.7**	**+1.7**
APYP				*eS*	**Sn**	**10 46 34.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**19.84**	**279**	P	**Pn**	**10 50 04.8**	**+1.5**
	1.3nm,0.8s,baz=90,slow=8.7,SNR=9.7						
CMAR				LR	LR	10 56 43.2	
	comp=Z,87nm,19.4s,baz=136,slow=34						
KSRS	**Korea Array**	**22.38**	**18**	LR	LR	10 59 00.9	
	comp=Z,29nm,18.9s,baz=202,slow=37						
SONM	**Songino Array**	**33.34**	**344**	P	**P**	**10 52 08.4**	**-0.1**
	1.0nm,0.8s,baz=163,slow=9.0,SNR=6.5						
SONM				LR	LR	11 04 53.3	
	comp=Z,46nm,18.7s,baz=145,slow=35						
WRA	**Warramunga Arr**	**36.76**	**158**	P	**P**	**10 52 54.0**	**-1.1**
	2.6nm,0.7s,baz=339,slow=9.2,SNR=19						
ASAR	**Alice Springs**	**42.05**	**160**	P	**P**	**10 53 21.7**	**-0.6**
	2.6nm,0.8s,baz=343,slow=7.1,SNR=30						
MKAR	**Makanchi Array**	**43.38**	**323**	P	**P**	**10 53 34.0**	**+1.1**
	1.0nm,0.9s,baz=123,slow=9.0,SNR=6.9						
KURBB	**Kurchatov Arra**	**47.50**	**325**	P	**P**	**10 54 05.7**	**+0.2**
	1.7nm,0.9s,baz=122,slow=8.2,SNR=9.3						
STKA	**Stephens Creek**	**52.29**	**156**	P	**P**	**10 54 41.6**	**-0.3**
	2.3nm,0.7s,baz=330,slow=6.8,SNR=7.2						
BVAR	**Borovoye Array**	**53.09**	**325**	P	**P**	**10 54 48.0**	**+0.3**
	0.2nm,0.3s,baz=94,slow=10,SNR=2.8						
ILAR	**Eielson Array**	**76.94**	**26**	P	**P**	**10 57 21.2**	**-1.3**
	0.3nm,0.9s,baz=263,slow=4.7,SNR=4.5						
FINES	**FINESS Array B**	**77.56**	**331**	LR	LR	11 34 41.8	
	comp=Z,35nm,18.4s,baz=272,slow=38						
NOA	**NORSAR Array B**	**84.53**	**332**	LR	LR	11 38 23.6	
	comp=Z,26nm,18.0s,baz=320,slow=38						
YKA	**Yellowknife Ar**	**90.84**	**22**	P	**P**	**10 58 33.7**	**+0.2**
	0.3nm,0.8s,baz=314,slow=8.4,SNR=11						
TXAR	**Lajitas Array**	**118.38**	**43**	PKP	**PKPdf**	**11 04 19.1**	**+0.5**
	0.2nm,0.7s,baz=266,slow=1.4,SNR=3.3						

IDC 14 10:54:23.0±3.3, 54°.16N×87°.35E, h0km, mb1 2.8/2, mb1mx2.8/29, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.4km s-min=18.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**263**	*i*		11 04 20.0	
	baz=81,slow=330,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.50**	**263**	Pg	Pn	10 54 49.7	-1.5
	0.9nm,0.3s,baz=84,slow=15,SNR=14						
ZALV				Lg	Lg	10 55 10.7	
	1.0nm,0.3s,baz=81,slow=24,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	10 55 59.9	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**8.04**	**206**	Pn	Pn	10 56 22.3	+1.3
	0.1nm,0.3s,baz=27,slow=14,SNR=5.7						
MKAR				Lg	Lg	10 58 38.9	
	0.0nm,0.3s,baz=25,slow=31,SNR=2.2						

IGQ 14 11:01:27±0.4, 2°.26S×77°.09W, h7km±7km, Mb4.0, 8C-8D, Error ellipse: s-maj=6.2km s-min=3.1km az=160.4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**1.11**	**270**	⇑P	Pn	11 01 54.1	+4.9
MACE	**Macas**	**1.11**	**270**	⇑S	Sn	11 02 13.2	+8.3
BPAT	**Tungurahua Vol**	**1.54**	**299**	⇑S	Sg	11 02 20.2	+2.6
BPAT	**Tungurahua Vol**	**1.54**	**299**	⇑P	Pg	11 01 58.3	+1.1
PAT1	**Patacocha**	**1.54**	**299**	P	Pg	11 01 58.2	+1.0
ULBA	**Ulba**	**1.54**	**301**	P	Pg	11 01 58.3	+1.1
BULB	**Ulba Tungurahu**	**1.55**	**302**	⇓P	Pg	11 01 58.2	+0.9
BULB	**Ulba Tungurahu**	**1.55**	**302**	⇓S	Sg	11 02 21.7	+3.9
ARRY	**Arrayan**	**1.56**	**299**	⇑P	Pg	11 01 58.2	+0.8
ARRY	**Arrayan**	**1.56**	**299**	⇑S	Sg	11 02 21.3	+3.4
BRUN	**Tungurahua Vol**	**1.56**	**302**	P	Pg	11 01 59.5	+2.1
RUNS	**Runtun**	**1.57**	**302**	P	Pg	11 01 59.8	+2.1
BMAS	**Trigal station**	**1.58**	**298**	⇑S	Sg	11 02 21.4	+2.7
BMAS	**Trigal station**	**1.58**	**298**	⇑P	Pg	11 01 59.5	+1.7
JUI6	**Juive**	**1.61**	**301**	P	Pg	11 01 59.8	+1.5
RIOE	**Riobamba**	**1.62**	**288**	P	Pg	11 01 59.5	+0.9
IGUA	**Igualata**	**1.73**	**296**	P	Pg	11 02 00.8	-0.1
PISA	**Pisayambo**	**1.76**	**312**	P	Pg	11 02 01.9	+0.5
PORT	**Chimborazo Vol**	**1.86**	**295**	P	Pn	11 01 58.3	-1.7
TAMB	**Tambo**	**2.01**	**320**	P	Pb	11 02 04.5	-0.1
BMOR	**Cotopaxi Volca**	**2.04**	**318**	⇓S	Sg	11 02 32.7	-1.3
BMOR	**Cotopaxi Volca**	**2.04**	**318**	⇓P	Pb	11 02 05.8	+0.6
MOV1	**Cotopaxi Vol s**	**2.04**	**319**	P	Pb	11 02 05.0	-0.2
BTAM	**Cotopaxi Volca**	**2.04**	**320**	⇓P	Pb	11 02 05.2	0.0
VC1	**Cotopaxi 1**	**2.07**	**321**	P	Pb	11 02 06.5	+0.9
ANTI	**Antisana**	**2.09**	**329**	⇓P	Pb	11 02 05.9	-0.1
LAV4	**Lava4-Reventad**	**2.21**	**346**	⇓P	Pb	11 02 06.5	-1.2
CHAR	**Charly**	**2.23**	**345**	P	Pn	11 02 06.1	+1.2
CONE	**Cono NE Rev Vo**	**2.24**	**346**	P	Pb	11 02 06.8	-1.4
CAYR	**Refugio Cayamb**	**2.44**	**338**	P	Pb	11 02 10.8	-1.1
CAYA	**Cayambe**	**2.48**	**339**	⇓P	Pn	11 02 10.2	+1.6
GGP	**Refugio Guagua**	**2.56**	**324**	P	Pn	11 02 11.7	+2.0
PINO	**Pino**	**2.58**	**324**	P	Pn	11 02 11.7	+1.7
OTAV	**Otavalo**	**2.83**	**331**	P	Pn	11 02 13.2	0.0

*IDC **14** 11:11:40.6±1.7, 34°.61S×72°.53W, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.5/31, mbtmp3.7/5, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=55.9km s-min=25.1km az=112.0*

*GUC **14** 11:48.0±0.6, 34°.76S×71°.90W, h27km±4km, ML4.3*

*NEIC **14** 11:48.0, 34°.76S×71°.90W, h27km, mb4.3/3, ML4.3(GUC), After GUC.*

NEIC Felt [III] at Paredones and Pencahue and [II] at San Fernando.

ISC 14 11:11:46.8±1.6, 34°.73S±0°.03×71°.96W±0°.10, h27km±12km, n32,σ0°99/38, mb4.1/5, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.66**	**114**	⇓*i*P	**Pb**	**11 11 59.7**	**0.0**
NICH				*i* S	**Sb**	**11 12 08.0**	**-0.5**
NICH				AML	AML	11 12 09.2	
	comp=N,38μm,0.4s						
NICH	**Los Niches**	**0.66**	**114**	⇓*i*P	**Pb**	**11 11 59.7**	**0.0**
NICH				*i* S	**Sb**	**11 12 08.0**	**-0.5**
TALC	**Talca**	**0.72**	**158**	⇓*i*P	**Pb**	**11 12 00.1**	**-0.5**
TALC				*i* S	**Sb**	**11 12 09.6**	**-0.5**
TALC				AML	AML	11 12 10.1	
	comp=N,63μm,0.1s						
TALC	**Talca**	**0.72**	**158**	⇓*i*P	**Pb**	**11 12 00.1**	**-0.5**
TALC				*i* S	**Sb**	**11 12 09.6**	**-0.5**
LNCH	**Linares**	**1.15**	**165**	*eP*	**Pb**	**11 12 07.6**	**-0.4**
LNCH				*i* S	**Sb**	**11 12 22.6**	**+0.1**
LNCH				AML	AML	11 12 23.8	
	comp=N,11μm,0.4s						
LNCH	**Linares**	**1.15**	**165**	*eP*	**Pb**	**11 12 07.6**	**-0.4**
LNCH				*i* S	**Sb**	**11 12 22.6**	**+0.1**
LACH	**Col Las Americ**	**1.75**	**43**	*i* P	**Pb**	**11 12 17.8**	**-0.3**
LACH				*i* S	**Sb**	**11 12 40.2**	**+0.5**
LACH	**Col Las Americ**	**1.75**	**43**	*i* P	**Pb**	**11 12 17.8**	**-0.3**
LACH				*i* S	**Sb**	**11 12 40.2**	**+0.5**
CLCH	**Cerro Calan**	**1.78**	**42**	*i* P	**Pn**	**11 12 17.1**	**+1.2**
CLCH				*i* S	**Sb**	**11 12 39.8**	**-1.0**
CLCH				AML	AML	11 12 44.5	
	comp=N,4μm,0.8s						
CLCH				AML	AML	11 12 45.1	
	comp=N,4μm,0.7s						
YECH	**El Yeso**	**1.89**	**56**	AML	AML	11 12 47.0	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**1.91**	**34**	*eP*	**Pb**	**11 12 19.8**	**-1.1**
PEL				*i* S	**Sb**	**11 12 44.5**	**+0.1**
PEL				AML	AML	11 12 51.3	
	comp=N,4μm,0.2s						
PEL	**Peldehue**	**1.91**	**34**	*eP*	**Pb**	**11 12 19.8**	**-1.1**
PEL				*i* S	**Sb**	**11 12 44.5**	**+0.1**
CFAA	**Coronel Fontan**	**4.42**	**46**	Pn	**Pn**	**11 12 53.9**	**+1.8**
	comp=N,0.4nm,0.3s,baz=224,slow=5.7,SNR=46						
CFAA				Sn	Sn	11 13 49.1	+6.5
	comp=N,0.6nm,0.3s,baz=59,slow=17,SNR=4.1						
CFAA				LR	LR	11 14 47.0	
	comp=N,20nm,19.6s,baz=225,slow=40						
LCO	**Las Campanas**	**5.80**	**11**	*ePn*	**Pn**	**11 13 12.4**	**+1.1**
	comp=N,12nm,0.3s						
PLCA	**Paso Flores**	**6.09**	**170**	Pn	**Pn**	**11 13 16.9**	**+1.8**
	comp=N,0.8nm,0.3s,baz=341,slow=12,SNR=21						
PLCA				Lg	Lg	11 14 54.0	
	comp=N,0.5nm,0.3s,baz=67,slow=24,SNR=3.4						
PLCA	**Paso Flores**	**6.09**	**170**	*ePn*	**Pn**	**11 13 17.1**	**+2.0**
	comp=N,5.1nm,0.4s						
PLCA				Lg	Lg	11 14 54.0	
TRQA	**Tornquist**	**8.71**	**115**	*ePn*	**Pn**	**11 13 50.7**	**-0.3**
LVC	**Limon Verde**	**12.37**	**13**	Pn	**Pn**	**11 14 42.1**	**+0.8**
LPAZ	**La Paz**	**18.69**	**12**	P	**P**	**11 16 02.8**	**-0.9**
	comp=N,0.2nm,0.3s,baz=190,slow=14,SNR=5.6						
LPAZ	**La Paz**	**18.69**	**12**	Pn	**Pn**	**11 16 05.4**	**+1.3**
	comp=N,0.7nm,0.5s						
SIV	**San Ignacio**	**21.07**	**30**	P	**P**	**11 16 27.9**	**-1.1**
	comp=N,2.8nm,0.7s,baz=225,slow=12,SNR=7.5						
SIV				LR	LR	11 24 58.1	
	comp=N,50nm,19.0s,baz=266,slow=38						
SAML	**Samuel**	**26.90**	**19**	P	**P**	**11 17 25.9**	**+0.3**
	comp=N,9.0nm,1.8s						
ABTX	**Abilene, Hawle**	**71.87**	**336**	P	**P**	**11 23 06.6**	**-0.6**
	comp=N,3.3nm,1.0s						
ANMO	**Albuquerque**	**76.45**	**331**	*eP*	**P**	**11 23 33.9**	**-0.3**
	comp=N,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**84.40**	**70**	P	**P**	**11 24 15.4**	**-1.6**
	comp=N,1.0nm,1.0s,baz=248,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**84.44**	**333**	LR	LR	11 57 56.4	
	comp=N,29nm,22.0s,baz=216,slow=33						
WRA	**Warramunga Arr**	**120.15**	**209**	PKP	**PKPdf**	**11 30 33.7**	**-2.0**
	comp=N,0.2nm,0.7s,baz=173,slow=1.6,SNR=3.5						
H11N3	**WAKE ISLAND Hyl**	**126.25**	**270**	T	T	13 49 49.5	
	baz=117						
H11N1	**WAKE ISLAND Hyl**	**126.26**	**270**	T	T	13 49 50.1	
	baz=117						
H11N2	**WAKE ISLAND Hyl**	**126.27**	**270**	T	T	13 49 50.5	
	baz=117						
KKAR	**Karatay Array**	**149.83**	**63**	*e*PKPdf	**PKPdf**	**11 31 30.5**	**+1.2**
EKS2	**Erkin-Say**	**152.26**	**63**	*e*PKPbc	**PKPbc**	**11 31 41.0**	**+1.0**

*IDC **14** 11:19:52.9±2.5, 32°.17N×116°.27W, h0km, mb2.6/1, mb1 3.5/7, mb1mx3.3/49, mbtmp3.1/7, ML3.4/6, MS3.1/6, Ms1 3.1/6, ms1mx3.1/8, Error ellipse: s-maj=41.7km s-min=13.2km az=50.0*

*ISCJB **14** 11:19:58.3±0.3, 32°.69N±0°.01×115°.73W±0°.02, h11km±2km, MS3.1/1, Error ellipse: s-maj=2.5km s-min=2.3km az=30.7*

*MEX **14** 11:19:58.5±1.1, 32°.98N×115°.73W, h15km±26km, MD3.8*

*IASPEI **14** 11:19:58.4±0.9, 32°.68N±0°.02×115°.75W±0°.02, h14km±6km, Error ellipse: s-maj=3.3km s-min=3.0km az=61.8*

*NEIC **14** 11:19:59.6, 32°.67N×115°.78W, h1km, MD4.0(MEX), ML4.1(PAS), ML4.1(ECX), After PAS.*

*ECX **14** 11:19:59.9±0.6, 32°.66N×115°.77W, h4km, MD4.0, ML4.2*

ISC 14 11:19:58.9±0.8, 32°.66N±0°.02×115°.75W±0°.02, h10km±6km, n82,σ1°25/111, 24C-28D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.02**	**112**	⇓*i*P	**Pg**	**11 20 00.5**	**-0.2**
YUH	**Yuha Desert**	**0.15**	**267**	⇓*i*P	**Pg**	**11 20 02.3**	**0.0**
COK	**Cook Ranch**	**0.19**	**5**	⇓*i*P	**Pg**	**11 20 03.5**	**+0.5**
RMX	**La Rumorosa**	**0.29**	**259**	⇓*e*P	**Pg**	**11 20 04.9**	**+0.2**
RMX				*e*S	**Sg**	**11 20 09.2**	**+0.5**
CPBX	**Cerro Prieto**	**0.44**	**122**	*eP*	**Pb**	**11 20 08.6**	**-0.2**
CPBX				*e*S	**Sb**	**11 20 14.7**	**-0.7**
CPBX				AML	AML	11 20 22.8	
	comp=E,70μm,0.6s						
CPBX				⇑*e*		11 20 22.8	
MBIG	**Mexicali**	**0.53**	**118**	*eP*	**Pb**	**11 20 09.8**	**-0.4**
MBIG				*i* S	**Sn**	**11 20 19.7**	**-1.6**
MONP	**Monument Peak,**	**0.61**	**292**	⇑P	**Pg**	**11 20 10.8**	**-0.1**
	baz=0.6						
MONP				⇑S	**Sg**	**11 20 18.5**	**-0.4**
	baz=0.6						
RDX	**Rancho Dawling**	**0.74**	**193**	⇓*e*P	**Pg**	**11 20 13.2**	**-0.1**
RDX				*e*S	**Sg**	**11 20 23.2**	**+0.2**
RDX				⇓*e*		11 20 29.5	
RDX				AML	AML	11 20 29.5	
	comp=N,6μm,0.4s						
BAR	**Barrett**	**0.78**	**272**	⇑*e*P	**Pg**	**11 20 13.7**	**-0.3**
BAR				*e*S	**Sg**	**11 20 23.7**	**-0.5**
BAR	**Barrett**	**0.78**	**272**	*e*Pg	**Pg**	**11 20 13.5**	**-0.5**
BAR				*e*Sg	**Sg**	**11 20 23.6**	**-0.5**
EMX	**El Mayor**	**0.79**	**147**	⇓*e*P	**Pg**	**11 20 13.7**	**-0.5**
EMX				*e*S	**Sg**	**11 20 24.7**	**+0.2**
CBX	**Cerro Bola**	**0.85**	**246**	*eP*	**Pg**	**11 20 15.3**	**0.0**
CBX				*i* S	**Sg**	**11 20 26.6**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**246**	⇑*e*P	**Pg**	**11 20 15.3**	**0.0**
CBX				*e*S	**Sg**	**11 20 25.8**	**-0.6**
CBX				AML	AML	11 20 27.5	
	comp=E,9μm,0.3s						
CBX				*e*		11 20 27.5	
CBX	**Cerro Bola**	**0.85**	**246**	*eP*	**Pg**	**11 20 15.3**	**0.0**
CBX				*i* S	**Sg**	**11 20 24.8**	**-1.5**
GLA	**Glamis**	**0.87**	**63**	*e*Pg	**Pg**	**11 20 15.2**	**-0.4**
GLA				*e*Sg	**Sb**	**11 20 27.4**	**-0.3**
BC3	**Big Chuckawall**	**1.03**	**14**	⇓P	**Pg**	**11 20 17.5**	**-1.2**
	baz=1.0						
BC3				⇑S	**Sg**	**11 20 30.5**	**-1.5**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.12**	**328**	Pg	**Pg**	**11 20 18.8**	**-1.7**
	comp=E,134nm,0.3s,baz=146,slow=15,SNR=1160						
PFO				Lg	Lg	11 20 33.3	
	comp=E,306nm,0.3s,baz=234,slow=16,SNR=39						

PFO	**Pinyon Flats O**	**1.12**	**328**	⇓P		**Pg**		**11 20 18.8**	**-1.7**
	baz=1.1								
PFO				⇓S		**Sg**		**11 20 33.4**	**-1.7**
	baz=1.1								
PFO	**Pinyon Flats O**	**1.12**	**328**	*e*Pg		**Pg**		**11 20 18.6**	**-1.8**
PFO				Lg		Lg		11 20 33.3	
PFO				*e*Sg		**Sg**		**11 20 33.6**	**-1.4**
109C	**Camp Elliot, M**	**1.17**	**282**	⇓P		**Pg**		**11 20 20.2**	**-1.1**
	baz=1.1								
109C				⇓S		**Sg**		**11 20 35.2**	**-1.4**
	baz=1.1								
ZAX	**El Zacaton**	**1.22**	**202**	⇓*e*P		**Pb**		**11 20 22.0**	**-0.2**
ZAX				*e*S		**Sb**		**11 20 38.4**	**+0.4**
ECNX	**Esteban Cantu**	**1.23**	**216**	*e*P		**Pn**		**11 20 21.9**	**-0.3**
ECNX				*e*S		**Sb**		**11 20 38.3**	**+0.1**
PBX	**Punta Banda**	**1.23**	**223**	⇑*e*P		**Pn**		**11 20 22.0**	**-0.2**
PBX				*e*S		**Sb**		**11 20 38.6**	**+0.4**
ECBX	**El Chinero**	**1.32**	**153**	*e*P		**Pn**		**11 20 22.5**	**-0.8**
ECBX				*e*S		**Sb**		**11 20 40.4**	**-0.3**
BELC	**Belle Mtn. Jos**	**1.36**	**351**	⇓P		**Pn**		**11 20 22.3**	**-1.7**
	baz=1.4								
BELC				⇑S		**Sb**		**11 20 41.0**	**-0.9**
	baz=1.4								
Y12C	**Blythe**	**1.50**	**43**	⇓P		**Pn**		**11 20 24.5**	**-1.3**
	baz=1.5								
MURC	**Murrieta**	**1.54**	**308**	⇑P		**Pn**		**11 20 25.1**	**-1.3**
	baz=1.5								
MURC				⇑Sb		**Sn**		**11 20 46.9**	**+0.4**
	baz=1.5								
IRM	**Iron Mountain**	**1.58**	**18**	⇓P		**Pn**		**11 20 25.6**	**-1.4**
	baz=1.6								
SPIG	**San Pedro Mart**	**1.62**	**171**	*eP*		**Pn**		**11 20 27.6**	**-0.2**
SPIG				*i* S		**Sg**		**11 20 51.1**	**0.0**
SPIG	**San Pedro Mart**	**1.62**	**171**	*eP*		**Pn**		**11 20 27.8**	**0.0**
SPIG	**San Pedro Mart**	**1.62**	**171**	*eP*		**Pn**		**11 20 27.6**	**-0.2**
SPIG				*e*S		**Sn**		**11 20 49.3**	**+0.4**
113A	**Mohawk Valley,**	**1.67**	**86**	⇑P		**Pn**		**11 20 27.2**	**-1.0**
	baz=1.7								
113A				⇑S		**Sn**		**11 20 48.2**	**-1.4**
	baz=1.7								
BBRC	**Big Bear Solar**	**1.88**	**329**	⇑P		**Pn**		**11 20 30.5**	**-0.8**
	baz=1.9								
BBRC				⇓Sb		**Sb**		**11 20 56.9**	**-0.1**
	baz=1.9								
GMRC	**Granite Mounta**	**2.12**	**2**	⇑P		**Pn**		**11 20 33.2**	**-1.2**
	baz=2.1								
HEC	**Hector,Ludlow**	**2.22**	**348**	⇑P		**Pn**		**11 20 34.5**	**-1.3**
	baz=2.2								
BFSC	**Mount Baldy Ra**	**2.25**	**315**	⇓P		**Pn**		**11 20 35.1**	**-1.1**
	baz=2.2								
BFSC				⇓Sb		**Sb**		**11 21 07.6**	**0.0**
	baz=2.2								
CIS	**Catalina Islan**	**2.35**	**289**	⇓P		**Pn**		**11 20 38.4**	**+0.8**
	baz=2.3								
SCI	**San Clemente I**	**2.38**	**279**	⇓P		**Pn**		**11 20 38.3**	**+0.4**
	baz=2.3								
SCI				⇑S		**Sn**		**11 21 08.0**	**+0.9**
	baz=2.3								
FMP	**Fort Macarthur**	**2.38**	**297**	⇓Pb		**Pb**		**11 20 41.0**	**-0.9**
	baz=2.4								
RRX	**Edison Barstow**	**2.45**	**335**	⇑Pg		**Pb**		**11 20 44.3**	**+1.2**
	baz=2.5								
Z14A	**Wintersburg**	**2.46**	**73**	⇑P		**Pn**		**11 20 38.1**	**-0.9**
	baz=2.5								
LDFC	**Landfair**	**2.47**	**12**	*e*Pn		**Pn**		**11 20 39.5**	**+0.2**
MWC	**Mount Wilson**	**2.49**	**310**	*e*Pn		**Pn**		**11 20 40.4**	**+0.9**
MWC				*e*Sn		**Sb**		**11 21 15.1**	**+0.6**
PASC	**Pasadena Art C**	**2.54**	**307**	*e*Pn		**Pb**		**11 20 42.9**	**-1.7**
PASC				*e*Sn		**Sb**		**11 21 15.1**	**-0.7**
214A	**Organ Pipe Nat**	**2.58**	**105**	⇑P		**Pn**		**11 20 39.3**	**-1.4**
	baz=2.6								
214A				⇓S		**Sn**		**11 21 10.1**	**-2.1**
	baz=2.6								
214A	**Organ Pipe Nat**	**2.58**	**105**	*e*Pn		**Pn**		**11 20 39.2**	**-1.5**
TUQ	**Turquoise Moun**	**2.78**	**357**

NICH	**Los Niches**	**1.46**	**89**	*eP*	Pn	11 21 59.5	+0.1
NICH				*i* S	Sb	11 22 18.9	-0.5
CHCH	**Chadas Angostu**	**2.24**	**61**	*eP*	Pn	11 22 11.7	+1.4
CLCH	**Cerro Calan**	**2.62**	**52**	AML	AML	11 23 07.1	
	comp=E,359nm,0.7s						
PEL	**Peldehue**	**2.70**	**46**	*eP*	Pn	11 22 17.8	+1.1
PEL				AML	AML	11 23 03.8	
	comp=N,393nm,0.6s						

*IDC **14** 11:39:32.2±2.7,53°.52N×87°.56E,h0km,mb1 3.5/2, mb1mx3.1/29,mbtmp3.5/2,ML3.0/2,Error ellipse: s-maj=23.0km s-min=14.6km az=66.0*
*NNC **14** 11:39:35.3±5.6,53°.35N×87°.45E,h0km±27km,mb3.8, mpv3.4,Error ellipse: s-maj=37.2km s-min=23.3km az=102.0*

ISC 14 11:39:36.4±4.1,53°.6N±0°.1×87°.5E±0°.2,h35km,n8,σ0°59/9, 4C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**283**	*i*				11 51 24.5	
	baz=99,slow=331,SNR=20								
ZALV	**Zalesovo Beam**	**1.63**	**283**	Pn		**Pn**		**11 40 02.4**	**-0.2**
	5.9nm,0.3s,baz=101,slow=16,SNR=34								
ZALV				Lg		Lg		11 40 25.3	
	7.3nm,0.3s,baz=112,slow=25,SNR=14								
KURK	**Kurchatov**	**6.19**	**246**	⇑Pn		**Pn**		**11 41 05.7**	**+0.6**
	1.1nm,0.6s								
KURK				⇑Lg		Lg		11 42 48.0	
	8.0nm,1.1s								
KURBB	**Kurchatov Arra**	**6.28**	**245**	⇑Pn		**Pn**		**11 41 07.2**	**+0.7**
	4.1nm,0.5s								
KURBB				⇑Lg		Lg		11 42 50.3	
	20nm,0.7s								
KURBB	**Kurchatov Arra**	**6.28**	**245**	Pn		**Pn**		**11 41 07.1**	**+0.7**
	0.3nm,0.3s,baz=62,slow=14,SNR=13								
KURBB				Sn		**Sn**		**11 42 16.3**	**-0.6**
	baz=62,slow=24,SNR=2.9								
KURBB				Lg		Lg		11 42 52.5	
	0.1nm,0.3s,baz=64,slow=33,SNR=13								
MK31	**Makanchi Array**	**7.59**	**208**	Pn		**Pn**		**11 41 24.4**	**-0.1**
	2.8nm,1.1s,baz=29,slow=12,SNR=9.7								
MK31				Sn		**Sn**		**11 42 49.2**	**0.0**
	4.4nm,1.1s,baz=33,slow=24,SNR=7.3								
MK31				⇓Lg		Lg		11 43 28.4	
	4.5nm,0.8s,baz=37,slow=30,SNR=5.4								
MKAR	**Makanchi Array**	**7.59**	**208**	Pn		**Pn**		**11 41 24.6**	**+0.1**
	0.3nm,0.3s,baz=30,slow=14,SNR=5.4								
MKAR				Sn		**Sn**		**11 42 48.7**	**-0.5**
	0.2nm,0.3s,baz=30,slow=26,SNR=11								
MKAR				Lg		Lg		11 43 28.0	
	0.2nm,0.3s,baz=21,slow=29,SNR=6.6								
SONM	**Songino Array**	**13.27**	**108**	Lg		Lg		11 46 21.1	
	0.0nm,0.3s,baz=307,slow=29,SNR=4.3								

*IDC **14** 11:44:33.3±1.4,25°.11N×109°.42W,h0km,mb3.3/2, mb1 3.5/6,mb1mx3.2/39,mbtmp3.1/6,ML3.2/4,MS3.0/4, Ms1 3.0/4,ms1mx2.9/12,Error ellipse: s-maj=30.8km s-min=11.0km az=125.0*

ISC 14 11:44:35.5±1.2,25°.1N±0°.1×109°.5W±0°.1,h17km,n12, σ1s58/9,mb3.4/3,MS2.8/3,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.25**	**219**	Pg		**Pg**		**11 44 59.7**	**+0.1**
	5.7nm,0.3s,baz=16,slow=7.4,SNR=5.4								
LPIG				Lg		Lg		11 45 13.8	
	35nm,0.3s,baz=0.0,slow=20,SNR=16								
TXAR	**Lajitas Array**	**6.67**	**49**	Pn		**Pn**		**11 46 12.2**	**-0.6**
	0.1nm,0.3s,baz=225,slow=15,SNR=3.8								
TXAR				Sn		**Sn**		**11 47 29.1**	**+0.7**
	0.1nm,0.3s,baz=244,slow=29,SNR=3.6								
TXAR				Lg		Lg		11 48 03.3	
	0.1nm,0.3s,baz=226,slow=28,SNR=3.0								
PFO	**Pinyon Flats O**	**10.46**	**326**	LR		LR		11 50 33.0	
	comp=Z,60nm,20.8s,baz=153,slow=34								
NVAR	**Mina Array Bea**	**15.28**	**333**	Pn		**P**		**11 48 14.7**	**-0.7**
	0.0nm,0.3s,baz=155,slow=11,SNR=3.3								
ELK	**Elko**	**16.35**	**344**	Pn		**P**		**11 48 26.9**	**-0.4**
	0.1nm,0.3s,baz=178,slow=7.0,SNR=2.8								
PDAR	**Pinedale Array**	**17.64**	**360**	P		**P**		**11 48 42.0**	**+0.4**
	0.0nm,0.3s,baz=168,slow=14,SNR=3.9								
APG	**El Apazote**	**20.43**	**116**	LR		LR		11 56 44.6	
	comp=Z,79nm,21.9s,baz=287,slow=36								
NEW	**Newport**	**23.92**	**347**	P		**P**		**11 49 52.0**	**+3.5**
	1.9nm,0.9s,baz=174,slow=13,SNR=4.7								
TKL	**Tuckaleechee C**	**24.46**	**58**	LR		LR		11 58 40.0	
	comp=Z,30nm,20.7s,baz=51,slow=35								
JTS	**JuntasAbangare**	**27.51**	**118**	LR		LR		12 02 51.6	
	comp=Z,23nm,18.7s,baz=308,slow=40								
YKA	**Yellowknife Ar**	**37.56**	**356**	P		**P**		**11 51 47.8**	**-0.8**
	0.4nm,1.1s,baz=174,slow=7.3,SNR=3.3								
ILAR	**Eielson Array**	**46.41**	**339**	P		**P**		**11 53 00.2**	**-0.6**
	0.3nm,0.7s,baz=158,slow=7.5,SNR=3.7								

GUC 14 12:01:05.4±0.5,35°.14S×72°.93W,h12km±3km,ML4.1,3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.00**	**173**	⇑*iP*			Pb	12 01 23.4	-1.2
COCH				*i* S			Sg	12 01 36.7	-1.0
TALC	**Talca**	**1.09**	**104**	⇑*iP*			Pb	12 01 24.4	-1.8
TALC				*i* S			Sb	12 01 39.5	-0.9
LNCH	**Linares**	**1.29**	**124**	⇑*iP*			Pn	12 01 28.1	-1.2
LNCH				*i* S			Sb	12 01 45.5	-0.9
NICH	**Los Niches**	**1.40**	**85**	*eP*			Pn	12 01 28.4	-2.4
NICH				*i* S			Sn	12 01 46.8	-2.4
CLCH	**Cerro Calan**	**2.63**	**49**	*eP*			Pn	12 01 48.9	+1.1
CLCH				AML		AML		12 02 32.5	
	comp=N,745nm,0.7s								
PEL	**Peldehue**	**2.72**	**44**	*eP*			Pb	12 01 51.8	-2.4
PEL				*eS*			Sn	12 02 23.9	+1.9
PEL				AML		AML		12 02 34.4	
	comp=N,821nm,0.6s								

*JMA **14** 12:07:35.1±0.1,23°.65N×121°.50E,h33km±2km,M3.3*
*ISCJB **14** 12:07:36.0±0.2,23°.64N±0°.01×121°.56E±0°.02,h28km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=41.3*
*TAP **14** 12:07:36.3,23°.65N×121°.50E,h32km,ML3.5,B*

ISC 14 12:07:36.3±0.9,23°.65N±0°.02×121°.52E±0°.02,h33km±3km, n65,σ0°86/120,8C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.06**	**20**	*eP*			**Pb**	**12 07 43.0**	**+1.0**
	baz=38								
TEGC				*eS*			**Sb**	**12 07 48.5**	**+2.8**
	baz=38								
ESL	**Shilin**	**0.18**	**335**	⇓*iP*			**Pb**	**12 07 42.3**	**-0.5**
	baz=341								
ESL				S			**Sn**	**12 07 46.1**	**+1.4**
	baz=341								
ESF	**Shoufeng Towns**	**0.22**	**358**	*eP*			**Pn**	**12 07 43.3**	**+0.3**
	baz=352								
ESF				*eS*			**Sn**	**12 07 47.9**	**+1.5**
	baz=352								
EHY	**Hungye**	**0.23**	**231**	⇓*iP*			**Pb**	**12 07 42.7**	**-0.5**
	baz=233								
EHY				S			**Sb**	**12 07 46.8**	**-1.1**
	baz=233								
HWA	**Hwalien**	**0.34**	**14**	⇓*iP*			**Pn**	**12 07 44.8**	**-0.2**
	baz=7.0								
HWA				S			**Sn**	**12 07 50.8**	**+0.4**
	baz=7.0								
TWF1	**Yuli**	**0.36**	**214**	⇑*iP*			**Pb**	**12 07 44.3**	**-0.6**
	baz=219								
TWF1				S			**Sb**	**12 07 49.6**	**-1.1**
	baz=219								
WDT	**Danda**	**0.37**	**287**	⇓*iP*			**Pb**	**12 07 45.0**	**-0.2**
	baz=287								
WDT				S			**Sb**	**12 07 50.7**	**-0.6**
	baz=287								
TWD	**Chiawan**	**0.43**	**10**	⇓*iP*			**Pb**	**12 07 45.5**	**-0.5**
	baz=1.0								
TWD				S			**Sb**	**12 07 51.8**	**-0.7**
	baz=1.0								
YUS	**Yu-Shan**	**0.54**	**253**	⇑*iP*			**Pb**	**12 07 48.1**	**+0.1**
	baz=252								
YUS				*i* S			**Sb**	**12 07 55.2**	**-0.7**
	baz=252								
WHF	**Hehuan Shan**	**0.54**	**335**	⇓*iP*			**Pb**	**12 07 47.3**	**-0.6**
	baz=337								
WHF				S			**Sb**	**12 07 54.8**	**-1.1**
	baz=337								
CHKT	**Chengkung**	**0.56**	**194**	P			**Pb**	**12 07 47.7**	**-0.2**
	baz=204								
CHKT				S			**Sn**	**12 07 56.5**	**+0.3**
	baz=204								
SMLT	**Sun Moon Lake**	**0.61**	**293**	⇓*iP*			**Pb**	**12 07 48.6**	**-0.2**
	baz=296								
SMLT				*eS*			**Sn**	**12 07 57.4**	**-0.2**
	baz=296								
ELDTW	**Lidau**	**0.65**	**225**	*eP*			**Pb**	**12 07 48.2**	**-1.2**
	baz=222								
ELDTW				*eS*			**Sb**	**12 07 57.0**	**-1.3**
	baz=222								
TYC	**Yuchr**	**0.66**	**293**	⇓*iP*			**Pn**	**12 07 49.2**	**-0.1**
	baz=298								
TYC				S			**Sn**	**12 07 58.3**	**-0.2**
	baz=298								
ALS	**Alishan**	**0.67**	**258**	⇑*iP*			**Pn**	**12 07 49.9**	**+0.2**
	baz=264								
ALS				*i* S			**Sb**	**12 07 58.7**	**-0.3**
	baz=264								
TWT	**Tachien**	**0.68**	**333**	⇓*iP*			**Pb**	**12 07 49.9**	**-0.1**
	baz=332								
TWT				*eS*			**Sb**	**12 07 58.6**	**-0.6**
	baz=332								
CHN5	**Tsauling**	**0.77**	**266**	⇑*iP*			**Pb**	**12 07 51.5**	**+0.2**
	baz=266								
CHN5				S			**Sn**	**12 08 02.6**	**+1.1**
	baz=266								
WNT	**Mingjian**	**0.80**	**287**	*eP*			**Pb**	**12 07 52.2**	**+0.4**
	baz=287								
WNT				*eS*			**Sb**	**12 08 03.0**	**+0.8**
	baz=287								
NNS	**Nan Shan**	**0.80**	**351**	*eP*			**Pn**	**12 07 51.0**	**-0.4**
NNS				*eS*			**Sn**	**12 08 01.1**	**-1.1**
ENA	**Nanau**	**0.80**	**15**	⇓*iP*			**Pn**	**12 07 50.5**	**-0.8**
	baz=4.0								
ENA				*eS*			**Sn**	**12 08 00.6**	**-1.5**
	baz=4.0								
STYT	**Tauyuan**	**0.85**	**235**	⇑P			**Pb**	**12 07 52.3**	**-0.4**
	baz=229								
STYT				*eS*			**Sn**	**12 08 03.1**	**-0.2**
	baz=229								
WGK	**Gukeng**	**0.88**	**273**	P			**Pb**	**12 07 53.1**	**0.0**
	baz=273								
WGK				*eS*			**Sb**	**12 08 05.3**	**+0.8**
	baz=273								
CHN4	**Tsaushan**	**0.90**	**251**	⇑*iP*			**Pb**	**12 07 53.5**	**0.0**
	baz=250								
CHN4				*eS*			**Sb**	**12 08 06.1**	**+0.9**
	baz=250								
TCU	**Taichung**	**0.92**	**303**	*eP*			**Pb**	**12 07 54.2**	**+0.4**
	baz=304								
TCU				*eS*			**Sb**	**12 08 06.4**	**+0.8**
	baz=304								
TWG	**Pinlang**	**0.92**	**206**	*eP*			**Pn**	**12 07 51.4**	**-1.5**
	baz=199								
TWG				*eS*			**Sn**	**12 08 02.5**	**-2.5**
	baz=199								
WTP	**Ta-pu**	**0.92**	**244**	⇑*iP*			**Pb**	**12 07 53.9**	**0.0**
	baz=243								
WTP				*eS*			**Sb**	**12 08 06.3**	**+0.5**
	baz=243								
TTN	**Taitung**	**0.95**	**201**	*eP*			**Pn**	**12 07 52.9**	**-0.5**
	baz=202								
TTN				*eS*			**Sn**	**12 08 05.7**	**-0.2**
	baz=202								
CHN2	**Minshiung**	**0.96**	**263**	*eP*			**Pb**	**12 07 54.5**	**0.0**
	baz=263								
CHN2				*eS*			**Sb**	**12 08 08.1**	**+1.1**
	baz=263								
TWQ1	**Liyutan**	**0.97**	**316**	⇓*iP*			**Pb**	**12 07 55.2**	**+0.5**
	baz=324								
TWQ1				*eS*			**Sb**	**12 08 08.5**	**+1.2**
	baz=324								
ENTT	**Nioudou**	**0.99**	**3**	P			**Pn**	**12 07 53.5**	**-0.4**
	baz=12								
ENTT				*eS*			**Sn**	**12 08 05.8**	**-1.0**
	baz=12								
TWC	**Suao**	**1.00**	**18**	*eP*			**Pn**	**12 07 53.8**	**-0.3**
	baz=6.0								
TWC				*eS*			**Sb**	**12 08 08.4**	**+0.2**
	baz=6.0								
CHY	**Chiayi**	**1.01**	**262**	*eP*			**Pb**	**12 07 55.5**	**+0.1**
	baz=261								
CHY				*eS*			**Sb**	**12 08 09.1**	**+0.7**
	baz=261								
CHN1	**Nanshi**	**1.02**	**243**	P			**Pb**	**12 07 55.3**	**-0.2**
	baz=243								
CHN1				*eS*			**Sb**	**12 08 09.4**	**+0.8**
	baz=243								
SGST	**Jiashian**	**1.03**	**237**	⇑*iP*			**Pb**	**12 07 55.5**	**-0.1**
	baz=229								
SGST				*eS*			**Sb**	**12 08 09.4**	**+0.6**
	baz=229								
NSY	**Sanyi**	**1.03**	**318**	P			**Pb**	**12 07 56.1**	**+0.4**
	baz=320								
NSY				*eS*			**Sb**	**12 08 09.9**	**+1.0**
	baz=320								
NSK	**Sanguang**	**1.03**	**352**	P			**Pn**	**12 07 54.8**	**+0.2**
	baz=3.0								
NSK				*eS*			**Sn**	**12 08 07.3**	**-0.6**
	baz=3.0								
NSTT	**Nanjuang**	**1.08**	**334**	⇓*iP*			**Pb**	**12 07 56.6**	**0.0**
	baz=346								
NSTT				*eS*			**Sb**	**12 08 10.2**	**-0.3**
	baz=346								
WTCT	**Ta-ch'eng**	**1.15**	**281**	*eP*			**Pb**	**12 07 56.8**	**-0.9**
	baz=272								
WTCT				*eS*			**Sb**	**12 08 12.9**	**+0.6**
	baz=272								
ECL	**Taimali**	**1.17**	**206**	*eP*			**Pn**	**12 07 55.9**	**-0.5**
	baz=198								
WSF	**Szhu**	**1.19**	**270**	*eP*			**Pb**	**12 07 57.5**	**-0.8**
	baz=270								
WSF				*eS*			**Sb**	**12 08 13.7**	**+0.3**
	baz=270								
CHN3	**Shinhua**	**1.20**	**242**	*eP*			**Pb**	**12 07 58.4**	**-0.1**
	baz=242								
CHN3				*eS*			**Sb**	**12 08 15.4**	**+1.7**
	baz=242								
SSD	**Sandimen**	**1.21**	**222**	*eP*			**Pb**	**12 07 59.0**	**+0.3**
	baz=222								
SSD				*eS*			**Sb**	**12 08 13.5**	**-0.6**
	baz=222								
CHN8	**Yiju**	**1.23**	**256**	*eP*			**Pn**	**12 07 57.9**	**+0.6**
	baz=255								
TWM1	**Shoushan**	**1.30**	**231**	*eP*			**Pb**	**12 08 01.0**	**+0.8**
	baz=230								
SCLT	**Jiali**	**1.30**	**249**	*eP*			**Pb**	**12 07 59.5**	**-0.8**
	baz=248								
SGLT	**Jiouru**	**1.32**	**226**	*eP*			**Pb**	**12 08 01.2**	**+0.7**
	baz=215								
TWA	**Mucha**	**1.33**	**3**	*eP*			**Pn**	**12 07 56.8**	**-1.8**
	baz=11								
NCU	**National Centr**	**1.35**	**347**	*eP*			**Pb**	**12 08 00.2**	**-0.9**
	baz=349								
EAST	**Anshuo**	**1.40**	**206**	*eP*			**Pn**	**12 07 58.7**	**-0.9**
	baz=200								
TWB1	**Santiao Chiao**	**1.42**	**18**	P			**Pb**	**12 08 01.2**	**-1.0**
	baz=7.0								
TWB1				*eS*			**Sn**	**12 08 18.0**	**+0.6**
	baz=7.0								
NWF	**Wu-fen Shan**	**1.44**	**10**	P			**Pn**	**12 08 00.5**	**+0.4**
	baz=9.0								
NWF				S			**Sb**	**12 08 19.5**	**-1.1**
	baz=9.0								
TWS1	**Kuangyinshan**	**1.45**	**356**	*eP*			**Pn**	**12 08 00.9**	**+0.6**
	baz=9.0								
TWS1				*eS*			**Sb**	**12 08 20.0**	**-0.8**
	baz=9.0								
SCZT	**Fangliau**	**1.52**	**213**	*eP*			**Pn**	**12 08 02.4**	**+1.3**
	baz=214								
SCZT				*eS*			**Sb**	**12 08 21.7**	**-1.0**
	baz=214								
JYNG	**Yonagunijimaku**	**1.53**	**58**	P			**Pn**	**12 08 02.1**	**+0.8**
JYNG				S			**Sn**	**12 08 21.2**	**+1.1**
YOJ	**Yonaguni jima**	**1.59**	**59**	P			**Pn**	**12 08 02.7**	**+0.6**
YOJ				S			**Sn**	**12 08 22.7**	**+1.2**
LAY	**Lan-yu**	**1.60**	**179**	*eP*			**Pn**	**12 08 00.9**	**-1.5**
	baz=171								
WDGT	**Dungji**	**1.75**	**258**	*eP*			**Pn**	**12 08 04.6**	**+0.3**
	baz=257								
PNG	**Penghu**	**1.80**	**268**	*eP*			**Pn**	**12 08 04.9**	**-0.1**
	baz=253								
PNG				*eS*			**Sn**	**12 08 28.0**	**+1.3**
	baz=253								
TWK1	**Hengchun**	**1.82**	**201**	*eP*			**Pn**	**12 08 06.0**	**+0.6**
	baz=192								
TWK1				*eS*			**Sn**	**12 08 28.5**	**+1.3**
	baz=192								
HATJ	**Hateruma jima**	**2.13**	**79**	P			**Pn**	**12 08 10.1**	**+0.5**
HATJ				S			**Sn**	**12 08 35.6**	**+0.6**
IRIF	**Iriomote-Funau**	**2.14**	**71**	P			**Pn**	**12 08 10.5**	**+0.8**
IRIF				S			**Sn**	**12 08 36.3**	**+1.2**
JKRS	**Kuro-shima**	**2.35**	**75**	P			**Pn**	**12 08 13.8**	**+1.1**
JKRS				S			**Sn**	**12 08 41.6**	**+1.1**
JIJ	**Ishigaki jima**	**2.51**	**73**	P			**Pn**	**12 08 15.3**	**+0.5**
JIJ				S			**Sn**	**12 08 44.2**	**0.0**
JISG	**Ishigakijimahi**	**2.72**	**69**	P			**Pn**	**12 08 17.8**	**+0.1**
JISG				S			**Sn**	**12 08 48.5**	**-0.9**
JTJ	**Tarama**	**3.07**	**71**	P			**Pn**	**12 08 23.3**	**+0.7**
JTJ				S			**Sn**	**12 08 58.6**	**+0.4**

WEL 14 12:12:07.8±0.2,36°.27S×177°.24E,h169km±4km,ML3.7/16, 1D,Error ellipse: s-maj=4.4km s-min=4.1km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.55**	**164**	PN			Pn	12 12 39.6	+0.3
HAZ				SN			Sn	12 13 03.9	+0.2
MXZ	**Matakaoa Point**	**1.55**	**147**	PN			Pn	12 12 39.7	+0.4
MXZ				SN			Sn	12 13 03.7	-0.1
WMGZ	**Waiomatatini S**	**1.81**	**149**	PN			Pn	12 12 41.9	-0.1
WMGZ				SN			Sn	12 13 07.9	-0.7
PUZ	**Puketiti**	**1.98**	**156**	PN			Pn	12 12 43.3	-0.5
PUZ				SN			Sn	12 13 11.3	-0.6
PUZ				AML		AML		12 13 12.0	
URZ	**Urewera**	**1.99**	**183**	PN			Pn	12 12 44.4	+0.5
URZ				SN			Sn	12 13 12.0	-0.1
TWGZ	**Tauwhareparae**	**2.00**	**163**	PN			Pn	12 12 44.4	+0.3
TWGZ				SN			Sn	12 13 12.8	+0.5
MWZ	**Matawai**	**2.08**	**174**	⇓PN			Pn	12 12 45.1	+0.1
MWZ				SN			Sn	12 13 13.1	-0.9
TKGZ	**Te Karaka**	**2.22**	**168**	PN			Pn	12 12 46.1	-0.5
TKGZ				SN			Sn	12 13 14.7	-2.0
CNGZ	**Carnagh Statio**	**2.34**	**161**	PN			Pn	12 12 49.4	+1.4
RIGZ	**Rimuhau**	**2.47**	**171**	PN			Pn	12 12 49.1	-0.4
KNZ	**Kokohu**	**2.77**	**173**	PN			Pn	12 12 51.4	-1.6
WHHZ	**Waihua**	**2.81**	**180**	PN			Pn	12 12 52.5	-1.0
BKZ	**Black Stump Fm**	**2.96**	**191**	PN			Pn	12 12 54.2	-1.3
ARHZ	**Aropaoanui**	**3.00**	**184**	PN			Pn	12 12 54.6	-1.3
MCHZ	**McNeill Hill**	**3.20**	**188**	PN			Pn	12 12 57.3	-1.1
BHHZ	**Black Hill Sta**	**3.35**	**196**	PN			Pn	12 12 58.5	-1.8
CKHZ	**Cape Kidnapper**	**3.39**	**182**	PN			Pn	12 12 58.6	-2.1
PXZ	**Pawanui**	**3.77**	**184**	AML		AML		12 13 04.3	
TSZ	**Takapari Road**	**3.92**	**195**	PN			Pn	12 13 04.6	-3.0
MRZ	**Mangatainoka R**	**4.58**	**196**	AML		AML		12 13 12.2	
MRZ				AML		AML		12 14 05.4	
OGWZ	**Otaki Gorge**	**4.83**	**199**	PN			Pn	12 13 15.1	-4.1
KIW	**Kapiti Island**	**4.94**	**201**	AML		AML		12 13 17.6	
MTW	**Mount Morrison**	**5.07**	**195**	PN			Pn	12 13 17.5	-4.9
CAW	**Cannon Point**	**5.13**	**199**	PN			Pn	12 13 18.4	-4.8
MSWZ	**Moikau Station**	**5.37**	**196**	PN			Pn	12 13 21.0	-5.4
TCW	**Tory Channel**	**5.46**	**204**	PN			Pn	12 13 22.6	-4.9
TUWZ	**Tuamarina**	**5.76**	**206**	PN			Pn	12 13 26.6	-4.9
BSWZ	**Blackbirch Sta**	**6.04**	**205**	PN			Pn	12 13 30.5	-4.6
KHZ	**Kahutara**	**6.78**	**204**	AML		AML		12 13 38.7	

*GUC **14** 12:18:54.4±0.6,35°.73S×73°.70W,h13km±6km,ML4.9*
*IDC **14** 12:18:54.1±0.6,35°.76S×73°.39W,h0km,mb4.4/9, mb1 4.5/12,mb1mx4.3/27,mbtmp4.3/12,ML4.1/3,MS3.6/6, Ms1 3.6/6,ms1mx3.4/21,Error ellipse: s-maj=24.9km s-min=17.8km az=95.0*
*ISCJB **14** 12:18:57.9±0.3,35°.81S±0°.04×73°.38W±0°.05,h33km, mb4.7/28,MS3.5/5,Error ellipse: s-maj=6.3km s-min=5.0km az=176.2*
*BJI **14** 12:18:59.7,35°.70S×73°.00W,h35km,mB5.3/3*
*NEIC **14** 12:18:59.6±0.3,35°.76S×73°.17W,h35km,mb4.6/17,Error ellipse: s-maj=10.6km s-min=7.8km az=79.0*
NEIC Felt at Machali.

ISC 14 12:18:58.8±0.4,35°.85S±0°.05×73°.44W±0°.07,h35km,n66, σ1s53/71,mb4.6/29,MS3.8/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**118**	*eP*			**Pn**	**12 19 09.1**	**-1.8**
COCH				*eS*			**Sn**	**12 19 20.0**	**+0.7**
CCSP	**San Pedro de C**	**1.03**	**165**	*eP*			**Pn**	**12 19 15.1**	**-1.7**
CCSP				*eS*			**Sn**	**12 19 30.4**	**+0.5**
CCSP				AML		AML		12 19 31.5	
	comp=E,25μm,0.5s								
LNCH	**Linares**	**1.49**	**90**	*eP*			**Pn**	**12 19 22.6**	**-0.6**
TALC	**Talca**	**1.54**	**73**	*eP*			**Pn**	**12 19 23.1**	**-0.6**
TALC				*eS*			**Sn**	**12 19 45.1**	**+2.6**
NICH	**Los Niches**	**1.99**	**66**	*eP*			**Pn**	**12 19 29.7**	**-0.3**
CLCH	**Cerro Calan**	**3.42**	**45**	*eP*			**Pn**	**12 19 48.7**	**-1.1**
CLCH				*eS*			**Sn**	**12 20 30.6**	**+1.5**
CLCH				AML		AML		12 20 53.1	
	comp=E,3μm,0.7s								
PLCA	**Paso Flores**	**5.38**	**156**	Pn			**Pn**	**12 20 17.3**	**+0.7**
	comp=E,2.3nm,0.3s,baz=326,slow=10,SNR=48								
PLCA				Lg			Lg	12 21 44.8	
	comp=E,2.7nm,0.3s,baz=51,slow=19,SNR=4.6								
PLCA				LR			LR	12 22 24.7	
	comp=E,577nm,18.1s,baz=332,slow=39								
CFAA	**Coronel Fontan**	**6.06**	**47**	Pn			**Pn**	**12 20 25.2**	**-0.8**
	comp=E,3.6nm,0.3s,baz=220,slow=12,SNR=174								
CFAA				Sn			**Sn**	**12 21 34.4**	**+0.3**
	com

CCUT	**Cedar City**	**81.88**	**329**	*e*P		**P**		**12 31 17.1**	**+2.5**
	comp=E,3.3nm,1.0s									
SRU	**San Rafael Swe**	**82.07**	**332**	*e*P		**P**		**12 31 16.6**	**+1.1**
	comp=E,2.7nm,0.9s									
DAC	**Darwin (Calif)**	**82.67**	**325**	*e*P		**P**		**12 31 20.7**	**+1.9**
	comp=E,52nm,2.8s									
R11A	**Troy Canyon, C**	**83.49**	**328**	*e*P		**P**		**12 31 24.9**	**+1.9**
	comp=E,33nm,2.8s									
DUG	**Dugway, Tooele**	**83.90**	**331**	*e*P		**P**		**12 31 26.6**	**+1.6**
	comp=E,4.4nm,1.0s									
NVAR	**Mina Array Bea**	**84.76**	**326**	P		**P**		**12 31 31.0**	**+1.6**
	comp=E,1.3nm,0.8s,baz=157,slow=6.7,SNR=9.9									
PDAR	**Pinedale Array**	**84.91**	**334**	P		**P**		**12 31 30.4**	**+0.3**
	comp=E,0.7nm,1.1s,baz=168,slow=4.6,SNR=4.3									
HVU	**Hansel Valley**	**85.24**	**332**	*e*P		**P**		**12 31 32.5**	**+0.8**
	comp=E,50µm,0.8s									
TORD	**Torodi Ar. Bea**	**85.91**	**71**	P		**P**		**12 31 35.4**	**-0.1**
	comp=E,2.3nm,0.9s,baz=232,slow=4.1,SNR=9.8									
MCMT	**McKenzie Canyo**	**87.88**	**333**	*e*P		**P**		**12 31 45.8**	**+1.1**
	comp=E,1.6nm,1.1s									
ULM	**Lac du Bonnet**	**87.99**	**346**	P		**P**		**12 31 42.9**	**-1.8**
	comp=E,5.4nm,1.0s,baz=191,slow=9.3,SNR=4.1									
MOD	**Modoc Plateau**	**88.47**	**327**	*e*P		**P**		**12 31 49.0**	**+1.6**
	comp=E,5.1nm,0.9s									
CHMT	**Chamberlain Mo**	**89.81**	**334**	*e*P		P		12 31 60.0	+6.3
SCHQ	**Schefferville**	**90.50**	**4**	P		**P**		**12 31 55.5**	**-0.9**
	comp=E,2.4nm,0.9s,baz=158,slow=16,SNR=3.5									
YKA	**Yellowknife Ar**	**103.44**	**342**	Pdiff		**Pdif**		**12 32 54.0**	**-0.8**
	comp=E,0.2nm,1.0s,baz=132,slow=3.6,SNR=3.1									
WRA	**Warramunga Arr**	**118.59**	**210**	PKP		**PKPdf**		**12 37 42.6**	**-0.9**
	comp=E,0.1nm,0.4s,baz=150,slow=1.7,SNR=2.9									
ARCES	**ARCESS Array B**	**126.17**	**25**	PKP		**PKPdf**		**12 37 56.3**	**-0.2**
	comp=E,2.3nm,0.9s,baz=340,slow=4.9,SNR=3.6									
ABKAR	**Akbulak array**	**143.72**	**54**	*e*PKPdf		PKPbc		12 38 27.4	+0.2
BVAR	**Borovoye Array**	**149.41**	**44**	PKP		**PKPdf**		**12 38 40.3**	**+1.2**
	comp=E,2.1nm,0.7s,baz=281,slow=3.8,SNR=9.9									
BVAR				PKPbc		**PKiKP**		**12 38 44.2**	**-0.4**
	comp=E,2.2nm,0.7s,baz=298,slow=3.1,SNR=10									
KURBB	**Kurchatov Arra**	**154.99**	**45**	PKP		**PKPdf**		**12 38 47.9**	**+0.4**
	comp=E,0.6nm,0.3s,baz=323,slow=2.9,SNR=7.0									
KURBB				PKPbc		PKiKP		12 38 56.6	+0.4
	comp=E,0.8nm,0.2s,baz=299,slow=2.5,SNR=6.1									
KURBB				PKPab		PKPab		12 39 11.8	-0.1
	comp=E,0.7nm,0.2s,baz=292,slow=4.3,SNR=4.8									
KURK	**Kurchatov**	**155.00**	**45**	PKP		**PKPdf**		**12 38 47.9**	**+0.4**
KURK				PKPbc				12 38 56.6	
KURK				PKPab		PKPab		12 39 11.8	-0.1
KSH	**Kashi**	**155.58**	**72**	*e*PKPbc		**PKPdf**		**12 38 43.8**	**-5.0**
KSH				pPKP		**pPKPdf**		**12 38 54.5**	**-5.8**
KSH				PKS		PKSdf		12 42 17.0	-5.9
KSH				PPMZ					
	comp=E,99nm,4.6s									
ZALV	**Zalesovo Beam**	**156.40**	**33**	PKP		**PKPdf**		**12 38 48.9**	**-0.3**
	comp=E,1.9nm,0.8s,baz=277,slow=2.5,SNR=12									
ZALV				PKPab		**PKPab**		**12 39 18.7**	**+0.9**
	comp=E,4.6nm,0.7s,baz=300,slow=5.2,SNR=16									
MKAR	**Makanchi Array**	**158.83**	**51**	PKP		**PKPdf**		**12 38 52.3**	**-0.2**
	comp=E,1.1nm,0.8s,baz=270,slow=0.7,SNR=11									
MKAR				PKPab		**PKPab**		**12 39 28.3**	**-0.3**
	comp=E,1.3nm,0.8s,baz=294,slow=3.9,SNR=7.9									
WMQ	**Urumqi**	**163.49**	**55**	*e*PKP		**PKPdf**		**12 38 57.0**	**-0.7**
WMQ				pPKP		**pPKPdf**		**12 39 08.0**	**-1.1**
SONM	**Songino Array**	**168.02**	**1**	PKPab		**PKPab**		**12 40 09.7**	**+0.8**
	comp=E,1.4nm,0.9s,baz=340,slow=4.1,SNR=9.9									
NJ2	**Nanjing**	**169.11**	**253**	*e*PKP		**PKPdf**		**12 39 04.1**	**+1.8**
HHC	**Hu-ho-hao-te**	**173.65**	**323**	*e*PKP		**PKPdf**		**12 39 03.6**	**-0.9**
HHC				PP		**PP**		**12 44 27.4**	**+1.5**
HHC				SS		SS		13 05 37.0	-3.2
HHC				PPMZ					
	comp=E,450nm,10.0s									
CD2	**Chengdu**	**174.54**	**154**	PKP		**PKPdf**		**12 39 04.0**	**-1.0**
LZH	**Lanzhou**	**177.78**	**83**	*e*PKP		**PKPdf**		**12 39 05.5**	**-0.2**
LZH				pPKP		**pPKPdf**		**12 39 16.3**	**-0.9**
LZH				sPKP				12 39 20.3	

FUNV 14 12:19:23.1, 12°.39N×73°.47W, h35km, MW3.6, 1C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VIRV	**Villa del Rosa**	**2.15**	**151⇑**	*e*P		Pn	12 19 55.1	-1.4
VIRV				*e*S		Sn	12 20 19.2	-2.7
DABV	**Dabajuro**	**3.14**	**117**	*e*P		Pn	12 20 09.4	-0.7
DABV				*e*S		Sn	12 20 43.5	-2.9
MONV	**Montecano**	**3.45**	**97**	*e*P		Pn	12 20 13.5	-0.9
QARV	**Quebrada Arrib**	**3.62**	**127**	*e*P		Pn	12 20 15.1	-1.6
SIQV	**Siquisique**	**3.99**	**115**	*e*P		Pn	12 20 20.7	-1.1
VIGV	**El Vigia**	**4.10**	**149**	*e*P		Pn	12 20 22.6	-0.7
VIGV				*e*S		Sn	12 21 05.6	-4.5
SANV	**Sanarito**	**4.82**	**126**	*e*P		Pn	12 20 31.2	-2.1
SOCV	**Socops**	**4.83**	**148**	*e*P		Pn	12 20 32.5	-0.9
TEPV	**Terepaima**	**4.85**	**119**	*e*P		Pn	12 20 32.6	-1.0
MAPV	**Macapo**	**5.54**	**117**	*e*P		Pn	12 20 41.4	-1.8
TURV	**Turiamo**	**5.85**	**109**	*e*P		Pn	12 20 44.5	-2.9
BAUV	**El Baul**	**6.34**	**122**	*e*P		Pn	12 20 52.1	-2.1
CUPV	**Cœpira**	**7.89**	**106**	*e*P		Pn	12 21 11.9	-3.6

*IDC **14** 12:19:30.7±0.7, 32°.92N×96°.92E, h0km, mb3.8/15, mb1 4.1/18, mb1mx3.9/50, mbtmp3.9/18, ML3.7/3, MS3.3/13, Ms1 3.3/13, ms1mx3.1/44, Error ellipse: s-maj=25.7km s-min=13.0km az=52.0*

*ISCJB **14** 12:19:31.7±0.3, 33°.00N±0°.04×97°.08E±0°.04, h10km, mb4.1/21, MS3.2/10, Error ellipse: s-maj=5.9km s-min=4.9km az=44.3*

*NEIC **14** 12:19:33.0±0.5, 32°.96N×97°.09E, h10km, mb4.2/5, Error ellipse: s-maj=10.1km s-min=8.6km az=57.0*

*BJI **14** 12:19:33.2, 32°.97N×96°.98E, h10km, mB4.5/5, mb4.4/13, ML3.7/13, Ms4.1/20, Ms7 3.9/20*

*MOS **14** 12:19:34.3±1.0, 32°.97N×97°.04E, h33km, mb4.5/15, Error ellipse: s-maj=12.1km s-min=7.7km az=106.0*

ISC 14 12:19:33.6±0.4, 32°.95N±0°.05×97°.02E±0°.04, h10km, n81, σ2s 08/80, mb4.2/21, MS3.2/10, 4C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.98**	**239**	Pn		**Pn**	**12 21 03.1**	**+0.5**
LSA	**Lhasa**	**5.98**	**239**	*e*P		**Pn**	**12 21 03.5**	**+0.9**
LSA				*e*			12 22 16.2	
LSA				pmax		pmax		
	comp=E,11nm,0.6s							
LSA	**Lhasa**	**5.98**	**239**	*e*Pn		**Pn**	**12 21 03.5**	**+0.9**
	comp=E,11nm,0.6s							
LSA				*e*Sn		**Sn**	**12 22 16.2**	**+4.8**
CD2	**Chengdu**	**6.08**	**108**	Pn		**Pn**	**12 21 02.0**	**-1.5**
CD2				Pg		Pb	12 21 23.8	+4.2
CD2				Sn		Sn	12 22 07.0	-6.2
CD2				Sg		**Sg**	**12 22 47.3**	**-1.4**
CD2				SMN				
	comp=E,70nm,1.2s							
CD2				SME				
	comp=E,60nm,1.2s							
CD2				LE				
	comp=E,1µm,5.7s							
CD2				LZ				
	comp=E,2µm,6.1s							
LZH	**Lanzhou**	**6.44**	**59**	Pn		**Pn**	**12 21 11.6**	**+3.0**
LZH				Pg		Pg	12 21 31.9	-5.0
LZH				Sg		**Sg**	**12 22 57.4**	**-3.0**
LZH				LN				
	comp=E,2µm,6.4s							
LZH				LE				
	comp=Z,880nm,5.8s							
LZH				LZ				
	comp=E,2µm,9.5s							
GTA	**Gaotai**	**6.83**	**18**	*e*Pn		**Pn**	**12 21 14.5**	**+0.5**
GTA				Sn		**Sn**	**12 22 34.5**	**+2.7**
GTA				LN				
	comp=Z,420nm,10.9s							
GTA				LE				
	comp=Z,670nm,9.3s							
GTA				LZ				
	comp=Z,520nm,10.0s							
SHL	**Shillong**	**8.62**	**213**	*e*P		Pn	12 21 29.0	-10
SHL				*e*S		Sn	12 23 02.0	-14
KMI	**Kunming**	**9.26**	**146**	P		**Pn**	**12 21 48.8**	**+1.3**
KMI				PMZ				
	comp=Z,15nm,0.5s							
KMI				LN				
	comp=Z,620nm,7.1s							
KMI				LE				
	comp=Z,280nm,7.8s							
KMI				LZ				
	comp=Z,520nm,8.4s							
GYA	**Guiyang**	**10.58**	**125⇑**	*i*P		Pn	12 22 12.4	+6.9
GYA				S		Sn	12 24 15.0	+11
GYA				PMZ				
	comp=Z,10.0nm,0.9s							
GYA				LN				
	comp=Z,460nm,9.5s							
GYA				LE				
	comp=Z,230nm,9.6s							
GYA				LZ				
	comp=Z,480nm,10.0s							
WMQ	**Urumqi**	**13.08**	**329**	*e*P		**Pn**	**12 22 40.5**	**+1.0**
WMQ				pP		P	12 22 44.0	-5.8
WMQ				sP			12 22 46.8	
WMQ				*e*S		**Sn**	**12 25 06.0**	**+1.0**
WMQ				PMZ				
	comp=Z,9.0nm,0.7s							
WMQ				LN				
	comp=Z,220nm,6.0s							
WMQ				LE				
	comp=Z,290nm,7.4s							
WMQ				LZ				
	comp=Z,350nm,15.6s							
HHC	**Hu-ho-hao-te**	**14.04**	**52**	*e*P		**Pn**	**12 22 54.6**	**+1.9**
HHC				sP			12 23 01.4	
HHC				PP		**PnPn**	**12 23 06.8**	**+6.2**
HHC				S		**Sn**	**12 25 32.0**	**+3.4**
HHC				sS		S	12 25 36.6	-14
HHC				SS		**SnSn**	**12 25 48.6**	**+7.6**
CMMT	**Chiang Mai**	**14.19**	**173**	P		P	12 22 58.5	-3.7
	comp=Z,6.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**14.54**	**173**	Pn		**Pn**	**12 22 59.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=33							
CMAR				LR		LR	12 28 46.0	
	comp=Z,109nm,18.4s,baz=345,slow=38							
LAMP	**Lampang**	**14.56**	**170**	P		**P**	**12 23 06.8**	**+0.5**
	comp=Z,4.2nm,0.8s							
UTTA	**Uttaradit**	**15.47**	**167**	P		**P**	**12 23 17.7**	**+1.2**
	comp=Z,2.3nm,1.0s							
SUKH	**Sukhothai**	**15.58**	**171**	P		**P**	**12 23 18.9**	**+1.2**
	comp=Z,4.1nm,0.8s							
SONM	**Songino Array**	**16.47**	**23**	Pn		**Pn**	**12 23 23.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=20							
SONM				LR		LR	12 30 12.5	
	comp=Z,136nm,18.6s,baz=216,slow=39							
PBKT	**Sadao Pong**	**16.70**	**167**	P		**P**	**12 23 30.8**	**+0.8**
	comp=Z,9.3nm,0.9s							
ULN	**Ulaanbaatar**	**16.72**	**24⇑**	*i*P		**Pn**	**12 23 26.7**	**-1.3**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**16.72**	**24**	*e*Pn		**P**	**12 23 29.5**	**-0.8**
	comp=Z,5.0nm,0.9s							
UTHA	**Uthaitani**	**17.45**	**172**	P		**P**	**12 23 41.3**	**+2.9**
	comp=Z,3.5nm,0.9s,comp=Z,142nm							
MKAR	**Makanchi Array**	**17.82**	**325**	P		**P**	**12 23 41.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=134,slow=13,SNR=28							
MKAR				LR		LR	12 30 34.8	
	comp=Z,60nm,21.5s,baz=136,slow=37							
MKAR	**Makanchi Array**	**17.82**	**325**	*e*P		**P**	**12 23 41.8**	**-0.6**
ZAK	**Zakamensk**	**18.02**	**13**	*e*P		**Pn**	**12 23 41.2**	**-3.0**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.4s							
KSH	**Kashi**	**18.18**	**297**	*e*P		**P**	**12 23 47.9**	**+1.4**
KSH				*e*sP		**sP**	**12 23 54.9**	**+4.2**
KSH				*e*PP		**PnPn**	**12 24 02.8**	**+5.4**
KSH				S		**Sn**	**12 27 06.3**	**-3.0**
KSH				PMZ				
	comp=Z,57nm,3.8s							
KSH				LN				
	comp=Z,190nm,5.3s							
KSH				LE				
	comp=Z,180nm,5.8s							
KSH				LZ				
	comp=Z,200nm,7.0s							
TLY	**Talaya**	**19.33**	**13**	LR		LR	12 32 20.6	
	comp=Z,86nm,18.9s,baz=184,slow=40							
TKM2	**Tokmak 2**	**19.57**	**307**	*e*P		**Pn**	**12 24 02.3**	**-0.8**
TKM2				pmax		pmax		
	comp=Z,11nm,1.3s							
TKM2	**Tokmak 2**	**19.57**	**307**	*e*P		**Pn**	**12 24 02.3**	**-0.8**
	comp=Z,11nm,1.3s							
AAK	**Ala-Archa**	**20.21**	**305⇑**	*i*P		Pn	12 24 10.0	-0.7
AAK				pmax		pmax		
	comp=Z,21nm,1.2s							
AAK	**Ala-Archa**	**20.21**	**305**	P		**P**	**12 24 06.2**	**-2.6**
	comp=Z,2.4nm,0.6s,baz=89,slow=8.2,SNR=2.9							
AAK				LR		LR	12 33 03.8	
	comp=Z,64nm,18.2s,baz=91,slow=40							
AAK	**Ala-Archa**	**20.21**	**305**	*e*P		Pn	12 24 09.2	-1.4
CHBT	**CHBT**	**20.68**	**165**	P		Pn	12 24 18.4	+2.2
	comp=Z,18nm,0.9s,comp=Z,3µm							
EKS2	**Erkin-Say**	**20.71**	**305**	*e*P		Pn	12 24 14.6	-2.0
EKS2				pmax		pmax		
	comp=Z,16nm,1.4s							
EKS2	**Erkin-Say**	**20.71**	**305**	*e*P		Pn	12 24 14.6	-2.0
	comp=Z,16nm,1.4s							
KURBB	**Kurchatov Arra**	**22.30**	**328**	P		**P**	**12 24 29.1**	**-1.9**
	comp=Z,3.7nm,1.0s,baz=139,slow=10,SNR=18							
KURK	**Kurchatov**	**22.32**	**328**	*e*P		**P**	**12 24 30.7**	**-0.6**
KURK	**Kurchatov**	**22.32**	**328**	*e*P		**P**	**12 24 30.7**	**-0.6**
ZALV	**Zalesovo Beam**	**22.72**	**341**	*i*P		**P**	**12 24 35.2**	**-0.2**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**22.72**	**341**	P		**P**	**12 24 32.9**	**-2.6**
	comp=Z,1.3nm,0.7s,baz=144,slow=8.4,SNR=6.9							
ZALV				LR		LR	12 33 07.2	
	comp=Z,28nm,18.7s,baz=256,slow=36							
KKAR	**Karatay Array**	**23.13**	**304**	*e*P		**P**	**12 24 39.6**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,19nm,1.1s							
KKAR	**Karatay Array**	**23.13**	**304**	*e*P		**P**	**12 24 39.6**	**-0.2**
	comp=Z,18nm,1.1s							
KBL	**Kabul**	**23.29**	**282**	*e*P		**P**	**12 24 43.2**	**+1.3**
KBL				pmax		pmax		
	comp=Z,23nm,1.0s							
KBL	**Kabul**	**23.29**	**282**	*e*P		**P**	**12 24 43.2**	**+1.3**
	comp=Z,23nm,1.0s							
CN2	**Changchun**	**24.66**	**56**	*e*P		**P**	**12 24 54.6**	**+0.1**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
KSAR	**Wonju Array Be**	**25.55**	**71**	P		**P**	**12 25 02.4**	**-0.2**
KSAR	**Wonju Array Be**	**25.55**	**71**	P		**P**	**12 25 02.4**	**-0.2**
KSRS	**Korea Array**	**25.58**	**71**	P		**P**	**12 25 02.4**	**-0.4**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KSRS				MLR		MLR		
	comp=Z,41nm,21.0s							
KSRS	**Korea Array**	**25.58**	**71**	P		**P**	**12 25 02.4**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=274,slow=10,SNR=3.7							
KSRS				LR		LR	12 35 22.1	
	comp=Z,41nm,21.0s,baz=254,slow=37							
BVAR	**Borovoye Array**	**27.70**	**324**	P		**P**	**12 25 21.7**	**-0.1**
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BVAR				MLR		MLR		
	comp=Z,75nm,20.6s							
BVAR	**Borovoye Array**	**27.70**	**324**	P		**P**	**12 25 21.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=113,slow=11,SNR=3.1							
BVAR				LR		LR	12 36 13.2	
	comp=Z,75nm,20.6s,baz=130,slow=36							
USRK	**Ussuriysk Ar.**	**29.34**	**57**	LR		LR	12 37 52.5	
	comp=Z,140nm,18.1s,baz=227,slow=37							
GEYT	**Alibeck**	**31.92**	**290**	P		**P**	**12 26 00.2**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=108,slow=3.2,SNR=3.3							
ABKAR	**Akbulak array**	**31.96**	**312**	*e*P		**P**	**12 26 00.5**	**+1.0**
MJAR	**Matsushiro Arr**	**33.85**	**72**	LR		LR	12 40 13.4	
	comp=Z,36nm,18.9s,baz=315,slow=37							
ARU	**Arti**	**35.33**	**323**	*d i*P		**P**	**12 26 28.2**	**-0.6**
ARU				S		**S**	**12 32 03.2**	**+0.5**
ARU				SS		**SnSn**	**12 34 22.6**	**+1.9**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.7s							
KIV	**Kislovodsk**	**43.24**	**301**	*e*P		**P**	**12 27 32.9**	**-2.3**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.8s							
KIV				MLR		MLR		
	comp=Z,21nm,16.0s							
SEY	**Seymchan**	**45.57**	**32**	*e*P		**P**	**12 27 53.3**	**-0.1**
PETK	**Petropavlovsk-**	**47.14**	**46**	LR		LR	12 51 55.9	
	comp=Z,48nm,18.3s,baz=268,slow=41							
FAKI	**Fak Fak**	**48.81**	**130**	*e*P		P	12 28 23.4	+4.1
	comp=Z,15nm,0.5s							
BRTR	**Keskin Array B**	**50.57**	**297**	P		**P**	**12 28 31.0**	**-1.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**50.57**	**297**	P		**P**	**12 28 31.0**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=51,slow=7.8,SNR=2.9							
AKASG	**Malin Array Be**	**51.70**	**311**	P		**P**	**12 28 38.4**	**-2.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array B**	**51.70**	**311**	P		**P**	**12 28 38.4**	**-2.3**
	comp=Z,0.6nm,0.4s,baz=72,slow=6.3,SNR=5.5							
FINES	**FINESS Array B**	**52.65**	**325**	*i*P		**P**	**12 28 47.9**	**+0.3**
FINES				pmax		pmax		
	comp=Z,10.0nm,1.2s							
ARCES	**ARCESS Array B**	**53.09**	**335**	P		**P**	**12 28 49.3**	**-1.5**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ARCES				MLR		MLR		
	comp=Z,46nm,18.7s							
ARCES	**ARCESS Array B**	**53.09**	**335**	P		**P**	**12 28 49.2**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=81,slow=7.5,SNR=5.8							
ARCES				LR		LR	12 53 55.5	
	comp=Z,46nm,18.7s,baz=76,slow=39							
NB2	**NORSAR Subarra**	**59.81**	**326**	P		**P**	**12 29 36.8**	**-2.0**
	comp=Z,2.1nm,0.7s,baz=76,slow=6.9							
NOA	**NORSAR Array B**	**59.81**	**326**	P		**P**	**12 29 36.6**	**-2.2**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**59.81**	**326**	P		**P**	**12 29 36.6**	**-2.2**
	comp=Z,1.8nm,0.8s,baz=76,slow=7.0,SNR=6.4							
GERES	**GERESS Array B**	**61.90**	**312**	LR		LR	13 00 38.7	
	comp=Z,24nm,19.5s,baz=72,slow=40							
WRAB	**Tennant Creek**	**63.54**	**140**	*c*eP		**P**	**12 30 04.3**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,39nm,2.5s							
WRA	**Warramunga Arr**	**63.54**	**140**	P		**P**	**12 30 03.0**	**-1.4**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WRA	**Warramunga Arr**	**63.54**	**140**	P		**P**	**12 30 03.0**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=333,slow=7.5,SNR=34							
ASAR	**Alice Springs**	**66.39**	**143**	P		**P**	**12 30 22.0**	**-0.9**
ASAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ASAR	**Alice Springs**	**66.39**	**143**	P		**P**	**12 30 21.9**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=327,slow=6.6,SNR=79							
ILAR	**Eielson Array**	**70.69**	**24**	P		**P**	**12 30 48.6**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=309,slow=4.8,SNR=5.0							
INK	**Inuvik**	**72.31**	**18**	P		**P**	**12 30 58.8**	**-0.1**
INK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**72.31**	**18**	P		**P**	**12 30 58.8**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=339,slow=5.1,SNR=6.6							
STKA	**Stephens Creek**	**76.99**	**142**	P		**P**	**12 31 25.5**	**-1.1**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
STKA	**Stephens Creek**	**76.99**	**142**	P		**P**	**12 31 25.4**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=296,slow=6.4,SNR=7.5							
YKA	**Yellowknife Ar**	**81.54**	**14**	P		**P**	**12 31 49.5**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=325,slow=4.7,SNR=11							

MAN 14 12:24:01, 16°.34N×119°.63E, h10km, mb4.6, ML3.4, MS3.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOLP	**Bolinao**	**0.28**	**82**	*e*P		Pb	12 24 09.5	+1.4
BOLP				*e*S		Sb	12 24 15.6	+2.7
SCZP	**Santa Cruz**	**0.63**	**154**	*e*P		Pb	12 24 14.5	+0.5
SCZP				*e*S		Sn	12 24 27.3	+1.2
BCPH	**Baguio City Da**	**0.92**	**87⇑**	*i*P		Pg	12 24 18.6	-0.4
BCPH				*i* S		Sg	12 24 31.0	-0.1
PCPH	**Palayan**	**1.61**	**119⇑**	*e*P		Pn	12 24 29.2	-0.3
BALP	**Baler**	**1.97**	**107**	*e*P		Pn	12 24 35.6	+1.2
BALP				*e*S		Sb	12 25 01.1	-0.5
APYP	**Conner**	**2.16**	**45**	*e*P		Pn	12 24 38.3	+1.2

*ISCJB **14** 12:27:59.2±0.7, 17°.8S±0°.2×178°.5W±0°.2, h579km, mb3.7/10, Error ellipse: s-maj=35.6km s-min=13.3km az=149.7*

*IDC **14** 12:28:03.2±3.9, 17°.91S×178°.54W, h617km±47km, mb3.2/10, mb1 3.4/11, mb1mx3.2/38, mbtmp4.1/11, Error ellipse: s-maj=27.5km s-min=19.8km az=136.0*

ISC 14 12:27:59.9±0.8, 17°.8S±0°.2×178°.5W±0°.2, h579km, n14, σ1s 11/17, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.76**	**251**	P		**P**	**12 31 07.7**	**+1.2**
	0.3nm,0.3s,baz=65,slow=19,SNR=4.8							
CTA	**Charters Tower**	**33.35**	**260**	P		**P**	**12 33 52.4**	**+1.0**
	3.1nm,0.8s,baz=72,slow=11,SNR=3.9							
STKA	**Stephens Creek**	**38.58**	**241**	P		**P**	**12 34 35.2**	**+0.8**
	2.7nm,0.6s,baz=90,slow=9.5,SNR=9.1							
WRA	**Warramunga Arr**	**44.54**	**259**	P		**P**	**12 35 21.6**	**+0.1**
	1.5nm,0.4s,baz=95,slow=7.4,SNR=56							
WRA				PcP		**PcP**	**12 36 51.3**	**-0.6**
	0.3nm,0.

KBN	**Korca**	0.88	165	*i* Sg	Sn	12 36 33.0	-0.7
	SNR=92						
BCI	**Bajram Curri**	0.94	341	*i* PG	Pg	12 36 17.3	-1.8
BCI				*i* SG	Sb	12 36 33.8	+1.0
BCI	**Bajram Curri**	0.94	341	*i* Pg	Pg	12 36 17.3	-1.8
	SNR=91						
BCI				*i* Sg	Sb	12 36 33.8	+1.0
	SNR=91						
PDG	**Podgorica**	1.32	317	*e*Pn	Pb	12 36 26.2	-0.1
PDG				*e*Sg	Sn	12 36 44.0	-0.3
PDG	**Podgorica**	1.32	317	*e*Pn	Pb	12 36 26.2	-0.1
PDG				*e*Sg	Sn	12 36 44.0	-0.3
VAY	**Valandovo**	1.58	95	*e*Pg	Pn	12 36 29.9	+0.1
VAY				*e*Sg	Sg	12 36 52.4	+0.6
VAY	**Valandovo**	1.58	95	*e*Pg	Pn	12 36 29.9	+0.1
VAY				*e*Sg	Sg	12 36 52.4	+0.6
BARS	**Barje**	1.67	36	*e*Pn	Pb	12 36 31.8	-0.5
BARS				*e*Sg	Sg	12 36 55.6	+1.0
SELS	**Selova**	1.81	15	*e*Pn	Pn	12 36 33.3	+0.3
SELS				*e*Sg	Sg	12 36 59.2	+0.2
SJES	**Sjenica**	1.82	348	*e*Pn	Pb	12 36 34.3	-0.7
SJES				*e*Sg	Sg	12 36 59.8	+0.2
SJES	**Sjenica**	1.82	348	*e*Pn	Pb	12 36 34.3	-0.7
SJES				*e*Sg	Sg	12 36 59.8	+0.2
TREB	**Trebinje**	2.01	309	*e*Pn	Pn	12 36 36.7	+0.9
TREB				*e*Sg	Sg	12 37 05.7	+0.1
TREB				*e*Sg	Sg	12 37 06.7	+1.1
TREB	**Trebinje**	2.01	309	*e*Pn	Pn	12 36 36.7	+0.9
TREB				*e*Sg	Sg	12 37 06.7	+1.1
IVAS	**Ivanjica**	2.11	354	*e*Pn	Pn	12 36 37.1	-0.1
IVAS				*e*Sg	Sg	12 37 09.2	+0.3
IVAS	**Ivanjica**	2.11	354	*e*Pn	Pn	12 36 37.1	-0.1
IVAS				*e*Sg	Sg	12 37 09.2	+0.3
ZAPS	**Zavoj**	2.40	41	*e*Pn	Pn	12 36 42.2	+1.0
ZAPS	**Zavoj**	2.40	41	*e*Pn	Pn	12 36 42.2	+1.0
BBLS	**Lazići**	2.52	342	*e*Pn	Pn	12 36 43.8	+1.0
BBLS	**Lazići**	2.52	342	*e*Pn	Pn	12 36 43.8	+1.0
DIVS	**Divibare**	2.64	352	*e*Pn	Pn	12 36 45.2	+0.6
DIVS	**Divibare**	2.64	352	*e*Pn	Pn	12 36 45.2	+0.6

IDC **14** *12:36:35.3±0.5, 18°.87S×167°.46E, h0km, mb4.8/25, mb1 4.9/26, mb1mx4.8/31, mbtmp4.8/26, ML4.1/1, MS3.7/15, Ms1 3.8/15, ms1mx3.6/29, Error ellipse: s-maj=16.2km s-min=12.4km az=99.0*

ISCJB **14** *12:36:36.4±2.1, 18°.94S±0°.04×167°.31E±0°.04, h15km±14km, mb5.0/75, MS3.8/15, Error ellipse: s-maj=6.9km s-min=6.1km az=179.9*

NEIC **14** *12:36:37.6±0.2, 18°.77S×167°.30E, h10km, mb5.1/33, Error ellipse: s-maj=6.6km s-min=5.0km az=146.0*

GCMT **14** *12:36:37.6±0.3, 18°.75S×167°.34E, h14km±1km, MW4.9/66, Moment Tensor Solution. s14,c14; s66,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.29±.19; Mθθ-0.19±.12; Mφφ2.48±.13; Mrθ-0.01±.30; Mθφ-0.79±.07; Mφr0.09±.21; Best double couple: Mo2.49500×10¹⁶ NP1:φs165.00000°, δ46.00000°, λ-89.00000°. NP2: φs344.00000°, δ44.00000°, λ-91.00000°. Principal axes: T 2.6980, Plg1.0000°, Azm255.0000°; N -0.4070, Plg0.0000°, Azm345.0000°; P -2.2920, Plg89.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI **14** *12:36:38.1, 18°.17S×167°.35E, h8km, mB5.3/17, mb5.0/34, Ms5.3/10, MS7 4.8/9*

NOU **14** *12:36:38.2±2.0, 18°.94S×167°.64E, h30km, MD3.5, ML2.4, MS2.2*

MOS **14** *12:36:40.0±1.2, 18°.72S×167°.28E, h33km, mb5.4/26, Error ellipse: s-maj=11.5km s-min=8.8km az=162.9*

ISC 14 12:36:38.8±0.5, 18°.96S±0°.05×167°.32E±0°.06, h19km±1km, n271, σ1$39/295, mb5.1/75, MS3.9/15, 5C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.20**	**195**	*e*Pn		**Pn**	**12 37 27.9**	**-0.2**
	108nm,0.3s							
DZM				*e*Sn		**Sn**	**12 38 04.0**	**-1.8**
	318nm,0.2s							
DZM	**Mont Dzumac**	**3.20**	**195**	Pn		**Pn**	**12 37 27.4**	**-0.7**
	20nm,0.3s,baz=261,slow=21,SNR=139							
DZM				Sn		**Sn**	**12 38 03.2**	**-2.6**
	121nm,0.3s,baz=114,slow=21,SNR=11							
DZM	**Mont Dzumac**	**3.20**	**195**	*e*P		**Pn**	**12 37 25.6**	**-2.5**
DZM				*e*S		**Sn**	**12 38 02.1**	**-3.7**
DZM				AMP			12 38 10.8	
	comp=Z,5μm,8.4s							
DZM	**Mont Dzumac**	**3.20**	**195**	*e*Pn		**Pn**	**12 37 27.6**	**-0.6**
DZM				Sn		**Sn**	**12 38 03.2**	**-2.6**
DZM				*e*Sn		Sb	12 38 04.8	-8.9
BAYA	**Yate Dam**	**3.20**	**187**	*e*P		**Pn**	**12 37 27.4**	**-0.7**
BAYA				AMP			12 38 17.2	
	comp=Z,28nm,2.1s							
NOUC	**Port Laguerre**	**3.26**	**197**	*e*P		**Pn**	**12 37 28.2**	**-0.7**
NOUC				*e*S		**Sn**	**12 38 05.6**	**-1.6**
NOUC				AMP			12 38 23.6	
	comp=Z,139nm,12.5s							
MSVF	**Nonsavu**	**10.27**	**85**	Pn		**Pn**	**12 39 07.2**	**+2.0**
	comp=Z,247nm,1.1s,SNR=6.2							
MSVF	**Nonsavu**	**10.27**	**85**	*e*P		**Pn**	**12 39 05.8**	**+0.6**
MSVF	**Nonsavu**	**10.27**	**85**	*e*Pn		**Pn**	**12 39 05.8**	**+0.6**
HNR	**Honiara**	**11.86**	**322**	LR		LR	12 42 59.0	
	comp=Z,290nm,20.6s,baz=174,slow=32							
EIDS	**Eidsvold**	**16.33**	**244**	Pn		**P**	**12 40 28.6**	**-1.3**
	comp=Z,32nm,1.0s							
RAO	**Raoul Island**	**16.91**	**130**	LR		LR	12 44 56.6	
	comp=Z,104nm,19.2s,baz=272,slow=30							
OUZ	**Omahuta**	**17.12**	**162**	*e*P		**P**	**12 40 42.1**	**+3.4**
	comp=Z,43nm,0.9s							
ARMA	**Armidale**	**18.23**	**228**	*e*P		**P**	**12 40 54.2**	**+3.1**
CTA	**Charters Tower**	**19.88**	**263**	P		**Pn**	**12 41 11.8**	**+1.0**
	comp=Z,59nm,0.8s,baz=90,slow=13,SNR=48							
CTAO	**Charters Tower**	**19.88**	**263**	*e*P		**Pn**	**12 41 12.6**	**+1.7**
CTAO				pmax		pmax		
	comp=Z,57nm,0.7s							
CTAO	**Charters Tower**	**19.88**	**263**	*e*P		**Pn**	**12 41 12.6**	**+1.7**
	comp=Z,57nm,0.7s							
URZ	**Urewera**	**21.04**	**158**	PN		**P**	**12 41 20.8**	**-0.6**
URZ	**Urewera**	**21.04**	**158**	P		**P**	**12 41 21.1**	**-0.4**
	comp=Z,12nm,0.7s,baz=248,slow=4.8,SNR=13							
URZ	**Urewera**	**21.04**	**158**	*e*P		**P**	**12 41 25.3**	**+3.8**
BKZ	**Black Stump Fm**	**21.65**	**160**	*e*P		**P**	**12 41 32.2**	**+4.1**
	comp=Z,27nm,0.8s							
PMG	**Port Moresby**	**21.71**	**293**	*ce*P		**P**	**12 41 29.6**	**+0.7**
PMG				pmax		pmax		
	comp=Z,52nm,0.8s							
PMG	**Port Moresby**	**21.71**	**293**	P		**P**	**12 41 29.7**	**+0.9**
	comp=Z,56nm,0.8s,baz=103,slow=8.2,SNR=15							
PMG				LR		LR	12 48 08.4	
	comp=Z,548nm,19.4s,baz=122,slow=32							
PMG	**Port Moresby**	**21.71**	**293**	P		**P**	**12 41 28.6**	**-0.3**
	comp=Z,11nm,0.8s							
CAN	**Canberra**	**22.98**	**221**	*e*P		**P**	**12 41 45.0**	**+2.6**
CAN				pmax		pmax		
	comp=Z,34nm,1.1s							
CAN	**Canberra**	**22.98**	**221**	*e*P		**P**	**12 41 45.0**	**+2.6**
	comp=Z,34nm,1.1s							
COEN	**Coen**	**23.67**	**278**	*e*P		**P**	**12 41 50.3**	**+0.9**
	comp=Z,36nm,0.7s							
RPZ	**Rata Peaks**	**24.88**	**174**	P		**P**	**12 42 01.3**	**+1.0**
	comp=Z,13nm,0.8s,baz=191,slow=3.2,SNR=5.8							
RPZ				LR		LR	12 50 18.3	
	comp=Z,128nm,18.1s,baz=322,slow=33							
STKA	**Stephens Creek**	**26.47**	**236**	P		**P**	**12 42 16.5**	**+1.7**
	comp=Z,18nm,0.8s,baz=63,slow=8.1,SNR=35							
STKA				PcP		**PcP**	**12 45 40.5**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=336,slow=5.4,SNR=2.8							
STKA				LR		LR	12 51 50.1	
	comp=Z,376nm,21.9s,baz=56,slow=34							
JAY	**Jayapura**	**30.75**	**299**	LR		LR	12 55 02.2	
	comp=Z,270nm,18.9s,slow=36							
WB2	**Warramunga Arr**	**31.07**	**263**	*e*P		**P**	**12 42 55.1**	**-0.8**
WRAB	**Tennant Creek**	**31.07**	**263**	P		**P**	**12 42 55.9**	**-0.1**
	comp=Z,85nm,1.1s,SNR=19							
WRAB	**Tennant Creek**	**31.07**	**263**	↑*i*P		**P**	**12 42 55.9**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,35nm,1.1s							
WRAB	**Tennant Creek**	**31.07**	**263**	*e*P		**P**	**12 42 55.4**	**-0.6**
	comp=Z,6.3nm,0.6s							
WRA	**Warramunga Arr**	**31.08**	**263**	P		**P**	**12 42 55.4**	**-0.7**
	comp=Z,4.3nm,0.4s,baz=82,slow=6.0,SNR=104							
WRA				PcP		**PcP**	**12 45 51.6**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=88,slow=2.8,SNR=7.0							
WRA				LR		LR	12 54 42.9	
	comp=Z,378nm,20.7s,baz=95,slow=35							
GENI	**Genyem**	**31.15**	**298**	P		**P**	**12 42 57.0**	**+0.3**
BBOO	**Buckleboo**	**31.19**	**238**	*e*P		**P**	**12 42 57.6**	**+0.8**
	comp=Z,18nm,0.8s							
AS31	**Alice Springs**	**31.43**	**256**	*e*P		**P**	**12 42 59.6**	**+0.4**
ASAR	**Alice Springs**	**31.43**	**256**	P		**P**	**12 42 59.5**	**+0.3**
	comp=Z,63nm,0.7s,baz=82,slow=9.1,SNR=722							
ASAR				PcP		**PcP**	**12 45 52.0**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=145,slow=1.2,SNR=4.0							
ASAR				LR		LR	12 55 13.8	
	comp=Z,633nm,19.7s,baz=96,slow=35							
FAKI	**Fak Fak**	**37.82**	**291**	P		**P**	**12 43 53.5**	**-1.0**
FAKI	**Fak Fak**	**37.82**	**291**	*e*P		**P**	**12 43 53.4**	**-1.0**
	comp=Z,25nm,0.8s							
FAKI				*e*PcP		**PcP**	**12 46 09.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**39.46**	**264**	*e*P		**P**	**12 44 09.0**	**+0.9**
	comp=Z,82nm,0.8s							
TBI	**Tubuai**	**40.44**	**104**	*e*S		**S**	**12 50 23.6**	**-0.4**
	comp=Z,89nm,27.2s							
TBI				*e*LQ		LQ	12 53 38.7	
	comp=Z,399nm,29.0s							
TBI				*e*LR		LR	12 55 23.4	
	comp=Z,473nm,30.0s,baz=278							
PPT2	**Papeete2**	**40.88**	**95**	*e*S		**S**	**12 50 32.9**	**+2.0**
	comp=Z,181nm,27.8s							
PPT2				*e*LQ		LQ	12 53 46.9	
	comp=Z,400nm,32.0s							
PPT2				*e*LR		LR	12 55 34.3	
	comp=Z,792nm,28.8s,baz=263							
SOEI	**Soe**	**42.60**	**276**	P		**P**	**12 44 34.5**	**+0.3**
SOEI	**Soe**	**42.60**	**276**	*e*P		**P**	**12 44 35.9**	**+1.6**
	comp=Z,71nm,1.0s							
BATI	**Baumata**	**43.04**	**275**	P		**P**	**12 44 39.6**	**+2.0**
LBMI	**Labuha**	**43.07**	**290**	P		**P**	**12 44 38.9**	**+1.0**
SANI	**Sanana**	**43.80**	**288**	P		**P**	**12 44 43.8**	**0.0**
NWAO	**Narrogin (SRO)**	**46.73**	**242**	P		**P**	**12 45 07.3**	**+0.5**
	comp=Z,26nm,0.8s,baz=81,slow=6.9,SNR=11							
BKSI	**Bulukumba**	**47.92**	**280**	P		**P**	**12 45 16.4**	**+0.1**
KAPI	**Kappang**	**48.38**	**280**	*e*P		**P**	**12 45 20.9**	**+1.0**
	comp=Z,17nm,0.8s							
CBIJ	**Chichi jima**	**51.87**	**331**	P		**P**	**12 45 44.6**	**-1.4**
JCJ	**Chichijima**	**51.87**	**331**	P		**P**	**12 45 44.6**	**-1.4**
	comp=Z,116nm,0.8s,baz=223,slow=19,SNR=6.2							
JAGI	**Jajag, Banyuwa**	**52.52**	**274**	*e*P		**P**	**12 45 51.0**	**-0.2**
	comp=Z,80nm,1.3s							
BBKI	**Banjar Baru**	**53.50**	**280**	P		**P**	**12 46 00.1**	**+1.6**
	comp=Z,48nm,1.4s,comp=Z,991nm							
RKT	**Rikitea**	**53.73**	**105**	*e*LR		LR	13 01 27.9	
	comp=Z,316nm,31.0s							
STKI	**Sintang**	**57.92**	**282**	P		**P**	**12 46 31.7**	**+1.5**
	comp=Z,37nm,0.8s							
VNDA	**Vanda**	**58.65**	**181**	P		**P**	**12 46 33.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=336,slow=5.0,SNR=7.2							
VNDA				LR		LR	13 08 20.9	
	comp=Z,50nm,19.7s,baz=308,slow=32							
LEM	**Lembang**	**59.18**	**273**	P		**P**	**12 46 39.9**	**+0.7**
	comp=Z,47nm,0.8s,baz=78,slow=6.6,SNR=7.9							
KSM	**Kuching**	**59.54**	**283**	*e*P		**P**	**12 46 41.8**	**+0.3**
	comp=Z,16nm,0.8s							
MJAR	**Matsushiro Arr**	**61.68**	**334**	P		**P**	**12 46 53.7**	**-1.9**
	comp=Z,7.1nm,1.0s,baz=169,slow=7.1,SNR=9.7							
JNU	**Nakatsue**	**62.40**	**326**	P		**P**	**12 46 59.4**	**-1.1**
	comp=Z,9.3nm,0.7s,baz=64,slow=5.4,SNR=5.6							
ASAJ	**Asahikawa**	**66.73**	**341**	P		**P**	**12 47 28.9**	**+0.4**
	comp=Z,20nm,0.9s,baz=293,slow=27,SNR=3.6							
KSRS	**Korea Array**	**67.27**	**327**	P		**P**	**12 47 31.4**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=144,slow=6.3,SNR=6.0							
KSRS				LR		LR	13 13 22.6	
	comp=Z,31nm,20.7s,baz=154,slow=33							
KSAR	**Wonju Array Be**	**67.28**	**327**	P		**P**	**12 47 31.4**	**-0.8**
KSAR	**Wonju Array Be**	**67.28**	**327**	P		**P**	**12 47 31.4**	**-0.8**
NJ2	**Nanjing**	**68.76**	**317**	*e*P		**P**	**12 47 40.8**	**-0.8**
NJ2				PMZ				
	comp=Z,40nm,0.8s							
IPM	**Ipoh**	**69.25**	**283**	*e*P		**P**	**12 47 45.0**	**-0.1**
	comp=Z,3.0nm,0.4s							
MNSI	**Mandailing Nat**	**69.26**	**278**	P		**P**	**12 47 45.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**70.67**	**334**	P		**P**	**12 47 53.4**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=129,slow=4.8,SNR=6.0							
WHN	**Wuhan**	**70.83**	**313**	P		**P**	**12 47 54.6**	**+0.2**
QSPA	**South Pole Qui**	**71.09**	**180**	*e*P		**P**	**12 47 55.8**	**+0.1**
	comp=Z,6.7nm,1.0s							
MDJ	**Mudanjiang**	**72.03**	**333**	P		**P**	**12 48 02.1**	**+0.8**
MDJ				PMZ				
	comp=Z,15nm,1.8s							
PETK	**Petropavlovsk-**	**72.25**	**354**	P		**P**	**12 48 02.6**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=157,slow=9.2,SNR=8.1							
CN2	**Changchun**	**73.29**	**330**	*e*P		**P**	**12 48 05.9**	**-3.0**
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
GYA	**Guiyang**	**74.18**	**306**	*e*P		**P**	**12 48 16.0**	**+1.4**
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
PBKT	**Sadao Pong**	**74.18**	**294**	P		**P**	**12 48 16.1**	**+1.4**
	comp=Z,8.6nm,1.9s							
BJI	**Beijing**	**75.59**	**322**	P		**P**	**12 48 22.9**	**+0.6**
BJI				S		**S**	**12 58 04.5**	**+2.2**
BJI				PMZ				
	comp=Z,22nm,1.0s							
BJI				PMZ				
	comp=Z,580nm,4.8s							
BJI				LN				
	comp=Z,600nm,25.9s							
BJI				LE				
	comp=Z,750nm,24.9s							
LAMP	**Lampang**	**76.17**	**295**	P		**P**	**12 48 28.0**	**+1.9**
	comp=Z,5.1nm,0.9s							
CRAI	**Chiangrai**	**76.29**	**297**	P		**P**	**12 48 24.8**	**-2.0**
	comp=Z,6.5nm,1.0s							
KMI	**Kunming**	**76.59**	**303**	P		**P**	**12 48 29.8**	**+1.1**
KMI				PMZ				
	comp=Z,14nm,0.8s							
XAN	**Xi'an**	**76.59**	**313**	P		**P**	**12 48 28.3**	**0.0**
XAN				pP		**PcP**	**12 48 38.1**	**-1.6**
XAN				PMZ				
	comp=Z,3.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**76.74**	**295**	P		**P**	**12 48 30.6**	**+1.3**
	comp=Z,4.5nm,0.9s,baz=133,slow=4.3,SNR=30							
CMAR				LR		LR	13 25 35.2	
	comp=Z,11nm,18.1s,baz=115,slow=38							
CMMT	**Chiang Mai**	**76.88**	**295**	P		**P**	**12 48 31.2**	**+1.0**
	comp=Z,14nm,1.1s							
CMAI	**Chiengmai2**	**77.28**	**296**	P		**P**	**12 48 34.1**	**+1.5**
	comp=Z,9.8nm,1.1s							
MAW	**Mawson**	**78.00**	**202**	P		**P**	**12 48 36.3**	**+0.8**
	comp=Z,18nm,1.0s,baz=115,slow=6.8,SNR=5.3							
CD2	**Chengdu**	**78.63**	**308**	*e*P		**P**	**12 48 41.0**	**+1.3**
CD2				pP		**pP**	**12 48 46.3**	**+0.2**
CD2				sP		**sP**	**12 48 48.5**	**+0.1**
CD2				PP		**PP**	**12 51 41.3**	**+3.3**
CD2				S		**S**	**12 58 37.0**	**+1.0**
CD2				sS		**sS**	**12 58 44.4**	**-2.1**
CD2				SKS		**SKSac**	**12 58 51.5**	**-2.7**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,160nm,5.4s							
HHC	**Hu-ho-hao-te**	**78.84**	**320**	*e*P		**P**	**12 48 42.3**	**+1.6**
HHC				sP		**sP**	**12 48 49.3**	**-0.1**
HHC				S		**S**	**12 58 41.0**	**+3.1**
HHC				sS		**sS**	**12 58 47.8**	**-0.6**
HHC				SKS		**SKSac**	**12 58 52.6**	**-2.7**
HHC				PMZ				
	comp=Z,23nm,1.2s							
HHC				PMZ				
	comp=Z,240nm,8.4s							
HHC				LN				
	comp=Z,500nm,17.4s							
HHC				LE				
	comp=Z,550nm,17.8s							
HHC				LZ				
	comp=Z,400nm,17.7s							
LZH	**Lanzhou**	**81.20**	**313**	P		**P**	**12 48 54.8**	**+1.1**
LZH				pP		**pP**	**12 49 00.8**	**+0.8**
LZH				sP		**sP**	**12 49 03.8**	**+1.5**
LZH				PP		**PP**	**12 52 01.3**	**+1.9**
LZH				*e*S		**S**	**12 59 04.0**	**+0.8**
LZH				sS		**SKSac**	**12 59 10.1**	**-2.1**
LZH				PMZ				
	comp=Z,51nm,1.2s							
LZH				PMZ				
	comp=Z,260nm,6.3s							
LZH				LN				
	comp=Z,400nm,12.2s							
LZH				LE				
	comp=Z,540nm,14.3s							
LZH				LZ				
	comp=Z,690nm,16.5s							
SEY	**Seymchan**	**82.47**	**353**	P		**P**	**12 48 58.6**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=133,slow=4.7,SNR=11							
GAMB	**Gambell**	**84.08**	**9**	*e*P		**P**	**12 49 07.5**	**-0.2**
	comp=Z,9.0nm,0.9s							
SYO	**Syowa Base**	**84.68**	**197**	↑*e*P		**P**	**12 49 10.8**	**-0.2**
RSO	**Redoubt South**	**85.47**	**19**	*e*P		**P**	**12 49 15.9**	**+0.8**
	comp=Z,41nm,0.9s							
ULN	**Ulaanbaatar**	**85.57**	**324**	*ce*P		**P**	**12 49 15.4**	**-0.5**
ULN				pmax		pmax		
	comp=Z,34nm,1.4s							
ULN	**Ulaanbaatar**	**85.57**	**324**	*e*P		**P**	**12 49 16.1**	**+0.2**
	comp=Z,31nm,1.2s							
SONM	**Songino Array**	**85.92**	**324**	P		**P**	**12 49 17.8**	**+0.2**
	comp=Z,11nm,0.9s,baz=149,slow=5.4,SNR=66							
SONM				LR		LR	13 28 59.7	
	comp=Z,33nm,18.2s,baz=133,slow=37							
YAK	**Yakutsk**	**86.07**	**343**	*e*P		**P**	**12 49 16.6**	**-1.2**
YAK				*e*			12 49 26.6	
YAK				pmax		pmax		
	comp=Z,37nm,0.9s							
YAK				pmax		pmax		
	comp=N,8.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.0s							
YAK	**Yakutsk**	**86.07**	**343**	P		P	12 49 14.5	-3.3
	comp=E,24nm,0.5s,baz=123,slow=1.3,SNR=12							
TNA	**Tin City**	**86.34**	**10**	*e*P		**P**	**12 49 19.2**	**+0.2**
	comp=E,13nm,0.9s							
BILL	**Bilibino**	**86.75**	**360**	↑*i*P		**P**	**12 49 21.0**	**-0.1**
BILL				pmax		pmax		
	comp=Z,21nm,1.4s							
KCPM	**Cahto Peak**	**86.84**	**46**	*e*P		**P**	**12 49 22.8**	**+0.5**
	comp=Z,20nm,0.8s							
KHMM	**Horse Mountain**	**87.30**	**45**	*e*P		**P**	**12 49 24.9**	**+0.4**
	comp=Z,33nm,0.8s							
WDC	**Whiskeytown Da**	**87.96**	**46**	*e*P		**P**	**12 49 27.7**	**+0.2**
WDC				pmax		pmax		
	comp=Z,27nm,1.3s							
WDC	**Whiskeytown Da**	**87.96**	**46**	*e*P		**P**	**12 49 27.7**	**+0.2**
	comp=Z,27nm,1.3s							
N02D	**Trinity Center**	**88.03**	**45**	P		**P**	**12 49 28.5**	**+0.6**
	baz=88							
M02C	**Callahan**	**88.12**	**45**	P		**P**	**12 49 29.0**	**+0.6**
	baz=88							
BOD	**Bodaibo**	**88.30**	**335**	*e*P		P	12 49 25.3	-3.4
BOD				pmax		pmax		
	comp=Z,7.0nm,1.7s							
CMB	**Columbia Colle**	**88.33**	**49**	*e*P		**P**	**12 49 29.2**	**-0.3**
CMB				pmax		pmax		
	comp=Z,23nm,0.9s							
CMB	**Columbia Colle**	**88.33**	**49**	*e*P		**P**	**12 49 29.2**	**-0.3**
	comp=Z,23nm,0.9s							
YBH	**Yreka Blue Hor**	**88.37**	**45**	*e*P		**P**	**12 49 29.7**	**+0.1**
YBH				pmax		pmax		
	comp=Z,14nm,0.8s							
YBH	**Yreka Blue Hor**	**88.37**	**45**	*e*P		**P**	**12 49 29.7**	**+0.1**
	comp=Z,14nm,0.8s							
MWC	**Mount Wilson**	**88.45**	**53**	*e*P		**P**	**12 49 31.1**	**+0.8**
MWC				pmax		pmax		
	comp=Z,17nm,1.0s							
MWC	**Mount Wilson**	**88.45**	**53**	*e*P		**P**	**12 49 31.1**	**+0.8**
	comp=Z,17nm,1.0s							
HUMO	**Hull Mountain**	**88.61**	**44**	*e*P		**P**	**12 49 30.7**	**+0.1**
	comp=Z,16nm,0.8s							
ISA	**Isabella, Lake**	**88.73**	**52**	P		**P**	**12 49 31.4**	**0.0**
	baz=89							
BFSC	**Mount Baldy Ra**	**88.76**	**53**	P		**P**	**12 49 30.9**	**-0.7**
	baz=89							
EDW2	**Edwards Air Fo**	**88.77**	**52**	P		**P**	**12 49 31.6**	**0.0**
	baz=89							
M04C	**Macdoel**	**88.98**	**45**	P		**P**	**12 49 32.7**	**+0.2**
	baz=89							
ZAK	**Zakamensk**	**89.02**	**325**	*e*P		**P**	**12 49 31.3**	**-1.1**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
MCK	**McKinley**	**89.14**	**18**	*e*P		**P**	**12 49 32.2**	**-0.4**
MCK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
MCK	**McKinley**	**89.14**	**18**	*e*P		**P**	**12 49 32.2**	**-0.4**
	comp=Z,9.2nm,1.2s							
LRMC	**Laurel Mtn Rad**	**89.23**	**52**	P		**P**	**12 49 33.8**	**0.0**
	baz=89							
K04D	**Chiloquin, OR**	**89.41**	**44**	P		**P**	**12 49 35.0**	**+0.5**
	baz=90							
J04D	**Umpqua Nationa**	**89.45**	**44**	P		**P**	**12 49 35.1**	**+0.4**
	baz=90							
TIN	**Tinemaha, Big**	**89.48**	**50**	P		**P**	**12 49 35.3**	**+0.4**
	baz=90							
I04A	**Tendick Farm,**	**89.51**	**43**	P		**P**	**12 49 34.6**	**-0.3**
	baz=90							
TLY	**Talaya**	**89.51**	**326**	*e*P		**P**	**12 49 34.2**	**-0.4**
TLY				pmax		pmax		
	comp=Z,6.0nm,1.0s							
TLY	**Talaya**	**89.51**	**326**	P		**P**	**12 49 34.2**	**-0.4**
	comp=

	comp=Z,23nm,0.9s							
DLBC	**Dease Lake**	**92.64**	**28**	*e*P	**P**	12 49 48.9	**-0.1**	
WTV	**Waterville**	**92.77**	**40**	P	**P**	12 49 49.7	**-0.2**	
TUC	**Tucson**	**93.38**	**57**	*e*P	**P**	12 49 53.3	**+0.2**	
TUC				pmax	pmax			
	comp=Z,9.0nm,0.9s							
TUC	**Tucson**	**93.38**	**57**	*e*P	**P**	12 49 53.3	**+0.2**	
	comp=Z,9.3nm,0.9s							
X16A	**Lo Mia Camp, P**	**93.59**	**55**	P	**P**	12 49 54.1	**-0.1**	
	baz=94							
U15A	**North Rim**	**93.65**	**53**	P	**P**	12 49 54.7	**+0.2**	
	baz=94							
MFID	**Camas Ranch**	**93.69**	**45**	*e*P	**P**	12 49 54.1	**-0.2**	
	comp=Z,4.1nm,0.8s							
WUAZ	**Wupatki**	**94.02**	**54**	*e*P	**P**	12 49 56.5	**+0.4**	
	comp=Z,11nm,0.9s							
319A	**Douglas**	**94.26**	**58**	P	**P**	12 49 57.7	**+0.4**	
	baz=94							
DUG	**Dugway, Tooele**	**94.60**	**49**	P	**P**	12 49 58.2	**-0.4**	
	baz=95							
HVU	**Hansel Valley**	**95.19**	**48**	*e*P	**P**	12 50 01.0	**-0.3**	
HVU				pmax	pmax			
	comp=Z,2.0nm,0.9s							
HVU	**Hansel Valley**	**95.19**	**48**	*e*P	**P**	12 50 01.0	**-0.3**	
	comp=Z,2.2nm,0.9s							
WMQ	**Urumqi**	**95.71**	**314**	*e*P	P	12 49 58.0	-5.5	
WMQ				pP	**PcP**	**12 50 03.3**	**-0.4**	
WMQ				sP	sP	12 50 05.0	-7.2	
WMQ	**Urumqi**	**95.71**	**314**	SKS	**SKSac**	**13 00 32.0**	**-6.8**	
WMQ	**Urumqi**	**95.71**	**314**	S	S	13 01 11.0	-9.1	
WMQ	**Urumqi**	**95.71**	**314**	SS	SS	13 07 42.0	-8.0	
WMQ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,72nm,5.2s							
WMQ				LR	LR			
	comp=N,110nm,25.8s							
WMQ				LR	LR			
	comp=E,120nm,21.0s							
WMQ				LR	LR			
	comp=Z,130nm,19.2s							
INK	**Inuvik**	**96.86**	**19**	*e*P	**P**	12 50 06.9	**-1.1**	
INK				pmax	pmax			
	comp=Z,12nm,1.6s							
INK	**Inuvik**	**96.86**	**19**	*e*P	**P**	12 50 06.9	**-1.1**	
	comp=Z,12nm,1.6s							
I17A	**Pilgrim Ck.**	**97.43**	**46**	P	**P**	12 50 09.7	**-1.9**	
	baz=98							
ANMO	**Albuquerque**	**97.64**	**56**	*i* P	**P**	12 50 12.3	**-0.4**	
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.3s							
PDAR	**Pinedale Array**	**97.77**	**48**	P	**P**	12 50 10.3	**-2.8**	
	comp=Z,0.3nm,0.6s,baz=259,slow=3.4,SNR=3.3							
PDAR				PKKPbc	**PKKPbc**	**13 06 48.1**	**-1.4**	
	comp=Z,0.5nm,0.8s,baz=79,slow=4.7,SNR=5.2							
PDAR				LR	LR	13 25 37.4		
	comp=Z,28nm,21.6s,baz=251,slow=30							
TXAR	**Lajitas Array**	**98.24**	**62**	P	**P**	12 50 15.0	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=222,slow=5.1,SNR=9.4							
TXAR				PKKP	**PKKPdf**	**13 06 55.8**	**+4.8**	
	comp=Z,0.3nm,0.7s,baz=104,slow=5.3,SNR=4.5							
TXAR				LR	LR	13 27 54.4		
	comp=Z,50nm,19.1s,baz=0.0,slow=31							
O22A	**Kremmling**	**99.13**	**51**	P	**Pdif**	12 50 19.1	**-0.3**	
	baz=99							
MKAR	**Makanchi Array**	**100.27**	**316**	P	**Pdif**	12 50 23.4	**-0.5**	
	comp=Z,0.8nm,0.6s,baz=88,slow=6.8,SNR=7.6							
MKAR				PKKP	**PKKPdf**	**13 06 48.4**	**+0.7**	
	comp=Z,0.6nm,0.8s,baz=276,slow=4.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**100.81**	**323**	P	**Pdif**	12 50 25.1	**-1.0**	
	comp=Z,0.7nm,0.7s,baz=120,slow=5.3,SNR=6.5							
YKA	**Yellowknife Ar**	**101.26**	**28**	P	**PP**	12 50 27.2	**-0.7**	
	comp=Z,1.2nm,0.7s,baz=253,slow=4.7,SNR=28							
YKA				PP	**PP**	**12 54 38.4**	**+1.1**	
	comp=Z,0.7nm,1.2s,baz=260,slow=6.7,SNR=3.8							
YKA				PKKPbc	**PKKPbc**	**13 06 37.0**	**-2.9**	
	comp=Z,0.1nm,0.6s,baz=70,slow=3.4,SNR=4.3							
KSH	**Kashi**	**102.82**	**308**	*e*P	**Pdif**	**12 50 39.3**	**+3.8**	
KSH				pP		12 50 44.1		
KSH				SKS	**SKSac**	**13 01 17.3**	**+2.7**	
KSH				S	**Sdif**	**13 02 23.5**	**+3.0**	
KSH				sS	sS	13 02 31.8	0.0	
KSH				PMZ				
	comp=Z,140nm,4.8s							
KSH				LN				
	comp=Z,90nm,4.1s							
KSH				LE				
	comp=Z,72nm,6.0s							
KSH				LZ				
	comp=Z,230nm,5.8s							
KURK	**Kurchatov**	**103.63**	**319**	P	**Pdif**	**12 50 39.3**	**+0.6**	
KURK						12 54 52.3		
KURK	**Kurchatov**	**103.63**	**319**	Pdif	**Pdif**	**12 50 39.3**	**+0.6**	
KURK				PP	**PP**	**12 54 52.3**	**-3.1**	
KURBB	**Kurchatov Arra**	**103.66**	**319**	Pdiff	**Pdif**	**12 50 39.3**	**+0.5**	
	comp=Z,0.4nm,0.8s,baz=86,slow=5.7,SNR=4.1							
KURBB				PP	**PP**	**12 54 52.3**	**-3.4**	
	comp=Z,0.5nm,0.7s,baz=101,slow=7.4,SNR=7.1							
ARU	**Arti**	**115.95**	**324**	*i* PKIKP	**PKPdf**	**12 55 19.1**	**-0.9**	
ARU						12 56 24.2		
ARU						13 02 06.2		
AKTO	**Aktyubinsk**	**116.64**	**318**	PKP	**PKPdf**	**12 55 20.4**	**-1.2**	
	comp=Z,1.4nm,0.6s,baz=125,slow=3.0,SNR=6.4							
PRGR	**Permogore**	**121.41**	**332**	*e*PKIKP	**PKPdf**	**12 55 28.5**	**-1.8**	
PRGR						12 57 05.9		
PRGR				pmax	pmax			
	comp=Z,12nm,0.8s							
LBTB	**Lobatse**	**122.56**	**222**	PKP	**PKPdf**	**12 55 33.6**	**-0.3**	
	comp=Z,2.4nm,0.6s,baz=106,slow=2.4,SNR=5.3							
KEV	**Kevo**	**123.80**	**344**	*e*PKIKP	PKPpre	12 55 26.0		
KEV				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KEV	**Kevo**	**123.80**	**344**	*e*p	PKPpre	12 55 26.0		
	comp=Z,5.1nm,0.7s							
ARCES	**ARCESS Array B**	**124.33**	**345**	PKIKP	**PKPdf**	**12 55 35.0**	**-0.8**	
ARCES	**ARCESS Array B**	**124.33**	**345**	PKP	**PKPdf**	**12 55 35.0**	**-0.8**	
	comp=Z,5.7nm,0.6s,baz=69,slow=1.0,SNR=31							
JOF	**Joensuu**	**126.78**	**337**	*e*PKIKP	**PKPdf**	**12 55 38.9**	**-1.7**	
JOF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
JOF	**Joensuu**	**126.78**	**337**	*e*p	**PKPdf**	**12 55 38.9**	**-1.7**	
	comp=Z,6.0nm,0.8s							
KMBO	**Kilima Mbogo**	**127.06**	**254**	PKIKP	**PKPdf**	**12 55 44.0**	**+1.0**	
KMBO	**Kilima Mbogo**	**127.06**	**254**	PKP	**PKPdf**	**12 55 44.0**	**+1.0**	
	comp=Z,1.2nm,0.4s,baz=180,slow=6.0,SNR=3.6							
KIV	**Kislovodsk**	**127.72**	**311**	*i* PKIKP	**PKPdf**	**12 55 43.7**	**+0.6**	
KIV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,30nm,20.0s							
OBN	**Obninsk**	**128.26**	**326**	⇓ *i* PKIKP	**PKPdf**	**12 55 44.6**	**+1.0**	
OBN				*e*		12 57 46.9		
OBN				pmax	pmax			
	comp=Z,7.0nm,0.5s							
KAF	**Kangasniemi**	**129.12**	**338**	*e*PKIKP	**PKPdf**	**12 55 44.2**	**-0.9**	
KAF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KAF	**Kangasniemi**	**129.12**	**338**	*e*p	**PKPdf**	**12 55 44.2**	**-0.9**	
	comp=Z,3.8nm,0.6s							
FINES	**FINESS Array B**	**129.63**	**337**	PKP	**PKPdf**	**12 55 45.3**	**-0.8**	
	comp=Z,4.4nm,0.8s,baz=90,slow=3.8,SNR=12							
BDFB	**Brasilia**	**131.10**	**132**	PKP	**PKPdf**	**12 55 50.2**	**-0.2**	
	comp=Z,1.3nm,0.3s,baz=158,slow=5.4,SNR=2.1							
ANN	**Anapa**	**131.21**	**313**	*i* PKIKP	**PKPdf**	**12 55 46.7**	**-2.9**	
ANN				pmax	pmax			
	comp=Z,29nm,1.1s							
AKASG	**Malin Array Be**	**134.20**	**324**	PKP	**PKPdf**	**12 55 53.9**	**-1.1**	
	comp=Z,1.2nm,0.5s,baz=56,slow=2.9,SNR=6.6							
NB2	**NORSAR Subarra**	**134.69**	**344**	PKPdf	**PKPdf**	**12 55 55.7**	**0.0**	
	comp=Z,1.8nm,0.8s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**134.69**	**344**	PKP	**PKPdf**	**12 55 54.8**	**-0.9**	
	comp=Z,2.1nm,0.8s,baz=33,slow=2.0,SNR=8.2							
BRTR	**Keskin Array B**	**135.21**	**308**	PKP	**PKPdf**	**12 55 56.5**	**-1.0**	
	comp=Z,0.9nm,0.6s,baz=113,slow=3.2,SNR=4.9							
KOLS	**Kolonicke sedl**	**138.97**	**325**	*e*PKIKP	**PKPdf**	**12 56 04.7**	**+0.7**	
KOLS	**Kolonicke sedl**	**138.97**	**325**	*e*PKP	**PKPdf**	**12 56 04.7**	**+0.7**	
CRVS	**Cervenica-Dubn**	**139.42**	**325**	*e*PKIKP	**PKPdf**	**12 56 08.1**	**+3.3**	
CRVS	**Cervenica-Dubn**	**139.42**	**325**	*e*PKP	**PKPdf**	**12 56 08.1**	**+3.3**	
KECS	**Kecovo**	**140.19**	**325**	*e*PKIKP	**PKPdf**	**12 56 09.5**	**+3.3**	
KECS	**Kecovo**	**140.19**	**325**	*e*PKP	**PKPdf**	**12 56 09.5**	**+3.3**	
VYHS	**Vyhne**	**141.06**	**326**	*e*PKIKP	**PKPdf**	**12 56 07.7**	**-0.1**	
VYHS	**Vyhne**	**141.06**	**326**	*e*PKP	**PKPdf**	**12 56 07.7**	**-0.1**	
BRG	**Berggiesshubel**	**141.81**	**333**	*e*PKP	**PKPdf**	**12 56 05.0**	**-4.0**	
	comp=Z,4.3nm,0.7s							
BRG	**Berggiesshubel**	**141.81**	**333**	*e*PKIKP	**PKPdf**	**12 56 05.0**	**-4.0**	
BRG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CLL	**Collm**	**141.89**	**334**	*e*PKIKP	**PKPdf**	**12 56 08.0**	**-1.2**	
CLL				pmax	pmax			
	comp=Z,12nm,1.3s							
CLL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CLL	**Collm**	**141.89**	**334**	*e*PKPpre	**PKPdf**	**12 56 08.0**	**-1.2**	
CLL				*i* PKPdf	**PKiKP**	**12 56 09.2**	**-2.9**	
	comp=Z,12nm,1.3s							
CLL				*i* PKiKP	PKiKP	12 56 11.8	-0.3	
	comp=Z,7.0nm,0.8s							
GERES	**GERESS Array B**	**143.38**	**331**	PKhKP	PKPpre	12 56 08.7		
	comp=Z,2.2nm,0.7s,baz=50,slow=5.3,SNR=7.7							
MOA	**Molln**	**143.80**	**329**	*i* PKPdf	PKPbc	12 56 10.8	+0.5	
	comp=Z,20nm,1.2s,SNR=11							
PERS	**Pernice**	**144.19**	**327**	*i* PKPbc	PKPbc	12 56 11.5	-0.1	
PERS				*i*		12 56 21.2		
SOKA	**Soboth**	**144.20**	**327**	*i* PKPdf	PKPbc	12 56 11.7	0.0	
	comp=Z,18nm,0.8s,SNR=13							
OBKA	**Obir**	**144.57**	**327**	*i* PKPdf	PKPbc	12 56 13.1	+0.2	
	comp=Z,19nm,0.9s,SNR=6.0							
KBA	**Koelnbreinsper**	**144.79**	**329**	*i* PKPdf	**PKPab**	**12 56 13.3**	**-0.3**	
	comp=Z,40nm,1.3s,SNR=20							
BOJS	**Bojanci**	**144.85**	**325**	*i* PKPbc	**PKPdf**	**12 56 14.2**	**-0.4**	
BOJS				*i*		12 56 24.1		
LJU	**Ljubljana**	**144.88**	**326**	*e*PKPbc	PKPbc	12 56 13.9	+0.1	
LJU				*i*		12 56 24.0		
MYKA	**Terra Mystica**	**144.95**	**328**	*i* PKPdf	**PKPab**	**12 56 13.5**	**-0.6**	
	comp=Z,20nm,0.6s,SNR=11							
HGN	**Heimansgroeve**	**144.99**	**339**	*e*PKP	**PKPdf**	**12 56 14.3**	**-0.3**	
	comp=Z,61nm,1.1s							
HGN				*e*Rg	Rg	12 59 25.2		
BEBN	**Eben Emael**	**145.05**	**340**	PKP	**PKPdf**	**12 56 15.1**	**+0.4**	
MEM	**Membach**	**145.10**	**339**	PKP	**PKPab**	**12 56 14.5**	**+0.2**	
MEM				SPKiKP		12 56 24.3		
JAVS	**Javornik**	**145.23**	**327**	*e*PKPbc	**PKPbc**	**12 56 14.6**	**-0.4**	
JAVS				*e*		12 56 24.7		
STU	**Stuttgart**	**145.41**	**334**	*e*PKIKP	**PKPab**	**12 56 15.9**	**+0.3**	
STU				*e*		12 59 36.7		
STU	**Stuttgart**	**145.41**	**334**	*e*PKPbc	**PKPab**	**12 56 15.9**	**+0.3**	
STU				*e*PP	**PP**	**12 59 36.7**	**+2.0**	
ABTA	**Abfaltersbach**	**145.43**	**329**	*i* PKPdf	**PKPbc**	**12 56 15.2**	**-0.4**	
	comp=Z,80nm,1.1s,SNR=29							
WATA	**Walderalm**	**145.45**	**330**	*i* PKPdf	**PKPab**	**12 56 16.0**	**0.0**	
	comp=Z,32nm,1.1s,SNR=5.7							
UCC	**Uccle**	**145.47**	**341**	PKP	**PKPab**	**12 56 15.6**	**0.0**	
UCC				SPKiKP		12 56 25.9		
WTTA	**Wattenberg**	**145.47**	**330**	*i* PKPdf	**PKPbc**	**12 56 15.9**	**0.0**	
	comp=Z,46nm,1.0s,SNR=18							
MOTA	**Moosalm**	**145.66**	**331**	*i* PKPab	**PKPbc**	**12 56 16.6**	**+0.1**	
	comp=Z,73nm,0.9s,SNR=27							
RETA	**Reutte**	**145.71**	**331**	*i* PKPab	**PKPbc**	**12 56 16.5**	**+0.1**	
	comp=Z,46nm,1.1s,SNR=14							
SNF	**Seneffe**	**145.75**	**341**	PKP	**PKPab**	**12 56 16.6**	**-0.1**	
SNF				SPKiKP		12 56 26.5		
WLF	**Walferdange**	**145.85**	**338**	PKP	**PKPab**	**12 56 17.7**	**+0.6**	
WLF				SPKiKP		12 56 27.6		
WLF	**Walferdange**	**145.85**	**338**	*e*PKP2	**PKPab**	**12 56 17.9**	**+0.7**	
WLF	**Walferdange**	**145.85**	**338**	*e*PKPbc	**PKPab**	**12 56 17.9**	**+0.7**	
DOU	**Dourbes**	**146.01**	**340**	PKP	**PKPbc**	**12 56 17.3**	**+0.2**	
DOU				SPKiKP		12 56 26.8		
FETA	**Feichten**	**146.07**	**331**	*i* pPKPdf	**PKPab**	**12 56 18.5**	**+0.2**	
	comp=Z,70nm,1.0s,SNR=34							
BFO	**Black Forest**	**146.11**	**335**	*e*PKP2	**PKPbc**	**12 56 17.7**	**+0.1**	
BFO	**Black Forest**	**146.11**	**335**	*e*PKPbc	**PKPbc**	**12 56 17.7**	**+0.1**	
DAVA	**Damuels**	**146.26**	**332**	*i* PKPab	**PKPbc**	**12 56 18.5**	**+0.2**	
	comp=Z,54nm,1.4s,SNR=12							
ECH	**Echery**	**146.67**	**336**	*e*PKP2	**PKPbc**	**12 56 19.0**	**-0.3**	
ECH	**Echery**	**146.67**	**336**	*e*PKPbc	**PKPbc**	**12 56 19.0**	**-0.3**	
AQU	**L'Aquila**	**147.87**	**322**	*e*PKP2	**PKPbc**	**12 56 23.8**	**+1.0**	
AQU	**L'Aquila**	**147.87**	**322**	*e*PKPbc	**PKPbc**	**12 56 23.8**	**+1.0**	
BNI	**Bardonecchia**	**149.40**	**333**	*e*PKPdf	**PKPdf**	**12 56 22.7**	**+0.3**	
BNI				*e*PKPbc	**PKiKP**	**12 56 27.5**	**-0.5**	
BNI				*e*PKPab	**PKPab**	**12 56 31.4**	**-0.1**	
SSB	**Saint Sauveur**	**150.11**	**335**	*e*PKP2	**PKPbc**	**12 56 28.9**	**+0.5**	
SSB	**Saint Sauveur**	**150.11**	**335**	*e*PKPbc	**PKPbc**	**12 56 28.9**	**+0.5**	
KEST	**Kesra**	**154.37**	**315**	PKPbc	**PKPbc**	**12 56 37.3**	**-1.0**	
	comp=Z,1.3nm,0.8s,baz=128,slow=5.4,SNR=4.3							
ESDC	**Sonseca Array**	**158.03**	**342**	PKPab	**PKPab**	**12 57 07.7**	**-0.2**	
	comp=Z,1.1nm,0.6s,baz=18,slow=5.1,SNR=5.3							
TORD	**Torodi Ar. Bea**	**165.02**	**249**	PKP	**PKPdf**	**12 56 42.0**	**-0.7**	
	comp=Z,3.1nm,1.0s,baz=60,slow=0.4,SNR=11							
TORD				PKPab	**PKPab**	**12 57 39.1**	**-0.2**	
	comp=Z,6.0nm,0.9s,baz=105,slow=3.9,SNR=17							
DBIC	**Dimbokro**	**165.60**	**213**	PKPab	**PKPab**	**12 57 42.0**	**+0.4**	
	comp=Z,3.1nm,0.8s,baz=173,slow=6.0,SNR=3.7							

WEL 14 12:40:49.3±0.6, 38.90S×179.52E, h33km, ML2.7/4, 1C, Error ellipse: s-maj=5.4km s-min=3.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**1.11**	**292**	PN	Pn	12 41 08.4	-0.1
CNGZ				SN	Sn	12 41 21.6	-1.0
MHGZ	**Mahia Peninsul**	**1.28**	**258**	PN	Pn	12 41 11.1	+0.2
MHGZ				SN	Sn	12 41 24.3	-2.7
WMGZ	**Waiomatatini S**	**1.39**	**321**	PN	Pn	12 41 11.4	-1.0
WMGZ				SN	Sn	12 41 29.0	-0.5
KNZ	**Kokohu**	**1.44**	**265**	PN	Pn	12 41 12.8	-0.2
KNZ				SN	Sn	12 41 30.7	-0.2
MWZ	**Matawai**	**1.66**	**289**	PN	Pn	12 41 15.5	-0.7
MWZ				SN	Sn	12 41 35.9	-0.5
HAZ	**Te Kaha**	**1.78**	**309**	⇑PN	Pn	12 41 17.0	-0.8
ARHZ	**Aropaoanui**	**2.00**	**259**	PN	Pn	12 41 20.9	+0.1
PXZ	**Pawanui**	**2.34**	**240**	PN	Pn	12 41 24.3	-1.2
BHHZ	**Black Hill Sta**	**2.75**	**257**	PN	Pn	12 41 31.1	0.0
TSZ	**Takapari Road**	**2.98**	**246**	AML	AML	12 41 39.7	

IDC 14 12:44:21.6±4.8, 5.69S×129.22E, h265km±50km, mb3.6/3, mb1 3.8/5, mb1mx3.2/37, mbtmp4.4/5, Error ellipse: s-maj=113.0km s-min=11.1km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.02**	**161**	P	P	12 47 40.4	-0.6
	2.3nm,0.3s,baz=341,slow=12,SNR=97						
WRA				S	S	12 50 25.2	-1.4
	0.6nm,0.3s,baz=342,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**18.44**	**166**	P	P	12 48 19.4	+1.3
	2.4nm,0.3s,baz=348,slow=12,SNR=166						
ASAR				S	S	12 51 35.1	+0.5
	0.2nm,0.3s,baz=347,slow=20,SNR=18						
MKAR	**Makanchi Array**	**66.71**	**327**	P	P	12 54 44.7	+0.3
	1.2nm,0.4s,baz=116,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	**70.07**	**334**	P	P	12 55 03.9	-1.0
	0.6nm,0.4s,baz=121,slow=5.6,SNR=3.2						
KURBB	**Kurchatov Arra**	**70.99**	**329**	P	P	12 55 10.9	+0.3
	1.2nm,0.4s,baz=129,slow=5.1,SNR=16						

GUC 14 13:06:16.9±0.7, 20.86S×69.23W, h107km±5km, ML3.5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.30**	**233**	*e*P	Pn	13 06 32.8	+0.3
PB01				*e*S	Sn	13 06 44.6	+0.5
PB01				AML	AML	13 06 45.3	
	comp=E,3μm,0.3s						
HMBC	**Humberstone**	**0.84**	**313**	*e*P	Pn	13 06 36.7	+0.2
HMBC				*e*S	Sn	13 06 52.0	+0.8
HMBC				AML	AML	13 06 52.4	
	comp=N,3μm,0.2s						
PATCX	**Punta Patache**	**0.86**	**273**	*e*P	Pn	13 06 37.3	+0.8
PATCX				*e*S	Sn	13 06 52.4	+0.9
PATCX				AML	AML	13 06 54.0	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**0.93**	**181**	*e*P	Pn	13 06 38.0	+0.6
PB09				*e*S	Sn	13 06 53.7	+0.9
PB09				AML	AML	13 06 55.1	
	comp=N,3μm,0.3s						
PB07	**IPOC Station P**	**1.05**	**215**	*e*P	Pn	13 06 39.2	+0.5
PB07				*e*S	Sn	13 06 55.5	+0.3
PB07				AML	AML	13 06 56.6	
	comp=N,567nm,0.2s						
PSGC	**Pisagua**	**1.51**	**326**	*e*P	Pn	13 06 43.7	-0.2
PSGC				*e*S	Sn	13 07 04.2	-0.1
MNMC	**Minimini**	**1.75**	**349**	*e*P	Pn	13 06 47.4	+0.3
MNMC				*e*S	Sn	13 07 10.7	+0.7

*BUC **14** 13:25:52.1±0.7, 45.58N×26.33E, h159km±6km, MD4.1/5, Error ellipse: s-maj=6.5km s-min=4.1km az=21.0*
*SOF **14** 13:25:52.3, 45.71N×26.26E, h24km, MD3.0*
*ISCJB **14** 13:25:53.1±0.6, 45.55N±0.04×26.36E±0.05, h145km±5km, Error ellipse: s-maj=6.8km s-min=4.9km az=26.1*
*CSEM **14** 13:25:53.2±0.2, 45.55N×26.34E, h146km±2km, MD4.1, Error ellipse: s-maj=4.5km s-min=3.2km az=33.0*
ISC 14 13:25:52.4±1.5, 45.57N±0.04×26.34E±0.03, h155km±7km, n96, σ0.978/132, 48C-27D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.29**	**253**	⇑*i*P	Pn	**13 26 13.7**	**+0.1**
MLR				*i* S	Sn	**13 26 28.6**	**-1.1**
MLR	**Muntele Rosu**	**0.29**	**253**	⇑*i*P	Pn	**13 26 13.7**	**+0.1**
MLR	**Muntele Rosu**	**0.29**	**253**	⇑*i*P	Pn	**13 26 13.7**	**+0.1**
MLR				*i* S	Sn	**13 26 28.6**	**-1.1**
PLOR	**Plostina**	**0.35**	**38**	⇑*i*P	Pn	**13 26 13.4**	**-0.3**
PLOR				*i* S	Sn	**13 26 29.3**	**-0.7**
PLOR	**Plostina**	**0.35**	**38**	⇑*i*P	Pn	**13 26 13.4**	**-0.3**
PLOR	**Plostina**	**0.35**	**38**	⇑*i*P	Pn	**13 26 13.4**	**-0.3**
PLOR				*i* S	Sn	**13 26 29.3**	**-0.7**
VRI	**Vrincioaia**	**0.40**	**43**	⇑*i*P	Pn	**13 26 13.9**	**+0.1**
VRI				*i* S	Sn	**13 26 29.4**	**-0.9**
VRI	**Vrincioaia**	**0.40**	**43**	⇑*i*P	Pn	**13 26 13.9**	**+0.1**
VRI	**Vrincioaia**	**0.40**	**43**	⇑*i*P	Pn	**13 26 13.9**	**+0.1**
VRI				*i* S	Sn	**13 26 29.4**	**-0.9**
ISR	**Istrita**	**0.48**	**162**	⇓*i*P	Pn	**13 26 14.8**	**+0.6**
ISR				*i* S	Sn	**13 26 30.6**	**-0.3**
ISR	**Istrita**	**0.48**	**162**	⇓*i*P	Pn	**13 26 14.8**	**+0.6**
ISR	**Istrita**	**0.48**	**162**	⇓*i*P	Pn	**13 26 14.8**	**+0.6**
ISR				*i* S	Sn	**13 26 30.6**	**-0.3**
GRER		**0.49**	**113**	⇑*i*P	Pn	**13 26 15.4**	**+1.2**
GRER				*i* S	Sn	**13 26 30.9**	**+0.1**
GRER		**0.49**	**113**	⇑*i*P	Pn	**13 26 15.4**	**+1.2**
GRER		**0.49**	**113**	⇑*i*P	Pn	**13 26 15.4**	**+1.2**
GRER				*i* S	Sn	**13 26 30.9**	**+0.1**
ODBI	**Odobesti**	**0.54**	**69**	⇓*i*P	Pn	**13 26 15.5**	**+1.1**
ODBI				*i* S	Sn	**13 26 31.4**	**+0.2**
ODBI	**Odobesti**	**0.54**	**69**	⇓*i*P	Pn	**13 26 15.5**	**+1.1**
ODBI	**Odobesti**	**0.54**	**69**	⇓*i*P	Pn	**13 26 15.5**	**+1.1**
ODBI				*i* S	Sn	**13 26 31.4**	**+0.2**
SECR		**0.57**	**199**	⇑*i*P	Pn	**13 26 15.2**	**+0.6**
SECR				*i* S	Sn	**13 26 31.8**	**+0.2**
SECR		**0.57**	**199**	⇑*i*P	Pn	**13 26 15.2**	**+0.6**
SECR		**0.57**	**199**	⇑*i*P	Pn	**13 26 15.2**	**+0.6**
SECR				*i* S	Sn	**13 26 31.8**	**+0.2**
PETR	**Petresti**	**0.65**	**76**	⇑*i*P	Pn	**13 26 15.6**	**+0.6**
PETR				*i* S	Sn	**13 26 32.6**	**+0.4**
PETR	**Petresti**	**0.65**	**76**	⇑*i*P	Pn	**13 26 15.6**	**+0.6**
PETR	**Petresti**	**0.65**	**76**	⇑*i*P	Pn	**13 26 15.6**	**+0.6**
PETR				*i* S	Sn	**13 26 32.6**	**+0.4**
DOPR	**Dopca**	**0.77**	**301**	⇑*i*P	Pn	**13 26 15.9**	**+0.1**
DOPR				*i* S	Sn	**13 26 33.9**	**+0.1**
DOPR	**Dopca**	**0.77**	**301**	⇑*i*P	Pn	**13 26 15.9**	**+0.1**
DOPR	**Dopca**	**0.77**	**301**	⇑*i*P	Pn	**13 26 15.9**	**+0.1**
DOPR				*i* S	Sn	**13 26 33.9**	**+0.1**
PGOR	**Pogoanele**	**0.81**	**145**	*i* S	Sn	**13 26 34.6**	**+0.5**
PGOR	**Pogoanele**	**0.81**	**145**	S	Sn	**13 26 34.6**	**+0.5**
**PGO

n93,σ0.84/155, mb3.5/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.12**	**81**	P	**Pg**	**13 31 49.8**	**0.0**
VTN				S	**Sb**	**13 31 52.5**	**+1.2**
VTN	**Vitineika**	**0.12**	**81**	P	**Pg**	**13 31 49.8**	**0.0**
VTN				S	**Sb**	**13 31 52.5**	**+1.2**
KFL	**Anninata**	**0.29**	**317**	P	**Pg**	**13 31 52.2**	**-0.1**
KFL				S	**Sg**	**13 31 56.9**	**+0.2**
KFL	**Anninata**	**0.29**	**317**	P	**Pg**	**13 31 52.2**	**-0.1**
KFL				S	**Sg**	**13 31 56.9**	**+0.2**
RLS	**Riolos of Patr**	**0.38**	**65**	P	**Pg**	**13 31 53.4**	**-0.3**
RLS				S	**Sg**	**13 31 59.2**	**+0.1**
RLS	**Riolos of Patr**	**0.38**	**65**	*e*PB	**Pg**	**13 31 53.5**	**-0.3**
RLS				*e*SB	**Sb**	**13 31 59.9**	**+0.2**
RLS	**Riolos of Patr**	**0.38**	**65**	*e*Pb	**Pg**	**13 31 53.5**	**-0.3**
RLS				S	**Sg**	**13 31 59.2**	**+0.1**
RLS				*e*Sb	**Sb**	**13 31 59.9**	**+0.2**
VLS	**Valsamata**	**0.45**	**309**	P	**Pg**	**13 31 54.6**	**-0.5**
VLS				S	**Sg**	**13 32 01.9**	**+0.6**
VLS	**Valsamata**	**0.45**	**309**	*e*PB	**Pg**	**13 31 54.7**	**-0.4**
VLS				*e*SB	**Sb**	**13 32 02.4**	**+0.6**
VLS	**Valsamata**	**0.45**	**309**	P	**Pg**	**13 31 54.6**	**-0.5**
VLS				S	**Sg**	**13 32 01.7**	**+0.4**
VLS				*e*Sb	**Sb**	**13 32 02.4**	**+0.6**
DRO	**Drossia**	**0.54**	**84**	P	**Pg**	**13 31 56.0**	**-0.7**
DRO				S	**Sb**	**13 32 04.9**	**+0.6**
DRO	**Drossia**	**0.54**	**84**	*e*PN	**Pg**	**13 31 56.2**	**-0.5**
DRO				*e*SN	**Sb**	**13 32 04.6**	**+0.3**
DRO	**Drossia**	**0.54**	**84**	*e*Pn	**Pg**	**13 31 56.2**	**-0.5**
DRO				S	**Sb**	**13 32 04.5**	**+0.3**
SFD	**Strofades**	**0.65**	**181**	P	**Pg**	**13 31 59.0**	**+0.4**
SFD				S	**Sb**	**13 32 08.8**	**+1.5**
SFD	**Strofades**	**0.65**	**181**	*e*PN	**Pg**	**13 31 59.1**	**+0.4**
SFD				*e*SN	**Sn**	**13 32 09.7**	**-0.3**
SFD	**Strofades**	**0.65**	**181**	P	**Pg**	**13 31 58.6**	**-0.1**
SFD	**Strofades**	**0.65**	**181**	*e*Pn	**Pg**	**13 31 59.1**	**+0.4**
SFD				*e*Sn	**Sn**	**13 32 09.7**	**-0.3**
AMT	**Artemida-Makis**	**0.65**	**124**	P	**Pg**	**13 31 58.4**	**-0.4**
AMT				S	**Sb**	**13 32 08.1**	**+0.7**
AMT	**Artemida-Makis**	**0.65**	**124**	*e*PN	**Pg**	**13 31 58.9**	**+0.1**
AMT				*e*SN	**Sb**	**13 32 08.9**	**+1.5**
AMT	**Artemida-Makis**	**0.65**	**124**	P	**Pg**	**13 31 58.4**	**-0.4**
AMT	**Artemida-Makis**	**0.65**	**124**	*e*Pn	**Pg**	**13 31 58.9**	**+0.1**
AMT				S	**Sg**	**13 32 07.4**	**0.0**
UPR	**University Cam**	**0.71**	**57**	P	**Pg**	**13 31 59.8**	**-0.1**
UPR				S	**Sb**	**13 32 10.1**	**+0.9**
UPR	**University Cam**	**0.71**	**57**	P	**Pg**	**13 31 59.8**	**-0.1**
UPR				S	**Sb**	**13 32 10.1**	**+0.9**
PDO	**Prodromos**	**0.71**	**9**	P	**Pg**	**13 31 59.4**	**-0.5**
PDO				S	**Sn**	**13 32 11.0**	**-0.6**
PDO	**Prodromos**	**0.71**	**9**	*e*PN	**Pg**	**13 31 59.7**	**-0.2**
PDO				*e*SN	**Sg**	**13 32 09.1**	**-0.3**
PDO	**Prodromos**	**0.71**	**9**	P	**Pg**	**13 31 59.4**	**-0.5**
PDO	**Prodromos**	**0.71**	**9**	*e*Pn	**Pg**	**13 31 59.7**	**-0.2**
PDO				*e*Sn	**Sg**	**13 32 09.1**	**-0.3**
PDO				S	**Sb**	**13 32 10.1**	**+0.8**
PVO	**Paravola**	**0.81**	**28**	P	**Pb**	**13 32 01.6**	**0.0**
PVO				S	**Sg**	**13 32 13.4**	**+0.7**
PVO	**Paravola**	**0.81**	**28**	P	**Pb**	**13 32 01.6**	**0.0**
PVO				S	**Sg**	**13 32 13.1**	**+0.4**
EFP	**Efpalio**	**0.87**	**52**	P	**Pb**	**13 32 01.6**	**-0.9**
EFP				S	**Sg**	**13 32 14.4**	**+0.1**
EFP	**Efpalio**	**0.87**	**52**	*e*PN	**Pb**	**13 32 01.9**	**-0.6**
EFP				*e*SN	**Sg**	**13 32 14.7**	**+0.4**
EFP	**Efpalio**	**0.87**	**52**	P	**Pb**	**13 32 01.6**	**-0.9**
EFP	**Efpalio**	**0.87**	**52**	*e*Pn	**Pb**	**13 32 01.9**	**-0.6**
EFP				S	**Sg**	**13 32 14.4**	**+0.1**
KLV	**Kalavryta, Ach**	**0.89**	**80**	P	**Pb**	**13 32 02.0**	**-0.9**
KLV				S	**Sg**	**13 32 15.2**	**0.0**
KLV	**Kalavryta, Ach**	**0.89**	**80**	*e*PB	**Pb**	**13 32 02.1**	**-0.9**
KLV				*e*SN	**Sn**	**13 32 16.1**	**-0.1**
KLV	**Kalavryta, Ach**	**0.89**	**80**	*e*Pb	**Pb**	**13 32 02.1**	**-0.9**
KLV				S	**Sg**	**13 32 15.2**	**0.0**
LKD2	**Lefkada island**	**0.94**	**342**	P	**Pb**	**13 32 03.0**	**-0.8**
LKD2				S	**Sb**	**13 32 16.5**	**+0.6**
LKD2	**Lefkada island**	**0.94**	**342**	*e*PN	**Pb**	**13 32 03.3**	**-0.5**
LKD2				*e*SN	**Sb**	**13 32 16.2**	**+0.3**
LKD2	**Lefkada island**	**0.94**	**342**	P	**Pb**	**13 32 03.0**	**-0.8**
LKD2	**Lefkada island**	**0.94**	**342**	*e*Pn	**Pb**	**13 32 03.3**	**-0.5**
LKD2				*e*Sn	**Sb**	**13 32 16.2**	**+0.3**
LKD2				S	**Sb**	**13 32 16.5**	**+0.6**
KALE	**Kalithea**	**1.00**	**60**	P	**Pb**	**13 32 04.0**	**-0.8**
KALE				S	**Sg**	**13 32 18.5**	**-0.1**
KALE	**Kalithea**	**1.00**	**60**	*e*PB	**Pb**	**13 32 04.0**	**-0.8**
KALE				*e*SN	**Sg**	**13 32 18.8**	**+0.2**
KALE	**Kalithea**	**1.00**	**60**	P	**Pb**	**13 32 04.0**	**-0.8**
KALE				S	**Sg**	**13 32 18.5**	**-0.1**
ITM	**Ithomi**	**1.01**	**135**	P	**Pb**	**13 32 04.2**	**-0.7**
ITM				S	**Sn**	**13 32 19.3**	**+0.3**
ITM	**Ithomi**	**1.01**	**135**	*e*PB	**Pb**	**13 32 05.0**	**+0.1**
ITM				*e*SN	**Sn**	**13 32 20.5**	**+1.5**
ITM	**Ithomi**	**1.01**	**135**	P	**Pb**	**13 32 04.2**	**-0.7**
ITM	**Ithomi**	**1.01**	**135**	*e*Pb	**Pb**	**13 32 05.0**	**+0.1**
ITM				S	**Sn**	**13 32 19.3**	**+0.3**
ITM				*e*Sn	**Sn**	**13 32 20.5**	**+1.5**
GUR	**Goura**	**1.03**	**87**	P	**Pb**	**13 32 04.3**	**-1.1**
GUR				S	**Sb**	**13 32 19.4**	**+0.7**
GUR	**Goura**	**1.03**	**87**	*e*PB	**Pb**	**13 32 04.9**	**-0.5**
GUR				*e*SN	**Sn**	**13 32 20.8**	**+1.0**
GUR	**Goura**	**1.03**	**87**	P	**Pb**	**13 32 04.3**	**-1.1**
GUR	**Goura**	**1.03**	**87**	*e*Pb	**Pb**	**13 32 04.9**	**-0.5**
GUR				S	**Sb**	**13 32 19.4**	**+0.7**
PYL	**PYLOS**	**1.15**	**150**	P	**Pn**	**13 32 06.3**	**-0.9**
PYL				S	**Sn**	**13 32 22.8**	**+0.4**
PYL	**PYLOS**	**1.15**	**150**	P	**Pn**	**13 32 06.3**	**-0.9**
PYL				S	**Sn**	**13 32 22.8**	**+0.4**
EVR	**Evrytania**	**1.19**	**31**	P	**Pn**	**13 32 07.8**	**0.0**
EVR				S	**Sn**	**13 32 24.0**	**+0.5**
EVR	**Evrytania**	**1.19**	**31**	*e*PN	**Pn**	**13 32 07.8**	**0.0**
EVR				*e*SN	**Sb**	**13 32 23.3**	**+0.2**
EVR	**Evrytania**	**1.19**	**31**	P	**Pn**	**13 32 07.8**	**0.0**
EVR				*e*Sn	**Sb**	**13 32 23.3**	**+0.2**
EVR				S	**Sn**	**13 32 24.0**	**+0.5**
VLX	**Vlachokerasia**	**1.19**	**116**	P	**Pn**	**13 32 07.5**	**-0.3**
VLX				S	**Sn**	**13 32 24.3**	**+0.7**
VLX	**Vlachokerasia**	**1.19**	**116**	*e*PN	**Pg**	**13 32 09.8**	**+0.8**
VLX	**Vlachokerasia**	**1.19**	**116**	P	**Pn**	**13 32 07.5**	**-0.3**
VLX	**Vlachokerasia**	**1.19**	**116**	*e*Pn	**Pg**	**13 32 09.8**	**+0.8**
VLX				S	**Sn**	**13 32 24.3**	**+0.7**
DSL	**Palaion Diasel**	**1.23**	**2**	P	**Pn**	**13 32 08.1**	**-0.3**
DSL				S	**Sn**	**13 32 25.0**	**+0.9**
DSL	**Palaion Diasel**	**1.23**	**2**	*e*PN	**Pn**	**13 32 08.2**	**-0.2**
DSL	**Palaion Diasel**	**1.23**	**2**	*e*Pn	**Pn**	**13 32 08.2**	**-0.2**
DSL				S	**Sn**	**13 32 25.6**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.41**	**37**	P	**Pb**	**13 32 12.4**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.41**	**37**	*e*PN	**Pb**	**13 32 12.4**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.41**	**37**	P	**Pb**	**13 32 12.4**	**+0.6**
AGG	**Agios Georgios**	**1.52**	**42**	P	**Pn**	**13 32 13.2**	**+0.9**
AGG	**Agios Georgios**	**1.52**	**42**	P	**Pn**	**13 32 13.2**	**+0.9**
LTK	**Loutraki**	**1.53**	**85**	P	**Pn**	**13 32 11.7**	**-0.8**
LTK				S	**Sn**	**13 32 31.8**	**-0.1**
LTK	**Loutraki**	**1.53**	**85**	*e*PN	**Pn**	**13 32 13.4**	**+0.9**
LTK	**Loutraki**	**1.53**	**85**	P	**Pn**	**13 32 11.7**	**-0.8**
LTK	**Loutraki**	**1.53**	**85**	*e*Pn	**Pn**	**13 32 13.4**	**+0.9**
LTK				S	**Sn**	**13 32 31.8**	**-0.1**
LKR	**Lokris**	**1.72**	**63**	P	**Pn**	**13 32 15.9**	**+0.9**
LKR	**Lokris**	**1.72**	**63**	*e*PN	**Pb**	**13 32 16.6**	**-0.4**
LKR	**Lokris**	**1.72**	**63**	P	**Pn**	**13 32 15.9**	**+0.9**
LKR	**Lokris**	**1.72**	**63**	*e*Pn	**Pb**	**13 32 16.6**	**-0.4**
MRKA	**Markates**	**2.16**	**67**	P	**Pn**	**13 32 20.6**	**-0.6**
MRKA				S	**Sn**	**13 32 47.6**	**+0.1**
MRKA	**Markates**	**2.16**	**67**	*e*PN	**Pn**	**13 32 22.6**	**+1.4**
MRKA	**Markates**	**2.16**	**67**	P	**Pn**	**13 32 20.6**	**-0.6**
MRKA	**Markates**	**2.16**	**67**	*e*Pn	**Pn**	**13 32 22.6**	**+1.4**
MRKA				S	**Sn**	**13 32 47.6**	**+0.1**
XOR	**Xorichti**	**2.24**	**48**	*e*PB	**Pn**	**13 32 24.3**	**+2.1**
XOR	**Xorichti**	**2.24**	**48**	*e*Pb	**Pn**	**13 32 24.3**	**+2.1**
SKIA	**Skiathos**	**2.29**	**56**	*e*PB	**Pn**	**13 32 25.1**	**+2.2**
SKIA	**Skiathos**	**2.29**	**56**	*e*Pb	**Pn**	**13 32 25.1**	**+2.2**
AOS	**Alonnisos**	**2.57**	**59**	*e*PB	**Pn**	**13 32 28.9**	**+2.2**
AOS	**Alonnisos**	**2.57**	**59**	*e*Pb	**Pn**	**13 32 28.9**	**+2.2**
OHR	**Ohrid**	**3.21**	**357**	*e*Pn	**Pn**	**13 32 38.1**	**+2.4**
OHR	**Ohrid**	**3.21**	**357**	*e*Pn	**Pn**	**13 32 38.0**	**+2.3**
DIVS	**Divibare**	**6.25**	**353**	*e*Pn	**Pn**	**13 33 17.1**	**-0.2**
BRTR	**Keskin Array B** 0.2nm,0.3s,baz=266,slow=12,SNR=2.8	**10.01**	**76**	Pn	Pn	13 34 13.8	+4.8
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,baz=35,slow=8.6,SNR=3.6	**30.07**	**220**	P	**P**	**13 37 54.9**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=274,slow=7.8,SNR=7.6	**45.10**	**58**	P	**P**	**13 39 59.8**	**-1.3**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=286,slow=7.3,SNR=3.7	**45.58**	**48**	P	**P**	**13 40 02.1**	**-2.5**

*NEIC **14** 13:45:39.7, 32°.33N×115°.33W, h10km, MD3.7(MEX), ML3.3(PAS), After PAS.*
*ECX **14** 13:45:40.3±0.6, 32°.34N×115°.33W, h6km, MD3.2, ML3.4*
*MEX **14** 13:45:40.7±0.7, 32°.39N×115°.30W, h13km, MD3.7*

ISC 14 13:45:38.4±0.8, 32°.33N±0°.02×115°.31W±0°.02, h17km±5km, n37, σ1.24/57, 5C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.09**	**5**	*e*P	**Pg**	**13 45 41.5**	**-0.3**
CPBX				*e*S	**Sg**	**13 45 43.8**	**-0.3**
CPBX				AML	AML	13 45 45.5	
	comp=E,64μm,0.3s						
CPBX				⇓*e*		13 45 45.5	
MBIG	**Mexicali**	**0.12**	**51**	⇓*e*P	**Pg**	**13 45 42.4**	**+0.2**
MBIG				*e*S	**Sg**	**13 45 44.6**	**0.0**
EMX	**El Mayor**	**0.35**	**170**	⇓*e*P	**Pb**	**13 45 45.8**	**-0.4**
EMX				*e*S	**Sb**	**13 45 50.9**	**-0.4**
SGL	**Mount Signal**	**0.47**	**313**	⇓*i*P	**Pg**	**13 45 48.3**	**+0.4**
COA	**Coachella**	**0.56**	**17**	⇓*i*P	**Pg**	**13 45 50.2**	**+0.7**
YUH	**Yuha Desert**	**0.61**	**302**	⇓*i*P	**Pg**	**13 45 50.5**	**+0.1**
RDX	**Rancho Dawling**	**0.67**	**233**	⇓*e*P	**Pb**	**13 45 51.9**	**+0.1**
RDX				*e*S	**Sb**	**13 46 01.0**	**+0.2**
YMD	**Yuma Desert**	**0.69**	**71**	*e*P	**Pg**	**13 45 52.3**	**+0.4**
RMX	**La Rumorosa**	**0.70**	**293**	⇑*e*P	**Pg**	**13 45 52.6**	**+0.4**
RMX				*e*S	**Sg**	**13 46 01.9**	**+0.3**
RMX				AML	AML	13 46 04.9	
	comp=N,2μm,0.7s						
RMX				⇓*e*		13 46 04.9	
CRR	**Carrizo Plain**	**0.79**	**315**	⇓*i*P	**Pg**	**13 45 53.6**	**-0.1**
ECBX	**El Chinero**	**0.88**	**165**	*e*P	**Pg**	**13 45 54.4**	**-1.2**
ECBX				*e*S	**Sb**	**13 46 06.8**	**-0.1**
CBX	**Cerro Bola**	**1.14**	**270**	*e*P	**Pb**	**13 45 59.6**	**-0.3**
CBX				*e*S	**Sb**	**13 46 12.3**	**-2.2**
CBX	**Cerro Bola**	**1.14**	**270**	⇑*e*P	**Pb**	**13 46 00.3**	**+0.4**
CBX				*e*S	**Sg**	**13 46 15.6**	**+0.1**
CBX				*e*		13 46 17.7	
CBX				AML	AML	13 46 17.7	
	comp=N,1μm,0.4s						
CBX	**Cerro Bola**	**1.14**	**270**	*e*P	**Pb**	**13 46 00.1**	**+0.2**
CBX				*e*S	**Sb**	**13 46 12.3**	**-2.2**
ZAX	**El Zacaton**	**1.15**	**225**	⇓*e*P	**Pn**	**13 46 00.3**	**+0.4**
ZAX				*e*S	**Sn**	**13 46 16.2**	**+0.9**
BAR	**Barrett**	**1.20**	**287**	⇑*e*P	**Pb**	**13 46 01.0**	**+0.3**
BAR	**Barrett**	**1.20**	**287**	P	**Pg**	**13 46 02.1**	**+0.5**
BAR				*e*S	**Sb**	**13 46 16.7**	**+0.7**
ECNX	**Esteban Cantu**	**1.28**	**239**	⇑*e*P	**Pb**	**13 46 02.4**	**+0.2**
ECNX				*e*S	**Sn**	**13 46 19.7**	**+1.1**
SPIG	**San Pedro Mart**	**1.29**	**186**	*e*P	**Pn**	**13 46 02.1**	**+0.1**
SPIG				*i* S	**Sb**	**13 46 18.3**	**-0.5**
SPIG	**San Pedro Mart**	**1.29**	**186**	*e*P	**Pn**	**13 46 01.9**	**0.0**
SPIG				*i* S	**Sb**	**13 46 18.3**	**-0.5**
PBX	**Punta Banda**	**1.33**	**244**	⇑*e*P	**Pb**	**13 46 03.3**	**+0.2**
PFO	**Pinyon Flats O**	**1.60**	**323**	*e*Pn	**Pn**	**13 46 05.1**	**-1.0**
PFO				*e*Pg	**Pg**	**13 46 09.7**	**+0.5**
PFO				*e*Sn	**Sn**	**13 46 24.6**	**-1.8**
214A	**Organ Pipe Nat**	**2.15**	**99**	*e*Pn	**Pn**	**13 46 12.9**	**-0.7**
214A				*e*Pg	**Pg**	**13 46 20.9**	**+1.2**
LDFC	**Landfair**	**2.75**	**3**	*e*Pn	**Pn**	**13 46 23.1**	**+1.2**
MWC	**Mount Wilson**	**2.98**	**310**	*e*Pg	**Pb**	**13 46 32.2**	**+1.0**
PASC	**Pasadena Art C**	**3.03**	**308**	*e*Pg	**Pg**	**13 46 37.7**	**+1.3**
GSC	**Goldstone, Bar**	**3.21**	**338**	*e*Pn	**Pb**	**13 46 34.1**	**-1.0**
TUC	**Tucson**	**3.83**	**89**	Pn	Pn	13 46 34.0	-2.8
SHPR	**Sheep Range**	**4.17**	**2**	*e*Pn	**Pn**	**13 46 43.0**	**+1.6**
ISA	**Isabella, Lake**	**4.24**	**323**	*e*Pn	**Pn**	**13 46 43.9**	**+1.6**
DAC	**Darwin (Calif)**	**4.37**	**335**	*e*Pn	**Pn**	**13 46 46.3**	**+2.0**
DAC				*e*Pg	**Pg**	**13 46 59.9**	**-2.2**
WUAZ	**Wupatki**	**4.56**	**45**	*e*Pn	**Pn**	**13 46 49.5**	**+2.6**
CCUT	**Cedar City**	**5.45**	**17**	*e*Pn	Pn	13 47 00.4	+4.2
CCUT				*e*Pg	**Pg**	**13 47 21.2**	**-1.6**
ARUT	**Antelope Range**	**5.66**	**15**	*e*Pn	**Pn**	**13 47 04.9**	**+3.0**
ARUT				*e*Pg	Pg	13 47 23.6	-3.2
R11A	**Troy Canyon, C**	**6.01**	**358**	*e*Pn	**Pn**	**13 47 06.8**	**0.0**
R11A				*e*Pg	**Pg**	**13 47 34.7**	**+1.2**
R11A				*e*Sg	**Sg**	**13 48 47.4**	**-3.9**
121A	**Cookes Peak, D**	**6.37**	**86**	*e*Pn	**Pn**	**13 47 13.4**	**+1.7**
MVU	**Marysvale**	**6.66**	**21**	Pn	Pn	**13 47 16.9**	**+1.1**
MVU				*e*Pg	**Pg**	**13 47 45.5**	**-0.4**

IDC 14 13:46:07.8±0.9, 15°.63S×174°.13W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/38, mbtmp3.9/6, MS3.8/18, Ms1 3.8/18, ms1mx3.7/28, Error ellipse: s-maj=49.1km s-min=21.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 514nm,24.9s	**19.46**	**248**	*e*LR	LR	13 55 24.0	
DZM	**Mont Dzumac** comp=Z,358nm,19.5s,baz=62,slow=34	**19.46**	**248**	LR	LR	13 57 01.7	
PAE	**Paea** 2.0nm,0.2s	**23.61**	**98**	*e*T	T	14 15 43.1	
PPT	**Papeete** comp=Z,178nm,20.4s,baz=264,slow=31	**23.61**	**98**	LR	LR	13 58 11.8	
PPT2	**Papeete2** 754nm,26.2s	**23.61**	**98**	*e*LR	LR	13 56 56.6	
PPT2	**Papeete2** 3.0nm,0.3s	**23.61**	**98**	*e*T	T	14 15 40.3	
TIAR	**Tiarei** 2.1nm,0.3s	**23.83**	**98**	*e*T	T	14 15 59.2	
URZ	**Urewera** 2.0nm,0.3s,baz=356,slow=14,SNR=6.9	**23.83**	**197**	P	P	13 51 22.2	-0.4
TVO	**Taravao** 1.2nm,0.3s	**23.92**	**99**	*e*T	T	14 16 05.9	
TBI	**Tubuai** 856nm,26.8s	**24.46**	**112**	*e*LR	LR	13 57 30.4	
TBI	**Tubuai** 19nm,0.3s	**24.46**	**112**	*e*T	T	14 16 59.1	
PMOR	**Pomariorio Ree** 2.3nm,0.3s	**25.31**	**92**	*e*T	T	14 17 45.3	
HNR	**Honiara** comp=Z,67nm,19.1s,baz=126,slow=36	**26.03**	**281**	LR	LR	14 01 43.6	
RKT	**Rikitea** 450nm,26.8s	**37.59**	**108**	*e*LR	LR	14 03 29.4	
RKT	**Rikitea** 4.3nm,0.3s	**37.59**	**108**	*e*T	T	14 33 19.1	
CTA	**Charters Tower** comp=Z,231nm,21.1s,baz=171,slow=34	**37.90**	**257**	LR	LR	14 07 36.9	
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=82	**38.81**	**330**	T	T	14 34 05.5	
H11S3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=43	**38.82**	**330**	T	T	14 34 04.0	
H11S1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=50	**38.82**	**330**	T	T	14 34 03.9	
H11N3	**WAKE ISLAND Hy** baz=150,slow=76,SNR=72	**39.77**	**331**	T	T	14 35 17.1	
H11N1	**WAKE ISLAND Hy** baz=150,slow=76,SNR=72	**39.77**	**331**	T	T	14 35 17.5	
H11N2	**WAKE ISLAND Hy** baz=150,slow=76,SNR=88	**39.79**	**331**	T	T	14 35 16.6	
STKA	**Stephens Creek** comp=Z,115nm,19.5s,baz=37,slow=34	**43.31**	**240**	LR	LR	14 10 23.3	
WRA	**Warramunga Arr** 2.7nm,1.1s,baz=91,slow=7.1,SNR=11	**49.10**	**257**	P	P	13 54 56.9	-0.6
ASAR	**Alice Springs** 6.2nm,1.0s,baz=84,slow=8.4,SNR=35	**49.37**	**252**	P	P	13 55 00.0	+0.5
ASAR				LR	LR	14 14 02.3	
	comp=Z,238nm,20.1s,baz=90,slow=34						
JCJ	**Chichijima** comp=Z,174nm,21.2s,baz=132,slow=28	**60.01**	**315**	LR	LR	14 14 36.0	
VNDA	**Vanda** comp=Z,41nm,21.0s,baz=298,slow=32	**63.08**	**186**	LR	LR	14 19 18.5	
MJAR	**Matsushiro Arr** comp=Z,85nm,22.0s,baz=105,slow=31	**68.66**	**320**	LR	LR	14 21 18.0	
ASAJ	**Asahikawa** comp=Z,81nm,21.6s,baz=102,slow=30	**71.37**	**329**	LR	LR	14 22 07.0	
PETK	**Petropavlovsk-** comp=Z,47nm,21.4s,baz=230,slow=30	**72.64**	**343**	LR	LR	14 21 54.2	
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=232,slow=8.7,SNR=5.4	**74.97**	**42**	P	P	13 57 50.8	-0.5
KSRS	**Korea Array** comp=Z,60nm,22.0s,baz=126,slow=30	**75.83**	**316**	LR	LR	14 23 53.9	
USRK	**Ussuriysk Ar.** comp=Z,163nm,20.3s,baz=125,slow=30	**77.15**	**323**	LR	LR	14 24 33.7	
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=218,slow=4.2,SNR=3.3	**81.33**	**56**	P	P	13 58 27.5	+0.8
TXAR				LR	LR	14 26 21.9	
	comp=Z,270nm,21.7s,baz=0.0,slow=30						
MAW	**Mawson** comp=Z,46nm,20.0s,baz=236,slow=34	**87.38**	**199**	LR	LR	14 36 16.7	
PLCA	**Paso Flores** comp=Z,79nm,19.9s,baz=280,slow=30	**89.88**	**132**	LR	LR	14 31 09.8	
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=243,slow=4.2,SNR=3.5	**90.59**	**24**	P	P	13 59 11.1	-0.5
CMAR	**Chiang Mai Arr** comp=Z,46nm,19.6s,baz=146,slow=32	**92.02**	**288**	LR	LR	14 35 57.5	
SONM	**Songino Array** comp=Z,55nm,21.9s,baz=139,slow=32	**94.55**	**318**	LR	LR	14 35 50.5	
BRTR	**Keskin Array B** 1.5nm,1.1s,baz=149,slow=3.0,SNR=3.7	**145.89**	**320**	PKPbc	PKPdf	14 05 49.0	-0.1

*IDC **14** 13:51:58.0±1.0, 27°.91S×72°.51W, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.3/29, mbtmp3.4/4, ML3.2/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/19, Error ellipse: s-maj=46.4km s-min=34.5km az=80.0*

ISC 14 13:52:03.2±1.2, 27°.9S±0°.1×72°.3W±0°.2, h35km, n8, σ1.45/10, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.3nm,0.3s,baz=298,slow=11,SNR=10	**5.10**	**138**	Pn	**Pn**	**13 53 18.1**	**+0.9**
CFAA				Sn	**Sn**	**13 54 13.5**	**-1.3**
	0.4nm,0.3s,baz=54,slow=16,SNR=6.3						
CFAA				LR	LR	13 55 36.7	
	comp=Z,15nm,19.2s,slow=42						
LPAZ	**La Paz** 0.1nm,0.3s,baz=186,slow=9.2,SNR=4.9	**12.15**	**19**	Pn	**Pn**	**13 54 54.4**	**-0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=259,slow=4.2,SNR=6.1	**82.34**	**71**	P	**P**	**14 04 23.2**	**+1.3**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=148,slow=5.0,SNR=3.6	**96.22**	**342**	P	**P**	**14 05 27.2**	**+0.1**
ASAR	**Alice Springs** 0.4nm,1.0s,baz=131,slow=1.4,SNR=3.0	**122.87**	**209**	PKP	**PKPdf**	**14 10 55.7**	**-0.6**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=157,slow=1.7,SNR=9.4	**125.94**	**211**	PKP	**PKPdf**	**14 11 02.0**	**-0.2**
ZALV	**Zalesovo Beam** 1.5nm,0.6s,baz=268,slow=3.5,SNR=10	**149.00**	**27**	PKPbc	**PKPab**	**14 11 48.9**	**-2.4**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=334,slow=2.1,SNR=4.1	**152.52**	**40**	PKPbc	**PKPbc**	**14 11 57.0**	**+1.3**
MKAR				PKPab	**PKPab**	**14 12 04.6**	**-1.6**
	0.4nm,0.8s,baz=238,slow=4.1,SNR=3.7						

SKO 14 13:55:03.0, 40°.73N×21°.42E, h13km, M1.2, ML1.7, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.61**	**309**	*i* Pg	Pg	13 55 14.8	-0.2
OHR				*e*Sg	Sg	13 55 23.2	0.0
OHR				*e*Lg	Lg	13 55 25.5	
	comp=E,25nm,0.5s						
OHR				*e*Lg	Lg	13 55 25.5	
	comp=N,25nm,0.4s						
VAY	**Valandovo**	**1.05**	**55**	*e*Pg	Pn	13 55 24.4	+1.0

*CSEM **14** 13:56:25.2±0.8, 37°.37N×20°.28E, h0km±3km, MD3.5, Error ellipse: s-maj=13.9km s-min=4.8km az=61.0*
*THE **14** 13:56:25.5, 37°.38N×20°.29E, h1km±4km, ML2.6/2, Error ellipse: s-maj=5.5km s-min=1.4km az=241.0*
*ATH **14** 13:56:30.0, 37°.42N×20°.62E, h33km±1km, MD3.5/14*

ISC 14 13:56:26.2±1.8, 37°.42N±0°.04×20°.36E±0°.06, h2km±12km, n57, σ0.87/77, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.55**	**108**	P	**Pg**	**13 56 37.1**	**+0.3**
SFD		

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.37**	**64**	Pn	**Pn**	**14 07 17.2**	**-0.1**
	0.6nm,0.3s,baz=237,slow=9.2,SNR=16						
CFAA				Lg	Lg	14 08 25.8	
	1.0nm,0.3s,baz=330,slow=20,SNR=6.3						
CFAA				LR	LR	14 08 39.9	
	comp=Z,9.7nm,19.1s,baz=341,slow=35						
PLCA	**Paso Flores**	**7.34**	**166**	Pn	**Pn**	**14 07 57.9**	**-0.2**
	0.4nm,0.3s,baz=328,slow=11,SNR=10						
PLCA				Lg	Lg	14 09 59.5	
	0.1nm,0.3s,baz=73,slow=19,SNR=2.0						
LPAZ	**La Paz**	**17.77**	**15**	P	**Pn**	**14 10 18.4**	**-0.6**
	0.1nm,0.3s,baz=221,slow=9.3,SNR=2.1						
SIV	**San Ignacio**	**20.51**	**34**	P	**P**	**14 10 49.8**	**+0.6**
	1.1nm,0.6s,baz=205,slow=11,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.70**	**71**	P	**P**	**14 18 45.5**	**+0.2**
	0.3nm,0.7s,baz=218,slow=6.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**154.25**	**31**	PKPbc	**PKPbc**	**14 26 12.3**	**+1.8**
	0.7nm,0.5s,baz=304,slow=3.2,SNR=3.6						
ZALV				PKPab	**PKPab**	**14 26 22.3**	**-2.2**
	0.3nm,0.4s,baz=298,slow=3.1,SNR=3.4						
MKAR	**Makanchi Array**	**157.00**	**48**	PKPab	**PKPab**	**14 26 36.5**	**-0.1**
	0.2nm,0.5s,baz=306,slow=4.3,SNR=5.0						

MDD ***14*** *14:06:15.9±3.6, 32.°32N×7.°64W, h0km, mb3.9/4, Error ellipse: s-maj=53.9km s-min=31.3km az=94.0, PRXIMO SIN SOLUCIÓN*

INMG ***14*** *14:06:19.3±0.9, 32.°32N×7.°57W, h31km, ML2.5, Error ellipse: s-maj=13.9km s-min=3.6km az=103.0*

CSEM 14 14:06:20.3±0.6, 32.°65N×7.°61W, h10km, ML3.2/4, Error ellipse: s-maj=16.4km s-min=10.9km az=92.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**4.59**	**357**	*e*Pn	Pn	14 07 30.4	+0.5
PBDV	**Barranco-do-Ve**	**4.59**	**357**	Pn	Pn	14 07 30.4	+0.5
PBDV	**Barranco-do-Ve**	**4.59**	**357**	*e*Pn	Pn	14 07 30.4	+0.5
PVAQ	**Vaqueiros**	**4.75**	**359**	*e*Pn	Pn	14 07 31.7	-0.2
PVAQ				*e*Sn	Sn	14 08 27.9	+0.9
PVAQ				A	A	14 08 29.4	
	7.7nm,0.7s						
PVAQ	**Vaqueiros**	**4.75**	**359**	Pn	Pn	14 07 31.7	-0.2
PVAQ				Sn	Sn	14 08 27.9	+0.9
	7.7nm,0.7s						
PVAQ	**Vaqueiros**	**4.75**	**359**	*e*Pn	Pn	14 07 31.7	-0.2
PVAQ				*e*Sn	Sn	14 08 27.9	+0.9
	7.7nm,0.7s						
EGRO	**El Granado**	**4.88**	**1**	P	Pn	14 07 33.9	+0.1
	1.0nm,0.1s,SNR=7.9						
EGRO				S	Sn	14 08 31.1	+0.9
	5.2nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.88**	**1**	P	Pn	14 07 33.8	+0.1
	1.0nm,0.1s,SNR=7.9						
EGRO				S	Sn	14 08 31.1	+0.9
	5.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.17**	**8**	P	Pn	14 07 37.3	-0.4
	0.6nm,0.1s,SNR=8.9						
EMIN				S	Sn	14 08 36.6	-0.7
	2.2nm,0.2s,SNR=10						
EMIN	**Mina Concepcio**	**5.17**	**8**	P	Pn	14 07 37.3	-0.4
	0.6nm,0.1s,SNR=8.9						
EMIN				S	Sn	14 08 36.6	-0.8
	2.2nm,0.2s,SNR=10						
MESJ	**Messejana**	**5.21**	**355**	*e*Sn	Sn	14 08 39.1	+0.8
MESJ				A	A	14 08 40.4	
	3.7nm,0.3s						
MESJ	**Messejana**	**5.21**	**355**	Sn	Sn	14 08 39.1	+0.8
	3.7nm,0.3s						
MESJ	**Messejana**	**5.21**	**355**	*e*Sn	Sn	14 08 39.1	+0.8
	3.7nm,0.3s						
PNCL	**Nicolau / Gran**	**5.50**	**352**	*e*Pn	Pn	14 07 42.3	0.0
PNCL				*e*Sn	Sn	14 08 43.1	-2.6
PNCL				A	A	14 08 56.3	
	3.3nm,0.6s						
PNCL	**Nicolau / Gran**	**5.50**	**352**	*e*Pn	Pn	14 07 42.3	0.0
PNCL				*e*Sn	Sn	14 08 43.1	-2.6
	3.3nm,0.6s						
PBAR	**Barrancos**	**5.54**	**5**	*e*Pn	Pn	14 07 43.2	+0.4
PBAR				*e*Sn	Sn	14 08 47.1	+0.6
PBAR				A	A	14 08 52.1	
	6.5nm,0.4s						
PBAR	**Barrancos**	**5.54**	**5**	Pn	Pn	14 07 43.2	+0.4
PBAR				Sn	Sn	14 08 47.1	+0.6
	6.5nm,0.4s						
PBAR	**Barrancos**	**5.54**	**5**	*e*Pn	Pn	14 07 43.2	+0.4
PBAR				*e*Sn	Sn	14 08 47.1	+0.6
	6.5nm,0.4s						
ECAB	**El Cabril**	**5.70**	**18**	P	Pn	14 07 44.9	-0.2
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	14 08 50.9	+0.2
	0.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.70**	**18**	P	Pn	14 07 44.9	-0.2
	0.2nm,0.1s,SNR=7.9						
ECAB				S	Sn	14 08 50.9	+0.2
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.04**	**23**	P	Pn	14 07 49.8	+0.1
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	14 08 58.9	-0.1
	3.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.04**	**23**	P	Pn	14 07 49.8	+0.1
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	14 08 58.9	-0.1
	3.3nm,0.3s,SNR=7.9						

NNC 14 14:27:25.5±6.1, 36.°57N×70.°44E, h0km, mb3.6, mpv3.3, 4C-2D, Error ellipse: s-maj=46.0km s-min=18.9km az=9.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.58**	**331**	⇑Sn	Sn	14 28 42.2	+1.4
	4.7nm,0.1s						
SFK	**Sufi-Kurgan**	**4.20**	**34**	⇑Pn	Pn	14 28 31.0	-0.2
	1.9nm,0.3s						
SFK				⇑Sn	Sn	14 29 22.8	+1.7
	2.5nm,0.2s						
MNAS	**Manas**	**6.12**	**14**	⇓Pn	Pn	14 28 59.4	+2.0
	1.1nm,0.3s						
MNAS				⇑Sn	Sn	14 30 08.8	+0.5
	2.8nm,0.6s						
KK31	**Karatay Array**	**6.53**	**0**	Pn	Pn	14 29 01.8	-1.1
	0.5nm,0.3s,baz=166,slow=12,SNR=7.9						
KK31				⇓Sn	Sn	14 30 16.8	-1.2
	4.5nm,0.7s						
AB31	**Akbulak array**	**14.81**	**332**	P	Pn	14 30 51.2	-4.9
	0.2nm,0.3s,baz=162,slow=12,SNR=16						

DJA 14 14:32:01.4±0.5, 8.°S±3.°×107.°E±.°, h29km±5km, M4.0/2, MLv4.0/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.78**	**34**	P	Pb	14 32 16.0	-0.5
CISI				S	Sn	14 32 27.2	-0.1
CNJI	**Cibinong**	**0.93**	**344**	P	Pn	14 32 18.2	-0.3
CNJI				S	Sn	14 32 29.7	-1.2
CMJI	**Cimerak**	**1.14**	**68**	P	Pn	14 32 21.0	-0.4
CMJI				S	Sn	14 32 35.1	-1.0
LEM	**Lembang**	**1.39**	**10**	P	Pn	14 32 25.6	+0.5
LEM				S	Sb	14 32 44.4	-0.2
SKJI	**Sukabumi**	**1.45**	**326**	P	Pn	14 32 26.0	+0.3
SKJI				S	Sn	14 32 43.7	0.0
KPJI	**Karang Pucung**	**1.77**	**61**	P	Pn	14 32 30.3	+0.3
KPJI				S	Sn	14 32 51.4	-0.2
CGJI	**Cibinong**	**2.31**	**313**	P	Pn	14 32 37.4	-0.1
CGJI				S	Sn	14 33 02.7	-2.2
SBJI	**Serang**	**2.42**	**329**	P	Pn	14 32 39.2	+0.2
UGM	**Wanagama**	**3.13**	**85**	P	Pn	14 32 49.0	+0.2
PCJI	**Pacitan**	**3.76**	**90**	P	Pn	14 32 57.9	+0.4

NNC ***14*** *14:42:58.8±1.7, 38.°86N×72.°36E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.2km s-min=6.4km az=149.0*

KRNET ***14*** *14:43:01.0±0.1, 39.°05N×72.°05E, h22km, mb3.1*

ISC 14 14:43:02.9±1.9, 39.°18N±0.°08×72.°07E±0.°05, h16km±12km, n10, σ1$77/17, 6C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.36**	**325**	*i* P	**Pg**	**14 43 10.4**	**-0.2**
	baz=336						
DRK				⇓*i*S	**Sb**	**14 43 17.5**	**+0.8**
	baz=336						
CHVK	**Chauvay**	**0.95**	**7**	*e*P	**Pb**	**14 43 21.0**	**-0.2**
	baz=6.0						
CHVK				*e*S	**Sn**	**14 43 36.0**	**+0.8**
	baz=6.0						
BTK	**Batken**	**1.30**	**312**	*e*P	**Pn**	**14 43 25.7**	**-0.8**
	baz=317						
BTK				*e*S	**Sb**	**14 43 44.0**	**+0.5**
	baz=317						
SFK	**Sufi-Kurgan**	**1.38**	**53**	⇓P	**Pn**	**14 43 26.1**	**-1.7**
	7.5nm,0.3s						
SFK				⇓S	**Sn**	**14 43 45.3**	**-0.5**
	30nm,0.3s						
SALK	**Salom-Alik**	**2.16**	**38**	*e*P	**Pn**	**14 43 39.9**	**+1.5**
	baz=36						
SALK				*e*S	**Sb**	**14 44 09.2**	**+0.8**
	baz=36						
DZET	**Dzherino**	**2.56**	**263**	⇓Pn	**Pn**	**14 43 44.2**	**+0.5**
	36nm,0.4s						
DZET				⇑Sn	**Sb**	**14 44 18.4**	**-1.2**
	36nm,0.4s						
MNAS	**Manas**	**3.32**	**6**	⇓Pn	Pn	14 43 58.2	+4.0
	1.8nm,0.4s						
MNAS				⇓Sn	**Sb**	**14 44 41.8**	**+0.2**
	17nm,0.8s						
AAK	**Ala-Archa**	**3.91**	**27**	⇓Pn	**Pn**	**14 44 04.3**	**+1.9**
	3.1nm,0.5s						
AAK				⇑Sn	**Sb**	**14 44 54.2**	**-4.3**
	6.7nm,0.6s						
KK31	**Karatay Array**	**4.09**	**344**	⇑Pn	Pn	14 44 08.9	+4.2
	1.1nm,0.3s,baz=148,slow=12,SNR=17						
KK31				⇑Sn	**Sb**	**14 45 00.9**	**-2.7**
	1.9nm,0.4s,baz=180,slow=26,SNR=4.1						
TKM2	**Tokmak 2**	**4.59**	**34**	⇑Pg	**Pb**	**14 44 24.4**	**+1.3**
	2.0nm,0.6s						
TKM2				⇑Lg	Lg	14 45 27.2	
	3.9nm,0.7s						

IDC 14 14:55:32.6±21.0, 21.°20S×177.°49W, h444km±179km, mb2.7/3, mb1 3.0/3, mb1mx2.8/18, mbtmp3.5/3, Error ellipse: s-maj=277.9km s-min=58.0km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.83**	**257**	P	P	15 03 06.0	+0.2
	0.7nm,0.9s,baz=96,slow=7.8,SNR=7.0						
WRA	**Warramunga Arr**	**44.98**	**263**	P	P	15 03 06.3	-0.6
	0.1nm,0.3s,baz=98,slow=8.4,SNR=5.8						
ILAR	**Eielson Array**	**88.89**	**13**	P	P	15 07 38.0	+0.1
	0.3nm,0.4s,baz=219,slow=5.3,SNR=6.3						
AKASG	**Malin Array Be**	**143.86**	**331**	PKP	PKPab	15 14 13.7	-1.2
	0.4nm,0.3s,baz=45,slow=3.6,SNR=6.3						
BRTR	**Keskin Array B**	**147.66**	**312**	PKPbc	PKPbc	15 14 26.5	0.0
	0.3nm,0.4s,baz=80,slow=2.4,SNR=2.5						

UPP ***14*** *14:59:09.3, 59.°55N×23.°53E, h0km, ML1.8, Suspected Mining explosion.*

CSEM ***14*** *14:59:10.8±0.2, 59.°56N×23.°25E, h2km, ML2.6, Error ellipse: s-maj=6.2km s-min=4.4km az=8.0, Mining explosion.*

ISCJB ***14*** *14:59:10.2±0.4, 59.°54N±0.°03×23.°15E±0.°04, h0km, Error ellipse: s-maj=4.4km s-min=3.2km az=16.7*

HEL ***14*** *14:59:11.7±0.1, 59.°54N×23.°17E, h0km, ML2.6, ML1.8(UPP), Explosion*

NAO ***14*** *14:59:11.1±1.3, 59.°56N×23.°01E, ML2.7*

IDC ***14*** *14:59:12.9±0.8, 59.°62N×23.°17E, h0km, mb1 3.6/5, mb1mx3.2/29, mbtmp3.5/5, ML3.6/5, Error ellipse: s-maj=10.4km s-min=6.2km az=151.0*

BER ***14*** *14:59:13.0±3.5, 59.°59N×22.°98E, h0km, ML2.7(NAO), Suspected explosion*

ISC 14 14:59:09.9±0.6, 59.°60N±0.°02×23.°18E±0.°02, h0km, n71, σ1$61/103, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.62**	**102**	*e*P	**Pg**	**14 59 22.5**	**+0.6**
SRPE				*e*S	**Sg**	**14 59 30.8**	**+0.9**
SRPE	**Suurupi**	**0.62**	**102**	P	**Pg**	**14 59 22.4**	**+0.6**
SRPE				S	**Sg**	**14 59 30.8**	**+0.9**
MEF	**Metsahovi**	**0.87**	**44**	*e*P	**Pb**	**14 59 28.1**	**+0.2**
MEF				*e*S	**Sb**	**14 59 39.7**	**-0.4**
MEF	**Metsahovi**	**0.87**	**44**	P	**Pb**	**14 59 28.1**	**+0.2**
MEF				S	**Sb**	**14 59 39.7**	**-0.4**
MTSE	**Matsula**	**0.94**	**160**	*e*P	**Pg**	**14 59 27.6**	**-0.3**
MTSE				*e*S	**Sg**	**14 59 39.2**	**-1.0**
MTSE	**Matsula**	**0.94**	**160**	P	**Pg**	**14 59 27.6**	**-0.3**
MTSE				S	**Sg**	**14 59 39.1**	**-1.0**
RAF	**Rauma**	**1.60**	**334**	*e*P	**Pb**	**14 59 40.9**	**+0.6**
RAF				*e*S	**Sg**	**15 00 02.6**	**+1.3**
RAF				MSG		15 00 06.6	
	comp=Z,113nm,0.3s						
RAF	**Rauma**	**1.60**	**334**	P	**Pb**	**14 59 40.9**	**+0.6**
RAF				S	**Sg**	**15 00 02.5**	**+1.3**
PVF	**Pernaja**	**1.65**	**53**	*e*P	**Pb**	**14 59 41.9**	**+0.8**
PVF				*e*S	**Sg**	**15 00 03.6**	**+0.8**
PVF				MSG		15 00 08.0	
	comp=Z,55nm,0.2s						
PVF	**Pernaja**	**1.65**	**53**	P	**Pb**	**14 59 41.9**	**+0.8**
PVF				S	**Sg**	**15 00 03.5**	**+0.8**
AAL	**Aland**	**1.71**	**291**	*e*P	**Pn**	**14 59 42.2**	**+1.3**
AAL				*e*S	**Sn**	**15 00 04.4**	**+0.8**
AAL	**Aland**	**1.71**	**291**	P	**Pn**	**14 59 42.2**	**+1.3**
AAL				S	**Sn**	**15 00 04.3**	**+0.8**
VSU	**Vasula**	**2.16**	**120**	Pn	**Pn**	**14 59 49.5**	**+2.4**
VSU				Sn	**Sb**	**15 00 17.2**	**0.0**
VSU	**Vasula**	**2.16**	**120**	Pn	**Pn**	**14 59 49.5**	**+2.4**
VSU				Sn	**Sb**	**15 00 17.2**	**0.0**
VSU	**Vasula**	**2.16**	**120**	*e*PB	**Pn**	**14 59 49.5**	**+2.4**
VSU				*e*SG	**Sb**	**15 00 17.1**	**0.0**
VSU	**Vasula**	**2.16**	**120**	Pb	**Pn**	**14 59 49.4**	**+2.4**
VSU				Sg	**Sb**	**15 00 17.1**	**0.0**
FIA0	**FINESS Array S**	**2.34**	**36**	Pn	**Pb**	**14 59 52.6**	**-0.4**
	baz=218,slow=16						
FIA0				Pg	**Pb**	**14 59 53.7**	**+0.7**
	baz=214,slow=16						
FIA0				Sn	**Sb**	**15 00 23.2**	**+0.8**
	baz=218,slow=28						
FIA0	**FINESS Array S**	**2.34**	**36**	Pn	**Pb**	**14 59 52.6**	**-0.4**
	baz=218,slow=16						
FIA0				Pg	**Pb**	**14 59 53.7**	**+0.7**
	baz=214,slow=16						
FIA0				Sn	**Sb**	**15 00 23.2**	**+0.8**
	baz=218,slow=28						
FIA0	**FINESS Array S**	**2.34**	**36**	Pn	**Pb**	**14 59 52.6**	**-0.4**
	SNR=50						
FIA0	**FINESS Array S**	**2.34**	**36**	Pg	**Pb**	**14 59 53.7**	**+0.7**
	SNR=90						
FIA0				Sn	**Sb**	**15 00 23.2**	**+0.8**
	SNR=50						
FINES	**FINESS Array B**	**2.34**	**36**	Pn	**Pb**	**14 59 52.5**	**-0.4**
	comp=Z,26nm,0.3s,baz=218,slow=15,SNR=706						
FINES				Pg	**Pb**	**14 59 53.7**	**+0.7**
	comp=Z,27nm,0.3s,baz=219,slow=17,SNR=748						
FINES				Sn	**Sb**	**15 00 23.2**	**+0.8**
	comp=Z,15nm,0.3s,baz=217,slow=23,SNR=22						
FINES				Lg	Lg	15 00 26.8	
	comp=Z,19nm,0.3s,baz=216,slow=31,SNR=13						
VJF	**Virojoki**	**2.39**	**65**	MSG		15 00 29.2	
	comp=Z,33nm,0.2s						
GRAU	**Graesoe**	**2.45**	**290**	*e*P	**Pn**	**14 59 52.3**	**+1.2**
GRAU				*e*S	**Sb**	**15 00 26.7**	**+1.2**
GRAU	**Graesoe**	**2.45**	**290**	P	**Pn**	**14 59 52.3**	**+1.2**
GRAU				S	**Sb**	**15 00 26.7**	**+1.2**
GRAU	**Graesoe**	**2.45**	**290**	P	**Pn**	**14 59 52.3**	**+1.2**
GRAU				S	**Sb**	**15 00 26.7**	**+1.2**
FORU	**Forsmark**	**2.64**	**290**	*e*P	**Pn**	**14 59 55.5**	**+1.9**
FORU	**Forsmark**	**2.64**	**290**	P	**Pn**	**14 59 55.5**	**+1.9**
FORU	**Forsmark**	**2.64**	**290**	P	**Pn**	**14 59 55.5**	**+1.9**
KEF	**Keuruu**	**2.71**	**17**	MSG		15 00 36.1	
	comp=Z,27nm,0.2s						
FLYU	**Flymyra**	**2.73**	**284**	*e*P	**Pn**	**14 59 57.4**	**+2.5**
FLYU	**Flymyra**	**2.73**	**284**	P	**Pn**	**14 59 57.3**	**+2.5**
FLYU	**Flymyra**	**2.73**	**284**	P	**Pn**	**14 59 57.4**	**+2.5**
KAF	**Kangasniemi**	**2.95**	**30**	MSG		15 00 44.8	
	comp=Z,15nm,0.3s						
BACU	**Backbrunna**	**3.09**	**277**	*e*P	**Pn**	**15 00 01.5**	**+1.6**
BACU	**Backbrunna**	**3.09**	**277**	P	**Pn**	**15 00 01.5**	**+1.6**
BACU	**Backbrunna**	**3.09**	**277**	P	**Pn**	**15 00 01.5**	**+1.6**
OSTU	**Oestervaala**	**3.11**	**284**	*e*P	**Pn**	**15 00 01.9**	**+1.7**
OSTU	**Oestervaala**	**3.11**	**284**	P	**Pn**	**15 00 01.9**	**+1.7**
OSTU	**Oestervaala**	**3.11**	**284**	P	**Pn**	**15 00 01.9**	**+1.7**
ESKU	**Eskilstuna**	**3.49**	**267**	*e*P	**Pn**	**15 00 07.1**	**+1.7**
ESKU	**Eskilstuna**	**3.49**	**267**	P	**Pn**	**15 00 07.1**	**+1.7**
ESKU	**Eskilstuna**	**3.49**	**267**	P	**Pn**	**15 00 07.1**	**+1.7**
ARNU	**Arnoeviken**	**3.55**	**309**	*e*P	**Pn**	**15 00 08.1**	**+1.9**
ARNU	**Arnoeviken**	**3.55**	**309**	P	**Pn**	**15 00 08.1**	**+1.9**
ARNU	**Arnoeviken**	**3.55**	**309**	P	**Pn**	**15 00 08.1**	**+1.9**
ROTU	**Roteberg**	**4.08**	**300**	*e*P	**Pn**	**15 00 14.5**	**+1.0**
ROTU	**Roteberg**	**4.08**	**300**	P	**Pn**	**15 00 14.5**	**+1.0**
ROTU	**Roteberg**	**4.08**	**300**	P	**Pn**	**15 00 14.5**	**+1.0**
ISAL	**Salakas**	**4.33**	**157**	*e*P	**Pb**	**15 00 28.6**	**+1.7**
IIGN	**Ignalina**	**4.56**	**158**	*e*P	**Pb**	**15 00 32.3**	**+1.5**
IDID	**Didziasalis**	**4.70**	**154**	*e*P	Pn	15 00 28.4	+6.4
HFS	**Hagfors**	**4.81**	**281**	Pn	**Pn**	**15 00 23.7**	**+0.1**
	baz=104,slow=11						
HFS				Sn	**Sn**	**15 01 15.9**	**-4.1**
	baz=105,slow=22						
HFS				Lg	Lg	15 01 36.3	
	baz=82,slow=37						
HFS	**Hagfors**	**4.81**	**281**	Pn	**Pn**	**15 00 23.7**	**+0.1**
	baz=104,slow=11						
HFS				Sn	**Sn**	**15 01 15.9**	**-4.1**
	baz=105,slow=22						
HFS				Lg	Lg	15 01 36.3	
	baz=82,slow=37						
HFS	**Hagfors**	**4.81**	**281**	Pn	**Pn**	**15 00 25.0**	**+1.4**
	comp=Z,2.5nm,0.3s,baz=98,slow=14,SNR=68						
HFS				Pg	**Pb**	**15 00 36.1**	**+1.0**
	comp=Z,4.2nm,0.3s,baz=93,slow=17,SNR=24						
HFS				Sn	**Sn**	**15 01 19.6**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=99,slow=29,SNR=6.5						
HFS				Lg	Lg	15 01 37.7	
	comp=Z,5.2nm,0.3s,baz=95,slow=30,SNR=9.7						
HFS	**Hagfors**	**4.81**	**281**	Pn	**Pn**	**15 00 23.7**	**+0.1**
	SNR=50						
HFS				Lg	Lg	15 01 36.3	
	SNR=50						
NB2	**NORSAR Subarra**	**6.12**	**289**	Pn	**Pn**	**15 00 41.6**	**+0.1**
	baz=96,slow=14						
NB2				Sn	**Sn**	**15 01 50.1**	**-2.1**
	baz=99,slow=28						
NB2				Lg	Lg	15 02 18.8	
	baz=97,slow=37						
NB2	**NORSAR Subarra**	**6.12**	**289**	Pn	**Pn**	**15 00 41.6**	**+0.1**
	baz=96,slow=14						
NB2				Sn	**Sn**	**15 01 50.1**	**-2.1**
	baz=99,slow=28						
NB2				Lg	Lg	15 02 18.8	
	baz=97,slow=37						
NB2	**NORSAR Subarra**	**6.12**	**289**	Pn	**Pn**	**15 00 41.7**	**+0.1**
	SNR=9.1						
NOA	**NORSAR Array B**	**6.12**	**289**	Pn	**Pn**	**15 00 42.0**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=82,slow=14,SNR=32						
NOA				Sn	**Sn**	**15 01 50.0**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=133,slow=22,SNR=7.3						
NOA				Lg	Lg	15 02 18.8	
	comp=Z,2.4nm,0.3s,baz=132,slow=18,SNR=5.6						
BSD	**Bornholm Skovb**	**6.34**	**228**	*i* S	**Sn**	**15 01 53.3**	**-4.2**
	SNR=46						
APA0	**Apatity Array**	**9.14**	**24**	Pn	**Pn**	**15 01 23.7**	**+0.9**
	baz=211,slow=12						
APA0	**Apatity Array**	**9.14**	**24**	Pn	**Pn**	**15 01 23.7**	**+0.9**
	baz=211,slow=12						
APA0	**Apatity Array**	**9.14**	**24**	Pn	**Pn**	**15 01 23.7**	**+0.9**
	SNR=4.8						
AKASG	**Malin Array Be**	**9.56**	**156**	Pn	**Pn**	**15 01 27.7**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=338,slow=12,SNR=4.1						
ARA0	**ARCESS Array S**	**10.03**	**5**	Pn	**Pn**	**15 01 34.4**	**-0.6**
	baz=180,slow=16						
ARA0				Sn	**Sn**	**15 03 23.6**	**-4.6**
	baz=185,slow=28						
ARA0	**ARCESS Array S**	**10.03**	**5**	Pn	**Pn**	**15 01 34.4**	**-0.6**
	baz=180,slow=16						
ARA0				Sn	**Sn**	**15 03 23.6**	**-4.6**
	baz=185,slow=28						
ARA0	**ARCESS Array S**	**10.03**	**5**	Pn	**Pn**	**15 01 34.4**	**-0.6**
	SNR=1.7						
ARCES	**ARCESS Array B**	**10.03**	**5**	Pn	**Pn**	**15 01 34.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=180,slow=14,SNR=40						
ARCES				Sn	**Sn**	**15 03 24.1**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=185,slow=24,SNR=8.0						
SPA0	**Spitsbergen Ar**	**18.80**	**356**	P	**P**	**15 03 31.4**	**+0.9**
	baz=150,slow=11						
SPA0	**Spitsbergen Ar**	**18.80**	**356**	P	**P**	**15 03 31.4**	**+0.9**
	baz=150,slow=11						
SPA0	**Spitsbergen Ar**	**18.80**	**356**	P	**P**	**15 03 31.4**	**+0.9**
	SNR=47						

ISCJB ***14*** *15:18:51.0±0.5, 32.°15N±0.°02×115.°14W±0.°04, h20km±5km, Error ellipse: s-maj=5.9km s-min=3.8km az=3.0*

NEIC ***14*** *15:18:52.2, 32.°17N×115.°17W, h7km, ML3.1(PAS), After PAS.*

MEX ***14*** *15:18:53.1±0.7, 32.°21N×115.°06W, h10km±42km, MD3.5*

ECX ***14*** *15:18:53.2±0.5, 32.°14N×115.°22W, h6km, MD3.1, ML3.3*

ISC 14 15:18:50.8±1.1, 32.°14N±0.°02×115.°18W±0.°03, h17km±9km, n22, σ0$80/40, 1C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.16**	**200**	⇓*e*P	**Pb**	**15 18 55.3**	**0.0**
EMX				*e*S	**Sb**	**15 18 58.1**	**-0.2**
MBIG	**Mexicali**	**0.27**	**357**	*e*P	**Pb**	**15 18 57.6**	**+0.3**
MBIG				*i* S	**Sg**	**15 19 00.8**	**-0.1**
CPBX	**Cerro Prieto**	**0.30**	**339**	*e*P	**Pb**	**15 18 58.3**	**+0.6**
CPBX				*e*S	**Sb**	**15 19 02.8**	**+0.3**
ECBX	**El Chinero**	**0.67**	**171**	*e*P	**Pb**	**15 19 04.4**	**+0.3**
ECBX

ML4.3/11,Error ellipse: s-maj=5.1km s-min=4.3km az=29.0
*MDD **14** 15:21:16.6±1.0,34°.73N×5°.73W,h0km,mbLg3.5/43,Error ellipse: s-maj=9.6km s-min=5.2km az=6.0,PRXIMO*
*SFS **14** 15:21:16.0,34°.71N×5°.76W,h0km,ML4.7*
*IGIL **14** 15:21:18.2,34°.73N×5°.60W,h19km,ML3.6*
*INMG **14** 15:21:18.1±1.3,34°.74N×5°.63W,h18km±5km,MD3.3, ML3.6,Error ellipse: s-maj=4.0km s-min=3.7km az=141.0*
*LDG **14** 15:21:19.0±0.5,34°.88N×5°.53W,h30km,Ml3.9/4,Error ellipse: s-maj=9.8km s-min=5.0km az=3.0*

ISC 14 15:21:15.4±0.5,34°.80N±0°.03×5°.70W±0°.03,h10km,n266, σ1§87/388,mb4.1/25,MS2.8/3,15C-3D,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTC	**Rabat Centre**	**1.25**	**230**	*e*P	**Pb**	**15 21 38.9**	**-0.2**
RTC				*e*S	**Sn**	**15 21 57.5**	**+1.6**
RTC	**Rabat Centre**	**1.25**	**230**	*e*P	**Pb**	**15 21 38.9**	**-0.2**
RTC				*e*S	**Sn**	**15 21 57.5**	**+1.6**
CNIL	**Conil**	**1.59**	**350**	P	**Pg**	**15 21 47.4**	**+1.5**
CNIL				S	**Sb**	**15 22 06.8**	**+1.7**
CNIL	**Conil**	**1.59**	**350**	*e*P	**Pg**	**15 21 47.4**	**+1.5**
CNIL				*e*S	**Sb**	**15 22 06.8**	**+1.7**
REAL	**Reales**	**1.73**	**13**	P	**Pg**	**15 21 49.3**	**+0.8**
REAL	**Reales**	**1.73**	**13**	*e*P	**Pg**	**15 21 49.3**	**+0.8**
EMIJ	**Mijas**	**1.92**	**23**	P	**Pn**	**15 21 49.5**	**+1.4**
	24nm,0.2s,SNR=50						
EMIJ				S	**Sb**	**15 22 16.0**	**+1.6**
	77nm,0.3s						
EMIJ	**Mijas**	**1.92**	**23**	P	**Pn**	**15 21 49.5**	**+1.4**
	24nm,0.2s,SNR=50						
EMIJ				S	**Sb**	**15 22 16.0**	**+1.6**
	77nm,0.3s						
ESPR	**Espera**	**2.07**	**356**	⇑P	**Pb**	**15 21 53.0**	**0.0**
	32nm,0.2s,SNR=18						
ESPR				S	**Sb**	**15 22 19.6**	**+0.8**
	131nm,0.2s						
ESPR	**Espera**	**2.07**	**356**	P	**Pb**	**15 21 53.0**	**0.0**
	32nm,0.2s,SNR=18						
ESPR				S	**Sb**	**15 22 19.6**	**+0.8**
	131nm,0.2s						
LIJA	**Lijar**	**2.12**	**6**	⇓P	**Pb**	**15 21 54.3**	**+0.4**
LIJA	**Lijar**	**2.12**	**6**	*i* P	**Pb**	**15 21 54.3**	**+0.4**
LIJA				*e*S	**Sn**	**15 22 13.5**	**-3.8**
MDT	**Midelt**	**2.17**	**155**	Pn	**Pn**	**15 21 49.3**	**-2.4**
	18nm,0.3s,baz=344,slow=15,SNR=969						
MDT				Sn	**Sn**	**15 22 12.9**	**-5.9**
	baz=3.2,slow=18						
EMAL	**Malaga-Limoner**	**2.21**	**27**	P	**Pn**	**15 21 52.4**	**+0.2**
EMAL	**Malaga-Limoner**	**2.21**	**27**	*e*P	**Pn**	**15 21 52.4**	**+0.2**
EMAL				*e*S	Sn	15 22 12.8	-6.8
EGUA	**Guajares**	**2.67**	**40**	P	**Pn**	**15 21 59.0**	**+0.5**
	41nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**15 22 32.3**	**+1.4**
	71nm,0.6s,SNR=7.9						
EGUA	**Guajares**	**2.67**	**40**	P	**Pn**	**15 21 59.0**	**+0.5**
	41nm,0.3s,SNR=7.9						
EGUA				S	**Sn**	**15 22 32.3**	**+1.4**
	71nm,0.6s,SNR=7.9						
ERON	**Agron**	**2.69**	**34**	P	**Pb**	**15 22 05.6**	**+1.8**
	59nm,0.3s,SNR=7.9						
ERON				S	**Sn**	**15 22 33.7**	**+2.0**
	112nm,0.6s,SNR=7.9						
ERON	**Agron**	**2.69**	**34**	P	**Pb**	**15 22 05.6**	**+1.8**
	59nm,0.3s,SNR=7.9						
ERON				S	**Sn**	**15 22 33.7**	**+2.0**
	112nm,0.6s,SNR=7.9						
SELV	**Sierra Elvira**	**2.91**	**33**	⇑P	**Pn**	**15 22 04.9**	**+3.1**
	24nm,0.4s,SNR=18						
SELV				S	**Sn**	**15 22 40.9**	**+4.0**
	69nm,0.7s,SNR=7.9						
SELV	**Sierra Elvira**	**2.91**	**33**	P	**Pn**	**15 22 04.9**	**+3.1**
	24nm,0.4s,SNR=18						
SELV				S	**Sn**	**15 22 40.9**	**+4.0**
	69nm,0.7s,SNR=7.9						
ELUQ	**Luque**	**2.99**	**22**	P	**Pb**	**15 22 07.2**	**-1.5**
	16nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**15 22 41.1**	**+2.3**
	34nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.99**	**22**	P	**Pb**	**15 22 07.2**	**-1.5**
	16nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**15 22 41.1**	**+2.3**
	34nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.02**	**34**	P	**Pn**	**15 22 06.1**	**+2.8**
	31nm,0.4s,SNR=15						
ECOG				S	**Sn**	**15 22 43.5**	**+3.9**
	38nm,0.5s,SNR=18						
ECOG	**Cogollos-Vega**	**3.02**	**34**	P	**Pn**	**15 22 06.1**	**+2.8**
	31nm,0.4s,SNR=15						
EQUE	**Quentar**	**3.02**	**37**	P	Pn	15 22 06.6	+3.3
	16nm,0.3s,SNR=16						
EQUE				S	**Sn**	**15 22 43.0**	**+3.4**
	81nm,0.7s,SNR=7.4						
EQUE	**Quentar**	**3.02**	**37**	P	Pn	15 22 06.6	+3.3
	16nm,0.3s,SNR=16						
PBDV	**Barranco-do-Ve**	**3.04**	**324**	*e*Pn	**Pn**	**15 22 05.3**	**+1.8**
PBDV				*e*Sn	**Sn**	**15 22 41.3**	**+1.3**
PBDV				A	A	15 22 47.0	
	156nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.04**	**324**	Pn	**Pn**	**15 22 05.3**	**+1.8**
PBDV				Sn	**Sn**	**15 22 41.3**	**+1.3**
	156nm,0.3s						
EMIN	**Mina Concepcio**	**3.06**	**345**	⇑P	**Pn**	**15 22 05.7**	**+1.8**
	18nm,0.1s,SNR=18						
EMIN				S	**Sn**	**15 22 41.1**	**+0.5**
	35nm,0.1s,SNR=8.3						
PVAQ	**Vaqueiros**	**3.07**	**328**	*e*Pn	**Pn**	**15 22 06.0**	**+2.1**
PVAQ				*e*Sn	**Sn**	**15 22 42.0**	**+1.3**
PVAQ				A	A	15 22 43.8	
	459nm,0.5s						
PVAQ	**Vaqueiros**	**3.07**	**328**	⇑Pn	**Pn**	**15 22 06.0**	**+2.1**
PVAQ				Sn	**Sn**	**15 22 42.0**	**+1.3**
	459nm,0.5s						
EGRO	**El Granado**	**3.09**	**333**	⇑P	**Pn**	**15 22 06.2**	**+2.1**
	44nm,0.1s,SNR=18						
EGRO				S	**Sn**	**15 22 43.2**	**+2.1**
	134nm,0.1s						
EGRO	**El Granado**	**3.09**	**333**	S	**Sn**	**15 22 43.2**	**+2.1**
	134nm,0.1s						
EBER	**Berja**	**3.10**	**47**	P	**Pn**	**15 22 05.2**	**+0.7**
	49nm,0.4s,SNR=33						
EBER				S	**Sn**	**15 22 44.7**	**+3.1**
	130nm,0.4s						
EBER	**Berja**	**3.10**	**47**	P	**Pn**	**15 22 05.2**	**+0.7**
	49nm,0.4s,SNR=33						
EBER				S	**Sn**	**15 22 44.7**	**+3.1**
	130nm,0.4s						
ECAB	**El Cabril**	**3.28**	**4**	⇑P	**Pn**	**15 22 08.5**	**+1.7**
	19nm,0.1s,SNR=18						
ECAB				S	**Sn**	**15 22 46.1**	**+0.3**
	12nm,0.2s,SNR=7.3						
PCVE	**Castro Verde**	**3.40**	**327**	*e*Pn	**Pn**	**15 22 10.5**	**+2.0**
PCVE				*e*Sn	**Sn**	**15 22 50.4**	**+1.5**
PCVE				A	A	15 22 51.5	
	18nm,0.6s						
PCVE	**Castro Verde**	**3.40**	**327**	Pn	**Pn**	**15 22 10.5**	**+2.0**
PCVE				Sn	**Sn**	**15 22 50.4**	**+1.5**
	18nm,0.6s						
PCVE	**Castro Verde**	**3.40**	**327**	*e*Pn	**Pn**	**15 22 10.5**	**+2.0**
PCVE				*e*Sn	**Sn**	**15 22 50.4**	**+1.5**
	18nm,0.6s						
GORA	**Gorafe**	**3.43**	**38**	P	Pn	15 22 12.7	+3.7
	31nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**3.43**	**38**	P	Pn	15 22 12.7	+3.7
	31nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.44**	**313**	*e*Pn	**Pn**	**15 22 10.8**	**+1.7**
PFVI				*e*Sn	**Sn**	**15 22 50.7**	**+0.7**
PFVI				A	A	15 22 56.7	
	94nm,0.2s						
PFVI	**Vila Bisbo**	**3.44**	**313**	P	**Pn**	**15 22 10.7**	**+1.5**
	23nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**15 22 50.7**	**+0.7**
	115nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.44**	**313**	P	**Pn**	**15 22 10.6**	**+1.5**
	23nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**15 22 50.7**	**+0.7**
	115nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.46**	**317**	*e*P	**Pn**	**15 22 10.9**	**+1.5**
MORF				AML	AML	15 22 52.8	
	comp=E,163nm,0.6s						
MORF	**Marmelete**	**3.46**	**317**	*e*Pn	**Pn**	**15 22 11.2**	**+1.8**
MORF				*e*Sn	**Sn**	**15 22 51.4**	**+0.9**
MORF				A	A	15 22 57.2	
	comp=E,159nm,0.2s						
MORF	**Marmelete**	**3.46**	**317**	P	**Pn**	**15 22 10.9**	**+1.5**
MORF				*e*Pn	**Pn**	**15 22 11.2**	**+1.8**
MORF				*e*Sn	**Sn**	**15 22 51.4**	**+0.9**
	comp=E,159nm,0.2s						
EADA	**Adamuz**	**3.48**	**15**	⇑P	**Pn**	**15 22 11.5**	**+1.9**
	comp=E,6.8nm,0.1s,SNR=18						
EADA				S	**Sn**	**15 22 51.1**	**+0.2**
	comp=E,70nm,0.2s,SNR=6.9						
PBAR	**Barrancos**	**3.54**	**343**	*e*Pn	**Pn**	**15 22 12.2**	**+1.8**
PBAR				*e*Sn	**Sn**	**15 22 52.9**	**+0.6**
PBAR				A	A	15 22 56.7	
	comp=E,119nm,0.2s						
PBAR	**Barrancos**	**3.54**	**343**	Pn	**Pn**	**15 22 12.2**	**+1.8**
PBAR				Sn	**Sn**	**15 22 52.9**	**+0.6**
	comp=E,119nm,0.2s						
ENIJ	**Nijar**	**3.57**	**52**	P	**Pn**	**15 22 13.2**	**+2.4**
	comp=E,18nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**15 22 53.3**	**+0.3**
	comp=E,52nm,0.7s,SNR=7.9						
ENIJ	**Nijar**	**3.57**	**52**	P	**Pn**	**15 22 13.2**	**+2.4**
	comp=E,18nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**15 22 53.3**	**+0.3**
	comp=E,52nm,0.7s,SNR=7.9						
MESJ	**Messejana**	**3.65**	**327**	*e*P	**Pn**	**15 22 13.9**	**+2.0**
MESJ				AML	AML	15 22 57.5	
	comp=E,147nm,0.2s						
MESJ	**Messejana**	**3.65**	**327**	*e*Pn	**Pn**	**15 22 14.0**	**+2.0**
MESJ				*e*Sn	**Sn**	**15 22 56.4**	**+1.3**
MESJ				A	A	15 23 00.6	
	comp=E,243nm,0.4s						
MESJ	**Messejana**	**3.65**	**327**	P	**Pn**	**15 22 13.9**	**+2.0**
MESJ	**Messejana**	**3.65**	**327**	*e*Pn	**Pn**	**15 22 14.0**	**+2.0**
EQES	**Quesada**	**3.67**	**35**	⇑P	**Pn**	**15 22 14.8**	**+2.5**
	comp=E,7.3nm,0.1s,SNR=18						
EQES				S	**Sn**	**15 22 58.3**	**+2.6**
	comp=E,48nm,0.4s,SNR=10.0						
EQES	**Quesada**	**3.67**	**35**	P	**Pn**	**15 22 14.8**	**+2.5**
	comp=E,7.3nm,0.1s,SNR=18						
EQES				S	**Sn**	**15 22 58.3**	**+2.6**
	comp=E,48nm,0.4s,SNR=10.0						
PTEO	**Sao Teotonio**	**3.67**	**319**	*e*Pn	**Pn**	**15 22 14.0**	**+1.8**
PTEO				*e*Sn	**Sn**	**15 22 56.7**	**+1.1**
PTEO				A	A	15 23 00.2	
	comp=E,142nm,0.5s						
PTEO	**Sao Teotonio**	**3.67**	**319**	Pn	**Pn**	**15 22 14.0**	**+1.8**
PTEO				Sn	**Sn**	**15 22 56.7**	**+1.1**
	comp=E,71nm,0.5s						
PTEO	**Sao Teotonio**	**3.67**	**319**	*e*Pn	**Pn**	**15 22 14.0**	**+1.8**
PTEO				*e*Sn	**Sn**	**15 22 56.7**	**+1.1**
	comp=E,142nm,0.5s						
EBAN	**Banos Encina**	**3.69**	**24**	⇓P	**Pn**	**15 22 14.5**	**+1.9**
	comp=E,49nm,0.2s,SNR=18						
EBAN				S	**Sn**	**15 22 57.5**	**+1.4**
	comp=E,18nm,0.1s,SNR=5.7						
EBAN	**Banos Encina**	**3.69**	**24**	P	**Pn**	**15 22 14.5**	**+1.9**
	comp=E,49nm,0.2s,SNR=18						
EBAN				S	**Sn**	**15 22 57.5**	**+1.4**
	comp=E,18nm,0.1s,SNR=5.7						
EHUE	**Huescar**	**3.92**	**39**	⇓P	**Pn**	**15 22 18.6**	**+2.9**
	comp=E,12nm,0.2s,SNR=18						
EHUE				S	**Sn**	**15 23 04.9**	**+3.1**
	comp=E,23nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**3.92**	**39**	P	**Pn**	**15 22 18.6**	**+2.9**
	comp=E,12nm,0.2s,SNR=18						
EHUE				S	**Sn**	**15 23 04.9**	**+3.1**
	comp=E,23nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.02**	**326**	*e*Pn	**Pn**	**15 22 18.8**	**+1.9**
PNCL				*e*Sn	**Sn**	**15 23 04.9**	**+0.8**
PNCL				A	A	15 23 16.6	
	comp=E,90nm,0.5s						
EBAD	**Badajoz**	**4.09**	**345**	P	**Pn**	**15 22 19.8**	**+1.9**
	comp=E,39nm,0.1s,SNR=161						
EBAD				S	**Sn**	**15 23 06.0**	**+0.2**
	comp=E,78nm,0.2s,SNR=60						
EBAD	**Badajoz**	**4.09**	**345**	P	**Pn**	**15 22 19.8**	**+1.9**
	comp=E,39nm,0.1s,SNR=161						
EBAD				S	**Sn**	**15 23 06.0**	**+0.2**
	comp=E,78nm,0.2s,SNR=60						
EVO	**Evora**	**4.16**	**334**	*e*Pn	**Pn**	**15 22 21.2**	**+2.2**
EVO				*e*Sn	**Sn**	**15 23 07.3**	**-0.4**
	comp=E,293nm,0.4s						
EVO	**Evora**	**4.16**	**334**	*e*Pn	**Pn**	**15 22 21.1**	**+2.1**
EVO				*e*Sn	**Sn**	**15 23 08.4**	**+0.7**
EVO				A	A	15 23 10.0	
	comp=E,230nm,0.3s						
EVO	**Evora**	**4.16**	**334**	Pn	**Pn**	**15 22 21.1**	**+2.1**
EVO				Sn	**Sn**	**15 23 08.4**	**+0.7**
	comp=E,230nm,0.3s						
EVO	**Evora**	**4.16**	**334**	*e*Pn	**Pn**	**15 22 21.1**	**+2.1**
EVO				*e*Sn	**Sn**	**15 23 08.4**	**+0.7**
	comp=E,230nm,0.3s						
SESP	**Santiago Espad**	**4.17**	**37**	⇑P	**Pn**	**15 22 21.4**	**+2.1**
	comp=E,16nm,0.2s,SNR=18						
SESP				S	**Sn**	**15 23 10.2**	**+2.0**
	comp=E,39nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**4.17**	**37**	P	**Pn**	**15 22 21.4**	**+2.1**
	comp=E,16nm,0.2s,SNR=18						
SESP				S	**Sn**	**15 23 10.2**	**+2.0**
	comp=E,39nm,0.3s,SNR=7.9						
EVOP	**Sao Brissos**	**4.20**	**333**	*e*Pn	**Pn**	**15 22 21.2**	**+1.7**
EVOP				*e*Sn	**Sn**	**15 23 07.3**	**-1.3**
	comp=E,147nm,0.4s						
PESTR	**Estremoz**	**4.33**	**340**	*e*Pn	**Pn**	**15 22 23.3**	**+2.0**
PESTR				*e*Sn	**Sn**	**15 23 12.3**	**+0.4**
PESTR				A	A	15 23 17.6	
	comp=E,68nm,0.3s						
PESTR	**Estremoz**	**4.33**	**340**	*e*Pn	**Pn**	**15 22 23.3**	**+2.0**
PESTR				*e*Sn	**Sn**	**15 23 12.3**	**+0.4**
	comp=E,68nm,0.3s						
EVIA	**Vianos**	**4.61**	**33**	P	**Pn**	**15 22 26.7**	**+1.5**
	comp=E,30nm,0.2s,SNR=10						
EVIA				S	**Sn**	**15 23 19.7**	**+0.8**
	comp=E,32nm,0.3s,SNR=6.0						
EVIA	**Vianos**	**4.61**	**33**	P	**Pn**	**15 22 26.7**	**+1.5**
	comp=E,30nm,0.2s,SNR=10						
EVIA				S	**Sn**	**15 23 19.7**	**+0.8**
	comp=E,32nm,0.3s,SNR=6.0						
PACT	**Alcochete**	**4.69**	**328**	*e*Pn	Pn	15 22 31.4	+5.2
PACT				*e*Sn	**Sn**	**15 23 23.4**	**+2.7**
PACT				A	A	15 23 38.0	
	comp=E,87nm,0.6s						
PACT	**Alcochete**	**4.69**	**328**	*e*Pn	Pn	15 22 31.4	+5.2
PACT				*e*Sn	**Sn**	**15 23 23.4**	**+2.7**
	comp=E,87nm,0.6s						
EMUR	**La Murta**	**4.71**	**49**	P	**Pn**	**15 22 28.3**	**+1.8**
	comp=E,8.2nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**15 23 22.9**	**+1.7**
	comp=E,30nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**4.71**	**49**	P	**Pn**	**15 22 28.3**	**+1.8**
	comp=E,8.2nm,0.4s,SNR=7.9						
EMUR				S	**Sn**	**15 23 22.9**	**+1.7**
	comp=E,30nm,0.6s,SNR=7.9						
PMRV	**Marv??o**	**4.81**	**344**	*e*Pn	**Pn**	**15 22 30.1**	**+2.2**
PMRV				*e*Sn	**Sn**	**15 23 23.6**	**-0.2**
PMRV				A	A	15 23 26.1	
	comp=E,59nm,0.6s						
PMRV	**Marv??o**	**4.81**	**344**	Pn	**Pn**	**15 22 30.1**	**+2.2**
PMRV				Sn	**Sn**	**15 23 23.6**	**-0.2**
	comp=E,59nm,0.6s						
PMRV	**Marv??o**	**4.81**	**344**	*e*Pn	**Pn**	**15 22 30.1**	**+2.2**
PMRV				*e*Sn	**Sn**	**15 23 23.6**	**-0.2**
	comp=E,59nm,0.6s						
PMST	**Lisbon--Monsan**	**4.82**	**326**	*e*Sn	**Sn**	**15 23 26.3**	**+2.3**
PMST				A	A	15 23 40.9	
	comp=E,57nm,0.6s						
PMST	**Lisbon--Monsan**	**4.82**	**326**	*e*Sn	**Sn**	**15 23 26.3**	**+2.3**
	comp=E,57nm,0.6s						
PAB	**San Pablo**	**4.86**	**12**	⇑P	**Pn**	**15 22 30.2**	**+1.6**
	comp=E,8.8nm,0.3s,SNR=18						
PAB				S	**Sn**	**15 23 23.2**	**-1.7**
	comp=E,22nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**4.86**	**12**	*e*Pn	**Pn**	**15 22 30.0**	**+1.4**
PAB				*e*Sn	**Sn**	**15 23 22.3**	**-2.7**
PAB				S	**Sn**	**15 23 23.2**	**-1.7**
	comp=E,22nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**4.86**	**12**	*e*Pn	**Pn**	**15 22 29.9**	**+1.4**
PAB				*e*Sn	**Sn**	**15 23 22.3**	**-2.7**
PMAFR	**Mafra**	**5.04**	**326**	*e*Pn	**Pn**	**15 22 33.7**	**+2.6**
PMAFR				*e*Sn	**Sn**	**15 23 30.4**	**+0.9**
PMAFR				A	A	15 23 34.7	
	comp=E,84nm,0.2s						
PMAFR	**Mafra**	**5.04**	**326**	P	**Pn**	**15 22 33.8**	**+2.6**
	comp=E,17nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**15 23 30.6**	**+1.1**
	comp=E,181nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**5.04**	**326**	*e*Pn	**Pn**	**15 22 33.7**	**+2.6**
PMAFR				S	**Sn**	**15 23 30.6**	**+1.1**
	comp=E,181nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**5.06**	**15**	P	**Pn**	**15 22 33.0**	**+1.7**
	comp=E,3.5nm,0.1s,baz=200,slow=13,SNR=31						
ESDC				S	**Sn**	**15 23 29.4**	**-0.4**
	comp=E,19nm,0.2s,baz=198,slow=23,SNR=12						
ESDC	**Sonseca Array**	**5.06**	**15**	Pn	**Pn**	**15 22 31.1**	**-0.2**
	comp=E,2.3nm,0.3s,baz=199,slow=13,SNR=4.4						
ESDC				Sn	**Sn**	**15 23 28.0**	**-1.8**
	comp=E,13nm,0.3s,baz=196,slow=24,SNR=13						
ESDC	**Sonseca Array**	**5.06**	**15**	P	**Pn**	**15 22 33.0**	**+1.7**
	comp=E,3.5nm,0.1s,SNR=31						
ESDC				Sn	**Sn**	**15 23 28.0**	**-1.8**
ESDC				S	**Sn**	**15 23 29.4**	**-0.4**
	comp=E,19nm,0.2s,SNR=12						
ESLA	**Sonseca Array**	**5.06**	**15**	*e*Pn	**Pn**	**15 22 32.8**	**+1.5**
	comp=E,1.8nm,0.3s						
ESLA	**Sonseca Array**	**5.06**	**15**	*e*Pn	**Pn**	**15 22 32.8**	**+1.5**
	comp=E,1.8nm,0.3s						
ETOB	**Tobarra**	**5.08**	**40**	⇑P	**Pn**	**15 22 33.7**	**+2.0**
	comp=E,10nm,0.3s,SNR=18						
ETOB				S	**Sn**	**15 23 32.3**	**+1.8**
	comp=E,5.9nm,0.2s						
ETOB	**Tobarra**	**5.08**	**40**	P	**Pn**	**15 22 33.7**	**+2.0**
	comp=E,10nm,0.3s,SNR=18						
ETOB				S	**Sn**	**15 23 32.3**	**+1.8**
	comp=E,5.9nm,0.2s						
PCBR	**Castelo Branco**	**5.23**	**345**	*e*Pn	**Pn**	**15 22 35.8**	**+2.2**
PCBR				*e*Sn	**Sn**	**15 23 32.8**	**-1.1**
PCBR				A	A	15 23 36.8	
	comp=E,42nm,0.4s						
PCBR	**Castelo Branco**	**5.23**	**345**	Pn	**Pn**	**15 22 35.8**	**+2.2**
PCBR				Sn	**Sn**	**15 23 32.8**	**-1.1**
	comp=E,21nm,0.4s						
PCBR	**Castelo Branco**	**5.23**	**345**	*e*Pn	**Pn**	**15 22 35.8**	**+2.2**
EPLA	**Plasencia**	**5.26**	**357**	P	**Pn**	**15 22 35.8**	**+1.7**
	comp=E,21nm,0.1s,SNR=100						
EPLA				S	**Sn**	**15 23 33.7**	**-1.2**
	comp=E,14nm,0.1s,SNR=7.4						
EPLA	**Plasencia**	**5.26**	**357**	P	**Pn**	**15 22 35.8**	**+1.7**
	comp=E,21nm,0.1s,SNR=100						
EPLA				S	**Sn**	**15 23 33.7**	**-1.2**
	comp=E,14nm,0.1s,SNR=7.4						
PTOM	**Tomar**	**5.27**	**337**	*e*Pn	**Pn**	**15 22 36.5**	**+2.3**
PTOM				*e*Sn	**Sn**	**15 23 34.9**	**-0.2**
PTOM				A	A	15 23 39.6	
	comp=E,45nm,0.5s						
PTOM	**Tomar**	**5.27**	**337**	Pn	**Pn**	**15 22 36.5**	**+2.3**
PTOM				Sn	**Sn**	**15 23 34.9**	**-0.2**
	comp=E,23nm,0.5s						
PTOM	**Tomar**	**5.27**	**337**	*e*Pn	**Pn**	**15 22 36.5**	**+2.3**
PTOM				*e*Sn	**Sn**	**15 23 34.9**	**-0.2**
	comp=E,45nm,0.5s						
PCAS	**Casmilo, Conde**	**5.70**	**338**	*e*Pn	**Pn**	**15 22 42.3**	**+2.2**
PCAS				*e*Sn	**Sn**	**15 23 45.0**	**-0.5**
PCAS				A	A	15 24 02.1	
	comp=E,32nm,0.5s						
PCAS	**Casmilo, Conde**	**5.70**	**338**	*e*Pn	**Pn**	**15 22 42.3**	**+2.2**
PCAS				*e*Sn	**Sn**	**15 23 45.0**	**-0.5**
	comp=E,32nm,0.5s						
MTE	**Manteigas**	**5.78**	**346**	*e*Pn	**Pn**	**15 22 43.5**	**+2.3**
MTE				*e*Sn	**Sn**	**15 23 47.2**	**-0.4**
MTE				A	A	15 23 49.6	
	comp=E,38nm,0.3s						
MTE	**Manteigas**	**5.78**	**346**	Pn	**Pn**	**15 22 43.5**	**+2.3**
MTE				Sn	**Sn**	**15 23 47.2**	**-0.4**
	comp=E,19nm,0.3s						
MTE	**Manteigas**	**5.78**	**346**	*e*Pn	**Pn**	**15 22 43.5**	**+2.3**
MTE				*e*Sn	**Sn**	**15 23 47.2**	**-0.4**
	comp=E,38nm,0.3s						
MTE	**Manteigas**	**5.78**	**346**	*e*Pn	**Pn**	**15 22 43.0**	**+1.7**
	comp=E,26nm,0.6s						
EBEN	**Beniarda**	**5.87**	**47**	P	**Pn**	**15 22 43.8**	**+1.3**
	comp=E,1.2nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**15 23 50.5**	**+0.6**
	comp=E,3.0nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**5.87**	**47**	P	**Pn**	**15 22 43.8**	**+1.3**
	comp=E,1.2nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**15 23 50.5**	**+0.6**
	comp=E,3.0nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**5.96**	**11**	P	**Pn**	**15 22 45.7**	**+1.9**
	comp=E,2.4nm,0.2s,SNR=19						
GUD				S	**Sn**	**15 23 50.6**	**-1.6**
	comp=E,26nm,0.4s,SNR=5.8						
GUD	**Guadarrama**	**5.96**	**11**	P	**Pn**	**15 22 45.7**	**+1.9**
	comp=E,2.4nm,0.2s,SNR=19						
PVIS	**Viseu**	**6.16**	**344**	*e*Pn	**Pn**	**15 22 48.3**	**+1.9**
PVIS				*e*Sn	**Sn**	**15 23 55.5**	**-1.4**
PVIS				A	A	15 23 58.5	
	comp=E,25nm,0.2s						
PVIS	**Viseu**	**6.16**	**344**	Pn	**Pn**	**15 22 48.3**	**+1.9**
PVIS				Sn	**Sn**	**15 23 55.5**	**-1.4**
	comp=E,13nm,0.2s						
PVIS	**Viseu**	**6.16**	**344**	*e*Pn	**Pn**	**15 22 48.3**	**+1.9**

comp=E,8.5nm,0.3s
PCAB Cabrid 7.14 346 *e*Pn **Pn 15 23 02.3 +2.4**
PCAB *e*Sn **Sn 15 24 19.1 -1.9**
comp=E,17nm,0.3s
ECAL Calabor 7.18 354 P **Pn 15 23 02.4 +2.0**
comp=E,19nm,0.2s,SNR=39
ECAL S **Sn 15 24 19.8 -2.3**
comp=E,24nm,0.4s,SNR=16
ECAL Calabor 7.18 354 P **Pn 15 23 02.4 +2.0**
comp=E,19nm,0.2s,SNR=39
ECAL S **Sn 15 24 19.8 -2.3**
comp=E,24nm,0.4s,SNR=16
ELOB Lobios 7.30 346 P **Pn 15 23 03.9 +1.8**
comp=E,5.6nm,0.2s,SNR=14
ELOB S **Sn 15 24 22.7 -2.3**
comp=E,22nm,0.3s,SNR=6.9
ELOB Lobios 7.30 346 P **Pn 15 23 03.9 +1.8**
comp=E,5.6nm,0.2s,SNR=14
ELOB S **Sn 15 24 22.7 -2.3**
comp=E,22nm,0.3s,SNR=6.9
PGAV Gavieira, Arco 7.43 345 *e*Pn **Pn 15 23 06.0 +2.0**
PGAV *e*Sn **Sn 15 24 26.1 -2.3**
PGAV A A 15 24 30.4
comp=E,12nm,0.2s
PGAV Gavieira, Arco 7.43 345 *e*Pn **Pn 15 23 06.0 +2.0**
PGAV *e*Sn **Sn 15 24 26.1 -2.3**
comp=E,12nm,0.2s
ERTA Horta de San J 7.78 36 S Sn 15 24 30.3 -6.4
comp=E,2.0nm,0.5s,SNR=5.6
EAGO Agolada(Pontev 8.21 348 P **Pn 15 23 16.8 +2.3**
comp=E,8.5nm,0.2s,SNR=7.9
EAGO S **Sn 15 24 43.8 -3.5**
comp=E,7.2nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 8.21 348 P **Pn 15 23 16.8 +2.3**
comp=E,8.5nm,0.2s,SNR=7.9
ETOS Mallorca 8.40 51 P **Pn 15 23 19.7 +2.5**
comp=E,1.4nm,0.4s,SNR=7.9
ETOS Mallorca 8.40 51 P **Pn 15 23 19.7 +2.5**
comp=E,1.4nm,0.4s,SNR=7.9
EPOB Poblet 8.44 37 P **Pn 15 23 19.7 +1.9**
comp=E,1.2nm,0.3s,SNR=7.9
EPOB Poblet 8.44 37 P **Pn 15 23 19.7 +1.9**
comp=E,1.2nm,0.3s,SNR=7.9
EARI Arriondas 8.50 2 P **Pn 15 23 21.1 +2.6**
comp=E,3.3nm,0.4s,SNR=20
EARI S **Sn 15 24 50.9 -3.6**
comp=E,7.2nm,0.4s,SNR=6.8
EARI Arriondas 8.50 2 P **Pn 15 23 21.1 +2.6**
comp=E,3.3nm,0.4s,SNR=20
EMAZ Mazaricos 8.53 344 P **Pn 15 23 19.7 +0.8**
comp=E,5.0nm,0.3s,SNR=7.9
EMAZ S **Sn 15 24 51.8 -3.4**
comp=E,10nm,0.3s,SNR=4.7
EMAZ Mazaricos 8.53 344 P **Pn 15 23 19.7 +0.8**
comp=E,5.0nm,0.3s,SNR=7.9
EPON Pontenova 8.59 353 P **Pn 15 23 22.1 +2.4**
comp=E,7.4nm,0.2s,SNR=6.0
EPON S **Sn 15 24 52.8 -3.9**
comp=E,2.2nm,0.2s,SNR=7.9
EPON Pontenova 8.59 353 P **Pn 15 23 22.1 +2.4**
comp=E,7.4nm,0.2s,SNR=6.0
ELAN Lanestosa 8.60 11 P **Pn 15 23 21.9 +2.0**
comp=E,8.4nm,0.2s,SNR=21
ELAN S **Sn 15 24 52.4 -4.5**
comp=E,8.3nm,0.3s,SNR=7.9
ELAN Lanestosa 8.60 11 P **Pn 15 23 21.9 +2.0**
comp=E,8.4nm,0.2s,SNR=21
IEPA Eparoz 8.68 22 P **Pn 15 23 23.5 +2.4**
comp=E,8.8nm,0.3s,SNR=7.9
IEPA S **Sn 15 24 57.9 -1.2**
comp=E,0.4nm,0.1s,SNR=7.9
IEPA Eparoz 8.68 22 P **Pn 15 23 23.5 +2.4**
comp=E,8.8nm,0.3s,SNR=7.9
IEPA S **Sn 15 24 57.9 -1.2**
comp=E,0.4nm,0.1s,SNR=7.9
IZUN Zunzarren 8.70 21 P **Pn 15 23 23.5 +2.2**
comp=E,2.5nm,0.2s,SNR=7.9
IZUN S **Sn 15 24 57.6 -1.9**
comp=E,0.8nm,0.1s,SNR=7.9
IZUN Zunzarren 8.70 21 P **Pn 15 23 23.5 +2.2**
comp=E,2.5nm,0.2s,SNR=7.9
IZUN S **Sn 15 24 57.6 -1.9**
comp=E,0.8nm,0.1s,SNR=7.9
EFAM Famara 8.73 232 S Sn 15 24 51.2 -9.0
comp=E,18nm,0.3s,SNR=7.9
IELO Elcoad 8.75 22 ⇑P **Pn 15 23 23.9 +1.9**
comp=E,7.6nm,0.3s,SNR=18
IELO S **Sn 15 24 59.6 -1.1**
comp=E,4.5nm,0.3s,SNR=7.9
IELO Elcoad 8.75 22 P **Pn 15 23 23.9 +1.9**
comp=E,7.6nm,0.3s,SNR=18
IELO S **Sn 15 24 59.6 -1.1**
comp=E,4.5nm,0.3s,SNR=7.9
IUSE Utxeti 8.75 20 P **Pn 15 23 24.5 +2.5**
comp=E,2.4nm,0.1s,SNR=7.9
IUSE Utxeti 8.75 20 P **Pn 15 23 24.5 +2.5**
comp=E,2.4nm,0.1s,SNR=7.9
ELIZ Elizondo 8.96 20 P **Pn 15 23 26.8 +2.0**
comp=E,7.3nm,0.4s,SNR=7.9
ELIZ S **Sn 15 25 02.3 -3.4**
comp=E,4.1nm,0.4s,SNR=7.9
ELIZ Elizondo 8.96 20 P **Pn 15 23 26.8 +2.0**
comp=E,7.3nm,0.4s,SNR=7.9
SJPF Ste Jean 9.00 21 *e*Pn **Pn 15 23 23.1 -2.3**
SJPF Ste Jean 9.00 21 *e*P **Pn 15 23 27.6 +2.2**
SJPF *e*Sn Sn 15 24 56.4 -10
comp=E,8.1nm,0.6s
SJPF Ste Jean 9.00 21 *e*P **Pn 15 23 27.6 +2.2**
PMPS Porto Santo 9.01 262 *e*Sn Sn 15 24 55.5 -11
PMPS A A 15 25 05.9
comp=E,45nm,0.3s
EALK Alkurruntz 9.02 20 P **Pn 15 23 27.6 +2.0**
comp=E,5.2nm,0.3s,SNR=7.9
EALK S **Sn 15 25 05.5 -1.6**
comp=E,25nm,0.4s,SNR=5.4
EALK Alkurruntz 9.02 20 P **Pn 15 23 27.6 +2.0**
comp=E,5.2nm,0.3s,SNR=7.9
EALK S **Sn 15 25 05.5 -1.6**
comp=E,25nm,0.4s,SNR=5.4
ETSF Etsaut 9.02 25 *e*Pn Pn 15 23 22.9 -2.9
ETSF Etsaut 9.02 25 *e*P **Pn 15 23 28.1 +2.3**
ETSF *e*Sn Sn 15 24 56.6 -11
comp=E,9.3nm,0.7s
ETSF Etsaut 9.02 25 *e*P **Pn 15 23 28.1 +2.3**
EMIR Miracle 9.09 36 P **Pn 15 23 28.2 +1.6**
comp=E,4.8nm,0.4s,SNR=7.9
EMIR Miracle 9.09 36 P **Pn 15 23 28.2 +1.6**
comp=E,4.8nm,0.4s,SNR=7.9
ATE Arette 9.14 24 P **Pn 15 23 29.9 +2.6**
comp=E,2.7nm,0.2s,SNR=7.9
ATE S **Sn 15 25 07.3 -3.0**
comp=E,2.0nm,0.3s,SNR=7.9
ATE Arette 9.14 24 P **Pn 15 23 29.9 +2.6**
comp=E,2.7nm,0.2s,SNR=7.9
ATE S **Sn 15 25 07.3 -3.0**
comp=E,2.0nm,0.3s,SNR=7.9
CSOR Sort 9.26 33 P **Pn 15 23 30.2 +1.2**
comp=E,1.7nm,0.3s,SNR=7.9
CSOR Sort 9.26 33 P **Pn 15 23 30.2 +1.2**
comp=E,1.7nm,0.3s,SNR=7.9
EPF Esparros 9.47 28 *e*Pn **Pn 15 23 29.4 -2.4**
EPF Esparros 9.47 28 *e*P **Pn 15 23 33.8 +2.0**
EPF *e*Sn Sn 15 25 07.3 -11
comp=E,7.0nm,0.6s
EPF Esparros 9.47 28 *e*P **Pn 15 23 33.8 +2.0**
CLLI Llivia 9.73 36 P **Pn 15 23 36.8 +1.3**
comp=E,0.8nm,0.3s,SNR=7.9
CLLI Llivia 9.73 36 P **Pn 15 23 36.8 +1.3**
comp=E,0.8nm,0.3s,SNR=7.9
LFF La Frestale 11.27 24 *e*Pn **Pn 15 23 53.8 -2.6**
CAF Calviac 11.73 28 *e*Pn Pn 15 23 59.8 -3.0
KEST Kesra 12.33 81 *e*Pn Pn 15 24 02.0 -9.1
SMRF Simiane la Rot 12.64 40 *e*Pn Pn 15 24 12.0 -3.2
LMR La Mourre 12.74 44 *e*Pn Pn 15 24 13.3 -3.2
TCF Toulx Ste Croi 12.95 25 *e*Pn **Pn 15 24 16.7 -2.7**
FRF La Foret Royal 12.96 44 *e*Pn Pn 15 24 16.3 -3.2
QUIF Quistinic 13.24 7 *e*Pn **Pn 15 24 21.0 -2.3**
BGF Bois d'Agland 13.40 26 *e*Pn Pn 15 24 22.6 -3.0
SBF Sospel 13.60 44 *e*Pn Pn 15 24 25.1 -3.2
ROSF Rostrenen 13.64 7 *e*Pn **Pn 15 24 27.0 -1.9**
SGMF Saint Gilles 13.64 9 *e*Pn **Pn 15 24 26.6 -2.3**
AVF Avril sur Loir 13.79 27 *e*Pn Pn 15 24 28.0 -2.8
PGF Pioggiola 13.83 52 *e*Pn Pn 15 24 28.4 -3.2
SMF Signal de Mont 13.85 28 *e*Pn Pn 15 24 28.9 -2.8
GRR Gorron 14.05 13 *e*Pn **Pn 15 24 32.0 -2.3**
SSF Saint Saulge 14.07 27 *e*Pn Pn 15 24 32.0 -2.7
LOR Lormes 14.38 27 *e*Pn Pn 15 24 36.2 -2.7

FLN La Foliniere 14.48 14 *e*Pn **Pn 15 24 37.8 -2.5**
TAM Tamanrasset 15.47 138 *e*P **P 15 24 59.0 +0.6**
comp=E,8.0nm,1.1s
TAM Tamanrasset 15.47 138 *e*P **P 15 24 59.0 +0.6**
comp=E,8.0nm,1.1s
DAVOX Davos/Dischmat 16.77 40 Pn **Pn 15 25 11.5 +1.1**
comp=E,0.5nm,0.3s,baz=180,slow=9.1,SNR=3.1
DAVOX LR LR 15 31 47.3
comp=E,19nm,18.1s,baz=260,slow=38
FETA Feichten 17.37 40⇑*i*P **Pn 15 25 18.6 +0.6**
comp=E,2.3nm,0.5s
FETA Feichten 17.37 40 P **Pn 15 25 18.6 +0.6**
comp=E,2.3nm,0.5s
OBKA Obir 19.25 46⇑*i*Pn **Pn 15 25 40.9 0.0**
comp=E,6.0nm,0.6s
OBKA Obir 19.25 46 P **Pn 15 25 40.9 0.0**
comp=E,6.0nm,0.6s
GERES GERESS Array B 20.07 40 P **P 15 25 47.6 -1.2**
comp=E,3.6nm,0.6s,baz=223,slow=11,SNR=14
GERES LR LR 15 33 47.6
comp=E,36nm,18.6s,baz=256,slow=38
KHC Kasperske Hory 20.18 39 *e*P **P 15 25 49.2 -0.8**
comp=E,5.0nm,0.9s
KHC Kasperske Hory 20.18 39 *e*P **P 15 25 49.2 -0.8**
comp=E,5.0nm,0.9s
EKA Eskdalemuir Ar 20.61 4 P **P 15 25 55.3 +0.7**
comp=E,3.4nm,0.8s,baz=174,slow=9.6,SNR=9.5
CLL Collm 21.32 34 *e*P **P 15 26 04.0 +1.7**
VRAC Vranov 21.89 42 P **P 15 26 06.8 -1.6**
comp=E,4.5nm,0.6s,baz=272,slow=12,SNR=3.8
TOA0 Torodi Ar. Sit 22.57 161 P **P 15 26 14.1 -1.9**
TORD Torodi Ar. Bea 22.57 161 P **P 15 26 14.6 -1.4**
comp=E,1.4nm,0.8s,baz=346,slow=9.7,SNR=10
MORC Moravsky Berou 22.66 42 *e*P **P 15 26 15.0 -1.8**
comp=E,5.4nm,0.9s
MORC Moravsky Berou 22.66 42 *e*P **P 15 26 15.0 -1.8**
comp=E,5.4nm,0.9s
VYHS Vyhne 22.75 46 *e*P **P 15 26 16.1 -1.5**
VYHS Vyhne 22.75 46 *e*P **P 15 26 16.1 -1.5**
VYHS *e* 15 26 29.9
IDI Anoyia 25.00 80 P **P 15 26 39.1 -0.4**
comp=E,5.3nm,0.6s,baz=300,slow=15,SNR=6.8
MLR Muntele Rosu 26.28 56 P **P 15 26 50.7 -0.4**
comp=E,0.8nm,0.7s,baz=252,slow=9.6,SNR=5.5
DBIC Dimbokro 28.00 178 P **P 15 27 06.5 -0.1**
comp=E,3.5nm,0.9s,baz=15,slow=8.3,SNR=2.9
HFS Hagfors 28.31 21 P **P 15 27 08.5 -0.5**
comp=E,3.2nm,0.3s,baz=206,slow=9.1,SNR=39
NOA NORSAR Array B 28.42 17 P **P 15 27 09.8 -0.1**
comp=E,1.2nm,0.7s,baz=213,slow=9.5,SNR=3.4
NOA LR LR 15 40 40.2
comp=E,22nm,19.4s,baz=220,slow=41
FINES FINESS Array B 33.45 27 P **P 15 27 53.4 -0.8**
comp=E,1.6nm,0.5s,baz=229,slow=8.1,SNR=22
KAF Kangasniemi 33.95 27 *e*p P 15 27 55.4 -3.1
comp=E,1.5nm,0.5s
JOF Josuu 36.30 28 *e*p **P 15 28 16.5 -2.3**
comp=E,2.5nm,0.6s
ARCES ARCESS Array B 38.80 17 P **P 15 28 39.7 -0.2**
comp=E,1.8nm,0.7s,baz=214,slow=9.5,SNR=11
ARCES LR LR 15 46 50.7
comp=E,37nm,19.0s,baz=212,slow=40
KEV Kevo 39.32 17 *e*p **P 15 28 42.9 -1.3**
comp=E,0.4nm,0.4s
KEV Kevo 39.32 17 *e*P **P 15 28 42.9 -1.3**
comp=E,0.4nm,0.4s
SCHQ Schefferville 46.11 315 P **P 15 29 39.6 +0.1**
comp=E,1.0nm,0.6s,baz=64,slow=3.9,SNR=4.2
ARU Arti 47.86 42 *e*P **P 15 29 51.4 -1.8**
comp=E,5.1nm,0.6s
ARU Arti 47.86 42 *e*P **P 15 29 51.4 -1.8**
comp=E,5.1nm,0.6s
AKTO Aktyubinsk 47.95 51 P **P 15 29 52.6 -1.3**
comp=E,1.6nm,0.7s,baz=277,slow=6.6,SNR=7.6
ABKAR Akbulak array 49.34 52 *e*P **P 15 30 03.8 -0.9**
comp=E,0.9nm,0.4s
ABKAR Akbulak array 49.34 52 *e*P **P 15 30 03.8 -0.9**
comp=E,1.0nm,0.4s
KURK Kurchatov 60.64 47 *e*P **P 15 31 25.2 -1.1**
comp=E,13nm,0.6s
KURK Kurchatov 60.64 47 *e*P **P 15 31 25.2 -1.1**
comp=E,13nm,0.6s
ZALV Zalesovo Beam 63.01 42 P **P 15 31 41.4 -0.9**
comp=E,1.0nm,0.3s,baz=285,slow=6.2,SNR=9.0
MKAR Makanchi Array 64.36 50 P **P 15 31 50.5 -0.8**
comp=E,4.2nm,0.7s,baz=288,slow=5.6,SNR=66
YKA Yellowknife Ar 67.71 332 P **P 15 32 13.6 +1.1**
comp=E,0.5nm,0.7s,baz=60,slow=6.4,SNR=8.0
PDAR Pinedale Array 76.16 313 P **P 15 33 04.6 +0.6**
comp=E,1.0nm,0.8s,baz=65,slow=7.1,SNR=4.5
ILAR Eielson Array 76.20 344 P **P 15 33 04.9 +1.5**
comp=E,0.3nm,0.6s,baz=12,slow=5.3,SNR=8.0
SONM Songino Array 77.80 40 P **P 15 33 13.3 +0.4**
comp=E,0.4nm,0.7s,baz=305,slow=5.6,SNR=5.5
CMAR Chiang Mai Arr 91.07 67 P **P 15 34 19.4 -1.2**
comp=E,0.9nm,1.0s,baz=306,slow=6.0,SNR=6.5
ASAR Alice Springs 143.26 83 PKP **PKPdf 15 40 50.0 -0.3**
comp=E,0.3nm,0.7s,baz=300,slow=2.5,SNR=4.0
STKA Stephens Creek 152.59 93 PKPbc **PKPbc 15 41 11.4 -0.8**
comp=E,2.0nm,1.0s,baz=90,slow=4.0,SNR=3.8

GUC 14 15:24:44.5±0.5, 34°32S×72°14W, h31km±3km, ML3.9,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.01**	**133**	*e*P		Pn	15 25 02.0	-0.5
NICH				*e*S		Sn	15 25 15.3	-0.4
TALC	**Talca**	**1.15**	**159**	*e*P		Pn	15 25 04.2	-0.2
TALC				*e*S		Sn	15 25 19.1	-0.1
RCDM	**Rinconada Maip**	**1.38**	**54**	*e*P		Pn	15 25 07.5	-0.1
RCDM				*e*S		Sn	15 25 24.9	0.0
RCDM				AML		AML	15 25 28.2	
	comp=E,2μm,0.2s							
LNCH	**Linares**	**1.59**	**164**	*e*P		Pb	15 25 12.1	-1.1
LNCH				*e*S		Sb	15 25 31.8	-1.1
CLCH	**Cerro Calan**	**1.62**	**56**	*e*P		Pn	15 25 11.8	+0.8
CLCH				*e*S		Sn	15 25 32.0	+1.1
CLCH				AML		AML	15 25 40.9	
	comp=E,2μm,0.6s							
SJCH	**San Jose de Ma**	**1.63**	**66**	*e*P		Pn	15 25 11.3	+0.2
SJCH				*e*S		Sn	15 25 32.4	+1.3
PEL	**Peldehue**	**1.68**	**46**	*e*P		Pn	15 25 12.5	+0.7
PEL				*e*S		Sn	15 25 34.0	+1.6
PEL				AML		AML	15 25 40.3	
	comp=N,5μm,0.3s							
YECH	**El Yeso**	**1.82**	**70**	*e*P		Pn	15 25 15.1	+1.0
YECH				*e*S		Sb	15 25 38.5	-1.9
YECH				AML		AML	15 25 47.7	
	comp=N,2μm,0.5s							

*ISCJB **14** 15:48:58.6±0.3, 1°75N±0°04×124°89E±0°04, h154km, mb4.1/18, Error ellipse: s-maj=6.0km s-min=4.6km az=144.7*
*NEIC **14** 15:49:01.9±0.7, 1°59N×124°86E, h180km±7km, mb4.7/3, Error ellipse: s-maj=9.9km s-min=6.6km az=54.0*
*IDC **14** 15:49:02.7±1.8, 1°57N×124°78E, h186km±16km, mb3.8/16, mb1 3.9/17,mb1mx3.7/34,mbtmp4.3/17,MS3.2/1, Ms1 3.4/1,ms1mx2.5/34,Error ellipse: s-maj=21.6km s-min=8.5km az=72.0*
*DJA **14** 15:49:03.4±0.4, 1°N±3°×12°5E±°, h145km±6km, M4.6/17, mb4.5/9, mB5.1/4, MLv4.8/17, Mw(mB)4.5/4*
ISC 14 15:48:59.5±0.4, 1°58N±0°05×124°84E±0°05, h154km, n53,
σ1§77/62, mb4.2/18, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.31**	**221**	P		Pn	15 49 30.9	+3.4
KMSI				S		**Sn**	**15 49 51.5**	**+2.5**
SGSI	**Sangihe**	**2.21**	**18**	P		Pn	15 49 42.9	+5.6
SGSI				S		Sn	15 50 14.8	+8.4
TNTI	**Ternate**	**2.65**	**108**	P		Pn	15 49 46.7	+4.0
TNTI				S		**Sn**	**15 50 19.6**	**+3.6**
TNTI	**Ternate**	**2.65**	**108**	*e*Pn		Pn	15 49 46.7	+4.0
MRSI	**Marisa**	**3.10**	**249**	P		Pn	15 49 51.5	+3.3
LBMI	**Labuha**	**3.46**	**130**	P		**Pn**	**15 49 55.6**	**+2.8**
LBMI				S		**Sn**	**15 50 36.3**	**+2.1**
SANI	**Sanana**	**3.78**	**162**	P		**Pn**	**15 49 57.3**	**+0.2**
SANI				S		**Sn**	**15 50 37.6**	**-4.2**
APSI	**Ampana**	**4.04**	**232**	P		**Pn**	**15 50 02.7**	**+2.4**
APSI				S		**Sn**	**15 50 49.5**	**+1.9**
TOLI	**Toli-Toli**	**4.07**	**264**	*e*Pn		**Pn**	**15 50 02.5**	**+1.7**
MPSI	**Mapaga**	**5.09**	**256**	P		Pn	15 50 17.8	+3.6
	15nm,1.1s,0.1nm							
NLAI	**Namlea**	**5.29**	**155**	P		**Pn**	**15 50 18.2**	**+1.3**
	82nm,0.7s,3μm2.1nm							
PCI	**Palu**	**5.58**	**244**	P		**Pn**	**15 50 22.8**	**+2.2**
	40nm,1.0s,0.2nm							
MSAI	**Masohi**	**6.38**	**140**	P		**Pn**	**15 50 34.3**	**+3.0**
	37nm,1.1s,818nm0.4nm							
BNSI	**Bone**	**7.59**	**219**	P		**Pn**	**15 50 49.8**	**+2.3**
	17nm,1.6s,0.1nm							
BNDI	**Bandanaira**	**7.90**	**140**	P		**Pn**	**15 50 53.7**	**+2.2**
	135nm,1.1s,0.8nm							
FAKI	**Fak Fak**	**8.65**	**121**	P		**Pn**	**15 51 03.8**	**+2.2**
FAKI	**Fak Fak**	**8.65**	**121**	*e*P		**Pn**	**15 51 02.8**	**+1.2**
	31nm,0.8s							
BATI	**Baumata**	**11.77**	**186**	P		**Pn**	**15 51 45.6**	**+2.9**
	0.4nm,0.3s,baz=328,slow=19,SNR=1.9							
BATI				S		**S**	**15 54 10.7**	**+1.7**
	1.2nm,0.3s,baz=288,slow=20,SNR=3.6							
KSM	**Kuching**	**14.53**	**270**	*e*P		**P**	**15 52 21.7**	**+1.4**
	52nm,1.3s							
FITZ	**Fitzroy Crossi**	**19.57**	**178**	*e*P		**P**	**15 53 15.1**	**-0.5**
	15nm,1.1s							
WRAB	**Tennant Creek**	**23.33**	**157**	*e*P		**P**	**15 53 54.6**	**+0.6**
	49nm,0.9s							
WRA	**Warramunga Arr**	**23.33**	**157**	P		**P**	**15 53 54.5**	**+0.5**
	16nm,0.5s,baz=335,slow=11,SNR=151							
WRA				PcP		**PcP**	**15 57 36.7**	**0.0**
	0.2nm,0.3s,baz=328,slow=1.7,SNR=2.7							
WRA				S		**S**	**15 57 49.3**	**-5.9**
	5.2nm,1.1s,baz=334,slow=16,SNR=6.9							
WRA				ScP		**ScP**	**16 00 57.9**	**-2.7**
	0.1nm,0.4s,baz=325,slow=2.3,SNR=3.4							
WB2	**Warramunga Arr**	**23.34**	**157**	*e*P		**P**	**15 53 54.6**	**+0.5**
AS31	**Alice Springs**	**26.60**	**161**	*e*P		**P**	**15 54 23.8**	**+0.2**
ASAR	**Alice Springs**	**26.60**	**161**	P		**P**	**15 54 24.1**	**+0.4**
	2.1nm,0.4s,baz=345,slow=7.8,SNR=141							
ASAR				PcP		**PcP**	**15 57 43.8**	**-0.2**
	0.8nm,0.4s,baz=346,slow=2.2,SNR=8.8							
ASAR				S		**S**	**15 58 44.7**	**-2.4**
	0.7nm,0.6s,baz=348,slow=23,SNR=5.2							
ASAR				ScP		**ScP**	**16 01 06.9**	**-2.9**
	0.2nm,0.6s,baz=340,slow=2.8,SNR=4.2							
CMAR	**Chiang Mai Arr**	**30.44**	**305**	P		**P**	**15 54 58.7**	**+1.0**
	0.9nm,1.0s,baz=133,slow=7.5,SNR=7.0							
CMAR				PcP		**PcP**	**15 57 53.0**	**-0.7**
	1.3nm,1.0s,baz=162,slow=1.8,SNR=7.6							
CMAR				LR		LR	16 07 41.8	
	comp=Z,38nm,19.2s,baz=184,slow=37							
STKA	**Stephens Creek**	**36.87**	**156**	P		**P**	**15 55 53.6**	**+0.4**
	3.6nm,0.4s,baz=343,slow=7.5,SNR=16							
MJAR	**Matsushiro Arr**	**36.92**	**18**	P		**P**	**15 55 54.5**	**+0.9**
	4.9nm,0.8s,baz=197,slow=10.0,SNR=10							
USRK	**Ussuriysk Ar.**	**42.91**	**8**	P		**P**	**15 56 43.5**	**+0.7**
	7.0nm,0.9s,baz=189,slow=7.1,SNR=8.4							
TAPN	**Taplejung**	**43.83**	**309**	*e*P		**P**	**15 56 51.4**	**+0.6**
	12nm,1.0s							
RAMN	**Ramite**	**44.51**	**308**	*e*P		**P**	**15 56 57.0**	**+0.8**
	19nm,1.1s							
GUN	**Gumba**	**45.52**	**309**	*e*P		**P**	**15 57 04.8**	**+0.5**
PKIN	**Phulchoki**	**45.74**	**308**	*e*P		**P**	**15 57 06.2**	**+0.2**
KKN	**Kakani**	**45.93**	**308**	*e*P		**P**	**15 57 07.6**	**+0.2**
GKN	**Gorkha**	**46.54**	**308**	*e*P		**P**	**15 57 12.3**	**+0.3**
	11nm,0.9s							
KOLN	**Koldanda**	**47.25**	**307**	*e*P		**P**	**15 57 18.0**	**+0.4**
	17nm,1.1s							
DANN	**Dangsing**	**47.38**	**308**	*e*P		**P**	**15 57 18.9**	**+0.1**
PYUN	**Piuthan**	**47.88**	**307**	*e*P		**P**	**15 57 23.0**	**+0.5**
	12nm,0.6s							
SONM	**Songino Array**	**48.77**	**344**	P		**P**	**15 57 29.0**	**+0.2**
	1.5nm,0.9s,baz=166,slow=9.2,SNR=8.3							
SONM				PcP		**PcP**	**15 58 50.2**	**-1.2**
	0.3nm,0.7s,baz=155,slow=5.2,SNR=3.9							
PETK	**Petropavlovsk-**	**58.13**	**23**	P		**P**	**15 58 36.8**	**0.0**
	9.5nm,0.9s,baz=205,slow=3.7,SNR=6.6							
MK31	**Makanchi Array**	**58.27**	**327**	*e*P		**P**	**15 58 37.5**	**-0.5**
MKAR	**Makanchi Array**	**58.27**	**327**	P		**P**	**15 58 37.5**	**-0.5**
	0.8nm,0.3s,baz=122,slow=7.8,SNR=22							
MKAR				PcP		**PcP**	**15 59 26.0**	**-1.5**
	2.6nm,0.8s,baz=128,slow=4.3,SNR=11							
YAK	**Yakutsk**	**60.41**	**3**	*e*P		**P**	**15 58 53.3**	**+1.0**
	31nm,0.8s							
ZALV	**Zalesovo Beam**	**61.67**	**334**	P		**P**	**15 59 00.2**	**-0.7**
	0.6nm,0.4s,baz=116,slow=6.6,SNR=7.7							
KURBB	**Kurchatov Arra**	**62.55**	**329**	P		**P**	**15 59 06.3**	**-0.6**
	2.7nm,0.8s,baz=125,slow=6.3							
KURK	**Kurchatov**	**62.56**	**329**	*e*P		**P**	**15 59 05.8**	**-1.1**
BVAR	**Borovoye Array**	**68.11**	**328**	P		**P**	**15 59 42.0**	**-0.7**
	2.5nm,1.0s,baz=120,slow=8.5							
KMBO	**Kilima Mbogo**	**87.62**	**269**	P		**P**	**16 01 30.7**	**-0.8**
	3.1nm,0.8s,baz=34,slow=6.4,SNR=6.3							
ILAR	**Eielson Array**	**87.84**	**25**	P		**P**	**16 01 29.5**	**-1.7**
	0.1nm,0.4s,baz=263,slow=4.3,SNR=3.5							
ARCES	**ARCESS Array B**	**91.80**	**340**	P		**P**	**16 01 47.9**	**-1.7**
	0.9nm,0.6s,baz=77,slow=4.7,SNR=10							
FINES	**FINESS Array B**	**92.82**	**332**	P		**P**	**16 01 53.1**	**-1.2**
	1.5nm,0.9s,baz=87,slow=7.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**121.75**	**286**	PKP		**PKPdf**	**16 07 35.4**	**-0.8**
	0.5nm,0.6s,baz=34,slow=1.3,SNR=3.9							
SCHQ	**Schefferville**	**122.96**	**8**	PKP		**PKPdf**	**16 07 37.3**	**-0.2**
	0.6nm,0.4s,baz=347,slow=2.5,SNR=5.2							

*ISCJB **14** 16:02:40.2±0.4, 7°49S±0°06×127°83E±0°05, h142km, mb3.8/7, Error ellipse: s-maj=8.2km s-min=6.6km az=1.5*
*IDC **14** 16:02:43.4±3.5, 7°56S×127°79E, h156km±31km, mb3.6/7, mb1 3.8/9,mb1mx3.6/19,mbtmp4.2/9, Error ellipse: s-maj=32.1km s-min=13.3km az=68.0*
*DJA **14** 16:02:44.7±0.6, 8°S±3°×12°8E±°, h110km±20km, M4.5/13, mb4.5/5, mB4.9/4, MLv4.5/13, Mw(mB)4.2/4*
ISC 14 16:02:41.7±0.5, 7°59S±0°06×127°87E±0°05, h142km, n33,
σ1§45/36, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.42**	**97**	P		**Pn**	**16 03 37.0**	**+2.9**
SAUI				S		**Sn**	**16 04 16.4**	**+1.6**
BNDI	**Bandanaira**	**3.66**	**34**	P		**Pn**	**16 03 39.7**	**+2.4**
SOEI	**Soe**	**4.16**	**239**	P		**Pn**	**16 03 46.5**	**+2.5**
SOEI				S		**Sn**	**16 04 33.8**	**+1.5**
MSAI	**Masohi**	**4.35**	**14**	P		Pn	16 03 50.3	+4.0
NLAI	**Namlea**	**4.39**	**350**	P		Pn	16 03 51.4	+4.5
BATI	**Baumata**	**4.90**	**238**	P		**Pn**	**16 03 56.1**	**+2.4**
BATI				S		**Sn**	**16 04 51.3**	**+1.5**
BATI	**Baumata**	**4.90**	**238**	P		**Pn**	**16 03 55.9**	**+2.2**
	29nm,0.3s,baz=286,slow=0.5,SNR=72							
BATI				S		**Sn**	**16 04 51.4**	**+1.5**
	62nm,0.3s,baz=343,slow=19,SNR=9.3							
SANI	**Sanana**	**5.82**	**341**	P		Pn	16 04 09.6	+3.7
	27nm,0.9s,382nm0.1nm							
FAKI	**Fak Fak**	**6.37**	**43**	P		**Pn**	**16 04 15.6**	**+2.3**
	16nm,0.5s,866nm0.2nm							
LBMI	**Labuha**	**6.92**	**357**	P		Pn	16 04 24.7	+4.0
	19nm,1.0s,855nm0.1nm							
WSI	**Waingapu**	**7.77**	**254**	P		**Pn**	**16 04 34.4**	**+2.4**

	6.4nm,0.3s							
KOLN	**Koldanda**	**55.38**	**311**	*e*P	**P**	**16 12 00.7**	**-0.8**	
	13nm,0.7s							
DANN	**Dangsing**	**55.57**	**312**	*e*P	**P**	**16 12 01.9**	**-1.1**	
	5.3nm,0.6s							
PYUN	**Piuthan**	**56.01**	**311**	*e*P	**P**	**16 12 05.8**	**-0.2**	
	25nm,0.7s							
SONM	**Songino Array**	**58.36**	**343**	P	**P**	**16 12 21.8**	**-0.3**	
	0.6nm,0.5s,baz=158,slow=8.3,SNR=6.2							
MKAR	**Makanchi Array**	**67.58**	**328**	P	**P**	**16 13 22.3**	**-0.6**	
	0.9nm,0.5s,baz=116,slow=8.4,SNR=25							
ZALV	**Zalesovo Beam**	**71.20**	**335**	P	**P**	**16 13 43.7**	**-1.2**	
	0.9nm,0.3s,baz=152,slow=5.6,SNR=7.1							
QSPA	**South Pole Qui**	**82.39**	**180**	P	**P**	**16 14 47.7**	**-0.1**	
	1.3nm,0.7s,baz=358,slow=2.7,SNR=7.3							
TORD	**Torodi Ar. Bea**	**126.85**	**281**	PKP	**PKPdf**	**16 21 29.1**	**-0.5**	
	0.6nm,0.6s,baz=76,slow=1.9,SNR=4.8							
LPAZ	**La Paz**	**151.47**	**146**	PKPbc	**PKPbc**	**16 22 21.4**	**+0.7**	
	0.9nm,0.4s,baz=30,slow=1.7,SNR=5.7							
LPAZ				PKPab	**PKPab**	**16 22 30.5**	**+1.2**	
	1.9nm,0.6s,baz=189,slow=1.8,SNR=9.4							

NNC ***14*** *16:02:41.9±3.0,38°.69N×72°.47E,h39*^{km}*±309*^{km}*, mb3.6, mpv3.0, Error ellipse: s-maj=37.0km s-min=9.3km az=157.0*

KRNET ***14*** *16:02:43.1±0.1,39°.16N×72°.02E,h23*^{km}*, mb3.1*

ISC 14 16:02:44.6±1.7**, 39°.23N**±0°.08×**71°.97E**±0°.05**, h24**^{km}±12^{km}**, n8,** σ1^{s}**77**/14**, 3C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DRK	**Karamyk**	**0.29**	**332**	*i* P		**Pb**	**16 02 51.0**	**-0.7**
	baz=332							
DRK				*e*S		**Sb**	**16 02 57.0**	**+0.5**
	baz=332							
CHVK	**Chauvay**	**0.93**	**12**	*e*P		**Pn**	**16 03 02.0**	**-0.3**
	baz=8.0							
CHVK				*e*S		**Sn**	**16 03 14.9**	**0.0**
	baz=8.0							
BTK	**Batken**	**1.22**	**313**	*e*P		**Pn**	**16 03 06.0**	**-0.3**
	baz=314							
BTK				*e*S		**Sb**	**16 03 23.8**	**+1.3**
	baz=314							
SFK	**Sufi-Kurgan**	**1.42**	**56**	⇓P		**Pn**	**16 03 06.5**	**-2.7**
	3.4nm,0.3s							
SFK				⇓S		**Sn**	**16 03 25.9**	**-1.2**
	9.3nm,0.3s							
SALK	**Salom-Alik**	**2.18**	**40**	*e*P		**Pb**	**16 03 25.0**	**+1.6**
	baz=38							
SALK				*e*S		**Sb**	**16 03 53.5**	**+3.5**
	baz=38							
DZET	**Dzherino**	**2.49**	**261**	⇓Pn		**Pn**	**16 03 24.6**	**+0.9**
	10nm,0.4s							
DZET				⇓Sn		**Sb**	**16 03 58.5**	**-0.4**
	12nm,0.4s							
MNAS	**Manas**	**3.28**	**7**	⇑Pn		Pb	16 03 38.4	-3.9
	1.0nm,0.5s							
MNAS				⇓Sn		**Sb**	**16 04 22.8**	**+0.9**
	6.8nm,0.8s							
KK31	**Karatay Array**	**4.03**	**345**	⇑Pn		Pn	16 03 49.4	+4.6
	0.5nm,0.3s,baz=150,slow=11,SNR=8.1							
KK31				⇑Sn		**Sb**	**16 04 41.2**	**-2.0**
	1.4nm,0.6s,baz=149,slow=10,SNR=4.3							

GUC 14 16:30:06.8±0.8**, 34°.19S×73°.32W, h14**^{km}±11^{km}**, ML3.6, 2C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNCH	**Linares**	**2.17**	**140**	⇑*i* P		Pn	16 30 43.4	+0.8
LNCH				*i* S		Sn	16 31 10.6	+1.3
RCDM	**Rinconada Maip**	**2.21**	**72**	*e*P		Pn	16 30 43.1	0.0
RCDM				*i* S		Sn	16 31 11.7	+1.4
PEL	**Peldehue**	**2.43**	**65**	⇑*i* P		Pn	16 30 47.0	+0.7
PEL				*i* S		Sn	16 31 18.1	+2.1
PEL				AML		AML	16 31 20.2	
	comp=N,716nm,0.5s							
CLCH	**Cerro Calan**	**2.45**	**72**	*i* S		Sb	16 31 18.7	-2.2
CLCH				AML		AML	16 31 20.4	
	comp=N,236nm,0.8s							
FCH	**Farellones**	**2.67**	**72**	*i* P		Pn	16 30 49.1	-0.7
FCH				*e*S		Sn	16 31 22.3	0.0
FCH				AML		AML	16 31 24.4	
	comp=N,290nm,0.3s							

IDC 14 16:48:54.0±2.8**, 3°.85S×133°.79E, h0**^{km}**, mb3.3**/1**, mb1 4.0**/4**, mb1mx3.6**/19**, mbtmp3.9**/4**, ML3.8**/3**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.3**/17**, Error ellipse: s-maj=76.8km s-min=34.9km az=84.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**7.03**	**79**	LR		LR	16 53 28.6	
	comp=Z,466nm,18.6s,baz=200,slow=39							
BATI	**Baumata**	**11.87**	**237**	Pn		Pn	16 51 44.9	+0.1
	1.6nm,0.3s,baz=90,slow=13,SNR=3.0							
WRA	**Warramunga Arr**	**16.00**	**178**	Pn		Pn	16 52 38.8	-1.9
	0.3nm,0.3s,baz=356,slow=13,SNR=16							
WRA				Sn		Sn	16 55 27.0	-12
	0.4nm,0.3s,baz=359,slow=23,SNR=6.6							
ASAR	**Alice Springs**	**19.70**	**180**	Pn		Pn	16 53 28.1	+1.5
	0.4nm,0.3s,baz=2.0,slow=12,SNR=70							
ASAR				Sn		S	16 56 55.4	-13
	0.1nm,0.3s,baz=358,slow=25,SNR=6.1							
MKAR	**Makanchi Array**	**67.77**	**324**	P		P	16 59 53.8	0.0
	0.2nm,0.8s,baz=120,slow=7.9,SNR=2.9							

ISCJB ***14*** *16:53:41.4±0.2,50°.93N×101°.02×101°.68W±0°.03,h0*^{km}*, mb3.7/6, Error ellipse: s-maj=2.8km s-min=2.5km az=176.5*

IDC ***14*** *16:53:47.0±0.6,50°.73N×101°.70W,h0*^{km}*, mb3.8/6, mb1 4.1/16, mb1mx3.8/39, mbtmp3.9/16, ML3.7/7, Error ellipse: s-maj=9.8km s-min=6.1km az=176.0*

NEIC ***14*** *16:53:46.6,50°.84N×101°.74W,h1*^{km}*, mb3.9/2, ML4.4(OTT), MN4.0(OTT), After OTT.*

NEIC Possible mine collapse. Felt at Esterhazy, Saskatchewan. OTT ***14*** *16:53:46.6±0.4,50°.78N×101°.73W,h1*^{km}*, MN4.0/8*

OTT 8km south from Langenburg, Sk. Felt. Induced.

ISC 14 16:53:43.6±0.5**, 50°.93N**±0°.03×**101°.72W**±0°.03**, h0**^{km}**, n126,** σ2^{s}**12**/161**, mb3.8**/6**, 7C-21D, Manitoba**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
A27A	**Ledoux Ranch,**	**2.00**	**171**	*i* P		**Pn**	**16 54 19.2**	**+0.5**
A27A				*i* S		**Sn**	**16 54 42.6**	**-1.8**
A26A	**Wade Farm, Ken**	**2.05**	**186**	*i* P		**Pn**	**16 54 20.1**	**+0.8**
A25A	**Svangstu Ranch**	**2.19**	**205**	*i* P		**Pn**	**16 54 22.1**	**+0.9**
A28A	**Rude Farm, Bot**	**2.23**	**155**	*i* P		**Pb**	**16 54 24.4**	**-0.3**
A24A	**Westby**	**2.49**	**217**	*i* P		**Pn**	**16 54 26.6**	**+1.2**
B27A	**Peters Farms,**	**2.55**	**173**	*i* P		**Pn**	**16 54 27.6**	**+1.5**
A29A	**Manning Farm,**	**2.57**	**140**	*i* P		**Pb**	**16 54 29.8**	**-0.8**
B26A	**Jensen Ranch,**	**2.58**	**188**	*i* P		**Pn**	**16 54 27.5**	**+0.9**
B28A	**Dugan Ranch, T**	**2.63**	**160**	*i* P		**Pb**	**16 54 31.1**	**-0.5**
B25A	**Knox Farm, Ray**	**2.82**	**200**	*i* P		**Pn**	**16 54 31.4**	**+1.4**
A23A	**Redstone**	**2.84**	**227**	*i* P		**Pb**	**16 54 36.6**	**+1.4**
B29A	**Wagenman Farm,**	**2.91**	**147**	*i* P		**Pn**	**16 54 33.6**	**+2.5**
DGMT	**Dagmar**	**2.94**	**214**	*e*Pn		**Pn**	**16 54 32.3**	**+0.6**
DGMT				*e*Sn		**Sn**	**16 55 05.9**	**-1.8**
A30A	**Hoffart Farm,**	**2.97**	**131**	*i* P		**Pb**	**16 54 35.5**	**-1.9**
B23A	**Brockton**	**3.26**	**222**	*i* P		**Pn**	**16 54 37.1**	**+1.1**
B30A	**Myrvik Farm, E**	**3.32**	**137**	*i* P		**Pn**	**16 54 39.4**	**+2.7**
A22A	**Carney Farms,**	**3.33**	**236**	*i* P		**Pn**	**16 54 38.3**	**+1.2**
MDND	**Maddock**	**3.38**	**155**	*e*Pn		Pn	16 54 40.9	+3.3
MDND				*e*Sn		**Sn**	**16 55 20.6**	**+2.1**
ULM	**Lac du Bonnet**	**3.78**	**98**	PN		**Pn**	**16 54 46.1**	**+3.0**
ULM				PG		**Pg**	**16 54 55.0**	**-1.1**
ULM				SG		**Sg**	**16 55 45.9**	**+0.8**
ULM				Trac			16 55 46.6	
	comp=Z,354nm,0.5s							
ULM	**Lac du Bonnet**	**3.78**	**98**	Pn		**Pn**	**16 54 45.8**	**+2.6**
	2.2nm,0.3s,baz=287,slow=14,SNR=17							
ULM				Pg		**Pb**	**16 54 53.9**	**+2.7**
	18nm,0.3s,baz=285,slow=17,SNR=44							
ULM				Lg		Lg	16 55 42.5	
	69nm,0.3s,baz=200,slow=22,SNR=20							
ULM	**Lac du Bonnet**	**3.78**	**98**	Pn		**Pn**	**16 54 45.8**	**+2.6**
ULM				Pg		**Pb**	**16 54 53.9**	**+2.7**
ULM				Sn		**Sn**	**16 55 29.2**	**+0.9**
ULM				Lg		Lg	16 55 42.5	
ULM				Sg		**Sg**	**16 55 43.9**	**-1.2**
FFC	**Flin Flon**	**3.81**	**358**	PN		Pb	16 54 49.0	-2.6
FFC				PG		**Pg**	**16 54 57.4**	**+0.9**
FFC				SN		**Sb**	**16 55 35.5**	**-2.7**
FFC				LG		Lg	16 55 51.4	
FFC				Trac			16 55 54.4	
	comp=Z,2μm,0.6s							
FFC	**Flin Flon**	**3.81**	**358**	*e*Pn		Pn	16 54 48.1	+4.6
FFC				*e*Pg		**Pg**	**16 54 56.4**	**-0.1**
FFC				Pg		**Pg**	**16 54 57.4**	**+0.9**
FFC				Sn		**Sn**	**16 55 30.4**	**+1.5**
FFC				Sn		**Sb**	**16 55 35.5**	**-2.7**
FFC				Lg		Lg	16 55 51.4	
AGMN	**Agassiz Nation**	**4.63**	**122**	*e*Pn		**Pn**	**16 54 56.8**	**+2.0**
AGMN				*e*Pg		**Pb**	**16 55 07.7**	**+2.1**
AGMN				*e*Sn		**Sn**	**16 55 50.2**	**+1.0**
AGMN				*e*Sg		**Sb**	**16 56 06.6**	**+4.7**
LAO	**LASA Array**	**5.18**	**217**	*e*Pn		**Pn**	**16 55 00.5**	**-1.9**
LAO				*e*Pg		**Pb**	**16 55 18.0**	**+2.8**
LAO				*e*Sg		**Sb**	**16 56 17.3**	**-0.7**
SOLO	**Sioux Lookout**	**6.22**	**95**	PN		**Pn**	**16 55 18.2**	**+1.6**
SOLO				SN		**Sn**	**16 56 26.8**	**-1.5**
SOLO				LG		Lg	16 57 00.3	
SOLO				Trac			16 57 07.8	
	comp=Z,163nm,0.6s							
SOLO	**Sioux Lookout**	**6.22**	**95**	Pn		**Pn**	**16 55 18.4**	**+1.8**
SOLO				Sn		**Sn**	**16 56 27.0**	**-1.3**
SOLO				Lg		Lg	16 57 00.3	
BRSD	**Miller**	**6.75**	**163**	*e*Pn		**Pn**	**16 55 29.9**	**+1.9**
ATKO	**Atikokan Iron**	**6.87**	**104**	PN		Pn	16 55 20.1	-5.4
ATKO				SN		**Sn**	**16 56 43.4**	**-0.9**
ATKO				LG		Lg	16 57 18.2	
ATKO	**Atikokan Iron**	**6.87**	**104**	⇓Pn		**Pn**	**16 55 27.2**	**+1.7**
ATKO				Sn		**Sn**	**16 56 42.2**	**-2.2**
ATKO				Lg		Lg	16 57 18.2	
RSSD	**Black Hills**	**6.99**	**194**	*e*Pn		**Pn**	**16 55 27.5**	**0.0**
RSSD				*e*Sn		**Sn**	**16 56 44.5**	**-3.2**
RSSD				Sg		**Sg**	**16 57 24.9**	**-3.1**
PKLO	**Pickle Lake**	**7.16**	**81**	PN		**Pn**	**16 55 31.1**	**+1.6**
PKLO				SN		**Sn**	**16 56 47.8**	**-3.8**
PKLO				LG		Lg	16 57 29.7	
PKLO				Trac			16 57 37.3	
	comp=Z,52nm,0.6s							
PKLO	**Pickle Lake**	**7.16**	**81**	⇓Pn		**Pn**	**16 55 31.1**	**+1.6**
PKLO				Sn		**Sn**	**16 56 50.7**	**-0.9**
PKLO				Lg		Lg	16 57 29.7	
EYMN	**Ely**	**7.30**	**110**	*e*Pn		**Pn**	**16 55 32.5**	**+1.0**
EYMN				*e*Sn		**Sn**	**16 56 50.4**	**-4.6**
EDM	**Edmonton**	**7.53**	**292**	SN		**Sn**	**16 56 57.5**	**-3.2**
EDM				LG		Lg	16 57 43.3	
EDM	**Edmonton**	**7.53**	**292**	*e*Pn		Pn	16 55 31.3	-3.3
EDM				Sn		**Sn**	**16 56 57.5**	**-3.2**
EDM				Lg		Lg	16 57 43.3	
HRY	**Holter Researc**	**7.90**	**242**	*e*Pn		**Pn**	**16 55 39.7**	**0.0**
PRDA	**Priddis**	**7.96**	**274**	SN		**Sn**	**16 57 06.1**	**-5.1**
PRDA				LG		Lg	16 57 59.8	
WALA	**Waterton Lakes**	**8.08**	**261**	PN		**Pn**	**16 55 42.0**	**-0.2**
WALA				SN		**Sn**	**16 57 10.6**	**-3.8**
WALA				Trac			16 58 11.2	
	comp=Z,59nm,0.7s							
WALA	**Waterton Lakes**	**8.08**	**261**	*e*Pn		**Pn**	**16 55 42.1**	**-0.2**
WALA				Sn		**Sn**	**16 57 09.9**	**-4.5**
TBO	**Thunder Bay**	**8.29**	**101**	PN		**Pn**	**16 55 46.5**	**+1.5**
TBO				SN		**Sn**	**16 57 17.2**	**-2.0**
TBO				LG		Lg	16 58 04.0	
TBO				Trac			16 58 11.1	
	comp=Z,69nm,0.5s							
TBO	**Thunder Bay**	**8.29**	**101**	Pn		**Pn**	**16 55 46.5**	**+1.5**
TBO				Sn		**Sn**	**16 57 15.5**	**-3.7**
BOZ	**Bozeman (W)**	**8.46**	**235**	*e*Pn		**Pn**	**16 55 47.7**	**+0.2**
SLMT	**Seeley Lake**	**8.57**	**249**	*e*Pn		**Pn**	**16 55 49.1**	**+0.1**
YBMT	**Yellow Bay**	**8.59**	**254**	*e*Pn		**Pn**	**16 55 49.7**	**+0.5**
CHMT	**Chamberlain Mo**	**8.59**	**247**	*e*Pn		**Pn**	**16 55 49.2**	**-0.2**
YNR	**Norris Junctio**	**8.66**	**228**	*e*Pn		**Pn**	**16 55 51.0**	**+0.7**
SWMT	**Swartz Lake**	**8.74**	**252**	*e*Pn		**Pn**	**16 55 51.6**	**+0.3**
LRM	**Limekiln Ridge**	**8.78**	**239**	*e*Pn		**Pn**	**16 55 51.3**	**-0.7**
JTMT	**Jette**	**8.80**	**254**	*e*Pn		**Pn**	**16 55 52.0**	**-0.1**
YMR	**Madison River**	**8.83**	**228**	P		**Pn**	**16 55 53.1**	**+0.5**
K22A	**Casper**	**8.91**	**204**	*e*Pn		**Pn**	**16 55 53.8**	**+0.1**
QLMT	**Earthquake Lak**	**8.93**	**231**	*e*Pn		**Pn**	**16 55 54.5**	**+0.4**
FCC	**Fort Churchill**	**8.99**	**26**	PN		Pn	16 55 58.2	+3.7
FCC				SN		**Sn**	**16 57 35.6**	**-0.8**
FCC				LG		Lg	16 58 29.4	
FCC	**Fort Churchill**	**8.99**	**26**	*e*Pn		Pn	16 55 57.8	+3.2
BSMT	**Bassoo Peak**	**9.07**	**255**	*e*Pn		**Pn**	**16 55 57.6**	**+1.7**
GTO	**Geraldton**	**9.51**	**91**	PN		**Pn**	**16 56 02.3**	**+0.5**
GTO				SN		**Sn**	**16 57 44.9**	**-4.4**
GTO				LG		Lg	16 58 44.5	
GTO	**Geraldton**	**9.51**	**91**	Pn		**Pn**	**16 56 02.2**	**+0.5**
GTO				Sn		**Sn**	**16 57 44.0**	**-5.3**
COWI	**Conover**	**9.64**	**115**	*e*Pn		**Pn**	**16 56 04.7**	**+1.2**
COWI				Sn		Sn	16 57 43.5	-9.0
MCMT	**McKenzie Canyo**	**9.65**	**235**	*e*Pn		**Pn**	**16 56 03.2**	**-0.7**
BW06	**Boulder Array**	**9.77**	**216**	*e*Pn		**Pn**	**16 56 05.4**	**-0.1**
PDAR	**Pinedale Array**	**9.77**	**216**	Pn		**Pn**	**16 56 05.5**	**0.0**
	1.0nm,0.3s,baz=48,slow=13,SNR=64							
PDAR				Pg			16 56 38.9	
	0.6nm,0.3s,baz=52,slow=13,SNR=5.5							
PDAR				Sn		**Sn**	**16 57 51.6**	**-4.4**
	0.6nm,0.3s,baz=33,slow=35,SNR=3.9							
PDAR				Lg		Lg	16 58 40.4	
	1.5nm,0.3s,baz=40,slow=30,SNR=4.9							
PNPO	**Pukaskwa Natio**	**10.26**	**97**	PN		**Pn**	**16 56 11.8**	**-0.1**
PNPO				SN		**Sn**	**16 58 02.8**	**-4.6**
PNPO				LG		Lg	16 58 59.1	
PNPO	**Pukaskwa Natio**	**10.26**	**97**	⇓Pn		**Pn**	**16 56 14.0**	**+2.1**
PNPO				Sn		**Sn**	**16 58 02.2**	**-5.2**
SLEB	**Sale Mountain**	**10.35**	**278**	⇓Pn		**Pn**	**16 56 14.7**	**+1.4**
NEW	**Newport**	**10.35**	**261**	Pn		**Pn**	**16 56 13.5**	**+0.2**
	0.3nm,0.3s,baz=83,slow=15,SNR=3.0							
NEW				Sn		**Sn**	**16 58 06.4**	**-3.6**
	0.9nm,0.3s,baz=75,slow=18,SNR=2.6							
NEW				Lg		Lg	16 59 06.2	
	1.4nm,0.3s,baz=311,slow=20,SNR=3.4							
MNB	**Mounoet Dainar**	**10.46**	**283**	PN		**Pn**	**16 56 15.9**	**+1.0**
MNB				SN		**Sn**	**16 58 09.2**	**-3.6**
MNB				LG		Lg	16 59 22.0	
MNB	**Mounoet Dainar**	**10.46**	**283**	⇑Pn		**Pn**	**16 56 16.2**	**+1.3**
DOWB	**Downie Slide**	**10.56**	**280**	⇓Pn		**Pn**	**16 56 17.7**	**+1.6**
SILO	**Sutton Inlier**	**10.79**	**64**	PN		**Pn**	**16 56 18.7**	**-0.5**
SILO				SN		**Sn**	**16 58 15.9**	**-4.7**
SILO				LG		Lg	16 59 20.6	
SILO				Trac			16 59 23.0	
	comp=Z,74nm,0.6s							
SILO	**Sutton Inlier**	**10.79**	**64**	Pn		**Pn**	**16 56 18.7**	**-0.5**
SILO				Sn		**Sn**	**16 58 15.9**	**-4.7**
SILO				Lg		Lg	16 59 20.6	
BLBC	**Blue River**	**10.99**	**283**	⇑Pn		**Pn**	**16 56 22.6**	**+0.4**
ARVN	**Arviat, NU**	**11.04**	**20**	PN		Pn	16 56 26.4	+3.9
ARVN				SN		**Sn**	**16 58 23.8**	**-2.7**
ARVN				LG		Lg	16 59 30.1	
ARVN	**Arviat, NU**	**11.04**	**20**	⇓Pn		Pn	16 56 26.4	+3.9
ARVN				Sn		**Sn**	**16 58 23.0**	**-3.5**
ARVN				Lg		Lg	16 59 30.1	
MANA	**Manning**	**11.10**	**308**	⇓Pn		**Pn**	**16 56 25.2**	**+1.8**
JFWS	**Jewell Farm**	**11.20**	**131**	*e*Pn		**Pn**	**16 56 24.4**	**-0.5**
VIMO	**Victor Mine**	**11.27**	**73**	PN		**Pn**	**16 56 24.3**	**-1.4**
VIMO				SN		**Sn**	**16 58 26.9**	**-5.3**
VIMO				LG		Lg	16 59 34.9	
VIMO				Trac			16 59 47.4	
	comp=Z,136nm,0.7s							
VIMO	**Victor Mine**	**11.27**	**73**	Pn		**Pn**	**16 56 24.3**	**-1.4**
VIMO				Sn		**Sn**	**16 58 26.9**	**-5.3**
VIMO				Lg		Lg	16 59 34.9	
HLID	**Hailey**	**11.34**	**234**	*e*Pn		**Pn**	**16 56 26.9**	**-0.1**
ISCO	**Idaho Springs**	**11.46**	**195**	*e*Pn		**Pn**	**16 56 29.9**	**+1.1**
HWUT	**Hardware Ranch**	**11.54**	**220**	*e*Pn		**Pn**	**16 56 29.6**	**-0.1**
O20A	**White River Ci**	**11.72**	**205**	*e*Pn		**Pn**	**16 56 32.0**	**-0.2**
TCUT	**Toone Canyon**	**11.89**	**218**	*e*Pn		**Pn**	**16 56 32.7**	**-1.8**
HVU	**Hansel Valley**	**11.91**	**224**	*e*Pn		**Pn**	**16 56 34.8**	**0.0**
MFID	**Camas Ranch**	**12.18**	**237**	*e*Pn		**Pn**	**16 56 39.1**	**+0.7**
SNLN	**Sandy Lake, NW**	**12.35**	**347**	⇓Pn		**Pn**	**16 56 42.2**	**+1.7**
KSU1	**Kansas State U**	**12.36**	**161**	*e*Pn		**Pn**	**16 56 39.9**	**-0.9**
KAPO	**Kapuskasing**	**12.40**	**89**	PN		**Pn**	**16 56 40.5**	**-0.8**
KAPO				SN		Sn	16 58 52.5	-7.5
KAPO				LG		Lg	17 00 10.8	
KAPO				Trac			17 00 19.3	
	comp=Z,98nm,0.8s							
KAPO	**Kapuskasing**	**12.40**	**89**	⇓Pn		**Pn**	**16 56 40.4**	**-0.8**
KAPO				Sn		Sn	16 58 51.1	-8.8
DAU	**Daniels Canyon**	**12.44**	**216**	*e*Pn		**Pn**	**16 56 41.4**	**-0.8**
SRU	**San Rafael Swe**	**13.35**	**211**	*e*Pn		**Pn**	**16 56 52.9**	**-1.5**
TMUT	**Trail Mountain**	**13.41**	**213**	*e*Pn		**Pn**	**16 56 54.2**	**-1.2**
JOSN	**Second Sedna S**	**13.43**	**20**	Sn		Sn	16 59 19.3	-5.7
YKB3	**Yellowknife Ar**	**13.51**	**334**	⇓P		**Pn**	**16 56 57.0**	**+0.7**
YKB4	**Yellowknife Ar**	**13.53**	**334**	⇓P		**Pn**	**16 56 57.1**	**+0.6**
YKR9	**Yellowknife Ar**	**13.53**	**334**	⇑P		**Pn**	**16 56 57.4**	**+0.8**
YKA	**Yellowknife Ar**	**13.54**	**334**	Pn		**Pn**	**16 56 57.7**	**+1.0**
	0.5nm,0.3s,baz=143,slow=13,SNR=101							
YKA				Sn		**Sn**	**16 59 24.3**	**-3.5**
	1.0nm,0.3s,baz=135,slow=24,SNR=8.5							
YKA				Lg		Lg	17 00 50.0	
	0.3nm,0.3s,baz=140,slow=29,SNR=7.3							
YKR7	**Yellowknife Ar**	**13.56**	**334**	⇓P		**Pn**	**16 56 57.5**	**+0.6**
YKB6	**Yellowknife Ar**	**13.56**	**334**	⇓P		**Pn**	**16 56 57.3**	**+0.3**
YKR6	**Yellowknife Ar**	**13.57**	**334**	⇓P		**Pn**	**16 56 57.3**	**+0.2**
SEDN	**First Sedna Si**	**13.58**	**21**	⇓P		**Pn**	**16 56 56.8**	**-0.4**
YKB7	**Yellowknife Ar**	**13.58**	**334**	⇑P		**Pn**	**16 56 57.8**	**+0.6**
YKR5	**Yellowknife Ar**	**13.58**	**334**	⇑P		**Pn**	**16 56 57.9**	**+0.6**
YKR4	**Yellowknife Ar**	**13.60**	**333**	⇓P		**Pn**	**16 56 58.4**	**+0.9**
YKB8	**Yellowknife Ar**	**13.60**	**334**	⇓P		**Pn**	**16 56 57.6**	**+0.1**
YKW3	**Yellowknife Ar**	**13.60**	**334**	⇓P		**Pn**	**16 56 57.7**	**+0.2**
YKW3				Sn		Sn	16 59 23.8	-5.3
YKR3	**Yellowknife Ar**	**13.61**	**333**	⇓P		**Pn**	**16 56 58.5**	**+0.8**
YKB9	**Yellowknife Ar**	**13.62**	**334**	⇓P		**Pn**	**16 56 58.0**	**+0.3**
YKR2	**Yellowknife Ar**	**13.62**	**333**	⇑P		**Pn**	**16 56 58.3**	**+0.5**
YKR1	**Yellowknife Ar**	**13.64**	**333**	⇑P		**Pn**	**16 56 58.7**	**+0.7**
ELK	**Elko**	**13.86**	**228**	Pn		Pn	**16 57 02.2**	**+0.9**
	0.1nm,0.3s,baz=76,slow=12,SNR=4.9							
SFIN	**Lafayette**	**14.66**	**130**	Pn		**Pn**	**16 57 10.6**	**-1.6**
ARUT	**Antelope Range**	**15.56**	**217**	*e*Pn		**Pn**	**16 57 25.7**	**+1.3**
	0.5nm,0.7s							
VLDQ	**Val d'Or**	**15.98**	**91**	⇓P		Pn	16 57 24.7	-5.0
SADO	**Sadowa**	**16.32**	**103**	Pn		**Pn**	**16 57 29.9**	**-4.1**
	0.8nm,0.3s,baz=314,slow=12,SNR=5.1							
SADO				Sn		Sn	17 00 23.6	-12
	0.8nm,0.3s,baz=270,slow=20,SNR=6.1							
YBH	**Yreka Blue Hor**	**17.12**	**246**	P		**P**	**16 57 46.2**	**+0.1**
	0.1nm,0.3s,baz=67,slow=6.1,SNR=10							
NVAR	**Mina Array Bea**	**17.14**	**230**	P		**P**	**16 57 46.8**	**+0.4**
	0.2nm,0.3s,baz=36,slow=7.7,SNR=6.4							
WVT	**Waverly**	**17.85**	**141**	*e*Pn		**Pn**	**16 57 52.8**	**-0.4**
	6.0nm,0.8s							
DLBC	**Dease Lake**	**17.90**	**306**	P		**P**	**16 57 57.8**	**+3.2**
	baz=93,slow=8.3,SNR=4.0							
TKL	**Tuckaleechee C**	**20.01**	**133**	P		**Pn**	**16 58 19.8**	**+0.4**
	0.4nm,0.3s,baz=56,slow=3.2,SNR=5.4							
SCHQ	**Schefferville**	**21.27**	**66**	P		**P**	**16 58 34.1**	**+2.8**
	3.7nm,0.6s,baz=277,slow=12,SNR=14							
TXAR	**Lajitas Array**	**21.62**	**185**	P		**P**	**16 58 36.8**	**+1.5**
	4.1nm,0.9s,baz=4.8,slow=9.3,SNR=24							
TXAR				Lg		Lg	17 05 04.9	
	0.8nm,0.6s,baz=357,slow=31,SNR=3.5							
FRB	**Frobisher Bay**	**21.71**	**41**	P		P	16 58

MCMT	**McKenzie Canyo**	**0.54**	**198**	*e*Pn	**Pg**	**17**	**16**	**23.7**	**+0.2**
BOZ	**Bozeman (W)**	**0.76**	**66**	*e*Pn	**Pg**	**17**	**16**	**27.4**	**-0.4**
QLMT	**Earthquake Lak**	**0.99**	**121**	*e*Pn	**Pg**	**17**	**16**	**31.8**	**-0.3**
YMR	**Madison River**	**1.35**	**119**	*e*Pn	**Pn**	**17**	**16**	**38.6**	**+0.2**
HRY	**Holter Researc**	**1.48**	**22**	*e*Pn	**Pn**	**17**	**16**	**40.6**	**+0.6**
YNR	**Norris Junctio**	**1.51**	**114**	*e*Pn	**Pn**	**17**	**16**	**41.3**	**+0.7**
YFT	**Old Faithful**	**1.55**	**124**	*e*Pn	**Pn**	**17**	**16**	**42.1**	**+1.0**
CHMT	**Chamberlain Mo**	**1.64**	**345**	*e*Pn	**Pn**	**17**	**16**	**43.2**	**+0.9**
H17A	**Grant Village**	**1.73**	**122**	Pg	**Pb**	**17**	**16**	**46.7**	**+1.4**
	baz=1.7								
H17A	**Grant Village**	**1.73**	**122**	*e*Pn	**Pb**	**17**	**16**	**46.4**	**+1.1**
MSO	**Missoula**	**1.75**	**329**	P	**Pn**	**17**	**16**	**44.7**	**+1.0**
	baz=1.8								
MSO				Sb	**Sg**	**17**	**17**	**09.6**	**+0.3**
	baz=1.8								
SLMT	**Seeley Lake**	**2.00**	**343**	*e*Pn	**Pn**	**17**	**16**	**47.8**	**+0.6**
I17A	**Pilgrim Ck.**	**2.04**	**133**	Pb	**Pb**	**17**	**16**	**50.4**	**0.0**
	baz=2.0								
GCMT	**Greycliff**	**2.12**	**77**	*e*Pn	**Pb**	**17**	**16**	**52.3**	**+0.5**
HLID	**Hailey**	**2.19**	**216**	P	**Pn**	**17**	**16**	**51.5**	**+1.7**
	baz=2.2								
HLID				S	**Sb**	**17**	**17**	**19.9**	**-0.4**
	baz=2.2								
HLID	**Hailey**	**2.19**	**216**	*e*Pn	**Pn**	**17**	**16**	**51.0**	**+1.2**
H18A	**Shoshone NF, C**	**2.20**	**106**	Pb	**Pb**	**17**	**16**	**53.1**	**-0.1**
	baz=2.2								
H18A				Sb	**Sb**	**17**	**17**	**21.3**	**+0.7**
	baz=2.2								
SWMT	**Swartz Lake**	**2.37**	**337**	*e*Pn	**Pn**	**17**	**16**	**53.2**	**+0.9**
RLMT	**Red Lodge**	**2.38**	**94**	*e*Pn	**Pn**	**17**	**16**	**53.9**	**+1.4**
JTMT	**Jette**	**2.67**	**335**	*e*Pn	**Pn**	**17**	**16**	**57.6**	**+1.2**
YBMT	**Yellow Bay**	**2.70**	**340**	*e*Pn	**Pn**	**17**	**16**	**58.1**	**+1.3**
AHID	**Auburn Hatcher**	**2.80**	**156**	*e*Pn	**Pb**	**17**	**17**	**02.5**	**-0.9**
BSMT	**Bassoo Peak**	**2.92**	**330**	*e*Pn	**Pn**	**17**	**17**	**01.2**	**+1.3**
BLMT	**Blacktail Moun**	**2.93**	**336**	*e*Pn	**Pn**	**17**	**17**	**00.4**	**+0.3**
MFID	**Camas Ranch**	**3.00**	**231**	*e*Pn	**Pn**	**17**	**17**	**02.3**	**+1.4**
G20A	**Bridger**	**3.11**	**91**	Sb	**Sb**	**17**	**17**	**47.7**	**+0.9**
	baz=3.1								
F10A	**Beach Ranch, E**	**3.29**	**283**	P	**Pn**	**17**	**17**	**06.8**	**+1.9**
EGMT	**Eagleton**	**3.33**	**35**	*e*Pn	**Pn**	**17**	**17**	**06.3**	**+0.8**
BMO	**Blue Mountains**	**3.35**	**263**	*e*Pn	**Pn**	**17**	**17**	**06.8**	**+1.1**
BW06	**Boulder Array**	**3.39**	**138**	*e*Pn	Pn	17	17	10.0	+3.6
PDAR	**Pinedale Array**	**3.39**	**138**	Pn	**Pb**	**17**	**17**	**11.9**	**-1.6**
	0.8nm,0.3s,baz=318,slow=15,SNR=19								
PDAR				Lg	Lg	17	18	00.1	
	1.0nm,0.3s,baz=315,slow=28,SNR=4.2								
H20A	**Greybull**	**3.39**	**103**	Sb	**Sb**	**17**	**17**	**56.7**	**+1.9**
	baz=3.4								
C19A	**Slack Wire Ran**	**3.44**	**45**	P	**Pn**	**17**	**17**	**08.5**	**+1.6**
	baz=3.4								
HVU	**Hansel Valley**	**3.56**	**182**	*e*Pn	**Pn**	**17**	**17**	**11.7**	**+3.0**
HWUT	**Hardware Ranch**	**3.81**	**168**	*e*Pn	**Pb**	**17**	**17**	**18.5**	**-2.1**
WALA	**Waterton Lakes**	**3.82**	**347**	*e*Pn	**Pn**	**17**	**17**	**14.2**	**+1.9**
LNOR	**Lincton Mounta**	**4.01**	**280**	P	Pn	17	17	18.6	+3.8
NEW	**Newport**	**4.26**	**315**	Pn	**Pn**	**17**	**17**	**18.6**	**+0.5**
	1.6nm,0.3s,baz=136,slow=12,SNR=11								
NEW				Lg	Lg	17	18	23.3	
	4.2nm,0.3s,baz=53,slow=20,SNR=3.5								
NEW	**Newport**	**4.26**	**315**	P	**Pn**	**17**	**17**	**19.5**	**+1.4**
	baz=4.3								
TCUT	**Toone Canyon**	**4.31**	**168**	*e*Pn	Pn	17	17	23.9	+4.8
BGU	**Big Grassy Mou**	**4.42**	**184**	*e*Pn	Pn	17	17	26.0	+5.5
DPW	**Davenport**	**4.61**	**305**	P	**Pn**	**17**	**17**	**23.9**	**+1.0**
OD2	**Odessa Site #2**	**4.69**	**298**	P	**Pn**	**17**	**17**	**25.0**	**+1.0**
HAWA	**Hanford**	**4.94**	**285**	*e*Pn	**Pn**	**17**	**17**	**29.3**	**+1.8**
ELK	**Elko**	**4.98**	**204**	Pn	**Pn**	**17**	**17**	**30.9**	**+2.7**
	0.1nm,0.3s,baz=2.4,slow=14,SNR=2.9								
ELK				Pg	Pb	17	17	37.3	-3.2
	1.1nm,0.3s,baz=8.5,slow=16,SNR=21								
ELK				Lg	Lg	17	18	45.9	
	4.1nm,0.3s,baz=179,slow=16,SNR=6.5								
DAU	**Daniels Canyon**	**5.03**	**168**	*e*Pn	**Pn**	**17**	**17**	**28.6**	**-0.4**
DUG	**Dugway, Tooele**	**5.14**	**182**	*e*Pn	**Pn**	**17**	**17**	**33.5**	**+3.1**
K22A	**Casper**	**5.16**	**119**	Pg	**Pg**	**17**	**17**	**52.7**	**+0.9**
WVOR	**Wild Horse Val**	**5.23**	**238**	*e*Pn	**Pn**	**17**	**17**	**32.1**	**+0.5**
TRW	**Toppenish Ridg**	**5.62**	**283**	P	**Pn**	**17**	**17**	**39.5**	**+2.7**
ETW	**Entiat**	**5.79**	**296**	P	**Pn**	**17**	**17**	**40.5**	**+1.2**
TBM	**Table Mountain**	**5.83**	**291**	P	**Pn**	**17**	**17**	**41.6**	**+1.9**
RSSD	**Black Hills**	**6.24**	**98**	Pn	**Pn**	**17**	**17**	**45.8**	**+0.3**
RSSD				*e*Pg	Pb	17	18	06.1	+4.1
SRU	**San Rafael Swe**	**6.42**	**165**	Pn	Pn	17	17	52.9	+5.0
MOD	**Modoc Plateau**	**6.55**	**241**	*e*Pn	**Pn**	**17**	**17**	**51.1**	**+1.4**
LON	**Longmire**	**6.55**	**286**	*e*Pn	**Pn**	**17**	**17**	**51.2**	**+1.6**
DGMT	**Dagmar**	**6.57**	**59**	*e*Pn	**Pn**	**17**	**17**	**50.4**	**+0.6**
NVAR	**Mina Array Bea**	**8.10**	**214**	Pn	**Pn**	**17**	**18**	**11.3**	**+0.3**
	0.1nm,0.3s,baz=35,slow=11,SNR=2.6								
YKA	**Yellowknife Ar**	**17.23**	**357**	Pn	**Pn**	**17**	**20**	**10.4**	**-3.3**
	0.0nm,0.3s,baz=174,slow=12,SNR=5.3								
YKA				Lg	Lg	17	25	05.4	
	baz=174,slow=28,SNR=2.9								

*ISCJB **14** 17:23:06.3±0.4, 32°.31N±0°.03×115°.23W±0°.04, h18km±4km, Error ellipse: s-maj=5.2km s-min=3.9km az=26.0*
*NEIC **14** 17:23:07.5, 32°.31N×115°.31W, h10km, MD3.6(MEX), ML3.5(PAS), After PAS.*
*ECX **14** 17:23:08.2±0.7, 32°.33N×115°.31W, h5km, MD3.4, ML3.6*
*MEX **14** 17:23:08.9±1.3, 32°.38N×115°.16W, h19km±13km, MD3.6*

ISC 14 17:23:06.0±0.9, **32°.28N**±0°.02×**115°.28W**±0°.03, **h14**km±7km, **n29**, σ0**973**/43, **2C-6D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**351**	⇓*eP*	**Pg**	**17 23 09.5**	**-0.3**
CPBX				*eS*	**Sg**	**17 23 11.9**	**-0.4**
MBIG	**Mexicali**	**0.15**	**27**	*i* P	**Pg**	**17 23 10.4**	**+0.6**
MBIG				*eS*	**Sb**	**17 23 14.2**	**+0.6**
SGL	**Mount Signal**	**0.53**	**315**	⇓*iP*	**Pg**	**17 23 16.6**	**0.0**
COA	**Coachella**	**0.60**	**12**	⇓*iP*	**Pb**	**17 23 18.4**	**0.0**
YUH	**Yuha Desert**	**0.66**	**304**	⇓*iP*	**Pg**	**17 23 18.7**	**-0.2**
RDX	**Rancho Dawling**	**0.66**	**239**	*eP*	**Pb**	**17 23 20.0**	**+0.5**
RDX				*eS*	**Sb**	**17 23 29.4**	**+0.8**
RDX				⇑*e*		17 23 31.6	
RDX				AML	AML	17 23 31.6	
	comp=N,2μm,0.3s						
YMD	**Yuma Desert**	**0.68**	**66**	⇑*iP*	**Pb**	**17 23 20.1**	**+0.5**
COK	**Cook Ranch**	**0.69**	**327**	⇓*iP*	**Pg**	**17 23 19.3**	**-0.2**
RMX	**La Rumorosa**	**0.75**	**296**	*eP*	**Pg**	**17 23 20.5**	**-0.2**
RMX				*eS*	**Sg**	**17 23 30.0**	**-0.7**
ECBX	**El Chinero**	**0.82**	**166**	*eP*	**Pb**	**17 23 19.9**	**-2.2**
ECBX				*eS*	**Sg**	**17 23 31.5**	**-1.4**
ZAX	**El Zacaton**	**1.14**	**228**	*eP*	**Pg**	**17 23 28.4**	**+0.4**
ZAX				*eS*	**Sg**	**17 23 43.7**	**+0.8**
CBX	**Cerro Bola**	**1.18**	**272**	*eP*	**Pb**	**17 23 28.5**	**+0.2**
CBX				*i* S	**Sb**	**17 23 43.5**	**+0.1**
CBX	**Cerro Bola**	**1.18**	**272**	*eP*	**Pb**	**17 23 28.4**	**+0.2**
CBX				*eS*	**Sn**	**17 23 43.8**	**-0.3**
CBX	**Cerro Bola**	**1.18**	**272**	*eP*	**Pn**	**17 23 27.8**	**-0.4**
CBX				*eS*	**Sb**	**17 23 41.5**	**-1.9**
SPIG	**San Pedro Mart**	**1.24**	**188**	*eP*	**Pb**	**17 23 30.5**	**+1.1**
SPIG				*eS*	**Sb**	**17 23 45.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.24**	**188**	*eP*	**Pn**	**17 23 29.4**	**+0.1**
SPIG				*eS*	**Sb**	**17 23 44.7**	**-0.6**
SPX	**San Pedro Mart**	**1.24**	**187**	*eP*	**Pb**	**17 23 30.3**	**+0.9**
SPX				⇓*e*		17 23 49.8	
SPX				AML	AML	17 23 49.8	
	comp=E,641nm,0.5s						
SPX	**San Pedro Mart**	**1.24**	**187**	*eP*	**Pn**	**17 23 29.5**	**+0.3**
SPX				*eS*	**Sb**	**17 23 44.9**	**-0.4**
BAR	**Barrett**	**1.25**	**289**	*eP*	**Pn**	**17 23 29.1**	**0.0**
BAR	**Barrett**	**1.25**	**289**	*eP*	**Pn**	**17 23 28.5**	**-0.6**
ECNX	**Esteban Cantu**	**1.28**	**242**	*eP*	**Pb**	**17 23 30.8**	**+0.7**
ECNX				*eS*	**Sg**	**17 23 48.2**	**+0.8**
PBX	**Punta Banda**	**1.34**	**247**	*eP*	**Pb**	**17 23 31.4**	**+0.4**
PBX				*eS*	**Sg**	**17 23 49.6**	**+0.3**
PFO	**Pinyon Flats O**	**1.66**	**324**	*e*Pn	Pn	17 23 29.0	-5.9
LDFC	**Landfair**	**2.80**	**3**	*e*Pn	**Pn**	**17 23 50.7**	**+0.2**
MWC	**Mount Wilson**	**3.03**	**311**	*eP*	**Pb**	**17 24 00.1**	**+0.2**
MWC				*eS*	**Sb**	**17 24 36.0**	**-0.9**
TUC	**Tucson**	**3.81**	**88**	*e*Pn	**Pn**	**17 24 04.1**	**-0.2**
SHPR	**Sheep Range**	**4.22**	**1**	*e*Pn	**Pn**	**17 24 10.6**	**+0.4**
WUAZ	**Wupatki**	**4.58**	**44**	*e*Pn	**Pn**	**17 24 16.0**	**+0.9**
CCUT	**Cedar City**	**5.49**	**16**	*e*Pn	**Pn**	**17 24 27.9**	**+0.3**
	comp=E,15nm,0.7s						

*MAN **14** 17:25:24, 13°.51N×124°.24E, h26km, mb5.1, ML4.1, MS4.2*
*IDC **14** 17:25:26.6±2.2, 12°.73N×124°.17E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/41, mbtmp3.4/4, Error ellipse: s-maj=92.5km s-min=22.9km az=55.0*

ISC 14 17:25:24.1±1.3, **13°.32N**±0°.03×**124°.14E**±0°.05, **h4**km±10km, **n16**, σ1**980**/23, **mb3.4**/4, **2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.27**	**2**	⇓*eP*	**Pg**	**17 25 30.2**	**+0.8**
PVCP				*i* S	**Sg**	**17 25 33.5**	**+0.5**
CNP	**Catarman**	**0.95**	**148**	*eP*	**Pn**	**17 25 43.9**	**-0.4**
CNP				*eS*	**Sn**	**17 25 58.8**	**+0.5**
MMPH	**Masbate**	**1.08**	**208**	⇑*eP*	**Pn**	**17 25 46.5**	**+0.5**
MMPH				*i* S	**Sn**	**17 26 02.7**	**+1.3**
AUQP	**San Andres**	**1.43**	**270**	*eP*	**Pb**	**17 25 51.5**	**+0.2**
AUQP				*eS*	**Sn**	**17 26 13.0**	**+3.0**
GQP	**Guinayangan**	**1.75**	**290**	⇑*eP*	**Pn**	**17 25 54.1**	**-1.1**
GQP				*eS*	**Sn**	**17 26 15.7**	**-2.2**
RCP	**Roxas**	**2.22**	**218**	⇓*eP*	**Pb**	**17 26 03.8**	**-1.0**
RCP				*eS*	**Sg**	**17 26 36.1**	**+0.7**
BOAC	**Boac**	**2.24**	**274**	*eP*	**Pn**	**17 26 02.1**	**+0.2**
BOAC				*eS*	**Sn**	**17 26 28.2**	**-1.9**
OCLP	**Ormoc**	**2.30**	**169**	*eP*	**Pg**	**17 26 06.8**	**-1.5**
OCLP				*eS*	**Sn**	**17 26 32.5**	**+0.8**
MSLP	**Maasin**	**3.25**	**167**	*eP*	**Pn**	**17 26 16.6**	**+0.9**
BALP	**Baler**	**3.46**	**314**	*eP*	**Pn**	**17 26 16.6**	**-2.2**
BALP				*eS*	Sn	17 26 53.4	-6.8
APYP	**Conner**	**5.31**	**329**	*eP*	**Pn**	**17 26 43.0**	**-1.1**
ABRA	**Dolores**	**5.43**	**323**	*eP*	**Pn**	**17 26 45.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**24.76**	**285**	P	**P**	**17 30 51.7**	**+4.7**
	0.5nm,0.8s,baz=90,slow=7.6,SNR=6.3						
WRA	**Warramunga Arr**	**34.55**	**163**	P	**P**	**17 32 12.0**	**-1.9**
	0.3nm,0.5s,baz=342,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**37.98**	**165**	P	**P**	**17 32 41.5**	**-1.8**
	0.3nm,0.5s,baz=349,slow=7.7,SNR=24						
MKAR	**Makanchi Array**	**48.35**	**322**	P	P	17 34 13.8	+6.9
	0.4nm,0.9s,baz=121,slow=8.5,SNR=4.9						

*IDC **14** 17:28:24.5±3.6, 58°.30N×154°.23W, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.2/43, mbtmp3.4/3, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/34, Error ellipse: s-maj=62.2km s-min=31.3km az=156.0*
*ISCJB **14** 17:28:45.5±0.4, 59°.84N±0°.03×153°.15W±0°.07, h138km±4km, mb3.5/1, Error ellipse: s-maj=6.4km s-min=4.4km az=25.0*
*NEIC **14** 17:28:47.9, 59°.84N×153°.21W, h127km, MG2.6(AEIC), After AEIC.*

ISC 14 17:28:46.2±1.0, **59°.84N**±0°.04×**153°.21W**±0°.05, **h134**km±7km, **n65**, σ0**973**/74, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.14**	**30**	P	**Pn**	**17 29 04.7**	**+0.2**
OPT	**Oil Point**	**0.18**	**183**	P	**Pn**	**17 29 04.9**	**+0.4**
IVE	**Iliamna Volcan**	**0.21**	**28**	P	**Pn**	**17 29 04.7**	**+0.1**
ILW	**Iliamna West**	**0.23**	**9**	P	**Pn**	**17 29 05.0**	**+0.4**
AUP	**Augustine Pinn**	**0.49**	**193**	P	**Pn**	**17 29 06.0**	**+0.2**
RSO	**Redoubt South**	**0.67**	**20**	*e*Pn	**Pn**	**17 29 06.6**	**-0.4**
RDWB	**Redoubt West**	**0.68**	**16**	P	**Pn**	**17 29 07.0**	**+0.1**
RDWB				S	**Sn**	**17 29 21.7**	**-1.1**
NCT	**North Crescent**	**0.74**	**11**	P	**Pn**	**17 29 07.6**	**+0.3**
DFR	**Drift River**	**0.80**	**19**	P	**Pn**	**17 29 08.9**	**+1.0**
HOM	**Homer**	**0.81**	**102**	P	**Pn**	**17 29 08.6**	**+0.8**
MCNL	**McNeil River**	**0.87**	**222**	P	**Pn**	**17 29 08.6**	**+0.3**
CNPM	**China Poot**	**1.05**	**106**	P	**Pn**	**17 29 10.4**	**+0.5**
CNPM				S	**Sn**	**17 29 27.7**	**-0.2**
BRLK	**Bradley Lake**	**1.18**	**92**	P	**Pn**	**17 29 11.6**	**+0.5**
BRLK				S	**Sn**	**17 29 30.0**	**-0.1**
CKL	**Chakachamna La**	**1.43**	**17**	P	**Pn**	**17 29 14.2**	**+0.3**
CKN	**Chakachatna No**	**1.48**	**20**	P	**Pn**	**17 29 14.9**	**+0.5**
SPBG	**Spurr Blockage**	**1.49**	**16**	P	**Pn**	**17 29 15.0**	**+0.5**
SPBG				S	**Sn**	**17 29 37.4**	**+1.3**
BGL	**Barrier Glacie**	**1.49**	**15**	P	**Pn**	**17 29 15.1**	**+0.6**
SLKM	**Skilak Lake**	**1.64**	**64**	P	**Pn**	**17 29 16.6**	**+0.5**
SVW2	**Sparrevohn**	**1.73**	**318**	P	**Pn**	**17 29 16.7**	**-0.4**
STLK	**Strandline Lak**	**1.80**	**22**	P	**Pn**	**17 29 18.3**	**+0.3**
KVTA	**Katmai Vly 10**	**1.81**	**217**	P	**Pn**	**17 29 18.8**	**+0.7**
KAKN	**Katmai Knife C**	**1.81**	**213**	P	**Pn**	**17 29 18.9**	**+0.7**
KCE	**Katmai Mt Cerb**	**1.89**	**213**	P	**Pn**	**17 29 20.3**	**+1.2**
SEW	**Seward**	**1.91**	**80**	P	**Pn**	**17 29 19.6**	**+0.4**
SEW				S	**Sn**	**17 29 43.3**	**-1.2**
KABR	**Katmai Barrier**	**1.94**	**209**	P	**Pn**	**17 29 20.3**	**+0.6**
SUA	**Susitna One**	**2.04**	**36**	P	**Pn**	**17 29 21.4**	**+0.5**
SUA				S	**Sn**	**17 29 47.5**	**+0.1**
KDAK	**Kodiak Island**	**2.08**	**171**	P	**Pn**	**17 29 20.9**	**-0.4**
KDAK				S	**Sn**	**17 29 47.0**	**-1.2**
RC01	**Rabbit Creek A**	**2.13**	**52**	P	**Pn**	**17 29 22.0**	**+0.1**
RC01				S	**Sn**	**17 29 48.2**	**-1.2**
SKT	**Skwentna**	**2.30**	**20**	P	**Pn**	**17 29 24.1**	**+0.1**
PTE	**Portage**	**2.32**	**62**	P	**Pn**	**17 29 24.2**	**0.0**
OHAK	**Old Harbor**	**2.62**	**181**	P	**Pn**	**17 29 27.3**	**-0.6**
OHAK				S	**Sn**	**17 29 58.3**	**-1.9**
PMR	**Palmer**	**2.67**	**47**	P	**Pn**	**17 29 27.9**	**-0.7**
PMR				S	**Sn**	**17 29 59.3**	**-1.9**
TRAP	**Trapper Creek**	**2.89**	**29**	P	**Pn**	**17 29 31.1**	**-0.3**
PPLA	**Purkeypile**	**3.11**	**9**	P	**Pn**	**17 29 35.4**	**+1.0**
GLI	**Glacier Island**	**3.21**	**68**	P	**Pn**	**17 29 36.6**	**+1.0**
TT01	**Tatalina**	**3.37**	**338**	P	**Pn**	**17 29 37.3**	**-0.3**
HIN	**Hinchinbrook I**	**3.41**	**78**	P	**Pn**	**17 29 38.8**	**+0.7**
SCM	**Sheep Creek Mo**	**3.51**	**53**	P	**Pn**	**17 29 39.1**	**-0.4**
VLZ	**Valdez**	**3.64**	**66**	P	**Pn**	**17 29 42.4**	**+1.2**
KTH	**Kantishna Hill**	**3.89**	**15**	P	**Pn**	**17 29 44.7**	**+0.3**
TRF	**Thorofare Moun**	**3.89**	**20**	P	**Pn**	**17 29 44.3**	**-0.3**
DIV	**Divide**	**3.90**	**67**	P	**Pn**	**17 29 45.3**	**+0.6**
KLU	**Klutina**	**3.95**	**62**	P	**Pn**	**17 29 45.0**	**-0.3**
CHUM	**Lake Minchumin**	**4.08**	**6**	P	**Pn**	**17 29 47.3**	**+0.3**
RND	**Reindeer**	**4.14**	**28**	P	**Pn**	**17 29 47.5**	**-0.3**
DHY	**Denali Highway**	**4.29**	**38**	P	**Pn**	**17 29 49.5**	**-0.3**
GOAT	**Goat Mountain**	**4.30**	**76**	P	**Pn**	**17 29 50.8**	**+0.9**
MCK	**McKinley**	**4.41**	**26**	P	**Pn**	**17 29 51.4**	**+0.1**
BMRM	**Bremner River**	**4.42**	**71**	P	**Pn**	**17 29 52.2**	**+0.8**
PAX	**Paxson**	**4.87**	**46**	P	**Pn**	**17 29 57.5**	**0.0**
GLB	**Gilahina Butte**	**4.90**	**67**	P	**Pn**	**17 29 58.9**	**+1.0**
WRH	**Wood River Hil**	**5.23**	**25**	P	**Pn**	**17 30 01.5**	**-0.7**
DDM	**Donnelly Dome**	**5.28**	**38**	P	**Pn**	**17 30 04.2**	**+1.3**
MLY	**Manley**	**5.34**	**11**	P	**Pn**	**17 30 03.9**	**+0.2**
CCB	**Clear Creek Bu**	**5.45**	**25**	P	**Pn**	**17 30 04.3**	**-0.8**
COLA	**College**	**5.64**	**24**	P	**Pn**	**17 30 06.9**	**-0.7**
MDM	**Murphy Dome**	**5.64**	**22**	P	**Pn**	**17 30 07.2**	**-0.5**
ILAR	**Eielson Array**	**5.76**	**28**	Pn	**Pn**	**17 30 08.7**	**-0.7**
	1.1nm,0.3s,baz=215,slow=13,SNR=39						
ILB	**Eielson Array**	**5.76**	**28**	P	**Pn**	**17 30 08.7**	**-0.7**
IM3	**Indian Mountai**	**6.18**	**358**	P	**Pn**	**17 30 15.2**	**+0.4**
BCA3	**Beaver Creek A**	**6.36**	**54**	P	**Pn**	**17 30 17.2**	**-0.3**
BM3	**Burnt Mountain**	**8.51**	**23**	P	**Pn**	**17 30 45.4**	**-0.9**
YKA	**Yellowknife Ar**	**18.62**	**65**	P	**Pn**	**17 32 54.8**	**+0.1**
	0.1nm,0.3s,baz=277,slow=10,SNR=5.7						
YBH	**Yreka Blue Hor**	**26.09**	**120**	LR	LR	17 42 51.8	
	comp=Z,33nm,18.1s,baz=221,slow=34						
ZALV	**Zalesovo Beam**	**57.44**	**323**	P	**P**	**17 38 21.1**	**+0.8**
	0.3nm,0.4s,baz=28,slow=6.5,SNR=3.1						

*IDC **14** 17:28:55.8±7.0, 37°.55N×143°.16E, h0km, mb3.3/2, mb1 3.4/5, mb1mx3.2/28, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=113.4km s-min=42.5km az=123.0*
*JMA **14** 17:29:00.4±0.2, 37°.89N×142°.42E, h39km±2km, M3.6*
*NIED **14** 17:29:00, 37°.90N×142°.40E, h20km, Mw3.6 Best double couple: M₀2.58000×10¹⁴ NP1:φ₀21.00000°, δ38.00000°, λ75.00000°. NP2:φ₀220.00000°, δ54.00000°, λ102.00000°.*

ISC 14 17:29:01.8±2.7, **37°.94N**±0°.07×**142°.3E**±0°.1, **h13**km±14km, **n22**, σ1**935**/20, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.87**	**306**	P	**Pg**	**17 29 18.7**	**0.0**
JIO				*eS*	**Sb**	**17 29 31.5**	**+1.0**
JMM	**Marumori**	**1.15**	**267**	P	**Pn**	**17 29 22.5**	**-1.2**
JMM				*eS*	**Sb**	**17 29 37.8**	**-0.7**
JFK	**Kawauchi**	**1.23**	**243**	P	**Pn**	**17 29 22.9**	**-1.9**
JFK				*eS*	**Sb**	**17 29 39.1**	**-1.7**
JMK	**Ichinoseki**	**1.29**	**322**	P	**Pn**	**17 29 24.4**	**-1.2**
JOU	**Okura**	**1.32**	**289**	P	**Pn**	**17 29 25.7**	**-0.3**
JOU				*eS*	**Sb**	**17 29 43.5**	**+0.2**
JFT	**Otama**	**1.57**	**255**	P	**Pn**	**17 29 29.1**	**-0.4**
JFT				*eS*	**Sn**	**17 29 49.0**	**-0.8**
JOM	**Ohasama**	**1.70**	**334**	P	**Pn**	**17 29 30.0**	**-1.2**
JYK	**Kaneyama**	**1.77**	**304**	P	**Pn**	**17 29 32.2**	**-0.1**
JRG	**Rokugo**	**1.93**	**319**	P	**Pn**	**17 29 34.9**	**+0.6**
JFY	**Yanaizu**	**2.09**	**256**	P	**Pn**	**17 29 36.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.51**	**248**	Pn	**Pn**	**17 29 58.9**	**+2.8**
	1.0nm,0.3s,baz=80,slow=15,SNR=9.9						
MAT	**Matsushiro**	**3.52**	**248**	P	**Pn**	**17 29 58.6**	**+2.4**
MAT				*eS*	**Sn**	**17 30 37.1**	**-0.6**
ASAJ	**Asahikawa**	**6.17**	**2**	Pn	**Pn**	**17 30 32.3**	**-0.4**
	0.4nm,0.3s,baz=177,slow=17,SNR=4.7						
USRK	**Ussuriysk Ar.**	**9.95**	**312**	Pn	Pn	17 31 30.2	+5.7
	0.2nm,0.3s,baz=145,slow=16,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.07**	**123**	T	T	18 03 59.6	
	baz=316,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.07**	**123**	T	T	18 04 00.1	
	baz=316,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.08**	**123**	T	T	18 04 00.1	
	baz=316,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.82**	**125**	T	T	18 04 58.6	
	baz=318,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.82**	**125**	T	T	18 04 54.6	
	baz=318,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.84**	**125**	T	T	18 04 54.6	
	baz=318,slow=76,SNR=9.2						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	P	17 36 54.9	+4.0
	0.3nm,0.5s,baz=72,slow=9.5,SNR=2.5						
MKAR	**Makanchi Array**	**44.21**	**301**	P	**P**	**17 37 11.5**	**+1.0**
	0.1nm,0.6s,baz=80,slow=8.5,SNR=3.0						

*IDC **14** 17:33:42.5±4.2, 1°.26N×124°.25E, h191km±37km, mb3.1/3, mb1 3.3/3, mb1mx2.9/23, mbtmp3.6/3, Error ellipse: s-maj=175.2km s-min=15.1km az=63.0*
*ISCJB **14** 17:33:43.1±0.6, 1°.78N±0°.05×125°.05E±0°.04, h200km, mb3.4/3, Error ellipse: s-maj=7.7km s-min=6.2km az=177.0*
*DJA **14** 17:33:45.2±0.4, 2°.1N×3°×12°.5E±°, h175km±7km, M4.1/16, mb4.0/7, mB4.6/4, MLv4.3/16, Mw(mB)3.8/4*

ISC 14 17:33:43.3±0.9, **1°.72N**±0°.06×**125°.06E**±0°.05, **h200**km, **n15**, σ1**949**/23, **mb3.6**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.57**	**223**	P	**Pn**

s-min=19.7km az=60.0

*ISCJB **14** 17:41:14.5±0.9, 33°.17N±0°.08×96°.2E±0°.1, h33km, mb3.2/4, Error ellipse: s-maj=15.1km s-min=10.2km az=34.8*

ISC 14 17:41:16.6±1.2, 33°.3N±0°.1×96°.3E±0°.1, h35km, n21, σ0s69/21, mb3.2/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**9.45**	**234**	*e*P	**Pn**	**17 43 31.5**	**+0.9**
TAPN	**Taplejung**	**9.45**	**234**	*e*P	**Pn**	**17 43 31.6**	**+0.9**
ODAN	**Odare**	**9.99**	**232**	*e*P	**Pn**	**17 43 38.3**	**+0.4**
	8.5nm,0.6s						
ODAN	**Odare**	**9.99**	**232**	*e*P	**Pn**	**17 43 38.5**	**+0.6**
	8.5nm,0.6s						
JIRN	**Jiri**	**10.33**	**240**	*e*P	**Pn**	**17 43 42.1**	**-0.6**
	7.2nm,0.8s						
GUN	**Gumba**	**10.41**	**242**	*e*P	**Pn**	**17 43 42.3**	**-1.5**
RAMN	**Ramite**	**10.47**	**235**	*e*P	**Pn**	**17 43 44.9**	**+0.4**
KKN	**Kakani**	**10.92**	**243**	*e*P	**Pn**	**17 43 49.7**	**-1.0**
	2.9nm,0.5s						
PKI	**Pulchoki**	**10.95**	**242**	*e*P	**Pn**	**17 43 51.1**	**0.0**
	5.9nm,0.6s						
PKIN	**Phulchoki**	**10.95**	**242**	*e*P	**Pn**	**17 43 50.4**	**-0.7**
	4.1nm,0.6s						
PKIN	**Phulchoki**	**10.95**	**242**	*e*P	**Pn**	**17 43 51.7**	**+0.6**
	1.7nm,0.4s						
DANN	**Dangsing**	**11.80**	**249**	*e*P	**Pn**	**17 44 02.8**	**0.0**
	10nm,0.8s						
DANN	**Dangsing**	**11.80**	**249**	*e*P	**Pn**	**17 44 03.3**	**+0.5**
	10nm,0.8s						
PYUN	**Piuthan**	**12.52**	**249**	*e*P	**Pn**	**17 44 12.2**	**-0.3**
	12nm,0.5s						
PYUN	**Piuthan**	**12.52**	**249**	*e*P	**Pn**	**17 44 12.4**	**-0.1**
	12nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.96**	**170**	Pn	**P**	**17 44 50.6**	**-0.1**
	0.0nm,0.3s,baz=346,slow=11,SNR=6.5						
CMAR				LR	LR	17 51 04.7	
	comp=Z,22nm,19.6s,baz=180,slow=39						
MKAR	**Makanchi Array**	**17.17**	**326**	P	**P**	**17 45 14.8**	**-0.3**
	0.1nm,0.3s,baz=136,slow=13,SNR=8.4						
KURBB	**Kurchatov Arra**	**21.67**	**328**	P	**P**	**17 46 05.0**	**+1.0**
	0.9nm,0.8s,baz=134,slow=11,SNR=5.8						
ZALV	**Zalesovo Beam**	**22.20**	**342**	P	**P**	**17 46 10.0**	**+0.4**
	0.2nm,0.4s,baz=155,slow=10,SNR=2.1						
WRA	**Warramunga Arr**	**64.22**	**140**	P	**P**	**17 51 48.0**	**-0.2**
	0.5nm,1.2s,baz=322,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**67.05**	**143**	P	**P**	**17 52 06.0**	**-0.4**
	0.1nm,0.5s,baz=330,slow=6.5,SNR=5.3						

IDC 14 17:43:48.9±22.0, 17°.81N×146°.30E, h466km±271km, mb2.6/7, mb1 2.8/7, mb1mx2.6/27, mbtmp3.4/7, Error ellipse: s-maj=75.1km s-min=31.3km az=53.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.31**	**198**	P	P	17 50 34.8	-2.0
	0.4nm,0.9s,baz=19,slow=9.0,SNR=3.2						
ASAR	**Alice Springs**	**42.96**	**197**	P	P	17 51 06.9	+1.0
	0.2nm,0.7s,baz=16,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**59.49**	**314**	P	P	17 53 06.0	-0.1
	0.3nm,0.7s,baz=86,slow=6.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**62.36**	**318**	P	P	17 53 24.9	-0.1
	0.3nm,0.4s,baz=92,slow=7.7,SNR=8.7						
BVAR	**Borovoye Array**	**67.52**	**321**	P	P	17 53 58.1	+0.5
	0.3nm,0.4s,baz=103,slow=7.5,SNR=6.4						
YKA	**Yellowknife Ar**	**78.50**	**28**	P	P	17 55 00.8	+0.1
	0.1nm,0.4s,baz=286,slow=5.5,SNR=3.5						
FINES	**FINESS Array B**	**87.93**	**335**	P	P	17 55 47.0	-0.9
	0.3nm,0.3s,baz=64,slow=4.4,SNR=3.9						

*ISCJB **14** 17:45:56.8±0.8, 32°.96N±0°.10×97°.2E±0°.2, h10km, mb3.2/4, Error ellipse: s-maj=28.8km s-min=11.6km az=162.8*

*IDC **14** 17:45:57.1±1.2, 33°.00N×97°.16E, h0km, mb3.2/4, mb1 3.4/7, mb1mx3.3/29, mbtmp3.3/7, ML3.1/3, Error ellipse: s-maj=69.7km s-min=19.1km az=63.0*

*BJI **14** 17:46:02.1, 32°.89N×97°.20E, h11km, ML2.9/6*

ISC 14 17:45:58.8±1.0, 32°.94N±0°.08×97°.1E±0°.2, h10km, n8, σ0s67/7, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.83**	**18**	*e*P	**Pg**	**17 48 10.3**	**+0.7**
GTA				pP	pP	17 48 13.8	
GTA				sP	sP	17 48 16.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.53**	**173**	Pn	**Pn**	**17 49 25.1**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=343,slow=12,SNR=9.5						
SONM	**Songino Array**	**16.47**	**23**	Pn	**Pn**	**17 49 49.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=213,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**17.84**	**325**	P	**Pn**	**17 50 07.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=8.1						
KURBB	**Kurchatov Arra**	**22.31**	**328**	P	**P**	**17 50 56.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=137,slow=11,SNR=4.4						
ZALV	**Zalesovo Beam**	**22.73**	**341**	P	P	17 50 59.8	-1.0
	comp=Z,0.1nm,0.3s,baz=143,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**63.52**	**140**	P	**P**	**17 56 29.1**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=308,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**66.37**	**143**	P	**P**	**17 56 47.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=325,slow=6.3,SNR=15						

IDC 14 18:08:10.4±1.6, 33°.08N×97°.40E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.1/28, mbtmp3.1/4, ML2.9/1, Error ellipse: s-maj=129.3km s-min=25.3km az=59.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.62**	**174**	Pn	Pn	18 11 38.4	-0.3
	baz=350,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**17.90**	**324**	P	P	18 12 21.3	-0.3
	0.0nm,0.3s,baz=136,slow=14,SNR=5.2						
KURBB	**Kurchatov Arra**	**22.36**	**327**	P	P	18 13 09.8	-0.2
	0.5nm,0.9s,baz=131,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**66.29**	**143**	P	P	18 19 00.8	0.0
	0.2nm,0.8s,baz=326,slow=6.3,SNR=6.7						

*ISCJB **14** 18:13:30.3±0.4, 22°.27S±0°.04×68°.73W±0°.06, h110km±4km, mb4.0/7, Error ellipse: s-maj=10.2km s-min=6.3km az=158.7*

*IDC **14** 18:13:31.8±0.9, 22°.39S×68°.59W, h104km±7km, mb3.7/8, mb1 3.8/10, mb1mx3.6/33, mbtmp4.0/10, Error ellipse: s-maj=21.9km s-min=18.7km az=69.0*

*NEIC **14** 18:13:31.6, 22°.27S×68°.80W, h101km, mb4.3/1, After GUC.*

*GUC **14** 18:13:31.6±0.5, 22°.27S×68°.80W, h101km±3km, ML4.5*

ISC 14 18:13:31.2±0.6, 22°.32S±0°.04×68°.77W±0°.05, h104km±5km, n44, σ1s27/62, mb4.1/7, 14C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.32**	**204**	*e*P	**Pn**	**18 13 47.1**	**+0.4**
LVC				*e*S	**Sn**	**18 13 58.0**	**-0.3**
LVC	**Limon Verde**	**0.32**	**204**	*e*P	**Pn**	**18 13 47.1**	**+0.4**
LVC				S	**Sn**	**18 13 58.0**	**-0.3**
PB04	**IPOC Station P**	**0.67**	**274**	*e*P	Pn	18 13 55.5	+6.8
PB04				*e*S	Sn	18 14 13.9	+12
PB04				AML	AML	18 14 17.1	
	comp=E,6μm,0.5s						
PB09	**IPOC Station P**	**0.68**	**320**	*e*P	**Pn**	**18 13 49.3**	**+0.2**
PB09				*e*S	**Sn**	**18 14 01.3**	**-1.1**
PB09				AML	AML	18 14 03.6	
	comp=E,32μm,0.5s						
PB09	**IPOC Station P**	**0.68**	**320**	*e*P	**Pn**	**18 13 49.3**	**+0.2**
PB09				S	**Sn**	**18 14 01.3**	**-1.1**
SPCH	**San Pedro de A**	**0.79**	**138**	*e*P	**Pn**	**18 13 51.4**	**+1.3**
SPCH				*e*S	**Sn**	**18 14 06.5**	**+2.1**
SPCH	**San Pedro de A**	**0.79**	**138**	*e*P	**Pn**	**18 13 51.4**	**+1.3**
SPCH				*e*S	**Sn**	**18 14 06.5**	**+2.1**
PB06	**IPOC Station P**	**0.83**	**242**	*e*P	**Pn**	**18 13 51.0**	**+0.6**
PB06				*e*S	**Sn**	**18 14 05.7**	**+0.8**
PB06				AML	AML	18 14 06.7	
	comp=N,10μm,0.5s						
PB06	**IPOC Station P**	**0.83**	**242**	*e*P	**Pn**	**18 13 51.0**	**+0.6**
PB06				*e*S	**Sn**	**18 14 05.7**	**+0.8**
MACH	**Maria Elena**	**0.92**	**277**	*e*P	**Pn**	**18 13 51.5**	**+0.2**
MACH				*i* S	**Sn**	**18 14 06.7**	**+0.1**
MACH	**Maria Elena**	**0.92**	**277**	*e*P	**Pn**	**18 13 51.5**	**+0.2**
MACH				*i* S	**Sn**	**18 14 06.7**	**+0.1**
PB07	**IPOC Station P**	**1.19**	**299**	*e*P	**Pn**	**18 13 54.5**	**+0.3**
PB07				*e*S	**Sn**	**18 14 11.7**	**+0.1**
PB07				AML	AML	18 14 12.5	
	comp=N,13μm,0.9s						
PB07	**IPOC Station P**	**1.19**	**299**	*e*P	**Pn**	**18 13 54.5**	**+0.3**
PB07				*e*S	**Sn**	**18 14 11.7**	**+0.1**
PB01	**IPOC Station P**	**1.43**	**332**	*e*P	**Pn**	**18 13 56.9**	**-0.1**
PB01				*e*S	**Sn**	**18 14 16.1**	**-0.4**
PB01				AML	AML	18 14 17.5	
	comp=N,5μm,0.3s						
PB01	**IPOC Station P**	**1.43**	**332**	*e*P	**Pn**	**18 13 56.9**	**-0.1**
PB01				*e*S	**Sn**	**18 14 16.1**	**-0.4**
PATCX	**Punta Patache**	**1.97**	**319**	*e*P	**Pn**	**18 14 03.2**	**-0.4**
PATCX				*e*S	**Sn**	**18 14 28.2**	**-0.2**
PATCX				AML	AML	18 14 32.5	
	comp=N,6μm,0.5s						
PB10	**IPOC Station P**	**2.03**	**234**	*e*P	**Pn**	**18 14 05.3**	**+1.0**
PB10				*e*S	**Sn**	**18 14 30.7**	**+1.0**
PB10				AML	AML	18 14 40.9	
	comp=E,8μm,0.5s						
ANCH	**Antofagasta**	**2.03**	**228**	*e*P	Pn	18 14 00.6	-3.7
ANCH	**Antofagasta**	**2.03**	**228**	P	Pn	18 14 00.6	-3.7
HMBC	**Humberstone**	**2.28**	**333**	*e*P	**Pn**	**18 14 07.0**	**-0.8**
HMBC				*e*S	**Sn**	**18 14 35.0**	**-0.7**
HMBC				AML	AML	18 14 36.3	
	comp=E,2μm,0.6s						
HMBC	**Humberstone**	**2.28**	**333**	*e*P	**Pn**	**18 14 07.0**	**-0.8**
HMBC				*e*S	**Sn**	**18 14 35.0**	**-0.7**
PB11	**IPOC Station P**	**2.68**	**342**	*e*P	**Pn**	**18 14 12.0**	**-0.9**
PB11				AML	AML	18 14 52.2	
	comp=E,7μm,0.4s						
PB11	**IPOC Station P**	**2.68**	**342**	P	**Pn**	**18 14 12.0**	**-0.9**
PSGC	**Pisagua**	**2.99**	**335**	*e*P	**Pn**	**18 14 15.1**	**-1.9**
PSGC	**Pisagua**	**2.99**	**335**	P	**Pn**	**18 14 15.1**	**-1.9**
MNMC	**Minimini**	**3.27**	**346**	*e*P	**Pn**	**18 14 20.1**	**-0.7**
MNMC	**Minimini**	**3.27**	**346**	P	**Pn**	**18 14 20.1**	**-0.7**
LPAZ	**La Paz**	**6.03**	**6**	P	**Pn**	**18 14 59.7**	**+1.2**
	comp=E,1.6nm,0.3s,baz=226,slow=5.6,SNR=27						
LPAZ	**La Paz**	**6.03**	**6**	P	**Pn**	**18 15 00.2**	**+1.6**
	comp=E,9.7nm,0.4s						
LCO	**Las Campanas**	**6.89**	**194**	*e*P	**Pn**	**18 15 07.1**	**-2.7**
LCO	**Las Campanas**	**6.89**	**194**	P	**Pn**	**18 15 07.1**	**-2.7**
CFAA	**Coronel Fontan**	**9.26**	**177**	P	**Pn**	**18 15 41.2**	**-0.6**
	comp=E,0.2nm,0.3s,baz=0.9,slow=16,SNR=5.8						
CFAA				S	**Sn**	**18 17 19.4**	**-4.8**
	comp=E,0.1nm,0.3s,baz=222,slow=17,SNR=2.4						
SIV	**San Ignacio**	**9.62**	**50**	P	**Pn**	**18 15 43.6**	**-3.2**
	comp=E,9.0nm,0.3s,baz=255,slow=12,SNR=76						
SIV				S	Sn	18 17 23.7	-9.4
	comp=E,0.2nm,0.3s,baz=323,slow=23,SNR=6.2						
BDFB	**Brasilia**	**20.71**	**75**	P	**P**	**18 18 02.0**	**-1.4**
	comp=E,4.1nm,0.5s,baz=236,slow=11,SNR=4.4						
RCBR	**Riachuelo**	**35.72**	**68**	P	**P**	**18 20 19.5**	**-0.7**
	comp=E,5.7nm,0.6s,baz=236,slow=13,SNR=5.7						
TXAR	**Lajitas Array**	**61.37**	**325**	P	**P**	**18 23 37.8**	**+1.3**
	comp=E,0.4nm,0.6s,baz=139,slow=8.0,SNR=4.6						
SNAA	**Sanae**	**61.47**	**161**	P	**P**	**18 23 36.1**	**-0.4**
	comp=E,1.1nm,1.0s,baz=300,slow=14,SNR=4.3						
DBIC	**Dimbokro**	**68.85**	**73**	P	**P**	**18 24 24.8**	**-0.2**
	comp=E,2.8nm,0.7s,baz=214,slow=7.7,SNR=4.9						
PDAR	**Pinedale Array**	**74.88**	**330**	P	**P**	**18 25 02.1**	**+1.4**
	comp=E,0.3nm,0.5s,baz=144,slow=6.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.51**	**70**	P	**P**	**18 25 15.7**	**-0.2**
	comp=E,1.4nm,0.3s,baz=255,slow=5.2,SNR=31						
TORD				pP	**pP**	**18 25 42.7**	**+0.1**
	comp=E,1.8nm,0.7s,baz=248,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar**	**92.00**	**341**	P	**P**	**18 26 28.7**	**+0.9**
	comp=E,0.6nm,0.6s,baz=135,slow=4.8,SNR=15						
YKA				pP	**pP**	**18 26 56.2**	**+1.1**
	comp=E,0.2nm,0.6s,baz=137,slow=4.5,SNR=3.4						
ASAR	**Alice Springs**	**129.25**	**207**	PKP	**PKPdf**	**18 32 28.2**	**+0.1**
	comp=E,0.2nm,0.4s,baz=133,slow=1.7,SNR=8.0						
WRA	**Warramunga Arr**	**132.31**	**210**	PKP	**PKPdf**	**18 32 34.5**	**+0.6**
	comp=E,0.3nm,0.4s,baz=150,slow=1.6,SNR=6.6						
MKAR	**Makanchi Array**	**146.21**	**37**	PKPbc	**PKPbc**	**18 32 59.7**	**+0.1**
	comp=E,0.6nm,0.8s,baz=312,slow=3.2,SNR=6.7						
MKAR				pPKPbc	pPKPbc	18 33 27.1	-0.5
	comp=E,0.3nm,0.6s,baz=317,slow=3.5,SNR=2.5						

*ISCJB **14** 18:16:59.5±0.8, 33°.19N±0°.07×96°.44E±0°.10, h10km, mb3.6/4, Error ellipse: s-maj=12.1km s-min=10.1km az=21.1.*

*IDC **14** 18:16:60.0±1.1, 33°.04N×96°.07E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/47, mbtmp3.4/8, ML3.0/4, Error ellipse: s-maj=55.5km s-min=18.4km az=60.0*

ISC 14 18:17:02.6±1.1, 33°.2N±0°.1×96°.3E±0°.1, h10km, n17, σ1s34/15, mb3.6/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**9.49**	**234**	*e*P	**Pn**	**18 19 20.8**	**+1.2**
ODAN	**Odare**	**10.02**	**233**	*e*P	**Pn**	**18 19 27.6**	**+0.7**
	5.8nm,0.4s						
GUN	**Gumba**	**10.46**	**242**	*e*P	**Pn**	**18 19 35.4**	**+2.4**
	6.2nm,0.5s						
KKN	**Kakani**	**10.97**	**243**	*e*P	**Pn**	**18 19 40.7**	**+0.8**
PKI	**Pulchoki**	**10.99**	**242**	*e*P	**Pn**	**18 19 40.8**	**+0.5**
	5.8nm,0.6s						
PKIN	**Phulchoki**	**11.00**	**242**	*e*P	**Pn**	**18 19 41.2**	**+0.9**
	4.0nm,0.6s						
GKN	**Gorkha**	**11.35**	**246**	*e*P	**Pn**	**18 19 45.5**	**+0.5**
	3.9nm,0.5s						
DANN	**Dangsing**	**11.86**	**249**	*e*P	**Pn**	**18 19 52.1**	**0.0**
	7.9nm,0.7s						
KOLN	**Koldanda**	**12.26**	**247**	*e*P	Pn	18 19 55.9	-1.6
	3.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.90**	**170**	Pn	Pn	18 20 29.9	-3.5
	0.0nm,0.3s,baz=344,slow=9.2,SNR=2.6						
SONM	**Songino Array**	**16.45**	**25**	Pn	**Pn**	**18 20 55.7**	**+2.2**
	0.1nm,0.3s,baz=208,slow=15,SNR=3.3						
MKAR	**Makanchi Array**	**17.26**	**326**	P	**Pn**	**18 21 03.2**	**-0.5**
	0.0nm,0.3s,baz=140,slow=12,SNR=6.5						
AAK	**Ala-Archa**	**19.58**	**305**	P	**P**	**18 21 29.2**	**-1.7**
	0.0nm,0.3s,baz=131,slow=9.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**21.76**	**328**	P	**P**	**18 21 53.0**	**-1.1**
	2.7nm,0.3s,baz=138,slow=9.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**22.27**	**342**	P	**P**	**18 21 59.9**	**+0.2**
	0.2nm,0.2s,baz=163,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**64.12**	**140**	P	**P**	**18 27 36.2**	**-1.0**
	0.4nm,0.9s,baz=338,slow=7.0,SNR=3.1						
ASAR	**Alice Springs**	**66.95**	**143**	P	**P**	**18 27 54.5**	**-1.1**
	0.5nm,1.0s,baz=325,slow=6.4,SNR=4.0						

*CSEM **14** 18:18:13.4±0.5, 36°.83N×22°.13E, h20km, MD2.6, Error ellipse: s-maj=13.0km s-min=7.4km az=35.0*

ATH 14 18:18:13.7, 36°.83N×22°.13E, h19km±4km, MD2.6/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.32**	**282**	*e*PB	Pg	18 18 20.6	-0.1
PYL	**PYLOS**	**0.32**	**282**	*e*Pb	Pg	18 18 20.6	-0.1
ITM	**Ithomi**	**0.39**	**335**	*e*PB	Pg	18 18 21.3	-0.6
ITM				*e*SB	Sg	18 18 27.5	+0.1
ITM	**Ithomi**	**0.39**	**335**	*e*Pb	Pg	18 18 21.3	-0.6
ITM				*e*Sb	Sg	18 18 27.5	+0.1
VLI	**Veliai**	**0.66**	**100**	*e*PB	Pb	18 18 26.3	-0.2
VLI				*e*SN	Sg	18 18 36.3	+0.7
VLI	**Veliai**	**0.66**	**100**	*e*Pb	Pb	18 18 26.3	-0.2
VLI				*e*Sn	Sg	18 18 36.3	+0.7
AMT	**Artemida-Makis**	**0.78**	**334**	*e*PN	Pb	18 18 28.5	-0.2
AMT				*e*SN	Sg	18 18 40.0	+0.5
AMT	**Artemida-Makis**	**0.78**	**334**	*e*Pn	Pb	18 18 28.5	-0.2
AMT				*e*Sn	Sg	18 18 40.0	+0.5
KYTH	**Kithira**	**0.91**	**127**	*e*PN	Pb	18 18 31.2	+0.2
KYTH	**Kithira**	**0.91**	**127**	*e*Pn	Pb	18 18 31.2	+0.2
DRO	**Drossia**	**1.17**	**344**	*e*PN	Pg	18 18 36.1	-0.3
DRO	**Drossia**	**1.17**	**344**	*e*Pn	Pg	18 18 36.1	-0.3

IDC 14 18:19:15.5±336.0, 56°.91N×32°.09E, h0km, Error ellipse: s-maj=146.1km s-min=72.0km az=100.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.83**	**92**	*i*		18 38 10.0	
	baz=275,slow=305,SNR=5.9						
I31KZ	**AKTYUBINSK INF**	**16.63**	**102**	*i*		20 02 00.0	
	baz=304,slow=318,SNR=0.5						
I48TN	**KESRA INFRASON**	**26.08**	**226**	*i*		20 59 00.0	
	baz=27,slow=330,SNR=0.4						
I46RU	**ZALESOVO INFRA**	**29.45**	**73**	*i*		21 17 50.0	
	baz=297,slow=336,SNR=0.7						

*IDC **14** 18:26:06.5±2.9, 2°.19N×96°.52E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/46, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=114.2km s-min=20.7km az=61.0*

*ISCJB **14** 18:26:07.9±0.9, 2°.05N±0°.05×96°.28E±0°.07, h28km, mb3.5/5, Error ellipse: s-maj=10.6km s-min=7.3km az=162.0*

*DJA **14** 18:26:10.2±0.8, 2°.N±4°×9°6E±°, h20km±6km, M3.8/3, mb4.4/2, MLv3.6/3*

ISC 14 18:26:10.6±1.1, 2°.15N±0°.07×96°.40E±0°.09, h28km, n18, σ1s08/16, mb3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.26**	**344**	P	**Pb**	**18 26 17.3**	**-0.1**
TPTI		**1.35**	**35**	P	**Pn**	**18 26 33.0**	**-0.5**
TPTI				S	**Sb**	**18 26 51.7**	**-0.3**
KCSI	**Kotacane, Aceh**	**1.93**	**45**	P	**Pn**	**18 26 42.0**	**+0.4**
KCSI				S	**Sb**	**18 27 07.6**	**-1.2**
TSI	**Tuntungan**	**2.54**	**58**	P	**Pn**	**18 26 51.2**	**+1.2**
LHMI	**Lhok Sumawe**	**3.10**	**10**	P	**Pn**	**18 26 58.6**	**+0.9**
LHMI				S	**Sn**	**18 27 36.5**	**+2.6**
MNSI	**Mandailing Nat**	**3.45**	**113**	P	**Pn**	**18 27 03.9**	**+1.4**
MNSI				S	**Sn**	**18 27 42.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.39**	**9**	Pn	**Pn**	**18 29 57.8**	**-1.0**
	0.1nm,0.3s,baz=200,slow=12,SNR=11						
H08S2	**Diego Garcia H**	**25.76**	**248**	T	T	18 58 11.1	
	baz=69,slow=75,SNR=204						
H08S3	**Diego Garcia H**	**25.76**	**248**	T	T	18 58 10.1	
	baz=69,slow=75,SNR=109						
H08S1	**Diego Garcia H**	**25.78**	**248**	T	T	18 58 11.3	
	baz=69,slow=75,SNR=204						
H01W3	**Cape Leeuwin H**	**40.43**	**157**	T	T	19 16 42.3	
	baz=333,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**40.44**	**157**	T	T	19 16 43.9	
	baz=333,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**40.44**	**157**	T	T	19 16 44.1	
	baz=333,slow=76,SNR=14						
WRA	**Warramunga Arr**	**43.22**	**122**	P	**P**	**18 34 08.9**	**-0.8**
	0.5nm,1.0s,baz=301,slow=9.2,SNR=3.1						
ASAR	**Alice Springs**	**44.60**	**127**	P	**P**	**18 34 20.4**	**-0.4**
	0.2nm,0.7s,baz=305,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**18 34 32.5**	**0.0**
	1.2nm,0.6s,baz=163,slow=8.4,SNR=12						
SONM	**Songino Array**	**46.32**	**9**	P	**P**	**18 34 33.7**	**-0.4**
	0.2nm,0.4s,baz=194,slow=7.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**52.50**	**351**	P	**P**	**18 35 21.1**	**+0.1**
	1.6nm,0.6s,baz=168,slow=6.9,SNR=11						

*IDC **14** 18:31:41.7±1.4, 33°.93N×24°.49E, h0km, mb3.7/6, mb1 3.6/9, mb1mx3.5/25, mbtmp3.5/9, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx2.2/40, Error ellipse: s-maj=30.7km s-min=21.5km az=120.0*

*CSEM **14** 18:31:49.3, 34°.24N×24°.76E, h30km, MD3.5*

*ATH **14** 18:31:49.3, 34°.24N×24°.76E, h30km±2km, MD3.5/8*

ISC 14 18:31:47.7±1.4, 34°.12N±0°.10×24°.75E±0°.06, h20km, n37, σ1s72/38, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.90**	**3**	*e*PN	**Pb**	**18 32 04.8**	**+0.2**
SIVA				*e*SN	**Sn**	**18 32 16.5**	**-1.2**
SIVA	**Sivas**	**0.90**	**3**	*e*Pn	**Pb**	**18 32 04.8**	**+0.2**
SIVA				*e*Sn	**Sn**	**18 32 16.5**	**-1.2**
IDI	**Anoyia**	**1.18**	**6**	Pn	**Pb**	**18 32 08.7**	**-0.7**
	7.7nm,0.3s,baz=179,slow=16,SNR=72						
IDI				Sn	**Sn**	**18 32 29.2**	**+4.6**
	19nm,0.3s,baz=163,slow=23,SNR=8.9						
IDI				LR	LR	18 32 35.3	
	comp=Z,23nm,20.1s,baz=258,slow=38						
LAST	**Lasithi**	**1.20**	**30**	*e*PN	**Pn**	**18 32 09.6**	**+0.1**
LAST				*e*SN	**Sb**	**18 32 25.0**	**0.0**
LAST	**Lasithi**	**1.20**	**30**	*e*Pn	**Pn**	**18 32 09.6**	**+0.1**
LAST				*e*Sn	**Sb**	**18 32 25.0**	**0.0**
NPS	**Neapolis**	**1.35**	**32**	*e*PN	**Pn**	**18 32 12.6**	**+1.2**
NPS	**Neapolis**	**1.35**	**32**	*e*Pn	**Pn**	**18 32 12.6**	**+1.2**
VAM	**Vamos**	**1.37**	**341**	*e*PB	**Pn**	**18 32 11.7**	**+0.1**
VAM	**Vamos**	**1.37**	**341**	*e*Pb	**Pn**	**18 32 11.7**	**+0.1**
KARN	**Karanos**	**1.46**	**332**	*e*PN	**Pn**	**18 32 13.6**	**+0.7**
KARN	**Karanos**	**1.46**	**332**	*e*Pn	**Pn**	**18 32 13.6**	**+0.7**
SANT	**Santorini**	**2.32**	**14**	*e*PB	**Pn**	**18 32 26.5**	**+1.7**
SANT	**Santorini

baz=2.5
WUAZ Wupatki 2.59 187 ePn Pn 18 59 27.4 +0.6
CTU Camp Tracy 2.66 347 ePn Pn 18 59 29.2 +1.5
O20A White River Ci 2.95 45 Sb Sg 19 00 17.9 -0.3
baz=3.1
O20A White River Ci 2.95 45 Pn Pb 18 59 35.3 -1.7
O20A ePg Pg 18 59 42.0 +1.9
TCUT Toone Canyon 3.04 354 ePn Pn 18 59 35.6 +2.7
W18A Petrified Fore 3.13 161 P Pn 18 59 34.9 +0.7
baz=3.1
W18A Petrified Fore 3.13 161 ePn Pn 18 59 35.1 +0.9
W18A ePg Pg 18 59 44.2 +0.6
BGU Big Grassy Mou 3.24 331 Pn Pn 18 59 35.7 0.0
BGU ePg Pg 18 59 46.0 +0.3
N20A Spence Gulch, 3.45 37 P Pb 18 59 43.9 -1.7
baz=3.6
R11A Troy Canyon, C 3.64 275 P Pn 18 59 40.3 -0.9
baz=3.5
R11A Sb Sb 19 00 35.5 +2.1
baz=3.5
R11A Troy Canyon, C 3.64 275 ePn Pn 18 59 40.2 -0.9
R11A eSg Sb 19 00 35.5 +2.1
X18A Snowflake 3.65 167 P Pn 18 59 41.8 +0.5
baz=3.6
X18A Sb Sb 19 00 35.2 +1.3
baz=3.6
X16A Lo Mia Camp, P 3.69 186 Pb Pb 18 59 49.9 +0.3
baz=3.6
SHPR Sheep Range 3.69 246 ePn Pn 18 59 41.4 -0.4
W13A Hualapai Mount 3.79 219 P Pn 18 59 42.7 -0.7
baz=3.7
W13A Sb Sb 19 00 38.5 +0.5
baz=3.7
HVU Hansel Valley 3.93 340 ePn Pn 18 59 45.8 +0.6
O22A Kremmling 4.02 58 Sb Sg 19 00 49.0 -3.6
baz=4.1
ELK Elko 4.23 310 Pn Pb 19 00 00.1 +1.2
0.5nm,0.3s,baz=190,slow=5.2,SNR=6.8
ELK Lg Lg 19 00 56.9
2.9nm,0.3s,baz=180,slow=20,SNR=12
TPNV Topopah Spring 4.34 256 P Pn 18 59 50.3 -0.5
baz=4.2
NEE2 Needles Airpor 4.43 223 Sb Sb 19 00 57.4 +1.4
baz=4.3
LDFC Landfair 4.48 229 ePn Pn 18 59 51.8 -1.0
LDFC ePg Pb 19 00 04.8 +1.7
ISCO Idaho Springs 4.51 66 Pn Pn 18 59 56.9 +3.6
ISCO ePg Pg 19 00 09.5 -0.6
ISCO eSg Sg 19 01 08.6 0.0
AHID Auburn Hatcher 4.67 359 Pn Pn 18 59 56.9 +1.6
BW06 Boulder Array 4.79 13 ePn Pn 18 59 59.2 +2.2
PDAR Pinedale Array 4.79 13 Pn Pn 18 59 59.3 +2.2
0.6nm,0.3s,baz=181,slow=10,SNR=23
PDAR Lg Lg 19 01 14.4
6.7nm,0.3s,baz=158,slow=24,SNR=5.9
ANMO Albuquerque 4.81 129 Pn Pn 18 59 59.0 +1.8
3.6nm,0.3s,baz=316,slow=12,SNR=39
ANMO Lg Lg 19 01 13.6
9.1nm,0.3s,baz=49,slow=19,SNR=7.2
LAZ Ladron 4.81 139 ePn Pn 18 59 59.1 +1.7
TPH Tonopah 4.93 272 Pn Pn 19 00 00.2 +1.3
TPH ePg Pg 19 00 15.3 -2.7
TPH eSg Sb 19 01 16.1 +5.6
Z14A Wintersburg 4.98 199 Sb Sb 19 01 14.1 +2.1
baz=4.9
GMRC Granite Mounta 5.02 230 P Pn 18 59 59.0 -1.1
baz=4.9
LENM Lemitar 5.08 139 ePn Pn 19 00 01.9 +0.8
LPM Los Pinos Moun 5.16 136 Pn Pn 19 00 02.3 +0.3
IRM Iron Mountain 5.18 222 Sb Sb 19 01 20.0 +2.4
baz=5.1
GSC Goldstone, Bar 5.45 241 Pn Pn 19 00 05.3 -0.6
DAC Darwin (Calif) 5.58 253 Pn Pn 19 00 08.2 +0.3
NV11 Mina Array Sit 5.66 276 ePg Pg 19 00 28.1 -3.9
K22A Casper 5.68 35 ePn Pn 19 00 11.9 +2.7
TUC Tucson 5.77 178 Pn Pn 19 00 09.2 -1.2
TUC ePg Pb 19 00 28.4 +3.4
NVAR Mina Array Bea 5.78 276 Pn Pn 19 00 15.4 +4.9
0.6nm,0.3s,baz=102,slow=14,SNR=6.9
NVAR Lg Lg 19 01 43.7
3.6nm,0.3s,baz=125,slow=41,SNR=4.3
HLID Hailey 6.05 336 Pn Pn 19 00 11.9 -2.4
121A Cookes Peak, D 6.13 154 ePb Pb 19 00 32.1 +0.9
121A ePg Pg 19 00 42.0 +0.9
121A eSg Sg 19 01 57.0 -3.5
H17A Grant Village 6.30 3 Pn Pn 19 00 18.4 +0.6
214A Organ Pipe Nat 6.30 194 ePg Pb 19 00 39.0 +4.9
PFO Pinyon Flats O 6.31 226 Pn Pn 19 00 24.9 +7.2
0.6nm,0.3s,baz=44,slow=16,SNR=2.4
PFO Lg Lg 19 02 01.2
2.1nm,0.3s,baz=307,slow=20,SNR=6.7
PFO Pinyon Flats O 6.31 226 Pn Pn 19 00 21.7 +3.9
PFO ePg Pb 19 00 39.8 +5.6
PFO eSg Sg 19 01 60.0 -6.2
PFO Lg Lg 19 02 01.2
MFID Camas Ranch 6.47 327 ePg Pg 19 00 43.1 -4.4
WAKR Walker 6.67 276 ePg Pb 19 00 45.4 +5.1
WAKR eSg Sg 19 02 11.0 -6.7
CMB Columbia Colle 7.42 272 ePg Pg 19 01 02.7 -3.1
CMB eSg Sg 19 02 33.0 -8.9
OGNE Ogallala 7.48 65 ePg Pg 19 01 06.9 +0.1
OGNE eSg Sg 19 02 45.3 +1.7
MSTX Muleshoe 7.82 119 ePg Pg 19 01 13.4 +0.1
RSSD Black Hills 7.98 39 ePn Pn 19 00 40.6 -0.2
RSSD ePg Pg 19 01 16.4 0.0
AMTX Amarillo 8.14 110 ePn Pn 19 00 38.3 -4.6
AMTX ePg Pg 19 01 16.4 -3.2
AMTX eSg Sg 19 03 03.5 -1.6
TXAR Lajitas Array 10.64 143 Pn Pn 19 01 22.9 +5.6
0.1nm,0.3s,baz=331,slow=10,SNR=9.4
TXAR Lg Lg 19 04 18.2
0.2nm,0.3s,baz=306,slow=32,SNR=3.7
TXAR LR LR 19 05 45.3
comp=Z,46nm,21.0s,baz=0.0,slow=39
NEW Newport 11.11 338 LR LR 19 05 32.6
comp=Z,17nm,19.6s,baz=192,slow=37
TKL Tuckaleechee C 21.87 88 P P 19 03 37.0 -0.7
1.6nm,0.4s,baz=274,slow=13,SNR=1.8
DLBC Dease Lake 23.82 335 LR LR 19 14 33.6
comp=Z,84nm,19.2s,baz=270,slow=40
YKA Yellowknife Ar 24.53 356 P P 19 04 04.9 +0.6
3.5nm,0.7s,baz=173,slow=9.7,SNR=77
ILAR Eielson Array 34.01 333 P P 19 05 29.2 +0.6
0.4nm,0.8s,baz=137,slow=6.9,SNR=4.5
ARCES ARCESS Array B 68.04 15 P P 19 09 43.5 -0.6
2.3nm,0.8s,baz=327,slow=6.5,SNR=6.7
AKASG Malin Array Be 84.91 24 P P 19 11 18.8 -1.2
0.3nm,0.4s,baz=353,slow=4.0,SNR=3.6
ZALV Zalesovo Beam 87.32 351 P P 19 11 31.6 -0.2
0.8nm,0.6s,baz=1.2,slow=3.3,SNR=6.8
SONM Songino Array 88.19 336 P P 19 11 36.0 -0.3
0.1nm,0.4s,baz=29,slow=3.3,SNR=2.9
BRVK Borovoye 89.21 359 eP P 19 11 41.4 +0.6
2.9nm,0.8s
MKAR Makanchi Array 94.66 351 P P 19 12 05.8 -0.4
0.4nm,0.7s,baz=4.3,slow=4.9,SNR=6.6
CMAR Chiang Mai Arr 117.11 328 PKP PKPdf 19 17 29.9 -0.9
0.2nm,0.6s,baz=350,slow=1.5,SNR=3.9
WRA Warramunga Arr 121.22 268 PKP PKPdf 19 17 37.6 -0.9
0.7nm,0.7s,baz=57,slow=2.0,SNR=4.6
ASAR Alice Springs 123.53 265 PKP PKPdf 19 17 41.7 -1.2
0.5nm,0.9s,baz=80,slow=3.3,SNR=5.2
VNDA Vanda 126.24 196 PKP PKPdf 19 17 46.4 -0.1
0.5nm,0.6s,baz=117,slow=2.3,SNR=3.4

*ISCJB **14** 19:14:38.5±0.5, 32.°64N±0.°03×115.°70W±0.°03, h27km±4km, Error ellipse: s-maj=5.7km s-min=4.2km az=5.1*
*NEIC **14** 19:14:38.9, 32.°56N×115.°69W, h14km, MD3.5(MEX), ML3.2(PAS), After PAS.*
NEIC Felt at El Centro, California.
*ECX **14** 19:14:39.7±0.7, 32.°59N×115.°72W, h3km, MD3.1, ML3.3*
*MEX **14** 19:14:41.0±1.0, 32.°75N×115.°71W, h16km±16km, MD3.5*
ISC 14 19:14:38.1±1.0, 32.°63N±0.°03×115.°70W±0.°03, h25km±10km, n18, σ0.°59/33, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RMX	La Rumorosa	0.32	266	eP		Pb		19 14 45.5	-0.1
RMX				eS		Sb		19 14 50.2	-0.6
CPBX	Cerro Prieto	0.39	122	eP		Pb		19 14 46.6	+0.1
CPBX				eS		Sb		19 14 52.9	+0.6
CPBX				⇓e				19 14 58.4	
CPBX	comp=N,12μm,0.3s				AML	AML		19 14 58.4	
CPBX				⇓e				19 14 58.7	
CPBX	comp=E,12μm,0.2s				AML	AML		19 14 58.7	
MBIG	Mexicali	0.47	117	eP		Pn		19 14 50.6	+1.4
MBIG				iS		Sn		19 14 56.6	-0.2
RDX	Rancho Dawling	0.73	197	eP		Pb		19 14 51.7	-0.5
RDX				⇑e				19 15 04.3	
RDX	comp=N,788nm,0.3s				AML	AML		19 15 04.3	
BAR	Barrett	0.82	274	ePg		Pn		19 14 54.2	0.0
BAR				eSg		Sb		19 15 05.0	+0.4
GLA	Glamis	0.85	60	ePg		Pb		19 14 54.0	-0.2
GLA				eSg		Sb		19 15 05.1	-0.1
CBX	Cerro Bola	0.88	249	eP		Pb		19 14 54.9	+0.2
CBX				iS		Sn		19 15 06.8	-0.2
CBX	Cerro Bola	0.88	249	eP		Pn		19 14 55.2	+0.2
CBX				eS		Sb		19 15 06.5	+0.5
CBX				⇓e				19 15 09.6	
CBX	comp=N,1μm,0.4s				AML	AML		19 15 09.6	
CBX	Cerro Bola	0.88	249	eP		Pb		19 14 54.9	+0.2
CBX				eS		Sb		19 15 05.5	-0.6
PFO	Pinyon Flats O	1.17	327	ePg		Pn		19 14 59.4	+0.3
PFO				eSg		Sn		19 15 14.1	-0.1
ZAX	El Zacaton	1.21	204	eP		Pb		19 15 00.6	+0.1
ZAX				eS		Sb		19 15 16.1	+0.4
ZAX				⇑e				19 15 18.1	
ZAX	comp=N,404nm,0.5s				AML	AML		19 15 18.1	
ECNX	Esteban Cantu	1.23	219	eP		Pb		19 15 01.1	+0.3
ECNX				eS		Sb		19 15 16.7	+0.4
PBX	Punta Banda	1.24	225	eP		Pb		19 15 01.3	+0.4
PBX				eS		Sb		19 15 17.1	+0.7
ECBX	El Chinero	1.27	154	eP		Pb		19 15 01.0	-0.4
SPIG	San Pedro Mart	1.59	173	iP		Pb		19 15 07.7	+0.7
SPIG				iS		Sb		19 15 27.1	+0.4
SPIG	San Pedro Mart	1.59	173	eP		Pn		19 15 04.0	-0.9
SPIG				eS		Sn		19 15 23.6	-1.2
SPX	San Pedro Mart	1.59	173	eP		Sb		19 15 35.5	+0.6
SPX				eS		Sn		19 15 23.7	-1.1
214A	Organ Pipe Nat	2.53	105	ePn		Pn		19 15 17.1	-0.5

*ISCJB **14** 19:15:15.4±1.5, 39.°83N±0.°08×43.°09E±0.°06, h10km, Error ellipse: s-maj=12.2km s-min=6.0km az=21.2*
*DDA **14** 19:15:17.9, 39.°79N×42.°90E, h7km, MD2.6*
ISC 14 19:15:16.0±1.8, 39.°82N±0.°09×43.°05E±0.°06, h10km, n5, σ1.°21/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.25	191	ePG		Pg		19 15 27.8	+6.6
AGRB				eSG		Sg		19 15 33.8	+9.0
EATA	Eleskirt	0.43	275	iP		Pg		19 15 25.4	+0.7
EATA				iS		Sg		19 15 28.9	-1.5
TUTA	Tutak	0.46	204	iP		Pg		19 15 25.2	+0.2
TUTA				iS		Sg		19 15 31.9	+0.7
CLDR	Caldiran	0.95	135	ePG		Pg		19 15 35.0	+0.6
CLDR				eSG		Sg		19 15 45.3	-1.5
EKAR	Karacoban	0.95	234	iP		Pn		19 15 36.3	+0.6
EKAR				iS		Sb		19 15 46.4	-1.1

*IDC **14** 19:15:43.7±2.2, 34.°32N×80.°51E, h0km, mb3.3/4, mb1 3.4/7, mb1mx3.2/28, mbtmpb3.2/7, ML2.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/28, Error ellipse: s-maj=90.3km s-min=20.9km az=66.0*
*ISCJB **14** 19:15:46.3±0.8, 34.°67N±0.°08×81.°1E±0.°2, h10km, mb3.2/4, MS2.7/1, Error ellipse: s-maj=31.0km s-min=6.9km az=161.3*
ISC 14 19:15:48.1±1.0, 34.°6N±0.°1×81.°1E±0.°2, h10km, n19, σ1.°80/18, mb3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DANN	Dangsing	6.67	159	eP		Pn		19 17 27.1	+0.6
PYUN	Piuthan	6.72	166	eP		Pn		19 17 27.6	+0.5
KOLN	Koldanda	7.18	162	eP		Pn		19 17 33.5	+0.2
	4.4nm,0.4s								
GKN	Gorkha	7.28	154	eP		Pn		19 17 36.6	+1.9
	5.9nm,0.3s								
KKN	Kakani	7.71	151	eP		Pn		19 17 43.1	+2.4
	2.9nm,0.5s								
PKIN	Phulchoki	7.95	151	eP		Pn		19 17 45.8	+1.8
	2.9nm,0.4s								
PKI	Pulchoki	7.96	151	eP		Pn		19 17 46.3	+2.1
	4.0nm,0.4s								
JIRN	Jiri	8.21	147	eP		Pn		19 17 50.1	+2.4
	4.9nm,0.3s								
RAMN	Ramite	9.01	147	eP		Pn		19 17 59.6	+1.1
	10nm,0.6s								
TAPN	Taplejung	9.22	140	eP		Pn		19 18 02.8	+1.4
	2.7nm,0.3s								
ODAN	Odare	9.45	143	eP		Pn		19 18 06.8	+2.2
	3.5nm,0.4s								
AAK	Ala-Archa	9.50	329	Pn		Pn		19 18 06.8	+1.6
	0.1nm,0.3s,baz=140,slow=7.9,SNR=2.3								
MKAR	Makanchi Array	12.17	4	Pn		Pn		19 18 41.7	+0.2
	0.0nm,0.3s,baz=183,slow=13,SNR=3.0								
ZALV	Zalesovo Beam	19.48	7	P		Pn		19 20 17.8	+1.5
	0.1nm,0.3s,baz=191,slow=14,SNR=2.6								
CMAR	Chiang Mai Arr	22.62	131	P		P		19 20 48.8	-0.4
	0.3nm,0.8s,baz=309,slow=4.1,SNR=4.4								
TLY	Talaya	23.52	37	LR		LR		19 31 57.0	
	comp=Z,26nm,19.1s,baz=102,slow=40								
WRA	Warramunga Arr	74.19	128	P		P		19 27 23.8	-1.4
	0.3nm,0.6s,baz=324,slow=5.6,SNR=3.7								
ASAR	Alice Springs	76.63	131	P		P		19 27 37.1	-2.1
	0.3nm,0.6s,baz=312,slow=5.8,SNR=7.3								
YKA	Yellowknife Ar	82.38	7	P		P		19 28 07.8	-2.2
	0.2nm,0.7s,baz=339,slow=5.6,SNR=4.1								

IDC 14 19:29:53.3±15.0, 5.°53N×124.°54E, h417km±177km, mb3.1/4, mb1 3.4/5, mb1mx2.9/37, mbtmp4.2/5, Error ellipse: s-maj=196.0km s-min=19.9km az=58.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	15.66	183	P		P		19 33 12.6	+0.2
	3.4nm,0.3s,baz=312,slow=2.8,SNR=12								
WRA	Warramunga Arr	27.09	159	P		P		19 35 00.1	-0.3
	0.8nm,0.6s,baz=338,slow=9.5,SNR=9.7								
ASAR	Alice Springs	30.43	163	P		P		19 35 29.8	+0.1
	1.6nm,0.3s,baz=339,slow=7.4,SNR=43								
STKA	Stephens Creek	40.60	157	P		P		19 36 54.9	0.0
	1.0nm,0.4s,baz=325,slow=9.3,SNR=6.2								
MKAR	Makanchi Array	54.84	326	P		P		19 38 42.4	-0.1
	0.3nm,0.3s,baz=120,slow=7.6,SNR=14								

*IDC **14** 20:01:16.8±3.2, 18.°78S×167.°33E, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.8/37, mbtmp4.0/7, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=61.3km s-min=36.2km az=94.0*
*ISCJB **14** 20:01:20.3±2.3, 18.°92S±0.°09×167.°2E±0.°3, h28km, mb3.9/5, MS3.2/1, Error ellipse: s-maj=40.9km s-min=11.8km az=173.7*
ISC 14 20:01:21.4±2.5, 18.°9S±0.°1×167.°3E±0.°3, h28km, n7, σ0.°57/8, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.22	193	Pn		Pn		20 02 09.9	-0.4
	5.2nm,0.3s,baz=302,slow=3.6,SNR=53								
DZM						Sn		20 02 47.9	+0.1
	10nm,0.3s,baz=321,slow=23,SNR=10								
CTA	Charters Tower	19.83	263	P		Pn		20 05 51.6	-0.2
	0.2nm,0.3s,baz=66,slow=12,SNR=3.7								
STKA	Stephens Creek	26.45	236	P		P		20 06 57.1	+1.0
	3.1nm,1.1s,baz=62,slow=9.2,SNR=2.9								
WRA	Warramunga Arr	31.03	263	P		P		20 07 36.8	-0.3
	0.4nm,0.6s,baz=90,slow=8.8,SNR=5.6								
ASAR	Alice Springs	31.39	255	P		P		20 07 40.5	+0.4
	4.3nm,0.7s,baz=83,slow=9.1,SNR=52								
ASAR				LR		LR		20 20 02.3	
	comp=Z,51nm,18.8s,baz=134,slow=36								
BATI	Baumata	42.97	275	P		P		20 09 18.2	-0.4
	3.5nm,0.3s,baz=108,slow=20,SNR=4.5								
SONM	Songino Array	85.85	324	P		P		20 13 58.7	+0.1
	0.1nm,0.3s,baz=139,slow=6.8,SNR=4.0								

*IDC **14** 20:03:02.1±4.6, 19.°74N×143.°56E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/58, mbtmpb3.6/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/36, Error ellipse: s-maj=131.7km s-min=42.9km az=13.0*
ISC 14 20:03:12.6±2.8, 20.°8N±0.°5×143.°9E±0.°3, h35km, n17, σ1.°06/16, mb3.5/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	21.64	324	P		P		20 08 01.1	+1.3
	1.4nm,0.6s,baz=142,slow=9.1,SNR=6.3								
SONM	Songino Array	40.46	321	P		P		20 10 47.7	-0.3
	0.4nm,0.7s,baz=125,slow=7.6,SNR=3.6								
TLY	Talaya	43.89	325	LR		LR		20 28 27.3	
	comp=Z,17nm,18.4s,baz=30,slow=34								
TAPN	Taplejung	51.35	289	eP		P		20 12 15.3	+1.1
	5.0nm,0.6s								
ODAN	Odare	51.68	288	eP		P		20 12 17.8	+1.1
	4.3nm,0.7s								
RAMN	Ramite	52.37	289	eP		P		20 12 22.7	+0.9
	2.9nm,0.5s								
JIRN	Jiri	52.66	289	eP		P		20 12 24.9	+0.8
	6.5nm,0.6s								
PKIN	Phulchoki	53.37	289	eP		P		20 12 29.2	0.0
	1.4nm,0.6s								
KKN	Kakani	53.45	290	eP		P		20 12 29.8	+0.1
GKN	Gorkha	53.99	290	eP		P		20 12 34.6	+1.0
	2.7nm,0.4s								
DANN	Dangsing	54.72	291	eP		P		20 12 40.5	+1.4
	15nm,0.4s								
KOLN	Koldanda	54.93	290	eP		P		20 12 41.0	+0.5
	1.4nm,0.3s								
ZALV	Zalesovo Beam	55.34	322	P		P		20 12 41.8	-0.9
	1.1nm,0.8s,baz=108,slow=4.8,SNR=5.2								
PYUN	Piuthan	55.43	290	eP		P		20 12 44.5	+0.4
	6.2nm,0.4s								
MKAR	Makanchi Array	55.80	313	P		P		20 12 44.9	-1.3
	0.2nm,0.5s,baz=91,slow=7.5,SNR=3.3								
YKA	Yellowknife Ar	76.98	28	P		P		20 15 02.5	+1.0
	0.1nm,0.4s,baz=291,slow=5.8,SNR=4.3								
FINES	FINESS Array B	84.30	335	P		P		20 15 39.1	-1.5
	0.8nm,0.5s,baz=68,slow=5.1,SNR=9.1								

IDC 14 20:04:19.2±7.9, 5.°56S×152.°46E, h97km±55km, mb3.5/2, mb1 3.7/3, mb1mx3.1/36, mbtmp3.8/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/21, Error ellipse: s-maj=109.6km s-min=48.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.49	234	P		P		20 05 52.6	+0.3
	1.2nm,0.3s,baz=49,slow=9.3,SNR=4.3								
PMG				S		Sn		20 07 04.9	0.0
	2.9nm,0.3s,baz=127,slow=15,SNR=6.2								
WRA	Warramunga Arr	22.69	229	P		P		20 09 12.5	-0.5
	1.2nm,0.4s,baz=54,slow=9.8,SNR=17								
ASAR	Alice Springs	25.36	223	P		P		20 09 38.1	+0.5
	1.7nm,0.8s,baz=59,slow=9.9,SNR=10								
RAO	Raoul Island	36.59	134	LR		LR		20 22 37.3	
	comp=Z,186nm,21.7s,baz=274,slow=30								
TORD	Torodi Ar. Bea	150.21	287	PKPbc		PKPbc		20 23 59.7	-0.4
	0.3nm,0.8s,baz=75,slow=1.6,SNR=3.4								

IDC 14 20:04:47.0±2.3, 3.°77N×127.°30E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/44, mbtmp3.7/4, Error ellipse: s-maj=216.0km s-min=23.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.56	164	P		P		20 10 08.4	-0.4
	0.7nm,0.4s,baz=344,slow=9.4,SNR=7.6								
ASAR	Alice Springs	28.02	167	P		P		20 10 40.0	0.0
	0.3nm,0.3s,baz=340,slow=11,SNR=4.1								
STKA	Stephens Creek	37.97	160	P		P		20 12 06.8	+0.1
	0.8nm,0.3s,baz=346,slow=9.2,SNR=8.1								
MKAR	Makanchi Array	57.84	325	P		P		20 14 40.6	0.0
	0.5nm,0.5s,baz=120,slow=7.8,SNR=11								

*ISCJB **14** 20:08:20.1±0.9, 12.°67S±0.°07×166.°5E±0.°2, h100km, mb3.9/9, Error ellipse: s-maj=26.7km s-min=10.2km az=174.9*
*IDC **14** 20:08:23.3±5.3, 12.°66S×166.°64E, h120km±47km, mb3.7/9, mb1 3.9/10, mb1mx3.7/38, mbtmp4.1/10, Error ellipse: s-maj=28.6km s-min=28.0km az=47.0*
ISC 14 20:08:21.6±1.0, 12.°62S±0.°09×166.°6E±0.°2, h100km, n13, σ1.°67/14, mb4.1/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.40	181	P		Pn		20 10 35.7	+1.4
	13nm,0.3s,baz=5.2,slow=6.9,SNR=215								
DZM				S		Sn		20 12 16.5	-1.6
	0.9nm,0.3s,baz=127,slow=20,SNR=3.2								
STKA	Stephens Creek	29.91	226	P		P		20 14 21.2	+1.2
	5.3nm,0.8s,baz=37,slow=9.6,SNR=14								
WRA	Warramunga Arr	31.76	253	P		P		20 14 36.3	-0.2
	0.8nm,0.8s,baz=83,slow=8.8,SNR=4.8								
ASAR	Alice Springs	32.86	246	P		P		20 14 45.8	-0.5
	2.0nm,0.6s,baz=71,slow=9.6,SNR=37								
VNDA	Vanda	64.94	181	P		P		20 18 49.5	-0.6
	1.9nm,0.8s,baz=331,slow=5.8,SNR=8.0								
CMAR	Chiang Mai Arr	73.50	294	P		P		20 19 44.7	+0.8
	1.0nm,1.1s,baz=115,slow=3.9,SNR=5.1								
CMAR				pP		pP		20 20 09.6	+0.1
	0.6nm,0.8s,baz=127,slow=4.8,SNR=4.3								
SONM	Songino Array	80.42	324	P		P		20 20 22.6	+0.3
	0.2nm,0.5s,baz=131,slow=3.8,SNR=4.1								
MKAR	Makanchi Array	95.23	317	P		P		20 21 33.0	-1.1
	1.0nm,0.6s,baz=93,slow=6.0,SNR=16								
ZALV	Zalesovo Beam	95.31	324	P		P		20 21 32.6	-1.7
	0.6nm,0.6s,baz=110,slow=5.3,SNR=3.6								
YKA	Yellowknife Ar	95.99	27	P		P		20 21 37.6	+0.4
	0.2nm,0.7s,baz=249,slow=4.6,SNR=2.8								
ARCES	ARCESS Array B	118.06	346	PKP		PKPdf		20 26 53.3	-2.9
	1.5nm,0.8s,baz=90,slow=3.6,SNR=3.7								
KEST	Kesra	149.16	322	PKPbc		PKPdf		20 27 57.8	+3.1
	1.6nm,0.7s,baz=15,slow=21,SNR=5.4								
TORD	Torodi Ar. Bea	165.26	274	PKPab		PKPab		20 29 11.3	-2.0
	1.2nm,0.9s,baz=80,slow=5.5,SNR=6.1								

*ISCJB **14** 20:11:17.2±0.4, 59.°87N±0.°03×153.°28W±0.°09, h136km±4km, mb3.7/2, Error ellipse: s-maj=8.0km s-min=4.9km az=27.4*
*NEIC **14** 20:11:19.9, 59.°90N×153.°35W, h120km, MG2.8(AEIC), After AEIC.*
*IDC **14** 20:11:26.7±5.6, 60.°61N×153.°07W, h179km±42km, mb3.4/2, mb1 3.1/5, mb1mx2.8/64, mbtmp3.6/5, Error ellipse: s-maj=52.4km s-min=28.6km az=40.0*
ISC 14 20:11:17.6±0.9, 59.°89N±0.°04×153.°30W±0.°05, h134km±6km, n56, σ1.°03/64, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILS	Iliamna Low So	0.14	58	P		Pn		20 11 35.9	+0.1
ILW	Iliamna West	0.19	25	P		Pn		20 11 35.8	-0.3
OPT	Oil Point	0.24	171	P		Pn		20 11 36.3	+0.3
AUL	Augustine Lava	0.51	188	P		Pn		20 11 37.6	+0.5
AUL				S		Sn		20 11 51.9	+0.1
AUH	Augustine H	0.53	188	P		Pn		20 11 37.7	+0.4
AUP	Augustine Pinn	0.53	187	P		Pn		20 11 37.8	+0.5
AUI	Augustine Isla	0.56	187	P		Pn		20 11 37.7	+0.3
RDWB	Redoubt West	0.65	21	P		Pn		20 11 38.0	-0.1
RDWB				S		Sn		20 11 52.6	-1.1
NCT	North Crescent	0.70	15	P		Pn		20 11 38.6	+0.2
DFR	Drift River	0.

SVW2	Sparrevohn	1.66	318	P		Pn	20 11 47.5	-0.2
SLKM	Skilak Lake	1.66	67	P		Pn	20 11 49.2	+1.5
STLK	Strandline Lak	1.77	23	P		Pn	20 11 50.0	+0.9
KVTA	Katmai Vly 10	1.83	215	P		Pn	20 11 50.4	+0.7
KAKN	Katmai Knife C	1.83	210	P		Pn	20 11 50.5	+0.7
KAKN				S		Sn	20 12 14.2	-0.3
KCE	Katmai Mt Cerb	1.91	211	P		Pn	20 11 52.4	+1.6
SEW	Seward	1.95	82	P		Pn	20 11 51.6	+0.6
KABR	Katmai Barrier	1.96	207	P		Pn	20 11 52.0	+0.7
FIB	Fire Island	2.01	49	P		Pn	20 11 53.8	+2.0
SUA	Susitna One	2.02	37	P		Pn	20 11 53.0	+0.9
RC01	Rabbit Creek A	2.14	54	P		Pn	20 11 54.1	+0.8
KDAK	Kodiak Island	2.14	170	P		Pn	20 11 53.1	-0.3
SKT	Skwentna	2.27	22	P		Pn	20 11 56.1	+1.1
PMR	Palmer	2.67	48	P		Pn	20 12 00.7	+0.7
OHAK	Old Harbor	2.67	180	P		Pn	20 11 59.4	-0.6
PPLA	Purkeypile	3.07	10	P		Pn	20 12 07.3	+2.0
TT01	Tatalina	3.30	338	P		Pn	20 12 08.3	+0.1
SCM	Sheep Creek Mo	3.51	54	P		Pn	20 12 11.7	+0.7
KTH	Kantishna Hill	3.85	16	P		Pn	20 12 16.1	+0.7
TRF	Thorofare Moun	3.85	21	P		Pn	20 12 16.3	+0.7
KLU	Klutina	3.97	63	P		Pn	20 12 17.0	0.0
RND	Reindeer	4.12	29	P		Pn	20 12 20.3	+1.3
MCK	McKinley	4.38	26	P		Pn	20 12 23.4	+1.1
WRH	Wood River Hil	5.21	26	P		Pn	20 12 33.6	+0.2
MLY	Manley	5.30	12	P		Pn	20 12 36.0	+1.4
CCB	Clear Creek Bu	5.42	26	P		Pn	20 12 36.3	+0.1
HDA	Harding Lake	5.42	31	P		Pn	20 12 36.6	+0.4
PS08	TAPS Pump Stn8	5.57	30	P		Pn	20 12 38.5	+0.3
MDM	Murphy Dome	5.61	23	P		Pn	20 12 39.1	+0.3
IL1	Eielson Array	5.74	29	P		Pn	20 12 40.6	+0.1
ILAR	Eielson Array	5.74	29	P		Pn	20 12 40.5	0.0
	0.7nm,0.3s,baz=213,slow=13,SNR=38							
ILAR				S		Sn	20 13 40.5	-4.7
	0.7nm,0.3s,baz=218,slow=22,SNR=7.4							
ILB	Eielson Array	5.74	29	P		Pn	20 12 40.6	+0.1
SCRK	Sand Creek	6.01	43	P		Pn	20 12 45.3	+1.0
IM3	Indian Mountai	6.12	358	P		Pn	20 12 46.8	+1.2
DLBC	Dease Lake	12.01	87	P		P	20 14 11.1	-0.5
	0.2nm,0.3s,baz=230,slow=7.9,SNR=4.1							
YKA	Yellowknife Ar	18.64	65	P		P	20 15 26.4	+1.9
	0.1nm,0.3s,baz=278,slow=10,SNR=8.9							
ZALV	Zalesovo Beam	57.38	325	P		P	20 20 52.3	+1.0
	0.6nm,0.6s,baz=25,slow=6.1,SNR=4.8							
HFS	Hagfors	59.89	7	P		P	20 21 07.5	-1.1
	0.6nm,0.4s,baz=24,slow=3.9,SNR=7.4							

IDC 14 20:22:38.9±296.0, 56.91N×32.23E, h0km, Error ellipse: s-maj=125.8km s-min=71.6km az=101.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	DUBNA INFRASON	2.75	92	*i*		20 41 00.0	
	baz=275,slow=307,SNR=8.6						
I26DE	FREYUNG INFRAS	13.75	242	*i*		21 41 40.0	
	baz=47,slow=331,SNR=0.3						
I31KZ	AKTYUBINSK INF	16.56	102	*i*		22 03 20.0	
	baz=304,slow=322,SNR=0.7						
I48TN	KESRA INFRASON	26.14	226	*i*		23 05 20.0	
	baz=27,slow=329,SNR=0.3						
I46RU	ZALESOVO INFRA	29.38	73	*i*		23 21 00.0	
	baz=298,slow=335,SNR=0.6						

ISCJB ***14*** *20:23:40.7±0.3,2.47N±0.04×122.84E±0.06, h450km, mb3.9/24, Error ellipse: s-maj=8.4km s-min=5.0km az=162.5*

DJA ***14*** *20:23:42.9±0.5,2.7N×6.6×12.3E±°, h450km×7km, M4.9/8, mB4.9/2, mb4.5/8, MLv5.2/4, Mw(mB)4.2/2*

IDC ***14*** *20:23:43.2±1.2,2.39N×122.83E, h468km±14km, mb3.5/23, mb1 3.6/25, mb1mx3.4/45, mbtmp4.4/25, Error ellipse: s-maj=14.2km s-min=9.3km az=77.0*

ISC 14 20:23:41.8±0.5, 2.41N±0.06×122.83E±0.09, h450km, n36, σ1°25/43, mb3.9/24, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	2.16	148	P		20 24 38.6	-4.6
TNTI	Ternate	4.82	110	P		20 25 05.7	+1.2
TNTI				S		20 26 12.0	+0.2
SANI	Sanana	5.44	144	P		20 25 10.5	0.0
	97nm,0.6s,4µm2.5nm						
SANI				S		20 26 19.3	-3.5
	97nm,0.6s,4µm2.5nm						
BNDI	Bandanaira	9.87	134	P		20 26 07.9	+10
FAKI	Fak Fak	10.80	119	P		20 26 09.0	+1.2
	53nm,0.6s						
SOEI	Soe	12.17	173	P		20 26 24.4	+1.7
	18nm,1.4s						
SOEI				S		20 28 33.3	-2.1
	18nm,1.4s						
BATI	Baumata	12.56	176	P		20 26 28.6	+1.8
	8.5nm,0.3s,baz=354,slow=1.3,SNR=36						
BATI				S		20 28 43.0	0.0
	3.1nm,0.3s,baz=40,slow=20,SNR=14						
UGM	Wanagama	15.99	230	P		20 27 04.1	+0.5
	72nm,2.2s						
LEM	Lembang	17.74	239	P		20 27 22.9	+0.8
	3.5nm,0.3s,baz=44,slow=8.5,SNR=22						
CISI	Cisompet, Garu	17.95	236	P		20 27 23.7	-0.5
	60nm,0.8s						
MNAI	Manna	20.96	251	P		20 27 53.4	+1.2
WRA	Warramunga Arr	24.92	154	P		20 28 27.1	-0.6
	1.3nm,0.5s,baz=336,slow=9.5,SNR=16						
WRA				pP		20 29 41.0	-4.2
	0.9nm,0.8s,baz=332,slow=11,SNR=5.0						
WRA				ScP		20 34 42.8	-2.0
	1.9nm,0.5s,baz=338,slow=2.9,SNR=12						
ASAR	Alice Springs	28.07	158	P		20 28 55.7	+0.2
	0.3nm,0.3s,baz=339,slow=7.2,SNR=7.2						
ASAR				pP		20 30 14.1	0.0
	0.5nm,0.8s,baz=329,slow=8.6,SNR=4.3						
ASAR				ScP		20 34 52.0	-2.2
	3.1nm,0.5s,baz=339,slow=3.0,SNR=32						
CMAR	Chiang Mai Arr	28.32	306	P		20 28 57.9	+0.1
	0.5nm,0.9s,baz=106,slow=8.6,SNR=3.2						
CMAR				PcP		20 31 58.1	+1.1
	0.5nm,0.9s,baz=129,slow=1.0,SNR=5.0						
CMAR				ScP		20 34 53.8	-1.3
	0.7nm,0.8s,baz=163,slow=3.0,SNR=8.5						
JCJ	Chichijima	30.77	35	P		20 29 17.9	-1.0
	66nm,0.5s,baz=249,slow=23,SNR=9.1						
KSRS	Korea Array	35.19	7	P		20 29 57.5	+1.0
	3.1nm,0.8s,baz=181,slow=10,SNR=10						
MJAR	Matsushiro Arr	36.82	21	P		20 30 09.4	-0.7
	2.4nm,0.8s,baz=194,slow=8.6,SNR=5.7						
STKA	Stephens Creek	38.47	154	P		20 30 24.8	+1.1
	2.9nm,0.6s,baz=321,slow=7.0,SNR=4.8						
USRK	Ussuriysk Ar.	42.40	10	P		20 30 55.6	+0.5
	5.2nm,0.5s,baz=191,slow=6.0,SNR=14						
ASAJ	Asahikawa	45.08	20	P		20 31 16.6	+0.5
	7.9nm,0.6s,baz=235,slow=13,SNR=6.9						
SONM	Songino Array	47.43	345	P		20 31 35.1	+0.9
	9.7nm,0.7s,baz=161,slow=8.8,SNR=99						
TLY	Talaya	51.67	345	P		20 32 06.7	+1.2
	5.7nm,0.7s,baz=288,slow=4.3,SNR=5.8						
MKAR	Makanchi Array	56.49	328	P		20 32 40.3	+0.5
	5.7nm,0.4s,baz=125,slow=8.1,SNR=164						
MKAR				PcP		20 33 29.6	-0.8
	1.3nm,0.6s,baz=133,slow=4.3,SNR=6.8						
PETK	Petropavlovsk-	58.16	24	P		20 32 52.2	+1.1
	5.3nm,0.7s,baz=188,slow=3.4,SNR=8.8						
AAK	Ala-Archa	58.78	320	P		20 32 56.2	+0.5
	0.5nm,0.3s,baz=157,slow=3.5,SNR=5.9						
ZALV	Zalesovo Beam	60.07	335	P		20 33 03.1	-0.8
	2.3nm,0.4s,baz=134,slow=4.8,SNR=18						
ZALV				S		20 40 39.1	-2.0
	0.7nm,0.8s,baz=132,slow=20,SNR=4.3						
KURBB	Kurchatov Arra	60.81	329	P		20 33 08.8	-0.1
	5.3nm,0.7s,baz=134,slow=6.5,SNR=112						
KURBB				S		20 40 48.9	-1.7
	0.2nm,0.6s,baz=140,slow=11,SNR=5.2						
SEY	Seymchan	64.23	15	P		20 33 31.5	+0.5
	1.6nm,0.6s,baz=206,slow=4.5,SNR=7.1						
BVAR	Borovoye Array	66.35	328	P		20 33 44.2	-0.4
	1.9nm,0.6s,baz=132,slow=8.8,SNR=11						
AKTO	Aktyubinsk	72.30	323	P		20 34 20.4	-0.1
	3.1nm,0.6s,baz=103,slow=7.1,SNR=17						
ASF	Jabal al Asfar	85.28	302	P		20 35 30.4	-0.1
	1.7nm,0.8s,baz=212,slow=2.4,SNR=3.9						
ILAR	Eielson Array	87.96	25	P		20 35 40.6	-1.8
	0.3nm,0.5s,baz=247,slow=5.5,SNR=5.5						
ARCES	ARCESS Array B	90.33	340	P		20 35 51.7	-1.7
	1.7nm,0.7s,baz=76,slow=5.1,SNR=6.6						
SPITS	Spitsbergen Ar	91.00	349	P		20 35 55.6	-0.8
	3.1nm,0.5s,baz=101,slow=7.7,SNR=24						
FINES	FINESS Array B	91.14	331	P		20 35 55.2	-2.0
	0.6nm,0.6s,baz=47,slow=6.1,SNR=3.7						
TORD	Torodi Ar. Bea	119.59	286	PKP		20 41 38.6	-2.0
	0.3nm,0.6s,baz=318,slow=1.9,SNR=4.4						

ISCJB ***14*** *20:23:53.3±0.6,23.38S±0.09×179.9W±0.1, h535km, mb4.0/13, Error ellipse: s-maj=14.2km s-min=11.5km az=1.6*

IDC ***14*** *20:23:58.0±2.4,23.33S×179.95E, h582km±26km, mb3.5/13, mb1 3.7/14, mb1mx3.5/37, mbtmp4.4/14, Error ellipse: s-maj=17.0km s-min=13.7km az=15.0*

ISC 14 20:23:53.4±0.6, 23.46S±0.10×179.9W±0.1, h535km, n28, σ1°44/29, mb4.1/13, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.70	274	P		20 26 40.4	+1.0
	0.5nm,0.3s,baz=107,slow=19,SNR=6.8						
URZ	Urewera	14.98	189	P		20 27 00.7	-2.0
	5.6nm,0.3s,baz=33,slow=3.5,SNR=27						
URZ				S		20 29 37.1	-1.6
	0.8nm,0.3s,baz=186,slow=22,SNR=7.2						
RPZ	Rata Peaks	21.55	198	P		20 28 06.5	+2.5
	14nm,0.7s,baz=290,slow=3.2,SNR=7.6						
CTA	Charters Tower	31.59	269	P		20 29 33.4	+0.9
	14nm,0.4s,baz=95,slow=10,SNR=32						
STKA	Stephens Creek	34.99	248	P		20 30 02.1	+1.0
	5.9nm,0.6s,baz=94,slow=10,SNR=31						
ASAR	Alice Springs	42.22	260	P		20 31 00.1	+0.3
	6.9nm,0.6s,baz=95,slow=8.0,SNR=76						
ASAR				S		20 36 38.6	-3.0
	0.2nm,0.5s,baz=100,slow=14,SNR=5.2						
WRA	Warramunga Arr	42.55	266	P		20 31 01.5	-0.9
	7.4nm,0.6s,baz=90,slow=5.8,SNR=81						
VNDA	Vanda	54.83	185	P		20 32 34.1	+1.6
	0.7nm,0.6s,baz=268,slow=3.9,SNR=7.0						
BATI	Baumata	55.31	274	P		20 32 38.0	+1.0
	7.1nm,0.7s,baz=136,slow=3.7,SNR=3.7						
QSPA	South Pole Qui	66.62	180	P		20 33 52.8	+2.2
	7.6nm,0.8s,baz=7.0,slow=1.2,SNR=26						
NVAR	Mina Array Bea	84.36	44	P		20 35 29.4	-0.1
	0.5nm,0.4s,baz=162,slow=5.8,SNR=5.2						
SNAA	Sanae	85.10	179	P		20 35 32.4	-0.1
	0.7nm,0.7s,baz=199,slow=14,SNR=7.3						
CMAR	Chiang Mai Arr	89.48	290	P		20 35 54.5	+0.6
	1.4nm,1.1s,baz=108,slow=2.2,SNR=5.9						
TXAR	Lajitas Array	90.10	58	P		20 35 58.4	+1.6
	1.4nm,0.8s,baz=222,slow=6.4,SNR=14						
PDAR	Pinedale Array	92.29	44	P		20 36 07.0	+0.2
	0.9nm,0.8s,baz=213,slow=3.4,SNR=7.3						
MKAR	Makanchi Array	111.94	313	PKiKP		20 41 26.2	-1.4
	0.2nm,0.6s,baz=173,slow=0.6,SNR=4.0						
KURBB	Kurchatov Arra	115.01	316	PKP		20 41 31.6	-1.8
	0.5nm,0.7s,baz=103,slow=1.9,SNR=5.9						
SCHQ	Schefferville	122.06	39	PKP		20 41 44.5	-2.3
	1.7nm,0.5s,baz=341,slow=1.4,SNR=6.9						
ARCES	ARCESS Array B	131.48	348	PKP		20 42 02.6	-1.8
	1.9nm,0.8s,baz=23,slow=4.0,SNR=3.8						
FINES	FINESS Array B	138.06	342	PKP		20 42 16.3	-0.5
	1.3nm,0.8s,baz=284,slow=0.8,SNR=3.5						
NB2	NORSAR Subarra	141.66	351	PKP	PKPdf	20 42 18.7	-4.8
	comp=Z,0.3nm,0.5s,baz=16,slow=3.2						
NOA	NORSAR Array B	141.66	351	PKhKP	PKPpre	20 42 18.7	
	comp=Z,1.0nm,0.6s,baz=16,slow=4.8,SNR=5.9						
AKASG	Malin Array Be	144.66	328	PKP	PKPdf	20 42 28.5	-0.4
	comp=Z,2.2nm,0.4s,baz=44,slow=4.2,SNR=22						
BRTR	Keskin Array B	147.40	308	PKPbc	PKPbc	20 42 36.8	-0.7
	comp=Z,1.3nm,0.8s,baz=141,slow=6.1,SNR=7.3						
CLL	Collm	150.47	344	*i* PKP	PKPbc	20 42 43.6	-0.8
	comp=Z,8.0nm,0.9s						
BRG	Berggiesshubel	150.60	342	*e* PKP	PKPbc	20 42 44.9	+0.2
	comp=Z,6.3nm,0.8s						
BRG				*e*		20 44 53.4	
	comp=Z,6.0nm,1.3s						
GERES	GERESS Array B	152.48	340	PKPbc	PKPbc	20 42 48.9	-0.2
	comp=Z,0.5nm,0.6s,baz=357,slow=2.7,SNR=6.5						
TORD	Torodi Ar. Bea	169.64	189	PKP	PKPdf	20 42 59.1	-1.2
	comp=Z,1.0nm,1.0s,baz=248,slow=0.8,SNR=4.5						
TORD				PKPab	PKPab	20 44 17.6	0.0
	comp=Z,1.0nm,0.8s,baz=176,slow=3.4,SNR=5.0						

IDC 14 20:37:11.9±323.0, 56.99N×31.58E, h0km, Error ellipse: s-maj=135.7km s-min=76.3km az=99.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	DUBNA INFRASON	3.11	93	*i*		20 57 20.0	
	baz=276,slow=311,SNR=2.9						
I26DE	FREYUNG INFRAS	13.48	240	*i*		21 54 20.0	
	baz=46,slow=336,SNR=0.6						
I31KZ	AKTYUBINSK INF	16.92	102	*i*		22 17 39.3	
	baz=303,slow=322,SNR=0.8						
I48TN	KESRA INFRASON	25.94	225	*i*		23 18 52.6	
	baz=26,slow=309,SNR=0.5						

ISCJB ***14*** *20:49:51.3±0.9,36.49N±0.05×1.65E±0.08, h12km±9km, Error ellipse: s-maj=12.6km s-min=6.4km az=37.0*

CSEM ***14*** *20:49:51.8±0.3,36.43N×1.68E, h10km, mb3.5, Error ellipse: s-maj=8.8km s-min=4.4km az=104.0*

CRAAG ***14*** *20:49:52.2,36.31N×1.71E, Ml2.6*

MDD ***14*** *20:49:53.1±0.4,36.35N×1.71E, h0km, mb3.5/4, Error ellipse: s-maj=4.0km s-min=2.3km az=118.0, PRXIMO*

ISC 14 20:49:51.5±1.3, 36.40N±0.05×1.70E±0.06, h17km±8km, n33, σ1°15/50, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	Beni Rached	0.17	233	P		20 49 56.0	0.0
EBNR	Beni Rached	0.17	233	P		20 49 56.0	0.0
ECHA	Ech Chlef	0.37	228	P		20 49 58.9	-0.2
ECHA	Ech Chlef	0.37	228	P		20 49 58.9	-0.2
ECHF	Ech Chlef	0.38	231	P		20 49 58.9	-0.4
EANR	'Ain N'Sour	0.66	228	P		20 50 04.0	-0.5
EANR	'Ain N'Sour	0.66	228	P		20 50 04.0	-0.5
EANR	'Ain N'Sour	0.66	228	P		20 50 04.0	-0.5
OKGL	Djebel Kef Gue	0.93	248	P		20 50 10.1	+0.3
	19nm,0.1s,SNR=7.9						
OKGL				S		20 50 21.3	-0.5
	108nm,0.3s,SNR=7.9						
OKGL	Djebel Kef Gue	0.93	248	P		20 50 10.1	+0.3
	19nm,0.1s,SNR=7.9						
OKGL				S		20 50 21.3	-0.5
	108nm,0.3s,SNR=7.9						
ETRT	Tiaret	1.06	198	P		20 50 12.9	+1.3
ETRT	Tiaret	1.06	198	P		20 50 12.9	+1.3
ETRT	Tiaret	1.06	198	P		20 50 12.9	+1.3
EIBI	Ibiza	2.64	354	P		20 50 34.9	+1.6
	0.7nm,0.1s,SNR=7.4						
EIBI				S		20 51 04.1	-0.8
	4.1nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.64	354	P		20 50 34.9	+1.6
	0.7nm,0.1s,SNR=7.4						
EIBI				S		20 51 04.1	-0.8
	4.1nm,0.2s,SNR=7.9						
EBEN	Beniarda	2.77	327	P		20 50 36.2	+1.1
	0.2nm,0.1s,SNR=7.9						
EBEN				S		20 51 07.6	-0.4
	0.4nm,0.2s,SNR=7.9						
EBEN	Beniarda	2.77	327	P		20 50 36.2	+1.1
	0.2nm,0.1s,SNR=7.9						
EBEN				S		20 51 07.6	-0.4
	0.4nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.42	312	P		20 50 45.4	+1.3
	4.7nm,0.8s,SNR=6.3						
ETOB				S		20 51 23.1	-1.2
	0.6nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.42	312	P		20 50 45.4	+1.3
	4.7nm,0.8s,SNR=6.3						
ETOB				S		20 51 23.1	-1.2
	0.6nm,0.1s,SNR=7.9						
ETOS	Mallorca	3.48	14	P		20 50 45.2	+0.4
	0.2nm,0.1s,SNR=7.9						
ETOS				S		20 51 24.6	-0.9
	0.4nm,0.2s,SNR=7.9						
ETOS	Mallorca	3.48	14	P		20 50 45.2	+0.4
	0.2nm,0.1s,SNR=7.9						
ETOS				S		20 51 24.6	-0.9
	0.4nm,0.2s,SNR=7.9						
EHUE	Huescar	3.71	294	P		20 50 48.9	+0.8
	1.2nm,0.1s,SNR=4.0						
EHUE	Huescar	3.71	294	P		20 50 48.9	+0.8
	1.2nm,0.1s,SNR=4.0						
EBER	Berja	3.73	279	P		20 50 48.8	+0.4
	0.8nm,0.1s,SNR=8.5						
EBER				S		20 51 29.5	-2.4
	0.2nm,0.1s,SNR=7.9						
EBER	Berja	3.73	279	P		20 50 48.8	+0.4
	0.8nm,0.1s,SNR=8.5						
SESP	Santiago Espad	3.80	298	P		20 50 51.3	+1.9
	0.9nm,0.2s,SNR=7.9						
SESP				S		20 51 34.8	+1.1
	1.8nm,0.1s,SNR=7.9						
SESP	Santiago Espad	3.80	298	P		20 50 51.3	+1.9
	0.9nm,0.2s,SNR=7.9						
SESP				S		20 51 34.8	+1.1
	1.8nm,0.1s,SNR=7.9						
EQES	Quesada	4.07	292	P		20 50 54.8	+1.8
	0.6nm,0.1s,SNR=7.9						
EQES				S		20 51 40.9	+0.7
	0.7nm,0.2s,SNR=7.9						
EQES	Quesada	4.07	292	P		20 50 54.8	+1.8
	0.6nm,0.1s,SNR=7.9						
EQES				S		20 51 40.9	+0.7
	0.7nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.31	337	P		20 50 57.8	+1.4
	0.7nm,0.1s,SNR=16						
EMOS				S		20 51 44.6	-1.8
	0.4nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.31	337	P		20 50 57.8	+1.4
	0.7nm,0.1s,SNR=16						
EMOS				S		20 51 44.6	-1.8
	0.4nm,0.2s,SNR=7.9						
PAB	San Pablo	5.72	305	P		Pn	20 51 16.2	+0.5
	0.2nm,0.2s,SNR=4.0						
PAB	San Pablo	5.72	305	P		Pn	20 51 16.2	+0.5
	0.2nm,0.2s,SNR=4.0						

JSN 14 20:51:16.9±0.5, 18.08N×76.68W, h10km±3km, MD3.7, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GWJ	Greenwich	0.04	258	*i* P		Pg 20 51 18.7	-0.3
HOJ	Hope	0.10	219	*i* P		Pg 20 51 19.5	0.0
STH	Stony Hill	0.12	267	*i* P		Pg 20 51 19.5	-0.4
STH				*i* S		Sg 20 51 21.9	0.0
YHJ	Yallahs	0.26	136	*i* P		Pg 20 51 22.3	-0.1
CMJ	Castle Mountai	0.30	80	*i* P		Pg 20 51 23.1	+0.1
PCJ	Portland Cotta	0.56	233	*i* P		Pg 20 51 27.1	-0.8
BBJ	Bamboo Saint A	0.63	298	*i* P		Pg 20 51 28.2	-1.1
CVJ	Coleyville	0.82	280	*i* P		Pg 20 51 31.2	-1.8
MCJ	Malvern	0.97	261	*i* P		Pg 20 51 34.1	-1.6
MBJ	Montego Bay	1.17	286	*i* S		Sb 20 51 52.7	-1.8

DJA 14 20:55:09.3±0.3, 1°S±2°×12°0E±°, h10km, M3.6/13, MLv3.6/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	Palu	0.38	173	P		Pg 20 55 15.9	-0.9
PCI				S		Sg 20 55 21.7	-0.1
MPSI	Mapaga	0.87	7	P		Pg 20 55 24.4	-1.7
MPSI				S		Sg 20 55 36.8	-0.6
APSI	Ampana	1.90	102	P		Pn 20 55 41.8	+0.1
APSI				S		Sn 20 56 06.2	+0.5
MRSI	Marisa	2.37	65	P		Pn 20 55 47.7	-0.6
MRSI				S		Sn 20 56 12.5	-5.0
TTSI	Tana Toraja	2.50	179	P		Pn 20 55 51.4	+1.4
TTSI				S		Sb 20 56 23.5	-1.6
SPSI	Sidrap Palu	3.41	180	P		Pn 20 56 03.0	+0.4
BNSI	Bone	3.86	175	P		Pn 20 56 09.3	+0.6
BNSI				S		Sn 20 56 55.8	+1.6
KMSI	Cibinong	4.33	75	P		Pn 20 56 13.4	-1.9
KDI	Kendari	4.42	140	P		Pn 20 56 16.2	-0.4
BKSI	Bulukumba	4.77	176	P		Pn 20 56 21.6	+0.3

IDC 14 20:56:03.4±2.6, 33.55N×96.13E, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/46, mbtmp3.4/7, ML3.1/4, Error ellipse: s-maj=57.7km s-min=37.6km az=73.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.24	170	Pn		Pn 20 59 40.5	+0.6
	0.0nm,0.3s,baz=342,slow=10,SNR=5.5						
SONM	Songino Array	16.23	25	Pn		Pn 20 59 53.7	+0.8
	0.1nm,0.3s,baz=208,slow=16,SNR=7.7						
MKAR	Makanchi Array	16.90	326	Pn		Pn 20 59 59.9	-1.3
	0.0nm,0.3s,baz=134,slow=15,SNR=3.2						
AAK	Ala-Archa	19.25	304	P		P 21 00 29.5	0.0
	0.1nm,0.3s,baz=118,slow=15,SNR=3.7						
KURBB	Kurchatov Arra	21.39	328	P		P 21 00 52.8	+0.4
	0.8nm,0.8s,baz=140,slow=9.7,SNR=7.0						
ZALV	Zalesovo Beam	21.91	342	P		P 21 00 57.7	-0.3
	0.3nm,0.6s,baz=148,slow=8.5,SNR=2.9						
ARCES	ARCESS Array B	52.23	335	P		P 21 05 15.1	-0.7
	2.7nm,0.9s,baz=88,slow=9.1,SNR=4.8						

**NNC 14 21:06:18.0±2.0, 48.71N×84.21E, h12km±11km, mb3.8, mpv3.5,15C-6D, Error ellipse: s-

MBIG				*i* S		**Sb**	**21 12 57.5**	**+1.6**
SPIG	**San Pedro Mart**	**0.80**	**202**	*e*P		**Pg**	**21 12 50.1**	**+0.6**
SPIG				*i* S		**Sg**	**21 13 01.5**	**+1.5**
SPIG	**San Pedro Mart**	**0.80**	**202**	*e*P		**Pg**	**21 12 49.9**	**+0.4**
SPIG				*e*S		**Sg**	**21 12 59.6**	**-0.4**
SPX	**San Pedro Mart**	**0.80**	**202**	*e*P		**Pg**	**21 12 50.1**	**+0.6**
SPX				*e*S		**Sg**	**21 12 59.5**	**-0.5**
CBX	**Cerro Bola**	**1.42**	**292**	*e*P		**Pn**	**21 12 59.9**	**-0.2**
CBX				*i* S		**Sn**	**21 13 16.3**	**-2.6**
CBX	**Cerro Bola**	**1.42**	**292**	*e*P		**Pn**	**21 13 00.2**	**+0.1**
CBX				*i* S		**Sn**	**21 13 16.3**	**-2.6**
BAR	**Barrett**	**1.59**	**304**	*e*Pn		**Pn**	**21 13 02.1**	**-0.3**
BAR				*e*Sn		**Sn**	**21 13 23.2**	**+0.1**
PFO	**Pinyon Flats O**	**2.14**	**328**	*e*Pn		**Pn**	**21 13 08.8**	**-1.3**
PFO				*e*Sn		**Sn**	**21 13 36.1**	**-0.7**
TUC	**Tucson**	**3.71**	**81**	*e*Pn		**Pn**	**21 13 31.0**	**-0.5**
TUC				*e*Sn		**Sn**	**21 14 13.8**	**-1.7**

IDC ***14*** *21:19:39.8±0.9, 12°.63N×92°.38E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.5/37, mbtmp3.5/8, ML3.6/1, Error ellipse: s-maj=32.2km s-min=19.6km az=49.0*

ISCJB ***14*** *21:19:41.9±0.8, 12°.9N±0°.1×92°.70E±0°.10, h26km, mb3.6/7, Error ellipse: s-maj=17.5km s-min=11.9km az=146.4*

ISC 14 21:19:44.0±1.0, **12°.9N**±0°.1×**92°.6E**±0°.1, **h26**km, **n11,** σ1°**34**/**9**, **mb3.6**/**7**, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.27**	**47**	Pn	**Pn**	**21 21 44.3**	**+2.0**
	0.2nm,0.3s,baz=236,slow=16,SNR=9.9						
CMAR				Sn	**Sn**	**21 23 12.8**	**-2.1**
	0.1nm,0.3s,baz=237,slow=28,SNR=4.6						
H08S3	**Diego Garcia H**	**28.52**	**226**	T	T	21 55 13.9	
	baz=44,slow=76,SNR=15						
H08S2	**Diego Garcia H**	**28.53**	**225**	T	T	21 55 10.5	
	baz=44,slow=76,SNR=9.5						
H08S1	**Diego Garcia H**	**28.54**	**226**	T	T	21 55 14.9	
	baz=44,slow=76,SNR=7.6						
MKAR	**Makanchi Array**	**34.91**	**348**	P	**P**	**21 26 33.8**	**+0.3**
	0.3nm,0.8s,baz=142,slow=7.2,SNR=2.9						
SONM	**Songino Array**	**36.72**	**16**	P	P	21 26 52.7	+3.6
	0.5nm,1.0s,baz=180,slow=5.8,SNR=2.6						
GEYT	**Alibeck**	**39.54**	**315**	P	**P**	**21 27 12.6**	**-0.3**
	1.4nm,0.6s,baz=140,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**52.45**	**128**	P	**P**	**21 28 54.1**	**-0.7**
	0.4nm,0.6s,baz=308,slow=7.8,SNR=7.1						
WRA				PcP	**PcP**	**21 30 05.8**	**+0.4**
	0.1nm,0.4s,baz=313,slow=3.0,SNR=4.2						
ASAR	**Alice Springs**	**54.32**	**132**	P	**P**	**21 29 08.2**	**-0.4**
	0.3nm,0.5s,baz=309,slow=6.1,SNR=4.8						
BRTR	**Keskin Array B**	**58.07**	**309**	P	**P**	**21 29 34.4**	**-0.9**
	0.7nm,0.7s,baz=112,slow=5.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**87.98**	**283**	P	**P**	**21 32 33.0**	**+0.5**
	0.5nm,1.0s,baz=96,slow=5.0,SNR=3.0						

NIED ***14*** *21:20:00, 41°.60N×142°.80E, h44km, Mw3.7 Best double couple: M0=4.31000×10^14 NP1:φs=21.00000°, δ=65.00000°, λ=165.00000°. NP2:φs=118.00000°, δ=76.00000°, λ=26.00000°.*

ISCJB ***14*** *21:20:12.5±0.8, 41°.62N±0°.04×142°.65E±0°.05, h16km±8km, mb3.5/2, Error ellipse: s-maj=8.8km s-min=4.1km az=139.7*

JMA ***14*** *21:20:12.4±0.1, 41°.58N×142°.76E, h36km±3km, M3.5*

IDC ***14*** *21:20:17.1±1.4, 42°.19N×141°.20E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/36, mbtmp3.4/5, ML3.6/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/34, Error ellipse: s-maj=38.5km s-min=20.9km az=114.0*

ISC 14 21:20:11.0±1.4, **41°.62N**±0°.05×**142°.61E**±0°.05, **h17**km±10km, **n24,** σ0°**92**/**25**, **2C-2D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.57**	**46**	⇓P	**Pb**	**21 20 23.2**	**+0.7**
JEM				S	**Sb**	**21 20 31.0**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.67**	**9**	⇑P	**Pn**	**21 20 25.7**	**0.0**
JNBK				*e*S	**Sn**	**21 20 35.8**	**0.0**
JCH	**Churui**	**1.14**	**29**	P	**Pb**	**21 20 32.3**	**+0.1**
JCH				*e*S	**Sb**	**21 20 46.5**	**-0.3**
JBT2	**Biratori 2**	**1.17**	**351**	⇑P	**Pg**	**21 20 33.8**	**+0.2**
JOT	**Ohata**	**1.20**	**259**	P	**Pg**	**21 20 34.8**	**+0.8**
JKB	**Kayabe**	**1.21**	**283**	P	**Pg**	**21 20 34.6**	**+0.3**
JKB				*e*S	**Sg**	**21 20 50.6**	**+0.6**
JTM	**Tenmabayashi**	**1.43**	**235**	⇓P	**Pg**	**21 20 38.2**	**-0.3**
JTM				*e*S	**Sg**	**21 20 56.9**	**-0.2**
JNB	**Noboribetsu**	**1.44**	**306**	P	**Pb**	**21 20 37.8**	**+0.4**
JNB				*e*S	**Sb**	**21 20 56.1**	**+0.6**
JEW	**Eniwo**	**1.49**	**325**	P	**Pg**	**21 20 39.3**	**-0.3**
JANG	**Nango**	**1.50**	**214**	P	**Pn**	**21 20 37.8**	**+0.7**
JFR	**Furan**	**1.54**	**360**	P	**Pb**	**21 20 38.9**	**-0.2**
JOB	**Onbets**	**1.57**	**35**	P	**Pn**	**21 20 39.0**	**+0.9**
JOB				*e*S	**Sb**	**21 20 59.3**	**+0.1**
JSR	**Shiriuchi**	**1.64**	**267**	P	**Pb**	**21 20 41.6**	**+0.8**
JSR				*e*S	**Sg**	**21 21 03.0**	**-1.0**
ASAJ	**Asahikawa**	**2.49**	**360**	Pn	**Pb**	**21 20 54.4**	**-0.9**
	20nm,0.3s,baz=226,slow=11,SNR=69						
ASAJ				Sn	**Sn**	**21 21 23.6**	**+2.8**
	3.9nm,0.3s,baz=9.0,slow=19,SNR=3.6						
MJAR	**Matsushiro Arr**	**6.12**	**215**	Pn	Pn	21 21 46.9	+6.2
	0.6nm,0.3s,baz=16,slow=15,SNR=4.9						
MJAR				LR	LR	21 23 56.1	
	comp=Z,22nm,18.1s,baz=5.0,slow=36						
KSRS	**Korea Array**	**12.07**	**255**	Pn	**Pn**	**21 23 01.2**	**-1.0**
	baz=61,slow=14,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	21 57 43.2	
	baz=323,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**30.04**	**129**	T	T	21 57 39.7	
	baz=323,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**30.04**	**129**	T	T	21 57 40.2	
	baz=323,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**30.88**	**131**	T	T	21 58 47.6	
	baz=324,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**30.88**	**131**	T	T	21 58 49.2	
	baz=324,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**30.90**	**131**	T	T	21 58 46.5	
	baz=324,slow=76,SNR=14						
MKAR	**Makanchi Array**	**42.62**	**298**	P	**P**	**21 28 04.7**	**-1.6**
	0.3nm,0.6s,baz=85,slow=9.4,SNR=5.9						
WRA	**Warramunga Arr**	**61.73**	**189**	P	P	21 30 40.2	+12
	0.3nm,0.5s,baz=5.2,slow=6.9,SNR=7.8						

IDC ***14*** *21:38:41.3±1.5, 34°.52N×80°.92E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.1/40, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=43.3km s-min=29.0km az=58.0*

ISCJB ***14*** *21:38:44.1±0.9, 34°.69N±0°.09×81°.1E±0°.2, h33km, mb3.2/2, Error ellipse: s-maj=30.6km s-min=8.2km az=159.0*

ISC 14 21:38:45.9±1.1, **34°.6N**±0°.1×**80°.9E**±0°.2, **h35**km, **n15,** σ1°**28**/**14**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**6.75**	**164**	*e*P	Pn	21 40 18.6	-4.2
	7.4nm,0.3s						
KOLN	**Koldanda**	**7.22**	**160**	*e*P	**Pn**	**21 40 27.0**	**-2.2**
	4.0nm,0.3s						
GKN	**Gorkha**	**7.35**	**153**	*e*P	**Pn**	**21 40 31.1**	**+0.2**
	5.3nm,0.4s						
KKN	**Kakani**	**7.79**	**150**	*e*P	**Pn**	**21 40 38.0**	**+1.0**
GUN	**Gumba**	**7.95**	**146**	*e*P	**Pn**	**21 40 41.6**	**+2.3**
PKIN	**Phulchoki**	**8.03**	**150**	*e*P	**Pn**	**21 40 41.1**	**+0.8**
	2.4nm,0.3s						
PKI	**Pulchoki**	**8.04**	**150**	*e*P	**Pn**	**21 40 41.4**	**+0.9**
	5.8nm,0.6s						
JIRN	**Jiri**	**8.31**	**145**	*e*P	**Pn**	**21 40 45.5**	**+1.3**
	4.0nm,0.3s						
RAMN	**Ramite**	**9.10**	**146**	*e*P	**Pn**	**21 40 54.7**	**-0.3**
	6.6nm,0.4s						
TAPN	**Taplejung**	**9.33**	**139**	*e*P	**Pn**	**21 40 58.5**	**+0.3**
	12nm,1.0s						
ODAN	**Odare**	**9.56**	**142**	*e*P	**Pn**	**21 41 00.6**	**-0.7**
	4.6nm,0.5s						
MKAR	**Makanchi Array**	**12.21**	**5**	Pn	**Pn**	**21 41 36.5**	**-0.8**
	0.1nm,0.3s,baz=184,slow=14,SNR=3.9						
KURBB	**Kurchatov Arra**	**16.08**	**355**	Pn	**Pn**	**21 42 29.2**	**0.0**
	baz=177,slow=12,SNR=4.8						
CMAR	**Chiang Mai Arr**	**22.76**	**130**	P	**P**	**21 43 44.2**	**-1.1**
	0.4nm,0.6s,baz=310,slow=11,SNR=5.7						
TORD	**Torodi Ar. Bea**	**73.81**	**275**	P	**P**	**21 50 18.4**	**+1.1**
	0.6nm,1.0s,baz=53,slow=5.2,SNR=3.7						

IDC ***14*** *21:41:07.5±1.7, 2°.02N×97°.01E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/44, mbtmp3.8/5, ML4.0/1, MS3.1/3, Ms1 3.2/3, ms1mx2.7/38, Error ellipse: s-maj=54.9km s-min=24.4km az=53.0*

DJA ***14*** *21:41:10.3±1.0, 2°.N±5°.×9°.6E±1°.0, h46km±21km, M4.1/9, mb4.3/2, mB5.5/1, MLv4.0/9, Mw(mB)5.0/1*

ISC 14 21:41:09.8±1.0, **1°.90N**±0°.07×**96°.85E**±0°.07, **h28**km, **n29,** σ1°**30**/**23**, **mb3.7**/**4**, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.73**	**314**	P	**Pb**	**21 41 22.4**	**-1.5**
TPTI		**1.39**	**14**	P	**Pn**	**21 41 33.6**	**+0.2**
TPTI				S	**Sb**	**21 41 52.9**	**+0.3**
KCSI	**Kotacane, Aceh**	**1.86**	**30**	P	**Pb**	**21 41 41.6**	**-1.6**
KCSI				S	**Sb**	**21 42 07.5**	**+1.5**
TSI	**Tuntungan**	**2.34**	**47**	P	**Pb**	**21 41 50.6**	**-0.8**
MNSI	**Mandailing Nat**	**2.94**	**112**	P	**Pb**	**21 41 59.6**	**-2.0**
LHMI	**Lhok Sumawe**	**3.31**	**2**	P	**Pn**	**21 41 59.3**	**-0.5**
LEM	**Lembang**	**13.81**	**129**	LR	LR	21 49 55.1	
	comp=Z,66nm,21.4s,baz=242,slow=38						
CMAR	**Chiang Mai Arr**	**16.59**	**7**	Pn	**Pn**	**21 44 59.0**	**-1.6**
	0.2nm,0.3s,baz=198,slow=11,SNR=44						
CMAR				LR	LR	21 51 12.3	
	comp=Z,30nm,19.4s,baz=220,slow=37						
H08S2	**Diego Garcia H**	**26.08**	**248**	T	T	22 13 26.9	
	baz=69,slow=75,SNR=302						
H08S3	**Diego Garcia H**	**26.08**	**248**	T	T	22 13 33.3	
	baz=69,slow=75,SNR=276						
H08S1	**Diego Garcia H**	**26.09**	**248**	T	T	22 13 42.0	
	baz=69,slow=75,SNR=393						
ODAN	**Odare**	**26.43**	**341**	*e*P	**P**	**21 46 45.0**	**+0.4**
	9.2nm,0.9s						
RAMN	**Ramite**	**26.78**	**339**	*e*P	**P**	**21 46 48.6**	**+0.8**
	7.1nm,0.6s						
TAPN	**Taplejung**	**26.78**	**342**	*e*P	**P**	**21 46 45.5**	**-2.4**
	15nm,1.2s						
JIRN	**Jiri**	**27.57**	**339**	*e*P	**P**	**21 46 53.7**	**-1.4**
	7.1nm,0.6s						
PKI	**Pulchoki**	**27.78**	**338**	*e*P	**P**	**21 46 56.3**	**-0.6**
	3.6nm,0.5s						
PKIN	**Phulchoki**	**27.79**	**338**	*e*P	**P**	**21 46 56.9**	**0.0**
	1.8nm,0.5s						
GUN	**Gumba**	**27.91**	**339**	*e*P	**P**	**21 46 57.0**	**-1.1**
	13nm,0.7s						
GKN	**Gorkha**	**28.46**	**337**	*e*P	**P**	**21 47 01.9**	**-0.9**
	5.2nm,0.6s						
KOLN	**Koldanda**	**28.68**	**335**	*e*P	**P**	**21 47 05.9**	**+1.1**
	6.9nm,0.6s						
DANN	**Dangsing**	**29.12**	**336**	*e*P	**P**	**21 47 07.8**	**-1.0**
	5.6nm,0.5s						
JOW	**Kunigami**	**39.03**	**48**	LR	LR	22 04 49.1	
	comp=Z,102nm,20.9s,slow=37						
H01W3	**Cape Leeuwin H**	**40.02**	**158**	T	T	22 31 16.0	
	baz=333,slow=76,SNR=9.1						
H01W2	**Cape Leeuwin H**	**40.03**	**158**	T	T	22 31 21.7	
	baz=333,slow=76,SNR=6.9						
H01W1	**Cape Leeuwin H**	**40.04**	**158**	T	T	22 31 23.2	
	baz=333,slow=76,SNR=5.9						
WRA	**Warramunga Arr**	**42.70**	**122**	P	**P**	**21 49 05.8**	**+1.0**
	0.8nm,0.7s,baz=300,slow=9.3,SNR=8.7						
ASAR	**Alice Springs**	**44.10**	**127**	P	**P**	**21 49 17.2**	**+1.2**
	0.4nm,0.6s,baz=294,slow=6.7,SNR=5.1						
KSRS	**Korea Array**	**45.48**	**35**	P	**P**	**21 49 27.1**	**+0.4**
	0.5nm,0.4s,baz=234,slow=8.6,SNR=4.6						
GEYT	**Alibeck**	**50.45**	**320**	P	**P**	**21 50 07.2**	**+1.9**
	0.7nm,0.5s,baz=163,slow=10,SNR=2.7						

BJI ***14*** *21:45:03.0, 50°.97N×91°.71E, h12km, mb4.0/3, ML4.3/3, Ms4.1/1, Ms7 3.9/3*

MOS ***14*** *21:45:04.7±1.4, 50°.78N×92°.01E, h19km, mb4.1/8, Error ellipse: s-maj=9.9km s-min=8.7km az=120.8*

IDC ***14*** *21:45:04.1±0.7, 50°.84N×91°.94E, h0km, mb3.6/11, mb1 3.9/17, mb1mx3.7/48, mbtmp3.7/17, ML3.8/6, MS3.2/11, Ms1 3.2/11, ms1mx3.0/38, Error ellipse: s-maj=14.4km s-min=8.6km az=170.0*

ISCJB ***14*** *21:45:04.2±0.4, 50°.90N±0°.03×91°.69E±0°.05, h10km, mb3.7/14, MS3.3/8, Error ellipse: s-maj=4.6km s-min=4.2km az=157.0*

NNC ***14*** *21:45:07.0±2.7, 50°.93N×91°.68E, h12km±15km, mb4.2, mpv4.4, Error ellipse: s-maj=20.3km s-min=13.8km az=20.0*

ASRS ***14*** *21:45:07.8±0.8, 50°.99N×91°.70E, h15km, Ms3.4/6*

ISC 14 21:45:05.5±0.5, **50°.83N**±0°.05×**91°.97E**±0°.03, **h10**km, **n76,** σ1°**28**/**85**, **mb3.7**/**14**, **MS3.2**/**8**, **15C-14D,**
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HVS	**Khovu-Aksy**	**1.14**	**74**	*i* PG	**Pb**	**21 45 25.8**	**-1.5**
CERR	**Cheremushki**	**2.06**	**351**	*e*PN	**Pb**	**21 45 41.9**	**-1.0**
CERR				*i*		21 46 07.4	
CERR	**Cheremushki**	**2.06**	**351**	*e*Pg	**Pn**	**21 45 41.2**	**+1.0**
CERR				*e*Sg	**Sn**	**21 46 07.0**	**+1.2**
AKAR	**Aktash**	**2.82**	**261**	*e*PN	**Pn**	**21 45 52.7**	**+2.0**
AKAR				*e*		21 46 30.5	
AKAR	**Aktash**	**2.82**	**261**	*e*Pn	**Pn**	**21 45 52.5**	**+1.8**
AKAR				*e*Pg	**Pb**	**21 45 56.5**	**+0.4**
AKAR				*e*Sg	**Sb**	**21 46 30.7**	**+0.1**
ARTR	**Artybash**	**3.10**	**290**	*i* PN	**Pb**	**21 46 00.5**	**-0.2**
ARTR				*i*		21 46 32.2	
ARTR	**Artybash**	**3.10**	**290**	*i* Pn	**Pn**	**21 45 55.5**	**+1.0**
ARTR				*i* Pg	**Pb**	**21 45 59.9**	**-0.8**
ARTR				*e*Sg	**Sb**	**21 46 37.6**	**-0.9**
TASR	**Tashtagol**	**3.19**	**309**	*e*PN	**Pb**	**21 46 03.0**	**+0.7**
TASR				*e*		21 46 40.5	
TASR	**Tashtagol**	**3.19**	**309**	*e*Pn	**Pn**	**21 45 57.0**	**+1.3**
TASR				*e*Pg	**Pb**	**21 46 00.1**	**-2.2**
TASR				*e*Sg	**Sb**	**21 46 39.7**	**-1.5**
ELT	**Yel'tsovka**	**4.30**	**307**	*i* PN	**Pn**	**21 46 11.3**	**+0.5**
ELT				*i*		21 47 14.7	
ELT	**Yel'tsovka**	**4.30**	**307**	*i* Pn	**Pn**	**21 46 10.9**	**0.0**
ELT				*e*Pg	**Pb**	**21 46 22.2**	**+1.2**
ELT				*e*Sg	**Sb**	**21 47 14.5**	**+1.6**
KRAR	**Krasnoyarsk**	**5.22**	**6**	*e*PN	**Pn**	**21 46 23.3**	**-0.2**
ZALV	**Zalesovo Beam**	**5.38**	**308**	PN	**Pn**	**21 46 25.2**	**-0.5**
ZALV						21 47 47.0	
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,113nm,20.2s						
ZALV	**Zalesovo Beam**	**5.38**	**308**	Pn	**Pn**	**21 46 25.2**	**-0.5**
	comp=Z,3.5nm,0.3s,baz=134,slow=13,SNR=56						
ZALV				Pg	**Pb**	**21 46 39.9**	**+0.4**
	comp=Z,5.9nm,0.3s,baz=118,slow=14,SNR=44						
ZALV				Lg	Lg	21 47 47.0	
	comp=Z,16nm,0.3s,baz=129,slow=23,SNR=9.9						
ZALV				LR	LR	21 48 35.4	
	comp=Z,113nm,20.2s,baz=242,slow=40						
MOY	**Mondy**	**5.73**	**78**	*e*PN	**Pb**	**21 46 45.6**	**+0.1**
MOY				pmax	pmax		
	comp=Z,108nm,0.7s						
NVS	**Novosibirsk**	**6.64**	**311**	*i* PN	**Pn**	**21 46 42.4**	**-0.7**
NVS				*i*		21 48 27.8	
NVS	**Novosibirsk**	**6.64**	**311**	*e*Pn	**Pn**	**21 46 42.2**	**-0.8**
NVS				*e*Pg	**Pb**	**21 47 01.3**	**+0.3**
NVS				*e*Sg	Sb	21 48 27.6	+7.2
ZAK	**Zakamensk**	**7.21**	**89**	*e*PN	**Pn**	**21 46 51.0**	**0.0**
ZAK				*e*		21 47 11.5	
ZAK				pmax	pmax		
	comp=Z,27nm,1.4s						
TLY	**Talaya**	**7.38**	**79**	*e*P	**Pn**	**21 46 52.5**	**-0.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TLY	**Talaya**	**7.38**	**79**	Pg	Pb	21 47 09.5	-4.0
	comp=Z,0.0nm,0.3s,baz=268,slow=14,SNR=2.9						
TLY				Lg	Lg	21 48 54.7	
	comp=Z,0.0nm,0.3s,baz=21,slow=10.0,SNR=4.5						
TLY				LR	LR	21 49 50.0	
	comp=Z,158nm,19.8s,baz=286,slow=39						
MK31	**Makanchi Array**	**7.56**	**241**	⇓Pn	**Pn**	**21 46 56.9**	**+1.2**
	comp=Z,20nm,0.6s,baz=72,slow=11,SNR=555						
MK31				⇑Lg	Lg	21 49 04.2	
	comp=Z,52nm,0.7s,baz=57,slow=29,SNR=5.5						
MKAR	**Makanchi Array**	**7.56**	**241**	P	**Pn**	**21 46 56.6**	**+0.9**
MKAR						21 48 20.4	
MKAR				pmax	pmax		
	comp=Z,11nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR				smax	smax		
	comp=N,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,148nm,18.2s						
MKAR	**Makanchi Array**	**7.56**	**241**	Pn	**Pn**	**21 46 56.6**	**+0.9**
	comp=Z,11nm,0.3s,baz=53,slow=16,SNR=586						
MKAR				Pg		21 47 23.4	-6.8
	comp=Z,4.7nm,0.3s,baz=71,slow=15,SNR=8.4						
MKAR				Sn	**Sn**	**21 48 20.4**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=70,slow=16,SNR=3.7						
MKAR				Lg	Lg	21 49 02.5	
	comp=Z,2.4nm,0.3s,baz=70,slow=25,SNR=2.9						
MKAR				LR	LR	21 50 01.2	
	comp=Z,148nm,18.2s,baz=44,slow=39						
WMQ	**Urumqi**	**7.59**	**204**	*e*Pn	**Pn**	**21 46 58.0**	**+1.9**
WMQ				Sn	**Sn**	**21 48 21.6**	**-0.6**
WMQ				SMN			
	comp=Z,120nm,1.0s						
WMQ				SME			
	comp=Z,180nm,0.9s						
WMQ				LN			
	comp=Z,560nm,3.2s						
WMQ				LE			
	comp=Z,680nm,3.2s						
WMQ				LZ			
	comp=Z,540nm,4.0s						
KURK	**Kurchatov**	**8.47**	**274**	⇓Pn	**Pn**	**21 47 08.0**	**-0.1**
	comp=Z,5.1nm,0.6s						
KURK				⇓Sn	**Sn**	**21 48 41.2**	**-2.5**
	comp=Z,16nm,0.6s						
KURK				⇑Lg	Lg	21 49 28.1	
	comp=Z,110nm,0.9s						
KURK	**Kurchatov**	**8.47**	**274**	P	**Pn**	**21 47 08.7**	**+0.6**
KURK						21 48 42.6	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK				smax	smax		
	comp=N,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**8.54**	**274**	⇑Pn	**Pn**	**21 47 08.8**	**-0.3**
	comp=N,16nm,0.6s						
KURBB				⇓Sn	**Sn**	**21 48 41.8**	**-3.4**
	comp=N,83nm,0.7s						
KURBB				⇑Lg	Lg	21 49 32.5	
	comp=N,211nm,0.7s						
KURBB	**Kurchatov Arra**	**8.54**	**274**	Pn	**Pn**	**21 47 08.7**	**-0.3**
	comp=N,0.5nm,0.3s,baz=84,slow=14,SNR=57						
KURBB				Sn	**Sn**	**21 48 42.6**	**-2.7**
	comp=N,0.9nm,0.3s,baz=84,slow=22,SNR=7.7						
KURBB				Lg	Lg	21 49 32.2	
	comp=N,0.9nm,0.3s,baz=320,slow=19,SNR=7.1						
SONM	**Songino Array**	**9.88**	**102**	Pn	**Pn**	**21 47 26.7**	**-0.9**
	comp=N,0.3nm,0.3s,baz=294,slow=15,SNR=8.1						
SONM				Pg		21 48 03.5	
	comp=N,0.9nm,0.3s,baz=291,slow=18,SNR=13						
SONM				Lg	Lg	21 50 18.3	
	comp=N,1.0nm,0.3s,baz=292,slow=25,SNR=7.4						
SONM				LR	LR	21 51 23.1	
	comp=N,212nm,18.2s,baz=279,slow=38						
ULN	**Ulaanbaatar**	**10.28**	**101**	*i* P	Pn	21 47 40.8	+7.7
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
PDGK	**Podgornoye**	**11.34**	**233**	⇓Pn	**Pn**	**21 47 46.3**	**-1.1**
	comp=Z,2.8nm,0.5s						
PDGK				⇓Lg	Lg	21 51 05.1	
	comp=Z,74nm,1.3s						
GTA	**Gaotai**	**12.68**	**151**	*e*P	Pn	21 48 08.8	+2.9
GTA				pP		21 48 12.3	
GTA				sP		21 48 15.3	
GTA				S	Sn	21 50 32.5	+5.4
GTA				sS		21 50 38.3	
GTA				SS	SnSn	21 50 47.8	+8.6
GTA				PMZ			
	comp=Z,2.0nm,0.9s						
GTA				LN			
	comp=Z,230nm,6.6s						
GTA				LE			
	comp=Z,400nm,9.7s						
GTA				LZ			
	comp=Z,140nm,5.2s						
OTUK	**Ortayu**	**13.01**	**266**	⇓Pn	**Pn**	**21 48 08.6**	**-1.7**
	comp=Z,3.8nm,0.6s						
OTUK				⇑Sn	**Sn**	**21 50 34.5**	**-0.5**
	comp=Z,3.8nm,0.6s						
OTUK				⇓Lg	Lg	21 51 55.0	
	comp=Z,84nm,1.4s						
BVA0	**Borovoye Array**	**13.49**	**288**	⇑Pn	Pn	21 48 13.5	-3.3
	comp=Z,3.6nm,0.8s,baz=87,slow=15,SNR=16						
BVA0				⇑Sn	**Sn**	**21 50 44.8**	**-1.9**
	comp=Z,14nm,1.1s,baz=93,slow=27,SNR=3.9						
BVAR	**Borovoye Array**	**13.49**	**288**	Pn	Pn	21 48 12.9	-3.9
	comp=Z,0.4nm,0.3s,baz=84,slow=14,SNR=15						
BVAR				LR	LR	21 53 37.5	
	comp=Z,91nm,19.5s,baz=88,slow=38						
TKM2	**Tokmak 2**	**13.69**	**241**	⇓Pn	**Pn**	**21 48 17.0**	**-2.8**
	comp=Z,4.3nm,1.0s						
TKM2				⇑Lg	Lg	21 52 18.8	
	comp=Z,50nm,1.5s						
AAK	**Ala-Archa**	**14.49**	**242**	⇑Pn	**Pn**	**21 48 30.8**	**0.0**
	comp=Z,2.1nm,0.4s						
AAK				⇓Lg	Lg	21 52 45.9	
	comp=Z,

BRTR				MLR	MLR				
	comp=Z,19nm,18.6s								
BRTR	**Keskin Array B**	**41.50**	**278**	P		**P**	**21**	**52**	**3.3 +0.5**
	comp=Z,0.5nm,0.7s,baz=77,slow=7.6,SNR=2.8								
BRTR				LR	LR		22	12	02.6
	comp=Z,19nm,18.6s,baz=49,slow=39								
BURAR	**Bucovina Array**	**42.38**	**293**	⇑*i* P		**P**	**21**	**53**	**00.0 +0.2**
MLR	**Muntele Rosu**	**43.05**	**290**	⇑*i* P		**P**	**21**	**53**	**05.5 +0.2**
KOLS	**Kolonicke sedl**	**43.42**	**296**	*e*P		**P**	**21**	**53**	**09.7 +1.6**
KOLS	**Kolonicke sedl**	**43.42**	**296**	*e*P		**P**	**21**	**53**	**09.7 +1.6**
NB2	**NORSAR Subarra**	**43.53**	**316**	P		**P**	**21**	**53**	**08.7 -0.2**
	comp=Z,1.0nm,0.5s,baz=63,slow=7.9								
NOA	**NORSAR Array B**	**43.53**	**316**	*e*P		**P**	**21**	**53**	**10.5 +1.6**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
NOA	**NORSAR Array B**	**43.53**	**316**	P		**P**	**21**	**53**	**09.6 +0.8**
	comp=Z,0.7nm,0.8s,baz=69,slow=9.1,SNR=14								
JCJ	**Chichijima**	**44.59**	**103**	LR	LR		22	12	30.3
	comp=Z,388nm,20.9s,baz=132,slow=37								
CLL	**Collm**	**47.31**	**303**	*e*P		**P**	**21**	**53**	**41.0 +2.1**
CLL				*i*			21	53	42.1
CLL				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CLL	**Collm**	**47.31**	**303**	*e*P		**P**	**21**	**53**	**41.0 +2.1**
	comp=Z,3.0nm,0.8s								
CLL				*i*			21	53	42.1
GERES	**GERESS Array B**	**48.27**	**300**	LR	LR		22	15	23.9
	comp=Z,34nm,18.6s,baz=45,slow=38								
ILAR	**Eielson Array**	**56.08**	**26**	*e*P		**P**	**21**	**54**	**46.1 +1.9**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**56.08**	**26**	P		**P**	**21**	**54**	**45.0 +0.8**
	comp=Z,0.7nm,0.5s,baz=321,slow=5.2,SNR=10								
ESDC	**Sonseca Array**	**63.83**	**301**	P		**P**	**21**	**55**	**37.7 -0.2**
	comp=Z,0.2nm,0.4s,baz=47,slow=7.5,SNR=3.2								
YKA	**Yellowknife Ar**	**65.07**	**13**	P		**P**	**21**	**55**	**45.4 -0.1**
	comp=Z,0.4nm,0.8s,baz=337,slow=6.9,SNR=6.0								
WRA	**Warramunga Arr**	**79.71**	**140**	P		**P**	**21**	**57**	**12.8 -0.5**
	comp=Z,0.3nm,0.3s,baz=345,slow=6.4,SNR=7.5								
TORD	**Torodi Ar. Bea**	**80.11**	**279**	P		**P**	**21**	**57**	**15.2 -0.5**
	comp=Z,0.7nm,0.9s,baz=14,slow=4.9,SNR=5.9								

*ISCJB **14** 21:53:18.7±0.7,32.°92N±0.°07×96.°98E±0.°09,h10km, mb3.4/4,Error ellipse: s-maj=11.9km s-min=8.4km az=39.8*

*IDC **14** 21:53:19.3±1.2,32.°95N×96.°98E, h0km,mb3.4/4, mb1 3.6/7,mb1mx3.3/39,mbtmp3.5/7,ML3.2/2,MS2.8/1, Ms1 3.0/1,ms1mx2.3/29,Error ellipse: s-maj=69.1km s-min=19.0km az=64.0*

ISC 14 21:53:20.5±1.0,33.°0N±0.°1×97.°0E±0.°1,h10km,n19, σ1°15/19,mb3.5/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**9.79**	**237**	*e*P		**Pn**		**21 55 43.2**	**+1.5**
	3.5nm,0.4s								
ODAN	**Odare**	**10.32**	**236**	*e*P		**Pn**		**21 55 49.5**	**+0.7**
	16nm,0.6s								
JIRN	**Jiri**	**10.72**	**243**	*e*P		**Pn**		**21 55 55.7**	**+1.1**
	4.1nm,0.4s								
RAMN	**Ramite**	**10.82**	**239**	*e*P		**Pn**		**21 55 56.9**	**+1.1**
	7.3nm,0.4s								
GUN	**Gumba**	**10.83**	**245**	*e*P		**Pn**		**21 55 57.4**	**+1.4**
	14nm,0.4s								
KKN	**Kakani**	**11.35**	**246**	*e*P		**Pn**		**21 56 03.6**	**+0.6**
PKI	**Pulchoki**	**11.36**	**245**	*e*P		**Pn**		**21 56 03.8**	**+0.6**
	8.1nm,0.5s								
PKIN	**Phulchoki**	**11.37**	**245**	*e*P		**Pn**		**21 56 04.0**	**+0.7**
	4.8nm,0.5s								
GKN	**Gorkha**	**11.74**	**248**	*e*P		**Pn**		**21 56 09.2**	**+0.9**
	2.0nm,0.3s								
DANN	**Dangsing**	**12.28**	**251**	*e*P		**Pn**		**21 56 15.3**	**-0.5**
	6.2nm,0.5s								
KOLN	**Koldanda**	**12.66**	**249**	*e*P		**Pn**		**21 56 20.1**	**-0.8**
	3.9nm,0.5s								
PYUN	**Piuthan**	**13.00**	**252**	*e*P		**Pn**		**21 56 22.7**	**-2.8**
	16nm,0.4s								
CMAR	**Chiang Mai Arr**	**14.58**	**173**	Pn		**Pn**		**21 56 45.9**	**-1.1**
	0.0nm,0.3s,baz=346,slow=13,SNR=8.7								
CMAR				LR		LR		22 02	54.4
	comp=Z,34nm,18.4s,baz=195,slow=40								
SONM	**Songino Array**	**16.45**	**23**	Pn		**Pn**		**21 57 11.6**	**+0.1**
	baz=212,slow=12,SNR=4.8								
MKAR	**Makanchi Array**	**17.77**	**325**	P		**P**		**21 57 28.2**	**-0.4**
	0.1nm,0.3s,baz=128,slow=14,SNR=7.3								
KURBB	**Kurchatov Arra**	**22.24**	**328**	P		**P**		**21 58 18.1**	**+0.7**
	0.7nm,0.7s,baz=133,slow=11,SNR=4.8								
ZALV	**Zalesovo Beam**	**22.67**	**341**	P		**P**		**21 58 22.4**	**+0.5**
	0.5nm,0.4s,baz=132,slow=6.0,SNR=2.7								
WRA	**Warramunga Arr**	**63.60**	**140**	P		**P**		**22 03 52.4**	**+0.7**
	0.5nm,0.8s,baz=318,slow=9.8,SNR=3.8								
ASAR	**Alice Springs**	**66.44**	**143**	P		**P**		**22 04 09.9**	**-0.3**
	0.2nm,0.4s,baz=324,slow=6.7,SNR=5.7								

*ISCJB **14** 21:53:50.7±0.8,53.°41N±0.°07×163.°09W±0.°07,h29km, mb3.7/8,MS3.2/2,Error ellipse: s-maj=10.0km s-min=5.2km az=163.4*

*NEIC **14** 21:53:51.5,53.°44N×163.°12W,h26km,ML3.2(AEIC),After AEIC.*

*IDC **14** 21:53:53.1±3.5,54.°27N×163.°60W,h0km,mb3.8/8, mb1 3.8/10,mb1mx3.6/41,mbtmp3.7/10,ML3.2/2,MS3.3/2, Ms1 3.3/2,ms1mx2.6/31,Error ellipse: s-maj=82.5km s-min=23.2km az=160.0*

ISC 14 21:53:53.2±1.1,53.°58N±0.°09×163.°26W±0.°05,h29km,n30, σ0°89/33,mb3.8/8,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.19**	**320**	P		**Pn**		**21 54 14.3**	**+0.3**
FALS	**False Pass**	**1.29**	**356**	P		**Pn**		**21 54 15.5**	**+0.3**
FALS				S		**Sb**		**21 54 34.0**	**+1.1**
SSLW	**Shishaldin Wes**	**1.30**	**337**	P		**Pb**		**21 54 16.2**	**-0.8**
SSLN	**Shishaldin Nor**	**1.31**	**341**	P		**Pb**		**21 54 16.8**	**-0.4**
DRIA	**Deer Island**	**1.51**	**22**	P		**Pn**		**21 54 18.0**	**-0.3**
AKSA	**Akutan Strait**	**1.55**	**292**	P		**Pn**		**21 54 19.0**	**+0.2**
AKSA				S		**Sb**		**21 54 40.0**	**-0.3**
AKUT	**Akutan**	**1.59**	**292**	P		**Pn**		**21 54 19.9**	**+0.6**
AKUT				S		**Sb**		**21 54 42.1**	**+0.6**
DT1	**Dutton Round H**	**1.64**	**20**	P		**Pn**		**21 54 19.8**	**-0.3**
DTNA	**Dutton South F**	**1.68**	**20**	P		**Pn**		**21 54 20.6**	**-0.1**
ZRO	**Akutan Zero**	**1.69**	**289**	P		**Pn**		**21 54 21.1**	**+0.3**
UNV	**Unalaska Valle**	**1.94**	**279**	P		**Pn**		**21 54 24.1**	**-0.2**
UNV				S		**Sn**		**21 54 48.5**	**+0.9**
MREP	**Makushin Rep't**	**2.08**	**278**	P		**Pn**		**21 54 27.1**	**+0.8**
MSW	**Makushin Switc**	**2.12**	**281**	P		**Pn**		**21 54 27.3**	**+0.6**
MSW				S		**Sb**		**21 54 54.0**	**-2.8**
MSOM	**Makushin Julie**	**2.21**	**278**	P		**Pn**		**21 54 28.4**	**+0.6**
SDPT	**Sand Point**	**2.41**	**41**	P		**Pn**		**21 54 30.8**	**+0.1**
OKFG	**Magazine Ridge**	**2.78**	**268**	P		**Pn**		**21 54 36.1**	**+0.4**
OKSP	**Okmok Steeple**	**3.03**	**266**	P		**Pn**		**21 54 39.6**	**+0.5**
NIKH	**Nikolski High**	**3.41**	**262**	P		**Pn**		**21 54 44.1**	**-0.3**
ILAR	**Eielson Array**	**13.96**	**30**	Pn		Pn		21 57 02.4	-6.4
	0.0nm,0.3s,baz=223,slow=11,SNR=3.1								
INK	**Inuvik**	**20.33**	**32**	P		**P**		**21 58 24.9**	**-1.7**
	0.1nm,0.3s,baz=259,slow=5.2,SNR=3.2								
INK				LR		LR		22 07	16.2
	comp=Z,82nm,18.3s,baz=210,slow=40								
YKA	**Yellowknife Ar**	**26.64**	**51**	P		**P**		**21 59 30.8**	**+1.9**
	0.5nm,0.8s,baz=270,slow=8.8,SNR=10								
ZALV	**Zalesovo Beam**	**58.94**	**320**	LR		LR		22 31	06.5
	comp=Z,26nm,19.5s,baz=70,slow=38								
KURK	**Kurchatov**	**63.83**	**321**	P		**P**		**22 04 23.6**	**+1.1**
KURBB	**Kurchatov Arra**	**63.94**	**321**	P		**P**		**22 04 23.6**	**+0.4**
	0.2nm,0.4s,baz=41,slow=6.6,SNR=7.1								
BVAR	**Borovoye Array**	**64.77**	**327**	P		**P**		**22 04 28.9**	**+0.3**
	1.3nm,0.8s,baz=57,slow=11,SNR=12								
FINES	**FINESS Array B**	**65.09**	**355**	P		**P**		**22 04 29.4**	**-1.0**
	1.9nm,0.9s,baz=15,slow=8.3,SNR=4.6								
MKAR	**Makanchi Array**	**65.56**	**317**	P		**P**		**22 04 34.0**	**+0.1**
	0.3nm,0.8s,baz=36,slow=6.4,SNR=3.5								
AAK	**Ala-Archa**	**72.13**	**319**	P		**P**		**22 05 15.1**	**+0.2**
	0.9nm,0.6s,baz=196,slow=6.2,SNR=5.1								
AKASG	**Malin Array Be**	**75.56**	**352**	P		**P**		**22 05 34.1**	**-0.5**
	0.3nm,0.3s,baz=3.4,slow=4.8,SNR=4.2								
BRTR	**Keskin Array B**	**85.93**	**347**	P		**P**		**22 06 31.2**	**+0.8**
	0.5nm,0.8s,baz=66,slow=1.7,SNR=3.7								

*ISCJB **14** 22:34:52.1±0.4,32.°19N±0.°02×115.°17W±0.°02,h10km,3km, mb3.6/5,MS3.2/4,Error ellipse: s-maj=3.0km s-min=2.8km az=137.8*

*IDC **14** 22:34:52.0±1.7,32.°14N×115.°16W,h0km,mb3.8/5, mb1 3.9/11,mb1mx3.7/41,mbtmp3.6/11,ML3.3/5,MS3.2/11, Ms1 3.2/11,ms1mx3.0/36,Error ellipse: s-maj=30.7km s-min=10.6km az=38.0*

*MEX **14** 22:34:55.3±0.8,32.°15N×115.°08W,h10km±7km,MD3.8*

*ECX **14** 22:34:55.6±0.6,32.°19N×115.°25W,h6km,MD4.3,ML4.5*

*NEIC **14** 22:34:55.0,32.°19N×115.°24W,h5km,MD4.4(ECX), ML4.4(PAS),After ECX.*

ISC 14 22:34:53.3±0.9,32.°15N±0.°02×115.°21W±0.°02,h11km±6km, n117,σ1°9°60/125,mb3.9/5,MS3.1/4,17C-24D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.17**	**190**	⇓*e*P		**Pg**		**22 34 57.5**	**+0.5**
EMX				*e*S		**Sg**		**22 35 00.3**	**+0.7**
MBIG	**Mexicali**	**0.25**	**2**	*i* P		**Pb**		**22 35 00.1**	**+0.1**
MBIG				*e*S		**Sb**		**22 35 05.5**	**+1.1**
CPBX	**Cerro Prieto**	**0.28**	**343**	⇑*e*P		**Pb**		**22 34 60.0**	**-0.4**
CPBX				*e*S		**Sg**		**22 35 03.4**	**+0.6**
CPBX				*e*S		**Sg**		**22 35 03.4**	**+0.6**
CPBX				AML		AML		22 35 07.3	
	comp=N,124μm,0.4s								
CPBX				⇑*e*				22 35 07.3	
EMSC	**East Mesa**	**0.61**	**18**	*e*Pg		**Pg**		**22 35 03.8**	**-1.5**
RDX	**Rancho Dawling**	**0.66**	**250**	*e*P		**Pb**		**22 35 06.8**	**-0.3**
RDX				*e*S		**Sb**		**22 35 16.1**	**-0.4**
RDX				⇑*e*				22 35 17.3	
RDX				AML		AML		22 35 17.3	
	comp=N,12μm,0.6s								
ECBX	**El Chinero**	**0.69**	**169**	⇓*e*P		**Pg**		**22 35 07.0**	**+0.2**
ECBX				*e*S		**Sb**		**22 35 16.5**	**-0.5**
ECBX				AML		AML		22 35 17.6	
	comp=E,21μm,0.5s								
ECBX				⇑*e*				22 35 17.6	
ERPC	**Ernies Place**	**0.70**	**327**	*e*Pg		**Pg**		**22 35 05.7**	**-1.3**
COA	**Coachella**	**0.71**	**6**	*e*Pg		**Pg**		**22 35 05.0**	**-2.1**
WESC	**Westside Schoo**	**0.75**	**324**	*e*Pg		Pg		22 35 02.5	-5.4
YUH	**Yuha Desert**	**0.78**	**309**	*e*Pg		Pg		22 35 04.9	-3.5
YUH				*e*ScS		ScS		22 50 32.5	+6.1
BTCC	**Brunts Corner**	**0.86**	**359**	*e*Pg		**Pg**		**22 35 08.8**	**-1.0**
RMX	**La Rumorosa**	**0.86**	**301**	⇓*e*P		**Pg**		**22 35 09.9**	**-0.2**
RMX				*e*S		**Sg**		**22 35 20.8**	**-0.6**
RMX				⇑*e*				22 35 24.9	
RMX				AML		AML		22 35 24.9	
	comp=N,13μm,0.5s								
SWSC	**Sam W. Stewart**	**0.93**	**328**	⇑P		**Pg**		**22 35 09.4**	**-1.9**
	baz=0.9								
SWSC	**Sam W. Stewart**	**0.93**	**328**	*e*Pg		**Pg**		**22 35 09.6**	**-1.7**
GLA	**Glamis**	**0.95**	**20**	⇓P		**Pg**		**22 35 10.2**	**-1.4**
	baz=0.9								
GLA				⇓S		**Sg**		**22 35 21.8**	**-2.3**
	baz=0.9								
GLA	**Glamis**	**0.95**	**20**	*e*Pg		**Pb**		**22 35 11.9**	**0.0**
GLA				*e*Sg		**Sg**		**22 35 22.7**	**-1.4**
CRR	**Carrizo Plain**	**0.97**	**319**	*e*Pg		**Pg**		**22 35 09.8**	**-2.4**
ZAX	**El Zacaton**	**1.11**	**235**	⇓*e*P		**Pn**		**22 35 14.9**	**0.0**
ZAX				⇑*e*				22 35 32.2	
ZAX				AML		AML		22 35 32.2	
	comp=E,13μm,0.6s								
SPIG	**San Pedro Mart**	**1.13**	**191**	*e*P		**Pb**		**22 35 13.7**	**-1.3**
SPIG				*e*S		**Sb**		**22 35 28.4**	**-1.5**
SPIG	**San Pedro Mart**	**1.13**	**191**	⇓*e*P		**Pn**		**22 35 15.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.13**	**191**	*e*P		**Pb**		**22 35 13.3**	**-1.7**
SPIG				*e*S		**Sb**		**22 35 28.4**	**-1.5**
SPX	**San Pedro Mart**	**1.13**	**191**	*e*P		**Pn**		**22 35 15.5**	**+0.1**
SPX	**San Pedro Mart**	**1.13**	**191**	*e*P		**Pb**		**22 35 13.8**	**-1.3**
SPX				*e*S		**Sb**		**22 35 26.6**	**-3.3**
CBKC	**Canebrake**	**1.16**	**310**	*e*Pg		**Pb**		**22 35 13.2**	**-2.1**
CBX	**Cerro Bola**	**1.25**	**278**	*e*P		**Pn**		**22 35 16.7**	**-0.1**
CBX				*e*S		**Sb**		**22 35 33.0**	**-0.1**
CBX	**Cerro Bola**	**1.25**	**278**	⇓*e*P		**Pn**		**22 35 16.8**	**-0.1**
CBX				*e*S		**Sb**		**22 35 32.7**	**-0.4**
CBX				⇓*e*				22 35 34.0	
CBX				AML		AML		22 35 34.0	
	comp=N,31μm,0.5s								
CBX	**Cerro Bola**	**1.25**	**278**	*e*P		**Pn**		**22 35 14.9**	**-2.0**
CBX				*e*S		**Sb**		**22 35 31.2**	**-1.8**
MONP	**Monument Peak,**	**1.26**	**306**	⇓P		**Pn**		**22 35 15.1**	**-2.1**
	baz=1.2								
ECNX	**Esteban Cantu**	**1.28**	**248**	⇓*e*P		**Pg**		**22 35 17.9**	**-0.1**
FRK	**Frink**	**1.30**	**344**	*e*Pn		**Pn**		**22 35 14.6**	**-2.9**
LTC	**Little Chuckwa**	**1.34**	**5**	*e*Pn		Pn		22 35 14.3	-3.7
BAR	**Barrett**	**1.35**	**293**	*e*Sg		**Sb**		**22 35 34.1**	**-1.8**
PBX	**Punta Banda**	**1.35**	**253**	⇓*e*P		**Pg**		**22 35 19.0**	**-0.4**
113A	**Mohawk Valley,**	**1.36**	**63**	⇓P		**Pn**		**22 35 16.7**	**-1.6**
	baz=1.4								
113A				⇓S		**Sb**		**22 35 33.3**	**-3.0**
	baz=1.4								
BATC	**Bat Cave Butte**	**1.41**	**338**	*e*Pn		**Pn**		**22 35 16.3**	**-2.7**
BORC	**Borrego Spring**	**1.51**	**318**	*e*Pn		Pn		22 35 14.9	-5.5
BC3	**Big Chuckawall**	**1.51**	**352**	⇓P		**Pn**		**22 35 18.3**	**-2.2**
	baz=1.5								
EML	**El Monte Cty P**	**1.57**	**298**	*e*Pn		**Pn**		**22 35 18.9**	**-2.3**
HAY	**Hayfield**	**1.60**	**346**	*e*Pn		**Pn**		**22 35 19.3**	**-2.3**
CTW	**Cottonwood Mou**	**1.62**	**340**	*e*Pn		**Pg**		**22 35 24.4**	**-0.1**
Y12C	**Blythe**	**1.69**	**20**	⇑P		**Pn**		**22 35 21.1**	**-1.8**
	baz=1.7								
HWB	**Hans Werner Br**	**1.72**	**301**	*e*Pn		**Pn**		**22 35 21.7**	**-1.6**
HWB				*e*Sn		**Sb**		**22 35 46.0**	**-0.6**
109C	**Camp Elliot, M**	**1.76**	**295**	⇑P		**Pn**		**22 35 22.4**	**-1.4**
	baz=1.7								
109C				⇑Sb		**Sn**		**22 35 46.9**	**+0.6**
	baz=1.7								
CPE	**Camp Elliot**	**1.76**	**295**	*e*Pn		**Pn**		**22 35 22.8**	**-1.1**
FRD	**Ford Ranch, An**	**1.78**	**319**	*e*Pn		**Pn**		**22 35 22.2**	**-2.0**
PFO	**Pinyon Flats O**	**1.79**	**324**	Pn		**Pn**		**22 35 22.1**	**-2.3**
	comp=N,19nm,0.3s,baz=147,slow=12,SNR=158								
PFO				Lg		Lg		22 35 48.5	
	comp=N,104nm,0.3s,baz=51,slow=22,SNR=12								
PFO				LR		LR		22 36 05.3	
	comp=N,245nm,20.1s,baz=134,slow=40								
PFO	**Pinyon Flats O**	**1.79**	**324**	⇓P		**Pn**		**22 35 22.2**	**-2.2**
	baz=1.8								
SNDA	**J Saunders Pla**	**1.83**	**320**	*e*Pn		Pn		22 35 20.2	-4.7
PLM	**Palomar**	**1.84**	**311**	*e*Pn		**Pn**		**22 35 22.0**	**-3.1**
DNR	**Dunn Ranch,Anz**	**1.85**	**320**	*e*Pn		**Pn**		**22 35 23.5**	**-1.7**
CRY	**Cary Ranch**	**1.91**	**318**	*e*Pn		**Pn**		**22 35 24.1**	**-1.8**
BELC	**Belle Mtn. Jos**	**1.96**	**340**	⇑P		**Pn**		**22 35 24.5**	**-2.1**
	baz=1.9								
IRM	**Iron Mountain**	**2.00**	**1**	⇓P		**Pn**		**22 35 25.4**	**-1.7**
	baz=2.0								
214A	**Organ Pipe Nat**	**2.04**	**95**	⇑P		**Pn**		**22 35 25.8**	**-1.9**
	baz=2.1								
214A				⇑Sb		**Sb**		**22 35 57.5**	**+1.6**
	baz=2.1								
BACC	**Bachelor Mtn.**	**2.12**	**314**	*e*Pn		**Pn**		**22 35 27.0**	**-1.8**
BACC				*e*Sn		**Sb**		**22 35 59.2**	**+1.0**
DGR	**Domenigoni Val**	**2.13**	**315**	*e*Pn		**Pn**		**22 35 27.2**	**-1.7**
DGR				*e*Sn		**Sb**		**22 35 59.1**	**+0.7**
HMTC	**Hemet**	**2.17**	**316**	*e*Pn		**Pn**		**22 35 27.8**	**-1.6**
HMTC				*e*Sn		**Sb**		**22 36 00.2**	**+0.7**
MURC	**Murrieta**	**2.21**	**311**	⇓P		**Pn**		**22 35 28.2**	**-1.9**
	baz=2.2								
Z14A	**Wintersburg**	**2.25**	**57**	⇑P		**Pn**		**22 35 29.4**	**-1.2**
	baz=2.3								
Y14A	**Wickenburg**	**2.57**	**45**	⇑P		**Pn**		**22 35 33.7**	**-1.2**
	baz=2.6								
GMRC	**Granite Mounta**	**2.65**	**352**	⇓P		**Pn**		**22 35 34.5**	**-1.7**
	baz=2.6								
NEE2	**Needles Airpor**	**2.65**	**11**	⇓P		**Pn**		**22 35 34.5**	**-1.6**
	baz=2.6								
CHNC	**Chino**	**2.77**	**312**	*e*Sn		**Sb**		**22 36 18.9**	**+1.9**
LDFC	**Landfair**	**2.92**	**2**	*e*Pn		**Pn**		**22 35 39.7**	**-0.1**
LDFC				*e*Sn		**Sb**		**22 36 19.0**	**-2.2**
BFSC	**Mount Baldy Ra**	**2.92**	**316**	⇓P		**Pn**		**22 35 38.5**	**-1.4**
	baz=2.9								
SSK	**Sunset Peak**	**2.92**	**315**	*e*Pn		**Pb**		**22 35 46.8**	**+1.1**
CIS	**Catalina Islan**	**2.97**	**296**	⇓P		**Pn**		**22 35 39.4**	**-1.1**
	baz=2.9								
CIS				⇓Sb		**Sb**		**22 36 23.5**	**+0.9**
	baz=2.9								
W13A	**Hualapai Mount**	**3.14**	**20**	⇓P		**Pn**		**22 35 40.9**	**-2.0**
	baz=3.1								
MWC	**Mount Wilson**	**3.16**	**312**	*e*Pn		**Pn**		**22 35 44.1**	**+0.9**
MWC				*e*Sn		**Sn**		**22 36 22.9**	**+1.8**
HOLC	**Holcomb Ridge**	**3.19**	**317**	*e*Sn		**Sb**		**22 36 31.6**	**+2.6**
PASC	**Pasadena Art C**	**3.21**	**310**	*e*Pn		**Pn**		**22 35 45.4**	**+1.7**
PASC				*e*Sn		**Sn**		**22 36 22.3**	**+0.3**
OSI	**Osito Audit: C**	**3.83**	**311**	⇑Sb		**Sb**		**22 36 47.7**	**+0.3**
	baz=3.8								
X16A	**Lo Mia Camp, P**	**3.88**	**53**	⇑S		**Sn**		**22 36 37.5**	**-1.3**
	baz=3.9								

TPNV	**Topopah Spring**	**4.86**	**350**	*e*Pn		**Pn**		**22 36 07.2**	**+0.7**
KNB	**Kanab**	**5.23**	**21**	*e*Pn		**Pn**		**22 36 12.8**	**+1.0**
TPH	**Tonopah**	**6.13**	**345**	*e*Pg		Pg		22 36 54.1	+3.3
BTU	**Barney Top**	**6.22**	**25**	*e*Pn		**Pn**		**22 36 27.6**	**+2.1**
NV01	**Mina Array Sit**	**6.75**	**339**	*e*Pn		**Pn**		**22 36 34.8**	**+2.2**
NV01				*e*Pg		**Pg**		**22 37 00.6**	**-2.1**
NVAR	**Mina Array Bea**	**6.75**	**339**	Pn		**Pn**		**22 36 34.8**	**+2.2**
	comp=N,0.2nm,0.3s,baz=191,slow=9.2,SNR=3.3								
NVAR				Pg		**Pg**		**22 37 00.6**	**-2.1**
	comp=N,0.6nm,0.3s,baz=155,slow=16,SNR=9.0								
MMU	**Miners Mountai**	**6.83**	**27**	*e*Pn		**Pn**		**22 36 35.6**	**+1.9**
LAZ	**Ladron**	**7.12**	**69**	*e*Pn		**Pn**		**22 36 38.7**	**+1.0**
LENM	**Lemitar**	**7.19**	**72**	*e*Pn		**Pn**		**22 36 39.1**	**+0.5**
BNM	**Barren Site**	**7.46**	**72**	*e*Pn		**Pn**		**22 36 43.2**	**+0.7**
PV05	**Paradox Valley**	**7.74**	**39**	*e*Pn		Pn		22 36 52.1	+5.9
ANMO	**Albuquerque**	**7.81**	**67**	Pn		**Pn**		**22 36 47.2**	**0.0**
	comp=N,0.4nm,0.3s,baz=247,slow=14,SNR=4.1								
ANMO				LR		LR		22 39	55.8
	comp=N,186nm,20.5s,baz=256,slow=39								
TMUT	**Trail Mountain**	**7.83**	**23**	*e*Pg		Pb		22 37 15.5	+6.2
TMUT				*e*Sn		Sn		22 38 05.8	-11
PV10	**Paradox Valley**	**8.00**	**37**	*e*Pn		**Pn**		**22 36 52.1**	**+2.4**
PV09	**Paradox Valley**	**8.04**	**36**	*e*Pn		Pn		22 36 55.2	+4.8
NLU	**North Lily Min**	**8.19**	**17**	*e*Pg		**Pg**		**22 37 31.8**	**+1.7**
DUG	**Dugway, Tooele**	**8.25**	**13**	*e*Pg		**Pg**		**22 37 32.5**	**+1.2**
ELK	**Elko**	**8.57**	**360**	Pn		**Pn**		**22 36 59.8**	**+2.1**
	comp=N,0.1nm,0.3s,baz=178,slow=9.4,SNR=9.6								
ELK				Lg		Lg		22 39	25.2
	comp=N,0.3nm,0.3s,baz=209,slow=2.4,SNR=3.2								
ELK				LR		LR		22 40	33.8
	comp=N,95nm,20.6s,baz=179,slow=40								
ELK	**Elko**	**8.57**	**360**	Pn		**Pn**		**22 36 59.8**	**+2.1**
ELK				*e*Pg		**Pg**		**22 37 37.6**	**+0.1**
ELK				Lg		Lg		22 39	25.2
S22A	**4UR Ranch, Cre**	**8.85**	**49**	*e*Pn		**Pn**		**22 37 04.7**	**+3.1**
LPIG	**La Paz**	**9.11**	**150**	LR		LR		22 40	24.7
	comp=N,105nm,18.3s,baz=340,slow=37								
SMCO	**Snowmass**	**9.69**	**41**	*e*Pn		Pn		22 37	16.5 +3.4
LTX	**Lajitas**	**10.32**	**103**	*e*Pn		**Pn**		**22 37 21.6**	**+0.2**
LTX				*e*Lg		Lg		22 40	23.9
TXAR	**Lajitas Array**	**10.32**	**103**	Pn		**Pn**		**22 37 21.6**	**+0.2**
	comp=N,

TRQA	**Tornquist**	**9.42**	**119**	*e*Pn		**Pn**	**23 04 41.9**	**-1.6**
	comp=N,71nm,1.4s							
TRQA				*e*Sn		**Sn**	**23 06 26.0**	**-2.5**
LPAZ	**La Paz**	**17.94**	**13**	P		**P**	**23 06 38.3**	**+0.2**
	comp=N,0.4nm,0.3s,baz=197,slow=6.5,SNR=20							
LPAZ	**La Paz**	**17.94**	**13**	*e*Pn		**Pn**	**23 06 36.1**	**-1.6**
	comp=N,16nm,1.1s							
SIV	**San Ignacio**	**20.54**	**33**	P		**P**	**23 07 04.6**	**-1.4**
	comp=N,6.0nm,0.8s,baz=231,slow=11,SNR=12							
SIV				LR		LR	23 16 36.7	
	comp=N,614nm,19.8s,baz=230,slow=41							
NNA	**Nana**	**22.17**	**348**	LR		LR	23 14 10.2	
	comp=N,125nm,20.8s,baz=178,slow=32							
SAML	**Samuel**	**26.23**	**21**	*e*P		**P**	**23 07 59.7**	**-2.6**
	comp=N,10nm,1.2s							
ATAH	**Atahualpa**	**27.19**	**347**	LR		LR	23 17 43.9	
	comp=N,195nm,18.3s,baz=175,slow=34							
BDFB	**Brasilia**	**28.52**	**56**	P		**P**	**23 08 20.9**	**-2.2**
	comp=N,2.6nm,0.4s,baz=213,slow=11,SNR=5.5							
BDFB				LR		LR	23 20 49.3	
	comp=N,653nm,19.5s,baz=226,slow=39							
SNAA	**Sanae**	**51.81**	**158**	P		**P**	**23 11 35.2**	**+0.6**
	comp=N,2.1nm,0.9s,baz=276,slow=9.1,SNR=9.8							
QSPA	**South Pole Qui**	**56.35**	**180**	P		**P**	**23 12 09.2**	**+1.2**
	comp=N,3.6nm,1.1s,baz=168,slow=1.0,SNR=7.4							
TXAR	**Lajitas Array**	**69.48**	**331**	P		**P**	**23 13 37.2**	**+1.6**
	comp=N,0.4nm,0.5s,baz=152,slow=8.7,SNR=4.4							
TXAR				LR		LR	23 39 46.1	
	comp=N,108nm,18.1s,baz=0.0,slow=32							
PPT	**Papeete**	**69.96**	**262**	LR		LR	23 37 05.7	
	comp=N,78nm,19.8s,baz=154,slow=30							
WVT	**Waverly**	**71.13**	**347**	*e*P		**P**	**23 13 45.5**	**+0.2**
	comp=N,12nm,0.9s							
MAW	**Mawson**	**73.38**	**164**	LR		LR	23 48 30.6	
	comp=N,89nm,18.1s,baz=241,slow=38							
DBIC	**Dimbokro**	**75.43**	**72**	P		**P**	**23 14 11.9**	**+0.6**
	comp=N,2.4nm,0.6s,baz=230,slow=4.4,SNR=7.8							
DBIC				LR		LR	23 46 01.0	
	comp=N,58nm,18.5s,baz=206,slow=35							
NVAR	**Mina Array Bea**	**83.61**	**325**	P		**P**	**23 14 57.2**	**+1.7**
	comp=N,0.3nm,0.5s,baz=156,slow=6.9,SNR=2.8							
NVAR				pP		**pP**	**23 15 05.2**	**+1.1**
	comp=N,0.6nm,0.6s,baz=134,slow=6.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**84.46**	**70**	P		**P**	**23 15 00.8**	**+0.7**
	comp=N,3.0nm,0.7s,baz=290,slow=7.2,SNR=40							
TORD				pP		**pP**	**23 15 09.0**	**+0.4**
	comp=N,5.9nm,0.9s,baz=293,slow=6.2,SNR=15							
TORD				LR		LR	23 49 49.3	
	comp=N,46nm,20.6s,baz=225,slow=34							
ESDC	**Sonseca Array**	**96.72**	**46**	LR		LR	23 59 14.3	
	comp=N,66nm,18.8s,baz=115,slow=35							
WRA	**Warramunga Ar**	**120.72**	**209**	PKP		**PKPdf**	**23 21 18.6**	**-1.0**
	comp=N,0.4nm,0.8s,baz=172,slow=1.5,SNR=3.9							
BRTR	**Keskin Array B**	**122.04**	**61**	PKP		**PKPdf**	**23 21 21.8**	**+0.2**
	comp=N,0.6nm,0.7s,baz=182,slow=4.6,SNR=5.0							
AKASG	**Malin Array Be**	**122.34**	**47**	PKP		**PKPdf**	**23 21 21.4**	**-0.1**
	comp=N,0.2nm,0.3s,baz=278,slow=2.7,SNR=3.1							
AKASG				pPKP		**pPKPdf**	**23 21 30.0**	**-0.4**
	comp=N,0.5nm,0.5s,baz=254,slow=2.1,SNR=2.5							
BVAR	**Borovoye Array**	**147.40**	**43**	PKPbc		**PKPbc**	**23 22 09.6**	**-0.7**
	comp=N,2.0nm,0.6s,baz=277,slow=4.2,SNR=14							
ZALV	**Zalesovo Beam**	**154.29**	**32**	PKPbc		**PKPbc**	**23 22 27.5**	**+0.9**
	comp=N,2.0nm,0.6s,baz=302,slow=2.8,SNR=13							
ZALV				pPKPbc		**pPKPbc**	**23 22 35.4**	**0.0**
	comp=N,3.4nm,0.6s,baz=303,slow=3.1,SNR=13							
MKAR	**Makanchi Array**	**156.91**	**49**	PKPab		**PKPab**	**23 22 51.6**	**-0.6**
	comp=N,0.9nm,0.5s,baz=283,slow=3.6,SNR=13							
SONM	**Songino Array**	**166.03**	**3**	PKPab		**PKPab**	**23 23 33.8**	**+1.8**
	comp=N,0.8nm,1.0s,baz=2.7,slow=1.8,SNR=4.1							

IDC 14 23:03:54.0±1.5, 31.73N×84.61E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.4/35, mbtmp3.5/9, ML3.1/4, Error ellipse: s-maj=54.5km s-min=18.3km az=64.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.54**	**326**	Pn	Pn	23 07 09.4	+1.8
	0.1nm,0.3s,baz=144,slow=8.7,SNR=2.2						
MKAR	**Makanchi Array**	**15.15**	**354**	Pn	Pn	23 07 28.3	-1.0
	0.0nm,0.3s,baz=185,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**18.49**	**132**	P	P	23 08 11.6	-0.2
	0.1nm,0.3s,baz=319,slow=11,SNR=23						
KURBB	**Kurchatov Arra**	**19.41**	**348**	P	P	23 08 20.9	-0.7
	0.0nm,0.3s,baz=167,slow=11,SNR=8.2						
ZALV	**Zalesovo Beam**	**22.21**	**0**	P	P	23 08 51.4	-0.5
	0.6nm,0.6s,baz=182,slow=8.8,SNR=5.5						
SONM	**Songino Array**	**23.10**	**40**	P	P	23 09 02.0	+0.4
	0.3nm,0.6s,baz=225,slow=8.2,SNR=4.0						
ARCES	**ARCESS Array B**	**49.93**	**337**	P	P	23 12 49.0	-0.1
	3.8nm,1.0s,baz=67,slow=0.0,SNR=4.3						
WRA	**Warramunga Ar**	**70.08**	**130**	P	P	23 15 08.0	-0.1
	0.5nm,0.7s,baz=324,slow=6.4,SNR=3.6						
ASAR	**Alice Springs**	**72.50**	**133**	P	P	23 15 23.0	+0.2
	0.5nm,0.7s,baz=302,slow=5.2,SNR=5.1						

*DDA **14** 23:13:07.8, 38.04N×42.20E, h7km, MD3.0*
*CSEM **14** 23:13:07.7±0.2, 38.06N×42.28E, h5km, MD3.0, Error ellipse: s-maj=4.5km s-min=3.4km az=71.0*
*ISK **14** 23:13:07.6, 38.04N×42.25E, h6km, MD3.1*
ISC 14 23:13:07.8±1.2, 38.05N±0.02×42.25E±0.03, h2km±10km, n37, σ0=75/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATV	**Tatvan**	**0.46**	**2**	*i* P	**Pg**	**23 13 15.9**	**-0.8**
TATV				*i* S	**Sg**	**23 13 23.4**	**+0.7**
TATV	**Tatvan**	**0.46**	**2**	*i* P	**Pg**	**23 13 15.9**	**-0.8**
TATV				*i* S	**Sg**	**23 13 23.4**	**+0.7**
SIRN	**S¯¯rnak**	**0.56**	**167**	*i* P	**Pg**	**23 13 18.6**	**0.0**
SIRN				*i* S	**Sb**	**23 13 27.7**	**-1.2**
SIRN	**S¯¯rnak**	**0.56**	**167**	*i* P	**Pg**	**23 13 18.6**	**0.0**
SIRN				*i* S	**Sb**	**23 13 27.7**	**-1.2**
SIRT	**Sirnak**	**0.56**	**164**	*e*PG	**Pg**	**23 13 18.7**	**+0.2**
SIRT				*e*SG	**Sg**	**23 13 27.1**	**+1.3**
SIRT	**Sirnak**	**0.56**	**164**	*e*Pg	**Pg**	**23 13 18.7**	**+0.2**
SIRT				*e*Sg	**Sg**	**23 13 27.1**	**+1.3**
BTMT	**Batman**	**0.62**	**284**	*e*PG	**Pg**	**23 13 19.9**	**+0.3**
BTMT	**Batman**	**0.62**	**284**	*e*Pg	**Pg**	**23 13 19.9**	**+0.3**
GEVA	**Gevas**	**0.69**	**67**	*i* P	**Pg**	**23 13 20.3**	**-0.7**
GEVA	**Gevas**	**0.69**	**67**	*i* P	**Pg**	**23 13 20.3**	**-0.7**
GEVA				*i* S	**Sb**	**23 13 32.6**	**-0.1**
BEST	**Besiri**	**0.79**	**259**	*i* P	**Pg**	**23 13 22.6**	**-0.3**
BEST				*i* S	**Sb**	**23 13 35.8**	**+0.4**
EKAR	**Karacoban**	**1.22**	**353**	*i* P	**Pg**	**23 13 31.2**	**+0.1**
EKAR	**Karacoban**	**1.22**	**353**	*i* P	**Pg**	**23 13 31.2**	**+0.1**
EKAR				*i* S	**Sn**	**23 13 50.3**	**+1.1**
BNGL	**BINGOL**	**1.25**	**317**	*i* P	**Pb**	**23 13 31.0**	**-1.2**
BNGL				*i* S	**Sn**	**23 13 50.8**	**+0.8**
HAKT	**HAKKARI**	**1.25**	**112**	*i* P	Pg	23 13 43.3	+11
HAKT				*i* S	**Sn**	**23 13 52.3**	**+2.2**
VRTB	**Varto-Mus**	**1.28**	**331**	*e*PN	**Pb**	**23 13 32.4**	**-0.2**
VRTB				*e*SN	**Sn**	**23 13 50.7**	**+0.2**
VRTB	**Varto-Mus**	**1.28**	**331**	*e*Pn	**Pb**	**23 13 32.4**	**-0.2**
VRTB				*e*Sn	**Sn**	**23 13 50.7**	**+0.2**
CUKT	**Cukurca**	**1.34**	**126**	*e*PN	**Pn**	**23 13 33.2**	**-0.4**
CUKT	**Cukurca**	**1.34**	**126**	*e*Pn	**Pn**	**23 13 33.2**	**-0.4**
MARD	**Mardin**	**1.38**	**238**	*i* P	**Pn**	**23 13 33.3**	**-0.7**
MARD				*i* S	**Sn**	**23 13 52.3**	**-0.6**
MAZI	**Mazidag**	**1.54**	**248**	*e*PN	**Pn**	**23 13 36.1**	**-0.3**
MAZI	**Mazidag**	**1.54**	**248**	*e*Pn	**Pn**	**23 13 36.1**	**-0.3**
BNGB	**Bing¶ll**	**1.55**	**308**	*e*PN	**Pn**	**23 13 36.5**	**-0.1**
DIY	**Diyarbakir**	**1.61**	**265**	*e*Pn	**Pg**	**23 13 38.3**	**-0.2**
BINT	**Bingol**	**1.61**	**302**	*e*Pn	**Pn**	**23 13 36.5**	**-0.8**
AGRB	**Hanur-Agry**	**1.64**	**21**	*e*PN	**Pn**	**23 13 37.8**	**+0.1**
AGRB	**Hanur-Agry**	**1.64**	**21**	*e*Pn	**Pn**	**23 13 37.8**	**+0.1**
DYBB	**Diyarbakir**	**1.67**	**267**	*e*PN	**Pb**	**23 13 38.2**	**-1.0**
DIYA	**Diyarbakir**	**1.69**	**267**	*i* P	**Pn**	**23 13 37.3**	**-1.0**
DIYA	**Diyarbakir**	**1.69**	**267**	*i* P	**Pn**	**23 13 37.3**	**-1.0**
EZM	**Erzurum**	**1.98**	**340**	*e*PN	**Pn**	**23 13 42.7**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.34**	**279**	*e*PN	**Pn**	**23 13 47.6**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.34**	**279**	*e*Pn	**Pn**	**23 13 47.6**	**+0.2**
PTK	**Pertek**	**2.40**	**292**	*e*PN	**Pn**	**23 13 48.4**	**+0.2**
PTK	**Pertek**	**2.40**	**292**	*e*Pn	**Pn**	**23 13 48.4**	**+0.2**
MALT	**Malatya**	**3.02**	**276**	*e*PN	**Pn**	**23 13 57.9**	**+1.2**
MALT	**Malatya**	**3.02**	**276**	*e*Pn	**Pn**	**23 13 57.9**	**+1.2**

IDC 14 23:24:55.9±1.8, 3.56S×142.39E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=81.5km s-min=28.0km az=104.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.08**	**205**	P	P	23 29 09.4	+0.3
	0.2nm,0.3s,baz=28,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**21.61**	**202**	P	P	23 29 47.2	-0.4
	0.2nm,0.3s,baz=29,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**72.72**	**321**	P	P	23 36 25.9	0.0
	0.4nm,0.6s,baz=124,slow=6.5,SNR=5.1						
ILAR	**Eielson Array**	**85.09**	**24**	P	P	23 37 33.5	0.0
	0.6nm,0.7s,baz=256,slow=5.2,SNR=5.5						

*ISCJB **14** 23:28:27.7±1.8, 38.5N×0.1±38.22E×0.07, h9km, Error ellipse: s-maj=16.4km s-min=6.2km az=164.3*
*DDA **14** 23:28:27.1, 38.10N×38.34E, h7km, MD2.6*
ISC 14 23:28:28.6±1.9, 38.5N±0.1×38.23E±0.05, h9km, n3, σ0=75/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALT	**Malatya**	**0.21**	**133**	*e*PG	**Pg**	**23 28 32.2**	**-0.7**
MALT				*e*SG	**Sg**	**23 28 36.9**	**+1.0**
AKCD	**Akcadag**	**0.29**	**237**	*i* P	**Pg**	**23 28 34.3**	**-0.1**
AKCD				*i* S	**Sg**	**23 28 38.5**	**+0.2**
ELZG	**Elazig**	**0.59**	**86**	*i* P	**Pg**	**23 28 39.9**	**-0.2**
ELZG				*i* S	**Sg**	**23 28 48.2**	**+0.4**

KRSC 14 23:54:04.2±0.7, 54.28N×163.58E, h43km±11km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.67**	**55**	*e*P	Pn	23 54 32.4	+1.5
BKI				*e*S	Sn	23 54 53.6	+2.5
KBTR	**Krutoberegovo**	**1.98**	**348**	*e*P	Pn	23 54 37.0	+1.8
KBTR				*e*S	Sn	23 55 01.1	+2.3
TUMR	**Tumrok**	**2.23**	**298**	*e*P	Pn	23 54 42.6	+3.9
SPN	**Mys Shipunski**	**2.42**	**242**	*e*S	Sn	23 55 12.4	+2.8
KMNR	**Kamenistaya**	**2.43**	**309**	*e*P	Pn	23 54 44.5	+3.0
KII	**Karymskiy**	**2.44**	**266**	*e*S	Sn	23 55 13.0	+2.8
SMKR	**Semkarok**	**2.60**	**333**	*e*P	Pn	23 54 47.1	+3.3
KLY	**Klyuchi**	**2.64**	**322**	*e*P	Pn	23 54 46.2	+2.0
SRKR	**Sorokina**	**2.75**	**331**	*e*P	Pn	23 54 48.9	+3.1
SDLR	**Sedlovina**	**2.96**	**252**	*e*P	Pn	23 54 52.6	+3.8
SRDR	**Sredinnyy**	**3.01**	**314**	*e*P	Pn	23 54 53.0	+3.6
SMAR	**Somma**	**3.01**	**252**	*e*P	Pn	23 54 53.4	+3.8
UGLR	**Uglovaya**	**3.02**	**251**	*e*P	Pn	23 54 52.7	+3.1
KRER	**Koryakskii**	**3.02**	**253**	*e*P	Pn	23 54 53.1	+3.3
AVH	**Avacha**	**3.04**	**252**	*e*P	Pn	23 54 53.8	+3.9
KRX	**Arik**	**3.06**	**254**	*e*P	Pn	23 54 52.9	+2.7
KRX				*e*S	Sn	23 55 29.0	+3.3
KOK	**Koryaka**	**3.09**	**253**	*e*P	Pn	23 54 53.5	+2.9
PET	**Petropavlovsk**	**3.19**	**249**	*e*S	Sn	23 55 32.8	+4.4
ESO	**Esso**	**3.25**	**302**	*e*P	Pn	23 54 55.6	+2.9
GNL	**Ganaly**	**3.38**	**262**	*e*P	Pn	23 54 59.1	+4.6
RUS	**Russkaya**	**3.55**	**241**	P	Pn	23 55 00.5	+3.8
MTVR	**Mutnovka**	**3.70**	**243**	*e*P	Pn	23 55 02.5	+3.6
MTVR				*e*S	Sn	23 55 45.4	+4.0
ASAK	**Asacha**	**3.90**	**243**	*e*S	Sn	23 55 50.4	+4.3

*NEIC **14** 23:54:13.9±0.9, 13.92S×166.75E, h47km±8km, mb5.0/29, Error ellipse: s-maj=6.9km s-min=6.4km az=81.0*
*IDC **14** 23:54:13.4±0.8, 13.97S×166.81E, h41km±5km, mb4.4/16, mb1 4.5/17, mb1mx4.3/40, mbtmp4.6/17, ML4.3/1, MS4.0/10, Ms1 4.0/10, ms1mx3.7/26, Error ellipse: s-maj=19.9km s-min=12.6km az=99.0*
*ISCJB **14** 23:54:14.4±0.2, 14.01S±0.04×166.77E±0.06, h64km, mb4.9/42, Error ellipse: s-maj=8.0km s-min=6.3km az=177.4*
*BJI **14** 23:54:14.4, 13.77S×167.22E, h72km, mB5.3/27, mb4.9/37, Ms5.1/12, Ms7 4.6/11*
ISC 14 23:54:16.9±0.5, 14.01S±0.05×166.71E±0.07, h72km±3km, n123, σ1=54/151, mb4.9/42, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.02**	**182**	*e*Pn	**Pn**	**23 56 09.6**	**-1.3**
	54nm,0.3s						
DZM				*e*Sn	**Sn**	**23 57 36.7**	**-3.4**
	40nm,0.3s						
DZM				*e*LR	LR	23 58 19.9	
	1µm,23.4s						
DZM	**Mont Dzumac**	**8.02**	**182**	P	**Pn**	**23 56 09.8**	**-1.0**
	4.2nm,0.3s,baz=209,slow=13,SNR=25						
DZM				S	**Sn**	**23 57 37.5**	**-2.6**
	1.7nm,0.3s,baz=142,slow=19,SNR=1.9						
DZM				LR	LR	23 59 10.8	
	comp=Z,1µm,18.6s,baz=23,slow=37						
HNR	**Honiara**	**8.03**	**304**	LR	LR	23 58 54.2	
	comp=Z,845nm,20.9s,baz=146,slow=35						
HNR	**Honiara**	**8.03**	**304**	*e*P	**Pn**	**23 56 09.0**	**-1.9**
HNR				*e*S	**Sn**	**23 57 37.0**	**-3.3**
HNR	**Honiara**	**8.03**	**304**	*e*Pn	Pn	23 56 06.7	-4.2
MSVF	**Nonsavu**	**11.52**	**110**	*e*Pn	**Pn**	**23 56 56.4**	**-2.3**
EIDS	**Eidsvold**	**18.53**	**230**	*e*P	**Pn**	**23 58 31.0**	**+2.3**
	162m,2.4s						
PMG	**Port Moresby**	**19.68**	**281**	*e*Pn	**P**	**23 58 40.7**	**+0.4**
	18nm,1.2s						
CTA	**Charters Tower**	**20.46**	**250**	P	**P**	**23 58 49.5**	**+0.7**
	8.5nm,0.7s,baz=75,slow=13,SNR=8.9						
CTAO	**Charters Tower**	**20.46**	**250**	*e*P	Pn	23 58 53.2	+1.6
	64nm,1.6s						
OUZ	**Omahuta**	**22.02**	**165**	*e*P	**P**	**23 59 03.1**	**-2.2**
	22nm,1.0s						
BKZ	**Black Stump Fm**	**26.51**	**163**	*e*P	**P**	**23 59 47.2**	**-0.5**
	40nm,1.3s						
BFZ	**Birch Farm**	**27.85**	**164**	*e*P	**P**	**00 00 00.4**	**+0.7**
	102nm,1.0s						
STKA	**Stephens Creek**	**29.06**	**228**	P	**P**	**00 00 11.6**	**+1.1**
	16nm,0.7s,baz=35,slow=7.7,SNR=39						
STKA				LR	LR	00 11 25.5	
	comp=Z,671nm,19.1s,baz=47,slow=35						
STKA	**Stephens Creek**	**29.06**	**228**	*e*P	**P**	**00 00 12.1**	**+1.6**
WRAB	**Tennant Creek**	**31.47**	**255**	*e*P	**P**	**00 00 31.6**	**-0.4**
	9.5nm,0.9s						
WRA	**Warramunga Arr**	**31.48**	**255**	P	**P**	**00 00 30.7**	**-1.3**
	4.8nm,0.9s,baz=84,slow=8.8,SNR=18						
WRA				pP	pP	00 00 43.6	-5.7
	6.3nm,0.9s,baz=84,slow=8.7,SNR=11						
WRA				PcP	**PcP**	**00 03 23.6**	**-0.2**
	1.3nm,0.8s,baz=88,slow=3.6,SNR=5.2						
WRA				pPcP		00 03 43.0	
	1.9nm,0.9s,baz=79,slow=3.0,SNR=6.0						
WRA				ScP	**ScP**	**00 07 05.7**	**+4.9**
	0.1nm,0.3s,baz=86,slow=3.5,SNR=3.8						
AS12	**Alice Springs**	**32.43**	**248**	*e*P	**P**	**00 00 39.9**	**-0.5**
ASAR	**Alice Springs**	**32.43**	**248**	P	**P**	**00 00 39.9**	**-0.5**
	6.3nm,0.6s,baz=75,slow=9.4,SNR=84						
ASAR				pP	pP	00 00 52.1	-5.5
	5.3nm,0.7s,baz=75,slow=9.4,SNR=9.7						
ASAR				PcP	**PcP**	**00 03 26.4**	**+0.1**
	1.4nm,0.8s,baz=85,slow=2.4,SNR=5.1						
ASAR				pPcP		00 03 45.6	
	1.6nm,0.7s,baz=77,slow=2.7,SNR=6.1						
ASAR				ScP	**ScP**	**00 07 08.8**	**+4.9**
	0.4nm,0.6s,baz=84,slow=3.8,SNR=4.3						
ASAR				LR	LR	00 13 26.7	
	comp=Z,221nm,18.4s,baz=86,slow=35						
BBOO	**Buckleboo**	**33.60**	**231**	*e*P	**P**	**00 00 52.1**	**+1.7**
	24nm,0.8s						
FORT	**Forrest**	**39.20**	**238**	*e*P	**P**	**00 01 39.0**	**+0.9**
	34nm,0.9s						
PPT2	**Papeete2**	**42.15**	**101**	*e*LQ	LQ	00 12 04.7	
	408nm,29.2s						
PPT2				*e*LR	LR	00 13 47.7	
	301nm,25.0s						
TBI	**Tubuai**	**42.41**	**109**	*e*LQ	LQ	00 12 11.0	
	269nm,28.8s						
TBI				*e*LR	LR	00 14 01.3	
	333nm,24.2s						
CBIJ	**Chichi jima**	**47.29**	**330**	*e*P	**P**	**00 02 42.1**	**-1.2**
	605nm,2.0s						
NWAO	**Narrogin (SRO)**	**48.66**	**238**	P	**P**	**00 02 53.3**	**-0.6**
	12nm,0.7s,baz=66,slow=9.1,SNR=5.4						
XMIS	**Christmas Isla**	**59.64**	**266**	*e*P	**P**	**00 04 12.1**	**-2.0**
	107nm,0.6s						
KSRS	**Korea Array**	**62.84**	**326**	P	**P**	**00 04 35.8**	**+0.6**
	3.4nm,0.9s,baz=133,slow=6.2,SNR=8.6						
KS15	**Wonju Array Si**	**62.85**	**326**	*e*P	**P**	**00 04 35.8**	**+0.5**
KSAR	**Wonju Array Be**	**62.85**	**326**	P	**P**	**00 04 35.8**	**+0.5**
VNDA	**Vanda**	**63.57**	**181**	P	**P**	**00 04 40.2**	**+0.8**
	3.6nm,0.7s,baz=4.7,slow=6.2,SNR=8.9						
VNDA				LR	LR	00 29 34.6	
	comp=Z,92nm,18.3s,baz=14,slow=33						
VNDA	**Vanda**	**63.57**	**181**	*e*P	**P**	**00 04 39.7**	**+0.3**
	34nm,1.9s						
SBA	**Scott Base**	**63.85**	**180**	*e*P	**P**	**00 04 43.4**	**+2.1**
	157nm,2.5s						
CASY	**Casey**	**63.99**	**202**	*e*P	**P**	**00 04 43.0**	**+0.6**
	25nm,1.4s						
USRK	**Ussuriysk Ar.**	**66.00**	**333**	P	**P**	**00 04 55.8**	**+0.1**
	9.3nm,0.8s,baz=130,slow=6.0,SNR=14						
MDJ	**Mudanjiang**	**67.39**	**332**	P	**P**	**00 05 05.4**	**+0.9**
MDJ				PMZ			
	14nm,0.6s						
MDJ				PMZ			
	500nm,5.7s						
MDJ	**Mudanjiang**	**67.39**	**332**	*e*P	**P**	**00 05 02.7**	**-1.8**
	26nm,1.3s						
ENH	**Enshi**	**70.49**	**309**	*e*P	**P**	**00 05 24.4**	**+0.3**
	19nm,0.9s						
GYA	**Guiyang**	**70.86**	**305**	*e*P	**P**	**00 05 28.0**	**+1.4**
GYA				PMZ			
	10.0nm,1.0s						
XAN	**Xi'an**	**72.80**	**313**	P	**P**	**00 05 38.3**	**+0.3**
XAN				PMZ			
	4.0nm,0.8s						
KMI	**Kunming**	**73.47**	**302**	P	**P**	**00 05 44.1**	**+1.8**
KMI				PMZ			
	20nm,1.1s						
CM31	**Chiang Mai Arr**	**74.16**	**294**	*e*P	**P**	**00 05 47.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**74.16**	**294**	P	**P**	**00 05 47.8**	**+1.5**
	7.0nm,0.9s,baz=120,slow=4.3,SNR=40						
CMAR				pP	**PcP**	**00 06 00.0**	**-0.9**
	7.0nm,0.8s,baz=128,slow=4.2,SNR=13						
CMAR				LR	LR	00 38 48.4	
	comp=Z,19nm,18.6s,baz=50,slow=36						
CD2	**Chengdu**	**75.14**	**308**	*e*P	**P**	**00 05 52.0**	**+0.3**
CD2				PcP	**PcP**	**00 06 06.5**	**+1.6**
CD2				pP	**pP**	**00 06 12.8**	**+1.7**
CD2				sP	**sP**	**00 06 21.0**	**+2.0**
CD2				PP	**PP**	**00 08 44.3**	**+3.3**
CD2				S	**S**	**00 15 24.1**	**-0.8**
CD2				SKS	**SKSac**	**00 15 50.4**	**-4.5**
CD2				sS	**ScS**	**00 15 58.3**	**-0.1**
CD2				SS	**SS**	**00 20 16.8**	**+0.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
QSPA	**South Pole Qui**	**76.02**	**180**	P	**P**	**00 05 57.0**	**+0.8**
	7.2nm,0.8s,baz=20,slow=2.0,SNR=22						
QSPA	**South Pole Qui**	**76.02**	**180**	P	**P**	**00 05 57.0**	**+0.8**
LZH	**Lanzhou**	**77.43**	**312**	P	**P**	**00 06 06.3**	**+1.6**
LZH				pP	**pP**	**00 06 22.8**	**-1.4**
LZH				sP	**sP**	**00 06 34.5**	**+2.4**
LZH				PP	**PP**	**00 08 58.3**	**-2.1**
LZH				*e*S	**S**	**00 15 49.0**	**-1.1**
LZH				SS	**SS**	**00 20 52.0**	**+1.4**
LZH				PMZ			
	55nm,1.4s						
LZH				PMZ			
	120nm,4.9s						
LZH				LN			
	420nm,12.0s						
LZH				LE			
	520nm,13.1s						
LZH				LZ			
	700nm,15.2s						
GAMB	**Gambell**	**79.31**	**10**	*e*P	**P**	**00 06 15.5**	**+1.4**
	17nm,1.8s						
ULN	**Ulaanbaatar**	**81.23**	**324**	*e*P	**P**	**00 06 25.8**	**+0.7**
	13nm,1.0s						
SONA0	**Songino Array**	**81.60**	**324**	*e*P	**P**	**00 06 27.5**	**+0.5**
SONM	**Songino Array**	**81.60**	**324**	P	**P**	**00 06 27.5**	**+0.5**
	3.9nm,0.9s,baz=141,slow=5.5,SNR=26						
GTA	**Gaotai**	**81.78**	**314**	P	**P**	**00 06 29.4**	**+1.2**
GTA				pP	**pP**	**00 06 48.1**	**+0.3**
GTA				sP	**sP**	**00 06 55.5**	**-0.2**
MAW	**Mawson**	**82.34**	**202**	LR	LR	00 36 40.3	
	comp=Z,119nm,19.1s,baz=61,slow=31						
RC01	**Rabbit Creek A**	**82.44**	**20**	*e*P	**P**	**00 06 30.5**	**-0.

	comp=Z,44nm,21.7s,baz=0.0,slow=30							
ZALV	**Zalesovo Beam**	**96.49**	**324**	P		**P**	**00 07 37.2**	**-0.9**
	4.0nm,0.7s,baz=118,slow=4.1,SNR=24							
ZAA1	**Zalesovo Array**	**96.49**	**324**	*e*P		**P**	**00 07 37.2**	**-0.9**
YKA	**Yellowknife Ar**	**97.16**	**27**	P		**P**	**00 07 40.7**	**-0.2**
	0.1nm,0.6s,baz=259,slow=4.7,SNR=4.5							
YKA				pP		pP	00 07 53.1	-7.8
	0.2nm,0.7s,baz=262,slow=4.7,SNR=3.7							
YKB5	**Yellowknife Ar**	**97.16**	**27**	*e*P		**P**	**00 07 40.7**	**-0.2**
KSH	**Kashi**	**99.33**	**308**	*e*P		**Pdif**	**00 07 51.5**	**+0.1**
KSH				pP		**pP**	**00 08 12.3**	**+0.9**
KSH				PP		**PP**	**00 11 56.3**	**+0.8**
KSH				SKS		**SKSac**	**00 18 21.4**	**-2.3**
KSH				S		**ScS**	**00 19 12.3**	**-5.5**
KSH				sS		**sS**	**00 19 48.0**	**-4.1**
KSH				PMZ				
	110nm,5.6s							
KSH				LN				
	68nm,5.2s							
KSH				LE				
	80nm,5.5s							
KSH				LZ				
	130nm,5.8s							
ARA0	**ARCESS Array S**	**119.42**	**345**	*e*PKPdf		**PKPdf**	**00 12 57.0**	**-0.6**
ARCES	**ARCESS Array B**	**119.42**	**345**	PKP		**PKPdf**	**00 12 57.0**	**-0.6**
	1.2nm,0.3s,baz=75,slow=2.1,SNR=39							
JOF	**Joensuu**	**122.02**	**338**	*e*p		**PKPdf**	**00 13 01.1**	**-1.5**
	2.0nm,0.8s							
KAF	**Kangasniemi**	**124.33**	**339**	*e*p		**PKPdf**	**00 13 04.8**	**-2.3**
	1.7nm,0.7s							
FIA0	**FINESS Array S**	**124.86**	**338**	*e*PKPdf		**PKPdf**	**00 13 07.0**	**-1.1**
FINES	**FINESS Array B**	**124.86**	**338**	PKP		**PKPdf**	**00 13 07.0**	**-1.1**
	1.7nm,0.8s,baz=144,slow=3.7,SNR=12							
NB2	**NORSAR Subarra**	**129.79**	**345**	PKPdf		**PKPdf**	**00 13 17.1**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=31,slow=1.9							
NB200	**NORSAR Array S**	**129.79**	**345**	*e*PKPdf		**PKPdf**	**00 13 17.4**	**-0.3**
NOA	**NORSAR Array B**	**129.79**	**345**	PKP		**PKPdf**	**00 13 17.4**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=30,slow=2.0,SNR=5.2							
AKASG	**Malin Array Be**	**129.84**	**326**	PKP		**PKPdf**	**00 13 17.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=76,slow=1.5,SNR=5.3							
AKBB	**Malin Array Si**	**129.84**	**326**	*e*PKPdf		**PKPdf**	**00 13 17.4**	**-0.6**
BRTR	**Keskin Array B**	**131.63**	**311**	SKPbc		**SKPab**	**00 16 46.0**	**+4.1**
	comp=Z,0.8nm,0.8s,baz=134,slow=4.2,SNR=6.2							
KOLS	**Kolonicke sedl**	**134.55**	**327**	*e*PKP		**PKPdf**	**00 13 28.1**	**+1.1**
STHS	**Stebnicka Huta**	**134.78**	**329**	*e*PKP		**PKPdf**	**00 13 29.1**	**+1.7**
CRVS	**Cervenica-Dubn**	**134.99**	**328**	*e*PKP		**PKPdf**	**00 13 29.0**	**+1.2**
VYHS	**Vyhne**	**136.58**	**329**	*e*PKP		**PKPdf**	**00 13 32.3**	**+1.5**
CLL	**Collm**	**137.18**	**336**	*e*PKPdf		**PKPdf**	**00 13 33.0**	**+1.2**
GEC2	**GERESS Array S**	**138.76**	**333**	*e*PKPdf		**PKPdf**	**00 13 33.8**	**-1.1**
GERES	**GERESS Array B**	**138.76**	**333**	PKP		**PKPdf**	**00 13 33.8**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=33,slow=3.2,SNR=5.1							
GERES				SKPbc		**SKiKP**	**00 17 08.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=41,slow=2.6,SNR=7.2							
CEL	**Celeste**	**144.63**	**318**	*e*PKPdf		**PKPab**	**00 13 44.4**	**0.0**
BNI	**Bardonecchia**	**144.72**	**335**	*e*PKPdf		PKPbc	00 13 45.1	+0.4
MSKU	**Masuku**	**149.13**	**242**	*e*PKPbc		**PKPbc**	**00 13 58.4**	**+0.3**
KEST	**Kesra**	**150.31**	**321**	PKPbc		**PKPbc**	**00 14 01.2**	**+0.8**
	comp=Z,4.8nm,1.0s,baz=236,slow=3.6,SNR=8.9							
KEST	**Kesra**	**150.31**	**321**	*e*PKPab		**PKPbc**	**00 14 01.0**	**+0.6**
KEST				PKPbc		**PKPbc**	**00 14 01.2**	**+0.8**
ESDC	**Sonseca Array**	**153.15**	**344**	PKPbc		**PKPbc**	**00 14 06.7**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=12,slow=3.3,SNR=4.4							
TOA0	**Torodi Ar. Sit**	**165.40**	**268**	*e*PKPdf		**PKPdf**	**00 14 13.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.40**	**268**	PKP		**PKPdf**	**00 14 13.9**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=61,slow=0.9,SNR=8.9							
TORD				PKPab		**PKPab**	**00 15 13.2**	**+0.8**
	comp=Z,3.2nm,1.0s,baz=95,slow=2.8,SNR=10							

DJA 15 00:03:09.7±1.1, 6°S±4°, 10°4E±°, h12km±8km, M3.5/6, MLv3.5/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.13**	**39**	P	Pb	00 03 29.8	-1.4
KASI				S	Sb	00 03 44.4	-1.5
LWLI	**Liwa**	**1.41**	**11**	P	Pn	00 03 34.5	-0.9
LWLI				S	Sn	00 03 52.2	-1.8
CGJI	**Cibinong**	**1.91**	**96**	P	Pn	00 03 42.3	+0.2
CGJI				S	Sn	00 04 06.1	0.0
MDSI	**Maura Dua**	**1.95**	**12**	P	Pn	00 03 42.3	-0.4
MDSI				S	Sb	00 04 08.9	-0.6
MNAI	**Manna**	**2.19**	**338**	P	Pn	00 03 45.0	-1.0
LHSI	**Lahat**	**2.58**	**354**	P	Pn	00 03 51.1	-0.2

IGQ 15 00:04:30±0.2, 1°13S×80°51W, h4km±168km, Mb4.0, 4D, Error ellipse: s-maj=3.1km s-min=2.0km az=47.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**0.57**	**257**	⇓S	Sb	00 04 52.8	+1.5
ISPT	**Isla de la Pla**	**0.57**	**257**	⇓P	Pb	00 04 43.0	+0.3
PECV	**Mancha de Ca P**	**0.58**	**53**	P	Pg	00 04 40.1	-1.2
JAMA	**Jama**	**0.92**	**20**	S	Sn	00 05 02.7	-0.9
JAMA	**Jama**	**0.92**	**20**	P	Pb	00 04 48.7	0.0
MAG1	**Magdalena**	**1.29**	**95**	P	Pg	00 04 53.0	-1.8
PORT	**Chimborazo Vol**	**1.77**	**101**	P	Pn	00 05 01.4	-0.8
IGUA	**Igualata**	**1.91**	**101**	P	Pn	00 05 01.1	-2.9
PAST	**Pastocalle**	**1.92**	**77**	P	Pn	00 05 02.7	-1.4
PAST	**Pastocalle**	**1.92**	**77**	S	Sn	00 05 26.1	-3.1
RIOE	**Riobamba**	**1.98**	**108**	P	Pn	00 05 01.2	-3.5
RIOE	**Riobamba**	**1.98**	**108**	S	Sn	00 05 25.0	-5.4
JUI6	**Juive**	**2.06**	**98**	P	Pn	00 05 04.7	-1.2
BMAS	**Trigal station**	**2.07**	**100**	P	Pn	00 05 03.1	-2.9
ARRY	**Arrayan**	**2.09**	**100**	P	Pn	00 05 04.9	-1.4
RETU	**Refugio**	**2.09**	**99**	P	Pn	00 05 05.9	-0.6
NAS2	**Nasa**	**2.10**	**77**	P	Pn	00 05 06.6	-0.1
PAT1	**Patacocha**	**2.11**	**100**	P	Pn	00 05 05.7	-1.0
PAT1	**Patacocha**	**2.11**	**100**	S	Sn	00 05 30.4	-3.5
RUN5	**Runtun**	**2.11**	**98**	P	Pn	00 05 04.2	-2.3
RUN5	**Runtun**	**2.11**	**98**	S	Sn	00 05 30.6	-2.9
BPAT	**Tungurahua Vol**	**2.11**	**100**	P	Pn	00 05 05.6	-1.1
MOV1	**Cotopaxi Vol s**	**2.11**	**79**	P	Pn	00 05 05.0	-1.9
JUA2	**San Juan 2**	**2.12**	**79**	P	Pn	00 05 05.0	-1.8
BRUN	**Tungurahua Vol**	**2.12**	**98**	P	Pn	00 05 05.2	-1.5
BRUN	**Tungurahua Vol**	**2.12**	**98**	S	Sn	00 05 30.4	-3.4
BREF	**Cotopaxi Volca**	**2.12**	**77**	⇓P	Pn	00 05 05.8	-1.3
BREF	**Cotopaxi Volca**	**2.12**	**77**	⇓S	Sn	00 05 30.2	-4.3
BULB	**Ulba Tungurahu**	**2.12**	**98**	P	Pn	00 05 04.4	-2.4
PISA	**Pisayambo**	**2.13**	**88**	P	Pn	00 05 04.4	-2.6
ULBA	**Ulba**	**2.13**	**99**	P	Pn	00 05 04.5	-2.4
TERV	**Terraza Guagua**	**2.13**	**63**	P	Pn	00 05 05.3	-1.9
PINO	**Pino**	**2.14**	**63**	S	Sn	00 05 30.5	-4.3
PINO	**Pino**	**2.14**	**63**	P	Pn	00 05 04.1	-3.1
GGP	**Refugio Guagua**	**2.14**	**64**	P	Pn	00 05 04.3	-3.0
BVC2	**Cotopaxi Volca**	**2.15**	**77**	P	Pn	00 05 05.1	-2.4
BTAM	**Cotopaxi Volca**	**2.16**	**78**	P	Pn	00 05 06.4	-1.2
VC1	**Cotopaxi 1**	**2.17**	**77**	P	Pn	00 05 07.6	0.0
VC1	**Cotopaxi 1**	**2.17**	**77**	S	Sb	00 05 36.9	-1.3
TAMB	**Tambo**	**2.19**	**79**	P	Pn	00 05 07.1	-0.8
YANA	**Yana**	**2.19**	**63**	P	Pn	00 05 05.8	-2.0
COV1	**Cotopaxi Volc**	**2.22**	**78**	P	Pn	00 05 05.6	-2.9
ANTI	**Antisana**	**2.45**	**74**	P	Pn	00 05 10.2	-1.4
ANTI	**Antisana**	**2.45**	**74**	S	Sn	00 05 42.9	+0.5
OTAV	**Otavalo**	**2.47**	**57**	S	Sn	00 05 40.0	-2.8
OTAV	**Otavalo**	**2.47**	**57**	P	Pn	00 05 09.5	-2.2
MACE	**Macas**	**2.57**	**116**	P	Pn	00 05 10.2	-2.4
CAYR	**Refugio Cayamb**	**2.75**	**66**	P	Pn	00 05 16.9	+1.1
CAYA	**Cayambe**	**2.79**	**65**	P	Pn	00 05 15.5	-0.7

*IDC **15** 00:10:23.6±1.3, 37°67S×72°60W, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.7/17, mbtmp3.7/7, ML3.5/2, MS2.6/2, Ms1 2.6/2, ms1mx2.5/18, Error ellipse: s-maj=42.2km s-min=17.2km az=89.0*
*ISCJB **15** 00:10:27.2±0.5, 37°80S±0°04×72°35W±0°07, h35km, mb4.0/5, MS3.3/1, Error ellipse: s-maj=7.8km s-min=5.3km az=179.3*
*NEIC **15** 00:10:28.3±0.9, 37°62S×72°96W, h35km, mb4.1/4, Error ellipse: s-maj=23.0km s-min=11.1km az=88.0*
*GUC **15** 00:10:29.9±0.4, 37°84S×72°99W, h44km±2km, ML3.9*
ISC 15 00:10:28.7±0.7, 37°80S±0°05×72°51W±0°08, h35km, n23, σ1°00/28, mb4.0/5, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.07**	**333**	*e*P	**Pn**	**00 10 47.5**	**+0.3**
CCSP				*e*S	**Sn**	**00 11 00.8**	**+0.1**
CCSP				AML	AML	00 11 06.5	
	comp=E,6μm,0.3s						
COCH	**Cobquecura**	**1.68**	**352**	*e*P	**Pn**	**00 10 57.1**	**+1.5**
COCH				*e*S	**Sn**	**00 11 18.3**	**+2.4**
COCH				AML	AML	00 11 26.9	
	comp=E,1μm,0.6s						
LNCH	**Linares**	**2.08**	**21**	*e*P	Pn	00 11 05.0	+3.9
LNCH				*e*S	Sn	00 11 32.2	+6.5
VLCH	**Valdivia**	**2.08**	**196**	*e*P	**Pn**	**00 11 01.1**	**-0.1**
VLCH				*e*S	**Sn**	**00 11 24.9**	**-1.0**
PLCA	**Paso Flores**	**3.30**	**153**	Pn	**Pn**	**00 11 19.5**	**+1.5**
	comp=E,1.6nm,0.3s,baz=326,slow=12,SNR=48						
PLCA				Lg	Lg	00 12 14.5	
	comp=E,6.8nm,0.3s,baz=41,slow=19,SNR=2.8						
PLCA	**Paso Flores**	**3.30**	**153**	*e*Pn	Pn	00 11 22.0	+4.1
PLCA				Lg	Lg	00 12 14.5	
CFAA	**Coronel Fontan**	**7.11**	**31**	Pn	**Pn**	**00 12 09.1**	**-1.2**
	comp=E,0.4nm,0.3s,baz=179,slow=11,SNR=25						
CFAA				Sn	**Sn**	**00 13 29.9**	**0.0**
	baz=228,slow=17,SNR=2.0						
CFAA				LR	LR	00 15 19.3	
	comp=E,10.0nm,21.5s,baz=210,slow=42						
TRQA	**Tornquist**	**8.32**	**95**	*e*Pn	Pn	00 12 33.4	+6.5
TRQA				*e*Sn	**Sn**	**00 14 00.1**	**+0.4**
LCO	**Las Campanas**	**8.89**	**10**	*e*Pn	**Pn**	**00 12 34.7**	**-0.3**
LCO				*e*Sn	**Sn**	**00 14 12.7**	**-1.4**
LVC	**Limon Verde**	**15.45**	**13**	*e*Pn	**Pn**	**00 14 03.7**	**-0.6**
	comp=E,14nm,1.3s						
LPAZ	**La Paz**	**21.77**	**11**	P	**P**	**00 15 17.9**	**-0.2**
	comp=E,0.4nm,0.6s,baz=192,slow=9.3,SNR=1.4						
LPAZ	**La Paz**	**21.77**	**11**	*e*P	**P**	**00 15 15.9**	**-2.2**
	comp=E,4.2nm,0.8s						
BDFB	**Brasilia**	**30.90**	**51**	P	**P**	**00 16 41.1**	**-1.2**
	comp=E,1.3nm,0.4s,baz=164,slow=7.4,SNR=2.1						
BDFB				LR	LR	00 30 00.6	
	comp=E,67nm,21.6s,baz=186,slow=38						
QSPA	**South Pole Qui**	**52.45**	**180**	P	**P**	**00 19 38.4**	**+0.8**
	comp=E,0.7nm,0.7s,baz=297,slow=2.3,SNR=5.3						
QSPA	**South Pole Qui**	**52.45**	**180**	*e*P	**P**	**00 19 38.5**	**+0.8**
	comp=E,3.7nm,1.2s						
DBIC	**Dimbokro**	**76.78**	**71**	P	**P**	**00 22 17.0**	**+0.1**
	comp=E,3.1nm,0.7s,baz=188,slow=9.5,SNR=5.0						
DBIC	**Dimbokro**	**76.78**	**71**	*e*P	**P**	**00 22 17.0**	**+0.1**
	comp=E,4.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.86**	**70**	P	**P**	**00 23 04.9**	**-0.2**
	comp=E,0.7nm,0.8s,baz=255,slow=4.6,SNR=4.4						
BRTR	**Keskin Array B**	**123.94**	**63**	PKP	**PKPdf**	**00 29 23.1**	**0.0**
	comp=E,0.3nm,0.6s,baz=108,slow=4.7,SNR=3.3						
AAK	**Ala-Archa**	**154.44**	**69**	PKPbc	**PKPbc**	**00 30 26.3**	**+0.9**
	comp=E,0.8nm,0.7s,baz=113,slow=3.0,SNR=3.9						
AAK				PKPab	**PKPab**	**00 30 40.4**	**+0.5**
	comp=E,1.3nm,0.6s,baz=206,slow=3.3,SNR=8.5						
KURBB	**Kurchatov Arra**	**155.78**	**49**	PKPab	**PKPab**	**00 30 45.5**	**+0.5**
	comp=E,0.4nm,0.2s,baz=286,slow=4.7,SNR=4.0						
KURK	**Kurchatov**	**155.80**	**48**	PKPab	**PKPab**	**00 30 45.5**	**+0.4**
MKAR	**Makanchi Array**	**159.38**	**56**	PKP	**PKPdf**	**00 30 23.4**	**+0.4**
	comp=E,0.3nm,0.7s,baz=218,slow=1.6,SNR=3.3						
MKAR				PKPab	**PKPab**	**00 31 00.7**	**-0.2**
	comp=E,0.5nm,0.7s,baz=251,slow=3.7,SNR=5.0						

*IDC **15** 00:14:11.9±0.8, 23°41N×94°02E, h0km, mb3.6/11, mb1 3.7/12, mb1mx3.5/30, mbtmp3.5/12, ML2.9/1, Error ellipse: s-maj=38.2km s-min=14.6km az=54.0*
*ISCJB **15** 00:14:19.6±0.8, 23°65N±0°10×94°2E±0°2, h73km, mb3.5/11, Error ellipse: s-maj=28.2km s-min=10.8km az=160.4*
ISC 15 00:14:21.5±1.0, 23°7N±0°1×94°2E±0°2, h73km, n14, σ1°57/13, mb3.6/11, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.08**	**347**	*e*P	**Pn**	**00 14 39.0**	**-2.3**
IMP				*e*S	**Sn**	**00 14 55.0**	**-0.9**
SHL	**Shillong**	**2.79**	**311**	*e*P	Pn	00 15 00.0	-4.2
CMAR	**Chiang Mai Arr**	**6.86**	**139**	Pn	Pn	00 15 53.0	-6.6
	0.1nm,0.3s,baz=310,slow=11,SNR=3.5						
CMAR				Lg	Lg	00 17 43.7	
	0.1nm,0.3s,baz=313,slow=32,SNR=3.0						
MKAR	**Makanchi Array**	**24.93**	**340**	P	**P**	**00 19 39.2**	**+1.4**
	1.0nm,0.7s,baz=130,slow=9.9,SNR=5.7						
AAK	**Ala-Archa**	**24.94**	**324**	P	**P**	**00 19 37.3**	**-0.9**
	1.0nm,0.7s,baz=139,slow=5.9,SNR=6.2						
SONM	**Songino Array**	**25.94**	**19**	P	**P**	**00 19 49.2**	**+2.1**
	1.1nm,0.7s,baz=196,slow=9.2,SNR=12						
KURBB	**Kurchatov Arra**	**29.48**	**340**	P	**P**	**00 20 19.8**	**+1.3**
	0.3nm,0.5s,baz=151,slow=7.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**30.99**	**349**	P	**P**	**00 20 33.6**	**+1.8**
	0.4nm,0.3s,baz=157,slow=8.7,SNR=3.9						
BVAR	**Borovoye Array**	**34.38**	**334**	P	**P**	**00 21 03.2**	**+1.8**
	0.2nm,0.5s,baz=140,slow=12,SNR=3.7						
AKASG	**Malin Array Be**	**56.27**	**316**	P	**P**	**00 23 53.7**	**-0.7**
	0.2nm,0.3s,baz=80,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**58.44**	**135**	P	**P**	**00 24 08.8**	**-1.3**
	0.4nm,0.5s,baz=323,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**60.87**	**138**	P	**P**	**00 24 25.9**	**-0.9**
	0.7nm,0.5s,baz=320,slow=6.8,SNR=9.2						
GERES	**GERESS Array B**	**66.40**	**315**	P	**P**	**00 25 03.8**	**+0.8**
	0.5nm,0.5s,baz=75,slow=7.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**87.06**	**283**	P	**P**	**00 27 00.2**	**+0.5**
	0.5nm,0.8s,baz=77,slow=3.5,SNR=6.9						

MAN 15 00:24:03, 14°03N×120°22E, h83km, mb4.5, ML3.4, MS3.3, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**175**	*e*P	Pn	00 24 18.0	+2.4
TGY	**Tagaytay City**	**0.70**	**84**	⇑*i*P	Pn	00 24 21.1	+2.1
TGY				*i* S	Sn	00 24 34.1	+3.3
PGP	**Puerto Galera**	**0.89**	**126**	⇑*i*P	Pn	00 24 21.0	0.0
PGP				*i* S	Sn	00 24 32.8	-1.6
PCPH	**Palayan**	**1.74**	**29**	⇑*e*P	Pn	00 24 32.7	+1.1
PCPH				*e*S	Sn	00 24 53.4	+0.1
SJMP	**San Jose**	**1.79**	**151**	*e*P	Pn	00 24 33.0	+0.8
BUSP	**Coron**	**2.02**	**181**	*e*P	Pn	00 24 35.9	+0.7
BALP	**Baler**	**2.15**	**37**	*e*P	Pn	00 24 39.5	+2.5
ENPP	**El Nido**	**2.91**	**196**	*e*P	Pn	00 24 48.6	+1.3

*IDC **15** 00:36:25.5±0.9, 24°80N×127°78E, h0km, mb3.7/11, mb1 3.8/11, mb1mx3.7/34, mbtmp3.7/11, ML2.2/1, Error ellipse: s-maj=35.7km s-min=18.0km az=72.0*
*ISCJB **15** 00:36:28.4±0.6, 24°83N±0°04×127°59E±0°04, h30km, mb3.6/11, Error ellipse: s-maj=6.9km s-min=3.3km az=140.0*
*JMA **15** 00:36:29.5±0.4, 24°85N×127°59E, h70km, MS3.5*
ISC 15 00:36:29.3±0.8, 24°81N±0°06×127°65E±0°05, h30km, n31, σ1°71/45, mb3.6/11, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.33**	**4**	P	**Pb**	**00 36 52.4**	**-1.1**
JJT2				S	**Sb**	**00 37 09.1**	**-1.1**
JKE	**Kume jima 2**	**1.70**	**333**	P	**Pb**	**00 36 57.4**	**-2.5**
JKE				S	**Sn**	**00 37 17.4**	**-0.3**
JNTH	**Nagotoyohara**	**1.73**	**11**	P	**Pn**	**00 36 57.0**	**-0.4**
JNTH				S	**Sn**	**00 37 16.7**	**-1.8**
JAGN	**Aguni-jima**	**1.81**	**348**	P	**Pb**	**00 36 59.0**	**-2.8**
JAGN				S	**Sn**	**00 37 20.1**	**-0.3**
JOGS	**Gusukube**	**2.04**	**269**	P	**Pn**	**00 37 01.4**	**-0.2**
JOGS				S	**Sn**	**00 37 25.1**	**-1.0**
JOW	**Kunigami**	**2.09**	**15**	P	**Pn**	**00 37 02.2**	**-0.1**
JOW				S	**Sn**	**00 37 25.2**	**-2.1**
JOW	**Kunigami**	**2.09**	**15**	Pn	**Pn**	**00 37 02.6**	**+0.3**
	1.3nm,0.3s,baz=132,slow=26,SNR=13						
JOW				Sn	**Sn**	**00 37 25.0**	**-2.3**
	baz=143,slow=20						
JMJ	**Miyako jima 2**	**2.15**	**271**	S	**Sn**	**00 37 26.8**	**-1.8**
JIKM	**Ikemajima**	**2.19**	**274**	P	**Pn**	**00 37 03.6**	**0.0**
JIKM				S	**Sn**	**00 37 28.8**	**-0.9**
JIH	**Iheya**	**2.23**	**7**	P	**Pn**	**00 37 03.9**	**-0.3**
JIH				S	**Sn**	**00 37 29.9**	**-0.9**
JIRB	**Irabujima**	**2.25**	**271**	P	**Pn**	**00 37 04.2**	**-0.3**
JIRB				S	**Sn**	**00 37 29.4**	**-1.9**
JOKE	**Okinoerabujima**	**2.67**	**18**	S	**Sn**	**00 37 41.2**	**-0.5**
JTJ	**Tarama**	**2.69**	**267**	P	**Pn**	**00 37 10.2**	**-0.3**
JTJ				S	**Sn**	**00 37 39.5**	**-2.6**
JISG	**Ishigakijimahi**	**3.05**	**267**	S	**Sn**	**00 37 48.5**	**-2.4**
JTK	**Tokunoshima**	**3.19**	**21**	P	**Pn**	**00 37 18.1**	**+0.8**
JTK				S	**Sn**	**00 37 51.0**	**-3.3**
JIJ	**Ishigaki jima**	**3.23**	**263**	P	**Pn**	**00 37 17.3**	**-0.6**
JIJ				S	**Sn**	**00 37 50.9**	**-4.4**
JKRS	**Kuro-shima**	**3.37**	**261**	S	**Sn**	**00 37 56.2**	**-2.6**
JMZ	**Minamidaito 2**	**3.38**	**72**	P	**Pn**	**00 37 17.5**	**-2.5**
JMZ				S	Sn	00 37 52.8	-6.3
JAMN	**Amaminishikomi**	**3.68**	**21**	P	**Pn**	**00 37 24.8**	**+0.7**
JAMN				S	**Sn**	**00 38 04.8**	**-1.7**
JAM	**Amami Oshima**	**3.99**	**26**	P	**Pn**	**00 37 28.9**	**+0.5**
JAM				S	**Sn**	**00 38 11.1**	**-3.0**
SONM	**Songino Array**	**28.48**	**329**	P	P	00 42 24.6	+2.7
	0.2nm,0.4s,baz=144,slow=12,SNR=2.2						
MKAR	**Makanchi Array**	**42.11**	**313**	P	**P**	**00 44 19.6**	**+0.9**
	0.5nm,0.5s,baz=99,slow=9.6,SNR=11						
ZALV	**Zalesovo Beam**	**43.07**	**324**	P	**P**	**00 44 27.8**	**+1.5**
	0.7nm,0.4s,baz=102,slow=7.7,SNR=5.6						
WRA	**Warramunga Arr**	**44.95**	**171**	P	**P**	**00 44 42.1**	**+0.4**
	1.3nm,0.7s,baz=352,slow=8.5,SNR=10						
KURBB	**Kurchatov Arra**	**45.53**	**318**	P	**P**	**00 44 46.5**	**+0.4**
	0.4nm,0.7s,baz=105,slow=8.9,SNR=2.3						
ASAR	**Alice Springs**	**48.57**	**172**	P	**P**	**00 45 11.1**	**+1.1**
	0.2nm,0.3s,baz=0.5,slow=9.7,SNR=4.6						
GEYT	**Alibeck**	**59.56**	**301**	P	**P**	**00 46 31.6**	**+1.4**
	1.7nm,0.6s,baz=64,slow=3.4,SNR=5.2						
FINES	**FINESS Array B**	**73.84**	**331**	P	**P**	**00 48 02.6**	**+1.8**
	1.1nm,0.6s,baz=83,slow=5.7,SNR=7.9						
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**00 48 24.1**	**+1.7**
	0.3nm,0.5s,baz=95,slow=7.8,SNR=2.9						
YKA	**Yellowknife Ar**	**80.03**	**25**	P	**P**	**00 48 35.6**	**0.0**
	0.1nm,0.7s,baz=303,slow=5.6,SNR=3.6						
NOA	**NORSAR Array B**	**80.35**	**334**	P	**P**	**00 48 38.2**	**+0.7**
	0.6nm,0.7s,baz=52,slow=5.5,SNR=3.6						

*ISCJB **15** 00:36:58.9±0.4, 32°23N±0°02×115°30W±0°03, h10km±3km, Error ellipse: s-maj=4.8km s-min=3.4km az=178.4*
*NEIC **15** 00:37:00.0, 32°25N×115°29W, h7km, MD3.6(MEX), ML3.4(PAS), ML3.4(ECX), After ECX.*
*ECX **15** 00:37:00.6±0.4, 32°24N×115°30W, h7km, MD3.3, ML3.5*
*MEX **15** 00:37:01.6±0.6, 32°29N×115°17W, h15km, MD3.5*
ISC 15 00:36:59.1±0.8, 32°22N±0°02×115°29W±0°03, h17km±6km, n53, σ0°971/64, 9C-10D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.20**	**356**	*e*P	**Pg**	**00 37 04.0**	**0.0**
CPBX				*e*S	**Sg**	**00 37 06.9**	**-0.4**
CPBX				*e*		00 37 11.1	
CPBX				AML	AML	00 37 11.1	
	comp=E,44μm,0.3s						
MBIG	**Mexicali**	**0.21**	**22**	*e*P	**Pb**	**00 37 04.3**	**-0.1**
MBIG				*i* S	**Sg**	**00 37 07.0**	**-0.4**
EMX	**El Mayor**	**0.23**	**170**	⇓*e*P	**Pg**	**00 37 04.4**	**0.0**
EMX				*e*S	**Sg**	**00 37 08.2**	**+0.3**
EMX	**El Mayor**	**0.23**	**170**	*e*P	**Pg**	**00 37 04.4**	**0.0**
EMX				*e*S	**Sg**	**00 37 08.2**	**+0.3**
SGL	**Mount Signal**	**0.57**	**320**	⇑*i*P	**Pg**	**00 37 10.3**	**-0.1**
EMSC	**East Mesa**	**0.58**	**26**	*e*Pg	**Pb**	**00 37 11.0**	**+0.2**
ERPC	**Ernies Place**	**0.61**	**329**	*e*Pg	**Pb**	**00 37 11.6**	**+0.2**
RDX	**Rancho Dawling**	**0.62**	**243**	⇑*e*P	**Pb**	**00 37 12.1**	**+0.4**
RDX				*e*

n304,σ1$57/286,mb4.3/55,MS3.8/23,48C-25D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KSH	**Kashi**	**0.63**	**228**	Pg	Pn	00 56 13.3	+8.0
KSH				Sg	Sn	00 56 29.9	+15
KSH				SMN			
	7μm,0.5s						
KSH				SME			
	17μm,0.5s						
NRN	**Naryn**	**1.56**	**344**	⇓*i*P	**Pn**	**00 56 18.0**	**-0.3**
	baz=346						
NRN				⇓*e*S	**Sn**	**00 56 38.5**	**+0.5**
	baz=346						
KDJ	**Kajisay**	**2.24**	**12**	*i* P	**Pb**	**00 56 30.0**	**-1.4**
	baz=13						
KDJ				*e*S	**Sb**	**00 56 59.2**	**+0.5**
	baz=13						
SALK	**Salom-Alik**	**2.31**	**295**	*e*P	**Pn**	**00 56 29.9**	**+1.4**
	baz=297						
SALK				*e*S	**Sn**	**00 56 59.0**	**+2.7**
	baz=297						
ULHL	**Ulahol**	**2.32**	**354**	P	**Pb**	**00 56 31.4**	**-1.5**
	SNR=326						
ULHL	**Ulahol**	**2.32**	**354**	*i* PN	**Pb**	**00 56 31.3**	**-1.5**
ULHL	**Ulahol**	**2.32**	**354**	⇑*i*P	**Pn**	**00 56 30.9**	**+2.2**
	baz=355						
ULHL				⇑*i*S	**Sb**	**00 57 00.9**	**-0.2**
	baz=355						
KZA	**Kyzart**	**2.36**	**335**	P	**Pb**	**00 56 32.2**	**-1.4**
	SNR=4260						
KZA	**Kyzart**	**2.36**	**335**	*i* PN	**Pb**	**00 56 32.2**	**-1.4**
KZA	**Kyzart**	**2.36**	**335**	*e*P	**Pb**	**00 56 32.1**	**-1.6**
	baz=337						
KZA				*i* S	**Sb**	**00 57 02.9**	**+0.4**
	baz=337						
SFK	**Sufi-Kurgan**	**2.36**	**273**	⇓Pn	**Pb**	**00 56 32.3**	**-1.3**
	206nm,0.3s						
SFK				⇓Lg	Lg	00 57 04.3	
	796nm,0.3s						
SFK	**Sufi-Kurgan**	**2.36**	**273**	PN	**Pb**	**00 56 32.2**	**-1.3**
SFK						00 57 04.2	
SFK				pmax	pmax		
	comp=Z,206nm,0.3s						
SFK				smax	smax		
	comp=N,796nm,0.3s						
ARLS	**Aral**	**2.57**	**319**	⇓*i*P	**Pn**	**00 56 34.2**	**+2.1**
	baz=321						
BOOM	**Boomskoye usch**	**2.59**	**350**	⇓*i*P	**Pb**	**00 56 35.4**	**-2.1**
	baz=351						
BOOM				⇓*e*S	**Sb**	**00 57 08.9**	**-0.1**
	baz=351						
UCH	**Uchtor**	**2.77**	**326**	P	**Pn**	**00 56 37.9**	**+2.7**
	SNR=935						
UCH	**Uchtor**	**2.77**	**326**	*i* PN	**Pn**	**00 56 37.8**	**+2.7**
UCH	**Uchtor**	**2.77**	**326**	⇑*i*P	**Pn**	**00 56 37.8**	**+2.7**
	baz=328						
UCH				⇑*i*S	**Sb**	**00 57 15.6**	**+1.4**
	baz=328						
KBK	**Karagaybulak**	**2.98**	**336**	P	Pn	00 56 41.2	+3.5
	SNR=565						
KBK	**Karagaybulak**	**2.98**	**336**	*i* PN	Pn	00 56 41.2	+3.5
KBK	**Karagaybulak**	**2.98**	**336**	*e*P	**Pb**	**00 56 43.0**	**-1.0**
	baz=28						
KBK				*e*S	**Sb**	**00 57 22.6**	**+2.5**
	baz=28						
KBK	**Karagaybulak**	**2.98**	**336**	⇑*i*P	**Pb**	**00 56 41.7**	**-2.3**
	baz=338						
KBK				⇑*i*S	**Sb**	**00 57 21.8**	**+1.7**
	baz=338						
TKM2	**Tokmak 2**	**3.07**	**346**	⇓Pn	Pn	00 56 42.7	+3.7
	comp=N,457nm,0.5s						
TKM2				⇓Lg	Lg	00 57 22.9	
	comp=N,878nm,0.6s						
TKM2	**Tokmak 2**	**3.07**	**346**	P	Pn	00 56 42.7	+3.7
	SNR=1997						
TKM2	**Tokmak 2**	**3.07**	**346**	PN	Pn	00 56 42.7	+3.7
TKM2						00 57 23.0	
TKM2				pmax	pmax		
	comp=Z,457nm,0.5s						
TKM2				smax	smax		
	comp=N,878nm,0.6s						
TKM2	**Tokmak 2**	**3.07**	**346**	⇑*i*P	Pn	00 56 42.6	+3.6
	baz=348						
TKM2				⇑*i*S	**Sb**	**00 57 22.1**	**-0.6**
	baz=348						
TKM2	**Tokmak 2**	**3.07**	**346**	*e*Pn	Pn	00 56 42.8	+3.7
TKM2				*e*Sn	**Sn**	**00 57 15.9**	**+0.7**
AML	**Almayashu**	**3.09**	**316**	P	Pn	00 56 42.5	+3.0
	SNR=1090						
AML	**Almayashu**	**3.09**	**316**	*i* PN	Pn	00 56 42.5	+3.0
AML	**Almayashu**	**3.09**	**316**	⇑*i*P	Pn	00 56 42.4	+3.0
	baz=318						
AML				⇑*i*S	**Sb**	**00 57 23.3**	**-0.2**
	baz=318						
AAK	**Ala-Archa**	**3.12**	**330**	⇑Pn	Pn	00 56 43.3	+3.7
	comp=N,584nm,0.6s						
AAK				⇑Lg	Lg	00 57 24.9	
	comp=N,1μm,0.6s						
AAK	**Ala-Archa**	**3.12**	**330**	P	Pn	00 56 43.1	+3.5
	SNR=210						
AAK	**Ala-Archa**	**3.12**	**330**	PN	Pn	00 56 42.9	+3.3
AAK				S	**Sb**	**00 57 24.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,693nm,0.7s						
AAK				smax	smax		
	comp=N,1μm,0.6s						
AAK	**Ala-Archa**	**3.12**	**330**	Pn	Pn	00 56 43.0	+3.5
	comp=N,37nm,0.3s,baz=136,slow=7.9,SNR=423						
AAK				Lg	Lg	00 57 24.7	
	comp=N,175nm,0.3s,baz=330,slow=12,SNR=15						
AAK	**Ala-Archa**	**3.12**	**330**	⇑*i*P	Pn	00 56 43.1	+3.5
	baz=332						
AAK				⇑*i*S	**Sb**	**00 57 23.0**	**-1.0**
	baz=332						
AAK	**Ala-Archa**	**3.12**	**330**	*e*Pn	**Pn**	**00 56 42.0**	**+2.3**
AAK				*e*Sn	**Sn**	**00 57 17.4**	**+1.1**
AAK				Lg	Lg	00 57 24.7	
FRU	**Bishkek**	**3.25**	**334**	⇓*i*PN	Pn	00 56 45.0	+3.7
FRU				*e*S	**Sb**	**00 57 31.0**	**+3.4**
FRU				pmax	pmax		
	comp=Z,2μm,1.8s						
FRU				smax	smax		
	comp=N,3μm,1.8s						
KNDC	**Almaty**	**3.29**	**5**	⇓Pn	Pn	00 56 45.4	+3.5
	comp=N,298nm,0.6s						
KNDC				⇓Lg	Lg	00 57 32.4	
	comp=N,2μm,1.0s						
AAA	**Alma-Ata**	**3.34**	**5**	*e*PN	**Pb**	**00 56 49.9**	**-0.2**
AAA				*e*S	**Sb**	**00 57 31.4**	**+1.0**
AAA				pmax	pmax		
	comp=Z,504nm,0.4s						
AAA				smax	smax		
	comp=N,1μm,0.6s						
CHMS	**Chumysh**	**3.35**	**336**	P	Pn	00 56 46.3	+3.5
	SNR=415						
CHMS	**Chumysh**	**3.35**	**336**	*i* PN	Pn	00 56 46.2	+3.5
CHMS	**Chumysh**	**3.35**	**336**	⇓*i*P	Pn	00 56 46.3	+3.5
	baz=338						
CHMS				⇓*i*S	**Sb**	**00 57 29.6**	**-1.0**
	baz=338						
EKS2	**Erkin-Say**	**3.44**	**323**	P	Pn	00 56 47.8	+3.7
	SNR=158						
EKS2	**Erkin-Say**	**3.44**	**323**	*i* PN	Pn	00 56 47.7	+3.7
EKS2	**Erkin-Say**	**3.44**	**323**	⇑*i*P	Pn	00 56 47.9	+3.9
	baz=325						
EKS2				⇑*i*S	**Sb**	**00 57 33.5**	**+0.2**
	baz=325						
EKS2	**Erkin-Say**	**3.44**	**323**	*e*Pn	Pn	00 56 48.0	+3.9
EKS2				*e*Sn	**Sn**	**00 57 21.2**	**-3.1**
USP	**Ospenovka**	**3.67**	**336**	P	Pn	00 56 50.7	+3.6
	SNR=68						
USP	**Ospenovka**	**3.67**	**336**	*i* PN	Pn	00 56 50.7	+3.6
MNAS	**Manas**	**3.99**	**311**	⇑Pn	**Pn**	**00 56 54.1**	**+2.5**
	comp=N,43nm,0.5s						
MNAS				⇓Lg	Lg	00 57 53.0	
	comp=N,224nm,0.6s						
MNAS	**Manas**	**3.99**	**311**	PN	**Pn**	**00 56 54.1**	**+2.5**
MNAS						00 57 53.0	
MNAS				pmax	pmax		
	comp=Z,101nm,0.5s						
MNAS				smax	smax		
	comp=N,691nm,1.5s						
PDGK	**Podgornoye**	**4.03**	**32**	⇑Pn	Pn	00 56 55.9	+4.0
	comp=N,22nm,0.7s						
PDGK				⇑Lg	Lg	00 57 55.6	
	comp=N,1μm,1.1s						
PDGK	**Podgornoye**	**4.03**	**32**	PN	Pn	00 56 55.9	+4.0
PDGK				pmax	pmax		
	comp=Z,200nm,0.7s						
KK31	**Karatay Array**	**5.54**	**307**	⇓Pn	**Pn**	**00 57 14.7**	**+1.8**
	comp=Z,3.0nm,0.3s,baz=128,slow=13						
KK31				⇓Pg	**Pb**	**00 57 29.0**	**+1.4**
	comp=Z,30nm,0.6s,baz=124,slow=16						
KK31				⇑Lg	Lg	00 58 41.2	
	comp=Z,374nm,0.8s,baz=123,slow=28						
KK31	**Karatay Array**	**5.54**	**307**	PN	**Pn**	**00 57 14.6**	**+1.8**
KK31						00 58 41.2	
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KK31				pmax	pmax		
	comp=Z,63nm,0.8s						
KK31				smax	smax		
	comp=N,374nm,0.9s						
KKAR	**Karatay Array**	**5.54**	**307**	*e*PN	**Pn**	**00 57 14.8**	**+2.0**
KKAR	**Karatay Array**	**5.54**	**307**	*e*Pn	**Pn**	**00 57 14.8**	**+2.0**
KKAR				*e*Sn	**Sn**	**00 58 16.9**	**+1.0**
DZET	**Dzherino**	**6.11**	**262**	⇑Pn	**Pn**	**00 57 21.6**	**+0.9**
	comp=N,224nm,0.5s						
DZET				⇑Sn	**Sn**	**00 58 33.4**	**+3.4**
	comp=N,227nm,0.5s						
DZET				⇑Lg	Lg	00 59 09.1	
	comp=N,384nm,0.7s						
DZET	**Dzherino**	**6.11**	**262**	PN	**Pn**	**00 57 21.6**	**+0.9**
DZET						00 58 33.4	
DZET				pmax	pmax		
	comp=Z,224nm,0.5s						
DZET				smax	smax		
	comp=N,227nm,0.5s						
DZET				smax	smax		
	comp=N,384nm,0.7s						
CHCP	**Chirah Chowk**	**6.81**	**204**	P	Pn	00 57 34.7	+4.5
CEP	**Cherat**	**7.16**	**213**	P	Pn	00 57 38.9	+3.8
DLH	**Dalhousie**	**7.40**	**184**	*e*P	Pn	00 57 42.0	+3.5
DLH				*e*S	**Sn**	**00 59 06.0**	**+4.1**
DHRM	**DHARAMSHALA**	**7.67**	**182**	*e*P	**Pn**	**00 57 44.2**	**+1.9**
DHRM				*e*S	**Sn**	**00 59 11.7**	**+3.0**
DHRM				AML	AML	00 59 18.0	
	comp=E,618nm,1.0s						
DHRM				AML	AML	00 59 19.0	
	comp=N,507nm,1.0s						
MK31	**Makanchi Array**	**8.02**	**29**	⇑Pn	**Pn**	**00 57 49.5**	**+2.7**
	comp=N,2.3nm,0.4s,baz=213,slow=12,SNR=105						
MK31				⇑Lg	Lg	01 00 07.6	
	comp=N,39nm,0.8s,baz=205,slow=26,SNR=3.6						
MK31	**Makanchi Array**	**8.02**	**29**	P	**Pn**	**00 57 49.4**	**+2.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MK32	**Makanchi Array**	**8.02**	**29**	*e*Pn	**Pn**	**00 57 48.7**	**+1.9**
MKAR	**Makanchi Array**	**8.02**	**29**	Pn	**Pn**	**00 57 48.7**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=213,slow=13,SNR=115						
MKAR				Lg	Lg	00 59 58.7	
	comp=Z,1.7nm,0.3s,baz=210,slow=16,SNR=5.3						
MKAR				LR	LR	01 01 30.1	
	comp=Z,127nm,20.6s,baz=215,slow=42						
MKAR	**Makanchi Array**	**8.02**	**29**	*e*Pn	**Pn**	**00 57 49.6**	**+2.9**
MKAR				*e*Sn	**Sn**	**00 59 16.8**	**+0.1**
MKAR				Lg	Lg	00 59 58.7	
KBL	**Kabul**	**8.07**	**230**	*e*P	Pn	00 57 50.9	+3.2
KBL				*e*		00 59 19.2	
KBL	**Kabul**	**8.07**	**230**	*e*Pn	Pn	00 57 50.9	+3.2
KBL				*e*Sn	**Sn**	**00 59 19.2**	**+0.8**
THW	**Thamme Wali**	**8.12**	**210**	P	Pn	00 57 52.1	+3.8
SDNR	**Sundarnagar**	**8.43**	**178**	*e*P	Pn	00 57 56.0	+3.6
SDNR				*e*S	**Sn**	**00 59 29.0**	**+2.1**
BHK	**Bhakra**	**8.50**	**181**	*ex*	x	00 58 01.6	
BHK				*e*S	**Sn**	**00 59 31.0**	**+2.2**
SARP	**Sargodha**	**8.60**	**203**	P	Pn	00 57 58.3	+3.5
SMLA	**Simla**	**8.80**	**177**	*i* P	Pn	00 57 59.8	+2.2
SMLA				*i* x	x	00 59 34.0	
SMLA				AML	AML	00 59 39.9	
	comp=N,214nm,0.5s						
SMLA				AML	AML	00 59 45.0	
	comp=E,219nm,0.2s						
OTUK	**Ortayu**	**8.85**	**341**	⇓Pn	**Pn**	**00 57 59.4**	**+1.3**
	comp=E,9.9nm,0.8s						
OTUK				⇑Lg	Lg	01 00 24.3	
	comp=E,116nm,1.0s						
WMQ	**Urumqi**	**9.15**	**61**	*e*P	**Pn**	**00 58 03.9**	**+1.5**
WMQ				pP		00 58 08.3	
WMQ				sP		00 58 11.3	
WMQ				S	**Sn**	**00 59 50.1**	**+5.3**
WMQ				sS		00 59 55.5	
WMQ				PMZ			
	comp=E,23nm,0.9s						
WMQ				PMZ			
	comp=E,130nm,4.1s						
WMQ				LN			
	comp=E,910nm,5.8s						
WMQ				LE			
	comp=E,880nm,5.5s						
WMQ				LZ			
	comp=E,650nm,11.4s						
KURBB	**Kurchatov Arra**	**10.77**	**7**	⇑Pn	**Pn**	**00 58 25.2**	**+0.8**
	comp=E,2.4nm,0.6s						
KURBB				⇓Lg	Lg	01 01 28.4	
	comp=E,120nm,1.1s						
KURBB	**Kurchatov Arra**	**10.77**	**7**	Pn	**Pn**	**00 58 24.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=195,slow=12,SNR=18						
KURBB				Lg	Lg	01 01 24.8	
	comp=E,0.3nm,0.3s,baz=194,slow=30,SNR=11						
KURK	**Kurchatov**	**10.87**	**7**	⇑Pn	**Pn**	**00 58 25.5**	**-0.3**
	comp=E,4.7nm,0.9s						
KURK				⇑Lg	Lg	01 01 34.6	
	comp=E,62nm,1.0s						
KURK	**Kurchatov**	**10.87**	**7**	*e*P	**Pn**	**00 58 25.7**	**-0.1**
KURK				*e*		01 00 25.6	
KURK	**Kurchatov**	**10.87**	**7**	*e*Pn	**Pn**	**00 58 25.7**	**-0.1**
KURK				*e*Sn	**Sn**	**01 00 25.6**	**-1.2**
KURK				Lg	Lg	01 01 24.8	
LGTI	**Lohaghat**	**10.89**	**163**	*e*P	Pn	00 58 30.4	+4.3
LGTI				*e*S	**Sn**	**01 00 29.8**	**+2.5**
PYUN	**Piuthan**	**12.95**	**154**	*e*P	**Pn**	**00 58 52.3**	**-2.2**
DANN	**Dangsing**	**12.99**	**151**	*e*P	**Pn**	**00 58 53.0**	**-2.2**
	comp=E,71nm,0.6s						
KOLN	**Kolḍanda**	**13.46**	**152**	*e*P	**Pn**	**00 58 59.6**	**-1.9**
	comp=E,22nm,0.3s						
AJM	**Ajmer**	**13.52**	**187**	*ex*	**Pn**	**00 59 00.0**	**-2.1**
AJM				*ex*	Sn	01 01 25.0	-6.8
GKN	**Gorkha**	**13.64**	**148**	*e*P	**Pn**	**00 59 02.5**	**-1.5**
	comp=E,69nm,0.4s						
BVA0	**Borovoye Array**	**13.76**	**344**	⇓Pn	**Pn**	**00 59 03.6**	**-1.7**
	comp=E,14nm,0.9s,baz=157,slow=12,SNR=80						
BVA0				⇓Lg	Lg	01 02 58.1	
	comp=E,29nm,0.8s,baz=155,slow=26,SNR=4.6						
BVAR	**Borovoye Array**	**13.76**	**344**	Pn	**Pn**	**00 59 05.1**	**-0.2**
	comp=E,1.2nm,0.3s,baz=158,slow=12,SNR=52						
BVAR				Lg	Lg	01 02 59.5	
	comp=E,0.4nm,0.3s,baz=173,slow=16,SNR=3.6						
BVAR				LR	LR	01 04 36.4	
	comp=E,258nm,18.2s,baz=162,slow=38						
BRVK	**Borovoye**	**13.81**	**344**	*e*P	**Pn**	**00 59 05.7**	**-0.2**
BRVK				*e*		01 01 35.7	
BRVK	**Borovoye**	**13.81**	**344**	*e*Pn	**Pn**	**00 59 05.7**	**-0.2**
BRVK				*e*Sn	**Sn**	**01 01 35.7**	**-2.9**
KKN	**Kakani**	**14.10**	**147**	*e*P	**Pn**	**00 59 08.2**	**-2.0**
	comp=E,43nm,0.5s						
GUN	**Gumba**	**14.26**	**144**	*e*P	**Pn**	**00 59 10.1**	**-2.4**
	comp=E,42nm,0.5s						
PKIN	**Phulchoki**	**14.34**	**147**	*e*P	**Pn**	**00 59 12.0**	**-1.5**
	comp=E,25nm,0.4s						
PKI	**Pulchoki**	**14.35**	**147**	*e*P	**Pn**	**00 59 12.0**	**-1.7**
	comp=E,36nm,0.5s						
GEYT	**Alibeck**	**14.51**	**268**	Pn	Pn	00 59 10.9	-4.8
	comp=E,1.2nm,0.3s,baz=64,slow=6.8,SNR=12						
GEYT				Sn	**Sn**	**01 01 50.9**	**-4.9**
	comp=E,1.2nm,0.3s,baz=99,slow=16,SNR=4.4						
GEYT				LR	LR	01 05 39.9	
	comp=E,161nm,21.4s,baz=90,slow=41						
JIRN	**Jiri**	**14.61**	**144**	*e*P	**Pn**	**00 59 15.7**	**-1.7**
	comp=E,41nm,0.4s						
AB31	**Akbulak array**	**15.04**	**314**	⇑Pn	**Pn**	**00 59 21.8**	**-0.9**
	comp=E,3.9nm,0.6s,baz=121,slow=13,SNR=11						
AB31				⇑Lg	Lg	01 03 47.3	
	comp=E,5.7nm,0.8s						
ABKAR	**Akbulak array**	**15.04**	**314**	*e*Pn	**Pn**	**00 59 22.2**	**-0.5**
ZALV	**Zalesovo Beam**	**15.09**	**19**	*i* P	**Pn**	**00 59 23.7**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZALV	**Zalesovo Beam**	**15.09**	**19**	Pn	**Pn**	**00 59 23.7**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=215,slow=13,SNR=30						
ZALV				LR	LR	01 04 56.3	
	comp=Z,115nm,18.8s,baz=250,slow=36						
ZAA1	**Zalesovo Array**	**15.09**	**19**	*e*Pn	**Pn**	**00 59 23.7**	**+0.4**
RAMN	**Ramite**	**15.40**	**144**	*e*P	**Pn**	**00 59 24.3**	**-3.6**
	comp=Z,90nm,0.6s						
RAMN				*e*S	Sn	01 02 07.5	-10
NVS	**Novosibirsk**	**15.56**	**14**	⇑*i*P	**Pn**	**00 59 29.4**	**-0.1**
TAPN	**Taplejung**	**15.59**	**140**	*e*P	**Pn**	**00 59 28.8**	**-1.5**
	comp=Z,31nm,0.9s						
ODAN	**Odare**	**15.85**	**142**	*e*P	**Pn**	**00 59 32.7**	**-0.9**
	comp=Z,51nm,0.7s						
AKTO	**Aktyubinsk**	**16.73**	**315**	⇑Pn	**Pn**	**00 59 43.3**	**-1.1**
	comp=Z,29nm,1.1s						
AKTO				⇓Lg	Lg	01 04 38.2	
	comp=Z,15nm,1.4s						
AKTO	**Aktyubinsk**	**16.73**	**315**	Pn	**Pn**	**00 59 43.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=122,slow=13,SNR=28						
AKTO				LR	LR	01 06 44.8	
	comp=Z,409nm,19.6s,baz=131,slow=39						
GTA	**Gaotai**	**17.89**	**84**	*e*P	**P**	**01 00 01.9**	**+2.2**
GTA				pP	**pP**	**01 00 06.3**	**+0.6**
GTA				sP	sP	01 00 09.8	+1.4
GTA				PMZ			
	comp=Z,5.0nm,0.8s						
GTA				PMZ			
	comp=Z,160nm,5.7s						
GTA				LN			
	comp=Z,260nm,9.0s						
GTA				LE			
	comp=Z,330nm,10.4s						
GTA				LZ			
	comp=Z,370nm,13.3s						
ARU	**Arti**	**20.30**	**330**	*d*iP	Pn	01 00 29.0	+1.1
ARU						01 00 48.2	
ARU				PPP	PPP	01 01 00.6	
ARU				S	Sn	01 04 16.6	+0.8
ARU				SS	**SnSn**	**01 04 37.7**	**+7.4**
ARU				pmax	pmax		
	comp=Z,15nm,0.8s						
ARU	**Arti**	**20.30**	**330**	*e*P	**P**	**01 00 26.5**	**+0.7**
	comp=Z,178nm,2.2s						
MOY	**Mondy**	**20.56**	**47**	*e*P	Pn	01 00 36.4	+5.3
RPR	**Rampur**	**21.14**	**173**	*e*P	**P**	**01 00 36.5**	**+1.4**
ZAK	**Zakamensk**	**21.42**	**52**	⇑*i*P	**P**	**01 00 39.2**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
POO	**Poona**	**21.46**	**187**	*ex*	**P**	**01 00 40.0**	**+1.3**
LZH	**Lanzhou**	**21.79**	**91**	*e*P	P	01 00 47.4	+5.2
LZH				pP	pP	01 00 51.3	+3.1
LZH				sP	sP	01 00 53.9	+2.9
LZH				PMZ			
	comp=Z,14nm,1.0s						
MAK	**Makhachkala**	**21.95**	**287**	*e*P	**P**	**01 00 46.3**	**+2.6**
MAK				S	**S**	**01 04 45.9**	**+0.9**
MAK				pmax	pmax		
	comp=Z,14nm,0.9s						
MAK				MLR	MLR		
	comp=Z,512nm,14.0s						
TLY	**Talaya**	**22.08**	**49**	*e*P	**P**	**01 00 49.5**	**+4.4**
TLY				*e*S	S	01 04 39.5	-8.0
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,89nm,12.0s						
TLY	**Talaya**	**22.08**	**49**	LR	LR	01 09 41.1	
	comp=Z,89nm,21.2s,baz=247,slow=38						
TLY	**Talaya**	**22.08**	**49**	*e*P	**P**	**01 00 46.0**	**+0.9**
HYBB	**Hyderabad (bro**	**22.50**	**175**	*e*P	**P**	**01 00 49.7**	**-0.2**
HYB	**Hyderabad**	**22.51**	**175**	*i* P	**P**	**01 00 49.0**	**-0.8**
SONA0	**Songino Array**	**22.79**	**60**	*e*P	**P**	**01 00 52.9**	**+0.1**
SONM	**Songino Array**	**22.79**	**60**	P	**P**	**01 00 52.9**	**+0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,195nm,19.1s						
SONM	**Songino Array**	**22.79**	**60**	P	**P**	**01 00 52.9**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=258,slow=10.0,SNR=17						
SONM				LR	LR	01 10 45.4	
	comp=Z,195nm,19.1s,baz=262,slow=39						
ULN	**Ulaanbaatar**	**23.23**	**60**	⇑*e*P	**P**	**01 00 59.2**	**+1.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**23.23**	**60**	*e*P	**P**	**01 00 58.5**	**+1.2**
	comp=Z,9.9nm,0.9s						
NJS	**Nagarjunasagar**	**23.42**	**173**	*e*P	**P**	**01 00 59.7**	**+0.5**
DGRG	**David-gareji**	**23.65**	**284**	P	**P**	**01 01 03.2**	**+1.8**
CD2	**Chengdu**	**23.84**	**104**	*e*P	**P**	**01 01 04.8**	**+1.5**
CD2				pP	**pP**	**01 01 08.9**	**-0.7**
CD2				sP	**sP**	**01 01 11.8**	**-0.5**
CD2				PP	PnPn	01 01 38.3	+6.9
CD2				S	**S**	**01 05 17.9**	**-0.2**
CD2				sS	**sS**	**01 05 24.3**	**-4.3**
CD2				SS	SnSn	01 06 07.8	+10
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
CD2				LN			
	comp=Z,230nm,9.4s						
CD2				LZ			
	comp=Z,220nm,9.8s						
TBLG	**Delisi**	**24.09**	**285**	P	**P**	**01 01 07.7**	**+2.2**
GNI	**Garni**	**24.31**	**281**	*d*iP	**P**	**01 01 10.1**	**+2.4**
GNI				pmax	pmax		
	comp=Z,24nm,1.7s						
GNI	**Garni**	**24.31**	**281**	P	**P**	**01 01 09.5**	**+1.8**
	comp=Z,4.5nm,0.5s,baz=35,slow=0.9,SNR=6.0						
GNI				LR	LR	01 12 29.4	
	comp=Z,85nm,18.5s,baz=82,slow=41						
GNI	**Garni**	**24.31**	**281**	*e*P	**P**	**01 01 09.8**	**+2.0**
ZEI	**Tsey**	**24.61**	**287**	*e*P	**P**	**01 01 08.6**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
URV	**Uravakonda**	**24.91**	**178**	*e*P	**P**	**01 01 13.0**	**-0.1**
ONI	**Oni**	**24.95**	**287**	P	**P**	**01 01 15.7**	**+2.3**
GOF	**Gofitskoye**	**25.13**	**293**	*e*P	**P**	**01 01 16.2**	**+1.3**
KBZ	**Khabaz**	**25.27**	**290**	P	**P**	**01 01 16.7**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**25.27**	**290**	P	**P**	**01 01 16.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=53,slow=20,SNR=3.1						
KIV	**Kislovodsk**	**25.42**	**290**	*e*P	**P**	**01 01 20.1**	**+2.5**
KIV				*e*S	**S**	**01 05 42.0**	**-1.3**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,135nm,15.0s						
KIV	**Kislovodsk**	**25.42**	**290**	*e

AKASG LR LR 01 18 13.6
comp=Z,180nm,19.9s,baz=65,slow=39
AKBB Malin Array Si 34.44 304 *eP* **P 01 02 37.1 -0.3**
AKBB Malin Array Si 34.44 304 *eP* **P 01 02 37.0 -0.3**
JOF Joensuu 35.29 326 *eP* **P 01 02 42.4 -2.2**
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 35.29 326 *ep* **P 01 02 42.4 -2.2**
comp=Z,3.7nm,0.7s
QIZ Qiongzhong 35.37 116 P P 01 02 41.5 -4.3
QIZ S **S 01 08 15.5 -3.7**
QIZ pmax pmax
comp=Z,23nm,2.6s
CFR Carcaliu 35.63 295⇑ *iP* **P 01 02 47.8 +0.1**
TLB Topalu 35.80 294⇓ *iP* P 01 02 45.4 -3.7
VRI Vrincioaia 36.50 296⇑ *iP* **P 01 02 56.7 +1.5**
PLOR Plostina 36.56 296⇑ *iP* **P 01 02 56.9 +1.2**
MLR Muntele Rosu 37.10 296⇑ *iP* **P 01 03 02.0 +1.5**
FIA0 FINESS Array S 37.27 322 *eP* **P 01 03 01.2 -0.3**
FIA0 FINESS Array S 37.27 322 *eP* **P 01 03 01.2 -0.3**
FINES FINESS Array B 37.27 322 *ceP* **P 01 03 01.6 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 37.27 322 P **P 01 03 01.2 -0.3**
comp=Z,1.0nm,0.4s,baz=117,slow=9.8,SNR=17
FINES LR LR 01 19 05.7
comp=Z,335nm,18.3s,baz=94,slow=37
BURAR Bucovina Array 37.28 299⇑ *iP* **P 01 03 01.5 -0.4**
VOIR 37.73 296⇑ *iP* **P 01 03 06.3 +0.6**
ARR Arges 38.03 296⇑ *iP* **P 01 03 08.8 +0.5**
KWP Kalwaria Pacla 38.69 303 *eP* **P 01 03 14.0 +0.3**
KWP pmax pmax
comp=Z,17nm,1.2s
KWP Kalwaria Pacla 38.69 303⇑ *iP* **P 01 03 14.5 +0.9**
KWP Kalwaria Pacla 38.69 303 *eP* **P 01 03 14.0 +0.3**
comp=Z,17nm,1.2s
KOLS Kolonicke sedl 39.06 302 *eP* **P 01 03 15.9 -0.8**
KOLS *e* 01 03 24.0
KOLS *e* 01 04 46.3
KOLS pmax pmax
comp=Z,13nm,2.1s
KOLS Kolonicke sedl 39.06 302 *eP* **P 01 03 15.9 -0.8**
KOLS *e* 01 03 24.0
KOLS *ePP* **PP 01 04 46.3 +0.1**
KEV Kevo 39.38 335 *eP* **P 01 03 17.7 -1.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 39.38 335 *ep* **P 01 03 17.7 -1.4**
comp=Z,1.2nm,0.4s
CRVS Cervenica-Dubn 39.59 302 *ePP* PP 01 04 54.9 +2.8
KSRS Korea Array 39.70 77 LR LR 01 21 39.3
comp=Z,70nm,21.7s,baz=294,slow=39
ARA0 ARCESS Array S 39.78 335 *eP* **P 01 03 22.2 -0.3**
ARCES ARCESS Array B 39.78 335 P **P 01 03 22.2 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,126nm,20.3s
ARCES ARCESS Array B 39.78 335 P **P 01 03 22.2 -0.3**
comp=Z,2.4nm,0.4s,baz=95,slow=7.8,SNR=41
ARCES LR LR 01 20 41.3
comp=Z,126nm,20.3s,baz=112,slow=37
BZS Buzias 40.07 297⇑ *iP* **P 01 03 25.4 +0.2**
TIXI Tiksi 40.94 22⇑ *iP* **P 01 03 32.2 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 41.37 302 *eP* **P 01 03 36.5 +0.6**
VYHS *e* 01 03 44.8
VYHS *e* 01 05 12.7
VYHS pmax pmax
comp=Z,4.0nm,1.6s
VYHS Vyhne 41.37 302 *eP* **P 01 03 36.5 +0.6**
VYHS *e* 01 03 44.8
VYHS *ePP* **PP 01 05 12.7 +1.3**
OKC Ostrava-Krasne 41.59 304 AMS AMS 01 22 10.0
comp=Z,300nm,12.1s
PSI Prapat 42.16 146 LR LR 01 25 20.6
comp=Z,80nm,18.1s,slow=42
KRLC Kraliky 42.42 304 *eP* **P 01 03 45.3 +0.8**
KRLC *e* 01 03 52.4
KRLC Kraliky 42.42 304 *eP* **P 01 03 45.3 +0.8**
KRLC *ex* x 01 03 52.4
DPC Dobruska-Polom 42.66 305 *eP* **P 01 03 46.7 +0.2**
DPC *e* 01 03 54.1
DPC Dobruska-Polom 42.66 305 *eP* **P 01 03 46.7 +0.2**
DPC *ex* x 01 03 54.1
DPC AMS AMS 01 22 40.0
UPC Upice 42.83 305 *eP* **P 01 03 47.7 -0.1**
UPC *e* 01 03 54.8
UPC Upice 42.83 305 *eP* **P 01 03 47.7 -0.1**
UPC *ex* x 01 03 54.8
TREC Trest 43.39 303 AMS AMS 01 23 20.0
comp=Z,300nm,12.0s
GOPC GO Pecny, Ondr 43.71 304 AMS AMS 01 23 20.0
comp=Z,400nm,12.8s
PVCC Panska Ves 43.73 305 AMS AMS 01 23 20.0
comp=Z,400nm,11.5s
PRU Pruhonice 43.85 305 *eP* **P 01 03 56.7 +0.7**
PRU *e* 01 04 04.2
PRU MLR MLR
comp=Z,500nm,14.6s
PRU Pruhonice 43.85 305 *eP* **P 01 03 56.7 +0.7**
PRU *ex* x 01 04 04.2
PRU AMS AMS 01 23 30.0
comp=Z,500nm,14.6s
PRA Prague 43.91 305 AMS AMS 01 23 30.0
comp=Z,500nm,12.8s
BRG Berggiesshubel 44.06 306 *eP* **P 01 03 58.2 +0.5**
comp=Z,2.2nm,0.8s
BRG Berggiesshubel 44.06 306 *eP* **P 01 03 58.2 +0.5**
BRG pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 44.39 321 P **P 01 03 59.4 -0.8**
comp=Z,1.1nm,0.5s,baz=89,slow=8.6
NB200 NORSAR Array S 44.39 321 *eP* **P 01 03 59.5 -0.8**
NOA NORSAR Array B 44.39 321 P **P 01 03 59.5 -0.8**
comp=Z,0.2nm,0.4s,baz=44,slow=12,SNR=5.3
NOA LR LR 01 23 07.9
comp=Z,178nm,19.0s,baz=70,slow=37
CLL Collm 44.56 307 *eP* **P 01 03 59.7 -2.0**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 44.56 307 *eP* **P 01 04 01.0 -0.6**
comp=Z,5.0nm,1.2s
CLL *e* 01 04 09.0
CLL *ePP* PP 01 05 52.0 +6.4
CLL Collm 44.56 307 *eP* **P 01 03 59.7 -2.0**
comp=Z,6.6nm,1.1s
GEC2 GERESS Array S 44.63 303 *eP* **P 01 04 01.8 -0.6**
GEC2 GERESS Array S 44.63 303 *eP* **P 01 04 01.8 -0.6**
GERES GERESS Array B 44.63 303 P **P 01 04 02.4 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,115nm,18.9s
GERES GERESS Array B 44.63 303 P **P 01 04 02.4 0.0**
comp=Z,1.8nm,0.7s,baz=66,slow=8.0,SNR=19
GERES LR LR 01 25 43.8
comp=Z,115nm,18.9s,baz=76,slow=40
KHC Kasperske Hory 44.65 304 *eP* **P 01 04 02.6 +0.1**
KHC *e* 01 04 09.2
KHC MLR MLR
comp=Z,400nm,11.2s
KHC Kasperske Hory 44.65 304 *eP* **P 01 04 02.6 +0.1**
KHC *ex* x 01 04 09.2
KHC AMS AMS 01 24 00.0
comp=Z,400nm,11.2s
TIP Timpagrande 45.35 289 *eP* **P 01 04 08.1 -0.1**
comp=Z,6.0nm,1.1s
TRI Trieste 45.38 299 *eP* **P 01 04 08.5 +0.2**
TRI pmax pmax
comp=Z,13nm,0.6s
TRI Trieste 45.38 299 *eP* **P 01 04 08.5 +0.2**
comp=Z,13nm,0.6s
CUC Castrocucco 45.74 291 *eP* **P 01 04 12.1 +0.8**
comp=Z,4.4nm,0.8s
FUORN Ofenpass-Fuorn 47.45 301 *eP* **P 01 04 24.6 -0.3**
comp=Z,28nm,2.1s
MJAR Matsushiro Arr 47.68 73 LR LR 01 26 10.0
comp=Z,34nm,19.8s,baz=300,slow=38
VLC Villacollemand 48.14 298 *eP* **P 01 04 30.8 +0.9**
comp=Z,11nm,1.0s
CDF Champ du Feu 48.86 304 *eP* **P 01 04 34.6 -0.9**
CDF Champ du Feu 48.86 304 *eP* **P 01 04 34.6 -0.9**
CDF Champ du Feu 48.86 304 *eP* **P 01 04 34.6 -0.9**
HINF Hinteralfeld 49.31 304 *eP* **P 01 04 38.0 -0.9**
HINF Hinteralfeld 49.31 304 *eP* **P 01 04 38.0 -0.9**
HINF Hinteralfeld 49.31 304 *eP* **P 01 04 38.0 -0.9**
SENIN Lac Senin/Sane 49.48 302 *eP* **P 01 04 38.7 -1.7**
HAU Haudompre 49.58 304 *eP* **P 01 04 40.0 -0.9**
HAU *eR*
comp=Z,78nm,17.5s
HAU Haudompre 49.58 304 *eP* **P 01 04 40.0 -0.9**
HAU Haudompre 49.58 304 *eP* **P 01 04 40.0 -0.9**
PGF Pioggiola 49.65 296 *eP* **P 01 04 40.8 -0.8**
comp=Z,20nm,1.1s
PGF Pioggiola 49.65 296 *eP* **P 01 04 40.8 -0.8**
PGF pmax pmax
comp=Z,20nm,1.1s
PGF Pioggiola 49.65 296 *eP* **P 01 04 40.8 -0.8**
comp=Z,20nm,1.1s
PAGF Fort de Pagny 49.80 305 *eP* **P 01 04 41.2 -1.4**
comp=Z,1.4nm,0.6s
PAGF Fort de Pagny 49.80 305 *eP* **P 01 04 41.2 -1.4**
comp=Z,1.4nm,0.6s
LPG La Plagne 50.13 301 *eP* **P 01 04 45.0 -0.5**
LPG La Plagne 50.13 301 *eP* **P 01 04 45.0 -0.5**
LPG La Plagne 50.13 301 *eP* **P 01 04 45.0 -0.5**
LPL La Plagne 50.14 301 *eP* **P 01 04 44.9 -0.5**
LPL La Plagne 50.14 301 *eP* **P 01 04 44.9 -0.5**
LPL La Plagne 50.14 301 *eP* **P 01 04 44.9 -0.5**
MEZF Maizieres J'vi 50.24 305 *eP* **P 01 04 45.6 -0.3**
MEZF Maizieres J'vi 50.24 305 *eP* **P 01 04 45.6 -0.3**
SBF Sospel 50.24 298 *eP* **P 01 04 45.5 -0.6**
comp=Z,32nm,1.0s
SBF Sospel 50.24 298 *eP* **P 01 04 45.5 -0.6**
SBF pmax pmax
comp=Z,32nm,1.0s
SBF Sospel 50.24 298 *eP* **P 01 04 45.5 -0.6**
comp=Z,32nm,1.0s
BNI Bardonecchia 50.33 300 *eP* **P 01 04 45.3 -1.5**
BNI pmax pmax
comp=Z,12nm,1.2s
BNI Bardonecchia 50.33 300 *eP* **P 01 04 45.3 -1.5**
comp=Z,12nm,1.2s
MBDF Montbardon 50.38 300 *eP* **P 01 04 45.7 -1.5**
comp=Z,7.2nm,0.8s
MBDF Montbardon 50.38 300 *eP* **P 01 04 45.7 -1.5**
MBDF pmax pmax
comp=Z,7.0nm,0.8s
MBDF Montbardon 50.38 300 *eP* **P 01 04 45.7 -1.5**
comp=Z,7.2nm,0.8s
FRF La Foret Royal 50.88 298 *eP* **P 01 04 50.1 -0.7**
FRF La Foret Royal 50.88 298 *eP* **P 01 04 50.1 -0.7**
FRF La Foret Royal 50.88 298 *eP* **P 01 04 50.1 -0.7**
SMRF Simiane la Rot 51.45 299 *eP* **P 01 04 53.7 -1.5**
SMRF Simiane la Rot 51.45 299 *eP* **P 01 04 53.7 -1.5**
SMF Signal de Mont 51.63 303 *eP* **P 01 04 55.3 -1.2**
SMF Signal de Mont 51.63 303 *eP* **P 01 04 55.3 -1.2**
SMF Signal de Mont 51.63 303 *eP* **P 01 04 55.3 -1.2**
SSF Saint Saulge 51.70 304 *eP* **P 01 04 55.6 -1.4**
comp=Z,11nm,1.1s
SSF Saint Saulge 51.70 304 *eP* **P 01 04 55.6 -1.4**
SSF pmax pmax
comp=Z,11nm,1.1s
SSF Saint Saulge 51.70 304 *eP* **P 01 04 55.6 -1.4**
comp=Z,11nm,1.1s
VIVF Saint-Julien-l 51.73 301 *eP* **P 01 04 56.5 -0.7**
VIVF Saint-Julien-l 51.73 301 *eP* **P 01 04 56.5 -0.7**
VIVF Saint-Julien-l 51.73 301 *eP* **P 01 04 56.5 -0.7**
AVF Avril sur Loir 51.90 303 *eP* **P 01 04 57.2 -1.2**
comp=Z,22nm,1.2s
AVF Avril sur Loir 51.90 303 *eP* **P 01 04 57.2 -1.2**
AVF pmax pmax
comp=Z,22nm,1.2s
AVF Avril sur Loir 51.90 303 *eP* **P 01 04 57.2 -1.2**
comp=Z,22nm,1.2s
KEST Kesra 52.13 288 P **P 01 05 00.0 -0.4**
comp=Z,0.5nm,0.6s,baz=179,slow=0.5,SNR=5.8
LASF Ste Croix 52.56 300 *eP* **P 01 05 02.4 -1.0**
comp=Z,10nm,1.0s
LASF Ste Croix 52.56 300 *eP* **P 01 05 02.4 -1.0**
comp=Z,10nm,1.0s
LDF La Druitiere 53.44 306 *eP* **P 01 05 08.1 -1.7**
LDF La Druitiere 53.44 306 *eP* **P 01 05 08.1 -1.7**
LDF La Druitiere 53.44 306 *eP* **P 01 05 08.1 -1.7**
BILL Bilibino 53.56 28 *eP* **P 01 05 11.8 +1.5**
BILL pmax pmax
comp=Z,4.0nm,1.3s
MTLF Montolieu 53.95 300 *eP* **P 01 05 12.7 -0.9**
comp=Z,16nm,1.4s
MTLF Montolieu 53.95 300 *eP* **P 01 05 12.7 -0.9**
MTLF pmax pmax
comp=Z,16nm,1.4s
MTLF Montolieu 53.95 300 *eP* **P 01 05 12.7 -0.9**
comp=Z,16nm,1.4s
GRR Gorron 53.97 306 *eP* **P 01 05 12.5 -1.2**
GRR Gorron 53.97 306 *eP* **P 01 05 12.5 -1.2**
GRR Gorron 53.97 306 *eP* **P 01 05 12.5 -1.2**
KMBO Kilima Mbogo 54.40 231 *ceP* **P 01 05 18.1 +0.7**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 54.40 231 P **P 01 05 17.6 +0.2**
comp=Z,2.7nm,0.7s,baz=33,slow=9.5,SNR=7.8
PETK Petropavlovsk- 54.43 47 LR LR 01 28 59.8
comp=Z,29nm,19.3s,baz=268,slow=37
ROSF Rostrenen 55.48 307 *eP* **P 01 05 22.9 -1.7**
ROSF Rostrenen 55.48 307 *eP* **P 01 05 22.9 -1.7**
ROSF Rostrenen 55.48 307 *eP* **P 01 05 22.9 -1.7**
ESDC Sonseca Array 59.73 298 P **P 01 05 54.0 -0.7**
comp=Z,0.6nm,0.5s,baz=56,slow=6.9,SNR=8.8
COLD Coldfoot 67.42 18 *eP* P 01 06 42.0 -2.9
comp=Z,4.4nm,1.0s
INK Inuvik 69.74 11 P **P 01 06 58.3 -1.1**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 69.74 11 P **P 01 06 58.2 -1.1**
comp=Z,0.5nm,0.4s,baz=25,slow=4.4,SNR=3.8
TOA0 Torodi Ar. Sit 70.13 271 *eP* **P 01 07 01.3 -1.4**
TORD Torodi Ar. Bea 70.13 271 P **P 01 07 01.3 -1.4**
comp=Z,2.6nm,0.4s,baz=48,slow=5.4,SNR=108
ILAR Eielson Array 70.21 18 P **P 01 07 01.4 -0.9**
comp=Z,1.2nm,0.9s,baz=336,slow=5.1,SNR=5.0
ILB Eielson Array 70.21 18 *eP* **P 01 07 01.4 -0.9**
YKA Yellowknife Ar 77.52 5 P **P 01 07 44.0 -1.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 77.52 5 P **P 01 07 44.0 -1.2**
comp=Z,0.6nm,0.8s,baz=345,slow=5.2,SNR=12
YKB5 Yellowknife Ar 77.52 5 *eP* **P 01 07 44.0 -1.2**
DBIC Dimbokro 79.19 270 P **P 01 07 53.8 -1.4**
DBIC pmax pmax
comp=Z,1.0nm,0.4s
DBIC Dimbokro 79.19 270 P **P 01 07 53.8 -1.4**
comp=Z,1.3nm,0.4s,baz=18,slow=6.9,SNR=8.4
LIC Lamto 79.60 269 *eP* **P 01 07 54.9 -2.6**
comp=Z,4.6nm,0.5s
LIC Lamto 79.60 269 *eP* **P 01 07 54.9 -2.6**
comp=Z,4.6nm,0.5s

ISCJB ***15*** *01:02:33.6±0.6, 0.°27N±0.°08×122.°16E±0.°06, h200km, mb3.6/6, Error ellipse: s-maj=11.8km s-min=8.7km az=163.7*
DJA ***15*** *01:02:34.8±0.5, 0.°N±5.°×12.°2E±.°, h178km±5km, M4.4/9, mb4.7/1, mB4.8/1, MLv4.2/9, Mw(mB)4.1/1*
IDC ***15*** *01:02:43.4±4.1, 0.°34N×122.°56E, h275km±41km, mb3.3/6, mb1 3.5/7, mb1mx3.2/24, mbtmp4.0/7, Error ellipse: s-maj=75.2km s-min=12.7km az=59.0*
ISC 15 01:02:35.0±0.7, 0.°33N±0.°08×122.°15E±0.°06, h200km, n15, σ1s73/20, mb3.8/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MRSI	**Marisa**	**0.25**	**306**	P		**Pn**	**01 02 59.3**	**-2.1**
MRSI				S		**Sn**	**01 03 18.2**	**-3.6**
APSI	**Ampana**	**1.33**	**202**	P		**Pn**	**01 03 05.9**	**-1.4**
APSI				S		**Sn**	**01 03 30.0**	**-2.4**
KMSI	**Cibinong**	**1.85**	**82**	P		**Pn**	**01 03 10.4**	**-1.6**
KMSI				S		**Sn**	**01 03 39.4**	**-1.3**
MPSI	**Mapaga**	**2.25**	**270**	P		**Pn**	**01 03 14.2**	**-1.9**
PCI	**Palu**	**2.62**	**242**	P		**Pn**	**01 03 19.0**	**-1.2**
TTSI	**Tana Toraja**	**4.08**	**215**	P		**Pn**	**01 03 37.6**	**-0.2**
LBMI	**Labuha**	**5.44**	**100**	P		**Pn**	**01 03 54.0**	**-1.1**
BATI	**Baumata**	**10.57**	**172**	P		**P**	**01 05 10.4**	**+1.5**
	4.8nm,0.3s,baz=4.8,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**23.42**	**150**	P		**P**	**01 07 26.1**	**-0.2**
	6.2nm,0.5s,baz=325,slow=11,SNR=77							
WRA				PcP		**PcP**	**01 11 07.1**	**+0.1**
	0.3nm,0.5s,baz=338,slow=2.6,SNR=2.8							
ASAR	**Alice Springs 26.45 155**			P		**P**	**01 07 53.9**	**+0.2**
	1.4nm,0.5s,baz=344,slow=14,SNR=36							
ASAR				PcP		**PcP**	**01 11 14.1**	**+0.4**
	0.7nm,0.3s,baz=343,slow=1.8,SNR=6.0							
CMAR	**Chiang Mai Arr 29.05 310**			P		P	01 08 21.3	+4.5
	0.2nm,0.4s,baz=128,slow=5.8,SNR=4.4							
STKA	**Stephens Creek 36.95 152**			P		**P**	**01 09 24.7**	**-0.3**
	3.7nm,0.7s,baz=326,slow=7.8,SNR=9.3							
SONM	**Songino Array 49.26 346**			P		**P**	**01 11 05.6**	**+2.1**
	0.4nm,0.7s,baz=163,slow=10,SNR=2.4							
MKAR	**Makanchi Array 57.89 329**			P		**P**	**01 12 08.0**	**+1.9**
	0.7nm,0.4s,baz=126,slow=8.7,SNR=18							
MKAR				PcP		**PcP**	**01 12 57.0**	**+0.8**
	0.5nm,0.6s,baz=124,slow=5.1,SNR=5.2							
TORD	**Torodi Ar. Bea 119.50 285**			PKP		**PKPdf**	**01 21 00.1**	**-1.8**
	0.3nm,0.7s,baz=74,slow=1.1,SNR=2.7							

IDC ***15*** *01:04:20.9±0.9, 0.°27S×123.°07E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, MS3.4/4, Ms1 3.4/4, ms1mx2.8/35, Error ellipse: s-maj=64.3km s-min=17.2km az=69.0*
ISCJB ***15*** *01:04:28.2±0.5, 0.°30S±0.°05×123.°25E±0.°04, h50km, mb3.8/7, MS3.4/4, Error ellipse: s-maj=7.4km s-min=5.3km az=164.1*
DJA ***15*** *01:04:30.1±0.3, 0.°S±4.°×12.°3E±.°, h76km±12km, M4.5/18, mb4.7/7, mB4.9/6, MLv4.5/18, Mw(mB)4.2/6*
ISC 15 01:04:28.6±0.8, 0.°22S±0.°05×123.°22E±0.°04, h50km, n27, σ2s13/25, mb3.9/7, MS3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KMSI	**Cibinong**	**1.09**	**44**	P		**Pn**	01 04 52.5	+4.9
KMSI				S		**Sn**	**01 05 05.3**	**+3.6**
MRSI	**Marisa**	**1.45**	**298**	P		**Pn**	**01 04 54.0**	**+1.5**
MRSI				S		**Sn**	**01 05 07.1**	**-3.3**
APSI	**Ampana**	**1.72**	**246**	P		**Pn**	**01 04 57.1**	**+1.0**
APSI				S		**Sn**	**01 05 21.4**	**+4.5**
SANI	**Sanana**	**3.31**	**123**	P		**Pn**	**01 05 18.2**	**+0.2**
SANI				S		Sn	01 05 51.2	-5.0
MPSI	**Mapaga**	**3.37**	**279**	P		**Pn**	**01 05 21.2**	**+2.5**
PCI	**Palu**	**3.45**	**259**	P		**Pn**	**01 05 22.8**	**+2.9**
TNTI	**Ternate**	**4.26**	**77**	P		**Pn**	**01 05 33.9**	**+2.9**
LBMI	**Labuha**	**4.30**	**96**	P		Pn	01 05 37.9	+6.3
TTSI	**Tana Toraja**	**4.41**	**230**	P		**Pn**	**01 05 34.0**	**+0.9**
TTSI				S		**Sn**	**01 06 23.0**	**-0.2**
NLAI	**Namlea**	**4.91**	**128**	P		**Pn**	**01 05 42.1**	**+2.2**
NLAI				S		**Sn**	**01 06 35.3**	**-0.1**
SPSI	**Sidrap Palu**	**5.08**	**223**	P		**Pn**	**01 05 42.8**	**+0.6**
	58nm,0.6s,1μm0.2nm							
SPSI				S		**Sn**	**01 06 40.2**	**+0.6**
	58nm,0.6s,1μm0.2nm							
BNSI	**Bone**	**5.19**	**217**	P		**Pn**	**01 05 45.1**	**+1.3**
	42nm,0.6s,622nm0.3nm							
BBSI	**Bau Bau**	**5.28**	**187**	P		Pn	01 05 37.0	-8.0
BKSI	**Bulukumba**	**5.94**	**211**	P		**Pn**	**01 05 56.0**	**+1.9**
	24nm,0.7s,522nm0.2nm							
BSSI	**Bau Bau, Buton**	**6.49**	**205**	P		**Pn**	**01 06 04.1**	**+2.5**
WRA	**Warramunga Arr**	**22.43**	**152**	P		**P**	**01 09 21.3**	**-2.1**
	2.5nm,0.6s,baz=335,slow=9.9,SNR=21							
ASAR	**Alice Springs**	**25.52**	**157**	P		**P**	**01 09 52.5**	**-0.2**
	1.6nm,0.6s,baz=344,slow=14,SNR=12							
JCJ	**Chichijima**	**32.71**	**32**	LR		LR	01 26 40.6	
	comp=Z,26nm,18.7s,baz=124,slow=41							
STKA	**Stephens Creek**	**35.97**	**153**	P		P	01 11 22.8	-1.9
	1.1nm,0.5s,baz=331,slow=10,SNR=2.7							
MJAR	**Matsushiro Arr**	**39.13**	**19**	P		**P**	**01 11 50.8**	**-0.7**
	0.6nm,0.3s,baz=197,slow=9.5,SNR=4.0							
SONM	**Songino Array**	**50.05**	**345**	P		**P**	**01 13 17.6**	**-0.8**
	0.9nm,0.7s,baz=159,slow=8.6,SNR=7.6							
MKAR	**Makanchi Array**	**58.91**	**328**	P		**P**	**01 14 21.0**	**-1.7**
	0.2nm,0.3s,baz=129,slow=8.7,SNR=6.5							
ZALV	**Zalesovo Beam**	**62.60**	**336**	P		**P**	**01 14 48.2**	**+0.6**
	0.2nm,0.3s,baz=152,slow=6.5,SNR=2.9							
OPO	**Ambohidratompo**	**76.69**	**251**	LR		LR	01 47 49.8	
	comp=Z,46nm,18.4s,baz=178,slow=34							
BRTR	**Keskin Array B**	**89.81**	**310**	LR		LR	02 04 22.2	
	comp=Z,7.6nm,18.6s,baz=288,slow=40							
FINES	**FINESS Array B**	**93.61**	**331**	LR		LR	02 00 43.8	
	comp=Z,28nm,21.0s,baz=254,slow=36							
TORD	**Torodi Ar. Bea**	**120.68**	**285**	PKP		**PKPdf**	**01 23 14.5**	**-1.6**
	0.5nm,1.1s,baz=100,slow=1.8,SNR=4.3							

IDC ***15*** *01:08:35.0±1.7, 0.°44S×128.°40E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/25, Error ellipse: s-maj=168.0km s-min=22.7km az=71.0*
ISCJB ***15*** *01:08:39.8±0.5, 0.°53S±0.°04×127.°80E±0.°05, h33km, mb3.5/3, MS3.2/3, Error ellipse: s-maj=7.2km s-min=6.3km az=8.2*
DJA ***15*** *01:08:40.1±0.5, 1.°S±2.°×12.°8E±.°, h11km±3km, M4.3/11, mb4.8/6, mB5.0/3, MLv4.1/11, Mw(mB)4.4/3*
ISC 15 01:08:41.4±0.9, 0.°58S±0.°05×127.°82E±0.°08, h35km, n25, σ1s49/27, mb3.4/3, MS3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LBMI	**Labuha**	**0.32**	**260**	P		Pn	01 08 45.3	-4.3
LBMI				S		**Sn**	**01 08 50.8**	**-4.4**
TNTI	**Ternate**	**1.42**	**342**	P		**Pn**	**01 09 04.2**	**-0.6**
TNTI				S		**Sn**	**01 09 24.3**	**+2.1**
SANI	**Sanana**	**2.34**	**231**	P		**Pn**	**01 09 16.7**	**-0.7**
SANI				S		**Sn**	**01 09 46.6**	**+1.7**
NLAI	**Namlea**	**2.73**	**195**	P		**Pn**	**01 09 23.4**	**+0.6**
NLAI				S		**Sn**	**01 09 56.9**	**+2.2**
MSAI	**Masohi**	**2.96**	**158**	P		**Pn**	**01 09 27.3**	**+1.3**
KMSI	**Cibinong**	**4.00**	**287**	P		**Pn**	**01 09 41.3**	**+1.0**
FAKI	**Fak Fak**	**5.00**	**118**	P		**Pn**	**01 09 54.1**	**+0.1**
	28nm,1.1s,0.2nm							
APSI	**Ampana**	**6.18**	**267**	P		**Pn**	**01 10 10.6**	**+0.4**
	66nm,0.4s,2μm0.5nm							
APSI				S		**Sn**	**01 11 20.7**	**+1.0**
	66nm,0.4s,2μm0.5nm							
BNSI	**Bone**	**8.58**	**244**	P		**Pn**	**01 10 43.6**	**+0.3**
	18nm,0.7s							
SPSI	**Sidrap Palu**	**8.71**	**247**	P		**Pn**	**01 10 47.0**	**+2.0**
	72nm,0.7s,931nm							
BKSI	**Bulukumba**	**9.01**	**238**	P		**Pn**	**01 10 50.8**	**+1.7**
	25nm,0.7s,521nm							
WRA	**Warramunga Arr**	**20.27**	**162**	P		**P**	**01 13 12.0**	**-2.2**
	2.7nm,0.8s,baz=347,slow=12,SNR=11							
WRA				LR		LR	01 23 18.8	
	comp=Z,47nm,18.0s,baz=170,slow=44							
LEM	**Lembang 21.08 252**			LR		LR	01 22 51.6	
	comp=Z,118nm,19.5s,baz=160,slow=40							
ASAR	**Alice Springs**	**23.69**	**166**	P		**P**	**01 13 48.8**	**-1.4**
	2.7nm,0.6s,baz=345,slow=11,SNR=24							
STKA	**Stephens Creek**	**33.74**	**159**	LR		LR	01 29 40.4	
	comp=Z,92nm,18.3s,baz=197,slow=38							
TAPN	**Taplejung**	**47.50**	**309**	*eP*		**P**	**01 17 14.2**	**+0.5**
	9.6nm,0.9s							
ODAN	**Odare**	**47.51**	**308**	*eP*		**P**	**01 17 14.0**	**+0.2**
RAMN	**Ramite**	**48.18**	**308**	*eP*		**P**	**01 17 19.9**	**+1.0**
	7.1nm,0.6s							
GUN	**Gumba**	**49.19**	**309**	*eP*		**P**	**01 17 26.2**	**-0.7**
GKN	**Gorkha**	**50.21**	**308**	*eP*		**P**	**01 17 34.6**	**+0.2**
KOLN	**Koldanda**	**50.92**	**307**	*eP*		**P**	**01 17 40.0**	**+0.1**
	12nm,0.7s							
DANN	**Dangsing**	**51.05**	**308**	*eP*		**P**	**01 17 40.6**	**-0.3**
	16nm,0.8s							
PYUN	**Piuthan**	**51.55**	**307**	*eP*		**P**	**01 17 45.0**	**+0.4**
	22nm,0.6s							
SONM	**Songino Array**	**51.71**	**342**	P		**P**	**01 17 44.5**	**-0.7**
	0.2nm,0.5s,baz=151,slow=7.4,SNR=2.7							
MKAR	**Makanchi Array**	**61.71**	**326**	P		**P**	**01 18 56.4**	**+0.2**
	0.2nm,0.6s,baz=132,slow=7.4,SNR=4.6							

CSEM ***15*** *01:32:02.6±0.1, 38.°41N×21.°88E, h15km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.5km az=104.0*
ATH 15 01:32:03.2, 38.°41N×21.°88E, h9km±1km, MD2.7/9, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
EFP	**Efpalio**	**0.03**	**50**	*eP*	G	Pg	01 32 04.9	0.0
EFP				*eS*	G	Sg	01 32 06.0	-0.1
EFP	**Efpalio**	**0.03**	**50**	*eP*	g	Pg	01 32 04.9	0.0
EFP				*eS*	g	Sg	01 32 06.0	-0.1
KALE	**Kalithea**	**0.20**	**95**	*eP*	G	Pg	01 32 07.8	+0.3

KALE	**Kalithea**	**0.20**	**95**	*e*Pg	Pg	01 32 07.8	+0.3
KLV	**Kalavryta, Ach**	**0.42**	**150**	*e*PG	Pg	01 32 11.3	-0.3
KLV	**Kalavryta, Ach**	**0.42**	**150**	*e*Pg	Pg	01 32 11.3	-0.3
DRO	**Drossia**	**0.48**	**196**	*e*PG	Pg	01 32 12.3	-0.2
DRO				*e*SB	Sg	01 32 19.7	+0.9
DRO	**Drossia**	**0.48**	**196**	*e*Pg	Pg	01 32 12.3	-0.2
DRO				*e*Sb	Sg	01 32 19.7	+0.9
RLS	**Riolos of Patr**	**0.48**	**223**	*e*PB	Pg	01 32 12.5	0.0
RLS				*e*SB	Sg	01 32 19.7	+0.9
RLS	**Riolos of Patr**	**0.48**	**223**	*e*Pb	Pg	01 32 12.5	0.0
RLS				*e*Sb	Sg	01 32 19.7	+0.9
EVR	**Evrytania**	**0.51**	**354**	*e*PB	Pg	01 32 13.3	0.0
EVR				*e*SB	Sg	01 32 20.9	+0.8
EVR	**Evrytania**	**0.51**	**354**	*e*Pb	Pg	01 32 13.3	0.0
EVR				*e*Sb	Sg	01 32 20.9	+0.8
PDO	**Prodromos**	**0.58**	**289**	*e*PG	Pg	01 32 14.2	-0.2
PDO	**Prodromos**	**0.58**	**289**	*e*Pg	Pg	01 32 14.2	-0.2
GUR	**Goura**	**0.60**	**142**	*e*PG	Pg	01 32 14.5	-0.4
GUR				*e*SB	Sg	01 32 22.9	0.0
GUR	**Goura**	**0.60**	**142**	*e*Pg	Pg	01 32 14.5	-0.4
GUR				*e*Sb	Sg	01 32 22.9	0.0
MAKR	**Makrakomi, Fth**	**0.63**	**18**	*e*PB	Pb	01 32 16.1	-0.4
MAKR	**Makrakomi, Fth**	**0.63**	**18**	*e*Pb	Pb	01 32 16.1	-0.4
AGG	**Agios Georgios**	**0.71**	**30**	*e*PG	Pg	01 32 16.6	-0.3
AGG	**Agios Georgios**	**0.71**	**30**	*e*Pg	Pg	01 32 16.6	-0.3
AXAR	**Agios Charalam**	**0.71**	**60**	*e*PB	Pg	01 32 16.6	-0.3
AXAR	**Agios Charalam**	**0.71**	**60**	*e*Pb	Pg	01 32 16.6	-0.3

ISK ***15*** *01:32:58.0, 39°.79N×26°.10E, h5km, MD3.1*
ISCJB ***15*** *01:32:59.0±0.3, 39°.79N±0°.01×26°.08E±0°.03, h6km±2km, Error ellipse: s-maj=3.3km s-min=2.5km az=167.9*
ATH ***15*** *01:32:58.5, 39°.78N×26°.11E, h29km, MD3.2/7*
DDA ***15*** *01:32:58.3, 39°.80N×26°.15E, h11km, MD3.0*
THE ***15*** *01:32:59.1, 39°.80N×26°.08E, h2km±2km, ML2.5/8, Error ellipse: s-maj=2.9km s-min=0.9km az=264.0*
CSEM ***15*** *01:32:59.3±0.1, 39°.79N×26°.09E, h2km, MD3.1, Error ellipse: s-maj=3.5km s-min=2.8km az=84.0*

ISC 15 01:32:58.9±0.8, 39°.79N±0°.01×26°.09E±0°.02, h10km±5km, n124, σ1§13/171, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.06**	**335**	*i* P	**Pg**	**01 33 01.2**	**+0.2**
BOZC				*i* S	**Sg**	**01 33 02.6**	**+0.1**
EZN	**Ezine**	**0.19**	**79**	PG	**Pg**	**01 33 02.5**	**-0.4**
EZN				SG	**Sg**	**01 33 05.0**	**-0.6**
EZN	**Ezine**	**0.19**	**79**	*i* Pg	**Pg**	**01 33 02.5**	**-0.4**
EZN				*i* Sg	**Sg**	**01 33 05.0**	**-0.6**
PRK	**Paraskevi**	**0.56**	**165**	P	**Pg**	**01 33 09.8**	**+0.1**
PRK				S	**Sb**	**01 33 18.0**	**-0.8**
PRK	**Paraskevi**	**0.56**	**165**	*e*PN	**Pg**	**01 33 09.8**	**+0.1**
PRK				*e*SN	**Sb**	**01 33 18.0**	**-0.8**
PRK	**Paraskevi**	**0.56**	**165**	P	**Pg**	**01 33 09.8**	**+0.1**
PRK				S	**Sb**	**01 33 18.0**	**-0.8**
SIGR	**SIGRI**	**0.60**	**197**	P	**Pg**	**01 33 10.9**	**+0.4**
SIGR				S	**Sb**	**01 33 19.8**	**-0.3**
SIGR	**SIGRI**	**0.60**	**197**	PG	**Pg**	**01 33 10.7**	**+0.1**
SIGR				SG	**Sb**	**01 33 19.7**	**-0.3**
SIGR	**SIGRI**	**0.60**	**197**	*e*PN	**Pg**	**01 33 10.7**	**+0.1**
SIGR				*e*SN	**Sb**	**01 33 19.8**	**-0.3**
SIGR	**SIGRI**	**0.60**	**197**	P	**Pg**	**01 33 10.9**	**+0.4**
SIGR				*i* Sg	**Sb**	**01 33 19.7**	**-0.3**
AYVA	**Ayvalik**	**0.67**	**136**	*i* P	**Pg**	**01 33 11.2**	**-0.6**
AYVA				*i* S	**Sg**	**01 33 20.5**	**-0.1**
AYVA	**Ayvalik**	**0.67**	**136**	*i* P	**Pg**	**01 33 11.2**	**-0.6**
AYVA				*i* S	**Sg**	**01 33 20.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.68**	**26**	PG	**Pg**	**01 33 11.9**	**-0.1**
GELI				SG	**Sb**	**01 33 22.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.68**	**26**	*i* Pg	**Pg**	**01 33 11.9**	**-0.1**
GELI				*i* Sg	**Sb**	**01 33 22.4**	**+0.2**
LIA	**Limnos Island**	**0.70**	**279**	P	**Pb**	**01 33 13.0**	**-0.3**
LIA				S	**Sb**	**01 33 22.6**	**-0.3**
LIA	**Limnos Island**	**0.70**	**279**	*e*PN	**Pb**	**01 33 12.9**	**-0.3**
LIA	**Limnos Island**	**0.70**	**279**	*e*Pn	**Pb**	**01 33 12.9**	**-0.3**
LIA	**Limnos Island**	**0.70**	**279**	S	**Sb**	**01 33 22.6**	**-0.3**
LPK	**Lapseki**	**0.78**	**41**	PG	**Pg**	**01 33 13.9**	**0.0**
LPK	**Lapseki**	**0.78**	**41**	*i* Pg	**Pg**	**01 33 13.9**	**0.0**
SMTH	**Samothraki Isl**	**0.80**	**328**	P	**Pb**	**01 33 14.7**	**-0.2**
SMTH				S	**Sb**	**01 33 26.1**	**+0.2**
SMTH	**Samothraki Isl**	**0.80**	**328**	*e*PN	**Pb**	**01 33 14.7**	**-0.2**
SMTH				*e*SN	**Sb**	**01 33 25.8**	**-0.1**
SMTH	**Samothraki Isl**	**0.80**	**328**	P	**Pb**	**01 33 14.7**	**-0.2**
SMTH				*e*Sn	**Sb**	**01 33 25.8**	**-0.1**
SMTH				S	**Sb**	**01 33 26.1**	**+0.2**
ERIK	**Erikli-Kesan**	**0.94**	**20**	PG	**Pg**	**01 33 16.3**	**-0.6**
ERIK	**Erikli-Kesan**	**0.94**	**20**	*i* Pg	**Pg**	**01 33 16.3**	**-0.6**
ENEZ	**Enez**	**0.95**	**3**	*e*PG	**Pb**	**01 33 17.2**	**-0.2**
ENEZ	**Enez**	**0.95**	**3**	*e*Pg	**Pb**	**01 33 17.2**	**-0.2**
ALN	**Alexandroupoli**	**1.11**	**358**	P	**Pg**	**01 33 19.5**	**-0.6**
ALN				S	**Sb**	**01 33 35.2**	**+0.6**
ALN	**Alexandroupoli**	**1.11**	**358**	*e*PN	**Pg**	**01 33 19.6**	**-0.5**
ALN	**Alexandroupoli**	**1.11**	**358**	*e*PN	**Pg**	**01 33 19.6**	**-0.6**
ALN				*e*SN	**Sb**	**01 33 35.0**	**+0.4**
ALN	**Alexandroupoli**	**1.11**	**358**	P	**Pg**	**01 33 19.5**	**-0.6**
ALN				S	**Sb**	**01 33 35.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.11**	**57**	*e*PN	**Pg**	**01 33 19.5**	**-0.7**
BALY	**Balya**	**1.18**	**92**	*i* P	**Pg**	**01 33 20.9**	**-0.7**
BALY				*i* S	**Sg**	**01 33 36.0**	**-1.0**
BALY	**Balya**	**1.18**	**92**	*i* P	**Pg**	**01 33 20.9**	**-0.7**
BALY				*i* S	**Sg**	**01 33 36.0**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.23**	**43**	*e*PN	**Pb**	**01 33 22.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.23**	**43**	*e*Pn	**Pb**	**01 33 22.1**	**0.0**
SART	**Tekirdag**	**1.23**	**43**	*i* P	**Pg**	**01 33 21.3**	**-1.2**
SART				*i* S	**Sg**	**01 33 36.9**	**-1.5**
SART	**Tekirdag**	**1.23**	**43**	*i* P	**Pg**	**01 33 21.3**	**-1.2**
SART				*i* S	**Sg**	**01 33 36.9**	**-1.5**
BALB	**Balikesir**	**1.39**	**96**	*e*PN	**Pb**	**01 33 24.8**	**-0.1**
BALB	**Balikesir**	**1.39**	**96**	*e*Pn	**Pb**	**01 33 24.8**	**-0.1**
CHOS	**Chios island**	**1.40**	**181**	P	**Pn**	**01 33 23.9**	**-0.6**
CHOS				S	**Sg**	**01 33 45.4**	**+1.5**
CHOS	**Chios island**	**1.40**	**181**	*e*PN	**Pg**	**01 33 25.8**	**+0.1**
CHOS	**Chios island**	**1.40**	**181**	*e*PN	**Pn**	**01 33 23.8**	**-0.7**
CHOS				*e*SB	**Sb**	**01 33 42.2**	**-0.9**
CHOS	**Chios island**	**1.40**	**181**	P	**Pn**	**01 33 23.9**	**-0.6**
CHOS	**Chios island**	**1.40**	**181**	*e*Pn	**Pg**	**01 33 25.8**	**+0.1**
CHOS				*e*Sb	**Sb**	**01 33 42.2**	**-0.9**
CHOS				S	**Sg**	**01 33 45.4**	**+1.5**
MRMT	**Marmara Adasi**	**1.41**	**54**	*e*PN	**Pn**	**01 33 24.8**	**+0.1**
MRMT	**Marmara Adasi**	**1.41**	**54**	*e*Pn	**Pn**	**01 33 24.8**	**+0.1**
RDO	**Rodhopi**	**1.42**	**343**	P	**Pn**	**01 33 25.0**	**+0.3**
RDO				S	**Sb**	**01 33 43.0**	**-0.5**
RDO	**Rodhopi**	**1.42**	**343**	*e*PN	**Pn**	**01 33 25.1**	**+0.3**
RDO				*e*SB	**Sb**	**01 33 43.2**	**-0.3**
RDO	**Rodhopi**	**1.42**	**343**	P	**Pn**	**01 33 25.0**	**+0.3**
RDO				S	**Sb**	**01 33 43.0**	**-0.5**
EDC	**Edincik**	**1.47**	**67**	*e*PN	**Pg**	**01 33 26.6**	**-0.5**
EDC	**Edincik**	**1.47**	**67**	*e*Pn	**Pg**	**01 33 26.6**	**-0.5**
URLA	**Izmir**	**1.48**	**164**	*i* P	**Pn**	**01 33 25.1**	**+0.5**
URLA	**Izmir**	**1.48**	**164**	*i* S	**Sn**	**01 33 44.2**	**-0.8**
URLA	**Izmir**	**1.48**	**164**	*i* P	**Pn**	**01 33 25.1**	**-0.5**
URLA				*i* S	**Sn**	**01 33 44.2**	**-0.8**
ZEY	**¨zmir**	**1.58**	**168**	*i* P	**Pn**	**01 33 26.0**	**-0.9**
ZEY				*i* S	**Sn**	**01 33 46.8**	**-0.7**
BLCB	**Balcova**	**1.59**	**152**	*e*PN	**Pg**	**01 33 28.6**	**-0.7**
BLCB	**Balcova**	**1.59**	**152**	*e*Pn	**Pg**	**01 33 28.6**	**-0.7**
AKHS	**Akhisar**	**1.62**	**124**	*i* P	**Pg**	**01 33 29.6**	**-0.3**
AKHS				*i* S	**Sg**	**01 33 50.4**	**-0.5**
AKHS	**Akhisar**	**1.62**	**124**	*i* P	**Pg**	**01 33 29.6**	**-0.3**
AKHS				*i* S	**Sg**	**01 33 50.4**	**-0.5**
TKR	**Tekirdag**	**1.63**	**42**	*e*PN	**Pb**	**01 33 28.9**	**-0.2**
TKR	**Tekirdag**	**1.63**	**42**	*e*Pn	**Pb**	**01 33 28.9**	**-0.2**
OUR	**Ouranopolis**	**1.70**	**289**	*e*PN	**Pb**	**01 33 30.8**	**+0.5**
OUR	**Ouranopolis**	**1.70**	**289**	*e*PN	**Pn**	**01 33 28.5**	**-0.1**
OUR	**Ouranopolis**	**1.70**	**289**	*e*Pn	**Pb**	**01 33 30.8**	**+0.5**
KCTX	**Karacabey (Bur**	**1.81**	**74**	*e*PN	**Pb**	**01 33 31.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.81**	**74**	*e*Pn	**Pb**	**01 33 31.9**	**-0.2**
CRLT	**Corlu**	**1.84**	**43**	*e*PN	**Pb**	**01 33 31.9**	**-0.7**
CRLT	**Corlu**	**1.84**	**43**	*e*Pn	**Pb**	**01 33 31.9**	**-0.7**
DST	**Dursunbey**	**1.96**	**95**	*e*PN	**Pb**	**01 33 34.3**	**-0.4**
DST	**Dursunbey**	**1.96**	**95**	*e*Pn	**Pb**	**01 33 34.3**	**-0.4**
PLG	**Polygyros**	**2.11**	**287**	*e*PN	**Pn**	**01 33 33.8**	**-0.4**
PLG	**Polygyros**	**2.11**	**287**	*e*Pn	**Pn**	**01 33 33.8**	**-0.4**
EDRB	**Edirne**	**2.12**	**13**	*e*PN	**Pb**	**01 33 36.4**	**-0.9**
EDRB	**Edirne**	**2.12**	**13**	*e*Pn	**Pb**	**01 33 36.4**	**-0.9**
SMG	**Samos**	**2.16**	**164**	P	**Pn**	**01 33 34.8**	**-0.1**
SMG				S	**Sb**	**01 34 05.4**	**+0.6**
SMG	**Samos**	**2.16**	**164**	*e*PB	**Pn**	**01 33 34.8**	**-0.1**
SMG	**Samos**	**2.16**	**164**	P	**Pn**	**01 33 34.8**	**-0.1**
SMG				S	**Sb**	**01 34 05.4**	**+0.6**
SLVT	**Silivri**	**2.17**	**48**	*e*PN	**Pb**	**01 33 37.1**	**-1.0**
SLVT	**Silivri**	**2.17**	**48**	*e*Pn	**Pb**	**01 33 37.2**	**-1.0**
DEMI	**Demirci**	**2.17**	**109**	*i* P	**Pn**	**01 33 35.9**	**+0.8**
DEMI				*i* S	**Sn**	**01 34 01.3**	**-0.8**
DEMI	**Demirci**	**2.17**	**109**	*i* P	**Pn**	**01 33 35.9**	**+0.8**
DEMI				*i* S	**Sn**	**01 34 01.3**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.22**	**74**	*e*PN	**Pb**	**01 33 38.0**	**-1.1**
MDNY	**Mudanya-Bursa**	**2.22**	**74**	*e*Pn	**Pb**	**01 33 38.0**	**-1.1**
ELBA	**Catalca**	**2.25**	**52**	*i* P	**Pn**	**01 33 36.8**	**+0.7**
ELBA				*i* S	**Sn**	**01 34 04.6**	**+0.8**
ELBA	**Catalca**	**2.25**	**52**	*i* P	**Pn**	**01 33 36.8**	**+0.7**
ELBA				*i* S	**Sn**	**01 34 04.6**	**+0.8**
ARMT	**Armutlu**	**2.26**	**69**	*e*PN	**Pb**	**01 33 38.4**	**-1.4**
ARMT	**Armutlu**	**2.26**	**69**	*e*Pn	**Pb**	**01 33 38.4**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**2.32**	**142**	*e*PN	**Pn**	**01 33 39.0**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**2.32**	**142**	*e*PN	**Pn**	**01 33 39.0**	**+1.8**
MANT	**Manisa**	**2.32**	**123**	*i* P	**Pb**	**01 33 39.7**	**-1.2**
MANT				*i* S	**Sb**	**01 34 11.0**	**+1.3**
MANT	**Manisa**	**2.32**	**123**	*i* P	**Pb**	**01 33 39.7**	**-1.2**
MANT				*i* S	**Sb**	**01 34 11.0**	**+1.3**
CTKS	**Kestanelik-??a**	**2.34**	**51**	*e*PN	**Pb**	**01 33 39.6**	**-1.6**
CTKS	**Kestanelik-??a**	**2.34**	**51**	*e*Pn	**Pb**	**01 33 39.6**	**-1.6**
ULDT	**Uludag**	**2.37**	**80**	*i* P	**Pb**	**01 33 41.5**	**-0.3**
ULDT				*i* S	**Sb**	**01 34 12.6**	**+1.4**
ULDT	**Uludag**	**2.37**	**80**	*i* P	**Pb**	**01 33 41.5**	**-0.3**
ULDT				*i* S	**Sb**	**01 34 12.6**	**+1.4**
KULA	**Kula-Manisa**	**2.37**	**122**	*e*PN	**Pn**	**01 33 39.6**	**+1.7**
KULA	**Kula-Manisa**	**2.37**	**122**	*e*Pn	**Pn**	**01 33 39.6**	**+1.7**
CTYL	**Yal??k??y-??at**	**2.38**	**44**	*e*PN	**Pb**	**01 33 40.0**	**-1.7**
CTYL	**Yal??k??y-??at**	**2.38**	**44**	*e*Pn	**Pb**	**01 33 40.0**	**-1.7**
HORT	**Hortiatis**	**2.42**	**290**	*e*PN	**Pn**	**01 33 41.0**	**-1.6**
HORT	**Hortiatis**	**2.42**	**290**	*e*Pn	**Pn**	**01 33 41.0**	**-1.6**
BGKT	**Bogazkoy**	**2.48**	**55**	*e*PN	**Pn**	**01 33 41.2**	**+2.0**
BGKT	**Bogazkoy**	**2.48**	**55**	*e*Pn	**Pn**	**01 33 41.2**	**+2.0**
ISK	**Istanbul-Kandi**	**2.60**	**60**	*e*PN	**Pn**	**01 33 43.2**	**+2.2**
ISK	**Istanbul-Kandi**	**2.60**	**60**	*e*Pn	**Pn**	**01 33 43.2**	**+2.2**
TVSB	**Tavsanli**	**2.63**	**96**	*e*PN	**Pn**	**01 33 43.6**	**+2.2**
TVSB	**Tavsanli**	**2.63**	**96**	*e*Pn	**Pn**	**01 33 43.6**	**+2.2**
KLYT	**Kilyos**	**2.69**	**56**	*e*PN	**Pn**	**01 33 44.4**	**+2.3**
KLYT	**Kilyos**	**2.69**	**56**	*e*Pn	**Pn**	**01 33 44.4**	**+2.3**
APE	**Apeiranthos**	**2.75**	**189**	*e*PN	**Pn**	**01 33 45.8**	**+2.7**
APE	**Apeiranthos**	**2.75**	**189**	*e*Pn	**Pn**	**01 33 45.8**	**+2.7**
KNT	**Kendrikon**	**2.79**	**300**	*e*PN	**Pn**	**01 33 46.5**	**+2.9**
KNT	**Kendrikon**	**2.79**	**300**	*e*Pn	**Pn**	**01 33 46.5**	**+2.9**
ADVT	**Abdulvahap**	**2.87**	**76**	*e*PN	**Pn**	**01 33 46.5**	**+1.8**
ADVT	**Abdulvahap**	**2.87**	**76**	*e*Pn	**Pn**	**01 33 46.5**	**+1.8**
HRT	**Hereke**	**2.93**	**68**	*e*PN	**Pn**	**01 33 47.7**	**+2.2**
HRT	**Hereke**	**2.93**	**68**	*e*Pn	**Pn**	**01 33 47.7**	**+2.2**
SILT	**Sile**	**3.04**	**62**	*e*PN	**Pn**	**01 33 49.3**	**+2.4**
SILT	**Sile**	**3.04**	**62**	*e*Pn	**Pn**	**01 33 49.3**	**+2.4**
ALT	**Altintas**	**3.20**	**102**	*e*PN	**Pn**	**01 33 51.7**	**+2.4**
ALT	**Altintas**	**3.20**	**102**	*e*Pn	**Pn**	**01 33 51.7**	**+2.4**
GULT	**Gulveren**	**3.46**	**78**	*e*PN	**Pn**	**01 33 55.4**	**+2.6**
GULT	**Gulveren**	**3.46**	**78**	*e*Pn	**Pn**	**01 33 55.4**	**+2.6**

IDC ***15*** *01:35:56.6±1.6, 1°.90N×96°.51E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/48, mbtmp4.0/8, ML4.1/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=71.2km s-min=19.7km az=57.0*
ISCJB ***15*** *01:35:59.7±1.3, 2°.0N±0°.2×96°.7E±0°.3, h28km, mb3.9/7, Error ellipse: s-maj=45.9km s-min=15.9km az=152.9*

ISC 15 01:36:02.0±1.8, 2°.2N±0°.3×96°.9E±0°.4, h28km, n14, σ1§20/8, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.32**	**7**	Pn	**P**	**01 39 50.2**	**-1.8**
	0.3nm,0.3s,baz=196,slow=12,SNR=26						
CMAR				LR	LR	01 46 26.1	
	comp=Z,54nm,18.7s,baz=222,slow=38						
H08S2	**Diego Garcia H**	**26.19**	**248**	T	T	02 08 15.3	
	baz=69,slow=76,SNR=729						
H08S3	**Diego Garcia H**	**26.19**	**248**	T	T	02 08 16.0	
	baz=69,slow=76,SNR=501						
H08S1	**Diego Garcia H**	**26.21**	**248**	T	T	02 08 14.8	
	baz=69,slow=76,SNR=649						
H01W3	**Cape Leeuwin H**	**40.26**	**158**	T	T	02 26 17.5	
	baz=333,slow=76,SNR=5.8						
H01W2	**Cape Leeuwin H**	**40.27**	**158**	T	T	02 26 17.5	
	baz=333,slow=76,SNR=6.0						
H01W1	**Cape Leeuwin H**	**40.27**	**158**	T	T	02 26 17.5	
	baz=333,slow=76,SNR=6.4						
WRA	**Warramunga Arr**	**42.83**	**123**	P	**P**	**01 43 58.4**	**+0.5**
	1.4nm,0.8s,baz=300,slow=9.2,SNR=10.0						
ASAR	**Alice Springs**	**44.24**	**128**	P	**P**	**01 44 08.6**	**-0.7**
	0.3nm,0.6s,baz=304,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**01 44 25.4**	**+0.7**
	1.7nm,0.7s,baz=159,slow=7.9,SNR=24						
SONM	**Songino Array**	**46.24**	**9**	P	**P**	**01 44 25.9**	**+1.1**
	0.7nm,0.5s,baz=190,slow=9.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**52.56**	**351**	P	**P**	**01 45 13.5**	**+0.7**
	1.9nm,0.6s,baz=182,slow=7.2,SNR=12						
FINES	**FINESS Array B**	**79.00**	**332**	P	**P**	**01 48 02.0**	**-1.1**
	1.2nm,0.8s,baz=108,slow=4.5,SNR=3.7						
ARCES	**ARCESS Array B**	**81.52**	**340**	P	**P**	**01 48 16.8**	**+0.2**
	2.6nm,0.8s,baz=100,slow=5.0,SNR=6.0						

ISCJB ***15*** *01:46:23.1±0.4, 50°.29N±0°.03×18°.93E±0°.02, h0km, Error ellipse: s-maj=4.1km s-min=2.0km az=14.3*
IPEC ***15*** *01:46:24.4±0.2, 50°.27N×19°.05E, h1km±2km, ML2.0/2, Error ellipse: s-maj=2.7km s-min=1.1km az=169.0*
CSEM ***15*** *01:46:24.5±0.2, 50°.25N×18°.94E, h2km, ML2.8/10, Error ellipse: s-maj=6.7km s-min=2.8km az=11.0*
IDC ***15*** *01:46:24.7±2.3, 49°.99N×19°.22E, h0km, mb1 3.4/4, mb1mx3.2/25, mbtmp3.3/4, ML2.7/4, Error ellipse: s-maj=40.1km s-min=10.4km az=135.0*
PRU ***15*** *01:46:25.6, 50°.23N×18°.95E, h0km*

ISC 15 01:46:24.0±0.7, 50°.25N±0°.03×19°.02E±0°.02, h0km, n54, σ1§10/100, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.50**	**93**	*e*Pg	**Pg**	**01 46 34.2**	**+0.6**
OJC				*e*Sg	**Sg**	**01 46 41.0**	**+1.0**
OJC	**Ojcow**	**0.50**	**93**	*e*Pg	**Pg**	**01 46 34.2**	**+0.6**
OJC				*e*Sg	**Sg**	**01 46 41.0**	**+1.0**
OKC	**Ostrava-Krasne**	**0.70**	**234**	*e*PG	**Pg**	**01 46 37.2**	**-0.2**
OKC				*e*SG	**Sg**	**01 46 46.2**	**-0.2**
	comp=Z,28nm,0.5s						
OKC	**Ostrava-Krasne**	**0.70**	**234**	Pg	**Pg**	**01 46 37.2**	**-0.2**
OKC				Sg	**Sg**	**01 46 46.2**	**-0.2**
	28nm,0.5s						
MORC	**Moravsky Berou**	**1.06**	**244**	⇑*i*P	**Pg**	**01 46 45.0**	**+0.5**
MORC	**Moravsky Berou**	**1.06**	**244**	*e*Pg	**Pg**	**01 46 44.9**	**+0.5**
MORC				*e*Sg	**Sg**	**01 46 58.5**	**+0.3**
	27nm,0.3s						
LANS	**Liptovska Anna**	**1.14**	**165**	*e*Pg	**Pg**	**01 46 46.4**	**+0.6**
LANS				*e*Sg	**Sg**	**01 47 01.3**	**+0.8**
NIE	**Niedzica**	**1.18**	**134**	*e*Pg	**Pg**	**01 46 46.7**	**+0.1**
NIE				*e*Sg	**Sb**	**01 47 03.7**	**+0.6**
NIE	**Niedzica**	**1.18**	**134**	*e*Pg	**Pg**	**01 46 46.7**	**+0.1**
NIE				*e*Sg	**Sb**	**01 47 03.7**	**+0.6**
KRLC	**Kraliky**	**1.45**	**264**	*e*PG	**Pn**	**01 46 51.0**	**-0.6**
KRLC				*e*SG	**Sg**	**01 47 10.8**	**+0.2**
KRLC	**Kraliky**	**1.45**	**264**	Pg	**Pn**	**01 46 51.0**	**-0.6**
KRLC				Sg	**Sg**	**01 47 10.8**	**+0.2**
STHS	**Stebnicka Huta**	**1.66**	**119**	*e*PN	**Pg**	**01 46 56.1**	**+0.3**
STHS				*e*Sn	**Sg**	**01 47 19.6**	**+2.2**
STHS	**Stebnicka Huta**	**1.66**	**119**	*e*PN	**Pg**	**01 46 56.1**	**+0.3**
STHS				*e*SN	**Sg**	**01 47 19.6**	**+2.2**
DPC	**Dobruska-Polom**	**1.73**	**274**	*e*PG	**Pn**	**01 46 55.7**	**+0.2**
DPC				*e*SG	**Sb**	**01 47 20.0**	**+0.9**
DPC	**Dobruska-Polom**	**1.73**	**274**	Pg	**Pn**	**01 46 55.7**	**+0.2**
DPC				Sg	**Sb**	**01 47 20.0**	**+0.9**
VYHS	**Vyhne**	**1.76**	**184**	*e*Pn	**Pn**	**01 46 55.4**	**-0.4**
VYHS				*e*Sn	**Sn**	**01 47 18.9**	**0.0**
VYHS	**Vyhne**	**1.76**	**184**	*e*PN	**Pn**	**01 46 55.4**	**-0.4**
VYHS				*e*SN	**Sn**	**01 47 18.9**	**0.0**
VRAC	**Vranov**	**1.83**	**240**	⇑*i*P	**Pn**	**01 46 57.8**	**+1.0**
VRAC	**Vranov**	**1.83**	**240**	S	**Sb**	**01 47 22.7**	**+0.8**
VRAC	**Vranov**	**1.83**	**240**	Pn	**Pn**	**01 46 57.5**	**+0.7**
	5.2nm,0.3s,baz=74,slow=14,SNR=24						
VRAC				Lg	Lg	01 47 22.3	
	2.6nm,0.3s,baz=142,slow=20,SNR=11						
VRAC	**Vranov**	**1.83**	**240**	⇑*i*P	**Pn**	**01 46 57.8**	**+1.0**
VRAC				*e*Sg	**Sb**	**01 47 22.6**	**+0.7**
	9.0nm,0.4s						
KSP	**Ksiaz**	**1.84**	**290**	*e*Pn	**Pn**	**01 46 57.7**	**+0.8**
KSP				*e*Pg	**Pg**	**01 47 00.1**	**+0.8**
KSP				*e*Sn	**Sn**	**01 47 20.5**	**-0.4**
KSP				*e*Sg	**Sg**	**01 47 24.5**	**+1.4**
UPC	**Upice**	**1.94**	**279**	*e*PG	**Pb**	**01 47 00.1**	**-0.2**
UPC				*e*SG	**Sg**	**01 47 26.7**	**+0.2**
	comp=Z,7.0nm,0.5s						
UPC	**Upice**	**1.94**	**279**	Pg	**Pb**	**01 47 00.1**	**-0.2**
UPC				Sg	**Sg**	**01 47 26.7**	**+0.2**
	7.0nm,0.5s						
SMOL	**Smolenice**	**2.02**	**212**	*e*Pn	**Pn**	**01 46 59.4**	**0.0**
SMOL				*e*Sn	**Sb**	**01 47 27.6**	**+0.2**
SMOL	**Smolenice**	**2.02**	**212**	*e*PN	**Pn**	**01 46 59.4**	**0.0**
SMOL				*e*SN	**Sb**	**01 47 27.6**	**+0.2**
KRUC	**Moravsky**	**2.08**	**236**	*e*PN	**Pn**	**01 47 00.5**	**+0.3**
KRUC				*e*Sg	**Sb**	**01 47 30.4**	**+1.4**
CRVS	**Cervenica-Dubn**	**2.08**	**129**	*e*Pn	**Pb**	**01 47 03.0**	**+0.3**
CRVS				*e*Sn	**Sb**	**01 47 29.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.08**	**129**	*e*PN	**Pb**	**01 47 03.0**	**+0.3**
CRVS				*e*SN	**Sb**	**01 47 29.8**	**+0.7**
PSZ	**Piszkesteto**	**2.40**	**166**	⇓*i*P	**Pg**	**01 47 10.1**	**+0.1**
KWP	**Kalwaria Pacla**	**2.46**	**103**	⇓*i*P	**Pb**	**01 47 07.8**	**-1.3**
KWP	**Kalwaria Pacla**	**2.46**	**103**	⇓*i*P	**Pb**	**01 47 07.8**	**-1.3**
TREC	**Trest**	**2.48**	**249**	*e*PG	**Pb**	**01 47 10.4**	**+0.9**
TREC				*e*SG	**Sb**	**01 47 41.9**	**+1.3**
	comp=Z,5.8nm,0.4s						
TREC	**Trest**	**2.48**	**249**	Pg	**Pb**

4µm,0.6s
ASQU Asqua 0.56 308 Pg **Pg** 01 47 47.5 -0.6
ASQU Sg **Sb** 01 47 57.1 -0.2
4µm,0.6s
MGAB Montegabbione 0.58 201 Pg **Pg** 01 47 48.4 0.0
MGAB Sg **Sb** 01 47 57.7 0.0
13µm,0.4s
MGAB Montegabbione 0.58 201 Pg **Pg** 01 47 48.4 0.0
MGAB Sg **Sb** 01 47 57.7 0.0
13µm,0.4s
CING Cingoli 0.59 97 Pg **Pg** 01 47 47.6 -1.0
CING Sg **Sg** 01 47 56.7 +0.4
3µm,0.4s
CING Cingoli 0.59 97 Pg **Pg** 01 47 47.6 -1.0
CING Sg **Sg** 01 47 56.7 +0.4
3µm,0.4s
PESA Pesaro 0.59 33 Pg **Pg** 01 47 47.8 -0.8
PESA Sg **Sg** 01 47 57.2 +0.9
7µm,0.5s
PESA Pesaro 0.59 33 Pg **Pg** 01 47 47.8 -0.8
PESA Sg **Sg** 01 47 57.2 +0.9
7µm,0.5s
SFI Santa Sofia 0.60 319 Pg **Pg** 01 47 48.2 -0.7
SFI Sg **Sb** 01 47 58.0 -0.5
3µm,0.8s
SFI Santa Sofia 0.60 319 Pg **Pg** 01 47 48.2 -0.7
SFI Sg **Sb** 01 47 58.0 -0.5
3µm,0.8s
FDMO Fiordimonte 0.65 129 Pg **Pg** 01 47 48.9 -0.9
FDMO Sg **Sg** 01 47 59.3 +0.9
2µm,0.2s
FDMO Fiordimonte 0.65 129 Pg **Pg** 01 47 48.9 -0.9
FDMO Sg **Sg** 01 47 59.3 +0.9
2µm,0.2s
SENI Senigallia 0.66 67 Pg **Pg** 01 47 49.7 -0.3
3µm,0.8s
SENI Senigallia 0.66 67 Pg **Pg** 01 47 49.7 -0.3
3µm,0.8s
SACS San Casciano d 0.70 211 Pg **Pg** 01 47 50.5 -0.2
SACS Sg **Sb** 01 48 02.4 +1.2
6µm,0.9s
VMG Vicchio 0.80 310⇑ *e*Pg **Pg** 01 47 52.4 -0.3
1µm,0.9s
VMG Vicchio 0.80 310⇑ *e*Pg **Pg** 01 47 52.4 -0.3
1µm,0.9s
CSNT Castellina Chi 0.81 272⇑ *e*Pg **Pg** 01 47 52.2 -0.5
3µm,0.7s
CSNT Castellina Chi 0.81 272⇑ *e*Pg **Pg** 01 47 52.2 -0.5
3µm,0.7s
NRCA Norcia 0.81 139 Pg **Pg** 01 47 51.7 -1.1
NRCA Sg **Sb** 01 48 04.6 +0.1
NRCA Norcia 0.81 139 Pg **Pg** 01 47 51.7 -1.1
NRCA Sg **Sb** 01 48 04.6 +0.1
CESX Cesi 0.85 171 Pg **Pg** 01 47 52.8 -0.8
CESX Sg **Sb** 01 48 06.2 +0.7
6µm,0.7s
CESX Cesi 0.85 171 Pg **Pg** 01 47 52.8 -0.8
CESX Sg **Sb** 01 48 06.2 +0.7
6µm,0.7s
BRSN Barisano 0.87 345 Pg **Pg** 01 47 53.5 -0.4
1µm,0.8s
BRSN Barisano 0.87 345 Pg **Pg** 01 47 53.5 -0.4
1µm,0.8s
AOI Ancona 0.88 83 Pg **Pg** 01 47 52.9 -1.3
2µm,0.7s
AOI Ancona 0.88 83 Pg **Pg** 01 47 52.9 -1.3
2µm,0.7s
ARCI Arcidosso 0.90 229 Pg **Pg** 01 47 54.0 -0.5
ARCI Arcidosso 0.90 229 Pg **Pg** 01 47 54.0 -0.5
LATE Laterza 0.94 208 Pg **Pg** 01 47 54.8 -0.5
8µm,1.1s
LATE Laterza 0.94 208 Pg **Pg** 01 47 54.8 -0.5
8µm,1.1s
SEI Scarperia 0.97 309 Pg **Pg** 01 47 55.6 -0.2
SEI Scarperia 0.97 309 Pg **Pg** 01 47 55.6 -0.2
LNSS Leonessa 0.97 151 Pg **Pg** 01 47 54.7 -1.2
4µm,0.9s
LNSS Leonessa 0.97 151 Pg **Pg** 01 47 54.7 -1.2
4µm,0.9s
SMA1 SAN MARTINO 1.07 140 Pg **Pb** 01 47 56.2 -1.7
3µm,0.7s
OFFI Offida 1.07 118 Pg **Pb** 01 47 57.4 -0.5
5µm,0.5s
OFFI Offida 1.07 118 Pg **Pb** 01 47 57.4 -0.5
5µm,0.5s
GRFL Gerfalco 1.08 254 Pg **Pb** 01 47 57.3 -0.7
364nm,0.6s
GRFL Gerfalco 1.08 254 Pg **Pb** 01 47 57.3 -0.7
364nm,0.6s
MNS Montasola 1.08 169⇑ *i*Pg **Pb** 01 47 56.8 -1.3
2µm,0.4s
MNS Montasola 1.08 169⇑ *i*Pg **Pb** 01 47 56.8 -1.3
2µm,0.4s
FNVD Fontana Vidola 1.17 308 Pg **Pb** 01 47 59.2 -0.4
FNVD Fontana Vidola 1.17 308 Pg **Pb** 01 47 59.2 -0.4
CAMP Campotosto 1.18 141 Pg **Pb** 01 47 58.0 -1.7
376nm,0.5s
CAMP Campotosto 1.18 141 Pg **Pb** 01 47 58.0 -1.7
376nm,0.5s
GUMA Gualdo di Mace 1.19 108 Pg Pn 01 47 51.5 -8.5
GUMA Sg Sb 01 48 04.0 -11
8µm,0.3s
TERO Teramo 1.21 133 Pg **Pn** 01 47 58.5 -1.8
4µm,1.1s
TERO Teramo 1.21 133 Pg **Pn** 01 47 58.5 -1.8
4µm,1.1s
T0104 Madonna delle 1.29 147 Pg **Pn** 01 48 00.4 -1.0
FIAM Fiamignano 1.29 156 Pg **Pn** 01 48 00.1 -1.4
2µm,0.8s
FIAM Fiamignano 1.29 156 Pg **Pn** 01 48 00.1 -1.4
2µm,0.8s
CASP Castiglione de 1.30 240 Pg **Pn** 01 48 00.1 -1.4
667nm,1.0s
CASP Castiglione de 1.30 240 Pg **Pn** 01 48 00.1 -1.4
667nm,1.0s
AQU L'Aquila 1.32 146 Pg **Pn** 01 48 00.9 -0.9
6µm,1.3s
AQU L'Aquila 1.32 146 Pg **Pn** 01 48 00.9 -0.9
6µm,1.3s
POPM Popiglio 1.33 297 P **Pn** 01 48 01.2 -0.7
POPM S **Sg** 01 48 20.3 +0.4
T0106 Roio Piano 1.35 147 Pg **Pn** 01 48 01.5 -0.8
2µm,1.1s
MAON Monte Argentar 1.38 223 Pg **Pn** 01 48 01.6 -0.9
318nm,0.8s
MAON Monte Argentar 1.38 223 Pg **Pn** 01 48 01.6 -0.9
318nm,0.8s
MAIM Mastiano 1.46 289 Pg **Pn** 01 48 02.6 -1.0
660nm,0.8s
MAIM Mastiano 1.46 289 P **Pn** 01 48 02.7 -0.9
MAIM S **Sg** 01 48 23.8 -0.3
FAGN Fagnano 1.47 143 Pg **Pn** 01 48 03.5 -0.3
2µm,0.6s
FAGN Fagnano 1.47 143 Pg **Pn** 01 48 03.5 -0.3
2µm,0.6s
GSCL Gusciola 1.59 305 Pg **Pn** 01 48 05.4 -0.1
297nm,0.7s
GSCL Gusciola 1.59 305 Pg **Pn** 01 48 05.4 -0.1
297nm,0.7s
PTQR Pietraquaria 1.61 152 Pg **Pn** 01 48 06.3 +0.5
118nm,0.6s
PTQR Pietraquaria 1.61 152 Pg **Pn** 01 48 06.3 +0.5
118nm,0.6s
MA9 Marino 1.69 173 Pg **Pn** 01 48 07.3 +0.5
1µm,0.9s
MA9 Marino 1.69 173 Pg **Pn** 01 48 07.3 +0.5
1µm,0.9s
VINC Vinca 1.77 294 P **Pn** 01 48 08.0 +0.1
VINC S **Sn** 01 48 30.5 0.0
GUAR Guarcino 1.79 157 Pg **Pb** 01 48 09.6 -0.5
503nm,0.7s
GUAR Guarcino 1.79 157 Pg **Pb** 01 48 09.6 -0.5
503nm,0.7s
VALM Valbona 1.79 301 P **Pn** 01 48 08.3 0.0
VALM S **Sn** 01 48 31.1 -0.1
INTR Introdacqua 1.82 142 Pg **Pn** 01 48 09.3 +0.7
1µm,0.9s
INTR Introdacqua 1.82 142 Pg **Pn** 01 48 09.3 +0.7
1µm,0.9s
BACM Baccana 1.87 297 P **Pn** 01 48 08.4 -1.0
CODM Codolo 2.07 298 P **Pn** 01 48 11.4 -0.6
NVLJ Novalja 2.10 57 *i* Pn **Pn** 01 48 12.2 -0.3
NVLJ Sn **Sn** 01 48 38.5 -0.2
NVLJ Novalja 2.10 57 *i* Pn **Pn** 01 48 12.1 -0.3
NVLJ Sn **Sn** 01 48 38.5 -0.2
MSSA Maissana 2.25 294 Pg **Pn** 01 48 14.5 -0.1
233nm,0.7s
MSSA Maissana 2.25 294 Pg **Pn** 01 48 14.5 -0.1
233nm,0.7s
SC2M Scurtabo 2.28 296 P **Pn** 01 48 14.6 -0.3
ROVR Rover˜¤ Verone 2.39 337 Pg **Pn** 01 48 17.8 +1.2
628nm,1.2s
ROVR Rover˜¤ Verone 2.39 337 Pg **Pn** 01 48 17.8 +1.2
628nm,1.2s
SKDS Skadanscina 2.40 28 *e*Pn **Pn** 01 48 15.3 -1.2
SKDS Skadanscina 2.40 28 *e*Pn **Pn** 01 48 15.3 -1.2
TRI Trieste 2.46 23 Pg **Pn** 01 48 16.2 -1.2
TRI Trieste 2.46 23 Pg **Pn** 01 48 16.2 -1.2
CGRP Cima Grappa 2.47 350 Pg **Pn** 01 48 17.2 -0.5
704nm,1.0s
CGRP Cima Grappa 2.47 350 Pg **Pn** 01 48 17.2 -0.5
704nm,1.0s
POLC Polcenigo 2.58 2 Pg **Pn** 01 48 19.1 +0.1
927nm,0.7s
POLC Polcenigo 2.58 2 Pg **Pn** 01 48 19.1 +0.1
927nm,0.7s
PGF Pioggiola 2.65 251 *e*Pn **Pn** 01 48 20.0 -0.1
PGF Pioggiola 2.65 251 *e*Pn **Pn** 01 48 20.0 -0.1
UDBI Udbina 2.66 65 *i* Pn **Pn** 01 48 21.0 +0.7
UDBI Sn **Sn** 01 48 53.1 +0.5
UDBI Udbina 2.66 65 *i* Pn **Pn** 01 48 20.9 +0.7
UDBI Sn **Sn** 01 48 53.0 +0.5
SABO M.te Sabotino 2.67 18 Pg **Pn** 01 48 19.5 -0.8
637nm,0.7s
SABO M.te Sabotino 2.67 18 Pg **Pn** 01 48 19.5 -0.8
637nm,0.7s
CEY Cerknica 2.71 32 *e*Pn **Pn** 01 48 19.9 -1.0
CEY *e*Sn **Sn** 01 48 53.1 -0.7
comp=Z,239nm,0.8s
CEY Cerknica 2.71 32 *e*Pn **Pn** 01 48 19.9 -1.0
CEY *e*Sn **Sn** 01 48 53.1 -0.7
comp=Z,239nm,0.8s
GEPF Gemona 2.87 10 Pg **Pn** 01 48 22.4 -0.7
comp=Z,279nm,0.8s
GEPF Gemona 2.87 10 Pg **Pn** 01 48 22.4 -0.7
comp=Z,279nm,0.8s
VINO Villanova 2.88 12 Pg **Pn** 01 48 22.4 -0.8
comp=Z,394nm,0.5s
VINO Villanova 2.88 12 Pg **Pn** 01 48 22.4 -0.8
comp=Z,394nm,0.5s
ROBS Robic 2.91 15 *e*Pn **Pn** 01 48 22.7 -0.8
ROBS *e*Sn **Sn** 01 48 58.2 -0.3
ROBS Robic 2.91 15 *e*Pn **Pn** 01 48 22.7 -0.8
ROBS *e*Sn **Sn** 01 48 58.2 -0.3
CADS Cadrg 2.94 18 *e*Pn **Pn** 01 48 23.1 -0.9
CADS *e*Sn **Sn** 01 48 58.6 -0.8
CADS Cadrg 2.94 18 *e*Pn **Pn** 01 48 23.1 -0.9
CADS *e*Sn **Sn** 01 48 58.6 -0.8
PCP Piancastagn 2.98 293 Pg **Pn** 01 48 24.5 -0.2
comp=Z,59nm,0.8s
PCP Piancastagn 2.98 293 Pg **Pn** 01 48 24.5 -0.2
comp=Z,59nm,0.8s
SGRT San Giovanni R 3.00 123 Pg **Pn** 01 48 25.3 +0.4
comp=Z,206nm,0.9s
SGRT San Giovanni R 3.00 123 Pg **Pn** 01 48 25.3 +0.4
comp=Z,206nm,0.9s
LJU Ljubljana 3.01 30 *i* Pn **Pn** 01 48 24.6 -0.3
LJU *e*Sn **Sn** 01 49 01.3 +0.3
comp=Z,200nm,0.6s
LJU Ljubljana 3.01 30 *i* Pn **Pn** 01 48 24.6 -0.3
LJU *e*Sn **Sn** 01 49 01.3 +0.3
comp=Z,200nm,0.6s
MDI Monti di Nese 3.02 321 Pg **Pn** 01 48 26.1 +1.0
MDI Monti di Nese 3.02 321 Pg **Pn** 01 48 26.1 +1.0
PTCC Patocco-Chiusa 3.03 13 Pg **Pn** 01 48 24.4 -0.9
comp=Z,256nm,1.2s
PTCC Patocco-Chiusa 3.03 13 Pg **Pn** 01 48 24.4 -0.9
comp=Z,256nm,1.2s
QLNO Quiliano 3.06 288 Pg **Pn** 01 48 24.8 -0.8
comp=Z,40nm,0.5s
QLNO Quiliano 3.06 288 Pg **Pn** 01 48 24.8 -0.8
comp=Z,40nm,0.5s
APPI Appiano 3.14 345 Pg **Pn** 01 48 27.9 +1.1
comp=Z,158nm,0.6s
APPI Appiano 3.14 345 Pg **Pn** 01 48 27.9 +1.1
comp=Z,158nm,0.6s
MS1 Monte Sant'Ang 3.15 122 *e*Pn **Pn** 01 48 28.2 +1.3
FVI Forni Avoltri 3.16 5 Pg **Pn** 01 48 27.0 -0.1
comp=Z,367nm,1.3s
FVI Forni Avoltri 3.16 5 Pg **Pn** 01 48 27.0 -0.1
comp=Z,367nm,1.3s
ACOM Acomizza, Ital 3.20 14 Pg **Pn** 01 48 27.0 -0.7
comp=Z,393nm,0.7s
ACOM Acomizza, Ital 3.20 14 Pg **Pn** 01 48 27.0 -0.7
comp=Z,393nm,0.7s
ABTA Abfaltersbach 3.30 1 *i* Pn **Pn** 01 48 29.6 +0.6
comp=Z,34nm,0.5s,SNR=39
ABTA Abfaltersbach 3.30 1 Pn **Pn** 01 48 29.6 +0.6
comp=Z,34nm,0.5s,SNR=39
MYKA Terra Mystica 3.30 15⇑ *e*Pn **Pn** 01 48 29.0 0.0
comp=Z,11nm,0.5s,SNR=9.6
MYKA ⇑ *i*Sn **Sn** 01 49 10.7 +2.3
comp=Z,52nm,0.5s
MYKA Terra Mystica 3.30 15 Pn **Pn** 01 48 29.0 0.0
comp=Z,11nm,0.5s,SNR=9.6
MYKA Sn **Sn** 01 49 10.7 +2.3
comp=Z,52nm,0.5s
ABSI Aberstueckl 3.37 347 Pg **Pn** 01 48 31.1 +1.1
comp=Z,349nm,0.8s
ABSI Aberstueckl 3.37 347 Pg **Pn** 01 48 31.1 +1.1
comp=Z,349nm,0.8s
OBKA Obir 3.42 26 *i* Pn **Pn** 01 48 30.1 -0.6
SNR=15
OBKA ⇓ *i*Sg **Sg** 01 49 27.8 +0.8
comp=Z,302nm,0.8s
OBKA Obir 3.42 26 Pn **Pn** 01 48 30.1 -0.6
SNR=15
SISC Sisak 3.49 53 *e*Pn **Pn** 01 48 30.3 -1.2
SISC Sisak 3.49 53 *e*Pn **Pn** 01 48 30.3 -1.2
SAOF Saorge 3.55 280 P **Pn** 01 48 32.5 +0.1
SAOF S **Sn** 01 49 16.4 +1.9
SAOF Saorge 3.55 280 P **Pn** 01 48 32.5 +0.1
SAOF S **Sn** 01 49 16.4 +1.9
SBF Sospel 3.62 278 *e*Pn **Pn** 01 48 33.3 -0.2
SBF *e*Sn **Sn** 01 49 12.7 -3.6
comp=Z,123nm,0.7s
SBF Sospel 3.62 278 *e*Pn **Pn** 01 48 33.3 -0.2
SBF *e*Sn **Sn** 01 49 12.7 -3.6
comp=Z,62nm,0.7s
AUTN L'Aution 3.64 280 P **Pn** 01 48 34.0 +0.1
AUTN S **Sn** 01 49 19.5 +2.5
AUTN L'Aution 3.64 280 P **Pn** 01 48 34.0 +0.1
AUTN S **Sn** 01 49 19.5 +2.5
REVF Revere 3.66 276 P **Pn** 01 48 34.2 +0.2
REVF Revere 3.66 276 P **Pn** 01 48 34.2 +0.2
BLY Banja Luka 3.69 68 Pg **Pn** 01 48 34.4 +0.2
comp=Z,285nm,0.8s
BLY Banja Luka 3.69 68 Pg **Pn** 01 48 34.4 +0.2
comp=Z,285nm,0.8s
KBA Koelnbreinsper 3.69 10 *i* Pn **Pn** 01 48 35.0 +0.5
comp=Z,34nm,0.5s,SNR=34
KBA Koelnbreinsper 3.69 10 Pn **Pn** 01 48 35.0 +0.5
comp=Z,34nm,0.5s,SNR=34
CDT Castel del Mon 3.73 128 *e*Pn **Pn** 01 48 36.2 +1.4
SOKA Soboth 3.73 29⇑ *i*Pn **Pn** 01 48 34.3 -0.6
comp=Z,1.9nm,0.3s
SOKA ⇑ *i*Sg **Sg** 01 49 39.7 +2.8
comp=Z,57nm,0.6s
SOKA Soboth 3.73 29 Pn **Pn** 01 48 34.3 -0.6
comp=Z,1.9nm,0.3s
FETA Feichten 3.76 342 ⇓ *i*Pn **Pn** 01 48 37.4 +2.0
comp=Z,32nm,0.4s,SNR=30
FETA ⇑ *i*Sn **Sb** 01 49 24.8 -4.6
comp=Z,36nm,0.6s
FETA Feichten 3.76 342 Pn **Pn** 01 48 37.4 +2.0
comp=Z,32nm,0.4s,SNR=30
TOUF Mont Tournerai 3.77 280 P **Pn** 01 48 37.0 +1.4
TOUF Mont Tournerai 3.77 280 P **Pn** 01 48 37.0 +1.4
DAVOX Davos/Dischmat 3.78 333 Pn **Pn** 01 48 37.5 +1.9
comp=Z,6.2nm,0.3s,baz=147,slow=14,SNR=98
DAVOX Sn **Sn** 01 49 23.8 +3.6
comp=Z,8.4nm,0.3s,baz=123,slow=20,SNR=6.6
DAVOX LR LR 01 50 41.1
comp=Z,151nm,19.9s,baz=116,slow=48
MVIF Mont Vial 3.83 278 P **Pn** 01 48 37.7 +1.3
MVIF Mont Vial 3.83 278 P **Pn** 01 48 37.7 +1.3
WTTA Wattenberg 3.85 352 ⇓ *i*Pn **Pn** 01 48 38.4 +1.7
WTTA ⇑ *i*Sn **Sn** 01 49 23.7 +1.6
comp=Z,77nm,0.5s
WTTA Wattenberg 3.85 352 Pn **Pn** 01 48 38.4 +1.7
comp=Z,8.4nm,0.3s,SNR=17
WTTA Sn **Sn** 01 49 23.7 +1.6
comp=Z,77nm,0.5s
STON Ston 3.92 97 *i* Pn **Pn** 01 48 38.2 +0.7
STON Sn **Sn** 01 49 23.7 +0.1
STON Ston 3.92 97 *i* Pn **Pn** 01 48 38.2 +0.7
STON Sn **Sn** 01 49 23.6 +0.1
WATA Walderalm 3.93 352 ⇓ *i*Pn **Pn** 01 48 39.9 +2.2
comp=Z,17nm,0.2s,SNR=37
WATA Walderalm 3.93 352 Pn **Pn** 01 48 39.9 +2.2
comp=Z,17nm,0.2s,SNR=37
MOTA Moosalm 4.00 347 ⇓ *i*Pn **Pn** 01 48 40.6 +1.9
comp=Z,26nm,0.4s,SNR=47
MOTA Moosalm 4.00 347 Sn **Sb** 01 49 33.3 -3.1
comp=Z,40nm,0.6s
MOTA Moosalm 4.00 347 Pn **Pn** 01 48 40.6 +1.9
comp=Z,26nm,0.4s,SNR=47
FRF La Foret Royal 4.18 273 *e*Pn **Pn** 01 48 40.3 -0.8
FRF *e*Sn **Sn** 01 49 25.7 -4.3
comp=Z,31nm,0.5s
FRF La Foret Royal 4.18 273 *e*Pn **Pn** 01 48 40.3 -0.8
FRF *e*Sn **Sn** 01 49 25.7 -4.3
comp=Z,16nm,0.5s
RETA Reutte 4.20 345 ⇓ *i*Pn **Pn** 01 48 43.3 +1.9
comp=Z,14nm,0.4s,SNR=20
RETA ⇑ *i*Sn **Sn** 01 49 33.1 +2.6
comp=Z,52nm,0.6s
RETA Reutte 4.20 345 Pn **Pn** 01 48 43.3 +1.9
comp=Z,14nm,0.4s,SNR=20
RETA Sn **Sn** 01 49 33.1 +2.6
comp=Z,52nm,0.6s
DAVA Damuels 4.23 336 ⇑ *i*Pn **Pn** 01 48 44.4 +2.6
comp=Z,58nm,0.7s,SNR=32
DAVA ⇓ *i*Sn **Sn** 01 49 35.7 +4.4
comp=Z,92nm,0.7s
DAVA Damuels 4.23 336 Pn **Pn** 01 48 44.4 +2.6
comp=Z,58nm,0.7s,SNR=32
MBDF Montbardon 4.25 289 *e*Pn **Pn** 01 48 41.0 -1.1
MBDF *e*Sn **Sn** 01 49 27.5 -4.3
comp=Z,66nm,0.6s
MBDF Montbardon 4.25 289 *e*Pn **Pn** 01 48 41.0 -1.1
MBDF *e*Sn **Sn** 01 49 27.5 -4.3
comp=Z,33nm,0.6s
LMR La Mourre 4.29 270 *e*Pn **Pn** 01 48 42.2 -0.4
LMR *e*Sn **Sn** 01 49 28.5 -4.2
comp=Z,25nm,0.5s
LMR La Mourre 4.29 270 *e*Pn **Pn** 01 48 42.2 -0.4
LMR *e*Sn **Sn** 01 49 28.5 -4.2
comp=Z,13nm,0.5s
RJOB Jochberg 4.30 4 *e*Pn **Pn** 01 48 43.2 +0.5
RJOB Jochberg 4.30 4 *e*Pn **Pn** 01 48 43.2 +0.5
BEHE Becsehely 4.33 44 ⇓ *e* Pn 01 48 38.3 -4.8
ARSA Arzberg 4.39 29 ⇓ *i*Pn **Pn** 01 48 43.2 -0.8
comp=Z,5.8nm,0.3s
ARSA Arzberg 4.39 29 Pn **Pn** 01 48 43.2 -0.8
comp=Z,5.8nm,0.3s
LPG La Plagne 4.53 299 *e*Pn **Pn** 01 48 45.4 -0.7
LPG *e*Sn **Sn** 01 49 34.1 -4.9
comp=Z,45nm,0.8s
LPG La Plagne 4.53 299 *e*Pn **Pn** 01 48 45.4 -0.7
LPG *e*Sn **Sn** 01 49 34.1 -4.9
comp=Z,22nm,0.8s
LPL La Plagne 4.55 299 *e*Pn **Pn** 01 48 45.4 -0.9
LPL *e*Sn **Sn** 01 49 34.7 -4.7
comp=Z,43nm,0.6s
LPL La Plagne 4.55 299 *e*Pn **Pn** 01 48 45.4 -0.9
LPL *e*Sn **Sn** 01 49 34.7 -4.7
comp=Z,21nm,0.6s
PE1 Pezze di Greco 4.58 124 *e*Pn **Pn** 01 48 47.2 +0.7
MOA Molln 4.59 16⇑ *i*Pn **Pn** 01 48 47.1 +0.4
comp=Z,21nm,0.5s,SNR=13
MOA ⇑ *i*Sn **Sn** 01 49 40.3 +0.2
comp=Z,60nm,0.6s
MOA Molln 4.59 16 Pn **Pn** 01 48 47.1 +0.4
comp=Z,21nm,0.5s,SNR=13
MOA Sn **Sn** 01 49 40.3 +0.2
comp=Z,60nm,0.6s
OG25 Le Caire 4.66 284 P **Pn** 01 48 49.2 +1.5
OG25 S **Sn** 01 49 44.8 +2.9
OG25 Le Caire 4.66 284 P **Pn** 01 48 49.2 +1.5
RSL Roselend 4.69 300 P **Pn** 01 48 48.4 +0.2
RSL Roselend 4.69 300 P **Pn** 01 48 48.4 +0.2
FUR Furstenfeldbru 4.78 351 *e*Pn **Pn** 01 48 50.2 +0.9
FUR Furstenfeldbru 4.78 351 *e*Pn **Pn** 01 48 50.2 +0.9
ORIF Oris-en-Rattie 4.91 290 *e*Pn **Pn** 01 48 50.3 -0.9
ORIF *e*Sn **Sn** 01 49 43.2 -4.9
comp=Z,50nm,0.7s
ORIF Oris-en-Rattie 4.91 290 *e*Pn **Pn** 01 48 50.3 -0.9
ORIF *e*Sn **Sn** 01 49 43.2 -4.9
comp=Z,25nm,0.7s
SMRF Simiane la Rot 4.97 278 *e*Pn **Pn** 01 48 51.5 -0.5
SMRF *e*Sn **Sn** 01 49 44.9 -4.6
comp=Z,46nm,1.0s
SMRF Simiane la Rot 4.97 278 *e*Pn **Pn** 01 48 51.5 -0.5
SMRF *e*Sn **Sn** 01 49 44.9 -4.6
comp=Z,23nm,1.0s
OG01 Vacheresse 4.98 307 P **Pn** 01 48 53.2 +1.1
OG01 S **Sn** 01 49 52.2 +2.5
OG01 Vacheresse 4.98 307 P **Pn** 01 48 53.2 +1.1
OG01 S **Sn** 01 49 52.2 +2.5
CONA Conrad Observa 5.09 27 ⇓ *i*Pn **Pn** 01 48 53.1 -0.6
comp=Z,4.8nm,0.4s
CONA Conrad Observa 5.09 27 Pn **Pn** 01 48 53.1 -0.6
comp=Z,4.8nm,0.4s
BBLS Lazići 5.10 83⇑ *i*Pn **Pn** 01 48 55.3 +1.5
SOP Sopron 5.14 33 ⇓ *e*P **Pn** 01 48 53.8 -0.5
SOP Sopron 5.14 33 ⇓ *e* **Pn** 01 48 53.8 -0.5
PKSM Moragy 5.23 56⇑ *i*P **Pn** 01 48 55.9 +0.5
PKSM Moragy 5.23 56⇑ *i*P **Pn** 01 48 55.9 +0.5
PKSM Moragy 5.23 56 ⇓ *e* Pb 01 49 04.3 -4.4
OG26 St.-Nazaire-De 5.24 285 P **Pn** 01 48 56.4 +0.7
OG26 St.-Nazaire-De 5.24 285 P **Pn** 01 48 56.4 +0.7
TEKS Tekeris 5.26 75 *i* Pn **Pn** 01 48 54.5 -1.4
BBS Basel-Blauen 5.29 321 P **Pn** 01 48 57.3 +1.0
SPAK Spaichingen-Ko 5.29 333 P **Pn** 01 48 56.8 +0.4
FELD Feldberg im Sc 5.39 327 P **Pn** 01 48 58.4 +0.6
GEC2 GERESS Array S 5.47 9 *e*Pn **Pn** 01 48 56.5 -2.4
GEC2 GERESS Array S 5.47 9 *e*Pn **Pn** 01 48 56.5 -2.4
GERES GERESS Array B 5.47 9 Pn **Pn** 01 48 58.1 -0.8
comp=Z,1.2nm,0.3s,baz=181,slow=13,SNR=6.1
GERES Sn **Sn** 01 50 02.5 +0.6
comp=Z,3.5nm,0.3s,baz=194,slow=21,SNR=6.4
GERES Lg Lg 01 50 31.0
baz=193,slow=34,SNR=2.1
GERES LR LR 01 51 43.6
comp=Z,158nm,19.2s,baz=181,slow=45
CABF La Chapelle 5.47 307 *e*Pn **Pn** 01 48 58.3 -0.6
CABF La Chapelle 5.47 307 *e*Pn **Pn** 01 48 58.3 -0.6
PKST T˜'s 5.50 44 ⇓ *e*P **Pn** 01 48 58.0 -1.2
PKST T˜'s 5.50 44 ⇓ *e* **Pn** 01 48 58.0 -1.2
DIVS Divibare 5.54 81 *e*Pn **Pn** 01 49 00.2 +0.4
IVAS Ivanjica 5.64 86 *i* Pn **Pn** 01 49 01.8 +0.6
BFO Black Forest 5.64 331 *e*Pn **Pn** 01 49 02.4 +1.2
BFO Black Forest 5.64 331 *e*Pn **Pn** 01 49 02.4 +1.2
CSKK Cs˙‡kako 5.69 44 ⇓ *e*P **Pn** 01 49 00.0 -1.7
CSKK Cs˙‡kako 5.69 44 ⇓ *e* **Pn** 01 49 00.0 -1.7
WET Wettzell 5.71 3 *e*Pn **Pn** 01 49 01.0 -1.0
WET Wettzell 5.71 3 *e*Pn **Pn** 01 49 01.0 -1.0
PKS2 Kecel 5.71 55 ⇓ *e* **Pb** 01 49 18.2 +1.3
VIVF Saint-Julien-I 5.73 287 *e*Pn **Pn** 01 49 01.4 -1.0
KHC Kasperske Hory 5.74 8 *e*PN **Pn** 01 49 01.1 -1.4
KHC *ex* x 01 49 14.6
KHC *e*SN **Sn** 01 50 06.5 -2.0
KHC *ex* x 01 50 22.5
KHC *e*SG Sg 01 50 48.3 +6.9
KHC AMS AMS 01 51 40.0
comp=Z,200nm,11.8s
KHC Kasperske Hory 5.74 8 Pn **Pn** 01 49 01.1 -1.4
KHC Sn **Sn** 01 50 06.5 -2.0
MOF Molkenrain 5.74 322 P **Pn** 01 49 03.3 +0.7
MOF Molkenrain 5.74 322 P **Pn** 01 49 03.3 +0.7
PKSG 5.77 45 ⇓ *e*P **Pn** 01 49 02.6 -0.3
PKSG 5.77 45 ⇓ *e* **Pn** 01 49 02.6 -0.3
HINF Hinteralfeld 5.84 320 *e*Pn **Pn** 01 49 03.1 -0.8
HINF *e*Sn **Sn** 01 50 05.1 -5.9
comp=Z,55nm,0.7s
HINF Hinteralfeld 5.84 320 *e*Pn **Pn** 01 49 03.1 -0.8
TRUS Trudelj 5.85 80 *e*Pn **Pn** 01 49 01.1 -2.8
ECH Echery 6.01 324 P **Pn** 01 49 07.0 +0.8
ECH Echery 6.01 324 P **Pn** 01 49 07.0 +0.8
GRUS Gruza 6.05 83 *e*Pn **Pn** 01 49 07.7 +1.0
CDF Champ du Feu 6.11 326 *e*Pn **Pn** 01 49 06.8 -0.9
CDF *e*Sn **Sn** 01 50 11.7 -6.0
comp=Z,66nm,0.8s
CDF Champ du Feu 6.11 326 *e*Pn **Pn** 01 49 06.8 -0.9

SMOL	Smolenice	6.16	33	ePn	Pn	01 49 06.5	-1.7
SMOL	Smolenice	6.16	33	ePN	Pn	01 49 06.5	-1.7
LASF	Ste Croix	6.21	279	ePn	Pn	01 49 07.9	-1.1
LASF	Ste Croix	6.21	279	ePn	Pn	01 49 07.9	-1.1
HAU	Haudompre	6.22	319	ePn	Pn	01 49 07.6	-1.4
HAU				eSn	Sn	01 50 14.4	-5.8
	comp=Z,52nm,0.6s						
HAU	Haudompre	6.22	319	ePn	Pn	01 49 07.6	-1.4
TREC	Trest	6.22	19	ePN	Pn	01 49 07.9	-1.2
TREC				ePB	Pb	01 49 23.7	-2.0
TREC				eSN	Sn	01 50 17.2	-3.1
TREC				AMS	AMS	01 51 50.0	
	comp=Z,200nm,11.8s						
TREC	Trest	6.22	19	Pn	Pn	01 49 07.9	-1.2
TREC				Sn	Sn	01 50 17.2	-3.1
GRF	Grafenberg Arr	6.30	353	ePn	Pn	01 49 15.2	+5.1
SELS	Selova	6.37	89⇑	iPn	Pn	01 49 10.8	-0.3
LANF	Langenberg	6.38	332	P	Pn	01 49 11.6	+0.3
LANF	Langenberg	6.38	332	P	Pn	01 49 11.6	+0.3
VRAC	Vranov	6.54	25	Pn	Pn	01 49 13.4	0.0
	comp=Z,0.7nm,0.3s,baz=228,slow=18,SNR=3.3						
VRAC				Lg	Lg	01 51 04.0	
	comp=Z,1.1nm,0.3s,baz=148,slow=19,SNR=2.6						
VRAC				LR	LR	01 52 25.3	
	comp=Z,90nm,21.9s,baz=202,slow=44						
THEF	They Montfort	6.55	319	P	Pn	01 49 14.5	+1.0
THEF	They Montfort	6.55	319	P	Pn	01 49 14.5	+1.0
TOD	Tromm	6.64	339	P	Pn	01 49 16.1	+1.3
GOPC	GO Pecny, Ondr	6.67	13	ePN	Pn	01 49 14.0	-1.3
GOPC				eSN	Sn	01 50 27.6	-3.7
GOPC	GO Pecny, Ondr	6.67	13	Pn	Pn	01 49 14.0	-1.3
GOPC				Sn	Sn	01 50 27.6	-3.7
KEK	Kerkira	6.69	121	ePN	Pn	01 49 17.0	+1.5
PRU	Pruhonice	6.71	12	ePN	Pn	01 49 14.7	-1.0
PRU				ePB	Pb	01 49 35.7	+1.9
PRU				eSN	Sn	01 50 28.5	-3.6
PRU				ex	x	01 50 42.6	
PRU				AMS	AMS	01 52 20.0	
	comp=Z,200nm,10.3s						
PRU	Pruhonice	6.71	12	Pn	Pn	01 49 14.7	-1.0
PRU				Sn	Sn	01 50 28.5	-3.6
PLDF	La Plantade	6.74	295	P	Pn	01 49 17.1	+0.8
PLDF	La Plantade	6.74	295	P	Pn	01 49 17.1	+0.8
VYHS	Vyhne	6.75	39	ePn	Pn	01 49 15.8	-0.5
VYHS				eSn	Sn	01 50 29.8	-3.5
VYHS	Vyhne	6.75	39	ePN	Pn	01 49 15.8	-0.5
VYHS				eSN	Sn	01 50 29.8	-3.5
VYHS				e		01 51 25.5	
PRA	Prague	6.77	11	eSN	Sn	01 50 29.4	-4.3
LBL	Lubilhac	6.80	288	P	Pn	01 49 17.0	-0.1
LBL	Lubilhac	6.80	288	P	Pn	01 49 17.0	-0.1
SMF	Signal de Mont	6.85	301	ePn	Pn	01 49 16.8	-0.9
SMF				eSn	Sn	01 50 29.3	-6.4
	comp=Z,22nm,0.7s						
SMF	Signal de Mont	6.85	301	ePn	Pn	01 49 16.8	-0.9
PSZ	Piszkesteto	6.89	47⇑	iP	Pn	01 49 19.0	+0.6
PSZ	Piszkesteto	6.89	47⇑	iP	Pn	01 49 19.0	+0.6
PAGF	Fort de Pagny	6.90	320	ePn	Pn	01 49 17.3	-1.1
	baz=136						
PAGF				eSn	Sn	01 50 30.2	-6.8
	comp=Z,8.0nm,0.7s						
PAGF	Fort de Pagny	6.90	320	ePn	Pn	01 49 17.3	-1.1
BARS	Barje	6.92	92	ePn	Pn	01 49 19.2	+0.5
BZS	Buzias	6.94	69⇑	iP	Pn	01 49 19.5	+0.6
BZS	Buzias	6.94	69⇑	iP	Pn	01 49 19.5	+0.6
BOLS	Boljevac	6.95	84	ePn	Pn	01 49 18.2	-0.8
TANN	Tannenbergstha	6.97	0	ePn	Pn	01 49 18.7	-0.7
TANN	Tannenbergstha	6.97	0	ePn	Pn	01 49 18.7	-0.7
SFTF	Sexfontaines	7.00	315	ePn	Pn	01 49 19.1	-0.7
	baz=135						
SFTF	Sexfontaines	7.00	315	ePn	Pn	01 49 19.1	-0.7
LOR	Lormes	7.12	305	ePn	Pn	01 49 20.2	-1.3
	baz=127						
LOR				eSn	Sn	01 50 35.9	-6.5
	comp=Z,11nm,0.4s						
LOR	Lormes	7.12	305	ePn	Pn	01 49 20.2	-1.3
IGT	Igoumenitsa	7.13	121	ePN	Pn	01 49 22.3	+0.8
NEST	Nestorio	7.13	112	ePN	Pn	01 49 23.0	+1.4
FNA	Florina	7.19	109	ePN	Pn	01 49 23.8	+1.4
MEZF	Maizieres J'vi	7.19	317	ePn	Pn	01 49 20.9	-1.4
MEZF				eSn	Sn	01 50 37.2	-6.8
	comp=Z,40nm,1.0s						
MEZF	Maizieres J'vi	7.19	317	ePN	Pn	01 49 20.9	-1.4
AVF	Avril sur Loir	7.22	301	ePn	Pn	01 49 22.0	-0.7
AVF				eSn	Sn	01 50 38.1	-6.6
	comp=Z,13nm,0.8s						
AVF	Avril sur Loir	7.22	301	ePn	Pn	01 49 22.0	-0.7
MOX	Moxa	7.22	356	ePn	Pn	01 49 23.7	+1.0
MOX	Moxa	7.22	356	ePn	Pn	01 49 23.7	+1.0
PVCC	Panska Ves	7.24	11	ePN	Pn	01 49 22.5	-0.5
PVCC				ex	x	01 49 27.2	
PVCC				ex	x	01 49 32.8	
PVCC				eSN	Sn	01 50 41.3	-3.9
PVCC				eSG	Sg	01 51 32.1	+2.8
PVCC	Panska Ves	7.24	11	Pn	Pn	01 49 22.5	-0.5
PVCC				Sn	Sn	01 50 41.3	-3.9
SSF	Saint Saulge	7.24	303	ePn	Pn	01 49 21.1	-1.9
SSF				eSn	Sn	01 50 38.7	-6.5
	comp=Z,26nm,1.0s						
SSF	Saint Saulge	7.24	303	ePn	Pn	01 49 21.1	-1.9
ABH	Alteburg	7.25	334	P	Pn	01 49 24.7	+1.6
MORC	Moravsky Berou	7.25	27⇑	iP	Pn	01 49 23.3	+0.1
MORC	Moravsky Berou	7.25	27⇑	iP	Pn	01 49 23.3	+0.1
RUP	Ruppelstein	7.25	331	P	Pn	01 49 23.2	-0.1
KRLC	Kraliky	7.28	23	ePN	Pn	01 49 22.5	-1.1
KRLC				ex	x	01 49 36.9	
KRLC	Kraliky	7.28	23	Pn	Pn	01 49 22.5	-1.1
TNS	Taunus Mts	7.29	340	ePn	Pn	01 49 26.8	+3.0
JAN	Janina	7.39	118	ePN	Pn	01 49 27.0	+1.9
DPC	Dobruska-Polom	7.41	20	ePN	Pn	01 49 23.7	-1.7
DPC				eSN	Sn	01 50 44.5	-5.0
DPC				eSG	Sg	01 51 33.7	-1.1
DPC	Dobruska-Polom	7.41	20	Pn	Pn	01 49 23.7	-1.7
MTLF	Montolieu	7.42	273	ePn	Pn	01 49 24.3	-1.2
MTLF	Montolieu	7.42	273	ePn	Pn	01 49 24.3	-1.2
BGF	Bois d'Agland	7.45	298	ePn	Pn	01 49 24.6	-1.3
BGF				eSn	Sn	01 50 43.6	-6.8
	comp=Z,19nm,0.7s						
BGF	Bois d'Agland	7.45	298	ePn	Pn	01 49 24.6	-1.3
UPC	Upice	7.48	18	ePN	Pn	01 49 25.1	-1.2
UPC				eSN	Sn	01 50 46.9	-4.3
UPC	Upice	7.48	18	Pn	Pn	01 49 25.1	-1.2
OKC	Ostrava-Krasne	7.51	30	ePn	Pn	01 49 25.7	-1.1
OKC				eSN	Sn	01 50 47.3	-4.7
OKC				AMS	AMS	01 53 00.0	
	comp=Z,100nm,9.8s						
OKC	Ostrava-Krasne	7.51	30	Pn	Pn	01 49 25.7	-1.1
CAF	Calviac	7.57	285	ePn	Pn	01 49 26.3	-1.3
GZR	Gura Zlata	7.68	72⇑	iP	Pn	01 49 29.5	+0.3
GZR	Gura Zlata	7.68	72⇑	iP	Pn	01 49 29.5	+0.3
TCF	Toulx Ste Croi	7.77	295	ePn	Pn	01 49 28.9	-1.5
TCF				eSn	Sn	01 50 51.5	-6.9
	comp=Z,2.0nm,0.5s						
TCF	Toulx Ste Croi	7.77	295	ePn	Pn	01 49 28.9	-1.5
LKD2	Lefkada island	7.78	124	ePN	Pn	01 49 32.6	+2.1
KSP	Ksiaz	7.86	18	ePn	Pn	01 49 32.0	+0.5
HYF	Humbligny	7.86	302	ePn	Pn	01 49 29.8	-1.8
HYF	Humbligny	7.86	302	ePn	Pn	01 49 29.8	-1.8
CLL	Collm	7.87	3	ePn	Pn	01 49 30.3	-1.4
CLL	Collm	7.87	3	ePn	Pn	01 49 30.0	-1.7
CLL				eSn	Sn	01 50 52.0	-8.8
CLL				e		01 51 10.0	
CLL				eSg	Sg	01 51 55.0	+5.3
CLL				Lmax		01 53 00.0	
CLL	Collm	7.87	3	ePn	Pn	01 49 30.3	-1.4
VTS	Vitosha	7.97	92⇑	iP	Pn	01 49 32.9	-0.3
VTS	Vitosha	7.97	92⇑	iP	Pn	01 49 32.9	-0.3
RJF	Les Rejaudoux	8.01	287	ePn	Pn	01 49 31.2	-2.5
RJF	Les Rejaudoux	8.01	287	ePn	Pn	01 49 31.2	-2.5
DRGR		8.02	62⇑	iP	Pn	01 49 35.2	+1.3
DRGR		8.02	62⇑	iP	Pn	01 49 35.2	+1.3
KEST	Kesra	8.06	198	Pn	Pn	01 49 36.4	+2.0
	comp=Z,0.2nm,0.3s,baz=334,slow=3.9,SNR=11						
KEST				LR	LR	01 52 18.1	
	comp=Z,33nm,21.7s,baz=344,slow=35						
KNT	Kendrikon	8.11	103	ePN	Pn	01 49 35.2	+0.1
VLS	Valsamata	8.14	128	ePN	Pn	01 49 37.7	+2.2
PDO	Prodromos	8.22	123	ePN	Pn	01 49 37.0	+0.5
LIT	Litokhoron	8.25	110	ePN	Pn	01 49 36.6	-0.4
LOT	Lotru	8.38	72⇑	iP	Pn	01 49 39.7	+0.9
LOT	Lotru	8.38	72⇑	iP	Pn	01 49 39.7	+0.9
EVR	Evrytania	8.42	119	ePN	Pn	01 49 42.1	+2.8
GIVF	Givet	8.44	325	ePn	Pn	01 49 36.5	-3.0
GIVF	Givet	8.44	325	ePn	Pn	01 49 36.5	-3.0
LFF	La Frestale	8.51	284	ePn	Pn	01 49 39.3	-1.1
LFF	La Frestale	8.51	284	ePn	Pn	01 49 39.3	-1.1
SOH	Sokhos	8.56	104	ePN	Pn	01 49 41.5	+0.3
MAKR	Makrakomi, Fth	8.57	118	ePN	Pn	01 49 43.7	+2.4
MMB	Musomiste	8.57	99⇑	iP	Pn	01 49 42.3	+0.9
MMB	Musomiste	8.57	99⇑	iP	Pn	01 49 42.3	+0.9
SRS	Serrai	8.62	102	ePN	Pn	01 49 41.9	-0.1
BAIF	Baives	8.67	323	ePn	Pn	01 49 40.6	-2.1
BAIF	Baives	8.67	323	ePn	Pn	01 49 40.6	-2.1
AGG	Agios Georgios	8.69	117	ePN	Pn	01 49 44.2	+1.2
RLS	Riolos of Patr	8.74	125	ePN	Pn	01 49 46.3	+2.7
NVR	Nevrokopi	8.74	100	ePN	Pn	01 49 44.4	+0.7
EFP	Efpalio	8.77	122	ePN	Pn	01 49 46.8	+2.7
PLG	Polygyros	8.79	107	ePN	Pn	01 49 44.2	-0.2
EPF	Esparros	8.81	271	ePn	Pn	01 49 42.6	-2.1
EPF	Esparros	8.81	271	ePn	Pn	01 49 42.6	-2.1
KALE	Kalithea	8.94	121	ePN	Pn	01 49 50.2	+3.8
DRO	Drossia	8.95	125	ePN	Pn	01 49 49.0	+2.4
ARR	Arges	8.97	73⇑	iP	Pn	01 49 47.0	+0.2
ARR	Arges	8.97	73⇑	iP	Pn	01 49 47.0	+0.2
KLV	Kalavryta, Ach	9.16	123	ePN	Pn	01 49 52.9	+3.4
OUR	Ouranopolis	9.18	106	ePN	Pn	01 49 50.1	+0.4
VOIR		9.27	73⇑	iP	Pn	01 49 51.7	+0.8
VOIR		9.27	73⇑	iP	Pn	01 49 51.7	+0.8
LKR	Lokris	9.33	117	ePN	Pn	01 49 53.4	+1.6
GUR	Goura	9.35	123	ePN	Pn	01 49 55.6	+3.6
ETSF	Etsaut	9.48	271	ePn	Pn	01 49 53.1	-0.8
ETSF	Etsaut	9.48	271	ePn	Pn	01 49 53.1	-0.8
MLR	Muntele Rosu	9.90	73⇑	iP	Pn	01 50 00.0	+0.4
MLR	Muntele Rosu	9.90	73	Pn	Pn	01 49 59.3	-0.4
	baz=198,slow=15						
MLR				LR	LR	01 55 04.0	
	comp=Z,25nm,18.1s,baz=266,slow=46						
MLR	Muntele Rosu	9.90	73⇑	iP	Pn	01 50 00.0	+0.4
BURAR	Bucovina Array	9.91	61⇑	iP	Pn	01 50 00.7	+0.9
BURAR	Bucovina Array	9.91	61⇑	iP	Pn	01 50 00.7	+0.9
SJPF	Ste Jean	9.94	273	ePn	Pn	01 49 58.3	-1.8
SJPF	Ste Jean	9.94	273	ePn	Pn	01 49 58.3	-1.8
RDO	Rodhopi	10.01	99	ePN	Pn	01 50 01.3	+0.3
ALN	Alexandroupoli	10.45	99	ePN	Pn	01 50 07.3	+0.3
VRI	Vrincioaia	10.49	72⇑	iP	Pn	01 50 08.2	+0.5
VRI	Vrincioaia	10.49	72⇑	iP	Pn	01 50 08.2	+0.5
AKASG	Malin Array Be	13.55	52	Pn	Pn	01 50 49.1	-0.2
	comp=Z,0.2nm,0.3s,baz=244,slow=12,SNR=2.6						
EKA	Eskdalemuir Ar	15.57	325	Pn	Pn	01 51 16.7	0.0
	baz=138,slow=14,SNR=4.0						
BRTR	Keskin Array B	16.32	96	Pn	Pn	01 51 27.0	+0.5
	comp=Z,0.1nm,0.3s,baz=322,slow=9.1,SNR=2.9						
HFS	Hagfors	16.73	2	Pn	Pn	01 51 31.8	+0.3
	comp=Z,0.1nm,0.3s,baz=186,slow=12,SNR=2.6						
HFS				LR	LR	01 58 28.8	
	comp=Z,51nm,18.6s,baz=191,slow=39						
MDT	Midelt	17.05	237	LR	LR	01 57 37.5	
	comp=Z,29nm,18.8s,baz=7.5,slow=35						
NB2	NORSAR Subarra	17.63	358	P	Pn	01 51 42.5	-0.3
	comp=Z,2.5nm,1.0s,baz=172,slow=12						
NB2	NORSAR Subarra	17.63	358	P	Pn	01 51 42.5	-0.3
	comp=Z,2.5nm,1.0s,SNR=3.9						
NOA	NORSAR Array B	17.63	358	P	P	01 51 43.8	0.0
	comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=3.8						
NOA				LR	LR	01 58 54.3	
	comp=Z,21nm,18.9s,baz=100,slow=38						
OBN	Obninsk	19.50	45	LR	LR	02 00 47.5	
	comp=Z,50nm,18.9s,baz=273,slow=41						
FINES	FINESS Array B	19.78	20	P	P	01 52 06.8	-0.5
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=3.8						
KAF	Kangasniemi	20.41	19	ep	Pn	01 52 17.4	+1.1
	comp=Z,1.5nm,0.6s						
KBZ	Khabaz	22.04	79	P	P	01 52 33.2	+1.4
	comp=Z,1.0nm,0.6s,baz=56,slow=24,SNR=4.8						
JOF	Joesuu	22.39	23	ep	P	01 52 36.4	+1.0
	comp=Z,1.8nm,0.8s						
GNI	Garni	24.25	87	P	P	01 52 56.0	+1.4
	comp=Z,1.5nm,0.4s,baz=161,slow=8.6,SNR=4.9						
ARCES	ARCESS Array B	27.01	10	LR	LR	02 04 59.7	
	comp=Z,28nm,18.9s,baz=224,slow=39						
TORD	Torodi Ar. Bea	31.57	200	P	P	01 53 59.8	-0.2
	comp=Z,2.0nm,0.9s,baz=14,slow=7.6,SNR=10						
GEYT	Alibeck	34.76	83	P	P	01 54 28.4	+0.7
	comp=Z,3.3nm,0.3s,baz=270,slow=7.4,SNR=7.3						
MKAR	Makanchi Array	47.94	60	P	P	01 56 15.3	-0.4
	comp=Z,0.5nm,0.7s,baz=308,slow=4.5,SNR=5.7						
SONM	Songino Array	61.82	50	P	P	01 57 57.3	+0.9
	comp=Z,0.7nm,1.0s,baz=292,slow=7.5,SNR=4.4						
YKA	Yellowknife Ar	66.21	336	P	P	01 58 25.8	+1.1
	comp=Z,0.4nm,0.6s,baz=48,slow=5.9,SNR=9.3						
ILAR	Eielson Array	70.90	351	P	P	01 58 55.2	+1.2
	comp=Z,0.3nm,0.7s,baz=42,slow=2.8,SNR=4.1						
CMAR	Chiang Mai Arr	75.09	79	P	P	01 59 19.2	-0.3
	comp=Z,0.7nm,0.5s,baz=311,slow=7.4,SNR=6.7						
TXAR	Lajitas Array	86.87	308	P	P	02 00 22.8	+0.4
	comp=Z,0.4nm,0.6s,baz=80,slow=3.1,SNR=4.3						
ASAR	Alice Springs	128.50	87	PKP	PKPdf	02 06 45.0	+0.5
	comp=Z,0.2nm,0.3s,baz=315,slow=1.6,SNR=3.8						

IDC ***15*** *01:48:02.5±3.6, 13°.28N×91°.64W, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.7/25, mbtmp3.7/9, ML3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/29, Error ellipse: s-maj=58.3km s-min=26.9km az=167.0*

ISC 15 01:48:06.8±2.1, 13°.3N±0°.2×91°.67W±0°.09, h28km, n10, σ1°13/11, mb3.6/5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	El Apazote	2.03	35	Pn	Pn	01 48 38.1	-1.3
	17nm,0.3s,baz=193,slow=12,SNR=139						
APG				Sn	Sb	01 49 07.4	-0.7
	15nm,0.3s,baz=258,slow=15,SNR=6.6						
CMIG	Matias Romero	4.86	321	Pn	Pn	01 49 16.3	-1.8
	1.2nm,0.3s,baz=140,slow=10,SNR=12						
CMIG				Sn	Sn	01 50 14.5	+1.0
	2.5nm,0.3s,baz=58,slow=17,SNR=3.8						
TEIG	Tepich	7.58	25	Pn	Pn	01 49 56.3	+0.7
	3.3nm,0.3s,baz=330,slow=20,SNR=14						
TXAR	Lajitas Array	19.43	327	P	P	01 52 31.4	+0.2
	0.1nm,0.3s,baz=153,slow=11,SNR=5.6						
LPIG	La Paz	20.62	304	LR	LR	02 00 56.8	
	comp=Z,26nm,19.1s,baz=46,slow=37						
ANMO	Albuquerque	25.34	331	P	P	01 53 32.2	+0.6
	1.1nm,0.7s,baz=170,slow=6.1,SNR=5.5						
PDAR	Pinedale Array	33.16	336	P	P	01 54 42.3	+1.2
	0.3nm,0.8s,baz=145,slow=12,SNR=3.0						
NVAR	Mina Array Bea	34.39	321	P	P	01 54 52.7	+0.8
	0.3nm,0.5s,baz=127,slow=11,SNR=3.2						
SCHQ	Schefferville	45.73	20	P	P	01 56 24.7	-0.8
	3.1nm,0.7s,baz=238,slow=6.3,SNR=7.5						
YKA	Yellowknife Ar	51.75	347	P	P	01 57 11.8	+0.3
	0.9nm,0.6s,baz=147,slow=7.5,SNR=22						

IDC 15 01:52:03.3±27.0, 20°.47S×173°.95W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.7/34, mbtmp4.2/4, Error ellipse: s-maj=497.2km s-min=152.5km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.27	263	P	P	01 59 17.9	+0.8
	1.7nm,0.3s,baz=79,slow=8.9,SNR=4.3						
STKA	Stephens Creek	41.23	245	P	P	01 59 49.7	-0.4
	1.6nm,0.5s,baz=96,slow=10,SNR=5.4						
ASAR	Alice Springs	48.22	256	P	P	02 00 45.6	-0.5
	2.6nm,0.7s,baz=92,slow=7.9,SNR=21						
WRA	Warramunga Arr	48.36	261	P	P	02 00 47.0	-0.3
	1.1nm,0.2s,baz=96,slow=8.4,SNR=54						

ISCJB ***15*** *02:02:27.5±0.4, 40°.59N±0°.02×22°.88E±0°.03, h8km±3km, Error ellipse: s-maj=3.9km s-min=3.2km az=157.7*
THE ***15*** *02:02:27.9, 40°.60N×22°.88E, h8km±1km, ML2.2/13, Error ellipse: s-maj=1.6km s-min=0.6km az=58.0*
ATH ***15*** *02:02:27.8, 40°.60N×22°.88E, h9km±2km, MD2.8/9*
CSEM ***15*** *02:02:27.4±0.1, 40°.60N×22°.87E, h10km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.4km az=144.0*
SKO ***15*** *02:02:28.5, 40°.62N×22°.86E, h2km*

ISC 15 02:02:27.7±0.8, 40°.60N±0°.02×22°.87E±0°.02, h10km±5km, n54, σ0°58/94, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	Thessaloniki	0.08	68	P	Pg	02 02 30.1	+0.1
THE				S	Sg	02 02 31.7	0.0
THE	Thessaloniki	0.08	68	ePG	Pg	02 02 30.2	+0.2
THE				eSG	Sg	02 02 31.6	-0.1
THE	Thessaloniki	0.08	68	P	Pg	02 02 30.1	+0.1
THE				S	Sg	02 02 31.7	0.0
HORT	Hortiatis	0.17	92	P	Pg	02 02 31.6	0.0
HORT				S	Sg	02 02 34.0	-0.1
HORT	Hortiatis	0.17	92	ePG	Pg	02 02 31.4	0.0
HORT				eSG	Sg	02 02 34.5	+0.4
HORT	Hortiatis	0.17	92	ePG	Pg	02 02 31.5	0.0
HORT				eSG	Sg	02 02 34.1	-0.1
HORT	Hortiatis	0.17	92	ePg	Pg	02 02 31.5	0.0
HORT				eSg	Sg	02 02 34.1	-0.1
SOH	Sokhos	0.43	59	P	Pg	02 02 36.1	0.0
SOH				S	Sg	02 02 42.3	+0.6
SOH	Sokhos	0.43	59	ePB	Pg	02 02 36.1	0.0
SOH	Sokhos	0.43	59	P	Pg	02 02 36.1	0.0
SOH				S	Sg	02 02 42.3	+0.6
PLG	Polygyros	0.49	118	P	Pg	02 02 37.2	-0.1
PLG				S	Sg	02 02 44.4	+0.5
PLG	Polygyros	0.49	118	ePG	Pg	02 02 37.2	-0.1
PLG				eSB	Sg	02 02 44.2	+0.3
PLG	Polygyros	0.49	118	ePg	Pg	02 02 37.2	-0.1
PLG				eSb	Sg	02 02 44.2	+0.3
GRG	Griva	0.50	315	P	Pg	02 02 37.2	-0.3
KNT	Kendrikon	0.56	2	P	Pg	02 02 38.6	0.0
KNT				S	Sg	02 02 46.1	+0.2
KNT	Kendrikon	0.56	2	ePG	Pg	02 02 38.3	-0.3
KNT				eSG	Sb	02 02 47.8	+0.1
KNT	Kendrikon	0.56	2	ePB	Pg	02 02 38.6	0.0
KNT	Kendrikon	0.56	2	ePb	Pg	02 02 38.6	0.0
KNT				S	Sg	02 02 46.1	+0.2
KNT				eSg	Sb	02 02 47.8	+0.1
LIT	Litokhoron	0.58	210	P	Pg	02 02 38.9	0.0
LIT				S	Sg	02 02 47.2	+0.6
LIT	Litokhoron	0.58	210	ePB	Pg	02 02 39.0	0.0
LIT	Litokhoron	0.58	210	ePb	Pg	02 02 39.0	0.0
LIT				S	Sg	02 02 47.2	+0.6
SRS	Serrai	0.75	47	P	Pg	02 02 41.7	-0.5
SRS				S	Sb	02 02 53.8	+0.7
SRS	Serrai	0.75	47	ePG	Pg	02 02 41.7	-0.5
SRS				eSB	Sb	02 02 53.2	+0.1
SRS	Serrai	0.75	47	P	Pg	02 02 41.7	-0.5
SRS				eSb	Sb	02 02 53.2	+0.1
SRS				S	Sb	02 02 53.8	+0.7
OUR	Ouranopolis	0.89	107	P	Pg	02 02 44.7	-0.1
OUR				S	Sg	02 02 56.6	+0.2
OUR	Ouranopolis	0.89	107	ePG	Pg	02 02 45.0	+0.2
OUR	Ouranopolis	0.89	107	ePB	Pg	02 02 44.8	-0.1
OUR				eSB	Sg	02 02 56.6	+0.2
OUR	Ouranopolis	0.89	107	P	Pg	02 02 44.7	-0.1
OUR	Ouranopolis	0.89	107	ePg	Pg	02 02 45.0	+0.2
OUR				S	Sg	02 02 56.6	+0.2
KZN	Kozani	0.89	251	P	Pg	02 02 44.2	-0.7
KZN				S	Sg	02 02 56.5	0.0
KZN	Kozani	0.89	251	ePG	Pg	02 02 44.5	-0.4
KZN				eSB	Sb	02 02 58.0	+0.7
KZN	Kozani	0.89	251	P	Pg	02 02 44.2	-0.7
KZN				S	Sg	02 02 56.5	0.0
KZN				eSb	Sb	02 02 58.0	+0.7
PAIG	Paliouri	0.92	137	P	Pg	02 02 44.6	-0.7
PAIG				S	Sb	02 02 58.2	+0.3
PAIG	Paliouri	0.92	137	ePG	Pg	02 02 44.4	-0.9
PAIG				eSB	Sb	02 02 58.1	+0.2
PAIG	Paliouri	0.92	137	P	Pg	02 02 44.6	-0.7
PAIG				eSb	Sb	02 02 58.1	+0.2
NVR	Nevrokopi	1.06	45	P	Pg	02 02 47.2	-0.8
NVR				S	Sg	02 03 02.2	+0.4
NVR	Nevrokopi	1.06	45	ePG	Pg	02 02 47.5	-0.5
NVR				eSB	Sg	02 03 02.0	+0.2
NVR	Nevrokopi	1.06	45	ePg	Pg	02 02 47.5	-0.5
NVR				eSb	Sg

PEL				*e*S	**Sb**	**02 42 17.3**	**-0.2**	
PEL				AML	AML	02 42 26.7		
	comp=N,6μm,0.8s							
LNCH	**Linares**	**1.92**	**161**	*e*P	**Pn**	**02 41 58.8**	**0.0**	
LNCH				*e*S	**Sn**	**02 42 23.4**	**0.0**	
YECH	**El Yeso**	**1.93**	**80**	*e*P	**Pb**	**02 42 00.0**	**-1.3**	
YECH				*e*S	**Sb**	**02 42 25.3**	**-0.5**	
YECH				AML	AML	02 42 30.7		
	comp=N,2μm,0.3s							
COCH	**Cobquecura**	**2.13**	**189**	*e*P	**Pn**	**02 42 01.4**	**-0.3**	
COCH				*e*S	**Sn**	**02 42 27.6**	**-0.8**	
CFAA	**Coronel Fontan**	**4.23**	**56**	Pn	**Pn**	**02 42 31.9**	**+1.4**	
	comp=N,0.4nm,0.3s,baz=226,slow=12,SNR=22							
CFAA				Lg	Lg	02 43 33.5		
	comp=N,1.7nm,0.3s,baz=21,slow=9.4,SNR=7.8							
CFAA				LR	LR	02 44 28.4		
	comp=N,37nm,18.9s,baz=234,slow=44							
PLCA	**Paso Flores**	**6.85**	**168**	Pn	**Pn**	**02 43 08.0**	**+1.4**	
	comp=N,0.6nm,0.3s,baz=342,slow=10,SNR=17							
PLCA				Lg	Lg	02 45 00.6		
	comp=N,0.4nm,0.3s,baz=78,slow=16,SNR=3.4							
PLCA				LR	LR	02 45 59.2		
	comp=N,377nm,19.6s,baz=345,slow=40							
LPAZ	**La Paz**	**18.07**	**13**	P	**P**	**02 45 38.2**	**-0.1**	
	comp=N,0.1nm,0.3s,baz=192,slow=8.3,SNR=11							
SIV	**San Ignacio**	**20.64**	**32**	P	**P**	**02 46 04.8**	**-1.1**	
	comp=N,1.5nm,0.5s,baz=222,slow=11,SNR=8.8							
BDFB	**Brasilia**	**28.57**	**56**	LR	LR	03 00 47.0		
	comp=N,96nm,19.8s,baz=246,slow=41							
SNAA	**Sanae**	**51.66**	**158**	P	**P**	**02 50 32.8**	**+0.1**	
	comp=N,1.0nm,0.9s,baz=278,slow=9.7,SNR=8.3							
QSPA	**South Pole Qui**	**56.21**	**180**	P	**P**	**02 51 07.6**	**+1.4**	
	comp=N,3.0nm,0.9s,baz=133,slow=2.9,SNR=4.4							
TXAR	**Lajitas Array**	**69.62**	**331**	P	**P**	**02 52 36.5**	**+0.8**	
	comp=N,0.4nm,0.6s,baz=153,slow=8.7,SNR=8.4							
TXAR				LR	LR	03 18 22.4		
	comp=N,25nm,18.9s,baz=0.0,slow=32							
ANMO	**Albuquerque**	**75.67**	**332**	LR	LR	03 22 01.7		
	comp=N,40nm,18.4s,baz=145,slow=32							
TORD	**Torodi Ar. Bea**	**84.47**	**70**	P	**P**	**02 53 59.1**	**-0.4**	
	comp=N,2.4nm,0.8s,baz=287,slow=7.2,SNR=24							
YKA	**Yellowknife Ar**	**101.99**	**341**	P	**Pdif**	**02 55 19.3**	**-0.4**	
	comp=N,0.1nm,0.6s,baz=150,slow=4.4,SNR=2.4							
WRA	**Warramunga Arr**	**120.61**	**209**	PKP	**PKPdf**	**03 00 18.2**	**-0.6**	
	comp=N,0.3nm,0.5s,baz=152,slow=1.8,SNR=8.7							
BRTR	**Keskin Array B**	**122.08**	**61**	PKP	**PKPdf**	**03 00 19.8**	**-1.4**	
	comp=N,0.7nm,0.9s,baz=116,slow=2.9,SNR=3.9							
AAK	**Ala-Archa**	**152.76**	**62**	PKPbc	**PKPbc**	**03 01 23.8**	**+0.4**	
	comp=N,1.6nm,0.6s,baz=187,slow=2.9,SNR=7.6							
KURBB	**Kurchatov Arra**	**153.07**	**43**	PKPbc	**PKPbc**	**03 01 23.5**	**0.0**	
	comp=N,1.5nm,0.6s,baz=302,slow=2.9,SNR=17							
KURBB				PKPab	**PKPab**	**03 01 34.4**	**-0.7**	
	comp=N,0.4nm,0.5s,baz=308,slow=3.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**154.39**	**32**	PKPbc	**PKPbc**	**03 01 26.0**	**-0.3**	
	comp=N,2.3nm,0.5s,baz=312,slow=4.1,SNR=14							
ZALV				PKPab	**PKPab**	**03 01 40.2**	**-0.2**	
	comp=N,0.4nm,0.5s,baz=302,slow=3.3,SNR=5.8							
MKAR	**Makanchi Array**	**156.98**	**49**	PKPab	**PKPab**	**03 01 51.3**	**-0.6**	
	comp=N,0.5nm,0.5s,baz=285,slow=2.9,SNR=6.7							
SONM	**Songino Array**	**166.17**	**3**	PKPab	**PKPab**	**03 02 31.8**	**-0.2**	
	comp=N,0.4nm,0.3s,baz=273,slow=2.7,SNR=6.5							

*ISCJB **15** 02:52:22.7±0.5,32°.14N±0°.02×115°.16W±0°.03,h10km±4km, Error ellipse: s-maj=4.8km s-min=3.4km az=6.6*
*MEX **15** 02:52:24.8±1.1,32°.24N×115°.03W,h21km±28km,MD3.5*
*NEIC **15** 02:52:25.1,32°.15N×115°.21W,h10km,MD3.4(MEX), ML3.2(PAS),ML3.3(ECX), After ECX.*
*ECX **15** 02:52:25.0±0.4,32°.15N×115°.21W,h7km,MD3.1,ML3.3*

ISC 15 02:52:22.6±0.9,32°.12N±0°.02×115°.18W±0°.02,h14km±6km, n27,σ1§24/50,4C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.14**	**201**	*e*P	**Pg**	**02 52 26.1**	**-0.1**
EMX				*e*S	**Sg**	**02 52 28.9**	**+0.2**
EMX				⇑*e*		02 52 30.0	
	comp=E,5μm,0.8s						
MBIG	**Mexicali**	**0.28**	**357**	*e*P	**Pg**	**02 52 28.7**	**+0.1**
MBIG				*e*S	**Sg**	**02 52 33.4**	**+0.8**
CPBX	**Cerro Prieto**	**0.31**	**341**	*e*P	**Pb**	**02 52 30.0**	**0.0**
CPBX				*e*S	**Sb**	**02 52 34.6**	**-0.4**
CPBX	**Cerro Prieto**	**0.31**	**341**	*e*P	**Pg**	**02 52 28.4**	**-0.6**
CPBX				*e*S	**Sg**	**02 52 33.2**	**-0.3**
ECBX	**El Chinero**	**0.66**	**170**	*e*P	**Pb**	**02 52 35.4**	**-0.5**
ECBX				*e*S	**Sb**	**02 52 45.1**	**+0.2**
ECBX				⇑*e*		02 52 46.1	
	comp=E,960nm,0.7s						
RDX	**Rancho Dawling**	**0.67**	**254**	*e*P	**Pb**	**02 52 36.6**	**+0.3**
RDX				*e*S	**Sb**	**02 52 46.1**	**+0.5**
RDX				⇓*e*		02 52 47.6	
	comp=N,1μm,0.4s						
SGL	**Mount Signal**	**0.70**	**319**	⇓*i*P	**Pb**	**02 52 36.7**	**+0.1**
YUH	**Yuha Desert**	**0.82**	**310**	*e*P	**Pg**	**02 52 38.6**	**+0.1**
RMX	**La Rumorosa**	**0.90**	**302**	*e*P	**Pb**	**02 52 39.9**	**-0.2**
RMX				*e*S	**Sg**	**02 52 52.1**	**+0.3**
RMX				⇑*e*		02 52 53.0	
	comp=N,749nm,0.1s						
RMX				*e*		02 52 54.1	
	comp=E,766nm,0.2s						
GLA	**Glamis**	**0.97**	**18**	*e*Pg	**Pb**	**02 52 40.4**	**-0.9**
GLA				*e*S	**Sb**	**02 52 53.8**	**-0.3**
SPIG	**San Pedro Mart**	**1.10**	**193**	*i* P	**Pg**	**02 52 44.5**	**+0.6**
SPIG				*i* S	**Sn**	**02 52 59.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.10**	**193**	*e*P	**Pg**	**02 52 44.7**	**+0.8**
SPIG				*e*S	**Sn**	**02 52 59.8**	**+0.6**
SPIG	**San Pedro Mart**	**1.10**	**193**	*e*P	Pb	02 52 39.8	-3.9
SPIG				*e*S	**Sb**	**02 52 55.9**	**-2.1**
SPX	**San Pedro Mart**	**1.10**	**193**	*e*P	**Pg**	**02 52 44.7**	**+0.8**
SPX				*e*S	**Sn**	**02 52 59.9**	**+0.7**
SPX				⇑*e*		02 53 02.0	
	comp=N,338nm,0.8s						
SPX	**San Pedro Mart**	**1.10**	**193**	*e*P	Pb	02 52 40.0	-3.6
SPX				*e*S	**Sb**	**02 52 53.5**	**-4.5**
ZAX	**El Zacaton**	**1.11**	**237**	*e*P	**Pg**	**02 52 44.2**	**+0.1**
ZAX				*e*S	**Sn**	**02 52 59.4**	**+0.4**
CBX	**Cerro Bola**	**1.27**	**279**	*e*P	**Pb**	**02 52 46.9**	**+0.4**
CBX				*e*S	**Sb**	**02 53 01.9**	**-0.8**
CBX	**Cerro Bola**	**1.27**	**279**	*i* PG	**Pb**	**02 52 46.9**	**+0.4**
CBX				*e*S	**Sb**	**02 53 03.3**	**+0.6**
CBX	**Cerro Bola**	**1.27**	**279**	*e*P	**Pn**	**02 52 43.9**	**-2.2**
CBX				*e*S	**Sb**	**02 53 01.2**	**-1.5**
ECNX	**Esteban Cantu**	**1.29**	**249**	*e*P	**Pb**	**02 52 47.1**	**+0.4**
ECNX				*e*S	**Sg**	**02 53 04.5**	**+0.2**
PBX	**Punta Banda**	**1.37**	**254**	*e*P	**Pb**	**02 52 48.2**	**+0.2**
PBX				*e*S	**Sb**	**02 53 06.5**	**+1.1**
BAR	**Barrett**	**1.38**	**294**	*e*Pn	**Pb**	**02 52 48.6**	**+0.4**
BAR				*e*S	**Sn**	**02 53 05.3**	**-0.3**
PFO	**Pinyon Flats O**	**1.83**	**324**	*e*Pn	**Pn**	**02 52 52.7**	**-1.1**
PFO				*e*S	**Sn**	**02 53 17.8**	**+0.9**
TUC	**Tucson**	**3.73**	**86**	*e*Pn	**Pn**	**02 53 22.3**	**+2.4**
TUC				*e*S	**Sg**	**02 54 20.2**	**-2.3**
SHPR	**Sheep Range**	**4.37**	**0**	*e*Pn	**Pn**	**02 53 30.4**	**+1.6**
SHPR				*e*S	**Sb**	**02 54 30.7**	**-1.4**
WUAZ	**Wupatki**	**4.64**	**42**	*e*Pn	**Pn**	**02 53 35.1**	**+2.7**
WUAZ				*e*S	**Sg**	**02 54 49.2**	**-2.3**
121A	**Cookes Peak, D**	**6.27**	**84**	*e*Pn	**Pn**	**02 53 54.9**	**0.0**
	comp=N,4.4nm,0.3s						
121A				*e*S	**Sb**	**02 55 27.7**	**+0.9**

*IDC **15** 03:01:23.2±4.1,8°.14S×107°.85E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/22,mbtmp3.5/3, Error ellipse: s-maj=127.0km s-min=13.6km az=68.0*
*ISCJB **15** 03:01:24.6±0.8,8°.06S±0°.06×107°.28E±0°.04,h62km, mb3.4/3,Error ellipse: s-maj=9.3km s-min=5.3km az=25.8*
*DJA **15** 03:01:25.2±0.7,8°.S±4°×10°.7E±°,h30km±6km,M3.7/14, MLv3.7/14*

ISC 15 03:01:25.8±1.1,8°.04S±0°.09×107°.28E±0°.05,h62km,n13, σ1§06/21,mb3.1/3,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.71**	**48**	P	**Pn**	**03 01 39.5**	**-0.9**
CISI				S	**Sn**	**03 01 49.6**	**-1.4**
CNJI	**Cibinong**	**0.74**	**348**	P	**Pn**	**03 01 39.9**	**-0.7**
CNJI				S	**Sn**	**03 01 50.1**	**-1.4**
CMJI	**Cimerak**	**1.18**	**78**	P	**Pn**	**03 01 45.7**	**-0.6**
CMJI				S	**Sn**	**03 01 59.8**	**-1.8**
LEM	**Lembang**	**1.25**	**15**	P	**Pn**	**03 01 47.3**	**0.0**
LEM				S	**Sn**	**03 02 03.8**	**+0.4**
LEM	**Lembang**	**1.25**	**15**	Pg	**Pn**	**03 01 48.4**	**+1.1**
	46nm,0.3s,baz=157,slow=15,SNR=11						
LEM				Lg	Lg	03 02 06.1	
	56nm,0.3s,baz=351,slow=4.6,SNR=7.6						
SKJI	**Sukabumi**	**1.25**	**325**	P	**Pn**	**03 01 46.9**	**-0.3**
SKJI				S	**Sn**	**03 02 03.3**	**0.0**
KPJI	**Karang Pucung**	**1.78**	**67**	P	**Pn**	**03 01 54.0**	**-0.2**
KPJI				S	**Sn**	**03 02 16.0**	**+0.2**
TNG	**Tangerang**	**1.96**	**341**	P	**Pn**	**03 01 57.1**	**+0.4**
TNG				P	**Pn**	**03 01 56.8**	**+0.1**
CGJI	**Cibinong**	**2.12**	**312**	P	**Pn**	**03 01 58.4**	**-0.5**
CGJI				S	**Sn**	**03 02 21.6**	**-2.5**
SBJI	**Serang**	**2.22**	**329**	P	**Pn**	**03 02 01.3**	**+1.0**
WRA	**Warramunga Arr**	**28.74**	**117**	P	**P**	**03 07 17.4**	**-0.3**
	0.3nm,0.6s,baz=292,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**29.87**	**124**	P	**P**	**03 07 28.4**	**+0.8**
	0.1nm,0.3s,baz=294,slow=8.5,SNR=3.2						
STKA	**Stephens Creek**	**39.74**	**131**	P	**P**	**03 08 53.8**	**+1.2**
	1.7nm,0.6s,baz=314,slow=8.1,SNR=7.0						

DHMR 15 03:11:30.2±1.2,11°.98N×43°.60E,h10km±28km,ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.01**	**10**	*i* P	Pn	03 12 05.3	+0.9
UDYN				*i* S	Sb	03 12 32.8	+0.4
DHBB	**Dhamar BB**	**2.69**	**17**	*i* P	Pb	03 12 17.3	-1.6
DHBB				*i* S	Sb	03 12 53.2	+0.9
BDHA	**Al Bayda'**	**2.76**	**44**	*i* P	Pn	03 12 17.1	+2.2
BDHA				*i* S	Sb	03 12 54.5	+0.3
BDHA				AML	AML	03 13 03.5	
	comp=E,378nm,0.5s						

GUC 15 03:24:28.6±0.6,34°.70S×71°.65W,h55km±7km,ML3.6,2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.46**	**131**	⇑*e*P	Pn	03 24 40.7	+1.0
NICH				*e*S	Sn	03 24 49.2	+1.5
TALC	**Talca**	**0.69**	**179**	⇑*e*P	Pn	03 24 43.3	+0.8
TALC				*e*S	Sn	03 24 54.2	+1.6
RCDM	**Rinconada Maip**	**1.40**	**30**	*e*P	Pn	03 24 53.2	+1.3
RCDM				*e*S	Sn	03 25 11.5	+2.2
CLCH	**Cerro Calan**	**1.60**	**36**	*e*P	Pn	03 24 56.5	+1.9
CLCH				*e*P	Pn	03 24 56.6	+2.0
CLCH				*e*S	Sn	03 25 17.4	+3.2
CLCH				*e*S	Sn	03 25 18.1	+3.9
CLCH				AML	AML	03 25 23.2	
	comp=E,1μm,0.7s						
COCH	**Cobquecura**	**1.70**	**213**	*e*P	Pn	03 24 57.5	+1.6
COCH				*e*S	Sn	03 25 19.3	+2.7
PEL	**Peldehue**	**1.75**	**27**	*e*P	Pn	03 24 58.3	+1.6
PEL				*e*S	Sn	03 25 20.7	+2.8
PEL				AML	AML	03 25 28.7	
	comp=N,1μm,0.4s						

*IDC **15** 03:32:04.0±0.9,26°.56N×66°.17E,h0km,mb3.8/15, mb1 3.9/16,mb1mx3.7/30,mbtmp3.8/16,ML3.8/1,MS2.9/8, Ms1 3.0/8,ms1mx2.7/48,Error ellipse: s-maj=21.7km s-min=18.1km az=173.0*
*ISCJB **15** 03:32:07.4±0.6,26°.66N±0°.08×66°.27E±0°.07,h33km, mb3.7/15,MS2.9/6,Error ellipse: s-maj=11.7km s-min=8.6km az=12.9*

ISC 15 03:32:09.7±0.8,26°.7N±0°.1×66°.30E±0°.08,h35km,n30, σ1§45/28,mb3.6/15,MS2.8/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**7.66**	**37**	P	**Pn**	**03 34 00.2**	**+1.3**
CEP	**Cherat**	**8.56**	**33**	P	**Pn**	**03 34 12.8**	**+1.5**
NDI	**New Delhi**	**9.86**	**76**	*e*P	Pn	03 34 35.0	+6.0
NDI				*e*S	**Sn**	**03 36 17.0**	**-1.5**
GEYT	**Alibeck**	**13.12**	**330**	LR	LR	03 40 56.1	
	comp=Z,114nm,18.0s,baz=165,slow=40						
PYUN	**Piuthan**	**14.88**	**81**	*e*P	**Pn**	**03 35 35.7**	**-2.1**
	75nm,0.6s						
KOLN	**Koldanda**	**15.42**	**82**	*e*P	**Pn**	**03 35 43.5**	**-1.4**
	9.5nm,0.4s						
DANN	**Dangsing**	**15.57**	**80**	*e*P	**Pn**	**03 35 44.3**	**-2.6**
	29nm,0.8s						
AAK	**Ala-Archa**	**17.21**	**21**	P	**P**	**03 36 08.3**	**-0.5**
	0.3nm,0.3s,baz=203,slow=13,SNR=3.2						
AAK				S	**Sn**	**03 39 14.2**	**-3.6**
	0.1nm,0.3s,baz=342,slow=20,SNR=2.8						
AAK				LR	LR	03 43 37.9	
	comp=Z,26nm,21.8s,baz=206,slow=40						
GUN	**Gumba**	**17.44**	**82**	*e*P	**Pn**	**03 36 09.6**	**-1.0**
	40nm,0.9s						
JIRN	**Jiri**	**17.72**	**83**	*e*P	**Pn**	**03 36 14.1**	**0.0**
	24nm,0.6s						
RAMN	**Ramite**	**18.11**	**85**	*e*P	**P**	**03 36 19.1**	**+0.1**
	13nm,0.6s						
ODAN	**Odare**	**18.82**	**85**	*e*P	**Pn**	**03 36 28.9**	**+1.4**
TAPN	**Taplejung**	**19.08**	**83**	*e*P	**Pn**	**03 36 31.6**	**+1.0**
	17nm,0.9s						
MKAR	**Makanchi Array**	**23.67**	**28**	P	**P**	**03 37 19.6**	**+1.5**
	4.2nm,0.7s,baz=213,slow=9.1,SNR=42						
MKAR				LR	LR	03 48 27.2	
	comp=Z,30nm,18.8s,baz=213,slow=41						
KURBB	**Kurchatov Arra**	**25.62**	**18**	P	**P**	**03 37 37.0**	**+1.3**
	1.9nm,0.7s,baz=212,slow=9.0,SNR=17						
BVAR	**Borovoye Array**	**26.43**	**6**	P	**P**	**03 37 44.1**	**+1.0**
	1.0nm,0.6s,baz=163,slow=11,SNR=6.3						
ZALV	**Zalesovo Beam**	**30.43**	**22**	P	**P**	**03 38 19.4**	**+0.8**
	1.9nm,0.7s,baz=214,slow=10,SNR=8.9						
ZALV				LR	LR	03 52 43.3	
	comp=Z,21nm,19.0s,baz=74,slow=40						
CMAR	**Chiang Mai Arr**	**31.17**	**98**	P	**P**	**03 38 26.5**	**+0.9**
	0.3nm,0.4s,baz=302,slow=10,SNR=4.7						
CMAR				LR	LR	03 52 59.7	
	comp=Z,17nm,19.0s,baz=210,slow=40						
IDI	**Anoyia**	**36.29**	**294**	LR	LR	03 56 58.5	
	comp=Z,21nm,21.3s,baz=68,slow=41						
SONM	**Songino Array**	**37.66**	**45**	P	**P**	**03 39 23.6**	**+2.1**
	0.7nm,0.9s,baz=233,slow=8.6,SNR=5.0						
FINES	**FINESS Array B**	**43.90**	**333**	P	**P**	**03 40 12.2**	**-0.4**
	0.6nm,0.5s,baz=134,slow=8.2,SNR=6.8						
GERES	**GERESS Array B**	**45.99**	**313**	P	**P**	**03 40 29.0**	**-0.6**
	0.2nm,0.3s,baz=76,slow=5.6,SNR=4.5						
ARCES	**ARCESS Array B**	**48.92**	**342**	P	**P**	**03 40 52.4**	**+0.4**
	1.6nm,0.8s,baz=123,slow=6.6,SNR=4.5						
ARCES				LR	LR	04 04 40.1	
	comp=Z,17nm,18.1s,baz=138,slow=40						
NOA	**NORSAR Array B**	**50.20**	**329**	LR	LR	04 04 10.1	
	comp=Z,14nm,20.3s,baz=50,slow=38						
KSRS	**Korea Array**	**52.46**	**62**	P	**P**	**03 41 20.1**	**+1.0**
	1.0nm,0.6s,baz=282,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**61.66**	**271**	P	**P**	**03 42 23.9**	**-0.7**
	3.0nm,0.9s,baz=60,slow=5.8,SNR=18						
DBIC	**Dimbokro**	**70.22**	**268**	P	**P**	**03 43 19.1**	**-0.5**
	4.7nm,1.0s,baz=91,slow=4.0,SNR=3.2						
WRA	**Warramunga Arr**	**80.62**	**118**	P	**P**	**03 44 18.2**	**-1.0**
	0.3nm,0.9s,baz=309,slow=4.4,SNR=2.9						
ASAR	**Alice Springs**	**82.31**	**121**	P	**P**	**03 44 27.0**	**-1.1**
	0.1nm,0.3s,baz=285,slow=3.6,SNR=3.2						
YKA	**Yellowknife Ar**	**91.07**	**0**	P	**P**	**03 45 09.8**	**-0.5**
	0.1nm,0.5s,baz=349,slow=4.6,SNR=4.1						

*ISCJB **15** 04:00:06.4±0.3,32°.94N±0°.03×96°.84E±0°.04,h10km, mb4.2/34,MS3.3/13,Error ellipse: s-maj=4.8km s-min=4.2km az=27.8*
*IDC **15** 04:00:06.1±0.6,32°.91N×96°.84E,h0km,mb3.9/19, mb1 4.1/22,mb1mx4.0/53,mbtmp4.0/22,ML3.8/3,MS3.4/14, Ms1 3.4/14,ms1mx3.1/42,Error ellipse: s-maj=23.3km s-min=12.3km az=49.0*
*NEIC **15** 04:00:07.9±0.5,33°.02N×96°.95E,h10km,mb4.6/15,Error ellipse: s-maj=11.6km s-min=10.0km az=51.0*
*BJI **15** 04:00:08.2,33°.00N×96°.98E,h10km,mB4.2/3,mb4.2/4, ML4.0/15,Ms3.9/9,Ms7 3.8/18*
*MOS **15** 04:00:09.7±1.8,32°.96N×96°.92E,h33km,mb4.3/21,Error ellipse: s-maj=10.6km s-min=6.3km az=117.2*

ISC 15 04:00:07.9±0.3,32°.99N±0°.04×97°.01E±0°.04,h10km,n128, σ1§81/113,mb4.2/34,MS3.3/13,4C-2D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.99**	**238**	Pn	**Pn**	**04 01 39.3**	**+2.3**
LSA	**Lhasa**	**5.99**	**238**	*e*P	**Pn**	**04 01 39.6**	**+2.6**
LSA				*e*S	**Sn**	**04 02 48.4**	**+2.5**
LSA				pmax	pmax		
	comp=Z,26nm,0.6s						
LSA	**Lhasa**	**5.99**	**238**	*e*Pn	**Pn**	**04 01 39.6**	**+2.6**
	comp=Z,26nm,0.6s						
LSA				*e*S	**Sn**	**04 02 48.4**	**+2.5**
CD2	**Chengdu**	**6.10**	**108**	Pn	**Pn**	**04 01 38.0**	**-0.2**
CD2				Pg	Pb	04 01 59.6	+5.3
CD2				Sn	Sn	04 02 42.9	-5.1
CD2				Sg	**Sg**	**04 03 20.3**	**-3.4**
CD2				SMN			
	comp=Z,260nm,1.3s						
CD2				SME			
	comp=Z,190nm,1.2s						
CD2				LZ			
	comp=Z,2μm,5.9s						
LZH	**Lanzhou**	**6.43**	**59**	Pn	Pn	04 01 46.8	+3.9
LZH				Sg	**Sg**	**04 03 32.4**	**-2.0**
LZH				SMN			
	comp=Z,120nm,1.1s						
LZH				SME			
	comp=Z,130nm,1.2s						
LZH				LZ			
	comp=Z,2μm,7.3s						
GTA	**Gaotai**	**6.80**	**19**	*e*Pn	Pn	04 01 51.6	+3.7
GTA				Sn	Sn	04 03 11.8	+6.3
GTA				LZ			
	comp=Z,290nm,8.8s						
IMP	**Imphal**	**8.60**	**199**	*e*P	**Pn**	**04 02 15.0**	**+2.4**
IMP				*e*S	**Sn**	**04 03 47.0**	**-2.8**
SHL	**Shillong**	**8.64**	**212**	*e*P	Pn	04 02 05.5	-7.7
SHL				*e*x	x	04 03 42.5	
SHL				*e*S	**Sg**	**04 04 46.0**	**+0.7**
KMI	**Kunming**	**9.30**	**146**	P	**Pn**	**04 02 23.9**	**+1.6**
KMI				pP		04 02 28.4	
KMI				S	**Sn**	**04 04 03.0**	**-4.1**
KMI				PMZ			
	comp=Z,15nm,1.0s						
KMI				LE			
	comp=Z,420nm,6.8s						
KMI				LZ			
	comp=Z,620nm,9.7s						
TAPN	**Taplejung**	**9.81**	**238**	*e*P	**Pn**	**04 02 29.3**	**-0.1**
	comp=Z,18nm,0.3s						
XAN	**Xi'an**	**10.00**	**81**	P	**Pn**	**04 02 34.0**	**+2.3**
XAN				PMZ			
	comp=Z,3.0nm,1.1s						
ODAN	**Odare**	**10.34**	**236**	*e*P	**Pn**	**04 02 36.8**	**+0.3**
	comp=Z,113nm,0.7s						
JIRN	**Jiri**	**10.75**	**243**	*e*P	**Pn**	**04 02 41.9**	**-0.4**
	comp=Z,29nm,0.6s						
RAMN	**Ramite**	**10.84**	**239**	*e*P	**Pn**	**04 02 43.1**	**-0.4**
	comp=Z,28nm,0.5s						
GUN	**Gumba**	**10.85**	**245**	*e*P	**Pn**	**04 02 43.1**	**-0.6**
	comp=Z,57nm,0.6s						
KKN	**Kakani**	**11.37**	**246**	*e*P	**Pn**	**04 02 49.8**	**-0.9**
	comp=Z,20nm,0.4s						
PKI	**Pulchoki**	**11.38**	**245**	*e*P	**Pn**	**04 02 50.1**	**-0.8**
	comp=Z,55nm,0.5s						
PKIN	**Phulchoki**	**11.39**	**245**	*e*P	**Pn**	**04 02 50.5**	**-0.5**
	comp=Z,49nm,0.6s						
GKN	**Gorkha**	**11.77**	**248**	*e*P	**Pn**	**04 02 54.9**	**-1.1**
	comp=Z,28nm,0.4s						
DANN	**Dangsing**	**12.30**	**251**	*e*P	**Pn**	**04 03 01.2**	**-2.3**
	comp=Z,35nm,0.5s						
KOLN	**Koldanda**	**12.69**	**249**	*e*P	**Pn**	**04 03 06.0**	**-2.7**
	comp=Z,22nm,0.7s						
PYUN	**Piuthan**	**13.03**	**252**	*e*P	**Pn**	**04 03 10.9**	**-2.4**
	comp=Z,101nm,0.6s						
WMQ	**Urumqi**	**13.04**	**329**	*e*P	**Pn**	**04 03 14.0**	**+0.7**
WMQ				sP		04 03 20.3	
WMQ				PP	**PnPn**	**04 03 25.6**	**+4.4**
WMQ				*e*S	**Sn**	**04 05 39.5**	**+1.0**
WMQ				LZ			
	comp=Z,260nm,9.6s						
CMAI	**Chiengmai2**	**13.13**	**172**	P	**P**	**04 03 22.8**	**-2.1**
	comp=Z,5.8nm,1.2s						
CMMT	**Chiang Mai**	**14.22**	**173**	P	**Pn**	**04 03 31.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**14.57**	**173**	Pn	**Pn**	**04 03 34.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=51						
CMAR				LR	LR	04 08 36.6	
	comp=Z,46nm,19.0s,baz=342,slow=35						
LAMP	**Lampang**	**14.59**	**170**	P	**P**	**04 03 42.2**	**+1.2**
	comp=Z,52nm,0.7s,comp=Z,193nm						
MHMT	**Maesariang**	**14.77**	**177**	P	P	04 03 52.4	+9.4
SONM	**Songino Array**	**16.45**	**23**	Pn	**Pn**	**04 03 58.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=15						
ULN	**Ulaanbaatar**	**16.69**	**24**	*ce*P	**P**	**04 04 05.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**16.69**	**24**	*e*Pn	**P**	**04 04 04.3**	**0.0**
	comp=Z,7.7nm

BVAR				LR	LR	04 17 09.2	
	comp=Z,48nm,19.9s,baz=123,slow=37						
JNU	**Nakatsue**	**28.32**	**80**	LR	LR	04 17 07.0	
	comp=Z,57nm,19.7s,baz=271,slow=36						
PSI	**Prapat**	**30.08**	**176**	LR	LR	04 20 04.0	
	comp=Z,146nm,18.2s,baz=322,slow=40						
ABKAR	**Akbulak array**	**31.92**	**312**	*eP*	**P**	**04 06 34.2**	**+0.6**
	comp=Z,31nm,1.3s						
AKTO	**Aktyubinsk**	**33.46**	**313**	P	**P**	**04 06 45.6**	**-1.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTO				MLR	MLR		
	comp=Z,45nm,21.3s						
AKTO	**Aktyubinsk**	**33.46**	**313**	P	**P**	**04 06 45.6**	**-1.4**
	comp=Z,2.6nm,0.9s,baz=104,slow=10,SNR=10.0						
AKTO				LR	LR	04 20 57.7	
	comp=Z,45nm,21.3s,baz=138,slow=38						
ARU	**Arti**	**35.29**	**323**	*d iP*	P	04 07 05.6	+2.8
ARU						04 08 16.3	
ARU				S	**S**	**04 12 35.7**	**-0.8**
ARU				SS	**SnSn**	**04 14 46.7**	**-7.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
JCJ	**Chichijima**	**39.31**	**86**	LR	LR	04 22 38.0	
	comp=Z,105nm,20.7s,baz=126,slow=34						
GNI	**Garni**	**42.08**	**295**	LR	LR	04 27 31.3	
	comp=Z,22nm,20.9s,baz=102,slow=39						
KIV	**Kislovodsk**	**43.22**	**301**	*eP*	**P**	**04 08 10.4**	**+1.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,28nm,16.0s						
OBN	**Obninsk**	**47.02**	**317**	LR	LR	04 29 01.3	
	comp=Z,30nm,19.6s,baz=92,slow=37						
BRTR	**Keskin Array B**	**50.55**	**297**	*ceP*	**P**	**04 09 08.0**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**50.55**	**297**	P	**P**	**04 09 05.2**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=95,slow=7.6,SNR=3.8						
AKASG	**Malin Array Be**	**51.67**	**311**	*ceP*	P	04 09 17.6	+2.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**51.67**	**311**	P	**P**	**04 09 14.0**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=74,slow=6.4,SNR=8.5						
AKASG				LR	LR	04 33 41.1	
	comp=Z,41nm,18.5s,baz=60,slow=39						
KIEV	**Kiev**	**51.68**	**311**	*i P*	**P**	**04 09 15.8**	**+0.9**
BILL	**Bilibino**	**52.12**	**26**	*i P*	**P**	**04 09 19.7**	**+1.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**52.62**	**325**	P	**P**	**04 09 21.0**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**52.62**	**325**	P	**P**	**04 09 21.0**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=106,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	**53.06**	**335**	P	**P**	**04 09 25.8**	**+0.9**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**53.06**	**335**	P	**P**	**04 09 25.8**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=58,slow=8.6,SNR=3.7						
KWP	**Kalwaria Pacla**	**55.98**	**311**	*eP*	**P**	**04 09 48.0**	**+1.6**
KWP				pmax	pmax		
	comp=Z,18nm,1.2s						
KWP	**Kalwaria Pacla**	**55.98**	**311**	*eP*	**P**	**04 09 48.0**	**+1.6**
	comp=Z,18nm,1.2s						
NB2	**NORSAR Subarra**	**59.78**	**326**	P	**P**	**04 10 11.4**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=75,slow=6.9						
NOA	**NORSAR Array B**	**59.78**	**326**	P	**P**	**04 10 12.1**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,21nm,20.3s						
NOA	**NORSAR Array B**	**59.78**	**326**	P	**P**	**04 10 12.1**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=76,slow=7.0,SNR=8.4						
NOA				LR	LR	04 36 29.6	
	comp=Z,21nm,20.3s,baz=105,slow=36						
DPC	**Dobruska-Polom**	**59.79**	**313**	*eP*	P	04 10 16.5	+3.3
DPC	**Dobruska-Polom**	**59.79**	**313**	*eP*	P	04 10 16.5	+3.3
DPC				*ep*	pP	04 10 18.6	+2.2
UPC	**Upice**	**59.94**	**313**	*eP*	P	04 10 17.8	+3.7
UPC	**Upice**	**59.94**	**313**	*eP*	P	04 10 17.8	+3.7
UPC				*ep*	pP	04 10 20.1	+2.7
GERES	**GERESS Array B**	**61.87**	**312**	P	**P**	**04 10 27.7**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**61.87**	**312**	P	**P**	**04 10 27.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=88,slow=7.1,SNR=4.5						
WRAB	**Tennant Creek**	**63.57**	**140**	*ceP*	P	04 10 48.4	+9.5
WRAB				pmax	pmax		
	comp=Z,20nm,1.2s						
WRA	**Warramunga Arr**	**63.58**	**140**	P	**P**	**04 10 38.6**	**-0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**63.58**	**140**	P	**P**	**04 10 38.6**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=335,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**66.42**	**143**	P	**P**	**04 10 57.1**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**66.42**	**143**	P	**P**	**04 10 57.0**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=328,slow=6.8,SNR=31						
PGF	**Pioggiola**	**67.25**	**307**	*eP*	**P**	**04 11 00.0**	**-2.8**
PGF	**Pioggiola**	**67.25**	**307**	*eP*	**P**	**04 11 00.0**	**-2.8**
PGF	**Pioggiola**	**67.25**	**307**	*eP*	**P**	**04 11 00.0**	**-2.8**
LPG	**La Plagne**	**67.51**	**310**	*eP*	**P**	**04 11 03.0**	**-1.6**
	comp=Z,13nm,1.0s						
LPG	**La Plagne**	**67.51**	**310**	*eP*	**P**	**04 11 03.0**	**-1.6**
LPG				pmax	pmax		
	comp=Z,13nm,1.0s						
LPG	**La Plagne**	**67.51**	**310**	*eP*	**P**	**04 11 03.0**	**-1.6**
	comp=Z,13nm,1.0s						
LPL	**La Plagne**	**67.52**	**310**	*eP*	**P**	**04 11 02.7**	**-1.8**
	comp=Z,5.3nm,0.7s						
LPL	**La Plagne**	**67.52**	**310**	*eP*	**P**	**04 11 02.7**	**-1.8**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPL	**La Plagne**	**67.52**	**310**	*eP*	**P**	**04 11 02.7**	**-1.8**
	comp=Z,5.3nm,0.7s						
MBDF	**Montbardon**	**67.82**	**310**	*eP*	P	04 11 03.1	-3.3
MBDF	**Montbardon**	**67.82**	**310**	*eP*	P	04 11 03.1	-3.3
MBDF	**Montbardon**	**67.82**	**310**	*eP*	P	04 11 03.1	-3.3
ORIF	**Oris-en-Rattie**	**68.31**	**310**	*eP*	**P**	**04 11 06.6**	**-2.8**
	comp=Z,3.4nm,0.6s						
ORIF	**Oris-en-Rattie**	**68.31**	**310**	*eP*	**P**	**04 11 06.6**	**-2.8**
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**68.31**	**310**	*eP*	**P**	**04 11 06.6**	**-2.8**
	comp=Z,3.4nm,0.6s						
VIVF	**Saint-Julien-l**	**69.11**	**310**	*eP*	**P**	**04 11 12.0**	**-2.3**
	comp=Z,6.2nm,0.8s						
VIVF	**Saint-Julien-l**	**69.11**	**310**	*eP*	**P**	**04 11 12.0**	**-2.3**
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VIVF	**Saint-Julien-l**	**69.11**	**310**	*eP*	**P**	**04 11 12.0**	**-2.3**
	comp=Z,6.2nm,0.8s						
PPLA	**Purkeypile**	**69.82**	**27**	*eP*	P	04 11 21.8	+3.3
	comp=Z,10.0nm,0.9s						
ILAR	**Eielson Array**	**70.67**	**24**	P	**P**	**04 11 25.3**	**+1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**70.67**	**24**	P	**P**	**04 11 25.3**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=284,slow=5.4,SNR=4.8						
PMR	**Palmer**	**71.74**	**27**	*eP*	**P**	**04 11 29.1**	**-0.8**
PMR				pmax	pmax		
	comp=Z,21nm,1.6s						
PMR	**Palmer**	**71.74**	**27**	*eP*	**P**	**04 11 29.1**	**-0.8**
	comp=Z,21nm,1.6s						
INK	**Inuvik**	**72.28**	**18**	P	**P**	**04 11 34.5**	**+1.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**72.28**	**18**	P	**P**	**04 11 34.5**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=323,slow=6.2,SNR=8.0						
KDAK	**Kodiak Island**	**72.51**	**32**	*i P*	P	04 11 39.2	+4.6
STKA	**Stephens Creek**	**77.03**	**142**	P	**P**	**04 12 00.8**	**-0.3**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**77.03**	**142**	P	**P**	**04 12 00.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=331,slow=10,SNR=2.8						
YKA	**Yellowknife Ar**	**81.51**	**14**	P	**P**	**04 12 25.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**81.51**	**14**	P	**P**	**04 12 25.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=326,slow=4.8,SNR=17						
TORD	**Torodi Ar. Bea**	**87.33**	**284**	P	**P**	**04 12 55.7**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=62,slow=3.7,SNR=6.4						
TORD				LR	LR	04 54 53.5	
	comp=Z,33nm,18.4s,baz=190,slow=38						

ISCJB ***15*** *04:01:41.8±0.4, 11°.06S±0°.04×115°.29E±0°.04, h33km, mb4.1/14, Error ellipse: s-maj=6.4km s-min=3.9km az=39.6*
NEIC ***15*** *04:01:44.2±2.6, 10°.85S×115°.49E, h30km±19km, mb4.1/4, Error ellipse: s-maj=16.2km s-min=5.8km az=54.0*
IDC ***15*** *04:01:45.1±0.7, 10°.83S×115°.49E, h36km±4km, mb3.8/13, mb1 3.9/13, mb1mx3.7/44, mbtmp4.0/13, Error ellipse: s-maj=35.4km s-min=11.6km az=55.0*
DJA ***15*** *04:01:45.1±0.4, 11°.5S±5°×11°.5E±°, h128km±10km, M4.4/25, mb4.4/7, mB4.7/1, MLv4.3/25, Mw(mB)3.9/1*

ISC 15 04:01:44.4±0.6, 11°.01S±0°.06×115°.27E±0°.05, h35km, n35, σ0°.75/33, pP-P, n41, σ1°.03/64, mb4.1/14, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.19**	**357**	P		P	**Pn**	**04 02 18.6**	**+0.3**
IGBI				S		S	**Sn**	**04 02 44.6**	**+0.5**
DNP	**Denpasar**	**2.32**	**359**	P		P	**Pn**	**04 02 20.6**	**+0.4**
DNP				S		S	**Sn**	**04 02 48.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.76**	**336**	P		P	**Pn**	**04 02 25.0**	**-1.2**
JAGI				S		S	**Sn**	**04 02 58.6**	**+0.3**
JAGI	**Jajag, Banyuwa**	**2.76**	**336**	*e*	P	P	**Pn**	**04 02 25.5**	**-0.7**
JAGI				*e*	S	S	**Sn**	**04 02 58.4**	**+0.1**
TWSI	**Taliwang, Sumb**	**2.76**	**35**	P		P	**Pn**	**04 02 26.4**	**+0.2**
SRBI	**Singaraja**	**2.91**	**359**	P		P	**Pn**	**04 02 28.1**	**-0.2**
SRBI				S		S	**Sn**	**04 03 03.6**	**+1.6**
ABJI	**Asem Bagus**	**3.36**	**342**	P		P	**Pn**	**04 02 34.9**	**+0.5**
BLJI	**Banyuglugur**	**3.64**	**333**	P		P	**Pn**	**04 02 38.2**	**-0.1**
BLJI				S		S	**Sn**	**04 03 20.5**	**+0.4**
KMMI	**Kalianget**	**4.14**	**342**	P		P	**Pn**	**04 02 45.4**	**+0.2**
KMMI				S		S	**Sn**	**04 03 31.9**	**-0.6**
WBSI	**Waikabubak, Su**	**4.28**	**72**	P		P	**Pn**	**04 02 44.9**	**-2.2**
WBSI				S		S	**Sn**	**04 03 33.1**	**-2.8**
PWJI	**Pagerwojo**	**4.53**	**311**	P		P	**Pn**	**04 02 49.7**	**-0.8**
PWJI				S		S	**Sn**	**04 03 38.7**	**-3.3**
PCJI	**Pacitan**	**4.91**	**304**	P		P	**Pn**	**04 02 56.1**	**+0.3**
GRJI	**Gresik**	**4.92**	**326**	P		P	**Pn**	**04 02 55.6**	**-0.3**
GRJI				S		S	**Sn**	**04 03 51.5**	**-0.1**
WSI	**Waingapu**	**5.12**	**75**	P		P	**Pn**	**04 02 58.1**	**-0.6**
BASI	**Baing, Sumba**	**5.28**	**82**	P		P	**Pn**	**04 03 00.3**	**-0.5**
	116nm,1.1s,0.6nm								
BASI				S		S	**Sn**	**04 03 59.6**	**-0.9**
	116nm,1.1s,0.6nm								
WOJI	**Wonogiri, Jawa**	**5.32**	**306**	P		P	**Pn**	**04 03 01.4**	**-0.1**
	35nm,1.5s,0.4nm								
UGM	**Wanagama**	**5.61**	**303**	P		P	**Pn**	**04 03 05.2**	**-0.2**
	94nm,2.2s,0.6nm								
BWJI	**Bawean**	**5.74**	**333**	P		P	**Pn**	**04 03 06.9**	**-0.3**
	27nm,1.5s,0.2nm								
KPJI	**Karang Pucung**	**7.25**	**300**	P		P	**Pn**	**04 03 27.8**	**-0.1**
KPJI				S		S	**Sn**	**04 04 47.7**	**-1.3**
BKSI	**Bulukumba**	**7.42**	**41**	P		P	**Pn**	**04 03 31.5**	**+1.3**
BKSI				S		S	**Sn**	**04 04 50.4**	**-2.8**
WRA	**Warramunga Arr**	**20.39**	**118**	P		P	**P**	**04 06 17.9**	**-0.6**
	1.1nm,0.4s,baz=292,slow=10,SNR=25								
WRAB	**Tennant Creek**	**20.40**	**118**	*eP*		**P**		**04 06 17.9**	**-0.6**
	1.2nm,0.3s								
ASAR	**Alice Springs**	**21.75**	**128**	P		P		**04 06 32.8**	**-0.4**
	1.2nm,0.7s,baz=298,slow=10,SNR=13								
ASAR				*p*	P	**pP**		**04 06 44.0**	**+1.6**
	1.8nm,0.6s,baz=302,slow=9.8,SNR=9.9								
NWAO	**Narrogin (SRO)**	**21.89**	**176**	P		P		**04 06 36.1**	**+1.7**
	2.2nm,0.4s,baz=4.3,slow=14,SNR=3.8								
STKA	**Stephens Creek**	**31.96**	**135**	P		P		**04 08 06.8**	**-0.3**
	1.1nm,0.4s,baz=314,slow=7.8,SNR=8.0								
STKA				*p*	P	**pP**		**04 08 18.5**	**+1.2**
	2.5nm,0.5s,baz=321,slow=12,SNR=5.0								
STKA	**Stephens Creek**	**31.96**	**135**	*eP*		**P**		**04 08 07.0**	**-0.2**
	0.3nm,0.5s								
STKA				*p*	P	**pP**		**04 08 18.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**33.42**	**331**	P		P		**04 08 20.8**	**+0.7**
	0.9nm,0.6s,baz=164,slow=8.2,SNR=6.0								
MJAR	**Matsushiro Arr**	**52.00**	**23**	P		P		**04 10 48.3**	**-2.1**
	0.9nm,0.3s,baz=203,slow=8.0,SNR=4.9								
SONM	**Songino Array**	**59.12**	**353**	P		P		**04 11 41.1**	**-0.4**
	0.6nm,0.7s,baz=173,slow=7.0,SNR=5.3								
SONM				*p*	P	**pP**		**04 12 29.4**	**-0.5**
	0.2nm,0.5s,baz=186,slow=4.1,SNR=2.6								
MK31	**Makanchi Array**	**64.66**	**336**	*eP*		**P**		**04 12 18.8**	**+0.1**
MKAR	**Makanchi Array**	**64.66**	**336**	P		P		**04 12 19.1**	**+0.5**
	2.8nm,0.5s,baz=147,slow=7.2,SNR=48								
MKAR				*p*	P	**pP**		**04 12 29.7**	**+0.3**
	0.8nm,0.5s,baz=145,slow=7.3,SNR=5.5								
TKM2	**Tokmak 2**	**64.77**	**329**	*eP*		**P**		**04 12 20.1**	**+0.4**
	2.6nm,0.6s								
AAK	**Ala-Archa**	**65.13**	**328**	P		P		**04 12 22.9**	**+0.9**
	3.0nm,0.7s,baz=138,slow=6.4,SNR=10								
AAK				*p*	P	**pP**		**04 12 33.9**	**+1.1**
	2.8nm,0.7s,baz=114,slow=1.9,SNR=5.4								
EKS2	**Erkin-Say**	**65.52**	**328**	*eP*		**P**		**04 12 25.5**	**+1.0**
	3.8nm,0.8s								
KURBB	**Kurchatov Arra**	**69.22**	**336**	P		P		**04 12 47.7**	**+0.2**
	1.8nm,0.6s,baz=150,slow=5.3,SNR=19								
KURBB				*p*	P	**pP**		**04 12 58.5**	**+0.2**
	2.2nm,0.7s,baz=151,slow=5.4,SNR=9.3								
KURK	**Kurchatov**	**69.25**	**336**	P		P		**04 12 47.7**	**0.0**
KURK				*p*	P	**pP**		**04 12 58.5**	**0.0**
ZALV	**Zalesovo Beam**	**69.68**	**341**	P		P		**04 12 49.2**	**-1.1**
	2.6nm,0.5s,baz=155,slow=4.7,SNR=15								
ZALV				*p*	P	**pP**		**04 13 00.2**	**-0.9**
	1.6nm,0.5s,baz=159,slow=3.9,SNR=4.6								
BVAR	**Borovoye Array**	**74.40**	**334**	P		P		**04 13 18.8**	**+0.2**
	0.6nm,0.5s,baz=159,slow=4.3,SNR=3.6								
BVAR				*p*	P	**pP**		**04 13 29.7**	**+0.2**
	1.0nm,0.6s,baz=138,slow=9.1,SNR=4.3								
SEY	**Seymchan**	**79.08**	**16**	P		P		**04 13 44.7**	**-0.1**
	0.9nm,0.4s,baz=180,slow=18,SNR=4.2								
TORD	**Torodi Ar. Bea**	**115.18**	**279**	PKP		**PKPdf**		**04 20 23.4**	**+0.4**
	0.6nm,1.1s,baz=116,slow=3.1,SNR=2.7								
YKA	**Yellowknife Ar**	**117.51**	**24**	PKP		**PKPdf**		**04 20 26.4**	**+0.2**
	0.1nm,0.5s,baz=306,slow=2.5,SNR=3.7								

IDC 15 04:09:20.4±5.8, 20°.49S×176°.65W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.8/30, mbtmp4.5/3, Error ellipse: s-maj=171.8km s-min=93.1km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.94**	**244**	P		P	P	04 16 48.0	-0.3
	3.8nm,0.5s,baz=84,slow=9.2,SNR=10.0								
ASAR	**Alice Springs**	**45.75**	**257**	P		P	P	04 17 43.8	-0.3
	4.3nm,0.6s,baz=94,slow=8.0,SNR=43								
WRA	**Warramunga Arr**	**45.86**	**262**	P		P	P	04 17 45.0	+0.1
	1.6nm,0.2s,baz=96,slow=8.4,SNR=165								
NOA	**NORSAR Array B**	**139.11**	**354**	PKP		PKPdf	PKPdf	04 28 48.4	-0.5
	0.3nm,0.7s,baz=64,slow=1.4,SNR=3.4								

ISCJB ***15*** *04:10:02.8±0.7, 25°.17N±0°.06×37°.74E±0°.06, h10km, Error ellipse: s-maj=10.0km s-min=4.4km az=40.2*
SGS ***15*** *04:10:03.1, 25°.20N×37°.79E, h7km*
CSEM ***15*** *04:10:04.1±0.3, 25°.13N×37°.75E, h15km, ML4.0, Error ellipse: s-maj=9.6km s-min=4.3km az=45.0*
HLW ***15*** *04:10:06.8, 25°.15N×37°.68E, h30km±9km, Md3.1*

ISC 15 04:10:03.4±1.1, 25°.12N±0°.06×37°.76E±0°.05, h10km, n28, σ0°.75/33, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.42**	**285**	P		P	**Pg**	**04 10 12.0**	**+0.3**
UMJS				S		S	**Sg**	**04 10 18.0**	**+0.7**
UMJS	**Umm Lajj**	**0.42**	**285**	S		S	**Sg**	**04 10 17.9**	**+0.5**
UMJS	**Umm Lajj**	**0.42**	**285**	P		P	**Pg**	**04 10 11.9**	**+0.1**
YNBS	**Yanbu' al Bahr**	**0.81**	**165**	P		P	**Pb**	**04 10 20.0**	**-0.4**
YNBS				S		S	**Sb**	**04 10 31.0**	**+0.4**
YNBS	**Yanbu' al Bahr**	**0.81**	**165**	P		P	**Pb**	**04 10 19.7**	**+0.1**
YOBS		**1.17**	**130**	P		P	**Pg**	**04 10 26.0**	**0.0**
YOBS				S		S	**Sb**	**04 10 41.0**	**-0.1**
YOBS		**1.17**	**130**	P		P	**Pn**	**04 10 25.9**	**-0.1**
HAGS	**Hagol**	**2.63**	**254**	P		P	**Pn**	**04 10 46.0**	**0.0**
	baz=254								
EMRS	**Mersa Alam**	**2.65**	**268**	P		P	**Pn**	**04 10 45.8**	**-0.5**
EMRS	**Mersa Alam**	**2.65**	**268**	P		P	**Pn**	**04 10 45.8**	**-0.5**
	baz=268								
HADB		**2.85**	**275**	P		P	**Pn**	**04 10 48.3**	**-0.7**
HADB		**2.85**	**275**	P		P	**Pn**	**04 10 48.3**	**-0.7**
	baz=275								
HSHL	**Bi'r Shalatayn**	**2.95**	**228**	P		P	**Pn**	**04 10 50.7**	**+0.4**
HSHL				S		S	**Sn**	**04 11 24.2**	**-1.6**
HSHL	**Bi'r Shalatayn**	**2.95**	**228**	P		P	**Pn**	**04 10 50.7**	**+0.4**
	baz=227								
HSHL				S		S	**Sn**	**04 11 24.2**	**-1.6**
	baz=227								
HQSR		**3.12**	**282**	P		P	**Pn**	**04 10 52.3**	**-0.3**
HQSR		**3.12**	**282**	P		P	**Pn**	**04 10 52.3**	**-0.3**
	baz=283								
HSFG		**3.74**	**293**	P		P	**Pn**	**04 11 01.0**	**-0.2**
HSFG		**3.74**	**293**	P		P	**Pn**	**04 11 01.0**	**-0.2**
	baz=294								
HEDF	**Idfu**	**4.15**	**271**	P		P	**Pn**	**04 11 08.5**	**+1.6**
HEDF	**Idfu**	**4.15**	**271**	P		P	**Pn**	**04 11 08.5**	**+1.6**
	baz=271								
HHRG	**Al Ghardaqah**	**4.31**	**300**	P		P	**Pn**	**04 11 07.8**	**-1.2**
HHRG	**Al Ghardaqah**	**4.31**	**300**	P		P	**Pn**	**04 11 07.8**	**-1.2**
	baz=299								
TR1		**4.46**	**311**	P		P	**Pn**	**04 11 11.2**	**0.0**
TR1		**4.46**	**311**	P		P	**Pn**	**04 11 11.2**	**0.0**
	baz=312								
HKAT	**Jabal Katrina**	**4.78**	**316**	P		P	**Pn**	**04 11 16.0**	**+0.3**
HKAT	**Jabal Katrina**	**4.78**	**316**	P		P	**Pn**	**04 11 16.0**	**+0.3**
	baz=317								
TR2		**4.86**	**313**	P		P	**Pn**	**04 11 17.0**	**+0.4**
TR2		**4.86**	**313**	P		P	**Pn**	**04 11 17.0**	**+0.4**
	baz=314								

ISCJB ***15*** *04:16:54.1±1.0, 52°.7N±0°.2×30°.8W±0°.2, h10km, mb3.5/9, MS3.0/2, Error ellipse: s-maj=27.6km s-min=15.7km az=8.1*
IDC ***15*** *04:16:54.9±1.1, 52°.73N×30°.76W, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.4/45, mbtmp3.6/9, MS3.1/2, Ms1 3.1/2, ms1mx2.4/40, Error ellipse: s-maj=33.9km s-min=19.8km az=8.0*

ISC 15 04:16:56.2±1.1, 52°.7N±0°.2×30°.9W±0°.1, h10km, n12, σ1°.53/11, mb3.7/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.48**	**70**	Pn		**P**		**04 20 52.4**	**+2.5**
	baz=268,slow=8.9,SNR=8.6								
SCHQ	**Schefferville**	**21.23**	**290**	P		**P**		**04 21 40.9**	**-1.1**
	1.5nm,0.8s,baz=67,slow=7.3,SNR=6.7								
VRAC	**Vranov**	**29.65**	**77**	LR		LR		04 34 04.1	
	comp=Z,20nm,18.6s,baz=68,slow=35								
ARCES	**ARCESS Array B**	**30.58**	**35**	P		**P**		**04 23 07.9**	**-1.8**
	1.9nm,0.8s,baz=274,slow=7.1,SNR=3.5								
FINES	**FINESS Array B**	**31.24**	**51**	P		**P**		**04 23 14.4**	**-1.0**
	1.1nm,0.8s,baz=272,slow=13,SNR=4.4								
YKA	**Yellowknife Ar**	**42.84**	**317**	P		**P**		**04 24 54.6**	**+0.7**
	0.1nm,0.8s,baz=64,slow=8.4,SNR=4.0								
YKA				PcP		**PcP**		**04 26 46.1**	**+1.4**
	0.2nm,0.7s,baz=56,slow=3.6,SNR=4.7								
BRTR	**Keskin Array B**	**45.02**	**80**	P		**P**		**04 25 13.1**	**+1.1**
	1.7nm,0.7s,baz=306,slow=5.7,SNR=12								
TORD	**Torodi Ar. Bea**	**47.21**	**134**	P		**P**		**04 25 28.0**	**-1.2**
	0.2nm,1.0s,baz=328,slow=7.6,SNR=5.3								
PCRV	**Puerto La Cruz**	**50.37**	**225**	LR		LR		04 44 06.3	
	comp=Z,29nm,19.7s,slow=32								
PDAR	**Pinedale Array**	**51.34**	**292**	P		**P**		**04 26 01.8**	**+0.9**
	0.4nm,0.5s,baz=68,slow=9.8,SNR=4.0								
MKAR	**Makanchi Array**	**65.70**	**44**	P		**P**		**04 27 39.8**	**-0.8**
	0.6nm,0.7s,baz=329,slow=5.9,SNR=8.5								
SONM	**Songino Array**	**73.48**	**28**	P		**P**		**04 28 28.0**	**-0.7**
	0.4nm,0.9s,baz=324,slow=7.1,SNR=3.9								

IDC 15 04:23:32.3±2.2, 12°.71N×58°.10E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/37, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=75.3km s-min=31.6km az=59.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**22.85**	**145**	T		T		04 52 13.4	
	baz=325,slow=75,SNR=12								
H08N3	**Diego Garcia H

WHF				*e*S		**Sn**	**05 09 27.2**	**+0.2**
	baz=234							
TWT	**Tachien**	**1.58**	**237**	*e*P		**Pn**	**05 09 02.6**	**+0.6**
	baz=236							
TWT				*e*S		**Sn**	**05 09 27.1**	**+0.5**
	baz=236							
JIJ	**Ishigaki jima**	**1.58**	**119**	P		**Pn**	**05 09 02.1**	**+0.2**
JIJ				S		**Sn**	**05 09 25.3**	**-1.1**
JISG	**Ishigakijimahi**	**1.63**	**109**	P		**Pn**	**05 09 02.2**	**-0.2**
JISG				S		**Sn**	**05 09 27.0**	**-0.2**
ESL	**Shilin**	**1.70**	**220**	P		**Pn**	**05 09 02.3**	**-0.9**
	baz=229							
ESL				*e*S		**Sn**	**05 09 27.3**	**-1.3**
	baz=229							
WDT	**Danda**	**1.93**	**225**	*e*P		**Pn**	**05 09 06.0**	**+0.1**
	baz=224							
WDT				*e*S		**Sn**	**05 09 33.9**	**+0.4**
	baz=224							
JTJ	**Tarama**	**1.96**	**104**	P		**Pn**	**05 09 06.2**	**+0.3**
JTJ				S		**Sn**	**05 09 33.3**	**-0.1**
SMLT	**Sun Moon Lake**	**2.00**	**232**	*e*P		**Pn**	**05 09 07.1**	**+0.5**
	baz=242							
SMLT				*e*S		**Sn**	**05 09 36.2**	**+1.7**
	baz=242							
EHY	**Hungye**	**2.01**	**216**	*e*P		**Pn**	**05 09 05.9**	**-0.6**
	baz=219							
EHY				*e*S		**Sn**	**05 09 34.5**	**-0.1**
	baz=219							
TYC	**Yuchr**	**2.02**	**233**	*e*P		**Pn**	**05 09 06.6**	**0.0**
	baz=235							
TYC				*e*S		**Sn**	**05 09 34.1**	**-0.6**
	baz=235							
TWF1	**Yuli**	**2.15**	**214**	P		**Pn**	**05 09 07.2**	**-0.9**
	baz=223							
TWF1				*e*S		**Sn**	**05 09 38.1**	**+0.7**
	baz=223							
ALS	**Alishan**	**2.31**	**226**	*e*P		**Pn**	**05 09 11.5**	**+1.2**
	baz=223							
ALS				*e*S		**Sn**	**05 09 41.9**	**+0.6**
	baz=223							
JIRB	**Irabujima**	**2.34**	**97**	P		**Pn**	**05 09 10.5**	**+0.2**
JIRB				S		**Sn**	**05 09 40.6**	**-0.6**
CHN5	**Tsauling**	**2.34**	**230**	*e*P		**Pn**	**05 09 10.8**	**+0.3**
	baz=232							
CHN5				*e*S		**Sn**	**05 09 41.0**	**-0.5**
	baz=232							
JIKM	**Ikemajima**	**2.40**	**94**	S		**Sn**	**05 09 42.4**	**0.0**
ELDTW	**Lidau**	**2.43**	**217**	*e*P		**Sn**	**05 09 10.9**	**-0.6**
	baz=217							
JMJ	**Miyako jima 2**	**2.45**	**97**	S		**Sn**	**05 09 43.4**	**-0.2**
JOGS	**Gusukube**	**2.56**	**98**	S		**Sn**	**05 09 45.8**	**-0.1**
CHN4	**Tsaushan**	**2.56**	**227**	*e*P		**Pn**	**05 09 13.2**	**+0.2**
	baz=235							
CHN4				*e*S		**Sn**	**05 09 45.9**	**-0.2**
	baz=235							
WTP	**Ta-pu**	**2.62**	**225**	*e*P		**Pn**	**05 09 13.5**	**-0.2**
	baz=235							

ISCJB ***15*** *05:14:27.8±0.6,32.°10N±0.°03×115.°04W±0.°04, h20km±6km, Error ellipse: s-maj=5.9km s-min=4.9km az=12.3*
NEIC ***15*** *05:14:27.9, 32.°04N×115.°09W, h7km, MD3.5(MEX), ML3.2(PAS), After PAS.*
ECX ***15*** *05:14:29.5±0.5, 32.°09N×115.°10W, h10km, MD3.0, ML3.3*
MEX ***15*** *05:14:31.0±0.7, 32.°17N×115.°14W, h17km±109km, MD3.5*

ISC 15 05:14:27.9±1.0, 32.°11N±0.°03×115.°09W±0.°04, h25km±10km, n23, σ1§30/38, 7C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.31**	**343**	*e*P	**Pb**	**05 14 35.5**	**+0.4**
MBIG				*e*S	**Sb**	**05 14 39.8**	**-0.2**
CPBX	**Cerro Prieto**	**0.36**	**329**	⇑*e*P	**Pb**	**05 14 36.6**	**+0.8**
CPBX				*e*S	**Sb**	**05 14 41.6**	**+0.3**
CPBX				⇓*e*		05 14 48.2	
CPBX				AML	AML	05 14 48.2	
	comp=E,8μm,0.4s						
CPBX	**Cerro Prieto**	**0.36**	**329**	*e*P	**Pb**	**05 14 35.8**	**0.0**
CPBX				*e*S	**Sb**	**05 14 38.8**	**-2.4**
YMD	**Yuma Desert**	**0.64**	**46**	⇑*i*P	**Pb**	**05 14 40.7**	**+0.2**
RDX	**Rancho Dawling**	**0.75**	**256**	*e*P	**Pb**	**05 14 42.5**	**+0.1**
RDX				*e*S	**Sb**	**05 14 52.7**	**+0.4**
RDX				AML	AML	05 14 55.0	
	comp=N,881nm,0.5s						
RDX				⇑*e*		05 14 55.0	
SGL	**Mount Signal**	**0.76**	**315**	⇑*i*P	**Pb**	**05 14 42.6**	**+0.1**
YUH	**Yuha Desert**	**0.89**	**307**	*e*P	**Pb**	**05 14 44.5**	**-0.1**
RMX	**La Rumorosa**	**0.97**	**301**	*e*P	**Pb**	**05 14 46.5**	**+0.3**
RMX				*e*S	**Sn**	**05 14 60.0**	**+0.8**
RMX				⇑*e*		05 15 01.6	
RMX				AML	AML	05 15 01.6	
	comp=N,866nm,0.1s						
SPIG	**San Pedro Mart**	**1.11**	**197**	*e*P	**Pb**	**05 14 49.1**	**+0.5**
SPIG				*i* S	**Sn**	**05 15 03.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.11**	**197**	*e*P	**Pb**	**05 14 48.7**	**+0.1**
SPIG				*e*S	**Sn**	**05 15 03.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.11**	**197**	*e*P	**Pn**	**05 14 48.3**	**+0.1**
SPIG				*e*S	**Sb**	**05 15 01.0**	**-1.7**
SPX	**San Pedro Mart**	**1.11**	**197**	*e*P	**Pb**	**05 14 48.9**	**+0.3**
SPX				⇑*e*		05 15 06.1	
SPX				AML	AML	05 15 06.1	
	comp=N,457nm,0.4s						
SPX	**San Pedro Mart**	**1.11**	**197**	*e*P	**Pn**	**05 14 48.3**	**+0.1**
SPX				*e*S	**Sb**	**05 15 00.8**	**-2.0**
ZAX	**El Zacaton**	**1.17**	**240**	*e*P	**Pn**	**05 14 49.3**	**+0.6**
ZAX				*e*S	**Sn**	**05 15 05.3**	**+1.3**
CBX	**Cerro Bola**	**1.35**	**279**	*e*P	**Pn**	**05 14 51.6**	**+0.4**
CBX				*i* S	**Sn**	**05 15 05.5**	**-3.0**
CBX	**Cerro Bola**	**1.35**	**279**	*e*P	**Pn**	**05 14 52.5**	**+1.2**
CBX				*e*S	**Sb**	**05 15 10.5**	**+1.0**
CBX				⇑*e*		05 15 14.2	
CBX	**Cerro Bola**	**1.35**	**279**	*e*P	**Pn**	**05 14 51.5**	**+0.2**
CBX				*e*S	**Sn**	**05 15 03.7**	**-4.7**
ECNX	**Esteban Cantu**	**1.36**	**251**	*e*P	**Pb**	**05 14 52.7**	**-0.1**
ECNX				*e*S	**Sb**	**05 15 10.9**	**+1.1**
PBX	**Punta Banda**	**1.44**	**256**	*e*P	**Pn**	**05 14 53.6**	**+1.2**
PBX				*e*S	**Sb**	**05 15 12.7**	**+0.7**
BAR	**Barrett**	**1.46**	**293**	*e*Pn	**Pn**	**05 14 53.6**	**+1.0**
PFO	**Pinyon Flats O**	**1.89**	**323**	*e*Pn	**Pn**	**05 14 59.1**	**+0.4**
214A	**Organ Pipe Nat**	**1.94**	**94**	*e*Pn	**Pn**	**05 14 59.6**	**+0.3**
TUC	**Tucson**	**3.65**	**86**	Pn	**Pn**	**05 15 23.9**	**+1.0**

GUC 15 05:17:08.9±0.6, 34.°98S×72.°94W, h23km±6km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.16**	**174**	*e*P	Pn	05 17 29.3	-0.4
COCH				*e*S	Sb	05 17 44.8	0.0
LNCH	**Linares**	**1.40**	**129**	*e*P	Pn	05 17 33.0	0.0
LNCH				*e*S	Sb	05 17 51.4	-0.3
CHCH	**Chadas Angostu**	**2.16**	**62**	*e*P	Pb	05 17 45.7	-1.7
CLCH	**Cerro Calan**	**2.54**	**52**	*e*P	Pn	05 17 50.6	+1.6
CLCH				*e*S	Sb	05 18 22.6	-2.3
CLCH				AML	AML	05 18 33.3	
	comp=N,223nm,0.6s						
PEL	**Peldehue**	**2.62**	**46**	*e*P	Pn	05 17 51.8	+1.8
PEL				*e*S	Sb	05 18 25.1	-2.0
PEL				AML	AML	05 18 36.6	
	comp=N,304nm,0.5s						

ISCJB ***15*** *05:32:32.6±0.8, 36.°53N±0.°05×71.°2E±0.°1, h188km, Error ellipse: s-maj=12.7km s-min=5.5km az=157.3*
NNC ***15*** *05:32:39.3±3.0, 36.°89N×70.°98E, h162km±24km, mb2.7, mpv3.6, Error ellipse: s-maj=26.4km s-min=12.4km az=166.0*

ISC 15 05:32:32.6±1.2, 36.°51N±0.°08×71.°07E±0.°09, h188km, n13, σ2§53/19, 4C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.90**	**323**	⇓P	**Pn**	**05 33 21.4**	**+0.9**
	9.9nm,0.3s						
DZET				⇓S	Sn	05 33 55.7	-2.3
	109nm,0.4s						
SFK	**Sufi-Kurgan**	**3.99**	**28**	⇑P	**Pn**	**05 33 35.6**	**+1.7**
	13nm,0.4s						
SFK				⇓S	**Sn**	**05 34 21.1**	**-1.1**
	7.2nm,0.2s						
MNAS	**Manas**	**6.07**	**10**	⇓P	**Pn**	**05 34 02.6**	**+1.9**
	3.1nm,0.4s						
MNAS				⇓S	**Sn**	**05 35 07.3**	**-3.0**
	6.5nm,0.5s						
KK31	**Karatay Array**	**6.60**	**356**	P	**Pn**	**05 34 09.6**	**+2.2**
	1.1nm,0.3s,baz=181,slow=13,SNR=44						
KK31				⇓S	**Sn**	**05 35 20.8**	**-1.7**
	4.4nm,0.4s,baz=183,slow=22,SNR=5.1						
AAK	**Ala-Archa**	**6.67**	**22**	P	**Pn**	**05 34 10.5**	**+2.1**
	1.7nm,0.5s						
AAK				⇑S	**Sn**	**05 35 22.2**	**-2.0**
	7.1nm,0.5s						
PYUN	**Piuthan**	**13.11**	**126**	*e*P	**Pn**	**05 35 29.9**	**-2.1**
	13nm,0.3s						
DANN	**Dangsing**	**13.45**	**124**	*e*P	**Pn**	**05 35 34.7**	**-1.7**
	6.4nm,0.4s						
GKN	**Gorkha**	**14.26**	**123**	*e*P	**Pn**	**05 35 45.7**	**-0.7**
	8.6nm,0.5s						
PKI	**Pulchoki**	**15.06**	**122**	*e*P	**Pn**	**05 35 55.8**	**-0.6**
AB31	**Akbulak array**	**15.10**	**331**	⇓P	**P**	**05 36 01.1**	**+3.9**
	0.4nm,0.3s,baz=158,slow=12,SNR=4.2						
AB31				⇓S	**S**	**05 38 39.2**	**-5.8**
	1.4nm,0.6s,baz=166,slow=22,SNR=7.3						
JIRN	**Jiri**	**15.54**	**120**	*e*P	**P**	**05 36 02.1**	**-0.5**
	14nm,0.3s						
AKTO	**Aktyubinsk**	**16.80**	**330**	⇑P	Pn	05 36 24.6	+7.8
	4.4nm,0.9s						
AKTO				⇑S	**S**	**05 39 23.5**	**+2.1**
	1.7nm,0.7s						
TAPN	**Taplejung**	**16.80**	**118**	*e*P	**Pn**	**05 36 18.8**	**+1.4**
	4.5nm,0.3s						

IDC ***15*** *05:35:34.3±2.9, 8.°62S×114.°90E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, Error ellipse: s-maj=151.7km s-min=27.1km az=50.0*
DJA ***15*** *05:35:50.7±0.6, 9.°5S±8.°×11.°5E±.°, h172km±6km, M3.8/6, MLv3.8/6*
ISCJB ***15*** *05:35:54.0±0.8, 8.°7S±0.°1×115.°1E±0.°1, h150km, mb3.5/3, Error ellipse: s-maj=19.8km s-min=12.5km az=29.7*

ISC 15 05:35:53.4±1.0, 8.°6S±0.°1×115.°2E±0.°1, h150km, n12, σ2§18/15, mb3.4/3, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.05**	**147**	P	**Pn**	**05 36 14.2**	**+0.7**
DNP				S	**Sn**	**05 36 33.5**	**+4.7**
IGBI	**Denpasar**	**0.19**	**191**	P	**Pn**	**05 36 14.7**	**+1.1**
IGBI				S	**Sn**	**05 36 31.8**	**+2.7**
SRBI	**Singaraja**	**0.55**	**3**	P	**Pn**	**05 36 15.8**	**+0.8**
SRBI				S	**Sn**	**05 36 34.3**	**+2.9**
ABJI	**Asem Bagus**	**1.25**	**312**	P	**Pn**	**05 36 21.3**	**+0.8**
BLJI	**Banyuglugur**	**1.80**	**299**	P	**Pn**	**05 36 26.9**	**+0.7**
KMMI	**Kalianget**	**1.98**	**323**	P	**Pn**	**05 36 28.9**	**+0.6**
PWJI	**Pagerwojo**	**3.40**	**280**	P	**Pn**	**05 36 45.9**	**+0.1**
BWJI	**Bawean**	**3.73**	**318**	P	**Pn**	**05 36 49.5**	**-0.6**
PCJI	**Pacitan**	**3.98**	**276**	P	**Pn**	**05 36 53.5**	**0.0**
WRA	**Warramunga Arr**	**21.68**	**123**	P	**P**	**05 40 29.4**	**-3.1**
	0.6nm,0.5s,baz=297,slow=12,SNR=21						
ASAR	**Alice Springs**	**23.34**	**132**	P	**P**	**05 40 46.7**	**-1.7**
	0.7nm,0.5s,baz=309,slow=8.7,SNR=9.1						
ZALV	**Zalesovo Beam**	**67.42**	**341**	P	**P**	**05 46 30.9**	**-1.6**
	0.8nm,0.6s,baz=165,slow=6.0,SNR=4.7						

MAN 15 05:36:15, 9.°41N×126.°14E, h1km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.67**	**230**	*e*P	Pb	05 36 29.1	-0.4
BUTP				*e*S	Sn	05 36 46.4	+3.6
SCPH	**Surigao**	**0.74**	**300**	*e*P	Pb	05 36 30.5	-0.2
SCPH				*e*S	Sn	05 36 45.0	+0.4
BIPH	**Bislig**	**1.23**	**170**	⇑*i*P	Pn	05 36 49.9	+10
BIPH				*i* S	Sn	05 37 00.9	+4.2
BUKP	**Musuan**	**1.85**	**215**	*e*P	Pn	05 36 48.3	+0.3
BUKP				*e*S	Sg	05 37 14.3	-0.4
PAGZ	**Pagadian**	**3.13**	**241**	*e*P	Pn	05 37 07.7	+2.1

IDC 15 06:11:33.1±1.2, 16.°88N×146.°69E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/31, mbtmp3.5/4, Error ellipse: s-maj=48.9km s-min=25.6km az=122.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.13**	**82**	T	T	06 36 49.9	
	baz=267,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**19.14**	**82**	T	T	06 36 53.2	
	baz=267,slow=75,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**19.14**	**82**	T	T	06 36 50.4	
	baz=267,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**19.39**	**79**	T	T	06 37 02.9	
	baz=264,slow=74,SNR=32						
H11N2	**WAKE ISLAND Hy**	**19.40**	**78**	T	T	06 37 03.4	
	baz=264,slow=74,SNR=27						
H11N3	**WAKE ISLAND Hy**	**19.41**	**79**	T	T	06 37 04.3	
	baz=264,slow=74,SNR=40						
WRA	**Warramunga Arr**	**38.55**	**199**	P	P	06 18 57.9	+0.2
	0.4nm,0.7s,baz=27,slow=8.6,SNR=12						
CMAR	**Chiang Mai Arr**	**45.42**	**279**	P	P	06 19 53.3	-0.8
	0.9nm,0.6s,baz=75,slow=7.4,SNR=5.8						
ILAR	**Eielson Array**	**64.86**	**26**	P	P	06 22 14.1	+0.2
	0.3nm,0.4s,baz=257,slow=5.8,SNR=7.6						
YKA	**Yellowknife Ar**	**79.15**	**28**	P	P	06 23 39.6	+0.1
	0.2nm,0.6s,baz=286,slow=4.9,SNR=5.3						

MEX ***15*** *06:19:53.7±1.3, 32.°95N×115.°79W, h16km±31km, MD3.7*
ISCJB ***15*** *06:19:55.1±0.5, 32.°64N±0.°03×115.°79W±0.°03, h14km±6km, Error ellipse: s-maj=5.9km s-min=4.6km az=151.7*
ECX ***15*** *06:19:56.2±0.5, 32.°61N×115.°78W, h2km, MD3.4, ML3.6*
NEIC ***15*** *06:19:56.0, 32.°62N×115.°79W, h2km, MD3.7(MEX), ML3.3(ECX), ML3.5(PAS), After ECX.*

ISC 15 06:19:55.1±0.9, 32.°56N±0.°02×115.°79W±0.°02, h13km±7km, n30, σ1§18/46, 10C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.11**	**33**	⇑*i*P	**Pg**	**06 19 57.3**	**-1.0**
YUH	**Yuha Desert**	**0.14**	**309**	⇑*i*P	**Pg**	**06 19 58.7**	**0.0**
RMX	**La Rumorosa**	**0.24**	**281**	⇑*e*P	**Pb**	**06 20 01.1**	**-0.4**
RMX				*e*S	**Sg**	**06 20 04.8**	**+0.8**
RMX				AML	AML	06 20 05.1	
	comp=N,13μm,0.2s						
RMX				⇓*e*		06 20 05.1	
COK	**Cook Ranch**	**0.30**	**11**	⇑*e*P	**Pg**	**06 20 00.9**	**-0.3**
CRR	**Carrizo Plain**	**0.36**	**336**	⇓*e*P	**Pg**	**06 20 02.1**	**-0.3**
CPBX	**Cerro Prieto**	**0.44**	**109**	⇑*e*P	**Pg**	**06 20 04.3**	**+0.5**
CPBX				*e*S	**Sb**	**06 20 11.0**	**0.0**
CPBX				⇓*e*		06 20 15.1	
CPBX				AML	AML	06 20 15.1	
	comp=E,17μm,0.3s						
CPBX	**Cerro Prieto**	**0.44**	**109**	*e*P	**Pg**	**06 20 04.2**	**+0.5**
CPBX				*e*S	**Sb**	**06 20 11.2**	**+0.2**
MBIG	**Mexicali**	**0.53**	**106**	*i* P	**Pb**	**06 20 06.2**	**+0.1**
MBIG				*i* S	**Sb**	**06 20 15.2**	**+1.6**
RDX	**Rancho Dawling**	**0.64**	**191**	⇑*e*P	**Pb**	**06 20 08.5**	**+0.3**
RDX				*e*S	**Sb**	**06 20 18.2**	**+1.2**
RDX	**Rancho Dawling**	**0.64**	**191**	*e*P	**Pb**	**06 20 08.5**	**+0.3**
COA	**Coachella**	**0.64**	**62**	⇑*e*P	**Pg**	**06 20 07.2**	**-0.4**
EMX	**El Mayor**	**0.74**	**140**	*e*P	**Pg**	**06 20 08.6**	**-0.8**
EMX				*e*S	**Sg**	**06 20 19.1**	**0.0**
CBX	**Cerro Bola**	**0.78**	**252**	*e*P	**Pg**	**06 20 09.5**	**-0.6**
CBX				*e*S	**Sg**	**06 20 19.9**	**-0.4**
CBX	**Cerro Bola**	**0.78**	**252**	⇑*e*P	**Pb**	**06 20 11.1**	**+0.6**
CBX				*e*S	**Sb**	**06 20 21.7**	**+0.8**
CBX	**Cerro Bola**	**0.78**	**252**	*e*P	**Pg**	**06 20 09.5**	**-0.6**
CBX				*e*S	**Sg**	**06 20 19.1**	**-1.2**
ZAX	**El Zacaton**	**1.12**	**201**	*e*P	**Pg**	**06 20 17.1**	**+0.5**
ZAX				*e*S	**Sn**	**06 20 32.9**	**+1.2**
ECNX	**Esteban Cantu**	**1.13**	**217**	*e*P	**Pg**	**06 20 17.2**	**+0.4**
PBX	**Punta Banda**	**1.13**	**224**	⇑*e*P	**Pg**	**06 20 17.4**	**+0.5**
PBX	**Punta Banda**	**1.13**	**224**	*e*P	**Pg**	**06 20 17.4**	**+0.5**
PFO	**Pinyon Flats O**	**1.19**	**332**	*e*Pg	**Pn**	**06 20 15.8**	**-1.6**
PFO				*e*Sg	**Sb**	**06 20 30.5**	**-2.3**
ECBX	**El Chinero**	**1.25**	**150**	⇓*e*P	**Pn**	**06 20 18.3**	**+0.1**
ECBX				*e*S	**Sg**	**06 20 35.7**	**+0.2**
ECBX				AML	AML	06 20 37.5	
	comp=N,674nm,0.4s						
ECBX				⇑*e*		06 20 37.5	
SPIG	**San Pedro Mart**	**1.53**	**169**	*i* P	**Pn**	**06 20 22.5**	**+0.2**
SPIG				*i* S	**Sg**	**06 20 45.9**	**+1.3**
SPIG	**San Pedro Mart**	**1.53**	**169**	*e*P	**Pb**	**06 20 23.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.53**	**169**	*e*P	**Pn**	**06 20 20.3**	**-2.1**
SPIG				*e*S	**Sn**	**06 20 39.0**	**-3.3**
SPX	**San Pedro Mart**	**1.53**	**169**	*e*P	**Pb**	**06 20 23.6**	**+0.1**
SPX	**San Pedro Mart**	**1.53**	**169**	*e*P	**Pb**	**06 20 23.5**	**0.0**
SPX				*e*S	**Sn**	**06 20 39.4**	**-3.0**
PASC	**Pasadena Art C**	**2.57**	**309**	*e*Pn	**Pb**	**06 20 41.5**	**+0.5**
PASC				*e*Sn	**Sb**	**06 21 14.7**	**+2.3**
GSC	**Goldstone, Bar**	**2.86**	**343**	*e*Pn	**Pb**	**06 20 47.0**	**+1.0**
DAC	**Darwin (Calif)**	**4.00**	**339**	*e*Pn	**Pn**	**06 20 58.2**	**+2.1**
WUAZ	**Wupatki**	**4.71**	**50**	*e*Pn	**Pn**	**06 21 07.1**	**+1.2**

ISCJB ***15*** *06:35:19.8±0.4, 32.°71N±0.°03×115.°84W±0.°03, h20km±4km, Error ellipse: s-maj=4.7km s-min=3.8km az=168.1*
MEX ***15*** *06:35:20.4±1.4, 32.°91N×115.°83W, h16km±26km, MD3.6*
NEIC ***15*** *06:35:20.6, 32.°69N×115.°87W, h10km, MD3.6(MEX), ML3.2(PAS), After PAS.*
ECX ***15*** *06:35:21.0±0.7, 32.°69N×115.°86W, h4km, MD3.2, ML3.4*

ISC 15 06:35:19.5±0.9, 32.°69N±0.°02×115.°84W±0.°02, h14km±6km, n29, σ0§83/50, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.08**	**242**	⇑*i*P	**Pg**	**06 35 22.4**	**-0.1**
SGL	**Mount Signal**	**0.10**	**110**	⇑*i*P	**Pb**	**06 35 23.2**	**-0.1**
COK	**Cook Ranch**	**0.19**	**30**	⇓*i*P	**Pb**	**06 35 24.6**	**-0.2**
RMX	**La Rumorosa**	**0.22**	**248**	*e*P	**Pg**	**06 35 24.7**	**+0.2**
RMX				*e*S	**Sg**	**06 35 27.8**	**0.0**
RMX				⇓*e*		06 35 28.4	
RMX				AML	AML	06 35 28.4	
	comp=N,9μm,0.4s						
CPBX	**Cerro Prieto**	**0.53**	**120**	*e*P	**Pb**	**06 35 31.0**	**+0.6**
CPBX				*e*S	**Sb**	**06 35 38.5**	**+0.6**
CPBX				AML	AML	06 35 41.9	
	comp=N,9μm,0.4s						
CPBX				⇑*e*		06 35 41.9	
CPBX	**Cerro Prieto**	**0.53**	**120**	*e*P	**Pb**	**06 35 30.8**	**+0.3**
CPBX				*e*S	**Sb**	**06 35 39.4**	**+1.5**
MBIG	**Mexicali**	**0.61**	**117**	*e*P	**Pb**	**06 35 32.6**	**+0.7**
MBIG				*i* S	**Sb**	**06 35 41.5**	**+1.2**
BAR	**Barrett**	**0.70**	**270**	*e*Pg	**Pg**	**06 35 33.2**	**0.0**
BAR				*e*Sg	**Sg**	**06 35 42.2**	**-0.3**
RDX	**Rancho Dawling**	**0.76**	**187**	⇓*e*P	**Pg**	**06 35 34.5**	**+0.2**
RDX				*e*S	**Sg**	**06 35 44.8**	**+0.4**
CBX	**Cerro Bola**	**0.79**	**242**	*e*P	**Pg**	**06 35 35.0**	**+0.2**
CBX				*i* S	**Sg**	**06 35 45.3**	**0.0**
CBX	**Cerro Bola**	**0.79**	**242**	*e*P	**Pb**	**06 35 35.2**	**+0.1**
CBX				*e*S	**Sg**	**06 35 45.5**	**+0.2**
CBX				AML	AML	06 35 49.5	
	comp=E,2μm,0.6s						
CBX				⇑*e*		06 35 49.5	
CBX	**Cerro Bola**	**0.79**	**242**	*e*P	**Pg**	**06 35 35.0**	**+0.2**
CBX				*e*S	**Sg**	**06 35 44.6**	**-0.7**
EMX	**El Mayor**	**0.86**	**144**	*e*P	**Pb**	**06 35 35.4**	**-0.8**
EMX				*e*S	**Sg**	**06 35 47.1**	**-0.3**
GLA	**Glamis**	**0.93**	**66**	*e*Pg	**Pb**	**06 35 37.0**	**-0.4**
GLA				*e*Sg	**Sb**	**06 35 49.1**	**-0.4**
PFO	**Pinyon Flats O**	**1.06**	**331**	*e*Pg	**Pb**	**06 35 39.5**	**-0.2**
PFO				*e*Sg	**Sb**	**06 35 52.9**	**-0.5**
PBX	**Punta Banda**	**1.20**	**219**	*e*P	**Pb**	**06 35 42.3**	**+0.2**
PBX				*e*S	**Sn**	**06 35 58.0**	**-0.1**
ECNX	**Esteban Cantu**	**1.21**	**212**	*e*P	**Pb**	**06 35 42.3**	**+0.1**
ECNX				*e*S	**Sn**	**06 35 58.3**	**0.0**
ZAX	**El Zacaton**	**1.23**	**198**	*e*P	**Pb**	**06 35 42.8**	**+0.3**
ZAX				*e*S	**Sn**	**06 35 58.7**	**+0.1**
ECBX	**El Chinero**	**1.38**	**151**	*e*P	**Pn**	**06 35 43.5**	**-0.9**
ECBX				*e*S	**Sn**	**06 36 02.4**	**0.0**
ECBX				⇑*e*		06 36 03.4	
ECBX				AML	AML	06 36 03.4	
	comp=E,613nm,0.4s						
ECBX				AML	AML	06 36 03.6	
	comp=N,472nm,0.3s						
ECBX				⇓*e*		06 36 03.6	
SPIG	**San Pedro Mart**	**1.67**	**169**	*e*P	**Pn**	**06 35 49.2**	**+0.7**
SPIG				*i* S	**Sb**	**06 36 11.6**	**+0.5**
SPIG	**San Pedro Mart**	**1.67**	**169**	*e*P	**Pn**	**06 35 49.3**	**+0.8**
SPIG				*e*S	**Sn**	**06 36 08.3**	**-1.6**
SPX	**San Pedro Mart**	**1.67**	**169**	*e*P	**Pb**	**06 35 50.3**	**+0.1**
SPX	**San Pedro Mart**	**1.67**	**169**	*e*P	**Pn**	**06 35 48.2**	**-0.3**
SPX				*e*S	**Sn**	**06 36 06.4**	**-3.6**
MWC	**Mount Wilson**	**2.41**	**310**	*e*Pn	**Pb**	**06 36 02.9**	**+0.2**
MWC				*e*Sn	**Sb**	**06 36 32.9**	**+0.5**
214A	**Organ Pipe Nat**	**2.66**	**105**	*e*Pn	**Pn**	**06 36 01.3**	**-0.7**
GSC	**Goldstone, Bar**	**2.73**	**343**	*e*Pg	**Pg**	**06 36 13.6**	**+1.8**
GSC				*e*Sg	**Sg**	**06 36 46.6**	**-0.6**
SHPR	**Sheep Range**	**3.85**	**8**	*e*Pg	**Pg**	**06 36 34.0**	**+0.7**
TUC	**

GKN	**Gorkha**	**11.53**	**247**	*e*P	**Pn**	**06 55 55.1**	**0.0**
	5.7nm,0.3s							
DANN	**Dangsing**	**12.06**	**250**	*e*P	**Pn**	**06 56 02.8**	**+0.4**
	8.7nm,0.4s							
KOLN	**Koldanda**	**12.45**	**248**	*e*P	**Pn**	**06 56 07.8**	**+0.2**
	3.6nm,0.2s							
PYUN	**Piuthan**	**12.78**	**251**	*e*P	**Pn**	**06 56 12.0**	**-0.1**
	22nm,0.4s							
CMAR	**Chiang Mai Arr**	**14.70**	**171**	Pn	**Pn**	**06 56 38.0**	**-0.2**
	baz=349,slow=13,SNR=7.4							
SONM	**Songino Array**	**16.48**	**24**	Pn	**P**	**06 57 03.6**	**-0.5**
	baz=213,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**17.54**	**326**	P	**P**	**06 57 16.6**	**+0.8**
	0.1nm,0.3s,baz=130,slow=14,SNR=9.7							
MKAR				LR	LR	07 04 55.7		
	comp=Z,25nm,18.9s,baz=116,slow=40							
AAK	**Ala-Archa**	**19.89**	**305**	P	**Pn**	**06 57 43.1**	**-0.3**
	0.1nm,0.3s,baz=125,slow=12,SNR=3.2							
KURBB	**Kurchatov Arra**	**22.03**	**328**	P	**P**	**06 58 05.7**	**+1.0**
	1.2nm,0.9s,baz=144,slow=9.3,SNR=7.9							
ZALV	**Zalesovo Beam**	**22.50**	**342**	P	**P**	**06 58 11.0**	**+1.3**
	0.4nm,0.3s,baz=122,slow=7.6,SNR=2.7							
AKASG	**Malin Array Be**	**51.39**	**311**	P	**P**	**07 02 14.7**	**-0.2**
	0.2nm,0.4s,baz=79,slow=4.8,SNR=4.5							
NOA	**NORSAR Array B**	**59.54**	**326**	P	**P**	**07 03 12.8**	**-0.7**
	0.5nm,0.6s,baz=75,slow=6.8,SNR=3.2							
WRA	**Warramunga Arr**	**63.83**	**140**	P	**P**	**07 03 43.2**	**+0.4**
	0.9nm,0.7s,baz=334,slow=7.1,SNR=8.6							
ASAR	**Alice Springs**	**66.67**	**143**	P	**P**	**07 04 02.0**	**+0.8**
	0.6nm,0.5s,baz=331,slow=6.6,SNR=7.5							
YKA	**Yellowknife Ar**	**81.50**	**14**	P	**P**	**07 05 27.1**	**-0.3**
	2.4nm,0.4s,baz=337,slow=4.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**87.03**	**284**	P	**P**	**07 05 56.1**	**-0.2**
	0.7nm,0.7s,baz=46,slow=5.4,SNR=4.5							

IDC ***15*** *07:06:18.7±1.6,33.°94S×71.°97W,h0km,mb3.7/3, mb1 3.8/5,mb1mx3.7/15,mbtmp3.6/5,ML3.2/2,Error ellipse: s-maj=43.9km s-min=32.3km az=81.0*
GUC ***15*** *07:06:19.6±0.6,34.°09S×72.°37W,h6km±4km,ML3.7*

ISC 15 07:06:19.3±2.0,34.°08S±0.°05×72.°39W±0.°08,h7km±12km, n13,σ0°95/19,mb3.8/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IHA	**Instituto Hidr**	**1.22**	**31**	*e*P		**Pg**		**07 06 42.6**	**-0.1**
IHA				*e*S		**Sn**		**07 07 00.3**	**+0.8**
NICH	**Los Niches**	**1.33**	**134**	*e*P		**Pn**		**07 06 44.0**	**-0.3**
NICH				*e*S		**Sn**		**07 07 02.9**	**+0.6**
RCDM	**Rinconada Maip**	**1.44**	**66**	*e*P		**Pn**		**07 06 45.8**	**-0.1**
RCDM				*e*S		**Sb**		**07 07 05.1**	**0.0**
TALC	**Talca**	**1.46**	**155**	*e*P		**Pn**		**07 06 46.0**	**-0.1**
TALC				*e*S		**Sg**		**07 07 05.8**	**-0.4**
LACH	**Col Las Americ**	**1.67**	**69**	*e*P		**Pn**		**07 06 50.0**	**+1.0**
LACH				*e*S		**Sb**		**07 07 12.3**	**+0.7**
CLCH	**Cerro Calan**	**1.69**	**67**	*e*P		**Pn**		**07 06 50.0**	**+0.7**
CLCH				*e*S		**Sg**		**07 07 13.4**	**-0.1**
CLCH				AML		AML		07 07 23.0	
	comp=E,925nm,0.7s								
PEL	**Peldehue**	**1.70**	**57**	*e*P		**Pn**		**07 06 50.2**	**+0.7**
PEL				*e*S		**Sb**		**07 07 13.3**	**+0.8**
PEL				AML		AML		07 07 17.6	
	comp=E,2μm,0.6s								
PLCA	**Paso Flores**	**6.80**	**168**	Pn		**Pn**		**07 08 01.8**	**+2.2**
	comp=E,0.1nm,0.3s,baz=338,slow=16,SNR=3.7								
LPAZ	**La Paz**	**18.12**	**13**	P		**Pn**		**07 10 31.9**	**-0.4**
	comp=E,0.1nm,0.3s,baz=186,slow=9.2,SNR=3.4								
BDFB	**Brasilia**	**28.62**	**56**	P		P		07 12 13.5	-3.1
	comp=E,0.9nm,0.4s,baz=196,slow=12,SNR=2.9								
TXAR	**Lajitas Array**	**69.66**	**331**	P		**P**		**07 17 30.1**	**+0.5**
	comp=E,0.2nm,0.7s,baz=134,slow=6.4,SNR=5.2								
TORD	**Torodi Ar. Bea**	**84.51**	**70**	P		**P**		**07 18 51.4**	**-2.0**
	comp=E,0.4nm,0.7s,baz=243,slow=2.6,SNR=3.6								
MKAR	**Makanchi Array**	**157.03**	**49**	PKPab		**PKPab**		**07 26 45.3**	**-0.4**
	comp=E,0.3nm,0.6s,baz=316,slow=3.3,SNR=4.1								

ISCJB ***15*** *07:17:21.1±0.5,32.°37N±0.°03×115.°38W±0.°03,h12km±3km, Error ellipse: s-maj=5.9km s-min=4.6km az=177.8*
MEX ***15*** *07:17:21.7±0.6,32.°52N×115.°29W,h12km±11km,MD3.5*
NEIC ***15*** *07:17:21.8,32.°31N×115.°33W,h7km,ML3.0(PAS),After PAS.*

ISC 15 07:17:20.7±1.0,32.°32N±0.°04×115.°40W±0.°03,h10km±7km, n13,σ1°01/25,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CPBX	**Cerro Prieto**	**0.12**	**40**	*e*P		**Pg**		**07 17 24.1**	**+0.4**
CPBX				*e*S		**Sg**		**07 17 26.6**	**+0.8**
MBIG	**Mexicali**	**0.19**	**64**	*e*P		**Pg**		**07 17 24.9**	**+0.2**
MBIG				*e*S		**Sg**		**07 17 27.3**	**-0.3**
GLA	**Glamis**	**0.87**	**33**	*e*Pg		**Pg**		**07 17 37.1**	**-0.5**
GLA				*e*Sg		**Sg**		**07 17 47.3**	**-1.7**
CBX	**Cerro Bola**	**1.07**	**270**	*e*P		**Pb**		**07 17 39.9**	**-1.5**
CBX				*e*S		**Sb**		**07 17 54.9**	**-0.6**
CBX	**Cerro Bola**	**1.07**	**270**	*e*P		**Pn**		**07 17 42.7**	**+0.9**
CBX				*e*S		**Sb**		**07 17 53.6**	**-1.8**
BAR	**Barrett**	**1.13**	**289**	*e*Pg		**Pg**		**07 17 43.6**	**+1.1**
BAR				*e*Sg		**Sn**		**07 17 58.6**	**+0.4**
SPIG	**San Pedro Mart**	**1.27**	**183**	*e*P		**Pn**		**07 17 45.2**	**+0.3**
SPIG				*e*S		**Sn**		**07 18 02.8**	**+0.7**
SPIG	**San Pedro Mart**	**1.27**	**183**	*e*P		**Pn**		**07 17 45.2**	**+0.3**
SPIG				*e*S		**Sn**		**07 18 02.8**	**+0.7**
PFO	**Pinyon Flats O**	**1.56**	**326**	*e*Pn		**Pn**		**07 17 47.6**	**-1.0**
PFO				*e*Sn		**Sb**		**07 18 10.4**	**+0.8**
214A	**Organ Pipe Nat**	**2.23**	**99**	*e*Pn		**Pn**		**07 17 58.8**	**+1.1**
214A				*e*Sn		**Sn**		**07 18 25.5**	**+0.2**
MWC	**Mount Wilson**	**2.92**	**311**	*e*Pn		**Pn**		**07 18 08.0**	**+0.6**
GSC	**Goldstone, Bar**	**3.19**	**339**	*e*Pn		**Pn**		**07 18 12.6**	**+1.6**
GSC				*e*Sn		**Sn**		**07 18 50.7**	**+1.5**
WUAZ	**Wupatki**	**4.62**	**45**	*e*Pn		**Pn**		**07 18 31.1**	**+0.4**
WUAZ				*e*Sn		**Sn**		**07 19 25.1**	**+0.6**

ISCJB ***15*** *07:25:03.2±0.6,8.°23S±0.°04×119.°67E±0.°08,h35km, mb3.5/1,Error ellipse: s-maj=11.0km s-min=5.2km az=2.0*
IDC ***15*** *07:25:04.7±2.8,8.°78S×119.°51E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/33,mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=250.6km s-min=28.7km az=51.0*
DJA ***15*** *07:25:04.1±0.3,8.°5S±2.°12E±1°,h50km±6km,M3.5/4, MLv3.5/4*

ISC 15 07:25:04.5±1.2,8.°26S±0.°04×119.°68E±0.°07,h35km,n12, σ0°82/13,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WBSI	**Waikabubak, Su**	**1.40**	**192**	P		**Pn**		**07 25 26.4**	**-1.2**
WBSI				S		**Sn**		**07 25 45.8**	**+0.8**
WSI	**Waingapu**	**1.53**	**156**	P		**Pn**		**07 25 28.9**	**-0.4**
WSI				S		**Sn**		**07 25 47.9**	**-0.1**
EDFI	**Ende, Flores**	**2.05**	**104**	P		**Pn**		**07 25 35.7**	**-0.9**
BASI	**Baing, Sumba**	**2.14**	**156**	P		**Pn**		**07 25 37.1**	**-0.7**
BSSI	**Bau Bau, Buton**	**2.25**	**21**	P		**Pn**		**07 25 38.8**	**-0.5**
TWSI	**Taliwang, Sumb**	**2.81**	**260**	P		**Pn**		**07 25 46.5**	**-0.4**
BKSI	**Bulukumba**	**2.95**	**9**	P		**Pn**		**07 25 48.3**	**-0.6**
BKSI				S		**Sn**		**07 26 23.3**	**+0.2**
BNSI	**Bone**	**3.86**	**6**	P		**Pn**		**07 26 00.5**	**-0.9**
BBSI	**Bau Bau**	**3.98**	**46**	P		**Pn**		**07 26 02.8**	**-0.3**
WRA	**Warramunga Arr**	**18.34**	**131**	P		**Pn**		**07 29 17.5**	**+1.2**
	0.1nm,0.3s,baz=303,slow=13,SNR=9.4								
ASAR	**Alice Springs**	**20.51**	**140**	P		Pn		07 29 42.0	-0.1
	0.5nm,0.3s,baz=313,slow=8.5,SNR=10								
MKAR	**Makanchi Array**	**64.11**	**332**	P		P		07 35 43.2	+8.0
	0.3nm,0.7s,baz=142,slow=6.3,SNR=4.0								

IDC ***15*** *07:32:53.8±3.1,32.°37S×178.°45W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.8/23,mbtmp3.9/3,ML3.7/1,Error ellipse: s-maj=70.9km s-min=45.9km az=117.0*

ISC 15 07:32:55.0±2.1,32.°6S±0.°1×178.°0W±0.°2,h20km,n12, σ1°83/18,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MXZ	**Matakaoa Point**	**5.86**	**210**	PN		**Pn**		**07 34 22.4**	**+1.8**
MXZ				SN		**Sn**		**07 35 27.4**	**+0.2**
WMGZ	**Waiomatatini S**	**6.03**	**208**	PN		**Pn**		**07 34 25.6**	**+2.5**
WMGZ				SN		**Sn**		**07 35 33.2**	**+1.8**
HAZ	**Te Kaha**	**6.25**	**213**	PN		**Pn**		**07 34 27.1**	**+1.0**
HAZ				SN		**Sn**		**07 35 37.9**	**+1.1**
MWZ	**Matawai**	**6.84**	**211**	PN		**Pn**		**07 34 35.0**	**+0.8**
MWZ				SN		**Sn**		**07 35 50.0**	**-1.5**
URZ	**Urewera**	**6.96**	**214**	Pn		**Pn**		**07 34 35.2**	**-0.7**
	1.4nm,0.3s,baz=263,slow=5.0,SNR=14								
URZ				Sn		**Sn**		**07 35 51.3**	**-3.3**
	1.5nm,0.3s,baz=80,slow=23,SNR=7.7								
URZ	**Urewera**	**6.96**	**214**	PN		**Pn**		**07 34 37.7**	**+1.8**
URZ				SN		**Sn**		**07 35 52.3**	**-2.2**
KNZ	**Kokohu**	**7.36**	**207**	PN		**Pn**		**07 34 40.8**	**-0.5**
OUZ	**Omahuta**	**7.49**	**247**	PN		**Pn**		**07 34 45.3**	**+2.2**
BKZ	**Black Stump Fm**	**7.98**	**213**	PN		**Pn**		**07 34 51.9**	**+2.0**
ASAR	**Alice Springs**	**43.05**	**269**	P		**P**		**07 40 52.4**	**-1.3**
	0.6nm,0.6s,baz=108,slow=7.9,SNR=7.7								
WRA	**Warramunga Arr**	**44.23**	**274**	P		**P**		**07 41 01.8**	**-1.4**
	1.5nm,0.4s,baz=114,slow=8.0,SNR=44								
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc		**PKPbc**		**07 52 36.3**	**+0.4**
	0.6nm,0.5s,baz=50,slow=3.2,SNR=4.8								

IDC 15 08:16:25.0±13.0,4.°83S×126.°88E,h0km,mb3.9/1, mb1 4.1/3,mb1mx3.5/32,mbtmp3.9/3,ML4.0/2,Error ellipse: s-maj=197.1km s-min=135.1km az=146.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**16.69**	**155**	Pn		P		08 20 22.1	-0.8
	0.5nm,0.3s,baz=334,slow=11,SNR=67								
ASAR	**Alice Springs**	**19.92**	**161**	P		P		08 20 57.1	-1.4
	0.5nm,0.3s,baz=343,slow=11,SNR=30								
STKA	**Stephens Creek**	**30.24**	**155**	P		P		08 22 38.0	+0.3
	0.5nm,0.3s,baz=353,slow=8.1,SNR=3.4								

IDC 15 08:18:08.3±1.8,5.°50S×152.°56E,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.5/31,mbtmp3.6/4,Error ellipse: s-maj=71.4km s-min=24.2km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**22.81**	**229**	P		P		08 23 12.8	-0.2
	1.3nm,0.6s,baz=53,slow=10,SNR=14								
ASAR	**Alice Springs**	**25.48**	**223**	P		P		08 23 38.7	+0.2
	0.7nm,0.6s,baz=60,slow=8.9,SNR=15								
SONM	**Songino Array**	**66.78**	**328**	P		P		08 29 02.6	+0.7
	0.4nm,0.8s,baz=147,slow=8.2,SNR=3.0								
ILAR	**Eielson Array**	**82.89**	**22**	P		P		08 30 34.5	-0.1
	0.8nm,0.8s,baz=241,slow=5.4,SNR=11								
TORD	**Torodi Ar. Bea**	**150.29**	**287**	PKPbc		PKPbc		08 38 01.5	-1.2
	0.3nm,0.7s,baz=64,slow=3.4,SNR=3.7								

ISCJB ***15*** *08:20:20.0±0.6,35.°12S±0.°03×71.°91W±0.°09,h59km±4km, mb4.4/19,MS3.3/3,Error ellipse: s-maj=12.7km s-min=4.1km az=11.6*
GUC ***15*** *08:20:21.1±0.4,35.°14S×71.°78W,h50km±3km,ML4.6*
NEIC ***15*** *08:20:21.1,35.°14S×71.°78W,h50km,mb4.3/6,After GUC.*
NEIC Felt [IV] at Curico, Molina and Talca; [III] at Cauquenes, Linares, Parral, San Fernando and San Javier.
IDC ***15*** *08:20:22.6±2.4,35.°06S×71.°71W,h65km±20km,mb4.0/12, mb1 4.1/17,mb1mx3.9/36,mbtmp4.3/17,MS3.4/5, Ms1 3.3/5,ms1mx3.1/26,Error ellipse: s-maj=24.6km s-min=12.0km az=92.0*

ISC 15 08:20:20.8±0.8,35.°13S±0.°03×71.°84W±0.°08,h52km±7km, n63,σ1°19/86,mb4.5/19,MS3.5/3,6C-8D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TALC	**Talca**	**0.32**	**149**	↑*i*P		**Pn**		**08 20 30.4**	**+0.2**
TALC				*i* S		**Sn**		**08 20 37.0**	**0.0**
TALC	**Talca**	**0.32**	**149**	↑*i*P		**Pn**		**08 20 30.4**	**+0.2**
TALC				*i* S		**Sn**		**08 20 37.0**	**0.0**
NICH	**Los Niches**	**0.51**	**76**	↓*i*P		**Pn**		**08 20 32.3**	**-0.1**
NICH				*i* S		**Sn**		**08 20 40.8**	**+0.2**
NICH	**Los Niches**	**0.51**	**76**	↓*i*P		**Pn**		**08 20 32.3**	**-0.1**
NICH				*i* S		**Sn**		**08 20 40.8**	**+0.2**
LNCH	**Linares**	**0.74**	**165**	↓*i*P		**Pn**		**08 20 35.4**	**+0.2**
LNCH				*i* S		**Sn**		**08 20 46.4**	**+0.7**
LNCH	**Linares**	**0.74**	**165**	↓*i*P		**Pn**		**08 20 35.4**	**+0.2**
LNCH				*i* S		**Sn**		**08 20 46.4**	**+0.7**
FSR	**Penalolen**	**1.97**	**34**	↑*i*P		**Pn**		**08 20 53.7**	**+1.9**
FSR				*i* S		**Sn**		**08 21 17.6**	**+2.2**
FSR	**Penalolen**	**1.97**	**34**	↑*i*P		**Pn**		**08 20 53.7**	**+1.9**
FSR				*i* S		**Sn**		**08 21 17.6**	**+2.2**
LACH	**Col Las Americ**	**1.99**	**33**	↑*i*P		**Pn**		**08 20 52.4**	**+0.3**
LACH				*i* S		**Sn**		**08 21 16.9**	**+0.9**
LACH				AML		AML		08 21 24.5	
	comp=N,4μm,0.6s								
LACH	**Col Las Americ**	**1.99**	**33**	↑*i*P		**Pn**		**08 20 52.4**	**+0.3**
LACH				*i* S		**Sn**		**08 21 16.9**	**+0.9**
CCSP	**San Pedro de C**	**2.00**	**211**	AML		AML		08 21 31.1	
	comp=N,4μm,0.2s								
CLCH	**Cerro Calan**	**2.04**	**32**	*i* P		**Pn**		**08 20 53.4**	**+0.6**
CLCH				*i* S		**Sn**		**08 21 17.7**	**+0.7**
CLCH				AML		AML		08 21 24.5	
	comp=E,9μm,0.3s								
CLCH				AML		AML		08 21 25.1	
	comp=E,11μm,0.2s								
YECH	**El Yeso**	**2.06**	**45**	↓*i*P		**Pn**		**08 20 54.2**	**+0.9**
YECH				*i* S		**Sn**		**08 21 19.1**	**+1.2**
YECH				AML		AML		08 21 30.4	
	comp=N,6μm,0.4s								
YECH	**El Yeso**	**2.06**	**45**	↓*i*P		**Pn**		**08 20 54.2**	**+0.9**
YECH				*i* S		**Sn**		**08 21 19.1**	**+1.2**
PEL	**Peldehue**	**2.20**	**26**	↓*i*P		**Pn**		**08 20 55.9**	**+0.9**
PEL				*i* S		**Sn**		**08 21 21.9**	**+1.0**
PEL				AML		AML		08 21 33.4	
	comp=N,11μm,0.9s								
PEL	**Peldehue**	**2.20**	**26**	↓*i*P		**Pn**		**08 20 55.9**	**+0.9**
PEL				*i* S		**Sn**		**08 21 21.9**	**+1.0**
CFAA	**Coronel Fontan**	**4.63**	**42**	P		**Pn**		**08 21 28.9**	**+0.7**
	comp=N,3.5nm,0.3s,baz=212,slow=13,SNR=149								
CFAA				S		**Sn**		**08 22 24.1**	**+3.4**
	comp=N,1.8nm,0.3s,baz=47,slow=6.4,SNR=3.5								
PLCA	**Paso Flores**	**5.69**	**170**	P		**Pn**		**08 21 44.9**	**+2.1**
	comp=N,3.6nm,0.3s,baz=334,slow=11,SNR=52								
PLCA				LR		LR		08 23 44.4	
	comp=N,48nm,18.0s,baz=7.5,slow=35								
PLCA	**Paso Flores**	**5.69**	**170**	*e*Pn		**Pn**		**08 21 44.9**	**+2.1**
PLCA				*e*Sn		**Sn**		**08 22 50.0**	**+3.2**
LCO	**Las Campanas**	**6.17**	**9**	*e*Pn		**Pn**		**08 21 49.5**	**-0.2**
	comp=N,38nm,0.4s								
LCO				*e*Sn		**Sn**		**08 22 58.1**	**-1.0**
TRQA	**Tornquist**	**8.45**	**113**	*e*Pn		**Pn**		**08 22 21.8**	**+1.2**
	comp=N,8.2nm,0.4s								
TRQA				*e*Sn		**Sn**		**08 23 53.6**	**-0.9**
LVC	**Limon Verde**	**12.73**	**12**	P		**Pn**		**08 23 18.5**	**-0.9**
	comp=N,14nm,0.3s,baz=202,slow=10,SNR=4.0								
LVC				LR		LR		08 27 60.0	
	comp=N,644nm,18.7s,baz=210,slow=36								
LVC	**Limon Verde**	**12.73**	**12**	*e*Pn		**Pn**		**08 23 18.3**	**-1.1**
LVC				*e*Sn		**Sn**		**08 25 36.7**	**-3.1**
LPAZ	**La Paz**	**19.05**	**11**	P		**Pn**		**08 24 41.2**	**+0.5**
	comp=N,0.6nm,0.3s,baz=178,slow=3.6,SNR=22								
LPAZ	**La Paz**	**19.05**	**11**	*e*P		**Pn**		**08 24 41.2**	**+0.5**
	comp=N,2.3nm,0.6s								
USHA	**Ushuaia**	**19.84**	**174**	P		**Pn**		**08 24 49.6**	**+0.4**
	comp=N,0.6nm,0.3s,baz=334,slow=12,SNR=4.9								
SIV	**San Ignacio**	**21.36**	**30**	P		**P**		**08 25 03.2**	**-0.7**
	comp=N,3.5nm,0.6s,baz=260,slow=0.1,SNR=11								
SIV				LR		LR		08 32 53.0	
	comp=N,54nm,21.6s,baz=204,slow=35								
SAML	**Samuel**	**27.23**	**19**	*e*P		**P**		**08 25 59.5**	**-0.6**
	comp=N,2.3nm,0.6s								
BDFB	**Brasilia**	**28.85**	**54**	P		**P**		**08 26 14.4**	**-0.2**
	comp=N,2.0nm,0.5s,baz=225,slow=6.3,SNR=3.3								
BDFB				LR		LR		08 38 50.8	
	comp=N,117nm,20.0s,baz=192,slow=39								
PTGA	**Pitinga**	**35.97**	**20**	P		**P**		**08 27 14.6**	**-2.2**
	comp=N,3.0nm,0.5s,baz=112,slow=13,SNR=5.7								
PTGA	**Pitinga**	**35.97**	**20**	*e*P		**P**		**08 27 16.1**	**-0.6**
SDV	**Santo Domingo**	**43.79**	**2**	*e*P		**P**		**08 28 21.6**	**-0.2**
	comp=N,2.6nm,0.4s								
RCBR	**Riachuelo**	**44.10**	**57**	LR		LR		08 48 37.1	
	comp=N,61nm,19.5s,baz=202,slow=38								
VNA3	**Neumayer Olymp**	**48.25**	**157**	P		**P**		**08 28 56.8**	**+0.6**
VNA2	**Neumayer--Watz**	**48.91**	**157**	P		**P**		**08 29 02.2**	**+1.0**
	baz=283,slow=8.7								
SNAA	**Sanae**	**50.48**	**157**	P		**P**		**08 29 13.3**	**+0.1**
	comp=N,1.1nm,0.5s,baz=270,slow=6.3,SNR=18								
QSPA	**South Pole Qui**	**55.11**	**180**	P		**P**		**08 29 48.8**	**+1.3**
	comp=N,4.5nm,0.8s,baz=171,slow=0.9,SNR=19								
TEIG	**Tepich**	**57.22**	**342**	*e*P		**P**		**08 30 03.8**	**+1.0**
TXAR	**Lajitas Array**	**70.80**	**331**	P		**P**		**08 31 32.1**	**+0.1**
	comp=N,0.5nm,0.5s,baz=152,slow=9.2,SNR=6.2								
MAW	**Mawson**	**72.05**	**163**	P		**P**		**08 31 39.1**	**+0.2**
	comp=N,4.5nm,0.7s,baz=158,slow=16,SNR=4.1								
WVT	**Waverly**	**72.44**	**346**	*e*P		**P**		**08 31 41.9**	**+0.3**
	comp=N,4.7nm,0.6s								
LIC	**Lamto**	**74.97**	**71**	*e*P		**P**		**08 31 56.6**	**-0.4**
	comp=N,57nm,1.5s								
TIC	**Toumodi**	**75.24**	**71**	*e*P		**P**		**08 31 58.2**	**-0.3**
	comp=N,13nm,0.2s								
KIC	**Kosan Boka**	**75.28**	**71**	*e*P		**P**		**08 31 58.5**	**-0.2**
	comp=N,7.3nm,0.4s								
DBIC	**Dimbokro**	**75.39**	**71**	P		**P**		**08 31 59.2**	**-0.1**
	comp=N,4.3nm,0.5s,baz=199,slow=4.5,SNR=7.9								
ECSD	**EROS Data Cent**	**81.67**	**342**	*e*P		**P**		**08 32 33.5**	**+0.2**
	comp=N,2.6nm,0.8s								
LBTB	**Lobatse**	**81.68**	**115**	P		**P**		**08 32 34.0**	**-0.1**
	baz=259,slow=5.0								
LBTB	**Lobatse**	**81.68**	**115**	*e*P		**P**		**08 32 34.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P		**P**		**08 32 48.0**	**-0.2**
	comp=N,4.4nm,0.5s,baz=283,slow=5.4,SNR=69								
PDAR	**Pinedale Array**	**84.84**	**333**	P		**P**		**08 32 49.7**	**-0.2**
	comp=N,0.3nm,0.7s,baz=128,slow=5.8,SNR=4.0								
ELK	**Elko**	**85.41**	**328**	P		**P**		**08 32 53.7**	**+0.9**
	comp=N,0.9nm,0.8s,baz=40,slow=7.9,SNR=3.8								
ULM	**Lac du Bonnet**	**87.63**	**345**	P		**P**		**08 33 03.1**	**0.0**
	comp=N,3.7nm,0.8s,baz=197,slow=6.1,SNR=7.0								
YKA	**Yellowknife Ar**	**103.18**	**341**	Pdiff		**Pdif**		**08 34 13.2**	**-0.5**
	comp=N,0.2nm,0.9s,baz=145,slow=4.7,SNR=4.3								
WRA	**Warramunga Arr**	**119.86**	**209**	PKP		**PKPdf**		**08 39 05.3**	**-0.6**
	comp=N,0.3nm,0.5s,baz=152,slow=1.8,SNR=12								
BRTR	**Keskin Array B**	**122.23**	**61**	PKP		**PKPdf**		**08 39 09.5**	**-0.4**
	comp=N,0.8nm,0.6s,baz=207,slow=3.6,SNR=4.7								
ABKAR	**Akbulak array**	**142.24**	**53**	*e*PKPdf		**PKPdf**		**08 39 42.1**	**-4.9**
KKAR	**Karatay Array**	**149.92**	**63**	*e*PKPdf		**PKPdf**		**08 40 00.2**	**0.0**
KKAR				*e*PKPbc		**PKPbc**		**08 40 05.0**	**-0.1**
KKAR				*e*PKPab		**PKPab**		**08 40 11.2**	**+0.3**
EKS2	**Erkin-Say**	**152.34**	**64**	*e*PKPbc		**PKPbc**		**08 40 11.7**	**+0.7**
AAK	**Ala-Archa**	**152.87**	**64**	*e*PKPdf		**PKPdf**		**08 40 04.8**	**-0.1**
AAK				*e*PKPbc		**PKiKP**		**08 40 13.0**	**+0.6**
AAK				*e*PKPab		**PKPab**		**08 40 23.1**	**-0.4**
TKM2	**Tokmak 2**	**153.65**	**63**	*e*PKPdf		**PKPdf**		**08 40 07.3**	**+1.2**
TKM2				*e*PKPbc		**PKiKP**		**08 40 14.2**	**+0.1**
ZALV	**Zalesovo Beam**	**155.08**	**34**	PKPab		**PKPab**		**08 40 32.6**	**+0.4**
	comp=N,1.9nm,0.5s,baz=311,slow=4.8,SNR=7.8								
MKAR	**Makanchi Array**	**157.36**	**51**	PKPab		**PKPab**		**08 40 40.7**	**-1.6**
	comp=N,3.0nm,1.1s,baz=288,slow=3.0,SNR=7.0								
SONM	**Songino Array**	**167.24**	**5**	PKPab		**PKPab**		**08 41 25.9**	**+0.4**
	comp=N,0.5nm,0.7s,baz=22,slow=1.6,SNR=3.9								

CSEM ***15*** *08:24:28.7,39.°30N×27.°80E,h7km,MD2.6,Mining explosion.*

DDA 15 08:24:28.7,39.°30N×27.°80E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AKHS	**Akhisar**	**0.42**	**178**	*i* P		Pg		08 24 36.7	-0.2
AKHS				*i* S		Sb

SIV	**San Ignacio**	51.09	316	P		P	08 38 33.9	-0.8	
	0.8nm,0.3s,baz=184,slow=5.9,SNR=3.0								
H10S2	**ASCENSION HYDR**	52.43	15	T		T	09 35 41.4		
	baz=187,slow=75,SNR=8.1								
H10S3	**ASCENSION HYDR**	52.44	15	T		T	09 35 41.1		
	baz=187,slow=75,SNR=9.0								
H10S1	**ASCENSION HYDR**	52.45	15	T		T	09 35 42.3		
	baz=187,slow=75,SNR=6.8								
LPAZ	**La Paz**	53.41	308	P		P	08 38 52.8	+0.2	
	3.6nm,0.5s,baz=148,slow=5.2,SNR=42								
H10N3	**ASCENSION HYDR**	53.55	15	T		T	09 37 12.3		
	baz=188,slow=74,SNR=6.5								
H10N2	**ASCENSION HYDR**	53.57	15	T		T	09 36 59.7		
	baz=267,slow=74,SNR=4.2								
PTGA	**Pitinga**	65.07	323	P		P	08 40 10.7	-1.9	
	2.0nm,0.6s,baz=240,slow=14,SNR=3.1								
DBIC	**Dimbokro**	69.34	23	P		P	08 40 39.3	-0.3	
	5.8nm,0.8s,baz=194,slow=5.5,SNR=4.5								
OTAV	**Otavalo**	72.54	304	*e*P		P	08 40 59.4	-0.3	
	4.6nm,1.1s								
TORD	**Torodi Ar. Bea**	77.02	28	P		P	08 41 25.4	+0.5	
	4.4nm,0.5s,baz=199,slow=6.3,SNR=58								
ASAR	**Alice Springs**	94.42	162	P		P	08 42 52.8	+0.6	
	0.8nm,1.0s,baz=185,slow=4.2,SNR=6.2								
PDAR	**Pinedale Array**	123.01	299	PKP		PKPdf	08 48 28.1	+0.3	
	0.2nm,0.5s,baz=134,slow=3.9,SNR=2.9								
YKA	**Yellowknife Ar**	139.76	314	PKP		PKPdf	08 48 59.1	+0.7	
	1.0nm,0.8s,baz=127,slow=2.2,SNR=20								
INK	**Inuvik**	149.50	316	PKPbc		PKPbc	08 49 20.1	+0.5	
	1.3nm,0.7s,baz=44,slow=3.3,SNR=14								
SONM	**Songino Array**	150.39	94	PKPbc		PKPbc	08 49 22.7	+0.1	
	0.5nm,0.3s,baz=167,slow=7.3,SNR=3.9								
ILAR	**Eielson Array**	153.26	305	PKPbc		PKPbc	08 49 29.6	+1.1	
	1.6nm,0.9s,baz=327,slow=2.0,SNR=14								

ISCJB ***15*** *08:36:01.7±1.0, 40.43N±0.02×126.09W±0.06, h29km±9km, mb4.2/14, MS3.4/5, Error ellipse: s-maj=7.2km s-min=3.5km az=168.6*

IDC ***15*** *08:36:03.6±2.2, 40.71N×125.73W, h0km, mb3.8/5, mb1 4.1/11, mb1mx3.8/52, mbtmp3.8/11, ML3.5/6, MS3.4/13, Ms1 3.4/13, ms1mx3.2/47, Error ellipse: s-maj=30.5km s-min=15.3km az=50.0*

NEIC ***15*** *08:36:06.6, 40.27N×125.77W, h30km, mb4.3/15, MW4.5(BRK), After NCEDC.*

ISC 15 08:36:04.8±3.1, **40.40N**±0.05×**126.05W**±0.09, **h30**km±23km, **n144,** σ1°**69**/144, **mb4.3**/14, **MS3.4**/5, **21C-32D, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	1.82	74	*e*Pg	Pn	08 36 31.4	-2.8
KHMM				*e*Sn	Sn	08 36 55.2	-1.2
KCPM	**Cahto Peak**	2.02	110	*e*Pn	Pn	08 36 34.6	-2.3
KCPM				*e*Sn	Sn	08 36 57.4	-3.7
KSXB	**Camp Six Broad**	2.17	48	P	Pn	08 36 36.0	-3.0
KBO	**Bosley Butte**	2.27	37	*e*Pn	Pn	08 36 36.9	-3.4
KBO				*e*Sn	Sn	08 37 04.2	-3.2
KTRM	**Thompson Ridge**	2.52	52	P	Pn	08 36 41.1	-2.7
L02D	**Cave Junction,** baz=2.1,SNR=797	2.54	46	⇓P	Pn	08 36 41.6	-2.4
L02D	baz=2.1			⇓S	Sn	08 37 11.7	-2.3
N02D	**Trinity Center** baz=2.0,SNR=107	2.60	76	⇓P	Pn	08 36 42.4	-2.5
N02D	baz=2.0			⇓S	Sn	08 37 14.6	-0.9
M02C	**Callahan** baz=2.0,SNR=60	2.61	67	⇓P	Pn	08 36 42.3	-2.7
M02C	baz=2.0			⇓S	Sn	08 37 14.4	-1.4
WDC	**Whiskeytown Da**	2.68	85	*e*Pn	Pn	08 36 43.8	-2.1
WDC				*e*Sn	Sn	08 37 17.4	+0.2
HOPS	**Hopland Field**	2.69	121	*e*Pn	Pn	08 36 43.1	-2.8
HOPS				*e*Sn	Sn	08 37 12.4	-5.1
KEBM	**Edson Butte**	2.78	27	*e*Pn	Pn	08 36 44.0	-3.3
KEBM				*e*Sn	Sn	08 37 16.1	-3.9
YBH	**Yreka Blue Hor** 9.9nm,0.3s,baz=262,slow=16,SNR=268	2.85	61	Pn	Pn	08 36 46.1	-2.2
YBH	10nm,0.3s,baz=76,slow=19,SNR=3.7			Sn	Sn	08 37 21.0	-0.6
YBH	comp=Z,648nm,21.7s,baz=308,slow=43			LR	LR	08 37 49.9	
YBH	**Yreka Blue Hor**	2.85	61	*e*Pn	Pn	08 36 46.3	-2.0
YBH				*e*Sn	Sn	08 37 21.8	+0.2
HUMO	**Hull Mountain**	3.20	45	P	Pn	08 36 51.0	-2.0
MCCM	**Marconi Confer**	3.33	132	*e*Pn	Pn	08 36 51.7	-3.0
MCCM				*e*Sn	Sn	08 37 30.6	-2.8
M04C	**Macdoel** baz=2.9,SNR=76	3.46	65	⇓P	Pn	08 36 55.5	-1.2
I03D	**Drain, OR** baz=3.5,SNR=35	3.86	30	⇑P	Pn	08 36 59.3	-2.7
I03D	baz=3.5			⇑S	Sn	08 37 44.0	-2.3
K04D	**Chiloquin, OR** baz=3.4,SNR=29	3.91	54	⇑P	Pn	08 37 02.3	-0.7
SAC	**San Andreas**	3.99	134	*e*Pn	Pn	08 37 01.3	-2.5
SAC				*e*Sn	Sn	08 37 50.1	+0.6
J04D	**Umpqua Nationa** baz=3.6,SNR=79	4.09	45	P	Pn	08 37 04.8	-0.6
I04A	**Tendick Farm,** baz=3.9,SNR=301	4.34	37	P	Pn	08 37 07.5	-1.1
I04A	baz=3.9			⇓S	Sn	08 37 57.2	-1.0
MOD	**Modoc Plateau**	4.59	69	*e*Pn	Pn	08 37 10.4	-1.8
J05D	**Fort Rock, OR** baz=4.1,SNR=490	4.61	50	⇑P	Pn	08 37 11.7	-0.8
COR	**Corvallis**	4.65	25	*e*Pn	Pn	08 37 11.2	-1.6
COR				*e*Sn	Sn	08 38 08.0	+2.3
CMB	**Columbia Colle**	4.99	116	*e*Pn	Pn	08 37 18.5	+0.8
CMB				*e*Sn	Sn	08 38 11.0	-3.3
SAO	**San Andreas Ge**	5.11	134	*e*Pn	Pn	08 37 16.5	-2.8
SAO				*e*Sn	Sn	08 38 13.3	-4.1
G03D	**McMinnville, O** baz=5.0,SNR=5.8	5.22	22	⇓P	Pn	08 37 19.3	-1.5
I05D	**Terrebonne, OR** baz=4.8,SNR=44	5.26	40	⇑P	Pn	08 37 20.0	-1.3
WAKR	**Walker** 16nm,0.7s	5.45	108	*e*Pn	Pn	08 37 25.4	+1.2
WAKR				*e*Sn	Sn	08 38 24.4	-1.6
WVOR	**Wild Horse Val** 43nm,0.9s	5.93	68	*e*Pn	Pn	08 37 29.2	-1.4
G05D	**Wamic, OR** baz=5.6,SNR=16	5.96	34	⇑P	Pn	08 37 30.0	-0.9
MLAC	**Mammoth, Mammo** baz=5.7	6.26	114	⇓P	Pn	08 37 34.9	-0.3
MLAC	baz=5.7			⇓Sb	Sb	08 39 08.5	+1.0
NVAR	**Mina Array Bea** 1.8nm,0.3s,baz=285,slow=14,SNR=46	6.31	106	Pn	Pn	08 37 36.2	+0.3
SMMC	**Simmler** baz=6.5	6.98	135	⇑P	Pn	08 37 42.5	-2.4
SMMC	baz=6.5			⇑S	Sn	08 39 04.2	+0.9
VES	**Vestal, Richgr** baz=6.6	7.13	127	⇓P	Pn	08 37 45.9	-1.0
TPH	**Tonopah** 6.6nm,1.0s	7.23	106	*e*Pn	Pn	08 37 48.6	0.0
ISA	**Isabella, Lake** baz=7.1	7.62	126	⇓P	Pn	08 37 53.4	-0.4
ISA	baz=7.1			⇑S	Sn	08 39 21.4	+2.3
HAWA	**Hanford** 52nm,0.8s	7.64	36	*e*Pn	Pn	08 37 52.9	-1.1
ARVC	**Arvin** baz=7.3	7.77	130	⇑P	Pn	08 37 53.9	-1.9
DAC	**Darwin (Calif)** 3.5nm,0.8s	7.81	119	*e*Pn	Pn	08 37 58.5	+2.0
MFID	**Camas Ranch** 23nm,1.0s	8.19	65	*e*Pn	Pn	08 38 02.7	+1.1
ELK	**Elko** 0.1nm,0.3s,baz=53,slow=3.3,SNR=13	8.23	84	Pn	Pn	08 38 03.8	+1.5
ELK	comp=Z,90nm,19.1s,baz=190,slow=37			LR	LR	08 41 01.1	
R11A	**Troy Canyon, C** baz=7.7	8.36	101	⇑Sb	Sb	08 40 10.2	+2.1
TPNV	**Topopah Spring** baz=7.8	8.40	111	⇑Sb	Sb	08 40 12.3	+3.0
EDW2	**Edwards Air Fo** baz=7.9	8.43	128	⇓P	Pn	08 38 04.3	-0.6
PGC	**Sidney** 15nm,0.9s	8.45	12	*e*Pn	Pn	08 38 05.4	+0.4
HLID	**Hailey** baz=8.6	9.22	66	⇓P	Pn	08 38 16.1	+0.3
HLID	**Hailey**	9.22	66	*e*Pn	Pn	08 38 16.0	+0.2
SHPR	**Sheep Range** 35nm,1.7s	9.38	111	*e*Pn	Pn	08 38 20.5	+2.4
HEC	**Hector,Ludlow** baz=9.0	9.50	123	⇓P	Pn	08 38 19.8	+0.2
BGU	**Big Grassy Mou** 13nm,1.0s	9.90	83	*e*Pn	Pn	08 38 26.6	+1.4
GMRC	**Granite Mounta** baz=9.4	9.96	121	⇓P	Pn	08 38 26.0	0.0
DUG	**Dugway, Tooele** baz=9.4	10.11	87	⇓P	Pn	08 38 29.2	+1.1
DUG	**Dugway, Tooele** 12nm,1.0s	10.11	87	*e*Pn	Pn	08 38 29.4	+1.4
HVU	**Hansel Valley** 4.7nm,1.0s	10.11	78	*e*Pn	Pn	08 38 29.5	+1.5
NEW	**Newport** 0.2nm,0.3s,baz=224,slow=11,SNR=6.4	10.13	36	Pn	Pn	08 38 27.7	-0.4
NEW	comp=Z,336nm,18.2s,baz=215,slow=40			LR	LR	08 42 31.2	
NEW	**Newport** baz=9.7	10.13	36	⇓P	Pn	08 38 26.7	-1.4
NEW	**Newport** 6.1nm,0.8s	10.13	36	*e*Pn	Pn	08 38 27.4	-0.7
ARUT	**Antelope Range** 0.6nm,1.0s	10.14	101	*e*Pn	Pn	08 38 25.2	-3.2
ARUT				*e*Sn	Sn	08 40 15.1	-6.1
PFO	**Pinyon Flats O** comp=Z,363nm,19.2s,baz=300,slow=38	10.23	128	LR	LR	08 42 30.3	
BELC	**Belle Mtn. Jos** baz=9.7	10.24	125	⇑P	Pn	08 38 28.9	-0.9
MCMT	**McKenzie Canyo** 16nm,0.9s	10.68	61	*e*Pn	Pn	08 38 36.0	+0.1
MSO	**Missoula** baz=10	10.87	50	⇑P	Pn	08 38 38.3	0.0
W13A	**Hualapai Mount** baz=10	10.98	115	⇓P	Pn	08 38 41.9	+1.9
BSMT	**Bassoo Peak** 8.8nm,0.7s	10.99	44	*e*Pn	Pn	08 38 39.7	-0.3
BSMT				*e*Sn	Sn	08 40 43.0	+1.1
JTMT	**Jette** 12nm,0.9s	11.20	45	*e*Pn	Pn	08 38 42.5	-0.3
SWMT	**Swartz Lake** 8.0nm,0.8s	11.21	47	*e*Pn	Pn	08 38 42.7	-0.3
DAU	**Daniels Canyon** 0.4nm,1.2s	11.28	85	*e*Pn	Pn	08 38 43.4	-0.7
BLMT	**Blacktail Moun** 9.7nm,0.8s	11.31	44	*e*Pn	Pn	08 38 44.0	-0.5
LRM	**Limekiln Ridge** 146nm,1.0s	11.31	57	*e*Pn	Pn	08 38 44.3	-0.2
CHMT	**Chamberlain Mo** 27nm,0.8s	11.32	51	*e*Pn	Pn	08 38 44.3	-0.3
SLMT	**Seeley Lake** 21nm,0.7s	11.35	49	*e*Pn	Pn	08 38 44.3	-0.7
YBMT	**Yellow Bay** 14nm,1.1s	11.41	45	*e*Pn	Pn	08 38 45.7	0.0
U15A	**North Rim** baz=11	11.49	106	⇑P	Pn	08 38 50.8	+3.8
QLMT	**Earthquake Lak** 2.9nm,1.2s	11.64	63	*e*Pn	Pn	08 38 49.6	+0.7
BBB	**Bella Bella** comp=Z,76nm,19.0s,baz=138,slow=30	11.87	354	LR	LR	08 41 52.3	
YMR	**Madison River** 14nm,1.0s	11.91	64	*e*Pn	Pn	08 38 54.4	+1.7
YFT	**Old Faithful**	11.95	65	*e*Pn	Pn	08 38 53.8	+0.6
I17A	**Pilgrim Ck.** baz=11	12.01	68	⇑P	Pn	08 38 53.5	-0.5
SRU	**San Rafael Swe** 26nm,1.4s	12.02	91	*e*Pn	Pn	08 38 57.3	+3.2
HRY	**Holter Researc** 23nm,0.9s	12.08	54	*e*Pn	Pn	08 38 53.7	-1.1
H17A	**Grant Village** baz=12	12.11	66	⇓P	Pn	08 38 56.3	+0.9
H17A	**Grant Village** 12nm,1.3s	12.11	66	*e*Pn	Pn	08 38 58.7	+3.3
WALA	**Waterton Lakes** 8.2nm,0.9s	12.21	41	*e*Pn	Pn	08 38 56.1	-0.5
WALA				*e*Sn	Sn	08 41 10.7	-1.0
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=280,slow=11,SNR=9.1	12.57	74	Pn	Pn	08 39 02.0	+0.3
PDAR	comp=Z,271nm,20.0s,baz=266,slow=40			LR	LR	08 44 11.1	
Z14A	**Wintersburg** baz=12	12.61	120	⇓P	Pn	08 39 02.9	+0.8
J19A	**Crowheart** baz=12	12.99	72	⇓P	Pn	08 39 07.1	-0.3
X16A	**Lo Mia Camp, P** baz=12	13.05	113	⇑P	Pn	08 39 10.9	+2.7
GCMT	**Greycliff** 6.4nm,1.0s	13.12	60	*e*Pn	Pn	08 39 10.2	+1.1
I19A	**Meeteetse** baz=12	13.15	68	⇓P	Pn	08 39 09.2	-0.4
RLMT	**Red Lodge** 12nm,1.1s	13.20	64	*e*Pn	Pn	08 39 11.3	+1.1
H19A	**Powell** baz=13	13.28	66	⇓P	Pn	08 39 11.0	-0.3
H02S1	**DAWSON INLET T** SNR=5.3	13.54	343	T	T	08 51 50.3	
H02N1	**VAN INLET T-PH** SNR=3.5	13.60	343	T	T	08 51 41.4	
J20A	**Shoshoni** baz=13	13.71	72	⇓P	Pn	08 39 16.9	-0.2
PV01	**Paradox Valley** 725nm,1.2s	13.73	94	*e*Pn	Pn	08 39 19.5	+2.0
EGMT	**Eagleton** baz=13	13.93	51	⇓P	Pn	08 39 18.6	-1.6
EGMT	**Eagleton** 33nm,1.0s	13.93	51	*e*Pn	Pn	08 39 18.9	-1.2
H20A	**Greybull** baz=13	13.93	67	⇓P	Pn	08 39 20.4	+0.2
G20A	**Bridger** baz=13	13.94	64	⇓P	Pn	08 39 20.7	+0.4
MVCO	**Mesa Verde** baz=13	14.05	97	⇓P	Pn	08 39 22.9	+1.0
C19A	**Slack Wire Ran** baz=14	14.23	53	⇑P	Pn	08 39 23.1	-1.0
I21A	**Big Trails, Te** baz=14	14.33	70	⇑P	Pn	08 39 25.1	-0.5
E20A	**Meyer Farm, Mu** baz=14	14.36	59	⇓P	Pn	08 39 24.8	-1.2
K22A	**Caper** 9.5nm,1.2s	14.79	75	*e*Pn	Pn	08 39 31.0	-0.9
I22A	**9 Mile Ranch,** baz=14	14.92	70	⇑P	Pn	08 39 32.4	-1.2
A19A	**Klindworth Far** baz=14	14.95	49	⇑P	Pn	08 39 32.4	-1.5
N23A	**Red Feather La** baz=15	15.27	82	⇓P	Pn	08 39 37.3	-1.0
EDM	**Edmonton** 15nm,0.7s	15.46	30	*e*Pn	Pn	08 39 38.4	-2.2
ISCO	**Idaho Springs** 4.5nm,1.1s	15.65	86	*e*Pn	Pn	08 39 45.2	+1.8
ANMO	**Albuquerque** 0.0nm,0.3s,baz=297,slow=10,SNR=5.3	16.43	103	Pn	P	08 39 55.2	-0.5
ANMO	comp=Z,134nm,20.8s,baz=296,slow=39			LR	LR	08 46 39.7	
ANMO	**Albuquerque** 6.9nm,1.0s	16.43	103	*e*Pn	Pn	08 39 53.1	-0.1
LPM	**Los Pinos Moun** 9.8nm,1.2s	16.58	105	*e*Pn	Pn	08 39 53.1	-2.1
121A	**Cookes Peak, D** 23nm,1.3s	16.64	112	*e*Pn	Pn	08 39 54.5	-1.3
DGMT	**Dagmar** 17nm,0.8s	17.52	55	*e*Pn	P	08 40 09.4	+1.8
DLBC	**Dease Lake** 0.1nm,0.3s,baz=159,slow=15,SNR=3.9	18.23	353	P	P	08 40 18.0	+2.6
DLBC	comp=Z,95nm,18.4s,baz=176,slow=32			LR	LR	08 45 30.4	
AMTX	**Amarillo** 7.3nm,0.8s	20.04	98	*e*P	P	08 40 35.1	-0.3
LPIG	**La Paz** comp=Z,133nm,19.2s,baz=356,slow=34	20.95	136	LR	LR	08 47 51.1	
BGNE	**Belgrade** 46nm,1.0s	21.08	78	*e*P	P	08 40 48.0	+1.5
TXAR	**Lajitas Array** 3.1nm,1.0s,baz=302,slow=7.2,SNR=17	21.36	114	P	P	08 40 52.4	+2.6
TXAR	comp=Z,144nm,18.2s,baz=0.0,slow=40			LR	LR	08 50 12.6	
FFC	**Flin Flon** 24nm,0.8s	21.51	40	*e*P	P	08 40 50.1	-0.9
ECSD	**EROS Data Cent** 34nm,1.1s	22.05	72	*e*P	P	08 40 57.0	+0.1
WMOK	**Wichita Mounta** 3.4nm,0.8s	22.29	96	*e*P	P	08 41 01.8	+2.2
ABTX	**Abilene, Hawle** 15nm,1.1s	22.54	102	*e*P	P	08 41 04.3	+2.0
V34A	**Guthrie** 25nm,1.0s	22.85	92	*e*P	P	08 41 03.0	-2.5
AGMN	**Agassiz Nation**	22.87	60	*e*P	P	08 41 05.9	+0.3
YKA	**Yellowknife Ar** 46nm,1.5s	23.17	14	P	P	08 41 07.8	-0.7
ULM	**Lac du Bonnet** 0.7nm,0.7s,baz=198,slow=11,SNR=14	23.24	55	P	P	08 41 08.1	-1.3
ULM	23nm,1.1s,baz=259,slow=10.0,SNR=24			LR	LR	08 50 35.0	
ILAR	comp=Z,242nm,19.9s,baz=280,slow=38 **Eielson Array**	27.23	341	P	P	08 41 47.5	+1.8
FCC	0.5nm,0.9s,baz=159,slow=7.4,SNR=7.3 **Fort Churchill**	27.29	37	*e*P	P	08 41 46.3	0.0
LRAL	6.0nm,0.8s **Lakeview Retre**	31.95	91	*e*P	P	08 42 29.2	+1.3
SCHQ	2.7nm,0.8s **Schefferville**	41.17	49	P	P	08 43 45.3	-0.9
TAOE	6.1nm,1.0s,baz=280,slow=6.0,SNR=5.5 **Nuku Hiva Isla**	50.71	198	*e*T	T	09 39 20.9	
ROSC	303nm,0.3s **El Rosal**	58.28	113	LR	LR	09 15 00.4	
PMOR	comp=Z,9.7nm,18.2s,baz=94,slow=40 **Pomariorio Ree**	58.74	205	*e*T	T	09 49 21.6	
VAH	18nm,0.3s **Vaihoa**	58.88	205	*e*T	T	09 49 31.6	
BORG	11nm,0.3s **Borgarnes**	60.00	29	LR	LR	09 12 40.3	
MEH	comp=Z,50nm,18.5s,baz=54,slow=37 **Mehetia**	61.49	204	*e*T	T	09 52 48.7	
TIAR	12nm,0.2s **Tiarei**	61.60	205	*e*T	T	09 52 54.0	
PPT2	12nm,0.3s **Papeete2**	61.71	206	*e*LR	LR	09 04 18.5	
PPT2	118nm,27.5s **Papeete2**	61.71	206	*e*T	T	09 53 02.4	
TVO	5.3nm,0.4s **Taravao**	61.78	205	*e*T	T	09 53 04.7	
RKT	1.4nm,0.3s **Rikitea**	63.74	189	*e*T	T	09 55 28.3	
TBI	2.5nm,0.3s **Tubuai** 75nm,31.8s	67.07	203	*e*LR	LR	09 06 41.2	

IDC ***15*** *08:48:22.7±0.7, 53.62N×152.94W, h0km, mb4.2/31, mb1 4.4/34, mb1mx4.3/57, mbtmp4.2/34, ML4.2/3, MS3.6/18, Ms1 3.6/18, ms1mx3.3/49, Error ellipse: s-maj=21.2km s-min=10.2km az=25.0*

BJI ***15*** *08:48:23.6, 53.70N×152.80W, h10km, mB5.0/5, mb4.7/12, Ms4.7/4, Ms7 4.2/4*

MOS ***15*** *08:48:23.5±1.1, 53.68N×152.87W, h14km, mb4.8/26, Error ellipse: s-maj=12.9km s-min=5.2km az=88.6*

ISCJB ***15*** *08:48:26.7±0.9, 53.77N±0.02×152.79W±0.04, h33km±6km, mb4.4/69, MS3.6/15, Error ellipse: s-maj=4.3km s-min=3.7km az=171.0*

NEIC ***15*** *08:48:27.4±1.1, 53.62N×152.85W, h30km±8km, mb4.5/15, ML4.9(AEIC), Error ellipse: s-maj=4.6km s-min=3.0km az=182.0*

ISC 15 08:48:26.6±0.5, **53.65N**±0.06×**152.79W**±0.04, **h24**km±2km, **h23**km:**pP-P, n203,** σ1°**47**/248, **mb4.5**/69, **MS3.6**/15, **1C-5D, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	3.59	356	P	Pn	08 49 21.0	+0.3
OHAK				S	Sn	08 50 00.2	-2.0
KDAK	**Kodiak Island**	4.14	2	P	Pn	08 49 28.9	+0.6
KDAK				S	Sn	08 50 13.3	-2.6
KDAK	**Kodiak Island**	4.14	2	P	Pn	08 49 28.9	+0.6
KDAK				S	Sn	08 50 13.3	-2.6
KABR	**Katmai Barrier**	4.65	346	P	Pn	08 49 35.9	+0.5
KABR				S	Sn	08 50 26.8	-1.9
PLK1	**Peulik 1**	4.69	334	P	Pn	08 49 38.9	+3.2
SDPT	**Sand Point**	4.79	294	P	Pn	08 49 35.8	-1.4
SDPT				S	Sn	08 50 28.7	-3.3
KCE	**Katmai Mt Cerb**	4.79	345	P	Pn	08 49 38.7	+1.4
KAKN	**Katmai Knife C**	4.83	346	P	Pn	08 49 38.9	+1.1
KAKN				S	Sn	08 50 31.5	-1.4
KVTA	**Katmai Vly 10**	4.94	344	P	Pn	08 49 40.3	+1.0
KELA	**Mount Kelaz**	5.08	342	P	Pn	08 49 42.1	+0.9
KELA				S	Sn	08 50 38.1	-1.0
MCNL	**McNeil River**	5.61	352	P	Pn	08 49 49.7	+1.2
AUI	**Augustine Isla**	5.71	357	P	Pn	08 49 51.3	+1.5
AUI				S	Sn	08 50 51.1	-3.3
DTNA	**Dutton South F**	5.73	289	P	Pn	08 49 49.1	-0.9
DTNA				S	Sn	08 50 52.0	-3.0
AUP	**Augustine Pinn**	5.74	357	P	Pn	08 49 52.0	+1.7
AUP	**Augustine Pinn**	5.74	357	P	Pn	08 49 52.0	+1.7
AUH	**Augustine H**	5.74	357	P	Pn	08 49 52.0	+1.7
DT1	**Dutton Round H**	5.74	289	P	Pn	08 49 48.9	-1.3
DT1				S	Sn	08 50 51.1	-4.1
CNPM	**China Poot**	5.95	8	P	Pn	08 49 53.7	+0.5
CNPM				S	Sn	08 50 58.7	-1.8
OPT	**Oil Point**	6.02	358	P	Pn	08 49 55.5	+1.4
OPT				S	Sn	08 51 01.1	-1.1
BRLK	**Bradley Lake**	6.22	9	P	Pn	08 49 56.7	-0.1
BRLK				S	Sn	08 51 03.1	-3.9
ILS	**Iliamna Low So**	6.32	359	P	Pn	08 49 59.9	+1.5
FALS	**False Pass**	6.35	285	P	Pn	08 49 57.5	-1.0
FALS				S	Sn	08 51 06.9	-3.2
SSLN	**Shishaldin Nor**	6.67	285	P	Pn	08 50 02.9	-0.2
SEW	**Seward**	6.72	14	P	Pn	08 50 03.2	-0.5
SSLW	**Shishaldin Wes**	6.74	284	P	Pn	08 50 03.4	-0.6
MID	**Middleton Isla**	6.80	29	P	Pn	08 50 04.2	-0.5
MID	**Middleton Isla**	6.80	29	P	Pn	08 50 04.2	-0.5
RSO	**Redoubt South** 285nm,0.6s	6.83	0	*e*Pn	Pn	08 50 04.9	-0.5
RSO				*e*Sn	Sn	08 51 18.6	-3.7
RDWB	**Redoubt West**	6.85	360	P	Pn	08 50 06.2	+0.5
RDN	**Redoubt North**	6.88	0	P	Pn	08 50 07.2	+1.3
NCT	**North Crescent**	6.93	359	P	Pn	08 50 07.3	+0.7
DFR	**Drift River**	6.96	0	P	Pn	08 50 07.9	+0.9
SLKM	**Skilak Lake**	7.01	10	P	Pn	08 50 07.5	-0.2
SLKM	**Skilak Lake**	7.01	10	P	Pn	08 50 07.5	-0.2
CKL	**Chakachamna La**	7.57	2	P	Pn	08 50 16.3	+0.9
HIN	**Hinchinbrook I**	7.58	24	P	Pn	08 50 15.8	+0.3
CKN	**Chakachatna No**	7.60	2	P	Pn	08 50 16.5	+0.7
SVW2	**Sparrevohn**	7.62	350	P	Pn	08 50 16.5	+0.6
SPBG	**Spurr Blockage**	7.63	2	P	Pn	08 50 17.8	+1.5
BGL	**Barrier Glacie**	7.63	1	P	Pn	08 50 18.0	+1.7
RC01	**Rabbit Creek A**	7.64	11	*e*Pn	Pn	08 50 15.8	-0.5
RC01				*e*Sn	Sn	08 51 41.3	-0.6
RC01				*e*Sn	Sn	08 51 41.3	-0.6
AKUT	**Akutan**	7.69	279	P	Pn	08 50 17.8	+0.8
GLI	**Glacier Island**	7.87	21	P	Pn	08 50 20.4	+0.9
GLI				S	Sn	08 51 43.6	-4.1
STLK	**Strandline Lak**	7.88	3	P	Pn	08 50 20.9	+1.2
EYAK	**Cordova Ski Ar**	7.90	26	P	Pn	08 50 20.4	+0.6
EYAK				S	Sn	08 51 44.7	-3.6
UNV	**Unalaska Valle** 20nm,0.5s	8.13	277	*e*Pn	Pn	08 50 22.6	-0.5
DIV	**Divide** 78nm,0.5s	8.39	24	*e*Pn	Pn	08 50 27.1	+0.4
DIV				*e*Sn	Sn	08 51 56.2	-4.5
BMRM	**Bremner River** 155nm,0.4s	8.56	28	*e*Pn	Pn	08 50 29.6	+0.6
BMRM				*e*Sn	Sn	08 52 00.8	-3.9
PPLA	**Purkeypile** 33nm,0.5s	9.28	2	*e*Pn	Pn	08 50

COLA	College	11.53	11	*c*	*i*	P	Pn	08 51 09.1	-0.4
COLA	College	11.53	11		*e*	Pn	Pn	08 51 09.2	-0.3
	comp=Z,58nm,0.6s								
COLA					*e*	Sn	Sn	08 53 14.8	-2.5
ILAR	Eielson Array	11.55	13			Pn	Pn	08 51 09.3	-0.4
	comp=Z,8.2nm,0.3s,baz=196,slow=13,SNR=285								
ILAR						Sn	Sn	08 53 15.4	-2.4
	comp=Z,6.3nm,0.3s,baz=204,slow=22,SNR=13								
ILAR						LR	LR	08 55 54.6	
	comp=Z,195nm,18.1s,baz=159,slow=39								
DAWY	Dawson	12.50	28		*e*	Pn	Pn	08 51 23.8	+1.0
DAWY						Sn	Sn	08 53 45.3	+4.3
EGAK	Eagle	12.62	23		*e*	Pn	Pn	08 51 25.5	+1.1
	comp=Z,49nm,0.8s								
EGAK					*e*	Sn	Sn	08 53 44.6	+0.8
DLBC	Dease Lake	13.56	60			Pn	Pn	08 51 37.5	+0.2
	comp=Z,1.2nm,0.3s,baz=285,slow=8.2,SNR=34								
DLBC						LR	LR	08 55 50.7	
	comp=Z,459nm,19.7s,baz=286,slow=33								
DLBC	Dease Lake	13.56	60		*e*	Pn	Pn	08 51 38.0	+0.7
DLBC						Sn	Sn	08 54 07.7	+0.5
COLD	Coldfoot	13.68	4		*e*	Pn	Pn	08 51 38.0	-0.8
	comp=Z,6.0nm,0.6s								
COLD					*e*	Sn	Sn	08 54 07.8	-1.9
GAMB	Gambell	14.06	324		*e*	Pn	Pn	08 51 44.8	+0.9
	comp=Z,4.2nm,0.6s								
TNA	Tin City	14.13	334		*e*	Pn	Pn	08 51 46.8	+1.9
	comp=Z,9.3nm,0.8s								
BBB	Bella Bella	14.94	86			Pn	Pn	08 51 54.5	-1.5
	comp=Z,0.1nm,0.3s,baz=137,slow=18,SNR=1.9								
BBB						LR	LR	08 56 01.0	
	comp=Z,139nm,20.0s,baz=248,slow=30								
INK	Inuvik	17.28	24			P	P	08 52 26.7	-0.5
	comp=Z,2.1nm,0.3s,baz=211,slow=13,SNR=101								
INK						LR	LR	08 59 00.0	
	comp=Z,280nm,21.3s,baz=225,slow=37								
YKA	Yellowknife Ar	21.73	51			P	P	08 53 16.2	+0.5
	comp=Z,15nm,0.8s,baz=263,slow=9.8,SNR=191								
NEW	Newport	22.93	89		*e*	P	P	08 53 30.6	+1.8
NEW	Newport	22.93	89			P	P	08 53 30.3	+1.6
	comp=Z,2.0nm,0.7s,baz=62,slow=4.1,SNR=4.8								
NEW						LR	LR	09 00 24.7	
	comp=Z,58nm,19.7s,baz=278,slow=31								
NEW	Newport	22.93	89		*e*	P	P	08 53 30.6	+1.8
EDM	Edmonton	23.30	75		*e*	P	P	08 53 32.8	+0.4
EDM	Edmonton	23.30	75		*e*	P	P	08 53 32.8	+0.4
YBH	Yreka Blue Hor	23.30	109			P	P	08 53 33.9	+1.2
	comp=Z,2.3nm,0.8s,baz=298,slow=3.4,SNR=9.5								
YBH						LR	LR	09 00 22.7	
	comp=Z,163nm,20.0s,baz=302,slow=31								
BILL	Bilibino	23.98	323		*i*	P	P	08 53 39.6	+0.7
BILL					*i*			08 53 48.4	
BILL					*i*			08 54 10.9	
BILL						pmax	pmax		
	comp=Z,19nm,1.3s								
SWMT	Swartz Lake	25.14	88		*e*	P	P	08 53 51.4	+1.6
	comp=Z,1.4nm,0.7s								
MFID	Camas Ranch	26.25	98		*e*	P	P	08 54 00.4	+0.6
	comp=Z,4.2nm,1.0s								
HRY	Holter Researc	26.82	88		*e*	P	P	08 54 06.1	+1.1
	comp=Z,3.1nm,0.7s								
MCMT	McKenzie Canyo	27.21	93		*e*	P	P	08 54 09.7	+1.0
	comp=Z,1.2nm,0.8s								
MCMT					*e*	pP	pP	08 54 19.6	+3.9
NVAR	Mina Array Bea	28.02	109			P	P	08 54 16.4	+0.5
	comp=Z,1.4nm,0.7s,baz=302,slow=8.8,SNR=14								
NVAR						PcP	PcP	08 57 29.6	-0.6
	comp=Z,0.5nm,0.7s,baz=305,slow=3.2,SNR=3.6								
ELK	Elko	28.23	102			P	P	08 54 17.1	-0.7
	comp=Z,0.8nm,0.7s,baz=180,slow=1.0,SNR=4.5								
PETK	Petropavlovsk-	29.06	289			P	P	08 54 23.7	-1.1
	comp=Z,2.7nm,0.6s,baz=85,slow=12,SNR=12								
SEY	Seymchan	29.38	310			P	P	08 54 27.3	-0.1
	comp=Z,2.1nm,0.6s,baz=95,slow=11,SNR=9.2								
PDAR	Pinedale Array	30.34	93			P	P	08 54 36.9	+0.4
	comp=Z,0.6nm,0.5s,baz=310,slow=4.2,SNR=8.5								
RES	Resolute Bay	30.82	26		*e*	P	P	08 54 40.1	0.0
RES						pmax	pmax		
	comp=Z,5.0nm,0.6s								
RES	Resolute Bay	30.82	26		*e*	P	P	08 54 40.1	0.0
	comp=Z,5.3nm,0.6s								
RES					*e*	pP	pP	08 54 52.8	+5.6
FCC	Fort Churchill	32.12	57		*e*	P	P	08 54 52.1	+0.5
FCC						pmax	pmax		
	comp=Z,27nm,1.4s								
FCC	Fort Churchill	32.12	57		*e*	P	P	08 54 52.1	+0.5
	comp=Z,27nm,1.4s								
PFO	Pinyon Flats O	32.55	113			P	P	08 54 55.8	0.0
	comp=Z,0.7nm,0.3s,baz=333,slow=4.5,SNR=2.4								
O20A	White River Ci	32.74	96		*e*	P	P	08 54 58.2	+0.7
	comp=Z,7.4nm,0.8s								
O20A					*e*	pP	pP	08 55 05.4	+0.8
RSSD	Black Hills	32.85	87		*e*	P	P	08 54 59.4	+0.9
RSSD					*e*	*PP	pP	08 55 05.4	-0.2
RSSD						pmax	pmax		
	comp=Z,4.0nm,0.7s								
RSSD	Black Hills	32.85	87		*e*	P	P	08 54 59.4	+0.9
	comp=Z,3.8nm,0.7s								
RSSD					*e*	pP	pP	08 55 05.4	-0.2
PV01	Paradox Valley	33.84	99		*e*	P	P	08 55 07.6	+0.4
	comp=Z,194nm,0.7s								
ULM	Lac du Bonnet	34.44	72			P	P	08 55 12.7	+0.8
	comp=Z,0.7nm,0.5s,baz=300,slow=8.5,SNR=7.8								
ULM						LR	LR	09 08 22.3	
	comp=Z,86nm,18.2s,baz=220,slow=35								
214A	Organ Pipe Nat	35.81	111		*e*	P	P	08 55 24.4	+0.4
TIXI	Tiksi	36.85	329		*e*	P	P	08 55 33.1	+0.8
TIXI					*e*	*PP	pP	08 55 39.7	+0.2
TIXI						pmax	pmax		
	comp=Z,3.0nm,0.8s								
TIXI	Tiksi	36.85	329		*e*	P	P	08 55 33.1	+0.8
	comp=Z,3.1nm,0.8s								
TIXI					*e*	pP	pP	08 55 39.6	+0.2
ANMO	Albuquerque	37.26	101		*e*	P	P	08 55 36.8	+0.2
ANMO						pmax	pmax		
	comp=Z,3.0nm,0.9s								
ANMO	Albuquerque	37.26	101			P	P	08 55 37.2	+0.6
	comp=Z,0.6nm,0.7s,baz=312,slow=6.5,SNR=3.8								
ECSD	EROS Data Cent	37.46	82		*e*	P	P	08 55 37.9	-0.1
	comp=Z,2.7nm,0.7s								
YAK	Yakutsk	39.72	314			LR	LR	09 14 02.8	
	comp=Z,53nm,18.6s,baz=74,slow=39								
JFWS	Jewell Farm	41.68	79		*e*	P	P	08 56 13.4	+0.3
JFWS						pmax	pmax		
	comp=Z,5.0nm,0.7s								
JFWS	Jewell Farm	41.68	79		*e*	P	P	08 56 13.4	+0.3
	comp=Z,5.5nm,0.7s								
TXAR	Lajitas Array	42.96	104			P	P	08 56 24.5	+0.8
	comp=Z,2.7nm,0.8s,baz=301,slow=5.9,SNR=29								
JCT	Junction City	44.36	100		*e*	P	P	08 56 34.9	0.0
JCT						pmax	pmax		
	comp=Z,7.0nm,0.7s								
JCT	Junction City	44.36	100		*e*	P	P	08 56 34.9	0.0
	comp=Z,6.9nm,0.7s								
H11N2	WAKE ISLAND Hy	45.80	238			T	T	09 47 44.1	
	baz=30,slow=74,SNR=40								
H11N3	WAKE ISLAND Hy	45.80	238			T	T	09 48 28.0	
	baz=30								
H11N1	WAKE ISLAND Hy	45.81	238			T	T	09 47 39.2	
	baz=30,slow=74,SNR=32								
SUMG	Summit	46.19	22		*e*	P	P	08 56 49.8	+0.5
SUMG					*e*	*PP	pP	08 56 59.3	+2.7
SUMG						pmax	pmax		
	comp=Z,19nm,1.0s								
SUMG	Summit	46.19	22		*e*	P	P	08 56 49.8	+0.5
	comp=Z,19nm,1.0s								
SUMG					*e*	pP	pP	08 56 59.3	+2.7
SUMG					*e*	sP	sP	08 57 02.8	+3.3
SUMG	Summit	46.19	22		*i*	P	P	08 56 49.4	+0.1
	comp=Z,12nm,1.1s								
SFJD	Kangerlussuaq	46.40	32	⇓	*i*	P	P	08 56 50.9	+0.4
SFJD						pmax	pmax		
	comp=Z,10.0nm,1.0s								
SFJD	Kangerlussuaq	46.40	32		*e*	P	P	08 56 51.0	+0.5
	comp=Z,30nm,1.3s								
SFJD	Kangerlussuaq	46.40	32	⇓	*i*	P	P	08 56 50.9	+0.4
	comp=Z,10nm,0.9s								
DAG	Danmarks Havn	46.65	13	⇓	*i*	P	P	08 56 52.1	-0.3
DAG						pmax	pmax		
	comp=Z,14nm,0.7s								
DAG	Danmarks Havn	46.65	13	⇓	*i*	P	P	08 56 52.1	-0.3
	comp=Z,20nm,0.7s								
H11S1	WAKE ISLAND Hy	46.92	238			T	T	09 49 22.9	
	baz=28,slow=76,SNR=14								
H11S2	WAKE ISLAND Hy	46.94	238			T	T	09 49 22.9	
	baz=28,slow=76,SNR=59								
H11S3	WAKE ISLAND Hy	46.94	238			T	T	09 49 34.3	
	baz=28,slow=76,SNR=9.8								
SCHQ	Schefferville	47.18	52			P	P	08 56 55.9	-0.9
	comp=Z,3.5nm,0.7s,baz=300,slow=8.6,SNR=7.6								
SCHQ						LR	LR	09 16 31.7	
	comp=Z,130nm,18.2s,baz=84,slow=36								
KBS	Kingsbay	47.36	4		*e*	P	P	08 56 58.4	+0.5
KBS						pmax	pmax		
	comp=Z,35nm,1.7s								
H06E1	SOCORRO T-PHAS	47.38	121			T	T	09 46 23.7	
	SNR=8.1								
SPITS	Spitsbergen Ar	48.26	3			P	P	08 57 04.8	-0.1
	comp=Z,11nm,0.7s,baz=19,slow=5.3,SNR=18								
BOD	Bodaibo	48.63	315		*e*	P	P	08 57 06.9	-1.1
BOD						pmax	pmax		
	comp=Z,8.0nm,1.8s								
HIA	Hailar	51.37	303		*e*	P	P	08 57 31.4	+2.5
HIA						pmax	pmax		
	comp=Z,4.0nm,1.1s								
BRAL	Brewton	51.54	88		*e*	P	P	08 57 29.8	-0.6
	comp=Z,29nm,0.2s								
KEV	Kevo	56.90	0		*e*	P	P	08 58 05.7	-3.2
KEV						pmax	pmax		
	comp=Z,1.0nm,0.4s								
KEV	Kevo	56.90	0		*ep*		P	08 58 05.7	-3.2
	comp=Z,0.6nm,0.4s								
ARCES	ARCESS Array B	57.12	1			P	P	08 58 09.9	-0.5
	comp=Z,1.4nm,0.6s,baz=4.6,slow=6.1,SNR=6.4								
ARCES						LR	LR	09 24 33.9	
	comp=Z,47nm,19.2s,baz=3.0,slow=38								
TLY	Talaya	57.19	314		*e*	P	P	08 58 12.2	+0.9
TLY						pmax	pmax		
	comp=Z,3.0nm,0.9s								
ZAK	Zakamensk	58.30	313		*e*	P	P	08 58 25.5	+6.4
ZAK						pmax	pmax		
	comp=Z,3.0nm,1.4s								
MOY	Mondy	58.32	315		*e*	P	P	08 58 26.8	+7.5
ULN	Ulaanbaatar	58.44	309	⇓	*i*	P	P	08 58 22.5	+2.2
ULN						pmax	pmax		
	comp=Z,2.0nm,0.9s								
SONM	Songino Array	58.77	309			P	P	08 58 22.9	+0.4
	comp=Z,0.9nm,0.4s,baz=41,slow=7.5,SNR=9.2								
HHC	Hu-ho-hao-te	61.37	301		*e*	P	P	08 58 41.5	+1.1
HHC						sP	sP	08 58 49.4	-1.4
HHC						PP	PP	09 00 58.8	+3.6
HHC						S	S	09 06 59.0	-0.6
HHC						SS	SS	09 11 00.6	+1.0
HHC						PMZ			
	comp=Z,29nm,0.7s								
HHC						PMZ			
	comp=Z,130nm,8.7s								
HHC						LN			
	comp=Z,130nm,14.9s								
HHC						LE			
	comp=Z,160nm,14.9s								
HHC						LZ			
	comp=Z,130nm,14.8s								
ZALV	Zalesovo Beam	62.64	326			P	P	08 58 48.9	+0.3
	comp=Z,0.6nm,0.4s,baz=10,slow=8.8,SNR=2.3								
JOF	Joensuu	63.72	358		*e*	P	P	08 58 55.2	-0.4
JOF						pmax	pmax		
	comp=Z,3.0nm,0.6s								
JOF	Joensuu	63.72	358		*ep*		P	08 58 55.2	-0.4
	comp=Z,2.8nm,0.6s								
PRGR	Permogore	64.13	350			P	P	08 58 56.0	-2.3
PRGR						*PP	pP	08 59 04.3	-1.5
PRGR						pmax	pmax		
	comp=Z,36nm,1.5s								
KAF	Kangasniemi	64.58	0		*e*	P	P	08 59 00.1	-1.1
KAF						pmax	pmax		
	comp=Z,3.0nm,0.6s								
KAF	Kangasniemi	64.58	0		*ep*		P	08 59 00.1	-1.1
	comp=Z,3.0nm,0.6s								
NB2	NORSAR Subarra	64.95	9			P	P	08 59 03.4	-0.3
	comp=Z,6.7nm,0.8s,baz=350,slow=6.9								
NOA	NORSAR Array B	64.95	9			P	P	08 59 03.9	+0.1
	comp=Z,2.9nm,0.7s,baz=351,slow=6.6,SNR=11								
NOA						LR	LR	09 29 00.2	
	comp=Z,31nm,19.0s,baz=40,slow=38								
FINES	FINESS Array B	65.25	1			P	P	08 59 05.1	-0.5
	comp=Z,4.8nm,0.8s,baz=19,slow=6.5,SNR=14								
FINES						LR	LR	09 28 19.3	
	comp=Z,27nm,20.2s,baz=22,slow=37								
KURK	Kurchatov	67.41	327			P	P	08 59 20.1	+0.5
KURK	Kurchatov	67.41	327			P	P	08 59 20.1	+0.5
KURBB	Kurchatov Arra	67.51	327			P	P	08 59 20.1	-0.2
	comp=Z,0.8nm,0.5s,baz=30,slow=6.5,SNR=5.9								
BVAR	Borovoye Array	67.78	333			P	P	08 59 22.0	+0.1
	comp=Z,3.3nm,0.7s,baz=30,slow=6.8,SNR=18								
PMOR	Pomariorio Ree	68.50	175		*e*	T	T	10 12 56.4	
	comp=Z,17nm,0.3s								
LZH	Lanzhou	68.92	302		*e*	P	P	08 59 30.3	+0.8
LZH						pP	pP	08 59 35.1	-2.0
LZH						sP	sP	08 59 38.0	-2.0
LZH						PMZ			
	comp=Z,11nm,1.0s								
MKAR	Makanchi Array	69.53	323			P	P	08 59 32.5	-0.5
	comp=Z,0.5nm,0.5s,baz=43,slow=7.1,SNR=5.9								
WMQ	Urumqi	69.99	318		*e*	P	P	08 59 37.8	+1.9
WMQ						pP	pP	08 59 42.0	-1.5
WMQ						sP	sP	08 59 44.8	-1.6
WMQ						PcP	PcP	09 00 00.0	+1.9
WMQ					*e*	S	S	09 08 46.5	+1.8
WMQ						SS	SS	09 13 17.0	+3.9
WMQ						PMZ			
	comp=Z,6.0nm,0.5s								
WMQ						PMZ			
	comp=Z,120nm,5.2s								
WMQ						LN			
	comp=Z,150nm,25.0s								
WMQ						LZ			
	comp=Z,130nm,21.7s								
PPT	Papeete	70.98	177			LR	LR	09 23 22.7	
	comp=Z,135nm,21.8s,baz=354,slow=30								
PPT2	Papeete2	71.00	177		*e*	LR	LR	09 21 06.3	
	comp=Z,133nm,21.8s								
OBN	Obninsk	71.32	354		*e*	P	P	08 59 43.4	-0.3
OBN					*i*			08 59 49.2	
OBN						pmax	pmax		
	comp=Z,8.0nm,1.0s								
OBN						MLR	MLR		
	comp=Z,55nm,18.0s								
CD2	Chengdu	73.04	299		*e*	P	P	08 59 55.0	+0.5
CD2						PMZ			
	comp=Z,10.0nm,0.5s								
CD2						PMZ			
	comp=Z,100nm,5.2s								
AKTO	Aktyubinsk	73.09	340			P	P	08 59 54.4	-0.1
	comp=Z,7.1nm,0.7s,baz=27,slow=6.3,SNR=26								
ABKAR	Akbulak array	73.80	338		*e*	P	P	08 59 58.6	0.0
	comp=Z,8.8nm,0.6s								
CLL	Collm	74.73	9		*e*	P	P	09 00 04.0	0.0
CLL					*e*	pP	pP	09 00 14.0	+2.4
VRHR	Novokhopersk	74.92	351		*e*	P	P	09 00 02.5	-2.6
VRHR						pmax	pmax		
	comp=Z,4.0nm,0.9s								
VRHR						pmax	pmax		
	comp=N,10.0nm,0.7s								
VRHR						pmax	pmax		
	comp=E,3.0nm,0.4s								
VSR	Storozhevoye	75.02	352		*e*	P	P	09 00 04.8	-0.8
VSR						pmax	pmax		
	comp=N,9.0nm,0.5s								
VSR						pmax	pmax		
	comp=Z,7.0nm,0.5s								
VSR						pmax	pmax		
	comp=E,2.0nm,0.3s								
VORD	Divnogorie	75.26	352		*e*	P	P	09 00 05.2	-1.8
VORD						pmax	pmax		
	comp=N,20nm,0.8s								
VORD						pmax	pmax		
	comp=Z,10.0nm,0.8s								
VORD						pmax	pmax		
	comp=E,20nm,0.9s								
DPC	Dobruska-Polom	75.97	7		*e*	P	P	09 00 11.2	+0.1
DPC					*e*	*PP	pP	09 00 18.5	-0.3
DPC	Dobruska-Polom	75.97	7		*e*	P	P	09 00 11.2	+0.1
DPC					*e*	pP	pP	09 00 18.5	-0.3
AKASG	Malin Array Be	76.00	359			P	P	09 00 10.6	-0.6
	comp=E,7.5nm,0.7s,baz=358,slow=5.4,SNR=23								
KIEV	Kiev	76.01	359		*i*	P	P	09 00 10.2	-1.1
KIEV	Kiev	76.01	359		*e*	P	P	09 00 10.5	-0.8
	comp=E,7.4nm,0.8s								
KRLC	Kraliky	76.27	7		*e*	P	P	09 00 13.2	+0.3
KRLC					*e*	*PP	pP	09 00 20.3	-0.3
KRLC	Kraliky	76.27	7		*e*	P	P	09 00 13.2	+0.3
KRLC					*e*	pP	pP	09 00 20.3	-0.3
TBI	Tubuai	76.73	177		*e*	LR	LR	09 23 46.5	
	comp=E,134nm,24.0s								
KHC	Kasperske Hory	76.94	9		*e*	P	P	09 00 15.8	-0.9
KHC					*e*	*PP	pP	09 00 23.7	-0.7
KHC	Kasperske Hory	76.94	9		*e*	P	P	09 00 15.8	-0.9
KHC					*e*	pP	pP	09 00 23.7	-0.7
STHS	Stebnicka Huta	77.18	4		*e*	P	P	09 00 18.9	+0.9
STHS						pmax	pmax		
	comp=Z,8.0nm,0.7s								
STHS	Stebnicka Huta	77.18	4		*e*	P	P	09 00 18.9	+0.9
STHS					*e*	pP	pP	09 00 26.2	+0.5
GERES	GERESS Array B	77.24	9			P	P	09 00 18.4	-0.1
	comp=Z,1.7nm,0.6s,baz=345,slow=4.1,SNR=9.5								
KOLS	Kolonicke sedl	77.70	3		*e*	P	P	09 00 22.7	+1.8
KOLS	Kolonicke sedl	77.70	3		*e*	P	P	09 00 22.7	+1.8
VYHS	Vyhne	77.98	6		*e*	P	P	09 00 22.7	+0.2
VYHS						pmax	pmax		
	comp=Z,3.0nm,1.1s								
VYHS	Vyhne	77.98	6		*e*	P	P	09 00 22.7	+0.2
VYHS					*e*			09 00 29.9	
RKT	Rikitea	77.99	163		*e*	LR	LR	09 24 18.1	
	comp=Z,120nm,30.8s								
KSH	Kashi	78.13	324			P	P	09 00 30.5	+6.9
KSH						sP	sP	09 00 37.6	+3.5
KSH						PP	PP	09 03 30.8	+11
KSH						S	S	09 10 26.3	+10
KSH						sS	SKSac	09 10 34.8	-1.5
KSH						SKS	ScS	09 10 40.1	-1.8
KSH						PMZ			
	comp=Z,5.0nm,1.0s								
KSH						PMZ			
	comp=Z,83nm,4.1s								
KSH						LN			
	comp=Z,130nm,5.7s								
KSH						LE			
	comp=Z,64nm,6.4s								
KSH						LZ			
	comp=Z,100nm,7.6s								
JAY	Jayapura	78.34	249			LR	LR	09 30 45.6	
	comp=Z,37nm,19.1s,baz=214,slow=32								
KIV	Kislovodsk	81.87	349		*e*	P	P	09 00 44.1	+0.4
KIV						pmax	pmax		
	comp=Z,18nm,1.0s								
KBZ	Khabaz	82.07	349			P	P	09 00 45.7	+1.2
	comp=Z,3.1nm,0.8s,baz=56,slow=24,SNR=8.6								
SOC	Sochi	82.55	351		*e*	P	P	09 00 46.7	-0.4
SOC					*e*			09 00 50.4	
SOC						pmax	pmax		
	comp=Z,6.0nm,0.5s								
ZEI	Tsey	82.87	348		*e*	P	P	09 00 47.0	-2.1
ZEI						pmax	pmax		
	comp=Z,5.0nm,1.0s								
ESDC	Sonseca Array	83.23	24			P	P	09 00 51.0	+0.2
	comp=Z,3.2nm,0.8s,baz=338,slow=5.3,SNR=8.8								
GUN	Gumba	84.25	311		*e*	P	P	09 00 54.6	-2.0
	comp=Z,22nm,0.9s								
JIRN	Jiri	84.32	310		*e*	P	P	09 00 56.2	-0.8
	comp=Z,25nm,1.0s								
GKN	Gorkha	84.73	312		*e*	P	P	09 00 58.4	-0.4
	comp=Z,22nm,0.8s								
RAMN	Ramite	84.74	310		*e*	P	P	09 00 58.7	-0.3
	comp=Z,24nm,0.8s								
PKI	Pulchoki	84.75	311		*e*	P	P	09 00 58.2	-0.9
	comp=Z,18nm,0.7s								
DANN	Dangsing	84.82	312		*e*	P	P	09 00 59.6	+0.2
	comp=Z,71nm,0.7s								
GEYT	Alibeck	84.95	336			P	P	09 00 59.3	-0.3
	comp=Z,1.8nm,0.4s,baz=340,slow=8.1,SNR=4.6								
GEYT						LR	LR	09 44 54.8	
	comp=Z,81nm,18.8s,baz=35,slow=40								
PYUN	Piuthan	85.37	313		*e*	P	P	09 01 04.3	+2.2
	comp=Z,65nm,0.8s								
KOLN	Koldanda	85.39	312		*e*	P	P	09 01 03.4	+1.3
	comp=Z,16nm,0.7s								
CMAR	Chiang Mai Arr	85.66	295			P	P	09 01 02.8	-0.5
	comp=Z,0.6nm,0.7s,baz=20,slow=5.1,SNR=4.8								
CMAR						LR	LR	09 41 25.3	
	comp=Z,22nm,18.6s,baz=173,slow=37								
BRTR	Keskin Array B	86.83	355			P	P	09 01 09.2	+0.3
	comp=Z,2.5nm,0.9s,baz=37,slow=3.1,SNR=12								
BRTR						LR	LR	09 45 40.2	
	comp=Z,15nm,20.0s,baz=340,slow=40								
WRA	Warramunga Arr	96.17	245			P	P	09 01 50.1	-2.3
	comp=Z,0.4nm,1.0s,baz=40,slow=5.7,SNR=3.9								
ASAR	Alice Springs	99.44	243			LR	LR	09 42 55.0	
	comp=Z,43nm,19.4s,baz=52,slow=33								

MEX ***15*** *08:51:03.6±1.1,32.58N×115.47W,h21km±68km,MD3.8*
ISCJB ***15*** *08:51:04.2±0.4,32.61N±0.02×115.73W±0.03,h7km±4km,*
Error ellipse: s-maj=4.4km s-min=3.8km az=177.4
NEIC ***15*** *08:51:04.6,32.57N×115.79W,h2km,ML3.1(PAS),After PAS.*
ECX ***15*** *08:51:06.0±0.7,32.63N×115.79W,h4km,MD3.0,ML3.2*
ISC 15 08:51:03.7±1.0,32.53N±0.03×115.70W±0.02,h10km±8km,
n25,σ1§67/38,2C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	Mount Signal	0.12	348	⇑	*i*	P	Pg	08 51 06.9	+0.2
YUH	Yuha Desert	0.23	302	⇓	*i*	P	Pg	08 51 08.2	-0.2
COK	Cook Ranch	0.32	355	⇓	*i*	P	Pg	08 51 10.5	+0.3
RMX	La Rumorosa	0.33	283	⇑	*e*	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.05**	**38**	*e*PG	Pg	08 56 06.0	+4.4
KEMA	**Kemaliye**	**0.14**	**190**	*i* P	**Pg**	**08 56 02.2**	**-0.5**
KEMA				*i* S	**Sg**	**08 56 05.6**	**+0.6**
KEMA	**Kemaliye**	**0.14**	**190**	*i* P	**Pg**	**08 56 02.2**	**-0.5**
KEMA				*i* S	**Sg**	**08 56 05.6**	**+0.6**
SUSE	**Susehri**	**0.83**	**343**	*i* P	**Pg**	**08 56 15.0**	**-0.6**
SUSE				*i* S	**Sb**	**08 56 27.7**	**+0.1**
SUSE	**Susehri**	**0.83**	**343**	*i* P	**Pg**	**08 56 15.0**	**-0.6**
SUSE				*i* S	**Sb**	**08 56 27.7**	**+0.1**
PTK	**Pertek**	**0.85**	**127**	*e*PG	**Pn**	**08 56 17.7**	**0.0**
PTK				*e*SG	**Sn**	**08 56 30.1**	**-0.2**
PTK	**Pertek**	**0.85**	**127**	*e*Pg	**Pn**	**08 56 17.7**	**0.0**
KELT	**Kelkit**	**0.93**	**37**	*i* P	**Pg**	**08 56 17.1**	**-0.2**
KELT				*i* S	**Sg**	**08 56 29.2**	**-0.2**
KELT	**Kelkit**	**0.93**	**37**	*i* P	**Pg**	**08 56 17.1**	**-0.2**
KELT				*i* S	**Sg**	**08 56 29.2**	**-0.2**
ERZN	**Erzincan**	**0.94**	**79**	*e*PG	**Pn**	**08 56 18.7**	**-0.2**
ERZN				*e*SG	**Sb**	**08 56 31.9**	**+1.3**
ELZG	**Elazig**	**0.98**	**158**	*i* P	**Pg**	**08 56 18.1**	**-0.2**
ELZG				*i* S	**Sb**	**08 56 31.8**	**+0.1**
ELZG	**Elazig**	**0.98**	**158**	*i* P	**Pg**	**08 56 18.1**	**-0.2**
ELZG				*i* S	**Sb**	**08 56 31.8**	**+0.1**
MALT	**Malatya**	**1.10**	**184**	*e*PG	**Pg**	**08 56 19.8**	**-0.7**
MALT	**Malatya**	**1.10**	**184**	*e*Pg	**Pg**	**08 56 19.8**	**-0.7**
DARE	**Darende-Malaty**	**1.17**	**224**	*e*PN	**Pg**	**08 56 21.4**	**-0.4**
DARE	**Darende-Malaty**	**1.17**	**224**	*e*Pn	**Pg**	**08 56 21.5**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.20**	**149**	*e*PN	**Pb**	**08 56 22.4**	**0.0**
SVRC				*e*SN	**Sg**	**08 56 38.2**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.20**	**149**	*e*Pn	**Pb**	**08 56 22.4**	**0.0**
SVRC				*e*Sn	**Sg**	**08 56 38.2**	**+0.2**
AKCD	**Akcadag**	**1.21**	**203**	*i* P	**Pn**	**08 56 22.6**	**0.0**
AKCD	**Akcadag**	**1.21**	**203**	*i* P	**Pn**	**08 56 22.6**	**0.0**
SVSK	**Karacayir**	**1.28**	**294**	*e*PN	**Pg**	**08 56 24.2**	**+0.1**
SVSK	**Karacayir**	**1.28**	**294**	*e*Pn	**Pg**	**08 56 24.2**	**+0.1**

IDC 15 09:05:21.5±16.0, 4°.69S×106°.64W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/30, mbtmp3.4/4, MS4.0/1, Ms1 3.9/1, ms1mx3.0/18, Error ellipse: s-maj=535.3km s-min=112.0km az=124.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**33.95**	**5**	P	P	09 12 06.6	-0.2
	0.2nm,0.9s,baz=183,slow=9.7,SNR=2.8						
PDAR	**Pinedale Array**	**47.31**	**357**	P	P	09 13 57.1	-0.1
	0.4nm,0.7s,baz=160,slow=4.7,SNR=3.8						
PLCA	**Paso Flores**	**48.33**	**143**	LR	LR	09 28 36.3	
	comp=Z,139nm,18.6s,baz=184,slow=29						
YKA	**Yellowknife Ar**	**67.27**	**356**	P	P	09 16 18.1	+0.5
	0.4nm,1.0s,baz=163,slow=6.2,SNR=5.4						
ILAR	**Eielson Array**	**75.37**	**343**	P	P	09 17 06.2	-0.3
	0.7nm,1.0s,baz=152,slow=6.0,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**88.23**	**290**	T	T	10 57 45.3	
	baz=96,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**88.24**	**290**	T	T	10 57 46.4	
	baz=96,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**88.25**	**290**	T	T	10 57 41.6	
	baz=96,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**88.30**	**289**	T	T	10 57 46.9	
	baz=94,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hy**	**88.31**	**289**	T	T	10 57 44.0	
	baz=94,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**88.32**	**289**	T	T	10 57 46.4	
	baz=94,slow=74,SNR=9.7						

IDC 15 09:10:39.8±2.5, 53°.75N×86°.92E, h0km, mb1 3.1/2, mb1mx2.9/30, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=22.7km s-min=13.0km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**280**	*i*		09 19 10.0	
	baz=99,slow=321,SNR=6.9						
ZALV	**Zalesovo Beam**	**1.26**	**280**	Pg	Pg	09 11 02.8	-1.2
	3.4nm,0.3s,baz=102,slow=15,SNR=28						
ZALV				Lg	Lg	09 11 20.1	
	1.5nm,0.3s,baz=98,slow=27,SNR=15						
ZALV				Rg	Rg	09 11 28.6	
	2.4nm,0.3s,baz=93,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.03**	**242**	Pn	Pn	09 12 11.7	+1.5
	0.1nm,0.3s,baz=60,slow=14,SNR=4.3						
KURBB				Lg	Lg	09 13 52.2	
	0.0nm,0.3s,baz=59,slow=33,SNR=5.1						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	09 12 32.4	+1.1
	0.4nm,0.3s,baz=26,slow=14,SNR=19						
MKAR				Sn	Sn	09 13 58.4	+0.7
	0.1nm,0.3s,baz=23,slow=25,SNR=2.9						
MKAR				Lg	Lg	09 14 35.9	
	0.1nm,0.3s,baz=28,slow=34,SNR=3.4						

IDC 15 09:15:34.3±2.5, 54°.74N×160°.49W, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/59, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=72.5km s-min=23.0km az=170.0
ISCJB 15 09:15:38.9±0.7, 54°.71N±0°.07×160°.30W±0°.07, h38km, mb3.5/5, Error ellipse: s-maj=10.2km s-min=5.0km az=157.6
NEIC 15 09:15:40.3, 54°.76N×160°.45W, h31km, ML3.3(AEIC), After AEIC.

ISC 15 09:15:39.8±1.0, 54°.78N±0°.09×160°.30W±0°.07, h38km, n27, σ1§17/30, mb3.7/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.58**	**350**	P	**Pn**	**09 15 52.0**	**+0.4**
SDPT				S	**Sn**	**09 16 01.3**	**+1.6**
DTNA	**Dutton South F**	**1.19**	**289**	P	**Pn**	**09 15 59.6**	**-0.2**
DTNA				S	**Sn**	**09 16 14.9**	**+0.3**
DT1	**Dutton Round H**	**1.19**	**287**	P	**Pn**	**09 15 59.3**	**-0.6**
DT1				S	**Sn**	**09 16 14.7**	**0.0**
FALS	**False Pass**	**1.81**	**274**	P	**Pn**	**09 16 08.1**	**-0.2**
ISNN	**Isanotski Nort**	**2.02**	**273**	P	**Pn**	**09 16 12.4**	**+1.2**
SSLN	**Shishaldin Nor**	**2.14**	**272**	P	**Pn**	**09 16 14.0**	**+1.0**
SSLW	**Shishaldin Wes**	**2.21**	**271**	P	**Pn**	**09 16 14.6**	**+0.6**
WESE	**West Dahl East**	**2.51**	**265**	P	**Pn**	**09 16 19.1**	**+1.0**
AKSA	**Akutan Strait**	**3.22**	**261**	P	**Pn**	**09 16 28.9**	**+1.2**
AKSA				S	**Sn**	**09 17 04.5**	**-0.3**
ZRO	**Akutan Zero**	**3.39**	**261**	P	**Pn**	**09 16 31.1**	**+1.0**
LVA	**Lava Point**	**3.41**	**262**	P	**Pn**	**09 16 30.9**	**+0.6**
PLK4	**Peulik 4**	**3.60**	**36**	P	**Pn**	**09 16 35.9**	**+2.9**
UNV	**Unalaska Valle**	**3.75**	**258**	P	**Pn**	**09 16 35.1**	**+0.1**
MTBL	**Makushin Table**	**3.82**	**260**	P	**Pn**	**09 16 36.9**	**+0.8**
MREP	**Makushin Rep't**	**3.90**	**258**	P	**Pn**	**09 16 38.0**	**+0.9**
KABR	**Katmai Barrier**	**4.47**	**39**	P	**Pn**	**09 16 47.1**	**+2.1**
ILAR	**Eielson Array**	**12.05**	**28**	Pn	**Pn**	**09 18 26.8**	**-1.9**
	0.1nm,0.3s,baz=220,slow=13,SNR=8.4						
ILAR				Sn	**Sn**	**09 20 39.1**	**-2.3**
	0.0nm,0.3s,baz=176,slow=15,SNR=2.5						
DLBC	**Dease Lake**	**16.98**	**65**	P	**P**	**09 19 35.6**	**-0.1**
	0.1nm,0.3s,baz=256,slow=8.3,SNR=3.5						
INK	**Inuvik**	**18.38**	**32**	P	**P**	**09 19 50.4**	**-0.6**
	0.1nm,0.3s,baz=238,slow=9.8,SNR=9.9						
PETK	**Petropavlovsk-**	**24.51**	**284**	P	**P**	**09 20 53.9**	**-1.4**
	1.6nm,0.5s,baz=81,slow=12,SNR=7.0						
YKA	**Yellowknife Ar**	**24.52**	**53**	P	**P**	**09 20 56.4**	**+1.3**
	0.2nm,0.5s,baz=264,slow=8.1,SNR=12						
YKA				PcP	**PcP**	**09 24 32.5**	**+0.1**
	0.1nm,0.3s,baz=271,slow=2.3,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**42.93**	**229**	T	T	10 09 26.4	
	baz=28,slow=76,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**42.94**	**229**	T	T	10 09 29.0	
	baz=28,slow=76,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**42.95**	**229**	T	T	10 09 27.0	
	baz=28,slow=76,SNR=3.9						
SONM	**Songino Array**	**54.56**	**304**	P	**P**	**09 25 04.3**	**+0.4**
	0.2nm,0.4s,baz=46,slow=6.2,SNR=2.7						
FINES	**FINESS Array B**	**64.01**	**357**	P	**P**	**09 26 08.6**	**-0.1**
	0.3nm,0.3s,baz=35,slow=5.1,SNR=4.3						
MKAR	**Makanchi Array**	**65.85**	**318**	P	**P**	**09 26 20.8**	**-0.3**
	0.3nm,0.4s,baz=44,slow=6.1,SNR=6.8						

ISCJB 15 09:20:36.5±0.4, 32°.06N±0°.02×115°.04W±0°.02, h6km±3km, mb3.9/12, MS3.7/8, Error ellipse: s-maj=2.9km s-min=2.4km az=150.1
NEIC 15 09:20:38.0, 32°.07N×115°.04W, h2km, mb4.1/11, MD4.0(MEX), MD4.7(ECX), ML4.5(PAS), ML4.7(ECX), After ECX.
NEIC Felt at Tijuana. Felt [II] at Yuma, Arizona. Also felt at Somerton. Felt [II] at El Centro, California. Also felt at Anaheim, Anza, Chula Vista, Mission Viejo and Newport Beach.
ECX 15 09:20:38.6±0.4, 32°.07N×115°.04W, h7km, ML4.6
MEX 15 09:20:39.2±0.5, 32°.09N×114°.97W, h12km±12km, MD3.4
IDC 15 09:20:40.3±1.3, 32°.31N×114°.64W, h0km, mb3.8/7, mb1 3.9/14, mb1mx3.7/47, mbtmp3.7/14, ML3.3/6, MS3.7/15, Ms1 3.7/15, ms1mx3.5/35, Error ellipse: s-maj=23.8km s-min=9.8km az=47.0

ISC 15 09:20:37.2±1.1, 32°.05N±0°.02×115°.04W±0°.02, h3km±8km, n148, σ1§68/149, mb4.0/12, MS3.7/8, 27C-29D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.18**	**251**	⇑*e*P	**Pg**	**09 20 40.4**	**-0.3**
EMX				*e*S	**Sg**	**09 20 43.2**	**+0.2**
EMX	**El Mayor**	**0.18**	**251**	⇑*e*P	**Pg**	**09 20 40.4**	**-0.3**
EMX				*e*S	**Sg**	**09 20 43.2**	**+0.2**
MBIG	**Mexicali**	**0.38**	**339**	*e*P	**Pg**	**09 20 45.8**	**+1.3**
MBIG				*e*S	**Sb**	**09 20 51.9**	**-1.0**
CPBX	**Cerro Prieto**	**0.43**	**329**	⇓*e*P	**Pg**	**09 20 46.4**	**+0.9**
CPBX				⇓*e*P	**Pg**	**09 20 46.4**	**+0.9**
CPBX	**Cerro Prieto**	**0.43**	**329**	*e*P	**Pg**	**09 20 46.4**	**+0.9**
CPBX				*e*S	**Sg**	**09 20 51.2**	**+0.1**
ECBX	**El Chinero**	**0.57**	**181**	⇓*e*P	**Pg**	**09 20 47.8**	**-0.3**
ECBX				*e*S	**Sg**	**09 20 56.1**	**+0.5**
YMD	**Yuma Desert**	**0.66**	**40**	⇓*i*P	**Pg**	**09 20 50.0**	**+0.3**
YMD	**Yuma Desert**	**0.66**	**40**	⇓*i*P	**Pg**	**09 20 50.0**	**+0.3**
EMSC	**East Mesa**	**0.69**	**4**	⇓*i*P	**Pg**	**09 20 50.7**	**+0.3**
RDX	**Rancho Dawling**	**0.78**	**261**	⇑*e*P	**Pg**	**09 20 52.5**	**+0.5**
RDX				*e*S	**Sg**	**09 21 03.2**	**+1.1**
RDX	**Rancho Dawling**	**0.78**	**261**	⇑*e*P	**Pg**	**09 20 52.5**	**+0.5**
RDX				*e*S	**Sg**	**09 21 03.2**	**+1.1**
COA	**Coachella**	**0.82**	**355**	⇓*i*P	**Pg**	**09 20 52.3**	**-0.5**
SGL	**Mount Signal**	**0.83**	**316**	⇓*i*P	**Pg**	**09 20 52.7**	**-0.5**
SGL	**Mount Signal**	**0.83**	**316**	⇓*i*P	**Pg**	**09 20 52.7**	**-0.5**
YUH	**Yuha Desert**	**0.96**	**309**	*e*P	**Pg**	**09 20 55.5**	**-0.1**
GLA	**Glamis**	**1.02**	**10**	⇓P	**Pg**	**09 20 55.2**	**-1.5**
	baz=1.0						
GLA				⇓S	**Sg**	**09 21 08.2**	**-1.7**
	baz=1.0						
GLA	**Glamis**	**1.02**	**10**	*e*Pg	**Pg**	**09 20 55.2**	**-1.5**
GLA				*e*Sg	**Sg**	**09 21 09.1**	**-0.7**
RMX	**La Rumorosa**	**1.04**	**302**	⇑*e*P	**Pg**	**09 20 56.0**	**-1.1**
RMX				*e*S	**Sg**	**09 21 10.1**	**-0.5**
RMX				⇓*e*		09 21 11.5	
RMX				AML	AML	09 21 11.5	
	comp=N,11μm,0.6s						
RMX	**La Rumorosa**	**1.04**	**302**	⇑*e*P	**Pg**	**09 20 56.0**	**-1.1**
RMX				*e*S	**Sg**	**09 21 10.1**	**-0.5**
SPIG	**San Pedro Mart**	**1.06**	**200**	*e*P	**Pg**	**09 20 57.2**	**-1.2**
SPIG				*i* S	**Sg**	**09 21 12.1**	**+0.7**
SPIG	**San Pedro Mart**	**1.06**	**200**	⇑*e*P	**Pb**	**09 20 57.4**	**-1.0**
SPIG	**San Pedro Mart**	**1.06**	**200**	*e*P	**Pb**	**09 20 57.2**	**-1.2**
SPIG				*e*S	**Sg**	**09 21 10.3**	**-1.1**
SPX	**San Pedro Mart**	**1.06**	**200**	⇑*e*P	**Pb**	**09 20 57.4**	**-1.0**
SPX				⇓*e*		09 21 14.4	
SPX				AML	AML	09 21 14.4	
	comp=N,12μm,0.1s						
SPX	**San Pedro Mart**	**1.06**	**200**	*e*P	**Pb**	**09 20 57.1**	**-1.3**
SPX				*e*S	**Sg**	**09 21 10.3**	**-1.1**
SWSC	**Sam W. Stewart**	**1.10**	**325**	⇑P	**Pg**	**09 20 56.0**	**-2.1**
	baz=1.1						
SWSC				⇓S	**Sg**	**09 21 10.2**	**-2.2**
	baz=1.1						
ZAX	**El Zacaton**	**1.18**	**243**	⇑*e*P	**Pb**	**09 20 58.9**	**-1.3**
ZAX				*e*S	**Sb**	**09 21 15.0**	**-0.9**
ZAX				AML	AML	09 21 20.4	
	comp=E,9μm,0.6s						
ZAX				⇑*e*		09 21 20.4	
113A	**Mohawk Valley,**	**1.29**	**56**	⇓P	**Pn**	**09 21 00.0**	**-2.1**
	baz=1.3						
113A				⇑S	**Sb**	**09 21 16.8**	**-2.4**
	baz=1.3						
ECNX	**Esteban Cantu**	**1.38**	**254**	⇑*e*P	**Pn**	**09 21 01.8**	**-1.6**
ECNX				*e*S	**Sb**	**09 21 20.5**	**-1.3**
CBX	**Cerro Bola**	**1.40**	**281**	*e*P	**Pn**	**09 21 01.5**	**-2.3**
CBX				*e*S	**Sn**	**09 21 19.9**	**-3.0**
CBX	**Cerro Bola**	**1.40**	**281**	⇑*e*P	**Pn**	**09 21 01.9**	**-1.8**
CBX				*e*S	**Sn**	**09 21 21.5**	**-1.3**
CBX				⇓*e*		09 21 24.0	
CBX				AML	AML	09 21 24.0	
	comp=E,17μm,0.4s						
CBX				AML	AML	09 21 25.0	
	comp=N,13μm,0.3s						
CBX				⇓*e*		09 21 25.0	
CBX	**Cerro Bola**	**1.40**	**281**	*e*P	**Pn**	**09 21 01.5**	**-2.3**
CBX				*e*S	**Sn**	**09 21 19.9**	**-3.0**
MONP	**Monument Peak,**	**1.44**	**306**	⇑P	**Pn**	**09 21 01.7**	**-2.6**
	baz=1.4						
MONP				⇓S	**Sn**	**09 21 21.2**	**-2.6**
	baz=1.4						
PBX	**Punta Banda**	**1.47**	**258**	⇑*e*P	**Pn**	**09 21 03.0**	**-1.5**
PBX				*e*S	**Sn**	**09 21 22.7**	**-1.6**
BC3	**Big Chuckawall**	**1.64**	**348**	⇓P	**Pn**	**09 21 04.3**	**-2.7**
	baz=1.6						
BC3				⇓S	**Sn**	**09 21 24.3**	**-4.4**
	baz=1.6						
Y12C	**Blythe**	**1.75**	**14**	⇑P	**Pn**	**09 21 06.0**	**-2.4**
	baz=1.7						
214A	**Organ Pipe Nat**	**1.90**	**92**	⇓P	**Pn**	**09 21 08.0**	**-2.4**
	baz=1.9						
109C	**Camp Elliot, M**	**1.94**	**296**	⇑P	**Pn**	**09 21 08.9**	**-2.0**
	baz=1.9						
109C				⇑Sb	**Sn**	**09 21 36.2**	**+0.4**
	baz=1.9						
PFO	**Pinyon Flats O**	**1.96**	**323**	Pn	**Pn**	**09 21 08.7**	**-2.8**
	comp=N,13nm,0.3s,baz=135,slow=12,SNR=81						
PFO				Lg	Lg	09 21 41.8	
	comp=N,104nm,0.3s,baz=74,slow=18,SNR=9.2						
PFO				LR	LR	09 21 52.9	
	comp=N,1μm,18.2s,baz=134,slow=36						
PFO	**Pinyon Flats O**	**1.96**	**323**	⇓P	**Pn**	**09 21 08.6**	**-2.8**
	baz=1.9						
BELC	**Belle Mtn. Jos**	**2.11**	**338**	⇑P	**Pn**	**09 21 10.5**	**-2.9**
	baz=2.1						
IRM	**Iron Mountain**	**2.11**	**358**	⇓P	**Pn**	**09 21 10.8**	**-2.6**
	baz=2.1						
Z14A	**Wintersburg**	**2.20**	**53**	⇓P	**Pn**	**09 21 12.9**	**-1.7**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.37**	**18**	⇑P	**Pn**	**09 21 15.0**	**-1.9**
	baz=2.4						
PDMCI				⇑Sb	**Sb**	**09 21 50.5**	**+0.4**
	baz=2.4						
MURC	**Murrieta**	**2.39**	**311**	⇓P	**Pn**	**09 21 15.1**	**-2.1**
	baz=2.4						
Y14A	**Wickenburg**	**2.54**	**42**	⇑P	**Pn**	**09 21 17.6**	**-1.8**
	baz=2.5						
NEE2	**Needles Airpor**	**2.73**	**7**	⇓P	**Pn**	**09 21 20.2**	**-1.7**
	baz=2.7						
GMRC	**Granite Mounta**	**2.77**	**349**	⇑P	**Pn**	**09 21 20.4**	**-2.2**
	baz=2.8						
LDFC	**Landfair**	**3.02**	**359**	*e*Pn	**Pn**	**09 21 25.3**	**-0.8**
BFSC	**Mount Baldy Ra**	**3.10**	**316**	⇑P	**Pn**	**09 21 25.3**	**-1.8**
	baz=3.1						
SCI	**San Clemente I**	**3.11**	**288**	⇓P	**Pn**	**09 21 24.6**	**-2.5**
	baz=3.1						
CIS	**Catalina Islan**	**3.14**	**296**	⇓P	**Pn**	**09 21 25.7**	**-1.9**
	baz=3.1						
W13A	**Hualapai Mount**	**3.19**	**17**	⇑P	**Pn**	**09 21 26.4**	**-2.0**
	baz=3.2						
FMP	**Fort Macarthur**	**3.20**	**302**	⇑Sb	**Sb**	**09 22 14.5**	**+0.4**
	baz=3.2						
MWC	**Mount Wilson**	**3.33**	**311**	*e*Pn	**Pb**	**09 21 38.8**	**+1.8**
TUQ	**Turquoise Moun**	**3.46**	**348**	⇓P	**Pn**	**09 21 29.7**	**-2.3**
	baz=3.4						
GSC	**Goldstone, Bar**	**3.56**	**336**	*e*Pn	**Pn**	**09 21 33.8**	**+0.3**
TUC	**Tucson**	**3.62**	**85**	*e*Pn	**Pn**	**09 21 32.2**	**-1.9**
OSI	**Osito Audit: C**	**4.01**	**311**	Pn	Pb	09 21 44.1	-4.3
SHPR	**Sheep Range**	**4.45**	**359**	*e*Pn	**Pn**	**09 21 45.5**	**-0.1**
ISA	**Isabella, Lake**	**4.60**	**323**	*e*Pn	**Pn**	**09 21 49.4**	**+1.8**
WUAZ	**Wupatki**	**4.61**	**40**	*e*Pn	**Pn**	**09 21 48.0**	**0.0**
DAC	**Darwin (Calif)**	**4.72**	**334**	*e*Pn	**Pn**	**09 21 50.5**	**+1.0**
TPNV	**Topopah Spring**	**4.99**	**349**	*e*Pn	**Pn**	**09 21 52.5**	**-0.6**
W18A	**Petrified Fore**	**5.38**	**54**	*e*Pn	**Pn**	**09 21 59.1**	**+0.6**
PTRM	**Twissleman Ran**	**5.61**	**311**	*e*Pn	Pb	09 22 10.8	-4.8
CCUT	**Cedar City**	**5.66**	**14**	*e*Pn	**Pn**	**09 22 02.8**	**+0.4**
ARUT	**Antelope Range**	**5.88**	**12**	*e*Pn	**Pn**	**09 22 05.1**	**-0.2**
121A	**Cookes Peak, D**	**6.16**	**84**	*e*Pn	**Pn**	**09 22 07.6**	**-1.6**
R11A	**Troy Canyon, C**	**6.30**	**356**	*e*Pn	**Pn**	**09 22 10.5**	**-0.6**
MVU	**Marysvale**	**6.84**	**19**	*e*Pn	Pn	09 22 22.6	+4.0
NVAR	**Mina Array Bea**	**6.90**	**338**	Pn	Pn	09 22 23.4	+4.0
	comp=N,0.2nm,0.3s,baz=161,slow=15,SNR=9.0						
LAZ	**Ladron**	**7.02**	**68**	*e*Pn	**Pn**	**09 22 21.8**	**+0.7**
LENM	**Lemitar**	**7.09**	**71**	*e*Pn	**Pn**	**09 22 21.5**	**-0.5**
WAKR	**Walker**	**7.38**	**332**	Pn	**Pn**	**09 22 28.3**	**+2.4**
LPM	**Los Pinos Moun**	**7.40**	**70**	*e*Pn	**Pn**	**09 22 27.1**	**+0.8**
MVCO	**Mesa Verde**	**7.45**	**45**	*e*Pn	**Pn**	**09 22 27.7**	**+0.7**
ANMO	**Albuquerque**	**7.73**	**66**	Pn	**Pn**	**09 22 30.8**	**0.0**
	comp=N,0.7nm,0.3s,baz=242,slow=7.7,SNR=20						
ANMO				Lg	Lg	09 24 41.3	
	comp=N,0.3nm,0.3s,baz=288,slow=6.4,SNR=2.6						
ANMO				LR	LR	09 25 38.1	
	comp=N,892nm,20.6s,baz=244,slow=41						
TMUT	**Trail Mountain**	**7.87**	**22**	*e*Pn	**Pn**	**09 22 32.9**	**0.0**
SRU	**San Rafael Swe**	**7.95**	**26**	*e*Pn	**Pn**	**09 22 36.1**	**+2.4**
PV01	**Paradox Valley**	**8.06**	**39**	*e*Pn	**Pn**	**09 22 37.3**	**+2.0**
MNTX	**Cornudas Mount**	**8.22**	**90**	*e*Pn	**Pn**	**09 22 37.0**	**-0.3**
DUG	**Dugway, Tooele**	**8.33**	**12**	*e*Pn	**Pn**	**09 22 41.2**	**+2.3**
MPU	**Maple Canyon**	**8.41**	**18**	*e*Pn	**Pn**	**09 22 41.5**	**+1.3**
ELK	**Elko**	**8.68**	**359**	Pn	**Pn**	**09 22 44.4**	**+0.5**
	comp=N,0.2nm,0.3s,baz=179,slow=12,SNR=3.7						
ELK				Sn	**Sn**	**09 24 18.3**	**-4.0**
	comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=2.0						
ELK				Lg	Lg	09 25 12.2	
	baz=0.3,slow=15,SNR=1.8						
ELK				LR	LR	09 26 05.1	
	comp=N,456nm,20.5s,baz=180,slow=38						
S22A	**4UR Ranch, Cre**	**8.82**	**48**	*e*Pn	**Pn**	**09 22 47.7**	**+1.9**
LPIG	**La Paz**	**8.95**	**151**	LR	LR	09 25 58.2	
	comp=N,563nm,21.6s,baz=344,slow=35						
BGU	**Big Grassy Mou**	**9.01**	**10**	*e*Pn	**Pn**	**09 22 48.9**	**+0.7**
SMCO	**Snowmass**	**9.68**	**40**	*e*Pn	**Pn**	**09 23 00.4**	**+2.7**
HWUT	**Hardware Ranch**	**9.94**	**15**	*e*Pn	**Pn**	**09 23 01.7**	**+0.7**
TXAR	**Lajitas Array**	**10.16**	**102**	Pn	**Pn**	**09 23 05.0**	**+1.0**
	comp=N,1.3nm,0.3s,baz=289,slow=13,SNR=93						
TXAR				Lg	Lg	09 26 00.2	
	comp=N,0.1nm,0.3s,baz=280,slow=30,SNR=6.0						
TXAR				LR	LR	09 27 03.2	
	comp=N,441nm,21.7s,baz=0.0,slow=39						
MSTX	**Muleshoe**	**10.48**	**76**	*e*Pn	Pn	09 23 13.1	+4.7
MOD	**Modoc Plateau**	**10.70**	**338**	P	Pn	09 23 16.2	+4.9
ISCO	**Idaho Springs**	**10.87**	**42**	*e*Pn	**Pn**	**09 23 16.0**	**+2.2**
MFID	**Camas Ranch**	**11.37**	**357**	*e*Pn	Pn	09 23 25.5	+5.1
YBH	**Yreka Blue Hor**	**11.45**	**330**	Pn	Pn	09 23 27.0	+5.4
	comp=N,0.0nm,0.3s,baz=158,slow=8.4,SNR=6.4						
YBH				LR	LR	09 28 13.4	
	comp=N,583nm,18.3s,baz=204,slow=40						
RWWY	**Rawlins**	**11.48**	**31**	*e*Pn	Pn	09 23 16.9	-5.2
HLID	**Hailey**	**11.51**	**2**	*e*Pn	**Pn**	**09 23 25.3**	**+2.8**
AMTX	**Amarillo**	**11.51**	**72**	*e*Pn	Pn	09 23 26.6	+4.1
PDAR	**Pinedale Array**	**11.55**	**21**	Pn	**Pn**	**09 23 25.2**	**+2.1**
	comp=N,0.0nm,0.3s,baz=223,slow=18,SNR=3.2						
REDW	**Red Top Meadow**	**11.77**	**15**	*e*Pn	Pn	09 23 29.9	+3.8
TPAW	**Teton Pass**	**11.87**	**15**	*e*Pn	Pn	09 23 30.6	+3.1
FXWY	**Fox Creek**	**11.99**	**14**	*e*Pn	Pn	09 23 33.3	+4.0
LOHW	**Long Hollow**	**12.06**	**16**	*e*Pn	Pn	09 23 34.8	+4.6
FLWY	**Flagg Ranch**	**12.49**	**15**	*e*Pn	Pn	09 23 39.6	+3.7
K22A	**Casper**	**12.56**	**30**	*e*Pn	**Pn**	**09 23 39.0**	**+2.1**
ABTX	**Abilene, Hawle**	**13.04**	**83**	*e*Pn	**Pn**	**09 23 46.1**	**+2.8**
JCT	**Junction City

YMD	Yuma Desert	0.71	41	*e*P		Pg	09 21 50.3	-2.1
EMSC	East Mesa	0.72	7	*e*P		Pg	09 21 51.0	-1.8
RDX	Rancho Dawling	0.73	263	⇑*e*P		Pg	09 21 52.6	-0.2
RDX				*e*S		Sb	09 22 03.7	0.0
RDX				AML	AML		09 22 13.1	
	comp=N,9μm,0.6s							
RDX				⇑*e*			09 22 13.1	
RDX	Rancho Dawling	0.73	263	⇑*e*P		Pg	09 21 52.6	-0.2
RDX				*e*S		Sb	09 22 04.2	+0.5
WESC	Westside Schoo	0.91	324	*e*P		Pg	09 21 54.9	-1.5
RMX	La Rumorosa	1.02	305	⇓*e*P		Pg	09 21 56.8	-1.5
RMX				*e*S		Sg	09 22 10.2	-1.3
RMX	La Rumorosa	1.02	305	⇓*e*P		Pg	09 21 56.8	-1.5
RMX				*e*S		Sg	09 22 10.2	-1.3
GLA	Glamis	1.05	12	*e*Pg		Pn	09 21 58.7	-0.9
GLA				*e*Sg		Sn	09 22 16.4	+2.0
ZAX	El Zacaton	1.12	244	⇑*e*		Sn	09 22 18.1	+1.9
ZAX				AML	AML		09 22 18.1	
	comp=N,9μm,0.5s							
CBX	Cerro Bola	1.36	283	*e*P		Pn	09 22 03.1	-0.8
CBX				*e*S		Sn	09 22 21.8	-0.3
CBX				⇓*e*			09 22 25.3	
CBX				AML	AML		09 22 25.3	
	comp=E,6μm,0.6s							
BAR	Barrett	1.49	297	*e*Sg		Sn	09 22 24.1	-1.1
ANMO	Albuquerque	7.78	66	Pn		Pn	09 23 31.9	-0.3
	comp=E,0.5nm,0.3s,baz=217,slow=15,SNR=3.2							
TXAR	Lajitas Array	10.20	102	Pn		Pn	09 24 05.5	+0.2
	comp=E,2.1nm,0.3s,baz=289,slow=12,SNR=10							
MOD	Modoc Plateau	10.71	339	*e*Pn		Pn	09 24 12.4	+0.2
WVOR	Wild Horse Val	10.77	346	Pn		Pn	09 24 12.2	-0.9
HLID	Hailey	11.54	2	Pn		Pn	09 24 22.6	-1.0
JCT	Junction City	13.18	93	Pn		Pn	09 24 48.0	+2.1
WHTX	Lake Whitney,	14.97	85	Pn		Pn	09 25 10.6	+0.2
NEW	Newport	16.30	355	Pn		P	09 25 32.9	+2.2
	comp=E,0.1nm,0.3s,baz=193,slow=14,SNR=5.1							
SIUC	Southern Illin	21.95	68	P		P	09 26 34.8	+2.4
	comp=E,8.5nm,0.7s							
WVT	Waverly	22.92	72	*e*P		P	09 26 41.0	-1.9
	comp=E,11nm,1.0s							
WCI	Wyandotte Cave	24.30	67	P		P	09 26 56.6	+0.2
	comp=E,4.2nm,0.8s							
DLBC	Dease Lake	28.30	343	P		P	09 27 35.1	+2.8
	comp=E,2.0nm,0.7s,baz=155,slow=9.5,SNR=4.7							
YKA	Yellowknife Ar	30.49	0	P		P	09 27 54.1	+2.5
	comp=E,0.2nm,0.6s,baz=180,slow=8.9,SNR=6.3							
INK	Inuvik	37.87	349	P		P	09 28 58.5	+3.1
	comp=E,0.9nm,0.7s,baz=144,slow=6.1,SNR=5.5							
ILAR	Eielson Array	38.17	339	P		P	09 28 59.9	+1.8
	comp=E,1.0nm,0.8s,baz=151,slow=7.9,SNR=6.0							

ISCJB ***15*** *09:28:17.2±0.6,32.°20N±0.°03×115.°28W±0.°07,h20km±9km, Error ellipse: s-maj=9.7km s-min=5.3km az=13.9*

NEIC ***15*** *09:28:17.2,32.°14N×115.°33W,h10km,MD3.5(MEX), ML3.3(PAS),After PAS.*

MEX ***15*** *09:28:18.3±0.7,32.°25N×115.°04W,h18km±31km,MD3.6*

ISC 15 09:28:16.3±1.1,32.°18N±0.°04×115.°18W±0.°06,h17km±9km, n10,σ0.°77/16,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.23	356	*e*P			Pb	09 28 22.7	+0.6
MBIG				*i* S			Sb	09 28 26.3	+0.4
CPBX	Cerro Prieto	0.26	336	*e*P			Pg	09 28 22.2	0.0
CPBX				*e*S			Sg	09 28 26.0	-0.1
GLA	Glamis	0.92	19	*e*Pg			Pn	09 28 35.1	+0.5
GLA				*e*Sg			Sg	09 28 45.9	-0.5
SPIG	San Pedro Mart	1.16	192	*i* P			Pn	09 28 38.1	0.0
SPIG				*i* S			Sb	09 28 52.4	-0.6
SPIG	San Pedro Mart	1.16	192	*e*P			Pn	09 28 39.5	+1.4
SPIG				*e*S			Sb	09 28 52.1	-0.9
SPX	San Pedro Mart	1.16	192	*e*P			Pn	09 28 39.5	+1.4
SPX				*e*S			Sb	09 28 53.0	0.0
CBX	Cerro Bola	1.27	276	*i* P			Pn	09 28 39.7	+0.3
CBX				*i* S			Sn	09 28 55.5	-0.7
CBX	Cerro Bola	1.27	276	*e*P			Pn	09 28 37.7	-1.7
CBX				*e*S			Sn	09 28 50.4	-5.8
PFO	Pinyon Flats O	1.79	323	*e*Pn			Pn	09 28 46.1	-0.5
214A	Organ Pipe Nat	2.02	96	*e*Pn			Pb	09 28 52.2	-0.5

IDC 15 09:55:27.8±3.5,53.°78N×88.°25E,h0km,mb1 3.1/3, mb1mx2.9/31,mbtmp3.1/3,ML2.6/3,Error ellipse: s-maj=36.4km s-min=22.6km az=77.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.04	276	*i*				10 08 50.0	
	baz=91,slow=328,SNR=6.6								
ZALV	Zalesovo Beam	2.04	276	Pn		Pn	Pn	09 56 03.5	+0.1
	3.1nm,0.3s,baz=91,slow=14,SNR=59								
ZALV				Sn		Sb	Sb	09 56 30.6	-1.0
	5.3nm,0.3s,baz=96,slow=24,SNR=22								
KURBB	Kurchatov Arra	6.76	246	Pn		Pn	Pn	09 57 07.8	-0.4
	0.2nm,0.3s,baz=63,slow=14,SNR=4.7								
KURBB				Lg		Lg	Lg	09 59 04.5	
	0.2nm,0.3s,baz=64,slow=34,SNR=6.3								
MKAR	Makanchi Array	7.97	211	Pn		Pn	Pn	09 57 26.4	+1.6
	0.1nm,0.3s,baz=32,slow=14,SNR=8.8								
MKAR				Lg		Lg	Lg	09 59 37.7	
	0.1nm,0.3s,baz=11,slow=26,SNR=3.5								

IDC 15 09:56:12.8±2.2,1.°46N×127.°27E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/37,mbtmp3.2/3,Error ellipse: s-maj=189.9km s-min=24.7km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.37	162	P		P	P	10 01 12.7	-0.1
	0.3nm,0.4s,baz=341,slow=11,SNR=17								
ASAR	Alice Springs	25.79	166	P		P	P	10 01 45.7	0.0
	0.3nm,0.3s,baz=347,slow=13,SNR=8.7								
MKAR	Makanchi Array	59.72	326	P		P	P	10 06 19.4	0.0
	0.1nm,0.4s,baz=110,slow=11,SNR=3.0								

CASC 15 09:59:37.0±2.7,12.°10N×83.°08W,h36km±999km,MD4.1, 1C-1D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FORC	Fortuna	2.25	224	*i* P			Pn	10 00 12.3	+0.6
FORC				*i* S			Sn	10 00 39.6	+1.3
CEDE	Laguna Cede¯o	2.26	225	*i* P			Pn	10 00 12.3	+0.4
CASO	Castillo	2.32	225	*i* P			Pn	10 00 12.8	+0.1
PTEN	Parque Tenorio	2.32	234	*i* P			Pn	10 00 11.8	-1.0
PTEN				*i* S			Sn	10 00 40.2	0.0
SJS	Escuela Geolog	2.35	204	*e*P			Pn	10 00 14.5	+1.3
SJS				*e*S			Sn	10 00 42.4	+1.3
URSC	Urasca	2.35	197	⇑*e*P			Pn	10 00 14.1	+0.8
URSC				*e*S			Sn	10 00 40.6	-0.5
CGA2	Cerro Gallo 2	2.48	213	*e*P			Pn	10 00 14.9	-0.1
CGA2				*e*S			Sn	10 00 44.4	+0.2
LIM1	Limonal	2.54	237	*i* P			Pn	10 00 15.4	-0.4
BUS	Buena Vista	2.61	195	⇓*e*P			Pn	10 00 18.1	+0.8
BUS				*e*S			Sn	10 00 48.0	-0.2
GBS2	Las Lilas	2.64	242	*i* P			Pn	10 00 16.3	-0.8
QCR	Quepos	2.86	202	*e*P			Pn	10 00 21.3	+1.1
QCR				*e*S			Sn	10 00 55.3	+2.0
JCR	Jicaral	3.00	222	*e*P			Pn	10 00 22.2	+0.2
JCR				*e*S			Sn	10 01 00.3	+3.5

ISCJB ***15*** *10:13:09.0±1.3,34.°68S±0.°04×72.°09W±0.°08,h3km±8km, Error ellipse: s-maj=10.5km s-min=6.0km az=4.8*

NEIC ***15*** *10:13:11.4,34.°70S×72.°00W,h26km,ML4.7(GUC),After GUC.*

NEIC Felt [IV] at San Fernando and [II] at Pencahue.

GUC ***15*** *10:13:11.4±0.5,34.°70S×72.°00W,h26km±4km,ML4.7*

ISC 15 10:13:10.2±1.6,34.°69S±0.°03×72.°01W±0.°07,h11km±13km, n21,σ0.°72/37,8C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.71	117	⇑*i* P			Pb	10 13 24.8	+0.1
NICH				*i* S			Sb	10 13 34.4	-0.1
NICH	Los Niches	0.71	117	⇑*i* P			Pb	10 13 24.8	+0.1
NICH				*i* S			Sb	10 13 34.4	-0.1
TALC	Talca	0.78	157	⇑*i* P			Pg	10 13 25.3	0.0
TALC				*i* S			Sb	10 13 35.7	-0.6
TALC	Talca	0.78	157	⇑*i* P			Pg	10 13 25.3	0.0
TALC				*i* S			Sb	10 13 35.7	-0.6
LNV	Longovilo	0.88	34	*i* P			Pg	10 13 27.0	-0.2
LNV				*i* S			Sb	10 13 39.5	+0.3
LNV	Longovilo	0.88	34	*i* P			Pg	10 13 27.0	-0.2
LNV				*i* S			Sb	10 13 39.5	+0.3
LNCH	Linares	1.21	164	⇑*i* P			Pb	10 13 32.6	-0.5
LNCH				*i* S			Sb	10 13 48.2	-0.5
LNCH	Linares	1.21	164	⇑*i* P			Pb	10 13 32.6	-0.5
LNCH				*i* S			Sb	10 13 48.2	-0.5
CHCH	Chadas Angostu	1.35	57	⇑*i* P			Pn	10 13 35.1	0.0
CHCH	Chadas Angostu	1.35	57	⇑*i* P			Pn	10 13 35.1	0.0
IHA	Instituto Hidr	1.68	11	*i* P			Pn	10 13 40.4	+0.8
IHA				*i* S			Sb	10 14 02.3	0.0
IHA	Instituto Hidr	1.68	11	*i* P			Pn	10 13 40.4	+0.8
IHA				*i* S			Sb	10 14 02.3	0.0
LACH	Col Las Americ	1.74	45	*i* P			Pn	10 13 41.3	+0.9
LACH				*i* S			Sb	10 14 03.7	-0.2
LACH	Col Las Americ	1.74	45	*i* P			Pn	10 13 41.3	+0.9
LACH				*i* S			Sb	10 14 03.7	-0.2
CLCH	Cerro Calan	1.77	44	⇓*i* P			Pn	10 13 41.7	+0.8
CLCH				*i* S			Sb	10 14 05.2	+0.1
CLCH				AML	AML			10 14 10.8	
	comp=N,15μm,0.5s								
CLCH				AML	AML			10 14 11.3	
	comp=N,18μm,0.4s								
YECH	El Yeso	1.89	58	*i* P			Pb	10 13 44.3	-0.6
YECH				*i* S			Sb	10 14 09.1	+0.4
YECH				AML	AML			10 14 11.4	
	comp=N,6μm,0.3s								
YECH	El Yeso	1.89	58	*i* P			Pb	10 13 44.3	-0.6
YECH				*i* S			Sb	10 14 09.1	+0.4
LCO	Las Campanas	5.76	11	*e*Pn			Pn	10 14 36.2	+0.2
	comp=N,36nm,0.6s								
LCO				*e*Sn			Sn	10 15 40.9	-1.3
PLCA	Paso Flores	6.15	170	*e*Pn			Pn	10 14 43.9	+2.9
	comp=N,38nm,0.2s								
TRQA	Tornquist	8.76	115	*e*Pn			Pn	10 15 17.0	+0.2
LPAZ	La Paz	18.65	12	*e*P			P	10 17 29.1	+0.4

DJA 15 10:17:21.6±0.6,0.°0N±6.°6×12.°4E±.°,h64km±26km,M3.6/5, MLv3.6/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.88	284	P			Pn	10 17 52.8	+1.3
MRSI				S			Sn	10 18 14.1	-0.2
APSI	Ampana	2.32	246	P			Pn	10 17 58.7	+1.2
APSI				S			Sn	10 18 26.3	+1.4
SANI	Sanana	3.03	133	P			Pn	10 18 09.6	+2.4
SANI				S			Sn	10 18 43.3	+1.0
TNTI	Ternate	3.67	78	P			Pn	10 18 15.7	-0.2
LBMI	Labuha	3.79	100	P			Pn	10 18 18.1	+0.5
LBMI				S			Sn	10 19 03.0	+2.0
MPSI	Mapaga	3.88	275	P			Pn	10 18 18.4	-0.4
MPSI				S			Sn	10 19 04.8	+1.5

ISCJB ***15*** *10:20:22.9±0.5,32.°09N±0.°02×115.°02W±0.°02,h9km±4km, mb3.5/1,MS4.2/2,Error ellipse: s-maj=3.6km s-min=2.9km az=151.5*

IDC ***15*** *10:20:22.7±2.8,31.°80N×115.°18W,h0km,mb3.6/1, mb1 3.7/6,mb1mx3.5/27,mbtmp3.3/6,ML3.8/3,MS4.2/2, Ms1 4.2/2,ms1mx3.6/11,Error ellipse: s-maj=49.5km s-min=14.6km az=41.0*

MEX ***15*** *10:20:23.6±0.8,32.°34N×115.°83W,h15km,MD4.3*

ECX ***15*** *10:20:25.1±0.6,32.°09N×115.°06W,h8km,ML4.2*

NEIC ***15*** *10:20:25.0,32.°09N×115.°06W,h8km,MD4.0(ECX), ML3.8(PAS),After ECX.*

ISC 15 10:20:24.0±1.1,32.°07N±0.°02×115.°06W±0.°02,h5km±9km, n58,σ1.°50/73,1C-11D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	El Mayor	0.17	243	*e*P			Pg	10 20 27.0	-0.4
EMX				*e*S			Sg	10 20 29.8	+0.1
MBIG	Mexicali	0.36	341	*e*P			Pg	10 20 32.0	+1.1
MBIG				*i* S			Sb	10 20 39.4	+0.7
CPBX	Cerro Prieto	0.41	330	*e*P			Pg	10 20 32.6	+0.8
CPBX				*e*P			Pg	10 20 32.7	+0.8
CPBX				*e*S			Sg	10 20 38.0	+0.8
CPBX				⇓*e*				10 20 40.8	
	comp=E,64μm,0.3s								
CPBX	Cerro Prieto	0.41	330	P			Pg	10 20 32.5	+0.6
CPBX				S			Sb	10 20 47.7	+7.6
ECBX	El Chinero	0.59	179	*e*P			Pg	10 20 34.9	-0.5
ECBX				*e*S			Sg	10 20 43.2	+0.1
YMD	Yuma Desert	0.66	42	⇑*i* P			Pg	10 20 36.6	0.0
RDX	Rancho Dawling	0.76	260	*e*P			Pg	10 20 38.7	+0.2
RDX				*e*S			Sg	10 20 49.2	+0.7
RDX				⇓*e*				10 20 51.1	
RDX				AML	AML			10 20 51.1	
	comp=N,5μm,0.3s								
COA	Coachella	0.80	356	⇓*i* P			Pg	10 20 38.7	-0.6
SGL	Mount Signal	0.81	316	⇓*i* P			Pg	10 20 38.8	-0.7
RUN	Ruthven	0.91	5	⇓*i* P			Pg	10 20 40.0	-1.3
YUH	Yuha Desert	0.93	309	⇓*i* P			Pg	10 20 40.7	-1.2
COK	Cook Ranch	0.96	324	⇓*i* P			Pg	10 20 41.1	-1.3
GLA	Glamis	1.00	11	⇓*i* P			Pg	10 20 41.6	-1.7
GLA	Glamis	1.00	11	P			Pg	10 20 41.5	-1.7
	baz=1.0								
RMX	La Rumorosa	1.01	302	*e*P			Pg	10 20 42.4	-1.0
RMX				*e*S			Sg	10 20 56.2	-0.4
RMX				AML	AML			10 20 58.1	
	comp=N,4μm,0.7s								
RMX				⇓*e*				10 20 58.1	
IBP	Imperial Bould	1.05	304	P			Pg	10 20 43.7	-0.5
	baz=1.0								
IBP				S			Sg	10 20 57.4	-0.5
	baz=1.0								
SWSC	Sam W. Stewart	1.07	325	P			Pg	10 20 42.3	-2.2
	baz=1.1								
SPIG	San Pedro Mart	1.07	199	*e*P			Pg	10 20 45.0	+0.4
SPIG				*i* S			Sb	10 20 59.8	+0.2
SPIG	San Pedro Mart	1.07	199	*e*P			Pg	10 20 44.1	-0.5
SPIG				*e*S			Sg	10 20 59.1	+0.6
SPX	San Pedro Mart	1.07	199	*e*P			Pg	10 20 44.1	-0.5
SPX				*e*S			Sg	10 20 59.2	+0.6
SPX				⇓*e*				10 21 01.1	
SPX				AML	AML			10 21 01.1	
	comp=N,3μm,0.6s								
ZAX	El Zacaton	1.17	242	*e*P			Pg	10 20 45.4	-1.0
ZAX				*e*S			Sb	10 21 01.5	-0.7
113A	Mohawk Valley,	1.30	57	P			Pn	10 20 46.4	-2.3
	baz=1.3								
113A				S			Sb	10 21 02.5	-3.4
	baz=1.3								
ECNX	Esteban Cantu	1.37	253	*e*P			Pn	10 20 48.5	-1.2
ECNX				*e*S			Sb	10 21 07.4	-0.5
CBX	Cerro Bola	1.38	281	*e*P			Pn	10 20 48.3	-1.7
CBX				*e*S			Sb	10 21 07.6	-0.7
CBX				⇓*e*				10 21 08.9	
CBX				AML	AML			10 21 08.9	
	comp=N,7μm,0.4s								
CBX	Cerro Bola	1.38	281	P			Pn	10 20 48.2	-1.7
CBX				S			Sb	10 21 07.9	-0.4
MONP	Monument Peak,	1.41	306	P			Pn	10 20 48.3	-2.2
	baz=1.4								
MONP				Sb			Sb	10 21 08.1	-1.1
	baz=1.4								
PBX	Punta Banda	1.45	258	*e*P			Pn	10 20 49.6	-1.2
PBX				*e*S			Sn	10 21 09.6	-0.6
BC3	Big Chuckawall	1.62	348	P			Pn	10 20 50.5	-2.7
	baz=1.6								
Y12C	Blythe	1.74	15	P			Pn	10 20 52.5	-2.3
	baz=1.7								
214A	Organ Pipe Nat	1.92	93	*e*Pn			Pn	10 20 54.8	-2.5
214A				*e*Sn			Sn	10 21 21.7	0.0
214A	Organ Pipe Nat	1.92	93	P			Pn	10 20 54.7	-2.5
	baz=1.9								
PFO	Pinyon Flats O	1.93	323	Pn			Pn	10 20 55.1	-2.5
	comp=N,13nm,0.3s,baz=132,slow=11,SNR=17								
PFO	Pinyon Flats O	1.93	323	P			Pn	10 20 54.8	-2.7
	baz=1.9								
PFO	Pinyon Flats O	1.93	323	*e*Pn			Pn	10 20 55.0	-2.6
BELC	Belle Mtn. Jos	2.08	338	P			Pn	10 20 57.1	-2.5
	baz=2.1								
IRM	Iron Mountain	2.09	358	P			Pn	10 20 57.3	-2.4
	baz=2.1								
Z14A	Wintersburg	2.20	54	P			Pn	10 20 59.4	-1.8
	baz=2.2								
GMRC	Granite Mounta	2.75	350	P			Pn	10 21 06.7	-2.2
	baz=2.7								
CIS	Catalina Islan	3.12	296	P			Pn	10 21 12.3	-1.4
	baz=3.1								
TUC	Tucson	3.63	85	*e*Pn			Pn	10 21 18.9	-2.0
WUAZ	Wupatki	4.61	41	*e*Pn			Pn	10 21 34.8	+0.3
HSIG		4.67	130	*i* P			Pb	10 21 41.5	-4.9
HSIG				*i* S			Sb	10 22 41.8	-1.1
W18A	Petrified Fore	5.39	54	*e*Pn			Pn	10 21 45.6	+0.5
	comp=N,153nm,0.5s								
ARUT	Antelope Range	5.86	13	*e*Pn			Pn	10 21 52.1	+0.5
	comp=N,325nm,0.7s								
121A	Cookes Peak, D	6.18	84	*e*Pn			Pn	10 21 54.4	-1.6
	comp=N,19nm,0.9s								
R11A	Troy Canyon, C	6.28	356	*e*Pn			Pn	10 21 57.3	-0.1
	comp=N,82nm,0.9s								
CGIG		6.30	104	*i* P			Pn	10 22 01.0	+3.4
CGIG		6.30	104	P			Pn	10 21 57.5	-0.2
CGIG				S			Sn	10 22 59.0	-11
MVU	Marysvale	6.83	19	*e*Pn			Pn	10 22 07.5	+2.5
	comp=N,216nm,0.9s								
NVAR	Mina Array Bea	6.88	338	Pn			Pn	10 22 06.7	+1.1
	comp=N,0.1nm,0.3s,baz=159,slow=15,SNR=2.4								
LENM	Lemitar	7.10	71	*e*Pn			Pn	10 22 08.0	-0.6
	comp=N,104nm,0.9s								
ANMO	Albuquerque	7.74	66	Pn			Pn	10 22 19.1	+1.6
	comp=N,0.1nm,0.3s,baz=278,slow=15,SNR=4.1								
TXAR	Lajitas Array	10.18	103	Pn			Pn	10 22 52.0	+1.2
	comp=N,0.8nm,0.3s,baz=282,slow=16,SNR=31								
PDAR	Pinedale Array	11.54	21	Pn			Pn	10 23 16.8	+7.2
	comp=N,0.0nm,0.3s,baz=206,slow=18,SNR=2.9								
NEW	Newport	16.25	355	Pn			P	10 24 18.4	+2.3
	comp=N,0.1nm,0.3s,baz=175,slow=9.5,SNR=4.1								
CMIG	Matias Romero	23.58	124	LR			LR	10 34 21.6	
	comp=N,752nm,19.8s,baz=278,slow=36								
ILAR	Eielson Array	38.14	339	P			P	10 27 45.5	+1.8
	comp=N,0.6nm,0.7s,baz=150,slow=6.8,SNR=11								
ESDC	Sonseca Array	84.26	46	LR			LR	11 07 02.8	
	comp=N,94nm,19.6s,baz=180,slow=33								

NEIC ***15*** *10:20:47.0,32.°08N×115.°05W,h8km,mb4.4/22, ML4.8(ECX),ML4.9(PAS),After ECX.*

NEIC Felt at Tijuana. Felt [II] at Yuma, Arizona. Also felt at Phoenix. Felt at Aliso Viejo, Chula Vista, El Cajon, Hemet, La Jolla, Murrieta, San Diego, San Marcos and Winterhaven, California.

ECX ***15*** *10:20:47.7±0.4,32.°08N×115.°05W,h8km,MD4.8,ML5.0*

IDC ***15*** *10:20:48.5±1.1,32.°26N×114.°82W,h0km,mb4.0/7, mb1 4.1/14,mb1mx3.9/43,mbtmp4.0/14,ML3.4/6,MS3.9/8, Ms1 3.9/8,ms1mx3.6/23,Error ellipse: s-maj=20.1km s-min=10.4km az=37.0*

GCMT ***15*** *10:20:49.9±0.3,32.°04N×115.°08W,h12km,MW4.9/81, Moment Tensor Solution. s14,c14; s81,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.09±.09; Mθθ-2.00±.08; Mφφ2.10±.06; Mrθ-1.02±.26; Mrφ-0.62±.07; Mθφ-0.42±.22; Best double couple: M◎2.39300×10¹⁶ NP1:φ35.00000°,δ79.00000°,λ-22.00000°. NP2: φ129.00000°,δ68.00000°,λ-168.00000°. Principal axes: T 2.2270, Plg7.0000°, Azm83.0000°; N 0.3390, Plg65.0000°, Azm190.0000°; P -2.5600, Plg24.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 10:20:46.3±0.7,32.°07N±0.°02×115.°04W±0.°02,h0km±4km, n142,σ1.°54/116,mb4.3/17,MS3.9/7,13C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMX	El Mayor	0.19	246	*e*P			Pg	10 20 49.0	-0.9
EMX				*e*S			Sg	10 20 51.6	-0.8
CPBX	Cerro Prieto	0.42	327	*e*P			Pg	10 20 55.0	+0.7
CPBX				*e*P			Pg	10 20 55.0	+0.7
CPBX				*e*S			Sg	10 21 00.6	+0.9
CPBX				*e*S			Sb	10 21 01.7	-1.7
ECBX	El Chinero	0.59	181	*e*P			Pg	10 20 57.1	-0.5
ECBX				*e*S			Sg	10 21 05.5	+0.2
RDX	Rancho Dawling	0.78	260	*e*P			Pg	10 21 01.1	-0.2
RDX				*e*S			Sg	10 21 11.8	+0.5
COA	Coachella	0.80	355	*e*P			Pg	10 21 01.5	-0.2
COA	Coachella	0.80	355	*e*P			Pg	10 21 01.5	-0.2
SGL	Mount Signal	0.82	315	*e*P			Pg	10 21 02.3	+0.2
SGL	Mount Signal	0.82	315	*e*P			Pg	10 21 02.3	+0.2
WESC	Westside Schoo	0.91	320	*e*P			Pg	10 21 03.5	-0.2
COK	Cook Ranch	0.97	324	*e*P			Pg	10 21 04.0	-1.0
COK	Cook Ranch	0.97	324	*e*P			Pg	10 21 04.0	-1.0
GLA	Glamis	1.00	10	⇑P			Pg	10 21 02.8	-2.7
	baz=0.9								
GLA				⇑S			Sg	10 21 15.9	-2.5
	baz=0.9								
RMX	La Rumorosa	1.03	302	*e*P			Pg	10 21 05.3	-0.7
RMX				*e*S			Sg	10 21 18.9	-0.5
SPIG	San Pedro Mart	1.08	200	*e*P			Pg	10 21 06.5	-0.5
SPIG				*e*S			Sg	10 21 21.5	+0.4
SPX	San Pedro Mart	1.08	200	*e*P			Pg	10 21 06.5	-0.5
SPX				*e*S			Sb

NLU	**North Lily Min**	**8.23**	**16**	*e*Pn	Pn	10 22 44.5	-2.6
MPU	**Maple Canyon**	**8.40**	**18**	*e*Pn	**Pn**	**10 22 49.5**	**+0.1**
ELK	**Elko**	**8.66**	**359**	Pn	**Pn**	**10 22 52.2**	**-0.9**
	comp=E,0.2nm,0.3s,baz=135,slow=11,SNR=6.1						
DAU	**Daniels Canyon**	**8.87**	**19**	*e*Pn	**Pn**	**10 22 56.4**	**+0.4**
OHCM	**Honcut**	**8.95**	**326**	*e*Pn	Pn	10 23 01.7	+5.0
OHCM				*e*Sg	**Sg**	**10 25 38.1**	**+4.6**
CTU	**Camp Tracy**	**9.01**	**16**	*e*Pn	**Pn**	**10 22 56.4**	**-1.3**
TCUT	**Toone Canyon**	**9.49**	**17**	*e*Pn	**Pn**	**10 23 03.3**	**-1.1**
O20A	**White River Ci**	**9.75**	**32**	*e*Pn	**Pn**	**10 23 06.6**	**-1.3**
HVU	**Hansel Valley**	**9.86**	**10**	*e*Pn	**Pn**	**10 23 12.0**	**+2.6**
TXAR	**Lajitas Array**	**10.16**	**103**	Pn	**Pn**	**10 23 14.8**	**+1.3**
	comp=E,3.9nm,0.3s,baz=286,slow=13,SNR=32						
TXAR				Lg	Lg	10 26 06.6	
	comp=E,0.2nm,0.3s,baz=272,slow=30,SNR=3.7						
MSTX	**Muleshoe**	**10.47**	**76**	*e*Pn	**Pn**	**10 23 18.0**	**+0.2**
MOD	**Modoc Plateau**	**10.68**	**338**	*e*Pn	Pn	10 23 25.7	+5.0
WVOR	**Wild Horse Val**	**10.74**	**346**	*e*Pn	Pn	10 23 26.4	+5.0
ISCO	**Idaho Springs**	**10.85**	**42**	*e*Pn	Pn	10 23 28.0	+4.8
KHMM	**Horse Mountain**	**11.23**	**324**	*e*Pn	Pn	10 23 32.4	+4.3
MFID	**Camas Ranch**	**11.35**	**357**	*e*Pn	**Pn**	**10 23 28.7**	**-1.0**
YBH	**Yreka Blue Hor**	**11.43**	**330**	Pn	Pn	10 23 34.9	+4.0
	comp=E,0.1nm,0.3s,baz=157,slow=9.0,SNR=15						
YBH	**Yreka Blue Hor**	**11.43**	**330**	*e*Pn	Pn	10 23 34.8	+3.9
N23A	**Red Feather La**	**11.45**	**37**	*e*Pn	Pn	10 23 35.3	+4.0
HLID	**Hailey**	**11.49**	**2**	*e*Pn	Pn	10 23 35.9	+4.2
AMTX	**Amarillo**	**11.50**	**72**	*e*Pn	**Pn**	**10 23 33.9**	**+2.0**
PDAR	**Pinedale Array**	**11.53**	**21**	Pn	**Pn**	**10 23 33.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=203,slow=14,SNR=6.4						
PDAR				LR	LR	10 28 24.0	
	comp=E,872nm,22.0s,baz=213,slow=40						
REDW	**Red Top Meadow**	**11.75**	**15**	*e*Pn	Pn	10 23 39.8	+4.5
TPAW	**Teton Pass**	**11.85**	**15**	*e*Pn	Pn	10 23 40.1	+3.3
FXWY	**Fox Creek**	**11.98**	**14**	*e*Pn	Pn	10 23 41.8	+3.3
LOHW	**Long Hollow**	**12.04**	**16**	*e*Pn	Pn	10 23 42.5	+3.1
IMW	**Indian Meadow**	**12.24**	**14**	*e*Pn	Pn	10 23 45.6	+3.5
KSCO	**Kaye Shedlock'**	**12.25**	**52**	*e*Pn	**Pn**	**10 23 43.7**	**+1.6**
HUMO	**Hull Mountain**	**12.26**	**331**	*e*Pn	Pn	10 23 47.0	+4.9
FLWY	**Flagg Ranch**	**12.47**	**15**	*e*Pn	Pn	10 23 48.5	+3.3
K22A	**Casper**	**12.54**	**30**	*e*Pn	Pn	10 23 50.0	+3.9
ABTX	**Abilene, Hawle**	**13.03**	**83**	*e*Pn	Pn	10 23 56.4	+3.6
QLMT	**Earthquake Lak**	**13.05**	**11**	*e*Pn	Pn	10 23 57.5	+4.4
JCT	**Junction City**	**13.13**	**93**	*e*Pn	**Pn**	**10 23 55.9**	**+1.8**
DLMT	**Dillon**	**13.41**	**7**	*e*Pn	Pn	10 24 01.2	+3.3
WMOK	**Wichita Mounta**	**13.84**	**75**	*e*Pn	**Pn**	**10 24 03.0**	**-0.8**
E09A	**Wood Farm, Sta**	**14.62**	**351**	*e*Pn	**P**	**10 24 18.6**	**-2.4**
HAWA	**Hanford**	**14.72**	**348**	*e*Pn	**P**	**10 24 19.5**	**-2.5**
MSO	**Missoula**	**14.77**	**3**	*e*Pn	Pn	10 24 19.2	+2.8
HRY	**Holter Researc**	**14.83**	**9**	Pn	**Pn**	**10 24 19.6**	**+2.3**
CHMT	**Chamberlain Mo**	**14.89**	**5**	*e*Pn	**Pn**	**10 24 19.5**	**+1.3**
WHTX	**Lake Whitney,**	**14.92**	**86**	*e*Pn	**Pn**	**10 24 19.2**	**+0.8**
E07A	**Sunnyside**	**14.94**	**347**	*e*Pn	**P**	**10 24 22.6**	**-2.0**
V34A	**Guthrie**	**15.02**	**71**	*e*Pn	**Pn**	**10 24 21.7**	**+1.9**
SLMT	**Seeley Lake**	**15.20**	**4**	*e*Pn	**Pn**	**10 24 22.1**	**-0.2**
D08A	**Wollman Farm,**	**15.26**	**350**	*e*Pn	**Pn**	**10 24 25.3**	**+2.3**
	comp=E,74nm,2.3s						
SWMT	**Swartz Lake**	**15.45**	**3**	*e*Pn	**Pn**	**10 24 23.7**	**-1.8**
BSMT	**Bassoo Peak**	**15.77**	**1**	*e*Pn	**Pn**	**10 24 31.7**	**+1.9**
LTY	**Liberty**	**15.77**	**346**	*e*Pn	**P**	**10 24 32.3**	**-1.5**
	comp=E,29nm,1.3s						
C09A	**Chrisman Ranch**	**15.91**	**352**	*e*Pn	**P**	**10 24 34.2**	**-1.0**
	comp=E,14nm,1.1s						
NEW	**Newport**	**16.26**	**355**	Pn	**Pn**	**10 24 37.9**	**+2.0**
	comp=E,0.1nm,0.3s,baz=179,slow=14,SNR=12						
NEW	**Newport**	**16.26**	**355**	*e*Pn	**Pn**	**10 24 37.2**	**+1.3**
	comp=E,27nm,1.1s						
C05A	**Tolt Reservoir**	**16.41**	**344**	P	**P**	**10 24 40.6**	**-0.2**
TUL1	**Leonard**	**16.42**	**71**	*e*Pn	**Pn**	**10 24 37.8**	**-0.3**
	comp=E,49nm,1.5s						
EGMT	**Eagleton**	**16.44**	**13**	*e*Pn	**P**	**10 24 40.9**	**-0.3**
	comp=E,42nm,1.4s						
NLW	**Nelson Butte**	**16.49**	**347**	P	**P**	**10 24 41.5**	**-0.4**
NLWA	**Neilton Lookou**	**16.73**	**339**	*e*Pn	**P**	**10 24 47.8**	**+3.4**
	comp=E,36nm,1.1s						
WALA	**Waterton Lakes**	**17.00**	**3**	*e*Pn	**Pn**	**10 24 46.4**	**+1.0**
	comp=E,37nm,1.6s						
MBW	**Mount Baker**	**17.48**	**345**	P	**P**	**10 24 54.5**	**+1.6**
MCW	**Mount Constitu**	**17.61**	**343**	P	**P**	**10 24 56.6**	**+2.5**
A05A	**Maple Falls**	**17.73**	**345**	*e*Pn	**P**	**10 24 57.1**	**+1.8**
	comp=E,32nm,1.4s						
VDB	**Vedder Mountai**	**17.76**	**345**	P	**P**	**10 24 57.2**	**+1.5**
MIAR	**Mount Ida**	**18.11**	**76**	*e*Pn	**Pn**	**10 24 58.4**	**-0.8**
	comp=E,35nm,1.4s						
DGMT	**Dagmar**	**18.32**	**23**	*e*Pn	**Pn**	**10 25 01.0**	**-0.8**
	comp=E,17nm,0.9s						
VBMS	**Vicksburg**	**20.76**	**83**	*e*Pn	Pn	10 25 34.1	+3.1
	comp=E,68nm,1.1s						
EDM	**Edmonton**	**21.18**	**3**	*e*P	**P**	**10 25 33.3**	**+0.2**
	comp=E,14nm,0.8s						
GLAT	**Glass**	**21.69**	**72**	*e*P	P	10 25 34.5	-4.2
AGMN	**Agassiz Nation**	**21.76**	**36**	*e*P	**P**	**10 25 40.0**	**+0.6**
	comp=E,12nm,0.9s						
BBB	**Bella Bella**	**22.25**	**338**	P	**P**	**10 25 46.2**	**+1.7**
	comp=E,3.8nm,0.7s,baz=133,slow=6.7,SNR=4.5						
WVT	**Waverly**	**22.86**	**72**	*e*P	**P**	**10 25 51.8**	**+0.6**
	comp=E,15nm,1.3s						
OLIL	**Olney**	**22.90**	**66**	*e*P	**P**	**10 25 51.9**	**+0.3**
	comp=E,54nm,1.6s						
ULM	**Lac du Bonnet**	**23.08**	**33**	P	**P**	**10 25 54.5**	**+1.1**
	comp=E,1.7nm,0.7s,baz=313,slow=6.4,SNR=4.4						
FFC	**Flin Flon**	**24.48**	**18**	*e*P	**P**	**10 26 06.3**	**-0.5**
	comp=E,5.6nm,1.1s						
APG	**El Apazote**	**28.11**	**121**	LR	LR	10 37 20.2	
	comp=E,1µm,19.2s,baz=284,slow=35						
DLBC	**Dease Lake**	**28.27**	**343**	P	**P**	**10 26 43.2**	**+2.1**
	comp=E,6.1nm,0.9s,baz=160,slow=7.7,SNR=11						
YKA	**Yellowknife Ar**	**30.44**	**0**	P	**P**	**10 27 00.2**	**0.0**
	comp=E,0.6nm,0.9s,baz=180,slow=9.0,SNR=11						
YKA				PcP	**PcP**	**10 30 02.1**	**+2.6**
	comp=E,0.2nm,0.6s,baz=164,slow=2.5,SNR=6.8						
DAWY	**Dawson**	**35.45**	**342**	*e*P	**P**	**10 27 46.2**	**+2.2**
EGAK	**Eagle**	**36.48**	**342**	*e*P	**P**	**10 27 54.9**	**+2.1**
	comp=E,11nm,1.5s						
INK	**Inuvik**	**37.83**	**349**	P	**P**	**10 28 04.8**	**+0.6**
	comp=E,4.4nm,1.0s,baz=131,slow=10,SNR=9.9						
ILAR	**Eielson Array**	**38.14**	**339**	P	**P**	**10 28 08.3**	**+1.5**
	comp=E,2.3nm,0.8s,baz=151,slow=7.7,SNR=22						
TRF	**Thorofare Moun**	**38.41**	**335**	*e*P	P	10 28 13.7	+4.3
	comp=E,42nm,1.6s						
COLA	**College**	**38.52**	**338**	*e*P	**P**	**10 28 11.3**	**+1.4**
	comp=E,10nm,1.1s						
KTH	**Kantishna Hill**	**38.70**	**335**	*e*P	**P**	**10 28 13.9**	**+2.2**
	comp=E,9.3nm,1.1s						
IM04	**Indian Mountai**	**41.14**	**337**	*e*P	**P**	**10 28 32.9**	**+1.1**
BILL	**Bilibino**	**56.48**	**334**	*e*P	P	10 30 33.6	+3.9
	comp=E,17nm,1.6s						
PPT2	**Papeete2**	**59.44**	**219**	*e*LR	LR	10 48 14.4	
	comp=E,159nm,28.8s						
TBI	**Tubuai**	**64.18**	**215**	*e*LQ	LQ	10 47 40.9	
	comp=E,308nm,34.2s						
TBI				*e*LR	LR	10 50 22.7	
	comp=E,94nm,28.0s						
BDFB	**Brasilia**	**79.76**	**116**	LR	LR	11 14 05.6	
	comp=E,74nm,19.9s,baz=238,slow=40						
FINES	**FINESS Array B**	**81.62**	**18**	P	P	10 33 08.5	+2.8
	comp=E,0.6nm,0.5s,baz=347,slow=4.3,SNR=4.5						
KSRS	**Korea Array**	**89.27**	**315**	LR	LR	11 10 24.7	
	comp=E,22nm,18.9s,baz=35,slow=33						
SONM	**Songino Array**	**92.20**	**334**	LR	LR	11 15 00.1	
	comp=E,52nm,22.0s,baz=40,slow=35						
ZALV	**Zalesovo Beam**	**92.63**	**348**	LR	LR	11 22 43.0	
	comp=E,39nm,18.2s,baz=70,slow=40						
KEST	**Kesra**	**94.76**	**42**	LR	LR	11 16 51.0	
	comp=E,28nm,19.2s,baz=282,slow=36						
MKAR	**Makanchi Array**	**99.96**	**348**	LR	LR	11 27 02.4	
	comp=E,54nm,18.4s,baz=354,slow=40						
WRA	**Warramunga Arr**	**117.42**	**263**	PKP	**PKPdf**	**10 39 35.3**	**+0.9**
	comp=E,0.2nm,0.6s,baz=65,slow=2.5,SNR=5.8						
ASAR	**Alice Springs**	**119.38**	**259**	PKP	**PKPdf**	**10 39 38.7**	**+0.6**
	comp=E,0.2nm,0.6s,baz=88,slow=2.2,SNR=4.3						

ISCJB ***15*** *10:47:21.7±1.2, 64°.5S±0°.1×116°.4E±0°.8, h10km, mb3.6/4, MS3.5/2, Error ellipse: s-maj=50.7km s-min=15.7km az=176.5*
IDC ***15*** *10:47:21.6±1.0, 64°.49S×115°.78E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/23, mbtmp3.7/5, ML3.2/1, MS3.5/2, Ms1 3.4/2, ms1mx3.0/19, Error ellipse: s-maj=55.8km s-min=21.4km az=91.0*
ISC 15 10:47:22.8±1.1, 64°.5S±0°.2×115°.9E±0°.4, h10km, n14, σ0s50/11, mb3.6/4, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**19.02**	**151**	P	**P**	**10 51 43.9**	**-0.4**
	0.1nm,0.3s,baz=317,slow=8.9,SNR=2.5						
MAW	**Mawson**	**21.20**	**238**	LR	LR	11 00 26.4	
	comp=Z,130nm,18.2s,baz=225,slow=37						
QSPA	**South Pole Qui**	**25.58**	**180**	P	**P**	**10 52 52.5**	**+0.7**
	1.1nm,0.8s,baz=275,slow=1.5,SNR=4.2						
H01W2	**Cape Leeuwin H**	**29.66**	**357**	T	T	11 24 51.7	
	baz=178,slow=76,SNR=43						
H01W1	**Cape Leeuwin H**	**29.66**	**357**	T	T	11 24 52.1	
	baz=178,slow=76,SNR=40						
H01W3	**Cape Leeuwin H**	**29.67**	**357**	T	T	11 24 52.9	
	baz=178,slow=76,SNR=34						
ASAR	**Alice Springs**	**42.50**	**25**	P	**P**	**10 55 18.8**	**+0.7**
	0.9nm,0.6s,baz=189,slow=6.8,SNR=17						
ASAR				PcP	**PcP**	**10 57 10.6**	**0.0**
	0.3nm,0.6s,baz=181,slow=2.5,SNR=4.5						
WRA	**Warramunga Arr**	**46.21**	**24**	P	**P**	**10 55 47.9**	**+0.1**
	0.4nm,0.6s,baz=197,slow=7.3,SNR=9.5						
WRA				PcP	**PcP**	**10 57 22.6**	**-0.8**
	0.7nm,0.8s,baz=201,slow=3.0,SNR=5.7						
CMAR	**Chiang Mai Arr**	**83.73**	**344**	P	**P**	**10 59 51.4**	**-0.2**
	0.5nm,0.7s,baz=199,slow=5.9,SNR=4.7						
BDFB	**Brasilia**	**99.16**	**196**	LR	LR	11 44 56.8	
	comp=Z,20nm,19.7s,baz=160,slow=35						
PDAR	**Pinedale Array**	**146.44**	**108**	PKPbc	**PKPab**	**11 07 04.1**	**-0.2**
	0.7nm,0.6s,baz=169,slow=6.3,SNR=6.8						
ILAR	**Eielson Array**	**146.90**	**51**	PKPbc	**PKPbc**	**11 07 03.5**	**-0.1**
	1.5nm,0.5s,baz=270,slow=3.6,SNR=34						
ARCES	**ARCESS Array B**	**147.68**	**319**	PKPbc	**PKPbc**	**11 07 05.5**	**-0.2**
	4.2nm,0.9s,baz=117,slow=1.4,SNR=7.1						
INK	**Inuvik**	**153.30**	**51**	PKPbc	**PKPbc**	**11 07 19.5**	**+0.4**
	1.7nm,0.6s,baz=306,slow=2.1,SNR=16						

IDC ***15*** *10:48:36.5±1.9, 38°.22N×111°.03W, h0km, mb3.1/1, mb1 3.3/3, mb1mx3.1/41, mbtmp3.0/3, ML3.0/2, Error ellipse: s-maj=22.4km s-min=13.2km az=147.0*
NEIC ***15*** *10:48:36.6, 38°.04N×111°.10W, h4km, ML3.2(SLC), After SLC.*
NEIC Felt at Torrey.
ISC 15 10:48:36.0±3.0, 38°.06N±0°.02×111°.06W±0°.03, h1km±22km, n41, σ1s26/48, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRU	**San Rafael Swe**	**1.13**	**22**	*e*Pg	**Pb**	**10 48 57.7**	**-0.8**
SRU				*e*Sg	**Sb**	**10 49 12.8**	**-0.9**
TMUT	**Trail Mountain**	**1.24**	**355**	*e*Pg	**Pn**	**10 48 59.8**	**-1.0**
TMUT				*e*Sg	**Sn**	**10 49 17.4**	**-1.0**
CCUT	**Cedar City**	**1.89**	**255**	*e*Pn	**Pn**	**10 49 09.6**	**-0.2**
CCUT				*e*Sn	**Sn**	**10 49 32.7**	**-1.6**
ARUT	**Antelope Range**	**1.90**	**262**	*e*Pn	**Pn**	**10 49 09.3**	**-0.4**
ARUT				*e*Sn	**Sn**	**10 49 34.0**	**-0.4**
U15A	**North Rim**	**1.90**	**211**	P	**Pn**	**10 49 09.2**	**-0.7**
	baz=1.9						
U15A				S	**Sn**	**10 49 33.4**	**-1.3**
	baz=1.9						
PV01	**Paradox Valley**	**1.97**	**87**	*e*Pn	**Pn**	**10 49 11.0**	**+0.2**
PV01				*e*Sn	**Sb**	**10 49 36.8**	**-1.2**
MPU	**Maple Canyon**	**2.00**	**347**	*e*Pn	**Pb**	**10 49 12.6**	**-0.8**
MPU				*e*Sn	**Sb**	**10 49 37.5**	**-1.4**
NLU	**North Lily Min**	**2.05**	**338**	*e*Pn	**Pb**	**10 49 13.6**	**-0.6**
MVCO	**Mesa Verde**	**2.21**	**112**	Pb	**Pb**	**10 49 16.7**	**-0.2**
	baz=2.2						
MVCO				Sb	**Sb**	**10 49 45.2**	**+0.4**
	baz=2.2						
MVCO	**Mesa Verde**	**2.21**	**112**	*e*Pn	**Pn**	**10 49 14.9**	**+0.9**
MVCO				*e*Sn	**Sn**	**10 49 42.9**	**+0.8**
DUG	**Dugway, Tooele**	**2.53**	**328**	Pb	**Pb**	**10 49 23.2**	**+0.9**
	baz=2.5						
DUG				Sb	**Sb**	**10 49 55.1**	**+1.1**
	baz=2.5						
DUG	**Dugway, Tooele**	**2.53**	**328**	*e*Pn	**Pb**	**10 49 21.2**	**-1.1**
DUG				*e*Sn	**Sn**	**10 49 50.9**	**+1.0**
WUAZ	**Wupatki**	**2.55**	**186**	Pb	**Pb**	**10 49 21.7**	**-1.0**
	baz=2.5						
CTU	**Camp Tracy**	**2.68**	**349**	*e*Pn	**Pn**	**10 49 21.6**	**+1.1**
O20A	**White River Ci**	**3.02**	**46**	Sb	**Sb**	**10 50 09.0**	**+0.9**
	baz=3.1						
O20A	**White River Ci**	**3.02**	**46**	*e*Pn	Pb	10 49 27.6	-3.1
TCUT	**Toone Canyon**	**3.06**	**355**	*e*Pn	**Pb**	**10 49 29.4**	**-2.1**
W18A	**Petrified Fore**	**3.13**	**160**	Sb	**Sb**	**10 50 11.8**	**+0.6**
	baz=3.1						
W18A	**Petrified Fore**	**3.13**	**160**	*e*Pn	**Pn**	**10 49 27.5**	**+0.8**
BGU	**Big Grassy Mou**	**3.24**	**333**	*e*Pn	**Pn**	**10 49 29.5**	**+1.4**
N20A	**Spence Gulch,**	**3.52**	**37**	Sb	**Sb**	**10 50 25.7**	**+3.1**
	baz=3.5						
HWUT	**Hardware Ranch**	**3.56**	**354**	*e*Pn	**Pn**	**10 49 35.0**	**+2.4**
R11A	**Troy Canyon, C**	**3.57**	**276**	Sb	**Sb**	**10 50 26.5**	**+2.4**
	baz=3.5						
R11A	**Troy Canyon, C**	**3.57**	**276**	*e*Pn	**Pn**	**10 49 32.5**	**-0.3**
SHPR	**Sheep Range**	**3.62**	**246**	*e*Pn	**Pn**	**10 49 33.2**	**-0.2**
X18A	**Snowflake**	**3.64**	**165**	Sb	**Sb**	**10 50 26.9**	**+0.9**
	baz=3.6						
X16A	**Lo Mia Camp, P**	**3.65**	**185**	Pb	**Pb**	**10 49 40.7**	**-0.8**
	baz=3.6						
W13A	**Hualapai Mount**	**3.73**	**218**	Pb	**Pb**	**10 49 42.5**	**-0.3**
	baz=3.7						
HVU	**Hansel Valley**	**3.94**	**341**	*e*Pn	**Pn**	**10 49 39.5**	**+1.7**
ELK	**Elko**	**4.20**	**311**	Pn	Pb	10 49 47.5	-3.3
	0.1nm,0.3s,baz=180,slow=6.1,SNR=1.8						
ELK				Lg	Lg	10 50 48.5	
	0.5nm,0.3s,baz=360,slow=19,SNR=4.9						
TPNV	**Topopah Spring**	**4.27**	**257**	P	**Pn**	**10 49 41.9**	**-0.5**
	baz=4.2						
AHID	**Auburn Hatcher**	**4.70**	**360**	Pn	**Pn**	**10 49 50.1**	**+1.8**
LAZ	**Ladron**	**4.84**	**138**	*e*Pn	**Pn**	**10 49 52.0**	**+1.9**
PDAR	**Pinedale Array**	**4.84**	**13**	Pn	**Pn**	**10 49 51.0**	**+0.8**
	0.1nm,0.3s,baz=173,slow=12,SNR=5.9						
PDAR				Pg	**Pb**	**10 49 59.9**	**-1.8**
	0.5nm,0.3s,baz=180,slow=12,SNR=14						
PDAR				Lg	Lg	10 51 03.7	
	1.2nm,0.3s,baz=170,slow=18,SNR=5.7						
ANMO	**Albuquerque**	**4.84**	**129**	Pn	**Pn**	**10 49 50.9**	**+0.7**
	0.3nm,0.3s,baz=312,slow=13,SNR=9.1						
ANMO				Lg	Lg	10 51 04.5	
	0.8nm,0.3s,baz=0.0,slow=17,SNR=3.5						
TPH	**Tonopah**	**4.86**	**272**	*e*Pn	Pn	10 49 54.4	+3.9
GSC	**Goldstone, Bar**	**5.37**	**241**	Pn	Pb	10 50 04.3	-6.5
NVAR	**Mina Array Bea**	**5.71**	**276**	Pg	**Pb**	**10 50 17.9**	**+1.3**
	1.2nm,0.3s,baz=98,slow=18,SNR=32						
NVAR				Lg	Lg	10 51 33.8	
	0.6nm,0.3s,baz=109,slow=35,SNR=5.4						
TUC	**Tucson**	**5.74**	**178**	Pn	Pb	10 50 10.9	-6.2
K22A	**Casper**	**5.75**	**36**	*e*Pn	**Pn**	**10 50 01.5**	**-1.1**
YKA	**Yellowknife Ar**	**24.56**	**356**	P	**P**	**10 53 56.3**	**-0.7**
	0.3nm,0.7s,baz=173,slow=9.9,SNR=13						

WEL 15 10:50:34.2±0.8, 35°.59S×177°.53E, h33km, ML4.0/8, Error ellipse: s-maj=9.6km s-min=5.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.07**	**163**	P*	Pn	10 51 06.2	-0.5
MXZ				S*	Sn	10 51 31.7	+0.4
HAZ	**Te Kaha**	**2.17**	**175**	P*	Pn	10 51 09.1	+1.0
HAZ				S*	Sn	10 51 34.7	+0.9
WMGZ	**Waiomatatini S**	**2.34**	**163**	PN	Pn	10 51 09.7	-0.7
WMGZ				SN	Sn	10 51 36.7	-1.2
PUZ	**Puketiti**	**2.55**	**167**	PN	Pn	10 51 12.1	-1.2
PUZ				SN	Sn	10 51 39.9	-3.3
TWGZ	**Tauwhareparae**	**2.61**	**172**	PN	Pn	10 51 14.0	-0.1
TWGZ				SN	Sn	10 51 44.8	+0.1
URZ	**Urewera**	**2.69**	**187**	P*	Pn	10 51 15.8	+0.6
MWZ	**Matawai**	**2.74**	**180**	P*	Pn	10 51 16.2	+0.2
TKGZ	**Te Karaka**	**2.86**	**175**	PN	Pn	10 51 16.4	-1.1
TKGZ				SN	Sn	10 51 48.3	-2.5
RIGZ	**Rimuhau**	**3.12**	**177**	PN	Pn	10 51 19.3	-1.9
KNZ	**Kokohu**	**3.43**	**178**	PN	Pn	10 51 22.6	-2.7
MHGZ	**Mahia Peninsul**	**3.57**	**175**	PN	Pn	10 51 24.2	-3.2
BKZ	**Black Stump Fm**	**3.67**	**193**	P*	Pn	10 51 28.2	-0.5
PXZ	**Pawanui**	**4.47**	**187**	PN	Pn	10 51 35.5	-4.1
OGWZ	**Otaki Gorge**	**5.54**	**199**	PN	Pn	10 51 50.4	-4.0
MTW	**Mount Morrison**	**5.79**	**195**	PN	Pn	10 51 52.4	-5.4
TCW	**Tory Channel**	**6.17**	**203**	AML	AML	10 52 00.6	
NNZ	**Nelson**	**6.50**	**209**	PN	Pn	10 52 04.1	-3.3

CSEM ***15*** *11:04:39.9±0.2, 40°.25N×21°.70E, h15km, MD3.0, Error ellipse: s-maj=6.9km s-min=4.3km az=48.0*
ATH ***15*** *11:04:40.2, 40°.22N×21°.70E, h17km±3km, MD3.0/10*

THE ***15*** *11:04:41.0, 40°.21N×21°.73E, h9km±2km, ML2.1/6, Error ellipse: s-maj=3.1km s-min=1.1km az=26.0*
ISC 15 11:04:40.2±0.8, 40°.22N±0°.02×21°.71E±0°.03, h15km±4km, n29, σ0s71/54, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.10**	**30**	P	**Pg**	**11 04 43.2**	**-0.4**
KZN				S	**Sg**	**11 04 46.1**	**+0.2**
KZN	**Kozani**	**0.10**	**30**	*e*PB	**Pg**	**11 04 43.3**	**-0.4**
KZN				*e*SB	**Sb**	**11 04 46.3**	**+0.4**
KZN	**Kozani**	**0.10**	**30**	*e*Pb	**Pg**	**11 04 43.3**	**-0.4**
KZN				S	**Sg**	**11 04 46.1**	**+0.2**
NEST	**Nestorio**	**0.54**	**291**	P	**Pg**	**11 04 50.8**	**-0.1**
NEST				S	**Sn**	**11 05 01.2**	**-1.1**
NEST	**Nestorio**	**0.54**	**291**	*e*PN	**Pg**	**11 04 50.3**	**-0.6**
NEST				*e*SN	**Sb**	**11 04 59.3**	**+0.3**
NEST	**Nestorio**	**0.54**	**291**	*e*Pn	**Pg**	**11 04 50.3**	**-0.6**
NEST	**Nestorio**	**0.54**	**291**	P	**Pg**	**11 04 50.8**	**-0.1**
NEST				*e*Sn	**Sb**	**11 04 59.3**	**+0.3**
NEST				S	**Sn**	**11 05 01.2**	**-1.1**
MEV	**Metsovon**	**0.57**	**220**	P	**Pg**	**11 04 50.8**	**-0.8**
MEV	**Metsovon**	**0.57**	**220**	P	**Pg**	**11 04 50.8**	**-0.8**
LIT	**Litokhoron**	**0.61**	**101**	P	**Pg**	**11 04 51.4**	**-0.9**
LIT				S	**Sb**	**11 05 01.4**	**+0.3**
LIT	**Litokhoron**	**0.61**	**101**	*e*PB	**Pg**	**11 04 51.5**	**-0.9**
LIT				*e*SN	**Sb**	**11 05 01.7**	**+0.6**
LIT	**Litokhoron**	**0.61**	**101**	P	**Pg**	**11 04 51.4**	**-0.9**
LIT				S	**Sb**	**11 05 01.4**	**+0.3**
LIT				*e*Sn	**Sb**	**11 05 01.7**	**+0.6**
FNA	**Florina**	**0.61**	**336**	P	**Pg**	**11 04 52.0**	**-0.4**
FNA				S	**Sb**	**11 05 02.5**	**+1.3**
FNA	**Florina**	**0.61**	**336**	*e*PN	**Pg**	**11 04 52.2**	**-0.2**
FNA				*e*SN	**Sb**	**11 05 01.4**	**+0.2**
FNA	**Florina**	**0.61**	**336**	*e*Pn	**Pg**	**11 04 52.2**	**-0.2**
FNA				S	**Sb**	**11 05 02.5**	**+1.3**
THL	**Klokotos Trika**	**0.70**	**160**	P	**Pg**	**11 04 53.9**	**0.0**
THL				S	**Sn**	**11 05 04.9**	**-1.1**
THL	**Klokotos Trika**	**0.70**	**160**	*e*PN	**Pg**	**11 04 53.8**	**-0.1**
THL				*e*SN	**Sb**	**11 05 02.4**	**-0.1**
THL	**Klokotos Trika**	**0.70**	**160**	P	**Pg**	**11 04 53.9**	**0.0**
THL				S	**Sn**	**11 05 04.9**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.25**	**165**	P	**Pn**	**11 05 02.7**	**-0.5**
MAKR				S	**Sg**	**11 05 21.6**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.25**	**165**	*e*PB	**Pn**	**11 05 02.8**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.25**	**165**	P	**Pn**	**11 05 02.7**	**-0.5**
MAKR				S	**Sg**	**11 05 21.6**	**+0.9**
AGG	**Agios Georgios**	**1.29**	**158**	P	**Pb**	**11 05 04

*IDC **15** 11:17:57.1±0.9,33°.30N×97°.19E,h0km,mb3.6/8, mb1 3.8/10,mb1mx3.6/45,mbtmp3.7/10,ML3.3/2,Error ellipse: s-maj=54.1km s-min=15.6km az=55.0*

*ISCJB **15** 11:17:59.7±0.6,33°.02N±0°.06×96°.65E±0°.09,h33km, mb3.6/6,Error ellipse: s-maj=11.5km s-min=7.8km az=34.3*

ISC 15 11:18:02.0±0.8,**33°.08N**±0°.09×**96°.7E**±0°.1,**h35**km,**n24,** σ1**°35/21,mb3.7/6,Qinghai**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**9.67**	**236**	*eP*		Pn		11 20 22.1	+3.2
ODAN	**Odare**	**10.20**	**235**	*eP*		**Pn**		**11 20 25.1**	**-1.0**
	24nm,0.5s								
JIRN	**Jiri**	**10.59**	**242**	*eP*		**Pn**		**11 20 32.5**	**+1.0**
	7.7nm,0.4s								
GUN	**Gumba**	**10.69**	**244**	*eP*		**Pn**		**11 20 34.5**	**+1.6**
	22nm,0.4s								
RAMN	**Ramite**	**10.70**	**238**	*eP*		**Pn**		**11 20 30.5**	**-2.4**
	16nm,0.3s								
KKN	**Kakani**	**11.20**	**245**	*eP*		**Pn**		**11 20 40.1**	**+0.3**
	7.3nm,0.3s								
PKI	**Pulchoki**	**11.22**	**244**	*eP*		**Pn**		**11 20 38.4**	**-1.8**
	15nm,0.4s								
PKIN	**Phulchoki**	**11.22**	**244**	*eP*		**Pn**		**11 20 39.9**	**-0.3**
	10nm,0.5s								
DMN	**Daman**	**11.43**	**245**	*eP*		**Pn**		**11 20 41.3**	**-1.6**
GKN	**Gorkha**	**11.59**	**247**	*eP*		**Pn**		**11 20 44.2**	**-0.9**
DANN	**Dangsing**	**12.12**	**251**	*eP*		**Pn**		**11 20 50.5**	**-1.9**
	14nm,0.5s								
KOLN	**Koldanda**	**12.51**	**248**	*eP*		Pn		11 20 52.2	-5.5
PYUN	**Piuthan**	**12.84**	**251**	*eP*		Pn		11 20 56.6	-5.6
	19nm,0.4s								
CMAR	**Chiang Mai Arr**	**14.69**	**172**	Pn		**Pn**		**11 21 27.7**	**+0.4**
	0.0nm,0.3s,baz=350,slow=13,SNR=8.3								
SONM	**Songino Array**	**16.45**	**24**	Pn		**Pn**		**11 21 49.7**	**-0.5**
	0.1nm,0.3s,baz=208,slow=13,SNR=10.0								
MKAR	**Makanchi Array**	**17.58**	**325**	P		**P**		**11 22 04.0**	**-0.9**
	0.2nm,0.3s,baz=137,slow=14,SNR=25								
AAK	**Ala-Archa**	**19.94**	**305**	P		**Pn**		**11 22 33.8**	**+0.9**
	0.7nm,0.4s,baz=172,slow=14,SNR=4.1								
KURBB	**Kurchatov Arra**	**22.07**	**328**	P		**P**		**11 22 52.2**	**-1.4**
	1.2nm,0.8s,baz=134,slow=11,SNR=13								
ZALV	**Zalesovo Beam**	**22.52**	**341**	P		**P**		**11 22 56.6**	**-2.0**
	0.7nm,0.6s,baz=163,slow=11,SNR=5.4								
AKTO	**Aktyubinsk**	**33.23**	**313**	P		**P**		**11 24 36.6**	**+1.1**
	0.9nm,0.8s,baz=83,slow=7.2,SNR=4.3								
AKASG	**Malin Array Be**	**51.44**	**311**	P		**P**		**11 27 05.0**	**+1.6**
	0.2nm,0.2s,baz=70,slow=6.6,SNR=4.4								
WRA	**Warramunga Arr**	**63.79**	**140**	P		**P**		**11 28 30.5**	**-0.2**
	1.9nm,0.6s,baz=320,slow=8.9,SNR=34								
ASAR	**Alice Springs**	**66.63**	**143**	P		**P**		**11 28 49.4**	**+0.3**
	1.7nm,0.4s,baz=327,slow=6.6,SNR=58								
YKA	**Yellowknife Ar**	**81.48**	**14**	P		**P**		**11 30 15.0**	**-0.2**
	0.0nm,0.4s,baz=337,slow=5.1,SNR=4.2								

*ISCJB **15** 11:21:58.5±1.2,14°.2S±0°.1×76°.5W±0°.2,h30km,mb3.4/3, MS3.3/1,Error ellipse: s-maj=29.4km s-min=7.6km az=152.7*

*IDC **15** 11:21:59.5±1.3,14°.17S×76°.51W,h22km±6km,mb3.3/3, mb1 3.7/7,mb1mx3.6/19,mbtmp3.6/7,ML3.4/3,MS3.1/5, Ms1 3.2/5,ms1mx3.0/10,Error ellipse: s-maj=46.8km s-min=19.5km az=54.0*

ISC 15 11:22:00.1±1.1,**14°.2S**±0°.1×**76°.6W**±0°.2,**h30**km,**n18,** σ1**°08/12,mb3.2/3,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.23**	**354**	Pn			**Pn**	**11 22 35.5**	**+0.5**
	12nm,0.3s,baz=178,slow=14,SNR=14								
NNA					Sn		**Sn**	**11 22 60.0**	**-1.6**
	24nm,0.3s,baz=165,slow=19,SNR=6.8								
ATAH	**Atahualpa**	**7.25**	**346**	Pn			**Pn**	**11 23 45.9**	**+1.3**
	0.4nm,0.3s,baz=252,slow=20,SNR=2.5								
ATAH					Sn		**Sn**	**11 25 05.0**	**-1.1**
	0.5nm,0.3s,baz=13,slow=19,SNR=1.7								
ATAH					LR		LR	11 26 55.6	
	comp=Z,68nm,21.1s,baz=253,slow=41								
LPAZ	**La Paz**	**8.42**	**105**	Pn			**Pn**	**11 24 01.2**	**+0.5**
	0.4nm,0.3s,baz=298,slow=9.5,SNR=7.6								
LPAZ					LR		LR	11 27 41.3	
	comp=Z,127nm,20.9s,baz=334,slow=41								
LVC	**Limon Verde**	**11.08**	**140**	Pn			**Pn**	**11 24 36.0**	**-0.9**
	16nm,0.3s,baz=297,slow=2.3,SNR=5.4								
SIV	**San Ignacio**	**15.09**	**99**	LR			LR	11 32 09.4	
	comp=Z,114nm,21.2s,baz=291,slow=41								
ROSC	**El Rosal**	**19.08**	**7**	LR			LR	11 34 43.2	
	comp=Z,58nm,20.2s,baz=226,slow=40								
PTGA	**Pitinga**	**21.21**	**52**	LR			LR	11 35 24.0	
	comp=Z,118nm,20.2s,baz=242,slow=38								
TXAR	**Lajitas Array**	**50.58**	**329**	P			**P**	**11 30 57.4**	**+1.1**
	0.2nm,0.7s,baz=138,slow=7.2,SNR=2.5								
TXAR					pP		**pP**	**11 31 04.3**	**-1.1**
	0.2nm,0.6s,baz=154,slow=12,SNR=3.4								
NVAR	**Mina Array Bea**	**65.32**	**325**	pP			pP	11 32 47.9	-1.2
	0.3nm,0.7s,baz=138,slow=6.3,SNR=3.7								
YKA	**Yellowknife Ar**	**82.03**	**343**	P			**P**	**11 34 16.6**	**-0.4**
	0.1nm,0.6s,baz=142,slow=5.9,SNR=4.3								
YKA					pP		**PcP**	**11 34 23.3**	**+0.9**
	0.2nm,0.7s,baz=144,slow=6.3,SNR=5.9								
TORD	**Torodi Ar. Bea**	**82.14**	**74**	P			**P**	**11 34 18.5**	**-0.2**
	1.7nm,1.0s,baz=263,slow=5.3,SNR=6.6								
H11N3	**WAKE ISLAND Hyl**	**19.31**	**285**	T			T	13 51 15.9	
	baz=94								
H11N2	**WAKE ISLAND Hyl**	**19.32**	**285**	T			T	13 51 17.5	
	baz=94								
H11N1	**WAKE ISLAND Hyl**	**19.32**	**285**	T			T	13 51 16.6	
	baz=94								
H11S2	**WAKE ISLAND Hyl**	**19.37**	**283**	T			T	13 51 21.5	
	baz=104								
H11S1	**WAKE ISLAND Hyl**	**19.38**	**283**	T			T	13 51 21.9	
	baz=104								
H11S3	**WAKE ISLAND Hyl**	**19.39**	**283**	T			T	13 51 23.1	
	baz=104								
SONM	**Songino Array**	**146.39**	**356**	PKPbc			**PKPbc**	**11 41 38.2**	**-0.1**
	0.3nm,0.5s,baz=336,slow=3.2,SNR=3.1								
SONM					pPKPbc		pPKPbc	11 41 46.2	-2.0
	0.4nm,0.6s,baz=323,slow=3.2,SNR=3.4								

*ISCJB **15** 11:47:58.3±0.5,13°.69S±0°.05×166°.9E±0°.1,h33km, mb4.3/14,MS3.6/8,Error ellipse: s-maj=16.5km s-min=6.9km az=179.4*

*IDC **15** 11:48:03.7±3.0,13°.72S×166°.97E,h64km±26km,mb4.1/14, mb1 4.2/16,mb1mx4.0/39,mbtmp4.4/16,ML4.5/2,MS3.6/10, Ms1 3.6/10,ms1mx3.3/27,Error ellipse: s-maj=21.8km s-min=14.8km az=80.0*

*NEIC **15** 11:48:04.7±1.5,13°.75S×166°.96E,h76km±12km,mb4.4/1, Error ellipse: s-maj=14.3km s-min=10.1km az=78.0*

ISC 15 11:48:00.4±0.6,**13°.61S**±0°.07×**166°.9E**±0°.2,**h35**km,**n35,** σ1**°06/29,mb4.4/14,MS3.6/8,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.01**	**300**	P			Pn	11 50 00.1	+5.8
	27nm,0.3s,baz=180,slow=9.3,SNR=11								
HNR					LR		LR	11 52 42.3	
	comp=Z,298nm,21.2s,baz=128,slow=34								
DZM	**Mont Dzumac**	**8.43**	**183**	*e*Pn			Pn	11 50 11.3	+11
DZM				*e*	Sn		**Sn**	**11 51 35.6**	**+1.3**
	22nm,0.3s								
DZM	**Mont Dzumac**	**8.43**	**183**	P			**Pn**	**11 50 02.4**	**+2.1**
	1.4nm,0.3s,baz=124,slow=23,SNR=21								
DZM					S		**Sn**	**11 51 34.1**	**-0.2**
	baz=139,slow=19,SNR=1.8								
DZM					LR		LR	11 53 08.3	
	comp=Z,276nm,18.2s,baz=20,slow=37								
DZM	**Mont Dzumac**	**8.43**	**183**	*e*Pn			**Pn**	**11 50 01.9**	**+1.6**
	19nm,0.4s								
DZM				*e*	Sn		**Sn**	**11 51 32.3**	**-2.0**
DZM					S		**Sn**	**11 51 34.1**	**-0.2**
CTA	**Charters Tower**	**20.81**	**249**	P			Pn	11 52 40.6	-1.0
	5.0nm,0.8s,baz=126,slow=7.1,SNR=4.0								
URZ	**Urewera**	**26.17**	**162**	P			**P**	**11 53 30.2**	**-1.4**
	7.3nm,0.8s,baz=155,slow=19,SNR=2.6								
URZ					LR		LR	12 02 53.0	
	comp=Z,125nm,18.2s,baz=327,slow=34								
JAY	**Jayapura**	**28.17**	**291**	LR			LR	12 04 26.3	
	comp=Z,64nm,21.0s,baz=166,slow=35								
STKA	**Stephens Creek**	**29.49**	**228**	P			**P**	**11 54 02.4**	**+1.0**
	4.4nm,0.5s,baz=51,slow=8.7,SNR=22								
STKA					PcP		**PcP**	**11 57 06.3**	**-0.1**
	2.9nm,0.7s,baz=72,slow=4.4,SNR=5.0								
STKA					LR		LR	12 05 22.5	
	comp=Z,160nm,19.0s,baz=31,slow=35								
WRA	**Warramunga Arr**	**31.80**	**254**	P			**P**	**11 54 20.7**	**-1.3**
	2.0nm,0.6s,baz=85,slow=9.7,SNR=44								
WRA					PcP		**PcP**	**11 57 12.5**	**-0.2**
	2.2nm,0.9s,baz=80,slow=2.7,SNR=11								
WRA					LR		LR	12 06 49.2	
	comp=Z,202nm,21.3s,baz=130,slow=35								
AS31	**Alice Springs**	**32.79**	**247**	*eP*			**P**	**11 54 29.4**	**-1.2**
ASAR	**Alice Springs**	**32.79**	**247**	P			**P**	**11 54 29.4**	**-1.2**
	2.6nm,0.6s,baz=75,slow=9.4,SNR=99								
ASAR					PcP		**PcP**	**11 57 14.8**	**-0.7**
	1.2nm,0.6s,baz=65,slow=2.0,SNR=10								
ASAR					LR		LR	12 06 10.1	
	comp=Z,91nm,21.7s,baz=100,slow=33								
PPT2	**Papeete2**	**42.01**	**101**	*e*LR			LR	12 08 03.0	
	135nm,28.2s								
PPT	**Papeete**	**42.01**	**101**	LR			LR	12 08 10.8	
	comp=Z,32nm,21.7s,baz=294,slow=29								
TBI	**Tubuai**	**42.34**	**110**	*e*LR			LR	12 08 12.0	
	99nm,29.2s								
BATI	**Baumata**	**42.44**	**270**	LR			LR	12 13 46.2	
	comp=Z,189nm,19.1s,baz=129,slow=36								
RKT	**Rikitea**	**55.64**	**109**	*e*LR			LR	12 14 27.3	
	183nm,36.2s								
MJAR	**Matsushiro Arr**	**56.77**	**332**	P			**P**	**11 57 40.8**	**-0.3**
	1.0nm,0.5s,baz=173,slow=8.6,SNR=5.7								
VNDA	**Vanda**	**63.97**	**181**	P			**P**	**11 58 29.8**	**+0.1**
	0.7nm,0.8s,baz=337,slow=11,SNR=3.9								
PETK	**Petropavlovsk-**	**66.92**	**354**	P			**P**	**11 58 49.8**	**+0.8**
	3.0nm,0.8s,baz=160,slow=4.7,SNR=5.6								
CMAR	**Chiang Mai Arr**	**74.20**	**294**	P			**P**	**11 59 35.5**	**+1.3**
	6.3nm,0.8s,baz=126,slow=4.7,SNR=40								
GAMB	**Gambell**	**78.88**	**9**	P			**P**	**12 00 00.0**	**+0.4**
	3.8nm,0.8s								
SONM	**Songino Array**	**81.41**	**324**	P			**P**	**12 00 14.2**	**+0.4**
	0.9nm,0.6s,baz=152,slow=6.7,SNR=8.9								
ILAR	**Eielson Array**	**85.56**	**18**	P			**P**	**12 00 34.3**	**-0.3**
	2.2nm,0.6s,baz=241,slow=4.9,SNR=51								
ILAR					LR		LR	12 32 01.7	
	comp=Z,33nm,19.9s,baz=268,slow=31								
JIRN	**Jiri**	**88.24**	**299**	*eP*			P	12 00 38.9	-10
	13nm,0.6s								
GUN	**Gumba**	**88.57**	**299**	*eP*			P	12 00 40.7	-10
	16nm,0.8s								
PKI	**Pulchoki**	**88.88**	**299**	*eP*			P	12 00 41.6	-10
	16nm,0.7s								
PKIN	**Phulchoki**	**88.89**	**299**	*eP*			P	12 00 42.4	-10
	6.1nm,0.6s								
DGAR	**Diego Garcia**	**92.61**	**262**	*eP*			**P**	**12 01 08.8**	**-0.3**
VNA3	**Neumayer Olymp**	**95.33**	**181**	P			**P**	**12 01 19.3**	**-1.3**
VNA2	**Neumayer--Watz**	**95.59**	**182**	P			P	12 01 18.4	-3.4
	baz=160,slow=2.7								
MKAR	**Makanchi Array**	**96.17**	**317**	P			**P**	**12 01 25.2**	**+0.4**
	2.0nm,0.7s,baz=95,slow=6.4,SNR=28								
ZALV	**Zalesovo Beam**	**96.30**	**324**	P			**P**	**12 01 25.4**	**+0.3**
	1.2nm,0.8s,baz=83,slow=4.6,SNR=7.2								
YKA	**Yellowknife Ar**	**96.70**	**27**	P			**P**	**12 01 27.3**	**+0.5**
	0.4nm,0.5s,baz=257,slow=4.7,SNR=16								
ARCES	**ARCESS Array B**	**119.09**	**345**	PKP			**PKPdf**	**12 06 43.4**	**-1.6**
	2.6nm,0.7s,baz=55,slow=1.5,SNR=14								
TORD	**Torodi Ar. Bea**	**165.63**	**270**	PKP			**PKPdf**	**12 08 01.9**	**-0.5**
	0.4nm,0.8s,baz=91,slow=3.4,SNR=3.2								
TORD					PKPab		**PKPab**	**12 09 01.3**	**-0.1**
	0.9nm,0.7s,baz=79,slow=5.0,SNR=6.9								

*DJA **15** 11:59:36.7±0.7,14°.N±6°×12°.2E±1°.0,h10km,M4.9/14, mb4.8/14,mB5.5/4,Mw(mB)5.0/4*

*BKK **15** 11:59:41.7±0.6,15°.N±6°×12°.1E±°,h10km,M4.6/16, mB5.2/6,mb4.7/16,Mw(mB)4.5/6*

*ISCJB **15** 11:59:50.5±0.3,13°.77N±0°.04×120°.88E±0°.05,h152km, mb4.4/44,Error ellipse: s-maj=6.8km s-min=6.0km az=141.6*

*IDC **15** 11:59:52.8±2.7,13°.74N×120°.84E,h160km±24km, mb3.9/23,mb1 4.0/23,mb1mx3.9/41,mbtmp4.4/23,MS2.9/1, Ms1 3.1/1,ms1mx2.4/34,Error ellipse: s-maj=17.0km s-min=10.3km az=69.0*

*MAN **15** 11:59:53,13°.74N×120°.70E,h110km,mb4.7,ML3.5, MS3.5*

*NEIC **15** 11:59:56.0±1.7,13°.73N×120°.76E,h190km±16km, mb4.7/19,Error ellipse: s-maj=9.3km s-min=6.2km az=74.0*

ISC 15 11:59:51.4±0.5,**13°.78N**±0°.06×**120°.84E**±0°.07,**h152**km,**n93,** σ1**°07/53,mb4.5/44,3C-2D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**159**	*i*P			**Pn**	**12 00 10.6**	**-1.6**
PGP				*i*	S		**Sn**	**12 00 24.6**	**-3.4**
TGY	**Tagaytay City**	**0.33**	**16**	*i*P			**Pn**	**12 00 12.4**	**0.0**
TGY				*i*	S		**Sn**	**12 00 28.2**	**-0.3**
LUBP	**Lubang**	**0.58**	**266**	*e*P			**Pn**	**12 00 11.6**	**-1.7**
LUBP				*e*	S		Sn	12 00 19.1	-11
BOAC	**Boac**	**1.02**	**108**	*e*P			**Pn**	**12 00 18.4**	**+1.9**
BOAC				*e*	S		**Sn**	**12 00 34.0**	**-1.8**
SJMP	**San Jose**	**1.34**	**168**	*e*P			**Pn**	**12 00 19.8**	**+0.3**
GQP	**Guinayangan**	**1.56**	**85**	*e*P			Pn	12 00 24.8	+3.0
PCPH	**Palayan**	**1.79**	**8**	*e*P			**Pn**	**12 00 23.9**	**-0.4**
AUQP	**San Andres**	**1.84**	**104**	*e*P			**Pn**	**12 00 22.1**	**-2.7**
BUSP	**Coron**	**1.87**	**200**	*e*P			**Pn**	**12 00 24.3**	**-0.9**
BALP	**Baler**	**2.08**	**20**	*e*P			Pn	12 00 28.9	+1.4
PVCP	**Virac**	**3.22**	**93**	*i*P			Pn	12 00 45.8	+4.1
SBUM	**Sibu**	**14.12**	**218**	*e*Pn			**P**	**12 03 07.4**	**-0.4**
KSM	**Kuching**	**16.07**	**221**	*e*P			P	12 03 37.9	+8.5
	44nm,0.9s								
CHBT	**CHBT**	**18.05**	**269**	P			**Pn**	**12 03 54.5**	**+1.7**
	22nm,1.1s,2μm								
PBKT	**Sadao Pong**	**19.38**	**281**	P			**Pn**	**12 04 07.6**	**-0.8**
	13nm,0.6s,5μm								
ENH	**Enshi**	**19.48**	**329**	*e*P			**Pn**	**12 04 07.5**	**-1.9**
	41nm,1.4s								
CRAI	**Chiangrai**	**20.59**	**291**	P			**P**	**12 04 17.0**	**-1.6**
	19nm,1.2s								
LAMP	**Lampang**	**20.91**	**286**	P			Pn	12 04 23.2	-3.4
	16nm,0.7s,127nm								
CMAR	**Chiang Mai Arr**	**21.54**	**285**	P			**P**	**12 04 29.8**	**+0.9**
	22nm,0.8s,baz=95,slow=7.8,SNR=124								
CMAR					LR		LR	12 12 25.3	
	comp=Z,31nm,18.4s,baz=34,slow=35								
CMMT	**Chiang Mai**	**21.60**	**286**	P			**P**	**12 04 29.9**	**+0.5**
	30nm,0.8s								
CMAI	**Chiengmai2**	**21.73**	**289**	P			**P**	**12 04 31.7**	**+0.7**
	34nm,1.1s,439nm								
BATI	**Baumata**	**23.99**	**173**	P			**P**	**12 04 52.9**	**+0.7**
	8.2nm,0.5s,baz=131,slow=1.9,SNR=4.4								
PSI	**Prapat**	**24.25**	**245**	P			**P**	**12 04 55.5**	**+0.8**
	8.0nm,0.6s,baz=60,slow=8.3,SNR=7.2								
KSAR	**Wonju Array Be**	**24.39**	**14**	P			**P**	**12 04 56.9**	**+1.4**
KSRS	**Korea Array**	**24.41**	**14**	P			**P**	**12 04 56.9**	**+1.2**
	2.2nm,0.9s,baz=188,slow=9.3,SNR=7.5								
MNSI	**Mandailing Nat**	**24.68**	**240**	P			**P**	**12 04 59.6**	**+1.1**
	31nm,0.8s								
SHL	**Shillong**	**29.61**	**298**	*ex*			**P**	**12 05 42.0**	**-0.7**
LSA	**Lhasa**	**31.68**	**305**	*e*P			P	12 06 02.7	+1.6
	13nm,0.7s								
TAPN	**Taplejung**	**33.71**	**299**	*e*P			P	12 06 19.4	+0.7
	27nm,0.6s								
ODAN	**Odare**	**33.85**	**298**	*e*P			P	12 06 20.6	+0.8
	314nm,0.8s								
RAMN	**Ramite**	**34.55**	**298**	*e*P			P	12 06 26.8	+0.9
	66nm,0.7s								
JIRN	**Jiri**	**35.09**	**299**	*e*P			P	12 06 31.4	+0.7
	88nm,0.4s								
GUN	**Gumba**	**35.43**	**299**	*e*P			P	12 06 34.3	+0.8
	64nm,0.4s								
PKI	**Pulchoki**	**35.74**	**298**	*e*P			**P**	**12 06 36.4**	**+0.3**
	40nm,0.5s								
PKIN	**Phulchoki**	**35.75**	**298**	*e*P			P	12 06 36.6	+0.4
	31nm,0.6s								
ULN	**Ulaanbaatar**	**35.87**	**344**	*e*P			P	12 06 37.3	+0.5
	4.7nm,0.6s								
KKN	**Kakani**	**35.91**	**299**	*e*P			**P**	**12 06 37.7**	**+0.3**
	30nm,0.6s								
SONM	**Songino Array**	**36.02**	**343**	P			P	12 06 39.0	+0.9
	6.2nm,0.6s,baz=164,slow=9.8,SNR=65								
SONM					PcP		**PcP**	**12 09 01.3**	**+0.2**
	0.4nm,0.6s,baz=178,slow=4.3,SNR=3.4								
WRA	**Warramunga Arr**	**36.05**	**158**	P			**P**	**12 06 38.4**	**0.0**
	0.6nm,0.5s,baz=331,slow=10.0,SNR=15								
WRA					ScP		**ScP**	**12 12 34.3**	**+0.7**
	0.9nm,0.7s,baz=347,slow=4.0,SNR=6.6								
GKN	**Gorkha**	**36.51**	**299**	*e*P			**P**	**12 06 42.5**	**0.0**
	17nm,0.4s								
KOLN	**Koldanda**	**37.34**	**298**	*e*P			**P**	**12 06 49.8**	**+0.2**
	22nm,0.8s								
DANN	**Dangsing**	**37.35**	**299**	*e*P			**P**	**12 06 49.8**	**+0.1**
	68nm,0.8s								
PYUN	**Piuthan**	**37.94**	**298**	*e*P			**P**	**12 06 55.0**	**+0.4**
	173nm,0.9s								
ASAR	**Alice Springs**	**39.35**	**161**	P			**P**	**12 07 07.0**	**+0.9**
	0.4nm,0.4s,baz=339,slow=6.8,SNR=6.4								
TLY	**Talaya**	**40.26**	**343**	P			P	12 07 14.0	+0.7
	2.8nm,0.3s,baz=200,slow=5.0,SNR=6.7								
TLY	**Talaya**	**40.26**	**343**	*e*P			P	12 07 14.0	+0.7
MKAR	**Makanchi Array**	**46.05**	**324**	P			P	12 08 01.2	+1.3
	17nm,0.9s,baz=132,slow=9.0,SNR=128								
MKAR					PcP		**PcP**	**12 09 34.9**	**+1.1**
	0.6nm,0.6s,baz=132,slow=2.1,SNR=2.3								
ULHL	**Ulahol**	**47.76**	**315**	P			P	12 08 15.3	+1.9
	SNR=7.1								
KZA	**Kyzart**	**48.38**	**315**	P			P	12 08 20.5	+2.0
	SNR=12								
TKM2	**Tokmak 2**	**48.47**	**316**	P			P	12 08 20.4	+1.5
	SNR=11								
TKM2	**Tokmak 2**	**48.47**	**316**	*e*P			P	12 08 20.3	+1.5
	55nm,1.9s								
KBK	**Karagaybulak**	**48.81**	**315**	P			P	12 08 23.4	+2.0
	SNR=10								
PETK	**Petropavlovsk-**	**48.89**	**29**	P			P	12 08 22.7	+1.1
	3.4nm,0.8s,baz=216,slow=3.1,SNR=5.1								
UCH	**Uchtor**	**48.95**	**315**	P			P	12 08 24.8	+2.0
	SNR=26								
ZALV	**Zalesovo Beam**	**49.05**	**333**	P			P	12 08 23.2	+0.4
	12nm,0.4s,baz=125,slow=6.3,SNR=64								
CHMS	**Chumysh**	**49.07**	**316**	P			P	12 08 24.4	+1.2
	SNR=5.4								
AAK	**Ala-Archa**	**49.11**	**315**	P			P	12 08 25.1	+1.4
	2.4nm,0.5s,baz=142,slow=8.5,SNR=9.0								
AAK	**Ala-Archa**	**49.11**	**315**	*e*P			P	12 08 25.1	+1.4
	10.0nm,1.2s								
USP	**Ospenovka**	**49.34**	**316**	P			P	12 08 26.6	+1.3
	SNR=10								
AML	**Almayashu**	**49.48**	**314**	P			P	12 08 28.7	+1.9
	SNR=15								
EKS2	**Erkin-Say**	**49.61**	**315**	P			P	12 08 29.2	+1.8
	SNR=6.9								
EKS2	**Erkin-Say**	**49.61**	**315**	*e*P			P	12 08 28.5	+1.1
	9.7nm,1.0s								
KURBB	**Kurchatov Arra**	**50.20**	**326**	P			P	12 08 32.9	+1.3
	30nm,0.6s,baz=130,slow=7.7,SNR=88								
KURK	**Kurchatov**	**50.20**	**326**	*e*P			P	12 08 32.9	+1.3
	93nm,0.6s								
KBL	**Kabul**	**50.98**	**303**	*e*P			P	12 08 39.2	+1.1
	16nm,0.8s								
KKAR	**Karatay Array**	**52.02**	**314**	*e*P			P	12 08 46.1	+0.7
	3.1nm,0.5s								
BVAR	**Borovoye Array**	**55.79**	**326**	P			P	12 09 13.4	+0.9
	4.6nm,0.5s,baz=122,slow=9.4,SNR=44								
BRVK	**Borovoye**	**55.86**	**326**	*e*P			P	12 09 13.7	+0.7
	21nm,1.1s								
TIXI	**Tiksi**	**58.05**	**3**	*e*P			**P**	**12 09 27.8**	**-0.2**
	12nm,0.7s								
GEYT	**Alibeck**	**60.20**	**306**	P			P	12 09 44.9	+1.4
	11nm,0.8s,baz=132,slow=2.2,SNR=15								
ABKAR	**Akbulak array**	**60.77**	**319**	*e*P			P	12 09 47.5	+0.4
BILL	**Bilibino**	**61.59**	**18**	*e*P			P	12 09 54.2	+1.9
	9.1nm,0.7s								
ARU	**Arti**	**63.39**	**327**	*e*P			**P**	**12 10 04.5**	**0.0**
	10.0nm,0.8s								
RAYN	**Ar Rayn**	**71.36**	**290**	*e*P			**P**	**12 10 55.9**	**+0.6**
	8.5nm,0.9s								
KBZ	**Khabaz**	**71.93**	**312**	P			**P**	**12 10 58.8**	**+0.5**
	3.7nm,0.8s,baz=56,slow=24,SNR=9.7								
JOF	**Joensuu**	**77.64**	**332**	*ep*			**P**	**12 11 30.5**	**-0.2**
	6.1nm,0.5s								
**

*NEIC **15** 12:12:46.0, 36°.60S×72°.86W, h38km, mb4.6/3, After GUC. NEIC Felt [III] at La Laja.*
*IDC **15** 12:12:46.3±0.6, 36°.53S×72°.75W, h33km±4km, mb4.0/9, mb1 4.2/13, mb1mx4.1/20, mbtmp4.2/13, ML4.1/4, MS3.6/9, Ms1 3.6/9, ms1mx3.4/19, Error ellipse: s-maj=24.5km s-min=14.7km az=88.0*
*GUC **15** 12:12:46.0±0.6, 36°.60S×72°.86W, h38km±5km, ML4.7*

ISC 15 12:12:45.9±0.6, 36°.54S±0°.05×72°.96W±0°.08, h33km±2km, h33km:pP-P, n43, σ0:87/57, mb4.3/9, MS3.4/7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.33**	**201**	⇑*i*P	**Pb**	**12 12 54.2**	**+0.1**
CCSP				*e*S	**Sn**	**12 13 00.1**	**+0.3**
CCSP				AML	AML	12 13 01.7	
	comp=E,67μm,0.5s						
CCSP	**San Pedro de C**	**0.33**	**201**	⇑*i*P	**Pb**	**12 12 54.2**	**+0.1**
CCSP				*e*S	**Sn**	**12 13 00.1**	**+0.3**
LNCH	**Linares**	**1.30**	**58**	*e*P	**Pn**	**12 13 08.4**	**+0.6**
LNCH				*e*S	**Sn**	**12 13 24.9**	**+0.9**
LNCH				AML	AML	12 13 29.1	
	comp=N,18μm,0.9s						
LNCH	**Linares**	**1.30**	**58**	*e*P	**Pn**	**12 13 08.4**	**+0.6**
LNCH				*e*S	**Sn**	**12 13 24.9**	**+0.9**
TALC	**Talca**	**1.57**	**44**	*e*P	**Pn**	**12 13 10.4**	**-1.1**
TALC				*e*S	**Sn**	**12 13 30.9**	**+0.3**
TALC				AML	AML	12 13 34.9	
	comp=E,44μm,0.3s						
TALC	**Talca**	**1.57**	**44**	*e*P	**Pn**	**12 13 10.4**	**-1.1**
TALC				*e*S	**Sn**	**12 13 30.9**	**+0.3**
NICH	**Los Niches**	**2.08**	**43**	*e*P	**Pn**	**12 13 19.3**	**+0.8**
NICH				*e*S	**Sn**	**12 13 45.1**	**+1.8**
NICH				AML	AML	12 13 49.1	
	comp=N,10μm,0.3s						
NICH	**Los Niches**	**2.08**	**43**	*e*P	**Pn**	**12 13 19.3**	**+0.8**
NICH				*e*S	**Sn**	**12 13 45.1**	**+1.8**
PEL	**Peldehue**	**3.87**	**30**	*e*P	**Pn**	**12 13 43.8**	**+0.6**
PEL				*e*S	**Sn**	**12 14 28.1**	**+0.5**
PEL	**Peldehue**	**3.87**	**30**	*e*P	**Pn**	**12 13 43.8**	**+0.6**
PEL				*e*S	**Sn**	**12 14 28.1**	**+0.5**
PLCA	**Paso Flores**	**4.60**	**156**	Pn	**Pn**	**12 13 54.8**	**+1.6**
	comp=N,3.2nm,0.3s,baz=328,slow=9.7,SNR=25						
PLCA				Lg	Lg	12 15 03.0	
	comp=N,4.5nm,0.3s,baz=348,slow=5.3,SNR=3.7						
PLCA				LR	LR	12 15 59.1	
	comp=N,333nm,19.5s,baz=310,slow=42						
CFAA	**Coronel Fontan**	**6.29**	**40**	Pn	**Pn**	**12 14 16.1**	**-0.3**
	comp=N,0.8nm,0.3s,baz=216,slow=16,SNR=29						
CFAA				Sn	**Sn**	**12 15 27.7**	**+0.5**
	comp=N,2.0nm,0.3s,baz=197,slow=19,SNR=6.1						
CFAA				LR	LR	12 17 03.4	
	comp=N,28nm,21.7s,baz=242,slow=42						
LCO	**Las Campanas**	**7.74**	**15**	*e*Pn	**Pn**	**12 14 35.4**	**-1.2**
	comp=N,26nm,0.6s						
TRQA	**Tornquist**	**8.88**	**103**	*e*Pn	**Pn**	**12 14 51.5**	**-0.5**
	comp=N,26nm,0.8s						
LVC	**Limon Verde**	**14.31**	**15**	Pn	**Pn**	**12 16 06.9**	**+0.4**
	comp=N,7.1nm,0.3s,baz=245,slow=14,SNR=2.8						
LVC				LR	LR	12 21 33.3	
	comp=N,914nm,21.1s,baz=180,slow=37						
USHA	**Ushuaia**	**18.56**	**172**	P	**Pn**	**12 17 00.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=324,slow=9.3,SNR=4.3						
LPAZ	**La Paz**	**20.62**	**13**	P	**P**	**12 17 23.3**	**+0.1**
	comp=N,4.8nm,0.6s,baz=184,slow=6.0,SNR=21						
SIV	**San Ignacio**	**23.03**	**30**	P	**P**	**12 17 47.6**	**-0.8**
	comp=N,10.0nm,0.8s,baz=233,slow=11,SNR=16						
SIV				LR	LR	12 27 57.1	
	comp=N,108nm,19.6s,baz=278,slow=40						
NNA	**Nana**	**24.69**	**351**	LR	LR	12 25 16.4	
	comp=N,78nm,21.0s,baz=180,slow=30						
PMSA	**Palmer Station**	**28.77**	**172**	LR	LR	12 29 26.5	
	comp=N,234nm,19.8s,baz=152,slow=35						
ATAH	**Atahualpa**	**29.68**	**349**	LR	LR	12 29 33.5	
	comp=N,52nm,18.7s,baz=112,slow=34						
ROSC	**El Rosal**	**41.20**	**358**	LR	LR	12 37 09.6	
	comp=N,48nm,19.3s,baz=200,slow=36						
VNA3	**Neumayer Olymp**	**47.31**	**157**	P	P	12 21 22.5	+6.5
VNA2	**Neumayer--Watz**	**47.99**	**156**	P	P	12 21 28.1	+6.9
	baz=313,slow=8.5						
QSPA	**South Pole Qui**	**53.70**	**180**	P	**P**	**12 22 04.8**	**+0.4**
	comp=N,2.9nm,0.8s,baz=182,slow=2.2,SNR=10						
QSPA				pP	**pP**	**12 22 14.7**	**+0.3**
	comp=N,4.6nm,0.8s,baz=250,slow=1.7,SNR=7.5						
QSPA	**South Pole Qui**	**53.70**	**180**	*e*P	**P**	**12 22 04.6**	**+0.2**
	comp=N,6.4nm,1.0s						
QSPA				*e*pP	**pP**	**12 22 14.6**	**+0.2**
MAW	**Mawson**	**70.97**	**164**	LR	LR	12 57 53.6	
	comp=N,81nm,18.4s,baz=242,slow=38						
JCT	**Junction City**	**71.26**	**336**	*e*P	**P**	**12 24 02.0**	**+0.1**
	comp=N,5.5nm,0.7s						
TXAR	**Lajitas Array**	**71.59**	**332**	P	**P**	**12 24 05.3**	**+1.3**
	comp=N,1.5nm,0.7s,baz=152,slow=8.4,SNR=17						
TXAR				pP	**pP**	**12 24 15.2**	**+0.9**
	comp=N,2.2nm,0.8s,baz=158,slow=9.3,SNR=12						
TXAR				LR	LR	12 50 31.9	
	comp=N,36nm,18.9s,baz=0.0,slow=32						
DBIC	**Dimbokro**	**76.71**	**71**	P	**P**	**12 24 33.8**	**-0.3**
	comp=N,4.2nm,0.7s,baz=215,slow=3.8,SNR=8.5						
DBIC				pP	**pP**	**12 24 43.9**	**-0.6**
	comp=N,2.3nm,0.6s,baz=238,slow=5.2,SNR=2.6						
DBIC	**Dimbokro**	**76.71**	**71**	*e*P	**P**	**12 24 33.2**	**-0.8**
	comp=N,4.1nm,0.6s						
DBIC				*e*pP	**pP**	**12 24 43.6**	**-0.8**
NVAR	**Mina Array Bea**	**85.54**	**326**	P	**P**	**12 25 22.2**	**+1.5**
	comp=N,1.3nm,0.7s,baz=144,slow=5.3,SNR=4.4						
NVAR				pP	**pP**	**12 25 32.7**	**+1.5**
	comp=N,1.0nm,0.7s,baz=127,slow=12,SNR=2.2						
PDAR	**Pinedale Array**	**85.69**	**334**	P	**P**	**12 25 21.9**	**+0.5**
	comp=N,0.5nm,0.8s,baz=145,slow=5.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**85.78**	**70**	P	**P**	**12 25 21.5**	**-0.7**
	comp=N,0.8nm,0.8s,baz=243,slow=3.8,SNR=4.6						
MCMT	**McKenzie Canyo**	**88.67**	**333**	*e*P	**P**	**12 25 36.1**	**+0.3**
ULM	**Lac du Bonnet**	**88.75**	**346**	P	**P**	**12 25 35.6**	**-0.1**
	comp=N,2.5nm,0.7s,baz=114,slow=6.6,SNR=4.1						
WRA	**Warramunga Arr**	**118.18**	**209**	PKP	**PKPdf**	**12 31 29.2**	**-0.9**
	comp=N,0.2nm,0.6s,baz=177,slow=1.4,SNR=4.7						
AKASG	**Malin Array Be**	**124.44**	**49**	PKP	**PKPdf**	**12 31 39.2**	**-1.8**
	comp=N,0.2nm,0.3s,baz=258,slow=2.1,SNR=4.3						
ABKAR	**Akbulak array**	**143.81**	**54**	*e*PKPdf	PKPab	12 32 14.1	-0.1
AAK	**Ala-Archa**	**154.30**	**66**	*e*PKPdf	**PKPdf**	**12 32 34.7**	**+0.3**
AAK				*e*PKPab	**PKPab**	**12 32 55.4**	**-1.4**
ZALV	**Zalesovo Beam**	**156.76**	**34**	PKP	**PKPdf**	**12 32 36.4**	**-0.6**
	comp=N,2.0nm,0.8s,baz=277,slow=1.2,SNR=11						
ZALV				pPKP	**pPKPdf**	**12 32 46.6**	**-1.3**
	comp=N,1.2nm,0.6s,baz=283,slow=2.3,SNR=5.8						
ZALV				PKPab	**PKPab**	**12 33 06.2**	**-0.5**
	comp=N,0.9nm,0.5s,baz=308,slow=3.8,SNR=3.9						
MKAR	**Makanchi Array**	**158.94**	**53**	PKP	**PKPdf**	**12 32 39.4**	**-0.6**
	comp=N,0.7nm,0.7s,baz=307,slow=0.6,SNR=9.3						
MKAR				pPKP	**pPKPdf**	**12 32 50.0**	**-0.9**
	comp=N,0.7nm,0.7s,baz=285,slow=1.5,SNR=6.6						
MKAR				PKPab	**PKPab**	**12 33 15.5**	**-1.0**
	comp=N,0.9nm,0.8s,baz=305,slow=2.5,SNR=8.3						
SONM	**Songino Array**	**168.70**	**2**	PKPab	**PKPab**	**12 33 59.4**	**+0.2**
	comp=N,0.1nm,0.3s,baz=343,slow=4.6,SNR=4.1						

GUC 15 12:19:48.4±0.5, 36°.23S×73°.60W, h41km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.67**	**81**	*e*P	Pn	12 20 00.8	-0.5
COCH				*e*S	Sn	12 20 10.3	-0.4
CCSP	**San Pedro de C**	**0.73**	**147**	*e*P	Pn	12 20 01.5	-0.7
CCSP				*e*S	Sn	12 20 12.1	-0.1
CCSP				AML	AML	12 20 16.1	
	comp=E,3μm,0.3s						

*ISCJB **15** 12:22:09.8±0.6, 32°.03N±0°.02×114°.99W±0°.04, h8km±4km, Error ellipse: s-maj=5.2km s-min=3.8km az=0.4*
*NEIC **15** 12:22:12.0, 32°.08N×115°.03W, h4km, MD3.7(MEX), ML3.6(PAS), ML3.9(ECX), After ECX.*
*ECX **15** 12:22:12.3±0.5, 32°.08N×115°.04W, h7km, MD3.6, ML3.8*
*MEX **15** 12:22:12.9±0.8, 32°.06N×115°.08W, h7km±3km, MD3.7*

ISC 15 12:22:10.3±1.0, 32°.01N±0°.02×115°.05W±0°.03, h9km±8km, n33, σ1:11/48, 8C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.16**	**261**	⇑*e*P	**Pg**	**12 22 13.3**	**-0.5**
EMX				*e*S	**Sg**	**12 22 16.4**	**+0.2**
MBIG	**Mexicali**	**0.41**	**342**	*e*P	**Pg**	**12 22 19.1**	**+0.7**
MBIG				*e*S	**Sg**	**12 22 24.4**	**+0.6**
CPBX	**Cerro Prieto**	**0.46**	**332**	⇓*e*P	**Pg**	**12 22 19.9**	**+0.7**
CPBX				*e*P	**Pb**	**12 22 20.0**	**-0.5**
CPBX				*e*S	**Sg**	**12 22 25.8**	**+0.6**
CPBX				*e*S	**Sg**	**12 22 25.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.46**	**332**	*e*P	**Pg**	**12 22 19.7**	**+0.5**
CPBX				*e*S	**Sg**	**12 22 24.4**	**-0.9**
ECBX	**El Chinero**	**0.54**	**180**	⇓*e*P	**Pg**	**12 22 20.4**	**-0.4**
ECBX				*e*S	**Sg**	**12 22 29.1**	**+1.2**
YMD	**Yuma Desert**	**0.69**	**38**	⇑*i*P	**Pg**	**12 22 23.1**	**-0.5**
RDX	**Rancho Dawling**	**0.76**	**264**	⇑*e*P	**Pb**	**12 22 26.0**	**+0.2**
RDX				*e*S	**Sb**	**12 22 37.0**	**+0.6**
RDX				AML	AML	12 22 38.1	
	comp=N,3μm,0.6s						
RDX				⇓*e*		12 22 38.1	
COA	**Coachella**	**0.85**	**356**	⇓*i*P	**Pg**	**12 22 25.6**	**-1.0**
SGL	**Mount Signal**	**0.85**	**318**	⇑*i*P	**Pg**	**12 22 26.0**	**-0.7**
COK	**Cook Ranch**	**1.01**	**326**	⇓*i*P	**Pg**	**12 22 29.1**	**-0.6**
SPIG	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pg**	**12 22 30.5**	**+0.4**
SPIG				*i* S	**Sb**	**12 22 44.8**	**+0.5**
SPIG	**San Pedro Mart**	**1.03**	**200**	⇑*e*P	**Pn**	**12 22 31.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pg**	**12 22 30.5**	**+0.4**
SPIG				*e*S	**Sg**	**12 22 44.0**	**+0.5**
SPX	**San Pedro Mart**	**1.03**	**200**	⇑*e*P	**Pn**	**12 22 31.6**	**+0.3**
SPX				AML	AML	12 22 46.8	
	comp=N,2μm,0.2s						
SPX				⇓*e*		12 22 46.8	
SPX	**San Pedro Mart**	**1.03**	**200**	*e*P	**Pg**	**12 22 30.5**	**+0.4**
SPX				*e*S	**Sg**	**12 22 43.3**	**-0.2**
RMX	**La Rumorosa**	**1.05**	**304**	*e*P	**Pg**	**12 22 30.4**	**-0.1**
RMX				*e*S	**Sg**	**12 22 44.0**	**-0.2**
RMX				AML	AML	12 22 45.5	
	comp=N,2μm,0.3s						
RMX				⇓*e*		12 22 45.5	
ZAX	**El Zacaton**	**1.15**	**245**	*e*P	**Pn**	**12 22 33.1**	**+0.3**
CRR	**Carrizo Plain**	**1.17**	**319**	⇑*e*P	**Pb**	**12 22 31.9**	**-0.7**
ECNX	**Esteban Cantu**	**1.36**	**255**	*e*P	**Pn**	**12 22 36.2**	**+0.6**
CBX	**Cerro Bola**	**1.40**	**283**	*e*P	**Pn**	**12 22 35.0**	**-1.1**
CBX				*i* S	**Sb**	**12 22 51.6**	**-3.1**
CBX	**Cerro Bola**	**1.40**	**283**	*e*P	**Pn**	**12 22 36.0**	**-0.1**
CBX				*e*S	**Sg**	**12 22 55.3**	**0.0**
CBX				⇑*e*		12 22 57.4	
CBX				AML	AML	12 22 57.4	
	comp=N,2μm,0.5s						
CBX	**Cerro Bola**	**1.40**	**283**	*e*P	**Pn**	**12 22 35.0**	**-1.1**
CBX				*e*S	**Sb**	**12 22 52.6**	**-2.1**
PBX	**Punta Banda**	**1.45**	**260**	*e*P	**Pn**	**12 22 37.4**	**+0.7**
BAR	**Barrett**	**1.52**	**296**	*e*Pn	**Pb**	**12 22 38.6**	**-0.1**
BAR				*e*Sn	**Sn**	**12 22 58.0**	**+0.2**
PFO	**Pinyon Flats O**	**1.98**	**324**	*e*Pn	**Pn**	**12 22 45.0**	**+0.9**
LDFC	**Landfair**	**3.06**	**359**	*e*Pn	**Pn**	**12 23 01.0**	**+2.1**
PASC	**Pasadena Art C**	**3.40**	**310**	*e*Pn	**Pn**	**12 23 05.2**	**+1.7**
TUC	**Tucson**	**3.63**	**84**	*e*Pn	**Pn**	**12 23 05.1**	**-1.7**
OSI	**Osito Audit: C**	**4.02**	**311**	*e*Pn	**Pn**	**12 23 15.2**	**+3.1**
ISA	**Isabella, Lake**	**4.62**	**323**	*e*Pn	Pn	12 23 23.7	+3.3
121A	**Cookes Peak, D**	**6.17**	**83**	*e*Pn	**Pn**	**12 23 40.8**	**-1.1**
	comp=N,14nm,0.3s						
MVU	**Mesvale**	**6.88**	**19**	*e*Pn	**Pn**	**12 23 53.6**	**+2.0**
	comp=N,7.2nm,0.6s						
PV01	**Paradox Valley**	**8.09**	**39**	*e*Pn	**Pn**	**12 24 09.5**	**+1.3**
	comp=N,447nm,0.6s						

*MOS **15** 12:32:18.8±1.7, 49°.53N×156°.37E, h17km, mb3.9/2, Error ellipse: s-maj=51.8km s-min=9.1km az=79.7*
*IDC **15** 12:32:18.7±1.2, 49°.36N×156°.97E, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.5/27, mbtmp3.4/6, ML2.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/32, Error ellipse: s-maj=65.4km s-min=20.5km az=115.0*
*KRSC **15** 12:32:21.2±1.6, 49°.63N×157°.27E, h15km±15km, ML4.3*
*ISCJB **15** 12:32:23.8±0.8, 49°.59N±0°.05×156°.8E±0°.1, h53km, mb3.4/5, MS3.5/2, Error ellipse: s-maj=13.9km s-min=7.0km az=6.4*

ISC 15 12:32:25.4±1.1, 49°.58N±0°.08×156°.7E±0°.1, h53km, n42, σ1:30/40, mb3.4/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.18**	**340**	*e*Pn	Pn	12 32 37.0	-8.6
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,460nm,0.5s						
SKR	**Severo-Kuril's**	**1.18**	**340**	*e*P	**Pn**	**12 32 43.7**	**-1.9**
SKR				*e*S	**Sn**	**12 32 59.1**	**-1.5**
PAU	**Pauzhetka**	**1.89**	**1**	PN	**Pn**	**12 32 54.2**	**-1.1**
PAU				S	**Sn**	**12 33 17.9**	**-0.1**
PAU	**Pauzhetka**	**1.89**	**1**	*e*P	**Pn**	**12 32 54.2**	**-1.1**
PAU				*e*S	**Sn**	**12 33 17.9**	**-0.1**
MIPR	**Malaya Ipel'ka**	**2.70**	**0**	*e*P	**Pn**	**12 33 06.0**	**-0.4**
ASAK	**Asacha**	**2.91**	**14**	*e*P	**Pn**	**12 33 08.8**	**-0.4**
MTVR	**Mutnovka**	**3.05**	**17**	*i* P	**Pn**	**12 33 09.9**	**-1.4**
MTVR				*e*S	**Sn**	**12 33 45.9**	**-0.7**
RUS	**Russkaya**	**3.07**	**21**	PN	**Pn**	**12 33 09.5**	**-1.9**
RUS	**Russkaya**	**3.07**	**21**	*e*P	**Pn**	**12 33 09.5**	**-1.9**
RUS				*e*S	**Sn**	**12 33 45.6**	**-1.3**
APC	**Apacha**	**3.37**	**4**	*e*P	**Pn**	**12 33 15.0**	**-0.4**
PETK	**Petropavlovsk-**	**3.59**	**9**	PN	**Pn**	**12 33 18.7**	**+0.2**
PETK						12 34 04.5	
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,129nm,20.2s						
PETK	**Petropavlovsk-**	**3.59**	**9**	Pn	**Pn**	**12 33 18.7**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=180,slow=17,SNR=44						
PETK				Sn	**Sn**	**12 34 04.5**	**+4.8**
	comp=Z,0.7nm,0.3s,baz=159,slow=20,SNR=2.5						
PETK				LR	LR	12 34 58.4	
	comp=Z,129nm,20.2s,baz=140,slow=42						
PET	**Petropavlovsk**	**3.66**	**18**	*e*PN	**Pn**	**12 33 18.4**	**-1.0**
PET				pmax	pmax		
	comp=Z,81nm,0.5s						
PET	**Petropavlovsk**	**3.66**	**18**	*e*P	**Pn**	**12 33 18.6**	**-0.8**
PET				*e*S	**Sn**	**12 33 59.0**	**-2.2**
UGLR	**Uglovaya**	**3.87**	**19**	*e*P	**Pn**	**12 33 22.3**	**-0.1**
AVH	**Avacha**	**3.90**	**18**	*e*P	**Pn**	**12 33 22.2**	**-0.6**
KOK	**Koryaka**	**3.91**	**17**	*e*P	**Pn**	**12 33 22.4**	**-0.5**
SMAR	**Somma**	**3.91**	**18**	*e*P	**Pn**	**12 33 22.4**	**-0.7**
KRER	**Koryakskii**	**3.94**	**18**	*e*P	**Pn**	**12 33 22.2**	**-1.3**
SDLR	**Sedlovina**	**3.94**	**19**	*e*P	**Pn**	**12 33 22.1**	**-1.4**
KRX	**Arik**	**3.97**	**17**	*e*P	**Pn**	**12 33 23.8**	**-0.1**
GNL	**Ganaly**	**4.19**	**10**	*e*P	**Pn**	**12 33 27.6**	**+0.7**
ESO	**Esso**	**6.47**	**10**	PN	**Pn**	**12 33 59.0**	**+1.0**
ESO	**Esso**	**6.47**	**10**	*e*P	**Pn**	**12 33 59.0**	**+1.0**
KBTR	**Krutoberegovo**	**7.59**	**27**	PN	**Pn**	**12 34 12.4**	**-0.9**
KBTR	**Krutoberegovo**	**7.59**	**27**	*e*P	**Pn**	**12 34 12.4**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**30.87**	**161**	T	T	13 11 41.1	
	baz=346						
H11N3	**WAKE ISLAND Hy**	**30.88**	**161**	T	T	13 11 40.9	
	baz=346						
H11N1	**WAKE ISLAND Hy**	**30.88**	**161**	T	T	13 11 43.8	
	baz=346						
H11S1	**WAKE ISLAND Hy**	**32.01**	**162**	T	T	13 12 59.5	
	baz=347,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**32.02**	**162**	T	T	13 13 00.4	
	baz=347,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**32.03**	**162**	T	T	13 13 01.1	
	baz=347,slow=76,SNR=7.7						
ILAR	**Eielson Array**	**32.82**	**41**	P	**P**	**12 38 53.0**	**-0.4**
ILAR	**Eielson Array**	**32.82**	**41**	P	**P**	**12 38 53.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=256,slow=7.3,SNR=3.8						
YKA	**Yellowknife Ar**	**47.20**	**39**	P	**P**	**12 40 53.2**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=296,slow=7.4,SNR=4.7						
ARCES	**ARCESS Array B**	**55.97**	**341**	LR	LR	13 09 06.4	
	comp=Z,17nm,19.6s,baz=50,slow=39						
PFO	**Pinyon Flats O**	**63.35**	**69**	LR	LR	13 07 30.9	
	comp=Z,63nm,20.2s,baz=204,slow=33						
WRA	**Warramunga Arr**	**72.01**	**202**	P	**P**	**12 43 43.3**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**72.01**	**202**	P	**P**	**12 43 43.3**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=15,slow=6.0,SNR=3.2						
TXAR	**Lajitas Array**	**74.02**	**64**	P	**P**	**12 43 56.6**	**+1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**74.02**	**64**	P	**P**	**12 43 56.5**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=299,slow=4.6,SNR=8.1						
ASAR	**Alice Springs**	**75.69**	**202**	P	**P**	**12 44 04.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=17,slow=7.0,SNR=2.9						

*NIED **15** 12:42:00, 46°.80N×152°.70E, h17km, Mw4.1 Best double couple: M0 1.72000×10^15 NP1:φs=213.00000°, δ58.00000°, λ-160.00000°. NP2:φs=111.00000°, δ73.00000°, λ-34.00000°.*
*ISCJB **15** 12:42:37.8±0.5, 46°.61N±0°.07×152°.68E±0°.08, h40km, mb3.5/13, MS3.1/7, Error ellipse: s-maj=11.5km s-min=4.1km az=141.6*
*SKHL **15** 12:42:38.9±1.4, 46°.37N×153°.09E, h73km±16km, mb4.9/2*
*MOS **15** 12:42:38.7±2.0, 46°.72N×152°.74E, h54km, mb4.0/6, Error ellipse: s-maj=15.5km s-min=9.6km az=57.6*
*JMA **15** 12:42:38.7±0.7, 46°.83N×152°.74E, h30km, M4.8*
*IDC **15** 12:42:39.9±0.8, 46°.74N×152°.55E, h42km±6km, mb3.4/14, mb1 3.6/17, mb1mx3.5/31, mbtmp3.6/17, ML2.7/2, MS3.1/10, Ms1 3.1/10, ms1mx2.9/32, Error ellipse: s-maj=21.0km s-min=13.0km az=149.0*

ISC 15 12:42:39.2±0.6, 46°.52N±0°.07×152°.87E±0°.07, h40km, n70, σ1:88/72, mb3.6/13, MS3.1/7, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.72**	**252**	⇓*i*PN	**Pn**	**12 43 36.6**	**+2.5**
KUR				*i* S	**Sn**	**12 44 20.8**	**+4.1**
KUR				pmax	pmax		
	comp=Z,141nm,0.4s						
KUR				pmax	pmax		
	comp=E,24nm,0.2s						
KUR				pmax	pmax		
	comp=N,66nm,0.4s						
KUR				smax	smax		
	comp=N,418nm,0.4s						
KUR				smax	smax		
	comp=E,636nm,0.9s						
KUR	**Kuril'sk**	**3.72**	**252**	*e*P	**Pn**	**12 43 36.6**	**+2.5**
KUR				AMB	AMB	12 43 38.5	
	comp=E,141nm,0.4s						
KUR				*e*S	**Sn**	**12 44 20.8**	**+4.1**
KUR				A	A	12 44 35.3	
	comp=E,418nm,0.4s						
KUR				A	A	12 44 35.3	
	comp=E,636nm,0.4s						
SKR	**Severo-Kuril's**	**4.69**	**26**	*e*PN	Pn	12 43 41.4	-5.9
SKR				*e*S	**Sn**	**12 44 36.9**	**-3.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,260nm,0.9s						
SKR				smax	smax		
	comp=E,160nm,0.9s						
SKR	**Severo-Kuril's**	**4.69**	**26**	*e*P	**Pn**	**12 43 48.4**	**+1.1**
SKR				*e*S	**Sn**	**12 44 39.4**	**-1.0**
SKR				A	A	12 44 55.9	
	comp=E,160nm,0.9s						
SKR				A	A	12 44 55.9	
	comp=E,260nm,0.9s						
SHO	**Shikotan**	**5.02**	**240**	*e*P	**Pn**	**12 43 53.2**	**+1.2**
SHO				*e*S	**Sn**	**12 44 49.1**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**5.53**	**246**	*c i*PN	**Pn**	**12 44 01.8**	**+2.8**
YUK				pmax	pmax		
	comp=N,21nm,0.4s						
YUK				pmax	pmax		
	comp=Z,89nm,0.4s						
YUK				pmax	pmax		
	comp=E,35nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.53**	**246**	*e*P	**Pn**	**12 44 01.8**	**+2.8**
YUK				AMB	AMB	12 44 03.5	
	comp=E,89nm,0.4s						
YUK				*e*S	**Sn**	**12 45 04.3**	**+3.0**
YUK				A	A	12 45 21.5	
	comp=E,217nm,0.6s						
YUK				A	A	12 45 21.5	
	comp=E,387nm,0.6s						
NEM2	**Nemuro 2**	**5.96**	**241**	P	**Pn**	**12 44 05.0**	**+0.2**
NEM2				*e*S	**Sn**	**12 45 08.5**	**-3.3**
JRA	**Rausu**	**6.05**	**248**	P	Pn	12 44 09.3	+3.3
JNK	**Nakash**	**6.47**	**246**	P	**Pn**	**12 44 13.7**	**+1.8**
JAK	**Akkeshi**	**6.80**	**242**	P	**Pn**	**12 44 17.0**	**+0.7**
JAK				*e*S	**Sn**	**12 45 29.9**	**-2.5**
JTKR	**Abashiri--Toko**	**6.82**	**251**	P	**Pn**	**12 44 19.5**	**+2.9**
YSS	**Yuzh-Sakhalins**	**6.96**	**277**	*e*PN	**Pn**	**12 44 20.9**	**+2.3**
YSS				*e*S	**Sn**	**12 45 36.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS

ILAR				pP		**pP**	**12 49 55.4**	**+1.3**
	comp=Z,2.1nm,1.1s,baz=270,slow=8.1,SNR=6.5							
INK	**Inuvik**	**41.94**	**32**	P		**P**	**12 50 25.7**	**+0.3**
INK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
INK	**Inuvik**	**41.94**	**32**	P		**P**	**12 50 25.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=250,slow=4.1,SNR=3.9							
ZALV	**Zalesovo Beam**	**42.61**	**306**	P		P	12 50 27.9	-3.2
	comp=Z,0.3nm,0.5s,baz=65,slow=6.8,SNR=2.8							
ZALV				LR		LR	13 08 53.0	
	comp=Z,14nm,18.3s,baz=68,slow=37							
MKAR	**Makanchi Array**	**46.90**	**297**	P		**P**	**12 51 03.3**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=67,slow=6.4,SNR=7.0							
MKAR				pP		**pP**	**12 51 15.3**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=66,slow=6.6,SNR=1.9							
KURK	**Kurchatov**	**47.35**	**304**	P		**P**	**12 51 07.7**	**-1.1**
KURBB	**Kurchatov Arra**	**47.44**	**304**	P		**P**	**12 51 07.7**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=70,slow=8.9,SNR=3.4							
YKA	**Yellowknife Ar**	**51.21**	**37**	P		**P**	**12 51 38.3**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=293,slow=7.1,SNR=4.6							
YKA				pP		**pP**	**12 51 49.5**	**0.0**
	comp=Z,0.7nm,0.9s,baz=297,slow=7.1,SNR=7.1							
YKA				PcP		**PcP**	**12 52 53.1**	**+0.3**
	comp=Z,0.1nm,0.7s,baz=289,slow=3.8,SNR=3.2							
CMAR	**Chiang Mai Arr**	**52.15**	**256**	P		**P**	**12 51 46.3**	**+0.6**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.15**	**256**	P		**P**	**12 51 46.2**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=35,slow=7.1,SNR=6.8							
NEW	**Newport**	**57.45**	**52**	LR		LR	13 22 16.9	
	comp=Z,17nm,18.1s,baz=286,slow=41							
YBH	**Yreka Blue Hor**	**58.00**	**61**	LR		LR	13 18 37.9	
	comp=Z,12nm,18.0s,baz=316,slow=37							
FINES	**FINESS Array B**	**64.17**	**335**	P		**P**	**12 53 06.4**	**-2.7**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**64.17**	**335**	P		**P**	**12 53 06.4**	**-2.7**
	comp=Z,0.9nm,0.7s,baz=23,slow=7.5,SNR=2.9							
PDAR	**Pinedale Array**	**65.02**	**54**	P		**P**	**12 53 15.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=90,slow=0.6,SNR=5.0							
FRB	**Frobisher Bay**	**65.32**	**19**	LR		LR	13 24 10.7	
	comp=Z,22nm,18.2s,baz=290,slow=38							
WRA	**Warramunga Arr**	**68.24**	**199**	P		**P**	**12 53 36.0**	**+0.4**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**68.24**	**199**	P		**P**	**12 53 36.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=17,slow=6.9,SNR=5.7							
ASAR	**Alice Springs**	**71.94**	**198**	P		**P**	**12 54 00.0**	**+1.7**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**71.94**	**198**	P		**P**	**12 54 00.0**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=14,slow=5.2,SNR=16							
TXAR	**Lajitas Array**	**77.75**	**60**	P		**P**	**12 54 32.9**	**+0.7**
TXAR				*PP		**pP**	**12 54 45.1**	**+0.9**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**77.75**	**60**	P		**P**	**12 54 32.9**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=294,slow=4.0,SNR=4.5							
TXAR				pP		**pP**	**12 54 45.1**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=305,slow=4.9,SNR=7.7							
TXAR				LR		LR	13 24 56.7	
	comp=Z,19nm,21.7s,baz=0.0,slow=33							

IDC 15 13:03:09.9±3.6, **6°92S**×**154°69E**, **h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.4**/39, **mbtmp3.4**/3, **Error ellipse: s-maj=133.6km s-min=37.1km az=118.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.61**	**235**	P		P	P	13 08 22.2	-0.6
	1.0nm,1.0s,baz=57,slow=9.5,SNR=4.2								
ASAR	**Alice Springs**	**25.99**	**228**	P		P	P	13 08 45.0	+0.3
	0.4nm,0.9s,baz=65,slow=9.3,SNR=3.3								
MKAR	**Makanchi Array**	**83.15**	**319**	P		P	P	13 15 38.6	+0.6
	0.5nm,0.6s,baz=100,slow=4.9,SNR=4.7								
TORD	**Torodi Ar. Bea**	**152.71**	**285**	PKPbc		PKPbc	PKPbc	13 23 09.3	-0.5
	0.3nm,0.6s,baz=63,slow=2.4,SNR=2.9								

*ISCJB **15** 13:04:56.2±0.5, 18°55N±0°04×72°86W±0°02, h9km±3km, mb4.1/32, MS3.6/15, Error ellipse: s-maj=6.3km s-min=3.1km az=8.2*

*IDC **15** 13:04:56.1±0.8, 18°60N×72°81W, h0km, mb3.9/18, mb1 4.1/23, mb1mx4.0/35, mbtmp4.0/23, ML3.6/5, MS3.5/19, Ms1 3.5/19, ms1mx3.4/42, Error ellipse: s-maj=20.9km s-min=15.5km az=19.0*

*NEIC **15** 13:04:57.4±1.0, 18°53N×72°86W, h5km±7km, mb4.4/18, Error ellipse: s-maj=6.8km s-min=5.3km az=179.0*

ISC 15 13:04:57.6±1.1, **18°55N**±0°05×**72°84W**±0°03, **h9**km±7km, **n72**, σ1°12/79, **mb4.2**/32, **MS3.6**/15, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LGNH	**LØogne**	**0.23**	**100**	*e*Pg		**Pg**	**Pg**	**13 05 02.1**	**-0.2**
LGNH				*e*Sg		**Sg**	**Sg**	**13 05 05.1**	**-0.3**
JAKH	**Jacmel**	**0.44**	**136**	*e*Pg		**Pg**	**Pg**	**13 05 05.6**	**-0.6**
JAKH				*e*Sg		**Sg**	**Sg**	**13 05 12.3**	**+0.4**
PAPH	**Port-au-Prince**	**0.51**	**93**	*e*Pg		**Pg**	**Pg**	**13 05 07.0**	**-0.7**
PAPH				*e*Sg		**Sg**	**Sb**	**13 05 15.4**	**-1.0**
SDDR	**Presa de Saban**	**1.53**	**73**	*e*Pn		**Pn**	**Pn**	**13 05 24.4**	**-0.8**
SDDR				*e*Sn		**Sn**	**Sn**	**13 05 42.5**	**-2.8**
GTBY	**Guantanamo Bay**	**2.55**	**303**	*e*Pn		**Pn**	**Pn**	**13 05 37.0**	**-2.1**
GTBY				*e*Pg		**Pg**	**Pg**	**13 05 46.7**	**+0.2**
GTBY				*e*Sn		**Sn**	**Sn**	**13 06 10.8**	**+0.6**
GTBY				*e*Sg		**Sg**	**Sg**	**13 06 20.3**	**+0.8**
SDD	**Santo Domingo**	**2.78**	**91**	*e*Pn		**Pn**	**Pn**	**13 05 44.7**	**+2.4**
SDD				*e*Sn		**Sn**	**Sn**	**13 06 16.7**	**+0.8**
GRTK	**Grand Turk**	**3.35**	**28**	*e*Pn		**Pn**	**Pn**	**13 05 51.7**	**+1.5**
GRTK				*e*Sn		**Sn**	**Sn**	**13 06 30.2**	**+0.1**
SMN1	**Samana, DR**	**3.44**	**79**	*e*Pn		**Pn**	**Pn**	**13 05 52.9**	**+1.5**
SMN1				*e*Pg		**Pg**	**Pg**	**13 06 03.3**	**-0.2**
SMN1				*e*Sg		**Sg**	**Sg**	**13 06 48.8**	**+0.8**
MTDJ	**Mount Denham**	**4.47**	**267**	*e*Pn		**Pn**	**Pn**	**13 06 04.5**	**-1.2**
MTDJ				*e*Sn		**Sn**	**Sn**	**13 06 58.7**	**+0.8**
MTDJ				*e*Sg		**Sg**	**Sg**	**13 07 22.4**	**+1.1**
CRPR	**Cabo Rojo, PR**	**5.47**	**95**	*e*Pn		**Pn**	**Pn**	**13 06 19.4**	**+0.1**
CRPR				*e*Sn		**Sn**	**Sn**	**13 07 23.4**	**+1.1**
LRS	**Lares**	**5.70**	**92**	Pn		**Pn**	**Pn**	**13 06 24.4**	**+2.0**
SDV	**Santo Domingo**	**9.84**	**167**	*e*Pn		**Pn**	**Pn**	**13 07 18.8**	**-0.8**
BCIP	**Isla Barro Col**	**11.54**	**217**	*e*Pn		**Pn**	**Pn**	**13 07 41.5**	**-1.2**
ROSC	**El Rosal**	**13.69**	**186**	Pn		**Pn**	**Pn**	**13 08 12.8**	**+0.4**
	3.9nm,0.3s,baz=105,slow=16,SNR=2.6								
ROSC				LR		LR	LR	13 13 42.6	
	comp=Z,119nm,18.3s,baz=48,slow=38								
JTS	**JuntasAbangare**	**14.31**	**237**	Pn		**Pn**	**Pn**	**13 08 20.9**	**+0.2**
	0.4nm,0.3s,baz=120,slow=20,SNR=2.1								
JTS				LR		LR	LR	13 13 56.7	
	comp=Z,196nm,19.3s,baz=64,slow=38								
JTS	**JuntasAbangare**	**14.31**	**237**	*e*Pn		**Pn**	**Pn**	**13 08 21.3**	**+0.6**
TEIG	**Tepich**	**14.66**	**279**	Pn		**Pn**	**Pn**	**13 08 25.8**	**+0.4**
	0.6nm,0.3s,baz=55,slow=16,SNR=2.5								
APG	**El Apazote**	**17.24**	**261**	Pn		**P**	**P**	**13 09 00.6**	**0.0**
	0.4nm,0.3s,baz=143,slow=20,SNR=2.3								
APG				LR		LR	LR	13 15 47.0	
	comp=Z,110nm,19.9s,baz=128,slow=38								
TKL	**Tuckaleechee C**	**19.60**	**333**	P		**P**	**P**	**13 09 24.6**	**-1.6**
	0.1nm,0.3s,baz=75,slow=10,SNR=2.3								
TKL				LR		LR	LR	13 17 11.3	
	comp=Z,94nm,21.9s,baz=148,slow=38								
TKL	**Tuckaleechee C**	**19.60**	**333**	*e*P		**P**	**P**	**13 09 27.0**	**+0.8**
BLA	**Blacksburg**	**19.75**	**342**	*e*P		**P**	**P**	**13 09 28.3**	**+0.5**
CMIG	**Matias Romero**	**21.04**	**269**	P		**P**	**P**	**13 09 40.7**	**-1.2**
	2.0nm,0.5s,baz=113,slow=21,SNR=3.8								
WVT	**Waverly**	**21.95**	**326**	*e*P		**P**	**P**	**13 09 51.6**	**0.0**
	9.0nm,0.9s								
SSPA	**Standing Stone**	**22.43**	**350**	*e*P		**P**	**P**	**13 09 54.7**	**-2.0**
	68nm,1.5s								
PTGA	**Pitinga**	**22.96**	**145**	P		**P**	**P**	**13 10 02.8**	**+0.3**
	9.2nm,1.1s,baz=342,slow=10,SNR=5.9								
PTGA				LR		LR	LR	13 19 20.8	
	comp=Z,86nm,18.4s,baz=320,slow=38								
PTGA	**Pitinga**	**22.96**	**145**	*e*P		**P**	**P**	**13 10 03.9**	**+1.3**
	23nm,1.4s								
ACSO	**Alum Creek Sta**	**23.31**	**340**	*e*P		**P**	**P**	**13 10 08.4**	**+2.5**
	32nm,1.4s								
SADO	**Sadowa**	**26.67**	**350**	LR		LR	LR	13 20 13.7	
	comp=Z,146nm,20.7s,baz=151,slow=34								
TXAR	**Lajitas Array**	**30.07**	**297**	P		**P**	**P**	**13 11 07.2**	**-0.2**
	1.5nm,1.0s,baz=118,slow=10,SNR=9.8								
BNM	**Barren Site**	**33.84**	**304**	*e*P		**P**	**P**	**13 11 42.0**	**+1.2**
LPM	**Los Pinos Moun**	**33.90**	**304**	*e*P		**P**	**P**	**13 11 40.4**	**-0.8**
ANMO	**Albuquerque**	**33.97**	**306**	P		**P**	**P**	**13 11 41.9**	**0.0**
	1.5nm,1.0s,baz=138,slow=14,SNR=3.3								
ANMO	**Albuquerque**	**33.97**	**306**	*e*P		**P**	**P**	**13 11 43.9**	**+2.0**
	2.5nm,1.0s								
LAZ	**Ladron**	**34.32**	**304**	*e*P		**P**	**P**	**13 11 45.4**	**+0.5**
LPAZ	**La Paz**	**34.93**	**172**	LR		LR	LR	13 26 57.2	
	comp=Z,190nm,22.0s,baz=0.5,slow=38								
S22A	**4UR Ranch, Cre**	**35.28**	**310**	*e*P		**P**	**P**	**13 11 54.8**	**+1.5**
	4.9nm,1.4s								
SCHQ	**Schefferville**	**36.51**	**6**	LR		LR	LR	13 26 28.5	
	comp=Z,83nm,19.7s,baz=140,slow=35								
ULM	**Lac du Bonnet**	**36.59**	**335**	P		**P**	**P**	**13 12 03.9**	**0.0**
	4.2nm,0.9s,baz=105,slow=20,SNR=3.3								
ULM	**Lac du Bonnet**	**36.59**	**335**	*e*P		**P**	**P**	**13 12 04.8**	**+0.9**
	7.0nm,1.1s								
PDAR	**Pinedale Array**	**39.29**	**316**	P		**P**	**P**	**13 12 26.7**	**-0.4**
	0.3nm,0.6s,baz=99,slow=11,SNR=3.3								
PDAR				PcP		**PcP**	**P**	**13 14 35.5**	**-0.5**
	0.7nm,0.9s,baz=117,slow=4.0,SNR=3.9								
PDAR				LR		LR	LR	13 29 44.0	
	comp=Z,58nm,20.6s,baz=118,slow=38								
LOHW	**Long Hollow**	**40.35**	**317**	*e*P		**P**	**P**	**13 12 35.9**	**0.0**
	13nm,1.7s								
REDW	**Red Top Meadow**	**40.41**	**316**	*e*P		**P**	**P**	**13 12 36.9**	**+0.6**
	31nm,1.8s								
FXWY	**Fox Creek**	**40.64**	**316**	*e*P		**P**	**P**	**13 12 38.7**	**+0.4**
	14nm,1.9s								
BGU	**Big Grassy Mou**	**40.93**	**312**	*e*P		**P**	**P**	**13 12 41.9**	**+1.2**
	6.5nm,1.8s								
YUH	**Yuha Desert**	**41.03**	**299**	*e*P		**P**	**P**	**13 12 43.5**	**+2.1**
SHPR	**Sheep Range**	**41.20**	**305**	P		**P**	**P**	**13 12 43.5**	**+0.6**
	7.7nm,1.3s								
BDFB	**Brasilia**	**41.86**	**143**	LR		LR	LR	13 30 36.3	
	comp=Z,69nm,18.6s,baz=331,slow=37								
TPNV	**Topopah Spring**	**42.15**	**305**	*e*P		**P**	**P**	**13 12 53.2**	**+2.4**
	7.4nm,1.4s								
MCMT	**McKenzie Canyo**	**42.33**	**317**	*e*P		**P**	**P**	**13 12 53.1**	**+0.9**
ELK	**Elko**	**42.45**	**311**	P		**P**	**P**	**13 12 53.0**	**-0.2**
	1.1nm,1.0s,baz=184,slow=2.0,SNR=3.4								
TPH	**Tonopah**	**43.17**	**306**	*e*P		**P**	**P**	**13 13 00.6**	**+1.5**
	3.9nm,1.0s								
NVAR	**Mina Array Bea**	**44.08**	**306**	P		**P**	**P**	**13 13 06.8**	**+0.3**
	0.7nm,0.8s,baz=109,slow=9.0,SNR=6.8								
FRB	**Frobisher Bay**	**45.25**	**3**	P		**P**	**P**	**13 13 15.4**	**+0.3**
	2.8nm,0.9s,baz=100,slow=6.1,SNR=2.9								
NEW	**Newport**	**46.44**	**320**	P		**P**	**P**	**13 13 25.3**	**+0.5**
	1.7nm,0.7s,baz=180,slow=2.0,SNR=3.0								
EDM	**Edmonton**	**46.66**	**328**	*e*P		**P**	**P**	**13 13 27.1**	**+0.7**
	17nm,1.4s								
SFJD	**Kangerlussuaq**	**50.51**	**11**	LR		LR	LR	13 33 38.5	
	comp=Z,87nm,20.4s,baz=208,slow=34								
YKA	**Yellowknife Ar**	**52.51**	**337**	P		**P**	**P**	**13 14 10.5**	**-0.3**
	1.7nm,1.0s,baz=122,slow=7.4,SNR=22								
DLBC	**Dease Lake**	**57.36**	**328**	P		**P**	**P**	**13 14 44.8**	**-1.3**
	3.6nm,0.9s,baz=111,slow=2.0,SNR=7.8								
DLBC	**Dease Lake**	**57.36**	**328**	*e*P		**P**	**P**	**13 14 47.5**	**+1.4**
	45nm,2.2s								
ESDC	**Sonseca Array**	**62.29**	**54**	P		**P**	**P**	**13 15 20.9**	**+0.5**
	0.2nm,0.3s,baz=276,slow=12,SNR=3.6								
ILAR	**Eielson Array**	**66.58**	**333**	P		**P**	**P**	**13 15 47.2**	**-0.7**
	0.8nm,1.0s,baz=129,slow=4.9,SNR=6.8								
ILAR				LR		LR	LR	13 46 42.0	
	comp=Z,34nm,18.6s,baz=70,slow=38								
COLD	**Coldfoot**	**68.16**	**336**	*e*P		**P**	**P**	**13 15 59.0**	**+1.2**
	43nm,2.5s								
NOA	**NORSAR Array B**	**71.09**	**31**	LR		LR	LR	13 42 49.7	
	comp=Z,32nm,21.7s,baz=240,slow=32								
TORD	**Torodi Ar. Bea**	**71.46**	**82**	P		**P**	**P**	**13 16 17.6**	**-1.5**
	0.8nm,0.9s,baz=267,slow=5.3,SNR=3.7								
TORD				LR		LR	LR	13 46 31.2	
	comp=Z,15nm,19.2s,baz=220,slow=35								
GERES	**GERESS Array B**	**74.02**	**43**	P		**P**	**P**	**13 16 34.4**	**+0.5**
	1.0nm,0.7s,baz=262,slow=4.0,SNR=9.2								
GERES				LR		LR	LR	13 43 45.9	
	comp=Z,77nm,22.0s,baz=264,slow=32								
ARCES	**ARCESS Array B**	**75.66**	**21**	LR		LR	LR	13 44 55.3	
	comp=Z,51nm,21.8s,baz=256,slow=32								
FINES	**FINESS Array B**	**78.07**	**29**	P		**P**	**P**	**13 16 55.3**	**-1.3**
	0.3nm,0.3s,baz=292,slow=15,SNR=3.6								
FINES				LR		LR	LR	13 46 49.2	
	comp=Z,38nm,21.5s,baz=280,slow=32								
BILL	**Bilibino**	**83.69**	**341**	*e*P		**P**	**P**	**13 17 25.4**	**-1.1**
	9.1nm,1.2s								
BRTR	**Kevkin Array B**	**90.36**	**48**	P		**P**	**P**	**13 17 59.6**	**-0.1**
	1.1nm,1.0s,baz=321,slow=3.2,SNR=4.3								
BRTR				LR		LR	LR	13 55 51.4	
	comp=Z,12nm,20.0s,baz=338,slow=34								
AKTO	**Aktyubinsk**	**98.84**	**29**	LR		LR	LR	13 57 14.4	
	comp=Z,26nm,22.0s,slow=32								
WRA	**Warramunga Arr**	**154.31**	**262**	PKP		**PKPdf**	**P**	**13 24 50.4**	**-0.5**
	0.6nm,0.9s,baz=88,slow=3.9,SNR=3.4								
ASAR	**Alice Springs**	**154.56**	**254**	PKPab		**PKPab**	**P**	**13 25 14.4**	**+0.2**
	0.9nm,1.0s,baz=107,slow=2.6,SNR=3.0								

GUC 15 13:07:16.9±0.7, **35°54S**×**72°65W**, **h11**km±2km, **ML4.2, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.61**	**191**	*e*P		Pg	Pg	13 07 27.7	-1.0
COCH				*e*S		Sg	Sg	13 07 36.4	-0.3
TALC	**Talca**	**0.84**	**81**	*e*P		Pg	Pg	13 07 31.2	-1.9
TALC				*e*S		Sg	Sg	13 07 42.7	-1.4
NICH	**Los Niches**	**1.28**	**66**	*e*P		Pn	Pn	13 07 38.7	-2.0
NICH				*e*S		Sb	Sb	13 07 55.3	-2.1
CCSP	**San Pedro de C**	**1.36**	**196**	*e*S		Sb	Sb	13 07 57.3	-2.4
CLCH	**Cerro Calan**	**2.76**	**40**	*e*P		Pn	Pn	13 08 02.0	+0.9
CLCH					AML	AML	AML	13 08 47.3	
	comp=N,956nm,0.5s								

*IDC **15** 13:11:03.5±1.2, 39°25S×175°17E, h250km±15km, mb3.0/2, mb1 3.3/3, mb1mx3.1/15, mbtmp3.8/3, Error ellipse: s-maj=41.8km s-min=16.1km az=134.0*

*ISCJB **15** 13:11:04.1±0.4, 38°91S±0°04×174°85E±0°06, h247km±3km, mb3.7/3, Error ellipse: s-maj=8.3km s-min=4.9km az=40.8*

*NEIC **15** 13:11:06.4, 38°85S×174°96E, h237km, mb4.7/1, After WEL.*

*WEL **15** 13:11:06.3±0.3, 38°85S×174°96E, h237km±2km, ML4.7/17, Error ellipse: s-maj=3.0km s-min=2.0km az=0.0*

ISC 15 13:11:04.4±0.8, **38°88S**×**174°93E**±0°05, **h247**km±5km, **n160**, σ1°05/175, **mb3.3**/3, **23C-18D, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.28**	**208**	Pn		**Pn**	**Pn**	**13 11 36.2**	**-0.1**
VRZ				Sn		**Sn**	**S**	**13 12 00.2**	**-1.3**
VRZ	**Vera Road**	**0.28**	**208**	Pn		**Pn**	**Pn**	**13 11 36.2**	**-0.1**
HIZ	**Hauiti**	**0.37**	**351**	PN		**Pn**	**Pn**	**13 11 36.5**	**-0.1**
HIZ				SN		**Sn**	**S**	**13 12 00.9**	**-1.0**
HIZ	**Hauiti**	**0.37**	**351**	Pn		**Pn**	**Pn**	**13 11 36.5**	**-0.1**
HIZ				Sn		**Sn**	**S**	**13 12 00.9**	**-1.0**
TWVZ	**Taurewa**	**0.44**	**116**	⇑PN		**Pn**	**Pn**	**13 11 37.2**	**+0.4**
TWVZ				SN		**Sn**	**S**	**13 12 00.8**	**-1.5**
TWVZ	**Taurewa**	**0.44**	**116**	Pn		**Pn**	**Pn**	**13 11 37.2**	**+0.4**
TWVZ				Sn		**Sn**	**S**	**13 12 00.8**	**-1.5**
MHEZ	**Mangahewa**	**0.51**	**247**	⇑PN		**Pn**	**Pn**	**13 11 37.8**	**+0.9**
MHEZ				SN		**Sn**	**S**	**13 12 03.2**	**+0.8**
MHEZ	**Mangahewa**	**0.51**	**247**	Pn		**Pn**	**Pn**	**13 11 37.8**	**+0.9**
PKVZ	**Pokaka**	**0.53**	**142**	PN		**Pn**	**Pn**	**13 11 37.6**	**+0.6**
PKVZ				SN		**Sn**	**S**	**13 12 01.4**	**-1.3**
PKVZ	**Pokaka**	**0.53**	**142**	Pn		**Pn**	**Pn**	**13 11 37.6**	**+0.6**
PKVZ				Sn		**Sn**	**S**	**13 12 01.4**	**-1.3**
COVZ	**Chateau Observ**	**0.58**	**124**	PN		**Pn**	**Pn**	**13 11 37.6**	**+0.3**
COVZ				SN		**Sn**	**S**	**13 12 01.3**	**-1.8**
WPVZ	**Whakapapa**	**0.58**	**124**	PN		**Pn**	**Pn**	**13 11 38.0**	**+0.7**
WPVZ				SN		**Sn**	**S**	**13 12 01.6**	**-1.6**
WPVZ	**Whakapapa**	**0.58**	**124**	Pn		**Pn**	**Pn**	**13 11 38.0**	**+0.7**
KRVZ	**Karewarewa**	**0.60**	**112**	PN		**Pn**	**Pn**	**13 11 38.0**	**+0.6**
KRVZ				SN		**Sn**	**S**	**13 12 01.8**	**-1.4**
KRVZ	**Karewarewa**	**0.60**	**112**	Pn		**Pn**	**Pn**	**13 11 38.0**	**+0.6**
NGZ	**Ngauruhoe**	**0.60**	**120**	PN		**Pn**	**Pn**	**13 11 38.2**	**+0.9**
NGZ				SN		**Sn**	**S**	**13 12 02.0**	**-1.3**
NGZ	**Ngauruhoe**	**0.60**	**120**	Pn		**Pn**	**Pn**	**13 11 38.2**	**+0.9**
FWVZ	**Far West T-bar**	**0.62**	**128**	PN		**Pn**	**Pn**	**13 11 38.2**	**+0.7**
FWVZ	**Far West T-bar**	**0.62**	**128**	Pn		**Pn**	**Pn**	**13 11 38.2**	**+0.7**
TRVZ	**Turoa**	**0.64**	**131**	PN		**Pn**	**Pn**	**13 11 38.3**	**+0.7**
TRVZ	**Turoa**	**0.64**	**131**	Pn		**Pn**	**Pn**	**13 11 38.1**	**+0.5**
WHVZ	**Whangaehu Hut**	**0.65**	**128**	PN		**Pn**	**Pn**	**13 11 38.3**	**+0.6**
MTVZ	**Mangateitei**	**0.66**	**140**	PN		**Pn**	**Pn**	**13 11 38.3**	**+0.9**
MTVZ	**Mangateitei**	**0.66**	**140**	Pn		**Pn**	**Pn**	**13 11 38.3**	**+0.9**
TUVZ	**Tukino**	**0.69**	**125**	⇑PN		**Pn**	**Pn**	**13 11 38.6**	**+1.0**
TUVZ	**Tukino**	**0.69**	**125**	Pn		**Pn**	**Pn**	**13 11 38.6**	**+1.0**
WNVZ	**Wahianoa**	**0.69**	**131**	⇓PN		**Pn**	**Pn**	**13 11 38.8**	**+1.1**
WNVZ	**Wahianoa**	**0.69**	**131**	Pn		**Pn**	**Pn**	**13 11 38.8**	**+1.1**
LREZ	**Lake Rotokare**	**0.71**	**215**	⇑PN		**Pn**	**Pn**	**13 11 38.5**	**+0.9**
NEZ	**North Egmont**	**0.76**	**238**	⇓PN		**Pn**	**Pn**	**13 11 38.8**	**+0.9**
NEZ	**North Egmont**	**0.76**	**238**	Pn		**Pn**	**Pn**	**13 11 38.8**	**+0.9**
PREZ	**Palmer Road**	**0.76**	**232**	⇑PN		**Pn**	**Pn**	**13 11 38.8**	**+0.9**
KHEZ	**Kahui Hut**	**0.82**	**239**	Pn		**Pn**	**Pn**	**13 11 39.0**	**+0.8**
MOVZ	**Moawhango**	**0.83**	**130**	⇑PN		**Pn**	**Pn**	**13 11 38.7**	**+0.5**
MOVZ	**Moawhango**	**0.83**	**130**	Pn		**Pn**	**Pn**	**13 11 38.7**	**+0.5**
WAZ	**Wanganui**	**0.88**	**177**	⇑PN		**Pn**	**Pn**	**13 11 39.5**	**+1.1**
WAZ	**Wanganui**	**0.88**	**177**	Pn		**Pn**	**Pn**	**13 11 39.5**	**+1.1**
HATZ	**Hinemaiaia**	**0.91**	**91**	⇓PN		**Pn**	**Pn**	**13 11 38.9**	**+0.3**
HATZ	**Hinemaiaia**	**0.91**	**91**	Pn		**Pn**	**Pn**	**13 11 38.9**	**+0.3**
NMAZ	**Namu Road**	**0.98**	**236**	PN		**Pn**	**Pn**	**13 11 39.8**	**+0.9**
WPRZ	**Whakapapataprin**	**1.03**	**70**	PN		**Pn**	**Pn**	**13 11 39.4**	**+0.1**
BHHZ	**Black Hill Sta**	**1.07**	**125**	PN		**Pn**	**Pn**	**13 11 40.0**	**+0.5**
BHHZ	**Black Hill Sta**	**1.07**	**125**	Pn		**Pn**	**Pn**	**13 11 40.0**	**+0.5**
BKZ	**Black Stump Fm**	**1.25**	**104**	PN		**Pn**	**Pn**	**13 11 41.0**	**+0.4**
BKZ						AML	AML	13 12 08.9	
BKZ						AML	AML	13 12 09.2	
BKZ	**Black Stump Fm**	**1.25**	**104**	Pn		**Pn**	**Pn**	**13 11 41.0**	**+0.4**
KRHZ	**Kereru**	**1.36**	**125**	⇓PN		**Pn**	**Pn**	**13 11 42.2**	**+0.9**
TSZ	**Takapari Road**	**1.43**	**146**	PN		**Pn**	**Pn**	**13 11 42.7**	**+0.9**
TSZ						AML	AML	13 12 11.6	
TSZ						AML	AML	13 12 12.3	
TSZ	**Takapari Road**	**1.43**	**146**	Pn		**Pn**	**Pn**	**13 11 42.7**	**+0.9**
PNHZ	**Pukenui**	**1.43**	**137**	PN		**Pn

RPZ	**Rata Peaks**	**5.64**	**210**	PN	**Pn**	**13 12 26.2**	**-1.8**
RPZ	**Rata Peaks**	**5.64**	**210**	P	**Pn**	**13 12 26.1**	**-1.8**
	5.8nm,0.3s,baz=54,slow=1.7,SNR=55						
RPZ				S	S	13 13 28.3	-6.4
	23nm,0.3s,baz=102,slow=18,SNR=14						
FOZ	**Fox Glacier**	**6.12**	**218**	PN	Pn	13 12 30.6	-3.2
FOZ	**Fox Glacier**	**6.12**	**218**	Pn	Pn	13 12 30.6	-3.2
LBZ	**Lake Benmore**	**6.55**	**211**	PN	**Pn**	**13 12 37.6**	**-1.6**
LBZ	**Lake Benmore**	**6.55**	**211**	Pn	**Pn**	**13 12 37.6**	**-1.6**
ODZ	**Otahua Downs**	**6.94**	**206**	⇑PN	**Pn**	**13 12 43.6**	**-0.5**
ODZ	**Otahua Downs**	**6.94**	**206**	ePn	**Pn**	**13 12 43.6**	**-0.5**
ODZ				eS	S	**13 14 06.5**	**+2.4**
JCZ	**Jackson Bay**	**6.96**	**220**	PN	Pn	13 12 41.5	-2.9
JCZ	**Jackson Bay**	**6.96**	**220**	Pn	Pn	13 12 41.5	-2.9
MSVF	**Nonsavu**	**21.24**	**8**	*e*P	**P**	**13 15 32.0**	**+0.3**
	25nm,1.0s						
ASAR	**Alice Springs**	**37.87**	**281**	P	**P**	**13 17 59.0**	**+1.1**
	0.8nm,0.8s,baz=129,slow=8.6,SNR=11						
ASAR				PcP	**PcP**	**13 20 07.0**	**-1.6**
	0.1nm,0.6s,baz=126,slow=4.7,SNR=4.0						
WRA	**Warramunga Arr**	**39.68**	**287**	P	**P**	**13 18 13.8**	**+0.9**
	0.5nm,0.7s,baz=127,slow=7.3,SNR=3.9						
ARCES	**ARCESS Array B**	**145.24**	**342**	PKPbc	**PKPdf**	**13 30 11.9**	**+0.5**
	4.5nm,0.9s,baz=46,slow=3.9,SNR=5.9						
FINES	**FINESS Array B**	**150.36**	**330**	PKPbc	**PKPdf**	**13 30 24.6**	**+4.7**
	1.0nm,0.7s,baz=46,slow=4.0,SNR=3.0						
FINES				PKPab	**PKPab**	**13 30 32.2**	**-0.7**
	0.7nm,0.4s,baz=69,slow=4.6,SNR=6.2						

*NEIC **15** 13:20:36.4, 35°17'S × 71°72'W, h50km, MG3.9(GUC), After GUC.*
NEIC Felt [III] at Talca and [II] at Curico and Pencahue.
GUC 15 13:20:36.7±0.6, 35°15'S × 71°81'W, h47km±5km, ML3.9, 2C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TALC	**Talca**	**0.28**	**150**	⇑*i*	P	Pn	13 20 45.1	-0.3
TALC				*i*	S	Sn	13 20 51.8	+0.1
TALC	**Talca**	**0.28**	**150**	⇓*i*	P	Pn	13 20 45.1	-0.3
TALC				*i*	S	Sn	13 20 51.8	+0.1
NICH	**Los Niches**	**0.50**	**73**	⇓*i*	P	Pn	13 20 47.1	-0.7
NICH				*i*	S	Sn	13 20 55.6	0.0
NICH	**Los Niches**	**0.50**	**73**	⇓*i*	P	Pn	13 20 47.1	-0.7
NICH				*i*	S	Sn	13 20 55.2	-0.4
LNCH	**Linares**	**0.72**	**166**	⇓*i*	P	Pn	13 20 50.1	-0.5
LNCH				*i*	S	Sn	13 21 00.7	+0.1
LNCH	**Linares**	**0.72**	**166**	⇓*i*	P	Pn	13 20 50.1	-0.5
LNCH				*i*	S	Sn	13 21 00.7	+0.1
COCH	**Cobquecura**	**1.26**	**219**	e*P*	P	Pn	13 20 57.5	-0.4
COCH				e*S*	S	Sn	13 21 14.2	+0.5
CLCH	**Cerro Calan**	**2.04**	**31**	*i* P	P	Pn	13 21 08.6	-0.2
CLCH				*i* S	S	Sn	13 21 33.6	+0.5
CLCH				AML	AML	13 21 39.3		
	comp=N,991nm,0.3s							
PEL	**Peldehue**	**2.21**	**25**	⇓*i* P	P	Pn	13 21 11.2	+0.2
PEL				*i* S	S	Sn	13 21 37.5	+0.4
PEL				AML	AML	13 21 49.0		
	comp=N,1μm,0.3s							
PEL	**Peldehue**	**2.21**	**25**	⇓*i* P	P	Pn	13 21 11.2	+0.2
PEL				*i* S	S	Sn	13 21 37.5	+0.4
ROCH	**El Roble**	**2.27**	**17**	AML	AML	13 21 45.2		
	comp=N,1μm,0.6s							

WEL 15 13:22:08.5±0.3, 36°87'S × 176°42'E, h238km±4km, ML4.0/14, 7C-3D, Error ellipse: s-maj=6.6km s-min=6.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HAZ	**Te Kaha**	**1.40**	**129**	PN	Pn	Pn	13 22 45.2	+0.3
HAZ				SN	S	Sn	13 23 13.1	-0.4
URZ	**Urewera**	**1.49**	**159**	⇑PN	Pn	Pn	13 22 45.8	+0.3
URZ				SN	S	Sn	13 23 14.5	-0.3
MXZ	**Matakaoa Point**	**1.66**	**115**	PN	Pn	Pn	13 22 47.3	+0.3
MXZ				SN	S	Sn	13 23 16.5	-0.6
MWZ	**Matawai**	**1.70**	**149**	⇑PN	Pn	Pn	13 22 47.3	-0.1
TWGZ	**Tauwhareparae**	**1.80**	**137**	PN	Pn	Pn	13 22 48.5	+0.3
TWGZ				SN	S	Sn	13 23 20.0	+0.5
WMGZ	**Waiomatatini S**	**1.85**	**121**	PN	Pn	Pn	13 22 48.7	+0.1
PUZ	**Puketiti**	**1.89**	**130**	⇓PN	Pn	Pn	13 22 48.7	-0.3
PUZ				SN	S	Sn	13 23 19.2	-1.7
TKGZ	**Te Karaka**	**1.93**	**144**	PN	Pn	Pn	13 22 49.0	-0.3
HATZ	**Hinemaiaia**	**2.03**	**187**	⇑PN	Pn	Pn	13 22 50.7	+0.4
SNGZ	**Shannon Statio**	**2.04**	**159**	PN	Pn	Pn	13 22 50.1	+0.3
RAHZ	**Arahi**	**2.11**	**166**	PN	Pn	Pn	13 22 50.9	-0.2
RIGZ	**Rimuhau**	**2.12**	**150**	PN	Pn	Pn	13 22 50.6	-0.6
NMHZ	**Naumai**	**2.24**	**172**	PN	Pn	Pn	13 22 52.4	0.0
BKZ	**Black Stump Fm**	**2.29**	**179**	⇑PN	Pn	Pn	13 22 52.2	-0.7
WHHZ	**Waihua**	**2.29**	**164**	PN	Pn	Pn	13 22 52.2	-0.6
PRGZ	**Paritu Road**	**2.35**	**151**	PN	Pn	Pn	13 22 52.6	-0.8
KNZ	**Kokohu**	**2.36**	**156**	⇑PN	Pn	Pn	13 22 52.1	-1.3
COVZ	**Chateau Observ**	**2.42**	**196**	PN	Pn	Pn	13 22 54.6	+0.4
ARHZ	**Aropaoanui**	**2.43**	**169**	⇑PN	Pn	Pn	13 22 53.5	-0.6
TUVZ	**Tukino**	**2.47**	**194**	PN	Pn	Pn	13 22 54.9	+0.2
TRVZ	**Turoa**	**2.52**	**196**	PN	Pn	Pn	13 22 55.7	+0.3
WNVZ	**Wahianoa**	**2.54**	**195**	PN	Pn	Pn	13 22 55.3	-0.1
PKVZ	**Pokaka**	**2.56**	**199**	PN	Pn	Pn	13 22 55.9	+0.3
MHGZ	**Mahia Peninsul**	**2.56**	**153**	PN	Pn	Pn	13 22 54.3	-1.2
MCHZ	**McNeill Hill**	**2.58**	**175**	PN	Pn	Pn	13 22 55.0	-0.7
MOVZ	**Moawhango**	**2.58**	**192**	PN	Pn	Pn	13 22 55.2	-0.7
MTVZ	**Mangateitei**	**2.62**	**196**	PN	Pn	Pn	13 22 56.1	-0.1
BHHZ	**Black Hill Sta**	**2.63**	**186**	PN	Pn	Pn	13 22 55.4	-0.9
KRHZ	**Kereru**	**2.77**	**181**	PN	Pn	Pn	13 22 56.2	-1.5
CKHZ	**Cape Kidnapper**	**2.83**	**170**	PN	Pn	Pn	13 22 56.8	-1.6
KAHZ	**Kahuranaki**	**2.94**	**173**	PN	Pn	Pn	13 22 57.9	-1.7
PNHZ	**Pukenui**	**3.04**	**183**	PN	Pn	Pn	13 22 58.8	-1.9
PXZ	**Pawanui**	**3.17**	**174**	PN	Pn	Pn	13 22 59.6	-2.6
TSZ	**Takapari Road**	**3.20**	**186**	PN	Pn	Pn	13 23 00.4	-2.1
POWZ	**Post Office Ro**	**3.55**	**188**	PN	Pn	Pn	13 23 04.3	-2.2
ANWZ	**Angora Road**	**3.58**	**179**	PN	Pn	Pn	13 23 04.1	-2.7
MRZ	**Mangatainoka R**	**3.84**	**190**	⇑PN	Pn	Pn	13 23 06.6	-3.2
OGWZ	**Otaki Gorge**	**4.06**	**194**	⇓PN	Pn	Pn	13 23 09.4	-3.0
HOWZ	**Holdsworth Sta**	**4.08**	**190**	PN	Pn	Pn	13 23 09.2	-3.5
KIW	**Kapiti Island**	**4.15**	**196**	PN	Pn	Pn	13 23 10.4	-3.1
TMWZ	**Te Maipa**	**4.25**	**185**	PN	Pn	Pn	13 23 11.3	-3.4
MTW	**Mount Morrison**	**4.34**	**189**	PN	Pn	Pn	13 23 11.7	-4.0
CAW	**Cannon Point**	**4.36**	**194**	PN	Pn	Pn	13 23 12.3	-3.7
DUWZ	**D'Urville Isla**	**4.38**	**206**	PN	Pn	Pn	13 23 13.7	-2.7
TRWZ	**Traveller**	**4.55**	**187**	PN	Pn	Pn	13 23 14.7	-3.7
MSWZ	**Moikau Station**	**4.63**	**191**	PN	Pn	Pn	13 23 15.0	-4.3
TCW	**Tory Channel**	**4.64**	**200**	PN	Pn	Pn	13 23 16.3	-3.1
PLWZ	**Palliser**	**4.78**	**191**	PN	Pn	Pn	13 23 16.8	-4.4
NNZ	**Nelson**	**4.94**	**208**	PN	Pn	Pn	13 23 19.7	-3.4
QRZ	**Quartz Range**	**4.98**	**216**	PN	Pn	Pn	13 23 20.5	-3.1
THZ	**Tophouse**	**5.59**	**208**	PN	Pn	Pn	13 23 27.9	-3.4
OXZ	**Oxford**	**7.26**	**206**	PN	Pn	Pn	13 23 46.7	-5.6
MQZ	**McQueen's Vall**	**7.41**	**202**	⇓PN	Pn	Pn	13 23 48.4	-5.7

*CSEM **15** 13:28:34.6, 64°10'N × 28°24'E, h0km, ML1.2, Mining explosion.*
HEL 15 13:28:34.6±0.1, 64°10'N × 28°24'E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OUL	**Oulu**	**1.41**	**315**	PG	Pn	Pn	13 28 59.5	-2.0
OUL	**Oulu**	**1.41**	**315**	Pg	Pn	Pn	13 28 59.5	-2.0
SUF	**Sumiainen**	**1.67**	**215**	PG	Pn	Pn	13 29 04.7	-0.4
SUF				SG	Sn	Sn	13 29 26.6	-0.6
SUF				MSG			13 29 26.6	
	comp=Z,1.1nm,0.2s							
SUF	**Sumiainen**	**1.67**	**215**	Pg	Pn	Pn	13 29 04.7	-0.4
SUF				Sg	Sn	Sn	13 29 26.6	-0.7
MSF	**Maaselka**	**1.85**	**10**	PG	Pn	Pn	13 29 07.9	+0.3
MSF				SG	Sn	Sn	13 29 30.9	-0.8
MSF				MSG			13 29 30.9	
	comp=Z,1.0nm,0.2s							
MSF	**Maaselka**	**1.85**	**10**	Pg	Pn	Pn	13 29 07.9	+0.3
MSF				Sg	Sn	Sn	13 29 30.9	-0.8
KU6	**Riekki**	**2.06**	**19**	PG	Pn	Pn	13 29 11.2	+0.8
KU6				SG	Sn	Sn	13 29 37.6	+0.9
KU6	**Riekki**	**2.06**	**19**	Pg	Pn	Pn	13 29 11.1	+0.7
KU6				Sg	Sn	Sn	13 29 37.6	+0.9
KAF	**Kangasniemi**	**2.18**	**205**	PG	Pn	Pn	13 29 13.1	+1.1
KAF				SG	Sb	Sb	13 29 41.6	-0.8
KAF				MSG			13 29 41.6	
	comp=Z,1.2nm,0.2s							
KAF	**Kangasniemi**	**2.18**	**205**	Pg	Pn	Pn	13 29 13.1	+1.0
KAF				Sg	Sb	Sb	13 29 41.6	-0.8
KEF	**Keuruu**	**2.47**	**220**	PB	Pn	Pn	13 29 17.7	+1.6
KEF				SB	Sb	Sb	13 29 48.9	-1.8
KEF	**Keuruu**	**2.47**	**220**	Pb	Pn	Pn	13 29 17.6	+1.5
KEF				Sb	Sb	Sb	13 29 48.9	-1.9
RNF	**Rovaniemi**	**2.69**	**341**	PB	Pn	Pn	13 29 21.1	+2.1
RNF	**Rovaniemi**	**2.69**	**341**	Pb	Pn	Pn	13 29 21.1	+2.1
VAF	**Ylistaro**	**2.71**	**249**	PN	Pn	Pn	13 29 21.2	+1.9
VAF				SB	Sb	Sb	13 29 55.7	-1.8
VAF				MSG			13 29 55.7	
	comp=Z,0.7nm,0.2s							
VAF	**Ylistaro**	**2.71**	**249**	Pn	Pn	Pn	13 29 21.1	+1.8
VAF				Sb	Sb	Sb	13 29 55.7	-1.8
KALU	**Kalix**	**2.73**	**313**	PB	Pb	Pb	13 29 22.2	-1.9
KALU	**Kalix**	**2.73**	**313**	Pb	Pb	Pb	13 29 22.2	-1.9
FIA0	**FINESS Array S**	**2.85**	**201**	PB	Pb	Pb	13 29 23.9	-2.3
FIA0				SG	Sb	Sb	13 30 01.8	+0.3
FIA0				MSG			13 30 01.8	
	comp=Z,0.6nm,0.2s							
FIA0	**FINESS Array S**	**2.85**	**201**	Pb	Pb	Pb	13 29 23.9	-2.3
FIA0				Sg	Sb	Sb	13 30 01.8	+0.3
ERTU	**Ertsjaerv**	**3.54**	**317**	PN	Pn	Pn	13 29 30.8	+0.1
ERTU	**Ertsjaerv**	**3.54**	**317**	Pn	Pn	Pn	13 29 30.7	0.0

*IDC **15** 13:29:45.8±1.1, 2°37'S × 139°07'E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=25.7km s-min=12.8km az=9.0*
*ISCJB **15** 13:29:50.2±0.7, 1°95'S±0°07'×139°17'E±0°06, h37km, mb3.5/4, Error ellipse: s-maj=11.0km s-min=7.4km az=28.5*
*DJA **15** 13:29:50.1±0.5, 2°S±6'×13°9E±°, h24km±8km, M3.6/5, MLv3.6/5*
ISC 15 13:29:51.4±0.9, 2°02S±0°09×139°17E±0°05, h37km, n11, σ1s73/12, mb3.5/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMPI	**Sarmi**	**0.46**	**273**	P		**Pn**	**13 30 00.0**	**-1.4**
GENI	**Genyem**	**1.15**	**120**	P		**Pn**	**13 30 09.6**	**-1.3**
GENI				S		**Sn**	**13 30 25.8**	**+0.4**
JAY	**Jayapura**	**1.61**	**108**	P		**Pn**	**13 30 17.3**	**0.0**
JAY	**Jayapura**	**1.61**	**108**	Pg		**Pn**	**13 30 16.4**	**-0.9**
JAY	23nm,0.3s,baz=248,slow=11,SNR=79			Lg		Lg	13 30 37.1	
	18nm,0.3s,baz=62,slow=19,SNR=11							
WAMI	**Wamena**	**1.91**	**194**	P		**Pn**	**13 30 21.6**	**+0.1**
WAMI				S		**Sn**	**13 30 46.3**	**+2.0**
SRPI	**Serui, Papua**	**2.93**	**273**	P		**Pn**	**13 30 34.6**	**-0.9**
WRA	**Warramunga Arr**	**18.43**	**195**	P		P	13 33 57.1	-6.7
	0.4nm,0.3s,baz=17,slow=13,SNR=28							
ASAR	**Alice Springs**	**22.12**	**193**	P		**P**	**13 34 40.1**	**-3.8**
	0.5nm,0.4s,baz=12,slow=11,SNR=24							
CMAR	**Chiang Mai Arr**	**44.50**	**299**	P		**P**	**13 38 00.1**	**+0.5**
	0.3nm,0.5s,baz=118,slow=6.1,SNR=3.4							
MKAR	**Makanchi Array**	**69.53**	**322**	P		**P**	**13 40 57.8**	**+1.4**
	0.8nm,0.9s,baz=106,slow=6.7,SNR=4.3							
BVAR	**Borovoye Array**	**79.01**	**325**	P		**P**	**13 41 52.6**	**+1.1**
	0.4nm,0.6s,baz=116,slow=6.8,SNR=4.1							

*IDC **15** 13:39:51.3±1.6, 6°77S × 154°54E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=69.4km s-min=26.7km az=131.0*
*ISCJB **15** 13:39:55.8±1.3, 6°8S±0°3 × 154°5E±0°3, h39km, mb3.5/6, Error ellipse: s-maj=58.5km s-min=20.5km az=40.8*
ISC 15 13:39:57.1±1.4, 6°8S±0°4×154°5E±0°4, h39km, n7, σ0s40/8, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.53**	**234**	P		**P**	**13 45 04.0**	**-0.1**
	2.3nm,1.1s,baz=57,slow=9.8,SNR=8.1							
ASAR	**Alice Springs**	**25.94**	**228**	P		**P**	**13 45 26.0**	**-0.1**
	0.4nm,0.8s,baz=59,slow=9.5,SNR=4.5							
MKAR	**Makanchi Array**	**82.96**	**319**	P		**P**	**13 52 18.8**	**+0.6**
	0.5nm,0.6s,baz=110,slow=5.3,SNR=5.9							
ILAR	**Eielson Array**	**83.38**	**22**	P		**P**	**13 52 19.7**	**-0.2**
	0.3nm,0.9s,baz=250,slow=5.4,SNR=2.4							
ZALV	**Zalesovo Beam**	**83.77**	**326**	P		**P**	**13 52 21.7**	**-0.4**
	0.2nm,0.3s,baz=98,slow=6.0,SNR=2.9							
NVAR	**Mina Array Bea**	**91.98**	**52**	P		**P**	**13 53 02.5**	**+0.1**
	0.6nm,0.8s,baz=250,slow=6.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**152.52**	**285**	PKPbc		**PKPbc**	**13 59 50.8**	**+0.4**
	0.6nm,0.8s,baz=59,slow=1.8,SNR=4.1							
TORD				PKPab		**PKPab**	**14 00 00.7**	**-0.2**
	0.9nm,0.7s,baz=61,slow=2.5,SNR=5.0							

*IDC **15** 13:40:55.3±2.5, 31°21S × 177°81W, h21km±15km, mb4.5/18, mb1 4.6/18, mb1mx4.6/20, mbtmp4.6/18, MS4.4/16, Ms1 4.4/16, ms1mx4.2/30, Error ellipse: s-maj=16.9km s-min=14.2km az=157.0*
*MOS **15** 13:40:56.6±1.6, 31°17S × 177°93W, h33km, mb5.3/8, Error ellipse: s-maj=15.1km s-min=10.9km az=105.3*
*ISCJB **15** 13:40:56.1±0.2, 31°56S±0°03 × 177°96W±0°06, h37km, mb4.8/35, MS4.5/19, Error ellipse: s-maj=7.8km s-min=3.6km az=30.0*
*NEIC **15** 13:40:57.5±1.2, 31°20S × 177°85W, h38km±10km, mb5.2/14, Error ellipse: s-maj=9.1km s-min=6.2km az=142.0*
*GCMT **15** 13:40:57.5±0.4, 31°32S × 177°48W, h21km±1km, MW5.0/57, Moment Tensor Solution. s20,c28; s57,c73; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.20±.27; Mθθ 0.41±.17; Mϕϕ -2.79±.17; Mrθ 0.33±.35; Mθϕ -0.86±.10; Mϕr 2.23±.26; Best double couple: Mo 3.85900×10^16 NP1: ϕs 203.00000°, δ 63.00000°, λ 85.00000°. NP2: ϕs 203.00000°, δ 28.00000°, λ 99.00000°. Principal axes: T 3.9390, Plg 72.0000°, Azm 272.0000°; N -0.1610, Plg 4.0000°, Azm 15.0000°; P -3.7780, Plg 18.0000°, Azm 106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **15** 13:40:59.3, 30°72S × 177°92W, h43km, mB5.4/15, mb5.0/18, Ms5.4/10, Ms7 5.1/7*
ISC 15 13:40:57.6±0.5, 31°37S±0°05×177°72W±0°07, h41km±3km, h40km:pP-P, n226, σ1s63/243, mb5.0/34, MS4.5/19, 8C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**2.12**	**355**	e*P*		Pn	13 41 26.3	-4.2
RAO				*e*			13 41 53.0	
RAO	**Raoul Island**	**2.12**	**355**	Pn		Pn	13 41 27.3	-3.2
	292nm,0.3s,baz=152,slow=15,SNR=13							
RAO				Sn		**Sn**	**13 41 55.0**	**-0.5**
	947nm,0.3s,baz=180,slow=20,SNR=8.7							
RAO				LR		LR	13 42 19.1	
	comp=Z,2μm,19.2s,baz=168,slow=43							
RAO	**Raoul Island**	**2.12**	**355**	e*P*n		Pn	13 41 26.3	-4.2
RAO				e*S*n		**Sn**	**13 41 53.0**	**-2.6**
MXZ	**Matakaoa Point**	**7.00**	**207**	e*P*N		Pn	13 42 32.2	-5.3
MXZ				SN		**Sn**	**13 43 51.6**	**-4.2**
WMGZ	**Waiomatatini S**	**7.18**	**205**	PN		Pn	13 42 35.8	-4.2
HAZ	**Te Kaha**	**7.38**	**209**	PN		Pn	13 42 37.7	-4.9
HAZ				SN		**Sn**	**13 44 03.4**	**-1.7**
PUZ	**Puketiti**	**7.47**	**205**	PN		Pn	13 42 38.0	-5.9
PUZ				SN		**Sn**	**13 44 01.4**	**-5.9**
CNGZ	**Carnagh Statio**	**7.85**	**204**	PN		Pn	13 42 43.4	-5.8
CNGZ				SN		**Sn**	**13 44 13.6**	**-3.2**
MWZ	**Matawai**	**7.97**	**208**	PN		Pn	13 42 43.9	-7.1
MWZ				SN		**Sn**	**13 44 15.5**	**-4.4**
URZ	**Urewera**	**8.09**	**210**	Pn		Pn	13 42 46.6	-5.9
	0.9nm,0.3s,baz=20,slow=15,SNR=27							
URZ				Sn		**Sn**	**13 44 17.5**	**-4.9**
	35nm,0.3s,baz=342,slow=20,SNR=15							
URZ	**Urewera**	**8.09**	**210**	PN		Pn	13 42 46.5	-5.9
URZ				SN		**Sn**	**13 44 17.6**	**-4.9**
URZ	**Urewera**	**8.09**	**210**	Pn		Pn	13 42 46.5	-5.9
URZ				e*P*n		Pn	13 42 48.2	-4.2
OUZ	**Omahuta**	**8.22**	**240**	e*P*n		**Pn**	**13 42 57.0**	**+2.7**
	144nm,0.7s							
OUZ				e*S*n		**Sn**	**13 44 27.2**	**+1.3**
KNZ	**Kokohu**	**8.52**	**205**	e*P*N		Pn	13 42 51.1	-7.2
KNZ				SN		Sn	13 44 26.7	-6.4
ARHZ	**Aropaoanui**	**8.98**	**207**	SN		Sn	13 44 37.6	-7.0
KAHZ	**Kahuranaki**	**9.49**	**206**	SN		Sn	13 44 49.0	-8.1
MSVF	**Nonsavu**	**14.11**	**343**	e*P*		**Pn**	**13 44 13.3**	**-1.6**
MSVF				*e*			13 46 47.3	
MSVF				pmax		pmax		
	comp=Z,79nm,1.4s							
MSVF				e*S*n		**Sn**	**13 46 47.3**	**-3.0**
RPZ	**Rata Peaks**	**15.19**	**213**	Pn		Pn	13 44 19.0	-10
	comp=Z,0.4nm,0.3s,baz=66,slow=19,SNR=1.9							
RPZ				Sn		Sn	13 46 58.7	-18
	comp=Z,1.5nm,0.3s,baz=344,slow=15,SNR=7.7							
DZM	**Mont Dzumac**	**16.89**	**299**	e*P*		**P**	**13 44 55.4**	**+2.6**
	comp=Z,255nm,1.4s							
DZM				e*LR*		LR	13 48 48.1	
	comp=Z,3μm,23.0s,baz=137							
DZM	**Mont Dzumac**	**16.89**	**299**	Pn		Pn	13 44 44.6	-6.6
	comp=Z,0.2nm,0.3s,baz=141,slow=19,SNR=2.3							
DZM				LR		LR	13 50 21.8	
	comp=Z,4μm,18.4s,baz=146,slow=34							
DZM	**Mont Dzumac**	**16.89**	**299**	e*P*		Pn	13 44 44.2	-7.0
TBI	**Tubuai**	**26.28**	**79**	e*S*		S	13 51 08.9	+10
	comp=Z,746nm,24.2s							
TBI				e*LR*		LR	13 53 13.2	
	comp=Z,814nm,26.2s,baz=243							
ARMA	**Armidale**	**26.29**	**264**	P		**P**	**13 46 28.9**	**-0.6**
	comp=Z,48nm,1.4s							
EIDS	**Eidsvold**	**28.04**	**274**	e*P*		**P**	**13 46 44.2**	**-0.9**
	comp=Z,39nm,1.1s							
PPT2	**Papeete2**	**28.95**	**68**	e*LR*		LR	13 54 24.9	
	comp=Z,410nm,21.0s,baz=241							
PPT	**Papeete**	**28.96**	**68**	LR		LR	13 58 04.6	
	comp=Z,443nm,18.2s,baz=246,slow=36							
HNR	**Honiara**	**30.12**	**312**	LR		LR	13 57 44.2	
	comp=Z,572nm,19.8s,baz=162,slow=34							
CTA	**Charters Tower**	**34.20**	**280**	P		**P**	**13 47 40.5**	**+1.1**
	comp=Z,33nm,0.8s,baz=109,slow=10,SNR=20							
CTAO	**Charters Tower**	**34.20**	**280**	e*P*		**P**	**13 47 37.8**	**-1.6**
CTAO				pmax		pmax		
	comp=Z,63nm,1.0s							
CTAO	**Charters Tower**	**34.20**	**280**	e*P*		**P**	**13 47 37.8**	**-1.6**
	comp=Z,62nm,1.0s							
STKA	**Stephens Creek**	**34.51**	**258**	P		**P**	**13 47 43.0**	**+1.0**
	comp=Z,12nm,0.8s,baz=100,slow=9.2,SNR=22							
STKA				PcP		**PcP**	**13 50 15.5**	**-0.9**
	comp=Z,3.6nm,1.0s,baz=188,slow=3.5,SNR=2.9							
STKA				LR		LR	14 01 16.4	
	comp=Z,834nm,18.3s,baz=78,slow=35							
RKT	**Rikitea**	**38.69**	**89**	e*S*		S	13 54 22.1	+10
	comp=Z,149nm,26.2s							
RKT				e*LR*		LR	13 58 58.5	
	comp=Z,716nm,27.0s,baz=253							
BBOO	**Buckleboo**	**38.95**	**255**	e*P*		**P**	**13 48 18.6**	**-1.1**
	comp=Z,44nm,1.3s							
COEN	**Coen**	**39.78**	**287**	e*P*		**P**	**13 48 26.0**	**-0.8**
	comp=Z,36nm,1.3s							
AS31	**Alice Springs**	**43.31**	**268**	e*P*		**P**	**13 48 55.8**	**+0.1**
ASAR	**Alice Springs**	**43.31**	**268**	P		**P**	**13 48 55.8**	**+0.1**
	comp=Z,21nm,0.8s,baz=106,slow=7.6,SNR=211							
ASAR				ScP		**ScP**	**13 54 35.2**	**+2.9**
	comp=Z,2.9nm,0.9s,baz=119,slow=4.6,SNR=8.9							
ASAR				S		**S**	**13 55 22.5**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=111,slow=14,SNR=4.1							
ASAR				LR		LR	14 06 54.9	
	comp=Z,619nm,18.4s,baz=104,slow=36							
WB2	**Warramunga Arr**	**44.37**	**273**	e*P*		**P**	**13 49 03.2**	**-1.1**
WRAB	**Tennant Creek**	**44.38**	**273**	P		**P**	**13 49 04.0**	**-0.3**
	comp=Z,367nm,0.7s,SNR=22							
WRAB	**Tennant Creek**	**44.38**	**273**	*c i*P		**P**	**13 49 04.3**	**0.0**
WRAB				pmax		pmax		
	comp=Z,156nm,1.3s							
WRAB	**Tennant Creek**	**44.38**	**273**	e*P*		**P**	**13 49 04.2**	**-0.2**
	comp=Z,123nm,1.2s							
WRA	**Warramunga Arr**	**44.38**

baz=88
GMRC Granite Mounta 87.95 47 P **P** **13 53 44.8 +1.5**
baz=88
USRK Ussuriysk Ar. 88.10 326 P **P** **13 53 43.6 +0.1**
comp=Z,2.7nm,0.8s,baz=118,slow=3.7,SNR=5.6
N02D Trinity Center 88.11 38 P **P** **13 53 45.4 +1.6**
baz=88
WAKR Walker 88.18 42 P **P** **13 53 45.0 +0.6**
comp=Z,14nm,1.3s
TUQ Turquoise Moun 88.21 46 P **P** **13 53 46.2 +1.6**
baz=88
M02C Callahan 88.33 38 P **P** **13 53 46.6 +1.7**
baz=88
LDFC Landfair 88.48 47 P **P** **13 53 46.0 +0.2**
comp=Z,43nm,1.4s
PDMCI Parker Dam,Lak 88.59 48 P **P** **13 53 48.3 +2.1**
baz=89
NVAR Mina Array Bea 88.78 43 P **P** **13 53 48.0 +0.7**
comp=Z,4.6nm,1.1s,baz=220,slow=7.5,SNR=19
TPNV Topopah Spring 89.01 45 P **P** **13 53 49.8 +1.5**
baz=89
M04C Macdoel 89.14 38 P **P** **13 53 50.5 +1.8**
baz=89
TPH Tonopah 89.17 43 P **P** **13 53 49.1 0.0**
TPH pmax pmax
comp=Z,6.0nm,0.8s
TPH Tonopah 89.17 43 P **P** **13 53 49.1 0.0**
comp=Z,5.7nm,0.8s
W13A Hualapai Mount 89.26 47 P **P** **13 53 50.8 +1.1**
baz=89
MDJ Mudanjiang 89.56 325 P **P** **13 53 52.5 +2.0**
MDJ PMZ
comp=Z,6.0nm,0.9s
MDJ PMZ
comp=Z,70nm,3.8s
HABR Khabarovsk 90.01 331 *e*P **P** **13 53 53.1 +0.7**
HABR *e**PP **pP** **13 54 02.7 -2.1**
HABR *e**SP **sP** **13 54 06.8 -2.6**
HABR *e* 14 04 45.4
HABR *e*SS **SS** **14 10 40.9 -0.9**
HABR *e*SSS SSS 14 14 15.6
HABR pmax pmax
comp=Z,13nm,1.3s
HABR MLR MLR
comp=Z,185nm,19.0s
J04D Umpqua Nationa 90.03 37 P **P** **13 53 54.0 +1.0**
baz=90
X16A Lo Mia Camp, P 90.40 49 P **P** **13 53 57.0 +2.2**
baz=91
J05D Fort Rock, OR 90.51 38 P **P** **13 53 57.2 +2.0**
baz=91
TIA Tai'an 90.81 313 *e*P **P** **13 53 56.9 +0.4**
TIA PMZ
comp=Z,10.0nm,1.3s
CN2 Changchun 91.06 323 *e*P **P** **13 53 57.9 +0.4**
CN2 PMZ
comp=Z,10.0nm,0.8s
U15A North Rim 91.11 47 P **P** **13 54 00.1 +1.9**
baz=91
WUAZ Wupatki 91.12 48 P **P** **13 53 59.6 +1.4**
baz=91
I05D Terrebonne, OR 91.20 37 P **P** **13 54 00.1 +2.0**
baz=91
X18A Snowflake 91.43 50 P **P** **13 54 01.4 +1.7**
baz=92
GYA Guiyang 92.24 300 P **P** **13 54 05.0 +1.4**
GYA pP **pP** **13 54 18.6 +2.6**
GYA sP **sP** **13 54 23.0 +2.4**
GYA PP **PP** **13 57 47.8 +3.1**
GYA SKS **SKSac** **14 04 33.3 -0.6**
GYA S **S** **14 05 01.8 -1.9**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,6.0s
GYA LN
comp=Z,560nm,18.8s
GYA LE
comp=Z,460nm,19.0s
GYA LZ
comp=Z,520nm,18.7s
TXAR Lajitas Array 92.70 57 P **P** **13 54 06.3 +0.7**
comp=Z,1.4nm,1.1s,baz=206,slow=5.4,SNR=7.2
TXAR LR LR 14 30 33.6
comp=Z,212nm,18.2s,baz=0.0,slow=32
CMAR Chiang Mai Arr 93.95 289 P **P** **13 54 10.6 -0.9**
comp=Z,0.3nm,0.7s,baz=107,slow=2.2,SNR=2.9
HLID Hailey 94.38 41 P **P** **13 54 14.0 +0.9**
baz=94
429A Davenport Ranc 94.70 57 P **P** **13 54 15.3 +0.6**
baz=95
XAN Xi'an 94.89 307 P **P** **13 54 14.9 -0.6**
XAN PMZ
comp=Z,1.0nm,1.6s
S22A 4UR Ranch, Cre 95.38 49 P **P** **13 54 19.4 +1.4**
baz=96
531A Rocksprings 95.42 58 P **P** **13 54 19.7 +1.7**
baz=96
PDAR Pinedale Array 96.67 43 P **P** **13 54 24.1 +0.5**
comp=Z,0.6nm,0.9s,baz=197,slow=3.1,SNR=4.1
CD2 Chengdu 96.81 302 *e*P **P** **13 54 26.0 +1.7**
CD2 pP **pP** **13 54 39.3 +2.6**
CD2 sP **sP** **13 54 44.1 +2.8**
CD2 PP **PP** **13 58 24.3 +4.2**
CD2 SKS **SKSac** **14 04 58.5 +0.4**
CD2 S **S** **14 05 41.6 -1.7**
CD2 sS **sS** **14 06 03.3 -0.9**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
SEY Seymchan 96.97 347 *e*P **P** **13 54 22.7 -1.4**
HHC Hu-ho-hao-te 97.08 314 *e*P Pdif 13 54 27.6 +2.1
HHC sP sP 13 54 45.6 +3.2
HHC PP PP 13 58 27.3 +5.2
HHC S **S** **14 05 44.0 -1.3**
HHC sS sS 14 06 07.1 +0.9
HHC PMZ
comp=Z,28nm,0.7s
HHC PMZ
comp=Z,150nm,7.7s
HHC LN
comp=Z,140nm,16.0s
HHC LE
comp=Z,200nm,16.1s
LPAZ La Paz 97.53 114 P Pdif 13 54 31.1 +2.4
comp=Z,0.7nm,0.6s,baz=159,slow=8.6,SNR=2.6
LPAZ LR LR 14 30 50.7
comp=Z,42nm,18.2s,baz=178,slow=31
ILAR Eielson Array 98.81 13 P **P** **13 54 32.2 -0.2**
comp=Z,0.5nm,0.9s,baz=218,slow=4.7,SNR=4.8
ILAR LR LR 14 34 15.1
comp=Z,68nm,19.1s,baz=230,slow=32
LZH Lanzhou 99.49 306 *e*P **Pdif** **13 54 38.9 +2.5**
LZH pP **pP** **13 54 48.8 -0.1**
LZH sP **sP** **13 54 56.3 +2.9**
LZH PMZ
comp=Z,13nm,1.0s
YKA Yellowknife Ar 106.21 26 PKiKP **PKiKP** **13 59 16.1 -0.6**
comp=Z,0.1nm,0.6s,baz=235,slow=4.2,SNR=3.3
YKA PKKPbc **PKKPbc** **14 10 38.0 -2.0**
comp=Z,0.4nm,0.9s,baz=50,slow=3.3,SNR=6.3
WMQ Urumqi 114.01 308 *e*PKP 13 59 37.0
WMQ sPKP 13 59 51.5
WMQ PKS **PKSdf** **14 03 12.0 +3.2**
WMQ PPMZ
comp=Z,84nm,4.8s
WMQ LN
comp=Z,140nm,22.0s
WMQ LE
comp=Z,280nm,28.0s
MKAR Makanchi Array 118.58 310 PKP **PKPdf** **13 59 39.9 -0.9**
comp=Z,0.8nm,0.6s,baz=80,slow=1.4,SNR=9.2
ZALV Zalesovo Beam 118.91 318 PKP **PKPdf** **13 59 40.3 -0.8**
comp=Z,0.5nm,0.6s,baz=48,slow=2.1,SNR=2.5
KSH Kashi 120.94 300 *e*PKP **PKPdf** **13 59 45.3 -0.4**
KSH sPKP 13 59 59.5
KSH PP **PP** **14 01 13.3 -2.3**
KSH PKS **PKSdf** **14 03 20.8 -1.6**
KSH SKS **SKSdf** **14 06 52.6 -1.9**
KSH SKKS SKKSac 14 08 02.0 -9.5
KSH PPMZ
comp=Z,61nm,5.6s
KSH LN
comp=Z,94nm,5.1s
KSH LE
comp=Z,100nm,5.4s
KSH LZ
comp=Z,160nm,6.1s
KURK Kurchatov 121.89 313 PKIKP **PKPdf** **13 59 46.3 -0.6**
KURK Kurchatov 121.89 313 PKP **PKPdf** **13 59 46.3 -0.6**
KURBB Kurchatov Arra 121.93 313 PKP **PKPdf** **13 59 46.3 -0.7**
comp=Z,2.1nm,0.7s,baz=108,slow=1.8,SNR=20
AAK Ala-Archa 122.85 303 *i* PKIKP **PKPdf** **13 59 48.6 -0.7**
BVAR Borovoye Array 127.26 315 PKP **PKPdf** **13 59 56.9 -0.3**
baz=127,slow=1.4
ARU Arti 133.99 320 *i* PKIKP **PKPdf** **14 00 10.0 +0.2**
AKTO Aktyubinsk 134.93 312 PKP **PKPdf** **14 00 11.2 -0.5**
comp=Z,1.2nm,0.6s,baz=56,slow=3.6,SNR=5.5
ARCES ARCESS Array B 139.58 348 PKhKP PKPpre 14 00 14.2
comp=Z,3.4nm,1.0s,baz=59,slow=1.5,SNR=6.6
JOF Joensuu 143.40 338 *e*PKIKP PKPbc 14 00 23.7 -0.4
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 143.40 338 *e*pkp PKPbc 14 00 23.7 -0.4
comp=Z,2.2nm,0.6s
TBLG Delisi 144.68 299 P **PKPdf** **14 00 29.3 -0.5**
GNI Garni 144.73 296 *i* PKIKP PKPbc 14 00 29.4 +0.3
GNI Garni 144.73 296 PKP **PKPab** **14 00 28.4 -0.6**
comp=Z,5.5nm,0.3s,baz=127,slow=3.1,SNR=7.6
GNI Garni 144.73 296 PKP **PKPab** **14 00 28.4 -0.6**
GNI *e*PKPdf **PKPdf** **14 00 29.9 -0.2**
VRHR Novokhopersk 145.00 316 *e*PKIKP PKPbc 14 00 28.8 -0.6
VRHR pmax pmax
comp=Z,30nm,1.6s
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.6s
ZEI Tsey 145.22 301 *i* PKIKP **PKPbc** **14 00 29.0 -1.7**
ZEI pmax pmax
comp=Z,43nm,1.4s
MOS Moscow 145.27 325 *e*PKIKP **PKPbc** **14 00 29.0 -1.1**
MOS *e* 14 00 35.1
MOS pmax pmax
comp=Z,177nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.3s
NCK Nalchik 145.37 302 *i* PKIKP **PKPab** **14 00 31.4 +0.3**
KAF Kangasniemi 145.54 340 *e*PKP2 **PKPdf** **14 00 28.4 -2.2**
KAF pmax pmax
comp=Z,18nm,0.8s
KAF Kangasniemi 145.54 340 *e*pkp **PKPdf** **14 00 28.4 -2.2**
comp=Z,18nm,0.8s
ONI Oni 145.57 301 P **PKPab** **14 00 32.5 +0.6**
AKH Akhalkalaki 145.63 299 P **PKPab** **14 00 32.8 +0.5**
KBZ Khabaz 145.84 303 PKPbc **PKPab** **14 00 32.5 -0.3**
baz=53,slow=20
KIV Kislovodsk 145.97 303 *e*PKP2 **PKPbc** **14 00 32.9 +0.1**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 145.97 303 *e*PKPbc **PKPdf** **14 00 32.3 +0.3**
NEY Neytrino 146.03 302 *i* PKIKP **PKPdf** **14 00 31.9 -0.4**
OBN Obninsk 146.10 325*c* *i*PKP2 **PKPdf** **14 00 32.0 +0.3**
OBN pmax pmax
comp=Z,118nm,1.3s
OBN Obninsk 146.10 325 PKPbc **PKPbc** **14 00 32.2 -0.4**
comp=Z,50nm,0.6s,baz=69,slow=1.4,SNR=26
OBN Obninsk 146.10 325 *e*PKPdf **PKPdf** **14 00 32.0 +0.3**
OBN PKPbc **PKPbc** **14 00 32.2 -0.4**
FINES FINESS Array B 146.13 340 PKPbc **PKPbc** **14 00 32.2 -0.4**
comp=Z,28nm,0.8s,baz=82,slow=4.0,SNR=66
VSR Storozhevoye 146.41 317 *e*PKP2 **PKPbc** **14 00 33.6 -0.2**
VSR pmax pmax
comp=Z,120nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,30nm,0.7s
VORD Divnogorie 146.43 317 *e*PKIKP **PKPdf** **14 00 32.5 +0.1**
VORD pmax pmax
comp=Z,50nm,1.0s
VORD pmax pmax
comp=N,130nm,0.5s
VORD pmax pmax
comp=E,270nm,0.5s
SOC Sochi 148.15 303 *i* PKP2 **PKPbc** **14 00 38.0 -0.8**
SOC pmax pmax
comp=Z,13nm,0.4s
VSU Vasula 148.21 336*c* *i*PKIKP **PKPdf** **14 00 35.9 +0.8**
ANN Anapa 149.51 306 *i* PKP2 **PKPbc** **14 00 42.2 0.0**
ANN pmax pmax
comp=Z,56nm,1.2s
MALT Malatya 149.68 293⇑ *i*P **PKPbc** **14 00 44.0 +1.0**
NB2 NORSAR Subarra1 49.74 351 PKP **PKPbc** **14 00 42.0 -0.4**
comp=Z,17nm,1.4s,baz=16,slow=4.1
NOA NORSAR Array B 149.74 351 PKPbc **PKPbc** **14 00 41.9 -0.5**
comp=Z,4.8nm,0.9s,baz=14,slow=4.1,SNR=7.5
HFS Hagfors 150.24 348 PKPbc **PKPbc** **14 00 42.9 -0.6**
comp=Z,6.9nm,0.9s,baz=76,slow=6.1,SNR=12
ZALF Zalf 150.36 282 *e*P **PKPbc** **14 00 46.3 +1.6**
ZALF *e*S **pPKPab** **14 01 04.4 +0.6**
ZALF AML AML 14 01 17.2
comp=E,14nm,0.7s
ZALF AML AML 14 01 18.3
comp=N,21nm,0.5s
MICGM Minsk 150.54 329 *e*P **PKPbc** **14 00 43.0 -1.4**
MNK Minsk 150.56 329 *e*PKIKP **PKPbc** **14 00 43.0 -1.5**
ASF Jabal al Asfar 150.63 281 PKPbc **PKPbc** **14 00 46.6 +1.1**
comp=N,9.8nm,1.0s,baz=48,slow=3.9,SNR=13
NACGM Naroch 150.74 331 *e* **PKPdf** **14 00 42.0 +2.7**
SALA Sala 150.84 282 *e*P **PKPbc** **14 00 49.4 +3.3**
SALA *e*S **pPKPab** **14 01 11.2 +5.2**
SALA AML AML 14 01 23.1
comp=N,21nm,0.7s
SALA AML AML 14 01 23.2
comp=E,2.2nm,0.4s
KONO Kongsberg 151.29 352 *e*PKIKP **PKPbc** **14 00 45.6 -0.4**
KONO Kongsberg 151.29 352 *e*PKPbc **PKPbc** **14 00 45.6 -0.4**
BIDA Albida 151.37 287 *e*P **PKPdf** **14 00 36.0 -5.1**
BIDA *e*S **PKPbc** **14 00 46.8 -0.4**
BIDA AML AML 14 00 49.9
comp=E,28nm,0.3s
BIDA AML AML 14 00 55.0
comp=N,82nm,0.5s
BRBR Barbar 151.57 283 *e*P **PKPdf** **14 00 44.0 +2.4**
BRBR *e*S **PKPab** **14 01 01.2 +4.7**
BRBR AML AML 14 01 14.8
comp=E,12nm,0.8s
BRBR AML AML 14 01 14.9
comp=N,9.6nm,0.7s
ARNB Al Arnab 151.67 288 *e*P **PKPbc** **14 00 48.9 +1.1**
ARNB *e*S **pPKPab** **14 01 11.1 +1.9**
ARNB AML AML 14 01 14.0
comp=E,13nm,0.3s
ARNB AML AML 14 01 15.5
comp=N,36nm,0.2s
AKASG Malin Array Be 152.21 322 PKPbc **PKPbc** **14 00 48.3 -0.1**
comp=N,3.4nm,0.7s,baz=48,slow=2.6,SNR=21
KIEV Kiev 152.22 322 *e*PKIKP **PKPbc** **14 00 48.2 -0.2**
KIEV Kiev 152.22 322 *e*PKPbc **PKPbc** **14 00 48.2 -0.2**
SUW Suwalki 152.85 333 *e*PKIKP **PKPbc** **14 00 50.1 +0.4**
SUW Suwalki 152.85 333 *e*PKP **PKPbc** **14 00 50.0 +0.4**
BRTR Keskin Array B 153.26 297 PKPbc **PKPbc** **14 00 50.3 -1.0**
comp=N,1.9nm,0.8s,baz=108,slow=4.0,SNR=9.6
EKA Eskdalemuir Ar 155.73 8 PKPab **PKPab** **14 01 11.9 -1.1**
comp=N,1.1nm,0.7s,baz=356,slow=3.3,SNR=4.9
BURAR Bucovina Array 156.12 319⇑ *i*P **PKPab** **14 01 14.2 -1.0**
VRI Vrincioaia 156.16 314⇑ *i*P **PKPab** **14 01 16.0 +0.7**
KWP Kalwaria Pacla 156.17 326 *e*PKP2 **PKPab** **14 01 15.2 0.0**
KWP Kalwaria Pacla 156.17 326 *e*PKP **PKPab** **14 01 15.1 -0.1**
KWP Kalwaria Pacla 156.17 326⇑ *i*P **PKPab** **14 01 15.4 +0.2**
KOLS Kolonicke sedl 156.85 325 *e*PKP2 **PKPab** **14 01 17.8 -0.3**
KOLS Kolonicke sedl 156.85 325 *e*PKP **PKPab** **14 01 17.8 -0.3**
STHS Stebnicka Huta 157.01 327 *e*PKP2 **PKPab** **14 01 19.3 +0.5**
STHS Stebnicka Huta 157.01 327 *e*PKP **PKPab** **14 01 19.3 +0.5**
CRVS Cervenica-Dubn 157.27 326 *e*PKP2 **PKPab** **14 01 20.0 +0.1**
CRVS Cervenica-Dubn 157.27 326 *e*PKP **PKPab** **14 01 20.0 +0.1**
NIE Niedzica 157.44 328 *e*PKP **PKPab** **14 01 20.8 +0.1**
KSP Ksiaz 157.94 336 *e*PKP2 **PKPab** **14 01 23.0 +0.3**
KSP Ksiaz 157.94 336 *e*PKP **PKPab** **14 01 22.8 +0.1**
OKC Ostrava-Krasne 158.05 332 *e*PKP2 **PKPab** **14 01 23.2 0.0**
OKC Ostrava-Krasne 158.05 332 *e*PKPAB **PKPab** **14 01 23.2 0.0**
UPC Upice 158.31 336 *e*PKP2 **PKPab** **14 01 24.6 +0.3**
UPC Upice 158.31 336 *e*PKPAB **PKPab** **14 01 24.6 +0.3**
UPC *ep*PKP **pPKPab** **14 01 34.3 -2.5**
DPC Dobruska-Polom 158.33 335 *e*PKP2 **PKPab** **14 01 24.3 -0.2**
DPC Dobruska-Polom 158.33 335 *e*PKPAB **PKPab** **14 01 24.3 -0.2**
DPC *ep*PKP **pPKPab** **14 01 33.1 -3.9**
DPC *ex* x 14 01 36.0
KRLC Kraliky 158.39 334 *e*PKP2 **PKPab** **14 01 24.5 -0.3**
KRLC Kraliky 158.39 334 *e*PKPAB **PKPab** **14 01 24.5 -0.3**
CLL Collm 158.56 341 *i* PKP2 **PKPab** **14 01 25.1 -0.2**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL Collm 158.56 341 *i* PKPab **PKPab** **14 01 25.1 -0.2**
comp=Z,16nm,1.1s
CLL *ep*PKPab **pPKPab** **14 01 34.0 -3.8**
CLL LmV 15 09 00.0
comp=Z,100nm,20.1s
CLL LmV 15 27 00.0
comp=Z,100nm,19.0s
BRG Berggiesshubel 158.67 339 *e*PKP **PKPab** **14 01 26.0 +0.2**
comp=Z,15nm,1.2s
BRG Berggiesshubel 158.67 339 *e*PKP2 **PKPab** **14 01 26.0 +0.2**
BRG pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 158.78 328 *e*PKP2 **PKPab** **14 01 26.4 -0.1**
VYHS Vyhne 158.78 328 *e*PKP **PKPab** **14 01 26.4 -0.1**
PVCC Panska Ves 158.78 338 *e*PKP2 **PKPab** **14 01 27.0 +0.7**
PVCC Panska Ves 158.78 338 *e*PKPAB **PKPab** **14 01 27.0 +0.7**
PRA Prague 159.22 338 *e*PKP2 **PKPab** **14 01 29.2 +0.9**
PRA Prague 159.22 338 *e*PKPAB **PKPab** **14 01 29.2 +0.9**
GOPC GO Pecny, Ondr 159.24 337 *e*PKPAB **PKPab** **14 01 28.9 +0.5**
GOPC AMS AMS 15 23 30.0
comp=Z,200nm,19.7s
PRU Pruhonice 159.25 337 *e*PKP2 **PKPab** **14 01 28.4 0.0**
PRU MLR MLR
comp=Z,100nm,14.4s
PRU Pruhonice 159.25 337 *e*PKPAB **PKPab** **14 01 28.4 0.0**
PRU AMS AMS 15 23 10.0
comp=Z,100nm,14.4s
TREC Trest 159.51 335 AMS AMS 15 20 30.0
comp=Z,200nm,21.0s
KHC Kasperske Hory 160.31 338 *e*PKP2 **PKPab** **14 01 33.0 -0.1**
KHC MLR MLR
comp=Z,200nm,19.3s
KHC Kasperske Hory 160.31 338 *e*PKPAB **PKPab** **14 01 33.0 -0.1**
KHC *ep*PKP **pPKPab** **14 01 43.3 -2.3**
KHC *ex* x 14 01 46.6
KHC AMS AMS 15 19 00.0
comp=Z,200nm,19.3s
GERES GERESS Array B 160.52 337 PKPab **PKPab** **14 01 33.0 -1.0**
comp=Z,1.2nm,0.7s,baz=34,slow=5.2,SNR=8.8
TORD Torodi Ar. Bea 161.86 178 PKP **PKPdf** **14 00 54.5 -0.4**
comp=Z,1.8nm,1.1s,baz=174,slow=1.3,SNR=4.8
TORD PKPab **PKPab** **14 01 40.6 +0.1**
comp=Z,4.4nm,0.9s,baz=171,slow=3.9,SNR=11
DAVOX Davos/Dischmat 163.53 341 PKPab **PKPab** **14 01 47.1 -0.4**
comp=Z,4.6nm,0.7s,baz=352,slow=4.6,SNR=6.2
ESDC Sonseca Array 170.28 30 PKPbc **PKPab** **14 02 17.9 +0.7**
comp=Z,0.3nm,0.3s,baz=298,slow=4.5,SNR=5.5

IDC ***15*** *13:42:15.9±2.0, 8˚.49N×94˚.42E, h0km, mb3.4/5, mb1 3.4/7, mb1mx3.3/29, mbtmp3.4/7, ML3.3/2, MS3.1/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=53.3km s-min=31.6km az=60.0*

ISCJB ***15*** *13:42:19.2±1.0, 8˚.5N±0˚.1×94˚.6E±0˚.2, h33km, mb3.3/5, Error ellipse: s-maj=29.6km s-min=13.5km az=153.6*

ISC 15 13:42:21.2±1.3, 8˚.5N±0˚.1×94˚.5E±0˚.2, h35km, n10, σ0 74/9, mb3.1/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.17**	**142**	Pn	**Pn**	**13 44 04.0**	**+0.1**
	1.1nm,0.3s,baz=195,slow=19,SNR=3.2						
PSI				LR	LR	13 47 52.3	
	comp=Z,174nm,18.5s,baz=298,slow=46						
CMAR	**Chiang Mai Arr**	**10.78**	**23**	Pn	**Pn**	**13 44 53.4**	**+0.1**
	0.0nm,0.3s,baz=212,slow=17,SNR=5.5						
CMAR				LR	LR	13 49 05.3	
	comp=Z,68nm,18.8s,baz=220,slow=38						
RAMN	**Ramite**	**19.81**	**339**	*e*P	**Pn**	**13 46 51.7**	**+0.8**
	5.9nm,0.7s						
TAPN	**Taplejung**	**19.81**	**342**	*e*P	**Pn**	**13 46 51.1**	**+0.2**
	8.9nm,0.8s						
PKI	**Pulchoki**	**20.82**	**337**	*e*P	P	13 46 53.4	-6.8
MKAR	**Makanchi Array**	**39.55**	**347**	P	**P**	**13 49 48.5**	**-0.4**
	0.1nm,0.3s,baz=150,slow=6.7,SNR=3.6						
SONM	**Songino Array**	**40.47**	**12**	P	**P**	**13 49 56.8**	**+0.2**
	0.1nm,0.4s,baz=190,slow=7.2,SNR=3.7						
GEYT	**Alibeck**	**43.98**	**317**	P	**P**	**13 50 25.6**	**+0.3**
	2.2nm,0.7s,baz=137,slow=8.3,SNR=4.7						
KURBB	**Kurchatov Arra**	**44.02**	**345**	P	**P**	**13 50 24.2**	**-1.1**
	0.2nm,0.6s,baz=190,slow=6.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**45.98**	**352**	P	**P**	**13 50 39.9**	**-0.9**
	0.3nm,0.5s,baz=168,slow=8.1,SNR=3.0						

DJA ***15*** *14:03:40.0±0.9, 3˚.N±6˚×9˚.5E±˚, h118km±13km, M3.8/8, MLv3.8/8*

ISCJB ***15*** *14:03:45.7±0.8, 1˚.83N±0˚.07×96˚.52E±0˚.09, h10km, mb3.7/9, Error ellipse: s-maj=13.5km s-min=8.6km az=30.5*

IDC ***15*** *14:03:46.4±1.4, 1˚.90N×96˚.58E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/28, mbtmp3.8/10, ML3.2/2, Error ellipse: s-maj=46.9km s-min=18.8km az=51.0*

ISC 15 14:03:47.9±1.0, 1˚.92N±0˚.07×96˚.67E±0˚.07, h10km, n22, σ0 82/18, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.60**	**325**	P	**Pn**	**14 04 02.9**	**+0.4**
TPTI		**1.43**	**21**	P	**Pn**	**14 04 12.0**	**-1.9**
TPTI				S	**Sg**	**14 04 35.1**	**+1.2**
KCSI	**Kotacane, Aceh**	**1.94**	**34**	P	**Pn**	**14 04 20.7**	**-0.2**
KCSI				S	**Sb**	**14 04 47.8**	**+0.2**
PSI	**Prapat**	**2.42**	**69**	Pn	**Pn**	**14 04 27.9**	**+0.4**
	1.1nm,0.3s,baz=243,slow=11,SNR=2.5						
TSI	**Tuntungan**	**2.46**	**50**	P	**Pn**	**14 04 29.1**	**+1.0**
MNSI	**Mandailing Nat**	**3.11**	**111**	P	**Pg**	**14 04 46.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**16.59**	**8**	Pn	**P**	**14 07 42.2**	**-1.1**
	0.1nm,0.3s,baz=197,slow=11,SNR=11						
H08S2	**Diego Garcia H**	**25.92**	**248**	T	T	14 36 07.8	
	baz=69,slow=75,SNR=46						
H08S3	**Diego Garcia H**	**25.93**	**248**	T	T	14 36 07.7	
	baz=69,slow=75,SNR=65						
H08S1	**Diego Carcia H**	**25.94**	**248**	T	T	14 36 06.1	
	baz=69,slow=75,SNR=54						
H01W3	**Cape Leeuwin H**	**40.10**	**157**	T	T	14 54 11.7	
	baz=333,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**40.12**	**157**	T	T	14 54 10.3	
	baz=333,slow=76,SNR=10.0						
H01W1	**Cape Leeuwin H**	**40.12**	**157**	T	T	14 54 10.5	
	baz=333,slow=76,SNR=11						
WRA	**Warramunga Arr**	**42.86**	**122**	P	**P**	**14 11 47.2**	**+0.5**
	0.6nm,0.7s,baz=301,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**44.24**	**127**	P	**P**	**14 11 58.6**	**+0.8**
	0.3nm,0.7s,baz=301,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**46.43**	**346**	P	**P**	**14 12 15.1**	**+0.3**
	1.0nm,0.5s,baz=161,slow=7.9,SNR=8.7						
SONM	**Songino Array**	**46.51**	**9**	P	**P**	**14 12 15.6**	**0.0**
	0.7nm,0.8s,baz=201,slow=6.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**50.91**	**345**	P	**P**	**14 12 49.4**	**+0.2**
	0.5nm,0.7s,baz=169,slow=6.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**52.77**	**351**	P	**P**	**14 13 02.4**	**-0.6**
	0.9nm,0.4s,baz=168,slow=7.6,SNR=9.0						
BVAR	**Borovoye Array**	**55.41**	**341**	P	**P**	**14 13 22.6**	**+0.3**
	0.5nm,0.6s,baz=120,slow=8.5,SNR=2.8						
FINES	**FINESS Array B**	**79.13**	**333**	P	**P**	**14 15 52.2**	**-0.3**
	1.3nm,0.9s,baz=19,slow=13,SNR=3.1						
ARCES	**ARCESS Array B**	**81.69**	**340**	P	**P**	**14 16 06.4**	**+0.2**
	4.1nm,1.1s,baz=81,slow=5.6,SNR=3.5						

KRSC 15 14:05:20.1±1.3, 50˚.64N×157˚.52E, h62km±22km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.90**	**273**	*i* P	Pn	14 05 38.0	+1.2
SKR				*e*S	Sn	14 05 49.9	+0.7
PAU	**Pauzhetka**	**0.94**	**332**	*e*P	Pn	14 05 39.7	+2.3
PAU				*e*S	Sn	14 05 52.6	+2.4
MIPR	**Malaya Ipel'ka**	**1.71**	**344**	*e*P	Pn	14 05 50.3	+2.7
ASAK	**Asacha**	**1.76**	**8**	*e*P	Pn	14 05 50.3	+1.9
ASAK				*e*S	Sn	14 06 12.4	+2.5
MTVR	**Mutnovka**	**1.89**	**12**	*e*P	Pn	14 05 51.0	+1.1
MTVR				*e*S	Sn	14 06 15.2	+2.1
RUS	**Russkaya**	**1.90**	**19**	*e*P	Pn	14 05 52.0	+1.9
RUS				*e*S	Sn	14 06 14.6	+1.7
APC	**Apacha**	**2.30**	**354**	*e*P	Pn	14 05 56.5	+1.0
PET	**Petropavlovsk**	**2.49**	**16**	*e*S	Sn	14 06 30.1	+2.8

UGLR	Uglovaya	2.69	17	*e*P		Pn	14 06 04.0 +2.9
AVH	Avacha	2.73	15	*e*P		Pn	14 06 04.5 +2.9
SMAR	Somma	2.74	16	*e*P		Pn	14 06 04.4 +2.5
KOK	Koryaka	2.74	14	*e*P		Pn	14 06 04.2 +2.5
KRER	Koryakskii	2.77	15	*e*P		Pn	14 06 03.8 +1.5
SDLR	Sedlovina	2.77	17	*e*P		Pn	14 06 04.9 +2.7
KRX	Arik	2.81	14	*e*P		Pn	14 06 05.4 +2.7
GNL	Ganaly	3.07	5	*e*P		Pn	14 06 08.5 +2.3
KBTR	Krutoberegovo	6.41	28	P		Pn	14 06 56.6 +4.9

IDC 15 14:08:04.5±2.3, 42.16S×17.02W, h0km, mb4.3/3, mb1 4.2/3, mb1mx3.8/22, mbtmp4.2/3, MS3.6/4, Ms1 3.7/4, ms1mx3.3/15, Error ellipse: s-maj=213.2km s-min=30.5km az=101.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**31.43**	**84**	LR	LR	14 23 37.7	
	comp=Z,106nm,18.9s,baz=240,slow=30						
H10S2	**ASCENSION HYDR**	**33.14**	**4**	T	T	14 49 50.0	
	baz=182,slow=75,SNR=5.4						
H10S3	**ASCENSION HYDR**	**33.14**	**4**	T	T	14 49 47.6	
	baz=182,slow=75,SNR=5.5						
H10S1	**ASCENSION HYDR**	**33.15**	**4**	T	T	14 49 50.4	
	baz=182,slow=75,SNR=6.4						
QSPA	**South Pole Qui**	**48.10**	**180**	P	P	14 16 45.5	-0.3
	5.6nm,1.0s,baz=223,slow=7.3,SNR=8.7						
TORD	**Torodi Ar. Bea**	**57.67**	**22**	P	P	14 17 56.2	-0.6
	1.4nm,0.9s,baz=197,slow=5.1,SNR=6.5						
TORD				LR	LR	14 37 44.9	
	comp=Z,43nm,19.2s,baz=145,slow=31						
VNDA	**Vanda**	**60.59**	**180**	LR	LR	14 42 15.6	
	comp=Z,50nm,18.6s,baz=182,slow=34						
RPN	**Rapa Nui**	**73.94**	**248**	LR	LR	14 48 54.0	
	comp=Z,53nm,19.9s,baz=240,slow=33						
BRTR	**Keskin Array B**	**93.57**	**37**	P	P	14 21 22.9	+0.6
	1.7nm,1.1s,baz=202,slow=6.1,SNR=6.1						
ILAR	**Eielson Array**	**143.94**	**326**	PKP	PKPdf	14 27 40.5	-0.2
	2.9nm,1.1s,baz=78,slow=1.6,SNR=16						

IDC 15 14:22:38.4±1.5, 5.78S×101.27E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/42, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=51.9km s-min=16.3km az=51.0
ISCJB 15 14:22:41.6±1.1, 5.6S±0.2×101.7E±0.1, h24km, mb4.0/9, Error ellipse: s-maj=27.9km s-min=10.1km az=36.0
ISC 15 14:22:43.8±1.4, 5.6S±0.2×101.6E±0.2, h24km, n17, σ1§34/11, mb4.0/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**6.09**	**102**		**Pn**	**14 24 14.9**	**+2.4**
	4.4nm,0.3s,baz=330,slow=20,SNR=3.3						
LEM				Sn	**Sn**	**14 25 19.6**	**-2.0**
	11nm,0.3s,baz=307,slow=20,SNR=5.4						
BATI	**Baumata**	**22.31**	**103**	P	**P**	**14 27 39.6**	**-0.3**
	8.0nm,0.6s,baz=320,slow=1.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**24.04**	**354**	P	**P**	**14 27 56.2**	**-1.0**
	1.7nm,0.8s,baz=184,slow=8.5,SNR=14						
H08S2	**Diego Garcia H**	**29.00**	**264**	T	T	14 59 01.3	
	baz=87,slow=74,SNR=75						
H08S3	**Diego Garcia H**	**29.01**	**264**	T	T	14 58 59.3	
	baz=87,slow=74,SNR=62						
H08S1	**Diego Carcia H**	**29.02**	**264**	T	T	14 59 02.3	
	baz=87,slow=74,SNR=53						
H01W3	**Cape Leeuwin H**	**31.36**	**160**	T	T	15 02 12.0	
	baz=337,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**31.37**	**160**	T	T	15 02 09.2	
	baz=337,slow=76,SNR=4.3						
H01W1	**Cape Leeuwin H**	**31.37**	**160**	T	T	15 02 08.6	
	baz=337,slow=76,SNR=3.3						
WRA	**Warramunga Arr**	**34.86**	**117**	P	**P**	**14 29 33.5**	**0.0**
	2.1nm,0.8s,baz=290,slow=10,SNR=11						
ASAR	**Alice Springs**	**35.89**	**123**	P	**P**	**14 29 42.9**	**+0.5**
	0.6nm,0.4s,baz=298,slow=7.7,SNR=55						
STKA	**Stephens Creek**	**45.59**	**130**	P	**P**	**14 31 01.0**	**-1.2**
	1.2nm,0.5s,baz=317,slow=6.4,SNR=6.9						
SONM	**Songino Array**	**53.37**	**4**	P	**P**	**14 32 02.6**	**+1.2**
	1.7nm,0.9s,baz=188,slow=8.7,SNR=2.0						
MKAR	**Makanchi Array**	**54.90**	**344**	P	**P**	**14 32 12.1**	**-0.4**
	1.4nm,0.8s,baz=150,slow=8.2,SNR=2.4						
USRK	**Ussuriysk Ar.**	**56.61**	**26**	P	**P**	**14 32 24.1**	**-0.6**
	2.6nm,0.7s,baz=223,slow=6.8,SNR=5.8						
AKASG	**Malin Array Be**	**83.30**	**322**	P	P	14 35 05.3	-3.2
	0.3nm,0.4s,baz=90,slow=5.1,SNR=4.1						
TXAR	**Lajitas Array**	**146.41**	**42**	PKPbc	**PKPbc**	**14 42 23.9**	**+0.3**
	0.2nm,0.7s,baz=260,slow=1.6,SNR=3.4						

GUC 15 14:25:23.5±0.5, 33.78S×71.97W, h38km±3km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.80**	**20**	*e*P	Pn	14 25 38.5	+0.2
IHA				*i* S	Sn	14 25 50.1	+1.0
RCDM	**Rinconada Maip**	**1.01**	**74**	*e*P	Pn	14 25 41.2	0.0
RCDM				AML	AML	14 25 56.4	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**1.25**	**60**	⇑*i*P	Pn	14 25 45.6	+1.1
PEL				*i* S	Sn	14 26 02.5	+2.3
PEL				AML	AML	14 26 08.0	
	comp=E,7μm,0.3s						
CLCH	**Cerro Calan**	**1.26**	**73**	⇑*i*P	Pn	14 25 45.6	+0.9
CLCH				*i* S	Sn	14 26 02.7	+2.3
CLCH				AML	AML	14 26 09.0	
	comp=E,2μm,0.7s						
SJCH	**San Jose de Ma**	**1.35**	**84**	*e*P	Pn	14 25 46.2	+0.1
SJCH				*i* S	Sn	14 26 04.1	+1.3
NICH	**Los Niches**	**1.36**	**153**	*e*P	Pn	14 25 47.2	+1.2
NICH				*i* S	Sn	14 26 05.4	+2.5
TALC	**Talca**	**1.64**	**170**	⇑*i*P	Pn	14 25 50.8	+1.1
TALC				*i* S	Sn	14 26 12.1	+2.6

IDC 15 14:26:34.2±0.5, 32.46N×92.81E, h0km, mb4.2/24, mb1 4.3/28, mb1mx4.3/35, mbtmp4.2/28, ML3.6/4, MS3.9/22, Ms1 3.9/22, ms1mx3.8/34, Error ellipse: s-maj=17.3km s-min=11.2km az=49.0
ISCJB 15 14:26:35.3±0.2, 32.51N±0.03×92.81E±0.03, h17km, mb4.5/60, MS4.0/26, Error ellipse: s-maj=4.0km s-min=3.2km az=44.2
MOS 15 14:26:37.2±0.9, 32.46N×92.76E, h33km, mb4.8/40, MS4.0/19, Error ellipse: s-maj=9.1km s-min=5.0km az=115.5
NEIC 15 14:26:37.7±1.9, 32.46N×92.79E, h24km±13km, mb4.8/20, Error ellipse: s-maj=6.5km s-min=4.4km az=222.0
BJI 15 14:26:38.2, 32.55N×93.00E, h15km, mB4.9/22, mb4.6/40, ML4.7/2, Ms4.7/47, Ms7 4.5/42
ISC 15 14:26:37.2±0.3, 32.47N±0.03×92.79E±0.04, h17km, n209, σ1§59/220, mb4.6/61, MS4.0/29, 1C-6D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.10**	**207**	Pn	**Pb**	**14 27 31.3**	**-0.9**
LSA				Sn	**Sg**	**14 28 15.0**	**-1.8**
LSA				SMN			
	570nm,1.0s						
LSA				SME			
	2μm,1.2s						
TAPN	**Taplejung**	**6.74**	**222**	*e*P	**Pn**	**14 28 16.6**	**+0.9**
	34nm,0.4s						
SHL	**Shillong**	**6.92**	**187**	*e*P	**Pn**	**14 28 18.0**	**-0.1**
SHL				*ex*	x	14 29 37.0	
SHL				*e*S	**Sg**	**14 30 22.0**	**+2.5**
ODAN	**Odare**	**7.30**	**221**	*e*P	**Pn**	**14 28 24.6**	**+1.3**
	138nm,0.7s						
JIRN	**Jiri**	**7.46**	**232**	*e*P	**Pn**	**14 28 28.6**	**+3.0**
	67nm,0.7s						
GUN	**Gumba**	**7.51**	**235**	*e*P	**Pn**	**14 28 28.1**	**+1.8**
	158nm,0.8s						
RAMN	**Ramite**	**7.69**	**226**	*e*P	**Pn**	**14 28 29.6**	**+0.9**
	65nm,0.5s						
IMP	**Imphal**	**7.72**	**172**	*e*P	**Pn**	**14 28 32.0**	**+3.0**
IMP				*e*S	**Sn**	**14 30 02.0**	**+5.8**
KKN	**Kakani**	**8.00**	**236**	*e*P	**Pn**	**14 28 35.8**	**+2.9**
	83nm,0.7s						
PKI	**Pulchoki**	**8.04**	**235**	*e*P	**Pn**	**14 28 35.9**	**+2.3**
	142nm,0.7s						
PKIN	**Phulchoki**	**8.05**	**235**	*e*P	**Pn**	**14 28 35.9**	**+2.3**
	91nm,0.7s						
GKN	**Gorkha**	**8.34**	**240**	*e*P	**Pn**	**14 28 38.3**	**+0.8**
	63nm,0.7s						
DANN	**Dangsing**	**8.81**	**245**	*e*P	**Pn**	**14 28 44.8**	**+0.7**
	118nm,0.8s						
GTA	**Gaotai**	**8.97**	**37**	*e*P	**Pn**	**14 28 47.4**	**+1.3**
GTA				pP		14 28 51.3	
GTA				sP		14 28 54.4	
GTA				S	Sn	14 30 33.3	+6.6
GTA				sS		14 30 37.8	
GTA				PMZ			
	40nm,2.1s						
GTA				PMZ			
	210nm,5.7s						
GTA				LN			
	2μm,10.9s						
GTA				LE			
	3μm,10.7s						
GTA				LZ			
	3μm,10.9s						
KOLN	**Koldanda**	**9.23**	**242**	*e*P	**Pn**	**14 28 50.2**	**+0.4**
	30nm,0.6s						
CD2	**Chengdu**	**9.48**	**97**	*e*P	**Pn**	**14 28 53.0**	**0.0**
CD2				pP		14 28 56.3	
CD2				sP		14 28 59.0	
CD2				PP	**PnPn**	**14 29 00.8**	**+0.2**
CD2				S	**Sn**	**14 30 37.8**	**-1.4**
CD2				SS	**SnSn**	**14 30 50.9**	**+0.2**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	170nm,5.4s						
CD2				LN			
	7μm,12.2s						
CD2				LE			
	2μm,7.0s						
CD2				LZ			
	2μm,6.7s						
PYUN	**Piuthan**	**9.52**	**245**	*e*P	**Pn**	**14 28 53.1**	**-0.7**
	191nm,0.7s						
LZH	**Lanzhou**	**9.84**	**65**	*e*P	Pn	14 28 51.5	-6.5
LZH				pP		14 28 54.8	
LZH				sP		14 28 54.8	
LZH				*e*S	Sn	14 30 41.1	-7.0
LZH				sS		14 30 45.3	
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,98nm,4.0s						
LZH				LR	LR		
	comp=N,3μm,6.9s						
LZH				LR	LR		
	comp=E,3μm,7.6s						
LZH				LR	LR		
	comp=Z,3μm,7.9s						
KMI	**Kunming**	**11.39**	**127**	P	Pn	14 29 24.6	+5.2
KMI				PMZ			
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**12.02**	**342**	*e*P	P	14 29 36.8	-3.9
WMQ				pP	pP	14 29 42.0	
WMQ				PMZ			
	comp=Z,13nm,1.3s						
WMQ				PMZ			
	comp=Z,120nm,3.7s						
WMQ				LN			
	comp=Z,2μm,8.9s						
WMQ				LE			
	comp=Z,3μm,7.8s						
WMQ				LZ			
	comp=Z,2μm,9.0s						
XAN	**Xi'an**	**13.60**	**79**	P	**Pn**	**14 29 48.3**	**-1.1**
XAN				PMZ			
	comp=Z,4.0nm,1.5s						
XAN				LN			
	comp=Z,2μm,20.5s						
XAN				LE			
	comp=Z,230nm,10.9s						
XAN				LZ			
	comp=Z,320nm,9.1s						
CMAI	**Chiengmai2**	**13.69**	**154**	P	**P**	**14 30 01.0**	**+1.5**
	comp=Z,16nm,0.7s						
ENH	**Enshi**	**14.44**	**94**	Pn	**P**	**14 30 07.3**	**-0.4**
	comp=Z,33nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.01**	**157**	Pn	**Pn**	**14 30 07.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=330,slow=13,SNR=24						
CMAR				LR	LR	14 36 36.1	
	comp=Z,409nm,18.5s,baz=331,slow=40						
PDGK	**Podgornoye**	**15.07**	**320**	P	**Pn**	**14 30 09.8**	**+0.5**
PDGK				pmax	pmax		
	comp=Z,41nm,1.4s						
LAMP	**Lampang**	**15.19**	**154**	P	**P**	**14 30 19.2**	**+3.1**
	comp=Z,3.5nm,0.9s						
CHLP	**Challavanipeta**	**15.97**	**212**	*e*P	**P**	**14 30 24.2**	**-0.4**
CHLP				*e*		14 30 25.7	
CHLP				*i*		14 30 27.6	
CHLP				*e*Sn	**Sn**	**14 33 11.7**	**-6.2**
BTO	**Baotou**	**16.04**	**55**	*e*P	**P**	**14 30 24.3**	**-1.1**
MK31	**Makanchi Array**	**16.41**	**334**	*i* P	**Pn**	**14 30 25.5**	**-1.2**
MK31				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**16.41**	**334**	Pn	**Pn**	**14 30 25.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=142,slow=14,SNR=31						
MKAR				LR	LR	14 36 46.9	
	comp=Z,203nm,21.4s,baz=148,slow=37						
TIY	**Taiyuan**	**16.90**	**67**	*e*P	**Pn**	**14 30 32.8**	**-0.2**
TIY				PMZ			
	comp=Z,90nm,1.1s						
TIY				LN			
	comp=Z,1μm,7.0s						
TIY				LE			
	comp=Z,570nm,5.4s						
TIY				LZ			
	comp=Z,1μm,11.1s						
TKM2	**Tokmak 2**	**17.11**	**312**	P	**Pn**	**14 30 34.4**	**-1.4**
TKM2				pmax	pmax		
	comp=Z,20nm,1.1s						
TKM2	**Tokmak 2**	**17.11**	**312**	Pn	**Pn**	**14 30 34.4**	**-1.4**
	comp=Z,20nm,1.1s						
HHC	**Hu-ho-hao-te**	**17.21**	**56**	*e*P	**P**	**14 30 38.3**	**-0.1**
HHC				pP	**pP**	**14 30 45.0**	**+1.8**
HHC				sP	**sP**	**14 30 49.8**	**+4.4**
HHC				S	**Sn**	**14 33 45.3**	**-2.7**
HHC				sS	**S**	**14 33 56.4**	**-0.6**
HHC				SS	**SnSn**	**14 34 05.5**	**+4.2**
HHC				PMZ			
	comp=Z,32nm,0.9s						
HHC				LN			
	comp=Z,690nm,7.6s						
HHC				LE			
	comp=Z,2μm,10.6s						
HHC				LZ			
	comp=Z,2μm,12.2s						
SFK	**Sufi-Kurgan**	**17.26**	**301**	P	**P**	**14 30 41.4**	**+2.3**
SFK				pmax	pmax		
	comp=Z,16μm,1.1s						
AAK	**Ala-Archa**	**17.66**	**310**	*d* iP	**Pn**	**14 30 41.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,66nm,1.7s						
AAK	**Ala-Archa**	**17.66**	**310**	P	**Pn**	**14 30 43.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=52,slow=16,SNR=5.1						
AAK	**Ala-Archa**	**17.66**	**310**	*e*Pn	**P**	**14 30 44.3**	**+0.8**
	comp=Z,8.2nm,0.2s						
FRU	**Bishkek**	**17.68**	**311**	*e*P	**P**	**14 30 48.0**	**+4.4**
FRU				pmax	pmax		
	comp=Z,50nm,1.4s						
EKS2	**Erkin-Say**	**18.14**	**310**	P	**Pn**	**14 30 48.4**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,24nm,1.2s						
EKS2	**Erkin-Say**	**18.14**	**310**	Pn	**Pn**	**14 30 48.4**	**-0.1**
	comp=Z,24nm,1.2s						
RPR	**Rampur**	**18.18**	**225**	*e*P	**Pn**	**14 30 48.8**	**-0.2**
RPR				*e*Sn	**Sn**	**14 34 06.2**	**-5.5**
RPR				IAMs_20	IAMs_20	14 37 44.6	
	comp=Z,1μm,12.9s						
KHON	**Khomkaen**	**18.46**	**148**	P	Pn	14 30 57.8	+5.5
	comp=Z,8.3nm,0.9s						
WHN	**Wuhan**	**18.49**	**90**	P	**Pn**	**14 30 55.3**	**+2.7**
WHN				LN			
	comp=Z,4μm,12.5s						
WHN				LE			
	comp=Z,3μm,13.1s						
WHN				LZ			
	comp=Z,3μm,7.4s						
SONM	**Songino Array**	**18.50**	**30**	P	**P**	**14 30 52.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=13						
SONM				LR	LR	14 38 45.6	
	comp=Z,975nm,19.1s,baz=206,slow=40						
ULN	**Ulaanbaatar**	**18.80**	**31**	*d* iP	**P**	**14 30 52.8**	**-3.2**
ULN				pmax	pmax		
	comp=Z,22nm,2.5s						
ULN	**Ulaanbaatar**	**18.80**	**31**	*e*P	**P**	**14 30 55.4**	**-0.5**
	comp=Z,5.4nm,0.9s						
MNAS	**Manas**	**18.91**	**308**	P	**Pn**	**14 30 58.0**	**+0.2**
MNAS				pmax	pmax		
	comp=Z,26nm,1.5s						
ZAK	**Zakamensk**	**19.51**	**20**	⇓*i*P	**Pn**	**14 31 05.1**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HYBB	**Hyderabad (bro**	**19.74**	**224**	*e*P	**P**	**14 31 06.4**	**0.0**
HYBB				*e*S	**S**	**14 34 46.8**	**-1.6**
HYBB				IAMs_20	IAMs_20	14 38 40.2	
	comp=Z,2μm,11.8s						
HYB	**Hyderabad**	**19.75**	**224**	*i* P	**P**	**14 31 05.0**	**-1.3**
KBL	**Kabul**	**19.90**	**282**	*e*P	**P**	**14 31 08.1**	**-0.1**
KBL				pmax	pmax		
	comp=Z,19nm,0.9s						
KBL	**Kabul**	**19.90**	**282**	*e*P	**P**	**14 31 08.1**	**-0.1**
	comp=Z,19nm,0.9s						
NJS	**Nagarjunasagar**	**20.00**	**221**	*e*Pn	**Pn**	**14 31 10.3**	**-0.6**
NJS				*e*S	**Sn**	**14 34 58.2**	**+2.6**
NJS				IAMs_20	IAMs_20	14 38 45.4	
	comp=Z,2μm,12.9s						
MOY	**Mondy**	**20.10**	**15**	*e*P	Pn	14 31 12.3	+0.3
MOY				pmax	pmax		
	comp=Z,85nm,2.5s						
BJI	**Beijing**	**20.28**	**62**	P	Pn	14 31 13.1	-0.9
BJI				S	S	14 34 47.9	-11
BJI				PMZ			
	comp=Z,36nm,1.3s						
BJI				LN			
	comp=Z,2μm,15.7s						
BJI				LE			
	comp=Z,790nm,14.1s						
BJI				LZ			
	comp=Z,170nm,15.5s						
QIZ	**Qiongzhong**	**20.34**	**127**	P	**P**	**14 31 09.8**	**-3.0**
QIZ				S	**S**	**14 34 56.9**	**-3.3**
QIZ				pmax	pmax		
	comp=Z,37nm,2.0s						
QIZ				LR	LR		
	comp=N,640nm,9.8s						
QIZ				LR	LR		
	comp=Z,800nm,8.7s						
TIA	**Tai'an**	**20.43**	**73**	⇓P	**P**	**14 31 13.9**	**+0.3**
TIA				S	Sn	14 35 06.6	+1.0
TIA				PMZ			
	comp=Z,30nm,1.0s						
TIA				PMZ			
	comp=Z,370nm,6.0s						
TIA				LN			
	comp=Z,400nm,8.0s						
TIA				LE			
	comp=Z,1μm,8.0s						
TIA				LZ			
	comp=Z,450nm,7.0s						
KKAR	**Karatay Array**	**20.50**	**308**	*e*P	**P**	**14 31 13.4**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KKAR	**Karatay Array**	**20.50**	**308**	*e*P	**P**	**14 31 13.4**	**-1.0**
	comp=Z,4.9nm,0.7s						
UBPT	**Khong Chiam**	**20.64**	**143**	P	Pn	14 31 22.9	+4.5
	comp=Z,33nm,1.5s						
TLY	**Talaya**	**20.78**	**19**	*e*P	Pn	14 31 19.3	-0.5
TLY				*e*S	**S**	**14 35 10.2**	**+1.7**
TLY				pmax	pmax		
	comp=Z,12nm,1.8s						
TLY				MLR	MLR		
	comp=Z,658nm,12.0s						
TLY	**Talaya**	**20.78**	**19**	P	**P**	**14 31 18.3**	**+1.0**
	comp=Z,1.0nm,0.2s,baz=206,slow=5.9,SNR=6.8						
TLY				LR	LR	14 39 51.7	
	comp=Z,388nm,21.5s,baz=185,slow=38						
KURBB	**Kurchatov Arra**	**20.98**	**334**	P	**P**	**14 31 19.4**	**0.0**
	comp=Z,17nm,1.0s,baz=140,slow=12,SNR=92						
KURBB				PcP	**PcP**	**14 35 25.3**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=132,slow=1.4,SNR=3.0						
KURBB				ScP	**ScP**	**14 39 03.0**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=164,slow=1.8,SNR=5.1						
KURK	**Kurchatov**	**21.02**	**334**	P	**P**	**14 31 19.4**	**-0.5**
KURK						14 35 25.3	
KURK				pmax	pmax		
	comp=Z,17nm,1.0s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK				pmax	pmax		
	comp=N,1.0nm,1.0s						
KURK	**Kurchatov**	**21.02**	**334**	*e*P	**P**	**14 31 19.5**	**-0.3**
KURK				PcP	**PcP**	**14 35 25.3**	**-1.2**
KURK				ScP	**ScP**	**14 39 03.0**	**+0.5**
IRK	**Irkutsk**	**21.45**	**20**	*e*P	**P**	**14 31 24.8**	**+0.2**
IRK				pmax	pmax		
	comp=Z,74nm,1.4s						
CHBT	**CHBT**	**21.49**	**154**	P	P	14 31 31.7	+6.5
	comp=Z,39nm,0.9s						
SKHT	**Srikalahasti**	**22.15**	**216**	*e*P	**P**	**14 31 32.3**	**+0.1**
SKHT				*e*Sn	Sn	14 35 52.2	+5.2
SKHT				IAMs_20	IAMs_20	14 40 01.8	
	comp=Z,671nm,14.0s						
ZALV	**Zalesovo Beam**	**22.21**	**347**	P	**P**	**14 31 32.4**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**22.21**	**347**	P	**P**	**14 31 32.4**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=160,slow=9.5,SNR=21						
URV	**Uravakonda**	**22.45**	**223**	*e*P	**P**	**14 31 36.0**	**+0.4**
URV				*e*Sn	Sn	14 35 48.0	-6.6
URV				IAMs_20	IAMs_20	14 40 12.3	
	comp=Z,2μm,11.6s						
NVS	**Novosibirsk**	**23.36**	**346**	*e*P	**P**	**14 31 43.3**	**-1.4**
NVS				*i* S	**S**	**14 35 56.8**	**+0.1**
NVS				pmax	pmax		
	comp=N,46nm,1.6s						
NVS				pmax	pmax		
	comp=E,20nm,1.6s						
NVS				pmax	pmax		
	comp=Z,50nm,1.6s						
NVS				smax	smax		
	comp=N,20nm,2.2s						
NVS				smax	smax		
	comp=E,8.0nm,1.4s						
SURT	**Suratani**	**24.05**	**165**	P	**P**	**14 31 55.3**	**+3.7**
	comp=E,12nm,1.7s						
PKDT	**Phuket**	**24.99**	**167**	P	**P**	**14 32 03.8**	**+3.6**
	comp=E,65nm,0.8s						
BVAR	**Borovoye Array**	**26.12**	**328**	P	**P**	**14 32 10.3**	**+0.1**
BVAR						14 35 35.5	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**26.12**	**328**	P	**P**	**14 32 10.3**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=138,slow=10.0,SNR=9.1						
BVAR				PcP	**PcP**	**14 35 35.5**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=141,slow=4.8,SNR=2.9						
HIA	**Hailar**	**26.20**	**42**	*d* iP	**P**	**14 32 11.6**	**+0.6**
HIA				pmax	pmax		
	comp=Z,25nm,1.3s						
HIA	**Hailar**	**26.20**	**42**	P	**P**	**14 32 09.2**	**-1.8**
	comp=Z,30nm,1.2s						
SKLT	**Songkhla**	**26.21**	**162**	P	P	14 32 16.5	+5.3
	comp=Z,37nm,1.1s,comp=Z,5μm						
CN2	**Changchun**	**27.90**	**57**	*e*P	**P**	**14 32 25.1**	**-1.1**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,500nm,11.0s						
CN2				LE			
	comp=Z,600nm,11.0s						
CN2				LZ			
	comp=Z,600nm,12.0s						
GEYT	**Alibeck**	**28.74**	**291**	P	**P**	**14 32 34.6**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=64,slow=3.4,SNR=5.5						
GEYT				LR	LR	14 46 25.5	
	comp=Z,274nm,20.3s,baz=120,slow=41						
KSAR	**Wonju Array Be**	**29.08**	**70**	P	**P**	**14 32 35.7**	**-1.2**
KSAR	**Wonju Array Be**	**29.08**	**70**	P	**P**	**14 32 35.7**	**-1.2**
KSRS	**Korea Array**	**29.11**	**70**	P	**P**	**14 32 35.7**	**-

comp=Z,52nm,19.0s,baz=257,slow=40
BOD Bodaibo 29.18 23 *e*P **P** 14 32 37.7 +0.2
BOD pmax pmax
comp=Z,6.0nm,1.3s
ABKAR Akbulak array 29.66 314 *e*P **P** 14 32 41.6 -0.2
comp=Z,1.9nm,0.8s
PSI Prapat 30.07 168 P **P** 14 32 46.4 +0.5
PSI pmax pmax
comp=Z,2.0nm,0.4s
PSI Prapat 30.07 168 P **P** 14 32 46.4 +0.5
comp=Z,2.1nm,0.4s,baz=332,slow=7.9,SNR=4.1
USRK Ussuriysk Ar. 32.61 58 LR LR 14 46 53.7
comp=Z,190nm,19.9s,baz=252,slow=37
SVE Sverdlovsk 32.88 327|| *e*P **P** 14 33 10.7 +0.6
SVE pmax pmax
comp=Z,19nm,1.5s
KLR Kul'dur 33.45 48 *e*P P 14 33 11.8 -3.4
KLR MLR MLR
comp=N,900nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s
ARU Arti 33.64 326*c i*P **P** **14 33 17.2 +0.5**
ARU 14 34 23.8
ARU S **S** **14 38 40.4 +1.8**
ARU SS **SnSn** **14 40 38.6 -3.6**
ARU pmax pmax
comp=Z,20nm,2.5s
ARU MLR MLR
comp=Z,268nm,21.0s
MAJO Matsushiro 37.39 71 *e*P P 14 33 54.3 +5.1
MAJO pmax pmax
comp=Z,52nm,1.6s
MJAR Matsushiro Arr 37.39 71 P **P** **14 33 48.0 -1.3**
MJAR pmax pmax
comp=Z,2.0nm,1.1s
MJAR MLR MLR
comp=Z,114nm,19.9s
MJAR Matsushiro Arr 37.39 71 P **P** **14 33 48.0 -1.3**
comp=Z,2.3nm,1.1s,baz=276,slow=11,SNR=5.3
MJAR LR LR 14 49 18.7
comp=Z,114nm,19.9s,baz=290,slow=36
YAK Yakutsk 37.82 27 *e*P **P** **14 33 51.6 -0.9**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK MLR MLR
comp=E,153nm,11.0s
YAK MLR MLR
comp=N,149nm,10.0s
YAK MLR MLR
comp=Z,298nm,14.0s
YAK Yakutsk 37.82 27 P **P** **14 33 52.6 +0.1**
comp=Z,4.9nm,0.6s,baz=261,slow=2.1,SNR=5.7
GNI Garni 39.08 295 *e*P P 14 34 08.2 +4.6
GNI pmax pmax
comp=Z,8.0nm,1.4s
ASAJ Asahikawa 40.22 58 LR LR 14 50 30.7
comp=Z,147nm,18.4s,baz=72,slow=36
YSS Yuzh-Sakhalins 40.39 54 *e*P **P** **14 34 14.8 +0.6**
YSS pmax pmax
comp=Z,42nm,1.4s
NEY Neytrino 40.42 300 *e*P P 14 34 18.5 +3.7
NEY pmax pmax
comp=Z,1.0nm,1.3s
KIV Kislovodsk 40.43 301 *e*P P 14 34 18.6 +3.9
KIV pmax pmax
comp=Z,4.0nm,0.8s
KIV MLR MLR
comp=Z,90nm,16.0s
PRGR Permogore 41.93 328 P **P** **14 34 25.8 -0.9**
PRGR pmax pmax
comp=Z,10.0nm,0.9s
JCJ Chichijima 42.91 84 LR LR 14 52 50.9
comp=Z,328nm,21.4s,baz=88,slow=37
VSR Storozhevoye 43.05 312 *e*P **P** **14 34 36.9 +1.0**
VSR pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 43.68 16 *e*P **P** **14 34 39.5 -1.2**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 47.59 296 P **P** **14 35 12.6 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR MLR MLR
comp=Z,60nm,20.1s
BRTR Keskin Array B 47.59 296 P **P** **14 35 12.6 +0.3**
comp=Z,1.1nm,0.8s,baz=122,slow=4.5,SNR=6.4
BRTR LR LR 14 58 42.3
comp=Z,60nm,20.1s,baz=96,slow=40
SEY Seymchan 47.87 32 *e*P **P** **14 35 12.5 -1.4**
JOF Joensuu 48.72 328 *e*P **P** **14 35 20.9 +0.5**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 48.72 328 *ep* **P** **14 35 20.9 +0.5**
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 49.33 311 P **P** **14 35 24.5 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG MLR MLR
comp=Z,124nm,19.8s
AKASG Malin Array Be 49.33 311 P **P** **14 35 24.4 -0.9**
comp=Z,2.4nm,0.6s,baz=77,slow=7.3,SNR=8.7
AKASG LR LR 14 58 19.9
comp=Z,124nm,19.8s,baz=45,slow=39
KIEV Kiev 49.34 311 *i*P **P** **14 35 26.7 +1.3**
VSU Vasula 50.59 322 *e*P **P** **14 35 34.1 -0.7**
VSU pmax pmax
comp=Z,35nm,1.3s
FINES FINESS Array B 51.01 325 P **P** **14 35 38.2 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,136nm,21.2s
FINES FINESS Array B 51.01 325 P **P** **14 35 38.2 +0.3**
comp=Z,1.8nm,0.5s,baz=96,slow=6.9,SNR=12
FINES LR LR 14 58 21.1
comp=Z,136nm,21.2s,baz=68,slow=37
SOEI Soe 51.64 139 *e*P **P** **14 35 41.1 -2.2**
comp=Z,92nm,0.9s
BATI Baumata 51.68 140 P **P** **14 35 43.1 -0.3**
comp=Z,9.6nm,0.7s,baz=53,slow=5.1,SNR=4.2
BATI LR LR 14 59 40.7
comp=Z,196nm,18.9s,slow=38
ARCES ARCESS Array B 52.05 336 P **P** **14 35 44.5 -1.1**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,147nm,18.2s
ARCES ARCESS Array B 52.05 336 P **P** **14 35 44.5 -1.1**
comp=Z,3.7nm,0.8s,baz=74,slow=6.7,SNR=3.2
ARCES LR LR 15 02 02.8
comp=Z,147nm,18.2s,baz=98,slow=41
KWP Kalwaria Pacla 53.62 311 *e*P **P** **14 35 56.9 -0.6**
KWP pmax pmax
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 53.62 311 *e*P **P** **14 35 56.9 -0.6**
comp=Z,12nm,1.0s
BILL Bilibino 54.17 26 *e*P **P** **14 36 00.9 -0.3**
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,248nm,21.0s
BILL Bilibino 54.17 26 *e*P **P** **14 36 00.6 -0.6**
comp=Z,18nm,1.5s
STHS Stebnicka Huta 54.59 311 *e*P **P** **14 36 07.0 +2.4**
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 54.59 311 *e*P **P** **14 36 07.0 +2.4**
VYHS Vyhne 56.33 310 *e*P **P** **14 36 17.4 +0.3**
VYHS pmax pmax
comp=Z,6.0nm,1.7s
VYHS Vyhne 56.33 310 *e*P **P** **14 36 17.4 +0.3**
JAY Jayapura 57.13 118 LR LR 15 00 46.9
comp=Z,52nm,21.9s,baz=283,slow=36
KRLC Kraliky 57.29 312 *e*P **P** **14 36 23.6 -0.4**
KRLC *e**PP **pP** **14 36 34.1 +4.7**
KRLC Kraliky 57.29 312 *e*P **P** **14 36 23.6 -0.4**
KRLC *ex* x 14 36 26.6
KRLC *ep*P **pP** **14 36 34.1 +4.7**
DPC Dobruska-Polom 57.52 312 *e*P **P** **14 36 25.6 0.0**
DPC *e**PP **pP** **14 36 35.9 +4.9**
DPC Dobruska-Polom 57.52 312 *e*P **P** **14 36 25.6 0.0**
DPC *ex* x 14 36 28.7
DPC *ep*P **pP** **14 36 35.9 +4.9**
UPC Upice 57.68 313 *e*P **P** **14 36 26.9 +0.3**
UPC Upice 57.68 313 *e*P **P** **14 36 26.9 +0.3**
UPC *ex* x 14 36 29.7

NB2 NORSAR Subarra 58.19 325 P **P** **14 36 29.1 -1.0**
comp=Z,0.9nm,0.6s,baz=79,slow=6.9
NOA NORSAR Array B 58.19 325 P **P** **14 36 29.7 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,124nm,18.2s
NOA NORSAR Array B 58.19 325 P **P** **14 36 29.7 -0.4**
comp=Z,1.7nm,0.8s,baz=80,slow=7.0,SNR=5.6
NOA LR LR 15 02 44.4
comp=Z,124nm,18.2s,baz=70,slow=37
PVCC Panska Ves 58.57 313 *e*P **P** **14 36 33.2 +0.3**
PVCC Panska Ves 58.57 313 *e*P **P** **14 36 33.2 +0.3**
GOPC GO Pecny, Ondr 58.58 312 *e*P **P** **14 36 33.6 +0.6**
PRU Pruhonice 58.72 312 *e*P **P** **14 36 34.2 +0.3**
PRU MLR MLR
comp=Z,100nm,10.1s
PRU Pruhonice 58.72 312 *e*P **P** **14 36 34.2 +0.3**
PRU *ex* x 14 36 37.8
PRU AMS AMS 15 04 10.0
comp=Z,100nm,10.1s
BRG Berggiesshubel 58.87 313 *e*P **P** **14 36 35.0 +0.1**
comp=Z,3.8nm,1.1s
BRG *e* 14 36 37.6
comp=Z,3.7nm,0.7s
BRG Berggiesshubel 58.87 313 *e*P **P** **14 36 35.0 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 59.55 311 P **P** **14 36 39.9 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES MLR MLR
comp=Z,128nm,20.2s
GERES GERESS Array B 59.55 311 P **P** **14 36 39.9 +0.1**
comp=Z,1.7nm,0.7s,baz=69,slow=7.3,SNR=10
GERES LR LR 15 05 24.4
comp=Z,128nm,20.2s,baz=58,slow=39
KHC Kasperske Hory 59.55 312 *e*P **P** **14 36 40.4 +0.7**
KHC MLR MLR
comp=Z,200nm,11.4s
KHC Kasperske Hory 59.55 312 *e*P **P** **14 36 40.4 +0.7**
KHC AMS AMS 15 04 50.0
comp=Z,200nm,11.4s
LPG La Plagne 65.11 309 *e*P **P** **14 37 16.9 -0.4**
comp=Z,41nm,1.3s
LPG La Plagne 65.11 309 *e*P **P** **14 37 16.9 -0.4**
LPG pmax pmax
comp=Z,41nm,1.3s
LPG La Plagne 65.11 309 *e*P **P** **14 37 16.9 -0.4**
comp=Z,41nm,1.3s
LPL La Plagne 65.11 309 *e*P **P** **14 37 16.9 -0.4**
comp=Z,12nm,0.7s
LPL La Plagne 65.11 309 *e*P **P** **14 37 16.9 -0.4**
LPL pmax pmax
comp=Z,12nm,0.7s
LPL La Plagne 65.11 309 *e*P **P** **14 37 16.9 -0.4**
comp=Z,12nm,0.7s
SBF Sospel 65.26 307 *e*P **P** **14 37 17.0 -1.1**
SBF Sospel 65.26 307 *e*P **P** **14 37 17.0 -1.1**
SBF Sospel 65.26 307 *e*P **P** **14 37 17.0 -1.1**
MBDF Montbardon 65.38 309 *e*P **P** **14 37 18.7 -0.2**
comp=Z,19nm,1.2s
MBDF Montbardon 65.38 309 *e*P **P** **14 37 18.7 -0.2**
MBDF pmax pmax
comp=Z,19nm,1.2s
MBDF Montbardon 65.38 309 *e*P **P** **14 37 18.7 -0.2**
comp=Z,19nm,1.2s
WRAB Tennant Creek 65.55 137 *e*P **P** **14 37 18.9 -1.1**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 65.55 137 *e*P **P** **14 37 18.9 -1.1**
comp=Z,10.0nm,0.8s
WRA Warramunga Arr 65.55 137 P **P** **14 37 19.8 -0.2**
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 65.55 137 P **P** **14 37 19.8 -0.2**
comp=Z,7.9nm,0.8s,baz=331,slow=6.5,SNR=42
WB2 Warramunga Arr 65.55 137 *e*P **P** **14 37 19.7 -0.4**
LMR La Mourre 66.08 307 *e*P **P** **14 37 22.1 -1.2**
comp=Z,7.3nm,0.6s
LMR La Mourre 66.08 307 *e*P **P** **14 37 22.1 -1.2**
LMR pmax pmax
comp=Z,7.0nm,0.6s
LMR La Mourre 66.08 307 *e*P **P** **14 37 22.1 -1.2**
comp=Z,7.3nm,0.6s
SMF Signal de Mont 66.55 311 *e*P **P** **14 37 25.0 -1.2**
SMF Signal de Mont 66.55 311 *e*P **P** **14 37 25.0 -1.2**
SMF Signal de Mont 66.55 311 *e*P **P** **14 37 25.0 -1.2**
SSF Saint Saulge 66.60 312 *e*P **P** **14 37 25.4 -1.1**
comp=Z,12nm,0.8s
SSF Saint Saulge 66.60 312 *e*P **P** **14 37 25.4 -1.1**
SSF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 66.60 312 *e*P **P** **14 37 25.4 -1.1**
comp=Z,12nm,0.8s
AVF Avril sur Loir 66.80 312 *e*P **P** **14 37 26.8 -1.0**
comp=Z,7.3nm,0.8s
AVF Avril sur Loir 66.80 312 *e*P **P** **14 37 26.8 -1.0**
AVF pmax pmax
comp=Z,7.0nm,0.8s
AVF Avril sur Loir 66.80 312 *e*P **P** **14 37 26.8 -1.0**
comp=Z,7.3nm,0.8s
LASF Ste Croix 67.56 309 *e*P **P** **14 37 32.1 -0.6**
LASF Ste Croix 67.56 309 *e*P **P** **14 37 32.1 -0.6**
ASAR Alice Springs 68.25 140 P **P** **14 37 37.2 0.0**
ASAR pmax pmax
comp=Z,10.0nm,0.9s
ASAR MLR MLR
comp=Z,72nm,18.4s
ASAR Alice Springs 68.25 140 P **P** **14 37 37.2 0.0**
comp=Z,9.8nm,0.9s,baz=321,slow=6.0,SNR=42
ASAR LR LR 15 11 59.0
comp=Z,72nm,18.4s,baz=316,slow=40
MTLF Montolieu 68.94 309 *e*P **P** **14 37 40.5 -0.9**
comp=Z,4.6nm,0.7s
MTLF Montolieu 68.94 309 *e*P **P** **14 37 40.5 -0.9**
MTLF pmax pmax
comp=Z,5.0nm,0.7s
MTLF Montolieu 68.94 309 *e*P **P** **14 37 40.5 -0.9**
comp=Z,4.6nm,0.7s
ETSF Etsaut 70.97 309 *e*P **P** **14 37 53.5 -0.4**
comp=Z,11nm,0.7s
ETSF Etsaut 70.97 309 *e*P **P** **14 37 53.5 -0.4**
ETSF pmax pmax
comp=Z,11nm,0.7s
ETSF Etsaut 70.97 309 *e*P **P** **14 37 53.5 -0.4**
comp=Z,11nm,0.7s
COLA College 72.17 23 *e*P **P** **14 38 01.1 +0.5**
COLA pmax pmax
comp=Z,23nm,1.4s
ILAR Eielson Array 72.55 23 P **P** **14 38 02.4 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 72.55 23 P **P** **14 38 02.4 -0.6**
comp=Z,1.7nm,1.0s,baz=287,slow=4.7,SNR=14
ESDC Sonseca Array 74.75 307 P **P** **14 38 15.8 -0.7**
comp=Z,0.2nm,0.3s,baz=48,slow=7.0,SNR=5.1
ESDC LR LR 15 16 58.9
comp=Z,129nm,18.3s,baz=310,slow=40
LSZ Lusaka 77.87 243 *e*P **P** **14 38 33.4 -1.1**
LSZ pmax pmax
comp=Z,8.0nm,1.3s
LSZ Lusaka 77.87 243 *e*P **P** **14 38 33.4 -1.1**
comp=Z,8.3nm,1.3s
STKA Stephens Creek 78.88 139 P **P** **14 38 41.2 +1.6**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA MLR MLR
comp=Z,44nm,20.0s
STKA Stephens Creek 78.88 139 P **P** **14 38 41.2 +1.6**
comp=Z,2.5nm,0.9s,baz=287,slow=7.2,SNR=3.8
STKA LR LR 15 17 28.0
comp=Z,44nm,20.0s,baz=227,slow=39
YKA Yellowknife Ar 82.83 12 P **P** **14 38 59.7 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 82.83 12 P **P** **14 38 59.7 -0.6**
comp=Z,0.4nm,0.6s,baz=331,slow=5.3,SNR=9.5
TORD Torodi Ar. Bea 83.97 282 P **P** **14 39 06.3 -0.7**
comp=Z,13nm,0.9s,baz=48,slow=5.1,SNR=55
DBIC Dimbokro 92.87 280 P **P** **14 39 48.3 -1.3**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC MLR MLR
comp=Z,107nm,18.2s
DBIC Dimbokro 92.87 280 P **P** **14 39 48.3 -1.3**
comp=Z,5.4nm,0.9s,baz=104,slow=5.3,SNR=4.6
DBIC LR LR 15 24 37.0
comp=Z,107nm,18.2s,baz=43,slow=38
KIP Kipapa 93.73 62 *e*P P 14 39 58.9 +5.4
KIP pmax pmax
comp=Z,139nm,1.7s
TXAR Lajitas Array 116.58 16 PKIKP **PKPdf** **14 45 20.5 -0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 116.58 16 PKP **PKPdf** **14 45 20.5 -0.3**
comp=Z,0.5nm,0.9s,baz=233,slow=0.6,SNR=4.1
QSPA South Pole Qui 122.25 180 PKP **PKPdf** **14 45 29.1 -1.3**
comp=Z,2.8nm,1.0s,baz=359,slow=1.2,SNR=4.5
SAML Samuel 147.71 311 *e*PKPdf **PKPdf** **14 46 18.7 -0.1**
SAML *e*PKPbc **PKPbc** **14 46 21.3 -0.3**
SAML *e*PKPab **PKPab** **14 46 23.8 -0.1**

ISCJB ***15*** *14:28:45.5±0.6, 0.°32N±0.°07×122.°02E±0.°05, h188km±5km, mb3.7/6, Error ellipse: s-maj=12.2km s-min=8.7km az=167.0*
IDC ***15*** *14:28:46.8±8.4, 0.°24N×122.°03E, h186km±84km, mb3.3/6, mb1 3.5/6, mb1mx3.2/24, mbtmp3.8/6, Error ellipse: s-maj=115.2km s-min=15.1km az=64.0*
DJA ***15*** *14:28:48.6±0.5, 0.°N±4.°×12.°2E±.°, h152km±5km, M3.9/10, mb4.2/1, MLv3.8/10*
ISC 15 14:28:46.1±0.8, 0.°34N±0.°08×122.°02E±0.°06, h177km±7km, n14, σ1s31/20, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.15**	**332**	P	**Pn**	**14 29 10.0**	**+0.4**
MRSI				S	**Sn**	**14 29 25.3**	**-2.3**
APSI	**Ampana**	**1.29**	**196**	P	**Pn**	**14 29 17.1**	**+1.2**
APSI				S	**Sn**	**14 29 38.1**	**-0.9**
KMSI	**Cibinong**	**1.98**	**83**	P	**Pn**	**14 29 24.4**	**+1.7**
KMSI				S	**Sn**	**14 29 52.4**	**+1.3**
MPSI	**Mapaga**	**2.12**	**270**	P	**Pn**	**14 29 25.2**	**+1.0**
MPSI				S	**Sn**	**14 29 54.7**	**+0.9**
PCI	**Palu**	**2.50**	**240**	P	**Pn**	**14 29 29.7**	**+1.0**
PCI				S	**Sn**	**14 30 02.2**	**+0.4**
TTSI	**Tana Toraja**	**4.01**	**213**	P	**Pn**	**14 29 48.7**	**+1.3**
SPSI	**Sidrap Palu**	**4.83**	**208**	P	**Pn**	**14 29 58.8**	**+1.0**
BNSI	**Bone**	**5.08**	**202**	P	**Pn**	**14 30 03.0**	**+1.9**
WRA	**Warramunga Arr**	**23.50**	**150**	P	**P**	**14 33 38.7**	**-1.5**
	2.1nm,0.5s,baz=325,slow=11,SNR=57						
ASAR	**Alice Springs**	**26.51**	**155**	P	**P**	**14 34 06.4**	**-1.1**
	0.6nm,0.5s,baz=332,slow=9.1,SNR=24						
ASAR				PcP	**PcP**	**14 37 26.4**	**-1.3**
	0.2nm,0.3s,baz=348,slow=2.1,SNR=11						
STKA	**Stephens Creek**	**37.02**	**152**	P	**P**	**14 35 38.5**	**-0.4**
	1.9nm,0.7s,baz=333,slow=10,SNR=4.2						
SONM	**Songino Array**	**49.22**	**346**	P	**P**	**14 37 16.8**	**+0.2**
	0.7nm,0.6s,baz=163,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**57.81**	**329**	P	**P**	**14 38 19.9**	**+0.8**
	0.6nm,0.3s,baz=126,slow=8.7,SNR=13						
KURBB	**Kurchatov Arra**	**62.18**	**330**	P	**P**	**14 38 48.5**	**-0.2**
	0.3nm,0.3s,baz=117,slow=6.1,SNR=5.2						

ISCJB ***15*** *14:51:16.2±1.8, 3.°9N±0.°3×62.°5E±0.°3, h10km, mb3.5/5, MS3.4/2, Error ellipse: s-maj=51.6km s-min=27.6km az=138.0*
IDC ***15*** *14:51:16.6±1.9, 3.°84N×62.°55E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/36, mbtmp3.4/5, MS3.4/2, Ms1 3.5/2, ms1mx3.0/28, Error ellipse: s-maj=54.2km s-min=32.0km az=50.0*
ISC 15 14:51:18.3±1.8, 3.°9N±0.°3×62.°6E±0.°3, h10km, n9, σ0s68/6, mb3.6/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**13.18**	**140**	T	T	15 07 56.9	
	baz=322,slow=76,SNR=40						
H08N3	**Diego Garcia H**	**13.19**	**140**	T	T	15 07 57.0	
	baz=322,slow=76,SNR=50						
H08N1	**Diego Carcia H**	**13.20**	**140**	T	T	15 07 58.6	
	baz=322,slow=76,SNR=59						
CMAR	**Chiang Mai Arr**	**38.43**	**65**	P	**P**	**14 58 41.2**	**+0.7**
	0.2nm,0.5s,baz=255,slow=10,SNR=3.0						
CMAR				LR	LR	15 14 21.5	
	comp=Z,28nm,18.2s,baz=250,slow=36						
AKASG	**Malin Array Be**	**54.42**	**335**	P	**P**	**15 00 45.9**	**+0.3**
	0.2nm,0.3s,baz=132,slow=5.7,SNR=4.1						
SONM	**Songino Array**	**57.71**	**34**	P	**P**	**15 01 08.6**	**-0.9**
	0.3nm,0.8s,baz=224,slow=6.0,SNR=3.0						
SONM				LR	LR	15 25 43.4	
	comp=Z,56nm,21.5s,baz=230,slow=36						
WRA	**Warramunga Arr**	**74.30**	**112**	P	**P**	**15 02 56.3**	**-0.2**
	0.9nm,1.0s,baz=288,slow=5.3,SNR=4.3						
ASAR	**Alice Springs**	**74.59**	**116**	P	**P**	**15 02 58.1**	**-0.1**
	0.7nm,1.0s,baz=289,slow=5.9,SNR=4.2						
TXAR	**Lajitas Array**	**144.44**	**339**	PKP	**PKPdf**	**15 10 56.0**	**+0.1**
	0.6nm,0.9s,baz=85,slow=1.1,SNR=3.6						

CASC 15 14:55:27.8±2.2, 14.°27N×92.°24W, h54km±43km, MD3.8, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.59**	**86**↑	*e*P	Pn	14 55 40.8	+0.4
NBG	**Las Nubes**	**1.86**	**80**	*e*P	Pn	14 55 59.2	+1.5
RBDL	**Robledal**	**2.49**	**93**	*e*P	Pn	14 56 06.1	0.0
SBLS	**San Blas**	**2.58**	**99**	*e*P	Pn	14 56 07.2	-0.2
MRL	**Marmol**	**2.59**	**72**	*e*P	Pn	14 56 08.6	+1.1

HLW ***15*** *14:57:38.8, 35.°10N×33.°50E, h29km±22km, Md3.5*
ISK ***15*** *14:57:39.5, 34.°61N×33.°13E, h5km, ML3.1*
DDA ***15*** *14:57:40.3, 34.°75N×33.°11E, h5km, MD3.2*
ISCJB ***15*** *14:57:41.2±0.5, 34.°63N±0.°02×33.°19E±0.°04, h7km±4km, Error ellipse: s-maj=5.3km s-min=3.0km az=155.9*
CSEM ***15*** *14:57:41.7±0.1, 34.°66N×33.°21E, h2km, ML3.7, Error ellipse: s-maj=4.1km s-min=1.9km az=66.0*
NIC ***15*** *14:57:42.4, 34.°73N×33.°18E, h15km, ML3.7*
NIC Felt earthquake ; Maximum Intensity 3;.
GII ***15*** *14:57:42.7±0.5, 34.°70N×33.°28E, h10km±11km, MD3.0/7*
NSSC ***15*** *14:57:46.6±1.3, 35.°32N×35.°36E, h173km±31km, ML2.4*
ISC 15 14:57:41.5±1.2, 34.°70N±0.°02×33.°27E±0.°03, h5km±9km, n87, σ0s99/119, 2C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSS	**Prodhromos**	**0.26**	**10**	P	**Pb**	**14 57 48.8**	**0.0**
	baz=208						
CSS	**Prodhromos**	**0.26**	**10**	S	**Sb**	**14 57 52.4**	**-1.3**
	baz=208						
CSS	**Prodhromos**	**0.26**	**10**	*e*PG	**Pg**	**14 57 47.5**	**+0.9**
CSS				*e*SG	**Sb**	**14 57 54.5**	**+0.8**
CSS	**Prodhromos**	**0.26**	**10**	Pg	**Pb**	**14 57 48.4**	**-0.4**
CSS	**Prodhromos**	**0.26**	**10**	*e*Pg	**Pg**	**14 57 47.5**	**+0.9**
CSS	**Prodhromos**	**0.26**	**10**	P	**Pb**	**14 57 48.8**	**0.0**
CSS				*e*Sg	**Sb**	**14 57 54.5**	**+0.8**
SZAC	**Souni-Zanaja**	**0.33**	**280**	P	**Pg**	**14 57 47.8**	**0.0**
	baz=97						
SZAC				S	**Sg**	**14 57 52.2**	**+0.1**
SZAC	**Souni-Zanaja**	**0.33**	**280**	P	**Pg**	**14 57 47.8**	**0.0**
SZAC				S	**Sg**	**14 57 52.2**	**+0.1**
MAMC	**Mammari**	**0.47**	**355**	⇓P	**Pb**	**14 57 51.9**	**-0.4**
	baz=184						
MAMC	**Mammari**	**0.47**	**355**	⇓P	**Pb**	**14 57 51.9**	**-0.4**
LEF	**Lefka**	**0.52**	**323**	*e*PG	**Pg**	**14 57 50.9**	**-0.6**
LEF				*e*SG	**Sb**	**14 58 00.5**	**-0.5**
LEF	**Lefka**	**0.52**	**323**	*e*Pg	**Pg**	**14 57 50.9**	**-0.6**
LEF				*e*Sg	**Sb**	**14 58 00.5**	**-0.5**
AKDN	**Akdeniz- K¯–br**	**0.65**	**337**	*e*PG	**Pg**	**14 57 53.6**	**-0.3**
AKDN				*e*SG	**Sb**	**14 58 05.3**	**+0.7**
AKDN	**Akdeniz- K¯–br**	**0.65**	**337**	*e*Pg	**Pg**	**14 57 53.6**	**-0.3**
AKDN				*e*Sg	**Sb**	**14 58 05.3**	**+0.7**
ALFC	**Alevga**	**0.72**	**310**	⇑P	**Pg**	**14 57 55.0**	**-0.2**
	baz=132						
ALFC				S	**Sg**	**14 58 04.1**	**-0.4**
ALFC	**Alevga**	**0.72**	**310**	⇑P	**Pg**	**14 57 55.0**	**-0.2**
ALFC				S	**Sg**	**14 58 04.1**	**-0.4**
PPCY	**Paphos**	**0.79**	**284**	P	**Pg**	**14 57 56.0**	**-0.6**
	baz=102						
PPCY	**Paphos**	**0.79**	**284**	P	**Pg**	**14 57 56.0**	**-0.6**
AKMC	**Akamas**	**0.84**	**293**	P	**Pg**	**14 57 57.1**	**-0.5**
	baz=113						

AKMC	**Akamas**	**0.84**	**293**	P		**Pg**	**14 57 57.1**	**-0.5**
EREN	**Erenkoy**	**1.11**	**41**	*e*PN		**Pn**	**14 58 05.0**	**+1.3**
EREN	**Erenkoy**	**1.11**	**41**	*e*Pn		**Pn**	**14 58 05.0**	**+1.3**
GAZI	**Gazipasa**	**1.72**	**333**	*i* P		**Pn**	**14 58 11.8**	**-0.3**
GAZI				*i* S		**Sn**	**14 58 33.4**	**-1.1**
GAZI	**Gazipasa**	**1.72**	**333**	*i* P		**Pn**	**14 58 11.8**	**-0.3**
GAZI				*i* S		**Sn**	**14 58 33.4**	**-1.1**
KIZK	**Mersin**	**1.91**	**22**	*i* P		**Pn**	**14 58 15.6**	**+0.8**
KIZK				*i* S		**Sg**	**14 58 43.8**	**+0.9**
KIZK	**Mersin**	**1.91**	**22**	*i* P		**Pn**	**14 58 15.6**	**+0.8**
KIZK				*i* S		**Sg**	**14 58 43.8**	**+0.9**
ERMK	**Ermenek**	**1.96**	**351**	*i* P		**Pn**	**14 58 15.6**	**0.0**
ERMK	**Ermenek**	**1.96**	**351**	*i* P		**Pn**	**14 58 15.6**	**0.0**
ERMK				*i* S		**Sb**	**14 58 42.9**	**+0.3**
HNTI	**Hanita**	**2.26**	**135**	Pn		**Pn**	**14 58 20.0**	**+0.4**
HNTI				Sn		**Sn**	**14 58 48.2**	**+0.3**
HNTI	**Hanita**	**2.26**	**135**	Pn		**Pn**	**14 58 20.0**	**+0.4**
HNTI				Sn		**Sn**	**14 58 48.2**	**+0.3**
MERS	**Mersin**	**2.39**	**25**	*e*PN		**Pb**	**14 58 23.9**	**-1.2**
MERS	**Mersin**	**2.39**	**25**	*e*Pn		**Pb**	**14 58 23.9**	**-1.2**
MMC7	**Mount Meron ar**	**2.43**	**133**	Pn		**Pn**	**14 58 22.1**	**+0.1**
MMC7	**Mount Meron ar**	**2.43**	**133**	Pn		**Pn**	**14 58 22.1**	**+0.1**
MMA0	**Mount Meron ar**	**2.44**	**133**	Pn		**Pn**	**14 58 22.5**	**+0.3**
MMA0				Sn		**Sn**	**14 58 52.7**	**+0.2**
MMA0	**Mount Meron ar**	**2.44**	**133**	Pn		**Pn**	**14 58 22.5**	**+0.3**
MMA0				Sn		**Sn**	**14 58 52.7**	**+0.2**
MMA0B	**Mount Meron ar**	**2.44**	**133**	Pn		**Pn**	**14 58 22.3**	**+0.1**
MMA0B				Sn		**Sn**	**14 58 52.3**	**-0.2**
MMA0B	**Mount Meron ar**	**2.44**	**133**	Pn		**Pn**	**14 58 22.3**	**+0.1**
MMA0B				Sn		**Sn**	**14 58 52.3**	**-0.2**
KSDI	**Kefar Szold**	**2.49**	**127**	Pn		**Pn**	**14 58 22.5**	**-0.2**
KSDI				Sn		**Sn**	**14 58 53.8**	**+0.3**
KSDI	**Kefar Szold**	**2.49**	**127**	Pn		**Pn**	**14 58 22.5**	**-0.2**
KSDI				Sn		**Sn**	**14 58 53.8**	**+0.3**
OFRI	**'Ofer**	**2.52**	**145**	Pn		**Pn**	**14 58 22.5**	**-0.7**
OFRI	**'Ofer**	**2.52**	**145**	Pn		**Pn**	**14 58 22.5**	**-0.7**
BRBR	**Barbar**	**2.57**	**119**	*e*P		**Pn**	**14 58 24.2**	**+0.2**
BRBR				*e*S		**Sn**	**14 58 50.3**	**-5.5**
BRBR					AML	AML	14 58 55.4	
	comp=E,82nm,0.5s							
BRBR					AML	AML	14 58 57.3	
	comp=N,34nm,0.5s							
HAWK	**Haweek**	**2.59**	**93**	*e*P		Pn	14 58 15.4	-8.8
HAWK				*e*S		Sn	14 58 36.6	-20
HAWK					AML	AML	14 58 53.6	
	comp=N,57nm,0.8s							
HAWK					AML	AML	14 59 00.6	
	comp=E,65nm,0.5s							
YAYL	**Yayladag**	**2.67**	**59**	*i* P		**Pn**	**14 58 23.2**	**-2.1**
YAYL				*i* S		**Sn**	**14 58 57.0**	**-1.2**
YAYL	**Yayladag**	**2.67**	**59**	*i* P		**Pn**	**14 58 23.1**	**-2.1**
YAYL				*i* S		**Sn**	**14 58 57.0**	**-1.2**
MARH	**Ras Al Marh**	**2.74**	**103**	*e*P		Pn	14 58 19.0	-7.4
MARH				*e*S		Sn	14 58 43.5	-17
MARH					AML	AML	14 58 53.5	
	comp=N,40nm,0.6s							
MARH					AML	AML	14 58 54.7	
	comp=E,70nm,0.6s							
SLTI	**Sal'it**	**2.87**	**148**	Pn		**Pn**	**14 58 28.5**	**+0.6**
SLTI	**Sal'it**	**2.87**	**148**	Pn		**Pn**	**14 58 28.5**	**+0.6**
MMLI	**Mount Malkishu**	**2.88**	**141**	*e*PN		**Pn**	**14 58 28.5**	**+0.3**
MMLI	**Mount Malkishu**	**2.88**	**141**	Pn		**Pn**	**14 58 28.5**	**+0.3**
MMLI				Sn		**Sn**	**14 59 04.7**	**+1.4**
MMLI	**Mount Malkishu**	**2.88**	**141**	Pn		**Pn**	**14 58 28.5**	**+0.3**
MMLI				Sn		**Sn**	**14 59 04.7**	**+1.4**
HMDT	**Nahal Hemdat**	**3.08**	**142**	Pn		**Pn**	**14 58 31.4**	**+0.5**
HMDT	**Nahal Hemdat**	**3.08**	**142**	Pn		**Pn**	**14 58 31.4**	**+0.5**
RABH	**Abou Rabah**	**3.26**	**94**	*e*P		Pn	14 58 22.2	-11
RABH					AML	AML	14 59 16.3	
	comp=E,29nm,0.4s							
RABH					AML	AML	14 59 31.5	
	comp=N,13nm,0.6s							
KOZT	**Kozan**	**3.46**	**36**	*e*PN		**Pn**	**14 58 38.5**	**+2.4**
KOZT	**Kozan**	**3.46**	**36**	*e*Pn		**Pn**	**14 58 38.5**	**+2.4**
LADK	**Ladik-KONYA**	**3.57**	**348**	*e*PN		**Pn**	**14 58 38.5**	**+0.8**
LADK	**Ladik-KONYA**	**3.57**	**348**	*e*Pn		**Pn**	**14 58 38.5**	**+0.8**
DSI	**Dead Sea**	**3.59**	**150**	Pn		**Pn**	**14 58 38.3**	**+0.5**
DSI				Sn		**Sn**	**14 59 21.2**	**+0.6**
DSI	**Dead Sea**	**3.59**	**150**	Pn		**Pn**	**14 58 38.3**	**+0.5**
DSI				Sn		**Sn**	**14 59 21.2**	**+0.6**
MKRJ	**Makawir**	**3.72**	**147**	Pn		**Pn**	**14 58 41.2**	**+1.5**
MZDA	**Masada**	**3.81**	**152**	Pn		**Pn**	**14 58 41.3**	**+0.5**
MZDA	**Masada**	**3.81**	**152**	Pn		**Pn**	**14 58 41.3**	**+0.5**
KZIT	**Kziot**	**3.90**	**166**	Pn		**Pn**	**14 58 41.6**	**-0.5**
KZIT	**Kziot**	**3.90**	**166**	Pn		**Pn**	**14 58 41.6**	**-0.5**
GOLH	**Golhisar**	**3.93**	**311**	*i* P		**Pn**	**14 58 43.6**	**+1.0**
GOLH				*i* S		**Sn**	**14 59 31.8**	**+2.6**
GOLH	**Golhisar**	**3.93**	**311**	*i* P		**Pn**	**14 58 43.6**	**+1.0**
GOLH				*i* S		**Sn**	**14 59 31.8**	**+2.6**
AMAG	**Maghara**	**4.05**	**181**	P		**Pn**	**14 58 44.3**	**+0.1**
RMNI	**Mount Ramon**	**4.28**	**163**	Pn		**Pn**	**14 58 48.4**	**+1.0**
RMNI	**Mount Ramon**	**4.28**	**163**	Pn		**Pn**	**14 58 48.4**	**+1.0**
PRNI	**Paran**	**4.58**	**161**	Pn		**Pn**	**14 58 52.2**	**+0.7**
PRNI	**Paran**	**4.58**	**161**	Pn		**Pn**	**14 58 52.2**	**+0.7**
KRMI	**Paran Flat**	**4.73**	**165**	Pn		**Pn**	**14 58 54.3**	**+0.7**
KRMI	**Paran Flat**	**4.73**	**165**	Pn		**Pn**	**14 58 54.3**	**+0.7**
HNKL	**Nakhl**	**4.80**	**173**	P		**Pn**	**14 58 54.1**	**-0.4**
HNKL				S		**Sn**	**14 59 51.5**	**+1.0**
SUZ		**4.86**	**185**	P		**Pn**	**14 58 55.7**	**+0.4**
HRFI	**Mount Harif**	**4.89**	**162**	Pn		**Pn**	**14 58 56.1**	**+0.4**
HRFI				Sn		**Sn**	**14 59 52.9**	**+0.2**
HRFI	**Mount Harif**	**4.89**	**162**	Pn		**Pn**	**14 58 56.1**	**+0.4**
HRFI				Sn		**Sn**	**14 59 52.9**	**+0.2**
MBH	**Mount Berech**	**5.09**	**164**	Pn		**Pn**	**14 58 59.8**	**+1.3**
MBH	**Mount Berech**	**5.09**	**164**	Pn		**Pn**	**14 58 59.8**	**+1.3**
EIL	**Elat**	**5.21**	**164**	Pn		**Pn**	**14 59 00.6**	**+0.4**
EIL	**Elat**	**5.21**	**164**	Pn		**Pn**	**14 59 00.6**	**+0.4**
HDHB	**Dhahab**	**6.07**	**169**	P		**Pn**	**14 59 12.0**	**+0.1**
TR2		**6.31**	**176**	P		**Pn**	**14 59 14.9**	**-0.3**
TR1		**6.70**	**175**	P		**Pn**	**14 59 20.3**	**-0.3**
SHRM		**6.83**	**174**	P		**Pn**	**14 59 22.3**	**-0.1**

IDC 15 14:59:54.7±4.0, 16°70S×177°93W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, Error ellipse: s-maj=179.1km s-min=32.1km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.62**	**240**	P	P	15 07 28.6	+0.3
	1.1nm,0.9s,baz=104,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**45.31**	**258**	P	P	15 08 14.3	-0.5
	0.2nm,0.4s,baz=95,slow=7.6,SNR=7.9						
ASAR	**Alice Springs**	**45.57**	**253**	P	P	15 08 16.6	-0.2
	1.7nm,0.6s,baz=90,slow=7.6,SNR=72						
ILAR	**Eielson Array**	**84.61**	**13**	P	P	15 12 29.7	0.0
	0.2nm,0.7s,baz=206,slow=5.7,SNR=3.0						

KRNET 15 15:04:55.7±0.1, 40°80N×78°79E, h4km, mb3.7, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**1.79**	**318**	*e*P	Pb	15 05 28.8	-0.7
	baz=318						
KDJ				*e*S	Sb	15 05 52.8	+0.3
	baz=318						
NRN	**Naryn**	**2.20**	**288**	*e*P	Pn	15 05 35.0	+1.5
	baz=287						
BOOM	**Boomskoye usch**	**2.72**	**309**	⇑*i*P	Pg	15 05 49.0	+0.9
	baz=309						
BOOM				⇑*e*S	Sg	15 06 25.5	+1.9
	baz=309						

*ISCJB **15** 15:10:08.7±0.8, 7°.01N±0°.09×73°.10W±0°.08, h166km, mb3.0/4, Error ellipse: s-maj=15.1km s-min=7.4km az=139.1*

*FUNV **15** 15:10:08.3, 6°.86N×73°.25W, h169km, MW3.5*

*IDC **15** 15:10:08.3±2.4, 6°.69N×72°.82W, h167km±23km, mb2.8/4, mb1 3.2/5, mb1mx3.0/25, mbtmp3.3/5, Error ellipse: s-maj=33.5km s-min=22.5km az=46.0*

ISC 15 15:10:08.0±0.8, 6°.87N±0°.06×73°.11W±0°.09, h166km, n16, σ1°57/23, mb3.1/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.26**	**39**	*e*P	**Pn**	**15 10 37.8**	**+1.0**
CAPV				*e*S	**Sn**	**15 10 59.2**	**+0.2**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**15 10 49.2**	**+0.7**
	34nm,0.3s,baz=108,slow=20,SNR=45						
ROSC				S	**Sn**	**15 11 16.2**	**-3.6**
	25nm,0.3s,baz=91,slow=19,SNR=12						
VIGV	**El Vigia**	**2.61**	**41**	*e*P	**Pn**	**15 10 51.7**	**+0.4**
VIGV				*e*S	**Sn**	**15 11 24.4**	**-0.5**
SOCV	**Socops**	**2.64**	**58**	*e*P	**Pn**	**15 10 52.2**	**+0.6**
SOCV				*e*S	**Sn**	**15 11 25.0**	**-0.4**
VIRV	**Villa del Rosa**	**3.67**	**11**	*e*P	**Pn**	**15 11 04.2**	**-0.3**
VIRV				*e*S	**Sn**	**15 11 45.1**	**-3.5**
QARV	**Quebrada Arrib**	**4.18**	**37**	*e*P	**Pn**	**15 11 11.8**	**+0.6**
QARV				*e*S	**Sn**	**15 11 57.8**	**-2.7**
SANV	**Sanarito**	**4.40**	**53**	*e*P	**Pn**	**15 11 14.2**	**+0.2**
CURV	**Curarigua**	**4.41**	**45**	*e*P	**Pn**	**15 11 14.3**	**+0.3**
CURV				*e*S	**Sn**	**15 12 03.6**	**-2.1**
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**15 16 58.8**	**+1.7**
	0.2nm,0.6s,baz=130,slow=9.7,SNR=2.5						
PDAR	**Pinedale Array**	**48.05**	**324**	P	P	15 18 34.8	+4.0
	0.3nm,0.7s,baz=134,slow=5.1,SNR=3.5						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**15 20 19.5**	**+1.2**
	0.1nm,0.4s,baz=136,slow=6.5,SNR=3.7						
YKA				pP	**pP**	**15 20 56.9**	**-0.5**
	0.1nm,0.5s,baz=136,slow=7.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P	**P**	**15 21 22.8**	**-1.6**
	0.5nm,1.1s,baz=287,slow=6.9,SNR=3.1						
MKAR	**Makanchi Array**	**122.27**	**20**	PKP	**PKPdf**	**15 28 43.6**	**+0.1**
	0.1nm,0.4s,baz=325,slow=2.3,SNR=3.3						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**15 29 37.6**	**-0.1**
	0.5nm,0.5s,baz=121,slow=3.6,SNR=8.1						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**15 29 40.6**	**-0.1**
	0.4nm,0.4s,baz=108,slow=2.6,SNR=10						
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKPbc	**PKPbc**	**15 29 49.5**	**+1.4**
	0.3nm,0.5s,baz=320,slow=2.7,SNR=3.5						

*ISCJB **15** 15:10:30.2±0.5, 64°.03N±0°.02×27°.83E±0°.08, h0km, Error ellipse: s-maj=5.5km s-min=2.7km az=16.2*

*IDC **15** 15:10:34.0±1.8, 63°.93N×28°.68E, h0km, mb1 3.0/3, mb1mx2.8/28, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=32.8km s-min=8.8km az=97.0*

*CSEM **15** 15:10:34.0, 64°.00N×27°.96E, h0km, ML1.7, Mining explosion.*

*HEL **15** 15:10:34.0±0.1, 64°.00N×27°.96E, h0km, ML1.7, Explosion*

ISC 15 15:10:33.1±0.8, 63°.96N±0°.02×28°.11E±0°.04, h0km, n41, σ1°18/69, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUL	**Oulu**	**1.48**	**321**	PN	**Pn**	**15 11 00.8**	**-0.1**
	baz=138						
OUL				SN	**Sg**	**15 11 19.9**	**-0.7**
OUL	**Oulu**	**1.48**	**321**	Pn	**Pn**	**15 11 00.8**	**-0.1**
OUL				Sn	**Sg**	**15 11 19.9**	**-0.7**
SUF	**Sumiainen**	**1.53**	**216**	PN	**Pn**	**15 11 02.0**	**+0.4**
SUF				SN	**Sn**	**15 11 21.5**	**-0.7**
SUF	**Sumiainen**	**1.53**	**216**	Pn	**Pn**	**15 11 01.9**	**+0.4**
SUF				Sn	**Sn**	**15 11 21.4**	**-0.7**
JOF	**Joensuu**	**1.78**	**125**	PG	**Pg**	**15 11 07.5**	**+0.3**
JOF	**Joensuu**	**1.78**	**125**	Pg	**Pg**	**15 11 07.4**	**+0.3**
MSF	**Maaselka**	**2.00**	**11**	PG	**Pn**	**15 11 09.4**	**+1.3**
MSF				SG	**Sn**	**15 11 34.6**	**+0.8**
MSF				MSG		15 11 34.6	
	comp=Z,4.1nm,0.3s						
MSF	**Maaselka**	**2.00**	**11**	Pg	**Pn**	**15 11 09.4**	**+1.3**
MSF				Sg	**Sn**	**15 11 34.6**	**+0.8**
KAF	**Kangasniemi**	**2.03**	**205**	PG	**Pb**	**15 11 10.7**	**-0.1**
	baz=19						
KAF				SG	**Sb**	**15 11 37.0**	**+0.5**
KAF				MSG		15 11 37.0	
	comp=Z,2.5nm,0.2s						
KAF	**Kangasniemi**	**2.03**	**205**	Pg	**Pb**	**15 11 10.7**	**-0.1**
KAF				Sg	**Sb**	**15 11 37.0**	**+0.5**
KU6	**Riekki**	**2.21**	**19**	PG	**Pb**	**15 11 13.2**	**-0.6**
	baz=201						
KU6				SG	**Sb**	**15 11 41.0**	**-0.8**
KU6	**Riekki**	**2.21**	**19**	Pg	**Pb**	**15 11 13.2**	**-0.6**
KU6				Sg	**Sb**	**15 11 40.9**	**-0.8**
KEF	**Keuruu**	**2.33**	**221**	PG	**Pb**	**15 11 15.2**	**-0.6**
	baz=36						
KEF				SG	**Sb**	**15 11 45.7**	**+0.6**
KEF				MSG		15 11 45.7	
	comp=Z,2.5nm,0.2s						
KEF	**Keuruu**	**2.33**	**221**	Pg	**Pb**	**15 11 15.2**	**-0.6**
KEF				Sg	**Sb**	**15 11 45.7**	**+0.6**
VAF	**Ylistaro**	**2.61**	**252**	PG	**Pb**	**15 11 19.4**	**-1.2**
VAF				SG	**Sb**	**15 11 52.9**	**-0.2**
VAF				MSG		15 11 52.9	
	comp=Z,1.4nm,0.2s						
VAF	**Ylistaro**	**2.61**	**252**	Pg	**Pb**	**15 11 19.4**	**-1.2**
VAF				Sg	**Sb**	**15 11 52.9**	**-0.2**
FIA0	**FINESS Array S**	**2.69**	**201**	PB	**Pb**	**15 11 20.7**	**-1.4**
FIA0				SB	**Sb**	**15 11 55.1**	**-0.5**
FIA0				MSG		15 11 55.1	
	comp=Z,2.5nm,0.3s						
FIA0	**FINESS Array S**	**2.69**	**201**	Pb	**Pb**	**15 11 20.7**	**-1.4**
FIA0				Sb	**Sb**	**15 11 55.1**	**-0.5**
FINES	**FINESS Array B**	**2.69**	**201**	Pn	**Pb**	**15 11 20.7**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=25,slow=15,SNR=25						
FINES				Sn	**Sb**	**15 11 55.7**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=23,slow=25,SNR=16						
RNF	**Rovaniemi**	**2.80**	**343**	PG	**Pb**	**15 11 23.1**	**-0.9**
RNF				SG	**Sb**	**15 11 56.6**	**-2.1**
RNF				MSG		15 11 56.6	
	comp=Z,6.0nm,0.3s						
RNF	**Rovaniemi**	**2.80**	**343**	Pg	**Pb**	**15 11 23.0**	**-0.9**
RNF				Sg	**Sb**	**15 11 56.6**	**-2.1**
BURU	**Burvik**	**3.00**	**285**	SG	**Sb**	**15 12 04.4**	**-0.2**
BURU	**Burvik**	**3.00**	**285**	Sg	**Sb**	**15 12 04.3**	**-0.2**
UMAU	**Umeaa**	**3.28**	**272**	PB	**Pn**	**15 11 26.9**	**+1.2**
	baz=87						
UMAU	**Umeaa**	**3.28**	**272**	Pb	**Pn**	**15 11 26.9**	**+1.2**
VJF	**Virojoki**	**3.44**	**185**	SB	**Sb**	**15 12 17.1**	**-0.2**
VJF				MSG		15 12 17.1	
	comp=Z,1.2nm,0.2s						
VJF	**Virojoki**	**3.44**	**185**	Sb	**Sb**	**15 12 17.0**	**-0.2**
SGF	**Sodankyl**	**3.56**	**350**	PB	**Pn**	**15 11 31.9**	**+2.5**
SGF				SN	**Sn**	**15 12 12.9**	**+0.7**
SGF				MSG		15 12 12.9	
	comp=Z,1.4nm,0.3s						
SGF	**Sodankyl**	**3.56**	**350**	Pb	**Pn**	**15 11 31.9**	**+2.5**
SGF				Sn	**Sn**	**15 12 12.9**	**+0.7**
ERTU	**Ertsjaerv**	**3.60**	**319**	PB	**Pn**	**15 11 31.8**	**+1.7**
ERTU				SN	**Sn**	**15 12 14.0**	**+0.8**
ERTU	**Ertsjaerv**	**3.60**	**319**	Pb	**Pn**	**15 11 31.8**	**+1.7**
ERTU				Sn	**Sn**	**15 12 14.0**	**+0.8**
VRF	**Varrio**	**3.85**	**9**	SG	**Sb**	**15 12 28.0**	**-1.0**
VRF				MSG		15 12 28.0	
	comp=Z,3.1nm,0.2s						
VRF	**Varrio**	**3.85**	**9**	Sg	**Sb**	**15 12 28.0**	**-1.0**
MEF	**Metsahovi**	**4.14**	**207**	SG	**Sg**	**15 12 44.7**	**-1.4**
MEF				MSG		15 12 44.7	
	comp=Z,0.7nm,0.2s						
MEF	**Metsahovi**	**4.14**	**207**	Sg	**Sg**	**15 12 44.6**	**-1.4**
LANU	**Lannavaara**	**4.80**	**331**	PN	**Pn**	**15 11 49.1**	**+2.4**
LANU				SN	**Sn**	**15 12 43.6**	**+0.7**
LANU	**Lannavaara**	**4.80**	**331**	Pn	**Pn**	**15 11 49.0**	**+2.4**
LANU				Sn	**Sn**	**15 12 43.6**	**+0.7**
HEF	**Hetta**	**4.82**	**340**	PN	**Pn**	**15 11 49.1**	**+2.3**
HEF				SN	**Sn**	**15 12 43.2**	**0.0**
HEF				MSG		15 12 43.2	
	comp=Z,0.5nm,0.2s						
HEF	**Hetta**	**4.82**	**340**	Pn	**Pn**	**15 11 49.1**	**+2.3**
HEF				Sn	**Sn**	**15 12 43.2**	**0.0**
ARCES	**ARCESS Array B**	**5.69**	**351**	Pn	**Pn**	**15 12 00.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=166,slow=14,SNR=6.5						
ARCES				Sn	**Sn**	**15 13 03.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=171,slow=23,SNR=9.0						
ARCES				Lg	Lg	15 13 32.7	
	comp=Z,0.5nm,0.3s,baz=167,slow=28,SNR=7.4						
NOA	**NORSAR Array B**	**8.34**	**257**	Pn	**Pn**	**15 12 37.3**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=2.3						

*ISCJB **15** 15:19:41.7±0.6, 33°.13S±0°.05×179°.3W±0°.1, h10km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=18.4km s-min=4.5km az=18.3*

*IDC **15** 15:19:41.9±1.4, 33°.04S×179°.38W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/31, mbtmp3.6/3, ML5.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/22, Error ellipse: s-maj=36.2km s-min=21.8km az=107.0*

*NEIC **15** 15:20:24.6, 35°.71S×179°.41E, h92km, ML4.0(WEL), After WEL.*

ISC 15 15:19:43.2±0.8, 33°.06S±0°.06×179°.4W±0°.1, h10km, n86, σ1°63/74, mb3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.00**	**19**	Pn	**Pn**	**15 20 45.7**	**+1.1**
	84nm,0.3s,baz=131,slow=19,SNR=5.2						
RAO				Sn	**Sn**	**15 21 33.0**	**+1.4**
	64nm,0.3s,baz=286,slow=20,SNR=2.6						
RAO				LR	LR	15 21 36.2	
	comp=Z,70nm,20.9s,baz=300,slow=29						
RAO	**Raoul Island**	**4.00**	**19**	Pn	**Pn**	**15 20 45.7**	**+1.1**
RAO				Sn	**Sn**	**15 21 33.0**	**+1.4**
MXZ	**Matakaoa Point**	**4.87**	**202**	PN	**Pn**	**15 20 57.7**	**+1.2**
MXZ				SN	**Sn**	**15 21 55.9**	**+3.1**
MXZ	**Matakaoa Point**	**4.87**	**202**	Pn	**Pn**	**15 20 57.7**	**+1.2**
WMGZ	**Waiomatatini S**	**5.07**	**200**	PN	**Pn**	**15 21 01.0**	**+1.8**
HAZ	**Te Kaha**	**5.22**	**205**	PN	**Pn**	**15 21 03.4**	**+2.2**
WIZ	**White Island**	**5.25**	**211**	PN	Pn	15 21 06.1	+4.3
PUZ	**Puketiti**	**5.35**	**200**	PN	**Pn**	**15 21 03.9**	**+0.8**
PUZ				SN	**Sn**	**15 22 05.6**	**+0.8**
PUZ	**Puketiti**	**5.35**	**200**	Pn	**Pn**	**15 21 04.2**	**+1.1**
KUZ	**Kuaotunu**	**5.44**	**226**	PN	Pn	15 21 10.1	+5.8
TWGZ	**Tauwhareparae**	**5.53**	**202**	SN	**Sn**	**15 22 12.1**	**+2.8**
CNGZ	**Carnagh Statio**	**5.75**	**199**	PN	**Pn**	**15 21 09.3**	**+0.7**
CNGZ	**Carnagh Statio**	**5.75**	**199**	Pn	**Pn**	**15 21 09.4**	**+0.8**
OPRZ	**Ohinepanea**	**5.80**	**213**	PN	Pn	15 21 12.7	+3.4
OPRZ	**Ohinepanea**	**5.80**	**213**	Pn	Pn	15 21 13.2	+3.9
TKGZ	**Te Karaka**	**5.81**	**202**	PN	**Pn**	**15 21 09.7**	**+0.3**
MWZ	**Matawai**	**5.83**	**204**	PN	**Pn**	**15 21 10.2**	**+0.5**
MWZ				SN	**Sn**	**15 22 17.4**	**+0.9**
MWZ	**Matawai**	**5.83**	**204**	Pn	**Pn**	**15 21 10.5**	**+0.9**
WCZ	**Waipu Caves**	**5.91**	**239**	PN	Pb	15 21 18.6	-7.6
URZ	**Urewera**	**5.91**	**208**	Pn	**Pn**	**15 21 12.0**	**+1.2**
	47nm,0.3s,baz=53,slow=20,SNR=275						
URZ				Sn	**Sn**	**15 22 19.3**	**+0.7**
	6.2nm,0.3s,baz=338,slow=16,SNR=3.5						
URZ	**Urewera**	**5.91**	**208**	PN	**Pn**	**15 21 11.9**	**+1.1**
URZ	**Urewera**	**5.91**	**208**	Pn	**Pn**	**15 21 11.6**	**+0.8**
URZ				Sn	**Sn**	**15 22 19.2**	**+0.7**
MKAZ	**Moumakai**	**6.01**	**226**	PN	Pn	15 21 19.0	+6.8
RIGZ	**Rimuhau**	**6.08**	**201**	PN	**Pn**	**15 21 13.4**	**+0.2**
KARZ	**Kaharoa**	**6.09**	**214**	PN	Pn	15 21 17.5	+4.3
OUZ	**Omahuta**	**6.19**	**248**	*e*Pn	Pn	15 21 22.1	+7.5
OUZ				*e*Sn	**Sn**	**15 22 24.6**	**-0.8**
RRRZ	**Republican Roa**	**6.23**	**211**	Pn	Pn	15 21 19.1	+3.9
TOZ	**Tahuroa Road**	**6.24**	**220**	PN	Pn	15 21 21.4	+6.0
PRGZ	**Paritu Road**	**6.25**	**200**	SN	**Sn**	**15 22 27.3**	**+0.3**
SNGZ	**Shannon Statio**	**6.29**	**204**	PN	Pn	15 21 20.0	+3.9
SNGZ				SN	**Sn**	**15 22 28.4**	**+0.4**
KNZ	**Kokohu**	**6.40**	**201**	PN	**Pn**	**15 21 16.3**	**-1.2**
KNZ	**Kokohu**	**6.40**	**201**	Pn	**Pn**	**15 21 16.3**	**-1.2**
PRRZ	**Plateau Road**	**6.41**	**211**	PN	**Pn**	**15 21 20.6**	**+2.9**
WHHZ	**Waihua**	**6.59**	**203**	PN	**Pn**	**15 21 20.1**	**-0.1**
NMHZ	**Naumai**	**6.76**	**206**	PN	**Pn**	**15 21 23.7**	**+1.2**
NMHZ	**Naumai**	**6.76**	**206**	Pn	**Pn**	**15 21 23.7**	**+1.2**
ARHZ	**Aropaoanui**	**6.84**	**204**	PN	**Pn**	**15 21 23.4**	**-0.2**
BKZ	**Black Stump Fm**	**6.94**	**207**	PN	**Pn**	**15 21 25.3**	**+0.3**
BKZ	**Black Stump Fm**	**6.94**	**207**	Pn	**Pn**	**15 21 25.3**	**+0.3**
CKHZ	**Cape Kidnapper**	**7.17**	**202**	Pn	**Pn**	**15 21 27.5**	**-0.6**
BHHZ	**Black Hill Sta**	**7.38**	**208**	PN	**Pn**	**15 21 30.6**	**-

	comp=E,5μm,0.2s							
PB07	**IPOC Station P**	**1.28**	**249**	*e*P		**Pn**	**15 33 44.6**	**-0.8**
PB07				*e*S		**Sn**	**15 34 02.1**	**-2.2**
PB07				AML		AML	15 34 02.8	
	comp=N,9μm,0.3s							
LVC	**Limon Verde**	**1.38**	**192**	P		**Pn**	**15 33 46.7**	**+0.1**
	comp=N,1μm,0.3s,baz=353,slow=7.5,SNR=323							
LVC				S		**Sn**	**15 34 06.5**	**+0.1**
	comp=N,6μm,0.3s,baz=73,slow=19,SNR=88							
PATCX	**Punta Patache**	**1.51**	**286**	*e*P		**Pn**	**15 33 47.4**	**-0.7**
PATCX				*e*S		**Sn**	**15 34 07.0**	**-1.8**
PATCX				AML		AML	15 34 09.1	
	comp=E,5μm,0.4s							
HMBC	**Humberstone**	**1.55**	**309**	*e*P		**Pn**	**15 33 47.8**	**-0.7**
HMBC				*e*S		**Sn**	**15 34 08.6**	**-1.1**
HMBC				AML		AML	15 34 12.2	
	comp=E,3μm,0.5s							
PB06	**IPOC Station P**	**1.70**	**212**	*e*P		**Pn**	**15 33 49.8**	**-0.5**
PB06				*e*S		**Sn**	**15 34 11.6**	**-1.4**
PB06				AML		AML	15 34 12.8	
	comp=E,3μm,0.5s							
PB11	**IPOC Station P**	**1.79**	**326**	*e*P		**Pn**	**15 33 51.2**	**-0.2**
PB11				*e*S		**Sn**	**15 34 15.2**	**+0.3**
LPAZ	**La Paz**	**4.96**	**5**	P		**Pn**	**15 34 35.8**	**+2.1**
	comp=E,2.2nm,0.3s,baz=193,slow=3.2,SNR=55							
LPAZ				S		**Sn**	**15 35 29.0**	**-1.3**
	comp=E,0.7nm,0.3s,baz=239,slow=17,SNR=2.3							
SIV	**San Ignacio**	**8.85**	**55**	P		**Pn**	**15 35 24.5**	**-1.2**
	comp=E,5.3nm,0.3s,baz=271,slow=10.0,SNR=47							
SIV				S		**Sn**	**15 36 58.6**	**-5.2**
	comp=E,0.2nm,0.3s,baz=141,slow=19,SNR=2.4							
PLCA	**Paso Flores**	**19.48**	**184**	P		**P**	**15 37 39.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=356,slow=8.4,SNR=4.7							
BDFB	**Brasilia**	**20.31**	**77**	P		**P**	**15 37 48.1**	**+0.4**
	comp=E,3.0nm,0.4s,baz=232,slow=7.6,SNR=6.1							
PTGA	**Pitinga**	**22.08**	**24**	P		**P**	**15 38 06.1**	**-0.3**
	comp=E,2.4nm,0.4s,baz=180,slow=20,SNR=4.5							
QSPA	**South Pole Qui**	**68.93**	**180**	P		**P**	**15 44 13.2**	**+0.2**
	comp=E,0.5nm,0.9s,baz=180,slow=6.1,SNR=2.4							
NVAR	**Mina Array Bea**	**75.48**	**322**	P		**P**	**15 44 54.0**	**+1.5**
	comp=E,0.2nm,0.5s,baz=157,slow=4.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**	**15 45 01.2**	**-0.1**
	comp=E,0.5nm,0.7s,baz=259,slow=5.3,SNR=6.2							
TORD				pP		**pP**	**15 45 32.5**	**+2.0**
	comp=E,0.3nm,0.6s,baz=238,slow=5.5,SNR=1.7							
YKA	**Yellowknife Ar**	**91.06**	**340**	P		**P**	**15 46 11.4**	**-0.1**
	comp=E,0.2nm,0.6s,baz=134,slow=4.4,SNR=7.3							
YKA				pP		**pP**	**15 46 44.5**	**+3.0**
	comp=E,0.2nm,0.6s,baz=129,slow=4.3,SNR=2.5							
MKAR	**Makanchi Array**	**145.27**	**36**	PKPbc		**PKPbc**	**15 52 43.7**	**-1.0**
	comp=E,0.3nm,0.7s,baz=322,slow=4.4,SNR=5.7							
MKAR				pPKPbc	pPKPbc		15 53 18.7	+3.0
	comp=E,0.4nm,0.7s,baz=321,slow=3.3,SNR=4.0							

*ISCJB **15** 15:34:30.2±0.8, 33°.12N±0°.09×96°.4E±0°.1, h10km, mb3.2/3, MS3.4/1, Error ellipse: s-maj=16.7km s-min=10.1km az=38.5*

*IDC **15** 15:34:30.0±1.5, 33°.02N×96°.13E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.2/28, mbtmp3.2/5, ML3.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/26, Error ellipse: s-maj=75.5km s-min=24.0km az=61.0*

ISC 15 15:34:32.8±1.3, 33°.2N±0°.1×96°.3E±0°.2, h10km, n12, σ1s20/10, mb3.3/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**9.46**	**234**	*e*P	**Pn**	**15 36 49.8**	**+0.4**
ODAN	**Odare**	**9.99**	**233**	*e*P	**Pn**	**15 36 56.4**	**-0.3**
	14nm,0.5s						
JIRN	**Jiri**	**10.34**	**240**	*e*P	**Pn**	**15 37 03.3**	**+1.7**
	4.6nm,0.6s						
GUN	**Gumba**	**10.43**	**242**	*e*P	**Pn**	**15 37 04.7**	**+1.9**
	6.0nm,0.5s						
RAMN	**Ramite**	**10.47**	**236**	*e*P	**Pn**	**15 37 02.9**	**-0.4**
	5.3nm,0.5s						
PKI	**Pulchoki**	**10.97**	**242**	*e*P	**Pn**	**15 37 09.2**	**-0.9**
	1.7nm,0.2s						
SONM	**Songino Array**	**16.48**	**25**	Pn	**Pn**	**15 38 25.3**	**+1.1**
	0.1nm,0.3s,baz=210,slow=14,SNR=9.3						
SONM				LR	LR	15 45 13.3	
	comp=Z,56nm,18.8s,baz=136,slow=38						
MKAR	**Makanchi Array**	**17.29**	**326**	P	**Pn**	**15 38 33.5**	**-0.7**
	0.1nm,0.3s,baz=136,slow=13,SNR=4.9						
KURBB	**Kurchatov Arra**	**21.78**	**328**	P	**P**	**15 39 23.9**	**-0.8**
	0.3nm,0.3s,baz=138,slow=11,SNR=7.0						
MMAI	**Mount Meron Ar**	**50.37**	**288**	LR	LR	16 08 34.1	
	comp=Z,32nm,19.1s,baz=255,slow=41						
WRA	**Warramunga Arr**	**64.10**	**140**	P	P	15 45 04.6	-2.7
	0.2nm,0.8s,baz=326,slow=6.8,SNR=2.9						
ASAR	**Alice Springs**	**66.93**	**143**	P	**P**	**15 45 25.2**	**-0.4**
	0.1nm,0.5s,baz=326,slow=7.0,SNR=8.1						

JMA 15 15:41:02.4±0.2, 29°.59N×138°.47E, h48km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.11**	**126**	P	Pn	15 42 04.1	+1.4
TK01	**Tokai 1**	**4.23**	**350**	*e*S	Sn	15 42 55.9	+4.2
TTO1	**TONANKAI O.B.S**	**4.27**	**341**	S	Sn	15 42 55.1	+2.3
TTO2	**TONANKAI O.B.S**	**4.31**	**344**	S	Sn	15 42 58.0	+4.2
JWZ	**Kozaga**	**4.58**	**330**	*e*S	Sn	15 43 00.9	-0.1
JKN2	**Miekihoku**	**5.00**	**339**	S	Sn	15 43 10.5	-0.8
MRT2	**Murotomisaki 2**	**5.29**	**317**	P	Pn	15 42 21.4	+2.5
JTO	**Tosashimizu**	**5.85**	**305**	P	Pn	15 42 28.5	+2.0
JKU	**Kubokawa**	**5.92**	**310**	P	Pn	15 42 30.6	+3.0
UWA2	**Uwa jima 2**	**6.17**	**307**	P	Pn	15 42 33.7	+2.8

*AZER **15** 15:49:34.5±3.2, 42°.94N×45°.97E, h40km, Error ellipse: s-maj=4.1km s-min=2.5km az=298.0*

*NNC **15** 15:49:35.3±3.5, 44°.06N×46°.08E, h0km, mb3.3, Error ellipse: s-maj=92.8km s-min=28.1km az=141.0*

*MOS **15** 15:49:35.4±0.9, 42°.99N×45°.73E, h21km, mb4.0/1, Error ellipse: s-maj=14.9km s-min=6.4km az=28.7*

*CSEM **15** 15:49:35.7±0.2, 42°.88N×45°.80E, h30km, mb4.0, Error ellipse: s-maj=7.4km s-min=3.1km az=31.0*

ISC 15 15:49:33.6±0.8, 43°.00N±0°.03×45°.88E±0°.02, h12km±8km, n74, σ1s70/118, 16C-22D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.34**	**344**	⇓*i* Pg	Pg	15 49 46.7	+6.2
GRO	**Groznyy**	**0.34**	**344**	*i* Pg	Pg	15 49 46.7	+6.2
BTLR	**Botlikh**	**0.42**	**142**	*i* Pg	Pn	15 49 48.5	+3.0
BTLR				*i* S		15 49 59.0	
BTLR				pmax	pmax		
	comp=Z,106nm,0.2s						
BTLR	**Botlikh**	**0.42**	**142**	*i* Pg	Pn	15 49 48.5	+3.0
	comp=Z,106nm,0.2s						
BTLR				*i* Sg		15 49 59.0	
UNCR	**Uncukul**	**0.73**	**112**	*e*Pg	**Pn**	**15 49 50.8**	**+1.0**
UNCR				*e*S	**Sn**	**15 50 02.5**	**+1.7**
UNCR				pmax	pmax		
	comp=Z,47nm,0.2s						
UNCR	**Uncukul**	**0.73**	**112**	*e*Pg	**Pn**	**15 49 50.8**	**+1.0**
	comp=Z,47nm,0.2s						
UNCR				*e*Sg	**Sn**	**15 50 02.5**	**+1.7**
XNZR	**Khunzakh**	**0.76**	**126**	*e*Pg	**Pn**	**15 49 52.2**	**+1.9**
XNZR				*e*S	**Sn**	**15 50 05.0**	**+3.3**
XNZR				pmax	pmax		
	comp=Z,66nm,0.2s						
XNZR	**Khunzakh**	**0.76**	**126**	*e*Pg	**Pn**	**15 49 52.2**	**+1.9**
	comp=Z,66nm,0.2s						
XNZR				*e*Sg	**Sn**	**15 50 05.0**	**+3.3**
KRNR	**Karanay**	**0.78**	**102**	*i* Pg	**Pn**	**15 49 50.7**	**+0.3**
KRNR				*e*S	**Sn**	**15 50 03.0**	**+1.0**
KRNR				pmax	pmax		
	comp=Z,46nm,0.2s						
KRNR	**Karanay**	**0.78**	**102**	*i* Pg	**Pn**	**15 49 50.7**	**+0.3**
	comp=Z,46nm,0.2s						
KRNR				*e*Sg	**Sn**	**15 50 03.0**	**+1.0**
VLKR	**Vladikavkaz**	**0.88**	**274**	*e*Pg	**Pn**	**15 49 52.7**	**+0.9**
VLKR				*e*S	**Sn**	**15 50 07.2**	**+2.6**
VLKR	**Vladikavkaz**	**0.88**	**274**	*e*Pg	**Pn**	**15 49 52.7**	**+0.9**
VLKR				*e*Sg	**Sn**	**15 50 07.2**	**+2.6**
BUJR	**Buynaksk**	**0.92**	**100**	*e*Pg	Pn	15 49 54.2	+1.8
BUJR				*i* S	**Sn**	**15 50 07.8**	**+2.3**
BUJR				pmax	pmax		
	comp=Z,67nm,0.2s						
BUJR	**Buynaksk**	**0.92**	**100**	*e*Pg	Pn	15 49 54.2	+1.8
	comp=Z,67nm,0.2s						
BUJR				*i* Sg	**Sn**	**15 50 07.8**	**+2.3**
BTKR	**Batakoyurt**	**1.05**	**292**	*e*Pg	**Pn**	**15 49 54.5**	**+0.4**
BTKR				*e*S	**Sn**	**15 50 10.2**	**+1.6**
BTKR	**Batakoyurt**	**1.05**	**292**	*e*Pg	**Pn**	**15 49 54.5**	**+0.4**
BTKR				*e*Sg	**Sn**	**15 50 10.2**	**+1.6**
TRKR	**Terskaya**	**1.11**	**311**	⇑*i* Pg	**Pn**	**15 49 55.0**	**+0.1**
TRKR				*i* S	**Sn**	**15 50 11.3**	**+1.2**
TRKR	**Terskaya**	**1.11**	**311**	*i* Pg	**Pn**	**15 49 55.0**	**+0.1**
TRKR				*i* Sg	**Sn**	**15 50 11.3**	**+1.2**
LACR	**Lac**	**1.17**	**262**	⇓*i* Pg	**Pn**	**15 49 55.8**	**-0.1**
LACR				*i* S	**Sb**	**15 50 12.4**	**+1.4**
LACR	**Lac**	**1.17**	**262**	*i* Pg	**Pn**	**15 49 55.8**	**-0.1**
LACR				*i* Sg	**Sb**	**15 50 12.4**	**+1.4**
KMKR	**Kumukh**	**1.25**	**133**	⇑*i* Pg	**Pg**	**15 49 58.5**	**+0.8**
KMKR				*i* S	Sg	15 50 20.0	+6.1
KMKR				pmax	pmax		
	comp=Z,70nm,0.2s						
KMKR	**Kumukh**	**1.25**	**133**	*i* Pg	**Pg**	**15 49 58.5**	**+0.8**
	comp=Z,70nm,0.2s						
KORR	**Kora**	**1.33**	**275**	*e*Pg	**Pn**	**15 49 57.9**	**-0.1**
KORR				*e*S	**Sb**	**15 50 16.6**	**+1.1**
KORR	**Kora**	**1.33**	**275**	*e*Pg	**Pn**	**15 49 57.9**	**-0.1**
KORR				*e*Sg	**Sb**	**15 50 16.6**	**+1.1**
STDR	**Stavd-Durt**	**1.38**	**286**	⇑*i* Pg	**Pg**	**15 49 58.9**	**-1.2**
STDR				*e*S	**Sg**	**15 50 18.0**	**0.0**
STDR	**Stavd-Durt**	**1.38**	**286**	*i* Pg	**Pg**	**15 49 58.9**	**-1.2**
STDR				*e*Sg	**Sg**	**15 50 18.0**	**0.0**
PRTR	**Priterechnaya**	**1.39**	**304**	⇓*i* Pg	**Pg**	**15 49 58.7**	**-1.6**
PRTR				*e*S	**Sg**	**15 50 17.9**	**-0.4**
PRTR	**Priterechnaya**	**1.39**	**304**	*i* Pg	**Pg**	**15 49 58.7**	**-1.6**
PRTR				*e*Sg	**Sg**	**15 50 17.9**	**-0.4**
SEAG	**Tbilisi Sea**	**1.46**	**213**	P	**Pn**	**15 50 01.4**	**+1.6**
SEAG				S	**Sb**	**15 50 23.7**	**+4.3**
ZKTA	**Zakatala**	**1.46**	**158**	⇓P	**Pn**	**15 50 00.2**	**+0.3**
	SNR=4.8						
ZKTA				⇑S	**Sn**	**15 50 19.9**	**+1.0**
ZEI	**Tsey**	**1.47**	**263**	⇑*i* Pg	**Pn**	**15 49 59.2**	**-0.8**
ZEI				*i* S	**Sn**	**15 50 18.6**	**-0.6**
ZEI	**Tsey**	**1.47**	**263**	*i* Pg	**Pn**	**15 49 59.2**	**-0.8**
ZEI				*i* Sg	**Sn**	**15 50 18.6**	**-0.6**
TBLG	**Delisi**	**1.52**	**214**	P	**Pb**	**15 50 02.6**	**+0.9**
TBLG				S	**Sb**	**15 50 25.1**	**+4.2**
TBLG	**Delisi**	**1.52**	**214**	P	**Pb**	**15 50 02.6**	**+0.9**
LSNR	**Lesken**	**1.53**	**281**	⇓*e*Pg	**Pn**	**15 50 00.6**	**-0.1**
LSNR				*e*S	**Sn**	**15 50 19.3**	**-1.2**
LSNR	**Lesken**	**1.53**	**281**	*e*Pg	**Pn**	**15 50 00.6**	**-0.1**
LSNR				*e*Sg	**Sn**	**15 50 19.3**	**-1.2**
DGRG	**David-gareji**	**1.59**	**194**	P	**Pn**	**15 50 03.0**	**+1.5**
DGRG				S	**Sb**	**15 50 25.8**	**+2.9**
DIGR	**Digorskoe uzhe**	**1.69**	**268**	⇓*e*Pg	**Pn**	**15 50 02.7**	**-0.4**
DIGR				*e*S	**Sn**	**15 50 23.5**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.69**	**268**	*e*Pg	**Pn**	**15 50 02.7**	**-0.4**
DIGR				*e*Sg	**Sn**	**15 50 23.5**	**-1.2**
ONI	**Oni**	**1.83**	**258**	P	**Pn**	**15 50 05.9**	**+1.0**
ONI				S	**Sn**	**15 50 28.7**	**+0.7**
KUBR	**Kubataba**	**1.97**	**295**	*i* PN	**Pn**	**15 50 05.8**	**-1.0**
KUBR	**Kubataba**	**1.97**	**295**	*i* Pn	**Pn**	**15 50 05.8**	**-1.0**
QZX	**Qazax, Azerbai**	**1.97**	**191**	⇑P	**Pn**	**15 50 06.8**	**0.0**
	SNR=6.0						
QZX				⇓S	**Sn**	**15 50 31.8**	**+0.4**
QZX	**Qazax, Azerbai**	**1.97**	**191**	P	**Pn**	**15 50 06.8**	**0.0**
	SNR=6.0						
QZX				S	**Sn**	**15 50 31.8**	**+0.4**
SEKA	**Sheki**	**2.04**	**151**	P	**Pn**	**15 50 07.3**	**-0.4**
	SNR=17						
SEKA				⇓S	**Sn**	**15 50 32.5**	**-0.6**
SEKA	**Sheki**	**2.04**	**151**	P	**Pn**	**15 50 07.3**	**-0.4**
	SNR=17						
SEKA				S	**Sn**	**15 50 32.5**	**-0.6**
PYA	**Pyatigorsk**	**2.30**	**298**	⇑*e*PN	**Pn**	**15 50 09.4**	**-1.9**
PYA	**Pyatigorsk**	**2.30**	**298**	*e*Pn	**Pn**	**15 50 09.4**	**-1.9**
NEY	**Neytrino**	**2.32**	**277**	⇓*e*PN	**Pn**	**15 50 10.5**	**-1.3**
NEY	**Neytrino**	**2.32**	**277**	*e*Pn	**Pn**	**15 50 10.5**	**-1.3**
GANJ	**Ganja**	**2.37**	**172**	P	**Pn**	**15 50 11.6**	**-0.7**
	SNR=17						
GANJ				⇓S	**Sn**	**15 50 40.0**	**-1.3**
GANJ	**Ganja**	**2.37**	**172**	P	**Pn**	**15 50 11.6**	**-0.7**
	SNR=17						
GANJ				S	**Sn**	**15 50 40.0**	**-1.3**
KIV	**Kislovodsk**	**2.51**	**294**	⇑*e*PN	**Pn**	**15 50 12.8**	**-1.5**
KIV	**Kislovodsk**	**2.51**	**294**	*e*Pn	**Pn**	**15 50 12.8**	**-1.5**
QUBA	**Quba, Azerbaij**	**2.54**	**129**	⇓P	**Pn**	**15 50 14.1**	**-0.6**
QUBA				⇓S	**Sn**	**15 50 43.4**	**-2.1**
QUBA	**Quba, Azerbaij**	**2.54**	**129**	P	**Pn**	**15 50 14.1**	**-0.6**
QUBA				S	**Sn**	**15 50 43.4**	**-2.1**
IML	**Ismayilli**	**2.79**	**141**	⇑P	**Pn**	**15 50 17.6**	**-0.7**
IML				⇓S	**Sn**	**15 50 50.0**	**-1.7**
IML	**Ismayilli**	**2.79**	**141**	P	**Pn**	**15 50 17.6**	**-0.5**
IML				S	**Sn**	**15 50 50.0**	**-1.7**
SIZA	**Siyzn**	**2.96**	**129**	⇓P	**Pn**	**15 50 19.0**	**-1.4**
SIZA				⇓S	**Sn**	**15 50 54.0**	**-1.8**
SIZA	**Siyzn**	**2.96**	**129**	P	**Pn**	**15 50 19.0**	**-1.4**
PQL	**Pirkuli**	**3.00**	**136**	⇓P	**Pn**	**15 50 20.1**	**-0.9**
PQL				⇓S	**Sn**	**15 50 54.6**	**-2.3**
PQL	**Pirkuli**	**3.00**	**136**	P	**Pn**	**15 50 20.1**	**-0.9**
PQL				S	**Sn**	**15 50 54.6**	**-2.3**
ATGJ	**Altiaghaj**	**3.12**	**132**	⇑P	**Pn**	**15 50 21.7**	**-1.0**
ATGJ				⇓S	**Sn**	**15 50 56.7**	**-3.3**
ATGJ	**Altiaghaj**	**3.12**	**132**	P	**Pn**	**15 50 21.7**	**-1.0**
ATGJ				S	**Sn**	**15 50 56.7**	**-3.3**
GLBA	**Clilabad**	**4.20**	**152**	⇑P	**Pn**	**15 50 36.0**	**-1.4**
	SNR=3.3						
GLBA				⇓S	**Sn**	**15 51 22.7**	**-3.7**
GLBA	**Clilabad**	**4.20**	**152**	P	**Pn**	**15 50 36.0**	**-1.4**
	SNR=3.3						
GLBA				S	**Sn**	**15 51 22.7**	**-3.7**
LRK	**Lerik**	**4.73**	**156**	⇑P	**Pn**	**15 50 43.6**	**-1.3**
	SNR=7.1						
LRK				⇓S	**Sn**	**15 51 36.1**	**-3.6**
LRK	**Lerik**	**4.73**	**156**	P	**Pn**	**15 50 43.6**	**-1.3**
	SNR=7.1						
LRK				S	**Sn**	**15 51 36.1**	**-3.6**
LKRN	**Lenkeran, Azer**	**4.81**	**152**	⇑P	**Pn**	**15 50 44.0**	**-1.8**
LKRN				⇑S	**Sn**	**15 51 37.0**	**-3.8**
LKRN	**Lenkeran, Azer**	**4.81**	**152**	P	**Pn**	**15 50 44.0**	**-1.8**
LKRN				S	**Sn**	**15 51 37.6**	**-3.8**
AKTO	**Aktyubinsk**	**11.16**	**44**	⇓Pn	Pn	15 52 04.0	-8.9
	comp=Z,0.4nm,0.5s						
AKTO				⇑Sn	Sn	15 54 02.4	-15
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**11.16**	**44**	Pn	Pn	15 52 04.0	-8.9
	comp=Z,0.4nm,0.5s						
AKTO				Sn	Sn	15 54 02.4	-15
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**11.59**	**52**	⇑Pn	Pn	15 52 12.4	-6.3
	comp=Z,0.1nm,0.2s,baz=242,slow=13,SNR=4.2						
AB31				⇓Sn	Sn	15 54 14.9	-13
	comp=Z,0.3nm,0.3s,baz=246,slow=25,SNR=5.5						
AB31	**Akbulak array**	**11.59**	**52**	Pn	Pn	15 52 12.4	-6.3
	comp=Z,0.1nm,0.2s,SNR=4.2						
AB31				Sn	Sn	15 54 14.9	-13
	comp=Z,0.3nm,0.3s,SNR=5.5						

IDC 15 15:54:21.8±2.4, 6°.06S×130°.60E, h0km, mb3.3/1, mb1 3.2/3, mb1mx3.0/29, mbtmp3.0/3, ML2.7/2, Error ellipse: s-maj=147.2km s-min=31.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.27**	**166**	Pn	Pn	15 57 46.1	+0.7
	0.0nm,0.3s,baz=349,slow=13,SNR=2.9						
WRA				Sn	Sn	16 00 10.3	-14
	0.1nm,0.3s,baz=341,slow=21,SNR=2.3						
ASAR	**Alice Springs**	**17.80**	**170**	P	Pn	15 58 30.4	-0.7
	0.0nm,0.3s,baz=349,slow=10,SNR=4.5						
ASAR				S	Sn	16 01 34.0	-16
	0.0nm,0.3s,baz=343,slow=25,SNR=3.0						
MKAR	**Makanchi Array**	**67.77**	**326**	P	P	16 05 21.5	+0.1
	0.1nm,0.5s,baz=125,slow=7.9,SNR=4.2						

DJA 15 16:12:22.8±1.3, 9°.S±8°×117°.7E±°, h19km±15km, M3.8/10, MLv3.8/10, Sumbawa region

Code	Station Name			Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.96**	**105**	P	Pn	16 12 55.0	-0.2
DNP	**Denpasar**	**2.28**	**281**	P	Pn	16 12 59.7	+0.3
DNP				S	Sn	16 13 28.7	+1.8
IGBI	**Denpasar**	**2.32**	**277**	P	Pn	16 12 59.5	-0.4
IGBI				S	Sn	16 13 28.7	+0.8
SRBI	**Singaraja**	**2.46**	**295**	P	Pn	16 13 01.8	-0.1
WSI	**Waingapu**	**2.84**	**101**	P	Pn	16 13 07.1	-0.1
JAGI	**Jajag, Banyuwa**	**3.34**	**281**	P	Pn	16 13 14.3	+0.2
ABJI	**Asem Bagus**	**3.46**	**292**	P	Pn	16 13 16.1	+0.4
BKSI	**Bulukumba**	**4.60**	**35**	P	Pn	16 13 30.3	-1.1

*BJI **15** 16:35:08.0, 71°.60N×66°.80W, h10km, mB5.1/15, mb4.7/19, Ms4.8/6, Ms7 4.5/4*

*OTT **15** 16:35:09.7±0.2, 71°.64N×66°.87W, h10km, Mw4.7, Baffin Bay Seismic Zone. 147km northeast from Clyde River, Nu*

*MOS **15** 16:35:10.7±0.9, 71°.73N×66°.81W, h10km, mb4.8/49, MS4.1/5, Error ellipse: s-maj=18.3km s-min=7.1km az=78.4*

*ISCJB **15** 16:35:10.8±0.1, 71°.66N±0°.03×66°.69W±0°.08, h10km, mb4.5/140, MS4.0/43, Error ellipse: s-maj=5.0km s-min=2.4km az=145.3*

*IDC **15** 16:35:11.0±0.4, 71°.65N×66°.80W, h0km, mb4.2/30, mb1 4.4/32, mb1mx4.3/43, mbtmp4.3/32, ML3.6/2, MS4.0/39, Ms1 4.0/39, ms1mx3.9/49, Error ellipse: s-maj=13.2km s-min=8.8km az=149.0*

*GCMT **15** 16:35:12.4±0.3, 71°.72N×66°.87W, h12km, MW4.8/79, Moment Tensor Solution. s17,c18; s79,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.23±.08; $M_{\theta\theta}$0.63±.08; $M_{\phi\phi}$-0.86±.07; $M_{r\theta}$0.22±.20; $M_{\theta\phi}$1.49±.05; $M_{\phi r}$-0.75±.21; Best double couple: $M_0$1.81100×10^{16} NP1:ϕ_s14.00000°,δ84.00000°,λ-160.00000°. NP2: ϕ_s282.00000°,δ70.00000°,λ-6.00000°. Principal axes: T 1.5880, Plg10.0000°, Azm146.0000°; N 0.4460, Plg69.0000°, Azm30.0000°; P -2.0350, Plg19.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **15** 16:35:12.4±0.1, 71°.66N×66°.82W, h10km, mb4.7/90, ML5.1(OTT) Error ellipse: s-maj=5.5km s-min=2.9km az=157.0*

ISC 15 16:35:11.9±0.3, 71°.67N±0°.04×66°.77W±0°.04, h10km, n606, σ1s24/563, mb4.6/140, MS4.1/43, 157C-153D, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULLO	**Kullorsuaq**	**4.03**	**39**	*i* P	Pn	16 36 10.2	-3.3
KULLO				*i* S	Sn	16 36 54.2	-6.5
KULLO	**Kullorsuaq**	**4.03**	**39**	PN	Pn	16 36 10.5	-3.1
KULLO				SN	Sn	16 36 52.8	-7.9
KULLO				Trac		16 37 05.0	
	comp=Z,928nm,0.6s						
KULLO	**Kullorsuaq**	**4.03**	**39**	*i* P		16 36 10.2	-3.3
KULLO				*i* S	Sn	16 36 54.2	-6.5
GIFN	**Gifford Fjord,**	**5.18**	**258**	PN	**Pn**	**16 36 26.4**	**-2.8**
GIFN				SN	Sn	16 37 22.9	-6.0
GIFN				Trac		16 37 50.6	
	comp=Z,683nm,0.6s						
GIFN	**Gifford Fjord,**	**5.18**	**258**	*e*Pn	**Pn**	**16 36 26.4**	**-2.8**
ILON	**Igloolik, Nuna**	**5.54**	**253**	PN	Pn	16 36 30.6	-3.5
ILON				SN	**Sn**	**16 37 31.8**	**-5.9**
ILON				Trac		16 38 36.0	
	comp=Z,967nm,1.0s						
ILON	**Igloolik, Nuna**	**5.54**	**253**	*e*Pn	Pn	16 36 30.6	-3.5
ILULI	**Ilulissat**	**5.80**	**108**	*i* P	**Pn**	**16 36 35.8**	**-2.1**
CMBN	**Cumberland Cam**	**6.08**	**171**	PN	Pn	16 36 38.8	-2.8
CMBN				SN	Sn	16 37 44.0	-7.1
CMBN				Trac		16 38 43.1	
	comp=Z,1μm,1.2s						
LAIN	**Lailor River,**	**6.19**	**254**	PN	Pn	16 36 39.5	-3.7
LAIN				SN	Sn	16 37 45.5	-8.4
LAIN				Trac		16 37 56.2	
	comp=Z,133nm,0.4s						
LAIN	**Lailor River,**	**6.19**	**254**	*e*Pn	Pn	16 36 39.5	-3.7
AP3N	**Apex site 3 Nu**	**6.30**	**258**	PN	Pn	16 36 41.5	-3.2
AP3N				SN	Sn	16 37 49.6	-7.0
AP3N				Trac		16 37 51.0	
	comp=Z,152nm,0.3s						
SFJD	**Kangerlussuaq**	**7.37**	**122**	*i* P	Pn	16 36 56.4	-3.0
SFJD	**Kangerlussuaq**	**7.37**	**122**	PN	Pn	16 36 56.2	-3.2
SFJD				SN	Sn	16 38 12.6	-10
SFJD				Trac		16 38 26.5	
	comp=Z,677nm,0.8s						
SFJD	**Kangerlussuaq**	**7.37**	**122**	Pn	Pn	16 36 56.2

SPITS Spitsbergen Ar 20.60 36 P Pn 16 39 52.9 +0.1
comp=Z,13nm,0.8s,baz=295,slow=7.9,SNR=16
SPITS LR LR 16 48 11.2
comp=Z,296nm,18.1s,baz=275,slow=38
INK Inuvik 22.02 294 *eP* **P 16 40 05.3 -0.6**
INK *eS* S 16 44 01.1 -7.2
INK pmax pmax
comp=Z,5µm,1.0s
INK Inuvik 22.02 294 P **P 16 40 06.0 +0.2**
comp=Z,11nm,0.9s,baz=46,slow=13,SNR=29
INK LR LR 16 48 55.1
comp=Z,664nm,19.2s,baz=52,slow=37
INK Inuvik 22.02 294 *eP* **P 16 40 05.3 -0.6**
comp=Z,5µm,1.0s
INK *eS* S 16 44 01.1 -7.2
FFC Flin Flon 22.68 240 *eP* **P 16 40 10.4 -2.7**
FFC *eS* **S 16 44 21.5 +0.5**
FFC pmax pmax
comp=Z,27nm,0.7s
FFC Flin Flon 22.68 240 *eP* **P 16 40 10.4 -2.7**
comp=Z,27nm,0.7s
FFC *eS* **S 16 44 21.5 +0.5**
FFC *eLg* Lg 16 46 39.6
ULM Lac du Bonnet 25.20 227 P **P 16 40 36.2 -1.0**
comp=Z,16nm,0.7s,baz=18,slow=11,SNR=23
EYMN Ely 26.43 219 *eP* **P 16 40 47.3 -1.2**
comp=Z,31nm,1.0s
EYMN *eS* S 16 45 13.7 -8.0
EYMN *eLg* Lg 16 48 34.9
EGAK Eagle 26.67 293 *eP* **P 16 40 51.0 +0.6**
comp=Z,19nm,0.8s
DAWY Dawson 26.68 291 *eP* **P 16 40 51.4 +0.9**
comp=Z,16nm,0.8s
DAWY *eS* **S 16 45 26.8 +1.5**
A30A Hoffart Farm, 27.00 229 ⇑P **P 16 40 53.4 -0.1**
baz=27
AGMN Agassiz Nation 27.03 226 ⇑P **P 16 40 53.6 -0.2**
baz=27
AGMN Agassiz Nation 27.03 226 *eP* **P 16 40 52.9 -0.9**
comp=Z,52nm,1.1s
AGMN *eS* **S 16 45 31.1 0.0**
AGMN *eLg* Lg 16 49 03.9
A29A Manning Farm, 27.24 231 ⇑P **P 16 40 55.8 +0.1**
baz=27
EDM Edmonton 27.29 252 *eP* **P 16 40 56.7 +0.6**
EDM pmax pmax
comp=Z,28nm,0.6s
EDM Edmonton 27.29 252 *eP* **P 16 40 56.7 +0.6**
comp=Z,28nm,0.6s
EDM *eS* S 16 45 58.7 +24
COLD Coldfoot 27.39 303 *eP* **P 16 40 57.4 +0.5**
comp=Z,12nm,1.0s
LONY Lake Ozonia 27.39 192 *eP* **P 16 40 58.3 +1.2**
comp=Z,22nm,0.8s
LONY *eS* **S 16 45 33.6 -3.3**
LONY *eLg* Lg 16 49 07.8
B30A Myrvik Farm, E 27.46 229 ⇓P **P 16 40 57.6 -0.1**
baz=27
A28A Rude Farm, Bot 27.51 232 ⇑P **P 16 40 58.3 +0.1**
baz=27
LBNH Lisbon 27.62 188 *eP* **P 16 41 00.4 +1.2**
LBNH Lisbon 27.62 188 *eP* **P 16 41 00.4 +1.2**
SADO Sadowa 27.63 199 P **P 16 40 60.0 +0.8**
comp=Z,3.4nm,0.6s,baz=15,slow=9.2,SNR=2.2
SADO LR LR 16 51 06.6
comp=Z,479nm,19.1s,baz=16,slow=35
B29A Wagenman Farm, 27.70 230 ⇓P **P 16 40 59.9 +0.1**
baz=28
A27A Ledoux Ranch, 27.71 233 ⇓P **P 16 41 00.2 +0.3**
baz=28
COWI Conover 27.76 215 *eP* **P 16 40 58.5 -1.9**
comp=Z,16nm,0.9s
COWI *eS* S 16 46 01.3 +19
COWI *eLg* Lg 16 49 14.9
ARCES ARCESS Array B 27.92 49 P **P 16 41 00.9 -0.7**
comp=Z,2.8nm,0.7s,baz=326,slow=5.9,SNR=5.9
ARCES LR LR 16 52 22.1
comp=Z,308nm,18.9s,baz=318,slow=37
B28A Dugan Ranch, T 27.96 232 ⇓P **P 16 41 02.3 +0.2**
baz=28
A26A Wade Farm, Ken 27.97 234 ⇑P **P 16 41 02.8 +0.5**
baz=28
KEV Kevo 28.11 47 *eP* **P 16 41 02.2 -1.0**
KEV pmax pmax
comp=Z,10.0nm,0.6s
KEV Kevo 28.11 47 *ep* **P 16 41 02.2 -1.0**
comp=Z,9.6nm,0.6s
DLBC Dease Lake 28.15 275 P **P 16 41 05.7 +1.8**
comp=Z,0.4nm,0.3s,baz=34,slow=9.6,SNR=3.1
DLBC LR LR 16 52 26.1
comp=Z,284nm,18.3s,baz=34,slow=37
DLBC Dease Lake 28.15 275 P **P 16 41 05.4 +1.6**
comp=Z,6.8nm,1.0s
ILAR Eielson Array 28.31 297 P **P 16 41 06.9 +1.8**
comp=Z,0.8nm,0.8s,baz=29,slow=8.3,SNR=11
ILAR LR LR 16 52 47.6
comp=Z,278nm,19.2s,baz=54,slow=37
DOT Dot Lake 28.36 294 *eP* **P 16 41 06.7 +1.2**
comp=Z,9.6nm,1.3s
A24A Westby 28.46 237 ⇑P **P 16 41 07.6 +1.0**
baz=28
COLA College 28.50 298 *eP* P 16 41 02.8 -4.0
COLA pmax pmax
comp=Z,11nm,1.0s
COLA College 28.50 298 *eP* P 16 41 02.8 -4.0
comp=Z,11nm,1.0s
HYT Haines Junctio 28.59 285 *eP* P 16 41 12.8 +5.1
comp=Z,6.6nm,0.8s
D30A Buchanan 28.82 229 ⇑P **P 16 41 09.8 0.0**
baz=29
A22A Carney Farms, 28.91 239 ⇑P **P 16 41 11.3 +0.7**
baz=29
DGMT Dagmar 28.93 237 ⇑P **P 16 41 11.5 +0.7**
baz=29
C27A Sayler Ranch, 28.93 233 ⇑P **P 16 41 11.3 +0.6**
baz=29
C26A Wahner Farm, P 28.97 234 ⇑P **P 16 41 11.3 +0.1**
baz=29
A21A Bergtoll Ranch 29.19 241 ⇑P **P 16 41 13.3 +0.2**
baz=29
PAX Paxson 29.29 294 *eP* **P 16 41 15.7 +1.8**
PAX pmax pmax
comp=Z,9.0nm,1.1s
PAX Paxson 29.29 294 *eP* **P 16 41 15.7 +1.8**
comp=Z,8.6nm,1.1s
SPMN Marine on St. 29.30 219 *eP* **P 16 41 14.0 0.0**
SPMN *eS* S 16 46 31.3 +24
D27A Center 29.50 232 ⇑P **P 16 41 16.4 +0.5**
baz=29
A20A Cobblestone Ra 29.57 242 ⇑P **P 16 41 17.1 +0.6**
baz=29,SNR=5.6
A19A Klindworth Far 29.75 243 ⇓P **P 16 41 18.9 +0.9**
baz=30,SNR=5.8
C23A Lambert 29.80 237 ⇑P **P 16 41 19.2 +0.7**
baz=30
B20A Solberg Farm, 29.99 241 ⇓P **P 16 41 20.8 +0.6**
baz=30,SNR=5.3
C22A Vida 30.04 238 ⇑P **P 16 41 21.2 +0.6**
baz=30
B19A Brinkman Farms 30.23 243 ⇑P **P 16 41 22.9 +0.5**
baz=30,SNR=5.6
E26A Carlson Angus 30.32 233 ⇑P **P 16 41 23.3 +0.1**
baz=30
D23A Lindsay 30.39 237 ⇑P **P 16 41 24.5 +0.8**
baz=30
NB2 NORSAR Subarra 30.60 69 P **P 16 41 25.2 -0.2**
comp=Z,4.4nm,0.8s,baz=314,slow=8.6
NOA NORSAR Array B 30.60 69 P **P 16 41 25.6 +0.1**
comp=Z,1.1nm,0.8s,baz=315,slow=8.3,SNR=6.7
NOA LR LR 16 53 26.3
comp=Z,138nm,19.4s,baz=325,slow=36
C20A Veseth Ranch, 30.65 241 ⇓P **P 16 41 26.9 +0.9**
baz=30
D22A Cohagen 30.67 238 ⇓P **P 16 41 26.0 -0.2**
baz=30
E24A Baker 30.72 235 ⇑P **P 16 41 26.7 +0.1**
baz=31
F27A Lemmon 30.77 232 ⇓P **P 16 41 27.3 +0.2**
baz=31
G30A Faulkton 30.77 228 ⇑P **P 16 41 26.9 -0.2**
baz=31
EKA Eskdalemuir Ar 30.81 88 P **P 16 41 29.1 +1.8**
comp=Z,2.6nm,0.7s,baz=325,slow=8.1,SNR=4.8
EGMT Eagleton 30.85 243 ⇓P **P 16 41 28.1 +0.2**
baz=31,SNR=7.8
EGMT Eagleton 30.85 243 *eP* **P 16 41 28.2 +0.4**
comp=Z,171nm,1.3s

C19A Slack Wire Ran 30.92 242 ⇑P **P 16 41 29.2 +0.7**
baz=31
WALA Waterton Lakes 31.12 249 *eP* **P 16 41 30.4 +0.1**
comp=Z,6.6nm,0.8s
G27A Dupree 31.21 232 ⇑P **P 16 41 31.0 0.0**
baz=31
G28A Parade 31.25 230 ⇓P **P 16 41 31.4 +0.1**
baz=31
D20A Manuel Ranch, 31.25 240 ⇑P **P 16 41 32.1 +0.7**
baz=31,SNR=8.8
D19A Cripps Ranch, 31.39 241 ⇑P **P 16 41 33.7 +1.1**
baz=31
H29A Onida 31.50 229 ⇓P **P 16 41 33.1 -0.4**
baz=31
ECSD EROS Data Cent 31.53 224 ⇓P **P 16 41 33.6 -0.1**
baz=31,SNR=8.9
ECSD EROS Data Cent 31.53 224 *eP* **P 16 41 34.0 +0.3**
comp=Z,10nm,0.8s
ECSD *eS* S 16 46 56.4 +15
F23A Volborg 31.78 236 ⇑P **P 16 41 36.2 +0.2**
baz=32
H27A Howes 31.95 231 ⇓P **P 16 41 37.8 +0.3**
baz=32
E19A Rath Farm, Rou 32.01 241 ⇓P **P 16 41 38.7 +0.6**
baz=32
HFS Hagfors 32.06 68 P **P 16 41 38.3 +0.1**
comp=Z,2.2nm,0.7s,baz=330,slow=5.5,SNR=5.4
HFS LR LR 16 53 30.6
comp=Z,226nm,21.9s,baz=309,slow=34
I29A Vivian Onida 32.09 229 ⇓P **P 16 41 38.2 -0.6**
baz=32
H26A Fairpoint 32.14 232 ⇑P **P 16 41 38.2 -0.9**
baz=32
G23A Biddle 32.26 236 ⇑P **P 16 41 40.5 +0.3**
baz=32
I28A Midland 32.32 230 ⇓P **P 16 41 40.9 +0.1**
baz=32
H25A Fruitdale 32.34 233 ⇑P **P 16 41 41.2 +0.3**
baz=32
F20A Billings 32.44 240 ⇓P **P 16 41 42.6 +0.8**
baz=32
H24A Dirks Ranch, A 32.47 234 ⇓P **P 16 41 42.6 +0.5**
baz=32
I27A Quinn 32.47 231 ⇓P **P 16 41 42.5 +0.4**
baz=32
G22A Birney 32.48 237 ⇑P **P 16 41 43.1 +0.9**
baz=32
SWMT Swartz Lake 32.54 248 *eP* **P 16 41 42.8 +0.1**
comp=Z,7.6nm,0.7s
J30A Dallas 32.56 227 ⇓P **P 16 41 42.7 -0.2**
baz=32
F19A Roth Farm, Mol 32.61 241 ⇓P **P 16 41 44.1 +0.7**
baz=32,SNR=6.8
SLMT Seeley Lake 32.63 247 *eP* **P 16 41 43.6 0.0**
comp=Z,8.6nm,0.6s
HRY Holter Researc 32.64 245 *eP* **P 16 41 43.4 -0.2**
comp=Z,4.6nm,0.7s
J29A Okreek 32.68 228 ⇑P **P 16 41 43.8 -0.1**
baz=33
I26A New Underwood 32.71 232 ⇓P **P 16 41 44.6 +0.4**
baz=33,SNR=5.2
G21A Lodge Grass 32.72 238 ⇑P **P 16 41 44.5 +0.2**
baz=33
NEW Newport 32.79 252 P **P 16 41 45.2 +0.4**
comp=Z,2.5nm,0.7s,baz=53,slow=6.2,SNR=4.6
NEW LR LR 16 54 51.3
comp=Z,344nm,18.1s,baz=32,slow=36
NEW Newport 32.79 252 ⇑P **P 16 41 45.4 +0.5**
baz=33
CHMT Chamberlain Mo 32.86 246 *eP* **P 16 41 45.7 0.0**
comp=Z,4.7nm,1.0s
GCMT Greycliff 32.87 241 *eP* **P 16 41 46.6 +0.9**
comp=Z,7.7nm,0.8s
J28A Allard Ranch, 32.88 229 ⇑P **P 16 41 45.5 -0.2**
baz=33
RSSD Black Hills 32.92 233 *eP* **P 16 41 47.2 +1.0**
RSSD pmax pmax
comp=Z,25nm,1.1s
RSSD Black Hills 32.92 233 *eP* **P 16 41 47.2 +1.0**
comp=Z,24nm,1.1s
I25A Rochford 32.94 233 ⇓P **P 16 41 47.2 +0.9**
baz=33,SNR=14
SFIN Lafayette 32.99 209 ⇑P **P 16 41 46.9 +0.3**
baz=33
SFIN Lafayette 32.99 209 *eP* **P 16 41 46.6 +0.1**
comp=Z,4.1nm,0.5s
G20A Bridger 32.99 239 ⇑P **P 16 41 47.0 +0.3**
baz=33,SNR=5.9
H22A Clearmont 33.08 237 ⇑P **P 16 41 48.2 +0.7**
baz=33
MSO Missoula 33.14 247 ⇑P **P 16 41 48.5 +0.5**
baz=33
TNA Tin City 33.16 312 *eP* **P 16 41 46.9 -0.9**
comp=Z,11nm,0.7s
H21A Big Horn, Sher 33.23 237 ⇑P **P 16 41 49.2 +0.4**
baz=33
J27A Elkhorn Farm, 33.23 230 ⇓P **P 16 41 48.4 -0.4**
baz=33,SNR=5.1
I24A Kuemmerle Ranc 33.31 234 ⇑P **P 16 41 49.1 -0.4**
baz=33
L31A Butterfield Fa 33.50 226 ⇑P **P 16 41 51.2 +0.1**
baz=33
J25A Sunshine Ranch 33.54 233 ⇑P **P 16 41 52.1 +0.5**
baz=33,SNR=7.8
BOZ Bozeman (W) 33.55 244 *eP* **P 16 41 52.9 +1.3**
BOZ pmax pmax
comp=Z,16nm,1.0s
BOZ Bozeman (W) 33.55 244 *eP* **P 16 41 52.9 +1.3**
comp=Z,16nm,1.0s
H20A Greybull 33.62 238 ⇓P **P 16 41 52.9 +0.7**
baz=34
LRM Limekiln Ridge 33.62 245 *eP* **P 16 41 52.8 +0.4**
comp=Z,47nm,1.0s
H19A Powell 33.71 240 ⇑P **P 16 41 53.8 +0.8**
baz=34
I22A 9 Mile Ranch, 33.76 236 ⇓P **P 16 41 53.8 +0.3**
baz=34,SNR=7.1
J24A Dixon Ranch, L 33.82 234 ⇓P **P 16 41 54.4 +0.4**
baz=34,SNR=5.3
H18A Shoshone NF, C 33.89 241 ⇓P **P 16 41 55.2 +0.5**
baz=34,SNR=11
L30A Spencer Herefo 33.92 227 ⇓P **P 16 41 55.0 +0.2**
baz=34
KAF Kangasniemi 33.98 57 *eP* **P 16 41 57.4 +2.4**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 33.98 57 *ep* **P 16 41 57.4 +2.4**
comp=Z,3.3nm,0.7s
K26A Motz Farm, Whi 34.03 231 ⇓P **P 16 41 56.3 +0.5**
baz=34
I21A Big Trails, Te 34.05 237 ⇓P **P 16 41 56.1 +0.1**
baz=34,SNR=16
BGNE Belgrade 34.08 224 ⇓P **P 16 41 55.9 -0.2**
baz=34
I20A Worland 34.15 238 ⇓P **P 16 41 56.6 -0.2**
baz=34,SNR=8.3
J22A Midwest 34.21 236 ⇓P **P 16 41 57.5 +0.1**
baz=34
QLMT Earthquake Lak 34.24 243 *eP* **P 16 41 59.2 +1.5**
comp=Z,4.4nm,1.4s
K25A Mack Ranch, Ha 34.29 232 ⇓P **P 16 41 58.4 +0.3**
baz=34
I19A Meeteetse 34.30 239 ⇑P **P 16 41 59.3 +1.0**
baz=34
H17A Grant Village 34.41 241 ⇓P **P 16 42 01.7 +2.5**
baz=34,SNR=9.1
H17A Grant Village 34.41 241 *eP* **P 16 42 00.9 +1.7**
comp=Z,10nm,0.9s
L27A T5 Ranch, Ells 34.41 230 ⇓P **P 16 41 59.1 +0.1**
baz=34
FINES FINESS Array B 34.47 58 P **P 16 41 59.5 +0.3**
comp=Z,3.5nm,0.7s,baz=350,slow=9.7,SNR=6.5
FINES LR LR 16 55 12.5
comp=Z,343nm,18.2s,baz=345,slow=35
J21A Lysite 34.53 237 ⇓P **P 16 42 00.3 +0.1**
baz=34,SNR=9.4
K23A Bowen Ranch, D 34.60 234 ⇑P **P 16 42 00.3 -0.5**
baz=34,SNR=7.2
JOF Joensuu 34.60 53 *eP* P 16 42 03.8 +3.4
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 34.60 53 *ep* P 16 42 03.8 +3.4
comp=Z,2.0nm,0.6s
MCMT McKenzie Canyo 34.65 244 *eP* **P 16 42 01.4 +0.2**
comp=Z,3.5nm,1.3s
J20A Shoshoni 34.69 238 ⇓P **P 16 42 02.4 +0.9**
baz=35,SNR=11
L25A Engebretsen Ra 34.74 232 ⇓P **P 16 42 02.6 +0.6**
baz=35

M28A Bar X Bar Ranc 34.83 228 ⇑P **P 16 42 02.8 +0.1**
baz=35
I17A Pilgrim Ck. 34.84 241 ⇑P **P 16 42 04.5 +1.6**
baz=35,SNR=5.6
K22A Casper 34.93 235 ⇑P **P 16 42 03.6 0.0**
baz=35
J19A Crowheart 35.03 239 ⇓P **P 16 42 05.8 +1.3**
baz=35,SNR=6.0
L24A Wheatland 35.09 233 ⇑P **P 16 42 05.6 +0.6**
baz=35
K21A Alcova 35.14 236 ⇑P **P 16 42 05.2 -0.2**
baz=35,SNR=7.4
TMCR Tamitsa 35.18 47 *eP* P 16 42 11.1 +5.8
TMCR *e* 16 44 39.8
TMCR pmax pmax
comp=Z,29nm,1.2s
L23A Garrett 35.22 234 ⇓P **P 16 42 06.0 -0.3**
baz=35,SNR=7.1
OGNE Ogallala 35.42 229 ⇑P **P 16 42 07.5 -0.2**
baz=35,SNR=8.1
OGNE Ogallala 35.42 229 *eP* **P 16 42 08.4 +0.7**
comp=Z,37nm,0.8s
L22A Ellis Ranch, M 35.49 235 ⇑P **P 16 42 09.2 +0.7**
baz=35
O31A Woolen Ranch, 35.54 225 ⇓P **P 16 42 09.1 +0.3**
baz=35
BW06 Boulder Array 35.63 239 *eP* **P 16 42 10.3 +0.5**
comp=Z,13nm,0.8s
PDAR Pinedale Array 35.63 239 P **P 16 42 10.4 +0.7**
comp=Z,13nm,0.7s,baz=43,slow=6.1,SNR=109
PDAR LR LR 16 56 13.9
comp=Z,353nm,20.2s,baz=31,slow=36
N27A Anderson Farm, 35.67 230 ⇓P **P 16 42 10.5 +0.6**
baz=36
O30A MW Ranch, Wils 35.68 226 ⇑P **P 16 42 10.2 +0.2**
baz=36
M23A Laramie 35.84 234 ⇑P **P 16 42 11.3 -0.2**
baz=36,SNR=6.6
SIUC Southern Illin 35.93 211 *eP* **P 16 42 11.9 -0.1**
comp=Z,16nm,0.6s
KSU1 Kansas State U 35.96 221 ⇓P **P 16 42 12.4 0.0**
baz=36
KSU1 Kansas State U 35.96 221 *eP* **P 16 42 12.1 -0.3**
comp=Z,20nm,0.7s
M22A Cedar Creek Ra 36.12 235 ⇑P **P 16 42 14.1 +0.1**
baz=36,SNR=10
BILL Bilibino 36.15 329 *eP* **P 16 42 14.1 +0.4**
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,273nm,20.0s
BILL Bilibino 36.15 329 *eP* **P 16 42 14.5 +0.8**
comp=Z,15nm,1.4s
P31A Stockton 36.16 225 ⇑P **P 16 42 14.5 +0.5**
baz=36
N24A Carr 36.23 232 ⇓P **P 16 42 15.7 +0.9**
baz=36
O27A Beecher Island 36.24 229 ⇑P **P 16 42 15.1 +0.3**
baz=36
HLID Hailey 36.26 245 ⇑P **P 16 42 16.4 +1.4**
baz=36
HLID Hailey 36.26 245 *eP* **P 16 42 16.0 +1.0**
comp=Z,5.0nm,0.9s
Q33A Connelly Farm, 36.32 223 ⇓P **P 16 42 14.9 -0.5**
baz=36
R37A Teagarden Farm 36.36 219 ⇑P **P 16 42 15.4 -0.3**
baz=36
O26A Horse Wrangler 36.39 230 ⇑P **P 16 42 16.2 +0.1**
baz=36,SNR=7.8
N23A Red Feather La 36.43 234 ⇑P **P 16 42 17.3 +0.7**
baz=36
P29A Atwood 36.43 227 ⇑P **P 16 42 16.8 +0.3**
baz=36
Q32A Meitler Ranch, 36.48 224 ⇓P **P 16 42 16.8 0.0**
baz=36
R36A Gordon, Harris 36.49 219 ⇑P **P 16 42 16.1 -0.6**
baz=36,SNR=16
TIXI Tiksi 36.55 352 *ceP* **P 16 42 17.0 0.0**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 36.55 352 *eP* **P 16 42 17.9 +0.9**
comp=Z,4.0nm,0.8s
N22A Wattenberg Ran 36.65 234 ⇓P **P 16 42 19.2 +0.7**
baz=36,SNR=20
P28A Saint Francis 36.65 228 ⇓P **P 16 42 18.4 +0.1**
baz=36
Q31A Ellis 36.66 225 ⇑P **P 16 42 18.0 -0.3**
baz=36
MFID Camas Ranch 36.80 247 *eP* **P 16 42 19.8 +0.3**
comp=Z,2.8nm,0.6s
R33A Olander Ranch, 37.02 223 ⇓P **P 16 42 21.3 -0.1**
baz=37
R32A Long Quarter, 37.06 224 ⇑P **P 16 42 21.7 0.0**
baz=37
O23A Lake Granby, G 37.07 233 ⇓P **P 16 42 22.8 +0.8**
baz=37,SNR=11
S36A Lake Cedric, C 37.08 219 ⇓P **P 16 42 20.8 -1.1**
baz=37,SNR=12
N20A Spence Gulch, 37.09 236 ⇓P **P 16 42 23.0 +0.8**
baz=37
Q29A Oakley 37.12 227 ⇑P **P 16 42 22.8 +0.5**
baz=37
Q28A Sharon Springs 37.16 228 ⇑P **P 16 42 23.0 +0.4**
baz=37
TKL Tuckaleechee C 37.16 203 LR LR 16 56 33.6
comp=Z,175nm,18.4s,baz=4.0,slow=34
HWUT Hardware Ranch 37.26 241 *eP* **P 16 42 23.9 +0.3**
comp=Z,3.2nm,0.6s
S35A Otter Creek Ra 37.27 220 ⇓P **P 16 42 23.6 +0.1**
baz=37
O22A Kremmling 37.27 234 ⇓P **P 16 42 24.2 +0.3**
baz=37,SNR=13
P25A Willow Gulch B 37.29 231 ⇑P **P 16 42 24.0 +0.1**
baz=37,SNR=5.3
R31A Burdett 37.37 225 ⇓P **P 16 42 24.6 +0.2**
baz=37
ISCO Idaho Springs 37.38 233 ⇓P **P 16 42 25.4 +0.6**
baz=37
KSCO Skye Shedlock' 37.39 229 P **P 16 42 25.0 +0.4**
G03D McMinnville, O 37.40 256 ⇓P **P 16 42 27.1 +2.7**
baz=37
S34A Willow Spring 37.42 221 ⇓P **P 16 42 24.5 -0.2**
baz=37
GRR Gorron 37.51 92 *eP* **P 16 42 25.6 +0.2**
GRR Gorron 37.51 92 *eP* **P 16 42 25.6 +0.2**
GRR Gorron 37.51 92 *eP* **P 16 42 25.6 +0.2**
R30A Dighton 37.54 225 ⇑P **P 16 42 26.1 +0.2**
baz=37
I05D Terrebonne, OR 37.60 253 ⇑P **P 16 42 28.9 +2.6**
baz=37
R29A Marienthal 37.60 227 ⇓P **P 16 42 26.6 +0.2**
baz=38
O20A White River Ci 37.74 236 ⇓P **P 16 42 28.2 +0.6**
baz=38
O20A White River Ci 37.74 236 *eP* **P 16 42 28.3 +0.6**
comp=Z,14nm,0.8s
P23A Jefferson 37.84 233 ⇓P **P 16 42 29.7 +1.0**
baz=38
R28A Tribune 37.84 227 ⇓P **P 16 42 28.8 +0.4**
baz=38
P22A Eagle 37.86 234 ⇓P **P 16 42 29.7 +1.0**
baz=38
Q25A Bedland, Calha 37.88 231 ⇓P **P 16 42 29.1 +0.3**
baz=38
S31A Mullinville 38.00 224 ⇓P **P 16 42 29.4 -0.3**
baz=38
Q24A Divide 38.05 232 ⇓P **P 16 42 30.6 +0.1**
baz=38
R27A Eads 38.12 229 ⇓P **P 16 42 31.3 +0.5**
baz=38
T33A Patterson Ranc 38.25 222 ⇑P **P 16 42 31.4 -0.3**
baz=38
R26A Arlington 38.27 229 ⇑P **P 16 42 32.6 +0.6**
baz=38
Q23A Hartsel 38.28 233 ⇑P **P 16 42 33.2 +0.8**
baz=38
DAU Daniels Canyon 38.29 240 *eP* **P 16 42 33.5 +1.1**
DAU Daniels Canyon 38.29 240 *eP* **P 16 42 33.5 +1.1**
comp=Z,0.4nm,0.7s
BGU Big Grassy Mou 38.30 242 *eP* **P 16 42 33.4 +1.1**
comp=Z,31nm,1.6s
T32A Huddler Ranch, 38.30 223 ⇓P **P 16 42 32.2 0.0**
baz=38
J05D Fort Rock, OR 38.52 253 ⇓P P 16 42 37.5 +3.3
baz=38
WVOR Wild Horse Val 38.52 249 *eP* **P 16 42 34.1 -0.1**
WVOR pmax pmax

comp=Z,3.0nm,0.7s
WVOR Wild Horse Val 38.52 249 *e*P **P 16 42 34.1 -0.1**
comp=Z,2.6nm,0.7s
T31A Randall Ranch, 38.55 224 ⇑P **P 16 42 34.2 -0.1**
baz=38
S28A Manter 38.58 227 ⇓P **P 16 42 34.9 +0.3**
baz=38
R25A Fountain Ranch 38.61 230 ⇓P **P 16 42 35.8 +0.8**
baz=38
U34A Anderson Ranch 38.72 221 ⇓P **P 16 42 35.8 0.0**
baz=39
U34A Anderson Ranch 38.72 221 *e*P **P 16 42 34.4 -1.3**
comp=Z,19nm,0.8s
R24A Sanders Place, 38.74 231 ⇓P **P 16 42 36.9 +0.8**
baz=39
T30A Plains 38.78 225 ⇑P **P 16 42 36.5 +0.2**
baz=39
J04D Umpqua Nationa 38.83 253 ⇓P **P 16 42 39.7 +2.9**
baz=39
U33A Lingo Farm, Me 38.85 222 ⇓P **P 16 42 36.4 -0.4**
baz=39
DUG Dugway, Tooele 38.92 241 *e*P **P 16 42 38.3 +0.8**
DUG pmax pmax
comp=Z,10.0nm,0.5s
DUG Dugway, Tooele 38.92 241 ⇑P **P 16 42 39.0 +1.5**
baz=39
DUG Dugway, Tooele 38.92 241 *e*P **P 16 42 38.3 +0.8**
comp=Z,10nm,0.5s
S26A Kim 38.92 229 ⇓P **P 16 42 37.9 +0.4**
baz=39
R23A Moffat 38.95 232 ⇓P **P 16 42 38.9 +0.9**
baz=39
T28A Walsh 39.08 227 ⇓P **P 16 42 38.9 +0.1**
baz=39
U32A Winter Ranch, 39.09 223 ⇑P **P 16 42 38.8 0.0**
baz=39
ELK Elko 39.09 244 LR LR 16 58 37.9
comp=Z,268nm,19.6s,baz=0.5,slow=36
S25A Robets Cordova 39.11 230 ⇓P **P 16 42 40.0 +0.8**
baz=39
V35A Meyer Ranch, C 39.23 220 ⇓P **P 16 42 39.8 -0.2**
baz=39
T27A Campo 39.27 228 ⇓P **P 16 42 40.8 +0.3**
baz=39
SDCO Great Sand Dun 39.29 232 ⇑P **P 16 42 41.8 +1.0**
baz=39
SRU San Rafael Swe 39.31 238 *e*P **P 16 42 41.5 +0.7**
SRU pmax pmax
comp=Z,15nm,0.8s
SRU San Rafael Swe 39.31 238 *e*P **P 16 42 41.5 +0.7**
comp=Z,15nm,0.8s
CLL Collm 39.31 77 *e*P P 16 42 46.0 +5.5
CLL *e*S **S 16 48 44.0 +3.1**
CLL pmax pmax
comp=Z,12nm,1.5s
CLL Collm 39.31 77 *e*P **P 16 42 42.0 +1.5**
CLL *es*P P 16 42 46.0 +5.5
comp=Z,12nm,1.5s
CLL *e*S **S 16 48 44.0 +3.1**
CLL LmH 16 57 00.0
comp=N,200nm,20.0s
CLL LmH 16 57 00.0
comp=E,100nm,21.4s
CLL LV 16 59 00.0
comp=Z,100nm,18.2s
TMUT Trail Mountain 39.32 239 *e*P **P 16 42 42.4 +1.4**
comp=Z,13nm,0.7s
MFF Saint Martin d 39.32 93 *e*P **P 16 42 40.9 +0.3**
MFF Saint Martin d 39.32 93 *e*P **P 16 42 40.9 +0.3**
MFF Saint Martin d 39.32 93 *e*P **P 16 42 40.9 +0.3**
S24A Houchin Ranch, 39.32 231 ⇑P **P 16 42 41.9 +0.8**
baz=39
T26A Comanche Natio 39.37 229 ⇓P **P 16 42 41.8 +0.4**
baz=39
V33A Lossen Ranch, 39.47 222 ⇑P **P 16 42 42.1 +0.1**
baz=39
MOD Modoc Plateau 39.51 251 *e*P **P 16 42 43.7 +1.3**
comp=Z,21nm,0.8s
T25A Trinidad 39.60 230 ⇓P **P 16 42 44.4 +1.0**
baz=40
S22A 4UR Ranch, Cre 39.63 233 ⇑P **P 16 42 44.6 +1.0**
baz=40
PV01 Paradox Valley 39.71 235 *e*P **P 16 42 44.9 +0.7**
comp=Z,1µm,0.9s
W36A Wetumka 39.71 219 ⇑P **P 16 42 43.7 -0.3**
baz=40
V32A Arapaho 39.73 223 ⇓P **P 16 42 44.2 0.0**
baz=40
MIAR Mount Ida 39.77 216 *e*P **P 16 42 43.6 -0.9**
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 39.77 216 *e*P **P 16 42 43.6 -0.9**
comp=Z,8.2nm,0.8s
U27A Thompson Grove 39.91 228 ⇑P **P 16 42 46.4 +0.6**
baz=40
W34A Bridge Creek, 39.93 221 ⇑P **P 16 42 46.0 +0.2**
baz=40
LOR Lormes 39.99 88 *e*P **P 16 42 46.4 +0.1**
comp=Z,12nm,0.9s
LOR *e*R
comp=Z,181nm,19.2s
LOR Lormes 39.99 88 *e*P **P 16 42 46.4 +0.1**
LOR pmax pmax
comp=Z,12nm,0.9s
LOR Lormes 39.99 88 *e*P **P 16 42 46.4 +0.1**
comp=Z,12nm,0.9s
V30A Spur Ranch, Mi 40.05 225 ⇓P **P 16 42 47.9 +0.9**
baz=40
SSF Saint Saulge 40.07 89 *e*P **P 16 42 46.9 +0.1**
comp=Z,20nm,1.1s
SSF Saint Saulge 40.07 89 *e*P **P 16 42 46.9 +0.1**
SSF pmax pmax
comp=Z,20nm,1.1s
SSF Saint Saulge 40.07 89 *e*P **P 16 42 46.9 +0.1**
comp=Z,20nm,1.1s
M04C Macdoel 40.08 252 ⇑P **P 16 42 49.2 +2.1**
baz=40
V29A Stinnett 40.13 226 ⇑P **P 16 42 47.8 +0.2**
baz=40
U26A Atchley Ranch, 40.15 229 ⇓P **P 16 42 49.2 +1.3**
baz=40
W33A Caddo, Fort Co 40.16 222 ⇓P **P 16 42 48.4 +0.6**
baz=40
AVF Avril sur Loir 40.26 89 *e*P **P 16 42 48.5 +0.1**
comp=Z,14nm,0.9s
AVF Avril sur Loir 40.26 89 *e*P **P 16 42 48.5 +0.1**
AVF pmax pmax
comp=Z,14nm,0.9s
AVF Avril sur Loir 40.26 89 *e*P **P 16 42 48.5 +0.1**
comp=Z,14nm,0.9s
L02D Cave Junction, 40.27 254 ⇑P **P 16 42 50.5 +2.0**
baz=40
U25A Circle Dot Ran 40.31 230 ⇓P **P 16 42 50.7 +1.5**
baz=40
MVU Marysvale 40.33 240 *e*P **P 16 42 51.0 +1.6**
comp=Z,9.2nm,0.9s
TCF Toulx Ste Croi 40.34 91 *e*P **P 16 42 49.4 +0.2**
TCF Toulx Ste Croi 40.34 91 *e*P **P 16 42 49.4 +0.2**
TCF Toulx Ste Croi 40.34 91 *e*P **P 16 42 49.4 +0.2**
W32A Sentinel 40.35 223 ⇑P **P 16 42 49.6 +0.2**
baz=40
YBH Yreka Blue Hor 40.38 253 P **P 16 42 49.7 0.0**
comp=Z,4.2nm,0.7s,baz=28,slow=6.0,SNR=18
V28A Channing 40.41 227 ⇑P **P 16 42 50.8 +0.8**
baz=40
W31A Holland Ranch, 40.44 224 ⇑P **P 16 42 50.3 +0.2**
baz=40
PVCC Panska Ves 40.47 76 AMS AMS 17 02 40.0
comp=Z,200nm,12.2s
SMF Signal de Mont 40.54 89 *e*P **P 16 42 50.9 +0.1**
comp=Z,13nm,0.8s
SMF Signal de Mont 40.54 89 *e*P **P 16 42 50.9 +0.1**
SMF pmax pmax
comp=Z,13nm,0.8s
SMF Signal de Mont 40.54 89 *e*P **P 16 42 50.9 +0.1**
comp=Z,13nm,0.8s
V27A Dan Oppiter Fa 40.55 227 ⇑P **P 16 42 51.5 +0.5**
baz=40
X34A Smith Ranch, M 40.55 221 ⇑P **P 16 42 51.3 +0.3**
baz=40
MVCO Mesa Verde 40.56 235 ⇑P **P 16 42 52.7 +1.5**
baz=40
MVCO Mesa Verde 40.56 235 *e*P **P 16 42 52.8 +1.5**
comp=Z,13nm,0.7s
MVCO *e* 16 42 58.9
WMOK Wichita Mounta 40.62 222 *e*P **P 16 42 51.1 -0.5**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 40.62 222 *e*P **P 16 42 51.1 -0.5**
comp=Z,3.9nm,0.8s
V26A Tequesquite Ra 40.73 229 ⇑P **P 16 42 52.8 +0.2**
baz=41
M02C Callahan 40.74 253 ⇓P **P 16 42 53.7 +1.2**
baz=41
X33A Lawton 40.75 222 ⇓P **P 16 42 52.5 -0.1**
baz=41
W28A Vega 40.88 226 ⇓P **P 16 42 53.9 +0.1**
baz=41
W29A Amarillo 40.88 226 ⇑P **P 16 42 54.3 +0.5**
baz=41
PRU Pruhonice 40.94 77 *e*P P 16 43 01.8 +7.8
PRU *e* 16 43 06.6
PRU MLR MLR
comp=Z,200nm,16.3s
PRU Pruhonice 40.94 77 *e*P P 16 43 01.8 +7.8
PRU *ex* x 16 43 06.6
PRU AMS AMS 16 58 50.0
comp=Z,200nm,16.3s
X31A McDonald Ranch 40.98 224 ⇓P **P 16 42 55.0 +0.4**
baz=41
RJF Les Rejaudoux 41.00 92 *e*P **P 16 42 54.7 +0.1**
RJF *e*R
comp=Z,181nm,18.5s
RJF Les Rejaudoux 41.00 92 *e*P **P 16 42 54.7 +0.1**
RJF Les Rejaudoux 41.00 92 *e*P **P 16 42 54.7 +0.1**
X32A Elmer 41.03 223 ⇓P **P 16 42 55.3 +0.3**
baz=41
N02D Trinity Center 41.08 253 ⇑P **P 16 42 56.9 +1.6**
baz=41
GOPC GO Pecny, Ondr 41.08 77 *e*P P 16 43 03.1 +7.9
Y34A Reagan Ranch, 41.16 221 ⇓P **P 16 42 56.0 0.0**
baz=41
DPC Dobruska-Polom 41.17 75 *e*P P 16 43 02.8 +6.8
DPC Dobruska-Polom 41.17 75 *e*P P 16 43 02.8 +6.8
CABF La Chapelle 41.28 87 *e*P **P 16 42 57.3 +0.3**
comp=Z,18nm,1.1s
CABF La Chapelle 41.28 87 *e*P **P 16 42 57.3 +0.3**
CABF pmax pmax
comp=Z,19nm,1.1s
CABF La Chapelle 41.28 87 *e*P **P 16 42 57.3 +0.3**
comp=Z,18nm,1.1s
Y33A Hilltop Ranch, 41.29 222 ⇑P **P 16 42 57.4 +0.3**
baz=41
ARUT Antelope Range 41.34 241 *e*P **P 16 42 59.6 +2.0**
ARUT pmax pmax
comp=Z,1.0nm,1.2s
ARUT Antelope Range 41.34 241 *e*P **P 16 42 59.6 +2.0**
comp=Z,1.5nm,1.2s
KHC Kasperske Hory 41.40 78 *e*P **P 16 43 00.3 +2.4**
KHC pmax pmax
comp=Z,5.0nm,1.2s
KHC Kasperske Hory 41.40 78 *e*P P 16 43 03.6 +5.8
KHC *ex* x 16 43 09.5
KHC *ex* x 16 43 20.9
KHC AMS AMS 17 03 40.0
comp=Z,300nm,13.9s
KHC Kasperske Hory 41.40 78 *e*P **P 16 43 00.3 +2.4**
comp=Z,4.5nm,1.2s
R11A Troy Canyon, C 41.41 243 ⇑P **P 16 42 59.9 +1.6**
baz=41
Y32A R-V Farms, Ver 41.47 223 ⇑P **P 16 42 58.9 +0.4**
baz=41
KRLC Kraliky 41.55 75 *e*P **P 16 43 02.1 +3.0**
KRLC *e* 16 43 07.9
KRLC Kraliky 41.55 75 *e*P **P 16 43 02.1 +3.0**
KRLC *ex* x 16 43 07.9
X28A Dimmitt 41.59 226 ⇑P **P 16 42 59.8 +0.2**
baz=42
Z35A Perchaven, San 41.66 220 ⇓P **P 16 43 00.5 +0.4**
baz=42
GERES GERESS Array B 41.69 78 P **P 16 43 00.9 +0.6**
comp=Z,0.6nm,0.7s,baz=326,slow=9.1,SNR=3.9
GERES LR LR 17 00 04.5
comp=Z,152nm,20.2s,baz=338,slow=36
Y31A Rekieta Farm, 41.69 224 ⇑P **P 16 43 00.8 +0.5**
baz=42
Z34A Collier Ranch, 41.76 221 ⇓P **P 16 43 01.1 +0.2**
baz=42
TREC Trest 41.84 77 AMS AMS 17 02 00.0
comp=Z,200nm,18.1s
138A Matatall Enter 41.89 217 ⇓P **P 16 43 03.1 +1.2**
baz=42
Y30A Stafford Cattl 41.91 224 ⇑P **P 16 43 03.4 +1.2**
baz=42
Z33A Whitaker Ranch 42.02 222 ⇑P **P 16 43 03.8 +0.8**
baz=42
MORC Moravsky Berou 42.05 74 *e*P **P 16 43 04.1 +0.9**
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 42.05 74 *e*P **P 16 43 04.1 +0.9**
comp=Z,5.8nm,0.9s
137A Heron Place, G 42.08 218 ⇓P **P 16 43 04.6 +1.1**
baz=42
Y29A Porterfield Fa 42.10 225 ⇓P **P 16 43 04.3 +0.5**
baz=42
NVAR Mina Array Bea 42.12 246 P **P 16 43 05.2 +1.1**
comp=Z,13nm,0.8s,baz=27,slow=5.2,SNR=70
TPH Tonopah 42.14 245 *e*P **P 16 43 04.8 +0.6**
TPH pmax pmax
comp=Z,6.0nm,0.8s
TPH Tonopah 42.14 245 *e*P **P 16 43 04.8 +0.6**
comp=Z,5.5nm,0.8s
Z32A Haskell 42.15 222 ⇑P **P 16 43 04.7 +0.6**
baz=42
VRAC Vranov 42.17 76 LR LR 17 00 59.2
comp=Z,120nm,19.2s,baz=318,slow=37
OKC Ostrava-Krasne 42.18 74 AMS AMS 17 03 10.0
comp=Z,200nm,15.4s
Y28A McKinney Farm, 42.18 226 ⇓P **P 16 43 05.3 +0.8**
baz=42
ANMO Albuquerque 42.19 231 *e*P **P 16 43 05.6 +0.9**
ANMO pmax pmax
comp=Z,46nm,1.0s
ANMO Albuquerque 42.19 231 P **P 16 43 05.2 +0.5**
comp=Z,7.7nm,0.9s,baz=35,slow=8.4,SNR=6.9
ANMO LR LR 17 00 14.9
comp=Z,260nm,21.0s,baz=30,slow=36
MSTX Muleshoe 42.24 227 ⇓P **P 16 43 05.6 +0.7**
baz=42
Z31A Sharp Cattle R 42.28 223 ⇑P **P 16 43 06.0 +0.8**
baz=42
U15A North Rim 42.30 239 ⇓P **P 16 43 06.9 +1.3**
baz=42
DAVOX Davos/Dischmat 42.33 83 LR LR 17 01 52.3
comp=Z,324nm,18.2s,baz=276,slow=38
KIPM Iron Peak 42.38 253 *e*P **P 16 43 07.1 +1.0**
comp=Z,9.9nm,0.9s
VIVF Saint-Julien-l 42.40 89 *e*P **P 16 43 06.8 +0.7**
comp=Z,8.1nm,0.8s
VIVF Saint-Julien-l 42.40 89 *e*P **P 16 43 06.8 +0.7**
VIVF pmax pmax
comp=Z,8.0nm,0.8s
VIVF Saint-Julien-l 42.40 89 *e*P **P 16 43 06.8 +0.7**
comp=Z,8.1nm,0.8s
LPG La Plagne 42.48 87 *e*P **P 16 43 07.5 +0.4**
comp=Z,11nm,1.1s
LPG La Plagne 42.48 87 *e*P **P 16 43 07.5 +0.4**
LPG pmax pmax
comp=Z,11nm,1.1s
LPG La Plagne 42.48 87 *e*P **P 16 43 07.5 +0.4**
comp=Z,11nm,1.1s
ETSF Etsaut 42.51 96 *e*P **P 16 43 07.3 +0.3**
ETSF Etsaut 42.51 96 *e*P **P 16 43 07.3 +0.3**
ETSF Etsaut 42.51 96 *e*P **P 16 43 07.3 +0.3**
KCPM Cahil Peak 42.52 253 *e*P **P 16 43 08.8 +1.6**
comp=Z,5.3nm,0.7s
Z30A Sanderson Ranc 42.53 224 ⇑P **P 16 43 07.7 +0.4**
baz=42
134A White-Moore Ra 42.57 220 ⇑P **P 16 43 08.2 +0.7**
baz=42
237A Washetta, Mont 42.67 217 ⇑P **P 16 43 09.4 +1.1**
baz=43
EPF Esparros 42.67 95 *e*P **P 16 43 08.2 -0.1**
comp=Z,7.7nm,0.8s
EPF Esparros 42.67 95 *e*P **P 16 43 08.2 -0.1**
EPF pmax pmax
comp=Z,8.0nm,0.8s
EPF Esparros 42.67 95 *e*P **P 16 43 08.2 -0.1**
comp=Z,7.7nm,0.8s
Z29A Hungry Hill Ra 42.68 225 ⇑P **P 16 43 09.0 +0.5**
baz=43
133A Hamilton Ranch 42.70 221 ⇑P **P 16 43 09.4 +0.7**
baz=43
ORIF Oris-en-Rattie 42.73 88 *e*P **P 16 43 09.6 +0.8**
comp=Z,14nm,0.9s
ORIF *e*R
comp=Z,136nm,22.2s
ORIF Oris-en-Rattie 42.73 88 *e*P **P 16 43 09.6 +0.8**
ORIF pmax pmax
comp=Z,14nm,0.9s
ORIF Oris-en-Rattie 42.73 88 *e*P **P 16 43 09.6 +0.8**
comp=Z,14nm,0.9s
OBN Obninsk 42.73 55 *i*P P 16 43 14.8 +6.2
OBN *i* 16 44 50.8
OBN *i* 16 45 03.4
OBN *i*S **S 16 49 30.9 -0.8**
OBN *i*SS **SS 16 52 38.3 -3.3**
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,159nm,19.0s
Z28A Tucker Farm, M 42.81 226 ⇓P **P 16 43 10.6 +1.0**
baz=43
LPM Los Pinos Moun 42.84 231 *e*P **P 16 43 10.5 +0.6**
comp=Z,11nm,1.0s
LASF Ste Croix 42.84 91 *e*P **P 16 43 09.9 +0.2**
comp=Z,13nm,0.9s
LASF Ste Croix 42.84 91 *e*P **P 16 43 09.9 +0.2**
comp=Z,13nm,0.9s
ABTX Abilene, Hawle 42.84 222 ⇓P **P 16 43 10.3 +0.6**
baz=43
ABTX Abilene, Hawle 42.84 222 *e*P **P 16 43 10.1 +0.3**
comp=Z,38nm,0.9s
W18A Petrified Fore 42.86 235 ⇑P **P 16 43 11.4 +1.3**
baz=43
W18A Petrified Fore 42.86 235 *e*P **P 16 43 11.1 +1.1**
comp=Z,22nm,0.8s
TPNV Topopah Spring 42.91 243 ⇓P **P 16 43 12.0 +1.6**
baz=43
WUAZ Wupatki 42.91 237 ⇑P **P 16 43 12.5 +2.0**
baz=43
WUAZ Wupatki 42.91 237 *e*P **P 16 43 12.0 +1.5**
comp=Z,35nm,0.7s
131A Roby 42.96 223 ⇑P **P 16 43 11.5 +0.8**
baz=43
MTLF Montolieu 42.98 93 *e*P **P 16 43 11.3 +0.5**
comp=Z,11nm,0.9s
MTLF Montolieu 42.98 93 *e*P **P 16 43 11.3 +0.5**
MTLF pmax pmax
comp=Z,11nm,0.9s
MTLF Montolieu 42.98 93 *e*P **P 16 43 11.3 +0.5**
comp=Z,11nm,0.9s
SEY Seymchan 43.00 335 *e*P **P 16 43 10.0 -0.7**
WHTX Lake Whitney, 43.00 219 ⇑P **P 16 43 11.4 +0.4**
baz=43
MLAC Mammoth, Mammo 43.02 247 ⇑P **P 16 43 14.1 +2.7**
baz=43
SHPR Sheep Range 43.02 242 *e*P **P 16 43 13.0 +1.7**
comp=Z,24nm,1.3s
LENM Lemitar 43.06 232 *e*P **P 16 43 12.4 +0.6**
comp=Z,13nm,1.1s
234A Clairette 43.13 220 ⇓P **P 16 43 12.5 +0.5**
baz=43
130A Snyder 43.16 224 ⇓P **P 16 43 12.7 +0.4**
baz=43
MBDF Montbardon 43.18 87 *e*P **P 16 43 13.1 +0.6**
comp=Z,11nm,0.9s
MBDF Montbardon 43.18 87 *e*P **P 16 43 13.1 +0.6**
MBDF pmax pmax
comp=Z,11nm,0.9s
MBDF Montbardon 43.18 87 *e*P **P 16 43 13.1 +0.6**
comp=Z,11nm,0.9s
338A Crockett 43.20 217 ⇓P **P 16 43 13.8 +1.2**
baz=43
233A Rising Star 43.27 221 ⇓P **P 16 43 14.0 +0.8**
baz=43
129A Stewart Farms, 43.32 225 ⇑P **P 16 43 14.8 +1.1**
baz=43
336A Riesel 43.47 219 ⇑P **P 16 43 15.3 +0.6**
baz=43
128A Castleberry Fa 43.47 226 ⇑P **P 16 43 15.8 +0.8**
baz=43
X18A Snowflake 43.47 235 ⇑P **P 16 43 15.6 +0.6**
baz=43
STHS Stebnicka Huta 43.48 72 *e*P P 16 43 20.9 +6.1
STHS Stebnicka Huta 43.48 72 *es*P P 16 43 20.9 +6.1
232A Coleman 43.55 222 ⇓P **P 16 43 16.3 +0.8**
baz=44
VYHS Vyhne 43.58 74 *e*P P 16 43 20.4 +4.9
VYHS Vyhne 43.58 74 *ep*P **P 16 43 20.4 +4.9**
231A Bronte 43.65 223 ⇓P **P 16 43 16.8 +0.5**
baz=44
335A Moody 43.68 219 ⇑P **P 16 43 17.2 +0.6**
baz=44
334A Lometa 43.80 220 ⇑P **P 16 43 18.2 +0.7**
baz=44
230A Sterling City 43.87 224 ⇑P **P 16 43 19.0 +0.8**
baz=44
SHOC Shoshone, Teco 43.90 243 ⇑P **P 16 43 20.7 +2.5**
baz=44
229A Bryant Ranch, 43.95 225 ⇓P **P 16 43 19.6 +0.8**
baz=44
LVV L'vov 43.96 69 *e*P P 16 43 25.2 +6.7
333A Richland Sprin 43.96 221 ⇑P **P 16 43 19.2 +0.4**
baz=44
X16A Lo Mia Camp, P 43.97 237 ⇑P **P 16 43 21.0 +1.9**
baz=44
228A UT Block 9, Go 43.98 226 ⇓P **P 16 43 19.8 +0.8**
baz=44
W13A Hualapai Mount 43.98 240 ⇑P **P 16 43 21.1 +1.9**
baz=44
436A Wall Ranch, Ga 44.06 218 ⇑P **P 16 43 20.7 +1.2**
baz=44
332A Millersview 44.06 222 ⇓P **P 16 43 20.2 +0.6**
baz=44
MPMC Manual Prospec 44.09 244 ⇓P **P 16 43 21.6 +1.6**
baz=44
KOLS Kolonicke sedl 44.22 71 *e*P P 16 43 24.1 +3.4
KOLS Kolonicke sedl 44.22 71 *ep*P **P 16 43 24.1 +3.4**
TUQ Turquoise Moun 44.23 242 ⇑P **P 16 43 22.9 +1.8**
baz=44
331A San Angelo 44.28 223 ⇓P **P 16 43 22.0 +0.6**
baz=44
434A Burnet 44.31 220 ⇑P **P 16 43 21.7 +0.1**
baz=44
LDFC Landfair 44.34 241 *e*P **P 16 43 23.6 +1.7**
comp=Z,48nm,0.9s
330A Mertzon 44.35 224 ⇓P **P 16 43 22.4 +0.4**
baz=44
ESDC Sonseca Array 44.37 101 P **P 16 43 23.4 +1.3**
comp=Z,2.0nm,0.6s,baz=338,slow=8.2,SNR=11
ESDC LR LR 16 59 42.2
comp=Z,42nm,20.2s,baz=155,slow=33
329A Wagon Wheel Ra 44.45 225 ⇓P **P 16 43 23.4 +0.6**
baz=44
UZH Uzhgorod 44.50 71 *e*P **P 16 43 20.4 -2.5**
UZH *e* 16 43 25.6
UZH *e* 16 45 07.0
UZH *e*PPP PPP 16 45 47.0
UZH *e*S **S 16 49 52.8 -4.8**
UZH *e*SS SS 16 53 03.0 -13
433A Art 44.53 221 ⇓P **P 16 43 23.9 +0.5**
baz=44
432A Menard 44.56 222 ⇑P **P 16 43 24.6 +0.9**
baz=44
GSC Goldstone, Bar 44.61 243 ⇓P **P 16 43 25.8 +1.8**
baz=44
537A Green Hill Far 44.63 217 ⇑P **P 16 43 25.9 +1.8**
baz=44
HKT Hockley 44.67 217 *e*P **P 16 43 25.0 +0.7**
HKT pmax pmax
comp=Z,30nm,1.3s
HKT Hockley 44.67 217 *e*P **P 16 43 25.0 +0.7**
comp=Z,30nm,1.3s
AKASG Malin Array Be 44.67 64 P **P 16 43 24.4 +0.2**
comp=Z,0.2nm,0.3s,baz=337,slow=8.9,SNR=3.2
AKASG LR LR 17 01 34.9
comp=Z,214nm,18.4s,baz=320,slow=35
LRMC Laurel Mtn Rad 44.69 244 ⇑P **P 16 43 26.9 +2.2**
baz=44
ISA Isabella, Lake 44.74 245 *e*P **P 16 43 26.8 +1.7**
ISA pmax pmax
comp=Z,32nm,1.0s
ISA Isabella, Lake 44.74 245 ⇓P **P 16 43 27.5 +2.4**
baz=45
ISA Isabella, Lake 44.74 245 *e*P **P 16 43 26.8 +1.7**
comp=Z,32nm,1.0s
GMRC Granite Mounta 44.77 242 ⇓P **P 16 43 27.5 +2.1**
baz=45

PDMCI	**Parker Dam,Lak**	**44.80**	**240**	⇓P		**P**		**16 43 27.4**	**+1.9**
	baz=45								
121A	**Cookes Peak, D**	**44.82**	**232**	⇓P		**P**		**16 43 26.8**	**+0.9**
	baz=45								
121A	**Cookes Peak, D**	**44.82**	**232**	*e*P		**P**		**16 43 26.1**	**+0.3**
	comp=Z,12nm,0.6s								
Y14A	**Wickenburg**	**44.84**	**238**	⇑P		**P**		**16 43 27.5**	**+1.6**
	baz=45								
HEC	**Hector,Ludlow**	**44.91**	**242**	⇓P		**P**		**16 43 28.3**	**+1.8**
	baz=45								
431A	**Sonora**	**44.92**	**223**	⇑P		**P**		**16 43 27.6**	**+1.0**
	baz=45								
JCT	**Junction City**	**44.95**	**222**	*e*P		**P**		**16 43 27.3**	**+0.6**
JCT				pmax		pmax			
	comp=Z,18nm,1.0s								
JCT	**Junction City**	**44.95**	**222**	⇓P		**P**		**16 43 27.6**	**+0.8**
	baz=45								
JCT	**Junction City**	**44.95**	**222**	*e*P		**P**		**16 43 27.2**	**+0.6**
	comp=Z,18nm,1.0s								
430A	**Baggett Ranch,**	**44.96**	**224**	⇓P		**P**		**16 43 27.6**	**+0.7**
	baz=45								
MNTX	**Cornudas Mount**	**45.03**	**229**	⇓P		**P**		**16 43 27.9**	**+0.5**
	baz=45								
534A	**Blanco**	**45.11**	**220**	⇓P		**P**		**16 43 28.7**	**+0.7**
	baz=45								
533A	**Kerrville**	**45.18**	**221**	⇑P		**P**		**16 43 29.5**	**+0.9**
	baz=45								
IRM	**Iron Mountain**	**45.22**	**241**	⇓P		**P**		**16 43 30.9**	**+2.1**
	baz=45								
429A	**Davenport Ranc**	**45.26**	**224**	⇑P		**P**		**16 43 29.6**	**+0.4**
	baz=45								
532A	**Rocksprings**	**45.31**	**222**	⇓P		**P**		**16 43 30.4**	**+0.7**
	baz=45								
EDW2	**Edwards Air Fo**	**45.34**	**244**	⇓P		**P**		**16 43 32.1**	**+2.3**
	baz=45								
636A	**Smothers Creek**	**45.36**	**218**	⇓P		**P**		**16 43 31.4**	**+1.5**
	baz=45								
Z14A	**Wintersburg**	**45.37**	**238**	⇑P		**P**		**16 43 31.7**	**+1.7**
	baz=45								
531A	**Rocksprings**	**45.41**	**223**	⇑P		**P**		**16 43 31.4**	**+1.0**
	baz=45								
Y12C	**Blythe**	**45.43**	**240**	⇓P		**P**		**16 43 32.4**	**+2.0**
	baz=45								
SMMC	**Simmler**	**45.51**	**247**	⇓P		**P**		**16 43 34.1**	**+2.9**
	baz=45								
635A	**Leesville**	**45.59**	**219**	⇓P		**P**		**16 43 33.2**	**+1.4**
	baz=46								
530A	**J-C Ranch, Com**	**45.60**	**223**	⇑P		**P**		**16 43 32.7**	**+0.9**
	baz=46								
BELC	**Belle Mtn. Jos**	**45.60**	**242**	⇓P		**P**		**16 43 34.1**	**+2.1**
	baz=46								
BC3	**Big Chuckawall**	**45.77**	**241**	⇑P		**P**		**16 43 35.4**	**+2.0**
	baz=46								
TUC	**Tucson**	**45.79**	**235**	*e*P		**P**		**16 43 34.3**	**+0.8**
TUC				pmax		pmax			
	comp=Z,25nm,1.5s								
TUC	**Tucson**	**45.79**	**235**	*e*P		**P**		**16 43 34.3**	**+0.8**
	comp=Z,26nm,1.5s								
OSI	**Osito Audit: C**	**45.80**	**245**	⇓P		**P**		**16 43 35.8**	**+2.4**
	baz=46								
633A	**Saathoff Ranch**	**45.80**	**221**	⇑P		**P**		**16 43 34.4**	**+0.9**
	baz=46								
529A	**Stev Forest Ra**	**45.81**	**224**	⇓P		**P**		**16 43 33.8**	**+0.2**
	baz=46								
BFSC	**Mount Baldy Ra**	**45.84**	**244**	⇓P		**P**		**16 43 36.1**	**+2.2**
	baz=46								
632A	**Uvalde**	**45.89**	**221**	⇓P		**P**		**16 43 35.1**	**+1.0**
	baz=46								
MWC	**Mount Wilson**	**45.97**	**244**	*e*P		**P**		**16 43 36.6**	**+1.6**
MWC				pmax		pmax			
	comp=Z,11nm,0.9s								
MWC	**Mount Wilson**	**45.97**	**244**	*e*P		**P**		**16 43 36.6**	**+1.6**
	comp=Z,11nm,0.9s								
YAK	**Yakutsk**	**46.09**	**349**	*e*P		**P**		**16 43 34.2**	**-1.1**
YAK				pmax		pmax			
	comp=Z,12nm,1.1s								
YAK				pmax		pmax			
	comp=N,5.0nm,1.1s								
PFO	**Pinyon Flats O**	**46.09**	**242**	⇓P		**P**		**16 43 38.0**	**+2.1**
	baz=46								
735A	**Kenedy**	**46.11**	**219**	⇓P		**P**		**16 43 37.5**	**+1.6**
	baz=46								
631A	**Perdido Creek**	**46.14**	**222**	⇓P		**P**		**16 43 36.8**	**+0.6**
	baz=46								
GLA	**Glamis**	**46.17**	**240**	⇓P		**P**		**16 43 38.3**	**+1.9**
	baz=46								
319A	**Douglas**	**46.30**	**233**	⇑P		**P**		**16 43 38.2**	**+0.8**
	baz=46								
SWSC	**Sam W. Stewart**	**46.54**	**241**	⇓P		**P**		**16 43 41.6**	**+2.4**
	baz=46								
733A	**Divot King Ran**	**46.55**	**221**	⇑P		**P**		**16 43 40.6**	**+1.3**
	baz=46								
ARU	**Arti**	**46.59**	**39**	*d i*P		P		16 43 44.7	+5.3
ARU								16 45 26.6	
ARU				S		**S**		**16 50 33.1**	**+5.4**
ARU				SS		**SS**		**16 53 51.1**	**-1.9**
ARU				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ARU	**Arti**	**46.59**	**39**	*e*P		**P**		**16 43 39.6**	**+0.2**
	comp=Z,6.8nm,1.0s								
214A	**Organ Pipe Nat**	**46.66**	**237**	⇑P		**P**		**16 43 41.8**	**+1.5**
	baz=46								
732A	**Laxson Ranch,**	**46.68**	**221**	⇑P		**P**		**16 43 42.0**	**+1.7**
	baz=47								
MONP	**Monument Peak,**	**46.76**	**242**	⇓P		**P**		**16 43 43.7**	**+2.5**
	baz=47								
IBP	**Imperial Bould**	**46.89**	**241**	⇑P		**P**		**16 43 43.9**	**+1.9**
	baz=47								
TXAR	**Lajitas Array**	**46.90**	**226**	P		**P**		**16 43 43.0**	**+0.8**
	comp=Z,9.2nm,0.6s,baz=41,slow=5.8,SNR=108								
TXAR				LR		LR		17 04 20.4	
	comp=Z,281nm,20.0s,baz=0.0,slow=37								
VSR	**Storozhevoye**	**46.93**	**56**	*e*P		P		16 43 47.0	+5.0
VSR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
833A	**Chaparral WMA,**	**46.95**	**221**	⇑P		**P**		**16 43 44.3**	**+1.9**
	baz=47								
834A	**Tilden**	**46.97**	**220**	⇑P		**P**		**16 43 44.5**	**+1.8**
	baz=47								
832A	**Faith Ranch, C**	**47.11**	**221**	⇓P		**P**		**16 43 44.7**	**+1.0**
	baz=47								
SCI	**San Clemente I**	**47.28**	**244**	⇑P		**P**		**16 43 47.7**	**+2.7**
	baz=47								
934A	**Benavides**	**47.47**	**219**	⇓P		**P**		**16 43 48.3**	**+1.8**
	baz=47								
933A	**Laredo**	**47.61**	**220**	⇑P		**P**		**16 43 49.3**	**+1.6**
	baz=48								
034A	**Hebbronville**	**48.03**	**219**	⇑P		**P**		**16 43 52.8**	**+2.0**
	baz=48								
BOD	**Bodaibo**	**50.80**	**359**	*e*P		**P**		**16 44 09.9**	**-1.7**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.7s								
NVS	**Novosibirsk**	**52.02**	**22**	⇑ *i*P		**P**		**16 44 21.3**	**+0.5**
NVS				pmax		pmax			
	comp=Z,15nm,1.3s								
NVS				pmax		pmax			
	comp=N,7.0nm,1.1s								
NVS				pmax		pmax			
	comp=E,5.0nm,1.1s								
AKTO	**Aktyubinsk**	**52.13**	**42**	LR		LR		17 07 17.2	
	comp=E,242nm,20.2s,baz=355,slow=37								
KEST	**Kesra**	**52.17**	**90**	P		**P**		**16 44 23.8**	**+1.4**
	comp=E,0.6nm,0.4s,baz=311,slow=6.4,SNR=2.9								
ANN	**Anapa**	**52.34**	**61**	*e*P		**P**		**16 44 24.8**	**+1.5**
ANN				*e*				16 46 28.0	
ANN				*e*S		**S**		**16 51 48.0**	**-0.4**
ANN				pmax		pmax			
	comp=Z,7.0nm,1.1s								
ANN				MLR		MLR			
	comp=N,133nm,14.0s								
ANN				MLR		MLR			
	comp=E,84nm,14.0s								
ANN				MLR		MLR			
	comp=Z,254nm,14.0s								
ZALV	**Zalesovo Beam**	**53.08**	**21**	P		**P**		**16 44 29.4**	**+0.7**
	comp=Z,9.9nm,0.7s,baz=333,slow=8.3,SNR=55								
ABKAR	**Akbulak array**	**53.65**	**41**	*e*P		**P**		**16 44 32.9**	**-0.1**
	comp=Z,3.3nm,0.8s								
KIV	**Kislovodsk**	**54.55**	**57**	*e*P		P		16 44 46.5	+6.8
KIV				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,232nm,16.0s								
KBZ	**Khabaz**	**54.81**	**57**	LR		LR		17 07 52.2	
	comp=Z,197nm,18.7s,baz=112,slow=36								
NEY	**Neytrino**	**55.21**	**57**	*e*P		P		16 44 50.3	+5.7
NEY				pmax		pmax			
	comp=Z,1.0nm,1.1s								

ZEI	**Tsey**	**55.95**	**56**	*e*P		**P**		**16 44 50.6**	**+0.6**
ZEI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRTR	**Keskin Array B**	**55.96**	**66**	P		**P**		**16 44 51.3**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=360,slow=3.9,SNR=7.5								
BRTR				LR		LR		17 11 12.5	
	comp=Z,76nm,18.6s,baz=316,slow=39								
TLY	**Talaya**	**56.76**	**7**	LR		LR		17 11 51.4	
	comp=Z,50nm,18.4s,baz=3.0,slow=39								
ZAK	**Zakamensk**	**58.04**	**7**	*e*P		**P**		**16 45 04.2**	**-0.3**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.6s								
MKAR	**Makanchi Array**	**59.81**	**24**	P		**P**		**16 45 17.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=26,slow=4.6,SNR=28								
MKAR				LR		LR		17 14 43.4	
	comp=Z,219nm,19.8s,baz=351,slow=40								
ULN	**Ulaanbaatar**	**60.69**	**5**	*c e*P		**P**		**16 45 24.0**	**+1.1**
ULN				pmax		pmax			
	comp=Z,15nm,1.7s								
ULN	**Ulaanbaatar**	**60.69**	**5**	*e*P		**P**		**16 45 23.5**	**+0.5**
	comp=Z,8.2nm,1.0s								
SONM	**Songino Array**	**60.70**	**5**	P		**P**		**16 45 24.4**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=343,slow=6.4,SNR=17								
SONM				LR		LR		17 13 19.7	
	comp=Z,94nm,18.4s,baz=12,slow=38								
EKS2	**Erkin-Say**	**62.59**	**32**	*e*P		**P**		**16 45 37.4**	**+1.6**
EKS2				pmax		pmax			
	comp=Z,5.0nm,0.9s								
EKS2	**Erkin-Say**	**62.59**	**32**	*e*P		**P**		**16 45 37.4**	**+1.6**
	comp=Z,5.3nm,0.9s								
TKM2	**Tokmak 2**	**62.63**	**30**	*e*P		**P**		**16 45 37.5**	**+1.3**
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TKM2	**Tokmak 2**	**62.63**	**30**	*e*P		**P**		**16 45 37.5**	**+1.3**
	comp=Z,4.3nm,0.9s								
ASAJ	**Asahikawa**	**62.65**	**337**	LR		LR		17 15 53.2	
	comp=Z,89nm,18.1s,baz=72,slow=39								
AAK	**Ala-Archa**	**62.74**	**31**	*c i*P		**P**		**16 45 38.5**	**+1.7**
AAK				pmax		pmax			
	comp=Z,14nm,1.2s								
AAK	**Ala-Archa**	**62.74**	**31**	*e*P		**P**		**16 45 38.3**	**+1.5**
	comp=Z,6.1nm,0.9s								
SDV	**Santo Domingo**	**62.78**	**184**	*e*P		**P**		**16 45 37.4**	**+0.1**
	comp=Z,7.0nm,1.0s								
WMQ	**Urumqi**	**63.39**	**20**	*e*P		**P**		**16 45 41.3**	**+0.3**
WMQ				pP		**pP**		**16 45 46.5**	**+2.3**
WMQ				sP		**sP**		**16 45 48.8**	**+3.4**
WMQ				PcP		**PcP**		**16 46 17.5**	**-0.3**
WMQ				*e*S		**S**		**16 54 12.0**	**-1.2**
WMQ				SS		**SS**		**16 58 22.0**	**+3.2**
WMQ				PMZ					
	comp=Z,8.0nm,0.8s								
WMQ				PMZ					
	comp=Z,66nm,5.2s								
WMQ				LN					
	comp=Z,380nm,16.8s								
WMQ				LE					
	comp=Z,270nm,16.6s								
WMQ				LZ					
	comp=Z,210nm,18.0s								
MDJ	**Mudanjiang**	**63.43**	**347**	P		**P**		**16 45 40.9**	**-0.3**
MDJ				pP		**pP**		**16 45 44.1**	**-0.3**
MDJ				sP		**sP**		**16 45 45.5**	**-0.1**
MDJ				PP		**PP**		**16 47 57.4**	**-2.6**
MDJ				S		S		16 54 08.3	-5.2
MDJ				ScS		**SKKSac**		**16 55 31.1**	**-2.8**
MDJ				SS		**SS**		**16 58 17.0**	**-2.3**
MDJ				PMZ					
	comp=Z,8.0nm,0.8s								
MDJ				PMZ					
	comp=Z,160nm,4.9s								
MDJ				LN					
	comp=Z,35nm,21.7s								
MDJ				LE					
	comp=Z,74nm,21.7s								
USRK	**Ussuriysk Ar.**	**63.66**	**345**	P		**P**		**16 45 42.8**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=7.6,slow=4.9,SNR=12								
USRK				LR		LR		17 13 58.2	
	comp=Z,90nm,20.3s,baz=23,slow=36								
GEYT	**Alibeck**	**64.05**	**46**	P		**P**		**16 45 46.6**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=342,slow=7.7,SNR=3.0								
GEYT				LR		LR		17 15 02.2	
	comp=Z,211nm,20.4s,baz=355,slow=37								
VLA	**Vladivostok**	**64.75**	**345**	P		**P**		**16 45 48.5**	**-1.3**
VLA				pmax		pmax			
	comp=Z,14nm,1.0s								
ROSC	**El Rosal**	**66.91**	**188**	LR		LR		17 16 23.6	
	comp=Z,106nm,19.1s,baz=186,slow=37								
HHC	**Hu-ho-hao-te**	**67.78**	**1**	*e*P		P		16 46 05.5	-3.9
HHC				PP		**PP**		**16 48 34.6**	**-3.6**
HHC				S		S		16 54 58.0	-8.9
HHC				PMZ					
	comp=Z,14nm,0.8s								
HHC				PMZ					
	comp=Z,83nm,3.8s								
HHC				LN					
	comp=Z,130nm,16.0s								
HHC				LE					
	comp=Z,170nm,16.0s								
GTA	**Gaotai**	**68.81**	**11**	*e*P		**P**		**16 46 17.5**	**+1.6**
GTA				pP		**pP**		**16 46 21.8**	**+2.6**
GTA				sP		**sP**		**16 46 25.0**	**+4.6**
GTA				PMZ					
	comp=Z,8.0nm,0.8s								
MAJO	**Matsushiro**	**70.64**	**339**	*e*P		**P**		**16 46 27.5**	**+0.4**
MAJO				pmax		pmax			
	comp=Z,44nm,1.2s								
MJAR	**Matsushiro Arr**	**70.64**	**339**	P		**P**		**16 46 27.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=353,slow=4.7,SNR=4.4								
KSRS	**Korea Array**	**70.67**	**348**	LR		LR		17 17 09.6	
	comp=Z,51nm,21.9s,baz=40,slow=36								
TORD	**Torodi Ar. Bea**	**70.88**	**106**	P		**P**		**16 46 29.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=322,slow=6.1,SNR=5.6								
TORD				LR		LR		17 15 37.5	
	comp=Z,106nm,18.6s,baz=335,slow=34								
OTAV	**Otavalo**	**71.72**	**192**	P		**P**		**16 46 34.9**	**+0.5**
	comp=Z,4.2nm,0.6s								
DBIC	**Dimbokro**	**75.08**	**115**	P		**P**		**16 46 55.8**	**+2.1**
	comp=Z,4.9nm,1.1s,baz=351,slow=6.2,SNR=3.0								
DBIC				LR		LR		17 16 58.1	
	comp=Z,219nm,19.1s,baz=314,slow=33								
LIC	**Lamto**	**75.46**	**115**	*e*P		**P**		**16 46 54.4**	**-1.4**
LIC				*e*R					
	comp=Z,286nm,20.5s								
LIC	**Lamto**	**75.46**	**115**	*e*P		**P**		**16 46 54.4**	**-1.4**
LSA	**Lhasa**	**77.73**	**20**	*e*P		**P**		**16 47 09.1**	**0.0**
LSA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
LSA	**Lhasa**	**77.73**	**20**	*e*P		**P**		**16 47 09.1**	**0.0**
	comp=Z,1.6nm,0.5s								
SAML	**Samuel**	**80.48**	**176**	*e*P		**P**		**16 47 25.5**	**+1.9**
	comp=Z,3.9nm,0.8s								
LPAZ	**La Paz**	**87.75**	**181**	LR		LR		17 27 37.6	
	comp=Z,98nm,20.0s,baz=332,slow=36								
CMAR	**Chiang Mai Arr**	**89.57**	**14**	P		**P**		**16 48 09.0**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=320,slow=4.4,SNR=4.9								
WRA	**Warramunga Arr**	**126.82**	**335**	PKP		**PKPdf**		**16 54 14.7**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=335,slow=2.1,SNR=4.6								
ASAR	**Alice Springs**	**130.54**	**335**	PKP		**PKPdf**		**16 54 22.1**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=348,slow=1.7,SNR=11								
VNA3	**Neumayer Olymp**	**147.36**	**150**	P		**PKPbc**		**16 54 54.3**	**+0.7**
VNA2	**Neumayer--Watz**	**147.45**	**148**	P		**PKPbc**		**16 54 54.5**	**+0.6**
	baz=341,slow=7.4								
SNAA	**Sanae**	**148.86**	**147**	PKPbc		**PKPbc**		**16 54 58.2**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=61,slow=3.0,SNR=5.9								

IDC ***15*** *16:51:01.4±0.9,37.°09S×73.°80W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.1/27, mbtmp4.2/10, ML3.2/3, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=33.7km s-min=18.0km az=97.0*

GUC ***15*** *16:51:03.5±0.6, 37.°49S×73.°65W, h11km±6km, ML4.4*

NEIC ***15*** *16:51:03.5, 37.°49S×73.°65W, h11km, mb4.6/3, ML4.4(GUC), After GUC.*

NEIC Felt [II] at Concepcion.

ISC 15 16:51:01.7±0.7, 37.°50S±0.°05×73.°6W±0.°1, h10km, n32, σ1°43/32, mb4.2/8, MS3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.77**	**31**	*e*P		**Pb**	**16 51 17.8**	**+0.7**
CCSP				*i* S		**Sb**	**16 51 29.1**	**+1.6**
CCSP				AML		AML	16 51 34.9	
	comp=E,34μm,0.4s							
CCSP	**San Pedro de C**	**0.77**	**31**	*e*P		**Pb**	**16 51 17.8**	**+0.7**
CCSP				*i* S		**Sb**	**16 51 29.1**	**+1.6**
LNCH	**Linares**	**2.31**	**45**	*e*S		**Sb**	**16 52 12.5**	**+0.7**
TALC	**Talca**	**2.63**	**38**	*e*P		**Pb**	**16 51 47.8**	**-1.1**
TALC				*i* S		**Sb**	**16 52 21.2**	**0.0**
TALC	**Talca**	**2.63**	**38**	*e*P		**Pb**	**16 51 47.8**	**-1.1**
TALC				*i* S		**Sb**	**16 52 21.2**	**0.0**
PLCA	**Paso Flores**	**4.01**	**145**	Pn		**Pb**	**16 52 11.6**	**-0.9**
	comp=E,0.6nm,0.3s,baz=316,slow=14,SNR=22							
PLCA				Lg		Lg	16 53 29.7	
	comp=E,8.7nm,0.3s,baz=68,slow=20,SNR=4.7							
PLCA	**Paso Flores**	**4.01**	**145**	*e*Pn		**Pb**	**16 52 10.6**	**-1.8**
PLCA				*e*Pg		Pg	16 52 25.5	+7.1
PLCA				*e*Sn		**Sn**	**16 52 50.1**	**-0.2**
PLCA				Lg		Lg	16 53 29.7	
CFAA	**Coronel Fontan**	**7.36**	**39**	Pn		**Pn**	**16 52 47.6**	**-1.6**
	comp=E,0.0nm,0.3s,baz=220,slow=13,SNR=4.0							
CFAA				Lg		Lg	16 54 35.0	
	comp=E,0.2nm,0.3s,baz=335,slow=22,SNR=6.1							
CFAA				LR		LR	16 56 01.4	
	comp=E,109nm,20.9s,baz=224,slow=42							
TRQA	**Tornquist**	**9.22**	**97**	*e*Pn		Pn	16 53 20.1	+5.4
	comp=E,24nm,0.9s							
TRQA				*e*Sg		Sn	16 56 00.6	+62
LVC	**Limon Verde**	**15.38**	**17**	Pn		Pn	16 54 33.7	-5.4
	comp=E,3.8nm,0.3s,baz=206,slow=14,SNR=2.4							
LVC				LR		LR	17 00 21.7	
	comp=E,1μm,21.2s,baz=202,slow=37							
USHA	**Ushuaia**	**17.69**	**170**	P		**P**	**16 55 13.3**	**+4.4**
	comp=E,0.2nm,0.3s,baz=348,slow=14,SNR=1.8							
USHA				LR		LR	17 03 37.8	
	comp=E,628nm,18.1s,baz=318,slow=42							
EFI	**East Falkland**	**17.93**	**147**	*e*Pn		P	16 55 17.5	+6.1
	comp=E,30nm,0.7s							
LPAZ	**La Paz**	**21.68**	**14**	P		**P**	**16 55 51.9**	**-1.3**
	comp=E,5.0nm,0.9s,baz=170,slow=9.8,SNR=12							
SIV	**San Ignacio**	**24.12**	**31**	P		**P**	**16 56 16.4**	**-1.4**
	comp=E,4.8nm,0.8s,baz=230,slow=10,SNR=14							
SIV				LR		LR	17 07 31.8	
	comp=E,499nm,19.1s,baz=227,slow=42							
PMSA	**Palmer Station**	**27.90**	**171**	LR		LR	17 09 16.8	
	comp=E,286nm,18.5s,baz=280,slow=39							
BDFB	**Brasilia**	**31.41**	**53**	P		**P**	**16 57 22.4**	**-0.8**
	comp=E,3.5nm,0.4s,baz=219,slow=9.3,SNR=4.9							
SDV	**Santo Domingo**	**46.23**	**4**	P		**P**	**16 59 25.3**	**-2.0**
QSPA	**South Pole Qui**	**52.74**	**180**	P		P	17 00 21.4	+5.0
	comp=E,4.9nm,1.2s,baz=143,slow=4.7,SNR=4.6							
TEIG	**Tepich**	**59.06**	**344**	P		**P**	**17 01 01.2**	**-0.7**
SBA	**Scott Base**	**59.40**	**192**	P		P	17 01 09.6	+5.9
	comp=E,5.8nm,1.3s							
MAW	**Mawson**	**70.19**	**164**	LR		LR	17 34 41.0	
	comp=E,133nm,18.0s,baz=238,slow=37							
TXAR	**Lajitas Array**	**72.21**	**333**	P		**P**	**17 02 26.2**	**-0.7**
	comp=E,0.3nm,0.6s,baz=163,slow=6.6,SNR=3.1							
TXAR				LR		LR	17 29 22.4	
	comp=E,56nm,18.3s,baz=0.0,slow=32							
DBIC	**Dimbokro**	**77.50**	**71**	P		**P**	**17 03 00.3**	**+2.5**
	comp=E,7.7nm,0.9s,baz=213,slow=7.1,SNR=5.9							
DBIC	**Dimbokro**	**77.50**	**71**	*e*P		**P**	**17 02 58.4**	**+0.6**
	comp=E,21nm,1.2s							
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P		**P**	**17 03 46.8**	**+1.3**
	comp=E,1.1nm,0.7s,baz=222,slow=5.0,SNR=5.9							
TORD				LR		LR	17 40 52.4	
	comp=E,46nm,18.9s,baz=270,slow=34							
BRTR	**Keskin Array B**	**124.59**	**63**	PKP		**PKPdf**	**17 10 00.6**	**-0.7**
	comp=E,0.2nm,0.5s,baz=192,slow=3.2,SNR=2.2							
ABKAR	**Akbulak array**	**144.78**	**55**	*e*PKPdf		PKPbc	17 10 38.0	+0.8
PSI	**Prapat**	**144.79**	**167**	PKPbc		**PKPdf**	**17 10 40.3**	**+0.7**
	comp=E,7.4nm,0.7s,baz=135,slow=1.5,SNR=7.1							
YAK	**Yakutsk**	**151.52**	**337**	*e*PKPbc		**PKPbc**	**17 10 54.5**	**-0.5**
AAK	**Ala-Archa**	**155.14**	**68**	*e*PKPdf		**PKPdf**	**17 10 56.8**	**+1.9**
AAK				*e*PKPbc		PKPbc	17 11 04.1	
AAK				*e*PKPab		**PKPab**	**17 11 20.6**	**+0.9**
ZALV	**Zalesovo Beam**	**157.84**	**35**	PKP		**PKPdf**	**17 10 57.1**	**-0.7**
	comp=E,0.2nm,0.3s,baz=263,slow=2.3,SNR=4.5							
ZALV				PKPab		**PKPab**	**17 11 30.6**	**-0.1**
	comp=E,0.7nm,0.5s,baz=298,slow=3.2,SNR=4.9							
MKAR	**Makanchi Array**	**159.92**	**55**	PKP		**PKPdf**	**17 11 01.0**	**+0.4**
	comp=E,0.3nm,0.9s,baz=29,slow=2.8,SNR=4.2							
MKAR				PKPab		**PKPab**	**17 11 40.9**	**+0.8**
	comp=E,0.6nm,0.8s,baz=302,slow=2.7,SNR=4.4							

DJA 15 16:58:58.1±0.6, 9.°3S±8.°×117.°7E±.°, h112km±8km, M3.6/14, MLv3.6/14, Subwawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DNP	**Denpasar**	**1.70**	**279**	P		Pn	16 59 27.7	+0.2
DNP				S		Sn	16 59 51.8	+2.0
IGBI	**Denpasar**	**1.75**	**274**	P		Pn	16 59 27.8	-

2.0nm,0.6s,baz=188,slow=9.8,SNR=9.8
PSI Prapat 28.39 259 P **P** **17 08 29.9 -0.2**
2.6nm,0.3s,baz=139,slow=3.3,SNR=5.9
CMAR Chiang Mai Arr 28.53 292 P **P** **17 08 29.8 -1.3**
1.4nm,0.9s,baz=98,slow=7.2,SNR=13
CMAR PcP **PcP** **17 11 42.7 +0.6**
0.2nm,0.7s,baz=79,slow=1.9,SNR=4.1
CMAR LR LR 17 20 26.8
comp=Z,77nm,18.4s,baz=33,slow=38
WRAB Tennant Creek 29.85 166 *e*P **P** **17 08 42.3 -0.4**
WRA Warramunga Arr 29.86 166 P **P** **17 08 42.2 -0.6**
1.0nm,0.5s,baz=348,slow=9.6,SNR=15
ASAR Alice Springs 33.35 168 P **P** **17 09 13.6 0.0**
0.9nm,0.4s,baz=354,slow=7.1,SNR=68
USRK Ussuriysk Ar. 35.21 7 P **P** **17 09 31.1 +1.7**
4.3nm,0.8s,baz=201,slow=9.0,SNR=8.1
ASAJ Asahikawa 37.45 19 P **P** **17 09 48.7 +0.1**
10nm,0.9s,baz=283,slow=13,SNR=4.7
H11S3 WAKE ISLAND Hy 39.78 72 T T 17 53 14.6
baz=262,slow=75,SNR=52
H11S1 WAKE ISLAND Hy 39.79 72 T T 17 53 05.5
baz=262,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 39.79 72 T T 17 53 04.9
baz=262,slow=75,SNR=36
H11N1 WAKE ISLAND Hy 40.15 70 T T 17 53 38.7
baz=265,slow=74,SNR=26
H11N2 WAKE ISLAND Hy 40.16 70 T T 17 53 38.3
baz=265,slow=74,SNR=24
H11N3 WAKE ISLAND Hy 40.17 70 T T 17 53 40.3
baz=265,slow=74,SNR=24
TAPN Taplejung 41.05 301 *e*P **P** **17 10 17.4 -1.8**
6.5nm,0.4s
ODAN Odare 41.16 301 *e*P **P** **17 10 18.4 -1.7**
20nm,0.7s
RAMN Ramite 41.86 300 *e*P **P** **17 10 25.0 -0.8**
11nm,0.7s
SONM Songino Array 42.23 340 P **P** **17 10 27.4 -1.0**
0.4nm,0.5s,baz=155,slow=10,SNR=4.9
JIRN Jiri 42.43 301 *e*P **P** **17 10 28.9 -1.7**
17nm,0.6s
GUN Gumba 42.76 301 *e*P **P** **17 10 31.6 -1.7**
18nm,0.7s
PKI Pulchoki 43.06 301 *e*P **P** **17 10 33.4 -2.3**
7.3nm,0.7s
PKIN Phulchoki 43.07 301 *e*P **P** **17 10 34.2 -1.5**
STKA Stephens Creek 43.19 161 P **P** **17 10 36.8 +0.7**
1.5nm,0.4s,baz=348,slow=7.4,SNR=16
KKN Kakani 43.23 301 *e*P **P** **17 10 34.7 -2.2**
4.3nm,0.5s
GKN Gorkha 43.84 301 *e*P **P** **17 10 39.4 -2.3**
4.6nm,0.4s
KOLN Koldanda 44.66 300 *e*P **P** **17 10 46.2 -2.1**
18nm,0.7s
DANN Dangsing 44.68 301 *e*P **P** **17 10 46.2 -2.4**
9.8nm,0.5s
PYUN Piuthan 45.26 301 *e*P **P** **17 10 51.4 -1.8**
36nm,0.8s
PETK Petropavlovsk- 50.45 24 P **P** **17 11 35.4 +2.8**
1.7nm,0.5s,baz=198,slow=4.7,SNR=14
MKAR Makanchi Array 53.21 323 P **P** **17 11 52.5 -0.9**
4.0nm,0.6s,baz=124,slow=8.1,SNR=45
ZALV Zalesovo Beam 55.84 331 P **P** **17 12 10.8 -1.5**
0.7nm,0.3s,baz=114,slow=7.0,SNR=6.4
TIXI Tiksi 62.46 1 *e*P **P** **17 12 58.8 +1.1**
5.7nm,0.8s
GEYT Alibeck 67.61 307 P **P** **17 13 31.7 -0.2**
1.6nm,0.7s,baz=108,slow=4.7,SNR=3.1
ABKAR Akbulak array 68.04 319 *e*P **P** **17 13 32.7 -1.6**
1.2nm,0.6s
AKTO Aktyubinsk 69.50 320 P **P** **17 13 42.2 -1.2**
1.1nm,0.7s,baz=89,slow=6.8,SNR=4.3
AKTO LR LR 17 47 04.1
comp=Z,39nm,18.6s,baz=74,slow=38
RAYN Ar Rayn 78.45 292 *e*P **P** **17 14 34.5 -1.8**
4.7nm,0.8s
KBZ Khabaz 79.33 313 P **P** **17 14 39.6 -1.0**
2.2nm,1.0s,baz=102,slow=6.6,SNR=5.5
ILAR Eielson Array 80.23 26 P **P** **17 14 46.5 +1.4**
0.5nm,0.5s,baz=248,slow=5.4,SNR=6.0
ARCES ARCESS Array B 85.41 340 P **P** **17 15 11.8 -0.1**
6.3nm,1.0s,baz=79,slow=6.3,SNR=9.4
BRTR Keskin Array B 86.62 310 P **P** **17 15 17.5 -1.3**
0.2nm,0.4s,baz=138,slow=3.5,SNR=3.1
FINES FINESS Array B 87.11 332 P **P** **17 15 19.7 -0.7**
0.6nm,0.4s,baz=78,slow=4.7,SNR=6.7
RES Resolute Bay 92.50 10 *e*P **P** **17 15 46.5 +1.0**
2.1nm,0.7s
YKA Yellowknife Ar 94.57 24 P **P** **17 15 57.1 +1.9**
1.2nm,0.8s,baz=300,slow=4.5,SNR=24
TORD Torodi Ar. Bea 121.14 291 PKP **PKPdf** **17 21 28.2 -0.3**
0.5nm,0.6s,baz=145,slow=2.8,SNR=4.1
PLCA Paso Flores 144.99 157 PKPbc **PKPab** **17 22 11.2 -0.5**
1.0nm,0.5s,baz=135,slow=2.9,SNR=3.2

IDC 15 17:24:56.5±4.0, 18°33S×179°46W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/27, mbtmp3.8/3, Error ellipse: s-maj=156.3km s-min=64.0km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.55**	**241**	P	P	17 32 12.7	+0.1
	4.7nm,1.3s,baz=74,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**43.57**	**260**	P	P	17 33 03.5	+0.9
	0.4nm,0.3s,baz=93,slow=8.3,SNR=28						
ASAR	**Alice Springs**	**43.72**	**255**	P	P	17 33 02.3	-1.5
	0.2nm,0.3s,baz=94,slow=7.2,SNR=13						
AKASG	**Malin Array Be**	**140.45**	**331**	PKP	PKPdf	17 44 25.2	-2.4
	0.6nm,0.4s,baz=53,slow=2.3,SNR=8.4						
BRTR	**Keskin Array B**	**144.35**	**314**	PKP	PKPdf	17 44 35.4	+0.3
	0.3nm,0.4s,baz=49,slow=1.9,SNR=3.4						

*ISCJB **15** 17:28:23.8±1.2, 47°.2N±0°.2×153°.2E±0°.4, h56km, mb3.7/5, Error ellipse: s-maj=41.6km s-min=19.8km az=27.3*
*IDC **15** 17:28:25.0±5.0, 47°.19N×153°.11E, h49km±47km, mb3.4/5, mb1 3.5/6, mb1mx3.1/40, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=49.9km s-min=28.9km az=93.0*
ISC 15 17:28:25.8±1.4, 47°.2N±0°.2×153°.2E±0°.3, h56km, n12, σ0s53/6, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.57**	**25**	P	**Pn**	**17 29 59.5**	**-0.2**
	0.8nm,0.3s,baz=206,slow=13,SNR=24						
H11N2	**WAKE ISLAND Hy**	**29.63**	**153**	T	T	18 06 10.3	
	baz=341,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**29.64**	**153**	T	T	18 06 14.6	
	baz=341,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**29.64**	**153**	T	T	18 06 12.4	
	baz=341,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**30.72**	**154**	T	T	18 07 33.9	
	baz=342,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**30.73**	**154**	T	T	18 07 45.8	
	baz=342,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**30.74**	**154**	T	T	18 07 46.6	
	baz=342,slow=76,SNR=32						
YKA	**Yellowknife Ar**	**50.52**	**37**	P	**P**	**17 37 18.0**	**+0.2**
	0.3nm,0.5s,baz=297,slow=7.1,SNR=7.7						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**17 38 51.0**	**+0.6**
	2.0nm,1.0s,baz=25,slow=5.9,SNR=7.3						
HFS	**Hagfors**	**68.02**	**339**	P	**P**	**17 39 19.0**	**+0.3**
	0.5nm,0.4s,baz=42,slow=4.5,SNR=6.0						
AKASG	**Malin Array Be**	**71.17**	**326**	P	**P**	**17 39 37.6**	**-0.6**
	0.2nm,0.3s,baz=33,slow=6.5,SNR=2.5						
ASAR	**Alice Springs**	**72.67**	**198**	P	**P**	**17 39 47.4**	**-0.1**
	0.2nm,0.5s,baz=13,slow=6.6,SNR=6.6						

*ISCJB **15** 17:34:21.5±0.2, 43°.53N±0°.02×12°.36E±0°.02, h20km±2km, Error ellipse: s-maj=3.5km s-min=2.7km az=4.1*
*ROM **15** 17:34:21.8±0.1, 43°.48N×12°.42E, h8km, Ml2.7/34, Error ellipse: s-maj=1.2km s-min=0.9km az=9.0*
*CSEM **15** 17:34:21.5±0.1, 43°.48N×12°.38E, h10km, ML3.2/12, Error ellipse: s-maj=3.0km s-min=2.5km az=17.0*
*LDG **15** 17:34:21.6±0.1, 43°.47N×12°.48E, h10km, Ml2.8/11, Error ellipse: s-maj=2.1km s-min=1.8km az=7.0*
*PRU **15** 17:34:23.8, 43°.51N×12°.85E, h0km*
ISC 15 17:34:21.4±0.7, 43°.48N±0°.02×12°.42E±0°.01, h11km±4km, n132, σ1s47/184, 16C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.02**	**83**	Pg	**Pg**	**17 34 23.4**	**0.0**
ATPC				Sg	**Sg**	**17 34 24.5**	**-0.4**
ATVO	**AVT- Monte Val**	**0.10**	**188**	Pg	**Pg**	**17 34 24.5**	**+0.4**
ATVO				Sg	**Sg**	**17 34 26.4**	**+0.3**
ATVO	**AVT- Monte Val**	**0.10**	**188**	Pg	**Pg**	**17 34 24.5**	**+0.4**
ATVO				Sg	**Sg**	**17 34 26.4**	**+0.3**
PIEI	**Pieia**	**0.10**	**54**	Pg	**Pg**	**17 34 24.5**	**+0.4**
PIEI				Sg	**Sg**	**17 34 26.9**	**+0.7**
	10μm,0.3s						
PIEI	**Pieia**	**0.10**	**54**	Pg	**Pg**	**17 34 24.5**	**+0.4**
PIEI				Sg	**Sg**	**17 34 26.9**	**+0.7**
	10μm,0.3s						
BADI	**Badiali**	**0.14**	**284**	⇑*i*Pg	**Pg**	**17 34 25.2**	**+0.6**
BADI				Sg	**Sg**	**17 34 27.8**	**+0.9**
	7μm,0.5s						
BADI	**Badiali**	**0.14**	**284**	⇑*i*Pg	**Pg**	**17 34 25.2**	**+0.6**
BADI				Sg	**Sg**	**17 34 27.8**	**+0.9**
	7μm,0.5s						
CDCA	**Citt' di Caste**	**0.14**	**262**	Pg	**Pg**	**17 34 25.2**	**+0.6**
CDCA				Sg	**Sg**	**17 34 28.0**	**+1.0**
	5μm,0.5s						
CDCA	**Citt' di Caste**	**0.14**	**262**	Pg	**Pg**	**17 34 25.2**	**+0.6**
CDCA				Sg	**Sg**	**17 34 28.0**	**+1.0**
	5μm,0.5s						
ATFO	**Monte Foce - G**	**0.15**	**136**	Pg	**Pg**	**17 34 25.5**	**+0.6**
ATFO				Sg	**Sg**	**17 34 28.3**	**+0.8**
ATFO	**Monte Foce - G**	**0.15**	**136**	Pg	**Pg**	**17 34 25.5**	**+0.6**
ATFO				Sg	**Sg**	**17 34 28.3**	**+0.8**
PARC	**Parchiule**	**0.22**	**322**	⇑*e*Pg	**Pg**	**17 34 26.7**	**+0.7**
	2μm,0.3s						
PARC	**Parchiule**	**0.22**	**322**	⇑*e*Pg	**Pg**	**17 34 26.7**	**+0.7**
	2μm,0.3s						
FSSB	**Fossombrone**	**0.34**	**50**	⇑*i*Pg	**Pb**	**17 34 28.8**	**-0.6**
	1μm,0.5s						
FSSB	**Fossombrone**	**0.34**	**50**	⇑*i*Pg	**Pb**	**17 34 28.8**	**-0.6**
	1μm,0.5s						
CAFI	**Castiglion Fio**	**0.36**	**246**	⇑*i*Pg	**Pg**	**17 34 29.3**	**+0.7**
CAFI				Sg	**Sg**	**17 34 35.2**	**+1.7**
	753nm,0.6s						
CAFI	**Castiglion Fio**	**0.36**	**246**	⇑*i*Pg	**Pg**	**17 34 29.3**	**+0.7**
CAFI				Sg	**Sg**	**17 34 35.2**	**+1.7**
	753nm,0.6s						
CRE	**Caprese Michel**	**0.37**	**293**	Pg	**Pg**	**17 34 29.4**	**+0.6**
CRE				Sg	**Sg**	**17 34 35.5**	**+1.7**
	372nm,0.4s						
CRE	**Caprese Michel**	**0.37**	**293**	Pg	**Pg**	**17 34 29.4**	**+0.6**
CRE				Sg	**Sg**	**17 34 35.5**	**+1.7**
	372nm,0.4s						
ARVD	**Arcevia**	**0.38**	**87**	⇑*i*Pg	**Pb**	**17 34 29.5**	**-0.6**
ARVD				Sg	**Sb**	**17 34 35.8**	**-0.2**
	522nm,0.3s						
ARVD	**Arcevia**	**0.38**	**87**	⇑*i*Pg	**Pb**	**17 34 29.5**	**-0.6**
ARVD				Sg	**Sb**	**17 34 35.8**	**-0.2**
	522nm,0.3s						
PESA	**Pesaro**	**0.55**	**33**	Pg	**Pb**	**17 34 33.0**	**-0.1**
PESA				Sg	**Sb**	**17 34 42.6**	**+1.6**
	475nm,0.4s						
PESA	**Pesaro**	**0.55**	**33**	Pg	**Pb**	**17 34 33.0**	**-0.1**
PESA				Sg	**Sb**	**17 34 42.6**	**+1.6**
	475nm,0.4s						
ASQU	**Asqua**	**0.56**	**305**	Pg	**Pg**	**17 34 32.8**	**+0.5**
ASQU				Sg	**Sg**	**17 34 41.9**	**+2.2**
	318nm,0.5s						
ASQU	**Asqua**	**0.56**	**305**	Pg	**Pg**	**17 34 32.8**	**+0.5**
ASQU				Sg	**Sg**	**17 34 41.9**	**+2.2**
	318nm,0.5s						
CING	**Cingoli**	**0.57**	**100**	Pg	**Pb**	**17 34 33.0**	**-0.4**
CING				Sg	**Sb**	**17 34 42.7**	**+1.1**
	230nm,0.5s						
CING	**Cingoli**	**0.57**	**100**	Pg	**Pb**	**17 34 33.0**	**-0.4**
CING				Sg	**Sb**	**17 34 42.7**	**+1.1**
	230nm,0.5s						
SFI	**Santa Sofia**	**0.60**	**316**	Pg	**Pg**	**17 34 33.5**	**+0.5**
SFI				Sg	**Sb**	**17 34 43.4**	**+1.1**
	289nm,0.8s						
SFI	**Santa Sofia**	**0.60**	**316**	Pg	**Pg**	**17 34 33.5**	**+0.5**
SFI				Sg	**Sb**	**17 34 43.4**	**+1.1**
	289nm,0.8s						
MGAB	**Montegabbione**	**0.61**	**202**	⇑*i*Pg	**Pg**	**17 34 33.7**	**+0.5**
MGAB				Sg	**Sb**	**17 34 43.4**	**+0.8**
	1μm,0.4s						
MGAB	**Montegabbione**	**0.61**	**202**	⇑*i*Pg	**Pg**	**17 34 33.7**	**+0.5**
MGAB				Sg	**Sb**	**17 34 43.4**	**+0.8**
	1μm,0.4s						
SENI	**Senigallia**	**0.63**	**69**	Pg	**Pn**	**17 34 35.7**	**-0.5**
	223nm,0.7s						
SENI	**Senigallia**	**0.63**	**69**	Pg	**Pn**	**17 34 35.7**	**-0.5**
	223nm,0.7s						
FDMO	**Fiordimonte**	**0.66**	**132**	Pg	**Pg**	**17 34 34.4**	**+0.3**
FDMO				Sg	**Sb**	**17 34 45.1**	**+1.1**
	167nm,0.4s						
FDMO	**Fiordimonte**	**0.66**	**132**	Pg	**Pg**	**17 34 34.4**	**+0.3**
FDMO				Sg	**Sb**	**17 34 45.1**	**+1.1**
	167nm,0.4s						
SACS	**San Casciano d**	**0.73**	**211**	Pg	**Pg**	**17 34 36.1**	**+0.6**
	407nm,0.7s						
VMG	**Vicchio**	**0.80**	**307**	Pg	**Pg**	**17 34 38.0**	**+1.2**
	150nm,0.4s						
VMG	**Vicchio**	**0.80**	**307**	Pg	**Pg**	**17 34 38.0**	**+1.2**
	150nm,0.4s						
CSNT	**Castellina Chi**	**0.82**	**270**	Pg	**Pg**	**17 34 37.9**	**+0.6**
	374nm,0.9s						
CSNT	**Castellina Chi**	**0.82**	**270**	Pg	**Pg**	**17 34 37.9**	**+0.6**
	374nm,0.9s						
AOI	**Ancona**	**0.86**	**85**	Pg	**Pb**	**17 34 38.5**	**+0.2**
	128nm,0.5s						
AOI	**Ancona**	**0.86**	**85**	Pg	**Pb**	**17 34 38.5**	**+0.2**
	128nm,0.5s						
CESX	**Cesi**	**0.88**	**172**	Pg	**Pb**	**17 34 39.2**	**+0.6**
	563nm,0.8s						
CESX	**Cesi**	**0.88**	**172**	Pg	**Pb**	**17 34 39.2**	**+0.6**
	563nm,0.8s						
ARCI	**Arcidosso**	**0.93**	**228**	Pg	**Pg**	**17 34 39.9**	**+0.5**
	167nm,0.7s						
ARCI	**Arcidosso**	**0.93**	**228**	Pg	**Pg**	**17 34 39.9**	**+0.5**
	167nm,0.7s						
LATE	**Laterza**	**0.98**	**208**	Pg	**Pb**	**17 34 41.6**	**+1.3**
	988nm,1.3s						
LATE	**Laterza**	**0.98**	**208**	Pg	**Pb**	**17 34 41.6**	**+1.3**
	988nm,1.3s						
LNSS	**Leonessa**	**0.98**	**152**	Pg	**Pg**	**17 34 40.3**	**0.0**
	297nm,0.7s						
LNSS	**Leonessa**	**0.98**	**152**	Pg	**Pg**	**17 34 40.3**	**0.0**
	297nm,0.7s						
SMA1	**SAN MARTINO**	**1.08**	**141**	Pg	**Pn**	**17 34 42.9**	**+0.4**
	250nm,0.5s						
GRFL	**Gerfalco**	**1.11**	**253**	Pg	**Pb**	**17 34 43.2**	**+0.7**
	41nm,0.6s						
GRFL	**Gerfalco**	**1.11**	**253**	Pg	**Pb**	**17 34 43.2**	**+0.7**
	41nm,0.6s						
MNS	**Montasola**	**1.11**	**170**	Pg	**Pb**	**17 34 42.9**	**+0.3**
	120nm,0.5s						
MNS	**Montasola**	**1.11**	**170**	Pg	**Pb**	**17 34 42.9**	**+0.3**
	120nm,0.5s						
GUMA	**Gualdo di Mace**	**1.18**	**110**	Pg	Pb	17 34 37.3	-6.5
	755nm,0.5s						
GUMA	**Gualdo di Mace**	**1.18**	**110**	Pg	Pb	17 34 37.3	-6.5
	755nm,0.5s						
TERO	**Teramo**	**1.22**	**134**	Pg	**Pb**	**17 34 44.1**	**-0.3**
	250nm,0.9s						
TERO	**Teramo**	**1.22**	**134**	Pg	**Pb**	**17 34 44.1**	**-0.3**
	250nm,0.9s						
FIAM	**Fiamignano**	**1.31**	**157**	Pg	**Pg**	**17 34 47.7**	**+1.1**
	154nm,0.9s						
FIAM	**Fiamignano**	**1.31**	**157**	Pg	**Pg**	**17 34 47.7**	**+1.1**
	154nm,0.9s						
CASP	**Castiglione de**	**1.33**	**239**	Pg	**Pn**	**17 34 45.7**	**-0.2**
	44nm,0.8s						
CASP	**Castiglione de**	**1.33**	**239**	Pg	**Pn**	**17 34 45.7**	**-0.2**
	44nm,0.8s						
T0106	**Roio Piano**	**1.37**	**149**	Pg	**Pb**	**17 34 47.5**	**+0.5**
	194nm,0.9s						
MAIM	**Mastiano**	**1.47**	**288**	P	**Pn**	**17 34 48.5**	**+0.8**
CERT	**Cerreto**	**1.58**	**165**	Pg	**Pb**	**17 34 51.1**	**+0.5**
	76nm,0.6s						
CERT	**Cerreto**	**1.58**	**165**	Pg	**Pb**	**17 34 51.1**	**+0.5**
	76nm,0.6s						
VLC	**Villacollemand**	**1.62**	**295**	Pg	**Pn**	**17 34 50.4**	**+0.5**
	49nm,1.0s						
VLC	**Villacollemand**	**1.62**	**295**	Pg	**Pn**	**17 34 50.4**	**+0.5**
	49nm,1.0s						
INTR	**Introdacqua**	**1.83**	**143**	Pg	**Pb**	**17 34 55.4**	**+0.6**
	98nm,0.7s						
INTR	**Introdacqua**	**1.83**	**143**	Pg	**Pb**	**17 34 55.4**	**+0.6**
	98nm,0.7s						
NVLJ	**Novalja**	**2.07**	**58**	*e*Pn	**Pn**	**17 34 57.3**	**+1.3**
NVLJ				Sn	**Sn**	**17 35 20.3**	**-1.5**
NVLJ	**Novalja**	**2.07**	**58**	*e*Pn	**Pn**	**17 34 57.3**	**+1.3**
NVLJ				Sn	**Sn**	**17 35 20.3**	**-1.5**
SC2M	**Scurtabo**	**2.28**	**295**	P	**Pb**	**17 35 02.5**	**-0.1**
SKDS	**Skadanscina**	**2.36**	**28**	*e*Pn	**Pn**	**17 35 00.7**	**+0.6**
SKDS	**Skadanscina**	**2.36**	**28**	*e*Pn	**Pn**	**17 35 00.7**	**+0.6**
KNDS	**Knezji Dol**	**2.48**	**34**	*e*Pn	**Pn**	**17 35 03.2**	**+1.4**
KNDS	**Knezji Dol**	**2.48**	**34**	*e*Pn	**Pn**	**17 35 03.2**	**+1.4**
UDBI	**Udbina**	**2.63**	**65**	*i* Pn	**Pb**	**17 35 06.3**	**-2.2**
UDBI				Sn	**Sn**	**17 35 35.4**	**-0.3**
UDBI	**Udbina**	**2.63**	**65**	*i* Pn	**Pb**	**17 35 06.3**	**-2.2**
UDBI				Sn	**Sn**	**17 35 35.4**	**-0.3**
MAGA	**Magasa**	**2.63**	**331**	Pg	**Pn**	**17 35 04.3**	**+0.4**
MAGA	**Magasa**	**2.63**	**331**	Pg	**Pn**	**17 35 04.3**	**+0.4**
PGF	**Pioggiola**	**2.68**	**251**	*e*Pn	**Pn**	**17 35 03.8**	**-0.7**
PGF				*e*Sn	**Sn**	**17 35 35.1**	**-1.9**
	3.0nm,0.4s						
PGF	**Pioggiola**	**2.68**	**251**	*e*Pn	**Pn**	**17 35 03.8**	**-0.7**
PGF				*e*Sn	**Sn**	**17 35 35.1**	**-1.9**
	1.5nm,0.4s						
VINO	**Villanova**	**2.84**	**12**	Pg	**Pn**	**17 35 07.8**	**+1.1**
	34nm,0.6s						
VINO	**Villanova**	**2.84**	**12**	Pg	**Pn**	**17 35 07.8**	**+1.1**
	34nm,0.6s						
PCP	**Piancastagn**	**2.99**	**292**	P	Pn	17 35 12.5	+3.7
ABTA	**Abfaltersbach**	**3.27**	**1**	⇓*i*Pn	**Pn**	**17 35 13.2**	**+0.6**
ABTA	**Abfaltersbach**	**3.27**	**1**	Pn	**Pn**	**17 35 13.2**	**+0.6**
SBF	**Sospel**	**3.64**	**278**	*e*Pn	**Pn**	**17 35 16.8**	**-0.9**
SBF	**Sospel**	**3.64**	**278**	*e*Pn	**Pn**	**17 35 16.8**	**-0.9**
KBA	**Koelnbreinsper**	**3.66**	**10**	⇑*i*Pn	**Pn**	**17 35 18.8**	**+0.8**
KBA	**Koelnbreinsper**	**3.66**	**10**	Pn	**Pn**	**17 35 18.8**	**+0.8**
FETA	**Feichten**	**3.74**	**342**	⇑*i*Pn	**Pn**	**17 35 18.8**	**-0.4**
FETA	**Feichten**	**3.74**	**342**	Pn	**Pn**	**17 35 18.8**	**-0.4**
STON	**Ston**	**3.91**	**97**	*e*Pn	**Pn**	**17 35 23.2**	**+2.0**
STON				Sn	**Sn**	**17 36 06.0**	**-1.1**
STON	**Ston**	**3.91**	**97**	*e*Pn	**Pn**	**17 35 23.2**	**+2.0**
STON				Sn	**Sn**	**17 36 05.9**	**-1.1**
FRF	**La Foret Royal**	**4.20**	**273**	*e*Pn	**Pn**	**17 35 24.4**	**-0.9**
FRF	**La Foret Royal**	**4.20**	**273**	*e*Pn	**Pn**	**17 35 24.4**	**-0.9**
DAVA	**Damuels**	**4.21**	**336**	⇑*i*Pn	**Pn**	**17 35 25.0**	**-0.6**
DAVA	**Damuels**	**4.21**	**336**	Pn	**Pn**	**17 35 25.0**	**-0.6**
MBDF	**Montbardon**	**4.26**	**289**	*e*Pn	**Pn**	**17 35 25.3**	**-1.0**
MBDF				*e*Sn	**Sn**	**17 36 12.7**	**-3.3**
	10nm,0.7s						
MBDF	**Montbardon**	**4.26**	**289**	*e*Pn	**Pn**	**17 35 25.3**	**-1.0**
MBDF				*e*Sn	**Sn**	**17 36 12.7**	**-3.3**
	5.2nm,0.7s						
LMR	**La Mourre**	**4.31**	**270**	*e*Pn	**Pn**	**17 35 26.0**	**-0.8**
LMR	**La Mourre**	**4.31**	**270**	*e*Pn	**Pn**	**17 35 26.0**	**-0.8**
LPG	**La Plagne**	**4.53**	**298**	*e*Pn	**Pn**	**17 35 29.4**	**-0.8**
LPG				*e*Sn	**Sn**	**17 36 19.6**	**-3.4**
	4.3nm,0.7s						
LPG	**La Plagne**	**4.53**	**298**	*e*Pn	**Pn**	**17 35 29.4**	**-0.8**
LPG				*e*Sn	**Sn**	**17 36 19.6**	**-3.4**
	2.2nm,0.7s						
LPL	**La Plagne**	**4.55**	**299**	*e*Pn	**Pn**	**17 35 29.5**	**-0.9**
LPL				*e*Sn	**Sn**	**17 36 19.8**	**-3.6**
	3.2nm,0.5s						
LPL	**La Plagne**	**4.55**	**299**	*e*Pn	**Pn**	**17 35 29.5**	**-0.9**
LPL				*e*Sn	**Sn**	**17 36 19.8**	**-3.6**
	1.6nm,0.5s						
MOA	**Molln**	**4.56**	**16**	⇑*i*Pn	**Pn**	**17 35 31.4**	**+1.2**
MOA	**Molln**	**4.56**	**16**	Pn	**Pn**	**17 35 31.4**	**+1.2**
ORIF	**Oris-en-Rattie**	**4.92**	**289**	*e*Pn	**Pn**	**17 35 34.3**	**-1.0**
ORIF	**Oris-en-Rattie**	**4.92**	**289**	*e*Pn	**Pn**	**17 35 34.3**	**-1.0**
SMRF	**Simiane la Rot**	**4.99**	**278**	*e*Pn	**Pn**	**17 35 35.2**	**-1.0**
SMRF	**Simiane la Rot**	**4.99**	**278**	*e*Pn	**Pn**	**17 35 35.2**	**-1.0**
CABF	**La Chapelle**	**5.47**	**307**	*e*Pn	**Pn**	**17 35 41.8**	**-1.1**
CABF				*e*Sn	**Sn**	**17 36 41.7**	**-4.2**
	0.8nm,0.3s						
CABF	**La Chapelle**	**5.47**	**307**	*e*Pn	**Pn**	**17 35 41.8**	**-1.1**
CABF				*e*Sn	**Sn**	**17 36 41.7**	**-4.2**
	0.4nm,0.3s						
KHC	**Kasperske Hory**	**5.71**	**8**	*e*PN	**Pn**	**17 35 46.6**	**+0.5**
KHC				*e*PB	**Pb**	**17 36 04.1**	**+3.1**
KHC				*e*SN	**Sn**	**17 36 51.8**	**+0.2**
KHC	**Kasperske Hory**	**5.71**	**8**	Pn	**Pn**	**17 35 46.6**	**+0.5**
KHC				Sn	**Sn**	**17 36 51.8**	**+0.2**
VIVF	**Saint-Julien-l**	**5.74**	**287**	*e*Pn	**Pn**	**17 35 45.4**	**-1.1**
VIVF	**Saint-Julien-l**	**5.74**	**287**	*e*Pn	**Pn**	**17 35 45.4**	**-1.1**
HINF	**Hinteralfeld**	**5.84**	**320**	*e*Pn	**Pn**	**17 35 46.6**	**-1.2**
HINF				*e*Sn	**Sn**	**17 36 50.5**	**-4.2**
	5.7nm,0.6s						
HINF	**Hinteralfeld**	**5.84**	**320**	*e*Pn	**Pn**	**17 35 46.6**	**-1.2**
HINF				*e*Sn	**Sn**	**17 36 50.5**	**-4.2**
	2.8nm,0.6s						
CDF	**Champ du Feu**	**6.10**	**326**	*e*Pn	**Pn**	**17 35 50.3**	**-1.2**
CDF				*e*Sn	**Sn**	**17 36 56.6**	**-4.7**
	12nm,0.8s						
CDF	**Champ du Feu**	**6.10**	**326**	*e*Pn	**Pn**	**17 35 50.3**	**-1.2**
CDF				*e*Sn	**Sn**	**17 36 56.6**	**-4.7**
	5.8nm,0.8s						
HAU	**Haudompre**	**6.21**	**319**	*e*Pn	**Pn**	**17 35 51.7**	**-1.2**
HAU				*e*Sn	**Sn**	**17 36 59.2**	**-4.7**
	8.4nm,0.7s						
HAU	**Haudompre**	**6.21**	**319**	*e*Pn	**Pn**	**17 35 51.7**	**-1.2**
HAU				*e*Sn	**Sn**	**17 36 59.2**	**-4.7**

CRE	**Caprese Michel**	**0.38**	**293**	Pg	Pg	17 34 55.4	+0.5
CRE				Sg	Sb	17 35 01.7	-0.7
	97nm,0.4s						
ARVD	**Arcevia**	**0.38**	**86**	Pg	Pg	17 34 55.3	+0.5
ARVD				Sg	Sb	17 35 01.7	-0.5
	93nm,0.3s						
ARVD	**Arcevia**	**0.38**	**86**	Pg	Pg	17 34 55.3	+0.5
ARVD				Sg	Sb	17 35 01.7	-0.5
	93nm,0.3s						

CSEM ***15*** *17:35:45.0,43.47N×12.42E,h9km,ML2.3/8*
ROM 15 17:35:45.0±0.0, 43.47N×12.42E, h9km, Ml2.3/8, Error ellipse: s-maj=0.6km s-min=0.4km az=178.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.09**	**187**	Pg	Pg	17 35 47.9	+0.4
ATVO				Sg	Sg	17 35 49.9	+0.7
ATVO	**AVT- Monte Val**	**0.09**	**187**	Pg	Pg	17 35 47.9	+0.4
ATVO				Sg	Sg	17 35 49.9	+0.7
PIEI	**Pieia**	**0.10**	**52**	Pg	Pg	17 35 48.1	+0.4
PIEI				Sg	Sg	17 35 50.4	+0.8
	1µm,0.3s						
PIEI	**Pieia**	**0.10**	**52**	Pg	Pg	17 35 48.1	+0.4
PIEI				Sg	Sg	17 35 50.4	+0.8
	1µm,0.3s						
BADI	**Badiali**	**0.14**	**287**	Pg	Pg	17 35 48.6	+0.5
BADI				Sg	Sg	17 35 51.1	+0.8
	2µm,0.5s						
BADI	**Badiali**	**0.14**	**287**	Pg	Pg	17 35 48.6	+0.5
BADI				Sg	Sg	17 35 51.1	+0.8
	2µm,0.5s						
CDCA	**Citt' di Caste**	**0.14**	**265**	Pg	Pg	17 35 48.7	+0.6
CDCA				Sg	Sg	17 35 51.3	+1.1
	2µm,0.5s						
CDCA	**Citt' di Caste**	**0.14**	**265**	Pg	Pg	17 35 48.7	+0.6
CDCA				Sg	Sg	17 35 51.3	+1.1
	2µm,0.5s						
ATFO	**Monte Foce - G**	**0.15**	**134**	Pg	Pg	17 35 48.9	+0.5
ATFO	**Monte Foce - G**	**0.15**	**134**	Pg	Pg	17 35 48.9	+0.5
PARC	**Parchiule**	**0.22**	**323**	Pg	Pg	17 35 50.2	+0.5
PARC				Sg	Sg	17 35 54.3	+1.5
	741nm,0.3s						
PARC	**Parchiule**	**0.22**	**323**	Pg	Pg	17 35 50.2	+0.5
PARC				Sg	Sg	17 35 54.3	+1.5
	741nm,0.3s						
FSSB	**Fossombrone**	**0.34**	**49**	Pg	Pg	17 35 52.3	+0.5
FSSB				Sg	Sb	17 35 58.3	-0.5
	243nm,0.5s						
FSSB	**Fossombrone**	**0.34**	**49**	Pg	Pg	17 35 52.3	+0.5
FSSB				Sg	Sb	17 35 58.3	-0.5
	243nm,0.5s						
CAFI	**Castiglion Fio**	**0.36**	**247**	Pg	Pg	17 35 52.8	+0.6
CAFI				Sg	Sb	17 35 58.7	-0.7
	310nm,0.6s						
CAFI	**Castiglion Fio**	**0.36**	**247**	Pg	Pg	17 35 52.8	+0.6
CAFI				Sg	Sb	17 35 58.7	-0.7
	310nm,0.6s						
CRE	**Caprese Michel**	**0.37**	**294**	Pg	Pg	17 35 53.1	+0.5
CRE				Sg	Sb	17 35 59.0	-1.0
	97nm,0.4s						
CRE	**Caprese Michel**	**0.37**	**294**	Pg	Pg	17 35 53.1	+0.5
CRE				Sg	Sb	17 35 59.0	-1.0
	97nm,0.4s						
ARVD	**Arcevia**	**0.38**	**86**	Pg	Pg	17 35 53.0	+0.5
ARVD				Sg	Sb	17 35 59.3	-0.6
	149nm,0.3s						
ARVD	**Arcevia**	**0.38**	**86**	Pg	Pg	17 35 53.0	+0.5
ARVD				Sg	Sb	17 35 59.3	-0.6
	149nm,0.3s						

ISCJB ***15*** *17:51:31.6±0.9,36.58N±0.07×70.96E±0.09,h188km, mb3.2/6, Error ellipse: s-maj=11.2km s-min=8.4km az=37.7*
IDC ***15*** *17:51:32.8±5.8,36.54N×71.21E,h195km±48km,mb3.0/6, mb1 3.1/8,mb1mx2.9/40,mbtmp3.5/8, Error ellipse: s-maj=50.2km s-min=18.5km az=40.0*
NNC ***15*** *17:51:37.1±1.5,36.93N×70.90E,h187km±15km,mb2.5, mpv3.5, Error ellipse: s-maj=14.9km s-min=7.1km az=156.0*
ISC 15 17:51:32.4±1.2, 36.6N±0.1×70.98E±0.09, h188km, n21, σ1§37/28, mb3.0/6, 5C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.78**	**323**	⇑P	**Pn**	**17 52 20.4**	**+1.5**
	5.3nm,0.3s						
DZET				⇑S	**Sn**	**17 52 54.2**	**-1.1**
	56nm,0.5s						
SFK	**Sufi-Kurgan**	**3.94**	**30**	⇑P	**Pn**	**17 52 34.6**	**+1.4**
	7.6nm,0.5s						
SFK				⇑S	**Sn**	**17 53 20.2**	**-0.7**
	6.0nm,0.6s						
AML	**Almayashu**	**5.91**	**20**	P	**Pn**	**17 52 59.7**	**+1.1**
	SNR=20						
MNAS	**Manas**	**5.99**	**11**	⇓P	**Pn**	**17 53 00.2**	**+0.7**
	2.8nm,0.5s						
MNAS				⇑S	**Sn**	**17 54 06.4**	**-1.8**
	24nm,0.6s						
UCH	**Uchtor**	**6.25**	**25**	P	**Pn**	**17 53 04.1**	**+1.0**
	SNR=17						
EKS2	**Erkin-Say**	**6.42**	**19**	P	**Pn**	**17 53 06.8**	**+1.8**
	SNR=6.2						
KK31	**Karatay Array**	**6.50**	**357**	⇓P	**Pn**	**17 53 06.9**	**+0.9**
	0.6nm,0.3s,baz=180,slow=14,SNR=11						
KK31				⇓S	**Sn**	**17 54 16.7**	**-3.3**
	3.4nm,0.5s,baz=180,slow=22,SNR=16						
AAK	**Ala-Archa**	**6.61**	**23**	⇓P	**Pn**	**17 53 08.0**	**+0.5**
	2.8nm,0.5s						
AAK				⇓S	**Sn**	**17 54 22.3**	**-0.4**
	4.9nm,0.8s						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**17 53 08.8**	**+1.3**
	SNR=5.1						
AAK	**Ala-Archa**	**6.61**	**23**	P	**Pn**	**17 53 08.9**	**+1.5**
	0.6nm,0.3s,baz=197,slow=7.3,SNR=20						
AAK				S	**Sn**	**17 54 21.4**	**-1.2**
	0.3nm,0.3s,baz=127,slow=23,SNR=9.4						
KBK	**Karagaybulak**	**6.78**	**26**	P	**Pn**	**17 53 11.8**	**+2.0**
	SNR=6.4						
TKM2	**Tokmak 2**	**7.24**	**28**	⇓P	**Pn**	**17 53 16.8**	**+1.0**
	9.5nm,0.7s						
TKM2				⇓S	**Sn**	**17 54 37.7**	**0.0**
	1.8nm,0.8s						
TKM2	**Tokmak 2**	**7.24**	**28**	P	**Pn**	**17 53 17.0**	**+1.1**
	SNR=21						
MKAR	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**17 54 33.0**	**+0.1**
	0.0nm,0.3s,baz=219,slow=6.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**	**17 55 49.0**	**+0.5**
	0.1nm,0.3s,baz=213,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**17 58 27.6**	**+0.9**
	1.0nm,0.9s,baz=111,slow=8.4,SNR=3.3						
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**17 58 58.0**	**+1.1**
	2.7nm,1.0s,baz=118,slow=9.3,SNR=4.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**17 59 23.7**	**+0.6**
	0.3nm,0.5s,baz=93,slow=7.2,SNR=2.3						
YKA	**Yellowknife Ar**	**81.14**	**3**	P	**P**	**18 03 26.3**	**-0.1**
	0.1nm,0.5s,baz=352,slow=5.8,SNR=4.4						
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**18 03 30.7**	**-1.1**
	0.2nm,0.7s,baz=321,slow=5.9,SNR=4.2						
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**18 03 41.4**	**-2.0**
	0.2nm,0.7s,baz=318,slow=4.4,SNR=5.9						

CSEM ***15*** *17:52:19.6±0.1,43.13N×13.42E,h19km,ML3.7/7, Error ellipse: s-maj=3.4km s-min=2.4km az=63.0*
ISCJB ***15*** *17:52:20.1±0.3,43.18N±0.02×13.38E±0.03,h30km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=179.1*
ROM ***15*** *17:52:20.2±0.1,43.13N×13.44E,h16km±2km,Ml2.9/27, Error ellipse: s-maj=1.9km s-min=1.3km az=85.0*
PRU ***15*** *17:52:20.1,43.12N×13.62E,h21km*
LDG ***15*** *17:52:30.1±0.1,43.46N×12.50E,h10km,Ml2.9/9, Error ellipse: s-maj=2.2km s-min=1.2km az=105.0*
ISC 15 17:52:19.5±1.0, 43.14N±0.02×13.44E±0.02, h18km±3km, n121, σ0§77/143, 4C-1D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.28**	**138**	Pg	**Pb**	**17 52 26.8**	**+0.9**
OFFI	**Offida**	**0.28**	**138**	Pg	**Pb**	**17 52 26.8**	**+0.9**
CING	**Cingoli**	**0.29**	**323**	Pg	**Pg**	**17 52 26.3**	**+0.3**
CING				Sg	**Sg**	**17 52 31.6**	**+1.2**
	630nm,0.4s						
CING	**Cingoli**	**0.29**	**323**	Pg	**Pg**	**17 52 26.3**	**+0.3**
CING				Sg	**Sg**	**17 52 31.6**	**+1.2**
	630nm,0.4s						
GUMA	**Gualdo di Mace**	**0.38**	**102**	⇑*i*Pg	Pg	17 52 23.7	-3.7
GUMA				Sg	Sg	17 52 26.9	-5.8
NRCA	**Norcia**	**0.39**	**217**	⇑*i*Pg	**Pg**	**17 52 27.6**	**-0.1**
NRCA				Sg	**Sb**	**17 52 34.0**	**+0.3**
	14µm,0.2s						
NRCA	**Norcia**	**0.39**	**217**	⇑*i*Pg	**Pg**	**17 52 27.6**	**-0.1**
NRCA				Sg	**Sb**	**17 52 34.0**	**+0.3**
	14µm,0.2s						
AOI	**Ancona**	**0.42**	**17**	Pg	**Pg**	**17 52 28.4**	**+0.1**
AOI				Sg	**Sb**	**17 52 36.1**	**+1.4**
	961nm,0.3s						
AOI	**Ancona**	**0.42**	**17**	Pg	**Pg**	**17 52 28.4**	**+0.1**
AOI				Sg	**Sb**	**17 52 36.1**	**+1.4**
	961nm,0.3s						
TRTR	**Tortoreto Alta**	**0.48**	**133**	Pg	**Pn**	**17 52 30.7**	**-0.8**
TRTR	**Tortoreto Alta**	**0.48**	**133**	Pg	**Pn**	**17 52 30.7**	**-0.8**
ARVD	**Arcevia**	**0.51**	**315**	Pg	**Pb**	**17 52 30.0**	**+0.1**
ARVD				Sg	**Sn**	**17 52 38.7**	**-1.4**
	157nm,0.2s						
ARVD	**Arcevia**	**0.51**	**315**	Pg	**Pb**	**17 52 30.0**	**+0.1**
ARVD				Sg	**Sn**	**17 52 38.7**	**-1.4**
	157nm,0.2s						
LNSS	**Leonessa**	**0.61**	**208**	Pg	**Pb**	**17 52 31.3**	**-0.4**
LNSS				Sg	**Sg**	**17 52 41.1**	**+1.1**
	3µm,0.4s						
LNSS	**Leonessa**	**0.61**	**208**	Pg	**Pb**	**17 52 31.3**	**-0.4**
LNSS				Sg	**Sg**	**17 52 41.1**	**+1.1**
	3µm,0.4s						
FSSB	**Fossombrone**	**0.73**	**319**	Pg	**Pg**	**17 52 34.3**	**+0.4**
FSSB				Sg	**Sn**	**17 52 46.0**	**+0.4**
	143nm,0.4s						
FSSB	**Fossombrone**	**0.73**	**319**	Pg	**Pg**	**17 52 34.3**	**+0.4**
FSSB				Sg	**Sn**	**17 52 46.0**	**+0.4**
	143nm,0.4s						
PIEI	**Pieia**	**0.77**	**301**	Pg	**Pb**	**17 52 34.2**	**-0.1**
	201nm,0.2s						
PIEI	**Pieia**	**0.77**	**301**	Pg	**Pb**	**17 52 34.2**	**-0.1**
	201nm,0.2s						
T0104	**Madonna delle**	**0.79**	**185**	Pg	**Pb**	**17 52 34.2**	**-0.5**
AQU	**L'Aquila**	**0.79**	**182**	Pg	**Pb**	**17 52 34.3**	**-0.4**
AQU				Sg	**Sg**	**17 52 46.4**	**+1.0**
AQU	**L'Aquila**	**0.79**	**182**	Pg	**Pb**	**17 52 34.3**	**-0.4**
AQU				Sg	**Sg**	**17 52 46.4**	**+1.0**
VCEL	**Villa Celiera**	**0.81**	**158**	Pg	**Pg**	**17 52 35.5**	**+0.2**
	643nm,0.2s						
VCEL	**Villa Celiera**	**0.81**	**158**	Pg	**Pg**	**17 52 35.5**	**+0.2**
	643nm,0.2s						
CESX	**Cesi**	**0.82**	**230**	Pg	**Pb**	**17 52 34.9**	**-0.4**
CESX				Sg	**Sn**	**17 52 47.6**	**-0.3**
	2µm,0.5s						
CESX	**Cesi**	**0.82**	**230**	Pg	**Pb**	**17 52 34.9**	**-0.4**
CESX				Sg	**Sn**	**17 52 47.6**	**-0.3**
	2µm,0.5s						
FAGN	**Fagnano**	**0.88**	**173**	Pg	**Pb**	**17 52 36.0**	**-0.3**
	851nm,0.4s						
FAGN	**Fagnano**	**0.88**	**173**	Pg	**Pb**	**17 52 36.0**	**-0.3**
	851nm,0.4s						
PESA	**Pesaro**	**0.91**	**332**	Pg	**Pg**	**17 52 37.8**	**+0.6**
	401nm,0.3s						
PESA	**Pesaro**	**0.91**	**332**	Pg	**Pg**	**17 52 37.8**	**+0.6**
	401nm,0.3s						
MNS	**Montasola**	**0.94**	**217**	Pg	**Pb**	**17 52 37.0**	**-0.3**
MNS				Sg	**Sn**	**17 52 51.1**	**+0.3**
	704nm,0.3s						
MNS	**Montasola**	**0.94**	**217**	Pg	**Pb**	**17 52 37.0**	**-0.3**
MNS				Sg	**Sn**	**17 52 51.1**	**+0.3**
	704nm,0.3s						
BADI	**Badiali**	**0.94**	**293**	Pg	**Pb**	**17 52 37.6**	**+0.2**
	363nm,0.7s						
BADI	**Badiali**	**0.94**	**293**	Pg	**Pb**	**17 52 37.6**	**+0.2**
	363nm,0.7s						
MGAB	**Montegabbione**	**1.00**	**257**	Pg	**Pb**	**17 52 38.4**	**+0.1**
	386nm,0.5s						
MGAB	**Montegabbione**	**1.00**	**257**	Pg	**Pb**	**17 52 38.4**	**+0.1**
	386nm,0.5s						
PARC	**Parchiule**	**1.01**	**301**	Pg	**Pb**	**17 52 38.7**	**+0.2**
	1µm,0.1s						
PARC	**Parchiule**	**1.01**	**301**	Pg	**Pb**	**17 52 38.7**	**+0.2**
	1µm,0.1s						
CAFI	**Castiglion Fio**	**1.09**	**280**	Pg	**Pb**	**17 52 40.5**	**+0.6**
	177nm,0.5s						
CAFI	**Castiglion Fio**	**1.09**	**280**	Pg	**Pb**	**17 52 40.5**	**+0.6**
	177nm,0.5s						
PTQR	**Pietraquaria**	**1.12**	**181**	Pg	**Pn**	**17 52 39.7**	**-0.7**
	24nm,0.3s						
PTQR	**Pietraquaria**	**1.12**	**181**	Pg	**Pn**	**17 52 39.7**	**-0.7**
	24nm,0.3s						
SACS	**San Casciano d**	**1.16**	**256**	Pg	**Pg**	**17 52 41.9**	**-0.1**
	125nm,0.5s						
INTR	**Introdacqua**	**1.18**	**163**	Pg	**Pb**	**17 52 41.8**	**+0.3**
	278nm,0.5s						
INTR	**Introdacqua**	**1.18**	**163**	Pg	**Pb**	**17 52 41.8**	**+0.3**
	278nm,0.5s						
MTCE	**Montecelio**	**1.23**	**205**	Pg	**Pg**	**17 52 43.1**	**-0.2**
	152nm,0.4s						
MTCE	**Montecelio**	**1.23**	**205**	Pg	**Pg**	**17 52 43.1**	**-0.2**
	152nm,0.4s						
CERT	**Cerreto**	**1.24**	**196**	Pg	**Pb**	**17 52 42.6**	**+0.2**
	173nm,0.4s						
CERT	**Cerreto**	**1.24**	**196**	Pg	**Pb**	**17 52 42.6**	**+0.2**
	173nm,0.4s						
VVLD	**Villa Vallelon**	**1.28**	**174**	Pg	**Pg**	**17 52 44.5**	**+0.3**
	107nm,0.5s						
VVLD	**Villa Vallelon**	**1.28**	**174**	Pg	**Pg**	**17 52 44.5**	**+0.3**
	107nm,0.5s						
LATE	**Laterza**	**1.31**	**247**	Pg	**Pg**	**17 52 44.8**	**-0.1**
	261nm,0.6s						
LATE	**Laterza**	**1.31**	**247**	Pg	**Pg**	**17 52 44.8**	**-0.1**
	261nm,0.6s						
GUAR	**Guarcino**	**1.35**	**184**	Pg	**Pg**	**17 52 45.9**	**+0.3**
	115nm,0.4s						
GUAR	**Guarcino**	**1.35**	**184**	Pg	**Pg**	**17 52 45.9**	**+0.3**
	115nm,0.4s						
SFI	**Santa Sofia**	**1.38**	**304**	Pg	**Pg**	**17 52 46.5**	**+0.2**
	56nm,0.5s						
SFI	**Santa Sofia**	**1.38**	**304**	Pg	**Pg**	**17 52 46.5**	**+0.2**
	56nm,0.5s						
POFI	**Posta Fibreno**	**1.44**	**172**	Pg	**Pb**	**17 52 46.5**	**+0.7**
	76nm,0.5s						
POFI	**Posta Fibreno**	**1.44**	**172**	Pg	**Pb**	**17 52 46.5**	**+0.7**
	76nm,0.5s						
SDI	**San Donato**	**1.46**	**169**	Pg	**Pb**	**17 52 46.6**	**+0.4**
	39nm,0.3s						
SDI	**San Donato**	**1.46**	**169**	Pg	**Pb**	**17 52 46.6**	**+0.4**
	39nm,0.3s						
ARCI	**Arcidosso**	**1.47**	**259**	Pg	**Pg**	**17 52 47.5**	**-0.3**
ARCI	**Arcidosso**	**1.47**	**259**	Pg	**Pg**	**17 52 47.5**	**-0.3**
GIUL	**Giuliano Di Ro**	**1.59**	**185**	Pg	**Pb**	**17 52 48.0**	**-0.4**
	58nm,0.5s						
GIUL	**Giuliano Di Ro**	**1.59**	**185**	Pg	**Pb**	**17 52 48.0**	**-0.4**
	58nm,0.5s						
CSNT	**Castellina Chi**	**1.60**	**283**	Pg	**Pb**	**17 52 49.1**	**+0.6**
	43nm,0.7s						
CSNT	**Castellina Chi**	**1.60**	**283**	Pg	**Pb**	**17 52 49.1**	**+0.6**
	43nm,0.7s						
CERA	**Filignano**	**1.60**	**164**	Pg	**Pb**	**17 52 48.5**	**-0.1**
	79nm,0.6s						
CERA	**Filignano**	**1.60**	**164**	Pg	**Pb**	**17 52 48.5**	**-0.1**
	79nm,0.6s						
NVLJ	**Novalja**	**1.76**	**36**	*e*Pn	**Pn**	**17 52 49.1**	**0.0**
NVLJ				Sn	**Sn**	**17 53 10.6**	**-0.4**
NVLJ	**Novalja**	**1.76**	**36**	*e*Pn	**Pn**	**17 52 49.0**	**0.0**
NVLJ				Sn	**Sn**	**17 53 10.5**	**-0.4**
GRFL	**Gerfalco**	**1.80**	**271**	Pg	**Pb**	**17 52 51.8**	**-0.2**
	5.0nm,0.3s						
GRFL	**Gerfalco**	**1.80**	**271**	Pg	**Pb**	**17 52 51.8**	**-0.2**
	5.0nm,0.3s						
UDBI	**Udbina**	**2.18**	**50**	*e*Pn	**Pn**	**17 52 56.1**	**+1.2**
UDBI				Sn	**Sb**	**17 53 23.5**	**-1.7**
UDBI	**Udbina**	**2.18**	**50**	*e*Pn	**Pn**	**17 52 56.1**	**+1.2**
UDBI				Sn	**Sb**	**17 53 23.4**	**-1.7**
MAIM	**Mastiano**	**2.28**	**291**	P	**Pb**	**17 52 58.6**	**-1.4**
SKDS	**Skadanscina**	**2.44**	**10**	*e*Pn	**Pn**	**17 52 58.6**	**+0.1**
SKDS	**Skadanscina**	**2.44**	**10**	Pn	**Pn**	**17 52 58.6**	**+0.1**
KNDS	**Knezji Dol**	**2.48**	**16**	*e*Pn	**Pg**	**17 53 06.1**	**-1.0**
STON	**Ston**	**3.14**	**93**	*e*Pn	**Pn**	**17 53 07.6**	**-0.5**
STON	**Ston**	**3.14**	**93**	*e*Pn	**Pn**	**17 53 07.5**	**-0.5**
PGF	**Pioggiola**	**3.32**	**261**	*e*Pn	**Pn**	**17 53 12.3**	**+1.7**
PGF	**Pioggiola**	**3.32**	**261**	*e*Pn	**Pn**	**17 53 12.3**	**+1.7**
ABTA	**Abfaltersbach**	**3.66**	**350**	*i*Pn	**Pn**	**17 53 16.2**	**+0.9**
ABTA	**Abfaltersbach**	**3.66**	**350**	Pn	**Pn**	**17 53 16.2**	**+0.9**
PCP	**Piancastagn**	**3.80**	**293**	P	**Pn**	**17 53 18.5**	**+1.3**
SBF	**Sospel**	**4.42**	**281**	*e*Pn	**Pn**	**17 53 25.3**	**-0.5**
SBF	**Sospel**	**4.42**	**281**	*e*Pn	**Pn**	**17 53 25.3**	**-0.5**
TRAV	**Traversella**	**4.72**	**302**	P	**Pn**	**17 53 28.3**	**-1.5**
SATI	**Passo dei Sala**	**4.83**	**306**	P	**Pn**	**17 53 32.5**	**+0.9**
CIRO	**Champorcher**	**4.87**	**302**	P	**Pn**	**17 53 30.7**	**-1.4**
FRF	**La Foret Royal**	**4.97**	**277**	*e*Pn	**Pn**	**17 53 32.9**	**-0.3**
FRF	**La Foret Royal**	**4.97**	**277**	*e*Pn	**Pn**	**17 53 32.9**	**-0.3**
LMR	**La Mourre**	**5.06**	**275**	*e*Pn	**Pn**	**17 53 34.5**	**0.0**
LMR	**La Mourre**	**5.06**	**275**	*e*Pn	**Pn**	**17 53 34.5**	**0.0**
MBDF	**Montbardon**	**5.07**	**290**	*e*Pn	**Pn**	**17 53 33.9**	**-0.8**
MBDF				*e*Sn	Sn	17 54 21.4	-11
	3.3nm,0.4s						
MBDF	**Montbardon**	**5.07**	**290**	*e*Pn	**Pn**	**17 53 33.9**	**-0.8**
CSNA	**Conrad Observa**	**5.08**	**19**	⇑*i*Pn	**Pn**	**17 53 35.5**	**+0.7**
CSNA	**Conrad Observa**	**5.08**	**19**	Pn	**Pn**	**17 53 35.0**	**+0.2**
LPG	**La Plagne**	**5.34**	**298**	*e*Pn	**Pn**	**17 53 38.0**	**-0.6**
LPG				*e*Sn	Sn	17 54 28.2	-12
	2.0nm,0.4s						
LPG	**La Plagne**	**5.34**	**298**	*e*Pn	**Pn**	**17 53 38.0**	**-0.6**
LPL	**La Plagne**	**5.36**	**299**	*e*Pn	**Pn**	**17 53 38.1**	**-0.7**
LPL				*e*Sn	Sn	17 54 28.4	-12
	3.2nm,0.3s						
LPL	**La Plagne**	**5.36**	**299**	*e*Pn	**Pn**	**17 53 38.1**	**-0.7**
ORIF	**Oris-en-Rattie**	**5.73**	**291**	*e*Pn	**Pn**	**17 53 42.8**	**-0.9**
ORIF	**Oris-en-Rattie**	**5.73**	**291**	*e*Pn	**Pn**	**17 53 42.8**	**-0.9**
SMRF	**Simiane la Rot**	**5.77**	**281**	*e*Pn	**Pn**	**17 53 43.7**	**-0.6**
SMRF	**Simiane la Rot**	**5.77**	**281**	*e*Pn	**Pn**	**17 53 43.7**	**-0.6**
KHC	**Kasperske Hory**	**5.99**	**1**	*e*PN	**Pn**	**17 53 47.2**	**-0.1**
KHC				*ex*	x	17 53 51.3	
KHC				*e*SN	**Sn**	**17 54 51.3**	**-4.1**
KHC	**Kasperske Hory**	**5.99**	**1**	Pn	**Pn**	**17 53 47.2**	**-0.1**
CABF	**La Chapelle**	**6.27**	**306**	*e*Pn	**Pn**	**17 53 50.4**	**-0.7**
CABF	**La Chapelle**	**6.27**	**306**	*e*Pn	**Pn**	**17 53 50.4**	**-0.7**
VIVF	**Saint-Julien-l**	**6.55**	**288**	*e*Pn	**Pn**	**17 53 53.9**	**-1.0**
VIVF	**Saint-Julien-l**	**6.55**	**288**	*e*Pn	**Pn**	**17 53 53.9**	**-1.0**
HINF	**Hinteralfeld**	**6.58**	**318**	*e*Pn	**Pn**	**17 53 55.2**	**-0.1**
HINF				*e*Sn	Sn	17 54 59.0	-11
	6.9nm,0.5s						
HINF	**Hinteralfeld**	**6.58**	**318**	*e*Pn	**Pn**	**17 53 55.2**	**-0.1**
CDF	**Champ du Feu**	**6.80**	**323**	*e*Pn	**Pn**	**17 53 58.8**	**+0.3**
CDF				*e*Sn	Sn	17 55 05.2	-10
	3.4nm,0.5s						
CDF	**Champ du Feu**	**6.80**	**323**	*e*Pn	**Pn**	**17 53 58.8**	**+0.3**
HAU	**Haudompre**	**6.95**	**317**	*e*Pn	**Pn**	**17 54 00.3**	**-0.2**
HAU				*e*Sn	Sn	17 55 07.7	-11
	8.9nm,0.4s						
HAU	**Haudompre**	**6.95**	**317**	*e*Pn	**Pn**	**17 54 00.3**	**-0.2**
LOR	**Lormes**	**7.92**	**305**	*e*Pn	**Pn**	**17 54 12.7**	**-1.0**
LOR				*e*Sn	Sn	17 55 29.8	-13
	4.5nm,0.5s						
LOR	**Lormes**	**7.92**	**305**	*e*Pn	**Pn**	**17 54 12.7**	**-1.0**

KRSC ***15*** *17:56:16.4±0.9,56.86N×164.76E,h81km±15km,ML4.0*
IDC ***15*** *17:56:17.7±0.7,56.89N×164.77E,h0km,mb3.7/18, mb1 3.9/20,mb1mx3.8/46,mbtmp3.8/20,ML2.8/2,MS4.5/1, Ms1 4.5/1,ms1mx2.6/41, Error ellipse: s-maj=20.7km s-min=13.5km az=150.0*
ISCJB ***15*** *17:56:20.1±0.4,56.69N±0.04×164.63E±0.07,h33km, mb3.7/20,MS4.5/1, Error ellipse: s-maj=6.2km s-min=4.6km az=144.7*
MOS ***15*** *17:56:21.5±1.4,56.73N×164.58E,h47km,mb4.0/12, Error ellipse: s-maj=15.7km s-min=10.0km az=66.7*
ISC 15 17:56:22.2±0.5, 56.81N±0.04×164.72E±0.04, h35km, n72, σ1§95/68, mb3.8/20, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.21**	**241**	PN	**Pn**	**17 56 40.1**	**-2.5**
KBTR				S	**Sn**	**17 56 55.4**	**-2.4**
KBTR	**Krutoberegovo**	**1.21**	**241**	*e*P	**Pn**	**17 56 40.1**	**-2.5**
KBTR				*e*S	**Sn**	**17 56 55.4**	**-2.4**
BKI	**Bering**	**1.76**	**156**	PN	**Pn**	**17 56 47.5**	**-2.6**
BKI				S	**Sn**	**17 57 08.3**	**-2.9**
BKI	**Bering**	**1.76**	**156**	*e*P	**Pn**	**17 56 47.5**	**-2.6**
BKI				*e*S	**Sn**	**17 57 08.3**	**-2.9**
SMKR	**Semkarok**	**1.81**	**264**	*e*P	**Pn**	**17 56 48.9**	**-2.0**
BDR	**Baidarnaya**	**1.95**	**264**	*e*P	**Pn**	**17 56 50.8**	**-2.0**
BDR				*e*S	**Sn**	**17 57 14.5**	**-1.6**
KLY	**Klyuchi**	**2.30**	**259**	PN	**Pn**	**17 56 54.7**	**-2.9**
KLY	**Klyuchi**	**2.30**	**259**	*e*P	**Pn**	**17 56 54.7**	**-2.9**
OSSR	**Ossora**	**2.60**	**341**	*e*P	**Pn**	**17 56 57.6**	**-4.0**
OSSR				*e*S	**Sn**	**17 57 27.5**	**-4.4**
KMNR	**Kamenistaya**	**

comp=Z,435nm,21.5s,baz=334,slow=35
FINES FINESS Array B 57.72 338 P **P** **18 06 08.9 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 57.72 338 P **P** **18 06 08.9 +0.2**
comp=Z,0.6nm,0.6s,baz=46,slow=4.0,SNR=2.9
NOA NORSAR Array B 60.66 346 P **P** **18 06 29.5 +0.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 60.66 346 P **P** **18 06 29.5 +0.4**
comp=Z,0.7nm,0.8s,baz=18,slow=7.2,SNR=2.6
CMAR Chiang Mai Arr 61.51 260 P **P** **18 06 36.9 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 61.51 260 P **P** **18 06 36.9 +1.5**
comp=Z,0.8nm,0.8s,baz=19,slow=7.2,SNR=7.0
AKASG Malin Array Be 66.72 331 P **P** **18 07 09.3 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 66.72 331 P **P** **18 07 09.3 +0.1**
comp=Z,0.5nm,0.5s,baz=27,slow=7.0,SNR=3.3
TXAR Lajitas Array 66.83 72 P **P** **18 07 11.7 +1.4**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 66.83 72 P **P** **18 07 11.7 +1.4**
comp=Z,0.9nm,0.6s,baz=303,slow=4.7,SNR=8.4
GEYT Alibeck 67.23 305 P **P** **18 07 14.2 +1.5**
comp=Z,1.1nm,0.6s,baz=318,slow=2.0,SNR=3.8
KBZ Khabaz 68.59 319 P **P** **18 07 21.4 +0.4**
KBZ pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 68.59 319 P **P** **18 07 21.4 +0.4**
comp=Z,1.3nm,0.8s,baz=236,slow=24,SNR=4.9
WRA Warramunga Arr 80.61 209 P **P** **18 08 31.4 +0.6**
comp=Z,0.4nm,1.0s,baz=8.6,slow=5.6,SNR=5.5
ASAR Alice Springs 84.28 208 P **P** **18 08 51.3 +1.3**
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 84.28 208 P **P** **18 08 51.3 +1.3**
comp=Z,1.2nm,1.0s,baz=13,slow=5.4,SNR=13

JMA ***15*** *17:56:26.7±0.3,33.28N×137.27E,h401km,M3.1*
ISCJB ***15*** *17:56:27.4±0.7,33.31N±0.08×137.5E±0.1, h400km, mb2.8/9, Error ellipse: s-maj=14.2km s-min=8.8km az=37.5*
IDC ***15*** *17:56:28.0±1.2,33.17N×137.20E,h369km±12km,mb2.7/9, mb1 2.8/12,mb1mx2.7/43,mbtmp3.4/12, Error ellipse: s-maj=19.5km s-min=14.8km az=70.0*
ISC 15 17:56:28.9±1.0,33.4N±0.1×137.4E±0.1,h400km,n25, σ1s70/26,mb2.9/9,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.48**	**318**	P		**P**	**Pn**	**17 57 17.4**	**-0.8**
JIE	**Ise**	**1.17**	**330**	P		**P**	**Pn**	**17 57 18.8**	**-1.7**
JWZ	**Kozaga**	**1.43**	**277**	P		**P**	**Pn**	**17 57 18.7**	**-3.0**
JAI	**Aioi**	**2.51**	**280**	P		**P**	**Pn**	**17 57 25.7**	**-2.5**
JWT	**Wachi**	**2.52**	**319**	P		**P**	**Pn**	**17 57 26.8**	**-1.5**
JRY	**Ryogami san**	**2.90**	**25**	P		**P**	**Pn**	**17 57 31.4**	**+0.2**
JRY				*eS*		**S**	**Sn**	**17 58 21.2**	**-0.6**
JMN	**Monobe**	**2.97**	**278**	P		**P**	**Pn**	**17 57 29.6**	**-2.3**
MJAR	**Matsushiro Arr**	**3.22**	**11**	P		**P**	**Pn**	**17 57 32.4**	**-1.4**
	0.4nm,0.3s,baz=182,slow=7.6,SNR=5.6								
MJAR				S		**S**		**17 58 25.6**	**-1.0**
	0.0nm,0.3s,baz=266,slow=17,SNR=2.9								
JAG	**Ashikaga**	**3.47**	**28**	P		**P**	**Pn**	**17 57 35.0**	**-1.0**
JAG				S		**S**		**17 58 25.8**	**-4.7**
KSRS	**Korea Array**	**8.75**	**300**	P		**P**	**P**	**17 58 32.2**	**-0.2**
	0.3nm,0.3s,baz=115,slow=11,SNR=15								
USRK	**Ussuriysk Ar.**	**11.60**	**340**	P		**P**	**Pn**	**17 59 05.3**	**0.0**
	0.1nm,0.3s,baz=141,slow=7.1,SNR=3.2								
SONM	**Songino Array**	**27.40**	**311**	P		**P**		**18 01 42.0**	**+2.3**
	0.6nm,0.7s,baz=109,slow=9.6,SNR=4.5								
ZALV	**Zalesovo Beam**	**42.09**	**316**	P		**P**	**P**	**18 03 44.8**	**+1.4**
	0.2nm,0.3s,baz=100,slow=5.0,SNR=2.2								
MKAR	**Makanchi Array**	**43.40**	**305**	P		**P**		**18 03 55.4**	**+1.5**
	0.3nm,0.3s,baz=87,slow=9.5,SNR=13								
ODAN	**Odare**	**43.42**	**275**	*eP*		**P**		**18 03 54.6**	**0.0**
RAMN	**Ramite**	**44.05**	**276**	*eP*		**P**		**18 03 59.9**	**+0.4**
	2.7nm,0.3s								
JIRN	**Jiri**	**44.13**	**277**	*eP*		**P**		**18 04 01.2**	**+0.8**
	5.3nm,0.4s								
KURBB	**Kurchatov Arra**	**45.77**	**310**	P		**P**		**18 04 13.6**	**+1.3**
	0.3nm,0.4s,baz=90,slow=8.5,SNR=7.6								
DANN	**Dangsing**	**45.91**	**279**	*eP*		**P**		**18 04 15.0**	**+1.0**
	6.4nm,0.5s								
PYUN	**Piuthan**	**46.63**	**279**	*eP*		**P**		**18 04 20.3**	**+0.8**
	12nm,0.4s								
BVAR	**Borovoye Array**	**50.68**	**314**	P		**P**		**18 04 49.5**	**+0.3**
	0.1nm,0.4s,baz=115,slow=6.7,SNR=3.8								
WRA	**Warramunga Arr**	**53.10**	**184**	P		**P**		**18 05 07.0**	**-0.2**
	0.2nm,0.6s,baz=360,slow=7.8,SNR=3.5								
ASAR	**Alice Springs**	**56.83**	**184**	P		**P**		**18 05 34.1**	**+0.7**
	0.1nm,0.5s,baz=355,slow=4.0,SNR=4.4								
INK	**Inuvik**	**59.11**	**26**	P		P		18 05 52.8	+4.3
	0.6nm,0.6s,baz=293,slow=4.5,SNR=3.1								
YKA	**Yellowknife Ar**	**68.59**	**28**	P		P		18 06 53.1	+3.5
	0.1nm,0.6s,baz=299,slow=6.1,SNR=4.8								

IDC 15 18:12:31.5±1.2,2.20N×126.85E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.3/32,mbtmp3.4/5, Error ellipse: s-maj=121.0km s-min=19.0km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.20**	**162**	P		P		18 17 39.3	-0.9
	0.6nm,0.4s,baz=342,slow=11,SNR=14								
ASAR	**Alice Springs**	**26.61**	**165**	P		P		18 18 12.2	+0.3
	0.4nm,0.7s,baz=344,slow=7.8,SNR=7.2								
STKA	**Stephens Creek**	**36.66**	**159**	P		P		18 19 40.3	+0.2
	1.2nm,0.7s,baz=326,slow=9.6,SNR=4.1								
SONM	**Songino Array**	**48.78**	**342**	P		P		18 21 18.9	+0.5
	0.2nm,0.5s,baz=156,slow=8.3,SNR=3.3								
MKAR	**Makanchi Array**	**58.88**	**326**	P		P		18 22 31.8	-0.5
	0.1nm,0.5s,baz=115,slow=6.7,SNR=2.7								

IDC ***15*** *18:12:36.9±1.1,25.95N×128.73E,h0km,mb3.7/10, mb1 3.8/11,mb1mx3.6/34,mbtmp3.7/11,ML3.4/1, Error ellipse: s-maj=47.5km s-min=16.7km az=76.0*
ISCJB ***15*** *18:12:38.8±0.9,25.91N±0.03×128.69E±0.04,h27km±6km, mb3.5/10, Error ellipse: s-maj=6.7km s-min=4.5km az=39.9*
JMA ***15*** *18:12:40.5±0.3,25.94N×128.63E,h44km,M3.4*
ISC 15 18:12:37.7±1.6,25.88N±0.05×128.69E±0.04,h10km±9km, n36,σ1s48/50,mb3.7/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.88**	**317**	P		**Pg**	**Pg**	**18 12 55.1**	**+0.5**
JNTH				S		**Sg**	**Sg**	**18 13 05.7**	**-0.3**
JJT2	**Tamagusuku 2**	**0.88**	**287**	P		**Pn**	**Pn**	**18 12 55.9**	**-0.3**
JJT2				S		**Sn**	**Sn**	**18 13 07.4**	**-1.7**
JOW	**Kunigami**	**1.02**	**339**	P		**Pg**	**Pg**	**18 12 57.7**	**+0.3**
JOW				S		**Sb**	**Sb**	**18 13 09.8**	**-1.3**
JOW	**Kunigami**	**1.02**	**339**	Pn		**Pg**	**Pg**	**18 12 57.8**	**+0.3**
	8.3nm,0.3s,baz=159,slow=24,SNR=405								
JOW				Sn			**Sg**	**18 13 09.9**	**-0.7**
	26nm,0.3s,baz=151,slow=19,SNR=30								
JOW				LR		LR	LR	18 13 34.1	
	comp=Z,23nm,18.1s,baz=168,slow=59								
JIH	**Iheya**	**1.32**	**331**	P		**Pb**	**Pb**	**18 13 02.3**	**-0.4**
JIH				S		**Sn**	**Sn**	**18 13 18.0**	**-2.0**
JAGN	**Aguni-jima**	**1.48**	**299**	P		**Pn**	**Pn**	**18 13 04.4**	**0.0**
JAGN				S		**Sb**	**Sb**	**18 13 22.7**	**-1.5**
JOKE	**Okinoerabujima**	**1.48**	**356**	P		**Pb**	**Pb**	**18 13 04.5**	**-0.9**
JOKE				S		**Sn**	**Sn**	**18 13 21.5**	**-2.5**
JKE	**Kume jima 2**	**1.77**	**285**	P		**Pn**	**Pn**	**18 13 07.8**	**-0.6**
JKE				S		**Sn**	**Sn**	**18 13 28.3**	**-2.6**
JTK	**Tokunoshima**	**1.92**	**7**	P		**Pn**	**Pn**	**18 13 10.4**	**-0.1**
JTK				S		**Sn**	**Sn**	**18 13 31.8**	**-2.9**
JMZ	**Minamidaito 2**	**2.28**	**91**	P		**Pn**	**Pn**	**18 13 14.5**	**-1.0**
JMZ				S		**Sn**	**Sn**	**18 13 39.3**	**-4.4**
JAMN	**Amaminishikomi**	**2.40**	**10**	P		**Pn**	**Pn**	**18 13 17.2**	**+0.1**
JAM	**Amami Oshima**	**2.66**	**18**	P		**Pn**	**Pn**	**18 13 20.2**	**-0.4**
JAM				*eS*		**Sn**	**Sn**	**18 13 51.0**	**-1.9**
JZK	**Kikaishima**	**2.69**	**25**	P		**Pn**	**Pn**	**18 13 21.4**	**+0.4**
JZK				S		**Sn**	**Sn**	**18 13 52.9**	**-0.8**
JOGS	**Gusukube**	**3.17**	**250**	P		**Pn**	**Pn**	**18 13 27.6**	**-0.1**
JIKM	**Ikemajima**	**3.25**	**254**	P		**Pn**	**Pn**	**18 13 28.6**	**-0.2**
JIKM				*eS*		**Sn**	**Sn**	**18 14 05.8**	**-1.8**
JTAJ	**Takarajima**	**3.30**	**8**	P		**Pn**	**Pn**	**18 13 29.4**	**0.0**
JIRB	**Irabujima**	**3.35**	**253**	P		**Pn**	**Pn**	**18 13 29.3**	**-0.8**
JIRB				*eS*		**Sn**	**Sn**	**18 14 05.7**	**-4.2**
JTJ	**Tarama**	**3.81**	**252**	P		**Pn**	**Pn**	**18 13 35.5**	**-1.0**
JISG	**Ishigakijimahi**	**4.17**	**253**	P		Pn	Pn	18 13 38.3	-3.1
JNU	**Nakatsue**	**7.47**	**14**	Pn		**Pn**	**Pn**	**18 14 27.2**	**+0.4**
	0.6nm,0.3s,baz=197,slow=7.6,SNR=21								
JNU				Sn			**Sn**	**18 15 50.2**	**-1.4**
	0.1nm,0.3s,baz=197,slow=19,SNR=2.1								
SONM	**Songino Array**	**28.07**	**327**	P			**P**	**18 18 31.8**	**+2.2**
	0.6nm,0.4s,baz=142,slow=11,SNR=14								
ODAN	**Odare**	**36.90**	**281**	*eP*			**P**	**18 19 47.4**	**+0.3**
	12nm,0.9s								
PKIN	**Phulchoki**	**38.56**	**282**	*eP*			**P**	**18 20 01.3**	**+0.1**
	2.6nm,0.4s								
KKN	**Kakani**	**38.63**	**283**	*eP*			**P**	**18 20 02.6**	**+0.9**
GKN	**Gorkha**	**39.17**	**283**	*eP*			**P**	**18 20 05.8**	**-0.4**
DANN	**Dangsing**	**39.89**	**284**	*eP*			**P**	**18 20 13.1**	**+0.7**
	5.8nm,0.5s								
KOLN	**Koldanda**	**40.11**	**283**	*eP*			**P**	**18 20 15.2**	**+1.1**
MKAR	**Makanchi Array**	**42.08**	**312**	P			**P**	**18 20 29.1**	**-0.7**
	0.1nm,0.4s,baz=87,slow=11,SNR=4.3								
ZALV	**Zalesovo Beam**	**42.78**	**323**	P			**P**	**18 20 35.0**	**-0.3**
	0.2nm,0.3s,baz=98,slow=8.9,SNR=2.5								
WRA	**Warramunga Arr**	**45.87**	**173**	P			**P**	**18 21 00.7**	**+0.2**
	0.3nm,0.6s,baz=352,slow=8.7,SNR=5.0								
ASAR	**Alice Springs**	**49.51**	**174**	P			**P**	**18 21 30.8**	**+2.1**
	0.3nm,0.9s,baz=6.3,slow=13,SNR=5.6								
KBZ	**Khabaz**	**69.70**	**310**	P			**P**	**18 23 49.3**	**+1.5**
	0.9nm,0.7s,baz=102,slow=5.9,SNR=5.0								
ARCES	**ARCESS Array B**	**70.48**	**339**	P			**P**	**18 23 52.4**	**+0.2**
	3.8nm,1.0s,baz=68,slow=6.7,SNR=2.7								
FINES	**FINESS Array B**	**73.37**	**331**	P			**P**	**18 24 09.6**	**0.0**
	0.4nm,0.4s,baz=66,slow=4.7,SNR=7.0								
AKASG	**Malin Array Be**	**76.07**	**320**	P			**P**	**18 24 25.8**	**+0.4**
	0.4nm,0.5s,baz=59,slow=6.9,SNR=4.0								
BRTR	**Keskin Array B**	**77.57**	**308**	P			**P**	**18 24 35.5**	**+1.1**
	0.6nm,0.9s,baz=119,slow=5.1,SNR=3.5								

ISCJB ***15*** *18:30:17.5±0.2,32.95N±0.03×96.61E±0.03,h10km, mb4.2/38,MS3.4/14, Error ellipse: s-maj=4.5km s-min=3.4km az=147.2*
NEIC ***15*** *18:30:19.3±0.3,33.06N×96.65E,h10km,mb4.9/13, Error ellipse: s-maj=7.2km s-min=5.2km az=45.0*
BJI ***15*** *18:30:20.4,33.08N×96.76E,h10km,mB4.4/4,mb4.4/13, ML4.1/12,Ms3.9/7,Ms7 3.8/22*
MOS ***15*** *18:30:20.8±1.1,33.00N×96.67E,h33km,mb4.6/23, Error ellipse: s-maj=10.8km s-min=6.1km az=112.7*
IDC ***15*** *18:30:23.9±3.5,33.12N×96.65E,h46km±34km,mb3.8/20, mb1 3.9/24,mb1mx3.8/52,mbtmp4.0/24,ML3.9/4,MS3.4/16, Ms1 3.5/16,ms1mx3.2/40, Error ellipse: s-maj=17.8km s-min=12.2km az=43.0*
ISC 15 18:30:19.0±0.3,32.98N±0.04×96.73E±0.03,h10km,n145, σ1s45/137,mb4.3/38,MS3.5/14,1C-1D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.78**	**237**	Pn		Pn	Pn	18 31 50.1	+4.7
LSA	**Lhasa**	**5.78**	**237**	*eP*		Pn	Pn	18 31 49.6	+4.2
LSA				pmax		pmax			
	comp=Z,111nm,0.6s								
LSA	**Lhasa**	**5.78**	**237**	*eP*		Pn	Pn	18 31 49.6	+4.2
	comp=Z,111nm,0.6s								
CD2	**Chengdu**	**6.32**	**107**	Pn		**Pn**	**Pn**	**18 31 54.1**	**+1.8**
CD2				Pg		Pg	Pg	18 32 16.6	-3.4
CD2				Sn		**Sn**	**Sn**	**18 33 01.1**	**-3.5**
CD2				Sg		**Sg**	**Sg**	**18 33 39.1**	**-2.8**
CD2				smax		smax			
	comp=N,120nm,1.3s								
CD2				smax		smax			
	comp=E,180nm,1.3s								
CD2				LR		LR			
	comp=E,1μm,4.7s								
CD2				LR		LR			
	comp=Z,2μm,5.2s								
CD2	**Chengdu**	**6.32**	**107**	Pn		Pn	Pn	18 31 56.6	+4.3
CD2				Sn		**Sn**	**Sn**	**18 33 01.1**	**-3.5**
CD2				Sg		**Sg**	**Sg**	**18 33 39.1**	**-2.8**
CD2				SMN					
	comp=Z,120nm,1.3s								
CD2				SME					
	comp=Z,180nm,1.3s								
CD2				LZ					
	comp=Z,2μm,5.2s								
LZH	**Lanzhou**	**6.64**	**60**	Pn		**Pn**	**Pn**	**18 32 00.0**	**+3.2**
LZH				Sn		**Sn**	**Sn**	**18 33 17.8**	**+5.2**
LZH				Sg		**Sg**	**Sg**	**18 33 50.8**	**-1.4**
LZH				SMN					
	comp=Z,310nm,1.6s								
LZH				SME					
	comp=Z,590nm,1.4s								
LZH				LZ					
	comp=Z,1μm,9.8s								
GTA	**Gaotai**	**6.89**	**20**	*e*Pn		**Pn**	**Pn**	**18 32 02.1**	**+1.9**
GTA				Sn		**Sn**	**Sn**	**18 33 23.3**	**+4.6**
GTA				LZ					
	comp=Z,600nm,9.7s								
SHL	**Shillong**	**8.51**	**211**	*eP*			**Pn**	**18 32 24.0**	**+1.5**
SHL				AMB		AMB	AMB	18 32 27.6	
	comp=Z,14nm,0.3s								
SHL				*ex*		x	x	18 34 56.0	
IMP	**Imphal**	**8.52**	**197**	*ex*			**Pn**	**18 32 25.0**	**+2.4**
IMP				*ex*		Sn	Sn	18 33 55.0	-3.9
KMI	**Kunming**	**9.42**	**145**	P		Pn	Pn	18 32 39.1	+4.0
KMI				pP				18 32 41.8	
KMI				PMZ					
	comp=Z,27nm,0.8s								
KMI				LZ					
	comp=Z,840nm,9.2s								
TAPN	**Taplejung**	**9.61**	**237**	*eP*			**Pn**	**18 32 38.2**	**+0.5**
	comp=Z,49nm,0.4s								
ODAN	**Odare**	**10.14**	**235**	*eP*			**Pn**	**18 32 45.4**	**+0.5**
	comp=Z,173nm,0.6s								
XAN	**Xi'an**	**10.23**	**81**	P			Pn	18 32 50.8	+4.8
XAN				PMZ					
	comp=Z,3.0nm,1.0s								
XAN				LN					
	comp=Z,690nm,18.2s								
XAN				LE					
	comp=Z,130nm,15.4s								
JIRN	**Jiri**	**10.54**	**243**	*eP*			**Pn**	**18 32 51.4**	**+0.9**
	comp=Z,57nm,0.4s								
GUN	**Gumba**	**10.64**	**245**	*eP*			**Pn**	**18 32 52.1**	**+0.3**
	comp=Z,105nm,0.5s								
RAMN	**Ramite**	**10.64**	**238**	*eP*			**Pn**	**18 32 51.7**	**-0.1**
	comp=Z,57nm,0.4s								
KKN	**Kakani**	**11.15**	**245**	*eP*			**Pn**	**18 32 58.3**	**-0.5**
	comp=Z,62nm,0.4s								
PKI	**Pulchoki**	**11.17**	**244**	*eP*			**Pn**	**18 32 58.9**	**-0.2**
	comp=Z,54nm,0.4s								
PKIN	**Phulchoki**	**11.18**	**244**	*eP*			**Pn**	**18 32 58.8**	**-0.3**
	comp=Z,42nm,0.3s								
ENH	**Enshi**	**11.20**	**101**	*eP*			**Pn**	**18 33 01.6**	**+2.3**
	comp=Z,5.5nm,0.6s								
GKN	**Gorkha**	**11.55**	**248**	*eP*			Pn	18 33 03.1	-1.0
	comp=Z,32nm,0.4s								
DANN	**Dangsing**	**12.08**	**251**	*eP*			**Pn**	**18 33 11.1**	**-0.4**
	comp=Z,47nm,0.4s								
KOLN	**Koldanda**	**12.46**	**249**	*eP*			**Pn**	**18 33 15.8**	**-0.9**
	comp=Z,21nm,0.4s								
PYUN	**Piuthan**	**12.80**	**251**	*eP*			**Pn**	**18 33 20.7**	**-0.6**
	comp=Z,113nm,0.4s								
WMQ	**Urumqi**	**12.93**	**329**	P			**Pn**	**18 33 21.8**	**-1.1**
WMQ				pP				18 33 26.4	
WMQ				sP				18 33 29.0	
WMQ				*eS*			**Sn**	**18 35 45.0**	**-1.8**
WMQ				SS			**SnSn**	**18 36 00.0**	**+0.9**
WMQ				LZ					
	comp=Z,420nm,11.0s								
BOK	**Bokaro**	**13.21**	**229**	*eP*			Pn	18 33 25.9	-0.9
BOK				AMB		AMB	AMB	18 33 27.6	
	comp=Z,15nm,0.7s								
HHC	**Hu-ho-hao-te**	**14.22**	**52**	*eP*			**Pn**	**18 33 41.1**	**+0.5**
HHC				S			**Sn**	**18 36 17.8**	**-0.6**
HHC				SS			**SnSn**	**18 36 33.8**	**+3.0**
HHC				PMZ					
	comp=Z,8.0nm,0.8s								
HHC				LZ					
	comp=Z,470nm,10.0s								
CMAR	**Chiang Mai Arr**	**14.59**	**172**	P			**Pn**	**18 33 48.8**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=346,slow=12,SNR=39								
CMAR				LR		LR	LR	18 40 10.4	
	comp=Z,68nm,21.1s,baz=348,slow=40								
WHN	**Wuhan**	**15.19**	**94**	P			**Pn**	**18 33 53.0**	**-0.6**
SONM	**Songino Array**	**16.55**	**23**	P			**Pn**	**18 34 11.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=9.6								
SONM				LR		LR	LR	18 41 04.7	
	comp=Z,153nm,20.0s,baz=207,slow=39								
SMLA	**Simla**	**16.69**	**269**	*eP*			**Pn**	**18 34 11.2**	**-1.8**
SMLA				AMB		AMB	AMB	18 34 23.6	
	comp=Z,15nm,0.7s								
SMLA				*ex*		x	x	18 37 23.3	
ULN	**Ulaanbaatar**	**16.80**	**25**	*eP*			**P**	**18 34 16.0**	**-0.6**
ULN				pmax		pmax			
	comp=Z,13nm,2.5s								
ULN	**Ulaanbaatar**	**16.80**	**25**	*eP*			**Pn**	**18 34 14.2**	**-0.2**
	comp=Z,8.4nm,1.2s								
PDGK	**Podgornoye**	**17.02**	**312**	P			**Pn**	**18 34 18.1**	**+1.0**
PDGK				pmax		pmax			
	comp=Z,15nm,1.0s								
TIA	**Tai'an**	**17.10**	**73**	*eP*			P	18 34 27.6	+7.7
TIA				S			S	18 37 57.0	+19
TIA				LR			LR		
	comp=N,360nm,9.5s								
TIA				LR			LR		
	comp=E,360nm,7.7s								
TIA				LR			LR		
	comp=Z,320nm,9.0s								
BJI	**Beijing**	**17.13**	**60**	P			**P**	**18 34 22.0**	**+1.8**
BJI				PMZ					
	comp=Z,6.0nm,0.5s								
BJI				LZ					
	comp=Z,130nm,15.4s								
DHRM	**DHARAMSHALA**	**17.23**	**273**	*eP*			Pn	18 34 16.3	-3.7
DHRM				AMB		AMB	AMB	18 34 24.6	
	comp=Z,15nm,0.3s								
MK31	**Makanchi Array**	**17.66**	**326**	P			**Pn**	**18 34 25.2**	**+0.1**
MK31				pmax		pmax			
	comp=Z,9.0nm,0.8s								
MKAR	**Makanchi Array**	**17.66**	**326**	P			**Pn**	**18 34 25.4**	**+0.3**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MKAR				MLR		MLR			
	comp=Z,94nm,20.1s								
MKAR	**Makanchi Array**	**17.66**	**326**	P			**Pn**	**18 34 25.4**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=137,slow=14,SNR=73								
MKAR				LR		LR	LR	18 41 38.6	
	comp=Z,94nm,20.1s,baz=138,slow=38								
ZAK	**Zakamensk**	**18.05**	**14**	*eP*			**Pn**	**18 34 30.1**	**+0.1**
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.2s								
QIZ	**Qiongzhong**	**18.19**	**137**	P			Pn	18 34 27.3	-4.5
QIZ				S			**Sn**	**18 37 51.1**	**-3.8**
QIZ				pmax		pmax			
	comp=Z,22nm,2.0s								
QIZ				LR		LR	LR		
	comp=Z,370nm,9.1s								
MOY	**Mondy**	**18.94**	**8**	*eP*			**Pn**	**18 34 43.5**	**+2.7**
TLY	**Talaya**	**19.36**	**13**	*eP*			**Pn**	**18 34 47.5**	**+1.7**
BHPL	**Bhopal**	**19.57**	**245**	*eP*			**P**	**18 34 47.1**	**-0.1**
BHPL				AMB		AMB	AMB	18 34 48.1	
	comp=Z,89nm,1.4s								
NGP	**Nagpur**	**19.63**	**238**	*eP*			**P**	**18 34 48.8**	**+0.9**
AAK	**Ala-Archa**	**19.99**	**305**	P			**P**	**18 34 53.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=101,slow=8.6,SNR=13								
DGPR	**DIGLIPUR**	**20.01**	**191**	*eP*			**P**	**18 34 53.9**	**+2.0**
KURBB	**Kurchatov Arra**	**22.15**	**328**	P			**P**	**18 35 12.9**	**-1.9**
	comp=Z,1.7nm,0.5s,baz=135,slow=11,SNR=20								
KURK	**Kurchatov**	**22.17**	**328**	P			**P**	**18 35 16.3**	**+1.2**
KURK				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KURK	**Kurchatov**	**22.17**	**328**	*eP*			**P**	**18 35 14.3**	**-0.8**
HYB	**Hyderabad**	**22.54**	**231**	*i* P			**P**	**18 35 20.0**	**+0.7**
HYB	**Hyderabad**	**22.54**	**231**	*eP*			**P**	**18 35 18.8**	**-0.5**
ZALV	**Zalesovo Beam**	**22.62**	**342**	P			**P**	**18 35 19.2**	**-0.6**
ZALV				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ZALV	**Zalesovo Beam**	**22.62**	**342**	P			**P**	**18 35 19.2**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=164,slow=11,SNR=20								
KK31	**Karatay Array**	**22.91**	**304**	*i* P			**P**	**18 35 23.0**	**0.0**
KK31				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KBL	**Kabul**	**23.05**	**282**	*eP*			**P**	**18 35 24.6**	**-0.2**
KBL				pmax		pmax			
	comp=Z,29nm,0.8s								
KBL	**Kabul**	**23.05**	**282**	*eP*			**P**	**18 35 24.6**	**-0.2**
	comp=Z,29nm,0.8s								
NVS	**Novosibirsk**	**23.84**	**340**	*eP*			**P**	**18 35 34.3**	**+2.1**
KSAR	**Wonju Array Be**	**25.78**	**71**	P			**P**	**18 35 50.4**	**+0.3**
KSAR	**Wonju Array Be**	**25.78**	**71**	P			**P**	**18 35 50.4**	**+0.3**
KSRS	**Korea Array**	**25.81**	**71**	P			**P**	**18 35 50.4**	**+0.1**
KSRS				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KSRS				MLR		MLR			
	comp=Z,122nm,18.7s								
KSRS	**

comp=Z,38nm,18.7s
FINES FINESS Array B 52.49 325 P **P** **18 39 31.3 -0.6**
comp=Z,2.1nm,0.7s,baz=113,slow=8.9,SNR=6.6
FINES LR LR 19 04 17.1
comp=Z,38nm,18.7s,baz=101,slow=39
ARCES ARCESS Array B 52.97 335 P **P** **18 39 33.4 -1.9**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES MLR MLR
comp=Z,63nm,18.0s
ARCES ARCESS Array B 52.97 335 P **P** **18 39 33.4 -1.9**
comp=Z,3.3nm,1.0s,baz=91,slow=7.3,SNR=5.5
ARCES LR LR 19 04 13.0
comp=Z,63nm,18.0s,baz=87,slow=38
KWP Kalwaria Pacla 55.81 311 *e*P **P** **18 39 55.5 -0.8**
KWP pmax pmax
comp=Z,21nm,0.9s
KWP Kalwaria Pacla 55.81 311 *e*P **P** **18 39 55.5 -0.8**
comp=Z,21nm,0.9s
KOLS Kolonicke sedl 56.24 310 *e*P **P** **18 40 01.0 +1.6**
KOLS Kolonicke sedl 56.24 310 *e*pP **P** **18 40 01.0 +1.6**
VYHS Vyhne 58.55 310 *e*P **P** **18 40 18.4 +2.7**
VYHS Vyhne 58.55 310 *e*pP **P** **18 40 18.4 +2.7**
VYHS *e* 18 46 09.7
DPC Dobruska-Polom 59.62 313 *e*P **P** **18 40 23.4 +0.2**
DPC *e**PP **pP** **18 40 29.8 +3.4**
DPC Dobruska-Polom 59.62 313 *e*P **P** **18 40 23.4 +0.2**
DPC *ex* x 18 40 29.8
NB2 NORSAR Subarra 59.66 326 P **P** **18 40 21.2 -2.0**
comp=Z,1.6nm,0.6s,baz=77,slow=7.4
NOA NORSAR Array B 59.66 326 P **P** **18 40 21.6 -1.6**
NOA pmax pmax
comp=Z,2.0nm,1.1s
NOA NORSAR Array B 59.66 326 P **P** **18 40 21.6 -1.6**
comp=Z,2.2nm,1.1s,baz=74,slow=6.7,SNR=4.5
GERES GERESS Array B 61.70 312 P **P** **18 40 35.7 -1.7**
comp=Z,0.3nm,0.3s,baz=86,slow=6.8,SNR=4.6
GERES LR LR 19 07 34.1
comp=Z,39nm,18.2s,baz=63,slow=36
WRAB Tennant Creek 63.72 140‖ *e*P **P** **18 40 50.2 -0.8**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 63.72 140 *e*P **P** **18 40 51.7 +0.7**
WRA Warramunga Arr 63.72 140 P **P** **18 40 51.8 +0.8**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 63.72 140 P **P** **18 40 51.8 +0.8**
comp=Z,2.7nm,0.7s,baz=319,slow=9.0,SNR=52
WB2 Warramunga Arr 63.73 140 *e*P **P** **18 40 51.1 0.0**
KMBO Kilima Mbogo 65.40 251 P **P** **18 41 02.7 +0.2**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 65.40 251 P **P** **18 41 02.7 +0.2**
comp=Z,2.9nm,0.7s,baz=38,slow=12,SNR=12
ASAR Alice Springs 66.55 143 P **P** **18 41 10.5 +1.1**
ASAR pmax pmax
comp=Z,3.0nm,0.4s
ASAR Alice Springs 66.55 143 P **P** **18 41 10.4 +1.1**
comp=Z,2.8nm,0.4s,baz=325,slow=6.4,SNR=116
LPG La Plagne 67.34 310 *e*P **P** **18 41 14.1 -0.5**
comp=Z,11nm,0.7s
LPG La Plagne 67.34 310 *e*P **P** **18 41 14.1 -0.5**
LPG pmax pmax
comp=Z,11nm,0.7s
LPG La Plagne 67.34 310 *e*P **P** **18 41 14.1 -0.5**
comp=Z,11nm,0.7s
LPL La Plagne 67.34 310 *e*P **P** **18 41 14.0 -0.5**
comp=Z,5.8nm,0.6s
LPL La Plagne 67.34 310 *e*P **P** **18 41 14.0 -0.5**
LPL pmax pmax
comp=Z,6.0nm,0.6s
LPL La Plagne 67.34 310 *e*P **P** **18 41 14.0 -0.5**
comp=Z,5.8nm,0.6s
MBDF Montbardon 67.64 310 *e*P **P** **18 41 16.4 0.0**
comp=Z,4.6nm,0.6s
MBDF Montbardon 67.64 310 *e*P **P** **18 41 16.4 0.0**
MBDF pmax pmax
comp=Z,5.0nm,0.6s
MBDF Montbardon 67.64 310 *e*P **P** **18 41 16.4 0.0**
comp=Z,4.6nm,0.6s
ORIF Oris-en-Rattie 68.14 310 *e*P **P** **18 41 19.0 -0.4**
comp=Z,4.4nm,0.6s
ORIF Oris-en-Rattie 68.14 310 *e*P **P** **18 41 19.0 -0.4**
ORIF pmax pmax
comp=Z,4.0nm,0.6s
ORIF Oris-en-Rattie 68.14 310 *e*P **P** **18 41 19.0 -0.4**
comp=Z,4.4nm,0.6s
SMF Signal de Mont 68.69 312 *e*P **P** **18 41 21.7 -1.0**
comp=Z,9.2nm,0.9s
SMF Signal de Mont 68.69 312 *e*P **P** **18 41 21.7 -1.0**
SMF pmax pmax
comp=Z,9.0nm,0.9s
SMF Signal de Mont 68.69 312 *e*P **P** **18 41 21.7 -1.0**
comp=Z,9.2nm,0.9s
AVF Avril sur Loir 68.93 313 *e*P **P** **18 41 23.1 -1.1**
comp=Z,8.9nm,0.9s
AVF Avril sur Loir 68.93 313 *e*P **P** **18 41 23.1 -1.1**
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 68.93 313 *e*P **P** **18 41 23.1 -1.1**
comp=Z,8.9nm,0.9s
VIVF Saint-Julien-l 68.94 310 *e*P **P** **18 41 24.5 +0.2**
comp=Z,8.7nm,1.0s
VIVF Saint-Julien-l 68.94 310 *e*P **P** **18 41 24.5 +0.2**
VIVF pmax pmax
comp=Z,9.0nm,1.0s
VIVF Saint-Julien-l 68.94 310 *e*P **P** **18 41 24.5 +0.2**
comp=Z,8.7nm,1.0s
ILAR Eielson Array 70.77 24 P **P** **18 41 34.4 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,52nm,18.2s
ILAR Eielson Array 70.77 24 P **P** **18 41 34.4 -0.8**
comp=Z,0.5nm,0.7s,baz=292,slow=6.1,SNR=4.4
ILAR LR LR 19 16 14.6
comp=Z,52nm,18.1s,baz=240,slow=39
HNR Honiara 73.41 113 LR LR 19 11 37.3
comp=Z,25nm,20.8s,baz=267,slow=34
STKA Stephens Creek 77.16 142 P **P** **18 42 13.6 +0.7**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 77.16 142 P **P** **18 42 13.6 +0.7**
comp=Z,1.3nm,0.6s,baz=350,slow=7.1,SNR=7.4
LSZ Lusaka 81.09 245 P **P** **18 42 34.4 -0.5**
LSZ pmax pmax
comp=Z,2.0nm,0.5s
LSZ Lusaka 81.09 245 P **P** **18 42 34.4 -0.5**
comp=Z,1.5nm,0.5s,baz=82,slow=4.0,SNR=3.9
YKA Yellowknife Ar 81.58 14 P **P** **18 42 36.9 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 81.58 14 P **P** **18 42 36.9 +0.2**
comp=Z,0.5nm,0.7s,baz=335,slow=4.7,SNR=9.1
TORD Torodi Ar. Bea 87.10 284 P **P** **18 43 05.1 -0.5**
comp=Z,2.1nm,0.8s,baz=50,slow=5.0,SNR=12

IDC 15 18:32:16.9±1.1, 0°34S×124°75E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/42, mbtmp3.6/5, Error ellipse: s-maj=174.7km s-min=19.5km az=67.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.63**	**155**	P		P 18 37 08.7	-0.3
	1.7nm,0.7s,baz=332,slow=10.0,SNR=20						
ASAR	**Alice Springs**	**24.84**	**160**	P		P 18 37 42.7	+1.5
	1.4nm,0.3s,baz=341,slow=11,SNR=79						
STKA	**Stephens Creek**	**35.19**	**155**	P		P 18 39 11.2	-1.7
	1.0nm,0.8s,baz=308,slow=9.5,SNR=4.5						
SONM	**Songino Array**	**50.57**	**344**	P		P 18 41 17.6	+0.1
	0.2nm,0.5s,baz=153,slow=7.0,SNR=1.9						
MKAR	**Makanchi Array**	**59.82**	**328**	P		P 18 42 23.9	-0.4
	0.2nm,0.4s,baz=122,slow=6.8,SNR=4.8						

*IDC **15** 18:35:42.3±1.4, 37°68S×50°76E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/39, mbtmp4.0/5, MS3.3/8, Ms1 3.3/8, ms1mx3.1/29, Error ellipse: s-maj=66.5km s-min=26.0km az=29.0*
*ISCJB **15** 18:35:43.4±1.6, 37°7S±0°4×50°8E±0°3, h16km, mb3.9/5, MS3.4/7, Error ellipse: s-maj=63.2km s-min=27.8km az=29.5*

ISC 15 18:35:44.8±1.7, 37°7S±0°5×50°7E±0°3, h16km, n21, σ0°79/8, mb3.9/5, MS3.3/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**19.34**	**350**	LR		LR 18 45 50.3	
	comp=Z,38nm,21.0s,baz=186,slow=32						
LBTB	**Lobatse**	**24.84**	**293**	LR		LR 18 49 14.4	
	comp=Z,59nm,18.6s,baz=130,slow=33						
SUR	**Sutherland**	**25.01**	**273**	LR		LR 18 48 47.6	
	comp=Z,51nm,19.4s,baz=86,slow=31						
LSZ	**Lusaka**	**29.97**	**312**	LR		LR 18 52 16.0	
	comp=Z,81nm,20.5s,baz=135,slow=33						
MAW	**Mawson**	**30.69**	**171**	LR		LR 18 51 25.6	
	comp=Z,63nm,20.4s,baz=250,slow=31						
H08S1	**Diego Carcia H**	**35.85**	**39**	T		T 19 20 20.7	
	baz=210,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**35.86**	**39**	T		T 19 20 20.1	
	baz=210,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**35.87**	**39**	T		T 19 20 23.9	
	baz=210,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**50.29**	**107**	T		T 19 38 42.9	
	baz=248,slow=75,SNR=74						
H01W3	**Cape Leeuwin H**	**50.30**	**107**	T		T 19 38 42.8	
	baz=248,slow=75,SNR=47						
H01W1	**Cape Leeuwin H**	**50.31**	**107**	T		T 19 38 42.1	
	baz=248,slow=75,SNR=52						
VNDA	**Vanda**	**57.81**	**166**	LR		LR 19 08 03.3	
	comp=Z,78nm,19.1s,baz=224,slow=34						
TORD	**Torodi Ar. Bea**	**68.37**	**308**	P		P **18 46 46.3**	**+0.6**
	0.7nm,0.9s,baz=147,slow=7.8,SNR=3.0						
ASAR	**Alice Springs**	**70.75**	**105**	P		P **18 47 00.9**	**+0.4**
	1.5nm,0.6s,baz=232,slow=5.9,SNR=41						
STKA	**Stephens Creek**	**71.93**	**117**	LR		LR 19 12 52.2	
	comp=Z,78nm,21.7s,baz=204,slow=31						
CMAR	**Chiang Mai Arr**	**71.95**	**48**	P		P **18 47 07.3**	**-0.3**
	1.1nm,0.9s,baz=224,slow=5.2,SNR=7.1						
WRA	**Warramunga Arr**	**73.16**	**102**	P		P **18 47 15.3**	**+0.3**
	2.4nm,0.7s,baz=231,slow=5.1,SNR=28						
BRTR	**Keskin Array B**	**78.67**	**347**	LR		LR 19 20 30.5	
	comp=Z,7.7nm,19.3s,baz=120,slow=34						
AAK	**Ala-Archa**	**82.86**	**17**	P		P **18 48 09.1**	**+0.8**
	0.3nm,0.3s,baz=168,slow=3.6,SNR=4.1						
ILAR	**Eielson Array**	**150.98**	**16**	PKPbc		**PKPbc 18 55 35.0**	**-0.9**
	1.5nm,0.8s,baz=316,slow=3.0,SNR=14						
YKA	**Yellowknife Ar**	**153.62**	**345**	PKPbc		**PKPbc 18 55 41.0**	**-0.8**
	0.1nm,0.6s,baz=27,slow=2.1,SNR=5.2						
YKA				PKPab		**PKPab 18 55 53.8**	**-0.6**
	0.1nm,0.5s,baz=30,slow=2.6,SNR=3.8						

*CSEM **15** 18:37:49.3, 40°56N×23°68E, h2km, ML1.2/3*
THE 15 18:37:49.3, 40°56N×23°68E, h2km±29km, ML1.2/3, Error ellipse: s-maj=29.0km s-min=0.5km az=87.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLG	**Polygyros**	**0.25**	**225**	P		Pg 18 37 54.7	+0.4
PLG				S		Sg 18 37 58.2	+0.6
PLG	**Polygyros**	**0.25**	**225**	P		Pg 18 37 54.7	+0.4
PLG				S		Sg 18 37 58.2	+0.6
OUR	**Ouranopolis**	**0.32**	**134**	P		Pg 18 37 55.4	0.0
OUR				S		Sg 18 38 00.1	+0.5
OUR	**Ouranopolis**	**0.32**	**134**	P		Pg 18 37 55.4	0.0
OUR				S		Sg 18 38 00.1	+0.5
SOH	**Sokhos**	**0.36**	**317**	P		Pg 18 37 56.5	+0.1
SOH				S		Sg 18 38 01.6	+0.4
SOH	**Sokhos**	**0.36**	**317**	P		Pg 18 37 56.5	+0.1
SOH				S		Sg 18 38 01.6	+0.4
SRS	**Serrai**	**0.56**	**353**	P		Pg 18 37 59.9	-0.3
SRS				S		Sg 18 38 07.9	+0.3
SRS	**Serrai**	**0.56**	**353**	P		Pg 18 37 59.9	-0.3
SRS				S		Sg 18 38 07.9	+0.3
PAIG	**Paliouri**	**0.63**	**180**	P		Pg 18 38 00.9	-0.4
PAIG				S		Sg 18 38 09.4	-0.1
PAIG	**Paliouri**	**0.63**	**180**	P		Pg 18 38 00.9	-0.4
PAIG				S		Sg 18 38 09.4	-0.1
KNT	**Kendrikon**	**0.85**	**316**	P		Pg 18 38 05.1	-0.5
KNT				S		Sg 18 38 16.9	+0.2
KNT	**Kendrikon**	**0.85**	**316**	P		Pg 18 38 05.1	-0.5
KNT				S		Sg 18 38 16.9	+0.2

*PRU **15** 18:44:41.7, 46°06N×12°10E, h0km*
*VIE **15** 18:44:44.4±0.2, 46°10N×12°39E, h9km±1km, mb2.6/14, ML3.3/16, Error ellipse: s-maj=1.6km s-min=0.9km az=13.0 14 km ESE of Belluno*
*ISCJB **15** 18:44:44.9±0.2, 46°04N±0°02×12°37E±0°02, h18km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=172.4*
*ROM **15** 18:44:44.8±0.2, 46°15N×12°41E, h3km±2km, Md3.1/16, Ml3.1/20, Error ellipse: s-maj=2.5km s-min=1.6km az=23.0*
*CSEM **15** 18:44:44.7±0.1, 46°09N×12°38E, h10km, ML3.6/25, Error ellipse: s-maj=2.5km s-min=1.7km az=172.0*
*LDG **15** 18:44:45.0±0.0, 46°11N×12°39E, h10km, Ml3.1/22, Error ellipse: s-maj=1.5km s-min=1.0km az=1.0*
*GEN **15** 18:44:45.5, 46°14N×12°44E, h16km, ML3.0*
*SZGRF **15** 18:44:47.0, 46°10N×12°52E, h10km, mb3.1, Northern Italy*
*STR **15** 18:44:51.1±0.4, 46°04N×11°73E, h5km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 15 18:44:44.7±0.8, 46°08N±0°01×12°37E±0°01, h14km±4km, n234, σ1§41/385, 35C-33D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAE	**Caneva**	**0.09**	**149**	⇑*i*	Pg	**Pg 18 44 47.8**	**+0.1**
CAE				*i*	Sg	**Sg 18 44 50.4**	**+0.6**
CAE	**Caneva**	**0.09**	**149**	⇑*i*	Pg	**Pg 18 44 47.8**	**+0.1**
CAE				*i*	Sg	**Sg 18 44 50.4**	**+0.6**
POLC	**Polcenigo**	**0.10**	**121**		Pg	**Pg 18 44 48.1**	**+0.3**
POLC					Sg	**Sb 18 44 51.1**	**+0.1**
	74μm,0.5s						
POLC	**Polcenigo**	**0.10**	**121**	⇑*e*	Pg	**Pg 18 44 48.1**	**+0.3**
POLC				*e*	Sg	**Sb 18 44 51.0**	**+0.1**
MLNI	**Malnisio**	**0.18**	**67**	⇓*i*	Pg	**Pg 18 44 48.6**	**-0.3**
MLNI				*i*	Sg	**Sg 18 44 51.6**	**-0.2**
MLNI	**Malnisio**	**0.18**	**67**	⇓*i*	Pg	**Pg 18 44 48.6**	**-0.3**
MLNI				*i*	Sg	**Sg 18 44 51.6**	**-0.2**
CIMO	**Cimolais**	**0.23**	**11**	⇓*i*	Pg	**Pg 18 44 48.9**	**-0.9**
CIMO				*i*	Sg	**Sg 18 44 52.0**	**-1.3**
CIMO	**Cimolais**	**0.23**	**11**	⇓*i*	Pg	**Pg 18 44 48.9**	**-0.9**
CIMO				*i*	Sg	**Sg 18 44 52.0**	**-1.3**
AGOR	**Agordo**	**0.30**	**312**	⇓*i*	Pg	**Pg 18 44 50.4**	**-0.6**
AGOR				*i*	Sg	**Sg 18 44 54.3**	**-1.0**
AGOR	**Agordo**	**0.30**	**312**		Pg	**Pg 18 44 50.4**	**-0.6**
	561nm,0.4s						
CGRP	**Cima Grappa**	**0.45**	**244**	⇓*e*	Pg	**Pg 18 44 53.5**	**-0.1**
CGRP				*e*	Sg	**Sb 18 45 01.5**	**+0.5**
CGRP	**Cima Grappa**	**0.45**	**244**		Pg	**Pg 18 44 53.7**	**+0.1**
	679nm,0.5s						
CGRP	**Cima Grappa**	**0.45**	**244**		Pg	**Pg 18 44 53.7**	**+0.1**
	679nm,0.5s						
CGRP				*e*	Sg	**Sb 18 45 01.5**	**+0.5**
MPRI	**Monte Prat**	**0.46**	**69**	⇑*e*	Pg	**Pg 18 44 53.5**	**-0.3**
MPRI				*e*	Sg	**Sb 18 45 00.9**	**-0.3**
MPRI	**Monte Prat**	**0.46**	**69**	⇑*e*	Pg	**Pg 18 44 53.5**	**-0.3**
MPRI				*e*	Sg	**Sb 18 45 00.9**	**-0.3**
CSMI	**Casera Mimoias**	**0.47**	**24**	⇓*e*	Pg	**Pg 18 44 53.1**	**-1.0**
CSMI				*e*	Sg	**Sg 18 44 59.5**	**-1.0**
CSMI	**Casera Mimoias**	**0.47**	**24**	⇓*e*	Pg	**Pg 18 44 53.1**	**-1.0**
CSMI				*e*	Sg	**Sg 18 44 59.5**	**-1.0**
TLI	**Talmassons**	**0.53**	**107**	⇑*e*	Pg	**Pg 18 44 55.2**	**+0.1**
TLI	**Talmassons**	**0.53**	**107**	⇑*e*	Pg	**Pg 18 44 55.2**	**+0.1**
BUA	**Buia**	**0.54**	**75**	⇑*e*	Pg	**Pg 18 44 55.1**	**-0.2**
BUA				*e*	Sg	**Sb 18 45 03.1**	**-0.2**
BUA	**Buia**	**0.54**	**75**	⇑*e*	Pg	**Pg 18 44 55.1**	**-0.2**
BUA				*e*	Sg	**Sb 18 45 03.3**	**-0.2**
FUSE	**Fusea**	**0.55**	**52**	⇑*e*	Pg	**Pg 18 44 54.8**	**-0.7**
FUSE				*e*	Sg	**Sg 18 45 02.7**	**-0.1**
FUSE	**Fusea**	**0.55**	**52**	⇑*e*	Pg	**Pg 18 44 54.8**	**-0.7**
FUSE				*e*	Sg	**Sg 18 45 02.7**	**-0.1**
BOO	**Bordano**	**0.56**	**64**	⇑*e*	Pg	**Pg 18 44 54.8**	**-0.8**
BOO	**Bordano**	**0.56**	**64**	⇑*e*	Pg	**Pg 18 44 54.8**	**-0.8**
GEPF	**Gemona**	**0.57**	**70**		Pg	**Pg 18 44 55.5**	**-0.3**
GEPF					Sg	**Sb 18 45 04.7**	**+0.4**
	352nm,0.6s						
GEPF	**Gemona**	**0.57**	**70**		Pg	**Pg 18 44 55.5**	**-0.3**
GEPF					Sg	**Sb 18 45 04.7**	**+0.4**
	352nm,0.6s						
BAD	**Bernadia**	**0.62**	**75**	⇓*e*	Pg	**Pg 18 44 56.1**	**-0.8**
BAD	**Bernadia**	**0.62**	**75**	⇓*e*	Pg	**Pg 18 44 56.1**	**-0.8**
BAD				*e*	Sg	**Sb 18 45 06.2**	**+0.2**

ZOU	**Zoufplan**	**0.63**	**41**	⇑*e*	Pg	**Pg 18 44 56.5**	**-0.6**
ZOU				*e*	Sg	**Sg 18 45 06.2**	**+0.7**
VINO	**Villanova**	**0.66**	**74**	⇓*e*	Pg	**Pg 18 44 56.6**	**-0.8**
VINO				*e*	Sg	**Sg 18 45 06.5**	**+0.4**
VINO	**Villanova**	**0.66**	**74**		Pg	**Pg 18 44 56.8**	**-0.7**
VINO					Sg	**Sb 18 45 07.2**	**+0.3**
	300nm,0.4s						
VINO	**Villanova**	**0.66**	**74**		Pg	**Pg 18 44 56.8**	**-0.7**
VINO					Sg	**Sg 18 45 06.5**	**+0.4**
ABTA	**Abfaltersbach**	**0.67**	**8**	⇑*e*	Pg	**Pg 18 44 57.4**	**-0.4**
	SNR=39						
ABTA				⇓*i*	Sg	**Sg 18 45 06.9**	**+0.1**
	70nm,0.3s						
ABTA	**Abfaltersbach**	**0.67**	**8**		Pg	**Pg 18 44 57.4**	**-0.4**
	SNR=39						
ABTA					Sg	**Sg 18 45 06.9**	**+0.1**
	70nm,0.3s						
COLI	**Coloredo**	**0.70**	**85**	⇓*e*	Pg	**Pg 18 44 57.8**	**-0.5**
COLI				*e*	Sg	**Sb 18 45 09.1**	**+0.9**
COLI	**Coloredo**	**0.70**	**85**	⇓*e*	Pg	**Pg 18 44 57.8**	**-0.5**
COLI				*e*	Sg	**Sb 18 45 09.1**	**+0.9**
PLRO	**Paularo**	**0.71**	**49**	⇓*e*	Pg	**Pg 18 44 57.9**	**-0.7**
PLRO				*e*	Sg	**Sg 18 45 08.6**	**+0.6**
PLRO	**Paularo**	**0.71**	**49**	⇓*e*	Pg	**Pg 18 44 57.9**	**-0.7**
PLRO				*e*	Sg	**Sg 18 45 08.6**	**+0.6**
PANI	**Panarotta**	**0.74**	**268**	⇓*e*	Pg	**Pg 18 44 59.5**	**+0.4**
PANI	**Panarotta**	**0.74**	**268**	⇓*e*	Pg	**Pg 18 44 59.5**	**+0.4**
KOSI	**Kohlern**	**0.79**	**299**		Pg	**Pg 18 44 59.6**	**-0.4**
KOSI					Sg	**Sb 18 45 11.5**	**+0.6**
	508nm,1.1s						
KOSI	**Kohlern**	**0.79**	**299**	⇑*e*	Pg	**Pg 18 44 59.8**	**-0.2**
KOSI					Sg	**Sb 18 45 11.5**	**+0.6**
	508nm,1.1s						
ROBS	**Robic**	**0.81**	**78**	*i*	Pg	**Pg 18 44 59.2**	**-1.1**
ROBS				*i*	Sg	**Sn 18 45 12.7**	**-0.7**
	comp=Z,74nm,0.2s						
ROBS	**Robic**	**0.81**	**78**		Pg	**Pg 18 44 59.2**	**-1.1**
ROBS				*i*	Sg	**Sn 18 45 12.7**	**-0.7**
	comp=Z,74nm,0.2s						
BOSI	**Bolzano**	**0.84**	**300**		Pg	**Pn 18 45 01.6**	**-0.5**
	comp=Z,771nm,0.8s						
BOSI	**Bolzano**	**0.84**	**300**		Pg	**Pn 18 45 01.6**	**-0.5**
	comp=Z,771nm,0.8s						
DDS	**Dosso del Somm**	**0.85**	**257**	⇑*e*	Pg	**Pb 18 45 01.7**	**+0.4**
DDS	**Dosso del Somm**	**0.85**	**257**	⇑*e*	Pg	**Pb 18 45 01.7**	**+0.4**
SABO	**M.te Sabotino**	**0.86**	**96**	⇑*e*	Pg	**Pg 18 45 01.1**	**-0.2**
SABO				*e*	Sg	**Sn 18 45 14.6**	**-0.2**
SABO	**M.te Sabotino**	**0.86**	**96**		Pg	**Pg 18 45 01.2**	**-0.1**
	comp=Z,903nm,0.8s						
SABO	**M.te Sabotino**	**0.86**	**96**		Pg	**Pg 18 45 01.2**	**-0.1**
	comp=Z,903nm,0.8s						
SABO				*e*	Sg	**Sn 18 45 14.6**	**-0.2**
DRE	**Drenchia**	**0.89**	**84**	⇑*e*	Pg	**Pg 18 45 00.8**	**-1.0**
DRE	**Drenchia**	**0.89**	**84**	⇑*e*	Pg	**Pg 18 45 00.9**	**-1.0**
RISI	**Rein**	**0.89**	**347**		Pg	**Pg 18 45 01.9**	**-0.1**
RISI					Sg	**Sg 18 45 13.9**	**+0.2**
	comp=Z,464nm,0.5s						
RISI	**Rein**	**0.89**	**347**		Pg	**Pg 18 45 01.9**	**-0.1**
RISI					Sg	**Sg 18 45 13.9**	**+0.2**
	comp=Z,464nm,0.5s						
LSR	**Lussari**	**0.89**	**63**	⇓*e*	Pg	**Pg 18 45 01.3**	**-0.7**
LSR				*e*	Sg	**Sb 18 45 14.9**	**+1.0**
LSR	**Lussari**	**0.89**	**63**	⇓*e*	Pg	**Pg 18 45 01.3**	**-0.7**
LSR				*e*	Sg	**Sb 18 45 14.9**	**+1.0**
ACOM	**Acomizza, Ital**	**0.92**	**59**	*e*	Pg	**Pb 18 45 01.8**	**-0.7**
ACOM				*e*	Sg	**Sn 18 45 16.2**	**-0.3**
ACOM	**Acomizza, Ital**	**0.92**	**59**		Pg	**Pb 18 45 02.2**	**-0.3**
	comp=Z,375nm,0.3s						
ACOM	**Acomizza, Ital**	**0.92**	**59**		Pg	**Pb 18 45 02.2**	**-0.3**
	comp=Z,375nm,0.3s						
ACOM				*e*	Sg	**Sn 18 45 16.2**	**-0.3**
MARN	**Marana (Italy)**	**0.93**	**242**	*e*	Pg	**Pn 18 45 03.3**	**0.0**
MARN				*e*	Sg	**Sn 18 45 17.2**	**+0.8**
MARN	**Marana (Italy)**	**0.93**	**242**	*e*	Pg	**Pn 18 45 03.3**	**0.0**
MARN				*e*	Sg	**Sn 18 45 17.2**	**+0.8**
CADS	**Cadrg**	**0.96**	**81**	*i*	Pg	**Pb 18 45 02.2**	**-0.9**
CADS				*i*	Sg	**Sn 18 45 19.8**	**+2.5**
	comp=Z,174nm,0.2s						
CADS	**Cadrg**	**0.96**	**81**	*i*	Pg	**Pb 18 45 02.2**	**-0.9**
CADS				*i*	Sg	**Sn 18 45 19.8**	**+2.5**
	comp=Z,174nm,0.2s						
ABSI	**Aberstueckl**	**0.97**	**312**		Pg	**Pb 18 45 03.0**	**-0.5**
	comp=Z,410nm,0.6s						
ABSI	**Aberstueckl**	**0.97**	**312**		Pg	**Pb 18 45 03.0**	**-0.5**
	comp=Z,410nm,0.6s						
ROVR	**Rover¯¤ Verone**	**1.01**	**245**		Pg	**Pn 18 45 05.2**	**+0.7**
	comp=Z,866nm,0.1s						
ROVR	**Rover¯¤ Verone**	**1.01**	**245**		Pg	**Pn 18 45 05.2**	**+0.7**
	comp=Z,866nm,0.1s						
MYKA	**Terra Mystica**	**1.04**	**58**	⇓*e*	Pg	**Pb 18 45 04.4**	**0.0**
	SNR=13						
MYKA				⇓*i*	Sg	**Sg 18 45 18.8**	**+0.6**
	comp=Z,99nm,0.3s						
MYKA	**Terra Mystica**	**1.04**	**58**		Pg	**Pb 18 45 04.4**	**0.0**
	SNR=13						
MYKA					Sg	**Sg 18 45 18.8**	**+0.6**
	comp=Z,99nm,0.3s						
TRI	**Trieste**	**1.04**	**110**	*e*	Pg	**Pn 18 45 05.2**	**+0.4**
TRI				*e*	Sg	**Sn 18 45 20.2**	**+1.0**
TRI	**Trieste**	**1.04**	**110**		Pg	**Pb 18 45 03.7**	**-0.7**
TRI					Sg	**Sn 18 45 20.0**	**+0.9**
	comp=Z,489nm,0.4s						
TRI	**Trieste**	**1.04**	**110**	*e*	Pg	**Pn 18 45 05.2**	**+0.4**
TRI					Sg	**Sn 18 45 20.0**	**+0.9**
	comp=Z,489nm,0.4s						
VOJS	**Vojsko**	**1.05**	**92**	*i*	Pg	**Pn 18 45 05.7**	**+0.6**
VOJS				*i*	Sg	**Sn 18 45 20.8**	**+1.2**
	comp=Z,275nm,0.2s						
VOJS	**Vojsko**	**1.05**	**92**	*i*	Pg	**Pn 18 45 05.7**	**+0.6**
VOJS				*i*	Sg	**Sn 18 45 20.8**	**+1.2**
	comp=Z,275nm,0.2s						
ROSI	**Rosskopf**	**1.08**	**322**		Pg	**Pg 18 45 06.4**	**+0.9**
ROSI					Sg	**Sn 18 45 21.3**	**+0.9**
	comp=Z,313nm,0.5s						
ROSI	**Rosskopf**	**1.08**	**322**	*e*	Pg	**Pg 18 45 06.1**	**+0.6**
ROSI				*e*	Sg	**Sn 18 45 21.3**	**+0.9**
	comp=Z,313nm,0.5s						
GORS	**Gorjuse**	**1.15**	**78**	*i*	Pg	**Pg 18 45 07.4**	**

comp=Z,2µm,0.8s
FETA Feichten 1.47 310⇑ePg Pb 18 45 12.3 +0.4
SNR=35
FETA ⇓iSg Sg 18 45 32.9 +0.7
comp=Z,42nm,0.4s
FETA Feichten 1.47 310 Pg Pb 18 45 12.3 +0.4
SNR=35
FETA Sg Sg 18 45 32.9 +0.7
comp=Z,42nm,0.4s
MOTA Moosalm 1.54 326⇓ePn Pn 18 45 12.3 +0.5
SNR=45
MOTA ⇓iPg Pg 18 45 14.1 -0.1
MOTA ⇓iSg Sg 18 45 35.3 +1.1
comp=Z,102nm,0.3s
MOTA Moosalm 1.54 326 Pn Pn 18 45 12.3 +0.5
SNR=45
FUORN Ofenpass-Fuorn 1.56 291 Pg Pb 18 45 14.2 +0.8
FUORN Sg Sg 18 45 34.7 -0.2
FUORN Ofenpass-Fuorn 1.56 291 Pg Pb 18 45 14.2 +0.8
FUORN Sg Sg 18 45 34.7 -0.2
OBKA Obir 1.57 73 ePn Pb 18 45 13.7 +0.2
OBKA Obir 1.57 73⇑ePn Pn 18 45 12.5 +0.3
SNR=22
OBKA ⇑iSg Sg 18 45 35.7 +0.5
comp=Z,164nm,0.3s
OBKA Obir 1.57 73 Pn Pn 18 45 12.5 +0.3
SNR=22
OBKA Sg Sg 18 45 35.7 +0.5
comp=Z,164nm,0.3s
BERNI Berninapass 1.67 282 Pg Pb 18 45 16.1 +0.8
BERNI Berninapass 1.67 282 Pg Pb 18 45 16.1 +0.8
RJOB Jochberg 1.68 10 ePn Pg 18 45 16.7 -0.3
RJOB eSg Sg 18 45 40.9 +2.1
RJOB Jochberg 1.68 10 ePn Pg 18 45 16.7 -0.3
RJOB eSg Sg 18 45 40.9 +2.1
RETA Reutte 1.79 322⇑ePg Pg 18 45 18.5 -0.5
SNR=31
RETA ⇓iSn Sb 18 45 39.3 -0.3
RETA ⇓iSg Sg 18 45 43.6 +1.3
comp=Z,42nm,0.3s
RETA Reutte 1.79 322 Pg Pg 18 45 18.5 -0.5
SNR=31
RETA Sn Sb 18 45 39.3 -0.3
RETA Sg Sg 18 45 43.6 +1.3
comp=Z,42nm,0.3s
DAVOX Davos/Dischmat 1.86 293 Pg Pb 18 45 19.5 +0.9
DAVOX Davos/Dischmat 1.86 293 Pg Pb 18 45 19.5 +0.9
SOKA Soboth 1.94 71⇑iPn Pn 18 45 17.0 -0.2
SOKA ⇑ePg Pb 18 45 20.6 +0.8
SNR=11
SOKA ⇑iSn Sn 18 45 42.2 +0.8
SOKA Soboth 1.94 71 Pn Pn 18 45 17.0 -0.2
DAVA Damuels 2.10 306 ePn Pg 18 45 24.2 -0.6
DAVA Damuels 2.10 306⇑ePg Pg 18 45 24.3 -0.6
SNR=18
DAVA Damuels 2.10 306 Pg Pg 18 45 24.3 -0.6
SNR=18
TUE Stuetta 2.13 282 Pg Pb 18 45 23.6 +0.4
comp=Z,807nm,0.5s
TUE Stuetta 2.13 282 Pg Pb 18 45 23.6 +0.4
comp=Z,807nm,0.5s
MOA Molln 2.19 36 ePn Pn 18 45 19.2 -1.5
MOA Molln 2.19 36 ePn Pn 18 45 19.2 -1.5
VMG Vicchio 2.20 196 Pg Pb 18 45 22.8 -1.4
comp=Z,12nm,0.2s
FUR Furstenfeldbru 2.22 341 ePn Pg 18 45 26.6 -0.5
FUR eSg Sg 18 45 56.8 +0.9
NVLJ Novalja 2.33 130 ePn Pn 18 45 23.9 +1.4
NVLJ Sn Sn 18 45 51.5 +0.6
NVLJ Novalja 2.33 130 ePn Pn 18 45 23.8 +1.4
NVLJ Sn Sn 18 45 51.4 +0.6
MUGIO Muggio 2.33 267 Pg Pb 18 45 26.1 -0.3
MUGIO Muggio 2.33 267 Pg Pb 18 45 26.1 -0.3
MAIM Mastiano 2.54 212 P Pn 18 45 26.1 +0.6
MAIM S Sn 18 45 53.8 -2.5
SC2M Scurtabo 2.61 231 P Pn 18 45 27.0 +0.5
SC2M S Sn 18 45 55.3 -2.8
CING Cingoli 2.77 167 Pg Pn 18 45 30.2 +1.6
UDBI Udbina 2.85 122 ePn Pn 18 45 32.1 +2.3
UDBI Sn Sn 18 46 04.8 +0.9
UDBI Udbina 2.85 122 ePn Pn 18 45 32.1 +2.3
UDBI Sn Sn 18 46 04.8 +0.9
GEC2 GERESS Array S 2.91 18 ePn Pn 18 45 31.9 +1.3
GEC2 eSg Sg 18 46 18.2 +0.1
GEC2 GERESS Array S 2.91 18 ePn Pn 18 45 31.9 +1.3
GEC2 eSg Sg 18 46 18.2 +0.1
CONA Conrad Observa 3.02 51⇑iX Pn 18 45 33.1 +1.0
CONA ⇓iSn Sn 18 46 10.3 +2.2
WET Wettzell 3.08 6 ePn Pn 18 45 34.3 +1.3
WET Wettzell 3.08 6 ePn Pn 18 45 34.3 +1.3
PCP Piancastagn 3.11 242 P Pn 18 45 34.4 +1.1
SATI Passo dei Sala 3.15 268 P Pn 18 45 36.3 +2.2
KHC Kasperske Hory 3.16 15 ePN Pn 18 45 34.5 +0.5
KHC ePG Pb 18 45 42.6 +2.0
KHC eSN Sn 18 46 12.1 +0.6
KHC eSG Sg 18 46 24.5 -1.6
comp=Z,14nm,0.6s
KHC Kasperske Hory 3.16 15 Pn Pn 18 45 34.5 +0.5
KHC Sn Sn 18 46 12.1 +0.6
KHC Sg Sg 18 46 24.5 -1.6
comp=Z,14nm,0.6s
FELD Feldberg im Sc 3.49 303 P Pn 18 45 41.1 +2.5
FELD S Sn 18 46 22.5 +2.7
BFO Black Forest 3.56 311 ePn Pn 18 45 42.2 +2.7
BFO eSg Sg 18 46 41.3 +2.4
BFO Black Forest 3.56 311 ePn Pn 18 45 42.2 +2.7
BFO eSg Sg 18 46 41.3 +2.4
BBS Basel-Blauen 3.62 294 P Pn 18 45 42.9 +2.6
ROTZ Rotzenmuhle 3.69 358 ePn Pn 18 45 42.3 +1.0
ROTZ Rotzenmuhle 3.69 358 ePn Pn 18 45 42.3 +1.0
LPG La Plagne 3.98 264 ePn Pn 18 45 44.6 -0.9
LPG eSn Sn 18 46 29.1 -2.9
comp=Z,8.5nm,0.5s
LPG La Plagne 3.98 264 ePn Pn 18 45 44.6 -0.9
LPG eSn Sn 18 46 29.1 -2.9
comp=Z,4.2nm,0.5s
LPL La Plagne 3.99 264 ePn Pn 18 45 44.7 -0.8
LPL eSn Sn 18 46 29.1 -3.0
comp=Z,7.7nm,0.5s
LPL La Plagne 3.99 264 ePn Pn 18 45 44.7 -0.8
LPL eSn Sn 18 46 29.1 -3.0
comp=Z,3.8nm,0.5s
MOF Molkenrain 4.00 298 P Pn 18 45 48.0 +2.4
MOF S Sn 18 46 34.2 +1.9
MOF Molkenrain 4.00 298 P Pn 18 45 48.0 +2.4
MOF S Sn 18 46 34.2 +1.9
SAOF Saorge 4.01 240 P Pn 18 45 47.1 +1.5
SAOF S Sn 18 46 34.2 +1.8
SAOF Saorge 4.01 240 P Pn 18 45 47.1 +1.5
SAOF S Sn 18 46 34.2 +1.8
LOMF Lomont 4.02 290 P Pn 18 45 48.2 +2.3
LOMF S Sn 18 46 34.3 +1.5
LOMF Lomont 4.02 290 P Pn 18 45 48.2 +2.3
LOMF S Sn 18 46 34.3 +1.5
AUTN L'Aution 4.08 241 P Pn 18 45 48.3 +1.5
AUTN L'Aution 4.08 241 P Pn 18 45 48.3 +1.5
SBF Sospel 4.15 239 ePn Pn 18 45 46.8 -0.8
SBF eSn Sn 18 46 33.2 -2.7
comp=Z,9.1nm,0.2s
SBF Sospel 4.15 239 ePn Pn 18 45 46.8 -0.8
SBF eSn Sn 18 46 33.2 -2.7
comp=Z,4.6nm,0.2s
ECH Echery 4.15 303 P Pn 18 45 50.0 +2.4
ECH S Sn 18 46 38.2 +2.3
ECH Echery 4.15 303 P Pn 18 45 50.0 +2.4
ECH S Sn 18 46 38.2 +2.3
HINF Hinteralfeld 4.16 297 ePn Pn 18 45 46.3 -1.5
HINF eSn Sn 18 46 32.5 -3.7
comp=Z,20nm,0.4s
HINF Hinteralfeld 4.16 297 ePn Pn 18 45 46.3 -1.5
HINF eSn Sn 18 46 32.5 -3.7
comp=Z,9.9nm,0.4s
GOPC GO Pecny, Ondr 4.16 22 eSN Sn 18 46 36.9 +0.7
GOPC eSG Sg 18 46 56.8 -1.5
comp=Z,6.7nm,0.6s
GOPC GO Pecny, Ondr 4.16 22 Sn Sn 18 46 36.9 +0.7
GOPC Sg Sg 18 46 56.8 -1.5
comp=Z,6.7nm,0.6s
MBDF Montbardon 4.17 253 ePn Pn 18 45 47.3 -0.7
MBDF eSn Sn 18 46 33.7 -2.9
comp=Z,2.7nm,0.2s
MBDF Montbardon 4.17 253 ePn Pn 18 45 47.3 -0.7
MBDF eSn Sn 18 46 33.7 -2.9
comp=Z,1.4nm,0.2s
PRU Pruhonice 4.17 20 eSN Sn 18 46 36.8 +0.4
PRU eSG Sg 18 46 57.2 -1.3
comp=Z,10.0nm,0.6s
PRU Pruhonice 4.17 20 Sn Sn 18 46 36.8 +0.4
PRU Sg Sg 18 46 57.2 -1.3
comp=Z,10.0nm,0.6s
TOUF Mont Tournerai 4.18 242 P Pn 18 45 48.9 +0.7
TOUF Mont Tournerai 4.18 242 P Pn 18 45 48.9 +0.7
CDF Champ du Feu 4.18 306 ePn Pn 18 45 46.6 -1.5
CDF eSn Sn 18 46 32.9 -3.9
comp=Z,32nm,0.9s
CDF Champ du Feu 4.18 306 ePn Pn 18 45 46.6 -1.5
CDF eSn Sn 18 46 32.9 -3.9
comp=Z,16nm,0.9s
PRA Prague 4.22 18 eSG Sg 18 46 58.7 -1.5
comp=Z,8.6nm,0.3s
PRA Prague 4.22 18 Sg Sg 18 46 58.7 -1.5
comp=Z,8.6nm,0.3s
PGF Pioggiola 4.28 216 ePn Pn 18 45 49.1 -0.4
PGF eSn Sn 18 46 36.8 -2.5
comp=Z,12nm,0.4s
PGF Pioggiola 4.28 216 ePn Pn 18 45 49.1 -0.4
PGF eSn Sn 18 46 36.8 -2.5
comp=Z,5.8nm,0.4s
TANN Tannenbergstha 4.34 1 ePn Pn 18 45 52.3 +2.1
TANN Tannenbergstha 4.34 1 ePn Pn 18 45 52.3 +2.1
CABF La Chapelle 4.38 279 ePn Pn 18 45 49.7 -1.2
CABF La Chapelle 4.38 279 ePn Pn 18 45 49.7 -1.2
HAU Haudompre 4.55 297 ePn Pn 18 45 52.0 -1.1
HAU eSn Sn 18 46 41.8 -3.9
comp=Z,15nm,0.4s
HAU Haudompre 4.55 297 ePn Pn 18 45 52.0 -1.1
HAU eSn Sn 18 46 41.8 -3.9
comp=Z,7.5nm,0.4s
MOX Moxa 4.59 354 ePn Pn 18 45 54.8 +1.1
MOX eSg Sg 18 47 11.7 -0.4
MOX Moxa 4.59 354 ePn Pn 18 45 54.8 +1.1
MOX eSg Sg 18 47 11.7 -0.4
PVCC Panska Ves 4.69 17 eSN Sn 18 46 49.1 +0.1
PVCC eSG Sg 18 47 12.8 -2.2
comp=Z,23nm,0.7s
PVCC Panska Ves 4.69 17 Sn Sn 18 46 49.1 +0.1
PVCC Sg Sg 18 47 12.8 -2.2
comp=Z,23nm,0.7s
ORIF Oris-en-Rattie 4.71 258 ePn Pn 18 45 54.5 -0.9
ORIF eSn Sn 18 46 46.3 -3.5
comp=Z,10nm,0.5s
ORIF Oris-en-Rattie 4.71 258 ePn Pn 18 45 54.5 -0.9
FRF La Foret Royal 4.79 240 ePn Pn 18 45 55.5 -0.9
FRF eSn Sn 18 46 48.4 -3.3
comp=Z,3.2nm,0.3s
FRF La Foret Royal 4.79 240 ePn Pn 18 45 55.5 -0.9
THEF They Montfort 4.86 299 P Pn 18 46 00.2 +2.9
THEF They Montfort 4.86 299 P Pn 18 46 00.2 +2.9
TNS Taunus Mts 4.91 329 ePn Pn 18 46 01.4 +3.4
TNS Taunus Mts 4.91 329 ePn Pn 18 46 01.4 +3.4
BRG Berggiesshubel 4.91 12 i Sn 18 46 53.4 -1.1
BRG e Sn 18 46 53.7 -0.8
BRG Berggiesshubel 4.91 12 SG Sg 18 47 21.5 -0.6
comp=Z,21nm,1.2s
KRLC Kraliky 4.97 35 eSN Sn 18 46 56.8 +0.7
KRLC eSG Sg 18 47 23.3 -0.8
KRLC Kraliky 4.97 35 Sn Sn 18 46 56.8 +0.7
KRLC Sg Sg 18 47 23.3 -0.8
STON Ston 4.98 128 i Pn Pn 18 46 00.4 +1.4
STON Sn Sn 18 46 56.0 -0.4
STON Ston 4.98 128 i Pn Pn 18 46 00.4 +1.4
STON Sn Sn 18 46 55.9 -0.4
LMR La Mourre 5.00 239 ePn Pn 18 45 58.3 -1.0
LMR eSn Sn 18 46 53.5 -3.3
comp=Z,1.5nm,0.3s
LMR La Mourre 5.00 239 ePn Pn 18 45 58.3 -1.0
DPC Dobruska-Polom 5.02 30 eSN Sn 18 46 56.9 -0.5
DPC eSG Sg 18 47 23.5 -2.3
DPC Dobruska-Polom 5.02 30 Sn Sn 18 46 56.9 -0.5
DPC Sg Sg 18 47 23.5 -2.3
UPC Upice 5.05 27 eSN Sn 18 46 58.2 +0.1
UPC eSG Sg 18 47 24.7 -2.0
comp=Z,2.8nm,0.4s
UPC Upice 5.05 27 Sn Sn 18 46 58.2 +0.1
UPC Sg Sg 18 47 24.7 -2.0
comp=Z,2.8nm,0.4s
RUP Ruppelstein 5.09 317 P Pn 18 46 04.5 +4.0
PAGF Fort de Pagny 5.15 301 ePn Pn 18 45 59.9 -1.5
PAGF Fort de Pagny 5.15 301 ePn Pn 18 45 59.9 -1.5
CLL Collm 5.25 4 ePn Pn 18 46 04.0 +1.4
CLL e 18 47 07.0
CLL eSg Sg 18 47 33.0 0.0
comp=Z,30nm,1.3s
SMRF Simiane la Rot 5.26 249 ePn Pn 18 46 01.9 -0.9
SMRF eSn Sn 18 46 59.6 -3.7
comp=Z,2.2nm,0.4s
SMRF Simiane la Rot 5.26 249 ePn Pn 18 46 01.9 -0.9
OKC Ostrava-Krasne 5.40 44 eSG Sg 18 47 37.8 -0.1
comp=Z,5.6nm,0.6s
OKC Ostrava-Krasne 5.40 44 Sg Sg 18 47 37.8 -0.1
comp=Z,5.6nm,0.6s
SFTF Sexfontaines 5.44 296 ePn Pn 18 46 03.5 -1.8
MEZF Maizieres J'vi 5.54 299 ePn Pn 18 46 05.1 -1.5
VIVF Saint-Julien-l 5.55 260 ePn Pn 18 46 05.8 -1.1
VIVF eSn Sn 18 47 06.4 -4.1
comp=Z,2.7nm,0.5s
SMF Signal de Mont 5.93 279 ePn Pn 18 46 11.0 -1.1
SMF eSn Sn 18 47 15.0 -4.8
comp=Z,7.2nm,0.5s
LOR Lormes 5.98 285 ePn Pn 18 46 11.3 -1.4
LOR eSn Sn 18 47 16.1 -4.9
comp=Z,4.9nm,0.4s
SSF Saint Saulge 6.19 282 ePn Pn 18 46 14.2 -1.4
AVF Avril sur Loir 6.28 280 ePn Pn 18 46 15.6 -1.1
LASF Ste Croix 6.35 255 ePn Pn 18 46 16.8 -1.1
GIVF Givet 6.46 311 ePn Pn 18 46 17.8 -1.5
BGF Bois d'Agland 6.62 278 ePn Pn 18 46 20.1 -1.3
BGF eSn Sn 18 47 31.4 -5.2
comp=Z,11nm,0.5s
BAIF Baives 6.76 309 ePn Pn 18 46 22.0 -1.4
TCF Toulx Ste Croi 7.06 275 ePn Pn 18 46 26.1 -1.5
CAF Calviac 7.34 265 ePn Pn 18 46 30.1 -1.3
RJF Les Rejaudoux 7.64 268 ePn Pn 18 46 34.0 -1.5
LFF La Frestale 8.25 266 ePn Pn 18 46 42.4 -1.5

*DDA **15** 18:51:42.5,39°.02N×23°.11E,h63km,MD3.2*
*ISCJB **15** 18:51:43.8±0.3,38°.83N±0°.01×23°.48E±0°.02,h15km±2km, Error ellipse: s-maj=2.3km s-min=2.2km az=38.5*
*ATH **15** 18:51:43.8,38°.81N×23°.43E,h20km,MD3.0/29,ML3.6*
*THE **15** 18:51:44.5,38°.81N×23°.42E,h10km,ML3.2/17, Error ellipse: s-maj=0.6km s-min=0.4km az=31.0*
*CSEM **15** 18:51:44.0±0.1,38°.81N×23°.48E,h15km,MD3.0, Error ellipse: s-maj=2.2km s-min=2.0km az=130.0*

ISC 15 18:51:44.0±0.8,38°.81N±0°.01×23°.44E±0°.01,h14km±5km, n161,σ0s70/233,2C,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	0.15	132	P		**Pb**		18 51 48.3	-0.3
MRKA				S		**Sg**		18 51 51.0	+0.6
MRKA	**Markates**	0.15	132	ePB		**Pb**		18 51 48.3	-0.3
MRKA				eSB		**Sg**		18 51 51.1	+0.6
MRKA	**Markates**	0.15	132	P		**Pb**		18 51 48.3	-0.3
MRKA				S		**Sg**		18 51 51.0	+0.6
SMIA	**Simia**	0.20	292	P		**Pg**		18 51 48.6	+0.1
SMIA				S		**Sg**		18 51 51.4	-0.2
SMIA	**Simia**	0.20	292	ePB		**Pg**		18 51 48.7	+0.2
SMIA				eSB		**Sg**		18 51 51.6	0.0
SMIA	**Simia**	0.20	292	ePb		**Pg**		18 51 48.7	+0.2
SMIA				eSb		**Sg**		18 51 51.6	0.0
SKIA	**Skiathos**	0.36	3	P		**Pb**		18 51 52.0	-0.1
SKIA				S		**Sg**		18 51 56.6	+0.3
SKIA	**Skiathos**	0.36	3	ePB		**Pb**		18 51 52.1	-0.1
SKIA				eSB		**Sb**		18 51 57.5	-0.2
SKIA	**Skiathos**	0.36	3	P		**Pb**		18 51 52.0	-0.1
SKIA				S		**Sg**		18 51 56.6	+0.3
SKIA				eSb		**Sb**		18 51 57.5	-0.2
LKR	**Lokris**	0.38	246	P		**Pg**		18 51 51.4	-0.3
LKR				S		**Sg**		18 51 56.9	0.0
LKR	**Lokris**	0.38	246	ePB		**Pg**		18 51 51.4	-0.3
LKR				eSB		**Sg**		18 51 57.1	+0.2
LKR	**Lokris**	0.38	246	P		**Pg**		18 51 51.4	-0.3
LKR				eSb		**Sg**		18 51 57.1	+0.2
AOS	**Alonnisos**	0.50	43	P		**Pb**		18 51 54.1	-0.4
AOS				S		**Sb**		18 52 01.3	-0.3
AOS	**Alonnisos**	0.50	43	ePG		**Pg**		18 51 53.0	-0.9
AOS				eSG		**Sb**		18 52 01.3	-0.3
AOS	**Alonnisos**	0.50	43	ePB		**Pb**		18 51 54.1	-0.4
AOS				eSB		**Sb**		18 52 01.5	-0.1
AOS	**Alonnisos**	0.50	43	ePg		**Pg**		18 51 53.0	-0.9
AOS	**Alonnisos**	0.50	43	P		**Pb**		18 51 54.1	-0.4
AOS				eSb		**Sb**		18 52 01.5	-0.1
NEO	**Neokhori**	0.53	341	P		**Pb**		18 51 54.6	-0.4
NEO				S		**Sb**		18 52 02.0	-0.5
NEO	**Neokhori**	0.53	341	ePN		**Pb**		18 51 54.7	-0.3
NEO				eSN		**Sb**		18 52 02.2	-0.3
NEO	**Neokhori**	0.53	341	ePn		**Pb**		18 51 54.7	-0.3
NEO				eSn		**Sb**		18 52 02.0	-0.5
XOR	**Xorichti**	0.59	341	P		**Pg**		18 51 55.7	+0.1
XOR				S		**Sb**		18 52 04.3	-0.1
XOR	**Xorichti**	0.59	341	ePN		**Pg**		18 51 55.7	+0.1
XOR				eSN		**Sb**		18 52 04.6	+0.2
XOR	**Xorichti**	0.59	341	P		**Pg**		18 51 55.7	+0.1
XOR				S		**Sb**		18 52 04.3	-0.1
XOR				eSn		**Sb**		18 52 04.6	+0.2
AXAR	**Agios Charalam**	0.61	266	P		**Pg**		18 51 55.8	-0.2
AXAR				S		**Sb**		18 52 05.0	0.0
AXAR	**Agios Charalam**	0.61	266	ePN		**Pg**		18 51 56.0	0.0
AXAR				eSN		**Sb**		18 52 04.5	-0.5
AXAR	**Agios Charalam**	0.61	266	P		**Pg**		18 51 55.8	-0.2
AXAR				eSn		**Sb**		18 52 04.5	-0.5
AXAR				S		**Sb**		18 52 05.0	0.0
PTL	**Penteli**	0.83	156	P		**Pg**		18 51 59.8	-0.2
PTL				S		**Sb**		18 52 11.9	+0.8
PTL	**Penteli**	0.83	156	ePN		**Pb**		18 52 00.2	+0.1
PTL				eSN		**Sb**		18 52 11.4	+0.3
PTL	**Penteli**	0.83	156	P		**Pg**		18 51 59.8	-0.2
PTL	**Penteli**	0.83	156	ePn		**Pb**		18 52 00.2	+0.1
PTL				eSn		**Sb**		18 52 11.4	+0.3
PTL				S		**Sb**		18 52 11.9	+0.8
ATH	**Athens Observa**	0.86	165	P		**Pg**		18 52 00.5	-0.2
ATH				S		**Sn**		18 52 13.6	-0.4
ATH	**Athens Observa**	0.86	165	ePN		**Pb**		18 52 00.7	0.0
ATH				eSN		**Sb**		18 52 12.3	+0.3
ATH	**Athens Observa**	0.86	165	P		**Pg**		18 52 00.5	-0.2
ATH				eSn		**Sb**		18 52 12.3	+0.3
ATH				S		**Sn**		18 52 13.6	-0.4
LTK	**Loutraki**	0.87	206	P		**Pg**		18 51 59.9	-0.9
LTK				S		**Sb**		18 52 13.0	+0.8
LTK	**Loutraki**	0.87	206	ePN		**Pg**		18 52 00.2	-0.6
LTK				eSN		**Sb**		18 52 13.1	+0.8
LTK	**Loutraki**	0.87	206	P		**Pg**		18 51 59.9	-0.9
LTK	**Loutraki**	0.87	206	ePn		**Pg**		18 52 00.2	-0.6
LTK				S		**Sb**		18 52 13.0	+0.8
ATHU	**Athens Univers**	0.88	162	P		**Pg**		18 52 00.9	-0.2
ATHU				S		**Sn**		18 52 14.3	-0.2
ATHU	**Athens Univers**	0.88	162	P		**Pg**		18 52 00.9	-0.2
ATHU				S		**Sn**		18 52 14.3	-0.2
AGG	**Agios Georgios**	0.89	284	P		**Pg**		18 52 00.4	-0.9
AGG				S		**Sb**		18 52 13.8	+0.7
AGG	**Agios Georgios**	0.89	284	ePG		**Pg**		18 52 00.9	-0.4
AGG				eSG		**Sn**		18 52 14.6	-0.3
AGG	**Agios Georgios**	0.89	284	ePN		**Pg**		18 52 00.5	-0.9
AGG				eSN		**Sn**		18 52 14.1	-0.8
AGG	**Agios Georgios**	0.89	284	P		**Pg**		18 52 00.4	-0.9
AGG	**Agios Georgios**	0.89	284	ePg		**Pg**		18 52 00.9	-0.4
AGG				S		**Sb**		18 52 13.8	+0.7
AGG				eSn		**Sn**		18 52 14.1	-0.8
AGG				eSg		**Sn**		18 52 14.6	-0.3
MAKR	**Makrakomi, Fth**	1.04	282	P		**Pb**		18 52 03.6	-0.2
MAKR				S		**Sn**		18 52 18.1	-0.1
MAKR	**Makrakomi, Fth**	1.04	282	ePN		**Pg**		18 52 03.9	-0.2
MAKR				eSN		**Sn**		18 52 18.5	-0.1
MAKR	**Makrakomi, Fth**	1.04	282	P		**Pb**		18 52 03.6	-0.2
MAKR	**Makrakomi, Fth**	1.04	282	ePn		**Pg**		18 52 03.9	-0.2
MAKR				eSn		**Sn**		18 52 18.5	-0.1
KALE	**Kalithea**	1.10	248	P		**Pb**		18 52 03.8	-1.0
KALE				S		**Sg**		18 52 19.7	+0.1
KALE	**Kalithea**	1.10	248	ePN		**Pb**		18 52 04.8	0.0
KALE				eSN		**Sn**		18 52 20.0	0.0
KALE	**Kalithea**	1.10	248	P		**Pb**		18 52 03.8	-1.0
KALE	**Kalithea**	1.10	248	ePn		**Pb**		18 52 04.8	0.0
KALE				S		**Sg**		18 52 19.7	+0.1
KALE				eSn		**Sn**		18 52 20.0	0.0
PAIG	**Paliouri**	1.13	9	P		**Pb**		18 52 05.1	-0.2
PAIG	**Paliouri**	1.13	9	ePN		**Pb**		18 52 05.1	-0.2
PAIG	**Paliouri**	1.13	9	P		**Pb**		18 52 05.1	-0.2
GUR	**Goura**	1.23	225	P		**Pn**		18 52 06.8	0.0
GUR				S		**Sg**		18 52 25.6	+0.9
GUR	**Goura**	1.23	225	ePN		**Pn**		18 52 06.8	0.0
GUR				eSN		**Sg**		18 52 24.3	+0.7
GUR	**Goura**	1.23	225	P		**Pn**		18 52 06.8	0.0
GUR				S		**Sg**		18 52 23.6	0.0
GUR				eSn		**Sg**		18 52 24.3	+0.7
EFP	**Efpalio**	1.26	253	P		**Pn**		18 52 06.9	-0.2
EFP				S		**Sg**		18 52 24.7	0.0
EFP	**Efpalio**	1.26	253	ePN		**Pn**		18 52 07.1	0.0
EFP				eSN		**Sg**		18 52 25.6	+0.9
EFP	**Efpalio**	1.26	253	ePn		**Pn**		18 52 07.1	0.0
EFP				S		**Sg**		18 52 24.7	0.0
EFP				eSn		**Sg**		18 52 25.6	+0.9
KLV	**Kalavryta, Ach**	1.27	233	P		**Pb**		18 52 07.5	-0.2
KLV				S		**Sg**		18 52 24.9	-0.1
KLV	**Kalavryta, Ach**	1.27	233	ePN		**Pb**		18 52 07.5	-0.2
KLV				eSN		**Sn**		18 52 24.5	+0.3
KLV	**Kalavryta, Ach**	1.27	233	P		**Pb**		18 52 07.5	-0.2
KLV				eSn		**Sn**		18 52 24.5	+0.3
KLV				S		**Sg**		18 52 24.9	-0.1
EVR	**Evrytania**	1.28	275	P		**Pb**		18 52 07.8	-0.1
EVR	**Evrytania**	1.28	275	ePN		**Pg**		18 52 09.0	+0.4
EVR	**Evrytania**	1.28	275	P		**Pb**		18 52 07.8	-0.1
EVR	**Evrytania**	1.28	275	ePn		**Pg**		18 52 09.0	+0.4
THL	**Klokotos Trika**	1.34	305	P		**Pg**		18 52 09.9	+0.1
THL	**Klokotos Trika**	1.34	305	P		**Pg**		18 52 09.9	+0.1
LIT	**Litokhoron**	1.49	331	P		**Pn**		18 52 10.2	-0.1
LIT	**Litokhoron**	1.49	331	P		**Pn**		18 52 10.2	-0.1
PLG	**Polygyros**	1.56	0	P		**Pn**		18 52 11.2	-0.2
PLG	**Polygyros**	1.56	0	P		**Pn**		18 52 11.2	-0.2
OUR	**Ouranopolis**	1.58	15	P		**Pn**		18 52 11.7	+0.2
OUR	**Ouranopolis**	1.58	15	ePN		**Pn**		18 52 11.7	+0.2
OUR	**Ouranopolis**	1.58	15	P		**Pn**		18 52 11.7	+0.2
DRO	**Drossia**	1.61	238	P		**Pb**		18 52 12.6	-0.8
DRO	**Drossia**	1.61	238	ePN		**Pb**		18 52 12.9	-0.5
DRO	**Drossia**	1.61	238	P		**Pb**		18 52 12.6	-0.8
DRO	**Drossia**	1.61	238	ePn		**Pb**		18 52 12.9	-0.5
VLX	**Vlachokerasia**	1.66	211	P		**Pn**		18 52 13.2	+0.5
VLX				S		**Sb**		18 52 34.9	-0.3
VLX	**Vlachokerasia**	1.66	211	ePN		**Pb**		18 52 13.6	-0.8
VLX	**Vlachokerasia**	1.66	211	P		**Pn**		18 52 13.2	+0.5
VLX	**Vlachokerasia**	1.66	211	ePn		**Pb**		18 52 13.6	-0.8
VLX				S		**Sb**		18 52 34.9	-0.3
LIA	**Limnos Island**	1.73	51	P		**Pn**		18 52 13.7	+0.1
LIA				S		**Sb**		18 52 36.6	-0.6
LIA	**Limnos Island**	1.73	51	P		**Pn**		18 52 13.7	+0.1
LIA				S		**Sb**		18 52 36.6	-0.6
PDO	**Prodromos**	1.78	264	P		**Pb**		18 52 16.2	-0.1
PDO	**Prodromos**	1.78	264	P		**Pb**		18 52 16.2	-0.1
HORT	**Hortiatis**	1.81	352	P		**Pn**		18 52 14.9	+0.1
HORT	**Hortiatis**	1.81	352

KNT	Kendrikon	2.39	350	*e*PN	Pn	18 52 23.6 +0.9
KNT	Kendrikon	2.39	350	P	Pn	18 52 23.6 +0.9
APE	Apeiranthos	2.40	136	*e*Pn	Pn	18 52 21.6 -1.2
APE	Apeiranthos	2.40	136	*e*Pn	Pn	18 52 21.6 -1.2
NEST	Nestorio	2.45	312	P	Pn	18 52 25.2 +1.6
NEST	Nestorio	2.45	312	*e*PB	Pn	18 52 25.2 +1.6
NEST	Nestorio	2.45	312	P	Pn	18 52 25.2 +1.6
EZN	Ezine	2.46	65	*e*PN	Pn	18 52 22.8 -0.8
EZN	Ezine	2.46	65	*e*Pn	Pn	18 52 22.8 -0.8
URLA	Izmir	2.51	99	*i* P	Pn	18 52 25.1 +0.7
URLA	Izmir	2.51	99	*i* P	Pn	18 52 25.1 +0.7
URLA				*i* S	Sg	18 53 06.2 +1.5
IGT	Igoumenitsa	2.52	288	*e*PN	Pn	18 52 24.8 +0.3
IGT	Igoumenitsa	2.52	288	*e*Pn	Pn	18 52 24.8 +0.3
FNA	Florina	2.54	322	*e*PN	Pn	18 52 25.1 +0.3
FNA	Florina	2.54	322	*e*PN	Pn	18 52 25.9 +1.2
FNA	Florina	2.54	322	*e*Pn	Pn	18 52 25.9 +1.2
KYTH	Kithira	2.54	187	P	Pn	18 52 26.0 +1.2
KYTH	Kithira	2.54	187	P	Pn	18 52 26.0 +1.2
NVR	Nevrokopi	2.56	7	P	Pn	18 52 25.2 +0.1
NVR	Nevrokopi	2.56	7	P	Pn	18 52 25.2 +0.1
VAY	Valandovo	2.60	345	*e*Pn	Pn	18 52 25.5 0.0
THR5	Thira Island,	2.83	147	P	Pn	18 52 30.1 +1.5
THR5	Thira Island,	2.83	147	*e*PN	Pn	18 52 27.7 -0.9
THR5	Thira Island,	2.83	147	*e*Pn	Pn	18 52 27.7 -0.9
THR5	Thira Island,	2.83	147	P	Pn	18 52 30.1 +1.5
GELI	Tayfur-Gelibol	2.83	55	*e*PN	Pn	18 52 28.3 -0.4
GELI	Tayfur-Gelibol	2.83	55	*e*Pn	Pn	18 52 28.3 -0.4
ENEZ	Enez	2.84	46	*e*PN	Pn	18 52 27.8 -1.1
ENEZ	Enez	2.84	46	*e*Pn	Pn	18 52 27.8 -1.1
ALN	Alexandroupoli	2.89	43	*e*PN	Pn	18 52 28.6 -1.0
ALN	Alexandroupoli	2.89	43	*e*Pn	Pn	18 52 28.6 -1.0
LPK	Lapseki	3.00	58	*e*PN	Pn	18 52 30.4 -0.6
LPK	Lapseki	3.00	58	*e*Pn	Pn	18 52 30.5 -0.6
ERIK	Erikli-Kesan	3.01	51	*e*PN	Pn	18 52 30.8 -0.4
ERIK	Erikli-Kesan	3.01	51	*e*Pn	Pn	18 52 30.8 -0.4
BALY	Balya	3.37	73	*i* P	Pn	18 52 34.2 -2.0
BALY	Balya	3.37	73	*i* P	Pn	18 52 34.2 -2.0
BALY				*i* S	Sb	18 53 26.9 +2.5
KRBG	Karabiga-Canak	3.37	61	*e*PN	Pn	18 52 35.8 -0.4
KRBG	Karabiga-Canak	3.37	61	*e*Pn	Pn	18 52 35.8 -0.4
BODT	Bodrum	3.52	118	*e*PN	Pn	18 52 38.0 -0.2
BODT	Bodrum	3.52	118	*e*Pn	Pn	18 52 38.0 -0.2
MRMT	Marmara Adasi	3.67	59	*e*PN	Pn	18 52 40.1 -0.3
MRMT	Marmara Adasi	3.67	59	*e*Pn	Pn	18 52 40.1 -0.3
VTS	Vitosha	3.79	357	⇑*i* P	Pg	18 53 01.0 +4.5
EDRB	Edirne	3.95	39	*e*PN	Pn	18 52 43.8 -0.3
EDRB	Edirne	3.95	39	*e*Pn	Pn	18 52 43.8 -0.3
VOIR		6.73	10	⇑*i* P	Pn	18 53 24.0 +1.6

CSEM ***15*** *19:02:20.1±0.3, 43°.40N×19°.09E, h19km, ML1.7, Error ellipse: s-maj=8.6km s-min=4.7km az=142.0*

BEO 15 19:02:22.2±0.3, 43.42N×19.12E, h0km, ML1.7/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBLS	Lazići	0.49	25	*e*Pg	Pg	19 02 31.0	-0.8
BBLS	Lazići	0.49	25	*e*Pg	Pg	19 02 31.0	-0.8
SJES	Sjenica	0.64	104	*e*Pg	Pg	19 02 33.2	-1.5
SJES				*e*Sg	Sg	19 02 41.6	-1.6
IVAS	Ivanjica	0.77	78	*e*Pg	Pg	19 02 35.4	-1.6
IVAS	Ivanjica	0.77	78	*e*Pg	Pg	19 02 35.4	-1.6
TREB	Trebinje	0.90	219	*e*Pg	Pg	19 02 37.5	-2.0
TREB				*e*Sg	Sg	19 02 51.7	+0.5
TREB	Trebinje	0.90	219	*e*Pg	Pg	19 02 37.5	-2.0
DIVS	Divibare	0.93	43	*e*Pg	Pg	19 02 39.3	-0.8
DIVS				*e*Sg	Sg	19 02 51.5	-0.8
DIVS	Divibare	0.93	43	*e*Pg	Pg	19 02 39.3	-0.8
DIVS				*e*Sg	Sg	19 02 51.5	-0.8
PDG	Podgorica	0.99	174	*e*Sg	Sb	19 02 55.1	-0.8
TEKS	Tekeris	1.17	15	*e*Pg	Pg	19 02 42.6	-2.1
TEKS				*e*Sg	Sg	19 02 59.8	0.0
TEKS	Tekeris	1.17	15	*e*Pg	Pg	19 02 42.6	-2.1
TEKS				*e*Sg	Sg	19 02 59.8	0.0
STON	Ston	1.18	243	*e*Pg	Pg	19 02 42.3	-2.4
STON	Ston	1.18	243	*e*Pg	Pg	19 02 42.3	-2.4
TRUS	Trudelj	1.23	49	*e*Pg	Pg	19 02 44.2	-1.6
TRUS				*e*Sg	Sg	19 03 02.0	+0.2
TRUS	Trudelj	1.23	49	*e*Pg	Pg	19 02 44.2	-1.6
TRUS				*e*Sg	Sg	19 03 02.0	+0.2
GRUS	Gruza	1.25	67	*e*Pg	Pg	19 02 45.1	-1.1
GRUS				*e*Sg	Sg	19 03 02.0	-0.4
GRUS	Gruza	1.25	67	*e*Pg	Pg	19 02 45.1	-1.1
GRUS				*e*Sg	Sg	19 03 02.0	-0.4

BUC 15 19:03:43.1±0.8, 45.44N×27.19E, h12km±9km, MD2.9/5, 36C-7D, Error ellipse: s-maj=11.7km s-min=6.1km az=29.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRER		0.17	248	⇑*i* P	Pb	19 03 47.8	-0.3
GRER		0.17	248	⇑*i* P	Pb	19 03 47.8	-0.3
GRER		0.17	248	⇑*i* P	Pb	19 03 47.8	-0.3
PETR	Petresti	0.28	6	⇑*i* P	Pb	19 03 50.6	+0.5
PETR				*i* S	Sb	19 03 54.3	-0.5
PETR	Petresti	0.28	6	⇑*i* P	Pb	19 03 50.6	+0.5
PETR	Petresti	0.28	6	S	Sb	19 03 54.3	-0.5
PETR	Petresti	0.28	6	⇑*i* P	Pb	19 03 50.6	+0.5
ODBI	Odobesti	0.33	344	*i* S	Sg	19 03 55.3	+0.9
ODBI	Odobesti	0.33	344	S	Sg	19 03 55.3	+0.9
VRI	Vrincioaia	0.53	323	⇓*i* P	Pg	19 03 53.8	+0.2
VRI				*i* S	Sb	19 04 02.3	+0.1
VRI	Vrincioaia	0.53	323	⇓*i* P	Pg	19 03 53.8	+0.2
PGOR	Pogoanele	0.56	195	⇑*i* P	Pb	19 03 54.6	-0.1
PGOR	Pogoanele	0.56	195	⇑*i* P	Pb	19 03 54.6	-0.1
PLOR	Plostina	0.56	317	⇑*i* P	Pg	19 03 54.2	+0.1
PLOR				*i* S	Sb	19 04 03.8	+0.9
PLOR	Plostina	0.56	317	⇑*i* P	Pg	19 03 54.2	+0.1
GIUM	Giurgiulesti	0.72	86	⇑*i* P	Pb	19 03 57.9	+0.4
GIUM	Giurgiulesti	0.72	86	⇑*i* P	Pb	19 03 57.9	+0.4
GIUM	Giurgiulesti	0.72	86	⇑*i* P	Pb	19 03 57.9	+0.4
CFR	Carcaliu	0.72	111	⇓*i* P	Pb	19 03 57.4	-0.1
CFR				*i* S	Sb	19 04 08.5	+1.2
CFR	Carcaliu	0.72	111	⇓*i* P	Pb	19 03 57.4	-0.1
CFR	Carcaliu	0.72	111	⇓*i* P	Pb	19 03 57.4	-0.1
AMRR	Amara	0.84	173	*i* S	Sn	19 04 13.1	+0.2
AMRR	Amara	0.84	173	S	Sn	19 04 13.1	+0.2
MLR	Muntele Rosu	0.88	274	⇑*i* P	Pb	19 04 00.4	-0.1
MLR				*i* S	Sn	19 04 14.1	-0.2
MLR	Muntele Rosu	0.88	274	⇑*i* P	Pb	19 04 00.4	-0.1
SECR		0.89	243	*i* S	Sn	19 04 14.4	0.0
SECR		0.89	243	S	Sn	19 04 14.4	0.0
HARR	Harsova	0.92	145	⇑*i* P	Pb	19 04 01.3	+0.4
HARR	Harsova	0.92	145	⇑*i* P	Pb	19 04 01.3	+0.4
SULR		1.01	221	⇑*i* P	Pn	19 04 03.1	0.0
SULR				*i* S	Sn	19 04 17.8	+0.6
SULR		1.01	221	⇑*i* P	Pn	19 04 03.1	0.0
TLB	Topalu	1.05	145	⇑*i* P	Pn	19 04 03.5	-0.1
TLB	Topalu	1.05	145	⇑*i* P	Pn	19 04 03.5	-0.1
TESR	Tescani	1.13	341	⇑*i* P	Pb	19 04 04.0	-0.7
TESR				*i* S	Sg	19 04 19.9	+0.1
TESR	Tescani	1.13	341	⇑*i* P	Pb	19 04 04.0	-0.7
TLCR		1.17	102	⇑*i* P	Pg	19 04 06.2	+0.5
TLCR				*i* S	Sn	19 04 22.6	+1.4
TLCR		1.17	102	⇑*i* P	Pg	19 04 06.2	+0.5
TLCR		1.17	102	⇑*i* P	Pg	19 04 06.2	+0.5
CVD	Cernavoda	1.28	152	⇑*i* P	Pb	19 04 07.2	+0.1
CVD	Cernavoda	1.28	152	⇑*i* P	Pb	19 04 07.2	+0.1
TIRR	Tirgusor	1.31	138	⇑*i* P	Pb	19 04 07.5	-0.2
TIRR				*i* S	Sg	19 04 25.3	-0.1
TIRR	Tirgusor	1.31	138	⇑*i* P	Pb	19 04 07.5	-0.2
DOPR	Dopca	1.37	293	⇑*i* P	Pn	19 04 07.9	-0.2
DOPR				*i* S	Sb	19 04 26.7	+0.5
DOPR	Dopca	1.37	293	⇑*i* P	Pn	19 04 07.9	-0.2
BUC1	Bucharest	1.37	217	*i* S	Sg	19 04 28.1	+0.8
BUC1	Bucharest	1.37	217	S	Sg	19 04 28.1	+0.8
MSAB	Monastry St. A	1.43	161	⇑*i* P	Pn	19 04 09.1	+0.3
MSAB				*i* S	Sg	19 04 29.1	+0.1
MSAB	Monastry St. A	1.43	161	⇑*i* P	Pn	19 04 09.1	+0.3
VOIR		1.51	271	⇑*i* P	Pn	19 04 10.0	-0.1
VOIR				*i* S	Sg	19 04 31.5	-0.4
VOIR		1.51	271	⇑*i* P	Pn	19 04 10.0	-0.1
HUMR	Humele	1.82	241	⇓*i* P	Pn	19 04 14.8	+0.6
HUMR				*i* S	Sn	19 04 37.9	+0.8
HUMR	Humele	1.82	241	⇓*i* P	Pn	19 04 14.8	+0.6

IDC 15 19:08:59.4±2.1, 8.06S×159.37E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/24, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=63.6km s-min=29.3km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	19.38	285	P	P	19 13 26.3	-0.8
	1.0nm,0.3s,baz=90,slow=7.1,SNR=4.3						
WRA	Warramunga Arr	26.96	241	P	P	19 14 42.7	-0.2
	0.3nm,0.4s,baz=70,slow=9.1,SNR=17						
ASAR	Alice Springs	28.92	235	P	P	19 15 00.5	0.0
	0.1nm,0.4s,baz=58,slow=10.0,SNR=11						
ILAR	Eielson Array	82.81	20	P	P	19 21 24.5	-0.7
	0.2nm,0.5s,baz=240,slow=5.4,SNR=4.4						
MKAR	Makanchi Array	87.08	318	P	P	19 21 48.2	+1.1
	0.2nm,0.5s,baz=107,slow=5.0,SNR=2.1						

IDC 15 19:20:30.0±6.5, 18.38S×176.46E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.5/3, Error ellipse: s-maj=289.3km s-min=38.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	39.75	261	P	P	19 28 04.4	-0.5
	0.4nm,1.0s,baz=94,slow=7.8,SNR=8.0						
ASAR	Alice Springs	39.97	255	P	P	19 28 06.8	+0.1
	0.5nm,0.5s,baz=90,slow=9.1,SNR=16						
ILAR	Eielson Array	87.51	15	P	P	19 33 19.2	0.0
	0.2nm,0.6s,baz=199,slow=5.2,SNR=4.2						

IDC 15 20:00:29.4±17.0, 14.12S×112.87W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.5/3, MS3.4/4, Ms1 3.4/4, ms1mx3.2/13, Error ellipse: s-maj=571.6km s-min=36.6km az=43.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	Rikitea	22.76	244	*e*LR	LR	20 11 22.0	
	156nm,25.5s						
PPT2	Papeete2	35.45	259	*e*LR	LR	20 17 16.1	
	86nm,25.8s						
CMIG	Matias Romero	35.73	30	LR	LR	20 17 45.6	
	comp=Z,22nm,21.1s,baz=205,slow=29						
TBI	Tubuai	35.77	250	*e*LR	LR	20 17 23.8	
	95nm,26.0s						
ROSC	El Rosal	42.62	66	LR	LR	20 23 49.3	
	comp=Z,43nm,18.4s,baz=200,slow=33						
LPAZ	La Paz	43.16	99	P	P	20 08 32.9	-0.1
	1.7nm,1.0s,baz=259,slow=10,SNR=2.7						
PLCA	Paso Flores	45.35	134	LR	LR	20 22 41.4	
	comp=Z,120nm,20.4s,baz=310,slow=29						
NVAR	Mina Array Bea	52.52	355	P	P	20 09 44.6	-0.1
	0.3nm,0.4s,baz=160,slow=9.5,SNR=3.7						
PDAR	Pinedale Array	56.69	3	LR	LR	20 30 01.8	
	comp=Z,36nm,20.4s,baz=183,slow=31						
YKA	Yellowknife Ar	76.38	359	P	P	20 12 20.2	+0.1
	0.2nm,0.7s,baz=171,slow=5.0,SNR=4.9						
H11S2	WAKE ISLAND Hy	85.60	290	T	T	21 48 11.1	
	baz=106,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	85.61	290	T	T	21 48 09.0	
	baz=106,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy	85.62	290	T	T	21 48 12.7	
	baz=106,slow=75,SNR=12						

CSEM ***15*** *20:04:43.5±0.2, 43°.48N×12°.43E, h5km, ML2.0/9, Error ellipse: s-maj=4.8km s-min=3.4km az=15.0*

ROM 15 20:04:42.7±0.1, 43.48N×12.42E, h8km, Md2.0/14, Ml1.4/9, 2C, Error ellipse: s-maj=0.8km s-min=0.6km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPC	Poggio Castell	0.03	91	Pg	Pg	20 04 44.6	+0.3
ATPC				Sg	Sg	20 04 45.7	+0.2
ATPC	Poggio Castell	0.03	91	Pg	Pg	20 04 44.6	+0.3
ATPC				Sg	Sg	20 04 45.7	+0.2
PIEI	Pieia	0.10	56	⇑*i* Pg	Pg	20 04 45.6	+0.4
PIEI				Sg	Sg	20 04 47.8	+0.8
PIEI	Pieia	0.10	56	⇑*i* Pg	Pg	20 04 45.6	+0.4
PIEI				Sg	Sg	20 04 47.8	+0.8
ATVO	AVT- Monte Val	0.10	187	Pg	Pg	20 04 45.6	+0.4
ATVO				Sg	Sg	20 04 47.6	+0.7
ATVO	AVT- Monte Val	0.10	187	Pg	Pg	20 04 45.6	+0.4
ATVO				Sg	Sg	20 04 47.6	+0.7
BADI	Badiali	0.13	283	Pg	Pg	20 04 46.2	+0.5
BADI				Sg	Sg	20 04 48.8	+1.0
	179nm,0.1s						
BADI	Badiali	0.13	283	Pg	Pg	20 04 46.2	+0.5
BADI				Sg	Sg	20 04 48.8	+1.0
	179nm,0.1s						
CDCA	Citt' di Caste	0.14	261	Pg	Pg	20 04 46.4	+0.7
CDCA				Sg	Sg	20 04 49.0	+1.2
	109nm,0.5s						
CDCA	Citt' di Caste	0.14	261	Pg	Pg	20 04 46.4	+0.7
CDCA				Sg	Sg	20 04 49.0	+1.2
	109nm,0.5s						
ATFO	Monte Foce - G	0.16	137	Pg	Pg	20 04 46.5	+0.3
ATFO				Sg	Sg	20 04 49.5	+0.9
ATFO	Monte Foce - G	0.16	137	Pg	Pg	20 04 46.5	+0.3
ATFO				Sg	Sg	20 04 49.5	+0.9
PARC	Parchiule	0.21	321	Pg	Pg	20 04 47.7	+0.5
PARC				Sg	Sg	20 04 51.8	+1.6
	110nm,0.3s						
PARC	Parchiule	0.21	321	Pg	Pg	20 04 47.7	+0.5
PARC				Sg	Sg	20 04 51.8	+1.6
	110nm,0.3s						
MURB	Monte Urbino	0.23	161	Pg	Pg	20 04 48.1	+0.6
MURB				Sg	Sg	20 04 52.2	+1.5
MURB	Monte Urbino	0.23	161	Pg	Pg	20 04 48.1	+0.6
MURB				Sg	Sg	20 04 52.2	+1.5
FSSB	Fossombrone	0.33	51	Pg	Pg	20 04 49.8	+0.4
FSSB				Sg	Sb	20 04 55.6	-0.9
	73nm,0.3s						
FSSB	Fossombrone	0.33	51	Pg	Pg	20 04 49.8	+0.4
FSSB				Sg	Sb	20 04 55.6	-0.9
	73nm,0.3s						
CAFI	Castiglion Fio	0.37	246	Pg	Pg	20 04 50.3	+0.3
CAFI				Sg	Sb	20 04 56.5	-0.9
	18nm,0.2s						
CAFI	Castiglion Fio	0.37	246	Pg	Pg	20 04 50.3	+0.3
CAFI				Sg	Sb	20 04 56.5	-0.9
	18nm,0.2s						
CRE	Caprese Michel	0.37	292	Pg	Pg	20 04 50.6	+0.4
CRE				Sg	Sb	20 04 56.5	-1.2
	7.0nm,0.3s						
CRE	Caprese Michel	0.37	292	Pg	Pg	20 04 50.6	+0.4
CRE				Sg	Sb	20 04 56.5	-1.2
	7.0nm,0.3s						
ARVD	Arcevia	0.38	87	Pg	Pg	20 04 50.7	+0.5
ARVD				Sg	Sb	20 04 56.8	-0.9
	18nm,0.1s						
ARVD	Arcevia	0.38	87	Pg	Pg	20 04 50.7	+0.5
ARVD				Sg	Sb	20 04 56.8	-0.9
	18nm,0.1s						
CING	Cingoli	0.57	100	Pg	Pg	20 04 54.1	+0.2
CING				Sg	Sb	20 05 03.5	+0.1
CING	Cingoli	0.57	100	Pg	Pg	20 04 54.1	+0.2
CING				Sg	Sb	20 05 03.5	+0.1
SFI	Santa Sofia	0.59	316	Pg	Pg	20 04 54.6	+0.3
SFI				Sg	Sb	20 05 04.1	+0.1
SFI	Santa Sofia	0.59	316	Pg	Pg	20 04 54.6	+0.3
SFI				Sg	Sb	20 05 04.1	+0.1
MGAB	Montegabbione	0.61	202	Pg	Pg	20 04 54.8	+0.2
MGAB				Sg	Sb	20 05 04.7	+0.2
	40nm,0.3s						
MGAB	Montegabbione	0.61	202	Pg	Pg	20 04 54.8	+0.2
MGAB				Sg	Sb	20 05 04.7	+0.2
	40nm,0.3s						
FDMO	Fiordimonte	0.66	132	Pg	Pg	20 04 55.6	+0.1
FDMO				Sg	Sb	20 05 06.1	+0.3
	7.0nm,0.2s						
FDMO	Fiordimonte	0.66	132	Pg	Pg	20 04 55.6	+0.1
FDMO				Sg	Sb	20 05 06.1	+0.3
	7.0nm,0.2s						
SACS	San Casciano d	0.73	211	Pg	Pg	20 04 57.3	+0.3

IDC ***15*** *20:05:45.4±1.2, 39°.46N×17°.13E, h0km, mb3.5/11, mb1 3.6/16, mb1mx3.5/34, mbtmp3.5/16, ML3.3/4, MS2.8/5, Ms1 2.8/5, ms1mx2.4/35, Error ellipse: s-maj=21.0km s-min=16.2km az=34.0*

ISCJB ***15*** *20:05:47.1±0.4, 39°.37N±0°.02×17°.26E±0°.02, h15km±5km, mb3.5/10, MS2.9/2, Error ellipse: s-maj=3.2km s-min=2.4km az=20.9*

ROM ***15*** *20:05:47.1±0.3, 39°.35N×17°.22E, h10km±2km, Md3.1/16, Ml3.2/33, Error ellipse: s-maj=3.6km s-min=1.9km az=106.0*

THE ***15*** *20:05:48.2, 39°.33N×17°.05E, h32km±83km, ML3.3/4, Error ellipse: s-maj=83.1km s-min=3.9km az=0.0*

CSEM ***15*** *20:05:48.3±0.1, 39°.39N×17°.15E, h20km, ML3.8/5, Error ellipse: s-maj=3.1km s-min=3.0km az=44.0*

ISC 15 20:05:47.9±0.8, 39°.39N±0°.02×17°.15E±0°.03, h18km±4km, n260, σ1§13/282, mb3.6/9, 2C-14D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LADO	San Nicola del	0.17	232	⇓*e*Pg	Pb	20 05 51.8	-0.4
LADO				Sg	Sg	20 05 55.3	-0.1
	38µm,0.4s						
LADO	San Nicola del	0.17	232	⇓*e*Pg	Pb	20 05 51.8	-0.4
LADO				Sg	Sg	20 05 55.3	-0.1
	38µm,0.4s						
PIPA	Pietrapaola	0.28	291	Pg	Pg	20 05 53.9	-0.1
PIPA				Sg	Sb	20 05 59.6	+0.9
	6µm,0.5s						
PIPA	Pietrapaola	0.28	291	Pg	Pg	20 05 53.9	-0.1
PIPA				Sg	Sb	20 05 59.6	+0.9
	6µm,0.5s						
SERS	Sersale	0.50	226	⇓*i* Pg	Pg	20 05 57.1	-0.9
SERS				Sg	Sg	20 06 04.3	-0.5
	1µm,0.6s						
SERS	Sersale	0.50	226	⇓*i* Pg	Pg	20 05 57.1	-0.9
SERS				Sg	Sg	20 06 04.3	-0.5
	1µm,0.6s						
SALB	San Lorenzo Be	0.79	309	Pg	Pb	20 06 01.9	-1.3
	364nm,0.5s						
SALB	San Lorenzo Be	0.79	309	Pg	Pb	20 06 01.9	-1.3
	364nm,0.5s						
GRI	Girifalco	0.80	225	Pg	Pb	20 06 03.4	+0.1
GRI				Sg	Sg	20 06 14.6	+0.5
	690nm,0.5s						
GRI	Girifalco	0.80	225	Pg	Pb	20 06 03.4	+0.1
GRI				Sg	Sg	20 06 14.6	+0.5
	690nm,0.5s						
PLAC	Placanica	1.09	211	Pg	Pn	20 06 08.4	+0.1
	532nm,0.7s						
PLAC	Placanica	1.09	211	Pg	Pn	20 06 08.4	+0.1
	532nm,0.7s						
CRAC	Craco	1.12	331	Pg	Pg	20 06 10.4	+0.8
	1µm,0.8s						
CRAC	Craco	1.12	331	Pg	Pg	20 06 10.4	+0.8
	1µm,0.8s						
TAR1	Taranto	1.14	5	*e*Pn	Pn	20 06 08.7	-0.3
TAR1				Sn	Sg	20 06 28.8	+3.8
CUC	Castrocucco	1.20	301	Pg	Pg	20 06 11.2	+0.2
	488nm,0.6s						
CUC	Castrocucco	1.20	301	Pg	Pg	20 06 11.2	+0.2
	488nm,0.6s						
LTRZ	Laterza	1.24	348	Pg	Pn	20 06 10.6	+0.2
LTRZ				Sg	Sg	20 06 28.4	+0.2
	237nm,0.7s						
LTRZ	Laterza	1.24	348	Pg	Pn	20 06 10.6	+0.2
LTRZ				Sg	Sg	20 06 28.4	+0.2
	237nm,0.7s						
SIRI	Monte Sirino -	1.27	309	Pg	Pg	20 06 12.4	0.0
SIRI	Monte Sirino -	1.27	309	Pg	Pg	20 06 12.4	0.0
MATE	Matera	1.31	345	Pg	Pn	20 06 11.6	+0.3
MATE				Sg	Sg	20 06 30.7	+0.5
	524nm,0.6s						
MATE	Matera	1.31	345	Pg	Pn	20 06 11.6	+0.3
MESG	Mesagne	1.32	24	Pg	Pn	20 06 11.1	-0.3
	446nm,0.5s						
MESG	Mesagne	1.32	24	Pg	Pn	20 06 11.1	-0.3
	446nm,0.5s						
MIGL	Miglionico	1.33	336	Pg	Pb	20 06 12.5	+0.1
	4µm,1.3s						
MIGL	Miglionico	1.33	336	Pg	Pb	20 06 12.5	+0.1
	4µm,1.3s						
MTSN	Montesano sull	1.39	310	Pg	Pb	20 06 14.3	+0.9
	190nm,1.1s						
MTSN	Montesano sull	1.39	310	Pg	Pb	20 06 14.3	+0.9
	190nm,1.1s						
MCEL	Monticello	1.40	313	Pg	Pb	20 06 14.2	+0.7
	295nm,0.8s						
MCEL	Monticello	1.40	313	Pg	Pb	20 06 14.2	+0.7
	295nm,0.8s						
NOCI	Noci	1.40	357	Pg	Pn	20 06 12.4	-0.2
	383nm,0.4s						
NOCI	Noci	1.40	357	Pg	Pn	20 06 12.4	-0.2
	383nm,0.4s						
PE1	Pezze di Greco	1.43	8	*e*Pn	Pn	20 06 12.6	-0.4
MGR	Morigerati	1.44	302	Pg	Pb	20 06 14.6	+0.4
	202nm,0.7s						
MGR	Morigerati	1.44	302	Pg	Pb	20 06 14.6	+0.4
	202nm,0.7s						
CEL	Celeste	1.49	221	Pg	Pb	20 06 15.4	+0.3
	245nm,0.7s						
CEL	Celeste	1.49

	176nm,0.4s							
KEK	Kerkira	2.08	80	Pg	Pn	20 06 21.1	-0.7	
	176nm,0.4s							
KEK				S	Sn	20 06 47.5	+0.3	
KEK	Kerkira	2.08	80	P	Pn	20 06 21.2	-0.6	
SNAL	S. Angelo Dei	2.14	317	Pg	Pb	20 06 25.3	-0.9	
	371nm,1.0s							
SNAL	S. Angelo Dei	2.14	317	Pg	Pb	20 06 25.3	-0.9	
	371nm,1.0s							
CAFE	Carife	2.20	319	Pg	Pb	20 06 26.1	-1.1	
	347nm,1.4s							
CAFE	Carife	2.20	319	Pg	Pb	20 06 26.1	-1.1	
	347nm,1.4s							
SRN	Sarande	2.26	76	P	Pn	20 06 23.5	-0.8	
SRN	Sarande	2.26	76	P	Pn	20 06 23.5	-0.8	
IGT	Igoumenitsa	2.47	86	P	Pn	20 06 26.8	-0.4	
IGT				S	Sn	20 06 57.2	+0.2	
IGT	Igoumenitsa	2.47	86	ePN	Pn	20 06 27.5	+0.3	
IGT	Igoumenitsa	2.47	86	P	Pn	20 06 26.8	-0.4	
MSAG	Monte S. Angel	2.51	338	Pg	Pn	20 06 29.0	+1.1	
MSAG	Monte S. Angel	2.51	338	Pg	Pn	20 06 29.0	+1.1	
MELA	Melanico ??? S	2.78	327	Pg	Pn	20 06 32.8	+1.3	
MELA	Melanico ??? S	2.78	327	Pg	Pn	20 06 32.8	+1.3	
JAN	Janina	2.88	83	P	Pn	20 06 33.8	+0.9	
JAN				S	Sn	20 07 07.2	+0.2	
JAN	Janina	2.88	83	ePN	Pn	20 06 34.0	+1.1	
JAN	Janina	2.88	83	P	Pn	20 06 33.8	+0.9	
VLS	Valsamata	2.95	113	P	Pn	20 06 32.6	-1.2	
VLS	Valsamata	2.95	113	ePN	Pn	20 06 33.0	-0.8	
VLS	Valsamata	2.95	113	P	Pn	20 06 32.6	-1.2	
DSL	Palaion Diasel	3.08	93	P	Pn	20 06 35.9	+0.3	
DSL	Palaion Diasel	3.08	93	ePN	Pn	20 06 36.0	+0.3	
DSL	Palaion Diasel	3.08	93	P	Pn	20 06 35.9	+0.3	
ALJA	Alia	3.12	240	Pg	Pn	20 06 38.2	+1.9	
	94nm,1.6s							
ALJA	Alia	3.12	240	Pg	Pn	20 06 38.2	+1.9	
	94nm,1.6s							
NEST	Nestorio	3.17	70	P	Pn	20 06 38.2	+1.2	
NEST				S	Sn	20 07 16.5	+2.1	
NEST	Nestorio	3.17	70	ePB	Pn	20 06 38.0	+1.0	
NEST	Nestorio	3.17	70	P	Pn	20 06 38.2	+1.2	
NEST				S	Sn	20 07 16.5	+2.1	
MEV	Metsovon	3.18	81	P	Pn	20 06 38.0	+0.9	
MEV	Metsovon	3.18	81	P	Pn	20 06 38.0	+0.9	
PDO	Prodromos	3.24	103	P	Pn	20 06 37.7	-0.1	
PDO	Prodromos	3.24	103	ePN	Pn	20 06 38.0	+0.2	
PDO	Prodromos	3.24	103	P	Pn	20 06 37.7	-0.1	
OHR	Ohrid	3.28	57	ePN	Pn	20 06 37.5	-1.0	
OHR				eSg	Sn	20 07 17.7	+0.6	
OHR	Ohrid	3.28	57	ePN	Pn	20 06 37.4	-1.1	
OHR				eSg	Sn	20 07 17.7	+0.6	
STON	Ston	3.51	7	ePN	Pn	20 06 41.6	+0.1	
STON				Sn	Sn	20 07 19.9	-2.7	
STON	Ston	3.51	7	ePN	Pn	20 06 41.5	+0.1	
STON				Sn	Sn	20 07 19.8	-2.7	
FNA	Florina	3.53	65	ePN	Pn	20 06 42.5	+0.6	
RLS	Riolos of Patr	3.63	110	P	Pn	20 06 44.3	+1.1	
RLS	Riolos of Patr	3.63	110	ePN	Pn	20 06 44.5	+1.3	
RLS	Riolos of Patr	3.63	110	P	Pn	20 06 44.3	+1.1	
EVR	Evrytania	3.65	96	P	Pn	20 06 44.4	+0.8	
EVR	Evrytania	3.65	96	ePN	Pn	20 06 45.0	+1.4	
EVR	Evrytania	3.65	96	P	Pn	20 06 44.4	+0.8	
KZN	Kozani	3.67	74	ePB	Pn	20 06 47.5	+3.6	
THL	Klokotos Trika	3.77	86	P	Pn	20 06 47.7	+2.6	
THL	Klokotos Trika	3.77	86	ePB	Pn	20 06 48.0	+2.9	
THL	Klokotos Trika	3.77	86	P	Pn	20 06 47.7	+2.6	
EFP	Efpalio	3.83	103	ePN	Pn	20 06 46.5	+0.5	
DRO	Drossia	3.85	110	P	Pn	20 06 47.1	+0.9	
DRO	Drossia	3.85	110	ePN	Pn	20 06 47.5	+1.3	
DRO	Drossia	3.85	110	P	Pn	20 06 47.1	+0.9	
MAKR	Makrakomi, Fth	3.89	94	P	Pn	20 06 48.0	+1.2	
MAKR	Makrakomi, Fth	3.89	94	ePN	Pn	20 06 49.0	+2.2	
MAKR	Makrakomi, Fth	3.89	94	P	Pn	20 06 48.0	+1.2	
KALE	Kalithea	4.02	103	P	Pn	20 06 49.3	+0.7	
KALE	Kalithea	4.02	103	ePN	Pn	20 06 50.0	+1.4	
KALE	Kalithea	4.02	103	P	Pn	20 06 49.3	+0.7	
AMT	Artemida-Makis	4.03	116	P	Pn	20 06 49.0	+0.3	
AMT	Artemida-Makis	4.03	116	ePN	Pn	20 06 50.0	+1.3	
AMT	Artemida-Makis	4.03	116	P	Pn	20 06 49.0	+0.3	
AGG	Agios Georgios	4.04	94	P	Pn	20 06 49.8	+0.9	
AGG	Agios Georgios	4.04	94	ePN	Pn	20 06 50.0	+1.1	
AGG	Agios Georgios	4.04	94	P	Pn	20 06 49.8	+0.9	
KLV	Kalavryta, Ach	4.13	107	P	Pn	20 06 50.9	+0.7	
KLV	Kalavryta, Ach	4.13	107	ePN	Pn	20 06 51.0	+0.7	
KLV	Kalavryta, Ach	4.13	107	P	Pn	20 06 50.9	+0.7	
LIT	Litokhoron	4.18	78	P	Pn	20 06 51.4	+0.7	
LIT	Litokhoron	4.18	78	ePN	Pn	20 06 51.5	+0.7	
LIT	Litokhoron	4.18	78	P	Pn	20 06 51.4	+0.7	
GUR	Goura	4.32	108	P	Pn	20 06 53.9	+1.2	
GUR	Goura	4.32	108	ePN	Pn	20 06 54.0	+1.2	
GUR	Goura	4.32	108	P	Pn	20 06 53.9	+1.2	
GRG	Griva	4.32	67	ePN	Pn	20 06 52.5	-0.2	
AXAR	Agios Charalam	4.33	96	P	Pn	20 06 52.6	-0.3	
AXAR	Agios Charalam	4.33	96	P	Pn	20 06 52.6	-0.3	
ITM	Ithomi	4.36	119	P	Pn	20 06 52.4	-0.8	
ITM	Ithomi	4.36	119	ePN	Pn	20 06 54.0	+0.8	
ITM	Ithomi	4.36	119	P	Pn	20 06 52.4	-0.8	
PYL	PYLOS	4.39	123	ePN	Pn	20 06 52.5	-1.2	
SJES	Sjenica	4.42	28	ePN	Pn	20 06 56.8	+2.7	
VLX	Vlachokerasia	4.58	114	P	Pn	20 06 57.3	+1.0	
VLX	Vlachokerasia	4.58	114	ePN	Pn	20 06 57.5	+1.2	
VLX	Vlachokerasia	4.58	114	P	Pn	20 06 57.3	+1.0	
LKR	Lokris	4.62	97	ePN	Pn	20 06 57.0	+0.3	
XOR	Xorichti	4.68	88	P	Pn	20 06 57.3	-0.4	
XOR	Xorichti	4.68	88	ePN	Pn	20 06 58.5	+0.8	
XOR	Xorichti	4.68	88	P	Pn	20 06 57.3	-0.4	
NEO	Neokhori	4.71	89	P	Pn	20 06 58.0	-0.1	
NEO	Neokhori	4.71	89	ePN	Pn	20 06 58.5	+0.4	
NEO	Neokhori	4.71	89	P	Pn	20 06 58.0	-0.1	
HORT	Hortiatis	4.73	73	ePN	Pn	20 06 58.5	+0.1	
KNT	Kendrikon	4.74	66	P	Pn	20 06 57.3	-1.2	
KNT	Kendrikon	4.74	66	ePN	Pn	20 06 59.0	+0.5	
KNT	Kendrikon	4.74	66	P	Pn	20 06 57.3	-1.2	
LTK	Loutraki	4.75	105	P	Pn	20 06 59.5	+0.9	
LTK	Loutraki	4.75	105	ePN	Pn	20 06 59.5	+0.9	
LTK	Loutraki	4.75	105	P	Pn	20 06 59.5	+0.9	
IVAS	Ivanjica	4.76	27	ePn	Pn	20 06 58.7	0.0	
BBLS	Lazići	4.79	20	*i* Pn	Pn	20 06 59.2	+0.1	
SKIA	Skiathos	4.91	91	ePN	Pn	20 07 02.5	+1.7	
PLG	Polygyros	4.94	76	ePN	Pn	20 07 02.0	+0.7	
SOH	Sokhos	4.97	71	ePN	Pn	20 07 02.5	+0.8	
MRKA	Markates	5.06	96	ePN	Pn	20 07 04.0	+1.1	
PAIC	Palicouri	5.07	82	ePN	Pn	20 07 02.5	-0.5	
DIVS	Divibare	5.17	23	ePn	Pn	20 07 03.8	-0.6	
SRS	Serrai	5.22	69	ePN	Pn	20 07 05.0	-0.1	
AOS	Alonnisos	5.23	90	P	Pn	20 07 04.8	-0.4	
AOS	Alonnisos	5.23	90	ePN	Pn	20 07 05.0	-0.2	
AOS	Alonnisos	5.23	90	P	Pn	20 07 04.8	-0.4	
VLI	Veliai	5.29	118	P	Pn	20 07 06.3	+0.3	
VLI	Veliai	5.29	118	ePN	Pn	20 07 06.5	+0.5	
VLI	Veliai	5.29	118	P	Pn	20 07 06.3	+0.3	
ATH	Athens Observa	5.33	103	ePN	Pn	20 07 06.5	0.0	
OUR	Ouranopolis	5.34	78	ePN	Pn	20 07 06.5	-0.2	
TRUS	Trudelj	5.41	26	ePn	Pn	20 07 06.1	-1.6	
PTL	Penteli	5.42	102	ePN	Pn	20 07 08.0	+0.2	
NVLJ	Novalja	5.45	343	ePn	Pn	20 07 08.1	-0.1	
NVLJ				Sn	Sn	20 08 07.6	-2.7	
NVLJ	Novalja	5.45	343	ePn	Pn	20 07 08.0	-0.1	
NVLJ				Sn	Sn	20 08 07.5	-2.7	
TEKS	Tekeris	5.46	18	*i* Pn	Pn	20 07 09.1	+0.8	
MMB	Musomiste	5.48	64	‖*i*P	Pn	20 07 08.8	+0.2	
MMB	Musomiste	5.48	64	S	Sn	20 08 08.4	-2.8	
MMB	Musomiste	5.48	64	‖*i*P	Pn	20 07 08.8	+0.2	
NVR	Nevrokopi	5.49	67	ePN	Pn	20 07 10.0	+1.2	
VTS	Vitosha	5.59	53	⇑*i*P	Pn	20 07 10.4	+0.1	
VTS	Vitosha	5.59	53	S	Sn	20 08 13.4	-0.8	
VTS	Vitosha	5.59	53	⇑*i*P	Pn	20 07 10.4	+0.1	
KYTH	Kithira	5.60	122	P	Pn	20 07 10.6	+0.3	
KYTH	Kithira	5.60	122	ePN	Pn	20 07 10.5	+0.3	
KYTH	Kithira	5.60	122	P	Pn	20 07 10.6	+0.3	
ZAPS	Zavoj	5.67	45	*i* Pn	Pn	20 07 11.8	+0.6	
ANKY	Antikythira Is	6.01	124	ePN	Pn	20 07 16.0	0.0	
LIA	Limnos Island	6.22	83	ePN	Pn	20 07 20.0	+1.2	
SMTH	Samothraki Isl	6.53	78	ePN	Pn	20 07 21.0	-2.1	
KARN	Karanos	6.70	124	ePN	Pn	20 07 24.0	-1.4	
SIGR	SIGRI	6.75	89	ePN	Pn	20 07 27.5	+1.4	
VAM	Vamos	6.87	123	P	Pn	20 07 24.3	-3.5	
VAM	Vamos	6.87	123	ePN	Pn	20 07 25.5	-2.3	
PKSM	Moragy	6.91	9	‖*i*P	Pn	20 07 27.4	-0.8	
PKSM	Moragy	6.91	9	S	Sn	20 08 42.6	-3.8	
PKSM	Moragy	6.91	9	‖*i*P	Pn	20 07 27.4	-0.8	
ALN	Alexandroupoli	6.98	75	ePN	Pn	20 07 29.0	-0.2	
APE	Apeiranthos	6.99	107	ePN	Pn	20 07 29.0	-0.4	
CHOS	Chios island	7.02	95	ePN	Pn	20 07 30.5	+0.7	
BZS	Buzias	7.05	26	‖*i*P	Pn	20 07 28.8	-1.3	
BZS	Buzias	7.05	26	S	Sn	20 08 44.8	-4.9	
BZS	Buzias	7.05	26	‖*i*P	Pn	20 07 28.8	-1.3	
PRK	Paraskevi	7.08	88	ePN	Pn	20 07 32.0	+1.5	
KEST	Kesra	7.19	242	Pn	Pn	20 07 36.2	+4.0	
	0.1nm,0.3s,baz=44,slow=8.3,SNR=4.1							
SANT	Santorini	7.23	112	ePN	Pn	20 07 32.5	-0.2	
GZR	Gura Zlata	7.31	33	‖*i*P	Pn	20 07 31.1	-2.6	
GZR	Gura Zlata	7.31	33	S	Sn	20 08 54.2	-2.0	
GZR	Gura Zlata	7.31	33	S	Sn	20 08 54.2	-2.0	
OBKA	Obir	7.37	346	‖*i*Pn	Pn	20 07 33.7	-0.9	
OBKA	Obir	7.37	346	Pn	Pn	20 07 33.7	-0.9	
IDI	Anoyia	7.40	121	Pn	Pn	20 07 34.0	-1.0	
	2.1nm,0.3s,baz=303,slow=16,SNR=22							
IDI				Sn	Sn	20 08 54.7	-3.9	
	1.6nm,0.3s,baz=128,slow=23,SNR=7.6							
IDI				LR	LR	20 11 27.4		
	comp=Z,60nm,18.0s,baz=295,slow=46							
SIVA	Sivas	7.51	123	ePN	Pn	20 07 38.5	+2.0	
SMG	Samos	7.78	99	ePN	Pn	20 07 40.0	-0.1	
LAST	Lasithi	7.86	120	ePN	Pn	20 07 40.0	-1.5	
NPS	Neapolis	7.90	119	ePN	Pn	20 07 40.5	-1.3	
ARSA	Arzberg	7.95	352	‖*i*Pn	Pn	20 07 42.4	-0.2	
ARSA	Arzberg	7.95	352	Pn	Pn	20 07 42.4	-0.2	
ABTA	Abfaltersbach	8.10	337	‖*i*Pn	Pn	20 07 44.6	-0.1	
ABTA	Abfaltersbach	8.10	337	Pn	Pn	20 07 44.6	-0.1	
ZKR	Zakros	8.39	118	ePG	Pn	20 07 48.5	-0.1	
KARP	Karpathos	8.83	113	ePB	Pn	20 07 53.5	-1.2	
MLR	Muntele Rosu	8.91	44	Pn	Pn	20 07 55.2	-0.7	
	baz=220,slow=16							
DAVOX	Davos/Dischmat	9.10	327	Pn	Pn	20 07 59.1	+0.6	
	0.1nm,0.3s,baz=139,slow=15,SNR=3.0							
ARG	Arkhangelos	9.24	107	ePB	Pn	20 08 00.5	+0.2	
GERES	GERESS Array B	9.78	346	Pn	Pn	20 08 07.4	-0.2	
	0.1nm,0.3s,baz=161,slow=13,SNR=8.0							
GERES				Sn	Sn	20 09 50.3	-6.6	
	baz=159,slow=25,SNR=2.4							
GERES				LR	LR	20 13 11.0		
	comp=Z,35nm,21.3s,baz=173,slow=46							
VRAC	Vranov	9.93	358	LR	LR	20 13 25.7		
	comp=Z,32nm,19.1s,baz=214,slow=47							
KHC	Kasperske Hory	10.07	346	ePN	Pn	20 08 10.8	-0.8	
KHC				*ex*	x	20 08 16.3		
KHC				*ex*	x	20 08 31.0		
BRTR	Keskin Array B	12.73	83	Pn	Pn	20 08 49.4	+1.2	
	0.1nm,0.3s,baz=281,slow=15,SNR=9.9							
MMAI	Mount Meron Ar	16.04	108	Pn	Pn	20 09 26.8	-5.8	
	1.0nm,0.3s,baz=296,slow=11,SNR=4.2							
ESDC	Sonseca Array	16.29	278	Pn	P	20 09 40.2	+1.5	
	0.3nm,0.3s,baz=80,slow=11,SNR=3.3							
HFS	Hagfors	20.88	355	P	P	20 10 26.4	-2.4	
	1.1nm,0.6s,baz=177,slow=12,SNR=2.2							
EKA	Eskdalemuir Ar	20.94	326	P	P	20 10 29.1	-0.4	
	2.9nm,0.7s,baz=130,slow=12,SNR=9.4							
GNI	Garni	21.20	79	P	P	20 10 33.2	+0.6	
	2.3nm,0.6s,baz=232,slow=6.8,SNR=4.5							
FINES	FINESS Array B	22.76	11	P	P	20 10 47.7	-1.2	
	1.9nm,1.0s,baz=197,slow=12,SNR=3.6							
TORD	Torodi Ar. Bea	29.49	212	P	P	20 11 51.5	+0.5	
	0.2nm,0.7s,baz=16,slow=9.3,SNR=2.5							
TORD				LR	LR	20 26 19.3		
	comp=Z,19nm,18.8s,baz=335,slow=42							
ARCES	ARCESS Array B	30.54	6	P	P	20 11 58.7	-1.2	
	1.4nm,0.8s,baz=182,slow=8.1,SNR=4.1							
ARCES				LR	LR	20 26 33.3		
	comp=Z,36nm,18.1s,baz=184,slow=41							
BVAR	Borovoye Array	38.39	51	P	P	20 13 08.3	+0.4	
	0.5nm,0.7s,baz=289,slow=4.4,SNR=3.6							
ZALV	Zalesovo Beam	46.86	49	P	P	20 14 16.5	-0.1	
	0.2nm,0.3s,baz=284,slow=5.8,SNR=2.9							
MKAR	Makanchi Array	46.92	59	P	P	20 14 17.3	+0.1	
	0.3nm,0.4s,baz=280,slow=7.1,SNR=9.0							
SONM	Songino Array	61.71	50	P	P	20 16 06.0	+1.0	
	0.2nm,0.6s,baz=289,slow=7.1,SNR=3.6							
YKA	Yellowknife Ar	71.33	339	P	P	20 17 05.9	-0.2	
	0.1nm,0.5s,baz=40,slow=5.7,SNR=4.8							

MAN 15 20:33:55,8°.39N×122°.49E,h46km,mb4.5,ML3.4,MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.60	172	*e*P	Pn	20 34 09.6	+2.2
IPIL				*e*S	Sn	20 34 19.2	+3.0
PAGZ	Pagadian	1.04	121	*e*P	Pn	20 34 14.1	+1.0
PAGZ				*e*S	Sn	20 34 28.5	+2.0
GUIM	Jordan	2.23	3	*e*P	Pn	20 34 30.8	+1.3
CUYO	Cuyo Island	2.84	329	*e*P	Pn	20 34 39.7	+1.8
ENPP	El Nido	4.12	313	*e*P	Pn	20 34 57.5	+2.1

IDC ***15*** *20:46:30.3±1.0,34°.76S×72°.89W,h0km,mb3.8/4, mb1 4.0/7,mb1mx3.9/17,mbtmp3.7/7,ML3.7/3,MS3.3/2, Ms1 3.2/2,ms1mx3.0/26,Error ellipse: s-maj=33.8km s-min=26.1km az=97.0*

ISCJB ***15*** *20:46:33.4±0.6,34°.75S±0°.04×72°.97W±0°.08,h33km, mb4.0/5,Error ellipse: s-maj=9.3km s-min=5.8km az=159.6*

GUC ***15*** *20:46:33.8±0.4,34°.82S×72°.89W,h25km*

NEIC ***15*** *20:46:36.2±1.5,34°.81S×72°.64W,h42km±13km,mb4.6/1, Error ellipse: s-maj=25.2km s-min=10.1km az=96.0*

ISC 15 20:46:35.4±0.7,34°.80S±0°.07×72°.90W±0°.08,h35km,n19, σ0s86/24,mb3.9/5,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	1.20	120	‖*i*P	Pn	20 46 55.9	+0.3
TALC				*i* S	Sn	20 47 11.9	+1.2
COCH	Cobquecura	1.33	176	⇑*i*P	Pn	20 46 56.5	-1.1
COCH				*i* S	Sn	20 47 13.5	-0.5
NICH	Los Niches	1.38	99	*e*P	Pn	20 46 57.5	-0.8
NICH				*i* S	Sn	20 47 15.6	+0.3
LNCH	Linares	1.49	135	‖*i*P	Pn	20 46 59.8	+0.1
LNCH				*i* S	Sn	20 47 18.7	+0.8
CFAA	Coronel Fontan	5.04	52	Pn	Pn	20 47 47.4	-1.2
	0.5nm,0.3s,baz=228,slow=12,SNR=25						
CFAA				Lg	Lg	20 49 02.3	
	0.5nm,0.3s,baz=85,slow=14,SNR=5.3						
PLCA	Paso Flores	6.21	163	Pn	Pn	20 48 05.1	+0.5
	0.7nm,0.3s,baz=332,slow=10,SNR=18						
PLCA				Lg	Lg	20 49 41.3	
	0.5nm,0.3s,baz=58,slow=19,SNR=2.0						
PLCA				LR	LR	20 49 56.6	
	comp=Z,92nm,20.0s,baz=358,slow=33						
PLCA	Paso Flores	6.21	163	*e*P	Pn	20 48 04.5	-0.2
	15nm,0.7s						
PLCA				Lg	Lg	20 49 41.3	
LVC	Limon Verde	12.63	17	LR	LR	20 54 41.4	
	comp=Z,362nm,21.0s,baz=240,slow=39						
LVC	Limon Verde	12.63	17	P	Pn	20 49 33.1	+0.2
LPAZ	La Paz	18.92	14	P	P	20 50 54.0	0.0
	0.2nm,0.3s,baz=183,slow=8.8,SNR=10						
SIV	San Ignacio	21.53	32	P	P	20 51 19.8	-1.8
	3.0nm,0.6s,baz=225,slow=11,SNR=11						
TXAR	Lajitas Array	70.09	332	P	P	20 57 44.5	+0.5
	0.4nm,0.6s,baz=153,slow=8.1,SNR=5.8						
MVU	Marysvale	81.53	330	*e*P	P	20 58 51.1	+1.7
	7.8nm,1.3s						
PDAR	Pinedale Array	84.16	334	P	P	20 59 02.7	-0.3
	0.3nm,0.3s,baz=149,slow=4.2,SNR=3.9						
TORD	Torodi Ar. Bea	85.15	70	P	P	20 59 08.1	-0.2
	1.0nm,0.7s,baz=252,slow=5.1,SNR=14						
WRA	Warramunga Arr	119.72	210	PKP	PKPdf	21 05 22.1	-0.2
	0.2nm,0.5s,baz=156,slow=1.6,SNR=6.4						
ZALV	Zalesovo Beam	155.28	32	PKP	PKPdf	21 06 23.1	-1.2
	0.2nm,0.3s,baz=294,slow=1.4,SNR=2.6						
ZALV				PKPab	PKPab	21 06 50.2	+0.6
	1.7nm,0.7s,baz=291,slow=4.4,SNR=8.9						
MKAR	Makanchi Array	157.82	50	PKP	PKPdf	21 06 28.3	+0.3
	0.2nm,0.7s,baz=275,slow=2.7,SNR=3.1						
MKAR				PKPab	PKPab	21 07 00.8	-0.1
	0.2nm,0.6s,baz=277,slow=4.2,SNR=3.6						
SONM	Songino Array	166.97	2	PKPab	PKPab	21 07 41.8	+1.0
	0.2nm,0.6s,baz=343,slow=3.0,SNR=3.9						

IDC ***15*** *20:52:29.6±0.6,13°.33S×112°.22W,h0km,mb4.3/19, mb1 4.4/19,mb1mx4.4/25,mbtmp4.3/19,MS5.1/28, Ms1 5.1/28,ms1mx5.1/31,Error ellipse: s-maj=22.3km s-min=14.6km az=58.0*

ISCJB ***15*** *20:52:30.3±0.5,13°.31S±0°.07×112°.04W±0°.09,h10km, mb4.7/67,MS5.3/161,Error ellipse: s-maj=14.3km s-min=7.8km az=148.6*

GCMT ***15*** *20:52:31.4±0.1,13°.40S×112°.22W,h19km,MW5.7/130, Moment Tensor Solution. s101,c178; s130,c254; Duration: 1s6 Moment tensor: Scale 10¹⁷Nm; Mrr-0.29±.04; Mθθ1.68±.04; Mϕϕ-1.39±.04; Mrθ-0.13±.09; Mθϕ3.26±.04; Mϕr0.22±.09; Best double couple: M₀3.61300×10¹⁷ NP1:ϕs193.00000°,δ87.00000°, λ-177.00000°. NP2:ϕs103.00000°,δ87.00000°, λ-3.00000°. Principal axes: T 3.7480, Plg0.0000°, Azm328.0000°; N -0.2670, Plg85.0000°, Azm236.0000°; P -3.4790, Plg5.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *20:52:31.4±0.5,13°.45S×112°.17W,h10km,mb5.0/52, MS5.2/127 Error ellipse: s-maj=15.8km s-min=8.5km az=64.0*

BJI ***15*** *20:52:34.8,13°.30S×111°.80W,h30km,mB5.5/11, Ms5.7/10,Ms7 5.4/10*

ISC 15 20:52:31.1±0.4,13°.46S±0°.09×112°.18W±0°.09,h10km, n291,σ1s55/167,mb4.9/67,MS5.3/161,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	13.85	169	LR	LR	20 59 49.5	
	comp=Z,15µm,18.2s,baz=346,slow=31						
PTCN	Pitcairn Islan	20.45	233	PFAKE		20 57 20.0	+9.0
PTCN				LR	LR		
	comp=Z,16µm,21.2s						
RKT	Rikitea	23.65	243	*e*LQ	LQ	21 02 12.7	
	comp=Z,4µm,27.8s						
RKT				*e*LR	LR	21 03 14.3	
	comp=Z,15µm,27.5s,baz=65						
RKT	Rikitea	23.65	243	*e*T	T	21 21 59.0	
	comp=Z,4.2nm,0.2s						
PAYG	Puerto Ayora	25.13	61	PFAKE		20 58 10.0	+13
PAYG				LR	LR		
	comp=Z,12µm,22.0s						
H06E1	SOCORRO T-PHAS	32.06	2	T	T	21 32 35.7	
	SNR=9.1						
ATAH	Atahualpa	33.80	83	P	P	20 59 14.6	+0.4
	comp=Z,15nm,1.1s,baz=287,slow=7.0,SNR=7.9						
APG	El Apazote	35.52	38	P	P	20 59 23.7	-5.0
	comp=Z,6.2nm,1.0s,baz=212,slow=9.5,SNR=4.1						
JTS	JuntasAbangare	35.88	50	P	P	20 59 32.1	+0.6
	comp=Z,3.1nm,0.4s,baz=287,slow=13,SNR=3.9						
JTS	JuntasAbangare	35.88	50	P	P	20 59 32.1	+0.6
JTS				LR	LR		
	comp=Z,7µm,21.1s						
OTAV	Otavalo	36.08	71	PFAKE		20 59 50.0	+16
OTAV				LR	LR		
	comp=Z,3µm,18.9s						
PPT	Papeete	36.23	259	LR	LR	21 10 59.3	
	comp=Z,2µm,18.1s,baz=85,slow=31						
PPT2	Papeete2	36.23	259	*e*S	S	21 05 01.2	-14
	comp=Z,2µm,27.2s						
PPT2				*e*LQ	LQ	21 07 27.9	
	comp=Z,6µm,38.0s						
PPT2				*e*LR	LR	21 08 59.9	
	comp=Z,8µm,27.0s,baz=92						
TBI	Tubuai	36.62	249	*e*S	S	21 05 06.9	-14
	comp=Z,960nm,29.2s						
TBI				*e*LQ	LQ	21 07 40.7	
	comp=Z,3µm,33.2s						
TBI				*e*LR	LR	21 09 13.1	
	comp=Z,10µm,27.2s,baz=74						
TBI	Tubuai	36.62	249	*e*T	T	21 38 12.2	
	comp=Z,7.5nm,0.3s						
LPIG	La Paz	37.38	3	LR	LR

comp=Z,3µm,22.0s
334A Lometa 46.51 17 P P 21 00 57.8 -1.0
baz=47
232A Coleman 46.66 15 P P 21 00 58.6 -1.4
baz=47
128A Castleberry Fa 46.75 11 P P 21 00 59.6 -1.1
baz=47
SDV Santo Domingo 46.84 64 PFAKE 21 01 10.0 +8.1
SDV LR LR
comp=Z,2µm,19.0s
336A Riesel 46.96 18 P P 21 01 01.8 -0.4
baz=47
PFO Pinyon Flats O 46.98 355 P P 21 01 00.9 -1.7
comp=Z,1.1nm,0.3s,baz=174,slow=9.6,SNR=3.8
PFO LR LR 21 15 46.4
comp=Z,3µm,20.1s,baz=172,slow=30
ABTX Abilene, Hawle 47.37 14 PFAKE 21 01 20.0 +15
ABTX LR LR
comp=Z,1µm,21.9s
X16A Lo Mia Camp, P 47.62 1 P P 21 01 07.6 0.0
baz=48
LENM Lemitar 47.62 6 eP P 21 01 10.6 +3.0
Z30A Sanderson Ranc 47.67 13 P P 21 01 07.0 -0.8
baz=48
PASC Pasadena Art C 47.71 353 PFAKE 21 01 20.0 +12
PASC LR LR
comp=Z,5µm,22.0s
LAZ Ladron 47.84 6 eP P 21 01 08.8 -0.5
comp=Z,14nm,1.5s
MSTX Muleshoe 48.01 11 P P 21 01 10.2 -0.4
baz=48
MSTX Muleshoe 48.01 11 eP P 21 01 10.6 +0.1
comp=Z,27nm,1.0s
MSTX LR LR
comp=Z,1µm,19.5s
Z32A Haskell 48.06 14 P P 21 01 10.6 -0.3
baz=48
GMRC Granite Mounta 48.09 356 P P 21 01 11.7 +0.5
baz=48
Y29A Porterfield Fa 48.11 12 P P 21 01 12.0 +0.7
baz=48
SAML Samuel 48.21 90 eP P 21 01 11.0 -1.4
comp=Z,10nm,1.1s
SAML LR LR
comp=Z,1µm,21.2s
W13A Hualapai Mount 48.32 358 P P 21 01 13.4 +0.4
baz=49
LDFC Landfair 48.35 357 PFAKE 21 01 30.0 +17
LDFC LR LR
comp=Z,5µm,19.5s
W18A Petrified Fore 48.37 3 eP P 21 01 15.9 +2.5
comp=Z,15nm,0.8s
W18A LR LR
comp=Z,4µm,19.7s
ANMO Albuquerque 48.45 6 P P 21 01 13.7 -0.3
comp=Z,1.5nm,0.8s,baz=168,slow=2.9,SNR=3.9
ANMO LR LR 21 18 11.7
comp=Z,3µm,18.4s,baz=194,slow=32
ANMO Albuquerque 48.45 6 eP P 21 01 16.5 +2.5
comp=Z,36nm,2.2s
Y31A Rekieta Farm, 48.51 13 P P 21 01 14.0 -0.2
baz=49
GSC Goldstone, Bar 48.69 355 eP P 21 01 17.9 +2.1
comp=Z,76nm,2.0s
LRMC Laurel Mtn Rad 48.95 354 P P 21 01 17.5 -0.3
baz=49
AMTX Amarillo 49.10 11 eP P 21 01 19.1 +0.1
ISA Isabella, Lake 49.22 353 P P 21 01 19.6 -0.2
baz=50
ISA Isabella, Lake 49.22 353 eP P 21 01 21.9 +2.2
comp=Z,26nm,1.8s
GTBY Guantanamo Bay 49.31 48 PFAKE 21 01 30.0 +9.4
GTBY LR LR
comp=Z,3µm,21.6s
SIV San Ignacio 49.40 100 P P 21 01 20.9 -0.6
comp=Z,5.0nm,1.1s,baz=278,slow=10,SNR=8.1
MPMC Manual Prospec 49.51 354 P P 21 01 21.9 -0.3
baz=50
WMOK Wichita Mounta 49.59 15 PFAKE 21 01 30.0 +7.4
WMOK LR LR
comp=Z,1µm,18.9s
DAC Darwin (Calif) 49.73 354 eP P 21 01 24.6 +0.7
comp=Z,23nm,1.6s
DAC LR LR
comp=Z,2µm,18.0s
SHPR Sheep Range 49.78 357 eP P 21 01 24.6 +0.4
VBMS Vicksburg 49.93 24 PFAKE 21 01 40.0 +15
VBMS LR LR
comp=Z,1µm,19.2s
KNB Kanab 50.21 359 PFAKE 21 01 40.0 +13
KNB LR LR
comp=Z,2µm,18.1s
LGNH LØogne 50.31 52 PFAKE 21 01 40.0 +12
LGNH LR LR
comp=Z,2µm,18.0s
W34A Bridge Creek, 50.32 15 PFAKE 21 01 40.0 +12
W34A LR LR
comp=Z,1µm,18.7s
BRAL Brewton 50.38 28 PFAKE 21 01 40.0 +11
BRAL LR LR
comp=Z,700nm,21.9s
TRQA Tornquist 50.68 128 PFAKE 21 01 40.0 +9.0
TRQA LR LR
comp=Z,4µm,19.3s
SAO San Andreas Ge 50.71 350 PFAKE 21 01 40.0 +9.0
SAO LR LR
comp=Z,5µm,20.0s
CCUT Cedar City 50.75 359 eP P 21 01 35.0 +3.4
comp=Z,32nm,1.7s
CCUT LR LR
comp=Z,3µm,18.6s
MIAR Mount Ida 50.91 20 PFAKE 21 01 40.0 +7.4
MIAR LR LR
comp=Z,2µm,18.3s
V34A Guthrie 50.95 15 PFAKE 21 01 50.0 +17
V34A LR LR
comp=Z,1µm,20.9s
T26A Comanche Natio 51.01 9 P P 21 01 33.0 -0.5
baz=51
T27A Campo 51.03 10 P P 21 01 33.5 -0.2
baz=51
S22A 4UR Ranch, Cre 51.18 5 eP P 21 01 37.3 +2.4
comp=Z,36nm,1.8s
S22A LR LR
comp=Z,2µm,20.6s
T28A Walsh 51.20 10 P P 21 01 35.5 +0.7
baz=51
S24A Houchin Ranch, 51.25 7 P P 21 01 35.3 -0.1
baz=52
SDCO Great Sand Dun 51.32 7 P P 21 01 35.3 -0.6
baz=52
SDCO Great Sand Dun 51.32 7 eP P 21 01 35.6 -0.4
comp=Z,20nm,1.1s
U34A Anderson Ranch 51.52 15 PFAKE 21 01 50.0 +13
U34A LR LR
comp=Z,2µm,20.1s
UALR University of 51.54 21 PFAKE 21 01 50.0 +13
UALR LR LR
comp=Z,2µm,18.2s
SDDR Presa de Saban 51.60 52 PFAKE 21 01 50.0 +12
SDDR LR LR
comp=Z,1µm,20.5s
R11A Troy Canyon, C 51.63 357 PFAKE 21 01 50.0 +12
R11A LR LR
comp=Z,4µm,19.6s
MVU Marysvale 51.69 360 eP P 21 01 40.0 +1.3
comp=Z,122nm,2.8s
MVU LR LR
comp=Z,2µm,20.4s
NVAR Mina Array Bea 51.94 354 P P 21 01 40.1 -0.3
comp=Z,4.0nm,0.8s,baz=180,slow=10,SNR=9.3
LRAL Lakeview Retre 52.12 27 PFAKE 21 01 50.0 +8.4
LRAL LR LR
comp=Z,900nm,20.9s
MCCM Marconi Confer 52.30 349 PFAKE 21 02 00.0 +17
MCCM LR LR
comp=Z,4µm,20.4s
SRU San Rafael Swe 52.32 2 eP P 21 01 43.8 +0.5
comp=Z,21nm,1.3s
SRU LR LR
comp=Z,3µm,21.1s
OXF Oxford 52.39 24 PFAKE 21 02 00.0 +16
OXF LR LR
comp=Z,700nm,19.4s
TIGA Tifton 52.40 31 PFAKE 21 02 00.0 +16
TIGA LR LR
comp=Z,2µm,18.2s
TMUT Trail Mountain 52.49 1 PFAKE 21 02 00.0 +15
TMUT LR LR
comp=Z,2µm,20.0s
Q25A Bedland, Calha 52.63 8 P P 21 01 45.2 -0.3
baz=53
KSCO Kaye Shedlock' 52.96 9 PFAKE 21 02 00.0 +12
KSCO LR LR
comp=Z,2µm,19.7s
P24A Kohler Place, 53.13 7 P P 21 01 49.2 -0.1
baz=53
NLU North Lily Min 53.14 0 eP P 21 01 51.3 +2.0
comp=Z,3.9nm,1.0s
NLU LR LR
comp=Z,2µm,21.1s
HOPS Hopland Field 53.16 349 PFAKE 21 02 00.0 +11
HOPS LR LR
comp=Z,5µm,20.3s
PTGA Pitinga 53.20 81 eP P 21 01 49.0 -1.1
comp=Z,42nm,1.7s
PTGA LR LR
comp=Z,3µm,18.6s
MPU Maple Canyon 53.20 1 eP P 21 01 50.9 +1.1
comp=Z,56nm,1.7s
MPU LR LR
comp=Z,3µm,20.4s
GRTK Grand Turk 53.21 50 PFAKE 21 02 00.0 +10
GRTK LR LR
comp=Z,2µm,20.7s
ISCO Idaho Springs 53.34 6 eP P 21 01 49.1 -1.9
comp=Z,6.7nm,0.8s
ISCO LR LR
comp=Z,3µm,18.7s
DUG Dugway, Tooele 53.38 359 eP P 21 01 50.5 -0.6
comp=Z,15nm,1.3s
O20A White River Ci 53.45 4 PFAKE 21 02 00.0 +8.4
O20A LR LR
comp=Z,3µm,18.0s
DAU Daniels Canyon 53.60 1 eP P 21 01 55.0 +2.1
comp=Z,0.7nm,1.0s
JLU Jordanelle 53.79 1 eP P 21 01 55.7 +1.5
comp=Z,33nm,1.6s
JLU epP pP 21 02 04.4 +7.1
JLU LR LR
comp=Z,3µm,20.0s
BMN Battle Mountai 53.82 355 PFAKE 21 02 10.0 +16
BMN LR LR
comp=Z,2µm,21.1s
KCPM Cahto Peak 53.93 349 PFAKE 21 02 10.0 +15
KCPM LR LR
comp=Z,3µm,19.0s
POHA Pohakuloa 53.95 307 PFAKE 21 02 10.0 +14
POHA LR LR
comp=Z,3µm,18.0s
PVMO Portageville 53.95 22 PFAKE 21 02 10.0 +15
PVMO LR LR
comp=Z,2µm,18.9s
ELK Elko 54.00 357 P P 21 01 55.0 -0.7
comp=Z,0.8nm,0.4s,baz=178,slow=8.4,SNR=3.2
ELK LR LR 21 20 33.8
comp=Z,3µm,19.4s,baz=173,slow=31
ELK Elko 54.00 357 P P 21 01 55.0 -0.7
ELK epP pP 21 02 00.7 +1.8
PBMO Poplar Bluff 54.01 22 PFAKE 21 02 10.0 +14
PBMO LR LR
comp=Z,1µm,18.5s
GOGA Godfrey 54.06 30 PFAKE 21 02 10.0 +14
GOGA LR LR
comp=Z,1µm,18.1s
BGU Big Grassy Mou 54.12 359 PFAKE 21 02 10.0 +14
BGU LR LR
comp=Z,32496µm,19.5s
KSU1 Kansas State U 54.27 15 PFAKE 21 02 10.0 +13
KSU1 LR LR
comp=Z,1µm,21.3s
TCUT Toone Canyon 54.31 1 PFAKE 21 02 10.0 +12
TCUT LR LR
comp=Z,3µm,20.0s
CRPR Cabo Rojo, PR 54.35 56 PFAKE 21 02 10.0 +12
CRPR LR LR
comp=Z,900nm,19.9s
N23A Red Feather La 54.39 6 PFAKE 21 02 10.0 +11
N23A LR LR
comp=Z,3µm,19.8s
WVT Waverly 54.43 24 PFAKE 21 02 10.0 +11
WVT LR LR
comp=Z,1µm,19.8s
MPR Mayaguez 54.44 56 PFAKE 21 02 10.0 +11
MPR LR LR
comp=Z,600nm,21.9s
KMRM Mail Ridge 54.47 349 PFAKE 21 02 10.0 +11
KMRM LR LR
comp=Z,5µm,19.9s
AGP Aguadilla 54.54 56 PFAKE 21 02 10.0 +10
AGP LR LR
comp=Z,1µm,20.1s
WDC Whiskeytown Da 54.62 350 eP P 21 01 59.7 -0.1
comp=Z,15nm,1.4s
WDC LR LR
comp=Z,3µm,20.8s
HWUT Hardware Ranch 54.79 1 PFAKE 21 02 10.0 +8.6
HWUT LR LR
comp=Z,2µm,21.4s
PHWY Pilot Hill 54.84 6 PFAKE 21 02 10.0 +8.1
PHWY LR LR
comp=Z,4µm,18.8s
HVU Hansel Valley 54.97 359 PFAKE 21 02 20.0 +17
HVU LR LR
comp=Z,37950µm,18.1s
RWWY Rawlins 55.06 5 PFAKE 21 02 20.0 +17
RWWY LR LR
comp=Z,3µm,18.5s
KHMM Horse Mountain 55.11 349 eP P 21 02 07.7 +4.1
comp=Z,21nm,1.2s
KHMM LR LR
comp=Z,5µm,18.3s
HUMP Col San Antoni 55.44 57 PFAKE 21 02 20.0 +14
HUMP LR LR
comp=Z,2µm,22.0s
M02C Callahan 55.46 350 P P 21 02 06.3 +0.3
baz=56
NHSC New Hope 55.48 33 PFAKE 21 02 20.0 +14
NHSC LR LR
comp=Z,5µm,19.9s
MOD Modoc Plateau 55.59 353 eP P 21 02 07.1 0.0
comp=Z,29nm,1.5s
MOD LR LR
comp=Z,4µm,20.2s
SLM Saint Louis 55.74 21 PFAKE 21 02 20.0 +12
SLM LR LR
comp=Z,2µm,19.0s
TKL Tuckaleechee C 55.76 28 LR LR 21 24 48.0
comp=Z,489nm,18.5s,baz=204,slow=35
YBH Yreka Blue Hor 55.77 350 P P 21 02 07.0 -1.3
comp=Z,2.7nm,0.8s,baz=190,slow=4.7,SNR=8.6
YBH LR LR 21 20 13.3
comp=Z,5µm,21.6s,baz=170,slow=30
YBH Yreka Blue Hor 55.77 350 eP P 21 02 07.7 -0.6
comp=Z,44nm,2.1s
WVOR Wild Horse Val 55.93 354 eP P 21 02 09.0 -0.5
comp=Z,24nm,1.4s
WVOR LR LR
comp=Z,4µm,19.9s
AHID Auburn Hatcher 55.96 1 PFAKE 21 02 20.0 +10
AHID LR LR
comp=Z,3µm,20.0s
BW06 Boulder Array 56.00 2 PFAKE 21 02 20.0 +10
BW06 LR LR
comp=Z,3µm,19.4s
PDAR Pinedale Array 56.00 2 LR LR 21 22 00.5
comp=Z,2µm,19.9s,baz=196,slow=32
K22A Casper 56.08 5 PFAKE 21 02 20.0 +9.4
K22A LR LR
comp=Z,1µm,18.4s
USIN University of 56.09 23 PFAKE 21 02 20.0 +9.5
USIN LR LR
comp=Z,800nm,19.4s
BGNE Belgrade 56.11 13 PFAKE 21 02 20.0 +9.3
BGNE LR LR
comp=Z,1µm,20.4s
CDVI St. Croix 56.13 58 PFAKE 21 02 20.0 +8.8
CDVI LR LR
comp=Z,1µm,18.2s
GRGR Grenville 56.18 65 PFAKE 21 02 20.0 +8.3
GRGR LR LR
comp=Z,2µm,20.8s
STVI Saint Thomas 56.28 57 PFAKE 21 02 20.0 +7.8
STVI LR LR
comp=Z,1µm,19.2s
K05A Summer Lake 56.48 352 eP P 21 02 13.6 +0.1
comp=Z,50nm,1.4s
KBO Bosley Butte 56.50 349 PFAKE 21 02 30.0 +17
KBO LR LR
comp=Z,3µm,20.1s
KMSC Kings Mountain 56.50 30 PFAKE 21 02 30.0 +16
KMSC LR LR
comp=Z,2µm,18.9s
REDW Red Top Meadow 56.56 1 PFAKE 21 02 30.0 +16
REDW eP'P' 21 32 16.0
REDW LR LR
comp=Z,3µm,20.5s
SNOW Snow King Moun 56.66 1 PFAKE 21 02 30.0 +15
SNOW LR LR
comp=Z,3µm,20.7s
HUMO Hull Mountain 56.66 350 eP P 21 02 15.3 +0.7
comp=Z,39nm,1.9s
HUMO LR LR
comp=Z,5µm,20.3s
TPAW Teton Pass 56.68 1 PFAKE 21 02 30.0 +15
TPAW eP'P' 21 32 16.5
TPAW LR LR
comp=Z,2µm,21.3s
MFID Camas Ranch 56.70 357 eP P 21 02 17.2 +2.3
comp=Z,29nm,1.4s
MFID LR LR
comp=Z,2µm,19.4s
HLID Hailey 56.78 358 eP P 21 02 16.0 +0.4
comp=Z,14nm,1.3s
HLID LR LR
comp=Z,3µm,19.6s
LOHW Long Hollow 56.81 1 PFAKE 21 02 30.0 +14
LOHW LR LR
comp=Z,3µm,21.4s
FXWY Fox Creek 56.83 1 eP P 21 02 16.9 +0.9
comp=Z,5.7nm,0.9s
FXWY eP'P' 21 32 14.9
FXWY LR LR
comp=Z,2µm,21.1s
WCI Wyandotte Cave 56.85 24 PFAKE 21 02 30.0 +14
WCI LR LR
comp=Z,701nm,19.6s
IMW Indian Meadow 57.09 1 eP P 21 02 19.6 +1.7
comp=Z,14nm,1.0s
IMW eP'P' 21 32 13.8
IMW LR LR
comp=Z,2µm,21.1s
KEBM Edson Butte 57.16 349 PFAKE 21 02 30.0 +12
KEBM LR LR
comp=Z,4µm,18.9s
FLWY Flagg Ranch 57.28 1 PFAKE 21 02 30.0 +11
FLWY eP'P' 21 32 10.1
FLWY LR LR
comp=Z,3µm,20.9s
SEUS St. Eustatius 57.48 59 PFAKE 21 02 30.0 +9.2
SEUS LR LR
comp=Z,1µm,18.1s
EFI East Falkland 57.58 143 PFAKE 21 02 30.0 +9.0
EFI LR LR
comp=Z,2µm,21.9s
H17A Grant Village 57.60 1 PFAKE 21 02 30.0 +8.5
H17A LR LR
comp=Z,4µm,19.7s
YFT Old Faithful 57.65 1 PFAKE 21 02 30.0 +8.2
YFT LR LR
comp=Z,4µm,18.5s
I07A Izee 57.65 354 eP P 21 02 22.1 +0.4
comp=Z,19nm,1.3s
I07A LR LR
comp=Z,5µm,19.9s
AFI Afiamalu 57.77 262 PFAKE 21 02 40.0 +17
AFI LR LR
comp=Z,2µm,18.0s
LKWY Lake 57.77 2 PFAKE 21 02 40.0 +17
LKWY LR LR
comp=Z,3µm,22.0s
RSSD Black Hills 57.78 7 PFAKE 21 02 40.0 +17
RSSD LR LR
comp=Z,5µm,18.9s
SCIA State Center 57.80 17 PFAKE 21 02 40.0 +17
SCIA LR LR
comp=Z,2µm,20.8s
YMR Madison River 57.86 1 PFAKE 21 02 40.0 +17
YMR LR LR
comp=Z,2µm,20.7s
YNR Norris Junctio 57.91 1 PFAKE 21 02 40.0 +16
YNR LR LR
comp=Z,3µm,20.8s
MCMT McKenzie Canyo 58.01 359 eP P 21 02 23.5 -0.8
comp=Z,3.7nm,0.9s
QLMT Earthquake Lak 58.02 1 eP P 21 02 24.7 +0.3
BMO Blue Mountains 58.22 356 eP P 21 02 24.6 -1.0
comp=Z,12nm,1.2s
CNNC Cliffs of the 58.33 33 PFAKE 21 02 40.0 +14
CNNC LR LR
comp=Z,4µm,20.4s
RLMT Red Lodge 58.36 2 PFAKE 21 02 40.0 +13
RLMT LR LR
comp=Z,2µm,19.9s
SFIN Lafayette 58.41 22 PFAKE 21 02 40.0 +13
SFIN LR LR
comp=Z,2µm,18.0s
BBGH Gun Hill 58.46 65 PFAKE 21 02 40.0 +12
BBGH LR LR
comp=Z,3µm,21.0s
ANWB Willy Bob 58.56 59 PFAKE 21 02 40.0 +12
ANWB LR LR
comp=Z,900nm,19.8s
BLA Blacksburg 58.59 29 PFAKE 21 02 40.0 +12
BLA LR LR
comp=Z,2µm,18.8s
COR Corvallis 58.65 351 PFAKE 21 02 40.0 +12
COR LR LR
comp=Z,2µm,20.5s
G08A Pilot Rock 58.80 354 eP P 21 02 29.6 0.0
comp=Z,20nm,1.3s
BOZ Bozeman (W) 58.83 0 PFAKE 21 02 40.0 +10
BOZ LR LR
comp=Z,900nm,18.9s
JFWS Jewell Farm 59.60 19 PFAKE 21 02 50.0 +15
JFWS LR LR
comp=Z,1µm,19.9s
HRY Holter Researc 59.90 0 eP P 21 02 37.7 +0.5
ACSO Alum Creek Sta 59.91 26 PFAKE 21 02 50.0 +13
ACSO LR LR
comp=Z,1µm,18.0s
E09A Wood Farm, Sta 59.94 355 PFAKE 21 02 50.0 +13
E09A LR LR
comp=Z,3µm,18.5s
HAWA Hanford 59.94 354 PFAKE 21 02 50.0 +13
HAWA LR LR
comp=Z,5µm,19.5s
MSO Missoula 60.03 359 PFAKE 21 02 50.0 +12
MSO LR LR
comp=Z,2µm,20.1s
CHMT Chamberlain Mo 60.10 359 eP P 21 02 37.4 -1.4
LAO LASA Array 60.11 5 PFAKE 21 02 50.0 +11
LAO LR LR
comp=Z,3µm,20.0s
SLMT Seeley Lake 60.44 359 eP P 21 02 40.0 -1.0
comp=Z,12nm,1.4s
LON Longmire 60.55 352 PFAKE 21 02 50.0 +8.3
LON LR LR
comp=Z,3µm,2.4s
CBN Corbin Frederi 60.87 31 PFAKE 21 03 00.0 +16
CBN LR LR
comp=Z,3µm,20.7s
C09A Chrisman Ranch 61.23 355 eP P 21 02 46.8 +0.6
comp=Z,12nm,0.9s
NEW Newport 61.60 356 P P 21 02 47.7 -1.1
comp=Z,0.6nm,0.3s,baz=202,slow=11,SNR=3.3
NEW LR LR 21 25 13.4
comp=Z,2µm,18.8s,baz=200,slow=32
BDFB Brasilia 61.94 101 P P 21 02 53.0 +1.2
comp=Z,1.1nm,0.3s,baz=230,slow=5.8,SNR=3.4
BDFB LR LR 21 27 53.6
comp=Z,629nm,18.2s,baz=261,slow=34
RAO Raoul Island 62.50 244 LR LR 21 22 44.3
comp=Z,999nm,21.4s,baz=94,slow=29
ULM Lac du Bonnet 65.03 11 LR LR 21 28 44.5
comp=Z,1µm,18.3s,baz=213,slow=34
SADO Sadowa 65.25 25 P P 21 03 13.6 +0.7
comp=Z,7.0nm,0.8s,baz=233,slow=7.2,SNR=3.5
SADO LR LR 21 31 14.5

comp=Z,1µm,18.9s,baz=223,slow=36
EDM Edmonton 66.42 359 *e*P **P 21 03 22.9 +2.6**
URZ Urewera 66.69 234 LR LR 21 26 58.4
comp=Z,2µm,18.9s,baz=105,slow=31
BBB Bella Bella 66.81 349 LR LR 21 25 18.6
comp=Z,1µm,21.6s,baz=163,slow=30
DLBC Dease Lake 73.12 350 LR LR 21 30 44.1
comp=Z,1µm,19.9s,baz=156,slow=31
YKA Yellowknife Ar 75.73 359 P **P 21 04 14.9 -1.6**
comp=Z,1.7nm,0.9s,baz=175,slow=5.5,SNR=19
VNDA Vanda 76.07 193 P **P 21 04 19.7 +1.3**
comp=Z,1.1nm,0.8s,baz=74,slow=6.2,SNR=6.2
VNDA LR LR 21 31 42.0
comp=Z,711nm,18.3s,baz=91,slow=31
QSPA South Pole Qui 76.64 180 *e*P **P 21 04 24.9 +2.9**
comp=Z,22nm,1.1s
HYT Haines Junctio 76.75 348 *e*P **P 21 04 23.2 +0.7**
DZM Mont Dzumac 77.19 250 *e*S S 21 13 59.9 -16
comp=Z,346nm,30.8s
DZM Mont Dzumac 77.19 250 *e*LR LR 21 28 04.0
comp=Z,2µm,27.2s,baz=108
DZM Mont Dzumac 77.19 250 LR LR 21 30 30.6
comp=Z,992nm,21.5s,baz=41,slow=30
SCHQ Schefferville 78.06 25 P **P 21 04 28.6 -1.3**
comp=Z,5.8nm,0.8s,baz=238,slow=2.3,SNR=8.9
SCHQ LR LR 21 37 25.2
comp=Z,3µm,20.7s,baz=225,slow=35
SCHQ Schefferville 78.06 25 *e*P **P 21 04 28.9 -0.9**
comp=Z,98nm,2.3s
DAWY Dawson 80.06 348 *e*P **P 21 04 41.9 +1.3**
DOT Dot Lake 80.70 346 *e*P **P 21 04 44.6 +0.5**
comp=Z,7.5nm,0.9s
EGAK Eagle 81.05 348 *e*P **P 21 04 46.6 +0.8**
comp=Z,31nm,1.9s
MCK McKinley 81.97 344 *e*P **P 21 04 50.1 -0.8**
comp=Z,14nm,1.0s
TRF Thorofare Moun 82.11 344 *e*P **P 21 04 50.7 -1.0**
comp=Z,17nm,1.0s
PPLA Purkeypile 82.20 343 *e*P **P 21 04 51.6 -0.6**
comp=Z,66nm,1.5s
ILAR Eielson Array 82.31 346 P **P 21 04 51.5 -1.1**
comp=Z,1.4nm,1.1s,baz=165,slow=4.6,SNR=4.5
ILAR LR LR 21 34 24.5
comp=Z,695nm,20.1s,baz=138,slow=31
KTH Kantishna Hill 82.36 344 *e*P **P 21 04 51.7 -1.3**
comp=Z,38nm,1.1s
FRB Frobisher Bay 83.92 18 P **P 21 04 59.4 -1.4**
comp=Z,1.5nm,0.8s,baz=169,slow=6.5,SNR=3.6
DRV Dumont d'Urvil 84.63 202 S **S 21 15 28.0 -3.6**
DRV SS SS 21 20 44.0 -18
DRV L L 21 27 00.0
DRV R 21 32 00.0
COLD Coldfoot 85.11 346 *e*P **P 21 05 07.7 +0.8**
comp=Z,18nm,1.2s
H11S2 WAKE ISLAND Hy 86.00 290 T T 22 40 05.7
baz=106,slow=75,SNR=152
H11S1 WAKE ISLAND Hy 86.01 290 T T 22 40 07.4
baz=106,slow=75,SNR=105
H11S3 WAKE ISLAND Hy 86.02 290 T T 22 40 06.3
baz=106,slow=75,SNR=98
H11N3 WAKE ISLAND Hy 86.15 291 T T 22 40 14.6
baz=107,slow=74,SNR=15
H11N1 WAKE ISLAND Hy 86.16 291 T T 22 40 11.8
baz=107,slow=74,SNR=11
H11N2 WAKE ISLAND Hy 86.16 291 T T 22 40 17.7
baz=107,slow=74,SNR=16
SFJD Kangerlussuaq 91.75 20 LR LR 21 45 36.8
comp=Z,1µm,19.7s,baz=238,slow=35
STKA Stephens Creek 96.30 235 LR LR 21 41 28.6
comp=Z,1µm,21.7s,baz=97,slow=30
MAW Mawson 99.08 178 LR LR 21 46 18.1
comp=Z,945nm,20.6s,baz=190,slow=32
TUE Stuetta 121.25 44 *e*PKPdf **PKPdf 21 11 26.8 +2.0**
CLL Collm 122.14 37 *e*PS PS 21 22 52.0 -3.4
CLL *e*PPS PPS 21 24 22.0
CLL *e*SS SS 21 29 41.0 +1.3
CLL *e* 21 30 41.0
CLL *e*(SSS) 21 34 48.0
CLL LmV 22 02 00.0
comp=Z,500nm,19.8s
KHC Kasperske Hory 123.22 40 AMS AMS 22 07 00.0
comp=Z,400nm,16.6s
PVCC Panska Ves 123.34 38 AMS AMS 22 04 30.0
GERES GERESS Array B 123.39 40 PKP **PKPdf 21 11 29.9 +1.2**
comp=Z,0.3nm,0.5s,baz=260,slow=2.8,SNR=3.5
PRA Prague 123.42 38 AMS AMS 22 04 00.0
comp=Z,800nm,20.9s
PRU Pruhonice 123.52 38 AMS AMS 22 04 10.0
comp=Z,600nm,19.4s
GOPC GO Pecny, Ondr 123.69 38 AMS AMS 22 04 20.0
comp=Z,800nm,20.4s
TREC Trest 124.34 39 AMS AMS 22 04 30.0
comp=Z,600nm,21.9s
DPC Dobruska-Polom 124.44 37 AMS AMS 22 01 20.0
OKC Ostrava-Krasne 125.73 37 AMS AMS 22 05 10.0
comp=Z,400nm,15.9s
KOLS Kolonicke sedl 128.55 37 *e*PKP **PKPdf 21 11 38.6 +0.2**
SONM Songino Array 133.11 325 PKP **PKPdf 21 11 48.5 +1.3**
comp=Z,0.4nm,0.8s,baz=270,slow=1.5,SNR=4.8
HHC Hu-ho-hao-te 133.15 314 *e*PKP **PKPdf 21 11 45.9 -1.7**
HHC sPKP 21 11 59.6
HHC PP **PP 21 14 17.5 +3.6**
HHC SKS SKSdf 21 18 51.6 -7.6
HHC SKKS **SKKSac 21 21 04.6 -5.7**
HHC SS **SS 21 31 57.5 +0.1**
HHC PPMZ
comp=Z,140nm,9.9s
HHC LN
comp=Z,290nm,21.0s
HHC LE
comp=Z,440nm,22.2s
HHC LZ
comp=Z,430nm,19.7s
IDI Anoyia 135.71 53 PKP **PKPdf 21 11 51.2 -1.2**
comp=Z,5.7nm,0.9s,baz=303,slow=2.2,SNR=2.4
ZALV Zalesovo Beam 137.44 345 PKhKP PKPpre 21 11 49.9
comp=Z,0.6nm,0.6s,baz=48,slow=2.1,SNR=3.0
ZALV PKP **PKPdf 21 11 54.2 -0.8**
comp=Z,1.0nm,0.9s,baz=106,slow=3.2,SNR=3.7
BRTR Keskin Array B 140.17 43 PKhKP PKPpre 21 11 51.9
comp=Z,0.6nm,0.9s,baz=318,slow=2.7,SNR=3.4
BRTR PKP **PKPdf 21 11 59.7 -0.9**
comp=Z,1.0nm,0.8s,baz=333,slow=1.6,SNR=5.1
BVAR Borovoye Array 140.48 358 PKhKP PKPpre 21 11 56.9
baz=48,slow=2.1
BVAR PKP **PKPdf 21 12 01.3 +0.7**
comp=Z,0.3nm,0.6s,baz=338,slow=1.6,SNR=2.6
LZH Lanzhou 140.62 311 *e*PKP **PKPdf 21 12 00.3 -1.3**
LZH sPKP 21 12 13.8
LZH PPMZ
comp=Z,150nm,4.9s
LZH LN
comp=Z,490nm,16.8s
LZH LE
comp=Z,520nm,15.4s
LZH LZ
comp=Z,660nm,18.7s
GTA Gaotai 141.76 318 *e*PKP **PKPdf 21 12 06.4 +2.9**
GTA sPKP 21 12 12.9
CD2 Chengdu 142.68 304 PKP **PKPdf 21 12 06.0 +0.7**
CD2 PP PP 21 15 19.1 +5.6
CD2 PKS **PKSdf 21 15 40.3 -0.9**
CD2 SKS **SKSdf 21 19 13.0 -2.5**
CD2 SKKS **SKKSac 21 22 07.8 +0.7**
CD2 SS **SS 21 33 54.5 +3.5**
CD2 PPMZ
comp=Z,120nm,5.4s
KBZ Khabaz 143.03 31 PKhKP PKPpre 21 12 00.3
comp=Z,2.2nm,0.8s,baz=342,slow=2.4,SNR=8.2
KBZ PKP **PKPdf 21 12 06.4 +1.0**
comp=Z,3.3nm,0.8s,baz=51,slow=2.1,SNR=6.8
ABKAR Akbulak array 143.72 9 *e*PKPdf **PKPdf 21 12 06.1 -0.4**
MKAR Makanchi Array 144.62 343 PKP **PKPab 21 12 06.0 -0.7**
comp=Z,2.0nm,0.9s,baz=2.2,slow=1.8,SNR=13
MKAR Makanchi Array 144.62 343 *e*PKPdf **PKPab 21 12 06.6 -0.1**
KMI Kunming 145.16 295 PKPbc **PKPbc 21 12 07.4 -2.2**
KMI PP **PP 21 15 28.8 -0.1**
KMI SKS **SKSdf 21 19 12.9 -7.0**
KMI SKKS SKKSac 21 22 14.0 -8.0
KMI PPMZ
comp=Z,190nm,6.3s
KMI LN
comp=Z,210nm,16.9s
KMI LE
comp=Z,350nm,22.9s
KMI LZ
comp=Z,520nm,24.5s
WMQ Urumqi 145.27 334 *e*PKPbc **PKPbc 21 12 07.3 -1.8**
WMQ pPKP **PKiKP 21 12 18.0 +4.6**
WMQ sPKP 21 12 21.5
WMQ *e*PP **PP 21 15 31.0 +3.1**
WMQ SKS SKSdf 21 19 11.6 -7.4
WMQ SKKS **SKKSac 21 22 15.6 -5.6**
WMQ SS **SS 21 34 16.6 -2.0**
WMQ PPMZ
comp=Z,140nm,5.2s
WMQ LN
comp=Z,760nm,18.4s
WMQ LE
comp=Z,750nm,23.0s
WMQ LZ
comp=Z,1µm,23.6s
IPM Ipoh 146.05 258 *e*PKPdf **PKPbc 21 12 12.4 0.0**
KMBO Kilima Mbogo 146.41 113 PKPbc **PKPbc 21 12 14.0 +0.2**
comp=Z,5.6nm,1.1s,baz=226,slow=3.6,SNR=5.9
CMAR Chiang Mai Arr 149.69 284 PKPbc **PKPbc 21 12 20.6 -1.5**
comp=Z,1.2nm,0.7s,baz=96,slow=1.3,SNR=15
CMAR PKPab **PKPab 21 12 27.9 +0.6**
comp=Z,3.1nm,0.9s,baz=79,slow=1.0,SNR=17
TKM2 Tokmak 2 149.89 349 *e*PKPdf **PKPdf 21 12 17.8 +0.5**
TKM2 *e*PKPbc **PKPbc 21 12 22.6 +0.5**
AAK Ala-Archa 150.37 350 *e*PKPbc **PKPbc 21 12 23.4 +0.2**
EKS2 Erkin-Say 150.45 351 *e*PKPbc **PKPbc 21 12 22.0 -1.4**
GEYT Alibeck 154.15 18 PKP **PKPdf 21 12 22.1 -1.5**
comp=Z,0.6nm,0.5s,baz=290,slow=4.3,SNR=2.4
GEYT PKPbc **PKiKP 21 12 32.4 +0.6**
baz=348,slow=6.3
GEYT PKPab **PKPab 21 12 45.5 +0.2**
comp=Z,1.6nm,0.6s,baz=316,slow=6.2,SNR=4.9

IDC 15 20:52:33.0±11.0, 14.75N×92.79E, h214km±105km, mb2.7/3, mb1 2.8/4, mb1mx2.6/27, mbtmp3.1/4, Error ellipse: s-maj=106.3km s-min=23.6km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMAR	**Chiang Mai Arr**	**6.96**	**57**	P		Pn	20 54 13.2	+0.3
	0.0nm,0.3s,baz=241,slow=14,SNR=2.6							
CMAR				S		S	20 55 32.5	+0.2
	0.1nm,0.3s,baz=238,slow=25,SNR=3.5							
MKAR	**Makanchi Array**	**33.13**	**347**	P		P	20 58 48.6	-0.5
	0.1nm,0.5s,baz=170,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**53.46**	**129**	P		P	21 01 31.6	0.0
	0.2nm,0.5s,baz=308,slow=7.9,SNR=9.6							
ASAR	**Alice Springs**	**55.44**	**133**	P		P	21 01 45.6	-0.1
	0.3nm,0.5s,baz=301,slow=6.6,SNR=5.3							

MAN 15 20:56:25, 11.13N×124.76E, h35km, mb4.3, ML3.1, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OCLP	**Ormoc**	**0.17**	**244**	*e*P		Pn	20 56 33.4	+1.9
OCLP				*e*S		Sn	20 56 38.6	+2.6
BESP	**Borongan**	**0.81**	**54**	*e*P		Pn	20 56 42.2	+2.2
MSLP	**Maasin**	**0.99**	**174**	*e*P		Pn	20 56 50.8	+8.4
CNP	**Catarman**	**1.38**	**356**	*e*P		Pn	20 56 48.7	+0.9
CNP				*e*S		Sn	20 57 05.6	+0.8

*ISK **15** 21:10:20.8, 37.98N×42.24E, h5km, ML3.6*
*ISN **15** 21:10:20.5±2.2, 37.92N×43.58E, h0km±8km, ML4.1*
*DDA **15** 21:10:22.0, 38.01N×42.21E, h19km, MD3.7*
*CSEM **15** 21:10:22.2±0.2, 37.99N×42.30E, h2km, ML3.6, Error ellipse: s-maj=4.7km s-min=3.8km az=176.0*
*AZER **15** 21:10:29.4±71.0, 38.74N×42.55E, h5km, Error ellipse: s-maj=19.3km s-min=14.8km az=33.0*
ISC 15 21:10:22.4±1.2, 38.02N±0.02×42.27E±0.02, h1km±10km, n125, σ1§40/146, 13C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SIRN	**S¯¯rnak**	**0.54**	**167**	*i* P		**Pg**	**21 10 32.8**	**+0.1**
SIRN				*i* S		**Sb**	**21 10 42.6**	**-0.4**
SIRN	**S¯¯rnak**	**0.54**	**167**	*i* P		**Pg**	**21 10 32.8**	**+0.1**
SIRN				*i* S		**Sb**	**21 10 42.6**	**-0.4**
SIRT	**Sirnak**	**0.54**	**165**	*e*PG		**Pg**	**21 10 32.0**	**-0.7**
SIRT	**Sirnak**	**0.54**	**165**	*e*Pg		**Pg**	**21 10 32.0**	**-0.7**
BTMT	**Batman**	**0.64**	**286**	*e*PG		**Pg**	**21 10 34.0**	**-0.6**
BTMT	**Batman**	**0.64**	**286**	*e*Pg		**Pg**	**21 10 34.0**	**-0.6**
GEVA	**Gevas**	**0.69**	**65**	*i* P		**Pg**	**21 10 34.6**	**-1.0**
GEVA				*i* S		**Sb**	**21 10 48.4**	**+1.0**
GEVA	**Gevas**	**0.69**	**65**	*i* P		**Pg**	**21 10 34.6**	**-1.0**
GEVA				*i* S		**Sb**	**21 10 48.4**	**+1.0**
VANB	**Van**	**1.05**	**57**	*e*PN		**Pg**	**21 10 42.4**	**-0.1**
VANB				*e*SN		**Sb**	**21 10 58.6**	**+0.8**
VANB	**Van**	**1.05**	**57**	*e*Pn		**Pg**	**21 10 42.4**	**-0.1**
VANB				*e*Sn		**Sb**	**21 10 58.6**	**+0.8**
HAKT	**HAKKARI**	**1.23**	**112**	*i* P		**Pg**	**21 10 45.9**	**-0.1**
HAKT				*i* S		**Sn**	**21 11 05.4**	**+1.5**
HAKT	**HAKKARI**	**1.23**	**112**	*i* P		**Pg**	**21 10 45.9**	**-0.1**
HAKT				*i* S		**Sn**	**21 11 05.9**	**+1.5**
EKAR	**Karacoban**	**1.24**	**353**	*i* P		**Pg**	**21 10 45.3**	**-0.9**
EKAR				*i* S		**Sn**	**21 11 05.6**	**+1.0**
EKAR	**Karacoban**	**1.24**	**353**	*i* P		**Pg**	**21 10 45.3**	**-0.9**
EKAR				*i* S		**Sn**	**21 11 05.6**	**+1.0**
HKR	**Hakkari**	**1.25**	**110**	*e*PN		**Pg**	**21 10 45.7**	**-0.6**
HKR	**Hakkari**	**1.25**	**110**	*e*Pn		**Pg**	**21 10 45.7**	**-0.6**
BNGL	**BINGOL**	**1.27**	**317**	*i* P		**Pg**	**21 10 45.9**	**-1.0**
BNGL				*i* S		**Sb**	**21 11 04.8**	**+0.5**
VRTB	**Varto-Mus**	**1.30**	**331**	*e*PN		**Pg**	**21 10 47.4**	**+0.1**
VRTB				*e*SN		**Sn**	**21 11 07.2**	**+1.2**
VRTB	**Varto-Mus**	**1.30**	**331**	*e*Pn		**Pg**	**21 10 47.4**	**+0.1**
VRTB				*e*Sn		**Sn**	**21 11 07.2**	**+1.2**
CUKT	**Cukurca**	**1.32**	**126**	*e*PN		**Pg**	**21 10 46.9**	**-0.8**
CUKT	**Cukurca**	**1.32**	**126**	*e*Pn		**Pg**	**21 10 46.9**	**-0.8**
MARD	**Mardin**	**1.38**	**239**	*i* P		**Pn**	**21 10 47.8**	**-1.1**
MARD				*i* S		**Sn**	**21 11 07.8**	**-0.1**
TUTA	**Tutak**	**1.44**	**17**	*i* S		**Sb**	**21 11 07.4**	**-1.8**
TUTA	**Tutak**	**1.44**	**17**	*i* P		Pn	21 10 44.5	-5.4
TUTA				*i* S		**Sb**	**21 11 07.4**	**-1.8**
MAZI	**Mazidag**	**1.55**	**249**	*e*PN		**Pn**	**21 10 50.2**	**-1.0**
MAZI	**Mazidag**	**1.55**	**249**	*e*Pn		**Pn**	**21 10 50.2**	**-1.0**
BNGB	**Bing¯¶l**	**1.58**	**308**	*e*PN		**Pn**	**21 10 50.8**	**-0.9**
BNGB				*e*SN		**Sb**	**21 11 13.1**	**+0.2**
DIY	**Diyarbakir**	**1.62**	**266**	*e*Pn		**Pn**	**21 10 51.4**	**-0.8**
BINT	**Bingol**	**1.63**	**302**	*e*Pn		**Pn**	**21 10 50.8**	**-1.6**
BINT				*e*Sn		**Sn**	**21 11 13.1**	**-1.1**
AGRB	**Hanur-Agry**	**1.65**	**20**	*e*PN		**Pn**	**21 10 52.7**	**0.0**
AGRB	**Hanur-Agry**	**1.65**	**20**	*e*Pn		**Pn**	**21 10 52.7**	**0.0**
DYBB	**Diyarbakir**	**1.68**	**268**	*e*PN		**Pn**	**21 10 51.4**	**-1.6**
CLDR	**Caldiran**	**1.71**	**49**	*e*PN		**Pn**	**21 10 53.4**	**-0.2**
CLDR	**Caldiran**	**1.71**	**49**	*e*Pn		**Pn**	**21 10 53.4**	**-0.2**
MSL	**Mosul**	**1.75**	**157**	*e*PG		**Pn**	**21 10 54.0**	**0.0**
MSL				*e*SG		**Sg**	**21 11 18.6**	**-0.2**
EATA	**Eleskirt**	**1.84**	**5**	*i* P		**Pn**	**21 10 55.7**	**+0.2**
EATA				*i* S		**Sg**	**21 11 23.0**	**+1.3**
EATA	**Eleskirt**	**1.84**	**5**	*i* P		**Pn**	**21 10 55.7**	**+0.2**
EATA				*i* S		**Sg**	**21 11 23.0**	**+1.3**
DYDN	**Diyadin**	**1.88**	**36**	*i* P		**Pb**	**21 10 57.2**	**-0.5**
DYDN				*i* S		**Sg**	**21 11 24.6**	**+1.7**
DYDN	**Diyadin**	**1.88**	**36**	*i* P		**Pb**	**21 10 57.2**	**-0.5**
DYDN				*i* S		**Sg**	**21 11 24.6**	**+1.7**
EZM	**Erzurum**	**2.01**	**340**	*e*PN		**Pn**	**21 10 57.7**	**0.0**
HOMI	**Horasan**	**2.04**	**352**	*i* P		**Pn**	**21 10 58.7**	**+0.6**
HOMI				*i* S		**Sg**	**21 11 29.6**	**+1.8**
SVRC	**Sivrice-ELAZID**	**2.36**	**280**	*e*PN		**Pn**	**21 11 01.1**	**-1.4**
SVRC	**Sivrice-ELAZID**	**2.36**	**280**	*e*Pn		**Pn**	**21 11 01.1**	**-1.4**
PTK	**Pertek**	**2.42**	**292**	*e*PN		**Pn**	**21 11 02.9**	**-0.4**
PTK	**Pertek**	**2.42**	**292**	*e*Pn		**Pn**	**21 11 02.9**	**-0.4**
ERZN	**Erzincan**	**2.53**	**309**	*e*PN		**Pn**	**21 11 04.6**	**-0.1**
ELZG	**Elazig**	**2.63**	**281**	*i* P		**Pn**	**21 11 04.2**	**-1.9**
ELZG				*i* S		**Sn**	**21 11 41.0**	**+2.2**
ELZG	**Elazig**	**2.63**	**281**	*i* P		**Pn**	**21 11 04.2**	**-1.9**
ELZG				*i* S		**Sn**	**21 11 41.0**	**+2.2**
KARS	**Kars**	**2.68**	**13**	*e*PN		**Pn**	**21 11 07.3**	**+0.5**
KARS	**Kars**	**2.68**	**13**	*e*Pn		**Pn**	**21 11 07.3**	**+0.5**
NAX	**Nakhchivan**	**2.78**	**65**	↑Pn		**Pb**	**21 11 11.8**	**-1.1**
NAX				↑S		**Sb**	**21 11 44.9**	**-2.6**
NAX	**Nakhchivan**	**2.78**	**65**	Pn		**Pb**	**21 11 11.8**	**-1.1**
NAX				S		**Sb**	**21 11 44.9**	**-2.6**
URFA	**Urfa**	**2.79**	**259**	*e*PN		**Pn**	**21 11 07.8**	**-0.5**
URFA	**Urfa**	**2.79**	**259**	*e*Pn		**Pn**	**21 11 07.8**	**-0.5**
BAYT	**Ayd¯¯ntepe-Bay**	**2.88**	**326**	*e*Pn		**Pn**	**21 11 10.0**	**+0.3**
BAYT	**Ayd¯¯ntepe-Bay**	**2.88**	**326**	*e*Pn		**Pn**	**21 11 10.0**	**+0.3**
MALT	**Malatya**	**3.04**	**277**	*e*PN		**Pn**	**21 11 10.6**	**-1.2**
MALT	**Malatya**	**3.04**	**277**	*e*Pn		**Pn**	**21 11 10.6**	**-1.2**
DAGI	**Agillar**	**3.06**	**355**	*i* P		**Pn**	**21 11 12.1**	**+0.1**
DAGI				*i* S		**Sb**	**21 11 54.2**	**-1.4**
IKRK	**Kirkuk**	**3.10**	**147**	*e*PN		Pn	21 11 04.2	-8.3
IKRK				*e*SN		Sn	21 11 35.4	-15
ILIC	**ilic-Erzincan**	**3.22**	**297**	*e*PN		**Pn**	**21 11 13.8**	**-0.5**
ILIC	**ilic-Erzincan**	**3.22**	**297**	*e*Pn		**Pn**	**21 11 13.8**	**-0.5**
GUMT	**Gumushane**	**3.25**	**319**	*e*PN		**Pn**	**21 11 15.2**	**+0.5**
GUMT	**Gumushane**	**3.25**	**319**	*e*Pn		**Pn**	**21 11 15.2**	**+0.5**
AKCD	**Akcadag**	**3.43**	**276**	*i* P		**Pn**	**21 11 15.5**	**-1.7**
AKCD	**Akcadag**	**3.43**	**276**	*i* P		**Pn**	**21 11 15.5**	**-1.7**
AKCD				*i* S		**Sg**	**21 12 13.2**	**+0.4**
BCA	**Borcka**	**3.45**	**352**	*e*PN		**Pn**	**21 11 18.3**	**+1.0**
BCA	**Borcka**	**3.45**	**352**	*e*Pn		**Pn**	**21 11 18.3**	**+1.0**
AKH	**Akhalkalaki**	**3.51**	**15**	P		**Pn**	**21 11 19.1**	**+0.8**
KTUT	**Trabzon**	**3.54**	**328**	*e*PN		**Pn**	**21 11 18.9**	**+0.5**
KTUT	**Trabzon**	**3.54**	**328**	*e*Pn		**Pn**	**21 11 18.9**	**+0.5**
DARE	**Darende-Malaty**	**3.80**	**280**	*e*PN		**Pn**	**21 11 22.5**	**+0.3**
DARE	**Darende-Malaty**	**3.80**	**280**	*e*Pn		**Pn**	**21 11 22.5**	**+0.3**
QZX	**Qazax, Azerbai**	**3.87**	**37**	↑Pn		**Pn**	**21 11 23.8**	**+0.8**
	SNR=4.2							
QZX				↓S		**Sn**	**21 12 04.0**	**-5.1**
QZX	**Qazax, Azerbai**	**3.87**	**37**	Pn		**Pn**	**21 11 23.8**	**+0.8**
	SNR=4.2							
GANJ	**Ganja**	**4.09**	**49**	↓Pn		**Pn**	**21 11 27.8**	**+1.7**
	SNR=7.9							
GANJ				↑S		**Sn**	**21 12 10.8**	**-3.9**
GANJ	**Ganja**	**4.09**	**49**	Pn		**Pn**	**21 11 27.8**	**+1.7**
	SNR=7.9							
GANJ				S		**Sn**	**21 12 10.8**	**-3.9**
DGRG	**David-gareji**	**4.18**	**34**	P		**Pn**	**21 11 29.4**	**+2.0**
KMRS	**Kahramanmaras**	**4.28**	**265**	*e*PN		**Pn**	**21 11 29.4**	**+0.6**
KMRS	**Kahramanmaras**	**4.28**	**265**	*e*Pn		**Pn**	**21 11 29.4**	**+0.6**
BRDA	**Brd**	**4.43**	**58**	↑Pn		Pn	21 11 34.3	+3.6
BRDA				↑S		**Sn**	**21 12 22.6**	**-0.2**
BRDA	**Brd**	**4.43**	**58**	Pn		Pn	21 11 34.3	+3.6
BRDA				S		**Sn**	**21 12 22.6**	**-0.2**
RSDY	**Resadiye-TOKAT**	**4.51**	**303**	*e*PN		**Pn**	**21 11 33.0**	**+1.1**
RSDY	**Resadiye-TOKAT**	**4.51**	**303**	*e*Pn		**Pn**	**21 11 33.0**	**+1.1**
SVSK	**Karacayir**	**4.52**	**296**	*e*PN		**Pn**	**21 11 33.2**	**+1.2**
SVSK	**Karacayir**	**4.52**	**296**	*e*Pn		**Pn**	**21 11 33.2**	**+1.2**
MNGR	**Mingechevir, A**	**4.63**	**52**	↓Pn		Pn	21 11 37.0	+3.5
MNGR	**Mingechevir, A**	**4.63**	**52**	Pn		Pn	21 11 37.0	+3.5
ONI	**Oni**	**4.65**	**11**	P		**Pn**	**21 11 35.1**	**+1.2**
CHVG	**Ch'k'valeri**	**4.69**	**358**	*e*PN		Pn	21 11 38.3	+3.9
CHVG	**Ch'k'valeri**	**4.69**	**358**	P		Pg	21 11 55.7	+3.4
ANDN	**Andirin**	**4.71**	**266**	*i* P		**Pn**	**21 11 36.4**	**+1.7**
ANDN	**Andirin**	**4.71**	**266**	*i* P		**Pn**	**21 11 36.4**	**+1.7**
ANDN				*i* S		**Sg**	**21 12 54.5**	**+0.8**
LRK	**Lerik**	**4.82**	**81**	↑P		Pb	21 11 42.3	-5.4
	SNR=5.2							
LRK				↑S		**Sn**	**21 12 37.3**	**+4.5**
ZKTA	**Zakatala**	**4.93**	**42**	↓Pn		**Pn**	**21 11 36.8**	**-0.8**
ZKTA				↓S		**Sn**	**21 12 31.0**	**-4.2**
GLBA	**Clilabad**	**4.95**	**74**	↓P		Pn	21 11 42.9	+5.0
SEKA	**Sheki**	**4.96**	**49**	↓Pn		**Pn**	**21 11 38.8**	**+0.7**
SEKA				↑S		**Sn**	**21 12 35.8**	**-0.4**
SEKA	**Sheki**	**4.96**	**49**	Pn		**Pn**	**21 11 38.8**	**+0.7**
SEKA				S		**Sn**	**21 12 35.8**	**-0.4**
BHD	**Baghdad**	**5.05**	**159**	*e*Pn		Pn	21 11 32.1	-7.1
BHD				*e*SN		Sn	21 12 24.4	-14
BNN	**Bunyan**	**5.11**	**281**	*e*PN		**Pn**	**21 11 41.8**	**+1.6**
BNN	**Bunyan**	**5.11**	**281**	*e*Pn		**Pn**	**21 11 41.8**	**+1.6**
KOZT	**Kozan**	**5.13**	**266**	*e*PN		**Pn**	**21 11 41.6**	**+1.2**
KOZT	**Kozan**	**5.13**	**266**	*e*Pn		**Pn**	**21 11 41.6**	**+1.2**
SAAT	**Saatly**	**5.14**	**67**	↓P		Pn	21 11 43.8	+3.3
SAAT	**Saatly**	**5.14**	**67**	P		Pn	21 11 43.8	+3.3
KDMR	**Kurdemir**	**5.16**	**61**	↑P		Pn	21 11 44.3	+3.5
KDMR	**Kurdemir**	**5.16**	**61**	P		Pn	21 11 44.3	+3.5
LKRN	**Lenkeran, Azer**	**5.16**	**80**	↓P		Pn	21 11 46.4	+5.5
LKRN				↓S		**Sn**	**21 12 40.8**	**-0.2**
RTB	**Rutbah**	**5.23**	**198**	*e*PN		Pn	21 11 45.5	+3.7
RTB				*i* Sn		**Sn**	**21 12 46.9**	**+4.0**
CEYT	**Ceyhan**	**5.28**	**261**	*e*PN		**Pn**	**21 11 43.3**	**+0.9**
CEYT	**Ceyhan**	**5.28**	**261**	*e*Pn		**Pn**	**21 11 43.3**	**+0.9**
IML	**Ismayilli**	**5.35**	**57**	↑P		Pn	21 11 47.0	+3.5
IML				↑S		Sn	21 12 38.2	-7.6
IML	**Ismayilli**	**5.35**	**57**	P		Pn	21 11 47.0	+3.5
ALIB	**Äli-Bayra**	**5.59**	**68**	↓P		**Pn**	**21 11 49.5**	**+2.7**
PQL	**Pirkuli**	**5.62**	**59**	↑P		**Pn**	**21 11 48.0**	**+0.7**
PQL	**Pirkuli**	**5.62**	**59**	P		**Pn**	**21 11 48.0**	**+0.7**
IBDR	**Badra**	**5.74**	**148**	*e*PN		Pn	21 11 40.2	-8.5
IBDR				*e*SN		Sn	21 12 35.4	-20
KARA	**Karaisali**	**5.77**	**265**	*e*PN		**Pn**	**21 11 50.6**	**+1.4**
KARA	**Karaisali**	**5.77**	**265**	*e*Pn		**Pn**	**21 11 50.7**	**+1.4**
NIG	**Nigde**	**6.04**	**273**	*e*PN		**Pn**	**21 11 54.2**	**+1.1**
NIG	**Nigde**	**6.04**	**273**	*e*Pn		**Pn**	**21 11 54.2**	**+1.1**
MERS	**Mersin**	**6.27**	**262**	*e*PN		**Pn**	**21 11 57.7**	**+1.6**
MERS	**Mersin**	**6.27**	**262**	*e*Pn		**Pn**	**21 11 57.7**	**+1.6**
CORM	**Corum**	**6.32**	**292**	*e*PN		**Pn**	**21 11 58.6**	**+1.8**
CORM	**Corum**	**6.32**	**292**	*e*Pn		**Pn**	**21 11 58.6**	**+1.8**

*MEX **15** 21:13:02.5±1.0, 32.99N×115.65W, h15km, MD3.6*
*ISCJB **15** 21:13:04.1±0.5, 32.67N×0.03×115.74W±0.03, h16km±7km, Error ellipse: s-maj=5.1km s-min=4.3km az=37.9*
*ECX **15** 21:13:05.6±0.9, 32.66N×115.79W, h4km±3km, MD3.0, ML3.2*
*NEIC **15** 21:13:05.0, 32.66N×115.79W, h4km, ML3.0(PAS), ML3.2(ECX), After ECX.*
**ISC 15 21:13:04.3±1.0, 32.66N±0.03×115.78W±0.02, h16km±6km, n23, σ1§42/37, 6

SPX	**San Pedro Mart**	**1.63**	**170**	*eP*	**Pn**	**21 13 32.5**	**0.0**
SPX				*eS*	**Sn**	**21 13 52.3**	**-1.1**

ISCJB ***15*** *21:13:21.3±2.2, 13°.3S±0°.3×112°.3W±0°.5, h10km, mb3.6/8, MS4.2/5, Error ellipse: s-maj=76.8km s-min=16.0km az=149.1*

IDC ***15*** *21:13:22.4±1.5, 13°.29S×112°.14W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.9/16, mbtmp3.7/7, MS4.2/5, Ms1 4.2/5, ms1mx3.8/18, Error ellipse: s-maj=57.9km s-min=21.1km az=57.0*

ISC 15 21:13:23.3±1.4, 13°.3S±0°.2×112°.2W±0°.3, h10km, n21, σ0s92/12, mb3.7/8, MS4.3/5, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**41.68**	**67**	LR	LR	21 34 24.9	
	comp=Z,170nm,18.8s,baz=20,slow=30						
LPAZ	**La Paz**	**42.63**	**100**	P	**P**	**21 21 20.9**	**-0.1**
	2.7nm,0.9s,baz=258,slow=9.3,SNR=8.1						
TXAR	**Lajitas Array**	**43.18**	**11**	P	**P**	**21 21 25.6**	**+1.0**
	0.3nm,0.8s,baz=210,slow=8.9,SNR=2.6						
CFAA	**Coronel Fontan**	**44.16**	**122**	P	**P**	**21 21 32.0**	**-0.5**
	0.3nm,0.6s,baz=301,slow=5.9,SNR=3.9						
PLCA	**Paso Flores**	**45.44**	**135**	P	**P**	**21 21 43.6**	**+0.9**
	2.1nm,0.9s,baz=282,slow=5.7,SNR=3.8						
PLCA				LR	LR	21 35 27.4	
	comp=Z,436nm,19.8s,baz=316,slow=29						
NVAR	**Mina Array Bea**	**51.78**	**354**	P	**P**	**21 22 31.9**	**+0.3**
	1.0nm,0.7s,baz=179,slow=10,SNR=6.6						
ELK	**Elko**	**53.85**	**357**	P	**P**	**21 22 47.4**	**+0.6**
	0.5nm,0.4s,baz=132,slow=8.9,SNR=5.3						
ELK				LR	LR	21 41 18.1	
	comp=Z,189nm,19.4s,baz=178,slow=31						
YBH	**Yreka Blue Hor**	**55.62**	**350**	LR	LR	21 41 03.1	
	comp=Z,252nm,18.9s,baz=148,slow=30						
PDAR	**Pinedale Array**	**55.84**	**2**	P	**P**	**21 22 59.3**	**-2.0**
	0.3nm,0.7s,baz=158,slow=7.8,SNR=2.6						
YKA	**Yellowknife Ar**	**75.58**	**359**	P	**P**	**21 25 07.7**	**-0.2**
	0.4nm,0.9s,baz=165,slow=5.1,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**85.96**	**290**	T	T	23 01 04.5	
	baz=106,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**85.97**	**290**	T	T	23 01 10.0	
	baz=106,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**85.97**	**290**	T	T	23 01 10.5	
	baz=106,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**86.09**	**291**	T	T	23 01 19.2	
	baz=107						
H11N2	**WAKE ISLAND Hy**	**86.11**	**291**	T	T	23 01 18.4	
	baz=107						
H11N1	**WAKE ISLAND Hy**	**86.11**	**291**	T	T	23 01 26.4	
	baz=107						
STKA	**Stephens Creek**	**96.39**	**235**	LR	LR	22 04 46.4	
	comp=Z,91nm,18.3s,baz=34,slow=32						
BRTR	**Keskin Array B**	**140.05**	**42**	PKP	**PKPdf**	**21 32 51.7**	**-1.0**
	0.4nm,0.7s,baz=3.8,slow=2.2,SNR=3.3						
GNI	**Garni**	**146.44**	**33**	PKPbc	**PKPab**	**21 33 06.6**	**+0.5**
	1.9nm,0.5s,baz=323,slow=5.1,SNR=3.2						
KMBO	**Kilima Mbogo**	**146.46**	**113**	PKPbc	**PKPab**	**21 33 07.0**	**-0.1**
	1.2nm,0.9s,baz=138,slow=6.2,SNR=2.4						
CMAR	**Chiang Mai Arr**	**149.66**	**284**	PKPbc	**PKPbc**	**21 33 14.2**	**-0.1**
	0.3nm,0.9s,baz=134,slow=0.8,SNR=2.8						

ISCJB ***15*** *21:25:05.9±0.1, 51°.47N±0°.01×16°.12E±0°.02, h0km, mb4.2/30, MS2.9/1, Error ellipse: s-maj=1.5km s-min=1.4km az=149.7*

LDG ***15*** *21:25:06.6±0.1, 51°.51N×16°.22E, h1km, Ml4.6/36, Error ellipse: s-maj=1.6km s-min=1.1km az=173.0, Suspected Mining induced.*

BJI ***15*** *21:25:06.3, 51°.99N×15°.46E, h10km, mB4.9/1, mb4.5/4, Ms4.7/2, Ms7 4.6/2*

BNS ***15*** *21:25:06.0±0.7, 51°.18N×16°.78E, h10km, ML3.9*

MOS ***15*** *21:25:06.2±1.7, 51°.48N×15°.91E, h10km, mb4.4/22, Error ellipse: s-maj=4.8km s-min=3.2km az=70.2*

CSEM ***15*** *21:25:08.2±0.1, 51°.48N×16°.18E, h2km, mb4.3/17, ML4.5/16, Ms4.3, Error ellipse: s-maj=1.9km s-min=1.7km az=121.0*

IDC ***15*** *21:25:08.8±0.4, 51°.42N×16°.11E, h0km, mb4.1/16, mb1 4.2/27, mb1mx4.1/37, mbtmp4.1/27, ML4.0/9, MS3.0/1, Ms1 3.0/1, ms1mx2.1/44, Error ellipse: s-maj=8.0km s-min=6.1km az=97.0*

NEIC ***15*** *21:25:08.0±0.3, 51°.43N×15°.91E, h5km, mb4.4/8, ML4.1(SZGRF), Error ellipse: s-maj=5.5km s-min=3.7km az=156.0*

BGR ***15*** *21:25:09.4±0.4, 51°.44N×16°.22E, h1km, ML4.1/15, Error ellipse: s-maj=5.6km s-min=2.2km az=25.0*

PRU ***15*** *21:25:09.9, 51°.41N×16°.13E, h0km, M4.4, Felt In Harrachov*

VIE ***15*** *21:25:10.8±0.4, 51°.25N×16°.13E, h0km±1km, mb3.6/18, ML3.9/15, Ms4.3/5, Error ellipse: s-maj=2.5km s-min=1.3km az=172.0 63 km WNW of Wroclaw Suspected Mining induced.*

STR ***15*** *21:25:11.1±0.4, 51°.46N×15°.91E, h5km, Ml4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

UPP ***15*** *21:25:12.0, 51°.66N×15°.79E, h0km, ML3.5, Suspected Mining explosion.*

ISC 15 21:25:07.8±0.3, 51°.42N±0°.02×16°.12E±0°.02, h0km, n575, σ2s00/714, mb4.3/30, 37C-48D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.59**	**169**	*ePg*	**Pb**	**21 25 20.5**	**-0.4**
KSP				*eSg*	**Sb**	**21 25 29.0**	**-0.7**
KSP	**Ksiaz**	**0.59**	**169**	⇓*iP*	**Pb**	**21 25 20.8**	**-0.1**
KSP				*i*		21 25 29.0	
KSP	**Ksiaz**	**0.59**	**169**	*ePg*	**Pb**	**21 25 20.8**	**-0.1**
KSP				*eSg*	**Sb**	**21 25 28.9**	**-0.8**
KSP	**Ksiaz**	**0.59**	**169**	Pg	**Pb**	**21 25 20.5**	**-0.4**
KSP	**Ksiaz**	**0.59**	**169**	*i* P	**Pb**	**21 25 20.8**	**-0.1**
KSP				Sg	**Sb**	**21 25 29.0**	**-0.7**
KSP	**Ksiaz**	**0.59**	**169**	*ePg*	**Pb**	**21 25 20.5**	**-0.4**
KSP				*eSg*	**Sb**	**21 25 29.0**	**-0.7**
UPC	**Upice**	**0.91**	**184**	⇓*iP*	**Pn**	**21 25 27.1**	**-0.8**
UPC				*e*		21 25 38.7	
UPC				smax	smax		
	comp=N,1μm,0.5s						
UPC	**Upice**	**0.91**	**184**	⇓*iPG*	**Pn**	**21 25 27.1**	**-0.8**
UPC				*eSG*	**Sb**	**21 25 38.7**	**-0.5**
	comp=N,1μm,0.5s						
UPC	**Upice**	**0.91**	**184**	Pg	**Pn**	**21 25 27.1**	**-0.8**
UPC				Sg	**Sb**	**21 25 38.7**	**-0.5**
	comp=N,1μm,0.5s						
DPC	**Dobruska-Polom**	**1.08**	**173**	*ePg*	**Pb**	**21 25 29.6**	**+0.3**
DPC				*eSg*	**Sb**	**21 25 44.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.08**	**173**	⇓*iP*	**Pb**	**21 25 29.6**	**+0.3**
DPC				*e*		21 25 43.7	
DPC	**Dobruska-Polom**	**1.08**	**173**	⇓*iPG*	**Pb**	**21 25 29.6**	**+0.3**
DPC				*eSG*	**Sb**	**21 25 43.7**	**-0.2**
DPC				AMS	AMS	21 25 50.0	
DPC	**Dobruska-Polom**	**1.08**	**173**	*i* P	**Pb**	**21 25 29.6**	**+0.3**
DPC				Sg	**Sb**	**21 25 44.0**	**+0.1**
DPC	**Dobruska-Polom**	**1.08**	**173**	*ePg*	**Pb**	**21 25 29.6**	**+0.3**
DPC				*eSg*	**Sb**	**21 25 44.0**	**+0.1**
PVCC	**Panska Ves**	**1.32**	**228**	⇓*iP*	**Pn**	**21 25 34.7**	**+1.2**
PVCC				*e*		21 25 53.8	
PVCC				smax	smax		
	comp=N,3μm,0.5s						
PVCC	**Panska Ves**	**1.32**	**228**	⇓*iPG*	**Pn**	**21 25 34.7**	**+1.2**
PVCC				*eSG*	**Sn**	**21 25 53.8**	**+2.0**
	comp=N,3μm,0.5s						
PVCC	**Panska Ves**	**1.32**	**228**	Pg	**Pn**	**21 25 34.7**	**+1.2**
PVCC				Sg	**Sn**	**21 25 53.8**	**+2.0**
	comp=N,3μm,0.5s						
KRLC	**Kraliky**	**1.41**	**162**	⇓*iP*	**Pb**	**21 25 35.2**	**+0.3**
KRLC				*e*		21 25 53.9	
KRLC	**Kraliky**	**1.41**	**162**	⇓*iPG*	**Pb**	**21 25 35.2**	**+0.3**
KRLC				*eSG*	**Sn**	**21 25 53.9**	**-0.1**
KRLC	**Kraliky**	**1.41**	**162**	Pg	**Pb**	**21 25 35.2**	**+0.3**
KRLC				Sg	**Sn**	**21 25 53.9**	**-0.1**
BRG	**Berggiesshubel**	**1.47**	**249**	PN	**Pb**	**21 25 36.3**	**+0.3**
BRG				PG	**Pg**	**21 25 38.4**	**+2.4**
BRG				SG	**Sn**	**21 25 58.3**	**+2.8**
	comp=N,728nm,0.6s						
BRG	**Berggiesshubel**	**1.47**	**249**	*ePn*	**Pb**	**21 25 36.2**	**+0.2**
BRG				*eSg*	**Sn**	**21 25 58.6**	**+3.1**
BRG	**Berggiesshubel**	**1.47**	**249**	P	**Pb**	**21 25 36.3**	**+0.3**
BRG						21 25 58.3	
BRG				smax	smax		
	comp=N,728nm,0.6s						
BRG	**Berggiesshubel**	**1.47**	**249**	P	**Pb**	**21 25 36.3**	**+0.3**
BRG				S	**Sn**	**21 25 58.3**	**+2.8**
	comp=N,728nm,0.6s						
BRG				Sg	**Sn**	**21 25 58.6**	**+3.1**
PRA	**Prague**	**1.72**	**219**	*eP*	**Pg**	**21 25 40.2**	**-0.5**
PRA				*e*		21 26 05.7	
PRA				smax	smax		
	comp=N,954nm,0.8s						
PRA				MLR	MLR		
	comp=Z,3μm,2.8s						
PRA	**Prague**	**1.72**	**219**	⇓*ePN*	**Pg**	**21 25 40.2**	**-0.5**
PRA				*ePG*	**Pg**	**21 25 42.3**	**+1.6**
PRA				*eSG*	**Sg**	**21 26 05.7**	**+2.7**
	comp=Z,954nm,0.8s						
PRA				AMS	AMS	21 26 40.0	
	comp=Z,3μm,2.8s						
PRA	**Prague**	**1.72**	**219**	Pn	**Pg**	**21 25 40.2**	**-0.5**
PRA	**Prague**	**1.72**	**219**	Pg	**Pg**	**21 25 42.3**	**+1.6**
PRA				Sg	**Sg**	**21 26 05.7**	**+2.7**
	comp=Z,954nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	⇓*ePN*	**Pb**	**21 25 40.1**	**-0.2**
GOPC				*ePG*	**Pg**	**21 25 42.0**	**+1.2**
GOPC				*eSG*	**Sg**	**21 26 05.4**	**+2.2**
	comp=Z,628nm,0.6s						
GOPC				AMS	AMS	21 26 20.0	
	comp=Z,900nm,4.5s						
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	Pn	**Pb**	**21 25 40.1**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	Pg	**Pg**	**21 25 42.0**	**+1.2**
GOPC				Sg	**Sg**	**21 26 05.4**	**+2.2**
	comp=Z,628nm,0.6s						
PRU	**Pruhonice**	**1.75**	**216**	⇓*iP*	**Pb**	**21 25 40.2**	**-0.5**
PRU				*e*		21 26 06.4	
PRU				smax	smax		
	comp=N,1μm,0.6s						
PRU				MLR	MLR		
	comp=Z,1μm,3.7s						
PRU	**Pruhonice**	**1.75**	**216**	⇓*iPN*	**Pb**	**21 25 40.2**	**-0.5**
PRU				*ePG*	**Pg**	**21 25 42.2**	**+1.0**
PRU				*eSG*	**Sg**	**21 26 06.4**	**+2.6**
	comp=Z,1μm,0.6s						
PRU				AMS	AMS	21 26 20.0	
	comp=Z,1μm,3.7s						
PRU	**Pruhonice**	**1.75**	**216**	Pn	**Pb**	**21 25 40.2**	**-0.5**
RUE	**Ruedersdorf**	**1.79**	**307**	*ePn*	**Pn**	**21 25 40.0**	**0.0**
RUE				*eSg*	**Sg**	**21 26 07.9**	**+2.5**
RUE	**Ruedersdorf**	**1.79**	**307**	*ePn*	**Pn**	**21 25 40.0**	**0.0**
RUE				*eSg*	**Sg**	**21 26 08.0**	**+2.5**
FBE	**Freiberg**	**1.81**	**255**	*ePn*	**Pb**	**21 25 41.2**	**-0.5**
FBE				*eSg*	**Sg**	**21 26 08.4**	**+2.6**
FBE	**Freiberg**	**1.81**	**255**	Pn	**Pb**	**21 25 41.2**	**-0.5**
FBE				Sg	**Sg**	**21 26 08.4**	**+2.6**
MORC	**Moravsky Berou**	**1.88**	**150**	*ePn*	**Pn**	**21 25 41.4**	**+0.3**
MORC				*eSg*	**Sg**	**21 26 08.7**	**+0.7**
MORC	**Moravsky Berou**	**1.88**	**150**	*eP*	**Pn**	**21 25 41.3**	**+0.1**
MORC				*e*		21 26 06.3	
MORC	**Moravsky Berou**	**1.88**	**150**	⇑*iP*	**Pn**	**21 25 41.4**	**+0.3**
MORC	**Moravsky Berou**	**1.88**	**150**	S	**Sn**	**21 26 05.8**	**+0.2**
MORC	**Moravsky Berou**	**1.88**	**150**	Pn	**Pn**	**21 25 41.4**	**+0.3**
MORC				*eS*	**Sn**	**21 26 06.3**	**+0.8**
MORC				Sg	**Sg**	**21 26 08.7**	**+0.7**
MORC	**Moravsky Berou**	**1.88**	**150**	*ePn*	**Pn**	**21 25 41.2**	**+0.1**
MORC				*eSn*	**Sn**	**21 26 06.3**	**+0.8**
RAC	**Raciborz**	**1.88**	**135**	*eP*	**Pn**	**21 25 40.7**	**-0.4**
RAC				*e*		21 26 08.6	
RAC	**Raciborz**	**1.88**	**135**	*eP*	**Pn**	**21 25 40.7**	**-0.4**
RAC	**Raciborz**	**1.88**	**135**	*ePg*	**Pg**	**21 25 44.0**	**+0.3**
RAC				*eSg*	**Sg**	**21 26 08.6**	**+0.6**
CLL	**Collm**	**1.96**	**268**	*ePn*	**Pn**	**21 25 42.7**	**+0.6**
CLL				*eSg*	**Sg**	**21 26 14.1**	**+3.6**
CLL	**Collm**	**1.96**	**268**	*eP*	**Pb**	**21 25 43.0**	**-1.2**
CLL	**Collm**	**1.96**	**268**	*ePn*	**Pb**	**21 25 43.0**	**-1.2**
CLL				*ePg*	**Pg**	**21 25 47.0**	**+1.8**
CLL				*i* Sg	**Sg**	**21 26 13.7**	**+3.2**
	comp=Z,470nm,0.8s						
CLL	**Collm**	**1.96**	**268**	Pn	**Pn**	**21 25 42.7**	**+0.6**
CLL	**Collm**	**1.96**	**268**	*eP*	**Pb**	**21 25 43.0**	**-1.2**
CLL				Sg	**Sg**	**21 26 14.1**	**+3.6**
GKP	**Gorka Klasztor**	**1.98**	**20**	*eP*	**Pn**	**21 25 43.2**	**+0.7**
GKP				*e*		21 26 08.9	
GKP	**Gorka Klasztor**	**1.98**	**20**	*ePn*	**Pn**	**21 25 43.2**	**+0.7**
GKP				*ePg*	**Pg**	**21 25 47.3**	**+1.7**
GKP				*ePP*	PnPn	21 25 51.2	+1.4
GKP				*eSn*	**Sn**	**21 26 08.9**	**+1.0**
GKP				*eSg*	**Sg**	**21 26 14.1**	**+2.8**
GKP	**Gorka Klasztor**	**1.98**	**20**	*eP*	**Pn**	**21 25 43.2**	**+0.7**
GKP	**Gorka Klasztor**	**1.98**	**20**	*ePg*	**Pg**	**21 25 47.3**	**+1.7**
GKP				*eS*	**Sn**	**21 26 08.9**	**+1.0**
OKC	**Ostrava-Krasne**	**2.04**	**140**	*ePn*	**Pn**	**21 25 43.1**	**-0.3**
OKC				*eSg*	**Sg**	**21 26 12.9**	**-0.4**
OKC	**Ostrava-Krasne**	**2.04**	**140**	*eP*	**Pn**	**21 25 42.9**	**-0.5**
OKC				*e*		21 26 12.7	
OKC				smax	smax		
	comp=N,703nm,0.5s						
OKC				MLR	MLR		
	comp=Z,2μm,2.2s						
OKC	**Ostrava-Krasne**	**2.04**	**140**	⇓*ePN*	**Pn**	**21 25 42.9**	**-0.5**
OKC				*ePG*	**Pg**	**21 25 46.6**	**-0.3**
OKC				*eSG*	**Sb**	**21 26 12.7**	**+1.0**
	comp=Z,703nm,0.5s						
OKC				AMS	AMS	21 26 40.0	
	comp=Z,2μm,2.2s						
OKC	**Ostrava-Krasne**	**2.04**	**140**	Pn	**Pn**	**21 25 43.1**	**-0.3**
OKC	**Ostrava-Krasne**	**2.04**	**140**	Pg	**Pg**	**21 25 46.6**	**-0.3**
OKC				Sg	**Sg**	**21 26 12.9**	**-0.4**
VRAC	**Vranov**	**2.13**	**172**	P	**Pn**	**21 25 45.6**	**+1.0**
VRAC						21 26 16.3	
VRAC				pmax	pmax		
	comp=Z,30nm,0.3s						
VRAC	**Vranov**	**2.13**	**172**	⇓*iP*	**Pn**	**21 25 45.6**	**+1.0**
VRAC	**Vranov**	**2.13**	**172**	S	**Sg**	**21 26 17.8**	**+1.5**
VRAC	**Vranov**	**2.13**	**172**	Pn	**Pn**	**21 25 45.6**	**+1.0**
	comp=Z,30nm,0.3s,baz=342,slow=13,SNR=125						
VRAC				Lg	Lg	21 26 16.3	
	comp=Z,78nm,0.3s,baz=257,slow=18,SNR=13						
CHZP	**Chorzow**	**2.14**	**121**	Pn	**Pn**	**21 25 43.8**	**-1.0**
CHZP				*ePg*	**Pb**	**21 25 47.5**	**+0.1**
CHZP				*eSg*	**Sg**	**21 26 18.9**	**+2.3**
TREC	**Trest**	**2.16**	**191**	⇓*iP*	**Pn**	**21 25 46.2**	**+1.1**
TREC				*e*		21 26 18.6	
TREC				smax	smax		
	comp=N,363nm,0.6s						
TREC				MLR	MLR		
	comp=Z,900nm,4.3s						
TREC	**Trest**	**2.16**	**191**	⇓*iPN*	**Pn**	**21 25 46.2**	**+1.1**
TREC				*ePG*	**Pg**	**21 25 49.4**	**+0.2**
TREC				*eSG*	**Sg**	**21 26 18.6**	**+1.4**
	comp=Z,362nm,0.6s						
TREC				AMS	AMS	21 26 30.0	
	comp=Z,900nm,4.3s						
TREC	**Trest**	**2.16**	**191**	Pn	**Pn**	**21 25 46.2**	**+1.1**
TANN	**Tannenbergstha**	**2.52**	**248**	*ePn*	**Pn**	**21 25 51.6**	**+1.6**
TANN	**Tannenbergstha**	**2.52**	**248**	Pn	**Pn**	**21 25 51.6**	**+1.6**
WERD	**Werda**	**2.60**	**250**	*ePn*	**Pn**	**21 25 52.6**	**+1.5**
WERD	**Werda**	**2.60**	**250**	Pn	**Pn**	**21 25 52.6**	**+1.5**
OJC	**Ojcow**	**2.63**	**116**	*ePn*	**Pn**	**21 25 50.0**	**-1.4**
OJC				*eSg*	**Sg**	**21 26 32.6**	**+0.5**
OJC	**Ojcow**	**2.63**	**116**	*eP*	**Pn**	**21 25 49.9**	**-1.4**
OJC				*e*		21 26 32.1	
OJC	**Ojcow**	**2.63**	**116**	*ePn*	**Pn**	**21 25 49.9**	**-1.4**
OJC				*ePg*	**Pg**	**21 25 58.3**	**+0.3**
OJC				*eSg*	**Sg**	**21 26 32.1**	**+0.1**
OJC	**Ojcow**	**2.63**	**116**	Pn	**Pn**	**21 25 50.0**	**-1.4**
KHC	**Kasperske Hory**	**2.81**	**216**	*eP*	**Pn**	**21 25 54.4**	**+0.5**
KHC				*e*		21 26 29.7	
KHC				smax	smax		
	comp=N,234nm,0.4s						
KHC				MLR	MLR		
	comp=Z,600nm,4.0s						
KHC	**Kasperske Hory**	**2.81**	**216**	⇓*ePN*	**Pn**	**21 25 54.4**	**+0.5**
KHC				*ePG*	**Pg**	**21 26 01.2**	**-0.4**
KHC				*eSN*	**Sn**	**21 26 29.7**	**+1.2**
KHC				*eSG*	**Sg**	**21 26 38.9**	**+0.9**
	comp=Z,234nm,0.4s						
KHC				AMS	AMS	21 26 50.0	
	comp=Z,600nm,4.0s						
KHC	**Kasperske Hory**	**2.81**	**216**	Pn	**Pn**	**21 25 54.4**	**+0.5**
KHC	**Kasperske Hory**	**2.81**	**216**	Pg	**Pg**	**21 26 01.2**	**-0.4**
KHC				Sn	**Sn**	**21 26 29.7**	**+1.2**
KHC				Sg	**Sg**	**21 26 38.9**	**+0.9**
	comp=Z,234nm,0.4s						
KHC	**Kasperske Hory**	**2.81**	**216**	*ePn*	**Pn**	**21 25 54.2**	**+0.2**
KHC				*ePg*	**Pg**	**21 26 00.9**	**-0.6**
KHC				*eSg*	**Sg**	**21 26 39.2**	**+1.2**
MANZ	**Manzenberg**	**2.92**	**242**	*ePn*	**Pn**	**21 25 57.2**	**+1.7**
MANZ	**Manzenberg**	**2.92**	**242**	Pn	**Pn**	**21 25 57.2**	**+1.7**
BEL	**Belsk**	**2.94**	**80**	*eP*	**Pn**	**21 25 56.0**	**+0.3**
BEL	**Belsk**	**2.94**	**80**	*ePn*	**Pn**	**21 25 56.0**	**+0.3**
BEL				*ePg*	**Pg**	**21 26 05.3**	**+1.2**
BEL				*eSg*	**Sg**	**21 26 46.1**	**+3.8**
BEL	**Belsk**	**2.94**	**80**	*eP*	**Pn**	**21 25 56.0**	**+0.3**
MOX	**Moxa**	**2.94**	**257**	*ePn*	**Pn**	**21 25 57.1**	**+1.3**
MOX	**Moxa**	**2.94**	**257**	Pn	**Pn**	**21 25 57.1**	**+1.3**
ROTZ	**Rotzenmuhle**	**2.99**	**238**	*ePn*	**Pn**	**21 25 58.0**	**+1.6**
ROTZ	**Rotzenmuhle**	**2.99**	**238**	Pn	**Pn**	**21 25 58.0**	**+1.6**
GEC2	**GERESS Array S**	**3.01**	**212**	*ePn*	**Pn**	**21 25 58.0**	**+1.3**
GEC2	**GERESS Array S**	**3.01**	**212**	Pn	**Pn**	**21 25 58.0**	**+1.3**
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**21 25 57.9**	**+1.1**
	comp=Z,9.7nm,0.3s,baz=31,slow=12,SNR=275						
GERES				Lg	Lg	21 26 43.9	
	comp=Z,55nm,0.3s,baz=33,slow=27,SNR=11						
SMOL	**Smolenice**	**3.03**	**163**	*eP*	**Pb**	**21 25 59.8**	**-2.7**
SMOL	**Smolenice**	**3.03**	**163**	*eP*	**Pb**	**21 25 59.8**	**-2.7**
SMOL	**Smolenice**	**3.03**	**163**	*ePg*	**Pg**	**21 26 07.3**	**+1.5**
SMOL				*eSg*	**Sg**	**21 26 46.4**	**+1.4**
SMOL	**Smolenice**	**3.03**	**163**	*e*	**Pb**	**21 25 59.8**	**-2.7**
SMOL	**Smolenice**	**3.03**	**163**	*ePG*	**Pg**	**21 26 07.3**	**+1.5**
SMOL				*e*		21 26 46.4	
WET	**Wettzell**	**3.08**	**224**	*ePn*	**Pn**	**21 25 59.0**	**+1.3**
WET	**Wettzell**	**3.08**	**224**	Pn	**Pn**	**21 25 59.0**	**+1.3**
NIE	**Niedzica**	**3.35**	**125**	*eP*	**Pn**	**21 26 01.9**	**+0.6**
NIE	**Niedzica**	**3.35**	**125**	*ePn*	**Pn**	**21 26 01.9**	**+0.6**
NIE				*ePg*	**Pg**	**21 26 11.8**	**-0.1**
NIE				*eSg*	**Sg**	**21 26 56.1**	**+0.9**
NIE	**Niedzica**	**3.35**	**125**	*eP*	**Pn**	**21 26 01.9**	**+0.6**
VYHS	**Vyhne**	**3.41**	**148**	*eP*	**Pn**	**21 26 02.5**	**+0.3**
VYHS	**Vyhne**	**3.41**	**148**	*eP*	**Pn**	**21 26 02.5**	**+0.3**
VYHS	**Vyhne**	**3.41**	**148**	*ePg*	**Pg**	**21 26 14.5**	**+1.4**
VYHS				*eSg*	**Sg**	**21 26 57.5**	**+0.1**
VYHS	**Vyhne**	**3.41**	**148**	*ePN*	**Pn**	**21 26 02.5**	**+0.3**
VYHS				*ePG*	**Pg**	**21 26 14.5**	**+1.4**
VYHS				*e*		21 26 57.5	
CONA	**Conrad Observa**	**3.50**	**183**	*i* Pn	**Pn**	**21 26 04.7**	**+1.3**
	SNR=26						
CONA				⇑*iSg*	**Sg**	**21 27 01.4**	**+1.4**
	comp=Z,298nm,0.4s						
CONA	**Conrad Observa**	**3.50**	**183**	Pn	**Pn**	**21 26 04.7**	**+1.3**
	SNR=26						
CONA				Sg	**Sg**	**21 27 01.4**	**+1.4**
	comp=Z,298nm,0.4s						
RGN	**Rugen**	**3.56**	**333**	*ePn*	**Pn**	**21 26 02.2**	**-2.0**
RGN	**Rugen**	**3.56**	**333**	*ePn*	**Pn**	**21 26 02.2**	**-2.0**
GRA1	**Grafenberg Arr**	**3.57**	**243**	Pn	**Pn**	**21 26 06.1**	**+1.7**
GRF	**Grafenberg Arr**	**3.57**	**243**	*ePn*	**Pn**	**21 26 06.1**	**+1.7**
GRFO	**Grafenberg**	**3.57**	**243**	*eP*	**Pn**	**21 26 06.0**	**+1.6**
GRFO	**Grafenberg**	**3.57**	**243**	*eP*	**Pn**	**21 26 06.0**	**+1.6**
GRFO				*eSg*	**Sg**	**21 27 02.2**	**-0.1**
GRFO	**Grafenberg**	**3.57**	**243**	*ePn*	**Pn**	**21 26 06.0**	**+1.6**
GRFO				*eSg*	**Sg**	**21 27 02.2**	**-0.1**
CLZ	**Clausthal**	**3.60**	**279**	*ePn*	**Pn**	**21 26 06.7**	**+1.8**
CLZ	**Clausthal**	**3.60**	**279**	Pn	**Pn**	**21 26 06.7**	**+1.8**
SOP	**Sopron**	**3.75**	**175**	⇑*ePn*	**Pn**	**21 26 08.3**	**+1.5**
SOP	**Sopron**	**3.75**	**175**	⇑*eP*	**Pn**	**21 26 08.3**	**+1.5**
SOP				*eSb*	**Sg**	**21 27 06.1**	**-2.0**
MOA	**Molln**	**3.77**	**199**	⇓*iPn*	**Pn**	**21 26 08.4**	**+1.3**
	SNR=56						
MOA				⇑*iSg*	**Sg**	**21 27 09.7**	**+0.9**
	comp=Z,522nm,0.7s						
MOA	**Molln**	**3.77**	**199**	Pn	**Pn**	**21 26 08.4**	**+1.3**
	SNR=56						
MOA				Sg	**Sg**	**21 27 09.7**	**+0.9**
	comp=Z,522nm,0.7s						
BSD	**Bornholm Skovb**	**3.77**	**349**	⇓*iP*	**Pn**	**21 26 06.0**	**-1.1**
BSD				*eS*	**Sn**	**21 26 47.8**	**-4.4**
BSD	**Bornholm Skovb**	**3.77**	**349**	⇓*iP*	**Pn**	**21 26 06.0**	**-1.1**
BSD				*eS*	**Sn**	**21 26 47.8**	**-4.4**
BSD	**Bornholm Skovb**	**3.77**	**349**	⇓*iP*	**Pn**	**21 26 06.0**	**-1.1**
BSD				*eS*	**Sn**	**21 26 47.8**	**-4.4**
STHS	**Stebnic

SUW	**Suwalki**	**5.02**	**56**	*e*Pn	**Pn**	**21 26 23.8**	**-0.4**
SUW				*e*Pg	Pb	21 26 40.1	+3.7
SUW				*e*Sg	**Sg**	**21 27 54.8**	**+5.9**
SUW	**Suwalki**	**5.02**	**56**	*e*Pn	**Pn**	**21 26 23.4**	**-0.8**
SUW	**Suwalki**	**5.02**	**56**	*e*P	**Pn**	**21 26 23.8**	**-0.4**
SUW	**Suwalki**	**5.02**	**56**	*e*Pn	**Pn**	**21 26 23.4**	**-0.8**
OBKA	**Obir**	**5.02**	**192** ⇓	*i*Pn	**Pn**	**21 26 25.6**	**+1.2**
	SNR=9.2						
OBKA	**Obir**	**5.02**	**192**	Pn	**Pn**	**21 26 25.6**	**+1.2**
	SNR=9.2						
WATA	**Walderalm**	**5.05**	**218** ⇑	*i*Pn	**Pn**	**21 26 26.6**	**+1.8**
	SNR=21						
WATA				⇓*i*Sn	**Sn**	**21 27 24.9**	**+1.1**
WATA				⇓*i*Sg	**Sg**	**21 27 53.2**	**+3.4**
	comp=Z,187nm,0.8s						
WATA	**Walderalm**	**5.05**	**218**	Pn	**Pn**	**21 26 26.6**	**+1.8**
	SNR=21						
WATA				Sn	**Sn**	**21 27 24.9**	**+1.1**
WATA				Sg	**Sg**	**21 27 53.2**	**+3.4**
	comp=Z,187nm,0.8s						
WTTA	**Wattenberg**	**5.08**	**217** ⇓	*i*Pn	**Pn**	**21 26 27.4**	**+2.1**
	SNR=19						
WTTA	**Wattenberg**	**5.08**	**217**	Pn	**Pn**	**21 26 27.4**	**+2.1**
	SNR=19						
PKSN	**Nyarlorinc**	**5.15**	**150** ⇑	*e*Pn	**Pn**	**21 26 27.5**	**+1.5**
PKSN	**Nyarlorinc**	**5.15**	**150** ⇑	*e*P	**Pn**	**21 26 27.5**	**+1.5**
STU	**Stuttgart**	**5.18**	**242**	*e*P	**Pn**	**21 26 26.7**	**+0.2**
STU	**Stuttgart**	**5.18**	**242**	*e*P	**Pn**	**21 26 26.7**	**+0.2**
STU	**Stuttgart**	**5.18**	**242**	*e*Pn	**Pn**	**21 26 26.7**	**+0.2**
MOTA	**Moosalm**	**5.23**	**221** ⇓	*i*Pn	**Pn**	**21 26 28.5**	**+1.2**
	SNR=18						
MOTA				⇑*i*Sn	**Sn**	**21 27 29.0**	**+0.7**
MOTA				⇑*i*Sg	**Sg**	**21 28 00.0**	**+4.4**
	comp=Z,148nm,0.7s						
MOTA	**Moosalm**	**5.23**	**221**	Pn	**Pn**	**21 26 28.5**	**+1.2**
	SNR=18						
MOTA				Sn	**Sn**	**21 27 29.0**	**+0.7**
MOTA				Sg	**Sg**	**21 28 00.0**	**+4.4**
	comp=Z,148nm,0.7s						
DEL	**Delary**	**5.23**	**346**	P	**Pn**	**21 26 26.1**	**-1.1**
DEL	**Delary**	**5.23**	**346**	P	**Pn**	**21 26 26.1**	**-1.1**
ABTA	**Abfaltersbach**	**5.24**	**208** ⇑	*i*Pn	**Pn**	**21 26 28.7**	**+1.3**
	SNR=29						
ABTA				⇓*i*Sg	**Sg**	**21 27 59.1**	**+3.1**
	comp=Z,160nm,0.7s						
ABTA	**Abfaltersbach**	**5.24**	**208**	Pn	**Pn**	**21 26 28.7**	**+1.3**
	SNR=29						
ABTA				Sg	**Sg**	**21 27 59.1**	**+3.1**
	comp=Z,160nm,0.7s						
RETA	**Reutte**	**5.26**	**224** ⇑	*i*Pn	**Pn**	**21 26 28.6**	**+1.0**
	SNR=19						
RETA				⇑*i*Sg	**Sg**	**21 28 00.9**	**+4.3**
	comp=Z,214nm,1.0s						
RETA	**Reutte**	**5.26**	**224**	Pn	**Pn**	**21 26 28.6**	**+1.0**
	SNR=19						
RETA				Sg	**Sg**	**21 28 00.9**	**+4.3**
	comp=Z,214nm,1.0s						
LVV	**L'vov**	**5.29**	**105**	*e*P	**Pn**	**21 26 29.0**	**+1.1**
LVV				*e*S	**Sn**	**21 27 28.0**	**-1.5**
LVV				MLR	MLR		
	comp=N,110nm,5.0s						
LVV				MLR	MLR		
	comp=E,70nm,5.0s						
LVV				MLR	MLR		
	comp=Z,80nm,5.0s						
LVV	**L'vov**	**5.29**	**105**	*e*P	**Pn**	**21 26 29.0**	**+1.1**
LVV				*e*S	**Sn**	**21 27 28.0**	**-1.5**
TRPA	**Tarpa**	**5.30**	**126** ⇓	*i*P	**Pn**	**21 26 27.7**	**-0.5**
TRPA	**Tarpa**	**5.30**	**126** ⇓	*i*P	**Pn**	**21 26 27.7**	**-0.5**
TRPA	**Tarpa**	**5.30**	**126** ⇓	*e*P	**Pn**	**21 26 27.7**	**-0.5**
PKS6	**Bocsa**	**5.33**	**153** ⇑	*e*Pn	**Pn**	**21 26 29.5**	**+1.0**
PKS6	**Bocsa**	**5.33**	**153** ⇑	*e*P	**Pn**	**21 26 29.5**	**+1.0**
PKS2	**Kecel**	**5.33**	**156** ⇓	*e*Pn	**Pn**	**21 26 29.4**	**+0.8**
PKS2	**Kecel**	**5.33**	**156** ⇓	*e*P	**Pn**	**21 26 29.4**	**+0.8**
KOE	**Koeppel**	**5.40**	**263**	*e*Pn	**Pn**	**21 26 30.5**	**+1.0**
KOE	**Koeppel**	**5.40**	**263**	Pn	**Pn**	**21 26 30.5**	**+1.0**
VNDS	**Vrh nad Dolski**	**5.40**	**191**	*e*Pn	**Pn**	**21 26 31.6**	**+2.0**
VNDS				*e*Sn	**Sg**	**21 27 56.2**	**-5.0**
PKSM	**Moragy**	**5.47**	**161** ⇑	*i*P	**Pn**	**21 26 32.6**	**+2.2**
PKSM	**Moragy**	**5.47**	**161** ⇑	*e*Pn	**Pn**	**21 26 31.5**	**+1.1**
PKSM	**Moragy**	**5.47**	**161** ⇑	*e*P	**Pn**	**21 26 31.5**	**+1.1**
HOBG	**Hohbusch**	**5.54**	**269**	*e*Pn	**Pn**	**21 26 33.8**	**+2.4**
HOBG	**Hohbusch**	**5.54**	**269**	Pn	**Pn**	**21 26 33.8**	**+2.4**
KTD	**Kalmit**	**5.55**	**251**	P	**Pn**	**21 26 32.7**	**+1.1**
FETA	**Feichten**	**5.64**	**221** ⇓	*i*Pn	**Pn**	**21 26 34.3**	**+1.3**
	SNR=9.7						
FETA	**Feichten**	**5.64**	**221**	Pn	**Pn**	**21 26 34.3**	**+1.3**
	SNR=9.7						
BNS	**Bensberg**	**5.64**	**269**	*e*Pn	**Pn**	**21 26 34.9**	**+2.1**
BNS	**Bensberg**	**5.64**	**269**	Pn	**Pn**	**21 26 34.9**	**+2.1**
ABH	**Alteburg**	**5.66**	**258**	P	**Pn**	**21 26 34.2**	**+1.1**
BGG	**Burgeitz**	**5.70**	**261**	*e*Pn	**Pn**	**21 26 34.3**	**+0.8**
BGG				*e*Sn	**Sn**	**21 27 42.8**	**+3.2**
	comp=Z,37nm,0.8s						
BGG	**Burgeitz**	**5.70**	**261**	Pn	**Pn**	**21 26 34.3**	**+0.8**
BGG				Sn	**Sn**	**21 27 42.8**	**+3.2**
	comp=Z,37nm,0.8s						
LAUG	**Laupendahl**	**5.74**	**273**	*e*Pn	**Pn**	**21 26 35.9**	**+1.7**
LAUG	**Laupendahl**	**5.74**	**273**	Pn	**Pn**	**21 26 35.9**	**+1.7**
OSKU	**Oskarshamn**	**5.79**	**360**	P	**Pn**	**21 26 34.2**	**-0.6**
OSKU	**Oskarshamn**	**5.79**	**360**	P	**Pn**	**21 26 34.2**	**-0.6**
SPAK	**Spaichingen-Ko**	**5.79**	**238**	P	**Pn**	**21 26 35.6**	**+0.6**
SPAK				S	**Sn**	**21 27 46.2**	**+4.1**
DAVA	**Damuels**	**5.80**	**227** ⇓	*i*Pn	**Pn**	**21 26 36.2**	**+1.0**
	SNR=9.0						
DAVA	**Damuels**	**5.80**	**227**	Pn	**Pn**	**21 26 36.2**	**+1.0**
	SNR=9.0						
WTSB	**Winterswijk**	**5.82**	**279**	*e*Pn	**Pn**	**21 26 36.7**	**+1.5**
	comp=Z,50nm,1.3s						
WTSB	**Winterswijk**	**5.82**	**279**	*e*Pn	**Pn**	**21 26 36.7**	**+1.5**
	comp=Z,50nm,1.3s						
BFO	**Black Forest**	**5.91**	**241**	*i* P	**Pn**	**21 26 36.9**	**+0.4**
BFO	**Black Forest**	**5.91**	**241**	*e*Pn	**Pn**	**21 26 35.6**	**-0.9**
BFO	**Black Forest**	**5.91**	**241**	*i* P	**Pn**	**21 26 36.9**	**+0.4**
BFO	**Black Forest**	**5.91**	**241**	*e*Pn	**Pn**	**21 26 35.6**	**-0.9**
BFO				*e*Sg	**Sg**	**21 28 16.4**	**-1.0**
BYXU	**Byxelkrok**	**5.91**	**5**	P	**Pn**	**21 26 36.1**	**-0.3**
BYXU	**Byxelkrok**	**5.91**	**5**	P	**Pn**	**21 26 36.1**	**-0.3**
STB	**Steinbach**	**5.91**	**266**	*e*Pn	**Pn**	**21 26 37.9**	**+1.4**
STB				*e*Sn	**Sn**	**21 27 47.0**	**+2.0**
	comp=Z,36nm,0.6s						
STB	**Steinbach**	**5.91**	**266**	Pn	**Pn**	**21 26 37.9**	**+1.4**
STB				Sn	**Sn**	**21 27 47.0**	**+2.0**
	comp=Z,36nm,0.6s						
FABU	**Falkenberg**	**5.94**	**342**	P	**Pn**	**21 26 35.6**	**-1.2**
FABU	**Falkenberg**	**5.94**	**342**	P	**Pn**	**21 26 35.6**	**-1.2**
ASPU	**Aespoe**	**6.02**	**2**	P	**Pn**	**21 26 37.7**	**-0.3**
ASPU	**Aespoe**	**6.02**	**2**	P	**Pn**	**21 26 37.7**	**-0.3**
RUP	**Ruppelstein**	**6.02**	**257**	P	**Pn**	**21 26 39.4**	**+1.3**
GNOU	**Gnosjoe**	**6.04**	**348**	P	**Pn**	**21 26 37.5**	**-0.8**
GNOU	**Gnosjoe**	**6.04**	**348**	P	**Pn**	**21 26 37.5**	**-0.8**
HILG	**Hillesheim**	**6.08**	**263**	*e*Pn	**Pn**	**21 26 40.2**	**+1.3**
HILG	**Hillesheim**	**6.08**	**263**	Pn	**Pn**	**21 26 40.2**	**+1.3**
BMR	**Baia Mare**	**6.09**	**125** ⇑	*i*P	**Pn**	**21 26 39.4**	**+0.4**
EKSU	**Eksjoe**	**6.19**	**356**	P	**Pn**	**21 26 39.7**	**-0.5**
EKSU	**Eksjoe**	**6.19**	**356**	P	**Pn**	**21 26 39.7**	**-0.5**
DAVOX	**Davos/Dischmat**	**6.19**	**224**	Pn	**Pn**	**21 26 42.2**	**+1.7**
	baz=15,slow=20						
DAVOX				Sn	**Sn**	**21 27 52.6**	**+0.6**
	comp=Z,3.0nm,0.3s,baz=266,slow=19,SNR=3.5						
DAVOX				Lg	Lg	21 28 26.2	
	comp=Z,3.9nm,0.3s,baz=225,slow=19,SNR=8.1						
KLL	**Kalltalsperre**	**6.23**	**267**	*e*Pn	**Pn**	**21 26 42.2**	**+1.2**
KLL	**Kalltalsperre**	**6.23**	**267**	Pn	**Pn**	**21 26 42.2**	**+1.2**
VSTU	**Vaestervik**	**6.26**	**2**	P	**Pn**	**21 26 40.8**	**-0.4**
VSTU	**Vaestervik**	**6.26**	**2**	P	**Pn**	**21 26 40.9**	**-0.4**
DREG	**Dreilaegerbach**	**6.28**	**267**	*e*Pn	**Pn**	**21 26 43.4**	**+1.8**
DREG	**Dreilaegerbach**	**6.28**	**267**	Pn	**Pn**	**21 26 43.4**	**+1.8**
DRGR		**6.34**	**134** ⇓	*i*P	**Pn**	**21 26 42.7**	**+0.3**
FELD	**Feldberg im Sc**	**6.35**	**239**	P	**Pn**	**21 26 43.5**	**+0.8**
LIBD	**Limburg**	**6.41**	**243**	P	**Pn**	**21 26 43.9**	**+0.6**
MEM	**Membach**	**6.43**	**267**	P	**Pn**	**21 26 44.7**	**+1.1**
HGN	**Heimansgroeve**	**6.45**	**268**	*e*Pn	Pn	21 26 47.6	+3.7
	comp=Z,16nm,0.8s						
HGN				*e*Sn	**Sg**	**21 28 32.9**	**-1.9**
CDF	**Champ du Feu**	**6.45**	**246**	*e*Pn	**Pn**	**21 26 41.9**	**-2.1**
CDF				*e*Sg	**Sg**	**21 28 31.6**	**-3.3**
	comp=Z,330nm,1.1s						
CDF	**Champ du Feu**	**6.45**	**246**	*e*P	**Pn**	**21 26 41.9**	**-2.1**
CDF	**Champ du Feu**	**6.45**	**246**	*e*Pn	**Pn**	**21 26 41.9**	**-2.1**
CDF				*e*Sg	**Sg**	**21 28 31.6**	**-3.3**
	comp=Z,165nm,1.1s						
CDF	**Champ du Feu**	**6.45**	**246**	*e*Pn	**Pn**	**21 26 41.9**	**-2.1**
CDF				*e*Sg	**Sg**	**21 28 31.6**	**-3.3**
BORU	**Boraas**	**6.53**	**344**	P	**Pn**	**21 26 44.3**	**-0.6**
BORU	**Boraas**	**6.53**	**344**	P	**Pn**	**21 26 44.3**	**-0.6**
WLF	**Walferdange**	**6.59**	**258**	*e*P	**Pn**	**21 26 45.4**	**-0.4**
WLF	**Walferdange**	**6.59**	**258**	*e*P	**Pn**	**21 26 45.4**	**-0.4**
WLF	**Walferdange**	**6.59**	**258**	*e*Pn	**Pn**	**21 26 45.4**	**-0.4**
ECH	**Echery**	**6.62**	**245**	*e*P	**Pn**	**21 26 44.6**	**-1.7**
ECH	**Echery**	**6.62**	**245**	P	**Pn**	**21 26 47.0**	**+0.7**
ECH	**Echery**	**6.62**	**245**	P	**Pn**	**21 26 47.0**	**+0.7**
ECH	**Echery**	**6.62**	**245**	*e*Pn	**Pn**	**21 26 44.6**	**-1.7**
MOF	**Molkenrain**	**6.84**	**242**	P	**Pn**	**21 26 50.0**	**+0.7**
MOF	**Molkenrain**	**6.84**	**242**	P	**Pn**	**21 26 50.0**	**+0.7**
BZS	**Buzias**	**6.86**	**146** ⇓	*i*P	**Pn**	**21 26 50.3**	**+0.8**
FKPU	**Falk**	**6.90**	**349**	P	**Pn**	**21 26 49.5**	**-0.5**
FKPU	**Falk**	**6.90**	**349**	P	**Pn**	**21 26 49.5**	**-0.5**
UDBI	**Udbina**	**6.90**	**182**	*e*Pn	**Pn**	**21 26 52.5**	**+2.3**
UDBI	**Udbina**	**6.90**	**182**	*e*Pn	**Pn**	**21 26 52.4**	**+2.3**
NVLJ	**Novalja**	**6.91**	**187**	*e*Pn	**Pn**	**21 26 52.1**	**+1.9**
NVLJ	**Novalja**	**6.91**	**187**	*e*Pn	**Pn**	**21 26 52.0**	**+1.9**
BCLA	**Clavier**	**6.91**	**266**	P	**Pn**	**21 26 52.3**	**+2.1**
HINF	**Hinteralfeld**	**7.01**	**243**	*e*Pn	**Pn**	**21 26 49.4**	**-2.3**
HINF				*e*Sg	**Sg**	**21 28 49.2**	**-3.7**
	comp=Z,181nm,1.0s						
HINF	**Hinteralfeld**	**7.01**	**243**	*e*P	**Pn**	**21 26 49.4**	**-2.3**
HINF	**Hinteralfeld**	**7.01**	**243**	*e*Pn	**Pn**	**21 26 49.4**	**-2.3**
HINF				*e*Sg	**Sg**	**21 28 49.2**	**-3.7**
	comp=Z,91nm,1.0s						
HINF	**Hinteralfeld**	**7.01**	**243**	*e*Pn	**Pn**	**21 26 49.4**	**-2.3**
HINF				*e*Sg	**Sg**	**21 28 49.2**	**-3.7**
HAU	**Haudompre**	**7.19**	**245**	*e*Pn	**Pn**	**21 26 51.8**	**-2.4**
HAU				*e*Sg	**Sg**	**21 28 54.5**	**-4.2**
	comp=Z,96nm,0.8s						
HAU	**Haudompre**	**7.19**	**245**	*e*P	**Pn**	**21 26 51.8**	**-2.4**
HAU	**Haudompre**	**7.19**	**245**	*e*Pn	**Pn**	**21 26 51.8**	**-2.4**
HAU				*e*Sg	**Sg**	**21 28 54.5**	**-4.2**
	comp=Z,48nm,0.8s						
HAU	**Haudompre**	**7.19**	**245**	*e*Pn	**Pn**	**21 26 51.8**	**-2.4**
HAU				*e*Sg	**Sg**	**21 28 54.5**	**-4.2**
GIVF	**Givet**	**7.29**	**264**	*e*Pn	**Pn**	**21 26 52.6**	**-2.7**
GIVF				*e*Sg	**Sg**	**21 28 56.3**	**-5.2**
	comp=Z,233nm,1.1s						
GIVF	**Givet**	**7.29**	**264**	*e*P	**Pn**	**21 26 52.6**	**-2.7**
GIVF	**Givet**	**7.29**	**264**	*e*Pn	**Pn**	**21 26 52.6**	**-2.7**
GIVF				*e*Sg	**Sg**	**21 28 56.3**	**-5.2**
	comp=Z,116nm,1.1s						
GIVF	**Givet**	**7.29**	**264**	*e*Pn	**Pn**	**21 26 52.6**	**-2.7**
GIVF				*e*Sg	**Sg**	**21 28 56.3**	**-5.2**
PAGF	**Fort de Pagny**	**7.29**	**251**	*e*Pn	**Pn**	**21 26 52.8**	**-2.6**
	baz=68						
PAGF				*e*Sg	**Sg**	**21 28 57.3**	**-4.3**
	comp=Z,108nm,1.2s						
PAGF	**Fort de Pagny**	**7.29**	**251**	*e*Pn	**Pn**	**21 26 52.8**	**-2.6**
PAGF				*e*Sg	**Sg**	**21 28 57.3**	**-4.3**
NACGM	**Naroch**	**7.30**	**57**	*e*	Pn	**21 26 51.0**	**-4.5**
DOU	**Dourbes**	**7.43**	**264**	P	**Pn**	**21 26 59.6**	**+2.3**
VANU	**Vaenersborg**	**7.46**	**343**	P	**Pn**	**21 26 56.5**	**-1.2**
VANU	**Vaenersborg**	**7.46**	**343**	P	**Pn**	**21 26 56.5**	**-1.2**
GZR	**Gura Zlata**	**7.48**	**141** ⇑	*i*P	**Pn**	**21 26 58.9**	**+0.8**
ASKU	**Askersund**	**7.53**	**355**	P	**Pn**	**21 26 57.8**	**-0.9**
ASKU	**Askersund**	**7.53**	**355**	P	**Pn**	**21 26 57.8**	**-0.9**
SNF	**Seneffe**	**7.53**	**268**	P	**Pn**	**21 26 59.9**	**+1.2**
BAIF	**Baives**	**7.68**	**264**	*e*Pn	**Pn**	**21 26 58.0**	**-2.7**
BAIF				*e*Sg	**Sg**	**21 29 09.0**	**-5.2**
	comp=Z,280nm,1.4s						
BAIF	**Baives**	**7.68**	**264**	*e*P	**Pn**	**21 26 58.0**	**-2.7**
BAIF	**Baives**	**7.68**	**264**	*e*Pn	**Pn**	**21 26 58.0**	**-2.7**
BAIF				*e*Sg	**Sg**	**21 29 09.0**	**-5.2**
	comp=Z,140nm,1.4s						
BAIF	**Baives**	**7.68**	**264**	*e*Pn	**Pn**	**21 26 58.0**	**-2.7**
BAIF				*e*Sg	**Sg**	**21 29 09.0**	**-5.2**
NYNU	**Nynaeshamn**	**7.68**	**7**	P	**Pn**	**21 26 59.9**	**-0.8**
NYNU	**Nynaeshamn**	**7.68**	**7**	P	**Pn**	**21 26 59.9**	**-0.8**
MEZF	**Maizieres J'vi**	**7.71**	**252**	*e*Pn	**Pn**	**21 26 58.7**	**-2.5**
	baz=67						
MEZF				*e*Sg	**Sg**	**21 29 10.5**	**-4.7**
	comp=Z,247nm,1.2s						
MEZF	**Maizieres J'vi**	**7.71**	**252**	*e*Pn	**Pn**	**21 26 58.7**	**-2.5**
MEZF				*e*Sg	**Sg**	**21 29 10.5**	**-4.7**
	comp=Z,124nm,1.2s						
MEZF	**Maizieres J'vi**	**7.71**	**252**	*e*Pn	**Pn**	**21 26 58.7**	**-2.5**
MEZF				*e*Sg	**Sg**	**21 29 10.5**	**-4.7**
NASU	**Vaermlandsnaes**	**7.71**	**349**	P	**Pn**	**21 27 00.4**	**-0.7**
NASU	**Vaermlandsnaes**	**7.71**	**349**	P	**Pn**	**21 27 00.4**	**-0.7**
MICGM	**Minsk**	**7.75**	**62** ⇓	*i*P	Pg	21 27 30.0	-6.1
LOT	**Lotru**	**7.84**	**137** ⇑	*i*P	**Pn**	**21 27 04.4**	**+1.2**
SFTF	**Sexfontaines**	**7.85**	**250**	*e*Pn	**Pn**	**21 27 00.7**	**-2.5**
SFTF				*e*Sg	**Sg**	**21 29 14.9**	**-4.9**
	comp=Z,199nm,1.2s						
SFTF	**Sexfontaines**	**7.85**	**250**	*e*Pn	**Pn**	**21 27 00.7**	**-2.5**
SFTF				*e*Sg	**Sg**	**21 29 14.9**	**-4.9**
	comp=Z,100nm,1.2s						
SFTF	**Sexfontaines**	**7.85**	**250**	*e*Pn	**Pn**	**21 27 00.7**	**-2.5**
SFTF				*e*Sg	**Sg**	**21 29 14.9**	**-4.9**
CABF	**La Chapelle**	**8.16**	**238**	*e*Pn	**Pn**	**21 27 05.0**	**-2.4**
CABF				*e*Sg	**Sg**	**21 29 24.8**	**-4.8**
	comp=Z,319nm,1.1s						
CABF	**La Chapelle**	**8.16**	**238**	*e*P	**Pn**	**21 27 05.0**	**-2.4**
CABF	**La Chapelle**	**8.16**	**238**	*e*Pn	**Pn**	**21 27 05.0**	**-2.4**
CABF				*e*Sg	**Sg**	**21 29 24.8**	**-4.8**
NRAU	**Nora**	**8.19**	**356**	P	**Pn**	**21 27 07.2**	**-0.5**
NRAU	**Nora**	**8.19**	**356**	P	**Pn**	**21 27 07.2**	**-0.5**
KIEV	**Kiev**	**8.28**	**90**	*c* *i*P	**Pn**	**21 27 07.9**	**-1.1**
KIEV	**Kiev**	**8.28**	**90**	*e*Pn	**Pn**	**21 27 07.3**	**-1.7**
KIEV	**Kiev**	**8.28**	**90**	*i* P	**Pn**	**21 27 07.9**	**-1.1**
KIEV	**Kiev**	**8.28**	**90**	*e*Pn	**Pn**	**21 27 07.3**	**-1.7**
ARR	**Arges**	**8.29**	**134** ⇑	*i*P	**Pn**	**21 27 10.1**	**+0.9**
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**Pn**	**21 27 07.3**	**-1.9**
	comp=Z,7.7nm,0.3s,baz=279,slow=12,SNR=16						
AKASG				Sn	Sn	21 28 34.8	-8.6
	comp=Z,4.2nm,0.3s,baz=279,slow=23,SNR=6.1						
AKASG				Lg	Lg	21 29 33.6	
	comp=Z,1.4nm,0.3s,baz=279,slow=29,SNR=4.1						
VOIR		**8.43**	**132** ⇓	*i*P	**Pn**	**21 27 11.2**	**+0.1**
TESR	**Tescani**	**8.49**	**121** ⇑	*i*P	**Pn**	**21 27 12.6**	**+0.7**
LPL	**La Plagne**	**8.58**	**230**	*e*Pn	**Pn**	**21 27 11.0**	**-2.4**
LPL				*e*Sg	**Sg**	**21 29 38.3**	**-4.9**
	comp=Z,141nm,1.4s						
LPL	**La Plagne**	**8.58**	**230**	*e*P	**Pn**	**21 27 11.0**	**-2.4**
LPL	**La Plagne**	**8.58**	**230**	*e*Pn	**Pn**	**21 27 11.0**	**-2.4**
LPL				*e*Sg	**Sg**	**21 29 38.3**	**-4.9**
	comp=Z,70nm,1.4s						
LPL	**La Plagne**	**8.58**	**230**	*e*Pn	**Pn**	**21 27 11.0**	**-2.4**
LPL				*e*Sg	**Sg**	**21 29 38.3**	**-4.9**
LPG	**La Plagne**	**8.59**	**230**	*e*Pn	**Pn**	**21 27 11.2**	**-2.3**
LPG				*e*Sg	**Sg**	**21 29 38.9**	**-4.5**
	comp=Z,174nm,1.3s						
LPG	**La Plagne**	**8.59**	**230**	*e*P	**Pn**	**21 27 11.2**	**-2.3**
LPG	**La Plagne**	**8.59**	**230**	*e*Pn	**Pn**	**21 27 11.2**	**-2.3**
LPG				*e*Sg	**Sg**	**21 29 38.9**	**-4.5**
	comp=Z,87nm,1.3s						
LPG	**La Plagne**	**8.59**	**230**	*e*Pn	**Pn**	**21 27 11.2**	**-2.3**
LPG				*e*Sg	**Sg**	**21 29 38.9**	**-4.5**
HFS	**Hagfors**	**8.84**	**352**	P	**Pn**	**21 27 15.3**	**-1.4**
HFS						21 28 52.2	
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS				smax	smax		
	comp=N,2.0nm,0.3s						
HFS	**Hagfors**	**8.84**	**352**	Pn	**Pn**	**21 27 15.3**	**-1.4**
	comp=N,1.4nm,0.3s,baz=174,slow=14,SNR=45						
HFS				Sn	**Sn**	**21 28 52.2**	**-4.7**
	comp=N,1.9nm,0.3s,baz=165,slow=23,SNR=5.1						
HFS				Lg	Lg	21 29 41.3	
	comp=N,0.9nm,0.3s,baz=152,slow=28,SNR=2.3						
VRI	**Vrincioaia**	**8.95**	**124** ⇓	*i*P	**Pn**	**21 27 19.1**	**+0.9**
BNI	**Bardonecchia**	**8.95**	**228**	*e*P	**Pn**	**21 27 18.8**	**+0.4**
BNI	**Bardonecchia**	**8.95**	**228**	*e*P	**Pn**	**21 27 18.8**	**+0.4**
BNI	**Bardonecchia**	**8.95**	**228**	*e*Pn	**Pn**	**21 27 18.8**	**+0.4**
LOR	**Lormes**	**9.01**	**247**	*e*Pn	**Pn**	**21 27 16.6**	**-2.5**
	baz=70						
LOR				*e*Sg		21 29 51.4	
	comp=N,107nm,1.0s						
LOR	**Lormes**	**9.01**	**247**	*e*P	**Pn**	**21 27 16.6**	**-2.5**
LOR	**Lormes**	**9.01**	**247**	*e*Pn	**Pn**	**21 27 16.6**	**-2.5**
LOR				*e*Sg		21 29 51.4	
MBDF	**Montbardon**	**9.16**	**227**	*e*Pn	**Pn**	**21 27 18.9**	**-2.3**
MBDF				*e*Sg	Sn	21 29 56.3	+51
	comp=N,61nm,1.1s						
MBDF	**Montbardon**	**9.16**	**227**	*e*P	**Pn**	**21 27 18.9**	**-2.3**
MBDF	**Montbardon**	**9.16**	**227**	*e*Pn	**Pn**	**21 27 18.9**	**-2.3**
MBDF				*e*Sg	Sn	21 29 56.3	+51
	comp=N,31nm,1.1s						
MBDF	**Montbardon**	**9.16**	**227**	*e*Pn	**Pn**	**21 27 18.9**	**-2.3**
MBDF				*e*Sg	Sn	21 29 56.3	+51
VSU	**Vasula**	**9.33**	**37**	*e*P	**Pn**	**21 27 21.6**	**-1.7**
VSU	**Vasula**	**9.33**	**37**	*e*P	**Pn**	**21 27 21.6**	**-1.7**
SSF	**Saint Saulge**	**9.33**	**247**	*e*Pn	**Pn**	**21 27 20.8**	**-2.6**
SSF				*e*Sg	Sn	21 30 01.0	+52
	comp=N,84nm,1.1s						
SSF	**Saint Saulge**	**9.33**	**247**	*e*P	**Pn**	**21 27 20.8**	**-2.6**
SSF	**Saint Saulge**	**9.33**	**247**	*e*Pn	**Pn**	**21 27 20.8**	**-2.6**
SSF				*e*Sg	Sn	21 30 01.0	+52
	comp=N,42nm,1.1s						
SSF	**Saint Saulge**	**9.33**	**247**	*e*Pn	**Pn**	**21 27 20.8**	**-2.6**
SSF				*e*Sg	Sn	21 30 01.0	+52
SMF	**Signal de Mont**	**9.37**	**244**	*e*Pn	**Pn**	**21 27 21.4**	**-2.5**
SMF				*e*Sg	Sn	21 30 02.4	+52
	comp=N,111nm,1.2s						
SMF	**Signal de Mont**	**9.37**	**244**	*e*P	**Pn**	**21 27 21.4**	**-2.5**
SMF	**Signal de Mont**	**9.37**	**244**	*e*Pn	**Pn**	**21 27 21.4**	**-2.5**
SMF				*e*Sg	Sn	21 30 02.4	+52
	comp=N,56nm,1.2s						
SMF	**Signal de Mont**	**9.37**	**244**	*e*Pn	**Pn**	**21 27 21.4**	**-2.5**
SMF				*e*Sg	Sn	21 30 02.4	+52
SAOF	**Saorge**	**9.41**	**221**	P	**Pn**	**21 27 26.0**	**+1.5**
SAOF	**Saorge**	**9.41**	**221**	P	**Pn**	**21 27 26.0**	**+1.5**
KIS	**Kishinev**	**9.41**	**113**	*e*Pn	Pn	21 28 07.0	+42
ORIF	**Oris-en-Rattie**	**9.43**	**230**	*e*Pn	**Pn**	**21 27 22.4**	**-2.5**
ORIF				*e*Sg	Sn	21 30 04.7	+53
	comp=N,65nm,1.0s						
ORIF	**Oris-en-Rattie**	**9.43**	**230**	*e*P	**Pn**	**21 27 22.4**	**-2.5**
ORIF	**Oris-en-Rattie**	**9.43**	**230**	*e*Pn	**Pn**	**21 27 22.4**	**-2.5**
ORIF				*e*Sg	Sn	21 30 04.7	+53
	comp=N,32nm,1.0s						
ORIF	**Oris-en-Rattie**	**9.43**	**230**

	comp=N,86nm,1.4s								
MFF	**Saint Martin d**	**11.71**	**252**	*e*P		**Pn**		**21 27 53.2**	**-2.8**
MFF	**Saint Martin d**	**11.71**	**252**	*e*Pn		**Pn**		**21 27 53.2**	**-2.8**
MFF				*e*Sg				21 31 15.4	
KAF	**Kangasniemi**	**12.07**	**23**	*e*P		Pn		21 27 57.0	-3.8
KAF					pmax	pmax			
	comp=Z,7.0nm,0.5s								
KAF	**Kangasniemi**	**12.07**	**23**	*e*p		Pn		21 27 57.0	-3.8
	comp=Z,7.3nm,0.5s								
LFF	**La Frestale**	**12.13**	**244**	*e*Pn		**Pn**		**21 27 59.0**	**-2.7**
LFF				*e*Sg				21 31 28.3	
	comp=Z,128nm,1.3s								
LFF	**La Frestale**	**12.13**	**244**	*e*P		**Pn**		**21 27 59.0**	**-2.7**
LFF	**La Frestale**	**12.13**	**244**	*e*Pn		**Pn**		**21 27 59.0**	**-2.7**
LFF				*e*Sg				21 31 28.3	
	comp=Z,64nm,1.3s								
LFF	**La Frestale**	**12.13**	**244**	*e*Pn		**Pn**		**21 27 59.0**	**-2.7**
LFF				*e*Sg				21 31 28.3	
EKA	**Eskdalemuir Ar**	**12.15**	**296**	P		**Pn**		**21 27 59.0**	**-2.9**
EKA	**Eskdalemuir Ar**	**12.15**	**296**	Pn		**Pn**		**21 27 59.0**	**-2.9**
	baz=103,slow=14,SNR=14								
EKA				Sn		Sn		21 30 05.0	-13
	baz=101,slow=25,SNR=3.0								
ESK	**Eskdalemuir**	**12.17**	**296**	*i* P		**Pn**		**21 28 00.2**	**-2.0**
MTLF	**Montolieu**	**12.39**	**235**	*e*Pn		**Pn**		**21 28 02.7**	**-2.6**
MTLF				*e*Sg				21 31 37.0	
	comp=Z,38nm,1.3s								
MTLF	**Montolieu**	**12.39**	**235**	*e*P		**Pn**		**21 28 02.7**	**-2.6**
MTLF	**Montolieu**	**12.39**	**235**	*e*Pn		**Pn**		**21 28 02.7**	**-2.6**
MTLF				*e*Sg				21 31 37.0	
	comp=Z,19nm,1.3s								
MTLF	**Montolieu**	**12.39**	**235**	*e*Pn		**Pn**		**21 28 02.7**	**-2.6**
MTLF				*e*Sg				21 31 37.0	
OBN	**Obninsk**	**12.78**	**65**	*i* P		Pn		21 28 06.8	-3.7
OBN					pmax	pmax			
	comp=Z,25nm,1.1s								
OBN					MLR	MLR			
	comp=Z,62nm,16.0s								
OBN	**Obninsk**	**12.78**	**65**	Pn		Pn		21 28 04.2	-6.3
	comp=Z,5.8nm,0.3s,baz=134,slow=13,SNR=4.6								
MOS	**Moscow**	**13.47**	**63**	*e*P		Pn		21 28 11.7	-8.2
MOS					pmax	pmax			
	comp=Z,54nm,0.7s								
MOS					pmax	pmax			
	comp=Z,100nm,0.7s								
EPF	**Esparros**	**13.59**	**238**	*e*Pn		**Pn**		**21 28 18.7**	**-3.0**
EPF				*e*Sg		S		21 32 14.7	+58
	comp=Z,57nm,1.4s								
EPF	**Esparros**	**13.59**	**238**	*e*P		**Pn**		**21 28 18.7**	**-3.0**
EPF	**Esparros**	**13.59**	**238**	*e*Pn		**Pn**		**21 28 18.7**	**-3.0**
EPF				*e*Sg		S		21 32 14.7	+58
JOF	**Joensuu**	**14.12**	**29**	*e*P		Pn		21 28 23.9	-4.8
JOF					pmax	pmax			
	comp=Z,6.0nm,0.4s								
JOF	**Joensuu**	**14.12**	**29**	*e*p		Pn		21 28 23.9	-4.8
	comp=Z,6.4nm,0.4s								
VSR	**Storozhevoye**	**14.41**	**82**	*e*P		Pn		21 28 27.0	-5.8
VSR					pmax	pmax			
	comp=Z,30nm,1.8s								
VSR					pmax	pmax			
	comp=N,10.0nm,1.0s								
VSR					pmax	pmax			
	comp=E,20nm,1.1s								
VORD	**Divnogorie**	**14.53**	**83**	*e*P		Pn		21 28 26.5	-7.9
VORD					pmax	pmax			
	comp=N,6.0nm,0.6s								
VORD					pmax	pmax			
	comp=Z,3.0nm,0.6s								
VORD					pmax	pmax			
	comp=E,6.0nm,0.7s								
VRHR	**Novokhopersk**	**15.95**	**81**	*e*P		Pn		21 28 45.9	-7.4
VRHR					pmax	pmax			
	comp=N,30nm,0.8s								
VRHR					pmax	pmax			
	comp=Z,20nm,0.8s								
VRHR					pmax	pmax			
	comp=E,30nm,0.7s								
BRTR	**Keskin Array B**	**16.90**	**127**	Pn		**P**		**21 29 08.4**	**+0.7**
	comp=E,0.0nm,0.3s,baz=322,slow=9.1,SNR=6.5								
ESDC	**Sonseca Array**	**18.25**	**238**	P		**Pn**		**21 29 21.7**	**-0.6**
	comp=E,0.2nm,0.3s,baz=50,slow=11,SNR=2.8								
ARCES	**ARCESS Array B**	**18.71**	**10**	P		**P**		**21 29 23.4**	**-4.1**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.3s								
ARCES	**ARCESS Array B**	**18.71**	**10**	P		**P**		**21 29 23.4**	**-4.1**
	comp=Z,2.9nm,0.3s,baz=193,slow=12,SNR=61								
PRGR	**Permogore**	**19.05**	**46**	P		P		21 29 25.1	-6.0
PRGR								21 32 53.2	
PRGR					pmax	pmax			
	comp=Z,14nm,0.6s								
PRGR					smax	smax			
	comp=E,21nm,0.9s								
PRGR					smax	smax			
	comp=N,18nm,0.9s								
KEV	**Kevo**	**19.10**	**12**	*e*P		**P**		**21 29 30.6**	**-1.1**
KEV					pmax	pmax			
	comp=Z,12nm,0.6s								
KEV	**Kevo**	**19.10**	**12**	*e*p		**P**		**21 29 28.2**	**-3.5**
	comp=Z,12nm,0.6s								
KEV	**Kevo**	**19.10**	**12**	*e*P		**P**		**21 29 30.6**	**-1.1**
	comp=Z,12nm,0.6s								
KEV	**Kevo**	**19.10**	**12**	*e*P		**P**		**21 29 30.6**	**-1.1**
	comp=Z,12nm,0.6s								
KIV	**Kislovodsk**	**19.31**	**102**	*e*P		**P**		**21 29 34.1**	**-0.2**
KIV				*e*S		**Sn**		**21 33 12.5**	**+0.3**
KIV					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**19.31**	**102**	*e*P		**P**		**21 29 34.1**	**-0.2**
	comp=Z,5.0nm,1.0s								
KIV				*e*S		**Sn**		**21 33 12.5**	**+0.3**
KBZ	**Khabaz**	**19.56**	**103**	P		**Pn**		**21 29 38.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=236,slow=23,SNR=4.2								
NEY	**Neytrino**	**19.71**	**104**	*e*P		**P**		**21 29 38.3**	**-0.5**
NEY					pmax	pmax			
	comp=Z,1.0nm,1.1s								
NEY	**Neytrino**	**19.71**	**104**	*e*P		**P**		**21 29 38.3**	**-0.5**
	comp=Z,1.0nm,1.1s								
NCK	**Nalchik**	**20.11**	**102**	*i* P		**P**		**21 29 43.7**	**+0.8**
NCK	**Nalchik**	**20.11**	**102**	*i* P		**P**		**21 29 43.7**	**+0.8**
ZEI	**Tsey**	**20.69**	**104**	*e*P		**P**		**21 29 49.6**	**+0.2**
ZEI					pmax	pmax			
	comp=Z,9.0nm,1.0s								
ZEI	**Tsey**	**20.69**	**104**	*e*P		**P**		**21 29 49.6**	**+0.2**
	comp=Z,9.0nm,1.0s								
GNI	**Garni**	**22.77**	**108**	*e*P		**P**		**21 30 10.7**	**-1.1**
GNI					pmax	pmax			
	comp=Z,12nm,1.7s								
GNI	**Garni**	**22.77**	**108**	P		**P**		**21 30 14.4**	**+2.6**
	comp=Z,21nm,0.5s,baz=221,slow=8.0,SNR=4.7								
GNI					LR	LR		21 41 29.8	
	comp=Z,45nm,21.4s,baz=291,slow=43								
GNI	**Garni**	**22.77**	**108**	*e*P		**P**		**21 30 10.7**	**-1.1**
	comp=Z,12nm,1.7s								
GNI	**Garni**	**22.77**	**108**	*e*P		**P**		**21 30 14.3**	**+2.5**
	comp=Z,11nm,1.3s								
SOKR	**Solikamsk**	**24.10**	**54**	*c i*P		**P**		**21 30 26.4**	**+1.8**
SOKR					pmax	pmax			
	comp=Z,20nm,1.1s								
SOKR	**Solikamsk**	**24.10**	**54**	*i* P		**P**		**21 30 26.4**	**+1.8**
	comp=Z,20nm,1.1s								
ARU	**Arti**	**25.18**	**62**	*d i*P		**P**		**21 30 33.9**	**-0.6**
ARU								21 31 08.0	
ARU				S		**S**		**21 35 01.9**	**+1.6**
ARU				SS		**SnSn**		**21 35 50.9**	**+1.5**
ARU					pmax	pmax			
	comp=Z,19nm,1.0s								
ARU	**Arti**	**25.18**	**62**	*i* P		**P**		**21 30 33.9**	**-0.6**
	comp=Z,19nm,1.0s								
ARU				S		**S**		**21 35 01.9**	**+1.6**
ARU	**Arti**	**25.18**	**62**	*e*P		**P**		**21 30 33.6**	**-0.8**
	comp=Z,17nm,0.9s								
AKTK	**Aktyubinsk**	**26.17**	**76**	P		**P**		**21 30 43.7**	**+0.1**
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**	**26.17**	**76**	P		**P**		**21 30 43.7**	**+0.1**
AKTO					pmax	pmax			
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**	**26.17**	**76**	P		**P**		**21 30 43.7**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=283,slow=8.4,SNR=16								
SVE	**Sverdlovsk**	**26.27**	**61**	*e*P		**P**		**21 30 45.1**	**+0.7**
SVE	**Sverdlovsk**	**26.27**	**61**	*e*P		**P**		**21 30 45.1**	**+0.7**
SPITS	**Spitsbergen Ar**	**26.87**	**0**	P		**P**		**21 30 49.9**	**+0.2**
SPITS					pmax	pmax			
	comp=Z,11nm,1.0s								
SPITS	**Spitsbergen Ar**	**26.87**	**0**	P		**P**		**21 30 49.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=187,slow=8.4,SNR=10								
SPITS	**Spitsbergen Ar**	**26.87**	**0**	P		**P**		**21 30 49.9**	**+0.2**
	comp=Z,11nm,1.0s								
ABKAR	**Akbulak array**	**27.75**	**77**	*e*P		**P**		**21 30 58.4**	**+0.6**
	comp=Z,1.9nm,0.5s								
ABKAR	**Akbulak array**	**27.75**	**77**	*e*P		**P**		**21 30 58.4**	**+0.6**
	comp=Z,1.9nm,0.5s								
BRVK	**Borovoye**	**32.55**	**65**	*e*P		**P**		**21 31 41.1**	**+0.9**
BRVK					pmax	pmax			
	comp=Z,8.0nm,0.9s								
BRVK	**Borovoye**	**32.55**	**65**	*e*P		**P**		**21 31 41.1**	**+0.9**
	comp=Z,7.8nm,0.9s								
BRVK	**Borovoye**	**32.55**	**65**	*e*P		**P**		**21 31 41.1**	**+0.9**
	comp=Z,7.8nm,0.9s								
EKS2	**Erkin-Say**	**39.33**	**80**	*e*P		**P**		**21 32 39.6**	**+1.1**
EKS2					pmax	pmax			
	comp=Z,3.0nm,0.6s								
EKS2	**Erkin-Say**	**39.33**	**80**	*e*P		**P**		**21 32 39.6**	**+1.1**
	comp=Z,2.8nm,0.6s								
EKS2	**Erkin-Say**	**39.33**	**80**	*e*P		**P**		**21 32 39.6**	**+1.1**
	comp=Z,2.8nm,0.6s								
AAK	**Ala-Archa**	**39.79**	**79**	*e*P		**P**		**21 32 43.0**	**+0.6**
AAK					pmax	pmax			
	comp=Z,9.0nm,1.1s								
AAK	**Ala-Archa**	**39.79**	**79**	*e*P		**P**		**21 32 43.0**	**+0.6**
	comp=Z,8.5nm,1.1s								
AAK	**Ala-Archa**	**39.79**	**79**	*e*P		**P**		**21 32 43.0**	**+0.6**
	comp=Z,8.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**39.92**	**202**	P		**P**		**21 32 44.5**	**+1.0**
	comp=Z,6.1nm,1.0s,baz=9.2,slow=8.5,SNR=24								
ZALV	**Zalesovo Beam**	**40.24**	**58**	P		**P**		**21 32 47.0**	**+1.2**
ZALV								21 34 15.9	
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**40.24**	**58**	P		**P**		**21 32 47.0**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=292,slow=7.8,SNR=15								
ZALV					PP	**PP**		**21 34 15.9**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=304,slow=10,SNR=3.9								
ZALV	**Zalesovo Beam**	**40.24**	**58**	P		**P**		**21 32 47.0**	**+1.2**
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**42.24**	**69**	P		**P**		**21 33 03.1**	**+0.7**
MKAR								21 34 39.6	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**42.24**	**69**	P		**P**		**21 33 03.1**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=304,slow=6.6,SNR=13								
MKAR					PP	**PP**		**21 34 39.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=303,slow=8.4,SNR=5.0								
SCHQ	**Schefferville**	**47.13**	**308**	P		**P**		**21 33 41.0**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=51,slow=6.9,SNR=4.4								
SCHQ	**Schefferville**	**47.13**	**308**	P		**P**		**21 33 41.0**	**-0.3**
TLY	**Talaya**	**51.18**	**53**	*e*P		**P**		**21 34 14.4**	**+2.1**
TLY				*e*				21 35 30.6	
TLY					pmax	pmax			
	comp=Z,6.0nm,1.5s								
TLY	**Talaya**	**51.18**	**53**	*e*P		**P**		**21 34 14.4**	**+2.1**
	comp=Z,6.0nm,1.5s								
TLY	**Talaya**	**51.18**	**53**	*e*PcP		**PcP**		**21 35 30.6**	**+2.9**
ZAK	**Zakamensk**	**51.77**	**54**	*e*P		**P**		**21 34 17.3**	**+0.4**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.3s								
ZAK	**Zakamensk**	**51.77**	**54**	*e*P		**P**		**21 34 17.3**	**+0.4**
	comp=Z,2.0nm,1.3s								
BOD	**Bodaibo**	**52.22**	**42**	*e*P		P		21 34 16.1	-3.9
BOD					pmax	pmax			
	comp=Z,4.0nm,1.1s								
PYUN	**Piuthan**	**54.37**	**88**	*e*P		**P**		**21 34 36.8**	**+0.4**
	comp=Z,18nm,0.8s								
DANN	**Dangsing**	**54.67**	**88**	*e*P		**P**		**21 34 39.4**	**+0.6**
	comp=Z,15nm,0.9s								
SONM	**Songino Array**	**54.96**	**55**	P		**P**		**21 34 42.0**	**+1.6**
SONM					pmax	pmax			
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**54.96**	**55**	P		**P**		**21 34 42.0**	**+1.6**
	comp=Z,2.4nm,1.0s,baz=305,slow=5.1,SNR=15								
SONM	**Songino Array**	**54.96**	**55**	P		**P**		**21 34 42.0**	**+1.6**
	comp=Z,2.0nm,1.0s								
KOLN	**Koldanda**	**54.98**	**88**	*e*P		**P**		**21 34 41.1**	**+0.2**
YAK	**Yakutsk**	**55.28**	**32**	*e*P		**P**		**21 34 41.3**	**-1.0**
YAK					pmax	pmax			
	comp=Z,14nm,1.0s								
YAK	**Yakutsk**	**55.28**	**32**	*e*P		**P**		**21 34 41.3**	**-1.0**
	comp=Z,14nm,1.0s								
ULN	**Ulaanbaatar**	**55.28**	**55**	*ce*P		**P**		**21 34 39.7**	**-3.1**
ULN					pmax	pmax			
	comp=Z,6.0nm,2.5s								
GKN	**Gorkha**	**55.47**	**87**	*e*P		**P**		**21 34 44.5**	**+0.2**
	comp=Z,19nm,0.9s								
KKN	**Kakani**	**56.02**	**87**	*e*P		**P**		**21 34 48.7**	**+0.3**
	comp=Z,6.7nm,0.7s								
PKIN	**Phulchoki**	**56.24**	**87**	*e*P		**P**		**21 34 50.2**	**+0.2**
PKI	**Pulchoki**	**56.25**	**87**	*e*P		**P**		**21 34 50.3**	**+0.1**
	comp=Z,10nm,1.0s								
GUN	**Gumba**	**56.31**	**86**	*e*P		**P**		**21 34 51.8**	**+1.2**
JIRN	**Jiri**	**56.68**	**86**	*e*P		**P**		**21 34 53.9**	**+0.6**
	comp=Z,24nm,1.1s								
RAMN	**Ramite**	**57.44**	**87**	*e*P		**P**		**21 34 58.1**	**-0.4**
	comp=Z,11nm,0.9s								
TAPN	**Taplejung**	**57.85**	**85**	*e*P		**P**		**21 35 01.9**	**+0.4**
	comp=Z,3.5nm,0.6s								
ODAN	**Odare**	**58.00**	**86**	*e*P		**P**		**21 35 02.6**	**+0.2**
	comp=Z,31nm,0.9s								
LSA	**Lhasa**	**58.33**	**81**	*e*P		**P**		**21 35 06.5**	**+1.5**
LSA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
LSA	**Lhasa**	**58.33**	**81**	*e*P		**P**		**21 35 06.5**	**+1.5**
	comp=Z,4.4nm,0.9s								
LSA	**Lhasa**	**58.33**	**81**	*e*P		**P**		**21 35 06.5**	**+1.5**
	comp=Z,4.4nm,0.9s								
BILL	**Bilibino**	**58.79**	**13**	*e*P		**P**		**21 35 06.5**	**-0.6**
BILL					pmax	pmax			
	comp=Z,3.0nm,1.2s								
BILL	**Bilibino**	**58.79**	**13**	*e*P		**P**		**21 35 06.5**	**-0.6**
	comp=Z,3.0nm,1.2s								
YKA	**Yellowknife Ar**	**59.94**	**336**	P		**P**		**21 35 16.1**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=25,slow=7.2,SNR=41								
ILAR	**Eielson Array**	**63.40**	**352**	P		**P**		**21 35 39.9**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=343,slow=6.0,SNR=4.5								
CMAR	**Chiang Mai Arr**	**71.36**	**84**	P		**P**		**21 36 30.3**	**+0.8**
CMAR					pmax	pmax			
	comp=Z,3.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**71.36**	**84**	P		**P**		**21 36 30.3**	**+0.8**
	comp=Z,3.3nm,1.1s,baz=306,slow=6.9,SNR=19								
KSAR	**Wonju Array Be**	**73.31**	**51**	P		**P**		**21 36 41.2**	**+0.3**
KSAR	**Wonju Array Be**	**73.31**	**51**	P		**P**		**21 36 41.1**	**+0.3**
KSRS	**Korea Array**	**73.32**	**50**	P		**P**		**21 36 41.1**	**+0.2**
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KSRS	**Korea Array**	**73.32**	**50**	P		**P**		**21 36 41.1**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=328,slow=4.4,SNR=4.9								
PDAR	**Pinedale Array**	**75.02**	**322**	P		**P**		**21 36 52.2**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=55,slow=5.6,SNR=7.2								
ELK	**Elko**	**78.90**	**324**	P		**P**		**21 37 15.7**	**+2.7**
ELK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ELK	**Elko**	**78.90**	**324**	P		**P**		**21 37 15.7**	**+2.7**
	comp=Z,3.2nm,1.0s,baz=348,slow=4.5,SNR=7.8								
NVAR	**Mina Array Bea**	**82.05**	**326**	P		**P**		**21 37 32.8**	**+2.8**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.8,SNR=4.5								
TXAR	**Lajitas Array**	**83.78**	**310**	P		**P**		**21 37 40.4**	**+1.5**
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
TXAR	**Lajitas Array**	**83.78**	**310**	P		**P**		**21 37 40.4**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=39,slow=3.5,SNR=8.3								
WRA	**Warramunga Arr**	**122.88**	**81**	PKP		**PKPdf**		**21 44 05.4**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=308,slow=2.6,SNR=3.9								
ASAR	**Alice Springs**	**125.37**	**84**	PKIKP		**PKPdf**		**21 44 10.9**	**+0.4**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**125.37**	**84**	PKP		**PKPdf**		**21 44 10.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=332,slow=1.2,SNR=7.1								

CSEM ***15*** *21:25:59.7, 43.47N×12.43E, h8km, MD1.8/10*
ROM 15 21:25:59.7±0.1, 43.47N×12.43E, h8km, Md1.8/10, 6C, Error ellipse: s-maj=0.9km s-min=0.7km az=8.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.02**	**63**	Pg		Pg	21 26 01.5	+0.2
ATPC				Sg		Sg	21 26 02.5	0.0
ATPC	**Poggio Castell**	**0.02**	**63**	Pg		Pg	21 26 01.5	+0.2
ATPC				Sg		Sg	21 26 02.5	0.0
ATVO	**AVT- Monte Val**	**0.09**	**193**	Pg		Pg	21 26 02.5	+0.4
ATVO				Sg		Sg	21 26 04.4	+0.6
ATVO	**AVT- Monte Val**	**0.09**	**193**	Pg		Pg	21 26 02.5	+0.4
ATVO				Sg		Sg	21 26 04.4	+0.6
PIEI	**Pieia**	**0.10**	**49**	*i*Pg		Pg	21 26 02.6	+0.4
PIEI				Sg		Sg	21 26 04.8	+0.9
PIEI	**Pieia**	**0.10**	**49**	*i*Pg		Pg	21 26 02.6	+0.4
PIEI				Sg		Sg	21 26 04.8	+0.9
BADI	**Badiali**	**0.14**	**285**	*i*Pg		Pg	21 26 03.4	+0.5
BADI				Sg		Sg	21 26 06.1	+1.1
BADI	**Badiali**	**0.14**	**285**	*i*Pg		Pg	21 26 03.4	+0.5
BADI				Sg		Sg	21 26 06.1	+1.1
ATFO	**Monte Foce - G**	**0.14**	**136**	Pg		Pg	21 26 03.4	+0.4
ATFO				Sg		Sg	21 26 06.1	+0.9
ATFO	**Monte Foce - G**	**0.14**	**136**	Pg		Pg	21 26 03.4	+0.4
ATFO				Sg		Sg	21 26 06.1	+0.9
CDCA	**Citt' di Caste**	**0.15**	**265**	Pg		Pg	21 26 03.4	+0.5
CDCA				Sg		Sg	21 26 06.2	+1.2
CDCA	**Citt' di Caste**	**0.15**	**265**	Pg		Pg	21 26 03.4	+0.5
CDCA				Sg		Sg	21 26 06.2	+1.2
PARC	**Parchiule**	**0.23**	**321**	Pg		Pg	21 26 04.9	+0.5
PARC				Sg		Sg	21 26 09.2	+1.7
PARC	**Parchiule**	**0.23**	**321**	Pg		Pg	21 26 04.9	+0.5
PARC				Sg		Sg	21 26 09.2	+1.7
FSSB	**Fossombrone**	**0.33**	**48**	Pg		Pg	21 26 06.9	+0.5
FSSB	**Fossombrone**	**0.33**	**48**	Pg		Pg	21 26 06.9	+0.5
ARVD	**Arcevia**	**0.37**	**86**	Pg		Pg	21 26 07.6	+0.6
ARVD				Sg		Sb	21 26 13.7	-0.8
ARVD	**Arcevia**	**0.37**	**86**	Pg		Pg	21 26 07.6	+0.6
ARVD				Sg		Sb	21 26 13.7	-0.8
CAFI	**Castiglion Fio**	**0.37**	**247**	*i*Pg		Pg	21 26 07.4	+0.4
CAFI	**Castiglion Fio**	**0.37**	**247**	*i*Pg		Pg	21 26 07.4	+0.4
CRE	**Caprese Michel**	**0.38**	**293**	Pg		Pg	21 26 07.8	+0.4
CRE				Sg		Sb	21 26 14.3	-0.7
CRE	**Caprese Michel**	**0.38**	**293**	Pg		Pg	21 26 07.8	+0.4
CRE				Sg		Sb	21 26 14.3	-0.7
CING	**Cingoli**	**0.56**	**100**	Pg		Pg	21 26 11.1	+0.4
CING				Sg		Sb	21 26 20.3	+0.2
CING	**Cingoli**	**0.56**	**100**	Pg		Pg	21 26 11.1	+0.4
CING				Sg		Sb	21 26 20.3	+0.2
MGAB	**Montegabbione**	**0.61**	**203**	Pg		Pg	21 26 11.8	+0.3
MGAB				Sg		Sb	21 26 21.4	+0.1
MGAB	**Montegabbione**	**0.61**	**203**	Pg		Pg	21 26 11.8	+0.3
MGAB				Sg		Sb	21 26 21.4	+0.1
FDMO	**Fiordimonte**	**0.65**	**132**	Pg		Pg	21 26 12.3	+0.1
FDMO	**Fiordimonte**	**0.65**	**132**	Pg		Pg	21 26 12.3	+0.1

ISCJB ***15*** *21:33:11.9±0.4, 32.65N±0.02×115.69W±0.02, h12km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=32.0*
NEIC ***15*** *21:33:13.0, 32.61N×115.73W, h10km, MD3.6(MEX), ML3.5(PAS), After PAS.*
ECX ***15*** *21:33:13.7±0.6, 32.64N×115.75W, h4km, MD3.4, ML3.6*
MEX ***15*** *21:33:13.3±0.8, 32.79N×115.59W, h16km±17km, MD3.6*
ISC 15 21:33:12.4±0.9, 32.62N±0.02×115.72W±0.02, h15km±7km, n28, σ1s01/48, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COK	**Cook Ranch**	**0.23**	**358**	*e*P		**Pg**	**21 33 17.7**	**+0.2**
RMX	**La Rumorosa**	**0.30**	**267**	*i*P		**Pg**	**21 33 19.1**	**+0.3**
RMX				*e*S		**Sg**	**21 33 23.1**	**-0.2**
CRR	**Carrizo Plain**	**0.34**	**322**	*e*P		**Pg**	**21 33 19.4**	**0.0**
CPBX	**Cerro Prieto**	**0.40**	**120**	*e*P		**Pb**	**21 33 21.9**	**+0.7**
CPBX				*e*S		**Sb**	**21 33 27.7**	**+0.5**
CPBX				*e*			21 33 31.5	
CPBX					AML	AML	21 33 31.5	
	comp=E,15μm,0.4s							
CPBX					AML	AML	21 33 33.9	
	comp=N,13μm,0.4s							
CPBX				*e*			21 33 33.9	
CPBX	**Cerro Prieto**	**0.40**	**120**	*e*P		**Pg**	**21 33 21.2**	**+0.7**
CPBX				*e*S		**Sb**	**21 33 28.2**

PKDT	**Phuket**	**6.08**	**16**	P		Pb	21 38 48.2	-6.3
	28nm,0.8s,0.1nm							
SURT	**Suratani**	**7.23**	**17**	P		**Pn**	**21 38 52.6**	**-0.6**
PBKT	**Sadao Pong**	**15.08**	**16**	P		**P**	**21 40 46.1**	**+0.4**
	10nm,0.8s							
UTTA	**Uttaradit**	**16.10**	**13**	P		**P**	**21 40 57.3**	**+0.3**
	3.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.51**	**8**	Pn		**Pn**	**21 40 58.1**	**-0.9**
	0.3nm,0.3s,baz=198,slow=11,SNR=67							
CMAR				LR		LR	21 47 34.4	
	comp=Z,139nm,21.0s,baz=192,slow=38							
LAMP	**Lampang**	**16.67**	**10**	P		**Pn**	**21 41 01.2**	**0.0**
	3.0nm,0.8s							
CMMT	**Chiang Mai**	**16.86**	**7**	P		**P**	**21 41 05.0**	**-0.4**
	8.5nm,1.0s							
CHTO	**Chiang Mai**	**16.86**	**7**	*e*Pn		**Pn**	**21 41 02.2**	**-1.3**
	6.0nm,1.0s							
CMAI	**Chiangmai2**	**17.97**	**7**	P		P	21 41 23.5	+5.6
	13nm,0.9s							
CRAI	**Chiangrai**	**18.47**	**11**	P		**P**	**21 41 20.0**	**-3.3**
SHL	**Shillong**	**23.88**	**349**	*e*P		**P**	**21 42 18.0**	**-3.0**
H08S2	**Diego Garcia H**	**25.96**	**248**	T		T	22 09 35.7	
	baz=68,slow=75,SNR=2372							
H08S3	**Diego Garcia H**	**25.97**	**248**	T		T	22 09 31.9	
	baz=68,slow=75,SNR=1214							
H08S1	**Diego Carcia H**	**25.98**	**248**	T		T	22 09 37.1	
	baz=68,slow=75,SNR=1009							
ODAN	**Odare**	**26.28**	**341**	*e*P		**P**	**21 42 43.4**	**+0.5**
	33nm,0.9s							
RAMN	**Ramite**	**26.63**	**340**	*e*P		**P**	**21 42 47.2**	**+1.2**
	18nm,0.8s							
TAPN	**Taplejung**	**26.63**	**342**	*e*P		**P**	**21 42 46.9**	**+0.8**
	27nm,0.9s							
JIRN	**Jiri**	**27.42**	**339**	*e*P		**P**	**21 42 54.1**	**+0.8**
	19nm,0.8s							
PKI	**Pulchoki**	**27.62**	**338**	*e*P		**P**	**21 42 56.5**	**+1.4**
PKIN	**Phulchoki**	**27.64**	**338**	*e*P		**P**	**21 42 56.4**	**+1.3**
	4.7nm,0.7s							
GUN	**Gumba**	**27.76**	**339**	*e*P		**P**	**21 42 57.1**	**+0.8**
	18nm,0.8s							
KKN	**Kakani**	**27.87**	**338**	*e*P		**P**	**21 42 57.6**	**+0.4**
LSA	**Lhasa**	**28.05**	**350**	*e*P		**P**	**21 42 59.1**	**+0.1**
	5.3nm,0.9s							
GKN	**Gorkha**	**28.31**	**337**	*e*P		**P**	**21 43 01.6**	**+0.6**
KOLN	**Koldanda**	**28.52**	**335**	*e*P		**P**	**21 43 03.9**	**+1.0**
	12nm,0.8s							
DANN	**Dangsing**	**28.97**	**336**	*e*P		**P**	**21 43 07.6**	**+0.6**
	11nm,0.7s							
PYUN	**Piuthan**	**29.07**	**335**	*e*P		**P**	**21 43 09.4**	**+1.6**
	7.1nm,0.5s							
H01W3	**Cape Leeuwin H**	**40.17**	**158**	T		T	22 27 30.6	
	baz=333,slow=76,SNR=39							
H01W2	**Cape Leeuwin H**	**40.19**	**158**	T		T	22 27 31.5	
	baz=333,slow=76,SNR=37							
H01W1	**Cape Leeuwin H**	**40.19**	**158**	T		T	22 27 29.3	
	baz=333,slow=76,SNR=37							
WRA	**Warramunga Arr**	**42.89**	**122**	P		**P**	**21 45 05.4**	**-0.5**
	3.2nm,1.0s,baz=300,slow=9.3,SNR=20							
WRA				pP		**pP**	**21 45 14.8**	**+0.8**
	2.3nm,0.8s,baz=301,slow=9.0,SNR=9.7							
WRAB	**Tennant Creek**	**42.90**	**122**	*e*P		**P**	**21 45 05.7**	**-0.2**
	4.3nm,0.8s							
ASAR	**Alice Springs**	**44.29**	**127**	P		**P**	**21 45 17.2**	**+0.2**
	1.8nm,0.9s,baz=303,slow=7.8,SNR=14							
ASAR				pP		**pP**	**21 45 26.0**	**+0.8**
	2.0nm,1.0s,baz=294,slow=7.6,SNR=6.0							
TKM2	**Tokmak 2**	**44.89**	**338**	*e*P		**P**	**21 45 20.4**	**-1.4**
	16nm,1.5s							
AAK	**Ala-Archa**	**45.07**	**337**	P		**P**	**21 45 24.8**	**+1.6**
	1.8nm,0.9s,baz=124,slow=7.3,SNR=5.9							
AAK	**Ala-Archa**	**45.07**	**337**	*e*P		**P**	**21 45 21.6**	**-1.6**
	2.3nm,0.8s							
EKS2	**Erkin-Say**	**45.38**	**336**	*e*P		**P**	**21 45 26.0**	**+0.5**
	2.4nm,0.9s							
KSAR	**Wonju Array Be**	**45.46**	**35**	P		**P**	**21 45 25.7**	**-0.5**
KSRS	**Korea Array**	**45.49**	**35**	P		**P**	**21 45 25.7**	**-0.7**
	2.5nm,0.8s,baz=227,slow=8.6,SNR=6.9							
MK31	**Makanchi Array**	**46.35**	**346**	*e*P		**P**	**21 45 32.8**	**-0.2**
MKAR	**Makanchi Array**	**46.35**	**346**	P		**P**	**21 45 33.1**	**+0.1**
	7.4nm,0.8s,baz=161,slow=7.5,SNR=91							
SONM	**Songino Array**	**46.43**	**9**	P		**P**	**21 45 33.7**	**-0.1**
	3.5nm,0.8s,baz=187,slow=8.9,SNR=29							
SONM				pP		**pP**	**21 45 41.6**	**-0.3**
	2.9nm,0.8s,baz=190,slow=7.3,SNR=9.8							
ULN	**Ulaanbaatar**	**46.56**	**10**	*e*P		**P**	**21 45 33.4**	**-1.5**
	1.8nm,0.9s							
KKAR	**Karatay Array**	**47.12**	**334**	*e*P		**P**	**21 45 39.7**	**+0.5**
	2.4nm,0.8s							
GEYT	**Alibeck**	**50.27**	**320**	P		**P**	**21 46 04.0**	**+0.5**
	2.7nm,0.6s,baz=161,slow=9.4,SNR=5.1							
GEYT				pP		**pP**	**21 46 10.0**	**-1.8**
	2.9nm,0.7s,baz=132,slow=8.6,SNR=7.5							
KURBB	**Kurchatov Arra**	**50.83**	**345**	P		**P**	**21 46 07.8**	**+0.4**
	3.2nm,0.8s,baz=168,slow=7.0,SNR=37							
KURBB				pP		**pP**	**21 46 15.1**	**-0.5**
	1.0nm,0.5s,baz=161,slow=7.4,SNR=5.1							
KURK	**Kurchatov**	**50.89**	**345**	P		**P**	**21 46 07.8**	**-0.1**
KURK				pP		**pP**	**21 46 15.1**	**-1.0**
USRK	**Ussuriysk Ar.**	**52.36**	**32**	P		**P**	**21 46 17.2**	**-1.8**
	1.2nm,0.7s,baz=254,slow=8.9,SNR=3.9							
ZALV	**Zalesovo Beam**	**52.70**	**351**	P		**P**	**21 46 21.4**	**+0.2**
	13nm,0.9s,baz=181,slow=5.9,SNR=49							
ZALV				pP		**pP**	**21 46 30.0**	**+0.5**
	5.1nm,0.6s,baz=181,slow=6.8,SNR=10							
RAYN	**Ar Rayn**	**53.93**	**298**	*e*P		**P**	**21 46 30.3**	**-0.7**
	2.4nm,0.8s							
STKA	**Stephens Creek**	**54.27**	**132**	P		**P**	**21 46 34.7**	**+1.4**
	3.3nm,1.1s,baz=300,slow=8.4,SNR=2.5							
STKA				pP		**pP**	**21 46 42.4**	**+0.8**
	2.2nm,0.7s,baz=293,slow=7.3,SNR=3.3							
BRVK	**Borovoye**	**55.39**	**341**	*e*P		**P**	**21 46 40.0**	**-1.0**
	1.9nm,0.6s							
ABKAR	**Akbulak array**	**56.57**	**332**	*e*P		**P**	**21 46 49.6**	**+0.1**
	2.8nm,0.8s							
KBZ	**Khabaz**	**63.13**	**319**	P		**P**	**21 47 34.2**	**-0.5**
	1.1nm,0.7s,baz=143,slow=5.1							
BRTR	**Keskin Array B**	**68.20**	**312**	P		**P**	**21 48 06.9**	**-0.8**
	0.6nm,0.7s,baz=121,slow=5.6,SNR=4.0							
BRTR				pP		**pP**	**21 48 14.7**	**-1.5**
	1.0nm,0.8s,baz=126,slow=6.8,SNR=5.0							
AKASG	**Malin Array Be**	**74.31**	**322**	P		**P**	**21 48 43.4**	**-0.9**
	0.3nm,0.3s,baz=87,slow=5.0,SNR=5.3							
FINES	**FINESS Array B**	**79.06**	**333**	P		**P**	**21 49 11.0**	**+0.1**
	1.0nm,0.6s,baz=106,slow=6.8,SNR=7.9							
ARCES	**ARCESS Array B**	**81.61**	**340**	P		**P**	**21 49 24.7**	**+0.2**
	2.6nm,0.8s,baz=99,slow=3.8,SNR=8.2							
ARCES				pP		**pP**	**21 49 33.1**	**-0.1**
	2.2nm,0.8s,baz=98,slow=5.6,SNR=2.0							
GERES	**GERESS Array B**	**83.88**	**319**	P		**P**	**21 49 37.5**	**+0.7**
	1.1nm,0.9s,baz=90,slow=4.4,SNR=8.0							
GERES				pP		**pP**	**21 49 45.8**	**+0.3**
	0.8nm,0.8s,baz=93,slow=4.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**94.41**	**283**	pP		pP	21 50 36.7	+0.4
	0.7nm,1.0s,baz=85,slow=4.5,SNR=3.4							
TXAR	**Lajitas Array**	**143.25**	**31**	PKP		**PKPdf**	**21 56 41.6**	**-0.4**
	0.4nm,0.9s,baz=344,slow=3.0,SNR=2.5							

ISCJB ***15*** *21:42:16.4±0.3,21°.07S±0°.03×68°.50W±0°.04,h106km±2km, mb4.9/116,Error ellipse: s-maj=5.9km s-min=4.5km az=171.5*

NEIC ***15*** *21:42:17.6±0.3,21°.13S×68°.52W,h105km±2km,mb4.9/102, Error ellipse: s-maj=5.5km s-min=4.1km az=80.0*

NEIC Felt at Iquique.

GUC ***15*** *21:42:17.8±0.6,21°.16S×68°.87W,h123km±3km,ML5.2*

BJI ***15*** *21:42:19.3,21°.00S×68°.40W,h95km,mB5.1/6*

IDC ***15*** *21:42:19.6±0.3,21°.17S×68°.66W,h116km±2km,mb4.3/14, mb1 4.4/16,mb1mx4.3/21,mbtmp4.6/16,MS3.9/2, Ms1 3.8/2,ms1mx3.3/19,Error ellipse: s-maj=12.6km s-min=5.9km az=91.0*

ISC 15 21:42:18.9±0.3,21°.12S±0°.03×68°.62W±0°.05,h113km±2km, h113km:pP-P,n558,σ1s0.0/665,mb4.9/116,171C-154D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.82**	**275**	*e*P			**Pn**	**21 42 36.5**	**-2.2**
PB01	**IPOC Station P**	**0.82**	**275**	↑*i*P			**Pn**	**21 42 37.1**	**-1.6**
PB01				*i*S			**Sn**	**21 42 51.4**	**-2.2**
PB01				AML		AML	21 42 52.4		
	comp=N,70μm,0.3s								
PB01	**IPOC Station P**	**0.82**	**275**	↑*i*P			**Pn**	**21 42 37.1**	**-1.6**
PB01				*i*S			**Sn**	**21 42 51.4**	**-2.2**
PB09	**IPOC Station P**	**0.89**	**221**	*e*P			**Pn**	**21 42 38.0**	**-1.5**
PB09	**IPOC Station P**	**0.89**	**221**	↑*i*P			**Pn**	**21 42 38.5**	**-1.1**
PB09				*i*S			**Sn**	**21 42 53.7**	**-1.4**
PB09				AML		AML	21 42 54.8		
	comp=N,120μm,0.4s								
PB09	**IPOC Station P**	**0.89**	**221**	↑*i*P			**Pn**	**21 42 38.5**	**-1.1**
PB09				*i*S			**Sn**	**21 42 53.7**	**-1.4**
PB07	**IPOC Station P**	**1.33**	**243**	*e*P			**Pn**	**21 42 41.7**	**-2.4**
PB07	**IPOC Station P**	**1.33**	**243**	↑*i*P			**Pn**	**21 42 42.3**	**-1.9**
PB07				*i*S			**Sn**	**21 43 00.2**	**-3.1**
PB07				AML		AML	21 43 02.5		
	comp=E,47μm,0.3s								
PB07	**IPOC Station P**	**1.33**	**243**	↑*i*P			**Pn**	**21 42 42.3**	**-1.9**
PB07				*i*S			**Sn**	**21 43 00.2**	**-3.1**
PB04	**IPOC Station P**	**1.40**	**215**	*e*P			Pn	21 42 48.3	+3.6
PB04	**IPOC Station P**	**1.40**	**215**	↑*i*P			Pn	21 42 48.3	+3.6
PB04				*i*S			Sn	21 43 11.4	+7.1
PB04				AML		AML	21 43 18.3		
	comp=E,14μm,0.7s								
PB04	**IPOC Station P**	**1.40**	**215**	↑*i*P			Pn	21 42 48.3	+3.6
PB04				*i*S			Sn	21 43 11.4	+7.1
HMBC	**Humberstone**	**1.45**	**305**	*e*P			**Pn**	**21 42 43.6**	**-1.9**
HMBC	**Humberstone**	**1.45**	**305**	↑*i*P			**Pn**	**21 42 44.3**	**-1.2**
HMBC				*i*S			**Sn**	**21 43 04.0**	**-1.7**
HMBC				AML		AML	21 43 05.4		
	comp=E,48μm,0.5s								
HMBC	**Humberstone**	**1.45**	**305**	↑*i*P			**Pn**	**21 42 44.3**	**-1.2**
HMBC				*i*S			**Sn**	**21 43 04.0**	**-1.7**
PATCX	**Punta Patache**	**1.47**	**281**	*e*P			**Pn**	**21 42 43.7**	**-1.9**
PATCX	**Punta Patache**	**1.47**	**281**	↑*i*P			**Pn**	**21 42 44.2**	**-1.5**
PATCX				*i*S			**Sn**	**21 43 03.7**	**-2.2**
LVC	**Limon Verde**	**1.51**	**190**	P			**Pn**	**21 42 45.8**	**-0.6**
	comp=E,12μm,0.3s,baz=5.7,slow=11,SNR=2348								
LVC				S			**Sn**	**21 43 06.5**	**-0.7**
	comp=E,28μm,0.3s,baz=90,slow=20,SNR=62								
LVC	**Limon Verde**	**1.51**	**190**	*e*Pn			**Pn**	**21 42 45.6**	**-0.8**
LVC				*e*Sn			**Sn**	**21 43 06.3**	**-0.9**
PB11	**IPOC Station P**	**1.67**	**324**	*e*P			**Pn**	**21 42 46.8**	**-1.3**
PB11	**IPOC Station P**	**1.67**	**324**	↑*i*P			**Pn**	**21 42 47.3**	**-0.8**
PB11				*i*S			**Sn**	**21 43 09.6**	**-0.6**
PB11				AML		AML	21 43 11.7		
	comp=E,121μm,0.8s								
PB11	**IPOC Station P**	**1.67**	**324**	↑*i*P			**Pn**	**21 42 47.3**	**-0.8**
PB11				*i*S			**Sn**	**21 43 09.6**	**-0.6**
PB06	**IPOC Station P**	**1.81**	**209**	*e*P			**Pn**	**21 42 48.0**	**-1.9**
PB06	**IPOC Station P**	**1.81**	**209**	↑*i*P			**Pn**	**21 42 48.4**	**-1.5**
PB06				*i*S			**Sn**	**21 43 11.4**	**-2.1**
PB06				AML		AML	21 43 14.1		
	comp=E,9μm,0.3s								
PB06	**IPOC Station P**	**1.81**	**209**	↑*i*P			**Pn**	**21 42 48.4**	**-1.5**
PB06				*i*S			**Sn**	**21 43 11.4**	**-2.1**
PSGC	**Pisagua**	**2.07**	**317**	*e*P			**Pn**	**21 42 50.9**	**-2.2**
PSGC	**Pisagua**	**2.07**	**317**	↑*i*P			**Pn**	**21 42 51.4**	**-1.7**
PSGC				*i*S			**Sn**	**21 43 17.4**	**-1.8**
PSGC				AML		AML	21 43 18.8		
	comp=E,11μm,0.4s								
PSGC	**Pisagua**	**2.07**	**317**	↑*i*P			**Pn**	**21 42 51.4**	**-1.7**
PSGC				*i*S			**Sn**	**21 43 17.4**	**-1.8**
MNMC	**Minimini**	**2.18**	**335**	*e*P			**Pn**	**21 42 53.8**	**-0.9**
MNMC	**Minimini**	**2.18**	**335**	↑*i*P			**Pn**	**21 42 54.4**	**-0.3**
MNMC				*i*S			**Sn**	**21 43 22.2**	**+0.2**
MNMC				AML		AML	21 43 25.0		
	comp=N,15μm,0.8s								
MNMC	**Minimini**	**2.18**	**335**	↑*i*P			**Pn**	**21 42 54.4**	**-0.3**
MNMC				*i*S			**Sn**	**21 43 22.2**	**+0.2**
PB10	**IPOC Station P**	**2.98**	**217**	*e*P			**Pn**	**21 43 04.3**	**-0.5**
PB10	**IPOC Station P**	**2.98**	**217**	↑*i*P			**Pn**	**21 43 02.6**	**-2.3**
PB10				AML		AML	21 43 58.6		
	comp=E,7μm,2.3s								
LPAZ	**La Paz**	**4.83**	**6**	P			**Pn**	**21 43 32.3**	**+2.2**
	comp=E,20nm,0.3s,baz=195,slow=8.5,SNR=412								
LPAZ	**La Paz**	**4.83**	**6**	*e*P			**Pn**	**21 43 31.7**	**+1.6**
LPAZ	**La Paz**	**4.83**	**6**	*e*Pn			**Pn**	**21 43 30.8**	**+0.7**
LPAZ				*e*Sn			**Sn**	**21 44 22.2**	**-3.0**
LCO	**Las Campanas**	**8.08**	**193**	*e*P			Pn	21 44 19.3	+5.5
LCO	**Las Campanas**	**8.08**	**193**	*e*Pn			Pn	21 44 08.2	-5.6
LCO				*e*Sn			Sn	21 45 35.0	-8.7
SIV	**San Ignacio**	**8.78**	**56**	P			**Pn**	**21 44 21.2**	**-2.0**
	comp=E,26nm,0.3s,baz=254,slow=14,SNR=178								
SIV				S			**Sn**	**21 45 56.2**	**-4.3**
	baz=249,slow=17,SNR=4.3								
SIV	**San Ignacio**	**8.78**	**56**	*e*Pn			**Pn**	**21 44 21.2**	**-2.0**
SIV				*e*Sn			**Sn**	**21 45 56.2**	**-4.3**
CFAA	**Coronel Fontan**	**10.45**	**178**	P			Pn	21 44 40.1	-5.5
	comp=E,0.5nm,0.3s,baz=352,slow=14,SNR=29								
CFAA				S			Sn	21 46 31.4	-9.4
	comp=E,0.5nm,0.3s,baz=290,slow=23,SNR=8.6								
CFAA	**Coronel Fontan**	**10.45**	**178**	*e*Pn			Pn	21 44 40.1	-5.5
CFAA				*e*Sn			Sn	21 46 31.4	-9.4
SAML	**Samuel**	**13.18**	**24**	*e*Pn			**Pn**	**21 45 19.8**	**-2.1**
ATAH	**Atahualpa**	**16.81**	**324**	P			**P**	**21 46 10.2**	**+1.8**
	comp=E,0.2nm,0.3s,baz=144,slow=14,SNR=3.6								
ATAH	**Atahualpa**	**16.81**	**324**	*e*Pn			**P**	**21 46 10.2**	**+1.8**
TRQA	**Tornquist**	**17.83**	**163**	*e*P			**P**	**21 46 18.0**	**-1.0**
	comp=E,246nm,1.6s								
PLCA	**Paso Flores**	**19.62**	**184**	*e*P			**P**	**21 46 34.8**	**-3.8**
	comp=E,158nm,0.8s								
BDFB	**Brasilia**	**20.29**	**78**	P			**P**	**21 46 46.0**	**-0.1**
	comp=E,16nm,0.5s,baz=246,slow=10,SNR=27								
BDFB				LR		LR	21 55 53.7		
	comp=E,152nm,19.9s,baz=238,slow=40								
BDFB	**Brasilia**	**20.29**	**78**	*e*P			**P**	**21 46 45.3**	**-0.7**
PTGA	**Pitinga**	**21.95**	**24**	P			**P**	**21 47 01.3**	**-2.3**
	comp=E,5.0nm,0.3s,baz=358,slow=23,SNR=16								
PTGA	**Pitinga**	**21.95**	**24**	*e*P			**P**	**21 47 01.3**	**-2.3**
	comp=E,15nm,0.9s								
OTAV	**Otavalo**	**23.30**	**334**	*e*P			**P**	**21 47 18.8**	**+1.3**
	comp=E,81nm,1.5s								
CHRN	**Cochrane**	**26.18**	**186**	*e*P			P	21 47 50.1	+7.3
ROSC	**El Rosal**	**26.41**	**347**	*e*P			**P**	**21 47 46.1**	**+0.5**
SDV	**Santo Domingo**	**29.88**	**356**	*e*P			**P**	**21 48 14.9**	**-1.3**
	comp=E,8.4nm,0.9s								
EFI	**East Falkland**	**31.59**	**167**	*e*P			**P**	**21 48 29.8**	**-0.9**
	comp=E,551nm,2.5s								
JTS	**JuntasAbangare**	**35.10**	**331**	*e*P			**P**	**21 49 03.1**	**+1.6**
	comp=E,18nm,1.0s								
RCBR	**Riachuelo**	**35.15**	**69**	P			**P**	**21 49 02.1**	**0.0**
	comp=E,19nm,0.9s,baz=241,slow=9.7,SNR=5.9								
RCBR	**Riachuelo**	**35.15**	**69**	*e*P			**P**	**21 49 02.1**	**0.0**
ICMP	**Isla Caja de M**	**38.82**	**3**	*e*P			**P**	**21 49 31.4**	**-1.5**
CRPR	**Cabo Rojo, PR**	**38.91**	**2**	*e*P			**P**	**21 49 32.6**	**-1.1**
	comp=E,42nm,1.0s								
OBIP	**Obispado Ponce**	**38.97**	**3**	*e*P			**P**	**21 49 32.8**	**-1.4**
	comp=E,53nm,0.8s								
CELP	**Cerrillos**	**39.00**	**3**	*e*P			**P**	**21 49 32.9**	**-1.6**
LRS	**Lares**	**39.20**	**3**	*e*P			**P**	**21 49 34.8**	**-1.5**
APG	**El Apazote**	**41.82**	**327**	P			P	21 49 53.1	-4.9
	comp=E,18nm,0.9s,baz=148,slow=9.8,SNR=19								
TEIG	**Tepich**	**45.37**	**334**	P			**P**	**21 50 25.4**	**-0.7**
	comp=E,4.0nm,0.3s,baz=300,slow=20,SNR=3.0								
TEIG				pP			**pP**	**21 50 52.3**	**0.0**
	comp=E,34nm,0.9s,baz=145,slow=8.2,SNR=3.9								
TEIG	**Tepich**	**45.37**	**334**	*e*P			**P**	**21 50 25.2**	**-1.0**
	comp=E,50nm,1.1s								
CMIG	**Matias Romero**	**45.88**	**324**	P			**P**	**21 50 30.7**	**+0.4**
	comp=E,12nm,0.8s,baz=119,slow=4.3,SNR=16								
CMIG				pP			**pP**	**21 50 57.5**	**+1.0**
	comp=E,3.9nm,0.6s,baz=158,slow=8.7,SNR=3.4								
CMIG	**Matias Romero**	**45.88**	**324**	*e*P			**P**	**21 50 30.7**	**+0.4**
CMIG				*e*pP			**pP**	**21 50 57.5**	**+1.0**
TIGA	**Tifton**	**54.19**	**344**	↓P			**P**	**21 51 32.6**	**-0.2**
	baz=54								
NHSC	**New Hope**	**55.04**	**348**	*e*P			**P**	**21 51 38.6**	**-0.2**
	comp=E,188nm,1.0s								
GOGA	**Godfrey**	**56.04**	**345**	*e*P			**P**	**21 51 45.5**	**-0.6**
	comp=E,72nm,1.8s								
034A	**Hebbronville**	**56.05**	**327**	↓P			**P**	**21 51 46.5**	**+0.2**
	baz=56								
LRAL	**Lakeview Retre**	**56.64**	**342**	*e*P			**P**	**21 51 49.2**	**-1.1**
	comp=E,17nm,1.1s								
933A	**Laredo**	**56.80**	**327**	↓P			**P**	**21 51 51.8**	**+0.2**
	baz=57								
834A	**Tilden**	**56.86**	**328**	↓P			**P**	**21 51 52.3**	**+0.3**
	baz=57								
735A	**Kenedy**	**57.11**	**329**	↑P			**P**	**21 51 54.4**	**+0.7**
	baz=57								
KMSC	**Kings Mountain**	**57.24**	**348**	↑P			**P**	**21 51 54.5**	**0.0**
	baz=58,SNR=5.2								
KMSC	**Kings Mountain**	**57.24**	**348**	*e*P			**P**	**21 51 53.8**	**-0.7**
	comp=E,26nm,1.0s								
833A	**Chaparral WMA,**	**57.44**	**328**	↑P			**P**	**21 51 56.1**	**0.0**
	baz=58,SNR=6.8								
734A	**La Parita Cree**	**57.46**	**329**	↑P			**P**	**21 51 56.4**	**+0.2**
	baz=58								
635A	**Leesville**	**57.54**	**330**	↑P			**P**	**21 51 56.8**	**0.0**
	baz=58								
340A	**Bronson**	**57.59**	**334**	↓P			**P**	**21 51 57.3**	**+0.3**
	baz=58								
832A	**Faith Ranch, C**	**57.70**	**327**	↑P			**P**	**21 51 57.8**	**-0.1**
	baz=58								
733A	**Divot King Ran**	**57.72**	**328**	↑P			**P**	**21 51 58.5**	**+0.5**
	baz=58								
732A	**Laxson Ranch,**	**58.06**	**327**	↓P			**P**	**21 52 00.4**	**0.0**
	baz=58								
338A	**Crockett**	**58.12**	**333**	↑P			**P**	**21 52 01.2**	**+0.4**
	baz=58								
TKL	**Tuckaleechee C**	**58.26**	**346**	*e*P			**P**	**21 52 00.8**	**-0.9**
633A	**Saathoff Ranch**	**58.27**	**329**	↓P			**P**	**21 52 01.2**	**-0.7**
	baz=59,SNR=5.3								
SWET	**Sewanee**	**58.38**	**343**	*e*P			**P**	**21 52 01.8**	**-0.8**
632A	**Uvalde**	**58.61**	**328**	↑P			**P**	**21 52 04.3**	**+0.1**
	baz=59								
533A	**Kerrville**	**58.71**	**329**	↓P			**P**	**21 52 04.6**	**-0.4**
	baz=59								
OXF	**Oxford**	**58.75**	**340**	*e*P			**P**	**21 52 03.8**	**-1.3**
	comp=E,37nm,0.9s								
336A	**Riesel**	**58.81**	**332**	↑P			**P**	**21 52 05.3**	**-0.3**
	baz=59								
631A	**Perdido Creek**	**58.93**	**327**	↑P			**P**	**21 52 05.9**	**-0.5**
	baz=59,SNR=7.7								
335A	**Moody**	**58.98**	**331**	↓P			**P**	**21 52 06.4**	**-0.4**
	baz=59								
VWCC	**Virginia Weste**	**59.03**	**349**	*e*P			**P**	**21 52 06.7**	**-0.3**
138A	**Matatall Enter**	**59.16**	**334**	↓P			**P**	**21 52 08.5**	**+0.6**
	baz=60								
532A	**Rocksprings**	**59.18**	**328**	↓P			**P**	**21 52 08.2**	**0.0**
	baz=60								
433A	**Art**	**59.30**	**329**	↓P			**P**	**21 52 08.4**	**-0.6**
	baz=60,SNR=5.9								
137A	**Heron Place, G**	**59.38**	**333**	↑P			**P**	**21 52 09.5**	**0.0**
	baz=60								
334A	**Lometa**	**59.39**	**331**	↓P			**P**	**21 52 09.5**	**-0.1**
	baz=60								
JCT	**Junction City**	**59.42**	**329**	↑P			**P**	**21 52 10.0**	**+0.2**
	baz=60								
JCT	**Junction City**	**59.42**	**329**	*e*P			**P**	**21 52 09.5**	**-0.4**
	comp=E,11nm,0.9s								
531A	**Rocksprings**	**59.52**	**328**	↓P			**P**	**21 52 10.5**	**0.0**
	baz=60,SNR=12								
WHTX	**Lake Whitney,**	**59.59**	**332**	↑P			**P**	**21 52 10.7**	**-0.2**
	baz=60								
333A	**Richland Sprin**	**59.73**	**330**	↑P			**P**	**21 52 11.5**	**-0.5**
	baz=60								
432A	**Menard**	**59.74**	**329**	↓P			**P**	**21 52 11.8**	**-0.2**
	baz=60								
WVT	**Waverly**	**59.77**	**342**	*e*P			**P**	**21 52 10.7**	**-1.3**
	comp=E,28nm,0.7s								
530A	**J-C Ranch, Com**	**59.91**	**327**	↑P			**P**	**21 52 13.1**	**-0.1**
	baz=60,SNR=12								
234A	**Clairette**	**59.91**	**331**

X30A	Coker Ranch, T	63.20	330	⇑P		P	21 52	35.0	-0.3
	baz=64								
V33A	Lossen Ranch,	63.22	333	⇑P		P	21 52	35.0	-0.3
	baz=64								
MNTX	Cornudas Mount	63.24	325	⇑P		P	21 52	34.4	-1.1
	baz=64,SNR=9.1								
ALLY	Alegheny Colle	63.35	350	*eP*		P	21 52	35.5	-0.5
	comp=E,145nm,1.4s								
BINY	Binghamton	63.36	354	*eP*		P	21 52	36.3	+0.2
	comp=E,59nm,1.2s								
W31A	Holland Ranch,	63.40	332	⇓P		P	21 52	36.2	-0.3
	baz=64								
Y28A	McKinney Farm,	63.41	329	⇑P		P	21 52	36.4	-0.3
	baz=64								
U34A	Anderson Ranch	63.43	334	⇑P		P	21 52	36.4	-0.3
	baz=64								
V32A	Arapaho	63.45	333	⇑P		P	21 52	36.9	+0.1
	baz=64								
SFIN	Lafayette	63.56	344	⇓P		P	21 52	36.7	-0.6
	baz=64								
SFIN	Lafayette	63.56	344	*eP*		P	21 52	35.9	-1.5
	comp=E,24nm,0.6s								
X29A	Tulia	63.59	330	⇓P		P	21 52	37.3	-0.5
	baz=64								
TRY	Troy	63.70	356	*eP*		P	21 52	38.0	-0.3
	comp=E,36nm,1.0s								
MSTX	Muleshoe	63.71	329	⇓P		P	21 52	37.8	-0.9
	baz=64,SNR=5.7								
MSTX	Muleshoe	63.71	329	*eP*		P	21 52	38.0	-0.7
	comp=E,22nm,1.0s								
ERPA	Erie	63.79	351	*eP*		P	21 52	38.9	0.0
ERPA				*epP*		pP	21 53	07.3	+0.7
ERPA				*esP*		sP	21 53	20.3	+1.3
S36A	Lake Cedric, C	63.80	336	⇑P		P	21 52	38.3	-0.8
	baz=64,SNR=6.9								
X28A	Dimmitt	63.88	329	⇓P		P	21 52	39.5	-0.3
	baz=64								
AMTX	Amarillo	63.94	330	⇓P		P	21 52	40.0	-0.2
	baz=64								
AMTX	Amarillo	63.94	330	*eP*		P	21 52	39.3	-0.9
AMTX				*epP*		pP	21 53	07.6	-0.3
S35A	Otter Creek Ra	64.03	336	⇑P		P	21 52	40.1	-0.5
	baz=64,SNR=6.6								
R37A	Teagarden Farm	64.04	337	⇑P		P	21 52	40.6	0.0
	baz=64								
MMNY	Mt. Morris Dam	64.10	352	*eP*		P	21 52	40.1	-0.8
MMNY				*epP*		pP	21 53	09.6	+0.9
W29A	Amarillo	64.12	330	⇑P		P	21 52	41.8	+0.5
	baz=64								
V30A	Spur Ranch, Mi	64.21	331	⇓P		P	21 52	42.5	+0.6
	baz=64								
T33A	Patterson Ranc	64.28	334	⇑P		P	21 52	42.3	+0.1
	baz=65								
R36A	Gordon, Harris	64.29	337	⇓P		P	21 52	42.5	+0.2
	baz=65								
Q37A	Longview Farm,	64.40	338	⇓P		P	21 52	42.7	-0.2
	baz=65								
W28A	Vega	64.49	330	⇑P		P	21 52	43.7	0.0
	baz=65								
S33A	Kaszmaul Farm,	64.62	334	⇑P		P	21 52	44.6	+0.1
	baz=65								
T32A	Huddler Ranch,	64.64	334	⇑P		P	21 52	44.9	+0.2
	baz=65								
T31A	Randall Ranch,	64.89	333	⇓P		P	21 52	46.4	+0.1
	baz=65								
S32A	Newby Ranch, P	65.09	334	⇓P		P	21 52	48.0	+0.5
	baz=65								
319A	Douglas	65.15	322	⇓P		P	21 52	49.0	+0.8
	baz=66								
121A	Cookes Peak, D	65.18	324	⇑P		P	21 52	49.2	+0.8
	baz=66								
V27A	Dan Oppiter Fa	65.19	330	⇓P		P	21 52	48.6	+0.2
	baz=66								
S31A	Mullinville	65.25	333	⇓P		P	21 52	49.1	+0.5
	baz=66								
U28A	Mallet	65.42	331	⇓P		P	21 52	49.6	-0.1
	baz=66								
R32A	Long Quarter,	65.62	334	⇑P		P	21 52	51.0	+0.1
	baz=66								
T29A	Hugoton	65.64	332	⇓P		P	21 52	51.1	0.0
	baz=66								
LONY	Lake Ozonia	65.64	355	*eP*		P	21 52	50.3	-0.6
LONY				*epP*		pP	21 53	17.3	-1.5
V26A	Tequesquite Ra	65.68	329	⇓P		P	21 52	51.0	-0.5
	baz=66								
S30A	Montezuma	65.68	333	⇓P		P	21 52	51.5	+0.2
	baz=66								
U27A	Thompson Grove	65.73	330	⇑P		P	21 52	51.6	-0.2
	baz=66								
Q33A	Connelly Farm,	65.76	335	⇓P		P	21 52	51.7	-0.1
	baz=66								
BNM	Barren Site	65.80	326	*eP*		P	21 52	52.5	+0.1
BNM				*epP*		pP	21 53	21.1	+0.8
R31A	Burdett	65.84	334	⇑P		P	21 52	52.5	+0.1
	baz=66								
LPM	Los Pinos Moun	65.93	326	*eP*		P	21 52	53.1	-0.1
LPM				*epP*		pP	21 53	20.8	-0.3
T28A	Walsh	65.98	331	⇓P		P	21 52	53.2	-0.1
	baz=66								
Q32A	Meitler Ranch,	66.04	335	⇓P		P	21 52	53.3	-0.3
	baz=66								
U26A	Atchley Ranch,	66.14	329	⇑P		P	21 52	53.9	-0.6
	baz=66,SNR=10.0								
T27A	Campo	66.20	331	⇑P		P	21 52	54.3	-0.5
	baz=66,SNR=5.9								
LAZ	Ladron	66.26	326	*eP*		P	21 52	55.8	+0.5
LAZ				*epP*		pP	21 53	23.4	+0.1
S28A	Manter	66.27	332	⇑P		P	21 52	54.8	-0.4
	baz=67,SNR=6.5								
ANMO	Albuquerque	66.33	327	*eP*		P	21 52	55.8	0.0
	comp=E,59nm,2.1s								
ANMO				*epP*		pP	21 53	23.4	-0.2
Q31A	Ellis	66.39	334	⇓P		P	21 52	56.4	+0.5
	baz=67								
R29A	Marienthal	66.63	333	⇑P		P	21 52	57.7	+0.3
	baz=67								
T26A	Comanche Natio	66.70	330	⇓P		P	21 52	58.0	0.0
	baz=67,SNR=7.9								
TUC	Tucson	66.71	322	*eP*		P	21 52	57.7	-0.4
TUC				*epP*		pP	21 53	25.9	-0.1
Q30A	Quinter	66.71	334	⇑P		P	21 52	57.9	0.0
	baz=67,SNR=8.7								
JFWS	Jewell Farm	66.76	343	*eP*		P	21 52	56.9	-1.1
	comp=E,23nm,0.9s								
JFWS				*epP*		PcP	21 53	25.6	-0.5
JFWS				*esP*		sP	21 53	38.8	+0.6
P31A	Stockton	66.83	335	⇑P		P	21 52	58.0	-0.6
	baz=67,SNR=6.4								
R28A	Tribune	66.85	332	⇑P		P	21 52	59.1	+0.3
	baz=67								
Q29A	Oakley	66.95	333	⇑P		P	21 52	59.1	-0.3
	baz=67,SNR=6.3								
S26A	Kim	67.01	330	⇓P		P	21 53	00.6	+0.6
	baz=67								
O32A	Brockman Farm,	67.03	336	⇑P		P	21 52	59.8	-0.1
	baz=67								
T25A	Trinidad	67.06	329	⇓P		P	21 53	00.9	+0.6
	baz=67								
P30A	Selden	67.20	334	⇑P		P	21 53	01.5	+0.6
	baz=68								
R27A	Eads	67.24	331	⇓P		P	21 53	01.9	+0.5
	baz=68								
O31A	Woolen Ranch,	67.34	335	⇑P		P	21 53	02.6	+0.7
	baz=68								
N32A	Stulken Farm,	67.47	336	⇑P		P	21 53	03.3	+0.7
	baz=68								
S25A	Robets Cordova	67.49	330	⇑P		P	21 53	02.9	-0.1
	baz=68,SNR=6.7								
P29A	Atwood	67.53	333	⇑P		P	21 53	03.6	+0.6
	baz=68								
R26A	Arlington	67.55	331	⇑P		P	21 53	03.7	+0.4
	baz=68,SNR=7.9								
214A	Organ Pipe Nat	67.64	320	⇓P		P	21 53	05.2	+1.3
	baz=68,SNR=12								
O30A	MW Ranch, Wils	67.66	334	⇑P		P	21 53	04.2	+0.3
	baz=68								
KSCO	Kaye Shedlock'	67.77	332	⇓P		P	21 53	05.0	+0.4
	baz=68								
S24A	Houchin Ranch,	67.84	329	⇑P		P	21 53	05.9	+0.5
	baz=68,SNR=7.2								
X18A	Snowflake	67.87	324	⇓P		P	21 53	06.5	+1.0
	baz=68								
BGNE	Belgrade	67.97	336	⇓P		P	21 53	06.1	+0.4
	baz=68								
LIC	Lamto	68.02	74	*e*PKP2		P	21 53	06.8	+0.2
	comp=E,71nm,1.8s								
SDCO	Great Sand Dun	68.06	329	⇓P		P	21 53	07.1	+0.4
	baz=68,SNR=20								
Q26A	Hugo	68.09	331	⇑P		P	21 53	07.2	+0.5
	baz=68								
W18A	Petrified Fore	68.19	325	⇑P		P	21 53	08.4	+0.9
	baz=68								
W18A	Petrified Fore	68.19	325	*eP*		P	21 53	08.3	+0.9
	comp=E,25nm,1.3s								
W18A				*epP*		PcP	21 53	32.9	+0.3
W18A				*esP*		sP	21 53	49.7	+1.9
TIC	Toumodi	68.21	73	*e*PKP2		P	21 53	07.3	-0.5
	comp=E,4.9nm,0.2s								
M31A	Lambtecht Ranc	68.23	336	⇑P		P	21 53	08.0	+0.6
	baz=69								
R24A	Sanders Place,	68.26	330	⇓P		P	21 53	08.4	+0.5
	baz=69,SNR=6.1								
KIC	Kosan Boka	68.33	74	*e*PKP2		P	21 53	08.1	-0.5
	comp=E,37nm,1.0s								
DBIC	Dimbokro	68.36	73	P		P	21 53	08.6	-0.2
	comp=E,16nm,0.9s,baz=221,slow=7.0,SNR=12								
DBIC				pP		pP	21 53	39.9	+3.0
	comp=E,3.7nm,0.7s,baz=235,slow=7.9,SNR=2.0								
DBIC	Dimbokro	68.36	73	*eP*		P	21 53	08.2	-0.5
	comp=E,21nm,1.0s								
DBIC				*epP*		pP	21 53	36.4	-0.5
N29A	Votaw Ranch, W	68.43	334	⇓P		P	21 53	09.5	+0.8
	baz=69								
R23A	Moffat	68.57	329	⇓P		P	21 53	10.5	+0.6
	baz=69,SNR=5.3								
X16A	Lo Mia Camp, P	68.62	323	⇑P		P	21 53	11.4	+1.3
	baz=69,SNR=7.6								
S22A	4UR Ranch, Cre	68.70	328	⇓P		P	21 53	11.2	+0.5
	baz=69								
S22A	4UR Ranch, Cre	68.70	328	*eP*		P	21 53	10.9	+0.2
	comp=E,50nm,2.5s								
113A	Mohawk Valley,	68.79	320	⇑P		P	21 53	12.3	+1.4
	baz=69								
P25A	Willow Gulch B	68.86	331	⇓P		P	21 53	12.2	+0.7
	baz=69,SNR=6.4								
Q24A	Divide	68.87	330	⇑P		P	21 53	12.1	+0.4
	baz=69,SNR=12								
Q24A	Divide	68.87	330	*eP*		P	21 53	12.0	+0.3
	comp=E,18nm,1.0s								
Q24A				*epP*		pP	21 53	39.6	-0.2
Q24A				*esP*		sP	21 53	53.7	+1.6
L31A	Butterfield Fa	68.89	336	⇑P		P	21 53	12.1	+0.6
	baz=69								
L30A	Spencer Herefo	69.03	336	⇓P		P	21 53	13.0	+0.6
	baz=69								
OGNE	Ogallala	69.11	333	⇓P		P	21 53	13.6	+0.6
	baz=69								
MVCO	Mesa Verde	69.13	327	⇑P		P	21 53	13.8	+0.5
	baz=69,SNR=8.3								
MVCO	Mesa Verde	69.13	327	*eP*		P	21 53	13.5	+0.2
	comp=E,14nm,1.0s								
MVCO				*epP*		pP	21 53	42.0	+0.5
Y14A	Wickenburg	69.17	322	⇑P		P	21 53	14.6	+1.2
	baz=70								
M28A	Bar X Bar Ranc	69.22	334	⇑P		P	21 53	13.7	+0.1
	baz=70								
WUAZ	Wupatki	69.39	324	⇓P		P	21 53	15.9	+1.1
	baz=70,SNR=13								
WUAZ	Wupatki	69.39	324	*eP*		P	21 53	15.9	+1.1
	comp=E,21nm,1.0s								
WUAZ				*epP*		pP	21 53	43.0	0.0
WUAZ				*esP*		sP	21 53	54.5	-0.7
ECSD	EROS Data Cent	69.46	339	⇓P		P	21 53	14.7	-0.3
	baz=70,SNR=8.7								
ECSD	EROS Data Cent	69.46	339	*eP*		P	21 53	14.2	-0.8
ECSD				*epP*		pP	21 53	42.5	-0.6
ECSD				*esP*		sP	21 53	55.2	-0.1
N26A	Koester Ranch,	69.52	333	⇓P		P	21 53	16.1	+0.6
	baz=70								
SPMN	Marine on St.	69.61	342	⇓P		P	21 53	15.2	-0.6
	baz=70								
SPMN	Marine on St.	69.61	342	*eP*		P	21 53	14.9	-0.9
SPMN				*epP*		pP	21 53	42.7	-1.2
SPMN				*esP*		sP	21 53	56.0	-0.2
K30A	Basset	69.61	336	⇓P		P	21 53	15.7	-0.2
	baz=70,SNR=5.6								
ISCO	Idaho Springs	69.75	330	⇓P		P	21 53	17.4	+0.2
	baz=70,SNR=7.4								
ISCO	Idaho Springs	69.75	330	*eP*		P	21 53	17.3	+0.2
ISCO				*epP*		pP	21 53	47.0	+1.7
SMCO	Snowmass	69.90	329	*eP*		P	21 53	18.2	0.0
	comp=E,22nm,1.0s								
Y12C	Blythe	69.93	320	⇑P		P	21 53	19.4	+1.4
	baz=70								
K29A	Lazy Trails An	69.96	336	⇑P		P	21 53	18.6	+0.5
	baz=70								
PDMCI	Parker Dam,Lak	70.09	321	⇓P		P	21 53	20.4	+1.5
	baz=70								
P22A	Eagle	70.12	330	⇑P		P	21 53	20.2	+0.8
	baz=70								
IBP	Imperial Bould	70.13	319	⇑P		P	21 53	21.1	+1.8
	baz=70								
J30A	Dallas	70.13	337	⇓P		P	21 53	19.6	+0.6
	baz=70								
SWSC	Sam W. Stewart	70.14	319	⇓P		P	21 53	20.4	+1.1
	baz=70								
O23A	Lake Granby, G	70.22	330	⇑P		P	21 53	20.9	+0.8
	baz=70,SNR=6.5								
K28A	Ten Mile Ranch	70.33	335	⇑P		P	21 53	21.1	+0.8
	baz=71								
BC3	Big Chuckawall	70.42	320	⇑P		P	21 53	21.9	+0.8
	baz=71,SNR=14								
PV09	Paradox Valley	70.43	327	*eP*		P	21 53	22.1	+0.7
O22A	Kremmling	70.47	330	⇑P		P	21 53	21.6	0.0
	baz=71,SNR=12								
MONP	Monument Peak,	70.48	319	⇑P		P	21 53	22.6	+0.9
	baz=71,SNR=5.3								
BAR	Barrett	70.50	318	*eP*		P	21 53	22.4	+0.8
	comp=E,3.7nm,0.9s								
W13A	Hualapai Mount	70.50	322	⇓P		P	21 53	23.1	+1.4
	baz=71								
J29A	Okreek	70.51	336	⇑P		P	21 53	22.0	+0.6
	baz=71								
U15A	North Rim	70.56	324	⇑P		P	21 53	22.2	0.0
	baz=71,SNR=22								
IRM	Iron Mountain	70.58	320	⇑P		P	21 53	23.1	+1.1
	baz=71,SNR=14								
M24A	Cheyenne	70.74	332	⇓P		P	21 53	23.6	+0.6
	baz=71,SNR=5.2								
N23A	Red Feather La	70.78	331	⇑P		P	21 53	23.6	+0.3
	baz=71,SNR=6.3								
N23A	Red Feather La	70.78	331	*eP*		P	21 53	23.8	+0.4
	comp=E,9.3nm,0.8s								
J28A	Allard Ranch,	70.88	335	⇓P		P	21 53	23.6	0.0
	baz=71,SNR=6.5								
N22A	Wattenberg Ran	70.94	330	⇓P		P	21 53	25.0	+0.7
	baz=71,SNR=7.4								
BELC	Belle Mtn. Jos	70.98	320	⇓P		P	21 53	25.6	+1.0
	baz=71								
PFO	Pinyon Flats O	70.99	319	⇑P		P	21 53	25.7	+1.0
	baz=71,SNR=6.4								
PFO	Pinyon Flats O	70.99	319	*eP*		P	21 53	25.0	+0.4
	comp=E,11nm,0.9s								
J27A	Elkhorn Farm,	71.03	335	⇑P		P	21 53	25.7	+1.1
	baz=71								
M23A	Laramie	71.14	331	⇓P		P	21 53	25.8	+0.3
	baz=72								
O20A	White River Ci	71.25	329	⇓P		P	21 53	26.7	+0.6
	baz=72,SNR=7.6								
O20A	White River Ci	71.25	329	*eP*		P	21 53	26.9	+0.7
	comp=E,954nm,0.9s								
KNB	Kanab	71.28	324	*eP*		P	21 53	28.0	+1.6
	comp=E,52nm,1.1s								
KNB				*epP*		pP	21 53	56.5	+1.8
GMRC	Granite Mounta	71.32	321	⇓P		P	21 53	28.0	+1.4
	baz=72,SNR=15								
MURC	Murrieta	71.44	319	⇑P		P	21 53	28.6	+1.4
	baz=72								
J26A	Sides Ranch, S	71.51	334	⇑P		P	21 53	28.5	+1.0
	baz=72								
G30A	Faulkton	71.56	338	⇓P		P	21 53	28.6	+0.9
	baz=72								
SRU	San Rafael Swe	71.61	327	*eP*		P	21 53	29.1	+0.8
	comp=E,21nm,0.9s								
SRU				*epP*		pP	21 53	57.0	+0.4
L23A	Garrett	71.65	332	⇓P		P	21 53	29.2	+0.7
	baz=72								
I27A	Quinn	71.74	335	⇓P		P	21 53	29.4	+0.6
	baz=72								
HEC	Hector,Ludlow	71.75	320	⇑P		P	21 53	30.9	+1.7
	baz=72								
N20A	Spence Gulch,	71.81	329	⇓P		P	21 53	29.9	+0.4
	baz=72,SNR=8.6								
H28A	Mission Ridge	71.85	336	⇑P		P	21 53	29.8	+0.3
	baz=72								
J25A	Sunshine Ranch	71.88	334	⇑P		P	21 53	31.1	+1.4
	baz=72								
L22A	Ellis Ranch, M	71.91	331	⇑P		P	21 53	30.6	+0.5
	baz=72								
TUQ	Turquoise Moun	71.93	321	⇓P		P	21 53	31.7	+1.5
	baz=72								
CCUT	Cedar City	71.96	324	*eP*		P	21 53	31.3	+0.8
	comp=E,25nm,0.9s								
CCUT				*epP*		pP	21 53	59.8	+0.9
I26A	New Underwood	72.02	335	⇓P		P	21 53	31.4	+0.9
	baz=72								
MVU	Marysvale	72.03	325	*eP*		P	21 53	31.4	+0.5
	comp=E,20nm,1.0s								
MVU				*epP*		pP	21 54	00.4	+1.1
TMUT	Trail Mountain	72.10	327	*eP*		P	21 53	31.6	+0.2
	comp=E,34nm,0.5s								
K23A	Bowen Ranch, D	72.13	332	⇑P		P	21 53	32.5	+1.2
	baz=72								
BFSC	Mount Baldy Ra	72.16	319	⇑P		P	21 53	32.9	+1.3
	baz=72,SNR=6.3								
J24A	Dixon Ranch, L	72.18	333	⇓P		P	21 53	32.5	+1.0
	baz=72								
H27A	Howes	72.22	336	⇑P		P	21 53	32.5	+0.8
	baz=73								
SHPR	Sheep Range	72.23	322	*eP*		P	21 53	32.9	+0.8
GSC	Goldstone, Bar	72.36	320	⇓P		P	21 53	34.0	+1.2
	baz=73,SNR=5.4								
GSC	Goldstone, Bar	72.36	320	*eP*		P	21 53	33.1	+0.4
	comp=E,25nm,1.4s								
I25A	Rochford	72.37	334	⇑P		P	21 53	33.5	+0.8
	baz=73,SNR=15								
K22A	Casper	72.44	332	⇓P		P	21 53	33.8	+0.6
	baz=73								
RSSD	Black Hills	72.57	334	*eP*		P	21 53	33.8	-0.2
	comp=E,8.8nm,0.8s								
RSSD				*epP*		pP	21 54	02.3	-0.1
I24A	Kuemmerle Ranc	72.60	334	⇑P		P	21 53	34.4	+0.4
	baz=73								
K21A	Alcova	72.75	331	⇓P		P	21 53	35.7	+0.7
	baz=73,SNR=15								
EDW2	Edwards Air Fo	72.79	319	⇓P		P	21 53	35.8	+0.5
	baz=73,SNR=6.0								
G27A	Dupree	72.79	336	⇓P		P	21 53	35.7	+0.7
	baz=73								
MPU	Maple Canyon	72.85	327	*eP*		P	21 53	36.3	+0.6
	comp=E,20nm,1.0s								
MPU				*epP*		pP	21 54	04.1	0.0
DAU	Daniels Canyon	72.95	327	*eP*		P	21 53	37.3	+0.9
G26A	Maurine	72.98	336	⇑P		P	21 53	36.1	0.0
	baz=73,SNR=5.1								
LRMC	Laurel Mtn Rad	73.01	320	⇑P		P	21 53	37.7	+1.1
	baz=73								
J22A	Midwest	73.03	332	⇑P		P	21 53	37.0	+0.4
	baz=73								
D30A	Buchanan	73.15	339	⇓P		P	21 53	37.2	+0.2
	baz=74								
TPNV	Topopah Spring	73.16	322	⇓P		P	21 53	38.6	+1.0
	baz=74,SNR=20								
TPNV	Topopah Spring	73.16	322	*eP*		P	21 53	38.5	+1.0
	comp=E,17nm,1.0s								
TPNV				*epP*		pP	21 54	05.1	-0.9
FURC	Furnace Creek,	73.19	321	⇑P		P	21 53	38.5	+1.0
	baz=74,SNR=5.1								
JLU	Jordanelle	73.19	327	*eP*		P	21 53	38.1	+0.3
	comp=E,18nm,1.0s								
JLU				*epP*		pP	21 54	06.6	+0.4
G25A	Newell	73.21	335	⇓P		P	21 53	37.9	+0.3
	baz=74								
BSC	Santa Cruz Isl	73.22	318	⇑P		P	21 53	39.3	+1.4
	baz=74								
F27A	Lemmon	73.24	336	⇓P		P	21 53	38.3	+0.6
	baz=74								
AGMN	Agassiz Nation	73.28	341	⇓P		P	21 53	37.1	-0.7
	baz=74,SNR=5.1								
AGMN	Agassiz Nation	73.28	341	*eP*		P	21 53	37.1	-0.7
	comp=E,15nm,0.9s								
AGMN				*epP*		pP	21 54	06.2	0.0
MPMC	Manual Prospec	73.28	320	⇓P		P	21 53	39.2	+0.9
	baz=74,SNR=8.7								
H24A	Dirks Ranch, A	73.30	334	⇓P		P	21 53	38.0	-0.1
	baz=74,SNR=8.0								
J21A	Lysite	73.40	331	⇓P		P	21 53	39.5	+0.6
	baz=74,SNR=6.8								
I22A	9 Mile Ranch,	73.42	332	⇑P		P	21 53	39.1	+0.3
	baz=74,SNR=11								
F26A	Lodgepole	73.47	336	⇑P		P	21 53	39.8	+0.7
	baz=74								
DAC	Darwin (Calif)	73.49	321	*eP*		P	21 53	40.1	+0.6
	comp=E,13nm,0.9s								
DAC				*e*PcP		PcP	21 53	55.1	+0.1
DAC				*epP*		pP	21 54	06.8	-1.2
C30A	Mose, Pekin	73.57	339	⇓P		P	21 53	39.8	+0.3
	baz=74								
ISA	Isabella, Lake	73.61	320	⇓P		P	21 53	41.4	+1.3
	baz=74,SNR=12								
ISA	Isabella, Lake	73.61	320	*eP*		P	21 53	40.9	+0.9
	comp=E,16nm,0.9s								
J20A	Shoshoni	73.70	331	⇓P		P	21 53	41.0	+0.4
	baz=74,SNR=6.3								
I21A	Big Trails, Te	73.70	332	⇓P		P	21 53	40.5	-0.1
	baz=74,SNR=24								
G24A	Alzada	73.72	335	⇑P		P	21 53	41.2	+0.7

E24A	**Baker**	**74.69**	**335**	⇑P		**P**	**21 53 46.5**	**+0.4**
	baz=75,SNR=6.7							
HVU	**Hansel Valley**	**74.74**	**327**	*e*P		**P**	**21 53 46.1**	**-0.5**
	comp=E,11nm,1.0s							
HVU				*e*pP		**pP**	**21 54 14.1**	**-1.1**
G21A	**Lodge Grass**	**74.79**	**333**	⇓P		**P**	**21 53 47.3**	**+0.5**
	baz=75							
D25A	**Fairfield**	**74.81**	**336**	⇓P		**P**	**21 53 47.4**	**+0.7**
	baz=75							
F22A	**Rosebud**	**74.84**	**334**	⇓P		**P**	**21 53 47.4**	**+0.4**
	baz=75							
B28A	**Dugan Ranch, T**	**74.85**	**339**	⇓P		**P**	**21 53 47.5**	**+0.6**
	baz=75							
A29A	**Manning Farm,**	**74.89**	**340**	⇓P		**P**	**21 53 47.3**	**+0.2**
	baz=75,SNR=5.4							
C26A	**Wahner Farm, P**	**74.92**	**337**	⇓P		**P**	**21 53 48.0**	**+0.6**
	baz=75							
REDW	**Red Top Meadow**	**74.98**	**329**	*e*P		**P**	**21 53 48.4**	**+0.3**
	comp=E,14nm,1.0s							
REDW				*e*pP		**pP**	**21 54 15.5**	**-1.2**
SNOW	**Snow King Moun**	**75.01**	**330**	*e*P		**P**	**21 53 48.2**	**-0.1**
	comp=E,12nm,0.9s							
ULM	**Lac du Bonnet**	**75.04**	**342**	P		**P**	**21 53 47.6**	**-0.3**
	comp=E,5.6nm,0.6s,baz=140,slow=4.4,SNR=8.5							
ULM				pP		**pP**	**21 54 17.1**	**+0.7**
	comp=E,7.1nm,0.7s,baz=134,slow=5.2,SNR=5.6							
ULM	**Lac du Bonnet**	**75.04**	**342**	*e*P		**P**	**21 53 47.6**	**-0.3**
ULM				*e*pP		**pP**	**21 54 17.1**	**+0.7**
LOHW	**Long Hollow**	**75.06**	**330**	*e*P		**P**	**21 53 48.6**	**+0.1**
	comp=E,9.9nm,1.0s							
LOHW				*e*pP		**pP**	**21 54 15.7**	**-1.4**
TPAW	**Teton Pass**	**75.13**	**330**	*e*P		**P**	**21 53 48.9**	**-0.1**
	comp=E,12nm,0.9s							
TPAW				*e*pP		**pP**	**21 54 16.8**	**-0.7**
H19A	**Powell**	**75.13**	**331**	⇓P		**P**	**21 53 49.8**	**+1.0**
	baz=76							
D24A	**Glendive**	**75.16**	**336**	⇓P		**P**	**21 53 49.9**	**+1.1**
	baz=76							
G20A	**Bridger**	**75.22**	**332**	⇓P		**P**	**21 53 49.2**	**-0.1**
	baz=76,SNR=11							
E22A	**Miles City**	**75.25**	**334**	⇓P		**P**	**21 53 50.0**	**+0.7**
	baz=76							
ELK	**Elko**	**75.27**	**325**	*e*P		**P**	**21 53 50.2**	**+0.4**
	comp=E,8.6nm,1.2s							
FXWY	**Fox Creek**	**75.28**	**330**	*e*P		**P**	**21 53 49.3**	**-0.5**
	comp=E,7.8nm,1.0s							
I17A	**Pilgrim Ck.**	**75.28**	**330**	⇓P		**P**	**21 53 50.8**	**+1.1**
	baz=76,SNR=23							
NV01	**Mina Array Sit**	**75.36**	**322**	*e*P		**P**	**21 53 51.5**	**+1.2**
NV01				*e*pP		**pP**	**21 54 20.5**	**+1.5**
NVAR	**Mina Array Bea**	**75.36**	**322**	P		**P**	**21 53 51.5**	**+1.2**
	comp=E,6.3nm,0.9s,baz=153,slow=6.9,SNR=29							
NVAR				pP		**pP**	**21 54 20.5**	**+1.5**
	comp=E,4.0nm,0.8s,baz=156,slow=6.8,SNR=6.8							
IMW	**Indian Meadow**	**75.43**	**330**	*e*P		**P**	**21 53 51.1**	**+0.4**
	comp=E,17nm,1.0s							
H18A	**Shoshone NF, C**	**75.44**	**331**	⇑P		**P**	**21 53 51.0**	**+0.3**
	baz=76,SNR=20							
FLWY	**Flagg Ranch**	**75.46**	**330**	*e*P		**P**	**21 53 51.5**	**+0.7**
	comp=E,28nm,0.9s							
FLWY				*e*pP		**pP**	**21 54 20.2**	**+0.8**
FLWY				*es*P		**sP**	**21 54 33.1**	**+1.6**
D23A	**Lindsay**	**75.55**	**335**	⇑P		**P**	**21 53 52.1**	**+1.1**
	baz=76							
RLMT	**Red Lodge**	**75.61**	**332**	*e*P		**P**	**21 53 51.8**	**+0.2**
	comp=E,14nm,0.9s							
RLMT				*e*pP		**pP**	**21 54 16.9**	**-3.3**
H17A	**Grant Village**	**75.64**	**330**	⇑P		**P**	**21 53 53.4**	**+1.5**
	baz=76							
H17A	**Grant Village**	**75.64**	**330**	*e*P		**P**	**21 53 51.0**	**-0.9**
	comp=E,7.9nm,1.1s							
F20A	**Billings**	**75.65**	**333**	⇓P		**P**	**21 53 52.3**	**+0.6**
	baz=76							
SCHQ	**Schefferville**	**75.65**	**1**	P		**P**	**21 53 51.5**	**+0.2**
	comp=E,7.7nm,0.8s,baz=185,slow=5.8,SNR=9.7							
SCHQ				pP		**pP**	**21 54 21.5**	**+1.5**
	comp=E,8.6nm,0.9s,baz=232,slow=7.7,SNR=6.1							
SCHQ	**Schefferville**	**75.65**	**1**	*e*P		**P**	**21 53 50.3**	**-1.1**
SCHQ				*e*pP		**pP**	**21 54 19.7**	**-0.3**
LKWY	**Lake**	**75.69**	**331**	*e*P		**P**	**21 53 53.0**	**+0.8**
	comp=E,19nm,1.0s							
LKWY				*e*pP		**pP**	**21 54 21.5**	**+0.8**
YFT	**Old Faithful**	**75.80**	**330**	*e*P		**P**	**21 53 53.8**	**+1.0**
	comp=E,14nm,1.0s							
D22A	**Cohagen**	**75.92**	**335**	⇓P		**P**	**21 53 54.3**	**+1.2**
	baz=76							
YNR	**Norris Junctio**	**75.93**	**330**	*e*P		**P**	**21 53 52.2**	**-1.3**
	comp=E,8.6nm,1.1s							
YMR	**Madison River**	**76.03**	**330**	*e*P		**P**	**21 53 53.5**	**-0.5**
	comp=E,31nm,1.1s							
F19A	**Roth Farm, Mol**	**76.04**	**332**	⇓P		**P**	**21 53 54.7**	**+0.8**
	baz=76,SNR=16							
C23A	**Lambert**	**76.06**	**336**	⇑P		**P**	**21 53 54.4**	**+0.5**
	baz=76							
WAKR	**Walker**	**76.07**	**321**	*e*P		**P**	**21 53 54.0**	**-0.4**
D21A	**La Casta Ranch**	**76.18**	**334**	⇓P		**P**	**21 53 55.8**	**+1.2**
	baz=76							
E20A	**Meyer Farm, Mu**	**76.20**	**333**	⇑P		**P**	**21 53 55.5**	**+0.8**
	baz=76,SNR=13							
A25A	**Svangstu Ranch**	**76.23**	**337**	⇑P		**P**	**21 53 55.7**	**+0.9**
	baz=77							
DGMT	**Dagmar**	**76.23**	**337**	⇓P		**P**	**21 53 56.1**	**+1.3**
	baz=77							
GCMT	**Greycliff**	**76.31**	**332**	*e*P		**P**	**21 53 55.6**	**+0.2**
GCMT				*e*pP		**pP**	**21 54 23.6**	**-0.5**
E19A	**Rath Farm, Rou**	**76.45**	**333**	⇑P		**P**	**21 53 57.1**	**+1.0**
	baz=77,SNR=32							
B23A	**Brockton**	**76.53**	**336**	⇓P		**P**	**21 53 57.4**	**+0.9**
	baz=77,SNR=5.7							
A24A	**Westby**	**76.54**	**337**	⇑P		**P**	**21 53 57.6**	**+1.1**
	baz=77							
D20A	**Manuel Ranch,**	**76.67**	**333**	⇑P		**P**	**21 53 57.7**	**+0.3**
	baz=77,SNR=12							
B22A	**Reddig Ranch S**	**76.78**	**335**	⇑P		**P**	**21 53 58.9**	**+0.9**
	baz=77							
HLID	**Hailey**	**76.87**	**328**	⇑P		**P**	**21 53 59.9**	**+1.2**
	baz=77,SNR=32							
HLID	**Hailey**	**76.87**	**328**	*e*P		**P**	**21 53 59.1**	**+0.4**
	comp=E,20nm,1.0s							
TOA0	**Torodi Ar. Sit**	**76.97**	**70**	*e*P		**P**	**21 53 59.5**	**-0.2**
TOA0				*e*pP		**pP**	**21 54 28.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P		**P**	**21 53 59.5**	**-0.2**
	comp=E,2.5nm,0.4s,baz=253,slow=5.5,SNR=110							
TORD				pP		**pP**	**21 54 28.2**	**-0.1**
	comp=E,2.6nm,0.6s,baz=254,slow=5.8,SNR=2.9							
MCMT	**McKenzie Canyo**	**77.03**	**329**	*e*P		**P**	**21 54 00.4**	**+0.7**
D19A	**Cripps Ranch,**	**77.04**	**333**	⇑P		**P**	**21 54 00.3**	**+0.8**
	baz=77							
BOZ	**Bozeman (W)**	**77.08**	**331**	*e*P		**P**	**21 53 59.2**	**-0.6**
	comp=E,11nm,1.2s							
C20A	**Veseth Ranch,**	**77.11**	**334**	⇓P		**P**	**21 54 00.6**	**+0.8**
	baz=77							
VNDA	**Vanda**	**77.27**	**190**	P		**P**	**21 54 01.4**	**+1.1**
	comp=E,2.1nm,0.9s,baz=127,slow=4.8,SNR=9.4							
VNDA	**Vanda**	**77.27**	**190**	*e*P		**P**	**21 54 01.4**	**+1.1**
	comp=E,24nm,2.1s							
B21A	**Ellsworth Farm**	**77.28**	**335**	⇓P		**P**	**21 54 01.3**	**+0.6**
	baz=78							
A22A	**Carney Farms,**	**77.31**	**336**	⇑P		**P**	**21 54 01.2**	**+0.3**
	baz=78,SNR=6.2							
DLMT	**Dillon**	**77.31**	**330**	*e*P		**P**	**21 54 01.4**	**+0.2**
	comp=E,18nm,1.3s							
MFID	**Camas Ranch**	**77.47**	**327**	*e*P		**P**	**21 54 02.1**	**0.0**
	comp=E,27nm,1.4s							
C19A	**Slack Wire Ran**	**77.56**	**333**	⇑P		**P**	**21 54 02.7**	**+0.3**
	baz=78,SNR=10							
LRM	**Limekiln Ridge**	**77.59**	**330**	*e*P		**P**	**21 54 02.6**	**-0.2**
B20A	**Solberg Farm,**	**77.69**	**334**	⇑P		**P**	**21 54 03.3**	**+0.2**
	baz=78							
A21A	**Bergtoll Ranch**	**77.70**	**335**	⇑P		**P**	**21 54 02.8**	**-0.3**
	baz=78,SNR=5.3							
HRY	**Holter Researc**	**77.98**	**331**	*e*P		**P**	**21 54 05.1**	**+0.3**
A20A	**Cobblestone Ra**	**78.00**	**335**	⇓P		**P**	**21 54 04.8**	**0.0**
	baz=78,SNR=12							
B19A	**Brinkman Farms**	**78.08**	**334**	⇓P		**P**	**21 54 05.3**	**+0.1**
	baz=78,SNR=7.7							
EGMT	**Eagleton**	**78.08**	**333**	⇑P		**P**	**21 54 05.7**	**+0.5**
	baz=78,SNR=8.7							
EGMT	**Eagleton**	**78.08**	**333**	*e*P		**P**	**21 54 04.8**	**-0.5**
	comp=E,17nm,1.1s							
A19A	**Klindworth Far**	**78.37**	**334**	⇑P		**P**	**21 54 06.8**	**0.0**
	baz=79,SNR=6.8							
CHMT	**Chamberlain Mo**	**78.77**	**331**	*e*P		**P**	**21 54 09.3**	**+0.1**
MOD	**Modoc Plateau**	**78.83**	**323**	*e*P		**P**	**21 54 10.2**	**+0.6**
	comp=E,22nm,1.1s							
MSO	**Missoula**	**79.03**	**330**	⇑P		**P**	**21 54 11.7**	**+1.2**
	baz=79							

SLMT	**Seeley Lake**	**79.13**	**331**	*e*P		**P**	**21 54 10.0**	**-1.2**
WDC	**Whiskeytown Da**	**79.24**	**321**	*e*P		**P**	**21 54 10.4**	**-1.3**
	comp=E,8.8nm,0.8s							
BMO	**Blue Mountains**	**79.24**	**327**	*e*P		**P**	**21 54 11.2**	**-0.5**
	comp=E,18nm,1.0s							
KIPM	**Iron Peak**	**79.31**	**320**	*e*P		**P**	**21 54 12.0**	**-0.2**
SWMT	**Swartz Lake**	**79.56**	**331**	*e*P		**P**	**21 54 13.6**	**+0.2**
N02D	**Trinity Center**	**79.59**	**321**	⇑P		**P**	**21 54 13.5**	**-0.1**
	baz=80,SNR=11							
M04C	**Macdoel**	**79.61**	**322**	⇓P		**P**	**21 54 14.3**	**+0.5**
	baz=80,SNR=13							
K05A	**Summer Lake**	**79.70**	**324**	*e*P		**P**	**21 54 12.9**	**-1.5**
	comp=E,41nm,1.0s							
KMRM	**Mail Ridge**	**79.70**	**320**	*e*P		**P**	**21 54 14.7**	**+0.4**
	comp=E,32nm,1.1s							
I07A	**Izee**	**79.85**	**325**	*e*P		**P**	**21 54 14.3**	**-0.7**
	comp=E,27nm,1.3s							
JTMT	**Jette**	**79.86**	**331**	*e*P		**P**	**21 54 14.8**	**-0.3**
TSUM	**Tsumeb**	**79.89**	**107**	*e*P		**P**	**21 54 13.9**	**-2.0**
	comp=E,8.1nm,0.9s							
M02C	**Callahan**	**79.94**	**322**	⇓P		**P**	**21 54 15.8**	**+0.2**
	baz=80,SNR=8.1							
F10A	**Beach Ranch, E**	**79.99**	**328**	*e*P		**P**	**21 54 14.6**	**-1.1**
	comp=E,39nm,1.7s							
YBH	**Yreka Blue Hor**	**80.08**	**322**	*e*P		**P**	**21 54 15.0**	**-1.3**
	comp=E,8.1nm,1.0s							
K04D	**Chiloquin, OR**	**80.11**	**323**	⇑P		**P**	**21 54 17.4**	**+0.9**
	baz=80							
KHMM	**Horse Mountain**	**80.13**	**321**	*e*P		**P**	**21 54 17.4**	**+0.8**
	comp=E,18nm,1.0s							
BSMT	**Bassoo Peak**	**80.17**	**330**	*e*P		**P**	**21 54 16.4**	**-0.3**
J05D	**Fort Rock, OR**	**80.26**	**324**	⇓P		**P**	**21 54 18.3**	**+1.0**
	baz=81,SNR=6.2							
G08A	**Pilot Rock**	**80.39**	**327**	*e*P		**P**	**21 54 17.8**	**-0.2**
WALA	**Waterton Lakes**	**80.66**	**332**	*e*P		**P**	**21 54 18.9**	**-0.4**
	comp=E,250nm,0.9s							
J04D	**Umpqua Nationa**	**80.71**	**323**	⇓P		**P**	**21 54 20.6**	**+0.8**
	baz=81,SNR=5.1							
FFC	**Flin Flon**	**80.76**	**341**	*e*P		**P**	**21 54 18.1**	**-1.3**
	comp=E,12nm,1.3s							
HUMO	**Hull Mountain**	**80.78**	**323**	*e*P		**P**	**21 54 19.6**	**-0.4**
	comp=E,6.7nm,1.0s							
E09A	**Wood Farm, Sta**	**80.82**	**328**	*e*P		**P**	**21 54 20.1**	**0.0**
L02D	**Cave Junction,**	**80.86**	**322**	⇑P		**P**	**21 54 20.9**	**+0.5**
	baz=81,SNR=8.6							
I05D	**Terrebonne, OR**	**81.01**	**325**	⇑P		**P**	**21 54 22.2**	**+1.0**
	baz=81,SNR=9.5							
G06A	**Carlson Farm,**	**81.23**	**326**	*e*P		**P**	**21 54 22.4**	**+0.1**
I04A	**Tendick Farm,**	**81.24**	**324**	⇑P		**P**	**21 54 22.6**	**+0.2**
	baz=82,SNR=8.3							
KBO	**Bosley Butte**	**81.26**	**322**	*e*P		**P**	**21 54 21.4**	**-1.2**
	comp=E,40nm,1.3s							
NEW	**Newport**	**81.56**	**330**	⇓P		**P**	**21 54 24.3**	**+0.4**
	baz=82							
NEW	**Newport**	**81.56**	**330**	*e*P		**P**	**21 54 22.9**	**-1.1**
	comp=E,13nm,1.5s							
D08A	**Wollman Farm,**	**81.58**	**328**	*e*P		**P**	**21 54 23.6**	**-0.5**
G05D	**Wamic, OR**	**81.59**	**325**	⇓P		**P**	**21 54 25.5**	**+1.3**
	baz=82,SNR=7.7							
H04A	**Detroit Lake**	**81.69**	**325**	*e*P		**P**	**21 54 24.4**	**-0.4**
	comp=E,20nm,1.0s							
I03D	**Drain, OR**	**81.70**	**323**	⇑P		**P**	**21 54 25.8**	**+1.1**
	baz=82							
KEBM	**Edson Butte**	**81.73**	**322**	*e*P		**P**	**21 54 25.7**	**+0.6**
	comp=E,81nm,1.2s							
C09A	**Chrisman Ranch**	**81.78**	**329**	*e*P		**P**	**21 54 25.3**	**+0.2**
	comp=E,21nm,0.8s							
F04A	**Amboy**	**82.63**	**325**	*e*P		**P**	**21 54 28.6**	**-0.9**
	comp=E,18nm,1.0s							
B08A	**Colville Reser**	**82.68**	**329**	*e*P		**P**	**21 54 29.2**	**-0.7**
D05A	**Enumclaw**	**83.22**	**327**	*e*P		**P**	**21 54 32.2**	**-0.4**
	comp=E,23nm,1.0s							
EDM	**Edmonton**	**83.53**	**335**	*e*P		**P**	**21 54 32.7**	**-1.4**
PGC	**Sidney**	**84.92**	**327**	*e*P		**P**	**21 54 40.4**	**-0.7**
	comp=E,19nm,0.9s							
YKA	**Yellowknife Ar**	**90.92**	**340**	P		**P**	**21 55 09.3**	**-0.1**
	comp=E,5.0nm,0.7s,baz=134,slow=4.6,SNR=117							
YKA				pP		**pP**	**21 55 39.9**	**+1.0**
	comp=E,3.0nm,0.7s,baz=136,slow=4.5,SNR=7.8							
YKB5	**Yellowknife Ar**	**90.92**	**340**	*e*P		**P**	**21 55 09.3**	**-0.1**
YKB5				*e*pP		**pP**	**21 55 39.9**	**+1.0**
DLBC	**Dease Lake**	**93.99**	**332**	*e*P		**P**	**21 55 21.9**	**-2.0**
	comp=E,8.9nm,1.2s							
ILAR	**Eielson Array**	**104.02**	**334**	PKiKP		**PKiKP**	**22 00 26.0**	**+0.6**
	comp=E,0.6nm,1.1s,baz=104,slow=3.8,SNR=3.1							
KBZ	**Khabaz**	**119.67**	**51**	PKP		**PKPdf**	**22 00 56.3**	**+0.7**
	comp=E,1.8nm,0.8s,baz=326,slow=0.9							
KBZ	**Khabaz**	**119.67**	**51**	*e*PKPdf		**PKPdf**	**22 00 56.3**	**+0.7**
AS12	**Alice Springs**	**130.38**	**207**	*e*PKPdf		**PKPdf**	**22 01 16.8**	**-0.1**
AS12				*ep*PKPdf		**pPKPdf**	**22 01 47.0**	**-0.6**
ASAR	**Alice Springs**	**130.38**	**207**	PKP		**PKPdf**	**22 01 16.8**	**-0.1**
	comp=E,2.5nm,0.8s,baz=150,slow=2.5,SNR=21							
ASAR				pPKP		**pPKPdf**	**22 01 47.0**	**-0.6**
	comp=E,0.8nm,0.8s,baz=151,slow=2.1,SNR=2.5							
ABKAR	**Akbulak array**	**130.68**	**43**	*e*PKPdf		**PKPdf**	**22 01 16.9**	**+0.4**
WRA	**Warramunga Arr**	**133.42**	**210**	PKP		**PKPdf**	**22 01 22.6**	**0.0**
	comp=E,2.2nm,0.6s,baz=158,slow=1.7,SNR=38							
WRA				pPKP		**pPKPdf**	**22 01 54.4**	**+1.0**
	comp=E,1.1nm,0.8s,baz=156,slow=1.7,SNR=4.4							
WRA	**Warramunga Arr**	**133.42**	**210**	*e*PKPdf		**PKPdf**	**22 01 22.6**	**0.0**
WRA				*ep*PKPdf		**pPKPdf**	**22 01 54.4**	**+1.0**
ZAA1	**Zalesovo Array**	**141.49**	**25**	*e*PKPpre		PKPpre	22 01 33.4	
ZAA1				*e*PKPdf		**PKPdf**	**22 01 36.2**	**-0.2**
ZAA1				*ep*PKPdf		pPKPdf	22 02 08.8	+1.6
ZALV	**Zalesovo Beam**	**141.49**	**25**	PKhKP		PKPpre	22 01 33.4	
	comp=E,3.6nm,0.7s,baz=298,slow=2.7,SNR=18							
ZALV				PKP		**PKPdf**	**22 01 36.2**	**-0.2**
	comp=E,5.2nm,0.7s,baz=296,slow=2.0,SNR=19							
ZALV				pPKP		pPKPdf	22 02 08.8	+1.6
	comp=E,5.3nm,1.0s,baz=286,slow=2.8,SNR=3.6							
TKM2	**Tokmak 2**	**143.07**	**46**	*e*PKPdf		PKPbc	22 01 37.8	+0.8
MK32	**Makanchi Array**	**145.16**	**36**	*e*PKPbc		**PKPdf**	**22 01 43.7**	**+0.5**
MK32				*ep*PKPdf		**pPKPdf**	**22 02 15.6**	**+1.6**
MKAR	**Makanchi Array**	**145.16**	**36**	PKPbc		**PKPdf**	**22 01 43.7**	**+0.5**
	comp=E,16nm,0.8s,baz=315,slow=2.6,SNR=188							
MKAR				pPKPbc		pPKPbc	22 02 15.6	+2.2
	comp=E,6.7nm,0.7s,baz=312,slow=3.9,SNR=6.7							
MKAR	**Makanchi Array**	**145.16**	**36**	*e*PKPbc		**PKPbc**	**22 01 42.2**	**-0.8**
ASAJ	**Asahikawa**	**145.45**	**319**	PKPbc		**PKPab**	**22 01 44.5**	**+0.3**
	comp=E,30nm,0.9s,baz=90,slow=5.1,SNR=9.0							
ASAJ	**Asahikawa**	**145.45**	**319**	*e*PKPdf		**PKPdf**	**22 01 43.6**	**-0.1**
SOEI	**Soe**	**146.81**	**204**	*e*PKPdf		**PKPdf**	**22 01 45.7**	**-1.4**
WMQ	**Urumqi**	**150.00**	**36**	PKPbc		**PKPbc**	**22 01 57.6**	**+1.3**
WMQ				pPKP		**pPKPdf**	**22 02 23.8**	**+1.7**
WMQ				sPKP			22 02 32.8	
WMQ				PPMZ				
	comp=E,120nm,5.2s							
WMQ				LN				
	comp=E,120nm,17.0s							
WMQ				LE				
	comp=E,110nm,19.0s							
WMQ				LZ				
	comp=E,120nm,20.0s							
USRK	**Ussuriysk Ar.**	**151.33**	**328**	PKPbc		**PKPbc**	**22 01 59.9**	**+0.5**
	comp=E,12nm,0.8s,baz=31,slow=0.8,SNR=25							
USRK				PKPab		**PKPab**	**22 02 07.9**	**+0.1**
	comp=E,1.2nm,0.6s,baz=21,slow=2.7,SNR=4.1							
USRK				pPKPbc		**pPKPbc**	**22 02 30.8**	**+0.9**
	comp=E,4.0nm,0.8s,baz=36,slow=2.7,SNR=4.2							
MJAR	**Matsushiro Arr**	**152.05**	**309**	PKPbc		**PKPbc**	**22 02 01.1**	**-0.1**
	comp=E,6.9nm,0.8s,baz=87,slow=1.6,SNR=19							
MJAR				PKPab		**PKPab**	**22 02 11.0**	**-0.1**
	comp=E,5.0nm,1.0s,baz=105,slow=2.4,SNR=7.3							
MJAR				pPKPbc		**pPKPbc**	**22 02 32.2**	**+0.3**
	comp=E,3.6nm,0.8s,baz=111,slow=1.8,SNR=3.4							
MAJO	**Matsushiro**	**152.05**	**309**	*e*PKPbc		**PKPbc**	**22 02 01.1**	**-0.1**
MAJO				*e*PKPab		**PKPab**	**22 02 11.0**	**-0.2**
SONA0	**Songino Array**	**153.04**	**7**	*e*PKPdf		**PKPdf**	**22 01 56.9**	**+1.0**
SONA0				*e*PKPbc		**PKiKP**	**22 02 03.9**	**+0.4**
SONA0				*e*PKPab		**PKPab**	**22 02 15.6**	**+0.6**
SONM	**Songino Array**	**153.04**	**7**	PKP		**PKPdf**	**22 01 56.9**	**+1.0**
	comp=E,1.6nm,0.8s,baz=339,slow=0.9,SNR=14							
SONM				PKPbc		**PKiKP**	**22 02 03.9**	**+0.4**
	comp=E,4.0nm,1.0s,baz=347,slow=1.2,SNR=15							
SONM				PKPab		**PKPab**	**22 02 15.6**	**+0.6**
	comp=E,1.3nm,0.9s,baz=353,slow=3.6,SNR=5.0							
SONM				pPKPbc		**pPKPbc**	**22 02 35.6**	**+1.7**
	comp=E,2.5nm,0.8s,baz=330,slow=1.2,SNR=6.4							
ULN	**Ulaanbaatar**	**153.09**	**6**	*e*PKPdf		**PKPdf**	**22 01 56.1**	**+0.1**
ULN				*e*PKPbc		**PKiKP**	**22 02 03.9**	**+0.3**
ULN				*e*PKPab		**PKPab**	**22 02 14.5**	**-0.7**
KSRS	**Korea Array**	**158.30**	**322**	PKP		**PKPdf**	**22 02 03.9**	**+0.9**
	comp=E,2.6nm,0.9s,baz=48,slow=1.8,SNR=7.0							
KSRS				PKPab		**PKPab**	**22 02 38.4**	**+0.6**
	comp=E,5.3nm,0.9s,baz=62,slow=4.8,SNR=9.8							
KS15	**Wonju Array Si**	**158.34**	**322**	*e*PKPdf		**PKPdf**	**22 02 03.9**	**+0.8**
KS15				*e*PKPab		**PKPab**	**22 02 38.4**	**+0.5**
GTA	**Gaotai**	**159.24**	**26**	*e*PKP		**PKPdf**	**22 02 04.9**	**+0.6**
HHC	**Hu-ho-hao-te**	**160.33**	**360**	*e*PKP		**PKPdf**	**22 02 05.8**	**+0.4**
HHC				pPKP		**pPKPdf**	**22 02 32.6**	**-3.7**
HHC				sPKP			22 02 43.6	
HHC				PP		**PP**	**22 06 31.8**	**+3.8**
HHC				SKKS			22 13 08.9	
HHC				SS		**SS**	**22 26 32.9**	**+4.0**
HHC				PPMZ				
	comp=E,99nm,8.6s							
HHC				LN				
	comp=E,220nm,18.5s							
HHC				LE				
	comp=E,170nm,19.7s							
HHC				LZ				
	comp=E,270nm,18.5s							
LZH	**Lanzhou**	**163.69**	**22**	*e*PKP		**PKPdf**	**22 02 09.4**	**+0.3**
LZH				pPKP		**pPKPdf**	**22 02 33.4**	**-6.6**
LZH				sPKP			22 02 44.0	
CM31	**Chiang Mai Arr**	**167.99**	**101**	*e*PKPdf		**PKPdf**	**22 02 13.2**	**+0.4**
CM31				*e*PKPab		**PKPab**	**22 03 22.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**167.99**	**101**	PKP		**PKPdf**	**22 02 13.2**	**+0.4**
	comp=E,1.3nm,0.9s,baz=281,slow=2.2,SNR=12							
CMAR				PKPab		**PKPab**	**22 03 22.2**	**+1.2**
	comp=E,0.2nm,0.5s,baz=230,slow=6.9,SNR=2.9							
CD2	**Chengdu**	**168.08**	**34**	PKP		**PKPdf**	**22 02 10.0**	**-2.6**

WEL 15 21:42:23.5±0.2, 39°45S×175°63E, h91km±1km, ML3.8/16, 21C-16D, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
MOVZ	**Moawhango**	**0.10**	**67**	P*	Pn	21 42 36.0	-0.5
MOVZ				S*	Sn	21 42 44.3	-1.8
WNVZ	**Wahianoa**	**0.12**	**347**	P*	Pn	21 42 36.4	-0.2
WNVZ				S*	Sn	21 42 45.3	-1.1
MTVZ	**Mangateitei**	**0.14**	**296**	⇑P*	Pn	21 42 36.5	0.0
MTVZ				S*	Sn	21 42 45.9	-0.3
TRVZ	**Turoa**	**0.16**	**336**	⇑P*	Pn	21 42 36.7	-0.1
TRVZ				S*	Sn	21 42 45.4	-1.3
WHVZ	**Whangaehu Hut**	**0.17**	**348**	⇓P*	Pn	21 42 36.7	-0.2
DRZ	**Dome Shelter**	**0.18**	**343**	P*	Pn	21 42 37.0	0.0
TUVZ	**Tukino**	**0.18**	**5**	P*	Pn	21 42 36.6	-0.1
TUVZ				S*	Sn	21 42 45.7	-1.0
FWVZ	**Far West T-bar**	**0.20**	**342**	P*	Pn	21 42 36.9	-0.1
WPVZ	**Whakapapa**	**0.25**	**344**	P*	Pn	21 42 37.1	0.0
COVZ	**Chateau Observ**	**0.26**	**344**	⇓P*

ODZ	**Otahua Downs**	**6.71**	**212**	PN	Pn	21 43 55.2	-4.1
CTZ	**Chatham Island**	**7.22**	**129**	PN	Pn	21 44 06.5	+0.3

*DJA **15** 22:23:55.1±2.7,5˚S±7˝×12˚7E±˚, h39km±35km, M4.0/7, mb4.6/1,mB4.7/1,MLv3.6/7,Mw(mB)4.0/1*
*IDC **15** 22:23:57.8±1.5,5.02S×127.83E, h0km, mb3.6/2, mb1 3.9/5,mb1mx3.6/27,mbtmp3.8/5,ML3.8/3,Error ellipse: s-maj=61.9km s-min=23.8km az=78.0*
ISC 15 22:23:58.8±1.0,**5.02S**±0.08×**127.9E**±0.1,**h10**km,**n8,** σ1°**06**/8,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.98**	**33**	P	**Pb**	**22 24 33.5**	**-1.4**
MSAI				S	**Sg**	**22 25 03.4**	**+0.9**
BNDI	**Bandanaira**	**2.10**	**76**	P	**Pb**	**22 24 37.0**	**0.0**
BNDI				S	Sg	22 25 13.5	+7.2
FAKI	**Fak Fak**	**4.85**	**65**	P	Pb	22 25 17.5	-6.5
BATI	**Baumata**	**6.62**	**219**	Pn	**Pn**	**22 25 36.5**	**+0.2**
	4.3nm,0.3s,baz=108,slow=3.0,SNR=5.9						
WRA	**Warramunga Arr**	**16.12**	**158**	Pn	**Pn**	**22 27 44.2**	**-1.5**
	0.3nm,0.3s,baz=332,slow=13,SNR=19						
WRA				Sn	Sn	22 30 30.1	-14
	0.1nm,0.3s,baz=330,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**19.43**	**163**	P	**Pn**	**22 28 26.9**	**+0.3**
	0.2nm,0.3s,baz=340,slow=11,SNR=15						
SONM	**Songino Array**	**55.92**	**343**	P	**P**	**22 33 37.7**	**+0.6**
	0.6nm,0.8s,baz=141,slow=5.5,SNR=3.3						
MKAR	**Makanchi Array**	**65.42**	**327**	P	**P**	**22 34 42.1**	**+0.3**
	0.5nm,0.6s,baz=124,slow=8.2,SNR=8.0						

MAN 15 22:28:37,13˚40N×120˚55E, h33km, mb4.4, ML3.2, MS3.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.41**	**75**	⇑*i*	P*n*	22 28 47.6	+0.9
PGP				*i*	S*b*	22 28 47.7	-4.9
LUBP	**Lubang**	**0.45**	**319**	*e*	P*n*	22 28 48.8	+1.6
SJMP	**San Jose**	**1.08**	**149**	*e*	P*b*	22 28 57.8	+0.5
BUSP	**Coron**	**1.43**	**194**	*e*	P*b*	22 29 01.9	-1.2
BUSP				*e*	S*n*	22 29 16.2	-2.1
ENPP	**El Nido**	**2.44**	**207**	*e*	P*n*	22 29 15.2	+0.7

*ISCJB **15** 22:31:16.0±0.7, 32˚67N±0˚05×115˚93W±0˚04, h9km±5km, Error ellipse: s-maj=8.8km s-min=5.1km az=175.7*
*ECX **15** 22:31:16.7±0.7, 32˚68N×115˚92W, h3km, MD2.7, ML2.9*
*MEX **15** 22:31:17.6±0.4, 32˚81N×115˚93W, h16km±8km, MD3.5*
ISC 15 22:31:16.0±1.0,**32˚66N**±0˚04×**115˚94W**±0˚03,**h11**km±6km, **n15,** σ0°**37**/25,**3C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.02**	**136**	⇓*i*	P*g*	**22 31 17.5**	**-0.5**
RMX	**La Rumorosa**	**0.13**	**242**	*e*	P*g*	**22 31 19.6**	**+0.4**
RMX				*e*	S*g*	**22 31 22.1**	**+0.5**
SGL	**Mount Signal**	**0.18**	**94**	⇑*i*	P*g*	**22 31 19.8**	**-0.2**
CRR	**Carrizo Plain**	**0.22**	**354**	⇓*i*	P*g*	**22 31 20.7**	**0.0**
COK	**Cook Ranch**	**0.26**	**44**	⇓*i*	P*g*	**22 31 21.4**	**+0.1**
CPBX	**Cerro Prieto**	**0.59**	**114**	*e*	P*g*	**22 31 27.6**	**+0.1**
CPBX				*e*	S*g*	**22 31 35.4**	**+0.1**
CPBX				⇓*e*		22 31 38.8	
CPBX				AML	AML	22 31 38.8	
	comp=N,2μm,0.3s						
CPBX				⇑*e*		22 31 39.0	
CPBX				AML	AML	22 31 39.0	
	comp=E,2μm,0.3s						
CBX	**Cerro Bola**	**0.70**	**240**	*e*	P*b*	**22 31 30.1**	**-0.2**
CBX				*e*	S*b*	**22 31 39.9**	**-0.3**
CBX	**Cerro Bola**	**0.70**	**240**	*e*	P*b*	**22 31 30.1**	**-0.2**
CBX				*e*	S*b*	**22 31 39.8**	**-0.3**
RDX	**Rancho Dawling**	**0.73**	**180**	⇓*e*	P*g*	**22 31 29.9**	**-0.3**
RDX				*e*	S*g*	**22 31 40.2**	**+0.4**
PBX	**Punta Banda**	**1.13**	**216**	*e*	P*b*	**22 31 37.5**	**-0.1**
PBX				*e*	S*b*	**22 31 52.3**	**-0.1**
ECNX	**Esteban Cantu**	**1.15**	**209**	*e*	P*b*	**22 31 37.7**	**-0.2**
ECNX				*e*	S*b*	**22 31 52.7**	**-0.2**
ZAX	**El Zacaton**	**1.18**	**194**	*e*	P*b*	**22 31 37.8**	**-0.6**
ECBX	**El Chinero**	**1.41**	**147**	*e*	P*n*	**22 31 41.5**	**-0.1**
ECBX				*e*	S*b*	**22 32 00.4**	**+0.2**
ECBX				AML	AML	22 32 02.1	
	comp=N,197nm,0.7s						
ECBX				⇑*e*		22 32 02.1	
SPIG	**San Pedro Mart**	**1.66**	**166**	*i* P	P*n*	**22 31 45.5**	**+0.1**
SPIG				*i* S	S*n*	**22 32 06.7**	**-0.2**
SPX	**San Pedro Mart**	**1.66**	**166**	*e*	P*n*	**22 31 45.8**	**+0.4**
SPX				*e*	S*b*	**22 32 08.9**	**+1.0**

*NEIC **15** 22:31:55.6, 40˚49N×124˚27W, h25km, ML3.2(NCEDC), After NCEDC.*
*IDC **15** 22:31:56.4±9.3, 40˚35N×123˚89W, h0km, mb2.7/1, mb1 3.6/3,mb1mx3.2/43,mbtmp3.1/3,ML3.4/2,Error ellipse: s-maj=180.7km s-min=26.2km az=56.0*
ISC 15 22:31:55.2±1.7,**40˚51N**±0˚03×**124˚29W**±0˚08, **h30**km±12km,**n27,** σ1°**13**/36,**8C-8D, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**0.56**	**49**	*e*P*b*	**Pb**	**22 32 06.5**	**-0.3**
KHMM				*e*S*b*	**Sb**	**22 32 14.8**	**+0.1**
KIPM	**Iron Peak**	**0.93**	**138**	*e*P*b*	**Pn**	**22 32 11.7**	**-0.8**
KIPM				*e*S*b*	**Sn**	**22 32 24.3**	**-0.5**
KCPM	**Cahto Peak**	**0.98**	**146**	*e*P*n*	P*n*	22 32 12.0	-1.1
KCPM				*e*S*b*	**Sn**	**22 32 25.1**	**-1.0**
N02D	**Trinity Center**	**1.29**	**68**	⇓P	**Pn**	**22 32 16.7**	**-0.7**
	baz=1.3						
N02D				⇓S	**Sn**	**22 32 32.3**	**-1.4**
	baz=1.3						
WDC	**Whiskeytown Da**	**1.34**	**86**	*e*P*n*	P*n*	22 32 16.9	-1.0
WDC				*e*S*n*	**Sn**	**22 32 33.4**	**-1.2**
M02C	**Callahan**	**1.41**	**50**	⇓P	**Pn**	**22 32 18.5**	**-0.4**
	baz=1.4,SNR=80						
M02C				⇓S	**Sn**	**22 32 34.9**	**-1.6**
	baz=1.4						
KBO	**Bosley Butte**	**1.71**	**2**	*e*P*n*	P*n*	22 32 21.4	-1.6
KBO				*e*S*n*	**Sn**	**22 32 41.1**	**-2.8**
YBH	**Yreka Blue Hor**	**1.71**	**44**	*e*P*n*	P*n*	**22 32 22.6**	**-0.4**
YBH				*e*S*n*	**Sn**	**22 32 45.0**	**+1.0**
L02D	**Cave Junction,**	**1.73**	**17**	⇑P	**Pn**	**22 32 23.0**	**-0.3**
	baz=1.7						
L02D				⇓S	**Sn**	**22 32 44.0**	**-0.4**
	baz=1.7						
HOPS	**Hopland Field**	**1.78**	**148**	*e*P*n*	**Pn**	**22 32 24.2**	**+0.3**
HOPS				*e*S*n*	**Sn**	**22 32 46.7**	**+1.2**
M04C	**Macdoel**	**2.25**	**55**	⇓P	**Pn**	**22 32 30.9**	**+0.4**
	baz=2.2						
HUMO	**Hull Mountain**	**2.33**	**25**	*e*P*n*	**Pn**	**22 32 31.1**	**-0.4**
KEBM	**Edson Butte**	**2.37**	**359**	*e*P*n*	**Pn**	**22 32 31.9**	**-0.2**
MCCM	**Marconi Confer**	**2.60**	**155**	*e*P*n*	P*n*	**22 32 34.7**	**-0.5**
MCCM				*e*S*n*	**Sn**	**22 33 03.3**	**-2.4**
K04D	**Chiloquin, OR**	**2.85**	**41**	⇑P	**Pn**	**22 32 39.3**	**+0.6**
	baz=2.8						
K04D				⇑S	**Sn**	**22 33 11.9**	**-0.2**
	baz=2.8						
I03D	**Drain, OR**	**3.27**	**12**	⇑P	**Pn**	**22 32 44.9**	**+0.6**
	baz=3.3						
MOD	**Modoc Plateau**	**3.32**	**64**	*e*P*n*	P*n*	**22 32 44.7**	**-0.6**
I04A	**Tendick Farm,**	**3.57**	**22**	⇑P	**Pn**	**22 32 49.6**	**+1.0**
	baz=3.6						
I04A				⇓S	**Sn**	**22 33 29.8**	**0.0**
	baz=3.6						
J05D	**Fort Rock, OR**	**3.59**	**38**	⇑P	**Pn**	**22 32 50.1**	**+1.1**
	baz=3.6						
J05D				⇑S	**Sn**	**22 33 30.3**	**-0.3**
	baz=3.6						
WAKR	**Walker**	**4.25**	**116**	*e*P*n*	**Pn**	**22 32 59.9**	**+1.8**
SAO	**San Andreas Ge**	**4.35**	**148**	*e*P*n*	**Pn**	**22 33 00.8**	**+1.5**
I05D	**Terrebonne, OR**	**4.41**	**29**	⇑P	**Pn**	**22 33 01.2**	**+1.1**
	baz=4.4						
WVOR	**Wild Horse Val**	**4.67**	**64**	*e*P*n*	P*n*	22 33 02.2	-1.5
NVAR	**Mina Array Bea**	**5.08**	**112**	P*n*	**Pn**	**22 33 10.0**	**+0.5**
	1.9nm,0.3s,baz=289,slow=14,SNR=57						
G05D	**Wamic, OR**	**5.21**	**24**	⇓P	**Pn**	**22 33 13.4**	**+2.2**
	baz=5.2						
TXAR	**Lajitas Array**	**20.21**	**117**	P	**P**	**22 36 28.4**	**+0.7**
	0.0nm,0.3s,baz=301,slow=10,SNR=4.4						
YKA	**Yellowknife Ar**	**22.78**	**12**	P	P	22 37 01.1	+6.2
	0.3nm,0.8s,baz=191,slow=12,SNR=5.2						

*ISCJB **15** 22:37:08.4±0.4, 32˚88N±0˚06×96˚95E±0˚06, h10km, mb3.6/11, Error ellipse: s-maj=8.9km s-min=5.7km az=147.3*
*IDC **15** 22:37:08.6±0.7, 32˚97N×97˚06E, h0km, mb3.6/11, mb1 3.8/14,mb1mx3.6/46,mbtmp3.7/14,ML3.4/3,Error ellipse: s-maj=28.8km s-min=14.7km az=51.0*
*BJI **15** 22:37:11.0, 32˚98N×96˚98E, h10km, mB3.7/1, mb3.7/1, ML3.6/9,Ms7 3.2/4*
ISC 15 22:37:10.4±0.6,**32˚97N**±0˚07×**97˚00E**±0˚06,**h10**km,**n32,** σ1°**06**/31,**mb3.7**/11,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.97**	**238**	P*n*	P*n*	22 38 44.4	+5.1
CD2	**Chengdu**	**6.10**	**108**	P*n*	P*n*	**22 38 40.3**	**-0.4**
CD2				P*g*	P*b*	22 39 01.0	+4.2
CD2				S*n*	S*n*	22 39 44.6	-6.0
CD2				S*g*	**Sg**	**22 40 24.4**	**-1.9**
CD2				SMN			
	40nm,1.3s						
CD2				SME			
	30nm,1.1s						
LZH	**Lanzhou**	**6.45**	**59**	P*n*	**Pn**	**22 38 48.3**	**+2.7**
LZH				P*g*	P*b*	22 39 07.3	+4.5
LZH				S*g*	S*b*	22 40 29.8	+10
LZH				SMN			
	52nm,1.0s						
LZH				SME			
	47nm,0.9s						
GTA	**Gaotai**	**6.82**	**19**	*e*P*n*	**Pn**	**22 38 52.3**	**+1.7**
SHL	**Shillong**	**8.62**	**213**	*e*P	**Pn**	**22 39 18.0**	**+2.6**
TAPN	**Taplejung**	**9.79**	**238**	*e*P	**Pn**	**22 39 31.9**	**+0.3**
	6.0nm,0.5s						
ODAN	**Odare**	**10.32**	**236**	*e*P	**Pn**	**22 39 38.7**	**-0.1**
	24nm,0.6s						
JIRN	**Jiri**	**10.73**	**243**	*e*P	**Pn**	**22 39 45.0**	**+0.5**
	10nm,0.6s						
RAMN	**Ramite**	**10.83**	**239**	*e*P	**Pn**	**22 39 46.2**	**+0.5**
	4.2nm,0.3s						
GUN	**Gumba**	**10.84**	**245**	*e*P	**Pn**	**22 39 45.7**	**-0.3**
	19nm,0.6s						
KKN	**Kakani**	**11.36**	**246**	*e*P	**Pn**	**22 39 52.9**	**0.0**
	7.6nm,0.5s						
PKI	**Pulchoki**	**11.37**	**245**	*e*P	**Pn**	**22 39 52.3**	**-0.9**
	18nm,0.6s						
PKIN	**Phulchoki**	**11.37**	**245**	*e*P	**Pn**	**22 39 52.4**	**-0.8**
	9.8nm,0.5s						
GKN	**Gorkha**	**11.75**	**248**	*e*P	**Pn**	**22 39 58.0**	**-0.3**
DANN	**Dangsing**	**12.29**	**251**	*e*P	**Pn**	**22 40 04.5**	**-1.3**
	6.9nm,0.4s						
KOLN	**Koldanda**	**12.67**	**249**	*e*P	**Pn**	**22 40 09.9**	**-1.0**
	8.1nm,0.6s						
PYUN	**Piuthan**	**13.01**	**252**	*e*P	**Pn**	**22 40 14.7**	**-0.9**
	23nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.55**	**173**	P*n*	**Pn**	**22 40 36.9**	**+0.4**
	0.1nm,0.3s,baz=345,slow=12,SNR=15						
SONM	**Songino Array**	**16.46**	**23**	P*n*	**Pn**	**22 41 01.4**	**-0.2**
	0.1nm,0.3s,baz=205,slow=14,SNR=14						
MKAR	**Makanchi Array**	**17.79**	**325**	P	**P**	**22 41 19.3**	**+0.4**
	0.1nm,0.3s,baz=132,slow=13,SNR=15						
AAK	**Ala-Archa**	**20.18**	**305**	P	**P**	**22 41 46.5**	**+1.2**
	2.7nm,0.9s,baz=108,slow=7.7,SNR=9.3						
KURBB	**Kurchatov Arra**	**22.27**	**328**	P	**P**	**22 42 07.8**	**+0.3**
	1.5nm,0.9s,baz=137,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**22.70**	**341**	P	**P**	**22 42 12.0**	**0.0**
	0.3nm,0.3s,baz=150,slow=9.9,SNR=4.2						
KSRS	**Korea Array**	**25.60**	**71**	P	**P**	**22 42 39.1**	**-0.7**
	1.0nm,0.6s,baz=268,slow=9.1,SNR=4.9						
BVAR	**Borovoye Array**	**27.67**	**324**	P	P	22 43 03.6	+5.2
	0.7nm,0.9s,baz=120,slow=8.8,SNR=4.3						
BRTR	**Keskin Array B**	**50.55**	**297**	P	**P**	**22 46 08.8**	**-0.4**
	0.5nm,0.8s,baz=50,slow=4.5,SNR=3.1						
NOA	**NORSAR Array B**	**59.79**	**326**	P	**P**	**22 47 14.1**	**-1.3**
	0.4nm,0.6s,baz=84,slow=8.5,SNR=2.8						
WRA	**Warramunga Arr**	**63.57**	**140**	P	**P**	**22 47 41.0**	**-0.4**
	0.9nm,0.7s,baz=336,slow=6.9,SNR=9.8						
ASAR	**Alice Springs**	**66.41**	**143**	P	**P**	**22 47 59.6**	**-0.2**
	1.0nm,0.4s,baz=328,slow=6.7,SNR=15						
STKA	**Stephens Creek**	**77.02**	**142**	P	**P**	**22 49 02.9**	**-0.6**
	1.7nm,0.8s,baz=337,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**81.53**	**14**	P	**P**	**22 49 27.7**	**-0.1**
	0.1nm,0.6s,baz=328,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**87.32**	**284**	P	**P**	**22 49 58.6**	**+0.6**
	0.6nm,0.9s,baz=35,slow=5.3,SNR=2.8						

*ISCJB **15** 22:58:52.2±0.7, 13˚46S±0˚10×111˚9W±0˚1, h10km, mb4.7/79,MS4.2/12, Error ellipse: s-maj=20.1km s-min=8.6km az=142.7*
*IDC **15** 22:58:52.0±1.0, 13˚47S×112˚18W, h0km, mb4.2/10, mb1 4.4/10,mb1mx4.3/17,mbtmp4.2/10,MS4.2/13, Ms1 4.2/13,ms1mx4.1/18,Error ellipse: s-maj=37.7km s-min=17.7km az=53.0*
*GCMT **15** 22:58:53.9±0.2, 13˚45S×112˚11W, h18km±1km, MW5.1/95, Moment Tensor Solution. s41,c50; s95,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.28±.16; Mθθ2.81±.17; Mϕϕ-1.52±.15; Mrθ1.60±.36; Mϕθ4.05±.12; Mϕr0.81±.34; Best double couple: Mo4.82500×10¹⁶ NP1:ϕs105.00000°,δ82.00000°,λ12.00000°. NP2: ϕs13.00000°,δ78.00000°,λ172.00000°. Principal axes: T 5.6970, Plg14.0000°, Azm329.0000°; N -1.7320, Plg75.0000°, Azm137.0000°; P -3.9540, Plg3.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 22:58:53.9±1.8, 13˚54S×111˚98W, h11km±5km, mb4.8/75 Error ellipse: s-maj=30.4km s-min=18.6km az=51.0*
*BJI **15** 22:58:57.4, 13˚30S×111˚80W, h20km, mB5.2/3, Ms5.1/4, Ms7 4.9/4*
ISC 15 22:58:53.3±0.5,**13˚6S**±0˚1×**112˚10W**±0˚09,**h10**km,**n136,** σ1°**21**/125,**mb4.8**/79,**MS4.2**/12,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**13.70**	**170**	LR	LR	23 06 00.1	
	comp=Z,2μm,19.1s,baz=348,slow=31						
RKT	**Rikitea**	**23.65**	**243**	*e*LQ	LQ	23 08 42.4	
	549nm,31.2s						
RKT				*e*LR	LR	23 09 43.0	
	1μm,28.2s,baz=66						
RKT	**Rikitea**	**23.65**	**243**	*e*T	T	23 28 28.3	
	1.5nm,0.3s						
ATAH	**Atahualpa**	**33.74**	**82**	P	**P**	**23 05 38.1**	**+2.3**
	8.1nm,1.1s,baz=263,slow=12,SNR=4.7						
OTAV	**Otavalo**	**36.06**	**70**	*e*P	**P**	**23 05 53.4**	**-2.5**
	18nm,1.8s						
PPT	**Papeete**	**36.28**	**259**	LR	LR	23 16 07.5	
	comp=Z,186nm,19.9s,baz=94,slow=29						
PPT2	**Papeete2**	**36.28**	**259**	*e*S	**S**	**23 11 33.7**	**-4.5**
	288nm,27.8s						
PPT2				*e*LR	LR	23 15 27.9	
	464nm,27.0s,baz=92						
TBI	**Tubuai**	**36.64**	**249**	*e*LQ	LQ	23 14 09.4	
	423nm,31.5s						
TBI				*e*LR	LR	23 15 43.2	
	677nm,26.0s,baz=78						
ROSC	**El Rosal**	**41.73**	**66**	LR	LR	23 20 07.3	
	comp=Z,108nm,20.9s,baz=336,slow=30						
LPAZ	**La Paz**	**42.50**	**99**	P	**P**	**23 06 50.7**	**+0.8**
	4.9nm,1.0s,baz=272,slow=7.4,SNR=13						
LPAZ				LR	LR	23 20 28.1	
	comp=Z,177nm,20.9s,baz=257,slow=30						
LPAZ	**La Paz**	**42.50**	**99**	*e*P	**P**	**23 06 50.7**	**+0.8**
	19nm,1.0s						
LTX	**Lajitas**	**43.46**	**11**	*e*P	**P**	**23 06 56.4**	**-0.4**
TXAR	**Lajitas Array**	**43.46**	**11**	P	**P**	**23 06 56.4**	**-0.4**
	1.3nm,1.1s,baz=181,slow=7.9,SNR=8.5						
TXAR				LR	LR	23 21 37.5	
	comp=Z,262nm,18.5s,baz=0.0,slow=32						
CFAA	**Coronel Fontan**	**43.94**	**122**	P	**P**	**23 07 00.7**	**0.0**
	1.0nm,1.0s,baz=265,slow=7.0,SNR=6.9						
PLCA	**Paso Flores**	**45.18**	**135**	P	**P**	**23 07 11.5**	**+1.0**
	4.8nm,0.9s,baz=290,slow=11,SNR=5.9						
PLCA				LR	LR	23 21 10.0	
	comp=Z,938nm,20.4s,baz=282,slow=30						
PLCA	**Paso Flores**	**45.18**	**135**	*e*P	**P**	**23 07 11.0**	**+0.5**
	22nm,1.3s						
JCT	**Junction City**	**45.40**	**15**	*e*P	**P**	**23 07 11.9**	**-0.4**
	28nm,1.5s						
SDV	**Santo Domingo**	**46.83**	**64**	*e*P	**P**	**23 07 22.0**	**-2.1**
	7.0nm,1.0s						

ABTX	**Abilene, Hawle**	**47.49**	**14**	*e*P	**P**	**23 07 28.4**	**-0.2**
	6.6nm,0.8s						
LENM	**Lemitar**	**47.75**	**6**	*e*P	**P**	**23 07 31.5**	**+0.7**
BNM	**Barren Site**	**47.77**	**6**	*e*P	**P**	**23 07 31.6**	**+0.6**
LAZ	**Ladron**	**47.97**	**6**	*e*P	**P**	**23 07 31.2**	**-1.3**
SAML	**Samuel**	**48.13**	**90**	*e*P	**P**	**23 07 32.4**	**-1.5**
	20nm,1.1s						
MSTX	**Muleshoe**	**48.14**	**10**	*e*P	**P**	**23 07 32.5**	**-1.2**
	19nm,1.1s						
LDFC	**Landfair**	**48.50**	**357**	*e*P	**P**	**23 07 37.8**	**+1.3**
W18A	**Petrified Fore**	**48.51**	**3**	*e*P	**P**	**23 07 38.2**	**+1.6**
	7.5nm,0.9s						
ANMO	**Albuquerque**	**48.58**	**6**	*e*P	**P**	**23 07 40.1**	**+2.9**
	4.9nm,1.4s						
GSC	**Goldstone, Bar**	**48.84**	**355**	*e*P	**P**	**23 07 39.5**	**+0.4**
	21nm,1.6s						
WUAZ	**Wupatki**	**48.86**	**1**	*e*P	**P**	**23 07 41.0**	**+1.7**
	12nm,1.4s						
AMTX	**Amarillo**	**49.23**	**11**	*e*P	**P**	**23 07 42.2**	**+0.2**
	6.2nm,0.6s						
ISA	**Isabella, Lake**	**49.37**	**353**	*e*P	**P**	**23 07 42.7**	**-0.4**
	5.5nm,1.0s						
WMOK	**Wichita Mounta**	**49.71**	**14**	*e*P	**P**	**23 07 45.0**	**-0.7**
	9.2nm,1.4s						
DAC	**Darwin (Calif)**	**49.88**	**354**	*e*P	**P**	**23 07 47.0**	**-0.2**
	10nm,1.4s						
SHPR	**Sheep Range**	**49.92**	**357**	*e*P	**P**	**23 07 47.6**	**+0.1**
KNB	**Kanab**	**50.35**	**359**	*e*P	**P**	**23 07 51.7**	**+1.0**
	13nm,1.4s						
TPNV	**Topopah Spring**	**50.43**	**356**	*e*P	**P**	**23 07 52.4**	**+1.1**
	13nm,1.6s						
W34A	**Bridge Creek,**	**50.44**	**15**	*e*P	**P**	**23 07 50.7**	**-0.5**
	30nm,1.5s						
MVCO	**Mesa Verde**	**50.66**	**4**	*e*P	**P**	**23 07 52.5**	**-0.5**
	6.3nm,1.1s						
CCUT	**Cedar City**	**50.90**	**359**	*e*P	**P**	**23 07 55.0**	**+0.2**
	10nm,1.3s						
MIAR	**Mount Ida**	**51.02**	**20**	*e*P	**P**	**23 07 54.6**	**-0.9**
	8.1nm,1.0s						
V34A	**Guthrie**	**51.07**	**15**	*e*P	**P**	**23 07 55.2**	**-0.7**
	28nm,1.4s						
S22A	**4UR Ranch, Cre**	**51.32**	**5**	*e*P	**P**	**23 07 57.1**	**-1.0**
	4.7nm,1.3s						
PV01	**Paradox Valley**	**51.57**	**4**	*e*P	**P**	**23 07 58.4**	**-1.5**
TUL1	**Leonard**	**51.60**	**17**	*e*P	**P**	**23 07 59.7**	**-0.3**
	7.2nm,0.9s						
TPH	**Tonopah**	**51.63**	**355**	*e*P	**P**	**23 08 00.5**	**+0.2**
	28nm,1.5s						
U34A	**Anderson Ranch**	**51.63**	**15**	*e*P	**P**	**23 07 59.7**	**-0.5**
	47nm,1.8s						
R11A	**Troy Canyon, C**	**51.78**	**357**	*e*P	**P**	**23 08 01.7**	**+0.2**
	11nm,1.7s						
MVU	**Marysvale**	**51.83**	**360**	*e*P	**P**	**23 08 02.5**	**+0.6**
	8.3nm,1.4s						
PV09	**Paradox Valley**	**51.90**	**3**	*e*P	**P**	**23 08 02.2**	**-0.3**
CMB	**Columbia Colle**	**51.95**	**352**	*e*P	**P**	**23 08 02.6**	**+0.1**
	8.7nm,1.3s						
NV01	**Mina Array Sit**	**52.09**	**354**	*e*P	**P**	**23 08 03.4**	**-0.4**
NVAR	**Mina Array Bea**	**52.09**	**354**	P	**P**	**23 08 03.4**	**-0.4**
	3.9nm,0.9s,baz=181,slow=8.6,SNR=16						
WAKR	**Walker**	**52.29**	**353**	*e*P	**P**	**23 08 07.2**	**+2.0**
SRU	**San Rafael Swe**	**52.46**	**2**	*e*P	**P**	**23 08 05.9**	**-0.6**
	9.8nm,1.3s						
SMCO	**Snowmass**	**52.73**	**5**	*e*P	**P**	**23 08 07.9**	**-0.8**
	4.6nm,1.1s						
PTGA	**Pitinga**	**53.15**	**81**	*e*P	**P**	**23 08 10.6**	**-1.3**
	14nm,1.4s						
NLU	**North Lily Min**	**53.28**	**0**	*e*P	**P**	**23 08 12.1**	**-0.5**
	10nm,1.3s						
MPU	**Maple Canyon**	**53.34**	**0**	*e*P	**P**	**23 08 14.2**	**+1.2**
	22nm,1.4s						
ISCO	**Idaho Springs**	**53.47**	**6**	*e*P	**P**	**23 08 13.6**	**-0.5**
	7.1nm,1.3s						
DUG	**Dugway, Tooele**	**53.53**	**359**	*e*P	**P**	**23 08 15.7**	**+1.4**
	11nm,1.3s						
O20A	**White River Ci**	**53.58**	**4**	*e*P	**P**	**23 08 15.9**	**+1.1**
	27nm,1.8s						
DAU	**Daniels Canyon**	**53.75**	**1**	*e*P	**P**	**23 08 15.1**	**-1.0**
JLU	**Jordanelle**	**53.93**	**1**	*e*P	**P**	**23 08 18.6**	**+1.3**
	19nm,1.5s						
CTU	**Camp Tracy**	**54.02**	**0**	*e*P	**P**	**23 08 18.8**	**+0.9**
	22nm,1.4s						
ELK	**Elko**	**54.15**	**357**	*e*P	**P**	**23 08 19.3**	**+0.3**
	11nm,1.3s						
BGU	**Big Grassy Mou**	**54.26**	**359**	*e*P	**P**	**23 08 18.7**	**-0.9**
	14nm,1.7s						
TCUT	**Toone Canyon**	**54.45**	**1**	*e*P	**P**	**23 08 21.6**	**+0.4**
	12nm,1.0s						
KMRM	**Mail Ridge**	**54.63**	**349**	*e*P	**P**	**23 08 22.3**	**0.0**
	9.1nm,1.0s						
WDC	**Whiskeytown Da**	**54.77**	**350**	*e*P	**P**	**23 08 22.8**	**-0.4**
	14nm,1.4s						
PHWY	**Pilot Hill**	**54.97**	**6**	*e*P	**P**	**23 08 24.9**	**-0.1**
	9.3nm,0.7s						
MOD	**Modoc Plateau**	**55

VNA3	Neumayer Olymp	81.17	161	P		P	23 11 09.3	+0.5
VNA2	Neumayer--Watz baz=71,slow=34	81.97	161	P		P	23 11 06.8	-6.3
SVW2	Sparrevohn 18nm,1.3s	82.04	340	eP		P	23 11 13.4	0.0
ILAR	Eielson Array comp=Z,98nm,19.9s,baz=124,slow=31	82.47	346	LR	LR		23 40 47.7	
KTH	Kantishna Hill 43nm,1.4s	82.52	344	eP		P	23 11 16.1	+0.2
COLD	Coldfoot 7.2nm,1.1s	85.27	346	eP		P	23 11 30.2	+0.4
H11S2	WAKE ISLAND Hy baz=106,slow=75,SNR=51	86.13	290	T		T	00 46 37.4	
H11S1	WAKE ISLAND Hy baz=106,slow=75,SNR=46	86.14	290	T		T	00 46 37.4	
H11S3	WAKE ISLAND Hy baz=106,slow=75,SNR=45	86.15	290	T		T	00 46 37.1	
H11N3	WAKE ISLAND Hy baz=107,slow=75,SNR=9.6	86.27	291	T		T	00 46 40.8	
H11N1	WAKE ISLAND Hy baz=107,slow=75,SNR=5.0	86.29	291	T		T	00 46 56.7	
H11N2	WAKE ISLAND Hy baz=107,slow=75,SNR=9.0	86.29	291	T		T	00 46 47.5	
STKA	Stephens Creek comp=Z,110nm,19.9s,baz=55,slow=31	96.28	235	LR	LR		23 49 03.2	
MAW	Mawson comp=Z,185nm,18.1s,baz=233,slow=33	98.93	178	LR	LR		23 52 40.5	
SONM	Songino Array 0.2nm,0.3s,baz=146,slow=0.5,SNR=2.8	133.27	325	PKP		PKPdf	23 18 09.8	+0.1
HHC	Hu-ho-hao-te	133.31	314	ePKP		PKPdf	23 18 08.6	-1.4
HHC				PP		PP	23 20 39.5	+2.5
HHC				SS		SS	23 38 19.3	-2.2
HHC	53nm,9.8s			PPMZ				
HHC	91nm,16.0s			LN				
HHC	94nm,16.0s			LE				
HHC	97nm,19.6s			LZ				
ZALV	Zalesovo Beam 0.3nm,0.5s,baz=31,slow=0.8,SNR=2.2	137.59	345	PKP		PKPdf	23 18 17.1	-0.4
BRTR	Keskin Array B 2.9nm,1.2s,baz=281,slow=0.7,SNR=7.5	140.22	43	PKP		PKPdf	23 18 23.1	+0.1
LZH	Lanzhou	140.78	311	ePKP	PKPdf		23 18 17.4	-6.7
LZH				pPKP	pPKPdf		23 18 28.3	+0.8
LZH				sPKP			23 18 31.8	
CD2	Chengdu	142.82	304	PKP		PKPdf	23 18 28.3	+0.6
CD2				pPKP	pPKPdf		23 18 38.8	+7.6
CD2				sPKP			23 18 42.6	
CD2				PP		PP	23 21 41.5	+5.0
CD2				PKS		PKSdf	23 22 02.5	-1.1
CD2				SKS		SKSdf	23 25 35.4	-2.6
CD2				SKKS		SKKSac	23 28 30.4	+0.2
CD2				SS		SS	23 40 17.3	+2.5
CD2	120nm,5.8s			PPMZ				
KBZ	Khabaz 3.1nm,0.9s	143.11	31	PKP	PKPbc		23 18 26.1	+1.5
MKAR	Makanchi Array 2.1nm,1.1s,baz=29,slow=3.3,SNR=10.0	144.78	343	PKP		PKPab	23 18 28.2	-1.2
MKAR	Makanchi Array	144.78	343	ePKPdf		PKPab	23 18 29.2	-0.3
WMQ	Urumqi	145.44	334	ePKPbc		PKPbc	23 18 28.8	-3.0
WMQ				sPKP			23 18 41.0	
WMQ				ePP		PP	23 21 52.5	+1.5
WMQ				SKKS			23 28 41.0	
WMQ	100nm,20.3s			SS		SS	23 40 42.0	-0.7
WMQ	110nm,21.2s			LN				
WMQ	170nm,23.0s			LE				
				LZ				
KMBO	Kilima Mbogo 0.5nm,0.3s,baz=206,slow=4.8,SNR=4.4	146.28	113	PKPbc		PKPab	23 18 37.4	+1.0
CMAR	Chiang Mai Arr 0.6nm,0.6s,baz=84,slow=1.1,SNR=6.0	149.80	283	PKPbc		PKPbc	23 18 45.3	+0.8
GEYT	Alibeck 0.6nm,0.4s,baz=341,slow=7.6,SNR=2.8	154.26	18	PKP		PKPdf	23 18 45.9	0.0
GEYT	1.8nm,0.7s,baz=326,slow=7.2,SNR=5.7			PKPbc		PKiKP	23 18 55.5	+1.3
GEYT	1.0nm,0.6s,baz=331,slow=5.8,SNR=3.7			PKPab		PKPab	23 19 07.1	-0.8

WEL 15 23:07:54.0±0.2, 40.65S×173.33E, h144km±1km, ML3.5/11, 11C-3D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.47	109	PN	Pn	23 08 14.6	0.0
DUWZ				SN	Sn	23 08 29.5	-0.7
NNZ	Nelson	0.57	177	↑PN	Pn	23 08 15.0	-0.1
QRZ	Quartz Range	0.64	254	↓PN	Pn	23 08 15.3	-0.1
QRZ				SN	Sn	23 08 30.3	-1.5
TCW	Tory Channel	0.91	128	PN	Pn	23 08 17.7	+0.3
TCW				AML	AML	23 08 35.4	
TCW				AML	AML	23 08 36.2	
THZ	Tophouse	1.16	196	PN	Pn	23 08 19.7	0.0
KIW	Kapiti Island	1.22	100	↑PN	Pn	23 08 20.1	-0.1
KIW				SN	Sn	23 08 37.9	-2.3
KIW				AML	AML	23 08 38.4	
WEL	Wellington	1.26	121	PN	Pn	23 08 20.5	0.0
NMEZ	Namu Road	1.31	19	PN	Pn	23 08 21.0	-0.1
CAW	Cannon Point	1.39	110	PN	Pn	23 08 21.8	-0.2
CAW				AML	AML	23 08 42.4	
CAW				AML	AML	23 08 42.8	
OGWZ	Otaki Gorge	1.41	97	↑PN	Pn	23 08 22.1	0.0
NWEZ	Newall Road	1.44	17	PN	Pn	23 08 22.4	-0.1
LREZ	Lake Rotokare	1.45	35	PN	Pn	23 08 22.7	+0.1
KHEZ	Kahui Hut	1.45	21	PN	Pn	23 08 22.5	-0.3
PKE	Pukeiti	1.54	19	PN	Pn	23 08 23.4	-0.2
WAZ	Wanganui	1.55	55	PN	Pn	23 08 23.7	0.0
DSZ	Denniston Nort	1.59	226	↓PN	Pn	23 08 23.8	-0.3
MSWZ	Moikau Station	1.64	118	↑PN	Pn	23 08 24.4	-0.3
MSWZ				AML	AML	23 08 45.9	
MSWZ				AML	AML	23 08 47.7	
HOWZ	Holdsworth Sta	1.68	99	↑PN	Pn	23 08 24.6	-0.4
MRZ	Mangatainoka R	1.71	91	PN	Pn	23 08 24.9	-0.5
MRZ				AML	AML	23 08 47.7	
MRZ				AML	AML	23 08 48.5	
PLWZ	Palliser	1.72	123	↑PN	Pn	23 08 25.2	-0.3
MTW	Mount Morrison	1.72	108	↑PN	Pn	23 08 25.2	-0.3
MTW				AML	AML	23 08 47.5	
MTW				AML	AML	23 08 48.1	
MHEZ	Mangahewa	1.75	26	↑PN	Pn	23 08 25.8	-0.1
KHZ	Kahutara	1.77	175	↑PN	Pn	23 08 26.1	0.0
KHZ				AML	AML	23 08 50.0	
POWZ	Post Office Ro	1.87	83	PN	Pn	23 08 26.8	-0.5
VRZ	Vera Road	1.88	36	↓PN	Pn	23 08 26.6	-0.7
TRWZ	Traveller	1.93	113	PN	Pn	23 08 27.8	-0.2
TRWZ				AML	AML	23 08 52.5	
TRWZ				AML	AML	23 08 52.6	
TIWZ	Tintock	1.94	95	PN	Pn	23 08 27.6	-0.6
TIWZ				AML	AML	23 08 52.1	
TIWZ				AML	AML	23 08 54.1	
TMWZ	Te Maipa	1.99	104	↑PN	Pn	23 08 28.4	-0.3
PRWZ	Pori Road	2.01	88	PN	Pn	23 08 28.6	-0.3
PKVZ	Pokaka	2.06	49	PN	Pn	23 08 29.0	-0.6
MTVZ	Mangateitei	2.07	53	PN	Pn	23 08 29.1	-0.6
TSZ	Takapari Road	2.09	74	PN	Pn	23 08 29.2	-0.8
TSZ				AML	AML	23 08 57.0	
TSZ				AML	AML	23 09 04.6	
TRVZ	Turoa	2.17	52	PN	Pn	23 08 30.5	-0.6
WNVZ	Wahianoa	2.19	53	PN	Pn	23 08 30.6	-0.6
DVHZ	Dannevirke	2.19	82	PN	Pn	23 08 30.1	-1.0
CPWZ	Castlepoint	2.19	98	PN	Pn	23 08 30.9	-0.2
DRZ	Dome Shelter	2.20	52	PN	Pn	23 08 31.0	-0.5
FWVZ	Far West T-bar	2.20	51	PN	Pn	23 08 30.5	-1.0
WPVZ	Whakapapa	2.23	50	PN	Pn	23 08 30.8	-0.9
COVZ	Chateau Observ	2.23	50	PN	Pn	23 08 31.3	-0.5
MOVZ	Moawhango	2.23	57	PN	Pn	23 08 30.1	-1.5
LTZ	Lake Taylor	2.27	200	PN	Pn	23 08 31.4	-0.6
PNHZ	Pukenui	2.31	72	PN	Pn	23 08 31.5	-1.1
OTVZ	Oturere	2.33	51	PN	Pn	23 08 31.8	-1.2
KRVZ	Karewarewa	2.36	50	PN	Pn	23 08 31.9	-1.4
BHHZ	Black Hill Sta	2.40	62	PN	Pn	23 08 32.1	-1.5
ANWZ	Angora Road	2.40	86	PN	Pn	23 08 32.8	-0.7
WPHZ	Waipukurau	2.44	77	PN	Pn	23 08 33.4	-0.8
KRHZ	Kereru	2.54	68	PN	Pn	23 08 33.8	-1.5
PXZ	Pawanui	2.77	78	PN	Pn	23 08 36.8	-1.3
PXZ				AML	AML	23 09 12.2	
OXZ	Oxford	2.84	199	PN	Pn	23 08 37.6	-1.5
BKZ	Black Stump Fm	2.85	60	↑PN	Pn	23 08 37.5	-1.7
CRLZ	Canterbury Las	2.97	190	PN	Pn	23 08 39.1	-1.6
MQZ	McQueen's Vall	3.10	189	PN	Pn	23 08 40.4	-1.9
WVZ	Waitaha Valley	3.10	218	PN	Pn	23 08 41.2	-1.2
ARHZ	Aropaoanui	3.14	65	PN	Pn	23 08 41.2	-1.7
RIGZ	Rimuhau	3.93	62	PN	Pn	23 08 50.9	-2.4
TWGZ	Tauwhareparae	4.37	57	PN	Pn	23 08 56.4	-2.6

GUC 15 23:17:24.4±0.6, 34.83S×72.10W, h18km±5km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.68	146	eP	Pb	23 17 37.4	-0.4
TALC				eS	Sg	23 17 47.0	+0.1
NICH	Los Niches	0.73	104	eP	Pb	23 17 38.0	-0.6
NICH				eS	Sb	23 17 48.4	0.0
LNCH	Linares	1.09	158	eP	Pg	23 17 46.7	+1.1
LNCH				eS	Sg	23 18 02.0	+2.0
COCH	Cobquecura	1.42	203	eP	Pn	23 17 49.2	0.0
COCH				eS	Sn	23 18 07.6	+0.1
RCDM	Rinconada Maip	1.71	39	eP	Pn	23 17 53.8	+0.5
CLCH	Cerro Calan	1.93	43	eP	Pn	23 17 57.8	+1.4
CLCH				eS	Sb	23 18 22.7	-0.2
CLCH	comp=N,550nm,0.6s			AML	AML	23 18 29.3	
PEL	Peldehue	2.05	35	eP	Pn	23 17 59.3	+1.3
PEL	comp=N,500nm,0.7s			AML	AML	23 18 33.0	

ISCJB 15 23:34:47.8±0.5, 8.2S±0.1×71.61W±0.06, h635km, mb4.0/25, Error ellipse: s-maj=13.4km s-min=7.9km az=12.4
IDC 15 23:34:47.4±0.7, 8.07S×71.51W, h603km±6km, mb3.6/16, mb1 3.7/20, mb1mx3.6/28, mbtmp4.5/20, Error ellipse: s-maj=17.6km s-min=10.4km az=28.0
ISC 15 23:34:48.6±0.6, 8.2S±0.1×71.57W±0.08, h635km, n42, σ1ş76/56, mb4.1/25, Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	6.85	279	P	P	23 36 38.1	-1.3
ATAH	4.2nm,0.3s,baz=90,slow=8.1,SNR=25			S	S	23 38 07.0	-2.7
LPAZ	2.5nm,0.3s,baz=232,slow=19,SNR=11 La Paz	8.70	158	P	P	23 36 54.7	-1.7
SIV	0.5nm,0.3s,baz=341,slow=8.8,SNR=14 San Ignacio	12.85	128	P	P	23 37 34.7	-0.6
PTGA	0.5nm,0.3s,baz=308,slow=12,SNR=7.2 Pitinga	13.75	58	P	P	23 37 43.2	-0.7
PTGA	12nm,0.3s,baz=237,slow=15,SNR=98			S	S	23 40 07.3	+0.1
TEIG	baz=311,slow=19,SNR=6.4 Tepich	32.70	330	P	P	23 40 31.5	+0.1
CMIG	14nm,0.5s,baz=137,slow=2.4,SNR=11 Matias Romero	34.11	318	P	P	23 40 44.0	+0.8
TKL	5.0nm,0.5s,baz=141,slow=4.3,SNR=8.3 Tuckaleechee C	45.13	346	P	P	23 42 10.1	-0.5
TXAR	7.6nm,0.6s,baz=150,slow=8.1,SNR=7.2 Lajitas Array	48.47	322	P	P	23 42 36.5	+0.7
TXAR	0.8nm,0.4s,baz=111,slow=8.2,SNR=24			PcP	PcP	23 43 50.7	+1.3
SADO	0.6nm,0.6s,baz=133,slow=5.3,SNR=5.6 Sadowa	53.18	353	P	P	23 43 08.6	-0.7
ANMO	3.9nm,0.4s,baz=201,slow=10 Albuquerque	54.12	325	P	P	23 43 17.2	+0.8
PDAR	2.1nm,0.4s,baz=124,slow=6.5,SNR=9.7 Pinedale Array	61.41	329	P	P	23 44 06.2	+0.8
PDAR	2.5nm,0.5s,baz=123,slow=9.3,SNR=36			PcP	PcP	23 44 39.8	0.0
ULM	1.3nm,0.5s,baz=134,slow=6.4,SNR=6.1 Lac du Bonnet	61.95	343	P	P	23 44 08.1	-0.2
SCHQ	14nm,0.4s,baz=164,slow=7.7,SNR=34 Schefferville	62.94	3	P	P	23 44 14.6	-0.1
NVAR	4.6nm,1.0s,baz=183,slow=6.1,SNR=9.6 Mina Array Bea	63.58	320	P	P	23 44 21.2	+1.9
NVAR	1.1nm,0.8s,baz=159,slow=6.5,SNR=6.6			PcP	PcP	23 44 50.1	+1.3
LIC	1.2nm,0.6s,baz=134,slow=5.2,SNR=6.2 Lamto	67.89	80	eP	P	23 44 46.6	+0.3
DBIC	9.7nm,0.9s Dimbokro	68.14	79	P	P	23 44 49.0	+1.2
TORD	5.5nm,0.5s,baz=249,slow=4.7,SNR=13 Torodi Ar. Bea	75.79	74	P	P	23 45 32.7	+0.9
TORD	3.0nm,0.7s,baz=274,slow=5.6,SNR=26			pP	pP	23 47 37.4	-4.1
YKA	0.6nm,0.6s,baz=264,slow=5.5,SNR=3.8 Yellowknife Ar	77.87	341	P	P	23 45 42.9	+0.9
ESDC	7.6nm,0.6s,baz=135,slow=6.0,SNR=248 Sonseca Array	78.42	47	P	P	23 45 47.6	+2.0
SJPF	1.0nm,0.7s,baz=263,slow=6.1,SNR=5.1 Ste Jean	81.54	44	eP	P	23 46 04.0	+2.3
EPF	Esparros	82.60	45	eP	P	23 46 09.1	+2.0
MFF	Saint Martin d 9.4nm,0.8s	83.42	41	eP	P	23 46 12.0	+1.0
LFF	La Frestale 13nm,0.8s	83.47	43	eP	P	23 46 11.7	+0.4
BGF	Bois d'Agland	85.37	42	eP	P	23 46 20.0	-0.5
SMF	Signal de Mont 6.4nm,0.7s	86.05	42	eP	P	23 46 23.8	+0.1
ORIF	Oris-en-Rattie 4.7nm,0.6s	86.97	44	eP	P	23 46 29.2	+1.0
LMR	La Mourre 6.5nm,0.9s	87.02	46	eP	P	23 46 28.8	+0.5
FRF	La Foret Royal 9.0nm,1.2s	87.17	45	eP	P	23 46 29.5	+0.5
MEZF	Maizieres J'vi 6.8nm,0.6s	87.35	40	eP	P	23 46 29.8	+0.1
GIVF	Givet	87.63	39	eP	P	23 46 31.3	+0.3
CDF	Champ du Feu 6.6nm,0.8s	88.76	41	eP	P	23 46 36.5	+0.1
ILAR	Eielson Array 1.2nm,0.8s,baz=100,slow=3.8,SNR=13	91.19	336	P	P	23 46 48.2	+1.1
ILAR	0.6nm,0.9s,baz=111,slow=4.0,SNR=5.6			pP	pP	23 48 58.5	-4.8
GERES	0.5nm,0.8s,baz=103,slow=5.0,SNR=4.8 GERESS Array B	93.02	41	P	P	23 46 57.0	+0.9
STKA	0.4nm,0.7s,baz=253,slow=4.1,SNR=4.8 Stephens Creek	129.07	217	PKP	PKPdf	23 52 48.6	+2.1
ZALV	2.4nm,1.2s,baz=124,slow=3.6,SNR=4.2 Zalesovo Beam	130.59	18	PKP	PKPdf	23 52 50.5	+1.9
ZALV	4.3nm,0.8s,baz=318,slow=1.9,SNR=25			pPKP	PP	23 55 08.5	-4.5
MKAR	2.7nm,0.9s,baz=303,slow=2.9,SNR=4.6 Makanchi Array	135.54	26	PKP	PKPdf	23 52 59.6	+1.4
MKAR	1.7nm,0.8s,baz=339,slow=1.7,SNR=15			pPKP	pPKPdf	23 55 18.7	-5.1
MKAR	0.5nm,0.7s,baz=333,slow=1.8,SNR=4.8			SKPbc	SKPab	23 55 35.2	-1.8
ASAR	0.2nm,0.5s,baz=335,slow=2.1,SNR=3.0 Alice Springs	139.70	218	PKhKP	PKPpre	23 53 04.2	
ASAR	1.0nm,0.6s,baz=132,slow=2.4,SNR=5.1			PKP	PKPdf	23 53 08.4	+1.8
ASAR	1.0nm,0.6s,baz=131,slow=2.2,SNR=8.5			SKPbc	SKiKP	23 55 47.3	+1.0
SONM	1.4nm,0.6s,baz=126,slow=3.3,SNR=13 Songino Array	140.48	2	PKhKP	PKPpre	23 53 04.0	
WRA	0.4nm,0.4s,baz=0.0,slow=0.1,SNR=5.3 Warramunga Arr	142.14	222	PKhKP	PKPpre	23 53 09.6	
WRA	1.7nm,0.5s,baz=135,slow=1.7,SNR=9.0			PKP	PKiKP	23 53 13.2	-1.0
WRA	1.7nm,0.5s,baz=138,slow=1.8,SNR=9.6			SKPbc	SKiKP	23 55 53.8	+2.5
KSRS	0.6nm,0.8s,baz=130,slow=2.6,SNR=8.0 Korea Array	145.95	332	PKPbc	PKPbc	23 53 19.3	+0.2
JNU	5.9nm,0.7s,baz=24,slow=2.7,SNR=20 Nakatsue baz=76,slow=4.2	147.66	323	PKPbc	PKPbc	23 53 24.9	+1.0
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=316,slow=1.5,SNR=7.8	166.27	41	PKP	PKPdf	23 53 45.4	+2.1
CMAR	0.4nm,0.4s,baz=318,slow=5.6,SNR=3.0			PKPab	PKPab	23 54 50.4	+1.4

SZGRF 15 23:59:27.0, 40.50N×114.50W, h33km, mb4.9, Nevada, United States
BJI 15 23:59:37.1, 41.70N×111.00W, h10km, mB5.3/12, mb5.0/16, Ms5.1/6, Ms7 4.9/5
NEIC 15 23:59:38.0, 41.70N×111.09W, h8km, mb4.9/68, MW4.5, ML4.9(SLC), Moment Tensor Solution. s19 Moment tensor: Scale 10^15 Nm; Mrr=4.87; Mθθ-1.36; Mφφ6.23; Mrθ2.79; Mrφ0.62; Mθφ-3.66; Best double couple: M0 7.30000×10^15 NP1:φs210.00000°, δ35.00000°, λ-45.00000°. NP2:φs339.00000°, δ66.00000°, λ-116.00000°. Principal axes: T 7.3300, Plg17.0000°, Azm88.0000°; N 0.0000, Plg23.0000°, Azm350.0000°; P -7.3300, Plg59.0000°, Azm210.0000°; After SLC.
NEIC Felt [VI] at Randolph; [III] at Fielding, Garden City, Lewiston, Logan, Pleasant Grove, Providence and Salt Lake City; [II] at Brigham City, Ogden and Provo. Felt [IV] at Cokeville and [II] at Evanston, Kemmerer and Rock Springs, Wyoming. Also felt [II] at Malad City, Pocatello and Preston, Idaho. Felt in much of northern Utah, southwestern Wyoming and southeastern Idaho.
IDC 15 23:59:38.4±0.3, 41.66N×110.98W, h0km, mb4.5/32, mb1 4.6/39, mb1mx4.6/45, mbtmp4.5/39, ML4.0/7, MS3.8/34, Ms1 3.8/34, ms1mx3.7/51 Error ellipse: s-maj=7.3km s-min=4.5km az=144.0
GCMT 15 23:59:38.0±0.5, 41.68N×110.83W, h12km, MW4.7/53, Moment Tensor Solution. s11,c12; s53,c63; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.84±.07; Mθθ-0.33±.08; Mφφ 1.17±.05; Mrθ-0.16±.46; Mrφ0.37±.06; Mθφ-0.42±.22; Best double couple: M0 1.14200×10^16 NP1:φs19.00000°, δ57.00000°, λ-82.00000°. NP2: φs185.00000°, δ34.00000°, λ-102.00000°. Principal axes: T 1.3450, Plg11.0000°, Azm103.0000°; N -0.4050, Plg6.0000°, Azm195.0000°; P -0.9390, Plg77.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISCJB 15 23:59:39.1±0.1, 41.722N±0.007×110.92W±0.01, h10km, mb4.7/137, MS3.9/32 Error ellipse: s-maj=1.1km s-min=1.1km az=32.0
MOS 15 23:59:39.1±0.9, 41.69N×110.93W, h13km, mb5.1/37, Error ellipse: s-maj=5.3km s-min=3.8km az=72.0
ISC 15 23:59:40.6±0.4, 41.71N±0.01×110.98W±0.02, h12km±2km, n1078, σ1ş34/1067, mb4.9/145, MS3.9/32, 231C-242D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWUT	Hardware Ranch	0.45	257	ePg	Pg	23 59 47.1	-2.4
HWUT				eSg	Sg	23 59 52.4	-3.1
HDU	Hyde Park	0.59	279	ePg	Pg	23 59 49.2	-3.0
TCUT	Toone Canyon	0.68	209	ePg	Pg	23 59 51.8	-1.9
TCUT				eSg	Sg	00 00 00.5	-2.1
HONU	Honeyville	0.71	262	ePg	Pg	23 59 52.9	-1.5
BEI	Bear River Ran	0.72	304	ePg	Pg	23 59 51.8	-2.8
WBC	Weber Canyon	0.90	231	ePg	Pg	23 59 54.9	-3.0
FPU	Francis Peak	0.94	224	ePg	Pg	23 59 55.7	-3.0
HTU	Hoyt Peak	1.05	190	ePg	Pg	23 59 58.6	-2.2
AHID	Auburn Hatcher	1.06	355	ePg	Pg	23 59 58.5	-2.4
RCJ	Ross Creek	1.11	198	ePg	Pb	23 59 59.4	-2.4
RBU	Red Butte Cany	1.12	214	ePg	Pb	23 59 58.8	-3.1
KLJ	Keetly	1.13	197	ePg	Pb	23 59 59.6	-2.4
HLJ	Hailstone	1.15	196	ePg	Pb	23 59 60.0	-2.4
HRU	Hogsback Ridge	1.15	217	ePg	Pb	23 59 59.4	-3.0
JLU	Jordanelle	1.16	198	ePg	Pb	00 00 00.5	-2.2
NAIU	Northern Antel	1.17	234	ePg	Pb	23 59 59.3	-3.5
CTU	Camp Tracy	1.17	210	ePg	Pb	00 00 00.4	-2.4
CTU				eSn	Sb	00 00 15.5	-2.5
LDJ	Lady	1.17	196	ePg	Pb	00 00 00.7	-2.2
MHD	Mile High Driv	1.22	211	ePg	Pn	00 00 00.9	-2.7
HEB	Heber	1.24	193	ePg	Pn	00 00 01.9	-1.9
SAIU	Southern Antel	1.25	227	ePg	Pn	00 00 00.9	-2.9
MGU	Meadow Creek G	1.25	215	ePg	Pn	00 00 02.0	-1.9
GMU	Granite Mounta	1.28	208	ePg	Pn	00 00 01.9	-2.5
DAU	Daniels Canyon	1.31	189	eP	Pn	00 00 03.2	-1.8
DAU	Daniels Canyon	1.31	189	ePn	Pn	00 00 03.2	-1.8
GRD	Gardner Farm	1.32	213	ePg	Pn	00 00 03.1	-1.8
HVU	Hansel Valley	1.34	273	eP	Pn	00 00 03.1	-2.2
HVU				e		00 00 22.1	
HVU	Hansel Valley	1.34	273	ePg	Pn	00 00 03.1	-2.2
HVU				eSg	Sb	00 00 22.1	-0.9
DCU	Deer Creek Res	1.36	198	ePn	Pn	00 00 03.9	-1.6
SNUT	Stansbury Nort	1.42	235	ePn	Pn	00 00 03.5	-2.7
WTU	Western Traver	1.46	211	ePn	Pn	00 00 05.4	-1.4
BW06	Boulder Array	1.49	45	ePn	Pn	00 00 07.4	0.0
BW06				eSn	Sg	00 00 28.3	-0.3
PD31	Pinedale Array	1.49	45	ePn	Pn	00 00 07.2	-0.2
PD31				eSn	Sb	00 00 27.6	+0.2
PDAR	Pinedale Array 719nm,0.3s,baz=223,slow=14	1.49	45	Pg	Pn	00 00 07.2	-0.2
PDAR	858nm,0.3s,baz=220,slow=28,SNR=16			Lg	Lg	00 00 27.6	
CWU	Camp Williams	1.52	214	ePn	Pn	00 00 06.5	-1.3
REDW	Red Top Meadow	1.65	3	ePn	Pn	00 00 09.6	+0.1
REDW				eSn	Sg	00 00 34.3	+0.5
BGU	Big Grassy Mou	1.73	244	ePn	Pn	00 00 08.6	-2.0
BGU				eSn	Sn	00 00 31.0	-1.7
SNOW	Snow King Moun	1.76	5	ePn	Pn	00 00 10.8	-0.3
SNOW				eSn	Sg	00 00 39.0	+1.8
MPU	Maple Canyon	1.77	197	ePn	Pn	00 00 10.5	-0.6
MPU				eSn	Sb	00 00 36.6	+1.5
TPAW	Teton Pass	1.78	1	ePn	Pn	00 00 11.4	0.0
TPAW				eSn	Sg	00 00 37.8	0.0
ARGU	Argyle Ridge	1.92	170	ePn	Pb	00 00 14.7	-0.9
LOHW	Long Hollow	1.92	8	ePn	Pn	00 00 13.4	+0.1
FXWY	Fox Creek	1.93	359	ePn	Pn	00 00 12.8	-0.5
FXWY				eSn	Sn	00 00 36.9	-0.7
NLU	North Lily Min	1.94	206	ePn	Pn	00 00 12.7	-0.8
NLU				eSn	Sn	00 00 37.3	-0.6
DCM	Dugout Coal Mi	2.04	171	ePn	Pn	00 00 16.1	+1.2
DUG	Dugway, Tooele	2.06	223	eP	Pn	00 00 13.9	-1.1
DUG	Dugway, Tooele baz=2.0	2.06	223	↑P	Pn	00 00 14.2	-0.9
DUG	Dugway, Tooele	2.06	223	ePn	Pn	00 00 13.9	-1.1
ELU	Electric Lake	2.08	185	ePn	Pn	00 00 15.9	+0.4
ROA	Roan Cliffs	2.10	167	ePn	Pn	00 00 17.3	+1.5
J19A	Crowheart baz=2.2,SNR=1000	2.11	42	P	Pn	00 00 16.4	+0.6
J19A	baz=2.2			↓Sb	Sb	00 00 46.6	+1.6
IMW	Indian Meadow	2.18	1	ePn	Pn	00 00 17.1	+0.1
I17A	Pilgrim Ck. baz=2.3	2.23	8	↑P	Pn	00 00 17.7	+0.2
N20A	Spence Gulch, baz=2.3	2.23	112	↑P	Pn	00 00 18.4	+1.0
N20A	baz=2.3			↓Sb	Sg	00 00 51.9	-0.2
LEVU	Levan	2.29	196	ePn	Pn	00 00 18.1	-0.3
FLWY	Flagg Ranch	2.38	5	ePn	Pn	00 00 19.3	-0.3
DBD	Des Bee Dove	2.40	182	ePn	Pn	00 00 20.4	+0.5
TMUT	Trail Mountain	2.

WCU Willow Creek 2.87 198 ePn Pn 00 00 26.5 +0.1
LKWY Lake 2.88 8 eP Pn 00 00 28.4 +1.9
LKWY Lake 2.88 8 ePn Pn 00 00 28.4 +1.9
K21A Alcova 2.92 70 ⇓P Pn 00 00 27.7 +0.7
baz=3.0
K21A ⇓Sb Sb 00 01 09.6 +1.2
baz=3.0
YPM Purple Mountai 2.94 2 ePn Pn 00 00 28.5 +1.1
OWUT Old Woman Plat 2.95 187 ePn Pn 00 00 27.9 +0.4
YMR Madison River 2.96 0 ePn Pn 00 00 28.5 +1.0
YNR Norris Junctio 3.01 4 ePn Pn 00 00 29.1 +0.8
YHB Horse Butte 3.04 357 ePn Pn 00 00 29.7 +1.1
YMC Maple Creek 3.05 360 ePn Pn 00 00 29.6 +0.9
TPMT Tepee Creek 3.06 351 ePn Pn 00 00 30.5 +1.5
I20A Worland 3.07 42 ⇓P Pn 00 00 30.3 +1.4
baz=3.1,SNR=72
YHH Holmes Hill 3.08 2 ePn Pn 00 00 30.0 +0.8
J21A Lysite 3.08 57 ⇑P Pn 00 00 30.7 +1.5
baz=3.1,SNR=43
H18A Shoshone NF, C 3.12 18 ⇑P Pn 00 00 29.3 -0.4
baz=3.2
H18A ⇑Sb Sb 00 01 16.5 +2.4
baz=3.2
QLMT Earthquake Lak 3.13 354 ePn Pn 00 00 30.5 +0.6
HLID Hailey 3.14 307 ⇓P Pn 00 00 29.8 -0.1
baz=3.1
HLID ⇑Sb Sb 00 01 15.3 +0.8
baz=3.1
HLID Hailey 3.14 307 ePn Pn 00 00 29.4 -0.5
H19A Powell 3.30 26 ⇓P Pn 00 00 33.1 +1.0
baz=3.3,SNR=16
H19A ⇑Sb Sb 00 01 21.4 +2.3
baz=3.3
M22A Cedar Creek Ra 3.31 94 ⇑P Pn 00 00 33.0 +0.7
baz=3.4
M22A ⇓Sb Sg 00 01 23.5 -3.2
baz=3.4
MVU Marysvale 3.34 197 ePn Pn 00 00 32.7 -0.1
ELK Elko 3.35 255 eP Pn 00 00 32.4 -0.6
ELK e 00 01 19.7
ELK Elko 3.35 255 Pn Pn 00 00 32.2 -0.8
23nm,0.3s,baz=0.1,slow=4.5,SNR=234
ELK Lg Lg 00 01 21.1
275nm,0.3s,baz=180,slow=18,SNR=12
ELK Elko 3.35 255 ePn Pn 00 00 32.4 -0.6
ELK eSg Sb 00 01 19.7 -1.1
MCMT McKenzie Canyo 3.40 337 ePn Pn 00 00 36.8 +3.2
L22A Ellis Ranch, M 3.41 83 ⇑P Pn 00 00 35.2 +1.5
baz=3.5,SNR=318
I21A Big Trails, Te 3.43 51 ⇑P Pn 00 00 35.4 +1.4
baz=3.5,SNR=1000
K22A Casper 3.44 73 ⇑P Pn 00 00 35.6 +1.5
baz=3.5
K22A Casper 3.44 73 ePn Pn 00 00 35.5 +1.3
IMU Iron Mountain 3.50 209 ePn Pn 00 00 35.5 +0.6
PV09 Paradox Valley 3.51 156 ePn Pn 00 00 35.4 +0.2
MMU Miners Mountai 3.52 184 ePn Pn 00 00 35.0 -0.2
H20A Greybull 3.53 37 ⇓P Pn 00 00 36.4 +1.1
baz=3.6,SNR=20
N22A Wattenberg Ran 3.53 103 ⇓P Pn 00 00 36.7 +1.3
baz=3.6
BGMT Barton Gulch 3.60 348 ePn Pn 00 00 39.8 +3.4
RLMT Red Lodge 3.63 20 ePn Pn 00 00 38.1 +1.4
PV10 Paradox Valley 3.65 155 ePn Pn 00 00 38.0 +0.9
O22A Kremmling 3.70 113 ⇑P Pn 00 00 38.9 +1.2
baz=3.8
J22A Midwest 3.73 61 ⇓P Pn 00 00 39.9 +1.8
baz=3.8,SNR=153
CRMT Chrome Mountai 3.79 9 ePn Pn 00 00 41.7 +2.7
DLMT Dillon 3.83 343 ePn Pn 00 00 42.3 +2.8
P22A Eagle 3.84 122 ⇓P Pn 00 00 40.6 +0.9
baz=3.9
P22A ⇑Sb Sb 00 01 38.8 +3.8
baz=3.9
PV15 Paradox Valley 3.87 149 ePn Pn 00 00 39.0 -1.1
N23A Red Feather La 3.88 100 ⇓P Pn 00 00 41.7 +1.5
baz=3.9
N23A ⇑S Sn 00 01 27.8 +1.9
baz=3.9
N23A Red Feather La 3.88 100 ePn Pn 00 00 41.4 +1.1
PV05 Paradox Valley 3.91 158 ePn Pn 00 00 40.3 -0.3
DWU Dry Willow Pea 3.92 204 ePn Pn 00 00 41.9 +1.1
M23A Laramie 3.95 92 ⇑P Pn 00 00 42.4 +1.2
baz=4.0,SNR=154
L23A Garrett 3.96 82 ⇑P Pn 00 00 41.7 +0.4
baz=4.0,SNR=282
BOZ Bozeman (W) 3.96 353 eP Pn 00 00 42.5 +1.3
BOZ Bozeman (W) 3.96 353 ePn Pn 00 00 42.5 +1.3
I22A 9 Mile Ranch, 3.96 55 ⇑P Pn 00 00 43.0 +1.8
baz=4.0,SNR=94
MFID Camas Ranch 3.96 297 ePn Pn 00 00 40.7 -0.5
SMCO Snowmass 3.97 128 ePn Pn 00 00 42.8 +1.3
BTU Barney Top 4.01 190 ePn Pn 00 00 43.1 +1.0
PV01 Paradox Valley 4.03 152 ePn Pn 00 00 42.6 +0.4
G20A Bridger 4.04 29 P Pn 00 00 43.6 +1.2
baz=4.1,SNR=150
G20A ⇓Sb Sb 00 01 43.5 +2.9
baz=4.1
H21A Big Horn, Sher 4.10 43 ⇑P Pn 00 00 43.7 +0.6
baz=4.2,SNR=10
K23A Bowen Ranch, D 4.11 74 ⇓P Pn 00 00 43.9 +0.6
baz=4.2,SNR=9.8
K23A ⇓Sb Sb 00 01 46.9 +4.3
baz=4.2
O23A Lake Granby, G 4.12 110 ⇑P Pn 00 00 44.7 +1.2
baz=4.2
PHWY Pilot Hill 4.17 94 ePn Pn 00 00 45.0 +0.8
GCMT Greycliff 4.19 13 ePn Pn 00 00 46.6 +2.3
LRM Limekiln Ridge 4.25 346 ePn Pn 00 00 47.7 +2.5
J23A Dilts Ranch, B 4.35 65 ⇓P Pn 00 00 47.4 +0.8
baz=4.4
ARUT Antelope Range 4.35 207 eP Pn 00 00 48.1 +1.4
ARUT Antelope Range 4.35 207 ePn Pn 00 00 48.0 +1.4
BHU Blowhard Mount 4.36 200 ePn Pn 00 00 48.6 +1.7
F19A Roth Farm, Mol 4.39 19 ⇑P Pn 00 00 48.5 +1.4
baz=4.4,SNR=38
H22A Clearmont 4.45 48 ⇑P Pn 00 00 48.3 +0.4
baz=4.5,SNR=19
G21A Lodge Grass 4.46 37 ⇓P Pn 00 00 48.5 +0.5
baz=4.5,SNR=14
ISCO Idaho Springs 4.50 113 eP Pn 00 00 49.9 +1.1
ISCO Idaho Springs 4.50 113 ⇑P Pn 00 00 50.2 +1.4
baz=4.6
ISCO ⇓Sb Sb 00 01 59.2 +5.2
baz=4.6
ISCO Idaho Springs 4.50 113 ePn Pn 00 00 49.9 +1.1
L24A Wheatland 4.53 84 ⇓P Pn 00 00 49.2 +0.2
baz=4.6
CCUT Cedar City 4.54 205 ePn Pn 00 00 50.7 +1.3
P23A Jefferson 4.56 119 ⇓P Pn 00 00 51.1 +1.4
baz=4.6
F20A Billings 4.57 26 ⇓P Pn 00 00 50.7 +1.1
baz=4.6
M24A Cheyenne 4.62 91 ⇑P Pn 00 00 51.4 +1.0
baz=4.7,SNR=81
I23A Meade Ranch, G 4.64 59 ⇓P Pn 00 00 51.2 +0.7
baz=4.7,SNR=18
I23A ⇓S Sn 00 01 47.6 +3.3
baz=4.7
N24A Carr 4.68 99 ⇑P Pn 00 00 52.4 +1.2
baz=4.7
K24A Anderson Ranch 4.69 76 ⇑P Pn 00 00 51.3 +0.1
baz=4.8
O24A Longmont 4.75 108 ⇑P Pn 00 00 53.0 +0.9
baz=4.8
EKU East Kanab 4.78 195 ePn Pn 00 00 54.7 +2.2
Q23A Hartsel 4.83 124 ⇑P Pn 00 00 54.2 +0.9
baz=4.9
R11A Troy Canyon, C 4.88 228 ⇓P Pn 00 00 54.7 +0.9
baz=4.8
R11A Troy Canyon, C 4.88 228 ePn Pn 00 00 54.6 +0.7
BMN Battle Mountai 4.89 257 eP Pn 00 00 53.8 -0.2
BMN Battle Mountai 4.89 257 ePn Pn 00 00 53.8 -0.2
MVCO Mesa Verde 4.89 156 ⇓P Pn 00 00 54.2 +0.2
baz=4.9
MVCO Mesa Verde 4.89 156 ePn Pn 00 00 54.3 +0.2
G22A Birney 4.89 43 ⇑P Pn 00 00 54.4 +0.4
baz=4.9
KNB Kanab 4.90 198 eP Pn 00 00 55.7 +1.5
KNB Kanab 4.90 198 ePn Pn 00 00 55.6 +1.5
J24A Dixon Ranch, L 4.94 69 ⇓P Pn 00 00 55.3 +0.6
baz=5.0
F21A Absaloka Mine, 4.97 33 ⇓P Pn 00 00 55.4 +0.4
baz=5.0,SNR=13
H23A Clabaugh Cattl 4.98 53 ⇑P Pn 00 00 56.2 +1.0
baz=5.0
E19A Rath Farm, Rou 5.00 18 ⇓P Pn 00 00 56.7 +1.2
baz=5.0,SNR=26
HRY Holter Researc 5.04 353 ePn Pn 00 00 58.3 +2.4
S22A 4UR Ranch, Cre 5.09 140 ⇑P Pn 00 00 58.0 +1.0
baz=5.1
S22A 4UR Ranch, Cre 5.09 140 ePn Pn 00 00 57.9 +1.0
ICU Indian Springs 5.09 208 ePn Pn 00 00 58.6 +1.8
P24A Kohler Place, 5.12 113 ⇓P Pn 00 00 58.7 +1.6
baz=5.2
I24A Kuemmerle Ranc 5.14 63 ⇓P Pn 00 00 58.0 +0.6
baz=5.2
M25A Palm-Egli Farm 5.20 91 ⇓P Pn 00 00 58.8 +0.5
baz=5.3,SNR=18
E20A Meyer Farm, Mu 5.21 22 ⇑P Pn 00 00 58.9 +0.5
baz=5.3
Q24A Divide 5.23 120 ⇑P Pn 00 01 00.0 +1.2
baz=5.3
Q24A Divide 5.23 120 ePn Pn 00 01 00.6 +1.7
L25A Engebretsen Ra 5.25 83 ⇑P Pn 00 00 59.4 +0.5
baz=5.3,SNR=12
N25A Grover 5.27 98 ⇑P Pn 00 00 59.8 +0.5
baz=5.3
R23A Moffat 5.30 130 ⇓P Pn 00 01 00.7 +1.0
baz=5.3
F22A Rosebud 5.31 38 ⇓P Pn 00 01 00.0 +0.3
baz=5.4,SNR=16
G23A Bidle 5.36 48 ⇓P Pn 00 01 00.2 -0.1
baz=5.4,SNR=45
K25A Mack Ranch, Ha 5.36 78 ⇓P Pn 00 01 00.6 +0.2
baz=5.4,SNR=22
U15A North Rim 5.37 191 ⇓P Pn 00 01 02.0 +1.2
baz=5.4
O25A Wiggins 5.44 105 ⇑P Pn 00 01 02.7 +1.2
baz=5.5
CHMT Chamberlain Mo 5.45 343 ePn Pn 00 01 04.1 +2.4
MSO Missoula 5.54 338 ⇓P Pn 00 01 05.3 +2.4
baz=5.5
MSO Missoula 5.54 338 ePn Pn 00 01 05.3 +2.4
S23A Nye Farm, Mont 5.54 135 ⇑P Pn 00 01 05.2 +2.1
baz=5.6
J25A Sunshine Ranch 5.56 70 ⇑P Pn 00 01 03.0 -0.1
baz=5.6
BMO Blue Mountains 5.58 306 eP Pn 00 01 04.5 +1.0
BMO Blue Mountains 5.58 306 ePn Pn 00 01 04.5 +1.0
E21A Keefer Ranch, 5.59 29 ⇑P Pn 00 01 04.0 +0.5
baz=5.6
H24A Dirks Ranch, A 5.59 55 ⇓P Pn 00 01 03.4 -0.1
baz=5.7
P25A Willow Gulch B 5.63 111 ⇑P Pn 00 01 05.8 +1.6
baz=5.7
RSSD Black Hills 5.64 62 eP Pn 00 01 03.9 -0.5
RSSD Black Hills 5.64 62 ePn Pn 00 01 03.9 -0.5
D19A Cripps Ranch, 5.66 15 ⇑P Pn 00 01 05.5 +1.1
baz=5.7
F23A Volborg 5.69 43 ⇓P Pn 00 01 04.7 -0.2
baz=5.7,SNR=30
R24A Sanders Place, 5.69 126 ⇑P Pn 00 01 06.2 +1.1
baz=5.7
WVOR Wild Horse Val 5.74 280 eP Pn 00 01 06.7 +1.0
WVOR Wild Horse Val 5.74 280 ePn Pn 00 01 06.7 +1.0
D20A Manuel Ranch, 5.75 20 ⇑P Pn 00 01 06.7 +1.0
baz=5.8,SNR=7.9
SDCO Great Sand Dun 5.79 131 ⇑P Pn 00 01 07.4 +0.9
baz=5.8
I25A Rochford 5.80 64 ⇑P Pn 00 01 06.0 -0.6
baz=5.9
SLMT Seeley Lake 5.81 343 ePn Pn 00 01 09.4 +2.8
Q25A Bedland, Calha 5.86 116 ⇑P Pn 00 01 08.5 +1.2
baz=5.9
K26A Motz Farm, Whi 5.88 78 ⇑P Pn 00 01 07.6 +0.1
baz=5.9,SNR=16
M26A McRoberts Ranc 5.88 90 ⇑P Pn 00 01 07.4 -0.2
baz=5.9
L26A Underwood Farm 5.91 84 ⇓P Pn 00 01 07.6 -0.3
baz=6.0,SNR=7.3
N26A Koester Ranch, 5.91 96 ⇑P Pn 00 01 08.5 +0.5
baz=6.0
E22A Miles City 5.95 36 ⇓P Pn 00 01 08.5 0.0
baz=6.0,SNR=14
G24A Alzada 5.99 51 ⇑P Pn 00 01 08.5 -0.5
baz=6.0,SNR=10
O26A Horse Wrangler 5.99 102 ⇑P Pn 00 01 09.5 +0.5
baz=6.0
TPH Tonopah 6.02 235 eP Pn 00 01 10.6 +1.0
TPH Tonopah 6.02 235 ePn Pn 00 01 10.6 +1.0
S24A Houchin Ranch, 6.03 131 ⇑P Pn 00 01 10.9 +1.1
baz=6.1
LAO LASA Array 6.04 33 ePn Pn 00 01 09.8 +0.1
J26A Sides Ranch, S 6.06 72 ⇓P Pn 00 01 10.3 +0.4
baz=6.1
D21A La Casta Ranch 6.07 27 ⇑P Pn 00 01 10.8 +0.7
baz=6.1
SHPR Sheep Range 6.13 213 ePn Pn 00 01 12.7 +1.6
H25A Fruitdale 6.13 59 ⇑P Pn 00 01 11.5 +0.5
baz=6.2,SNR=19
C19A Slack Wire Ran 6.18 12 ⇑P Pn 00 01 12.9 +1.3
baz=6.2,SNR=7.1
SWMT Swartz Lake 6.18 341 ePn Pn 00 01 14.1 +2.4
P26A Davis Ranch, A 6.19 108 ⇑P Pn 00 01 12.9 +1.0
baz=6.3
WUAZ Wupatki 6.19 183 ⇓P Pn 00 01 12.7 +0.7
baz=6.2
WUAZ Wupatki 6.19 183 ePn Pn 00 01 12.4 +0.5
F10A Beach Ranch, E 6.21 315 ePn Pn 00 01 14.1 +2.0
R25A Fountain Ranch 6.26 122 ⇓P Pn 00 01 13.7 +0.9
baz=6.3
TPNV Topopah Spring 6.27 222 eP Pn 00 01 14.7 +1.8
TPNV Topopah Spring 6.27 222 ⇓P Pn 00 01 15.0 +2.1
baz=6.2
TPNV Topopah Spring 6.27 222 ePn Pn 00 01 14.7 +1.8
F24A Ekalaka 6.28 47 ⇓P Pn 00 01 12.1 -0.9
baz=6.3,SNR=15
E23A Ismay 6.29 39 ⇑P Pn 00 01 13.0 -0.1
baz=6.3
Q26A Hugo 6.34 114 ⇓P Pn 00 01 14.8 +0.8
baz=6.4
C20A Veseth Ranch, 6.36 18 ⇓P Pn 00 01 14.8 +0.7
baz=6.4
EGMT Eagleton 6.37 7 ⇑P Pn 00 01 16.1 +1.8
baz=6.4
EGMT Eagleton 6.37 7 ePn Pn 00 01 16.4 +2.1
I26A New Underwood 6.40 66 ⇑P Pn 00 01 15.2 +0.5
baz=6.5
N27A Anderson Farm, 6.43 95 ⇓P Pn 00 01 14.9 -0.2
baz=6.5
D22A Cohagen 6.43 31 ⇓P Pn 00 01 15.3 +0.3
baz=6.5,SNR=12
M27A Reverse DX Ran 6.44 89 ⇓P Pn 00 01 15.2 -0.1
baz=6.5,SNR=33
S25A Robets Cordova 6.47 127 ⇑P Pn 00 01 16.7 +1.0
baz=6.5
JTMT Jette 6.48 340 ePn Pn 00 01 18.0 +2.2
L27A T5 Ranch, Ells 6.48 84 ⇓P Pn 00 01 15.3 -0.5
baz=6.5
NV01 Mina Array Sit 6.50 242 ePn Pn 00 01 17.1 +0.8
NVAR Mina Array Bea 6.50 242 Pn Pn 00 01 17.1 +0.8
64nm,0.3s,baz=58,slow=12,SNR=354
NVAR Lg Lg 00 03 01.3
19nm,0.3s,baz=57,slow=37,SNR=3.9
G25A Newell 6.51 55 ⇓P Pn 00 01 16.4 +0.2
baz=6.6,SNR=11
YBMT Yellow Bay 6.52 342 ePn Pn 00 01 18.4 +2.1
K27A Flueckinger Fa 6.57 78 ⇑P Pn 00 01 16.6 -0.3
baz=6.6
O27A Beecher Island 6.61 100 ⇓P Pn 00 01 18.1 +0.5
baz=6.7
W18A Petrified Fore 6.66 171 ⇓P Pn 00 01 18.6 +0.3
baz=6.7
W18A Petrified Fore 6.66 171 ePn Pn 00 01 18.5 +0.3
H26A Fairpoint 6.67 61 ⇓P Pn 00 01 18.7 +0.4
baz=6.7,SNR=9.9
I07A Izee 6.69 294 ePn Pn 00 01 20.5 +1.8
BSMT Bassoo Peak 6.71 337 ePn Pn 00 01 21.2 +2.2
C21A Desert Coulee 6.71 23 ⇑P Pn 00 01 19.3 +0.5
baz=6.7
R26A Arlington 6.71 118 ⇑P Pn 00 01 19.8 +0.8
baz=6.8
BLMT Blacktail Moun 6.74 340 ePn Pn 00 01 20.7 +1.2
P27A Ficken Ranch, 6.74 106 ⇓P Pn 00 01 20.5 +1.1
baz=6.8
OGNE Ogallala 6.78 94 ⇓P Pn 00 01 19.3 -0.6
baz=6.8
J27A Elkhorn Farm, 6.81 74 ⇑P Pn 00 01 20.2 -0.1
baz=6.9,SNR=11
G08A Pilot Rock 6.81 304 ePn Pn 00 01 22.7 +2.3
E24A Baker 6.82 42 ⇓P Pn 00 01 19.9 -0.5
baz=6.9,SNR=20
GRAC Grapevine Rang 6.83 229 ⇓P Pn 00 01 22.9 +2.4
baz=6.8
T25A Trinidad 6.83 130 ⇓P Pn 00 01 22.1 +1.3
baz=6.9
T25A Trinidad 6.83 130 ePn Pn 00 01 22.6 +1.8
D23A Lindsay 6.85 35 ⇑P Pn 00 01 20.7 -0.1
baz=6.9
F25A Bowman 6.88 50 ⇓P Pn 00 01 20.9 -0.4
baz=6.9,SNR=9.5
B19A Brinkman Farms 6.89 11 ⇓P Pn 00 01 22.8 +1.4
baz=6.9
KSCO Kaye Shedlock' 6.92 110 ⇓P Pn 00 01 22.1 +0.1
baz=7.0
KSCO Kaye Shedlock' 6.92 110 ePn Pn 00 01 23.3 +1.3
FURC Furnace Creek, 6.95 223 ⇓P Pn 00 01 25.3 +3.2
baz=6.9
I27A Quinn 6.97 67 ⇑P Pn 00 01 22.9 +0.5
baz=7.0
MOD Modoc Plateau 6.97 275 ePn Pn 00 01 23.6 +1.0
W13A Hualapai Mount 6.98 200 ⇑P Pn 00 01 23.9 +1.1
baz=7.0
C22A Vida 7.04 29 ⇓P Pn 00 01 23.9 +0.6
baz=7.1,SNR=9.1
E09A Wood Farm, Sta 7.04 315 ePn Pn 00 01 26.4 +3.0
B20A Solberg Farm, 7.04 16 ⇓P Pn 00 01 24.8 +1.4
baz=7.1
G26A Maurine 7.07 57 ⇓P Pn 00 01 24.0 +0.2
baz=7.1,SNR=22
L28A Connealy Angus 7.07 84 ⇓P Pn 00 01 23.8 -0.1
baz=7.1
S26A Kim 7.09 123 ⇑P Pn 00 01 26.1 +1.9
baz=7.1
SHOC Shoshone, Teco 7.13 217 ⇓P Pn 00 01 27.1 +2.5
baz=7.1
H27A Howes 7.13 63 ⇑P Pn 00 01 24.9 +0.2
baz=7.2,SNR=8.2
O28A Krutsinger Ran 7.15 100 ⇓P Pn 00 01 24.8 -0.2
baz=7.2
R27A Eads 7.15 116 ⇑P Pn 00 01 25.9 +0.9
baz=7.2
N28A Pribbeno Ranch 7.19 95 ⇑P Pn 00 01 25.2 -0.4
baz=7.3
D24A Glendive 7.20 39 ⇓P Pn 00 01 25.3 -0.3
baz=7.3,SNR=12
K28A Ten Mile Ranch 7.21 79 ⇑P Pn 00 01 24.9 -0.9
baz=7.3
M28A Bar X Bar Ranc 7.21 89 ⇑P Pn 00 01 25.6 -0.3
baz=7.3,SNR=69
X18A Snowflake 7.22 173 ⇑P Pn 00 01 25.9 -0.1
baz=7.2
WAKR Walker 7.23 246 ePn Pn 00 01 26.6 +0.4
E25A Miller Ranch, 7.26 46 ⇑P Pn 00 01 25.8 -0.6
baz=7.3,SNR=18
B21A Ellsworth Farm 7.28 21 ⇓P Pn 00 01 27.0 +0.4
baz=7.3
TIN Tinemaha, Big 7.29 233 ⇓P Pn 00 01 29.9 +3.0
baz=7.2
X16A Lo Mia Camp, P 7.29 183 ⇓P Pn 00 01 29.0 +2.0
baz=7.3
T26A Comanche Natio 7.29 126 ⇑P Pn 00 01 29.2 +2.2
baz=7.3
F26A Lodgepole 7.30 53 ⇓P Pn 00 01 27.3 +0.3
baz=7.4,SNR=8.6
MLAC Mammoth, Mammo 7.30 239 ⇓P Pn 00 01 30.3 +3.1
baz=7.2
P28A Saint Francis 7.33 104 ⇑P Pn 00 01 28.0 +0.5
baz=7.4
C23A Lambert 7.35 32 ⇓P Pn 00 01 28.1 +0.4
baz=7.4
TUQ Turquoise Moun 7.36 213 ⇑P Pn 00 01 30.0 +2.1
baz=7.3
LDFC Landfair 7.37 207 ePn Pn 00 01 29.1 +1.0
A19A Klindworth Far 7.39 12 ⇓P Pn 00 01 28.9 +0.8
baz=7.4
J28A Allard Ranch, 7.39 73 ⇓P Pn 00 01 29.1 +0.8
baz=7.5
S27A Las Animas 7.42 120 ⇓P Pn 00 01 30.5 +1.9
baz=7.5
K05A Summer Lake 7.43 281 ePn Pn 00 01 31.0 +2.1
C24A Savage 7.46 37 ⇑P Pn 00 01 29.2 0.0
baz=7.5
Q28A Sharon Springs 7.47 108 ⇑P Pn 00 01 30.4 +1.0
baz=7.5
B22A Reddig Ranch S 7.47 26 ⇓P Pn 00 01 29.6 +0.3
baz=7.5
DAC Darwin (Calif) 7.48 226 eP Pn 00 01 31.5 +1.9
DAC Darwin (Calif) 7.48 226 ePn Pn 00 01 31.5 +1.9
A20A Cobblestone Ra 7.48 16 ⇑P Pn 00 01 30.4 +0.9
baz=7.5
NEE2 Needles Airpor 7.50 204 ⇓P Pn 00 01 31.6 +1.9
baz=7.5
G27A Dupree 7.53 58 ⇑P Pn 00 01 29.8 -0.3
baz=7.6
I28A Midland 7.56 69 ⇓P Pn 00 01 30.7 +0.1
baz=7.6,SNR=8.8
MPMC Manual Prospec 7.59 224 ⇓P Pn 00 01 33.5 +2.4
baz=7.5
WALA Waterton Lakes 7.63 345 ePn Pn 00 01 35.1 +3.6
ANMO Albuquerque 7.63 151 eP Pn 00 01 30.8 -0.9
ANMO Albuquerque 7.63 151 Pn Pn 00 01 31.4 -0.3
1.4nm,0.3s,baz=329,slow=14,SNR=9.6
ANMO Lg Lg 00 03 37.3
13nm,0.3s,baz=58,slow=19,SNR=7.1
ANMO Albuquerque 7.63 151 ePn Pn 00 01 30.8 -0.9
ANMO eSg Sg 00 03 37.3 -8.2
F27A Lemmon 7.70 54 ⇑P Pn 00 01 32.4 0.0
baz=7.8,SNR=9.5
D25A Fairfield 7.72 43 ⇓P Pn 00 01 32.2 -0.5
baz=7.8,SNR=9.6
M29A Burnside Ranch 7.72 89 ⇑P Pn 00 01 31.9 -0.9
baz=7.8,SNR=9.0
HAWA Hanford 7.73 310 ePn Pn 00 01 36.1 +3.2
U26A Atchley Ranch, 7.74 131 ⇓P Pn 00 01 35.2 +2.1
baz=7.8
J05D Fort Rock, OR 7.74 285 ⇑P Pn 00 01 36.8 +3.7
baz=7.6
E26A Carlson Angus 7.76 49 ⇑P Pn 00 01 32.9 -0.3
baz=7.8,SNR=11
R28A Tribune 7.80 113 ⇓P Pn 00 01 34.8 +0.9
baz=7.9
D08A Wollman Farm, 7.80 316 ePn Pn 00 01 35.1 +1.3
PDMCI Parker Dam,Lak 7.81 200 ⇑P Pn 00 01 35.7 +1.7
baz=7.8
A21A Bergtoll Ranch 7.82 20 ⇓P Pn 00 01 34.2 +0.1
baz=7.9
GMRC Granite Mounta 7.84 210 ⇓P Pn 00 01 35.7 +1.2
baz=7.8
L29A Maesberg Ranch 7.84 84 ⇓P Pn 00 01 35.0 +0.5
baz=7.9
N29A Votaw Ranch, W 7.85 93 ⇓P Pn 00 01 34.1 -0.5
baz=7.9
G06A Carlson Farm, 7.86 300 ePn Pn 00 01 38.0 +3.4
H28A Mission Ridge 7.86 65 ⇓P Pn 00 01 34.6 0.0
baz=7.9
GSC Goldstone, Bar 7.86 217 eP Pn 00 01 36.3 +1.6
GSC Goldstone, Bar 7.86 217 ⇑P Pn 00 01 36.2 +1.6
baz=7.8
GSC Goldstone, Bar 7.86 217 ePn Pn 00 01 36.3 +1.6
NEW Newport 7.86 328 eP Pn 00 01 36.8 +2.1
NEW Newport 7.86 328 Pn Pn 00 01 37.5 +2.8
0.9nm,0.3s,baz=146,slow=15,SNR=26
NEW Lg Lg 00 03 42.9
8.2nm,0.3s,baz=53,slow=16,SNR=6.3
NEW LR LR 00 05 02.8
comp=Z,545nm,18.9s,baz=146,slow=41
NEW Newport 7.86 328 ⇓P Pn 00 01 37.0 +2.3
baz=7.8
NEW Newport 7.86 328 ePn Pn 00 01 36.8 +2.1
NEW eSg Sg 00 03 42.9 -10
O29A 4D Ranch, Culb 7.87 98 ⇓P Pn 00 01 34.4 -0.4
baz=7.9
LAZ Ladron 7.90 156 ePn Pn 00 01 34.1 -1.3
T27A Campo 7.90 123 ⇑P Pn 00 01 35.9 +0.5
baz=8.0
Y14A Wickenburg 7.92 192 ⇑P Pn 00 01 36.9 +1.4
baz=7.9
P29A Atwood 7.92 102 ⇓P Pn 00 01 35.8 +0.2
baz=8.0
WSHM Spangler Hills 7.95 222 ePn Pn 00 01 38.8 +2.9
B23A Brockton 7.97 30 ⇓P Pn 00 01 36.6 +0.5
baz=8.0
K29A Lazy Trails An 7.98 79 ⇓P Pn 00 01 35.8 -0.6
baz=8.0
C09A Chrisman Ranch 8.00 322 ePn Pn 00 01 38.7 +2.2
I05D Terrebonne, OR 8.03 293 ⇑P Pn 00 01 37.9 +0.9
baz=7.9

J29A	Okreek	8.05	74	⇓P		Pn	00 01 37.1	-0.1
	baz=8.1							
HEC	Hector,Ludlow	8.05	213	⇓P		Pn	00 01 38.9	+1.5
	baz=8.0							
K04D	Chiloquin, OR	8.05	280	⇓P		Pn	00 01 39.2	+1.8
	baz=8.0							
G28A	Parade	8.06	62	⇓P		Pn	00 01 37.3	-0.1
	baz=8.1							
D26A	Manning	8.11	46	⇓P		Pn	00 01 37.1	-0.9
	baz=8.2,SNR=14							
A22A	Carney Farms,	8.11	24	⇓P		Pn	00 01 37.8	-0.2
	baz=8.1							
CMB	Columbia Colle	8.11	246	eP		Pn	00 01 38.6	+0.5
CMB	Columbia Colle	8.11	246	ePn		Pn	00 01 38.6	+0.5
M04C	Macdoel	8.12	274	⇑P		Pn	00 01 40.6	+2.2
	baz=8.0							
S28A	Manter	8.12	117	⇓P		Pn	00 01 38.8	+0.4
	baz=8.2							
C25A	Freed Ranch, W	8.14	40	⇓P		Pn	00 01 37.7	-0.7
	baz=8.2,SNR=14							
LRMC	Laurel Mtn Rad	8.14	222	⇓P		Pn	00 01 40.4	+1.8
	baz=8.1							
LPM	Los Pinos Moun	8.14	154	ePn		Pn	00 01 37.6	-1.1
Q29A	Oakley	8.15	107	⇓P		Pn	00 01 39.3	+0.7
	baz=8.2							
V26A	Tequesquite Ra	8.15	134	⇓P		Pn	00 01 41.5	+2.7
	baz=8.2							
LENM	Lemitar	8.17	156	ePn		Pn	00 01 38.5	-0.6
I29A	Vivian Onida	8.18	70	⇑P		Pn	00 01 40.4	+1.5
	baz=8.2							
IRM	Iron Mountain	8.23	205	⇓P		Pn	00 01 41.4	+1.7
	baz=8.2							
BLKC	Black Mountain	8.23	219	ePn		Pn	00 01 42.6	+2.9
R29A	Marienthal	8.23	110	⇓P		Pn	00 01 41.3	+1.5
	baz=8.3							
N30A	Hueftle Ranch,	8.25	93	⇑P		Pn	00 01 39.4	-0.6
	baz=8.3,SNR=7.4							
T28A	Walsh	8.25	121	⇑P		Pn	00 01 41.7	+1.6
	baz=8.3							
U27A	Thompson Grove	8.25	127	⇓P		Pn	00 01 41.7	+1.6
	baz=8.3							
E27A	Carson	8.26	52	⇓P		Pn	00 01 39.2	-0.9
	baz=8.3							
DGMT	Dagmar	8.29	33	⇑P		Pn	00 01 40.5	0.0
	baz=8.3,SNR=10							
DGMT	Dagmar	8.29	33	ePn		Pn	00 01 40.5	0.0
BNM	Barren Site	8.29	154	ePn		Pn	00 01 41.4	+0.6
RRX	Edison Barstow	8.30	217	⇓P		Pn	00 01 42.0	+1.3
	baz=8.2							
G05D	Wamic, OR	8.30	299	⇑P		Pn	00 01 43.5	+2.8
	baz=8.2							
WHFM	Hanning Flat	8.32	226	ePn		Pn	00 01 44.6	+3.6
M30A	Dale-Ortello V	8.32	88	⇓P		Pn	00 01 40.1	-0.9
	baz=8.4							
J04D	Umpqua Nationa	8.37	284	⇓P		Pn	00 01 42.9	+1.2
	baz=8.3							
RCTC	Rector, Farmer	8.39	233	⇓P		Pn	00 01 46.5	+4.6
	baz=8.3							
H29A	Onida	8.39	66	⇑P		Pn	00 01 41.9	0.0
	baz=8.4							
O30A	MW Ranch, Wils	8.41	97	⇓P		Pn	00 01 41.4	-0.8
	baz=8.5							
ISA	Isabella, Lake	8.41	227	eP		Pn	00 01 44.9	+2.6
ISA	Isabella, Lake	8.41	227	⇑P		Pn	00 01 45.5	+3.2
	baz=8.3							
ISA	Isabella, Lake	8.41	227	ePn		Pn	00 01 44.9	+2.6
L30A	Spencer Herefo	8.41	85	⇑P		Pn	00 01 41.8	-0.5
	baz=8.5							
Y12C	Blythe	8.43	201	⇓P		Pn	00 01 44.4	+2.0
	baz=8.4							
F28A	McLaughlin	8.45	57	⇑P		Pn	00 01 42.3	-0.4
	baz=8.5,SNR=6.7							
P30A	Selden	8.45	101	⇑P		Pn	00 01 42.9	+0.1
	baz=8.5							
Z14A	Wintersburg	8.48	191	⇓P		Pn	00 01 46.4	+3.2
	baz=8.5							
K30A	Basset	8.49	80	⇓P		Pn	00 01 42.3	-1.0
	baz=8.6							
B25A	Knox Farm, Ray	8.58	38	⇓P		Pn	00 01 44.2	-0.4
	baz=8.6							
TPC	Twentynine Pal	8.58	209	ePn		Pn	00 01 46.8	+2.2
VES	Vestal, Richgr	8.62	230	⇑P		Pn	00 01 48.8	+3.7
	baz=8.5							
S29A	Ulysses	8.63	115	⇓P		Pn	00 01 45.3	0.0
	baz=8.7							
J30A	Dallas	8.64	75	⇑P		Pn	00 01 45.4	+0.1
	baz=8.7							
U28A	Mallet	8.64	125	⇓P		Pn	00 01 46.8	+1.3
	baz=8.7							
D27A	Center	8.65	48	⇓P		Pn	00 01 44.1	-1.4
	baz=8.7							
BELC	Belle Mtn. Jos	8.66	209	⇓P		Pn	00 01 47.8	+2.1
	baz=8.6							
Q30A	Quinter	8.66	105	⇑P		Pn	00 01 45.6	-0.1
	baz=8.7							
I04A	Tendick Farm,	8.66	288	⇓P		Pn	00 01 49.6	+3.9
	baz=8.6							
H04A	Detroit Lake	8.71	294	ePn		Pn	00 01 45.4	-0.9
A24A	Westby	8.72	32	⇓P		Pn	00 01 45.8	-0.7
	baz=8.8							
G29A	Hoven	8.76	63	⇑P		Pn	00 01 46.7	-0.3
	baz=8.8							
EDW2	Edwards Air Fo	8.77	221	⇑P		Pn	00 01 49.8	+2.7
	baz=8.7							
T29A	Hugoton	8.77	118	⇑P		Pn	00 01 48.1	+1.0
	baz=8.8							
I30A	Oacoma	8.77	72	⇓P		Pn	00 01 47.3	+0.1
	baz=8.8							
YBH	Yreka Blue Hor	8.77	274	eP		Pn	00 01 49.7	+2.5
YBH	Yreka Blue Hor	8.77	274	Pn		Pn	00 01 50.4	+3.2
	0.6nm,0.3s,baz=82,slow=12,SNR=46							
YBH				Lg		Lg	00 04 11.7	
	0.3nm,0.3s,baz=322,slow=19,SNR=2.0							
YBH				LR		LR	00 05 41.9	
	comp=Z,1µm,19.6s,baz=88,slow=41							
YBH	Yreka Blue Hor	8.77	274	ePn		Pn	00 01 49.7	+2.5
BC3	Big Chuckawall	8.79	205	⇓P		Pn	00 01 49.6	+2.2
	baz=8.8							
BBRC	Big Bear Solar	8.79	214	⇓P		Pn	00 01 49.6	+2.0
	baz=8.7							
C26A	Wahner Farm, P	8.79	43	⇓P		Pn	00 01 47.4	0.0
	baz=8.8,SNR=7.6							
WDC	Whiskeytown Da	8.80	266	eP		Pn	00 01 49.5	+2.0
WDC	Whiskeytown Da	8.80	266	ePn		Pn	00 01 49.5	+2.0
E28A	Huff	8.85	53	⇑P		Pn	00 01 47.6	-0.6
	baz=8.9							
N02D	Trinity Center	8.85	269	⇑P		Pn	00 01 51.2	+2.9
	baz=8.7							
LTY	Liberty	8.87	312	ePn		Pn	00 01 51.2	+2.7
B08A	Colville Reser	8.89	321	ePn		Pn	00 01 50.6	+1.8
R30A	Dighton	8.90	109	⇓P		Pn	00 01 49.4	+0.4
	baz=9.0							
M02C	Callahan	8.91	272	⇓P		Pn	00 01 52.5	+3.4
	baz=8.8							
HUMO	Hull Mountain	8.94	280	ePn		Pn	00 01 51.0	+1.5
O31A	Woolen Ranch,	8.96	96	⇑P		Pn	00 01 48.9	-0.8
	baz=9.0							
ARVC	Arvin	9.01	226	⇓P		Pn	00 01 55.2	+4.8
	baz=8.9							
M31A	Lambtecht Ranc	9.01	88	⇓P		Pn	00 01 49.6	-0.9
	baz=9.1							
C27A	Sayler Ranch,	9.03	45	⇓P		Pn	00 01 50.8	+0.1
	baz=9.1							
F29A	Eureka	9.06	59	⇓P		Pn	00 01 50.4	-0.7
	baz=9.1							
L31A	Butterfield Fa	9.06	83	⇓P		Pn	00 01 50.9	-0.2
	baz=9.1							
V28A	Channing	9.06	128	⇑P		Pn	00 01 54.1	+2.8
	baz=9.1							
S30A	Montezuma	9.07	113	⇑P		Pn	00 01 51.7	+0.4
	baz=9.1							
B26A	Jensen Ranch,	9.09	40	⇑P		Pn	00 01 51.0	-0.5
	baz=9.1							
P31A	Stockton	9.09	100	⇑P		Pn	00 01 50.7	-0.9
	baz=9.1							
N31A	Bailey Ranch,	9.10	92	⇑P		Pn	00 01 50.1	-1.6
	baz=9.2							
A25A	Svangstu Ranch	9.10	35	⇓P		Pn	00 01 50.4	-1.2
	baz=9.1							
BFSC	Mount Baldy Ra	9.13	217	⇑P		Pn	00 01 55.0	+2.8
	baz=9.1							
GLA	Glamis	9.17	201	eP		Pn	00 01 52.6	0.0
GLA	Glamis	9.17	201	⇑P		Pn	00 01 54.5	+1.8
	baz=9.1							
GLA	Glamis	9.17	201	ePn		Pn	00 01 52.6	0.0
PFO	Pinyon Flats O	9.18	210	eP		Pn	00 01 54.0	+1.2
PFO	Pinyon Flats O	9.18	210	Pn		Pn	00 01 55.0	+2.2
	3.0nm,0.3s,baz=34,slow=15,SNR=31							
PFO				Lg		Lg	00 04 29.7	
	0.2nm,0.3s,baz=14,slow=19,SNR=4.6							
PFO				LR		LR	00 05 19.9	
	comp=Z,177nm,21.9s,baz=26,slow=37							
PFO	Pinyon Flats O	9.18	210	⇑P		Pn	00 01 54.8	+2.0
	baz=9.1							
PFO	Pinyon Flats O	9.18	210	ePn		Pn	00 01 54.0	+1.2
113A	Mohawk Valley,	9.20	195	⇓P		Pn	00 01 56.7	+3.7
	baz=9.2							
BRSD	Miller	9.21	69	⇑P		Pn	00 01 52.9	-0.3
	baz=9.3							
BRSD	Miller	9.21	69	ePn		Pn	00 01 52.0	-1.2
D28A	Regan	9.24	50	⇓P		Pn	00 01 52.0	-1.5
	baz=9.3							
Q31A	Ellis	9.25	103	⇑P		Pn	00 01 53.6	-0.1
	baz=9.3							
LON	Longmire	9.26	307	eP		Pn	00 01 56.8	+2.9
LON	Longmire	9.26	307	ePn		Pn	00 01 56.8	+2.9
G30A	Faulkton	9.27	64	⇑P		Pn	00 01 53.1	-0.8
	baz=9.3							
F04A	Amboy	9.28	301	ePn		Pn	00 01 56.7	+2.7
I03D	Drain, OR	9.32	286	⇑P		Pn	00 01 59.1	+4.4
	baz=9.2							
MWC	Mount Wilson	9.33	219	eP		Pn	00 01 57.5	+2.5
MWC	Mount Wilson	9.33	219	ePn		Pn	00 01 57.5	+2.5
T30A	Plains	9.33	116	⇑P		Pn	00 01 59.7	+4.8
	baz=9.4							
OSI	Osito Audit: C	9.34	223	⇓P		Pn	00 01 59.0	+4.0
	baz=9.3							
OSI	Osito Audit: C	9.34	223	ePn		Pn	00 01 55.4	+0.3
TUC	Tucson	9.39	179	eP		Pn	00 02 00.4	+4.7
TUC	Tucson	9.39	179	ePn		Pn	00 02 00.3	+4.7
V29A	Stinnett	9.40	125	⇑P		Pn	00 01 58.9	+3.0
	baz=9.5							
PTRM	Twissleman Ran	9.41	233	ePn		Pn	00 01 58.2	+2.2
L02D	Cave Junction,	9.42	277	⇓P		Pn	00 01 59.1	+3.0
	baz=9.3							
W28A	Vega	9.42	130	⇑P		Pn	00 01 57.7	+1.5
	baz=9.5							
R31A	Burdett	9.43	107	⇑P		Pn	00 01 55.8	-0.4
	baz=9.5							
PASC	Pasadena Art C	9.43	219	ePn		Pn	00 01 58.6	+2.4
PASC				eSn		Sn	00 03 41.9	-0.2
DECC	Green Verdugo	9.44	220	⇓P		Pn	00 02 00.3	+4.0
	baz=9.4							
COR	Corvallis	9.45	292	eP		Pn	00 02 00.8	+4.4
COR	Corvallis	9.45	292	ePn		Pn	00 02 00.8	+4.4
MURC	Murrieta	9.48	213	⇑P		Pn	00 02 00.3	+3.4
	baz=9.4							
E29A	Napoleon	9.48	55	⇑P		Pn	00 01 55.5	-1.5
	baz=9.5							
SAO	San Andreas Ge	9.50	242	eP		Pn	00 01 59.3	+2.1
SAO	San Andreas Ge	9.50	242	ePn		Pn	00 01 59.3	+2.1
121A	Cookes Peak, D	9.51	163	⇓P		Pn	00 02 02.7	+5.3
	baz=9.5							
SMMC	Simmler	9.53	231	⇑P		Pn	00 02 01.4	+3.9
	baz=9.4							
U30A	WK&E Inc. Balk	9.55	119	⇓P		Pn	00 01 58.7	+0.9
	baz=9.6							
A26A	Wade Farm, Ken	9.55	38	⇓P		Pn	00 01 56.3	-1.5
	baz=9.6,SNR=8.2							
SWSC	Sam W. Stewart	9.55	205	⇑P		Pn	00 01 59.6	+1.7
	baz=9.5							
F30A	Leola	9.58	60	⇓P		Pn	00 01 56.7	-1.5
	baz=9.6							
D05A	Enumclaw	9.59	309	ePn		Pn	00 02 00.9	+2.7
B27A	Peters Farms,	9.59	42	⇓P		Pn	00 01 57.9	-0.4
	baz=9.6							
G03D	McMinnville, O	9.59	296	⇑P		Pn	00 02 02.5	+4.2
	baz=9.5							
N32A	Stulken Farm,	9.61	91	⇓P		Pn	00 01 58.2	-0.3
	baz=9.7							
HOPS	Hopland Field	9.62	258	ePn		Pn	00 02 01.5	+2.7
BGNE	Belgrade	9.62	88	⇓P		Pn	00 01 58.4	-0.4
	baz=9.7							
BGNE	Belgrade	9.62	88	ePn		Pn	00 01 57.7	-1.1
C28A	Hausauer Farms	9.63	48	⇑P		Pn	00 01 59.0	+0.1
	baz=9.7							
KHMM	Horse Mountain	9.63	269	ePn		Pn	00 01 58.8	-0.3
P32A	Huiting Farm,	9.64	98	⇓P		Pn	00 01 58.1	-0.9
	baz=9.7							
KIPM	Iron Peak	9.68	263	ePn		Pn	00 02 01.2	+1.6
O32A	Brockman Farm,	9.72	94	⇑P		Pn	00 02 00.0	-0.1
	baz=9.8							
SAC	San Andreas	9.73	249	eP		Pn	00 02 00.3	0.0
SAC	San Andreas	9.73	249	ePn		Pn	00 02 00.3	0.0
KMRM	Mail Ridge	9.74	265	ePn		Pn	00 02 01.7	+1.1
S31A	Mullinville	9.76	111	⇑P		Pn	00 02 02.3	+1.6
	baz=9.8							
KCPM	Cahto Peak	9.78	262	ePn		Pn	00 02 02.4	+1.3
MCCM	Marconi Confer	9.81	253	ePn		Pn	00 02 01.9	+0.6
MONP	Monument Peak,	9.81	208	⇓P		Pn	00 02 03.8	+2.2
	baz=9.8							
W29A	Amarillo	9.84	129	⇑P		Pn	00 02 03.6	+1.7
	baz=9.9							
214A	Organ Pipe Nat	9.85	189	⇑P		Pn	00 02 05.7	+3.8
	baz=9.8							
FMP	Fort Macarthur	9.86	218	⇑P		Pn	00 02 04.9	+2.8
	baz=9.8							
Q32A	Meitler Ranch,	9.86	102	⇑P		Pn	00 02 01.5	-0.7
	baz=9.9							
YUH	Yuha Desert	9.87	205	ePn		Pn	00 02 03.8	+1.6
YUH				eSn		Sn	00 03 53.4	+0.6
KBO	Bosley Butte	9.88	277	ePn		Pn	00 02 03.8	+1.4
T31A	Randall Ranch,	9.88	114	⇓P		Pn	00 02 03.8	+1.4
	baz=9.9							
DPP	Dos Picos Cty	9.90	210	ePn		Pn	00 02 03.6	+0.9
DPP				eLg		Lg	00 05 11.9	
IBP	Imperial Bould	9.91	206	⇑P		Pn	00 02 05.7	+2.9
	baz=9.9							
E30A	Jud	9.91	57	⇓P		Pn	00 02 01.0	-1.8
	baz=10.0							
R32A	Long Quarter,	9.96	105	⇑P		Pn	00 02 03.3	-0.2
	baz=10.0							
KEBM	Edson Butte	9.96	281	ePn		Pn	00 02 04.4	+0.9
A27A	Ledoux Ranch,	9.97	40	⇓P		Pn	00 02 02.7	-0.8
	baz=10.0							
X28A	Dimmitt	9.97	133	⇑P		Pn	00 02 05.8	+2.2
	baz=10.0							
AMTX	Amarillo	9.99	130	⇓P		Pn	00 02 06.6	+2.6
	baz=10.0							
AMTX	Amarillo	9.99	130	ePn		Pn	00 02 06.1	+2.2
V30A	Spur Ranch, Mi	9.99	123	⇑P		Pn	00 02 05.1	+1.2
	baz=10.0							
PIER	Pier 30 Seattl	9.99	310	ePn		Pn	00 02 07.7	+3.9
PIER				eSn		Sn	00 03 52.0	-3.8
F03A	Seaside	10.02	299	ePn		Pn	00 02 08.3	+4.1
109C	Camp Elliot, M	10.06	211	⇓P		Pn	00 02 08.4	+3.6
	baz=10.0							
B06A	Marblemount	10.06	316	ePn		Pn	00 02 07.1	+2.3
B28A	Dugan Ranch, T	10.08	44	⇑P		Pn	00 02 05.1	0.0
	baz=10							
MSTX	Muleshoe	10.09	137	⇓P		Pn	00 02 07.6	+2.3
	baz=10							
MSTX	Muleshoe	10.09	137	ePn		Pn	00 02 08.7	+3.4
BAR	Barrett	10.09	209	ePn		Pn	00 02 04.6	-0.7
S32A	Newby Ranch, P	10.11	109	⇓P		Pn	00 02 06.1	+0.6
	baz=10							
MDND	Maddock	10.15	49	⇑P		Pn	00 02 03.6	-2.3
	baz=10							
MDND	Maddock	10.15	49	ePn		Pn	00 02 04.2	-1.7
CIS	Catalina Islan	10.17	218	⇓P		Pn	00 02 10.1	+3.8
	baz=10							
D30A	Buchanan	10.27	54	⇓P		Pn	00 02 05.6	-2.1
	baz=10							
X29A	Tulia	10.30	132	⇓P		Pn	00 02 10.5	+2.4
	baz=10							
P33A	Williams Farm,	10.36	98	⇑P		Pn	00 02 09.5	+0.6
	baz=10							
T32A	Huddler Ranch,	10.36	112	⇓P		Pn	00 02 09.8	+0.9
	baz=10							
Q33A	Connelly Farm,	10.39	101	⇓P		Pn	00 02 08.6	-0.8
	baz=10							
Y28A	McKinney Farm,	10.41	136	⇑P		Pn	00 02 11.9	+2.3
	baz=10							
A28A	Rude Farm, Bot	10.42	43	⇓P		Pn	00 02 08.6	-1.1
	baz=10							
V31A	Spring Creek L	10.52	121	⇑P		Pn	00 02 12.0	+0.8
	baz=11							
R33A	Olander Ranch,	10.53	105	⇑P		Pn	00 02 11.0	-0.2
	baz=11							
SCI	San Clemente I	10.59	217	⇑P		Pn	00 02 15.9	+3.9
	baz=10							
B29A	Wagenman Farm,	10.63	47	⇓P		Pn	00 02 11.9	-0.7
	baz=11							
C30A	Mose, Pekin	10.72	52	⇑P		Pn	00 02 11.3	-2.5
	baz=11							
U32A	Winter Ranch,	10.73	116	⇓P		Pn	00 02 14.3	+0.4
	baz=11							
Y29A	Porterfield Fa	10.75	134	⇓P		Pn	00 02 17.0	+2.7
	baz=11							
ECSD	EROS Data Cent	10.76	74	⇓P		Pn	00 02 13.3	-1.2
	baz=11							
ECSD	EROS Data Cent	10.76	74	ePn		Pn	00 02 13.5	-0.9
X30A	Coker Ranch, T	10.77	129	⇓P		Pn	00 02 16.8	+2.3
	baz=11							
S33A	Kaszmaul Farm,	10.82	108	⇓P		Pn	00 02 14.8	-0.4
	baz=11							
Z28A	Tucker Farm, M	10.82	138	⇑P		Pn	00 02 18.1	+2.8
	baz=11							
W31A	Holland Ranch,	10.83	123	⇑P		Pn	00 02 17.1	+1.7
	baz=11							
T33A	Patterson Ranc	10.88	111	⇑P		Pn	00 02 16.4	+0.3
	baz=11							
MNTX	Cornudas Mount	10.95	154	⇓P		Pn	00 02 20.9	+3.8
	baz=11							
A29A	Manning Farm,	10.96	45	⇑P		Pn	00 02 16.0	-1.2
	baz=11							
V32A	Arapaho	11.07	119	⇑P		Pn	00 02 19.4	+0.7
	baz=11							
Y30A	Stafford Cattl	11.16	131	⇑P		Pn	00 02 22.2	+2.3
	baz=11							
X31A	McDonald Ranch	11.17	126	⇑P		Pn	00 02 22.4	+2.3
	baz=11							
B30A	Myrvik Farm, E	11.19	49	⇑P		Pn	00 02 18.7	-1.6
	baz=11							
Z29A	Hungry Hill Ra	11.19	136	⇓P		Pn	00 02 22.7	+2.3
	baz=11							
PGC	Sidney	11.20	312	ePn		Pn	00 02 21.3	+1.1
KSU1	Kansas State U	11.27	99	⇑P		Pn	00 02 22.3	+1.0
	baz=11							
KSU1	Kansas State U	11.27	99	ePn		Pn	00 02 20.9	-0.4
U33A	Lingo Farm, Me	11.30	114	⇓P		Pn	00 02 22.7	+0.9
	baz=11							
W32A	Sentinel	11.31	122	⇓P		Pn	00 02 23.1	+1.2
	baz=11							
128A	Castleberry Fa	11.32	141	⇓P		Pn	00 02 24.5	+2.4
	baz=11							
S34A	Willow Spring	11.41	106	⇑P		Pn	00 02 22.6	-0.7
	baz=12							
Y31A	Rekieta Farm,	11.47	129	⇓P		Pn	00 02 25.8	+1.7
	baz=12							
A30A	Hoffart Farm,	11.47	47	⇓P		Pn	00 02 22.7	-1.4
	baz=12							
Z30A	Sanderson Ranc	11.48	134	⇑P		Pn	00 02 26.2	+1.9
	baz=12							
V33A	Lossen Ranch,	11.52	117	⇓P		Pn	00 02 25.1	+0.3
	baz=12							
129A	Stewart Farms,	11.61	138	⇓P		Pn	00 02 28.1	+2.0
	baz=12							
EDM	Edmonton	11.63	353	eP		Pn	00 02 26.8	+0.6
EDM	Edmonton	11.63	353	ePn		Pn	00 02 26.8	+0.6
228A	UT Block 9, Go	11.69	142	⇑P		Pn	00 02 30.0	+2.8
	baz=12							
U34A	Anderson Ranch	11.70	112	⇓P		Pn	00 02 27.8	+0.6
	baz=12							
U34A	Anderson Ranch	11.70	112	ePn		Pn	00 02 27.8	+0.6
X32A	Elmer	11.74	125	⇓P		Pn	00 02 29.0	+1.2
	baz=12							
WMOK	Wichita Mounta	11.85	122	eP		Pn	00 02 30.4	+1.1
WMOK	Wichita Mounta	11.85	122	ePn		Pn	00 02 30.4	+1.1
Y32A	R-V Farms, Ver	11.92	126	⇑P		Pn	00 02 32.5	+2.2
	baz=12							
S35A	Otter Creek Ra	11.99	105	⇓P		Pn	00 02 30.1	-1.1
	baz=12							
Z31A	Sharp Cattle R	12.00	131	⇓P		Pn	00 02 32.7	+1.3
	baz=12							
V34A	Guthrie	12.03	115	⇑P		Pn	00 02 32.0	+0.2
	baz=12							
V34A	Guthrie	12.03	115	ePn		Pn	00 02 31.1	-0.7
130A	Snyder	12.10	136	⇑P		Pn	00 02 35.1	+2.3
	baz=12							
229A	Bryant Ranch,	12.18	140	⇓P		Pn	00 02 36.3	+2.4
	baz=12							
W34A	Bridge Creek,	12.20	118	⇓P		Pn	00 02 34.7	+0.7
	baz=12							
W34A	Bridge Creek,	12.20	118	ePn		Pn	00 02 33.3	-0.8
R36A	Gordon, Harris	12.34	101	⇓P		Pn	00 02 35.7	-0.3
	baz=12							
131A	Roby	12.35	134	⇓P		Pn	00 02 37.9	+1.8
	baz=12							
Z32A	Haskell	12.39	129	⇑P		Pn	00 02 38.0	+1.2
	baz=12							
Y33A	Hilltop Ranch,	12.42	124	⇑P		Pn	00 02 39.5	+2.4
	baz=12							
329A	Wagon Wheel Ra	12.50	142	⇓P		Pn	00 02 40.5	+2.3
	baz=12							
S36A	Lake Cedric, C	12.50	104	⇓P		Pn	00 02 36.7	-1.4
	baz=12							
V35A	Meyer Ranch, C	12.53	114	⇓P		Pn	00 02 38.1	-0.5
	baz=13							
X34A	Smith Ranch, M	12.54	120	⇑P		Pn	00 02 40.1	+1.4
	baz=13							
AGMN	Agassiz Nation	12.55	53	⇓P		Pn	00 02 35.7	-3.2
	baz=13							
AGMN	Agassiz Nation	12.55	53	ePn		Pn	00 02

432A	**Menard**	14.07	137	⇑P		Pn	00 03 00.5	+0.8			
	baz=14										
234A	**Clairette**	14.11	129	⇑P		Pn	00 03 00.4	+0.2			
	baz=14										
333A	**Richland Sprin**	14.14	133	⇑P		Pn	00 03 01.4	+0.7			
	baz=14										
135A	**Vickery Place,**	14.15	126	⇑P		Pn	00 03 01.5	+0.7			
	baz=14										
531A	**Rocksprings**	14.28	140	⇓P		Pn	00 03 03.1	+0.6			
	baz=14										
FFC	**Flin Flon**	14.32	22	*e*P		Pn	00 02 58.9	-4.0			
FFC	**Flin Flon**	14.32	22	*e*Pn		Pn	00 02 58.9	-4.0			
JCT	**Junction City**	14.38	138	*e*P		Pn	00 03 03.3	-0.7			
JCT	**Junction City**	14.38	138	⇓P		Pn	00 03 04.8	+0.8			
	baz=14										
JCT	**Junction City**	14.38	138	*e*Pn		Pn	00 03 03.3	-0.7			
WHTX	**Lake Whitney,**	14.52	128	⇓P		Pn	00 03 06.3	+0.5			
	baz=15										
WHTX	**Lake Whitney,**	14.52	128	*e*Pn		Pn	00 03 06.4	+0.6			
433A	**Art**	14.53	135	⇑P		Pn	00 03 06.9	+0.9			
	baz=15										
334A	**Lometa**	14.55	131	⇓P		Pn	00 03 06.1	-0.1			
	baz=15										
532A	**Rocksprings**	14.62	139	⇓P		Pn	00 03 07.5	+0.3			
	baz=15										
631A	**Perdido Creek**	14.89	142	⇓P		Pn	00 03 11.7	+0.8			
	baz=15										
434A	**Burnet**	14.93	133	⇑P		Pn	00 03 12.3	+1.0			
	baz=15										
335A	**Moody**	15.05	129	⇓P		Pn	00 03 12.7	-0.3			
	baz=15										
533A	**Kerrville**	15.10	136	⇑P		Pn	00 03 14.7	+1.0			
	baz=15										
EYMN	**Ely**	15.15	59	*e*Pn		Pn	00 03 10.2	-4.0			
	54nm,0.8s										
137A	**Heron Place, G**	15.15	122	⇑P		Pn	00 03 14.8	+0.5			
	baz=15										
632A	**Uvalde**	15.19	140	⇓P		Pn	00 03 16.0	+1.1			
	baz=15										
336A	**Riesel**	15.32	128	⇓P		Pn	00 03 17.0	+0.5			
	baz=15										
435B	**Jarrell**	15.33	131	⇑P		Pn	00 03 17.4	+0.7			
	baz=15										
JFWS	**Jewell Farm**	15.39	79	*e*P		Pn	00 03 15.8	-1.6			
JFWS				pmax	pmax						
	comp=Z,36nm,0.9s										
JFWS	**Jewell Farm**	15.39	79	*e*Pn		Pn	00 03 15.8	-1.6			
	comp=Z,36nm,0.9s										
534A	**Blanco**	15.43	135	⇓P		Pn	00 03 19.2	+1.2			
	baz=16										
MIAR	**Mount Ida**	15.44	112	*e*P		Pn	00 03 17.2	-0.9			
MIAR				pmax	pmax						
	comp=Z,32nm,0.8s										
MIAR	**Mount Ida**	15.44	112	*e*Pn		Pn	00 03 17.2	-0.9			
	comp=Z,32nm,0.8s										
237A	**Washetta, Mont**	15.52	124	⇑P		Pn	00 03 19.7	+0.6			
	baz=16										
633A	**Saathoff Ranch**	15.53	138	⇑P		Pn	00 03 21.0	+1.7			
	baz=16										
138A	**Matatall Enter**	15.54	120	⇓P		Pn	00 03 19.9	+0.5			
	baz=16										
BBB	**Bella Bella**	15.66	318	LR		LR	00 09 35.1				
	comp=Z,401nm,19.1s,baz=119,slow=38										
732A	**Laxson Ranch,**	15.75	142	⇑P		Pn	00 03 22.7	+0.5			
	baz=16										
436A	**Wall Ranch, Ga**	15.79	129	⇑P		Pn	00 03 24.3	+1.5			
	baz=16										
535A	**Dale**	15.91	133	⇑P		Pn	00 03 25.9	+1.6			
	baz=16										
337A	**Centerville**	15.94	126	⇑P		P	00 03 26.8	-1.4			
	baz=16										
238A	**Jacksonville**	15.95	122	⇓P		Pn	00 03 25.4	+0.7			
	baz=16										
634A	**China Grove, S**	16.01	136	⇓P		Pn	00 03 26.7	+1.3			
	baz=16										
733A	**Divot King Ran**	16.08	140	⇓P		P	00 03 28.9	-0.8			
	baz=16										
832A	**Faith Ranch, C**	16.13	143	⇑P		P	00 03 28.9	-1.4			
	baz=16										
437A	**Phantom Ranch,**	16.14	128	⇓P		P	00 03 29.2	-1.1			
	baz=16										
SLM	**Saint Louis**	16.15	94	*e*P		Pn	00 03 27.2	0.0			
SLM				pmax	pmax						
	comp=Z,206nm,1.0s										
SLM	**Saint Louis**	16.15	94	*e*Pn		Pn	00 03 27.2	0.0			
	comp=Z,206nm,1.0s										
536A	**Bastrop**	16.16	131	⇓P		Pn	00 03 28.7	+1.2			
	baz=16										
UALR	**University of**	16.18	109	*e*Pn		Pn	00 03 25.7	-2.0			
	comp=Z,39nm,0.9s										
338A	**Crockett**	16.27	124	⇓P		Pn	00 03 30.0	+1.2			
	baz=16										
635A	**Leesville**	16.31	135	⇑P		Pn	00 03 30.6	+1.3			
	baz=16										
COWI	**Conover**	16.33	67	*e*Pn		Pn	00 03 30.4	+0.8			
	comp=Z,112nm,0.7s										
734A	**La Parita Cree**	16.34	138	⇑P		P	00 03 31.3	-1.3			
	baz=16										
239A	**Gary**	16.35	121	⇑P		Pn	00 03 30.9	+1.0			
	baz=16										
833A	**Chaparral WMA,**	16.36	141	⇑P		Pn	00 03 31.2	+1.2			
	baz=16										
537A	**Green Hill Far**	16.58	130	⇓P		P	00 03 34.2	-1.1			
	baz=17										
636A	**Smothers Creek**	16.62	133	⇑P		P	00 03 35.6	-0.1			
	baz=17										
PBMO	**Poplar Bluff**	16.65	100	*e*Pn		Pn	00 03 30.4	-3.3			
	comp=Z,81nm,0.9s										
735A	**Kenedy**	16.71	136	⇑P		P	00 03 36.6	-0.1			
	baz=17										
834A	**Tilden**	16.93	139	⇓P		P	00 03 39.4	+0.2			
	baz=17										
HKT	**Hockley**	16.96	129	*e*P		Pn	00 03 37.8	+0.3			
HKT				pmax	pmax						
	comp=Z,94nm,1.2s										
HKT	**Hockley**	16.96	129	*e*Pn		Pn	00 03 37.8	+0.3			
	comp=Z,94nm,1.2s										
933A	**Laredo**	17.02	142	⇓P		P	00 03 40.7	+0.5			
	baz=17										
340A	**Bronson**	17.12	121	⇑P		Pn	00 03 39.5	-0.1			
	baz=17										
835A	**Beeville**	17.16	137	⇑P		P	00 03 41.5	-0.2			
	baz=17										
SIUC	**Southern Illin**	17.20	96	*e*Pn		Pn	00 03 40.2	-0.4			
	comp=Z,152nm,1.1s										
LPIG	**La Paz**	17.57	178	LR		LR	00 10 46.8				
	comp=Z,131nm,18.3s,baz=4.0,slow=38										
OLIL	**Olney**	17.72	92	*e*Pn		Pn	00 03 47.3	+0.3			
	comp=Z,50nm,1.0s										
034A	**Hebbronville**	17.76	141	⇑P		P	00 03 49.6	+1.2			
	baz=18										
SLBS	**Sierra La Lagu**	18.00	177	*e*Pn		Pn	00 03 49.3	-1.3			
	comp=Z,28nm,0.9s										
SFIN	**Lafayette**	18.06	86	⇑P		Pn	00 03 50.4	-0.8			
	baz=18										
SFIN	**Lafayette**	18.06	86	*e*Pn		Pn	00 03 48.7	-2.4			
	comp=Z,37nm,0.8s										
USIN	**University of**	18.28	94	*e*Pn		Pn	00 03 53.7	-0.2			
	comp=Z,75nm,1.0s										
OXF	**Oxford**	18.41	106	*e*P		Pn	00 03 52.8	-2.7			
OXF				pmax	pmax						
	comp=Z,129nm,1.2s										
OXF	**Oxford**	18.41	106	*e*P		Pn	00 03 52.8	-2.7			
	comp=Z,129nm,1.2s										
BLO	**Bloomington**	18.77	90	*e*P		P	00 03 56.8	-2.7			
BLO				pmax	pmax						
	comp=Z,44nm,0.8s										
BLO	**Bloomington**	18.77	90	*e*P		P	00 03 56.8	-2.7			
	comp=Z,44nm,0.8s										
WVT	**Waverly**	18.83	100	*e*P		P	00 03 59.5	-0.6			
WVT				pmax	pmax						
	comp=Z,29nm,0.9s										
WVT	**Waverly**	18.83	100	*e*P		P	00 03 59.5	-0.6			
	comp=Z,30nm,0.9s										
WCI	**Wyandotte Cave**	19.22	92	*e*P		P	00 04 03.8	-0.6			
WCI				pmax	pmax						
	comp=Z,27nm,0.8s										
WCI	**Wyandotte Cave**	19.22	92	*e*P		P	00 04 03.8	-0.6			
	comp=Z,27nm,0.8s										
FCC	**Fort Churchill**	20.10	26	*e*P		P	00 04 12.2	-1.6			
FCC				pmax	pmax						
	comp=Z,659nm,0.9s										
FCC	**Fort Churchill**	20.10	26	*e*P		P	00 04 12.2	-1.6			
	comp=Z,659nm,0.9s										
AAM	**Ann Arbor**	20.29	79	*e*P		P	00 04 14.8	-1.2			
AAM				pmax	pmax						
	comp=Z,36nm,1.0s										
AAM	**Ann Arbor**	20.29	79	*e*P		P	00 04 14.8	-1.2			
	comp=Z,36nm,1.0s										
DLBC	**Dease Lake**	20.60	331	P		P	00 04 20.6	+1.2			
	comp=Z,19nm,1.1s,baz=148,slow=11,SNR=21										
DLBC				LR		LR	00 13 18.4				
	comp=Z,152nm,19.1s,baz=142,slow=40										
DLBC	**Dease Lake**	20.60	331	*e*P		P	00 04 18.4	-0.9			
SWET	**Sewanee**	20.62	100	*e*P		P	00 04 19.4	-0.3			
LRAL	**Lakeview Retre**	20.89	107	*e*P		P	00 04 21.9	-0.6			
	comp=Z,31nm,0.9s										
YKA	**Yellowknife Ar**	20.93	355	P		P	00 04 22.1	-0.6			
	comp=Z,11nm,0.8s,baz=170,slow=11,SNR=112										
YKB5	**Yellowknife Ar**	20.93	355	*e*P		P	00 04 22.1	-0.6			
ACSO	**Alum Creek Sta**	21.16	85	*e*P		P	00 04 24.4	-1.1			
	comp=Z,68nm,0.9s										
BRAL	**Brewton**	21.96	111	*e*P		P	00 04 33.5	-0.5			
	comp=Z,132nm,1.1s										
TKL	**Tuckaleechee C**	22.03	97	*e*P		P	00 04 34.1	-0.8			
TKL	**Tuckaleechee C**	22.03	97	P		P	00 04 34.4	-0.4			
	comp=Z,13nm,0.7s,baz=290,slow=9.6,SNR=14										
TKL				Lg		Lg	00 11 00.6				
	comp=Z,20nm,0.7s,baz=112,slow=13,SNR=11										
TKL				LR		LR	00 13 25.9				
	comp=Z,756nm,18.8s,baz=306,slow=38										
TKL	**Tuckaleechee C**	22.03	97	*e*P		P	00 04 34.1	-0.8			
ERPA	**Erie**	23.01	79	*e*P		P	00 04 44.0	-1.2			
	comp=Z,110nm,1.3s										
GOGA	**Godfrey**	23.26	102	*e*P		P	00 04 47.9	+0.1			
GOGA				pmax	pmax						
	comp=Z,69nm,1.1s										
GOGA	**Godfrey**	23.26	102	*e*P		P	00 04 47.9	+0.1			
	comp=Z,69nm,1.1s										
SADO	**Sadowa**	23.32	72	P		P	00 04 46.9	-1.3			
	comp=Z,10nm,0.7s,baz=281,slow=11,SNR=11										
SADO				Lg		Lg	00 11 42.0				
	comp=Z,7.6nm,0.8s,baz=292,slow=19,SNR=2.4										
SADO				LR		LR	00 14 24.1				
	comp=Z,591nm,20.9s,baz=291,slow=38										
BLA	**Blacksburg**	23.95	91	*e*P		P	00 04 54.4	-0.2			
BLA				pmax	pmax						
	comp=Z,65nm,0.9s										
BLA	**Blacksburg**	23.95	91	*e*P		P	00 04 54.4	-0.2			
	comp=Z,65nm,0.9s										
KMSC	**Kings Mountain**	24.06	96	⇑P		P	00 04 56.1	+0.6			
	baz=24										
KMSC	**Kings Mountain**	24.06	96	*e*P		P	00 04 55.5	0.0			
	comp=Z,13nm,0.8s										
TIGA	**Tifton**	24.18	106	⇓P		P	00 04 57.8	+1.1			
	baz=24										
VWCC	**Virginia Weste**	24.27	90	*e*P		P	00 04 57.2	-0.3			
MMNY	**Mt. Morris Dam**	24.43	76	*e*P		P	00 04 57.6	-1.4			
	comp=Z,68nm,0.8s										
SSPA	**Standing Stone**	24.85	81	*e*P		P	00 05 02.1	-0.6			
	comp=Z,24nm,0.8s										
HYT	**Haines Junctio**	25.03	329	*e*P		P	00 05 04.7	+0.4			
JSRW	**J. Sargeant Re**	25.69	88	*e*P		P	00 05 09.7	-0.7			
NHSC	**New Hope**	25.82	99	*e*P		P	00 05 11.4	-0.2			
URVA	**University of**	25.99	88	*e*P		P	00 05 12.8	-0.2			
MVL	**Millersville**	26.15	82	*e*P		P	00 05 13.3	-1.2			
	comp=Z,42nm,1.4s										
KSPA	**Keystone Colle**	26.21	78	*e*P		P	00 05 14.6	-0.4			
	comp=Z,21nm,0.9s										
PTN	**Potsdam (NY)**	26.29	72	*e*P		P	00 05 15.5	-0.2			
PTN				pmax	pmax						
	comp=Z,53nm,1.0s										
PTN	**Potsdam (NY)**	26.29	72	*e*P		P	00 05 15.5	-0.2			
	comp=Z,53nm,1.0s										
ODNJ	**Ogdensburg**	27.17	79	*e*P		P	00 05 23.0	-0.7			
	comp=Z,24nm,0.9s										
ACCN	**Adirondack Com**	27.39	74	*e*P		P	00 05 25.3	-0.4			
	comp=Z,35nm,1.3s										
TRY	**Troy**	27.51	75	*e*P		P	00 05 26.4	-0.3			
	comp=Z,46nm,0.9s										
DAWY	**Dawson**	27.76	333	*e*P		P	00 05 28.8	0.0			
	comp=Z,8.2nm,1.1s										
CMIG	**Matias Romero**	28.16	146	P		P	00 05 32.7	0.0			
	comp=Z,6.3nm,1.0s,baz=339,slow=8.3,SNR=5.3										
CMIG				LR		LR	00 19 01.9				
	comp=Z,333nm,18.9s,baz=126,slow=41										
TEIG	**Tepich**	28.78	131	LR		LR	00 19 04.3				
	comp=Z,111nm,18.8s,baz=282,slow=41										
EGAK	**Eagle**	28.80	333	*e*P		P	00 05 37.5	-0.5			
	comp=Z,14nm,1.3s										
DOT	**Dot Lake**	29.17	330	*e*P		P	00 05 41.7	+0.3			
	comp=Z,20nm,1.5s										
PAX	**Paxson**	29.35	328	*e*P		P	00 05 42.0	-1.1			
PAX				pmax	pmax						
	comp=Z,9.0nm,1.3s										
PAX	**Paxson**	29.35	328	*e*P		P	00 05 42.0	-1.1			
	comp=Z,8.7nm,1.3s										
ILAR	**Eielson Array**	30.81	331	P		P	00 05 56.5	+0.7			
	comp=Z,1.9nm,0.8s,baz=124,slow=7.0,SNR=16										
ILAR				PcP		PcP	00 08 52.3	-0.3			
	comp=Z,0.7nm,0.7s,baz=126,slow=1.5,SNR=5.7										
ILAR				LR		LR	00 20 12.2				
	comp=Z,129nm,19.3s,baz=122,slow=40										
ILB	**Eielson Array**	30.81	331	*e*P		P	00 05 56.2	+0.3			
MCK	**McKinley**	31.09	328	*e*P		P	00 05 59.0	+0.7			
MCK				pmax	pmax						
	comp=Z,25nm,1.3s										
MCK	**McKinley**	31.09	328	*e*P		P	00 05 59.0	+0.7			
	comp=Z,25nm,1.3s										
COLA	**College**	31.22	330	*e*P		P	00 05 59.8	+0.4			
COLA				pmax	pmax						
	comp=Z,78nm,1.3s										
COLA	**College**	31.22	330	*e*P		P	00 05 59.3	-0.1			
	comp=Z,30nm,1.3s										
TRF	**Thorofare Moun**	31.51	327	*e*P		P	00 06 01.8	-0.5			
	comp=Z,24nm,1.6s										
SCHQ	**Schefferville**	31.62	50	P		P	00 06 02.1	-1.0			
	comp=Z,4.7nm,0.8s,baz=269,slow=8.4,SNR=9.8										
SCHQ				LR		LR	00 19 58.1				
	comp=Z,152nm,20.6s,baz=224,slow=38										
SCHQ	**Schefferville**	31.62	50	*e*P		P	00 06 02.1	-1.0			
	comp=Z,20nm,1.3s										
KTH	**Kantishna Hill**	31.81	327	*e*P		P	00 06 04.0	-0.7			
	comp=Z,9.2nm,1.2s										
PPLA	**Purkeypile**	32.08	325	*e*P		P	00 06 06.3	-0.9			
	comp=Z,22nm,1.4s										
COLD	**Coldfoot**	33.24	333	*e*P		P	00 06 16.2	-0.9			
	comp=Z,15nm,1.4s										
RES	**Resolute Bay**	33.88	8	*e*P		P	00 06 22.0	-0.5			
RES				pmax	pmax						
	comp=Z,9.0nm,1.2s										
RES	**Resolute Bay**	33.88	8	P		P	00 06 21.1	-1.4			
	comp=Z,4.9nm,1.1s,baz=186,slow=9.8,SNR=6.7										
RES	**Resolute Bay**	33.88	8	*e*P		P	00 06 22.0	-0.5			
	comp=Z,8.7nm,1.2s										
IM04	**Indian Mountai**	33.93	330	*e*P		P	00 06 22.9	-0.3			
SUMG	**Summit**	45.59	24	*e*P		P	00 07 59.9	-0.5			
SUMG				pmax	pmax						
	comp=Z,25nm,1.3s										
SUMG	**Summit**	45.59	24	*e*P		P	00 07 59.9	-0.5			
	comp=Z,25nm,1.3s										
SUMG	**Summit**	45.59	24	*i* P		P	00 08 01.8	+1.4			
	comp=Z,6.8nm,1.1s										
SDV	**Santo Domingo**	48.27	121	*e*P		P	00 08 21.7	-0.1			
	comp=Z,8.8nm,0.8s										
ROSC	**El Rosal**	49.13	128	LR		LR	00 32 02.6				
	comp=Z,80nm,20.4s,baz=152,slow=40										
BILL	**Bilibino**	49.48	331	*i* P		P	00 08 30.3	+0.1			
BILL				*i*			00 09 52.9				
BILL				pmax	pmax						
	comp=Z,22nm,1.2s										
BILL				MLR		MLR					
	comp=Z,136nm,19.0s										
BILL	**Bilibino**	49.48	331	*e*P		P	00 08 29.6	-0.5			
	comp=Z,37nm,1.4s										
DAG	**Danmarks Havn**	50.35	17	*i* P		P	00 08 35.9	-0.8			
DAG				pmax	pmax						
	comp=Z,5.0nm,1.0s										
DAG	**Danmarks Havn**	50.35	17	*i* P		P	00 08 35.9	-0.8			
	comp=Z,4.7nm,1.0s										
SPITS	**Spitsbergen Ar**	56.29	11	LR		LR	00 33 46.8				
	comp=Z,112nm,18.5s,baz=345,slow=36										
SEY	**Seymchan**	56.64	327	*e*P		P	00 09 24.1	+1.1			
SEY	**Seymchan**	56.64	327	LR		LR	00 33 32.0				
	comp=Z,106nm,18.1s,baz=346,slow=36										
ATAH	**Atahualpa**	57.03	140	P		P	00 09 27.6	+0.7			
	comp=Z,2.3nm,0.6s,baz=351,slow=13,SNR=2.4										
PEA2	**Petropavlovsk-**	58.77	315	*e*P		P	00 09 38.5	+0.3			
PETK	**Petropavlovsk-**	58.77	315	P		P	00 09 38.5	+0.3			
	comp=Z,14nm,0.7s,baz=72,slow=8.7,SNR=13										
PETK				LR		LR	00 33 31.5				
	comp=Z,46nm,21.5s,baz=73,slow=35										
TIXI	**Tiksi**	59.36	341	*e*P		P	00 09 41.0	-1.0			
TIXI				pmax	pmax						
	comp=Z,14nm,1.2s										
TIXI	**Tiksi**	59.36	341	*e*P		P	00 09 40.9	-1.0			
	comp=Z,12nm,1.1s										
PTGA	**Pitinga**	62.45	119	P		P	00 10 04.1	+0.4			
	comp=Z,18nm,1.0s,baz=335,slow=11,SNR=8.4										
PTGA	**Pitinga**	62.45	119	*e*P		P	00 10 04.1	+0.4			
	comp=Z,21nm,0.9s										
ARA0	**ARCESS Array S**	64.56	16	*e*P		P	00 10 17.6	+0.7			
ARCES	**ARCESS Array B**	64.56	16	P		P	00 10 17.6	+0.7			
	comp=Z,1.2nm,0.7s,baz=328,slow=6.7,SNR=5.4										
NB2	**NORSAR Subarra**	67.36	27	P		P	00 10 34.9	-0.2			
	comp=Z,23nm,1.4s,baz=316,slow=6.5										
NB200	**NORSAR Array S**	67.36	27	*e*P		P	00 10 35.1	-0.1			
NOA	**NORSAR Array B**	67.36	27	P		P	00 10 35.1	-0.1			
	comp=Z,4.2nm,1.0s,baz=312,slow=6.5,SNR=5.8										
NOA				LR		LR	00 40 00.9				
	comp=Z,47nm,18.4s,baz=340,slow=36										
APA	**Apatity**	67.76	14	*e*P		P	00 10 40.4	+2.9			
LPAZ	**La Paz**	69.98	136	*e*P		P	00 10 52.0	-0.6			
LPAZ				pmax	pmax						
	comp=Z,26nm,1.7s										
LPAZ	**La Paz**	69.98	136	P		P	00 10 51.6	-1.0			
	comp=Z,5.2nm,0.9s,baz=335,slow=5.6,SNR=14										
LPAZ				LR		LR	00 44 16.5				
	comp=Z,50nm,20.0s,baz=326,slow=38										
LPAZ	**La Paz**	69.98	136	*e*P		P	00 10 52.0	-0.6			
	comp=Z,26nm,1.7s										
YSS	**Yuzh-Sakhalins**	70.17	316	*e*P		P	00 10 52.7	-0.1			
YSS				pmax	pmax						
	comp=Z,40nm,1.1s										
KAF	**Kangasniemi**	70.95	20	*e*P		P	00 10 56.2	-1.1			
KAF				pmax	pmax						
	comp=Z,2.0nm,0.6s										
KAF	**Kangasniemi**	70.95	20	*e*p		P	00 10 56.2	-1.1			
	comp=Z,1.9nm,0.6s										
FLN	**La Foliniere**	71.12	41	*e*P		P	00 10 58.9	+0.3			
	comp=Z,83nm,1.5s										
FLN				*e*R							
	comp=Z,86nm,21.5s										
FLN	**La Foliniere**	71.12	41	*e*P		P	00 10 58.9	+0.3			
FLN	**La Foliniere**	71.12	41	*e*P		P	00 10 58.9	+0.3			
LDF	**La Druitiere**	71.41	41	*e*P		P	00 11 00.2	-0.2			
	comp=Z,137nm,1.8s										
LDF	**La Druitiere**	71.41	41	*e*P		P	00 11 00.2	-0.2			
LDF	**La Druitiere**	71.41	41	*e*P		P	00 11 00.2	-0.2			
JOF	**Joensuu**	71.44	17	*e*P		P	00 10 59.1	-1.2			
JOF				pmax	pmax						
	comp=Z,2.0nm,0.5s										
JOF	**Joensuu**	71.44	17	*e*p		P	00 10 59.1	-1.2			
	comp=Z,1.6nm,0.5s										
FIA0	**FINESS Array S**	71.46	20	*e*P		P	00 11 00.0	-0.4			
FIA0	**FINESS Array S**	71.46	20	*e*P		P	00 10 60.0	-0.4			
FINES	**FINESS Array B**	71.46	20	P		P	00 10 60.0	-0.4			
	comp=Z,6.5nm,1.1s,baz=310,slow=5.2,SNR=17										
FINES				LR		LR	00 41 23.9				
	comp=Z,52nm,19.4s,baz=347,slow=35										
ASAJ	**Asahikawa**	72.10	313	P		P	00 11 05.0	+0.5			
	comp=Z,7.8nm,0.8s,baz=33,slow=9.3,SNR=3.6										
ASAJ				LR		LR	00 45 20.4				
	comp=Z,36nm,18.0s,baz=126,slow=38										
ASAJ	**Asahikawa**	72.10	313	*e*P		P	00 11 04.0	-0.6			
	comp=Z,228nm,2.2s										
BSEG	**Bad Segeberg**	72.27	32	*e*P		P	00 11 06.1	+0.8			
	comp=Z,30nm,1.1s										
IBBN	**Ibbenburen**	72.41	34	*e*P		P	00 11 08.1	+1.8			
	comp=Z,42nm,1.2s										
BAIF

comp=Z,169nm,19.0s
HAU Haudompre 74.91 38 *e*P **P 00 11 21.3 +0.2**
HAU Haudompre 74.91 38 *e*P **P 00 11 21.3 +0.2**
CAF Calviac 75.03 43 *e*P **P 00 11 21.7 -0.1**
comp=Z,17nm,1.1s
CAF Calviac 75.03 43 *e*P **P 00 11 21.7 -0.1**
CAF Calviac 75.03 43 *e*P **P 00 11 21.7 -0.1**
CDF Champ du Feu 75.04 37 *e*P **P 00 11 22.3 +0.4**
comp=Z,16nm,1.1s
CDF Champ du Feu 75.04 37 *e*P **P 00 11 22.3 +0.4**
CDF Champ du Feu 75.04 37 *e*P **P 00 11 22.3 +0.4**
PAB San Pablo 75.25 50 *e*P **P 00 11 22.9 -0.3**
PAB pmax pmax
comp=Z,43nm,1.5s
PAB San Pablo 75.25 50 *e*P **P 00 11 22.9 -0.3**
comp=Z,43nm,1.5s
MOX Moxa 75.26 34 *e*P **P 00 11 23.7 +0.6**
comp=Z,14nm,1.3s
PRGR Permogore 75.27 11 *e*P P 00 11 27.1 +4.3
PRGR pmax pmax
comp=Z,7.0nm,0.9s
HINF Hinteralfeld 75.28 38 *e*P **P 00 11 23.5 +0.3**
comp=Z,26nm,1.1s
HINF Hinteralfeld 75.28 38 *e*P **P 00 11 23.5 +0.3**
HINF Hinteralfeld 75.28 38 *e*P **P 00 11 23.5 +0.3**
CLL Collm 75.32 33 *e*P **P 00 11 23.4 0.0**
comp=Z,12nm,1.2s
CLL Collm 75.32 33 *e*P **P 00 11 23.2 -0.2**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 75.32 33 *i*P **P 00 11 23.5 +0.1**
CLL LmH 00 41 00.0
comp=N,100nm,20.3s
CLL LmH 00 41 00.0
comp=E,100nm,21.5s
CLL Collm 75.32 33 *e*P **P 00 11 23.2 -0.2**
comp=E,8.3nm,0.9s
ESDC Sonseca Array 75.38 50 P **P 00 11 23.8 -0.2**
comp=E,3.8nm,0.8s,baz=308,slow=5.6,SNR=18
ESDC LR LR 00 41 08.9
comp=E,57nm,19.6s,baz=260,slow=33
BFO Black Forest 75.58 37 *e*P **P 00 11 25.4 +0.5**
comp=Z,11nm,1.2s
BFO Black Forest 75.58 37 *e*P **P 00 11 25.7 +0.8**
BFO pmax pmax
comp=Z,10.0nm,1.1s
BFO Black Forest 75.58 37 *e*P **P 00 11 25.7 +0.8**
comp=Z,9.5nm,1.1s
TANN Tannenbergstha 75.79 33 *e*P **P 00 11 26.8 +0.7**
comp=Z,9.0nm,1.1s
CABF La Chapelle 75.80 39 *e*P **P 00 11 26.9 +0.6**
comp=Z,26nm,1.0s
CABF La Chapelle 75.80 39 *e*P **P 00 11 26.9 +0.6**
CABF La Chapelle 75.80 39 *e*P **P 00 11 26.9 +0.6**
GRF Grafenberg Arr 75.82 35 *e*P **P 00 11 27.4 +1.1**
comp=Z,20nm,1.3s
BRG Berggiesshubel 76.04 32 *e*P **P 00 11 28.7 +1.3**
comp=Z,7.3nm,1.3s
BRG Berggiesshubel 76.04 32 *e*P **P 00 11 28.2 +0.7**
comp=Z,7.0nm,1.3s
BRG Berggiesshubel 76.04 32 *e*P **P 00 11 28.7 +1.3**
BRG pmax pmax
comp=Z,7.0nm,1.3s
ROTZ Rotzenmuhle 76.18 34 *e*P **P 00 11 29.9 +1.6**
comp=Z,14nm,1.3s
MTLF Montolieu 76.22 44 *e*P **P 00 11 28.8 +0.1**
comp=Z,18nm,1.3s
MTLF Montolieu 76.22 44 *e*P **P 00 11 28.8 +0.1**
MTLF Montolieu 76.22 44 *e*P **P 00 11 28.8 +0.1**
VIVF Saint-Julien-l 76.38 41 *e*P **P 00 11 29.7 +0.1**
comp=Z,34nm,1.4s
VIVF Saint-Julien-l 76.38 41 *e*P **P 00 11 29.7 +0.1**
VIVF Saint-Julien-l 76.38 41 *e*P **P 00 11 29.7 +0.1**
LASF Ste Croix 76.54 42 *e*P **P 00 11 30.7 +0.2**
comp=Z,15nm,1.1s
LASF Ste Croix 76.54 42 *e*P **P 00 11 30.7 +0.2**
PVCC Panska Ves 76.56 32 *e*P **P 00 11 31.6 +1.2**
PVCC Panska Ves 76.56 32 *e*P **P 00 11 31.6 +1.2**
PRA Prague 76.86 33 *e*P **P 00 11 34.8 +2.7**
PRA Prague 76.86 33 *e*P **P 00 11 34.8 +2.7**
LPL La Plagne 76.91 40 *e*P **P 00 11 33.6 +0.8**
comp=Z,26nm,1.3s
LPL La Plagne 76.91 40 *e*P **P 00 11 33.6 +0.8**
LPL La Plagne 76.91 40 *e*P **P 00 11 33.6 +0.8**
LPG La Plagne 76.93 40 *e*P **P 00 11 33.8 +0.8**
comp=Z,37nm,1.5s
LPG La Plagne 76.93 40 *e*P **P 00 11 33.8 +0.8**
LPG La Plagne 76.93 40 *e*P **P 00 11 33.8 +0.8**
ORIF Oris-en-Rattie 76.93 41 *e*P **P 00 11 33.0 +0.2**
comp=Z,18nm,1.3s
ORIF *e*R
comp=Z,88nm,21.2s
ORIF Oris-en-Rattie 76.93 41 *e*P **P 00 11 33.0 +0.2**
ORIF Oris-en-Rattie 76.93 41 *e*P **P 00 11 33.0 +0.2**
WET Wettzell 76.94 34 *e*P **P 00 11 33.0 +0.4**
comp=Z,12nm,1.6s
PRU Pruhonice 76.97 33 *e*P **P 00 11 33.4 +0.7**
PRU Pruhonice 76.97 33 *e*P **P 00 11 33.4 +0.7**
PRU *ex* x 00 11 54.7
FUR Furstenfeldbru 77.00 36 *e*P **P 00 11 34.3 +1.3**
comp=Z,15nm,1.2s
UPC Upice 77.14 32 *e*P **P 00 11 35.4 +1.7**
UPC Upice 77.14 32 *e*P **P 00 11 35.4 +1.7**
BNI Bardonecchia 77.22 40 *e*P **P 00 11 33.7 -0.7**
BNI pmax pmax
comp=Z,17nm,1.5s
BNI Bardonecchia 77.22 40 *e*P **P 00 11 33.7 -0.7**
comp=Z,17nm,1.5s
KHC Kasperske Hory 77.24 34 *e*P **P 00 11 35.0 +0.6**
KHC MLR MLR
comp=Z,200nm,22.3s
KHC Kasperske Hory 77.24 34 *e*P **P 00 11 35.0 +0.6**
KHC AMS AMS 00 44 30.0
comp=Z,200nm,22.3s
KHC Kasperske Hory 77.24 34 *e*P **P 00 11 34.3 -0.1**
comp=Z,7.6nm,1.2s
DPC Dobruska-Polom 77.39 31 *e*P **P 00 11 36.1 +0.9**
DPC Dobruska-Polom 77.39 31 *e*P **P 00 11 36.1 +0.9**
DPC Dobruska-Polom 77.39 31 *e*P **P 00 11 34.7 -0.5**
comp=Z,53nm,1.1s
SMRF Simiane la Rot 77.47 41 *e*P **P 00 11 36.4 +0.7**
comp=Z,47nm,1.7s
SMRF Simiane la Rot 77.47 41 *e*P **P 00 11 36.4 +0.7**
MBDF Montbardon 77.50 40 *e*P **P 00 11 36.7 +0.7**
comp=Z,19nm,1.0s
MBDF Montbardon 77.50 40 *e*P **P 00 11 36.7 +0.7**
MBDF Montbardon 77.50 40 *e*P **P 00 11 36.7 +0.7**
GEC2 GERESS Array S 77.51 34 *e*P **P 00 11 36.1 +0.1**
comp=Z,7.0nm,1.2s
GEC2 GERESS Array S 77.51 34 *e*P **P 00 11 36.0 0.0**
GEC2 GERESS Array S 77.51 34 *e*P **P 00 11 36.0 0.0**
GERES GERESS Array B 77.51 34 P **P 00 11 36.0 0.0**
comp=Z,1.8nm,0.8s,baz=319,slow=4.0,SNR=14
GERES LR LR 00 45 58.4
comp=Z,107nm,18.5s,baz=312,slow=36
USRK Ussuriysk Ar. 77.54 319 P **P 00 11 35.6 -0.4**
comp=Z,6.4nm,0.9s,baz=49,slow=4.4,SNR=8.9
MOTA Moosalm 77.55 36 *i*P *s*P **P 00 11 37.5 +1.2**
comp=Z,8.1nm,0.9s
FETA Feichten 77.63 37 *i*P *p*P **P 00 11 36.6 -0.2**
comp=Z,6.0nm,1.1s
WTTA Wattenberg 77.85 36 *i*P *s*P **P 00 11 39.2 +1.2**
comp=Z,9.3nm,1.0s
TREC Trest 77.89 33 AMS AMS 00 47 50.0
comp=Z,100nm,17.6s
RJOB Jochberg 77.99 35 *e*P **P 00 11 38.5 -0.1**
comp=Z,5.0nm,1.0s
FRF La Foret Royal 78.30 41 *e*P **P 00 11 40.3 0.0**
comp=Z,13nm,1.2s
FRF La Foret Royal 78.30 41 *e*P **P 00 11 40.3 0.0**
FRF La Foret Royal 78.30 41 *e*P **P 00 11 40.3 0.0**
MORC Moravsky Berou 78.32 31 *e*P **P 00 11 40.0 -0.4**
MORC pmax pmax
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 78.32 31 *e*P **P 00 11 40.0 -0.4**
comp=Z,6.7nm,1.2s
VLA Vladivostok 78.38 318 *i*P **P 00 11 40.5 -0.2**
VLA *e* 00 11 49.1
VLA *e* 00 14 36.7
VLA S **S 00 21 36.0 0.0**
VLA pmax pmax
comp=Z,15nm,0.8s
LMR La Mourre 78.40 41 *e*P **P 00 11 40.9 +0.1**
comp=Z,26nm,1.6s
LMR La Mourre 78.40 41 *e*P **P 00 11 40.9 +0.1**
LMR La Mourre 78.40 41 *e*P **P 00 11 40.9 +0.1**
SBF Sospel 78.46 40 *e*P **P 00 11 41.0 -0.3**
SBF Sospel 78.46 40 *e*P **P 00 11 41.0 -0.3**
SBF Sospel 78.46 40 *e*P **P 00 11 41.0 -0.3**
OKC Ostrava-Krasne 78.51 31 *e*P **P 00 11 43.3 +2.0**
OKC Ostrava-Krasne 78.51 31 *e*P **P 00 11 43.3 +2.0**
ABTA Abfaltersbach 78.63 36 *i*P *s*P **P 00 11 43.9 +1.7**
comp=Z,7.5nm,1.2s
KBA Koelnbreinsper 78.73 35 *i*P *s*P **P 00 11 44.6 +1.7**
comp=Z,9.1nm,1.0s
HIA Hailar 79.03 329 *e*P **P 00 11 44.2 0.0**
HIA pmax pmax
comp=Z,11nm,1.3s
ARSA Arzberg 79.52 34 *i*P *s*P **P 00 11 47.8 +0.9**
comp=Z,7.2nm,1.1s
MDT Midelt 79.64 55 P **P 00 11 47.6 -0.4**
comp=Z,13nm,1.3s,baz=301,slow=5.9,SNR=4.6
OBN Obninsk 79.66 18 *i*P **P 00 11 47.3 -0.2**
OBN *i* 00 11 58.6
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,69nm,21.0s
OBKA Obir 79.70 35 *j*P *p*P **P 00 11 47.8 -0.2**
comp=Z,13nm,0.9s
MAJO Matsushiro 79.70 310 *e*P **P 00 11 48.2 +0.1**
MAJO pmax pmax
comp=Z,51nm,1.7s
MAJO Matsushiro 79.70 310 *e*P **P 00 11 48.2 +0.1**
comp=Z,51nm,1.7s
MJAR Matsushiro Arr 79.70 310 P **P 00 11 48.2 +0.1**
comp=Z,1.3nm,0.5s,baz=46,slow=4.3,SNR=4.0
MJAR LR LR 00 47 18.0
comp=Z,20nm,20.1s,baz=210,slow=36
SOKA Soboth 79.77 34 *i*P *s*P **P 00 11 48.7 +0.3**
comp=Z,14nm,1.1s
PGF Pioggiola 80.20 41 *e*P **P 00 11 50.6 -0.3**
comp=Z,15nm,1.0s
PGF Pioggiola 80.20 41 *e*P **P 00 11 50.6 -0.3**
PGF Pioggiola 80.20 41 *e*P **P 00 11 50.6 -0.3**
KWP Kalwaria Pacla 80.37 28 *j*P **P 00 11 51.0 -0.5**
KRAR Krasnoyarsk 80.57 347 *e*P **P 00 11 53.9 +1.5**
KRAR pmax pmax
comp=Z,17nm,0.6s
PSZ Piszkesteto 80.74 31 *e*P **P 00 11 53.2 -0.4**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 80.74 31 *i*P **P 00 11 51.6 -2.0**
PSZ Piszkesteto 80.74 31 *e*P **P 00 11 53.2 -0.4**
comp=Z,7.7nm,1.0s
UZH Uzhgorod 81.05 29 *e*P **P 00 11 55.0 -0.1**
UZH *e* 00 11 57.8
BDFB Brasilia 81.36 120 LR LR 00 50 41.4
comp=Z,79nm,21.0s,baz=310,slow=38
AKASG Malin Array Be 81.62 24 P **P 00 11 57.1 -1.0**
comp=Z,6.0nm,0.8s,baz=327,slow=4.9,SNR=18
AKASG LR LR 00 47 39.4
comp=Z,57nm,19.7s,baz=340,slow=35
AKBB Malin Array Si 81.62 24 *e*P **P 00 11 57.1 -1.0**
AKBB Malin Array Si 81.62 24 *e*P **P 00 11 57.1 -1.0**
KIEV Kiev 81.62 24 *e*P **P 00 11 57.6 -0.5**
KIEV pmax pmax
comp=Z,14nm,1.1s
KIEV Kiev 81.62 24 *e*P **P 00 11 57.6 -0.5**
comp=Z,14nm,1.1s
PKSM Moragy 81.64 33 *j*P **P 00 11 59.9 +1.6**
ARU Arti 81.83 6*c i*P **P 00 11 58.8 -0.4**
ARU 00 15 01.6
ARU S **S 00 22 13.1 +1.3**
ARU SS **SS 00 27 26.6 -1.7**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU Arti 81.83 6 *e*P **P 00 11 58.7 -0.4**
comp=Z,5.5nm,1.0s
TLY Talaya 82.23 339 *e*P **P 00 12 02.5 +1.1**
TLY pmax pmax
comp=Z,19nm,1.2s
TLY Talaya 82.23 339 P **P 00 12 02.6 +1.2**
comp=Z,6.8nm,0.8s,baz=51,slow=6.5,SNR=11
TLY Talaya 82.23 339 *e*P **P 00 12 01.5 +0.2**
comp=Z,17nm,1.1s
BMR Baia Mare 82.30 29 *j*P **P 00 12 04.5 +2.8**
DRGR 82.75 30 *j*P **P 00 12 04.5 +0.3**
CFAA Coronel Fontan 82.91 144 P **P 00 12 04.1 -0.9**
comp=Z,0.9nm,1.1s,baz=322,slow=4.4,SNR=7.5
BURAR Bucovina Arr 82.96 28 *j*P **P 00 12 06.9 +1.5**
BZS Buzias 83.31 31 *j*P **P 00 12 07.5 +0.5**
ZAK Zakamensk 83.51 339 *e*P **P 00 12 08.2 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ZAA1 Zalesovo Array 83.75 351 *e*P **P 00 12 08.6 -0.5**
ZALV Zalesovo Beam 83.75 351 P **P 00 12 08.6 -0.5**
comp=Z,0.6nm,0.4s,baz=12,slow=4.9,SNR=6.0
ZALV LR LR 00 52 52.5
comp=Z,28nm,19.5s,baz=64,slow=38
GZR Gura Zlata 83.94 31 *j*P **P 00 12 12.5 +2.1**
TESR Tescani 84.41 28 *j*P **P 00 12 15.2 +2.5**
DOPR Dopca 84.43 29 *j*P **P 00 12 14.4 +1.6**
KSRS Korea Array 84.62 317 P **P 00 12 14.8 +0.9**
comp=Z,2.2nm,0.8s,baz=45,slow=5.6,SNR=7.5
KSRS LR LR 00 51 14.7
comp=Z,30nm,18.4s,baz=32,slow=37
KS15 Wonju Array Si 84.65 317 *e*P **P 00 12 14.8 +0.8**
ULN Ulaanbaatar 84.66 335*c i*P **P 00 12 14.6 +0.5**
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN Ulaanbaatar 84.66 335 *e*P **P 00 12 14.2 0.0**
comp=Z,9.3nm,1.3s
ARR Arges 84.67 30 *j*P **P 00 12 16.1 +2.0**
VOIR 84.76 29 *i*P **P 00 12 15.9 +1.3**
SONA0 Songino Array 84.89 336 *e*P **P 00 12 15.5 +0.2**
SONM Songino Array 84.89 336 P **P 00 12 15.5 +0.2**
comp=Z,5.4nm,0.9s,baz=29,slow=3.6,SNR=27
SONM LR LR 00 53 45.6
comp=Z,93nm,18.3s,baz=17,slow=38
PLOR Plostina 84.98 28 *j*P P 00 12 06.6 -9.0
MLR Muntele Rosu 85.04 29 *i*P **P 00 12 18.0 +2.0**
HVS Khovu-Aksy 85.06 345 *e*P **P 00 12 16.9 +0.9**
KEST Kesra 85.54 45 *e*P **P 00 12 18.1 -0.5**
CFR Carcaliu 86.09 28 *j*P **P 00 12 21.1 +0.1**
VTS Vitosha 86.47 32 *i*P **P 00 12 24.5 +1.3**
PSN Preselentsi 87.41 28 *i*P P 00 12 22.4 -5.1
ABKAR Akbulak array 89.06 6 *e*P **P 00 12 34.3 -1.0**
HHC Hu-ho-hao-te 89.23 329 *e*P **P 00 12 34.3 -2.1**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,85nm,4.2s
HHC Hu-ho-hao-te 89.23 329 *e*P **P 00 12 34.3 -2.1**
HHC PMZ
comp=Z,13nm,0.9s
HHC PMZ
comp=Z,85nm,4.2s
PLCA Paso Flores 89.87 150 *e*P **P 00 12 37.6 -1.4**
PLCA pmax pmax
comp=Z,15nm,1.3s
PLCA Paso Flores 89.87 150 P **P 00 12 37.9 -1.1**
comp=Z,8.0nm,1.2s,baz=359,slow=3.9,SNR=5.2
PLCA Paso Flores 89.87 150 *e*P **P 00 12 37.6 -1.4**
comp=Z,15nm,1.3s
MK32 Makanchi Array 91.09 351 *e*P **P 00 12 44.6 -0.2**
MKAR Makanchi Array 91.09 351 *e*P **P 00 12 44.0 -0.9**
MKAR Makanchi Array 91.09 351 P **P 00 12 44.6 -0.2**
comp=Z,1.5nm,0.8s,baz=0.0,slow=4.8,SNR=14
MKAR LR LR 00 56 16.4
comp=Z,36nm,20.4s,baz=324,slow=37
MKAR Makanchi Array 91.09 351 *e*P **P 00 12 44.0 -0.9**
KIV Kislovodsk 91.50 19 *i*P **P 00 12 46.6 -0.3**
KIV pmax pmax
comp=Z,4.0nm,1.4s
KBZ Khabaz 91.76 19 P **P 00 12 48.6 +0.6**
comp=Z,1.8nm,1.0s,baz=233,slow=20,SNR=3.5
NEY Neytrino 92.17 19 *e*P **P 00 12 51.1 +1.0**
NEY pmax pmax
comp=Z,1.0nm,1.4s
BRTR Keskin Array B 92.80 27 LR LR 00 56 35.6
comp=Z,34nm,18.8s,baz=36,slow=37
WMQ Urumqi 93.21 347 *e*P **P 00 12 57.5 +2.7**
WMQ pP **pP 00 13 02.0 +3.1**
WMQ sP sP 00 13 04.5 +4.2
WMQ PP PP 00 16 44.0 +6.8
WMQ Urumqi 93.21 347 SKS **SKSac 00 23 29.5 +0.7**
WMQ Urumqi 93.21 347 *e*S **S 00 23 59.0 -2.6**
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ PMZ
comp=Z,120nm,5.2s
WMQ LR LR
comp=N,230nm,27.0s
WMQ LR LR
comp=E,190nm,27.4s
WMQ LR LR
comp=Z,180nm,28.6s
WMQ Urumqi 93.21 347 *e*P **P 00 12 57.5 +2.7**
WMQ pP **pP 00 13 02.0 +3.1**
WMQ sP sP 00 13 04.5 +4.2
WMQ PP PP 00 16 44.0 +6.8
WMQ SKS **SKSac 00 23 29.5 +0.7**
WMQ *e*S **S 00 23 59.0 -2.6**
WMQ PMZ
comp=Z,8.0nm,0.6s
WMQ PMZ
comp=Z,120nm,5.2s
WMQ LN
comp=Z,230nm,27.0s
WMQ LE
comp=Z,190nm,27.4s
WMQ LZ
comp=Z,180nm,28.6s
GTA Gaotai 94.54 337 *e*P **P 00 13 02.1 +1.1**
GTA pP **pP 00 13 06.9 +1.8**
GTA sP **sP 00 13 09.3 +2.7**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai 94.54 337 *e*P **P 00 13 02.1 +1.1**
GTA pP **pP 00 13 06.9 +1.8**
GTA sP **sP 00 13 09.3 +2.7**
GTA PMZ
comp=Z,5.0nm,1.1s
GNI Garni 95.59 18 *e*P **P 00 13 07.0 +1.1**
GNI pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 95.89 356 *e*P **P 00 13 07.8 +0.6**
AAK pmax pmax
comp=Z,3.0nm,1.2s
LZH Lanzhou 96.26 332 *e*P **P 00 13 07.8 -1.2**
LZH pP **pP 00 13 12.6 -0.5**
LZH sP **sP 00 13 17.5 +2.9**
LZH pmax pmax
comp=Z,11nm,1.0s
LZH Lanzhou 96.26 332 *e*P **P 00 13 07.8 -1.2**
LZH pP **pP 00 13 12.6 -0.5**
LZH sP **sP 00 13 17.5 +2.9**
LZH PMZ
comp=Z,11nm,1.0s
DBIC Dimbokro 97.47 74 LR LR 00 55 49.3
comp=Z,200nm,18.9s,baz=294,slow=35
TOA0 Torodi Ar. Sit 97.55 65 *e*P **P 00 13 13.8 -1.2**
TORD Torodi Ar. Bea 97.55 65 P **P 00 13 13.7 -1.2**
comp=Z,1.7nm,1.1s,baz=297,slow=6.0,SNR=4.2
TORD LR LR 00 56 08.4
comp=Z,58nm,20.3s,baz=200,slow=35
KSH Kashi 98.90 355 *e*P Pdif 00 13 22.6 +1.8
KSH PP PP 00 17 26.6 +5.4
KSH Kashi 98.90 355 SKS **SKSac 00 24 00.9 +1.9**
KSH Kashi 98.90 355 SS SS 00 31 42.0 +6.3
KSH pmax pmax
comp=Z,91nm,4.3s
KSH LR LR
comp=N,65nm,5.6s
KSH LR LR
comp=E,75nm,6.0s
KSH LR LR
comp=Z,120nm,6.6s
KSH Kashi 98.90 355 *e*P Pdif 00 13 22.6 +1.8
KSH PP PP 00 17 26.6 +5.4
KSH SKS **SKSac 00 24 00.9 +1.9**
KSH S **S 00 24 51.1 +0.1**
KSH SS **SS 00 31 42.0 +6.4**
KSH LN
comp=Z,65nm,5.6s
KSH LE
comp=Z,75nm,6.0s
KSH LZ
comp=Z,120nm,6.6s
CD2 Chengdu 100.95 330 *e*P **Pdif 00 13 29.8 -0.2**
CD2 pP pP 00 13 34.6 +0.4
CD2 PP **PP 00 17 39.8 +2.7**
CD2 Chengdu 100.95 330 SS SS 00 32 03.9 -0.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.6s
CD2 Chengdu 100.95 330 *e*P **Pdif 00 13 29.8 -0.2**
CD2 pP pP 00 13 34.6 +0.4
CD2 PP **PP 00 17 39.8 +2.7**
CD2 S **Sdif 00 25 03.3 -5.0**
CD2 sS **sS 00 25 10.8 -4.4**
CD2 SS **SS 00 32 03.9 -0.8**
WRA Warramunga Arr 121.26 270 PKP **PKPdf 00 18 32.2 -1.4**
comp=Z,1.8nm,0.8s,baz=38,slow=1.9,SNR=8.4
AS12 Alice Springs 123.78 267 *e*PKPdf **PKPdf 00 18 36.5 -1.9**
ASAR Alice Springs 123.78 267 PKP **PKPdf 00 18 36.5 -1.9**
comp=Z,1.4nm,0.8s,baz=52,slow=2.1,SNR=10
VNDA Vanda 129.72 196 PKP **PKPdf 00 18 48.1 0.0**
comp=Z,1.8nm,0.9s,baz=90,slow=2.0,SNR=7.0
SYO Syowa Base 148.58 160 *j*P **PKPdf 00 19 24.0 +1.7**

IDC ***16*** *00:02:56.7±8.2, 31°.11S×180°.00W, h428km±95km, mb3.0/2, mb1 3.5/3, mb1mx3.1/18, mbtmp4.2/3, Error ellipse: s-maj=95.3km s-min=37.7km az=10.0*
ISCJB ***16*** *00:02:57.6±1.3, 31°.055±0°.07×179°.3E±0°.2, h400km, mb3.3/2, Error ellipse: s-maj=28.7km s-min=9.5km az=175.9*
ISC 16 00:02:57.4±1.8, 31°.1S±0°.1×179°.5E±0°.3, h400km, n24,
σ1s50/32, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.54**	**189**	PN		**P**		**00 04 36.9**	**+0.6**
MXZ				SN		**S**		**00 05 55.0**	**-1.0**
WMGZ	**Waiomatatini S**	**6.78**	**188**	PN		**P**		**00 04 41.6**	**+2.6**
HAZ	**Te Kaha**	**6.81**	**192**	PN		**P**		**00 04 39.7**	**+0.4**
HAZ				*e*SN		**S**		**00 06 00.2**	**-1.4**
PUZ	**Puketiti**	**7.05**	**188**	PN		**P**		**00 04 42.4**	**+0.4**
TWGZ	**Tauwhareparae**	**7.19**	**190**	PN		**P**		**00 04 44.2**	**+0.6**
MWZ	**Matawai**	**7.42**	**192**	PN		**P**		**00 04 47.2**	**+1.0**
MWZ				SN		**S**		**00 06 15.3**	**+1.1**
URZ	**Urewera**	**7.43**	**195**	P		**P**		**00 04 47.6**	**+1.3**
URZ	6.3nm,0.3s,baz=269,slow=3.9,SNR=133			S		**S**		**00 06 15.3**	**+1.0**
URZ	14nm,0.3s,baz=265,slow=3.6,SNR=16 **Urewera**	**7.43**	**195**	PN		**P**		**00 04 46.6**	**+0.4**
URZ				*e*SN		**S**		**00 06 14.2**	**-0.1**
CNGZ	**Carnagh Statio**	**7.46**	**188**	PN		**P**		**00 04 47.6**	**+1.0**
RIGZ	**Rimuhau**	**7.74**	**190**	PN		**Pn**		**00 04 49.2**	**-0.1**
SNGZ	**Shannon Statio**	**7.88**	**193**	PN		**P**		**00 04 54.3**	**+2.9**
RAHZ	**Arahi**	**8.06**	**194**	PN		**P**		**00 04 55.0**	**+1.7**
BKZ	**Black Stump Fm**	**8.44**	**196**	*e*PN		**Pn**		**00 04 57.1**	**-0.1**
WNVZ	**Wahianoa**	**8.83**	**200**	*e*PN		**P**		**00 05 02.7**	**+0.7**
KRHZ	**Kereru**	**8.92**	**196**	PN		**P**		**00 05 03.9**	**+1.1**
MTVZ	**Mangateitei**	**8.92**	**201**	PN		**P**		**00 05 05.2**	**+2.3**
PXZ	**Pawanui**	**9.19**	**193**	PN		**Pn**		**00 05 06.2**	**+0.4**
PXZ				*e*SN		**S**		**00 06 49.2**	**-2.1**
PRWZ	**Pori Road**	**9.88**	**196**	PN		**Pn**		**00 05 14.3**	**+0.4**
BFZ	**Birch Farm**	**9.94**	**195**	PN		**Pn**		**00 05 15.3**	**+0.8**
BFZ				*e*SN		**S**		**00 07 04.8**	**-2.0**
MRZ	**Mangatainoka R**	**10.08**	**197**	PN		**P**		**00 05 15.4**	**-0.2**
MRZ				*e*SN		**S**		**00 07 06.8**	**-2.8**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=101,slow=6.5,SNR=5.6	**40.96**	**269**	P		**P**		**00 10 03.8**	**+0.5**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=112,slow=8.0,SNR=3.4	**42.01**	**274**	P		**P**		**00 10 11.9**	**+0.1**
FINES	**FINESS Array B** 0.8nm,0.4s,baz=67,slow=3.6,SNR=18	**145.02**	**338**	PKPbc		**PKPdf**		**00 21 43.5**	**-3.4**
HFS	**Hagfors** 2.8nm,0.9s,baz=98,slow=5.0,SNR=3.0	**149.45**	**346**	PKPbc		**PKPdf**		**00 21 55.2**	**+0.8**

LDG ***16*** *00:04:18.6, 15°.69N×62°.21W, h100km*
ISCJB ***16*** *00:04:26.4±0.2, 15°.33N±0°.02×61°.32W±0°.03, h149km±1km, mb4.1/34, Error ellipse: s-maj=4.8km s-min=2.6km az=153.9*
IDC ***16*** *00:04:26.6±0.6, 15°.37N×61°.38W, h135km±3km, mb3.7/16, mb1 3.9/17, mb1mx3.7/44, mbtmp4.2/17, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=15.8km*

s-min=6.4km az=81.0
*NEIC **16** 00:04:26.4±0.8, 15°.45N×61°.13W, h149km±11km, mb4.4/2, MD4.0(TRN), Error ellipse: s-maj=16.6km s-min=4.1km az=62.0*
*TRN **16** 00:04:26.5, 15°.36N×61°.26W, h143km, MD4.0, M3.7(FDF)*

ISC 16 00:04:27.3±0.6, 15°.36N±0°.03×61°.30W±0.05, h144km±4km, n139, σ1§16/166, mb4.2/34, 18C-11D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.06**	**118**	*eP*	**Pn**	**00 04 45.9**	**-0.8**
DLPL	**La Plaine**	**0.06**	**118**	*eP*	**Pn**	**00 04 46.2**	**-0.6**
DLPL				*eS*	**Sn**	**00 05 01.3**	**0.0**
DLPL				*eS*	**Sn**	**00 05 01.5**	**+0.2**
BBL	**Barber's Block**	**0.23**	**316**	⇓*eP*	**Pn**	**00 04 47.4**	**+0.4**
SVN	**Savane Anatole**	**0.53**	**166**	⇓*eP*	**Pn**	**00 04 48.6**	**+0.3**
MGG	**Marie-Galante**	**0.55**	**359**	*eP*	**Pn**	**00 04 48.4**	**+0.1**
TBG	**Guadaloupe-3**	**0.59**	**326**	⇓*eP*	**Pn**	**00 04 48.9**	**+0.4**
FDF	**Fort de France**	**0.64**	**167**	⇓*iP*	**Pn**	**00 04 48.9**	**0.0**
FDF	**Fort de France**	**0.64**	**167**	⇓*eP*	**Pn**	**00 04 49.3**	**+0.4**
FDF				*eS*	**Sn**	**00 05 04.9**	**-0.4**
FDF				*eS*	**Sn**	**00 05 05.5**	**+0.2**
BVM	**Bellevue**	**0.67**	**159**	⇓*eP*	**Pn**	**00 04 49.2**	**+0.1**
HMG	**Houelmont**	**0.72**	**328**	⇑*iP*	**Pn**	**00 04 50.1**	**+0.7**
PHG	**Guadaloupe-2**	**0.73**	**333**	⇑*iP*	**Pn**	**00 04 50.0**	**+0.5**
DOG	**Dongo Capester**	**0.73**	**336**	⇑*iP*	**Pn**	**00 04 49.9**	**+0.4**
ECG	**Echelle**	**0.76**	**334**	⇑*iP*	**Pn**	**00 04 50.1**	**+0.4**
SCG	**Saint Claude**	**0.76**	**331**	⇑*iP*	**Pn**	**00 04 50.3**	**+0.6**
LKG	**Breislack**	**0.76**	**333**	⇑*iP*	**Pn**	**00 04 50.1**	**+0.3**
LKG				*eS*	**Sn**	**00 05 06.8**	**-0.1**
TAG	**Tarade**	**0.76**	**333**	⇑*iP*	**Pn**	**00 04 50.4**	**+0.6**
CRG	**Carmichael**	**0.77**	**334**	⇑*iP*	**Pn**	**00 04 50.2**	**+0.4**
BCG	**Bois Riant Cap**	**0.78**	**337**	*eP*	**Pn**	**00 04 50.3**	**+0.5**
FNG	**Fond-Bernard**	**0.79**	**332**	*eP*	**Pn**	**00 04 50.6**	**+0.7**
MLG	**Mont-d'or**	**0.80**	**331**	⇑*iP*	**Pn**	**00 04 50.7**	**+0.8**
MLG				*eS*	**Sn**	**00 05 07.9**	**+0.6**
SSG	**Sans Toucher**	**0.81**	**334**	⇑*iP*	**Pn**	**00 04 50.5**	**+0.3**
ZAM	**Aeronautique**	**0.83**	**161**	*eP*	**Pn**	**00 04 49.9**	**-0.2**
LPMF	**Morne Lapointe**	**0.85**	**157**	⇓*eP*	**Pn**	**00 04 49.8**	**-0.5**
TRMF	**Trois Ilets**	**0.86**	**163**	*eP*	**Pn**	**00 04 50.5**	**+0.1**
BIM	**Bigot**	**0.87**	**165**	⇓*eP*	**Pn**	**00 04 50.9**	**+0.3**
BIM				*eS*	**Sn**	**00 05 08.4**	**+0.3**
MVM	**Montagne Vaucl**	**0.90**	**154**	*eP*	**Pn**	**00 04 50.6**	**-0.2**
LZG	**Guadaloupe-1**	**0.90**	**330**	⇑*iP*	**Pn**	**00 04 51.3**	**+0.6**
DEG	**La Desirade**	**0.97**	**14**	*eP*	**Pn**	**00 04 51.2**	**-0.2**
H05N1	**Guadeloupe/Mar**	**0.98**	**14**	P	**Pn**	**00 04 51.0**	**-0.4**
H05N1				S	**Sn**	**00 05 08.0**	**-1.8**
H05S1	**Guadeloupe/Mar**	**1.04**	**154**	P	**Pn**	**00 04 51.5**	**-0.4**
H05S1				S	**Sn**	**00 05 09.2**	**-1.3**
SEG	**Port Louis**	**1.05**	**349**	⇑*iP*	**Pn**	**00 04 52.3**	**+0.3**
SLW	**Petit Monier**	**1.38**	**165**	*eP*	**Pn**	**00 04 55.1**	**-0.2**
MCLT	**Moule a Chique**	**1.68**	**168**	*eP*	**Pn**	**00 04 57.9**	**-0.5**
MCLT	**Moule a Chique**	**1.68**	**168**	⇑*iP*	**Pn**	**00 04 58.0**	**-0.5**
MCLT				*eS*	**Sn**	**00 05 20.7**	**-1.5**
MCLT				*eS*	**Sn**	**00 05 20.8**	**-1.5**
MCLT	**Moule a Chique**	**1.68**	**168**	*eP*	**Pn**	**00 04 57.9**	**-0.5**
MCLT				*eS*	**Sn**	**00 05 20.8**	**-1.5**
BPA	**Boggy Peak**	**1.76**	**342**	⇓*eP*	**Pn**	**00 05 00.4**	**+1.1**
BPA				*eS*	**Sn**	**00 05 24.0**	**+0.2**
SVB	**Belmont**	**2.08**	**179**	⇑*iP*	**Pn**	**00 05 03.0**	**0.0**
SVB	**Belmont**	**2.08**	**179**	*eP*	**Pn**	**00 05 03.1**	**0.0**
SVB				*eS*	**Sn**	**00 05 29.9**	**-0.6**
SVB	**Belmont**	**2.08**	**179**	*eP*	**Pn**	**00 05 03.1**	**0.0**
SVB				*eS*	**Sn**	**00 05 29.9**	**-0.6**
ANWB	**Willy Bob**	**2.34**	**349**	⇑*iP*	**Pn**	**00 05 05.2**	**-1.0**
ANWB	**Willy Bob**	**2.34**	**349**	*ePn*	**Pn**	**00 05 05.1**	**-1.0**
ANWB				*eSn*	**Sn**	**00 05 31.6**	**-4.5**
SEUS	**St. Eustatius**	**2.66**	**323**	*ePn*	**Pn**	**00 05 10.6**	**+0.4**
BBGH	**Gun Hill**	**2.78**	**142**	⇑*eP*	**Pn**	**00 05 12.0**	**+0.3**
BBGH	**Gun Hill**	**2.78**	**142**	*ePn*	**Pn**	**00 05 12.0**	**+0.3**
BBGH				*eSn*	**Sn**	**00 05 48.6**	**+2.7**
SABA	**Saba**	**2.92**	**321**	⇑*iP*	**Pn**	**00 05 14.0**	**+0.6**
SABA	**Saba**	**2.92**	**321**	*ePn*	**Pn**	**00 05 13.7**	**+0.3**
SABA				*eSn*	**Sn**	**00 05 48.5**	**-0.5**
GRSS	**Sisters**	**3.06**	**186**	⇓*iP*	**Pn**	**00 05 15.7**	**+0.5**
GRSS				*eS*	**Sn**	**00 05 52.0**	**-0.4**
GRSS	**Sisters**	**3.06**	**186**	⇓*iP*	**Pn**	**00 05 15.7**	**+0.5**
GRHS	**Sauteurs**	**3.14**	**186**	*eP*	**Pn**	**00 05 16.6**	**+0.3**
GRHS				*eS*	**Sn**	**00 05 53.2**	**-0.9**
GRHS	**Sauteurs**	**3.14**	**186**	*eP*	**Pn**	**00 05 16.6**	**+0.3**
GRHS				*eS*	**Sn**	**00 05 53.2**	**-0.9**
SMRT	**St. Maarten**	**3.17**	**328**	⇑*iP*	**Pn**	**00 05 16.0**	**+0.6**
SMRT	**St. Maarten**	**3.17**	**328**	*ePn*	**Pn**	**00 05 15.7**	**-0.9**
SMRT				*eSn*	**Sn**	**00 05 50.6**	**-4.1**
GRW	**Mount Saint Ca**	**3.20**	**186**	*eP*	**Pn**	**00 05 17.8**	**+0.6**
GRW	**Mount Saint Ca**	**3.20**	**186**	*eP*	**Pn**	**00 05 17.8**	**+0.6**
GRGR	**Grenville**	**3.23**	**186**	*ePn*	**Pn**	**00 05 17.5**	**0.0**
GRGR				*eSn*	**Sn**	**00 05 57.3**	**+1.1**
CDVI	**St. Croix**	**4.08**	**306**	*ePn*	**Pn**	**00 05 28.9**	**+0.4**
TOSP	**Speyside**	**4.11**	**169**	*eP*	**Pn**	**00 05 28.3**	**-0.6**
TOSP	**Speyside**	**4.11**	**169**	*eP*	**Pn**	**00 05 28.3**	**-0.6**
TOSP	**Speyside**	**4.11**	**169**	*eS*	**Sn**	**00 06 15.3**	**-1.4**
BOT	**Bacolet**	**4.21**	**172**	*eP*	**Pn**	**00 05 30.4**	**+0.1**
BOT	**Bacolet**	**4.21**	**172**	*eP*	**Pn**	**00 05 30.4**	**+0.1**
TBVI	**Tortola**	**4.39**	**314**	*ePn*	**Pn**	**00 05 31.5**	**-1.0**
TBVI				*eSn*	**Sn**	**00 06 22.0**	**-1.3**
STVI	**Saint Thomas**	**4.59**	**311**	*ePn*	**Pn**	**00 05 35.8**	**+0.7**
STVI				*eSn*	**Sn**	**00 06 26.6**	**-1.3**
TCU	**Chacachacare**	**4.66**	**185**	*eS*	**Sn**	**00 06 27.1**	**-2.6**
TRN	**Trinidad (W)**	**4.69**	**181**	*eP*	**Pn**	**00 05 37.4**	**+0.8**
TRN	**Trinidad (W)**	**4.69**	**181**	*eS*	**Sn**	**00 06 27.2**	**-3.3**
TRN	**Trinidad (W)**	**4.69**	**181**	*eP*	**Pn**	**00 05 37.4**	**+0.8**
TRN				*eS*	**Sn**	**00 06 27.2**	**-3.3**
TBH	**Brigand Hill**	**4.86**	**177**	*eP*	**Pn**	**00 05 39.7**	**+0.9**
TBH	**Brigand Hill**	**4.86**	**177**	*eS*	**Sn**	**00 06 31.2**	**-3.3**
TBH	**Brigand Hill**	**4.86**	**177**	*eP*	**Pn**	**00 05 39.7**	**+0.9**
TBH				*eS*	**Sn**	**00 06 31.2**	**-3.3**
TPP	**Pointe-a-Pierr**	**5.02**	**182**	*eP*	**Pn**	**00 05 40.7**	**-0.2**
TPP	**Pointe-a-Pierr**	**5.02**	**182**	*eS*	**Sn**	**00 06 35.3**	**-3.0**
TPP	**Pointe-a-Pierr**	**5.02**	**182**	*eP*	**Pn**	**00 05 40.7**	**-0.2**
TPP				*eS*	**Sn**	**00 06 35.3**	**-3.0**
HUMP	**Col San Antoni**	**5.16**	**303**	*ePn*	**Pn**	**00 05 43.1**	**+0.4**
HUMP				*eSn*	**Sn**	**00 06 40.2**	**-1.3**
ICMP	**Isla Caja de M**	**5.60**	**297**	*ePn*	**Pn**	**00 05 48.4**	**-0.3**
CELP	**Cerrillos**	**5.73**	**299**	*ePn*	**Pn**	**00 05 50.3**	**-0.1**
OBIP	**Obispado Ponce**	**5.74**	**298**	*ePn*	**Pn**	**00 05 52.1**	**+1.6**
AOPR	**Arecibo Observ**	**6.00**	**300**	*ePn*	**Pn**	**00 05 50.0**	**-0.9**
AOPR				*eSn*	**Sn**	**00 07 04.1**	**+2.2**
LRS	**Lares**	**6.05**	**300**	*ePn*	**Pn**	**00 05 55.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**6.15**	**296**	*ePn*	**Pn**	**00 05 56.0**	**0.0**
LSP	**Las Mesas**	**6.20**	**298**	*ePn*	**Pn**	**00 05 54.3**	**-2.5**
MPR	**Mayaguez**	**6.27**	**298**	*ePn*	**Pn**	**00 05 58.4**	**+0.8**
MPR				*eSn*	**Sn**	**00 07 09.3**	**+1.2**
AGP	**Aguadilla**	**6.36**	**299**	*ePn*	**Pn**	**00 06 00.1**	**+1.3**
PCDR	**Punta Cana, DR**	**7.46**	**296**	*ePn*	**Pn**	**00 06 16.1**	**+2.5**
SMN1	**Samana, DR**	**8.51**	**298**	*ePn*	**Pn**	**00 06 26.5**	**-1.2**
SMN1				*eSn*	**Sn**	**00 08 01.0**	**-1.2**
SDDR	**Presa de Saban**	**10.20**	**292**	*ePn*	**Pn**	**00 06 50.7**	**+0.5**
SDDR				*eSn*	**Sn**	**00 08 43.2**	**+0.2**
SDV	**Santo Domingo**	**11.16**	**236**	*ePn*	Pn	00 07 06.7	+3.6
PTGA	**Pitinga**	**16.05**	**175**	P	**Pn**	**00 08 04.3**	**-0.8**
	5.6nm,0.3s,baz=360,slow=15,SNR=32						
PTGA	**Pitinga**	**16.05**	**175**	*ePn*	**Pn**	**00 08 03.5**	**-1.6**
	15nm,0.8s						
SAML	**Samuel**	**24.23**	**185**	*eP*	**P**	**00 09 30.6**	**-0.3**
	8.0nm,0.7s						
SIV	**San Ignacio**	**31.16**	**180**	P	**P**	**00 10 32.6**	**-0.2**
	6.5nm,0.6s,baz=16,slow=9.2,SNR=15						
SCHQ	**Schefferville**	**39.62**	**355**	P	**P**	**00 11 45.3**	**+0.6**
	1.7nm,0.4s,baz=172,slow=12,SNR=6.6						
TXAR	**Lajitas Array**	**41.34**	**297**	LR	LR	00 32 34.4	
	comp=Z,35nm,18.8s,baz=0.0,slow=41						
PDAR	**Pinedale Array**	**49.37**	**314**	P	**P**	**00 13 02.8**	**+0.2**
	0.6nm,0.6s,baz=122,slow=10,SNR=4.6						
H10N3	**ASCENSION HYDR**	**51.79**	**113**	T	T	01 08 58.8	
	baz=296,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**51.79**	**113**	T	T	01 08 58.5	
	baz=296,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**51.81**	**113**	T	T	01 09 00.2	
	baz=296,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**52.14**	**115**	T	T	01 09 25.7	
	baz=297,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**52.15**	**115**	T	T	01 09 26.2	
	baz=297,slow=75,SNR=10						
H10S2	**ASCENSION HYDR**	**52.16**	**115**	T	T	01 09 28.0	
	baz=297,slow=75,SNR=11						
NVAR	**Mina Array Bea**	**54.85**	**306**	P	**P**	**00 13 42.5**	**-0.6**
	0.2nm,0.3s,baz=99,slow=11,SNR=3.3						
ESDC	**Sonseca Array**	**55.30**	**52**	P	**P**	**00 13 47.4**	**+1.2**
	1.0nm,0.6s,baz=265,slow=6.9,SNR=8.6						
LIC	**Lamto**	**55.89**	**93**	*eP*	**P**	**00 13 50.7**	**+0.1**
	7.2nm,0.6s,baz=280						
DBIC	**Dimbokro**	**55.94**	**92**	P	**P**	**00 13 51.4**	**+0.4**
	4.6nm,0.7s,baz=259,slow=6.7,SNR=12						
SJPF	**Ste Jean**	**57.88**	**49**	*eP*	**P**	**00 14 05.9**	**+1.6**
	4.0nm,0.6s						
EPF	**Esparros**	**59.00**	**49**	*eP*	**P**	**00 14 13.7**	**+1.6**
	3.6nm,0.5s						
GRR	**Gorron**	**59.11**	**43**	*eP*	**P**	**00 14 13.5**	**+0.9**
MFF	**Saint Martin d**	**59.23**	**45**	*eP*	**P**	**00 14 14.6**	**+1.1**
FLN	**La Foliniere**	**59.43**	**42**	*eP*	**P**	**00 14 15.1**	**+0.3**
	10nm,0.7s						
YKA	**Yellowknife Ar**	**59.94**	**335**	P	**P**	**00 14 17.4**	**-0.6**
	1.0nm,0.6s,baz=105,slow=7.5,SNR=7.3						
YKA				pP	**pP**	**00 14 52.2**	**+0.1**
	0.3nm,0.5s,baz=107,slow=7.5,SNR=2.1						
RJF	**Les Rejaudoux**	**60.16**	**46**	*eP*	**P**	**00 14 21.2**	**+1.2**
MTLF	**Montolieu**	**60.41**	**49**	*eP*	**P**	**00 14 23.2**	**+1.6**
CAF	**Calviac**	**60.50**	**47**	*eP*	**P**	**00 14 23.1**	**+0.8**
	3.6nm,0.5s						
TCF	**Toulx Ste Croi**	**60.79**	**45**	*eP*	**P**	**00 14 24.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**60.91**	**83**	P	**P**	**00 14 25.5**	**0.0**
	4.3nm,0.8s,baz=281,slow=6.5,SNR=45						
AVF	**Avril sur Loir**	**61.64**	**45**	*eP*	**P**	**00 14 30.4**	**+0.5**
	4.5nm,0.6s						
SSF	**Saint Saulge**	**61.78**	**45**	*eP*	**P**	**00 14 31.2**	**+0.4**
	8.9nm,0.7s						
SMF	**Signal de Mont**	**61.95**	**45**	*eP*	**P**	**00 14 32.5**	**+0.5**
LOR	**Lormes**	**62.05**	**44**	*eP*	**P**	**00 14 33.1**	**+0.5**
	10.0nm,0.6s						
VIVF	**Saint-Julien-l**	**62.33**	**47**	*eP*	**P**	**00 14 35.9**	**+1.3**
SFTF	**Sexfontaines**	**62.96**	**43**	*eP*	**P**	**00 14 39.0**	**+0.4**
	4.5nm,0.4s						
MEZF	**Maizieres J'vi**	**63.00**	**43**	*eP*	**P**	**00 14 39.6**	**+0.7**
	11nm,0.5s						
PAGF	**Fort de Pagny**	**63.45**	**43**	*eP*	**P**	**00 14 42.4**	**+0.5**
	2.3nm,0.7s						
CABF	**La Chapelle**	**63.49**	**45**	*eP*	**P**	**00 14 43.5**	**+1.2**
FRF	**La Foret Royal**	**63.64**	**49**	*eP*	**P**	**00 14 43.7**	**+0.5**
	5.5nm,0.8s						
MBDF	**Montbardon**	**63.81**	**47**	*eP*	**P**	**00 14 45.8**	**+1.3**
	4.4nm,0.6s						
LPL	**La Plagne**	**63.84**	**47**	*eP*	**P**	**00 14 46.1**	**+1.3**
	12nm,1.0s						
LPG	**La Plagne**	**63.85**	**47**	*eP*	**P**	**00 14 46.4**	**+1.5**
	3.8nm,0.7s						
HINF	**Hinteralfeld**	**64.12**	**44**	*eP*	**P**	**00 14 46.3**	**-0.1**
CDF	**Champ du Feu**	**64.47**	**43**	*eP*	**P**	**00 14 48.8**	**+0.2**
	2.4nm,0.4s						
PGF	**Pioggiola**	**65.31**	**50**	*eP*	**P**	**00 14 54.6**	**+0.4**
	8.5nm,0.8s						
KEST	**Kesra**	**65.60**	**57**	P	**P**	**00 14 57.4**	**+1.2**
	4.1nm,0.8s,baz=182,slow=3.3,SNR=17						
NOA	**NORSAR Array B**	**68.22**	**30**	P	**P**	**00 15 13.3**	**+1.1**
	1.2nm,0.8s,baz=260,slow=6.4,SNR=4.3						
GERES	**GERESS Array B**	**68.74**	**43**	P	**P**	**00 15 16.0**	**+0.2**
	1.0nm,0.6s,baz=267,slow=5.2,SNR=9.1						
ILAR	**Eielson Array**	**74.35**	**334**	P	**P**	**00 15 48.6**	**-0.3**
	0.5nm,0.5s,baz=78,slow=5.3,SNR=7.3						
ILAR				pP	**pP**	**00 16 24.7**	**+0.4**
	0.3nm,0.6s,baz=99,slow=5.6,SNR=2.5						
ARCES	**ARCESS Array B**	**74.61**	**21**	P	**P**	**00 15 50.9**	**+0.5**
	2.9nm,0.8s,baz=295,slow=6.3,SNR=8.3						
FINES	**FINESS Array B**	**75.40**	**30**	P	**P**	**00 15 55.2**	**+0.3**
	2.3nm,0.8s,baz=242,slow=5.3,SNR=9.8						
BRTR	**Keskin Array B**	**84.06**	**51**	P	**P**	**00 16 42.6**	**+0.3**
	1.3nm,0.7s,baz=263,slow=4.2,SNR=9.8						
KBZ	**Khabaz**	**89.44**	**45**	P	**P**	**00 17 08.4**	**+0.3**
	1.1nm,0.7s,baz=56,slow=24,SNR=3.6						

*IDC **16** 00:10:17.3±0.7, 2°.71N×127°.13E, h0km, mb4.1/14, mb1 4.2/14, mb1mx3.9/45, mbtmp4.1/14, Error ellipse: s-maj=43.0km s-min=12.9km az=70.0*
*NEIC **16** 00:10:19.6±1.6, 2°.70N×127°.11E, h15km±9km, mb4.5/3, Error ellipse: s-maj=19.7km s-min=6.0km az=66.0*
*DJA **16** 00:10:19.3±1.0, 3°N±8°×127°7E±°, h10km, M4.1/7, mb4.0/2, mB4.7/1, MLv4.1/7, Mw(mB)4.0/1*
*ISCJB **16** 00:10:22.0±0.4, 2°.86N±0°.05×127°.13E±0°.09, h44km, mb4.1/17, Error ellipse: s-maj=13.9km s-min=6.0km az=158.7*

ISC 16 00:10:23.8±0.6, 2°.82N±0°.08×127°.17E±0°.10, h44km, n36, σ1§22/37, mb4.3/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.85**	**298**	P	Pn	00 10 48.2	-4.9
SGSI				S	Sn	00 11 09.0	-6.3
TNTI	**Ternate**	**2.04**	**174**	P	**Pn**	**00 10 58.1**	**+2.3**
TNTI				S	Sn	00 11 27.1	+7.0
TNTI	**Ternate**	**2.04**	**174**	*eP*g	**Pn**	**00 10 56.8**	**+1.0**
LBMI	**Labuha**	**3.45**	**174**	P	**Pn**	**00 11 16.7**	**+1.6**
KMSI	**Cibinong**	**3.89**	**235**	P	**Pn**	**00 11 22.1**	**+1.0**
SANI	**Sanana**	**4.98**	**194**	P	**Pn**	**00 11 38.8**	**+2.7**
	12nm,0.8s,761nm0.1nm						
FAKI	**Fak Fak**	**7.63**	**138**	P	**Pn**	**00 12 13.5**	**+0.9**
	baz=9.1,SNR=3.7						
KNRA	**Kununurra**	**18.45**	**175**	P	**Pn**	**00 14 37.2**	**+0.9**
	baz=20,SNR=4.4						
WRAB	**Tennant Creek**	**23.68**	**163**	*eP*	**P**	**00 15 30.2**	**-1.5**
	7.2nm,0.9s						
WRA	**Warramunga Arr**	**23.69**	**163**	P	**P**	**00 15 30.6**	**-1.2**
	3.5nm,0.8s,baz=344,slow=9.9,SNR=11						
WB2	**Warramunga Arr**	**23.69**	**163**	*eP*	**P**	**00 15 30.3**	**-1.5**
QIS	**Mount Isa**	**26.24**	**153**	P	**P**	**00 15 57.0**	**+2.0**
	baz=28,SNR=5.7						
ASAR	**Alice Springs**	**27.13**	**166**	P	**P**	**00 16 00.9**	**-2.1**
	0.5nm,0.4s,baz=342,slow=7.1,SNR=7.7						
ASAR				PcP	**PcP**	**00 19 23.4**	**+0.3**
	0.4nm,0.5s,baz=2.5,slow=2.1,SNR=3.6						
WRKA	**Warakurna**	**27.71**	**178**	P	**P**	**00 16 07.5**	**-0.7**
	baz=30,SNR=5.8						
MEEK	**Meekatharra**	**30.43**	**195**	P	**P**	**00 16 33.2**	**+0.9**
	baz=32,SNR=4.8						
CMAR	**Chiang Mai Arr**	**31.71**	**301**	P	**P**	**00 16 43.5**	**-0.3**
	1.1nm,0.8s,baz=115,slow=7.2,SNR=7.8						
CHTO	**Chiang Mai**	**31.87**	**302**	*eP*	**P**	**00 16 44.1**	**-1.0**
BLDU	**Ballidu**	**34.71**	**196**	S	**S**	**00 22 35.5**	**-1.4**
	baz=36,SNR=11						
NWAO	**Narrogin (SRO)**	**36.78**	**194**	P	**P**	**00 17 26.5**	**-0.8**
	8.1nm,1.1s,baz=20,slow=9.7,SNR=4.0						
STKA	**Stephens Creek**	**37.13**	**159**	P	**P**	**00 17 29.1**	**-1.3**
	4.8nm,0.8s,baz=339,slow=8.0,SNR=9.8						
STKA	**Stephens Creek**	**37.13**	**159**	P	**P**	**00 17 29.4**	**-1.0**
	baz=39,SNR=7.4						
STKA	**Stephens Creek**	**37.13**	**159**	*eP*	**P**	**00 17 28.7**	**-1.7**
ULN	**Ulaanbaatar**	**48.11**	**342**	*eP*	**P**	**00 18 59.6**	**+0.1**
SONM	**Songino Array**	**48.30**	**341**	P	**P**	**00 19 01.2**	**+0.3**
	1.3nm,0.7s,baz=155,slow=8.5,SNR=12						
SONM				PcP	**PcP**	**00 20 27.0**	**-0.3**
	0.6nm,1.0s,baz=140,slow=3.2,SNR=3.9						
MK31	**Makanchi Array**	**58.55**	**325**	*eP*	**P**	**00 20 15.3**	**-0.7**
MKAR	**Makanchi Array**	**58.55**	**325**	P	**P**	**00 20 16.2**	**+0.2**
	1.4nm,0.5s,baz=121,slow=8.2,SNR=44						
ZALV	**Zalesovo Beam**	**61.59**	**333**	P	**P**	**00 20 36.2**	**-0.5**
	2.6nm,0.8s,baz=115,slow=6.7,SNR=11						
KURBB	**Kurchatov Arra**	**62.74**	**327**	P	**P**	**00 20 44.8**	**+0.3**
	3.8nm,0.8s,baz=123,slow=6.4,SNR=19						
KURK	**Kurchatov**	**62.74**	**328**	P	**P**	**00 20 44.8**	**+0.3**
BVAR	**Borovoye Array**	**68.32**	**327**	P	**P**	**00 21 20.6**	**+0.2**
	6.4nm,0.9s,baz=126,slow=7.7,SNR=23						
ABKAR	**Akbulak array**	**73.13**	**321**	*eP*	**P**	**00 21 49.7**	**-0.1**
	2.9nm,0.7s						
AKTO	**Aktyubinsk**	**74.64**	**322**	P	**P**	**00 21 59.1**	**+0.5**
	3.7nm,0.8s,baz=112,slow=7.5,SNR=10						
RAYN	**Ar Rayn**	**81.24**	**293**	*eP*	**P**	**00 22 36.0**	**+0.1**
	7.3nm,1.0s						
VNDA	**Vanda**	**82.47**	**173**	P	**P**	**00 22 39.6**	**-1.6**
	0.4nm,0.6s,baz=37,slow=5.4,SNR=3.6						
ILAR	**Eielson Array**	**85.73**	**25**	P	**P**	**00 22 59.5**	**+1.4**
	0.2nm,0.6s,baz=258,slow=4.4,SNR=3.0						
BRTR	**Keskin Array B**	**90.94**	**310**	P	**P**	**00 23 24.3**	**+0.7**
	0.5nm,0.8s,baz=117,slow=6.5,SNR=4.3						

*NEIC **16** 00:11:15.0, 34°.78S×71°.75W, h44km, MG3.6(GUC), After GUC.*
NEIC Felt [III] at Pencahue.

GUC 16 00:11:15.0±0.4, 34°.78S×71°.75W, h44km±1km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.48**	**118**	*eP*	Pn	00 11 25.9	+0.3
NICH				*eS*	Sn	00 11 34.0	+0.8
NICH	**Los Niches**	**0.48**	**118**	*eP*	Pn	00 11 25.9	+0.3
NICH				*eS*	Sn	00 11 34.0	+0.8
TALC	**Talca**	**0.63**	**172**	*eP*	Pn	00 11 28.0	+0.4
TALC				*eS*	Sn	00 11 37.2	+0.6
TALC	**Talca**	**0.63**	**172**	*eP*	Pn	00 11 28.0	+0.4
TALC				*eS*	Sn	00 11 37.2	+0.6
LNCH	**Linares**	**1.07**	**174**	*eP*	Pn	00 11 34.4	+0.7
LNCH				*eS*	Sn	00 11 49.0	+1.5
LNCH	**Linares**	**1.07**	**174**	*eP*	Pn	00 11 34.4	+0.7
LNCH				*eS*	Sn	00 11 49.0	+1.5
RCDM	**Rinconada Maip**	**1.50**	**32**	*eP*	Pn	00 11 40.0	+0.5
RCDM				*eS*	Sn	00 11 59.1	+1.1
RCDM	**Rinconada Maip**	**1.50**	**32**	*eP*	Pn	00 11 40.0	+0.5
RCDM				*eS*	Sn	00 11 59.1	+1.1
SAN	**Santiago**	**1.60**	**35**	*eP*	Pn	00 11 41.5	+0.7
SAN				*eS*	Sn	00 12 02.0	+1.7
SAN	**Santiago**	**1.60**	**35**	*eP*	Pn	00 11 41.5	+0.7
SAN				*eS*	Sn	00 12 02.0	+1.7
CLCH	**Cerro Calan**	**1.70**	**36**	*eP*	Pn	00 11 43.0	+0.6
CLCH				*eS*	Sn	00 12 04.4	+1.4
CLCH				AML	AML	00 12 10.4	
	comp=E,945nm,0.9s						
PEL	**Peldehue**	**1.85**	**29**	*eP*	Pn	00 11 45.2	+0.8
PEL				*eS*	Sn	00 12 07.9	+1.3
PEL				AML	AML	00 12 13.5	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.85**	**29**	*eP*	Pn	00 11 45.2	+0.8
PEL				*eS*	Sn	00 12 07.9	+1.3

*CASC **16** 00:14:16.8±3.3, 12°.49N×89°.27W, h0km±7km, MD4.4, ML4.3*
*ISCJB **16** 00:14:18.7±0.2, 12°.62N±0°.03×89°.18W±0°.03, h40km, mb4.6/95, MS3.3/2, Error ellipse: s-maj=6.0km s-min=2.4km az=38.2*
*NEIC **16** 00:14:20.4±0.6, 12°.63N×89°.20W, h40km±5km, mb4.7/88, MD4.4(SNET), Error ellipse: s-maj=6.9km s-min=3.9km az=45.0*
NEIC Felt [III] at San Salvador.
*BJI **16** 00:14:22.8, 12°.60N×89°.20W, h59km*
*IDC **16** 00:14:23.5±2.1, 12°.77N×88°.92W, h65km±19km, mb4.0/18, mb1 4.3/20, mb1mx4.1/30, mbtmp4.3/20, MS3.4/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=22.5km s-min=9.3km az=56.0*

**ISC 16

baz=20,SNR=5.3
TIGA Tifton 19.50 15 eP P 00 18 44.0 +0.1
comp=Z,60nm,0.7s
338A Crockett 19.52 344 ⇑P Pn 00 18 45.3 -0.4
baz=20,SNR=6.4
VBMS Vicksburg 19.60 357 eP Pn 00 18 45.9 -0.7
comp=Z,112nm,0.9s
337A Centerville 19.64 343 ⇑P P 00 18 46.3 +0.8
baz=20
533A Kerrville 19.64 334 ⇓P P 00 18 45.9 +0.3
baz=20,SNR=17
435B Jarrell 19.70 338 ⇓P P 00 18 46.4 +0.3
baz=20,SNR=13
NATX Nacogdoches 19.75 346 eP P 00 18 47.4 +0.8
comp=Z,49nm,0.6s
631A Perdido Creek 19.80 330 ⇑P P 00 18 48.2 +1.0
baz=20
239A Gary 19.95 347 ⇓P P 00 18 49.5 +0.7
baz=20
434A Burnet 19.98 337 ⇑P P 00 18 49.1 -0.2
baz=20,SNR=26
336A Riesel 20.00 341 ⇑P P 00 18 49.6 +0.2
baz=20,SNR=5.3
532A Rocksprings 20.07 332 ⇓P P 00 18 50.9 +0.6
baz=20,SNR=23
335A Moody 20.10 339 ⇓P P 00 18 50.7 +0.2
baz=20,SNR=25
433A Art 20.26 335 ⇓P P 00 18 51.9 -0.3
baz=20,SNR=25
237A Washetta, Mont 20.27 344 ⇓P P 00 18 52.5 +0.3
baz=20
JCT Junction City 20.33 333 ⇑P P 00 18 53.1 0.0
baz=20
JCT Junction City 20.33 333 eP P 00 18 53.0 0.0
comp=Z,30nm,0.8s
531A Rocksprings 20.41 331 ⇓P P 00 18 54.2 +0.3
baz=20
334A Lometa 20.44 337 ⇓P P 00 18 54.1 -0.1
baz=20,SNR=44
LRAL Lakeview Retre 20.48 5 eP Pn 00 18 56.2 -0.7
comp=Z,26nm,0.9s
432A Menard 20.66 334 ⇓P P 00 18 56.8 +0.1
baz=21,SNR=18
138A Matatall Enter 20.71 346 ⇓P P 00 18 57.1 0.0
baz=21
333A Richland Sprin 20.72 336 ⇑P P 00 18 57.1 -0.2
baz=21,SNR=42
WHTX Lake Whitney, 20.76 340 ⇑P P 00 18 57.7 0.0
baz=21,SNR=25
WHTX Lake Whitney, 20.76 340 eP P 00 18 57.6 0.0
comp=Z,128nm,0.8s
530A J-C Ranch, Com 20.78 329 ⇓P P 00 18 59.1 +1.2
baz=21,SNR=14
137A Heron Place, G 20.82 344 ⇓P P 00 18 58.8 +0.6
baz=21
431A Sonora 20.87 332 ⇓P P 00 18 59.1 +0.2
baz=21,SNR=22
234A Clairette 21.00 339 ⇑P P 00 18 59.9 -0.4
baz=21,SNR=24
332A Millersview 21.08 334 ⇓P P 00 19 01.3 +0.1
baz=21,SNR=24
529A Stev Forest Ra 21.21 327 ⇓P P 00 19 02.9 +0.3
baz=21
430A Baggett Ranch, 21.25 330 ⇑P P 00 19 03.4 +0.4
baz=21,SNR=7.6
135A Vickery Place, 21.26 341 ⇑P P 00 19 02.8 -0.2
baz=21
233A Rising Star 21.30 337 ⇑P P 00 19 03.4 -0.1
baz=21,SNR=37
331A San Angelo 21.31 333 ⇑P P 00 19 03.6 0.0
baz=21,SNR=27
TXAR Lajitas Array 21.40 323 P P 00 19 06.5 +1.8
comp=Z,14nm,0.8s,baz=141,slow=10,SNR=75
GOGA Godfrey 21.42 13 eP P 00 19 05.4 +0.7
comp=Z,20nm,0.9s
429A Davenport Ranc 21.44 329 ⇑P P 00 19 05.4 +0.3
baz=22
232A Coleman 21.48 335 ⇑P P 00 19 05.0 -0.4
baz=22,SNR=20
134A White-Moore Ra 21.50 339 ⇑P P 00 19 04.9 -0.7
baz=22,SNR=7.2
330A Mertzon 21.74 332 ⇑P P 00 19 07.4 -0.8
baz=22,SNR=7.3
231A Bronte 21.80 334 ⇑P P 00 19 08.3 -0.6
baz=22,SNR=17
133A Hamilton Ranch 21.83 338 ⇑P P 00 19 08.8 -0.4
baz=22,SNR=22
OXF Oxford 21.85 360 eP P 00 19 10.1 +0.8
comp=Z,82nm,0.8s
Z35A Perchaven, San 21.93 342 ⇑P P 00 19 09.3 -0.9
baz=22
NHSC New Hope 22.07 21 eP P 00 19 12.8 +1.1
comp=Z,159nm,1.4s
230A Sterling City 22.11 332 ⇓P P 00 19 11.2 -1.1
baz=22
ABTX Abilene, Hawle 22.12 336 ⇑P P 00 19 11.8 -0.5
baz=22,SNR=11
ABTX Abilene, Hawle 22.12 336 eP P 00 19 11.1 -1.3
comp=Z,25nm,0.8s
Z34A Collier Ranch, 22.18 340 ⇑P P 00 19 12.3 -0.5
baz=22,SNR=7.0
329A Wagon Wheel Ra 22.19 330 ⇓P P 00 19 12.8 -0.3
baz=22,SNR=5.8
MIAR Mount Ida 22.23 351 eP P 00 19 14.0 +0.5
comp=Z,50nm,0.9s
UALR University of 22.29 353 eP P 00 19 14.3 +0.2
comp=Z,40nm,0.9s
ATAH Atahualpa 22.35 151 P P 00 19 17.3 +2.0
comp=Z,12nm,1.0s,baz=332,slow=3.9,SNR=9.1
Z33A Whitaker Ranch 22.39 339 ⇓P P 00 19 14.6 -0.5
baz=22,SNR=38
131A Roby 22.47 335 ⇓P P 00 19 14.8 -1.3
baz=22
229A Bryant Ranch, 22.50 331 ⇑P P 00 19 15.7 -0.8
baz=22
130A Snyder 22.65 334 ⇓P P 00 19 16.5 -1.4
baz=23
Y34A Reagan Ranch, 22.66 341 ⇑P P 00 19 17.0 -1.1
baz=23,SNR=6.1
Z32A Haskell 22.67 337 ⇑P P 00 19 17.3 -0.9
baz=23,SNR=37
SWET Sewanee 22.75 7 eP P 00 19 18.6 -0.4
Z31A Sharp Cattle R 22.93 336 ⇑P P 00 19 19.8 -1.2
baz=23,SNR=28
Y33A Hilltop Ranch, 22.99 340 ⇓P P 00 19 20.2 -1.3
baz=23
228A UT Block 9, Go 23.00 330 ⇑P P 00 19 20.6 -1.0
baz=23
LPIG La Paz 23.01 303 P P 00 19 24.8 +3.1
comp=Z,56nm,0.3s,baz=158,slow=3.2,SNR=4.9
129A Stewart Farms, 23.08 332 ⇓P P 00 19 21.6 -0.9
baz=23
Y32A R-V Farms, Ver 23.28 338 ⇓P P 00 19 23.5 -0.9
baz=23
X34A Smith Ranch, M 23.28 342 ⇓P P 00 19 23.7 -0.7
baz=23
Z30A Sanderson Ranc 23.31 334 ⇓P P 00 19 23.7 -1.0
baz=23
W36A Wetumka 23.35 345 ⇓P P 00 19 23.7 -1.3
baz=23
128A Castleberry Fa 23.36 331 ⇓P P 00 19 24.3 -1.0
baz=23
X33A Lawton 23.44 341 ⇓P P 00 19 25.2 -0.7
baz=24
WVT Waverly 23.50 3 eP P 00 19 26.1 -0.3
comp=Z,10nm,1.0s
TKL Tuckaleechee C 23.52 11 P P 00 19 26.9 +0.2
comp=Z,19nm,0.8s,baz=184,slow=11,SNR=18
TKL LR LR 00 29 33.9
comp=Z,69nm,19.0s,baz=210,slow=39
TKL Tuckaleechee C 23.52 11 eP P 00 19 26.7 0.0
W35A Tecumseh 23.53 344 ⇓P P 00 19 25.6 -1.1
baz=24
Z29A Hungry Hill Ra 23.54 333 ⇑P P 00 19 25.6 -1.3
baz=24
Y31A Rekieta Farm, 23.55 337 ⇑P P 00 19 26.6 -0.3
baz=24
X32A Elmer 23.60 339 ⇑P P 00 19 26.8 -0.6
baz=24
KMSC Kings Mountain 23.60 16 ⇓P P 00 19 27.8 +0.4
baz=24
KMSC Kings Mountain 23.60 16 eP P 00 19 27.4 0.0
comp=Z,13nm,0.7s
WMOK Wichita Mounta 23.71 340 eP P 00 19 27.0 -1.5
comp=Z,30nm,1.1s
Y30A Stafford Cattl 23.73 335 ⇓P P 00 19 28.0 -0.7
baz=24
W34A Bridge Creek, 23.86 343 ⇓P P 00 19 29.2 -0.6
baz=24
W34A Bridge Creek, 23.86 343 eP P 00 19 29.2 -0.6
comp=Z,65nm,0.6s
Z28A Tucker Farm, M 23.87 332 ⇑P P 00 19 29.1 -1.0
baz=24
TUL1 Leonard 23.98 347 ⇓P P 00 19 30.7 -0.3
baz=24
TUL1 Leonard 23.98 347 eP P 00 19 30.6 -0.3
comp=Z,18nm,0.8s
W33A Caddo, Fort Co 23.99 341 ⇓P P 00 19 30.9 -0.2
baz=24
X31A McDonald Ranch 24.03 338 ⇑P P 00 19 31.2 -0.3
baz=24
Y29A Porterfield Fa 24.03 334 ⇑P P 00 19 31.2 -0.4
baz=24
V35A Meyer Ranch, C 24.09 345 ⇓P P 00 19 31.5 -0.5
baz=24
PBMO Poplar Bluff 24.14 358 eP P 00 19 32.3 -0.1
comp=Z,68nm,0.8s
MNTX Cornudas Mount 24.15 325 ⇑P P 00 19 32.5 -0.1
baz=24
X30A Coker Ranch, T 24.21 336 ⇑P P 00 19 33.5 +0.3
baz=24
W32A Sentinel 24.22 340 ⇓P P 00 19 32.4 -0.8
baz=24
Y28A McKinney Farm, 24.33 333 ⇓P P 00 19 33.7 -0.6
baz=24
V34A Guthrie 24.34 344 ⇓P P 00 19 33.8 -0.6
baz=24
W31A Holland Ranch, 24.52 339 ⇓P P 00 19 35.7 -0.3
baz=25
X29A Tulia 24.55 335 ⇑P P 00 19 36.4 +0.1
baz=25
V33A Lossen Ranch, 24.55 342 ⇑P P 00 19 35.9 -0.3
baz=25
MSTX Muleshoe 24.61 332 ⇓P P 00 19 36.6 -0.3
baz=25
MSTX Muleshoe 24.61 332 eP P 00 19 35.9 -1.1
comp=Z,28nm,1.0s
V32A Arapaho 24.70 341 ⇑P P 00 19 37.1 -0.4
baz=25
W30A Crocket Farms 24.75 337 ⇑P P 00 19 37.8 -0.2
baz=25
CNNC Cliffs of the 24.81 23 eP P 00 19 37.4 -1.2
comp=Z,58nm,0.3s
X28A Dimmitt 24.82 334 ⇓P P 00 19 38.4 -0.4
baz=25
U34A Anderson Ranch 24.91 344 ⇑P P 00 19 39.3 -0.2
baz=25
U34A Anderson Ranch 24.91 344 eP P 00 19 38.8 -0.7
comp=Z,46nm,0.8s
AMTX Amarillo 24.92 335 ⇓P P 00 19 39.7 +0.1
baz=25
AMTX Amarillo 24.92 335 eP P 00 19 38.8 -0.8
comp=Z,40nm,0.9s
V31A Spring Creek L 25.01 339 ⇓P P 00 19 40.7 +0.2
baz=25
SIUC Southern Illin 25.05 0 eP P 00 19 40.4 -0.3
comp=Z,41nm,0.9s
U33A Lingo Farm, Me 25.07 343 ⇑P P 00 19 40.7 -0.3
baz=25
W29A Amarillo 25.11 336 ⇑P P 00 19 41.5 +0.1
baz=25
U32A Winter Ranch, 25.29 341 ⇑P P 00 19 43.5 +0.6
baz=25
V30A Spur Ranch, Mi 25.30 338 ⇑P P 00 19 44.0 +0.9
baz=25
W28A Vega 25.46 335 ⇓P P 00 19 45.5 +1.0
baz=26
S36A Lake Cedric, C 25.69 348 ⇑P P 00 19 46.4 -0.1
baz=26
WCI Wyandotte Cave 25.70 5 eP P 00 19 45.1 -1.5
comp=Z,25nm,0.7s
V29A Stinnett 25.72 337 ⇓P P 00 19 46.4 -0.4
baz=26
BLA Blacksburg 25.79 16 eP P 00 19 47.9 +0.4
comp=Z,14nm,0.8s
S35A Otter Creek Ra 25.80 347 ⇑P P 00 19 47.4 -0.1
baz=26
V28A Channing 25.89 335 ⇓P P 00 19 48.6 +0.1
baz=26
U30A WK&E Inc. Balk 25.98 339 ⇓P P 00 19 49.8 +0.6
baz=26
SLM Saint Louis 25.98 358 eP P 00 19 49.1 0.0
comp=Z,44nm,0.7s
S34A Willow Spring 26.00 346 ⇑P P 00 19 48.7 -0.6
baz=26
T32A Huddler Ranch, 26.00 342 ⇑P P 00 19 49.5 +0.1
baz=26
U29A Oasis Ranch, S 26.13 338 ⇑P P 00 19 50.9 +0.3
baz=26
121A Cookes Peak, D 26.15 322 ⇑P P 00 19 52.4 +1.5
baz=26
V27A Dan Oppiter Fa 26.15 334 ⇑P P 00 19 50.5 -0.4
baz=26
T31A Randall Ranch, 26.16 341 ⇓P P 00 19 50.3 -0.5
baz=26
R36A Gordon, Harris 26.25 349 ⇑P P 00 19 51.3 -0.3
baz=26
T30A Plains 26.40 339 ⇑P P 00 19 52.7 -0.4
baz=26
U28A Mallet 26.43 336 ⇓P P 00 19 53.0 -0.4
baz=26
S31A Mullinville 26.58 342 ⇑P P 00 19 54.2 -0.4
baz=27
V26A Tequesquite Ra 26.59 333 ⇑P P 00 19 55.2 +0.3
baz=27
Q37A Longview Farm, 26.61 351 ⇓P P 00 19 54.6 -0.2
baz=27
BNM Barren Site 26.68 327 eP P 00 19 55.8 0.0
U27A Thompson Grove 26.71 335 ⇑P P 00 19 55.6 -0.3
baz=27
T29A Hugoton 26.77 338 ⇑P P 00 19 56.0 -0.3
baz=27
R33A Olander Ranch, 26.80 345 ⇓P P 00 19 56.0 -0.5
baz=27
S30A Montezuma 26.91 340 ⇓P P 00 19 57.4 -0.2
baz=27
URVA University of 27.02 21 eP P 00 19 58.2 -0.3
T28A Walsh 27.04 337 ⇓P P 00 19 58.1 -0.7
baz=27
U26A Atchley Ranch, 27.08 334 ⇑P P 00 19 58.9 -0.4
baz=27
R32A Long Quarter, 27.10 344 ⇑P P 00 19 58.5 -0.7
baz=27
LAZ Ladron 27.15 326 eP P 00 19 58.7 -1.2
ANMO Albuquerque 27.20 328 P P 00 20 00.6 +0.2
comp=Z,1.1nm,0.7s,baz=126,slow=10.0,SNR=4.3
R31A Burdett 27.21 342 ⇓P P 00 19 59.8 -0.5
baz=27
T27A Campo 27.22 336 ⇑P P 00 19 60.0 -0.6
baz=27
KSU1 Kansas State U 27.23 347 ⇓P P 00 19 59.9 -0.5
baz=27
KSU1 Kansas State U 27.23 347 eP P 00 19 59.9 -0.5
comp=Z,34nm,0.8s
S28A Manter 27.37 338 ⇓P P 00 20 01.5 -0.3
baz=27
Q33A Connelly Farm, 27.41 345 ⇓P P 00 20 01.7 -0.3
baz=28
R30A Dighton 27.44 341 ⇓P P 00 20 02.2 -0.1
baz=28
SFIN Lafayette 27.77 4 eP P 00 20 04.2 -1.1
comp=Z,9.8nm,0.9s
Q31A Ellis 27.83 343 ⇑P P 00 20 05.1 -0.7
baz=28
R29A Marienthal 27.85 340 ⇓P P 00 20 05.3 -0.7
baz=28
TUC Tucson 27.87 318 eP P 00 20 07.2 +0.9
comp=Z,12nm,0.9s
T25A Trinidad 27.99 334 ⇓P P 00 20 08.5 +1.0
baz=28
T25A Trinidad 27.99 334 eP P 00 20 08.6 +1.0
comp=Z,10nm,0.8s
R28A Tribune 28.01 339 ⇑P P 00 20 07.0 -0.5
baz=28
S26A Kim 28.01 335 ⇑P P 00 20 06.8 -0.8
baz=28
Q30A Quinter 28.05 342 ⇑P P 00 20 07.1 -0.7
baz=28
ACSO Alum Creek Sta 28.11 10 eP P 00 20 07.8 -0.5
comp=Z,10nm,0.8s
P32A Huiting Farm, 28.19 345 ⇑P P 00 20 09.1 0.0
baz=28
Q29A Oakley 28.21 340 ⇑P P 00 20 09.4 +0.1
baz=28
R27A Eads 28.32 337 ⇓P P 00 20 10.5 +0.2
baz=28
S25A Robets Cordova 28.44 334 ⇑P P 00 20 11.7 +0.2
baz=28
P30A Selden 28.58 342 ⇓P P 00 20 12.9 +0.4
baz=29
R26A Arlington 28.58 336 ⇓P P 00 20 13.1 +0.5
baz=29
Q28A Sharon Springs 28.66 339 ⇑P P 00 20 13.6 +0.4
baz=29
O32A Brockman Farm, 28.71 346 ⇑P P 00 20 14.1 +0.4
baz=29
R25A Fountain Ranch 28.79 335 ⇑P P 00 20 15.0 +0.5
baz=29
P29A Atwood 28.85 341 ⇓P P 00 20 15.3 +0.4
baz=29
KSCO Kaye Shedlock' 28.89 338 ⇑P P 00 20 15.8 +0.4
baz=29
214A Organ Pipe Nat 29.00 316 ⇑P P 00 20 17.8 +1.5
baz=29
P28A Saint Francis 29.09 340 ⇓P P 00 20 17.0 -0.1
baz=29
O30A MW Ranch, Wils 29.11 343 ⇑P P 00 20 17.0 -0.2
baz=29
Q26A Hugo 29.15 337 ⇑P P 00 20 17.5 -0.2
baz=29
N32A Stulken Farm, 29.20 346 ⇓P P 00 20 17.8 -0.2
baz=29
O29A 4D Ranch, Culb 29.28 342 ⇓P P 00 20 19.6 +0.8
baz=29
Q25A Bedland, Calha 29.43 336 ⇑P P 00 20 20.6 +0.4
baz=30
R23A Moffat 29.49 333 ⇓P P 00 20 21.7 +0.8
baz=30
S22A 4UR Ranch, Cre 29.59 331 ⇓P P 00 20 22.4 +0.6
baz=30
S22A 4UR Ranch, Cre 29.59 331 eP P 00 20 22.4 +0.6
comp=Z,3.9nm,0.8s
X16A Lo Mia Camp, P 29.66 321 ⇑P P 00 20 24.1 +1.8
baz=30
Q24A Divide 29.84 335 ⇑P P 00 20 24.3 +0.3
baz=30
O27A Beecher Island 29.89 339 ⇓P P 00 20 24.8 +0.6
baz=30
M31A Lambtecht Ranc 29.91 345 ⇓P P 00 20 25.0 +0.7
baz=30
P25A Willow Gulch B 29.91 336 ⇑P P 00 20 25.2 +0.7
baz=30
MVCO Mesa Verde 30.00 328 ⇑P P 00 20 25.7 +0.4
baz=30
MVCO Mesa Verde 30.00 328 eP P 00 20 25.7 +0.4
comp=Z,3.7nm,0.8s
N28A Pribbeno Ranch 30.03 341 ⇓P P 00 20 25.9 +0.5
baz=30
Q23A Hartsel 30.08 334 ⇓P P 00 20 26.8 +0.6
baz=30
O26A Horse Wrangler 30.23 338 ⇑P P 00 20 27.6 +0.4
baz=30
JFWS Jewell Farm 30.25 359 eP P 00 20 26.8 -0.5
comp=Z,27nm,0.7s
Y14A Wickenburg 30.34 318 ⇓P P 00 20 29.7 +1.6
baz=30
WUAZ Wupatki 30.36 323 ⇑P P 00 20 29.5 +1.0
baz=30
WUAZ Wupatki 30.36 323 eP P 00 20 29.3 +0.8
comp=Z,7.1nm,1.0s
OGNE Ogallala 30.42 341 ⇓P P 00 20 28.1 -0.7
baz=30
M29A Burnside Ranch 30.46 343 ⇓P P 00 20 29.5 +0.3
baz=30
P23A Jefferson 30.48 334 ⇓P P 00 20 29.6 -0.1
baz=30
ERPA Erie 30.53 14 eP P 00 20 28.8 -0.9
comp=Z,13nm,0.8s
L31A Butterfield Fa 30.66 346 ⇑P P 00 20 31.4 +0.5
baz=31
L30A Spencer Herefo 30.67 345 ⇑P P 00 20 31.7 +0.7
baz=31
N26A Koester Ranch, 30.71 339 ⇑P P 00 20 31.6 +0.2
baz=31
ISCO Idaho Springs 30.74 335 ⇑P P 00 20 32.0 0.0
baz=31
ISCO Idaho Springs 30.74 335 eP P 00 20 31.9 0.0
comp=Z,3.8nm,0.9s
SMCO Snowmass 30.81 332 eP P 00 20 33.2 +0.5
comp=Z,4.3nm,0.9s
PV05 Paradox Valley 30.96 329 eP P 00 20 33.8 -0.1
GLA Glamis 31.02 315 ⇑P P 00 20 36.4 +2.2
baz=31
M27A Reverse DX Ran 31.06 341 ⇑P P 00 20 34.8 +0.3
baz=31
P22A Eagle 31.06 333 ⇓P P 00 20 35.1 +0.5
baz=31
PV10 Paradox Valley 31.16 329 eP P 00 20 35.3 -0.3
O23A Lake Granby, G 31.21 335 ⇓P P 00 20 36.2 +0.1
baz=31
PDMCI Parker Dam,Lak 31.30 318 ⇑P P 00 20 38.2 +1.6
baz=31
K30A Basset 31.32 345 ⇑P P 00 20 37.4 +0.7
baz=31
O22A Kremmling 31.43 334 ⇓P P 00 20 38.2 +0.1
baz=32
U15A North Rim 31.53 323 ⇓P P 00 20 39.8 +0.9
baz=32
K29A Lazy Trails An 31.58 344 ⇓P P 00 20 39.2 +0.2
baz=32
W13A Hualapai Mount 31.63 319 ⇑P P 00 20 41.5 +1.8
baz=32,SNR=6.5
ECSD EROS Data Cent 31.70 350 ⇑P P 00 20 39.5 -0.6
baz=32
ECSD EROS Data Cent 31.70 350 eP P 00 20 38.8 -1.2
comp=Z,9.5nm,1.0s
BC3 Big Chuckawall 31.80 316 ⇓P P 00 20 43.2 +2.1
baz=32
N23A Red Feather La 31.80 336 ⇓P P 00 20 41.8 +0.6
baz=32
IRM Iron Mountain 31.89 317 ⇑P P 00 20 43.9 +2.1
baz=32
J30A Dallas 31.91 346 ⇑P P 00 20 41.9 +0.1
baz=32
PTGA Pitinga 31.92 112 P P 00 20 42.4 +0.2
comp=Z,7.2nm,0.9s,baz=314,slow=8.1,SNR=8.1
PTGA Pitinga 31.92 112 eP P 00 20 43.5 +1.2
comp=Z,9.8nm,1.0s
N22A Wattenberg Ran 31.93 335 ⇑P P 00 20 42.6 +0.2
baz=32
PHWY Pilot Hill 31.95 337 eP P 00 20 42.6 0.0
comp=Z,6.9nm,0.9s
K27A Flueckinger Fa 32.08 342 ⇓P P 00 20 44.2 +0.8
baz=32
O20A White River Ci 32.16 332 ⇑P P 00 20 45.0 +0.7
baz=32
O20A White River Ci 32.16 332 eP P 00 20 45.0 +0.7
comp=Z,8.6nm,0.9s
J29A Okreek 32.19 345 ⇑P P 00 20 44.8 +0.5
baz=32
M23A Laramie 32.20 336 ⇑P P 00 20 46.1 +1.5
baz=32
BELC Belle Mtn. Jos 32.37 316 ⇑P P 00 20 47.5 +1.4
baz=32
LDFC Landfair 32.41 318 eP P 00 20 48.6 +2.2
comp=Z,26nm,1.0s
I30A Oacoma 32.45 346 ⇑P P 00 20 46.6 0.0
baz=32
J28A Allard Ranch, 32.45 344 ⇓P P 00 20 47.2 +0.6
baz=32
PFO Pinyon Flats O 32.46 315 ⇓P P 00 20 48.5 +1.6
baz=32
PFO Pinyon Flats O 32.46 315 eP P 00 20 47.5 +0.5
comp=Z,5.4nm,0.9s
J27A Elkhorn Farm, 32.51 343 ⇓P P 00 20 48.0 +0.8
baz=33
GMRC Granite Mounta 32.59 317 ⇑P P 00 20 50.0 +1.9
baz=33
SPMN Marine on St. 32.69 355 ⇑P P 00 20 47.8 -0.9
baz=33
SPMN Marine on St. 32.69 355 eP P 00 20 47.5 -1.2
comp=Z,31nm,0.6s
N20A Spence Gulch, 32.73 333 ⇓P P 00 20 49.8 +0.4
baz=33
L23A Garrett 32.74 337 ⇑P P 00 20 49.9 +0.5
baz=33,SNR=5.4
I29A Vivian Onida 32.76 345 ⇓P P 00 20 49.5 +0.2
baz=33
J26A Sides Ranch, S 32.89 341 ⇓P P 00 20 50.6 +0.1
baz=33
CCUT Cedar City 32.92 323 eP P 00 20 52.7 +1.7
comp=Z,4.5nm,1.2s
L22A Ellis Ranch, M 32.95 336 ⇑P P 00 20 51.7 +0.4
baz=33

I28A	Midland	32.96	344	⇑P		P	00 20 51.2	+0.1
	baz=33							
TUQ	Turquoise Moun	33.15	318	⇓P		P	00 20 54.4	+1.4
	baz=33							
J25A	Sunshine Ranch	33.19	340	⇑P		P	00 20 53.6	+0.4
	baz=33							
SADO	Sadowa	33.24	13	P		P	00 20 52.2	-1.3
	comp=Z,10.0nm,0.7s,baz=217,slow=9.5,SNR=11							
K23A	Bowen Ranch, D	33.27	338	⇑P		P	00 20 53.7	-0.2
	baz=33							
COWI	Conover	33.43	0	*e*P		P	00 20 53.8	-1.3
	comp=Z,45nm,0.8s							
I26A	New Underwood	33.47	342	⇑P		P	00 20 55.9	+0.3
	baz=34							
K22A	Casper	33.52	337	⇓P		P	00 20 56.4	+0.3
	baz=34							
K22A	Casper	33.52	337	*e*P		P	00 20 56.6	+0.5
	comp=Z,8.2nm,0.9s							
G30A	Faulkton	33.54	347	⇑P		P	00 20 55.8	-0.3
	baz=34							
SAML	Samuel	33.58	128	*e*P		P	00 20 56.5	-0.3
	comp=Z,12nm,1.0s							
GSC	Goldstone, Bar	33.66	317	*e*P		P	00 20 59.0	+1.6
	comp=Z,7.7nm,1.3s							
I25A	Rochford	33.73	341	⇓P		P	00 20 58.4	+0.4
	baz=34							
K21A	Alcova	33.79	336	⇓P		P	00 20 59.1	+0.6
	baz=34							
H27A	Howes	33.80	343	⇑P		P	00 20 59.1	+0.7
	baz=34							
I24A	Kuemmerle Ranc	33.88	340	⇓P		P	00 20 59.6	+0.4
	baz=34							
G28A	Parade	33.90	345	⇓P		P	00 20 59.9	+0.6
	baz=34							
RSSD	Black Hills	33.92	341	*e*P		P	00 21 00.2	+0.6
	comp=Z,6.1nm,0.8s							
H26A	Fairpoint	33.98	343	⇓P		P	00 21 00.5	+0.6
	baz=34							
J22A	Midwest	34.15	337	⇑P		P	00 21 02.0	+0.4
	baz=34							
EDW2	Edwards Air Fo	34.22	315	⇑P		P	00 21 04.6	+2.4
	baz=34							
H25A	Fruitdale	34.23	342	⇑P		P	00 21 02.6	+0.4
	baz=34							
TPNV	Topopah Spring	34.28	320	⇑P		P	00 21 04.7	+1.8
	baz=34,SNR=7.2							
TPNV	Topopah Spring	34.28	320	*e*P		P	00 21 04.3	+1.5
	comp=Z,6.2nm,1.0s							
LRMC	Laurel Mtn Rad	34.35	316	⇑P		P	00 21 05.1	+1.7
	baz=34							
FURC	Furnace Creek,	34.38	319	⇓P		P	00 21 05.2	+1.7
	baz=34							
G27A	Dupree	34.45	344	⇓P		P	00 21 04.6	+0.6
	baz=34							
J21A	Lysite	34.46	336	⇑P		P	00 21 05.0	+0.6
	baz=34							
DUG	Dugway, Tooele	34.47	327	⇓P		P	00 21 05.2	+0.8
	baz=34							
G26A	Maurine	34.55	343	⇓P		P	00 21 05.1	+0.2
	baz=35							
MPMC	Manual Prospec	34.55	317	⇑P		P	00 21 06.6	+1.4
	baz=35,SNR=8.0							
I22A	9 Mile Ranch,	34.56	338	⇑P		P	00 21 05.4	+0.3
	baz=35							
F28A	McLaughlin	34.59	346	⇑P		P	00 21 05.5	+0.2
	baz=35							
H24A	Dirks Ranch, A	34.64	341	⇓P		P	00 21 06.2	+0.4
	baz=35,SNR=10							
DAC	Darwin (Calif)	34.74	318	*e*P		P	00 21 07.1	+0.2
	comp=Z,3.5nm,0.9s							
R11A	Troy Canyon, C	34.76	322	⇑P		P	00 21 07.9	+0.9
	baz=35							
R11A	Troy Canyon, C	34.76	322	*e*P		P	00 21 08.3	+1.4
	comp=Z,38nm,2.7s							
I21A	Big Trails, Te	34.80	337	⇓P		P	00 21 06.5	-0.7
	baz=35							
E30A	Jud	34.80	348	⇓P		P	00 21 06.3	-0.7
	baz=35							
PDAR	Pinedale Array	34.86	333	P		P	00 21 07.8	0.0
	comp=Z,0.9nm,0.8s,baz=134,slow=11,SNR=6.8							
PDAR				PcP		PcP	00 23 41.0	+0.8
	comp=Z,0.9nm,0.7s,baz=143,slow=6.6,SNR=5.3							
HWUT	Hardware Ranch	34.88	330	*e*P		P	00 21 08.0	0.0
F27A	Lemmon	34.92	344	⇓P		P	00 21 08.0	-0.2
	baz=35							
ARVC	Arvin	34.93	315	⇑P		P	00 21 10.1	+1.8
	baz=35							
ISA	Isabella, Lake	34.98	316	⇑P		P	00 21 09.4	+0.6
	baz=35							
E29A	Napoleon	35.01	347	⇓P		P	00 21 09.0	+0.1
	baz=35							
J19A	Crowheart	35.05	334	⇑P		P	00 21 09.9	+0.5
	baz=35							
F26A	Lodgepole	35.08	344	⇓P		P	00 21 09.7	+0.2
	baz=35							
G24A	Alzada	35.12	341	⇑P		P	00 21 10.3	+0.4
	baz=35							
H22A	Clearmont	35.12	339	⇑P		P	00 21 10.4	+0.4
	baz=35							
I20A	Worland	35.24	336	⇑P		P	00 21 11.1	+0.1
	baz=35							
G23A	Biddle	35.32	340	⇓P		P	00 21 11.5	-0.1
	baz=35							
EYMN	Ely	35.32	357	*e*P		P	00 21 10.1	-1.4
	comp=Z,17nm,0.7s							
E27A	Carson	35.33	345	⇑P		P	00 21 11.7	+0.1
	baz=35							
D30A	Buchanan	35.35	349	⇓P		P	00 21 11.1	-0.7
	baz=35							
F25A	Bowman	35.37	343	⇓P		P	00 21 12.4	+0.4
	baz=35							
H21A	Big Horn, Sher	35.40	338	⇓P		P	00 21 12.5	+0.2
	baz=35							
LPAZ	La Paz	35.47	143	P		P	00 21 14.1	+0.4
	comp=Z,1.3nm,0.7s,baz=340,slow=9.8,SNR=5.4							
LPAZ	La Paz	35.47	143	*e*P		P	00 21 12.3	-1.4
	comp=Z,21nm,2.1s							
VES	Vestal, Richgr	35.49	316	⇑P		P	00 21 14.9	+1.8
	baz=36							
TPH	Tonopah	35.58	320	*e*P		P	00 21 13.9	-0.2
	comp=Z,4.6nm,1.1s							
F24A	Ekalaka	35.59	342	⇑P		P	00 21 14.2	+0.3
	baz=36							
E26A	Carlson Angus	35.60	344	⇑P		P	00 21 13.9	0.0
	baz=36							
HVU	Hansel Valley	35.61	329	*e*P		P	00 21 14.6	+0.4
	comp=Z,3.8nm,0.9s							
H20A	Greybull	35.64	337	⇓P		P	00 21 15.0	+0.6
	baz=36							
G22A	Birney	35.64	339	⇓P		P	00 21 14.7	+0.3
	baz=36							
I19A	Meeteetse	35.66	335	⇓P		P	00 21 15.5	+0.8
	baz=36							
F23A	Volborg	35.79	341	⇑P		P	00 21 15.9	+0.3
	baz=36							
D28A	Regan	35.81	347	⇓P		P	00 21 15.8	+0.1
	baz=36							
C30A	Mose, Pekin	35.87	349	⇑P		P	00 21 15.6	-0.7
	baz=36							
E25A	Miller Ranch,	35.88	343	⇑P		P	00 21 16.1	-0.3
	baz=36							
REDW	Red Top Meadow	35.91	333	*e*P		P	00 21 17.0	+0.2
	comp=Z,19nm,0.9s							
SNOW	Snow King Moun	35.95	333	*e*P		P	00 21 16.3	-0.9
	comp=Z,14nm,0.6s							
D27A	Center	35.95	346	⇓P		P	00 21 16.4	-0.5
	baz=36							
LOHW	Long Hollow	36.00	333	*e*P		P	00 21 18.0	+0.4
	comp=Z,12nm,1.3s							
AGMN	Agassiz Nation	36.05	352	⇑P		P	00 21 16.9	-0.8
	baz=36,SNR=9.5							
AGMN	Agassiz Nation	36.05	352	*e*P		P	00 21 16.6	-1.1
	comp=Z,19nm,0.8s							
TPAW	Teton Pass	36.05	333	*e*P		P	00 21 18.6	+0.4
	comp=Z,19nm,1.4s							
D26A	Manning	36.11	345	⇑P		P	00 21 17.7	-0.5
	baz=36							
F22A	Rosebud	36.12	340	⇓P		P	00 21 17.9	-0.5
	baz=36							
ELK	Elko	36.16	326	*e*P		P	00 21 19.6	+0.5
	comp=Z,2.6nm,0.9s							
E24A	Baker	36.20	342	⇓P		P	00 21 19.0	0.0
	baz=36							
FXWY	Fox Creek	36.21	333	*e*P		P	00 21 19.3	-0.1
	comp=Z,27nm,2.3s							
MDND	Maddock	36.23	348	⇑P		P	00 21 18.8	-0.5
	baz=36							
MDND	Maddock	36.23	348	*e*P		P	00 21 18.7	-0.5
	comp=Z,47nm,0.8s							
I17A	Pilgrim Ck.	36.23	334	⇑P		P	00 21 19.1	-0.5
	baz=36							
G20A	Bridger	36.34	337	⇓P		P	00 21 20.2	-0.2
	baz=36							
IMW	Indian Meadow	36.37	333	*e*P		P	00 21 21.0	+0.1
	comp=Z,3.3nm,0.7s							
FLWY	Flagg Ranch	36.41	334	*e*P		P	00 21 21.7	+0.5
	comp=Z,6.8nm,0.9s							
D25A	Fairfield	36.45	344	⇑P		P	00 21 21.5	+0.3
	baz=36							
H18A	Shoshone NF, C	36.46	335	⇑P		P	00 21 21.4	-0.1
	baz=36,SNR=12							
NVAR	Mina Array Bea	36.47	320	P		P	00 21 23.8	+2.1
	comp=Z,5.3nm,0.8s,baz=136,slow=9.1,SNR=31							
NVAR				PcP		PcP	00 23 47.2	+2.0
	comp=Z,2.6nm,0.8s,baz=139,slow=3.6,SNR=7.6							
B30A	Myrvik Farm, E	36.57	350	⇓P		P	00 21 21.9	-0.3
	baz=37							
E22A	Miles City	36.60	341	⇓P		P	00 21 22.8	+0.4
	baz=37							
H17A	Grant Village	36.61	334	⇓P		P	00 21 23.2	+0.3
	baz=37							
RLMT	Red Lodge	36.67	336	*e*P		P	00 21 22.9	-0.3
D24A	Glendive	36.70	343	⇑P		P	00 21 23.5	+0.1
	baz=37							
C26A	Wahner Farm, P	36.76	346	⇓P		P	00 21 23.9	+0.1
	baz=37							
B29A	Wagenman Farm,	36.77	349	⇓P		P	00 21 23.7	-0.2
	baz=37							
F20A	Billings	36.81	338	⇑P		P	00 21 24.2	-0.1
	baz=37							
C25A	Freed Ranch, W	36.95	344	⇓P		P	00 21 25.3	-0.1
	baz=37							
B28A	Dugan Ranch, T	36.95	348	⇑P		P	00 21 25.4	-0.1
	baz=37							
D23A	Lindsay	37.02	342	⇑P		P	00 21 26.4	+0.4
	baz=37							
A30A	Hoffart Farm,	37.04	350	⇓P		P	00 21 26.1	0.0
	baz=37							
F19A	Roth Farm, Mol	37.15	337	⇓P		P	00 21 27.4	+0.1
	baz=37							
A29A	Manning Farm,	37.19	349	⇑P		P	00 21 27.6	+0.2
	baz=37							
WAKR	Walker	37.23	319	*e*P		P	00 21 27.4	-0.8
D22A	Cohagen	37.30	341	⇓P		P	00 21 28.9	+0.5
	baz=37,SNR=9.1							
E20A	Meyer Farm, Mu	37.40	338	⇑P		P	00 21 29.8	+0.5
	baz=37,SNR=7.6							
B25A	Knox Farm, Ray	37.44	345	⇑P		P	00 21 30.0	+0.4
	baz=38							
C23A	Lambert	37.58	342	⇑P		P	00 21 31.1	+0.4
	baz=38,SNR=7.9							
CMB	Columbia Colle	37.58	318	*e*P		P	00 21 31.5	+0.6
	comp=Z,3.4nm,0.9s							
E19A	Rath Farm, Rou	37.60	338	⇓P		P	00 21 31.4	+0.4
	baz=38							
C22A	Vida	37.73	342	⇓P		P	00 21 32.7	+0.6
	baz=38,SNR=9.9							
HLID	Hailey	37.74	330	⇑P		P	00 21 32.7	+0.4
	baz=38							
HLID	Hailey	37.74	330	*e*P		P	00 21 32.8	+0.5
	comp=Z,20nm,2.3s							
A26A	W Ree Farm, Ken	37.75	346	⇑P		P	00 21 32.3	+0.2
	baz=38							
DGMT	Dagmar	37.90	344	⇓P		P	00 21 34.0	+0.5
	baz=38,SNR=8.6							
DGMT	Dagmar	37.90	344	*e*P		P	00 21 33.5	+0.1
	comp=Z,38nm,0.8s							
D20A	Manuel Ranch,	37.91	339	⇑P		P	00 21 34.5	+0.9
	baz=38,SNR=14							
MCMT	McKenzie Canyo	37.95	332	*e*P		P	00 21 35.0	+0.8
ULM	Lac du Bonnet	37.97	353	P		P	00 21 32.4	-1.6
	comp=Z,13nm,0.7s,baz=161,slow=8.5,SNR=10							
ULM				LR		LR	00 39 21.2	
	comp=Z,56nm,18.0s,baz=284,slow=40							
ULM	Lac du Bonnet	37.97	353	*e*P		P	00 21 32.3	-1.6
	comp=Z,11nm,0.8s							
A25A	Svangstu Ranch	38.05	345	⇓P		P	00 21 34.8	+0.2
	baz=38							
B23A	Brockton	38.12	343	⇑P		P	00 21 35.9	+0.6
	baz=38,SNR=7.4							
C21A	Desert Coulee	38.19	340	⇑P		P	00 21 36.4	+0.5
	baz=38							
D19A	Cripps Ranch,	38.23	338	⇑P		P	00 21 36.8	+0.4
	baz=38,SNR=6.9							
DLMT	Dillon	38.26	333	*e*P		P	00 21 36.8	+0.2
	comp=Z,8.8nm,1.3s							
A24A	Westby	38.26	344	⇓P		P	00 21 36.8	+0.3
	baz=38,SNR=6.4							
MFID	Camas Ranch	38.34	328	*e*P		P	00 21 37.3	-0.1
	comp=Z,3.0nm,0.9s							
C20A	Veseth Ranch,	38.40	340	⇑P		P	00 21 38.1	+0.4
	baz=38							
LRM	Limekiln Ridge	38.55	334	*e*P		P	00 21 39.6	+0.3
C19A	Slack Wire Ran	38.78	339	⇑P		P	00 21 41.2	+0.3
	baz=39,SNR=10							
A22A	Carney Farms,	38.86	342	⇓P		P	00 21 41.9	+0.4
	baz=39,SNR=12							
A21A	Bergtoll Ranch	39.16	342	⇑P		P	00 21 44.3	+0.3
	baz=39							
WVOR	Wild Horse Val	39.19	325	*e*P		P	00 21 44.5	+0.1
	comp=Z,3.8nm,0.9s							
EGMT	Eagleton	39.28	338	⇑P		P	00 21 45.4	+0.3
	baz=39,SNR=6.5							
EGMT	Eagleton	39.28	338	*e*P		P	00 21 45.0	-0.1
	comp=Z,14nm,1.0s							
B19A	Brinkman Farms	39.36	339	⇑P		P	00 21 46.3	+0.6
	baz=39,SNR=12							
A20A	Cobblestone Ra	39.38	341	⇓P		P	00 21 46.3	+0.4
	baz=39							
A19A	Klindworth Far	39.69	340	⇓P		P	00 21 48.6	0.0
	baz=40,SNR=7.9							
CHMT	Chamberlain Mo	39.75	334	*e*P		P	00 21 49.1	-0.1
SIV	San Ignacio	39.77	135	P		P	00 21 49.4	-0.1
	comp=Z,9.2nm,0.9s,baz=311,slow=10,SNR=11							
MSO	Missoula	39.98	333	⇓P		P	00 21 51.3	+0.3
	baz=40							
MSO	Missoula	39.98	333	*e*P		P	00 21 50.2	-0.8
	comp=Z,1.1nm,1.2s							
KIPM	Iron Peak	40.57	318	*e*P		P	00 21 56.9	+0.9
M04C	Macdoel	40.65	322	⇓P		P	00 21 57.7	+1.0
	baz=41							
F10A	Beach Ranch, E	40.87	330	*e*P		P	00 21 57.6	-0.7
KMRM	Mail Ridge	40.94	319	*e*P		P	00 21 59.3	+0.4
	comp=Z,7.7nm,0.9s							
M02C	Callahan	41.04	321	⇑P		P	00 21 59.5	-0.4
	baz=41							
J05D	Fort Rock, OR	41.20	324	⇓P		P	00 22 02.0	+0.8
	baz=41							
KHMM	Horse Mountain	41.30	319	*e*P		P	00 22 02.3	+0.2
	comp=Z,9.0nm,0.9s							
J04D	Umpqua Nationa	41.68	323	⇑P		P	00 22 05.9	+0.7
	baz=42							
WALA	Waterton Lakes	41.72	336	*e*P		P	00 22 04.9	-0.4
	comp=Z,64nm,2.8s							
L02D	Cave Junction,	41.94	321	⇑P		P	00 22 07.5	+0.4
	baz=42							
I04A	Tendick Farm,	42.19	324	⇓P		P	00 22 09.4	+0.2
	baz=42							
H04A	Detroit Lake	42.61	325	*e*P		P	00 22 12.7	+0.2
	comp=Z,6.8nm,0.9s							
C09A	Chrisman Ranch	42.67	331	*e*P		P	00 22 12.2	-0.8
	comp=Z,3.8nm,0.9s							
I03D	Drain, OR	42.67	323	⇑P		P	00 22 14.0	+1.0
	baz=43							
FFC	Flin Flon	43.24	349	*e*P		P	00 22 16.2	-1.2
	comp=Z,4.4nm,0.8s							
G03D	McMinnville, O	43.53	325	⇓P		P	00 22 20.8	+0.9
	baz=44							
EDM	Edmonton	44.88	340	*e*P		P	00 22 29.4	-1.2
SCHQ	Schefferville	45.70	18	P		P	00 22 35.2	-1.8
	comp=Z,15nm,0.8s,baz=217,slow=6.9,SNR=19							
SCHQ				PcP		PcP	00 24 14.6	+0.1
	comp=Z,2.5nm,0.7s,baz=252,slow=6.4,SNR=3.5							
FCC	Fort Churchill	46.25	357	*e*P		P	00 22 41.0	-0.3
YKA	Yellowknife Ar	53.05	346	P		P	00 23 32.0	-1.0
	comp=Z,7.7nm,0.8s,baz=144,slow=7.6,SNR=70							
YKA				PcP		PcP	00 24 41.8	+0.7
	comp=Z,0.6nm,0.6s,baz=145,slow=4.1,SNR=4.9							
DLBC	Dease Lake	55.06	335	*e*P		P	00 23 48.6	+0.7
PLCA	Paso Flores	55.78	163	P		P	00 23 53.3	0.0
	comp=Z,5.0nm,1.0s,baz=325,slow=7.0,SNR=8.6							
ILAR	Eielson Array	65.21	337	P		P	00 24 57.0	-0.3
	comp=Z,2.5nm,1.0s,baz=175,slow=4.6,SNR=18							
TRF	Thorofare Moun	66.08	335	*e*P		P	00 25 02.8	-0.2
	comp=Z,56nm,2.2s							
SUMG	Summit	66.92	15	*i* P		P	00 25 07.6	-0.9
	comp=Z,4.2nm,1.0s							
EKA	Eskdalemuir Ar	77.56	36	P		P	00 26 08.8	-3.1
	comp=Z,1.4nm,0.8s,baz=289,slow=4.4,SNR=3.4							
CLL	Collm	87.81	38	*e*P		P	00 27 04.0	-1.2
TORD	Torodi Ar. Bea	88.10	77	P		P	00 27 05.2	-2.1
	comp=Z,0.3nm,0.7s,baz=303,slow=5.8,SNR=4.3							
GERES	GERESS Array B	88.99	40	P		P	00 27 09.3	-1.7
	comp=Z,0.4nm,0.7s,baz=251,slow=3.0,SNR=4.4							
ZALV	Zalesovo Beam	113.56	4	PKiKP		PKiKP	00 33 00.9	+6.9
	comp=Z,0.3nm,0.4s,baz=0.0,slow=1.4,SNR=2.4							
ZALV				PP		PP	00 33 42.6	-2.5
	comp=Z,0.8nm,0.7s,baz=355,slow=7.4,SNR=3.6							
KURK	Kurchatov	116.11	9	PKP		PKPdf	00 32 59.6	+0.6
KURBB	Kurchatov Arra	116.18	9	PKP		PKPdf	00 32 59.6	+0.5
	comp=Z,0.3nm,0.3s,baz=352,slow=1.9,SNR=4.7							
SONM	Songino Array	118.28	348	PKP		PKPdf	00 33 04.1	+0.6
	comp=Z,0.7nm,0.7s,baz=340,slow=1.4,SNR=8.0							
MKAR	Makanchi Array	120.43	7	PKP		PKPdf	00 33 07.0	-0.5
	comp=Z,0.3nm,0.7s,baz=20,slow=3.9,SNR=4.5							
HHC	Hu-ho-hao-te	123.47	341	*e*PKP		PKPdf	00 33 15.0	+1.3
WMQ	Urumqi	123.82	3	*e*PKP		PKPdf	00 33 16.4	+2.2
CD2	Chengdu	135.00	344	PKP		PKPdf	00 33 33.0	-2.8
WRA	Warramunga Arr	137.61	254	PKP		PKPdf	00 33 41.4	+0.6
	comp=Z,1.8nm,0.9s,baz=86,slow=2.2,SNR=12							
ASAR	Alice Springs	137.67	249	PKP		PKPdf	00 33 41.5	+0.6
	comp=Z,1.2nm,0.8s,baz=102,slow=1.7,SNR=11							
RPR	Rampur	146.80	20	*e*PKPbc		PKPdf	00 33 57.7	+0.6
HYBB	Hyderabad (bro	147.87	22	*e*PKPab		PKPbc	00 34 01.8	-0.1
HYB	Hyderabad	147.87	22	*i* PKP		PKPbc	00 34 01.5	-0.4
CMAR	Chiang Mai Arr	148.13	345	PKPbc		PKPbc	00 34 03.2	+0.7
	comp=Z,8.7nm,0.8s,baz=333,slow=3.0,SNR=44							
URV	Uravakonda	149.58	26	*e*PKiKP		PKPbc	00 34 06.4	0.0
ADKI	Addanki	149.83	21	*e*PKPbc		PKPdf	00 34 04.4	+2.3
SKHT	Srikalahasti	151.67	23	*e*PKiKP		PKPbc	00 34 11.6	+0.4

WEL 16 00:31:19.1±0.7, 38°27S×175°77E, h278km±6km, ML3.5/4, 1D, Error ellipse: s-maj=8.6km s-min=6.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRVZ	Turoa	1.04	189	PN	Pn	00 31 57.6	+0.1
BHHZ	Black Hill Sta	1.24	169	PN	Pn	00 31 58.2	-0.2
BHHZ				SN	S	00 32 28.7	-0.9
RIGZ	Rimuhau	1.62	106	PN	Pn	00 32 00.7	-0.3
RIGZ				SN	S	00 32 33.0	-1.3
PNHZ	Pukenui	1.67	169	PN	Pn	00 32 01.5	+0.2
WPHZ	Waipukurau	1.86	164	PN	Pn	00 32 03.3	+0.5
MRZ	Mangatainoka R	2.39	183	⇓PN	Pn	00 32 07.2	-0.1
MRZ				SN	S	00 32 45.0	-0.7
KIW	Kapiti Island	2.67	194	PN	Pn	00 32 09.6	-0.3
TCW	Tory Channel	3.15	201	PN	Pn	00 32 14.4	-0.4
NNZ	Nelson	3.47	211	PN	Pn	00 32 17.0	-1.2
THZ	Tophouse	4.12	211	PN	Pn	00 32 24.3	-1.3
THZ				SN	S	00 33 16.6	-2.1
KHZ	Kahutara	4.48	202	PN	Pn	00 32 28.1	-1.4

DHMR 16 00:42:06.7±0.5, 12°06N×44°27E, h12km±73km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	Al 'Udayn	1.92	351	*i* P	Pn	00 42 40.7	+1.2
UDYN				*i* S	Sb	00 43 06.6	+0.6
UDYN				AML	AML	00 43 12.7	
	comp=E,946nm,0.3s						
BDHA	Al Bayda'	2.29	34	*i* P	Pn	00 42 46.3	+1.6
BDHA				*i* S	Sb	00 43 17.7	+0.9
BDHA				AML	AML	00 43 23.6	
	comp=N,889nm,0.9s						
DHBB	Dhamar BB	2.50	3	*i* P	Pb	00 42 50.0	-2.0
DHBB				*i* S	Sb	00 43 23.7	+0.6

IDC 16 00:48:03.4±3.9, 9°54N×73°83W, h111km±36km, mb3.1/2, mb1 3.3/3, mb1mx3.0/23, mbtmp3.6/3, Error ellipse: s-maj=35.8km s-min=29.4km az=90.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	4.68	186	P	Pn	00 49 12.6	+0.1
	5.7nm,0.3s,baz=93,slow=7.7,SNR=8.5						
ROSC				S	Sn	00 50 06.6	+0.5
	5.9nm,0.3s,baz=252,slow=20,SNR=7.4						
YKA	Yellowknife Ar	60.48	340	P	P	00 58 01.3	0.0
	0.3nm,0.6s,baz=130,slow=7.3,SNR=11						
TORD	Torodi Ar. Bea	73.90	79	P	P	00 59 27.0	0.0
	0.2nm,0.3s,baz=287,slow=6.4,SNR=9.4						
TORD				pP	PcP	00 59 46.2	+4.3
	0.2nm,0.4s,baz=278,slow=7.1,SNR=2.0						
ASAR	Alice Springs	150.02	239	PKPbc	PKPbc	01 07 41.7	-0.2
	0.3nm,0.3s,baz=157,slow=2.6,SNR=3.7						
WRA	Warramunga Arr	150.91	246	PKPbc	PKPbc	01 07 43.5	-0.5
	0.1nm,0.4s,baz=107,slow=2.5,SNR=6.6						
WRA				pPKPbc	pPKPbc	01 08 04.1	-10
	0.5nm,0.7s,baz=103,slow=2.9,SNR=2.9						

ISCJB 16 00:50:17.3±0.9, 40°43N±0°05×40°18E±0°07, h10km±5km, Error ellipse: s-maj=10.7km s-min=6.1km az=138.8
DDA 16 00:50:17.1, 40°42N×40°16E, h7km, MD2.6
CSEM 16 00:50:17.5±0.2, 40°41N×40°18E, h8km, MD2.6, Error ellipse: s-maj=4.3km s-min=2.6km az=44.0

**ISC 16 00:50:18.0±1.4, 40°41N±0°04×40°17E±0°04, h6km±6km,

PTEN	**Parque Tenorio**	**1.98**	**332**	*i* P		**Pn**	**01 20 32.1**	**+0.6**
CUI	**Cuipilapa**	**2.02**	**327**	*i* S		**Sg**	**01 21 03.1**	**+0.1**
HORNC	**Hornillas**	**2.07**	**327**	*i* P		**Pn**	**01 20 33.4**	**+0.6**
LIM1	**Limonal**	**2.10**	**325**	*i* P		**Pn**	**01 20 32.4**	**-0.7**
GPS2	**Hotel Rinc˜‡n**	**2.20**	**324**	*i* P		**Pn**	**01 20 34.0**	**-0.5**
LAPC	**Finca la Perla**	**2.26**	**323**	*i* P		**Pn**	**01 20 36.2**	**+0.8**
GB1A	**Boringuen Arri**	**2.28**	**324**	*i* P		**Pn**	**01 20 36.4**	**+0.7**
GBS2	**Las Lilas**	**2.33**	**323**	*i* P		**Pb**	**01 20 38.0**	**-2.1**
TXAR	**Lajitas Array**	**27.38**	**320**	P		**P**	**01 25 48.2**	**+4.5**
	0.1nm,0.5s,baz=138,slow=11,SNR=2.8							
NVAR	**Mina Array Bea**	**42.52**	**319**	P		**P**	**01 27 54.1**	**+0.2**
	0.4nm,0.6s,baz=125,slow=7.8,SNR=3.4							
YKA	**Yellowknife Ar**	**57.85**	**344**	P		**P**	**01 29 46.6**	**-2.8**
	0.3nm,0.7s,baz=138,slow=7.6,SNR=7.3							

ISCJB ***16*** *01:23:15.4±0.3,32.˚75N±0.˚02×115.˚79W±0.˚02,h11km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=158.4*
NEIC ***16*** *01:23:17.8,32.˚66N×115.˚81W,h3km,ML3.4(PAS), After PAS.*
MEX ***16*** *01:23:17.5±0.8,32.˚83N×115.˚72W,h15km,MD3.7*
ECX ***16*** *01:23:18.0±0.6,32.˚67N×115.˚81W,h3km,MD3.4,ML3.6*

ISC 16 01:23:17.1±0.8,32.˚64N±0.˚02×115.˚78W±0.˚02,h13km±6km, n35,σ1°30/73,4C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.04**	**75**	⇑*i*P		**Pg**	**01 23 19.1**	**-0.4**
YUH	**Yuha Desert**	**0.13**	**274**	⇑P		**Pg**	**01 23 20.0**	**-0.4**
COK	**Cook Ranch**	**0.21**	**11**	⇓*i*P		**Pg**	**01 23 21.8**	**0.0**
RMX	**La Rumorosa**	**0.26**	**262**	*e*P		**Pg**	**01 23 22.5**	**-0.1**
RMX				*e*S		**Sg**	**01 23 26.7**	**+0.3**
RMX				⇓*e*			01 23 27.4	
RMX					AML	AML	01 23 27.4	
	comp=N,5μm,0.1s							
CPBX	**Cerro Prieto**	**0.45**	**119**	*e*P		**Pb**	**01 23 26.9**	**-0.1**
CPBX				*e*S		**Sb**	**01 23 34.4**	**+0.7**
CPBX					AML	AML	01 23 36.8	
	comp=E,12μm,0.4s							
CPBX				⇓*e*			01 23 36.8	
CPBX	**Cerro Prieto**	**0.45**	**119**	*e*P		**Pb**	**01 23 26.9**	**-0.1**
CPBX				*e*S		**Sb**	**01 23 34.9**	**+1.2**
MBIG	**Mexicali**	**0.54**	**115**	*i* P		**Pg**	**01 23 28.1**	**+0.5**
MBIG				*i* S		**Sb**	**01 23 36.2**	**+0.1**
RDX	**Rancho Dawling**	**0.72**	**191**	*e*P		**Pg**	**01 23 31.0**	**-0.2**
RDX				*e*S		**Sg**	**01 23 41.0**	**+0.3**
RDX				⇑*e*			01 23 41.9	
RDX					AML	AML	01 23 41.9	
	comp=N,2μm,0.3s							
BAR	**Barrett**	**0.76**	**273**	*e*Pg		**Pg**	**01 23 31.1**	**-0.7**
BAR				*e*Sg		**Sg**	**01 23 40.5**	**-1.3**
EMX	**El Mayor**	**0.79**	**145**	*e*P		**Pg**	**01 23 31.0**	**-1.4**
EMX				*e*S		**Sg**	**01 23 42.0**	**-0.7**
CBX	**Cerro Bola**	**0.82**	**247**	*e*P		**Pg**	**01 23 32.7**	**-0.3**
CBX				*e*S		**Sg**	**01 23 43.7**	**0.0**
CBX	**Cerro Bola**	**0.82**	**247**	⇑*e*P		**Pg**	**01 23 32.8**	**-0.2**
CBX				*e*S		**Sg**	**01 23 43.2**	**-0.5**
CBX	**Cerro Bola**	**0.82**	**247**	*e*P		**Pg**	**01 23 32.5**	**-0.5**
CBX				*e*S		**Sg**	**01 23 43.7**	**0.0**
GLA	**Glamis**	**0.90**	**62**	*e*Pg		**Pg**	**01 23 33.2**	**-1.3**
GLA				*e*Sg		**Sg**	**01 23 45.4**	**-0.8**
PFO	**Pinyon Flats O**	**1.12**	**330**	*e*Pg		**Pb**	**01 23 36.3**	**-2.2**
PFO				*e*Pn		**Pg**	**01 23 39.5**	**+0.6**
PFO				*e*Sg		**Sb**	**01 23 50.4**	**-2.8**
ZAX	**El Zacaton**	**1.20**	**201**	*e*P		**Pn**	**01 23 39.6**	**-0.1**
ZAX				*e*S		**Sn**	**01 23 55.8**	**-0.1**
ECNX	**Esteban Cantu**	**1.20**	**216**	*e*P		**Pn**	**01 23 39.5**	**-0.3**
ECNX				*e*S		**Sb**	**01 23 55.5**	**+0.2**
PBX	**Punta Banda**	**1.20**	**222**	*e*P		**Pn**	**01 23 39.5**	**-0.2**
PBX				*e*S		**Sn**	**01 23 55.7**	**-0.2**
ECBX	**El Chinero**	**1.31**	**152**	*e*P		**Pn**	**01 23 40.3**	**-0.9**
ECBX				*e*S		**Sb**	**01 23 58.6**	**+0.2**
ECBX				⇓*e*			01 24 03.4	
ECBX					AML	AML	01 24 03.4	
	comp=E,824nm,0.4s							
SPIG	**San Pedro Mart**	**1.61**	**171**	*e*P		**Pn**	**01 23 45.5**	**0.0**
SPIG				*e*S		**Sn**	**01 24 05.9**	**-0.5**
SPIG	**San Pedro Mart**	**1.61**	**171**	*e*P		**Pn**	**01 23 45.5**	**0.0**
SPIG				*e*S		**Sn**	**01 24 05.9**	**-0.5**
SPX	**San Pedro Mart**	**1.61**	**170**	*e*P		**Pn**	**01 23 46.2**	**+0.6**
SPX				*e*S		**Sg**	**01 24 09.2**	**+0.1**
SPX	**San Pedro Mart**	**1.61**	**170**	*e*P		**Pn**	**01 23 45.4**	**-0.2**
SPX				*e*S		**Sn**	**01 24 05.8**	**-0.6**
MWC	**Mount Wilson**	**2.48**	**310**	*e*Pg		**Pb**	**01 24 01.0**	**-0.6**
MWC				*e*Sg		**Sb**	**01 24 32.8**	**+0.6**
LDFC	**Landfair**	**2.50**	**13**	*e*Pn		**Pn**	**01 23 57.6**	**0.0**
LDFC				*e*Pg		**Pg**	**01 24 04.5**	**-0.5**
PASC	**Pasadena Art C**	**2.53**	**308**	*e*Pn		**Pn**	**01 23 58.1**	**+0.1**
PASC				*e*Pg		**Pb**	**01 24 03.8**	**+1.4**
PASC				*e*Sg		**Sb**	**01 24 33.3**	**-0.2**
214A	**Organ Pipe Nat**	**2.60**	**104**	*e*Pn		**Pn**	**01 23 57.6**	**-1.3**
214A				*e*Pg		**Pg**	**01 24 06.4**	**-0.6**
GSC	**Goldstone, Bar**	**2.79**	**342**	*e*Pn		**Pn**	**01 24 00.4**	**-1.2**
GSC				*e*Pg		**Pb**	**01 24 07.9**	**+1.0**
GSC				*e*Sg		**Sb**	**01 24 44.0**	**+2.9**
OSI	**Osito Audit: C**	**3.15**	**310**	*e*Pn		**Pn**	**01 24 08.0**	**+1.4**
OSI				*e*Pg		**Pg**	**01 24 16.2**	**-1.4**
OSI				*e*Sg		**Sb**	**01 24 53.7**	**+2.2**
ISA	**Isabella, Lake**	**3.76**	**324**	*e*Pn		**Pn**	**01 24 15.2**	**+0.3**
ISA				*e*Pg		**Pb**	**01 24 25.2**	**+1.8**
ISA				*e*Sg		**Sb**	**01 25 11.6**	**+2.7**
SHPR	**Sheep Range**	**3.89**	**7**	*e*Pn		**Pn**	**01 24 16.8**	**0.0**
SHPR				*e*Pg		**Pb**	**01 24 28.0**	**+2.3**
SHPR				*e*Sg		**Sg**	**01 25 20.0**	**-2.1**
DAC	**Darwin (Calif)**	**3.93**	**338**	*e*Pn		**Pn**	**01 24 16.1**	**-1.3**
DAC				*e*Pg		**Pb**	**01 24 29.0**	**+2.6**
DAC				*e*Sg		**Sg**	**01 25 19.5**	**-3.8**
TUC	**Tucson**	**4.23**	**93**	*e*Pn		**Pn**	**01 24 22.8**	**+1.4**
WUAZ	**Wupatki**	**4.64**	**51**	*e*Pn		**Pn**	**01 24 28.0**	**+0.8**
WUAZ				*e*Pg		**Pg**	**01 24 45.1**	**-1.6**
WUAZ				*e*Sg		**Sb**	**01 25 38.6**	**+4.1**
121A	**Cookes Peak, D**	**6.74**	**89**	*e*Pn		**Pn**	**01 24 55.6**	**-0.4**
	comp=E,3.8nm,0.4s							

IDC ***16*** *01:42:57.1±3.3,9.˚23N×126.˚83E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.5/28,mbtmp3.8/3,Error ellipse: s-maj=255.0km s-min=25.6km az=66.0*
ISCJB ***16*** *01:43:02.4±1.5,9.˚05N±0.˚07×126.˚75E±0.˚10,h51km±18km, mb3.7/3, Error ellipse: s-maj=16.2km s-min=11.0km az=10.7*
MAN ***16*** *01:43:03,9.˚12N×126.˚64E,h21km,mb4.9,ML3.8,MS3.8*

ISC 16 01:43:04.0±2.9,9.˚01N±0.˚06×126.˚7E±0.˚2,h44km±31km, n20,σ1°80/19,mb3.8/3,4C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.08**	**268**	*e*P		**Pn**	**01 43 20.6**	**-2.0**
BUTP				*e*S		Sn	01 43 25.9	-11
SCPH	**Surigao**	**1.43**	**303**	⇓*i*P		**Pn**	**01 43 25.5**	**-2.0**
SCPH				*i* S		**Sn**	**01 43 44.5**	**-0.6**
BUKP	**Musuan**	**1.98**	**236**	*e*P		**Pn**	**01 43 37.2**	**+2.2**
BUKP				*e*S		**Sn**	**01 43 57.1**	**-1.6**
CGP	**Cagayan de Oro**	**2.07**	**255**	⇑*e*P		**Pn**	**01 43 36.7**	**+0.5**
CGP				*e*S		**Sn**	**01 44 01.7**	**+0.9**
MSLP	**Maasin**	**2.14**	**302**	*e*P		**Pn**	**01 43 37.2**	**0.0**
MSLP				*e*S		Sn	01 43 51.0	-12
PLP	**Palo**	**2.74**	**322**	⇑*i*P		**Pn**	**01 43 44.0**	**-1.4**
PLP				*i* S		**Sn**	**01 44 21.2**	**+3.8**
TBP	**Tagbilaran**	**2.89**	**284**	*e*P		**Pn**	**01 43 49.1**	**+1.5**
TBP				*e*S		**Sn**	**01 44 22.1**	**+1.0**
DCPH	**Dipolog City**	**3.35**	**263**	⇑*e*P		**Pn**	**01 43 54.5**	**+0.7**
PAGZ	**Pagadian**	**3.49**	**251**	*e*P		**Pn**	**01 43 53.1**	**-2.7**
GUIM	**Jordan**	**4.37**	**292**	*e*P		**Pn**	**01 44 08.4**	**+0.5**
RCP	**Roxas**	**4.66**	**303**	⇑*e*P		**Pn**	**01 44 12.6**	**+0.8**
WRA	**Warramunga Arr**	**29.73**	**165**	P		**P**	**01 49 06.6**	**+0.3**
	0.6nm,0.3s,baz=346,slow=9.4,SNR=4.9							
ASAR	**Alice Springs**	**33.22**	**168**	P		**P**	**01 49 38.1**	**+1.1**
	0.3nm,0.5s,baz=353,slow=7.0,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	**39.88**	**72**	T		T	02 33 28.7	
	baz=262,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hy**	**39.89**	**72**	T		T	02 33 30.3	
	baz=262,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**39.90**	**72**	T		T	02 33 29.5	
	baz=262,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**40.26**	**70**	T		T	02 34 03.6	
	baz=265							
H11N2	**WAKE ISLAND Hy**	**40.26**	**70**	T		T	02 34 15.6	
	baz=265							
H11N3	**WAKE ISLAND Hy**	**40.27**	**70**	T		T	02 34 05.0	
	baz=265							
MKAR	**Makanchi Array**	**53.29**	**323**	P		**P**	**01 52 17.0**	**-1.6**
	0.9nm,0.6s,baz=124,slow=8.3,SNR=16							

MOS ***16*** *01:45:11.9±0.9,54.˚63N×161.˚13W,h17km,mb5.8/152, MS5.4/75,Error ellipse: s-maj=6.4km s-min=3.7km az=92.2*
BJI ***16*** *01:45:13.4,54.˚70N×161.˚62W,h23km,mB5.6/62, mb5.5/71,Ms5.8/75,Ms7 5.6/71*
GCMT ***16*** *01:45:15.7±0.1,54.˚24N×160.˚88W,h38km,MW5.7/124, Moment Tensor Solution. s112,c226; s124,c322; Duration: 1ª7 Moment tensor: Scale 10¹⁷Nm; Mrr2.94±.04; Mθθ-2.44±.04; Mϕϕ-0.50±.03; Mrθ2.48±.05; Mθϕ-1.75±.03; Mϕr1.48±.04; Best double couple: M₀4.31500×10¹⁷ NP1:ϕ₈59.00000°,δ66.00000°, λ90.00000°. NP2:ϕ₈240.00000°,δ24.00000°,λ90.00000°. Principal axes: T 4.0490, Plg69.0000°, Azm329.0000°; N 0.5290, Plg0.0000°, Azm59.0000°; P -4.5800, Plg21.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***16*** *01:45:15.7,54.˚49N×161.˚04W,h34km,mb5.6/270,ME5.4, MS5.4/153,MW5.6,MW5.7,ML5.2(AEIC),Moment Tensor Solution. s88 Moment tensor: Scale 10¹⁷Nm; Mrr2.15; Mθθ-2.01; Mϕϕ-0.14; Mrθ1.60; Mϕθ-0.33; Mϕr1.16; Best double couple: M₀2.90000×10¹⁷ NP1:ϕ₈273.00000°, δ26.00000°,λ117.00000°. NP2:ϕ₈64.00000°,δ67.00000°, λ77.00000°. Principal axes: T 3.0100, Plg65.0000°, Azm311.0000°; N -0.2700, Plg11.0000°, Azm68.0000°; P -2.7500, Plg20.0000°, Azm163.0000°; Broadband fault plane solution: P waves. NP1:ϕ₈245.00000°,δ10.00000°, λ90.00000°. NP2:ϕ₈65.00000°,δ80.00000°,λ90.00000°. Principal axes: T Plg55.0000°, Azm335.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm155.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism. After AEIC.*
NEIC Felt at Sand Point.
ISCJB ***16*** *01:45:15.2±0.3,54.˚55N±0.˚02×161.˚07W±0.˚02,h42km±2km, mb5.5/454,MS5.4/226 Error ellipse: s-maj=3.0km s-min=1.5km az=11.4*
IDC ***16*** *01:45:16.2±0.7,54.˚51N×161.˚24W,h38km±4km,mb5.0/33, mb1 5.1/35,mb1mx5.1/36,mbtmp5.2/35,ML4.5/3,MS5.3/27, Ms1 5.3/27,ms1mx5.3/30,Error ellipse: s-maj=13.0km s-min=8.3km az=4.0*
SZGRF ***16*** *01:45:17.8,54.˚91N×161.˚32W,h33km,mb5.6,MS5.2, Alaska Peninsula, United States*
NEIC ***16*** *01:45:34.2±0.0,54.˚46N×161.˚14W,h38km,Moment Tensor Solution. s138 Moment tensor: Scale 10¹⁷Nm; Mrr3.72; Mθθ-2.57; Mϕϕ-1.14; Mrθ1.84; Mϕθ-0.48; Mϕr1.06; Best double couple: M₀3.80000×10¹⁷ NP1:ϕ₈255.00000°, δ29.00000°,λ98.00000°. NP2:ϕ₈66.00000°,δ62.00000°, λ86.00000°. Principal axes: T 4.3700, Plg73.0000°, Azm326.0000°; N -1.0200, Plg3.0000°, Azm68.0000°; P -3.3300, Plg16.0000°, Azm159.0000°;*

ISC 16 01:45:14.7±0.3,54.˚53N±0.˚03×161.˚19W±0.˚02,h29km±1km, h28km;pP-P,n1716,σ1°20/1927,mb5.6/456,MS5.4/227, 464C-234D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Op	Phase ID	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.76**	**306**	P		**Pn**	**01 45 31.0**	**+1.5**
DT1	**Dutton Round H**	**0.85**	**313**	P		**Pb**	**01 45 32.6**	**+1.6**
DTNA	**Dutton South F**	**0.87**	**316**	P		**Pb**	**01 45 33.1**	**+1.8**
SDPT	**Sand Point**	**0.92**	**26**	P		**Pb**	**01 45 32.3**	**+0.3**
SDPT				S		**Sb**	**01 45 46.5**	**+2.6**
FALS	**False Pass**	**1.33**	**285**	P		**Pb**	**01 45 39.8**	**+0.8**
FALS				S		**Sb**	**01 45 60.0**	**+4.3**
SSLN	**Shishaldin Nor**	**1.65**	**281**	P		**Pb**	**01 45 44.8**	**+0.3**
SSLW	**Shishaldin Wes**	**1.72**	**279**	P		**Pb**	**01 45 45.8**	**+0.1**
WESE	**West Dahl East**	**1.98**	**270**	P		**Pb**	**01 45 48.9**	**-1.2**
AKUT	**Akutan**	**2.71**	**263**	P		**Pn**	**01 45 59.4**	**+3.2**
AKUT				S		**Sb**	**01 46 33.2**	**-2.0**
AKGG	**Akutan Green G**	**2.83**	**265**	P		**Pn**	**01 46 00.2**	**+2.3**
AKGG				S		**Sb**	**01 46 36.9**	**-1.7**
ZRO	**Akutan Zero**	**2.84**	**263**	P		**Pn**	**01 46 00.5**	**+2.5**
AKRB	**Akutan Reef Bi**	**2.88**	**264**	P		**Pn**	**01 46 01.7**	**+3.0**
UNV	**Unalaska Valle**	**3.19**	**260**	P		**Pn**	**01 46 05.0**	**+2.1**
UNV				S		**Sn**	**01 46 44.4**	**+4.4**
MSW	**Makushin Switc**	**3.34**	**262**	P		**Pn**	**01 46 06.9**	**+2.0**
MSW				S		**Sn**	**01 46 47.6**	**+4.0**
MCIR	**Makushin Cirqu**	**3.40**	**262**	P		**Pn**	**01 46 08.1**	**+2.4**
MSOM	**Makushin Julie**	**3.46**	**260**	P		**Pn**	**01 46 08.6**	**+2.0**
MSOM	**Makushin Julie**	**3.46**	**260**	P		**Pn**	**01 46 08.6**	**+2.0**
PLK4	**Peulik 4**	**4.12**	**39**	P		**Pn**	**01 46 18.7**	**+2.9**
OKFG	**Magazine Ridge**	**4.12**	**257**	P		**Pn**	**01 46 17.8**	**+2.1**
PLK1	**Peulik 1**	**4.16**	**36**	P		Pn	01 46 19.4	+3.2
NIKH	**Nikolski High**	**4.81**	**254**	P		**Pn**	**01 46 27.0**	**+1.9**
KELA	**Mount Kelaz**	**4.95**	**35**	P		**Pn**	**01 46 28.7**	**+1.6**
KCE	**Katmai Mt Cerb**	**5.00**	**39**	P		**Pn**	**01 46 30.4**	**+2.7**
KABR	**Katmai Barrier**	**5.00**	**41**	P		**Pn**	**01 46 28.8**	**+1.0**
KVTA	**Katmai Vly 10**	**5.06**	**38**	P		**Pn**	**01 46 30.1**	**+1.6**
KAKN	**Katmai Knife C**	**5.08**	**40**	P		**Pn**	**01 46 30.9**	**+2.0**
OHAK	**Old Harbor**	**5.20**	**56**	P		**Pn**	**01 46 29.9**	**-0.5**
SPIA	**Saint Paul Isl**	**5.75**	**301**	P		Pn	01 46 41.3	+3.3
KDAK	**Kodiak Island**	**5.81**	**52**	Pn		**Pn**	**01 46 38.0**	**-0.8**
	2μm,0.7s							
KDAK	**Kodiak Island**	**5.81**	**52**	P		**Pn**	**01 46 39.0**	**+0.2**
KDAK	**Kodiak Island**	**5.81**	**52**	P		**Pn**	**01 46 39.0**	**+0.2**
MCNL	**McNeil River**	**5.99**	**36**	P		**Pn**	**01 46 43.1**	**+1.8**
AUH	**Augustine H**	**6.43**	**38**	P		**Pn**	**01 46 49.5**	**+2.0**
AUP	**Augustine Pinn**	**6.44**	**38**	P		**Pn**	**01 46 49.8**	**+2.2**
AUP	**Augustine Pinn**	**6.44**	**38**	P		**Pn**	**01 46 49.8**	**+2.2**
OPT	**Oil Point**	**6.72**	**37**	P		**Pn**	**01 46 53.4**	**+2.1**
ILS	**Iliamna Low So**	**7.00**	**36**	P		**Pn**	**01 46 57.2**	**+1.9**
ILW	**Iliamna West**	**7.05**	**35**	P		**Pn**	**01 46 58.1**	**+2.1**
SVW2	**Sparrevohn**	**7.23**	**22**	P		**Pn**	**01 47 00.8**	**+2.5**
CNPM	**China Poot**	**7.38**	**43**	P		**Pn**	**01 47 00.7**	**+0.2**
RDWB	**Redoubt West**	**7.47**	**34**	P		**Pn**	**01 47 03.4**	**+1.6**
RSO	**Redoubt South**	**7.48**	**34**	*e*Pn		**Pn**	**01 47 04.8**	**+2.8**
NCT	**North Crescent**	**7.50**	**33**	P		**Pn**	**01 47 04.2**	**+2.1**
BRLK	**Bradley Lake**	**7.67**	**43**	P		**Pn**	**01 47 04.1**	**-0.3**
KOFP	**Korovin Flat P**	**8.04**	**259**	P		**Pn**	**01 47 11.8**	**+2.3**
CKL	**Chakachamna La**	**8.18**	**32**	P		**Pn**	**01 47 13.3**	**+2.0**
SPBG	**Spurr Blockage**	**8.21**	**31**	P		**Pn**	**01 47 14.8**	**+2.9**
SPU	**Mount Spurr**	**8.25**	**32**	*e*Pn		Pn	01 47 15.9	+3.6
SEW	**Seward**	**8.45**	**44**	P		**Pn**	**01 47 15.7**	**+0.7**
STLK	**Strandline Lak**	**8.56**	**32**	P		**Pn**	**01 47 18.8**	**+2.1**
TT01	**Tatalina**	**8.82**	**16**	P		**Pn**	**01 47 22.0**	**+1.9**
SUA	**Susitna One**	**8.88**	**34**	P		**Pn**	**01 47 22.3**	**+1.2**
RC01	**Rabbit Creek A**	**8.97**	**38**	P		**Pn**	**01 47 23.9**	**+1.8**
PMR	**Palmer**	**9.52**	**37**	*e*P		**Pn**	**01 47 29.0**	**-0.7**
PMR	**Palmer**	**9.52**	**37**	*e*Pn		**Pn**	**01 47 29.0**	**-0.7**
PPLA	**Purkeypile**	**9.60**	**25**	*e*Pn		Pn	01 47 34.5	+3.7
PPLA				*e*Lg		Lg	01 50 19.7	
ADK	**Adak**	**9.67**	**260**	P		**Pn**	**01 47 34.8**	**+3.1**
ADK	**Adak**	**9.67**	**260**	P		**Pn**	**01 47 34.8**	**+3.1**
HIN	**Hinchinbrook I**	**9.85**	**47**	P		**Pn**	**01 47 34.4**	**+0.3**
GLI	**Glacier Island**	**9.86**	**44**	P		**Pn**	**01 47 33.5**	**-0.8**
CAST	**Castle Rocks**	**10.07**	**24**	*e*Pn		Pn	01 47 40.8	+3.7
EYAK	**Cordova Ski Ar**	**10.24**	**48**	*e*Pn		**Pn**	**01 47 38.7**	**-0.9**
KTH	**Kantishna Hill**	**10.46**	**26**	*e*Pn		**Pn**	**01 47 44.0**	**+1.3**
KTH				*e*Lg		Lg	01 50 58.1	
DIV	**Divide**	**10.53**	**45**	*e*Pn		**Pn**	**01 47 43.5**	**-0.1**
DIV				*e*Sn		**Sn**	**01 49 37.9**	**-2.6**
TRF	**Thorofare Moun**	**10.55**	**28**	*e*Pn		**Pn**	**01 47 44.5**	**+0.6**
TRF				*e*Lg		Lg	01 50 57.6	
GAMB	**Gambell**	**10.71**	**334**	*e*Pn		Pn	01 47 49.8	+3.9
BMRM	**Bremner River**	**10.94**	**47**	*e*Pn		**Pn**	**01 47 48.6**	**-0.6**
BMRM				*e*Sn		**Sn**	**01 49 48.9**	**-1.5**
MCK	**McKinley**	**11.15**	**29**	*e*P		**Pn**	**01 47 50.8**	**-1.1**
MCK	**McKinley**	**11.15**	**29**	*e*Pn		**Pn**	**01 47 50.8**	**-1.1**
MCK				*e*Lg		Lg	01 51 15.9	
TNA	**Tin City**	**11.55**	**346**	*e*Pn		Pn	01 48 01.2	+3.8
PAX	**Paxson**	**11.72**	**38**	*e*P		**Pn**	**01 47 59.0**	**-0.9**
PAX	**Paxson**	**11.72**	**38**	*e*Pn		**Pn**	**01 47 59.0**	**-0.9**
IM04	**Indian Mountai**	**12.04**	**15**	*e*Pn		**Pn**	**01 48 06.3**	**+2.1**
COLA	**College**	**12.33**	**27**	*e*P		**Pn**	**01 48 06.2**	**-1.8**
COLA	**College**	**12.33**	**27**	*e*Pn		**Pn**	**01 48 06.2**	**-1.8**
ILAR	**Eielson Array**	**12.52**	**29**	Pn		**Pn**	**01 48 08.3**	**-2.3**
	1.3nm,0.3s,baz=218,slow=13,SNR=51							
ILAR					LR	LR	01 53 30.6	
	comp=Z,28μm,20.4s,baz=239,slow=39							
ILAR					ScP	**ScP**	**01 57 17.8**	**-1.1**
	baz=260,slow=2.7,SNR=4.0							
ILAR					P3KP		02 24 56.4	
	0.0nm,0.3s,baz=45,slow=1.8,SNR=5.0							
DOT	**Dot Lake**	**12.64**	**37**	*e*Pn		**Pn**	**01 48 12.4**	**-0.1**
COLD	**Coldfoot**	**13.78**	**18**	*e*Pn		**Pn**	**01 48 27.7**	**-0.1**
HYT	**Haines Junctio**	**14.10**	**54**	*e*Pn		**Pn**	**01 48 33.0**	**+0.7**
EGAK	**Eagle**	**14.34**	**36**	*e*Pn		**Pn**	**01 48 34.2**	**-1.3**
	112nm,0.5s							
DAWY	**Dawson**	**14.59**	**40**	*e*Pn		**Pn**	**01 48 38.3**	**-0.6**
SIT	**Sitka**	**14.73**	**70**	*e*P		**Pn**	**01 48 41.1**	**+0.3**
SIT	**Sitka**	**14.73**	**70**	*e*Pn		**Pn**	**01 48 41.1**	**+0.3**
SKAG	**Skagway**	**14.88**	**60**	*e*Pn		**Pn**	**01 48 43.3**	**+0.5**
WRAK	**Wrangell Islan**	**16.41**	**72**	*e*Pn		**P**	**01 49 04.7**	**-0.5**
	234nm,1.1s							
H02N1	**VAN INLET T-PH**	**16.89**	**83**	Pn		**P**	**01 49 12.7**	**+2.1**
H02N1				T		T	02 05 59.7	
	SNR=4.4							
H02S1	**DAWSON INLET T**	**16.94**	**83**	Pn		**Pn**	**01 49 09.7**	**+0.4**
H02S1				T		T	02 06 03.6	
	SNR=7.1							
DLBC	**Dease Lake**	**17.56**	**64**	P		**P**	**01 49 18.4**	**+0.4**
	1.6nm,0.3s,baz=280,slow=10,SNR=19							
DLBC	**Dease Lake**	**17.56**	**64**	*e*Pn		**P**	**01 49 18.5**	**+0.5**
BBB	**Bella Bella**	**19.78**	**83**	P		**Pn**	**01 49 44.0**	**0.0**
	0.3nm,0.3s,baz=281,slow=13,SNR=6.8							
BILL	**Bilibino**	**20.33**	**324**	*c i*P		**P**	**01 49 48.8**	**+0.7**
BILL				*i*			01 50 02.3	
BILL					pmax	pmax		
	comp=Z,75nm,1.1s							
BILL					MLR	MLR		
	comp=Z,39μm,18.0s							
BILL	**Bilibino**	**20.33**	**324**	*e*P		**P**	**01 49 48.5**	**+0.3**
	comp=Z,336nm,1.5s							
BILL					LR	LR		
	comp=Z,28μm,20.0s							
PET	**Petropavlovsk**	**23.56**	**283**	*e*P		**P**	**01 50 22.2**	**-0.2**
PET				*e*S		**S**	**01 54 28.0**	**-6.3**
PET					pmax	pmax		
	comp=Z,1μm,13.4s							
PET					pmax	pmax		
	comp=Z,459nm,0.9s							
PET					MLR	MLR		
	comp=Z,5μm,16.0s							
PET					MLR	MLR		
	comp=Z,5μm,16.0s							
PET	**Petropavlovsk**	**23.56**	**283**	*e*P		**P**	**01 50 22.2**	**-0.2**
	comp=Z,587nm,1.2s							
PET					LR	LR		
	comp=Z,8μm,20.0s							
PGC	**Sidney**	**23.96**	**89**	*e*P		**P**	**01 50 27.3**	**+1.1**
	comp=Z,802nm,2.2s							
PETK	**Petropavlovsk-**	**24.07**	**284**	P		**P**	**01 50 27.4**	**+0.2**
	comp=Z,188nm,0.9s,baz=90,slow=12,SNR=94							
PETK					PcP	**PcP**	**01 54 09.3**	**+1.4**
	comp=Z,17nm,1.0s,baz=121,slow=7.4,SNR=6.8							
PETK					LR	LR	02 00 00.4	
	comp=Z,5μm,20.6s,baz=84,slow=37							
NLWA	**Neilton Lookou**	**24.34**	**92**	*e*P		**P**	**01 50 32.0**	**+2.2**
	comp=Z,148nm,0.9s							
NLWA					LR	LR		
	comp=Z,13μm,19.0s

YBH pmax pmax
comp=Z,43nm,1.1s
YBH Yreka Blue Hor 28.31 101 P **P 01 51 07.3 +1.6**
comp=Z,13nm,0.9s,baz=293,slow=5.4,SNR=34
YBH Yreka Blue Hor 28.31 101 *eP* **P 01 51 07.4 +1.6**
comp=Z,42nm,1.1s
YBH *eScP* **ScP 01 57 54.3 -2.4**
G08A Pilot Rock 28.33 91 *eP* **P 01 51 07.0 +1.1**
comp=Z,74nm,1.6s
M02C Callahan 28.45 102 ⇓P **P 01 51 08.4 +1.4**
baz=28,SNR=17
I07A Izee 28.71 94 *eP* **P 01 51 09.6 +0.2**
comp=Z,36nm,1.0s
K05A Summer Lake 28.73 97 *eP* **P 01 51 11.6 +2.0**
comp=Z,154nm,1.3s
KMRM Mail Ridge 28.74 104 *eP* **P 01 51 11.9 +2.4**
comp=Z,88nm,1.1s
M04C Macdoel 28.78 100 ⇓P **P 01 51 11.1 +1.2**
baz=29,SNR=21
N02D Trinity Center 28.81 102 ⇑P **P 01 51 10.7 +0.6**
baz=29,SNR=15
F10A Beach Ranch, E 28.96 89 *eP* **P 01 51 12.5 +1.0**
comp=Z,40nm,1.0s
KIPM Iron Peak 29.15 105 *eP* **P 01 51 14.5 +1.3**
comp=Z,96nm,1.1s
KIPM *eScP* **ScP 01 57 58.6 -0.8**
WDC Macdoel 29.16 103 *eP* **P 01 51 14.6 +1.4**
WDC *e* 01 54 19.1
WDC *e* 01 57 57.5
WDC pmax pmax
comp=Z,39nm,1.1s
WDC Whiskeytown Da 29.16 103 *eP* **P 01 51 14.6 +1.4**
comp=Z,39nm,1.1s
WDC *ePcP* **PcP 01 54 19.1 -1.0**
WDC *eScP* **ScP 01 57 57.5 -1.7**
KCPM Cahto Peak 29.18 105 *eP* **P 01 51 14.8 +1.3**
comp=Z,28nm,1.0s
WALA Waterton Lakes 29.29 81 *eP* **P 01 51 15.2 +0.8**
WALA *ePcP* **PcP 01 54 20.3 -0.1**
BSMT Bassoo Peak 29.39 84 *eP* **P 01 51 16.4 +1.0**
BSMT *ePcP* **PcP 01 54 20.7 0.0**
BSMT *eScP* **ScP 01 57 58.6 -1.5**
BLMT Blacktail Moun 29.55 83 *eP* **P 01 51 18.0 +1.2**
MOD Modoc Plateau 29.59 98 *eP* **P 01 51 18.7 +1.5**
comp=Z,92nm,1.2s
MOD *ePcP* **PcP 01 54 21.7 +0.4**
MOD *eScP* **ScP 01 57 59.8 -1.0**
JTMT Jette 29.73 84 *eP* **P 01 51 19.3 +1.0**
JTMT *ePcP* **PcP 01 54 21.6 +0.1**
JTMT *eScP* **ScP 01 57 59.7 -1.5**
YBMT Yellow Bay 29.83 83 *eP* **P 01 51 20.1 +0.9**
HOPS Hopland Field 29.94 105 *eP* **P 01 51 21.1 +1.1**
comp=Z,30nm,1.2s
HOPS *ePcP* **PcP 01 54 21.9 -0.1**
SWMT Swartz Lake 30.02 84 *eP* **P 01 51 21.7 +0.9**
SWMT *eScP* **ScP 01 58 00.1 -2.0**
WVOR Wild Horse Val 30.22 96 *eP* **P 01 51 23.5 +0.8**
WVOR pmax pmax
comp=Z,127nm,1.7s
WVOR MLR MLR
comp=Z,9μm,19.0s
WVOR Wild Horse Val 30.22 96 *eP* **P 01 51 23.4 +0.8**
comp=Z,127nm,1.7s
WVOR LR LR
comp=Z,9μm,19.0s
MSO Missoula 30.41 85 ⇓P **P 01 51 24.6 +0.3**
baz=30,SNR=14
MSO Missoula 30.41 85 *eP* **P 01 51 24.9 +0.6**
comp=Z,46nm,1.2s
SLMT Seeley Lake 30.45 84 *eP* **P 01 51 25.3 +0.6**
SLMT *ePcP* **PcP 01 54 23.3 -0.2**
SLMT *eScP* **ScP 01 58 00.8 -2.8**
OHCM Honcut 30.60 103 *eP* **P 01 51 26.9 +1.0**
CHMT Chamberlain Mo 30.77 84 *eP* **P 01 51 27.9 +0.3**
MFID Camas Ranch 31.25 92 *eP* **P 01 51 32.9 +1.1**
comp=Z,121nm,1.5s
MFID *ePcP* **PcP 01 54 25.9 +0.3**
MFID *eScP* **ScP 01 58 03.8 -2.5**
SAC San Andreas 31.30 107 *eP* **P 01 51 32.3 +0.2**
SAC pmax pmax
comp=Z,65nm,0.9s
SAC San Andreas 31.30 107 *eP* **P 01 51 32.3 +0.2**
comp=Z,65nm,0.9s
HRY Holter Researc 31.70 84 *eP* **P 01 51 36.2 +0.6**
HRY *ePcP* **PcP 01 54 25.8 -0.9**
LRM Limekiln Ridge 31.83 85 *eP* **P 01 51 36.8 -0.1**
LRM *ePcP* **PcP 01 54 26.6 -0.7**
HLID Hailey 31.99 90 ⇑P **P 01 51 38.4 +0.1**
baz=32,SNR=44
HLID Hailey 31.99 90 *eP* **P 01 51 39.1 +0.8**
comp=Z,68nm,1.1s
HLID *ePcP* **PcP 01 54 27.5 -0.1**
HLID *eScP* **ScP 01 58 07.2 -1.5**
HLID LR LR
comp=Z,10μm,21.0s
DLMT Dillon 32.00 86 *eP* **P 01 51 39.2 +0.9**
comp=Z,63nm,1.4s
CMB Columbia Colle 32.12 104 *eP* **P 01 51 40.2 +0.9**
CMB *e* 01 54 27.8
CMB pmax pmax
comp=Z,46nm,1.2s
CMB Columbia Colle 32.12 104 *eP* **P 01 51 40.2 +0.9**
comp=Z,46nm,1.2s
CMB *ePcP* **PcP 01 54 27.8 -0.1**
MCMT McKenzie Canyo 32.16 87 *eP* **P 01 51 40.3 +0.4**
comp=Z,16nm,0.8s
MCMT *ePcP* **PcP 01 54 28.8 +0.6**
MCMT *eScP* **ScP 01 58 09.2 -0.2**
EGMT Eagleton 32.20 80 ⇑P **P 01 51 40.0 -0.1**
baz=32,SNR=11
EGMT Eagleton 32.20 80 *eP* **P 01 51 40.4 +0.3**
comp=Z,63nm,1.1s
EGMT *ePcP* **PcP 01 54 27.1 -0.9**
EGMT *eScP* **ScP 01 58 07.0 -2.3**
EGMT LR LR
comp=Z,5μm,20.0s
RES Resolute Bay 32.26 27 *eP* **P 01 51 39.3 -0.8**
RES *e* 01 54 27.0
RES pmax pmax
comp=Z,31nm,1.0s
RES Resolute Bay 32.26 27 *eP* **P 01 51 39.3 -0.8**
comp=Z,31nm,1.0s
RES *ePcP* **PcP 01 54 27.0 -0.6**
BMN Battle Mountai 32.31 98 *eP* **P 01 51 42.0 +0.9**
BMN pmax pmax
comp=Z,71nm,1.4s
BMN Battle Mountai 32.31 98 *eP* **P 01 51 42.0 +0.9**
comp=Z,71nm,1.4s
A19A Klindworth Far 32.32 78 ⇓P **P 01 51 40.9 -0.1**
baz=32,SNR=17
WAKR Walker 32.33 102 *eP* **P 01 51 42.9 +1.5**
SAO San Andreas Ge 32.42 107 *eP* **P 01 51 42.7 +0.8**
SAO pmax pmax
comp=Z,10.0nm,1.2s
SAO San Andreas Ge 32.42 107 *eP* **P 01 51 42.7 +0.8**
comp=Z,9.7nm,1.2s
B19A Brinkman Farms 32.44 79 ⇓P **P 01 51 41.8 -0.3**
baz=32
C19A Slack Wire Ran 32.76 80 ⇑P **P 01 51 45.7 +0.8**
baz=32,SNR=41
A20A Cobblestone Ra 32.81 78 ⇑P **P 01 51 45.4 +0.1**
baz=33,SNR=24
B20A Solberg Farm, 32.98 78 ⇓P **P 01 51 46.8 0.0**
baz=33,SNR=8.3
QLMT Earthquake Lak 32.98 86 *eP* **P 01 51 48.0 +0.9**
QLMT *ePcP* **PcP 01 54 29.4 -1.0**
QLMT *eScP* **ScP 01 58 11.2 -1.0**
NVAR Mina Array Bea 33.03 101 P **P 01 51 48.8 +1.3**
comp=Z,20nm,0.9s,baz=300,slow=8.2,SNR=87
NVAR PcP **PcP 01 54 30.4 -0.3**
comp=Z,3.2nm,0.8s,baz=304,slow=1.6,SNR=4.4
NVAR ScP **ScP 01 58 12.3 -0.2**
comp=Z,2.2nm,0.8s,baz=283,slow=2.9,SNR=6.5
KIP Kipapa 33.14 175 PFAKE
KIP LR LR 01 52 00.0 +12
comp=Z,8μm,19.0s
D19A Cripps Ranch, 33.16 81 ⇓P **P 01 51 48.6 +0.1**
baz=33
ELK Elko 33.26 95 *eP* **P 01 51 50.9 +1.4**
ELK pmax pmax
comp=Z,54nm,1.1s
ELK Elko 33.26 95 *eP* **P 01 51 50.9 +1.4**
comp=Z,54nm,1.1s
MLAC Mammoth, Mammo 33.28 103 ⇑P **P 01 51 50.0 +0.3**
baz=33

A21A Bergtoll Ranch 33.32 77 ⇑P **P 01 51 49.7 0.0**
baz=33,SNR=6.8
YMR Madison River 33.35 86 *eP* **P 01 51 51.3 +1.1**
comp=Z,168nm,1.4s
YMR *ePcP* **PcP 01 54 31.8 +0.4**
YMR *eScP* **ScP 01 58 11.5 -2.0**
C20A Veseth Ranch, 33.37 79 ⇓P **P 01 51 50.6 +0.4**
baz=33,SNR=33
FFC Flin Flon 33.39 65 P **P 01 51 50.8 +0.6**
comp=Z,74nm,1.0s,SNR=7.9
FFC Flin Flon 33.39 65 *eP* **P 01 51 50.1 -0.1**
FFC pmax pmax
comp=Z,18nm,1.0s
FFC MLR MLR
comp=Z,7μm,19.0s
FFC Flin Flon 33.39 65 *eP* **P 01 51 50.1 -0.1**
comp=Z,18nm,1.0s
FFC LR LR
comp=Z,7μm,19.0s
GCMT Greycliff 33.46 83 *eP* **P 01 51 51.7 +0.5**
comp=Z,24nm,1.1s
GCMT *ePcP* **PcP 01 54 31.3 -0.3**
TIXI Tiksi 33.48 327 *c iP* **P 01 51 50.0 -0.8**
TIXI pmax pmax
comp=Z,18nm,1.2s
TIXI MLR MLR
comp=Z,14μm,19.0s
TIXI Tiksi 33.48 327 *eP* **P 01 51 49.7 -1.1**
comp=Z,16nm,1.0s
TIXI *ePcP* **PcP 01 54 31.1 0.0**
TIXI *eScP* **ScP 01 58 12.4 -0.7**
TIXI LR LR
comp=Z,12μm,19.0s
YNR Norris Junctio 33.48 86 *eP* **P 01 51 53.2 +1.7**
comp=Z,99nm,1.1s
YNR *ePcP* **PcP 01 54 32.4 +0.6**
YNR *eScP* **ScP 01 58 13.2 -0.8**
YFT Old Faithful 33.55 86 *eP* **P 01 51 52.6 +0.6**
comp=Z,70nm,1.0s
YFT *ePcP* **PcP 01 54 33.7 +1.6**
B21A Ellsworth Farm 33.56 78 ⇓P **P 01 51 51.6 -0.2**
baz=33
E19A Rath Farm, Rou 33.60 82 ⇓P **P 01 51 52.7 +0.5**
baz=33,SNR=15
D20A Manuel Ranch, 33.63 80 ⇓P **P 01 51 53.2 +0.8**
baz=33,SNR=14
H17A Grant Village 33.73 86 ⇑P **P 01 51 54.8 +1.1**
baz=34,SNR=23
H17A Grant Village 33.73 86 *eP* **P 01 51 55.9 +2.3**
comp=Z,128nm,1.2s
H17A *ePcP* **PcP 01 54 32.8 +0.2**
H17A *eScP* **ScP 01 58 11.7 -3.2**
LKWY Lake 33.73 86 PFAKE
LKWY LR LR 01 52 10.0 +16
comp=Z,1μm,20.0s
IMW Indian Meadow 33.81 87 *eP* **P 01 51 55.7 +1.3**
comp=Z,78nm,1.3s
F19A Roth Farm, Mol 33.84 83 ⇑P **P 01 51 54.8 +0.4**
baz=34,SNR=11
FLWY Flagg Ranch 33.84 87 *eP* **P 01 51 56.1 +1.6**
comp=Z,125nm,1.3s
A22A Carney Farms, 33.89 76 ⇓P **P 01 51 54.8 +0.1**
baz=34,SNR=9.8
TPH Tonopah 33.89 101 *eP* **P 01 51 56.3 +1.3**
TPH *e* 01 54 32.3
TPH pmax pmax
comp=Z,83nm,1.1s
TPH Tonopah 33.89 101 *eP* **P 01 51 56.3 +1.3**
comp=Z,83nm,1.1s
TPH *ePcP* **PcP 01 54 32.3 -0.8**
TPH *eScP* **ScP 01 58 14.2 -1.3**
FXWY Fox Creek 33.92 88 *eP* **P 01 51 56.4 +1.1**
comp=Z,20nm,1.0s
E20A Meyer Farm, Mu 33.95 81 ⇑P **P 01 51 55.9 +0.6**
baz=34,SNR=8.3
RCTC Rector, Farmer 33.98 105 ⇓P **P 01 51 56.4 +0.8**
baz=34
I17A Pilgrim Ck. 34.01 87 ⇓P **P 01 51 56.7 +0.7**
baz=34,SNR=13
TIN Tinemaha, Big 34.03 103 ⇑P **P 01 51 55.8 -0.3**
baz=34
HVU Hansel Valley 34.03 92 *eP* **P 01 51 57.3 +1.1**
HVU *e* 01 54 33.5
HVU pmax pmax
comp=Z,136nm,1.2s
HVU Hansel Valley 34.03 92 *eP* **P 01 51 57.2 +1.1**
comp=Z,136nm,1.2s
HVU *ePcP* **PcP 01 54 33.5 +0.1**
HVU *eScP* **ScP 01 58 14.6 -1.3**
TPAW Teton Pass 34.05 88 *eP* **P 01 51 57.8 +1.4**
comp=Z,42nm,1.1s
H18A Shoshone NF, C 34.10 85 ⇓P **P 01 51 57.0 +0.3**
baz=34,SNR=6.3
LOHW Long Hollow 34.18 87 *eP* **P 01 51 58.6 +1.1**
comp=Z,41nm,1.4s
REDW Red Top Meadow 34.18 88 *eP* **P 01 51 58.8 +1.2**
comp=Z,60nm,1.3s
B22A Reddig Ranch S 34.20 77 ⇑P **P 01 51 57.3 -0.2**
baz=34
SMMC Simmler 34.28 107 ⇓P **P 01 51 58.6 +0.4**
baz=34
D21A La Casta Ranch 34.30 80 ⇓P **P 01 51 58.1 -0.1**
baz=34
F20A Billings 34.33 82 ⇑P **P 01 51 58.9 +0.2**
baz=34,SNR=8.2
VES Vestal, Richgr 34.41 105 ⇑P **P 01 51 59.8 +0.5**
baz=34,SNR=15
BGU Big Grassy Mou 34.43 93 *eP* **P 01 52 00.8 +1.2**
comp=Z,106nm,1.3s
BGU *ePcP* **PcP 01 54 34.6 +0.1**
BGU *eScP* **ScP 01 58 16.1 -1.2**
A23A Redstone 34.49 76 P **P 01 52 00.0 +0.1**
baz=34
H19A Powell 34.49 85 ⇓P **P 01 52 00.6 +0.5**
baz=34,SNR=8.0
E21A Keefer Ranch, 34.54 81 ⇓P **P 01 51 60.0 -0.4**
baz=34
GRAC Grapevine Rang 34.55 102 ⇑P **P 01 52 01.7 +1.2**
baz=34,SNR=6.6
C22A Vida 34.56 78 ⇑P **P 01 52 00.3 -0.3**
baz=34
G20A Bridger 34.62 83 ⇑P **P 01 52 01.3 +0.1**
baz=34,SNR=14
R11A Troy Canyon, C 34.65 99 ⇑P **P 01 52 02.1 +0.6**
baz=34,SNR=86
R11A Troy Canyon, C 34.65 99 *eP* **P 01 52 02.3 +0.8**
comp=Z,99nm,1.2s
R11A *ePcP* **PcP 01 54 35.1 -0.1**
B23A Brockton 34.69 76 ⇑P **P 01 52 01.6 -0.1**
baz=34,SNR=20
D22A Cohagen 34.72 79 ⇑P **P 01 52 02.2 +0.4**
baz=34,SNR=15
HWUT Hardware Ranch 34.85 91 PFAKE
HWUT LR LR 01 52 10.0 +6.7
comp=Z,1μm,21.0s
I19A Meeteetse 34.86 86 ⇑P **P 01 52 03.6 +0.3**
baz=35,SNR=7.4
ISA Isabella, Lake 34.88 105 *eP* **P 01 52 04.4 +1.0**
ISA pmax pmax
comp=Z,51nm,1.1s
ISA Isabella, Lake 34.88 105 ⇓P **P 01 52 04.1 +0.7**
baz=35,SNR=9.4
ISA Isabella, Lake 34.88 105 *eP* **P 01 52 04.4 +1.0**
comp=Z,51nm,1.1s
F21A Absaloka Mine, 34.91 82 ⇑P **P 01 52 03.6 0.0**
baz=35
C23A Lambert 34.93 77 ⇑P **P 01 52 03.8 +0.1**
baz=35,SNR=34
DAC Darwin (Calif) 34.94 103 *eP* **P 01 52 04.9 +0.8**
DAC *e* 01 54 36.2
DAC pmax pmax
comp=Z,53nm,0.9s
DAC Darwin (Calif) 34.94 103 *eP* **P 01 52 04.9 +0.8**
comp=Z,53nm,0.9s
DAC *ePcP* **PcP 01 54 36.2 +0.1**
LAO LASA Array 34.95 80 PFAKE
LAO LR LR 01 52 20.0 +16
comp=Z,3μm,19.0s
POHA Pohakuloa 34.98 171 PFAKE
POHA LR LR 01 52 20.0 +15
comp=Z,6μm,20.0s
A24A Westby 35.01 75 ⇑P **P 01 52 04.5 +0.2**
baz=35,SNR=16
DUG Dugway, Tooele 35.02 94 *eP* **P 01 52 05.7 +1.0**
DUG *e* 01 54 36.4
DUG pmax pmax
comp=Z,253nm,1.4s

DUG MLR MLR
comp=Z,4μm,20.0s
DUG Dugway, Tooele 35.02 94 ⇑P **P 01 52 05.4 +0.7**
baz=35,SNR=91
DUG Dugway, Tooele 35.02 94 *eP* **P 01 52 05.7 +1.0**
comp=Z,253nm,1.4s
DUG *ePcP* **PcP 01 54 36.4 +0.2**
DUG *eScP* **ScP 01 58 18.1 -1.3**
DUG LR LR
comp=Z,4μm,20.0s
ARVC Arvin 35.07 106 ⇓P **P 01 52 05.4 +0.4**
baz=35,SNR=5.4
SBC Santa Barbara 35.08 108 ⇑P **P 01 52 05.3 +0.2**
baz=35
DGMT Dagmar 35.14 76 ⇓P **P 01 52 05.4 -0.1**
baz=35
DGMT Dagmar 35.14 76 *eP* **P 01 52 05.4 -0.1**
comp=Z,87nm,1.4s
DGMT LR LR
comp=Z,8μm,19.0s
MPMC Manual Prospec 35.15 104 ⇓P **P 01 52 06.5 +0.6**
baz=35,SNR=47
H20A Greybull 35.17 84 ⇓P **P 01 52 06.0 +0.1**
baz=35,SNR=5.0
G21A Lodge Grass 35.20 83 ⇓P **P 01 52 05.9 -0.3**
baz=35
FURC Furnace Creek, 35.22 102 ⇑P **P 01 52 06.2 0.0**
baz=35
TPNV Topopah Spring 35.23 101 *eP* **P 01 52 07.8 +1.2**
TPNV pmax pmax
comp=Z,112nm,1.0s
TPNV Topopah Spring 35.23 101 ⇓P **P 01 52 07.1 +0.6**
baz=35,SNR=70
TPNV Topopah Spring 35.23 101 *eP* **P 01 52 07.8 +1.2**
comp=Z,112nm,1.0s
E22A Miles City 35.24 80 ⇓P **P 01 52 06.6 +0.2**
baz=35,SNR=9.3
TCUT Toone Canyon 35.25 91 *eP* **P 01 52 07.2 +0.4**
comp=Z,128nm,1.2s
TCUT *eScP* **ScP 01 58 19.8 -0.5**
D23A Lindsay 35.26 78 ⇓P **P 01 52 05.8 -0.8**
baz=35
J19A Crowheart 35.29 87 ⇑P **P 01 52 07.0 0.0**
baz=35
BW06 Boulder Array 35.30 88 PFAKE
BW06 LR LR 01 52 20.0 +13
comp=Z,864nm,22.0s
PDAR Pinedale Array 35.30 88 P **P 01 52 07.6 +0.4**
comp=Z,2.9nm,0.6s,baz=308,slow=5.5,SNR=19
PDAR ScP **ScP 01 58 18.8 -1.7**
comp=Z,0.7nm,0.6s,baz=270,slow=4.4,SNR=4.1
PDAR LR LR 02 05 36.3
comp=Z,3μm,18.5s,baz=304,slow=34
YUK Yuzh-Kuril'sk 35.30 275 *d iP* **P 01 52 03.8 -3.0**
YUK *i* 01 53 23.5
YUK pmax pmax
comp=N,191nm,1.3s
YUK pmax pmax
comp=E,319nm,1.3s
YUK pmax pmax
comp=Z,477nm,1.3s
YUK pmax pmax
comp=Z,1μm,1.7s
YUK MLR MLR
comp=N,2μm,21.0s
YUK MLR MLR
comp=E,2μm,21.0s
YUK MLR MLR
comp=Z,3μm,21.0s
CTU Camp Tracy 35.32 92 *eP* **P 01 52 07.4 +0.1**
comp=Z,46nm,1.0s
CTU *ePcP* **PcP 01 54 36.6 -0.5**
I20A Worland 35.42 85 ⇓P **P 01 52 08.6 +0.6**
baz=35,SNR=14
YSS Yuzh-Sakhalins 35.42 281 *eP* **P 01 52 08.0 +0.2**
YSS *e* 01 52 19.8
YSS *e* 01 53 22.7
YSS *eS* **S 01 57 36.0 -4.6**
YSS pmax pmax
comp=Z,80nm,1.2s
YSS MLR MLR
comp=E,5μm,20.0s
YSS MLR MLR
comp=Z,6μm,20.0s
YSS Yuzh-Sakhalins 35.42 281 *eP* **P 01 52 08.7 +0.8**
comp=Z,94nm,1.5s
YSS LR LR
comp=Z,2μm,21.0s
F22A Rosebud 35.44 81 ⇓P **P 01 52 08.0 -0.1**
baz=35
BSC Santa Cruz Isl 35.45 108 ⇑P **P 01 52 09.6 +1.3**
baz=35
LRMC Laurel Mtn Rad 35.46 104 ⇓P **P 01 52 09.4 +1.0**
baz=35,SNR=8.0
YAK Yakutsk 35.46 311 *eP* **P 01 52 06.8 -1.2**
YAK *e*PP* **pP 01 52 16.2 -0.3**
YAK *e* 01 54 37.3
YAK *eS* **S 01 57 37.1 -3.8**
YAK *eSS* **SnSn 01 59 55.5 -5.7**
YAK *eSSS* SSS 02 00 25.2
YAK *e* 02 02 25.0
YAK pmax pmax
comp=N,13nm,1.0s
YAK pmax pmax
comp=Z,158nm,0.9s
YAK pmax pmax
comp=E,70nm,1.0s
YAK pmax pmax
comp=Z,72nm,1.5s
YAK smax smax
comp=N,65nm,3.6s
YAK smax smax
comp=E,271nm,5.1s
YAK MLR MLR
comp=Z,9μm,16.0s
YAK MLR MLR
comp=E,7μm,20.0s
YAK MLR MLR
comp=N,4μm,19.0s
YAK Yakutsk 35.46 311 *eP* **P 01 52 07.6 -0.4**
comp=N,187nm,1.0s
YAK LR LR
comp=Z,12μm,20.0s
A25A Svangstu Ranch 35.50 75 ⇑P **P 01 52 08.9 +0.3**
baz=35,SNR=7.0
OSI Osito Audit: C 35.50 106 ⇑P **P 01 52 09.2 +0.5**
baz=35
C24A Savage 35.51 77 ⇓P **P 01 52 09.4 +0.7**
baz=35,SNR=9.3
JLU Jordanelle 35.55 92 *eP* **P 01 52 09.5 +0.1**
comp=Z,55nm,1.1s
JLU *eScP* **ScP 01 58 19.8 -1.7**
E23A Ismay 35.58 79 ⇓P **P 01 52 09.6 +0.3**
baz=35
NLU North Lily Min 35.61 94 *eP* **P 01 52 08.8 -1.1**
comp=Z,31nm,0.9s
NLU *ePcP* **PcP 01 54 38.1 0.0**
H21A Big Horn, Sher 35.65 83 ⇑P **P 01 52 09.9 -0.1**
baz=35
BLG Laguna Peak, P 35.69 107 ⇑P **P 01 52 11.0 +0.7**
baz=36
EDW2 Edwards Air Fo 35.72 105 ⇓P **P 01 52 11.3 +0.7**
baz=36,SNR=7.4
G22A Birney 35.74 82 ⇑P **P 01 52 10.8 +0.1**
baz=36
FCC Fort Churchill 35.74 55 *eP* **P 01 52 09.2 -1.3**
FCC pmax pmax
comp=Z,90nm,1.3s
FCC Fort Churchill 35.74 55 *eP* **P 01 52 09.2 -1.3**
comp=Z,90nm,1.3s
DAU Daniels Canyon 35.79 92 *eP* **P 01 52 12.5 +1.0**
DAU *e* 01 54 38.6
DAU Daniels Canyon 35.79 92 *eP* **P 01 52 12.5 +1.0**
DAU *ePcP* **PcP 01 54 38.6 -0.1**
DAU *eScP* **ScP 01 58 20.6 -1.8**
D24A Glendive 35.79 78 ⇑P **P 01 52 11.8 +0.7**
baz=36,SNR=25
J20A Shoshoni 35.80 86 ⇑P **P 01 52 12.1 +0.7**
baz=36,SNR=16
B25A Knox Farm, Ray 35.83 76 ⇓P **P 01 52 11.5 +0.1**
baz=36,SNR=6.3
MPU Maple Canyon 35.83 93 *eP* **P 01 52 11.9 +0.2**
comp=Z,49nm,1.1s
MPU *ePcP* **PcP 01 54 38.7 0.0**
SHOC Shoshone, Teco 35.95 102 ⇑P **P 01 52 13.3 +0.7**
baz=36,SNR=8.4
F23A Volborg 35.96 81 ⇓P **P 01 52 12.8 +0.2**

baz=36,SNR=6.0
I21A Big Trails, Te 35.98 85 ⇑P P 01 52 13.1 +0.2
baz=36,SNR=8.2
DECC Green Verdugo 35.99 106 ⇓P P 01 52 13.9 +0.9
baz=36
H22A Clearmont 36.06 83 ⇑P P 01 52 13.6 +0.1
baz=36
C25A Freed Ranch, W 36.08 76 ⇓P P 01 52 13.7 +0.2
baz=36
GSC Goldstone, Bar 36.08 104 *e*P P 01 52 14.7 +0.9
GSC *e* 01 54 39.4
GSC pmax pmax
comp=Z,76nm,1.0s
GSC Goldstone, Bar 36.08 104 ⇓P P 01 52 14.1 +0.3
baz=36,SNR=27
GSC Goldstone, Bar 36.08 104 *e*P P 01 52 14.7 +0.9
comp=Z,76nm,1.0s
GSC *e*PcP PcP 01 54 39.4 +0.1
GSC *e*ScP ScP 01 58 21.8 -1.5
E24A Baker 36.11 79 ⇑P P 01 52 13.7 -0.2
baz=36,SNR=7.2
A26A Wade Farm, Ken 36.12 74 ⇓P P 01 52 13.9 0.0
baz=36,SNR=33
PASC Pasadena Art C 36.13 106 *e*P P 01 52 14.9 +0.8
comp=Z,31nm,1.1s
MWC Mount Wilson 36.16 106 *e*P P 01 52 15.5 +0.9
MWC pmax pmax
comp=Z,85nm,1.2s
MWC Mount Wilson 36.16 106 *e*P P 01 52 15.5 +0.9
comp=Z,85nm,1.2s
SHPR Sheep Range 36.16 101 *e*P P 01 52 15.4 +0.9
SHPR *e*PcP PcP 01 54 39.6 0.0
J21A Lysite 36.17 85 ⇑P P 01 52 14.6 0.0
baz=36,SNR=6.2
ARUT Antelope Range 36.27 97 *e*P P 01 52 16.3 +0.9
ARUT pmax pmax
comp=Z,18nm,1.3s
ARUT Antelope Range 36.27 97 *e*P P 01 52 16.3 +0.9
comp=Z,18nm,1.3s
G23A Biddle 36.27 81 ⇑P P 01 52 15.2 -0.1
baz=36,SNR=9.4
RRX Edison Barstow 36.28 104 ⇑P P 01 52 16.4 +1.0
baz=36
B26A Jensen Ranch, 36.29 75 ⇑P P 01 52 15.6 +0.2
baz=36,SNR=9.4
D25A Fairfield 36.35 77 ⇓P P 01 52 16.4 +0.5
baz=36
BFSC Mount Baldy Ra 36.37 106 ⇑P P 01 52 17.2 +0.8
baz=36,SNR=13
I22A 9 Mile Ranch, 36.40 84 ⇑P P 01 52 16.7 +0.2
baz=36,SNR=5.1
FMP Fort Macarthur 36.41 107 ⇓P P 01 52 16.9 +0.4
baz=36
F24A Ekalaka 36.44 80 ⇑P P 01 52 16.6 -0.1
baz=36
CCUT Cedar City 36.47 98 *e*P P 01 52 18.5 +1.2
comp=Z,88nm,1.3s
CCUT *e*ScP ScP 01 58 22.4 -2.5
TUQ Turquoise Moun 36.49 103 ⇑P P 01 52 18.0 +0.8
baz=36,SNR=9.9
MVU Marysvale 36.49 96 *e*P P 01 52 18.8 +1.4
comp=Z,68nm,1.3s
MVU *e*PcP PcP 01 54 39.2 -1.6
MVU *e*ScP ScP 01 58 23.9 -1.0
A27A Ledoux Ranch, 36.54 73 ⇓P P 01 52 17.3 -0.1
baz=36
TMUT Trail Mountain 36.55 94 *e*P P 01 52 18.7 +0.7
comp=Z,154nm,1.0s
TMUT *e*PcP PcP 01 54 40.6 -0.4
E25A Miller Ranch, 36.66 78 ⇓P P 01 52 18.7 +0.1
baz=36,SNR=6.4
C26A Wahner Farm, P 36.67 76 ⇓P P 01 52 18.9 +0.3
baz=36,SNR=8.2
HEC Hector,Ludlow 36.69 104 ⇑P P 01 52 18.9 0.0
baz=36,SNR=12
J22A Midwest 36.70 85 ⇑P P 01 52 18.8 -0.2
baz=36,SNR=24
K21A Alcova 36.72 86 ⇑P P 01 52 19.0 -0.4
baz=36,SNR=26
G24A Alzada 36.75 80 ⇑P P 01 52 19.1 -0.4
baz=36,SNR=6.5
BBRC Big Bear Solar 36.77 105 ⇑P P 01 52 20.2 +0.3
baz=37
SCI San Clemente I 36.81 108 ⇓P P 01 52 20.5 +0.6
baz=37
B27A Peters Farms, 36.82 74 ⇓P P 01 52 20.1 +0.3
baz=37
D26A Manning 36.92 77 ⇑P P 01 52 20.6 -0.1
baz=37
F25A Bowman 36.96 79 ⇑P P 01 52 21.5 +0.4
baz=37
H24A Dirks Ranch, A 37.01 81 ⇓P P 01 52 21.1 -0.6
baz=37,SNR=6.5
C27A Sayler Ranch, 37.06 75 ⇑P P 01 52 22.0 0.0
baz=37
A28A Rude Farm, Bot 37.11 73 ⇑P P 01 52 21.9 -0.4
baz=37,SNR=6.4
GMRC Granite Mounta 37.11 103 ⇑P P 01 52 22.4 -0.1
baz=37,SNR=20
K22A Casper 37.13 86 ⇓P P 01 52 22.3 -0.5
baz=37,SNR=9.5
K22A Casper 37.13 86 *e*P P 01 52 22.7 -0.1
comp=Z,89nm,1.2s
K22A *e*ScP ScP 01 58 25.3 -1.9
ASAJ Asahikawa 37.14 278 P P 01 52 22.6 0.0
comp=Z,54nm,1.0s,baz=42,slow=6.7,SNR=12
ASAJ LR LR 02 06 22.0
comp=Z,4µm,21.7s,baz=12,slow=34
ASAJ Asahikawa 37.14 278 *e*P P 01 52 21.2 -1.4
comp=Z,47nm,1.2s
LDFC Landfair 37.21 102 *e*P P 01 52 24.2 +0.8
comp=Z,218nm,1.1s
LDFC *e*PP PP 01 53 46.0 -2.3
E26A Carlson Angus 37.22 78 ⇓P P 01 52 23.0 -0.2
baz=37
J23A Dilts Ranch, B 37.24 84 ⇑P P 01 52 23.6 0.0
baz=37
N20A Spence Gulch, 37.26 89 ⇑P P 01 52 24.2 +0.3
baz=37,SNR=32
B28A Dugan Ranch, T 37.30 74 ⇓P P 01 52 24.1 +0.1
baz=37,SNR=12
D27A Center 37.39 76 ⇑P P 01 52 24.7 0.0
baz=37
F26A Lodgepole 37.45 79 ⇓P P 01 52 25.6 +0.3
baz=37,SNR=6.9
ALE Alert 37.46 12 P P 01 52 24.6 -0.3
comp=Z,330nm,1.1s,SNR=13
BELC Belle Mtn. Jos 37.48 104 ⇑P P 01 52 26.6 +0.8
baz=37,SNR=20
I24A Kuemmerle Ranc 37.50 83 ⇓P P 01 52 25.4 -0.4
baz=37
PFO Pinyon Flats O 37.51 105 *e*P P 01 52 25.9 -0.1
PFO pmax pmax
comp=Z,73nm,1.2s
PFO MLR MLR
comp=Z,10µm,21.0s
PFO Pinyon Flats O 37.51 105 ⇓P P 01 52 26.8 +0.8
baz=37,SNR=11
PFO Pinyon Flats O 37.51 105 *e*P P 01 52 25.9 -0.1
comp=Z,73nm,1.2s
PFO LR LR
comp=Z,10µm,21.0s
L22A Ellis Ranch, M 37.57 86 ⇑P P 01 52 27.3 +0.7
baz=37,SNR=7.5
K23A Bowen Ranch, D 37.59 85 ⇓P P 01 52 26.9 +0.3
baz=37,SNR=5.3
H25A Fruitdale 37.64 81 ⇑P P 01 52 26.9 0.0
baz=37,SNR=9.7
A29A Manning Farm, 37.68 72 ⇑P P 01 52 27.2 +0.1
baz=37,SNR=24
109C Camp Elliot, M 37.68 107 ⇑P P 01 52 28.5 +1.2
baz=38,SNR=5.4
RSSD Black Hills 37.68 82 *e*P P 01 52 27.4 -0.1
RSSD pmax pmax
comp=Z,52nm,1.3s
RSSD Black Hills 37.68 82 *e*P P 01 52 27.4 -0.1
comp=Z,52nm,1.3s
C28A Hausauer Farms 37.69 75 ⇓P P 01 52 27.2 0.0
baz=38
NEE2 Needles Airpor 37.71 102 ⇓P P 01 52 28.2 +0.7
baz=38
O20A White River Ci 37.73 90 ⇑P P 01 52 27.9 +0.1
baz=38,SNR=46
O20A White River Ci 37.73 90 *e*P P 01 52 28.1 +0.2
comp=Z,291nm,0.9s
O20A *e*ScP ScP 01 58 27.8 -1.7
E27A Carson 37.75 77 ⇓P P 01 52 27.8 0.0
baz=38

J24A Dixon Ranch, L 37.80 83 ⇑P P 01 52 28.1 -0.2
baz=38
F27A Lemmon 37.81 78 ⇓P P 01 52 28.4 +0.1
baz=38,SNR=12
G26A Maurine 37.82 79 ⇓P P 01 52 28.7 +0.3
baz=38,SNR=19
IRM Iron Mountain 37.85 103 ⇓P P 01 52 29.4 +0.7
baz=38,SNR=40
B29A Wagenman Farm, 37.86 73 ⇑P P 01 52 28.8 +0.2
baz=38,SNR=8.2
U15A North Rim 37.87 98 ⇑P P 01 52 29.6 +0.4
baz=38,SNR=40
M22A Cedar Creek Ra 37.87 87 ⇓P P 01 52 29.1 0.0
baz=38
D28A Regan 37.88 75 ⇑P P 01 52 29.2 +0.4
baz=38,SNR=11
W13A Hualapai Mount 37.89 101 ⇓P P 01 52 29.9 +0.6
baz=38,SNR=18
I25A Rochford 37.92 82 ⇑P P 01 52 29.3 -0.1
baz=38
L23A Garrett 37.95 86 ⇓P P 01 52 29.8 +0.1
baz=38,SNR=16
BC3 Big Chuckawall 38.04 104 ⇓P P 01 52 30.7 +0.2
baz=38,SNR=9.3
MDND Maddock 38.06 74 ⇑P P 01 52 30.8 +0.5
baz=38,SNR=16
MDND Maddock 38.06 74 *e*P P 01 52 31.4 +1.1
comp=Z,1µm,1.2s
MONP Monument Peak, 38.07 106 ⇑P P 01 52 31.8 +1.0
baz=38,SNR=12
BAR Barrett 38.08 107 *e*P P 01 52 32.1 +1.4
comp=Z,18nm,1.1s
K24A Anderson Ranch 38.08 84 ⇓P P 01 52 30.3 -0.5
baz=38
ERM Erimo 38.10 274 P P 01 52 31.6 +0.9
comp=Z,664nm,1.0s,SNR=5.1
ERM Erimo 38.10 274 *e*P P 01 52 31.0 +0.3
ERM pmax pmax
comp=Z,97nm,0.9s
ERM MLR MLR
comp=Z,3µm,21.0s
ERM Erimo 38.10 274 *e*P P 01 52 31.0 +0.3
comp=Z,97nm,0.9s
ERM LR LR
comp=Z,3µm,21.0s
H26A Fairpoint 38.11 80 ⇓P P 01 52 30.9 0.0
baz=38
G27A Dupree 38.15 79 ⇓P P 01 52 31.3 +0.1
baz=38,SNR=10
E28A Huff 38.16 76 ⇓P P 01 52 31.2 0.0
baz=38
A30A Hoffart Farm, 38.18 72 ⇓P P 01 52 31.3 -0.1
baz=38
J25A Sunshine Ranch 38.26 83 ⇑P P 01 52 31.8 -0.4
baz=38
PDMCI Parker Dam,Lak 38.32 102 ⇑P P 01 52 33.5 +0.9
baz=38,SNR=16
N22A Wattenberg Ran 38.34 88 ⇑P P 01 52 33.3 +0.2
baz=38,SNR=12
M23A Laramie 38.34 86 ⇓P P 01 52 32.9 -0.2
baz=38
SWSC Sam W. Stewart 38.38 105 ⇑P P 01 52 33.6 +0.5
baz=38,SNR=5.4
I26A New Underwood 38.41 81 ⇓P P 01 52 33.5 0.0
baz=38
B30A Myrvik Farm, E 38.44 72 ⇓P P 01 52 33.4 -0.1
baz=38,SNR=20
L24A Wheatland 38.44 85 ⇓P P 01 52 33.5 -0.2
baz=38
Y12C Blythe 38.50 103 ⇓P P 01 52 34.9 +0.7
baz=38,SNR=21
D29A Pettibone, Tap 38.50 75 ⇑P P 01 52 33.5 -0.6
baz=38
H27A Howes 38.50 80 ⇑P P 01 52 33.7 -0.5
baz=38
F28A McLaughlin 38.52 77 ⇓P P 01 52 34.5 +0.3
baz=38,SNR=6.7
N23A Red Feather La 38.58 87 ⇑P P 01 52 35.4 +0.3
baz=38,SNR=17
N23A Red Feather La 38.58 87 *e*P P 01 52 35.7 +0.6
PHWY Pilot Hill 38.60 86 *e*P P 01 52 37.3 +2.0
comp=Z,27nm,1.3s
O22A Kremmling 38.70 89 ⇓P P 01 52 36.2 0.0
baz=38,SNR=12
K25A Mack Ranch, Ha 38.70 84 ⇓P P 01 52 35.6 -0.4
baz=38
J26A Sides Ranch, S 38.73 82 ⇓P P 01 52 35.9 -0.2
baz=38
E29A Napoleon 38.76 76 ⇓P P 01 52 36.1 -0.2
baz=38
C30A Mose, Pekin 38.77 73 ⇑P P 01 52 36.1 -0.2
baz=38
ULM Lac du Bonnet 38.80 69 P P 01 52 36.5 0.0
comp=Z,320nm,0.8s,baz=301,slow=9.0,SNR=27
ULM LR LR 02 08 29.3
comp=Z,5µm,19.4s,baz=307,slow=36
GLA Glamis 38.84 104 *e*P P 01 52 37.1 0.0
GLA pmax pmax
comp=Z,64nm,1.0s
GLA Glamis 38.84 104 ⇓P P 01 52 37.3 +0.2
baz=39
GLA Glamis 38.84 104 *e*P P 01 52 37.0 0.0
comp=Z,64nm,1.0s
I27A Quinn 38.86 81 ⇑P P 01 52 36.9 -0.2
baz=39,SNR=6.9
PV01 Paradox Valley 38.86 93 *e*P P 01 52 37.6 +0.2
PV01 *e*ScP S 01 58 30.9 -2.7
M24A Cheyenne 38.86 86 ⇓P P 01 52 37.0 -0.4
baz=39
G28A Parade 38.91 78 ⇓P P 01 52 37.4 -0.1
baz=39
HABR Khabarovsk 38.92 288 *c*iP P 01 52 36.7 -0.8
HABR *e**PP pP 01 52 46.3 +0.3
HABR *e* 01 54 06.3
HABR *e*PPP PPP 01 54 28.0
HABR *e* 01 54 46.8
HABR *e*S S 01 58 33.7 0.0
HABR *e* 02 02 43.1
HABR pmax pmax
comp=N,69nm,2.0s
HABR pmax pmax
comp=E,106nm,2.0s
HABR pmax pmax
comp=Z,189nm,2.0s
HABR pmax pmax
comp=Z,677nm,2.5s
HABR MLR MLR
comp=N,2µm,18.0s
HABR MLR MLR
comp=Z,6µm,20.0s
HABR MLR MLR
comp=E,7µm,18.0s
L25A Engebretsen Ra 38.93 84 ⇑P P 01 52 37.7 -0.1
baz=39
P22A Eagle 38.94 90 ⇓P P 01 52 38.3 +0.1
baz=39,SNR=9.5
D30A Buchanan 38.95 74 ⇓P P 01 52 37.7 -0.2
baz=39,SNR=7.0
O23A Lake Granby, G 39.03 88 ⇓P P 01 52 39.5 +0.5
baz=39,SNR=20
WUAZ Wupatki 39.04 98 ⇓P P 01 52 39.6 +0.7
baz=39,SNR=20
WUAZ Wupatki 39.04 98 *e*P P 01 52 40.1 +1.2
comp=E,119nm,1.2s
WUAZ LR LR
comp=Z,6µm,20.0s
K26A Motz Farm, Whi 39.04 83 ⇓P P 01 52 38.3 -0.5
baz=39
F29A Eureka 39.08 77 ⇑P P 01 52 38.9 0.0
baz=39
H28A Mission Ridge 39.09 79 P P 01 52 39.3 +0.3
baz=39
SMCO Snowmass 39.09 90 *e*P P 01 52 39.5 0.0
comp=Z,69nm,1.1s
E30A Jud 39.21 75 ⇑P P 01 52 39.6 -0.4
baz=39
Y14A Wickenburg 39.23 102 ⇑P P 01 52 40.9 +0.6
baz=39,SNR=20
N24A Carr 39.24 87 ⇑P P 01 52 40.4 -0.1
baz=39
M25A Palm-Egli Farm 39.33 85 ⇓P P 01 52 41.3 0.0
baz=39
J27A Elkhorn Farm, 39.38 81 P P 01 52 41.4 -0.1
baz=39
G29A Hoven 39.40 78 ⇑P P 01 52 41.4 -0.2
baz=39
I28A Midland 39.41 80 ⇑P P 01 52 41.7 0.0
baz=39,SNR=9.0

ISCO Idaho Springs 39.48 88 *e*P P 01 52 43.4 +0.7
ISCO pmax pmax
comp=Z,33nm,1.1s
ISCO MLR MLR
comp=Z,8µm,19.0s
ISCO Idaho Springs 39.48 88 ⇓P P 01 52 43.2 +0.5
baz=39,SNR=6.8
ISCO Idaho Springs 39.48 88 *e*P P 01 52 43.4 +0.7
comp=Z,33nm,1.1s
ISCO LR LR
comp=Z,8µm,19.0s
L26A Underwood Farm 39.52 84 ⇓P P 01 52 42.1 -0.6
baz=39
MVCO Mesa Verde 39.53 94 ⇑P P 01 52 42.9 -0.1
baz=39,SNR=11
MVCO Mesa Verde 39.53 94 *e*P P 01 52 43.2 +0.2
comp=Z,107nm,1.0s
MVCO LR LR
comp=Z,4µm,20.0s
F30A Leola 39.53 76 ⇑P P 01 52 42.1 -0.7
baz=39
H29A Onida 39.58 79 ⇓P P 01 52 43.0 -0.1
baz=39,SNR=5.4
O24A Longmont 39.58 88 ⇓P P 01 52 42.9 -0.4
baz=39
K27A Flueckinger Fa 39.59 82 ⇓P P 01 52 42.8 -0.5
baz=39
P23A Jefferson 39.62 89 ⇓P P 01 52 44.6 +0.6
baz=39,SNR=20
113A Mohawk Valley, 39.65 104 ⇑P P 01 52 44.6 +0.8
baz=40,SNR=6.1
Z14A Wintersburg 39.68 102 ⇓P P 01 52 44.7 +0.6
baz=40,SNR=10
N25A Grover 39.71 86 ⇑P P 01 52 44.5 +0.1
baz=40
J28A Allard Ranch, 39.72 81 ⇑P P 01 52 44.7 +0.4
baz=40,SNR=8.7
X16A Lo Mia Camp, P 39.78 100 ⇑P P 01 52 45.8 +0.7
baz=40,SNR=36
M26A McRoberts Ranc 39.84 85 P P 01 52 45.5 0.0
baz=40
CLNS Chul'man 39.86 305 *e*P P 01 52 44.9 -0.4
CLNS *e**PP pP 01 52 53.5 -0.4
CLNS *e* 01 54 18.2
CLNS *e*PPP PPP 01 54 40.5
CLNS *e* 01 54 50.3
CLNS *e*S S 01 58 47.5 -0.3
CLNS pmax pmax
comp=Z,58nm,0.8s
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=E,56nm,1.1s
CLNS pmax pmax
comp=Z,12nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS smax smax
comp=E,352nm,12.1s
CLNS smax smax
comp=N,454nm,13.0s
CLNS MLR MLR
comp=N,3µm,15.0s
CLNS MLR MLR
comp=E,5µm,17.0s
CLNS MLR MLR
comp=Z,7µm,18.0s
G30A Faulkton 39.88 77 ⇓P P 01 52 45.5 -0.1
baz=40,SNR=30
AGMN Agassiz Nation 39.89 71 ⇑P P 01 52 45.4 -0.2
baz=40,SNR=24
AGMN Agassiz Nation 39.89 71 *e*P P 01 52 45.0 -0.6
comp=Z,75nm,1.0s
AGMN LR LR
comp=Z,3µm,21.0s
I29A Vivian Onida 39.89 79 ⇓P P 01 52 45.7 0.0
baz=40,SNR=8.7
L27A T5 Ranch, Ells 39.93 83 ⇓P P 01 52 45.8 -0.4
baz=40
Q23A Hartsel 39.94 90 ⇑P P 01 52 46.6 0.0
baz=40
P24A Kohler Place, 40.07 88 ⇑P P 01 52 46.7 -0.8
baz=40
K28A Ten Mile Ranch 40.08 82 ⇓P P 01 52 46.9 -0.5
baz=40
S22A 4UR Ranch, Cre 40.13 92 ⇑P P 01 52 48.4 +0.2
baz=40,SNR=44
O25A Wiggins 40.14 87 ⇑P P 01 52 48.7 +0.7
baz=40,SNR=6.5
N26A Koester Ranch, 40.20 85 ⇓P P 01 52 48.5 0.0
baz=40
M27A Reverse DX Ran 40.24 84 ⇑P P 01 52 48.6 -0.1
baz=40
J29A Okreek 40.25 80 ⇓P P 01 52 48.9 +0.2
baz=40,SNR=15
W18A Petrified Fore 40.26 97 ⇓P P 01 52 49.4 +0.3
baz=40
W18A Petrified Fore 40.26 97 *e*P P 01 52 49.8 +0.7
Q24A Divide 40.30 89 ⇓P P 01 52 49.9 +0.4
baz=40,SNR=6.3
Q24A Divide 40.30 89 *e*P P 01 52 50.4 +0.9
KLR Kul'dur 40.31 291 *e*P P 01 52 44.3 -4.8
KLR *e* 01 54 21.0
KLR pmax pmax
comp=E,72nm,1.4s
KLR pmax pmax
comp=Z,100nm,1.4s
KLR pmax pmax
comp=Z,900nm,9.0s
BRSD Miller 40.40 78 P P 01 52 49.7 -0.2
baz=40
BRSD Miller 40.40 78 *e*P P 01 52 50.5 +0.5
comp=Z,206nm,1.0s
R23A Moffat 40.42 90 ⇑P P 01 52 50.8 +0.3
baz=40,SNR=14
I30A Oacoma 40.46 79 ⇓P P 01 52 49.8 -0.6
baz=40
P25A Willow Gulch B 40.51 88 ⇑P P 01 52 51.8 +0.8
baz=40,SNR=16
O26A Horse Wrangler 40.53 86 ⇑P P 01 52 51.5 +0.3
baz=40,SNR=6.3
X18A Snowflake 40.56 98 ⇓P P 01 52 52.2 +0.7
baz=40,SNR=25
N27A Anderson Farm, 40.61 85 ⇓P P 01 52 52.0 +0.2
baz=40
S23A Nye Farm, Mont 40.64 91 ⇓P P 01 52 52.6 +0.3
baz=40
K29A Lazy Trails An 40.66 81 ⇓P P 01 52 52.3 +0.1
baz=40,SNR=6.2
J30A Dallas 40.78 80 ⇓P P 01 52 53.0 -0.1
baz=41,SNR=13
214A Organ Pipe Nat 40.79 103 ⇑P P 01 52 54.1 +0.8
baz=41,SNR=17
214A Organ Pipe Nat 40.79 103 *e*P P 01 52 53.9 +0.6
comp=Z,82nm,1.0s
R24A Sanders Place, 40.81 90 ⇑P P 01 52 53.4 -0.2
baz=41,SNR=12
OGNE Ogallala 40.82 84 ⇑P P 01 52 53.5 +0.1
baz=41
OGNE Ogallala 40.82 84 *e*P P 01 52 53.1 -0.4
comp=Z,64nm,1.0s
OGNE LR LR
comp=Z,3µm,22.0s
Q25A Bedland, Calha 40.85 88 ⇑P P 01 52 54.0 0.0
baz=41,SNR=13
M28A Bar X Bar Ranc 40.91 83 ⇓P P 01 52 53.8 -0.5
baz=41
P26A Davis Ranch, A 40.95 87 ⇑P P 01 52 55.1 +0.4
baz=41,SNR=14
L29A Maesberg Ranch 41.00 82 ⇓P P 01 52 54.8 -0.2
baz=41
O27A Beecher Island 41.05 86 ⇑P P 01 52 55.1 -0.3
baz=41
K30A Basset 41.12 81 ⇑P P 01 52 55.8 -0.1
baz=41,SNR=6.0
S24A Houchin Ranch, 41.15 91 ⇓P P 01 52 56.7 +0.2
baz=41,SNR=32
N28A Pribbeno Ranch 41.27 84 ⇓P P 01 52 56.8 -0.4
baz=41
Q26A Hugo 41.27 88 ⇓P P 01 52 57.5 +0.2
baz=41,SNR=9.6
M29A Burnside Ranch 41.27 83 ⇓P P 01 52 56.8 -0.5
baz=41
R25A Fountain Ranch 41.35 89 ⇓P P 01 52 58.4 +0.5
baz=41,SNR=7.8
P27A Ficken Ranch, 41.40 86 ⇓P P 01 52 58.1 -0.3

baz=41
O28A Krutsinger Ran 41.50 85 ⇑P **P 01 52 58.8 -0.3**
baz=41
L30A Spencer Herefo 41.51 81 ⇓P **P 01 52 58.6 -0.6**
baz=41
S25A Robets Cordova 41.59 90 ⇓P **P 01 53 00.0 +0.1**
baz=41,SNR=5.4
TUC Tucson 41.69 101 *e*P **P 01 53 01.1 +0.4**
TUC *e* 01 54 57.1
TUC pmax pmax
comp=Z,40nm,1.0s
TUC MLR MLR
comp=Z,2μm,20.0s
TUC Tucson 41.69 101 *e*P **P 01 53 01.1 +0.4**
comp=Z,40nm,1.0s
TUC *e*PcP **PcP 01 54 57.1 +0.1**
TUC LR LR
comp=Z,2μm,20.0s
N29A Votaw Ranch, W 41.71 83 ⇓P **P 01 53 00.5 -0.3**
baz=42
R26A Arlington 41.73 88 ⇓P **P 01 53 00.8 -0.3**
baz=42,SNR=17
KSCO Kaye Shedlock' 41.73 87 ⇓P **P 01 53 00.9 -0.2**
baz=42
KSCO Kaye Shedlock' 41.73 87 *e*P **P 01 53 02.2 +1.1**
comp=Z,147nm,1.0s
P28A Saint Francis 41.87 86 ⇓P **P 01 53 02.0 -0.2**
baz=42
L31A Butterfield Fa 41.88 81 ⇑P **P 01 53 01.9 -0.2**
baz=42
T25A Trinidad 41.95 90 ⇓P **P 01 53 03.1 0.0**
baz=42,SNR=18
N30A Hueftle Ranch, 42.03 83 ⇓P **P 01 53 03.0 -0.5**
baz=42
O29A 4D Ranch, Culb 42.06 84 ⇑P **P 01 53 03.3 -0.4**
baz=42
R27A Eads 42.12 88 ⇓P **P 01 53 04.2 0.0**
baz=42,SNR=14
Q28A Sharon Springs 42.16 86 ⇓P **P 01 53 04.3 -0.3**
baz=42
ECSD EROS Data Cent 42.17 77 ⇓P **P 01 53 03.3 -1.1**
baz=42,SNR=15
ECSD EROS Data Cent 42.17 77 *e*P **P 01 53 03.6 -0.9**
comp=Z,36nm,1.1s
ECSD *e*ScP **ScP 01 58 44.5 -2.0**
ECSD LR LR
comp=Z,6μm,20.0s
S26A Kim 42.17 89 ⇓P **P 01 53 04.5 -0.3**
baz=42,SNR=20
LAZ Ladron 42.27 96 *e*P **P 01 53 06.4 +0.8**
comp=Z,54nm,1.2s
ANMO Albuquerque 42.29 95 *e*P **P 01 53 05.5 -0.2**
ANMO *e* 01 54 59.7
ANMO pmax pmax
comp=Z,88nm,1.2s
ANMO MLR MLR
comp=Z,1μm,19.0s
ANMO Albuquerque 42.29 95 *e*P **P 01 53 05.5 -0.2**
comp=Z,88nm,1.2s
ANMO *e*PcP **PcP 01 54 59.7 +0.6**
ANMO *e*ScP **ScP 01 58 45.5 -1.8**
ANMO LR LR
comp=Z,1μm,19.0s
M31A Lambtecht Ranc 42.33 82 ⇓P **P 01 53 05.3 -0.5**
baz=42
P29A Atwood 42.33 85 ⇑P **P 01 53 05.6 -0.3**
baz=42
H11N2 WAKE ISLAND Hy 42.37 228 T T 02 37 43.2
baz=248,slow=74,SNR=165
H11N3 WAKE ISLAND Hy 42.38 228 T T 02 37 47.5
baz=26,slow=74,SNR=312
H11N1 WAKE ISLAND Hy 42.39 228 T T 02 38 43.2
SNR=858
T26A Comanche Natio 42.41 90 P **P 01 53 06.4 -0.3**
baz=42,SNR=12
O30A MW Ranch, Wils 42.46 84 ⇓P **P 01 53 06.5 -0.4**
baz=42
S27A Las Animas 42.47 89 ⇑P **P 01 53 06.7 -0.4**
baz=42
EYMN Ely 42.48 69 *e*P **P 01 53 06.2 -0.7**
comp=Z,94nm,0.8s
EYMN LR LR
comp=Z,2μm,20.0s
LENM Lemitar 42.54 96 *e*P **P 01 53 09.0 +1.3**
LPM Los Pinos Moun 42.63 95 *e*P **P 01 53 09.7 +1.1**
Y22D IRIS PASSCAL I 42.64 96 ⇓P **P 01 53 09.0 +0.5**
baz=42
R28A Tribune 42.66 87 ⇑P **P 01 53 08.2 -0.4**
baz=42,SNR=9.6
N31A Bailey Ranch, 42.68 82 ⇑P **P 01 53 07.8 -0.8**
baz=42
BGNE Belgrade 42.76 81 ⇓P **P 01 53 09.4 0.0**
baz=42,SNR=5.2
BGNE Belgrade 42.76 81 *e*P **P 01 53 09.1 -0.2**
comp=Z,243nm,1.2s
BGNE *e*PcP **PcP 01 55 00.5 +0.2**
BGNE *e*ScP **ScP 01 58 47.5 -1.4**
P30A Selden 42.77 85 ⇑P **P 01 53 09.6 +0.2**
baz=42,SNR=9.9
Q29A Oakley 42.77 86 ⇓P **P 01 53 09.5 0.0**
baz=42,SNR=6.4
U26A Atchley Ranch, 42.85 91 ⇑P **P 01 53 10.2 -0.2**
baz=43,SNR=24
O31A Woolen Ranch, 42.90 83 ⇑P **P 01 53 09.9 -0.5**
baz=43
R29A Marienthal 42.99 86 ⇑P **P 01 53 10.9 -0.4**
baz=43,SNR=5.4
T27A Campo 42.99 89 ⇑P **P 01 53 10.7 -0.6**
baz=43
N32A Stulken Farm, 43.09 82 ⇑P **P 01 53 11.6 -0.4**
baz=43
S28A Manter 43.11 88 ⇓P **P 01 53 12.4 +0.1**
baz=43,SNR=11
USRK Ussuriysk Ar. 43.15 285 P **P 01 53 11.8 -0.6**
comp=Z,8.3nm,0.8s,baz=55,slow=7.9,SNR=26
USRK PcP **PcP 01 55 02.4 +0.9**
comp=Z,3.7nm,0.9s,baz=145,slow=3.5,SNR=3.7
USRK LR LR 02 11 34.0
comp=Z,7μm,20.8s,baz=49,slow=37
Q30A Quinter 43.16 85 ⇓P **P 01 53 12.4 -0.2**
baz=43
319A Douglas 43.24 101 ⇓P **P 01 53 13.2 -0.2**
baz=43
V26A Tequesquite Ra 43.24 91 ⇑P **P 01 53 13.2 -0.2**
baz=43,SNR=34
121A Cookes Peak, D 43.25 98 ⇓P **P 01 53 13.5 -0.1**
baz=43,SNR=25
121A Cookes Peak, D 43.25 98 *e*P **P 01 53 14.0 +0.5**
comp=Z,107nm,1.1s
121A *e*ScP **ScP 01 58 48.3 -2.9**
P31A Stockton 43.28 84 ⇓P **P 01 53 13.2 -0.4**
baz=43
T28A Walsh 43.31 89 ⇑P **P 01 53 13.9 0.0**
baz=43,SNR=7.7
U27A Thompson Grove 43.37 90 ⇑P **P 01 53 13.7 -0.7**
baz=43
SPMN Marine on St. 43.40 73 P **P 01 53 13.5 -0.8**
baz=43,SNR=7.6
SPMN Marine on St. 43.40 73 *e*P **P 01 53 14.2 -0.2**
SPMN *e*PcP **PcP 01 55 02.1 -0.2**
O32A Brockman Farm, 43.43 82 ⇑P **P 01 53 13.5 -1.3**
baz=43
H11S1 WAKE ISLAND Hy 43.54 227 T T 02 39 26.1
baz=305,slow=74,SNR=829
S29A Ulysses 43.55 87 ⇓P **P 01 53 15.3 -0.5**
baz=43
H11S2 WAKE ISLAND Hy 43.55 227 T T 02 39 27.3
baz=25,slow=74,SNR=632
H11S3 WAKE ISLAND Hy 43.56 227 T T 02 40 02.4
SNR=167
R30A Dighton 43.59 86 ⇓P **P 01 53 15.1 -1.0**
baz=43,SNR=7.9
Q31A Ellis 43.62 84 ⇑P **P 01 53 15.5 -0.8**
baz=43
P32A Huiting Farm, 43.67 83 ⇓P **P 01 53 15.6 -1.0**
baz=43,SNR=9.8
U28A Mallet 43.75 89 P **P 01 53 17.1 -0.3**
baz=44
T29A Hugoton 43.76 88 ⇓P **P 01 53 17.0 -0.5**
baz=44
V27A Dan Oppiter Fa 43.83 91 ⇓P **P 01 53 17.8 -0.3**
baz=44
VLA Vladivostok 43.89 284 ⇓*e*P **P 01 53 17.8 -0.5**
VLA *e* 01 55 00.4
VLA *e* 01 55 03.2
VLA S **S 01 59 47.6 +0.1**
VLA pmax pmax
comp=Z,119nm,1.3s
S30A Montezuma 43.91 87 ⇓P **P 01 53 18.3 -0.4**
baz=44
R31A Burdett 44.02 85 ⇓P **P 01 53 19.1 -0.4**
baz=44
Q32A Meitler Ranch, 44.11 84 ⇑P **P 01 53 19.4 -0.8**
baz=44,SNR=5.4
V28A Channing 44.19 90 ⇓P **P 01 53 20.5 -0.5**
baz=44
MDJ Mudanjiang 44.23 287 P **P 01 53 20.3 -0.8**
MDJ sP **sP 01 53 28.4 -4.8**
MDJ ScP **ScP 01 58 56.0 +1.2**
MDJ PcS **PcS 01 58 59.0 +0.7**
MDJ S **S 01 59 57.8 +5.2**
MDJ sS **sS 02 00 02.9 -3.9**
MDJ ScS **ScS 02 03 17.3 +0.3**
MDJ PMZ
comp=Z,21nm,1.5s
MDJ PMZ
comp=Z,270nm,4.0s
MDJ LN
comp=Z,2μm,20.1s
MDJ LE
comp=Z,2μm,18.4s
MDJ LZ
comp=Z,5μm,17.6s
MDJ Mudanjiang 44.23 287 *e*P **P 01 53 20.5 -0.6**
comp=Z,17nm,0.8s
MDJ LR LR
comp=Z,5μm,22.0s
U29A Oasis Ranch, S 44.26 89 ⇑P **P 01 53 21.0 -0.5**
baz=44
T30A Plains 44.28 87 ⇑P **P 01 53 21.0 -0.6**
baz=44
P33A Williams Farm, 44.31 83 ⇑P **P 01 53 21.4 -0.4**
baz=44
BOD Bodaibo 44.38 310 *e*P **P 01 53 21.0 -1.1**
BOD pmax pmax
comp=Z,43nm,1.4s
R32A Long Quarter, 44.40 85 ⇓P **P 01 53 21.9 -0.6**
baz=44
S31A Mullinville 44.50 86 ⇓P **P 01 53 22.9 -0.5**
baz=44
V29A Stinnett 44.51 89 ⇑P **P 01 53 22.7 -0.8**
baz=44
Q33A Connelly Farm, 44.53 83 ⇑P **P 01 53 23.0 -0.5**
baz=44,SNR=9.1
W28A Vega 44.54 91 ⇓P **P 01 53 23.1 -0.7**
baz=44
U30A WK&E Inc. Balk 44.56 88 ⇓P **P 01 53 23.3 -0.6**
baz=44
MJAR Matsushiro Arr 44.59 272 P **P 01 53 24.6 +0.5**
comp=Z,31nm,0.9s,baz=40,slow=6.4,SNR=44
MAJO Matsushiro 44.59 272*c* *i*P **P 01 53 24.4 +0.3**
MAJO pmax pmax
comp=Z,654nm,0.9s
MAJO Matsushiro 44.59 272 *e*P **P 01 53 24.2 +0.1**
comp=Z,127nm,1.0s
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 44.59 272 P **P 01 53 24.3 +0.2**
MAT S **S 01 59 58.6 +0.7**
T31A Randall Ranch, 44.74 87 ⇑P **P 01 53 24.7 -0.6**
baz=44
S32A Newby Ranch, P 44.76 86 ⇑P **P 01 53 24.6 -0.9**
baz=44
COWI Conover 44.88 70 *e*P **P 01 53 25.6 -0.7**
comp=Z,80nm,1.2s
COWI LR LR
comp=Z,2μm,19.0s
R33A Olander Ranch, 44.90 84 ⇓P **P 01 53 25.9 -0.6**
baz=45,SNR=8.6
W29A Amarillo 44.96 90 ⇑P **P 01 53 26.5 -0.7**
baz=45
X28A Dimmitt 45.07 91 ⇑P **P 01 53 27.3 -0.7**
baz=45
V30A Spur Ranch, Mi 45.07 89 ⇑P **P 01 53 27.3 -0.7**
baz=45
AMTX Amarillo 45.11 91 ⇓P **P 01 53 27.9 -0.4**
baz=45
AMTX Amarillo 45.11 91 *e*P **P 01 53 29.2 +0.9**
comp=Z,99nm,1.0s
MSTX Muleshoe 45.12 92 ⇑P **P 01 53 27.9 -0.5**
baz=45,SNR=6.5
MSTX Muleshoe 45.12 92 *e*P **P 01 53 28.0 -0.5**
comp=Z,133nm,1.2s
T32A Huddler Ranch, 45.12 86 ⇑P **P 01 53 27.7 -0.6**
baz=45
U31A Nine Bar Ranch 45.14 88 ⇑P **P 01 53 28.0 -0.5**
baz=45
KSU1 Kansas State U 45.16 82 ⇑P **P 01 53 27.7 -0.9**
baz=45
KSU1 Kansas State U 45.16 82 *e*P **P 01 53 28.2 -0.4**
comp=Z,60nm,1.0s
KSU1 *e*PcP **PcP 01 55 08.7 +0.2**
KSU1 LR LR
comp=Z,4μm,21.0s
MNTX Cornudas Mount 45.24 97 ⇓P **P 01 53 29.4 +0.1**
baz=45,SNR=63
MNTX Cornudas Mount 45.24 97 *e*P **P 01 53 30.1 +0.8**
comp=Z,101nm,1.0s
MNTX LR LR
comp=Z,11μm,20.0s
SCIA State Center 45.26 77 *e*P **P 01 53 29.5 +0.2**
comp=Z,135nm,1.1s
SCIA LR LR
comp=Z,6μm,20.0s
S33A Kaszmaul Farm, 45.38 85 ⇑P **P 01 53 29.6 -0.7**
baz=45
X29A Tulia 45.41 91 ⇑P **P 01 53 30.2 -0.5**
baz=45,SNR=6.7
Y28A McKinney Farm, 45.47 92 ⇑P **P 01 53 30.6 -0.6**
baz=45,SNR=7.7
W30A Crocket Farms 45.55 89 ⇑P **P 01 53 31.3 -0.4**
baz=45
V31A Spring Creek L 45.56 88 ⇑P **P 01 53 31.5 -0.3**
baz=45
U32A Winter Ranch, 45.63 87 ⇑P **P 01 53 31.9 -0.4**
baz=45
S34A Willow Spring 45.82 84 ⇑P **P 01 53 32.8 -1.0**
baz=46,SNR=5.4
Z28A Tucker Farm, M 45.83 93 ⇓P **P 01 53 32.9 -1.1**
baz=46,SNR=9.1
Y29A Porterfield Fa 45.84 92 ⇓P **P 01 53 33.6 -0.5**
baz=46,SNR=7.7
X30A Coker Ranch, T 45.89 90 ⇑P **P 01 53 33.9 -0.5**
baz=46,SNR=7.8
W31A Holland Ranch, 45.91 89 ⇑P **P 01 53 34.2 -0.4**
baz=46,SNR=7.0
V32A Arapaho 46.06 88 ⇑P **P 01 53 35.3 -0.4**
baz=46
U33A Lingo Farm, Me 46.11 86 ⇓P **P 01 53 35.2 -0.9**
baz=46
Z29A Hungry Hill Ra 46.25 92 ⇓P **P 01 53 36.8 -0.5**
baz=46,SNR=8.1
128A Castleberry Fa 46.26 93 ⇑P **P 01 53 36.8 -0.6**
baz=46,SNR=28
X31A McDonald Ranch 46.28 89 ⇓P **P 01 53 37.1 -0.4**
baz=46
Y30A Stafford Cattl 46.28 91 ⇓P **P 01 53 36.9 -0.6**
baz=46,SNR=7.0
JFWS Jewell Farm 46.28 74 *e*P **P 01 53 35.6 -1.8**
JFWS pmax pmax
comp=Z,72nm,1.0s
JFWS MLR MLR
comp=Z,9μm,19.0s
JFWS Jewell Farm 46.28 74 *e*P **P 01 53 35.6 -1.8**
comp=Z,72nm,1.0s
JFWS LR LR
comp=Z,9μm,19.0s
S35A Otter Creek Ra 46.29 84 ⇓P **P 01 53 36.6 -0.9**
baz=46,SNR=12
R36A Gordon, Harris 46.33 82 ⇑P **P 01 53 36.6 -1.2**
baz=46
W32A Sentinel 46.36 88 ⇓P **P 01 53 37.3 -0.8**
baz=46,SNR=8.5
V33A Lossen Ranch, 46.43 87 ⇑P **P 01 53 37.9 -0.8**
baz=46
U34A Anderson Ranch 46.44 86 ⇓P **P 01 53 37.9 -0.8**
baz=46,SNR=6.3
U34A Anderson Ranch 46.44 86 *e*P **P 01 53 37.8 -0.8**
comp=Z,117nm,1.1s
228A UT Block 9, Go 46.56 94 ⇑P **P 01 53 39.1 -0.7**
baz=46
Q37A Longview Farm, 46.56 81 P **P 01 53 38.0 -1.5**
baz=46
ILULI Ilulissat 46.56 28 *i* P **P 01 53 39.6 +0.4**
ILULI *i* S **S 02 00 27.0 +1.5**
ILULI pmax pmax
comp=Z,15nm,1.0s
ILULI MLR MLR
comp=Z,4μm,20.0s
ILULI Ilulissat 46.56 28 *i* P **P 01 53 39.6 +0.4**
comp=Z,15nm,0.9s
ILULI *i* S **S 02 00 27.0 +1.5**
comp=Z,4μm,20.0s
Z30A Sanderson Ranc 46.57 92 ⇓P **P 01 53 39.2 -0.6**
baz=46,SNR=8.0
Y31A Rekieta Farm, 46.59 90 ⇑P **P 01 53 39.2 -0.7**
baz=46
129A Stewart Farms, 46.61 93 ⇓P **P 01 53 39.6 -0.6**
baz=46,SNR=8.1
HIA Hailar 46.66 298*c* *i*P **P 01 53 39.7 -0.5**
HIA pmax pmax
comp=Z,39nm,1.5s
HIA Hailar 46.66 298 *e*P **P 01 53 40.0 -0.3**
comp=Z,18nm,0.8s
HIA LR LR
comp=Z,4μm,20.0s
S36A Lake Cedric, C 46.68 83 ⇓P **P 01 53 39.6 -1.0**
baz=46,SNR=14
R37A Teagarden Farm 46.72 82 ⇓P **P 01 53 39.2 -1.7**
baz=46
KBS Kingsbay 46.73 2 *e*P **P 01 53 40.6 +0.2**
KBS pmax pmax
comp=Z,32nm,1.0s
KBS MLR MLR
comp=Z,3μm,19.0s
KBS Kingsbay 46.73 2 *e*P **P 01 53 41.1 +0.7**
KBS IAmb IAmb 01 53 43.2
comp=Z,123nm,1.0s
KBS *e* 02 01 11.6
KBS *i* 02 04 26.7
KBS IAMs_20 IAMs_20 02 13 45.2
comp=Z,4μm,21.5s
KBS IVMs_BB IVMs_BB 02 13 59.3
comp=Z,2μm,4.0s
KBS Kingsbay 46.73 2 *e*P **P 01 53 40.6 +0.2**
comp=Z,32nm,1.0s
KBS LR LR
comp=Z,3μm,19.0s
W33A Caddo, Fort Co 46.79 88 ⇓P **P 01 53 41.0 -0.5**
baz=47,SNR=7.8
DAG Danmarks Havn 46.83 11 ⇑*i*P **P 01 53 41.3 +0.1**
DAG pmax pmax
comp=Z,38nm,0.9s
DAG MLR MLR
comp=Z,5μm,20.0s
DAG Danmarks Havn 46.83 11 ⇑*i*P **P 01 53 41.3 +0.1**
comp=Z,45nm,0.9s
comp=Z,5μm,20.0s
X32A Elmer 46.83 89 ⇓P **P 01 53 41.2 -0.6**
baz=47,SNR=7.6
V34A Guthrie 46.87 86 ⇓P **P 01 53 41.0 -1.0**
baz=47
V34A Guthrie 46.87 86 *e*P **P 01 53 41.7 -0.4**
comp=Z,56nm,1.1s
WMOK Wichita Mounta 46.90 88 *e*P **P 01 53 41.5 -0.9**
WMOK pmax pmax
comp=Z,79nm,1.0s
WMOK MLR MLR
comp=Z,4μm,20.0s
WMOK Wichita Mounta 46.90 88 *e*P **P 01 53 41.5 -0.9**
comp=Z,79nm,1.0s
WMOK *e*ScP **ScP 01 59 04.4 -1.6**
WMOK LR LR
comp=Z,4μm,20.0s
Y32A R-V Farms, Ver 47.04 90 ⇓P **P 01 53 42.6 -0.8**
baz=47,SNR=7.7
CN2 Changchun 47.05 289 *e*P **P 01 53 44.0 +0.6**
CN2 *e*pP **pP 01 53 54.0 +1.9**
CN2 *e*S **S 02 00 31.1 -2.1**
CN2 SS SS 02 03 50.4 -9.4
CN2 PMZ
comp=Z,10.0nm,1.1s
CN2 PMZ
comp=Z,300nm,6.0s
CN2 LN
comp=Z,2μm,21.0s
CN2 LE
comp=Z,3μm,21.0s
CN2 LZ
comp=Z,1μm,21.0s
Z31A Sharp Cattle R 47.12 91 ⇓P **P 01 53 43.1 -0.9**
baz=47,SNR=5.7
229A Bryant Ranch, 47.12 93 ⇓P **P 01 53 44.2 +0.1**
baz=47,SNR=7.3
W34A Bridge Creek, 47.14 87 ⇑P **P 01 53 43.4 -0.8**
baz=47
W34A Bridge Creek, 47.14 87 *e*P **P 01 53 43.8 -0.4**
comp=Z,16nm,1.1s
130A Snyder 47.16 92 ⇓P **P 01 53 44.0 -0.4**
baz=47,SNR=9.3
SUMG Summit 47.17 20 ⇑*i*P **P 01 53 45.1 +0.7**
SUMG pmax pmax
comp=Z,54nm,1.0s
SUMG MLR MLR
comp=Z,6μm,18.0s
SUMG Summit 47.17 20 *e*P **P 01 53 44.5 +0.2**
comp=Z,134nm,1.3s
SUMG Summit 47.17 20 ⇑*i*P **P 01 53 45.1 +0.7**
comp=Z,54nm,1.0s
comp=Z,6μm,18.0s
X33A Lawton 47.21 88 ⇓P **P 01 53 43.7 -1.0**
baz=47
V35A Meyer Ranch, C 47.32 86 ⇓P **P 01 53 44.5 -1.0**
baz=47,SNR=5.3
329A Wagon Wheel Ra 47.37 94 ⇑P **P 01 53 46.0 -0.2**
baz=47,SNR=10.0
131A Roby 47.44 92 ⇓P **P 01 53 46.3 -0.3**
baz=47,SNR=8.8
Y33A Hilltop Ranch, 47.51 89 ⇑P **P 01 53 46.4 -0.7**
baz=47
Z32A Haskell 47.51 90 ⇓P **P 01 53 46.2 -0.9**
baz=47,SNR=10
X34A Smith Ranch, M 47.55 88 ⇑P **P 01 53 46.4 -1.0**
baz=47
230A Sterling City 47.59 93 ⇓P **P 01 53 47.1 -0.7**
baz=47,SNR=8.4
TUL1 Leonard 47.82 85 ⇑P **P 01 53 48.4 -1.1**
baz=48
TUL1 Leonard 47.82 85 *e*P **P 01 53 48.8 -0.6**
comp=Z,67nm,0.9s
330A Mertzon 47.90 93 ⇓P **P 01 53 49.5 -0.6**
baz=48,SNR=16
ABTX Abilene, Hawle 47.91 91 P **P 01 53 49.5 -0.7**
baz=48,SNR=7.4
ABTX Abilene, Hawle 47.91 91 *e*P **P 01 53 49.9 -0.3**
comp=Z,141nm,1.0s
Z33A Whitaker Ranch 47.94 90 ⇑P **P 01 53 49.6 -0.8**
baz=48,SNR=6.5
TXAR Lajitas Array 47.99 97 P **P 01 53 51.2 +0.3**
comp=Z,5.1nm,0.7s,baz=304,slow=5.6,SNR=60
TXAR pP **pP 01 54 02.3 +2.7**
comp=Z,61nm,0.8s,baz=309,slow=5.7,SNR=49
TXAR LR LR 02 13 15.6
comp=Z,5μm,18.5s,baz=0.0,slow=35
231A Bronte 48.02 92 ⇓P **P 01 53 50.6 -0.4**
baz=48,SNR=7.9
CIT Chita 48.04 304 *e*P **P 01 53 51.2 +0.2**
CIT *e* 01 53 59.5
CIT *e* 01 55 15.0
CIT *e* 01 55 46.1
CIT pmax pmax
comp=Z,108nm,1.4s
Y34A Reagan Ranch, 48.05 88 ⇑P **P 01 53 50.7 -0.6**
baz=48,SNR=7.0
429A Davenport Ranc 48.06 95 ⇓P **P 01 53 50.8 -0.6**
baz=48,SNR=9.7
W36A Wetumka 48.11 86 ⇑P **P 01 53 51.3 -0.4**
baz=48,SNR=5.4
SFJD Kangerlussuaq 48.19 30 *i* P **P 01 53 52.3 +0.5**
SFJD *i* S **S 02 00 49.4 +0.8**
SFJD pmax pmax
comp=Z,57nm,1.1s
SFJD MLR MLR
comp=Z,2μm,16.0s
SFJD Kangerlussuaq 48.19 30 *e*P **P 01 53 52.2 +0.4**
comp=Z,135nm,1.1s
SFJD LR LR
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 48.19 30 *i* P **P 01 53 52.3 +0.5**
comp=Z,57nm,1.1s
SFJD *i* S **S 02 00 49.4 +0.8**
comp=Z,2μm,16.0s

KSULL **Ulleungdo** 48.19 278 P P 01 53 53.0 +0.8
SNR=6.6
KSULL **Ulleungdo** 48.19 278 P P 01 53 53.0 +0.8
SNR=6.6
529A **Stev Forest Ra** 48.23 96 ⇓P P 01 53 52.6 -0.2
baz=48,SNR=8.3
430A **Baggett Ranch,** 48.32 94 ⇑P P 01 53 52.7 -0.8
baz=48,SNR=9.6
133A **Hamilton Ranch** 48.34 90 ⇑P P 01 53 52.9 -0.7
baz=48,SNR=9.6
Z34A **Collier Ranch,** 48.38 89 ⇑P P 01 53 52.1 -1.7
baz=48,SNR=5.6
331A **San Angelo** 48.41 93 ⇓P P 01 53 53.0 -1.1
baz=48,SNR=8.3
232A **Coleman** 48.44 92 ⇓P P 01 53 53.2 -1.2
baz=48
HSPB **Hornsund (broa** 48.72 1 *e*P P 01 53 54.4 -1.4
530A **J-C Ranch, Com** 48.73 95 ⇑P P 01 53 55.9 -0.7
baz=48,SNR=10
332A **Millersview** 48.75 92 ⇓P P 01 53 55.7 -1.0
baz=48,SNR=6.1
431A **Sonora** 48.76 94 ⇓P P 01 53 55.8 -1.0
baz=49,SNR=10
233A **Rising Star** 48.78 91 ⇓P P 01 53 56.3 -0.7
baz=49,SNR=13
Z35A **Perchaven, San** 48.79 88 ⇑P P 01 53 55.9 -1.1
baz=49
134A **White-Moore Ra** 48.86 90 ⇑P P 01 53 56.9 -0.6
baz=49,SNR=5.9
KSSKC **Sokcho** 48.99 281 P P 01 53 59.4 +0.9
SNR=8.8
KSSKC **Sokcho** 48.99 281 P P 01 53 59.4 +0.9
SNR=8.8
432A **Menard** 49.09 93 ⇓P P 01 53 58.5 -0.9
baz=49,SNR=10
SLM **Saint Louis** 49.14 78 *e*P P 01 53 58.1 -1.5
SLM *e**PP **pP** 01 54 09.5 +1.2
SLM pmax pmax
comp=Z,153nm,1.0s
SLM **Saint Louis** 49.14 78 *e*P P 01 53 58.1 -1.5
comp=Z,153nm,1.0s
SLM *e*pP **pP** 01 54 09.5 +1.2
KSJMJ **Jumunjin** 49.14 280 P P 01 54 00.8 +1.2
SNR=9.0
KSJMJ **Jumunjin** 49.14 280 P P 01 54 00.8 +1.2
SNR=9.0
CBIJ **Chichi jima** 49.16 260 P P 01 54 00.2 +0.4
JCJ **Chichijima** 49.16 260 P P 01 54 00.2 +0.4
comp=Z,210nm,1.1s,baz=326,slow=3.6
JCJ LR LR 02 12 32.8
comp=Z,1μm,21.6s,baz=46,slow=33
SEHB **SEOHWA** 49.16 281 P P 01 54 01.3 +1.5
SNR=5.6
531A **Rocksprings** 49.18 94 ⇑P P 01 53 58.7 -1.3
baz=49,SNR=11
234A **Clairette** 49.23 90 ⇑P P 01 53 59.6 -0.8
baz=49,SNR=6.5
333A **Richland Sprin** 49.23 92 ⇓P P 01 53 59.4 -1.0
baz=49,SNR=6.9
135A **Vickery Place,** 49.26 89 ⇓P P 01 53 59.5 -1.1
baz=49,SNR=5.9
JCT **Junction City** 49.38 93 *e*P P 01 54 01.0 -0.5
JCT pmax pmax
comp=Z,163nm,0.9s
JCT MLR MLR
comp=Z,3μm,20.0s
JCT **Junction City** 49.38 93 ⇑P P 01 54 00.7 -0.9
baz=49,SNR=12
JCT **Junction City** 49.38 93 *e*P P 01 54 01.0 -0.5
comp=Z,163nm,0.9s
JCT LR LR
comp=Z,3μm,20.0s
SNY **Shenyang** 49.39 288 ⇑P P 01 54 02.0 +0.6
SNY S **S** 02 01 03.3 -2.8
SNY PMZ
comp=Z,120nm,1.2s
SNY PMZ
comp=Z,1μm,4.6s
SNY LN
comp=Z,3μm,20.8s
SNY LE
comp=Z,3μm,21.0s
SNY LZ
comp=Z,4μm,22.1s
KSIJA **INJE** 49.44 281 P P 01 54 03.5 +1.6
SNR=11
KSIJA **INJE** 49.44 281 P P 01 54 03.5 +1.6
SNR=11
KSTBA **Taebaek** 49.55 280 P P 01 54 04.1 +1.3
SNR=19
KSTBA **Taebaek** 49.55 280 P P 01 54 04.1 +1.3
SNR=19
532A **Rocksprings** 49.58 94 ⇓P P 01 54 02.0 -1.1
baz=49,SNR=6.3
433A **Art** 49.59 92 ⇑P P 01 54 01.9 -1.2
baz=49,SNR=12
WHTX **Lake Whitney,** 49.64 90 ⇑P P 01 54 02.9 -0.5
baz=49,SNR=7.0
WHTX **Lake Whitney,** 49.64 90 *e*P P 01 54 03.1 -0.3
comp=Z,121nm,1.0s
WHTX *e*PcP **PcP** 01 55 23.8 -0.8
WHTX *e*ScP **ScP** 01 59 14.5 -3.2
334A **Lometa** 49.66 91 ⇑P P 01 54 03.2 -0.5
baz=50,SNR=11
KSCWO **Cheorwon** 49.71 282 P P 01 54 05.2 +1.2
SNR=12
631A **Perdido Creek** 49.72 95 ⇑P P 01 54 03.0 -1.1
baz=50
SFIN **Lafayette** 49.73 74 ⇑P P 01 54 03.2 -0.8
baz=50
SFIN **Lafayette** 49.73 74 *e*P P 01 54 03.1 -1.0
comp=Z,274nm,1.4s
SFIN *e*PcP **PcP** 01 55 23.5 -1.2
KSCHC **Chuncheon** 49.75 281 P P 01 54 05.9 +1.7
SNR=5.7
KSWJU **Wonju** 49.87 280 P P 01 54 06.2 +1.0
SNR=8.4
KSRS **Korea Array** 49.91 281 P P 01 54 06.5 +1.0
comp=Z,61nm,1.0s,baz=53,slow=7.0,SNR=96
KSRS LR LR 02 14 24.3
comp=Z,1μm,21.1s,baz=56,slow=35
KSAR **Wonju Array Be** 49.94 281 P P 01 54 06.5 +0.8
KSAR **Wonju Array Be** 49.94 281 P P 01 54 06.5 +0.8
434A **Burnet** 50.03 92 P P 01 54 05.8 -0.6
baz=50,SNR=20
MIAR **Mount Ida** 50.07 84 *e*P P 01 54 06.0 -0.7
MIAR pmax pmax
comp=Z,92nm,1.1s
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR **Mount Ida** 50.07 84 *e*P P 01 54 06.0 -0.7
comp=Z,92nm,1.1s
MIAR LR LR
comp=Z,2μm,19.0s
632A **Uvalde** 50.11 94 ⇑P P 01 54 06.5 -0.6
baz=50,SNR=7.8
533A **Kerrville** 50.13 93 ⇓P P 01 54 06.2 -1.0
baz=50,SNR=7.1
335A **Moody** 50.17 90 ⇓P P 01 54 07.3 -0.3
baz=50,SNR=6.4
137A **Heron Place, G** 50.19 88 P P 01 54 06.8 -0.8
baz=50
KSMUS **Musan** 50.28 282 P P 01 54 09.7 +1.5
SNR=8.8
KSICN **Icheon** 50.32 281 P P 01 54 09.7 +1.2
SNR=9.3
AAM **Ann Arbor** 50.34 70 *e*P P 01 54 08.2 -0.4
AAM pmax pmax
comp=Z,82nm,1.3s
AAM MLR MLR
comp=Z,3μm,19.0s
AAM **Ann Arbor** 50.34 70 *e*P P 01 54 08.2 -0.4
comp=Z,82nm,1.3s
AAM LR LR
comp=Z,3μm,19.0s
SIUC **Southern Illin** 50.35 78 *e*P P 01 54 07.3 -1.5
comp=Z,159nm,1.2s
SCHQ **Schefferville** 50.42 48 P P 01 54 08.8 -0.3
comp=Z,53nm,1.2s,baz=326,slow=7.3,SNR=22
SCHQ LR LR 02 16 26.8
comp=Z,5μm,20.3s,baz=323,slow=37
336A **Riesel** 50.44 90 ⇑P P 01 54 09.0 -0.5
baz=50,SNR=6.5
435B **Jarrell** 50.45 91 ⇑P P 01 54 08.7 -0.9
baz=50
534A **Blanco** 50.48 92 ⇓P P 01 54 08.8 -1.1
baz=50,SNR=7.7
633A **Saathoff Ranch** 50.50 94 ⇑P P 01 54 08.7 -1.3
baz=50
138A **Matatall Enter** 50.54 87 ⇑P P 01 54 09.2 -1.1
baz=50
732A **Laxson Ranch,** 50.58 95 ⇓P P 01 54 09.6 -1.0
baz=50,SNR=8.8
KSSWO **Suwon** 50.59 281 P P 01 54 12.0 +1.4
SNR=12
237A **Washetta, Mont** 50.59 89 ⇑P P 01 54 09.8 -0.9
baz=50
UALR **University of** 50.62 83 *e*P P 01 54 09.5 -1.4
comp=Z,67nm,1.3s
UALR *e*PcP **PcP** 01 55 27.6 -0.4
INCN **Inchon** 50.63 282 P P 01 54 12.3 +1.4
SNR=10
INCN **Inchon** 50.63 282 *e*P P 01 54 11.5 +0.6
comp=Z,109nm,1.0s
INCN LR LR
comp=Z,2μm,21.0s
KSBON **Boeun** 50.65 280 P P 01 54 11.9 +0.9
SNR=5.9
KSCPR **CHUPUNGNYEONG** 50.74 279 P P 01 54 13.3 +1.5
SNR=9.8
BLO **Bloomington** 50.88 75 *e*P P 01 54 11.3 -1.4
BLO *e* 01 55 28.5
BLO pmax pmax
comp=Z,146nm,1.3s
BLO **Bloomington** 50.88 75 *e*P P 01 54 11.3 -1.4
comp=Z,146nm,1.3s
BLO *e*PcP **PcP** 01 55 28.5 -0.5
832A **Faith Ranch, C** 50.91 95 ⇑P P 01 54 12.8 -0.3
baz=51,SNR=9.7
436A **Wall Ranch, Ga** 50.92 90 ⇓P P 01 54 12.0 -1.1
baz=51
733A **Divot King Ran** 50.98 94 ⇓P P 01 54 13.4 -0.2
baz=51,SNR=6.8
TJN **Taejon** 50.98 280 *i* P P 01 54 14.2 +0.6
238A **Jacksonville** 50.99 88 ⇑P P 01 54 13.5 -0.2
baz=51,SNR=5.2
535A **Dale** 51.01 92 ⇓P P 01 54 13.6 -0.2
baz=51,SNR=6.0
USIN **University of** 51.06 77 *e*P P 01 54 12.9 -1.3
comp=Z,462nm,1.1s
833A **Chaparral WMA,** 51.22 95 ⇓P P 01 54 15.3 -0.1
baz=51,SNR=8.8
437A **Phantom Ranch,** 51.26 90 ⇓P P 01 54 15.2 -0.5
baz=51
JNU **Nakatsue** 51.27 274 *e*P P 01 54 16.6 +0.8
comp=Z,27nm,1.1s
536A **Bastrop** 51.27 91 P P 01 54 15.2 -0.6
baz=51
734A **La Parita Cree** 51.31 94 ⇑P P 01 54 15.6 -0.5
baz=51,SNR=7.5
338A **Crockett** 51.35 89 ⇓P P 01 54 15.4 -1.0
baz=51
239A **Gary** 51.36 87 ⇓P P 01 54 15.2 -1.2
baz=51
635A **Leesville** 51.37 92 ⇓P P 01 54 16.3 -0.2
baz=51,SNR=6.7
NATX **Nacogdoches** 51.44 88 *e*P P 01 54 17.6 +0.5
comp=Z,134nm,1.0s
HALT **Halls** 51.55 80 *e*P P 01 54 16.6 -1.2
KSGUS **GUNSAN** 51.56 280 P P 01 54 19.1 +1.2
SNR=6.1
WCI **Wyandotte Cave** 51.66 76 *e*P P 01 54 17.3 -1.3
WCI *e* 01 55 32.0
WCI pmax pmax
comp=Z,37nm,1.1s
WCI **Wyandotte Cave** 51.66 76 *e*P P 01 54 17.3 -1.3
comp=Z,37nm,1.1s
WCI *e*PcP **PcP** 01 55 32.0 +0.1
438A **Sam Houston St** 51.70 89 ⇑P P 01 54 17.9 -1.1
baz=52
537A **Green Hill Far** 51.70 91 ⇓P P 01 54 18.4 -0.6
baz=52,SNR=5.0
636A **Smothers Creek** 51.72 92 ⇑P P 01 54 18.7 -0.4
baz=52
735A **Kenedy** 51.74 93 ⇓P P 01 54 18.4 -0.9
baz=52
339A **Huntington** 51.81 88 ⇓P P 01 54 18.0 -1.8
baz=52
933A **Laredo** 51.82 95 P P 01 54 19.4 -0.6
baz=52,SNR=8.9
834A **Tilden** 51.86 94 ⇑P P 01 54 19.8 -0.4
baz=52,SNR=8.4
HKT **Hockley** 52.08 90 *e*P P 01 54 22.4 +0.6
HKT pmax pmax
comp=Z,133nm,1.4s
HKT **Hockley** 52.08 90 *e*P P 01 54 22.4 +0.6
comp=Z,133nm,1.4s
ACSO **Alum Creek Sta** 52.12 72 *e*P P 01 54 20.7 -1.4
comp=Z,121nm,1.3s
ACSO *e*PcP **PcP** 01 55 32.0 -1.6
ACSO LR LR
comp=Z,4μm,19.0s
340A **Bronson** 52.14 88 ⇑P P 01 54 21.9 -0.3
baz=52,SNR=5.7
H06E1 **SOCORRO T-PHAS** 52.19 113 T T 02 50 28.8
SNR=10.0
IRK **Irkutsk** 52.23 309 *e*P P 01 54 21.9 -0.8
IRK pmax pmax
comp=Z,106nm,1.4s
WVT **Waverly** 52.26 79 *e*P P 01 54 22.2 -0.9
WVT pmax pmax
comp=Z,266nm,1.1s
WVT **Waverly** 52.26 79 *e*P P 01 54 22.1 -0.9
comp=Z,266nm,1.1s
XMAS **Kiritimati** 52.41 175 PFAKE 01 54 40.0 +16
XMAS LR LR
comp=Z,5μm,21.0s
ERPA **Erie** 52.46 68 *e*P P 01 54 23.6 -1.0
comp=Z,307nm,1.4s
ERPA LR LR
comp=Z,3μm,19.0s
DL2 **Dalian** 52.47 286 P P 01 54 24.8 +0.2
DL2 S **S** 02 01 47.0 -1.9
DL2 PMZ
comp=Z,58nm,1.2s
DL2 PMZ
comp=Z,400nm,8.7s
DL2 LN
comp=Z,1μm,16.8s
DL2 LE
comp=Z,870nm,16.8s
DL2 LZ
comp=Z,2μm,17.7s
OXF **Oxford** 52.50 81 *e*P P 01 54 23.3 -1.6
OXF *e**PP **pP** 01 54 35.6 +1.9
OXF pmax pmax
comp=Z,495nm,1.1s
OXF **Oxford** 52.50 81 *e*P P 01 54 23.3 -1.6
comp=Z,495nm,1.1s
OXF *e*pP **pP** 01 54 35.6 +1.9
KVTX **Kingsville** 52.67 94 PFAKE 01 54 40.0 +14
KVTX LR LR
comp=Z,2μm,20.0s
ALLY **Alegheny Colle** 52.70 69 *e*P P 01 54 25.4 -1.0
TLY **Talaya** 52.90 309 P P 01 54 28.1 +0.4
comp=Z,397nm,0.9s,SNR=7.9
TLY **Talaya** 52.90 309 *e*P P 01 54 27.6 -0.1
TLY *e*PPP PPP 01 57 36.4
TLY *e*S **S** 02 01 53.6 -0.9
TLY pmax pmax
comp=Z,78nm,1.1s
TLY MLR MLR
comp=Z,5μm,20.0s
TLY **Talaya** 52.90 309 P P 01 54 28.4 +0.8
SNR=27
TLY **Talaya** 52.90 309 *e*P P 01 54 27.9 +0.2
comp=Z,77nm,1.0s
TLY LR LR
comp=Z,5μm,19.0s
738A **Farr-Stevens R** 53.01 91 ⇓P P 01 54 28.7 0.0
baz=53
JMIC **Jan Mayen** 53.28 11 *i* P 01 54 32.9 +2.7
035Z **Hargill** 53.39 95 ⇑P P 01 54 31.1 -0.4
baz=53
LONY **Lake Ozonia** 53.60 62 *e*P P 01 54 31.6 -1.3
comp=Z,41nm,1.0s
LONY LR LR
comp=Z,4μm,19.0s
ULN **Ulaanbaatar** 53.93 304 *c i*P P 01 54 35.6 +0.1
ULN pmax pmax
comp=Z,58nm,1.2s
ULN MLR MLR
comp=Z,9μm,18.0s
ULN **Ulaanbaatar** 53.93 304 P P 01 54 35.9 +0.5
SNR=21
ULN **Ulaanbaatar** 53.93 304 *e*P P 01 54 35.2 -0.2
comp=Z,39nm,1.0s
ULN *e*PcP **PcP** 01 55 40.7 +0.2
ULN LR LR
comp=Z,8μm,19.0s
ZAK **Zakamensk** 53.97 308 *i* P P 01 54 35.9 +0.3
ZAK *e* 01 55 39.8
ZAK pmax pmax
comp=Z,17nm,1.3s
MOY **Mondy** 54.10 310 *e*P P 01 54 36.7 +0.1
MOY pmax pmax
comp=Z,57nm,1.5s
NCB **Newcomb** 54.23 63 *e*P P 01 54 37.6 +0.1
comp=Z,220nm,1.5s
NCB LR LR
comp=Z,4μm,19.0s
SONM **Songino Array** 54.27 304 P P 01 54 38.5 +0.6
comp=Z,41nm,0.9s,baz=47,slow=6.5,SNR=127
SONM PcP **PcP** 01 55 42.4 +0.6
comp=Z,24nm,0.8s,baz=41,slow=2.2,SNR=8.3
SONM ScP **ScP** 01 59 38.7 +1.0
comp=Z,2.1nm,1.0s,baz=40,slow=3.7,SNR=3.9
SONM LR LR 02 20 28.8
comp=Z,9μm,18.5s,baz=40,slow=39
SONM P4KPbc 02 31 57.8
comp=Z,0.5nm,0.8s,baz=61,slow=3.6,SNR=3.9
KRAR **Krasnoyarsk** 54.38 318 ⇓*i*P P 01 54 38.9 +0.6
KRAR pmax pmax
comp=Z,154nm,1.1s
KRAR MLR MLR
comp=Z,8μm,22.0s
BINY **Binghamton** 54.55 65 *e*P P 01 54 39.0 -0.9
comp=Z,190nm,1.4s
BINY *e*pP **pP** 01 54 50.6 +1.9
SSPA **Standing Stone** 54.63 68 *e*P P 01 54 39.2 -1.2
comp=Z,206nm,1.3s
BJI **Beijing** 54.69 291 P P 01 54 41.3 +0.5
BJI sP **sP** 01 54 49.3 -3.8
BJI PP **PP** 01 56 47.3 +4.1
BJI S **S** 02 02 18.4 -0.5
BJI PMZ
comp=Z,31nm,1.4s
BJI PMZ
comp=Z,580nm,9.3s
BJI LN
comp=Z,3μm,21.8s
BJI LE
comp=Z,3μm,23.0s
BJI LZ
comp=Z,3μm,23.0s
BJT **Baijiatuau** 54.70 291 *e*P P 01 54 41.3 +0.3
BJT MLR MLR
comp=Z,4μm,19.0s
BJT **Baijiatuau** 54.70 291 *e*P P 01 54 41.3 +0.3
BJT LR LR
comp=Z,4μm,19.0s
MDV **Middlebury** 54.75 62 *e*P P 01 54 40.7 -0.6
TKL **Tuckaleechee C** 54.90 76 *e*P P 01 54 41.2 -1.3
TKL **Tuckaleechee C** 54.90 76 *e*P P 01 54 41.2 -1.3
ACCN **Adirondack Com** 54.93 63 *e*P P 01 54 41.6 -1.0
comp=Z,71nm,1.1s
LRAL **Lakeview Retre** 54.95 81 *e*P P 01 54 40.7 -2.2
comp=Z,25nm,0.8s
LBNH **Lisbon** 55.23 61 PFAKE 01 55 00.0 +15
LBNH LR LR
comp=Z,2μm,19.0s
BLA **Blacksburg** 55.67 73 *e*P P 01 54 47.2 -0.9
BLA pmax pmax
comp=Z,128nm,1.4s
BLA MLR MLR
comp=Z,6μm,19.0s
BLA **Blacksburg** 55.67 73 *e*P P 01 54 47.2 -0.9
comp=Z,128nm,1.4s
BLA LR LR
comp=Z,6μm,19.0s
PKME **Peaks-Kenny Pk** 55.83 59 *e*P P 01 54 47.9 -1.1
comp=Z,63nm,1.3s
PKME LR LR
comp=Z,3μm,19.0s
KEV **Kevo** 55.88 357 *e*P P 01 54 48.1 -0.9
KEV pmax pmax
comp=Z,66nm,1.0s
KEV MLR MLR
comp=Z,2μm,22.0s
KEV **Kevo** 55.88 357 *e*p P 01 54 47.2 -1.8
comp=Z,28nm,0.7s
KEV **Kevo** 55.88 357 *e*P P 01 54 48.1 -0.9
comp=Z,66nm,1.0s
KEV LR LR
comp=Z,2μm,22.0s
VWCC **Virginia Weste** 55.89 72 *e*P P 01 54 48.4 -1.2
SDMD **Soldier's Deli** 56.06 68 *e*P P 01 54 49.1 -1.7
comp=Z,184nm,1.1s
TRO **Tromso** 56.15 360 *e*P P 01 54 50.5 -0.3
ARCES **ARCESS Array B** 56.15 357 P P 01 54 50.4 -0.6
comp=Z,18nm,0.8s,baz=18,slow=5.2,SNR=31
ARCES pP **pP** 01 55 02.6 +2.8
comp=Z,20nm,0.9s,baz=30,slow=7.3,SNR=6.0
ARCES LR LR 02 20 12.5
comp=Z,2μm,19.1s,baz=0.5,slow=37
BRAL **Brewton** 56.40 83 *e*P P 01 54 52.3 -0.9
comp=Z,245nm,1.6s
BRAL *e*pP **pP** 01 55 02.8 +0.7
BRAL LR LR
comp=Z,3μm,20.0s
HHC **Hu-ho-hao-te** 56.59 295 *e*P P 01 54 55.0 +0.4
HHC PP **PP** 01 57 03.1 +2.8
HHC S **S** 02 02 40.3 -4.2
HHC sS **sS** 02 02 59.6 +0.6
HHC SS **SS** 02 06 26.6 -4.9
HHC PMZ
comp=Z,46nm,1.1s
HHC PMZ
comp=Z,590nm,4.1s
HHC LN
comp=Z,3μm,15.5s
HHC LE
comp=Z,2μm,14.9s
HHC LZ
comp=Z,4μm,16.2s
CBN **Corbin Frederi** 56.64 70 *e*P P 01 54 54.4 -0.5
comp=Z,96nm,1.1s
CBN LR LR
comp=Z,3μm,19.0s
HRV **Adam Dziewonsk** 56.65 62 *e*P P 01 54 54.3 -0.6
HRV pmax pmax
comp=Z,45nm,1.1s
HRV **Adam Dziewonsk** 56.65 62 *e*P P 01 54 54.3 -0.6
comp=Z,45nm,1.1s
KMSC **Kings Mountain** 56.65 75 ⇑P P 01 54 53.8 -1.2
baz=56
KMSC **Kings Mountain** 56.65 75 *e*P P 01 54 53.3 -1.7
comp=Z,146nm,1.2s
KMSC *e*pP **pP** 01 55 05.1 +1.2
GOGA **Godfrey** 56.70 78 *e*P P 01 54 53.1 -2.3
GOGA pmax pmax
comp=Z,62nm,1.1s
GOGA MLR MLR
comp=Z,5μm,20.0s
GOGA **Godfrey** 56.70 78 *e*P P 01 54 53.1 -2.3
comp=Z,62nm,1.1s
GOGA LR LR
comp=Z,5μm,20.0s
JSRW **J. Sargeant Re** 56.73 70 *e*P P 01 54 54.0 -1.5
TIA **Tai'an** 56.90 287 ⇑P P 01 54 56.8 0.0
TIA S **S** 02 02 52.8 +4.3
TIA PMZ
comp=Z,40nm,1.2s
TIA PMZ
comp=Z,710nm,8.9s
TIA LN
comp=Z,770nm,16.0s
TIA LE
comp=Z,4μm,20.8s
TIA LZ
comp=Z,3μm,20.0s
TARA **Tarawa** 57.09 211 PFAKE 01 55 10.0 +12
TARA LR LR
comp=Z,4μm,21.0s
BORG **Borgarnes** 57.12 19 *e*P P 01 54 58.8 +0.9
BORG pmax pmax
comp=Z,464nm,1.8s
BORG MLR MLR
comp=Z,3μm,20.0s
BORG **Borgarnes** 57.12 19 *e*P P 01 54 58.8 +0.9
comp=Z,464nm,1.8s

BORG LR LR
comp=Z,3μm,20.0s
LVZ Lovozero 57.32 353 P **P** **01 54 58.7 -0.6**
comp=Z,604nm,1.0s,SNR=9.8
LVZ Lovozero 57.32 353 *c iP* **P** **01 54 59.0 -0.3**
LVZ pmax pmax
comp=Z,107nm,1.0s
LVZ MLR MLR
comp=Z,4μm,18.0s
LVZ Lovozero 57.32 353 *eP* **P** **01 54 58.5 -0.8**
comp=Z,95nm,0.9s
LVZ LR LR
comp=Z,4μm,20.0s
JOW Kunigami 57.43 271 *eP* **P** **01 55 00.8 +0.2**
comp=Z,57nm,1.1s
BTO Baotou 57.57 296 *eP* **P** **01 55 01.8 +0.2**
HVS Khovu-Aksy 57.63 314 *d iP* **P** **01 55 02.9 +1.0**
HVS pmax pmax
comp=Z,663nm,1.0s
APA Apatity 57.73 353⇑ *iP* **P** **01 55 02.7 +0.5**
APA *i* 01 57 13.0
APA *i S* **S** **02 02 58.0 -0.5**
APA *i* 02 04 46.0
APA MLR MLR
comp=Z,3μm,21.0s
STEI Steigen 57.83 2 *eP* **P** **01 55 02.9 +0.1**
STEI IAmb IAmb 01 55 16.2
comp=Z,45nm,1.2s
TIGA Tifton 58.08 80⇑ P **P** **01 55 04.1 -1.1**
baz=58
TIGA Tifton 58.08 80 *eP* **P** **01 55 03.6 -1.5**
comp=Z,198nm,1.7s
SSE Sheshan 58.35 280⇑ P **P** **01 55 07.8 +0.8**
SSE pP pP 01 55 21.5 +5.6
SSE S **S** **02 03 08.8 +1.3**
SSE PMZ
comp=Z,40nm,0.6s
SSE PMZ
comp=Z,510nm,4.8s
SSE LN
comp=Z,870nm,19.8s
SSE LE
comp=Z,400nm,19.8s
SSE LZ
comp=Z,1μm,20.6s
GUMO Guam 58.45 247 PFAKE 01 55 20.0 +12
GUMO LR LR
comp=Z,153nm,22.0s
CNNC Cliffs of the 58.51 72 PFAKE 01 55 20.0 +12
CNNC LR LR
comp=Z,6μm,19.0s
NHSC New Hope 58.79 76 *eP* **P** **01 55 08.8 -1.3**
comp=Z,293nm,1.2s
NHSC LR LR
comp=Z,1μm,22.0s
NVS Novosibirsk 58.85 322⇑ *iP* **P** **01 55 09.2 -0.9**
NVS pmax pmax
comp=Z,54nm,1.0s
NVS pmax pmax
comp=N,21nm,1.0s
NVS pmax pmax
comp=E,28nm,1.0s
NJ2 Nanjing 58.97 283 *eP* **P** **01 55 11.8 +0.5**
NJ2 S **S** **02 03 18.0 +2.4**
NJ2 sS **sS** **02 03 27.0 -3.3**
NJ2 PMZ
comp=E,120nm,1.2s
NJ2 LN
comp=E,5μm,23.4s
NJ2 LE
comp=E,5μm,25.7s
NJ2 LZ
comp=E,4μm,24.8s
ZALV Zalesovo Beam 58.98 321 P **P** **01 55 11.2 +0.2**
comp=E,36nm,0.9s,baz=28,slow=5.9,SNR=106
ZALV PcP **PcP** **01 56 00.5 +0.6**
comp=E,15nm,0.8s,baz=354,slow=4.5,SNR=4.3
ZALV LR LR 02 23 07.7
comp=E,14μm,18.4s,baz=39,slow=38
ZALV PKP2bc 02 25 00.3
comp=E,0.4nm,0.3s,baz=299,slow=1.5,SNR=4.1
TMCR Tamitsa 60.71 350 *eP* **P** **01 55 21.9 -0.8**
TMCR *e* 01 57 35.2
TMCR pmax pmax
comp=Z,251nm,1.1s
SOKR Solikamsk 62.23 339 *c iP* **P** **01 55 32.6 -0.5**
SOKR pmax pmax
comp=Z,240nm,1.3s
SOKR MLR MLR
comp=Z,7μm,18.0s
PRGR Permogore 62.26 346⇑ *iP* **P** **01 55 33.3 +0.1**
PRGR *e**PP **pP** **01 55 43.3 +1.1**
PRGR S **S** **02 03 56.3 -0.5**
PRGR pmax pmax
comp=Z,214nm,0.9s
JOF Joensuu 62.48 354 *eP* **P** **01 55 33.3 -1.4**
JOF pmax pmax
comp=Z,20nm,0.7s
JOF Joensuu 62.48 354 *ep* **P** **01 55 33.3 -1.4**
comp=Z,20nm,0.7s
WHN Wuhan 62.65 285 P **P** **01 55 36.3 0.0**
WHN S S 02 03 52.3 -10
WHN LN
comp=Z,4μm,17.0s
WHN LE
comp=Z,3μm,16.0s
WHN LZ
comp=Z,4μm,20.2s
TATO Taipei 62.79 275 PFAKE 01 55 50.0 +13
TATO LR LR
comp=Z,3μm,22.0s
MOL Molde 62.91 6 *eP* **P** **01 55 37.1 -0.4**
MOL IAmb IAmb 01 55 39.1
comp=Z,72nm,1.0s
XAN Xi'an 63.02 291 P **P** **01 55 38.9 0.0**
XAN pP **pP** **01 55 46.6 -1.2**
XAN sP **sP** **01 55 51.8 +0.6**
XAN PP **PP** **01 57 58.3 +1.1**
XAN S **S** **02 04 03.3 -4.0**
XAN sS sS 02 04 15.9 -6.1
XAN SS **SS** **02 08 09.0 -3.5**
XAN PMZ
comp=Z,15nm,1.2s
XAN PMZ
comp=Z,150nm,8.1s
XAN LN
comp=Z,2μm,16.7s
XAN LE
comp=Z,680nm,16.7s
XAN LZ
comp=Z,840nm,16.7s
YHNB Yeheng 63.09 275 PFAKE 01 55 50.0 +11
YHNB LR LR
comp=Z,2μm,22.0s
NACB Ninganchiao 63.34 275 *eP* **P** **01 55 40.8 -0.2**
comp=Z,133nm,1.1s
NACB *ep*P **pP** **01 55 51.6 +1.6**
KAF Kangasniemi 63.55 356 *eP* **P** **01 55 40.5 -1.3**
KAF pmax pmax
comp=Z,24nm,0.4s
KAF Kangasniemi 63.55 356 *ep* **P** **01 55 40.5 -1.3**
comp=Z,24nm,0.4s
GTA Gaotai 63.69 301⇑ P **P** **01 55 43.3 0.0**
GTA pP **pP** **01 55 51.1 -1.2**
GTA sP **sP** **01 55 54.6 -1.1**
GTA PcP **PcP** **01 56 20.0 +0.7**
GTA PP **PP** **01 58 04.8 +1.7**
GTA S **S** **02 04 14.9 -0.8**
GTA sS **sS** **02 04 28.3 -2.2**
GTA SS **SS** **02 08 25.5 +2.6**
GTA PMZ
comp=Z,76nm,1.4s
GTA PMZ
comp=Z,800nm,4.7s
GTA LN
comp=Z,3μm,17.1s
GTA LE
comp=Z,4μm,16.4s
GTA LZ
comp=Z,6μm,18.1s
KURK Kurchatov 63.84 322 P **P** **01 55 44.9 +1.0**
comp=Z,276nm,1.0s,SNR=10.0
KURK Kurchatov 63.84 322 *eP* **P** **01 55 44.5 +0.6**
KURK pmax pmax
comp=Z,135nm,1.1s
KURK MLR MLR
comp=Z,15μm,20.0s
KURK Kurchatov 63.84 322 P **P** **01 55 44.2 +0.3**
SNR=35
KURK Kurchatov 63.84 322 *eP* **P** **01 55 44.5 +0.6**
comp=Z,135nm,1.1s
KURK LR LR
comp=Z,15μm,20.0s
TEIG Tepich 63.89 92 PFAKE 01 56 00.0 +15
TEIG LR LR
comp=Z,2μm,21.0s
SVE Sverdlovsk 63.90 336 *d iP* **P** **01 55 44.7 +0.5**
SVE *e*PPP PPP 01 59 32.8
SVE *eS* **S** **02 04 18.7 +1.3**
SVE pmax pmax
comp=Z,107nm,1.1s
SVE MLR MLR
comp=Z,5μm,17.0s
SSLB Suanglung 64.01 275 *eP* **P** **01 55 44.9 -0.6**
comp=Z,72nm,1.0s
YULB Yu-li 64.11 274 *eP* **P** **01 55 47.5 +1.3**
comp=Z,145nm,1.6s
LZH Lanzhou 64.17 296⇑ P **P** **01 55 47.3 +0.7**
LZH pP **pP** **01 55 55.6 0.0**
LZH PP **PP** **01 58 10.0 +2.5**
LZH S **S** **02 04 17.0 -4.9**
LZH sS **sS** **02 04 33.3 -3.3**
LZH SS **SS** **02 08 27.3 -3.3**
LZH PMZ
comp=Z,260nm,1.4s
LZH PMZ
comp=Z,700nm,4.5s
LZH LN
comp=Z,3μm,16.1s
LZH LE
comp=Z,3μm,15.8s
LZH LZ
comp=Z,3μm,17.6s
FINES FINESS Array B 64.23 356 P **P** **01 55 46.0 -0.3**
comp=Z,93nm,0.9s,baz=12,slow=4.7,SNR=96
FINES LR LR 02 27 55.4
comp=Z,1μm,18.3s,baz=12,slow=40
QZH Quanzhou 64.49 278⇑ *iP* **P** **01 55 48.8 +0.2**
QZH S **S** **02 04 25.9 +0.3**
QZH PMZ
comp=Z,120nm,0.8s
QZH PMZ
comp=Z,1μm,4.7s
QZH LN
comp=Z,830nm,9.9s
QZH LE
comp=Z,2μm,15.0s
QZH LZ
comp=Z,4μm,29.6s
LRW Lerwick 64.57 11 *eP* **P** **01 55 49.1 +0.6**
LRW AMB AMB 01 55 50.7
comp=Z,135nm,1.0s
LRW AMS AMS 02 24 17.8
comp=Z,2μm,23.9s
BVA0 Borovoye Array 64.61 328 *i* P **P** **01 55 49.3 +0.3**
BVA0 pmax pmax
comp=Z,109nm,1.0s
BRVK Borovoye 64.61 328 P **P** **01 55 49.8 +0.8**
comp=Z,598nm,1.0s,SNR=38
BRVK Borovoye 64.61 328 *eP* **P** **01 55 49.3 +0.3**
BRVK pmax pmax
comp=Z,108nm,1.0s
BRVK Borovoye 64.61 328 *eP* **P** **01 55 49.2 +0.3**
comp=Z,108nm,1.0s
NB2 NORSAR Subarra 64.62 4 P **P** **01 55 49.1 +0.1**
comp=Z,135nm,1.0s,baz=356,slow=6.5
NB2 NORSAR Subarra 64.62 4 P **P** **01 55 49.1 +0.1**
baz=356,slow=6.5
NOA NORSAR Array B 64.62 4 P **P** **01 55 49.5 +0.5**
comp=Z,88nm,0.9s,baz=355,slow=6.4,SNR=103
ARU Arti 64.74 337 P **P** **01 55 49.1 -0.7**
comp=Z,533nm,1.0s,SNR=41
ARU Arti 64.74 337 *c iP* **P** **01 55 49.6 -0.2**
ARU 01 56 19.5
ARU S **S** **02 04 28.8 +0.9**
ARU 02 05 40.1
ARU pmax pmax
comp=Z,124nm,1.2s
ARU MLR MLR
comp=Z,5μm,17.0s
ARU Arti 64.74 337 *eP* **P** **01 55 49.3 -0.4**
comp=Z,118nm,1.1s
ARU LR LR
comp=Z,3μm,22.0s
RUND Rundenannen 64.90 7 *eP* **P** **01 55 50.1 -0.7**
ENH Enshi 65.57 288 *eP* **P** **01 55 56.4 +0.7**
comp=Z,39nm,1.1s
TAOE Nuku Hiva Isla 65.59 157 *eT* T 03 07 00.2
comp=Z,616nm,0.3s
PUL Pulkovo 65.68 354 *eP* **P** **01 55 56.2 +0.4**
PUL pmax pmax
comp=Z,73nm,0.5s
PUL MLR MLR
comp=Z,3μm,22.0s
MK31 Makanchi Array 65.69 318 *i* P **P** **01 55 55.7 -0.5**
MK31 pmax pmax
comp=Z,38nm,0.8s
MKAR Makanchi Array 65.69 318 P **P** **01 55 56.2 +0.1**
comp=Z,25nm,0.8s,baz=44,slow=6.3,SNR=136
MKAR PKPPKP P'P'df 02 24 31.6 -8.4
comp=Z,0.5nm,0.9s,baz=132,slow=4.1,SNR=5.1
MKAR LR LR 02 26 30.8
comp=Z,6μm,20.5s,baz=27,slow=38
OSL Oslo 65.70 4 *eP* **P** **01 55 57.5 +1.6**
WMQ Urumqi 65.88 312⇑ *iP* **P** **01 55 58.3 +0.9**
WMQ pP **pP** **01 56 10.5 +4.1**
WMQ PcP **PcP** **01 56 29.0 +0.8**
WMQ PP **PP** **01 58 25.5 +3.5**
WMQ S **S** **02 04 41.0 -1.4**
WMQ ScS **SKSac** **02 05 47.0 -4.0**
WMQ SS **SS** **02 08 57.0 +0.5**
WMQ PMZ
comp=Z,94nm,1.0s
WMQ PMZ
comp=Z,790nm,5.2s
WMQ LN
comp=Z,3μm,22.8s
WMQ LE
comp=Z,3μm,19.8s
WMQ LZ
comp=Z,5μm,20.5s
KONO Kongsberg 65.93 5 *eP* **P** **01 55 57.9 +0.5**
KONO pmax pmax
comp=Z,157nm,1.0s
KONO MLR MLR
comp=Z,2μm,22.0s
KONO Kongsberg 65.93 5 *eP* **P** **01 55 57.7 +0.3**
KONO IAmb IAmb 01 55 59.7
comp=Z,155nm,1.0s
KONO Kongsberg 65.93 5 *eP* **P** **01 55 57.9 +0.5**
comp=Z,157nm,1.0s
KONO LR LR
comp=Z,2μm,22.0s
MLA1 Latheron 66.10 13⇑ *eP* **P** **01 55 58.5 0.0**
MVH1 Achvaich 66.36 13⇑ *eP* **P** **01 56 00.7 +0.5**
KPL Plockton 66.73 14 *eP* **P** **01 56 03.5 +1.0**
KPL AMB AMB 01 56 04.2
comp=Z,61nm,1.7s
KPL AMS AMS 02 26 10.7
comp=Z,2μm,20.0s
MDO Dochfour 66.81 13⇑ *eP* **P** **01 56 03.6 +0.5**
MCD Coleburn Disti 66.82 13⇑ *eP* **P** **01 56 03.8 +0.6**
KSB Sheil Bridge 66.89 14 *eP* **P** **01 56 04.0 +0.5**
SNART Snartemo 67.09 7 *eP* **P** **01 56 05.5 +0.6**
SNART IVmB_BB 01 56 06.0
comp=Z,1μm,3.7s
SNART IAmb IAmb 01 56 06.5
comp=Z,79nm,1.1s
MME1 Meikle Cairn 67.12 13⇑ *eP* **P** **01 56 05.0 0.0**
VSU Vasula 67.18 355 *c iP* **P** **01 56 05.3 -0.1**
VSU pmax pmax
comp=Z,408nm,1.0s
DRUM Mains of Drumt 67.57 12 *eP* **P** **01 56 07.9 0.0**
DRUM AMB AMB 01 56 10.2
comp=Z,199nm,0.9s
DRUM AMS AMS 02 24 10.4
comp=Z,2μm,20.9s
BBSR BB Station 67.84 65 PFAKE 01 56 20.0 +10
BBSR LR LR
comp=Z,2μm,20.0s
EDU Dundee 67.86 13⇑ *eP* **P** **01 56 10.0 +0.3**
EAB Aberfoyle 68.03 14⇑ *eP* **P** **01 56 11.3 +0.5**
OTUK Ortayu 68.11 325 P **P** **01 56 12.1 +0.6**
OTUK pmax pmax
comp=Z,111nm,1.1s
CD2 Chengdu 68.21 293⇑ P **P** **01 56 13.1 +0.7**
CD2 pP **pP** **01 56 26.5 +5.1**
CD2 PP **PP** **01 58 45.4 +2.8**
CD2 PcS 02 00 42.8
CD2 S **S** **02 05 07.3 -3.5**
CD2 ScS **SKiKP** **02 06 04.4 -0.4**
CD2 SS **SS** **02 09 31.3 -1.9**
CD2 PMZ
comp=Z,110nm,0.8s
CD2 PMZ
comp=Z,910nm,5.0s
CD2 LN
comp=Z,2μm,16.2s
CD2 LE
comp=Z,2μm,19.1s
CD2 LZ
comp=Z,3μm,16.6s
PGBU Glenifferbraes 68.38 14 *eP* **P** **01 56 13.2 +0.3**
PGBU AMB AMB 01 56 14.2
comp=Z,98nm,1.5s
PGBU AMS AMS 02 25 12.7
comp=Z,2μm,23.2s
EDI Edinburgh 68.44 13 AMB AMB 01 55 59.9
comp=Z,76nm,1.5s
EDI AMS AMS 02 25 57.3
comp=Z,2μm,20.0s
ESY Stoneypath 68.52 13⇑ *eP* **P** **01 56 14.3 +0.4**
EBL Broad Law 68.61 13⇑ *eP* **P** **01 56 14.7 +0.3**
AFI Afiamalu 68.76 191 PFAKE 01 56 30.0 +14
AFI LR LR
comp=Z,4μm,20.0s
GZH Guangzhou 68.94 280 P **P** **01 56 14.3 -2.7**
GZH PP **PP** **01 58 48.4 -0.7**
GZH S **S** **02 05 16.1 -3.4**
GZH ScS **SKiKP** **02 06 08.5 +2.6**
GZH LN
comp=Z,1μm,16.8s
GZH LE
comp=Z,3μm,17.8s
MOS Moscow 69.02 349 *eP* **P** **01 56 15.8 -1.1**
MOS *e* 01 56 38.6
MOS pmax pmax
comp=N,133nm,1.2s
MOS pmax pmax
comp=Z,193nm,1.2s
MOS pmax pmax
comp=Z,300nm,1.4s
MOS MLR MLR
comp=Z,3μm,19.0s
ESK Eskdalemuir 69.03 13 P **P** **01 56 17.0 -0.1**
comp=Z,404nm,0.8s,SNR=10.0
ESK Eskdalemuir 69.03 13 *eP* **P** **01 56 17.3 +0.2**
ESK pmax pmax
comp=Z,68nm,0.9s
ESK MLR MLR
comp=Z,3μm,21.0s
ESK Eskdalemuir 69.03 13⇑ *eP* **P** **01 56 17.4 +0.4**
ESK AMB AMB 01 56 18.4
comp=Z,73nm,1.5s
ESK AMS AMS 02 26 38.9
comp=Z,2μm,21.2s
ESK Eskdalemuir 69.03 13 *eP* **P** **01 56 17.3 +0.2**
comp=Z,68nm,0.9s
ESK LR LR
comp=Z,3μm,21.0s
MUD Monsted U'grnd 69.09 6 *i* P **P** **01 56 18.3 +0.9**
MUD pmax pmax
comp=Z,63nm,1.0s
MUD Monsted U'grnd 69.09 6 *i* P **P** **01 56 18.3 +0.9**
comp=Z,63nm,0.9s
ECK Cauldkaine Hil 69.17 13⇑ *eP* **P** **01 56 18.3 +0.3**
GAL1 Galloway 69.26 14⇑ *eP* **P** **01 56 18.4 0.0**
GAL1 AMB AMB 01 56 20.3
comp=Z,76nm,1.0s
GAL1 AMS AMS 02 28 37.7
comp=Z,3μm,20.0s
PDGK Podgornoye 69.68 317 P **P** **01 56 21.9 +0.7**
PDGK pmax pmax
comp=Z,226nm,1.0s
OBN Obninsk 69.75 349 P **P** **01 56 21.5 +0.1**
comp=Z,752nm,1.1s,SNR=18
OBN Obninsk 69.75 349 *c iP* **P** **01 56 21.0 -0.4**
OBN *i* 01 56 43.3
OBN *i S* **S** **02 05 23.4 -4.7**
OBN pmax pmax
comp=Z,249nm,1.7s
OBN MLR MLR
comp=Z,3μm,23.0s
OBN Obninsk 69.75 349 *eP* **P** **01 56 20.6 -0.9**
comp=Z,188nm,1.1s
OBN LR LR
comp=Z,4μm,19.0s
KESW Keswick, Cumbr 69.75 13 *eP* **P** **01 56 22.0 +0.5**
KESW AMB AMB 01 56 23.0
comp=Z,68nm,1.4s
KESW AMS AMS 02 25 40.9
comp=Z,2μm,23.8s
COP Copenhagen 70.02 4 *i* P **P** **01 56 24.6 +1.5**
COP pmax pmax
comp=Z,52nm,1.0s
COP MLR MLR
comp=Z,750nm,18.0s
COP Copenhagen 70.02 4 *i* P **P** **01 56 24.6 +1.5**
comp=Z,52nm,1.0s
comp=Z,740nm,18.0s
GYA Guiyang 70.09 288⇑ *iP* **P** **01 56 24.6 +0.4**
GYA pP **pP** **01 56 32.8 -0.5**
GYA PP **PP** **01 59 02.0 +2.9**
GYA S **S** **02 05 34.1 +0.8**
GYA sS **sS** **02 05 44.6 -3.6**
GYA SS **SS** **02 10 01.4 -1.1**
GYA PMZ
comp=Z,90nm,1.0s
GYA PMZ
comp=Z,500nm,8.0s
GYA LN
comp=Z,990nm,20.2s
GYA LE
comp=Z,1μm,19.6s
GYA LZ
comp=Z,890nm,22.1s
PMOR Pomariorio Ree 70.18 166 *eP* **P** **01 56 27.4 +2.9**
comp=Z,117nm,1.3s
PMOR Pomariorio Ree 70.18 166 *eT* T 03 12 47.3
comp=Z,262nm,0.2s
LLD Lille Linde 70.36 4 *eP* **P** **01 56 26.5 +1.3**
LLD Lille Linde 70.36 4 *i* P **P** **01 56 26.5 +1.3**
VAH Vaihoa 70.44 166 *eP* **P** **01 56 28.8 +2.7**
comp=Z,92nm,1.0s
VAH Vaihoa 70.44 166 *eT* T 03 13 06.8
comp=Z,17nm,0.3s
HPK Haverah Park 70.56 13 *eP* **P** **01 56 26.8 +0.3**
HPK AMB AMB 01 56 28.2
comp=Z,60nm,1.1s
HPK AMS AMS 02 27 24.7
comp=Z,2μm,21.0s
BSD Bornholm Skovb 70.67 2 *i* P **P** **01 56 27.5 +0.4**
BSD pmax pmax
comp=Z,53nm,0.9s
BSD MLR MLR
comp=Z,2μm,15.0s
BSD Bornholm Skovb 70.67 2 *i* P **P** **01 56 27.5 +0.4**
comp=Z,53nm,0.9s
comp=Z,2μm,15.0s
NACGM Naroch 70.73 355 *eP* P 01 56 24.0 -3.5
WME Myndd Eilian 70.75 14 *eP* **P** **01 56 27.8 +0.2**
WLF1 Llynfaes 70.84 15 *eP* **P** **01 56 28.2 +0.1**
WLF1 AMB AMB 01 56 29.9
comp=Z,43nm,1.4s
WLF1 AMS AMS 02 29 43.8
comp=Z,2μm,18.5s
LHO Holmfirth 70.94 13 *eP* **P** **01 56 28.8 0.0**
WPM1 Penmaenmawr 70.94 14 *eP* **P** **01 56 28.7 -0.1**
AB31 Akbulak array 70.96 333 *i* P **P** **01 56 29.5 +0.5**
AB31 pmax pmax
comp=Z,125nm,1.0s
ABKAR Akbulak array 70.96 333 *eP* **P** **01 56 29.2 +0.2**
MICGM Minsk 71.08 354⇑ *iP* **P** **01 56 28.0 -1.6**
MNK Minsk 71.08 354⇑ *iP* **P** **01 56 28.0 -1.6**
MNK *eS* **S** **02 05 44.0 +0.3**
MNK pmax pmax
comp=Z,640nm,1.0s
MNK pmax pmax

comp=N,230nm,1.2s
MNK MLR MLR
comp=Z,4µm,16.0s
KBI1 Birley Grange 71.27 13⇑ eP P 01 56 30.7 -0.1
STNC Stoke 71.34 13 eP P 01 56 31.7 +0.5
STNC AMB AMB 01 56 34.6
comp=Z,110nm,2.5s
STNC AMS AMS 02 26 39.0
comp=Z,2µm,23.5s
FOEL Foel Wylfa 71.40 14⇑ eP P 01 56 32.0 +0.4
FOEL AMB AMB 01 56 33.2
comp=Z,101nm,1.5s
FOEL AMS AMS 02 29 52.1
comp=Z,2µm,21.6s
TKM2 Tokmak 2 71.53 320 P P 01 56 33.8 +1.0
SNR=169
TKM2 Tokmak 2 71.53 320 *i* P P 01 56 33.8 +1.0
TKM2 Tokmak 2 71.53 320 eP P 01 56 33.6 +0.7
comp=Z,183nm,1.2s
TKM2 LR LR
comp=Z,7µm,20.0s
USP Ospenovka 71.64 321 P P 01 56 34.3 +0.9
SNR=115
USP Ospenovka 71.64 321 *i* P P 01 56 34.2 +0.9
BSEG Bad Segeberg 71.67 5 eP P 01 56 33.4 +0.2
comp=Z,106nm,1.1s
MTDJ Mount Denham 71.71 84 PFAKE 01 56 50.0 +16
MTDJ LR LR
comp=Z,1µm,21.0s
SUW Suwalki 71.76 357 eP P 01 56 33.4 -0.3
SUW *e*PP **pP 01 56 41.3 -1.6**
SUW Suwalki 71.76 357 eP P 01 56 33.4 -0.3
SUW *ep*P **pP 01 56 41.2 -1.6**
SUW LMZ LR 02 25 29.3
SUW Suwalki 71.76 357 eP P 01 56 33.3 -0.5
comp=Z,274nm,1.0s
GTBY Guantanamo Bay 71.77 81 PFAKE 01 56 50.0 +16
GTBY LR LR
comp=Z,3µm,21.0s
CHMS Chumysh 71.78 320 P P 01 56 35.3 +1.2
SNR=79
CHMS Chumysh 71.78 320 *i* P P 01 56 35.3 +1.2
HLM1 Long Mynd 71.81 14 eP P 01 56 34.1 0.0
HLM1 AMB AMB 01 56 35.5
comp=Z,46nm,1.5s
HLM1 AMS AMS 02 27 04.3
comp=Z,2µm,23.3s
ULHL Ulahol 71.86 319 P P 01 56 35.7 +0.8
SNR=44
ULHL Ulahol 71.86 319 *i* P P 01 56 35.6 +0.8
FRU Bishkek 71.97 320⇑ *i*P P 01 56 36.0 +0.7
FRU *i* 01 56 59.0
FRU *e* 02 06 19.0
FRU pmax pmax
comp=Z,440nm,1.6s
KBK Karagaybulak 72.00 320 P P 01 56 36.8 +1.2
SNR=174
KBK Karagaybulak 72.00 320 *i* P P 01 56 36.8 +1.2
AAK Ala-Archa 72.19 320 P P 01 56 37.0 +0.2
comp=Z,773nm,0.9s
AAK Ala-Archa 72.19 320 P P 01 56 37.7 +1.0
SNR=126
AAK Ala-Archa 72.19 320 *i* P P 01 56 37.7 +1.0
AAK pmax pmax
comp=Z,402nm,1.2s
AAK MLR MLR
comp=Z,24µm,18.0s
AAK Ala-Archa 72.19 320 P P 01 56 38.1 +1.3
SNR=74
AAK Ala-Archa 72.19 320 eP P 01 56 37.4 +0.7
comp=Z,189nm,1.1s
AAK LR LR
comp=Z,9µm,19.0s
MCH1 Michaelchurch 72.30 14 eP P 01 56 37.3 +0.3
MCH1 AMB AMB 01 56 38.3
comp=Z,66nm,1.5s
MCH1 AMS AMS 02 30 29.3
comp=Z,2µm,21.1s
KZA Kyzart 72.38 319 P P 01 56 39.5 +1.2
SNR=93
KZA Kyzart 72.38 319 *i* P P 01 56 39.4 +1.2
EKS2 Erkin-Say 72.43 321 P P 01 56 39.1 +0.9
SNR=112
EKS2 Erkin-Say 72.43 321 *i* P P 01 56 39.0 +0.9
EKS2 Erkin-Say 72.43 321 eP P 01 56 38.9 +0.7
comp=Z,183nm,1.1s
EKS2 LR LR
comp=Z,13µm,19.0s
MONM Monmouth 72.48 14 eP P 01 56 38.5 +0.4
MONM AMS AMS 02 30 25.5
comp=Z,2µm,19.0s
PPT Papeete 72.49 168 LR LR 02 21 48.7
comp=Z,2µm,20.4s,baz=349,slow=30
TIAR Tiarei 72.51 168 eP P 01 56 41.1 +2.6
comp=Z,13nm,0.9s
TIAR Tiarei 72.51 168 eT T 03 15 41.7
comp=Z,38nm,0.2s
PPT2 Papeete2 72.51 168 eP P 01 56 41.5 +2.9
comp=Z,27nm,1.1s
PPT2 Papeete2 72.51 168 *e*PP PP 01 59 16.6 -3.8
comp=Z,97nm,23.5s
PPT2 *e*S **S 02 06 01.3 +0.4**
comp=Z,2µm,26.0s
PPT2 *e*SS **SS 02 10 43.3 +2.7**
comp=Z,699nm,29.5s
PPT2 *e*LQ LQ 02 15 26.6
comp=Z,1µm,27.8s
PPT2 *e*LR LR 02 18 47.2
comp=Z,6µm,23.5s,baz=350
PPT2 Papeete2 72.51 168 eT T 03 15 42.8
comp=Z,11nm,0.3s
UCH Uchtor 72.53 320 P P 01 56 40.3 +1.1
SNR=53
UCH Uchtor 72.53 320 *i* P P 01 56 40.2 +1.1
GKP Gorka Klasztor 72.56 1 eP P 01 56 38.9 +0.4
GKP *e**PP **pP 01 56 45.9 -1.7**
GKP pmax pmax
comp=Z,100nm,1.0s
GKP Gorka Klasztor 72.56 1 eP P 01 56 38.9 +0.4
GKP *ep*P **pP 01 56 45.9 -1.7**
GKP LMZ LR 02 35 10.9
PAE Paea 72.58 168 eP P 01 56 41.6 +2.7
comp=Z,9.9nm,1.3s
PAE Paea 72.58 168 eT T 03 15 48.1
comp=Z,4.1nm,0.3s
STRD Stroud 72.63 13 eP P 01 56 39.6 +0.7
STRD AMB AMB 01 56 40.5
comp=Z,161nm,1.6s
STRD AMS AMS 02 27 17.4
comp=Z,2µm,23.7s
TVO Taravao 72.74 168 eP P 01 56 42.9 +2.9
comp=Z,16nm,1.1s
TVO Taravao 72.74 168 eT T 03 15 59.8
comp=Z,6.7nm,0.3s
VOR Voronezh 72.75 347 P P 01 56 38.0 -1.7
VOR pmax pmax
comp=Z,350nm,1.2s
GRTK Grand Turk 72.80 77 PFAKE 01 56 50.0 +10
GRTK LR LR
comp=Z,4µm,20.0s
AML Almayashu 72.92 320 P P 01 56 42.3 +0.9
SNR=170
AML Almayashu 72.92 320 *i* P P 01 56 42.3 +0.9
SWN1 Swindon 72.93 13 eP P 01 56 41.5 +0.7
SWN1 AMB AMB 01 56 42.4
comp=Z,131nm,1.7s
SWN1 AMS AMS 02 27 39.2
comp=Z,2µm,21.1s
MEH Mehetia 72.98 167 eT T 03 16 17.5
comp=Z,25nm,0.2s
VRHR Novokhopersk 73.03 345 eP P 01 56 39.6 -1.7
VRHR pmax pmax
comp=Z,100nm,0.9s
VRHR pmax pmax
comp=N,150nm,1.6s
VRHR pmax pmax
comp=E,90nm,1.6s
MNAS Manas 73.05 321 P P 01 56 42.6 +0.8
MNAS pmax pmax
comp=Z,138nm,1.1s
HTL Hartland 73.06 15 eP P 01 56 42.7 +1.2
HTL AMS AMS 02 26 54.7
comp=Z,2µm,25.5s
NRDL Niedersach Rie 73.10 6 eP P 01 56 41.5 -0.1
comp=Z,77nm,1.1s
IBBN Ibbenburen 73.13 7 eP P 01 56 42.0 +0.1
comp=Z,107nm,1.1s
WOL Wolverton 73.21 13 eP P 01 56 43.0 +0.6
WOL AMB AMB 01 56 47.4
comp=Z,152nm,2.1s
WOL AMS AMS 02 27 35.1
comp=Z,2µm,22.5s
KK31 Karatay Array 73.22 323 *i* P P 01 56 42.7 0.0
KK31 pmax pmax
comp=Z,140nm,1.0s
KKAR Karatay Array 73.22 323 eP P 01 56 42.6 -0.1
KKAR pmax pmax
comp=Z,128nm,0.9s
KKAR Karatay Array 73.22 323 eP P 01 56 42.6 -0.1
comp=Z,128nm,0.9s
VSR Storozhevoye 73.26 347 eP P 01 56 42.2 -0.5
VSR pmax pmax
comp=Z,160nm,0.9s
VSR pmax pmax
comp=N,100nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.6s
RUE Ruedersdorf 73.28 3 eP P 01 56 43.2 +0.5
comp=E,155nm,1.1s
WTSB Winterswijk 73.40 8 eP P 01 56 43.8 +0.3
comp=E,180nm,1.5s
WTSB *ep*P **PcP 01 56 57.9 -1.7**
comp=E,60nm,1.1s
VORD Divnogorie 73.49 347 eP P 01 56 43.6 -0.4
VORD pmax pmax
comp=N,150nm,0.9s
VORD pmax pmax
comp=Z,140nm,0.9s
VORD pmax pmax
comp=E,50nm,1.2s
JTS JuntasAbangare 73.70 95 eP P 01 56 46.2 +0.3
JTS MLR MLR
comp=Z,1µm,22.0s
JTS JuntasAbangare 73.70 95 eP P 01 56 46.1 +0.3
JTS LR LR
comp=Z,1µm,22.0s
CLZ Clausthal 73.76 5 eP P 01 56 46.0 +0.3
comp=Z,110nm,1.1s
BUG Bochum--Univer 73.96 7 eP P 01 56 46.4 -0.4
comp=Z,98nm,1.1s
BEL Belsk 73.99 359 eP P 01 56 47.7 +0.7
BEL *e**PP **pP 01 56 55.6 -0.5**
BEL pmax pmax
comp=Z,200nm,1.1s
BEL Belsk 73.99 359 eP P 01 56 47.7 +0.7
BEL *ep*P **pP 01 56 55.5 -0.5**
BEL LMZ LR 02 26 31.0
MSVF Nonsavu 74.13 201 PFAKE 01 57 00.0 +12
MSVF LR LR
comp=Z,3µm,20.0s
QIZ Qiongzhong 74.14 280 P P 01 56 48.8 +0.4
QIZ sP **sP 01 56 58.1 -2.7**
QIZ S **S 02 06 21.1 +1.5**
QIZ sS **sS 02 06 31.8 -2.8**
QIZ SS **SS 02 11 06.6 +2.0**
QIZ PMZ
comp=Z,38nm,1.6s
QIZ LN
comp=Z,850nm,22.9s
QIZ LZ
comp=Z,1µm,22.9s
QIZ Qiongzhong 74.14 280 PFAKE 01 57 00.0 +12
QIZ LR LR
comp=Z,1µm,22.0s
JAY Jayapura 74.20 242 P P 01 56 57.3 +8.5
comp=Z,46nm,0.7s,comp=Z,9µm
KSH Kashi 74.31 318⇑ *i*P P 01 56 53.1 +3.9
KSH *ep*P **pP 01 57 00.9 +2.6**
KSH sP sP 01 57 04.3 +2.6
KSH PcP **PcP 01 57 07.9 +3.9**
KSH S **S 02 06 25.1 +3.9**
KSH sS sS 02 06 37.9 +1.6
KSH SKS **SKSac 02 06 53.9 -1.0**
KSH ScS **ScS 02 06 58.8 +0.9**
KSH SS **SS 02 11 13.0 +6.8**
KSH PMZ
comp=Z,270nm,1.1s
KSH LN
comp=Z,5µm,16.3s
KSH LE
comp=Z,2µm,17.0s
KSH LZ
comp=Z,9µm,18.5s
UCC Uccle 74.35 9 P P 01 56 49.5 +0.4
comp=Z,56nm,1.7s
CLL Collm 74.42 4 eP P 01 56 49.0 -0.5
comp=Z,70nm,1.1s
CLL Collm 74.42 4⇑ *i*P P 01 56 49.7 +0.2
CLL pmax pmax
comp=Z,71nm,1.1s
CLL MLR MLR
comp=Z,1µm,18.4s
CLL Collm 74.42 4⇑ *i*P P 01 56 49.7 +0.2
comp=Z,71nm,1.1s
CLL *ep*P **PP 01 59 38.0 +2.9**
CLL *ep*PP PPP 02 01 20.0
CLL *e*S **S 02 06 20.0 -1.8**
CLL *e*(SP) 02 06 45.0
CLL *e* 02 07 56.0
CLL *e*(SS) 02 10 54.0
CLL *e* 02 12 00.0
CLL *e*SSS SSS 02 14 48.0
CLL Lm MLR 02 38 00.0
comp=N,700nm,19.5s
CLL Lm MLR 02 38 00.0
comp=E,1µm,19.6s
CLL Lm MLR 02 38 00.0
comp=Z,1µm,18.4s
BEBN Eben Emael 74.47 9 P P 01 56 50.0 +0.2
HGN Heimansgroeve 74.52 8 eP P 01 56 50.5 +0.4
comp=Z,113nm,1.5s
HGN *ep*P **PcP 01 57 04.8 +0.3**
comp=Z,53nm,1.3s
HGN *e*S **S 02 06 25.4 +2.4**
HGN *e*SS SS 02 11 27.2 +19
GENI Genyem 74.54 242 P P 01 56 52.8 +2.1
comp=Z,116nm,1.0s,comp=Z,3µm
DAV Davao City (W) 74.56 260 PFAKE 01 57 00.0 +9.2
DAV LR LR
comp=Z,2µm,21.0s
SNF Seneffe 74.63 10 P P 01 56 51.1 +0.4
MEM Membach 74.68 8 P P 01 56 51.5 +0.4
comp=Z,33nm,1.3s
SDDR Presa de Saban 74.71 79 eP P 01 56 51.2 -0.6
comp=Z,45nm,0.8s
SDDR LR LR
comp=Z,3µm,22.0s
UBBA Unterbreizbach 74.76 6 eP P 01 56 51.4 0.0
comp=Z,61nm,1.8s
AKASG Malin Array Be 74.78 353 P P 01 56 51.3 -0.3
comp=Z,110nm,0.8s,baz=6.8,slow=5.5,SNR=109
AKASG LR LR 02 30 02.6
comp=Z,2µm,21.2s,baz=5.0,slow=36
KIEV Kiev 74.78 353 *c* *i*P P 01 56 51.1 -0.5
KIEV Kiev 74.78 353 eP P 01 56 50.9 -0.7
KIEV comp=Z,177nm,0.9s LR LR
comp=Z,4µm,19.0s
SMPI Sarmi 74.79 244 P P 01 56 54.6 +2.5
comp=Z,63nm,1.1s
BCLA Clavier 74.81 9 P P 01 56 52.3 +0.5
comp=Z,28nm,1.6s
SFK Sufi-Kurgan 74.83 320 P P 01 56 52.9 +0.5
SFK pmax pmax
comp=Z,175µm,1.0s
BRG Berggiesshubel 74.89 3⇑ *i*P P 01 56 52.8 +0.6
comp=Z,75nm,1.2s
BRG PP **PP 01 59 36.0 -3.1**
BRG S **S 02 06 23.0 -4.1**
BRG SS SS 02 11 02.0 -12
BRG *e*PKPPKP **P'P'df 02 24 23.4 -1.4**
comp=Z,2.6nm,1.7s
comp=N,1µm,21.3s
comp=E,847nm,17.8s
comp=Z,2µm,19.0s
BRG Berggiesshubel 74.89 3 eP P 01 56 52.0 -0.2
comp=Z,75nm,1.2s
BRG Berggiesshubel 74.89 3⇑ *i*P P 01 56 52.8 +0.6
BRG 01 59 36.0
BRG S **S 02 06 23.0 -4.1**
BRG pmax pmax
comp=Z,75nm,1.2s
BRG pmax pmax
comp=Z,3.0nm,1.7s
BRG MLR MLR
comp=N,1µm,21.3s
BRG MLR MLR
comp=E,847nm,17.8s
BRG MLR MLR
comp=Z,2µm,19.0s
KSP Ksiaz 74.98 2⇑ eP P 01 56 53.2 +0.4
KSP *e* 01 57 06.3
KSP *e*S **S 02 06 27.5 -0.6**
KSP Ksiaz 74.98 2 eP P 01 56 53.2 +0.4
KSP *ep*P **pP 01 57 00.4 -1.5**
KSP *e*S **S 02 06 27.5 -0.6**
KSP LMZ LR 02 36 45.5
MOX Moxa 75.02 5 eP P 01 56 52.9 -0.1
comp=Z,95nm,1.1s
BAIF Baives 75.06 10⇑ *i*P P 01 56 54.0 +0.7
comp=Z,137nm,1.3s
BAIF Baives 75.06 10⇑ *i*P P 01 56 54.0 +0.7
BAIF pmax pmax
comp=Z,137nm,1.3s
BAIF Baives 75.06 10⇑ *i*P P 01 56 54.0 +0.7
comp=Z,137nm,1.3s
DOU Dourbes 75.06 9 P P 01 56 53.7 +0.4
comp=Z,21nm,1.5s
GIVF Givet 75.08 9⇑ *i*P P 01 56 53.8 +0.4
comp=Z,138nm,1.3s
GIVF Givet 75.08 9⇑ *i*P P 01 56 53.8 +0.4
GIVF pmax pmax
comp=Z,138nm,1.3s
GIVF Givet 75.08 9⇑ *i*P P 01 56 53.8 +0.4
comp=Z,138nm,1.3s
PVCC Panska Ves 75.25 3⇑ *i*P P 01 56 55.1 +0.8
PVCC MLR MLR
comp=Z,2µm,19.6s
PVCC Panska Ves 75.25 3⇑ *i*P P 01 56 55.1 +0.8
PVCC AMS AMS 02 37 10.0
comp=Z,2µm,19.6s
TNS Taunus Mts 75.26 7 eP P 01 56 54.3 -0.2
comp=Z,50nm,1.0s
TANN Tannenbergstha 75.29 4 eP P 01 56 54.7 0.0
comp=Z,80nm,1.7s
UPC Upice 75.31 2⇑ *i*P P 01 56 55.3 +0.6
UPC Upice 75.31 2⇑ *i*P P 01 56 55.3 +0.6
DPC Dobruska-Polom 75.47 2⇑ *i*P P 01 56 56.6 +0.9
DPC *e*S **S 02 06 33.8 +0.1**
DPC Dobruska-Polom 75.47 2⇑ *i*P P 01 56 56.6 +0.9
DPC *e*S **S 02 06 33.8 +0.1**
DPC *ex* x 02 11 50.6
DPC AMS AMS 02 39 50.0
OJC Ojcow 75.62 359⇑ eP P 01 56 56.8 +0.3
OJC *e**PP **PcP 01 57 09.8 +0.5**
OJC MLR MLR
comp=Z,3µm,21.0s
OJC Ojcow 75.62 359 eP P 01 56 56.9 +0.4
OJC *ep*P **pP 01 57 06.1 +0.5**
OJC *e*PcP **PcP 01 57 10.8 +1.5**
OJC *e*S **S 02 06 38.1 +2.9**
OJC LMZ LR 02 27 13.7
WLF Walferdange 75.63 8 P P 01 56 57.6 +1.1
comp=Z,44nm,1.4s
WLF Walferdange 75.63 8 eP P 01 56 56.8 +0.2
comp=Z,66nm,1.1s
WLF Walferdange 75.63 8 eP P 01 56 57.1 +0.5
WLF pmax pmax
comp=Z,58nm,1.0s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 75.63 8 eP P 01 56 57.1 +0.5
comp=Z,58nm,1.0s
WLF LR LR
comp=Z,2µm,19.0s
PRA Prague 75.71 3⇑ *i*P P 01 56 57.7 +0.8
PRA *e*S **S 02 06 37.3 +1.1**
PRA MLR MLR
comp=Z,2µm,18.4s
PRA Prague 75.71 3⇑ *i*P P 01 56 57.7 +0.8
PRA *ex* x 02 01 43.6
PRA *e*S **S 02 06 37.3 +1.1**
PRA *ex* x 02 12 00.7
PRA AMS AMS 02 37 20.0
comp=Z,2µm,18.4s
LSA Lhasa 75.72 301 P P 01 56 59.0 +1.1
LSA Lhasa 75.72 301 eP P 01 56 58.8 +0.9
LSA pmax pmax
comp=Z,76nm,0.8s
LSA MLR MLR
comp=Z,3µm,19.0s
LSA Lhasa 75.72 301 eP P 01 56 58.8 +0.9
comp=Z,76nm,0.8s
LSA LR LR
comp=Z,3µm,19.0s
RAC Raciborz 75.76 0 eP P 01 56 58.2 +1.0
RAC MLR MLR
comp=Z,1µm,21.4s
PRU Pruhonice 75.79 3⇑ *i*P P 01 56 58.1 +0.7
PRU *e* 02 01 33.4
PRU *e*S **S 02 06 37.7 +0.6**
PRU MLR MLR
comp=Z,2µm,19.7s
PRU Pruhonice 75.79 3⇑ *i*P P 01 56 58.1 +0.7
PRU *ex* x 02 01 33.4
PRU *e*S **S 02 06 37.7 +0.6**
PRU *ex* x 02 12 02.1
PRU AMS AMS 02 37 20.0
comp=Z,2µm,19.7s
FLN La Foliniere 75.80 13⇑ *i*P P 01 56 57.6 +0.1
comp=Z,139nm,1.2s
FLN *e*R
comp=Z,3µm,19.8s
FLN La Foliniere 75.80 13⇑ *i*P P 01 56 57.6 +0.1
FLN pmax pmax
comp=Z,139nm,1.2s
FLN La Foliniere 75.80 13⇑ *i*P P 01 56 57.6 +0.1
comp=Z,139nm,1.2s
ROSF Rostrenen 75.83 15⇑ *i*P P 01 56 58.0 +0.3
comp=Z,154nm,1.5s
ROSF Rostrenen 75.83 15⇑ *i*P P 01 56 58.0 +0.3
ROSF pmax pmax
comp=Z,154nm,1.5s
ROSF Rostrenen 75.83 15⇑ *i*P P 01 56 58.0 +0.3
comp=Z,154nm,1.5s
GOPC GO Pecny, Ondr 75.87 3⇑ *i*P P 01 56 58.6 +0.6
GOPC *e*S **S 02 06 37.7 -0.4**
GOPC *ex* x 02 12 08.0
GOPC AMS AMS 02 37 40.0
comp=Z,2µm,17.9s
ROTZ Rotzenmuhle 75.93 4 eP P 01 56 58.5 +0.3
comp=Z,49nm,1.1s
LVV L'vov 75.93 357 eP P 01 56 58.6 +0.4
LVV *e* 01 57 18.8
LVV *e* 02 01 33.2
LVV S **S 02 06 37.2 -1.5**
GRF Grafenberg Arr 75.95 5 eP P 01 56 58.6 +0.2
comp=Z,60nm,1.0s
GRF *e*L L 02 40 03.1
comp=Z,1µm,18.1s
GRFO Grafenberg 75.95 5 eP P 01 56 59.0 +0.6
GRFO pmax pmax
comp=Z,44nm,0.9s
GRFO Grafenberg 75.95 5 eP P 01 56 59.0 +0.6
comp=Z,44nm,0.9s
OKC Ostrava-Krasne 76.00 0⇑ *i*P P 01 56 59.3 +0.7
OKC MLR MLR
comp=Z,1µm,15.9s
OKC Ostrava-Krasne 76.00 0⇑ *i*P P 01 56 59.3 +0.7
OKC AMS AMS 02 40 10.0
comp=Z,1µm,15.9s
SGMF Saint Gilles 76.01 15⇑ *i*P P 01 56 59.3 +0.6
comp=Z,126nm,1.0s
SGMF Saint Gilles 76.01 15⇑ *i*P P 01 56 59.3 +0.6
SGMF pmax pmax
comp=Z,126nm,1.0s
SGMF Saint Gilles 76.01 15⇑ *i*P P 01 56 59.3 +0.6
comp=Z,126nm,1.0s
LDF La Druitiere 76.02 13⇑ *i*P P 01 56 58.8 0.0
comp=Z,81nm,1.0s
LDF La Druitiere 76.02 13⇑ *i*P P 01 56 58.8 0.0
LDF pmax pmax
comp=Z,81nm,1.0s
LDF La Druitiere 76.02 13⇑ *i*P P 01 56 58.8 0.0
comp=Z,81nm,1.0s
MORC Moravsky Berou 76.06 1 eP P 01 56 59.4 +0.3
MORC pmax pmax

comp=Z,45nm,0.9s
MORC Moravsky Berou 76.06 1⇑ iP P 01 56 59.8 +0.7
MORC Moravsky Berou 76.06 1 eP P 01 56 59.4 +0.3
comp=Z,45nm,0.9s
GRR Gorron 76.12 13⇑ iP P 01 56 59.7 +0.4
comp=Z,56nm,0.9s
GRR Gorron 76.12 13⇑ iP P 01 56 59.7 +0.4
GRR pmax pmax
comp=Z,56nm,0.9s
GRR Gorron 76.12 13⇑ iP P 01 56 59.7 +0.4
comp=Z,56nm,0.9s
KWP Kalwaria Pacla 76.16 357 eP P 01 57 00.4 +0.8
KWP e*PP pP 01 57 08.0 -0.7
KWP eS S 02 06 43.4 +2.2
KWP pmax pmax
comp=Z,100nm,0.9s
KWP Kalwaria Pacla 76.16 357 eP P 01 57 00.4 +0.8
KWP epP pP 01 57 07.9 -0.7
KWP eS S 02 06 43.3 +2.1
KWP LMZ LR 02 28 32.5
KWP Kalwaria Pacla 76.16 357⇑ iP P 01 57 00.6 +1.0
KWP Kalwaria Pacla 76.16 357 eP P 01 57 00.1 +0.6
comp=Z,159nm,1.0s
KWP LR LR
comp=Z,2µm,20.0s
QUIF Quistinic 76.25 15⇑ iP P 01 57 00.6 +0.5
comp=Z,91nm,1.2s
QUIF Quistinic 76.25 15⇑ iP P 01 57 00.6 +0.5
QUIF pmax pmax
comp=Z,91nm,1.2s
QUIF Quistinic 76.25 15⇑ iP P 01 57 00.6 +0.5
comp=Z,91nm,1.2s
STHS Stebnicka Huta 76.41 358 eP P 01 57 02.3 +1.3
STHS pmax pmax
comp=Z,80nm,0.9s
STHS Stebnicka Huta 76.41 358 eP P 01 57 02.3 +1.3
NIE Niedzica 76.42 359⇑ eP P 01 57 02.0 +0.9
NIE e*PP PcP 01 57 14.7 +1.9
NIE Niedzica 76.42 359 eP P 01 57 01.9 +0.9
NIE ePcP PcP 01 57 14.3 +1.5
NIE LMZ LR 02 27 43.3
TREC Trest 76.51 2⇑ iP P 01 57 02.1 +0.5
TREC MLR MLR
comp=Z,2µm,19.0s
TREC Trest 76.51 2⇑ iP P 01 57 02.1 +0.5
TREC AMS AMS 02 40 30.0
comp=Z,2µm,19.0s
VRAC Vranov 76.52 1⇑ iP P 01 57 02.5 +0.9
WET Wettzell 76.58 4 eP P 01 57 02.2 +0.2
comp=Z,55nm,1.3s
KHC Kasperske Hory 76.62 4⇑ iP P 01 57 02.6 +0.4
KHC e 01 57 11.6
KHC eS S 02 06 46.3 0.0
KHC MLR MLR
comp=Z,2µm,21.3s
KHC Kasperske Hory 76.62 4⇑ iP P 01 57 02.6 +0.4
KHC epP pP 01 57 11.6 +0.2
KHC ex x 02 01 54.1
KHC eS S 02 06 46.3 0.0
KHC ex x 02 12 14.7
KHC AMS AMS 02 37 00.0
comp=Z,2µm,21.3s
KHC Kasperske Hory 76.62 4 eP P 01 57 02.2 0.0
comp=Z,89nm,1.1s
MEZF Maizieres J'vi 76.69 9⇑ iP P 01 57 03.1 +0.5
comp=Z,52nm,1.0s
MEZF Maizieres J'vi 76.69 9⇑ iP P 01 57 03.1 +0.5
comp=Z,52nm,1.0s
PAGF Fort de Pagny 76.70 9⇑ iP P 01 57 03.5 +0.9
comp=Z,32nm,0.9s
PAGF Fort de Pagny 76.70 9⇑ iP P 01 57 03.5 +0.9
comp=Z,32nm,0.9s
STU Stuttgart 76.75 7 eP P 01 57 02.7 -0.2
comp=Z,46nm,1.0s
STU Stuttgart 76.75 7 eP P 01 57 03.0 +0.1
STU pmax pmax
comp=Z,26nm,0.9s
STU Stuttgart 76.75 7 eP P 01 57 03.0 +0.1
comp=Z,26nm,0.9s
KOLS Kolonicke sedl 76.87 358 eP P 01 57 04.5 +0.9
KOLS pmax pmax
comp=Z,41nm,1.0s
KOLS Kolonicke sedl 76.87 358 eP P 01 57 04.5 +0.9
KOLS eS S 02 06 55.2 +6.2
KOLS eSS SS 02 12 19.4 +35
GEC2 GERESS Array S 76.91 3 eP P 01 57 03.8 -0.1
comp=Z,40nm,1.0s
GERES GERESS Array B 76.91 3 P P 01 57 04.4 +0.5
comp=Z,16nm,0.8s,baz=1.9,slow=4.0,SNR=99
CRVS Cervenica-Dubn 76.92 358 eP P 01 57 04.7 +0.8
CRVS pmax pmax
comp=Z,38nm,1.2s
CRVS Cervenica-Dubn 76.92 358 eP P 01 57 04.7 +0.8
CRVS eS S 02 07 02.3 +13
CRVS eSS SS 02 12 10.2 +25
CDF Champ du Feu 76.97 8⇑ iP P 01 57 04.7 +0.4
comp=Z,80nm,1.2s
CDF Champ du Feu 76.97 8⇑ iP P 01 57 04.7 +0.4
CDF pmax pmax
comp=Z,80nm,1.2s
CDF Champ du Feu 76.97 8⇑ iP P 01 57 04.7 +0.4
comp=Z,80nm,1.2s
SFTF Sexfontaines 76.98 9⇑ iP P 01 57 04.6 +0.4
comp=Z,86nm,1.0s
SFTF Sexfontaines 76.98 9⇑ iP P 01 57 04.6 +0.4
comp=Z,86nm,1.0s
BFO Black Forest 77.13 7 P P 01 57 05.5 +0.4
comp=Z,132nm,0.9s,SNR=12
BFO Black Forest 77.13 7 eP P 01 57 04.9 -0.2
comp=Z,75nm,1.6s
BFO Black Forest 77.13 7 eP P 01 57 05.0 -0.2
BFO pmax pmax
comp=Z,19nm,0.9s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 77.13 7 eP P 01 57 05.0 -0.2
comp=Z,19nm,0.9s
BFO LR LR
comp=Z,1µm,19.0s
ECH Echery 77.16 8 eP P 01 57 05.5 +0.2
ECH pmax pmax
comp=Z,38nm,0.8s
ECH MLR MLR
comp=Z,1µm,19.0s
ECH Echery 77.16 8 eP P 01 57 05.5 +0.2
comp=Z,38nm,0.8s
ECH LR LR
comp=Z,1µm,19.0s
UZH Uzhgorod 77.17 358 dP P 01 57 03.8 -1.5
UZH i 01 57 04.6
UZH e 01 57 10.8
UZH e 01 57 15.4
UZH eS S 02 06 46.6 -5.6
UZH eSSS SSS 02 15 01.6
HAU Haudompre 77.30 9⇑ iP P 01 57 06.4 +0.4
comp=Z,64nm,0.9s
HAU eR
comp=Z,2µm,19.5s
HAU Haudompre 77.30 9⇑ iP P 01 57 06.4 +0.4
HAU pmax pmax
comp=Z,64nm,0.9s
HAU Haudompre 77.30 9⇑ iP P 01 57 06.4 +0.4
comp=Z,64nm,0.9s
SMOL Smolenice 77.32 1 eP P 01 57 08.0 +1.9
SMOL Smolenice 77.32 1 eP P 01 57 08.0 +1.9
VYHS Vyhne 77.35 360 eP P 01 57 07.1 +0.8
VYHS pmax pmax
comp=Z,38nm,1.1s
VYHS Vyhne 77.35 360 eP P 01 57 07.1 +0.8
FUR Furstenfeldbru 77.48 5 eP P 01 57 07.1 0.0
comp=Z,66nm,1.0s
HINF Hinteralfeld 77.53 8⇑ iP P 01 57 07.6 +0.2
comp=Z,101nm,1.3s
HINF Hinteralfeld 77.53 8⇑ iP P 01 57 07.6 +0.2
HINF pmax pmax
comp=Z,101nm,1.3s
HINF Hinteralfeld 77.53 8⇑ iP P 01 57 07.6 +0.2
comp=Z,101nm,1.3s
BCIP Isla Barro Col 77.58 92 eP P 01 57 10.0 +2.0
BCIP LR LR
comp=Z,834nm,20.0s
HYF Humbligny 77.66 11⇑ iP P 01 57 08.7 +0.7
HYF Humbligny 77.66 11⇑ iP P 01 57 08.7 +0.7
TRPA Tarpa 77.66 357⇓ iP P 01 57 09.0 +1.0
TRPA Tarpa 77.66 357⇑ eP P 01 57 09.0 +1.0

LOR Lormes 77.79 10⇑ iP P 01 57 09.1 +0.3
comp=Z,88nm,1.2s
LOR eR
comp=Z,2µm,22.0s
LOR Lormes 77.79 10⇑ iP P 01 57 09.1 +0.3
LOR pmax pmax
comp=Z,88nm,1.2s
LOR Lormes 77.79 10⇑ iP P 01 57 09.1 +0.3
comp=Z,88nm,1.2s
LRS Lares 77.79 76 eP P 01 57 08.6 -0.7
CRPR Cabo Rojo, PR 77.87 76 eP P 01 57 09.3 -0.3
comp=Z,132nm,1.4s
CONA Conrad Observa 77.88 2 iP P 01 57 10.5 +1.1
comp=Z,82nm,1.0s,SNR=48
PSZ Piszkesteto 77.92 359 eP P 01 57 10.5 +0.9
PSZ pmax pmax
comp=Z,74nm,1.1s
PSZ MLR MLR
comp=Z,2µm,20.0s
PSZ Piszkesteto 77.92 359⇑ iP P 01 57 10.8 +1.2
PSZ Piszkesteto 77.92 359 eP P 01 57 10.5 +0.9
comp=Z,74nm,1.1s
PSZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 77.92 359⇑ eSKKPdf P 01 57 10.8 +1.2
MOA Molln 77.92 3 iP P 01 57 10.2 +0.7
comp=Z,34nm,1.1s,SNR=19
SSF Saint Saulge 77.95 11⇑ iP P 01 57 10.1 +0.4
comp=Z,118nm,1.3s
SSF Saint Saulge 77.95 11⇑ iP P 01 57 10.1 +0.4
SSF pmax pmax
comp=Z,118nm,1.3s
SSF Saint Saulge 77.95 11⇑ iP P 01 57 10.1 +0.4
comp=Z,118nm,1.3s
MFF Saint Martin d 77.97 13⇑ iP P 01 57 10.4 +0.6
comp=Z,131nm,1.0s
MFF Saint Martin d 77.97 13⇑ iP P 01 57 10.4 +0.6
MFF pmax pmax
comp=Z,131nm,1.0s
MFF Saint Martin d 77.97 13⇑ iP P 01 57 10.4 +0.6
comp=Z,131nm,1.0s
RJOB Jochberg 77.98 4 eP P 01 57 09.8 -0.1
comp=Z,43nm,0.8s
BMR Baia Mare 78.09 357⇑ iP P 01 57 12.1 +1.7
CELP Cerrillos 78.11 76 eP P 01 57 10.8 -0.2
OBIP Obispado Ponce 78.12 76 eP P 01 57 11.4 +0.4
comp=Z,140nm,1.3s
RETA Reutte 78.13 6 iP P 01 57 11.4 +0.7
comp=Z,30nm,1.0s,SNR=16
SOP Sopron 78.14 2⇑ eP P 01 57 11.9 +1.2
AVF Avril sur Loir 78.21 11⇑ iP P 01 57 11.3 +0.2
comp=Z,96nm,1.2s
AVF Avril sur Loir 78.21 11⇑ iP P 01 57 11.3 +0.2
AVF pmax pmax
comp=Z,96nm,1.2s
AVF Avril sur Loir 78.21 11⇑ iP P 01 57 11.3 +0.2
comp=Z,96nm,1.2s
TBI Tubuai 78.21 169 ePP PP 02 00 09.4 +0.9
comp=Z,120nm,28.2s
TBI eS S 02 07 04.9 +1.1
comp=Z,3µm,31.5s
TBI eSS SS 02 12 07.8 +0.9
comp=Z,667nm,27.0s
TBI eLR LR 02 21 13.0
comp=Z,5µm,22.8s,baz=350
TBI Tubuai 78.21 169 eT T 03 22 50.0
comp=Z,95nm,0.3s
DAVA Damuels 78.28 6⇓ iP P 01 57 11.7 0.0
comp=Z,16nm,0.8s,SNR=6.8
MOTA Moosalm 78.29 5 iP P 01 57 12.5 +0.7
comp=Z,40nm,0.8s,SNR=40
ICMP Isla Caja de M 78.29 76 eP P 01 57 11.7 -0.3
WATA Walderalm 78.32 5⇑ iP P 01 57 12.6 +0.7
comp=Z,34nm,0.8s,SNR=13
BUD Budapest 78.36 360⇑ eSKKPdf P 01 57 13.1 +1.2
IAS Iasi 78.38 354⇑ iP P 01 57 13.4 +1.4
BGF Bois d'Agland 78.38 11⇑ iP P 01 57 12.3 +0.2
comp=Z,88nm,1.2s
BGF Bois d'Agland 78.38 11⇑ iP P 01 57 12.3 +0.2
BGF pmax pmax
comp=Z,88nm,1.2s
BGF Bois d'Agland 78.38 11⇑ iP P 01 57 12.3 +0.2
comp=Z,88nm,1.2s
WTTA Wattenberg 78.40 5⇑ eP P 01 57 13.4 +1.0
comp=Z,71nm,0.9s,SNR=21
SMF Signal de Mont 78.40 10⇑ iP P 01 57 12.4 +0.2
comp=Z,65nm,0.9s
SMF Signal de Mont 78.40 10⇑ iP P 01 57 12.4 +0.2
SMF pmax pmax
comp=Z,65nm,0.9s
SMF Signal de Mont 78.40 10⇑ iP P 01 57 12.4 +0.2
comp=Z,65nm,0.9s
PKSG 78.45 0⇑ eSKKPdf P 01 57 13.6 +1.2
CSKK Cs˘tkako 78.48 0⇑ eSKKPdf P 01 57 13.9 +1.3
KIS Kishinev 78.49 353 *ce*P P 01 57 12.0 -0.6
KIS ePPP PPP 02 02 05.0
KIS eS S 02 07 00.0 -6.6
KIS e 02 07 18.0
KIS ePS PnS 02 08 08.0 +18
KIS pmax pmax
comp=Z,300nm,1.0s
KIS pmax pmax
comp=Z,900nm,6.0s
KIS Kishinev 78.49 353⇑ iP P 01 57 12.0 -0.6
comp=Z,300nm,1.0s
KIS Kishinev 78.49 353 ePP PP 02 00 20.0 +11
KIS Kishinev 78.49 353 ePS 02 08 08.0
KIS eLR LR 02 29 00.0
comp=Z,4µm,18.0s
CRAI Chiangrai 78.52 289 P P 01 57 10.3 -2.9
comp=Z,43nm,1.4s,comp=Z,992nm
ARSA Arzberg 78.56 2 iP P 01 57 14.0 +1.0
comp=Z,55nm,1.0s,SNR=34
TCF Toulx Ste Croi 78.57 12⇑ iP P 01 57 13.4 +0.2
comp=Z,54nm,1.1s
TCF Toulx Ste Croi 78.57 12⇑ iP P 01 57 13.4 +0.2
TCF pmax pmax
comp=Z,54nm,1.1s
TCF Toulx Ste Croi 78.57 12⇑ iP P 01 57 13.4 +0.2
comp=Z,54nm,1.1s
PKST T˘s 78.58 1⇑ eSKKPdf P 01 57 14.1 +0.9
FETA Feichten 78.59 6⇓ iP P 01 57 14.0 +0.6
comp=Z,45nm,1.0s,SNR=35
CABF La Chapelle 78.66 9⇑ iP P 01 57 14.4 +0.7
comp=Z,90nm,1.0s
CABF La Chapelle 78.66 9⇑ iP P 01 57 14.4 +0.7
CABF pmax pmax
comp=Z,90nm,1.0s
CABF La Chapelle 78.66 9⇑ iP P 01 57 14.4 +0.7
comp=Z,90nm,1.0s
KBA Koelnbreinsper 78.66 4 iP P 01 57 15.1 +1.3
comp=Z,120nm,1.1s,SNR=50
GOF Gofitskoye 78.67 343 eP P 01 57 14.3 +0.6
GOF pmax pmax
comp=Z,500nm,1.3s
SHL Shillong 78.73 298⇑ ix P 01 57 12.0 -2.5
PKS7 Kunszentmiklos 78.80 360⇑ eSKKPdf P 01 57 15.9 +1.6
PKSN Nyarlorinc 78.94 359⇑ eSKKPdf P 01 57 16.8 +1.7
ABTA Abfaltersbach 78.95 4⇓ iP P 01 57 15.6 +0.3
comp=Z,48nm,1.1s,SNR=28
DRGR 79.00 357⇑ iP P 01 57 16.1 +0.6
FAKI Fak Fak 79.02 249 P P 01 57 17.7 +1.7
comp=Z,61nm,1.1s,comp=Z,1µm
FAKI Fak Fak 79.02 249 eP P 01 57 15.6 -0.4
comp=Z,57nm,1.0s
CJR Cluj-Napoca 79.05 357⇑ iP P 01 57 16.8 +1.0
LEOM Leova 79.05 353⇑ iP P 01 57 16.0 +0.3
TUE Stuetta 79.05 7 PFAKE 01 57 30.0 +14
TUE LR LR
comp=Z,1µm,20.0s
TESR Tescani 79.11 354⇑ iP P 01 57 16.4 +0.3
SOKA Soboth 79.11 3 iP P 01 57 17.1 +0.9
comp=Z,112nm,1.3s,SNR=97
MYKA Terra Mystica 79.12 4 iP P 01 57 16.6 +0.4
comp=Z,24nm,0.9s,SNR=13
PERS Pernice 79.16 3 iP P 01 57 17.1 +0.7
PERS e 01 57 26.7
PERS eS S 02 07 13.3 -0.5
PKS6 Bocsa 79.24 359⇑ eSKKPdf P 01 57 17.7 +0.9
OBKA Obir 79.27 3 iP P 01 57 17.9 +0.8
comp=Z,132nm,0.9s,SNR=71
PKS2 Kecel 79.35 360⇓ eSKKPdf P 01 57 19.1 +1.7
TAPN Taplejung 79.36 302⇑ iP P 01 57 18.6 +0.5
comp=Z,246nm,0.8s
BEHE Becsehely 79.36 1⇓ eSKKPdf P 01 57 19.4 +2.0
RJF Les Rejaudoux 79.46 12⇑ iP P 01 57 18.1 +0.1

comp=Z,57nm,1.2s
RJF eR
comp=Z,5µm,20.8s
RJF Les Rejaudoux 79.46 12⇑ iP P 01 57 18.1 +0.1
RJF pmax pmax
comp=Z,57nm,1.2s
RJF Les Rejaudoux 79.46 12⇑ iP P 01 57 18.1 +0.1
comp=Z,57nm,1.2s
CADS Cadrg 79.52 4 iP P 01 57 18.4 0.0
PAYG Puerto Ayora 79.56 106 PFAKE 01 57 30.0 +11
PAYG LR LR
comp=Z,2µm,22.0s
UBPT Khong Chiam 79.63 282 P P 01 57 20.6 +1.3
comp=Z,69nm,1.3s,comp=Z,2µm
PKSM Moragy 79.63 0⇑ iP P 01 57 19.2 +0.3
PKSM Moragy 79.63 0⇑ eSKKPdf P 01 57 19.5 +0.6
LFF La Frestale 79.72 13⇑ iP P 01 57 20.0 +0.6
comp=Z,190nm,1.3s
LFF La Frestale 79.72 13⇑ iP P 01 57 20.0 +0.6
LFF pmax pmax
comp=Z,190nm,1.3s
LFF La Frestale 79.72 13⇑ iP P 01 57 20.0 +0.6
comp=Z,190nm,1.3s
DOPR Dopca 79.72 355⇑ iP P 01 57 20.7 +1.3
VRI Vrincioaia 79.75 354⇑ iP P 01 57 20.0 +0.4
LBMI Labuha 79.76 254 P P 01 57 24.9 +4.9
comp=Z,77nm,1.2s,comp=Z,1µm
PLOR Plostina 79.77 354⇑ iP P 01 57 20.3 +0.6
ANN Anapa 79.78 347 *c* iP P 01 57 19.2 -0.5
ANN eS S 02 07 19.0 -1.3
ANN pmax pmax
comp=Z,44nm,1.3s
GUN Gumba 79.78 304⇑ iP P 01 57 21.1 +0.6
comp=Z,607nm,1.0s
KIV Kislovodsk 79.80 343 P P 01 57 20.5 +0.5
comp=Z,633nm,0.9s,SNR=21
KIV Kislovodsk 79.80 343 *c* iP P 01 57 20.8 +0.8
KIV i 01 57 28.0
KIV i S S 02 07 29.8 +9.0
KIV pmax pmax
comp=Z,92nm,0.8s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 79.80 343⇓ iP P 01 57 20.9 +0.9
SNR=14
KIV Kislovodsk 79.80 343 P P 01 57 21.1 +1.1
SNR=32
KIV Kislovodsk 79.80 343 eP P 01 57 20.5 +0.5
comp=Z,86nm,0.8s
KIV LR LR
comp=Z,2µm,19.0s
LPL La Plagne 79.80 9⇑ iP P 01 57 21.4 +1.3
comp=Z,26nm,0.9s
LPL La Plagne 79.80 9⇑ iP P 01 57 21.4 +1.3
LPL pmax pmax
comp=Z,26nm,0.9s
LPL La Plagne 79.80 9⇑ iP P 01 57 21.4 +1.3
comp=Z,26nm,0.9s
LPG La Plagne 79.82 9⇑ iP P 01 57 21.7 +1.4
comp=Z,53nm,1.2s
LPG La Plagne 79.82 9⇑ iP P 01 57 21.7 +1.4
LPG pmax pmax
comp=Z,53nm,1.2s
LPG La Plagne 79.82 9⇑ iP P 01 57 21.7 +1.4
comp=Z,53nm,1.2s
SSB Saint Sauveur 79.83 10 eP P 01 57 19.9 -0.1
SSB pmax pmax
comp=Z,23nm,1.1s
SSB MLR MLR
comp=Z,1µm,21.0s
SSB Saint Sauveur 79.83 10 eP P 01 57 19.9 -0.1
comp=Z,23nm,1.1s
SSB LR LR
comp=Z,1µm,21.0s
MAK Makhachkala 79.84 339 eP P 01 57 21.3 +1.3
MAK e 02 00 18.4
MAK ePPP PPP 02 02 10.9
MAK eS S 02 07 24.1 +3.1
MAK eSS SS 02 12 27.9 -1.0
MAK pmax pmax
comp=Z,382nm,8.6s
JIRN Jiri 79.84 304⇑ iP P 01 57 21.6 +0.8
comp=Z,596nm,0.8s
JAVS Javornik 79.87 3 eP P 01 57 20.0 -0.3
JAVS e 01 57 29.6
JAVS eS S 02 07 20.2 -1.3
CAF Calviac 79.90 12⇑ iP P 01 57 20.8 +0.4
comp=Z,63nm,1.2s
CAF Calviac 79.90 12⇑ iP P 01 57 20.8 +0.4
CAF pmax pmax
comp=Z,63nm,1.2s
CAF Calviac 79.90 12⇑ iP P 01 57 20.8 +0.4
comp=Z,63nm,1.2s
ODAN Odare 79.92 302⇑ iP P 01 57 21.5 +0.4
comp=Z,148nm,0.8s
KBZ Khabaz 79.98 343 P P 01 57 21.9 +1.1
comp=Z,56nm,0.9s,baz=56,slow=24,SNR=102
KBZ LR LR 02 39 21.1
comp=Z,2µm,19.6s,baz=329,slow=41
VISS Visnje 79.98 3 eP P 01 57 20.8 0.0
VISS i 01 57 30.3
VISS eS S 02 07 21.1 -1.4
GIUM Giurgiulesti 80.04 353⇑ iP P 01 57 22.7 +1.6
SIM Simferopol' 80.04 349 *ce*P P 01 57 19.7 -1.5
SIM eS S 02 07 19.0 -4.1
SIM pmax pmax
comp=Z,28nm,0.9s
SIM pmax pmax
comp=Z,160nm,8.3s
TRI Trieste 80.04 4 eP P 01 57 21.2 0.0
TRI pmax pmax
comp=Z,14nm,0.8s
TRI Trieste 80.04 4 eP P 01 57 21.1 0.0
comp=Z,14nm,0.8s
NCK Nalchik 80.08 342 *c* iP P 01 57 22.8 +1.4
MLR Muntele Rosu 80.17 355⇓ iP P 01 57 23.2 +1.2
KKN Kakani 80.17 304⇑ iP P 01 57 22.9 +0.5
comp=Z,167nm,0.8s
BZS Buzias 80.20 358⇑ iP P 01 57 22.6 +0.6
GRER 80.22 354⇑ iP P 01 57 25.4 +3.3
RAMN Ramite 80.23 303⇑ iP P 01 57 23.1 +0.3
comp=Z,570nm,0.9s
BNI Bardonecchia 80.26 9 eP P 01 57 23.9 +1.4
BNI pmax pmax
comp=Z,41nm,1.0s
BNI MLR MLR
comp=Z,1µm,20.0s
BNI Bardonecchia 80.26 9 eP P 01 57 23.9 +1.4
comp=Z,41nm,1.0s
BNI LR LR
comp=Z,1µm,20.0s
VIVF Saint-Julien-l 80.26 10⇑ iP P 01 57 22.9 +0.5
comp=Z,44nm,1.0s
VIVF Saint-Julien-l 80.26 10⇑ iP P 01 57 22.9 +0.5
VIVF pmax pmax
comp=Z,44nm,1.0s
VIVF Saint-Julien-l 80.26 10⇑ iP P 01 57 22.9 +0.5
comp=Z,44nm,1.0s
VOIR 80.27 356⇑ iP P 01 57 23.2 +0.7
KHON Khomkaen 80.28 284 P P 01 57 24.1 +1.3
comp=Z,24nm,1.0s,comp=Z,1µm
PKI Pulchoki 80.29 304⇑ iP P 01 57 23.4 +0.2
comp=Z,228nm,0.9s
PKIN Phulchoki 80.29 304⇑ iP P 01 57 23.4 +0.3
comp=Z,148nm,0.9s
TLCR 80.29 353⇑ iP P 01 57 23.3 +0.8
BOJS Bojanci 80.29 3 eP P 01 57 23.0 +0.5
BOJS e 01 57 32.2
BOJS eS S 02 07 25.6 -0.1
BOJS eSS SS 02 12 47.1 +12
GKN Gorkha 80.30 305⇑ iP P 01 57 23.4 +0.4
comp=Z,263nm,0.9s
LAMP Lampang 80.31 288 P P 01 57 23.6 +0.6
comp=Z,13nm,1.2s,comp=Z,112nm
LOT Lotru 80.31 356⇑ iP P 01 57 22.9 +0.2
ORIF Oris-en-Rattie 80.32 9⇑ iP P 01 57 23.6 +0.8
comp=Z,28nm,0.9s
ORIF eR
comp=Z,2µm,21.8s
ORIF Oris-en-Rattie 80.32 9⇑ iP P 01 57 23.6 +0.8
ORIF pmax pmax
comp=Z,28nm,0.9s
ORIF Oris-en-Rattie 80.32 9⇑ iP P 01 57 23.6 +0.8
comp=Z,28nm,0.9s
DLH Dalhousie 80.33 314 eP P 01 57 24.0 +0.8
CFR Carcaliu 80.35 353⇑ iP P 01 57 23.0 +0.2

SISC **Sisak** 80.35 2 P P 01 57 23.8 +1.0
ARR **Arges** 80.35 356⇑*i*P P 01 57 23.9 +1.0
GZR **Gura Zlata** 80.39 357⇑*i*P P 01 57 23.9 +0.8
UTTA **Uttaradit** 80.42 287 P P 01 57 23.8 +0.2
comp=Z,28nm,0.9s,comp=Z,198nm
DANN **Dangsing** 80.42 306⇑*i*P P 01 57 24.7 +0.8
comp=Z,881nm,0.8s
CMMT **Chiang Mai** 80.45 289 P P 01 57 23.5 -0.3
comp=Z,54nm,1.1s,comp=Z,1µm
ISR **Istrita** 80.51 354⇑*i*P P 01 57 24.8 +1.1
RKT **Rikitea** 80.55 156 *e*S S 02 07 28.8 +0.2
comp=Z,786nm,25.0s
RKT *e*SS SS 02 12 41.6 -0.5
comp=Z,626nm,26.5s
RKT *e*LR LR 02 22 13.5
comp=Z,4µm,30.8s,baz=345
RKT **Rikitea** 80.55 156 *e*T T 03 25 41.5
comp=Z,2.5nm,0.3s
MBDF **Montbardon** 80.59 9⇑*i*P P 01 57 25.7 +1.4
comp=Z,71nm,0.9s
MBDF **Montbardon** 80.59 9⇑*i*P P 01 57 25.7 +1.4
MBDF pmax pmax
comp=Z,71nm,0.9s
MBDF **Montbardon** 80.59 9⇑*i*P P 01 57 25.7 +1.4
comp=Z,71nm,0.9s
SOC **Sochi** 80.64 345*c i*P P 01 57 24.9 +0.5
SOC *e**PP pP 01 57 33.2 -0.4
SOC *e*S S 02 07 29.3 -0.2
SOC *e* 02 07 37.7
SOC pmax pmax
comp=Z,57nm,0.8s
SOC MLR MLR
comp=Z,3µm,20.0s
PGOR **Pogoanele** 80.69 354⇑*i*P P 01 57 25.9 +1.3
ZEI **Tsey** 80.71 342 *e*P P 01 57 25.7 +0.6
ZEI *e*S S 02 07 32.2 +1.5
ZEI pmax pmax
comp=Z,51nm,1.0s
CMAR **Chiang Mai Arr** 80.74 289 P P 01 57 25.6 +0.2
comp=Z,58nm,0.9s,baz=19,slow=5.4,SNR=151
CMAR LR LR 02 37 12.2
comp=Z,2µm,18.9s,baz=38,slow=39
SDNR **Sundarnagar** 80.80 313 *e*P P 01 57 26.9 +1.4
KKM **Kota Kinabalu** 80.81 267 *e*P P 01 57 27.4 +1.6
comp=Z,52nm,1.2s
LASF **Ste Croix** 80.94 11⇑*i*P P 01 57 26.9 +0.8
comp=Z,23nm,1.0s
LASF **Ste Croix** 80.94 11⇑*i*P P 01 57 26.9 +0.8
comp=Z,23nm,1.0s
SULR 80.96 355⇑*i*P P 01 57 26.9 +0.8
ONI **Oni** 80.98 342 P P 01 57 27.3 +1.0
KOLN **Koldanda** 80.99 306⇑*i*P P 01 57 27.2 +0.4
comp=Z,158nm,0.9s
PYUN **Piuthan** 81.00 306⇑*i*P P 01 57 27.2 +0.4
comp=Z,598nm,0.9s
SMLA **Simla** 81.04 312 *i* P P 01 57 27.2 +0.5
SMLA *e*P P 01 57 27.2 +0.5
SMLA AMB AMB 01 57 29.0
comp=Z,76nm,0.8s
SMLA *e*S S 02 07 36.7 +2.8
SMLA *i* S S 02 07 36.7 +2.8
SMLA *i* S SKSac 02 07 41.1 -2.4
TIRR **Tirgusor** 81.05 353 *e*P P 01 57 26.7 +0.2
TIRR pmax pmax
comp=Z,74nm,1.0s
TIRR **Tirgusor** 81.05 353⇑*i*P P 01 57 26.9 +0.4
TIRR **Tirgusor** 81.05 353 *e*P P 01 57 26.7 +0.2
comp=Z,74nm,1.0s
CHVG **Ch'k'valeri** 81.10 343 P P 01 57 27.9 +1.0
BHK **Bhakra** 81.11 313 *e*P P 01 57 25.0 -2.1
LGTI **Lohaghat** 81.12 309 *e*P P 01 57 27.1 0.0
ANWB **Willy Bob** 81.12 72 PFAKE 01 57 40.0 +13
ANWB LR LR
comp=Z,2µm,20.0s
PGAV **Gavieira, Arco** 81.12 20 *e*P P 01 57 27.9 +0.8
comp=Z,100nm,1.3s
PGAV **Gavieira, Arco** 81.12 20 *e*SKS S 02 07 44.3 +10
PGAV **Gavieira, Arco** 81.12 20 *e*LR LR 02 25 04.4
comp=Z,2µm,20.0s
PBKT **Sadao Pong** 81.14 286 P P 01 57 27.4 0.0
comp=Z,37nm,1.2s,comp=Z,1µm
HUMR **Humele** 81.18 356⇑*i*P P 01 57 27.6 +0.4
DZM **Mont Dzumac** 81.19 210 *e*P P 01 57 31.4 +3.9
comp=Z,89nm,1.3s
DZM **Mont Dzumac** 81.19 210 *e*S S 02 07 37.4 +1.8
comp=Z,598nm,25.8s
DZM **Mont Dzumac** 81.19 210 *e*LR LR 02 22 58.0
comp=Z,4µm,23.1s
SMRF **Simiane la Rot** 81.22 10⇑*i*P P 01 57 28.8 +1.2
comp=Z,76nm,1.2s
SMRF **Simiane la Rot** 81.22 10⇑*i*P P 01 57 28.8 +1.2
comp=Z,76nm,1.2s
NVLJ **Novalja** 81.22 3 P P 01 57 27.4 0.0
UDBI **Udbina** 81.28 2 P P 01 57 28.4 +0.5
KBL **Kabul** 81.32 320 *e*P P 01 57 27.2 -1.3
KBL pmax pmax
comp=Z,101nm,1.0s
KBL **Kabul** 81.32 320 *e*P P 01 57 27.2 -1.3
comp=Z,101nm,1.0s
VLC **Villacollemand** 81.42 6 *e*P P 01 57 28.9 +0.3
comp=Z,33nm,0.9s
VLC LR LR
comp=Z,1µm,22.0s
MSAB **Monastry St. A** 81.45 353⇓*i*P P 01 57 29.4 +0.7
MTLF **Montolieu** 81.48 12⇑*i*P P 01 57 29.4 +0.5
comp=Z,56nm,1.0s
MTLF **Montolieu** 81.48 12⇑*i*P P 01 57 29.4 +0.5
MTLF pmax pmax
comp=Z,56nm,1.0s
MTLF **Montolieu** 81.48 12⇑*i*P P 01 57 29.4 +0.5
comp=Z,56nm,1.0s
SBF **Sospel** 81.50 8⇑*i*P P 01 57 29.5 +0.4
comp=Z,107nm,1.0s
SBF **Sospel** 81.50 8⇑*i*P P 01 57 29.5 +0.4
SBF pmax pmax
comp=Z,107nm,1.0s
SBF **Sospel** 81.50 8⇑*i*P P 01 57 29.5 +0.4
comp=Z,107nm,1.0s
EPF **Esparros** 81.54 14⇑*i*P P 01 57 29.1 -0.2
comp=Z,28nm,0.9s
EPF **Esparros** 81.54 14⇑*i*P P 01 57 29.1 -0.2
EPF pmax pmax
comp=Z,28nm,0.9s
EPF **Esparros** 81.54 14⇑*i*P P 01 57 29.1 -0.2
comp=Z,28nm,0.9s
ETSF **Etsaut** 81.54 14⇑*i*P P 01 57 30.3 +1.0
comp=Z,100nm,1.2s
ETSF **Etsaut** 81.54 14⇑*i*P P 01 57 30.3 +1.0
ETSF pmax pmax
comp=Z,100nm,1.2s
ETSF **Etsaut** 81.54 14⇑*i*P P 01 57 30.3 +1.0
comp=Z,100nm,1.2s
TBLG **Delisi** 81.58 341 P P 01 57 30.7 +1.2
PBRG **Braganca** 81.58 19 *e*P P 01 57 30.4 +0.9
comp=Z,64nm,1.6s
DGRG **David-gareji** 81.72 340 P P 01 57 31.5 +1.3
FRF **La Foret Royal** 81.73 9⇑*i*P P 01 57 30.7 +0.5
comp=Z,51nm,1.0s
FRF **La Foret Royal** 81.73 9⇑*i*P P 01 57 30.7 +0.5
FRF pmax pmax
comp=Z,51nm,1.0s
FRF **La Foret Royal** 81.73 9⇑*i*P P 01 57 30.7 +0.5
comp=Z,51nm,1.0s
POLO **Lamas de Olo** 81.79 20 *e*P P 01 57 32.0 +1.3
comp=Z,67nm,1.6s
PSN **Preselentsi** 81.83 353⇑*i*P P 01 57 31.5 +0.8
PTO **Porto** 81.85 21 *e*P P 01 57 32.2 +1.4
comp=Z,156nm,1.6s
PVRL **Vila Real** 81.90 20 *e*P P 01 57 32.6 +1.4
comp=Z,102nm,1.3s
PVRL *e*pP pP 01 57 42.5 +2.1
GEYT **Alibeck** 81.91 330 P P 01 57 32.3 +1.0
comp=Z,51nm,0.9s,baz=328,slow=5.4,SNR=83
GEYT LR LR 02 38 35.8
comp=Z,7µm,18.8s,baz=25,slow=39
LMR **La Mourre** 81.94 9⇑*i*P P 01 57 32.0 +0.7
comp=Z,44nm,1.0s
LMR **La Mourre** 81.94 9⇑*i*P P 01 57 32.0 +0.7
LMR pmax pmax
comp=Z,44nm,1.0s
LMR **La Mourre** 81.94 9⇑*i*P P 01 57 32.0 +0.7
comp=Z,44nm,1.0s
ZIMR 82.03 355⇑*i*P P 01 57 32.3 +0.6
AKH **Akhalkalaki** 82.12 342 P P 01 57 33.6 +1.1
MVO **Moncorvo** 82.14 19 *e*P P 01 57 33.6 +1.1
comp=Z,101nm,1.3s
MVO *e*pP pP 01 57 43.8 +2.1
MVO **Moncorvo** 82.14 19 *e*SKS S 02 07 51.3 +6.1
MVO **Moncorvo** 82.14 19 *e*LR LR 02 23 59.9
comp=Z,2µm,18.0s
PRD **Provadia** 82.37 354 P P 01 57 34.6 +1.1
SZH **Strazhica** 82.39 355 P P 01 57 33.3 -0.3
MPEP **Malo Peshtene** 82.40 356 P P 01 57 33.3 -0.4
PVIS **Viseu** 82.40 20 *e*P P 01 57 34.7 +0.9
comp=Z,222nm,1.2s
PVIS *e*pP pP 01 57 45.0 +2.0
MTE **Manteigas** 82.78 20 *e*P P 01 57 37.0 +1.2
comp=Z,192nm,1.2s
MTE *e*pP pP 01 57 47.2 +2.2
MTE **Manteigas** 82.78 20 *e*SKS S 02 07 56.9 +5.1
MTE **Manteigas** 82.78 20 *e*LR LR 02 24 10.0
comp=Z,2µm,22.0s
MTE **Manteigas** 82.78 20 *e*P P 01 57 36.5 +0.7
comp=Z,137nm,1.1s
MTE LR LR
comp=Z,2µm,20.0s
COEN **Coen** 82.84 234 *e*P P 01 57 35.1 -1.1
comp=Z,28nm,1.2s
PCAS **Casmilo, Conde** 82.92 21 *e*P P 01 57 37.4 +0.9
comp=Z,148nm,1.1s
PCAS *e*pP pP 01 57 47.7 +2.0
PGF **Pioggiola** 82.93 7⇑*i*P P 01 57 37.3 +0.7
comp=Z,135nm,1.2s
PGF **Pioggiola** 82.93 7⇑*i*P P 01 57 37.3 +0.7
PGF pmax pmax
comp=Z,135nm,1.2s
PGF **Pioggiola** 82.93 7⇑*i*P P 01 57 37.3 +0.7
comp=Z,135nm,1.2s
STON **Ston** 82.97 1 P P 01 57 36.3 -0.4
GNI **Garni** 83.10 340*c i*P P 01 57 39.2 +1.6
GNI pmax pmax
comp=Z,55nm,1.2s
GNI **Garni** 83.10 340⇑*i*P P 01 57 39.3 +1.6
SNR=13
GNI **Garni** 83.10 340 P P 01 57 39.0 +1.4
SNR=15
GNI **Garni** 83.10 340 *e*P P 01 57 38.4 +0.7
comp=Z,43nm,0.9s
GNI LR LR
comp=Z,3µm,20.0s
NDI **New Delhi** 83.12 311 *e*P P 01 57 39.0 +1.3
JMB **Yambol** 83.15 354⇓*i*P P 01 57 38.9 +1.3
JMB **Yambol** 83.15 354 P P 01 57 39.7 +2.1
SDV **Santo Domingo** 83.16 84 *e*P P 01 57 36.5 -1.8
comp=Z,72nm,1.4s
SDV LR LR
comp=Z,791nm,20.0s
VTS **Vitosha** 83.18 357⇑*i*P P 01 57 38.2 +0.2
VTS **Vitosha** 83.18 357 P P 01 57 37.7 -0.3
PGB **Panagyurishte** 83.18 356 P P 01 57 38.4 +0.5
PCBR **Castelo Branco** 83.33 20 *e*P P 01 57 39.4 +0.8
comp=Z,100nm,1.1s
PCBR *e*pP pP 01 57 49.5 +1.7
PTOM **Tomar** 83.35 21 *e*P P 01 57 38.9 +0.2
comp=Z,195nm,1.2s
PTOM *e*pP pP 01 57 49.7 +1.8
AQU **L'Aquila** 83.38 4 *e*P P 01 57 40.0 +1.1
AQU pmax pmax
comp=Z,45nm,1.0s
AQU MLR MLR
comp=Z,1µm,19.0s
AQU **L'Aquila** 83.38 4 *e*P P 01 57 40.0 +1.1
comp=Z,45nm,1.0s
AQU LR LR
comp=Z,1µm,19.0s
PLD **Plovdiv** 83.61 356 P P 01 57 40.7 +0.7
PMRV **Marv??o** 83.74 20 *e*P P 01 57 41.6 +0.8
comp=Z,92nm,1.5s
PMRV *e*pP pP 01 57 51.6 +1.6
PMRV **Marv??o** 83.74 20 *e*SKS S 02 08 04.9 +3.4
PMRV **Marv??o** 83.74 20 *e*LR LR 02 25 06.6
comp=Z,1µm,20.0s
SKO **Skopje** 83.84 358 *i* Pn P 01 57 42.1 +0.9
FDF **Fort de France** 83.86 73 PFAKE 01 57 50.0 +8.3
FDF LR LR
comp=Z,2µm,21.0s
KKB **Krupnik** 83.91 357 P P 01 57 41.8 +0.3
PMTG **Montargil** 83.92 21 *e*P P 01 57 42.0 +0.4
comp=Z,121nm,1.5s
PMTG *e*pP pP 01 57 52.4 +1.6
SRDT **SRDT** 83.97 286 P P 01 57 42.3 +0.1
comp=Z,116nm,1.1s
RZN **Rozhen** 84.02 356 P P 01 57 42.5 +0.2
KDZ **Kurdzhali** 84.03 355⇑*i*P P 01 57 43.2 +1.1
KDZ **Kurdzhali** 84.03 355 P P 01 57 43.1 +0.9
LIS **Lisbon** 84.06 22 *e*P P 01 57 43.4 +1.0
LIS AMS AMS 02 33 53.1
comp=Z,3µm,21.1s
LIS **Lisbon** 84.06 22 *e*P P 01 57 43.3 +1.0
ESDC **Sonseca Array** 84.15 17 P P 01 57 43.4 +0.5
comp=Z,26nm,0.9s,baz=344,slow=4.8,SNR=66
ESDC pP pP 01 57 55.5 +3.4
comp=Z,14nm,0.7s,baz=344,slow=4.7,SNR=9.5
ESDC PP PP 02 00 56.2 -0.2
comp=Z,2.2nm,1.0s,baz=325,slow=7.8,SNR=4.0
ESDC LR LR 02 37 09.6
comp=Z,1µm,19.7s,baz=345,slow=37
MMB **Musomiste** 84.16 356⇑*i*P P 01 57 43.9 +1.0
MMB **Musomiste** 84.16 356 P P 01 57 43.6 +0.7
PAB **San Pablo** 84.21 18 *e*P P 01 57 43.6 +0.4
PAB pmax pmax
comp=Z,24nm,1.1s
PAB MLR MLR
comp=Z,3µm,20.0s
PAB **San Pablo** 84.21 18 *e*P P 01 57 43.6 +0.4
comp=Z,24nm,1.1s
PAB LR LR
comp=Z,3µm,20.0s
PESTR **Estremoz** 84.25 20 *e*P P 01 57 43.9 +0.6
comp=Z,84nm,1.4s
PESTR *e*pP pP 01 57 54.1 +1.6
ROSC **El Rosal** 84.25 90 P P 01 57 46.1 +1.9
comp=Z,4.2nm,0.5s,baz=90,slow=20,SNR=2.8
ROSC LR LR 02 39 11.7
comp=Z,495nm,18.6s,baz=350,slow=38
PCI **Palu** 84.33 260 P P 01 57 45.9 +1.9
comp=Z,90nm,1.2s,comp=Z,943nm
NVR **Nevrokopi** 84.39 356 P P 01 57 44.7 +0.6
NVR **Nevrokopi** 84.39 356 P P 01 57 44.7 +0.6
EVOP **Sao Brissos** 84.46 21⇑*i*P P 01 57 44.7 +0.3
EVOP pmax pmax
comp=Z,269nm,1.7s
EVOP **Sao Brissos** 84.46 21⇑*i*P P 01 57 44.7 +0.3
comp=Z,269nm,1.7s
VAY **Valandovo** 84.47 357 *i* Pn P 01 57 45.0 +0.6
EVO **Evora** 84.48 21⇑*i*P P 01 57 44.7 +0.2
comp=Z,269nm,1.7s
EVO *e*R
comp=Z,3µm,22.5s
EVO **Evora** 84.48 21 *e*P P 01 57 45.4 +0.9
comp=Z,62nm,1.4s
EVO *e*pP pP 01 57 55.3 +1.6
RDO **Rodhopi** 84.52 355 P P 01 57 45.2 +0.6
RDO **Rodhopi** 84.52 355 P P 01 57 45.2 +0.6
KNT **Kendrikon** 84.62 357 P P 01 57 46.0 +0.9
KNT **Kendrikon** 84.62 357 P P 01 57 46.0 +0.9
KNT **Kendrikon** 84.62 357 P P 01 57 46.0 +0.9
SRS **Serrai** 84.64 356 P P 01 57 45.5 +0.2
SRS **Serrai** 84.64 356 P P 01 57 45.5 +0.2
SRS **Serrai** 84.64 356 P P 01 57 45.5 +0.2
RAO **Raoul Island** 84.68 195 PFAKE 01 58 00.0 +15
RAO LR LR
comp=Z,2µm,22.0s
OHR **Ohrid** 84.72 358 *i* Pn P 01 57 44.4 -1.4
ALN **Alexandroupoli** 84.74 354 P P 01 57 46.1 +0.4
ALN **Alexandroupoli** 84.74 354 P P 01 57 46.1 +0.4
ALN **Alexandroupoli** 84.74 354 P P 01 57 46.1 +0.4
PNCL **Nicolau / Gran** 84.78 21 *e*P P 01 57 47.5 +1.5
comp=Z,133nm,1.7s
PNCL *e*pP pP 01 57 57.2 +2.0
GRG **Griva** 84.83 357 P P 01 57 47.2 +0.9
GRG **Griva** 84.83 357 P P 01 57 47.2 +0.9
GRG **Griva** 84.83 357 P P 01 57 47.2 +0.9
SOH **Sokhos** 84.94 357 P P 01 57 47.3 +0.5
SOH **Sokhos** 84.94 357 P P 01 57 47.3 +0.5
SOH **Sokhos** 84.94 357 P P 01 57 47.3 +0.5
PBAR **Barrancos** 85.03 20 *e*P P 01 57 48.7 +1.5
comp=Z,160nm,1.4s
MESJ **Messejana** 85.10 21 *e*P P 01 57 48.5 +0.8
MESJ AMS AMS 02 34 47.7
comp=Z,2µm,24.4s
MESJ **Messejana** 85.10 21 *e*P P 01 57 48.4 +0.8
SMTH **Samothraki Isl** 85.19 355 P P 01 57 48.0 -0.1
SMTH **Samothraki Isl** 85.19 355 P P 01 57 48.0 -0.1
KBN **Korca** 85.20 358 P P 01 57 48.5 +0.3
KBN **Korca** 85.20 358 P P 01 57 48.5 +0.3
KBN **Korca** 85.20 358 P P 01 57 48.5 +0.3
ANTO **Ankara** 85.21 349 *e*P P 01 57 49.0 +0.8
ANTO pmax pmax
comp=Z,69nm,1.1s
ANTO MLR MLR
comp=Z,2µm,19.0s
ANTO **Ankara** 85.21 349⇑*i*P P 01 57 49.5 +1.3
ANTO **Ankara** 85.21 349 P P 01 57 49.7 +1.4
SNR=23
ANTO **Ankara** 85.21 349 *e*P P 01 57 49.0 +0.8
comp=Z,69nm,1.1s
ANTO LR LR
comp=Z,2µm,19.0s
BRTR **Keskin Array B** 85.25 349 P P 01 57 49.1 +0.5
comp=Z,36nm,1.0s,baz=38,slow=2.2,SNR=106
BRTR PKKPbc PKKPbc 02 15 51.7 +0.4
comp=Z,0.9nm,0.8s,baz=183,slow=2.5,SNR=5.1
BRTR LR LR 02 41 22.4
comp=Z,1µm,18.6s,baz=10,slow=40
PLG **Polygyros** 85.38 356 P P 01 57 48.9 -0.1
PLG **Polygyros** 85.38 356 P P 01 57 48.9 -0.1
PLG **Polygyros** 85.38 356 P P 01 57 48.9 -0.1
OUR **Ouranopolis** 85.40 356 P P 01 57 49.3 +0.2
OUR **Ouranopolis** 85.40 356 P P 01 57 49.3 +0.2
OUR **Ouranopolis** 85.40 356 P P 01 57 49.3 +0.2
MORF **Marmelete** 85.53 22 *e*P P 01 57 50.1 +0.3
MORF AMS AMS 02 34 25.8
comp=Z,3µm,22.7s
MORF **Marmelete** 85.53 22 *e*P P 01 57 50.1 +0.3
OTAV **Otavalo** 85.58 96 *e*P P 01 57 50.0 -0.9
comp=Z,46nm,1.7s
OTAV LR LR
comp=Z,583nm,21.0s
PVAQ **Vaqueiros** 85.63 21 *e*P P 01 57 52.0 +1.7
comp=Z,99nm,1.9s
PVAQ **Vaqueiros** 85.63 21 *e*SKS S 02 08 14.9 -5.3
PVAQ **Vaqueiros** 85.63 21 *e*LR LR 02 25 57.5
comp=Z,2µm,20.0s
GRGR **Grenville** 85.69 75 PFAKE 01 58 00.0 +9.2
GRGR LR LR
comp=Z,1µm,20.0s
LIT **Litokhoron** 85.69 357 P P 01 57 50.6 +0.1
LIT **Litokhoron** 85.69 357 P P 01 57 50.6 +0.1
LIT **Litokhoron** 85.69 357 P P 01 57 50.6 +0.1
CUC **Castrocucco** 85.81 2 *e*P P 01 57 50.2 -1.0
comp=Z,35nm,1.0s
CUC LR LR
comp=Z,983nm,22.0s
VSL **Villasalto** 85.99 7 *e*P P 01 57 52.3 +0.2
comp=Z,40nm,1.1s
VSL LR LR
comp=Z,1µm,21.0s
MALT **Malatya** 86.00 345⇓*i*P P 01 57 54.0 +1.8
BBGH **Gun Hill** 86.04 73 *e*P P 01 57 53.3 +0.7
BBGH LR LR
comp=Z,3µm,19.0s
TTSI **Tana Toraja** 86.08 259 P P 01 57 53.5 +0.7
comp=Z,37nm,1.6s,comp=Z,1µm
KEK **Kerkira** 86.12 359 P P 01 57 53.0 +0.3
KEK **Kerkira** 86.12 359 P P 01 57 53.0 +0.3
JAN **Janina** 86.17 358 P P 01 57 53.8 +0.9
JAN **Janina** 86.17 358 P P 01 57 53.8 +0.9
JAN **Janina** 86.17 358 P P 01 57 53.8 +0.9
THL **Klokotos Trika** 86.23 358 P P 01 57 54.7 +1.5
IGT **Igoumenitsa** 86.30 359 P P 01 57 53.8 +0.2
IGT **Igoumenitsa** 86.30 359 P P 01 57 53.8 +0.2
IGT **Igoumenitsa** 86.30 359 P P 01 57 53.8 +0.2
XOR **Xorichti** 86.40 357 P P 01 57 53.8 -0.3
XOR **Xorichti** 86.40 357 P P 01 57 53.8 -0.3
NEO **Neokhori** 86.46 357 P P 01 57 54.0 -0.4
NEO **Neokhori** 86.46 357 P P 01 57 54.0 -0.4
AOS **Alonnisos** 86.57 356 P P 01 57 54.3 -0.6
AOS **Alonnisos** 86.57 356 P P 01 57 54.3 -0.6
TIP **Timpagrande** 86.64 2 *e*P P 01 57 55.2 -0.1
comp=Z,28nm,1.0s
TIP LR LR
comp=Z,898nm,20.0s
DSL **Palaion Diasel** 86.69 358 P P 01 57 55.8 +0.3
DSL **Palaion Diasel** 86.69 358 P P 01 57 55.8 +0.3
MAKR **Makrakomi, Fth** 86.78 357 P P 01 57 55.9 -0.1
MAKR **Makrakomi, Fth** 86.78 357 P P 01 57 55.9 -0.1
CTAO **Charters Tower** 86.81 228 *e*P P 01 57 55.7 -0.4
CTAO pmax pmax
comp=Z,46nm,1.0s
CTAO MLR MLR
comp=Z,969nm,21.0s
CTAO **Charters Tower** 86.81 228 *e*P P 01 57 55.7 -0.4
comp=Z,46nm,1.0s
CTAO LR LR
comp=Z,969nm,21.0s
SPSI **Sidrap Palu** 86.86 259 P P 01 57 57.8 +1.2
comp=Z,24nm,0.9s,comp=Z,770nm
EVR **Evrytania** 86.89 358 P P 01 57 57.0 +0.4
EVR **Evrytania** 86.89 358 P P 01 57 57.0 +0.4
AXAR **Agios Charalam** 87.01 357 P P 01 57 56.0 -1.1
AXAR **Agios Charalam** 87.01 357 P P 01 57 56.0 -1.1
BNSI **Bone** 87.02 258 P P 01 57 58.4 +1.1
comp=Z,35nm,1.1s,comp=Z,1µm
CHOS **Chios island** 87.24 354 P P 01 57 58.2 -0.1
CHOS **Chios island** 87.24 354 P P 01 57 58.2 -0.1
EFP **Efpalio** 87.37 358 P P 01 57 58.6 -0.2
ISP **Isparta** 87.46 351 *e*P P 01 57 59.2 -0.2
ISP pmax pmax
comp=Z,19nm,0.8s
ISP MLR MLR
comp=Z,1µm,22.0s
ISP **Isparta** 87.46 351⇑*i*P P 01 58 00.7 +1.3
ISP **Isparta** 87.46 351 *e*P P 01 57 59.2 -0.2
comp=Z,19nm,0.8s
ISP LR LR
comp=Z,1µm,22.0s
CEL **Celeste** 87.55 2 *e*P P 01 57 58.9 -0.8
comp=Z,34nm,0.9s
CEL LR LR
comp=Z,2µm,19.0s
KAPI **Kappang** 87.73 258 P P 01 58 00.0 -0.7
comp=Z,272nm,1.2s,SNR=6.5
KAPI **Kappang** 87.73 258 P P 01 58 00.8 +0.1
SNR=10
KAPI **Kappang** 87.73 258 *e*P P 01 58 01.0 +0.2
comp=Z,57nm,1.1s
KAPI LR LR
comp=Z,539nm,22.0s
KLV **Kalavryta, Ach** 87.75 357 P P 01 58 00.9 +0.2
KLV **Kalavryta, Ach** 87.75 357 P P 01 58 00.9 +0.2
BKSI **Bulukumba** 87.77 258 P P 01 58 00.9 0.0
comp=Z,24nm,1.2s,comp=Z,460nm
DRO **Drossia** 87.85 358 P P 01 58 01.2 +0.1
KSM **Kuching** 87.94 270 *e*P P 01 58 02.5 +0.7
comp=Z,14nm,0.8s
KSM LR LR
comp=Z,791nm,22.0s
CLTB **Caltabellotta** 88.13 4 *e*P P 01 58 03.0 +0.4
comp=Z,17nm,1.0s
CLTB LR LR
comp=Z,836nm,19.0s
KBKI **Kotabaru** 88.39 262 P P 01 58 04.0 +0.1
comp=Z,28nm,1.1s,comp=Z,2µm
STKI **Sintang** 88.39 268 P P 01 58 05.1 +1.1
comp=Z,46nm,0.8s
SURT **Suratani** 88.53 283 P P 01 58 05.6 +1.0
comp=Z,24nm,1.1s,comp=Z,409nm
CHLP **Challavanipeta** 88.58 300 *e*P P 01 58 05.0 +0.2
CHLP *e*pP pP 01 58 14.2 +0.1
CHLP *e*PP PP 02 01 34.4 +1.6
CHLP *e*SKSac SKSac 02 08 28.8 -3.2
CHLP *e* 02 14 09.0
APE **Apeiranthos** 88.58 355 P P 01 58 02.8 -1.9
APE **Apeiranthos** 88.58 355 P P 01 58 02.8 -1.9
APE **Apeiranthos** 88.58 355 P P 01 58 02.8 -1.9
SKLT **Songkhla** 88.95 281 P P 01 58 12.0 +5.4
comp=Z,45nm,1.3s
SOEI **Soe** 89.06 252 P P 01 58 18.9 +12
SOEI **Soe** 89.06 252 *e*P P 01 58 06.0 -1.2
comp=Z,48nm,1.2s
RTC **Rabat Centre** 89.10 21 PFAKE 01 58 20.0 +13
RTC LR LR
comp=Z,1µm,20.0s
ARG **Arkhangelos** 89.26 352 P P 01 58 07.2 -0.6
ARG **Arkhangelos** 89.26 352 P P 01 58 07.2 -0.6

ARG	**Arkhangelos**	**89.26**	**352**	P		**P**		**01 58 07.2**	**-0.6**
SANT	**Santorini**	**89.28**	**355**	PFAKE				01 58 20.0	+12
SANT				LR	LR				
	comp=Z,2μm,19.0s								
PKDT	**Phuket**	**89.66**	**283**	P		**P**		**01 58 11.2**	**+1.3**
	comp=Z,50nm,1.1s,comp=Z,4μm								
KEST	**Kesra**	**89.73**	**8**	P		**P**		**01 58 10.2**	**+0.1**
	comp=Z,6.0nm,1.0s,baz=292,slow=5.7,SNR=9.2								
KEST				LR		LR		02 42 10.5	
	comp=Z,335nm,19.2s,baz=309,slow=38								
KEST	**Kesra**	**89.73**	**8**	*e*P		**P**		**01 58 10.0**	**-0.1**
WDD	**Wield Dalam**	**89.89**	**3**	PFAKE				01 58 20.0	+9.3
WDD				LR	LR				
	comp=Z,793nm,20.0s								
CSS	**Prodhromos**	**89.99**	**348**	*e*P		**P**		**01 58 11.0**	**-0.3**
CSS				LR	LR				
	comp=Z,308nm,21.0s								
HAWK	**Haweek**	**90.02**	**346**	*e*P		**P**		**01 58 11.9**	**+0.4**
KULM	**Kulim**	**90.45**	**280**	*e*P		**P**		**01 58 13.8**	**+0.2**
	comp=Z,15nm,1.0s								
KULM				LR	LR				
	comp=Z,206nm,22.0s								
RPR	**Rampur**	**90.62**	**304**	*e*P		**P**		**01 58 14.2**	**-0.2**
RPR				*e*pP		**pP**		**01 58 23.8**	**+0.1**
RPR				*e*PP		**PP**		**02 01 47.6**	**-1.4**
RPR				*e*SKSac		**SKSac**		**02 08 42.0**	**-2.0**
RPR				*e*				02 09 01.3	
RPR				*e*SS		**SS**		**02 15 13.5**	**+4.7**
IPM	**Ipoh**	**90.90**	**279**	*e*P		**P**		**01 58 15.4**	**-0.3**
ZALF	**Zalf**	**91.45**	**344**	*e*P		**P**		**01 58 18.7**	**+0.6**
SALA	**Sala**	**91.75**	**345**	*e*P		**P**		**01 58 20.4**	**+0.8**
TCHB	**Talchebab**	**91.90**	**346**	*e*P		**P**		**01 58 20.9**	**+0.7**
HYBB	**Hyderabad (bro**	**92.21**	**304**	*e*P		**P**		**01 58 21.4**	**-0.5**
HYBB				*e*pP		**pP**		**01 58 31.1**	**0.0**
HYBB				*e*PP		**PP**		**02 01 57.0**	**-4.6**
HYBB				*e*SKSac		**SKSac**		**02 08 51.7**	**-1.4**
HYBB				*e*				02 09 17.7	
HYB	**Hyderabad**	**92.21**	**304**	*i* P		**P**		**01 58 20.0**	**-1.8**
WRAB	**Tennant Creek**	**92.23**	**238**	P		**P**		**01 58 20.2**	**-1.4**
	comp=Z,115nm,1.1s,SNR=8.3								
WRAB	**Tennant Creek**	**92.23**	**238**	*e*P		**P**		**01 58 20.6**	**-1.0**
WRAB				pmax		pmax			
	comp=Z,63nm,1.2s								
WRAB				MLR		MLR			
	comp=Z,1μm,20.0s								
WRAB	**Tennant Creek**	**92.23**	**238**	*e*P		**P**		**01 58 20.4**	**-1.2**
	comp=Z,31nm,1.2s								
WRAB				LR		LR			
	comp=Z,1μm,22.0s								
WB2	**Warramunga Arr**	**92.24**	**238**	*e*P		**P**		**01 58 20.4**	**-1.2**
WRA	**Warramunga Arr**	**92.25**	**238**	P		**P**		**01 58 20.8**	**-0.9**
	comp=Z,18nm,1.1s,baz=40,slow=5.3,SNR=41								
WRA				LR		LR		02 35 29.3	
	comp=Z,1μm,21.9s,baz=30,slow=33								
NJS	**Nagarjunasagar**	**92.59**	**303**	*e*P		**P**		**01 58 22.8**	**-0.7**
NJS				*e*pP		**pP**		**01 58 32.7**	**-0.1**
NJS				*e*PP		**PP**		**02 01 59.6**	**-5.0**
BANOM	**Banah**	**93.62**	**327** ⇑	*i*P		**P**		**01 58 27.9**	**-0.3**
	SNR=5.4								
ARMA	**Armidale**	**93.85**	**219**	*e*P		**P**		**01 58 30.1**	**+1.1**
	comp=Z,28nm,1.2s								
TPTI		**94.09**	**281**	P		P		01 58 41.6	+11
URZ	**Urewera**	**94.29**	**197**	LR		LR		02 34 38.3	
	comp=Z,2μm,20.7s,baz=19,slow=31								
UOSS	**Wadi Hilu**	**94.56**	**326**	P		**P**		**01 58 31.2**	**-1.3**
	comp=Z,69nm,1.0s,SNR=6.5								
NAZ	**Nazwa, Dubai**	**94.69**	**327** ⇑	*i*P		**P**		**01 58 33.3**	**+0.2**
	SNR=9.1								
HATD	**Hatta, Dubai**	**94.70**	**326** ⇑	*i*P		**P**		**01 58 32.0**	**-1.2**
	SNR=6.9								
PWJI	**Pagerwojo**	**94.73**	**263**	P		P		**01 58 32.6**	**-0.7**
SKHT	**Srikalahasti**	**94.80**	**302**	*e*P		**P**		**01 58 33.9**	**+0.2**
SKHT				*e*pP		**pP**		**01 58 43.3**	**+0.3**
SKHT				*e*PP		**PP**		**02 02 25.9**	**+4.0**
SKHT				*e*SKSac		**SKSac**		**02 09 04.7**	**-2.5**
SKHT				*e*				02 09 42.9	
SKHT				*e*SS		**SS**		**02 16 08.4**	**-0.5**
ASHO	**Ashiyiah**	**94.85**	**326** ⇓	*i*P		**P**		**01 58 33.9**	**0.0**
	SNR=10								
ASHO	**Ashiyiah**	**94.85**	**326**	P		**P**		**01 58 33.7**	**-0.2**
	SNR=6.2								
URV	**Uravakonda**	**94.96**	**304**	*e*P		**P**		**01 58 35.0**	**+0.5**
URV				*e*pP		**pP**		**01 58 43.1**	**-0.7**
URV				*e*PP		**PP**		**02 02 25.6**	**+2.4**
URV				*e*SKSac		**SKSac**		**02 09 02.7**	**-5.5**
URV				*e*				02 09 44.3	
ASUD	**Al Ashush, Dub**	**95.14**	**327** ⇑	*i*P		**P**		**01 58 34.6**	**-0.5**
	SNR=8.8								
HOQ	**Hoqain**	**95.46**	**325**	P		**P**		**01 58 36.7**	**0.0**
	SNR=7.8								
AS31	**Alice Springs**	**95.60**	**237**	*e*P		**P**		**01 58 36.6**	**-0.5**
AS31				*e*pP		**pP**		**01 58 45.7**	**-0.7**
ASAR	**Alice Springs**	**95.61**	**237**	P		**P**		**01 58 36.9**	**-0.3**
	comp=Z,7.0nm,1.0s,baz=34,slow=4.3,SNR=34								
ASAR				PKKPbc		**PKKPdf**		**02 15 26.8**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=216,slow=2.8,SNR=7.3								
ASAR				LR		LR		02 39 17.4	
	comp=Z,1μm,19.3s,baz=28,slow=34								
SMDO	**Samad**	**95.70**	**324**	P		**P**		**01 58 37.9**	**+0.1**
	SNR=9.0								
WBK	**Wadi Bani Khal**	**95.80**	**323**	P		**P**		**01 58 39.5**	**+1.3**
	SNR=6.7								
ARQ	**Araqi**	**95.95**	**326**	P		**P**		**01 58 39.5**	**+0.6**
	SNR=7.2								
BSY	**Bisya**	**96.28**	**325**	P		**P**		**01 58 40.2**	**-0.2**
	SNR=11								
JMDO	**Jabal Madar**	**96.32**	**324**	P		**P**		**01 58 40.6**	**0.0**
	SNR=7.3								
SNZO	**South Karori**	**97.68**	**198**	PFAKE				01 59 00.0	+14
SNZO				LR		LR			
	comp=Z,2μm,21.0s								
RAYN	**Ar Rayn**	**98.94**	**335**	*e*P		**P**		**01 58 52.2**	**-0.2**
	comp=Z,28nm,1.1s								
STKA	**Stephens Creek**	**99.12**	**226**	P		**Pdif**		**01 58 51.5**	**-1.2**
	comp=Z,3.1nm,1.0s,baz=109,slow=6.8,SNR=3.8								
CAN	**Canberra**	**99.21**	**219**	PFAKE				01 59 00.0	+6.9
CAN				LR		LR			
	comp=Z,1μm,21.0s								
PALK	**Pallekele**	**99.80**	**297**	*e*P		**Pdif**		**01 58 56.7**	**+0.4**
PALK	**Pallekele**	**99.80**	**297**	*e*Pdif		**Pdif**		**01 58 56.7**	**+0.4**
SAML	**Samuel**	**101.88**	**89**	*e*Pdif		**Pdif**		**01 59 06.3**	**+0.9**
SAML				LR		LR			
	comp=Z,1μm,21.0s								
SACV	**Santiago Islan**	**101.96**	**42**	PFAKE				01 59 20.0	+14
SACV				LR		LR			
	comp=Z,1μm,21.0s								
TAM	**Tamanrasset**	**102.15**	**13**	*e*P		**Pdif**		**01 59 07.5**	**+0.6**
TAM				MLR		MLR			
	comp=Z,1μm,20.0s								
TAM	**Tamanrasset**	**102.15**	**13**	*e*Pdif		**Pdif**		**01 59 07.5**	**+0.6**
TAM				LR		LR			
	comp=Z,1μm,20.0s								
LPAZ	**La Paz**	**104.86**	**97**	*e*P		**Pdif**		**01 59 19.2**	**-0.1**
LPAZ	**La Paz**	**104.86**	**97**	*e*Pdif		**Pdif**		**01 59 19.2**	**-0.1**
TAU	**Tasmania Unive**	**106.53**	**217**	PFAKE				02 03 50.0	
TAU				LR		LR			
	comp=Z,1μm,21.0s								
COCO	**West Island**	**106.78**	**273**	PFAKE				02 03 50.0	
COCO				LR		LR			
	comp=Z,589nm,20.0s								
LVC	**Limon Verde**	**109.39**	**102**	PFAKE				02 03 50.0	
LVC				LR		LR			
	comp=Z,632nm,22.0s								
TORD	**Torodi Ar. Bea**	**111.04**	**18**	PKiKP		**PKiKP**		**02 03 43.9**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=14,slow=1.4,SNR=6.1								
TORD				PP		**PP**		**02 04 21.8**	**-1.3**
	comp=Z,2.6nm,1.1s,baz=339,slow=6.6,SNR=5.6								
TORD				PKKPbc		**PKKPbc**		**02 14 39.0**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=172,slow=1.6,SNR=9.2								
LCO	**Las Campanas**	**113.36**	**107**	PFAKE				02 04 00.0	
LCO				LR		LR			
	comp=Z,2μm,21.0s								
RCBR	**Riachuelo**	**114.64**	**63**	PFAKE				02 04 00.0	+7.7
RCBR				LR		LR			
	comp=Z,1μm,21.0s								
DBIC	**Dimbokro**	**115.88**	**26**	*e*PKIKP		**PKPdf**		**02 03 54.1**	**-0.5**
DBIC	**Dimbokro**	**115.88**	**26**	*e*PKPdf		**PKPdf**		**02 03 54.1**	**-0.5**
DGAR	**Diego Garcia**	**116.54**	**297**	PFAKE				02 04 10.0	+14
DGAR				LR		LR			
	comp=Z,2μm,22.0s								
MSEY	**Mahe Island**	**122.12**	**315**	PFAKE				02 04 20.0	+13
MSEY				LR		LR			
	comp=Z,2μm,20.0s								
PLCA	**Paso Flores**	**122.22**	**116**	PKP		**PKPdf**		**02 04 04.9**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=301,slow=4.4,SNR=5.8								
PLCA				PKKPbc		**PKKPab**		**02 14 00.2**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=175,slow=6.3,SNR=3.6								
KMBO	**Kilima Mbogo**	**124.66**	**337**	PKP		**PKPdf**		**02 04 12.3**	**+0.5**
	comp=Z,12nm,0.9s,baz=12,slow=3.8,SNR=22								
TRQA	**Tornquist**	**124.92**	**108**	*e*PKPdf		**PKPdf**		**02 04 10.8**	**-0.4**
TRQA				LR		LR			
	comp=Z,2μm,20.0s								
ASCN	**Ascension**	**126.49**	**42**	*e*PKPdf		**PKPdf**		**02 04 14.9**	**-0.1**
ASCN				LR		LR			
	comp=Z,2μm,21.0s								
DRV	**Dumont d'Urvil**	**128.69**	**206**	SS		SS		02 23 15.0	-25
DRV				L		L		02 37 00.0	
DRV				R				02 45 00.0	
SBA	**Scott Base**	**133.59**	**189**	PFAKE				02 04 40.0	+14
SBA				LR		LR			
	comp=Z,1μm,19.0s								
VNDA	**Vanda**	**133.77**	**190**	*e*PKIKP		**PKPdf**		**02 04 27.0**	**+0.2**
VNDA	**Vanda**	**133.77**	**190**	PKP		**PKPdf**		**02 04 26.7**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=206,slow=15,SNR=3.9								
VNDA				SKPbc		**SKPbc**		**02 07 51.7**	**-1.6**
	comp=Z,2.2nm,1.1s,baz=359,slow=5.8,SNR=4.8								
EFI	**East Falkland**	**135.91**	**119**	PFAKE				02 04 40.0	+8.5
EFI				LR		LR			
	comp=Z,2μm,20.0s								
SHEL	**Horse Pasture**	**137.05**	**36**	PFAKE				02 04 50.0	+15
SHEL				LR		LR			
	comp=Z,629nm,19.0s								
CASY	**Casey**	**137.39**	**217**	PFAKE				02 04 50.0	+16
CASY				LR		LR			
	comp=Z,1μm,19.0s								
OPO	**Ambohidratompo**	**138.04**	**318**	PKP		**PKPdf**		**02 04 36.0**	**-0.8**
	comp=Z,6.1nm,0.9s,baz=22,slow=4.6								
ABPO	**Ambohimpanom**	**138.43**	**317**	PFAKE				02 04 50.0	+13
ABPO				LR		LR			
	comp=Z,922nm,21.0s								
PMSA	**Palmer Station**	**139.93**	**139**	PFAKE				02 04 50.0	+12
PMSA				LR		LR			
	comp=Z,2μm,19.0s								
LSZ	**Lusaka**	**140.15**	**346**	*e*PKIKP		**PKPdf**		**02 04 41.4**	**+0.8**
LSZ				*e*				02 07 33.9	
LSZ	**Lusaka**	**140.15**	**346**	*e*PKPdf		**PKPdf**		**02 04 41.4**	**+0.8**
LSZ				*e*PP		**PP**		**02 07 33.9**	**-3.5**
QSPA	**South Pole Qui**	**144.31**	**180**	PKP		**PKPab**		**02 04 43.9**	**-0.6**
	comp=Z,28nm,0.7s,baz=19,slow=0.5,SNR=107								
QSPA				pPKP		**pPKPdf**		**02 04 57.6**	**+1.7**
	comp=Z,34nm,0.7s,baz=67,slow=2.4,SNR=8.4								
QSPA				SKPbc		**SKPbc**		**02 08 21.3**	**-1.6**
	comp=Z,7.2nm,1.1s,baz=174,slow=6.2,SNR=3.2								
QSPA	**South Pole Qui**	**144.31**	**180**	*e*PKPdf		**PKPab**		**02 04 43.0**	**-1.5**
QSPA				pPKP		**pPKPdf**		**02 04 57.6**	**+1.7**
QSPA				SKPbc		**SKPbc**		**02 08 21.3**	**-1.6**
TSUM	**Tsumeb**	**144.72**	**2**	*e*PKPdf		**PKPab**		**02 04 46.9**	**-0.6**
TSUM				LR		LR			
	comp=Z,1μm,20.0s								
MSNA	**Messina**	**146.77**	**341**	P		**PKPbc**		**02 04 54.0**	**+0.2**
WIN	**Windhoek**	**148.06**	**3**	PKP2		**PKPbc**		**02 04 56.7**	**-0.8**
WIN	**Windhoek**	**148.06**	**3**	P		**PKPbc**		**02 04 56.7**	**-0.8**
PAF	**Port-aux-Franc**	**148.49**	**258**	PKP		PKPdf		02 04 32.0	-22
PAF				SS		SS		02 27 08.0	-26
HOPE	**Hope Point**	**148.52**	**113**	PFAKE				02 05 10.0	+9.0
HOPE				LR		LR			
	comp=Z,2μm,19.0s								
LBTB	**Lobatse**	**150.09**	**348**	*e*PKIKP		**PKPdf**		**02 04 57.9**	**+0.5**
LBTB				*e*				02 05 02.4	
LBTB				*e*				02 05 07.9	
LBTB	**Lobatse**	**150.09**	**348**	*e*PKPdf		**PKPdf**		**02 04 57.9**	**+0.5**
LBTB				*e*PKPbc		**PKPbc**		**02 05 02.4**	**0.0**
LBTB				*e*PKPab		**PKPab**		**02 05 07.9**	**-0.4**
SLR	**Silverton**	**150.39**	**343**	PKIKP		**PKPdf**		**02 04 57.8**	**-0.1**
SLR	**Silverton**	**150.39**	**343**	P		**PKPdf**		**02 04 57.8**	**-0.1**
ERPM	**east rand prop**	**151.00**	**342**	P		**PKPdf**		**02 05 00.0**	**+1.1**
PRYS	**Parys**	**151.71**	**344**	P		**PKPdf**		**02 04 60.0**	**0.0**
SEK	**Senekal**	**153.04**	**343**	P		**PKPdf**		**02 05 01.1**	**-0.7**
UPI	**Upington**	**153.79**	**355**	P		**PKPdf**		**02 05 02.4**	**-0.4**
MAW	**Mawson**	**155.65**	**220**	PKP2		**PKPab**		**02 05 31.0**	**+0.5**
MAW	**Mawson**	**155.65**	**220**	PKPab		**PKPab**		**02 05 31.0**	**+0.5**
	comp=Z,25nm,1.1s,baz=80,slow=6.0,SNR=10								
SUR	**Sutherland**	**157.81**	**356**	PFAKE				02 05 20.0	+12
SUR				LR		LR			
	comp=Z,2μm,20.0s								
VNA3	**Neumayer Olymp**	**159.17**	**154**	P		PKPab		02 05 54.2	+8.5
VNA1	**Neumayer--Stat**	**159.90**	**154**	P		PKPab		02 05 56.5	+7.7
VNA2	**Neumayer--Watz**	**159.94**	**155**	P		PKPab		02 05 59.3	+10
	baz=254,slow=4.2								
SNAA	**Sanae**	**160.43**	**160**	PKPab		**PKPab**		**02 05 49.2**	**-2.0**
	comp=Z,4.1nm,1.2s,baz=218,slow=7.8,SNR=3.3								

GUC 16 01:47:55.8±0.5, 35.02S×72.15W, h29km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.56**	**132**	*e*P		Pb	01 48 06.3	-0.9
TALC				*e*S		Sb	01 48 14.3	-0.7
NICH	**Los Niches**	**0.75**	**89**	*e*P		Pb	01 48 09.2	-1.2
NICH				*e*S		Sb	01 48 19.5	-0.9
LNCH	**Linares**	**0.94**	**152**	*e*P		Pn	01 48 12.0	-1.0
LNCH				*e*S		Sn	01 48 24.2	-1.3
COCH	**Cobquecura**	**1.22**	**205**	*e*P		Pn	01 48 16.4	-0.5
COCH				*e*S		Sn	01 48 31.9	-0.6
LNV	**Longovilo**	**1.23**	**30**	*e*P		Pn	01 48 16.3	-0.7
CHCH	**Chadas Angostu**	**1.65**	**49**	*e*P		Pn	01 48 23.3	+0.5
CLCH	**Cerro Calan**	**2.10**	**40**	*e*P		Pn	01 48 29.8	+0.7
CLCH				*e*S		Sn	01 48 55.6	+1.2
CLCH				AML		AML	01 49 05.5	
	comp=N,577nm,0.5s							
PEL	**Peldehue**	**2.23**	**33**	*e*P		Pn	01 48 32.2	+1.3
PEL				*e*S		Sn	01 48 59.0	+1.4
PEL				AML		AML	01 49 05.7	
	comp=N,610nm,0.3s							

JMA 16 01:54:14.6±0.3, 35.03N×139.90E, h99km±2km, M2.4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.01**	**282**	P		Pn	01 54 28.9	+0.6
TATJ				S		Sn	01 54 39.4	+0.8
JYO	**Yokosk**	**0.27**	**315**	P		Pn	01 54 29.2	+0.3
JYO				S		Sn	01 54 40.8	+1.2
JIM2	**Oshima 3**	**0.50**	**231**	S		Sn	01 54 41.1	-0.9
BSO3	**Boso 3**	**0.55**	**114**	P		Pn	01 54 30.9	+0.6
BSO3				S		Sn	01 54 43.8	+1.7
JOD2	**Odawara 2**	**0.70**	**290**	P		Pn	01 54 31.5	-0.5
JOD2				S		Sn	01 54 43.8	-1.2
JIZS	**Izushimoda**	**0.90**	**250**	S		Sn	01 54 48.4	+0.1
MAT	**Matsushiro**	**2.04**	**318**	P		Pn	01 54 48.8	+1.1
MAT				S		Sn	01 55 13.3	+0.3

ROM 16 01:55:16.3±0.2, 42.88N×12.97E, h9km, Md1.7/3, Ml1.3/3, Error ellipse: s-maj=2.3km s-min=0.9km az=77.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NRCA	**Norcia**	**0.12**	**115**	Pg		Pg	01 55 19.6	+0.4
NRCA				Sg		Sg	01 55 21.7	+0.6
	122nm,0.1s							
FDMO	**Fiordimonte**	**0.18**	**30**	Pg		Pg	01 55 20.6	+0.5
FDMO				Sg		Sg	01 55 23.7	+1.1
	66nm,0.3s							
GUMA	**Gualdo di Mace**	**0.73**	**76**	Pg		Pg	01 55 23.4	-7.1
GUMA				Sg		Sg	01 55 28.9	-11
	18nm,0.3s							

*MEX **16** 02:12:43.9±0.9, 32.55N×114.97W, h15km, MD3.7*
*NEIC **16** 02:12:46.2, 32.27N×115.32W, h10km, MD3.7(MEX), ML3.6(PAS), After PAS.*
*ECX **16** 02:12:46.9±0.5, 32.27N×115.33W, h5km, MD3.5, ML3.7*
ISC 16 02:12:45.3±0.9, 32.22N±0.02×115.29W±0.02, h15km±6km, n42, σ1.59/83, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**356**	*e*P		**Pg**	**02 12 49.4**	**-0.5**
CPBX				*e*S		**Sg**	**02 12 52.7**	**-0.3**
EMX	**El Mayor**	**0.24**	**170**	*e*P		**Pb**	**02 12 51.7**	**+0.3**
EMX				*e*S		**Sb**	**02 12 55.8**	**+0.5**
SGL	**Mount Signal**	**0.56**	**319** ⇓	*i*P		**Pg**	**02 12 55.6**	**-0.9**
RDX	**Rancho Dawling**	**0.63**	**242** ⇑	*e*P		**Pg**	**02 12 57.8**	**+0.1**
RDX				*e*S		**Sg**	**02 13 06.5**	**+0.4**
RDX			⇑	*e*			02 13 08.8	
RDX				AML		AML	02 13 08.8	
	comp=N,2μm,0.4s							
COA	**Coachella**	**0.65**	**12**	*e*P		**Pg**	**02 12 57.8**	**-0.3**
YUH	**Yuha Desert**	**0.68**	**308** ⇓	*i*P		**Pg**	**02 12 57.5**	**-1.2**
YMD	**Yuma Desert**	**0.71**	**62**	*e*P		**Pg**	**02 12 59.3**	**+0.1**
COK	**Cook Ranch**	**0.72**	**330**	*e*P		**Pg**	**02 12 58.7**	**-0.8**
RMX	**La Rumorosa**	**0.77**	**300**	*e*P		**Pg**	**02 12 59.3**	**-1.0**
RMX				*e*S		**Sg**	**02 13 09.3**	**-1.2**
RMX			⇑	*e*			02 13 11.0	
RMX				AML		AML	02 13 11.0	
	comp=N,3μm,0.6s							
ECBX	**El Chinero**	**0.78**	**165**	*e*P		**Pb**	**02 13 01.1**	**+0.6**
ECBX				*e*S		**Sn**	**02 13 12.2**	**-0.9**
GLA	**Glamis**	**0.91**	**25**	*e*Pg		**Pb**	**02 13 01.2**	**-1.7**
GLA				*e*Sg		**Sb**	**02 13 13.5**	**-1.4**
ZAX	**El Zacaton**	**1.10**	**230**	*e*P		**Pg**	**02 13 06.6**	**+0.1**
ZAX				*e*S		**Sg**	**02 13 20.9**	**0.0**
CBX	**Cerro Bola**	**1.17**	**275**	*e*P		**Pn**	**02 13 05.9**	**-1.3**
CBX				*i* S		**Sb**	**02 13 22.5**	**+0.2**
CBX	**Cerro Bola**	**1.17**	**275**	*e*P		**Pn**	**02 13 06.7**	**-0.5**
CBX				*e*S		**Sb**	**02 13 21.7**	**-0.6**
CBX				AML		AML	02 13 25.5	
	comp=N,2μm,0.5s							
CBX			⇓	*e*			02 13 25.5	
CBX	**Cerro Bola**	**1.17**	**275**	*e*P		**Pn**	**02 13 05.9**	**-1.3**
CBX				*e*S		**Sb**	**02 13 20.0**	**-2.3**
SPIG	**San Pedro Mart**	**1.18**	**187**	*e*P		**Pn**	**02 13 07.5**	**-0.1**
SPIG				*i* S		**Sg**	**02 13 26.0**	**+2.3**
SPIG	**San Pedro Mart**	**1.18**	**187**	*e*P		**Pb**	**02 13 08.0**	**+0.3**
SPIG				*e*S		**Sg**	**02 13 24.4**	**+0.7**
SPIG	**San Pedro Mart**	**1.18**	**187**	*e*P		**Pb**	**02 13 08.0**	**+0.3**
SPIG				*e*S		**Sb**	**02 13 20.4**	**-2.5**
SPX	**San Pedro Mart**	**1.18**	**187**	*e*P		**Pb**	**02 13 08.0**	**+0.3**
SPX				*e*S		**Sg**	**02 13 25.4**	**+1.7**
SPX				AML		AML	02 13 28.5	
	comp=E,1μm,0.5s							
SPX			⇑	*e*			02 13 28.5	
SPX	**San Pedro Mart**	**1.18**	**187**	*e*P		**Pb**	**02 13 07.9**	**+0.3**
SPX				*e*S		**Sb**	**02 13 19.3**	**-3.7**
ECNX	**Esteban Cantu**	**1.25**	**243**	*e*P		**Pb**	**02 13 08.6**	**-0.1**
ECNX				*e*S		**Sn**	**02 13 25.0**	**+0.1**
BAR	**Barrett**	**1.25**	**292**	*e*P		**Pn**	**02 13 07.9**	**-0.5**
BAR	**Barrett**	**1.25**	**292**	*e*Pg		**Pn**	**02 13 07.6**	**-0.7**
BAR				*e*Sg		**Sb**	**02 13 23.1**	**-1.6**
PBX	**Punta Banda**	**1.31**	**249**	*e*P		**Pb**	**02 13 09.4**	**-0.2**
PBX				*e*S		**Sn**	**02 13 26.6**	**+0.3**
PFO	**Pinyon Flats O**	**1.69**	**325**	*e*Pn		**Pn**	**02 13 12.6**	**-1.9**
PFO				*e*Sn		**Sn**	**02 13 34.7**	**-1.2**
214A	**Organ Pipe Nat**	**2.12**	**97**	*e*Pn		**Pn**	**02 13 19.8**	**-0.4**
214A				*e*Pg		**Pg**	**02 13 25.6**	**-0.4**
214A				*e*Sg		**Sg**	**02 13 53.2**	**-0.3**
LDFC	**Landfair**	**2.85**	**3**	*e*Pn		**Pn**	**02 13 30.6**	**+0.3**
LDFC				*e*Pg		**Pg**	**02 13 39.5**	**-0.5**
MWC	**Mount Wilson**	**3.06**	**311**	*e*Pn		**Pn**	**02 13 33.1**	**-0.2**
MWC				*e*Pb		**Pb**	**02 13 39.6**	**0.0**
MWC				*e*Pg		**Pg**	**02 13 42.7**	**-1.3**
MWC				*e*Sg		**Sb**	**02 14 18.6**	**+1.8**
PASC	**Pasadena Art C**	**3.11**	**309**	*e*Pn		**Pn**	**02 13 33.9**	**+0.1**
PASC				*e*Pg		**Pb**	**02 13 42.6**	**+2.3**
PASC				*e*Sg		**Sb**	**02 14 20.7**	**+2.7**
GSC	**Goldstone, Bar**	**3.32**	**338**	*e*Pg		**Pb**	**02 13 45.6**	**+1.7**
GSC				*e*Sg		**Sb**	**02 14 27.0**	**+2.8**
OSI	**Osito Audit: C**	**3.73**	**311**	*e*Pn		**Pn**	**02 13 42.2**	**-0.3**
OSI				*e*Pg		**Pb**	**02 13 52.4**	**+1.4**
OSI				*e*Sg		**Sb**	**02 14 40.3**	**+4.3**
TUC	**Tucson**	**3.82**	**88**	*e*Pn		**Pn**	**02 13 45.4**	**+1.8**
TUC				*e*

comp=E,12nm,1.4s
WVT Waverly 71.20 347 *e*P P **02 57 48.5 +0.1**
comp=E,8.8nm,1.3s
WMOK Wichita Mounta 72.71 337 *e*P P **02 57 59.0 +1.4**
comp=E,1.1nm,0.7s
TUL1 Leonard 72.89 340 *e*P P **02 57 58.1 -0.5**
comp=E,2.5nm,0.6s
TOA0 Torodi Ar. Sit 84.25 70 *e*P P **02 59 00.3 -1.4**
TORD Torodi Ar. Bea 84.25 70 P P **02 59 00.6 -1.1**
comp=E,1.4nm,0.8s,baz=244,slow=4.2,SNR=7.5
TAM Tamanrasset 92.86 65 *e*P P **02 59 41.4 -1.5**
comp=E,2.7nm,1.3s
TKM2 Tokmak 2 153.29 61 *e*PKPdf **PKPdf 03 06 20.0 -0.3**
TKM2 *e*PKPbc **PKPbc 03 06 27.4 -0.4**
ZAA0 Zalesovo Array 154.19 32 *e*PKPbc **PKPbc 03 06 28.6 -0.5**
ZALV Zalesovo Beam 154.19 32 PKPbc **PKPbc 03 06 28.9 -0.2**
comp=E,0.4nm,0.3s,baz=318,slow=1.9,SNR=3.7

GUC 16 03:01:09.2±0.5, 33°.81S×71°.96W, h30km±6km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.02**	**72**	*e*P		Pb	03 01 28.2	-0.1
RCDM				*e*S		Sb	03 01 42.5	+1.1
FSR	**Penalolen**	**1.24**	**75**	*e*P		Pb	03 01 33.1	+1.0
FSR				*e*S		Sb	03 01 50.7	+2.8
LACH	**Col Las Americ**	**1.25**	**74**	*e*P		Pb	03 01 32.2	0.0
LACH				*e*S		Sb	03 01 49.6	+1.6
PEL	**Peldehue**	**1.26**	**59**	*e*P		Pb	03 01 32.2	-0.2
PEL				*e*S		Sb	03 01 49.5	+1.2
PEL				AML		AML	03 01 52.4	
	comp=N,6μm,0.4s							
CLCH	**Cerro Calan**	**1.26**	**71**	*e*P		Pb	03 01 32.4	-0.1
CLCH				*e*S		Sb	03 01 49.9	+1.5
CLCH				AML		AML	03 01 56.8	
	comp=N,2μm,0.6s							
SJCH	**San Jose de Ma**	**1.35**	**83**	*e*P		Pb	03 01 33.6	-0.4
SJCH				*e*S		Sb	03 01 52.3	+1.3

IDC ***16*** *03:01:20.7±0.4, 10°.67S×165°.35E, h0km, mb4.8/29, mb1 4.9/29, mb1mx4.8/32, mbtmp4.7/29, ML6.0/1, MS4.5/22, Ms1 4.5/22, ms1mx4.4/30, Error ellipse: s-maj=14.3km s-min=11.8km az=92.0*

MOS ***16*** *03:01:24.4±1.1, 10°.64S×165°.19E, h33km, mb5.1/34, MS4.4/7, Error ellipse: s-maj=9.1km s-min=8.8km az=156.1*

BJI ***16*** *03:01:24.2, 10°.85S×165°.37E, h35km, mB5.2/30, mb4.8/37, Ms5.0/31, Ms7 4.7/31*

ISCJB ***16*** *03:01:25.2±1.2, 10°.72S±0°.03×165°.29E±0°.03, h43km±10km, mb4.9/100, MS4.5/20, Error ellipse: s-maj=5.4km s-min=4.7km az=164.2*

GCMT ***16*** *03:01:29.4±0.1, 10°.67S×165°.14E, h46km±1km, MW5.5/103, Moment Tensor Solution. s92,c149; s103,c194; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 0.09±.03; Mθθ 1.55±.03; Mφφ -1.63±.03; Mrθ -0.74±.03; Mrφ 0.50±.02; Mθφ 0.19±.03; Best double couple: M0 1.82800×10^17 NP1: φs 308.00000°, δ82.00000°, λ22.00000°. NP2: φs 214.00000°, δ68.00000°, λ172.00000°. Principal axes: T 1.9000, Plg21.0000°, Azm173.0000°; N -0.1350, Plg66.0000°, Azm326.0000°; P -1.7570, Plg10.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***16*** *03:01:29.4±0.9, 10°.70S×165°.25E, h68km±8km, mb5.0/60 Error ellipse: s-maj=5.2km s-min=4.1km az=147.0*

ISC 16 03:01:26.9±0.3, 10°.70S±0°.04×165°.34E±0°.04, h43km±2km, h43km: pP-P, n297, σ1§32/326, mb5.0/98, MS4.4/20, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.46**	**283**		LR	LR	03 04 57.6	
	comp=Z,9μm,20.5s,baz=107,slow=40							
HNR	**Honiara**	**5.46**	**283**	*i* P		Pn	03 02 50.5	+4.8
HNR				*i* S		**Sn**	**03 03 50.0**	**+2.8**
DZM	**Mont Dzumac**	**11.36**	**175**	*e*Pn		**Pn**	**03 04 08.6**	**+1.9**
	302nm,0.3s							
DZM				*e*Sn		**Sn**	**03 06 12.0**	**-0.4**
	83nm,0.3s							
DZM				*e*LR		LR	03 06 47.0	
	8μm,25.8s							
DZM	**Mont Dzumac**	**11.36**	**175**	Pn		**Pn**	**03 04 06.9**	**+0.2**
	95nm,0.3s,baz=7.3,slow=3.3,SNR=486							
DZM					LR	LR	03 08 10.0	
	comp=Z,4μm,18.5s,baz=352,slow=36							
DZM	**Mont Dzumac**	**11.36**	**175**	*e*Pn		**Pn**	**03 04 08.4**	**+1.6**
	826nm,0.9s							
DZM				*e*Sn		**Sn**	**03 06 11.0**	**-1.5**
TARA	**Tarawa**	**14.15**	**33**	*e*Pn		**Pn**	**03 04 46.5**	**+1.7**
MSVF	**Nonsavu**	**14.17**	**121**	P		**P**	**03 04 54.3**	**+2.7**
	496nm,0.8s,SNR=11							
MSVF	**Nonsavu**	**14.17**	**121**	*e*P		**P**	**03 04 48.9**	**-2.7**
MSVF	**Nonsavu**	**14.17**	**121**	*e*Pn		**P**	**03 04 48.9**	**-2.7**
KWAJ	**Kwajalein Atol**	**19.50**	**7**	*e*P		**Pn**	**03 05 53.4**	**+1.3**
KWAJ					pmax	pmax		
	comp=Z,373nm,0.8s							
KWAJ	**Kwajalein Atol**	**19.50**	**7**	*e*P		**Pn**	**03 05 53.4**	**+1.3**
	comp=Z,373nm,0.8s							
MANU	**Manus Island**	**19.81**	**294**	P		**Pn**	**03 05 56.5**	**+0.7**
	baz=20,SNR=4.7							
EIDS	**Eidsvold**	**19.89**	**221**	P		**Pn**	**03 05 56.7**	**0.0**
	baz=20,SNR=19							
EIDS				S		**S**	**03 09 35.8**	**-0.6**
	baz=20,SNR=4.7							
EIDS	**Eidsvold**	**19.89**	**221**	*e*P		**P**	**03 05 55.3**	**+0.5**
EIDS				*e*S		**S**	**03 09 33.0**	**-3.4**
CTA	**Charters Tower**	**20.61**	**241**	P		**P**	**03 06 02.8**	**+0.2**
CTA					pmax	pmax		
	comp=Z,43nm,0.9s							
CTA					MLR	MLR		
	comp=Z,1μm,20.1s							
CTA	**Charters Tower**	**20.61**	**241**	P		**P**	**03 06 02.8**	**+0.2**
	comp=Z,43nm,0.9s,baz=74,slow=11,SNR=28							
CTA					LR	LR	03 12 32.7	
	comp=Z,1μm,20.1s,baz=60,slow=33							
CTAO	**Charters Tower**	**20.61**	**241**	*e*P		**P**	**03 06 03.3**	**+0.6**
CTAO					pmax	pmax		
	comp=Z,183nm,1.1s							
CTAO	**Charters Tower**	**20.61**	**241**	*e*P		**P**	**03 06 03.3**	**+0.6**
	comp=Z,183nm,1.1s							
LHI	**Lord Howe Isla**	**21.52**	**195**	P		**P**	**03 06 13.4**	**+1.1**
	baz=22,SNR=7.7							
COEN	**Coen**	**21.89**	**259**	P		**P**	**03 06 16.2**	**-0.2**
	baz=22,SNR=18							
COEN	**Coen**	**21.89**	**259**	*e*P		**P**	**03 06 16.4**	**0.0**
RMQ	**Roma**	**22.18**	**223**	P		**P**	**03 06 20.3**	**+0.9**
	baz=22,SNR=25							
AFI	**Afiamalu**	**22.58**	**100**	*e*P		**P**	**03 06 24.8**	**+0.9**
AFI					pmax	pmax		
	comp=Z,92nm,0.8s							
AFI	**Afiamalu**	**22.58**	**100**	*e*P		**P**	**03 06 24.8**	**+0.9**
	comp=Z,92nm,0.8s							
ARMA	**Armidale**	**23.40**	**211**	P		**P**	**03 06 32.8**	**+0.6**
	baz=23,SNR=9.5							
ARMA				S		Sn	03 11 06.2	+2.3
	baz=23,SNR=4.0							
ARMA	**Armidale**	**23.40**	**211**	*e*P		**P**	**03 06 32.9**	**+0.8**
	comp=Z,62nm,0.8s							
RAO	**Raoul Island**	**24.20**	**142**	LR		LR	03 14 13.9	
	comp=Z,858nm,20.7s,baz=222,slow=32							
QLP	**Quilpie**	**25.42**	**229**	P		**P**	**03 06 51.2**	**+0.6**
	baz=25,SNR=40							
OUZ	**Omahuta**	**25.55**	**164**	*e*P		**P**	**03 06 54.7**	**+3.1**
	comp=Z,98nm,1.8s							
JAY	**Jayapura**	**25.76**	**287**	P		**P**	**03 06 53.0**	**-0.9**
JAY					pmax	pmax		
	comp=Z,42nm,0.8s							
JAY					MLR	MLR		
	comp=Z,1μm,21.9s							
JAY	**Jayapura**	**25.76**	**287**	P		**P**	**03 06 53.4**	**-0.5**
	comp=Z,86nm,1.5s,comp=Z,3μm							
JAY	**Jayapura**	**25.76**	**287**	P		**P**	**03 06 53.0**	**-0.9**
	comp=Z,42nm,0.8s,baz=146,slow=5.6,SNR=8.9							
JAY					LR	LR	03 16 18.6	
	comp=Z,1μm,21.9s,baz=116,slow=35							
MGCD	**Mangrove Creek**	**25.95**	**208**	S		**S**	**03 11 29.1**	**+6.3**
	baz=26,SNR=6.4							
GENI	**Genyem**	**26.24**	**286**	P		**P**	**03 06 59.2**	**+1.0**
	comp=Z,115nm,1.4s							
QIS	**Mount Isa**	**26.61**	**245**	P		**P**	**03 07 02.4**	**+0.9**
	baz=26,SNR=4.2							
CMSA	**Cobar Meteorol**	**27.58**	**218**	P		**P**	**03 07 10.1**	**+0.1**
	baz=28,SNR=22							
SMPI	**Sarmi**	**27.82**	**286**	P		**P**	**03 07 11.4**	**-0.9**
	comp=Z,180nm,1.3s,comp=Z,16μm							
CNB	**Canberra Magne**	**28.50**	**208**	P		**P**	**03 07 18.9**	**+0.7**
	baz=28,SNR=6.3							
H11S2	**WAKE ISLAND Hy**	**29.03**	**3**	T		T	03 37 42.7	
	baz=183,slow=76,SNR=116							
H11S3	**WAKE ISLAND Hy**	**29.04**	**3**	T		T	03 37 53.7	
	baz=183,slow=76,SNR=817							
H11S1	**WAKE ISLAND Hy**	**29.05**	**3**	T		T	03 37 54.8	
	baz=183,slow=76,SNR=753							
URZ	**Urewera**	**29.41**	**161**	P		**P**	**03 07 26.1**	**-0.1**
	comp=Z,31nm,0.7s,baz=16,slow=3.5,SNR=12							
URZ					LR	LR	03 18 06.8	
	comp=Z,2μm,19.8s,baz=341,slow=34							
URZ	**Urewera**	**29.41**	**161**	*e*P		**P**	**03 07 26.4**	**+0.3**
	comp=Z,323nm,1.9s							
MILA	**Mila**	**30.03**	**206**	P		**P**	**03 07 32.7**	**+0.9**
	baz=30,SNR=21							
BKZ	**Black Stump Fm**	**30.05**	**163**	*e*P		**P**	**03 07 32.9**	**+0.9**
	comp=Z,849nm,2.5s							
H11N1	**WAKE ISLAND Hy**	**30.26**	**3**	T		T	03 39 30.2	
	baz=182,slow=76,SNR=978							
H11N3	**WAKE ISLAND Hy**	**30.26**	**3**	T		T	03 39 04.2	
	baz=182,slow=76,SNR=156							
H11N2	**WAKE ISLAND Hy**	**30.27**	**3**	T		T	03 39 16.6	
	baz=182,slow=76,SNR=775							
STKA	**Stephens Creek**	**30.42**	**223**	P		**P**	**03 07 35.7**	**+0.4**
STKA					pmax	pmax		
	comp=Z,13nm,0.7s							
STKA					MLR	MLR		
	comp=Z,2μm,21.7s							
STKA	**Stephens Creek**	**30.42**	**223**	P		**P**	**03 07 35.7**	**+0.4**
	comp=Z,13nm,0.7s,baz=43,slow=9.2,SNR=29							
STKA					LR	LR	03 18 21.9	
	comp=Z,2μm,21.7s,baz=43,slow=34							
STKA	**Stephens Creek**	**30.42**	**223**	P		**P**	**03 07 35.7**	**+0.4**
	baz=30,SNR=9.6							
WRAB	**Tennant Creek**	**31.22**	**249**	P		**P**	**03 07 41.0**	**-1.5**
	comp=Z,102nm,1.1s,SNR=10							
WRAB	**Tennant Creek**	**31.22**	**249**	*e*P		**P**	**03 07 40.4**	**-2.1**
WRAB					pmax	pmax		
	comp=Z,34nm,1.3s							
WRAB	**Tennant Creek**	**31.22**	**249**	*e*P		**P**	**03 07 40.9**	**-1.6**
	comp=Z,13nm,0.7s							
WB2	**Warramunga Arr**	**31.22**	**249**	*e*P		**P**	**03 07 40.4**	**-2.1**
WRA	**Warramunga Arr**	**31.23**	**249**	P		**P**	**03 07 41.3**	**-1.3**
WRA					pmax	pmax		
	comp=Z,9.0nm,0.7s							
WRA					MLR	MLR		
	comp=Z,2μm,18.1s							
WRA	**Warramunga Arr**	**31.23**	**249**	P		**P**	**03 07 41.2**	**-1.3**
	comp=Z,9.3nm,0.7s,baz=82,slow=9.2,SNR=37							
WRA					LR	LR	03 20 30.3	
	comp=Z,2μm,18.1s,baz=85,slow=37							
BFZ	**Birch Farm**	**31.39**	**164**	*e*P		**P**	**03 07 43.5**	**-0.1**
TOO	**Toolangi**	**32.17**	**210**	P		**P**	**03 07 51.3**	**+0.7**
	baz=32,SNR=14							
KDU	**Kakadu**	**32.23**	**263**	P		**P**	**03 07 49.0**	**-2.4**
	baz=32,SNR=4.5							
RKPI	**Ransiki, Papua**	**32.27**	**284**	P		**P**	**03 07 51.8**	**+0.1**
	comp=Z,80nm,0.9s,comp=Z,7μm							
AS31	**Alice Springs**	**32.59**	**243**	*e*P		**P**	**03 07 52.1**	**-2.5**
ASAR	**Alice Springs**	**32.59**	**243**	P		**P**	**03 07 52.6**	**-2.0**
ASAR					pmax	pmax		
	comp=Z,9.0nm,0.8s							
ASAR					MLR	MLR		
	comp=Z,977nm,19.6s							
ASAR	**Alice Springs**	**32.59**	**243**	P		**P**	**03 07 52.6**	**-2.0**
	comp=Z,9.1nm,0.8s,baz=73,slow=9.6,SNR=75							
ASAR					LR	LR	03 19 58.4	
	comp=Z,977nm,19.6s,baz=64,slow=34							
RPZ	**Rata Peaks**	**33.27**	**172**	P		**P**	**03 07 59.8**	**-0.4**
	comp=Z,18nm,0.6s,baz=28,slow=7.8,SNR=4.5							
RPZ					LR	LR	03 19 59.6	
	comp=Z,1μm,20.9s,baz=354,slow=34							
RPZ	**Rata Peaks**	**33.27**	**172**	*e*P		**P**	**03 07 59.1**	**-1.1**
FAKI	**Fak Fak**	**33.72**	**281**	*e*P		**P**	**03 08 04.0**	**-0.4**
BBOO	**Buckleboo**	**34.78**	**226**	P		**P**	**03 08 13.3**	**0.0**
	baz=35,SNR=29							
BBOO	**Buckleboo**	**34.78**	**226**	*e*P		**P**	**03 08 12.4**	**-1.0**
MOO	**Moorlands**	**35.38**	**203**	P		**P**	**03 08 19.4**	**+0.9**
	baz=35,SNR=4.1							
KNRA	**Kununurra**	**35.92**	**258**	P		**P**	**03 08 22.3**	**-1.1**
	baz=36,SNR=3.9							
WRKA	**Warakurna**	**37.88**	**243**	P		**P**	**03 08 38.8**	**-1.3**
	baz=38,SNR=4.1							
LBMI	**Labuha**	**38.90**	**282**	P		**P**	**03 08 48.5**	**-0.2**
	comp=Z,109nm,1.1s,comp=Z,3μm							
FITZ	**Fitzroy Crossi**	**39.09**	**254**	*e*P		**P**	**03 08 48.8**	**-1.4**
	comp=Z,18nm,0.7s							
FORT	**Forrest**	**39.92**	**234**	*e*P		**P**	**03 08 55.9**	**-1.1**
	comp=Z,233nm,1.3s							
SOEI	**Soe**	**40.41**	**267**	*e*P		**P**	**03 09 00.6**	**-0.7**
	comp=Z,28nm,1.1s							
BATI	**Baumata**	**40.96**	**267**	P		**P**	**03 09 04.6**	**-1.3**
	comp=Z,20nm,0.5s,baz=241,slow=1.9,SNR=5.1							
PAE	**Paea**	**44.17**	**104**	*e*P		**P**	**03 09 31.3**	**-0.5**
	comp=Z,4.0nm,0.9s							
PPT	**Papeete**	**44.17**	**104**	P		**P**	**03 09 32.4**	**+0.5**
	comp=Z,16nm,0.6s,baz=171,slow=13,SNR=5.0							
PPT					LR	LR	03 24 01.2	
	comp=Z,786nm,18.7s,baz=266,slow=31							
PPT2	**Papeete2**	**44.17**	**104**	*e*P		**P**	**03 09 31.7**	**-0.2**
	comp=Z,13nm,0.8s							
PPT2					*e*S	**S**	**03 16 03.4**	**+1.0**
	comp=Z,370nm,28.2s							
PPT2					*e*LQ	LQ	03 20 04.3	
	comp=Z,1μm,31.0s							
PPT2					*e*LR	LR	03 21 55.1	
	comp=Z,2μm,25.5s							
WSI	**Waingapu**	**44.31**	**267**	S		**S**	**03 16 07.0**	**+2.5**
	baz=44,SNR=3.8							
TIAR	**Tiarei**	**44.39**	**104**	*e*P		**P**	**03 09 33.3**	**-0.3**
	comp=Z,7.3nm,0.9s							
TVO	**Taravao**	**44.49**	**104**	*e*P		**P**	**03 09 34.2**	**-0.2**
	comp=Z,12nm,0.8s							
TBI	**Tubuai**	**44.83**	**112**	*e*S		**S**	**03 16 12.0**	**+0.2**
	comp=Z,342nm,30.7s							
TBI					*e*LQ	LQ	03 20 21.2	
	comp=Z,5μm,31.2s							
TBI					*e*LR	LR	03 22 13.1	
	comp=Z,1μm,25.8s							
KAPI	**Kappang**	**45.47**	**273**	*e*P		**P**	**03 09 41.8**	**-0.5**
	comp=Z,9.1nm,0.8s							
MEH	**Mehetia**	**45.62**	**105**	*e*P		**P**	**03 09 43.2**	**-0.2**
	comp=Z,7.4nm,0.8s							
PMOR	**Pomariorio Ree**	**45.73**	**101**	*e*P		**P**	**03 09 44.0**	**-0.3**
	comp=Z,31nm,0.8s							
MEEK	**Meekatharra**	**46.74**	**243**	P		**P**	**03 09 51.5**	**-0.6**
	baz=46,SNR=21							
BLDU	**Ballidu**	**49.20**	**239**	P		**P**	**03 10 11.9**	**+0.9**
	baz=49,SNR=5.1							
NWAO	**Narrogin (SRO)**	**49.33**	**236**	P		**P**	**03 10 12.5**	**+0.5**
NWAO					pmax	pmax		
	comp=Z,12nm,0.9s							
NWAO	**Narrogin (SRO)**	**49.33**	**236**	P		**P**	**03 10 12.5**	**+0.5**
	comp=Z,12nm,0.9s,baz=59,slow=9.4,SNR=6.2							
MORW	**Morawa**	**49.44**	**241**	P		**P**	**03 10 13.2**	**+0.2**
	baz=49,SNR=3.9							
KKM	**Kota Kinabalu**	**51.66**	**287**	*e*P		**P**	**03 10 29.4**	**-0.5**
	comp=Z,49nm,1.0s							
MJAR	**Matsushiro Arr**	**53.48**	**333**	P		**P**	**03 10 42.6**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=166,slow=8.9,SNR=6.9							
MJAR					LR	LR	03 29 21.9	
	comp=Z,217nm,21.4s,baz=120,slow=32							
MAJO	**Matsushiro**	**53.48**	**333**	*e*P		**P**	**03 10 40.8**	**-2.1**
MAJO					pmax	pmax		
	comp=Z,9.0nm,0.6s							
MAJO	**Matsushiro**	**53.48**	**333**	*e*P		**P**	**03 10 40.8**	**-2.1**
	comp=Z,8.8nm,0.6s							
MAT	**Matsushiro**	**53.48**	**333**	P		**P**	**03 10 43.0**	**+0.1**
MAT				*e*S		**S**	**03 18 08.2**	**-4.5**
JNU	**Nakatsue**	**54.56**	**324**	P		**P**	**03 10 51.4**	**+0.5**
	comp=Z,19nm,0.9s,baz=112,slow=6.8,SNR=6.1							
JNU					LR	LR	03 29 56.9	
	comp=Z,335nm,21.3s,slow=32							
JNU	**Nakatsue**	**54.56**	**324**	*e*P		**P**	**03 10 51.0**	**0.0**
	comp=Z,15nm,1.1s							
YHNB	**Yeheng**	**55.45**	**310**	*e*P		**P**	**03 10 57.5**	**-0.1**
	comp=Z,58nm,1.2s							
LEM	**Lembang**	**57.11**	**269**	P		**P**	**03 11 10.5**	**+0.8**
LEM					pmax	pmax		
	comp=Z,16nm,0.6s							
LEM	**Lembang**	**57.11**	**269**	P		**P**	**03 11 10.5**	**+0.8**
	comp=Z,16nm,0.6s,baz=119,slow=6.0,SNR=3.8							
RKT	**Rikitea**	**58.09**	**111**	*e*LQ		LQ	03 25 53.7	
RKT				*e*LR		LR	03 28 18.6	
	comp=Z,2μm,33.0s							
	comp=Z,893nm,27.0s							
ASAJ	**Asahikawa**	**58.33**	**341**	P		**P**	**03 11 18.2**	**+0.7**
	comp=Z,11nm,0.9s,baz=203,slow=11,SNR=4.4							
ASAJ					LR	LR	03 32 27.0	
	comp=Z,490nm,21.5s,baz=184,slow=32							
ASAJ	**Asahikawa**	**58.33**	**341**	*e*P		**P**	**03 11 17.6**	**+0.1**
	comp=Z,15nm,1.2s							
KSRS	**Korea Array**	**59.36**	**326**	P		**P**	**03 11 25.4**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=133,slow=7.1,SNR=1.9							
KSRS					LR	LR	03 35 40.8	
	comp=Z,130nm,19.9s,baz=122,slow=35							
KSAR	**Wonju Array Be**	**59.38**	**326**	P		**P**	**03 11 25.5**	**+0.6**
KSAR	**Wonju Array Be**	**59.38**	**326**	P		**P**	**03 11 25.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**60.83**	**342**	*e*P		**P**	**03 11 36.0**	**+1.4**
YSS				*e*			03 11 53.0	
NJ2	**Nanjing**	**61.49**	**316**	*e*P		**P**	**03 11 38.5**	**-0.9**
NJ2				S		**S**	**03 19 59.0**	**+1.0**
NJ2				PMZ				
	comp=Z,50nm,1.0s							
NJ2				LN				
	comp=Z,660nm,23.0s							
NJ2				LE				
	comp=Z,680nm,21.2s							
QIZ	**Qiongzhong**	**62.16**	**298**	P		**P**	**03 11 43.9**	**-0.3**
QIZ				S		**S**	**03 20 07.6**	**+0.7**
QIZ				LE				
	comp=Z,220nm,19.4s							
QIZ				LZ				
	comp=Z,450nm,23.5s							
USRK	**Ussuriysk Ar.**	**62.46**	**334**	P		**P**	**03 11 46.6**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=168,slow=7.4,SNR=5.6							
USRK					LR	LR	03 35 47.4	
	comp=Z,178nm,21.4s,baz=137,slow=33							
MDJ	**Mudanjiang**	**63.85**	**332**	P		**P**	**03 11 56.6**	**+1.7**
MDJ				pP		**pP**	**03 12 06.0**	**-1.5**
MDJ				sP		**sP**	**03 12 09.8**	**-2.7**
MDJ				S		S	03 20 33.5	+6.3
MDJ				sS		**sS**	**03 20 46.9**	**-1.3**
MDJ				PMZ				
	comp=Z,7.0nm,1.1s							
MDJ				PMZ				
	comp=Z,37nm,3.2s							
MDJ				LN				
	comp=Z,300nm,26.4s							
MDJ				LE				
	comp=Z,180nm,21.0s							
MDJ				LZ				
	comp=Z,300nm,27.6s							
WHN	**Wuhan**	**63.86**	**312**	P		**P**	**03 11 54.3**	**-1.0**
WHN				LZ				
	comp=Z,1μm,27.2s							
PETK	**Petropavlovsk-**	**63.88**	**355**	P		P	03 11 59.2	+4.3
	comp=Z,3.4nm,0.8s,baz=186,slow=12,SNR=2.5							
PETK					LR	LR	03 34 32.2	
	comp=Z,250nm,21.7s,baz=177,slow=31							
IPM	**Ipoh**	**65.77**	**280**	*e*P		**P**	**03 12 07.9**	**-0.1**
	comp=Z,63nm,1.3s							
KULM	**Kulim**	**66.32**	**281**	*e*P		**P**	**03 12 10.3**	**-1.3**
	comp=Z,21nm,1.3s							
MNSI	**Mandailing Nat**	**66.36**	**276**	P		P	03 12 17.4	+5.5
	comp=Z,30nm,0.7s,comp=Z,11μm							
CASY	**Casey**	**66.56**	**201**	*e*P		**P**	**03 12 11.5**	**-0.7**
	comp=Z,22nm,0.9s							
KLR	**Kul'dur**	**66.58**	**337**	*e*P		**P**	**03 12 09.8**	**-2.7**
VNDA	**Vanda**	**66.83**	**181**	*e*P		**P**	**03 12 14.5**	**+0.7**
VNDA					pmax	pmax		
	comp=Z,82nm,1.8s							
VNDA	**Vanda**	**66.83**	**181**	P		**P**	**03 12 15.0**	**+1.3**
	comp=Z,7.1nm,0.9s,baz=356,slow=8.5,SNR=23							
VNDA	**Vanda**	**66.83**	**181**	*e*P		**P**	**03 12 14.5**	**+0.7**
	comp=Z,82nm,1.8s							
SBA	**Scott Base**	**67.15**	**180**	*e*P		**P**	**03 12 17.0**	**+1.3**
SBA					pmax	pmax		
	comp=Z,98nm,1.5s							
SBA	**Scott Base**	**67.15**	**180**	*e*P		**P**	**03 12 17.0**	**+1.3**
	comp=Z,98nm,1.5s							
GYA	**Guiyang**	**67.89**	**304**	P		**P**	**03 12 22.8**	**+1.3**
GYA				pP		**pP**	**03 12 33.6**	**-0.5**
GYA				PP		**PP**	**03 14 55.0**	**+3.2**
GYA				S		**S**	**03 21 17.4**	**+0.1**
GYA				sS		**sS**	**03 21 35.5**	**-3.0**
GYA				SKS		**SKiKP**	**03 22 15.3**	**+0.6**
GYA				SS		**SS**	**03 25 41.8**	**+1.8**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,8.2s							
GYA				LN				
	comp=Z,590nm,20.0s							
GYA				LE				
	comp=Z,480nm,19.4s							
GYA				LZ				
	comp=Z,520nm,22.0s							
BJI	**Beijing**	**67.96**	**321**	P		**P**	**03 12 22.8**	**+1.4**
BJI				S		**S**	**03 21 18.6**	**+1.3**
BJI				SS		**SS**	**03 25 41.3**	**+1.0**
BJI				PMZ				
	comp=Z,10.0nm,0.6s							
BJI				LN				
	comp=Z,320nm,25.8s							
BJI				LE				
	comp=Z,320nm,22.4s							
BJI				LZ				
	comp=Z,440nm,24.7s							
KCSI	**Kotacane, Aceh**	**68.71**	**278**	P		**P**	**03 12 25.3**	**-1.4**
PBKT	**Sadao Pong**	**69.18**	**292**	P		P	03 12 37.2	+7.7
	comp=Z,19nm,0.8s							
XAN	**Xi'an**	**69.59**	**312**	P		**P**	**03 12 32.3**	**+0.5**
XAN				PMZ				
	comp=Z,1.0nm,0.5s							
UTTA	**Uttaradit**	**69.93**	**293**	P		pP	03 12 48.6	+1.8
	comp=Z,3.6nm,1.1s							
NANT	**

ULN pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 77.78 324 *e*P **P** **03 13 20.1 +0.4**
comp=Z,15nm,0.8s
SONM Songino Array 78.15 324 P **P** **03 13 22.3 +0.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,127nm,19.5s
SONM Songino Array 78.15 324 P **P** **03 13 22.3 +0.6**
comp=Z,2.4nm,0.8s,baz=135,slow=6.3,SNR=12
SONM LR LR 03 47 51.9
comp=Z,127nm,19.5s,baz=132,slow=36
RSO Redoubt South 78.33 20 *e*P **P** **03 13 22.3 -0.2**
comp=Z,35nm,0.8s
GTA Gaotai 78.53 314 *e*P **P** **03 13 25.0 +1.0**
GTA pP **pP** **03 13 36.0 -0.9**
GTA sP **sP** **03 13 39.9 -1.9**
GTA S **S** **03 23 19.3 +1.8**
GTA SKS **SKSac** **03 23 32.8 -3.0**
GTA SS **SS** **03 28 25.3 +3.3**
GTA PMZ
comp=Z,5.0nm,1.1s
GTA PMZ
comp=Z,89nm,5.3s
GTA LN
comp=Z,280nm,18.8s
GTA LE
comp=Z,320nm,20.4s
GTA LZ
comp=Z,460nm,20.0s
BILL Bilibino 78.53 0 *e*P **P** **03 13 22.3 -0.9**
BILL *i* 03 13 29.3
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 78.53 0 *e*P **P** **03 13 23.1 -0.2**
comp=Z,71nm,1.5s
TNA Tin City 78.61 11 *e*P **P** **03 13 23.9 +0.3**
comp=Z,40nm,1.6s
QSPA South Pole Qui 79.31 180 P **P** **03 13 28.1 +0.3**
comp=Z,52nm,1.0s,baz=11,slow=1.7,SNR=60
QSPA South Pole Qui 79.31 180 *e*P **P** **03 13 27.9 +0.1**
comp=Z,90nm,1.2s
RC01 Rabbit Creek A 79.81 20 *e*P **P** **03 13 31.4 +1.1**
comp=Z,18nm,1.3s
BOD Bodaibo 80.05 335 *e*P **P** **03 13 30.5 -1.2**
ZAK Zakamensk 81.19 325 *e*P **P** **03 13 37.5 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
KTH Kantishna Hill 81.19 18 *e*P **P** **03 13 38.2 +0.4**
comp=Z,16nm,1.2s
DIV Divide 81.23 22 *e*P **P** **03 13 37.3 -0.8**
comp=Z,14nm,0.9s
BMRM Bremner River 81.56 22 *e*P **P** **03 13 39.6 -0.1**
comp=Z,53nm,1.5s
TLY Talaya 81.61 326 *e*P **P** **03 13 40.9 +0.7**
TLY pmax pmax
comp=Z,13nm,0.9s
TLY Talaya 81.61 326 *e*P **P** **03 13 40.3 0.0**
comp=Z,12nm,0.9s
MCK McKinley 81.94 19 *e*P **P** **03 13 43.1 +1.4**
MCK pmax pmax
comp=Z,54nm,1.6s
MCK McKinley 81.94 19 *e*P **P** **03 13 43.1 +1.4**
comp=Z,54nm,1.6s
PAX Paxson 82.56 20 *e*P **P** **03 13 45.2 +0.1**
PAX *e**PP **pP** **03 14 00.7 +2.7**
PAX pmax pmax
comp=Z,11nm,1.3s
PAX Paxson 82.56 20 *e*P **P** **03 13 45.2 +0.1**
comp=Z,11nm,1.3s
PAX *e*pP **pP** **03 14 00.7 +2.7**
COLA College 83.08 18 *e*P **P** **03 13 46.9 -0.6**
COLA pmax pmax
comp=Z,18nm,0.9s
COLA College 83.08 18 *e*P **P** **03 13 46.9 -0.6**
comp=Z,18nm,0.9s
ILAR Eielson Array 83.31 19 P **P** **03 13 48.3 -0.5**
comp=Z,3.2nm,0.8s,baz=230,slow=5.3,SNR=42
ILAR LR LR 03 45 07.3
comp=Z,394nm,22.0s,baz=253,slow=32
L02D Cave Junction, 83.46 45 P **P** **03 13 50.7 +0.6**
baz=84
DOT Dot Lake 83.49 20 *e*P **P** **03 13 50.3 +0.6**
comp=Z,23nm,1.1s
N02D Trinity Center 83.68 46 P **P** **03 13 51.4 +0.1**
baz=84
M02C Callahan 83.72 46 P **P** **03 13 52.1 +0.6**
baz=84
YBH Yreka Blue Hor 83.94 46 *e*P **P** **03 13 52.6 0.0**
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 83.94 46 *e*P **P** **03 13 52.6 0.0**
comp=Z,7.4nm,1.0s
HUMO Hull Mountain 84.06 45 *e*P **P** **03 13 53.4 +0.2**
comp=Z,8.3nm,1.0s
COLD Coldfoot 84.07 16 *e*P **P** **03 13 52.3 -0.4**
comp=Z,3.1nm,0.8s
WRAK Wrangell Islan 84.23 30 *e*P **P** **03 13 53.2 -0.5**
comp=Z,80nm,1.8s
HYT Haines Junctio 84.24 24 *e*P **P** **03 13 53.9 +0.1**
CMB Columbia Colle 84.42 50 *e*P **P** **03 13 54.4 -0.7**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 84.42 50 *e*P **P** **03 13 54.4 -0.7**
comp=Z,4.1nm,0.8s
M04C Macdoel 84.57 46 P **P** **03 13 56.1 +0.2**
baz=85
G03D McMinnville, O 84.77 42 P **P** **03 13 56.9 +0.3**
baz=85
I04A Tendick Farm, 84.85 44 P **P** **03 13 57.1 0.0**
baz=85
J04D Umpqua Nationa 84.87 44 P **P** **03 13 57.2 -0.3**
baz=85
MAW Mawson 84.89 202 P **P** **03 13 57.4 +0.6**
MAW pmax pmax
comp=Z,28nm,0.9s
MAW Mawson 84.89 202 P **P** **03 13 57.4 +0.6**
comp=Z,28nm,0.9s,baz=107,slow=6.2,SNR=28
MAW Mawson 84.89 202 P **P** **03 13 57.5 +0.7**
baz=85,SNR=18
ISA Isabella, Lake 85.18 53 P **P** **03 13 59.0 0.0**
baz=85
WAKR Walker 85.28 50 *e*P **P** **03 13 59.6 0.0**
comp=Z,13nm,1.2s
EDW2 Edwards Air Fo 85.34 53 P **P** **03 13 59.5 -0.3**
baz=86
DAWY Dawson 85.38 21 *e*P **P** **03 14 00.2 +0.9**
DAWY *e*pP **pP** **03 14 15.4 +3.0**
BFSC Mount Baldy Ra 85.42 54 P **P** **03 13 59.7 -0.6**
baz=86
J05D Fort Rock, OR 85.48 45 P **P** **03 14 00.4 0.0**
baz=86
TIXI Tiksi 85.67 349 *e*P **P** **03 13 59.6 -0.9**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 85.67 349 *e*P **P** **03 14 00.1 -0.4**
comp=Z,22nm,1.4s
MOD Modoc Plateau 85.69 46 *e*P **P** **03 14 00.8 -0.7**
comp=Z,17nm,1.4s
LRMC Laurel Mtn Rad 85.74 53 P **P** **03 14 01.8 -0.1**
baz=86
I05D Terrebonne, OR 85.76 44 P **P** **03 14 01.8 +0.1**
baz=86
MONP Monument Peak, 86.05 56 P **P** **03 14 03.3 -0.3**
baz=86
MPMC Manual Prospec 86.06 52 P **P** **03 14 03.1 -0.5**
baz=86
PALK Pallekele 86.10 278 *e*P **P** **03 14 02.7 -1.3**
PALK Pallekele 86.10 278 *e*P **P** **03 14 02.7 -1.3**
NVAR Mina Array Bea 86.11 50 P **P** **03 14 03.6 -0.1**
comp=Z,3.8nm,0.9s,baz=232,slow=7.7,SNR=25
PFO Pinyon Flats O 86.21 55 P **P** **03 14 03.5 -0.8**
baz=86
HEC Hector,Ludlow 86.64 54 P **P** **03 14 05.6 -0.6**
baz=87
FURC Furnace Creek, 86.66 52 P **P** **03 14 06.2 0.0**
baz=87
BELC Belle Mtn. Jos 86.68 55 P **P** **03 14 06.7 +0.1**
baz=87
BC3 Big Chuckawall 87.03 55 P **P** **03 14 08.5 +0.3**
baz=87
WVOR Wild Horse Val 87.03 46 *e*P **P** **03 14 07.3 -0.8**
WVOR pmax pmax
comp=Z,12nm,1.3s
WVOR Wild Horse Val 87.03 46 *e*P **P** **03 14 07.3 -0.8**
comp=Z,12nm,1.3s
TUQ Turquoise Moun 87.12 53 P **P** **03 14 08.3 -0.3**
baz=87
GMRC Granite Mounta 87.16 54 P **P** **03 14 08.3 -0.6**
baz=87
TPNV Topopah Spring 87.26 52 P **P** **03 14 08.7 -0.7**
baz=87
GLA Glamis 87.39 56 *e*P **P** **03 14 10.0 +0.1**
GLA pmax pmax
comp=Z,11nm,0.8s
GLA Glamis 87.39 56 *e*P **P** **03 14 10.0 +0.1**
comp=Z,11nm,0.8s
IRM Iron Mountain 87.40 55 P **P** **03 14 09.6 -0.4**
baz=88
Y12C Blythe 87.81 55 P **P** **03 14 11.9 +0.1**
baz=88
SHPR Sheep Range 87.99 52 *e*P **P** **03 14 12.3 -0.6**
comp=Z,14nm,1.5s
R11A Troy Canyon, C 88.14 51 P **P** **03 14 12.9 -0.7**
baz=88
PDMCI Parker Dam,Lak 88.25 55 P **P** **03 14 13.8 -0.1**
baz=88
WMQ Urumqi 88.57 315 *e*P **P** **03 14 17.5 +2.2**
WMQ pP **pP** **03 14 31.0 +2.6**
WMQ sP **sP** **03 14 36.0 +2.7**
WMQ PP PP 03 17 50.0 +5.8
WMQ SKS **SKSac** **03 24 40.0 -1.1**
WMQ *e*S **S** **03 24 58.0 -0.5**
WMQ PMZ
comp=Z,20nm,1.3s
WMQ PMZ
comp=Z,110nm,5.6s
WMQ LN
comp=Z,380nm,32.8s
WMQ LE
comp=Z,450nm,23.2s
WMQ LZ
comp=Z,370nm,27.6s
W13A Hualapai Mount 88.65 54 P **P** **03 14 15.8 -0.3**
baz=89
214A Organ Pipe Nat 88.78 57 P **P** **03 14 16.5 0.0**
baz=89
Z14A Wintersburg 88.99 56 P **P** **03 14 18.1 +0.7**
baz=89
CCUT Cedar City 89.64 52 *e*P **P** **03 14 20.8 +0.1**
comp=Z,17nm,1.3s
NEW Newport 89.74 41 P **P** **03 14 19.5 -1.1**
baz=90
U15A North Rim 90.22 53 P **P** **03 14 23.7 +0.2**
baz=90
HLID Hailey 90.32 46 P **P** **03 14 23.8 +0.2**
baz=90
TUC Tucson 90.53 57 *e*P **P** **03 14 24.4 -0.4**
TUC pmax pmax
comp=Z,6.0nm,1.4s
TUC Tucson 90.53 57 *e*P **P** **03 14 24.4 -0.4**
comp=Z,5.7nm,1.4s
DUG Dugway, Tooele 90.68 49 P **P** **03 14 24.8 -0.5**
baz=91
BGU Big Grassy Mou 90.68 49 *e*P **P** **03 14 25.2 -0.2**
comp=Z,26nm,1.8s
WUAZ Wupatki 90.74 54 *e*P **P** **03 14 25.8 0.0**
comp=Z,4.2nm,0.8s
HVU Hansel Valley 91.07 48 *e*P **P** **03 14 27.2 0.0**
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU Hansel Valley 91.07 48 *e*P **P** **03 14 27.2 0.0**
comp=Z,7.0nm,0.8s
BSMT Basoo Peak 91.14 42 *e*P **P** **03 14 26.8 -0.6**
comp=Z,2.7nm,0.8s
MCMT McKenzie Canyo 91.72 45 *e*P **P** **03 14 30.1 -0.1**
comp=Z,1.8nm,0.9s
JLU Jordanelle 91.78 49 *e*P **P** **03 14 30.6 0.0**
comp=Z,3.5nm,0.7s
SLMT Seeley Lake 91.84 42 *e*P **P** **03 14 30.0 -0.6**
CHMT Chamberlain Mo 91.93 43 *e*P **P** **03 14 29.9 -1.2**
comp=Z,4.1nm,1.3s
LRM Limekiln Ridge 92.22 44 *e*P **P** **03 14 32.0 -0.5**
HRY Holter Researc 92.83 43 *e*P **P** **03 14 34.9 -0.3**
comp=Z,3.7nm,0.6s
YMR Madison River 92.99 45 *e*P **P** **03 14 36.5 +0.4**
comp=Z,3.9nm,0.8s
MKAR Makanchi Array 92.99 317 P **P** **03 14 35.3 -0.5**
comp=Z,1.5nm,0.8s,baz=105,slow=5.4,SNR=18
MKAR PKKP **PKKPdf** **03 31 43.6 -2.0**
comp=Z,0.4nm,0.7s,baz=299,slow=2.5,SNR=4.5
ZALV Zalesovo Beam 93.04 324 P **P** **03 14 34.9 -0.8**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,124nm,20.3s
ZALV Zalesovo Beam 93.04 324 P **P** **03 14 34.9 -0.8**
comp=Z,1.1nm,0.6s,baz=111,slow=3.3,SNR=6.3
ZALV LR LR 03 55 20.3
comp=Z,124nm,20.2s,baz=78,slow=35
I17A Pilgrim Ck. 93.11 46 P **P** **03 14 37.0 +0.4**
baz=93
H17A Grant Village 93.21 46 P **P** **03 14 38.2 +1.1**
baz=93
H17A Grant Village 93.21 46 *e*P **P** **03 14 37.9 +0.8**
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 93.61 47 P **P** **03 14 38.5 -0.4**
comp=Z,2.0nm,0.8s,baz=268,slow=2.2,SNR=15
PDAR LR LR 03 50 12.5
comp=Z,159nm,21.9s,baz=296,slow=31
NVS Novosibirsk 94.15 325 *e*P **P** **03 14 42.6 +1.8**
EGMT Eagleton 94.48 42 P **P** **03 14 42.0 -0.6**
baz=95
EGMT Eagleton 94.48 42 *e*P **P** **03 14 42.1 -0.6**
comp=Z,4.9nm,0.8s
ANMO Albuquerque 94.58 55 *e*P **P** **03 14 42.9 -0.7**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
F19A Roth Farm, Mol 94.62 44 P **P** **03 14 42.9 -0.5**
baz=95
E19A Rath Farm, Rou 94.84 44 P **P** **03 14 44.9 +0.5**
baz=95
YKA Yellowknife Ar 94.85 27 P **P** **03 14 42.1 -1.8**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 94.85 27 P **P** **03 14 42.1 -1.8**
comp=Z,2.0nm,0.8s,baz=255,slow=4.6,SNR=38
D19A Cripps Ranch, 94.90 43 P **P** **03 14 44.7 +0.1**
baz=95
MNTX Cornudas Mount 94.93 59 *e*P **P** **03 14 44.1 -0.9**
comp=Z,1.6nm,0.9s
F20A Billings 95.16 45 P **P** **03 14 44.8 -1.1**
baz=95
A19A Klindworth Far 95.31 41 P **P** **03 14 45.7 -0.7**
baz=96
C20A Veseth Ranch, 95.58 43 P **P** **03 14 47.8 +0.1**
baz=96
A20A Cobblestone Ra 95.83 41 P **P** **03 14 48.5 -0.3**
baz=96
TXAR Lajitas Array 96.01 61 P **P** **03 14 49.4 -0.7**
comp=Z,0.6nm,0.7s,baz=221,slow=5.6,SNR=7.4
TXAR LR LR 03 49 43.0
comp=Z,326nm,21.6s,baz=0.0,slow=30
KSH Kashi 96.22 309 *e*P **P** **03 14 50.5 -0.4**
KSH pP **pP** **03 15 01.3 -2.7**
KSH PP **PP** **03 18 45.6 +1.0**
KSH SKS **SKSac** **03 25 23.0 -1.3**
KSH S **S** **03 26 03.3 -4.2**
KSH PMZ
comp=Z,95nm,3.8s
KSH LN
comp=Z,170nm,13.0s
KSH LE
comp=Z,110nm,5.9s
KSH LZ
comp=Z,280nm,22.6s
A21A Bergtoll Ranch 96.50 41 P **P** **03 14 51.5 -0.3**
baz=97
D22A Cohagen 96.72 43 P **P** **03 14 52.0 -0.8**
baz=97
VNA3 Neumayer Olymp 98.18 182 P **P** **03 14 58.2 -0.7**
VNA2 Neumayer--Watz 98.42 182 P Pdif 03 15 00.1 0.0
baz=185,slow=3.1
ARCES ARCESS Array B 115.90 345 PKIKP **PKPdf** **03 20 02.9 -1.4**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 115.90 345 PKP **PKPdf** **03 20 02.9 -1.4**
comp=Z,1.2nm,0.7s,baz=32,slow=1.6,SNR=8.0
LPAZ La Paz 120.69 116 *e*PKIKP **PKPdf** **03 20 15.8 -0.1**
LPAZ La Paz 120.69 116 *e*PKPdf **PKPdf** **03 20 15.8 -0.1**
SDV Santo Domingo 124.88 87 *e*PKPdf **PKPdf** **03 20 21.9 -1.5**
SUR Sutherland 125.38 217 *e*PKPdf **PKPdf** **03 20 23.0 -1.0**
AKASG Malin Array Be 126.35 327 PKP **PKPdf** **03 20 26.6 +1.6**
comp=Z,0.4nm,0.5s,baz=56,slow=2.7,SNR=3.2
SAML Samuel 127.93 110 *e*PKPdf **PKPdf** **03 20 28.0 -1.0**
BRTR Keskin Array B 128.43 313 PKP **PKPdf** **03 20 34.0 +4.5**
comp=Z,0.3nm,0.4s,baz=178,slow=4.1,SNR=3.9
KOLS Kolonicke sedl 131.05 328 *e*PKIKP PKPdf 03 20 40.2 +6.2
KOLS Kolonicke sedl 131.05 328 *e* PKPdf 03 20 40.2 +6.2
KOLS *e* 03 29 27.4
VYHS Vyhne 133.07 330 *i* P **Pdif** **03 17 37.3 +2.7**
VYHS Vyhne 133.07 330 PDIF **Pdif** **03 17 37.2 +2.7**
ESK Eskdalemuir 134.58 351 *e*PKIKP **PKPdf** **03 20 40.3 -0.1**
ESK Eskdalemuir 134.58 351 *e*PKPdf **PKPdf** **03 20 40.2 -0.1**
GERES GERESS Array B 135.22 334 PKIKP **PKPdf** **03 20 42.8 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 135.22 334 PKP **PKPdf** **03 20 42.8 +0.9**
comp=Z,0.7nm,0.8s,baz=338,slow=2.3,SNR=4.9
TSUM Tsumeb 136.49 227 *e*PKPdf **PKPdf** **03 20 46.0 +0.7**
WLF Walferdange 137.49 340 *e*PKIKP **PKPdf** **03 20 45.6 -0.4**
WLF Walferdange 137.49 340 *e*PKPdf **PKPdf** **03 20 45.6 -0.4**
KEST Kesra 146.90 323 PKPbc **PKPbc** **03 21 05.2 0.0**
comp=Z,2.5nm,0.8s,baz=23,slow=2.5,SNR=8.9
KEST Kesra 146.90 323 *e*PKPbc **PKPbc** **03 21 04.9 -0.2**
ESDC Sonseca Array 149.61 344 PKPbc **PKPbc** **03 21 11.5 -0.7**
comp=Z,1.0nm,0.8s,baz=19,slow=3.2,SNR=3.3
RCBR Riachuelo 153.23 127 *e*PKPbc **PKPbc** **03 21 21.2 -0.1**
TORD Torodi Ar. Bea 163.81 280 PKP **PKPdf** **03 21 25.6 -0.7**
comp=Z,0.9nm,1.0s,baz=95,slow=1.0,SNR=3.2
DBIC Dimbokro 169.51 248 *e*PKP2 **PKPab** **03 22 43.0 -1.0**
DBIC Dimbokro 169.51 248 *e*PKPab **PKPab** **03 22 43.0 -1.0**

IDC ***16*** *03:17:51.0±0.9, 4.°16N×62.°73E, h0km, mb3.9/15, mb1 4.1/15, mb1mx3.9/48, mbtmp3.9/15, MS3.9/5, Ms1 3.9/5, ms1mx3.4/40, Error ellipse: s-maj=23.1km s-min=18.1km az=19.0*
NEIC ***16*** *03:17:51.8±0.4, 3.°98N×62.°62E, h10km, mb4.5/4, Error ellipse: s-maj=11.1km s-min=9.8km az=128.0*
ISC 16 03:17:53.2±0.6, 4.°2N±0.°1×62.°7E±0.°1, h10km, n55, σ1838/51, mb4.4/27, MS4.1/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSEY	**Mahe Island**	**11.38**	**219**	*e*Pn		Pn	03 20 31.6	-4.4
	117nm,1.6s							
H08N2	**Diego Garcia H**	**13.39**	**141**	Pn		**P**	**03 21 15.3**	**+2.5**
H08N2				T		T	03 34 35.3	
	baz=321,slow=76,SNR=66							
H08N3	**Diego Garcia H**	**13.40**	**142**	Pn		**P**	**03 21 15.2**	**+2.3**
	SNR=8.7							
H08N3				T		T	03 34 35.1	
	baz=321,slow=76,SNR=65							
H08N1	**Diego Carcia H**	**13.42**	**141**	Pn		**P**	**03 21 15.3**	**+2.3**
H08N1				T		T	03 34 33.1	
	baz=321,slow=76,SNR=64							
KMBO	**Kilima Mbogo**	**25.93**	**259**	P		**P**	**03 23 27.5**	**+1.3**
	3.5nm,0.8s,baz=50,slow=12,SNR=6.8							
KMBO	**Kilima Mbogo**	**25.93**	**259**	*e*P		**P**	**03 23 30.0**	**+3.7**
	20nm,1.4s							
OPO	**Ambohidratompo**	**27.30**	**213**	LR		LR	03 32 19.6	
	comp=Z,56nm,20.4s,baz=172,slow=32							
CMAR	**Chiang Mai Arr**	**38.18**	**65**	P		**P**	**03 25 13.8**	**+0.4**
	0.3nm,0.4s,baz=271,slow=8.9,SNR=6.4							
EKS2	**Erkin-Say**	**39.53**	**13**	*e*P		**P**	**03 25 27.6**	**+3.2**
	15nm,1.3s							
AAK	**Ala-Archa**	**39.67**	**14**	P		**P**	**03 25 25.1**	**-0.6**
	0.7nm,0.5s,baz=196,slow=14,SNR=2.1							
AAK				LR		LR	03 42 32.3	
	comp=Z,100nm,20.1s,baz=250,slow=37							
TKM2	**Tokmak 2**	**40.21**	**15**	*e*P		**P**	**03 25 32.3**	**+2.1**
	2.8nm,1.1s							
KBZ	**Khabaz**	**43.04**	**339**	P		**P**	**03 25 53.9**	**+0.8**
	2.1nm,0.9s,baz=236,slow=24,SNR=5.4							
BRTR	**Keskin Array B**	**44.01**	**327**	P		**P**	**03 26 01.9**	**+0.8**
	1.3nm,1.0s,baz=145,slow=9.8,SNR=6.8							
BRTR				PP		**PcP**	**03 27 47.1**	**+0.2**
	1.5nm,1.1s,baz=133,slow=8.5,SNR=4.6							
ABKAR	**Akbulak array**	**44.92**	**357**	*e*P		**P**	**03 26 10.2**	**+2.1**
MK31	**Makanchi Array**	**45.69**	**19**	*e*P		**P**	**03 26 14.6**	**+0.3**
MKAR	**Makanchi Array**	**45.69**	**19**	P		**P**	**03 26 13.7**	**-0.6**
	0.8nm,1.0s,baz=202,slow=9.2,SNR=4.9							
AKTO	**Aktyubinsk**	**46.21**	**356**	P		**P**	**03 26 18.8**	**+0.5**
	4.0nm,0.9s,baz=170,slow=7.9,SNR=9.2							
LBTB	**Lobatse**	**46.27**	**229**	*e*P		**P**	**03 26 17.2**	**-2.1**
	26nm,1.5s							
IDI	**Anoyia**	**46.60**	**316**	LR		LR	03 45 32.7	
	comp=Z,42nm,20.1s,baz=80,slow=36							
KURBB	**Kurchatov Arra**	**48.13**	**14**	P		**P**	**03 26 32.9**	**-0.3**
	1.0nm,0.2s,baz=203,slow=8.2,SNR=2.7							
KURK	**Kurchatov**	**48.23**	**14**	P		**P**	**03 26 32.9**	**-1.2**
ARU	**Arti**	**52.15**	**357**	*e*P		**P**	**03 27 05.5**	**+1.7**
	6.0nm,1.0s							
BUR08	**Bucovina Ar. S**	**53.89**	**329**	*e*P		**P**	**03 27 16.0**	**-0.9**
AKASG	**Malin Array Be**	**54.14**	**334**	P		**P**	**03 27 18.4**	**0.0**
	0.3nm,0.4s,baz=114,slow=6.4,SNR=8.3							
SONM	**Songino Array**	**57.35**	**34**	P		**P**	**03 27 41.2**	**-0.6**
	0.7nm,1.0s,baz=226,slow=7.7,SNR=4.4							
KAPI	**Kappang**	**57.77**	**99**	*e*P		**P**	**03 27 43.3**	**-1.9**
MORC	**Moravsky Berou**	**59.20**	**328**	*e*P		**P**	**03 27 55.2**	**+0.7**
	2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**60.78**	**283**	P		**P**	**03 28 05.8**	**-0.1**
	1.0nm,1.1s,baz=35,slow=5.3,SNR=3.6							
LPG	**La Plagne**	**63.55**	**319**	*e*P		**P**	**03 28 24.2**	**-0.2**
LPG	**La Plagne**	**63.55**	**319**	*e*P		**P**	**03 28 24.2**	**-0.2**
LPL	**La Plagne**	**63.58**	**319**	*e*P		**P**	**03 28 23.1**	**-1.4**
	11nm,1.2s							
LPL	**La Plagne**	**63.58**	**319**	*e*P		**P**	**03 28 23.1**	**-1.4**
	11nm,1.2s							
CDF	**Champ du Feu**	**64.39**	**323**	*e*P		**P**	**03 28 29.6**	**-0.1**
CDF	**Champ du Feu**	**64.39**	**323**	*e*P		**P**	**03 28 29.6**	**-0.1**
CABF	**La Chapelle**	**64.41**	**320**	*e*P		**P**	**03 28 29.9**	**+0.1**
	52nm,1.5s							
CABF	**La Chapelle**	**64.41**	**320**	*e*P		**P**	**03 28 29.9**	**+0.1**
	52nm,1.5s							
LASF	**Ste Croix**	**64.96**	**317**	*e*P		**P**	**03 28 31.2**	**-2.2**
	54nm,1.4s							
LASF	**Ste Croix**	**64.96**	**317**	*e*P		**P**	**03 28 31.2**	**-2.2**
	54nm,1.4s							
SFTF	**Sexfontaines**	**65.68**	**322**	*e*P		**P**	**03 28 38.0**	**+0.1**
	26nm,1.1s							
SFTF	**Sexfontaines**	**65.68**	**322**	*e*P		**P**	**03 28 38.0**	**+0.1**
	26nm,1.1s							
HFS	**Hagfors**	**66.97**	**336**	P		**P**	**03 28 45.6**	**-0.4**
	3.2nm,0.8s,baz=126,slow=7.3,SNR=3.2							
MFF	**Saint Martin d**	**68.44**	**319**	*e*P		**P**	**03 28 54.8**	**-0.7**
	90nm,1.8s							
MFF	**Saint Martin d**	**68.44**	**319**	*e*P		**P**	**03 28 54.8**	**-0.7**
	90nm,1.8s							
NOA	**NORSAR Array B**	**68.50**	**336**	P		**P**	**03 28 53.8**	**-1.8**
	2.6nm,1.0s,baz=118,slow=7.0,SNR=3.0							
LDF	**La Druitiere**	**69.04**	**321**	*e*P		**P**	**03 28 58.7**	**-0.5**
LDF	**La Druitiere**	**69.04**	**321**	*e*P		**P**	**03 28 58.7**	**-0.5**
ESDC	**Sonseca Array**	**69.38**	**311**	P		**P**	**03 29 01.6**	**0.0**
	2.5nm,1.0s,baz=96,slow=4.5,SNR=6.0							
GRR	**Gorron**	**69.44**	**320**	*e*P		**P**	**03 29 01.2**	**-0.5**
	101nm,1.5s							
GRR	**Gorron**	**69.44**	**320**	*e*P		**P**	**03 29 01.2**	**-0.5**
	101nm,1.5s							
WRA	**Warramunga Arr**	**74.34**	**112**	P		**P**	**03 29 30.1**	**-1.5**
	2.4nm,1.1s,baz=289,slow=5.3,SNR=5.5							
ASAR	**Alice Springs**	**74.65**	**116**	P		**P**	**03 29 32.1**	**-1.4**
	2.0nm,1.1s,baz=278,slow=5.2,SNR=7.8							
BORG	**Borgarnes**	**83.62**	**335**	LR		LR	04 09 54.8	
	comp=Z,191nm,20.7s,baz=7.1,slow=37							
PETK	**Petropavlovsk-**	**89.68**	**37**	LR		LR	04 12 04.2	
	comp=Z,69nm,19.0s,baz=258,slow=36							
NVAR	**Mina Array Bea**	**137.55**	**1**	PKP		**PKPdf**	**03 37 17.5**	**-0.8**
	0.2nm,0.3s,baz=209,slow=0.9,SNR=4.2							
TXAR	**Lajitas Array**	**144.14**	**339**	PKP		**PKPab**	**03 37 27.9**	**+0.1**
	0.8nm,0.8s,baz=90,slow=2.7,SNR=7.5							

CSEM ***16*** *03:27:49.2±0.6, 51.°39N×16.°17E, h1km, Error ellipse: s-maj=10.5km s-min=5.3km az=3.0*
PRU 16 03:27:49.8, 51.°37N×16.°17E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KSP	**Ksiaz**	**0.53**	**172**	*e*Pg		Pg	03 28 00.2	+0.1
KSP				*e*Sg		Sg	03 28 07.8	+0.8
UPC	**Upice**	**0.87**	**187**	*e*PG		Pg	03 28 06.7	+0.2
UPC				*e*SG		Sg	03 28 17.6	-0.2
	comp=Z,15nm,0.4s							
UPC	**Upice**	**0.87**	**187**	Pg		Pg	03 28 06.7	+0.2
UPC				Sg		Sg	03 28 17.6	-0.2
	15nm,0.4s							
DPC	**Dobruska-Polom**	**1.03**	**175**	*e*PG		Pg	03 28 09.5	-0.1

DPC				eSG	Sg	03 28 23.0	+0.1
DPC	**Dobruska-Polom**	**1.03**	**175**	Pg	Pg	03 28 09.5	-0.1
DPC				Sg	Sg	03 28 23.0	+0.1
PVCC	**Panska Ves**	**1.32**	**231**	ePG	Pg	03 28 14.9	-0.2
PVCC				eSG	Sg	03 28 32.5	+0.3
	comp=Z,25nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**231**	Pg	Pg	03 28 14.9	-0.2
PVCC				Sg	Sg	03 28 32.5	+0.3
	25nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**251**	PG	Pn	03 28 17.0	-0.8
BRG				SG	Sg	03 28 37.5	-0.2
	8.5nm,0.4s						
PRU	**Pruhonice**	**1.73**	**217**	ePG	Pb	03 28 21.9	-0.5
PRU				eSG	Sb	03 28 44.8	+0.1
	comp=Z,3.7nm,0.2s						
PRU	**Pruhonice**	**1.73**	**217**	Pg	Pb	03 28 21.9	-0.5
MORC	**Moravsky Berou**	**1.82**	**151**	ePn	Pn	03 28 20.9	-1.5
MORC				eSg	Sb	03 28 47.2	-0.2
CLL	**Collm**	**1.99**	**269**	eSg	Sg	03 28 53.0	-0.7
CLL				LmV		04 22 00.0	
	comp=Z,300nm,19.6s						
KHC	**Kasperske Hory**	**2.79**	**218**	ePN	Pn	03 28 35.5	-0.3
KHC				ePG	Pb	03 28 41.0	+0.4
KHC				eSG	Sg	03 28 18.5	-1.1
KHC	**Kasperske Hory**	**2.79**	**218**	Pn	Pn	03 28 35.5	-0.3
LANS	**Liptovska Anna**	**3.07**	**135**	eSg	Sn	03 29 15.5	-1.5

*CSEM **16** 03:28:42.0±0.4,50.15N×19.09E,h2km,ML2.6/4, Error ellipse: s-maj=10.0km s-min=4.1km az=4.0*

PRU 16 03:28:43.1,50.16N×19.06E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**342**	ePg	Pg	03 28 47.3	+1.5
CHZP				eSg	Sg	03 28 49.1	+1.5
OJC	**Ojcow**	**0.48**	**83**	ePg	Pg	03 28 50.1	-2.2
OJC				eSg	Sg	03 28 56.1	-2.5
OJC	**Ojcow**	**0.48**	**83**	ePg	Pg	03 28 50.1	-2.2
OJC				eSg	Sg	03 28 56.1	-2.5
OKC	**Ostrava-Krasne**	**0.67**	**242**	ePG	Pg	03 28 54.6	-1.4
OKC				eSG	Sg	03 29 03.6	-1.1
	comp=Z,13nm,0.3s						
OKC	**Ostrava-Krasne**	**0.67**	**242**	Pg	Pg	03 28 54.6	-1.4
OKC				Sg	Sg	03 29 03.6	-1.1
	13nm,0.3s						
LANS	**Liptovska Anna**	**1.04**	**165**	ePg	Pg	03 29 01.6	-1.6
MORC	**Moravsky Berou**	**1.05**	**249**	ePg	Pg	03 29 03.5	+0.1
MORC				eSg	Sb	03 29 18.4	-0.3
NIE	**Niedzica**	**1.10**	**132**	ePg	Pg	03 29 01.9	-2.4
NIE				eSg	Sg	03 29 17.7	-0.9
NIE	**Niedzica**	**1.10**	**132**	ePg	Pg	03 29 01.9	-2.4
NIE				eSg	Sg	03 29 17.7	-0.9
STHS	**Stebnicka Huta**	**1.60**	**117**	ePn	Pn	03 29 11.7	-1.0
STHS	**Stebnicka Huta**	**1.60**	**117**	eSn	Sg	03 29 35.2	+0.6
STHS	**Stebnicka Huta**	**1.60**	**117**	ePN	Pn	03 29 11.7	-1.0
STHS				eSN	Sg	03 29 35.2	+0.6
VYHS	**Vyhne**	**1.67**	**185**	ePn	Pn	03 29 11.6	-2.1
VYHS				eSn	Sn	03 29 33.5	-2.4
VYHS	**Vyhne**	**1.67**	**185**	ePN	Pn	03 29 11.6	-2.1
VYHS				eSN	Sn	03 29 33.5	-2.4
DPC	**Dobruska-Polom**	**1.77**	**277**	ePG	Pn	03 29 15.6	+0.6
DPC				eSG	Sb	03 29 39.3	0.0
DPC	**Dobruska-Polom**	**1.77**	**277**	Pg	Pn	03 29 15.6	+0.6
DPC				Sg	Sb	03 29 39.3	0.0
VRAC	**Vranov**	**1.81**	**243**	eSG	Sn	03 29 39.8	+0.5
KSP	**Ksiaz**	**1.89**	**292**	ePg	Pg	03 29 19.2	-0.2
KSP				eSg	Sg	03 29 44.9	+0.9
UPC	**Upice**	**1.98**	**281**	eSG	Sg	03 29 47.4	+0.5
	comp=Z,3.6nm,0.3s						
UPC	**Upice**	**1.98**	**281**	Sg	Sg	03 29 47.4	+0.5
	3.6nm,0.3s						
CRVS	**Cervenica-Dubn**	**2.01**	**128**	ePn	Pn	03 29 18.7	+0.4
CRVS	**Cervenica-Dubn**	**2.01**	**128**	eSn	Sb	03 29 45.5	-0.6
CRVS	**Cervenica-Dubn**	**2.01**	**128**	ePN	Pn	03 29 18.7	+0.4
CRVS				eSN	Sb	03 29 45.5	-0.6
KOLS	**Kolonicke sedl**	**2.43**	**119**	eSn	Sn	03 29 55.4	+1.0
KOLS	**Kolonicke sedl**	**2.43**	**119**	eSN	Sn	03 29 55.4	+1.0
PRU	**Pruhonice**	**2.92**	**268**	eSG	Sg	03 30 15.2	-1.6
	comp=Z,4.3nm,0.4s						
PRU	**Pruhonice**	**2.92**	**268**	Sg	Sg	03 30 15.2	-1.6
	4.3nm,0.4s						
BRG	**Berggiesshubel**	**3.34**	**284**	SG	Sg	03 30 29.8	-0.7
	3.4nm,0.4s						
KHC	**Kasperske Hory**	**3.71**	**256**	ePG	Pg	03 29 55.0	+0.8
KHC				eSG	Sg	03 30 40.3	-2.1
	comp=Z,3.1nm,0.4s						
KHC	**Kasperske Hory**	**3.71**	**256**	Pg	Pg	03 29 55.0	+0.8
KHC				Sg	Sg	03 30 40.3	-2.1
	3.1nm,0.4s						

MAN 16 03:55:01,16.87N×120.54E,h95km,mb4.3,ML3.1,MS2.9, 2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.49**	**176**	⇑*i*P	Pn	03 55 17.7	+1.2
BCPH				*i* S	Sn	03 55 30.2	+2.4
BOLP	**Bolinao**	**0.78**	**231**	*e*P	Pn	03 55 20.2	+1.5
ABRA	**Dolores**	**0.79**	**12**	*e*P	Pn	03 55 19.4	+0.5
SIPP	**Brgy, Tapao**	**1.05**	**356**	⇓*e*P	Pn	03 55 23.1	+1.5
SIPP				*e*S	Sn	03 55 38.8	+1.7
APYP	**Conner**	**1.19**	**34**	*e*P	Pn	03 55 24.0	+0.7
APYP				*e*S	Sn	03 55 41.0	+0.9
SCZP	**Santa Cruz**	**1.24**	**209**	*e*P	Sn	03 55 42.2	+1.1
PIP	**Pasuquin**	**1.45**	**3**	⇑*i*P	Pn	03 55 26.7	+0.3
PIP				*e*S	Sn	03 55 47.1	+1.4
BALP	**Baler**	**1.50**	**138**	*e*P	Pn	03 55 28.9	+1.9

IDC 16 04:02:50.2±4.4,20.25S×175.83W,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.7/26,mbtmp3.7/4,MS3.7/1,Ms1 3.7/1, ms1mx3.0/27,Error ellipse: s-maj=272.9km s-min=28.7km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.63**	**261**	LR	LR	04 10 59.1	
	comp=Z,212nm,18.1s,baz=207,slow=29						
ASAR	**Alice Springs**	**46.55**	**256**	P	P	04 11 19.6	-0.5
	1.1nm,0.8s,baz=90,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**46.65**	**261**	P	P	04 11 20.9	+0.1
	0.3nm,0.3s,baz=96,slow=8.1,SNR=29						
NVAR	**Mina Array Bea**	**79.46**	**42**	P	P	04 14 57.8	-1.2
	0.5nm,0.7s,baz=224,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**95.45**	**24**	P	P	04 16 18.1	+1.8
	0.3nm,1.0s,baz=238,slow=4.7,SNR=3.5						

*ISCJB **16** 04:06:09.0±0.6,32.33N±0.02×115.36W±0.03,h9km±6km, Error ellipse: s-maj=4.5km s-min=3.5km az=5.8*
*NEIC **16** 04:06:09.5,32.21N×115.45W,h7km,ML3.2(PAS),After PAS.*
*ECX **16** 04:06:11.7±0.6,32.33N×115.43W,h6km,MD3.2,ML3.5*

ISC 16 04:06:09.7±0.9,32.30N±0.02×115.40W±0.02,h14km±7km, n22,σ0.85/39,3C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**33**	*e*P	**Pb**	**04 06 14.3**	**+0.2**
CPBX				*e*S	**Sg**	**04 06 16.8**	**+0.8**
CPBX				⇓*e*		04 06 21.8	
CPBX				AML	AML	04 06 21.8	
	comp=E,43μm,0.3s						
EMX	**El Mayor**	**0.34**	**157**	*e*P	**Pg**	**04 06 15.8**	**-0.9**
EMX				*e*S	**Sg**	**04 06 21.1**	**-0.2**
YUH	**Yuha Desert**	**0.56**	**308**	⇑*i*P	**Pg**	**04 06 20.6**	**-0.3**
RDX	**Rancho Dawling**	**0.59**	**232**	*e*P	**Pb**	**04 06 22.1**	**+0.1**
RDX				*e*S	**Sb**	**04 06 30.3**	**0.0**
COA	**Coachella**	**0.61**	**22**	⇓*i*P	**Pb**	**04 06 22.3**	**+0.2**
COK	**Cook Ranch**	**0.62**	**333**	⇑*i*P	**Pg**	**04 06 22.1**	**+0.3**
RMX	**La Rumorosa**	**0.65**	**298**	*e*P	**Pg**	**04 06 22.2**	**-0.4**
RMX				*e*S	**Sg**	**04 06 31.0**	**-0.2**
CRR	**Carrizo Plain**	**0.76**	**321**	⇓*i*P	**Pg**	**04 06 24.2**	**-0.3**
ECBX	**El Chinero**	**0.88**	**160**	*e*P	**Pg**	**04 06 25.2**	**-1.5**
ECBX				*e*S	**Sg**	**04 06 37.9**	**-0.3**
ECBX				AML	AML	04 06 39.8	
	comp=N,2μm,0.4s						
ECBX				⇑*e*		04 06 39.8	
GLA	**Glamis**	**0.89**	**32**	*e*Pg	**Pg**	**04 06 26.4**	**-0.6**
GLA				*e*Sg	**Sg**	**04 06 38.2**	**-0.5**
CBX	**Cerro Bola**	**1.07**	**271**	*e*P	**Pb**	**04 06 30.2**	**+0.1**
CBX				*e*S	**Sb**	**04 06 44.2**	**+0.2**
CBX				AML	AML	04 06 48.6	
	comp=E,934nm,0.3s						
CBX				⇓*e*		04 06 48.6	
ZAX	**El Zacaton**	**1.08**	**224**	*e*P	**Pn**	**04 06 30.9**	**+0.4**
ZAX				*e*S	**Sn**	**04 06 45.6**	**+0.3**
ECNX	**Esteban Cantu**	**1.21**	**238**	*e*P	**Pg**	**04 06 33.1**	**+0.1**
ECNX				*e*S	**Sg**	**04 06 48.6**	**-0.1**
SPX	**San Pedro Mart**	**1.25**	**183**	*e*P	**Pb**	**04 06 33.6**	**+0.3**
SPX				*e*S	**Sg**	**04 06 51.5**	**+1.3**
PBX	**Punta Banda**	**1.26**	**244**	*e*P	**Pg**	**04 06 33.8**	**-0.2**
PBX				*e*S	**Sn**	**04 06 53.0**	**+0.7**
PFO	**Pinyon Flats O**	**1.58**	**326**	*e*Pn	**Pn**	**04 06 36.3**	**-1.1**
PFO				*e*Sn	**Sn**	**04 06 55.6**	**-2.2**
214A	**Organ Pipe Nat**	**2.22**	**98**	*e*Pn	**Pn**	**04 06 45.8**	**-0.4**
214A				*e*Pg	**Pg**	**04 06 52.4**	**+0.1**
214A				*e*Sg	**Sg**	**04 07 21.6**	**+0.5**
PASC	**Pasadena Art C**	**2.99**	**309**	*e*Pn	**Pn**	**04 06 56.2**	**-0.5**
GSC	**Goldstone, Bar**	**3.22**	**339**	*e*Pn	**Pn**	**04 07 01.2**	**+1.3**
GSC				*e*Pg	**Pg**	**04 07 10.6**	**-0.8**
TUC	**Tucson**	**3.90**	**89**	*e*Pn	**Pn**	**04 07 08.4**	**-0.9**
SHPR	**Sheep Range**	**4.20**	**3**	*e*Pn	**Pn**	**04 07 14.7**	**+1.3**
SHPR				*e*Pg	**Pg**	**04 07 31.4**	**+1.2**
SHPR				*e*Sg	**Sg**	**04 08 23.2**	**-1.4**
121A	**Cookes Peak, D**	**6.44**	**86**	*e*Pn	**Pn**	**04 07 45.9**	**+1.7**
	comp=E,2.5nm,0.3s						

*IDC **16** 04:12:54.3±4.0,6.69S×133.18E,h0km,mb3.8/1, mb1 3.7/3,mb1mx3.5/29,mbtmp3.6/3,ML3.5/2,Error ellipse: s-maj=236.6km s-min=31.9km az=76.0*
*ISCJB **16** 04:12:58.5±1.6,7.05S±0.1×132.5E±0.3,h33km,mb3.7/1, Error ellipse: s-maj=37.2km s-min=18.0km az=161.8*

ISC 16 04:13:00.6±1.7,7.15S±0.1×132.6E±0.3,h35km,n7,σ2.83/6, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**5.56**	**182**	P	Pn	04 14 26.4	+5.4
	baz=11,SNR=16						
MTN	**Manton Dam**	**5.91**	**194**	P	**Pn**	**04 14 25.6**	**-0.1**
	baz=11,SNR=7.8						
KNRA	**Kununurra**	**9.34**	**204**	P	Pn	04 15 04.9	-7.9
	baz=14,SNR=5.7						
WRA	**Warramunga Arr**	**12.88**	**173**	Pn	**Pn**	**04 16 04.4**	**+3.0**
	0.3nm,0.3s,baz=351,slow=13,SNR=17						
WRA				Sn	**Sn**	**04 18 20.4**	**-3.3**
	0.5nm,0.3s,baz=332,slow=23,SNR=6.4						
ASAR	**Alice Springs**	**16.53**	**176**	Pn	**Pn**	**04 16 51.6**	**+1.7**
	0.2nm,0.3s,baz=12,slow=14,SNR=6.2						
EIDS	**Eidsvold**	**25.32**	**138**	S	**S**	**04 22 47.4**	**-0.8**
	baz=31,SNR=6.5						
MKAR	**Makanchi Array**	**69.75**	**326**	P	**P**	**04 24 06.3**	**-1.0**
	0.4nm,0.4s,baz=121,slow=7.2,SNR=12						

IDC 16 04:18:05.6±4.5,6.59S×133.41E,h0km,mb3.6/1, mb1 3.6/3,mb1mx3.4/27,mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=256.7km s-min=32.9km az=77.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.31**	**176**	Pn	Pn	04 21 16.5	+0.5
	0.2nm,0.3s,baz=351,slow=13,SNR=6.2						
WRA				Sn	Sn	04 23 34.6	-10
	0.3nm,0.3s,baz=332,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**16.99**	**178**	Pn	Pn	04 22 04.3	-0.6
	0.1nm,0.3s,baz=15,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**69.78**	**325**	P	P	04 29 17.9	0.0
	0.3nm,0.4s,baz=118,slow=7.0,SNR=8.2						

IDC 16 04:20:28.4±48.0,16.22S×177.84W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/32,mbtmp4.1/3,Error ellipse: s-maj=890.3km s-min=149.5km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.93**	**240**	P	P	04 28 04.2	-0.4
	1.2nm,0.7s,baz=85,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**45.49**	**258**	P	P	04 28 50.1	+0.2
	0.7nm,0.4s,baz=91,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**45.79**	**253**	P	P	04 28 52.1	-0.2
	5.0nm,0.5s,baz=88,slow=8.5,SNR=62						

*MDD **16** 04:29:22.7±0.9,36.74N×7.00W,h42km±26km,mb3.7/7, Error ellipse: s-maj=10.3km s-min=4.4km az=17.0, PRIMO*
*CSEM **16** 04:29:22.6±0.2,36.80N×6.97W,h40km,ML2.9/7,Error ellipse: s-maj=5.8km s-min=2.7km az=13.0*
*INMG **16** 04:29:23.0±1.1,36.73N×7.01W,h31km±8km,ML1.8, Error ellipse: s-maj=4.0km s-min=3.2km az=11.0*
*IGIL **16** 04:29:23.2,36.74N×7.02W,h31km,ML2.0*

ISC 16 04:29:21.0±1.2,36.76N±0.05×6.98W±0.02,h31km±12km, n64,σ0.94/118,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.88**	**333**	P	**Pn**	**04 29 38.2**	**+1.0**
	4.8nm,0.4s,SNR=16						
EGRO				S	**Sn**	**04 29 49.6**	**+0.7**
	13nm,0.1s,SNR=16						
EGRO	**El Granado**	**0.88**	**333**	P	**Pn**	**04 29 38.2**	**+1.0**
	4.8nm,0.4s,SNR=16						
EGRO				S	**Sn**	**04 29 49.6**	**+0.7**
	13nm,0.1s,SNR=16						
PVAQ	**Vaqueiros**	**0.88**	**318**	*e*P	**Pn**	**04 29 37.9**	**+0.7**
PVAQ				*e*S	**Sn**	**04 29 49.2**	**+0.3**
PVAQ				A	A	04 29 49.8	
	27nm,0.2s						
PVAQ	**Vaqueiros**	**0.88**	**318**	P	**Pn**	**04 29 37.9**	**+0.7**
PVAQ				S	**Sn**	**04 29 49.2**	**+0.3**
	27nm,0.2s						
PVAQ	**Vaqueiros**	**0.88**	**318**	*e*P	**Pn**	**04 29 37.9**	**+0.7**
PVAQ				*e*S	**Sn**	**04 29 49.2**	**+0.3**
	27nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.90**	**303**	*e*P	**Pb**	**04 29 38.2**	**0.0**
PBDV				*e*S	**Sb**	**04 29 49.4**	**-0.5**
PBDV				A	A	04 29 50.2	
	9.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.90**	**303**	P	**Pb**	**04 29 38.2**	**0.0**
PBDV				S	**Sb**	**04 29 49.4**	**-0.5**
	9.3nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.90**	**303**	*e*P	**Pb**	**04 29 38.2**	**0.0**
PBDV				*e*S	**Sb**	**04 29 49.4**	**-0.5**
	9.3nm,0.2s						
ESPR	**Espera**	**0.91**	**83**	P	**Pb**	**04 29 38.8**	**+0.5**
	15nm,0.2s,SNR=10						
ESPR				S	**Sn**	**04 29 50.3**	**+0.6**
	31nm,0.1s,SNR=10.0						
ESPR	**Espera**	**0.91**	**83**	P	**Pb**	**04 29 38.8**	**+0.5**
	15nm,0.2s,SNR=10						
ESPR				S	**Sn**	**04 29 50.3**	**+0.6**
	31nm,0.1s,SNR=10.0						
EMIN	**Mina Concepcio**	**1.04**	**14**	P	**Pb**	**04 29 40.5**	**+0.1**
	5.2nm,0.9s,SNR=20						
EMIN				S	**Sn**	**04 29 53.4**	**+0.5**
	3.0nm,0.3s,SNR=13						
EMIN	**Mina Concepcio**	**1.04**	**14**	P	**Pb**	**04 29 40.5**	**+0.1**
	5.2nm,0.9s,SNR=20						
EMIN				S	**Sn**	**04 29 53.4**	**+0.5**
	3.0nm,0.3s,SNR=13						
PCVE	**Castro Verde**	**1.22**	**316**	*e*P	**Pn**	**04 29 42.5**	**+0.6**
PCVE				*e*S	**Sn**	**04 29 57.2**	**-0.1**
PCVE	**Castro Verde**	**1.22**	**316**	P	**Pn**	**04 29 42.5**	**+0.6**
PCVE				S	**Sn**	**04 29 57.2**	**-0.1**
PCVE	**Castro Verde**	**1.22**	**316**	*e*P	**Pn**	**04 29 42.5**	**+0.6**
PCVE				*e*S	**Sn**	**04 29 57.2**	**-0.1**
PBAR	**Barrancos**	**1.42**	**358**	*e*P	**Pb**	**04 29 45.9**	**-0.9**
PBAR				*e*S	**Sn**	**04 30 02.7**	**+0.4**
PBAR				A	A	04 30 04.4	
	8.8nm,0.2s						
PBAR	**Barrancos**	**1.42**	**358**	P	**Pb**	**04 29 45.9**	**-0.9**
PBAR				S	**Sn**	**04 30 02.7**	**+0.4**
	8.8nm,0.2s						
PBAR	**Barrancos**	**1.42**	**358**	*e*P	**Pb**	**04 29 45.9**	**-0.9**
PBAR				*e*S	**Sn**	**04 30 02.7**	**+0.4**
	8.8nm,0.2s						
MESJ	**Messejana**	**1.47**	**318**	*e*P	**Pn**	**04 29 46.1**	**+0.7**
MESJ				*e*S	**Sn**	**04 30 02.6**	**-0.8**
MESJ				A	A	04 30 04.2	
	comp=N,4.9nm,0.1s						
MESJ	**Messejana**	**1.47**	**318**	P	**Pn**	**04 29 46.1**	**+0.7**
MESJ				S	**Sn**	**04 30 02.6**	**-0.8**
	comp=N,16nm,0.2s						
MESJ	**Messejana**	**1.47**	**318**	*e*P	**Pn**	**04 29 46.0**	**+0.7**
MESJ				*e*S	**Sn**	**04 30 02.6**	**-0.8**
	comp=N,4.9nm,0.1s						
PTEO	**Sao Teotonio**	**1.60**	**300**	*e*P	**Pn**	**04 29 47.8**	**+0.6**
PTEO				*e*S	**Sn**	**04 30 06.3**	**-0.5**
PTEO				A	A	04 30 06.8	
	comp=N,13nm,0.6s						
PTEO	**Sao Teotonio**	**1.60**	**300**	P	**Pn**	**04 29 47.8**	**+0.6**
PTEO				S	**Sn**	**04 30 06.3**	**-0.5**
	comp=N,6.6nm,0.6s						
PTEO	**Sao Teotonio**	**1.60**	**300**	*e*P	**Pn**	**04 29 47.8**	**+0.6**
PTEO				*e*S	**Sn**	**04 30 06.3**	**-0.5**
	comp=N,13nm,0.6s						
EMIJ	**Mijas**	**1.79**	**95**	S	**Sn**	**04 30 11.2**	**-0.2**
	comp=N,3.6nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**1.79**	**95**	S	**Sn**	**04 30 11.2**	**-0.2**
	comp=N,3.6nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**1.81**	**43**	P	**Pn**	**04 29 50.9**	**+0.8**
	comp=N,2.7nm,0.7s,SNR=8.4						
ECAB				S	**Sn**	**04 30 11.1**	**-0.9**
	comp=N,3.4nm,0.8s,SNR=9.6						
ECAB	**El Cabril**	**1.81**	**43**	P	**Pn**	**04 29 50.9**	**+0.8**
	comp=N,2.7nm,0.7s,SNR=8.4						
ECAB				S	**Sn**	**04 30 11.1**	**-0.9**
	comp=N,3.4nm,0.8s,SNR=9.6						
PNCL	**Nicolau / Gran**	**1.83**	**318**	*e*Pn	**Pn**	**04 29 51.0**	**+0.7**
PNCL				*e*Sn	**Sn**	**04 30 11.3**	**-1.1**
PNCL				A	A	04 30 12.9	
	comp=N,5.2nm,0.1s						
PNCL	**Nicolau / Gran**	**1.83**	**318**	*e*Pn	**Pn**	**04 29 51.0**	**+0.7**
PNCL				*e*Sn	**Sn**	**04 30 11.3**	**-1.1**
	comp=N,5.2nm,0.1s						
EVO	**Evora**	**1.95**	**335**	*e*Pn	**Pn**	**04 29 53.0**	**+1.0**
EVO				*e*Sn	**Sn**	**04 30 15.0**	**-0.5**
EVO				A	A	04 30 16.7	
	comp=N,7.6nm,0.1s						
EVO	**Evora**	**1.95**	**335**	Pn	**Pn**	**04 29 53.0**	**+1.0**
EVO				Sn	**Sn**	**04 30 15.0**	**-0.5**
	comp=N,7.6nm,0.1s						
EVO	**Evora**	**1.95**	**335**	*e*Pn	**Pn**	**04 29 53.0**	**+1.0**
EVO				*e*Sn	**Sn**	**04 30 15.0**	**-0.5**
	comp=N,7.6nm,0.1s						
EBAD	**Badajoz**	**2.00**	**359**	P	**Pn**	**04 29 53.7**	**+1.1**
	comp=N,5.4nm,1.0s,SNR=10						
EBAD				S	**Sn**	**04 30 16.6**	**+0.1**
	comp=N,4.2nm,0.3s,SNR=5.8						
EBAD	**Badajoz**	**2.00**	**359**	P	**Pn**	**04 29 53.7**	**+1.1**
	comp=N,5.4nm,1.0s,SNR=10						
EBAD				S	**Sn**	**04 30 16.6**	**+0.1**
	comp=N,4.2nm,0.3s,SNR=5.8						
PESTR	**Estremoz**	**2.16**	**347**	*e*Pn	**Pn**	**04 29 55.8**	**+0.9**
PESTR				*e*Sn	**Sn**	**04 30 20.2**	**-0.5**
PESTR				A	A	04 30 22.3	
	comp=N,1.9nm,0.3s						
PESTR	**Estremoz**	**2.16**	**347**	*e*Pn	**Pn**	**04 29 55.8**	**+0.9**
PESTR				*e*Sn	**Sn**	**04 30 20.2**	**-0.5**
	comp=N,1.9nm,0.3s						
EADA	**Adamuz**	**2.38**	**53**	P	**Pn**	**04 29 58.6**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**04 30 24.3**	**-1.6**
	comp=N,2.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.38**	**53**	P	**Pn**	**04 29 58.6**	**+0.8**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**04 30 24.3**	**-1.6**
	comp=N,2.2nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**2.51**	**337**	*e*Pn	**Pn**	**04 30 00.4**	**+0.7**
PMTG				*e*Sn	**Sn**	**04 30 28.7**	**-0.5**
PMTG				A	A	04 30 31.0	
	comp=N,2.2nm,0.1s						
PMTG	**Montargil**	**2.51**	**337**	*e*Pn	**Pn**	**04 30 00.4**	**+0.7**
PMTG				*e*Sn	**Sn**	**04 30 28.7**	**-0.5**
	comp=N,2.2nm,0.1s						
PMRV	**Marv??o**	**2.69**	**353**	*e*Pn	**Pn**	**04 30 03.3**	**+1.2**
PMRV				*e*Sn	**Sn**	**04 30 32.6**	**-1.0**
PMRV				A	A	04 30 33.8	
	comp=N,25nm,0.5s						
PMRV	**Marv??o**	**2.69**	**353**	Pn	**Pn**	**04 30 03.3**	**+1.2**
PMRV				Sn	**Sn**	**04 30 32.6**	**-1.0**
	comp=N,25nm,0.5s						
PMRV	**Marv??o**	**2.69**	**353**	*e*Pn	**Pn**	**04 30 03.3**	**+1.2**
PMRV				*e*Sn	**Sn**	**04 30 32.6**	**-1.0**
	comp=N,25nm,0.5s						
EBAN	**Banos Encina**	**2.90**	**60**	S	**Sn**	**04 30 36.8**	**-2.2**
	comp=N,2.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.10**	**353**	*e*Pn	**Pn**	**04 30 09.0**	**+1.2**
PCBR				*e*Sn	**Sn**	**04 30 44.0**	**+0.1**
PCBR				A	A	04 30 44.9	
	comp=N,1.8nm,0.2s						
PCBR	**Castelo Branco**	**3.10**	**353**	Pn	**Pn**	**04 30 09.0**	**+1.2**
PCBR				Sn	**Sn**	**04 30 44.0**	**+0.1**
	comp=N,0.9nm,0.2s						
PCBR	**Castelo Branco**	**3.10**	**353**	*e*Pn	**Pn**	**04 30 09.0**	**+1.2**
PCBR				*e*Sn	**Sn**	**04 30 44.0**	**+0.1**
	comp=N,1.8nm,0.2s						
EQES	**Quesada**	**3.29**	**70**	P	**Pn**	**04 30 11.1**	**+0.6**
	comp=N,0.1nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 30 47.0**	**-1.5**
	comp=N,0.4nm,0.1s,SNR=7

*MEX **16** 04:30:02.1±0.6,32.°81N×115.°65W,h5km,MD4.0*
*ECX **16** 04:30:02.1±0.7,32.°63N×115.°74W,h3km,MD3.6,ML3.8*
ISC 16 04:30:01.3±0.9,32.°62N±0.°02×115.°72W±0.°02,h6km±7km, n41,σ1§27/73,3C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.03**	**352**	⇓*i* P	**Pg**	**04 30 02.4**	**-0.1**
YUH	**Yuha Desert**	**0.17**	**279**	⇑*i* P	**Pg**	**04 30 05.0**	**+0.2**
COK	**Cook Ranch**	**0.23**	**359**	⇑*i* P	**Pg**	**04 30 06.5**	**+0.7**
RMX	**La Rumorosa**	**0.30**	**267**	*e*P	**Pg**	**04 30 07.4**	**+0.1**
RMX				*e*S	**Sg**	**04 30 11.9**	**+0.6**
RMX				AML	AML	04 30 13.0	
	comp=N,9μm,0.2s						
RMX				⇓*e*		04 30 13.0	
CRR	**Carrizo Plain**	**0.34**	**322**	⇑*i* P	**Pg**	**04 30 08.1**	**+0.2**
CPBX	**Cerro Prieto**	**0.41**	**120**	*e*P	**Pg**	**04 30 10.0**	**+0.8**
CPBX				*e*S	**Sb**	**04 30 16.6**	**-0.8**
CPBX				AML	AML	04 30 24.2	
	comp=E,32μm,0.5s						
CPBX				⇓*e*		04 30 24.2	
MBIG	**Mexicali**	**0.49**	**116**	*i* P	**Pb**	**04 30 11.8**	**-0.6**
MBIG				*i* S	**Sb**	**04 30 20.5**	**+0.7**
RDX	**Rancho Dawling**	**0.72**	**195**	*e*P	**Pg**	**04 30 14.8**	**-0.3**
RDX				*e*S	**Sg**	**04 30 25.0**	**+0.6**
EMX	**El Mayor**	**0.75**	**147**	*e*P	**Pg**	**04 30 15.6**	**-0.2**
EMX				*e*S	**Sg**	**04 30 26.0**	**+0.5**
BAR	**Barrett**	**0.81**	**274**	*e*Pg	**Pg**	**04 30 16.3**	**-0.5**
CBX	**Cerro Bola**	**0.85**	**249**	*e*P	**Pg**	**04 30 17.6**	**-0.2**
CBX				*e*S	**Sg**	**04 30 28.8**	**0.0**
GLA	**Glamis**	**0.87**	**60**	*e*Pg	**Pg**	**04 30 17.3**	**-0.7**
GLA				*e*Sg	**Sg**	**04 30 29.3**	**0.0**
PFO	**Pinyon Flats O**	**1.16**	**328**	*e*Pg	**Pg**	**04 30 21.6**	**-2.1**
PFO				*e*Sg	**Sg**	**04 30 37.1**	**-1.6**
ZAX	**El Zacaton**	**1.20**	**203**	*e*P	**Pg**	**04 30 23.5**	**-0.9**
ZAX				*e*S	**Sg**	**04 30 39.6**	**-0.3**
ECNX	**Esteban Cantu**	**1.22**	**218**	*e*P	**Pg**	**04 30 23.7**	**-1.0**
ECNX				*e*S	**Sg**	**04 30 40.0**	**-0.5**
PBX	**Punta Banda**	**1.22**	**224**	*e*P	**Pg**	**04 30 23.7**	**-1.1**
PBX				*e*S	**Sg**	**04 30 40.0**	**-0.6**
ECBX	**El Chinero**	**1.28**	**153**	*e*P	**Pn**	**04 30 24.9**	**-0.9**
ECBX				*e*S	**Sg**	**04 30 41.9**	**-0.6**
SPIG	**San Pedro Mart**	**1.59**	**172**	*e*P	**Pn**	**04 30 30.4**	**+0.1**
SPIG				*i* S	**Sn**	**04 30 51.8**	**+0.5**
SPIG	**San Pedro Mart**	**1.59**	**172**	P	**Pb**	**04 30 31.3**	**0.0**
SPIG				*S*	**Sn**	**04 30 51.5**	**+0.2**
SPX	**San Pedro Mart**	**1.59**	**172**	*e*P	**Pn**	**04 30 29.2**	**-1.1**
SPX				*e*S	**Sn**	**04 30 51.9**	**+0.6**
LDFC	**Landfair**	**2.50**	**12**	*e*Pn	**Pn**	**04 30 42.6**	**-0.1**
LDFC				*e*Pg	**Pg**	**04 30 49.9**	**+0.6**
MWC	**Mount Wilson**	**2.52**	**310**	*e*Pn	**Pn**	**04 30 43.7**	**+0.6**
MWC				*e*Pg	**Pb**	**04 30 46.9**	**-0.3**
MWC				*e*Sg	**Sb**	**04 31 19.5**	**+0.8**
214A	**Organ Pipe Nat**	**2.55**	**104**	*e*Pn	**Pn**	**04 30 40.9**	**-2.4**
214A				*e*Pg	**Pg**	**04 30 49.5**	**-0.7**
PASC	**Pasadena Art C**	**2.58**	**308**	*e*Pn	**Pn**	**04 30 43.2**	**-0.4**
PASC				*e*Pg	**Pb**	**04 30 48.5**	**+0.5**
PASC				*e*Sg	**Sb**	**04 31 19.8**	**-0.1**
GSC	**Goldstone, Bar**	**2.82**	**342**	*e*Pn	**Pn**	**04 30 45.9**	**-1.2**
GSC				*e*Pg	**Pg**	**04 30 54.9**	**-0.5**
GSC				*e*Sg	**Sg**	**04 31 31.2**	**-0.8**
OSI	**Osito Audit: C**	**3.20**	**309**	*e*Pn	**Pn**	**04 30 52.0**	**-0.2**
OSI				*e*Sg	**Sb**	**04 31 40.8**	**+2.9**
ISA	**Isabella, Lake**	**3.80**	**324**	*e*Pn	**Pn**	**04 30 59.2**	**-1.3**
ISA				*e*Pg	**Pb**	**04 31 09.7**	**+0.8**
ISA				*e*Sg	**Sg**	**04 32 02.3**	**-1.0**
SHPR	**Sheep Range**	**3.90**	**7**	*e*Pn	**Pn**	**04 31 01.8**	**-0.3**
SHPR				*e*Pg	**Pg**	**04 31 17.3**	**+1.2**
SHPR				*e*Sg	**Sg**	**04 32 06.2**	**-0.5**
DAC	**Darwin (Calif)**	**3.96**	**338**	*e*Pn	**Pn**	**04 31 00.1**	**-2.8**
DAC				*e*Pg	**Pg**	**04 31 15.0**	**-2.3**
DAC				*e*Sg	**Sg**	**04 32 05.9**	**-2.7**
TUC	**Tucson**	**4.18**	**93**	*e*Pn	**Pn**	**04 31 04.2**	**-1.6**
TPNV	**Topopah Spring**	**4.34**	**354**	*e*Pn	**Pn**	**04 31 09.4**	**+1.4**
WUAZ	**Wupatki**	**4.62**	**50**	*e*Pn	**Pn**	**04 31 13.1**	**+1.2**
WUAZ				*e*Sg	**Sg**	**04 32 29.5**	**-0.3**
CCUT	**Cedar City**	**5.28**	**21**	*e*Pn	**Pn**	**04 31 22.1**	**+1.1**
CCUT				*e*Sg	**Sg**	**04 32 46.0**	**-5.0**
W18A	**Petrified Fore**	**5.57**	**62**	*e*Pn	**Pn**	**04 31 26.1**	**+1.1**
R11A	**Troy Canyon, C**	**5.72**	**1**	*e*Pg	**Pg**	**04 31 51.6**	**+0.7**
MVU	**Marysvale**	**6.53**	**25**	*e*Pn	**Pn**	**04 31 41.1**	**+2.9**
MVU				*e*Pg	**Pg**	**04 32 06.2**	**-0.2**
121A	**Cookes Peak, D**	**6.70**	**89**	*e*Pn	**Pn**	**04 31 39.6**	**-0.9**
	comp=E,12nm,0.6s						
MVCO	**Mesa Verde**	**7.49**	**50**	*e*Pn	**Pn**	**04 31 51.7**	**+0.3**
MVCO				*e*Pg	**Pg**	**04 32 26.2**	**+1.4**
Q24A	**Divide**	**10.66**	**51**	*e*Pn	Pn	04 32 41.7	+6.8
MSTX	**Muleshoe**	**10.92**	**79**	*e*Pn	Pn	04 32 42.6	+4.3
PHWY	**Pilot Hill**	**11.93**	**41**	*e*Pn	**Pn**	**04 32 53.4**	**+1.2**

*JMA **16** 04:36:16.9±0.8,46.°18N×152.°08E,h30km,M4.1*
*IDC **16** 04:36:19.2±1.4,45.°56N×149.°34E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.2/32,mbtmp3.4/3,Error ellipse: s-maj=71.0km s-min=31.3km az=101.0*
*SKHL **16** 04:36:19.5±0.1,45.°67N×152.°14E,h115km±8km,mb5.1/2, msh5.3/2*
ISC 16 04:36:18.0±2.4,45.°3N±0.°2×152.°5E±0.°2,h55km,n16, σ1§69/19,mb3.4/3,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.27**	**270**	*e*P	**Pn**	**04 37 06.4**	**-0.2**
KUR				AMB	AMB	04 37 07.8	
	141nm,0.4s						
KUR				*e*S	**Sn**	**04 37 41.6**	**-2.6**
KUR				A	A	04 37 52.5	
	153nm,0.9s						
KUR				A	A	04 37 52.5	
	151nm,0.9s						
SHO	**Shikotan**	**4.29**	**252**	*e*P	**Pn**	**04 37 22.4**	**+1.7**
SHO				*e*S	**Sn**	**04 38 10.2**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**4.90**	**257**	*e*P	Pn	04 37 32.8	+3.8
YUK				AMB	AMB	04 37 47.8	
	73nm,0.5s						
YUK				*e*S	**Sn**	**04 38 27.8**	**+3.5**
YUK				A	A	04 38 41.8	
	29nm,0.3s						
YUK				A	A	04 38 41.8	
	77nm,0.3s						
NEM2	**Nemuro 2**	**5.22**	**250**	P	**Pn**	**04 37 33.3**	**-0.1**
JRA	**Rausu**	**5.43**	**258**	P	**Pn**	**04 37 37.9**	**+1.5**
SKR	**Severo-Kuril's**	**5.90**	**23**	*e*P	**Pn**	**04 37 41.9**	**-0.8**
JAK	**Akkeshi**	**6.07**	**250**	P	**Pn**	**04 37 45.0**	**0.0**
JAK				*e*S	**Sn**	**04 38 51.3**	**-1.7**
JTKR	**Abashiri--Toko**	**6.27**	**261**	P	**Pn**	**04 37 48.9**	**+1.1**
JAR	**Ashorobuto**	**6.57**	**255**	P	**Pn**	**04 37 52.9**	**+0.9**
JAR				*e*S	**Sn**	**04 39 04.0**	**-1.5**
JKK2	**Kamakawa 2**	**7.10**	**262**	P	**Pn**	**04 38 00.3**	**+1.1**
JCH	**Churui**	**7.12**	**251**	P	**Pn**	**04 37 59.7**	**+0.3**
JCH				*e*S	**Sn**	**04 39 15.6**	**-3.2**
MYR	**Moyori**	**7.31**	**249**	*e*P	**Pn**	**04 38 02.6**	**+0.5**
JNBK	**Urakawa-nobuka**	**7.67**	**250**	P	**Pn**	**04 38 06.7**	**-0.3**
YKA	**Yellowknife Ar**	**52.34**	**36**	P	P	04 45 40.3	+17
	0.1nm,0.5s,baz=298,slow=6.5,SNR=3.6						
FINES	**FINESS Array B**	**65.16**	**335**	P	**P**	**04 46 53.6**	**+0.9**
	0.6nm,0.5s,baz=28,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**67.01**	**199**	P	P	04 47 11.3	+6.3
	0.4nm,0.9s,baz=16,slow=6.4,SNR=3.4						

*IDC **16** 04:45:02.0±1.0,7.°38S×130.°61E,h0km,mb4.0/6, mb1 4.1/8,mb1mx3.9/27,mbtmp4.0/8,ML4.1/2,Error ellipse: s-maj=60.8km s-min=20.1km az=70.0*
*ISCJB **16** 04:45:04.1±0.3,7.°51S±0.°03×130.°84E±0.°04,h33km, mb4.0/10,Error ellipse: s-maj=5.6km s-min=4.0km az=165.3*
*NEIC **16** 04:45:07.6±0.9,7.°52S×130.°84E,h54km±11km,mb4.2/6, Error ellipse: s-maj=12.6km s-min=8.8km az=65.0*
*DJA **16** 04:45:09.5±0.6,7.°5S×13.°1E±°,h101km±9km,M4.3/8, mb4.3/6,mB5.0/2,MLv4.3/8,Mw(mB)4.2/2*
ISC 16 04:45:05.9±0.5,7.°52S±0.°05×130.°87E±0.°06,h35km,n37, σ1§67/44,mb4.1/10,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.63**	**137**	P	Pn	04 45 27.9	+10
SAUI				S	Sn	04 45 45.5	+18
MSAI	**Masohi**	**4.57**	**335**	P	**Pn**	**04 46 12.6**	**0.0**
FAKI	**Fak Fak**	**4.77**	**17**	P	**Pn**	**04 46 17.4**	**+2.1**
FAKI				S	**Sn**	**04 47 11.2**	**+1.8**
FAKI	**Fak Fak**	**4.77**	**17**	*e*Pn	**Pn**	**04 46 17.3**	**+2.0**
FAKI				*e*Sn	**Sn**	**04 47 09.1**	**-0.4**
MTN	**Manton Dam**	**5.30**	**177**	P	Pn	04 46 27.9	+5.2
	baz=4.4,SNR=15						
KDU	**Kakadu**	**5.38**	**163**	P	Pn	04 46 28.6	+5.0
	baz=4.6,SNR=73						
KDU				S	Sn	04 47 31.1	+6.7
	baz=4.6,SNR=4.8						
NLAI	**Namlea**	**5.67**	**318**	P	**Pn**	**04 46 28.0**	**+0.3**
	53nm,0.6s,1μm0.2nm						
SOEI	**Soe**	**6.89**	**251**	P	**Pn**	**04 46 46.3**	**+1.6**
	29nm,0.7s,0.2nm						
SOEI				S	**Sn**	**04 48 02.8**	**+0.8**
	29nm,0.7s,0.2nm						
SOEI	**Soe**	**6.89**	**251**	P	**Pn**	**04 46 46.6**	**+1.9**
	baz=6.3,SNR=4.9						
SOEI	**Soe**	**6.89**	**251**	*e*Pn	**Pn**	**04 46 46.6**	**+1.9**
	17nm,0.6s						
SANI	**Sanana**	**7.29**	**318**	P	Pn	04 46 50.3	+0.3
	28nm,0.6s,0.1nm						
KNRA	**Kununurra**	**8.37**	**194**	P	**Pn**	**04 47 07.7**	**+2.9**
	baz=7.4,SNR=7.3						
KNRA				S	**Sn**	**04 48 36.8**	**-1.3**
	baz=7.4,SNR=5.7						
BKSI	**Bulukumba**	**10.90**	**281**	P	**Pn**	**04 47 40.9**	**+1.4**
	6.6nm,1.1s						
BNSI	**Bone**	**11.14**	**286**	P	**Pn**	**04 47 43.5**	**+0.7**
WRAB	**Tennant Creek**	**12.80**	**165**	*e*Pn	**Pn**	**04 48 06.0**	**+0.6**
	4.3nm,0.6s						
WRAB				*e*Sn	**Sn**	**04 50 24.5**	**-2.2**
WRA	**Warramunga Arr**	**12.80**	**165**	Pn	**Pn**	**04 48 06.3**	**+0.7**
	1.1nm,0.3s,baz=349,slow=13,SNR=38						
WRA				Sn	**Sn**	**04 50 24.2**	**-2.7**
	1.6nm,0.3s,baz=343,slow=20,SNR=7.6						
WB2	**Warramunga Arr**	**12.81**	**165**	*e*Pn	**Pn**	**04 48 06.3**	**+0.7**
WB2				*e*Sn	**Sn**	**04 50 24.5**	**-2.5**
COEN	**Coen**	**13.68**	**119**	P	**P**	**04 48 22.8**	**-3.0**
	baz=14,SNR=5.0						
COEN				S	**Sn**	**04 50 50.4**	**+2.1**
	baz=14,SNR=4.1						
COEN	**Coen**	**13.68**	**119**	*e*Pn	**Pn**	**04 48 19.8**	**+2.3**
QIS	**Mount Isa**	**15.48**	**148**	P	**P**	**04 48 44.6**	**-1.3**
	baz=15,SNR=4.0						
QIS				S	**Sn**	**04 51 31.8**	**-0.4**
	baz=15,SNR=3.1						
ASAR	**Alice Springs**	**16.32**	**170**	Pn	**P**	**04 48 54.4**	**-0.8**
	0.7nm,0.3s,baz=13,slow=13,SNR=23						
ASAR				Sn	**Sn**	**04 51 51.0**	**-1.6**
	0.4nm,0.3s,baz=353,slow=26,SNR=9.5						
WRKA	**Warakurna**	**17.60**	**188**	P	**P**	**04 49 08.8**	**-0.5**
	baz=17,SNR=11						
CTAO	**Charters Tower**	**19.45**	**132**	*e*P	**Pn**	**04 49 31.6**	**+0.5**
	5.6nm,0.8s						
KKM	**Kota Kinabalu**	**19.88**	**312**	*e*P	**P**	**04 49 35.2**	**+0.7**
	19nm,1.0s						
STKA	**Stephens Creek**	**26.22**	**159**	P	**P**	**04 50 41.7**	**+4.1**
	0.7nm,0.4s,baz=335,slow=9.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**40.72**	**310**	P	**P**	**04 52 42.2**	**-1.4**
	1.1nm,0.7s,baz=144,slow=7.6,SNR=6.0						
MJAR	**Matsushiro Arr**	**44.36**	**8**	P	**P**	**04 53 12.7**	**-0.3**
	0.9nm,0.3s,baz=177,slow=7.5,SNR=4.0						
ULN	**Ulaanbaatar**	**59.02**	**342**	*e*P	**P**	**04 55 02.1**	**-0.3**
	1.4nm,0.6s						
SONM	**Songino Array**	**59.20**	**341**	P	**P**	**04 55 03.9**	**+0.2**
	0.3nm,0.4s,baz=147,slow=7.2,SNR=3.7						
MKAR	**Manchi Array**	**69.13**	**327**	P	**P**	**04 56 08.4**	**-0.3**
	1.8nm,0.4s,baz=118,slow=8.0,SNR=51						
TKM2	**Tokmak 2**	**70.93**	**320**	*e*P	**P**	**04 56 17.9**	**-2.1**
AAK	**Ala-Archa**	**71.49**	**320**	*e*P	**P**	**04 56 23.0**	**-0.3**
	1.7nm,0.8s						
EKS2	**Erkin-Say**	**71.96**	**319**	*e*P	**P**	**04 56 25.8**	**-0.4**
	2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**72.42**	**333**	P	**P**	**04 56 29.1**	**+0.6**
	0.7nm,0.3s,baz=142,slow=12,SNR=2.8						
ABKAR	**Akbulak array**	**83.45**	**321**	*e*P	**P**	**04 57 29.1**	**-0.7**
MCK	**McKinley**	**92.36**	**26**	*e*P	**P**	**04 58 09.5**	**-3.0**
	7.2nm,1.4s						
TORD	**Torodi Ar. Bea**	**129.75**	**281**	PKP	**PKPdf**	**05 04 13.5**	**+0.9**
	0.5nm,0.7s,baz=98,slow=2.2,SNR=3.5						

*ISCJB **16** 04:53:46.1±0.7,11.°49S±0.°06×117.°55E±0.°06,h33km, Error ellipse: s-maj=8.5km s-min=7.3km az=41.3*
*AUST **16** 04:53:49.2±12.0,11.°55S×117.°43E,h53km,Error ellipse: s-maj=3.4km s-min=1.3km az=258.0*
*DJA **16** 04:53:54.7±0.8,11.°5S±6.°×11.°8E±°,h10km,M3.9/7,mb4.0/1, MLv3.8/7*
ISC 16 04:53:48.2±1.0,11.°49S±0.°08×117.°55E±0.°06,h35km,n10, σ0§94/10,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.58**	**45**	P	**Pn**	**04 54 27.3**	**-0.2**
WSI	**Waingapu**	**3.25**	**56**	P	Pn	04 54 42.5	+5.8
WSI				S	**Sn**	**04 55 13.2**	**-1.0**
WSI	**Waingapu**	**3.25**	**56**	S	Sn	04 55 06.9	-7.3
	baz=3.4,SNR=3.6						
JAGI	**Jajag, Banyuwa**	**4.50**	**312**	P	**Pn**	**04 54 54.4**	**+0.4**
	baz=4.5,SNR=14						
JAGI				S	**Sn**	**04 55 44.1**	**-1.0**
	baz=4.5,SNR=5.9						
BKSI	**Bulukumba**	**6.63**	**23**	P	**Pn**	**04 55 24.5**	**+1.2**
GIRL	**Giralia**	**11.54**	**196**	P	**Pn**	**04 56 30.9**	**+0.4**
	baz=12,SNR=5.9						
MTN	**Manton Dam**	**13.35**	**97**	S	**Sn**	**04 59 23.5**	**+1.0**
	baz=13,SNR=3.6						
MEEK	**Meekatharra**	**15.10**	**176**	P	**Pn**	**04 57 19.2**	**+0.1**
	baz=15,SNR=4.2						
WRKA	**Warakurna**	**16.89**	**144**	P	**Pn**	**04 57 40.9**	**-1.1**
	baz=17,SNR=3.2						
MORW	**Morawa**	**17.55**	**184**	P	**P**	**04 57 50.9**	**-0.1**
	baz=18,SNR=3.4						

IDC 16 05:16:30.5±2.4,3.°66S×142.°06E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/24,mbtmp3.3/3,ML3.3/1,MS3.7/1, Ms1 3.7/1,ms1mx2.8/18,Error ellipse: s-maj=50.1km s-min=17.3km az=58.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.77**	**310**	Pn	Pn	05 17 01.9	-0.6
	2.9nm,0.3s,baz=163,slow=9.7,SNR=13						
JAY				Lg	Lg	05 17 27.0	
	6.6nm,0.3s,baz=298,slow=9.3,SNR=6.8						
JAY				LR	LR	05 17 58.4	
	comp=Z,118nm,19.5s,baz=114,slow=50						
WRA	**Warramunga Arr**	**17.85**	**204**	P	P	05 20 41.8	+0.5
	0.1nm,0.3s,baz=24,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**21.39**	**201**	P	P	05 21 19.4	-0.6
	0.2nm,0.5s,baz=29,slow=12,SNR=3.7						
URZ	**Urewera**	**46.98**	**142**	LR	LR	05 43 01.4	
	comp=Z,74nm,19.3s,baz=24,slow=34						
MKAR	**Makanchi Array**	**72.60**	**322**	P	P	05 28 00.1	+0.2
	0.4nm,0.5s,baz=108,slow=8.0,SNR=5.2						

*IDC **16** 05:28:43.6±0.7,16.°72S×173.°62W,h0km,mb4.3/11, mb1 4.6/11,mb1mx4.2/38,mbtmp4.3/11,MS3.5/5, Ms1 3.5/5,ms1mx3.1/29,Error ellipse: s-maj=33.0km s-min=17.3km az=132.0*
*NEIC **16** 05:28:45.1±0.3,16.°64S×173.°68W,h10km,mb4.4/8,Error ellipse: s-maj=17.1km s-min=7.1km az=138.0*
*SZGRF **16** 05:28:48.0,17.°24S×173.°10W,h33km,Tonga Islands*
*ISCJB **16** 05:28:51.0±0.5,16.°7S±0.°1×173.°8W±0.°1,h66km,mb4.1/19, Error ellipse: s-maj=19.8km s-min=9.4km az=137.4*
ISC 16 05:28:52.5±0.6,16.°8S±0.°1×173.°7W±0.°2,h66km,n65, σ0§65/45,mb4.2/19,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.38**	**34**	*e*Pn	Pn	05 29 35.2	-7.8
MSVF	**Nonsavu**	**7.94**	**262**	*e*Pn	Pn	05 30 54.9	+10
DZM	**Mont Dzumac**	**19.45**	**251**	eLR	LR	05 38 19.8	
	350nm,24.9s						
DZM	**Mont Dzumac**	**19.45**	**251**	LR	LR	05 39 34.5	
	comp=Z,253nm,20.6s,baz=193,slow=33						
URZ	**Urewera**	**22.90**	**199**	P	**P**	**05 33 49.4**	**-1.4**
	6.4nm,0.5s,baz=55,slow=5.1,SNR=6.3						
PAE	**Paea**	**23.06**	**96**	*e*T	T	05 56 37.0	
	1.9nm,0.3s						
PPT2	**Papeete2**	**23.07**	**96**	*e*LR	LR	05 39 07.1	
	163nm,24.2s						
PPT2	**Papeete2**	**23.07**	**96**	*e*T	T	05 56 38.6	
	3.0nm,0.3s						
PPT	**Papeete**	**23.07**	**96**	LR	LR	05 40 12.4	
	comp=Z,84nm,20.3s,baz=232,slow=30						
TIAR	**Tiarei**	**23.29**	**96**	*e*T	T	05 56 54.0	
	1.9nm,0.3s						
TVO	**Taravao**	**23.37**	**96**	*e*T	T	05 57 01.0	
	1.4nm,0.3s						
TBI	**Tubuai**	**23.68**	**110**	*e*LR	LR	05 39 28.7	
	211nm,28.5s						
TBI	**Tubuai**	**23.68**	**110**	*e*T	T	05 57 41.7	
	7.7nm,0.3s						
PMOR	**Pomariorio Ree**	**24.88**	**90**	*e*T	T	05 58 47.1	
	2.3nm,0.3s						
HNR	**Honiara**	**26.65**	**283**	LR	LR	05 43 44.6	
	comp=Z,122nm,20.2s,baz=119,slow=34						
ARMA	**Armidale**	**34.41**	**240**	*e*P	**P**	**05 35 33.6**	**-0.3**
	5.6nm,0.7s						
RKT	**Rikitea**	**36.88**	**106**	*e*T	T	06 14 04.7	
	2.3nm,0.3s						
CMSA	**Cobar Meteorol**	**39.63**	**241**	P	**P**	**05 36 17.8**	**-0.2**
	baz=40,SNR=8.1						
QLP	**Quilpie**	**40.14**	**249**	P	**P**	**05 36 22.2**	**-0.1**
	baz=41,SNR=3.7						
STKA	**Stephens Creek**	**43.12**	**241**	P	**P**	**05 36 46.9**	**+0.3**
	11nm,0.9s,baz=87,slow=9.2,SNR=20						
STKA	**Stephens Creek**	**43.12**	**241**	P	**P**	**05 36 47.3**	**+0.7**
	baz=44,SNR=11						
BBOO	**Buckleboo**	**47.89**	**241**	P	**P**	**05 37 24.5**	**+0.2**
	baz=48,SNR=5.5						
WB2	**Warramunga Arr**	**49.25**	**258**	*e*P	**P**	**05 37 34.0**	**-0.9**
WRAB	**Tennant Creek**	**49.26**	**258**	*e*P	**P**	**05 37 34.1**	**-0.8**
	4.3nm,1.1s						
WRA	**Warramunga Arr**	**49.26**	**258**	P	**P**	**05 37 34.4**	**-0.7**
	0.8nm,0.3s,baz=96,slow=7.3,SNR=23						
ASAR	**Alice Springs**	**49.43**	**253**	P	**P**	**05 37 35.9**	**-0.3**
	19nm,0.7s,baz=86,slow=8.5,SNR=179						
WRKA	**Warakurna**	**54.47**	**251**	P	**P**	**05 38 13.5**	**-0.2**
	baz=55,SNR=22						
VNDA	**Vanda**	**62.01**	**186**	P	**P**	**05 39 05.9**	**+0.5**
	1.4nm,1.0s,baz=22,slow=4.6,SNR=4.9						
WSI	**Waingapu**	**64.40**	**267**	P	P	05 39 30.1	+7.8
	baz=65,SNR=6.5						
MJAR	**Matsushiro Arr**	**69.78**	**320**	LR	LR	06 05 11.0	
	comp=Z,17nm,21.8s,baz=100,slow=31						
QSPA	**South Pole Qui**	**73.30**	**180**	*e*P	**P**	**05 40 17.9**	**+1.0**
	15nm,1.7s						
NVAR	**Mina Array Bea**	**75.52**	**42**	P	**P**	**05 40 29.9**	**-0.4**
	0.8nm,0.8s,baz=224,slow=10,SNR=7.8						
TPH	**Tonopah**	**76.02**	**43**	*e*P	**P**	**05 40 32.4**	**-0.7**
	1.9nm,1.0s						
CISI	**Cisompet, Garu**	**76.87**	**266**	P	P	05 40 42.6	+4.3
	baz=78,SNR=7.0						
KSRS	**Korea Array**	**76.91**	**316**	P	**P**	**05 40 38.1**	**+0.3**
	0.8nm,0.6s,baz=131,slow=6.1,SNR=4.2						
KSAR	**Wonju Array Be**	**76.93**	**316**	P	**P**	**05 40 38.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**78.28**	**323**	LR	LR	06 10 35.7	
	comp=Z,26nm,21.4s,baz=163,slow=32						
ANMO	**Albuquerque**	**81.89**	**50**	*e*P	**P**	**05 41 05.1**	**-0.2**
	1.1nm,0.8s						
MCMT	**McKenzie Canyo**	**82.48**	**39**	*e*P	**P**	**05 41 08.1**	**-0.1**
	1.1nm,0.9s						
MCK	**McKinley**	**82.49**	**11**	*e*P	**P**	**05 41 07.0**	**-0.5**
	5.2nm,0.9s						
PDAR	**Pinedale Array**	**83.46**	**42**	P	**P**	**05 41 12.8**	**-0.6**
	2.1nm,0.8s,baz=211,slow=3.0,SNR=17						
COLA	**College**	**83.73**	**11**	*e*P	**P**	**05 41 14.1**	**+0.3**
ILAR	**Eielson Array**	**83.82**	**11**	P	**P**	**05 41 13.8**	**-0.5**
	0.6nm,0.5s,baz=225,slow=6.0,SNR=11						
HRY	**Holter Researc**	**84.09**	**38**	*e*P	**P**	**05 41 16.2**	**0.0**
	3.8nm,0.7s						
YKA	**Yellowknife Ar**	**91.44**	**23**	P	**P**	**05 41 50.7**	**-0.3**
	0.6nm,1.0s,baz=229,slow=4.4,SNR=7.4						
CMAR	**Chiang Mai Arr**	**92.76**	**288**	P	**P**	**05 41 59.4**	**+1.2**
	1.1nm,0.6s,baz=101,slow=2.2,SNR=11						
ARCES	**ARCESS Array B**	**125.89**	**352**	PKP	**PKPdf**	**05 47 46.3**	**0.0**
	2.8nm,0.9s,baz=313,slow=4.3,SNR=4.3						
IBBN	**Ibbenburen**	**144.50**	**358**	*e*PKPbc	PKPbc	05 48 20.5	+0.6
CLZ	**Clausthal**	**144.84**	**356**	*e*PKPbc	**PKPdf**	**05 48 21.9**	**0.0**
CLL	**Collm**	**145.11**	**353**	*e*PKPbc	**PKPdf**	**05 48 23.2**	**+0.9**
CLL	**Collm**	**145.11**	**353**	*i* PKPbc	**PKPdf**	**05 48 23.6**	**+1.3**
	comp=Z,7.0nm,0.7s						
BRG	**Bergg

comp=N,342nm,0.4s

SPX				⇓*e*			05 34 16.6	
SPX	**San Pedro Mart**	**1.17**	**186**	*e*P	**Pb**	**05 33 59.8**	**+0.1**
SPX				*e*S	**Sn**	**05 34 15.6**	**-0.1**
ECNX	**Esteban Cantu**	**1.22**	**244**	*e*P	**Pn**	**05 34 00.5**	**+0.1**
ECNX				*e*S	**Sn**	**05 34 16.8**	**+0.1**
BAR	**Barrett**	**1.24**	**293**	*e*Pg	**Pn**	**05 33 59.9**	**-0.6**
BAR				*e*Sg	**Sb**	**05 34 16.5**	**-0.1**
PBX	**Punta Banda**	**1.28**	**249**	*e*P	**Pn**	**05 34 01.2**	**+0.1**
PBX				*e*S	**Sg**	**05 34 19.0**	**+0.2**
PBX	**Punta Banda**	**1.28**	**249**	*e*P	**Pn**	**05 34 01.2**	**+0.1**
PBX				*e*S	**Sg**	**05 34 19.0**	**+0.2**
PFO	**Pinyon Flats O**	**1.69**	**326**	*e*Pn	**Pb**	**05 34 07.8**	**+0.9**
PFO				*e*Sn	**Sb**	**05 34 29.6**	**-0.2**
MWC	**Mount Wilson**	**3.05**	**312**	*e*Pn	**Pb**	**05 34 29.4**	**-2.3**
MWC				*e*Sg	**Sb**	**05 35 11.9**	**+2.9**
GSC	**Goldstone, Bar**	**3.33**	**339**	*e*Pg	**Pg**	**05 34 41.4**	**+0.2**
TUC	**Tucson**	**3.84**	**87**	*e*Pg	**Pg**	**05 34 51.0**	**-0.1**
SHPR	**Sheep Range**	**4.29**	**2**	*e*Pg	**Pg**	**05 34 59.2**	**-0.4**
SHPR				*e*Sg	**Sg**	**05 35 56.7**	**+1.5**
ISA	**Isabella, Lake**	**4.33**	**324**	*e*Pg	**Pg**	**05 34 57.8**	**-2.6**
ISA				*e*Sg	**Sg**	**05 35 54.3**	**-2.2**
DAC	**Darwin (Calif)**	**4.47**	**336**	*e*Pg	Pb	05 34 59.5	+3.5
WUAZ	**Wupatki**	**4.66**	**44**	*e*Pn	**Pn**	**05 34 49.1**	**+1.4**
WUAZ				*e*Pg	**Pg**	**05 35 08.3**	**+1.7**
CCUT	**Cedar City**	**5.57**	**16**	*e*Pg	**Pg**	**05 35 27.0**	**+2.9**

comp=N,3.2nm,0.8s

R11A	**Troy Canyon, C**	**6.13**	**358**	*e*Pg	**Pg**	**05 35 34.6**	**-0.3**

comp=N,1.0nm,0.5s

121A	**Cookes Peak, D**	**6.38**	**85**	*e*Pn	**Pn**	**05 35 10.6**	**-0.8**

comp=N,3.0nm,0.5s

IDC ***16*** *05:42:55.9±4.1,2.66S×139.34E,h35km±40km,mb3.3/4, mb1 3.8/5,mb1mx3.6/29,mbtmp3.7/5,ML4.4/1,MS3.0/2, Ms1 3.0/2,ms1mx2.7/16,Error ellipse: s-maj=40.8km s-min=22.4km az=119.0*

DJA ***16*** *05:43:02.1±0.7,3°S×14°×14°E±°,h82km±9km,M4.1/5, MLv4.1/5*

ISC 16 05:42:59.0±0.9,**2°36S**±0°.08×**139°26E**±0°.05,**h27**km,**n13, σ1§52/10,mb3.6/4,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GENI	**Genyem**	**0.94**	**104**	P	**Pb**		**05 43 17.8**	**+1.1**
GENI				S	**Sn**		**05 43 30.3**	**+1.3**
JAY	**Jayapura**	**1.45**	**96**	P	**Pn**		**05 43 23.4**	**-0.2**
JAY	**Jayapura**	**1.45**	**96**	Pg	**Pn**		**05 43 23.3**	**-0.3**

41nm,0.3s,baz=258,slow=9.6,SNR=215

JAY				Lg	Lg	05 43 40.1	

77nm,0.3s,baz=85,slow=12,SNR=19

WAMI	**Wamena**	**1.61**	**200**	P	**Pb**	**05 43 28.3**	**+0.2**
WAMI				S	**Sb**	**05 43 48.5**	**+0.5**
SRPI	**Serui, Papua**	**3.06**	**279**	P	**Pb**	**05 43 53.6**	**+0.8**
SRPI				S	**Sb**	**05 44 32.3**	**+2.6**
WRA	**Warramunga Arr**	**18.12**	**195**	P	Pn	05 47 01.2	-7.7

1.3nm,0.3s,baz=18,slow=13,SNR=43

ASAR	**Alice Springs**	**21.80**	**193**	P	P	05 47 42.5	-6.7

1.6nm,0.5s,baz=21,slow=10,SNR=26

CMAR	**Chiang Mai Arr**	**44.74**	**299**	P	**P**	**05 51 09.8**	**-0.7**

0.5nm,0.6s,baz=126,slow=5.4,SNR=4.8

PETK	**Petropavlovsk-**	**57.40**	**13**	LR	LR	06 13 20.6	

comp=Z,8.6nm,21.9s,baz=73,slow=32

TLY	**Talaya**	**61.73**	**336**	LR	LR	06 19 49.3	

comp=Z,22nm,19.2s,baz=206,slow=36

MKAR	**Makanchi Array**	**69.85**	**322**	P	**P**	**05 54 05.4**	**-2.1**

0.1nm,0.4s,baz=129,slow=5.9,SNR=3.2

ILAR	**Eielson Array**	**85.29**	**24**	P	P	05 55 28.3	-5.0

0.3nm,0.6s,baz=267,slow=5.0,SNR=3.9

DBIC	**Dimbokro**	**143.98**	**278**	PKP	PKPab	06 02 26.2	-4.3

3.6nm,0.7s,baz=83,slow=5.5,SNR=4.9

WEL 16 05:44:23.6±0.8,**36°92S×179°22E,h33km,ML3.6/4,1C-2D, Error ellipse: s-maj=9.5km s-min=8.7km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**0.98**	**228**	PN	Pn		05 44 37.8	-3.2
MXZ				AML	AML		05 44 50.1	
MXZ				SN	Sn		05 44 52.1	-1.6
WMGZ	**Waiomatatini S**	**1.11**	**215**	PN	Pn		05 44 42.7	-0.1
WMGZ				SN	Sb		05 44 57.9	-0.5
PUZ	**Puketiti**	**1.39**	**213**	PN	Pn		05 44 46.0	-0.7
PUZ				SN	Sn		05 45 03.2	-0.8
PUZ				AML	AML		05 45 08.1	
HAZ	**Te Kaha**	**1.42**	**233**	⇓PN	Pn		05 44 44.4	-2.7
HAZ				SN	Sn		05 45 05.0	+0.3
TWGZ	**Tauwhareparae**	**1.60**	**218**	PN	Pn		05 44 48.3	-0.4
TWGZ				SN	Sn		05 45 08.9	-0.4
CNGZ	**Carnagh Statio**	**1.76**	**207**	PN	Pn		05 44 51.9	+0.1
MWZ	**Matawai**	**1.95**	**223**	PN	Pn		05 44 53.9	-0.7
MWZ				AML	AML		05 45 24.0	
MWZ				AML	AML		05 45 28.1	
RIGZ	**Rimuhau**	**2.13**	**212**	PN	Pn		05 44 55.7	-1.2
RAGZ	**Rawiri**	**2.13**	**222**	PN	Pn		05 44 56.4	-0.7
URZ	**Urewera**	**2.15**	**231**	⇑PN	Pn		05 44 56.0	-1.1
URZ				SN	Sn		05 45 21.4	-1.3
URZ				AML	AML		05 45 24.6	
SNGZ	**Shannon Statio**	**2.38**	**218**	PN	Pn		05 44 59.4	-1.1
KNZ	**Kokohu**	**2.43**	**210**	PN	Pn		05 44 59.2	-1.9
KUZ	**Kuaotunu**	**2.81**	**272**	PN	Pn		05 45 03.5	-2.8
NMHZ	**Naumai**	**2.90**	**220**	PN	Pn		05 45 06.6	-1.0
ARHZ	**Aropaoanui**	**2.93**	**216**	PN	Pn		05 45 06.2	-1.7
BKZ	**Black Stump Fm**	**3.11**	**223**	PN	Pn		05 45 08.9	-1.6
MCHZ	**McNeill Hill**	**3.21**	**217**	PN	Pn		05 45 10.3	-1.5
MKAZ	**Moumakai**	**3.25**	**265**	PN	Pn		05 45 09.9	-2.4
KAHZ	**Kahuranaki**	**3.42**	**212**	PN	Pn		05 45 12.0	-2.7
KRHZ	**Kereru**	**3.53**	**219**	PN	Pn		05 45 14.0	-2.2
KRVZ	**Karewarewa**	**3.57**	**231**	PN	Pn		05 45 15.6	-1.3
BHHZ	**Black Hill Sta**	**3.58**	**223**	PN	Pn		05 45 15.2	-1.7
MOVZ	**Moawhango**	**3.70**	**227**	PN	Pn		05 45 16.5	-2.1
FWVZ	**Far West T-bar**	**3.72**	**230**	PN	Pn		05 45 17.7	-1.4
WNVZ	**Wahianoa**	**3.74**	**229**	PN	Pn		05 45 17.4	-1.8
TRVZ	**Turoa**	**3.75**	**229**	⇓PN	Pn		05 45 18.1	-1.4
WAZ	**Wanganui**	**4.37**	**228**	PN	Pn		05 45 26.0	-1.8
MRZ	**Mangatainoka R**	**4.70**	**216**	PN	Pn		05 45 28.1	-4.2

ISCJB ***16*** *05:46:24.4±0.4,7.91S±0.05×117.57E±0.03,h10km, mb4.0/7,MS3.0/2,Error ellipse: s-maj=6.9km s-min=4.0km az=175.5*

IDC ***16*** *05:46:24.5±1.4,7.73S×117.83E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.7/33,mbtmp3.8/8,ML3.8/1,MS3.1/2, Ms1 3.3/2,ms1mx2.6/34,Error ellipse: s-maj=92.4km s-min=16.3km az=51.0*

DJA ***16*** *05:46:28.6±0.4,8°S±4°×11°8E±°,h51km±20km,M4.6/16, mb5.1/1,mB5.0/1,MLv4.4/16,Mw(mB)4.3/1*

ISC 16 05:46:26.2±0.7,**7°96S**±0°.06×**117°56E**±0°.04,**h10**km,**n24, σ1§29/29,mb3.8/7,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRBI	**Singaraja**	**2.33**	**267**	P	**Pn**		**05 47 03.8**	**-0.7**
DNP	**Denpasar**	**2.43**	**253**	P	**Pn**		**05 47 06.3**	**+0.3**
WBSI	**Waikabubak, Su**	**2.46**	**133**	P	**Pn**		**05 47 06.6**	**+0.2**
WBSI				S	**Sn**		**05 47 36.5**	**-0.1**
IGBI	**Denpasar**	**2.54**	**250**	P	**Pn**		**05 47 07.2**	**-0.2**
IGBI				S	**Sn**		**05 47 39.5**	**+1.1**
ABJI	**Asem Bagus**	**3.30**	**273**	P	**Pn**		**05 47 17.5**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.41**	**261**	P	**Pn**		**05 47 19.0**	**-0.5**

baz=3.3,SNR=104

JAGI				S	**Sn**		**05 47 59.5**	**-0.5**

baz=3.3,SNR=5.8

BKSI	**Bulukumba**	**3.66**	**44**	P	**Pn**		**05 47 21.8**	**-1.0**
BKSI				S	**Sn**		**05 48 04.6**	**-1.4**
BLJI	**Banyuglugur**	**3.94**	**273**	P	**Pn**		**05 47 26.4**	**-0.3**
EDFI	**Ende, Flores**	**4.16**	**101**	P	**Pn**		**05 47 30.8**	**+0.9**
EDFI				S	**Sn**		**05 48 19.1**	**+0.4**
BNSI	**Bone**	**4.35**	**36**	P	**Pn**		**05 47 33.5**	**+1.1**
BNSI				S	**Sg**		**05 48 49.0**	**+3.0**
SPSI	**Sidrap Palu**	**4.54**	**29**	P	**Pn**		**05 47 34.2**	**-0.8**
GRJI	**Gresik**	**5.15**	**281**	P	**Pn**		**05 47 41.7**	**-1.6**
BATI	**Baumata**	**6.42**	**111**	Pn	**Pn**		**05 47 58.5**	**-2.5**

2.0nm,0.3s,baz=0.0,slow=0.0,SNR=2.0

SOEI	**Soe**	**6.86**	**106**	P	Pn	05 48 12.8	+5.8

baz=7.1,SNR=3.1

SOEI				S	**Sb**	**05 49 47.3**	**-0.5**

baz=7.1,SNR=6.4

UGM	**Wanagama**	**6.97**	**270**	P	**Pn**	**05 48 09.7**	**+1.2**

baz=6.8,SNR=11

WRA	**Warramunga Arr**	**20.15**	**128**	P	**P**	**05 50 59.5**	**-1.2**

0.6nm,0.5s,baz=303,slow=12,SNR=4.9

ASAR	**Alice Springs**	**22.12**	**137**	P	**P**	**05 51 20.9**	**-1.1**

1.3nm,0.7s,baz=311,slow=9.6,SNR=9.9

TGY	**Tagaytay City**	**22.18**	**9**	LR	LR	06 01 23.6	

comp=Z,32nm,19.1s,baz=322,slow=41

CMAR	**Chiang Mai Arr**	**32.04**	**325**	P	**P**	**05 52 53.9**	**+0.6**

0.2nm,0.4s,baz=149,slow=5.8,SNR=7.1

CMAR				LR	LR	06 06 13.8	

comp=Z,52nm,18.2s,baz=169,slow=37

STKA	**Stephens Creek**	**32.65**	**140**	P	**P**	**05 52 59.4**	**+0.9**

0.7nm,0.5s,baz=265,slow=12,SNR=1.9

HHC	**Hu-ho-hao-te**	**48.88**	**354**	*e*P	**P**	**05 55 14.8**	**+2.5**
HHC				pmax	pmax		

comp=Z,16nm,1.2s

HHC				pmax	pmax		

comp=Z,84nm,5.2s

SONM	**Songino Array**	**56.43**	**351**	P	**P**	**05 56 07.6**	**-0.5**

comp=Z,0.7nm,0.7s,baz=167,slow=9.8,SNR=3.9

MKAR	**Makanchi Array**	**62.90**	**334**	P	**P**	**05 56 50.9**	**-1.7**

comp=Z,1.6nm,0.6s,baz=146,slow=7.3,SNR=19

ZALV	**Zalesovo Beam**	**67.58**	**340**	P	**P**	**05 57 21.4**	**-1.3**

comp=Z,0.9nm,0.4s,baz=120,slow=5.8,SNR=4.7

ISCJB ***16*** *06:19:27.6±0.5,33.88S±0.03×71.44W±0.07,h61km±5km, mb3.7/5,Error ellipse: s-maj=10.1km s-min=5.1km az=16.3*

GUC ***16*** *06:19:27.8±0.7,33.89S×71.40W,h52km±12km,ML3.9*

IDC ***16*** *06:19:27.3±1.0,33.91S×71.59W,h48km±7km,mb3.5/5, mb1 3.8/9,mb1mx3.6/29,mbtmp3.8/9,Error ellipse: s-maj=25.6km s-min=23.3km az=136.0*

NEIC ***16*** *06:19:27.8,33.89S×71.40W,h52km,mb3.8/2,After GUC.*

NEIC Felt [III] at Curico and San Antonio; [II] at Linares, Parral, Quillota, San Felipe, San Fernando, Santiago, Talca and Valparaiso.

ISC 16 06:19:28.1±0.7,**33°88S**±0°.03×**71°43W**±0°.05,**h50**km±7km, **n33,σ0§90/50,mb3.8/5,2C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RCDM	**Rinconada Maip**	**0.65**	**53**	*e*P	**Pn**		**06 19 40.8**	**-0.4**
RCDM				*e*S	**Sn**		**06 19 51.2**	**+0.5**
RCDM				AML	AML		06 19 52.4	

comp=E,16μm,0.0s

RCDM	**Rinconada Maip**	**0.65**	**53**	*e*P	**Pn**		**06 19 40.8**	**-0.4**
RCDM				*e*S	**Sn**		**06 19 51.2**	**+0.5**
FSR	**Penalolen**	**0.85**	**62**	*e*P	Pn		06 19 32.7	-11
LACH	**Col Las Americ**	**0.86**	**61**	*e*P	**Pn**		**06 19 43.9**	**-0.1**
LACH				*e*S	**Sn**		**06 19 56.5**	**+0.8**
LACH	**Col Las Americ**	**0.86**	**61**	*e*P	**Pn**		**06 19 43.9**	**-0.1**
LACH				*e*S	**Sn**		**06 19 56.5**	**+0.8**
IHA	**Instituto Hidr**	**0.87**	**348**	⇑*e*P	**Pn**		**06 19 44.3**	**+0.3**
IHA				*i* S	**Sn**		**06 19 56.6**	**+0.9**
IHA	**Instituto Hidr**	**0.87**	**348**	⇑*e*P	**Pn**		**06 19 44.3**	**+0.3**
IHA				*i* S	**Sn**		**06 19 56.6**	**+0.9**
CLCH	**Cerro Calan**	**0.89**	**57**	⇓*e*P	**Pn**		**06 19 44.9**	**+0.5**
CLCH				*e*S	**Sn**		**06 19 56.7**	**+0.5**
CLCH				AML	AML		06 20 06.5	

comp=N,6μm,0.5s

PEL	**Peldehue**	**0.96**	**41**	*e*P	**Pn**		**06 19 46.0**	**+0.6**
PEL				*e*S	**Sn**		**06 19 58.8**	**+0.7**
PEL				AML	AML		06 20 08.1	

comp=N,9μm,0.4s

PEL	**Peldehue**	**0.96**	**41**	*e*P	**Pn**		**06 19 46.0**	**+0.6**
PEL				*e*S	**Sn**		**06 19 58.8**	**+0.7**
NICH	**Los Niches**	**1.13**	**172**	*e*P	**Pn**		**06 19 47.6**	**0.0**
NICH				*e*S	**Sn**		**06 20 02.3**	**+0.3**
NICH	**Los Niches**	**1.13**	**172**	*e*P	**Pn**		**06 19 47.6**	**0.0**
NICH				*e*S	**Sn**		**06 20 02.3**	**+0.3**
YECH	**El Yeso**	**1.14**	**80**	*e*P	**Pn**		**06 19 48.0**	**0.0**
YECH				*e*S	**Sn**		**06 20 03.6**	**+0.9**
YECH				AML	AML		06 20 11.2	

comp=N,3μm,0.6s

YECH	**El Yeso**	**1.14**	**80**	*e*P	**Pn**		**06 19 48.0**	**0.0**
YECH				*e*S	**Sn**		**06 20 03.6**	**+0.9**
TALC	**Talca**	**1.52**	**186**	*e*P	**Pn**		**06 19 53.4**	**+0.5**
TALC				*e*S	**Sn**		**06 20 12.2**	**+0.6**
TALC	**Talca**	**1.52**	**186**	*e*P	**Pn**		**06 19 53.4**	**+0.5**
TALC				*e*S	**Sn**		**06 20 12.2**	**+0.6**
LNCH	**Linares**	**1.97**	**184**	*e*P	**Pn**		**06 20 00.2**	**+1.3**
LNCH	**Linares**	**1.97**	**184**	P	**Pn**		**06 20 00.2**	**+1.3**
CFAA	**Coronel Fontan**	**3.52**	**51**	P	**Pn**		**06 20 23.1**	**+2.8**

comp=N,1.1nm,0.3s,baz=219,slow=3.5,SNR=51

CFAA				S	Sn		06 21 09.8	+9.1

comp=N,3.0nm,0.3s,baz=110,slow=16,SNR=4.5

PLCA	**Paso Flores**	**6.88**	**174**	P	**Pn**		**06 21 07.2**	**+0.9**

comp=N,1.2nm,0.3s,baz=336,slow=12,SNR=41

LVC	**Limon Verde**	**11.44**	**12**	P	**Pn**		**06 22 10.6**	**+1.6**

comp=N,4.9nm,0.3s,baz=128,slow=12,SNR=1.9

LPAZ	**La Paz**	**17.77**	**10**	P	**P**		**06 23 32.8**	**+0.1**

comp=N,0.1nm,0.3s,baz=168,slow=9.3,SNR=6.8

LPAZ	**La Paz**	**17.77**	**10**	*e*P	**Pn**		**06 23 30.9**	**-1.6**

comp=N,5.1nm,0.8s

SIV	**San Ignacio**	**20.11**	**30**	P	**P**		**06 23 57.7**	**-0.2**

comp=N,2.0nm,0.5s,baz=204,slow=7.4,SNR=9.5

SAML	**Samuel**	**25.95**	**19**	*e*P	**P**		**06 24 57.8**	**+1.9**

comp=N,3.7nm,0.9s

BDFB	**Brasilia**	**27.85**	**55**	P	**P**		**06 25 13.1**	**-0.1**

comp=N,1.8nm,0.7s,baz=216,slow=6.9,SNR=3.3

BDFB				pP	**pP**		**06 25 26.2**	**+0.3**

comp=N,4.0nm,0.9s,baz=198,slow=4.1,SNR=2.2

QSPA	**South Pole Qui**	**56.36**	**180**	pP	pP		06 29 16.3	-1.3

comp=N,3.5nm,0.9s,baz=35,slow=0.4,SNR=6.0

TXAR	**Lajitas Array**	**69.88**	**330**	P	**P**		**06 30 33.8**	**0.0**

comp=N,0.4nm,0.8s,baz=153,slow=7.9,SNR=4.1

TXAR				pP	**pP**		**06 30 47.2**	**-0.7**

comp=N,0.4nm,0.5s,baz=154,slow=8.7,SNR=5.1

TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**		**06 31 51.8**	**-0.1**

comp=N,1.0nm,0.9s,baz=269,slow=3.7,SNR=6.7

NVAR	**Mina Array Bea**	**84.07**	**325**	P	**P**		**06 31 52.8**	**-0.8**

comp=N,0.2nm,0.6s,baz=166,slow=8.4,SNR=2.5

NVAR				pP	**pP**		**06 32 06.3**	**-1.7**

comp=N,0.6nm,0.8s,baz=167,slow=5.3,SNR=3.9

YKA	**Yellowknife Ar**	**102.11**	**341**	P	**Pdif**		**06 33 15.4**	**-1.0**

comp=N,0.1nm,0.9s,baz=146,slow=5.5,SNR=3.0

YKA				pP			06 33 28.7	

comp=N,0.1nm,0.5s,baz=142,slow=4.3,SNR=3.0

ZALV	**Zalesovo Beam**	**153.85**	**33**	PKPbc	**PKPbc**		**06 39 19.9**	**-1.2**

comp=N,0.8nm,0.4s,baz=66,slow=1.8,SNR=4.5

ZALV				pPKPbc	**PKPab**		**06 39 34.6**	**+0.1**

comp=N,1.4nm,0.6s,baz=306,slow=5.3,SNR=2.3

MKAR	**Makanchi Array**	**156.30**	**49**	PKPbc	PKPdf		06 39 25.3	+8.5

comp=N,0.2nm,0.6s,baz=189,slow=5.4,SNR=4.2

MKAR				PKPab	**PKPab**		**06 39 45.1**	**-0.1**

comp=N,0.4nm,0.7s,baz=328,slow=4.3,SNR=4.4

ISCJB ***16*** *06:20:41.8±0.5,6.62S±0.04×130.22E±0.05,h146km, mb3.8/4,Error ellipse: s-maj=6.8km s-min=5.3km az=177.7*

IDC ***16*** *06:20:42.8±5.9,6.56S×130.15E,h141km±62km,mb3.5/5, mb1 3.7/8,mb1mx3.5/37,mbtmp4.1/8,Error ellipse: s-maj=49.9km s-min=16.1km az=42.0*

ISC 16 06:20:43.5±0.6,**6.70S**±0°.05×**130°26E**±0°.06,**h146**km,**n16, σ2§76/21,mb3.8/4,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FAKI	**Fak Fak**	**4.24**	**28**	P	**Pn**		**06 21 46.7**	**-0.2**

baz=4.2,SNR=45

FAKI				S	**Sn**		**06 22 32.9**	**-3.3**

baz=4.2,SNR=40

MTN	**Manton Dam**	**6.17**	**172**	P	Pn		06 22 15.4	+3.0

baz=6.4,SNR=24

MTN				S	**Sn**		**06 23 22.8**	**+0.7**

baz=6.4,SNR=18

KDU	**Kakadu**	**6.34**	**160**	P	**Pn**		**06 22 17.6**	**+2.8**

baz=6.6,SNR=117

KDU				S	**Sn**		**06 23 25.8**	**-0.4**

baz=6.6,SNR=16

SOEI	**Soe**	**6.67**	**242**	P	Pn		06 22 22.2	+2.9

baz=6.7,SNR=3.6

SOEI				S	**Sn**		**06 23 33.4**	**-0.8**

baz=6.7,SNR=8.0

BATI	**Baumata**	**7.40**	**241**	P	**Pn**		**06 22 29.7**	**+0.6**

10nm,0.3s,baz=287,slow=2.3,SNR=14

BATI				S	**Sn**		**06 23 49.5**	**-2.3**

6.7nm,0.3s,baz=72,slow=20,SNR=6.1

KNRA	**Kununurra**	**9.04**	**189**	P	**Pn**		**06 22 52.1**	**+1.1**

baz=9.2,SNR=11

KNRA				S	**Sn**		**06 24 27.2**	**-4.2**

baz=9.2,SNR=9.0

WRA	**Warramunga Arr**	**13.75**	**164**	P	**Pn**		**06 23 53.0**	**+0.5**

0.6nm,0.3s,baz=350,slow=11,SNR=31

WRA				S	**Sn**		**06 26 20.8**	**-4.0**

1.6nm,0.3s,baz=331,slow=25,SNR=11

COEN	**Coen**	**14.60**	**121**	P	P		06 24 09.0	+3.3

baz=15,SNR=12

COEN				S	Sn		06 26 36.1	-9.2

baz=15,SNR=4.9

QIS	**Mount Isa**	**16.49**	**148**	P	**P**		**06 24 29.4**	**+2.8**

baz=17,SNR=9.4

QIS				S	**S**		**06 27 24.2**	**-5.9**

baz=17,SNR=3.5

ASAR	**Alice Springs**	**17.23**	**169**	P	**Pn**		**06 24 37.6**	**+2.1**

1.2nm,0.3s,baz=348,slow=11,SNR=58

ASAR				S	**S**		**06 27 42.1**	**-4.9**

0.3nm,0.3s,baz=352,slow=26,SNR=5.4

WRKA	**Warakurna**	**18.33**	**186**	P	**Pn**		**06 24 49.2**	**+0.6**

baz=19,SNR=28

CTA	**Charters Tower**	**20.44**	**132**	P	**P**		**06 25 10.4**	**+0.7**

3.4nm,0.8s,baz=270,slow=14,SNR=2.1

STKA	**Stephens Creek**	**27.20**	**159**	P	**P**		**06 26 15.0**	**+1.4**

1.7nm,0.6s,baz=317,slow=8.8,SNR=3.7

CMAR	**Chiang Mai Arr**	**39.74**	**309**	P	P		06 27 59.0	-3.2

0.8nm,0.6s,baz=138,slow=7.9,SNR=6.4

SONM	**Songino Array**	**58.24**	**341**	P	**P**		**06 30 21.9**	**-0.8**

0.5nm,0.5s,baz=150,slow=7.4,SNR=3.4

MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**		**06 31 26.7**	**-1.1**

1.9nm,0.5s,baz=119,slow=8.3,SNR=29

CSEM ***16*** *06:31:27.1±0.5,37.33N×20.13E,h2km,MD3.7,Error ellipse: s-maj=9.3km s-min=5.0km az=58.0*

THE ***16*** *06:31:28.1,37.41N×20.18E,h0km±1km,ML3.2/7,Error ellipse: s-maj=1.9km s-min=0.8km az=242.0*

ATH ***16*** *06:31:30.2,37.46N×20.38E,h16km±2km,MD3.7/24*

ISC 16 06:31:30.0±1.6,**37°45N**±0°.04×**20°29E**±0°.06,**h12**km±9km, **n91,σ1§30/117,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

NIED **16** *06:34:00, 43.˚20N×146.˚50E, h38km, Mw3.7 Best double couple: M₀4.66000×10¹⁴ NP1:φ=247.00000°, δ=26.00000°, λ=116.00000°. NP2:φ=39.00000°, δ=67.00000°, λ=78.00000°.*
JMA **16** *06:34:59.7±0.2, 43.˚24N×146.˚48E, h45km±1km, M3.7*
MOS **16** *06:35:00.6±0.8, 43.˚45N×146.˚50E, h63km, mb4.1/3, Error ellipse: s-maj=20.3km s-min=15.2km az=64.8*
SKHL **16** *06:35:00.8±0.9, 43.˚38N×146.˚18E, h77km±3km, mb4.7/2*
ISCJB **16** *06:35:00.4±0.8, 43.˚34N±0.˚07×146.˚43E±0.˚07, h61km±6km, mb3.5/6, Error ellipse: s-maj=12.7km s-min=6.1km az=145.0*
IDC **16** *06:35:02.9±3.5, 44.˚97N×146.˚09E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/29, mbtmp3.6/7, ML3.7/1, MS2.9/4, Ms1 2.9/4, ms1mx2.5/47, Error ellipse: s-maj=94.0km s-min=23.2km az=159.0*
ISC 16 06:35:01.6±1.1, 43.˚37N±0.˚08×146.˚40E±0.˚06, h54km±8km, n29, σ1=28/35, mb3.4/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.48**	**269**	P			**Pn**	**06 35 11.3**	**-1.5**
NEM2				*e*S			**Sn**	**06 35 19.7**	**-1.2**
SHO	**Shikotan**	**0.59**	**32**	*e*P			**Pn**	**06 35 15.6**	**+1.5**
SHO				*e*S			**Sn**	**06 35 26.0**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**0.77**	**330**	*d* iPN			**Pn**	**06 35 15.5**	**-0.9**
YUK				*i* S			**Sn**	**06 35 27.2**	**+0.1**
YUK	comp=N,85nm,0.4s			pmax	pmax				
YUK	comp=Z,960nm,0.4s			pmax	pmax				
YUK	comp=E,78nm,0.1s			pmax	pmax				
YUK	comp=N,811nm,0.6s			smax	smax				
YUK	comp=E,1μm,0.6s			smax	smax				
YUK	**Yuzh-Kuril'sk**	**0.77**	**330**	*e*P			**Pn**	**06 35 15.5**	**-0.9**
YUK				AMB	AMB			06 35 16.0	
YUK	comp=E,960nm,0.6s			*e*S			**Sn**	**06 35 27.2**	**+0.1**
YUK				A	A			06 35 30.1	
YUK	comp=E,811nm,0.6s			A	A			06 35 30.1	
YUK	comp=E,1μm,0.6s			A	A			06 35 30.1	
JRA	**Rausu**	**1.08**	**302**	P			**Pn**	**06 35 20.6**	**+0.1**
JRA				*e*S			**Sn**	**06 35 36.3**	**+1.7**
JNK	**Nakash**	**1.24**	**280**	P			**Pn**	**06 35 21.9**	**-0.8**
JNK				*e*S			**Sn**	**06 35 38.4**	**+0.1**
JAK	**Akkeshi**	**1.30**	**254**	P			**Pn**	**06 35 22.0**	**-1.5**
JTKR	**Abashiri--Toko**	**1.90**	**289**	P			**Pn**	**06 35 32.5**	**+0.9**
JAR	**Ashorobuto**	**1.92**	**269**	P			**Pn**	**06 35 31.5**	**-0.4**
JAR				*e*S			**Sn**	**06 35 55.2**	**+0.3**
JOB	**Onbets**	**1.93**	**257**	P			**Pn**	**06 35 31.4**	**-0.7**
KUR	**Kuril'sk**	**2.14**	**29**	*e*PN			**Pn**	**06 35 34.3**	**-0.5**
KUR				*i* S			**Sn**	**06 35 59.5**	**-0.7**
KUR	comp=Z,60nm,1.7s			pmax	pmax				
KUR	comp=N,36nm,0.1s			pmax	pmax				
KUR	comp=E,39nm,0.6s			pmax	pmax				
KUR	comp=E,145nm,0.4s			smax	smax				
KUR	comp=N,236nm,0.5s			smax	smax				
KUR	**Kuril'sk**	**2.14**	**29**	*e*P			**Pn**	**06 35 34.3**	**-0.5**
KUR				AMB	AMB			06 35 38.2	
KUR	comp=N,600nm,1.7s			*e*S			**Sn**	**06 35 59.5**	**-0.7**
KUR				A	A			06 36 07.7	
KUR	comp=N,145nm,0.4s			A	A			06 36 07.7	
KUR	comp=N,240nm,0.4s			A	A			06 36 07.7	
JMP	**Maruseppu**	**2.29**	**287**	P			**Pn**	**06 35 38.0**	**+1.0**
JCH	**Churui**	**2.35**	**252**	P			**Pn**	**06 35 36.3**	**-1.5**
ERM	**Erimo**	**2.75**	**241**	*e*PN			**Pn**	**06 35 45.9**	**+2.7**
ASAJ	**Asahikawa**	**2.85**	**286**	Pn			**Pn**	**06 35 46.7**	**+2.1**
ASAJ	comp=N,10nm,0.3s,baz=119,slow=11,SNR=24			Sn			Sn	06 36 25.6	+7.9
ASAJ	comp=N,3.8nm,0.3s,baz=40,slow=30,SNR=4.0			LR			LR	06 37 01.3	
MAJO	**Matsushiro**	**9.28**	**225**	*e*PN			**Pn**	**06 37 14.7**	**+2.0**
PETK	**Petropavlovsk-**	**12.30**	**34**	LR			LR	06 41 43.2	
SONM	comp=N,18nm,21.4s,baz=38,slow=36 **Songino Array**	**28.11**	**293**	P			**P**	**06 40 49.5**	**+1.1**
SONM	comp=Z,1.0nm,0.6s			pmax	pmax				
SONM	**Songino Array**	**28.11**	**293**	P			**P**	**06 40 49.5**	**+1.1**
ILAR	comp=Z,0.5nm,0.6s,baz=72,slow=11,SNR=3.1 **Eielson Array**	**42.11**	**36**	P			**P**	**06 42 47.3**	**-0.8**
MKAR	comp=Z,0.4nm,0.9s,baz=280,slow=9.7,SNR=4.9 **Makanchi Array**	**44.27**	**298**	P			**P**	**06 43 06.5**	**+0.8**
YKA	comp=Z,0.3nm,0.5s,baz=87,slow=7.2,SNR=5.0 **Yellowknife Ar**	**56.42**	**33**	P			**P**	**06 44 36.6**	**-0.6**
BATI	comp=Z,0.4nm,0.8s,baz=297,slow=6.6,SNR=6.1 **Baumata**	**57.21**	**207**	LR			LR	07 08 43.7	
FINES	comp=Z,48nm,20.3s,baz=311,slow=34 **FINESS Array B**	**64.96**	**333**	P			**P**	**06 45 33.9**	**-1.3**
FINES	comp=Z,1.0nm,0.8s			pmax	pmax				
FINES	**FINESS Array B**	**64.96**	**333**	P			**P**	**06 45 33.9**	**-1.3**
AKASG	comp=Z,1.3nm,0.8s,baz=47,slow=6.1,SNR=2.7 **Malin Array Be**	**71.56**	**323**	P			**P**	**06 46 16.7**	**0.0**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax				
AKASG	**Malin Array Be**	**71.56**	**323**	P			**P**	**06 46 16.7**	**0.0**
MMAI	comp=Z,0.5nm,0.4s,baz=42,slow=6.6,SNR=4.6 **Mount Meron Ar**	**81.28**	**307**	LR			LR	07 29 59.9	
	comp=Z,15nm,18.7s,baz=5.0,slow=41								

ISCJB **16** *06:48:29.6±0.7, 49.˚13N±0.˚09×98.˚15E±0.˚08, h10km, mb3.7/3, MS2.9/1, Error ellipse: s-maj=13.8km s-min=7.3km az=168.6*
MOS **16** *06:48:29.8±1.2, 49.˚17N×98.˚25E, h10km, mb4.0/3, Error ellipse: s-maj=18.5km s-min=13.6km az=59.7*
IDC **16** *06:48:30.1±0.9, 49.˚24N×98.˚21E, h0km, mb3.7/3, mb1 3.5/8, mb1mx3.4/45, mbtmp3.5/8, ML2.9/5, MS3.0/1, Ms1 3.2/1, ms1mx2.2/47, Error ellipse: s-maj=19.7km s-min=8.5km az=169.0*
ISC 16 06:48:31.4±0.8, 49.˚29N±0.˚09×98.˚27E±0.˚07, h10km, n22, σ1=38/21, mb3.7/3, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOY	**Mondy**	**2.95**	**35**	*e*PN			**Pn**	**06 49 20.5**	**+2.1**
MOY				*e*				06 49 57.1	
MOY	comp=Z,628nm,0.5s			pmax	pmax				
MOY	comp=N,641nm,0.4s			smax	smax				
ORL	**Orlik**	**3.40**	**16**	*e*PN			Pn	06 49 27.7	+3.1
ORL				*e*				06 50 08.2	
ORL	comp=Z,134nm,0.3s			pmax	pmax				
ORL	comp=E,459nm,0.6s			smax	smax				
ZAK	**Zakamensk**	**3.42**	**69**	*e*PN			**Pn**	**06 49 25.6**	**+0.7**
ZAK				*e*				06 49 31.3	
ZAK				*e*				06 50 15.6	
ZAK	comp=Z,90nm,0.6s			pmax	pmax				
ZAK	comp=N,242nm,0.7s			smax	smax				
ARS	**Arshan**	**3.73**	**44**	*e*PN			**Pb**	**06 49 37.6**	**+0.2**
ARS				*e*				06 50 23.2	
ARS	comp=Z,126nm,0.6s			pmax	pmax				
ARS	comp=E,621nm,0.7s			smax	smax				
TLY	**Talaya**	**4.18**	**53**	*e*PN			**Pn**	**06 49 34.6**	**-0.7**
TLY				*e*				06 50 36.2	
TLY	comp=Z,19nm,0.4s			pmax	pmax				
TLY	comp=E,44nm,0.7s			smax	smax				
TLY	**Talaya**	**4.18**	**53**	Pn			**Pn**	**06 49 37.4**	**+2.1**
TLY	comp=E,0.0nm,0.3s,baz=226,slow=10.0,SNR=25			Pg			**Pb**	**06 49 43.7**	**-1.4**
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=28								
TLY				Lg				06 50 36.0	
	comp=E,0.4nm,0.3s,baz=61,slow=9.2,SNR=15								
IRK	**Irkutsk**	**4.82**	**50**	*e*PN			**Pb**	**06 49 54.8**	**-1.1**
IRK				*e*				06 50 55.4	
IRK	comp=Z,145nm,0.1s			pmax	pmax				
IRK	comp=N,432nm,0.4s			smax	smax				
SONM	**Songino Array**	**5.58**	**102**	PN			**Pn**	**06 49 55.9**	**+1.3**
SONM								06 50 12.6	
SONM	comp=Z,1.0nm,0.3s			pmax	pmax				
SONM	comp=Z,2.0nm,0.3s			pmax	pmax				
SONM	**Songino Array**	**5.58**	**102**	Pn			**Pn**	**06 49 55.9**	**+1.3**
SONM	comp=Z,0.5nm,0.3s,baz=293,slow=14,SNR=5.8			Pg			Pb	06 50 12.6	+3.6
SONM	comp=Z,1.6nm,0.3s,baz=288,slow=18,SNR=13			Lg				06 51 26.9	
TRG	comp=Z,7.3nm,0.3s,baz=258,slow=40,SNR=12 **Tyrgan**	**6.17**	**53**	*e*PN			**Pn**	**06 50 03.4**	**+0.9**
TRG				*e*				06 50 20.8	
TRG				*e*				06 51 35.7	
TRG	comp=Z,21nm,0.9s			pmax	pmax				
TRG	comp=N,121nm,1.1s			smax	smax				
OGRR	**Ongureny**	**7.27**	**50**	*e*P			**Pn**	**06 50 15.0**	**-2.6**
OGRR	comp=Z,33nm,0.7s			pmax	pmax				
ZALV	**Zalesovo Beam**	**9.58**	**304**	Pg			Pn	06 51 24.1	+35
ZALV	comp=Z,0.3nm,0.3s,baz=104,slow=16,SNR=2.9			Lg			Lg	06 53 29.7	
MKAR	comp=Z,0.5nm,0.3s,baz=113,slow=27,SNR=7.8 **Makanchi Array**	**10.99**	**263**	Pn			**Pn**	**06 51 06.5**	**-2.1**
MKAR	comp=Z,0.0nm,0.3s,baz=64,slow=6.6,SNR=2.2			Pg				06 51 53.0	
MKAR	comp=Z,0.1nm,0.3s,baz=73,slow=17,SNR=3.9			Lg			Lg	06 54 17.4	
KURK	comp=Z,0.2nm,0.3s,baz=74,slow=33,SNR=7.0 **Kurchatov**	**12.72**	**284**	P			**Pn**	**06 51 32.2**	**-0.1**
KURBB	**Kurchatov Arra**	**12.78**	**283**	Pn			**Pn**	**06 51 32.2**	**-0.9**
KURBB	comp=Z,0.1nm,0.3s,baz=84,slow=10,SNR=6.3			Lg			Lg	06 55 15.1	
BVAR	comp=Z,0.1nm,0.3s,baz=86,slow=31,SNR=5.3 **Borovoye Array**	**17.83**	**293**	P			**P**	**06 52 39.7**	**-0.5**
CMAR	comp=Z,0.1nm,0.3s,baz=91,slow=12,SNR=2.6 **Chiang Mai Arr**	**30.76**	**179**	P			**P**	**06 54 46.5**	**-0.4**
CMAR	comp=Z,1.0nm,0.4s			pmax	pmax				
CMAR	comp=Z,27nm,19.0s			MLR	MLR				
CMAR	**Chiang Mai Arr**	**30.76**	**179**	P			**P**	**06 54 46.5**	**-0.4**
CMAR	comp=Z,0.5nm,0.4s,baz=20,slow=13,SNR=3.3			LR			LR	07 06 56.7	
AKASG	comp=Z,27nm,19.0s,baz=168,slow=36 **Malin Array Be**	**42.93**	**299**	P			**P**	**06 56 31.1**	**+1.1**
AKASG	comp=Z,1.0nm,0.6s			pmax	pmax				
AKASG	**Malin Array Be**	**42.93**	**299**	P			**P**	**06 56 31.1**	**+1.1**
BRTR	comp=Z,0.7nm,0.6s,baz=58,slow=9.3,SNR=2.6 **Keskin Array B**	**45.78**	**283**	P			**P**	**06 56 54.2**	**+1.0**
BRTR	comp=Z,1.0nm,0.6s			pmax	pmax				
BRTR	**Keskin Array B**	**45.78**	**283**	P			**P**	**06 56 54.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=89,slow=6.3,SNR=4.6								

CSEM **16** *06:53:58.2±0.5, 37.˚39N×20.˚16E, h2km, MD3.6, Error ellipse: s-maj=10.5km s-min=5.7km az=62.0*
THE **16** *06:53:59.3, 37.˚45N×20.˚21E, h0km±1km, ML2.9/5, Error ellipse: s-maj=2.2km s-min=1.0km az=234.0*
ATH **16** *06:54:01.2, 37.˚45N×20.˚41E, h21km±2km, MD3.6/22*
ISC 16 06:53:58.9±1.8, 37.˚42N±0.˚04×20.˚20E±0.˚06, h3km±10km, n79, σ0=68/102, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.68**	**104**	P			**Pg**	**06 54 11.6**	**-0.3**
SFD				S			**Sg**	**06 54 21.7**	**+1.0**
SFD	**Strofades**	**0.68**	**104**	*e*PN			**Pg**	**06 54 12.4**	**+0.5**
SFD	**Strofades**	**0.68**	**104**	P			**Pg**	**06 54 11.6**	**-0.3**
SFD	**Strofades**	**0.68**	**104**	*e*Pn			**Pg**	**06 54 12.4**	**+0.5**
SFD				S			**Sg**	**06 54 21.7**	**+1.0**
VLS	**Valsamata**	**0.82**	**22**	P			**Pg**	**06 54 13.8**	**-0.8**
VLS				S			**Sg**	**06 54 25.8**	**+0.6**
VLS	**Valsamata**	**0.82**	**22**	*e*PN			**Pb**	**06 54 15.2**	**-0.6**
VLS				*e*SN			**Sg**	**06 54 26.3**	**+1.1**
VLS	**Valsamata**	**0.82**	**22**	P			**Pg**	**06 54 13.8**	**-0.8**
VLS	**Valsamata**	**0.82**	**22**	*e*Pn			**Pb**	**06 54 15.2**	**-0.6**
VLS				S			**Sg**	**06 54 25.8**	**+0.6**
KFL	**Anninata**	**0.83**	**34**	P			**Pg**	**06 54 14.0**	**-0.9**
KFL				S			**Sg**	**06 54 26.3**	**+0.6**
KFL	**Anninata**	**0.83**	**34**	P			**Pg**	**06 54 14.0**	**-0.9**
KFL				S			**Sg**	**06 54 26.3**	**+0.6**
RLS	**Riolos of Patr**	**1.19**	**57**	P			**Pg**	**06 54 21.3**	**-0.5**
RLS				S			**Sb**	**06 54 38.5**	**+0.6**
RLS	**Riolos of Patr**	**1.19**	**57**	*e*PN			**Pg**	**06 54 21.4**	**-0.4**
RLS	**Riolos of Patr**	**1.19**	**57**	*e*Pn			**Pg**	**06 54 21.4**	**-0.4**
RLS				S			**Sb**	**06 54 38.5**	**+0.6**
AMT	**Artemida-Makis**	**1.21**	**84**	P			**Pb**	**06 54 22.3**	**-0.2**
AMT				S			**Sn**	**06 54 39.3**	**-0.4**
AMT	**Artemida-Makis**	**1.21**	**84**	*e*PN			**Pg**	**06 54 21.9**	**-0.2**
AMT	**Artemida-Makis**	**1.21**	**84**	*e*Pn			**Pg**	**06 54 21.9**	**-0.2**
AMT	**Artemida-Makis**	**1.21**	**84**	P			**Pb**	**06 54 22.3**	**-0.2**
AMT				S			**Sn**	**06 54 39.3**	**-0.4**
DRO	**Drossia**	**1.31**	**66**	P			**Pg**	**06 54 23.2**	**-0.9**
DRO				S			**Sn**	**06 54 42.3**	**+0.1**
DRO	**Drossia**	**1.31**	**66**	*e*PN			**Pg**	**06 54 23.4**	**-0.7**
DRO	**Drossia**	**1.31**	**66**	*e*Pn			**Pg**	**06 54 23.4**	**-0.7**
DRO				S			**Sn**	**06 54 42.3**	**+0.1**
PYL	**PYLOS**	**1.34**	**113**	*e*PN			**Pn**	**06 54 23.2**	**-1.4**
PYL	**PYLOS**	**1.34**	**113**	*e*Pn			**Pn**	**06 54 23.2**	**-1.4**
ITM	**Ithomi**	**1.40**	**99**	*e*PB			**Pn**	**06 54 23.7**	**-1.7**
ITM	**Ithomi**	**1.40**	**99**	*e*Pb			**Pn**	**06 54 23.7**	**-1.7**
PDO	**Prodromos**	**1.41**	**33**	P			**Pn**	**06 54 25.4**	**0.0**
PDO				S			**Sn**	**06 54 45.3**	**+0.7**
PDO	**Prodromos**	**1.41**	**33**	*e*PN			**Pn**	**06 54 25.5**	**0.0**
PDO	**Prodromos**	**1.41**	**33**	*e*Pn			**Pn**	**06 54 25.5**	**0.0**
PDO				S			**Sn**	**06 54 45.3**	**+0.7**
KLV	**Kalavryta, Ach**	**1.67**	**68**	P			**Pn**	**06 54 28.2**	**-0.9**
KLV	**Kalavryta, Ach**	**1.67**	**68**	*e*PN			**Pn**	**06 54 28.4**	**-0.7**
KLV	**Kalavryta, Ach**	**1.67**	**68**	*e*Pn			**Pn**	**06 54 28.4**	**-0.7**
EFP	**Efpalio**	**1.68**	**53**	P			**Pn**	**06 54 29.4**	**+0.1**
EFP				S			**Sb**	**06 54 52.8**	**+0.7**
EFP	**Efpalio**	**1.68**	**53**	*e*PN			**Pn**	**06 54 29.7**	**+0.4**
EFP	**Efpalio**	**1.68**	**53**	P			**Pn**	**06 54 29.4**	**+0.1**
EFP	**Efpalio**	**1.68**	**53**	*e*Pn			**Pn**	**06 54 29.7**	**+0.4**
EFP				S			**Sb**	**06 54 52.8**	**+0.7**
VLX	**Vlachokerasia**	**1.74**	**91**	*e*PN			**Pn**	**06 54 30.2**	**+0.1**
VLX	**Vlachokerasia**	**1.74**	**91**	*e*Pn			**Pn**	**06 54 30.2**	**+0.1**
GUR	**Goura**	**1.78**	**73**	P			**Pn**	**06 54 30.5**	**-0.2**
GUR				S			**Sn**	**06 54 54.1**	**+0.3**
GUR	**Goura**	**1.78**	**73**	*e*PN			**Pn**	**06 54 30.4**	**-0.2**
GUR	**Goura**	**1.78**	**73**	P			**Pn**	**06 54 30.5**	**-0.2**
GUR				S			**Sn**	**06 54 54.1**	**+0.3**
KALE	**Kalithea**	**1.82**	**57**	P			**Pn**	**06 54 31.3**	**+0.1**
KALE				S			**Sb**	**06 54 55.8**	**-0.2**
KALE	**Kalithea**	**1.82**	**57**	*e*PN			**Pn**	**06 54 31.5**	**+0.3**
KALE	**Kalithea**	**1.82**	**57**	P			**Pn**	**06 54 31.3**	**+0.1**
KALE				S			**Sb**	**06 54 55.8**	**-0.2**
DSL	**Palaion Diasel**	**1.85**	**22**	P			**Pn**	**06 54 31.4**	**-0.2**
DSL				S			**Sn**	**06 54 55.2**	**-0.3**
DSL	**Palaion Diasel**	**1.85**	**22**	*e*PN			**Pb**	**06 54 32.8**	**-0.6**
DSL	**Palaion Diasel**	**1.85**	**22**	P			**Pn**	**06 54 31.4**	**-0.2**
DSL	**Palaion Diasel**	**1.85**	**22**	*e*Pn			**Pb**	**06 54 32.8**	**-0.6**
DSL				S			**Sn**	**06 54 55.2**	**-0.3**
EVR	**Evrytania**	**1.96**	**40**	*e*PN			**Pb**	**06 54 34.3**	**-1.0**
EVR	**Evrytania**	**1.96**	**40**	*e*Pn			**Pb**	**06 54 34.3**	**-1.0**
IGT	**Igoumenitsa**	**2.11**	**3**	*e*PN			**Pg**	**06 54 38.6**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.20**	**43**	P			**Pn**	**06 54 36.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.20**	**43**	*e*PN			**Pn**	**06 54 37.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.20**	**43**	P			**Pn**	**06 54 36.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.20**	**43**	*e*Pn			**Pn**	**06 54 37.5**	**+1.1**
LTK	**Loutraki**	**2.28**	**74**	*e*PB			**Pn**	**06 54 36.5**	**-1.0**
LTK	**Loutraki**	**2.28**	**74**	*e*Pb			**Pn**	**06 54 36.5**	**-1.0**
VLI	**Veliai**	**2.30**	**107**	*e*PN			**Pn**	**06 54 38.8**	**+1.0**
VLI	**Veliai**	**2.30**	**107**	*e*Pn			**Pn**	**06 54 38.8**	**+1.0**
KEK	**Kerkira**	**2.31**	**352**	*e*PB			**Pb**	**06 54 41.2**	**0.0**
AGG	**Agios Georgios**	**2.32**	**46**	*e*PB			**Pn**	**06 54 38.2**	**+0.2**
AGG	**Agios Georgios**	**2.32**	**46**	*e*Pb			**Pn**	**06 54 38.2**	**+0.2**
AXAR	**Agios Charalam**	**2.36**	**55**	*e*PB			**Pn**	**06 54 39.3**	**+0.7**
AXAR	**Agios Charalam**	**2.36**	**55**	*e*Pb			**Pn**	**06 54 39.3**	**+0.7**
LKR	**Lokris**	**2.53**	**60**	*e*PN			**Pn**	**06 54 40.2**	**-0.7**
LKR	**Lokris**	**2.53**	**60**	*e*Pn			**Pn**	**06 54 40.2**	**-0.7**
KYTH	**Kithira**	**2.55**	**116**	P			**Pn**	**06 54 41.2**	**0.0**
KYTH	**Kithira**	**2.55**	**116**	*e*PN			**Pn**	**06 54 41.2**	**0.0**
KYTH	**Kithira**	**2.55**	**116**	P			**Pn**	**06 54 41.2**	**0.0**
XOR	**Xorichti**	**3.05**	**50**	*e*PN			**Pn**	**06 54 48.8**	**+0.7**
XOR	**Xorichti**	**3.05**	**50**	*e*Pn			**Pn**	**06 54 48.8**	**+0.7**
NEST	**Nestorio**	**3.06**	**12**	*e*PN			**Pn**	**06 54 49.8**	**+1.5**
NEST	**Nestorio**	**3.06**	**12**	*e*Pn			**Pn**	**06 54 49.8**	**+1.5**
FNA	**Florina**	**3.48**	**15**	*e*PN			**Pn**	**06 54 54.4**	**+0.4**
FNA	**Florina**	**3.48**	**15**	*e*Pn			**Pn**	**06 54 54.4**	**+0.4**
HORT	**Hortiatis**	**3.90**	**35**	*e*PN			**Pn**	**06 55 00.3**	**+0.5**
HORT	**Hortiatis**	**3.90**	**35**	*e*Pn			**Pn**	**06 55 00.3**	**+0.5**
SOH	**Sokhos**	**4.19**	**35**	*e*PN			**Pn**	**06 55 03.9**	**+0.1**
SOH	**Sokhos**	**4.19**	**35**	*e*Pn			**Pn**	**06 55 03.9**	**+0.1**
KNT	**Kendrikon**	**4.28**	**28**	*e*PN			**Pn**	**06 55 04.7**	**-0.3**
KNT	**Kendrikon**	**4.28**	**28**	*e*Pn			**Pn**	**06 55 04.7**	**-0.3**

CASC 16 07:07:11.7±1.6, 13.˚62N×91.˚37W, h15km±8km, MD3.8, ML3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.74**	**339**	*e*P			Pg	07 07 24.2	-2.1
JAT				*e*S			Sb	07 07 36.4	0.0
RTR	**El Retiro**	**1.70**	**80**	*e*P			Pn	07 07 40.2	-0.9
RTR				*e*S			Sn	07 08 03.1	+0.4
RBDL	**Robledal**	**1.71**	**73**	*e*P			Pn	07 07 40.8	-0.4
RBDL				*e*S			Sn	07 08 02.9	0.0
SBLS	**San Blas**	**1.71**	**82**	*e*P			Pn	07 07 40.8	-0.5
SBLS				*e*S			Sb	07 08 04.5	-0.2
BOQS	**Boqueron**	**2.03**	**86**	*e*P			Pn	07 07 45.8	+0.1
BOQS				*e*S			Sn	07 08 11.7	+0.7
SNET	**Serv Nac Est T**	**2.08**	**88**	*e*P			Pn	07 07 46.2	+0.1
SNET				*e*S			Sn	07 08 12.4	+0.5
SNET	comp=Z,264nm,0.2s			AML	AML		AML	07 08 16.8	
MRL	**Marmol**	**2.17**	**48**	*e*P			Pn	07 07 48.9	+1.3
LFRS	**El Faro**	**2.24**	**90**	*e*P			Pn	07 07 48.4	-0.1
LFRS				*e*S			Sn	07 08 16.4	+0.4

JMA 16 07:38:13.5, 38.˚04N×139.˚48E, h13km±1km, 1D Broadband fault plane solution: P waves. NP1: φ=210.00000°, δ=59.00000°, λ=106.00000°. **NP2:** φ=1.00000°, δ=34.00000°, λ=65.00000°. **Principal axes:** T Plg71.0000°, Azm157.0000°; N Plg14.0000°, Azm22.0000°; P Plg13.0000°, Azm289.0000°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.26**	**210**	P			Pg	07 38 18.6	-0.3
JAW	**Awa shima**	**0.45**	**336**	||P		Pg	07 38 22.2	-0.3
JYS	**Shirataka**	**0.50**	**68**	P			Pg	07 38 23.2	-0.1
JYA	**Atsumi**	**0.58**	**18**	P			Pg	07 38 24.5	-0.4
JFY	**Yanaizu**	**0.66**	**164**	P			Pg	07 38 25.9	-0.5

NIED **16** *07:38:00, 38.˚00N×139.˚50E, h14km, Mw4.4 Best double couple: M₀4.75000×10¹⁵ NP1:φ=3.00000°, δ=39.00000°, λ=91.00000°. NP2:φ=182.00000°, δ=51.00000°, λ=89.00000°.*
BJI **16** *07:38:09.4, 37.˚90N×139.˚71E, h16km, mB4.8/22, mb4.6/28, Ms4.2/26, Ms7 3.9/25*
ISCJB **16** *07:38:14.2±0.4, 38.˚07N±0.˚02×139.˚34E±0.˚02, h20km±2km, mb4.4/100, MS3.6/19, Error ellipse: s-maj=3.7km s-min=2.9km az=153.0*
MOS **16** *07:38:15.5±1.1, 38.˚05N×139.˚31E, h33km, mb4.7/44, Error ellipse: s-maj=9.4km s-min=5.6km az=77.4*
JMA **16** *07:38:15.0, 38.˚04N×139.˚48E, h12km±1km, M4.6*
JMA Felt IV J1.
IDC **16** *07:38:18.9±1.6, 38.˚02N×139.˚43E, h53km±15km, mb3.9/21, mb1 4.2/25, mb1mx4.1/36, mbtmp4.2/25, ML3.0/2, MS3.4/19, Ms1 3.5/19, ms1mx3.2/48, Error ellipse: s-maj=14.5km s-min=9.9km az=97.0*
NEIC **16** *07:38:18.5±0.5, 37.˚99N×139.˚30E, h44km±5km, mb4.6/71, MW4.4(NIED), Error ellipse: s-maj=6.2km s-min=4.0km az=132.0*
NEIC Felt at Niitsu and Yonezawa. Recorded [4 JMA] in Niigata, [3 JMA] in Yamagata, [2 JMA] in Fukushima and [1 JMA] in Akita, Gumma, Miyagi and Nagano.
ISC 16 07:38:14.0±0.5, 38.˚00N±0.˚03×139.˚44E±0.˚03, h13km±2km, h12km:pP-P, n452, σ1=01/483, mb4.6/100, MS3.6/19, 113C-116D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.21**	**208**	P			**Pb**	**07 38 20.0**	**+0.3**
JNS				S			**Sb**	**07 38 23.7**	**+0.3**
JAW	**Awa shima**	**0.48**	**342**	P			**Pg**	**07 38 23.7**	**+0.2**
JAW				S			**Sg**	**07 38 30.2**	**+0.3**
JYS	**Shirataka**	**0.54**	**66**	P			**Pg**	**07 38 24.7**	**0.0**
JFY	**Yanaizu**	**0.63**	**160**	P			**Pb**	**07 38 27.7**	**+0.8**
JFY				S			**Sb**	**07 38 36.4**	**+0.8**
JYA	**Atsumi**	**0.63**	**20**	P			**Pg**	**07 38 26.2**	**-0.1**
JYA				S			**Sg**	**07 38 33.9**	**-0.8**
JIZZ	**Izumozaki**	**0.74**	**231**	P			**Pn

KSRS **Korea Array** 9.14 270 P **Pn** 07 40 28.7 +3.1
comp=Z,4.0nm,0.3s,baz=79,slow=14,SNR=54
KSRS S **Sn** 07 42 10.5 +2.2
comp=Z,1.5nm,0.3s,baz=78,slow=23,SNR=6.0
KSRS LR LR 07 44 00.7
comp=Z,170nm,18.4s,baz=118,slow=37
KSAR Wonju Array Be 9.17 270 P **Pn** 07 40 28.7 +2.6
KSAR S **Sn** 07 42 10.5 +1.4
KSAR Wonju Array Be 9.17 270 P **Pn** 07 40 28.7 +2.6
KSAR S **Sn** 07 42 10.5 +1.4
YSS Yuzh-Sakhalins 9.28 14 *e*P **Pn** 07 40 29.0 +1.6
YSS *e*S **Sn** 07 42 17.0 +5.4
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=N,800nm,14.0s
YSS MLR MLR
comp=Z,900nm,14.0s
YSS Yuzh-Sakhalins 9.28 14 *e*Pn **Pn** 07 40 30.4 +3.0
MDJ Mudanjiang 9.92 315 P **Pn** 07 40 34.8 -1.5
MDJ S **Sn** 07 42 25.8 -1.7
MDJ ScP **ScP** 07 50 20.5 +0.6
MDJ PcS **PcS** 07 50 21.5 +0.2
MDJ PMZ
comp=Z,4.0nm,0.7s
MDJ PMZ
comp=Z,57nm,4.2s
MDJ LN
comp=Z,420nm,16.1s
MDJ LE
comp=Z,270nm,16.9s
MDJ LZ
comp=Z,370nm,15.7s
HABR Khabarovsk 10.94 344 *e*P **Pn** 07 40 47.1 -3.1
HABR *e*S **Sn** 07 42 49.4 -3.1
HABR pmax pmax
comp=Z,15nm,0.9s
HABR MLR MLR
comp=Z,608nm,14.0s
CN2 Changchun 12.06 303 *e*P **Pn** 07 41 06.9 +1.3
CN2 *e*S **Sn** 07 43 18.3 -1.6
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,600nm,11.0s
CN2 LE
comp=Z,400nm,11.0s
CN2 LZ
comp=Z,400nm,12.0s
KLR Kul'dur 12.52 336 *e*P **Pn** 07 41 12.3 +0.5
KLR MLR MLR
comp=Z,2μm,12.5s
NJ2 Nanjing 17.86 257 *e*P **P** 07 42 23.5 +0.6
NJ2 S **Sn** 07 45 36.0 -5.2
NJ2 PMZ
comp=Z,60nm,1.0s
NJ2 LN
comp=Z,1μm,13.2s
NJ2 LE
comp=Z,700nm,11.4s
TIA Tai'an 17.89 271 *e*P **P** 07 42 25.1 +1.9
TIA PMZ
comp=Z,340nm,5.1s
TIA LN
comp=Z,290nm,10.0s
TIA LE
comp=Z,330nm,10.7s
TIA LZ
comp=Z,330nm,11.0s
BJI Beijing 18.18 284 P **Pn** 07 42 23.3 -2.9
BJI S **S** 07 45 55.3 +1.0
BJI PMZ
comp=Z,7.0nm,0.6s
BJI LN
comp=Z,220nm,12.7s
BJI LE
comp=Z,200nm,10.4s
PETK Petropavlovsk- 19.70 34 LR LR 07 50 05.2
comp=Z,87nm,19.8s,baz=195,slow=36
HHC Hu-ho-hao-te 21.68 286 *e*P **P** 07 43 03.6 -1.0
HHC PP **PnPn** 07 43 27.1 +1.7
HHC S S 07 46 55.1 -9.4
HHC PMZ
comp=Z,26nm,1.0s
HHC PMZ
comp=Z,82nm,4.6s
HHC LN
comp=Z,220nm,9.0s
HHC LE
comp=Z,170nm,10.5s
HHC LZ
comp=Z,130nm,9.4s
WHN Wuhan 21.99 258 P **P** 07 43 06.8 -1.0
WHN LN
comp=Z,630nm,13.1s
WHN LE
comp=Z,790nm,9.9s
WHN LZ
comp=Z,790nm,13.2s
ULN Ulaanbaatar 25.51 303 *ce*P **P** 07 43 41.2 -1.1
ULN pmax pmax
comp=Z,5.0nm,1.7s
BOD Bodaibo 25.88 328 *e*P **P** 07 43 43.1 -2.2
SONM Songino Array 25.94 303 P **P** 07 43 47.6 +1.4
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 25.94 303 P **P** 07 43 47.6 +1.4
comp=Z,0.8nm,0.7s,baz=97,slow=8.0,SNR=5.0
SEY Seymchan 26.18 13 P **P** 07 43 46.8 -1.2
SEY pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 26.18 13 P **P** 07 43 46.8 -1.2
comp=Z,4.0nm,0.9s,baz=205,slow=7.8,SNR=9.8
LZH Lanzhou 28.37 277 *e*P **P** 07 44 06.0 -2.1
LZH pP **pP** 07 44 11.6 -0.5
LZH sP **sP** 07 44 14.5 +0.8
LZH PMZ
comp=Z,16nm,1.0s
TLY Talaya 28.51 310 *e*P P 07 44 17.4 +8.3
TLY *e*S **S** 07 49 00.5 +4.1
TLY pmax pmax
comp=Z,2.0nm,1.4s
TLY MLR MLR
comp=Z,180nm,16.0s
TLY Talaya 28.51 310 LR LR 07 56 06.3
comp=Z,93nm,20.5s,baz=130,slow=38
GYA Guiyang 29.87 257 *e*P **P** 07 44 21.8 +0.3
GYA PMZ
comp=Z,10.0nm,0.8s
CD2 Chengdu 30.13 267 *e*P **P** 07 44 23.1 -0.5
CD2 pP **pP** 07 44 27.5 -0.1
CD2 sP **sP** 07 44 30.1 +0.9
CD2 PP **PnPn** 07 45 20.4 -0.3
CD2 S **S** 07 49 19.1 -3.1
CD2 SS **SnSn** 07 50 54.6 -0.4
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,290nm,11.1s
CD2 LE
comp=Z,360nm,13.5s
CD2 LZ
comp=Z,370nm,11.8s
QIZ Qiongzhong 31.95 242 P **P** 07 44 38.6 -1.1
QIZ S **S** 07 49 51.4 +0.7
QIZ PMZ
comp=Z,33nm,1.7s
QIZ LZ
comp=Z,350nm,14.5s
TIXI Tiksi 34.16 354 *e*P **P** 07 44 58.0 -0.4
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI MLR MLR
comp=Z,55nm,13.0s
WMQ Urumqi 39.01 295 *e*P **P** 07 45 39.3 -0.9
WMQ pP **pP** 07 45 43.5 -0.7
WMQ sP **sP** 07 45 46.0 +0.2
WMQ PP **PnPn** 07 47 12.0 +0.1
WMQ *e*S **ScP** 07 51 37.0 -1.3
WMQ SS SnSn 07 54 19.0 -11
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,93nm,4.6s
WMQ LN
comp=Z,340nm,13.7s
WMQ LE
comp=Z,160nm,12.2s
WMQ LZ
comp=Z,290nm,17.6s
ZALV Zalesovo Beam 40.10 312 P **P** 07 45 49.1 0.0
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 40.10 312 P **P** 07 45 49.1 0.0
comp=Z,0.9nm,0.3s,baz=68,slow=16,SNR=2.6
CMAR Chiang Mai Arr 40.26 253 LR LR 08 03 53.4
comp=Z,42nm,20.7s,baz=104,slow=38
TNA Tin City 40.80 30 *e*P **P** 07 45 55.6 +0.9
comp=Z,3.5nm,0.9s
MKAR Makanchi Array 42.28 301 P **P** 07 46 05.7 -1.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,28nm,21.0s
MKAR Makanchi Array 42.28 301 P **P** 07 46 05.7 -1.5
comp=Z,0.5nm,0.6s,baz=88,slow=10,SNR=5.8
MKAR LR LR 08 03 03.5
comp=Z,28nm,21.0s,baz=152,slow=35
KURK Kurchatov 44.10 307 *e*P **P** 07 46 21.2 -0.6
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 44.10 307 *e*P **P** 07 46 21.1 -0.6
comp=Z,2.7nm,0.6s
IM04 Indian Mountai 46.62 31 *e*P **P** 07 46 42.1 +0.5
RSO Redoubt South 47.12 39 *e*P **P** 07 46 46.6 +0.8
comp=Z,29nm,0.9s
PPLA Purkeypile 47.28 35 *e*P **P** 07 46 48.1 +1.1
comp=Z,17nm,1.1s
KDAK Kodiak Island 47.44 42 *ce*P **P** 07 46 47.9 -0.1
KTH Kantishna Hill 47.83 34 *e*P **P** 07 46 52.1 +1.0
comp=Z,17nm,0.9s
COLD Coldfoot 48.08 30 *e*P **P** 07 46 53.6 +0.7
comp=Z,4.6nm,0.8s
TRF Thorofare Moun 48.12 35 *e*P **P** 07 46 53.7 +0.2
comp=Z,4.9nm,0.8s
RC01 Rabbit Creek A 48.55 38 *e*P **P** 07 46 56.3 -0.3
comp=Z,10nm,1.2s
KSH Kashi 48.58 293 *e*P P 07 47 00.8 +3.5
KSH sP sP 07 47 07.8 +4.8
KSH PP **PP** 07 48 53.9 +3.8
KSH PcS **PcS** 07 52 20.5 +1.4
KSH S **S** 07 54 02.3 +3.5
KSH PMZ
comp=Z,77nm,4.8s
KSH LN
comp=Z,120nm,6.7s
KSH LE
comp=Z,120nm,6.4s
KSH LZ
comp=Z,150nm,14.3s
AAK Ala-Archa 48.65 297 LR LR 08 06 31.2
comp=Z,51nm,18.6s,baz=50,slow=35
MCK McKinley 48.71 34 *e*P **P** 07 46 58.2 +0.4
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 48.71 34 *e*P **P** 07 46 58.2 +0.4
comp=Z,10nm,0.9s
BVAR Borovoye Array 48.76 311 P **P** 07 46 57.5 -0.9
BVAR 07 48 21.7
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 48.76 311 P **P** 07 46 57.5 -0.9
comp=Z,0.3nm,0.3s,baz=106,slow=11,SNR=2.9
BVAR PcP **PcP** 07 48 21.7 -1.4
comp=Z,1.5nm,0.8s,baz=66,slow=3.6,SNR=4.5
SEW Seward 48.80 39 *e*P **P** 07 46 57.5 -0.9
comp=Z,10nm,0.9s
COLA College 49.11 33 *e*P **P** 07 47 01.6 +0.8
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 49.11 33 *e*P **P** 07 47 01.6 +0.8
comp=Z,5.5nm,0.8s
ILAR Eielson Array 49.52 33 P **P** 07 47 03.9 -0.2
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR Eielson Array 49.52 33 P **P** 07 47 03.9 -0.2
comp=Z,5.5nm,0.8s,baz=276,slow=6.4,SNR=71
BATI Baumata 50.17 200 LR LR 08 06 40.9
comp=Z,74nm,19.9s,baz=62,slow=34
EYAK Cordova Ski Ar 50.56 38 *e*P **P** 07 47 13.2 +1.3
comp=Z,16nm,1.0s
DOT Dot Lake 50.88 34 *e*P **P** 07 47 14.5 +0.2
comp=Z,4.0nm,0.8s
BMRM Bremner River 51.05 37 *e*P **P** 07 47 16.0 +0.3
comp=Z,9.7nm,0.9s
EGAK Eagle 51.96 32 *e*P **P** 07 47 22.5 +0.1
comp=Z,6.0nm,0.9s
HYT Haines Junctio 54.46 37 *e*P **P** 07 47 42.7 +1.7
ARU Arti 54.59 318 *d*iP **P** 07 47 41.8 -0.1
ARU 07 49 40.8
ARU S **S** 07 55 22.7 +1.8
ARU SS **SKiKP** 07 58 54.3 +3.9
ARU pmax pmax
comp=Z,10.0nm,1.2s
ARU Arti 54.59 318 *e*P **P** 07 47 41.8 -0.1
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 56.12 309 *e*P **P** 07 47 52.5 -0.5
comp=Z,1.7nm,0.8s
AKTO Aktyubinsk 56.86 311 LR LR 08 11 06.9
comp=Z,25nm,18.9s,slow=35
WRAB Tennant Creek 57.82 186 *ce*P **P** 07 48 04.4 -0.8
WRAB pmax pmax
comp=Z,13nm,0.8s
WRAB Tennant Creek 57.82 186 *e*P **P** 07 48 05.0 -0.3
comp=Z,8.9nm,1.0s
WB2 Warramunga Arr 57.83 186 *e*P **P** 07 48 04.7 -0.6
WRA Warramunga Arr 57.83 186 P **P** 07 48 04.0 -1.4
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 57.83 186 P **P** 07 48 04.0 -1.4
comp=Z,6.5nm,0.8s,baz=2.7,slow=7.3,SNR=53
DLBC Dease Lake 58.83 38 *e*P **P** 07 48 13.9 +1.9
comp=Z,7.2nm,1.1s
PRGR Permogore 59.10 326 P P 07 48 10.0 -3.7
PRGR pmax pmax
comp=Z,1.0nm,0.3s
SPITS Spitsbergen Ar 59.27 348 LR LR 08 14 58.4
comp=Z,22nm,20.1s,baz=355,slow=37
ASAR Alice Springs 61.56 186 P **P** 07 48 30.2 -0.8
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 61.56 186 P **P** 07 48 30.1 -0.8
comp=Z,16nm,0.8s,baz=7.7,slow=6.0,SNR=32
GEYT Alibeck 61.99 298 LR LR 08 15 46.8
comp=Z,34nm,18.2s,baz=160,slow=36
RES Resolute Bay 62.05 14 *e*P **P** 07 48 32.9 -0.8
RES pmax pmax
comp=Z,6.0nm,1.1s
RES Resolute Bay 62.05 14 *e*P **P** 07 48 32.9 -0.8
comp=Z,6.5nm,1.1s
ARCES ARCESS Array B 62.53 339 P **P** 07 48 35.9 -1.1
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,54nm,18.2s
ARCES ARCESS Array B 62.53 339 P **P** 07 48 35.9 -1.1
comp=Z,2.5nm,0.9s,baz=64,slow=9.5,SNR=3.9
ARCES LR LR 08 19 06.9
comp=Z,54nm,18.2s,baz=42,slow=39
YKA Yellowknife Ar 63.76 30 P **P** 07 48 43.9 -1.3
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 63.76 30 P **P** 07 48 43.9 -1.3
comp=Z,2.0nm,0.7s,baz=304,slow=6.6,SNR=54
OBN Obninsk 66.38 322 *e*P **P** 07 49 00.9 -1.4
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN MLR MLR
comp=Z,31nm,16.0s
FINES FINESS Array B 67.22 331 P **P** 07 49 07.2 -0.4
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 67.22 331 P **P** 07 49 07.2 -0.4
comp=Z,4.7nm,0.8s,baz=75,slow=8.3,SNR=11
MBW Mount Baker 67.59 45 P **P** 07 49 11.1 +0.7
JCW Jim Creek 67.89 46 P **P** 07 49 13.3 +1.2
NLW Nelson Butte 68.85 45 P **P** 07 49 19.2 +0.9
KBZ Khabaz 69.08 310 P **P** 07 49 19.3 -0.3
KBZ pmax pmax
comp=Z,1.0nm,0.5s
KBZ Khabaz 69.08 310 P **P** 07 49 19.2 -0.3
comp=Z,0.9nm,0.5s,baz=236,slow=24,SNR=3.9
KIV Kislovodsk 69.09 310 *e*P **P** 07 49 20.2 +0.4
KIV *i* 07 49 47.1
KIV pmax pmax
comp=Z,13nm,1.7s
KIV MLR MLR
comp=Z,42nm,14.0s
LTY Liberty 69.12 46 *e*P **P** 07 49 20.7 +0.8
comp=Z,3.8nm,0.8s
FORT Forrest 69.25 190 *e*P **P** 07 49 21.1 +0.6
comp=Z,12nm,0.7s
B08A Colville Reser 69.25 44 *e*P **P** 07 49 21.2 +0.5
comp=Z,4.4nm,1.0s
WTV Waterville 69.28 45 P **P** 07 49 21.4 +0.6
EBG Ellensburg 69.37 46 P **P** 07 49 22.7 +1.3
I03D Drain, OR 69.50 50 ⇓P **P** 07 49 23.3 +1.1
baz=69
STKA Stephens Creek 69.55 178 P **P** 07 49 21.1 -1.3
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 69.55 178 P **P** 07 49 21.1 -1.3
comp=Z,2.9nm,0.8s,baz=356,slow=4.2,SNR=5.3
EDM Edmonton 69.55 38 *e*P **P** 07 49 22.9 +0.5
EDM pmax pmax
comp=Z,4.0nm,0.9s
EDM Edmonton 69.55 38 *e*P **P** 07 49 22.9 +0.5
comp=Z,3.8nm,0.9s
SAW Saint Andrews 69.58 45 P **P** 07 49 23.4 +0.6
SUMG Summit 69.71 359 *e*P **P** 07 49 24.0 +0.5
SUMG pmax pmax
comp=Z,12nm,1.2s
SUMG Summit 69.71 359 *e*P **P** 07 49 24.0 +0.5
comp=Z,12nm,1.2s
SUMG Summit 69.71 359 *i* P **P** 07 49 23.6 +0.1
comp=Z,5.9nm,1.0s
G05D Wamic, OR 69.86 48 ⇓P **P** 07 49 25.3 +0.9
baz=70
I04A Tendick Farm, 70.02 50 ⇓P **P** 07 49 26.3 +0.9
baz=70
OD2 Odessa Site #2 70.15 45 P **P** 07 49 26.6 +0.5
C09A Chrisman Ranch 70.16 44 *e*P **P** 07 49 26.9 +0.7
comp=Z,11nm,0.8s
D08A Wollman Farm, 70.22 45 *e*P **P** 07 49 27.4 +0.8
comp=Z,6.7nm,0.9s
I05D Terrebonne, OR 70.36 49 ⇑P **P** 07 49 28.1 +0.6
baz=70
J04D Umpqua Nationa 70.51 50 ⇓P **P** 07 49 29.5 +0.8
baz=70
NEW Newport 70.52 44 *e*P **P** 07 49 29.3 +0.8
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 70.52 44 ⇑P **P** 07 49 29.3 +0.8
baz=70
NEW Newport 70.52 44 *e*P **P** 07 49 29.3 +0.8
comp=Z,5.9nm,0.9s
E09A Wood Farm, Sta 70.97 46 *e*P **P** 07 49 32.4 +1.2
YBH Yreka Blue Hor 70.98 52 *e*P **P** 07 49 32.8 +1.3
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 70.98 52 *e*P **P** 07 49 32.8 +1.3
comp=Z,6.0nm,1.0s
J05D Fort Rock, OR 71.01 50 ⇑P **P** 07 49 32.5 +0.8
baz=71
K04D Chiloquin, OR 71.07 50 ⇑P **P** 07 49 33.4 +1.4
baz=71
M02C Callahan 71.09 52 ⇑P **P** 07 49 33.0 +1.0
baz=71
N02D Trinity Center 71.41 52 ⇓P **P** 07 49 35.4 +1.3
baz=71
M04C Macdoel 71.50 51 ⇓P **P** 07 49 35.6 +1.0
baz=71
K05A Summer Lake 71.54 50 *e*P **P** 07 49 36.8 +1.8
comp=Z,13nm,0.9s
ANN Anapa 71.73 313 *e*P **P** 07 49 34.2 -1.5
ANN pmax pmax
comp=Z,20nm,1.2s
WDC Whiskeytown Da 71.74 53 *e*P **P** 07 49 36.9 +0.9
WDC pmax pmax
comp=Z,7.0nm,1.4s
WDC Whiskeytown Da 71.74 53 *e*P **P** 07 49 36.9 +0.9
comp=Z,7.3nm,1.4s
WALA Waterton Lakes 71.77 42 *e*P **P** 07 49 37.0 +0.9
comp=Z,4.1nm,1.0s
F10A Beach Ranch, E 71.80 46 *e*P **P** 07 49 37.1 +0.8
comp=Z,36nm,2.5s
MOD Modoc Plateau 72.37 50 *e*P **P** 07 49 40.4 +0.5
AKASG Malin Array Be 72.57 321 P **P** 07 49 39.8 -0.9
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,31nm,18.2s
AKASG Malin Array Be 72.57 321 P **P** 07 49 39.8 -0.9
comp=Z,0.9nm,0.4s,baz=45,slow=7.0,SNR=15
AKASG LR LR 08 23 32.2
comp=Z,31nm,18.2s,baz=45,slow=37
KIEV Kiev 72.58 321 *e*P **P** 07 49 39.1 -1.6
KIEV *e**PP **pP** 07 49 46.1 +1.1
SWMT Swartz Lake 72.66 43 *e*P **P** 07 49 42.4 +0.9
comp=Z,4.1nm,1.0s
NB2 NORSAR Subarra 72.68 336 P **P** 07 49 40.5 -0.8
comp=Z,1.2nm,0.8s,baz=38,slow=5.6
NOA NORSAR Array B 72.68 336 P **P** 07 49 40.8 -0.5
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA MLR MLR
comp=Z,59nm,18.4s
NOA NORSAR Array B 72.68 336 P **P** 07 49 40.8 -0.5
comp=Z,3.1nm,1.0s,baz=38,slow=5.9,SNR=4.7
NOA LR LR 08 24 29.5
comp=Z,59nm,18.4s,baz=80,slow=38
WVOR Wild Horse Val 73.06 49 *e*P **P** 07 49 45.1 +1.1
WVOR pmax pmax
comp=Z,16nm,1.6s
WVOR Wild Horse Val 73.06 49 *e*P **P** 07 49 45.1 +1.1
comp=Z,16nm,1.6s
SLMT Seeley Lake 73.10 43 *e*P **P** 07 49 44.2 +0.1
MSO Missoula 73.11 43 ⇓P **P** 07 49 44.4 +0.3
baz=73
FFC Flin Flon 73.73 32 *e*P **P** 07 49 47.6 +0.1
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 73.73 32 *e*P **P** 07 49 47.5 +0.1
comp=Z,4.8nm,0.9s
A19A Klindworth Far 74.50 39 ⇓P **P** 07 49 52.6 +0.4
baz=74,SNR=6.3
LRM Limekiln Ridge 74.54 44 *e*P **P** 07 49 53.3 +0.6
EGMT Eagleton 74.57 41 ⇑P **P** 07 49 53.1 +0.5
baz=74
EGMT Eagleton 74.57 41 *e*P **P** 07 49 53.4 +0.8
comp=Z,12nm,1.0s
CMB Columbia Colle 74.57 54 *e*P **P** 07 49 53.6 +0.8
CMB pmax pmax
comp=Z,14nm,1.5s
CMB Columbia Colle 74.57 54 *e*P **P** 07 49 53.6 +0.8
comp=Z,14nm,1.5s
B19A Brinkman Farms 74.71 40 ⇑P **P** 07 49 53.7 +0.3
baz=74,SNR=6.3
DLMT Dillon 74.75 44 *e*P **P** 07 49 54.3 +0.5
comp=Z,8.7nm,0.9s
HLID Hailey 74.85 46 ⇓P **P** 07 49 54.7 +0.2
baz=75,SNR=7.3
HLID Hailey 74.85 46 *e*P **P** 07 49 55.0 +0.6
comp=Z,2.9nm,1.0s
WAKR Walker 74.90 53 *e*P **P** 07 49 55.9 +1.0
comp=Z,4.3nm,1.0s
A20A Cobblestone Ra 74.94 39 ⇓P **P** 07 49 55.1 +0.4
baz=75
C19A Slack Wire Ran 75.12 41 ⇑P **P** 07 49 56.3 +0.5
baz=75,SNR=13
B20A Solberg Farm, 75.18 40 ⇓P **P** 07 49 56.3 +0.1
baz=75
A21A Bergtoll Ranch 75.36 39 ⇓P **P** 07 49 57.3 +0.1
baz=75
D19A Cripps Ranch, 75.58 41 ⇓P **P** 07 49 58.7 +0.2
baz=75,SNR=6.2
NVAR Mina Array Bea 75.65 52 P **P** 07 50 00.4 +1.1
comp=Z,4.2nm,0.8s,baz=288,slow=5.7,SNR=35
C20A Veseth Ranch, 75.67 40 ⇓P **P** 07 49 58.9 0.0
baz=76,SNR=5.9
B21A Ellsworth Farm 75.69 39 ⇓P **P** 07 49 59.3 +0.3
baz=76
A22A Carney Farms, 75.86 38 ⇓P **P** 07 49 59.9 -0.2
baz=76,SNR=6.2
D20A Manuel Ranch, 76.01 41 ⇓P **P** 07 50 01.3 +0.4

baz=76,SNR=7.0
GCMT Greycliff 76.06 42 *e*P P 07 50 02.1 +0.8
comp=Z,1.0nm,0.3s
E19A Rath Farm, Rou 76.09 41 ⇑P P 07 50 01.6 +0.2
baz=76,SNR=13
PTRM Twissleman Ran 76.10 56 *e*P P 07 50 03.1 +1.5
E20A Meyer Farm, Mu 76.40 41 ⇓P P 07 50 03.5 +0.3
baz=76,SNR=6.9
F19A Roth Farm, Mol 76.40 42 ⇑P P 07 50 03.3 +0.1
baz=76,SNR=8.2
H17A Grant Village 76.47 44 ⇑P P 07 50 05.9 +2.0
baz=76,SNR=11
H17A Grant Village 76.47 44 *e*P P 07 50 06.8 +2.9
comp=Z,9.6nm,0.9s
TPH Tonopah 76.55 52 *e*P P 07 50 05.8 +1.5
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 76.55 52 *e*P P 07 50 05.8 +1.5
comp=Z,10nm,0.9s
D21A La Casta Ranch 76.61 40 ⇑P P 07 50 04.4 +0.1
baz=76
B23A Brockton 76.67 38 ⇓P P 07 50 04.7 +0.1
baz=76,SNR=6.9
FXWY Fox Creek 76.71 45 *e*P P 07 50 06.8 +1.6
comp=Z,4.0nm,1.0s
C22A Vida 76.71 39 ⇓P P 07 50 04.6 -0.3
baz=76
VES Vestal, Richgr 76.72 55 ⇑P P 07 50 05.2 +0.2
baz=77
I17A Pilgrim Ck. 76.78 44 ⇑P P 07 50 06.5 +0.9
baz=77,SNR=7.3
H18A Shoshone NF, C 76.79 43 ⇑P P 07 50 05.6 0.0
baz=77
A24A Westby 76.83 37 ⇓P P 07 50 05.8 +0.3
baz=77
TPAW Teton Pass 76.85 45 *e*P P 07 50 07.8 +1.7
comp=Z,17nm,1.8s
HVU Hansel Valley 76.91 47 *e*P P 07 50 07.6 +1.3
HVU pmax pmax
comp=Z,3.0nm,0.7s
HVU Hansel Valley 76.91 47 *e*P P 07 50 07.5 +1.3
comp=Z,3.4nm,0.7s
D22A Cohagen 76.97 40 ⇓P P 07 50 06.3 0.0
baz=77,SNR=6.9
REDW Red Top Meadow 76.99 45 *e*P P 07 50 08.1 +1.4
comp=Z,4.8nm,1.1s
C23A Lambert 77.02 39 ⇑P P 07 50 06.7 +0.1
baz=77
BRTR Keskin Array B 77.03 310 P P 07 50 06.8 -0.2
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,22nm,18.2s
BRTR Keskin Array B 77.03 310 P P 07 50 06.8 -0.2
comp=Z,1.7nm,0.8s,baz=98,slow=5.4,SNR=12
BRTR LR LR 08 27 29.7
comp=Z,22nm,18.2s,baz=56,slow=38
GRAC Grapevine Rang 77.11 53 ⇑P P 07 50 08.1 +0.8
baz=77,SNR=9.5
H19A Powell 77.16 43 ⇑P P 07 50 08.1 +0.5
baz=77
G20A Bridger 77.21 42 ⇑P P 07 50 07.7 -0.1
baz=77
ISA Isabella, Lake 77.22 55 *e*P P 07 50 07.3 -0.7
ISA pmax pmax
comp=Z,2.0nm,0.9s
ISA Isabella, Lake 77.22 55 ⇓P P 07 50 07.8 -0.2
baz=77
ISA Isabella, Lake 77.22 55 *e*P P 07 50 07.3 -0.7
comp=Z,1.6nm,0.9s
BGU Big Grassy Mou 77.30 48 *e*P P 07 50 09.2 +0.7
comp=Z,2.1nm,1.1s
R11A Troy Canyon, C 77.39 51 ⇓P P 07 50 09.6 +0.6
baz=77,SNR=15
R11A Troy Canyon, C 77.39 51 *e*P P 07 50 09.9 +0.9
comp=Z,8.9nm,1.2s
E22A Miles City 77.57 40 ⇓P P 07 50 09.8 +0.1
baz=77
I19A Meeteetse 77.57 43 ⇓P P 07 50 10.5 +0.6
baz=77
C24A Savage 77.58 39 ⇑P P 07 50 10.1 +0.3
baz=77
MPMC Manual Prospec 77.61 54 ⇓P P 07 50 10.7 +0.4
baz=78,SNR=7.2
MLR Muntele Rosu 77.63 319 LR LR 08 28 01.0
comp=Z,13nm,18.0s,baz=40,slow=38
HWUT Hardware Ranch 77.72 47 *e*P P 07 50 12.1 +1.3
comp=Z,1.8nm,0.8s
FURC Furnace Creek, 77.76 53 ⇓P P 07 50 11.8 +0.9
baz=78,SNR=11
H20A Greybull 77.81 43 ⇑P P 07 50 11.2 0.0
baz=78
TPNV Topopah Spring 77.85 53 *e*P P 07 50 12.5 +0.9
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV Topopah Spring 77.85 53 ⇓P P 07 50 12.1 +0.5
baz=78,SNR=14
TPNV Topopah Spring 77.85 53 *e*P P 07 50 12.5 +0.9
comp=Z,10nm,0.9s
E23A Ismay 77.85 40 ⇓P P 07 50 11.9 +0.6
baz=78
DUG Dugway, Tooele 77.90 48 *e*P P 07 50 12.4 +0.6
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 77.90 48 ⇓P P 07 50 12.4 +0.6
baz=78,SNR=7.7
DUG Dugway, Tooele 77.90 48 *e*P P 07 50 12.4 +0.6
comp=Z,7.2nm,1.0s
D24A Glendive 77.92 39 ⇓P P 07 50 12.1 +0.4
baz=78
EDW2 Edwards Air Fo 78.02 55 ⇑P P 07 50 13.0 +0.5
baz=78,SNR=5.7
C25A Freed Ranch, W 78.03 38 ⇑P P 07 50 12.1 -0.2
baz=78
J19A Crowheart 78.05 44 ⇓P P 07 50 13.1 +0.5
baz=78,SNR=11
BW06 Boulder Array 78.09 45 *e*P P 07 50 13.4 +0.4
comp=Z,3.2nm,0.8s
I20A Worland 78.09 43 ⇓P P 07 50 13.4 +0.6
baz=78,SNR=5.3
PDAR Pinedale Array 78.09 45 P P 07 50 12.0 -0.9
comp=Z,2.6nm,0.8s,baz=280,slow=3.0,SNR=23
H21A Big Horn, Sher 78.22 42 ⇓P P 07 50 13.7 +0.2
baz=78
F23A Volborg 78.33 40 ⇑P P 07 50 13.9 -0.1
baz=78,SNR=7.7
SHOC Shoshone, Teco 78.48 53 ⇓P P 07 50 15.4 +0.5
baz=78
NLU North Lily Min 78.48 48 *e*P P 07 50 16.3 +1.2
comp=Z,3.1nm,0.8s
C26A Wahner Farm, P 78.51 37 ⇑P P 07 50 15.3 +0.4
baz=78
GSC Goldstone, Bar 78.52 54 *e*P P 07 50 15.9 +0.7
GSC pmax pmax
comp=Z,1.0nm,0.5s
GSC Goldstone, Bar 78.52 54 ⇑P P 07 50 15.7 +0.5
baz=78
GSC Goldstone, Bar 78.52 54 *e*P P 07 50 15.9 +0.7
comp=Z,0.8nm,0.5s
J20A Shoshoni 78.52 43 ⇓P P 07 50 15.3 +0.1
baz=78
A28A Rude Farm, Bot 78.59 36 ⇑P P 07 50 15.5 +0.2
baz=78
H22A Clearmont 78.61 42 ⇑P P 07 50 16.0 +0.4
baz=78
BFSC Mount Baldy Ra 78.62 55 ⇓P P 07 50 16.4 +0.5
baz=78
I21A Big Trails, Te 78.64 43 ⇓P P 07 50 16.2 +0.3
baz=78,SNR=8.1
MORC Moravsky Berou 78.69 326 *e*P P 07 50 15.5 -0.3
MORC pmax pmax
comp=Z,2.0nm,0.6s
MORC Moravsky Berou 78.69 326 *e*P P 07 50 15.5 -0.3
comp=Z,2.1nm,0.6s
MPU Maple Canyon 78.70 48 *e*P P 07 50 17.0 +0.7
comp=Z,8.8nm,1.4s
F24A Ekalaka 78.73 40 ⇓P P 07 50 16.5 +0.3
baz=78
E25A Miller Ranch, 78.80 39 ⇓P P 07 50 17.0 +0.4
baz=79
SHPR Sheep Range 78.81 52 *e*P P 07 50 17.9 +1.0
J21A Lysite 78.87 43 ⇓P P 07 50 18.3 +1.2
baz=79
C27A Sayler Ranch, 78.87 37 ⇑P P 07 50 17.2 +0.3
baz=79
B28A Dugan Ranch, T 78.88 36 ⇑P P 07 50 17.3 +0.4
baz=79
TUQ Turquoise Moun 79.00 54 ⇓P P 07 50 18.4 +0.4
baz=79,SNR=7.5
I22A 9 Mile Ranch, 79.01 42 ⇓P P 07 50 18.1 +0.2
baz=79
A29A Manning Farm, 79.05 35 ⇓P P 07 50 17.9 0.0
baz=79
ARUT Antelope Range 79.06 50 *e*P P 07 50 19.1 +0.8
ARUT Antelope Range 79.06 50 *e*P P 07 50 19.1 +0.8
comp=Z,0.4nm,1.2s
BBRC Big Bear Solar 79.09 55 ⇓P P 07 50 18.4 -0.2
baz=79
G24A Alzada 79.11 40 ⇓P P 07 50 18.2 -0.1
baz=79
HEC Hector,Ludlow 79.12 54 ⇑P P 07 50 19.3 +0.7
baz=79
F25A Bowman 79.17 39 ⇓P P 07 50 18.5 -0.1
baz=79
CCUT Cedar City 79.25 51 *e*P P 07 50 20.1 +0.6
comp=Z,5.4nm,1.3s
E26A Carlson Angus 79.28 38 ⇓P P 07 50 19.2 0.0
baz=79
MURC Murrieta 79.32 56 ⇓P P 07 50 20.1 +0.5
baz=79
MVU Marysvale 79.34 49 *e*P P 07 50 21.1 +1.2
comp=Z,4.7nm,1.1s
J22A Midwest 79.34 43 ⇓P P 07 50 19.8 +0.1
baz=79,SNR=10.0
H24A Dirks Ranch, A 79.44 41 ⇓P P 07 50 20.6 +0.5
baz=79
K21A Alcova 79.45 44 ⇑P P 07 50 20.7 +0.3
baz=79,SNR=7.1
A30A Hoffart Farm, 79.46 35 ⇑P P 07 50 20.2 +0.2
baz=79
CLL Collm 79.47 329 *e*P P 07 50 18.0 -2.0
CLL *e* 07 50 24.0
CLL pmax pmax
comp=Z,5.0nm,0.6s
CLL MLR MLR
comp=Z,200nm,20.6s
CLL Collm 79.47 329 *i*P P 07 50 19.6 -0.4
comp=Z,5.0nm,0.6s
ULM Lac du Bonnet 79.55 32 *e*P P 07 50 20.2 -0.3
ULM pmax pmax
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 79.55 32 P P 07 50 19.4 -1.1
comp=Z,5.4nm,0.8s,baz=343,slow=5.6,SNR=6.8
ULM Lac du Bonnet 79.55 32 *e*P P 07 50 20.2 -0.3
comp=Z,6.2nm,0.9s
GMRC Granite Mounta 79.58 54 ⇑P P 07 50 21.4 +0.3
baz=79,SNR=5.6
F26A Lodgepole 79.62 39 ⇑P P 07 50 21.1 0.0
baz=79
E27A Carson 79.75 38 ⇑P P 07 50 21.9 +0.1
baz=80
PFO Pinyon Flats O 79.80 55 ⇓P P 07 50 22.7 +0.4
baz=80
K22A Casper 79.83 43 ⇑P P 07 50 22.6 +0.2
baz=80
BELC Belle Mtn. Jos 79.85 55 ⇑P P 07 50 23.0 +0.4
baz=80,SNR=5.3
F27A Lemmon 79.92 39 ⇑P P 07 50 22.7 0.0
baz=80
SRU San Rafael Swe 79.94 48 *e*P P 07 50 24.2 +1.1
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 79.94 48 *e*P P 07 50 24.2 +1.1
comp=Z,6.3nm,0.8s
G26A Maurine 80.05 39 ⇑P P 07 50 23.4 0.0
baz=80
N20A Spence Gulch, 80.10 45 ⇑P P 07 50 24.4 +0.4
baz=80,SNR=6.4
C30A Mose, Pekin 80.29 35 ⇓P P 07 50 24.5 -0.1
baz=80
IRM Iron Mountain 80.29 54 ⇓P P 07 50 25.3 +0.4
baz=80,SNR=8.2
G27A Dupree 80.32 39 ⇓P P 07 50 24.7 -0.1
baz=80
J24A Dixon Ranch, L 80.36 42 ⇑P P 07 50 25.0 -0.2
baz=80
I25A Rochford 80.37 41 ⇓P P 07 50 24.9 -0.4
baz=80
BC3 Big Chuckawall 80.42 55 ⇑P P 07 50 26.0 +0.3
baz=80,SNR=5.1
W13A Hualapai Mount 80.50 53 ⇑P P 07 50 26.6 +0.4
baz=80
F28A McLaughlin 80.54 38 ⇑P P 07 50 26.1 +0.1
baz=80
O20A White River Ci 80.58 46 ⇓P P 07 50 27.3 +0.8
baz=80
D30A Buchanan 80.60 36 ⇑P P 07 50 26.6 +0.4
baz=80
U15A North Rim 80.63 51 ⇑P P 07 50 27.6 +0.6
baz=80,SNR=11
L23A Gatt 80.65 43 ⇓P P 07 50 27.0 +0.1
baz=80
H27A Howes 80.78 39 ⇓P P 07 50 27.3 0.0
baz=81
I26A New Underwood 80.81 40 ⇓P P 07 50 27.8 +0.2
baz=81
PDMCI Parker Dam,Lak 80.85 54 ⇓P P 07 50 28.2 +0.4
baz=81,SNR=7.3
KHC Kasperske Hory 80.89 327 *e*P P 07 50 28.0 +0.2
KHC Kasperske Hory 80.89 327 *e*P P 07 50 28.0 +0.2
Y12C Bine 80.95 54 ⇑P P 07 50 29.0 +0.6
baz=81,SNR=5.8
E30A Jud 80.97 37 ⇑P P 07 50 28.4 +0.1
baz=81
G28A Parade 81.04 39 ⇓P P 07 50 28.8 +0.1
baz=81
GERES GERESS Array B 81.06 327 P P 07 50 28.2 -0.5
comp=Z,1.1nm,0.7s,baz=30,slow=6.2,SNR=6.7
GERES LR LR 08 31 48.0
comp=Z,31nm,18.0s,baz=38,slow=40
M23A Laramie 81.08 44 ⇓P P 07 50 29.7 +0.5
baz=81
N22A Wattenberg Ran 81.13 45 ⇓P P 07 50 30.1 +0.5
baz=81,SNR=5.1
I27A Quinn 81.19 40 ⇓P P 07 50 29.7 +0.1
baz=81
J26A Sides Ranch, S 81.20 41 ⇑P P 07 50 29.8 +0.1
baz=81
GLA Glamis 81.20 55 *e*P P 07 50 30.2 +0.4
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA Glamis 81.20 55 *e*P P 07 50 30.2 +0.4
comp=Z,9.5nm,0.8s
H28A Mission Ridge 81.27 39 ⇑P P 07 50 30.1 +0.1
baz=81
PV10 Paradox Valley 81.30 48 *e*P P 07 50 31.9 +1.4
N23A Red Feather La 81.35 44 ⇑P P 07 50 30.9 +0.2
baz=81
O22A Kremmling 81.52 45 ⇓P P 07 50 31.9 +0.2
baz=81,SNR=6.3
M24A Cheyenne 81.57 43 ⇑P P 07 50 32.4 +0.6
baz=81
I28A Midland 81.69 39 ⇓P P 07 50 32.3 +0.1
baz=82
PV01 Paradox Valley 81.74 48 *e*P P 07 50 33.3 +0.5
P22A Eagle 81.79 46 ⇑P P 07 50 33.6 +0.6
baz=82,SNR=12
WUAZ Wupatki 81.79 51 ⇓P P 07 50 33.9 +0.9
baz=82,SNR=6.5
WUAZ Wupatki 81.79 51 *e*P P 07 50 34.6 +1.6
comp=Z,8.9nm,0.9s
J27A Elkhorn Farm, 81.80 40 ⇓P P 07 50 32.9 +0.1
baz=82
Y14A Wickenburg 81.80 53 ⇓P P 07 50 33.7 +0.7
baz=82,SNR=7.4
O23A Lake Granby, G 81.84 45 ⇓P P 07 50 34.2 +0.9
baz=82,SNR=7.6
G30A Faulkton 81.86 38 ⇑P P 07 50 33.1 +0.1
baz=82
SMCO Snowmass 81.95 46 *e*P P 07 50 34.8 +0.7
comp=Z,5.2nm,1.0s
J28A Allard Ranch, 82.06 40 ⇓P P 07 50 34.4 +0.2
baz=82
113A Mohawk Valley, 82.07 55 ⇑P P 07 50 35.1 +0.8
baz=82
L26A Underwood Farm 82.10 42 ⇑P P 07 50 34.8 +0.3
baz=82
I29A Vivian Onida 82.10 39 ⇑P P 07 50 34.6 +0.3
baz=82
Z14A Wintersburg 82.21 54 ⇑P P 07 50 35.7 +0.7
baz=82
ISCO Idaho Springs 82.29 45 *e*P P 07 50 36.0 +0.3
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 82.29 45 ⇓P P 07 50 36.1 +0.3
baz=82
ISCO Idaho Springs 82.29 45 *e*P P 07 50 36.0 +0.3
comp=Z,5.6nm,1.4s
O24A Longmont 82.36 44 ⇓P P 07 50 36.5 +0.5
baz=82
MVCO Mesa Verde 82.40 48 ⇑P P 07 50 36.8 +0.5
baz=82
MVCO Mesa Verde 82.40 48 *e*P P 07 50 36.6 +0.4
comp=Z,4.6nm,1.0s
X16A Lo Mia Camp, P 82.47 52 ⇓P P 07 50 37.5 +0.9
baz=82,SNR=9.3
K28A Ten Mile Ranch 82.51 40 ⇑P P 07 50 36.7 +0.2
baz=82
J29A Okreek 82.54 39 ⇓P P 07 50 37.0 +0.4
baz=82
I30A Oacoma 82.61 39 ⇑P P 07 50 37.1 +0.1
baz=82
K29A Lazy Trails An 83.01 40 ⇓P P 07 50 39.3 +0.2
baz=83
S22A 4UR Ranch, Cre 83.01 47 ⇓P P 07 50 40.1 +0.6
baz=83
S22A 4UR Ranch, Cre 83.01 47 *e*P P 07 50 41.0 +1.4
comp=Z,3.8nm,0.9s
J30A Dallas 83.01 39 ⇓P P 07 50 38.8 -0.3
baz=83
214A Organ Pipe Nat 83.21 55 ⇓P P 07 50 40.7 +0.4
baz=83
R23A Moffat 83.28 46 ⇓P P 07 50 41.4 +0.5
baz=83
X18A Snowflake 83.32 51 ⇑P P 07 50 41.9 +0.8
baz=83
R24A Sanders Place, 83.66 46 ⇑P P 07 50 43.4 +0.7
baz=84
BFO Black Forest 83.69 330 *ce*P P 07 50 42.7 +0.3
M29A Burnside Ranch 83.77 41 ⇓P P 07 50 43.0 -0.1
baz=84
S24A Houchin Ranch, 84.01 46 ⇓P P 07 50 44.9 +0.2
baz=84
ECSD EROS Data Cent 84.11 37 ⇑P P 07 50 44.3 -0.4
baz=84
L31A Butterfield Fa 84.18 39 ⇓P P 07 50 45.2 +0.1
baz=84
TUC Tucson 84.27 53 *e*P P 07 50 46.4 +0.6
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 84.27 53 *e*P P 07 50 46.4 +0.6
comp=Z,4.3nm,1.0s
R26A Arlington 84.54 45 ⇑P P 07 50 46.9 -0.2
baz=84
P28A Saint Francis 84.56 43 ⇓P P 07 50 47.0 -0.2
baz=84
T25A Trinidad 84.82 46 ⇓P P 07 50 49.1 +0.4
baz=85
SCHQ Schefferville 84.82 15 LR LR 08 32 13.3
comp=Z,27nm,19.2s,baz=294,slow=38
R27A Eads 84.91 44 ⇑P P 07 50 49.0 0.0
baz=85
P29A Atwood 84.98 42 ⇑P P 07 50 49.0 -0.2
baz=85
S26A Kim 85.01 45 ⇑P P 07 50 49.4 -0.1
baz=85
ANMO Albuquerque 85.15 49 *ce*P P 07 50 50.0 -0.3
ANMO pmax pmax
comp=Z,29nm,1.2s
ANMO Albuquerque 85.15 49 *e*P P 07 50 51.1 +0.8
comp=Z,6.6nm,1.1s
T26A Comanche Natio 85.25 46 ⇑P P 07 50 50.9 +0.1
baz=85
P30A Selden 85.39 42 ⇓P P 07 50 50.8 -0.4
baz=85
R28A Tribune 85.41 44 ⇑P P 07 50 51.3 -0.2
baz=85
Q29A Oakley 85.47 43 ⇓P P 07 50 51.3 -0.4
baz=85
U26A Atchley Ranch, 85.72 46 ⇓P P 07 50 53.2 +0.1
baz=86
319A Douglas 85.85 53 ⇑P P 07 50 54.2 +0.4
baz=86
P31A Stockton 85.86 42 ⇑P P 07 50 53.3 -0.3
baz=86
S28A Manter 85.91 44 ⇑P P 07 50 54.2 +0.3
baz=86
121A Cookes Peak, D 86.00 51 ⇑P P 07 50 55.0 +0.4
baz=86
T28A Walsh 86.12 45 ⇑P P 07 50 54.7 -0.3
baz=86
P32A Huiting Farm, 86.19 41 ⇓P P 07 50 54.8 -0.4
baz=86
U27A Thompson Grove 86.22 46 ⇓P P 07 50 55.5 -0.1
baz=86
R30A Dighton 86.29 43 ⇑P P 07 50 55.7 -0.1
baz=86
S30A Montezuma 86.65 43 ⇑P P 07 50 57.0 -0.6
baz=86
R31A Burdett 86.69 42 ⇓P P 07 50 57.1 -0.5
baz=86
Q33A Connelly Farm, 87.05 41 ⇑P P 07 50 58.9 -0.5
baz=87
S31A Mullinville 87.20 43 ⇑P P 07 51 00.3 +0.1
baz=87
R33A Olander Ranch, 87.49 42 ⇑P P 07 51 01.4 -0.2
baz=87
KSU1 Kansas State U 87.60 40 ⇓P P 07 51 02.0 0.0
baz=87
T32A Huddler Ranch, 87.82 43 ⇑P P 07 51 02.8 -0.4
baz=88
P33A Dimmitt 87.94 47 ⇓P P 07 51 03.9 0.0
baz=88
AMTX Amarillo 87.97 46 ⇓P P 07 51 04.3 +0.3
baz=88
X30A Coker Ranch, T 88.75 46 ⇑P P 07 51 07.6 -0.1
baz=89
R36A Gordon, Harris 88.76 40 ⇑P P 07 51 07.2 -0.3
baz=89
U33A Lingo Farm, Me 88.81 43 ⇓P P 07 51 07.9 +0.1
baz=89
S35A Otter Creek Ra 88.83 41 ⇓P P 07 51 07.9 +0.1
baz=89
R37A Teagarden Farm 89.11 40 ⇓P P 07 51 09.0 -0.2
baz=89
Z29A Hungry Hill Ra 89.13 47 ⇓P P 07 51 09.9 +0.4
baz=89
128A Castleberry Fa 89.13 48 ⇓P P 07 51 10.0 +0.4
baz=89
V33A Lossen Ranch, 89.17 43 ⇓P P 07 51 09.9 +0.3
baz=89
Z30A Sanderson Ranc 89.44 47 ⇓P P 07 51 11.4 +0.4
baz=89
Y31A Rekieta Farm, 89.45 46 ⇓P P 07 51 11.4 +0.5
baz=89
W33A Caddo, Fort Co 89.57 44 ⇑P P 07 51 11.9 +0.5
baz=89
V34A Guthrie 89.58 43 ⇑P P 07 51 11.9 +0.4
baz=89
X32A Elmer 89.66 45 ⇑P P 07 51 12.3 +0.5
baz=90
329A Wagon Wheel Ra 90.24 49 ⇓P P 07 51 14.8 +0.1
baz=90
Y33A Hilltop Ranch, 90.33 45 ⇑P P 07 51 15.1 +0.1
baz=90
Z32A Haskell 90.37 46 ⇑P P 07 51 15.4 +0.2
baz=90
TUL1 Leonard 90.44 42 ⇑P P 07 51 15.7 +0.2
baz=90
230A Sterling City 90.46 48 ⇑P P 07 51 15.9 +0.2
baz=90
TXAR Lajitas Array 90.76 51 P P 07 51 17.8 +0.6
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 90.76 51 P P 07 51 17.8 +0.6
comp=Z,1.9nm,0.8s,baz=284,slow=3.3,SNR=20
330A Mertzon 90.78 48 ⇑P P 07 51 17.4 +0.2
baz=91
W36A Wetumka 90.80 43 ⇑P P 07 51 17.3 +0.2
baz=91
231A Bronte 90.89 47 ⇑P P 07 51 17.8 +0.1
baz=91
429A Davenport Ranc 90.91 49 ⇑P P 07 51 17.8 0.0
baz=91
529A Stev Forest Ra 91.08 50 ⇑P P 07 51 18.3 -0.3
baz=91
430A Baggett Ranch, 91.19 49 ⇑P P 07 51 18.2 -0.9
baz=91
331A San Angelo 91.28 48 ⇓P P 07 51 18.9 -0.7
baz=91
232A Coleman 91.31 47 ⇑P P 07 51 19.1 -0.6
baz=91
530A J-C Ranch, Com 91.59 49 ⇑P P 07 51 20.9 0.0
baz=91

Z35A	**Perchaven, San** baz=91	**91.60**	**44**	⇑P	**P**	**07 51 20.5**	**-0.4**
332A	**Millersview** baz=92	**91.63**	**47**	⇑P	**P**	**07 51 21.3**	**+0.2**
431A	**Sonora** baz=92	**91.63**	**48**	⇑P	**P**	**07 51 21.2**	**+0.1**
233A	**Rising Star** baz=92	**91.65**	**46**	⇓P	**P**	**07 51 21.3**	**+0.1**
134A	**White-Moore Ra** baz=92	**91.70**	**45**	⇓P	**P**	**07 51 20.4**	**-1.0**
432A	**Menard** baz=92	**91.97**	**48**	⇑P	**P**	**07 51 22.8**	**+0.1**
531A	**Rocksprings** baz=92	**92.05**	**49**	⇓P	**P**	**07 51 23.3**	**+0.2**
234A	**Clairette** baz=92	**92.09**	**46**	⇓P	**P**	**07 51 23.4**	**+0.2**
333A	**Richland Sprin** baz=92	**92.11**	**47**	⇓P	**P**	**07 51 23.4**	**+0.1**
JCT	**Junction City** baz=92	**92.26**	**48**	⇑P	**P**	**07 51 24.1**	**+0.1**
532A	**Rocksprings** baz=92	**92.45**	**48**	⇓P	**P**	**07 51 25.2**	**+0.2**
433A	**Art** baz=92	**92.47**	**47**	⇓P	**P**	**07 51 25.2**	**+0.2**
WHTX	**Lake Whitney,** baz=92	**92.49**	**45**	⇑P	**P**	**07 51 25.1**	**+0.1**
334A	**Lometa** baz=92	**92.53**	**46**	⇑P	**P**	**07 51 25.5**	**+0.2**
631A	**Perdido Creek** baz=92	**92.58**	**49**	⇑P	**P**	**07 51 25.9**	**+0.4**
534A	**Blanco** baz=93	**93.36**	**47**	⇓P	**P**	**07 51 28.8**	**-0.3**
LPAZ	**La Paz**	**147.50**	**56**	*e*PKIKP	**PKPdf**	**07 57 56.5**	**0.0**
LPAZ						07 57 59.2	
LPAZ	**La Paz** comp=Z,1.8nm,0.7s,baz=354,slow=2.5,SNR=8.0	**147.50**	**56**	PKPbc	**PKPbc**	**07 57 59.2**	**+0.2**
LPAZ	**La Paz**	**147.50**	**56**	*e*PKPdf	**PKPdf**	**07 57 56.5**	**0.0**
LPAZ				PKPbc	**PKPbc**	**07 57 59.2**	**+0.2**
LPAZ				*e*PKPbc	**PKPab**	**07 57 59.4**	**-1.7**

JMA 16 07:38:37.1±0.1, 38°03'N×139°49'E, h10km±2km, M4.0, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.25**	**213**	P	Pg	07 38 41.9	-0.3
JNS				S	Sg	07 38 45.5	-0.2
JFY	**Yanaizu**	**0.65**	**165**	S	Sg	07 38 58.3	+0.2

JMA 16 07:39:26.0±0.1, 38°03'N×139°48'E, h12km±2km, M2.9, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.25**	**211**	P	Pg	07 39 31.1	-0.1
JNS				S	Sg	07 39 34.8	+0.1

NEIC ***16*** *07:53:57.0, 33.61S×71.72W, h36km, MG3.7(GUC), After GUC.*
NEIC Felt [III] at San Antonio and [II] at Quillota and Valparaiso.
GUC 16 07:53:57.0±0.7, 33.61S×71.72W, h36km±13km, ML3.7, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.43**	**144**	⇓*i*P	Pn	07 54 06.6	+0.1
LNV				*i* S	Sn	07 54 13.5	+0.1
LNV	**Longovilo**	**0.43**	**144**	⇓*i*P	Pn	07 54 06.6	+0.1
LNV				*i* S	Sn	07 54 13.5	+0.1
TACH	**Talagante**	**0.65**	**94**	⇑*i*P	Pn	07 54 09.7	-0.2
TACH				*i* S	Sn	07 54 19.3	+0.3
TACH	**Talagante**	**0.65**	**94**	⇑*i*P	Pn	07 54 09.7	-0.2
TACH				*i* S	Sn	07 54 19.3	+0.3
SAN	**Santiago**	**0.90**	**80**	*e*P	Pn	07 54 13.6	+0.5
SAN				*e*S	Sn	07 54 26.1	+1.2
SAN	**Santiago**	**0.90**	**80**	*e*P	Pn	07 54 13.6	+0.5
SAN				*e*S	Sn	07 54 26.1	+1.2
CHCH	**Chadas Angostu**	**0.94**	**110**	*e*P	Pn	07 54 14.2	+0.3
CHCH	**Chadas Angostu**	**0.94**	**110**	*e*P	Pn	07 54 14.2	+0.3
PEL	**Peldehue**	**0.98**	**62**	⇓*e*P	Pn	07 54 15.1	+0.8
PEL				*e*S	Sn	07 54 28.7	+1.7
PEL				AML	AML	07 54 31.5	
	comp=E,6μm,0.4s						
PEL	**Peldehue**	**0.98**	**62**	⇓*e*P	Pn	07 54 15.1	+0.8
PEL				*e*S	Sn	07 54 28.7	+1.7
FSR	**Penalolen**	**1.00**	**83**	*e*P	Pn	07 54 06.8	-7.8
LACH	**Col Las Americ**	**1.00**	**81**	*e*P	Pn	07 54 15.1	+0.5
LACH				*e*S	Sn	07 54 29.0	+1.4
LACH	**Col Las Americ**	**1.00**	**81**	*e*P	Pn	07 54 15.1	+0.5
LACH				*e*S	Sn	07 54 29.0	+1.4
CLCH	**Cerro Calan**	**1.01**	**78**	*e*P	Pn	07 54 15.0	+0.3
CLCH				*e*S	Sn	07 54 28.8	+1.0
CLCH				AML	AML	07 54 36.3	
	comp=N,3μm,0.7s						
NICH	**Los Niches**	**1.45**	**164**	*e*P	Pn	07 54 20.6	0.0
NICH				*e*S	Sn	07 54 40.2	+1.8
NICH	**Los Niches**	**1.45**	**164**	*e*P	Pn	07 54 20.6	0.0
NICH				*e*S	Sn	07 54 40.2	+1.8

IDC 16 07:58:50.1±20.0, 19.37S×178.09W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.8/31, mbtmp4.3/4, ML4.2/1, Error ellipse: s-maj=389.6km s-min=51.3km az=59.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.28**	**192**	P	P	08 03 16.4	+0.1
	0.8nm,0.3s,baz=16,slow=18,SNR=6.8						
STKA	**Stephens Creek**	**38.21**	**243**	P	P	08 06 11.4	-0.4
	1.0nm,0.6s,baz=73,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**44.68**	**261**	P	P	08 07 05.2	0.0
	1.9nm,0.3s,baz=96,slow=7.3,SNR=152						
ASAR	**Alice Springs**	**44.70**	**256**	P	P	08 07 05.1	-0.2
	3.2nm,0.5s,baz=94,slow=7.9,SNR=57						

IDC ***16*** *07:59:48.4±2.6, 52.63N×36.45E, h0km, mb3.3/1, mb1 3.5/5, mb1mx3.1/40, mbtmp3.4/5, ML3.2/3, MS2.2/1, Ms1 2.2/1, ms1mx1.9/25, Error ellipse: s-maj=41.6km s-min=12.8km az=130.0*
ISCJB ***16*** *07:59:53.8±2.3, 53.1N±0.2×35.3E±0.4, h10km, mb3.4/1, Error ellipse: s-maj=39.7km s-min=9.2km az=38.8*
ISC 16 07:59:54.5±1.7, 53.1N±0.1×35.4E±0.2, h10km, n9, σ1§04/7, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.18**	**18**	Pn	**Pn**	**08 00 30.9**	**+0.2**
	baz=85,slow=20,SNR=2.6						
OBN				Lg	Lg	08 01 13.4	
	7.2nm,0.3s,baz=26,slow=22,SNR=8.3						
I43RU	**DUBNA INFRASON**	**3.82**	**15**	*i*		08 27 50.0	
	baz=192,slow=318,SNR=2.5						
AKASG	**Malin Array Be**	**4.50**	**241**	Pn	**Pn**	**08 01 02.0**	**-0.7**
	2.0nm,0.3s,baz=66,slow=18,SNR=6.8						
AKASG				Sn	**Sn**	**08 01 56.6**	**+1.7**
	2.5nm,0.3s,baz=66,slow=28,SNR=5.6						
AKASG				Lg	Lg	08 02 15.3	
	2.9nm,0.3s,baz=64,slow=28,SNR=5.7						
KIS	**Kishinev**	**7.40**	**218**	*e*P	**Pb**	**08 02 03.0**	**+0.1**
FINES	**FINESS Array B**	**9.80**	**333**	Pn	**Pn**	**08 02 15.3**	**-0.1**
	0.1nm,0.3s,baz=141,slow=12,SNR=5.6						
VRAC	**Vranov**	**12.38**	**260**	LR	LR	08 07 30.9	
	comp=Z,11nm,21.5s,baz=236,slow=36						
I31KZ	**AKTYUBINSK INF**	**14.26**	**92**	*i*		09 25 50.0	
	baz=286,slow=319,SNR=1.3						
ARCES	**ARCESS Array B**	**17.17**	**348**	P	**P**	**08 03 56.4**	**+0.6**
	0.4nm,0.3s,baz=156,slow=8.6,SNR=17						
YKA	**Yellowknife Ar**	**62.40**	**345**	P	**P**	**08 10 16.1**	**-0.8**
	0.2nm,0.6s,baz=12,slow=6.5,SNR=8.3						

CSEM ***16*** *08:00:54.4, 45.60N×26.33E, h151km, MD3.9/10*
BUC 16 08:00:54.4±0.8, 45.60N×26.33E, h151km±6km, MD3.9/10, 27C-24D, Error ellipse: s-maj=5.7km s-min=4.4km az=340.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.29**	**248**	⇑*i*P	Pn	08 01 15.3	0.0
MLR				*i* S	Sn	08 01 29.9	-1.2
MLR	**Muntele Rosu**	**0.29**	**248**	⇑*i*P	Pn	08 01 15.3	0.0
MLR	**Muntele Rosu**	**0.29**	**248**	⇑*i*P	Pn	08 01 15.3	0.0
MLR				*i* S	Sn	08 01 29.9	-1.2
PLOR	**Plostina**	**0.34**	**42**	⇑*i*P	Pn	08 01 15.1	-0.2
PLOR				*i* S	Sn	08 01 30.1	-1.1
PLOR	**Plostina**	**0.34**	**42**	⇑*i*P	Pn	08 01 15.1	-0.2
PLOR	**Plostina**	**0.34**	**42**	⇑*i*P	Pn	08 01 15.1	-0.2
PLOR				*i* S	Sn	08 01 30.1	-1.1
VRI	**Vrincioaia**	**0.39**	**46**	⇓*i*P	Pn	08 01 15.5	+0.1
VRI				*i* S	Sn	08 01 30.2	-1.3
VRI	**Vrincioaia**	**0.39**	**46**	⇓*i*P	Pn	08 01 15.5	+0.1
VRI	**Vrincioaia**	**0.39**	**46**	⇓*i*P	Pn	08 01 15.5	+0.1
VRI				*i* S	Sn	08 01 30.2	-1.3
ISR	**Istrita**	**0.51**	**163**	⇓*i*P	Pn	08 01 16.2	+0.2
ISR				*i* S	Sn	08 01 31.7	-0.7
ISR	**Istrita**	**0.51**	**163**	⇓*i*P	Pn	08 01 16.2	+0.2
ISR	**Istrita**	**0.51**	**163**	⇓*i*P	Pn	08 01 16.2	+0.2
ISR				*i* S	Sn	08 01 31.7	-0.7
SECR		**0.59**	**198**	⇓*i*P	Pn	08 01 16.9	+0.4
SECR				*i* S	Sn	08 01 32.6	-0.6
SECR		**0.59**	**198**	⇓*i*P	Pn	08 01 16.9	+0.4
SECR		**0.59**	**198**	⇓*i*P	Pn	08 01 16.9	+0.4
SECR				*i* S	Sn	08 01 32.6	-0.6
PETR	**Petresti**	**0.64**	**79**	⇑*i*P	Pn	08 01 17.0	+0.4
PETR				*i* S	Sn	08 01 33.4	-0.2
PETR	**Petresti**	**0.64**	**79**	⇑*i*P	Pn	08 01 17.0	+0.4
PETR	**Petresti**	**0.64**	**79**	⇑*i*P	Pn	08 01 17.0	+0.4
PETR				*i* S	Sn	08 01 33.4	-0.2
DOPR	**Dopca**	**0.75**	**299**	⇑*i*P	Pn	08 01 17.5	+0.1
DOPR				*i* S	Sn	08 01 34.3	-0.7
DOPR	**Dopca**	**0.75**	**299**	⇑*i*P	Pn	08 01 17.5	+0.1
DOPR	**Dopca**	**0.75**	**299**	⇑*i*P	Pn	08 01 17.5	+0.1
DOPR				*i* S	Sn	08 01 34.3	-0.7
PGOR	**Pogoanele**	**0.83**	**146**	*i* S	Sn	08 01 35.6	-0.3
PGOR	**Pogoanele**	**0.83**	**146**	S	Sn	08 01 35.6	-0.3
PGOR	**Pogoanele**	**0.83**	**146**	*i* S	Sn	08 01 35.6	-0.3
VOIR		**0.91**	**260**	⇓*i*P	Pn	08 01 18.8	+0.1
VOIR				*i* S	Sn	08 01 35.4	-1.8
VOIR		**0.91**	**260**	⇓*i*P	Pn	08 01 18.8	+0.1
VOIR		**0.91**	**260**	⇓*i*P	Pn	08 01 18.8	+0.1
VOIR				*i* S	Sn	08 01 35.4	-1.8
SULR		**0.92**	**183**	*i* S	Sn	08 01 37.2	+0.1
SULR		**0.92**	**183**	S	Sn	08 01 37.2	+0.1
SULR		**0.92**	**183**	*i* S	Sn	08 01 37.2	+0.1
TESR	**Tescani**	**0.94**	**14**	⇓*i*P	Pn	08 01 18.9	+0.1
TESR				*i* S	Sn	08 01 36.1	-1.4
TESR	**Tescani**	**0.94**	**14**	⇓*i*P	Pn	08 01 18.9	+0.1
TESR	**Tescani**	**0.94**	**14**	⇓*i*P	Pn	08 01 18.9	+0.1
TESR				*i* S	Sn	08 01 36.1	-1.4
MTUR	**Matau**	**0.97**	**248**	⇑*i*P	Pn	08 01 19.5	+0.4
MTUR	**Matau**	**0.97**	**248**	⇑*i*P	Pn	08 01 19.5	+0.4
MTUR	**Matau**	**0.97**	**248**	⇑*i*P	Pn	08 01 19.5	+0.4
ARR	**Arges**	**1.22**	**260**	⇑*i*P	Pn	08 01 22.4	+1.1
ARR				*i* S	Sn	08 01 41.5	-0.4
ARR	**Arges**	**1.22**	**260**	⇑*i*P	Pn	08 01 22.4	+1.1
ARR	**Arges**	**1.22**	**260**	⇑*i*P	Pn	08 01 22.4	+1.1
ARR				*i* S	Sn	08 01 41.5	-0.4
GOLR		**1.23**	**232**	*i* S	Sn	08 01 41.6	-0.3
GOLR		**1.23**	**232**	S	Sn	08 01 41.6	-0.3
GOLR		**1.23**	**232**	*i* S	Sn	08 01 41.6	-0.3
BUC1	**Bucharest**	**1.27**	**190**	⇑*i*P	Pn	08 01 21.6	-0.2
BUC1				*i* S	Sn	08 01 41.7	-0.9
BUC1	**Bucharest**	**1.27**	**190**	⇑*i*P	Pn	08 01 21.6	-0.2
BUC1	**Bucharest**	**1.27**	**190**	⇑*i*P	Pn	08 01 21.6	-0.2
BUC1				*i* S	Sn	08 01 41.7	-0.9
CFR	**Carcaliu**	**1.34**	**108**	⇓*i*P	Pn	08 01 22.6	+0.2
CFR				*i* S	Sn	08 01 41.5	-2.3
CFR	**Carcaliu**	**1.34**	**108**	⇓*i*P	Pn	08 01 22.6	+0.2
CFR	**Carcaliu**	**1.34**	**108**	⇓*i*P	Pn	08 01 22.6	+0.2
CFR				*i* S	Sn	08 01 41.5	-2.3
HUMR	**Humele**	**1.44**	**222**	⇑*i*P	Pn	08 01 23.4	0.0
HUMR				*i* S	Sn	08 01 44.6	-1.0
HUMR	**Humele**	**1.44**	**222**	⇑*i*P	Pn	08 01 23.4	0.0
HUMR	**Humele**	**1.44**	**222**	⇑*i*P	Pn	08 01 23.4	0.0
HUMR				*i* S	Sn	08 01 44.6	-1.0
LEOM	**Leova**	**1.59**	**56**	*i* S	Sn	08 01 47.6	-0.9
LEOM	**Leova**	**1.59**	**56**	S	Sn	08 01 47.6	-0.9
LEOM	**Leova**	**1.59**	**56**	*i* S	Sn	08 01 47.6	-0.9
TLCR		**1.80**	**102**	⇓*i*P	Pn	08 01 27.5	+0.2
TLCR				*i* S	Sn	08 01 51.2	-1.3
TLCR		**1.80**	**102**	⇓*i*P	Pn	08 01 27.5	+0.2
TLCR		**1.80**	**102**	⇓*i*P	Pn	08 01 27.5	+0.2
TLCR				*i* S	Sn	08 01 51.2	-1.3
MSAB	**Monastry St. A**	**1.85**	**144**	*i* S	Sn	08 01 51.9	-1.6
MSAB	**Monastry St. A**	**1.85**	**144**	S	Sn	08 01 51.9	-1.6
MSAB	**Monastry St. A**	**1.85**	**144**	*i* S	Sn	08 01 51.9	-1.6
TIRR	**Tirgusor**	**1.87**	**127**	⇓*i*P	Pn	08 01 27.8	-0.3
TIRR				*i* S	Sn	08 01 51.7	-2.2
TIRR	**Tirgusor**	**1.87**	**127**	⇓*i*P	Pn	08 01 27.8	-0.3
TIRR	**Tirgusor**	**1.87**	**127**	⇓*i*P	Pn	08 01 27.8	-0.3
TIRR				*i* S	Sn	08 01 51.7	-2.2
PSN	**Preselentsi**	**2.33**	**145**	*i* S	Sn	08 02 02.5	-1.1
PSN	**Preselentsi**	**2.33**	**145**	S	Sn	08 02 02.5	-1.1
PSN	**Preselentsi**	**2.33**	**145**	*i* S	Sn	08 02 02.5	-1.1
GZR	**Gura Zlata**	**2.51**	**267**	⇑*i*P	Pn	08 01 36.9	+1.2
GZR	**Gura Zlata**	**2.51**	**267**	⇑*i*P	Pn	08 01 36.9	+1.2
GZR	**Gura Zlata**	**2.51**	**267**	⇑*i*P	Pn	08 01 36.9	+1.2

ISCJB ***16*** *08:02:10.3±0.5, 35.89N±0.02×36.42E±0.05, h17km, Error ellipse: s-maj=6.1km s-min=3.3km az=10.2*
NSSC ***16*** *08:02:10.7±4.4, 35.87N×36.53E, h11km±24km, ML2.0*
DDA ***16*** *08:02:10.7, 35.99N×36.43E, h7km, MD2.5*
ISC 16 08:02:09.8±0.9, 35.90N±0.03×36.46E±0.05, h17km, n9, σ0§67/19, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.14**	**359**	*e*P	**Pg**	**08 02 14.2**	**+0.4**
BTCH				*e*S	**Sb**	**08 02 17.6**	**+0.8**
BTCH				AML	AML	08 02 18.1	
	comp=E,435nm,0.6s						
BTCH				AML	AML	08 02 18.3	
	comp=N,293nm,0.4s						
YAYL	**Yayladag**	**0.32**	**295**	*i* P	**Pg**	**08 02 15.3**	**-1.4**
YAYL				*i* S	**Sg**	**08 02 20.3**	**-1.0**
WRDH	**Warideh**	**0.39**	**186**	*e*P	**Pg**	**08 02 17.9**	**0.0**
WRDH				*e*S	**Sg**	**08 02 23.7**	**+0.2**
WRDH				AML	AML	08 02 23.9	
	comp=E,312nm,0.1s						
WRDH				AML	AML	08 02 24.9	
	comp=N,103nm,0.1s						
ARNB	**Al Arnab**	**0.40**	**264**	*e*P	**Pg**	**08 02 18.3**	**+0.2**
ARNB				*e*S	**Sg**	**08 02 24.4**	**+0.8**
ARNB				*i* P	**Sg**	**08 02 24.4**	**+0.8**
ARNB				AML	AML	08 02 24.9	
	comp=N,178nm,0.3s						
ARNB				AML	AML	08 02 25.0	
	comp=E,54nm,0.3s						
BIDA	**Albida**	**0.89**	**187**	*e*P	**Pb**	**08 02 27.0**	**+0.1**
BIDA				*e*S	**Sb**	**08 02 38.1**	**-0.5**
BIDA				AML	AML	08 02 40.5	
	comp=E,32nm,0.3s						
BIDA				AML	AML	08 02 42.5	
	comp=N,78nm,0.3s						
KUZU	**Kuzuini**	**1.00**	**29**	*i* P	**Pb**	**08 02 28.3**	**-0.5**
KUZU				*i* S	**Sg**	**08 02 42.1**	**-0.4**
KAMA	**Osmaniye**	**1.29**	**7**	*i* P	**Pb**	**08 02 34.0**	**+0.3**
KAMA				*i* S	**Sn**	**08 02 51.9**	**+0.7**
HAWK	**Haweek**	**1.38**	**182**	*e*P	**Pn**	**08 02 34.0**	**-0.3**
HAWK				*e*S	**Sn**	**08 02 52.3**	**+0.1**
HAWK				AML	AML	08 02 53.5	
	comp=N,28nm,0.2s						
HAWK				AML	AML	08 02 54.8	
	comp=E,38nm,0.6s						
HCB	**Kahramanmara˜**	**1.48**	**14**	*i* P	**Pb**	**08 02 37.7**	**+0.7**
HCB				*i* S	**Sg**	**08 02 57.1**	**-0.7**

ISCJB ***16*** *08:09:27.7±0.9, 27.65N±0.09×54.38E±0.09, h10km, mb3.7/10, MS2.7/2, Error ellipse: s-maj=14.4km s-min=11.2km az=30.4*
IDC ***16*** *08:09:28.1±1.4, 27.69N×54.37E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.6/42, mbtmp3.7/11, MS2.8/2, Ms1 2.8/2, ms1mx2.3/42, Error ellipse: s-maj=32.2km s-min=21.9km az=177.0*
CSEM ***16*** *08:09:33.2, 27.82N×54.27E, h18km, ML3.6*
TEH ***16*** *08:09:33.2, 27.82N×54.27E, h18km, ML3.6*
ISC 16 08:09:30.9±1.2, 27.8N±0.1×54.25E±0.08, h10km, n33, σ1§51/33, mb3.5/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.83**	**327**	*e*	**Sg**	**08 10 31.9**	**+2.1**
	comp=Z,3μm,0.4s						
ISRV				*e*Pn	**Pn**	**08 10 04.2**	**+1.5**
IPAR	**Pars**	**2.25**	**333**	*e*Pn	**Pn**	**08 10 10.2**	**+1.7**
IPAR				*e*		08 10 54.8	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.25**	**333**	*e*Pn	**Pn**	**08 10 10.2**	**+1.7**
IKAZ	**Kazeroun**	**2.86**	**313**	*e*Pn	**Pn**	**08 10 18.4**	**+1.5**
IKAZ				*e*		08 10 57.2	
	comp=Z,1μm,0.2s						
IKAZ	**Kazeroun**	**2.86**	**313**	*e*Pn	**Pn**	**08 10 18.4**	**+1.5**
IMEH	**Mehriz**	**3.55**	**5**	*e*Pn	**Pn**	**08 10 27.9**	**+1.6**
IMEH				*e*		08 11 19.5	
	comp=Z,495nm,0.2s						
IMEH	**Mehriz**	**3.55**	**5**	*e*Pn	**Pn**	**08 10 27.9**	**+1.6**
IBAF	**Bafgh**	**3.91**	**17**	*e*Pn	**Pn**	**08 10 31.9**	**+0.7**
IBAF				*e*		08 11 35.2	
	comp=Z,603nm,0.4s						
IBAF	**Bafgh**	**3.91**	**17**	*e*Pn	**Pn**	**08 10 31.9**	**+0.7**
ISAD	**Sadrabad**	**4.09**	**353**	*e*Pn	**Pn**	**08 10 35.7**	**+2.0**
ISAD				*e*		08 11 45.8	
	comp=Z,537nm,0.2s						
ISAD	**Sadrabad**	**4.09**	**353**	*e*Pn	**Pn**	**08 10 35.7**	**+2.0**
ICHK	**Chekchek**	**4.39**	**2**	*e*Pn	**Pn**	**08 10 39.2**	**+1.4**
ICHK				*e*		08 11 59.5	
	comp=Z,556nm,0.4s						
ICHK	**Chekchek**	**4.39**	**2**	*e*Pn	**Pn**	**08 10 39.2**	**+1.4**
IZEF	**Zefreh**	**5.30**	**342**	*e*Pn	**Pn**	**08 10 50.4**	**0.0**
IZEF				*e*		08 11 57.0	
	comp=Z,137nm,0.0s						
IZEF	**Zefreh**	**5.30**	**342**	*e*Pn	**Pn**	**08 10 50.4**	**0.0**
IPIR	**Pirpir**	**5.63**	**330**	*e*Pn	**Pn**	**08 10 54.3**	**-0.7**
IPIR				*e*Sn	**Sn**	**08 11 56.5**	**-3.3**
IPIR				*e*		08 11 59.2	
	comp=Z,312nm,0.3s						
IPIR	**Pirpir**	**5.63**	**330**	*e*Pn	**Pn**	**08 10 54.3**	**-0.7**
IPIR				*e*Sn	**Sn**	**08 11 56.5**	**-3.3**
IKLH	**Kolahrood**	**5.92**	**338**	*e*Pn	**Pn**	**08 11 00.1**	**+1.2**
IKLH				*e*		08 12 31.2	
	comp=Z,91nm,0.2s						
IKLH	**Kolahrood**	**5.92**	**338**	*e*Pn	**Pn**	**08 11 00.1**	**+1.2**
IANJ	**Anjilo**	**7.61**	**358**	*e*Pn	**Pn**	**08 11 22.2**	**+0.2**
IANJ	**Anjilo**	**7.61**	**358**	*e*Pn	**Pn**	**08 11 22.2**	**+0.2**
BRTR	**Keskin Array B**	**20.77**	**310**	P	**P**	**08 14 13.7**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=128,slow=12,SNR=8.2						
AKTO	**Aktyubinsk**	**22.75**	**6**	P	**P**	**08 14 33.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=162,slow=13,SNR=3.5						
IDI	**Anoyia**	**26.03**	**294**	LR	LR	08 28 13.4	
	comp=Z,19nm,18.9s,baz=354,slow=43						
MKAR	**Makanchi Array**	**29.01**	**42**	P	**P**	**08 15 29.5**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=232,slow=7.7,SNR=4.6						
MKAR				LR	LR	08 29 13.3	
	comp=Z,16nm,19.1s,baz=356,slow=41						
KURBB	**Kurchatov Arra**	**29.27**	**32**	P	**P**	**08 15 33.4**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=232,slow=8.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**34.37**	**32**	P	**P**	**08 16 16.9**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=237,slow=11,SNR=6.8						
FINES	**FINESS Array B**	**38.51**	**339**	P	**P**	**08 16 52.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=142,slow=14,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.95**	**93**	P	P	08 17 20.1	-2.1
	comp=Z,0.3nm,0.3s,baz=284,slow=7.3,SNR=3.0						
ARCES	**ARCESS Array B**	**44.93**	**346**	P	**P**	**08 17 46.0**	**+0.4**
	comp=Z,2.4nm,1.0s,baz=104,slow=5.1,SNR=5.3						
TORD	**Toroli Ar. Bea**	**50.98**	**264**	P	**P**	**08 18 32.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=55,slow=7.7,SNR=7.7						
ILAR	**Eielson Array**	**86.23**	**9**	P	P	08 22 10.3	-2.1
	comp=Z,0.2nm,0.7s,baz=314,slow=5.2,SNR=3.2						
YKA	**Yellowknife Ar**	**89.54**	**355**	P	**P**	**08 22 29.0**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=7.1,slow=5.2,SNR=21						

ISCJB ***16*** *08:12:10.9±0.4, 32.29N±0.02×115.33W±0.03, h12km±3km, Error ellipse: s-maj=4.1km s-min=3.3km az=0.6*
NEIC ***16*** *08:12:12.5±0.5, 32.27N×115.34W, h9km, ML2.9(PAS), ML3.2(ECX), After ECX.*
ECX ***16*** *08:12:12.5±0.5, 32.27N×115.34W, h9km, MD3.0, ML3.2*
MEX ***16*** *08:12:13.2±0.8, 32.36N×115.28W, h20km±15km, MD3.6*
ISC 16 08:12:11.2±0.5, 32.27N±0.02×115.33W±0.02, h19km±1km, n47, σ0§56/69, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**8**	*e*P	**Pg**	**08 12 15.4**	**-0.2**
CPBX				*e*P	**Pg**	**08 12 15.4**	**-0.2**
CPBX				*e*S	**Sg**	**08 12 18.3**	**-0.3**
CPBX				*e*S	**Sg**	**08 12 18.7**	**+0.1**
CPBX				*e*S	**Sg**	**08 12 18.9**	**+0.3**
CPBX				AML	AML	08 12 20.9	
	comp=N,28μm,0.4s						
CPBX				⇓*e*		08 12 20.9	
CPBX				⇓*e*		08 12 25.0	
	comp=E,23μm,0.3s						
CPBX	**Cerro Prieto**	**0.15**	**8**	*e*P	**

ECNX					*e*S		**Sn**	**08 12 50.3**	**+0.4**
PBX	**Punta Banda**	**1.30**	**247**		*e*P		**Pb**	**08 12 34.8**	**-0.2**
PBX					*e*S		**Sb**	**08 12 51.8**	**+0.5**
PBX	**Punta Banda**	**1.30**	**247**		*e*P		**Pb**	**08 12 34.8**	**-0.2**
PBX					*e*S		**Sb**	**08 12 51.8**	**+0.5**
PFO	**Pinyon Flats O**	**1.64**	**325**		*e*Pn		**Pn**	**08 12 37.9**	**-1.3**
PFO					*e*Sn		**Sb**	**08 13 02.3**	**+1.0**
214A	**Organ Pipe Nat**	**2.16**	**98**		*e*Pn		**Pn**	**08 12 45.3**	**-0.9**
214A					*e*Pg		Pg	08 12 53.5	+0.8
LDFC	**Landfair**	**2.81**	**4**		*e*Pn		**Pn**	**08 12 56.4**	**+1.2**
LDFC					*e*Pg		Pg	08 13 08.6	+3.5
GSC	**Goldstone, Bar**	**3.27**	**338**		*e*Pg		Pg	08 13 14.7	+0.7
TUC	**Tucson**	**3.85**	**88**		*e*Pg		Pg	08 13 24.6	-0.4
TUC					*e*Sg		Sg	08 14 11.6	-3.4
SHPR	**Sheep Range**	**4.23**	**2**		*e*Pg		Pg	08 13 32.8	+0.3
SHPR					*e*Sg		Sg	08 14 22.7	-4.6
ISA	**Isabella, Lake**	**4.28**	**323**		*e*Pg		Pg	08 13 33.0	-0.3
WUAZ	**Wupatki**	**4.62**	**44**		*e*Pn		Pn	08 13 23.2	+3.1
CCUT	**Cedar City**	**5.51**	**16**		*e*Pg		Pg	08 13 58.3	+1.3
	comp=N,2.3nm,0.9s								
ARUT	**Antelope Range**	**5.72**	**15**		*e*Pg		Pg	08 14 00.6	-0.3
	comp=N,0.3nm,0.5s								

ISCJB ***16*** *08:25:23.1±0.5, 32.˚48N±0.˚03×115.˚52W±0.˚03, h14km±4km, Error ellipse: s-maj=5.2km s-min=3.6km az=138.5*
MEX ***16*** *08:25:23.6±0.8, 32.˚60N×115.˚45W, h5km, MD3.8*
NEIC ***16*** *08:25:24.7, 32.˚44N×115.˚54W, h5km, ML2.9(PAS), ML3.2(ECX), After ECX.*
ECX ***16*** *08:25:24.8±0.7, 32.˚43N×115.˚54W, h5km, MD3.0, ML3.2*

ISC 16 08:25:23.3±0.8, 32.˚44N±0.˚02×115.˚54W±0.˚02, h15km±7km, n33, σ0.965/59, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.20**	**96**	*e*P	**Pg**	**08 25 28.3**	**+0.3**
CPBX				*e*P	**Pg**	**08 25 28.4**	**+0.3**
CPBX				*e*S	**Sg**	**08 25 31.5**	**+0.3**
CPBX				*e*S	**Sg**	**08 25 31.7**	**+0.6**
CPBX				*e*		08 25 33.9	
	comp=E,22μm,0.2s						
CPBX	**Cerro Prieto**	**0.20**	**96**	*e*P	**Pb**	**08 25 28.4**	**-0.3**
CPBX				*e*S	**Sg**	**08 25 30.2**	**-1.0**
MBIG	**Mexicali**	**0.29**	**96**	*i* P	**Sg**	**08 25 29.6**	**+0.2**
MBIG				*e*S	**Sg**	**08 25 32.6**	**-1.1**
WESC	**Westside Schoo**	**0.36**	**333**	*e*P	**Pb**	**08 25 31.1**	**-0.3**
COK	**Cook Ranch**	**0.44**	**339**	⇑*i* P	**Pb**	**08 25 32.8**	**0.0**
RMX	**La Rumorosa**	**0.48**	**290**	⇑*e*P	**Pg**	**08 25 33.0**	**-0.1**
RMX	**La Rumorosa**	**0.48**	**290**	*e*P	**Pg**	**08 25 33.0**	**-0.1**
EMX	**El Mayor**	**0.51**	**150**	*e*P	**Pg**	**08 25 32.9**	**-0.6**
EMX				*e*S	**Sg**	**08 25 40.1**	**-0.3**
EMX				*e*		08 25 42.4	
	comp=N,963nm,0.5s						
EMX	**El Mayor**	**0.51**	**150**	*e*P	**Pg**	**08 25 32.9**	**-0.6**
EMX				*e*S	**Sg**	**08 25 40.1**	**-0.3**
COA	**Coachella**	**0.55**	**39**	⇑*i* P	**Pb**	**08 25 34.8**	**+0.2**
RDX	**Rancho Dawling**	**0.61**	**214**	⇑*e*P	**Pg**	**08 25 35.5**	**0.0**
RDX				*e*S	**Sg**	**08 25 43.9**	**+0.3**
RDX				⇓*e*		08 25 47.1	
	comp=E,560nm,0.3s						
RDX	**Rancho Dawling**	**0.61**	**214**	*e*P	**Pg**	**08 25 35.5**	**0.0**
RDX				*e*S	**Sg**	**08 25 43.9**	**+0.3**
CBX	**Cerro Bola**	**0.96**	**263**	*e*P	**Pb**	**08 25 41.6**	**-0.1**
CBX				*e*S	**Sb**	**08 25 54.3**	**0.0**
CBX	**Cerro Bola**	**0.96**	**263**	*e*P	**Pb**	**08 25 41.7**	**0.0**
CBX				*e*S	**Sb**	**08 25 54.2**	**0.0**
CBX	**Cerro Bola**	**0.96**	**263**	*e*P	**Pb**	**08 25 41.7**	**0.0**
CBX				*e*S	**Sb**	**08 25 54.2**	**0.0**
BAR	**Barrett**	**0.99**	**285**	*e*P	**Pb**	**08 25 41.9**	**-0.3**
BAR	**Barrett**	**0.99**	**285**	*e*Sg	**Sb**	**08 25 54.4**	**-0.5**
ECBX	**El Chinero**	**1.05**	**157**	*e*P	**Pb**	**08 25 42.5**	**-0.6**
ECBX				*e*S	**Sb**	**08 25 56.5**	**-0.1**
ECBX				⇓*e*		08 26 00.6	
	comp=N,377nm,1.1s						
ZAX	**El Zacaton**	**1.11**	**214**	*e*P	**Pn**	**08 25 44.5**	**+0.1**
ZAX				*e*S	**Sg**	**08 25 59.3**	**-0.1**
ECNX	**Esteban Cantu**	**1.19**	**229**	*e*P	**Pb**	**08 25 45.8**	**+0.2**
ECNX				*e*S	**Sn**	**08 26 01.5**	**+0.1**
PBX	**Punta Banda**	**1.22**	**236**	*e*P	**Pb**	**08 25 46.3**	**+0.2**
PBX				*e*S	**Sn**	**08 26 02.3**	**+0.2**
PBX	**Punta Banda**	**1.22**	**236**	*e*P	**Pb**	**08 25 46.3**	**+0.2**
PBX				*e*S	**Sn**	**08 26 02.3**	**+0.2**
SPIG	**San Pedro Mart**	**1.39**	**177**	*e*P	**Pn**	**08 25 48.2**	**-0.2**
SPIG				*i* S	**Sg**	**08 26 08.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.39**	**177**	*e*P	**Pn**	**08 25 48.2**	**-0.2**
SPIG				*e*S	**Sn**	**08 26 06.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.39**	**177**	*e*P	**Pn**	**08 25 48.2**	**-0.2**
SPIG				*e*S	**Sn**	**08 26 06.8**	**+0.1**
SPIG				*e*S	**Sb**	**08 26 07.1**	**+0.3**
SPX	**San Pedro Mart**	**1.39**	**177**	*e*P	**Pn**	**08 25 48.4**	**-0.1**
SPX				*e*S	**Sb**	**08 26 07.8**	**+1.0**
SPX				⇑*e*		08 26 10.7	
	comp=E,231nm,0.3s						
SPX	**San Pedro Mart**	**1.39**	**177**	*e*P	**Pn**	**08 25 48.3**	**-0.1**
SPX				*e*S	**Sb**	**08 26 07.4**	**+0.6**
SPX				*e*S	**Sb**	**08 26 07.8**	**+1.0**
PFO	**Pinyon Flats O**	**1.40**	**327**	*e*Pn	**Pn**	**08 25 47.2**	**-1.2**
PFO				*e*Sn	**Sn**	**08 26 04.5**	**-2.1**
214A	**Organ Pipe Nat**	**2.36**	**101**	*e*Pn	**Pn**	**08 26 01.7**	**+0.2**
LDFC	**Landfair**	**2.66**	**8**	*e*Pg	**Pg**	**08 26 15.9**	**+1.6**
MWC	**Mount Wilson**	**2.76**	**311**	*e*Pn	**Pb**	**08 26 12.0**	**-0.5**
MWC				*e*Sn	**Sb**	**08 26 47.5**	**+1.3**
GSC	**Goldstone, Bar**	**3.04**	**340**	*e*Pg	**Pg**	**08 26 21.1**	**-0.7**
ISA	**Isabella, Lake**	**4.04**	**324**	*e*Pg	**Pb**	**08 26 36.1**	**+2.0**

ISCJB ***16*** *08:29:52.0±0.6, 19.˚96S±0.˚03×69.˚5W±0.˚1, h102km±5km, mb3.7/3, Error ellipse: s-maj=16.5km s-min=5.5km az=176.2*
GUC ***16*** *08:29:52.4±0.6, 20.˚00S×69.˚41W, h91km±3km, ML4.0*
IDC ***16*** *08:29:54.1±1.7, 19.˚99S×68.˚99W, h108km±15km, mb3.4/4, mb1 3.5/6, mb1mx3.2/28, mbtmp3.7/6, Error ellipse: s-maj=38.4km s-min=13.5km az=100.0*

ISC 16 08:29:52.1±0.8, 19.˚95S±0.˚04×69.˚40W±0.˚09, h93km±7km, n19, σ1.920/29, mb3.7/3, 2C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.30**	**308**	⇓*i* P	**Pn**	**08 30 06.2**	**+0.2**
PB11				*i* S	**Sn**	**08 30 16.9**	**+0.5**
HMBC	**Humberstone**	**0.56**	**234**	⇓*i* P	**Pn**	**08 30 07.9**	**+0.1**
HMBC				*i* S	**Sn**	**08 30 19.7**	**+0.2**
PSGC	**Pisagua**	**0.77**	**297**	⇑*i* P	**Pn**	**08 30 10.1**	**+0.5**
PSGC				*i* S	**Sn**	**08 30 23.7**	**+1.0**
MNMC	**Minimini**	**0.83**	**347**	⇓*i* P	**Pn**	**08 30 11.4**	**+0.9**
MNMC				*i* S	**Sn**	**08 30 26.3**	**+2.1**
PB01	**IPOC Station P**	**1.09**	**184**	⇓*i* P	**Pn**	**08 30 13.0**	**-0.2**
PB01				*i* S	**Sn**	**08 30 28.7**	**-0.3**
PB01				AML	AML	08 30 29.7	
	comp=E,12μm,0.6s						
PATCX	**Punta Patache**	**1.12**	**219**	⇓*i* P	**Pn**	**08 30 13.4**	**-0.1**
PATCX				*i* S	**Sn**	**08 30 29.6**	**0.0**
PATCX				AML	AML	08 30 33.2	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.83**	**194**	⇓*i* P	**Pn**	**08 30 22.7**	**+0.4**
PB07				*i* S	**Sn**	**08 30 46.0**	**+0.7**
PB07				AML	AML	08 30 51.1	
	comp=E,2μm,0.4s						
PB09	**IPOC Station P**	**1.84**	**175**	⇑*i* P	**Pn**	**08 30 23.0**	**+0.4**
PB09				*i* S	**Sn**	**08 30 46.6**	**+0.9**
PB04	**IPOC Station P**	**2.31**	**182**	*e*P	**Pn**	**08 30 31.6**	**+3.1**
PB04				AML	AML	08 31 10.2	
	comp=E,662nm,0.4s						
LVC	**Limon Verde**	**2.69**	**170**	P	**Pn**	**08 30 34.8**	**+1.0**
	comp=E,1μm,0.3s,baz=353,slow=8.1,SNR=100						
LVC				S	**Sn**	**08 31 07.3**	**+1.5**
	comp=E,4μm,0.3s,baz=195,slow=18,SNR=18						
PB06	**IPOC Station P**	**2.75**	**183**	*e*P	**Pn**	**08 30 35.3**	**+0.8**
PB06				*e*S	**Sn**	**08 31 07.9**	**+0.9**
PB06				AML	AML	08 31 15.2	
	comp=N,661nm,0.3s						
LPAZ	**La Paz**	**3.83**	**19**	P	**Pn**	**08 30 51.5**	**+1.9**
	comp=N,1.4nm,0.3s,baz=198,slow=6.9,SNR=25						
SIV	**San Ignacio**	**8.85**	**65**	P	**Pn**	**08 31 55.0**	**-2.2**
	comp=N,0.5nm,0.3s,baz=269,slow=9.7,SNR=8.9						
PLCA	**Paso Flores**	**20.74**	**182**	P	Pn	08 34 27.2	-1.4
	comp=N,0.8nm,0.6s,baz=0.4,slow=14,SNR=4.2						
SNAA	**Sanae**	**63.89**	**161**	P	**P**	**08 40 14.4**	**-0.4**
	comp=N,0.5nm,0.8s,baz=293,slow=13,SNR=3.1						
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P	**P**	**08 41 34.9**	**-2.0**
	comp=N,0.5nm,0.4s,baz=252,slow=5.7,SNR=10						
TORD				pP	**pP**	**08 42 00.7**	**-0.3**
	comp=N,0.8nm,0.6s,baz=254,slow=5.3,SNR=9.9						
YKA	**Yellowknife Ar**	**89.58**	**341**	P	**P**	**08 42 39.2**	**+0.4**
	comp=N,0.9nm,0.6s,baz=131,slow=4.8,SNR=34						
MKAR	**Makanchi Array**	**144.63**	**34**	PKP	**PKPab**	**08 49 16.8**	**-0.1**
	comp=N,0.2nm,0.5s,baz=291,slow=3.8,SNR=3.7						
SONM	**Songino Array**	**151.97**	**6**	PKPbc	**PKPbc**	**08 49 36.9**	**+0.3**
	comp=N,0.4nm,0.6s,baz=354,slow=1.4,SNR=3.3						

GUC 16 08:38:20.9±0.7, 35.˚13S×73.˚30W, h15km±88km, ML3.9, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.39**	**102**	⇑*i* P	Pn	08 38 43.2	-2.5
TALC				*i* S	Sn	08 39 00.3	-3.4
TALC				AML	AML	08 39 04.0	
	comp=E,4μm,0.5s						
LNCH	**Linares**	**1.56**	**118**	⇑*i* P	Pn	08 38 46.3	-1.8
LNCH				*i* S	Sn	08 39 05.4	-2.6

IDC 16 08:39:32.3±2.6, 5.˚47N×124.˚24E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/36, mbtmp3.3/3, Error ellipse: s-maj=289.2km s-min=27.7km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.14**	**159**	P	P	08 45 17.7	+0.3
	0.2nm,0.3s,baz=338,slow=9.8,SNR=8.4						
ASAR	**Alice Springs**	**30.46**	**162**	P	P	08 45 46.5	-0.4
	0.2nm,0.5s,baz=344,slow=6.3,SNR=4.4						
MKAR	**Makanchi Array**	**54.72**	**326**	P	P	08 49 03.5	-0.1
	0.2nm,0.3s,baz=138,slow=7.9,SNR=4.4						

IDC 16 08:40:20.8±2.1, 17.˚04S×172.˚58W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/44, mbtmp4.0/4, Error ellipse: s-maj=62.9km s-min=33.7km az=120.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.99**	**201**	P	P	08 45 27.1	0.0
	15nm,1.2s,baz=321,slow=6.5,SNR=6.0						
WRA	**Warramunga Arr**	**50.25**	**258**	P	P	08 49 18.9	-0.3
	0.4nm,0.4s,baz=96,slow=7.1,SNR=19						
ASAR	**Alice Springs**	**50.37**	**253**	P	P	08 49 20.2	+0.1
	4.0nm,0.7s,baz=89,slow=8.7,SNR=66						
ILAR	**Eielson Array**	**83.90**	**11**	P	P	08 52 52.0	-0.1
	0.3nm,0.9s,baz=216,slow=4.5,SNR=4.5						

ISCJB ***16*** *08:52:04.2±0.7, 25.˚0S±0.˚1×69.˚8E±0.˚2, h10km, mb3.8/12, MS3.3/1, Error ellipse: s-maj=27.1km s-min=17.5km az=156.5*
IDC ***16*** *08:52:04.3±0.8, 24.˚99S×69.˚75E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.8/60, mbtmp3.9/12, MS3.3/1, Ms1 3.3/1, ms1mx2.6/34, Error ellipse: s-maj=30.6km s-min=19.4km az=68.0*

ISC 16 08:52:06.0±0.8, 25.˚0S±0.˚2×69.˚7E±0.˚2, h10km, n20, σ0.950/12, mb4.0/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.45**	**9**	T	T	09 13 50.7	
	baz=188,slow=76,SNR=111						
H08S2	**Diego Garcia H**	**17.46**	**9**	T	T	09 13 49.8	
	baz=188,slow=76,SNR=197						
H08S3	**Diego Garcia H**	**17.47**	**9**	T	T	09 13 52.1	
	baz=188,slow=76,SNR=119						
H08N2	**Diego Garcia H**	**18.61**	**4**	T	T	09 15 25.9	
	SNR=3.6						
H01W2	**Cape Leeuwin H**	**39.44**	**115**	T	T	09 41 23.3	
	baz=271,slow=75,SNR=3.8						
H01W3	**Cape Leeuwin H**	**39.44**	**115**	T	T	09 41 24.3	
	baz=271,slow=75,SNR=4.1						
H01W1	**Cape Leeuwin H**	**39.46**	**115**	T	T	09 41 42.2	
	baz=271,slow=75,SNR=4.9						
LBTB	**Lobatse**	**39.87**	**260**	LR	LR	09 13 09.7	
	comp=Z,43nm,21.0s,baz=120,slow=32						
ASAR	**Alice Springs**	**57.98**	**103**	P	**P**	**09 01 58.7**	**-0.5**
	0.5nm,0.7s,baz=253,slow=6.5,SNR=7.6						
WRA	**Warramunga Arr**	**59.43**	**99**	P	**P**	**09 02 08.6**	**-0.7**
	1.0nm,0.9s,baz=254,slow=9.5,SNR=4.2						
QSPA	**South Pole Qui**	**65.13**	**180**	P	**P**	**09 02 47.3**	**+0.4**
	1.4nm,0.8s,baz=266,slow=3.2,SNR=6.9						
VNDA	**Vanda**	**66.24**	**166**	P	**P**	**09 02 53.8**	**+0.1**
	1.1nm,0.9s,baz=302,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**72.35**	**9**	P	**P**	**09 03 32.1**	**+0.2**
	2.6nm,0.8s,baz=196,slow=6.1,SNR=21						
KURBB	**Kurchatov Arra**	**75.69**	**6**	P	**P**	**09 03 50.9**	**-0.3**
	2.0nm,0.8s,baz=202,slow=6.6,SNR=13						
TORD	**Torodi Ar. Bea**	**76.38**	**292**	P	**P**	**09 03 55.6**	**-0.3**
	0.5nm,0.7s,baz=114,slow=4.9,SNR=4.1						
BVAR	**Borovoye Array**	**77.69**	**0**	P	**P**	**09 04 02.6**	**+0.1**
	0.5nm,0.4s,baz=175,slow=7.3,SNR=4.7						
SONM	**Songino Array**	**79.64**	**24**	P	**P**	**09 04 14.5**	**+0.9**
	0.1nm,0.3s,baz=193,slow=5.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**79.69**	**9**	P	**P**	**09 04 13.8**	**+0.3**
	0.9nm,0.3s,baz=198,slow=4.4,SNR=7.0						
MLR	**Muntele Rosu**	**80.67**	**330**	P	**P**	**09 04 18.9**	**-0.3**
	0.5nm,0.8s,baz=167,slow=15,SNR=3.7						
AKASG	**Malin Array Be**	**83.43**	**335**	P	**P**	**09 04 33.1**	**-0.2**
	0.4nm,0.4s,baz=134,slow=4.0,SNR=2.6						

IDC ***16*** *08:56:39.6±7.0, 1.˚76N×96.˚53E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/63, mbtmp3.6/5, ML3.5/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/37, Error ellipse: s-maj=135.2km s-min=40.0km az=9.0*
DJA ***16*** *08:56:40.0±1.0, 2.˚N±6.˚×9.˚6E±.˚, h136km±10km, M3.5/6, MLv3.5/6*
ISCJB ***16*** *08:56:44.0±1.2, 2.˚03N±0.˚08×96.˚63E±0.˚09, h28km, mb3.7/3, Error ellipse: s-maj=13.7km s-min=11.5km az=14.7*

ISC 16 08:56:46.1±1.5, 2.˚15N±0.˚10×96.˚77E±0.˚07, h28km, n16, σ1.907/11, mb3.6/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.51**	**300**	P	**Pn**	**08 56 58.0**	**+0.5**
TPTI		**1.18**	**21**	P	**Pb**	**08 57 06.9**	**-0.9**
TPTI				S	**Sb**	**08 57 24.2**	**+1.6**
KCSI	**Kotacane, Aceh**	**1.69**	**36**	P	**Pb**	**08 57 15.1**	**-1.5**
KCSI				S	**Sb**	**08 57 37.2**	**-0.2**
PSI	**Prapat**	**2.25**	**73**	Pn	**Pn**	**08 57 22.8**	**+1.2**
	2.7nm,0.3s,baz=238,slow=7.5,SNR=9.1						
PSI				LR	LR	08 58 02.2	
	comp=Z,106nm,18.8s,baz=227,slow=32						
LHMI	**Lhok Sumawe**	**3.06**	**3**	P	Pn	08 57 23.4	-9.2
MNSI	**Mandailing Nat**	**3.12**	**116**	P	**Pn**	**08 57 33.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.34**	**7**	Pn	**P**	**09 00 35.9**	**-0.5**
	0.1nm,0.3s,baz=198,slow=12,SNR=11						
H08S2	**Diego Garcia H**	**26.10**	**248**	T	T	09 29 07.1	
	baz=69,slow=75,SNR=165						
H08S3	**Diego Garcia H**	**26.10**	**248**	T	T	09 29 06.6	
	baz=69,slow=75,SNR=55						
H08S1	**Diego Carcia H**	**26.11**	**248**	T	T	09 29 08.4	
	baz=69,slow=75,SNR=189						
H01W3	**Cape Leeuwin H**	**40.29**	**158**	T	T	09 47 09.5	
	baz=334,slow=76,SNR=2.7						
H01W2	**Cape Leeuwin H**	**40.30**	**158**	T	T	09 47 10.7	
	baz=334,slow=76,SNR=6.1						
H01W1	**Cape Leeuwin H**	**40.30**	**158**	T	T	09 47 12.1	
	baz=334,slow=76,SNR=6.0						
MKAR	**Makanchi Array**	**46.22**	**346**	P	**P**	**09 05 09.6**	**+0.9**
	0.4nm,0.6s,baz=149,slow=8.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**50.70**	**345**	P	**P**	**09 05 43.5**	**+0.4**
	0.3nm,0.5s,baz=170,slow=7.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**52.55**	**351**	P	**P**	**09 05 56.1**	**-0.8**
	0.8nm,0.4s,baz=182,slow=6.7,SNR=4.1						

IDC ***16*** *08:57:60.0±0.5, 8.˚85S×158.˚05E, h0km, mb4.6/24, mb1 4.7/27, mb1mx4.6/38, mbtmp4.6/27, ML4.1/3, MS3.9/16, Ms1 3.9/16, ms1mx3.8/31, Error ellipse: s-maj=15.2km s-min=13.1km az=98.0*
ISCJB ***16*** *08:58:02.6±0.2, 8.˚92S±0.˚04×157.˚98E±0.˚03, h23km, mb4.8/85, MS4.0/14, Error ellipse: s-maj=5.5km s-min=4.3km az=153.3*
BJI ***16*** *08:58:03.2, 9.˚02S×158.˚22E, h36km, mB5.0/25, mb4.8/33, Ms4.9/19, Ms7 4.4/18*
NEIC ***16*** *08:58:05.8±0.2, 8.˚86S×157.˚91E, h35km, mb4.9/49, Error ellipse: s-maj=7.1km s-min=4.7km az=137.0*

ISC 16 08:58:04.5±0.3, 8.˚94S±0.˚05×158.˚03E±0.˚05, h23km, n165, σ1.990/186, mb4.8/85, MS4.1/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.96**	**105**	LR	LR	08 59 04.7	
	comp=Z,1μm,19.8s,baz=310,slow=33						
HNR	**Honiara**	**1.96**	**105**	*i* P	Pn	08 58 32.5	-3.8
HNR				*i* S	**Sb**	**08 59 04.3**	**+0.8**
RABL	**Rabaul**	**7.49**	**309**	P	Pb	09 00 08.4	-5.5
	baz=7.7,SNR=6.0						
DZM	**Mont Dzumac**	**15.36**	**149**	*e*Pn	**Pn**	**09 01 41.5**	**+1.4**
	135nm,1.4s						
DZM				*e*LR	LR	09 05 15.8	
	340nm,20.8s						
DZM	**Mont Dzumac**	**15.36**	**149**	Pn	**Pn**	**09 01 40.0**	**-0.1**
	0.1nm,0.3s,baz=15,slow=19,SNR=2.4						
DZM				LR	LR	09 05 33.3	
	comp=Z,186nm,20.8s,baz=329,slow=29						
COEN	**Coen**	**15.38**	**250**	P	**P**	**09 01 47.8**	**+3.1**
	baz=15,SNR=8.3						
COEN	**Coen**	**15.38**	**250**	*e*Pn	**Pn**	**09 01 38.0**	**-2.3**
COEN				*e*P	**P**	**09 01 43.8**	**-1.0**
CTA	**Charters Tower**	**15.89**	**224**	Pn	**Pn**	**09 01 46.1**	**-0.7**
	1.3nm,0.3s,baz=36,slow=12,SNR=10						
CTAO	**Charters Tower**	**15.89**	**224**	*e*P	**Pn**	**09 01 45.7**	**-1.1**
	191nm,1.8s						
EIDS	**Eidsvold**	**17.63**	**201**	P	**P**	**09 02 11.2**	**+1.6**
	baz=17,SNR=3.8						
EIDS	**Eidsvold**	**17.63**	**201**	*e*P	**P**	**09 02 11.2**	**+1.6**
	24nm,1.0s						
TARA	**Tarawa**	**18.02**	**56**	*e*P	**P**	**09 02 14.9**	**+0.9**
	557nm,1.5s						
JAY	**Jayapura**	**18.37**	**289**	P	P	09 02 12.3	-5.6
JAY	**Jayapura**	**18.37**	**289**	P	**P**	**09 02 15.9**	**-2.0**
	0.7nm,0.3s,baz=135,slow=6.4,SNR=5.1						
JAY				LR	LR	09 09 54.8	
	comp=Z,461nm,18.1s,baz=68,slow=39						
GENI	**Genyem**	**18.85**	**288**	P	**Pn**	**09 02 27.1**	**+3.4**
	86nm,1.0s,5μm						
RMQ	**Roma**	**19.54**	**206**	P	**Pn**	**09 02 32.4**	**+0.4**
	baz=19,SNR=19						
SMPI	**Sarmi**	**20.42**	**289**	P	Pn	09 02 41.8	-0.7
	116nm,1.3s						
QIS	**Mount Isa**	**21.20**	**235**	P	**P**	**09 02 49.7**	**+1.0**
	baz=21,SNR=26						
MSVF	**Nonsavu**	**21.34**	**116**	*e*P	**P**	**09 02 51.6**	**+1.4**
	39nm,1.0s						
QLP	**Quilpie**	**21.88**	**215**	P	**P**	**09 02 56.1**	**+0.1**
	baz=22,SNR=34						
ARMA	**Armidale**	**22.19**	**195**	P	**P**	**09 03 00.6**	**+1.2**
	baz=22,SNR=14						
ARMA	**Armidale**	**22.19**	**195**	*e*P	**P**	**09 03 00.3**	**+0.9**
	26nm,0.8s						
CMSA	**Cobar Meteorol**	**25.25**	**205**	P	**P**	**09 03 28.6**	**-0.3**
	baz=25,SNR=38						
WRAB	**Tennant Creek**	**25.36**	**242**	*e*P	**P**	**09 03 29.6**	**-0.5**
	64nm,1.0s						
WB2	**Warramunga Arr**	**25.37**	**242**	*e*P	**P**	**09 03 29.6**	**-0.6**
KDU	**Kakadu**	**25.37**	**259**	P	**P**	**09 03 30.1**	**-0.1**
	baz=25,SNR=16						
KDU				S	S	09 08 08.6	+13
	baz=25,SNR=77						
WRA	**Warramunga Arr**	**25.38**	**242**	P	**P**	**09 03 29.6**	**-0.7**
	30nm,0.9s,baz=67,slow=9.1,SNR=62						
WRA				PcP	**PcP**	**09 07 01.7**	**-1.0**
	1.3nm,0.7s,baz=64,slow=2.7,SNR=5.2						
WRA				LR	LR	09 13 09.4	
	comp=Z,921nm,20.0s,baz=65,slow=36						
FAKI	**Fak Fak**	**26.32**	**282**	S	**S**	**09 08 03.9**	**-6.8**
	baz=26,SNR=8.5						
MTN	**Manton Dam**	**26.69**	**259**	P	**P**	**09 03 43.8**	**+1.7**
	baz=26,SNR=4.2						
AS31	**Alice Springs**	**27.33**	**235**	*e*P	**P**	**09 03 46.3**	**-1.6**
ASAR	**Alice Springs**	**27.33**	**235**	P	**P**	**09 03 46.5**	**-1.4**
	7.6nm,1.0s,baz=62,slow=9.5,SNR=41						
ASAR				LR	LR	09 14 19.7	
	comp=Z,657nm,18.8s,baz=58,slow=36						
CNB	**Canberra Magne**	**27.42**	**196**	P	**P**	**09 03 52.3**	**+3.6**
	baz=27,SNR=8.5						
STKA	**Stephens Creek**	**27.46**	**211**	P	**P**

TIAR	Tiarei	51.80	105	eP		P	09 07 10.7	-0.4
	6.9nm,1.0s							
TVO	Taravao	51.90	106	eP		P	09 07 11.5	-0.4
	7.0nm,0.9s							
TBI	Tubuai	52.16	113	eLR		LR	09 22 12.5	
	326nm,27.0s							
MEH	Mehetia	53.03	106	eP		P	09 07 19.6	-0.6
	10nm,1.1s							
PMOR	Pomariorio Ree	53.14	102	eP		P	09 07 20.3	-0.7
	43nm,1.0s							
KSRS	Korea Array	54.07	330	P		P	09 07 26.6	-0.9
	3.8nm,0.9s,baz=144,slow=7.7,SNR=6.5							
KSRS				LR		LR	09 28 55.7	
	comp=Z,61nm,19.6s,baz=124,slow=34							
KSAR	Wonju Array Be	54.08	330	P		P	09 07 26.6	-1.0
QIZ	Qiongzhong	55.03	301	P		P	09 07 33.8	-0.9
QIZ				S		S	09 15 15.4	-0.7
QIZ				LZ				
	320nm,21.5s							
NJ2	Nanjing	55.33	319	eP		P	09 07 36.1	-0.5
NJ2				PMZ				
	40nm,0.8s							
USRK	Ussuriysk Ar.	57.91	338	P		P	09 07 55.0	+0.3
	5.1nm,1.0s,baz=145,slow=7.0,SNR=6.3							
MDJ	Mudanjiang	59.17	337	P		P	09 08 04.3	+0.7
MDJ				PMZ				
	5.0nm,0.7s							
MDJ				PMZ				
	43nm,3.6s							
CN2	Changchun	60.24	333	eP		P	09 08 10.3	-0.7
CN2				epP		pP	09 08 23.0	+4.7
CN2				eS		S	09 16 20.1	-3.6
CN2				PMZ				
	10.0nm,0.7s							
CN2				PMZ				
	200nm,3.0s							
CN2				LN				
	200nm,14.0s							
CN2				LE				
	200nm,14.0s							
CN2				LZ				
	400nm,16.0s							
GYA	Guiyang	61.01	307	P		P	09 08 17.8	+1.1
GYA				pP		pP	09 08 28.4	+4.4
GYA				PP		PP	09 10 35.5	+4.1
GYA				ScP		ScP	09 12 57.3	-2.9
GYA				S		S	09 16 32.0	-2.5
GYA				sS		sS	09 16 46.8	+0.3
GYA				SS		SS	09 20 32.8	-1.7
GYA				PMZ				
	20nm,1.0s							
GYA				PMZ				
	120nm,8.4s							
GYA				LN				
	560nm,20.4s							
GYA				LE				
	480nm,19.0s							
GYA				LZ				
	540nm,22.2s							
PETK	Petropavlovsk-	61.80	360	P		P	09 08 19.9	-1.5
	12nm,1.0s,baz=178,slow=4.5,SNR=5.3							
PETK				LR		LR	09 34 10.0	
	comp=Z,58nm,19.6s,baz=155,slow=35							
PBKT	Sadao Pong	61.87	294	P		P	09 08 28.8	+6.3
	14nm,0.9s							
BJI	Beijing	62.22	325	P		P	09 08 22.0	-2.4
BJI				S		S	09 16 51.0	+2.0
BJI				SS		SS	09 20 55.0	+2.4
BJI				PMZ				
	9.0nm,0.7s							
BJI				LN				
	120nm,20.9s							
BJI				LE				
	100nm,21.4s							
SRDT	SRDT	62.84	291	P		P	09 08 36.9	+7.9
	68nm,0.9s,9μm							
CRAI	Chiangrai	63.68	298	P		P	09 08 31.7	-2.9
	11nm,1.0s							
LAMP	Lampang	63.73	296	P		P	09 08 36.1	+1.2
	5.2nm,0.7s,290nm							
CMAR	Chiang Mai Arr	64.33	295	P		P	09 08 39.3	+0.5
	1.7nm,0.4s,baz=118,slow=4.8,SNR=21							
CMAR				LR		LR	09 36 57.8	
	comp=Z,40nm,19.6s,baz=138,slow=36							
CMMT	Chiang Mai	64.44	296	P		P	09 08 39.8	+0.2
	16nm,1.1s							
CMAI	Chiengmai2	64.74	297	P		P	09 08 48.5	+6.8
	8.7nm,1.1s,1μm							
CD2	Chengdu	65.35	310	eP		P	09 08 46.5	+1.1
CD2				pP		pP	09 08 57.3	+4.6
CD2				sP		sP	09 09 01.4	+5.9
CD2				PP		PP	09 11 12.5	+3.0
CD2				PcS			09 13 21.3	
CD2				S		S	09 17 26.5	-2.0
CD2				sS		sS	09 17 44.3	+3.7
CD2				ScS		SKSac	09 18 35.3	-4.3
CD2				SS		SS	09 21 41.5	-0.6
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	140nm,5.4s							
CD2				LE				
	220nm,15.2s							
CD2				LZ				
	200nm,14.7s							
RKT	Rikitea	65.44	111	eLR		LR	09 28 21.8	
	296nm,33.0s							
CASY	Casey	65.72	199	eP		P	09 08 45.7	-1.3
	6.4nm,1.0s							
LZH	Lanzhou	67.80	315	eP		P	09 09 03.9	+2.8
LZH				pP		pP	09 09 14.8	+6.3
LZH				sP		sP	09 09 19.0	+7.8
LZH				S		S	09 17 54.0	-4.2
LZH				sS		sS	09 18 14.0	+3.7
LZH				SS		SS	09 22 24.3	+4.1
LZH				PMZ				
	22nm,1.0s							
LZH				PMZ				
	75nm,5.4s							
LZH				LN				
	240nm,14.8s							
LZH				LE				
	320nm,15.0s							
LZH				LZ				
	420nm,17.4s							
VNDA	Vanda	68.59	179	P		P	09 09 06.3	+1.2
	3.4nm,0.8s,baz=339,slow=5.0,SNR=5.4							
VNDA				LR		LR	09 35 33.6	
	comp=Z,137nm,18.1s,baz=355,slow=33							
VNDA	Vanda	68.59	179	eP		P	09 09 07.4	+2.3
	4.8nm,0.9s							
GTA	Gaotai	72.21	316	eP		P	09 09 28.4	+0.4
GTA				pP		pP	09 09 38.8	+3.3
GTA				sP		sP	09 09 43.0	+4.8
GTA				PMZ				
	4.0nm,1.1s							
ULN	Ulaanbaatar	72.25	327	eP		P	09 09 29.0	+0.8
	8.2nm,1.0s							
SONM	Songino Array	72.59	326	P		P	09 09 29.6	-0.5
	1.9nm,0.8s,baz=138,slow=6.3,SNR=11							
QSPA	South Pole Qui	81.05	180	P		P	09 10 16.3	-1.2
	5.3nm,1.0s,baz=294,slow=1.7,SNR=26							
QSPA	South Pole Qui	81.05	180	eP		P	09 10 16.8	-0.8
	8.2nm,0.8s							
KTH	Kantishna Hill	81.95	21	eP		P	09 10 20.9	-1.3
	6.4nm,1.0s							
WMQ	Urumqi	82.29	317	eP		P	09 10 24.4	0.0
WMQ				pP		pP	09 10 35.0	+3.1
WMQ				sP		sP	09 10 39.0	+4.3
WMQ				PP		PP	09 13 35.0	+1.7
WMQ				S		S	09 20 36.0	-2.9
WMQ				SS		SS	09 25 59.0	-0.7
WMQ				PMZ				
	9.0nm,1.2s							
WMQ				PMZ				
	84nm,4.6s							
WMQ				LN				
	220nm,27.4s							
WMQ				LE				
	300nm,21.0s							
WMQ				LZ				
	260nm,21.0s							
MCK	McKinley	82.75	21	eP		P	09 10 24.6	-1.8
	27nm,1.1s							
MAW	Mawson	83.77	203	LR		LR	09 45 41.8	
	comp=Z,105nm,18.2s,baz=62,slow=34							
COLA	College	83.82	20	eP		P	09 10 30.1	-1.6
	11nm,0.8s							
ILAR	Eielson Array	84.09	21	P		P	09 10 31.2	-2.0
	3.1nm,1.0s,baz=264,slow=4.5,SNR=18							
ILAR				LR		LR	09 46 26.5	
	comp=Z,123nm,18.4s,baz=258,slow=35							
HYT	Haines Junctio	85.75	26	eP		P	09 10 41.8	+0.1
SKAG	Skagway	86.14	28	eP		P	09 10 42.9	-0.6
	30nm,1.4s							
EGAK	Eagle	86.16	22	eP		P	09 10 43.3	-0.2
	6.0nm,0.9s							
DAWY	Dawson	86.48	23	eP		P	09 10 44.3	-0.9
MKAR	Makanchi Array	86.84	318	P		P	09 10 46.6	-0.7
	2.8nm,0.6s,baz=98,slow=6.0,SNR=39							
KMRM	Mail Ridge	86.87	49	eP		P	09 10 49.0	+1.3
	12nm,0.9s							
KIPM	Iron Peak	86.94	49	eP		P	09 10 48.0	-0.1
	7.1nm,0.8s							
KHMM	Horse Mountain	87.02	48	eP		P	09 10 48.4	-0.1
	17nm,1.2s							
ZALV	Zalesovo Beam	87.47	325	P		P	09 10 47.7	-2.4
	1.6nm,0.5s,baz=121,slow=5.8,SNR=3.7							
ZALV				LR		LR	09 48 57.0	
	comp=Z,24nm,20.0s,baz=70,slow=35							
WDC	Whiskeytown Da	87.82	49	eP		P	09 10 51.8	-0.4
	10nm,1.4s							
YBH	Yreka Blue Hor	87.97	47	eP		P	09 10 53.6	+0.7
	2.5nm,0.8s							
DLBC	Dease Lake	88.29	30	LR		LR	09 44 09.1	
	comp=Z,246nm,20.1s,baz=276,slow=31							
CMB	Columbia Colle	88.89	51	eP		P	09 10 56.6	-0.7
	10nm,1.5s							
K05A	Summer Lake	89.51	47	eP		P	09 11 00.6	+0.2
	6.6nm,1.0s							
KSH	Kashi	89.55	310	eP		P	09 11 01.3	+0.8
KSH				sP		sP	09 11 15.8	+5.0
KSH				PP		PP	09 14 35.6	+3.2
KSH				S		S	09 21 47.8	-2.6
KSH				SS		SS	09 27 47.8	+1.1
KSH				PMZ				
	80nm,4.8s							
KSH				LN				
	220nm,12.5s							
KSH				LE				
	140nm,6.3s							
KSH				LZ				
	140nm,5.8s							
WAKR	Walker	89.71	51	eP		P	09 11 02.0	+0.6
MOD	Modoc Plateau	89.76	48	eP		P	09 11 00.7	-0.8
	6.8nm,1.3s							
ISA	Isabella, Lake	89.91	54	eP		P	09 11 02.3	+0.1
	3.1nm,0.9s							
MTUM	Tungsten Hills	90.17	52	eP		P	09 11 04.1	+0.5
KURK	Kurchatov	90.21	321	P		P	09 11 01.2	-1.9
KURBB	Kurchatov Arra	90.25	321	P		P	09 11 01.2	-2.1
	0.6nm,0.8s,baz=102,slow=3.8,SNR=4.8							
TKM2	Tokmak 2	90.52	313	eP		P	09 11 04.5	-0.7
	3.2nm,1.0s							
NVAR	Mina Array Bea	90.57	51	P		P	09 11 05.9	+0.4
	9.2nm,0.8s,baz=244,slow=7.2,SNR=67							
WVOR	Wild Horse Val	91.08	47	eP		P	09 11 07.8	+0.2
	9.2nm,1.3s							
AAK	Ala-Archa	91.26	313	eP		P	09 11 07.8	-0.6
	2.7nm,1.0s							
TPH	Tonopah	91.34	52	eP		P	09 11 09.1	+0.1
	8.7nm,0.8s							
G08A	Pilot Rock	91.40	44	eP		P	09 11 08.5	-0.5
BMN	Battle Mountai	91.76	50	eP		P	09 11 10.9	+0.1
	10nm,1.1s							
TPNV	Topopah Spring	91.91	53	eP		P	09 11 12.0	+0.4
	9.1nm,1.0s							
R11A	Troy Canyon, C	92.66	52	eP		P	09 11 15.0	0.0
	12nm,1.3s							
F10A	Beach Ranch, E	92.72	44	eP		P	09 11 14.2	-0.9
	15nm,1.6s							
NEW	Newport	93.19	42	eP		P	09 11 15.8	-1.3
	1.7nm,0.7s							
ELK	Elko	93.30	49	eP		P	09 11 18.3	+0.3
	3.9nm,1.0s							
ARUT	Antelope Range	94.25	53	eP		P	09 11 23.2	+0.8
	1.2nm,1.3s							
HLID	Hailey	94.33	47	eP		P	09 11 22.4	-0.3
	6.6nm,1.3s							
BGU	Big Grassy Mou	94.99	50	eP		P	09 11 26.0	+0.3
	2.6nm,0.9s							
HVU	Hansel Valley	95.28	49	eP		P	09 11 27.4	+0.4
	4.3nm,0.8s							
BVAR	Borovoye Array	95.65	323	P		P	09 11 25.7	-2.5
	1.6nm,0.8s,baz=107,slow=7.9,SNR=7.0							
BVAR				LR		LR	09 54 13.4	
	comp=Z,24nm,21.8s,baz=89,slow=35							
JLU	Jordanelle	96.14	50	eP		P	09 11 31.2	+0.1
	6.4nm,1.3s							
YKA	Yellowknife Ar	96.64	28	P		P	09 11 30.8	-1.6
	0.9nm,0.9s,baz=258,slow=4.6,SNR=14							
YKA				PKKPbc		PKKPbc	09 28 19.1	+0.7
	0.2nm,0.6s,baz=80,slow=2.6,SNR=9.1							
FXWY	Fox Creek	96.78	47	eP		P	09 11 38.6	+4.7
	15nm,2.0s							
PDAR	Pinedale Array	97.76	48	P		P	09 11 37.0	-1.4
	1.4nm,0.8s,baz=230,slow=2.6,SNR=12							
TXAR	Lajitas Array	101.53	62	P		Pdif	09 11 54.8	-0.5
	0.3nm,0.7s,baz=220,slow=3.3,SNR=3.8							
TXAR				PP		PP	09 16 04.0	-1.6
	0.4nm,0.8s,baz=250,slow=6.1,SNR=4.7							
KIEV	Kiev	120.87	325	ePKPdf		PKPdf	09 16 49.8	-5.1
NB2	NORSAR Subarra	122.50	342	PKPdf		PKPdf	09 17 03.2	+5.3
	comp=Z,0.8nm,0.6s,baz=36,slow=1.9							
NOA	NORSAR Array B	122.50	342	PKP		PKPdf	09 16 55.5	-2.4
	comp=Z,1.4nm,0.9s,baz=44,slow=2.0,SNR=2.7							
CRVS	Cervenica-Dubn	126.11	326	ePKP		PKPdf	09 17 03.2	-1.9
VYHS	Vyhne	127.78	327	e		PKPdf	09 17 04.5	-3.8
LPAZ	La Paz	127.89	119	PKP		PKPdf	09 17 10.1	-0.1
	comp=Z,2.2nm,0.9s,baz=321,slow=1.7,SNR=7.3							
LPAZ	La Paz	127.89	119	ePKPdf		PKPdf	09 17 10.0	-0.2
LPAZ				PKP		PKPdf	09 17 10.1	-0.1
GERES	GERESS Array B	130.25	330	PKP		PKPdf	09 17 12.3	-0.8
	comp=Z,0.2nm,0.3s,baz=8.7,slow=1.3,SNR=2.6							
SDV	Santo Domingo	131.96	86	ePKPdf		PKPdf	09 17 16.7	-0.7
BDFB	Brasilia	144.48	133	PKP		PKPab	09 17 37.2	-1.3
	comp=Z,14nm,0.8s,baz=131,slow=2.7,SNR=18							
ESDC	Sonseca Array	145.42	335	PKPbc		PKPbc	09 17 39.2	-1.9
	comp=Z,0.3nm,0.3s,baz=3.8,slow=3.9,SNR=3.7							
TAM	Tamanrasset	150.25	301	ePKPab		PKPab	09 18 00.1	-0.9
TORD	Torodi Ar. Bea	156.40	282	PKP		PKPdf	09 17 58.3	-0.3
	comp=Z,0.7nm,1.1s,baz=20,slow=4.6,SNR=2.4							
TORD				PKPab		PKPab	09 18 26.0	-1.0
	comp=Z,0.8nm,0.7s,baz=65,slow=2.8,SNR=2.5							

*ISCJB **16** 08:59:41.8±0.6, 64°.71N±0°.03×30°.5E±0°.1, h0km, Error ellipse: s-maj=6.7km s-min=3.2km az=18.7*
*HEL **16** 08:59:44.4±0.1, 64°.76N×30°.72E, h0km, ML2.1, Explosion*
*IDC **16** 08:59:44.7±2.7, 64°.68N×31°.20E, h0km, mb1 3.2/4, mb1mx2.9/47, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=37.3km s-min=9.6km az=104.0*
*CSEM **16** 08:59:45.6±0.5, 64°.87N×30°.42E, h2km, ML2.1, Error ellipse: s-maj=10.3km s-min=6.1km az=126.0, Mining explosion.*
*NAO **16** 08:59:45.3±1.2, 64°.77N×30°.59E, ML2.1*
*KOLA **16** 08:59:45.5, 64°.80N×30°.17E, h0km*
*BER **16** 08:59:47.2±2.2, 64°.82N×30°.40E, h0km, ML2.1(NAO), Suspected explosion*

ISC 16 08:59:44.8±1.0, 64°.82N±0°.04×30°.48E±0°.05, h0km, n42, σ1s21/56, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KU6	Riekki	1.24	349	PG		Pg	09 00 07.8	-0.6
	baz=165							
KU6				SG		Sb	09 00 25.5	0.0
KU6	Riekki	1.24	349	Pg		Pg	09 00 07.8	-0.6
MSF	Maaselka	1.25	332	PG		Pg	09 00 08.8	+0.1
MSF				SB		Sn	09 00 26.9	-0.1
MSF				MSG			09 00 26.9	
	comp=Z,11nm,0.2s							
MSF	Maaselka	1.25	332	Pg		Pg	09 00 08.8	+0.1
JOF	Joensuu	1.94	169	PG		Pn	09 00 17.9	-1.1
	baz=350							
OUL	Oulu	1.97	280	PG		Pb	09 00 21.6	+0.2
	baz=100							
OUL				SB		Sg	09 00 48.3	+0.4
OUL				MSG			09 00 48.3	
	comp=Z,6.5nm,0.2s							
OUL	Oulu	1.97	280	Pg		Pb	09 00 21.6	+0.2
OUL				Sb		Sg	09 00 48.3	+0.4
RNF	Rovaniemi	2.58	316	PB		Pb	09 00 30.9	-0.9
RNF				SB		Sb	09 01 04.9	+1.0
RNF				MSG			09 01 04.9	
	comp=Z,12nm,0.3s							
RNF	Rovaniemi	2.58	316	Pb		Pb	09 00 30.9	-0.9
RNF				Sb		Sb	09 01 04.9	+1.0
SUF	Sumiainen	2.85	224	PB		Pn	09 00 34.0	+2.5
SUF				SG		Sb	09 01 13.0	+1.2
SUF				MSG			09 01 13.0	
	comp=Z,5.4nm,0.2s							
VRF	Varrio	2.96	354	PB		Pn	09 00 34.5	+1.5
VRF				SG		Sb	09 01 15.9	+0.8
APA0	Apatity Array	2.98	19	Pn		Pn	09 00 33.9	+0.7
	baz=196,slow=12							
APA0				Pg		Pg	09 00 41.3	-0.5
	baz=195,slow=18							
APA0				Lg		Lg	09 01 19.8	
	baz=198,slow=37							
APA0	Apatity Array	2.98	19	Pn		Pn	09 00 33.9	+0.7
	baz=196,slow=12							
APA0				Pg		Pg	09 00 41.3	-0.5
	baz=195,slow=18							
APA0				Lg		Lg	09 01 19.8	
	baz=198,slow=37							
APA0	Apatity Array	2.98	19	Pn		Pn	09 00 33.9	+0.7
	SNR=50							
APA0	Apatity Array	2.98	19	Pg		Pg	09 00 41.3	-0.5
	SNR=90							
APA0				Lg		Lg	09 01 19.8	
	SNR=90							
APA0	Apatity Array	2.98	19	P		Pn	09 00 34.1	+0.9
APA0				S		Sn	09 01 10.6	+1.0
APA	Apatity	3.01	22	P		Pn	09 00 34.7	+1.1
APA				S		Sn	09 01 11.4	+1.1
SGF	Sodankyl	3.08	330	PN		Pn	09 00 36.0	+1.3
SGF	Sodankyl	3.08	330	Pn		Pn	09 00 36.0	+1.3
KALU	Kalix	3.16	292	PB		Pb	09 00 40.7	-1.1
KAF	Kangasniemi	3.30	216	PB		Pn	09 00 40.9	+3.3
	baz=32							
KEF	Keuruu	3.66	226	PB		Pn	09 00 45.6	+3.0
VAF	Ylistaro	3.88	246	PN		Pn	09 00 49.3	+3.7
FIA0	FINESS Array S	3.93	213	Pn		Pn	09 00 47.3	+1.0
	baz=38,slow=12							
FIA0				Lg		Lg	09 01 46.5	
	baz=28,slow=37							
FIA0	FINESS Array S	3.93	213	Pn		Pn	09 00 47.3	+1.0
	baz=38,slow=12							
FIA0				Lg		Lg	09 01 46.5	
	baz=28,slow=37							
FIA0	FINESS Array S	3.93	213	PN		Pn	09 00 48.7	+2.4
	baz=32							
FIA0				SG		Sg	09 01 48.6	-2.4
FIA0				MSG			09 01 48.6	
	comp=Z,10nm,0.7s							
FIA0	FINESS Array S	3.93	213	Pn		Pn	09 00 47.3	+1.0
	SNR=50							
FIA0				Lg		Lg	09 01 46.5	
	SNR=90							
FINES	FINESS Array B	3.93	213	Pn		Pn	09 00 47.2	+1.0
	comp=Z,0.2nm,0.3s,baz=38,slow=14,SNR=6.8							
FINES				Lg		Lg	09 01 47.5	
	comp=Z,1.9nm,0.3s,baz=35,slow=28,SNR=19							
UMAU	Umeaa	4.36	262	PN		Pn	09 00 52.7	+0.5
UMAU				SG		Sg	09 02 04.0	-0.7
UMAU	Umeaa	4.36	262	Pn		Pn	09 00 52.7	+0.5
UMAU				Sg		Sg	09 02 04.0	-0.7
HEF	Hetta	4.51	326	PN		Pn	09 00 58.2	+4.0
	baz=136							
ARA0	ARCESS Array S	5.12	340	Pn		Pn	09 01 02.9	+0.3
	baz=154,slow=14							
ARA0				Sn		Sn	09 01 59.7	-2.5
	baz=159,slow=28							
ARA0				Lg		Lg	09 02 22.8	
	baz=153,slow=37							
ARA0	ARCESS Array S	5.12	340	Pn		Pn	09 01 02.9	+0.3
	baz=154,slow=14							
ARA0				Sn		Sn	09 01 59.7	-2.5
	baz=159,slow=28							
ARA0				Lg		Lg	09 02 22.8	
	baz=153,slow=37							
ARA0	ARCESS Array S	5.12	340	Pn		Pn	09 01 02.9	+0.3
	SNR=50							
ARA0				Sn		Sn	09 01 59.7	-2.5
	SNR=50							
ARA0				Lg		Lg	09 02 22.8	
	SNR=50							
ARCES	ARCESS Array B	5.12	340	Pn		Pn	09 01 02.8	+0.2
	comp=Z,0.6nm,0.3s,baz=155,slow=13,SNR=50							
ARCES				Sn		Sn	09 02 02.8	+0.5
	comp=Z,0.5nm,0.3s,baz=155,slow=26,SNR=5.9							
ARCES				Lg		Lg	09 02 22.6	
	comp=Z,0.7nm,0.3s,baz=152,slow=32,SNR=8.7							
HFS	Hagfors	9.06	247	Sn		Sn	09 03 33.0	-6.4
	baz=56,slow=22							
HFS				Lg		Lg	09 04 27.0	
	baz=51,slow=28							
HFS	Hagfors	9.06	247	Sn		Sn	09 03 33.0	-6.4
	baz=56,slow=22							
HFS				Lg		Lg	09 04 27.0	
	baz=51,slow=28							
HFS	Hagfors	9.06	247	Pn		Pn	09 01 55.7	-1.0
	comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=2.8							
HFS				Lg		Lg	09 04 28.7	
	comp=Z,0.2nm,0.3s,baz=51,slow=28,SNR=3.6							
NB2	NORSAR Subarra	9.55	255	Pn		Pn	09 02 04.3	+1.0
	baz=63,slow=14							
NB2	NORSAR Subarra	9.55	255	Pn		Pn	09 02 04.3	+1.0
	baz=63,slow=14							
NB2	NORSAR Subarra	9.55	255	Pn		Pn	09 02 04.3	+1.0
	SNR=5.7							
NOA	NORSAR Array B	9.55	255	Pn		Pn	09 02 03.5	+0.2
	comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=2.5							
NOA				Lg		Lg	09 04 42.5	
	comp=Z,0.2nm,0.3s,baz=70,slow=4.8,SNR=3.7							

*JMA **16** 09:18:22.7±0.2, 24°.81N×122°.01E, h84km±3km, M2.9*
*ISCJB **16** 09:18:23.7±0.5, 24°.84N±0°.03×122°.06E±0°.02, h77km±4km, Error ellipse: s-maj=5.8km s-min=3.1km az=170.9*
*TAP **16** 09:18:23.7, 24°.79N×122°.02E, h79km, ML3.7, C*

ISC 16 09:18:24.6±1.4, 24°.81N±0°.04×122°.06E±0°.03, h72km±7km, n53, σ0s75/88, 19D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EGS		0.12	286	eP		Pn	09 18 35.1	+0.1
	baz=306							
EGS				eS		Sn	09 18 41.0	-1.7
	baz=306							
TWB1	Santiao Chiao	0.21	341	↓iP		Pn	09 18 35.5	+0.1
	baz=355							
TWB1				iS		Sn	09 18 43.9	+0.6
	baz=355							
TWC	Suao	0.28	224	↓iP		Pn	09 18 35.7	-0.1
	baz=218							
TWC				S		Sn	09 18 44.0	0.0
	baz=218							
ILA	Ilan	0.29	261	↓iP		Pn	09 18 36.0	+0.2
	baz=268							
ILA				iS		Sn	09 18 45.1	+1.0
	baz=268							
NWF	Wu-fen Shan	0.36	315	↓iP		Pn	09 18 36.5	+0.1
	baz=315							
NWF				iS		Sn	09 18 45.3	+0.1
	baz=315							
TWE	Neicheng	0.37	256	↓iP		Pn	09 18 36.3	-0.1
	baz=261							
TWE				iS		Sn	09 18 45.3	+0.3
	baz=261							
TWA	Mucha	0.47	291	↓iP		Pn	09 18 37.0	-0.2
	baz=302							
TWA				eS		Sn	09 18 46.4	-0.2
	baz=302							
ENA	Nanau	0.48	218	↓iP		Pn	09 18 37.6	+0.3

	baz=305								
TWY	**Chenhua**	**0.63**	**318**	*e*P		**Pn**	**09 18 38.4**	**-0.3**
	baz=322								
TWY				*e*S		**Sn**	**09 18 49.0**	**-0.2**
	baz=322								
TWS1	**Kuangyinshan**	**0.65**	**296**	⇓*i*P		**Pn**	**09 18 38.9**	**-0.1**
	baz=305								
TWS1				*i* S		**Sn**	**09 18 49.8**	**0.0**
	baz=305								
NSK	**Sanguang**	**0.66**	**258**	⇓*i*P		**Pn**	**09 18 39.2**	**0.0**
	baz=265								
NSK				S		**Sn**	**09 18 50.1**	**+0.1**
	baz=265								
NNS	**Nan Shan**	**0.73**	**240**	⇓*i*P		**Pn**	**09 18 40.3**	**+0.3**
	baz=246								
NNS				S		**Sn**	**09 18 52.5**	**+1.0**
	baz=246								
NCU	**National Centr**	**0.81**	**281**	*e*P		**Pn**	**09 18 40.6**	**-0.2**
	baz=291								
NCU				*e*S		**Sn**	**09 18 54.1**	**+1.1**
	baz=291								
TWD	**Chiawan**	**0.84**	**210**	*e*P		**Pn**	**09 18 40.5**	**-0.8**
	baz=219								
TWD				S		**Sn**	**09 18 53.2**	**-0.3**
	baz=219								
JYNG	**Yonagunijimaku**	**0.88**	**114**	P		**Pn**	**09 18 41.2**	**-0.4**
JYNG				S		**Sn**	**09 18 54.5**	**+0.2**
HWA	**Hwalien**	**0.93**	**207**	*e*P		**Pn**	**09 18 41.7**	**-0.6**
	baz=196								
YOJ	**Yonaguni jima**	**0.93**	**112**	P		**Pn**	**09 18 41.9**	**-0.3**
YOJ				S		**Sn**	**09 18 56.1**	**+0.7**
TWT	**Tachien**	**0.98**	**236**	⇓*i*P		**Pn**	**09 18 43.5**	**+0.5**
	baz=227								
TWT				*i* S		**Sn**	**09 18 57.5**	**+0.7**
	baz=227								
NSTT	**Nanjuang**	**0.98**	**260**	⇓*i*P		**Pn**	**09 18 42.6**	**-0.3**
	baz=260								
NSTT				S		**Sn**	**09 18 56.4**	**-0.1**
	baz=260								
WHF	**Hehuan Shan**	**0.98**	**228**	⇓*i*P		**Pn**	**09 18 43.0**	**-0.4**
	baz=221								
WHF				S		**Sn**	**09 18 57.0**	**-0.2**
	baz=221								
HSN	**Hsinchu**	**0.99**	**270**	*e*P		**Pn**	**09 18 42.3**	**-0.7**
	baz=272								
HSN				*e*S		**Sn**	**09 18 56.8**	**0.0**
	baz=272								
ESL	**Shilin**	**1.15**	**210**	*e*P		**Pn**	**09 18 43.1**	**-1.9**
	baz=215								
NSY	**Sanyi**	**1.25**	**252**	⇓*i*P		**Pn**	**09 18 46.3**	**0.0**
	baz=251								
NSY				*i* S		**Sn**	**09 19 03.1**	**+0.5**
	baz=251								
TWQ1	**Liyutan**	**1.26**	**249**	P		**Pn**	**09 18 46.4**	**-0.1**
	baz=248								
TWQ1				*e*S		**Sn**	**09 19 02.2**	**-0.7**
	baz=248								
WDT	**Danda**	**1.35**	**219**	⇓P		**Pn**	**09 18 47.2**	**-0.7**
	baz=209								
WDT				S		**Sn**	**09 19 04.2**	**-1.2**
	baz=209								
SMLT	**Sun Moon Lake**	**1.41**	**229**	⇓*e*P		**Pn**	**09 18 48.5**	**+0.1**
	baz=239								
TYC	**Yuchr**	**1.42**	**231**	⇓*e*P		**Pn**	**09 18 48.5**	**-0.1**
	baz=229								
TYC				*e*S		**Sn**	**09 19 07.6**	**+1.0**
	baz=229								
TCU	**Taichung**	**1.43**	**243**	*e*P		**Pn**	**09 18 48.3**	**-0.3**
	baz=242								
EHY	**Hungye**	**1.46**	**208**	*e*P		**Pn**	**09 18 47.0**	**-2.2**
	baz=198								
WNT	**Mingjian**	**1.56**	**234**	*e*P		**Pn**	**09 18 50.4**	**0.0**
	baz=232								
IRIF	**Iriomote-Funau**	**1.59**	**107**	P		**Pn**	**09 18 50.3**	**-0.4**
IRIF				S		**Sn**	**09 19 10.9**	**+0.4**
YUS	**Yu-Shan**	**1.66**	**218**	*e*P		**Pn**	**09 18 51.9**	**-0.2**
	baz=208								
YUS				*e*S		**Sn**	**09 19 13.2**	**+0.2**
	baz=208								
ALS	**Alishan**	**1.73**	**222**	*e*P		**Pn**	**09 18 53.6**	**+0.7**
	baz=230								
ALS				*e*S		**Sn**	**09 19 15.8**	**+1.4**
	baz=230								
CHN5	**Tsauling**	**1.75**	**227**	*e*P		**Pn**	**09 18 53.0**	**0.0**
	baz=235								
CHN5				*e*S		**Sn**	**09 19 15.0**	**+0.5**
	baz=235								
HATJ	**Hateruma jima**	**1.76**	**115**	P		**Pn**	**09 18 52.3**	**-0.7**
WGK	**Gukeng**	**1.77**	**231**	*e*P		**Pn**	**09 18 52.5**	**-0.7**
	baz=238								
JKRS	**Kuro-shima**	**1.86**	**107**	P		**Pn**	**09 18 54.5**	**+0.1**
JKRS				S		**Sn**	**09 19 17.1**	**+0.1**
JIJ	**Ishigaki jima**	**1.94**	**103**	P		**Pn**	**09 18 55.4**	**-0.1**
JIJ				S		**Sn**	**09 19 18.2**	**-0.8**
CHN4	**Tsaushan**	**1.98**	**223**	*e*P		**Pn**	**09 18 56.1**	**+0.1**
	baz=222								
CHN4				*e*S		**Sn**	**09 19 21.9**	**+2.0**
	baz=222								
STYT	**Tauyuan**	**2.03**	**216**	*e*P		**Pn**	**09 18 57.2**	**+0.5**
	baz=214								
WTP	**Ta-pu**	**2.04**	**221**	*e*P		**Pn**	**09 18 56.7**	**-0.2**
	baz=229								
JISG	**Ishigakijimahi**	**2.06**	**96**	P		**Pn**	**09 18 57.0**	**0.0**
JISG				S		**Sn**	**09 19 22.8**	**+1.1**
TWK	**Hsinying**	**2.11**	**223**	*e*P		**Pn**	**09 18 57.4**	**-0.3**
	baz=222								
TWK				*e*S		**Sn**	**09 19 24.3**	**+1.3**
	baz=222								
CHN1	**Nanshi**	**2.14**	**221**	*e*P		**Pn**	**09 18 58.1**	**-0.1**
	baz=231								
TWG	**Pinlang**	**2.18**	**205**	*e*P		**Pn**	**09 18 56.4**	**-2.3**
	baz=196								
JTJ	**Tarama**	**2.41**	**93**	P		**Pn**	**09 19 02.3**	**+0.6**
ECL	**Taimali**	**2.43**	**205**	*e*P		**Pn**	**09 19 00.2**	**-1.8**
	baz=197								
SSD	**Sandimen**	**2.44**	**213**	*e*P		**Pn**	**09 19 02.8**	**+0.6**
	baz=201								
EAST	**Anshuo**	**2.66**	**205**	*e*P		**Pn**	**09 19 05.8**	**+0.6**
	baz=197								
KNM	**Kinmen**	**3.33**	**264**	*e*P		**Pn**	**09 19 13.4**	**-0.8**
	baz=262								

IDC 16 09:18:24.4±1.9, 7.50S×127.40E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/25, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=150.8km s-min=31.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.08**	**152**	Pn	Pn	09 21 44.2	-1.1
	0.1nm,0.3s,baz=330,slow=12,SNR=4.1						
WRA				Sn	Sn	09 24 06.2	-16
	0.2nm,0.3s,baz=328,slow=23,SNR=5.4						
ASAR	**Alice Springs**	**17.25**	**159**	P	P	09 22 27.7	-0.8
	0.1nm,0.3s,baz=339,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**67.25**	**328**	P	P	09 29 20.8	0.0
	0.1nm,0.3s,baz=120,slow=5.7,SNR=3.3						

*DHMR **16** 09:43:58.0±1.5, 11.95N×43.63E, h9km±100km, ML3.6*
*ISCJB **16** 09:43:59.8±0.9, 11.90N±0.08×43.57E±0.08, h10km, Error ellipse: s-maj=14.7km s-min=4.5km az=44.6*
*ARO **16** 09:44:00.5, 12.0N±2.4×4.4E±, h8km±1km, ML3.7*
ISC 16 09:43:59.2±1.2, 11.94N±0.07×43.57E±0.07, h10km, n11, σ0.97/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.28**	**280**	*e*P	**Pb**	**09 44 06.5**	**+0.3**
MCAD	**Moucha**	**0.41**	**239**	*e*P	**Pb**	**09 44 08.5**	**-0.1**
ATA	**Atar**	**0.60**	**216**	*e*P	**Pg**	**09 44 11.5**	**+0.6**
TDD	**Tadjoura Ara**	**0.66**	**258**	*e*P	**Pg**	**09 44 12.7**	**+0.6**
ATD	**Arta Tunnel**	**0.81**	**240**	*e*P	**Pg**	**09 44 14.9**	**0.0**
ATD				*e*S	**Sb**	**09 44 27.1**	**+0.5**
SGH	**Sud-Ghoubbet**	**1.04**	**242**	*e*P	**Pg**	**09 44 18.9**	**-0.5**
MAOD	**Malaho**	**1.32**	**277**	*e*P	**Pn**	**09 44 23.9**	**0.0**
GBR	**Grand-Bara**	**1.34**	**234**	*e*P	**Pn**	**09 44 23.2**	**-0.8**
UDYN	**Al 'Udayn**	**2.05**	**11**	*i* P	**Pn**	**09 44 33.7**	**-0.3**
UDYN				*i* S	**Sb**	**09 45 01.2**	**-1.2**
UDYN				AML	AML	09 45 06.4	
	comp=E,734nm,0.6s						
DHBB	**Dhamar BB**	**2.74**	**17**	*i* P	**Pn**	**09 44 44.8**	**+1.2**
DHBB				*i* S	**Sb**	**09 45 22.2**	**0.0**
BDHA	**Al Bayda'**	**2.81**	**44**	*i* P	**Pn**	**09 44 45.7**	**+1.2**
BDHA				*i* S	**Sb**	**09 45 22.1**	**-2.2**
BDHA				AML	AML	09 45 27.7	
	comp=N,286nm,0.3s						

*PGC **16** 09:44:15.0±0.5, 49.07N×127.98W, h10km, ML3.0/9, Mw3.6, 150km west of Tofino, Bc Vancouver Island Region*
*IDC **16** 09:44:14.8±1.9, 49.20N×127.91W, h0km, mb3.4/1, mb1 3.5/7, mb1mx3.3/37, mbtmp3.2/7, ML3.3/6, Error ellipse: s-maj=33.8km s-min=10.6km az=63.0*
ISC 16 09:44:16.4±3.6, 49.2N±0.1×127.8W±0.1, h18km±21km, n24, σ1.17/28, 5D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.83**	**34**	⇑P	**Pb**	**09 44 32.3**	**0.0**
EDB				⇓S	**Sb**	**09 44 44.2**	**+1.0**
ETB	**Estevan Point**	**0.87**	**77**	⇑P	**Pb**	**09 44 33.1**	**0.0**
BPBC	**Brooks Peninsu**	**0.97**	**3**	⇓P	**Pb**	**09 44 34.1**	**-0.7**
FHRB	**Fair Harbour**	**0.98**	**28**	⇑P	**Pb**	**09 44 34.6**	**-0.3**
FHRB				⇑S	**Sb**	**09 44 48.2**	**+0.6**
TOFB	**Tofino**	**1.27**	**91**	⇑Pn	Pn	09 44 37.7	-1.5
TOFB				⇑Sn	**Sn**	**09 44 53.4**	**-2.4**
WOSB	**Woss**	**1.28**	**40**	⇓Pn	**Pn**	**09 44 39.3**	**-0.2**
MAYB	**Maynard**	**1.29**	**19**	⇑Pn	**Pn**	**09 44 39.3**	**-0.4**
MAYB				⇑Sn	**Sn**	**09 44 56.4**	**-0.1**
HOLB	**Holberg**	**1.47**	**353**	⇑Pn	Pn	09 44 40.7	-1.3
HOLB				⇑Sn	**Sn**	**09 44 58.9**	**-1.9**
TLCB	**Telegraph Cove**	**1.51**	**25**	⇑Pn	**Pn**	**09 44 42.7**	**+0.2**
TLCB				⇑Sn	**Sn**	**09 45 02.2**	**+0.5**
PHC	**Port Hardy**	**1.54**	**10**	⇑Pn	**Pn**	**09 44 42.6**	**-0.4**
PHC				⇑Sn	**Sn**	**09 45 02.0**	**-0.6**
BTB	**Buttle Lake**	**1.54**	**79**	⇓Pn	**Pn**	**09 44 42.5**	**-0.6**
BTB				⇓Sn	**Sn**	**09 45 02.0**	**-0.8**
OZB	**Mount Ozzard**	**1.56**	**98**	⇑Pn	Pn	09 44 41.4	-1.9
OZB				⇑Sn	**Sn**	**09 45 00.2**	**-2.9**
SPLB	**Strathcona Par**	**1.59**	**63**	⇑Pn	**Pn**	**09 44 43.7**	**+0.1**
SPLB				⇑Sn	**Sn**	**09 45 04.4**	**+0.7**
BBB	**Bella Bella**	**3.00**	**357**	⇑Pn	**Pn**	**09 45 02.8**	**-0.3**
BBB				⇑Sn	**Sn**	**09 45 37.8**	**-0.8**
BBB	**Bella Bella**	**3.00**	**357**	Pn	**Pn**	**09 45 03.0**	**-0.1**
	6.2nm,0.3s,baz=200,slow=6.3,SNR=167						
BBB				Sn	**Sn**	**09 45 38.0**	**-0.6**
	16nm,0.3s,baz=37,slow=21,SNR=20						
NEW	**Newport**	**7.15**	**93**	Pn	**Pn**	**09 46 00.8**	**+0.7**
	0.2nm,0.3s,baz=285,slow=13,SNR=3.2						
NVAR	**Mina Array Bea**	**12.76**	**144**	Pn	Pn	09 47 20.2	+3.1
	0.1nm,0.3s,baz=323,slow=12,SNR=6.6						
PDAR	**Pinedale Array**	**14.23**	**110**	Pn	Pn	09 47 41.7	+4.6
	0.1nm,0.3s,baz=322,slow=16,SNR=3.3						
YKA	**Yellowknife Ar**	**15.22**	**24**	Pn	**Pn**	**09 47 48.4**	**-1.7**
	0.1nm,0.3s,baz=213,slow=13,SNR=16						
ILAR	**Eielson Array**	**18.62**	**334**	P	**P**	**09 48 33.8**	**+1.1**
	0.0nm,0.3s,baz=153,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**27.07**	**128**	P	**P**	**09 50 00.1**	**+2.2**
	0.4nm,0.8s,baz=339,slow=6.7,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**59.21**	**265**	T	T	10 58 51.2	
	baz=41,slow=74,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**59.21**	**265**	T	T	10 58 57.8	
	baz=41,slow=74,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**59.23**	**265**	T	T	10 59 01.9	
	baz=41						

*DHMR **16** 09:45:25.4±1.3, 11.93N×43.63E, h7km±84km, ML4.1*
*ISCJB **16** 09:45:27.8±1.2, 11.88N±0.09×43.70E±0.09, h10km, Error ellipse: s-maj=17.2km s-min=5.1km az=42.7*
*ARO **16** 09:45:30.6, 12.0N±6.4×4.4E±, h2km±5km, ML3.9*
ISC 16 09:45:27.4±1.4, 11.88N±0.08×43.68E±0.09, h10km, n11, σ0.62/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.40**	**286**	*e*P	**Pb**	**09 45 36.5**	**-0.1**
MCAD	**Moucha**	**0.48**	**252**	*e*P	**Pb**	**09 45 38.4**	**+0.4**
ATA	**Atar**	**0.63**	**228**	*e*P	**Pn**	**09 45 41.5**	**-0.9**
TDD	**Tadjoura Ara**	**0.76**	**265**	*e*P	**Pb**	**09 45 42.7**	**-0.1**
ATD	**Arta Tunnel**	**0.89**	**247**	*e*P	**Pb**	**09 45 45.2**	**+0.2**
ATD				*e*S	**Sb**	**09 45 57.1**	**+0.1**
SGH	**Sud-Ghoubbet**	**1.12**	**247**	*e*P	**Pn**	**09 45 49.1**	**-0.1**
GBR	**Grand-Bara**	**1.40**	**239**	*e*P	**Pn**	**09 45 53.3**	**+0.2**
MAOD	**Malaho**	**1.44**	**279**	*e*P	**Pn**	**09 45 53.7**	**+0.1**
UDYN	**Al 'Udayn**	**2.10**	**8**	*i* P	**Pn**	**09 46 02.4**	**-0.4**
UDYN				*i* S	**Sn**	**09 46 29.7**	**+0.7**
UDYN				AML	AML	09 46 38.5	
	comp=E,2μm,0.5s						
DHBB	**Dhamar BB**	**2.76**	**14**	*i* P	**Pn**	**09 46 12.7**	**+0.7**
DHBB				*i* S	**Sb**	**09 46 49.9**	**-1.3**
BDHA	**Al Bayda'**	**2.78**	**41**	*i* P	**Pn**	**09 46 12.7**	**+0.5**
BDHA				*i* S	**Sb**	**09 46 50.8**	**-0.7**
BDHA				AML	AML	09 46 57.6	
	comp=E,1μm,0.5s						

*IDC **16** 10:01:04.6±0.6, 16.21N×98.38W, h0km, mb4.3/24, mb1 4.5/27, mb1mx4.5/38, mbtmp4.3/27, ML4.1/3, MS4.5/22, Ms1 4.5/22, ms1mx4.4/29, Error ellipse: s-maj=18.3km s-min=11.8km az=42.0*
*MEX **16** 10:01:06.7±0.6, 16.15N×98.42W, h4km±3km, MD5.1*
*NEIC **16** 10:01:09.9±0.7, 16.39N×98.18W, h26km±4km, mb4.8/130, MW5.3, MD5.1(MEX), Error ellipse: s-maj=5.4km s-min=3.1km az=213.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁶Nm; Mrr6.16; Mθθ-3.24; Mφφ-2.92; Mrθ0.74; Mθφ8.32; Mφr-0.03; Best double couple: Mo9.90000×10¹⁶ NP1:φs113.00000°, δ51.00000°, λ59.00000°. NP2:φs337.00000°, δ48.00000°, λ122.00000°. Principal axes: T 6.4000, Plg66.0000°, Azm318.0000°; N 5.0000, Plg23.0000°, Azm133.0000°; P -11.4000, Plg1.0000°, Azm224.0000°;*
NEIC Felt at Acapulco, Huixquilucan, Mexico, Oaxaca and Puebla.
*ISCJB **16** 10:01:09.0±0.7, 16.49N±0.03×98.15W±0.02, h29km±4km, mb4.7/132, MS4.5/155 Error ellipse: s-maj=5.0km s-min=3.2km az=34.8*
*GCMT **16** 10:01:09.9±0.3, 16.52N×98.22W, h15km, MW5.2/87, Moment Tensor Solution. s40,c53; s87,c126; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr1.84±.09; Mθθ-1.82±.07; Mφφ-0.02±.08; Mrθ8.48±.75; Mθφ0.19±.06; Mφr-0.91±.26; Best double couple: Mo8.72500×10¹⁶ NP1:φs96.00000°, δ84.00000°, λ90.00000°. NP2: φs276.00000°, δ6.00000°, λ90.00000°. Principal axes: T 8.7250, Plg51.0000°, Azm6.0000°; N -0.0010, Plg0.0000°, Azm276.0000°; P -8.7260, Plg39.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 10:01:11.9, 16.60N×98.20W, h45km, mB5.2/12, Ms5.3/15, Ms7 4.9/16*
ISC 16 10:01:08.1±0.9, 16.20N±0.04×98.36W±0.03, h24km±5km, n729, σ1.14/691, mb4.8/132, MS4.4/156, 203C-200D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**50**	*e*P	**Pb**	**10 01 13.7**	**-1.2**
PNIG				*i* S	**Sb**	**10 01 18.4**	**-1.1**
PNIG	**Pinotepa**	**0.29**	**50**	*e*P	**Pb**	**10 01 13.7**	**-1.2**
PNIG				*i* S	**Sb**	**10 01 18.4**	**-1.1**
TLIG	**Tlapa**	**1.37**	**352**	*e*P	**Pn**	**10 01 29.6**	**-2.3**
TLIG				*i* S	**Sn**	**10 01 47.3**	**-1.9**
ACP2	**Acapulco**	**1.61**	**295**	*e*P	Pn	10 01 31.8	-3.3
ACP2				*e*S	**Sn**	**10 01 51.0**	**-4.2**
VHO	**Vista Hermosa**	**1.78**	**61**	*e*P	**Pn**	**10 01 36.7**	**-0.9**
VHO				*i* S	**Sn**	**10 01 59.6**	**+0.1**
VHO	**Vista Hermosa**	**1.78**	**61**	*e*P	**Pn**	**10 01 36.7**	**-0.9**
VHO				*i* S	**Sn**	**10 01 59.6**	**+0.1**
OXBJ	**Oaxaca**	**1.78**	**61**	*e*P	**Pn**	**10 01 36.4**	**-1.2**
OXBJ				*i* S	**Sn**	**10 01 58.6**	**-1.1**
CAIG	**El Cayaco**	**2.02**	**295**	*e*P	Pn	10 01 36.9	-3.8
CAIG				*e*S	**Sn**	**10 02 01.8**	**-3.3**
CAIG	**El Cayaco**	**2.02**	**295**	*e*P	Pn	10 01 36.9	-3.8
CAIG				*e*S	**Sn**	**10 02 01.8**	**-3.3**
MEIG	**Mezcala**	**2.10**	**325**	*e*P	**Pn**	**10 01 39.7**	**-2.2**
MEIG				*i* S	**Sn**	**10 02 06.0**	**-1.3**
MEIG	**Mezcala**	**2.10**	**325**	*e*P	**Pn**	**10 01 39.7**	**-2.2**
MEIG				*i* S	**Sn**	**10 02 06.0**	**-1.3**
HUIG	**Huatulco**	**2.20**	**101**	*e*P	**Pn**	**10 01 42.4**	**-0.9**
HUIG				*i* S	**Sn**	**10 02 08.0**	**-1.8**
HUIG	**Huatulco**	**2.20**	**101**	*e*P	**Pn**	**10 01 42.4**	**-0.9**
HUIG				*i* S	**Sn**	**10 02 08.0**	**-1.8**

TPIG	**Tehuac#an**	**2.40**	**23**	*e*P		**Pn**	**10 01 45.2**	**-0.8**
TPIG				*i* S		**Sn**	**10 02 15.2**	**+0.4**
TPIG	**Tehuac#an**	**2.40**	**23**	*e*P		**Pn**	**10 01 45.2**	**-0.8**
TPIG				*i* S		**Sn**	**10 02 15.2**	**+0.4**
YAIG	**Yautepec**	**2.73**	**346**	*e*P		**Pn**	**10 01 49.2**	**-1.4**
YAIG				*i* S		**Sn**	**10 02 22.2**	**-0.8**
YAIG	**Yautepec**	**2.73**	**346**	*e*P		**Pn**	**10 01 49.2**	**-1.4**
YAIG				*i* S		**Sn**	**10 02 22.2**	**-0.8**
ARIG	**Puente Sto Nin**	**2.81**	**318**	*e*P		**Pn**	**10 01 49.5**	**-2.1**
ARIG				*i* S		**Sn**	**10 02 23.7**	**-1.1**
PPM	**Popocatepetl**	**2.86**	**355**	*e*P		**Pn**	**10 01 52.5**	**-0.2**
PPM				*i* S		**Sn**	**10 02 26.1**	**-0.5**
PPM	**Popocatepetl**	**2.86**	**355**	*e*P		**Pn**	**10 01 52.5**	**-0.2**
PPM				*i* S		**Sn**	**10 02 26.1**	**-0.5**
AMVM	**AMECAMECA**	**2.94**	**352**	*e*P		**Pn**	**10 01 53.2**	**-0.4**
AMVM				*i* S		**Sn**	**10 02 28.3**	**-0.1**
MAVM	**Malinalco, Edo**	**2.94**	**339**	*e*P		**Pn**	**10 01 52.4**	**-1.2**
MAVM				*i* S		**Sn**	**10 02 27.1**	**-1.2**
UNM	**Universidad Na**	**3.21**	**346**	*e*P		**Pn**	**10 01 56.8**	**-0.5**
UNM				*e*S		**Sn**	**10 02 34.4**	**-0.5**
UNM	**Universidad Na**	**3.21**	**346**	*e*P		**Pn**	**10 01 56.8**	**-0.5**
UNM				*e*S		**Sn**	**10 02 34.4**	**-0.5**
ZIIG	**Zihuatanejo**	**3.29**	**296**	*e*P		**Pn**	**10 01 56.0**	**-2.2**
ZIIG				*i* S		**Sn**	**10 02 34.3**	**-2.2**
ZIIG	**Zihuatanejo**	**3.29**	**296**	*e*P		**Pn**	**10 01 56.0**	**-2.2**
ZIIG				*i* S		**Sn**	**10 02 34.3**	**-2.2**
CMIG	**Matias Romero**	**3.44**	**75**	Pn		**Pn**	**10 01 59.7**	**-0.6**
	20nm,0.3s,baz=255,slow=11,SNR=312							
CMIG				Lg		Lg	10 02 57.1	
	955nm,0.3s,baz=358,slow=11,SNR=16							
CMIG				LR		LR	10 03 16.6	
	comp=Z,1μm,21.7s,baz=257,slow=38							
TUIG	**Tuzandepetl**	**4.18**	**64**	*e*P		**Pn**	**10 02 10.1**	**-0.3**
TUIG				*i* S		**Sn**	**10 02 58.6**	**+0.2**
TUIG	**Tuzandepetl**	**4.18**	**64**	*e*P		**Pn**	**10 02 10.1**	**-0.3**
TUIG				*i* S		**Sn**	**10 02 58.6**	**+0.2**
PCIG		**4.97**	**95**	*e*P		**Pn**	**10 02 20.0**	**-1.2**
PCIG				*i* S		**Sn**	**10 03 17.6**	**-0.4**
PCIG		**4.97**	**95**	*e*P		**Pn**	**10 02 20.0**	**-1.2**
PCIG				*i* S		**Sn**	**10 03 17.6**	**-0.4**
EZ5V		**5.96**	**304**	*e*P		**Pn**	**10 02 35.8**	**+0.6**
EZ5V				*i* S		**Sn**	**10 03 40.8**	**-2.2**
R15V		**6.12**	**300**	*i* P		**Pn**	**10 02 36.6**	**-0.6**
R15V				*i* S		**Sn**	**10 03 45.1**	**-1.4**
APG	**El Apazote**	**7.70**	**98**	Pn		Pn	10 02 55.0	-3.9
	3.0nm,0.3s,baz=317,slow=19,SNR=31							
APG				LR		LR	10 05 44.3	
	comp=Z,3μm,19.5s,baz=282,slow=36							
TEIG	**Tepich**	**10.38**	**66**	Pn		**Pn**	**10 03 34.0**	**-1.5**
	5.2nm,0.3s,baz=80,slow=3.5,SNR=21							
TEIG				Sn		**Sn**	**10 05 27.6**	**-3.6**
	16nm,0.3s,baz=356,slow=22,SNR=5.9							
TEIG				LR		LR	10 08 20.6	
	comp=Z,3μm,20.3s,baz=222,slow=42							
TEIG	**Tepich**	**10.38**	**66**	*e*Pn		**Pn**	**10 03 34.8**	**-0.7**
TEIG				*e*Sn		**Sn**	**10 05 27.2**	**-3.9**
TEIG				Sn		Sn	10 05 27.6	-3.6
933A	**Laredo**	**11.39**	**356**	⇑P		**Pn**	**10 03 48.8**	**-0.5**
	baz=11							
834A	**Tilden**	**11.87**	**359**	⇑P		**Pn**	**10 03 55.2**	**-0.7**
	baz=12							
833A	**Chaparral WMA,**	**12.10**	**356**	⇓P		**Pn**	**10 03 59.0**	**-0.1**
	baz=12,SNR=23							
832A	**Faith Ranch, C**	**12.12**	**353**	⇑P		**Pn**	**10 03 59.3**	**0.0**
	baz=12,SNR=10							
H06E1	**SOCORRO T-PHAS**	**12.26**	**284**	T		T	10 16 12.7	
	SNR=57							
H06S1	**SOCORRO T**	**12.29**	**284**	T		T	10 16 14.9	
	SNR=10							
H06N1	**SOCORRO T-PHAS**	**12.33**	**284**	T		T	10 16 22.7	
	SNR=4.3							
733A	**Divot King Ran**	**12.49**	**356**	⇓P		**Pn**	**10 04 04.0**	**-0.4**
	baz=12,SNR=5.4							
732A	**Laxson Ranch,**	**12.55**	**353**	⇑P		**Pn**	**10 04 05.2**	**-0.1**
	baz=12,SNR=13							
734A	**La Parita Cree**	**12.59**	**359**	⇓P		**Pn**	**10 04 05.2**	**-0.5**
	baz=12							
634A	**China Grove, S**	**13.12**	**0**	⇓P		**Pn**	**10 04 12.5**	**-0.5**
	baz=13							
633A	**Saathoff Ranch**	**13.21**	**357**	⇓P		**Pn**	**10 04 13.4**	**-0.9**
	baz=13							
636A	**Smothers Creek**	**13.27**	**5**	⇑P		**Pn**	**10 04 13.7**	**-1.3**
	baz=13							
631A	**Perdido Creek**	**13.30**	**352**	⇑P		**Pn**	**10 04 14.5**	**-1.0**
	baz=13,SNR=12							
632A	**Uvalde**	**13.31**	**355**	⇑P		**Pn**	**10 04 15.3**	**-0.3**
	baz=13,SNR=8.8							
LPIG	**La Paz**	**13.69**	**307**	LR		LR	10 09 02.1	
	comp=Z,2μm,18.1s,baz=134,slow=35							
534A	**Blanco**	**13.76**	**360**	⇓P		**Pn**	**10 04 20.6**	**-1.2**
	baz=14							
535A	**Dale**	**13.78**	**3**	⇓P		**Pn**	**10 04 20.7**	**-1.3**
	baz=14

70nm,0.9s
233A Rising Star 15.75 358 ⇑P Pn 10 04 47.2 -1.3
baz=16,SNR=26
231A Bronte 15.76 354 ⇑P Pn 10 04 47.6 -1.0
baz=16,SNR=38
230A Sterling City 15.81 351 ⇓P Pn 10 04 48.5 -0.8
baz=16,SNR=22
237A Washetta, Mont 15.90 8 ⇓P Pn 10 04 48.3 -2.0
baz=16,SNR=15
238A Jacksonville 16.00 10 ⇑P Pn 10 04 50.2 -1.4
baz=16,SNR=17
229A Bryant Ranch, 16.00 349 ⇓P Pn 10 04 51.5 -0.3
baz=16,SNR=7.0
239A Gary 16.14 12 ⇑P Pn 10 04 51.3 -2.1
baz=16
134A White-Moore Ra 16.30 1 ⇓P Pn 10 04 54.2 -1.3
baz=16,SNR=16
135A Vickery Place, 16.30 3 ⇓P Pn 10 04 53.8 -1.8
baz=16
228A UT Block 9, Go 16.30 347 ⇓P Pn 10 04 54.5 -1.1
baz=16
133A Hamilton Ranch 16.34 358 ⇑P Pn 10 04 54.8 -1.2
baz=16,SNR=49
ABTX Abilene, Hawle 16.39 356 ⇓P Pn 10 04 55.5 -1.2
baz=16,SNR=39
ABTX Abilene, Hawle 16.39 356 *e*Pn Pn 10 04 56.4 -0.2
118nm,0.9s
130A Snyder 16.49 352 ⇓P Pn 10 04 56.6 -1.4
baz=16,SNR=10
137A Heron Place, G 16.49 8 ⇑P Pn 10 04 56.4 -1.5
baz=16,SNR=5.7
131A Roby 16.50 354 ⇑P Pn 10 04 57.1 -1.0
baz=16,SNR=12
138A Matatall Enter 16.65 10 ⇑P Pn 10 04 58.1 -1.8
baz=16
129A Stewart Farms, 16.66 350 ⇓P Pn 10 04 59.2 -0.9
baz=17,SNR=32
MNTX Cornudas Mount 16.70 339 ⇓P Pn 10 05 00.2 -0.4
baz=17,SNR=38
MNTX Cornudas Mount 16.70 339 *e*Pn Pn 10 04 59.6 -1.0
23nm,1.0s
128A Castleberry Fa 16.77 348 ⇓P Pn 10 05 00.9 -0.6
baz=17,SNR=32
GDL2 Guadalupe Moun 16.84 342 *e*P P 10 05 04.5 +0.2
Z33A Whitaker Ranch 17.01 359 ⇓P Pn 10 05 02.8 -1.7
baz=17
Z32A Haskell 17.06 357 ⇓P Pn 10 05 04.0 -1.1
baz=17,SNR=41
Z35A Perchaven, San 17.08 3 ⇑P Pn 10 05 04.3 -1.1
baz=17,SNR=11
Z34A Collier Ranch, 17.10 1 ⇑P Pn 10 05 03.7 -1.9
baz=17
Z31A Sharp Cattle R 17.12 355 ⇓P Pn 10 05 04.7 -1.2
baz=17,SNR=6.5
Z30A Sanderson Ranc 17.19 352 ⇑P Pn 10 05 05.6 -1.2
baz=17,SNR=50
Z29A Hungry Hill Ra 17.25 350 ⇓P Pn 10 05 06.5 -1.0
baz=17,SNR=40
Z28A Tucker Farm, M 17.40 349 ⇓P Pn 10 05 08.2 -1.2
baz=17,SNR=23
VBMS Vicksburg 17.46 23 *e*Pn Pn 10 05 08.0 -2.1
126nm,1.4s
Y34A Reagan Ranch, 17.69 2 ⇓P Pn 10 05 10.9 -2.0
baz=18
Y33A Hilltop Ranch, 17.73 359 ⇓P Pn 10 05 12.0 -1.4
baz=18,SNR=6.6
Y30A Stafford Cattl 17.75 353 ⇑P Pn 10 05 12.7 -1.0
baz=18
Y32A R-V Farms, Ver 17.75 357 ⇑P Pn 10 05 12.9 -0.8
baz=18,SNR=14
Y31A Rekieta Farm, 17.77 355 ⇓P Pn 10 05 12.8 -1.1
baz=18,SNR=16
Y29A Porterfield Fa 17.83 351 ⇓P Pn 10 05 13.5 -1.3
baz=18,SNR=26
319A Douglas 18.09 329 ⇑P P 10 05 18.8 +0.6
baz=18,SNR=34
MSTX Muleshoe 18.13 348 ⇑P Pn 10 05 17.1 -1.4
baz=18,SNR=42
MSTX Muleshoe 18.13 348 *e*Pn Pn 10 05 16.4 -2.1
58nm,1.1s
X32A Elmer 18.16 358 ⇓P Pn 10 05 17.2 -1.5
baz=18,SNR=18
X33A Lawton 18.26 360 ⇑P Pn 10 05 18.3 -1.6
baz=18,SNR=12
X30A Coker Ranch, T 18.31 353 ⇓P Pn 10 05 19.3 -1.3
baz=18,SNR=49
X34A Smith Ranch, M 18.33 1 ⇑P Pn 10 05 19.1 -1.7
baz=18,SNR=35
121A Cookes Peak, D 18.37 334 ⇓P Pn 10 05 21.6 +0.2
baz=18,SNR=27
121A Cookes Peak, D 18.37 334 *e*P Pn 10 05 22.4 +0.9
48nm,1.0s
X31A McDonald Ranch 18.41 356 ⇓P P 10 05 20.9 -0.7
baz=18,SNR=18
X29A Tulia 18.41 351 ⇑P P 10 05 20.4 -1.4
baz=18,SNR=33
WMOK Wichita Mounta 18.46 359 *e*P P 10 05 19.4 -2.8
11nm,0.8s
X28A Dimmitt 18.56 350 ⇓P P 10 05 22.6 -0.9
baz=18,SNR=6.2
MIAR Mount Ida 18.76 12 *e*P P 10 05 23.3 -2.2
45nm,1.0s
AMTX Amarillo 18.84 352 ⇓P P 10 05 25.6 -0.9
baz=19
AMTX Amarillo 18.84 352 *e*P P 10 05 25.0 -1.5
45nm,0.8s
W32A Sentinel 18.86 358 ⇑P P 10 05 25.6 -1.0
baz=19,SNR=35
W33A Caddo, Fort Co 18.87 360 ⇓P P 10 05 25.9 -0.8
baz=19,SNR=20
W36A Wetumka 18.95 5 ⇓P P 10 05 26.6 -1.0
baz=19,SNR=16
W31A Holland Ranch, 18.96 356 ⇓P P 10 05 26.5 -1.2
baz=19,SNR=9.9
W34A Bridge Creek, 18.96 1 ⇑P P 10 05 26.1 -1.6
baz=19,SNR=6.4
W34A Bridge Creek, 18.96 1 *e*P P 10 05 26.7 -1.0
89nm,1.4s
W30A Crocket Farms 19.00 354 ⇓P P 10 05 27.6 -0.6
baz=19,SNR=6.4
W29A Amarillo 19.07 352 ⇑P P 10 05 28.4 -0.5
baz=19,SNR=11
UALR University of 19.26 15 *e*P P 10 05 30.0 -1.0
25nm,0.8s
W28A Vega 19.29 350 ⇓P P 10 05 30.8 -0.6
baz=19,SNR=8.8
V32A Arapaho 19.45 358 ⇑P P 10 05 32.2 -0.8
baz=19,SNR=8.7
LENM Lemitar 19.49 338 *e*P Pn 10 05 35.0 0.0
LPM Los Pinos Moun 19.51 339 *e*P Pn 10 05 35.5 +0.3
V35A Meyer Ranch, C 19.53 4 ⇓P P 10 05 32.8 -1.0
baz=19,SNR=18
V31A Spring Creek L 19.54 356 ⇓P P 10 05 32.9 -1.1
baz=19,SNR=25
V33A Lossen Ranch, 19.54 0 ⇓P P 10 05 32.4 -1.6
baz=19,SNR=19
V34A Guthrie 19.57 2 ⇓P P 10 05 32.9 -1.4
baz=20,SNR=30
V34A Guthrie 19.57 2 *e*P P 10 05 32.9 -1.4
73nm,1.0s
V30A Spur Ranch, Mi 19.59 354 ⇑P P 10 05 34.3 -0.3
baz=20
TUC Tucson 19.61 327 *e*P Pn 10 05 35.8 -0.5
27nm,1.1s
LRAL Lakeview Retre 19.66 29 *e*P P 10 05 34.0 -1.3
7.9nm,0.5s
TUL1 Leonard 19.76 6 ⇓P P 10 05 34.4 -2.0
baz=20,SNR=13
TUL1 Leonard 19.76 6 *e*P P 10 05 34.9 -1.5
48nm,0.8s
LAZ Ladron 19.77 338 *e*P Pn 10 05 38.7 +0.4
9.6nm,0.9s
V28A Channing 19.77 351 ⇑P P 10 05 35.9 -0.7
baz=20,SNR=10
V29A Stinnett 19.79 352 ⇓P P 10 05 36.5 -0.4
baz=20
V27A Dan Oppiter Fa 19.88 349 ⇑P P 10 05 36.9 -0.9
baz=20,SNR=12
OXF Oxford 19.92 22 *e*P P 10 05 37.3 -0.9
44nm,0.9s
ANMO Albuquerque 20.03 340 P Pn 10 05 40.6 -0.8
32nm,1.0s,baz=152,slow=12,SNR=60
ANMO Albuquerque 20.03 340 *e*P P 10 05 39.9 +0.3
50nm,1.0s
U32A Winter Ranch, 20.10 358 ⇑P P 10 05 38.6 -1.6
baz=20,SNR=18
V26A Tequesquite Ra 20.11 347 ⇑P P 10 05 40.0 -0.3
baz=20,SNR=84

U31A Nine Bar Ranch 20.13 356 ⇓P P 10 05 38.9 -1.6
baz=20,SNR=8.1
U33A Lingo Farm, Me 20.15 1 ⇑P P 10 05 38.9 -1.8
baz=20,SNR=11
U34A Anderson Ranch 20.16 2 ⇑P P 10 05 39.5 -1.3
baz=20,SNR=15
U34A Anderson Ranch 20.16 2 *e*P P 10 05 39.5 -1.3
149nm,1.1s
TIGA Tifton 20.27 39 *e*P P 10 05 41.6 -0.5
44nm,0.6s
U29A Oasis Ranch, S 20.33 353 ⇑P P 10 05 42.2 -0.5
baz=20
U30A WK&E Inc. Balk 20.35 355 ⇓P P 10 05 42.7 -0.2
baz=20,SNR=14
U28A Mallet 20.39 351 ⇑P P 10 05 42.5 -0.8
baz=20,SNR=38
214A Organ Pipe Nat 20.46 323 ⇓P P 10 05 44.8 +0.7
baz=20,SNR=18
214A Organ Pipe Nat 20.46 323 *e*P Pn 10 05 45.2 -1.1
24nm,1.1s
U27A Thompson Grove 20.52 350 ⇑P P 10 05 44.2 -0.7
baz=20,SNR=30
U26A Atchley Ranch, 20.67 348 ⇑P P 10 05 46.0 -0.5
baz=21,SNR=55
T33A Patterson Ranc 20.80 0 ⇓P P 10 05 45.8 -1.9
baz=21,SNR=8.5
T31A Randall Ranch, 20.84 357 ⇑P P 10 05 47.3 -0.9
baz=21,SNR=9.7
T30A Plains 20.86 355 ⇑P P 10 05 47.6 -0.8
baz=21,SNR=21
T32A Huddler Ranch, 20.90 359 ⇑P P 10 05 47.6 -1.2
baz=21,SNR=23
X18A Snowflake 21.01 332 ⇓P P 10 05 50.5 +0.3
baz=21,SNR=55
T29A Hugoton 21.03 353 ⇓P P 10 05 49.3 -1.0
baz=21,SNR=24
T28A Walsh 21.10 352 ⇑P P 10 05 50.1 -0.9
baz=21,SNR=65
T27A Campo 21.13 350 ⇓P P 10 05 50.7 -0.8
baz=21,SNR=45
S33A Kaszmaul Farm, 21.31 1 ⇓P P 10 05 51.2 -2.0
baz=21
S31A Mullinville 21.36 358 ⇑P P 10 05 52.1 -1.7
baz=21
T26A Comanche Natio 21.40 348 ⇓P P 10 05 53.8 -0.5
baz=21,SNR=26
W18A Petrified Fore 21.41 334 ⇓P P 10 05 54.9 +0.4
baz=21,SNR=8.1
W18A Petrified Fore 21.41 334 PFAKE 10 06 10.0 +15
W18A LR LR
comp=Z,1μm,21.3s
S32A Newby Ranch, P 21.42 359 ⇓P P 10 05 52.7 -1.7
baz=21,SNR=12
S30A Montezuma 21.43 355 ⇓P P 10 05 53.5 -1.1
baz=21,SNR=16
S34A Willow Spring 21.44 3 ⇓P P 10 05 52.5 -2.1
baz=21,SNR=6.8
S35A Otter Creek Ra 21.47 4 ⇓P P 10 05 52.8 -2.1
baz=21,SNR=19
S29A Ulysses 21.47 354 ⇓P P 10 05 54.1 -0.9
baz=21,SNR=25
S28A Manter 21.53 352 ⇓P P 10 05 54.8 -0.9
baz=22,SNR=57
T25A Tridad 21.53 347 ⇓P P 10 05 56.1 +0.3
baz=22,SNR=51
T25A Trinidad 21.53 347 *e*Pn P 10 05 56.9 +1.1
comp=Z,185nm,1.6s
T25A LR LR
comp=Z,600nm,21.5s
PVMO Portageville 21.55 19 PFAKE 10 06 10.0 +14
PVMO LR LR
comp=Z,400nm,20.6s
Z14A Wintersburg 21.57 325 ⇓P P 10 05 57.1 +1.1
baz=22,SNR=28
S36A Lake Cedric, C 21.57 6 ⇓P P 10 05 54.4 -1.6
baz=22,SNR=24
113A Mohawk Valley, 21.60 323 ⇓P P 10 05 57.4 +1.1
baz=22,SNR=8.7
X16A Lo Mia Camp, P 21.61 329 ⇑P P 10 05 57.9 +1.2
baz=22,SNR=93
PBMO Poplar Bluff 21.67 17 *e*P P 10 05 55.3 -1.7
comp=Z,58nm,0.8s
PBMO LR LR
comp=Z,300nm,21.8s
UTMT University of 21.76 21 *e*P P 10 06 00.9 +2.9
comp=Z,159nm,1.1s
PARMO Parma 21.76 19 *e*P P 10 05 56.8 -1.2
S27A Las Animas 21.77 350 ⇓P P 10 05 57.6 -0.6
baz=22
GOGA Godfrey 21.78 35 *e*P P 10 05 56.7 -1.5
comp=Z,25nm,0.8s
GOGA LR LR
comp=Z,600nm,22.0s
S26A Kim 21.81 349 ⇓P P 10 05 58.5 -0.2
baz=22,SNR=34
WVT Waverly 21.95 23 *e*P P 10 05 57.4 -2.6
comp=Z,42nm,0.9s
WVT LR LR
comp=Z,298nm,19.9s
R33A Olander Ranch, 22.02 1 ⇑P P 10 05 59.6 -1.2
baz=22,SNR=9.1
R31A Burdett 22.02 358 ⇓P P 10 05 59.0 -1.9
baz=22,SNR=13
S25A Robets Cordova 22.04 347 ⇑P P 10 06 01.1 -0.1
baz=22,SNR=48
Y14A Wickenburg 22.04 326 ⇑P P 10 06 01.5 +0.3
baz=22,SNR=34
R30A Dighton 22.06 356 ⇑P P 10 06 00.3 -1.0
baz=22,SNR=27
R32A Long Quarter, 22.14 359 ⇑P P 10 06 01.0 -1.1
baz=22,SNR=7.0
R36A Gordon, Harris 22.18 6 ⇑P P 10 06 00.5 -2.0
baz=22,SNR=36
S24A Houchin Ranch, 22.20 345 ⇓P P 10 06 03.1 +0.1
baz=22,SNR=25
R37A Teagarden Farm 22.24 7 ⇑P P 10 06 02.2 -1.0
baz=22,SNR=11
R28A Tribune 22.26 353 ⇑P P 10 06 02.2 -1.3
baz=22,SNR=7.1
R29A Marienthal 22.27 354 ⇑P P 10 06 02.3 -1.3
baz=22
R27A Eads 22.34 351 ⇑P P 10 06 04.1 -0.3
baz=22,SNR=64
SDCO Great Sand Dun 22.37 345 ⇓P P 10 06 04.7 -0.1
baz=22,SNR=29
SDCO Great Sand Dun 22.37 345 *e*P P 10 06 05.2 +0.3
comp=Z,54nm,1.4s
SDCO LR LR
comp=Z,800nm,20.0s
GLA Glamis 22.43 321 ⇓P P 10 06 06.3 +1.0
baz=22,SNR=7.7
GLA Glamis 22.43 321 *e*P P 10 06 06.8 +1.5
comp=Z,31nm,1.1s
GLA LR LR
comp=Z,2μm,20.4s
S23A Nye Farm, Mont 22.46 344 ⇑P P 10 06 05.9 +0.1
baz=22,SNR=14
R26A Arlington 22.46 349 ⇓P P 10 06 05.7 0.0
baz=22,SNR=94
R25A Fountain Ranch 22.47 348 ⇑P P 10 06 05.9 0.0
baz=22,SNR=41
WUAZ Wupatki 22.48 331 ⇓P P 10 06 07.0 +1.1
baz=22,SNR=36
WUAZ Wupatki 22.48 331 PFAKE 10 06 20.0 +14
WUAZ LR LR
comp=Z,6μm,18.1s
Q32A Meitler Ranch, 22.70 360 ⇑P P 10 06 07.3 -0.8
baz=23,SNR=8.5
Q33A Connelly Farm, 22.71 1 ⇑P P 10 06 07.4 -0.9
baz=23,SNR=9.0
Q29A Oakley 22.72 355 ⇓P P 10 06 07.0 -1.3
baz=23,SNR=20
S22A 4UR Ranch, Cre 22.73 342 ⇑P P 10 06 08.5 -0.2
baz=23,SNR=55
S22A 4UR Ranch, Cre 22.73 342 *e*P P 10 06 09.4 +0.7
comp=Z,200nm,0.8s
S22A LR LR
comp=Z,200nm,18.6s
Q31A Ellis 22.73 358 ⇑P P 10 06 07.7 -0.8
baz=23,SNR=7.7
R24A Sanders Place, 22.73 346 ⇑P P 10 06 08.5 -0.2
baz=23,SNR=16
Q30A Quinter 22.75 356 ⇑P P 10 06 07.4 -1.2
baz=23
Y12C Blythe 22.75 323 ⇑P P 10 06 09.3 +0.6
baz=23,SNR=7.2
MVCO Mesa Verde 22.77 339 ⇑P P 10 06 08.9 -0.2
baz=23,SNR=29

MVCO Mesa Verde 22.77 339 *e*P P 10 06 09.1 0.0
comp=Z,58nm,1.3s
MVCO LR LR
comp=Z,9μm,22.0s
Q37A Longview Farm, 22.84 8 ⇑P P 10 06 08.7 -0.9
baz=23,SNR=8.3
KSU1 Kansas State U 22.86 3 PFAKE 10 06 20.0 +10
KSU1 LR LR
comp=Z,2μm,18.2s
R23A Moffat 22.87 345 ⇑P P 10 06 09.6 -0.6
baz=23,SNR=10.0
SIUC Southern Illin 22.90 19 *e*P P 10 06 10.5 +0.4
comp=Z,59nm,1.0s
PDMCI Parker Dam,Lak 22.93 325 ⇓P P 10 06 10.7 +0.1
baz=23,SNR=18
SWSC Sam W. Stewart 22.95 320 ⇓P P 10 06 11.8 +1.0
baz=23
Q28A Sharon Springs 22.98 353 ⇓P P 10 06 09.9 -1.1
baz=23,SNR=24
KSCO Kaye Shedlock' 23.03 351 ⇑P P 10 06 10.9 -0.7
baz=23,SNR=25
KSCO Kaye Shedlock' 23.03 351 *e*P P 10 06 11.0 -0.7
comp=Z,109nm,1.3s
KSCO LR LR
comp=Z,700nm,20.8s
Q26A Hugo 23.08 350 ⇑P P 10 06 12.0 -0.2
baz=23,SNR=20
Q25A Bedland, Calha 23.21 348 ⇑P P 10 06 12.9 -0.6
baz=23,SNR=14
BC3 Big Chuckawall 23.23 322 ⇑P P 10 06 14.8 +1.0
baz=23,SNR=13
P31A Stockton 23.25 358 ⇑P P 10 06 12.8 -1.0
baz=23,SNR=16
MONP Monument Peak, 23.30 319 ⇑P P 10 06 15.2 +0.6
baz=23
P30A Selden 23.31 356 ⇓P P 10 06 13.0 -1.4
baz=23,SNR=8.2
BAR Barrett 23.33 318 *e*P P 10 06 16.8 +2.2
comp=Z,10nm,1.6s
BAR LR LR
comp=Z,266nm,18.6s
P32A Huiting Farm, 23.33 360 ⇑P P 10 06 13.2 -1.3
baz=23,SNR=10
TKL Tuckaleechee C 23.34 31 P P 10 06 15.1 +0.4
comp=Z,7.1nm,0.8s,baz=189,slow=9.6,SNR=8.5
TKL Tuckaleechee C 23.34 31 *e*P P 10 06 13.7 -1.0
W13A Hualapai Mount 23.39 326 ⇑P P 10 06 16.3 +0.8
baz=23,SNR=8.3
IRM Iron Mountain 23.41 323 ⇑P P 10 06 15.3 -0.1
baz=23,SNR=13
P29A Atwood 23.42 355 ⇑P P 10 06 14.9 -0.6
baz=23,SNR=7.6
Q24A Divide 23.44 347 ⇑P P 10 06 16.1 +0.1
baz=23,SNR=17
Q24A Divide 23.44 347 *e*P P 10 06 16.1 +0.1
comp=Z,28nm,1.0s
Q24A LR LR
comp=Z,500nm,19.9s
P28A Saint Francis 23.47 353 ⇓P P 10 06 15.8 -0.3
baz=23,SNR=35
NEE2 Needles Airpor 23.55 325 ⇓P P 10 06 17.6 +0.9
baz=24
Q23A Hartsel 23.55 345 ⇑P P 10 06 17.1 +0.1
baz=24
P27A Ficken Ranch, 23.56 352 ⇑P P 10 06 16.0 -0.9
baz=24,SNR=34
PV01 Paradox Valley 23.63 340 *e*P P 10 06 17.9 +0.2
comp=Z,3μm,0.9s
USIN University of 23.64 21 *e*P P 10 06 17.3 -0.2
comp=Z,69nm,0.9s
USIN LR LR
comp=Z,300nm,18.7s
U15A North Rim 23.65 331 ⇑P P 10 06 18.7 +0.7
baz=24,SNR=32
P26A Davis Ranch, A 23.68 350 ⇓P P 10 06 18.1 0.0
baz=24,SNR=22
109C Camp Elliot, M 23.74 318 ⇑P P 10 06 19.7 +1.1
baz=24
P25A Willow Gulch B 23.77 349 ⇑P P 10 06 18.7 -0.4
baz=24,SNR=22
BELC Belle Mtn. Jos 23.79 321 ⇓P P 10 06 19.9 +0.6
baz=24,SNR=8.2
PFO Pinyon Flats O 23.80 320 ⇓P P 10 06 20.3 +1.0
baz=24
PFO Pinyon Flats O 23.80 320 *e*P P 10 06 20.8 +1.4
comp=Z,11nm,1.0s
PFO LR LR
comp=Z,1μm,21.3s
O31A Woolen Ranch, 23.88 358 ⇓P P 10 06 19.0 -0.9
baz=24,SNR=5.8
P24A Kohler Place, 23.92 347 ⇑P P 10 06 20.3 -0.2
baz=24,SNR=9.3
O29A 4D Ranch, Culb 23.93 355 ⇓P P 10 06 20.3 -0.1
baz=24
O30A MW Ranch, Wils 23.93 357 ⇑P P 10 06 20.0 -0.4
baz=24,SNR=11
O32A Brockman Farm, 23.97 0 ⇑P P 10 06 20.2 -0.6
baz=24
P23A Jefferson 23.99 346 ⇓P P 10 06 21.4 +0.1
baz=24,SNR=42
O28A Krutsinger Ran 24.02 354 ⇓P P 10 06 20.9 -0.3
baz=24,SNR=21
LDFC Landfair 24.05 325 *e*P P 10 06 23.6 +2.0
comp=Z,33nm,1.0s
LDFC LR LR
comp=Z,1μm,18.6s
SMCO Snowmass 24.10 343 *e*P P 10 06 23.6 +1.2
comp=Z,58nm,1.1s
SMCO LR LR
comp=Z,300nm,21.6s
GMRC Granite Mounta 24.14 323 ⇓P P 10 06 23.3 +0.8
baz=24,SNR=15
O27A Beecher Island 24.17 352 ⇑P P 10 06 22.6 -0.1
baz=24,SNR=30
OLIL Olney 24.18 20 *e*P P 10 06 22.5 -0.2
comp=Z,35nm,0.9s
KMSC Kings Mountain 24.24 36 ⇑P P 10 06 21.8 -1.5
baz=24
KMSC Kings Mountain 24.24 36 *e*P P 10 06 22.8 -0.5
comp=Z,141nm,2.1s
KMSC LR LR
comp=Z,700nm,21.1s
MURC Murrieta 24.26 319 ⇑P P 10 06 25.0 +1.4
baz=24,SNR=6.9
O26A Horse Wrangler 24.34 351 ⇓P P 10 06 24.4 +0.1
baz=24,SNR=6.0
O25A Wiggins 24.34 349 ⇑P P 10 06 24.1 -0.2
baz=24,SNR=13
ISCO Idaho Springs 24.35 346 ⇓P P 10 06 24.6 +0.1
baz=24,SNR=93
ISCO Idaho Springs 24.35 346 *e*P P 10 06 24.8 +0.3
comp=Z,38nm,0.7s
ISCO LR LR
comp=Z,3μm,18.0s
KNB Kanab 24.37 331 PFAKE 10 06 40.0 +15
KNB LR LR
comp=Z,8μm,21.4s
WCI Wyandotte Cave 24.37 24 *e*P P 10 06 24.0 -0.5
comp=Z,54nm,0.9s
WCI LR LR
comp=Z,399nm,20.7s
P22A Eagle 24.43 344 ⇓P P 10 06 25.5 +0.2
baz=24,SNR=63
N32A Stulken Farm, 24.47 0 ⇑P P 10 06 25.1 -0.2
baz=24
BBRC Big Bear Solar 24.53 321 ⇓P P 10 06 27.4 +1.2
baz=24
N31A Bailey Ranch, 24.54 359 ⇑P P 10 06 25.5 -0.5
baz=24
O24A Longmont 24.54 348 ⇓P P 10 06 26.2 +0.1
baz=24,SNR=22
N30A Hueftle Ranch, 24.55 357 ⇑P P 10 06 25.3 -0.8
baz=24
N28A Pribbeno Ranch 24.55 354 ⇑P P 10 06 25.5 -0.6
baz=24,SNR=12
HEC Hector Ludlow 24.57 322 ⇓P P 10 06 27.5 +1.2
baz=25,SNR=8.3
N29A Votaw Ranch, W 24.61 356 ⇑P P 10 06 26.5 -0.2
baz=24
LGNH LØogne 24.68 81 PFAKE 10 06 40.0 +13
LGNH LR LR
comp=Z,900nm,18.4s
SCI San Clemente I 24.75 316 ⇑P P 10 06 29.0 +1.1
baz=25
TUQ Turquoise Moun 24.76 324 ⇑P P 10 06 28.9 +0.7
baz=25,SNR=30
N27A Anderson Farm, 24.78 352 ⇓P P 10 06 28.3 0.0
baz=25,SNR=18

O23A **Lake Granby, G** 24.81 346 ⇑P P 10 06 29.1 +0.4
baz=25,SNR=68
OGNE **Ogallala** 24.86 353 ⇓P P 10 06 28.6 -0.3
baz=25,SNR=38
OGNE **Ogallala** 24.86 353 *eP* P 10 06 29.0 0.0
comp=Z,127nm,1.0s
N26A **Koester Ranch,** 24.90 351 ⇑P P 10 06 29.1 -0.2
baz=25,SNR=10.0
CIS **Catalina Islan** 24.91 317 ⇓P P 10 06 30.7 +1.2
baz=25
O22A **Kremmling** 24.91 345 ⇑P P 10 06 29.5 -0.2
baz=25,SNR=75
BFSC **Mount Baldy Ra** 24.97 320 ⇑P P 10 06 31.5 +1.5
baz=25,SNR=5.6
RRX **Edison Barstow** 25.00 322 ⇓P P 10 06 31.6 +1.4
baz=25
N25A **Grover** 25.02 350 ⇓P P 10 06 30.3 -0.2
baz=25
FMP **Fort Macarthur** 25.03 318 ⇑P P 10 06 31.6 +1.1
baz=25
M31A **Lambtecht Ranc** 25.06 359 ⇑P P 10 06 30.4 -0.3
baz=25,SNR=6.3
CCUT **Cedar City** 25.06 331 PFAKE 10 06 40.0 +9.0
CCUT LR LR
comp=Z,11µm,21.4s
BGNE **Belgrade** 25.12 0 ⇓P P 10 06 31.1 -0.1
baz=25
BGNE **Belgrade** 25.12 0 PFAKE 10 06 40.0 +8.8
BGNE LR LR
comp=Z,1µm,21.5s
BLO **Bloomington** 25.12 22 *eP* P 10 06 30.6 -0.6
comp=Z,134nm,1.8s
SHPR **Sheep Range** 25.13 327 *eP* P 10 06 32.4 +0.9
GSC **Goldstone, Bar** 25.18 323 ⇓P P 10 06 33.1 +1.2
baz=25,SNR=7.8
GSC **Goldstone, Bar** 25.18 323 *eP* P 10 06 33.4 +1.6
comp=Z,20nm,1.3s
GSC LR LR
comp=Z,1µm,18.5s
N24A **Carr** 25.18 348 ⇑P P 10 06 32.4 +0.5
baz=25,SNR=18
SRU **San Rafael Swe** 25.19 337 *eP* P 10 06 32.8 +0.7
comp=Z,30nm,0.9s
SRU LR LR
comp=Z,5µm,18.2s
MWC **Mount Wilson** 25.21 319 *eP* P 10 06 37.4 +5.1
comp=Z,17nm,1.2s
M29A **Burnside Ranch** 25.23 356 ⇓P P 10 06 32.0 -0.2
baz=25
M28A **Bar X Bar Ranc** 25.24 355 ⇑P P 10 06 32.4 0.0
baz=25
OTAV **Otavalo** 25.24 127 *eP* P 10 06 35.4 +2.4
comp=Z,23nm,1.5s
OTAV LR LR
comp=Z,1µm,22.0s
PASC **Pasadena Art C** 25.26 319 PFAKE 10 06 50.0 +17
PASC LR LR
comp=Z,1µm,18.2s
M30A **Dale-Ortello V** 25.28 357 ⇑P P 10 06 32.3 -0.4
baz=25
ARUT **Antelope Range** 25.29 331 *eP* P 10 06 34.4 +1.5
comp=Z,3.3nm,0.8s
SHOC **Shoshone, Teco** 25.30 324 ⇓P P 10 06 34.1 +1.2
baz=25
MVU **Marysvale** 25.33 334 *eP* P 10 06 34.8 +1.3
comp=Z,28nm,1.0s
MVU LR LR
comp=Z,899nm,21.4s
O20A **White River Ci** 25.35 342 ⇑P P 10 06 34.3 +0.8
baz=25,SNR=29
O20A **White River Ci** 25.35 342 *eP* P 10 06 34.8 +1.3
comp=Z,43nm,1.0s
O20A LR LR
comp=Z,3µm,19.8s
DECC **Green Verdugo** 25.40 319 ⇑P P 10 06 35.4 +1.6
baz=25
N23A **Red Feather La** 25.47 347 ⇓P P 10 06 35.1 +0.4
baz=25,SNR=47
N23A **Red Feather La** 25.47 347 *eP* P 10 06 35.6 +1.0
comp=Z,46nm,1.0s
N23A LR LR
comp=Z,3µm,18.2s
M27A **Reverse DX Ran** 25.47 353 ⇓P P 10 06 34.6 +0.1
baz=25,SNR=20
N22A **Wattenberg Ran** 25.50 346 ⇓P P 10 06 35.9 +0.9
baz=25,SNR=10.0
M26A **McRoberts Ranc** 25.51 352 ⇑P P 10 06 35.7 +0.8
baz=25,SNR=9.2
EDW2 **Edwards Air Fo** 25.60 320 ⇑P P 10 06 37.1 +1.5
baz=26,SNR=6.1
TMUT **Trail Mountain** 25.61 336 *eP* P 10 06 37.2 +1.2
comp=Z,29nm,0.7s
TMUT LR LR
comp=Z,4µm,18.9s
M25A **Palm-Egli Farm** 25.62 350 ⇑P P 10 06 36.8 +1.0
baz=26,SNR=36
L30A **Spencer Herefo** 25.68 358 ⇑P P 10 06 36.1 -0.2
baz=26
PHWY **Pilot Hill** 25.75 348 *eP* P 10 06 37.9 +0.7
comp=Z,27nm,1.0s
BLG **Laguna Peak, P** 25.78 318 ⇓P P 10 06 38.4 +1.1
baz=26
M24A **Cheyenne** 25.79 349 ⇑P P 10 06 38.0 +0.6
baz=26,SNR=35
LRMC **Laurel Mtn Rad** 25.82 322 ⇓P P 10 06 38.1 +0.4
baz=26
L29A **Maesberg Ranch** 25.84 356 ⇑P P 10 06 37.9 +0.1
baz=26
L28A **Connealy Angus** 25.86 355 ⇓P P 10 06 38.0 0.0
baz=26
OSI **Osito Audit: C** 25.88 319 PFAKE 10 06 50.0 +12
OSI LR LR
comp=Z,2µm,19.0s
L31A **Butterfield Fa** 25.89 359 ⇑P P 10 06 37.5 -0.6
baz=26,SNR=10
SDDR **Presa de Saban** 25.94 80 *eP* P 10 06 37.9 -1.0
comp=Z,27nm,1.0s
SDDR LR LR
comp=Z,700nm,20.0s
M23A **Laramie** 25.97 347 ⇓P P 10 06 39.2 +0.1
baz=26,SNR=33
SCIA **State Center** 25.99 9 *eP* P 10 06 38.7 -0.4
comp=Z,118nm,0.9s
SCIA LR LR
comp=Z,2µm,19.1s
SFIN **Lafayette** 26.00 20 PFAKE 10 06 50.0 +11
SFIN LR LR
comp=Z,200nm,21.8s
N20A **Spence Gulch,** 26.00 343 ⇑P P 10 06 40.0 +0.6
baz=26,SNR=34
L27A **T5 Ranch, Ells** 26.02 353 ⇑P P 10 06 39.1 -0.3
baz=26
FURC **Furnace Creek,** 26.03 324 ⇓P P 10 06 40.1 +0.7
baz=26,SNR=6.9
TPNV **Topopah Spring** 26.05 326 ⇑P P 10 06 41.1 +1.3
baz=26,SNR=19
TPNV **Topopah Spring** 26.05 326 *eP* P 10 06 41.6 +1.8
comp=Z,32nm,1.0s
TPNV LR LR
comp=Z,3µm,18.0s
M22A **Cedar Creek Ra** 26.10 346 ⇓P P 10 06 40.5 +0.1
baz=26,SNR=24
MPMC **Manual Prospec** 26.10 323 ⇓P P 10 06 41.2 +0.8
baz=26,SNR=13
ROSC **El Rosal** 26.14 113 P P 10 06 44.4 +3.3
comp=Z,6.4nm,0.4s,baz=282,slow=19,SNR=1.6
BLA **Blacksburg** 26.26 34 *eP* P 10 06 40.4 -1.2
comp=Z,22nm,0.9s
BLA LR LR
comp=Z,498nm,20.7s
GRTK **Grand Turk** 26.28 74 PFAKE 10 06 50.0 +8.1
GRTK LR LR
comp=Z,1µm,21.0s
ARVC **Arvin** 26.28 320 ⇓P P 10 06 42.5 +0.8
baz=26
L25A **Engebretsen Ra** 26.31 351 ⇑P P 10 06 42.7 +0.6
baz=26,SNR=32
DAC **Darwin (Calif)** 26.31 323 *eP* P 10 06 43.5 +1.2
comp=Z,11nm,1.2s
DAC LR LR
comp=Z,1µm,20.2s
CNNC **Cliffs of the** 26.35 40 *eP* P 10 06 42.4 0.0
comp=Z,57nm,0.3s
CNNC LR LR
comp=Z,800nm,20.3s
L24A **Wheatland** 26.36 349 ⇓P P 10 06 42.6 0.0
baz=26
MPU **Maple Canyon** 26.39 337 *eP* P 10 06 43.7 +0.8
comp=Z,28nm,1.0s
MPU LR LR
comp=Z,1µm,18.5s
K30A **Basset** 26.40 358 ⇑P P 10 06 42.6 -0.2
baz=26,SNR=11
ISA **Isabella, Lake** 26.41 321 ⇑P P 10 06 44.1 +1.0
baz=26,SNR=10
ISA **Isabella, Lake** 26.41 321 *eP* P 10 06 46.8 +3.7
comp=Z,8.7nm,0.9s
ISA LR LR
comp=Z,600nm,18.1s
NLU **North Lily Min** 26.51 336 *eP* P 10 06 45.5 +1.4
comp=Z,19nm,1.0s
NLU LR LR
comp=Z,820nm,19.5s
RWWY **Rawlins** 26.52 345 PFAKE 10 07 00.0 +16
RWWY LR LR
comp=Z,2µm,19.5s
K29A **Lazy Trails An** 26.52 357 ⇓P P 10 06 43.8 -0.1
baz=26
VWCC **Virginia Weste** 26.53 34 *eP* P 10 06 45.8 +1.8
K28A **Ten Mile Ranch** 26.55 355 ⇓P P 10 06 44.1 -0.1
baz=26
L23A **Garrett** 26.58 348 ⇓P P 10 06 44.8 +0.1
baz=26,SNR=15
DAU **Daniels Canyon** 26.60 338 *eP* P 10 06 45.8 +0.9
K27A **Fluecklinger Fa** 26.62 354 ⇓P P 10 06 44.8 -0.1
baz=26,SNR=15
L22A **Ellis Ranch, M** 26.66 347 ⇑P P 10 06 45.8 +0.4
baz=27
GRAC **Grapevine Rang** 26.70 325 ⇑P P 10 06 46.5 +0.9
baz=27
K26A **Motz Farm, Whi** 26.73 352 ⇓P P 10 06 45.6 -0.3
baz=27,SNR=5.8
K25A **Mack Ranch, Ha** 26.74 351 ⇓P P 10 06 46.5 +0.5
baz=27,SNR=30
R11A **Troy Canyon, C** 26.76 329 ⇑P P 10 06 47.6 +1.3
baz=27,SNR=6.8
R11A **Troy Canyon, C** 26.76 329 *eP* P 10 06 47.7 +1.4
comp=Z,12nm,1.1s
R11A LR LR
comp=Z,2µm,19.2s
JLU **Jordanelle** 26.84 338 *eP* P 10 06 47.6 +0.6
comp=Z,8.4nm,1.0s
JLU LR LR
comp=Z,399nm,20.8s
VES **Vestal, Richgr** 26.90 321 ⇑P P 10 06 48.6 +1.3
baz=27
K24A **Anderson Ranch** 27.00 349 ⇑P P 10 06 48.5 +0.1
baz=27
DUG **Dugway, Tooele** 27.01 335 ⇓P P 10 06 49.4 +0.9
baz=27,SNR=23
DUG **Dugway, Tooele** 27.01 335 PFAKE 10 07 00.0 +11
DUG LR LR
comp=Z,1µm,18.2s
CTU **Canp Tracy** 27.03 337 *eP* P 10 06 50.1 +1.4
J30A **Dallas** 27.05 358 ⇑P P 10 06 48.3 -0.3
baz=27
SMMC **Simmler** 27.13 319 ⇑P P 10 06 51.5 +2.0
baz=27,SNR=7.7
J27A **Elkhorn Farm,** 27.14 354 ⇑P P 10 06 50.1 +0.6
baz=27
J29A **Okreek** 27.16 357 ⇓P P 10 06 50.0 +0.3
baz=27
K23A **Bowen Ranch, D** 27.18 348 ⇓P P 10 06 50.3 +0.3
baz=27,SNR=9.4
J28A **Allard Ranch,** 27.24 355 ⇓P P 10 06 50.7 +0.3
baz=27
K22A **Casper** 27.27 347 ⇑P P 10 06 50.6 -0.2
baz=27,SNR=9.4
K22A **Casper** 27.27 347 *eP* P 10 06 51.5 +0.7
comp=Z,21nm,1.0s
K22A LR LR
comp=Z,3µm,18.4s
TCUT **Toone Canyon** 27.27 338 *eP* P 10 06 52.4 +1.4
comp=Z,38nm,1.1s
TCUT LR LR
comp=Z,5µm,19.5s
RCTC **Rector, Farmer** 27.31 321 ⇓P P 10 06 52.1 +1.1
baz=27
J26A **Sides Ranch, S** 27.32 352 ⇑P P 10 06 51.4 +0.3
baz=27,SNR=7.5
TPH **Tonopah** 27.40 326 *eP* P 10 06 53.4 +1.3
comp=Z,5.1nm,0.9s
TPH LR LR
comp=Z,800nm,18.9s
ACSO **Alum Creek Sta** 27.42 26 *eP* P 10 06 51.2 -0.8
comp=Z,34nm,1.0s
ACSO LR LR
comp=Z,500nm,21.4s
K21A **Alcova** 27.42 346 ⇑P P 10 06 52.0 -0.2
baz=27
ECSD **EROS Data Cent** 27.48 3 ⇓P P 10 06 51.7 -0.8
baz=27
ECSD **EROS Data Cent** 27.48 3 PFAKE 10 07 00.0 +7.5
ECSD LR LR
comp=Z,2µm,18.8s
J25A **Sunshine Ranch** 27.49 351 ⇓P P 10 06 52.4 -0.4
baz=27
JFWS **Jewell Farm** 27.51 13 *eP* P 10 06 51.9 -0.8
comp=Z,20nm,0.8s
JFWS LR LR
comp=Z,1µm,18.0s
J24A **Dixon Ranch, L** 27.57 350 ⇓P P 10 06 53.7 +0.3
baz=28,SNR=8.2
I30A **Oacoma** 27.64 358 ⇓P P 10 06 53.5 -0.4
baz=28
BGU **Big Grassy Mou** 27.72 336 *eP* P 10 06 56.1 +1.2
I29A **Vivian Onida** 27.78 357 ⇓P P 10 06 55.0 -0.2
baz=28
I28A **Midland** 27.81 356 ⇓P P 10 06 55.4 0.0
baz=28
I27A **Quinn** 27.95 354 ⇓P P 10 06 56.4 -0.4
baz=28
J22A **Midwest** 27.99 347 ⇓P P 10 06 57.8 +0.6
baz=28,SNR=12
SDV **Santo Domingo** 28.00 102 *eP* P 10 06 58.7 +1.1
comp=Z,10.0nm,0.9s
SDV LR LR
comp=Z,900nm,20.1s
I26A **New Underwood** 28.00 353 ⇑P P 10 06 56.7 -0.5
baz=28
JSRW **J. Sargeant Re** 28.01 36 *eP* P 10 06 57.7 +0.4
I24A **Kuemmerle Ranc** 28.08 350 ⇓P P 10 06 58.2 +0.3
baz=28,SNR=5.4
I25A **Rochford** 28.10 352 ⇑P P 10 06 57.7 -0.6
baz=28
J21A **Lysite** 28.14 346 ⇑P P 10 06 59.3 +0.7
baz=28,SNR=10
BRSD **Miller** 28.15 359 PFAKE 10 07 10.0 +11
BRSD LR LR
comp=Z,1µm,21.9s
PDAR **Pinedale Array** 28.16 342 P P 10 06 58.8 0.0
comp=Z,6.5nm,0.7s,baz=138,slow=11,SNR=38
PDAR LR LR 10 19 33.6
comp=Z,1µm,19.7s,baz=172,slow=39
NVAR **Mina Array Bea** 28.24 326 P P 10 07 01.0 +1.4
comp=Z,8.9nm,1.0s,baz=148,slow=9.2,SNR=44
RSSD **Black Hills** 28.24 351 *eP* P 10 07 00.3 +0.8
comp=Z,12nm,1.2s
RSSD LR LR
comp=Z,1µm,20.0s
J20A **Shoshoni** 28.30 345 ⇓P P 10 07 00.5 +0.5
baz=28,SNR=9.9
HVU **Hansel Valley** 28.35 337 *eP* P 10 07 01.4 +0.9
I22A **9 Mile Ranch,** 28.45 348 ⇓P P 10 07 01.1 -0.1
baz=28
H28A **Mission Ridge** 28.47 356 ⇓P P 10 07 01.1 -0.2
baz=28
J19A **Crowheart** 28.47 343 ⇑P P 10 07 02.0 +0.4
baz=28,SNR=13
ELK **Elko** 28.50 332 P P 10 07 03.1 +1.2
comp=Z,4.2nm,1.0s,baz=181,slow=4.5,SNR=15
ELK **Elko** 28.50 332 *eP* P 10 07 03.4 +1.5
comp=Z,9.8nm,1.1s
ELK LR LR
comp=Z,800nm,20.3s
H27A **Howes** 28.51 354 ⇑P P 10 07 01.5 -0.2
baz=28,SNR=9.6
I21A **Big Trails, Te** 28.55 346 ⇑P P 10 07 02.2 0.0
baz=28,SNR=17
H26A **Fairpoint** 28.57 353 ⇓P P 10 07 01.3 -1.0
baz=28
CBN **Corbin Frederi** 28.65 36 PFAKE 10 07 10.0 +7.0
CBN LR LR
comp=Z,700nm,20.7s
H25A **Fruitdale** 28.67 352 ⇑P P 10 07 03.5 +0.3
baz=29,SNR=18
G30A **Faulkton** 28.84 359 ⇓P P 10 07 04.2 -0.4
baz=29
G28A **Parade** 28.86 356 ⇓P P 10 07 04.5 -0.4
baz=29,SNR=6.1
I20A **Worland** 28.87 345 ⇓P P 10 07 05.5 +0.4
baz=29
AAM **Ann Arbor** 28.91 23 PFAKE 10 07 20.0 +15
AAM LR LR
comp=Z,600nm,22.0s
WAKR **Walker** 28.92 324 *eP* P 10 07 07.7 +2.1
G29A **Hoven** 28.93 358 ⇑P P 10 07 04.6 -0.8
baz=29
H24A **Dirks Ranch, A** 28.93 351 ⇓P P 10 07 05.5 -0.1
baz=29,SNR=13
SAO **San Andreas Ge** 28.96 319 PFAKE 10 07 20.0 +14
SAO LR LR
comp=Z,900nm,18.2s
REDW **Red Top Meadow** 29.09 341 *eP* P 10 07 08.1 +1.0
comp=Z,18nm,1.0s
REDW LR LR
comp=Z,2µm,20.9s
H22A **Clearmont** 29.10 348 ⇓P P 10 07 07.5 +0.5
baz=29
CMB **Columbia Colle** 29.14 323 *eP* P 10 07 08.2 +0.8
comp=Z,6.3nm,1.3s
CMB LR LR
comp=Z,600nm,19.4s
SNOW **Snow King Moun** 29.15 341 PFAKE 10 07 20.0 +12
SNOW LR LR
comp=Z,4µm,21.8s
BMN **Battle Mountai** 29.17 330 PFAKE 10 07 20.0 +12
BMN LR LR
comp=Z,1µm,21.5s
I19A **Meeteetse** 29.18 344 ⇑P P 10 07 07.8 0.0
baz=29
G25A **Newell** 29.21 353 ⇑P P 10 07 07.9 -0.1
baz=29
G26A **Maurine** 29.22 354 ⇑P P 10 07 08.1 0.0
baz=29,SNR=7.7
TPAW **Teton Pass** 29.24 341 *eP* P 10 07 09.4 +0.9
comp=Z,63nm,1.8s
TPAW LR LR
comp=Z,3µm,22.0s
G27A **Dupree** 29.24 355 ⇑P P 10 07 07.9 -0.3
baz=29
LOHW **Long Hollow** 29.24 342 *eP* P 10 07 09.1 +0.7
comp=Z,12nm,0.8s
LOHW LR LR
comp=Z,4µm,18.9s
H21A **Big Horn, Sher** 29.27 347 ⇑P P 10 07 08.5 -0.1
baz=29,SNR=7.4
SPMN **Marine on St.** 29.31 8 ⇓P P 10 07 07.3 -1.4
baz=29,SNR=8.2
SPMN **Marine on St.** 29.31 8 *eP* P 10 07 07.8 -0.9
comp=Z,18nm,0.8s
SPMN LR LR
comp=Z,500nm,19.2s
H20A **Greybull** 29.35 346 ⇑P P 10 07 09.1 -0.2
baz=29
FXWY **Fox Creek** 29.39 341 *eP* P 10 07 10.7 +0.9
comp=Z,9.0nm,0.9s
FXWY LR LR
comp=Z,2µm,20.1s
G24A **Alzada** 29.48 351 ⇑P P 10 07 10.1 -0.3
baz=29
G23A **Biddle** 29.51 350 ⇑P P 10 07 10.6 0.0
baz=29,SNR=5.2
I17A **Pilgrim Ck.** 29.51 342 ⇑P P 10 07 10.9 0.0
baz=30,SNR=14
IMW **Indian Meadow** 29.60 341 *eP* P 10 07 12.5 +0.8
comp=Z,15nm,1.1s
IMW LR LR
comp=Z,4µm,19.4s
G22A **Birney** 29.69 349 ⇓P P 10 07 12.0 -0.2
baz=30,SNR=7.8
FLWY **Flagg Ranch** 29.70 342 *eP* P 10 07 16.3 +3.8
comp=Z,10nm,1.0s
FLWY LR LR
comp=Z,3µm,18.8s
F27A **Lemmon** 29.74 355 ⇓P P 10 07 12.1 -0.5
baz=30,SNR=16
H19A **Powell** 29.76 345 ⇑P P 10 07 12.3 -0.7
baz=30,SNR=13
F26A **Lodgepole** 29.78 354 ⇑P P 10 07 12.9 -0.1
baz=30,SNR=16
ALLY **Alegheny Colle** 29.82 28 PFAKE 10 07 20.0 +6.7
ALLY LR LR
comp=Z,400nm,19.6s
AGP **Aguadilla** 29.86 81 PFAKE 10 07 30.0 +16
AGP LR LR
comp=Z,700nm,18.3s
MPR **Mayaguez** 29.87 82 PFAKE 10 07 30.0 +16
MPR LR LR
comp=Z,500nm,19.9s
G21A **Lodge Grass** 29.88 347 ⇓P P 10 07 13.9 0.0
baz=30
F25A **Bowman** 29.94 353 ⇓P P 10 07 14.5 +0.1
baz=30
H17A **Grant Village** 29.95 342 PFAKE 10 07 30.0 +15
H17A LR LR
comp=Z,500nm,21.5s
H18A **Shoshone NF, C** 29.95 344 ⇓P P 10 07 14.3 -0.4
baz=30,SNR=12
F24A **Ekalaka** 29.99 351 ⇓P P 10 07 14.6 -0.3
baz=30,SNR=6.6
F23A **Volborg** 30.02 350 ⇑P P 10 07 14.9 -0.2
baz=30,SNR=13
YFT **Old Faithful** 30.07 342 PFAKE 10 07 30.0 +14
YFT LR LR
comp=Z,6µm,18.9s
G20A **Bridger** 30.09 346 ⇓P P 10 07 14.9 -0.9
baz=30
SSPA **Standing Stone** 30.12 32 PFAKE 10 07 30.0 +14
SSPA LR LR
comp=Z,400nm,21.0s
E30A **Jud** 30.21 359 ⇓P P 10 07 16.0 -0.8
baz=30
F22A **Rosebud** 30.22 349 ⇑P P 10 07 16.6 -0.3
baz=30
AOPR **Arecibo Observ** 30.23 81 PFAKE 10 07 30.0 +13
AOPR LR LR
comp=Z,1µm,21.0s
E27A **Carson** 30.25 356 ⇓P P 10 07 16.8 -0.3
baz=30,SNR=7.4
ERPA **Erie** 30.26 28 PFAKE 10 07 30.0 +13
ERPA LR LR
comp=Z,300nm,20.1s
YNR **Norris Junctio** 30.27 342 PFAKE 10 07 30.0 +12
YNR LR LR
comp=Z,1µm,19.7s
E29A **Napoleon** 30.29 358 ⇑P P 10 07 16.8 -0.6
baz=30,SNR=6.4
YMR **Madison River** 30.31 342 *eP* P 10 07 19.6 +1.7
comp=Z,13nm,1.1s
YMR LR LR
comp=Z,800nm,18.7s
E28A **Huff** 30.34 357 ⇓P P 10 07 17.4 -0.5
baz=30
E26A **Carlson Angus** 30.37 354 ⇓P P 10 07 17.8 -0.4
baz=30,SNR=10.0
E25A **Miller Ranch,** 30.50 353 ⇓P P 10 07 18.7 -0.7
baz=30,SNR=8.5
HLID **Hailey** 30.50 337 ⇑P P 10 07 19.7 +0.1
baz=30,SNR=15
HLID **Hailey** 30.50 337 *eP* P 10 07 20.2 +0.7
comp=Z,6.0nm,0.9s
HLID LR LR
comp=Z,1µm,20.3s
QLMT **Earthquake Lak** 30.59 342 *eP* P 10 07 20.3 -0.1
comp=Z,0.4nm,0.6s
F20A **Billings** 30.63 346 ⇑P P 10 07 20.5 -0.1
baz=31,SNR=5.7
E24A **Baker** 30.67 352 ⇓P P 10 07 20.7 -0.1
baz=31
MCCM **Marconi Confer** 30.71 320 PFAKE 10 07 30.0 +8.8
MCCM LR LR
comp=Z,1µm,18.3s
E23A **Ismay** 30.75 351 ⇑P P 10 07 21.2 -0.3
baz=31
D29A **Pettibone, Tap** 30.78 358 ⇑P P 10 07 21.4 -0.4
baz=31
E22A **Miles City** 30.80 350 ⇑P P 10 07 21.9 -0.1
baz=31
D30A **Buchanan** 30.82 359 ⇑P P 10 07 21.8 -0.3
baz=31
F19A **Roth Farm, Mol** 30.86 346 ⇑P P 10 07 22.2 -0.4
baz=31
D26A **Manning** 30.92 355 ⇓P P 10 07 22.5 -0.6

baz=31,SNR=8.8
D27A Center 30.93 356 ⇓P P 10 07 22.7 -0.3
baz=31,SNR=5.2
MFID Camas Ranch 30.94 335 eP P 10 07 24.6 +1.3
comp=Z,16nm,1.3s
MFID LR LR
comp=Z,3μm,18.9s
D28A Regan 30.95 357 ⇓P P 10 07 23.1 -0.2
baz=31,SNR=15
MCMT McKenzie Canyo 31.04 340 eP P 10 07 25.8 +1.4
comp=Z,5.1nm,1.1s
CBYP Canovanas 31.09 81 PFAKE 10 07 40.0 +15
CBYP LR LR
comp=Z,600nm,21.2s
HUMP Col San Antoni 31.09 82 PFAKE 10 07 40.0 +15
HUMP LR LR
comp=Z,600nm,20.7s
E21A Keefer Ranch, 31.11 348 ⇑P P 10 07 24.4 -0.3
baz=31,SNR=5.9
D25A Fairfield 31.13 353 ⇓P P 10 07 24.9 -0.1
baz=31,SNR=6.1
D24A Glendive 31.22 352 ⇑P P 10 07 25.8 +0.1
baz=31,SNR=7.9
E20A Meyer Farm, Mu 31.29 347 ⇑P P 10 07 26.3 0.0
baz=31,SNR=7.2
HOPS Hopland Field 31.36 321 PFAKE 10 07 40.0 +13
HOPS LR LR
comp=Z,1μm,19.3s
WVOR Wild Horse Val 31.39 330 eP P 10 07 27.7 +0.3
comp=Z,12nm,1.0s
WVOR LR LR
comp=Z,6μm,18.5s
E19A Rath Farm, Rou 31.40 346 ⇓P P 10 07 27.4 +0.1
baz=31,SNR=13
D23A Lindsay 31.40 351 ⇑P P 10 07 27.3 0.0
baz=31
DLMT Dillon 31.44 341 eP P 10 07 29.4 +1.6
comp=Z,29nm,1.0s
DLMT LR LR
comp=Z,3μm,18.5s
C28A Hausauer Farms 31.47 357 ⇓P P 10 07 27.5 -0.4
baz=31,SNR=7.1
C27A Sayler Ranch, 31.53 356 ⇓P P 10 07 28.0 -0.3
baz=31,SNR=11
D22A Cohagen 31.53 350 ⇑P P 10 07 28.4 -0.1
baz=32,SNR=25
MDND Maddock 31.57 358 ⇑P P 10 07 28.1 -0.6
baz=32,SNR=10
MDND Maddock 31.57 358 eP P 10 07 28.8 +0.1
comp=Z,451nm,1.0s
MDND LR LR
comp=Z,1μm,21.8s
D21A La Casta Ranch 31.60 349 ⇑P P 10 07 29.0 -0.1
baz=32,SNR=11
C24A Savage 31.64 352 ⇓P P 10 07 29.5 +0.1
baz=32,SNR=5.5
C25A Freed Ranch, W 31.68 354 ⇓P P 10 07 29.5 -0.2
baz=32,SNR=5.6
C26A Wahner Farm, P 31.68 355 ⇑P P 10 07 29.5 -0.2
baz=32,SNR=17
LRM Limekiln Ridge 31.80 341 eP P 10 07 32.3 +1.2
MOD Modoc Plateau 31.81 328 eP P 10 07 32.3 +1.2
comp=Z,7.9nm,0.9s
MOD LR LR
comp=Z,900nm,19.9s
D20A Manuel Ranch, 31.85 347 ⇑P P 10 07 31.0 -0.3
baz=32,SNR=8.2
KSPA Keystone Colle 31.89 33 PFAKE 10 07 40.0 +8.4
KSPA LR LR
comp=Z,600nm,21.9s
STVI Saint Thomas 31.94 81 PFAKE 10 07 40.0 +7.7
STVI LR LR
comp=Z,500nm,18.8s
C23A Lambert 32.01 351 ⇑P P 10 07 32.1 -0.5
baz=32,SNR=18
C22A Vida 32.06 350 ⇓P P 10 07 33.0 -0.1
baz=32,SNR=20
AGMN Agassiz Nation 32.07 3 ⇓P P 10 07 32.1 -0.9
baz=32,SNR=20
AGMN Agassiz Nation 32.07 3 eP P 10 07 32.2 -0.9
comp=Z,29nm,0.9s
AGMN LR LR
comp=Z,2μm,21.3s
D19A Cripps Ranch, 32.08 346 ⇑P P 10 07 33.1 -0.2
baz=32,SNR=16
WDC Whiskeytown Da 32.09 324 PFAKE 10 07 50.0 +17
WDC LR LR
comp=Z,500nm,20.1s
CDVI St. Croix 32.14 82 PFAKE 10 07 50.0 +16
CDVI LR LR
comp=Z,400nm,21.6s
EYMN Ely 32.15 9 PFAKE 10 07 50.0 +16
EYMN LR LR
comp=Z,700nm,20.9s
B30A Myrvik Farm, E 32.16 0 ⇑P P 10 07 33.3 -0.5
baz=32
B29A Wagenman Farm, 32.18 359 ⇓P P 10 07 33.8 -0.3
baz=32,SNR=10
ODNJ Ogdensburg 32.18 35 PFAKE 10 07 50.0 +16
ODNJ LR LR
comp=Z,700nm,20.8s
B28A Dugan Ranch, T 32.20 357 ⇑P P 10 07 33.7 -0.5
baz=32,SNR=18
B25A Knox Farm, Ray 32.22 354 ⇓P P 10 07 34.5 +0.1
baz=32,SNR=8.3
B26A Jensen Ranch, 32.24 355 ⇑P P 10 07 34.8 +0.2
baz=32
C20A Veseth Ranch, 32.41 348 ⇓P P 10 07 36.5 +0.3
baz=32
HRY Holter Researc 32.42 343 eP P 10 07 36.9 +0.6
PAL Palisades 32.52 36 PFAKE 10 07 50.0 +13
PAL LR LR
comp=Z,500nm,20.5s
KMRM Mail Ridge 32.52 322 PFAKE 10 07 50.0 +13
KMRM LR LR
comp=Z,2μm,19.0s
M04C Macdoel 32.53 326 ⇑P P 10 07 37.7 +0.4
baz=32
DGMT Dagmar 32.53 353 ⇓P P 10 07 37.0 -0.1
baz=32
DGMT Dagmar 32.53 353 eP P 10 07 37.8 +0.6
comp=Z,21nm,1.0s
DGMT LR LR
comp=Z,700nm,18.0s
B22A Reddig Ranch S 32.62 351 ⇑P P 10 07 37.6 -0.4
baz=33
B23A Brockton 32.63 352 ⇓P P 10 07 38.4 +0.4
baz=33,SNR=12
A29A Manning Farm, 32.64 359 ⇑P P 10 07 37.8 -0.3
baz=32,SNR=34
A30A Hoffart Farm, 32.65 0 ⇓P P 10 07 37.7 -0.4
baz=33,SNR=14
A28A Rude Farm, Bot 32.66 358 ⇑P P 10 07 38.0 -0.3
baz=33,SNR=14
C19A Slack Wire Ran 32.66 347 ⇑P P 10 07 38.4 +0.1
baz=33,SNR=19
K05A Summer Lake 32.71 328 eP P 10 07 40.2 +1.2
comp=Z,76nm,2.2s
K05A LR LR
comp=Z,1μm,19.8s
A26A Wade Farm, Ken 32.74 356 ⇑P P 10 07 38.4 -0.6
baz=33,SNR=7.7
A25A Svangstu Ranch 32.88 354 ⇑P P 10 07 40.1 0.0
baz=33,SNR=5.8
A24A Westby 32.96 353 ⇓P P 10 07 41.0 +0.1
baz=33,SNR=10
KHMM Horse Mountain 32.96 323 PFAKE 10 07 50.0 +8.8
KHMM LR LR
comp=Z,1μm,18.1s
YBH Yreka Blue Hor 32.96 325 P P 10 07 40.5 -0.6
comp=Z,1.7nm,0.9s,baz=116,slow=1.8,SNR=7.1
YBH Yreka Blue Hor 32.96 325 P P 10 07 40.5 -0.6
YBH LR LR
comp=Z,600nm,18.5s
CHMT Chamberlain Mo 33.03 341 eP P 10 07 42.0 +0.2
I07A Izee 33.07 332 eP P 10 07 42.6 +0.6
comp=Z,7.2nm,0.8s
I07A LR LR
comp=Z,4μm,21.3s
K04D Chiloquin, OR 33.08 328 ⇓P P 10 07 42.6 +0.5
baz=33
EGMT Eagleton 33.09 346 ⇑P P 10 07 41.4 -0.8
baz=33
EGMT Eagleton 33.09 346 eP P 10 07 41.6 -0.6
comp=Z,151nm,2.4s
EGMT LR LR
comp=Z,900nm,18.0s
B20A Solberg Farm, 33.11 348 ⇑P P 10 07 42.1 -0.2
baz=33
MSO Missoula 33.17 340 ⇑P P 10 07 42.7 -0.2
baz=33,SNR=8.3
MSO Missoula 33.17 340 eP P 10 07 43.6 +0.8
comp=Z,7.4nm,0.9s
MSO LR LR
comp=Z,4μm,18.5s
YLE Yale 33.27 36 PFAKE 10 08 00.0 +16
YLE LR LR
comp=Z,800nm,19.0s
A22A Carney Farms, 33.28 351 ⇓P P 10 07 43.6 -0.1
baz=33,SNR=17
B19A Brinkman Farms 33.32 347 ⇓P P 10 07 43.8 -0.3
baz=33,SNR=31
SLMT Seeley Lake 33.39 341 eP P 10 07 45.0 +0.2
comp=Z,5.7nm,1.0s
A21A Bergtoll Ranch 33.44 350 ⇓P P 10 07 45.0 -0.1
baz=33,SNR=15
A20A Cobblestone Ra 33.52 349 ⇓P P 10 07 45.6 -0.2
baz=34,SNR=7.4
F10A Beach Ranch, E 33.61 336 eP P 10 07 47.0 +0.3
comp=Z,26nm,1.3s
HUMO Hull Mountain 33.70 326 PFAKE 10 08 00.0 +13
HUMO LR LR
comp=Z,800nm,21.4s
J04D Umpqua Nationa 33.70 328 ⇑P P 10 07 47.9 +0.3
baz=34
A19A Klindworth Far 33.72 348 ⇓P P 10 07 47.8 +0.2
baz=34,SNR=17
SMRT St. Maarten 33.74 82 PFAKE 10 08 00.0 +12
SMRT LR LR
comp=Z,400nm,20.3s
G08A Pilot Rock 33.77 333 eP P 10 07 48.6 +0.5
comp=Z,7.8nm,0.8s
G08A LR LR
comp=Z,2μm,20.4s
SWMT Swartz Lake 33.79 341 eP P 10 07 48.7 +0.5
SEUS St. Eustatius 33.85 83 PFAKE 10 08 00.0 +11
SEUS LR LR
comp=Z,600nm,20.0s
ULM Lac du Bonnet 34.02 3 P P 10 07 48.7 -1.4
comp=Z,9.9nm,1.0s,baz=187,slow=9.5,SNR=9.2
ULM LR LR 10 22 36.9
comp=Z,1μm,20.2s,baz=220,slow=38
ULM Lac du Bonnet 34.02 3 eP P 10 07 49.0 -1.1
comp=Z,8.2nm,0.9s
JTMT Jette 34.09 341 eP P 10 07 52.0 +1.1
YBMT Yellow Bay 34.11 341 eP P 10 07 52.3 +1.3
KBO Bosley Butte 34.12 325 PFAKE 10 08 00.0 +8.8
KBO LR LR
comp=Z,1μm,18.9s
I05D Terrebonne, OR 34.12 330 ⇓P P 10 07 51.5 +0.4
baz=34
QUA2 Belchertown 34.24 35 PFAKE 10 08 00.0 +7.9
QUA2 LR LR
comp=Z,600nm,20.4s
ACCN Adirondack Com 34.28 33 PFAKE 10 08 00.0 +7.5
ACCN LR LR
comp=Z,500nm,21.3s
E09A Wood Farm, Sta 34.42 336 eP P 10 07 53.0 -0.6
comp=Z,8.8nm,0.8s
E09A LR LR
comp=Z,3μm,21.1s
BBSR BB Station 34.46 56 PFAKE 10 08 10.0 +16
BBSR LR LR
comp=Z,700nm,20.2s
G06A Carlson Farm, 34.47 332 eP P 10 07 54.5 +0.4
comp=Z,86nm,2.6s
G06A LR LR
comp=Z,2μm,18.4s
PTN Potsdam (NY) 34.48 30 PFAKE 10 08 10.0 +16
PTN LR LR
comp=Z,800nm,20.8s
KEBM Edson Butte 34.62 325 PFAKE 10 08 10.0 +15
KEBM LR LR
comp=Z,800nm,18.6s
I03D Drain, OR 34.66 327 ⇓P P 10 07 56.4 +0.7
baz=35
LONY Lake Ozonia 34.71 30 PFAKE 10 08 10.0 +14
LONY LR LR
comp=Z,500nm,22.0s
H04A Detroit Lake 34.78 330 eP P 10 07 57.3 +0.5
comp=Z,22nm,1.2s
H04A LR LR
comp=Z,5μm,18.8s
HRV Adam Dziewonsk 34.83 36 PFAKE 10 08 10.0 +13
HRV LR LR
comp=Z,700nm,20.1s
HAWA Hanford 34.89 334 eP P 10 07 57.7 0.0
comp=Z,3.6nm,0.8s
HAWA LR LR
comp=Z,2μm,20.1s
ANWB Willy Bob 34.98 82 PFAKE 10 08 10.0 +11
ANWB LR LR
comp=Z,600nm,19.1s
WALA Waterton Lakes 35.14 342 eP P 10 08 00.8 +0.8
NNA Nana 35.18 141 PFAKE 10 08 10.0 +9.5
NNA LR LR
comp=Z,1μm,20.9s
COR Corvallis 35.27 329 PFAKE 10 08 10.0 +9.1
COR LR LR
comp=Z,1μm,21.9s
FRNY Flat Rock 35.35 31 PFAKE 10 08 10.0 +8.3
FRNY LR LR
comp=Z,2μm,20.9s
FFD Franklin Falls 35.41 34 PFAKE 10 08 10.0 +7.8
FFD LR LR
comp=Z,300nm,19.6s
NEW Newport 35.49 338 P P 10 08 03.4 +0.5
comp=Z,3.6nm,0.8s,baz=158,slow=7.9,SNR=9.4
NEW Newport 35.49 338 ⇓P P 10 08 02.7 -0.2
baz=36,SNR=5.5
NEW Newport 35.49 338 eP P 10 08 03.3 +0.3
comp=Z,3.6nm,0.8s
NEW LR LR
comp=Z,600nm,20.7s
C09A Chrisman Ranch 35.53 337 eP P 10 08 03.9 +0.7
comp=Z,117nm,2.6s
C09A LR LR
comp=Z,2μm,18.3s
G03D McMinnville, O 35.69 329 ⇓P P 10 08 04.8 +0.2
baz=36
GRGR Grenville 35.78 92 PFAKE 10 08 20.0 +14
GRGR LR LR
comp=Z,500nm,20.4s
LTY Liberty 36.05 334 eP P 10 08 08.8 +1.0
comp=Z,100nm,2.3s
LTY LR LR
comp=Z,800nm,18.9s
LON Longmire 36.15 332 eP P 10 08 09.7 +1.0
B08A Colville Reser 36.39 336 eP P 10 08 11.2 +0.6
comp=Z,12nm,1.3s
D05A Enumclaw 36.57 333 eP P 10 08 13.8 +1.8
comp=Z,32nm,1.1s
WVL Waterville 37.22 35 PFAKE 10 08 30.0 +12
WVL LR LR
comp=Z,800nm,20.5s
B06A Marblemount 37.38 335 eP P 10 08 19.2 +0.3
comp=Z,7.5nm,0.8s
B06A LR LR
comp=Z,2μm,20.4s
NLWA Neilton Lookou 37.57 331 eP P 10 08 22.1 +1.5
comp=Z,13nm,1.1s
NLWA LR LR
comp=Z,800nm,19.8s
PKME Peaks-Kenny Pk 37.87 34 PFAKE 10 08 30.0 +6.9
PKME LR LR
comp=Z,500nm,19.4s
A05A Maple Falls 38.01 335 eP P 10 08 24.6 +0.4
comp=Z,9.4nm,0.8s
FFC Flin Flon 38.54 357 eP P 10 08 28.2 -0.5
comp=Z,28nm,1.1s
EDM Edmonton 38.77 346 eP P 10 08 30.4 -0.2
PTGA Pitinga 41.45 110 P P 10 08 54.5 +1.1
comp=Z,3.0nm,0.9s,baz=304,slow=15,SNR=3.4
FCC Fort Churchill 42.61 3 eP P 10 09 02.2 0.0
LPAZ La Paz 43.95 136 P P 10 09 15.4 +1.1
comp=Z,2.2nm,1.0s,baz=332,slow=4.2,SNR=5.7
LPAZ LR LR 10 25 36.9
comp=Z,960nm,21.4s,baz=312,slow=34
LPAZ La Paz 43.95 136 eP P 10 09 17.9 +3.6
comp=Z,4.1nm,0.9s
SCHQ Schefferville 45.57 25 P P 10 09 23.8 -2.3
comp=Z,12nm,0.8s,baz=231,slow=6.5,SNR=12
SCHQ LR LR 10 31 08.2
comp=Z,646nm,18.9s,baz=236,slow=40
SCHQ Schefferville 45.57 25 eP P 10 09 25.6 -0.5
comp=Z,12nm,0.8s
YKA Yellowknife Ar 47.63 350 P P 10 09 41.1 -0.9
comp=Z,4.8nm,0.8s,baz=157,slow=7.3,SNR=53
DLBC Dease Lake 48.24 338 P P 10 09 48.2 +1.3
comp=Z,6.5nm,1.0s,baz=176,slow=5.6,SNR=12
DLBC Dease Lake 48.24 338 eP P 10 09 47.6 +0.7
DLBC P P 10 09 48.2 +1.3
TAOE Nuku Hiva Isla 48.28 242 eT T 11 01 13.7
comp=Z,418nm,0.3s
HYT Haines Junctio 52.64 337 eP P 10 10 21.8 +1.6
RKT Rikitea 53.01 223 eS S 10 18 01.5 +10
comp=Z,269nm,27.0s
RKT LR LR 10 25 57.4
comp=Z,875nm,25.0s,baz=40
RKT Rikitea 53.01 223 eT T 11 07 11.7
comp=Z,26nm,0.3s
DAWY Dawson 55.41 339 eP P 10 10 40.9 +0.6
BMRM Bremner River 55.51 335 eP P 10 10 42.9 +1.8
comp=Z,27nm,1.5s
EGAK Eagle 56.45 340 eP P 10 10 48.2 +0.5
comp=Z,62nm,2.3s
DOT Dot Lake 56.80 338 eP P 10 10 51.5 +1.3
comp=Z,11nm,0.9s
PAX Paxson 56.95 336 eP P 10 10 52.3 +1.0
comp=Z,9.2nm,1.0s
SEW Seward 57.16 332 eP P 10 10 53.6 +0.8
comp=Z,20nm,1.1s
PMR Palmer 57.72 334 eP P 10 10 57.5 +0.9
comp=Z,44nm,1.9s
PMOR Pomariorio Ree 57.92 240 eT T 11 13 16.4
comp=Z,5.1nm,0.2s
ILAR Eielson Array 58.45 338 P P 10 11 02.1 +0.3
comp=Z,4.2nm,0.8s,baz=135,slow=4.8,SNR=53
ILAR LR LR 10 38 21.3
comp=Z,2μm,18.2s,baz=136,slow=38
RES Resolute Bay 58.52 1 P P 10 11 01.1 -0.9
comp=Z,1.8nm,0.6s,baz=198,slow=9.9,SNR=19
MCK McKinley 58.68 336 eP P 10 11 04.3 +0.9
comp=Z,9.6nm,0.9s
SPU Mount Spurr 58.79 333 eP P 10 11 05.1 +0.8
RSO Redoubt South 58.80 332 eP P 10 11 05.7 +1.1
COLA College 58.85 338 eP P 10 11 04.8 +0.3
comp=Z,8.8nm,1.0s
BDFB Brasilia 58.91 120 P P 10 11 05.6 -0.2
comp=Z,3.6nm,0.5s,baz=269,slow=11,SNR=5.5
BDFB LR LR 10 35 51.0
comp=Z,367nm,18.3s,baz=296,slow=35
TRF Thorofare Moun 59.07 336 eP P 10 11 07.1 +0.8
comp=Z,20nm,0.8s
KTH Kantishna Hill 59.37 336 eP P 10 11 08.5 +0.3
comp=Z,12nm,0.9s
MEH Mehetia 59.53 237 eT T 11 15 18.8
comp=Z,16nm,0.4s
CAST Castle Rocks 59.77 335 eP P 10 11 11.3 +0.3
comp=Z,13nm,1.0s
SVW2 Sparrevohn 60.33 332 eP P 10 11 14.9 +0.1
comp=Z,32nm,1.7s
TIAR Tiarei 60.41 238 eT T 11 16 23.9
comp=Z,1.0nm,0.2s
PPT Papeete 60.60 239 LR LR 10 31 11.5
comp=Z,223nm,20.0s,baz=56,slow=30
PPT2 Papeete2 60.62 239 eS S 10 19 41.4 +8.6
comp=Z,415nm,27.2s
PPT2 eLQ LQ 10 26 37.0
comp=Z,485nm,28.0s
PPT2 eLR LR 10 29 01.6
comp=Z,480nm,25.2s,baz=44
COLD Coldfoot 60.89 339 eP P 10 11 19.8 +1.2
comp=Z,13nm,1.4s
PLCA Paso Flores 62.26 156 P P 10 11 29.4 +1.3
comp=Z,3.3nm,1.0s,baz=296,slow=7.6,SNR=5.5
PLCA LR LR 10 33 42.1
comp=Z,813nm,18.0s,baz=317,slow=31
TBI Tubuai 63.57 233 eLQ LQ 10 27 48.8
comp=Z,493nm,30.5s
TBI eLR LR 10 30 36.0
comp=Z,531nm,26.2s,baz=59
TBI Tubuai 63.57 233 eT T 11 20 23.3
comp=Z,31nm,0.2s
SUMG Summit 65.82 17 eP P 10 11 52.0 +0.4
comp=Z,173nm,2.6s
SUMG Summit 65.82 17 iP P 10 11 51.9 +0.4
comp=Z,8.8nm,0.8s
TNA Tin City 66.94 335 eP P 10 11 59.3 +1.0
comp=Z,8.2nm,0.9s
DAG Danmarks Havn 71.97 14⇑iP P 10 12 28.4 -0.9
comp=Z,6.5nm,0.8s
ESDC Sonseca Array 83.13 51 P P 10 13 32.9 +0.5
comp=Z,0.2nm,0.3s,baz=298,slow=5.5,SNR=3.6
ESDC LR LR 10 50 35.4
comp=Z,123nm,18.3s,baz=305,slow=36
SEY Seymchan 84.17 334 P P 10 13 37.4 +0.2
comp=Z,1.6nm,0.6s,baz=116,slow=4.3,SNR=11
NB2 NORSAR Subarra 85.09 27 P P 10 13 42.9 +1.0
comp=Z,0.9nm,0.6s,baz=298,slow=4.8
NOA NORSAR Array B 85.09 27 P P 10 13 42.7 +0.8
comp=Z,1.1nm,0.7s,baz=302,slow=4.9,SNR=4.9
NOA LR LR 10 53 29.6
comp=Z,65nm,20.0s,baz=350,slow=37
PETK Petropavlovsk- 85.31 324 P P 10 13 43.8 +0.7
comp=Z,3.5nm,0.7s,baz=64,slow=5.0,SNR=2.8
ARCES ARCESS Array B 85.91 17 P P 10 13 45.5 -0.3
comp=Z,4.4nm,0.8s,baz=338,slow=5.2,SNR=6.4
ARCES LR LR 10 53 49.9
comp=Z,139nm,20.9s,baz=318,slow=37
TIXI Tiksi 86.77 347 P P 10 13 49.6 -0.3
comp=Z,15nm,1.5s
CLL Collm 90.21 36 LmV 10 14 00.0
comp=Z,100nm,21.2s
CLL Collm 90.21 36 eS S 10 25 02.0 +2.8
CLL eSS SS 10 31 06.0 +8.2
CLL Lm MLR 10 55 00.0
comp=Z,200nm,20.6s
FINES FINESS Array B 91.02 23 P P 10 14 10.1 -0.1
comp=Z,2.1nm,0.9s,baz=256,slow=7.7,SNR=3.9
FINES LR LR 10 56 00.5
comp=Z,384nm,21.4s,baz=312,slow=36
GERES GERESS Array B 91.73 38 P P 10 14 13.9 0.0
comp=Z,0.2nm,0.2s,baz=15,slow=11,SNR=3.6
GERES LR LR 10 58 12.1
comp=Z,324nm,18.6s,baz=287,slow=37
YAK Yakutsk 93.34 339 LR LR 11 01 12.9
comp=Z,349nm,18.0s,baz=80,slow=39
KEST Kesra 94.38 51 LR LR 10 52 51.0
comp=Z,50nm,20.9s,baz=292,slow=33
VYHS Vyhne 94.87 36 eP P 10 14 30.5 +2.2
TORD Torodi Ar. Bea 95.78 75 P P 10 14 31.9 -1.1
comp=Z,0.6nm,0.8s,baz=290,slow=6.1,SNR=4.0
AKASG Malin Array Be 99.12 31 LR LR 11 00 33.4
comp=Z,173nm,20.6s,baz=320,slow=36
DZM Mont Dzumac 100.63 250 eLR LR 10 48 06.4
comp=Z,253nm,23.6s
BJI Beijing 115.46 331 PKP PKPdf 10 19 49.6 +1.3
BJI SS SS 10 36 47.6 +1.8
BJI LN
comp=Z,220nm,14.2s
BJI LE
comp=Z,190nm,18.6s
BJI LZ
comp=Z,170nm,23.0s
HHC Hu-ho-hao-te 116.81 335 ePKP PKPdf 10 19 52.3 +1.2
HHC PP PP 10 21 02.5 +4.0
HHC SKKS 10 27 52.1
HHC SS SS 10 37 00.4 -3.1
HHC PPMZ
comp=Z,59nm,4.9s
HHC LN
comp=Z,240nm,10.6s
HHC LE
comp=Z,160nm,10.9s
HHC LZ
comp=Z,210nm,14.3s
WMQ Urumqi 120.01 355 ePKP PKPdf 10 19 59.0 +1.9
WMQ sPKP 10 20 13.5
WMQ ePP PP 10 21 26.0 +5.8
WMQ SKS SKSdf 10 27 06.0 -2.0
WMQ SKKS SKKSac 10 28 15.0 -5.2
WMQ SS SS 10 37 44.0 -0.2
WMQ PPMZ
comp=Z,81nm,5.0s
WMQ LN
comp=Z,260nm,19.0s
WMQ LE
comp=Z,160nm,17.6s
WMQ LZ
comp=Z,200nm,22.6s
STKA Stephens Creek 123.72 242 PKP PKPdf 10 20 04.5 +0.1

comp=Z,1.7nm,0.3s,baz=90,slow=8.1,SNR=2.9

LZH	**Lanzhou**	**123.91**	**338**	*e*PKP	**PKPdf**	**10 20 06.4**	**+1.4**
LZH				sPKP		10 20 19.3	
LZH				LN			
	comp=Z,220nm,18.0s						
LZH				LE			
	comp=Z,330nm,16.3s						
LZH				LZ			
	comp=Z,340nm,19.4s						
KSH	**Kashi**	**124.32**	**5**	*e*PKP	**PKPdf**	**10 20 07.6**	**+2.0**
KSH				sPKP		10 20 21.9	
KSH				PP	**PP**	**10 21 52.4**	**+2.9**
KSH				PKS	**PKSdf**	**10 23 43.0**	**+0.6**
KSH				SKS	**SKSdf**	**10 27 14.4**	**-2.0**
KSH				SKKS	SKKSac	10 28 40.4	-8.0
KSH				PPMZ			
	comp=Z,91nm,4.6s						
KSH				LN			
	comp=Z,88nm,5.6s						
KSH				LE			
	comp=Z,90nm,5.6s						
KSH				LZ			
	comp=Z,140nm,10.1s						
CD2	**Chengdu**	**128.56**	**336**	PKP	**PKPdf**	**10 20 15.0**	**+1.2**
CD2				sPKP		10 20 29.6	
CD2				PP	**PP**	**10 22 22.8**	**+4.9**
CD2				PKS	**PKSdf**	**10 23 50.4**	**-0.1**
CD2				SKS	**SKSdf**	**10 27 22.6**	**-1.8**
CD2				SKKS	**SKKSac**	**10 29 11.6**	**-3.7**
CD2				SS	**SS**	**10 39 32.0**	**-0.7**
CD2				PPMZ			
	comp=Z,160nm,6.2s						
CD2				LN			
	comp=Z,280nm,12.2s						
CD2				LE			
	comp=Z,270nm,13.7s						
CD2				LZ			
	comp=Z,310nm,14.2s						
WRA	**Warramunga Arr**	**129.93**	**257**	PKP	**PKPdf**	**10 20 15.3**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=80,slow=2.3,SNR=16						
ASAR	**Alice Springs**	**130.53**	**253**	PKP	**PKPdf**	**10 20 17.0**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=78,slow=1.8,SNR=8.3						
GYA	**Guiyang**	**131.11**	**330**	*e*Pdif	**Pdif**	**10 17 09.9**	**-0.5**
GYA				PKP	**PKPdf**	**10 20 19.6**	**+0.7**
GYA				sPKP		10 20 39.4	
GYA				PP	**PP**	**10 22 38.8**	**+3.9**
GYA				PKS	**PKSdf**	**10 23 55.0**	**-0.7**
GYA				SKKS		10 29 24.3	
GYA				SS	**SS**	**10 40 01.3**	**-3.4**
GYA				PPMZ			
	comp=Z,140nm,8.2s						
GYA				LN			
	comp=Z,180nm,23.4s						
GYA				LE			
	comp=Z,140nm,24.0s						
GYA				LZ			
	comp=Z,160nm,22.2s						
QIZ	**Qiongzhong**	**135.33**	**321**	PKP	**PKPdf**	**10 20 27.6**	**+0.8**
QIZ				PP	**PP**	**10 23 03.9**	**+1.9**
QIZ				LZ			
	comp=Z,77nm,21.9s						
CMAR	**Chiang Mai Arr**	**141.58**	**333**	PKP	**PKPdf**	**10 20 36.1**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=309,slow=1.7,SNR=5.6						
HYB	**Hyderabad**	**146.45**	**5**	*i* PKP	**PKPdf**	**10 20 46.5**	**-0.4**

IDC 16 10:02:01.3±6.5, 7.°93S×121.°62E, h191km±25km, mb3.4/1, mb1 2.9/4, mb1mx2.7/23, mbtmp3.3/4, Error ellipse: s-maj=179.7km s-min=68.8km az=36.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumatua**	**3.03**	**138**	P	Pn	10 02 50.5	-0.4
	4.1nm,0.3s,baz=322,slow=17,SNR=6.6						
WRA	**Warramunga Arr**	**17.16**	**135**	P	P	10 05 47.4	-1.3
	0.1nm,0.3s,baz=309,slow=12,SNR=5.2						
WRA				S	S	10 08 57.7	0.0
	0.1nm,0.3s,baz=309,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**19.59**	**144**	P	Pn	10 06 16.9	-1.8
	0.1nm,0.3s,baz=330,slow=14,SNR=10						
STKA	**Stephens Creek**	**30.22**	**145**	P	P	10 07 53.0	-1.1
	1.5nm,0.9s,baz=330,slow=14,SNR=2.9						
IMP	**Imphal**	**42.26**	**321**	*e*P	P	10 09 35.0	-1.1

MEX 16 10:10:42.8±0.8, 16.°02N×98.°41W, h15km±5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.46**	**36**	*i* P	Pg	10 10 50.5	-1.5
PNIG				*i* S	Sg	10 10 57.0	-1.2
TLIG	**Tlapa**	**1.54**	**354**	*e*P	Pn	10 11 06.8	-3.1
TLIG				*i* S	Sn	10 11 24.7	-5.0
VHO	**Vista Hermosa**	**1.92**	**57**	*e*P	Pn	10 11 12.2	-3.0
VHO				*i* S	Sn	10 11 34.0	-5.2
CAIG	**El Cayaco**	**2.05**	**300**	*e*P	Pn	10 11 14.1	-2.7
CAIG				*e*S	Sn	10 11 37.4	-4.8
MEIG	**Mezcala**	**2.22**	**329**	*e*P	Pn	10 11 15.2	-4.0
MEIG				*e*S	Sn	10 11 41.3	-5.2

*DHMR **16** 10:26:32.9±1.1, 12.°06N×43.°59E, h11km±75km, ML3.5*
*ISCJB **16** 10:26:33.3±0.9, 11.°91N±0.°08×43.°57E±0.°09, h10km, Error ellipse: s-maj=15.9km s-min=4.4km az=42.0*
*ARO **16** 10:26:33.2, 12.°N±2.°×4.°4E±.°, h7km±1km, ML3.5*
ISC 16 10:26:32.7±1.2, 11.°95N±0.°07×43.°57E±0.°08, h10km, n10, σ1s03/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.28**	**278**	*e*P	**Pb**	**10 26 39.9**	**+0.1**
MCAD	**Moucha**	**0.41**	**239**	*e*P	**Pb**	**10 26 41.8**	**-0.3**
ATA	**Atar**	**0.61**	**216**	*e*P	**Pg**	**10 26 44.8**	**+0.3**
TDD	**Tadjoura Ara**	**0.67**	**258**	*e*P	**Pg**	**10 26 46.0**	**+0.4**
ATD	**Arta Tunnel**	**0.82**	**240**	*e*P	**Pg**	**10 26 48.5**	**0.0**
ATD				*e*S	**Sb**	**10 27 00.9**	**+0.7**
SGH	**Sud-Ghoubbet**	**1.05**	**241**	*e*P	**Pg**	**10 26 52.4**	**-0.5**
GBR	**Grand-Bara**	**1.34**	**234**	*e*P	**Pn**	**10 26 56.9**	**-0.6**
UDYN	**Al 'Udayn**	**2.05**	**11**	*i* P	**Pn**	**10 27 07.5**	**+0.2**
UDYN				*i* S	**Sn**	**10 27 33.5**	**+0.5**
UDYN				AML	AML	10 27 39.9	
	comp=E,510nm,0.8s						
DHBB	**Dhamar BB**	**2.73**	**17**	*i* P	**Pn**	**10 27 18.3**	**+1.4**
DHBB				*i* S	**Sb**	**10 27 53.3**	**-2.2**
BDHA	**Al Bayda'**	**2.80**	**44**	*i* P	**Pn**	**10 27 18.9**	**+1.1**
BDHA				*i* S	**Sb**	**10 27 56.1**	**-1.4**
BDHA				AML	AML	10 28 01.3	
	comp=E,288nm,0.3s						

IDC 16 10:27:14.8±18.0, 65.°24S×172.°82W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/10, mbtmp3.6/3, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx3.1/8, Error ellipse: s-maj=426.9km s-min=54.4km az=85.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.51**	**202**	Pn	Pn	10 30 41.2	+0.2
	0.2nm,0.3s,baz=50,slow=17,SNR=12						
VNDA				LR	LR	10 34 33.3	
	comp=Z,159nm,21.2s,baz=348,slow=30						
H01W1	**Cape Leeuwin H**	**51.86**	**268**	T	T	11 29 30.5	
	baz=149,slow=76,SNR=36						
H01W2	**Cape Leeuwin H**	**51.87**	**268**	T	T	11 29 30.8	
	baz=149,slow=76,SNR=42						
H01W3	**Cape Leeuwin H**	**51.88**	**268**	T	T	11 29 31.7	
	baz=149,slow=76,SNR=50						
ASAR	**Alice Springs**	**53.64**	**294**	P	P	10 36 37.8	+0.1
	0.4nm,0.6s,baz=158,slow=7.6,SNR=9.3						
WRA	**Warramunga Arr**	**56.85**	**296**	P	P	10 37 00.7	-0.3
	0.7nm,0.9s,baz=157,slow=6.2,SNR=5.3						

*NEIC **16** 10:44:48.6, 16.°21N×98.°43W, h5km, MD4.2(MEX), After MEX.*
MEX 16 10:44:48.6±0.5, 16.°21N×98.°43W, h5km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**59**	*e*P	Pg	10 44 54.7	-0.6
PNIG				*i* S	Sg	10 44 59.9	-0.1
PNIG	**Pinotepa**	**0.34**	**59**	*e*P	Pg	10 44 54.7	-0.6
PNIG				*i* S	Sg	10 44 59.9	-0.1
TLIG	**Tlapa**	**1.35**	**355**	*e*P	Pn	10 45 10.5	-3.8
TLIG				*i* S	Sb	10 45 27.6	-4.7
VHO	**Vista Hermosa**	**1.84**	**62**	*e*P	Pn	10 45 18.1	-3.0
VHO				*i* S	Sn	10 45 40.0	-5.0
VHO	**Vista Hermosa**	**1.84**	**62**	*e*P	Pn	10 45 18.1	-3.0
VHO				*i* S	Sn	10 45 40.0	-5.0
CAIG	**El Cayaco**	**1.94**	**296**	*e*P	Pn	10 45 18.2	-4.1
CAIG				*i* S	Sn	10 45 42.9	-4.2
CAIG	**El Cayaco**	**1.94**	**296**	*e*P	Pn	10 45 18.2	-4.1
CAIG				*i* S	Sn	10 45 42.9	-4.2
MEIG	**Mezcala**	**2.05**	**327**	*e*P	Pn	10 45 20.0	-3.9
MEIG				*e*S	Sn	10 45 44.7	-5.2
MEIG	**Mezcala**	**2.05**	**327**	*e*P	Pn	10 45 20.0	-3.9
MEIG				*e*S	Sn	10 45 44.7	-5.2
JTS	**JuntasAbangare**	**14.38**	**113**	*e*Pn	Pn	10 48 13.7	+0.7
JTS				*e*Sn	Sn	10 50 55.2	+2.2

*CSEM **16** 10:45:04.2, 40.°81N×39.°49E, h7km, MD2.7*
DDA 16 10:45:04.2, 40.°81N×39.°49E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACK	**Trabzon**	**0.25**	**57**	*i* P	Pg	10 45 09.3	0.0
MACK				*i* S	Sg	10 45 13.7	+1.0
MACK	**Trabzon**	**0.25**	**57**	*i* P	Pg	10 45 09.3	0.0
MACK				*i* S	Sg	10 45 13.7	+0.9
KELT	**Kelkit**	**0.68**	**195**	*i* P	Pg	10 45 17.4	-0.2
KELT				*i* S	Sg	10 45 25.2	-1.4
KELT	**Kelkit**	**0.68**	**195**	*i* P	Pg	10 45 17.4	-0.2
KELT				*i* S	Sg	10 45 25.2	-1.5
GRSN	**GIRESUNGRSN**	**0.93**	**278**	*i* P	Pg	10 45 22.4	+0.3
GRSN				*i* S	Sb	10 45 35.3	0.0
GRSN	**GIRESUNGRSN**	**0.93**	**278**	*i* P	Pg	10 45 22.4	+0.2
GRSN				*i* S	Sb	10 45 35.3	0.0
SUSE	**Susehri**	**1.15**	**239**	*i* P	Pg	10 45 26.4	0.0
SUSE				*i* S	Sb	10 45 42.2	+0.4
SUSE	**Susehri**	**1.15**	**239**	*i* P	Pg	10 45 26.4	-0.1
SUSE				*i* S	Sb	10 45 42.2	+0.4
DBAD	**Bademkaya**	**1.69**	**82**	*i* P	Pn	10 45 33.2	-1.0
DBAD				*i* S	Sn	10 45 53.2	-2.9
DDEM	**Demirkent**	**1.72**	**86**	*i* P	Pn	10 45 34.0	-0.7
DDEM				*i* S	Sn	10 45 54.6	-2.4
DAGI	**Agillar**	**1.86**	**81**	*i* P	Pn	10 45 36.2	-0.4
DAGI				*i* S	Sn	10 45 59.4	-1.1
ARTV	**Artvin**	**1.89**	**78**	*i* P	Pn	10 45 36.2	-0.9
ARTV				*i* S	Sn	10 45 59.9	-1.5

*IDC **16** 10:47:03.3±2.5, 53.°54N×86.°99E, h0km, mb1 3.0/2, mb1mx2.8/46, mbtmp3.0/2, ML2.3/2, Error ellipse: s-maj=23.8km s-min=13.4km az=75.0*
*NNC **16** 10:47:08.5±5.7, 53.°02N×86.°84E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=44.3km s-min=34.1km az=23.0*
ISC 16 10:47:10.1±4.8, 53.°4N±0.°2×86.°9E±0.°2, h35km, n7, σ2s88/9, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**296**	*i*		10 54 51.2	
	baz=107,slow=343,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.35**	**296**	Pg	Pn	10 47 27.3	-5.1
	0.4nm,0.3s,baz=103,slow=16,SNR=9.7						
ZALV				Lg	Lg	10 47 46.9	
	0.8nm,0.3s,baz=105,slow=26,SNR=10						
ZALV				Rg	Rg	10 47 59.5	
	4.3nm,0.8s,baz=102,slow=28,SNR=5.6						
KURK	**Kurchatov**	**5.75**	**246**	⇑Pn	**Pn**	**10 48 31.1**	**-1.7**
KURK				⇑Sn	**Sn**	**10 49 39.1**	**+1.6**
	0.5nm,0.9s						
KURK				⇓Lg	Lg	10 50 08.5	
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**5.85**	**245**	⇓Pn	**Pn**	**10 48 33.2**	**-1.0**
	2.1nm,0.6s						
KURBB				⇓Sn	**Sn**	**10 49 41.4**	**+1.5**
	2.1nm,0.6s						
KURBB				⇑Lg	Lg	10 50 11.8	
	2.7nm,0.7s						
KURBB	**Kurchatov Arra**	**5.85**	**245**	Pn	**Pn**	**10 48 34.0**	**-0.2**
	0.1nm,0.3s,baz=60,slow=14,SNR=8.2						
KURBB				Lg	Lg	10 50 11.9	
	0.0nm,0.3s,baz=62,slow=34,SNR=4.7						
MK31	**Makanchi Array**	**7.22**	**206**	⇑Pn	**Pn**	**10 48 54.6**	**+1.4**
	0.2nm,0.5s,baz=30,slow=11,SNR=4.6						
MK31				⇓Sn	**Sn**	**10 50 08.2**	**-5.6**
	1.0nm,0.9s,baz=110,slow=9.3,SNR=3.6						
MK31				⇓Lg	Lg	10 50 50.4	
	1.3nm,0.8s,baz=27,slow=32,SNR=4.9						
MKAR	**Makanchi Array**	**7.22**	**206**	Pn	**Pn**	**10 48 54.2**	**+1.1**
	0.1nm,0.3s,baz=24,slow=12,SNR=6.0						
MKAR				Sn	**Sn**	**10 50 16.2**	**+2.4**
	0.1nm,0.3s,baz=26,slow=26,SNR=5.9						
MKAR				Lg	Lg	10 50 57.0	
	0.1nm,0.3s,baz=28,slow=31,SNR=7.1						

*ISCJB **16** 11:22:45.4±0.6, 30.°24S±0.°06×179.°6W±0.°1, h321km, mb2.9/3, Error ellipse: s-maj=16.9km s-min=6.2km az=21.7*
*IDC **16** 11:22:46.0±0.7, 30.°07S×179.°46W, h324km±8km, mb2.8/3, mb1 3.2/4, mb1mx3.0/35, mbtmp3.8/4, Error ellipse: s-maj=24.6km s-min=16.2km az=116.0*
ISC 16 11:22:46.5±0.8, 30.°34S±0.°09×179.°6W±0.°2, h321km, n45, σ1s71/53, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.82**	**54**	P	**Pn**	**11 23 33.0**	**-0.9**
	87nm,0.3s,baz=111,slow=9.3,SNR=6.3						
RAO				S	**S**	**11 24 09.0**	**-2.8**
	115nm,0.3s,baz=139,slow=22,SNR=6.3						
MXZ	**Matakaoa Point**	**7.42**	**193**	PN	**Pn**	**11 24 33.5**	**+0.4**
MXZ				SN	**S**	**11 25 59.9**	**+0.3**
WMGZ	**Waiomatatini S**	**7.64**	**192**	*e*PN	**Pn**	**11 24 36.5**	**+0.7**
HAZ	**Te Kaha**	**7.71**	**196**	PN	**Pn**	**11 24 38.2**	**+1.5**
HAZ				*e*SN	**S**	**11 26 07.5**	**+1.3**
PUZ	**Puketiti**	**7.92**	**192**	PN	**Pn**	**11 24 39.2**	**0.0**
PUZ				SN	**S**	**11 26 11.2**	**+0.3**
MWZ	**Matawai**	**8.32**	**196**	PN	**Pn**	**11 24 44.5**	**+0.3**
URZ	**Urewera**	**8.36**	**198**	P	**Pn**	**11 24 46.2**	**+1.7**
	6.6nm,0.3s,baz=292,slow=2.7,SNR=53						
URZ				S	**S**	**11 26 23.6**	**+3.1**
	4.6nm,0.3s,baz=312,slow=23,SNR=12						
URZ	**Urewera**	**8.36**	**198**	PN	**Pn**	**11 24 45.3**	**+0.9**
RAGZ	**Rawiri**	**8.50**	**196**	PN	**Pn**	**11 24 47.1**	**+0.8**
RIGZ	**Rimuhau**	**8.63**	**194**	*e*PN	**Pn**	**11 24 47.9**	**+0.1**
SNGZ	**Shannon Statio**	**8.79**	**196**	SN	**S**	**11 26 31.2**	**+0.9**
NMHZ	**Naumai**	**9.23**	**198**	PN	**P**	**11 24 57.2**	**-1.4**
ARHZ	**Aropaoanui**	**9.33**	**196**	PN	**Pn**	**11 24 57.0**	**+0.7**
BKZ	**Black Stump Fm**	**9.38**	**199**	PN	**Pn**	**11 24 58.8**	**+1.9**
MCHZ	**McNeill Hill**	**9.58**	**197**	PN	**P**	**11 25 01.4**	**-1.0**
FWVZ	**Far West T-bar**	**9.75**	**203**	*e*PN	**Pn**	**11 25 02.9**	**+1.3**
TRVZ	**Turoa**	**9.79**	**203**	PN	**P**	**11 25 04.6**	**-0.4**
WNVZ	**Wahianoa**	**9.80**	**202**	PN	**P**	**11 25 04.2**	**-0.8**
BHHZ	**Black Hill Sta**	**9.80**	**200**	PN	**Pn**	**11 25 02.1**	**+0.1**
KRHZ	**Kereru**	**9.86**	**198**	PN	**Pn**	**11 25 03.9**	**+1.2**
PXZ	**Pawanui**	**10.10**	**196**	PN	**Pn**	**11 25 06.4**	**+0.8**
PXZ				*e*SN	**S**	**11 26 56.4**	**-2.9**
TSZ	**Takapari Road**	**10.36**	**199**	PN	**Pn**	**11 25 09.7**	**+1.0**
TSZ				SN	**S**	**11 27 02.3**	**-3.0**
ANWZ	**Angora Road**	**10.60**	**196**	PN	**Pn**	**11 25 12.6**	**+1.0**
PRWZ	**Pori Road**	**10.81**	**198**	PN	**P**	**11 25 15.6**	**-0.5**
BFZ	**Birch Farm**	**10.86**	**197**	PN	**Pn**	**11 25 15.1**	**+0.3**
MRZ	**Mangatainoka R**	**11.02**	**200**	PN	**Pn**	**11 25 16.3**	**-0.5**
MRZ				*e*SN	**S**	**11 27 15.2**	**-5.0**
OGWZ	**Otaki Gorge**	**11.29**	**201**	PN	**Pn**	**11 25 19.6**	**-0.4**
KIW	**Kapiti Island**	**11.41**	**202**	PN	**Pn**	**11 25 21.8**	**+0.4**
MTW	**Mount Morrison**	**11.51**	**199**	PN	**Pn**	**11 25 23.1**	**+0.6**
CAW	**Cannon Point**	**11.59**	**200**	PN	**Pn**	**11 25 23.2**	**-0.3**
NNZ	**Nelson**	**12.26**	**206**	*e*PN	**Pn**	**11 25 31.6**	**-0.1**
NNZ				SN	**S**	**11 27 45.4**	**-2.3**
THZ	**Tophouse**	**12.91**	**206**	*e*PN	**P**	**11 25 38.5**	**-0.9**
THZ				*e*SN	**S**	**11 27 58.3**	**-3.6**
KHZ	**Kahutara**	**13.26**	**203**	*e*PN	**P**	**11 25 42.2**	**-0.9**
ASAR	**Alice Springs**	**41.73**	**268**	P	**P**	**11 30 05.9**	**+0.7**
	0.1nm,0.3s,baz=105,slow=7.2,SNR=8.9						
WRA	**Warramunga Arr**	**42.71**	**273**	P	**P**	**11 30 13.5**	**+0.4**
	0.9nm,0.7s,baz=111,slow=7.4,SNR=6.7						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**11 32 20.7**	**+2.4**
	0.6nm,0.7s,baz=253,slow=1.0,SNR=6.1						
JOF	**Joensuu**	**141.84**	**338**	*ep*	PKPpre	11 41 29.7	
	0.3nm,0.4s						
KAF	**Kangasniemi**	**144.02**	**340**	*ep*	**PKPab**	**11 41 38.9**	**-2.8**
	2.7nm,0.6s						
FINES	**FINESS Array B**	**144.60**	**339**	PKP	PKPbc	11 41 41.4	-2.5
	4.9nm,0.4s,baz=66,slow=3.4,SNR=47						
NB2	**NORSAR Subarra**	**148.46**	**350**	PKP	**PKPdf**	**11 41 52.4**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**148.46**	**350**	PKPbc	**PKPdf**	**11 41 52.7**	**+1.8**
	comp=Z,1.1nm,0.5s,baz=14,slow=4.1,SNR=4.8						
HFS	**Hagfors**	**148.89**	**347**	PKPbc	**PKPdf**	**11 41 53.4**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=84,slow=3.8,SNR=10.0						
AKASG	**Malin Array Be**	**150.40**	**322**	PKPbc	**PKPdf**	**11 41 57.9**	**+3.7**
	comp=Z,1.1nm,0.5s,baz=47,slow=2.6,SNR=11						
BRTR	**Keskin Array B**	**151.35**	**298**	PKPbc	**PKPbc**	**11 42 00.8**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=348,slow=3.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**162.85**	**184**	PKPab	**PKPab**	**11 43 01.9**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=178,slow=6.0,SNR=4.1						

*MEX **16** 11:24:32.7±0.7, 33.°75N×115.°56W, h15km, MD3.8*
*ISCJB **16** 11:25:02.5±0.4, 32.°50N±0.°02×115.°63W±0.°03, h7km±4km, Error ellipse: s-maj=4.8km s-min=3.1km az=142.7*
*NEIC **16** 11:25:02.8, 32.°44N×115.°65W, h0km, ML3.0(PAS), After PAS.*
*ECX **16** 11:25:04.0±0.6, 32.°49N×115.°63W, h5km, MD3.0, ML3.2*
ISC 16 11:25:02.8±1.0, 32.°44N±0.°03×115.°65W±0.°03, h10km±9km, n24, σ1s12/38, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.22**	**343**	*e*P	**Pg**	**11 25 07.4**	**0.0**
CPBX	**Cerro Prieto**	**0.29**	**94**	*e*P	**Pg**	**11 25 09.2**	**+0.5**
CPBX				*e*S	**Sg**	**11 25 13.9**	**+1.3**
CPBX				AML	AML	11 25 20.4	
	comp=E,12μm,0.4s						
CPBX				⇓*e*		11 25 20.4	
CPBX	**Cerro Prieto**	**0.29**	**94**	*e*S	**Sg**	**11 25 09.5**	**-3.1**
YUH	**Yuha Desert**	**0.31**	**312**	⇑*i*P	**Pg**	**11 25 08.9**	**-0.1**
RMX	**La Rumorosa**	**0.40**	**294**	*e*P	**Pg**	**11 25 10.9**	**+0.2**
RMX				*e*S	**Sg**	**11 25 16.8**	**+0.8**
RMX				⇓*e*		11 25 18.0	
RMX				AML	AML	11 25 18.0	
	comp=N,2μm,0.2s						
COK	**Cook Ranch**	**0.41**	**351**	⇑*i*P	**Pg**	**11 25 10.9**	**-0.1**
EMX	**El Mayor**	**0.57**	**142**	*e*P	**Pg**	**11 25 14.2**	**+0.4**
EMX				*e*S	**Sb**	**11 25 22.6**	**-0.4**
RDX	**Rancho Dawling**	**0.57**	**206**	*e*P	**Pb**	**11 25 15.1**	**+0.1**
RDX				*e*S	**Sb**	**11 25 23.6**	**+0.3**
RDX				AML	AML	11 25 27.0	
	comp=N,698nm,0.3s						
RDX				⇑*e*		11 25 27.0	
CBX	**Cerro Bola**	**0.87**	**262**	*i* S	**Pg**	**11 25 19.0**	**-0.6**
CBX	**Cerro Bola**	**0.87**	**262**	*e*P	**Pg**	**11 25 19.7**	**+0.1**
CBX				*e*S	**Sb**	**11 25 32.0**	**+0.2**
CBX				⇑*e*		11 25 35.0	
CBX				AML	AML	11 25 35.0	
	comp=E,997nm,0.3s						
BAR	**Barrett**	**0.90**	**286**	*e*P	**Pg**	**11 25 19.9**	**-0.2**
BAR	**Barrett**	**0.90**	**286**	*e*Pg	**Pg**	**11 25 20.0**	**-0.1**
BAR				*e*Sg	**Sg**	**11 25 31.5**	**-0.3**
ZAX	**El Zacaton**	**1.06**	**210**	*e*P	**Pb**	**11 25 23.7**	**+0.3**
ZAX				*e*S	**Sn**	**11 25 39.0**	**+0.1**
ZAX				⇓*e*		11 25 43.3	
ZAX				AML	AML	11 25 43.3	
	comp=E,712nm,0.5s						
ECBX	**El Chinero**	**1.09**	**152**	*e*P	**Pg**	**11 25 23.9**	**+0.2**
ECBX				*e*S	**Sb**	**11 25 38.7**	**+0.7**
ECBX				AML	AML	11 25 40.2	
	comp=E,500nm,0.3s						
ECBX				⇑*e*		11 25 40.2	
ECNX	**Esteban Cantu**	**1.12**	**226**	*e*P	**Pb**	**11 25 23.9**	**-0.4**
ECNX				*e*S	**Sn**	**11 25 40.3**	**+0.1**
PFO	**Pinyon Flats O**	**1.35**	**330**	*e*Pg	**Pn**	**11 25 26.4**	**-1.5**
PFO				*e*Sg	**Sb**	**11 25 44.9**	**-0.9**
SPIG	**San Pedro Mart**	**1.40**	**174**	*e*S	**Sn**	**11 25 44.1**	**-3.4**
SPIG	**San Pedro Mart**	**1.40**	**174**	*e*P	**Pn**	**11 25 28.7**	**0.0**
SPX	**San Pedro Mart**	**1.40**	**173**	*e*P	**Pn**	**11 25 28.6**	**-0.1**
SPX				*e*S	**Sg**	**11 25 49.3**	**+1.5**
214A	**Organ Pipe Nat**	**2.45**	**101**	*e*Pn	**Pn**	**11 25 44.1**	**+1.1**
214A				*e*Sg	**Sg**	**11 26 20.8**	**-0.9**
LDFC	**Landfair**	**2.67**	**10**	*e*Pn	**Pn**	**11 25 47.1**	**+1.0**
MWC	**Mount Wilson**	**2.69**	**312**	Pn	**Pn**	**11 25 45.2**	**-1.2**
MWC				*e*Sn	**Sn**	**11 26 20.3**	**+1.2**
GSC	**Goldstone, Bar**	**3.01**	**342**	Pn	**Pn**	**11 25 51.1**	**+0.4**
ISA	**Isabella, Lake**	**3.98**	**325**	Pn	**Pn**	**11 26 06.4**	**+2.3**
ISA				*e*Sn	**Sn**	**11 26 51.1**	**+0.2**

WEL 16 11:32:36.6±0.4, 38.°26S×175.°95E, h144km±3km, ML3.5/15, 8C-1D, Error ellipse: s-maj=2.7km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATZ	**Hinemaiaia**	**0.64**	**170**	PN	Pn	11 32 58.1	0.0
HATZ				SN	Sn	11 33 13.4	-1.1
KRVZ	**Karewarewa**	**0.87**	**196**	PN	Pn	11 32 60.0	+0.1
TWVZ	**Taurewa**	**0.90**	**206**	PN	P

NNZ	**Nelson**	**3.56**	**213**	PN	Pn	11 33 28.0	-2.8
QRZ	**Quartz Range**	**3.68**	**225**	PN	Pn	11 33 29.7	-2.8
THZ	**Tophouse**	**4.21**	**213**	PN	Pn	11 33 36.6	-2.9
KHZ	**Kahutara**	**4.54**	**203**	PN	Pn	11 33 40.2	-3.5
MQZ	**McQueen's Vall**	**5.99**	**204**	PN	Pn	11 33 57.3	-5.6

*IDC **16** 11:42:08.8±3.5, 16°21.5S×173°08.1W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/38, mbtmp3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=185.1km s-min=26.0km az=145.0*

*ISCJB **16** 11:42:11.7±3.0, 16°25.1'0S×173°24.2'W±0.7, h26km, mb3.7/5, MS3.5/1, Error ellipse: s-maj=167.1km s-min=22.8km az=146.7*

ISC 16 11:42:12.9±2.9, 16°33.3S±1.0×173°11.1W±0.6, h26km, n14, σ0.8 51/7, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**27.13**	**281**	LR	LR	11 56 56.3	
	comp=Z,110nm,18.1s,baz=182,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.86**	**329**	T	T	12 31 44.3	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	12 31 45.2	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	12 31 47.5	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**40.81**	**330**	T	T	12 33 05.2	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**40.82**	**330**	T	T	12 33 05.7	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**40.83**	**330**	T	T	12 33 06.6	
	baz=153						
WRA	**Warramunga Arr**	**49.94**	**257**	P	**P**	**11 51 05.7**	**+0.7**
	0.4nm,0.7s,baz=92,slow=6.6,SNR=8.1						
ASAR	**Alice Springs**	**50.13**	**253**	P	**P**	**11 51 05.9**	**-0.5**
	1.7nm,0.6s,baz=92,slow=7.8,SNR=20						
PDAR	**Pinedale Array**	**82.71**	**42**	P	**P**	**11 54 34.9**	**+0.1**
	0.4nm,0.8s,baz=173,slow=1.5,SNR=3.8						
ILAR	**Eielson Array**	**83.24**	**11**	P	**P**	**11 54 36.4**	**-0.3**
	0.5nm,0.6s,baz=230,slow=6.4,SNR=22						
YKA	**Yellowknife Ar**	**90.78**	**23**	P	**P**	**11 55 13.5**	**+0.2**
	0.2nm,0.9s,baz=229,slow=4.4,SNR=3.8						
BRTR	**Keskin Array B**	**147.02**	**320**	PKPbc	**PKPbc**	**12 01 53.4**	**-0.4**
	1.0nm,0.7s,baz=95,slow=2.9,SNR=4.9						
GERES	**GERESS Array B**	**147.04**	**352**	PKPbc	**PKPdf**	**12 01 51.7**	**+0.2**
	0.4nm,0.7s,baz=74,slow=4.2,SNR=2.4						

*IDC **16** 11:56:47.7±1.9, 19°.79S×68°.93W, h96km±17km, mb3.8/8, mb1 3.9/10, mb1mx3.6/36, mbtmp4.2/10, MS2.3/1, Ms1 2.5/1, ms1mx2.3/21, Error ellipse: s-maj=23.9km s-min=12.0km az=117.0*

*ISCJB **16** 11:56:48.0±0.4, 19°.89S±0°.03×68°.95W±0°.08, h115km±6km, mb4.2/6, Error ellipse: s-maj=11.9km s-min=5.6km az=0.2*

*GUC **16** 11:56:49.8±0.3, 19°.99S×69°.15W, h112km±3km, ML4.0*

*NEIC **16** 11:56:51.2±1.7, 19°.83S×68°.88W, h127km±16km, mb4.4/3, Error ellipse: s-maj=20.5km s-min=14.1km az=89.0*

ISC 16 11:56:48.9±0.7, 19°.86S±0°.05×68°.95W±0°.07, h106km±7km, n30, σ1.9 14/38, mb4.2/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.67**	**278**	*e*P	**Pn**	**11 57 07.5**	**+0.6**
PB11				*e*S	**Sn**	**11 57 20.9**	**+0.6**
MNMC	**Minimini**	**0.94**	**320**	*e*P	**Pn**	**11 57 11.4**	**+1.9**
MNMC				*e*S	**Sn**	**11 57 27.8**	**+2.8**
HMBC	**Humberstone**	**0.98**	**244**	*e*P	**Pn**	**11 57 09.3**	**-0.4**
HMBC				*e*S	**Sn**	**11 57 24.2**	**-1.2**
HMBC				AML	AML	11 57 26.1	
	comp=N,5μm,0.5s						
PSGC	**Pisagua**	**1.14**	**283**	*e*P	**Pn**	**11 57 11.7**	**+0.3**
PSGC				*e*S	**Sn**	**11 57 28.2**	**-0.2**
PSGC				AML	AML	11 57 29.2	
	comp=N,4μm,0.3s						
PB01	**IPOC Station P**	**1.29**	**203**	*e*P	**Pn**	**11 57 12.8**	**-0.3**
PB01				*e*S	**Sn**	**11 57 30.2**	**-1.1**
PB09	**IPOC Station P**	**1.95**	**188**	*e*P	**Pn**	**11 57 21.4**	**0.0**
PB09				*e*S	**Sn**	**11 57 45.5**	**-0.5**
PB09				AML	AML	11 57 49.4	
	comp=E,4μm,0.5s						
PB07	**IPOC Station P**	**2.06**	**205**	*e*P	**Pn**	**11 57 22.0**	**-0.7**
PB07				*e*S	**Sn**	**11 57 46.7**	**-1.8**
PB07				AML	AML	11 57 49.3	
	comp=E,1μm,0.3s						
LVC	**Limon Verde**	**2.74**	**179**	P	**Pn**	**11 57 32.4**	**+0.7**
	comp=E,531nm,0.3s,baz=360,slow=11,SNR=44						
LVC				S	**Sn**	**11 58 04.6**	**0.0**
	comp=E,2μm,0.3s,baz=42,slow=21,SNR=20						
LVC	**Limon Verde**	**2.74**	**179**	*e*Pn	Pn	11 57 21.1	-11
LVC				*e*Sn	**Sn**	**11 58 04.0**	**-0.5**
LPAZ	**La Paz**	**3.63**	**12**	P	Pn	11 57 48.5	+4.7
	comp=E,12nm,0.3s,baz=202,slow=5.7,SNR=204						
LPAZ				LR	LR	11 59 20.6	
	comp=E,49nm,20.3s,baz=231,slow=43						
LPAZ	**La Paz**	**3.63**	**12**	*e*Pn	Pn	11 57 48.3	+4.4
LPAZ				*e*Sn	**Sn**	**11 58 26.3**	**0.0**
SIV	**San Ignacio**	**8.42**	**64**	P	**Pn**	**11 58 48.1**	**-0.1**
	comp=E,6.9nm,0.3s,baz=263,slow=12,SNR=76						
SIV				S	**Sn**	**12 00 18.7**	**-3.0**
	comp=E,0.1nm,0.3s,baz=328,slow=15,SNR=1.9						
TRQA	**Tornquist**	**19.12**	**163**	*e*P	**P**	**12 01 03.6**	**0.0**
	comp=E,1.3nm,0.5s						
BDFB	**Brasilia**	**20.37**	**81**	P	**P**	**12 01 17.6**	**+0.2**
	comp=E,2.2nm,0.4s,baz=259,slow=9.5,SNR=3.4						
PLCA	**Paso Flores**	**20.86**	**183**	P	**P**	**12 01 22.2**	**-0.2**
	comp=E,2.6nm,0.8s,baz=21,slow=14,SNR=5.5						
PLCA	**Paso Flores**	**20.86**	**183**	*e*P	**P**	**12 01 22.5**	**+0.2**
PTGA	**Pitinga**	**20.94**	**26**	P	**P**	**12 01 22.3**	**-1.1**
	comp=E,2.7nm,0.3s,baz=192,slow=18,SNR=5.8						
APG	**El Apazote**	**40.59**	**327**	P	**P**	**12 04 16.8**	**-1.8**
	comp=E,2.7nm,0.5s,baz=194,slow=9.1,SNR=4.5						
DBIC	**Dimbokro**	**68.31**	**74**	P	**P**	**12 07 39.0**	**-0.2**
	comp=E,2.5nm,0.4s,baz=219,slow=8.8,SNR=7.5						
QSPA	**South Pole Qui**	**70.33**	**180**	P	**P**	**12 07 51.9**	**+1.0**
	comp=E,4.3nm,1.2s,baz=338,slow=2.6,SNR=20						
QSPA	**South Pole Qui**	**70.33**	**180**	*e*P	**P**	**12 07 52.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	**P**	**12 08 28.9**	**-0.9**
	comp=E,1.3nm,0.5s,baz=249,slow=5.3,SNR=22						
LBTB	**Lobatse**	**85.74**	**115**	*e*P	**P**	**12 09 19.1**	**+2.3**
	comp=E,6.0nm,1.0s						
YKA	**Yellowknife Ar**	**89.63**	**341**	P	**P**	**12 09 35.1**	**+0.9**
	comp=E,0.4nm,0.6s,baz=133,slow=4.7,SNR=14						
BMRM	**Bremner River**	**100.43**	**331**	*e*Pdif	**Pdif**	**12 10 24.4**	**+0.7**
	comp=E,5.4nm,0.8s						
ARMA	**Armidale**	**116.58**	**219**	*e*PKPdf	**PKPdf**	**12 15 21.0**	**-0.3**
GEYT	**Alibeck**	**130.94**	**57**	PKP	**PKPdf**	**12 15 47.8**	**-0.5**
	comp=E,1.0nm,0.4s,baz=254,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**131.34**	**208**	PKP	**PKPdf**	**12 15 49.5**	**-0.1**
	comp=E,0.3nm,0.8s,baz=110,slow=1.4,SNR=4.5						
WRA	**Warramunga Arr**	**134.34**	**211**	PKP	**PKPdf**	**12 15 55.4**	**+0.1**
	comp=E,0.2nm,0.4s,baz=139,slow=1.6,SNR=4.7						
SONM	**Songino Array**	**151.83**	**7**	PKPbc	**PKPbc**	**12 16 30.4**	**-1.0**
	comp=E,0.2nm,0.3s,baz=355,slow=2.2,SNR=3.7						

IDC 16 12:09:04.1±12.0, 21°.19N×144°.67E, h152km±121km, mb3.1/6, mb1 3.3/6, mb1mx3.1/27, mbtmp3.5/6, Error ellipse: s-maj=47.3km s-min=25.1km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**20.87**	**90**	T	T	12 35 19.1	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**20.87**	**90**	T	T	12 35 02.6	
	baz=280						
H11S3	**WAKE ISLAND Hy**	**20.88**	**94**	T	T	12 35 19.0	
	baz=272						
H11N3	**WAKE ISLAND Hy**	**20.89**	**90**	T	T	12 35 07.8	
	baz=280						
H11S1	**WAKE ISLAND Hy**	**20.89**	**93**	T	T	12 35 20.2	
	baz=272						
H11S2	**WAKE ISLAND Hy**	**20.90**	**94**	T	T	12 35 13.7	
	baz=272						
KSRS	**Korea Array**	**21.76**	**322**	P	P	12 13 43.9	+0.2
	0.4nm,0.3s,baz=146,slow=7.9,SNR=4.6						
WRA	**Warramunga Arr**	**42.11**	**195**	P	P	12 16 41.3	-0.2
	0.2nm,0.5s,baz=11,slow=8.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.47**	**322**	P	P	12 18 22.4	-0.5
	0.5nm,0.3s,baz=113,slow=6.9,SNR=3.1						
MKAR	**Makanchi Array**	**56.06**	**313**	P	P	12 18 27.6	+0.3
	0.1nm,0.4s,baz=89,slow=7.4,SNR=4.1						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	P	12 20 35.5	-0.1
	0.3nm,0.5s,baz=291,slow=5.8,SNR=7.8						
NVAR	**Mina Array Bea**	**82.37**	**52**	P	P	12 21 10.0	+0.3
	0.1nm,0.5s,baz=281,slow=6.3,SNR=3.8						

*IDC **16** 12:28:54.3±0.5, 2°.80S×139°.27E, h0km, mb4.4/18, mb1 4.5/20, mb1mx4.4/24, mbtmp4.4/20, ML4.2/2, MS4.0/16, Ms1 4.0/16, ms1mx3.8/29, Error ellipse: s-maj=12.5km s-min=10.4km az=107.0*

*BJI **16** 12:28:58.7, 3°.03S×139°.43E, h56km, mB4.9/24, mb4.7/36, Ms4.4/20, Ms7 4.1/19*

*ISCJB **16** 12:28:59.6±0.2, 2°.83S±0°.02×139°.35E±0°.03, h46km, mb4.5/34, MS3.9/17, Error ellipse: s-maj=3.8km s-min=3.4km az=141.8*

*DJA **16** 12:28:59.4±0.2, 3°S±3°×13°9E±°, h10km, M4.9/10, mb4.8/10, mB5.4/3, MLv4.9/5, Mw(mB)4.9/3*

*NEIC **16** 12:29:00.3±1.1, 2°.83S×139°.35E, h43km±11km, mb4.6/20, Error ellipse: s-maj=9.9km s-min=8.6km az=76.0*

ISC 16 12:29:01.5±0.3, 2°.83S±0°.04×139°.35E±0°.04, h46km, n127, σ2.9 01/154, mb4.6/34, MS4.0/17, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.85**	**74**	P	Pn	12 29 13.8	-3.3
GENI				S	**Sn**	**12 29 26.1**	**-2.5**
SMPI	**Sarmi**	**1.05**	**322**	P	Pn	12 29 16.0	-3.8
SMPI				S	**Sn**	**12 29 32.6**	**-0.7**
JAY	**Jayapura**	**1.39**	**77**	P	Pn	12 29 20.0	-4.5
JAY				S	**Sn**	**12 29 43.0**	**+1.2**
JAY	**Jayapura**	**1.39**	**77**	Pg	Pn	12 29 20.5	-4.0
	78nm,0.3s,baz=234,slow=11,SNR=193						
JAY				Lg	Lg	12 29 39.2	
	223nm,0.3s,baz=246,slow=20,SNR=13						
JAY				LR	LR	12 30 16.3	
	comp=Z,4μm,20.1s,baz=22,slow=56						
SRPI	**Serui, Papua**	**3.25**	**287**	P	**Pn**	**12 29 49.3**	**-0.7**
SRPI				S	**Sn**	**12 30 29.5**	**+2.0**
RKPI	**Ransiki, Papua**	**5.33**	**284**	P	**Pn**	**12 30 19.2**	**+0.4**
RKPI				S	**Sn**	**12 31 22.1**	**+3.3**
MMPI	**Merauke**	**5.70**	**170**	P	**Pn**	**12 30 25.7**	**+2.1**
	820nm,0.8s,13μm4.0nm						
MMPI				S	Sn	12 31 34.3	+6.5
	820nm,0.8s,13μm4.0nm						
MMPI	**Merauke**	**5.70**	**170**	P	**Pn**	**12 30 26.6**	**+2.9**
	baz=5.7,SNR=4.2						
MMPI				S	Sn	12 31 36.5	+8.7
	baz=5.7,SNR=4.6						
FAKI	**Fak Fak**	**7.09**	**269**	P	**Pn**	**12 30 43.2**	**+0.4**
FAKI	**Fak Fak**	**7.09**	**269**	P	**Pn**	**12 30 42.5**	**-0.3**
	baz=6.8,SNR=60						
FAKI	**Fak Fak**	**7.09**	**269**	*e*Pn	**Pn**	**12 30 42.5**	**-0.3**
FAKI				*e*Sn	**Sn**	**12 32 01.6**	**-0.5**
SAUI	**Saumlaki**	**9.51**	**237**	P	**Pn**	**12 31 17.1**	**+1.2**
SAUI	**Saumlaki**	**9.51**	**237**	*e*Pn	**Pn**	**12 31 18.0**	**+2.1**
BNDI	**Bandanaira**	**9.57**	**260**	P	**Pn**	**12 31 17.4**	**+0.6**
MSAI	**Masohi**	**10.42**	**267**	P	**Pn**	**12 31 29.1**	**+0.7**
COEN	**Coen**	**11.69**	**161**	P	**Pn**	**12 31 45.5**	**-0.3**
	baz=12,SNR=16						
COEN	**Coen**	**11.69**	**161**	*e*Pn	**Pn**	**12 31 45.5**	**-0.3**
COEN				*e*Sn	**Sn**	**12 33 56.6**	**+1.6**
KDU	**Kakadu**	**11.93**	**214**	P	**Pn**	**12 31 47.0**	**-2.1**
	baz=12,SNR=85						
LBMI	**Labuha**	**12.04**	**280**	P	**Pn**	**12 31 51.2**	**+0.6**
TNTI	**Ternate**	**12.50**	**286**	*e*Pn	**Pn**	**12 31 55.7**	**-1.2**
MTN	**Manton Dam**	**12.85**	**219**	P	**Pn**	**12 31 59.5**	**-2.2**
	baz=13,SNR=21						
SANI	**Sanana**	**13.37**	**273**	P	**Pn**	**12 32 07.7**	**-1.1**
	77nm,0.9s						
KNRA	**Kununurra**	**16.48**	**219**	P	**Pn**	**12 32 47.4**	**-2.3**
	baz=16,SNR=45						
KNRA				S	**Sn**	**12 35 48.8**	**-3.0**
	baz=16,SNR=3.9						
SOEI	**Soe**	**16.49**	**245**	P	**P**	**12 32 51.5**	**-0.5**
SOEI	**Soe**	**16.49**	**245**	P	**Pn**	**12 32 48.0**	**-1.9**
	baz=16,SNR=4.5						
SOEI	**Soe**	**16.49**	**245**	*e*P	**P**	**12 32 51.7**	**-0.2**
	172nm,0.8s						
BATI	**Baumata**	**17.21**	**244**	P	**P**	**12 33 00.9**	**+1.0**
BATI	**Baumata**	**17.21**	**244**	Pn	**Pn**	**12 32 58.4**	**-0.4**
	10.0nm,0.3s,baz=90,slow=2.3,SNR=29						
QIS	**Mount Isa**	**17.62**	**179**	P	**Pn**	**12 33 02.8**	**-1.1**
	baz=18,SNR=15						
WRAB	**Tennant Creek**	**17.69**	**196**	*e*P	**Pn**	**12 33 02.0**	**-2.6**
	33nm,0.8s						
WRAB				*e*Sn	**Sn**	**12 36 18.3**	**-2.7**
WB2	**Warramunga Arr**	**17.70**	**196**	*e*P	**Pn**	**12 33 02.1**	**-2.7**
WRA	**Warramunga Arr**	**17.70**	**196**	P	**Pn**	**12 33 01.9**	**-3.0**
	1.5nm,0.3s,baz=20,slow=13,SNR=42						
WRA				S	Sn	12 36 12.8	-8.5
	0.9nm,0.3s,baz=9.1,slow=21,SNR=5.9						
WRA				LR	LR	12 40 30.4	
	comp=Z,2μm,18.5s,baz=15,slow=39						
MRSI	**Marisa**	**17.71**	**280**	P	**P**	**12 33 06.3**	**+1.0**
APSI	**Ampana**	**17.79**	**276**	P	**P**	**12 33 07.5**	**+1.2**
CTA	**Charters Tower**	**18.43**	**159**	P	**P**	**12 33 11.7**	**-1.6**
	0.2nm,0.3s,baz=330,slow=14,SNR=3.3						
CTAO	**Charters Tower**	**18.43**	**159**	*e*P	**P**	**12 33 12.7**	**-0.6**
	7.8nm,0.9s						
BNSI	**Bone**	**19.27**	**265**	P	**Pn**	**12 33 25.8**	**+2.0**
BKSI	**Bulukumba**	**19.34**	**262**	P	Pn	12 33 38.7	+14
TTSI	**Tana Toraja**	**19.50**	**269**	P	**Pn**	**12 33 27.2**	**+0.5**
SPSI	**Sidrap Palu**	**19.58**	**266**	P	**Pn**	**12 33 27.9**	**+0.4**
	27nm,0.9s						
PCI	**Palu**	**19.59**	**275**	P	**Pn**	**12 33 28.0**	**+0.3**
	64nm,0.9s,502nm						
KAPI	**Kappang**	**19.67**	**263**	*e*P	**P**	**12 33 24.6**	**-2.3**
	5.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.27**	**221**	P	**P**	**12 33 32.4**	**-1.1**
	baz=20,SNR=11						
FITZ	**Fitzroy Crossi**	**20.27**	**221**	*e*P	**P**	**12 33 32.1**	**-1.3**
	11nm,0.8s						
WBSI	**Waikabubak, Su**	**20.95**	**250**	P	**P**	**12 33 41.6**	**+0.8**
	53nm,1.2s,2μm						
ASAR	**Alice Springs**	**21.38**	**194**	P	**P**	**12 33 44.3**	**-1.0**
	4.8nm,0.4s,baz=15,slow=9.6,SNR=75						
ASAR				S	**S**	**12 37 41.5**	**+1.2**
	4.1nm,0.8s,baz=18,slow=25,SNR=4.3						
ASAR				LR	LR	12 42 36.0	
	comp=Z,1μm,19.9s,baz=12,slow=38						
HNR	**Honiara**	**21.50**	**109**	LR	LR	12 42 23.3	
	comp=Z,192nm,21.1s,baz=299,slow=38						
KBKI	**Kotabaru**	**23.15**	**268**	P	**P**	**12 34 06.3**	**+2.1**
	37nm,1.2s						
QLP	**Quilpie**	**24.08**	**169**	P	**P**	**12 34 13.3**	**+0.5**
	baz=24,SNR=8.8						
BBKI	**Banjar Baru**	**24.48**	**268**	P	**P**	**12 34 18.9**	**+2.3**
WRKA	**Warakurna**	**24.52**	**205**	P	**P**	**12 34 15.1**	**-1.8**
	baz=24,SNR=24						
EIDS	**Eidsvold**	**25.10**	**154**	P	**P**	**12 34 25.2**	**+3.1**
	baz=25,SNR=5.8						
EIDS	**Eidsvold**	**25.10**	**154**	*e*P	**P**	**12 34 23.8**	**+1.7**
	39nm,1.1s						
RMQ	**Roma**	**25.20**	**160**	P	**P**	**12 34 26.1**	**+3.1**
	baz=25,SNR=6.5						
KMMI	**Kalianget**	**25.63**	**260**	P	**P**	**12 34 30.0**	**+3.0**
STKA	**Stephens Creek**	**28.97**	**176**	P	**P**	**12 34 57.2**	**+0.4**
	1.7nm,0.5s,baz=345,slow=8.3,SNR=7.2						
STKA				LR	LR	12 47 39.1	
	comp=Z,1μm,19.3s,baz=357,slow=39						
STKA	**Stephens Creek**	**28.97**	**176**	P	**P**	**12 34 58.5**	**+1.7**
	baz=29,SNR=7.3						
STKA	**Stephens Creek**	**28.97**	**176**	*e*P	**P**	**12 34 57.0**	**+0.2**
	0.3nm,0.5s						
CMSA	**Cobar Meteorol**	**29.18**	**169**	P	**P**	**12 35 00.8**	**+2.1**
	baz=29,SNR=7.7						
ARMA	**Armidale**	**29.80**	**158**	P	**P**	**12 35 06.3**	**+2.0**
	baz=30,SNR=5.5						
BBOO	**Buckleboo**	**29.99**	**186**	P	**P**	**12 35 07.0**	**+1.2**
	baz=30,SNR=5.8						
MEEK	**Meekatharra**	**30.91**	**218**	P	**P**	**12 35 15.2**	**+1.1**
	baz=31,SNR=5.8						
JOW	**Kunigami**	**31.36**	**341**	LR	LR	12 45 56.6	
	comp=Z,20nm,20.3s,baz=212,slow=33						
YNG	**Young**	**32.43**	**166**	P	**P**	**12 35 29.2**	**+1.9**
	baz=33,SNR=5.8						
DZM	**Mont Dzumac**	**32.53**	**128**	*e*LR	LR	12 44 14.7	
	428nm,27.6s						
CNB	**Canberra Magne**	**33.64**	**165**	P	**P**	**12 35 39.9**	**+2.0**
	baz=34,SNR=4.9						
MORW	**Morawa**	**34.24**	**218**	P	**P**	**12 35 42.8**	**-0.4**
	baz=34,SNR=6.6						
QIZ	**Qiongzhong**	**36.25**	**308**	P	**P**	**12 35 58.5**	**-2.1**
QIZ				S	**S**	**12 41 35.0**	**-3.1**
QIZ				LZ			
	130nm,30.1s						
NWAO	**Narrogin (SRO)**	**36.42**	**212**	P	**P**	**12 36 00.9**	**-0.9**
	6.1nm,0.5s,baz=24,slow=8.0,SNR=3.9						
MJAR	**Matsushiro Arr**	**39.18**	**359**	LR	LR	12 50 44.0	
	comp=Z,209nm,20.6s,baz=150,slow=34						
NJ2	**Nanjing**	**39.77**	**332**	*e*P	**P**	**12 36 28.1**	**-2.0**
NJ2				PMZ			
	20nm,1.0s						
PSI	**Prapat**	**40.79**	**278**	P	**P**	**12 36 36.0**	**-2.9**
	8.2nm,0.9s,baz=23,slow=7.7,SNR=3.5						
KSAR	**Wonju Array Be**	**41.46**	**346**	P	**P**	**12 36 41.6**	**-2.2**
KSRS	**Korea Array**	**41.46**	**346**	P	**P**	**12 36 41.6**	**-2.2**
	0.5nm,0.3s,baz=158,slow=9.9,SNR=2.9						
KSRS				LR	LR	12 54 19.7	
	comp=Z,98nm,18.6s,baz=159,slow=37						
GYA	**Guiyang**	**42.95**	**315**	*e*P	**P**	**12 36 55.8**	**-0.7**
GYA				PMZ			
	10.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.05**	**300**	P	P	12 37 09.7	-3.6
	1.8nm,0.8s,baz=121,slow=6.4,SNR=14						
CMAR				PcP	**PcP**	**12 38 54.3**	**+0.7**
	1.1nm,0.6s,baz=124,slow=2.7,SNR=6.8						
CMAR				LR	LR	12 58 12.7	
	comp=Z,50nm,18.3s,baz=100,slow=39						
XAN	**Xi'an**	**46.54**	**325**	P	**P**	**12 37 24.5**	**-0.3**
XAN				PMZ			
	2.0nm,1.2s						
XAN				PMZ			
	19nm,5.4s						
ASAJ	**Asahikawa**	**46.82**	**3**	LR	LR	12 56 18.5	
	comp=Z,79nm,20.0s,baz=190,slow=35						
USRK	**Ussuriysk Ar.**	**47.28**	**353**	LR	LR	12 53 51.8	
	comp=Z,214nm,21.5s,baz=158,slow=32						
BJI	**Beijing**	**47.66**	**336**	P	**P**	**12 37 33.4**	**+0.1**
BJI				S	**S**	**12 44 26.0**	**+0.1**
BJI				PMZ			
	11nm,0.7s						
BJI				LN			
	200nm,20.4s						
BJI				LE			
	180nm,21.0s						
BJI				LZ			
	140nm,19.2s						
CD2	**Chengdu**	**47.70**	**317**	*e*P	**P**	**12 37 36.0**	**+2.1**
CD2				pP	**pP**	**12 37 49.6**	**+3.0**
CD2				sP	**sP**	**12 37 55.5**	**+3.6**
CD2				PP	**PP**	**12 39 27.0**	**+1.0**
CD2				PcS	**PcS**	**12 42 59.1**	**+0.7**
CD2				S	**S**	**12 44 28.1**	**+1.2**
CD2				sS	**sS**	**12 44 51.0**	**+2.9**
CD2				SS	**SS**	**12 47 51.3**	**-4.6**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
MDJ	**Mudanjiang**	**48.03**	**351**	P	**P**	**12 37 36.9**	**+0.7**
MDJ				pP	**pP**	**12 37 50.0**	**+1.1**
MDJ				ScP	**ScP**	**12 42 53.9**	**-0.6**
MDJ				PMZ			
	15nm,2.4s						
MDJ				LN			
	83nm,21.6s						
MDJ				LE			
	43nm,23.6s						
MDJ				LZ			
	110nm,19.6s						
HHC	**Hu-ho-hao-te**	**50.33**	**333**	*e*P	P	12 37 59.6	+5.7
HHC				PP	**PP**	**12 39 53.6**	**+3.8**
HHC				S	**S**	**12 45 03.0**	**-0.7**
HHC				sS	sS	12 45 27.3	+2.3
HHC	**Hu-ho-hao-te**	**50.33**	**333**	SS	**SS**	**12 48 35.1**	**-2.9**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,3.9s						
HHC				LR	LR		
	comp=N,170nm,14.8s						
HHC				LR	LR		
	comp=E,130nm,16.0s						
HHC				LR	LR		
	comp=Z,140nm,15.4s						
LZH	**Lanzhou**	**50.96**	**323**	*e*P	**P**	**12 37 59.6**	**+0.8**
LZH				pP	**pP**	**12 38 13.0**	**+1.4**
LZH				sP	**sP**	**12 38 21.0**	**+4.0**
LZH				PP	**PP**	**12 39 58.0**	**+2.3**
LZH				*e*S	**S**	**12 45 07.0**	**-5.7**
LZH				SS	**SS**	**12 48 43.1**	**-5.2**
LZH				PMZ			
	comp=Z,19nm,1.0s						
LZH				PMZ			
	comp=Z,100nm,4.2s						
LZH				LN			
	comp=Z,200nm,12.8s						
LZH				LE			
	comp=Z,280nm,14.3s						
LZH				LZ			
	comp=Z,350nm,16.6s						
GTA	**Gaotai**	**55.54**	**323**	*e*P	**P**	**12 38 32.3**	**-0.2**
GTA				pP	**pP**	**12 38 47.3**	**+1.9**
GTA				sP	**sP**	**12 38 53.0**	**+2.3**
GTA				S	**S**	**12 46 14.3**	**-0.6**
GTA				sS	sS	12 46 43.4	+7.0
GTA				SS	**SS**	**12 50 00.9**	**+0.4**
GTA				PMZ			
	comp=Z,6.0nm,1.0s						
GTA				PMZ			
	comp=Z,120nm,4.5s						
GTA				LN			
	comp=Z,48nm,15.7s						
GTA				LE			
	comp=Z,68nm,14.2s						

KSH				LN				
	comp=Z,61nm,6.8s							
KSH				LE				
	comp=Z,100nm,5.2s							
KSH				LZ				
	comp=Z,120nm,6.5s							
ZALV	**Zalesovo Beam**	**72.36**	**330**	P	**P**		**12 40 21.2**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=101,slow=6.9,SNR=4.9							
TKM2	**Tokmak 2**	**73.07**	**316**	*e*P	**P**		**12 40 26.5**	**-0.8**
	comp=Z,3.1nm,0.6s							
TIXI	**Tiksi**	**74.66**	**357**	*e*P	**P**		**12 40 34.9**	**-0.8**
	comp=Z,5.1nm,1.2s							
VNDA	**Vanda**	**75.61**	**175**	P	**P**		**12 40 42.0**	**+0.8**
	comp=Z,7.0nm,0.8s,baz=325,slow=6.1,SNR=27							
VNDA				LR	LR		13 14 08.5	
	comp=Z,220nm,18.1s,baz=344,slow=36							
VNDA	**Vanda**	**75.61**	**175**	*e*P	**P**		**12 40 41.5**	**+0.4**
	comp=Z,7.0nm,0.8s							
TNA	**Tin City**	**78.05**	**20**	*e*P	**P**		**12 40 56.0**	**+1.0**
	comp=Z,12nm,1.3s							
BVAR	**Borovoye Array**	**79.77**	**325**	P	**P**		**12 41 02.9**	**-1.9**
	comp=Z,4.9nm,0.5s,baz=110,slow=6.9,SNR=28							
MAW	**Mawson**	**82.26**	**202**	P	**P**		**12 41 17.0**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=107,slow=6.8,SNR=6.8							
MAW				LR	LR		13 15 46.9	
	comp=Z,221nm,19.1s,baz=60,slow=34							
RC01	**Rabbit Creek A**	**83.35**	**28**	*e*P	**P**		**12 41 23.5**	**0.0**
	comp=Z,4.6nm,0.5s							
MCK	**McKinley**	**84.52**	**25**	*e*P	**P**		**12 41 28.8**	**-0.6**
	comp=Z,16nm,1.4s							
GEYT	**Alibeck**	**84.81**	**308**	P	**P**		**12 41 30.9**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=178,slow=3.9,SNR=5.8							
GEYT				LR	LR		13 21 49.7	
	comp=Z,37nm,21.4s,baz=55,slow=38							
COLD	**Coldfoot**	**85.12**	**22**	*e*P	**P**		**12 41 33.4**	**+1.0**
	comp=Z,3.3nm,0.9s							
ABKAR	**Akbulak array**	**85.22**	**320**	*e*P	**P**		**12 41 31.9**	**-1.3**
	comp=Z,2.1nm,0.4s							
COLA	**College**	**85.31**	**24**	*e*P	**P**		**12 41 32.8**	**-0.5**
	comp=Z,42nm,2.4s							
ILAR	**Eielson Array**	**85.67**	**24**	P	**P**		**12 41 33.5**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=259,slow=4.7,SNR=13							
ILAR				LR	LR		13 20 58.9	
	comp=Z,37nm,18.6s,baz=225,slow=36							
AKTO	**Aktyubinsk**	**86.64**	**321**	P	**P**		**12 41 38.1**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=78,slow=9.3,SNR=3.7							
QSPA	**South Pole Qui**	**87.12**	**180**	*e*P	**P**		**12 41 42.1**	**-0.3**
	comp=Z,9.1nm,0.8s							
ARU	**Arti**	**87.24**	**327**	*e*P	**P**		**12 41 41.7**	**-1.3**
	comp=Z,63nm,0.9s							
EGAK	**Eagle**	**88.06**	**25**	*e*P	**P**		**12 41 46.9**	**+0.1**
	comp=Z,3.8nm,1.0s							
DAWY	**Dawson**	**88.70**	**26**	*e*P	**P**		**12 41 50.8**	**+1.0**
RAYN	**Ar Rayn**	**94.64**	**293**	*e*P	**P**		**12 42 17.2**	**-1.1**
	comp=Z,2.4nm,0.9s							
YKA	**Yellowknife Ar**	**99.88**	**27**	PKKPbc	PKKPbc		12 59 00.1	-3.2
	comp=Z,0.1nm,0.5s,baz=106,slow=2.9,SNR=5.6							
DAC	**Darwin (Calif)**	**102.19**	**54**	*e*Pdif	**Pdif**		**12 43 00.1**	**+7.9**
VYHS	**Vyhne**	**111.96**	**322**	PDIF	**Pdif**		**12 43 37.9**	**+2.8**
TORD	**Torodi Ar. Bea**	**136.90**	**286**	PKhKP	PKPpre		12 48 08.0	
	comp=Z,0.2nm,0.6s,baz=77,slow=4.3,SNR=4.4							
TORD				PKP	**PKPdf**		**12 48 20.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=64,slow=1.4,SNR=5.8							
KIC	**Kosan Boka**	**144.04**	**277**	*e*PKIKP	**PKPab**		**12 48 30.3**	**-0.4**
	comp=Z,112nm,1.9s							
DBIC	**Dimbokro**	**144.13**	**277**	PKP	**PKPab**		**12 48 30.6**	**-0.4**
	comp=Z,7.5nm,0.5s,baz=72,slow=3.1,SNR=26							
TIC	**Toumodi**	**144.30**	**277**	*e*PKIKP	**PKPab**		**12 48 30.6**	**-1.1**
	comp=Z,18nm,0.4s							
LIC	**Lamto**	**144.33**	**277**	*e*PKIKP	**PKPab**		**12 48 30.8**	**-1.0**
	comp=Z,70nm,1.8s							
LPAZ	**La Paz**	**146.86**	**126**	PKPbc	**PKPbc**		**12 48 40.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=236,slow=5.5,SNR=3.5							

CASC 16 12:31:29.8±1.7, 9.40N×83.81W, h57km±7km, MD3.7, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUS	**Buena Vista**	**0.16**	**17**	⇓*i*P		Pn	12 31 39.7	+0.3
BUS				*e*S		Sn	12 31 47.3	+1.1
QCR	**Quepos**	**0.35**	**274**	⇓*i*P		Pn	12 31 39.9	-0.2
QCR				*e*S		Sn	12 31 48.3	+0.8
URSC	**Urasca**	**0.43**	**4**	⇓*e*P		Pn	12 31 41.4	+0.2
URSC				*e*S		Sn	12 31 50.6	+1.3
ACR	**Cerro Adams**	**0.97**	**139**	⇑*e*P		Pn	12 31 47.3	-0.2
ACR				*e*S		Sn	12 32 01.2	+0.7
FORC	**Fortuna**	**1.36**	**321**	*i*P		Pn	12 31 53.0	+0.3
FORC				*i*S		Sn	12 32 11.6	+1.9
JCR	**Jicaral**	**1.36**	**289**	*e*P		Pn	12 31 51.8	-0.9
CEDE	**Laguna Cedeˇo**	**1.40**	**321**	*i*P		Pn	12 31 53.8	+0.6
CEDE				*i*S		Sn	12 32 12.4	+1.7
PTEN	**Parque Tenorio**	**1.75**	**318**	*i*P		Pn	12 31 57.9	-0.1
PTEN				*i*S		Sn	12 32 20.0	+0.7
CUI	**Cuipilapa**	**1.83**	**313**	*i*P		Pn	12 31 58.6	-0.4
LIM1	**Limonal**	**1.92**	**312**	*i*P		Pn	12 32 00.4	+0.1
VCR	**Vista de Mar**	**1.94**	**292**	*e*P		Pn	12 32 01.5	+0.9
GBS2	**Las Lilas**	**2.16**	**312**	*i*P		Pn	12 32 04.7	+1.1

NIED ***16*** *12:32:00, 36.60N×141.10E, h35km, Mw4.0 Best double couple: Mo1.06000×10^15 NP1:φs205.00000°, δ20.00000°, λ86.00000°. NP2:φs30.00000°, δ70.00000°, λ92.00000°.*
IDC ***16*** *12:32:02.0±1.1, 36.57N×141.26E, h0km, mb4.1/17, mb1 4.1/20, mb1mx4.0/35, mbtmp4.1/20, ML3.8/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/48, Error ellipse: s-maj=24.2km s-min=16.3km az=146.0*
MOS ***16*** *12:32:03.7±1.4, 36.49N×141.43E, h33km, mb4.4/18, Error ellipse: s-maj=10.9km s-min=7.7km az=108.3*
ISCJB ***16*** *12:32:05.0±0.7, 36.56N±0.04×141.32E±0.05, h39km±6km, mb4.1/23, Error ellipse: s-maj=7.5km s-min=5.6km az=30.3*
NEIC ***16*** *12:32:07.3±1.2, 36.48N×141.35E, h45km±11km, mb4.7/2, MW4.0(NIED), Error ellipse: s-maj=12.9km s-min=10.5km az=98.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi and [1 JMA] in Chiba.
JMA ***16*** *12:32:07.9±0.1, 36.59N×141.08E, h46km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs17.00000°, δ73.00000°, λ87.00000°. NP2:φs206.00000°, δ17.00000°, λ98.00000°. Principal axes: T Plg62.0000°, Azm283.0000°; N Plg2.0000°, Azm18.0000°; P Plg28.0000°, Azm109.0000°;*
JMA Felt II J1.

ISC 16 12:32:06.0±1.3, 36.59N±0.05×141.27E±0.06, h28km±8km, n71, σ1s10/70, mb4.2/23, 4C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.56**	**273**	⇓P		**Pb**	**12 32 17.7**	**+0.3**
JHO				S		**Sb**	**12 32 24.6**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.64**	**324**	⇓P		**Pn**	**12 32 19.3**	**0.0**
ONAJ				S		**Sb**	**12 32 27.2**	**-0.1**
JFK	**Kawauchi**	**0.84**	**338**	⇓P		**Pb**	**12 32 22.3**	**+0.2**
JFK				S		**Sb**	**12 32 32.2**	**-0.8**
JYT	**Yasato**	**0.94**	**248**	⇓P		**Pn**	**12 32 22.8**	**-0.5**
JFT	**Otama**	**1.19**	**322**	⇓P		**Pb**	**12 32 27.9**	**-0.1**
JFT				S		**Sn**	**12 32 42.1**	**0.0**
JAG	**Ashikaga**	**1.47**	**264**	⇓P		**Pn**	**12 32 30.2**	**-0.5**
JAG				S		**Sn**	**12 32 46.8**	**-2.2**
MJAR	**Matsushiro Arr**	**2.46**	**270**	P		**Pn**	**12 32 45.0**	**+0.7**
MJAR							12 33 15.4	
MJAR				pmax	pmax			
	comp=Z,56nm,0.3s							
MJAR				smax	smax			
	comp=N,24nm,0.3s							
MJAR	**Matsushiro Arr**	**2.46**	**270**	Pn		**Pn**	**12 32 45.0**	**+0.7**
	comp=N,56nm,0.3s,baz=115,slow=9.8,SNR=368							
MJAR				Sn		**Sn**	**12 33 15.4**	**+1.9**
	comp=N,24nm,0.3s,baz=314,slow=29,SNR=4.7							
MAJO	**Matsushiro**	**2.46**	**270**	*e*P		**Pn**	**12 32 45.4**	**+1.0**
MAJO				*e*			12 33 13.1	
MAJO	**Matsushiro**	**2.46**	**270**	*e*Pn		**Pn**	**12 32 45.4**	**+1.0**
MAJO				*e*Sn		**Sn**	**12 33 13.1**	**-0.4**
MAT	**Matsushiro**	**2.46**	**270**	P		**Pn**	**12 32 45.4**	**+1.1**
MAT				*e*S		**Sn**	**12 33 12.6**	**-0.9**
ERM	**Erimo**	**5.62**	**15**	*c i*P		**Pn**	**12 33 29.1**	**+1.5**
ASAJ	**Asahikawa**	**7.59**	**7**	P		**Pn**	**12 33 55.4**	**+0.7**
ASAJ							12 35 19.2	
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ASAJ				smax	smax			
	comp=N,1.0nm,0.3s							
ASAJ	**Asahikawa**	**7.59**	**7**	Pn		**Pn**	**12 33 55.4**	**+0.7**
	comp=N,2.4nm,0.3s,baz=227,slow=7.3,SNR=32							
ASAJ				Sn		**Sn**	**12 35 19.1**	**-0.6**
	comp=N,0.9nm,0.3s,baz=90,slow=20,SNR=3.3							
YUK	**Yuzh-Kuril'sk**	**8.22**	**24**	⇓*i*P		**Pn**	**12 34 03.7**	**+0.3**
YUK				*i*S		**Sn**	**12 35 30.1**	**-5.2**
YUK				pmax	pmax			
	comp=N,12nm,0.3s							
YUK				pmax	pmax			
	comp=E,6.0nm,0.3s							
YUK				pmax	pmax			
	comp=Z,20nm,0.3s							
JNU	**Nakatsue**	**9.21**	**251**	Pn		**Pn**	**12 34 18.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=53,slow=10,SNR=4.7							
CBIJ	**Chichi jima**	**9.49**	**175**	Pn		**Pn**	**12 34 20.4**	**-0.4**
CBIJ				Sn		Sn	12 35 58.4	-8.2
JCJ	**Chichijima**	**9.49**	**175**	Pn		**Pn**	**12 34 20.4**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=9.0,slow=19,SNR=4.4							
JCJ				Sn		Sn	12 35 58.4	-8.2
	baz=287,slow=19							
JCJ				LR		LR	12 36 50.8	
	comp=Z,85nm,21.9s,baz=112,slow=30							
USRK	**Ussuriysk Ar.**	**10.38**	**320**	Pn		Pn	12 34 36.4	+3.4
	comp=Z,0.3nm,0.3s,baz=133,slow=13,SNR=17							
USRK				LR		LR	12 38 25.9	
	comp=Z,100nm,18.9s,baz=170,slow=37							
KSRS	**Korea Array**	**10.71**	**279**	Pn		Pn	12 34 42.4	+4.9
	comp=Z,0.3nm,0.3s,baz=85,slow=13,SNR=6.9							
KSRS				LR		LR	12 38 29.5	
	comp=Z,75nm,18.3s,baz=70,slow=36							
KSAR	**Wonju Array Be**	**10.74**	**279**	P		Pn	12 34 42.4	+4.5
KSAR	**Wonju Array Be**	**10.74**	**279**	Pn		Pn	12 34 42.4	+4.5
HABR	**Khabarovsk**	**12.73**	**341**	*e*P		**Pn**	**12 35 05.1**	**+0.1**
HABR				*e*S		**Sn**	**12 37 25.6**	**0.0**
HABR				pmax	pmax			
	comp=Z,19nm,2.0s							
HABR				MLR	MLR			
	comp=Z,56nm,16.0s							
YAK	**Yakutsk**	**26.48**	**348**	*e*P		**P**	**12 37 39.2**	**-1.3**
YAK				pmax	pmax			
	comp=Z,12nm,0.9s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.1s							
YAK	**Yakutsk**	**26.48**	**348**	P		**P**	**12 37 40.0**	**-0.5**
	comp=N,8.1nm,0.3s,baz=37,slow=1.1,SNR=3.3							
SEY	**Seymchan**	**27.25**	**11**	P		**P**	**12 37 47.0**	**-0.5**
SEY				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SEY	**Seymchan**	**27.25**	**11**	P		**P**	**12 37 47.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=180,slow=20,SNR=5.6							
ULN	**Ulaanbaatar**	**27.51**	**305**	*e*P		**P**	**12 37 50.4**	**+0.2**
SONM	**Songino Array**	**27.94**	**305**	P		**P**	**12 37 54.0**	**0.0**
SONM				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SONM	**Songino Array**	**27.94**	**305**	P		**P**	**12 37 54.0**	**0.0**
	comp=Z,3.1nm,0.6s,baz=107,slow=8.9,SNR=15							
H11N2	**WAKE ISLAND Hy**	**28.02**	**120**	T		T	13 08 00.8	
	baz=312,slow=75,SNR=107							
H11N1	**WAKE ISLAND Hy**	**28.03**	**120**	T		T	13 08 01.3	
	baz=312,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**28.04**	**120**	T		T	13 08 02.1	
	baz=312,slow=75,SNR=79							
H11S1	**WAKE ISLAND Hy**	**28.72**	**122**	T		T	13 08 50.4	
	baz=314,slow=75,SNR=278							
H11S3	**WAKE ISLAND Hy**	**28.72**	**122**	T		T	13 08 50.5	
	baz=314,slow=75,SNR=150							
H11S2	**WAKE ISLAND Hy**	**28.73**	**122**	T		T	13 08 50.1	
	baz=314,slow=75,SNR=112							
ZAK	**Zakamensk**	**30.46**	**309**	*e*P		**P**	**12 38 14.2**	**-2.0**
ZAK				*e*			12 39 12.4	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
TIXI	**Tiksi**	**35.72**	**353**	*c e*P		**P**	**12 39 02.8**	**+1.1**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
CMAR	**Chiang Mai Arr**	**41.27**	**256**	P		**P**	**12 39 48.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=61,slow=7.3,SNR=2.4							
ZALV	**Zalesovo Beam**	**42.13**	**313**	*i* P		**P**	**12 39 55.5**	**-0.1**
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ZALV	**Zalesovo Beam**	**42.13**	**313**	P		**P**	**12 39 55.5**	**-0.1**
	comp=Z,4.3nm,0.5s,baz=91,slow=6.3,SNR=25							
NVS	**Novosibirsk**	**43.06**	**314**	*e*P		**P**	**12 40 00.1**	**-3.1**
MKAR	**Makanchi Array**	**44.26**	**302**	P		**P**	**12 40 13.8**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=92,slow=11,SNR=13							
KURK	**Kurchatov**	**46.12**	**308**	P		**P**	**12 40 25.9**	**-1.7**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**46.12**	**308**	*e*P		**P**	**12 40 26.9**	**-0.7**
	comp=Z,6.5nm,0.6s							
KURK	**Kurchatov**	**46.12**	**308**	*e*P		**P**	**12 40 27.0**	**-0.6**
	comp=Z,5.7nm,0.4s							
KURBB	**Kurchatov Arra**	**46.19**	**308**	P		**P**	**12 40 27.5**	**-0.6**
	comp=Z,5.0nm,0.4s,baz=84,slow=7.7,SNR=51							
ILAR	**Eielson Array**	**49.93**	**32**	P		**P**	**12 40 58.6**	**+1.7**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**49.93**	**32**	P		**P**	**12 40 58.6**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=262,slow=5.7,SNR=11							
AAK	**Ala-Archa**	**50.60**	**299**	P		**P**	**12 41 02.5**	**0.0**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AAK	**Ala-Archa**	**50.60**	**299**	P		**P**	**12 41 02.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=145,slow=11,SNR=3.6							
BVA0	**Borovoye Array**	**50.79**	**313**	*i* P		**P**	**12 41 03.1**	**-0.4**
BVA0				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CTAO	**Charters Tower**	**56.56**	**174**	*e*P		P	12 41 41.7	-4.4
CTAO				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CTAO	**Charters Tower**	**56.56**	**174**	*e*P		P	12 41 41.7	-4.4
	comp=Z,8.8nm,0.9s							
WRA	**Warramunga Arr**	**56.60**	**188**	*i* P		**P**	**12 41 46.5**	**+0.1**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**56.60**	**188**	P		**P**	**12 41 46.1**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=7.8,slow=7.7,SNR=6.4							
ARU	**Arti**	**56.62**	**319**	*c i*P		**P**	**12 41 46.5**	**+0.4**
ARU				S		**S**	**12 49 35.4**	**-0.8**
ARU				pmax	pmax			
	comp=Z,17nm,2.5s							
AKTO	**Aktyubinsk**	**58.89**	**312**	P		**P**	**12 42 02.3**	**+0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKTO	**Aktyubinsk**	**58.89**	**312**	P		**P**	**12 42 02.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=63,slow=12,SNR=4.5							
RES	**Resolute Bay**	**63.06**	**14**	P		**P**	**12 42 30.2**	**+0.1**
RES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
RES	**Resolute Bay**	**63.06**	**14**	P		**P**	**12 42 30.2**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=317,slow=6.8,SNR=3.3							
YKA	**Yellowknife Ar**	**64.25**	**30**	P		**P**	**12 42 39.1**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=305,slow=6.7,SNR=5.7							
ARCES	**ARCESS Array B**	**64.37**	**339**	P		**P**	**12 42 39.8**	**+0.9**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARCES	**ARCESS Array B**	**64.37**	**339**	P		**P**	**12 42 39.8**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=49,slow=9.7,SNR=5.4							
FINES	**FINESS Array B**	**69.16**	**332**	P		**P**	**12 43 09.4**	**0.0**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**69.16**	**332**	P		**P**	**12 43 09.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=49,slow=13,SNR=5.2							
NOA	**NORSAR Array B**	**74.55**	**337**	P		**P**	**12 43 42.3**	**+0.4**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NOA	**NORSAR Array B**	**74.55**	**337**	P		**P**	**12 43 42.3**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=48,slow=6.6,SNR=3.0							
AKASG	**Malin Array Be**	**74.58**	**322**	*c e*P		**P**	**12 43 41.7**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**74.58**	**322**	P		**P**	**12 43 41.6**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=44,slow=6.1,SNR=4.3							
H06E1	**SOCORRO T-PHAS**	**92.48**	**65**	T		T	14 27 18.3	
	SNR=6.2							

NNC ***16*** *12:33:30.8±7.7, 53.96N×87.14E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=56.8km s-min=45.5km az=44.0*
IDC ***16*** *12:33:35.8±2.8, 54.15N×86.50E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=22.6km s-min=13.2km az=58.0*

ISC 16 12:33:36.3±5.1, 54.2N±0.2×86.4E±0.2, h10km, n6, σ2s18/6, 1C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**255**	*i*			12 41 10.4	
	baz=80,slow=323,SNR=0.9							
ZALV	**Zalesovo Beam**	**0.97**	**255**	Pg		**Pg**	**12 33 53.8**	**-1.2**
	0.7nm,0.3s,baz=78,slow=16,SNR=7.9							
ZALV				Lg		Lg	12 34 09.7	
	1.6nm,0.3s,baz=75,slow=28,SNR=14							
ZALV				Rg		Rg	12 34 14.2	
	28nm,1.1s,baz=78,slow=27,SNR=30							
KURBB	**Kurchatov Arra**	**6.01**	**236**	⇓Pn		**Pn**	**12 35 04.1**	**-1.1**
	1.0nm,0.6s,baz=56,slow=14							
KURBB				⇓Sn		**Sn**	**12 36 16.2**	**+2.2**
	2.3nm,0.7s							
KURBB				⇓Lg		Lg	12 36 48.3	
	3.0nm,0.8s,baz=59,slow=32							
KURBB	**Kurchatov Arra**	**6.01**	**236**	Pn		**Pn**	**12 35 07.1**	**+1.8**
	0.1nm,0.3s,baz=54,slow=13,SNR=4.4							
MK31	**Makanchi Array**	**7.88**	**201**	⇓Pn		Pn	12 35 24.8	-6.1
	0.1nm,0.6s,baz=28,slow=14,SNR=6.5							
MK31				⇑Sn		**Sn**	**12 36 58.5**	**-1.5**
	0.4nm,0.7s							
MK31				⇓Lg		Lg	12 37 40.5	
	1.2nm,0.9s							
MKAR	**Makanchi Array**	**7.88**	**201**	Pn		**Pn**	**12 35 32.0**	**+1.1**
	0.2nm,0.3s,baz=27,slow=13,SNR=7.4							
MKAR				Lg		Lg	12 37 43.7	
	0.0nm,0.3s,baz=24,slow=30,SNR=5.4							

IDC ***16*** *12:45:39.5±3.4, 2.92S×138.94E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/28, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=124.5km s-min=16.2km az=92.0*
ISCJB ***16*** *12:45:40.9±0.6, 2.88S±0.07×139.34E±0.05, h27km, mb3.4/2, Error ellipse: s-maj=10.6km s-min=6.0km az=146.0*
DJA ***16*** *12:45:42.7±1.0, 2.2S±12°×14.0E±°, h10km, M3.7/3, MLv3.7/3*

ISC 16 12:45:41.1±0.8, 2.73S±0.07×139.37E±0.06, h27km, n11, σ2s34/15, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GENI	**Genyem**	**0.81**	**81**	P		**Pn**	**12 45 57.3**	**+0.6**
GENI				S		**Sn**	**12 46 10.1**	**+2.2**
SMPI	**Sarmi**	**0.98**	**318**	P		**Pb**	**12 45 59.8**	**+0.2**
SMPI				S		**Sb**	**12 46 07.0**	**-5.2**
JAY	**Jayapura**	**1.35**	**81**	P		**Pn**	**12 46 03.9**	**-0.3**
FAKI	**Fak Fak**	**7.11**	**268**	P		**Pn**	**12 47 26.4**	**+2.9**
	baz=8.1,SNR=9.4							
KDU	**Kakadu**	**12.02**	**214**	P		**Pn**	**12 48 30.9**	**+0.1**
	baz=13,SNR=10							
MTN	**Manton Dam**	**12.94**	**219**	P		**Pn**	**12 48 43.5**	**+0.1**
	baz=14,SNR=4.2							
SOEI	**Soe**	**16.55**	**244**	P		**P**	**12 49 33.7**	**-0.3**
	baz=18,SNR=5.6							
KNRA	**Kununurra**	**16.57**	**218**	P		**Pn**	**12 49 32.4**	**+0.6**
	baz=18,SNR=8.3							
WRA	**Warramunga Arr**	**17.80**	**196**	P		**Pn**	**12 49 45.2**	**-1.9**
	0.2nm,0.3s,baz=17,slow=13,SNR=22							
WRA				S		**Sn**	**12 53 00.7**	**-4.2**
	0.1nm,0.3s,baz=17,slow=22,SNR=4.7							
ASAR	**Alice Springs**	**21.48**	**194**	P		**P**	**12 50 28.2**	**+0.4**
	1.1nm,0.7s,baz=23,slow=10.0,SNR=39							
ASAR				S		**S**	**12 54 24.4**	**-0.4**
	0.5nm,0.8s,baz=14,slow=28,SNR=3.4							
MKAR	**Makanchi Array**	**70.20**	**322**	P		**P**	**12 56 53.5**	**+1.8**
	0.3nm,0.5s,baz=106,slow=7.7,SNR=3.1							

NNC 16 12:52:24.2±5.5, 36.79N×71.00E, h0km, mb3.6, mpv3.4, 6C-4D, Error ellipse: s-maj=44.8km s-min=20.3km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZET	**Dzherino**	**2.65**	**320**	⇑P		Pn	12 53 09.0	+0.6
	3.8nm,0.4s							
DZET				⇑S		Sn	12 53 43.3	+2.0
	12nm,0.3s							
SFK	**Sufi-Kurgan**	**3.77**	**31**	⇓P		Pn	12 53 23.0	-1.0
	1.2nm,0.3s							
SFK				⇓S		Sn	12 54 13.0	+3.6
	2.6nm,0.3s							
MNAS	**Manas**	**5.81**	**11**	⇑P		Pn	12 53 51.0	-0.8
MNAS				⇑S		Sn	12 54 58.5	-0.8
	1.8nm,0.3s							
KK31	**Karatay Array**	**6.32**	**357**	P		Pn	12 53 58.6	-0.1
	1.9nm,0.2s,baz=177,slow=13,SNR=39							
KK31			

ISK 16 13:04:19.3, 39°04'N × 39°67'E, h5km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.26**	**237**	*e*PG	Pg	13 04 24.5	-0.2
PTK	**Pertek**	**0.26**	**237**	*e*Pg	Pg	13 04 24.5	-0.2
BINT	**Bingol**	**0.66**	**104**	*e*Pg	Pn	13 04 34.9	-0.6
BINT				*e*Sg	Sn	13 04 45.9	-0.4
SVRC	**Sivrice-ELAZID**	**0.72**	**204**	*e*PG	Pb	13 04 34.0	-0.6
SVRC	**Sivrice-ELAZID**	**0.72**	**204**	*e*Pg	Pb	13 04 34.0	-0.5
ELZG	**Elazig**	**0.76**	**225**	*i* P	Pn	13 04 41.1	+4.1
ELZG				*i* S	Sn	13 04 58.9	+10
ELZG	**Elazig**	**0.76**	**225**	*i* P	Pn	13 04 41.1	+4.1
ELZG				*i* S	Sn	13 04 58.9	+10
BNGB	**Bing^¶l**	**0.79**	**93**	*e*PG	Pg	13 04 34.9	+0.4
BNGB				*e*SG	Sb	13 04 45.9	-0.8
DYBB	**Diyarbakir**	**1.14**	**161**	*e*PN	Pb	13 04 41.8	+0.2
BNGL	**BINGOL**	**1.16**	**94**	*i* P	Pn	13 04 43.6	+1.2
BNGL				*i* S	Sb	13 04 57.7	+0.2
DIY	**Diyarbakir**	**1.22**	**159**	*e*Pn	Pg	13 04 41.8	-1.0
GUMT	**Gumushane**	**1.43**	**354**	*e*PN	Pg	13 04 46.9	-0.1
GUMT	**Gumushane**	**1.43**	**354**	*e*Pn	Pg	13 04 46.9	0.0
SVAN	**Silvan-Diyarba**	**1.49**	**126**	*e*PN	Pb	13 04 47.5	0.0
SUSE	**Susehri**	**1.63**	**316**	*i* P	Pg	13 05 04.1	+13
SUSE				*i* S	Sg	13 05 31.4	+19
SUSE	**Susehri**	**1.63**	**316**	*i* P	Pg	13 05 04.1	+13
SUSE				*i* S	Sg	13 05 31.4	+19
MAZI	**Mazidag**	**1.69**	**159**	*e*PN	Pb	13 04 50.7	-0.3
MAZI	**Mazidag**	**1.69**	**159**	*e*Pn	Pb	13 04 50.7	-0.3
BEST	**Besiri**	**1.70**	**132**	*i* P	Pb	13 04 51.0	-0.1
BEST				*i* S	Sn	13 05 09.9	-2.0
URFA	**Urfa**	**1.73**	**203**	*e*PN	Pb	13 04 51.4	-0.2
URFA	**Urfa**	**1.73**	**203**	*e*Pn	Pb	13 04 51.4	-0.3
EKAR	**Karacoban**	**1.87**	**83**	*i* P	Pg	13 04 59.1	+3.5
EKAR				*i* S	Sg	13 05 24.1	+4.0
EKAR	**Karacoban**	**1.87**	**83**	*i* P	Pg	13 04 59.1	+3.5
EKAR				*i* S	Sg	13 05 24.1	+4.0
MARD	**Mardin**	**1.93**	**153**	*i* P	Pb	13 04 55.4	+0.3
MARD				*i* S	Sn	13 05 15.9	-1.8
KTUT	**Trabzon**	**1.95**	**2**	*e*PN	Pb	13 04 54.4	-0.9
KTUT	**Trabzon**	**1.95**	**2**	*e*Pn	Pb	13 04 54.4	-0.9

*CSEM **16** 13:14:38.0, 66°48N × 17°59W, h13km, ML3.0*
REY 16 13:14:38.0, 66°48N × 17°59W, h13km, ML3.5, ML3.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.18**	**291**	P	Pg	13 14 41.9	-0.1
IGRI				S	Sg	13 14 44.8	0.0
IGRI	**Grimsey** baz=291	**0.18**	**291**	P	Pg	13 14 41.9	-0.1
IGRI	baz=291			S	Sg	13 14 44.9	0.0
IHED	**Heoinshofoi**	**0.42**	**164**	P	Pg	13 14 45.5	-0.8
IHED				S	Sg	13 14 51.4	-0.4
IHED	**Heoinshofoi** baz=164	**0.42**	**164**	P	Pg	13 14 45.5	-0.7
IHED	baz=164			S	Sg	13 14 51.4	-0.4
ILEI	**Leirhofn**	**0.45**	**99**	P	Pg	13 14 46.1	-0.8
ILEI				S	Sg	13 14 52.4	-0.4
ILEI	**Leirhofn** baz=99	**0.45**	**99**	P	Pg	13 14 46.1	-0.8
ILEI	baz=99			S	Sg	13 14 52.4	-0.5
IGRA	**Granastaoir**	**0.56**	**179**	P	Pg	13 14 48.0	-1.0
IGRA				S	Sg	13 14 55.7	-0.8
IGRA	**Granastaoir** baz=179	**0.56**	**179**	S	Sg	13 14 55.7	-0.8
IGRA	baz=179			P	Pg	13 14 48.0	-1.0
IHLA	**Hella**	**0.63**	**211**	P	Pg	13 14 49.2	-1.0
IHLA				S	Sg	13 14 57.7	-0.7
IHLA	**Hella** baz=211	**0.63**	**211**	P	Pg	13 14 49.2	-1.0
IHLA	baz=211			S	Sg	13 14 57.7	-0.7
ISIG	**Siglufjorour**	**0.64**	**237**	P	Pg	13 14 48.9	-1.5
ISIG				S	Sg	13 14 57.2	-1.6
ISIG	**Siglufjorour** baz=238	**0.64**	**237**	P	Pg	13 14 48.9	-1.5
ISIG	baz=238			S	Sg	13 14 57.2	-1.6
IGIL	**Gilhagi**	**0.65**	**128**	P	Pg	13 14 49.2	-1.3
IGIL				S	Sg	13 14 57.9	-1.1
IGIL	**Gilhagi** baz=128	**0.65**	**128**	S	Sg	13 14 57.9	-1.2
IGIL	baz=128			P	Pg	13 14 49.2	-1.3
ISKI	**Skildingah^‡ls**	**0.65**	**159**	P	Pg	13 14 49.4	-1.3
ISKI				S	Sg	13 14 58.1	-1.3
ISKI	**Skildingah^‡ls** baz=159	**0.65**	**159**	P	Pg	13 14 49.4	-1.3
ISKI	baz=159			S	Sg	13 14 58.1	-1.3
IGHA	**Grjothals**	**0.74**	**149**	P	Pg	13 14 50.8	-1.6
IGHA				S	Sg	13 15 00.7	-1.5
IGHA	**Grjothals** baz=149	**0.74**	**149**	P	Pg	13 14 50.8	-1.6
IGHA	baz=149			S	Sg	13 15 00.7	-1.5
IKVO	**Krokottuvotn**	**0.82**	**159**	P	Pg	13 14 52.1	-1.9
IKVO				S	Sg	13 15 03.1	-1.7
IKVO	**Krokottuvotn** baz=159	**0.82**	**159**	P	Pg	13 14 52.1	-1.9
IKVO	baz=159			S	Sg	13 15 03.1	-1.7
IREN	**Reynihlio**	**0.88**	**161**	P	Pg	13 14 53.1	-2.0
IREN				S	Sg	13 15 04.8	-1.8
IREN	**Reynihlio** baz=161	**0.88**	**161**	P	Pg	13 14 53.1	-1.9
IREN	baz=161			S	Sg	13 15 04.8	-1.8
IMEL	**Melhnausar**	**0.99**	**157**	P	Pb	13 14 54.9	-2.1
IMEL				S	Sb	13 15 08.5	-1.5
IMEL	**Melhnausar** baz=157	**0.99**	**157**	P	Pb	13 14 54.9	-2.1
IMEL	baz=157			S	Sb	13 15 08.5	-1.5
IGRS	**Grimsstaoir**	**1.04**	**144**	P	Pb	13 14 55.5	-2.3
IGRS				S	Sb	13 15 09.4	-1.9
IGRS	**Grimsstaoir** baz=144	**1.04**	**144**	P	Pb	13 14 55.5	-2.3
IGRS	baz=144			S	Sb	13 15 09.3	-2.0
IHRN	**Hraun**	**1.09**	**251**	P	Pb	13 14 55.5	-3.1
IHRN				S	Sb	13 15 09.2	-3.5
IHRN	**Hraun** baz=251	**1.09**	**251**	P	Pb	13 14 55.5	-3.1
IHRN	baz=251			S	Sb	13 15 09.2	-3.5
ISVA	**Svartarkot**	**1.16**	**173**	P	Pb	13 14 57.8	-2.1
ISVA				S	Sb	13 15 12.6	-2.2
ISVA	**Svartarkot** baz=173	**1.16**	**173**	P	Pb	13 14 57.8	-2.1
ISVA	baz=173			S	Sb	13 15 12.6	-2.2
IASK	**Askja**	**1.49**	**164**	P	Pn	13 15 02.6	-1.9
IASK				S	Sn	13 15 22.1	-1.8
IASK	**Askja** baz=164	**1.49**	**164**	P	Pn	13 15 02.6	-1.9
IASK	baz=164			S	Sn	13 15 22.1	-1.7
IMKO	**Mokollar**	**1.59**	**160**	P	Pn	13 15 04.6	-1.4
IMKO				S	Sn	13 15 25.3	-1.2
IMKO	**Mokollar** baz=160	**1.59**	**160**	P	Pn	13 15 04.6	-1.4
IMKO	baz=160			S	Sn	13 15 25.3	-1.2
IADA	**Aoalbol**	**1.69**	**149**	P	Pn	13 15 06.2	-1.0
IADA				S	Sn	13 15 27.7	-1.0
IADA	**Aoalbol** baz=150	**1.69**	**149**	P	Pn	13 15 06.2	-1.0
IADA	baz=150			S	Sn	13 15 27.7	-1.0
IHVA	**Hvannstoosfjol**	**1.69**	**154**	P	Pn	13 15 05.9	-1.4
IHVA	**Hvannstoosfjol** baz=154	**1.69**	**154**	P	Pn	13 15 05.9	-1.3
IBRU	**Bruarjokull**	**1.77**	**159**	P	Pn	13 15 07.2	-1.2
IBRU	**Bruarjokull** baz=159	**1.77**	**159**	P	Pn	13 15 07.2	-1.2
IKRE	**Kreppuhraun**	**1.78**	**163**	P	Pn	13 15 07.1	-1.4
IKRE				S	Sn	13 15 30.1	-0.9
IKRE	**Kreppuhraun** baz=163	**1.78**	**163**	P	Pn	13 15 07.1	-1.4
IKRE	baz=163			S	Sn	13 15 30.1	-0.8
IGLU	**Glumsstadir**	**1.83**	**144**	P	Pn	13 15 08.2	-0.9
IGLU				S	Sn	13 15 31.4	-0.6
IGLU	**Glumsstadir** baz=144	**1.83**	**144**	P	Pn	13 15 08.2	-0.9
IGLU	baz=144			S	Sn	13 15 31.4	-0.6
IVSH	**V-Sauoahnukur**	**1.85**	**154**	P	Pn	13 15 08.6	-0.9
IVSH	**V-Sauoahnukur** baz=154	**1.85**	**154**	P	Pn	13 15 08.6	-0.9
ISKR	**Skrokkalda**	**1.96**	**190**	P	Pn	13 15 10.0	-1.0
ISKR				S	Sn	13 15 34.6	-0.8
ISKR	**Skrokkalda** baz=190	**1.96**	**190**	P	Pn	13 15 10.0	-1.0
ISKR	baz=190			S	Sn	13 15 34.6	-0.8
IASB	**`sbjarnarst** baz=223	**2.33**	**223**	P	Pn	13 15 15.7	-0.2
IASB				S	Sn	13 15 45.2	+0.8
IASB	**`sbjarnarst** baz=223	**2.33**	**223**	P	Pn	13 15 15.7	-0.3
IASB	baz=223			S	Sn	13 15 45.1	+0.8

*ISCJB **16** 13:16:17.1±0.4, 32°24N±0°02 × 115°18W±0°02, h9km±3km, Error ellipse: s-maj=2.7km s-min=2.6km az=7.7*
*ECX **16** 13:16:19.9±0.5, 32°20N × 115°29W, h8km, MD3.7, ML3.9*
*NEIC **16** 13:16:19.0, 32°20N × 115°28W, h9km, ML3.7(PAS), ML3.9(ECX), After ECX.*
*MEX **16** 13:16:20.4±0.9, 32°25N × 115°09W, h15km, MD4.4*
ISC 16 13:16:18.5±0.8, 32°18N±0°02 × 115°23W±0°02, h14km±6km, n33, σ1°01/83, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.19**	**182**	⇓*e*P	**Pg**	**13 16 23.0**	**+0.1**
EMX				*e*S	**Sg**	**13 16 26.6**	**+0.7**
MBIG	**Mexicali**	**0.23**	**8**	*e*P	**Pg**	**13 16 24.0**	**+0.6**
MBIG				*i* S	**Sb**	**13 16 28.2**	**-0.2**
CPBX	**Cerro Prieto**	**0.24**	**346**	⇓*e*P	**Pg**	**13 16 23.8**	**+0.1**
CPBX				*e*P	**Pg**	**13 16 23.8**	**+0.1**
CPBX				*e*S	**Sg**	**13 16 27.3**	**0.0**
CPBX				*e*S	**Sg**	**13 16 27.9**	**+0.6**
CPBX	comp=E,51μm,0.3s			AML	AML	13 16 29.7	
CPBX				⇓*e*		13 16 29.7	
CPBX	**Cerro Prieto**	**0.24**	**346**	*e*P	**Pg**	**13 16 23.9**	**+0.1**
CPBX				*i* S	**Sg**	**13 16 27.9**	**+0.6**
RDX	**Rancho Dawling**	**0.65**	**247**	⇑*i*P	**Pg**	**13 16 31.6**	**+0.2**
RDX				*e*S	**Sg**	**13 16 39.9**	**-0.1**
RDX	comp=N,6μm,0.5s			⇑*e*		13 16 41.5	
ECBX	**El Chinero**	**0.72**	**168**	⇓*e*P	**Pg**	**13 16 32.0**	**-0.6**
ECBX				*e*S	**Sg**	**13 16 42.4**	**+0.2**
RMX	**La Rumorosa**	**0.83**	**301**	⇑*e*P	**Pg**	**13 16 33.7**	**-1.0**
RMX				*e*S	**Sg**	**13 16 44.4**	**-1.2**
RMX	comp=N,4μm,0.2s			*e*		13 16 45.7	
RMX	comp=E,4μm,0.2s			⇓*e*		13 16 45.8	
GLA	**Glamis**	**0.93**	**21**	*e*Pg	**Pb**	**13 16 34.9**	**-1.7**
GLA				*e*Sg	**Sb**	**13 16 46.5**	**-2.3**
ZAX	**El Zacaton**	**1.11**	**233**	*e*P	**Pb**	**13 16 39.0**	**-0.5**
ZAX				*e*S	**Sb**	**13 16 53.3**	**-0.6**
SPIG	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pb**	**13 16 40.1**	**-0.4**
SPIG				*i* S	**Sb**	**13 16 55.2**	**-0.1**
SPIG	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pb**	**13 16 40.0**	**-0.4**
SPIG				*e*S	**Sb**	**13 16 55.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pb**	**13 16 40.1**	**-0.4**
SPIG				*e*S	**Sn**	**13 16 56.8**	**+0.5**
SPX	**San Pedro Mart**	**1.15**	**190**	⇓*e*P	**Pb**	**13 16 40.1**	**-0.4**
SPX				*e*S	**Sb**	**13 16 56.2**	**+0.8**
CBX	**Cerro Bola**	**1.22**	**277**	*i* P	**Pn**	**13 16 40.2**	**-1.1**
CBX				*i* S	**Sb**	**13 16 57.0**	**-0.2**
CBX	**Cerro Bola**	**1.22**	**277**	⇑*e*P	**Pn**	**13 16 40.2**	**-1.1**
CBX				*e*S	**Sb**	**13 16 56.0**	**-1.1**
CBX	**Cerro Bola**	**1.22**	**277**	*i* P	**Pn**	**13 16 40.2**	**-1.1**
CBX				*i* S	**Sb**	**13 16 54.9**	**-2.3**
ECNX	**Esteban Cantu**	**1.27**	**246**	*e*P	**Pn**	**13 16 41.6**	**-0.5**
ECNX				*e*S	**Sb**	**13 16 58.2**	**-0.5**
PBX	**Punta Banda**	**1.34**	**251**	*e*P	**Pn**	**13 16 42.4**	**-0.6**
PBX				*e*S	**Sn**	**13 16 60.0**	**-0.6**
PFO	**Pinyon Flats O**	**1.75**	**324**	*e*Pn	**Pn**	**13 16 46.6**	**-2.1**
PFO				*e*Pg	**Pg**	**13 16 53.6**	**+1.3**
PFO				*e*Sn	**Sb**	**13 17 12.3**	**-0.3**
214A	**Organ Pipe Nat**	**2.07**	**96**	*e*Pn	**Pn**	**13 16 51.6**	**-1.4**
214A				*e*Pg	**Pg**	**13 16 59.4**	**+1.2**
214A				*e*Sn	**Sn**	**13 17 19.2**	**+0.6**
214A				*e*Sg	**Sg**	**13 17 26.0**	**+0.9**
LDFC	**Landfair**	**2.89**	**2**	*e*Pn	**Pn**	**13 17 03.9**	**-0.4**
LDFC				*e*Pg	**Pg**	**13 17 14.3**	**+0.4**
LDFC				*e*Sn	**Sn**	**13 17 38.6**	**-0.4**
LDFC				*e*Sg	**Sg**	**13 17 51.4**	**0.0**
MWC	**Mount Wilson**	**3.12**	**311**	Pn	**Pn**	**13 17 10.1**	**+2.6**
MWC				*e*Pg	**Pg**	**13 17 19.8**	**+1.4**
MWC				*e*Sn	**Sn**	**13 17 46.8**	**+1.9**
MWC				*e*Sg	**Sg**	**13 18 00.4**	**+1.5**
GSC	**Goldstone, Bar**	**3.38**	**338**	Pn	**Pn**	**13 17 11.9**	**+1.0**
GSC				*e*Pg	**Pg**	**13 17 23.7**	**+0.5**
GSC				*e*Sn	**Sn**	**13 17 51.4**	**+0.5**
TUC	**Tucson**	**3.77**	**87**	*e*Pn	**Pn**	**13 17 14.9**	**-1.5**
TUC				*e*Pg	**Pg**	**13 17 31.9**	**+1.2**
TUC				*e*Sn	**Sn**	**13 18 01.1**	**+0.5**
TUC				*e*Sg	**Sg**	**13 18 19.7**	**+0.1**
OSI	**Osito Audit: C**	**3.79**	**311**	Pn	**Pn**	**13 17 18.6**	**+1.9**
OSI				*e*Sg	**Sg**	**13 18 21.6**	**+1.1**
ISA	**Isabella, Lake**	**4.39**	**323**	Pn	**Pn**	**13 17 26.0**	**+1.0**
ISA				*e*Pg	**Pg**	**13 17 43.8**	**+1.1**
ISA				*e*Sn	**Sn**	**13 18 17.3**	**+1.3**
ISA				*e*Sg	**Sg**	**13 18 40.4**	**+0.7**
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn	**Pn**	**13 17 27.4**	**-0.7**
WUAZ				*e*Sn	**Sn**	**13 18 21.4**	**-0.3**
WUAZ				*e*Sg	**Sg**	**13 18 45.5**	**-1.4**
CCUT	**Cedar City** comp=E,6.4nm,0.7s	**5.57**	**15**	*e*Pn	**Pn**	**13 17 42.3**	**+1.0**
CCUT				*e*Pg	**Pg**	**13 18 06.5**	**+1.3**
CCUT				*e*Sg	**Sg**	**13 19 16.8**	**-0.6**
ARUT	**Antelope Range** comp=E,1.3nm,0.5s	**5.78**	**14**	Pn	**Pn**	**13 17 45.5**	**+1.4**
ARUT				*e*Pg	**Pg**	**13 18 08.6**	**-0.6**
R11A	**Troy Canyon, C** comp=E,5.0nm,0.5s	**6.16**	**357**	*e*Pn	**Pn**	**13 17 49.5**	**+0.2**
R11A				*e*Pg	**Pg**	**13 18 16.7**	**+0.2**
121A	**Cookes Peak, D** comp=E,11nm,0.3s	**6.31**	**85**	*e*Pn	**Pn**	**13 17 51.3**	**-0.1**
121A				*e*Pg	**Pg**	**13 18 19.8**	**+0.4**
121A				*e*Sn	**Sn**	**13 19 04.2**	**+0.7**
MVU	**Marysvale** comp=E,4.2nm,0.6s	**6.77**	**21**	Pn	**Pn**	**13 17 58.0**	**+0.2**
MVU				*e*Pg	**Pg**	**13 18 28.3**	**+0.1**
MNTX	**Cornudas Mount** comp=E,1.4nm,0.6s	**8.39**	**91**	*e*Pn	**Pn**	**13 18 18.9**	**-0.9**
MNTX				Sn	**Sn**	**13 19 56.1**	**+1.8**

IDC 16 13:40:11.7±8.5, 15°68S × 71°71W, h113km±40km, mb3.1/2, mb1 3.2/3, mb1mx3.1/30, mbtmp3.4/3, Error ellipse: s-maj=196.7km s-min=37.0km az=36.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.9nm,0.3s,baz=268,slow=9.9,SNR=17	**3.50**	**100**	P	Pn	13 41 05.0	-0.2
TKL	**Tuckaleechee C** 14nm,0.6s,baz=151,slow=7.8	**52.32**	**348**	P	P	13 49 11.6	-0.2
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=237,slow=6.1,SNR=4.0	**78.04**	**73**	P	P	13 51 58.5	0.0
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=140,slow=5.0,SNR=4.3	**84.85**	**342**	P	P	13 52 33.5	+0.2

*DDA **16** 13:44:18.4, 39°98N × 37°74E, h13km, ML3.5*
*ISK **16** 13:44:19.9, 40°06N × 37°89E, h10km, MD3.2*
*ISCJB **16** 13:44:20.8±0.4, 40°02N±0°03 × 37°85E±0°04, h13km, Error ellipse: s-maj=4.6km s-min=3.8km az=11.5*
*CSEM **16** 13:44:20.2±0.2, 40°02N × 37°90E, h5km, ML3.5, Error ellipse: s-maj=4.4km s-min=3.7km az=20.0*

ISC 16 13:44:20.4±0.8, 40°01N±0°03 × 37°90E±0°03, h13km, n36, σ0°59/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUSE	**Susehri**	**0.31**	**49**	*i* P	**Pg**	**13 44 26.8**	**+0.1**
SUSE	**Susehri**	**0.31**	**49**	*i* P	**Pg**	**13 44 26.8**	**+0.1**
SUSE				*i* S	**Sb**	**13 44 33.8**	**+1.0**
RSDY	**Resadiye-TOKAT**	**0.58**	**312**	*e*PG	**Pg**	**13 44 31.3**	**-0.5**
RSDY				*e*SG	**Sg**	**13 44 39.2**	**-0.4**
RSDY	**Resadiye-TOKAT**	**0.58**	**312**	*e*Pg	**Pg**	**13 44 31.3**	**-0.5**
RSDY				*e*Sg	**Sg**	**13 44 39.2**	**-0.4**
SVSK	**Karacayir**	**0.70**	**263**	*e*PG	**Pg**	**13 44 33.5**	**-0.4**
SVSK				*e*SG	**Sb**	**13 44 44.2**	**+0.3**
SVSK	**Karacayir**	**0.70**	**263**	*e*Pg	**Pg**	**13 44 33.5**	**-0.4**
SVSK				*e*Sg	**Sb**	**13 44 44.2**	**+0.3**
ILIC	**ilic-Erzincan**	**0.76**	**137**	*e*PG	**Pb**	**13 44 35.9**	**+0.4**
ILIC	**ilic-Erzincan**	**0.76**	**137**	*e*Pg	**Pb**	**13 44 35.9**	**+0.4**
KEMA	**Kemaliye**	**0.87**	**148**	*i* P	**Pg**	**13 44 36.1**	**-1.1**
KEMA	**Kemaliye**	**0.87**	**148**	*i* P	**Pg**	**13 44 36.1**	**-1.1**
KEMA				*i* S	**Sn**	**13 44 51.8**	**+0.8**
GRSN	**GIRESUNGRSN**	**0.96**	**17**	*i* P	**Pb**	**13 44 38.4**	**-0.4**
GRSN				*i* S	**Sn**	**13 44 52.6**	**-0.5**
GRSN	**GIRESUNGRSN**	**0.96**	**17**	*i* P	**Pb**	**13 44 38.4**	**-0.4**
GRSN				*i* S	**Sn**	**13 44 52.6**	**-0.5**
KELT	**Kelkit**	**1.05**	**82**	*i* P	**Pb**	**13 44 39.5**	**-1.0**
KELT	**Kelkit**	**1.05**	**82**	*i* P	**Pb**	**13 44 39.5**	**-1.0**
EZC	**Erzincan**	**1.15**	**102**	*e*Pn	Pg	13 44 47.4	+4.9
GUMT	**Gumushane**	**1.29**	**69**	*e*PN	**Pb**	**13 44 44.2**	**-0.4**
GUMT	**Gumushane**	**1.29**	**69**	*e*Pn	**Pb**	**13 44 44.2**	**-0.4**
ERZN	**Erzincan**	**1.47**	**106**	*e*PN	**Pb**	**13 44 47.4**	**-0.1**
DARE	**Darende-Malaty**	**1.47**	**193**	*e*PN	**Pb**	**13 44 47.8**	**+0.2**
DARE	**Darende-Malaty**	**1.47**	**193**	*e*Pn	**Pb**	**13 44 47.8**	**+0.2**
PTK	**Pertek**	**1.61**	**134**	*e*PN	**Pb**	**13 44 49.7**	**-0.3**
PTK	**Pertek**	**1.61**	**134**	*e*Pn	**Pb**	**13 44 49.7**	**-0.3**
MACK	**Trabzon**	**1.70**	**56**	*i* P	**Pb**	**13 44 51.9**	**+0.3**
MACK	**Trabzon**	**1.70**	**56**	*i* P	**Pb**	**13 44 51.9**	**+0.3**
ELZG	**Elazig**	**1.73**	**150**	*i* P	**Pb**	**13 44 51.6**	**-0.5**
ELZG	**Elazig**	**1.73**	**150**	*i* P	**Pb**	**13 44 51.6**	**-0.5**
MALT	**Malatya**	**1.74**	**166**	*e*PN	**Pb**	**13 44 51.7**	**-0.6**
MALT	**Malatya**	**1.74**	**166**	*e*Pn	**Pb**	**13 44 51.7**	**-0.6**
BAYT	**Ayd¨¨ntepe-Bay**	**1.76**	**77**	*e*PN	**Pn**	**13 44 51.2**	**+0.6**
BAYT	**Ayd¨¨ntepe-Bay**	**1.76**	**77**	*e*Pn	**Pn**	**13 44 51.3**	**+0.6**
KVT	**Kavak**	**1.77**	**308**	*e*PN	**Pn**	**13 44 50.8**	**+0.1**
KVT	**Kavak**	**1.77**	**308**	*e*Pn	**Pn**	**13 44 50.8**	**+0.1**
YOZ	**Yozgat**	**2.02**	**260**	*e*PN	**Pn**	**13 44 55.1**	**+0.8**
YOZ	**Yozgat**	**2.02**	**260**	*e*Pn	**Pn**	**13 44 55.1**	**+0.8**
CORM	**Corum**	**2.51**	**275**	*e*PN	**Pn**	**13 45 01.9**	**+0.9**
CORM	**Corum**	**2.51**	**275**	*e*Pn	**Pn**	**13 45 01.9**	**+0.9**

*AUST **16** 13:57:26.0±99.0, 34°92S × 139°44E, h1km±1km, Error ellipse: s-maj=17.5km s-min=1.4km az=252.0*
*NEIC **16** 13:57:26.0, 35°15S × 138°84E, h0km, mb3.6/1, ML3.8(AUST), After AUST.*
NEIC Felt [III] at Adelaide, Crafers-Bridgewater, Gawler, Mount Barker, Murray Bridge and Victor Harbor.
*IDC **16** 13:57:28.9±6.7, 34°24S × 138°66E, h0km, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=64.5km s-min=27.9km az=173.0*
ISC 16 13:57:21.4±0.9, 35°09S±0°07 × 138°75E±0°06, h10km, n18, σ2°82/21, 3C-4D, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo** baz=3.3,SNR=16	**3.19**	**315**	P	**Pn**	**13 58 13.3**	**+1.7**
BBOO	baz=3.3			⇓S	**Sn**	**13 58 48.0**	**-1.7**
BBOO	**Buckleboo**	**3.19**	**315**	*e*Pn	**Pn**	**13 58 12.5**	**+0.9**
BBOO				*e*Pg	Pg	13 58 29.1	+6.6
BBOO				*e*Sn	**Sb**	**13 58 57.4**	**+0.4**
BBOO				*e*Sg	Sg	13 59 10.8	+7.0
STKA	**Stephens Creek** 1.7nm,0.3s,baz=221,slow=14,SNR=44	**3.99**	**37**	Pn	**Pn**	**13 58 22.9**	**+0.3**
STKA	15nm,0.3s,baz=223,slow=13,SNR=7.2			Sn	**Sn**	**13 59 06.7**	**-2.8**
STKA	19nm,0.3s,baz=323,slow=20,SNR=5.8			Lg	Lg	13 59 17.0	
STKA	**Stephens Creek** baz=4.0,SNR=36	**3.99**	**37**	⇓P	**Pn**	**13 58 23.1**	**+0.4**
STKA	baz=4.0			⇑S	**Sn**	**13 59 05.5**	**-4.0**
TOO	**Toolangi** baz=5.9,SNR=11	**5.98**	**116**	⇑P	**Pn**	**13 58 48.7**	**-1.4**
CMSA	**Cobar Meteorol** baz=6.8	**6.81**	**61**	⇓S	Sn	14 00 11.5	-7.5
MILA	**Mila** baz=8.5,SNR=9.1	**8.65**	**106**	⇑P	**Pn**	**13 59 24.8**	**-1.9**
FORT	**Forrest** baz=10.0	**9.95**	**293**	⇓P	**Pn**	**13 59 44.9**	**+0.4**
FORT	**Forrest**	**9.95**	**293**	*e*Pn	**Pn**	**13 59 44.5**	**-0.1**
FORT				*e*Sn	Sn	14 01 43.5	+7.2
ARMA	**Armidale**	**11.80**	**70**	Pn	**Pn**	14 00 13.2	+3.3
ARMA				*e*Sn	**Sn**	**14 02 25.6**	**+3.8**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=166,slow=12,SNR=99	**12.14**	**338**	Pn	**Pn**	**14 00 14.1**	**-0.4**
ASAR	0.8nm,0.3s,baz=160,slow=22,SNR=9.4			Sn	Sn	14 02 19.9	-10
AS31	**Alice Springs**	**12.14**	**338**	*e*Pn	**Pn**	**14 00 13.8**	**-0.7**
AS31				*e*Sn	Sn	14 02 22.5	-7.5
WB2	**Warramunga Arr**	**15.58**	**344**	*e*Pn	**Pn**	**14 00 56.5**	**-4.7**
WB2				*e*Sn	**Sn**	**14 03 58.0**	**+4.1**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=171,slow=12,SNR=8.0	**15.58**	**344**	Pn	**Pn**	**14 00 56.9**	**-4.4**
WRA	0.2nm,0.3s,baz=164,slow=24,SNR=4.7			Sn	Sn	14 03 42.6	-11
WRAB	**Tennant Creek**	**15.59**	**344**	*e*P	**Pn**	**14 00 57.0**	**-4.3**
CTAO	**Charters Tower** 0.7nm,0.5s	**16.35**	**26**	Pn	**P**	**14 01 16.4**	**+2.4**
FITZ	**Fitzroy Cr

ULM	**Lac du Bonnet**	**47.34**	**340**	P		**P**	**14 10 46.3**	**-0.1**
	3.3nm,0.3s,baz=154,slow=7.0,SNR=11							
PLCA	**Paso Flores**	**47.37**	**177**	P		**P**	**14 10 45.6**	**-1.2**
	1.2nm,0.8s,baz=333,slow=14,SNR=3.0							
SCHQ	**Schefferville**	**48.14**	**5**	P		**P**	**14 10 54.1**	**+1.5**
	5.9nm,0.5s,baz=186,slow=7.9,SNR=19							
PDAR	**Pinedale Array**	**48.16**	**324**	P		**P**	**14 10 53.8**	**+0.6**
	0.9nm,0.6s,baz=126,slow=8.7,SNR=8.9							
NVAR	**Mina Array Bea**	**51.58**	**315**	P		**P**	**14 11 19.1**	**0.0**
	0.6nm,0.7s,baz=126,slow=6.8,SNR=4.8							
YKA	**Yellowknife Ar**	**63.31**	**340**	P		**P**	**14 12 40.7**	**+0.3**
	2.9nm,0.6s,baz=132,slow=6.8,SNR=90							
YKA				pP		**pP**	**14 13 19.2**	**-0.3**
	0.3nm,0.4s,baz=133,slow=7.0,SNR=2.2							
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P		**P**	**14 13 44.6**	**-0.7**
	0.2nm,0.3s,baz=285,slow=6.7,SNR=8.0							
ILAR	**Eielson Array**	**77.02**	**335**	P		**P**	**14 14 04.2**	**+0.4**
	0.5nm,0.7s,baz=115,slow=4.1,SNR=6.4							
SPITS	**Spitsbergen Ar**	**83.24**	**12**	P		**P**	**14 14 38.3**	**+1.4**
	13nm,1.1s,baz=181,slow=8.6,SNR=3.4							
ARCES	**ARCESS Array B**	**86.63**	**20**	P		**P**	**14 14 53.9**	**0.0**
	4.5nm,0.9s,baz=297,slow=0.5,SNR=4.0							
ZALV	**Zalesovo Beam**	**116.64**	**14**	PKP		**PKPdf**	**14 20 54.0**	**+0.2**
	0.2nm,0.3s,baz=329,slow=1.7,SNR=2.5							
MKAR	**Makanchi Array**	**122.28**	**20**	PKP		**PKPdf**	**14 21 04.8**	**-0.2**
	0.3nm,0.4s,baz=322,slow=2.5,SNR=7.7							
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc		**PKPbc**	**14 21 58.7**	**-0.6**
	0.7nm,0.5s,baz=121,slow=3.6,SNR=14							
ASAR				pPKPbc		**pPKPbc**	**14 22 40.1**	**-2.6**
	0.3nm,0.5s,baz=119,slow=3.5,SNR=2.3							
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		**PKPbc**	**14 22 01.9**	**-0.5**
	0.9nm,0.4s,baz=107,slow=2.8,SNR=32							
WRA				pPKPbc		**pPKPbc**	**14 22 43.6**	**-2.2**
	0.9nm,0.6s,baz=109,slow=2.6,SNR=2.9							
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKPbc		**PKPbc**	**14 22 10.3**	**+0.7**
	0.6nm,0.5s,baz=324,slow=4.1,SNR=4.8							

IDC 16 14:12:59.8±3.1, 20.36S×177.53W, h607km±43km, mb3.0/5, mb1 3.2/6, mb1mx2.9/25, mbtmp4.0/6, Error ellipse: s-maj=36.1km s-min=19.3km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.43**	**193**	P	P	14 16 38.2	-0.6
	1.5nm,0.3s,baz=280,slow=4.1,SNR=14						
STKA	**Stephens Creek**	**38.24**	**244**	P	P	14 19 30.6	+0.8
	1.7nm,0.5s,baz=106,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**44.98**	**257**	P	P	14 20 22.9	+0.1
	1.2nm,0.5s,baz=88,slow=8.6,SNR=60						
ASAR				S	S	14 26 18.7	+0.1
	0.5nm,0.7s,baz=95,slow=16,SNR=5.3						
WRA	**Warramunga Arr**	**45.06**	**262**	P	P	14 20 22.9	-0.5
	0.4nm,0.3s,baz=97,slow=7.6,SNR=62						
MJAR	**Matsushiro Arr**	**70.36**	**323**	P	P	14 23 13.5	-0.4
	0.8nm,0.6s,baz=157,slow=6.2,SNR=3.6						
ILAR	**Eielson Array**	**88.08**	**13**	P	P	14 24 46.4	0.0
	0.6nm,0.8s,baz=220,slow=5.6,SNR=6.7						
AKASG	**Malin Array Be**	**143.10**	**332**	PKP	PKPbc	14 31 23.9	0.0
	0.4nm,0.2s,baz=41,slow=4.7,SNR=5.1						
GERES	**GERESS Array B**	**150.19**	**345**	PKPbc	PKPbc	14 31 44.1	+0.8
	0.1nm,0.2s,baz=318,slow=1.8,SNR=3.7						

*MDD **16** 14:20:02.3±2.7, 32.32N×7.59W, h0km, mb4.2/1, Error ellipse: s-maj=38.3km s-min=23.6km az=92.0, PRXIMO*
*IGIL **16** 14:20:05.4, 32.39N×7.61W, h16km, ML2.5*
*CSEM **16** 14:20:06.6±0.4, 32.55N×7.52W, h20km, ML3.3/9, Error ellipse: s-maj=11.1km s-min=6.8km az=87.0*

INMG 16 14:20:02.8±1.0, 32.17N×7.66W, h31km, ML2.8, Error ellipse: s-maj=14.2km s-min=6.9km az=88.0, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**5.05**	**349**	*e*P	Pn	14 21 15.8	-0.5
PFVI				*e*Sn	Sn	14 22 11.3	-2.3
PFVI				A	A	14 22 15.0	
	18nm,0.5s						
PFVI	**Vila Bisbo**	**5.05**	**349**	P	Pn	14 21 15.9	-0.4
	1.9nm,0.1s,SNR=7.9						
PFVI				S	Sn	14 22 10.1	-3.4
	2.1nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.05**	**349**	P	Pn	14 21 15.9	-0.4
	1.9nm,0.1s,SNR=7.9						
PFVI				S	Sn	14 22 10.1	-3.5
	2.1nm,0.2s,SNR=7.9						
PFVI				*e*Sn	Sn	14 22 11.3	-2.3
	18nm,0.5s						
PBDV	**Barranco-do-Ve**	**5.07**	**358**	*e*Pn	Pn	14 21 16.0	-0.7
PBDV				*e*Sn	Sn	14 22 11.8	-2.4
PBDV				A	A	14 22 25.0	
	15nm,0.8s						
PBDV	**Barranco-do-Ve**	**5.07**	**358**	Pn	Pn	14 21 16.0	-0.7
PBDV				Sn	Sn	14 22 11.8	-2.4
	15nm,0.8s						
PBDV	**Barranco-do-Ve**	**5.07**	**358**	*e*Pn	Pn	14 21 16.0	-0.7
PBDV				*e*Sn	Sn	14 22 11.8	-2.4
	15nm,0.8s						
MORF	**Marmelete**	**5.19**	**351**	*e*P	Pn	14 21 17.6	-0.8
MORF				*e*S	Sn	14 22 10.4	-6.9
MORF				AML	AML	14 22 14.2	
	comp=N,7.8nm,0.4s						
MORF	**Marmelete**	**5.19**	**351**	*e*Pn	Pn	14 21 17.6	-0.8
MORF				*e*Sn	Sn	14 22 14.6	-2.7
MORF				A	A	14 22 43.6	
	comp=N,7.8nm,0.9s						
MORF	**Marmelete**	**5.19**	**351**	Pn	Pn	14 21 17.6	-0.8
MORF				Sn	Sn	14 22 14.6	-2.7
	comp=N,7.8nm,0.9s						
MORF	**Marmelete**	**5.19**	**351**	*e*Pn	Pn	14 21 17.6	-0.8
MORF				*e*Sn	Sn	14 22 14.6	-2.7
	comp=N,7.8nm,0.9s						
PVAQ	**Vaqueiros**	**5.22**	**360**	*e*Pn	Pn	14 21 18.4	-0.4
PVAQ				*e*Sn	Sn	14 22 14.6	-3.4
PVAQ				A	A	14 22 15.9	
	comp=N,8.6nm,0.6s						
PVAQ	**Vaqueiros**	**5.22**	**360**	Pn	Pn	14 21 18.4	-0.4
PVAQ				Sn	Sn	14 22 14.6	-3.4
	comp=N,8.6nm,0.6s						
PVAQ	**Vaqueiros**	**5.22**	**360**	*e*Pn	Pn	14 21 18.4	-0.4
PVAQ				*e*Sn	Sn	14 22 14.6	-3.4
	comp=N,8.6nm,0.6s						
EGRO	**El Granado**	**5.36**	**2**	P	Pn	14 21 20.2	-0.3
	comp=N,0.8nm,0.1s,SNR=4.0						
EGRO				S	Sn	14 22 16.6	-4.6
	comp=N,7.6nm,0.3s,SNR=4.0						
EGRO	**El Granado**	**5.36**	**2**	P	Pn	14 21 20.2	-0.4
	comp=N,0.8nm,0.1s,SNR=4.0						
EGRO				S	Sn	14 22 16.6	-4.6
	comp=N,7.6nm,0.3s,SNR=4.0						
PTEO	**Sao Teotonio**	**5.44**	**351**	*e*Pn	Pn	14 21 21.6	-0.1
PTEO				*e*Sn	Sn	14 22 19.9	-3.3
PTEO				A	A	14 22 31.1	
	comp=N,10nm,0.8s						
PTEO	**Sao Teotonio**	**5.44**	**351**	Pn	Pn	14 21 21.6	-0.1
PTEO				Sn	Sn	14 22 19.9	-3.3
	comp=N,5.2nm,0.8s						
PTEO	**Sao Teotonio**	**5.44**	**351**	*e*Pn	Pn	14 21 21.6	-0.1
PTEO				*e*Sn	Sn	14 22 19.9	-3.3
	comp=N,10nm,0.8s						
PCVE	**Castro Verde**	**5.46**	**357**	*e*Pn	Pn	14 21 21.8	-0.2
PCVE				*e*Sn	Sn	14 22 19.4	-4.4
PCVE				A	A	14 22 20.4	
	comp=N,1.4nm,0.7s						
PCVE	**Castro Verde**	**5.46**	**357**	Pn	Pn	14 21 21.8	-0.2
PCVE				Sn	Sn	14 22 19.4	-4.4
	comp=N,1.4nm,0.7s						
PCVE	**Castro Verde**	**5.46**	**357**	*e*Pn	Pn	14 21 21.8	-0.2
PCVE				*e*Sn	Sn	14 22 19.4	-4.4
	comp=N,1.4nm,0.7s						
EMIN	**Mina Concepcio**	**5.65**	**8**	P	Pn	14 21 23.5	-1.1
	comp=N,0.6nm,0.1s,SNR=11						
EMIN				S	Sn	14 22 23.4	-5.0
	comp=N,2.1nm,0.2s,SNR=10						
EMIN	**Mina Concepcio**	**5.65**	**8**	P	Pn	14 21 23.5	-1.1
	comp=N,0.6nm,0.1s,SNR=11						
EMIN				S	Sn	14 22 23.4	-5.0
	comp=N,2.1nm,0.2s,SNR=10						
MESJ	**Messejana**	**5.68**	**356**	*e*P	Pn	14 21 24.2	-0.8
MESJ				*e*S	Sn	14 22 21.7	-7.4
MESJ				AML	AML	14 22 28.0	
	comp=N,4.8nm,0.3s						
MESJ	**Messejana**	**5.68**	**356**	*e*Pn	Pn	14 21 24.4	-0.6
MESJ	**Messejana**	**5.68**	**356**	Pn	Pn	14 21 24.4	-0.6
MESJ	**Messejana**	**5.68**	**356**	*e*Pn	Pn	14 21 24.4	-0.6
PNCL	**Nicolau / Gran**	**5.97**	**353**	*e*Pn	Pn	14 21 28.8	-0.3
PNCL				*e*Sn	Sn	14 22 31.8	-4.6
PNCL				A	A	14 22 33.1	
	comp=N,5.9nm,0.6s						
PNCL	**Nicolau / Gran**	**5.97**	**353**	*e*Pn	Pn	14 21 28.8	-0.3
PNCL				*e*Sn	Sn	14 22 31.8	-4.6
	comp=N,5.9nm,0.6s						
PBAR	**Barrancos**	**6.02**	**5**	*e*Pn	Pn	14 21 29.9	+0.2
PBAR				*e*Sn	Sn	14 22 34.2	-3.3
PBAR				A	A	14 22 36.3	
	comp=N,9.7nm,0.4s						
PBAR	**Barrancos**	**6.02**	**5**	Pn	Pn	14 21 29.9	+0.2
PBAR				Sn	Sn	14 22 34.2	-3.3
	comp=N,9.7nm,0.4s						
PBAR	**Barrancos**	**6.02**	**5**	*e*Pn	Pn	14 21 29.9	+0.2
PBAR				*e*Sn	Sn	14 22 34.2	-3.3
	comp=N,9.7nm,0.4s						
ECAB	**El Cabril**	**6.17**	**17**	S	Sn	14 22 36.0	-5.4
	comp=N,1.6nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**6.17**	**17**	S	Sn	14 22 36.0	-5.5
	comp=N,1.6nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.50**	**22**	P	Pn	14 21 36.1	-0.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	14 22 44.3	-5.1
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.50**	**22**	P	Pn	14 21 36.1	-0.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	14 22 44.3	-5.1
	comp=N,0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.59**	**4**	P	Pn	14 21 37.3	-0.4
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD				S	Sn	14 22 45.5	-6.3
	comp=N,1.3nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**6.59**	**4**	P	Pn	14 21 37.3	-0.3
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD				S	Sn	14 22 45.5	-6.2
	comp=N,1.3nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**6.90**	**356**	*e*Pn	Pn	14 21 42.0	+0.2
PMTG				*e*Sn	Sn	14 22 55.2	-4.1
PMTG				A	A	14 23 08.6	
	comp=N,3.8nm,0.3s						
PMTG	**Montargil**	**6.90**	**356**	*e*Pn	Pn	14 21 42.0	+0.2
PMTG				*e*Sn	Sn	14 22 55.2	-4.1
	comp=N,3.8nm,0.3s						
PMRV	**Marv??o**	**7.25**	**2**	*e*Pn	Pn	14 21 46.2	-0.4
PMRV	**Marv??o**	**7.25**	**2**	Pn	Pn	14 21 46.2	-0.4
PMRV	**Marv??o**	**7.25**	**2**	*e*Pn	Pn	14 21 46.2	-0.4

*ISCJB **16** 14:28:42.5±0.4, 32.18N±0.02×115.13W±0.02, h3km±3km, mb3.2/1, MS3.2/1, Error ellipse: s-maj=3.2km s-min=2.5km az=44.5*
*MEX **16** 14:28:44.8±1.1, 32.22N×114.88W, h15km, MD4.3*
*NEIC **16** 14:28:44.2, 32.10N×115.18W, h10km, ML3.8(ECX), ML3.8(PAS), After PAS.*
NEIC Felt at Yuma, Arizona and at Borrego Springs, El Cajon, La Jolla and San Diego, California.
*ECX **16** 14:28:45.6±0.6, 32.15N×115.20W, h8km, MD3.7, ML3.9*
*IDC **16** 14:28:45.0±2.8, 32.10N×115.06W, h0km, mb3.3/1, mb1 3.6/5, mb1mx3.3/47, mbtmp3.3/5, ML3.5/4, MS2.9/4, Ms1 2.9/4, ms1mx2.7/17, Error ellipse: s-maj=43.5km s-min=14.4km az=45.0*

ISC 16 14:28:44.2±0.9, 32.13N±0.02×115.20W±0.02, h9km±7km, n44, σ0.99/74, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.14**	**196**	*e*P	**Pg**	**14 28 47.4**	**+0.1**
EMX				*e*S	**Sg**	**14 28 50.1**	**+0.6**
MBIG	**Mexicali**	**0.28**	**359**	*e*P	**Pg**	**14 28 50.5**	**+0.8**
MBIG				*i* S	**Sb**	**14 28 56.4**	**+0.3**
CPBX	**Cerro Prieto**	**0.30**	**342**	*e*P	**Pg**	**14 28 50.8**	**+0.5**
CPBX				*e*S	**Sb**	**14 28 55.9**	**-1.0**
CPBX				AML	AML	14 29 00.0	
	comp=N,55μm,0.2s						
CPBX				⇑*e*		14 29 00.0	
CPBX	**Cerro Prieto**	**0.30**	**342**	*e*P	**Pg**	**14 28 50.9**	**+0.7**
ECBX	**El Chinero**	**0.67**	**169**	*e*P	**Pg**	**14 28 57.0**	**-0.1**
ECBX				*e*S	**Sb**	**14 29 06.7**	**-0.6**
ECBX				⇑*e*		14 29 07.6	
	comp=N,4μm,0.5s						
RDX	**Rancho Dawling**	**0.67**	**253**	*e*P	**Pg**	**14 28 57.4**	**+0.3**
RDX				*e*S	**Sg**	**14 29 06.6**	**+0.8**
RDX				⇓*e*		14 29 08.6	
	comp=N,4μm,0.6s						
SGL	**Mount Signal**	**0.69**	**319**	⇓*i*P	**Pg**	**14 28 57.2**	**-0.2**
YMD	**Yuma Desert**	**0.69**	**52**	⇑*i*P	**Pg**	**14 28 57.1**	**-0.5**
COA	**Coachella**	**0.74**	**5**	⇓*i*P	**Pg**	**14 28 57.8**	**-0.6**
YUH	**Yuha Desert**	**0.81**	**310**	⇓*i*P	**Pg**	**14 28 59.0**	**-0.7**
RMX	**La Rumorosa**	**0.89**	**303**	*e*P	**Pg**	**14 29 00.7**	**-0.5**
RMX				*e*S	**Sg**	**14 29 12.4**	**-0.4**
GLA	**Glamis**	**0.97**	**19**	*e*Pg	**Pg**	**14 29 01.0**	**-1.9**
GLA				*e*Sg	**Sg**	**14 29 13.8**	**-1.7**
SPIG	**San Pedro Mart**	**1.10**	**192**	*e*P	**Pb**	**14 29 04.3**	**-1.4**
SPIG				*i* S	**Sn**	**14 29 21.1**	**-0.5**
SPIG	**San Pedro Mart**	**1.10**	**192**	*e*P	**Pb**	**14 29 05.0**	**-0.6**
SPIG				*e*S	**Sg**	**14 29 20.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.10**	**192**	*e*P	**Pb**	**14 29 04.3**	**-1.4**
SPIG				*e*S	**Sg**	**14 29 22.2**	**+0.4**
SPX	**San Pedro Mart**	**1.10**	**192**	*e*P	**Pb**	**14 29 05.0**	**-0.7**
SPX				*e*S	**Sb**	**14 29 20.7**	**+0.4**
SPX	**San Pedro Mart**	**1.10**	**192**	*e*P	**Pb**	**14 29 05.3**	**-0.3**
ZAX	**El Zacaton**	**1.10**	**237**	*e*P	**Pb**	**14 29 05.1**	**-0.3**
ZAX				*e*S	**Sg**	**14 29 19.7**	**0.0**
CBX	**Cerro Bola**	**1.26**	**279**	*e*P	**Pn**	**14 29 07.2**	**-0.8**
CBX				*e*S	**Sn**	**14 29 25.1**	**-0.1**
CBX	**Cerro Bola**	**1.26**	**279**	*e*P	**Pn**	**14 29 06.9**	**-1.2**
CBX				*e*S	**Sb**	**14 29 24.0**	**-0.5**
CBX	**Cerro Bola**	**1.26**	**279**	*e*P	**Pn**	**14 29 06.9**	**-1.2**
CBX				*e*S	**Sb**	**14 29 23.6**	**-0.9**
ECNX	**Esteban Cantu**	**1.28**	**249**	*e*P	**Pn**	**14 29 07.8**	**-0.6**
ECNX				*e*S	**Sb**	**14 29 25.3**	**+0.1**
PBX	**Punta Banda**	**1.36**	**254**	*e*P	**Pn**	**14 29 09.0**	**-0.3**
PBX				*e*S	**Sn**	**14 29 27.4**	**0.0**
PFO	**Pinyon Flats O**	**1.82**	**325**	Pn	Pn	14 29 12.1	-3.7
	baz=137,slow=14						
PFO				Lg	Lg	14 29 41.8	
PFO	**Pinyon Flats O**	**1.82**	**325**	*e*Pn	**Pn**	**14 29 13.1**	**-2.7**
PFO				Lg	Lg	14 29 41.8	
214A	**Organ Pipe Nat**	**2.03**	**94**	*e*Pn	**Pn**	**14 29 16.1**	**-2.5**
214A				*e*Sn	**Sn**	**14 29 44.1**	**0.0**
LDFC	**Landfair**	**2.94**	**1**	*e*Pn	**Pn**	**14 29 30.6**	**-0.6**
LDFC				*e*Pg	**Pg**	**14 29 40.6**	**0.0**
LDFC				*e*Sn	**Sn**	**14 30 07.2**	**+0.4**
LDFC				*e*Sg	**Sg**	**14 30 18.9**	**+0.2**
PASC	**Pasadena Art C**	**3.23**	**310**	*e*Pn	**Pn**	**14 29 34.3**	**-0.8**
PASC				*e*Sn	**Sn**	**14 30 14.2**	**+0.5**
GSC	**Goldstone, Bar**	**3.44**	**337**	Pn	**Pn**	**14 29 38.5**	**+0.5**
GSC				*e*Pg	**Pg**	**14 29 50.6**	**+0.5**
GSC				*e*Sg	**Sg**	**14 30 34.6**	**0.0**
TUC	**Tucson**	**3.74**	**86**	*e*Pn	**Pn**	**14 29 39.6**	**-2.6**
TUC				*e*Pg	**Pg**	**14 29 56.3**	**+0.5**
TUC				*e*Sg	**Sg**	**14 30 44.6**	**+0.2**
SHPR	**Sheep Range**	**4.37**	**0**	*e*Pn	**Pn**	**14 29 51.5**	**+0.6**
SHPR				*e*Pg	**Pg**	**14 30 08.7**	**+0.8**
WUAZ	**Wupatki**	**4.64**	**42**	*e*Pn	**Pn**	**14 29 54.8**	**+0.1**
WUAZ				*e*Pg	**Pg**	**14 30 12.8**	**-0.3**
WUAZ				*e*Sn	**Sn**	**14 30 48.9**	**+0.2**
WUAZ				*e*Sg	**Sg**	**14 31 12.5**	**-0.7**
W18A	**Petrified Fore**	**5.44**	**55**	Pn	**Pn**	**14 30 04.5**	**-1.1**
	comp=N,14nm,0.7s						
W18A				*e*Pg	**Pg**	**14 30 28.5**	**+0.1**
W18A				*e*Sn	**Sn**	**14 31 10.1**	**+1.6**
W18A				*e*Sg	**Sg**	**14 31 39.3**	**+0.4**
CCUT	**Cedar City**	**5.62**	**15**	*e*Pn	**Pn**	**14 30 08.0**	**0.0**
	comp=N,4.3nm,1.0s						
CCUT				*e*Pg	**Pg**	**14 30 31.6**	**-0.1**
CCUT				*e*Sg	**Sg**	**14 31 43.6**	**-0.9**
R11A	**Troy Canyon, C**	**6.21**	**357**	*e*Pn	**Pn**	**14 30 16.7**	**+0.4**
	comp=N,7.9nm,1.1s						
121A	**Cookes Peak, D**	**6.28**	**84**	*e*Pn	**Pn**	**14 30 14.7**	**-2.5**
	comp=N,12nm,0.6s						
121A				*e*Sn	**Sn**	**14 31 30.4**	**+1.2**
ANMO	**Albuquerque**	**7.82**	**67**	Pn	Pn	**14 30 39.4**	**+1.2**
	comp=N,0.2nm,0.3s,baz=241,slow=6.3,SNR=2.8						
ELK	**Elko**	**8.60**	**360**	Pn	Pn	14 30 53.4	+4.4
	comp=N,0.1nm,0.3s,baz=180,slow=14,SNR=4.1						
ELK				Lg	Lg	14 33 12.6	
	comp=N,0.1nm,0.3s,baz=194,slow=18,SNR=2.9						
ELK				LR	LR	14 33 44.8	
	comp=N,46nm,21.1s,baz=179,slow=35						
LPIG	**La Paz**	**9.08**	**150**	LR	LR	14 33 43.4	
	comp=N,66nm,19.6s,baz=358,slow=33						
TXAR	**Lajitas Array**	**10.30**	**103**	Pn	**Pn**	**14 31 13.8**	**+1.5**
	comp=N,0.4nm,0.3s,baz=282,slow=13,SNR=18						
TXAR				Lg	Lg	14 34 06.5	
	comp=N,0.0nm,0.3s,baz=287,slow=32,SNR=3.7						
YBH	**Yreka Blue Hor**	**11.31**	**330**	LR	LR	14 36 18.5	
	comp=N,62nm,21.9s,baz=276,slow=40						
PDAR	**Pinedale Array**	**11.52**	**21**	Pn	Pn	14 31 33.9	+4.9
	comp=N,0.0nm,0.3s,baz=200,slow=14,SNR=2.7						
BBB	**Bella Bella**	**22.15**	**339**	LR	LR	14 42 18.9	
	comp=N,77nm,18.2s,baz=87,slow=37						
ILAR	**Eielson Array**	**38.04**	**339**	P	**P**	**14 36 05.0**	**+2.5**
	comp=N,0.4nm,0.8s,baz=143,slow=6.4,SNR=5.0						

IGQ 16 14:50:59±0.6, 1.57S×80.93W, h9km±164km, Mb4.1,2C-2D, Error ellipse: s-maj=8.1km s-min=3.3km az=10.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**0.34**	**335**	⇑S	Sg	14 51 10.4	+0.2
ISPT	**Isla de la Pla**	**0.34**	**335**	⇑P	Pg	14 51 04.5	-1.2
JAMA	**Jama**	**1.49**	**29**	P	Pn	14 51 26.5	+0.4
JAMA	**Jama**	**1.49**	**29**	S	Sb	14 51 46.0	-0.1
MAG1	**Magdalena**	**1.89**	**38**	P	Pb	14 51 33.7	0.0
IGUA	**Igualata**	**2.29**	**88**	P	Pb	14 51 39.6	-1.7
PAST	**Pastocalle**	**2.45**	**69**	P	Pb	14 51 43.5	-0.4
BMAS	**Trigal station**	**2.45**	**88**	P	Pn	14 51 40.4	+0.7
ARRY	**Arrayan**	**2.48**	**89**	P	Pn	14 51 41.3	+1.2
ARRY	**Arrayan**	**2.48**	**89**	S	Sb	14 52 16.8	+1.6
PAT1	**Patacocha**	**2.50**	**89**	P	Pn	14 51 42.3	+1.8
BPAT	**Tungurahua Vol**	**2.50**	**88**	P	Pn	14 51 42.1	+1.6
BRUN	**Tungurahua Vol**	**2.52**	**87**	P	Pb	14 51 43.2	-1.8
BULB	**Ulba Tungurahu**	**2.53**	**87**	P	Pn	14 51 42.2	+1.4
ULBA	**Ulba**	**2.53**	**87**	P	Pn	14 51 42.6	+1.8
PISA	**Pisayambo**	**2.60**	**79**	P	Pb	14 51 44.8	-1.6
BREF	**Cotopaxi Volca**	**2.65**	**70**	⇓P	Pn	14 51 45.1	+2.3
BVC2	**Cotopaxi Volca**	**2.68**	**70**	⇓P	Pb	14 51 46.6	-1.3
BTAM	**Cotopaxi Volca**	**2.69**	**71**	P	Pn	14 51 45.2	+2.0
JUA2	**San Juan 2**	**2.69**	**60**	P	Pn	14 51 44.2	+1.1
VC1	**Cotopaxi 1**	**2.69**	**70**	P	Pb	14 51 47.9	-0.3
TAMB	**Tambo**	**2.71**	**71**	P	Pb	14 51 46.6	-1.8
TERV	**Terraza Guagua**	**2.71**	**59**	P	Pn	14 51 45.8	+2.3
PINO	**Pino**	**2.72**	**59**	P	Pn	14 51 44.7	+1.0
GGP	**Refugio Guagua**	**2.72**	**59**	P	Pn	14 51 45.9	+2.3
COV1	**Cotopaxi Volc**	**2.74**	**71**	P	Pn	14 51 46.0	+1.9
YANA	**Yana**	**2.77**	**59**	P	Pn	14 51 46.6	+2.4
ANTI	**Antisana**	**2.99**	**68**	P	Pn	14 51 48.8	+1.4
OTAV	**Otavalo**	**3.06**	**54**	P	Pn	14 51 50.0	+1.7
CAYR	**Refugio Cayamb**	**3.32**	**62**	P	Pb	14 51 56.8	-2.2
CAYA	**Cayambe**	**3.37**	**61**	P	Pb	14 51 56.8	-2.8

IDC 16 15:02:26.8±386.0, 62.69N×42.13E, h0km, Error ellipse: s-maj=174.0km s-min=120.6km az=179.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.49**	**205**	*i*		15 44 30.0	
	baz=19,slow=335,SNR=0.2						
I31KZ	**AKTYUBINSK INF**	**15.05**	**138**	*i*		16 30 50.0	
	baz=332,slow=324,SNR=6.2						
I46RU	**ZALESOVO INFRA**	**23.64**	**92**	*i*		17 26 40.0	
	baz=310,slow=326,SNR=2.5						
I45RU	**USSURIYSK INFR**	**51.88**	**66**	*i*		20 22 00.0	
	baz=318,slow=331,SNR=0.8						

IDC 16 15:07:11.5±13.0, 5.45S×128.20E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.3/37, mbtmp3.5/3, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/33, Error ellipse: s-maj=190.4km s-min=118.8km az=149.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.75**	**58**	P	Pg	15 08 48.8	+6.0

ZAX	**El Zacaton**	**1.09**	**227**	*e*P	**Pg**	**15 44 49.9**	**-0.2**
ZAX				*e*S	**Sn**	**15 45 05.3**	**-0.3**
CBX	**Cerro Bola**	**1.12**	**273**	*e*P	**Pb**	**15 44 50.1**	**-0.5**
CBX				*i* S	**Sg**	**15 45 05.5**	**+0.2**
CBX	**Cerro Bola**	**1.12**	**273**	*e*P	**Pb**	**15 44 50.2**	**-0.5**
CBX				*e*S	**Sg**	**15 45 05.4**	**+0.2**
CBX				⇑*e*		15 45 10.3	
	comp=N,7μm,1.2s						
CBX	**Cerro Bola**	**1.12**	**273**	*e*P	**Pb**	**15 44 50.3**	**-0.4**
CBX				*i* S	**Sg**	**15 45 05.5**	**+0.2**
SPIG	**San Pedro Mart**	**1.22**	**185**	*i* P	**Pn**	**15 44 51.8**	**-0.7**
SPIG				*i* S	**Sb**	**15 45 08.4**	**0.0**
SPIG	**San Pedro Mart**	**1.22**	**185**	*e*P	**Pn**	**15 44 51.8**	**-0.7**
SPIG				*e*S	**Sb**	**15 45 08.0**	**-0.4**
SPIG	**San Pedro Mart**	**1.22**	**185**	*i* P	**Pn**	**15 44 51.8**	**-0.7**
SPX	**San Pedro Mart**	**1.22**	**185**	⇓*e*P	**Pn**	**15 44 51.9**	**-0.7**
SPX				*e*S	**Sb**	**15 45 08.6**	**+0.2**
SPX				⇑*e*		15 45 11.6	
	comp=N,3μm,0.8s						
SPX	**San Pedro Mart**	**1.22**	**185**	*i* P	**Pn**	**15 44 51.8**	**-0.7**
ECNX	**Esteban Cantu**	**1.23**	**241**	*e*P	**Pn**	**15 44 52.0**	**-0.4**
ECNX				*e*S	**Sg**	**15 45 08.8**	**+0.2**
PBX	**Punta Banda**	**1.28**	**247**	*e*P	**Pn**	**15 44 52.9**	**-0.2**
PBX				*e*S	**Sg**	**15 45 10.9**	**+0.4**
PFO	**Pinyon Flats O**	**1.64**	**325**	*e*Pn	**Pn**	**15 44 55.9**	**-2.2**
PFO				*e*Sn	**Sn**	**15 45 19.7**	**+0.4**
214A	**Organ Pipe Nat**	**2.17**	**97**	*e*Pn	**Pn**	**15 45 03.2**	**-2.2**
214A				*e*Pg	**Pg**	**15 45 11.3**	**+0.5**
214A				*e*Sn	**Sn**	**15 45 33.1**	**+0.8**
214A				*e*Sg	**Sg**	**15 45 38.6**	**-0.4**
MWC	**Mount Wilson**	**3.00**	**311**	*e*Pn	**Pb**	**15 45 22.2**	**-0.6**
MWC				*e*Sn	**Sn**	**15 45 53.4**	**+0.4**
PASC	**Pasadena Art C**	**3.05**	**309**	Pn	**Pn**	**15 45 18.2**	**+0.8**
PASC				*e*Sn	**Sn**	**15 45 55.3**	**+1.3**
TUC	**Tucson**	**3.86**	**88**	*e*Pn	**Pn**	**15 45 28.5**	**-0.2**
TUC				*e*Pg	**Pg**	**15 45 43.7**	**+0.5**
SHPR	**Sheep Range**	**4.24**	**2**	*e*Pn	**Pn**	**15 45 34.0**	**+0.2**
SHPR				*e*Pg	**Pg**	**15 45 51.5**	**+1.1**
SHPR				*e*Sn	**Sn**	**15 46 23.2**	**-0.2**
SHPR				*e*Sg	**Sg**	**15 46 44.1**	**-1.1**
WUAZ	**Wupatki**	**4.63**	**44**	*e*Pn	**Pn**	**15 45 38.3**	**-1.0**
WUAZ				*e*Pg	**Pg**	**15 45 57.5**	**-0.4**
WUAZ				*e*Sn	**Sn**	**15 46 32.8**	**-0.4**
W18A	**Petrified Fore**	**5.47**	**57**	*e*Pn	**Pn**	**15 45 50.1**	**-0.8**
W18A				*e*Pg	**Pg**	**15 46 15.5**	**+1.4**
W18A				*e*Sg	**Sg**	**15 47 24.1**	**-0.8**
CCUT	**Cedar City**	**5.52**	**17**	*e*Pn	**Pn**	**15 45 52.1**	**+0.6**
121A	**Cookes Peak, D**	**6.40**	**86**	*e*Pn	**Pn**	**15 46 03.6**	**-0.1**
MVCO	**Mesa Verde**	**7.49**	**47**	*e*Pn	**Pn**	**15 46 20.8**	**+2.2**
SRU	**San Rafael Swe**	**7.88**	**28**	Pn	**Pn**	**15 46 23.5**	**-0.4**
MNTX	**Cornudas Mount**	**8.48**	**91**	*e*Pn	**Pn**	**15 46 33.3**	**+1.3**
MNTX				*e*Sn	**Sn**	**15 48 08.6**	**+0.7**

IDC 16 16:20:45.0±51.0, 21°05'S×174°49'W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.7/3, Error ellipse: s-maj=957.8km s-min=159.6km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.52**	**245**	P	P	16 28 25.9	-0.1
	0.7nm,0.5s,baz=86,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**47.59**	**257**	P	P	16 29 22.8	-0.1
	0.5nm,0.5s,baz=104,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**47.77**	**262**	P	P	16 29 24.2	-0.1
	0.6nm,0.5s,baz=98,slow=8.2,SNR=16						

MEX 16 16:35:28.9±0.4, 17°84N×99°88W, h70km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.62**	**315**	*i* P	Pn	16 35 41.8	-1.2
ARIG				*i* S	Sn	16 35 51.4	-2.0
PLIG	**Platanillo**	**0.66**	**33**	*e*P	Pn	16 35 42.0	-1.4
PLIG				*i* S	Sn	16 35 52.1	-2.1
CAIG	**El Cayaco**	**0.87**	**205**	*e*P	Pn	16 35 44.0	-1.8
CAIG				*i* S	Sn	16 35 56.6	-1.7
ACX	**Acapulco**	**0.96**	**179**	*i* P	Pn	16 35 43.6	-3.4
ACX				*e*S	Sn	16 35 56.7	-3.7
YAIG	**Yautepec**	**1.28**	**37**	*i* P	Pn	16 35 49.7	-1.5
YAIG				*i* S	Sn	16 36 06.0	-1.9
TLIG	**Tlapa**	**1.28**	**102**	*i* P	Pn	16 35 50.4	-0.8
TLIG				*i* S	Sn	16 36 06.8	-1.1
ZIIG	**Zihuatanejo**	**1.53**	**262**	*i* P	Pn	16 35 53.0	-1.2
ZIIG				*i* S	Sn	16 36 11.7	-1.6

MEX 16 16:39:33.6±0.7, 32°41N×115°13W, h26km±6km, MD3.8, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.06**	**272**	*i* P	Pb	16 39 37.2	-0.9
MBIG				*e*S	Sb	16 39 39.3	-1.9
CBX	**Cerro Bola**	**1.30**	**266**	*e*P	Pn	16 39 53.6	-2.7
CBX				*i* S	Sn	16 40 09.1	-3.9
SPIG	**San Pedro Mart**	**1.39**	**192**	*e*P	Pn	16 39 55.2	-2.5
SPIG				*i* S	Sn	16 40 10.8	-4.6

IDC 16 16:39:53.6±6.1, 22°69N×93°72E, h176km±44km, mb2.9/3, mb1 3.1/4, mb1mx2.7/33, mbtmp3.4/4, Error ellipse: s-maj=174.2km s-min=19.5km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.46**	**130**	P	Pn	16 41 26.6	0.0
	0.1nm,0.3s,baz=306,slow=16,SNR=2.8						
MKAR	**Makanchi Array**	**25.76**	**342**	P	P	16 45 07.8	0.0
	0.5nm,0.6s,baz=145,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**58.03**	**134**	P	P	16 49 28.1	-0.3
	0.3nm,0.5s,baz=321,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**60.41**	**137**	P	P	16 49 45.0	+0.3
	0.3nm,0.7s,baz=317,slow=5.9,SNR=5.1						

*ISCJB **16** 17:00:34.3±0.4, 67°04N±0°03×20°80E±0°10, h0km, Error ellipse: s-maj=5.6km s-min=3.3km az=18.0*
*UPP **16** 17:00:35.5, 67°08N×20°91E, h0km, ML2.0, Mining explosion.*
*CSEM **16** 17:00:35.5±0.2, 67°08N×20°87E, h2km, ML2.2, Error ellipse: s-maj=5.0km s-min=3.9km az=81.0, Mining explosion.*
*HEL **16** 17:00:36.3±0.1, 67°08N×20°92E, h0km, ML2.2, ML2.0(UPP), Explosion*
*IDC **16** 17:00:36.8±0.9, 67°09N×21°14E, h0km, mb1 2.8/4, mb1mx2.7/37, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=17.2km s-min=7.7km az=118.0*

ISC 16 17:00:35.5±0.8, 67°08N±0°02×20°87E±0°03, h0km, n47, σ0s60/59, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58**	**49**	*i* P	**Pg**	**17 00 46.4**	**-0.1**
MASU				*i* S	**Sg**	**17 00 54.9**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**49**	P	**Pg**	**17 00 46.4**	**-0.1**
MASU				S	**Sg**	**17 00 54.9**	**+0.9**
MASU	**Masugnsbyn**	**0.58**	**49**	P	**Pg**	**17 00 46.4**	**-0.1**
MASU				S	**Sg**	**17 00 54.9**	**+0.9**
ERTU	**Ertsjaerv**	**0.74**	**135**	*e*P	**Pg**	**17 00 49.1**	**-0.5**
ERTU	**Ertsjaerv**	**0.74**	**135**	P	**Pg**	**17 00 49.3**	**-0.4**
ERTU	**Ertsjaerv**	**0.74**	**135**	P	**Pg**	**17 00 49.3**	**-0.4**
PAJU	**Pajala**	**0.88**	**93**	*i* P	**Pg**	**17 00 51.7**	**-0.6**
PAJU	**Pajala**	**0.88**	**93**	P	**Pg**	**17 00 51.7**	**-0.6**
PAJU	**Pajala**	**0.88**	**93**	P	**Pg**	**17 00 51.7**	**-0.6**
KUA	**Kurravaara**	**0.90**	**347**	*e*P	**Pg**	**17 00 52.3**	**-0.4**
KUA	**Kurravaara**	**0.90**	**347**	P	**Pg**	**17 00 52.3**	**-0.4**
KUA	**Kurravaara**	**0.90**	**347**	P	**Pg**	**17 00 52.3**	**-0.4**
HARU	**Harads**	**0.92**	**177**	*e*P	**Pg**	**17 00 52.8**	**-0.3**
HARU	**Harads**	**0.92**	**177**	P	**Pg**	**17 00 52.8**	**-0.3**
HARU	**Harads**	**0.92**	**177**	P	**Pg**	**17 00 52.8**	**-0.3**
SALU	**Saltoluokta**	**0.97**	**289**	*e*P	**Pg**	**17 00 54.1**	**0.0**
SALU	**Saltoluokta**	**0.97**	**289**	P	**Pg**	**17 00 54.0**	**0.0**
SALU	**Saltoluokta**	**0.97**	**289**	P	**Pg**	**17 00 54.1**	**0.0**
NIKU	**Nikkaluokta**	**1.06**	**319**	*e*P	**Pg**	**17 00 55.5**	**-0.3**
NIKU	**Nikkaluokta**	**1.06**	**319**	P	**Pg**	**17 00 55.5**	**-0.3**
NIKU	**Nikkaluokta**	**1.06**	**319**	P	**Pg**	**17 00 55.5**	**-0.3**
LANU	**Lannavaara**	**1.06**	**23**	*e*P	**Pg**	**17 00 55.0**	**-0.8**
LANU				*e*S	**Sg**	**17 01 09.8**	**+0.2**
LANU	**Lannavaara**	**1.06**	**23**	P	**Pg**	**17 00 55.0**	**-0.8**
LANU				S	**Sg**	**17 01 09.7**	**+0.2**
LANU	**Lannavaara**	**1.06**	**23**	P	**Pg**	**17 00 55.0**	**-0.8**
KALU	**Kalix**	**1.58**	**140**	*e*P	**Pn**	**17 01 04.3**	**-0.4**
KALU	**Kalix**	**1.58**	**140**	P	**Pn**	**17 01 04.3**	**-0.4**
KALU	**Kalix**	**1.58**	**140**	P	**Pn**	**17 01 04.3**	**-0.4**
SJUU	**Sjulsmark**	**1.61**	**169**	*e*P	**Pn**	**17 01 04.9**	**-0.1**
SJUU	**Sjulsmark**	**1.61**	**169**	P	**Pn**	**17 01 04.9**	**-0.1**
SJUU	**Sjulsmark**	**1.61**	**169**	P	**Pn**	**17 01 04.9**	**-0.1**
HEF	**Hetta**	**1.70**	**37**	*e*P	**Pn**	**17 01 05.9**	**-0.5**
HEF				*e*S	**Sn**	**17 01 28.6**	**-0.3**
HEF	**Hetta**	**1.70**	**37**	P	**Pn**	**17 01 05.9**	**-0.5**
HEF				S	**Sn**	**17 01 28.6**	**-0.3**
LILU	**Lilltraesk**	**1.85**	**193**	*e*P	**Pn**	**17 01 08.8**	**+0.4**
LILU	**Lilltraesk**	**1.85**	**193**	P	**Pn**	**17 01 08.8**	**+0.4**
LILU	**Lilltraesk**	**1.85**	**193**	P	**Pn**	**17 01 08.8**	**+0.4**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	**Pb**	**17 01 11.2**	**-0.4**
KIF				*e*S	**Sg**	**17 01 37.6**	**+0.2**
KIF				MSG		17 01 44.6	
	comp=Z,16nm,0.2s						
KIF	**Kilpisjarvi**	**1.93**	**359**	P	**Pb**	**17 01 11.1**	**-0.4**
RNF	**Rovaniemi**	**2.09**	**101**	*e*P	**Pn**	**17 01 12.4**	**+0.8**
RNF	**Rovaniemi**	**2.09**	**101**	P	**Pn**	**17 01 12.4**	**+0.8**
SGF	**Sodankyl**	**2.23**	**78**	*e*P	**Pn**	**17 01 14.5**	**+0.9**
SGF	**Sodankyl**	**2.23**	**78**	P	**Pn**	**17 01 14.4**	**+0.9**
ARCES	**ARCESS Array B**	**3.01**	**33**	Pn	**Pn**	**17 01 24.6**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=213,slow=13,SNR=36						
ARCES				Sn	**Sn**	**17 02 02.9**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=213,slow=26,SNR=12						
ARE0	**ARCESS Array S**	**3.01**	**33**	*e*P	**Pn**	**17 01 24.2**	**-0.1**
ARE0	**ARCESS Array S**	**3.01**	**33**	P	**Pn**	**17 01 24.2**	**-0.1**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 02 07.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=6.5						
FINES				Sn	**Sn**	**17 03 17.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=346,slow=22,SNR=8.1						
NOA	**NORSAR Array B**	**7.39**	**219**	Pn	**Pn**	**17 02 25.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=3.0						
NOA				Sn	**Sn**	**17 03 47.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=226,slow=21,SNR=2.5						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 02 27.9**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=27,slow=13,SNR=3.3						
HFS				Sn	**Sn**	**17 03 55.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=249,slow=28,SNR=3.4						

*ISCJB **16** 17:04:43.5±0.6, 32°36N±0°03×115°29W±0°03, h21km±5km, Error ellipse: s-maj=5.6km s-min=4.8km az=169.4*
*MEX **16** 17:04:44.5±0.9, 32°43N×115°12W, h15km±3km, MD3.8*

ISC 16 17:04:43.2±1.1, 32°37N±0°04×115°30W±0°03, h18km±3km, n14, σ0s60/23, 11C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.10**	**65**	*e*P	**Pg**	**17 04 47.1**	**+0.3**
MBIG				*e*S	**Sg**	**17 04 49.2**	**-0.1**
SWSC	**Sam W. Stewart**	**0.71**	**324**	⇓P	**Pb**	**17 04 57.0**	**0.0**
	baz=0.9						
SWSC				⇑S	**Sg**	**17 05 06.8**	**+0.2**
	baz=0.9						
IBP	**Imperial Bould**	**0.73**	**294**	⇓S	**Sg**	**17 05 07.7**	**+0.4**
	baz=0.8						
GLA	**Glamis**	**0.79**	**30**	⇑P	**Pg**	**17 04 58.9**	**+0.1**
	baz=1.0,SNR=7.4						
GLA				⇑S	**Sg**	**17 05 09.8**	**+0.5**
	baz=1.0						
MONP	**Monument Peak,**	**1.08**	**299**	⇓P	**Pb**	**17 05 03.5**	**+0.1**
	baz=1.2,SNR=6.5						
MONP				⇑S	**Sn**	**17 05 17.8**	**-0.4**
	baz=1.2						
CBX	**Cerro Bola**	**1.15**	**268**	*e*P	**Pb**	**17 05 05.0**	**+0.3**
CBX				*i* S	**Sn**	**17 05 20.1**	**+0.2**
BC3	**Big Chuckawall**	**1.29**	**354**	⇑P	**Pn**	**17 05 05.9**	**-0.6**
	baz=1.5,SNR=5.8						
BC3				⇑S	**Sn**	**17 05 22.4**	**-1.0**
	baz=1.5						
SPIG	**San Pedro Mart**	**1.32**	**186**	*e*P	**Pn**	**17 05 06.7**	**-0.4**
SPIG				*i* S	**Sn**	**17 05 23.5**	**-0.9**
113A	**Mohawk Valley,**	**1.36**	**72**	⇑P	**Pn**	**17 05 07.7**	**+0.4**
	baz=1.4						
113A				⇑S	**Sb**	**17 05 25.6**	**+0.5**
	baz=1.4						
Y12C	**Blythe**	**1.53**	**25**	⇓Sb	**Sb**	**17 05 31.0**	**+1.0**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.57**	**322**	⇑P	**Pn**	**17 05 09.8**	**-0.6**
	baz=1.7,SNR=5.4						
PFO				⇑S	**Sn**	**17 05 29.3**	**-1.0**
	baz=1.7						
109C	**Camp Elliot, M**	**1.61**	**289**	⇑Sb	**Sb**	**17 05 33.2**	**+0.8**
	baz=1.7						
IRM	**Iron Mountain**	**1.79**	**4**	⇓Pb	**Pb**	**17 05 15.3**	**-0.3**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.15**	**100**	⇓Sb	**Sg**	**17 05 52.3**	**-0.3**
	baz=2.1						

IDC 16 17:37:20.8±2.1, 16°57S×14°14W, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.8/42, mbtmp4.1/9, MS3.8/25, Ms1 3.8/25, ms1mx3.7/37, Error ellipse: s-maj=126.8km s-min=47.3km az=107.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.58**	**356**	T	T	17 47 14.8	
	baz=177,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**7.59**	**356**	T	T	17 47 11.4	
	baz=177,slow=74,SNR=65						
H10S1	**ASCENSION HYDR**	**7.60**	**356**	T	T	17 47 15.1	
	baz=177,slow=74,SNR=69						
H09N1	**TRISTAN DA CUN**	**20.48**	**176**	T	T	18 03 25.4	
	SNR=11						
RCBR	**Riachuelo**	**23.84**	**294**	LR	LR	17 49 39.9	
	comp=Z,318nm,20.7s,baz=104,slow=31						
DBIC	**Dimbokro**	**24.86**	**22**	P	P	17 42 44.1	-1.1
	7.1nm,1.1s,baz=196,slow=12,SNR=3.4						
DBIC				LR	LR	17 50 08.6	
	comp=Z,135nm,18.9s,baz=181,slow=31						
TSUM	**Tsumeb**	**30.28**	**100**	LR	LR	17 53 14.9	
	comp=Z,327nm,21.5s,baz=266,slow=32						
BBTS	**Babate**	**31.13**	**356**	LR	LR	17 54 03.0	
	comp=Z,100nm,19.8s,baz=204,slow=32						
BDFB	**Brasilia**	**32.53**	**267**	LR	LR	17 54 16.9	
	comp=Z,506nm,21.8s,baz=96,slow=31						
TORD	**Torodi Ar. Bea**	**33.42**	**29**	P	P	17 44 01.0	-0.6
	2.7nm,0.9s,baz=212,slow=8.4,SNR=8.9						
TORD				LR	LR	17 55 07.1	
	comp=Z,288nm,20.7s,baz=195,slow=32						
MDT	**Midelt**	**49.95**	**10**	LR	LR	18 05 39.6	
	comp=Z,129nm,18.2s,baz=176,slow=34						
KMBO	**Kilima Mbogo**	**52.86**	**79**	LR	LR	18 07 20.1	
	comp=Z,161nm,19.4s,baz=268,slow=34						
KEST	**Kesra**	**56.58**	**23**	P	P	17 47 07.5	+1.9
	0.9nm,0.7s,baz=114,slow=12,SNR=3.8						
KEST				LR	LR	18 11 16.3	
	comp=Z,31nm,18.1s,baz=286,slow=36						
ESDC	**Sonseca Array**	**56.76**	**9**	LR	LR	18 09 21.4	
	comp=Z,55nm,20.6s,baz=305,slow=34						
ROSC	**El Rosal**	**63.18**	**284**	LR	LR	18 14 09.9	
	comp=Z,201nm,19.5s,baz=172,slow=35						
IDI	**Anoyia**	**63.49**	**35**	LR	LR	18 12 56.6	
	comp=Z,35nm,21.4s,baz=259,slow=34						
MMAI	**Mount Meron Ar**	**68.34**	**43**	LR	LR	18 15 34.5	
	comp=Z,39nm,21.8s,baz=195,slow=34						
ASF	**Jabal al Asfar**	**68.83**	**45**	LR	LR	18 17 11.7	
	comp=Z,460nm,20.6s,baz=110,slow=35						
GERES	**GERESS Array B**	**69.68**	**19**	P	P	17 48 33.2	+0.9
	0.6nm,0.8s,baz=232,slow=6.6,SNR=4.2						
GERES				LR	LR	18 18 54.8	
	comp=Z,67nm,19.6s,baz=252,slow=36						
MAW	**Mawson**	**69.85**	**157**	LR	LR	18 12 15.7	
	comp=Z,102nm,20.6s,baz=244,slow=30						
BRTR	**Keskin Array B**	**71.55**	**37**	P	P	17 48 44.6	+0.7
	1.4nm,0.8s,baz=205,slow=5.5,SNR=10.0						
BRTR				LR	LR	18 20 16.2	
	comp=Z,13nm,19.3s,baz=217,slow=36						
MLR	**Muntele Rosu**	**71.67**	**29**	P	P	17 48 44.7	+0.2
	1.0nm,0.9s,baz=153,slow=16,SNR=6.4						
AKASG	**Malin Array Be**	**77.02**	**27**	P	P	17 49 14.5	-0.9
	0.9nm,0.6s,baz=220,slow=5.0,SNR=15						
AKASG				LR	LR	18 22 33.0	
	comp=Z,21nm,21.0s,baz=40,slow=35						
KBZ	**Khabaz**	**79.46**	**38**	P	P	17 49 29.9	+0.9
	2.9nm,0.9s,baz=207,slow=4.4,SNR=6.4						
HFS	**Hagfors**	**79.69**	**14**	P	P	17 49 30.8	+0.8
	2.7nm,0.9s,baz=243,slow=9.4,SNR=3.1						
NOA	**NORSAR Array B**	**79.97**	**12**	LR	LR	18 26 37.7	
	comp=Z,19nm,18.3s,baz=220,slow=37						
SCHQ	**Schefferville**	**83.97**	**332**	LR	LR	18 21 56.3	
	comp=Z,37nm,19.4s,baz=54,slow=32						
FINES	**FINESS Array B**	**84.08**	**18**	P	P	17 49 52.5	-0.6
	2.6nm,0.9s,baz=147,slow=3.9,SNR=4.9						
FINES				LR	LR	18 29 03.0	
	comp=Z,35nm,18.6s,baz=231,slow=37						
VNDA	**Vanda**	**86.07**	**179**	LR	LR	18 22 55.0	
	comp=Z,55nm,21.8s,baz=189,slow=32						
GEYT	**Alibeck**	**86.70**	**49**	LR	LR	18 27 49.6	
	comp=Z,63nm,18.8s,baz=90,slow=35						
ARCES	**ARCESS Array B**	**90.33**	**13**	LR	LR	18 31 40.9	
	comp=Z,35nm,19.6s,baz=206,slow=36						
ULM	**Lac du Bonnet**	**97.40**	**320**	LR	LR	18 26 49.5	
	comp=Z,34nm,20.8s,baz=274,slow=30						
STKA	**Stephens Creek**	**126.50**	**154**	PKP	PKPdf	17 56 25.6	-1.0
	0.6nm,0.6s,baz=33,slow=2.0,SNR=2.9						

IDC 16 17:42:44.4±3.9, 16°42S×15°09W, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/42, mbtmp4.0/8, Error ellipse: s-maj=166.7km s-min=85.3km az=114.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.42**	**3**	T	T	17 52 35.0	
	baz=177,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**7.43**	**3**	T	T	17 52 36.8	
	baz=177,slow=74,SNR=27						
H10S1	**ASCENSION HYDR**	**7.44**	**3**	T	T	17 52 38.4	
	baz=177,slow=74,SNR=30						
DBIC	**Dimbokro**	**25.07**	**25**	P	P	17 48 11.7	+1.0
	3.8nm,0.9s,baz=206,slow=13,SNR=2.7						
TORD	**Torodi Ar. Bea**	**33.73**	**30**	P	P	17 49 26.8	-1.0
	1.2nm,0.9s,baz=211,slow=8.9,SNR=11						
KEST	**Kesra**	**56.80**	**24**	P	P	17 52 33.2	+2.6
	1.6nm,0.9s,baz=216,slow=6.5,SNR=4.1						
GERES	**GERESS Array B**	**69.83**	**20**	P	P	17 53 57.0	+0.2
	0.4nm,0.6s,baz=193,slow=5.5,SNR=3.9						
MLR	**Muntele Rosu**	**71.96**	**29**	P	P	17 54 09.6	-0.3
	0.7nm,0.9s,baz=161,slow=6.3,SNR=4.6						
BRTR	**Keskin Array B**	**71.97**	**38**	P	P	17 54 10.5	+0.4
	1.8nm,1.0s,baz=201,slow=6.6,SNR=7.5						
AKASG	**Malin Array Be**	**77.29**	**27**	P	P	17 54 40.1	-0.4
	1.1nm,0.6s,baz=222,slow=4.5,SNR=7.7						
KBZ	**Khabaz**	**79.90**	**39**	P	P	17 54 55.7	+0.6
	1.5nm,0.8s,baz=200,slow=4.9,SNR=5.6						
FINES	**FINESS Array B**	**84.21**	**19**	P	P	17 55 17.3	0.0
	2.6nm,1.0s,baz=227,slow=4.5,SNR=4.9						

*IDC **16** 18:05:05.3±1.1, 0°33S×133°22E, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.0/36, mbtmp4.1/11, ML4.2/2, MS3.4/9, Ms1 3.4/9, ms1mx3.1/33, Error ellipse: s-maj=54.1km s-min=15.5km az=72.0*
*ISCJB **16** 18:05:08.8±0.6, 0°43S±0°05×133°05E±0°06, h32km, mb4.1/14, MS3.4/8, Error ellipse: s-maj=9.2km s-min=5.7km az=148.1*
*NEIC **16** 18:05:11.9±2.0, 0°40S×133°13E, h46km±17km, mb4.2/3, Error ellipse: s-maj=20.8km s-min=8.0km az=58.0*
*DJA **16** 18:05:13.3±1.4, 0°S±5°×13°3E±°, h15km±21km, M5.0/3, mb5.0/3, mB5.2/2, Mw(mB)4.6/2*

ISC 16 18:05:11.6±0.6, 0°45S±0°05×132°92E±0°07, h32km, n52, σ1s73/49, mb4.1/14, MS3.3/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.64**	**130**	P	Pb	**18 05 40.8**	**-0.5**
RKPI				S	**Sb**	**18 06 05.0**	**+3.4**
FAKI	**Fak Fak**	**2.54**	**195**	P	Pn	**18 05 52.7**	**+2.0**
FAKI				S	**Sn**	**18 06 24.0**	**+3.4**
FAKI	**Fak Fak**	**2.54**	**195**	P	**Pn**	**18 05 51.5**	**+0.8**
	baz=3.5,SNR=463						
FAKI				S	**Sb**	**18 06 27.3**	**-0.2**
	baz=3.5,SNR=4.5						
FAKI	**Fak Fak**	**2.54**	**195**	*e*Pn	**Pn**	**18 05 51.6**	**+0.9**
MSAI	**Masohi**	**4.92**	**234**	P	**Pn**	**18 06 25.2**	**+1.9**
BNDI	**Bandanaira**	**5.04**	**217**	P	**Pn**	**18 06 27.3**	**+2.3**
LBMI	**Labuha**	**5.42**	**268**	P	**Pn**	**18 06 31.7**	**+1.5**
NLAI	**Namlea**	**6.44**	**244**	P	**Pn**	**18 06 46.1**	**+1.8**
SANI	**Sanana**	**7.11**	**257**	P	**Pn**	**18 06 52.4**	**-1.0**
SAUI	**Saumlaki**	**7.66**	**192**	P	**Pn**	**18 07 03.3**	**+2.3**
KMSI	**Cibinong**	**8.99**	**276**	P	**Pn**	**18 07 20.7**	**+1.4**
**AP

HHC LR LR
comp=N,79nm,17.3s
HHC LR LR
comp=E,76nm,16.0s
HHC LR LR
comp=Z,65nm,14.8s
SONM Songino Array 53.34 338 P **P** **18 14 26.3 -1.6**
comp=Z,0.3nm,0.3s,baz=121,slow=7.4,SNR=4.8
MKAR Makanchi Array 64.52 324 P **P** **18 15 45.3 -0.1**
comp=Z,0.6nm,0.6s,baz=110,slow=7.9,SNR=9.9
MKAR LR LR 18 44 01.9
comp=Z,46nm,21.9s,baz=229,slow=36
ZALV Zalesovo Beam 67.14 331 P **P** **18 16 01.3 -0.8**
comp=Z,0.3nm,0.4s,baz=120,slow=5.7,SNR=3.5
KURK Kurchatov 68.59 326 *eP* **P** **18 16 11.0 -0.4**
comp=Z,2.7nm,0.9s
GEYT Alibeck 78.31 309 P **P** **18 17 08.7 -0.2**
comp=Z,0.9nm,0.5s,baz=144,slow=10,SNR=4.6
VNDA Vanda 78.58 174 P **P** **18 17 08.2 -1.3**
comp=Z,1.5nm,1.0s,baz=335,slow=3.9,SNR=4.3
AKTO Aktyubinsk 80.76 321 P **P** **18 17 21.0 -0.9**
comp=Z,0.5nm,0.5s,baz=105,slow=5.7,SNR=4.2
ILAR Eielson Array 86.22 25 P P 18 17 54.5 +4.9
comp=Z,0.9nm,0.7s,baz=255,slow=5.2,SNR=5.9
QSPA South Pole Qui 89.48 180 P **P** **18 18 05.0 -0.4**
comp=Z,7.7nm,1.4s

IDC ***16*** *18:11:08.3±0.6,37.5°S×73.4°W,h0km,mb4.3/13, mb1 4.4/16,mb1mx4.3/33,mbtmp4.3/16,ML3.5/2,MS3.9/10, Ms1 3.9/10,ms1mx3.6/27,Error ellipse: s-maj=26.1km s-min=14.3km az=92.0*
ISCJB ***16*** *18:11:10.6±0.4,37.57°S±0.03°×73.60°W±0.09°,h23km, mb4.5/22,MS4.0/7,Error ellipse: s-maj=10.2km s-min=4.7km az=0.3*
NEIC ***16*** *18:11:12.0±2.2,37.44°S×73.61°W,h28km±14km,mb4.7/8, ML4.6(GUC),Error ellipse: s-maj=17.6km s-min=7.7km az=86.0*
NEIC Felt [IV] at Angol, Lebu, Puren and Renaico; [III] at Concepcion.
GUC ***16*** *18:11:12.5±0.5,37.48S×73.61W,h41km±8km,ML4.6*
ISC 16 18:11:11.6±0.5,37.49S±0.04°×73.65W±0.10°,h23km,n70, σ1s24/72,mb4.6/22,MS4.0/7,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.78**	**34**	*eP*		**Pb**		**18 11 26.4**	**0.0**
CCSP				*i* S		**Sn**		**18 11 37.7**	**-0.3**
CCSP				AML		AML		18 11 40.9	
	comp=E,47μm,0.4s								
CCSP	**San Pedro de C**	**0.78**	**34**	*eP*		**Pb**		**18 11 26.4**	**0.0**
CCSP				*i* S		**Sn**		**18 11 37.7**	**-0.3**
LNCH	**Linares**	**2.33**	**46**	*eP*		**Pn**		**18 11 48.7**	**+0.3**
LNCH	**Linares**	**2.33**	**46**	*eP*		**Pn**		**18 11 48.7**	**+0.3**
TALC	**Talca**	**2.65**	**39**	*eP*		**Pn**		**18 11 53.0**	**+0.2**
TALC	**Talca**	**2.65**	**39**	*eP*		**Pn**		**18 11 53.0**	**+0.2**
PLCA	**Paso Flores**	**4.04**	**144**	Pn		**Pn**		**18 12 12.4**	**+0.4**
	comp=E,10nm,0.3s,baz=332,slow=10,SNR=8.5								
PLCA				Sn		**Sn**		**18 12 59.2**	**+0.6**
	comp=E,14nm,0.3s,baz=287,slow=19,SNR=2.0								
PLCA	**Paso Flores**	**4.04**	**144**	Pn		**Pn**		**18 12 13.1**	**+1.0**
PLCA				Sn		**Sn**		**18 12 59.2**	**+0.6**
CLCH	**Cerro Calan**	**4.81**	**33**	*i* P		**Pn**		**18 12 22.2**	**-0.5**
PEL	**Peldehue**	**4.97**	**30**	*iP*		**Pn**		**18 12 23.8**	**-1.0**
PEL	**Peldehue**	**4.97**	**30**	P		**Pn**		**18 12 23.8**	**-1.0**
CFAA	**Coronel Fontan**	**7.38**	**39**	Pn		**Pn**		**18 12 56.6**	**-1.3**
	comp=E,0.8nm,0.3s,baz=191,slow=5.4,SNR=25								
CFAA				Sn		Sn		18 14 30.2	+9.3
	comp=E,0.2nm,0.3s,baz=180,slow=14,SNR=3.2								
CFAA				LR		LR		18 15 54.2	
	comp=E,146nm,18.6s,baz=224,slow=39								
LCO	**Las Campanas**	**8.81**	**17**	*e*Pn		Pn		18 13 13.5	-4.3
	comp=E,32nm,0.7s								
TRQA	**Tornquist**	**9.26**	**97**	*e*Pn		**Pn**		**18 13 23.8**	**+0.1**
	comp=E,55nm,1.0s								
PB06	**IPOC Station P**	**15.15**	**15**	*eP*		**P**		**18 14 51.1**	**+1.8**
LVC	**Limon Verde**	**15.38**	**17**	Pn		**Pn**		**18 14 46.3**	**-1.1**
	comp=E,11nm,0.3s,baz=180,slow=8.1,SNR=2.8								
LVC				LR		LR		18 20 12.2	
	comp=E,1μm,20.2s,baz=195,slow=35								
LVC	**Limon Verde**	**15.38**	**17**	*e*Pn		**Pn**		**18 14 46.2**	**-1.3**
	comp=E,21nm,1.0s								
PB04	**IPOC Station P**	**15.59**	**14**	*eP*		**P**		**18 14 54.1**	**+0.1**
PB07	**IPOC Station P**	**16.04**	**13**	*eP*		**P**		**18 15 02.4**	**+3.2**
PB09	**IPOC Station P**	**16.10**	**15**	*eP*		**P**		**18 15 02.3**	**+2.5**
PB01	**IPOC Station P**	**16.78**	**14**	*eP*		**P**		**18 15 09.0**	**+1.7**
PATCX	**Punta Patache**	**16.89**	**11**	*eP*		**P**		**18 15 10.6**	**+2.1**
HMBC	**Humberstone**	**17.46**	**12**	*eP*		**P**		**18 15 17.5**	**+2.6**
USHA	**Ushuaia**	**17.71**	**170**	P		**Pn**		**18 15 15.3**	**-1.2**
	comp=E,0.2nm,0.3s,baz=323,slow=13,SNR=2.6								
USHA				LR		LR		18 23 16.9	
	comp=E,638nm,18.6s,baz=322,slow=41								
EFI	**East Falkland**	**17.96**	**147**	*e*Pn		**P**		**18 15 20.2**	**+0.2**
	comp=E,64nm,0.6s								
PB11	**IPOC Station P**	**18.01**	**12**	*eP*		**P**		**18 15 23.0**	**+2.1**
PSGC	**Pisagua**	**18.09**	**11**	*eP*		**P**		**18 15 24.4**	**+2.6**
MNMC	**Minimini**	**18.63**	**12**	*eP*		**Pn**		**18 15 30.0**	**+1.7**
LPAZ	**La Paz**	**21.68**	**14**	P		**P**		**18 16 01.3**	**0.0**
	comp=E,7.0nm,0.9s,baz=189,slow=7.8,SNR=14								
SIV	**San Ignacio**	**24.13**	**31**	P		**P**		**18 16 25.2**	**-0.7**
	comp=E,14nm,0.8s,baz=234,slow=7.9,SNR=39								
SAML	**Samuel**	**29.95**	**21**	*eP*		P		18 17 14.9	-3.2
	comp=E,3.0nm,0.7s								
BDFB	**Brasilia**	**31.43**	**53**	P		**P**		**18 17 34.3**	**+3.0**
	comp=E,6.0nm,0.8s,baz=204,slow=9.8,SNR=7.5								
BDFB				LR		LR		18 31 41.3	
	comp=E,433nm,18.3s,baz=227,slow=39								
PTGA	**Pitinga**	**38.70**	**22**	P		**P**		**18 18 32.0**	**-1.8**
	comp=E,1.9nm,0.5s,baz=222,slow=11,SNR=5.7								
RCBR	**Riachuelo**	**46.62**	**57**	P		**P**		**18 19 37.8**	**-0.4**
	comp=E,14nm,1.2s,baz=258,slow=11,SNR=4.7								
VNA3	**Neumayer Olymp**	**46.66**	**156**	P		**P**		**18 19 38.8**	**+1.0**
VNA2	**Neumayer--Watz**	**47.34**	**156**	P		**P**		**18 19 44.0**	**+0.9**
	baz=286,slow=10								
JTS	**JuntasAbangare**	**48.70**	**345**	LR		LR		18 37 28.7	
	comp=E,35nm,19.1s,baz=52,slow=32								
SNAA	**Sanae**	**48.88**	**157**	P		**P**		**18 19 53.9**	**-1.2**
	comp=E,4.9nm,1.1s,baz=13,slow=23,SNR=8.5								
QSPA	**South Pole Qui**	**52.75**	**180**	P		**P**		**18 20 25.1**	**+0.7**
	comp=E,8.5nm,1.0s,baz=131,slow=1.8,SNR=14								
PPT	**Papeete**	**68.51**	**264**	LR		LR		18 45 24.1	
	comp=E,127nm,20.4s,baz=176,slow=30								
MAW	**Mawson**	**70.21**	**164**	P		**P**		**18 22 22.0**	**-0.1**
	comp=E,3.2nm,0.6s,baz=216,slow=6.4,SNR=8.0								
TXAR	**Lajitas Array**	**72.18**	**333**	P		**P**		**18 22 35.2**	**+0.7**
	comp=E,1.0nm,0.7s,baz=154,slow=6.1,SNR=5.8								
TXAR				LR		LR		18 48 57.9	
	comp=E,97nm,20.0s,baz=0.0,slow=31								
CASY	**Casey**	**76.51**	**182**	*eP*		**P**		**18 22 59.6**	**+0.4**
	comp=E,16nm,1.1s								
LIC	**Lamto**	**77.12**	**72**	*eP*		**P**		**18 23 02.3**	**-1.2**
	comp=E,42nm,1.0s								
TIC	**Toumodi**	**77.39**	**71**	*eP*		**P**		**18 23 04.6**	**-0.5**
	comp=E,62nm,0.2s								
KIC	**Kosan Boka**	**77.42**	**72**	*eP*		**P**		**18 23 05.2**	**0.0**
	comp=E,28nm,0.7s								
DBIC	**Dimbokro**	**77.53**	**72**	P		**P**		**18 23 06.3**	**+0.5**
	comp=E,9.2nm,0.7s,baz=208,slow=4.8,SNR=13								
DBIC				LR		LR		18 54 44.7	
	comp=E,74nm,18.9s,baz=172,slow=34								
DBIC	**Dimbokro**	**77.53**	**72**	*eP*		**P**		**18 23 05.8**	**-0.1**
	comp=E,16nm,1.3s								
DBIC				*e*				18 23 12.3	
ANMO	**Albuquerque**	**78.25**	**333**	P		**P**		**18 23 11.3**	**+1.8**
	comp=E,0.8nm,0.4s,baz=172,slow=7.1,SNR=2.7								
LBTB	**Lobatse**	**82.02**	**115**	*eP*		**P**		**18 23 30.0**	**-0.2**
	comp=E,6.0nm,0.6s								
ECSD	**EROS Data Cent**	**83.49**	**343**	*eP*		P		18 23 33.5	-3.6
	comp=E,6.8nm,1.3s								
HWUT	**Hardware Ranch**	**86.00**	**332**	*eP*		**P**		**18 23 48.9**	**-1.1**
	comp=E,3.7nm,1.0s								
NVAR	**Mina Array Bea**	**86.03**	**326**	P		**P**		**18 23 52.1**	**+1.8**
	comp=E,0.4nm,0.8s,baz=135,slow=9.0,SNR=1.9								
PDAR	**Pinedale Array**	**86.31**	**334**	P		**P**		**18 23 52.8**	**+1.2**
	comp=E,1.1nm,1.0s,baz=131,slow=6.1,SNR=5.0								
PDAR				LR		LR		18 58 16.5	
	comp=E,72nm,20.8s,baz=170,slow=33								
TORD	**Torodi Ar. Bea**	**86.62**	**71**	P		**P**		**18 23 53.2**	**-0.3**
	comp=E,1.7nm,0.6s,baz=230,slow=3.9,SNR=12								
TORD				LR		LR		18 58 20.9	
	comp=E,41nm,20.6s,baz=245,slow=33								
GERES	**GERESS Array B**	**115.51**	**47**	PKP		**PKPdf**		**18 29 51.5**	**+0.3**
	comp=E,0.4nm,0.5s,baz=145,slow=3.3,SNR=4.2								
BRTR	**Keskin Array B**	**124.62**	**63**	PKP		**PKPdf**		**18 30 09.2**	**+0.2**
	comp=E,1.0nm,0.6s,baz=217,slow=4.2,SNR=8.0								
AKASG	**Malin Array Be**	**125.48**	**50**	PKP		**PKPdf**		**18 30 08.9**	**-1.3**
	comp=E,0.4nm,0.4s,baz=267,slow=2.4,SNR=6.1								
GEYT	**Alibeck**	**142.18**	**74**	PKhKP		PKPpre		18 30 37.1	
	comp=E,1.0nm,0.6s,baz=185,slow=2.2,SNR=3.2								
GEYT				PKP		**PKPdf**		**18 30 41.3**	**-0.6**
	comp=E,1.0nm,0.6s,baz=289,slow=4.4,SNR=3.2								
TIXI	**Tiksi**	**143.86**	**348**	*e*PKPpre		PKPpre		18 30 39.8	
ABKAR	**Akbulak array**	**144.81**	**55**	*e*PKPdf		**PKPab**		**18 30 44.7**	**-0.4**
PSI	**Prapat**	**144.81**	**167**	PKP		**PKPab**		**18 30 46.0**	**-0.2**
	comp=E,16nm,0.6s,baz=186,slow=3.8,SNR=12								
BRVK	**Borovoye**	**150.61**	**46**	*e*PKPbc		**PKPbc**		**18 31 01.4**	**+0.5**
YAK	**Yakutsk**	**151.50**	**337**	*e*PKPbc		**PKPbc**		**18 31 02.4**	**-0.3**
KKAR	**Karatay Array**	**152.24**	**67**	*e*PKPbc		**PKPbc**		**18 31 03.8**	**-1.3**
KKAR				*e*PKPab		**PKPab**		**18 31 12.7**	**-2.4**
AAK	**Ala-Archa**	**155.17**	**68**	*e*PKPdf		**PKPdf**		**18 31 01.4**	**-1.3**
AAK				*e*PKPbc		PKPbc		18 31 10.9	
AAK				*e*PKPab		**PKPab**		**18 31 26.9**	**-0.8**
ZALV	**Zalesovo Beam**	**157.85**	**35**	PKP		**PKPdf**		**18 31 05.6**	**0.0**
	comp=E,3.1nm,1.0s,baz=258,slow=2.9,SNR=12								
ZALV				PKPab		**PKPab**		**18 31 39.0**	**+0.4**
	comp=E,2.6nm,0.6s,baz=297,slow=5.2,SNR=9.3								
MKAR	**Makanchi Array**	**159.95**	**55**	PKP		**PKPdf**		**18 31 08.4**	**+0.1**
	comp=E,2.6nm,1.2s,baz=321,slow=1.6,SNR=9.9								
MKAR				PKPab		**PKPab**		**18 31 47.8**	**-0.3**
	comp=E,1.5nm,0.8s,baz=277,slow=4.4,SNR=8.7								
CMAR	**Chiang Mai Arr**	**159.96**	**159**	PKPab		**PKPab**		**18 31 46.1**	**-2.5**
	comp=E,0.4nm,0.8s,baz=221,slow=5.2,SNR=4.1								
SONM	**Songino Array**	**169.66**	**360**	PKPab		**PKPab**		**18 32 30.8**	**+0.2**
	comp=E,0.4nm,0.8s,baz=313,slow=4.2,SNR=4.2								

IDC ***16*** *18:13:37.4±1.3,14.9°N×147.18°E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/37,mbtmp3.7/10,MS2.9/1, Ms1 2.9/1,ms1mx2.4/38,Error ellipse: s-maj=42.1km s-min=19.7km az=88.0*
ISCJB ***16*** *18:13:40.7±1.1,14.9°N±0.1°×147.1°E±0.3,h32km,mb3.7/10, MS2.9/1,Error ellipse: s-maj=36.8km s-min=16.6km az=177.7*
ISC 16 18:13:42.3±1.3,14.9°N±0.2°×147.2°E±0.3,h32km,n11, σ0s97/10,mb3.8/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**28.20**	**326**	P		**P**		**18 19 31.9**	**-0.2**
	0.7nm,0.6s,baz=144,slow=9.4,SNR=4.3								
USRK	**Ussuriysk Ar.**	**31.91**	**339**	P		**P**		**18 20 03.9**	**-1.0**
	0.7nm,0.6s,baz=147,slow=9.2,SNR=3.1								
WRA	**Warramunga Arr**	**36.88**	**200**	P		**P**		**18 20 47.6**	**-0.5**
	0.8nm,0.8s,baz=22,slow=9.5,SNR=5.6								
PETK	**Petropavlovsk-**	**38.99**	**10**	LR		LR		18 35 15.2	
	comp=Z,18nm,21.6s,baz=185,slow=33								
ASAR	**Alice Springs**	**40.49**	**199**	P		**P**		**18 21 18.2**	**-0.2**
	0.4nm,0.8s,baz=19,slow=6.0,SNR=6.1								
CMAR	**Chiang Mai Arr**	**46.23**	**281**	P		**P**		**18 22 05.3**	**+0.4**
	1.0nm,0.8s,baz=89,slow=6.5,SNR=7.7								
SONM	**Songino Array**	**46.97**	**323**	P		**P**		**18 22 11.0**	**+0.5**
	0.8nm,0.6s,baz=130,slow=5.8,SNR=9.1								
ZALV	**Zalesovo Beam**	**61.86**	**324**	P		**P**		**18 23 56.4**	**-1.9**
	0.2nm,0.3s,baz=88,slow=3.6,SNR=2.8								
MKAR	**Makanchi Array**	**62.10**	**315**	P		**P**		**18 24 00.6**	**+0.4**
	1.5nm,0.7s,baz=91,slow=8.1,SNR=16								
YKA	**Yellowknife Ar**	**80.65**	**28**	P		**P**		**18 25 52.3**	**+0.5**
	0.2nm,0.6s,baz=281,slow=5.5,SNR=5.1								
FINES	**FINESS Array B**	**90.88**	**336**	P		**P**		**18 26 43.4**	**+0.8**
	1.6nm,0.8s,baz=56,slow=2.5,SNR=2.9								

IDC ***16*** *18:21:35.3±5.4,0.02S×133.15E,h0km,mb4.0/2, mb1 4.0/3,mb1mx3.5/31,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=126.3km s-min=59.1km az=100.0*
DJA ***16*** *18:21:41.2±0.9,0.°S±11.°×13.°3E±.°,h112km±10km,M4.3/3, mb4.4/3,mB4.9/1,MLv4.3/2,Mw(mB)4.2/1*
ISC 16 18:21:47.6±2.1,0.8S±0.2°×133.17E±0.09,h32km,n14, σ1s19/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.23**	**125**	P		**P**		**18 22 09.3**	**+0.7**
FAKI	**Fak Fak**	**2.30**	**204**	P		**Pn**		**18 22 24.9**	**+1.5**
FAKI	**Fak Fak**	**2.30**	**204**	P		**Pn**		**18 22 24.5**	**+1.1**
	baz=1.5,SNR=68								
BNDI	**Bandanaira**	**4.94**	**221**	P		**Pn**		**18 23 00.6**	**+1.0**
MSAI	**Masohi**	**4.94**	**239**	P		**Pn**		**18 22 59.7**	**+0.1**
GENI	**Genyem**	**7.22**	**104**	P		Pn		18 23 22.9	-8.0
APSI	**Ampana**	**11.52**	**269**	P		Pn		18 24 23.8	-6.2
	20nm,1.4s								
KDU	**Kakadu**	**11.84**	**183**	P		**Pn**		**18 24 35.3**	**+1.0**
	baz=11,SNR=5.6								
KDU				S		**Sn**		**18 26 45.0**	**-0.4**
	baz=11,SNR=3.9								
MTN	**Manton Dam**	**12.14**	**190**	P		**Pn**		**18 24 39.0**	**+0.6**
	baz=11,SNR=18								
KNRA	**Kununurra**	**15.42**	**196**	P		**Pn**		**18 25 21.7**	**-1.1**
	baz=15,SNR=24								
WSI	**Waingapu**	**15.55**	**235**	P		Pn		18 25 15.2	-9.4
	baz=14,SNR=3.8								
WRA	**Warramunga Arr**	**19.07**	**177**	P		**P**		**18 26 07.6**	**+0.2**
	0.3nm,0.3s,baz=356,slow=11,SNR=19								
WRA				S		**Sn**		**18 29 38.9**	**-2.3**
	0.1nm,0.3s,baz=352,slow=21,SNR=5.2								
ASAR	**Alice Springs**	**22.75**	**79**	P		**P**		**18 26 47.1**	**-0.2**
	1.5nm,0.5s,baz=355,slow=10,SNR=69								
ASAR				S		Sn		18 31 03.9	-5.8
	0.4nm,0.9s,baz=358,slow=18,SNR=3.5								
STKA	**Stephens Creek**	**31.92**	**166**	P		**P**		**18 28 09.5**	**-0.9**
	2.1nm,0.8s,baz=340,slow=8.8,SNR=6.6								

IDC ***16*** *18:28:39.0±0.9,3.°07N×129.°10E,h0km,mb3.9/7, mb1 4.1/7,mb1mx3.7/37,mbtmp3.9/7,Error ellipse: s-maj=50.7km s-min=16.7km az=67.0*
ISCJB ***16*** *18:28:43.8±0.7,2.93N±0.06°×128.94E±0.09,h44km, mb3.9/7,Error ellipse: s-maj=12.7km s-min=8.4km az=179.6*
DJA ***16*** *18:29:03.2±3.2,2.°N±22.°×12.°8E±2.°0,h27km±5km,M3.5/3, mb4.2/3,MLv3.1/3*
ISC 16 18:28:45.3±0.9,2.9N±0.1°×129.0E±0.1,h44km,n25, σ0s70/26,mb3.7/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.70**	**218**	P		**Pn**		**18 29 24.2**	**-2.0**
LBMI	**Labuha**	**3.84**	**203**	P		**Pn**		**18 29 42.6**	**+0.6**
KMSI	**Cibinong**	**5.54**	**245**	P		**Pn**		**18 30 05.5**	**+0.2**
SANI	**Sanana**	**5.79**	**212**	P		**Pn**		**18 30 07.5**	**-1.2**
MRSI	**Marisa**	**7.47**	**251**	P		**Pn**		**18 30 31.7**	**-0.1**
	94nm,0.8s								
APSI	**Ampana**	**8.29**	**243**	P		**Pn**		**18 30 43.4**	**+0.4**
MPSI	**Mapaga**	**9.46**	**254**	P		**Pn**		**18 30 59.8**	**+0.7**
WRA	**Warramunga Arr**	**23.32**	**167**	P		**P**		**18 33 50.1**	**+0.5**
	4.0nm,0.5s,baz=346,slow=11,SNR=43								
ASAR	**Alice Springs**	**26.85**	**170**	P		**P**		**18 34 22.4**	**+0.4**
	1.1nm,0.5s,baz=360,slow=7.8,SNR=35								
ASAR				PcP		**PcP**		**18 37 44.6**	**+0.7**
	0.1nm,0.5s,baz=0.8,slow=2.3,SNR=4.3								
CMAR	**Chiang Mai Arr**	**33.24**	**300**	P		**P**		**18 35 18.7**	**+0.1**
	0.5nm,0.8s,baz=108,slow=8.6,SNR=3.9								
STKA	**Stephens Creek**	**36.62**	**162**	P		**P**		**18 35 48.3**	**+0.8**
	1.7nm,0.5s,baz=11,slow=7.2,SNR=8.0								
TAPN	**Taplejung**	**46.33**	**306**	*eP*		**P**		**18 37 07.5**	**-0.1**
	15nm,1.1s								
ODAN	**Odare**	**46.39**	**305**	*eP*		**P**		**18 37 08.0**	**0.0**
	11nm,0.8s								
RAMN	**Ramite**	**47.08**	**305**	*eP*		**P**		**18 37 13.4**	**0.0**
	16nm,0.9s								
JIRN	**Jiri**	**47.69**	**305**	*eP*		**P**		**18 37 18.2**	**-0.1**
	14nm,0.8s								
GUN	**Gumba**	**48.04**	**306**	*eP*		**P**		**18 37 20.8**	**-0.2**
	12nm,0.7s								
PKIN	**Phulchoki**	**48.31**	**305**	*eP*		**P**		**18 37 22.4**	**-0.5**
DMN	**Daman**	**48.56**	**305**	*eP*		**P**		**18 37 24.5**	**-0.3**
	12nm,0.9s								
GKN	**Gorkha**	**49.09**	**305**	*eP*		**P**		**18 37 28.3**	**-0.5**
KOLN	**Koldanda**	**49.86**	**304**	*eP*		**P**		**18 37 34.9**	**+0.2**
	20nm,0.7s								
DANN	**Dangsing**	**49.94**	**305**	*eP*		**P**		**18 37 35.3**	**-0.1**
	24nm,0.7s								
PYUN	**Piuthan**	**50.48**	**304**	*eP*		**P**		**18 37 39.7**	**+0.3**
	42nm,0.8s								
MKAR	**Makanchi Array**	**59.52**	**325**	P		**P**		**18 38 44.2**	**0.0**
	1.3nm,0.4s,baz=116,slow=8.1,SNR=50								
ZALV	**Zalesovo Beam**	**62.35**	**332**	P		**P**		**18 39 01.6**	**-1.6**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=3.1								
ILAR	**Eielson Array**	**84.85**	**25**	P		**P**		**18 41 14.9**	**-0.1**
	0.2nm,0.5s,baz=242,slow=5.8,SNR=3.3								

IDC ***16*** *18:31:53.6±4.9,13.85N×91.03W,h67km±28km,mb3.0/2, mb1 3.4/4,mb1mx3.1/36,mbtmp3.2/4,ML3.6/2,Error ellipse: s-maj=55.4km s-min=29.2km az=158.0*
ISCJB ***16*** *18:31:59.5±1.0,14.2N±0.1°×91.49W±0.07,h92km±9km, mb3.3/2,Error ellipse: s-maj=24.4km s-min=7.3km az=23.7*
CASC ***16*** *18:31:59.3±2.0,14.26N×91.47W,h89km±15km,MD3.7*
ISC 16 18:31:59.9±1.2,14.2N±0.1°×91.48W±0.07,h92km±9km,n14, σ1s26/18,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.20**	**308**	*eP*		**Pn**		**18 32 12.2**	**-0.9**
PCG	**Pacaya**	**0.87**	**77**	*eP*		**Pn**		**18 32 18.1**	**-0.4**
PCG				*eS*		**Sn**		**18 32 33.4**	**+0.9**
NBG	**Las Nubes**	**1.16**	**70**	*eP*		**Pn**		**18 32 21.6**	**-0.2**
NBG				*eS*		Sn		18 32 45.1	+6.7
APG	**El Apazote**	**1.27**	**51**	P		Pn		18 32 15.6	-7.5
	29nm,0.3s,baz=200,slow=12,SNR=366								
APG				S		Sn		18 32 32.1	-8.5
	15nm,0.3s,baz=160,slow=17,SNR=12								
RBDL	**Robledal**	**1.74**	**93**	*eP*		**Pn**		**18 32 27.9**	**-1.1**
RBDL				*eS*		**Sn**		**18 32 49.2**	**-1.8**
SBLS	**San Blas**	**1.83**	**101**	*eP*		**Pn**		**18 32 29.6**	**-0.6**
SBLS				*eS*		**Sn**		**18 32 54.7**	**+1.4**
MRL	**Marmol**	**1.93**	**63**	*eP*		**Pn**		**18 32 31.3**	**-0.1**
LFRS	**El Faro**	**2.41**	**103**	*eP*		**Pn**		**18 32 38.3**	**+0.6**
LFRS				*eS*		**Sn**		**18 33 08.1**	**+1.4**
CMIG	**Matias Romero**	**4.36**	**312**	P		**Pn**		**18 33 03.5**	**-0.4**
	1.0nm,0.3s,baz=138,slow=11,SNR=11								
CMIG				S		**Sn**		**18 33 54.3**	**+0.7**
	2.3nm,0.3s,baz=61,slow=16,SNR=6.4								
TEIG	**Tepich**	**6.73**	**27**	P		**Pn**		**18 33 35.6**	**-0.5**
	11nm,0.3s,baz=215,slow=12,SNR=25								
TEIG				S		Sn		18 34 59.9	+8.7
	baz=324,slow=19,SNR=2.6								
TXAR	**Lajitas Array**	**18.82**	**325**	P		**Pn**		**18 36 15.5**	**+1.5**
	0.1nm,0.3s,baz=139,slow=11,SNR=6.0								
NVAR	**Mina Array Bea**	**33.84**	**320**	P		**P**		**18 38 35.5**	**+1.7**
	0.4nm,0.6s,baz=134,slow=10,SNR=4.2								
YKA	**Yellowknife Ar**	**50.95**	**346**	P		**P**		**18 40 49.8**	**-1.9**
	0.2nm,0.7s,baz=154,slow=7.3,SNR=3.7								
CMAR	**Chiang Mai Arr**	**145.97**	**342**	PKPbc		**PKPdf**		**18 51 27.6**	**-1.4**
	0.6nm,0.8s,baz=321,slow=2.4,SNR=5.6								

IDC ***16*** *18:35:47.8±1.0,26.00N×128.50E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.8/32,mbtmp3.8/12,ML3.1/1,MS3.2/4, Ms1 3.2/4,ms1mx2.7/38,Error ellipse: s-maj=37.8km s-min=15.4km az=78.0*
ISCJB ***16*** *18:35:49.3±0.4,25.°93N±0.°03×128.°56E±0.°03,h27km, mb3.7/13,MS3.3/3,Error ellipse: s-maj=4.9km s-min=3.6km az=146.8*
JMA ***16*** *18:35:51.4±0.3,26.02N×128.52E,h41km±4km,M3.1*
NEIC ***16*** *18:35:53.4±0.7,26.01N×128.42E,h35km,mb4.3/2,Error ellipse: s-maj=18.5km s-min=11.0km az=94.0*
ISC 16 18:35:51.2±0.7,25.95N±0.04°×128.53E±0.04,h27km,n37, σ1s38/47,mb3.8/13,MS3.5/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.73**	**321**	P		**

ISR	**Istrita**	**0.55**	**170**	⇑	*i*P	Pn	18 39 05.0	-0.2
ISR					*i*S	Sn	18 39 21.6	-1.0
ISR	**Istrita**	**0.55**	**170**	⇑	*i*P	Pn	18 39 05.0	-0.2
ISR	**Istrita**	**0.55**	**170**	⇑	*i*P	Pn	18 39 05.0	-0.2
ISR					*i*S	Sn	18 39 21.6	-1.0
PETR	**Petresti**	**0.58**	**84**	⇑	*i*P	Pn	18 39 05.6	+0.4
PETR					*i*S	Sn	18 39 21.8	-0.8
PETR	**Petresti**	**0.58**	**84**	⇑	*i*P	Pn	18 39 05.6	+0.4
PETR	**Petresti**	**0.58**	**84**	⇑	*i*P	Pn	18 39 05.6	+0.4
PETR					*i*S	Sn	18 39 21.8	-0.8
SECR		**0.67**	**201**		*i*S	Sn	18 39 22.7	-1.0
SECR		**0.67**	**201**		S	Sn	18 39 22.7	-1.0
SECR		**0.67**	**201**		*i*S	Sn	18 39 22.7	-1.0
DOPR	**Dopca**	**0.77**	**294**	⇑	*i*P	Pn	18 39 06.3	-0.1
DOPR					*i*S	Sn	18 39 24.7	-0.2
DOPR	**Dopca**	**0.77**	**294**	⇑	*i*P	Pn	18 39 06.3	-0.1
DOPR	**Dopca**	**0.77**	**294**	⇑	*i*P	Pn	18 39 06.3	-0.1
DOPR					*i*S	Sn	18 39 24.7	-0.2
TESR	**Tescani**	**0.87**	**11**	⇑	*i*P	Pn	18 39 06.9	-0.1
TESR					*i*S	Sn	18 39 24.2	-1.9
TESR	**Tescani**	**0.87**	**11**	⇑	*i*P	Pn	18 39 06.9	-0.1
TESR	**Tescani**	**0.87**	**11**	⇑	*i*P	Pn	18 39 06.9	-0.1
TESR					*i*S	Sn	18 39 24.2	-1.9
VOIR		**0.98**	**257**	⇑	*i*P	Pn	18 39 09.0	+1.0
VOIR					*i*S	Sn	18 39 27.3	-0.3
VOIR		**0.98**	**257**	⇑	*i*P	Pn	18 39 09.0	+1.0
VOIR		**0.98**	**257**	⇑	*i*P	Pn	18 39 09.0	+1.0
VOIR					*i*S	Sn	18 39 27.3	-0.3
SULR		**0.99**	**186**		*i*S	Sn	18 39 27.0	-0.6
SULR		**0.99**	**186**		S	Sn	18 39 27.0	-0.6
SULR		**0.99**	**186**		*i*S	Sn	18 39 27.0	-0.6
ARR	**Arges**	**1.28**	**257**	⇓	*i*P	Pn	18 39 11.6	+1.0
ARR					*i*S	Sn	18 39 31.8	-0.5
ARR	**Arges**	**1.28**	**257**	⇓	*i*P	Pn	18 39 11.6	+1.0
ARR	**Arges**	**1.28**	**257**	⇓	*i*P	Pn	18 39 11.6	+1.0
ARR					*i*S	Sn	18 39 31.8	-0.5
CFR	**Carcaliu**	**1.31**	**111**	⇑	*i*P	Pn	18 39 10.6	-0.1
CFR					*i*S	Sn	18 39 30.5	-2.1
CFR	**Carcaliu**	**1.31**	**111**	⇑	*i*P	Pn	18 39 10.6	-0.1
CFR	**Carcaliu**	**1.31**	**111**	⇑	*i*P	Pn	18 39 10.6	-0.1
CFR					*i*S	Sn	18 39 30.5	-2.1
BUC1	**Bucharest**	**1.34**	**192**	⇑	*i*P	Pn	18 39 11.4	+0.3
BUC1					*i*S	Sn	18 39 31.8	-1.3
BUC1	**Bucharest**	**1.34**	**192**	⇑	*i*P	Pn	18 39 11.4	+0.3
BUC1	**Bucharest**	**1.34**	**192**	⇑	*i*P	Pn	18 39 11.4	+0.3
BUC1					*i*S	Sn	18 39 31.8	-1.3
HARR	**Harsova**	**1.45**	**131**	⇑	*i*P	Pn	18 39 12.1	0.0
HARR	**Harsova**	**1.45**	**131**	⇑	*i*P	Pn	18 39 12.1	0.0
HARR	**Harsova**	**1.45**	**131**	⇑	*i*P	Pn	18 39 12.1	0.0
LEOM	**Leova**	**1.52**	**57**		*i*S	Sn	18 39 34.7	-1.5
LEOM	**Leova**	**1.52**	**57**		S	Sn	18 39 34.7	-1.5
LEOM	**Leova**	**1.52**	**57**		*i*S	Sn	18 39 34.7	-1.5
HUMR	**Humele**	**1.52**	**222**	⇓	*i*P	Pn	18 39 12.7	-0.1
HUMR					*i*S	Sn	18 39 34.8	-1.5
HUMR	**Humele**	**1.52**	**222**	⇓	*i*P	Pn	18 39 12.7	-0.1
HUMR	**Humele**	**1.52**	**222**	⇓	*i*P	Pn	18 39 12.7	-0.1
HUMR					*i*S	Sn	18 39 34.8	-1.5
TLB	**Topalu**	**1.58**	**132**	⇑	*i*P	Pn	18 39 13.4	0.0
TLB					*i*S	Sn	18 39 35.4	-2.0
TLB	**Topalu**	**1.58**	**132**	⇑	*i*P	Pn	18 39 13.4	0.0
TLB	**Topalu**	**1.58**	**132**	⇑	*i*P	Pn	18 39 13.4	0.0
TLB					*i*S	Sn	18 39 35.4	-2.0
TLCR		**1.76**	**105**	⇑	*i*P	Pn	18 39 15.6	+0.2
TLCR					*i*S	Sn	18 39 39.3	-1.5
TLCR		**1.76**	**105**	⇑	*i*P	Pn	18 39 15.6	+0.2
TLCR		**1.76**	**105**	⇑	*i*P	Pn	18 39 15.6	+0.2
TLCR					*i*S	Sn	18 39 39.3	-1.5
MSAB	**Monastry St. A**	**1.87**	**147**	⇑	*i*P	Pn	18 39 16.8	+0.3
MSAB					*i*S	Sn	18 39 41.0	-1.9
MSAB	**Monastry St. A**	**1.87**	**147**	⇑	*i*P	Pn	18 39 16.8	+0.3
MSAB	**Monastry St. A**	**1.87**	**147**	⇑	*i*P	Pn	18 39 16.8	+0.3
MSAB					*i*S	Sn	18 39 41.0	-1.9

GUC ***16*** *19:01:16.9±0.6,34.°67S×71.°99W, h42km±4km, ML4.3*
IDC ***16*** *19:01:20.2±5.8,34.°59S×72.°00W, h35km±41km, mb3.8/3, mb1 3.7/6, mb1mx3.5/37, mbtmp3.8/6, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=75.0km s-min=17.7km az=102.0*

ISC 16 19:01:19.8±1.6,34.71S±0.°05×71.°9W±0.°1, h33km±7km, n15, σ1§16/20, mb4.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.65**	**117**	*e*P	**Pn**	**19 01 31.5**	**-1.2**
NICH				*e*S	**Sn**	**19 01 42.3**	**+0.4**
NICH				AML	AML	19 01 49.5	
	comp=N,18μm,0.2s						
TALC	**Talca**	**0.73**	**160**	*e*P	**Pn**	**19 01 32.3**	**-1.5**
TALC				*e*S	**Sn**	**19 01 43.6**	**-0.2**
LNCH	**Linares**	**1.17**	**167**	*e*P	**Pb**	**19 01 41.2**	**-0.2**
LNCH				*e*S	**Sb**	**19 01 57.9**	**+1.6**
YECH	**El Yeso**	**1.86**	**56**	*e*P	**Pn**	**19 01 50.6**	**+1.1**
YECH				*e*S	**Sb**	**19 02 15.4**	**-0.8**
PEL	**Peldehue**	**1.88**	**34**	*e*P	**Pn**	**19 01 48.8**	**-0.9**
PEL				*e*S	**Sn**	**19 02 12.9**	**+0.7**
PEL				AML	AML	19 02 18.1	
	comp=E,5μm,0.6s						
CFAA	**Coronel Fontan**	**4.38**	**46**	Pn	**Pn**	**19 02 25.4**	**+1.3**
	comp=E,0.3nm,0.3s,baz=221,slow=12,SNR=22						
CFAA				Sn	Sn	19 03 21.3	+7.3
	comp=E,0.8nm,0.3s,baz=0.3,slow=20,SNR=3.2						
CFAA				Lg	Lg	19 03 34.5	
	comp=E,1.0nm,0.3s,baz=80,slow=17,SNR=4.5						
PLCA	**Paso Flores**	**6.11**	**170**	Pn	**Pn**	**19 02 49.1**	**+1.2**
	comp=E,0.9nm,0.3s,baz=348,slow=11,SNR=12						
PLCA				Lg	Lg	19 04 37.6	
	comp=E,0.6nm,0.3s,baz=262,slow=19,SNR=4.5						
LVC	**Limon Verde**	**12.34**	**13**	LR	LR	19 10 05.3	
	comp=E,222nm,18.7s,baz=205,slow=43						
LPAZ	**La Paz**	**18.66**	**11**	P	**P**	**19 05 35.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=178,slow=6.6,SNR=8.0						
SIV	**San Ignacio**	**21.04**	**30**	P	**P**	**19 05 59.2**	**-1.7**
	comp=E,3.2nm,0.9s,baz=226,slow=10,SNR=6.2						
QSPA	**South Pole Qui**	**55.53**	**180**	P	**P**	**19 10 53.2**	**+1.6**
	comp=E,2.3nm,1.0s,baz=275,slow=1.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**19 13 49.4**	**+0.3**
	comp=E,1.0nm,0.7s,baz=222,slow=1.9,SNR=6.2						
WRA	**Warramunga Arr**	**120.18**	**209**	PKP	**PKPdf**	**19 20 07.3**	**-0.6**
	comp=E,0.3nm,0.6s,baz=148,slow=1.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**154.78**	**33**	PKPbc	**PKPbc**	**19 21 17.2**	**+0.3**
	comp=E,0.6nm,0.5s,baz=276,slow=2.7,SNR=5.5						
ZALV				PKPab	**PKPab**	**19 21 32.0**	**-0.1**
	comp=E,0.6nm,0.5s,baz=345,slow=5.1,SNR=5.2						
MKAR	**Makanchi Array**	**157.16**	**50**	PKPab	**PKPab**	**19 21 41.2**	**-1.5**
	comp=E,0.4nm,0.8s,baz=292,slow=3.3,SNR=4.4						

ISCJB ***16*** *19:03:22.4±0.6,32.°17N±0.°04×115.°13W±0.°05, h12km, Error ellipse: s-maj=6.0km s-min=5.2km az=164.8*
NEIC ***16*** *19:03:23.6,32.°13N×115.°22W, h10km, ML3.0(PAS), After PAS.*
MEX ***16*** *19:03:25.3±0.8,32.°21N×115.°06W, h15km, MD3.8*

ISC 16 19:03:22.7±0.9,32.15N±0.°04×115.21W±0.°05, h12km, n14, σ0§99/18, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.26**	**2**	*e*P	**Pb**	**19 03 29.5**	**+0.2**
MBIG				*i*S	**Sb**	**19 03 34.2**	**+0.4**
CPBX	**Cerro Prieto**	**0.28**	**344**	*e*P	**Pb**	**19 03 29.5**	**-0.2**
CPBX				*e*S	**Sg**	**19 03 33.4**	**+1.0**
GLA	**Glamis**	**0.96**	**20**	*e*Pg	**Pg**	**19 03 40.0**	**-1.2**
SPIG	**San Pedro Mart**	**1.12**	**191**	*e*P	**Pg**	**19 03 44.4**	**0.0**
SPIG				*i*S	**Sn**	**19 03 59.9**	**-0.2**
CBX	**Cerro Bola**	**1.24**	**278**	*e*P	**Pn**	**19 03 45.7**	**-0.3**
CBX				*i*S	**Sb**	**19 04 02.4**	**+0.2**
CBX	**Cerro Bola**	**1.24**	**278**	*e*P	**Pn**	**19 03 45.6**	**-0.3**
BAR	**Barrett**	**1.34**	**294**	*e*Pn	**Pn**	**19 03 46.8**	**-0.6**
PFO	**Pinyon Flats O**	**1.79**	**325**	*e*Pn	**Pn**	**19 03 52.0**	**-1.6**
214A	**Organ Pipe Nat**	**2.05**	**95**	*e*Pn	**Pn**	**19 03 55.6**	**-1.4**
GSC	**Goldstone, Bar**	**3.41**	**338**	*e*Pn	**Pn**	**19 04 18.1**	**+2.2**
TUC	**Tucson**	**3.75**	**86**	*e*Pn	**Pn**	**19 04 21.0**	**+0.5**
WUAZ	**Wupatki**	**4.63**	**43**	*e*Pn	**Pn**	**19 04 32.5**	**-0.2**
R11A	**Troy Canyon, C**	**6.19**	**357**	Pn	**Pn**	**19 04 54.0**	**-0.1**
	1.1nm,0.4s						
ANMO	**Albuquerque**	**7.82**	**67**	*e*Pn	**Pn**	**19 05 17.8**	**+1.2**

DHMR ***16*** *19:05:27.6±1.5, 11.°85N×43.°73E, h3km±184km, ML3.8*
ISCJB ***16*** *19:05:31.1±1.1, 11.°83N±0.°08×43.°68E±0.°09, h10km, Error ellipse: s-maj=16.3km s-min=4.7km az=135.1*
ARO ***16*** *19:05:33.0, 12.°2N×72.°4E±.°, h7km, 1km, ML4.0*

ISC 16 19:05:30.8±1.2,11.92N±0.°07×43.64E±0.°08, h10km, n11, σ0§68/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.35**	**282**	*e*P	**Pb**	**19 05 39.3**	**+0.1**
MCAD	**Moucha**	**0.46**	**247**	*e*P	**Pb**	**19 05 41.3**	**+0.3**
ATA	**Atar**	**0.63**	**223**	*e*P	**Pb**	**19 05 44.3**	**+0.4**
TDD	**Tadjoura Ara**	**0.73**	**261**	*e*P	**Pb**	**19 05 45.5**	**-0.1**
ATD	**Arta Tunnel**	**0.87**	**244**	*e*P	**Pg**	**19 05 47.8**	**+0.2**
ATD				*e*S	**Sb**	**19 06 00.1**	**+0.3**
SGH	**Sud-Ghoubbet**	**1.10**	**245**	*e*P	**Pb**	**19 05 51.9**	**-0.1**
GBR	**Grand-Bara**	**1.38**	**237**	*e*P	**Pn**	**19 05 56.0**	**-0.2**
MAOD	**Malaho**	**1.40**	**277**	*e*P	**Pn**	**19 05 55.4**	**-1.0**
UDYN	**Al 'Udayn**	**2.06**	**9**	*i*P	**Pn**	**19 06 05.6**	**-0.1**
UDYN				*i*S	**Sb**	**19 06 34.5**	**+0.1**
UDYN				AML	AML	19 06 40.6	
	comp=E,1μm,0.5s						
DHBB	**Dhamar BB**	**2.74**	**15**	*i*P	**Pn**	**19 06 16.7**	**+1.5**
DHBB				*i*S	**Sb**	**19 06 53.8**	**-0.1**
BDHA	**Al Bayda'**	**2.78**	**42**	*i*P	**Pn**	**19 06 14.9**	**-0.7**
BDHA				*i*S	**Sb**	**19 06 53.8**	**-1.1**
BDHA				AML	AML	19 07 00.3	
	comp=E,407nm,0.4s						

IDC 16 19:06:15.0±6.9,16.69S×13.89W, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.6/30, mbtmp3.8/4, MS3.4/6, Ms1 3.3/6, ms1mx2.9/35, Error ellipse: s-maj=325.5km s-min=114.4km az=103.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**7.72**	**354**	T	T	19 15 50.1	
	baz=177,slow=74,SNR=8.0						
H10S3	**ASCENSION HYDR**	**7.73**	**354**	T	T	19 15 57.3	
	baz=177,slow=74,SNR=7.0						
H10S1	**ASCENSION HYDR**	**7.74**	**354**	T	T	19 16 03.8	
	baz=177,slow=74,SNR=7.2						
H09N1	**TRISTAN DA CUN**	**20.34**	**176**	T	T	19 32 36.8	
	SNR=6.1						
DBIC	**Dimbokro**	**24.87**	**22**	P	P	19 11 40.7	+1.1
	3.9nm,1.0s,baz=187,slow=11,SNR=3.1						
DBIC				LR	LR	19 19 48.0	
	comp=Z,43nm,18.1s,baz=155,slow=33						
BDFB	**Brasilia**	**32.77**	**267**	LR	LR	19 23 59.1	
	comp=Z,64nm,18.2s,baz=128,slow=32						
TORD	**Torodi Ar. Bea**	**33.41**	**28**	P	P	19 12 54.6	-1.0
	2.2nm,0.9s,baz=213,slow=8.7,SNR=9.0						
TORD				LR	LR	19 25 31.3	
	comp=Z,46nm,18.1s,baz=250,slow=35						
ROSC	**El Rosal**	**63.44**	**284**	LR	LR	19 42 51.6	
	comp=Z,36nm,19.0s,baz=18,slow=35						
VRAC	**Vranov**	**71.05**	**21**	LR	LR	19 46 41.6	
	comp=Z,18nm,19.9s,baz=179,slow=34						
BRTR	**Keskin Array B**	**71.50**	**37**	P	P	19 17 38.8	+0.9
	0.3nm,0.5s,baz=229,slow=6.2,SNR=4.2						
AKASG	**Malin Array Be**	**77.02**	**26**	P	P	19 18 09.0	-0.6
	0.3nm,0.4s,baz=222,slow=7.1,SNR=5.1						
JMIC	**Jan Mayen**	**87.53**	**2**	LR	LR	19 52 20.1	
	comp=Z,23nm,21.8s,baz=17,slow=32						

CSEM ***16*** *19:06:49.2±0.4,37.°24N×30.°38E, h5km, MD2.8, Error ellipse: s-maj=20.7km s-min=8.3km az=100.0*

DDA 16 19:06:52.1,36.88N×30.56E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.08**	**78**	*e*Pg	Pg	19 06 55.9	+1.8
ANTB	**Antalya**	**0.08**	**78**	*e*Pg	Pg	19 06 55.9	+1.9
KORT	**Korkueli**	**0.20**	**305**	*i*P	Pg	19 06 56.4	0.0
KORT				*i*S	Sg	19 06 59.1	-0.2
KORT	**Korkueli**	**0.20**	**305**	*i*P	Pg	19 06 56.4	+0.1
KORT				*i*S	Sg	19 06 59.0	-0.2
ELL	**Elmali**	**0.54**	**256**	*e*PG	Pg	19 07 01.6	-1.1
ELL				*e*SG	Sg	19 07 07.8	-2.0
ELL	**Elmali**	**0.54**	**256**	*e*Pg	Pg	19 07 01.6	-1.1
ELL				*e*Sg	Sg	19 07 07.8	-2.0
BCK	**Bucak**	**0.58**	**2**	*e*PG	Pb	19 07 04.3	-0.3
GOLH	**Golhisar**	**0.87**	**294**	*i*P	Pg	19 07 08.9	-0.2
GOLH				*i*S	Sb	19 07 21.7	-0.1
AKAS	**Kas**	**1.00**	**230**	*i*P	Pg	19 07 11.4	-0.2
AKAS	**Kas**	**1.00**	**230**	*i*P	Pg	19 07 11.4	-0.2

CSEM ***16*** *19:07:08.1±0.2,38.°66N×31.°00E, h2km, MD2.9, Error ellipse: s-maj=5.0km s-min=4.0km az=48.0*
DDA ***16*** *19:07:08.3,38.°74N×31.°04E, h7km, MD2.9*

ISK 16 19:07:07.2,38.65N×30.96E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLV	**Bolvadin**	**0.07**	**357**	*i*P	Pg	19 07 10.4	+1.4
BOLV				*i*S	Sg	19 07 11.9	+1.6
BOLV	**Bolvadin**	**0.07**	**357**	*i*P	Pg	19 07 10.4	+1.4
BOLV				*i*S	Sg	19 07 11.9	+1.7
SHUT	**Suhut-Afyon**	**0.33**	**253**	PG	Pb	19 07 15.1	-0.7
SHUT				*e*SG	Sb	19 07 20.1	-1.4
SHUT	**Suhut-Afyon**	**0.33**	**253**	*i* Pg	Pb	19 07 15.1	-0.7
KIZT	**Kizilcal**	**0.76**	**72**	*e*PG	Pb	19 07 22.8	-0.3
KIZT	**Kizilcal**	**0.76**	**72**	*e*Pg	Pb	19 07 22.8	-0.3
ALT	**Altintas**	**0.77**	**302**	*e*PG	Pg	19 07 22.7	+0.4
ALT	**Altintas**	**0.77**	**302**	*e*Pg	Pg	19 07 22.7	+0.5
SEYT	**Eskypehyr**	**0.87**	**355**	*i*P	Pg	19 07 23.9	-0.3
SEYT				*i*S	Sb	19 07 36.8	-0.4
SEYT	**Eskypehyr**	**0.87**	**355**	*i*P	Pg	19 07 23.9	-0.3
SEYT				*i*S	Sb	19 07 36.8	-0.4
ISP	**Isparta**	**0.89**	**203**	*e*PG	Pb	19 07 25.6	+0.2
ISP	**Isparta**	**0.89**	**203**	*e*Pg	Pb	19 07 25.6	+0.3
SVRH	**Sivrihisar-ESK**	**0.91**	**29**	*e*PG	Pb	19 07 25.6	-0.1
SVRH	**Sivrihisar-ESK**	**0.91**	**29**	*e*Pg	Pb	19 07 25.6	-0.1
KDHN	**Kadinhani**	**0.92**	**98**	*i*P	Pg	19 07 25.3	+0.3
KDHN				*i*S	Sg	19 07 37.5	+0.4
KDHN	**Kadinhani**	**0.92**	**98**	*i*P	Pg	19 07 25.3	+0.3
KDHN				*i*S	Sg	19 07 37.5	+0.4
LADK	**Ladik-KONYA**	**1.20**	**112**	*e*PN	Pn	19 07 31.1	+0.3
LADK	**Ladik-KONYA**	**1.20**	**112**	*e*Pn	Pn	19 07 31.1	+0.4
BORA	**Eskisehir**	**1.29**	**343**	*i*P	Pn	19 07 31.8	-0.2
BORA				*i*S	Sb	19 07 49.2	+0.1
BORA	**Eskisehir**	**1.29**	**343**	*i*P	Pn	19 07 31.8	-0.2
BORA				*i*S	Sb	19 07 49.2	+0.1
KONT	**Konya--Tatoy**	**1.31**	**122**	*e*PN	Pg	19 07 33.2	+0.8
KONT	**Konya--Tatoy**	**1.31**	**122**	*e*Pn	Pg	19 07 33.2	+0.8
TVSB	**Tavsanli**	**1.41**	**305**	*e*PN	Pg	19 07 35.4	+0.9
TVSB	**Tavsanli**	**1.41**	**305**	*e*Pn	Pg	19 07 35.4	+1.0
GULT	**Gulveren**	**1.81**	**349**	*e*PN	Pb	19 07 41.2	+0.1
GULT	**Gulveren**	**1.81**	**349**	*e*Pn	Pb	19 07 41.2	+0.2
MDUB	**Mudurnu**	**1.83**	**6**	*e*PN	Pb	19 07 41.2	-0.2
MDUB	**Mudurnu**	**1.83**	**6**	*e*Pn	Pb	19 07 41.2	-0.1
AFSR	**Af ar-Bala (A**	**1.83**	**64**	*e*PN	Pb	19 07 40.8	-0.5
AFSR	**Af ar-Bala (A**	**1.83**	**64**	*e*Pn	Pb	19 07 40.8	-0.5
ADVT	**Abdulvahap**	**2.02**	**333**	*e*PN	Pb	19 07 44.1	-0.3
ADVT	**Abdulvahap**	**2.02**	**333**	*e*Pn	Pb	19 07 44.1	-0.2
ARMT	**Armutlu**	**2.51**	**320**	*e*PN	Pb	19 07 51.4	-1.4
ARMT	**Armutlu**	**2.51**	**320**	*e*Pn	Pb	19 07 51.4	-1.3

ISCJB ***16*** *19:09:46.5±0.6, 11.°9S±0.°1×167.°8E±0.°1, h300km, mb3.7/11, Error ellipse: s-maj=19.2km s-min=12.1km az=36.4*
IDC ***16*** *19:09:51.4±4.5, 11.°93S×167.°62E, h335km±45km, mb3.4/11, mb1 3.6/12, mb1mx3.3/35, mbtmp4.1/12, Error ellipse: s-maj=21.0km s-min=18.9km az=93.0*

ISC 16 19:09:47.8±0.7, 11.9S±0.°1×167.8E±0.°2, h300km, n21, σ0§78/21, mb3.8/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.20**	**187**	P	**P**	**19 12 11.7**	**-0.1**
	0.5nm,0.3s,baz=302,slow=14,SNR=5.3						
RMQ	**Roma**	**23.04**	**228**	P	**P**	**19 14 28.5**	**+1.1**
	baz=29,SNR=4.3						
CMSA	**Cobar Meteorol**	**28.23**	**223**	P	**P**	**19 15 13.8**	**+0.1**
	baz=34,SNR=10						
STKA	**Stephens Creek**	**31.24**	**226**	P	**P**	**19 15 40.3**	**+0.1**
	2.1nm,0.5s,baz=69,slow=8.3,SNR=13						
STKA	**Stephens Creek**	**31.24**	**226**	P	**P**	**19 15 41.0**	**+0.8**
	baz=37,SNR=12						
RPZ	**Rata Peaks**	**31.83**	**175**	P	**P**	**19 15 45.6**	**+0.5**
	14nm,0.9s,baz=34,slow=3.6,SNR=3.8						
TOO	**Toolangi**	**32.43**	**214**	P	**P**	**19 15 50.7**	**+0.2**
	baz=38,SNR=7.4						
WRA	**Warramunga Arr**	**33.08**	**252**	P	**P**	**19 15 54.9**	**-1.4**
	0.2nm,0.2s,baz=72,slow=8.6,SNR=13						
ASAR	**Alice Springs**	**34.21**	**245**	P	**P**	**19 16 04.6**	**-1.4**
	0.3nm,0.3s,baz=77,slow=9.9,SNR=27						
KDU	**Kakadu**	**34.48**	**265**	P	**P**	**19 16 08.6**	**+0.3**
	baz=40,SNR=3.4						
MTN	**Manton Dam**	**35.78**	**265**	P	**P**	**19 16 20.2**	**+0.9**
	baz=42,SNR=4.6						
KNRA	**Kununurra**	**38.03**	**260**	P	**P**	**19 16 38.2**	**0.0**
	baz=44,SNR=9.2						
WRKA	**Warakurna**	**39.50**	**245**	P	**P**	**19 16 49.5**	**-0.8**
	baz=46,SNR=6.8						
MEEK	**Meekatharra**	**48.37**	**245**	P	**P**	**19 17 59.7**	**-0.7**
	baz=55,SNR=3.3						
VNDA	**Vanda**	**65.69**	**181**	P	**P**	**19 20 00.0**	**0.0**
	1.4nm,0.6s,baz=349,slow=5.8,SNR=13						
SEY	**Seymchan**	**75.55**	**353**	P	**P**	**19 20 59.6**	**+0.3**
	1.6nm,0.6s,baz=167,slow=14,SNR=11						
SONM	**Songino Array**	**80.53**	**323**	P	**P**	**19 21 28.2**	**+1.1**
	0.1nm,0.4s,baz=123,slow=5.3,SNR=2.8						
ILAR	**Eielson Array**	**83.70**	**18**	P	**P**	**19 21 42.5**	**-0.4**
	3.7nm,0.7s,baz=247,slow=5.2,SNR=34						
NVAR	**Mina Array Bea**	**85.06**	**49**	P	**P**	**19 21 50.8**	**+0.2**
	0.6nm,0.8s,baz=238,slow=5.7,SNR=3.6						
YKA	**Yellowknife Ar**	**94.82**	**27**	P	**P**	**19 22 34.3**	**-1.0**
	0.5nm,0.6s,baz=260,slow=4.8,SNR=8.6						
MKAR	**Makanchi Array**	**95.50**	**317**	P	**P**	**19 22 39.1**	**+0.2**
	0.5nm,0.8s,baz=105,slow=3.3,SNR=3.7						

IDC ***16*** *19:45:01.6±2.2,7.°36S×156.°91E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/35, mbtmp4.0/9, Error ellipse: s-maj=69.2km s-min=26.2km az=106.0*
ISCJB ***16*** *19:45:02.1±1.8,7.°3S±0.°2×156.°8E±0.°4, h10km, mb4.0/11, Error ellipse: s-maj=57.2km s-min=19.8km az=17.2*
NEIC ***16*** *19:45:07.0±1.4,7.°35S×156.°86E, h35km, mb4.2/2, Error ellipse: s-maj=44.6km s-min=15.7km az=106.0*

ISC 16 19:45:02.8±2.2,7.3S±0.°2×156.9E±0.°5, h10km, n18, σ0§73/12, mb4.2/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.23**	**238**	P	**P**	**19 50 29.9**	**+0.7**
	1.2nm,0.6s,baz=61,slow=9.7,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.41**	**20**	T	T	20 19 21.2	
	baz=202,slow=75,SNR=116						
H11S2	**WAKE ISLAND Hy**	**27.41**	**21**	T	T	20 19 21.3	
	baz=202,slow=75,SNR=112						
ASAR	**Alice Springs**	**27.42**	**231**	P	**P**	**19 50 49.2**	**+0.2**
	0.1nm,0.5s,baz=55,slow=9.7,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**27.42**	**20**	T	T	20 19 23.8	
	baz=202,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**28.61**	**20**	T	T	20 20 50.5	
	baz=202,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.61**	**20**	T	T	20 21 00.3	
	baz=202,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.62**	**20**	T	T	20 21 03.8	
	baz=202,slow=76,SNR=5.6						
CMAR	**Chiang Mai Arr**	**62.65**	**295**	P	**P**	**19 55

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 1.18**	**98**	*i*			19 58 20.0	
	baz=280,slow=316,SNR=1.8						
I31KZ	**AKTYUBINSK INF 15.03**	**106**	*i*			21 22 30.0	
	baz=303,slow=322,SNR=1.2						
I46RU	**ZALESOVO INFRA27.87**	**75**	*i*			22 43 40.0	
	baz=297,slow=328,SNR=0.7						

ISCJB **16** *19:56:18.8±0.6,29.46S×0.04×179.6W±0.1,h300km, mb3.7/10, Error ellipse: s-maj=12.9km s-min=5.2km az=9.8*

IDC **16** *19:56:22.5±1.1,29.31S×179.14W,h344km±10km, mb3.5/10,mb1 3.7/10,mb1mx3.5/34,mbtmp4.2/10, Error ellipse: s-maj=15.7km s-min=14.0km az=179.0*

ISC 16 19:56:19.3±0.6, 29.57S±0.07×179.6W±0.1, h300km, n54, σ2§12/66, mb3.8/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.51**	**78**	P	Pn	19 57 06.8	+4.2
	606nm,0.3s,baz=91,slow=8.7,SNR=68						
RAO				S	**S**	**19 57 39.2**	**+2.2**
	639nm,0.3s,baz=97,slow=23,SNR=27						
HAZ	**Te Kaha**	**8.45**	**194**	PN	**Pn**	**19 58 20.9**	**+2.7**
HAZ				SN	**S**	**19 59 55.9**	**+1.1**
TWGZ	**Tauwhareparae**	**8.81**	**192**	PN	**Pn**	**19 58 25.4**	**+2.6**
MWZ	**Matawai**	**9.06**	**194**	*e*PN	**Pn**	**19 58 28.6**	**+2.8**
MWZ				SN	**S**	**20 00 10.4**	**+1.6**
CNGZ	**Carnagh Statio**	**9.07**	**191**	PN	**Pn**	**19 58 28.0**	**+2.1**
URZ	**Urewera**	**9.08**	**197**	P	**Pn**	**19 58 29.0**	**+3.0**
	12nm,0.3s,baz=278,slow=5.1,SNR=67						
URZ				S	**S**	**20 00 10.9**	**+1.7**
	22nm,0.3s,baz=134,slow=22,SNR=14						
URZ	**Urewera**	**9.08**	**197**	PN	**Pn**	**19 58 26.8**	**+0.8**
URZ				SN	**S**	**20 00 09.4**	**+0.2**
RIGZ	**Rimuhau**	**9.37**	**193**	PN	**Pn**	**19 58 32.1**	**+2.5**
SNGZ	**Shannon Statio**	**9.53**	**195**	P	**P**	**19 58 34.5**	**-1.2**
RAHZ	**Arahi**	**9.71**	**195**	PN	**P**	**19 58 37.3**	**-0.4**
RAHZ				SN	**S**	**20 00 24.5**	**+1.0**
WHHZ	**Waihua**	**9.83**	**195**	SN	**S**	**20 00 27.1**	**+1.0**
NMHZ	**Naumai**	**9.95**	**196**	*e*PN	**P**	**19 58 39.7**	**-0.7**
MCHZ	**McNeill Hill**	**10.31**	**196**	PN	**P**	**19 58 44.6**	**+0.3**
TUVZ	**Tukino**	**10.43**	**201**	PN	**P**	**19 58 46.5**	**+0.6**
TUVZ				SN	**S**	**20 00 41.5**	**+1.6**
WNVZ	**Wahianoa**	**10.50**	**201**	PN	**P**	**19 58 47.1**	**+0.5**
BHHZ	**Black Hill Sta**	**10.51**	**199**	*e*SN	**S**	**20 00 40.9**	**-0.9**
MOVZ	**Moawhango**	**10.53**	**200**	PN	**P**	**19 58 46.9**	**0.0**
MOVZ				SN	**S**	**20 00 40.6**	**-1.4**
KRHZ	**Kereru**	**10.58**	**197**	PN	**Pn**	**19 58 43.1**	**-1.4**
KRHZ				SN	**S**	**20 00 42.7**	**-0.4**
PXZ	**Pawanui**	**10.83**	**195**	*e*PN	**Pn**	**19 58 46.1**	**-1.4**
PXZ				SN	**S**	**20 00 44.8**	**-3.9**
DVHZ	**Dannevirke**	**11.25**	**197**	SN	**S**	**20 00 53.2**	**-5.1**
POWZ	**Post Office Ro**	**11.44**	**198**	PN	**P**	**19 58 56.9**	**0.0**
PRWZ	**Pori Road**	**11.54**	**197**	PN	**P**	**19 58 58.6**	**+0.6**
MRZ	**Mangatainoka R**	**11.74**	**198**	*e*PN	Pn	19 58 56.1	-2.5
MRZ				SN	S	20 01 04.2	-5.2
TMWZ	**Te Maipa**	**12.08**	**196**	PN	**P**	**19 59 04.5**	**+0.5**
MSWZ	**Moikau Station**	**12.53**	**198**	PN	**Pn**	**19 59 08.4**	**+0.2**
TCW	**Tory Channel**	**12.63**	**202**	PN	**Pn**	**19 59 10.5**	**+1.1**
NNZ	**Nelson**	**12.94**	**204**	PN	**Pn**	**19 59 12.3**	**-0.8**
NNZ				*e*SN	**S**	**20 01 33.4**	**-3.0**
THZ	**Tophouse**	**13.59**	**205**	*e*PN	**P**	**19 59 19.6**	**-1.2**
THZ				*e*SN	**S**	**20 01 46.2**	**-4.7**
KHZ	**Kahutara**	**13.96**	**201**	PN	**P**	**19 59 24.1**	**-0.6**
KHZ				SN	**S**	**20 01 54.8**	**-3.8**
DZM	**Mont Dzumac**	**14.60**	**298**	P	Pn	19 59 43.1	+10
	2.9nm,0.3s,baz=164,slow=20,SNR=24						
MQZ	**McQueen's Vall**	**15.40**	**202**	*e*PN	**P**	**19 59 40.4**	**-0.2**
MQZ				SN	**S**	**20 02 22.2**	**-5.5**
STKA	**Stephens Creek**	**33.31**	**256**	P	P	20 02 33.9	+4.3
	0.6nm,0.3s,baz=91,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	**41.76**	**267**	P	**P**	**20 03 43.0**	**+2.9**
	1.3nm,0.5s,baz=99,slow=7.1,SNR=46						
ASAR				ScP	**ScP**	**20 08 48.8**	**-2.6**
	0.5nm,0.7s,baz=113,slow=4.0,SNR=5.4						
ASAR				S	**S**	**20 09 36.9**	**+2.4**
	0.5nm,1.0s,baz=198,slow=28,SNR=4.8						
WRA	**Warramunga Arr**	**42.67**	**272**	P	**P**	**20 03 50.2**	**+2.7**
	2.5nm,0.5s,baz=110,slow=7.5,SNR=36						
WRA				S	**S**	**20 09 47.8**	**0.0**
	1.1nm,0.8s,baz=108,slow=14,SNR=5.1						
VNDA	**Vanda**	**48.78**	**185**	P	**P**	**20 04 36.2**	**+2.2**
	0.7nm,0.4s,baz=0.2,slow=7.6,SNR=15						
MAW	**Mawson**	**72.58**	**201**	P	**P**	**20 07 14.3**	**+0.6**
	2.1nm,0.5s,baz=126,slow=5.8,SNR=6.8						
MJAR	**Matsushiro Arr**	**76.78**	**326**	P	**P**	**20 07 37.1**	**-0.9**
	2.6nm,0.9s,baz=157,slow=4.7,SNR=5.1						
VNA3	**Neumayer Olymp**	**79.21**	**177**	P	**P**	**20 07 49.8**	**-1.2**
VNA2	**Neumayer--Watz**	**79.63**	**177**	P	**P**	**20 07 52.5**	**-0.7**
	baz=183,slow=4.5						
VNA1	**Neumayer--Stat**	**79.87**	**177**	P	**P**	**20 07 53.5**	**-0.9**
KSRS	**Korea Array**	**82.82**	**321**	P	**P**	**20 08 10.8**	**+0.6**
	1.3nm,0.7s,baz=127,slow=6.5,SNR=6.7						
PLCA	**Paso Flores**	**84.09**	**134**	P	**P**	**20 08 14.6**	**-2.4**
	1.0nm,0.6s,baz=233,slow=4.7,SNR=3.7						
PETK	**Petropavlovsk-**	**84.68**	**346**	P	**P**	**20 08 17.7**	**-1.5**
	4.7nm,0.7s,baz=141,slow=7.6,SNR=4.2						
NVAR	**Mina Array Bea**	**88.59**	**44**	P	P	20 08 35.3	-3.4
	0.2nm,0.5s,baz=233,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**116.17**	**311**	PKP	**PKPdf**	**20 14 24.1**	**-2.6**
	0.1nm,0.4s,baz=64,slow=3.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**119.51**	**314**	PKP	**PKPdf**	**20 14 30.1**	**-2.9**
	0.3nm,0.3s,baz=105,slow=1.8,SNR=9.3						
BVAR	**Borovoye Array**	**124.84**	**316**	PKP	**PKPdf**	**20 14 40.8**	**-2.4**
	0.6nm,0.6s,baz=135,slow=0.4,SNR=6.4						
KBZ	**Khabaz**	**143.49**	**305**	PKP	PKPab	20 15 15.3	0.0
	2.2nm,0.9s,baz=163,slow=1.8,SNR=6.5						
FINES	**FINESS Array B**	**143.89**	**339**	PKP	PKPab	20 15 14.2	-2.2
	6.0nm,0.5s,baz=73,slow=3.3,SNR=58						
NB2	**NORSAR Subarra**	**147.71**	**350**	PKP	**PKPdf**	**20 15 25.3**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**147.71**	**350**	PKPbc	**PKPdf**	**20 15 25.5**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=16,slow=4.3,SNR=7.0						
AKASG	**Malin Array Be**	**149.80**	**322**	PKPbc	**PKPdf**	**20 15 31.5**	**+3.1**
	comp=Z,1.4nm,0.5s,baz=48,slow=3.4,SNR=17						
AKASG				PKPab	**PKPab**	**20 15 38.4**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=42,slow=4.4,SNR=5.6						
BRTR	**Keskin Array B**	**150.98**	**299**	PKPbc	**PKPdf**	**20 15 34.7**	**+3.8**
	comp=Z,0.5nm,0.7s,baz=128,slow=3.4,SNR=5.2						
BRTR				PKPab	**PKPab**	**20 15 44.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=134,slow=3.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**163.61**	**185**	PKPab	**PKPab**	**20 16 39.0**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=174,slow=3.5,SNR=27						

ISCJB **16** *20:13:39.1±0.7,32.17N±0.04×115.10W±0.04,h27km±6km, Error ellipse: s-maj=7.2km s-min=5.8km az=13.9*

NEIC **16** *20:13:40.7,32.22N×115.20W,h10km, ML3.3(PAS), After PAS.*

MEX **16** *20:13:41.4±0.8,32.17N×115.08W,h10km, MD3.9*

ISC 16 20:13:38.9±1.7, 32.14N±0.03×115.18W±0.04, h17km±14km, n21, σ1§13/29, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.26**	**357**	*e*P	**Pb**	**20 13 45.3**	**+0.1**
MBIG				*e*S	**Sb**	**20 13 50.6**	**+1.2**
CPBX	**Cerro Prieto**	**0.29**	**339**	*e*P	**Pb**	**20 13 45.5**	**-0.2**
SPIG	**San Pedro Mart**	**1.12**	**193**	*e*P	**Pb**	**20 14 00.5**	**+0.6**
SPIG				*e*S	**Sn**	**20 14 15.6**	**+0.4**
SPIG	**San Pedro Mart**	**1.12**	**193**	*e*P	**Pb**	**20 14 00.6**	**+0.6**
SPIG				*e*S	**Sn**	**20 14 15.6**	**+0.4**
SPX	**San Pedro Mart**	**1.12**	**192**	*e*P	**Pn**	**20 14 00.3**	**+0.2**
CBX	**Cerro Bola**	**1.27**	**278**	*e*P	**Pb**	**20 14 02.5**	**+0.2**
CBX				*i* S	**Sn**	**20 14 19.9**	**+0.4**
CBX	**Cerro Bola**	**1.27**	**278**	*e*P	**Pb**	**20 14 02.5**	**+0.2**
BAR	**Barrett**	**1.37**	**293**	*e*Pn	**Pn**	**20 14 03.2**	**0.0**
BAR				*e*Sn	**Sb**	**20 14 20.8**	**-0.5**
PFO	**Pinyon Flats O**	**1.81**	**324**	*e*Pn	**Pn**	**20 14 07.7**	**-1.7**
PFO				*e*Sn	**Sb**	**20 14 33.1**	**-1.0**
214A	**Organ Pipe Nat**	**2.02**	**95**	*e*Pn	**Pn**	**20 14 11.5**	**-0.6**
PASC	**Pasadena Art C**	**3.23**	**310**	Pn	**Pb**	**20 14 36.9**	**+1.1**
GSC	**Goldstone, Bar**	**3.43**	**337**	*e*Pg	**Pg**	**20 14 44.2**	**-0.4**
TUC	**Tucson**	**3.73**	**86**	*e*Pn	**Pn**	**20 14 33.5**	**-2.2**
OSI	**Osito Audit: C**	**3.85**	**311**	Pn	**Pn**	**20 14 35.7**	**-1.7**
SHPR	**Sheep Range**	**4.35**	**0**	*e*Pn	**Pn**	**20 14 45.1**	**+0.8**
SHPR				*e*Pg	**Pg**	**20 15 02.0**	**-0.3**
DAC	**Darwin (Calif)**	**4.58**	**335**	Pn	Pn	20 14 51.1	+3.5
WUAZ	**Wupatki**	**4.62**	**42**	*e*Pn	**Pn**	**20 14 49.6**	**+1.6**
W18A	**Petrified Fore**	**5.42**	**55**	*e*Pn	**Pn**	**20 15 01.1**	**+2.0**
CCUT	**Cedar City**	**5.60**	**15**	*e*Pn	**Pn**	**20 15 03.0**	**+1.4**
	3.0nm,0.8s						
R11A	**Troy Canyon, C**	**6.20**	**357**	*e*Pn	**Pn**	**20 15 10.6**	**+0.9**
	2.0nm,0.6s						
R11A				*e*Pg	**Pg**	**20 15 37.3**	**-0.3**
121A	**Cookes Peak, D**	**6.27**	**84**	*e*Pn	**Pn**	**20 15 11.3**	**+0.6**
	4.4nm,0.5s						
121A				*e*Sn	**Sn**	**20 16 19.8**	**-2.3**

NIED **16** *20:34:00,33.60N×132.50E,h44km,Mw4.4 Best double couple: M04.17000×10^15 NP1:ϕs172.00000°,δ33.00000°, λ-58.00000°. NP2:ϕs316.00000°,δ62.00000°, λ-109.00000°.*

ISCJB **16** *20:34:56.5±0.3,33.57N±0.03×132.50E±0.04,h54km±3km, mb3.9/21,MS3.4/16, Error ellipse: s-maj=5.8km s-min=4.9km az=146.7*

JMA **16** *20:34:57.5,33.57N×132.51E,h43km,M4.3 Broadband fault plane solution: P waves. NP1:ϕs314.00000°, δ59.00000°,λ-109.00000°. NP2:ϕs168.00000°, δ36.00000°,λ-62.00000°. Principal axes: T Plg12.0000°, Azm58.0000°; N Plg16.0000°, Azm324.0000°; P Plg70.0000°, Azm182.0000°;*

JMA Felt III J1.

IDC **16** *20:34:57.8±0.6,33.59N×132.44E,h50km±5km,mb3.6/18, mb1 3.8/22,mb1mx3.7/44,mbtmp3.8/22,MS3.4/20, Ms1 3.4/20,ms1mx3.3/46 Error ellipse: s-maj=15.3km s-min=12.0km az=108.0*

ISC 16 20:34:57.5±0.6, 33.55N±0.03×132.52E±0.04, h48km±4km, n61, σ0§86/67, mb3.8/21, MS3.3/16, 4C-2D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.04**	**284**	⇓P	**Pn**	**20 35 04.2**	**-0.6**
JNA				S	**Sn**	**20 35 09.0**	**-1.1**
UWA2	**Uwa jima 2**	**0.34**	**165**	⇑P	**Pn**	**20 35 06.4**	**-0.5**
UWA2				S	**Sn**	**20 35 13.1**	**-0.4**
JET	**Tanbara**	**0.50**	**62**	P	**Pn**	**20 35 08.1**	**-0.5**
JET				S	**Sn**	**20 35 16.2**	**-0.3**
JKU	**Kubokawa**	**0.51**	**118**	P	**Pn**	**20 35 08.7**	**-0.1**
JKU				S	**Sn**	**20 35 17.0**	**+0.2**
JHM	**Kurahashi**	**0.59**	**1**	⇓P	**Pn**	**20 35 09.2**	**-0.5**
JHM				S	**Sn**	**20 35 18.0**	**-0.5**
JTO	**Tosashimizu**	**0.73**	**161**	⇑P	**Pn**	**20 35 11.6**	**+0.1**
JTO				S	**Sn**	**20 35 22.3**	**+0.7**
JHT	**Toyohira**	**1.11**	**356**	⇑P	**Pn**	**20 35 16.8**	**+0.1**
JHT				S	**Sn**	**20 35 31.3**	**+0.3**
JMN	**Monobe**	**1.15**	**81**	⇑P	**Pn**	**20 35 16.6**	**-0.6**
JNU	**Nakatsue**	**1.44**	**253**	P	**Pn**	**20 35 21.6**	**+0.5**
	128nm,0.3s,baz=45,slow=5.5,SNR=2766						
JNU				S	**Sn**	**20 35 40.1**	**+1.2**
	137nm,0.3s,baz=313,slow=19,SNR=15						
JNU				LR	LR	20 36 00.2	
	comp=Z,936nm,21.8s,baz=7.0,slow=45						
KSPHA	**Pohang**	**3.70**	**316**	P	**Pn**	**20 35 52.3**	**+0.3**
	SNR=7.9						
KSPHA	**Pohang**	**3.70**	**316**	P	**Pn**	**20 35 52.3**	**+0.3**
	SNR=7.9						
KSDAG	**Daegu**	**3.72**	**308**	P	**Pn**	**20 35 52.5**	**+0.1**
	SNR=6.2						
KSDAG	**Daegu**	**3.72**	**308**	P	**Pn**	**20 35 52.5**	**+0.1**
	SNR=6.2						
KSULJ	**Ulijin**	**4.05**	**322**	P	**Pn**	**20 35 56.2**	**-0.7**
	SNR=18						
KSULJ	**Ulijin**	**4.05**	**322**	P	**Pn**	**20 35 56.2**	**-0.7**
	SNR=18						
KSKWJ	**Gwangju**	**4.85**	**291**	P	**Pn**	**20 36 08.7**	**+0.8**
	SNR=11						
KSKWJ	**Gwangju**	**4.85**	**291**	P	**Pn**	**20 36 08.7**	**+0.8**
	SNR=11						
KSJEO	**Jeonju**	**4.92**	**300**	P	**Pn**	**20 36 09.7**	**+0.9**
	SNR=30						
KSJEO	**Jeonju**	**4.92**	**300**	P	**Pn**	**20 36 09.7**	**+0.9**
	SNR=30						
KSJEU	**Jeongeup**	**5.01**	**294**	P	**Pn**	**20 36 10.9**	**+0.9**
	SNR=34						
KSDGY	**Daegwallycong**	**5.18**	**324**	P	**Pn**	**20 36 13.1**	**+0.5**
	SNR=16						
KSJMJ	**Jumunjin**	**5.30**	**326**	P	**Pn**	**20 36 14.0**	**0.0**
	SNR=8.2						
KSRS	**Korea Array**	**5.41**	**317**	P	**Pn**	**20 36 16.1**	**+0.5**
	0.4nm,0.3s,baz=135,slow=14,SNR=4.2						
KSRS				S	**Sn**	**20 37 16.6**	**+0.2**
	2.4nm,0.3s,baz=136,slow=24,SNR=6.5						
KSRS				LR	LR	20 38 38.7	
	comp=Z,279nm,20.2s,baz=126,slow=41						
MAT	**Matsushiro**	**5.54**	**56**	P	**Pn**	**20 36 18.8**	**+1.4**
MJAR	**Matsushiro Arr**	**5.54**	**56**	P	**Pn**	**20 36 18.8**	**+1.4**
	5.0nm,0.3s,baz=241,slow=14,SNR=129						
SEHB	**SEOHWA**	**5.85**	**325**	P	**Pn**	**20 36 22.2**	**+0.6**
	SNR=15						
JOW	**Kunigami**	**7.63**	**210**	P	**Pn**	**20 36 48.2**	**+2.1**
	0.1nm,0.3s,baz=77,slow=14,SNR=2.9						
JOW				S	**Sn**	**20 38 08.3**	**-3.0**
	baz=338,slow=18,SNR=2.6						
JCJ	**Chichijima**	**10.54**	**125**	LR	LR	20 41 12.4	
	comp=Z,540nm,20.8s,baz=94,slow=35						
USRK	**Ussuriysk Ar.**	**10.64**	**358**	LR	LR	20 41 19.4	
	comp=Z,176nm,19.5s,baz=171,slow=36						
ASAJ	**Asahikawa**	**13.14**	**34**	P	**Pn**	**20 38 01.3**	**0.0**
	0.2nm,0.3s,baz=238,slow=19,SNR=5.9						
ASAJ				LR	LR	20 42 52.5	
	comp=Z,194nm,20.0s,baz=202,slow=36						
SONM	**Songino Array**	**24.27**	**314**	P	**P**	**20 40 09.7**	**-0.4**
	1.7nm,0.6s,baz=133,slow=9.6,SNR=22						
SONM				LR	LR	20 50 33.5	
	comp=Z,99nm,20.8s,baz=118,slow=39						
PETK	**Petropavlovsk-**	**26.56**	**35**	LR	LR	20 50 30.4	
	comp=Z,59nm,21.8s,baz=217,slow=35						
TLY	**Talaya**	**27.66**	**320**	LR	LR	20 52 47.0	
	comp=Z,98nm,18.2s,baz=163,slow=39						
YAK	**Yakutsk**	**28.56**	**357**	LR	LR	20 51 51.9	
	comp=Z,78nm,20.6s,baz=174,slow=36						
SEY	**Seymchan**	**31.96**	**17**	P	**P**	**20 41 19.9**	**+1.4**
	0.3nm,0.2s,baz=201,slow=17,SNR=2.7						
CMAR	**Chiang Mai Arr**	**33.54**	**252**	P	**P**	**20 41 33.9**	**+1.0**
	0.3nm,0.8s,baz=53,slow=5.6,SNR=4.3						
CMAR				LR	LR	20 57 16.1	
	comp=Z,48nm,18.0s,baz=68,slow=40						
JAY	**Jayapura**	**36.69**	**166**	LR	LR	20 56 53.8	
	comp=Z,25nm,18.4s,slow=36						
ZALV	**Zalesovo Beam**	**39.11**	**316**	P	**P**	**20 42 18.5**	**-1.5**
	0.4nm,0.3s,baz=105,slow=11,SNR=3.7						
ZALV				PcP	**PcP**	**20 44 28.1**	**-0.7**
	0.8nm,0.5s,baz=124,slow=4.4,SNR=6.9						
ZALV				LR	LR	20 59 08.7	
	comp=Z,42nm,21.4s,baz=51,slow=37						
MKAR	**Makanchi Array**	**39.94**	**305**	P	**P**	**20 42 25.6**	**-1.4**
	0.3nm,0.6s,baz=82,slow=12,SNR=6.7						
MKAR				PcP	**PcP**	**20 44 30.7**	**-1.0**
	0.9nm,0.8s,baz=72,slow=4.0,SNR=6.3						
MKAR				LR	LR	21 00 17.4	
	comp=Z,42nm,18.0s,baz=92,slow=38						
PSI	**Prapat**	**43.82**	**233**	LR	LR	21 04 19.7	
	comp=Z,150nm,18.4s,baz=54,slow=40						
HNR	**Honiara**	**50.07**	**144**	LR	LR	21 03 15.2	
	comp=Z,28nm,18.7s,baz=294,slow=34						
WRA	**Warramunga Arr**	**53.22**	**178**	P	**P**	**20 44 10.8**	**-0.3**
	2.7nm,0.9s,baz=354,slow=8.0,SNR=16						
ILAR	**Eielson Array**	**56.26**	**31**	pP	pP	20 44 44.5	-1.4
	1.3nm,1.0s,baz=286,slow=6.8,SNR=6.2						
ASAR	**Alice Springs**	**56.91**	**178**	P	**P**	**20 44 38.1**	**+0.4**
	1.9nm,0.8s,baz=4.6,slow=5.6,SNR=20						
ASAR				pP	**pP**	**20 44 51.4**	**+0.4**
	2.6nm,0.9s,baz=12,slow=6.1,SNR=5.8						
GEYT	**Alibeck**	**59.05**	**297**	LR	LR	21 12 23.9	
	comp=Z,40nm,19.1s,baz=130,slow=38						
KEV	**Kevo**	**64.03**	**338**	*ep*	**P**	**20 45 24.9**	**-0.8**
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**64.60**	**338**	P	**P**	**20 45 28.8**	**-0.7**
	2.1nm,0.8s,baz=72,slow=5.2,SNR=3.6						
ARCES				LR	LR	21 18 53.4	
	comp=Z,37nm,18.0s,baz=57,slow=41						
JOF	**Joensuu**	**65.50**	**330**	*ep*	**P**	**20 45 35.5**	**+0.2**
	2.5nm,0.7s						
KBZ	**Khabaz**	**67.49**	**308**	P	**P**	**20 45 48.2**	**-0.2**
	1.4nm,0.7s,baz=236,slow=24,SNR=6.7						
RES	**Resolute Bay**	**67.66**	**12**	P	**P**	**20 45 49.8**	**+0.8**
	0.7nm,0.6s,baz=317,slow=5.3,SNR=2.8						
RES				pP	**pP**	**20 46 02.8**	**+0.2**
	4.5nm,0.8s,baz=314,slow=5.8,SNR=8.9						
RES				LR	LR	21 19 23.4	
	comp=Z,24nm,18.1s,baz=330,slow=39						
KAF	**Kangasniemi**	**67.92**	**331**	*ep*	**P**	**20 45 49.8**	**-1.0**
	1.6nm,0.6s						
FINES	**FINESS Array B**	**68.36**	**330**	P	**P**	**20 45 53.4**	**-0.1**
	2.0nm,0.4s,baz=80,slow=5.4,SNR=33						
YKA	**Yellowknife Ar**	**70.34**	**27**	P	**P**	**20 46 06.8**	**+1.1**
	0.3nm,0.7s,baz=302,slow=6.3,SNR=4.2						
YKA				pP	**pP**	**20 46 20.0**	**+0.6**
	1.3nm,0.8s,baz=305,slow=6.2,SNR=13						
AKASG	**Malin Array Be**	**72.40**	**320**	P	**P**	**20 46 17.0**	**-1.4**
	0.4nm,0.4s,baz=55,slow=6.1,SNR=8.5						
NB2	**NORSAR Subarra**	**74.38**	**334**	P	**P**	**20 46 29.3**	**-0.6**
	comp=Z,6.2nm,1.2s,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**74.38**	**334**	P	**P**	**20 46 29.4**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=49,slow=5.9,SNR=4.5						
NOA				LR	LR	21 20 44.9	
	comp=Z,22nm,20.6s,baz=345,slow=37						
BRTR	**Keskin Array B**	**75.48**	**308**	P	**P**	**20 46 36.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=101,slow=6.4,SNR=4.4						
BRTR				LR	LR	21 23 36.6	
	comp=Z,10nm,18.6s,baz=64,slow=39						
GERES	**GERESS Array B**	**81.55**	**324**	P	**P**	**20 47 09.7**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=44,slow=4.6,SNR=6.0						
GERES				LR	LR	21 27 05.1	
	comp=Z,41nm,18.9s,baz=78,slow=38						
NVAR	**Mina Array Bea**	**82.82**	**48**	P	**P**	**20 47 17.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=290,slow=3.8,SNR=5.7						
NVAR				pP	**pP**	**20 47 31.2**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=286,slow=4.9,SNR=6.2						
PDAR	**Pinedale Array**	**85.17**	**41**	P	**P**	**20 47 29.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=112,slow=1.6,SNR=3.7						
QSPA	**South Pole Qui**	**123.30**	**180**	PKP	**PKPdf**	**20 53 48.0**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=85,slow=0.5,SNR=5.3						

ISCJB **16** *20:39:44.4±0.8,35.52N±0.06×140.09E±0.07,h80km±6km, mb3.5/2, Error ellipse: s-maj=12.2km s-min=6.9km az=41.7*

JMA **16** *20:39:44.7±0.2,35.63N×140.11E,h68km±2km,M2.7*

JMA Felt I J1.

IDC **16** *20:39:47.3±4.3,35.25N×139.77E,h75km±35km,mb3.2/2, mb1 3.5/2,mb1mx2.9/44,mbtmp3.5/2, Error ellipse: s-maj=73.2km s-min=29.5km az=61.0*

ISC 16 20:39:45.4±1.1, 35.55N±0.06×140.09E±0.06, h72km±8km, n15, σ0§73/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.16**	**143**	P	**Pn**	**20 39 55.8**	**-0.3**
JCN				S	**Sn**	**20 40 04.5**	**+0.6**
BSO3	**Boso 3**	**0.82**	**155**	P	**Pn**	**20 40 01.3**	**-0.3**
BSO3				S	**Sn**	**20 40 14.5**	**+0.9**
JOD2	**Odawara 2**	**0.86**	**251**	P	**Pn**	**20 40 02.2**	**-0.2**
JOD2				S	**Sn**	**20 40 14.5**	**-0.4**
JIM2	**Oshima 3**	**0.99**	**213**	P	**Pn**	**20 40 03.5**	**-0.4**
JIM2				S	**Sn**	**20 40 17.4**	**-0.2**
JAG	**Ashikaga**	**1.01**	**330**	P	**Pn**	**20 40 03.2**	**-1.0**
JRY	**Ryogami san**	**1.07**	**296**	P	**Pn**	**20 40 05.1**	**+0.2**
BSO1	**Boso 1**	**1.15**	**140**	P	**Pn**	**20 40 05.2**	**-0.2**
JYN	**Shimob**	**1.26**	**268**	P	**Pn**	**20 40 07.4**	**+0.1**
JYN				S	**Sn**	**20 40 24.0**	**+0.2**
MJAR	**Matsushiro Arr**	**1.82**	**304**	P	**Pn**	**20 40 14.3**	**-0.3**
	9.9nm,0.3s,baz=140,slow=15,SNR=87						
MJAR				S	**Sn**	**20 40 38.6**	**+1.7**
	6.0nm,0.3s,baz=201,slow=22,SNR=6.9						
MAT	**Matsushiro**	**1.82**	**304**	P	**Pn**	**20 40 15.2**	**+0.5**
MAT				S	**Sn**	**20 40 35.7**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	21 15 20.5	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	21 15 22.0	
	baz=308						
H11N3	**WAKE ISLAND Hy

T Plg46.0000°, Azm228.0000°; N Plg29.0000°, Azm353.0000°; P Plg30.0000°, Azm101.0000°; JMA Felt II J1.

ISC 16 21:12:39.7±0.8, 35°.63N±0°.06×140°.15E±0°.05, h69km±6km, n31, σ1§45/37, mb3.8/9, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.22**	**169**	⇑P	**Pn**	**21 12 50.5**	**+0.2**
JCN				S	**Sn**	**21 12 59.1**	**+1.2**
TOK	**Tokyo**	**0.32**	**280**	P	**Pn**	**21 12 51.5**	**+0.6**
TOK				S	**Sn**	**21 13 01.1**	**+2.1**
KTR	**Katsuura**	**0.50**	**164**	P	**Pn**	**21 12 52.2**	**-0.2**
KTR				S	**Sn**	**21 13 01.6**	**-0.1**
BSO3	**Boso 3**	**0.88**	**160**	⇓P	**Pn**	**21 12 56.0**	**-0.4**
BSO3				S	**Sn**	**21 13 09.3**	**+0.5**
JOD2	**Odawara 2**	**0.94**	**247**	⇓P	**Pn**	**21 12 56.9**	**-0.6**
JOD2				S	**Sn**	**21 13 09.3**	**-1.3**
JAG	**Ashikaga**	**0.97**	**325**	P	**Pn**	**21 12 57.9**	**+0.1**
JAG				S	**Sn**	**21 13 11.6**	**+0.3**
JRY	**Ryogami san**	**1.08**	**291**	⇓P	**Pn**	**21 12 59.8**	**+0.5**
JRY				S	**Sn**	**21 13 16.5**	**+2.7**
JIM2	**Oshima 3**	**1.08**	**213**	P	**Pn**	**21 12 58.1**	**-1.2**
JIM2				S	**Sn**	**21 13 11.5**	**-2.3**
BSO1	**Boso 1**	**1.19**	**145**	P	**Pn**	**21 12 59.3**	**-0.8**
BSO1				S	**Sn**	**21 13 15.3**	**0.0**
JYN	**Shimob**	**1.31**	**265**	⇓P	**Pn**	**21 13 02.2**	**-0.1**
JYN				S	**Sn**	**21 13 18.4**	**-0.8**
MJAR	**Matsushiro Arr**	**1.81**	**301**	P	**Pn**	**21 13 09.5**	**+0.6**
	42nm,0.3s,baz=144,slow=14,SNR=215						
MJAR				S	**Sn**	**21 13 34.4**	**+3.3**
	23nm,0.3s,baz=80,slow=28,SNR=8.0						
MAT	**Matsushiro**	**1.82**	**301**	P	**Pn**	**21 13 09.9**	**+1.0**
MAT				S	**Sn**	**21 13 30.9**	**-0.2**
ASAJ	**Asahikawa**	**8.68**	**12**	P	**Pn**	**21 14 41.4**	**-1.1**
	0.2nm,0.3s,baz=190,slow=11,SNR=3.1						
ASAJ				S	**Sn**	**21 16 13.6**	**-5.2**
	0.6nm,0.3s,baz=90,slow=20,SNR=2.9						
JCJ	**Chichijima**	**8.69**	**168**	P	Pn	21 14 39.4	-3.3
	14nm,0.3s,baz=287,slow=19,SNR=7.5						
JCJ				S	Sn	21 16 08.8	-10
	4.2nm,0.3s,baz=292,slow=19,SNR=2.3						
KSRS	**Korea Array**	**10.01**	**284**	P	Pn	21 15 04.3	+3.7
	0.1nm,0.3s,baz=98,slow=14,SNR=6.5						
SONM	**Songino Array**	**27.76**	**307**	P	**P**	**21 18 21.4**	**-0.6**
	0.3nm,0.5s,baz=109,slow=10,SNR=5.2						
H11N2	**WAKE ISLAND Hy 28.37**	**117**		T	T	21 48 16.3	
	baz=308,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy 28.38**	**117**		T	T	21 48 07.3	
	baz=308,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy 28.39**	**117**		T	T	21 48 08.2	
	baz=308,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 29.02**	**119**		T	T	21 48 39.2	
	baz=311,slow=75,SNR=8.2						
H11S3	**WAKE ISLAND Hy 29.02**	**119**		T	T	21 48 40.3	
	baz=311,slow=75,SNR=6.9						
H11S2	**WAKE ISLAND Hy 29.03**	**119**		T	T	21 48 42.5	
	baz=311,slow=75,SNR=6.7						
ZALV	**Zalesovo Beam**	**42.12**	**314**	P	**P**	**21 20 25.6**	**+0.7**
	0.6nm,0.4s,baz=106,slow=7.3,SNR=7.2						
ZALV				PcP	**PcP**	**21 22 18.5**	**+0.2**
	0.6nm,0.5s,baz=130,slow=2.1,SNR=4.4						
MKAR	**Makanchi Array**	**44.01**	**303**	P	**P**	**21 20 40.7**	**+0.3**
	1.0nm,0.6s,baz=84,slow=9.5,SNR=25						
MKAR				LR	LR	21 40 11.5	
	comp=Z,16nm,18.8s,baz=317,slow=38						
WRA	**Warramunga Arr**	**55.54**	**187**	P	**P**	**21 22 07.0**	**-1.1**
	2.0nm,0.4s,baz=0.9,slow=7.6,SNR=72						
ASAR	**Alice Springs**	**59.27**	**187**	P	**P**	**21 22 33.6**	**-0.7**
	0.2nm,0.4s,baz=3.0,slow=14,SNR=9.4						
FINES	**FINESS Array B**	**69.58**	**332**	P	**P**	**21 23 41.3**	**+0.3**
	2.2nm,0.8s,baz=72,slow=6.2,SNR=6.2						
AKASG	**Malin Array Be**	**74.78**	**322**	P	**P**	**21 24 11.8**	**-0.5**
	0.6nm,0.4s,baz=44,slow=7.0,SNR=5.1						
NOA	**NORSAR Array B**	**75.08**	**337**	P	**P**	**21 24 14.2**	**+0.3**
	0.4nm,0.6s,baz=27,slow=2.9,SNR=2.8						
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**21 24 39.8**	**+1.2**
	0.3nm,0.5s,baz=269,slow=4.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**117.57**	**313**	PKP	**PKPdf**	**21 31 17.6**	**-0.7**
	0.1nm,0.5s,baz=344,slow=3.1,SNR=3.1						

*SZGRF **16** 21:22:24.9, 24°.45S×177°.31W, h33km, South of Fiji Islands*
*ISCJB **16** 21:23:26.8±0.5, 23°.53S±0°.06×179°.73W±0°.08, h550km, mb3.9/17, Error ellipse: s-maj=9.8km s-min=8.1km az=29.7*
*IDC **16** 21:23:27.4±1.9, 23°.49S×179°.71W, h549km±21km, mb3.5/17, mb1 3.7/19, mb1mx3.5/33, mbtmp4.4/19, Error ellipse: s-maj=15.2km s-min=15.1km az=175.0*

ISC 16 21:23:27.3±0.5, 23°.59S±0°.07×179°.74W±0°.08, h550km, n59, σ1§25/69, mb3.9/17, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.87**	**164**	P	**P**	**21 25 04.0**	**-0.6**
	43nm,0.3s,baz=342,slow=20,SNR=2.3						
RAO				S	**S**	**21 26 27.2**	**+3.0**
	32nm,0.3s,baz=90,slow=20,SNR=2.6						
NIUE	**Niue**	**10.18**	**66**	P	**P**	**21 25 46.7**	**-0.4**
	baz=9.8,SNR=5.8						
NIUE				S	S	21 27 53.5	+11
	baz=9.8,SNR=6.0						
DZM	**Mont Dzumac**	**12.84**	**274**	P	**P**	**21 26 16.5**	**+1.9**
	0.4nm,0.3s,baz=90,slow=18,SNR=3.7						
URZ	**Urewera**	**14.87**	**190**	P	**P**	**21 26 33.6**	**-1.7**
	2.5nm,0.3s,baz=314,slow=2.7,SNR=15						
URZ				S	**S**	**21 29 06.5**	**-3.5**
	0.3nm,0.3s,baz=90,slow=19,SNR=4.1						
RPZ	**Rata Peaks**	**21.46**	**198**	P	**P**	**21 27 37.6**	**+1.2**
	22nm,0.5s,baz=6.1,slow=2.4,SNR=22						
ARMA	**Armidale**	**26.36**	**249**	P	**P**	**21 28 22.4**	**+2.2**
	baz=27,SNR=6.6						
EIDS	**Eidsvold**	**26.60**	**260**	P	**P**	**21 28 23.6**	**+1.4**
	baz=27,SNR=3.9						
MGCD	**Mangrove Creek**	**27.30**	**243**	P	**P**	**21 28 30.6**	**+2.3**
	baz=28,SNR=7.9						
MILA	**Mila**	**29.87**	**236**	P	**P**	**21 28 52.7**	**+2.1**
	baz=30,SNR=6.6						
CMSA	**Cobar Meteorol**	**31.56**	**248**	P	**P**	**21 29 06.4**	**+1.3**
	baz=32,SNR=7.7						
CTA	**Charters Tower**	**31.72**	**270**	P	**P**	**21 29 07.4**	**+0.7**
	7.5nm,0.3s,baz=94,slow=11,SNR=22						
QLP	**Quilpie**	**32.70**	**257**	P	**P**	**21 29 15.7**	**+0.9**
	baz=33,SNR=7.3						
TOO	**Toolangi**	**32.82**	**237**	P	**P**	**21 29 17.5**	**+1.7**
	baz=33,SNR=6.9						
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**21 29 35.8**	**+1.2**
	5.5nm,0.6s,baz=96,slow=10.0,SNR=25						
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**21 29 35.9**	**+1.2**
	baz=35,SNR=20						
BBOO	**Buckleboo**	**39.79**	**247**	P	**P**	**21 30 13.5**	**+0.3**
	baz=40,SNR=10.0						
ASAR	**Alice Springs**	**42.33**	**260**	P	**P**	**21 30 33.7**	**+0.2**
	3.3nm,0.8s,baz=96,slow=8.0,SNR=30						
ASAR				S	**S**	**21 36 13.2**	**-2.1**
	0.6nm,0.6s,baz=95,slow=14,SNR=6.9						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**21 30 35.7**	**-0.6**
	3.1nm,0.6s,baz=95,slow=8.5,SNR=37						
WRA				S	**S**	**21 36 16.0**	**-4.2**
	0.9nm,0.8s,baz=95,slow=12,SNR=5.0						
JAY	**Jayapura**	**43.62**	**293**	P	**P**	**21 30 43.1**	**-0.6**
	9.4nm,0.7s,baz=160,slow=13,SNR=3.9						
WRKA	**Warakurna**	**47.14**	**257**	P	**P**	**21 31 10.7**	**+0.2**
	baz=48,SNR=26						
WRKA				S	**S**	**21 37 22.0**	**-1.0**
	baz=48,SNR=5.3						
NWAO	**Narrogin (SRO)**	**55.58**	**245**	P	**P**	**21 32 11.8**	**+0.4**
	3.7nm,0.8s,baz=94,slow=13,SNR=3.3						
MJAR	**Matsushiro Arr**	**71.78**	**325**	P	**P**	**21 33 53.2**	**-1.2**
	1.1nm,0.5s,baz=166,slow=5.8,SNR=5.0						
ASAJ	**Asahikawa**	**75.70**	**333**	P	**P**	**21 34 17.1**	**+0.7**
	5.4nm,0.7s,baz=217,slow=7.0,SNR=4.6						
MAW	**Mawson**	**78.12**	**200**	P	**P**	**21 34 30.5**	**+1.2**
	1.0nm,0.5s,baz=158,slow=11,SNR=4.6						
KSRS	**Korea Array**	**78.17**	**320**	P	**P**	**21 34 30.6**	**+0.6**
	1.3nm,0.7s,baz=119,slow=5.8,SNR=7.1						
PETK	**Petropavlovsk-**	**78.86**	**346**	P	**P**	**21 34 32.9**	**-0.5**
	4.8nm,0.7s,baz=131,slow=6.8,SNR=5.3						
USRK	**Ussuriysk Ar.**	**80.64**	**327**	P	**P**	**21 34 42.8**	**-0.1**
	2.3nm,0.8s,baz=103,slow=5.5,SNR=7.5						
NVAR	**Mina Array Bea**	**84.36**	**44**	P	**P**	**21 35 02.5**	**+0.4**
	0.7nm,0.8s,baz=230,slow=7.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**89.65**	**290**	P	**P**	**21 35 28.9**	**+1.7**
	1.9nm,0.9s,baz=126,slow=3.1,SNR=14						
TXAR	**Lajitas Array**	**90.06**	**58**	P	**P**	**21 35 30.1**	**+1.0**
	1.0nm,0.7s,baz=216,slow=6.6,SNR=12						
PDAR	**Pinedale Array**	**92.30**	**44**	P	**P**	**21 35 39.1**	**-0.1**
	0.6nm,0.6s,baz=222,slow=2.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**111.87**	**321**	PKiKP	**PKiKP**	**21 40 58.1**	**-1.5**
	0.3nm,0.4s,baz=132,slow=2.2,SNR=3.9						
MKAR	**Makanchi Array**	**112.12**	**313**	PKiKP	**PKiKP**	**21 40 59.1**	**-1.3**
	0.5nm,0.6s,baz=176,slow=0.6,SNR=10						
MKAR				PKKPab	**PKKPab**	**21 52 03.8**	**+0.9**
	0.6nm,1.1s,baz=300,slow=3.0,SNR=4.4						
GEYT	**Alibeck**	**129.02**	**300**	PKP	**PKPdf**	**21 41 32.1**	**-1.0**
	1.1nm,0.6s,baz=133,slow=6.1,SNR=4.1						
ARCES	**ARCESS Array B**	**131.63**	**348**	PKP	**PKPdf**	**21 41 36.1**	**-1.0**
	2.4nm,0.8s,baz=79,slow=1.3,SNR=12						
FINES	**FINESS Array B**	**138.23**	**342**	PKhKP	PKPpre	21 41 38.5	
	0.5nm,0.4s,baz=49,slow=3.4,SNR=7.1						
NB2	**NORSAR Subarra**	**141.81**	**351**	PKP	PKPpre	21 41 51.5	
	comp=Z,1.2nm,0.6s,baz=15,slow=2.8						
NOA	**NORSAR Array B**	**141.81**	**351**	PKhKP	PKPpre	21 41 51.1	
	comp=Z,0.7nm,0.5s,baz=50,slow=0.8,SNR=8.0						
AKASG	**Malin Array Be**	**144.84**	**328**	PKP	**PKPdf**	**21 42 00.8**	**-0.7**
	comp=Z,3.9nm,0.4s,baz=42,slow=4.3,SNR=16						
ZALF	**Zalf**	**146.19**	**294**	*i* P	**PKPbc**	**21 42 07.4**	**+0.7**
WRDH	**Warideh**	**146.56**	**299**	*i* P	**PKPab**	**21 42 10.0**	**-0.4**
SALA	**Sala**	**146.72**	**294**	*i* P	**PKPbc**	**21 42 09.1**	**+0.8**
HAWK	**Haweek**	**146.74**	**297**	*i* P	**PKPbc**	**21 42 08.9**	**+0.6**
TCHB	**Talchebab**	**147.37**	**294**	*i* P	**PKPbc**	**21 42 10.8**	**+0.9**
BRTR	**Keskin Array B**	**147.58**	**308**	PKPbc	**PKPbc**	**21 42 09.7**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=142,slow=4.8,SNR=13						
CLL	**Collm**	**150.63**	**344**	*e*PKPbc	**PKPbc**	**21 42 16.9**	**-0.2**
CLL				*e*PKPab	**PKPab**	**21 42 25.9**	**-0.5**
CLL	**Collm**	**150.63**	**344**	⇓*i*PKPbc	**PKPbc**	**21 42 16.9**	**-0.2**
	comp=Z,12nm,0.8s						
CLL				⇑*i*PKPab	**PKPab**	**21 42 25.9**	**-0.5**
	comp=Z,5.0nm,0.9s						
CLL				*e*pPKPbc	PKiKP	21 43 03.0	+45
BRG	**Berggiesshubel**	**150.77**	**342**	*i* PKP	**PKPbc**	**21 42 17.5**	**+0.1**
	comp=Z,8.5nm,0.8s						
BRG	**Berggiesshubel**	**150.77**	**342**	*e*PKPbc	**PKPbc**	**21 42 17.5**	**+0.1**
FBE	**Freiberg**	**150.89**	**343**	*e*PKPbc	**PKPbc**	**21 42 17.8**	**+0.1**
FBE				*e*PKPab	**PKPab**	**21 42 27.6**	**+0.1**
MOX	**Moxa**	**151.59**	**345**	*e*PKPbc	**PKPbc**	**21 42 19.3**	**0.0**
WERD	**Werda**	**151.59**	**344**	*e*PKPbc	**PKPbc**	**21 42 19.2**	**-0.2**
WERD				*e*PKPab	**PKPab**	**21 42 30.1**	**-0.5**
PLN	**Plauen**	**151.60**	**344**	*e*PKPbc	**PKPbc**	**21 42 19.1**	**-0.3**
WERN	**Wernitzgruen**	**151.72**	**343**	*e*PKPab	**PKPab**	**21 42 30.8**	**-0.4**
ROHR	**Rohrbach**	**151.79**	**344**	*e*PKPbc	**PKPbc**	**21 42 19.5**	**-0.3**
ROHR				*e*PKPab	**PKPab**	**21 42 31.1**	**-0.3**
GRF	**Grafenberg Arr**	**152.56**	**344**	*e*PKPbc	**PKPbc**	**21 42 20.8**	**-0.7**
GEC2	**GERESS Array S**	**152.65**	**340**	*e*PKPbc	**PKPbc**	**21 42 21.5**	**-0.3**
GERES	**GERESS Array B**	**152.65**	**340**	PKPbc	**PKPbc**	**21 42 21.1**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=51,slow=2.6,SNR=7.5						
GERES				PKPab	**PKPab**	**21 42 34.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=32,slow=6.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**169.53**	**188**	PKP	**PKPdf**	**21 42 30.7**	**-1.9**
	comp=Z,1.1nm,1.1s,baz=14,slow=1.6,SNR=4.4						
TORD				PKPab	**PKPab**	**21 43 49.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=180,slow=3.0,SNR=4.9						

IDC 16 21:26:18.6±1.3, 6°.77S×123°.84E, h0km, mb3.2/2, mb1 3.4/5, mb1mx3.3/33, mbtmp3.3/5, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/14, Error ellipse: s-maj=82.5km s-min=22.4km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.00**	**172**	P	Pg	21 27 17.5	+1.2
BATI	**Baumata**	**3.42**	**183**	P	Pn	21 27 12.2	-1.0
BATI	**Baumata**	**3.42**	**183**	Pn	Pn	21 27 12.1	-1.2
	3.4nm,0.3s,baz=337,slow=2.7,SNR=6.5						
BATI				Sn	Sn	21 27 42.7	-12
	8.1nm,0.3s,baz=252,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**16.60**	**143**	Pn	P	21 30 14.9	-0.6
	0.1nm,0.3s,baz=316,slow=12,SNR=6.8						
WRA				Sn	Sn	21 33 06.3	-12
	0.1nm,0.3s,baz=311,slow=25,SNR=4.4						
JAY	**Jayapura**	**17.33**	**77**	LR	LR	21 38 28.1	
	comp=Z,23nm,18.9s,baz=101,slow=42						
ASAR	**Alice Springs**	**19.39**	**151**	P	P	21 30 46.1	-0.2
	0.2nm,0.3s,baz=330,slow=13,SNR=6.9						
SONM	**Songino Array**	**56.51**	**346**	P	P	21 36 01.1	-1.6
	0.1nm,0.3s,baz=154,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**64.81**	**330**	P	P	21 37 00.8	+1.5
	0.1nm,0.5s,baz=144,slow=7.9,SNR=5.8						

DJA 16 21:26:34.3±0.7, 9°S±5°×112°1E±°, h57km±9km, M3.4/7, MLv3.4/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.49**	**39**	P	Pn	21 26 46.8	+0.7
EDFI				S	Sn	21 26 57.9	+3.4
WSI	**Waingapu**	**1.20**	**243**	P	Pn	21 26 56.3	+1.5
WSI				S	Sn	21 27 09.1	-1.0
BASI	**Baing, Sumba**	**1.34**	**216**	P	Pn	21 26 58.0	+1.2
WBSI	**Waikabubak, Su**	**2.03**	**255**	P	Pn	21 27 06.7	+0.5

IDC 16 21:26:41.5±9.3, 21°.46S×66°.39W, h213km±76km, mb3.3/1, mb1 3.3/2, mb1mx3.0/23, mbtmp3.8/2, Error ellipse: s-maj=106.2km s-min=79.6km az=33.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.40**	**342**	P	Pn	21 28 02.0	-0.2
	1.7nm,0.3s,baz=138,slow=6.5,SNR=43						
LPAZ				S	S	21 29 06.2	+0.4
	baz=280,slow=18,SNR=1.8						
TORD	**Torodi Ar. Bea**	**75.14**	**69**	P	P	21 38 00.8	+0.1
	0.4nm,0.4s,baz=253,slow=5.8,SNR=10						
MKAR	**Makanchi Array**	**144.19**	**38**	PKP	PKPbc	21 45 51.3	+0.6
	0.3nm,0.6s,baz=318,slow=2.4,SNR=5.8						

*DHMR **16** 21:28:33.6±1.1, 11°.81N×43°.61E, h3km±26km, ML3.8*
*ISCJB **16** 21:28:37.7±1.3, 11°.83N±0°.09×43°.75E±0°.09, h10km, Error ellipse: s-maj=17.8km s-min=5.5km az=44.8*
*ARO **16** 21:28:40.5, 12°.N±2°.×4°.4E±°, h8km±1km, Ml3.7*

ISC 16 21:28:38.0±1.3, 11°.92N±0°.08×43°.58E±0°.08, h10km, n11, σ0§74/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBO	**Obock**	**0.29**	**283**	*e*P	**Pn**	**21 28 46.9**	**-1.5**
MCAD	**Moucha**	**0.41**	**243**	*e*P	**Pn**	**21 28 49.0**	**-1.0**
ATA	**Atar**	**0.59**	**219**	*e*P	**Pn**	**21 28 51.9**	**-0.6**
TDD	**Tadjoura Ara**	**0.67**	**260**	*e*P	**Pn**	**21 28 53.2**	**-0.4**
ATD	**Arta Tunnel**	**0.82**	**242**	*e*P	**Pn**	**21 28 55.5**	**-0.2**
ATD				*e*S	**Sn**	**21 29 07.8**	**0.0**
SGH	**Sud-Ghoubbet**	**1.05**	**243**	*e*P	**Pn**	**21 28 59.4**	**+0.6**
GBR	**Grand-Bara**	**1.34**	**235**	*e*P	**Pg**	**21 29 04.2**	**+0.5**
MAOD	**Malaho**	**1.34**	**278**	*e*P	**Pb**	**21 29 03.5**	**+0.2**
UDYN	**Al 'Udayn**	**2.07**	**10**	*i* P	**Pn**	**21 29 12.5**	**-0.5**
UDYN				*i* S	**Sb**	**21 29 42.1**	**+0.5**
UDYN				AML	AML	21 29 48.2	
	comp=E,1μm,0.5s						
DHBB	**Dhamar BB**	**2.75**	**17**	*i* P	**Pn**	**21 29 23.3**	**+0.8**
DHBB				*i* S	**Sb**	**21 30 01.2**	**-0.1**
BDHA	**Al Bayda'**	**2.81**	**43**	*i* P	**Pn**	**21 29 22.6**	**-0.7**
BDHA				*i* S	**Sb**	**21 30 02.4**	**-0.8**
BDHA				AML	AML	21 30 07.5	
	comp=N,418nm,0.5s						

*MEX **16** 21:28:43.0±1.3, 32°.95N×115°.70W, h16km±36km, MD3.8*
*NEIC **16** 21:28:44.3, 32°.66N×115°.78W, h4km, ML3.4(PAS), After PAS.*

ISC 16 21:28:43.3±1.1, 32°.69N±0°.03×115°.79W±0°.03, h10km±10km, n17, σ1§31/29, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.49**	**123**	*i* P	**Pg**	**21 28 53.1**	**+0.2**
MBIG	**Mexicali**	**0.57**	**119**	*i* P	**Pg**	**21 28 54.5**	**+0.1**
MBIG				*i* S	**Sb**	**21 29 03.5**	**-0.1**
BAR	**Barrett**	**0.74**	**270**	*e*Pg	**Pg**	**21 28 57.7**	**0.0**
BAR				*e*Sg	**Sb**	**21 29 08.1**	**-0.6**
BAR				*e*Sb	**Sn**	**21 29 09.8**	**-1.6**
CBX	**Cerro Bola**	**0.82**	**244**	*i* P	**Pg**	**21 28 59.5**	**+0.3**
CBX				*i* S	**Sg**	**21 29 10.5**	**+0.5**
GLA	**Glamis**	**0.89**	**65**	*e*Pg	**Pg**	**21 28 59.3**	**-1.2**
GLA				*e*Sg	**Sg**	**21 29 10.8**	**-1.3**
PFO	**Pinyon Flats O**	**1.08**	**329**	*e*Pg	**Pb**	**21 29 03.1**	**-1.1**
PFO				*e*Sg	**Sb**	**21 29 17.2**	**-1.2**
SPIG	**San Pedro Mart**	**1.66**	**170**	*i* P	**Pn**	**21 29 12.3**	**-0.6**
SPIG				*i* S	**Sn**	**21 29 34.5**	**+0.1**
MWC	**Mount Wilson**	**2.44**	**310**	*e*Pn	**Pb**	**21 29 26.9**	**-0.5**
MWC				*e*Sb	**Sb**	**21 29 59.4**	**+1.8**
LDFC	**Landfair**	**2.45**	**13**	*e*Pn	**Pn**	**21 29 24.9**	**+1.3**
PASC	**Pasadena Art C**	**2.49**	**307**	*e*Sn	**Sb**	**21 29 56.9**	**-2.1**
GSC	**Goldstone, Bar**	**2.74**	**342**	*e*Pg	**Pg**	**21 29 35.7**	**-0.2**
GSC				*e*Sb	**Sg**	**21 30 09.2**	**-2.2**
OSI	**Osito Audit: C**	**3.11**	**309**	*e*Pn	**Pn**	**21 29 33.3**	**+0.7**
OSI				*e*Sg	**Sg**	**21 30 25.4**	**+2.0**
ISA	**Isabella, Lake**	**3.71**	**324**	*e*Pg	**Pg**	**21 29 53.9**	**-0.6**
SHPR	**Sheep Range**	**3.85**	**8**	*e*Pg	**Pg**	**21 29 58.6**	**+1.6**
SHPR				*e*Sg	**Sg**	**21 30 47.5**	**+0.6**
DAC	**Darwin (Calif)**	**3.88**	**338**	*e*Pg	**Pg**	**21 29 59.4**	**+1.7**
TUC	**Tucson**	**4.25**	**94**	*e*Pn	**Pn**	**21 29 51.0**	**+2.8**

*CSEM **16** 21:40:26.9, 43°.48N×12°.43E, h7km, MD1.3/4*

ROM 16 21:40:26.9±0.1, 43°.48N×12°.43E, h7km, Md1.3/4, Ml1.0/2, 2C, Error ellipse: s-maj=0.4km s-min=0.3km az=153.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.02**	**74**	⇑*i*Pg	Pg	21 40 28.3	+0.1
ATPC				Sg	Sg	21 40 29.3	+0.1
	159nm,0.2s						
ATPC	**Poggio Castell**	**0.02**	**74**	⇑*i*Pg	Pg	21 40 28.3	+0.1
ATPC				Sg	Sg	21 40 29.3	+0.1
	159nm,0.2s						
ATVO	**AVT- Monte Val**	**0.09**	**190**	Pg	Pg	21 40 29.4	+0.3
ATVO				Sg	Sg	21 40 31.2	+0.6
ATVO	**AVT- Monte Val**	**0.09**	**190**	Pg	Pg	21 40 29.4	+0.3
ATVO				Sg	Sg	21 40 31.2	+0.6
PIEI	**Pieia**	**0.10**	**52**	Pg	Pg	21 40 29.4	+0.2
PIEI				Sg	Sg	21 40 31.4	+0.6
	45nm,0.2s						
PIEI	**Pieia**	**0.10**	**52**	Pg	Pg	21 40 29.4	+0.2
PIEI				Sg	Sg	21 40 31.4	+0.6
	45nm,0.2s						
BADI	**Badiali**	**0.14**	**285**	Pg	Pg	21 40 30.2	+0.3
BADI				Sg	Sg	21 40 32.8	+0.9
	416nm,2.4s						
BADI	**Badiali**	**0.14**	**285**	Pg	Pg	21 40 30.2	+0.3
BADI				Sg	Sg	21 40 32.8	+0.9
	416nm,2.4s						

IDC 16 21:53:39.2±12.0, 18°.20S×169°.80E, h210km±64km, mb3.6/4, mb1 3.7/5, mb1mx3.2/30, mbtmp4.1/5, MS3.6/1, Ms1 3.7/1, ms1mx2.7/25, Error ellipse: s-maj=144.8km s-min=31.2km az=32.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.97**	**219**	P	Pn	21 54 53.5	-0.1
	0.7nm,0.3s,baz=27,slow=18,SNR=5.4						
DZM				S	S	21 55 57.8	+5.6
	1.1nm,0.3s,baz=90,slow=20,SNR=2.5						
STKA	**Stephens Creek**	**28.85**	**236**	P	P	21 59 18.1	-0.1
	1.3nm,0.6s,baz=68,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**33.52**	**261**	P	P	21 59 58.8	-0.5
	0.4nm,0.3s,baz=96,slow=6.8,SNR=8.3						
ASAR	**Alice Springs**	**33.90**	**255**	P	P	22 00 02.7	+0.2
	5.9nm,0.4s,baz=82,slow=8.9,SNR=113						
VNDA	**Vanda**	**59.48**	**182**	LR	LR	22 26 43.3	
	comp=Z,49nm,18.1s,baz=190,slow=33						
QSPA	**South Pole Qui**	**71.84**	**180**	P	P	22 04 39.0	+0.1
	1.3nm,1.0s,baz=250,slow=2

BBAL				*i* S	**Sg**	**22 08 14.1**	**+0.6**
ELDT	**Eldivan**	**1.15**	**7**	*i* P	**Pg**	**22 08 28.6**	**+0.4**
KDHN	**Kadinhani**	**1.20**	**227**	*i* P	**Pg**	**22 08 29.5**	**+0.3**
KDHN				*i* S	**Sn**	**22 08 45.6**	**+0.2**
CORM	**Corum**	**1.36**	**52**	*e*PG	**Pn**	**22 08 30.6**	**-0.6**

GUC 16 22:09:04.8±0.5,**35°31S**×**72°54W**,**h36**km±4km,**ML3.7,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.75**	**97**	*e*P	Pn	22 09 18.9	+0.1
TALC				*e*S	Sn	22 09 29.1	+0.3
LNCH	**Linares**	**0.94**	**125**	*e*P	Pn	22 09 21.7	+0.3
LNCH				*e*S	Sn	22 09 34.7	+1.1
NICH	**Los Niches**	**1.12**	**74**	*e*P	Pn	22 09 25.0	+1.1
NICH				*e*S	Sn	22 09 39.6	+1.6
NICH				AML	AML	22 09 45.6	
	comp=E,3μm,0.4s						
CLCH	**Cerro Calan**	**2.53**	**42**	*e*P	Pn	22 09 45.3	+1.9
CLCH				*e*S	Sn	22 10 16.8	+3.7
CLCH				AML	AML	22 10 31.3	
	comp=E,331nm,0.5s						

ISCJB ***16*** *22:18:06.0*±*0.6,26°.15S*±*0°.07*×*179°.3E*±*0°.1,h503km, mb3.7/14, Error ellipse: s-maj=13.4km s-min=9.3km az=178.4*

IDC ***16*** *22:18:07.5*±*2.5,26°.03S*×*179°.34E,h510km*±*26km, mb3.3/14,mb1 3.5/16,mb1mx3.5/29,mbtmp4.2/16, Error ellipse: s-maj=18.6km s-min=14.0km az=74.0*

ISC 16 22:18:06.9±0.5,**26°13S**±0°.08×**179°32E**±0°.09,**h503**km,**n44,**
σ1§42/48,mb3.8/14,9C-6D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.96**	**142**	S	**S**	**22 20 32.6**	**+3.6**
	34nm,0.3s,baz=246,slow=20,SNR=1.8						
URZ	**Urewera**	**12.24**	**188**	P	**P**	**22 20 46.4**	**-1.4**
	4.4nm,0.3s,baz=277,slow=2.1,SNR=26						
URZ				S	**S**	**22 22 57.2**	**-3.2**
	0.7nm,0.3s,baz=113,slow=18,SNR=5.5						
DZM	**Mont Dzumac**	**12.43**	**286**	P	**P**	**22 20 51.9**	**+1.7**
	1.2nm,0.3s,baz=81,slow=17,SNR=11						
RPZ	**Rata Peaks**	**18.79**	**199**	P	**P**	**22 21 53.9**	**-0.3**
	1.2nm,0.3s,baz=38,slow=3.5,SNR=7.4						
CTA	**Charters Tower**	**30.94**	**272**	P	**P**	**22 23 43.0**	**+0.6**
	2.1nm,0.4s,baz=92,slow=9.5,SNR=5.4						
STKA	**Stephens Creek**	**33.37**	**251**	P	**P**	**22 24 04.0**	**+1.0**
	1.2nm,0.4s,baz=94,slow=13,SNR=5.5						
ASAR	**Alice Springs**	**41.11**	**263**	P	**P**	**22 25 06.7**	**0.0**
	1.9nm,0.6s,baz=89,slow=6.5,SNR=30						
ASAR				pP	**pP**	**22 26 41.1**	**+3.2**
	0.6nm,0.8s,baz=100,slow=7.4,SNR=3.2						
ASAR				S	**S**	**22 30 42.1**	**-1.0**
	0.3nm,0.5s,baz=99,slow=17,SNR=5.2						
WRA	**Warramunga Arr**	**41.69**	**269**	P	**P**	**22 25 10.8**	**-0.5**
	3.3nm,0.4s,baz=103,slow=7.6,SNR=154						
WRA				ScP	**ScP**	**22 29 59.1**	**+0.6**
	0.2nm,0.5s,baz=96,slow=4.1,SNR=5.3						
WRA				S	**S**	**22 30 49.0**	**-2.6**
	2.0nm,0.9s,baz=98,slow=14,SNR=7.7						
VNDA	**Vanda**	**52.12**	**185**	P	**P**	**22 26 30.5**	**+1.2**
	0.6nm,0.7s,baz=339,slow=6.5,SNR=4.2						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**22 27 51.0**	**+1.0**
	0.9nm,0.6s,baz=45,slow=1.4,SNR=10.0						
MJAR	**Matsushiro Arr**	**73.39**	**326**	P	**P**	**22 28 46.8**	**-0.6**
	0.7nm,0.5s,baz=110,slow=7.3,SNR=3.3						
ASAJ	**Asahikawa**	**77.58**	**334**	P	**P**	**22 29 11.5**	**+1.1**
	5.0nm,0.7s,baz=117,slow=2.3,SNR=4.6						
KSRS	**Korea Array**	**79.56**	**321**	P	**P**	**22 29 20.4**	**-0.7**
	1.3nm,0.7s,baz=137,slow=4.9,SNR=5.2						
USRK	**Ussuriysk Ar.**	**82.30**	**328**	P	**P**	**22 29 34.8**	**-0.4**
	2.5nm,0.6s,baz=174,slow=4.7,SNR=6.7						
NVAR	**Mina Array Bea**	**86.78**	**44**	P	**P**	**22 29 57.4**	**-0.2**
	1.0nm,0.6s,baz=224,slow=9.5,SNR=8.9						
CMAR	**Chiang Mai Arr**	**89.72**	**291**	P	**P**	**22 30 12.2**	**+0.7**
	0.4nm,0.3s,baz=42,slow=2.2,SNR=4.3						
TXAR	**Lajitas Array**	**92.13**	**58**	P	**P**	**22 30 23.1**	**+0.6**
	0.6nm,0.8s,baz=190,slow=6.4,SNR=6.7						
ILAR	**Eielson Array**	**94.33**	**14**	P	**P**	**22 30 29.6**	**-2.0**
	0.3nm,0.6s,baz=224,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**113.19**	**312**	PKiKP	**PKiKP**	**22 35 45.1**	**-1.7**
	0.2nm,0.5s,baz=207,slow=1.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**113.26**	**320**	PKiKP	**PKiKP**	**22 35 44.3**	**-2.4**
	0.4nm,0.5s,baz=132,slow=2.1,SNR=3.8						
GEYT	**Alibeck**	**129.52**	**299**	PKP	**PKPdf**	**22 36 18.4**	**0.0**
	0.8nm,0.4s,baz=36,slow=2.8,SNR=3.7						
ARCES	**ARCESS Array B**	**133.93**	**348**	PKhKP	PKPpre	22 36 16.0	
	1.8nm,0.8s,baz=23,slow=4.9,SNR=4.1						
ARCES				PKP	**PKPdf**	**22 36 25.4**	**-0.3**
	3.6nm,1.0s,baz=61,slow=2.8,SNR=13						
FINES	**FINESS Array B**	**140.34**	**340**	PKhKP	PKPpre	22 36 29.1	
	1.5nm,0.8s,baz=169,slow=1.9,SNR=11						
FINES				PKP	**PKPdf**	**22 36 37.8**	**+0.1**
	1.2nm,0.5s,baz=50,slow=2.0,SNR=7.4						
NB2	**NORSAR Subarra**	**144.17**	**350**	PKP	PKPbc	22 36 42.7	-1.3
	comp=Z,5.3nm,0.6s,baz=13,slow=3.0						
NOA	**NORSAR Array B**	**144.17**	**350**	PKP	PKPbc	22 36 42.8	-1.3
	comp=Z,6.3nm,0.6s,baz=20,slow=2.5,SNR=24						
AKASG	**Malin Array Be**	**146.47**	**325**	PKPbc	**PKPdf**	**22 36 49.6**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=45,slow=4.6,SNR=26						
BRTR	**Keskin Array B**	**148.37**	**304**	PKPbc	**PKPbc**	**22 36 55.6**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=141,slow=4.0,SNR=12						
TLCR		**149.66**	**316**	⇓*i*P	**PKPbc**	**22 36 58.9**	**-0.4**
CFR	**Carcaliu**	**150.08**	**317**	⇓*i*P	**PKPdf**	**22 36 57.3**	**+2.6**
TESR	**Tescani**	**150.26**	**320**	⇓*i*P	**PKPbc**	**22 37 00.2**	**-0.6**
KWP	**Kalwaria Pacla**	**150.37**	**329**	⇑*i*P	**PKPbc**	**22 37 00.1**	**-0.8**
BURAR	**Bucovina Array**	**150.42**	**323**	⇑*i*P	**PKPbc**	**22 37 01.0**	**-0.2**
TLB	**Topalu**	**150.43**	**316**	⇑*i*P	**PKPbc**	**22 37 01.2**	**+0.1**
MANR	**Mangalia**	**150.44**	**314**	⇑*i*P	**PKPbc**	**22 37 00.8**	**-0.4**
HARR	**Harsova**	**150.45**	**316**	⇑*i*P	**PKPbc**	**22 37 00.7**	**-0.5**
VRI	**Vrincioaia**	**150.57**	**319**	⇑*i*P	**PKPbc**	**22 37 01.0**	**-0.5**
PSN	**Preselentsi**	**150.76**	**314**	⇓*i*P	**PKPbc**	**22 36 59.3**	**-2.7**
MLR	**Muntele Rosu**	**151.24**	**319**	⇑*i*P	**PKPbc**	**22 37 02.2**	**-1.0**
DOPR	**Dopca**	**151.27**	**320**	⇓*i*P	**PKPbc**	**22 37 02.8**	**-0.4**
VOIR		**151.79**	**320**	⇑*i*P	**PKPbc**	**22 37 03.5**	**-0.9**
VRAC	**Vranov**	**153.25**	**334**	⇓*i*P	**PKPdf**	**22 37 00.6**	**+1.2**
VTS	**Vitosha**	**154.46**	**316**	⇑*i*P	**PKPbc**	**22 37 10.2**	**-0.1**
ESDC	**Sonseca Array**	**166.22**	**11**	PKPab	**PKPab**	**22 38 17.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=340,slow=4.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**166.89**	**190**	PKP	**PKPdf**	**22 37 13.9**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=298,slow=0.7,SNR=3.2						
TORD				PKPab	**PKPab**	**22 38 21.1**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=168,slow=3.6,SNR=4.2						

GUC 16 22:23:21.4±0.3,**35°35S**×**72°94W**,**h13**km±9km,**ML3.7,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.07**	**93**	*e*P	Pb	22 23 41.7	0.0
TALC				*e*S	Sn	22 23 57.2	+0.5
TALC				AML	AML	22 24 00.0	
	comp=N,3μm,0.5s						
LNCH	**Linares**	**1.20**	**115**	*e*P	Pn	22 23 43.9	0.0
LNCH				*e*S	Sg	22 24 01.1	+0.9
LNCH				AML	AML	22 24 04.2	
	comp=N,4μm,0.7s						

ISCJB ***16*** *22:24:36.1*±*0.6,32°.30N*±*0°.04*×*115°.31W*±*0°.05,h16km*±*8km, Error ellipse: s-maj=7.1km s-min=6.1km az=42.7*

NEIC ***16*** *22:24:36.6,32°.25N*×*115°.38W,h8km,ML3.1(PAS),After PAS.*

MEX ***16*** *22:24:38.1*±*0.3,32°.39N*×*115°.20W,h17km*±*4km,MD3.5*

ISC 16 22:24:35.7±1.0,**32°29N**±0°.04×**115°36W**±0°.04,**h15**km±8km,
n10,σ0§89/16,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**19**	*e*P	**Pg**	**22 24 40.1**	**+0.7**
MBIG	**Mexicali**	**0.18**	**48**	*e*P	**Pg**	**22 24 40.5**	**+0.4**
MBIG				*i* S	**Sg**	**22 24 42.1**	**-0.8**
GLA	**Glamis**	**0.88**	**30**	*e*Pg	**Pg**	**22 24 52.1**	**-0.7**
GLA				*e*Sg	**Sg**	**22 25 03.8**	**-0.7**
CBX	**Cerro Bola**	**1.11**	**272**	*i* P	**Pg**	**22 24 57.0**	**-0.1**
CBX				*i* S	**Sg**	**22 25 12.0**	**+0.4**
CBX	**Cerro Bola**	**1.11**	**272**	*i* P	**Pg**	**22 24 57.0**	**-0.1**
BAR	**Barrett**	**1.18**	**290**	*e*Pg	**Pg**	**22 24 57.7**	**-0.7**
BAR				*e*Sg	**Sg**	**22 25 13.0**	**-0.9**
SPIG	**San Pedro Mart**	**1.24**	**184**	*i* P	**Pb**	**22 24 59.2**	**+0.2**
SPIG				*i* S	**Sg**	**22 25 15.4**	**-0.6**
SPIG	**San Pedro Mart**	**1.24**	**184**	*i* P	**Pb**	**22 24 59.2**	**+0.2**
PFO	**Pinyon Flats O**	**1.61**	**325**	*e*Pn	**Pn**	**22 25 03.0**	**-0.6**
PFO				*e*Sn	**Sn**	**22 25 26.4**	**+2.2**
214A	**Organ Pipe Nat**	**2.18**	**98**	*e*Pn	**Pn**	**22 25 11.2**	**-0.3**

GUC 16 22:28:28.2±0.6,**35°44S**×**72°84W**,**h20**km±5km,**ML3.8,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.99**	**88**	*e*P	Pn	22 28 46.8	-0.2
TALC				*e*S	Sg	22 29 00.9	+0.4
LNCH	**Linares**	**1.09**	**112**	*e*P	Pn	22 28 47.6	-0.8
LNCH				*e*S	Sg	22 29 04.4	+0.7
CCSP	**San Pedro de C**	**1.42**	**189**	*e*S	Sg	22 29 13.4	-0.6
LNV	**Longovilo**	**1.90**	**39**	*e*P	Pn	22 29 00.5	+1.1
CLCH	**Cerro Calan**	**2.79**	**44**	*e*P	Pb	22 29 15.0	-2.6
CLCH				*e*S	Sb	22 29 49.9	-1.5
CLCH				AML	AML	22 29 58.0	
	comp=N,506nm,0.6s						
PEL	**Peldehue**	**2.91**	**38**	AML	AML	22 30 06.4	
	comp=N,404nm,0.5s						

TIR ***16*** *22:31:23.4*±*3.0,42°.06N*×*19°.85E,h9km*±*10km,ML2.8*

THE ***16*** *22:31:23.5,42°.48N*×*19°.80E,h28km*±*32km,ML2.9/3,Error ellipse: s-maj=38.3km s-min=3.5km az=338.0*

PDG ***16*** *22:31:24.9*±*0.4,42°.06N*×*19°.86E,h8km,MD2.9/5, ML2.9/11,Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*

BEO ***16*** *22:31:24.6*±*0.5,42°.01N*×*19°.93E,h0km,ML2.5/1*

CSEM ***16*** *22:31:24.7*±*0.2,42°.10N*×*19°.93E,h2km,ML2.8,Error ellipse: s-maj=4.1km s-min=3.1km az=43.0*

ISC 16 22:31:24.7±0.8,**42°07N**±0°.01×**19°89E**±0°.02,**h3**km±5km,
n108,σ1§25/166,16C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.03**	**176**	*i* PG	**Pg**	**22 31 25.5**	**0.0**
PUK				*i* SG	**Sg**	**22 31 26.3**	**+0.2**
PUK	**Puka**	**0.03**	**176**	*i* Pg	**Pg**	**22 31 25.5**	**0.0**
	SNR=95						
PUK				*i* Sg	**Sg**	**22 31 26.3**	**+0.2**
	SNR=95						
BCI	**Bajram Curri**	**0.33**	**24**	*i* PG	**Pg**	**22 31 30.8**	**-0.2**
BCI				*i* SG	**Sg**	**22 31 36.5**	**+1.3**
BCI	**Bajram Curri**	**0.33**	**24**	*i* Pg	**Pg**	**22 31 30.8**	**-0.2**
	SNR=91						
BCI				*i* Sg	**Sg**	**22 31 36.5**	**+1.3**
	SNR=91						
ULC	**Ulcinj**	**0.49**	**258**	⇑*i*Pg	**Pg**	**22 31 34.3**	**+0.2**
ULC				*e*Sg	**Sb**	**22 31 41.7**	**-1.9**
ULC	**Ulcinj**	**0.49**	**258**	⇑*i*Pg	**Pg**	**22 31 34.3**	**+0.2**
ULC				*e*Sg	**Sb**	**22 31 41.7**	**-1.9**
PVY	**Plav**	**0.53**	**6**	⇑*i*Pg	**Pg**	**22 31 34.3**	**-0.5**
PVY				*e*Sg	**Sb**	**22 31 43.8**	**-1.0**
PVY	**Plav**	**0.53**	**6**	⇑*i*Pg	**Pg**	**22 31 34.3**	**-0.5**
PVY				*e*Sg	**Sb**	**22 31 43.8**	**-1.0**
DRME	**Dracevica, Mon**	**0.54**	**283**	⇓*i*Pg	**Pg**	**22 31 34.2**	**-0.8**
DRME				*e*Sg	**Sb**	**22 31 43.1**	**-1.8**
DRME	**Dracevica, Mon**	**0.54**	**283**	⇓*i*Pg	**Pg**	**22 31 34.2**	**-0.8**
DRME				*e*Sg	**Sb**	**22 31 43.1**	**-1.8**
PHP	**Peshkopia**	**0.56**	**133**	*i* PG	**Pg**	**22 31 34.4**	**-1.1**
PHP				*i* SG	**Sg**	**22 31 43.2**	**+0.5**
PHP	**Peshkopia**	**0.56**	**133**	P	**Pg**	**22 31 34.4**	**-1.1**
PHP				S	**Sg**	**22 31 42.9**	**+0.1**
PHP	**Peshkopia**	**0.56**	**133**	P	**Pg**	**22 31 34.4**	**-1.1**
PHP				S	**Sg**	**22 31 42.9**	**+0.1**
PHP				*i* Sg	**Sg**	**22 31 43.2**	**+0.5**
	SNR=91						
PDG	**Podgorica**	**0.59**	**308**	*e*Pg	**Pg**	**22 31 36.1**	**0.0**
PDG				*e*Sg	**Sb**	**22 31 45.0**	**-1.5**
PDG	**Podgorica**	**0.59**	**308**	*e*Pg	**Pg**	**22 31 36.1**	**0.0**
PDG				*e*Sg	**Sb**	**22 31 45.0**	**-1.5**
TTG	**Podgorica**	**0.59**	**308**	⇓*i*Pg	**Pg**	**22 31 35.4**	**-0.7**
TTG				*e*Sg	**Sb**	**22 31 45.1**	**-1.5**
TIR	**Tirane**	**0.72**	**182**	P	**Pg**	**22 31 38.6**	**+0.1**
TIR	**Tirane**	**0.72**	**182**	P	**Pg**	**22 31 38.6**	**+0.1**
BUM	**Brajici-Budva**	**0.78**	**288**	⇓*i*Pg	**Pg**	**22 31 39.4**	**-0.2**
BUM				*e*Sg	**Sb**	**22 31 51.0**	**-0.8**
BUM	**Brajici-Budva**	**0.78**	**288**	⇓*i*Pg	**Pg**	**22 31 39.4**	**-0.2**
BUM				*e*Sg	**Sb**	**22 31 51.0**	**-0.8**
BEY	**Berane**	**0.80**	**0**	⇑*i*Pg	**Pg**	**22 31 40.2**	**+0.1**
BEY				*e*Sg	**Sb**	**22 31 53.1**	**+0.5**
IVA	**Berane**	**0.80**	**0**	⇑*i*Pg	**Pg**	**22 31 40.2**	**+0.1**
IVA				*e*Sg	**Sb**	**22 31 53.1**	**+0.5**
NKME	**Niksic**	**0.98**	**315**	⇑*i*Pg	**Pg**	**22 31 42.8**	**-0.8**
NKME				*e*Sg	**Sn**	**22 31 58.2**	**-1.7**
NKME	**Niksic**	**0.98**	**315**	⇑*i*Pg	**Pg**	**22 31 42.8**	**-0.8**
NKME				*e*Sg	**Sn**	**22 31 58.2**	**-1.7**
NKY	**Niksic**	**1.00**	**319**	⇓*i*Pg	**Pg**	**22 31 43.0**	**-0.8**
NKY				*e*Sg	**Sn**	**22 31 59.2**	**-1.1**
NKY	**Niksic**	**1.00**	**319**	⇓*i*Pg	**Pg**	**22 31 43.0**	**-0.8**
NKY				*e*Sg	**Sn**	**22 31 59.2**	**-1.1**
HCY	**Herceg Novi**	**1.10**	**291**	⇑*i*Pg	**Pg**	**22 31 44.8**	**-1.0**
HCY				*e*Sg	**Sn**	**22 32 02.2**	**-0.6**
HCY	**Herceg Novi**	**1.10**	**291**	⇑*i*Pg	**Pg**	**22 31 44.8**	**-1.0**
HCY				*e*Sg	**Sn**	**22 32 02.2**	**-0.6**
SKO	**Skopje**	**1.16**	**94**	*e*Pg	**Pg**	**22 31 44.9**	**-2.0**
SKO				*e*Sg	**Sg**	**22 32 01.5**	**-0.4**
SKO	**Skopje**	**1.16**	**94**	*e*Pg	**Pg**	**22 31 44.9**	**-2.0**
SKO				*e*Sg	**Sg**	**22 32 01.5**	**-0.4**
SJES	**Sjenica**	**1.19**	**3**	*e*Pg	**Pb**	**22 31 47.2**	**-0.8**
SJES				*e*Sg	**Sn**	**22 32 05.4**	**+0.2**
SJES	**Sjenica**	**1.19**	**3**	*e*Pg	**Pn**	**22 31 47.2**	**-0.8**
SJES				*e*Sg	**Sn**	**22 32 05.4**	**+0.2**
BRY	**Bratogost**	**1.30**	**310**	⇑*i*Pg	**Pn**	**22 31 48.5**	**-1.4**
BRY				*e*Sg	**Sn**	**22 32 09.1**	**+1.2**
BRY	**Bratogost**	**1.30**	**310**	⇑*i*Pg	**Pn**	**22 31 48.5**	**-1.4**
BRY				*e*Sg	**Sn**	**22 32 09.1**	**+1.2**
TREB	**Trebinje**	**1.31**	**300**	*e*Pg	**Pn**	**22 31 49.1**	**-0.8**
TREB				*e*Sg	**Sn**	**22 32 09.6**	**+1.7**
TREB	**Trebinje**	**1.31**	**300**	*e*Pg	**Pn**	**22 31 49.1**	**-0.8**
TREB				*e*Sg	**Sn**	**22 32 09.6**	**+1.7**
PLE	**Pljevlja**	**1.31**	**344**	⇑*i*Pg	**Pn**	**22 31 49.0**	**-1.1**
PLE				*e*Sg	**Sn**	**22 32 09.9**	**+1.7**
PLE	**Pljevlja**	**1.31**	**344**	⇑*i*Pg	**Pn**	**22 31 49.0**	**-1.1**
PLE				*e*Sg	**Sn**	**22 32 09.9**	**+1.7**
UPM	**Unac-Piva**	**1.35**	**328**	⇑*i*Pg	**Pn**	**22 31 49.9**	**-0.7**
UPM				*e*Sg	**Sg**	**22 32 10.9**	**+2.9**
UPM	**Unac-Piva**	**1.35**	**328**	⇑*i*Pg	**Pn**	**22 31 49.9**	**-0.7**
UPM				*e*Sg	**Sg**	**22 32 10.9**	**+2.9**
SELS	**Selova**	**1.46**	**38**	*e*Pg	**Pn**	**22 31 51.3**	**-0.7**
SELS				*e*Sg	**Sg**	**22 32 13.0**	**+1.3**
KBN	**Korca**	**1.59**	**155**	*i* PN	**Pg**	**22 31 55.9**	**+0.6**
KBN	**Korca**	**1.59**	**155**	P	**Pg**	**22 31 55.5**	**+0.3**
KBN				S	**Sg**	**22 32 20.3**	**+4.4**
KBN	**Korca**	**1.59**	**155**	P	**Pg**	**22 31 55.5**	**+0.3**
KBN	**Korca**	**1.59**	**155**	*i* Pn	**Pg**	**22 31 55.9**	**+0.6**
	SNR=40						
BARS	**Barje**	**1.61**	**62**	*e*Pg	**Pn**	**22 31 53.8**	**-0.2**
BARS				*e*Sg	**Sn**	**22 32 15.3**	**0.0**
BARS	**Barje**	**1.61**	**62**	*e*Pg	**Pn**	**22 31 53.8**	**-0.2**
BARS				*e*Sg	**Sn**	**22 32 15.3**	**0.0**
FNA	**Florina**	**1.70**	**138**	P	**Pn**	**22 31 54.8**	**-0.5**
FNA				S	**Sg**	**22 32 20.4**	**+1.0**
FNA	**Florina**	**1.70**	**138**	*e*P	**Pn**	**22 31 55.0**	**-0.3**
FNA	**Florina**	**1.70**	**138**	P	**Pn**	**22 31 54.8**	**-0.5**
FNA				S	**Sg**	**22 32 20.4**	**+1.0**
STON	**Ston**	**1.81**	**297**	*e*Pn	**Pb**	**22 31 56.8**	**-1.6**
STON				Sn	**Sg**	**22 32 24.3**	**+1.5**
STON	**Ston**	**1.81**	**297**	*e*Pg	**Pb**	**22 31 56.9**	**-1.6**
STON				*e*Sg	**Sg**	**22 32 24.8**	**+2.0**
STON	**Ston**	**1.81**	**297**	*e*Pn	**Pb**	**22 31 56.8**	**-1.6**
STON				Sn	**Sg**	**22 32 24.2**	**+1.5**
STON				*e*Sg	**Sg**	**22 32 24.8**	**+2.0**
BBLS	**Lazići**	**1.83**	**349**	*e*Pg	**Pb**	**22 31 58.1**	**-0.8**
BBLS				*e*Sg	**Sg**	**22 32 24.9**	**+1.4**
BBLS	**Lazići**	**1.83**	**349**	*e*Pg	**Pb**	**22 31 58.1**	**-0.8**
BBLS				*e*Sg	**Sg**	**22 32 24.9**	**+1.4**
NEST	**Nestorio**	**1.87**	**152**	P	**Pb**	**22 31 59.2**	**-0.3**
NEST				S	**Sg**	**22 32 25.7**	**+1.0**
NEST	**Nestorio**	**1.87**	**152**	*e*P	**Pb**	**22 31 59.5**	**0.0**
NEST	**Nestorio**	**1.87**	**152**	P	**Pb**	**22 31 59.2**	**-0.3**
NEST				S	**Sg**	**22 32 25.7**	**+1.0**
GRUS	**Gruza**	**1.92**	**18**	*e*Pg	**Pn**	**22 31 58.1**	**-0.1**
GRUS	**Gruza**	**1.92**	**18**	*e*Pg	**Pn**	**22 31 58.1**	**-0.1**
DIVS	**Divibare**	**2.03**	**2**	*e*Sg	**Sg**	**22 32 31.1**	**+1.2**
DIVS	**Divibare**	**2.03**	**2**	*e*Sg	**Sg**	**22 32 31.1**	**+1.2**
HAPS	**Han Pijesak,Bl**	**2.13**	**341**	*e*Pg	**Pb**	**22 32 04.2**	**+0.2**
HAPS				*e*Sg	**Sg**	**22 32 34.3**	**+1.2**
HAPS	**Han Pijesak,Bl**	**2.13**	**341**	*e*Pg	**Pb**	**22 32 04.2**	**+0.2**
HAPS				*e*Sg	**Sg**	**22 32 34.3**	**+1.2**
SRN	**Sarande**	**2.19**	**178**	P	**Pb**	**22 32 03.8**	**-1.1**
SRN				S	**Sg**	**22 32 35.6**	**+0.6**
SRN	**Sarande**	**2.19**	**178**	P	**Pb**	**22 32 03.8**	**-1.1**
KZN	**Kozani**	**2.26**	**141**	P	**Pn**	**22 32 03.7**	**+0.7**
KZN	**Kozani**	**2.26**	**141**	P	**Pn**	**22 32 03.7**	**+0.7**
ZAPS	**Zavoj**	**2.35**	**58**	*e*Pg	**Pb**	**22 32 07.0**	**-0.8**
ZAPS				*e*Sg	**Sb**	**22 32 39.1**	**+1.9**
ZAPS	**Zavoj**	**2.35**	**58**	*e*Pg	**Pb**	**22 32 07.0**	**-0.8**
ZAPS				*e*Sg	**Sb**	**22 32 39.1**	**+1.9**
KEK	**Kerkira**	**2.35**	**182**	P	**Pn**	**22 32 04.9**	**+0.7**
KEK				S	**Sb**	**22 32 37.7**	**+0.5**
KEK	**Kerkira**	**2.35**	**182**	*e*P	**Pn**	**22 32 04.0**	**-0.2**
KEK	**Kerkira**	**2.35**	**182**	P	**Pn**	**22 32 04.9**	**+0.7**
KEK				S	**Sb**	**22 32 37.7**	**+0.5**
KKB	**Krupnik**	**2.39**	**94**	*i* P	**Pn**	**22 32 06.3**	**+1.6**
KKB	**Krupnik**	**2.39**	**94**	*i* P	**Pn**	**22 32 06.3**	**+1.6**
KNT	**Kendrikon**	**2.43**	**111**	P	**Pn**	**22 32 04.9**	**-0.4**
KNT	**Kendrikon**	**2.43**	**111**	*e*P	**Pn**	**22 32 04.0**	**-1.3**
KNT	**Kendrikon**	**2.43**	**111**	P	**Pn**	**22 32 04.9**	**-0.4**
TEKS	**Tekeris**	**2.49**	**354**	*e*Pn	**Pn**	**22 32 07.6**	**+1.4**
TEKS	**Tekeris**	**2.49**	**354**	*e*Pn	**Pn**	**22 32 07.6**	**+1.4**
VTS	**Vitosha**	**2.52**	**77**	*i* P	**Pb**	**22 32 11.7**	**+1.1**
IGT	**Igoumenitsa**	**2.56**	**172**	*e*P	**Pn**	**22 32 07.5**	**+0.5**
THE	**Thessaloniki**	**2.72**	**121**	*e*P	**Pb**	**22 32 12.0**	**-2.0**
LIT	**Litokhoron**	**2.78**	**134**	*e*P	**Pn**	**22 32 11.0**	**+0.9**
HORT	**Hortiatis**	**2.83**	**120**	*e*P	**Pb**	**22 32 14.0**	**-1.9**
SOH	**Sokhos**	**2.89**	**114**	*e*P	**Pb**	**22 32 14.0**	**-2.8**
MMB	**Musomiste**	**2.91**	**98**	*i* P	**Pb**	**22 32 15.3**	**-1.9**
MMB	**Musomiste**	**2.91**	**98**	*i* P	**Pb**	**22 32 15.3**	**-1.9**
SRS	**Serrai**	**2.94**	**108**	*e*P	**Pb**	**22 32 15.0**	**-2.6**
THL	**Klokotos Trika**	**2.98**	**147**	*e*P	**Pn**	**22 32 14.5**	**+1.7**
NVR	**Nevrokopi**	**3.06**	**102**	*e*P	**Pn**	**22 32 14.5**	**+0.5**
DSL	**Palaion Diasel**	**3.07**	**162**	*e*P	**Pn**	**22 32 16.5**	**+2.4**
MPEP	**Malo Peshtene**	**3.12**	**64**	*i* P	**Pg**	**22 32 23.3**	**-1.1**
PLG	**Polygyros**	**3.17**	**121**	*e*P	**Pn**	**22 32 13.0**	**-2.5**
EVR	**Evrytania**	**3.47**	**154**	*e*P	Pb	22 32 23.0	-3.9
MAKR	**Makrakomi, Fth**	**3.50**	**150**	*e*P	**Pn**	**22 32 22.5**	**+2.5**
AGG	**Agios Georgios**	**3.57**	**148**	*e*P	**Pn**	**22 32 22.0**	**+1.1**
PAIG	**Pali

YSS	**Yuzh-Sakhalins**	**2.60**	**333**	⇑*i*PN		**Pn**		**22 33 47.2**	**-1.7**
YSS				*e*S		**Sn**		**22 34 19.1**	**-1.2**
YSS				pmax	pmax				
	comp=Z,20nm,0.8s								
YSS				smax	smax				
	comp=N,210nm,0.5s								
YSS				MLR	MLR				
	comp=N,500nm,11.0s								
YSS				MLR	MLR				
	comp=Z,500nm,11.0s								
YSS	**Yuzh-Sakhalins**	**2.60**	**333**	*e*P		Pn		22 33 44.7	-4.2
YSS				*e*S		Sn		22 34 13.3	-7.0
ERM	**Erimo**	**2.81**	**201**	*e*PN		**Pb**		**22 33 56.1**	**-1.1**
ERM	**Erimo**	**2.81**	**201**	*e*P		**Pb**		**22 33 56.1**	**-1.1**
UGL	**Uglegorsk**	**4.73**	**340**	*e*PN		**Pb**		**22 34 30.9**	**+1.1**
HABR	**Khabarovsk**	**7.54**	**304**	*e*PN		**Pn**		**22 34 58.7**	**+2.0**
HABR				pmax	pmax				
	comp=E,26nm,2.0s								
HABR				pmax	pmax				
	comp=N,13nm,2.0s								
HABR				pmax	pmax				
	comp=Z,13nm,2.0s								
KLR	**Kul'dur**	**9.84**	**302**	*e*PN		Pn		22 35 32.8	+4.6
KSRS	**Korea Array**	**14.41**	**246**	Pn		**Pn**		**22 36 30.9**	**+0.2**
	baz=55,slow=12,SNR=4.8								
HIA	**Hailar**	**17.48**	**294**	*e*P		**P**		**22 37 15.4**	**+3.7**
HIA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SEY	**Seymchan**	**18.87**	**11**	P		**Pn**		**22 37 28.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=5.6								
SEY	**Seymchan**	**18.87**	**11**	*e*P		**Pn**		**22 37 27.6**	**+0.2**
YAK	**Yakutsk**	**19.44**	**339**	*e*P		**Pn**		**22 37 37.2**	**+3.0**
YAK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
YAK	**Yakutsk**	**19.44**	**339**	LR		LR		22 44 15.8	
	comp=Z,34nm,20.9s,baz=112,slow=34								
YAK	**Yakutsk**	**19.44**	**339**	*e*P		**Pn**		**22 37 37.1**	**+2.9**
BOD	**Bodaibo**	**22.95**	**316**	*e*P		**P**		**22 38 09.6**	**-1.3**
BOD				pmax	pmax				
	comp=Z,7.0nm,0.9s								
ULN	**Ulaanbaatar**	**25.92**	**291**	*e*P		**P**		**22 38 39.3**	**+0.3**
ULN				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ULN	**Ulaanbaatar**	**25.92**	**291**	*e*P		**P**		**22 38 39.3**	**+0.3**
SONM	**Songino Array**	**26.36**	**291**	P		**P**		**22 38 42.7**	**-0.3**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.7s								
SONM				MLR	MLR				
	comp=Z,39nm,19.1s								
SONM	**Songino Array**	**26.36**	**291**	P		**P**		**22 38 42.7**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=85,slow=8.2,SNR=8.2								
SONM				LR		LR		22 49 07.9	
	comp=Z,39nm,19.1s,baz=97,slow=36								
TLY	**Talaya**	**27.84**	**299**	LR		LR		22 51 09.5	
	comp=Z,45nm,18.3s,baz=119,slow=39								
TIK	**Tiksi**	**28.09**	**350**	*e*P		P		22 39 01.8	+3.7
TIXI	**Tiksi**	**28.11**	**350**	*e*P		P		22 39 01.8	+3.6
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ZAK	**Zakamensk**	**28.14**	**297**	*e*P		**P**		**22 38 57.7**	**-1.2**
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**31.06**	**136**	T		T		23 10 26.6	
	baz=328,slow=75,SNR=9.0								
H11N1	**WAKE ISLAND Hy**	**31.07**	**136**	T		T		23 10 32.5	
	baz=328,slow=75,SNR=5.6								
H11N3	**WAKE ISLAND Hy**	**31.07**	**136**	T		T		23 10 27.1	
	baz=328,slow=75,SNR=4.6								
H11S1	**WAKE ISLAND Hy**	**32.00**	**137**	T		T		23 11 41.5	
	baz=314,slow=74								
H11S3	**WAKE ISLAND Hy**	**32.01**	**137**	T		T		23 11 36.1	
	baz=314,slow=74								
H11S2	**WAKE ISLAND Hy**	**32.02**	**137**	T		T		23 11 47.0	
	baz=314,slow=74								
ZALV	**Zalesovo Beam**	**38.92**	**306**	P		**P**		**22 40 33.4**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=81,slow=9.5,SNR=3.9								
ILAR	**Eielson Array**	**41.90**	**37**	P		**P**		**22 40 56.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=263,slow=6.3,SNR=3.4								
MKAR	**Makanchi Array**	**42.47**	**296**	P		**P**		**22 41 01.4**	**-0.3**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**42.47**	**296**	P		**P**		**22 41 01.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=72,slow=7.9,SNR=8.1								
MKAR	**Makanchi Array**	**42.47**	**296**	*e*P		P		22 41 05.3	+3.6
RES	**Resolute Bay**	**54.64**	**16**	P		**P**		**22 42 33.6**	**-1.3**
RES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
RES	**Resolute Bay**	**54.64**	**16**	P		**P**		**22 42 33.6**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=303,slow=8.8,SNR=3.9								
YKA	**Yellowknife Ar**	**56.11**	**33**	P		**P**		**22 42 44.5**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=304,slow=6.8,SNR=3.3								
FINES	**FINESS Array B**	**63.19**	**332**	P		**P**		**22 43 33.2**	**-1.2**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.9s								
FINES	**FINESS Array B**	**63.19**	**332**	P		**P**		**22 43 33.2**	**-1.2**
	comp=Z,1.2nm,0.9s,baz=7.1,slow=5.6,SNR=3.2								
WRA	**Warramunga Arr**	**64.95**	**191**	P		**P**		**22 43 46.3**	**-0.1**
WRA				pmax	pmax				
	comp=Z,1.0nm,1.0s								
WRA	**Warramunga Arr**	**64.95**	**191**	P		**P**		**22 43 46.3**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=7.0,slow=6.5,SNR=3.2								
AKASG	**Malin Array Be**	**69.71**	**322**	P		**P**		**22 44 17.4**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=42,slow=7.1,SNR=5.6								
PDAR	**Pinedale Array**	**70.77**	**49**	P		**P**		**22 44 23.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=307,slow=3.0,SNR=4.5								
TXAR	**Lajitas Array**	**83.71**	**55**	P		**P**		**22 45 36.8**	**+0.8**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**83.71**	**55**	P		**P**		**22 45 36.8**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=283,slow=3.8,SNR=8.3								
TXAR	**Lajitas Array**	**83.71**	**55**	*e*P		**P**		**22 45 37.4**	**+1.5**

GUC 16 22:35:30.2±0.3, 36°38S×72°00W, h114km±3km, ML4.2, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.02**	**17**	*e*P	Pn	22 35 51.6	-0.3
TALC				*i* S	Sn	22 36 07.9	-0.5
NICH	**Los Niches**	**1.51**	**25**	*e*S	Sn	22 36 17.6	-0.4
CACH	**El Canelo**	**2.53**	**27**	⇓*i*P	Pn	22 36 12.7	+2.3
CACH				*i* S	Sn	22 36 46.3	+5.0
CHCH	**Chadas Angostu**	**2.68**	**25**	⇑*i*P	Pn	22 36 13.5	+1.3
CLCH	**Cerro Calan**	**3.21**	**22**	*e*P	Pn	22 36 19.3	0.0
CLCH				*e*S	Sn	22 36 56.3	-0.8
CLCH				AML	AML	22 37 02.8	
	comp=N,392nm,0.6s						
PEL	**Peldehue**	**3.41**	**19**	*e*P	Pn	22 36 21.6	-0.2
PEL				*e*S	Sn	22 37 01.1	-0.5
PEL				AML	AML	22 37 11.2	
	comp=N,343nm,0.5s						

*GUC **16** 22:38:18.7±0.6, 37°10S×74°68W, h25km±6km, ML5.1*
*IDC **16** 22:38:22.1±0.5, 37°53S×73°70W, h0km, mb4.5/17, mb1 4.6/20, mb1mx4.5/36, mbtmp4.5/20, ML3.8/2, Error ellipse: s-maj=19.2km s-min=12.0km az=90.0*
*BJI **16** 22:38:25.6, 37°50S×73°80W, h16km, mB5.3/7, Ms5.6/7, Ms7 5.4/9*
*ISCJB **16** 22:38:26.1±0.2, 37°51S±0°03×73°63W±0°06, h35km, mb4.9/65, Error ellipse: s-maj=6.5km s-min=4.3km az=171.5*
*NEIC **16** 22:38:27.1±0.2, 37°50S×73°69W, h35km, mb5.0/51, ML5.1(GUC), Error ellipse: s-maj=6.6km s-min=4.1km az=71.0*
NEIC Felt [III] at Concepcion and Lebu.

ISC 16 22:38:27.1±0.3, 37°50S±0°04×73°75W±0°07, h35km, n231, σ1s39/257, mb5.0/65, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.83**	**38**	*e*P	**Pn**	**22 38 41.6**	**-0.8**
CCSP				*e*S	**Sn**	**22 38 57.8**	**+4.5**
CCSP				AML	AML	22 39 01.9	
	comp=E,61μm,0.5s						
VLCH	**Valdivia**	**2.33**	**171**	*e*P	**Pn**	**22 39 05.3**	**+2.4**
VLCH				*i* S	Sn	22 39 40.9	+10
LNCH	**Linares**	**2.39**	**47**	*e*P	**Pn**	**22 39 03.3**	**-0.5**
LNCH				*e*S	Sn	22 39 37.4	+5.6
TALC	**Talca**	**2.71**	**40**	*e*P	**Pn**	**22 39 05.1**	**-3.0**
TALC				*e*S	**Sn**	**22 39 41.7**	**+2.1**
PLCA	**Paso Flores**	**4.07**	**143**	Pn	**Pn**	**22 39 27.1**	**+0.1**
	comp=E,2.7nm,0.3s,baz=316,slow=15,SNR=18						
PLCA				Lg	Lg	22 40 32.4	
	comp=E,15nm,0.3s,baz=140,slow=22,SNR=2.9						
PLCA	**Paso Flores**	**4.07**	**143**	*e*P	**Pn**	**22 39 27.7**	**+0.7**
PLCA	**Paso Flores**	**4.07**	**143**	*e*Pn	**Pn**	**22 39 26.8**	**-0.2**
ROCH	**El Roble**	**5.04**	**27**	*e*P	**Pn**	**22 39 39.0**	**-1.5**
CFAA	**Coronel Fontan**	**7.43**	**39**	Pn	**Pn**	**22 40 12.1**	**-1.0**
	comp=E,0.4nm,0.3s,baz=212,slow=12,SNR=22						
CFAA				Sn	**Sn**	**22 41 37.0**	**+0.8**
	comp=E,0.8nm,0.3s,baz=210,slow=14,SNR=4.4						
TLL	**Tololo Astrono**	**7.71**	**19**	*e*P	**Pn**	**22 40 20.0**	**+2.8**
LCO	**Las Campanas**	**8.84**	**18**	*e*P	**Pn**	**22 40 35.1**	**+2.4**
LCO	**Las Campanas**	**8.84**	**18**	*e*Pn	**Pn**	**22 40 34.7**	**+1.9**
TRQA	**Tornquist**	**9.33**	**97**	*e*P	**Pn**	**22 40 41.0**	**+1.8**
TRQA	**Tornquist**	**9.33**	**97**	*e*Pn	**Pn**	**22 40 38.5**	**-0.6**
CHRN	**Cochrane**	**9.66**	**176**	*e*P	**Pn**	**22 40 44.9**	**+1.3**
PB10	**IPOC Station P**	**14.21**	**12**	*e*P	P	22 42 01.6	+8.8
PB06	**IPOC Station P**	**15.18**	**15**	*e*P	**P**	**22 42 05.3**	**+1.5**
LVC	**Limon Verde**	**15.42**	**17**	Pn	**Pn**	**22 41 59.4**	**-2.9**
	comp=E,16nm,0.3s,baz=208,slow=8.5,SNR=6.5						
LVC	**Limon Verde**	**15.42**	**17**	*e*Pn	**Pn**	**22 42 01.7**	**-0.5**
	comp=E,39nm,1.0s						
PB04	**IPOC Station P**	**15.63**	**15**	*e*P	**P**	**22 42 07.6**	**-0.9**
PB07	**IPOC Station P**	**16.07**	**13**	*e*P	**P**	**22 42 14.6**	**+0.9**
PB09	**IPOC Station P**	**16.13**	**15**	*e*P	**Pn**	**22 42 12.4**	**+1.0**
PATCX	**Punta Patache**	**16.92**	**12**	*e*P	**P**	**22 42 25.2**	**+2.3**
HMBC	**Humberstone**	**17.49**	**12**	*e*P	**P**	**22 42 31.8**	**+2.5**
USHA	**Ushuaia**	**17.71**	**170**	P	**P**	**22 42 32.8**	**+1.5**
	comp=E,0.5nm,0.3s,baz=315,slow=11,SNR=5.3						
EFI	**East Falkland**	**17.98**	**147**	P	**P**	**22 42 36.0**	**+1.6**
	comp=E,638nm,0.9s,SNR=6.0						
EFI	**East Falkland**	**17.98**	**147**	*e*Pn	**Pn**	**22 42 33.1**	**-1.0**
	comp=E,225nm,1.4s						
PB11	**IPOC Station P**	**18.04**	**13**	*e*P	**P**	**22 42 37.0**	**+1.6**
PSGC	**Pisagua**	**18.12**	**11**	*e*P	**P**	**22 42 39.4**	**+3.1**
MNMC	**Minimini**	**18.66**	**12**	*e*P	**Pn**	**22 42 43.0**	**+0.1**
LPAZ	**La Paz**	**21.71**	**15**	P	**P**	**22 43 16.9**	**+1.1**
	comp=E,34nm,1.1s,baz=193,slow=6.8,SNR=33						
LPAZ	**La Paz**	**21.71**	**15**	*e*P	**P**	**22 43 16.9**	**+1.1**
	comp=E,97nm,1.0s						
SIV	**San Ignacio**	**24.18**	**31**	P	**P**	**22 43 40.2**	**-0.2**
	comp=E,12nm,0.8s,baz=220,slow=11,SNR=32						
NNA	**Nana**	**25.56**	**353**	P	**P**	**22 43 54.0**	**+1.1**
	comp=E,12nm,0.9s,baz=225,slow=14,SNR=3.3						
NNA	**Nana**	**25.56**	**353**	*e*P	**P**	**22 43 53.5**	**+0.6**
	comp=E,25nm,0.8s						
SAML	**Samuel**	**29.99**	**21**	*e*P	**P**	**22 44 32.0**	**-0.5**
	comp=E,31nm,1.4s						
ATAH	**Atahualpa**	**30.52**	**351**	P	**P**	**22 44 39.1**	**+1.5**
	comp=E,2.1nm,0.4s,baz=166,slow=4.6,SNR=1.7						
BDFB	**Brasilia**	**31.50**	**53**	P	**P**	**22 44 45.7**	**-0.2**
	comp=E,11nm,1.0s,baz=208,slow=7.8,SNR=9.6						
BDFB	**Brasilia**	**31.50**	**53**	*e*P	**P**	**22 44 45.3**	**-0.6**
OTAV	**Otavalo**	**37.81**	**352**	*e*P	**P**	**22 45 41.2**	**+0.5**
	comp=E,16nm,1.0s						
PTGA	**Pitinga**	**38.74**	**22**	P	**P**	**22 45 47.0**	**-1.1**
	comp=E,8.7nm,0.8s,baz=203,slow=8.8,SNR=15						
PTGA	**Pitinga**	**38.74**	**22**	*e*P	**P**	**22 45 47.0**	**-1.1**
	comp=E,27nm,1.3s						
SDV	**Santo Domingo**	**46.24**	**4**	*e*P	**P**	**22 46 48.1**	**-1.1**
	comp=E,8.2nm,0.9s						
VNA3	**Neumayer Olymp**	**46.68**	**156**	P	**P**	**22 46 52.8**	**+0.9**
VNA1	**Neumayer--Stat**	**47.03**	**156**	P	**P**	**22 46 53.1**	**-1.5**
VNA2	**Neumayer--Watz**	**47.36**	**156**	P	**P**	**22 46 58.2**	**+1.1**
	baz=289,slow=8.9						
SNAA	**Sanae**	**48.90**	**157**	P	**P**	**22 47 09.3**	**+0.2**
	comp=E,8.4nm,0.9s,baz=280,slow=6.9,SNR=22						
SNAA	**Sanae**	**48.90**	**157**	*e*P	**P**	**22 47 08.9**	**-0.2**
	comp=E,64nm,0.8s						
GRGR	**Grenville**	**50.66**	**15**	*e*P	**P**	**22 47 22.9**	**-0.1**
	comp=E,88nm,0.9s						
QSPA	**South Pole Qui**	**52.74**	**180**	P	**P**	**22 47 38.8**	**+0.5**
	comp=E,18nm,0.9s,baz=142,slow=2.3,SNR=40						
TEIG	**Tepich**	**59.03**	**344**	P	**P**	**22 48 24.9**	**+1.5**
	comp=E,8.6nm,0.9s,baz=161,slow=12						
VNDA	**Vanda**	**60.40**	**192**	P	**P**	**22 48 33.5**	**+1.3**
	comp=E,0.7nm,0.8s,baz=173,slow=2.7,SNR=3.3						
PPT	**Papeete**	**68.43**	**264**	P	**P**	**22 49 26.2**	**+0.5**
	comp=E,20nm,0.2s,baz=73,slow=20,SNR=3.6						
PPT	**Papeete**	**68.43**	**264**	*e*P	**P**	**22 49 24.5**	**-1.2**
MAW	**Mawson**	**70.22**	**164**	P	**P**	**22 49 36.5**	**+0.5**
	comp=E,7.6nm,0.9s,baz=230,slow=6.8,SNR=7.5						
MAW	**Mawson**	**70.22**	**164**	*e*P	**P**	**22 49 36.1**	**+0.2**
732A	**Laxson Ranch,**	**70.33**	**336**	P	**P**	**22 49 38.4**	**+1.4**
	baz=71						
633A	**Saathoff Ranch**	**70.75**	**337**	P	**P**	**22 49 41.6**	**+2.0**
	baz=71						
632A	**Uvalde**	**70.99**	**336**	P	**P**	**22 49 43.2**	**+2.1**
	baz=71						
GOGA	**Godfrey**	**71.13**	**351**	*e*P	**P**	**22 49 41.6**	**-0.3**
	comp=E,87nm,2.3s						
LRAL	**Lakeview Retre**	**71.26**	**348**	*e*P	**P**	**22 49 42.5**	**-0.1**
	comp=E,25nm,1.5s						
533A	**Kerrville**	**71.27**	**337**	P	**P**	**22 49 44.6**	**+1.8**
	baz=72						
434A	**Burnet**	**71.73**	**338**	P	**P**	**22 49 47.0**	**+1.4**
	baz=72						
531A	**Rocksprings**	**71.84**	**336**	P	**P**	**22 49 48.1**	**+1.8**
	baz=72						
JCT	**Junction City**	**71.89**	**336**	P	**P**	**22 49 48.0**	**+1.4**
	baz=72						
JCT	**Junction City**	**71.89**	**336**	*e*P	**P**	**22 49 46.8**	**+0.3**
	comp=E,18nm,1.1s						
433A	**Art**	**71.92**	**337**	P	**P**	**22 49 47.9**	**+1.2**
	baz=72						
530A	**J-C Ranch, Com**	**72.09**	**335**	P	**P**	**22 49 49.4**	**+1.6**
	baz=72						
LTX	**Lajitas**	**72.16**	**333**	*e*P	**P**	**22 49 48.8**	**+0.5**
TXAR	**Lajitas Array**	**72.16**	**333**	P	**P**	**22 49 48.8**	**+0.5**
	comp=E,0.8nm,0.7s,baz=154,slow=9.0,SNR=12						
334A	**Lometa**	**72.21**	**338**	P	**P**	**22 49 49.8**	**+1.4**
	baz=73						
431A	**Sonora**	**72.34**	**336**	P	**P**	**22 49 50.3**	**+1.0**
	baz=73						
529A	**Stev Forest Ra**	**72.37**	**334**	P	**P**	**22 49 50.6**	**+1.1**
	baz=73						
333A	**Richland Sprin**	**72.42**	**337**	P	**P**	**22 49 51.1**	**+1.4**
	baz=73						
KMSC	**Kings Mountain**	**72.62**	**353**	P	**P**	**22 49 50.9**	**+0.1**
	baz=73						
KMSC	**Kings Mountain**	**72.62**	**353**	*e*P	**P**	**22 49 50.0**	**-0.8**
	comp=E,12nm,0.8s						
430A	**Baggett Ranch,**	**72.64**	**335**	P	**P**	**22 49 52.3**	**+1.2**
	baz=73						
332A	**Millersview**	**72.71**	**337**	P	**P**	**22 49 51.9**	**+0.5**
	baz=73						
331A	**San Angelo**	**72.86**	**336**	P	**P**	**22 49 52.6**	**+0.3**
	baz=73						
232A	**Coleman**	**73.15**	**337**	P	**P**	**22 49 54.4**	**+0.3**
	baz=74						
SWET	**Sewanee**	**73.23**	**350**	*e*P	**P**	**22 49 54.1**	**-0.3**
TKL	**Tuckaleechee C**	**73.39**	**351**	*e*P	**P**	**22 49 54.6**	**-0.6**
ABTX	**Abilene, Hawle**	**73.83**	**337**	*e*P	**P**	**22 49 59.0**	**+1.0**
	comp=E,14nm,1.0s						
Z32A	**Haskell**	**74.42**	**338**	P	**P**	**22 50 02.1**	**+0.7**
	baz=75						
WVT	**Waverly**	**74.42**	**348**	*e*P	**P**	**22 50 00.6**	**-0.7**
	comp=E,16nm,1.1s						
Z30A	**Sanderson Ranc**	**74.91**	**336**	P	**P**	**22 50 05.1**	**+0.8**
	baz=75						
W32A	**Sentinel**	**76.05**	**339**	P	**P**	**22 50 11.4**	**+0.7**
	baz=76						
MSTX	**Muleshoe**	**76.07**	**335**	*e*P	**P**	**22 50 12.0**	**+0.9**
	comp=E,14nm,0.3s						
V33A	**Lossen Ranch,**	**76.43**	**340**	P	**P**	**22 50 14.5**	**+1.7**
	baz=77						
CASY	**Casey**	**76.49**	**182**	*e*P	**P**	**22 50 13.1**	**+0.1**
	comp=E,17nm,1.0s						
AMTX	**Amarillo**	**76.56**	**337**	P	**P**	**22 50 15.0**	**+1.3**
	baz=77						
W29A	**Amarillo**	**76.77**	**337**	P	**P**	**22 50 16.7**	**+1.7**
	baz=77						
LIC	**Lamto**	**77.19**	**72**	*e*P	**P**	**22 50 18.6**	**+0.9**
	comp=E,64nm,1.0s						
TIC	**Toumodi**	**77.47**	**71**	*e*P	**P**	**22 50 20.1**	**+0.8**
	comp=E,31nm,0.9s						
KIC	**Kosan Boka**	**77.50**	**72**	*e*P	**P**	**22 50 20.5**	**+1.1**
	comp=E,89nm,1.0s						
TUC	**Tucson**	**77.58**	**329**	*e*P	**P**	**22 50 20.7**	**+1.2**
	comp=E,57nm,1.1s						
DBIC	**Dimbokro**	**77.61**	**72**	P	**P**	**22 50 20.9**	**+0.9**
	comp=E,17nm,1.0s,baz=202,slow=5.9,SNR=13						
DBIC	**Dimbokro**	**77.61**	**72**	*e*P	**P**	**22 50 19.9**	**-0.2**
	comp=E,32nm,1.1s						
ACSO	**Alum Creek Sta**	**77.82**	**353**	*e*P	**P**	**22 50 19.8**	**-0.8**
	comp=E,19nm,0.8s						
LAZ	**Ladron**	**77.99**	**332**	*e*P	**P**	**22 50 22.0**	**0.0**
214A	**Organ Pipe Nat**	**78.14**	**327**	P	**P**	**22 50 23.6**	**+1.1**
	baz=78						
ANMO	**Albuquerque**	**78.23**	**333**	P	**P**	**22 50 24.5**	**+1.3**
	comp=E,1.3nm,0.6s,baz=158,slow=7.9,SNR=4.3						
ANMO	**Albuquerque**	**78.23**	**333**	*e*P	**P**	**22 50 23.4**	**+0.2**
	comp=E,11nm,1.1s						
T28A	**Walsh**	**78.75**	**337**	P	**P**	**22 50 27.3**	**+1.3**
	baz=79						
T25A	**Trinidad**	**79.50**	**336**	P	**P**	**22 50 31.7**	**+1.6**
	baz=80						
T25A	**Trinidad**	**79.50**	**336**	*e*P	**P**	**22 50 29.8**	**-0.4**
	comp=E,30nm,1.4s						
S26A	**Kim**	**79.64**	**336**	P	**P**	**22 50 32.2**	**+1.4**
	baz=80						
R28A	**Tribune**	**79.79**	**338**	P	**P**	**22 50 32.9**	**+1.3**
	baz=80						
Q30A	**Quinter**	**79.92**	**339**	P	**P**	**22 50 33.9**	**+1.7**
	baz=80						
R27A	**Eads**	**80.04**	**337**	P	**P**	**22 50 34.5**	**+1.6**
	baz=80						
BKZ	**Black Stump Fm**	**80.08**	**228**	*e*P	**P**	**22 50 34.2**	**+0.9**
	comp=E,32nm,0.9s						
R26A	**Arlington**	**80.25**	**337**	P	**P**	**22 50 35.8**	**+1.7**
	baz=81						
R25A	**Fountain Ranch**	**80.38**	**336**	P	**P**	**22 50 36.9**	**+2.1**
	baz=81						
R24A	**Sanders Place,**	**80.72**	**335**	P	**P**	**22 50 38.9**	**+2.1**
	baz=81						
S22A	**4UR Ranch, Cre**	**80.87**	**334**	*e*P	**P**	**22 50 36.4**	**-1.2**
	comp=E,20nm,2.0s						
IRM	**Iron Mountain**	**81.04**	**326**	P	**P**	**22 50 39.1**	**+0.8**
	baz=81						
PFO	**Pinyon Flats O**	**81.16**	**325**	*e*P	**P**	**22 50 39.6**	**+0.5**
	comp=E,7.7nm,1.0s						
Q24A	**Divide**	**81.40**	**336**	P	**P**	**22 50 41.8**	**+1.3**
	baz=82						
SEK	**Senekal**	**81.49**	**119**	*e*P	**P**	**22 50 40.2**	**-1.1**
U15A	**North Rim**	**81.77**	**329**	P	**P**	**22 50 44.4**	**+2.0**
	baz=82						
RUDU	**RUNDU**	**81.98**	**106**	*e*P	**P**	**22 50 44.9**	**+1.0**
LBTB	**Lobatse**	**82.08**	**115**	*e*P	**P**	**22 50 43.8**	**-0.5**
	comp=E,26nm,0.8s						
PRYS	**Parys**	**82.17**	**118**	*e*P	**P**	**22 50 44.7**	**-0.1**
SMCO	**Snowmass**	**82.20**	**335**	*e*P	**P**	**22 50 45.9**	**+1.1**
	comp=E,22nm,1.4s						
ISCO	**Idaho Springs**	**82.31**	**336**	*e*P	**P**	**22 50 44.6**	**-0.6**
	comp=E,4.7nm,1.3s						
KNB	**Kanab**	**82.49**	**329**	*e*P	**P**	**22 50 46.9**	**+0.8**
	comp=E,19nm,1.3s						
GSC	**Goldstone, Bar**	**82.73**	**326**	*e*P	**P**	**22 50 46.0**	**-1.3**
	comp=E,12nm,1.5s						
O22A	**Kremmling**	**82.94**	**335**	P	**P**	**22 50 49.8**	**+1.3**
	baz=83						
SHPR	**Sheep Range**	**83.03**	**328**	*e*P	**P**	**22 50 49.9**	**+1.1**
ERPM	**east rand prop**	**83.14**	**118**	*e*P	**P**	**22 50 48.5**	**-1.5**
CCUT	**Cedar City**	**83.17**	**329**	*e*P	**P**	**22 50 49.9**	**+0.3**
	comp=E,8.3nm,1.2s						
SRU	**San Rafael Swe**	**83.42**	**332**	*e*P	**P**	**22 50 50.6**	**-0.2**
	comp=E,9.8nm,1.3s						
ECSD	**EROS Data Cent**	**83.48**	**344**	P	**P**	**22 50 50.9**	**+0.1**
	baz=84						
ECSD	**EROS Data Cent**	**83.48**	**344**	*e*P	**P**	**22 50 50.2**	**-0.6**
	comp=E,60nm,1.7s						
MVU	**Marysvale**	**83.53**	**331**	*e*P	**P**	**22 50 53.0**	**+1.5**
	comp=E,5.2nm,1.0s						
SLR	**Silverton**	**83.55**	**117**	*e*P	**P**	**22 50 50.2**	**-1.8**
DAC	**Darwin (Calif)**	**83.90**	**326**	*e*P	**P**	**22 50 53.5**	**+0.1**
	comp=E,9.8nm,1.4s						
J26A	**Sides Ranch, S**	**84.74**	**339**	P	**P**	**22 50 58.9**	**+1.6**
	baz=85						
R11A	**Troy Canyon, C**	**84.76**	**328**	P	**P**	**22 50 59.8**	**+2.1**
	baz=85						
R11A	**Troy Canyon, C**	**84.76**	**328**	*e*P	**P**	**22 50 57.9**	**+0.2**
	comp=E,9.9nm,1.4s						
K22A	**Casper**	**85.18**	**336**	*e*P	**P**	**22 50 59.2**	**-0.5**
	comp=E,7.4nm,0.6s						
DUG	**Dugway, Tooele**	**85.23**	**331**	P	**P**	**22 51 01.4**	**+1.5**
	baz=86						
DUG	**Dugway, Tooele**	**85.23**	**331**

	comp=E,17nm,0.9s,baz=244,slow=3.1,SNR=10								
ABKAR	**Akbulak array**	**144.88**	**55**	*e*PKPdf	PKPbc	22 57 59.3	+0.2		
HYB	**Hyderabad**	**148.50**	**122**	*i* PKP	**PKPbc**	**22 58 10.0**	**-0.6**		
HYB				*e*		22 58 13.5			
HYB				*e*		22 58 18.5			
KBL	**Kabul**	**149.88**	**84**	*e*PKPdf	**PKPdf**	**22 58 08.9**	**-0.1**		
KKAR	**Karatay Array**	**152.32**	**67**	*e*PKPdf	**PKPdf**	**22 58 13.0**	**+0.8**		
KKAR				*e*PKPbc	**PKPbc**	**22 58 18.8**	**-0.2**		
MJAR	**Matsushiro Arr**	**154.53**	**278**	PKPbc	**PKPbc**	**22 58 23.5**	**-0.5**		
	comp=E,0.7nm,0.3s,baz=142,slow=4.1,SNR=3.9								
MJAR				PKPab	**PKPab**	**22 58 38.3**	**-0.4**		
	comp=E,2.7nm,1.0s,baz=143,slow=4.9,SNR=4.3								
MAJO	**Matsushiro**	**154.53**	**278**	*e*PKPbc	**PKPbc**	**22 58 23.5**	**-0.5**		
MAJO				*e*PKPab	**PKPab**	**22 58 38.3**	**-0.4**		
AAK	**Ala-Archa**	**155.25**	**68**	*e*PKPdf	**PKPdf**	**22 58 17.4**	**+0.8**		
AAK				*e*PKPab	**PKPab**	**22 58 42.8**	**+1.0**		
TKM2	**Tokmak 2**	**156.05**	**67**	*e*PKPdf	**PKPdf**	**22 58 17.5**	**-0.2**		
TKM2				*e*PKPab	**PKPab**	**22 58 45.0**	**-0.3**		
KSH	**Kashi**	**156.27**	**76**	PKP	**PKPdf**	**22 58 18.6**	**+0.6**		
KSH				pPKP	**pPKPdf**	**22 58 29.4**	**0.0**		
KSH				PKS	**PKSdf**	**23 01 51.1**	**-0.9**		
KSH				SKS	**SKSdf**	**23 05 18.9**	**-2.6**		
KSH				SKKS	**SKKSac**	**23 09 16.9**	**+6.0**		
KSH				LN					
	comp=E,130nm,6.7s								
KSH				LE					
	comp=E,150nm,8.1s								
KSH				LZ					
	comp=E,320nm,13.7s								
ZAA1	**Zalesovo Array**	**157.90**	**35**	*e*PKPdf	**PKPdf**	**22 58 19.0**	**-0.4**		
ZAA1				*e*PKPab	**PKPab**	**22 58 52.9**	**+0.3**		
ZALV	**Zalesovo Beam**	**157.91**	**35**	PKP	**PKPdf**	**22 58 19.0**	**-0.4**		
	comp=E,3.0nm,0.9s,baz=283,slow=2.6,SNR=17								
ZALV				PKPab	**PKPab**	**22 58 52.9**	**+0.3**		
	comp=E,14nm,1.0s,baz=305,slow=5.2,SNR=15								
PYUN	**Piuthan**	**158.36**	**109**	*e*P	**PKPab**	**22 58 55.7**	**+0.1**		
	comp=E,77nm,1.0s								
KOLN	**Koldanda**	**158.64**	**110**	*e*P	**PKPab**	**22 58 56.4**	**-0.4**		
	comp=E,16nm,1.0s								
DANN	**Dangsing**	**159.07**	**109**	*e*P	**PKPab**	**22 58 58.6**	**-0.2**		
	comp=E,79nm,1.0s								
GKN	**Gorkha**	**159.54**	**111**	*e*P	**PKPab**	**22 59 00.6**	**-0.1**		
	comp=E,32nm,1.1s								
DMN	**Daman**	**159.66**	**113**	*e*P	**PKPab**	**22 59 01.3**	**0.0**		
	comp=E,29nm,1.0s								
PKIN	**Phulchoki**	**159.86**	**113**	*e*P	**PKPab**	**22 59 01.6**	**-0.6**		
	comp=E,29nm,1.0s								
KKN	**Kakani**	**159.89**	**113**	*e*P	**PKPab**	**22 59 02.3**	**0.0**		
CM31	**Chiang Mai Arr**	**159.97**	**159**	*e*PKPab	**PKPab**	**22 59 01.5**	**-0.9**		
CMAR	**Chiang Mai Arr**	**159.97**	**159**	PKPab	**PKPab**	**22 59 01.5**	**-0.9**		
	comp=E,0.4nm,0.3s,baz=216,slow=4.0,SNR=4.0								
MK32	**Makanchi Array**	**160.02**	**55**	*e*PKPdf	**PKPdf**	**22 58 21.9**	**-0.3**		
MK32				*e*PKPab	**PKPab**	**22 59 00.9**	**-1.1**		
MKAR	**Makanchi Array**	**160.02**	**55**	PKP	**PKPdf**	**22 58 21.9**	**-0.3**		
	comp=E,5.1nm,1.2s,baz=318,slow=1.6,SNR=16								
MKAR				PKPab	**PKPab**	**22 59 00.9**	**-1.1**		
	comp=E,2.5nm,1.0s,baz=273,slow=2.9,SNR=4.1								
MKAR	**Makanchi Array**	**160.02**	**55**	*e*PKPdf	**PKPdf**	**22 58 21.6**	**-0.5**		
RAMN	**Ramite**	**160.36**	**117**	*e*P	**PKPab**	**22 59 04.4**	**0.0**		
	comp=E,29nm,0.7s								
GUN	**Gumba**	**160.40**	**113**	*e*P	**PKPab**	**22 59 04.4**	**-0.3**		
	comp=E,33nm,1.0s								
JIRN	**Jiri**	**160.48**	**114**	*e*P	**PKPab**	**22 59 04.9**	**-0.1**		
	comp=E,49nm,1.1s								
ODAN	**Odare**	**160.86**	**118**	*e*P	**PKPab**	**22 59 06.4**	**-0.1**		
	comp=E,59nm,1.0s								
TAPN	**Taplejung**	**161.39**	**118**	*e*P	**PKPab**	**22 59 08.6**	**-0.3**		
	comp=E,21nm,1.0s								
WMQ	**Urumqi**	**164.58**	**60**	*e*PKP	**PKPdf**	**22 58 25.0**	**-1.9**		
WMQ				pPKP	**pPKPdf**	**22 58 35.5**	**-2.9**		
WMQ				sPKP		22 58 39.5			
WMQ				PKPab	**PKPab**	**22 59 22.0**	**-0.2**		
WMQ				PKS	**PKSdf**	**23 01 57.0**	**-2.7**		
WMQ				PP	**PP**	**23 03 10.0**	**+1.1**		
WMQ				SKS	**SKSdf**	**23 05 24.0**	**-4.5**		
WMQ				PPMZ					
	comp=E,200nm,5.2s								
WMQ				LN					
	comp=E,580nm,22.2s								
WMQ				LE					
	comp=E,520nm,19.9s								
WMQ				LZ					
	comp=E,570nm,24.0s								
LSA	**Lhasa**	**165.21**	**117**	PKP	**PKPdf**	**22 58 29.6**	**+1.2**		
NJ2	**Nanjing**	**168.30**	**246**	*e*PKP	**PKPdf**	**22 58 30.3**	**+0.3**		
GYA	**Guiyang**	**168.98**	**182**	*e*PKP	**PKPdf**	**22 58 31.0**	**+0.2**		
GYA				PKS	**PKSdf**	**23 02 01.5**	**-2.0**		
GYA				PP	**PP**	**23 03 34.6**	**+4.3**		
GYA				PPMZ					
	comp=E,120nm,7.8s								
SONA0	**Songino Array**	**169.68**	**359**	*e*PKPab	**PKPab**	**22 59 44.4**	**-0.1**		
SONM	**Songino Array**	**169.68**	**359**	PKPab	**PKPab**	**22 59 44.4**	**-0.1**		
	comp=E,1.7nm,1.0s,baz=350,slow=1.9,SNR=8.2								
CD2	**Chengdu**	**173.10**	**162**	PKP	**PKPdf**	**22 58 32.0**	**-0.7**		
CD2				pPKP	**pPKPdf**	**22 58 42.8**	**-1.4**		
CD2				sPKP		22 58 46.4			
CD2				PKS	**PKSdf**	**23 02 02.8**	**-2.3**		
CD2				PP	**PP**	**23 03 53.8**	**+2.9**		
CD2				SKS	**SKSdf**	**23 05 31.6**	**-1.7**		
CD2				SKKS	**SKKSac**	**23 10 37.5**	**+2.0**		
CD2				SS	**SS**	**23 25 04.1**	**+1.9**		
CD2				PPMZ					
	comp=E,120nm,5.8s								
GTA	**Gaotai**	**174.60**	**67**	*e*PKP	**PKPdf**	**22 58 33.1**	**0.0**		
GTA				pPKP	**pPKPdf**	**22 58 38.8**	**-5.8**		
GTA				sPKP		22 58 41.1			
LZH	**Lanzhou**	**177.60**	**125**	*e*PKP	**PKPdf**	**22 58 33.3**	**-0.6**		
LZH				pPKP	**pPKPdf**	**22 58 44.5**	**-0.9**		

IDC ***16*** *22:41:01.9±5.3,5.˙13S×132.˚63E, h0km, mb4.1/1, mb1 4.1/3, mb1mx3.5/31, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=339.0km s-min=29.8km az=75.0*

ISC 16 22:41:03.4±2.2,5.˙3S±0.˚1×132.˚6E±0.˚6, h10km, n7, σ1§**85/6, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDU	**Kakadu**	**7.36**	**181**	P	Pn	22 42 56.0	+4.9
	baz=5.7,SNR=24						
KDU				S	**Sn**	**22 44 13.3**	**-1.3**
	baz=5.7,SNR=8.3						
MTN	**Manton Dam**	**7.64**	**190**	P	**Pn**	**22 42 56.3**	**+1.3**
	baz=5.5,SNR=25						
MTN				S	Sn	22 44 13.3	-8.4
	baz=5.5,SNR=4.5						
KNRA	**Kununurra**	**10.98**	**199**	P	Pn	22 43 35.3	-5.4
	baz=8.3,SNR=6.8						
KNRA				S	Sn	22 45 21.4	-22
	baz=8.3,SNR=4.0						
WRA	**Warramunga Arr**	**14.68**	**173**	Pn	**Pn**	**22 44 32.0**	**+0.7**
	0.7nm,0.3s,baz=354,slow=13,SNR=14						
WRA				Sn	Sn	22 47 03.3	-11
	0.7nm,0.3s,baz=345,slow=23,SNR=7.0						
ASAR	**Alice Springs**	**18.33**	**176**	P	**Pn**	**22 45 19.6**	**+1.6**
	0.4nm,0.3s,baz=352,slow=10,SNR=17						
ASAR				S	Sn	22 48 30.6	-12
	0.2nm,0.3s,baz=355,slow=28,SNR=5.3						
WRKA	**Warakurna**	**20.06**	**191**	P	**P**	**22 45 35.2**	**-1.8**
	baz=18,SNR=7.3						
WRKA				S	S	22 48 26.3	-56
	baz=18,SNR=3.5						
MKAR	**Makanchi Array**	**68.22**	**325**	P	**P**	**22 52 04.0**	**-0.3**
	0.9nm,0.5s,baz=122,slow=8.0,SNR=22						

GUC ***16*** *22:41:32.9±0.5,37.˚58S×74.˚15W,h28km±4km, ML5.2*
GCMT ***16*** *22:41:32.0±0.1,37.˚69S×74.˚25W,h12km, MW6.6/119, Moment Tensor Solution. s88,c142; s119,c267; Duration: 1§6 Moment tensor: Scale 1017Nm; Mrr1.76±.02; Mθθ-0.01±.02; Mϕϕ-1.75±.02; Mrθ0.01±.07; Mθϕ0.01±.02; Mϕr-2.97±.06; Best double couple: M☉3.45000×1017 NP1:ϕs180.00000°,δ75.00000°, λ90.00000°. NP2:ϕs360.00000°,δ15.00000°,λ90.00000°. Principal axes: T 3.4550, Plg60.0000°, Azm90.0000°; N -0.0090, Plg0.0000°, Azm360.0000°; P -3.4450, Plg30.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***16*** *22:41:33.9±0.2,37.˚46S×73.˚73W,h6km,mb5.4/65, MS5.3/135,MW5.7,ML5.2(GUC) Error ellipse: s-maj=6.8km s-min=4.5km az=72.0,Moment Tensor Solution. s34 Moment tensor: Scale 1017Nm; Mrr3.23; Mθθ0.02; Mϕϕ-3.25; Mrθ-0.73; Mϕθ0.32; Mϕr-3.60; Best double couple: M☉4.90000×1017 NP1:ϕs187.00000°, δ70.00000°, λ99.00000°. NP2:ϕs343.00000°, δ22.00000°, λ67.00000°. Principal axes: T 4.9600, Plg64.0000°; Azm111.0000°; N -0.1100, Plg8.0000°, Azm3.0000°; P -4.8500, Plg24.0000°, Azm270.0000°;*
NEIC Felt [III] at Angol, Concepcion, Curanilahue, Lebu, Nuble and Renaico. Also felt at Chiguayante, Coronel, Los Angeles, Penco and Santiago.
IDC ***16*** *22:41:33.4±0.4,37.˚49S×73.˚64W,h0km,mb4.6/22, mb1 4.7/26,mb1mx4.6/38,mbtmp4.6/26,ML3.8/3,MS5.1/16, Ms1 5.1/16,ms1mx4.9/29 Error ellipse: s-maj=17.5km s-min=11.8km az=87.0*
ISCJB ***16*** *22:41:35.4±0.2,37.˚47S±0.˚03×73.˚70W±0.˚05,h23km, mb5.2/86,MS5.3/153,Error ellipse: s-maj=5.8km s-min=5.0km az=4.5*
MOS ***16*** *22:41:37.3±1.1,37.˚37S×73.˚67W,h33km,mb5.6/29, MS5.0/11,Error ellipse: s-maj=20.4km s-min=8.6km az=105.5*
BJI ***16*** *22:41:37.3,37.˚40S×73.˚60W,h18km,mB5.4/25,Ms5.6/30, Ms7 5.4/30*

ISC 16 22:41:36.8±0.2,37.˚45S±0.˚04×73.˚67W±0.˚06,h23km,n523, σ1§**47**/421,**mb5.3**/86,**MS5.3**/153,**2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.76**	**37**	*e*P	**Pn**	**22 41 52.7**	**+0.7**
CCSP				*e*S	**Sn**	**22 42 07.1**	**+4.4**
CCSP				AML	AML	22 42 17.1	
	comp=N,122μm,0.4s						
LNCH	**Linares**	**2.31**	**47**	*e*P	**Pb**	**22 42 16.0**	**-1.8**
VLCH	**Valdivia**	**2.37**	**172**	*e*P	Pn	22 42 11.0	-3.2
VLCH				*e*S	**Sn**	**22 42 39.9**	**-2.8**
TALC	**Talca**	**2.63**	**39**	*e*P	**Pn**	**22 42 19.6**	**+1.9**
TALC				*e*S	**Sb**	**22 42 55.8**	**+0.9**
NICH	**Los Niches**	**3.14**	**40**	*e*P	**Pn**	**22 42 27.0**	**+2.2**
NICH				*e*S	**Sb**	**22 43 08.2**	**-1.7**
PLCA	**Paso Flores**	**4.08**	**144**	*e*P	**Pn**	**22 42 40.5**	**+2.8**
PLCA	**Paso Flores**	**4.08**	**144**	Pn	**Pn**	**22 42 37.6**	**-0.1**
	comp=N,1.9nm,0.3s,baz=320,slow=15,SNR=7.6						
PLCA				Lg	Lg	22 43 45.5	
	comp=N,8.2nm,0.3s,baz=232,slow=13,SNR=4.1						
PLCA	**Paso Flores**	**4.08**	**144**	*e*Pn	**Pn**	**22 42 40.6**	**+2.8**
CFAA	**Coronel Fontan**	**7.36**	**39**	Pn	**Pn**	**22 43 23.4**	**+0.6**
	comp=N,1.4nm,0.3s,baz=194,slow=14,SNR=14						
CFAA				Sn	**Sn**	**22 44 48.2**	**+2.6**
	comp=N,0.8nm,0.3s,baz=222,slow=14,SNR=3.0						
CFAA				LR	LR	22 46 25.4	
	comp=N,2μm,19.6s,baz=224,slow=40						
CFAA	**Coronel Fontan**	**7.36**	**39**	*e*Pn	**Pn**	**22 43 23.4**	**+0.6**
CFAA				*e*Sn	**Sn**	**22 44 48.2**	**+2.6**
LCO	**Las Campanas**	**8.78**	**17**	*e*Pn	**Pn**	**22 43 41.5**	**-1.0**
TRQA	**Tornquist**	**9.28**	**97**	*e*Pn	**Pn**	**22 43 50.3**	**+1.1**
PB10	**IPOC Station P**	**14.15**	**12**	*e*P	**Pn**	**22 44 58.9**	**+3.1**
PB06	**IPOC Station P**	**15.12**	**15**	*e*P	**P**	**22 45 17.5**	**+3.4**
LVC	**Limon Verde**	**15.35**	**17**	Pn	**Pn**	**22 45 12.2**	**0.0**
	comp=N,44nm,0.3s,baz=190,slow=7.5,SNR=5.7						
LVC				LR	LR	22 51 14.4	
	comp=N,33μm,20.6s,baz=200,slow=38						
LVC	**Limon Verde**	**15.35**	**17**	*e*Pn	**Pn**	**22 45 11.2**	**-1.0**
	comp=N,63nm,0.9s						
PB04	**IPOC Station P**	**15.56**	**15**	*e*P	**P**	**22 45 19.3**	**+0.5**
PB07	**IPOC Station P**	**16.01**	**13**	*e*P	**P**	**22 45 26.6**	**+2.6**
PB09	**IPOC Station P**	**16.07**	**15**	*e*P	**P**	**22 45 27.6**	**+2.9**
PB01	**IPOC Station P**	**16.75**	**14**	*e*P	**P**	**22 45 34.5**	**+2.3**
PATCX	**Punta Patache**	**16.85**	**11**	*e*P	**P**	**22 45 36.7**	**+3.4**
HMBC	**Humberstone**	**17.43**	**12**	*e*P	**P**	**22 45 43.1**	**+3.4**
USHA	**Ushuaia**	**17.75**	**170**	P	**Pn**	**22 45 40.8**	**-1.3**
	comp=N,0.2nm,0.3s,baz=330,slow=14,SNR=3.4						
USHA				LR	LR	22 52 21.4	
	comp=N,12μm,18.8s,baz=324,slow=37						
USHA	**Ushuaia**	**17.75**	**170**	*e*Pn	**Pn**	**22 45 40.8**	**-1.3**
PB11	**IPOC Station P**	**17.97**	**12**	*e*P	**P**	**22 45 49.8**	**+4.1**
EFI	**East Falkland**	**17.99**	**147**	Pn	**P**	**22 45 46.9**	**+1.3**
	comp=N,1μm,0.7s,SNR=13						
EFI	**East Falkland**	**17.99**	**147**	*e*P	**P**	**22 45 46.3**	**+0.7**
EFI				pmax	pmax		
	comp=Z,134nm,0.6s						
EFI	**East Falkland**	**17.99**	**147**	*e*P	**P**	**22 45 46.3**	**+0.7**
	comp=Z,134nm,0.6s						
PSGC	**Pisagua**	**18.06**	**11**	*e*P	P	22 45 51.6	+5.0
MNMC	**Minimini**	**18.60**	**12**	*e*P	**Pn**	**22 45 55.3**	**+2.2**
LPAZ	**La Paz**	**21.64**	**15**	*e*P	**P**	**22 46 27.4**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,230nm,1.5s						
LPAZ	**La Paz**	**21.64**	**15**	P	**P**	**22 46 28.1**	**+1.8**
	comp=Z,320nm,0.9s,baz=170,slow=6.1,SNR=14						
LPAZ	**La Paz**	**21.64**	**15**	*e*P	**P**	**22 46 27.4**	**+1.2**
	comp=Z,230nm,1.5s						
SIV	**San Ignacio**	**24.11**	**31**	P	**P**	**22 46 51.0**	**+0.1**
	comp=Z,10nm,0.8s,baz=213,slow=12,SNR=6.6						
SIV				LR	LR	22 58 15.2	
	comp=Z,13μm,19.4s,baz=222,slow=42						
SIV	**San Ignacio**	**24.11**	**31**	*e*P	**P**	**22 46 51.0**	**+0.1**
NNA	**Nana**	**25.52**	**353**	*e*P	**P**	**22 47 02.7**	**-1.0**
NNA				MLR	MLR		
	comp=Z,3μm,21.0s						
NNA	**Nana**	**25.52**	**353**	P	**P**	**22 47 02.7**	**-1.0**
	comp=Z,11nm,0.7s,baz=200,slow=11,SNR=4.3						
NNA	**Nana**	**25.52**	**353**	*e*P	**P**	**22 47 02.7**	**-1.0**
NNA				LR	LR		
	comp=Z,3μm,21.0s						
PMSA	**Palmer Station**	**27.95**	**171**	LR	LR	22 59 36.5	
	comp=Z,8μm,18.1s,baz=324,slow=39						
PMSA	**Palmer Station**	**27.95**	**171**	PFAKE		22 47 40.0	+15
PMSA				LR	LR		
	comp=Z,6μm,19.0s						
SAML	**Samuel**	**29.92**	**21**	*e*P	**P**	**22 47 43.1**	**+0.1**
	comp=Z,183nm,2.0s						
SAML				LR	LR		
	comp=Z,9μm,19.0s						
HOPE	**Hope Point**	**30.43**	**136**	PFAKE		22 48 00.0	+13
HOPE				LR	LR		
	comp=Z,4μm,19.0s						
ATAH	**Atahualpa**	**30.48**	**351**	P	**P**	**22 47 50.5**	**+2.0**
	comp=Z,6.8nm,0.9s,baz=170,slow=6.0,SNR=4.5						
ATAH				LR	LR	22 58 18.9	
	comp=Z,2μm,20.3s,baz=173,slow=33						
ATAH	**Atahualpa**	**30.48**	**351**	*e*P	**P**	**22 47 50.5**	**+2.0**
ATAH				*e*ScS	ScS	22 58 18.9	-6.4
BDFB	**Brasilia**	**31.42**	**53**	*e*P	**P**	**22 47 55.6**	**-0.9**
BDFB	**Brasilia**	**31.42**	**53**	P	**P**	**22 47 56.9**	**+0.4**
	comp=Z,12nm,1.0s,baz=177,slow=9.4,SNR=4.9						
BDFB				LR	LR	23 01 58.0	
	comp=Z,9μm,18.5s,baz=223,slow=39						
BDFB	**Brasilia**	**31.42**	**53**	*e*P	**P**	**22 47 55.6**	**-0.9**
RPN	**Rapa Nui**	**31.69**	**278**	LR	LR	22 57 00.1	
	comp=Z,4μm,20.8s,baz=135,slow=29						
OTAV	**Otavalo**	**37.76**	**352**	*e*P	**P**	**22 48 51.0**	**-0.6**
	comp=Z,61nm,1.4s						
OTAV				LR	LR		
	comp=Z,3μm,19.0s						
PTGA	**Pitinga**	**38.67**	**22**	P	**P**	**22 48 58.2**	**-0.5**
	comp=Z,13nm,0.9s,baz=193,slow=9.1,SNR=13						
PTGA	**Pitinga**	**38.67**	**22**	*e*P	**P**	**22 48 58.2**	**-0.5**
	comp=Z,204nm,2.1s						
PTGA				LR	LR		
	comp=Z,2μm,19.0s						
PAYG	**Puerto Ayora**	**39.68**	**333**	PFAKE		22 49 20.0	+13
PAYG				LR	LR		
	comp=Z,1μm,20.0s						
ROSC	**El Rosal**	**42.10**	**359**	P	P	22 49 31.3	+3.8
	comp=Z,12nm,1.1s,baz=229,slow=0.8,SNR=5.3						
ROSC	**El Rosal**	**42.10**	**359**	*e*P	**P**	**22 49 27.1**	**-0.5**
SDV	**Santo Domingo**	**46.18**	**4**	*e*P	**P**	**22 50 00.4**	**+0.3**
	comp=Z,11nm,0.9s						
SDV				LR	LR		
	comp=Z,3μm,21.0s						
RCBR	**Riachuelo**	**46.61**	**57**	P	**P**	**22 50 04.1**	**+0.7**
	comp=Z,18nm,1.1s,baz=212,slow=16,SNR=4.8						
RCBR	**Riachuelo**	**46.61**	**57**	*e*P	**P**	**22 50 04.1**	**+0.7**
RCBR				LR	LR		
	comp=Z,25μm,20.0s						
VNA3	**Neumayer Olymp**	**46.70**	**156**	P	**P**	**22 50 03.0**	**-0.4**
BCIP	**Isla Barro Col**	**46.73**	**352**	PFAKE		22 50 20.0	+16
BCIP				LR	LR		
	comp=Z,1μm,21.0s						
VNA1	**Neumayer--Stat**	**47.05**	**156**	P	**P**	**22 50 08.1**	**+2.0**
JTS	**JuntasAbangare**	**48.66**	**345**	*d*P	P	22 50 25.1	+6.0
JTS				pmax	pmax		
	comp=Z,78nm,1.7s						
JTS	**JuntasAbangare**	**48.66**	**345**	P	**P**	**22 50 19.7**	**+0.6**
	comp=Z,1.7nm,0.2s,baz=158,slow=7.6,SNR=2.3						
JTS				LR	LR	23 06 59.0	
	comp=Z,551nm,21.1s,baz=159,slow=31						
JTS	**JuntasAbangare**	**48.66**	**345**	*e*P	**P**	**22 50 19.7**	**+0.6**
	comp=Z,80nm,1.7s						
JTS				LR	LR		
	comp=Z,2μm,19.0s						
SNAA	**Sanae**	**48.92**	**157**	P	**P**	**22 50 20.8**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=278,slow=7.6,SNR=16						
GRGR	**Grenville**	**50.60**	**15**	*e*P	**P**	**22 50 33.8**	**-0.1**
	comp=Z,123nm,0.9s						
GRGR				LR	LR		
	comp=Z,3μm,19.0s						
BBGH	**Gun Hill**	**52.05**	**18**	PFAKE		22 51 00.0	+15
BBGH				LR	LR		
	comp=Z,5μm,22.0s						
QSPA	**South Pole Qui**	**52.79**	**180**	P	**P**	**22 50 49.8**	**-0.1**
	comp=Z,21nm,0.9s,baz=151,slow=2.9,SNR=14						
QSPA	**South Pole Qui**	**52.79**	**180**	*e*P	**P**	**22 50 49.8**	**-0.1**
FDF	**Fort de France**	**53.23**	**15**	PFAKE		22 51 10.0	+17
FDF				LR	LR		
	comp=Z,2μm,20.0s						
NVL	**N'lazarevskaya**	**53.70**	**156**	*e*P	**P**	**22 50 56.8**	**+0.5**
NVL				*e**PP	**pP**	**22 51 07.2**	**+3.7**
NVL				*e*		22 51 58.9	
NVL				*e*		22 53 04.0	
NVL				*e*PPP	PPP	22 54 13.4	
NVL				pmax	pmax		
	comp=Z,17nm,0.9s						
RKT	**Rikitea**	**53.97**	**267**	*e*S	**S**	**22 58 32.3**	**-1.2**
	comp=Z,1μm,26.5s						
RKT				*e*LR	LR	23 06 37.3	
	comp=Z,6μm,27.0s,baz=127						
RKT	**Rikitea**	**53.97**	**267**	*e*T	T	23 48 50.7	
	comp=Z,2.0nm,0.2s						
APG	**El Apazote**	**54.52**	**340**	LR	LR	23 09 34.1	
	comp=Z,789nm,18.6s,baz=128,slow=31						
MTDJ	**Mount Denham**	**55.50**	**356**	PFAKE		22 51 20.0	+10
MTDJ				LR	LR		
	comp=Z,1μm,19.0s						
SJG	**San Juan**	**55.72**	**9**	*e*P	**P**	**22 51 10.3**	**-1.2**
SJG	**San Juan**	**55.72**	**9**	*e*P	**P**	**22 51 10.3**	**-1.2**
ANWB	**Willy Bob**	**55.96**	**14**	PFAKE		22 51 30.0	+17
ANWB				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	**Presa de Saban**	**56.18**	**3**	PFAKE		22 51 30.0	+15
SDDR				LR	LR		
	comp=Z,2μm,20.0s						
GTBY	**Guantanamo Bay**	**57.09**	**358**	PFAKE		22 51 30.0	+8.8
GTBY				LR	LR		
	comp=Z,1μm,19.0s						
CMIG	**Matias Romero**	**57.81**	**336**	P	P	22 51 32.0	+5.6
	comp=Z,2.0nm,0.9s,baz=170,slow=12,SNR=2.8						
CMIG				LR	LR	23 10 53.6	
	comp=Z,616nm,20.4s,baz=159,slow=30						
CMIG	**Matias Romero**	**57.81**	**336**	*e*pP	P	22 51 32.0	+5.6
GRTK	**Grand Turk**	**58.70**	**3**	PFAKE		22 51 40.0	+7.5
GRTK				LR	LR		
	comp=Z,2μm,19.0s						
TEIG	**Tepich**	**59.00**	**344**	LR	LR	23 13 55.5	
	comp=Z,496nm,19.4s,baz=180,slow=33						
TEIG	**Tepich**	**59.00**	**344**	PFAKE		22 51 50.0	+15
TEIG				LR	LR		
	comp=Z,804nm,19.0s						
SBA	**Scott Base**	**59.43**	**192**	PFAKE		22 51 50.0	+13
SBA				LR	LR		
	comp=Z,2μm,19.0s						
VNDA	**Vanda**	**60.46**	**192**	*e*P	**P**	**22 51 45.2**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,77nm,1.8s						
VNDA	**Vanda**	**60.46**	**192**	P	**P**	**22 51 45.2**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=136,slow=13,SNR=3.4						
VNDA	**Vanda**	**60.46**	**192**	*e*P	**P**	**22 51 45.2**	**+1.1**
	comp=Z,77nm,1.8s						
ASCN	**Ascension**	**60.96**	**77**	PFAKE		22 52 00.0	+12
ASCN				LR	LR		
	comp=Z,2μm,21.0s						
SHEL	**Horse Pasture**	**63.05**	**90**	PFAKE		22 52 10.0	+7.5
SHEL				LR	LR		
	comp=Z,2μm,20.0s						
TBI	**Tubuai**	**65.28**	**259**	*e*S	**S**	**23 00 58.6**	**-0.8**
	comp=Z,3μm,28.0s						
TBI				*e*LQ	LQ	23 09 09.9	
	comp=Z,799nm,29.0s						
TBI				*e*LR	LR	23 11 53.9	
	comp=Z,4μm,27.0s,baz=118						
MEH	**Mehetia**	**67.13**	**265**	*e*T	T	00 05 18.6	
	comp=Z,21nm,0.2s						
TVO	**Taravao**	**68.12**	**264**	*e*P	**P**	**22 52 37.2**	**+2.0**
	comp=Z,8.2nm,1.1s						
TVO	**Taravao**	**68.12**	**264**	*e*T	T	00 06 33.6	
	comp=Z,1.1nm,0.2s						
TIAR	**Tiarei**	**68.32**	**264**	*e*P	**P**	**22 52 37.6**	**+1.2**
	comp=Z,8.9nm,0.8s						
TIAR	**T

JCT MLR MLR
comp=Z,39nm,1.3s
comp=Z,428nm,19.0s
JCT Junction City 71.87 336 *e*P **P 22 52 57.7 -0.1**
comp=Z,39nm,1.3s
JCT LR LR
comp=Z,428nm,19.0s
433A Art 71.90 337 P **P 22 52 58.4 +0.4**
baz=72
530A J-C Ranch, Com 72.07 335 P **P 22 53 00.2 +1.1**
baz=72
LTX Lajitas 72.14 333 *e*P **P 22 52 59.6 +0.1**
LTX Lajitas 72.14 333 *e*P **P 22 52 59.6 +0.1**
TXAR Lajitas Array 72.14 333 P **P 22 52 59.6 +0.1**
comp=Z,1.5nm,0.8s,baz=148,slow=7.4,SNR=7.8
TXAR LR LR 23 18 54.7
comp=Z,678nm,21.1s,baz=0.0,slow=31
334A Lometa 72.18 338 P **P 22 53 00.3 +0.7**
baz=72
431A Sonora 72.32 336 P **P 22 53 01.1 +0.6**
baz=73
529A Stev Forest Ra 72.35 334 P **P 22 53 01.0 +0.3**
baz=73
333A Richland Sprin 72.40 337 P **P 22 53 01.0 +0.1**
baz=73
CNNC Cliffs of the 72.43 356 PFAKE 22 53 10.0 +9.0
CNNC LR LR
comp=Z,931nm,20.0s
WHTX Lake Whitney, 72.57 339 *e*P **P 22 53 02.1 +0.2**
comp=Z,30nm,1.2s
KMSC Kings Mountain 72.58 353 P **P 22 53 01.2 -0.7**
baz=73
KMSC Kings Mountain 72.58 353 *e*P **P 22 53 01.3 -0.6**
comp=Z,15nm,1.0s
332A Millersview 72.69 337 P **P 22 53 02.8 +0.1**
baz=73
429A Davenport Ranc 72.69 335 P **P 22 53 03.2 +0.4**
baz=73
234A Clairette 72.78 338 P **P 22 53 03.8 +0.6**
baz=73
331A San Angelo 72.84 336 P **P 22 53 03.9 +0.3**
baz=73
233A Rising Star 73.02 338 P **P 22 53 05.2 +0.6**
baz=73
232A Coleman 73.13 337 P **P 22 53 05.6 +0.3**
baz=74
330A Mertzon 73.17 336 P **P 22 53 05.9 +0.4**
baz=74
SWET Sewanee 73.19 350 *e*P **P 22 53 04.6 -1.0**
TKL Tuckaleechee C 73.35 351 *e*P **P 22 53 05.8 -0.6**
TKL Tuckaleechee C 73.35 351 *e*P **P 22 53 05.8 -0.6**
231A Bronte 73.38 337 P **P 22 53 07.0 +0.2**
baz=74
133A Hamilton Ranch 73.58 338 P **P 22 53 07.7 -0.1**
baz=74
ABTX Abilene, Hawle 73.81 337 P **P 22 53 09.3 +0.1**
baz=74
ABTX Abilene, Hawle 73.81 337 *e*P **P 22 53 09.5 +0.3**
comp=Z,62nm,1.5s
MIAR Mount Ida 73.99 343 PFAKE 22 53 20.0 +10
MIAR LR LR
comp=Z,529nm,19.0s
Z33A Whitaker Ranch 74.16 338 P **P 22 53 11.9 +0.6**
baz=74
130A Snyder 74.20 336 P **P 22 53 12.2 +0.6**
baz=74
228A UT Block 9, Go 74.30 335 P **P 22 53 13.2 +1.1**
baz=75
SUR Sutherland 74.33 119 PFAKE 22 53 20.0 +7.2
SUR LR LR
comp=Z,2μm,20.0s
WVT Waverly 74.38 348 *e*P **P 22 53 11.8 -0.6**
WVT pmax pmax
comp=Z,164nm,2.2s
WVT Waverly 74.38 348 *e*P **P 22 53 11.8 -0.6**
comp=Z,164nm,2.2s
Z32A Haskell 74.39 338 P **P 22 53 13.2 +0.5**
baz=75
BLA Blacksburg 74.56 354 PFAKE 22 53 30.0 +16
BLA LR LR
comp=Z,855nm,21.0s
Z31A Sharp Cattle R 74.61 337 P **P 22 53 14.4 +0.5**
baz=75
URVA University of 74.74 357 *e*P **P 22 53 14.6 +0.1**
Y33A Hilltop Ranch, 74.80 339 P **P 22 53 15.5 +0.5**
baz=75
Z30A Sanderson Ranc 74.89 336 P **P 22 53 15.8 +0.2**
baz=75
MNTX Cornudas Mount 74.90 332 P **P 22 53 15.3 -0.3**
baz=75
MNTX Cornudas Mount 74.90 332 PFAKE 22 53 30.0 +14
MNTX LR LR
comp=Z,542nm,21.0s
Z29A Hungry Hill Ra 75.05 336 P **P 22 53 16.4 -0.1**
baz=75
CBN Corbin Frederi 75.36 357 PFAKE 22 53 30.0 +12
CBN LR LR
comp=Z,984nm,20.0s
W32A Sentinel 76.02 339 P **P 22 53 22.3 +0.3**
baz=76
V34A Guthrie 76.20 340 P **P 22 53 23.4 +0.5**
baz=76
W31A Holland Ranch, 76.28 338 P **P 22 53 23.9 +0.4**
baz=77
V33A Lossen Ranch, 76.40 340 P **P 22 53 24.7 +0.6**
baz=77
CASY Casey 76.54 182 *e*P **P 22 53 24.5 -0.2**
comp=Z,44nm,1.1s
CASY LR LR
comp=Z,4μm,19.0s
LIC Lamto 77.12 72 *e*P **P 22 53 29.6 +0.9**
comp=Z,87nm,1.3s
TIC Toumodi 77.40 71 *e*P **P 22 53 31.1 +0.8**
comp=Z,49nm,1.0s
KIC Kosan Boka 77.42 72 *e*P **P 22 53 31.4 +1.0**
comp=Z,119nm,1.3s
DBIC Dimbokro 77.54 72 *e*P **P 22 53 29.6 -1.4**
DBIC pmax pmax
comp=Z,272nm,2.3s
DBIC Dimbokro 77.54 72 P **P 22 53 31.9 +0.8**
comp=Z,9.5nm,0.8s,baz=206,slow=9.2,SNR=8.3
DBIC Dimbokro 77.54 72 *e*P **P 22 53 29.6 -1.4**
comp=Z,272nm,2.3s
BNM Barren Site 77.56 332 *e*P **P 22 53 29.8 -1.2**
S35A Otter Creek Ra 77.64 342 P **P 22 53 31.0 0.0**
baz=78
ACSO Alum Creek Sta 77.78 353 *e*P **P 22 53 31.6 -0.2**
comp=Z,18nm,0.8s
ACSO LR LR
comp=Z,830nm,20.0s
ANMO Albuquerque 78.21 333 *e*P **P 22 53 34.8 +0.3**
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO MLR MLR
comp=Z,499nm,19.0s
ANMO Albuquerque 78.21 333 *e*P **P 22 53 34.8 +0.3**
comp=Z,17nm,1.2s
ANMO LR LR
comp=Z,499nm,19.0s
U27A Thompson Grove 78.31 336 P **P 22 53 35.9 +0.9**
baz=79
S31A Mullinville 78.42 339 P **P 22 53 35.8 +0.4**
baz=79
T28A Walsh 78.73 337 P **P 22 53 37.1 -0.1**
baz=79
R32A Long Quarter, 78.95 340 P **P 22 53 39.1 +0.8**
baz=79
KSU1 Kansas State U 79.05 342 PFAKE 22 53 50.0 +11
KSU1 LR LR
comp=Z,639nm,21.0s
S28A Manter 79.10 338 P **P 22 53 39.5 +0.3**
baz=79
BINY Binghamton 79.30 358 PFAKE 22 53 50.0 +10
BINY LR LR
comp=Z,1μm,19.0s
ERPA Erie 79.40 355 PFAKE 22 53 50.0 +9.4
ERPA LR LR
comp=Z,765nm,21.0s
T25A Trinidad 79.48 335 P **P 22 53 42.3 +0.9**
baz=80
T25A Trinidad 79.48 335 *e*P **P 22 53 41.8 +0.3**
comp=Z,70nm,1.5s
TSUM Tsumeb 79.54 106 PFAKE 22 53 50.0 +7.7
TSUM LR LR
comp=Z,1μm,19.0s
S26A Kim 79.62 336 P **P 22 53 42.6 +0.6**
baz=80

R28A Tribune 79.76 338 P **P 22 53 43.5 +0.7**
baz=80
SNZO South Karori 79.79 225 PFAKE 22 53 50.0 +6.9
SNZO LR LR
comp=Z,1μm,19.0s
Q30A Quinter 79.89 339 P **P 22 53 44.3 +0.9**
baz=80
AAM Ann Arbor 79.90 352 PFAKE 22 53 50.0 +6.7
AAM LR LR
comp=Z,845nm,20.0s
GLA Glamis 79.95 326 *e*P **P 22 53 44.5 +0.6**
GLA pmax pmax
comp=Z,34nm,0.4s
GLA Glamis 79.95 326 *e*P **P 22 53 44.5 +0.6**
comp=Z,34nm,0.4s
S25A Robets Cordova 79.96 336 P **P 22 53 44.5 +0.5**
baz=80
R26A Arlington 80.23 337 P **P 22 53 45.4 0.0**
baz=81
R25A Fountain Ranch 80.36 336 P **P 22 53 47.0 +0.9**
baz=81
ACCN Adirondack Com 80.46 0 *e*P **P 22 53 46.7 +0.4**
comp=Z,35nm,1.4s
WUAZ Wupatki 80.59 330 *e*P **P 22 53 47.9 +0.4**
comp=Z,11nm,0.8s
R24A Sanders Place, 80.70 335 P **P 22 53 49.0 +1.0**
baz=81
S22A 4UR Ranch, Cre 80.85 334 *e*P **P 22 53 49.0 0.0**
comp=Z,110nm,2.4s
MVCO Mesa Verde 80.97 333 *e*P **P 22 53 49.0 -0.5**
comp=Z,90nm,2.1s
MVCO LR LR
comp=Z,789nm,20.0s
SCIA State Center 80.97 345 PFAKE 22 54 00.0 +11
SCIA LR LR
comp=Z,602nm,20.0s
Q25A Bedland, Calha 81.04 336 P **P 22 53 50.7 +0.8**
baz=81
NCB Newcomb 81.05 360 PFAKE 22 54 00.0 +11
NCB LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 81.15 325 *e*P **P 22 53 50.5 +0.1**
PFO pmax pmax
comp=Z,23nm,1.3s
PFO MLR MLR
comp=Z,831nm,19.0s
PFO Pinyon Flats O 81.15 325 P **P 22 53 52.7 +2.3**
comp=Z,0.9nm,0.3s,baz=93,slow=7.5,SNR=2.7
PFO Pinyon Flats O 81.15 325 *e*P **P 22 53 50.5 +0.1**
comp=Z,23nm,1.3s
PFO LR LR
comp=Z,831nm,19.0s
Q24A Divide 81.38 336 *e*P **P 22 53 51.3 -0.4**
comp=Z,68nm,1.9s
JFWS Jewell Farm 81.40 348 PFAKE 22 54 00.0 +8.6
JFWS LR LR
comp=Z,1μm,20.0s
LONY Lake Ozonia 81.70 359 PFAKE 22 54 00.0 +7.1
LONY LR LR
comp=Z,1μm,20.0s
U15A North Rim 81.75 329 P **P 22 53 54.9 +1.2**
baz=82
LDFC Landfair 81.79 327 *e*P **P 22 53 53.5 -0.2**
comp=Z,210nm,2.6s
PV01 Paradox Valley 81.82 333 *e*P **P 22 53 54.1 +0.1**
PV05 Paradox Valley 81.96 332 *e*P **P 22 53 55.1 +0.4**
LBTB Lobatse 82.05 115 *e*P **P 22 53 55.2 -0.4**
LBTB pmax pmax
comp=Z,385nm,2.6s
LBTB Lobatse 82.05 115 P **P 22 53 55.6 0.0**
comp=Z,15nm,0.8s,baz=249,slow=7.2,SNR=3.4
LBTB Lobatse 82.05 115 *e*P **P 22 53 55.2 -0.4**
comp=Z,385nm,2.6s
SMCO Snowmass 82.19 334 *e*P **P 22 53 55.9 -0.2**
comp=Z,21nm,1.3s
OGNE Ogallala 82.23 339 PFAKE 22 54 10.0 +14
OGNE LR LR
comp=Z,657nm,22.0s
ISCO Idaho Springs 82.29 336 *e*P **P 22 53 56.6 +0.1**
ISCO pmax pmax
comp=Z,120nm,3.0s
ISCO MLR MLR
comp=Z,597nm,20.0s
ISCO Idaho Springs 82.29 336 P **P 22 53 57.6 +1.0**
baz=83
ISCO Idaho Springs 82.29 336 *e*P **P 22 53 56.6 +0.1**
comp=Z,120nm,3.0s
ISCO LR LR
comp=Z,597nm,20.0s
PKME Peaks-Kenny Pk 82.43 3 PFAKE 22 54 10.0 +13
PKME LR LR
comp=Z,930nm,21.0s
KNB Kanab 82.47 329 *e*P **P 22 53 58.3 +0.9**
KNB pmax pmax
comp=Z,44nm,1.4s
KNB Kanab 82.47 329 *e*P **P 22 53 58.3 +0.9**
comp=Z,44nm,1.4s
GSC Goldstone, Bar 82.72 326 *e*P **P 22 53 58.9 +0.3**
GSC pmax pmax
comp=Z,84nm,2.5s
GSC Goldstone, Bar 82.72 326 *e*P **P 22 53 58.9 +0.3**
comp=Z,84nm,2.5s
O22A Kremmling 82.92 335 P **P 22 54 00.6 +0.8**
baz=83
SHPR Sheep Range 83.01 327 *e*P **P 22 54 00.2 0.0**
CRZF Crozet Islands 83.26 145 P P 22 53 36.0 -25
CRZF Crozet Islands 83.26 145 S S 23 03 38.0 -42
CRZF L L 23 17 00.0
CRZF R 23 20 00.0
SRU San Rafael Swe 83.40 332 *e*P **P 22 54 01.7 -0.4**
SRU pmax pmax
comp=Z,55nm,2.1s
SRU San Rafael Swe 83.40 332 *e*P **P 22 54 01.7 -0.4**
comp=Z,55nm,2.1s
ECSD EROS Data Cent 83.45 343 P **P 22 54 01.6 -0.4**
baz=84
ECSD EROS Data Cent 83.45 343 *e*P **P 22 54 00.7 -1.4**
comp=Z,180nm,2.3s
ECSD LR LR
comp=Z,716nm,20.0s
MVU Marysvale 83.52 331 *e*P **P 22 54 02.6 -0.2**
comp=Z,20nm,1.4s
TPNV Topopah Spring 83.86 327 *e*P **P 22 54 04.0 -0.5**
TPNV pmax pmax
comp=Z,129nm,2.6s
TPNV Topopah Spring 83.86 327 *e*P **P 22 54 04.0 -0.5**
comp=Z,129nm,2.6s
DAC Darwin (Calif) 83.89 326 *e*P **P 22 54 05.1 +0.4**
DAC pmax pmax
comp=Z,68nm,2.1s
DAC Darwin (Calif) 83.89 326 *e*P **P 22 54 05.1 +0.4**
comp=Z,68nm,2.1s
COWI Conover 84.33 349 PFAKE 22 54 20.0 +13
COWI LR LR
comp=Z,744nm,20.0s
R11A Troy Canyon, C 84.75 328 *e*P **P 22 54 09.3 +0.3**
comp=Z,24nm,1.5s
J25A Sunshine Ranch 85.00 338 P **P 22 54 10.9 +0.9**
baz=85
JLU Jordanelle 85.05 332 *e*P **P 22 54 10.5 -0.1**
comp=Z,45nm,1.9s
H29A Onida 85.16 341 P **P 22 54 11.3 +0.6**
baz=86
DUG Dugway, Tooele 85.21 331 *e*P **P 22 54 11.7 +0.5**
DUG pmax pmax
comp=Z,83nm,2.0s
DUG MLR MLR
comp=Z,654nm,19.0s
DUG Dugway, Tooele 85.21 331 P **P 22 54 12.0 +0.8**
baz=86
DUG Dugway, Tooele 85.21 331 *e*P **P 22 54 11.7 +0.5**
comp=Z,83nm,2.0s
DUG LR LR
comp=Z,654nm,19.0s
TPH Tonopah 85.22 327 *e*P **P 22 54 11.5 +0.1**
TPH pmax pmax
comp=Z,74nm,2.2s
TPH Tonopah 85.22 327 *e*P **P 22 54 11.5 +0.1**
comp=Z,74nm,2.2s
RSSD Black Hills 85.73 339 *e*P **P 22 54 13.8 0.0**
RSSD pmax pmax
comp=Z,112nm,2.6s
RSSD Black Hills 85.73 339 *e*P **P 22 54 13.8 0.0**
comp=Z,112nm,2.6s
BGU Big Grassy Mou 85.92 331 *e*P **P 22 54 14.0 -0.8**
HWUT Hardware Ranch 85.96 332 *e*P **P 22 54 15.3 +0.3**
comp=Z,48nm,1.4s

HWUT LR LR
comp=Z,776nm,20.0s
NV01 Mina Array Sit 85.99 326 *e*P **P 22 54 16.8 +1.5**
NVAR Mina Array Bea 85.99 326 P **P 22 54 16.8 +1.5**
comp=Z,0.7nm,0.7s,baz=148,slow=5.3,SNR=5.3
BW06 Boulder Array 86.27 334 *e*P **P 22 54 16.5 0.0**
comp=Z,30nm,1.7s
BW06 LR LR
comp=Z,898nm,22.0s
PD31 Pinedale Array 86.27 334 *e*P **P 22 54 16.6 +0.1**
PDAR Pinedale Array 86.27 334 P **P 22 54 16.6 +0.1**
comp=Z,3.5nm,1.1s,baz=145,slow=5.4,SNR=7.8
G26A Maurine 86.41 340 P **P 22 54 16.8 -0.1**
baz=87
I21A Big Trails, Te 86.45 336 P **P 22 54 16.5 -0.8**
baz=87
EYMN Ely 86.50 348 PFAKE 22 54 30.0 +13
EYMN LR LR
comp=Z,533nm,19.0s
J19A Crowheart 86.54 335 P **P 22 54 18.1 +0.3**
baz=87
WAKR Walker 86.55 326 *e*P **P 22 54 18.8 +0.8**
HVU Hansel Valley 86.56 332 *e*P **P 22 54 18.1 +0.2**
HVU pmax pmax
comp=Z,92nm,2.5s
HVU Hansel Valley 86.56 332 *e*P **P 22 54 18.1 +0.2**
comp=Z,92nm,2.5s
TOAQ Torodi Ar. Sit 86.62 71 *e*P **P 22 54 18.6 -0.1**
TORD Torodi Ar. Bea 86.62 71 P **P 22 54 18.6 -0.1**
comp=Z,5.7nm,0.8s,baz=239,slow=4.1,SNR=12
ELK Elko 86.64 330 *e*P **P 22 54 18.4 0.0**
ELK pmax pmax
comp=Z,38nm,1.9s
ELK Elko 86.64 330 *e*P **P 22 54 18.4 0.0**
comp=Z,38nm,1.9s
F27A Lemmon 86.78 341 P **P 22 54 18.8 0.0**
baz=87
AHID Auburn Hatcher 86.81 333 PFAKE 22 54 30.0 +11
AHID LR LR
comp=Z,614nm,19.0s
H22A Clearmont 86.86 337 P **P 22 54 19.5 +0.3**
baz=87
REDW Red Top Meadow 87.24 334 *e*P **P 22 54 20.9 -0.3**
comp=Z,6.5nm,0.6s
TPAW Teton Pass 87.39 334 *e*P **P 22 54 22.4 +0.4**
comp=Z,12nm,1.1s
FXWY Fox Creek 87.54 334 *e*P **P 22 54 21.8 -0.9**
comp=Z,7.4nm,1.3s
C30A Mose, Pekin 87.63 344 P **P 22 54 23.6 +0.9**
baz=88
AGMN Agassiz Nation 87.63 345 P **P 22 54 22.9 +0.2**
baz=88
AGMN Agassiz Nation 87.63 345 *e*P **P 22 54 22.9 +0.2**
comp=Z,100nm,2.2s
AGMN LR LR
comp=Z,1μm,19.0s
I17A Pilgrim Ck. 87.63 334 P **P 22 54 23.7 +0.6**
baz=88
IMW Indian Meadow 87.74 334 *e*P **P 22 54 23.4 -0.3**
comp=Z,10nm,0.4s
FLWY Flagg Ranch 87.82 334 *e*P **P 22 54 24.0 0.0**
comp=Z,19nm,1.2s
PAF Port-aux-Franc 87.84 157 S **SKSac 23 04 53.0 +2.2**
PAF R 23 23 00.0
PAF SS x 23 28 48.0
PAF R 23 32 00.0
H18A Shoshone NF, C 87.99 335 P **P 22 54 25.3 +0.5**
baz=88
G20A Bridger 88.00 336 P **P 22 54 25.4 +0.6**
baz=88
LKWY Lake 88.14 335 PFAKE 22 54 40.0 +14
LKWY LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 88.25 336 *e*P **P 22 54 25.5 -0.6**
comp=Z,84nm,2.6s
RLMT LR LR
comp=Z,369nm,19.0s
B30A Myrvik Farm, E 88.30 344 P **P 22 54 25.6 -0.4**
baz=89
LAO LASA Array 88.71 338 PFAKE 22 54 40.0 +12
LAO LR LR
comp=Z,494nm,19.0s
HLID Hailey 88.71 332 *e*P **P 22 54 28.3 +0.1**
comp=Z,39nm,1.8s
HLID LR LR
comp=Z,557nm,20.0s
QLMT Earthquake Lak 88.73 334 *e*P **P 22 54 26.9 -1.4**
A29A Manning Farm, 88.95 343 P **P 22 54 29.0 +0.1**
baz=89
MFID Camas Ranch 89.13 331 *e*P **P 22 54 30.0 -0.1**
comp=Z,40nm,1.9s
MCMT McKenzie Canyo 89.22 333 *e*P **P 22 54 30.5 -0.2**
D21A La Casta Ranch 89.28 338 P **P 22 54 30.6 0.0**
baz=90
E19A Rath Farm, Rou 89.29 337 P **P 22 54 30.9 +0.1**
baz=90
WVOR Wild Horse Val 89.44 328 *e*P **P 22 54 31.4 -0.2**
WVOR pmax pmax
comp=Z,31nm,1.8s
WVOR Wild Horse Val 89.44 328 *e*P **P 22 54 31.4 -0.2**
comp=Z,31nm,1.8s
ULM Lac du Bonnet 89.50 346 *e*P **P 22 54 31.0 -0.5**
ULM pmax pmax
comp=Z,60nm,1.8s
ULM Lac du Bonnet 89.50 346 P **P 22 54 31.4 -0.1**
comp=Z,2.8nm,0.9s,baz=191,slow=5.2,SNR=2.5
ULM Lac du Bonnet 89.50 346 *e*P **P 22 54 31.0 -0.5**
comp=Z,60nm,1.8s
BOZ Bozeman (W) 89.51 334 PFAKE 22 54 40.0 +8.1
BOZ LR LR
comp=Z,526nm,20.0s
DGMT Dagmar 89.76 340 *e*P **P 22 54 32.9 0.0**
comp=Z,12nm,0.4s
DGMT LR LR
comp=Z,601nm,19.0s
LSZ Lusaka 89.96 109 *e*P **P 22 54 35.0 +0.2**
LSZ pmax pmax
comp=Z,36nm,1.4s
LSZ Lusaka 89.96 109 P **P 22 54 35.0 +0.2**
comp=Z,3.9nm,1.0s,baz=354,slow=1.1,SNR=6.0
LSZ Lusaka 89.96 109 *e*P **P 22 54 35.0 +0.2**
comp=Z,36nm,1.4s
BMO Blue Mountains 90.91 331 PFAKE 22 54 50.0 +12
BMO LR LR
comp=Z,577nm,20.0s
EGMT Eagleton 90.98 337 *e*P **P 22 54 39.4 +0.8**
comp=Z,39nm,0.8s
EGMT LR LR
comp=Z,430nm,20.0s
HAWA Hanford 93.07 330 *e*P **P 22 54 48.2 0.0**
comp=Z,6.6nm,0.7s
HAWA LR LR
comp=Z,673nm,19.0s
WALA Waterton Lakes 93.24 335 *e*P **P 22 54 48.2 -0.8**
comp=Z,3μm,2.5s
NEW Newport 93.70 333 PFAKE 22 55 00.0 +8.9
NEW LR LR
comp=Z,649nm,19.0s
RTC Rabat Centre 94.39 50 PFAKE 22 55 10.0 +15
RTC LR LR
comp=Z,3μm,19.0s
FFC Flin Flon 94.98 344 PFAKE 22 55 10.0 +13
FFC LR LR
comp=Z,700nm,21.0s
TAM Tamanrasset 95.48 66 PFAKE 22 55 10.0 +10
TAM LR LR
comp=Z,2μm,20.0s
NLWA Neilton Lookou 95.63 328 PFAKE 22 55 10.0 +10
NLWA LR LR
comp=Z,637nm,20.0s
CAN Canberra 97.47 214 PFAKE 22 55 20.0 +11
CAN LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 98.14 234 *e*LR LR 23 27 16.9
comp=Z,2μm,24.9s
MTE Manteigas 98.33 45 PFAKE 22 55 20.0 +7.5
MTE LR LR
comp=Z,3μm,20.0s
PAB San Pablo 99.60 47 PFAKE 22 55 30.0 +12
PAB LR LR
comp=Z,2μm,19.0s
ESDC Sonseca Array 99.91 47 P **Pdif 22 55 20.1 +0.6**
comp=Z,0.4nm,0.7s,baz=255,slow=3.9,SNR=2.8
ESDC Sonseca Array 99.91 47 *e*Pdif **Pdif 22 55 20.1 +0.6**
ABPO Ambohimpanom 100.98 124 PFAKE 22 55 40.0 +15
ABPO LR LR
comp=Z,1μm,19.0s

YKA Yellowknife Ar 104.90 342 Pdiff **Pdif 22 55 40.6 -0.4**
comp=Z,0.2nm,0.9s,baz=143,slow=4.7,SNR=2.2
YKB5 Yellowknife Ar 104.90 342 *e*Pdif **Pdif 22 55 40.6 -0.4**
SFJD Kangerlussuaq 105.61 9 PFAKE 23 00 10.0
SFJD LR LR
comp=Z,752nm,20.0s
VSL Villasalto 108.00 54 PFAKE 23 00 10.0
VSL LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 108.30 47 PFAKE 23 00 10.0
SSB LR LR
comp=Z,1μm,20.0s
TARA Tarawa 109.29 256 PFAKE 23 00 20.0
TARA LR LR
comp=Z,1μm,20.0s
BNI Bardonecchia 109.42 48 PFAKE 23 00 20.0
BNI LR LR
comp=Z,3μm,20.0s
WDD Wield Dalam 109.44 59 PFAKE 23 00 20.0
WDD LR LR
comp=Z,3μm,20.0s
CLTB Caltabellotta 109.47 57 PFAKE 23 00 20.0
CLTB LR LR
comp=Z,2μm,20.0s
ESK Eskdalemuir 110.17 35 PFAKE 23 00 20.0
ESK LR LR
comp=Z,1μm,20.0s
VLC Villacollemand 111.17 50 PFAKE 23 00 20.0
VLC LR LR
comp=Z,943nm,19.0s
ECH Echery 111.43 45 PFAKE 23 00 20.0
ECH LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 111.52 220 PFAKE 23 00 20.0
CTAO LR LR
comp=Z,742nm,19.0s
CEL Celeste 111.63 58 PFAKE 23 00 20.0
CEL LR LR
comp=Z,2μm,21.0s
WLF Walferdange 111.65 43 PFAKE 23 00 20.0
WLF LR LR
comp=Z,2μm,20.0s
TUE Stuetta 111.76 48 PFAKE 23 00 20.0
TUE LR LR
comp=Z,3μm,19.0s
AQU L'Aquila 112.11 53 PFAKE 23 00 20.0
AQU LR LR
comp=Z,2μm,20.0s
BFO Black Forest 112.15 46 PFAKE 23 00 20.0
BFO LR LR
comp=Z,1μm,20.0s
CUC Castrocucco 112.47 56 PFAKE 23 00 20.0
CUC LR LR
comp=Z,1μm,19.0s
TIP Timpagrande 112.68 57 PFAKE 23 00 20.0
TIP LR LR
comp=Z,2μm,21.0s
EGAK Eagle 114.62 334 PFAKE 23 00 30.0 +16
EGAK LR LR
comp=Z,524nm,19.0s
KDAK Kodiak Island 115.43 324 PFAKE 23 00 30.0 +14
KDAK LR LR
comp=Z,566nm,19.0s
GEC2 GERESS Array S 115.50 47 *e*PKIKP **PKPdf 23 00 15.5 -0.9**
GEC2 *e* 23 03 46.6
GEC2 GERESS Array S 115.50 47 *e*PKPdf **PKPdf 23 00 15.5 -0.9**
GEC2 *e*SKPdf **SKPdf 23 03 46.6 -3.7**
GERES GERESS Array B 115.50 47 PKP **PKPdf 23 00 15.5 -0.9**
comp=Z,0.7nm,0.8s,baz=225,slow=3.2,SNR=5.7
KHC Kasperske Hory 115.56 47 *ex* x 23 01 30.4
KHC *ex* x 23 09 23.8
KHC *e*SP SP 23 11 04.0 +7.7
KHC *ex* x 23 12 17.7
KHC AMS AMS 23 50 20.0
comp=Z,800nm,20.2s
BEHE Becsehely 116.22 50 *e*SKPdf SKiKP 23 04 02.6 +11
CLL Collm 116.26 44 *e*PP PP 23 01 22.0 -2.1
CLL *e*PPP PPP 23 04 00.0
CLL *e*(SKKSac) 23 08 12.0
CLL *e*Sdif Sdif 23 09 12.0 +4.1
CLL *e*PS **PS 23 11 04.0 -1.7**
CLL *e*PPS PPS 23 12 24.0
CLL *e*SS **SS 23 17 29.0 +2.5**
CLL *e*SSS SSS 23 21 54.0
CLL *e*SSSS 23 25 30.0
CLL LmV 23 47 00.0
comp=Z,2μm,20.3s
CLL LmH 23 52 00.0
comp=N,900nm,20.1s
CLL LmH 23 52 00.0
comp=E,700nm,18.3s
PRA Prague 116.49 46 *e*SP SP 23 11 12.5 +7.8
PRA *ex* x 23 12 31.2
PRA AMS AMS 23 50 50.0
comp=E,1μm,19.8s
PRU Pruhonice 116.52 46 *e*PP PP 23 01 29.1 +3.1
PRU *ex* x 23 09 22.3
PRU *e*SP SP 23 11 12.3 +7.4
PRU *ex* x 23 12 27.1
PRU AMS AMS 23 51 00.0
comp=E,1μm,18.0s
GOPC GO Pecny, Ondr 116.62 46 *ex* x 23 09 25.9
GOPC *e*SP SP 23 11 15.1 +9.2
GOPC *ex* x 23 12 33.0
GOPC AMS AMS 23 51 00.0
comp=E,1μm,16.1s
ILAR Eielson Array 116.66 333 PKP **PKPdf 23 00 19.0 +1.0**
comp=E,0.2nm,0.8s,baz=205,slow=4.0,SNR=2.8
ILB Eielson Array 116.66 333 *e*PKPdf **PKPdf 23 00 19.0 +1.0**
TREC Trest 116.75 47 *e*SP SP 23 11 15.8 +8.7
TREC *ex* x 23 12 33.2
TREC AMS AMS 23 51 20.0
comp=E,800nm,20.1s
PVCC Panska Ves 116.78 46 *e*SP SP 23 11 12.5 +5.2
PVCC *ex* x 23 12 34.0
PVCC AMS AMS 23 47 40.0
comp=E,1μm,17.8s
MSEY Mahe Island 116.86 120 PFAKE 23 00 30.0 +10
MSEY LR LR
comp=Z,1μm,20.0s
COLA College 117.06 333 PFAKE 23 00 30.0 +11
COLA LR LR
comp=Z,391nm,21.0s
WRA Warramunga Arr 117.11 210 PKP **PKPdf 23 00 18.9 -1.5**
comp=Z,0.4nm,0.7s,baz=158,slow=1.7,SNR=4.6
WRA Warramunga Arr 117.11 210 *e*PKPdf **PKPdf 23 00 18.9 -1.5**
WRAB Tennant Creek 117.11 210 PFAKE 23 00 30.0 +10
WRAB LR LR
comp=Z,1μm,19.0s
SANT Santorini 117.35 64 PFAKE 23 00 30.0 +10
SANT LR LR
comp=Z,1μm,20.0s
PKSG 117.63 50 *e*SKPdf **SKPdf 23 03 53.5 -0.8**
DPC Dobruska-Polom 117.70 46 *e*SP SP 23 11 25.6 +10
DPC *ex* x 23 12 42.6
DPC AMS AMS 23 51 40.0
PKS2 Kecel 117.74 51 *e*SKPdf **SKiKP 23 03 59.1 +4.4**
PKS7 Kunszentmiklos 117.95 51 *e*SKPdf **SKPdf 23 03 54.7 -0.2**
KONO Kongsberg 118.31 35 PFAKE 23 00 30.0 +8.7
KONO LR LR
comp=Z,1μm,20.0s
PKSN Nyarlorinc 118.32 51 *e*SKPdf **SKPdf 23 03 50.2 -5.4**
VYHS Vyhne 118.38 49 *e*PKIKP **PKPdf 23 00 21.5 -0.3**
VYHS Vyhne 118.38 49 *e*PKP **PKPdf 23 00 21.5 -0.3**
OKC Ostrava-Krasne 118.54 47 AMS AMS 23 53 20.0
comp=Z,700nm,19.5s
PSZ Piszkesteto 118.77 50 PFAKE 23 00 30.0 +7.3
PSZ LR LR
comp=Z,832nm,20.0s
UZH Uzhgorod 120.53 50 *e*PKIKP **PKPdf 23 00 25.8 -0.1**
UZH *e* 23 00 36.4
KWP Kalwaria Pacla 121.17 49 PFAKE 23 00 40.0 +13
KWP LR LR
comp=Z,1μm,19.0s
ISP Isparta 121.62 64 PFAKE 23 00 40.0 +11
ISP LR LR
comp=Z,1μm,21.0s
CSS Prodhromos 122.45 69 PFAKE 23 00 40.0 +10
CSS LR LR
comp=Z,156nm,20.0s
KIS Kishinev 124.00 54 *e*PKIKP PKPdf 23 00 40.0 +7.4
KIS *e* 23 02 16.0
KIS Kishinev 124.00 54 *e*P PKPdf 23 00 40.0 +7.4
ANTO Ankara 124.07 63 PFAKE 23 00 40.0 +6.9
ANTO LR LR
comp=Z,993nm,21.0s
H11S2 WAKE ISLAND Hyl 124.35 268 T T 01 17 17.3
baz=128
H11S1 WAKE ISLAND Hyl 124.36 268 T T 01 17 15.3
baz=128
H11S3 WAKE ISLAND Hyl 124.36 268 T T 01 17 14.9
baz=128
BR101 Keskin Array S 124.62 63 *e*PKPdf **PKPdf 23 00 33.9 -0.4**
BRTR Keskin Array B 124.62 63 PKP **PKPdf 23 00 33.9 -0.4**
comp=Z,2.2nm,0.8s,baz=190,slow=3.9,SNR=11
DGAR Diego Garcia 125.29 137 PFAKE 23 00 50.0 +14
DGAR LR LR
comp=Z,775nm,22.0s
KIEV Kiev 125.46 50 *e*PKIKP **PKPdf 23 00 35.2 -0.1**
KIEV Kiev 125.46 50 PFAKE 23 00 50.0 +15
KIEV LR LR
comp=Z,798nm,20.0s
AKASG Malin Array Be 125.47 50 PKP **PKPdf 23 00 35.3 0.0**
comp=Z,0.9nm,0.7s,baz=264,slow=2.5,SNR=7.0
AKASG PP **PP 23 02 24.0 -3.1**
comp=Z,0.2nm,0.3s,baz=252,slow=6.6,SNR=7.0
AKBB Malin Array Si 125.47 50 *e*PKIKP **PKPdf 23 00 35.3 0.0**
AKBB *e* 23 02 24.0
AKBB Malin Array Si 125.47 50 *e*PKPdf **PKPdf 23 00 35.3 0.0**
AKBB *e*PP **PP 23 02 24.0 -3.1**
KBS Kingsbay 125.62 14 PFAKE 23 00 50.0 +15
KBS LR LR
comp=Z,571nm,20.0s
RAYN Ar Rayn 126.61 87 *e*PKPdf **PKPdf 23 00 38.1 -0.3**
RAYN LR LR
comp=Z,1μm,20.0s
SIM Simferopol' 126.80 58 PKIKP PKPdf 23 00 46.8 +8.7
SIM *e* 23 02 39.0
SIM pmax pmax
comp=Z,4.0nm,1.0s
KEV Kevo 128.24 26 PFAKE 23 00 50.0 +10
KEV LR LR
comp=Z,1μm,21.0s
ANN Anapa 128.99 59 *i* PKIKP **PKPdf 23 00 42.9 +0.7**
ANN *e* 23 02 47.7
ANN *e*PPP PPP 23 05 35.7
ANN *e* 23 07 49.9
ANN pmax pmax
comp=Z,29nm,1.8s
COCO West Island 129.82 168 PFAKE 23 01 00.0 +15
COCO LR LR
comp=Z,1μm,20.0s
SOC Sochi 130.21 61 *e*PKIKP **PKPdf 23 00 42.9 -1.7**
SOC *e* 23 07 53.0
APA Apatity 130.46 29 *i* PKIKP **PKPdf 23 00 39.4 -4.9**
OBN Obninsk 130.83 45 *e*PKIKP **PKPdf 23 00 46.0 +0.6**
OBN pmax pmax
comp=Z,11nm,1.6s
OBN Obninsk 130.83 45 PFAKE 23 01 00.0 +15
OBN LR LR
comp=Z,1μm,20.0s
LVZ Lovozero 130.93 28 PFAKE 23 01 00.0 +15
LVZ LR LR
comp=Z,852nm,20.0s
MOS Moscow 131.52 45 *e*PKIKP **PKPdf 23 00 50.6 +3.9**
MOS MLR MLR
comp=E,900nm,21.0s
MOS MLR MLR
comp=Z,1μm,21.0s
MOS Moscow 131.52 45 *e*P **PKPdf 23 00 50.6 +3.9**
AKH Akhalkalaki 132.24 65 P **PP 23 03 10.8 -1.2**
KIV Kislovodsk 132.38 61 PFAKE 23 01 00.0 +11
KIV LR LR
comp=Z,493nm,22.0s
ONI Oni 132.55 63 P **PP 23 03 11.1 -2.7**
GNI Garni 132.78 67 *e*PKIKP **PKPdf 23 00 51.5 +1.7**
GNI Garni 132.78 67 *e*PKPdf **PKPdf 23 00 48.5 -1.3**
GNI LR LR
comp=Z,566nm,19.0s
GOF Gofitskoye 132.90 60 *e*PKIKP **PKPdf 23 00 50.2 +0.5**
GOF Gofitskoye 132.90 60 *e*P **PKPdf 23 00 50.2 +0.5**
TBLG Delisi 133.23 65 P **PP 23 03 16.4 -1.7**
DGRG David-gareji 133.61 65 P **PP 23 03 18.2 -2.3**
MAK Makhachkala 135.53 64 *i* PKIKP **PKPdf 23 00 56.1 +1.5**
MAK *e*PPP PPP 23 06 36.5
MAK *e* 23 15 36.9
MAK pmax pmax
comp=Z,236nm,15.0s
MAK Makhachkala 135.53 64 *i* P **PKPdf 23 00 56.1 +1.5**
PRGR Permogore 135.89 37 PKIKP **PKPdf 23 00 54.8 +0.1**
PRGR pmax pmax
comp=Z,24nm,1.8s
KAPI Kappang 135.94 199 PFAKE 23 01 10.0 +14
KAPI LR LR
comp=Z,366nm,20.0s
GUMO Guam 138.30 246 PFAKE 23 01 10.0 +9.4
GUMO LR LR
comp=Z,49nm,19.0s
PET Petropavlovsk 140.93 311 *i* PKIKP **PKPdf 23 00 59.7 -4.5**
PET *e* 23 04 08.5
PET *e*SS SS 23 22 31.6 0.0
PET *e*SSS SSS 23 27 47.9
PET Petropavlovsk 140.93 311 PFAKE 23 01 20.0 +16
PET LR LR
comp=Z,783nm,22.0s
PEA2 Petropavlovsk- 141.50 311 *e*PKPdf **PKPdf 23 01 07.2 +1.9**
PETK Petropavlovsk- 141.50 311 PKP **PKPdf 23 01 07.2 +1.9**
comp=Z,4.3nm,1.0s,baz=172,slow=2.9,SNR=2.9
GEYT Alibeck 142.19 74 PKiKP PKPpre 23 01 03.0
comp=Z,3.3nm,0.8s,baz=268,slow=4.5,SNR=6.5
SEY Seymchan 142.29 327 *e*PKIKP **PKPdf 23 01 08.9 +2.5**
SEY Seymchan 142.29 327 PKP **PKPdf 23 01 07.3 +1.0**
comp=Z,2.6nm,0.8s,baz=136,slow=3.3,SNR=8.1
SEY Seymchan 142.29 327 *e*PKPdf **PKPdf 23 01 07.3 +1.0**
ARU Arti 143.19 43 *i* PKIKP **PKPdf 23 01 08.6 +0.4**
ARU 23 04 15.6
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 143.19 43 PFAKE 23 01 20.0 +12
ARU LR LR
comp=Z,1μm,20.0s
TIXI Tiksi 143.82 348 *i* PKIKP PKPab 23 01 05.0 -0.9
TIXI Tiksi 143.82 348 PFAKE 23 01 20.0 +11
TIXI LR LR
comp=Z,538nm,19.0s
GOA Goa 143.88 118 *e*P PKPab 23 01 07.9 +0.2
GOA *e*P PKPbc 23 01 07.9 -0.4
GOA *e*P **PKPdf 23 01 08.0 -2.6**
KSM Kuching 144.01 187 PFAKE 23 01 20.0 +9.0
KSM LR LR
comp=Z,615nm,19.0s
SVE Sverdlovsk 144.24 42 *e*PKIKP PKPbc 23 01 08.9 +0.6
SBUM Sibu 144.75 190 *e*PKPdf **PKPab 23 01 10.6 -0.4**
ABKAR Akbulak array 144.80 55 *e*PKPdf **PKPab 23 01 09.8 -0.5**
PSI Prapat 144.85 167 PKP **PKPab 23 01 10.5 -1.1**
comp=Z,18nm,0.9s,baz=205,slow=7.0,SNR=12
PSI Prapat 144.85 167 *e*PKPdf **PKPab 23 01 10.5 -1.1**
DAV Davao City (W) 145.06 215 PFAKE 23 01 20.0 +7.2
DAV LR LR
comp=Z,609nm,19.0s
POO Poona 145.92 115 *i* P **PKPdf 23 01 12.0 -2.1**
comp=Z,278nm,2.0s
KKM Kota Kinabalu 147.46 199 PFAKE 23 01 30.0 +8.6
KKM LR LR
comp=Z,466nm,19.0s
KULM Kulim 147.57 169 PFAKE 23 01 30.0 +8.3
KULM LR LR
comp=Z,663nm,19.0s
KUR Kuril'sk 148.15 297 *i* PKIKP **PKPdf 23 01 17.2 +0.2**
HYB Hyderabad 148.47 122 *i* PKP **PKPbc 23 01 21.0 -1.0**
HYB *e* 23 01 25.0
HYB *e* 23 01 40.0
YUK Yuzh-Kuril'sk 149.56 295 *c i* PKHKP PKPpre 23 01 22.6
YUK *i* 23 05 01.2
YUK *e*PPP PPP 23 08 29.9
YUK *i* SSS SSS 23 29 54.1
KBL Kabul 149.82 84 *e*PKIKP **PKPdf 23 01 18.0 -2.4**
KBL Kabul 149.82 84 *e*PKPdf **PKPdf 23 01 18.0 -2.4**
BRVK Borovoye 150.59 46 *e*PKIKP **PKPdf 23 01 19.7 -1.0**
BRVK *e* 23 01 26.3
BRVK Borovoye 150.59 46 *e*PKPdf **PKPdf 23 01 19.7 -1.0**
BRVK *e*PKPbc **PKPbc 23 01 26.2 +0.1**
YAK Yakutsk 151.46 337 *e*PKIKP **PKPbc 23 01 27.5 -0.3**
YAK pmax pmax
comp=Z,41nm,0.8s
YAK Yakutsk 151.46 337 PKP **PKPdf 23 01 21.3 -0.4**
comp=Z,19nm,0.4s,baz=54,slow=0.4,SNR=2.0
YAK Yakutsk 151.46 337 *e*PKPdf **PKPdf 23 01 21.3 -0.4**
ERM Erimo 151.46 291 PFAKE 23 01 30.0 +1.5
ERM LR LR
comp=Z,747nm,20.0s
YSS Yuzh-Sakhalins 151.62 301 *i* PKIKP **PKPbc 23 01 28.0 -0.7**
YSS *e* 23 01 36.0
ASAJ Asahikawa 151.91 295 PKPbc **PKPbc 23 01 29.3 -0.1**
comp=Z,10nm,0.8s,baz=155,slow=5.0,SNR=5.3
ASAJ Asahikawa 151.91 295 *e*PKPdf **PKPdf 23 01 21.9 -1.0**
KKAR Karatay Array 152.24 67 *e*PKIKP **PKPdf 23 01 22.0 -1.5**
KKAR *e* 23 01 29.5
KKAR Karatay Array 152.24 67 *e*PKPdf **PKPdf 23 01 22.0 -1.5**
KKAR *e*PKPbc **PKPbc 23 01 29.5 -0.8**
MAJO Matsushiro 154.58 278 PFAKE 23 01 40.0 +4.4
MAJO LR LR
comp=Z,835nm,21.0s
EKS2 Erkin-Say 154.64 68 *e*PKIKP **PKPdf 23 01 26.2 -0.9**
EKS2 MLR MLR
comp=Z,847nm,20.0s
EKS2 Erkin-Say 154.64 68 *e*PKPdf **PKPdf 23 01 26.2 -0.9**
EKS2 LR LR
comp=Z,847nm,20.0s
AAK Ala-Archa 155.17 68 *e*PKIKP **PKPdf 23 01 28.3 +0.3**
AAK *e* 23 05 30.1
AAK MLR MLR
comp=Z,575nm,20.0s
AAK Ala-Archa 155.17 68 PP PP 23 05 30.1 +0.3
comp=Z,0.5nm,0.5s,baz=213,slow=5.5,SNR=5.3
AAK Ala-Archa 155.17 68 *e*PKPdf **PKPdf 23 01 28.2 +0.3**
AAK *e*PP **PP 23 05 30.1 +0.4**
AAK LR LR
comp=Z,575nm,20.0s
FRU Bishkek 155.26 68 *e*PKIKP **PKPdf 23 01 30.0 +2.1**
FRU *i* 23 05 28.0
TKM2 Tokmak 2 155.97 67 *e*PKIKP **PKPdf 23 01 27.9 -1.2**
TKM2 MLR MLR
comp=Z,629nm,20.0s
TKM2 Tokmak 2 155.97 67 *e*PKPdf **PKPdf 23 01 27.9 -1.2**
TKM2 LR LR
comp=Z,629nm,20.0s
KSH Kashi 156.20 76 *e*PKP **PKPdf 23 01 28.8 -0.6**
KSH PKS **PKSdf 23 05 02.1 -1.3**
KSH SKS **SKSdf 23 08 34.8 +0.6**
KSH PPMZ
comp=Z,130nm,4.5s
KSH LN
comp=Z,120nm,5.2s
KSH LE
comp=Z,140nm,8.2s
KSH LZ
comp=Z,410nm,14.7s
KURBB Kurchatov Arra 156.24 47 PP PP 23 05 38.8 +3.9
comp=Z,0.5nm,0.3s,baz=288,slow=5.7,SNR=5.3
KURK Kurchatov 156.25 47 *e*PP PP 23 05 38.8 +3.9
KURK LR LR
comp=Z,789nm,20.0s
ZAA1 Zalesovo Array 157.83 35 *e*PKPdf **PKPdf 23 01 30.0 -0.7**
ZAA1 *e*PKPab **PKPab 23 02 04.0 +0.3**
ZALV Zalesovo Beam 157.83 35 PKP **PKPdf 23 01 30.0 -0.7**
comp=Z,5.2nm,1.0s,baz=276,slow=2.7,SNR=7.5
ZALV PKPab **PKPab 23 02 04.0 +0.3**
comp=Z,8.6nm,0.9s,baz=299,slow=5.0,SNR=7.8
PYUN Piuthan 158.32 109 *e*P **PKPab 23 02 06.7 -0.2**
comp=Z,45nm,0.9s
KOLN Koldanda 158.60 110 *e*P **PKPab 23 02 07.5 -0.6**
BOD Bodaibo 159.00 348 *e*PKP2 **PKPab 23 02 06.9 -1.7**
BOD pmax pmax
comp=Z,9.0nm,1.7s
DANN Dangsing 159.03 109 *e*P **PKPab 23 02 09.9 -0.1**
comp=Z,80nm,1.0s
GKN Gorkha 159.50 111 *e*P **PKPab 23 02 11.6 -0.3**
DMN Daman 159.63 113 *e*P **PKPab 23 02 12.6 0.0**
comp=Z,32nm,0.9s
PKIN Phulchoki 159.82 113 *e*P **PKPab 23 02 12.0 -1.5**
comp=Z,30nm,0.8s
KKN Kakani 159.86 112 *e*P **PKPab 23 02 12.7 -0.9**
comp=Z,39nm,0.9s
MK32 Makanchi Array 159.94 55 *e*PKPdf **PKPdf 23 01 32.9 -0.7**
MK32 *e*PKPab **PKPab 23 02 12.9 -0.2**
MK32 *e*PP PP 23 06 03.0 +7.6
MKAR Makanchi Array 159.94 55 *e*PKIKP **PKPdf 23 01 32.1 -1.5**
MKAR Makanchi Array 159.94 55 PKP **PKPdf 23 01 32.9 -0.7**
comp=Z,2.0nm,1.1s,baz=288,slow=1.2,SNR=5.5
MKAR PKPab **PKPab 23 02 12.9 -0.2**
comp=Z,3.0nm,0.9s,baz=294,slow=2.9,SNR=5.8
MKAR PP PP 23 06 03.0 +7.6
comp=Z,1.1nm,0.9s,baz=270,slow=6.9,SNR=4.4
MKAR Makanchi Array 159.94 55 *e*PKPdf **PKPdf 23 01 32.1 -1.5**
CM31 Chiang Mai Arr 160.00 159 *e*PKPdf **PKPdf 23 01 34.9 +0.5**
CMAR Chiang Mai Arr 160.00 159 PKP **PKPdf 23 01 34.9 +0.5**
comp=Z,0.3nm,0.3s,baz=251,slow=2.8,SNR=5.0
RAMN Ramite 160.33 116 *e*P **PKPab 23 02 14.7 -1.0**
comp=Z,32nm,0.7s
GUN Gumba 160.37 113 *e*P **PKPab 23 02 15.9 0.0**
JIRN Jiri 160.45 114 *e*P **PKPab 23 02 15.4 -0.9**
comp=Z,20nm,0.7s
MDJ Mudanjiang 161.09 300 PFAKE 23 01 50.0 +15
MDJ LR LR
comp=Z,829nm,21.0s
QIZ Qiongzhong 161.39 190 PKP **PKPdf 23 01 38.8 +2.9**
QIZ PP **PP 23 06 06.5 +4.4**
QIZ SS SS 23 26 24.8 +8.5
QIZ LN
comp=Z,440nm,18.9s
QIZ LZ
comp=Z,690nm,18.1s
YHNB Yeheng 161.91 230 PFAKE 23 01 50.0 +14
YHNB LR LR
comp=Z,644nm,19.0s
TATO Taipei 162.06 230 PFAKE 23 01 50.0 +14
TATO LR LR
comp=Z,653nm,21.0s
KSRS Korea Array 162.85 277 PKP **PKPdf 23 01 37.0 +0.2**
comp=Z,0.6nm,0.3s,baz=90,slow=1.2,SNR=4.0
KS15 Wonju Array Si 162.88 277 *e*PKPdf **PKPdf 23 01 37.0 +0.1**
INCN Inchon 163.88 276 PFAKE 23 01 50.0 +12
INCN LR LR
comp=Z,641nm,19.0s
WMQ Urumqi 164.50 60 *e*PKP **PKPdf 23 01 37.0 -1.3**
WMQ pPKP **pPKPdf 23 01 47.0 +0.9**
WMQ sPKP 23 01 51.0
WMQ PKPab **PKPab 23 02 33.0 -0.3**
WMQ *i* PKS **PKSdf 23 05 09.0 -2.2**
WMQ PP **PP 23 06 20.0 +0.1**
WMQ SKS **SKSdf 23 08 36.0 -5.2**
WMQ SKKS **SKKSac 23 13 02.0 -3.9**
WMQ PPMZ
comp=Z,670nm,8.4s
WMQ LN
comp=Z,970nm,21.2s
WMQ LE
comp=Z,740nm,20.0s
WMQ LZ
comp=Z,690nm,20.0s
LSA Lhasa 165.18 117 PKP **PKPdf 23 01 39.0 -0.9**
LSA Lhasa 165.18 117 *e*PKIKP **PKPdf 23 01 38.9 -0.9**
LSA *e* 23 02 36.9
LSA Lhasa 165.18 117 *e*PKPdf **PKPdf 23 01 38.9 -0.9**
LSA *e*PKPab **PKPab 23 02 36.9 -0.2**
TLY Talaya 165.65 7 PFAKE 23 01 50.0 +11
TLY LR LR
comp=Z,582nm,20.0s
NJ2 Nanjing 168.38 246 *e*PKP **PKPdf 23 01 43.5 +1.9**
GYA Guiyang 169.03 182 *e*PKP **PKPdf 23 01 44.0 +1.7**
GYA PKPab **PKPab 23 02 57.8 +4.3**
GYA PKS **PKSdf 23 05 15.4 +0.3**
GYA PP PP 23 06 48.3 +6.3
GYA SKKS 23 13 32.6
GYA SS **SS 23 27 40.4 +5.9**
GYA PPMZ
comp=Z,160nm,8.2s
GYA LN
comp=Z,180nm,24.2s
GYA LE
comp=Z,140nm,25.0s
GYA LZ
comp=Z,160nm,24.6s
SONA0 Songino Array 169.62 360 *e*PKPab **PKPab 23 02 54.8 -0.9**
SONA0 *e*PP **PP 23 06 44.0 -1.1**
SONM Songino Array 169.62 360 PKPab **PKPab 23 02 54.8 -0.9**
comp=Z,2.1nm,1.0s,baz=354,slow=2.7,SNR=6.4
SONM PP **PP 23 06 44.0 -1.1**
comp=Z,0.2nm,0.3s,baz=9.5,slow=4.4,SNR=3.3
WHN Wuhan 170.42 226 PKP PKPdf 23 01 34.5 -8.4
WHN PKPab PKPab 23 02 47.9 -12

WHN				PP	**PP**	**23 06 51.3**	**+1.6**
TIA	**Tai'an**	**171.26**	**265**	*e*PKP	**PKPdf**	**23 01 41.9**	**-1.3**
BJI	**Beijing**	**171.88**	**292**	PKP	**PKPdf**	**23 01 46.5**	**+3.2**
BJI	**Beijing**	**171.88**	**292**	PKP	**PKPdf**	**23 01 44.5**	**+1.2**
BJI				SKKS		23 13 39.3	
BJI				SS	**SS**	**23 28 08.5**	**+3.4**
BJI				LN			
	comp=Z,530nm,19.0s						
BJI				LE			
	comp=Z,670nm,19.9s						
BJI				LZ			
	comp=Z,590nm,20.9s						
BJT	**Baijiatuau**	**171.90**	**291**	PFAKE		23 01 50.0	+6.7
BJT				LR	LR		
	comp=Z,970nm,20.0s						
ENH	**Enshi**	**172.37**	**201**	PFAKE		23 01 50.0	+6.1
ENH				LR	LR		
	comp=Z,189nm,20.0s						
CD2	**Chengdu**	**173.13**	**161**	PKP	**PKPdf**	**23 01 44.6**	**+0.4**
CD2				pPKP	**pPKPdf**	**23 01 55.4**	**+3.4**
CD2				PKS	**PKSdf**	**23 05 15.4**	**-1.2**
CD2				PP	**PP**	**23 07 06.9**	**+4.4**
CD2				SKS	**SKSdf**	**23 08 44.4**	**-1.7**
CD2				SKKS	**SKKSac**	**23 13 50.8**	**+2.5**
CD2				SS	**SS**	**23 28 17.8**	**+2.7**
CD2				PPMZ			
	comp=Z,1μm,7.3s						
CD2				LZ			
	comp=Z,730nm,15.5s						
GTA	**Gaotai**	**174.52**	**67**	*e*PKP	**PKPdf**	**23 01 44.3**	**-0.3**
GTA				sPKP		23 01 51.3	
GTA				PKPab	**PKPab**	**23 03 18.8**	**+0.9**
GTA				SKS	**SKSdf**	**23 08 42.3**	**-4.0**
GTA				SKKS	**SKKSac**	**23 13 52.8**	**-2.6**
GTA				SS	**SS**	**23 28 24.8**	**-6.3**
GTA				PPMZ			
	comp=Z,830nm,7.1s						
GTA				LN			
	comp=Z,560nm,20.4s						
GTA				LE			
	comp=Z,470nm,20.4s						
GTA				LZ			
	comp=Z,730nm,20.0s						
XAN	**Xi'an**	**175.99**	**213**	PKP	**PKPdf**	**23 01 43.9**	**-1.1**
XAN				PKS	**PKSdf**	**23 05 14.8**	**-2.4**
XAN				SKS	**SKSdf**	**23 08 41.8**	**-4.8**
XAN				PPMZ			
	comp=Z,56nm,7.5s						
XAN				LN			
	comp=Z,490nm,20.3s						
XAN				LE			
	comp=Z,390nm,22.3s						
XAN				LZ			
	comp=Z,140nm,24.7s						
LZH	**Lanzhou**	**177.58**	**124**	*e*PKP	**PKPdf**	**23 01 44.8**	**-0.6**
LZH				pPKP	**pPKPdf**	**23 01 54.0**	**+0.8**
LZH				sPKP		23 01 58.8	
LZH				PP	**PP**	**23 07 27.3**	**+2.3**
LZH				SKKS		23 14 16.0	
LZH				PPMZ			
	comp=Z,350nm,5.9s						
LZH				LN			
	comp=Z,560nm,16.5s						
LZH				LE			
	comp=Z,720nm,18.2s						
LZH				LZ			
	comp=Z,920nm,20.0s						

ISCJB ***16*** *22:44:13.3±0.1,23°.84S±0°.03×177°.19W±0°.04,h160km, mb4.9/79, Error ellipse: s-maj=5.6km s-min=3.5km az=136.9*

SZGRF ***16*** *22:44:13.4,24°.37S×178°.61W,h164km, South of Fiji Islands*

NEIC ***16*** *22:44:14.3±2.7,23°.60S×176°.96W,h157km±4km, mb5.1/41, Error ellipse: s-maj=15.6km s-min=11.2km az=81.0*

IDC ***16*** *22:44:14.8±0.8,23°.47S×177°.25W,h152km±6km, mb4.4/23, mb1 4.5/23, mb1mx4.4/40, mbtmp4.8/23, Error ellipse: s-maj=14.5km s-min=11.4km az=133.0*

BJI ***16*** *22:44:15.6,23°.80S×177°.10W,h164km, mB5.2/21, mb4.8/30*

MOS ***16*** *22:44:20.2±2.7,23°.92S×178°.12W,h164km, mb5.3/10, MS5.5/7, Error ellipse: s-maj=14.4km s-min=11.8km az=117.6*

ISC 16 22:44:15.7±0.3,23°.73S±0°.04×177°.03W±0°.06, h168km±2km,h168km:pP-P,n484,σ1�global50/543,mb5.0/77, 52C-27D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
RAO	**Raoul Island**	**5.56**	**188**	*e*P	**Pn**	**22 45 36.2**	**-0.5**
RAO				*e*		22 46 39.0	
RAO	**Raoul Island**	**5.56**	**188**	S	**Sn**	**22 46 38.9**	**-1.4**
	88nm,0.3s,baz=90,slow=20,SNR=4.4						
RAO	**Raoul Island**	**5.56**	**188**	*e*Pn	**Pn**	**22 45 36.2**	**-0.5**
RAO				*e*Sn	**Sn**	**22 46 39.0**	**-1.4**
RAO				*e*Sn	Sn	22 46 41.8	+1.5
MSVF	**Nonsavu**	**7.53**	**321**	Pn	**Pn**	**22 46 03.0**	**0.0**
	1μm,0.8s,SNR=23						
MSVF	**Nonsavu**	**7.53**	**321**	*e*P	**Pn**	**22 46 01.6**	**-1.4**
MSVF	**Nonsavu**	**7.53**	**321**	*e*Pn	**Pn**	**22 46 01.6**	**-1.4**
NIUE	**Niue**	**8.07**	**56**	P	Pn	22 46 04.3	-5.8
	baz=7.7,SNR=30						
NIUE				S	Sn	22 47 24.7	-16
	baz=7.7,SNR=24						
AFI	**Afiamalu**	**10.96**	**28**	*e*Pn	Pn	22 46 39.8	-8.3
AFI				*e*Sn	Sn	22 48 28.3	-22
OUZ	**Omahuta**	**14.05**	**213**	*e*Pn	**Pn**	**22 47 28.6**	**+1.1**
WMGZ	**Waiomatatini S**	**14.58**	**194**	*e*PN	Pn	22 47 27.0	-7.0
WMGZ				*e*SN	Sn	22 50 01.4	-15
HAZ	**Te Kaha**	**14.67**	**196**	*e*PN	Pn	22 47 27.7	-7.5
PUZ	**Puketiti**	**14.86**	**195**	*e*SN	Sn	22 50 04.2	-19
DZM	**Mont Dzumac**	**15.32**	**273**	*e*Pn	**P**	**22 47 45.7**	**+1.3**
	498nm,1.1s						
DZM	**Mont Dzumac**	**15.32**	**273**	P	**P**	**22 47 45.6**	**+1.2**
	5.2nm,0.3s,baz=90,slow=16,SNR=33						
URZ	**Urewera**	**15.33**	**198**	P	**Pn**	**22 47 39.5**	**-3.7**
	14nm,0.3s,baz=323,slow=2.8,SNR=37						
URZ				S	Sn	22 50 18.3	-16
	7.1nm,0.3s,baz=86,slow=22,SNR=12						
URZ	**Urewera**	**15.33**	**198**	*e*PN	Pn	22 47 35.3	-8.0
URZ				SN	Sn	22 50 17.8	-16
URZ	**Urewera**	**15.33**	**198**	*e*Pn	**Pn**	**22 47 42.8**	**-0.4**
URZ				*e*S	**Sn**	**22 50 33.9**	**-0.2**
RIGZ	**Rimuhau**	**15.58**	**195**	SN	Sn	22 50 24.3	-16
SNGZ	**Shannon Statio**	**15.75**	**196**	*e*SN	S	22 50 27.5	-17
RAR	**Rarotonga**	**16.15**	**84**	*e*Pn	**Pn**	**22 47 52.3**	**-1.1**
	1μm,1.1s						
BKZ	**Black Stump Fm**	**16.35**	**198**	*e*P	**P**	**22 47 52.6**	**-2.9**
	18nm,1.0s						
BHHZ	**Black Hill Sta**	**16.77**	**199**	PN	**P**	**22 47 56.4**	**-3.8**
BHHZ				SN	S	22 50 50.7	-16
KAHZ	**Kahuranaki**	**16.83**	**196**	PN	**P**	**22 47 57.8**	**-3.0**
PXZ	**Pawanui**	**17.05**	**196**	*e*PN	P	22 47 57.7	-5.5
PXZ				*e*SN	S	22 50 53.1	-19
PNHZ	**Pukenui**	**17.12**	**198**	*e*PN	**P**	**22 47 60.0**	**-4.1**
ANWZ	**Angora Road**	**17.56**	**197**	SN	S	22 51 08.2	-14
BFZ	**Birch Farm**	**17.82**	**197**	*e*P	**P**	**22 48 09.2**	**-2.4**
	108nm,1.6s						
MRZ	**Mangatainoka R**	**17.99**	**198**	PN	**P**	**22 48 09.2**	**-4.3**
MRZ				*e*SN	S	22 51 12.3	-19
HOWZ	**Holdsworth Sta**	**18.23**	**198**	PN	**P**	**22 48 13.0**	**-3.1**
HOWZ				SN	S	22 51 17.7	-18
OGWZ	**Otaki Gorge**	**18.26**	**199**	PN	**P**	**22 48 12.7**	**-3.7**
KIW	**Kapiti Island**	**18.38**	**200**	*e*PN	**P**	**22 48 13.9**	**-3.8**
THZ	**Tophouse**	**19.85**	**203**	PN	**P**	**22 48 29.8**	**-3.9**
KHZ	**Kahutara**	**20.22**	**201**	PN	**P**	**22 48 34.6**	**-2.9**
KHZ	**Kahutara**	**20.22**	**201**	*e*P	**P**	**22 48 34.6**	**-2.9**
	617nm,2.8s						
DSZ	**Denniston Nort**	**20.24**	**205**	*e*PN	**P**	**22 48 39.1**	**+1.3**
MQZ	**McQueen's Vall**	**21.66**	**201**	*e*PN	**P**	**22 48 51.7**	**-1.2**
MQZ				*e*SN	S	22 52 33.2	-8.3
WVZ	**Waitaha Valley**	**21.79**	**205**	PN	**P**	**22 48 52.3**	**-1.9**
RPZ	**Rata Peaks**	**22.22**	**203**	P	**P**	**22 48 54.8**	**-3.8**
	9.6nm,0.4s,baz=357,slow=3.6,SNR=6.5						
RPZ				S	**S**	**22 52 47.4**	**-3.3**
	5.1nm,0.3s,baz=357,slow=19,SNR=8.3						
RPZ	**Rata Peaks**	**22.22**	**203**	*e*P	**P**	**22 48 57.6**	**-0.9**
RPZ				*e*S	**S**	**22 52 47.4**	**-3.3**
LHI	**Lord Howe Isla**	**22.53**	**245**	P	**P**	**22 49 04.6**	**+3.1**
	baz=23,SNR=4.2						
FOZ	**Fox Glacier**	**22.61**	**206**	PN	**P**	**22 48 58.3**	**-3.8**
LBZ	**Lake Benmore**	**23.11**	**204**	PN	**P**	**22 49 04.9**	**-1.9**
JCZ	**Jackson Bay**	**23.41**	**206**	PN	**P**	**22 49 07.7**	**-1.8**
ODZ	**Otahua Downs**	**23.52**	**202**	*e*P	**P**	**22 49 10.2**	**-0.2**
	153nm,1.9s						
EAZ	**Earnscleugh**	**24.16**	**204**	PN	**P**	**22 49 14.7**	**-1.5**
WHZ	**Wether Hill Ro**	**25.24**	**205**	*e*P	**P**	**22 49 26.0**	**0.0**
	57nm,0.7s						
PAE	**Paea**	**26.35**	**82**	*e*P	P	22 49 23.3	-13
	7.8nm,1.0s						
PPT2	**Papeete2**	**26.38**	**82**	*e*P	P	22 49 23.7	-13
	52nm,1.2s						
TIAR	**Tiarei**	**26.60**	**82**	*e*P	P	22 49 25.2	-13
TVO	**Taravao**	**26.61**	**82**	*e*P	P	22 49 25.3	-13
	8.8nm,0.9s						
ARMA	**Armidale**	**28.63**	**250**	P	**P**	**22 49 57.9**	**+1.2**
	baz=29,SNR=4.7						
ARMA	**Armidale**	**28.63**	**250**	*e*P	**P**	**22 49 57.0**	**+0.4**
	18nm,0.9s						
PMOR	**Pomariorio Ree**	**28.78**	**78**	*e*P	P	22 49 45.6	-12
	41nm,1.2s						
VAH	**Vaihoa**	**28.93**	**78**	*e*P	P	22 49 47.0	-12
	26nm,1.0s						
EIDS	**Eidsvold**	**29.02**	**260**	P	**P**	**22 50 00.5**	**+0.5**
	baz=29,SNR=6.4						
EIDS	**Eidsvold**	**29.02**	**260**	*e*P	**P**	**22 50 00.4**	**+0.4**
	70nm,1.4s						
MGCD	**Mangrove Creek**	**29.46**	**244**	P	**P**	**22 50 05.5**	**+1.7**
	baz=30,SNR=13						
RMQ	**Roma**	**31.05**	**258**	P	**P**	**22 50 19.1**	**+1.2**
	baz=31,SNR=19						
CNB	**Canberra Magne**	**31.30**	**241**	P	**P**	**22 50 22.3**	**+2.3**
	baz=32,SNR=8.3						
MILA	**Mila**	**31.87**	**237**	P	**P**	**22 50 26.0**	**+0.9**
	baz=32,SNR=20						
YNG	**Young**	**31.88**	**243**	P	**P**	**22 50 27.0**	**+1.9**
	baz=32,SNR=11						
CMSA	**Cobar Meteorol**	**33.80**	**248**	P	**P**	**22 50 41.9**	**+0.1**
	baz=34,SNR=27						
CTA	**Charters Tower**	**34.20**	**269**	P	**P**	**22 50 45.4**	**0.0**
	41nm,0.4s,baz=95,slow=11,SNR=106						
CTAO	**Charters Tower**	**34.20**	**269**	*e*P	**P**	**22 50 45.6**	**+0.2**
CTAO					pmax	pmax	
	comp=Z,52nm,0.5s						
CTAO	**Charters Tower**	**34.20**	**269**	*e*P	**P**	**22 50 45.5**	**+0.2**
	comp=Z,52nm,0.5s						
TOO	**Toolangi**	**34.83**	**238**	P	**P**	**22 50 52.2**	**+1.5**
	baz=35,SNR=6.3						
MOO	**Moorlands**	**34.98**	**229**	P	**P**	**22 50 52.2**	**+0.4**
	baz=35,SNR=3.5						
TAU	**Tasmania Unive**	**35.06**	**228**	*e*P	**P**	**22 50 52.9**	**+0.5**
TAU					pmax	pmax	
	comp=Z,217nm,2.4s						
TAU	**Tasmania Unive**	**35.06**	**228**	*e*P	**P**	**22 50 52.9**	**+0.5**
	comp=Z,217nm,2.4s						
QLP	**Quilpie**	**35.09**	**257**	P	**P**	**22 50 52.7**	**-0.3**
	baz=35,SNR=20						
STKA	**Stephens Creek**	**37.31**	**248**	*e*P	**P**	**22 51 11.7**	**0.0**
STKA					pmax	pmax	
	comp=Z,5.0nm,1.3s						
STKA	**Stephens Creek**	**37.31**	**248**	P	**P**	**22 51 11.5**	**-0.2**
	comp=Z,9.6nm,0.5s,baz=97,slow=11,SNR=32						
STKA					PcP	**PcP**	
	comp=Z,2.6nm,0.6s,baz=0.0,slow=2.0,SNR=2.5						
STKA	**Stephens Creek**	**37.31**	**248**	P	**P**	**22 51 11.6**	**-0.2**
	baz=38,SNR=6.7						
STKA	**Stephens Creek**	**37.31**	**248**	*e*P	**P**	**22 51 11.7**	**0.0**
	comp=Z,4.9nm,1.3s						
COEN	**Coen**	**38.78**	**277**	P	**P**	**22 51 24.3**	**0.0**
	baz=39,SNR=7.3						
COEN	**Coen**	**38.78**	**277**	*e*P	**P**	**22 51 24.0**	**-0.3**
	comp=Z,7.9nm,1.3s						
QIS	**Mount Isa**	**40.18**	**266**	P	**P**	**22 51 35.1**	**-0.7**
	baz=40,SNR=5.8						
BBOO	**Buckleboo**	**42.01**	**247**	P	**P**	**22 51 49.4**	**-1.2**
	baz=42,SNR=37						
BBOO	**Buckleboo**	**42.01**	**247**	*e*P	**P**	**22 51 49.4**	**-1.2**
	comp=Z,8.8nm,0.8s						
AS12	**Alice Springs**	**44.74**	**260**	*e*P	**P**	**22 52 11.6**	**-1.1**
AS12				*e*PcP	**PcP**	**22 53 52.2**	**+0.3**
AS12				*e*ScP	**ScP**	**22 57 32.1**	**+3.7**
AS12				*e*ScS	**ScS**	**23 01 53.9**	**+1.1**
ASAR	**Alice Springs**	**44.74**	**260**	P	**P**	**22 52 11.6**	**-1.1**
	comp=Z,43nm,1.0s,baz=93,slow=8.2,SNR=138						
ASAR					PcP	**PcP**	
	comp=Z,8.5nm,0.8s,baz=105,slow=3.8,SNR=12						
ASAR					ScP	**ScP**	
	comp=Z,2.3nm,1.0s,baz=114,slow=3.9,SNR=5.8						
ASAR					ScS	**ScS**	
	comp=Z,1.0nm,0.9s,baz=122,slow=7.0,SNR=6.9						
WRAB	**Tennant Creek**	**45.12**	**265**	P	**P**	**22 52 14.0**	**-1.7**
	comp=Z,245nm,0.9s,SNR=37						
WRAB	**Tennant Creek**	**45.12**	**265**	*c i*P	**P**	**22 52 15.0**	**-0.6**
WRAB					pmax	pmax	
	comp=Z,110nm,1.2s						
WRAB	**Tennant Creek**	**45.12**	**265**	*e*P	**P**	**22 52 13.9**	**-1.7**
	comp=Z,33nm,0.8s						
WRA	**Warranunga Arr**	**45.13**	**265**	P	**P**	**22 52 14.1**	**-1.6**
	comp=Z,22nm,0.6s,baz=96,slow=8.4,SNR=233						
WRA					PcP	**PcP**	
	comp=Z,13nm,0.8s,baz=97,slow=3.7,SNR=14						
WRA					ScP	**ScP**	
	comp=Z,1.2nm,0.8s,baz=95,slow=3.7,SNR=6.3						
KIP	**Kipapa**	**48.55**	**24**	*e*P	**P**	**22 52 41.4**	**-0.6**
KIP					pmax	pmax	
	comp=Z,86nm,1.2s						
FORT	**Forrest**	**48.92**	**249**	P	**P**	**22 52 43.1**	**-1.7**
	baz=49,SNR=35						
FORT	**Forrest**	**48.92**	**249**	*e*P	**P**	**22 52 42.9**	**-2.0**
	comp=Z,51nm,0.6s						
FORT					PcP	**PcP**	
KDU	**Kakadu**	**48.98**	**274**	P	**P**	**22 52 44.0**	**-1.5**
	baz=49,SNR=13						
WRKA	**Warakurna**	**49.52**	**257**	P	**P**	**22 52 48.2**	**-1.5**
	baz=50,SNR=43						
KNRA	**Kununurra**	**51.41**	**268**	P	**P**	**22 53 02.7**	**-1.1**
	baz=52,SNR=8.5						
SAUI	**Saumlaki**	**51.82**	**279**	*e*P	**P**	**22 53 06.2**	**-0.7**
	comp=Z,137nm,0.9s						
FAKI	**Fak Fak**	**53.15**	**285**	P	**P**	**22 53 15.4**	**-1.3**
	baz=53,SNR=4.2						
BNDI	**Bandanaira**	**54.52**	**282**	P	**P**	**22 53 25.4**	**-1.2**
	comp=Z,182nm,0.8s,comp=Z,3μm						
VNDA	**Vanda**	**54.79**	**186**	P	**P**	**22 53 30.6**	**+3.0**
	comp=Z,2.3nm,0.8s,baz=351,slow=5.3,SNR=4.3						
MSAI	**Mas Palomi**	**55.91**	**283**	P	**P**	**22 53 35.3**	**-1.3**
	comp=Z,21nm,0.7s,comp=Z,2μm						
SOEI	**Soe**	**57.54**	**273**	P	**P**	**22 53 48.5**	**+0.3**
	baz=58,SNR=10						
SOEI	**Soe**	**57.54**	**273**	*e*P	**P**	**22 53 48.0**	**-0.2**
	comp=Z,114nm,0.8s						
NLAI	**Namlea**	**57.60**	**282**	P	**P**	**22 53 47.7**	**-0.7**
	comp=Z,74nm,1.4s,comp=Z,1μm						
RKGY	**Rocky Gully**	**57.74**	**243**	P	**P**	**22 53 48.4**	**-0.7**
	baz=58,SNR=5.4						
MEEK	**Meekatharra**	**57.76**	**253**	P	**P**	**22 53 47.6**	**-1.9**
	baz=58,SNR=7.7						
BATI	**Baumata**	**57.93**	**273**	P	**P**	**22 53 50.6**	**-0.2**
	comp=Z,45nm,0.9s						
BATI	**Baumata**	**57.93**	**273**	P	**P**	**22 53 51.1**	**+0.3**
	comp=Z,64nm,0.6s,baz=157,slow=5.2,SNR=8.1						
LBMI	**Labuha**	**58.41**	**285**	P	**P**	**22 53 53.5**	**-0.6**
	comp=Z,93nm,0.8s,comp=Z,935nm						
BLDU	**Balidu**	**58.61**	**248**	P	**P**	**22 53 53.7**	**-1.5**
	baz=59,SNR=15						
SANI	**Sanana**	**59.12**	**282**	P	**P**	**22 53 57.3**	**-1.6**
	comp=Z,47nm,1.0s						
MORW	**Morawa**	**59.48**	**249**	P	**P**	**22 53 59.8**	**-1.5**
	baz=60,SNR=11						
CASY	**Casey**	**61.46**	**206**	*e*P	**P**	**22 54 14.7**	**+0.7**
	comp=Z,44nm,1.1s						
WBSI	**Waikabubak, Su**	**62.05**	**271**	P	**P**	**22 54 17.2**	**-1.7**
	comp=Z,76nm,0.8s,comp=Z,2μm						
BKSI	**Bukumba**	**63.04**	**276**	P	**P**	**22 54 23.8**	**-1.6**
	comp=Z,48nm,0.8s						
BNSI	**Bone**	**63.43**	**277**	P	**P**	**22 54 26.9**	**-1.0**
	comp=Z,54nm,1.1s						
SPSI	**Sidrap Palu**	**63.91**	**277**	P	**P**	**22 54 28.8**	**-2.3**
	comp=Z,26nm,0.9s						
MPSI	**Mapaga**	**65.62**	**282**	P	**P**	**22 54 39.4**	**-2.8**
	comp=Z,45nm,0.8s						
QSPA	**South Pole Qui**	**66.36**	**180**	P	**P**	**22 54 48.4**	**+2.2**
	comp=Z,24nm,1.0s,baz=24,slow=1.2,SNR=14						
SRBI	**Singaraja**	**66.46**	**271**	P	**P**	**22 54 45.9**	**-1.6**
	comp=Z,44nm,1.0s						
KBKI	**Kotabaru**	**67.46**	**277**	P	**P**	**22 54 52.7**	**-1.2**
	comp=Z,26nm,1.0s,comp=Z,1μm						
BBKI	**Banjar Baru**	**68.61**	**276**	P	**P**	**22 54 59.9**	**-1.1**
	comp=Z,46nm,1.3s						
PWJI	**Pagerwojo**	**69.61**	**270**	P	**P**	**22 55 05.4**	**-1.7**
	comp=Z,36nm,2.5s						
PCJI	**Pacitan**	**70.11**	**270**	P	**P**	**22 55 09.2**	**-1.1**
	comp=Z,117nm,1.1s						
UGM	**Wanagama**	**70.82**	**270**	P	**P**	**22 55 13.0**	**-1.6**
	comp=Z,198nm,2.0s						
UGM	**Wanagama**	**70.82**	**270**	P	**P**	**22 55 14.6**	**0.0**
	baz=71,SNR=4.8						
KPJI	**Karang Pucung**	**72.50**	**270**	P	**P**	**22 55 23.5**	**-1.1**
	comp=Z,31nm,1.4s,comp=Z,2μm						
MJAR	**Matsushiro Arr**	**73.33**	**324**	P	**P**	**22 55 26.9**	**-2.0**
	comp=Z,3.5nm,0.7s,baz=159,slow=5.8,SNR=12						
MAJO	**Matsushiro**	**73.33**	**324**	*e*P	**P**	**22 55 28.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,35nm,0.8s						
MAJO	**Matsushiro**	**73.33**	**324**	*e*P	**P**	**22 55 26.9**	**-2.0**
	comp=Z,319nm,3.0s						
LEM	**Lembang**	**73.90**	**270**	P	**P**	**22 55 31.9**	**-1.1**
	comp=Z,64nm,1.1s						
LEM	**Lembang**	**73.90**	**270**	P	**P**	**22 55 31.8**	**-1.2**
	comp=Z,40nm,0.8s,baz=126,slow=12,SNR=6.6						
KSM	**Kuching**	**74.76**	**278**	P	**P**	**22 55 37.1**	**-0.7**
	baz=75,SNR=9.8						
KSM	**Kuching**	**74.76**	**278**	*e*P	**P**	**22 55 36.0**	**-1.8**
	comp=Z,29nm,0.7s						
CGJI	**Cibinong**	**75.74**	**269**	P	**P**	**22 55 40.5**	**-2.9**
	comp=Z,39nm,0.7s,comp=Z,1μm						
ASAJ	**Asahikawa**	**76.98**	**331**	P	**P**	**22 55 48.5**	**-1.1**
	comp=Z,6.4nm,0.8s,baz=96,slow=16,SNR=5.8						
ASAJ	**Asahikawa**	**76.98**	**331**	*e*P	**P**	**22 55 48.1**	**-1.5**
	comp=Z,39nm,1.5s						
KASI	**Kota Agung**	**77.26**	**270**	P	**P**	**22 55 49.9**	**-2.0**
	comp=Z,35nm,1.1s						
MDSI	**Maura Dua**	**77.95**	**270**	P	**P**	**22 55 52.7**	**-3.1**
	comp=Z,19nm,0.8s						
MAW	**Mawson**	**78.84**	**200**	*e*P	**P**	**22 56 01.0**	**+1.3**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MAW	**Mawson**	**78.84**	**200**	P	**P**	**22 56 01.8**	**+2.1**
	comp=Z,25nm,0.8s,baz=132,slow=6.4,SNR=34						
MAW	**Mawson**	**78.84**	**200**	P	**P**	**22 56 01.7**	**+2.0**
	baz=79,SNR=23						
MAW	**Mawson**	**78.84**	**200**	*e*P	**P**	**22 56 01.0**	**+1.3**
	comp=Z,9.4nm,1.1s						
PEA2	**Petropavlovsk-**	**79.61**	**345**	*e*P	**P**	**22 56 02.4**	**-1.4**
PETK	**Petropavlovsk-**	**79.61**	**345**	P	**P**	**22 56 02.4**	**-1.4**
	comp=Z,28nm,0.8s,baz=159,slow=8.6,SNR=8.7						
KSRS	**Korea Array**	**79.89**	**319**	P	**P**	**22 56 05.3**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=133,slow=5.0,SNR=9.6						
KS15	**Wonju Array Si**	**79.91**	**318**	*e*P	**P**	**22 56 05.3**	**-0.5**
MONP	**Monument Peak,**	**80.67**	**48**	P	**P**	**22 56 11.2**	**+0.9**
	baz=81						
MYKOM	**Kota Tinggi**	**80.76**	**276**	*e*P	**P**	**22 56 08.7**	**-2.2**
	comp=Z,20nm,1.0s						
EDW2	**Edwards Air Fo**	**80.80**	**46**	P	**P**	**22 56 11.6**	**+0.9**
	baz=81						
ISA	**Isabella, Lake**	**80.96**	**45**	P	**P**	**22 56 13.3**	**+1.7**
	baz=81						
PFO	**Pinyon Flats O**	**81.07**	**47**	P	**P**	**22 56 13.4**	**+1.1**
	baz=81						
BELC	**Belle Mtn. Jos**	**81.60**	**47**	P	**P**	**22 56 16.3**	**+1.2**
	baz=82						
N02D	**Trinity Center**	**81.76**	**38**	P	**P**	**22 56 17.0**	**+1.3**
	baz=82						
BC3	**Big Chuckawall**	**81.77**	**48**	P	**P**	**22 56 17.3**	**+1.4**
	baz=82						
GSC	**Goldstone, Bar**	**81.83**	**46**	P	**P**	**22 56 17.1**	**+0.9**
	baz=82						
MPMC	**Manual Prospec**	**81.84**	**45**	P	**P**	**22 56 17.5**	**+1.2**
	baz=82						
HEC	**Hector,Ludlow**	**81.87**	**46**	P	**P**	**22 56 17.6**	**+1.2**
	baz=82						
M02C	**Callahan**	**81.95**	**38**	P	**P**	**22 56 18.0**	**+1.3**
	baz=82						
USRK	**Ussuriysk Ar.**	**82.12**	**326**	P	**P**	**22 56 17.1**	**-0.3**
	comp=Z,5.4nm,0.7s,baz=122,slow=2.9,SNR=16						
YBH	**Yreka Blue Hor**	**82.26**	**38**	*e*P	**P**	**22 56 17.9**	**-0.4**
YBH				pmax	pmax		
	comp=Z,84nm,2.8s						
YBH	**Yreka Blue Hor**	**82.26**	**38**	P	**P**	**22 56 19.9**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=234,slow=5.6,SNR=3.6						
YBH	**Yreka Blue Hor**	**82.26**	**38**	*e*P	**P**	**22 56 17.9**	**-0.4**
	comp=Z,84nm,2.8s						
IRM	**Iron Mountain**	**82.27**	**48**	P	**P**	**22 56 19.9**	**+1.5**
	baz=82						
GMRC	**Granite Mounta**	**82.29**	**47**	P	**P**	**22 56 19.8**	**+1.1**
	baz=82						
113A	**Mohawk Valley,**	**82.42**	**49**	P	**P**	**22 56 20.4**	**+1.2**
	baz=82						
Y12C	**Blythe**	**82.46**	**48**	P	**P**	**22 56 21.2**	**+1.9**
	baz=82						
TUQ	**Turquoise Moun**	**82.49**	**46**	P	**P**	**22 56 21.0**	**+1.3**
	baz=83						
NJ2	**Nanjing**	**82.62**	**310**	*e*P	**P**	**22 56 20.1**	**-0.1**
NJ2				PMZ			
	comp=Z,20nm,1.0s						
NV01	**Mina Array Sit**	**82.76**	**43**	*e*P	**P**	**22 56 22.2**	**+1.1**
NVAR	**Mina Array Bea**	**82.76**	**43**	P	**P**	**22 56 22.2**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=221,slow=8.3,SNR=10						
NVAR				PKKPbc	**PKKPbc**	**23 14 46.4**	**+0.8**
	comp=Z,0.4n

baz=88
LAZ Ladron 87.97 51 *e*P **P** **22 56 46.5 -0.4**
LTX Lajitas 88.05 57 *e*P **P** **22 56 48.9 +1.6**
LTX *e**PP **pP** **22 57 26.9 -2.6**
LTX Lajitas 88.05 57 *e*P **P** **22 56 48.9 +1.6**
LTX *e*pP **pP** **22 57 26.9 -2.6**
TXAR Lajitas Array 88.05 57 P **P** **22 56 48.9 +1.6**
comp=Z,1.6nm,0.8s,baz=217,slow=6.6,SNR=11
TXAR pP **pP** **22 57 26.9 -2.6**
comp=Z,1.8nm,0.9s,baz=216,slow=8.2,SNR=4.4
TXAR PKKPbc **PKKPbc** **23 14 33.4 +1.2**
comp=Z,0.3nm,0.6s,baz=73,slow=4.3,SNR=4.3
HLID Hailey 88.19 40 P **P** **22 56 49.1 +1.4**
baz=88
BNM Barren Site 88.20 51 *e*P **P** **22 56 46.3 -1.9**
PV10 Paradox Valley 88.71 47 *e*P P 22 56 46.2 -4.2
ANMO Albuquerque 88.73 51 *e*P **P** **22 56 51.6 +1.1**
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 88.73 51 *e*P **P** **22 56 49.5 -1.1**
comp=Z,22nm,2.0s
BJI Beijing 88.81 315 P **P** **22 56 50.3 -0.2**
BJI PMZ
comp=Z,11nm,0.7s
GYA Guiyang 89.02 299 P **P** **22 56 52.0 0.0**
GYA pP **pP** **22 57 36.8 +2.7**
GYA sP **sP** **22 57 56.0 +4.3**
GYA PP **PP** **23 00 27.3 +2.8**
GYA SKS **SKSac** **23 07 02.5 -3.6**
GYA S **S** **23 07 24.8 -1.5**
GYA SS **SS** **23 13 25.4 +1.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.8s
GYA LN
comp=Z,680nm,20.5s
GYA LE
comp=Z,590nm,21.2s
GYA LZ
comp=Z,660nm,20.8s
CAST Castle Rocks 89.06 11 *e*P **P** **22 56 49.8 -1.4**
comp=Z,9.9nm,0.8s
TNA Tin City 89.28 4 *e*P **P** **22 56 51.2 -0.9**
comp=Z,9.2nm,1.1s
KTH Kantishna Hill 89.39 11 *e*P **P** **22 56 51.8 -0.9**
comp=Z,17nm,1.0s
TRF Thorofare Moun 89.41 12 *e*P **P** **22 56 52.8 -0.2**
comp=Z,25nm,0.8s
SEY Seymchan 89.71 347 *e*P P 22 56 50.4 -3.7
S22A 4UR Ranch, Cre 89.88 48 P **P** **22 56 57.0 +1.0**
baz=90
MCK McKinley 89.92 12 *e*P **P** **22 56 54.8 -0.4**
MCK pmax pmax
comp=Z,19nm,1.1s
MCK McKinley 89.92 12 *e*P **P** **22 56 54.8 -0.4**
comp=Z,19nm,1.1s
429A Davenport Ranc 90.01 56 P **P** **22 56 57.0 +0.5**
baz=90
N20A Spence Gulch, 90.50 45 P **P** **22 56 59.2 +0.5**
baz=91
732A Laxson Ranch, 90.64 59 P **P** **22 57 00.2 +0.9**
baz=91
PD31 Pinedale Array 90.70 43 *e*P **P** **22 56 59.6 +0.1**
PD31 *e*pP **pP** **22 57 39.6 -2.2**
PDAR Pinedale Array 90.70 43 P **P** **22 56 59.6 +0.1**
comp=Z,1.7nm,0.8s,baz=213,slow=3.5,SNR=5.1
PDAR pP **pP** **22 57 39.6 -2.2**
comp=Z,0.8nm,1.0s,baz=265,slow=31,SNR=2.2
XAN Xi'an 90.79 307 P **P** **22 56 59.9 -0.1**
531A Rocksprings 90.83 57 P **P** **22 57 00.7 +0.4**
baz=91
DOT Dot Lake 90.86 14 *e*P **P** **22 56 58.5 -1.1**
comp=Z,10nm,1.0s
Z28A Tucker Farm, M 90.88 54 P **P** **22 57 00.1 -0.3**
baz=91
034A Hebbronville 90.92 61 P **P** **22 57 01.8 +1.1**
baz=91
BOZ Bozeman (W) 91.01 40 *e*P **P** **22 57 00.6 -0.3**
BOZ pmax pmax
comp=Z,3.0nm,0.6s
BOZ Bozeman (W) 91.01 40 *e*P **P** **22 57 00.6 -0.3**
comp=Z,3.0nm,0.6s
632A Uvalde 91.13 58 P **P** **22 57 01.6 0.0**
baz=91
COLA College 91.16 12*c i*P **P** **22 57 00.9 +0.1**
COLA pmax pmax
comp=Z,34nm,1.0s
COLA College 91.16 12 *e*P **P** **22 57 00.4 -0.4**
comp=Z,13nm,1.0s
ILAR Eielson Array 91.25 12 P **P** **22 57 00.9 -0.4**
comp=Z,2.2nm,0.8s,baz=221,slow=5.6,SNR=19
ILAR pP **pP** **22 57 40.4 -3.2**
comp=Z,3.0nm,1.0s,baz=226,slow=5.3,SNR=5.4
ILB Eielson Array 91.25 12 *e*P **P** **22 57 00.9 -0.4**
ILB *e*pP **pP** **22 57 40.4 -3.2**
O22A Kremmling 91.28 46 P **P** **22 57 02.8 +0.4**
baz=91
532A Rocksprings 91.31 58 P **P** **22 57 02.3 -0.2**
baz=91
U26A Atchley Ranch, 91.36 51 P **P** **22 57 02.2 -0.5**
baz=91
633A Saathoff Ranch 91.58 59 P **P** **22 57 04.1 +0.4**
baz=92
I19A Meeteetse 91.72 42 P **P** **22 57 05.0 +0.7**
baz=92
432A Menard 91.73 57 P **P** **22 57 04.7 +0.2**
baz=92
231A Bronte 91.81 56 P **P** **22 57 04.9 +0.1**
baz=92
533A Kerrville 91.96 58 P **P** **22 57 06.0 +0.5**
baz=92
332A Millersview 92.00 57 P **P** **22 57 06.0 +0.4**
baz=92
CM31 Chiang Mai Arr 92.03 289 *e*P **P** **22 57 07.0 +0.9**
CM31 *e*PP **PP** **23 00 49.0 +0.6**
CMAR Chiang Mai Arr 92.03 289 *i* P **P** **22 57 07.0 +1.0**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 92.03 289 P **P** **22 57 07.0 +1.0**
comp=Z,5.3nm,0.8s,baz=132,slow=3.3,SNR=32
CMAR PP **PP** **23 00 49.0 +0.6**
comp=Z,0.4nm,0.6s,baz=131,slow=7.2,SNR=4.4
131A Roby 92.09 55 P **P** **22 57 06.5 +0.5**
baz=92
S26A Kim 92.14 50 P **P** **22 57 06.6 +0.4**
baz=92
433A Art 92.22 57 P **P** **22 57 06.8 +0.2**
baz=92
HHC Hu-ho-hao-te 92.24 314 *e*P **P** **22 57 08.4 +1.8**
HHC sP **sP** **22 58 05.8 -0.6**
HHC S **S** **23 07 55.3 +0.3**
HHC SS **SS** **23 14 12.0 +2.1**
HHC PMZ
comp=Z,13nm,0.8s
HHC PMZ
comp=Z,96nm,4.3s
232A Coleman 92.30 56 P **P** **22 57 07.5 +0.4**
baz=92
DAWY Dawson 92.31 16 *e*P **P** **22 57 07.3 +1.1**
534A Blanco 92.38 58 P **P** **22 57 08.0 +0.6**
baz=92
EGAK Eagle 92.48 15 *e*P **P** **22 57 06.8 -0.2**
comp=Z,9.3nm,1.0s
333A Richland Sprin 92.56 57 P **P** **22 57 08.4 +0.2**
baz=93
Z31A Sharp Cattle R 92.56 55 P **P** **22 57 08.7 +0.5**
baz=93
I21A Big Trails, Te 92.65 43 P **P** **22 57 09.3 +0.8**
baz=93
434A Burnet 92.88 58 P **P** **22 57 10.1 +0.4**
baz=93
334A Lometa 93.13 57 P **P** **22 57 11.3 +0.4**
baz=93
CD2 Chengdu 93.27 302 *e*P **P** **22 57 12.0 +0.5**
CD2 pP **pP** **22 57 57.0 +3.2**
CD2 sP **sP** **22 58 15.8 +4.4**
CD2 PP **PP** **23 01 02.0 +4.1**
CD2 SKS **SKSac** **23 07 28.1 -1.9**
CD2 S **S** **23 08 01.8 -2.7**
CD2 sS **sS** **23 09 20.3 +1.9**
CD2 SS **SS** **23 14 27.1 +2.1**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s

LZH Lanzhou 95.43 307 *e*P **P** **22 57 22.5 +1.1**
LZH pP **pP** **22 58 05.1 +1.4**
LZH sP **sP** **22 58 23.6 +2.3**
LZH PP **PP** **23 01 18.5 +3.8**
LZH SKS **SKSac** **23 07 36.0 -5.6**
LZH S **S** **23 08 19.0 -4.3**
LZH sS sS 23 09 31.8 -5.6
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,110nm,4.6s
LZH LN
comp=Z,380nm,14.2s
LZH LE
comp=Z,440nm,15.5s
LZH LZ
comp=Z,780nm,17.1s
JTS JuntasAbangare 95.95 81 *e*P **P** **22 57 23.7 -0.4**
JTS pmax pmax
comp=Z,31nm,1.7s
ULN Ulaanbaatar 98.38 319 *e*P Pdif 22 57 36.4 +1.9
ULN pmax pmax
comp=Z,1.0nm,1.2s
SONA0 Songino Array 98.76 318 *e*P Pdif 22 57 36.5 +0.3
SONA0 *e*PP **PP** **23 01 36.0 -4.0**
SONM Songino Array 98.76 318 P Pdif 22 57 36.5 +0.3
comp=Z,0.2nm,0.6s,baz=114,slow=3.5,SNR=3.3
SONM PP **PP** **23 01 36.0 -4.0**
comp=Z,0.6nm,0.9s,baz=114,slow=6.5,SNR=2.5
YKA Yellowknife Ar 99.06 25 P **Pdif** **22 57 36.8 0.0**
comp=Z,0.3nm,0.9s,baz=246,slow=4.6,SNR=3.3
YKA PKKPbc **PKKPbc** **23 14 02.4 -2.1**
comp=Z,0.6nm,0.7s,baz=38,slow=2.6,SNR=6.9
YKB5 Yellowknife Ar 99.06 25 *e*P **Pdif** **22 57 36.9 0.0**
GTA Gaotai 99.69 309 *e*P **Pdif** **22 57 46.0 +5.5**
GTA PMZ
comp=Z,3.0nm,0.8s
LPAZ La Paz 100.00 113 PKKPbc PKKPbc 23 14 00.6 -0.2
comp=Z,1.3nm,0.8s,baz=38,slow=5.9,SNR=6.0
TAPN Taplejung 104.93 294 *e*P **PKiKP** **23 02 19.0 +0.5**
comp=Z,20nm,1.2s
ODAN Odare 105.03 293 *e*P **PKiKP** **23 02 17.4 -1.2**
comp=Z,51nm,1.0s
WMQ Urumqi 109.70 310 *e*PKPbc 23 02 28.0
WMQ PP PP 23 03 08.0 +6.9
WMQ sPKP 23 03 27.0
WMQ PKS PKSdf 23 06 03.0 -0.1
WMQ SKS **SKSdf** **23 09 23.0 +0.2**
WMQ SKKS **SKKSac** **23 09 44.0 -2.8**
WMQ Urumqi 109.70 310 SS SS 23 18 18.0 +6.3
WMQ AMB AMB
comp=Z,200nm,6.0s
WMQ LR LR
comp=N,400nm,16.9s
WMQ LR LR
comp=E,430nm,13.0s
WMQ LR LR
comp=Z,420nm,19.2s
RES Resolute Bay 110.63 16 PKKPab PKKPab 23 13 38.8 +2.8
comp=Z,0.6nm,0.8s,baz=62,slow=2.9,SNR=4.8
KSH Kashi 117.44 304 *e*PKP **PKPdf** **23 02 45.3 +3.7**
KSH sPKP 23 03 44.4
KSH SKS **SKSdf** **23 09 39.9 +1.9**
KSH PPMZ
comp=Z,66nm,3.6s
KSH LN
comp=Z,150nm,6.6s
KSH LE
comp=Z,180nm,6.7s
KSH LZ
comp=Z,320nm,14.4s
OPO Ambohidratompo 119.76 230 PKP **PKPdf** **23 02 47.2 +0.5**
comp=Z,2.5nm,0.7s,baz=120,slow=8.1,SNR=3.7
SUR Sutherland 121.66 198 PKP **PKPdf** **23 02 51.1 +1.0**
comp=Z,7.4nm,0.9s,baz=68,slow=6.8,SNR=3.5
KBL Kabul 122.19 297 *e*PKIKP **PKPdf** **23 02 51.5 +0.5**
KBL Kabul 122.19 297 *e*PKPdf **PKPdf** **23 02 51.5 +0.5**
SUMG Summit 126.06 14 *e*PKIKP **PKPdf** **23 03 00.0 +2.5**
SUMG pmax pmax
comp=Z,3.0nm,1.0s
SUMG Summit 126.06 14 *i* P **PKPdf** **23 03 00.0 +2.5**
comp=Z,3.2nm,1.0s
ARU Arti 128.35 324 *i* PKIKP **PKPdf** **23 03 02.5 +0.7**
ARU 23 05 07.9
ARU 23 09 53.5
GEYT Alibeck 131.23 300 PKP **PKPdf** **23 03 08.0 0.0**
comp=Z,4.3nm,0.8s,baz=250,slow=3.0,SNR=4.7
GEYT SKPbc **SKPab** **23 06 18.8 +1.1**
comp=Z,2.8nm,1.0s,baz=57,slow=5.5,SNR=5.5
ARA0 ARCESS Array S 132.24 350 *e*PKPpre PKPpre 23 02 58.5
ARA0 *e*PKPdf **PKPdf** **23 03 09.2 +0.3**
ARCES ARCESS Array B 132.24 350 PKhKP PKPpre 23 02 58.5
comp=Z,6.4nm,1.1s,baz=77,slow=1.9,SNR=5.0
ARCES PKP **PKPdf** **23 03 09.2 +0.3**
comp=Z,5.8nm,0.8s,baz=21,slow=0.9,SNR=6.7
LSZ Lusaka 134.06 215 PKP **PKPdf** **23 03 14.5 +0.5**
comp=Z,3.8nm,0.8s,baz=18,slow=3.7,SNR=8.5
TSUM Tsumeb 135.01 200 PKP **PKPdf** **23 03 17.9 +2.1**
comp=Z,2.2nm,1.0s,baz=126,slow=4.7,SNR=4.3
JOF Joensuu 136.46 342 *e*PKIKP **PKPdf** **23 03 16.3 -0.6**
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 136.46 342 *e*pkp **PKPdf** **23 03 16.3 -0.6**
comp=Z,4.8nm,0.7s
KAF Kangasniemi 138.49 344 *e*PKHKP PKPpre 23 03 11.6
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 138.49 344 *e*pkp PKPpre 23 03 11.6
comp=Z,1.8nm,0.6s
KMBO Kilima Mbogo 138.53 238 PKP **PKPdf** **23 03 23.9 +1.3**
comp=Z,2.9nm,0.8s,baz=18,slow=3.9,SNR=7.9
MAK Makhachkala 138.70 309 *e* **PKiKP** **23 03 26.8 +3.0**
MAK *e* 23 04 24.1
MAK pmax pmax
comp=Z,236nm,15.0s
MAK MLR MLR
comp=Z,489nm,16.0s
FIA0 FINESS Array S 139.11 343 *e*PKHKP PKPpre 23 03 12.7
FIA0 *e* 23 03 23.6
FIA0 FINESS Array S 139.11 343 *e*PKPpre PKPpre 23 03 12.7
FIA0 *e*PKPdf **PKiKP** **23 03 23.6 -0.5**
FIA0 *e*SKPbc **SKPbc** **23 06 42.4 +1.2**
FINES FINESS Array B 139.11 343 PKhKP PKPpre 23 03 12.7
comp=Z,2.6nm,0.7s,baz=48,slow=5.7,SNR=9.3
FINES PKP **PKiKP** **23 03 23.6 -0.5**
comp=Z,5.1nm,0.7s,baz=119,slow=3.7,SNR=14
FINES SKPbc **SKPbc** **23 06 42.4 +1.2**
comp=Z,2.7nm,0.9s,baz=35,slow=5.1,SNR=4.6
OBN Obninsk 140.00 330 *e*PKIKP **PKPdf** **23 03 23.8 +0.2**
OBN pmax pmax
comp=Z,9.0nm,1.2s
GNI Garni 141.34 305 *i* PKIKP **PKPdf** **23 03 27.4 +0.6**
GNI Garni 141.34 305 *e*PKPdf **PKPdf** **23 03 26.2 -0.6**
KBZ Khabaz 141.73 311 PKhKP PKPpre 23 03 21.7
comp=Z,3.0nm,0.8s,baz=236,slow=24,SNR=5.2
KIV Kislovodsk 141.80 312 *e*PKHKP PKPpre 23 03 21.8
KIV Kislovodsk 141.80 312 *e*PKPpre PKPpre 23 03 21.8
NB2 NORSAR Subarra 142.28 353 PKP PKPpre 23 03 23.3
comp=Z,4.0nm,1.0s,baz=16,slow=3.2
NB200 NORSAR Array S 142.28 353 *e*PKPpre PKPpre 23 03 22.7
NOA NORSAR Array B 142.28 353 PKhKP PKPpre 23 03 22.7
comp=Z,6.2nm,1.1s,baz=27,slow=2.6,SNR=6.8
CHVG Ch'k'valeri 142.61 310 P **PKPdf** **23 03 24.8 -4.0**
MICGM Minsk 144.08 335⇑ *e*P **PKPab** **23 03 27.0 -1.9**
MNK Minsk 144.10 335⇑ *e*PKHKP PKPpre 23 03 27.0
MNK pmax pmax
comp=Z,250nm,1.0s
NACGM Naroch 144.18 337 *e* **PKPab** **23 03 27.0 -2.2**
ANN Anapa 144.98 315*d i*PKHKP PKPpre 23 03 32.1
ANN *i* 23 03 36.4
ANN *e* 23 10 26.2
ANN pmax pmax
comp=Z,137nm,0.9s
SUW Suwalki 146.16 339 *e*PKHKP **PKPbc** **23 03 35.6 -0.2**
SUW Suwalki 146.16 339 *e*PKP **PKPbc** **23 03 35.6 -0.2**
SUW Suwalki 146.16 339 *e*PKPdf **PKPdf** **23 03 34.3 -0.2**
AKASG Malin Array Be 146.25 330 PKPbc **PKPbc** **23 03 35.5 -0.7**
comp=Z,67nm,0.7s,baz=42,slow=4.3,SNR=272
AKASG SKPbc **SKiKP** **23 07 00.5 +1.0**
comp=Z,2.5nm,0.8s,baz=44,slow=2.7,SNR=5.7
AKBB Malin Array Si 146.25 330 *e*PKHKP **PKPbc** **23 03 35.5 -0.7**
AKBB *e* 23 07 00.5
AKBB Malin Array Si 146.25 330 *e*PKPdf **PKPbc** **23 03 35.5 -0.7**
AKBB *e*PP **PP** **23 07 00.5 +0.8**
KIEV Kiev 146.26 330 *e*PKHKP **PKPdf** **23 03 34.7 -0.1**

KIEV Kiev 146.26 330 *e*PKPdf **PKPdf** **23 03 34.7 -0.1**
MALT Malatya 146.54 304 ⇓ *i*PKIKP **PKPab** **23 03 38.3 -0.6**
MALT Malatya 146.54 304 ⇓ *i*P **PKPab** **23 03 38.3 -0.6**
MUD Monsted U'grnd 146.99 354 *i* PKHKP **PKPab** **23 03 39.3 -0.6**
MUD pmax pmax
comp=Z,19nm,0.9s
MUD Monsted U'grnd 146.99 354 *i* P **PKPab** **23 03 39.3 -0.6**
comp=Z,19nm,0.8s
SIM Simferopol' 147.00 318 *e*PKIKP **PKPbc** **23 03 39.4 +0.9**
SIM *i* 23 03 44.3
SIM *e* 23 04 21.0
SIM pmax pmax
comp=Z,77nm,0.9s
COP Copenhagen 147.32 350 *i* PKIKP **PKPab** **23 03 41.3 +0.1**
COP pmax pmax
comp=Z,26nm,0.8s
COP Copenhagen 147.32 350 *i* P **PKPab** **23 03 41.3 +0.1**
comp=Z,26nm,0.8s
BSD Bornholm Skovb 147.42 347 *i* PKIKP **PKPab** **23 03 41.3 -0.3**
BSD pmax pmax
comp=Z,51nm,0.8s
BSD Bornholm Skovb 147.42 347 *i* P **PKPab** **23 03 41.3 -0.3**
comp=Z,51nm,0.8s
ZALF Zalf 148.51 295 *i* P **PKPbc** **23 03 43.5 +0.5**
GKP Gorka Klasztor 148.58 344 *e*PKHKP **PKPbc** **23 03 43.1 +0.7**
GKP Gorka Klasztor 148.58 344 *e*PKP **PKPbc** **23 03 43.0 +0.7**
BTCH Batrach 148.63 301 *i* P **PKPbc** **23 03 44.4 +1.2**
BEL Belsk 148.78 339 *e*PKIKP **PKPbc** **23 03 44.0 +1.0**
BEL Belsk 148.78 339 *e*PKP **PKPbc** **23 03 43.9 +1.0**
WRDH Warideh 148.79 300 *i* P **PKPbc** **23 03 43.9 +0.3**
KIS Kishinev 148.90 325 *e*PKHKP **PKPdf** **23 03 40.0 +0.7**
KIS Kishinev 148.90 325 *e*PKP **PKPdf** **23 03 40.0 +0.7**
ASF Jabal al Asfar 148.97 293 PKPbc **PKPbc** **23 03 45.1 +0.9**
comp=Z,28nm,0.8s,baz=71,slow=1.5,SNR=58
HAWK Haweek 149.00 298 *i* P **PKPbc** **23 03 45.0 +0.7**
SALA Sala 149.04 294 *i* P **PKPbc** **23 03 45.3 +0.8**
ARNB Al Arnab 149.06 301 *i* P **PKPbc** **23 03 45.9 +1.6**
LVV L'vov 149.18 333 *e*PKHKP **PKPbc** **23 03 43.6 -0.5**
BSEG Bad Segeberg 149.33 351 *e*PKPbc **PKPbc** **23 03 44.8 +0.6**
IAS Iasi 149.42 326⇑ *e*PKHKP **PKPbc** **23 03 44.8 +0.1**
IAS Iasi 149.42 326⇑ *i*P **PKPbc** **23 03 44.8 +0.1**
BRBR Barbar 149.58 296 *i* P **PKPbc** **23 03 47.6 +1.8**
BR101 Keskin Array S 149.61 309 *e*PKPdf **PKPdf** **23 03 40.1 -0.7**
BR101 *e*PKPbc **PKPbc** **23 03 45.2 -0.4**
BRTR Keskin Array B 149.61 309 PKP **PKPdf** **23 03 40.1 -0.7**
comp=Z,1.6nm,0.9s,baz=151,slow=2.8,SNR=6.1
BRTR PKPbc **PKPbc** **23 03 45.2 -0.4**
comp=Z,16nm,0.8s,baz=132,slow=3.4,SNR=70
TCHB Talchebab 149.68 294 *i* P **PKPbc** **23 03 47.0 +1.2**
KWP Kalwaria Pacla 149.87 334⇑ *e*PKHKP **PKPbc** **23 03 46.6 +0.8**
KWP Kalwaria Pacla 149.87 334 *e*PKP **PKPbc** **23 03 46.1 +0.3**
KWP Kalwaria Pacla 149.87 334⇑ *i*P **PKPbc** **23 03 46.6 +0.8**
TLCR 150.02 322 ⇓ *e*PKHKP **PKPbc** **23 03 46.2 0.0**
TLCR 150.02 322 ⇓ *i*P **PKPbc** **23 03 46.2 0.0**
RUE Ruedersdorf 150.13 347 *e*PKPbc **PKPbc** **23 03 46.5 +0.3**
ANTO Ankara 150.16 310 ⇓ *e*PKHKP **PKPbc** **23 03 47.2 +0.3**
ANTO Ankara 150.16 310 ⇓ *i*P **PKPbc** **23 03 47.2 +0.3**
ANTO Ankara 150.16 310 *e*PKPbc **PKPbc** **23 03 47.0 +0.2**
BURAR Bucovina Array 150.29 329⇑ *e*PKHKP **PKPbc** **23 03 47.9 +0.9**
BURAR Bucovina Array 150.29 329⇑ *i*P **PKPbc** **23 03 47.9 +0.9**
TESR Tescani 150.34 326 ⇓ *i*P **PKPbc** **23 03 46.5 -0.5**
CFR Carcaliu 150.40 322 ⇓ *e*PKHKP **PKPbc** **23 03 47.4 +0.3**
CFR Carcaliu 150.40 322 ⇓ *i*P **PKPbc** **23 03 47.4 +0.3**
OJC Ojcow 150.48 338 *e*PKIKP **PKPbc** **23 03 45.9 -1.3**
OJC Ojcow 150.48 338 *e*PKP **PKPbc** **23 03 47.9 +0.7**
OJC Ojcow 150.48 338 *e*PKPbc **PKPbc** **23 03 45.9 -1.3**
KOLS Kolonicke sedl 150.59 334 *e*PKIKP **PKPbc** **23 03 48.5 +1.0**
KOLS Kolonicke sedl 150.59 334 *e*PKP **PKPbc** **23 03 48.5 +1.0**
STHS Stebnicka Huta 150.62 335 *e*PKIKP **PKPbc** **23 03 48.7 +1.1**
STHS Stebnicka Huta 150.62 335 *e*PKP **PKPbc** **23 03 48.7 +1.1**
VRI Vrincioaia 150.73 325 ⇓ *e*PKIKP **PKPbc** **23 03 47.9 0.0**
VRI Vrincioaia 150.73 325 ⇓ *i*P **PKPbc** **23 03 47.9 0.0**
NRDL Niedersach Rie 150.76 351 *e*PKPbc **PKPbc** **23 03 48.1 +0.4**
PLOR Plostina 150.78 325⇑ *e*PKIKP **PKPbc** **23 03 47.1 -1.0**
PLOR Plostina 150.78 325⇑ *i*P **PKPbc** **23 03 47.0 -1.0**
HARR Harsova 150.82 322 ⇓ *e*PKIKP **PKPbc** **23 03 48.6 +0.5**
HARR Harsova 150.82 322 ⇓ *i*P **PKPbc** **23 03 48.6 +0.5**
TLB Topalu 150.82 322⇑ *e*PKIKP **PKPbc** **23 03 48.0 -0.1**
TLB Topalu 150.82 322⇑ *i*P **PKPbc** **23 03 48.0 -0.1**
UZH Uzhgorod 150.82 333 *e*PKIKP **PKPbc** **23 03 47.8 -0.2**
UZH *e* 23 03 54.2
UZH *e* 23 04 26.6
CRVS Cervenica-Dubn 150.95 334 *e*PKIKP **PKPbc** **23 03 49.4 +1.1**
CRVS Cervenica-Dubn 150.95 334 *e*PKP **PKPbc** **23 03 49.4 +1.1**
MANR Mangalia 150.96 320⇑ *i*P **PKPbc** **23 03 49.0 +0.5**
NIE Niedzica 150.96 336 *e*PKIKP **PKPbc** **23 03 49.3 +0.9**
NIE Niedzica 150.96 336 *e*PKP **PKPbc** **23 03 49.1 +0.7**
KSP Ksiaz 151.03 342 *i* PKIKP **PKPbc** **23 03 49.1 +0.7**
KSP Ksiaz 151.03 342 *e*PKP **PKPbc** **23 03 49.2 +0.8**
TRPA Tarpa 151.11 332 ⇓ *i*P **PKPbc** **23 03 49.2 +0.5**
PGOR Pogoanele 151.21 323⇑ *i*P **PKPbc** **23 03 49.8 +0.8**
IBBN Ibbenburen 151.23 354 *e*PKPbc **PKPbc** **23 03 49.2 +0.4**
IBBN *e*PKPab **PKPab** **23 03 57.5 +0.2**
MSAB Monastry St. A 151.24 321⇑ *i*P **PKPbc** **23 03 49.5 +0.4**
PSN Preselentsi 151.27 320 ⇓ *e*PKIKP **PKPbc** **23 03 50.0 +0.8**
PSN Preselentsi 151.27 320 ⇓ *i*P **PKPbc** **23 03 50.0 +0.8**
OKC Ostrava-Krasne 151.36 339 *e*PKIKP **PKPbc** **23 03 50.1 +0.9**
OKC MLR MLR
comp=Z,700nm,19.5s
OKC Ostrava-Krasne 151.36 339⇑ *e*PKP **PKPbc** **23 03 50.1 +0.9**
OKC *e*PKPAB **PKPab** **23 03 55.9 -2.0**
DOPR Dopca 151.36 326⇑ *i*P **PKPbc** **23 03 50.0 +0.6**
CLZ Clausthal 151.36 350 *e*PKPbc **PKPbc** **23 03 50.0 +0.8**
CSS Prodhromos 151.37 300 *e*PKPbc **PKPbc** **23 03 48.4 -1.4**
MLR Muntele Rosu 151.39 325⇑ *e*PKIKP **PKPbc** **23 03 49.8 +0.2**
MLR Muntele Rosu 151.39 325⇑ *i*P **PKPbc** **23 03 49.8 +0.2**
CLL Collm 151.40 347 *e*PKPbc **PKPbc** **23 03 49.7 +0.4**
CLL Collm 151.40 347 ⇓ *i*PKIKP **PKPbc** **23 03 49.6 +0.4**
CLL *e* 23 04 30.0
CLL pmax pmax
comp=Z,41nm,0.8s
CLL pmax pmax
comp=Z,43nm,0.8s
CLL Collm 151.40 347 ⇓ *i*PKPbc **PKPbc** **23 03 49.6 +0.4**
comp=Z,41nm,0.8s
CLL *i* PKPab **PKPab** **23 03 56.0 -2.0**
comp=Z,43nm,0.8s
CLL *e*pPKPbc **pPKPbc** **23 04 30.0 -3.3**
CLL *i* (pPKPab) 23 04 34.2
CLL Collm 151.40 347 *e*PKPbc **PKPbc** **23 03 49.7 +0.4**
UPC Upice 151.41 342 *e*PKIKP **PKPbc** **23 03 50.2 +0.9**
UPC *e* 23 03 56.7
UPC Upice 151.41 342⇑ *e*PKP **PKPbc** **23 03 50.2 +0.9**
UPC *e*PKPAB **PKPab** **23 03 56.7 -1.4**
DPC Dobruska-Polom 151.46 342 *e*PKIKP **PKPbc** **23 03 50.3 +0.8**
DPC Dobruska-Polom 151.46 342⇑ *e*PKP **PKPbc** **23 03 50.3 +0.8**
DPC *e*PKPAB **PKPab** **23 03 56.5 -1.9**
DPC Dobruska-Polom 151.46 342 *e*PKPbc **PKPbc** **23 03 50.0 +0.4**
KRLC Kraliky 151.57 341 *e*PKIKP **PKPbc** **23 03 50.3 +0.5**
KRLC Kraliky 151.57 341⇑ *e*PKP **PKPbc** **23 03 50.3 +0.5**
BRG Berggiesshubel 151.59 345 *e*PKP **PKPdf** **23 03 44.0 +0.6**
comp=Z,3.2nm,1.2s
BRG *i* 23 03 50.4
comp=Z,29nm,0.8s
BRG *i* 23 03 56.4
comp=Z,40nm,0.9s
BRG *i* pPKP **pPKPdf** **23 04 30.6 +2.9**
comp=Z,9.8nm,1.1s
BRG Berggiesshubel 151.59 345 *e*PKPbc **PKPbc** **23 03 50.3 +0.6**
BRG Berggiesshubel 151.59 345 *e*PKIKP **PKPdf** **23 03 44.0 +0.6**
BRG *i* 23 03 50.4
BRG *i* 23 04 30.6
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG pmax pmax
comp=Z,29nm,0.8s
BRG pmax pmax
comp=Z,40nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 151.60 340⇑ *e*PKIKP **PKPbc** **23 03 50.8 +0.9**
MORC Moravsky Berou 151.60 340⇑ *i*P **PKPbc** **23 03 50.8 +0.9**
MORC Moravsky Berou 151.60 340 *e*PKPbc **PKPbc** **23 03 49.6 -0.2**
WTSB Winterswijk 151.65 355 *e*PKPbc **PKPbc** **23 03 50.1 +0.3**
comp=Z,31nm,0.7s
WTSB *e*PKPab **PKPab** **23 03 56.6 -2.4**
comp=Z,47nm,1.0s
CJR Cluj-Napoca 151.71 329⇑ *e*PKIKP **PKPbc** **23 03 50.9 +0.7**
CJR Cluj-Napoca 151.71 329⇑ *i*P **PKPbc** **23 03 50.9 +0.7**
PVCC Panska Ves 151.76 344 *e*PKIKP **PKPbc** **23 03 50.9 +0.8**
PVCC MLR MLR
comp=Z,1μm,17.8s

PVCC	**Panska Ves**	**151.76**	**344**	⇑*e*PKP	**PKPbc**	**23 03 50.9**	**+0.8**
PVCC				*e*PKPAB	**PKPab**	**23 03 57.3**	**-2.3**
VOIR		**151.89**	**326**	⇑PKIKP	**PKPbc**	**23 03 50.4**	**-0.3**
VOIR		**151.89**	**326**	⇑*i*P	**PKPbc**	**23 03 50.4**	**-0.3**
DRGR		**152.06**	**330**	⇑PKIKP	**PKPbc**	**23 03 51.5**	**+0.5**
DRGR		**152.06**	**330**	⇑*i*P	**PKPbc**	**23 03 51.5**	**+0.5**
ARR	**Arges**	**152.16**	**326**	⇓*i*P	**PKPbc**	**23 03 51.9**	**+0.6**
PRA	**Prague**	**152.22**	**344**	*e*PKIKP	**PKPbc**	**23 03 51.7**	**+0.5**
PRA	**Prague**	**152.22**	**344**	⇑*e*PKP	**PKPbc**	**23 03 51.7**	**+0.5**
PRA				*e*PKPAB	**PKPab**	**23 03 58.0**	**-3.5**
PRU	**Pruhonice**	**152.27**	**344**	*e*PKIKP	**PKPbc**	**23 03 51.5**	**+0.2**
PRU				*e*		23 03 57.7	
PRU	**Pruhonice**	**152.27**	**344**	⇑*e*PKP	**PKPbc**	**23 03 51.5**	**+0.2**
PRU				*e*PKPAB	**PKPab**	**23 03 57.7**	**-4.1**
VYHS	**Vyhne**	**152.27**	**337**	*e*PKIKP	**PKPbc**	**23 03 51.8**	**+0.4**
VYHS	**Vyhne**	**152.27**	**337**	*e*PKP	**PKPbc**	**23 03 51.8**	**+0.4**
GOPC	**GO Pecny, Ondr**	**152.27**	**343**	⇑*e*PKP	**PKPbc**	**23 03 52.0**	**+0.7**
GOPC				*e*PKPAB	**PKPab**	**23 03 57.8**	**-4.0**
MOX	**Moxa**	**152.30**	**348**	*e*PKPbc	**PKPbc**	**23 03 51.8**	**+0.4**
VRAC	**Vranov**	**152.31**	**341**	⇓PKIKP	**PKPbc**	**23 03 50.2**	**-1.2**
VRAC	**Vranov**	**152.31**	**341**	⇓*i*P	**PKPbc**	**23 03 50.2**	**-1.2**
PSZ	**Piszkesteto**	**152.35**	**335**	⇑PKIKP	**PKPbc**	**23 03 50.2**	**-1.5**
PSZ	**Piszkesteto**	**152.35**	**335**	⇑*i*P	**PKPbc**	**23 03 50.2**	**-1.5**
PSZ	**Piszkesteto**	**152.35**	**335**	*e*PKPbc	**PKPbc**	**23 03 51.0**	**-0.7**
UBBA	**Unterbreizbach**	**152.41**	**350**	*e*PKPbc	**PKPbc**	**23 03 51.9**	**+0.5**
LOT	**Lotru**	**152.53**	**327**	⇑*i*P	**PKPbc**	**23 03 52.0**	**-0.2**
HUMR	**Humele**	**152.54**	**324**	⇑*i*P	**PKPbc**	**23 03 51.5**	**-0.6**
TREC	**Trest**	**152.65**	**342**	*e*PKIKP	**PKPbc**	**23 03 52.7**	**+0.5**
TREC				*e*		23 03 58.4	
TREC	**Trest**	**152.65**	**342**	⇑*e*PKP	**PKPbc**	**23 03 52.7**	**+0.5**
TREC				*ex*	x	23 03 58.4	
HGN	**Heimansgroeve**	**152.91**	**356**	*e*PKPbc	**PKPbc**	**23 03 53.4**	**+0.7**
	comp=Z,14nm,1.1s						
HGN				*e*PKPab	**PKPab**	**23 04 04.4**	**0.0**
	comp=Z,28nm,0.9s						
SIRR	**Siria**	**152.93**	**331**	⇑*i*P	**PKPbc**	**23 03 52.6**	**-0.3**
ROTZ	**Rotzenmuhle**	**153.02**	**347**	*e*PKPbc	**PKPbc**	**23 03 53.7**	**+0.7**
ROTZ				*e*PKPab	**PKPab**	**23 04 05.0**	**+0.1**
GZR	**Gura Zlata**	**153.06**	**328**	⇓PKIKP	**PKPbc**	**23 03 52.2**	**-1.1**
GZR	**Gura Zlata**	**153.06**	**328**	⇓*i*P	**PKPbc**	**23 03 52.2**	**-1.1**
TNS	**Taunus Mts**	**153.21**	**352**	*e*PKPab	**PKPab**	**23 04 05.7**	**-0.1**
GRF	**Grafenberg Arr**	**153.29**	**348**	*e*PKPab	**PKPab**	**23 04 06.1**	**0.0**
KHC	**Kasperske Hory**	**153.30**	**344**	*e*PKIKP	**PKPdf**	**23 03 46.3**	**+0.3**
KHC				*e*		23 03 52.9	
KHC				*e*		23 04 06.0	
KHC				MLR	MLR		
	comp=Z,800nm,20.2s						
KHC	**Kasperske Hory**	**153.30**	**344**	*e*PKPDF	**PKPdf**	**23 03 46.3**	**+0.3**
KHC				⇑*e*PKP	**PKPbc**	**23 03 52.9**	**-0.8**
KHC				*ex*	x	23 03 59.9	
KHC				*e*PKPAB	**PKPab**	**23 04 06.0**	**-0.2**
BZS	**Buzias**	**153.44**	**330**	⇑PKIKP	**PKPbc**	**23 03 53.7**	**-0.3**
BZS	**Buzias**	**153.44**	**330**	⇑*i*P	**PKPbc**	**23 03 53.7**	**-0.3**
WET	**Wettzell**	**153.46**	**345**	*e*PKPab	**PKPab**	**23 04 06.9**	**+0.1**
GEC2	**GERESS Array S**	**153.54**	**344**	*e*PKPbc	**PKPbc**	**23 03 54.5**	**+0.2**
GEC2				*e*PKPab	**PKPab**	**23 04 07.3**	**0.0**
GEC2	**GERESS Array S**	**153.54**	**344**	*e*PKIKP	**PKPdf**	**23 03 46.0**	**-0.4**
GEC2				*e*		23 03 54.9	
GEC2				*e*		23 04 07.1	
GEC2	**GERESS Array S**	**153.54**	**344**	*e*PKPdf	**PKPdf**	**23 03 46.0**	**-0.4**
GEC2				*e*PKPbc	**PKPbc**	**23 03 54.5**	**+0.2**
GEC2				*e*PKPbc	**PKPbc**	**23 03 54.9**	**+0.6**
GEC2				*e*PKPab	**PKPab**	**23 04 07.0**	**-0.2**
GERES	**GERESS Array B**	**153.54**	**344**	PKP	**PKPdf**	**23 03 46.6**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=329,slow=1.6,SNR=7.9						
GERES				PKPbc	**PKPbc**	**23 03 54.5**	**+0.2**
	comp=Z,4.3nm,1.0s,baz=48,slow=2.0,SNR=11						
GERES				PKPab	**PKPab**	**23 04 07.0**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=20,slow=4.3,SNR=7.2						
CONA	**Conrad Observa**	**153.76**	**340**	⇑*i*PKIKP	**PKiKP**	**23 03 55.1**	**+0.2**
	comp=Z,18nm,0.9s						
WLF	**Walferdange**	**153.99**	**355**	*e*PKPbc	**PKPbc**	**23 03 55.1**	**0.0**
WLF				*e*PKPab	**PKPab**	**23 04 09.2**	**+0.2**
WLF				*ep*PKPab	**pPKPab**	**23 04 51.0**	**-0.7**
WLF	**Walferdange**	**153.99**	**355**	*e*PKIKP	**PKPdf**	**23 03 48.1**	**+1.2**
WLF	**Walferdange**	**153.99**	**355**	*e*PKPdf	**PKPdf**	**23 03 48.1**	**+1.2**
KDZ	**Kurdzhali**	**154.12**	**319**	⇓PKIKP	**PKPbc**	**23 03 51.8**	**-3.8**
KDZ	**Kurdzhali**	**154.12**	**319**	⇓*i*P	**PKPbc**	**23 03 51.8**	**-3.8**
PKSM	**Moragy**	**154.25**	**334**	⇑PKIKP	**PKPbc**	**23 03 55.9**	**+0.2**
PKSM	**Moragy**	**154.25**	**334**	⇑*i*P	**PKPbc**	**23 03 55.9**	**+0.2**
STU	**Stuttgart**	**154.53**	**350**	*e*PKPab	**PKPab**	**23 04 10.9**	**-0.4**
STU	**Stuttgart**	**154.53**	**350**	*e*PKIKP	**PKPdf**	**23 03 47.8**	**+0.1**
STU	**Stuttgart**	**154.53**	**350**	*e*PKPdf	**PKPdf**	**23 03 47.8**	**+0.1**
FUR	**Furstenfeldbru**	**154.73**	**347**	*e*PKPab	**PKPab**	**23 04 12.2**	**-0.1**
RJOB	**Jochberg**	**154.79**	**344**	*e*PKPab	**PKPab**	**23 04 13.1**	**+0.5**
VTS	**Vitosha**	**154.79**	**323**	⇑PKIKP	**PKPbc**	**23 03 57.3**	**+0.1**
VTS	**Vitosha**	**154.79**	**323**	⇑*i*P	**PKPbc**	**23 03 57.3**	**+0.1**
BFO	**Black Forest**	**155.08**	**351**	*e*PKPab	**PKPab**	**23 04 13.4**	**-0.4**
BFO	**Black Forest**	**155.08**	**351**	*e*PKIKP	**PKPdf**	**23 03 48.7**	**+0.2**
BFO	**Black Forest**	**155.08**	**351**	*e*PKPdf	**PKPdf**	**23 03 48.7**	**+0.2**
BFO				*e*PKPab	**PKPab**	**23 04 13.0**	**-0.8**
PERS	**Pernice**	**155.14**	**340**	*i* PKPbc	PKPbc	23 04 01.0	
RETA	**Reutte**	**155.49**	**347**	*i* PKPab	**PKPab**	**23 04 15.4**	**-0.2**
	comp=Z,22nm,1.0s,SNR=5.5						
MOTA	**Moosalm**	**155.55**	**347**	*i* PKPab	**PKPab**	**23 04 15.8**	**-0.2**
	comp=Z,21nm,0.9s,SNR=5.6						
VISS	**Visnje**	**155.97**	**339**	*i* PKPdf	**PKPdf**	**23 03 50.0**	**+0.3**
VISS				*e*PKPbc	PKPbc	23 04 01.3	
VISS				*i*		23 04 05.7	
BOJS	**Bojanci**	**156.09**	**338**	*e*PKPbc	PKPbc	23 04 00.4	
JAVS	**Javornik**	**156.13**	**341**	*i* PKPbc	PKPbc	23 03 59.5	
FUORN	**Ofenpass-Fuorn**	**156.41**	**347**	*e*PKPdf	**PKPdf**	**23 03 49.3**	**-1.3**
FUORN				*e*PKPab	**PKPab**	**23 04 19.7**	**-0.1**
SENIN	**Lac Senin/Sane**	**157.15**	**352**	*e*PKPab	**PKPab**	**23 04 22.8**	**-0.1**
BNI	**Bardonecchia**	**158.51**	**353**	*e*PKIKP	**PKPdf**	**23 03 52.1**	**-1.0**
BNI				*e*		23 04 28.8	
BNI	**Bardonecchia**	**158.51**	**353**	*e*PKPdf	**PKPdf**	**23 03 52.1**	**-1.0**
BNI				*e*PKPab	**PKPab**	**23 04 28.8**	**0.0**
ESDC	**Sonseca Array**	**163.05**	**19**	PKPab	**PKPab**	**23 04 47.9**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=323,slow=3.3,SNR=5.1						
TOA0	**Torodi Ar. Sit**	**169.41**	**173**	*e*PKPdf	**PKPdf**	**23 04 03.1**	**-0.6**
TOA0				*e*PKPab	**PKPab**	**23 05 18.3**	**+1.2**
TOA0				*ep*PKPab	**pPKPab**	**23 05 58.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**169.41**	**173**	PKP	**PKPdf**	**23 04 03.1**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=318,slow=0.6,SNR=7.8						
TORD				PKPab	**PKPab**	**23 05 18.3**	**+1.2**
	comp=Z,4.0nm,1.0s,baz=177,slow=3.6,SNR=9.6						
TORD				pPKPab	**pPKPab**	**23 05 58.9**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=193,slow=4.4,SNR=4.0						

*ISCJB **16** 23:04:11.9±0.3,33°.22N±0°.04×96°.46E±0°.06,h10km, mb4.0/22,MS4.0/1,Error ellipse: s-maj=6.8km s-min=6.3km az=157.5*

*IDC **16** 23:04:12.0±0.7,33°.22N×96°.45E,h0km,mb3.8/17, mb1 4.0/20,mb1mx3.9/50,mbtmp3.9/20,ML4.1/3,MS4.1/1, Ms1 4.1/1,ms1mx3.0/38,Error ellipse: s-maj=24.3km s-min=14.3km az=48.0*

*BJI **16** 23:04:14.0,33°.16N×96°.49E,h7km,mB4.3/3,mb4.4/4, ML3.8/11,Ms3.9/8,Ms7 3.7/11*

*NEIC **16** 23:04:17.1±0.3,33°.27N×96°.52E,h35km,mb4.4/9,Error ellipse: s-maj=7.7km s-min=5.5km az=67.0*

ISC 16 23:04:13.4±0.5,33°.23N±0°.06×96°.59E±0°.06,h10km,n48, σ1§18/47,**mb4.0**/22,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.83**	**234**	*e*Pn	**Pn**	**23 05 42.4**	**+2.1**
CD2	**Chengdu**	**6.51**	**109**	Pn	**Pn**	**23 05 51.5**	**+2.1**
CD2				Pg	Pb	23 06 12.8	+6.0
CD2				Sn	**Sn**	**23 07 01.4**	**-2.3**
CD2				Sg	**Sg**	**23 07 39.8**	**-2.7**
CD2				SMN			
	60nm,1.2s						
CD2				SME			
	70nm,1.0s						
CD2				LN			
	920nm,5.6s						
CD2				LE			
	990nm,6.8s						
CD2				LZ			
	950nm,6.0s						
LZH	**Lanzhou**	**6.62**	**63**	Pn	Pn	23 05 55.3	+4.3
LZH				SMN			
	150nm,1.1s						
LZH				SME			
	83nm,0.9s						
LZH				LN			
	470nm,5.2s						
LZH				LE			
	330nm,7.0s						
LZH				LZ			
	520nm,7.4s						
GTA	**Gaotai**	**6.70**	**22**	*e*Pn	Pn	23 05 55.5	+3.6
GTA				Sn	**Sn**	**23 07 10.9**	**+2.6**
GTA				LN			
	370nm,8.3s						
GTA				LE			
	460nm,9.0s						
GTA				LZ			
	330nm,10.0s						
CHTO	**Chiang Mai**	**14.51**	**171**	*e*Pn	**Pn**	**23 07 39.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.86**	**171**	Pn	**Pn**	**23 07 44.8**	**+1.1**
	0.4nm,0.3s,baz=342,slow=12,SNR=20						
SONM	**Songino Array**	**16.36**	**24**	Pn	**Pn**	**23 08 04.3**	**+1.0**
	0.7nm,0.3s,baz=207,slow=15,SNR=26						
ULN	**Ulaanbaatar**	**16.62**	**25**	*e*Pn	**Pn**	**23 08 05.7**	**-0.8**
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**17.38**	**325**	P	**Pn**	**23 08 15.4**	**-0.6**
	0.3nm,0.3s,baz=136,slow=14,SNR=24						
TKM2	**Tokmak 2**	**19.10**	**306**	*e*Pn	**P**	**23 08 37.1**	**+0.6**
	14nm,1.4s						
AAK	**Ala-Archa**	**19.75**	**305**	P	**Pn**	**23 08 45.1**	**+0.1**
	0.1nm,0.3s,baz=93,slow=10,SNR=16						
AAK	**Ala-Archa**	**19.75**	**305**	*e*Pn	**Pn**	**23 08 44.8**	**-0.2**
	3.9nm,0.8s						
EKS2	**Erkin-Say**	**20.25**	**304**	*e*Pn	**P**	**23 08 49.7**	**+0.7**
	7.1nm,1.0s						
KURBB	**Kurchatov Arra**	**21.87**	**328**	P	**P**	**23 09 05.9**	**-0.2**
	4.5nm,0.8s,baz=137,slow=11,SNR=28						
KURK	**Kurchatov**	**21.89**	**328**	P	**P**	**23 09 05.9**	**-0.5**
ZALV	**Zalesovo Beam**	**22.34**	**342**	P	**P**	**23 09 11.3**	**+0.1**
	1.6nm,0.7s,baz=153,slow=10.0,SNR=8.8						
KKAR	**Karatay Array**	**22.67**	**303**	*e*P	**P**	**23 09 14.0**	**-0.8**
KBL	**Kabul**	**22.88**	**281**	*e*P	**P**	**23 09 16.2**	**-1.2**
	24nm,1.0s						
CN2	**Changchun**	**24.81**	**56**	*e*P	**P**	**23 09 38.0**	**+2.4**
CN2				PMZ			
	10.0nm,0.7s						
KSAR	**Wonju Array Be**	**25.81**	**72**	P	**P**	**23 09 45.4**	**+0.7**
KSRS	**Korea Array**	**25.84**	**72**	P	**P**	**23 09 45.4**	**+0.4**
	1.2nm,0.6s,baz=274,slow=9.7,SNR=4.2						
BVAR	**Borovoye Array**	**27.26**	**324**	P	**P**	**23 09 58.0**	**+0.3**
	0.2nm,0.4s,baz=118,slow=12,SNR=4.1						
BVAR				LR	LR	23 21 07.1	
	comp=Z,350nm,18.3s,baz=38,slow=37						
KULM	**Kulim**	**28.06**	**171**	*e*P	**P**	**23 10 05.1**	**+0.1**
	37nm,1.1s						
AKTO	**Aktyubinsk**	**33.03**	**313**	P	**P**	**23 10 48.8**	**+0.1**
	1.8nm,0.8s,baz=103,slow=7.3,SNR=7.4						
KBZ	**Khabaz**	**42.65**	**300**	P	**P**	**23 12 11.1**	**+1.1**
	0.8nm,0.8s,baz=56,slow=24,SNR=5.0						
BRTR	**Keskin Array B**	**50.12**	**296**	P	**P**	**23 13 06.8**	**-2.3**
	0.7nm,0.8s,baz=108,slow=7.9,SNR=4.6						
AKASG	**Malin Array Be**	**51.24**	**311**	P	**P**	**23 13 16.0**	**-1.1**
	0.3nm,0.3s,baz=79,slow=5.9,SNR=6.9						
KIS	**Kishinev**	**52.07**	**307**	*e*PS		23 14 52.0	
KIS				LRM	MLR	23 56 20.0	
	1μm,19.0s						
FINES	**FINESS Array B**	**52.21**	**325**	P	**P**	**23 13 23.8**	**-0.4**
	1.3nm,0.7s,baz=88,slow=6.3,SNR=6.7						
ARCES	**ARCESS Array B**	**52.69**	**335**	P	**P**	**23 13 27.9**	**+0.3**
	2.0nm,0.8s,baz=84,slow=8.3,SNR=3.7						
NB2	**NORSAR Subarra**	**59.38**	**326**	P	P	23 14 19.8	+4.2
	comp=Z,2.6nm,0.8s,baz=76,slow=7.4						
NOA	**NORSAR Array B**	**59.38**	**326**	P	**P**	**23 14 14.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=77,slow=7.0,SNR=3.2						
GERES	**GERESS Array B**	**61.44**	**312**	P	**P**	**23 14 29.5**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=56,slow=7.1,SNR=4.8						
WRA	**Warramunga Arr**	**63.99**	**140**	P	**P**	**23 14 48.6**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=319,slow=8.9,SNR=5.2						
KMBO	**Kilima Mbogo**	**65.37**	**251**	P	**P**	**23 14 56.1**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=51,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**66.83**	**143**	P	**P**	**23 15 05.9**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=331,slow=6.4,SNR=3.5						
LPG	**La Plagne**	**67.08**	**310**	*e*P	**P**	**23 15 07.2**	**-0.1**
	comp=Z,6.4nm,0.8s						
LPG	**La Plagne**	**67.08**	**310**	*e*P	**P**	**23 15 07.2**	**-0.1**
	comp=Z,6.4nm,0.8s						
LPL	**La Plagne**	**67.08**	**310**	*e*P	**P**	**23 15 07.2**	**-0.1**
	comp=Z,4.7nm,0.7s						
LPL	**La Plagne**	**67.08**	**310**	*e*P	**P**	**23 15 07.2**	**-0.1**
	comp=Z,4.7nm,0.7s						
ORIF	**Oris-en-Rattie**	**67.88**	**310**	*e*P	**P**	**23 15 11.4**	**-0.8**
	comp=Z,5.8nm,0.9s						
ORIF	**Oris-en-Rattie**	**67.88**	**310**	*e*P	**P**	**23 15 11.4**	**-0.8**
	comp=Z,5.8nm,0.9s						
SMF	**Signal de Mont**	**68.43**	**312**	*e*P	**P**	**23 15 13.8**	**-1.6**
SMF	**Signal de Mont**	**68.43**	**312**	*e*P	**P**	**23 15 13.8**	**-1.6**
LASF	**Ste Croix**	**69.55**	**310**	*e*P	**P**	**23 15 22.1**	**-0.4**
LASF	**Ste Croix**	**69.55**	**310**	*e*P	**P**	**23 15 22.1**	**-0.4**
YKA	**Yellowknife Ar**	**81.36**	**14**	P	**P**	**23 16 30.0**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=322,slow=5.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**86.92**	**284**	P	**P**	**23 16 57.8**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=45,slow=4.4,SNR=4.5						

*BUG **16** 23:04:22.7,51°.63N×7°.68E,h1km,ML1.9*

*BGR **16** 23:04:24.0±0.3,51°.59N×7°.71E,h1km,ML2.1/5,Error ellipse: s-maj=4.4km s-min=3.3km az=124.0*

*BNS **16** 23:04:24.0±0.5,51°.62N×7°.62E,h1km,ML1.9*

CSEM 16 23:04:24.0,51°.59N×7°.71E,h1km,ML1.9,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHL	**Ahlen**	**0.16**	**25**	Pg	Pg	23 04 26.9	-0.2
BAHL				Sg	Sg	23 04 29.7	+0.4
BAHL	**Ahlen**	**0.16**	**25**	Pg	Pg	23 04 26.9	-0.2
BAHL				Sg	Sg	23 04 29.7	+0.4
BUG	**Bochum--Univer**	**0.31**	**242**	*e*Pg	Pg	23 04 29.7	-0.3
BUG				Sg	Sg	23 04 34.8	+0.7
ENTS	**Ennepetalsperr**	**0.40**	**208**	*e*Pg	Pg	23 04 31.7	+0.1
ENTS				*e*Sg	Sg	23 04 36.9	+0.1
ENTS	**Ennepetalsperr**	**0.40**	**208**	Pg	Pg	23 04 31.7	+0.1
ENTS				Sg	Sg	23 04 36.9	+0.1
LAUG	**Laupendahl**	**0.54**	**244**	*e*Pg	Pg	23 04 33.4	-0.9
LAUG	**Laupendahl**	**0.54**	**244**	Pg	Pg	23 04 33.4	-0.9
HOBG	**Hohbusch**	**0.65**	**201**	*e*Pg	Pg	23 04 36.7	+0.2
HOBG	**Hohbusch**	**0.65**	**201**	Pg	Pg	23 04 36.7	+0.2
WTSB	**Winterswijk**	**0.68**	**304**	*e*Pg	Pg	23 04 37.1	+0.1
WTSB				*e*Sg	Sg	23 04 45.6	-0.3
WTSB	**Winterswijk**	**0.68**	**304**	Pg	Pg	23 04 37.1	+0.1
WTSB				Sg	Sg	23 04 45.6	-0.3
WTSB	**Winterswijk**	**0.68**	**304**	*e*Pg	Pg	23 04 37.0	-0.1
	10nm,0.5s						
WTSB				*e*Sg	Sg	23 04 45.5	-0.3
BNS	**Bensberg**	**0.71**	**208**	*e*Pg	Pg	23 04 37.5	-0.1
BNS	**Bensberg**	**0.71**	**208**	Pg	Pg	23 04 37.5	-0.1
IBBN	**Ibbenburen**	**0.72**	**2**	*e*Pg	Pg	23 04 38.1	+0.3
IBBN				*e*Sg	Sg	23 04 47.3	+0.2
IBBN	**Ibbenburen**	**0.72**	**2**	Pg	Pg	23 04 38.1	+0.3
IBBN				Sg	Sg	23 04 47.3	+0.2
PLH	**Pulheim**	**0.81**	**224**	*e*Pg	Pg	23 04 39.1	-0.4
PLH				*e*Sg	Sg	23 04 49.6	-0.4
	67nm,0.2s						
PLH	**Pulheim**	**0.81**	**224**	Pg	Pg	23 04 39.1	-0.4
PLH				Sg	Sg	23 04 49.6	-0.4
	67nm,0.2s						
WBS	**Wahnbachtalspe**	**0.83**	**199**	*e*Pg	Pg	23 04 39.8	-0.1
WBS				*e*Sg	Sg	23 04 50.4	-0.3
	22nm,0.2s						
WBS	**Wahnbachtalspe**	**0.83**	**199**	Pg	Pg	23 04 39.8	-0.1
WBS				Sg	Sg	23 04 50.4	-0.2
	22nm,0.2s						
RODG	**Roetgen-Dahlhe**	**1.06**	**246**	*e*Pg	Pg	23 04 43.7	-0.6
RODG	**Roetgen-Dahlhe**	**1.06**	**246**	Pg	Pg	23 04 43.7	-0.6
STB	**Steinbach**	**1.14**	**209**	*e*Pg	Pg	23 04 45.2	-0.7
STB				*e*Sg	Sg	23 05 01.0	+0.4
	57nm,0.7s						
STB	**Steinbach**	**1.14**	**209**	Pg	Pg	23 04 45.2	-0.6
STB				Sg	Sg	23 05 01.0	+0.4
	57nm,0.7s						
KLL	**Kalltalsperre**	**1.29**	**224**	*e*Pg	Pg	23 04 47.2	-1.6
KLL	**Kalltalsperre**	**1.29**	**224**	Pg	Pg	23 04 47.2	-1.6
DREG	**Dreilaegerbach**	**1.31**	**226**	*e*Pg	Pg	23 04 47.7	-1.6
DREG	**Dreilaegerbach**	**1.31**	**226**	Pg	Pg	23 04 47.7	-1.5
OLFT	**Oleftalsperre**	**1.37**	**217**	*e*Pg	Pn	23 04 49.0	-1.2
OLFT				*e*Sg	Sg	23 05 07.0	-1.0
OLFT	**Oleftalsperre**	**1.37**	**217**	Pg	Pn	23 04 49.0	-1.2
OLFT				Sg	Sg	23 05 07.0	-1.0
HGN	**Heimansgroeve**	**1.39**	**234**	*e*Pg	Pn	23 04 48.9	-1.7
HGN				*e*Sg	Sg	23 05 07.5	-1.2
HGN	**Heimansgroeve**	**1.39**	**234**	Pg	Pn	23 04 48.9	-1.6
HGN				Sg	Sg	23 05 07.5	-1.2
HGN	**Heimansgroeve**	**1.39**	**234**	*e*Pg	Pn	23 04 49.0	-1.6
	4.6nm,0.2s						
HGN				*e*Sg	Sg	23 05 07.8	-0.9
BGG	**Burgeitz**	**1.41**	**190**	*e*Pg	Pn	23 04 49.8	-0.9
BGG	**Burgeitz**	**1.41**	**190**	Pg	Pn	23 04 49.8	-0.9
TNS	**Taunus Mts**	**1.45**	**161**	*e*Pg	Pn	23 04 50.1	-1.3
TNS				*e*Sg	Sg	23 05 10.1	-0.5
TNS	**Taunus Mts**	**1.45**	**161**	Pg	Pn	23 04 50.1	-1.3
TNS				Sg	Sg	23 05 10.1	-0.6
HILG	**Hillesheim**	**1.46**	**207**	*e*Pg	Pn	23 04 50.5	-1.0
HILG	**Hillesheim**	**1.46**	**207**	Pg	Pn	23 04 50.5	-1.0
MEM	**Membach**	**1.46**	**228**	P	Pn	23 04 50.2	-1.2
MEM	**Membach**	**1.46**	**228**	*e*Pg	Pn	23 04 50.3	-1.1
MEM				*e*Sg	Sg	23 05 09.6	-1.2
MEM	**Membach**	**1.46**	**228**	Pg	Pn	23 04 50.3	-1.1
MEM				Sg	Sg	23 05 09.6	-1.2
CLZ	**Clausthal**	**1.68**	**80**	*e*Pg	Pn	23 04 54.7	+0.2
CLZ				*e*Sg	Sb	23 05 17.3	0.0
CLZ	**Clausthal**	**1.68**	**80**	Pg	Pn	23 04 54.7	+0.2
CLZ				Sg	Sb	23 05 17.3	0.0
BCLA	**Clavier**	**1.92**	**233**	P	Pn	23 04 56.1	-1.7
WLF	**Walferdange**	**2.17**	**208**	P	Pb	23 05 04.2	+0.1
WLF	**Walferdange**	**2.17**	**208**	*e*Pg	Pg	23 05 05.5	-0.1
WLF	**Walferdange**	**2.17**	**208**	Pg	Pg	23 05 05.5	-0.1

*IDC **16** 23:04:38.8±0.4,8°.18S×120°.20E,h0km,mb4.4/24, mb1 4.5/25,mb1mx4.4/39,mbtmp4.4/25,ML4.6/1,MS4.2/8, Ms1 4.2/8,ms1mx3.8/30,Error ellipse: s-maj=19.2km s-min=10.5km az=65.0*

*ISCJB **16** 23:04:43.8±0.2,8°.10S±0°.02×120°.24E±0°.03,h50km, mb4.6/39,MS4.3/6,Error ellipse: s-maj=4.0km s-min=3.1km az=150.9*

*DJA **16** 23:04:43.1±0.1,8°.S±2°.×12°.0E±°.,h10km,M4.8/13, mb4.8/13,mB5.0/5,MLv5.0/13,Mw(mB)4.4/5*

*BJI **16** 23:04:44.8,8°.10S×120°.30E,h39km,mB5.2/26,mb4.7/36, Ms4.8/20,Ms7 4.4/20*

*NEIC **16** 23:04:47.2±2.8,8°.27S×120°.23E,h71km±4km,mb4.7/23, Error ellipse: s-maj=16.1km s-min=12.1km az=220.0*

ISC 16 23:04:45.9±0.3,8°.23S±0°.04×120°.29E±0°.05,h50km,n152, σ1§62/158,**mb4.6**/39,**MS4.0**/6,**1D,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.43**	**179**	P	**Pn**	**23 05 11.0**	**+1.5**
WSI				S	**Sn**	**23 05 33.0**	**+5.8**
WSI	**Waingapu**	**1.43**	**179**	P	**Pn**	**23 05 10.0**	**+0.5**
	baz=0.7,SNR=18						
WSI				S	Sn	23 05 10.6	-17
	baz=0.7,SNR=42						
EDFI	**Ende, Flores**	**1.48**	**111**	P	**Pn**	**23 05 10.1**	**-0.2**
EDFI				S	**Sn**	**23 05 30.2**	**+1.5**

	43nm,0.7s								
KULM	**Kulim**	**23.75**	**304**	*e*P		**P**	**23 09 51.9**	**-2.0**	
	32nm,1.1s								
PSI	**Prapat**	**23.96**	**296**	P		**P**	**23 09 55.1**	**-0.8**	
	20nm,1.0s,baz=151,slow=13,SNR=12								
PSI				LR		LR	23 18 27.3		
	comp=Z,404nm,21.0s,baz=120,slow=35								
NWAO	**Narrogin (SRO)**	**24.74**	**186**	P		**P**	**23 10 03.5**	**+0.8**	
	22nm,0.8s,baz=9.8,slow=11,SNR=14								
NWAO	**Narrogin (SRO)**	**24.74**	**186**	P		**P**	**23 10 03.6**	**+0.8**	
	baz=24,SNR=8.4								
CTA	**Charters Tower**	**27.75**	**118**	P		**P**	**23 10 30.5**	**+0.3**	
	3.4nm,0.7s,baz=277,slow=16,SNR=3.8								
BBOO	**Buckleboo**	**28.50**	**151**	P		**P**	**23 10 36.5**	**-0.2**	
	baz=28,SNR=21								
BBOO	**Buckleboo**	**28.50**	**151**	*e*P		**P**	**23 10 36.1**	**-0.5**	
	6.1nm,0.9s								
QIZ	**Qiongzhong**	**28.98**	**339**	P		**P**	**23 10 41.4**	**+0.4**	
QIZ				S		**S**	**23 15 29.9**	**+1.3**	
QIZ				PMZ					
	39nm,2.1s								
QIZ				LZ					
	520nm,18.0s								
QLP	**Quilpie**	**29.15**	**132**	P		P	23 10 46.9	+4.4	
	baz=28,SNR=4.5								
STKA	**Stephens Creek**	**30.77**	**143**	P		**P**	**23 10 57.0**	**+0.2**	
	7.8nm,0.4s,baz=314,slow=8.5,SNR=28								
STKA	**Stephens Creek**	**30.77**	**143**	P		**P**	**23 10 57.2**	**+0.5**	
	baz=30,SNR=33								
STKA	**Stephens Creek**	**30.77**	**143**	*e*P		**P**	**23 10 56.9**	**+0.2**	
	2.7nm,0.7s								
CMSA	**Cobar Meteorol**	**33.13**	**138**	P		**P**	**23 11 18.4**	**+0.9**	
	baz=32,SNR=10								
CM31	**Chiang Mai Arr**	**33.86**	**322**	*e*P		**P**	**23 11 23.9**	**0.0**	
CMAR	**Chiang Mai Arr**	**33.86**	**322**	P		**P**	**23 11 23.9**	**0.0**	
	1.2nm,0.6s,baz=148,slow=6.7,SNR=9.3								
CMAR				LR		LR	23 27 19.2		
	comp=Z,310nm,19.2s,baz=218,slow=40								
YNG	**Young**	**36.63**	**139**	P		**P**	**23 11 49.2**	**+1.6**	
	baz=36,SNR=9.0								
ARMA	**Armidale**	**36.69**	**131**	P		**P**	**23 11 50.7**	**+2.3**	
	baz=36,SNR=5.4								
ARMA	**Armidale**	**36.69**	**131**	*e*P		**P**	**23 11 49.5**	**+1.2**	
	70nm,1.8s								
GYA	**Guiyang**	**36.93**	**339**	⇓ *i*P		P	23 11 56.3	+5.9	
GYA				PMZ					
	20nm,0.8s								
TOO	**Toolangi**	**37.07**	**146**	P		**P**	**23 11 54.0**	**+2.7**	
	baz=36,SNR=6.0								
MGCD	**Mangrove Creek**	**37.80**	**136**	P		P	23 12 01.2	+3.6	
	baz=37,SNR=7.3								
NJ2	**Nanjing**	**40.08**	**358**	*e*P		P	23 12 14.3	-2.2	
NJ2				PMZ					
	80nm,1.2s								
CD2	**Chengdu**	**42.02**	**339**	*e*P		**P**	**23 12 34.4**	**+1.8**	
CD2				pP		**pP**	**23 12 47.8**	**+1.9**	
CD2				sP		**sP**	**23 12 53.8**	**+2.0**	
CD2				PP		**PP**	**23 14 15.8**	**+5.1**	
CD2				PcS		**PcS**	**23 18 19.4**	**+0.5**	
CD2				S		**S**	**23 18 50.3**	**+2.0**	
CD2				sS		**sS**	**23 19 12.8**	**+2.2**	
CD2				SS		**SS**	**23 21 53.3**	**-3.8**	
CD2				PMZ					
	10.0nm,0.5s								
CD2				PMZ					
	160nm,5.4s								
KS15	**Wonju Array Si**	**45.98**	**8**	*e*P		**P**	**23 13 05.3**	**+1.1**	
KSRS	**Korea Array**	**46.00**	**8**	P		**P**	**23 13 05.3**	**+0.9**	
	1.0nm,0.7s,baz=186,slow=9.9,SNR=6.2								
DZM	**Mont Dzumac**	**46.44**	**113**	P		**P**	**23 13 08.8**	**+0.5**	
	12nm,0.9s,baz=252,slow=9.6,SNR=4.1								
LZH	**Lanzhou**	**46.72**	**342**	*e*P		P	23 13 13.4	+3.2	
LZH				pP		pP	23 13 24.9	+1.2	
LZH				sP		sP	23 13 29.4	-0.1	
LZH				PMZ					
	13nm,1.0s								
LSA	**Lhasa**	**46.99**	**325**	*e*P		**P**	**23 13 11.3**	**-1.5**	
	7.2nm,0.8s								
ODAN	**Odare**	**47.27**	**319**	*e*P		**P**	**23 13 14.4**	**-0.4**	
	22nm,0.9s								
TAPN	**Taplejung**	**47.39**	**319**	*e*P		**P**	**23 13 15.8**	**0.0**	
	38nm,1.1s								
MAJO	**Matsushiro**	**47.61**	**20**	*e*P		**P**	**23 13 16.2**	**-0.8**	
	305nm,2.9s								
MJAR	**Matsushiro Arr**	**47.61**	**20**	P		**P**	**23 13 16.2**	**-0.8**	
	1.2nm,0.6s,baz=195,slow=7.6,SNR=3.6								
RAMN	**Ramite**	**47.85**	**318**	*e*P		**P**	**23 13 19.0**	**-0.3**	
	36nm,1.2s								
BJI	**Beijing**	**48.17**	**356**	P		**P**	**23 13 20.4**	**-0.9**	
BJI				PMZ					
	11nm,0.4s								
HYB	**Hyderabad**	**48.48**	**302**	*i* P		**P**	**23 13 23.5**	**-0.6**	
JIRN	**Jiri**	**48.59**	**318**	*e*P		**P**	**23 13 24.8**	**-0.4**	
	33nm,1.1s								
GUN	**Gumba**	**48.96**	**318**	*e*P		**P**	**23 13 27.7**	**-0.3**	
	39nm,0.9s								
DMN	**Daman**	**49.28**	**318**	*e*P		**P**	**23 13 29.6**	**-0.7**	
	27nm,1.1s								
KKN	**Kakani**	**49.28**	**318**	*e*P		**P**	**23 13 29.7**	**-0.6**	
HHC	**Hu-ho-hao-te**	**49.49**	**351**	*e*P		**P**	**23 13 34.5**	**+3.0**	
HHC				sP		**sP**	**23 13 49.1**	**-1.8**	
HHC				PP		**PP**	**23 15 28.0**	**+1.8**	
HHC				S		**S**	**23 20 40.6**	**+5.0**	
HHC				SS		**SS**	**23 24 08.0**	**-0.4**	
HHC				PMZ					
	20nm,0.9s								
HHC				PMZ					
	170nm,5.4s								
HHC				LN					
	370nm,13.2s								
HHC				LE					
	420nm,13.7s								
HHC				LZ					
	220nm,12.9s								
GKN	**Gorkha**	**49.85**	**318**	*e*P		**P**	**23 13 33.6**	**-0.9**	
	25nm,1.1s								
KOLN	**Koldanda**	**50.40**	**317**	*e*P		**P**	**23 13 36.8**	**-2.0**	
	15nm,0.8s								
DANN	**Dangsing**	**50.66**	**317**	*e*P		P	23 13 38.8	-2.0	
	19nm,0.6s								
PYUN	**Piuthan**	**51.02**	**316**	*e*P		**P**	**23 13 42.4**	**-1.1**	
	33nm,0.7s								
GTA	**Gaotai**	**51.06**	**340**	*e*P		**P**	**23 13 44.8**	**+1.4**	
GTA				pP		**pP**	**23 13 57.3**	**+0.2**	
GTA				sP		**sP**	**23 14 02.6**	**-0.2**	
GTA				PcP		**PcP**	**23 14 58.3**	**-0.5**	
GTA				S		**S**	**23 20 59.6**	**+2.1**	
GTA				sS		sS	23 21 13.6	-6.8	
GTA				SS		**SS**	**23 24 32.8**	**-0.7**	
GTA				PMZ					
	8.0nm,0.9s								
GTA				PMZ					
	140nm,4.0s								
GTA				LN					
	290nm,17.1s								
GTA				LE					
	530nm,19.5s								
GTA				LZ					
	310nm,17.1s								
USRK	**Ussuriysk Ar.**	**53.25**	**10**	P		**P**	**23 13 59.2**	**-0.2**	
	1.3nm,0.6s,baz=218,slow=9.0,SNR=3.7								
MDJ	**Mudanjiang**	**53.27**	**8**	P		**P**	**23 13 59.5**	**-0.1**	
MDJ				pP		**pP**	**23 14 11.9**	**-1.4**	
MDJ				sP		**sP**	**23 14 18.5**	**-0.5**	
MDJ				PcS		**PcS**	**23 19 05.3**	**-0.3**	
MDJ				S		S	23 21 17.5	-10	
MDJ				sS		**sS**	**23 21 50.3**	**0.0**	
MDJ				PMZ					
	7.0nm,1.3s								
MDJ				PMZ					
	140nm,4.2s								
MDJ				LN					
	180nm,30.5s								
MDJ				LE					
	170nm,36.5s								
MDJ				LZ					
	280nm,21.9s								
ULN	**Ulaanbaatar**	**57.06**	**349**	*e*P		**P**	**23 14 26.3**	**-0.8**	
	11nm,0.9s								
SONA0	**Songino Array**	**57.16**	**349**	*e*P		**P**	**23 14 26.9**	**-0.8**	
SONM	**Songino Array**	**57.16**	**349**	P		**P**	**23 14 26.9**	**-0.8**	
	5.7nm,1.0s,baz=174,slow=7.4,SNR=27								
WMQ	**Urumqi**	**59.63**	**333**	*e*P		**P**	**23 14 46.6**	**+1.6**	
WMQ				pP		**pP**	**23 14 59.0**	**+0.1**	
WMQ				sP		**sP**	**23 15 05.0**	**+0.4**	
WMQ				PcP		**PcP**	**23 15 33.0**	**+1.3**	
WMQ				PP		**PP**	**23 17 00.0**	**+2.8**	
WMQ				S		**S**	**23 22 51.0**	**-0.8**	
WMQ				SS		**SS**	**23 26 49.0**	**+0.7**	
WMQ				PMZ					
	8.0nm,1.0s								
WMQ				PMZ					
	200nm,5.9s								
WMQ				LN					
	240nm,21.2s								
WMQ				LE					
	420nm,24.5s								
WMQ				LZ					
	220nm,19.6s								
TLY	**Talaya**	**61.37**	**348**	P		**P**	**23 14 57.1**	**+0.5**	
	1.7nm,0.6s,baz=153,slow=4.5,SNR=5.3								
TLY	**Talaya**	**61.37**	**348**	*e*P		**P**	**23 14 55.6**	**-1.0**	
	4.9nm,0.9s								
KSH	**Kashi**	**62.76**	**323**	P		**P**	**23 15 05.0**	**-1.3**	
KSH				pP		**pP**	**23 15 17.9**	**-2.4**	
KSH				PcP		**PcP**	**23 15 44.5**	**0.0**	
KSH				PcS		**PcS**	**23 19 46.5**	**-1.5**	
KSH				S		S	23 23 25.6	-6.2	
KSH				sS		sS	23 23 47.5	-7.8	
KSH				ScS		**SKSac**	**23 24 49.5**	**-5.4**	
KSH				PMZ					
	13nm,0.9s								
KSH				PMZ					
	180nm,6.2s								
KSH				LN					
	170nm,7.5s								
KSH				LE					
	110nm,5.7s								
KSH				LZ					
	230nm,9.9s								
MK32	**Makanchi Array**	**64.36**	**332**	*e*P		**P**	**23 15 15.9**	**-0.8**	
MKAR	**Makanchi Array**	**64.36**	**332**	P		**P**	**23 15 15.9**	**-0.8**	
	3.4nm,0.8s,baz=140,slow=7.1,SNR=36								
MKAR	**Makanchi Array**	**64.36**	**332**	*e*P		**P**	**23 15 15.7**	**-1.0**	
KBL	**Kabul**	**64.45**	**314**	*e*P		P	23 15 15.5	-2.2	
	8.4nm,1.0s								
TKM2	**Tokmak 2**	**65.14**	**325**	*e*P		P	23 15 20.0	-2.0	
	5.5nm,0.5s								
AAK	**Ala-Archa**	**65.58**	**324**	P		**P**	**23 15 24.0**	**-0.8**	
	3.4nm,0.8s,baz=228,slow=1.6,SNR=14								
AAK	**Ala-Archa**	**65.58**	**324**	*e*P		**P**	**23 15 23.2**	**-1.6**	
	8.6nm,0.9s								
EKS2	**Erkin-Say**	**66.01**	**324**	*e*P		**P**	**23 15 25.7**	**-1.9**	
	7.1nm,0.9s								
KKAR	**Karatay Array**	**68.20**	**323**	*e*P		P	23 15 39.2	-2.1	
ZALV	**Zalesovo Beam**	**68.79**	**338**	P		**P**	**23 15 43.6**	**-1.0**	
	2.8nm,0.7s,baz=145,slow=4.8,SNR=43								
ZAA1	**Zalesovo Array**	**68.79**	**338**	*e*P		**P**	**23 15 43.6**	**-1.0**	
KURBB	**Kurchatov Arra**	**68.85**	**333**	P		**P**	**23 15 44.4**	**-0.8**	
	2.9nm,0.2s,baz=148,slow=5.3,SNR=12								
PETK	**Petropavlovsk-**	**68.87**	**23**	P		**P**	**23 15 45.4**	**+0.2**	
	6.0nm,0.9s,baz=201,slow=7.9,SNR=3.8								
PEA2	**Petropavlovsk-**	**68.87**	**23**	*e*P		**P**	**23 15 45.4**	**+0.2**	
KURK	**Kurchatov**	**68.88**	**333**	*e*P		**P**	**23 15 43.5**	**-1.8**	
	14nm,1.1s								
MAW	**Mawson**	**70.39**	**200**	P		**P**	**23 15 55.3**	**+0.9**	
	5.7nm,0.8s,baz=56,slow=7.9,SNR=6.7								
MAW	**Mawson**	**70.39**	**200**	*e*P		**P**	**23 15 54.9**	**+0.5**	
	23nm,2.5s								
VNDA	**Vanda**	**72.55**	**171**	P		**P**	**23 16 07.8**	**+0.5**	
	2.8nm,0.7s,baz=310,slow=6.2,SNR=18								
VNDA				LR		LR	23 49 50.9		
	comp=Z,2μm,18.0s,baz=124,slow=37								
GEYT	**Alibeck**	**73.83**	**313**	P		**P**	**23 16 14.3**	**-1.3**	
	2.1nm,0.8s,baz=134,slow=13,SNR=6.9								
BVAR	**Borovoye Array**	**74.23**	**331**	P		**P**	**23 16 16.3**	**-1.2**	
	1.8nm,0.9s,baz=134,slow=8.5,SNR=10.0								
SEY	**Seymchan**	**75.10**	**15**	P		**P**	**23 16 21.6**	**-0.6**	
	5.3nm,0.8s,baz=206,slow=5.0,SNR=17								
ABKAR	**Akbulak array**	**77.67**	**324**	*e*P		**P**	**23 16 35.4**	**-1.7**	
RAYN	**Ar Rayn**	**79.51**	**296**	*e*P		P	23 16 45.2	-2.8	
	29nm,2.4s								
TIXI	**Tiksi**	**79.91**	**3**	*e*P		**P**	**23 16 47.7**	**-1.3**	
	16nm,1.4s								
KMBO	**Kilima Mbogo**	**82.94**	**270**	P		**P**	**23 17 06.0**	**-0.6**	
	0.5nm,0.3s,baz=126,slow=16,SNR=2.5								
KBZ	**Khabaz**	**86.63**	**315**	P		**P**	**23 17 23.3**	**-0.9**	
	0.7nm,0.8s,baz=53,slow=20,SNR=3.3								
KBZ				LR		LR	00 05 01.8		
	comp=Z,318nm,18.1s,baz=349,slow=42								
LSZ	**Lusaka**	**89.87**	**255**	*e*P		P	23 17 37.9	-2.5	
	3.7nm,0.7s								
STHS	**Stebnicka Huta**	**102.08**	**319**	PDIF		**Pdif**	**23 18 34.3**	**-0.7**	
TOA0	**Torodi Ar. Sit**	**119.58**	**280**	*e*PKPdf		**PKPdf**	**23 23 28.9**	**-2.3**	
TORD	**Torodi Ar. Bea**	**119.58**	**280**	PKP		**PKPdf**	**23 23 28.9**	**-2.3**	
	0.8nm,0.6s,baz=77,slow=0.9,SNR=14								
LTX	**Lajitas**	**133.75**	**57**	*e*PKPdf		**PKPdf**	**23 23 58.0**	**-0.1**	
TXAR	**Lajitas Array**	**133.75**	**57**	PKP		**PKPdf**	**23 23 58.0**	**-0.1**	
	0.3nm,0.9s,baz=219,slow=2.3,SNR=3.1								
LPAZ	**La Paz**	**154.26**	**161**	PKPab		**PKPab**	**23 24 56.5**	**+0.3**	
	5.7nm,1.0s,baz=233,slow=5.1,SNR=3.3								
SIV	**San Ignacio**	**155.90**	**177**	PKPab		**PKPab**	**23 25 01.7**	**-0.6**	
	6.3nm,0.8s,baz=248,slow=6.9,SNR=4.6								

MDD 16 23:13:01.9±1.7, 40.˙14N×0.˙24W, h0km, mbLg1.4/2, Error ellipse: s-maj=13.2km s-min=7.5km az=180.0, PRXIMO SIN SOLUCIN, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMOS	**Mosqueruela**	**0.29**	**321**	Pg	Pg	23 13 07.1	-0.6
	0.6nm,0.1s,SNR=13						
EMOS				Lg	Lg	23 13 11.4	
	8.2nm,0.2s,SNR=23						
ERTA	**Horta de San J**	**0.93**	**28**	Pg	Pg	23 13 19.3	-0.5
	0.2nm,0.2s,SNR=7.9						
ERTA				Lg	Lg	23 13 30.9	
	0.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**1.54**	**297**	Pg	Pn	23 13 30.4	-0.4
	3.0nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	23 13 51.0	
	3.4nm,0.2s,SNR=7.9						

*GCMT **16** 23:15:27.0±0.1, 37.˙62S×74.˙24W, h12km, MW5.7/112, Moment Tensor Solution. s88,c138; s112,c241; Duration: 1!8 Moment tensor: Scale 10^17^Nm; Mrr2.03±.03; Mθθ-0.01±.03; Mϕϕ-2.02±.03; Mrθ-0.24±.09; Mθϕ-0.69±.02; Mϕr-4.13±.08; Best double couple: Mo4.65600×10^17^ NP1:ϕs185.00000°, δ77.00000°, λ84.00000°. NP2:ϕs31.00000°, δ15.00000°, λ115.00000°. Principal axes: T 4.6110, Plg58.0000°, Azm86.0000°; N 0.0940, Plg6.0000°, Azm186.0000°; P -4.7020, Plg31.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*GUC **16** 23:15:27.6±0.6, 37.˙65S×74.˙53W, h18km±5km, ML5.6*

*IDC **16** 23:15:32.6±0.4, 37.˙46S×73.˙73W, h0km, mb4.9/16, mb1 5.0/20, mb1mx4.9/25, mbtmp4.9/20, ML4.0/3, MS5.3/18, Ms1 5.3/18, ms1mx5.2/25, Error ellipse: s-maj=18.8km s-min=12.4km az=91.0*

*ISCJB **16** 23:15:35.9±1.3, 37.˙44S±0.˙03×73.˙63W±0.˙06, h28km±9km, mb5.3/132, MS5.5/29, Error ellipse: s-maj=7.8km s-min=4.6km az=161.0*

*MOS **16** 23:15:36.8±1.1, 37.˙38S×73.˙67W, h33km, mb5.6/46, MS5.5/7, Error ellipse: s-maj=17.0km s-min=7.2km az=104.4*

*NEIC **16** 23:15:36.4±0.1, 37.˙42S×73.˙67W, mb5.4/111, ML5.6(GUC), Error ellipse: s-maj=6.1km s-min=3.6km az=64.0*

NEIC Felt [IV] at Angol and Lebu; [III] at Cobquecura, Concepcion and Temuco; [II] at Mariquina and Valdivia. Also felt at Chillan and Coronel.

*BJI **16** 23:15:37.8, 37.˙30S×73.˙50W, h19km, mB5.7/30, Ms5.7/38, Ms7 5.5/38*

ISC 16 23:15:37.4±0.4, 37.˙45S±0.˙03×73.˙74W±0.˙04, h30km±2km, h30km:pP-P, n682, σ1!40/678, mb5.4/132, MS5.5/29, 123C-128D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.78**	**40**	*e*P	**Pn**	**23 15 51.6**	**-0.7**
CCSP				*i* S	Sn	23 16 09.3	+6.3
CCSP				AML	AML	23 16 14.0	
	comp=N,161μm,0.7s						
LNCH	**Linares**	**2.34**	**48**	*e*P	**Pn**	**23 16 14.7**	**+0.8**
LNCH				*i* S	**Sb**	**23 16 50.4**	**+2.9**
VLCH	**Valdivia**	**2.39**	**171**	*e*P	Pn	23 16 06.6	-7.7
TALC	**Talca**	**2.66**	**40**	*e*P	**Pn**	**23 16 18.8**	**+0.7**
NICH	**Los Niches**	**3.17**	**40**	*e*P	**Pn**	**23 16 25.7**	**+0.5**
PLCA	**Paso Flores**	**4.11**	**144**	*e*P	**Pn**	**23 16 38.1**	**-0.1**
PLCA	**Paso Flores**	**4.11**	**144**	Pn	**Pn**	**23 16 38.8**	**+0.6**
	comp=N,4.4nm,0.3s,baz=319,slow=11,SNR=21						
PLCA				Lg	Lg	23 17 48.1	
	comp=N,44nm,0.3s,baz=57,slow=21,SNR=6.7						
PLCA	**Paso Flores**	**4.11**	**144**	*e*Pn	**Pn**	**23 16 38.1**	**-0.1**
CFAA	**Coronel Fontan**	**7.38**	**39**	Pn	**Pn**	**23 17 22.1**	**-1.1**
	comp=N,0.8nm,0.3s,baz=204,slow=15,SNR=57						
CFAA				Sn	**Sn**	**23 18 45.9**	**-0.1**
	comp=N,1.3nm,0.3s,baz=294,slow=20,SNR=2.5						
CFAA				LR	LR	23 20 23.9	
	comp=N,3μm,19.9s,baz=224,slow=39						
LCO	**Las Campanas**	**8.79**	**18**	*e*P	**Pn**	**23 17 40.1**	**-2.5**
LCO	**Las Campanas**	**8.79**	**18**	*e*Pn	Pn	23 17 39.0	-3.6
TRQA	**Tornquist**	**9.33**	**97**	*e*Pn	**Pn**	**23 17 51.3**	**+1.5**
PB10	**IPOC Station P**	**14.15**	**12**	*e*P	**Pn**	**23 18 57.1**	**+1.3**
PB06	**IPOC Station P**	**15.12**	**15**	*e*P	**Pn**	**23 19 08.1**	**-0.9**
LVC	**Limon Verde**	**15.36**	**17**	Pn	**Pn**	**23 19 11.0**	**-1.2**
	comp=N,15nm,0.3s,baz=184,slow=13,SNR=11						
LVC				Sn	**S**	**23 22 15.9**	**-1.3**
	comp=N,16nm,0.3s,baz=73,slow=19,SNR=2.0						
LVC				LR	LR	23 25 13.1	
	comp=N,47μm,19.4s,baz=202,slow=38						
LVC	**Limon Verde**	**15.36**	**17**	*e*Pn	**Pn**	**23 19 10.7**	**-1.5**
	comp=N,288nm,1.6s						
LVC				*e*S	**S**	**23 22 15.9**	**-1.3**
PB04	**IPOC Station P**	**15.57**	**15**	*e*P	**Pn**	**23 19 15.9**	**+1.2**
PB07	**IPOC Station P**	**16.02**	**13**	*e*P	**Pn**	**23 19 19.8**	**-0.9**
PB09	**IPOC Station P**	**16.07**	**15**	*e*P	**Pn**	**23 19 20.9**	**-0.5**
PB01	**IPOC Station P**	**16.76**	**14**	*e*P	**Pn**	**23 19 28.2**	**-1.8**
PATCX	**Punta Patache**	**16.86**	**12**	*e*P	**Pn**	**23 19 30.8**	**-0.4**
HMBC	**Humberstone**	**17.43**	**12**	*e*P	**Pn**	**23 19 38.3**	**-0.1**
USHA	**Ushuaia**	**17.76**	**170**	P	**P**	**23 19 42.8**	**+0.1**
	comp=N,0.4nm,0.3s,baz=324,slow=14,SNR=8.2						
USHA				LR	LR	23 26 21.0	
	comp=N,14μm,19.4s,baz=324,slow=36						
PB11	**IPOC Station P**	**17.98**	**13**	*e*P	**P**	**23 19 45.7**	**+0.2**
EFI	**East Falkland**	**18.03**	**147**	Pn	**Pn**	**23 19 45.3**	**-0.1**
	comp=N,2μm,1.4s,SNR=11						
EFI	**East Falkland**	**18.03**	**147**	*d i*P	**P**	**23 19 46.1**	**+0.4**
EFI				pmax	pmax		
	comp=Z,2μm,1.7s						
EFI	**East Falkland**	**18.03**	**147**	*e*Pn	**Pn**	**23 19 45.1**	**-0.3**
	comp=Z,630nm,1.3s						
PSGC	**Pisagua**	**18.06**	**11**	*e*P	**P**	**23 19 46.4**	**0.0**
MNMC	**Minimini**	**18.61**	**12**	*e*P	**Pn**	**23 19 52.8**	**-0.2**
LPAZ	**La Paz**	**21.65**	**15**	*e*P	**P**	**23 20 27.1**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,192nm,1.0s						
LPAZ	**La Paz**	**21.65**	**15**	P	**P**	**23 20 27.1**	**+1.1**
	comp=Z,82nm,1.1s,baz=184,slow=7.9,SNR=96						
LPAZ	**La Paz**	**21.65**	**15**	*e*P	**P**	**23 20 27.4**	**+1.4**
LPAZ	**La Paz**	**21.65**	**15**	*e*P	**P**	**23 20 27.1**	**+1.1**
	comp=Z,192nm,1.0s						
SIV	**San Ignacio**	**24.13**	**31**	P	**P**	**23 20 50.3**	**-0.4**
	comp=Z,59nm,1.2s,baz=224,slow=12,SNR=30						
SIV				LR	LR	23 32 14.0	
	comp=Z,17μm,19.6s,baz=224,slow=42						
NNA	**Nana**	**25.50**	**353**	*e*P	**P**	**23 21 01.5**	**-1.7**
NNA				pmax	pmax		
	comp=Z,284nm,2.0s						
NNA	**Nana**	**25.50**	**353**	P	**P**	**23 21 02.9**	**-0.3**
	comp=Z,12nm,0.7s,baz=214,slow=13,SNR=5.6						
NNA				LR	LR	23 29 22.6	
	comp=Z,3μm,18.7s,baz=177,slow=32						
NNA	**Nana**	**25.50**	**353**	*e*P	**P**	**23 21 01.5**	**-1.7**
	comp=Z,284nm,2.0s						
PMSA	**Palmer Station**	**27.96**	**171**	LR	LR	23 33 45.0	
	comp=Z,10μm,18.1s,baz=330,slow=39						
SAML	**Samuel**	**29.94**	**21**	*e*P	**P**	**23 21 42.5**	**-0.3**
	comp=Z,109nm,1.4s						
HOPE	**Hope Point**	**30.47**	**136**	*e*P	**P**	**23 21 47.4**	**+0.3**
	comp=Z,256nm,1.5s						
BDFB	**Brasilia**	**31.46**	**53**	*e*P	**P**	**23 21 55.8**	**-0.6**
BDFB	**Brasilia**	**31.46**	**53**	P	**P**	**23 21 56.0**	**-0.4**
	comp=Z,57nm,1.2s,baz=212,slow=9.2,SNR=32						
BDFB				LR	LR	23 35 56.2	
	comp=Z,11μm,18.6s,baz=222,slow=39						
BDFB	**Brasilia**	**31.46**	**53**	*e*P	**P**	**23 21 55.8**	**-0.6**
OTAV	**Otavalo**	**37.75**	**352**	*e*P	**P**	**23 22 51.9**	**+0.8**
	comp=Z,664nm,2.9s						
PTGA	**Pitinga**	**38.68**	**22**	*e*P	**P**	**23 22 58.0**	**-0.5**
	comp=Z,184nm,1.6s						
ROSC	**El Rosal**	**42.09**	**359**	P	**P**	**23 23 27.8**	**+0.7**
	comp=Z,4.0nm,0.4s,baz=191,slow=5.2,SNR=7.9						
ROSC	**El Rosal**	**42.09**	**359**	*e*P	**P**	**23 23 27.3**	**+0.2**
SDV	**Santo Domingo**	**46.18**	**4**	*e*P	**P**	**23 23 58.3**	**-1.3**
	comp=Z,93nm,1.9s						
RCBR	**Riachuelo**	**46.65**	**57**	*e*P	**P**	**23 24 03.9**	**+0.7**
	comp=Z,209nm,1.6s						
VNA3	**Neumayer Olymp**	**46.73**	**156**	P	**P**	**23 24 03.2**	**0.0**
VNA1	**Neumayer--Stat**	**47.08**	**156**	P	**P**	**23 24 07.2**	**+1.3**
VNA2	**Neumayer--Watz**	**47.41**	**156**	P	**P**	**23 24 09.5**	**+1.0**
	baz=275,slow=8.8						
JTS	**JuntasAbangare**	**48.64**	**345**	*d i*P	**P**	**23 24 18.9**	**+0.3**
JTS				pmax	pmax		
	comp=Z,53nm,1.7s						
JTS	**JuntasAbangare

comp=Z,2µm,18.1s,baz=123,slow=29
PPT Papeete 68.45 264 *e*P P **23 26 36.1 -0.6**
833A Chaparral WMA, 69.72 336 ⇓P P **23 26 47.1 +2.9**
baz=70
832A Faith Ranch, C 69.87 335 ⇓P P **23 26 45.2 0.0**
baz=70
636A Smothers Creek 70.07 338 ⇑P P **23 26 48.0 +1.6**
baz=70
635A Leesville 70.20 338 ⇓P P **23 26 47.3 +0.2**
baz=70
MAW Mawson 70.27 164 *e*P P **23 26 47.9 +0.7**
MAW pmax pmax
comp=Z,136nm,2.8s
MAW Mawson 70.27 164 P P **23 26 47.3 +0.1**
comp=Z,18nm,1.1s,baz=190,slow=10,SNR=5.0
MAW LR LR 23 59 11.7
comp=Z,6µm,18.1s,baz=230,slow=37
MAW Mawson 70.27 164 *e*P P **23 26 47.9 +0.7**
comp=Z,136nm,2.8s
732A Laxson Ranch, 70.28 336 ⇑P P **23 26 50.5 +2.9**
baz=71
537A Green Hill Far 70.42 339 ⇑P P 23 26 51.6 +3.1
baz=71
633A Saathoff Ranch 70.70 337 ⇓P P **23 26 51.7 +1.5**
baz=71
632A Uvalde 70.94 336 ⇓P P 23 26 56.0 +4.3
baz=71
534A Blanco 71.01 337 ⇑P P **23 26 52.3 +0.1**
baz=71
340A Bronson 71.05 342 ⇑P P **23 26 52.7 +0.4**
baz=71
GOGA Godfrey 71.08 351 *e*P P **23 26 50.3 -2.1**
GOGA pmax pmax
comp=Z,93nm,1.8s
GOGA Godfrey 71.08 351 *e*P P **23 26 50.3 -2.1**
comp=Z,93nm,1.8s
631A Perdido Creek 71.11 335 ⇓P P **23 26 55.6 +2.9**
baz=71
LRAL Lakeview Retre 71.20 348 *e*P P **23 26 53.1 -0.1**
comp=Z,89nm,1.8s
436A Wall Ranch, Ga 71.21 339 ⇑P P 23 26 56.4 +3.1
baz=72
533A Kerrville 71.22 337 ⇓P P **23 26 55.0 +1.5**
baz=72
338A Crockett 71.36 341 ⇑P P 23 26 58.8 +4.6
baz=72
435B Jarrell 71.45 338 ⇑P P **23 26 52.1 -2.6**
baz=72
434A Burnet 71.68 338 ⇑P P 23 26 59.2 +3.0
baz=72
531A Rocksprings 71.79 336 ⇑P P **23 26 59.8 +2.9**
baz=72
JCT Junction City 71.84 336 *e*P P **23 26 56.6 -0.6**
JCT pmax pmax
comp=Z,49nm,1.2s
JCT Junction City 71.84 336 ⇑P P **23 26 58.7 +1.5**
baz=72
JCT Junction City 71.84 336 *e*P P **23 26 56.6 -0.6**
comp=Z,49nm,1.2s
335A Moody 71.87 339 ⇑P P 23 27 00.4 +3.1
baz=72
433A Art 71.88 337 ⇑P P **23 26 58.9 +1.6**
baz=72
238A Jacksonville 71.92 341 ⇑P P **23 26 59.4 +1.8**
baz=72
530A J-C Ranch, Com 72.04 335 ⇓P P **23 26 57.3 -1.1**
baz=72,SNR=10.0
237A Washetta, Mont 72.10 340 ⇓P P 23 27 01.8 +3.2
baz=72
LTX Lajitas 72.11 333 *e*P P **23 26 58.9 0.0**
LTX Lajitas 72.11 333 *e*P P **23 26 58.9 0.0**
TXAR Lajitas Array 72.11 333 P P **23 26 58.9 0.0**
comp=Z,5.3nm,1.1s,baz=149,slow=6.0,SNR=18
TXAR LR LR 23 54 25.0
comp=Z,832nm,18.0s,baz=0.0,slow=32
334A Lometa 72.16 338 ⇓P P 23 27 02.1 +3.0
baz=72
432A Menard 72.21 337 ⇑P P **23 27 00.9 +1.5**
baz=72
431A Sonora 72.29 336 ⇓P P **23 26 59.9 0.0**
baz=73
529A Stev Forest Ra 72.32 334 ⇑P P **23 27 01.4 +1.3**
baz=73
333A Richland Sprin 72.37 337 ⇑P P **23 27 01.9 +1.6**
baz=73
WHTX Lake Whitney, 72.55 339 ⇑P P **23 27 03.0 +1.7**
baz=73
WHTX Lake Whitney, 72.55 339 *e*P P **23 26 59.4 -1.9**
comp=Z,185nm,2.3s
KMSC Kings Mountain 72.57 353 *e*P P **23 27 00.1 -1.2**
comp=Z,137nm,1.9s
430A Baggett Ranch, 72.59 335 ⇑P P **23 27 03.1 +1.4**
baz=73
332A Millersview 72.66 337 ⇑P P **23 27 05.0 +3.0**
baz=73
429A Davenport Ranc 72.66 335 ⇓P P **23 27 01.0 -1.1**
baz=73,SNR=11
234A Clairette 72.75 338 ⇓P P **23 27 04.2 +1.7**
baz=73
CER Ceres 72.77 119 *e*P P **23 27 04.0 +1.1**
331A San Angelo 72.81 336 ⇑P P **23 27 04.4 +1.5**
baz=73
233A Rising Star 73.00 338 ⇑P P **23 27 05.6 +1.6**
baz=73
DRV Dumont d'Urvil 73.04 193 S S 23 36 16.0 -13
DRV L L 23 46 00.0
DRV R 23 52 00.0
OXF Oxford 73.06 347 *e*P P **23 27 03.9 -0.4**
OXF pmax pmax
comp=Z,35nm,1.0s
OXF Oxford 73.06 347 *e*P P **23 27 03.9 -0.4**
comp=Z,35nm,1.0s
135A Vickery Place, 73.07 339 ⇑P P **23 27 04.7 +0.3**
baz=73
232A Coleman 73.10 337 ⇑P P **23 27 01.9 -2.7**
baz=73
330A Mertzon 73.14 336 ⇓P P **23 27 03.5 -1.4**
baz=74,SNR=6.8
SWET Sewanee 73.18 350 *e*P P **23 27 04.0 -1.0**
TKL Tuckaleechee C 73.33 351 *e*P P **23 27 05.0 -0.9**
TKL Tuckaleechee C 73.33 351 *e*P P **23 27 05.0 -0.9**
231A Bronte 73.36 337 ⇓P P **23 27 07.7 +1.5**
baz=74
KOMG Komaggas 73.46 115 *e*P P **23 27 08.5 +1.4**
133A Hamilton Ranch 73.55 338 ⇑P P **23 27 06.1 -1.2**
baz=74
Z35A Perchaven, San 73.75 340 ⇑P P **23 27 05.9 -2.5**
baz=74
ABTX Abilene, Hawle 73.78 337 *e*P P **23 27 09.6 +0.9**
comp=Z,48nm,1.3s
229A Bryant Ranch, 73.87 335 ⇑P P **23 27 09.2 0.0**
baz=74
MIAR Mount Ida 73.97 343 *e*P P **23 27 10.3 +0.7**
MIAR pmax pmax
comp=Z,66nm,1.9s
MIAR Mount Ida 73.97 343 *e*P P **23 27 10.3 +0.7**
comp=Z,66nm,1.9s
131A Roby 74.06 337 ⇑P P **23 27 11.9 +1.6**
baz=74
Z33A Whitaker Ranch 74.14 338 ⇑P P **23 27 10.9 +0.3**
baz=74
228A UT Block 9, Go 74.27 335 ⇓P P 23 27 15.8 +4.3
baz=75
WVT Waverly 74.37 348 *e*P P **23 27 10.2 -1.7**
WVT pmax pmax
comp=Z,64nm,1.4s
WVT Waverly 74.37 348 *e*P P **23 27 10.2 -1.7**
comp=Z,64nm,1.4s
Z32A Haskell 74.37 338 ⇑P P **23 27 13.7 +1.7**
baz=75
SUR Sutherland 74.38 119 *e*P P **23 27 12.2 -0.5**
comp=Z,60nm,1.5s
SUR *ep*P **pP 23 27 20.4 -1.7**
Y34A Reagan Ranch, 74.48 339 ⇓P P **23 27 13.0 +0.4**
baz=75
VWCC Virginia Weste 74.55 355 *e*P P **23 27 11.8 -1.1**
128A Castleberry Fa 74.69 335 ⇑P P 23 27 18.3 +4.3
baz=75
URVA University of 74.73 357 *e*P P **23 27 14.4 +0.5**
Y33A Hilltop Ranch, 74.77 339 ⇓P P **23 27 16.1 +1.7**
baz=75
Z30A Sanderson Ranc 74.86 336 ⇓P P **23 27 16.5 +1.6**
baz=75
JSRW J. Sargeant Re 74.87 357 *e*P P **23 27 14.7 -0.1**
Y32A R-V Farms, Ver 75.01 338 ⇑P P **23 27 17.4 +1.7**
baz=75
Z29A Hungry Hill Ra 75.02 336 ⇓P P **23 27 17.4 +1.5**
baz=75
X34A Smith Ranch, M 75.10 340 ⇓P P 23 27 19.5 +3.2
baz=75
W36A Wetumka 75.18 341 ⇑P P **23 27 15.7 -1.0**
baz=76
Y31A Rekieta Farm, 75.22 337 ⇓P P **23 27 18.6 +1.7**
baz=76
Z28A Tucker Farm, M 75.27 335 ⇓P P 23 27 21.7 +4.3
baz=76
PBMO Poplar Bluff 75.46 346 *e*P P **23 27 17.6 -0.6**
comp=Z,121nm,2.2s
WMOK Wichita Mounta 75.50 339 *e*P P **23 27 18.0 -0.6**
WMOK pmax pmax
comp=Z,13nm,0.8s
WMOK Wichita Mounta 75.50 339 *e*P P **23 27 18.0 -0.6**
comp=Z,14nm,0.8s
Y29A Porterfield Fa 75.56 336 ⇑P P 23 27 23.4 +4.4
baz=76
W34A Bridge Creek, 75.68 340 ⇓P P **23 27 21.4 +1.8**
baz=76
W34A Bridge Creek, 75.68 340 P P **23 27 19.3 -0.3**
comp=Z,102nm,1.8s
X31A McDonald Ranch 75.75 338 ⇓P P **23 27 21.7 +1.7**
baz=76
Y28A McKinney Farm, 75.79 336 ⇑P P **23 27 23.3 +2.9**
baz=76
W33A Caddo, Fort Co 75.80 339 ⇓P P 23 27 23.4 +3.2
baz=76
TUL1 Leonard 75.80 342 ⇑P P 23 27 23.6 +3.4
baz=76
TUL1 Leonard 75.80 342 *e*P P **23 27 20.5 +0.3**
comp=Z,32nm,1.0s
X30A Coker Ranch, T 75.85 337 ⇓P P **23 27 20.8 +0.2**
baz=76
V35A Meyer Ranch, C 75.93 341 ⇑P P 23 27 24.3 +3.3
baz=76
W32A Sentinel 76.00 339 ⇑P P 23 27 24.5 +3.2
baz=76
MSTX Muleshoe 76.02 335 *e*P P **23 27 22.0 +0.3**
comp=Z,48nm,1.4s
319A Douglas 76.10 329 ⇓P P **23 27 21.9 -0.3**
baz=76
USIN University of 76.14 349 *e*P P **23 27 21.8 -0.3**
comp=Z,36nm,1.1s
SIUC Southern Illin 76.15 347 *e*P P **23 27 22.0 -0.1**
comp=Z,15nm,0.8s
V34A Guthrie 76.18 340 ⇓P P **23 27 19.9 -2.4**
baz=76
V34A Guthrie 76.18 340 *e*P P **23 27 20.9 -1.4**
comp=Z,152nm,2.0s
V33A Lossen Ranch, 76.38 340 ⇓P P **23 27 25.3 +1.8**
baz=77
V32A Arapaho 76.49 339 ⇓P P **23 27 23.1 -1.1**
baz=77
AMTX Amarillo 76.51 337 *e*P P **23 27 24.4 +0.1**
comp=Z,56nm,1.3s
CASY Casey 76.55 182 *e*P P **23 27 24.2 0.0**
comp=Z,316nm,2.2s
CASY *ep*P **pP 23 27 31.7 -2.0**
W29A Amarillo 76.72 337 ⇑P P **23 27 24.3 -1.3**
baz=77
U34A Anderson Ranch 76.75 340 ⇑P P **23 27 23.2 -2.4**
baz=77
U34A Anrkson Ranch 76.75 340 *e*P P **23 27 25.4 -0.2**
comp=Z,39nm,1.1s
U33A Lingo Farm, Me 76.90 340 ⇓P P **23 27 26.9 +0.4**
baz=77
UPI Upington 76.99 116 *e*P P **23 27 28.1 +0.7**
V30A Spur Ranch, Mi 77.02 338 ⇓P P 23 27 30.3 +3.1
baz=77
W28A Vega 77.02 336 ⇓P P **23 27 27.4 +0.1**
baz=77
BLO Bloomington 77.15 350 *e*P P **23 27 27.1 -0.7**
BLO pmax pmax
comp=Z,48nm,1.5s
BLO Bloomington 77.15 350 *e*P P **23 27 27.1 -0.7**
comp=Z,48nm,1.5s
LIC Lamto 77.17 72 *e*P P **23 27 29.4 +0.9**
comp=Z,191nm,1.4s
U31A Nine Bar Ranch 77.33 339 ⇓P P 23 27 32.1 +3.2
baz=78
V29A Stinnett 77.37 337 ⇑P P 23 27 32.2 +3.1
baz=78
TIC Tomodi 77.44 71 *e*P P **23 27 30.8 +0.7**
comp=Z,275nm,1.9s
KIC Kosan Boka 77.47 72 *e*P P **23 27 31.1 +0.9**
comp=Z,300nm,1.4s
V28A Channing 77.48 337 ⇓P P **23 27 32.8 +3.0**
baz=78
TUC Tucson 77.54 328 *e*P P **23 27 29.5 -0.7**
TUC pmax pmax
comp=Z,17nm,1.3s
TUC Tucson 77.54 328 *e*P P **23 27 29.5 -0.7**
comp=Z,17nm,1.3s
T33A Patterson Ranc 77.55 340 ⇑P P 23 27 34.8 +4.7
baz=78
DBIC Dimbokro 77.58 72 *e*P P **23 27 31.2 +0.4**
DBIC *e**PP **pP 23 27 37.9 -2.5**
DBIC pmax pmax
comp=Z,176nm,1.5s
DBIC Dimbokro 77.58 72 P P **23 27 31.5 +0.7**
comp=Z,43nm,1.0s,baz=201,slow=5.3,SNR=21
DBIC LR LR 23 59 36.1
comp=Z,2µm,18.7s,baz=210,slow=34
DBIC Dimbokro 77.58 72 *e*P P **23 27 31.2 +0.4**
comp=Z,176nm,1.5s
DBIC *ep*P **pP 23 27 37.9 -2.5**
LPM Los Pinos Moun 77.68 333 *e*P P **23 27 30.8 -0.3**
GRM Grahamstown 77.73 123 *e*P P **23 27 30.4 -1.2**
GRM Grahamstown 77.73 123 *e*P P **23 27 30.4 -1.2**
ACSO Alum Creek Sta 77.77 353 *e*P P **23 27 30.8 -0.4**
comp=Z,162nm,1.8s
T32A Huddler Ranch, 77.83 340 ⇑P P 23 27 34.9 +3.2
baz=78
U29A Oasis Ranch, S 77.83 338 ⇑P P 23 27 34.8 +3.1
baz=78
S34A Willow Spring 77.83 341 ⇑P P **23 27 30.7 -0.9**
baz=78
LAZ Ladron 77.94 332 *e*P P **23 27 31.7 -0.8**
T31A Randall Ranch, 77.96 339 ⇓P P **23 27 34.2 +1.8**
baz=78
S33A Kaszmaul Farm, 77.96 341 ⇑P P **23 27 34.3 +1.9**
baz=83
U28A Mallet 78.06 337 ⇓P P **23 27 31.8 -1.3**
baz=78
T30A Plains 78.16 338 ⇓P P **23 27 32.4 -1.1**
baz=78
ANMO Albuquerque 78.18 333 *d* iP P **23 27 35.2 +1.3**
ANMO pmax pmax
comp=Z,32nm,1.2s
ANMO Albuquerque 78.18 333 LR LR 23 56 26.5
comp=Z,892nm,20.2s,baz=154,slow=31
ANMO Albuquerque 78.18 333 *e*P P **23 27 34.4 +0.6**
comp=Z,33nm,1.3s
U27A Thompson Grove 78.28 336 ⇓P P **23 27 35.9 +1.5**
baz=79
Q37A Longview Farm, 78.31 344 ⇓P P **23 27 34.9 +0.6**
baz=79
S32A Newby Ranch, P 78.32 340 ⇑P P **23 27 36.2 +1.8**
baz=79
SFIN Lafayette 78.42 350 ⇓P P **23 27 35.7 +0.9**
baz=79
T29A Hugoton 78.49 338 ⇓P P **23 27 34.2 -1.2**
baz=79
U26A Atchley Ranch, 78.56 336 ⇑P P **23 27 35.9 0.0**
baz=79
R33A Olander Ranch, 78.63 341 ⇑P P **23 27 36.5 +0.5**
baz=79
S30A Montezuma 78.69 339 ⇑P P **23 27 36.8 +0.3**
baz=79
T27A Campo 78.84 337 ⇓P P **23 27 36.1 -1.3**
baz=79
R32A Long Quarter, 78.93 340 ⇓P P **23 27 38.2 +0.4**
baz=79
T26A Comanche Natio 79.22 336 ⇓P P **23 27 38.1 -1.4**
baz=80
R30A Dighton 79.24 339 ⇓P P **23 27 41.2 +1.8**
baz=80
QUA2 Belchertown 79.36 1 *e*P P **23 27 41.0 +1.1**
comp=Z,104nm,1.8s
Q32A Meitler Ranch, 79.42 341 ⇓P P 23 27 45.2 +4.8
baz=80
T25A Trinidad 79.45 336 ⇑P P **23 27 39.4 -1.5**
baz=80,SNR=9.5
T25A Trinidad 79.45 336 *e*P P **23 27 41.3 +0.4**
comp=Z,60nm,1.3s
S27A Las Animas 79.47 337 ⇓P P **23 27 43.8 +3.0**
baz=80
W18A Petrified Fore 79.57 331 *e*P P **23 27 43.0 +1.5**
comp=Z,66nm,1.5s
S26A Kim 79.59 336 ⇓P P **23 27 39.5 -2.0**
baz=80,SNR=8.7
TSUM Tsumeb 79.59 106 *e*P P **23 27 42.5 +0.4**
comp=Z,102nm,1.5s
HRV Adam Dziewonsk 79.60 2 *e*P P **23 27 41.1 -0.1**
HRV pmax pmax
comp=Z,110nm,1.7s
HRV Adam Dziewonsk 79.60 2 *e*P P **23 27 41.1 -0.1**
comp=Z,110nm,1.7s
R29A Marienthal 79.61 338 ⇓P P 23 27 44.7 +3.2
baz=80
P33A Williams Farm, 79.62 341 ⇓P P 23 27 44.8 +3.4
baz=80
X16A Lo Mia Camp, P 79.64 329 ⇓P P **23 27 44.4 +2.5**
baz=80
Q31A Ellis 79.66 340 ⇑P P **23 27 42.1 +0.4**
baz=80
R28A Tribune 79.74 338 ⇓P P **23 27 42.5 +0.2**
baz=80
TRY Troy 79.80 0 *e*P P **23 27 42.6 +0.4**
comp=Z,39nm,1.2s
Q30A Quinter 79.87 339 ⇑P P **23 27 41.8 -1.1**
baz=80
S25A Robets Cordova 79.94 336 ⇑P P **23 27 44.9 +1.4**
baz=80
R27A Eads 79.99 337 ⇑P P **23 27 42.3 -1.2**
baz=80
P32A Huiting Farm, 80.03 341 ⇑P P 23 27 47.0 +3.3
baz=80
P31A Stockton 80.14 340 ⇓P P **23 27 43.3 -1.0**
baz=80
R26A Arlington 80.20 337 ⇓P P **23 27 43.5 -1.3**
baz=80,SNR=11
R25A Fountain Ranch 80.33 336 ⇓P P **23 27 42.7 -2.8**
baz=81
URZ Urewera 80.34 229 *e*P P **23 27 46.4 +0.8**
comp=Z,394nm,2.9s
SDCO Great Sand Dun 80.37 335 ⇓P P **23 27 47.2 +1.3**
baz=81
P30A Selden 80.40 340 ⇓P P **23 27 47.5 +1.8**
baz=81
Q28A Sharon Springs 80.41 338 ⇑P P **23 27 47.5 +1.7**
baz=81
ACCN Adirondack Com 80.45 0 *e*P P **23 27 46.1 +0.3**
comp=Z,81nm,1.7s
WUAZ Wupatki 80.56 330 ⇓P P 23 27 52.3 +5.4
baz=81
WUAZ Wupatki 80.56 330 *e*P P **23 27 47.3 +0.5**
comp=Z,30nm,1.4s
KSCO Kaye Shedlock' 80.60 338 ⇓P P 23 27 49.9 +3.0
baz=81
KSCO Kaye Shedlock' 80.60 338 *e*P P **23 27 47.0 +0.2**
comp=Z,151nm,1.9s
P29A Atwood 80.65 339 ⇓P P **23 27 47.4 +0.3**
baz=81
R24A Sanders Place, 80.68 335 ⇑P P **23 27 46.7 -0.7**
baz=81,SNR=9.4
Q26A Hugo 80.80 337 ⇓P P **23 27 50.9 +3.0**
baz=81
S22A 4UR Ranch, Cre 80.82 334 *e*P P **23 27 48.5 +0.1**
comp=Z,64nm,1.9s
R23A Moffat 80.88 335 ⇑P P **23 27 49.9 +1.3**
baz=81
MVCO Mesa Verde 80.94 333 *e*P P **23 27 48.9 0.0**
comp=Z,36nm,1.4s
P27A Ficken Ranch, 81.09 338 ⇑P P **23 27 49.7 +0.2**
baz=81
O29A 4D Ranch, Culb 81.10 339 ⇓P P **23 27 51.2 +1.8**
baz=81
PFO Pinyon Flats O 81.12 325 *e*P P **23 27 50.2 +0.4**
PFO pmax pmax
comp=Z,65nm,1.9s
PFO Pinyon Flats O 81.12 325 LR LR 23 57 16.9
comp=Z,1µm,18.1s,baz=156,slow=31
PFO Pinyon Flats O 81.12 325 *e*P P **23 27 50.2 +0.4**
comp=Z,65nm,1.9s
W13A Hualapai Mount 81.24 328 ⇓P P 23 27 54.4 +3.8
baz=82
Q24A Divide 81.35 336 ⇑P P **23 27 52.4 +1.3**
baz=82
KSD Kokstad 81.38 122 *e*P P **23 27 51.6 +0.1**
SEK Senekal 81.52 119 *e*P P **23 27 51.3 -1.0**
LONY Lake Ozonia 81.69 359 *e*P P **23 27 52.4 0.0**
comp=Z,43nm,1.3s
N29A Votaw Ranch, W 81.69 340 ⇑P P 23 27 55.8 +3.3
baz=82
M31A Lambtecht Ranc 81.74 341 ⇑P P 23 27 56.1 +3.4
baz=82
LDFC Landfair 81.75 327 *e*P P **23 27 54.8 +1.7**
comp=Z,35nm,1.2s
PV01 Paradox Valley 81.79 333 *e*P P **23 27 54.0 +0.6**
N28A Pribbeno Ranch 81.83 339 ⇓P P 23 27 57.9 +4.6
baz=82
PV05 Paradox Valley 81.93 333 *e*P P **23 27 54.9 +0.8**
P23A Jefferson 81.95 335 ⇓P P 23 27 58.4 +4.1
baz=82
SADO Sadowa 81.98 356 LR LR 00 08 05.3
comp=Z,770nm,19.2s,baz=168,slow=38
RUDU RUNDU 81.99 106 *e*P P **23 27 56.1 +1.2**
LBTB Lobatse 82.10 115 *e*P P **23 27 55.3 0.0**
LBTB pmax pmax
comp=Z,246nm,1.8s
LBTB Lobatse 82.10 115 *e*P P **23 27 55.3 0.0**
comp=Z,246nm,1.8s
SMCO Snowmass 82.16 335 *e*P P **23 27 56.1 +0.6**
comp=Z,56nm,1.3s
PRYS Parys 82.19 118 *e*P P **23 27 54.9 -0.9**
OGNE Ogallala 82.21 339 ⇓P P 23 27 58.5 +3.2
baz=82
N27A Anderson Farm, 82.23 338 ⇑P P 23 27 58.6 +3.1
baz=83
ISCO Idaho Springs 82.26 336 *e*P P **23 27 57.2 +1.3**
ISCO pmax pmax
comp=Z,16nm,1.2s
ISCO Idaho Springs 82.26 336 ⇑P P 23 28 01.5 +5.6
baz=83
ISCO Idaho Springs 82.26 336 *e*P P **23 27 57.2 +1.3**
comp=Z,16nm,1.2s
PV09 Paradox Valley 82.32 333 *e*P P **23 27 56.1 -0.1**
O24A Longmont 82.38 336 ⇓P P **23 27 57.8 +1.5**
baz=83
M28A Bar X Bar Ranc 82.44 339 ⇑P P **23 27 58.3 +1.8**
baz=83
KNB Kanab 82.44 329 *e*P P **23 27 57.9 +1.1**
KNB pmax pmax
comp=Z,137nm,2.0s
KNB Kanab 82.44 329 *e*P P **23 27 57.9 +1.1**
comp=Z,137nm,2.0s
N26A Koester Ranch, 82.45 338 ⇑P P **23 27 56.9 +0.2**
baz=83
L30A Spencer Herefo 82.50 341 ⇓P P **23 27 58.7 +1.9**
baz=83
KSR Koster 82.52 117 *e*P P **23 27 56.4 -1.3**
GSC Goldstone, Bar 82.69 326 *e*P P **23 27 59.4 +1.4**
GSC pmax pmax
comp=Z,31nm,1.6s
GSC Goldstone, Bar 82.69 326 *e*P P **23 27 59.4 +1.4**
comp=Z,31nm,1.6s
KLOF Kloof 82.72 118 *e*P P **23 27 57.6 -1.1**
O22A Kremmling 82.90 335 ⇑P P **23 27 57.6 -1.6**
baz=83
SHPR Sheep Range 82.98 328 *e*P P **23 28 00.1 +0.5**
CCUT Cedar City 83.12 329 *e*P P **23 28 01.5 +1.2**
comp=Z,33nm,1.3s
K30A Basset 83.16 341 ⇓P P 23 28 03.5 +3.4
baz=84
ERPM east rand prop 83.17 118 *e*P P **23 28 01.7 +0.7**
CRZF Crozet Islands 83.29 146 PP PP 23 31 01.0 -11
CRZF S S 23 38 06.0 -13
CRZF SS **SS 23 43 44.0 +0.6**
CRZF L L 23 50 00.0
CRZF R 23 54 00.0
ARUT Antelope Range 83.36 329 *e*P P **23 28 01.9 +0.5**
ARUT Antelope Range 83.36 329 *e*P P **23 28 01.9 +0.5**
N23A Red Feather La 83.36 336 *e*P P **23 28 01.6 +0.1**
comp=Z,28nm,1.2s
SRU San Rafael Swe 83.37 332 *e*P P **23 28 01.2 -0.3**
SRU pmax pmax
comp=Z,27nm,1.3s
SRU San Rafael Swe 83.37 332 *e*P P **23 28 01.2 -0.3**
comp=Z,27nm,1.3s
K29A Lazy Trails An 83.42 341 ⇑P P **23 28 02.0 +0.5**
baz=84
ECSD EROS Data Cent 83.43 344 ⇓P P **23 27 59.3 -2.2**
baz=84

ECSD	EROS Data Cent	83.43	344	*e*P		P	23 28 01.6	+0.1	
	comp=Z,102nm,1.6s								
N22A	Wattenberg Ran	83.44	336	⇓P		P	23 28 06.2	+4.2	
	baz=84								
O20A	White River Ci	83.45	334	⇓P		P	23 28 04.7	+2.8	
	baz=84								
O20A	White River Ci	83.45	334	*e*P		P	23 28 02.3	+0.4	
	comp=Z,53nm,1.6s								
MVU	Marysvale	83.48	331	*e*P		P	23 28 02.8	+0.6	
	comp=Z,19nm,1.3s								
J30A	Dallas	83.73	341	⇑P		P	23 28 05.0	+2.0	
	baz=84								
ISA	Isabella, Lake	83.75	325	*e*P		P	23 28 05.1	+1.7	
ISA				pmax		pmax			
	comp=Z,87nm,2.3s								
ISA	Isabella, Lake	83.75	325	*e*P		P	23 28 05.1	+1.7	
	comp=Z,87nm,2.3s								
TMUT	Trail Mountain	83.79	332	*e*P		P	23 28 04.9	+1.1	
	comp=Z,66nm,1.8s								
TPNV	Topopah Spring	83.82	327	*e*P		P	23 28 04.9	+1.0	
TPNV				pmax		pmax			
	comp=Z,64nm,2.1s								
TPNV	Topopah Spring	83.82	327	*e*P		P	23 28 04.9	+1.0	
	comp=Z,64nm,2.1s								
DAC	Darwin (Calif)	83.86	326	*e*P		P	23 28 05.7	+1.6	
DAC				pmax		pmax			
	comp=Z,59nm,1.9s								
DAC	Darwin (Calif)	83.86	326	*e*P		P	23 28 05.7	+1.6	
	comp=Z,59nm,1.9s								
J29A	Okreek	84.02	341	⇓P		P	23 28 06.5	+1.9	
	baz=84								
M22A	Cedar Creek Ra	84.03	336	⇑P		P	23 28 06.3	+1.4	
	baz=84								
I30A	Oacoma	84.27	342	⇓P		P	23 28 07.8	+2.0	
	baz=85								
K25A	Mack Ranch, Ha	84.28	338	⇑P		P	23 28 09.1	+3.1	
	baz=85								
J28A	Allard Ranch,	84.28	340	⇓P		P	23 28 07.8	+1.9	
	baz=85								
J27A	Elkhorn Farm,	84.33	340	⇓P		P	23 28 08.0	+1.8	
	baz=85								
MPU	Maple Canyon	84.57	332	*e*P		P	23 28 06.9	-0.7	
	comp=Z,21nm,1.0s								
I29A	Vivian Onida	84.59	341	⇓P		P	23 28 09.4	+2.0	
	baz=85								
BRSD	Miller	84.65	342	⇓P		P	23 28 11.1	+3.4	
	baz=85								
J26A	Sides Ranch, S	84.69	339	⇓P		P	23 28 08.3	+0.4	
	baz=85								
NLU	North Lily Min	84.69	331	*e*P		P	23 28 09.8	+1.6	
	comp=Z,63nm,1.9s								
R11A	Troy Canyon, C	84.72	328	⇓P		P	23 28 09.5	+1.1	
	baz=85								
R11A	Troy Canyon, C	84.72	328	*e*P		P	23 28 09.0	+0.6	
	comp=Z,28nm,1.4s								
DAU	Daniels Canyon	84.78	332	*e*P		P	23 28 09.4	+0.6	
DAU	Daniels Canyon	84.78	332	*e*P		P	23 28 09.4	+0.6	
I28A	Midland	84.80	340	⇑P		P	23 28 08.9	+0.5	
	baz=85								
J25A	Sunshine Ranch	84.97	338	⇓P		P	23 28 08.3	-1.1	
	baz=85								
I27A	Quinn	85.10	340	⇑P		P	23 28 10.4	+0.4	
	baz=85								
K22A	Casper	85.13	336	*e*P		P	23 28 10.1	-0.2	
	comp=Z,109nm,1.8s								
H29A	Onida	85.13	341	⇓P		P	23 28 10.7	+0.5	
	baz=86								
J24A	Dixon Ranch, L	85.17	338	⇓P		P	23 28 06.4	-4.0	
	baz=86								
DUG	Dugway, Tooele	85.18	331	*e*P		P	23 28 10.6	0.0	
DUG				pmax		pmax			
	comp=Z,29nm,1.3s								
DUG	Dugway, Tooele	85.18	331	⇑P		P	23 28 09.1	-1.6	
	baz=86								
DUG	Dugway, Tooele	85.18	331	*e*P		P	23 28 10.6	0.0	
	comp=Z,29nm,1.3s								
TPH	Tonopah	85.19	327	*e*P		P	23 28 11.2	+0.4	
TPH				pmax		pmax			
	comp=Z,27nm,1.3s								
TPH	Tonopah	85.19	327	*e*P		P	23 28 11.2	+0.4	
	comp=Z,27nm,1.3s								
I26A	New Underwood	85.29	339	⇑P		P	23 28 12.8	+1.8	
	baz=86								
G30A	Faulkton	85.34	342	⇓P		P	23 28 11.7	+0.6	
	baz=86								
H28A	Mission Ridge	85.39	341	⇓P		P	23 28 10.5	-0.9	
	baz=86								
I25A	Rochford	85.53	339	⇑P		P	23 28 10.7	-1.6	
	baz=86,SNR=7.1								
H27A	Howes	85.63	340	⇑P		P	23 28 13.1	+0.5	
	baz=86								
RSSD	Black Hills	85.71	339	*e*P		P	23 28 13.2	-0.1	
RSSD				pmax		pmax			
	comp=Z,67nm,2.1s								
RSSD	Black Hills	85.71	339	*e*P		P	23 28 13.2	-0.1	
	comp=Z,67nm,2.1s								
G28A	Parade	85.73	341	⇑P		P	23 28 13.6	+0.5	
	baz=86								
J22A	Midwest	85.80	337	⇑P		P	23 28 10.9	-2.7	
	baz=86								
HWUT	Hardware Ranch	85.94	333	*e*P		P	23 28 13.5	-0.9	
	comp=Z,71nm,1.4s								
NV01	Mina Array Sit	85.95	326	*e*P		P	23 28 15.6	+0.9	
NVAR	Mina Array Bea	85.95	326	P		P	23 28 15.6	+0.9	
	comp=Z,1.5nm,0.9s,baz=151,slow=6.4,SNR=9.5								
F30A	Leola	85.97	343	⇓P		P	23 28 13.4	-0.8	
	baz=86								
H25A	Fruitdale	86.04	339	⇓P		P	23 28 13.6	-1.1	
	baz=86								
F29A	Eureka	86.17	342	⇑P		P	23 28 15.8	+0.6	
	baz=86								
I22A	9 Mile Ranch,	86.24	337	⇓P		P	23 28 15.9	+0.2	
	baz=87								
PD31	Pinedale Array	86.24	334	*e*P		P	23 28 15.0	-1.0	
PDAR	Pinedale Array	86.24	334	P		P	23 28 16.5	+0.6	
	comp=Z,5.2nm,1.0s,baz=145,slow=5.4,SNR=20								
PDAR				LR		LR	00 02 20.4		
	comp=Z,780nm,20.1s,baz=150,slow=33								
G27A	Dupree	86.28	341	⇑P		P	23 28 19.2	+3.3	
	baz=87								
G26A	Maurine	86.38	340	⇓P		P	23 28 13.6	-2.7	
	baz=87,SNR=6.5								
I21A	Big Trails, Te	86.42	336	⇓P		P	23 28 19.7	+3.0	
	baz=87								
F28A	McLaughlin	86.42	341	⇓P		P	23 28 21.3	+4.8	
	baz=87								
H24A	Dirks Ranch, A	86.43	339	⇑P		P	23 28 17.0	+0.3	
	baz=87								
J19A	Crowheart	86.51	335	⇑P		P	23 28 17.2	0.0	
	baz=87								
WAKR	Walker	86.52	326	*e*P		P	23 28 18.0	+0.6	
HVU	Hansel Valley	86.53	332	*e*P		P	23 28 17.5	+0.2	
HVU				pmax		pmax			
	comp=Z,85nm,2.3s								
HVU	Hansel Valley	86.53	332	*e*P		P	23 28 17.5	+0.2	
	comp=Z,85nm,2.3s								
CMB	Columbia Colle	86.56	325	*e*P		P	23 28 17.4	0.0	
CMB				pmax		pmax			
	comp=Z,27nm,1.9s								
CMB	Columbia Colle	86.56	325	*e*P		P	23 28 17.4	0.0	
	comp=Z,27nm,1.9s								
E30A	Jud	86.58	343	⇑P		P	23 28 17.8	+0.6	
	baz=87								
ELK	Elko	86.61	330	*e*P		P	23 28 17.4	-0.4	
ELK				pmax		pmax			
	comp=Z,51nm,2.0s								
ELK	Elko	86.61	330	*e*P		P	23 28 17.4	-0.4	
	comp=Z,50nm,2.0s								
TOA0	Torodi Ar. Sit	86.66	71	*e*P		P	23 28 18.0	-0.4	
TOA0				*e*PP		PP	23 31 39.1	-1.9	
TORD	Torodi Ar. Bea	86.66	71	P		P	23 28 18.0	-0.4	
	comp=Z,16nm,1.1s,baz=236,slow=3.2,SNR=53								
TORD				PP		PP	23 31 39.1	-1.9	
	comp=Z,8.0nm,1.2s,baz=240,slow=5.0,SNR=4.8								
TORD				LR		LR	00 06 47.8		
	comp=Z,2µm,18.4s,baz=210,slow=36								
F27A	Lemmon	86.76	341	⇑P		P	23 28 15.8	-2.4	
	baz=87,SNR=6.6								
I20A	Worland	86.81	336	⇓P		P	23 28 20.1	+1.6	
	baz=87								
MSKU	Masuku	86.89	90	*e*P		P	23 28 20.5	+0.9	
	comp=Z,96nm,1.4s								
F26A	Lodgepole	86.92	340	⇑P		P	23 28 20.8	+1.9	
	baz=87								
MSNA	Messina	86.93	116	*e*P		P	23 28 20.3	+0.5	
H21A	Big Horn, Sher	87.07	337	⇑P		P	23 28 22.9	+3.0	
	baz=87								
F25A	Bowman	87.20	340	⇑P		P	23 28 19.3	-1.0	
	baz=88								
REDW	Red Top Meadow	87.21	334	*e*P		P	23 28 20.4	-0.3	
	comp=Z,12nm,1.0s								
LOHW	Long Hollow	87.35	334	*e*P		P	23 28 21.2	-0.1	
	comp=Z,25nm,1.7s								
TPAW	Teton Pass	87.36	334	*e*P		P	23 28 21.5	+0.1	
	comp=Z,26nm,1.4s								
E26A	Carlson Angus	87.43	341	⇑P		P	23 28 19.0	-2.4	
	baz=88								
FXWY	Fox Creek	87.52	334	*e*P		P	23 28 21.7	-0.5	
	comp=Z,17nm,1.6s								
I17A	Pilgrim Ck.	87.61	334	⇑P		P	23 28 22.5	-0.1	
	baz=88								
AGMN	Agassiz Nation	87.61	345	⇑P		P	23 28 21.5	-0.7	
	baz=88								
AGMN	Agassiz Nation	87.61	345	*e*P		P	23 28 21.9	-0.2	
	comp=Z,137nm,2.0s								
D28A	Regan	87.62	342	⇓P		P	23 28 21.4	-0.9	
	baz=88								
IMW	Indian Meadow	87.71	334	*e*P		P	23 28 22.8	-0.3	
	comp=Z,21nm,1.4s								
H19A	Powell	87.73	336	⇑P		P	23 28 20.3	-2.7	
	baz=88								
D27A	Center	87.78	341	⇑P		P	23 28 17.8	-5.2	
	baz=88								
FLWY	Flagg Ranch	87.79	334	*e*P		P	23 28 23.5	+0.1	
	comp=Z,94nm,2.0s								
D26A	Manning	87.94	341	⇓P		P	23 28 23.6	-0.2	
	baz=88,SNR=5.5								
H18A	Shoshone NF, C	87.96	335	⇓P		P	23 28 24.2	0.0	
	baz=88								
G20A	Bridger	87.97	336	⇑P		P	23 28 25.7	+1.6	
	baz=88								
MDND	Maddock	88.00	343	⇑P		P	23 28 26.1	+2.0	
	baz=88								
MDND	Maddock	88.00	343	*e*P		P	23 28 23.9	-0.2	
	comp=Z,666nm,1.5s								
E24A	Baker	88.02	339	⇓P		P	23 28 24.6	+0.4	
	baz=88								
C28A	Hausauer Farms	88.06	342	⇑P		P	23 28 26.4	+2.0	
	baz=88								
RLMT	Red Lodge	88.23	336	*e*P		P	23 28 25.5	0.0	
	comp=Z,12nm,1.2s								
B30A	Myrvik Farm, E	88.28	344	⇓P		P	23 28 24.9	-0.4	
	baz=89,SNR=13								
YMR	Madison River	88.40	334	*e*P		P	23 28 26.2	0.0	
	comp=Z,26nm,1.1s								
B29A	Wagenman Farm,	88.52	343	⇑P		P	23 28 26.4	-0.1	
	baz=89,SNR=6.3								
D24A	Glendive	88.53	340	⇑P		P	23 28 29.9	+3.3	
	baz=89								
HLID	Hailey	88.68	332	⇑P		P	23 28 27.5	-0.1	
	baz=89								
HLID	Hailey	88.68	332	*e*P		P	23 28 27.6	0.0	
	comp=Z,56nm,1.9s								
A30A	Hoffart Farm,	88.74	344	⇑P		P	23 28 31.0	+3.5	
	baz=89								
B28A	Dugan Ranch, T	88.74	343	⇑P		P	23 28 31.0	+3.5	
	baz=89								
A29A	Manning Farm,	88.93	344	⇑P		P	23 28 27.9	-0.4	
	baz=89,SNR=7.4								
GCMT	Greycliff	88.95	336	*e*P		P	23 28 28.3	-0.5	
MFID	Camas Ranch	89.10	331	*e*P		P	23 28 28.7	-0.8	
	comp=Z,31nm,1.5s								
MCMT	McKenzie Canyo	89.20	333	*e*P		P	23 28 30.6	+0.5	
WVOR	Wild Horse Val	89.41	328	*e*P		P	23 28 31.4	+0.4	
WVOR				pmax		pmax			
	comp=Z,44nm,1.8s								
WVOR	Wild Horse Val	89.41	328	*e*P		P	23 28 31.4	+0.4	
	comp=Z,44nm,1.8s								
BOZ	Bozeman (W)	89.48	334	*e*P		P	23 28 31.9	+0.6	
BOZ				pmax		pmax			
	comp=Z,14nm,1.5s								
BOZ	Bozeman (W)	89.48	334	*e*P		P	23 28 31.9	+0.6	
	comp=Z,14nm,1.5s								
ULM	Lac du Bonnet	89.48	346	*e*P		P	23 28 31.5	+0.6	
ULM				pmax		pmax			
	comp=Z,81nm,1.8s								
ULM	Lac du Bonnet	89.48	346	P		P	23 28 31.5	+0.6	
	comp=Z,9.6nm,1.1s,baz=153,slow=4.9,SNR=5.0								
ULM	Lac du Bonnet	89.48	346	*e*P		P	23 28 31.5	+0.6	
	comp=Z,81nm,1.8s								
DLMT	Dilln	89.57	334	*e*P		P	23 28 31.6	-0.1	
	comp=Z,24nm,1.5s								
WDC	Whiskeytown Da	89.60	325	*e*P		P	23 28 31.5	-0.3	
WDC				pmax		pmax			
	comp=Z,64nm,2.4s								
WDC	Whiskeytown Da	89.60	325	*e*P		P	23 28 31.5	-0.3	
	comp=Z,64nm,2.4s								
MOD	Modoc Plateau	89.68	327	*e*P		P	23 28 32.3	0.0	
	comp=Z,36nm,1.7s								
LRM	Limekiln Ridge	89.92	334	*e*P		P	23 28 34.5	+1.1	
N02D	Trinity Center	89.99	325	⇓P		P	23 28 39.1	+5.4	
	baz=90								
LSZ	Lusaka	90.01	109	*e*P		P	23 28 33.3	-1.3	
LSZ				pmax		pmax			
	comp=Z,38nm,1.5s								
LSZ	Lusaka	90.01	109	*e*P		P	23 28 33.3	-1.3	
	comp=Z,38nm,1.5s								
M04C	Macdoel	90.25	326	⇓P		P	23 28 37.5	+2.5	
	baz=91								
M02C	Callahan	90.39	325	⇑P		P	23 28 33.8	-1.7	
	baz=91								
K05A	Summer Lake	90.60	327	*e*P		P	23 28 38.1	+1.5	
	comp=Z,76nm,1.8s								
BMO	Blue Mountains	90.88	331	*e*P		P	23 28 37.7	-0.1	
	comp=Z,18nm,1.6s								
I07A	Izee	91.13	329	*e*P		P	23 28 40.6	+1.7	
	comp=Z,25nm,1.8s								
CHMT	Chamberlain Mo	91.14	334	*e*P		P	23 28 38.3	-0.7	
MSO	Missoula	91.31	334	⇑P		P	23 28 41.2	+1.5	
	baz=92								
MSO	Missoula	91.31	334	*e*P		P	23 28 39.2	-0.5	
	comp=Z,12nm,1.4s								
F10A	Beach Ranch, E	91.79	331	*e*P		P	23 28 42.1	+0.2	
	comp=Z,34nm,1.8s								
G08A	Pilot Rock	91.90	330	*e*P		P	23 28 43.1	+0.6	
	comp=Z,40nm,2.0s								
JTMT	Jette	92.21	334	*e*P		P	23 28 44.9	+1.0	
YBMT	Yellow Bay	92.22	334	*e*P		P	23 28 43.3	-0.6	
BSMT	Bassoo Peak	92.48	334	*e*P		P	23 28 45.4	+0.2	
HAWA	Hanford	93.03	330	*e*P		P	23 28 47.4	-0.2	
	comp=Z,6nm,1.3s								
WALA	Waterton Lakes	93.21	335	*e*P		P	23 28 48.4	-0.1	
	comp=Z,491nm,1.3s								
NEW	Newport	93.67	333	*e*P		P	23 28 50.5	0.0	
NEW				pmax		pmax			
	comp=Z,103nm,3.0s								
NEW	Newport	93.67	333	P		P	23 28 51.7	+1.2	
	comp=Z,2.3nm,0.9s,baz=140,slow=6.3,SNR=2.2								
NEW				LR		LR	00 07 33.9		
	comp=Z,458nm,18.1s,baz=142,slow=33								
NEW	Newport	93.67	333	⇑P		P	23 28 56.3	+5.8	
	baz=94								
NEW	Newport	93.67	333	*e*P		P	23 28 50.5	0.0	
	comp=Z,103nm,3.0s								
FCC	Fort Churchill	97.35	349	*e*P		Pdif	23 29 08.9	+2.0	
FCC				pmax		pmax			
	comp=Z,1µm,1.9s								
FCC	Fort Churchill	97.35	349	*e*P		Pdif	23 29 08.9	+2.0	
	comp=Z,1µm,1.9s								
DZM	Mont Dzumac	98.10	234	*e*LR		LR	00 01 02.6		
	comp=Z,2µm,24.4s								
ESDC	Sonseca Array	99.94	47	LR		LR	00 14 57.7		
	comp=Z,2µm,18.2s,baz=250,slow=36								
YKA	Yellowknife Ar	104.88	342	Pdiff		Pdif	23 29 43.6	+3.2	
	comp=Z,0.1nm,0.5s,baz=143,slow=4.7,SNR=3.1								
YKB5	Yellowknife Ar	104.88	342	*e*Pdif		Pdif	23 29 43.6	+3.2	
HNR	Honiara	111.50	239	*e*PKiKP		PKiKP	23 34 08.6	-0.6	
AS12	Alice Springs	113.88	208	*e*PKKPbc		PKKPbc	23 45 01.1	+6.3	
ASAR	Alice Springs	113.88	208	PKKPab		PKKPab	23 45 01.1	-4.2	
	comp=Z,1.1nm,0.9s,baz=340,slow=3.0,SNR=6.6								
GEC2	GERESS Array S	115.53	47	*e*PKiKP		PKPdf	23 34 15.3	-0.6	
GEC2	GERESS Array S	115.53	47	*e*PKPdf		PKPdf	23 34 15.3	-0.6	
GERES	GERESS Array B	115.53	47	PKP		PKPdf	23 34 15.3	-0.6	
	comp=Z,3.2nm,1.1s,baz=186,slow=1.3,SNR=11								
KHC	Kasperske Hory	115.60	47	AMS		AMS	00 24 10.0		
	comp=Z,1µm,16.9s								
CLL	Collm	116.29	44	*e*P		Pdif	23 30 40.0	+8.6	
CLL				*e*			23 34 18.0		
CLL				*e*			23 35 26.0		
CLL				pmax		pmax			
	comp=Z,9.0nm,1.4s								
CLL				pmax		pmax			
	comp=Z,55nm,2.3s								
CLL				MLR		MLR			
	comp=Z,2µm,20.6s								
CLL	Collm	116.29	44	*e*PKiKP		PKiKP	23 34 18.0	+0.9	
	comp=Z,9.0nm,1.4s								
CLL				*e*PP		PP	23 35 26.0	+2.1	
	comp=Z,55nm,2.3s								
CLL				LmV			00 21 00.0		
	comp=Z,2µm,20.6s								
PRA	Prague	116.53	46	AMS		AMS	00 24 50.0		
	comp=Z,1µm,18.6s								
PRU	Pruhonice	116.55	46	AMS		AMS	00 24 50.0		
	comp=Z,2µm,19.4s								
BRG	Berggiesshubel	116.61	45	*e*		PKPdf	23 34 18.9	+1.1	
	comp=Z,14nm,1.6s								
ILAR	Eielson Array	116.63	333	PKP		PKPdf	23 34 17.9	+0.5	
	comp=Z,0.4nm,0.7s,baz=202,slow=0.9,SNR=4.4								
GOPC	GO Pecny, Ondr	116.66	46	AMS		AMS	00 25 10.0		
	comp=Z,2µm,17.8s								
TREC	Trest	116.78	47	AMS		AMS	00 25 00.0		
	comp=Z,1µm,20.6s								
PVCC	Panska Ves	116.81	46	AMS		AMS	00 26 40.0		
	comp=Z,1µm,17.2s								
WRA	Warramunga Arr	117.09	210	PKP		PKPdf	23 34 18.9	-0.9	
	comp=Z,0.2nm,0.3s,baz=152,slow=1.9,SNR=5.4								
WRA				PKKPbc		PKKPbc	23 44 43.6	0.0	
	comp=Z,1.1nm,1.1s,baz=344,slow=3.9,SNR=4.5								
PKSM	Moragy	117.30	51	⇑PKiKP		PKPdf	23 34 17.1	-2.1	
PKSM	Moragy	117.30	51	⇑*i*P		PKPdf	23 34 17.1	-2.1	
DPC	Dobruska-Polom	117.74	46	*e*PKiKP		PKPdf	23 34 19.7	-0.4	
DPC	Dobruska-Polom	117.74	46	AMS		AMS	00 27 20.0		
DPC	Dobruska-Polom	117.74	46	*e*PKPdf		PKPdf	23 34 19.7	-0.4	
VYHS	Vyhne	118.41	49	*e*PKiKP		PKPdf	23 34 20.9	-0.5	
VYHS	Vyhne	118.41	49	*e*PKP		PKPdf	23 34 20.9	-0.5	
OKC	Ostrava-Krasne	118.58	47	AMS		AMS	00 32 00.0		
	comp=Z,800nm,16.2s								
BZS	Buzias	118.91	53	⇑PKiKP		PKPdf	23 34 21.9	-0.5	
BZS	Buzias	118.91	53	⇑*i*P		PKPdf	23 34 21.9	-0.5	
KDZ	Kurdzhali	119.72	58	⇑PKiKP		PKPdf	23 34 21.7	-2.4	
KDZ	Kurdzhali	119.72	58	⇑*i*P		PKPdf	23 34 21.7	-2.4	
DRGR		120.09	52	⇓PKiKP		PKPdf	23 34 25.2	+0.5	
DRGR		120.09	52	⇓*i*P		PKPdf	23 34 25.2	+0.5	
LOT	Lotru	120.21	54	⇑*i*P		PKPdf	23 34 25.7	+0.6	
UZH	Uzhgorod	120.56	50	*e*PKiKP		PKPdf	23 34 24.8	-0.6	
HUMR	Humele	120.62	55	⇑*i*P		PKPdf	23 34 25.5	-0.2	
ARR	Arges	120.74	54	⇑*i*P		PKPdf	23 34 24.9	-1.1	
VOIR		121.03	54	⇓PKiKP		PKPdf	23 34 26.8	+0.2	
VOIR		121.03	54	⇓*i*P		PKPdf	23 34 26.8	+0.2	
KWP	Kalwaria Pacla	121.20	49	⇓PKiKP		PKPdf	23 34 27.0	+0.3	
KWP	Kalwaria Pacla	121.20	49	⇓*i*P		PKPdf	23 34 27.0	+0.3	
MLR	Muntele Rosu	121.63	55	⇓PKiKP		PKPdf	23 34 27.6	-0.2	
MLR	Muntele Rosu	121.63	55	⇓*i*P		PKPdf	23 34 27.6	-0.2	
BURAR	Bucovina Array	121.98	52	⇓PKiKP		PKPdf	23 34 27.6	-0.8	
BURAR	Bucovina Array	121.98	52	⇓*i*P		PKPdf	23 34 27.6	-0.8	
VRI	Vrincioaia	122.28	54	⇓PKiKP		PKPdf	23 34 28.3	-0.6	
VRI	Vrincioaia	122.28	54	⇓*i*P		PKPdf	23 34 28.3	-0.6	
TESR	Tescani	122.48	54	⇓*i*P		PKPdf	23 34 26.0	-3.2	
CVD	Cernavoda	122.55	56	⇑PKiKP		PKPdf	23 34 26.3	-3.1	
CVD	Cernavoda	122.55	56	⇑*i*P		PKPdf	23 34 26.3	-3.1	
HARR	Harsova	122.63	56	⇑PKiKP		PKPdf	23 34 24.4	-5.1	
HARR	Harsova	122.63	56	⇑*i*P		PKPdf	23 34 24.4	-5.1	
CFR	Carcaliu	122.94	56	⇓PKiKP		PKPdf	23 34 29.5	-0.6	
CFR	Carcaliu	122.94	56	⇓*i*P		PKPdf	23 34 29.5	-0.6	
SUW	Suwalki	123.05	44	*e*PKiKP		PKPdf	23 34 29.9	-0.1	
SUW	Suwalki	123.05	44	*e*PKPdf		PKPdf	23 34 29.9	-0.1	
KIS	Kishinev	124.04	54	*e*PKiKP		PKPdf	23 34 31.0	-1.2	
KIS				*e*			23 34 40.0		
KIS	Kishinev	124.04	54	*e*PKP		PKPdf	23 34 31.0	-1.2	
KIS				LRM		MLR	00 32 16.0		
	comp=Z,900nm,20.0s								
ANTO	Ankara	124.11	63	*e*PKiKP		PKPdf	23 34 32.2	-0.5	
ANTO	Ankara	124.11	63	*e*PKPdf		PKPdf	23 34 32.2	-0.5	
H11S2	WAKE ISLAND Hyl	124.30	268	T		T	01 51 21.4		
	baz=126								
H11S1	WAKE ISLAND Hyl	124.31	268	T		T	01 51 24.0		
	baz=126								
H11S3	WAKE ISLAND Hyl	124.31	268	T		T	01 51 22.1		
	baz=126								
BR101	Keskin Array S	124.66	63	*e*PKPdf		PKPdf	23 34 33.8	-0.1	
BR101				*e*PP		PP	23 36 23.9	+2.2	
BRTR	Keskin Array B	124.66	63	*c i*PKiKP		PKPdf	23 34 34.0	+0.2	
BRTR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BRTR	Keskin Array B	124.66	63	PKP		PKPdf	23 34 33.8	-0.1	
	comp=Z,4.3nm,1.0s,baz=207,slow=2.5,SNR=21								
BRTR				PP		PP

GEYT				PP	**PP**	**23 38 12.7**	**-1.2**		
	comp=Z,2.4nm,0.9s,baz=278,slow=10,SNR=4.2								
SEY	**Seymchan**	**142.26**	**327**	*e*PKIKP	**PKPdf**	**23 35 05.5**	**-0.3**		
MNSI	**Mandailing Nat**	**143.01**	**169**	P	**PKPdf**	**23 35 10.5**	**+1.8**		
ARU	**Arti**	**143.22**	**43**	*i* PKIKP	PKPbc	23 35 04.8	0.0		
ARU				MLR	MLR				
	comp=Z,2μm,20.0s								
ARU	**Arti**	**143.22**	**43**	*e*PKPpre	PKPpre	23 35 03.3			
TIXI	**Tiksi**	**143.81**	**348**	⇓*i* PKIKP	**PKPdf**	**23 35 09.1**	**+0.8**		
TIXI				pmax	pmax				
	comp=Z,44nm,1.7s								
TIXI				MLR	MLR				
	comp=Z,509nm,23.0s								
TIXI	**Tiksi**	**143.81**	**348**	*e*PKPpre	PKPpre	23 35 03.9			
TIXI				*e*PKPdf	**PKiKP**	**23 35 11.7**	**-0.1**		
KSM	**Kuching**	**144.01**	**187**	*e*PKPdf	PKPbc	23 35 08.3	0.0		
SVE	**Sverdlovsk**	**144.27**	**42**	*i* PKIKP	PKPbc	23 35 08.5	+0.6		
SVE				pmax	pmax				
	comp=Z,65nm,2.1s								
SVE				MLR	MLR				
	comp=Z,2μm,19.0s								
SVE				MLR	MLR				
	comp=E,2μm,20.0s								
MYKOM	**Kota Tinggi**	**144.45**	**176**	⇑P	PKPbc	23 35 10.5	+0.8		
MYKOM	**Kota Tinggi**	**144.45**	**176**	*e*PKPdf	**PKPab**	**23 35 09.0**	**-0.4**		
SBUM	**Sibu**	**144.74**	**190**	*e*PKPdf	PKPbc	23 35 10.9	+0.3		
ABKAR	**Akbulak array**	**144.84**	**55**	*e*PKPdf	PKPbc	23 35 10.0	0.0		
PSI	**Prapat**	**144.87**	**167**	PKP	**PKPab**	**23 35 10.5**	**-0.6**		
	comp=E,24nm,0.9s,baz=204,slow=4.4,SNR=27								
TPTI		**144.97**	**164**	P	**PKPab**	**23 35 11.2**	**-0.1**		
KCSI	**Kotacane, Aceh**	**145.35**	**165**	P	**PKPbc**	**23 35 12.2**	**-0.4**		
URV	**Uravakonda**	**145.89**	**123**	*e*PKPab	**PKPdf**	**23 35 13.4**	**-0.2**		
URV				*ep*PKPab	**PKiKP**	**23 35 21.3**	**+3.5**		
POO	**Poona**	**145.97**	**115**	⇓*i* P	**PKPdf**	**23 35 13.0**	**-0.7**		
	comp=E,278nm,2.0s								
SKHT	**Srikalahasti**	**146.59**	**128**	*e*PKPab	**PKPbc**	**23 35 16.3**	**0.0**		
SDKM	**Sandakan**	**146.81**	**200**	⇓P	**PKPab**	**23 35 19.2**	**+0.9**		
LHMI	**Lhok Sumawe**	**146.82**	**163**	P	**PKPab**	**23 35 18.9**	**+0.6**		
LHMI	**Lhok Sumawe**	**146.82**	**163**	*e*PKPdf	**PKPdf**	**23 35 14.6**	**-0.7**		
IPM	**Ipoh**	**146.84**	**170**	*e*PKPdf	**PKPdf**	**23 35 14.7**	**-0.6**		
KULM	**Kulim**	**147.58**	**170**	*e*PKPdf	**PKPdf**	**23 35 16.7**	**+0.2**		
KUR	**Kuril'sk**	**148.10**	**297**	*i* PKP2	**PKPab**	**23 35 22.3**	**-0.2**		
NJS	**Nagarjunasagar**	**148.41**	**124**	*e*PKPdf	**PKPdf**	**23 35 17.3**	**-0.5**		
HYB	**Hyderabad**	**148.52**	**122**	*i* PKP	**PKPbc**	**23 35 21.0**	**-0.6**		
HYBB	**Hyderabad (bro**	**148.52**	**122**	*e*PKPbc	**PKPbc**	**23 35 21.4**	**-0.2**		
YUK	**Yuzh-Kuril'sk**	**149.51**	**295**	*di* PKIKP	**PKPdf**	**23 35 15.7**	**-3.0**		
YUK				*i*		23 38 56.1			
YUK				*e*SSS	SSS	00 03 46.0			
KBL	**Kabul**	**149.87**	**84**	*e*PKHKP	**PKPdf**	**23 35 19.9**	**0.0**		
KBL	**Kabul**	**149.87**	**84**	*e*PKPdf	**PKPdf**	**23 35 19.9**	**0.0**		
KBL				*e*PKPbc	**PKPbc**	**23 35 24.7**	**0.0**		
RPR	**Rampur**	**150.02**	**121**	*e*PKPbc	**PKPbc**	**23 35 24.9**	**-0.3**		
BRVK	**Borovoye**	**150.63**	**46**	*e*PKIKP	**PKPdf**	**23 35 20.1**	**-0.1**		
BRVK				*e*		23 35 26.5			
BRVK	**Borovoye**	**150.63**	**46**	*e*PKPdf	**PKPdf**	**23 35 20.1**	**-0.1**		
BRVK				*e*PKPbc	**PKiKP**	**23 35 26.4**	**+0.1**		
AJM	**Ajmer**	**151.16**	**103**	*e*P	**PKPbc**	**23 35 28.0**	**+0.2**		
YAK	**Yakutsk**	**151.43**	**337**	*e*PKIKP	**PKPbc**	**23 35 26.4**	**-0.8**		
YAK				*e*		23 39 13.0			
YAK				pmax	pmax				
	comp=Z,38nm,0.9s								
YAK				pmax	pmax				
	comp=Z,236nm,4.6s								
YAK				pmax	pmax				
	comp=N,111nm,4.8s								
YAK				pmax	pmax				
	comp=E,85nm,4.7s								
YAK	**Yakutsk**	**151.43**	**337**	*e*PKPdf	**PKPdf**	**23 35 20.1**	**-1.0**		
YAK				*e*PKPbc	**PKPbc**	**23 35 26.7**	**-0.5**		
YSS	**Yuzh-Sakhalins**	**151.57**	**301**	*i* PKIKP	**PKPbc**	**23 35 29.0**	**+1.0**		
ASAJ	**Asahikawa**	**151.86**	**295**	PKPbc	**PKPbc**	**23 35 29.1**	**+0.3**		
	comp=E,12nm,0.8s,baz=87,slow=12,SNR=6.3								
ASAJ	**Asahikawa**	**151.86**	**295**	*e*PKPbc	**PKPbc**	**23 35 28.5**	**-0.4**		
KKAR	**Karatay Array**	**152.29**	**67**	*e*PKIKP	**PKPdf**	**23 35 22.2**	**-0.9**		
KKAR				*e*		23 35 29.8			
KKAR	**Karatay Array**	**152.29**	**67**	*e*PKPdf	**PKPdf**	**23 35 22.8**	**-0.9**		
KKAR				*e*PKPbc	**PKPbc**	**23 35 28.8**	**-0.1**		
CHLP	**Challavanipeta**	**152.90**	**128**	*e*PKPdf	**PKPdf**	**23 35 24.1**	**-0.6**		
AML	**Almayashu**	**154.63**	**69**	P	**PKPdf**	**23 35 27.5**	**+0.5**		
	SNR=5.2								
EKS2	**Erkin-Say**	**154.69**	**68**	P	**PKPdf**	**23 35 27.8**	**+1.1**		
	SNR=8.2								
EKS2	**Erkin-Say**	**154.69**	**68**	*e*PKIKP	**PKPdf**	**23 35 25.1**	**-1.6**		
EKS2				*e*		23 35 34.5			
EKS2				*e*		23 35 50.1			
EKS2	**Erkin-Say**	**154.69**	**68**	*e*PKPdf	**PKPdf**	**23 35 25.1**	**-1.6**		
EKS2				*e*PKPbc	**PKPbc**	**23 35 34.5**	**-0.8**		
EKS2				*e*PKPab	**PKPab**	**23 35 50.1**	**-0.2**		
USP	**Ospenovka**	**155.20**	**66**	P	**PKPdf**	**23 35 28.2**	**+0.9**		
	SNR=6.9								
AAK	**Ala-Archa**	**155.22**	**68**	P	**PKPdf**	**23 35 28.7**	**+1.2**		
	SNR=6.3								
AAK	**Ala-Archa**	**155.22**	**68**	*e*PKIKP	**PKPdf**	**23 35 27.8**	**+0.3**		
AAK				*e*		23 35 35.5			
AAK				*e*		23 39 28.9			
AAK	**Ala-Archa**	**155.22**	**68**	*e*PKPdf	**PKPdf**	**23 35 27.8**	**+0.3**		
AAK				*e*PKPbc	PKPbc	23 35 35.5			
AAK				*e*PKPab	**PKPab**	**23 35 53.6**	**+1.0**		
AAK				*e*PP	**PP**	**23 39 28.9**	**-0.6**		
UCH	**Uchtor**	**155.24**	**69**	P	**PKPdf**	**23 35 29.1**	**+1.3**		
	SNR=21								
FRU	**Bishkek**	**155.30**	**67**	*i* PKIKP	**PKPdf**	**23 35 27.0**	**-0.4**		
FRU				*i*		23 35 36.0			
FRU				*i*		23 39 28.0			
KZA	**Kyzart**	**155.79**	**69**	P	**PKPdf**	**23 35 30.5**	**+1.9**		
	SNR=5.6								
TKM2	**Tokmak 2**	**156.02**	**67**	P	**PKPdf**	**23 35 29.3**	**+0.7**		
	SNR=18								
TKM2	**Tokmak 2**	**156.02**	**67**	*e*PKIKP	**PKPdf**	**23 35 28.9**	**+0.3**		
TKM2				*e*		23 35 55.8			
TKM2				*e*		23 39 32.8			
TKM2	**Tokmak 2**	**156.02**	**67**	*e*PKPdf	**PKPdf**	**23 35 28.9**	**+0.3**		
TKM2				*e*PKPab	**PKPab**	**23 35 55.8**	**-0.3**		
TKM2				*e*PP	**PP**	**23 39 32.8**	**-1.2**		
KSH	**Kashi**	**156.25**	**76**	PKP	**PKPdf**	**23 35 29.4**	**+0.5**		
KSH				pPKP	**pPKPdf**	**23 35 40.3**	**+1.4**		
KSH				PKS	**PKSdf**	**23 39 02.0**	**-0.9**		
KSH				PP	PP	23 39 40.8	+5.5		
KSH				SKS	**SKSdf**	**23 42 30.3**	**-2.7**		
KSH				SKKS	**SKKSac**	**23 46 24.8**	**+2.6**		
KSH				PPMZ					
	comp=E,470nm,3.8s								
KSH				LN					
	comp=E,130nm,6.3s								
KSH				LE					
	comp=E,180nm,6.3s								
KSH				LZ					
	comp=E,630nm,22.3s								
KURK	**Kurchatov**	**156.29**	**47**	*e*PKIKP	**PKPdf**	**23 35 27.5**	**-0.9**		
KURK				*e*		23 39 34.6			
KURK	**Kurchatov**	**156.29**	**47**	*e*PKPdf	**PKPdf**	**23 35 27.5**	**-0.9**		
KURK				*e*PKPab	**PKPab**	**23 35 57.2**	**+0.6**		
KURK				*e*PP	**PP**	**23 39 34.6**	**-0.1**		
HABR	**Khabarovsk**	**156.36**	**307**	*de*PKP2	**PKPab**	**23 35 57.8**	**+0.8**		
HABR				*e*		23 39 36.1			
HABR				*e*		23 42 32.3			
HABR				SS	SS	23 59 27.7	+4.0		
HABR				*e*SSS	SSS	00 05 25.8			
HABR				pmax	pmax				
	comp=Z,9.0nm,1.3s								
HABR				pmax	pmax				
	comp=N,5.0nm,0.6s								
HABR				pmax	pmax				
	comp=E,6.0nm,0.6s								
NVS	**Novosibirsk**	**156.57**	**35**	⇑*i* PKIKP	**PKPdf**	**23 35 27.1**	**-1.5**		
NVS				*e*		23 39 39.0			
NVS				pmax	pmax				
	comp=Z,50nm,1.5s								
ZAA1	**Zalesovo Array**	**157.85**	**35**	*e*PKPdf	**PKPdf**	**23 35 29.6**	**-0.6**		
ZAA1				*e*PKPab	**PKPab**	**23 36 00.9**	**-2.3**		
ZALV	**Zalesovo Beam**	**157.85**	**35**	PKP	**PKPdf**	**23 35 29.6**	**-0.6**		
	comp=Z,12nm,1.1s,baz=287,slow=1.9,SNR=26								
ZALV				PKPab	**PKPab**	**23 36 00.9**	**-2.3**		
	comp=Z,28nm,1.1s,baz=296,slow=4.7,SNR=13								
KLR	**Kul'dur**	**158.15**	**311**	*e*PKIKP	PKPdf	23 35 24.7	-6.1		
PYUN	**Piuthan**	**158.37**	**109**	*e*P	**PKPab**	**23 36 06.7**	**+0.1**		
	comp=Z,309nm,1.5s								
KOLN	**Koldanda**	**158.65**	**110**	*e*P	**PKPab**	**23 36 07.7**	**-0.1**		
	comp=Z,114nm,1.6s								
BOD	**Bodaibo**	**158.99**	**348**	*e*PKIKP	PKPdf	23 35 25.4	-6.1		
BOD				*e*		23 36 04.7			
BOD				pmax	pmax				
	comp=Z,14nm,1.5s								
DANN	**Dangsing**	**159.08**	**109**	*e*P	**PKPab**	**23 36 09.8**	**0.0**		
	comp=Z,467nm,1.6s								
GKN	**Gorkha**	**159.55**	**111**	*e*P	**PKPab**	**23 36 11.4**	**-0.3**		
	comp=Z,468nm,2.1s								
DMN	**Daman**	**159.68**	**113**	*e*P	**PKPab**	**23 36 12.4**	**+0.1**		
	comp=Z,72nm,1.1s								
PKIN	**Phulchoki**	**159.87**	**113**	*e*P	**PKPab**	**23 36 12.8**	**-0.4**		
	comp=Z,102nm,1.4s								
KKN	**Kakani**	**159.91**	**113**	*e*P	**PKPab**	**23 36 13.1**	**-0.2**		
	comp=Z,62nm,1.0s								
MK32	**Makanchi Array**	**159.98**	**55**	*e*PKPdf	**PKPdf**	**23 35 33.5**	**+0.4**		
MK32				*e*PKPab	**PKPab**	**23 36 13.1**	**+0.2**		
MK32				*e*PP	**PP**	**23 39 55.4**	**+0.2**		
MKAR	**Makanchi Array**	**159.98**	**55**	*e*PKIKP	**PKPdf**	**23 35 31.6**	**-1.5**		
MKAR				*e*		23 39 52.6			
MKAR	**Makanchi Array**	**159.98**	**55**	PKP	**PKPdf**	**23 35 33.5**	**+0.4**		
	comp=Z,6.1nm,1.1s,baz=340,slow=1.7,SNR=44								
MKAR				PKPab	**PKPab**	**23 36 13.1**	**+0.2**		
	comp=Z,4.0nm,1.0s,baz=298,slow=2.6,SNR=5.1								
MKAR				PP	**PP**	**23 39 55.4**	**+0.2**		
	comp=Z,5.9nm,1.1s,baz=289,slow=4.4,SNR=9.8								
MKAR	**Makanchi Array**	**159.98**	**55**	*e*PKPdf	**PKPdf**	**23 35 31.6**	**-1.5**		
MKAR				*e*PKPab	**PKPab**	**23 36 12.9**	**+0.1**		
MKAR				*e*PP	**PP**	**23 39 52.6**	**-2.5**		
CM31	**Chiang Mai Arr**	**160.02**	**159**	*e*PKPdf	**PKPdf**	**23 35 33.2**	**-0.7**		
CM31				*e*PP	**PP**	**23 39 57.5**	**+3.1**		
CMAR	**Chiang Mai Arr**	**160.02**	**159**	PKP	**PKPdf**	**23 35 33.2**	**-0.7**		
	comp=Z,0.6nm,0.5s,baz=235,slow=1.5,SNR=10								
CMAR				PP	**PP**	**23 39 57.5**	**+3.1**		
	comp=Z,0.2nm,0.4s,baz=213,slow=6.8,SNR=4.5								
RAMN	**Ramite**	**160.38**	**117**	*e*P	**PKPab**	**23 36 15.4**	**0.0**		
	comp=Z,88nm,1.0s								
GUN	**Gumba**	**160.41**	**113**	*e*P	**PKPab**	**23 36 15.6**	**-0.1**		
	comp=Z,111nm,1.4s								
JIRN	**Jiri**	**160.50**	**114**	*e*P	**PKPab**	**23 36 16.0**	**-0.1**		
	comp=Z,81nm,1.1s								
ODAN	**Odare**	**160.88**	**118**	*e*P	**PKPab**	**23 36 17.6**	**0.0**		
	comp=Z,107nm,1.1s								
MDJ	**Mudanjiang**	**161.04**	**300**	PKP	**PKPdf**	**23 35 36.3**	**+2.0**		
QIZ	**Qiongzhong**	**161.38**	**191**	PKP	**PKPdf**	**23 35 36.8**	**+1.4**		
QIZ				PP	**PP**	**23 40 05.5**	**+3.9**		
QIZ				SS	SS	00 00 22.4	+7.3		
QIZ				LN					
	comp=Z,530nm,18.7s								
QIZ				LZ					
	comp=Z,740nm,20.3s								
TAPN	**Taplejung**	**161.41**	**117**	*e*P	**PKPab**	**23 36 19.7**	**-0.2**		
	comp=Z,52nm,1.1s								
KSRS	**Korea Array**	**162.80**	**277**	PKP	**PKPdf**	**23 35 35.4**	**-0.9**		
	comp=Z,0.4nm,0.3s,baz=333,slow=1.4,SNR=4.2								
KSRS				PKPab	**PKPab**	**23 36 25.1**	**-0.3**		
	comp=Z,0.5nm,0.3s,baz=119,slow=4.3,SNR=3.0								
KS15	**Wonju Array Si**	**162.83**	**277**	*e*PKPdf	**PKPdf**	**23 35 35.4**	**-0.9**		
KS15				*e*PKPab	**PKPab**	**23 36 25.1**	**-0.4**		
WMQ	**Urumqi**	**164.54**	**60**	*e*PKP	**PKPdf**	**23 35 38.3**	**+0.5**		
WMQ				pPKP	**pPKPdf**	**23 35 48.8**	**+0.9**		
WMQ				sPKP		23 35 52.8			
WMQ				PKPab	**PKPab**	**23 36 34.0**	**+1.0**		
WMQ				PKS	**PKSdf**	**23 39 10.0**	**-0.7**		
WMQ				PP	**PP**	**23 40 22.0**	**+2.4**		
WMQ				SKKS		23 47 04.0			
WMQ				SS	**SS**	**00 00 48.0**	**-2.2**		
WMQ				PPMZ					
	comp=Z,850nm,8.0s								
WMQ				LN					
	comp=Z,1μm,19.0s								
WMQ				LE					
	comp=Z,840nm,19.0s								
WMQ				LZ					
	comp=Z,980nm,22.6s								
LSA	**Lhasa**	**165.23**	**117**	*e*PKIKP	**PKPdf**	**23 35 39.3**	**-0.1**		
LSA				*e*		23 36 37.0			
LSA				*e*		23 40 23.0			
LSA	**Lhasa**	**165.23**	**117**	*e*PKPdf	**PKPdf**	**23 35 39.3**	**-0.1**		
LSA				*e*PKPab	**PKPab**	**23 36 37.0**	**+0.1**		
LSA				*e*PP	**PP**	**23 40 23.0**	**-0.7**		
TLY	**Talaya**	**165.65**	**7**	*e*PKIKP	**PKPdf**	**23 35 37.2**	**-1.2**		
TLY				*e*		23 36 37.7			
TLY	**Talaya**	**165.65**	**7**	*e*PKPdf	**PKPdf**	**23 35 37.2**	**-1.2**		
TLY				*e*PKPab	**PKPab**	**23 36 37.6**	**+0.3**		
ZAK	**Zakamensk**	**166.89**	**8**	*e*PKP2	**PKPab**	**23 36 41.7**	**-1.3**		
ZAK				*e*		23 40 31.9			
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.7s								
NJ2	**Nanjing**	**168.33**	**246**	*e*PKP	**PKPdf**	**23 35 43.5**	**+2.5**		
GYA	**Guiyang**	**169.04**	**182**	PKP	**PKPdf**	**23 35 43.0**	**+1.2**		
GYA				PKPab	**PKPab**	**23 36 55.8**	**+2.7**		
GYA				PKS	**PKSdf**	**23 39 14.5**	**0.0**		
GYA				PP	PP	23 40 47.4	+5.9		
GYA				SKKS		23 47 30.6			
GYA				SS	**SS**	**00 01 37.3**	**+3.9**		
GYA				PPMZ					
	comp=Z,190nm,8.6s								
GYA				LN					
	comp=Z,240nm,24.8s								
GYA				LE					
	comp=Z,210nm,25.2s								
GYA				LZ					
	comp=Z,280nm,24.6s								
ULN	**Ulaanbaatar**	**169.57**	**357**	*e*PKIKP	**PKPdf**	**23 35 40.3**	**-1.2**		
ULN				*e*		23 36 55.3			
ULN	**Ulaanbaatar**	**169.57**	**357**	*e*PKPdf	**PKPdf**	**23 35 40.3**	**-1.2**		
ULN				*e*PKPab	**PKPab**	**23 36 55.3**	**+0.3**		
SONA0	**Songino Array**	**169.62**	**360**	*e*PKPdf	**PKPdf**	**23 35 40.5**	**-1.1**		
SONA0				*e*PKPab	**PKPab**	**23 36 54.2**	**-0.9**		
SONA0				*e*PP	**PP**	**23 40 46.8**	**+2.3**		
SONM	**Songino Array**	**169.62**	**360**	PKP	**PKPdf**	**23 35 40.5**	**-1.1**		
	comp=Z,1.7nm,1.1s,baz=270,slow=0.4,SNR=7.9								
SONM				PKPab	**PKPab**	**23 36 54.2**	**-0.9**		
	comp=Z,2.7nm,1.0s,baz=339,slow=3.0,SNR=8.0								
SONM				PP	**PP**	**23 40 46.8**	**+2.3**		
	comp=Z,0.8nm,1.0s,baz=325,slow=7.2,SNR=3.5								
WHN	**Wuhan**	**170.39**	**227**	PKP	**PKPdf**	**23 35 42.3**	**0.0**		
WHN				PP	**PP**	**23 40 52.0**	**+3.0**		
WHN				SS	SS	00 01 51.3	+3.2		
WHN				LN					
	comp=Z,2μm,19.2s								
WHN				LE					
	comp=Z,830nm,13.3s								
WHN				LZ					
	comp=Z,2μm,20.3s								
TIA	**Tai'an**	**171.21**	**265**	PKP	**PKPdf**	**23 35 42.3**	**-0.3**		
TIA				PP	**PP**	**23 40 57.6**	**+3.6**		
TIA				LN					
	comp=Z,660nm,21.4s								
TIA				LE					
	comp=Z,610nm,20.2s								
TIA				LZ					
	comp=Z,900nm,18.4s								
BJI	**Beijing**	**171.83**	**292**	PKP	**PKPdf**	**23 35 43.1**	**+0.4**		
BJI				PP	PP	23 41 04.1	+7.3		
BJI				SS	SS	00 02 02.9	-0.5		
BJI				LN					
	comp=Z,570nm,18.2s								
BJI				LE					
	comp=Z,990nm,19.4s								
BJI				LZ					
	comp=Z,790nm,20.5s								
CD2	**Chengdu**	**173.16**	**162**	PKP	**PKPdf**	**23 35 44.0**	**+0.3**		
CD2				pPKP	**pPKPdf**	**23 35 54.8**	**+1.0**		
CD2				sPKP		23 35 58.4			
CD2				PKS	**PKSdf**	**23 39 14.8**	**-1.2**		
CD2				SKS	**SKSdf**	**23 42 43.3**	**-1.5**		
CD2				SKKS	**SKKSac**	**23 47 49.3**	**+2.1**		
CD2				SS	**SS**	**00 02 16.3**	**+2.2**		
CD2				PPMZ					
	comp=Z,550nm,9.8s								
CD2				LN					
	comp=Z,1μm,17.6s								
CD2				LE					
	comp=Z,710nm,18.6s								
CD2				LZ					
	comp=Z,1μm,18.4s								
GTA	**Gaotai**	**174.57**	**67**	*e*PKP	**PKPdf**	**23 35 44.5**	**+0.5**		
GTA				pPKP	**pPKPdf**	**23 35 50.8**	**-3.3**		
GTA				sPKP		23 35 54.4			
GTA				PKPab	**PKPab**	**23 37 18.3**	**+0.7**		
GTA				PP	**PP**	**23 41 10.9**	**+0.5**		
GTA				SKS	**SKSdf**	**23 42 42.5**	**-2.5**		
GTA				SKKS	**SKKSac**	**23 47 54.1**	**-0.2**		
GTA				PPMZ					
	comp=Z,1μm,6.9s								
GTA				LN					
	comp=Z,740nm,20.9s								
GTA				LE					
	comp=Z,480nm,18.5s								
GTA				LZ					
	comp=Z,870nm,20.4s								
HHC	**Hu-ho-hao-te**	**174.66**	**311**	*e*PKP	**PKPdf**	**23 35 43.8**	**-0.2**		
HHC				sPKP		23 35 58.0			
HHC				PP	**PP**	**23 41 15.4**	**+5.0**		
HHC				SKS	**SKSdf**	**23 42 41.9**	**-3.0**		
HHC				SKKS	**SKKSac**	**23 47 55.8**	**+1.4**		
HHC				SS	**SS**	**00 02 28.1**	**-2.2**		
HHC				PPMZ					
	comp=Z,200nm,5.4s								
HHC				LN					
	comp=Z,630nm,18.8s								
HHC				LE					
	comp=Z,590nm,16.9s								
HHC				LZ					
	comp=Z,710nm,18.2s								
XAN	**Xi'an**	**175.97**	**213**	PKP	**PKPdf**	**23 35 44.3**	**-0.2**		
XAN				PKS	**PKSdf**	**23 39 15.0**	**-1.7**		
XAN				SKS	**SKSdf**	**23 42 42.0**	**-3.3**		
XAN				PPMZ					
	comp=Z,79nm,8.5s								
XAN				LN					
	comp=Z,430nm,20.4s								
XAN				LE					
	comp=Z,230nm,23.6s								
XAN				LZ					
	comp=Z,200nm,20.4s								
LZH	**Lanzhou**	**177.63**	**124**	*e*PKP	**PKPdf**	**23 35 45.8**	**+0.9**		
LZH				pPKP	**pPKPdf**	**23 35 54.9**	**0.0**		
LZH				sPKP		23 35 58.8			
LZH				PP	**PP**	**23 41 25.6**	**+0.9**		
LZH				SKKS		23 48 07.5			
LZH				PPMZ					
	comp=Z,780nm,5.4s								
LZH				LN					
	comp=Z,470nm,17.8s								
LZH				LE					
	comp=Z,710nm,15.9s								
LZH				LZ					
	comp=Z,820nm,19.8s								

CSEM ***16*** *23:22:02.7±0.8, 67°.97N×21°.00E, h1km, ML1.2, Error ellipse: s-maj=24.5km s-min=13.5km az=6.0, Mining explosion.*

UPP 16 23:22:00.0, 67°.86N×20°.20E, h0km, ML1.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**27**	P	Pg	23 22 07.8	+5.6
DUNU	**Dundret**	**0.75**	**169**	P	Pn	23 22 19.4	+1.5
PAJU	**Pajala**	**1.40**	**125**	P	Pb	23 22 30.9	+3.9
ERTU	**Ertsjaerv**	**1.52**	**148**	Sn	Sn	23 22 50.7	+1.8

CSEM ***16*** *23:21:59.7±0.2, 67°.85N×20°.22E, h0km, 3km, ML1.0, Error ellipse: s-maj=5.5km s-min=4.6km az=124.0, Mining explosion.*

UPP ***16*** *23:22:05.3, 67°.85N×20°.22E, h0km, ML1.2, Mining explosion.*

HEL 16 23:22:00.6±0.0, 67°.86N×20°.20E, h0km, ML1.4, ML1.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**28**	*i* P	Pg	23 22 02.4	-0.4
KUA				*i* S	Sg	23 22 04.2	0.0
KUA	**Kurravaara**	**0.11**	**28**	P	Pg	23 22 02.3	-0.5
KUA				S	Sg	23 22 04.1	-0.1
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P	Pg	23 22 08.5	-0.6
NIKU	**Nikkaluokta**	**0.44**	**272**	P	Pg	23 22 08.4	-0.7
LANU	**Lannavaara**	**0.70**	**73**	*e*P	Pg	23 22 13.2	-0.9
	baz=267						
LANU				*e*S	Sg	23 22 18.8	-4.4
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	23 22 13.2	-0.9
LANU				S	Sg	23 22 18.8	-4.4
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	23 22 14.3	-0.8
DUNU	**Dundret**	**0.75**	**169**	P	Pg	23 22 14.2	-0.9
MASU	**Masugnsbyn**	**0.80**	**120**	*i* P	Pg	23 22 14.9	-1.0
MASU	**Masugnsbyn**	**0.80**	**120**	P	Pg	23 22 14.8	-1.1
SALU	**Saltoluokta**	**0.81**	**234**	*i* P	Pg	23 22 15.0	-1.1
SALU	**Saltoluokta**	**0.81**	**234**	P	Pg	23 22 15.0	-1.1
KIF	**Kilpisjarvi**	**1.17**	**11**	*e*PB	Pg	23 22 22.6	-0.5
	baz=175						
KIF				*e*SB	Sg	23 22 38.1	-0.1
KIF	**Kilpisjarvi**	**1.17**	**11**	Pb	Pg	23 22 22.5	-0.6
KIF	

RNF	**Rovaniemi**	**2.58**	**116**	P	Pn	23 33 51.1	+0.7
ARE0	**ARCESS Array S**	**2.60**	**46**	*e*P	Pn	23 33 51.1	+0.4
ARE0	**ARCESS Array S**	**2.60**	**46**	P	Pn	23 33 51.0	+0.4
KEV	**Kevo**	**3.15**	**49**	MSG		23 34 47.7	
	comp=Z,1.1nm,0.2s						

GUC 16 23:40:46.4±0.4, 36°41'S × 72°41'W, h54km ± 5km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.71**	**232**	*e*P	Pn	23 40 60.0	-0.5
CCSP				*e*S	Sn	23 41 10.6	-0.1
LNCH	**Linares**	**0.86**	**49**	*e*P	Pn	23 41 01.9	-0.5
LNCH				*e*S	Sn	23 41 14.1	-0.1
TALC	**Talca**	**1.19**	**32**	*e*P	Pn	23 41 06.7	-0.1
TALC				*e*S	Sn	23 41 21.8	-0.2
CLCH	**Cerro Calan**	**3.38**	**28**	AML	AML	23 42 34.4	
	comp=E,168nm,0.5s						
PEL	**Peldehue**	**3.56**	**24**	*e*P	Pn	23 41 39.4	+0.2
PEL				AML	AML	23 42 32.0	
	comp=N,220nm,0.2s						

IDC 16 23:43:30.5±4.8, 5°44'S × 132°26'E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=318.8km s-min=30.5km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.56**	**172**	Pn	Pn	23 46 57.7	-0.2
	0.2nm,0.3s,baz=352,slow=13,SNR=13						
WRA				Sn	Sn	23 49 23.0	-17
	0.3nm,0.3s,baz=342,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**18.19**	**175**	P	Pn	23 47 44.6	0.0
	0.2nm,0.3s,baz=354,slow=12,SNR=12						
ASAR				S	Sn	23 50 47.4	-21
	0.1nm,0.3s,baz=354,slow=27,SNR=3.5						
MKAR	**Makanchi Array**	**68.19**	**325**	P	P	23 54 32.8	0.0
	0.3nm,0.4s,baz=112,slow=7.6,SNR=11						

IDC ***16*** *23:54:46.2±2.9, 32°.52N × 115°.94W, h0km, mb1 3.3/4, mb1mx3.2/39, mbtmp2.9/4, ML3.2/4, Error ellipse: s-maj=42.0km s-min=10.7km az=44.0*
ISCJB ***16*** *23:54:48.8±0.8, 32°.60N±0°.04 × 115°.73W±0°.03, h11km ± 7km, Error ellipse: s-maj=6.2km s-min=4.4km az=6.0*
NEIC ***16*** *23:54:50.2, 32°.60N × 115°.77W, h4km, ML3.7(PAS), After PAS.*
MEX ***16*** *23:54:51.4±0.3, 32°.49N × 115°.70W, h9km ± 22km, MD3.7*
ISC 16 23:54:47.9±1.3, 32°.50N±0°.04 × 115°.75W±0°.03, h6km ± 12km, n34, σ1§68/44, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.38**	**102**	*i* P	**Pn**	**23 54 58.9**	**-1.2**
MBIG	**Mexicali**	**0.47**	**101**	*e*P	**Pb**	**23 54 59.5**	**+0.9**
MBIG				*e*S	**Sb**	**23 55 05.3**	**-0.6**
CBX	**Cerro Bola**	**0.80**	**257**	*e*P	**Pb**	**23 55 05.4**	**+1.2**
CBX				*e*S	**Sb**	**23 55 16.1**	**+0.8**
CBX	**Cerro Bola**	**0.80**	**257**	*e*P	**Pb**	**23 55 05.4**	**+1.2**
CBX				*e*S	**Sb**	**23 55 15.6**	**+0.3**
BAR	**Barrett**	**0.80**	**283**	*e*Pb	**Pg**	**23 55 04.3**	**+1.1**
BAR				*e*Sb	**Sg**	**23 55 14.2**	**+0.6**
GLA	**Glamis**	**0.95**	**54**	*e*Pb	**Pg**	**23 55 05.9**	**-0.3**
GLA				*e*Sb	**Sg**	**23 55 18.0**	**-0.5**
PFO	**Pinyon Flats O**	**1.26**	**332**	Pg	**Pg**	**23 55 10.0**	**-2.0**
	83nm,0.3s,baz=155,slow=15,SNR=270						
PFO				Lg	Lg	23 55 24.5	
	203nm,0.3s,baz=226,slow=18,SNR=30						
PFO	**Pinyon Flats O**	**1.26**	**332**	*e*Pn	**Pg**	**23 55 10.0**	**-2.0**
PFO				*e*Sb	**Sg**	**23 55 24.4**	**-3.9**
PFO				Lg	Lg	23 55 24.5	
SPX	**San Pedro Mart**	**1.47**	**170**	*e*P	**Pb**	**23 55 16.5**	**+0.6**
SPX				*i* S	**Sn**	**23 55 31.6**	**-3.3**
214A	**Organ Pipe Nat**	**2.55**	**101**	*e*Pn	**Pn**	**23 55 29.1**	**-0.7**
MWC	**Mount Wilson**	**2.59**	**312**	*e*Pn	**Pb**	**23 55 34.4**	**-0.4**
MWC				*e*Sn	**Sb**	**23 56 06.3**	**-0.7**
LDFC	**Landfair**	**2.63**	**12**	*e*Pn	**Pn**	**23 55 30.5**	**-0.5**
PASC	**Pasadena Art C**	**2.63**	**310**	*e*Pn	**Pb**	**23 55 34.1**	**-1.4**
PASC				*e*Sn	**Sb**	**23 56 07.1**	**-1.1**
GSC	**Goldstone, Bar**	**2.93**	**343**	*e*Pn	**Pn**	**23 55 36.6**	**+1.4**
OSI	**Osito Audit: C**	**3.26**	**311**	*e*Pn	Pb	23 55 43.5	-2.7
ISA	**Isabella, Lake**	**3.88**	**325**	*e*Pn	**Pn**	**23 55 47.1**	**-1.1**
SHPR	**Sheep Range**	**4.03**	**7**	*e*Pn	**Pn**	**23 55 50.2**	**-0.1**
SHPR				*e*Pg	**Pg**	**23 56 06.2**	**+1.1**
DAC	**Darwin (Calif)**	**4.07**	**338**	*e*Pb	**Pb**	**23 55 59.8**	**-0.3**
DAC				*e*Sb	**Sb**	**23 56 52.0**	**+2.5**
TUC	**Tucson**	**4.20**	**91**	*e*Pn	**Pn**	**23 55 52.3**	**-0.3**
TPNV	**Topopah Spring**	**4.46**	**355**	*e*Pn	**Pn**	**23 55 56.9**	**+0.7**
WUAZ	**Wupatki**	**4.72**	**49**	*e*Pn	**Pn**	**23 56 00.9**	**+1.1**
CCUT	**Cedar City**	**5.41**	**21**	*e*Pn	**Pn**	**23 56 09.8**	**+0.5**
ARUT	**Antelope Range**	**5.61**	**19**	*e*Pn	**Pn**	**23 56 12.0**	**0.0**
W18A	**Petrified Fore**	**5.65**	**61**	*e*Pn	**Pn**	**23 56 14.2**	**+1.7**
R11A	**Troy Canyon, C**	**5.84**	**1**	*e*Pb	**Pb**	**23 56 32.8**	**+2.5**
NVAR	**Mina Array Bea**	**6.27**	**341**	Pn	**Pn**	**23 56 19.1**	**-2.1**
	0.1nm,0.3s,baz=160,slow=18,SNR=2.9						
NVAR				Pg	Pb	23 56 43.1	+5.4
	0.5nm,0.3s,baz=162,slow=18,SNR=9.5						
NVAR				Lg	Lg	23 58 04.0	
	0.1nm,0.3s,baz=146,slow=29,SNR=2.1						
MVU	**Marysvale**	**6.65**	**25**	*e*Pn	**Pn**	**23 56 28.3**	**+1.9**
CMB	**Columbia Colle**	**6.70**	**327**	*e*Pn	**Pn**	**23 56 28.6**	**+1.7**
121A	**Cookes Peak, D**	**6.73**	**88**	*e*Pn	**Pn**	**23 56 28.1**	**+0.7**
121A				*e*Sn	**Sn**	**23 57 41.8**	**-2.7**
SRU	**San Rafael Swe**	**7.84**	**31**	*e*Pn	**Pn**	**23 56 44.8**	**+2.1**
ANMO	**Albuquerque**	**8.12**	**70**	Pn	**Pn**	**23 56 48.6**	**+2.1**
	0.1nm,0.3s,baz=253,slow=14,SNR=3.0						
ANMO				Lg	Lg	23 58 58.8	
	0.1nm,0.3s,baz=27,slow=16,SNR=2.4						
ELK	**Elko**	**8.24**	**3**	Pg	Pg	23 57 20.0	-5.7
	0.1nm,0.3s,baz=180,slow=6.1,SNR=2.0						
ELK				Lg	Lg	23 59 04.6	
	baz=140,slow=18,SNR=1.8						
TXAR	**Lajitas Array**	**10.84**	**104**	Pn	**Pn**	**23 57 26.9**	**+3.1**
	0.1nm,0.3s,baz=288,slow=12,SNR=4.2						
TXAR				Lg	Lg	00 00 33.5	
	0.0nm,0.3s,baz=279,slow=25,SNR=2.7						
PDAR	**Pinedale Array**	**11.36**	**24**	Pn	**Pn**	**23 57 33.5**	**+2.6**
	0.1nm,0.3s,baz=193,slow=9.3,SNR=4.5						

ISCJB ***17*** *00:42:23.8±0.6, 32°.21N±0°.04 × 115°.18W±0°.05, h24km ± 6km, Error ellipse: s-maj=7.4km s-min=6.7km az=145.7*
NEIC ***17*** *00:42:24.4, 32°.15N × 115°.22W, h6km, MD3.6(MEX), ML3.1(PAS), After PAS.*
MEX ***17*** *00:42:26.3±0.8, 32°.21N × 115°.17W, h10km, MD3.6*
ISC 17 00:42:23.0±1.1, 32°.16N±0°.03 × 115°.22W±0°.05, h15km ± 9km, n15, σ1§28/20, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.25**	**4**	*e*P	**Pb**	**00 42 29.9**	**+0.7**
MBIG				*i* S	**Sb**	**00 42 32.3**	**-1.2**
CPBX	**Cerro Prieto**	**0.27**	**344**	*i* S	**Sg**	**00 42 30.2**	**-2.5**
GLA	**Glamis**	**0.95**	**20**	*e*Pg	**Pb**	**00 42 40.6**	**-0.7**
GLA				*e*Sg	**Sb**	**00 42 52.5**	**-1.2**
SPIG	**San Pedro Mart**	**1.13**	**191**	*i* P	**Pg**	**00 42 45.3**	**+0.4**
SPIG				*i* S	**Sg**	**00 43 01.0**	**+1.3**
SPIG	**San Pedro Mart**	**1.13**	**191**	*i* P	**Pg**	**00 42 45.3**	**+0.4**
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	**Pb**	**00 42 46.1**	**0.0**
CBX				*i* S	**Sn**	**00 43 02.1**	**-0.4**
CBX	**Cerro Bola**	**1.23**	**278**	*e*P	**Pb**	**00 42 46.2**	**0.0**
BAR	**Barrett**	**1.34**	**293**	*e*Pn	**Pb**	**00 42 47.5**	**-0.3**
BAR				*e*Sb	**Sn**	**00 43 04.3**	**-0.5**
PFO	**Pinyon Flats O**	**1.78**	**325**	*e*Pn	**Pn**	**00 42 52.6**	**-0.9**
214A	**Organ Pipe Nat**	**2.05**	**95**	*e*Pn	**Pn**	**00 42 56.6**	**-0.5**
LDFC	**Landfair**	**2.91**	**2**	*e*Pg	**Pg**	**00 43 20.9**	**+2.0**
MWC	**Mount Wilson**	**3.15**	**312**	*e*Pb	**Pb**	**00 43 20.4**	**+1.5**
GSC	**Goldstone, Bar**	**3.40**	**338**	*e*Pg	**Pg**	**00 43 29.6**	**+1.4**
TUC	**Tucson**	**3.76**	**87**	*e*Pn	**Pn**	**00 43 19.4**	**-1.2**
WUAZ	**Wupatki**	**4.63**	**43**	*e*Pn	**Pn**	**00 43 34.4**	**+1.7**

GUC 17 00:54:32.4±0.5, 38°61'S × 73°00'W, h56km ± 8km, ML3.9, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGCH	**Angol**	**0.83**	**17**	*e*P	Pn	00 54 48.7	+0.6
AGCH				*e*S	Sn	00 55 01.5	+1.9
VLCH	**Valdivia**	**1.21**	**189**	*e*P	Pn	00 54 54.2	+1.1
VLCH				*e*S	Sn	00 55 10.9	+2.4
VLCH				AML	AML	00 55 14.5	
	comp=E,7μm,0.4s						
CCSP	**San Pedro de C**	**1.76**	**357**	*e*P	Pn	00 55 01.7	+1.2
CCSP				*e*S	Sn	00 55 24.6	+2.8
CCSP				AML	AML	00 55 29.5	
	comp=E,1μm,0.4s						

SZGRF ***17*** *00:58:52.9, 31°.63N × 92°.86E, h10km, mb4.9, MS4.7, Xizang*
IDC ***17*** *00:58:53.6±0.4, 32°.45N × 92°.83E, h0km, mb4.5/31, mb1 4.5/35, mb1mx4.5/42, mbtmp4.5/35, ML3.8/4, MS4.6/39, Ms1 4.6/39, ms1mx4.5/53, Error ellipse: s-maj=13.4km s-min=9.1km az=27.0*
LDG ***17*** *00:58:54.4±0.3, 32°.60N × 92°.48E, h10km, Mb5.1/34, Ms4.6/12, Error ellipse: s-maj=14.6km s-min=4.0km az=117.0*
ISCJB ***17*** *00:58:56.9±0.5, 32°.49N±0°.02 × 92°.77E±0°.02, h33km ± 4km, mb4.9/165, MS4.7/56, Error ellipse: s-maj=3.4km s-min=2.7km az=174.1*
MOS ***17*** *00:58:56.7±0.8, 32°.49N × 92°.78E, h33km, mb5.0/63, MS4.7/30, Error ellipse: s-maj=6.6km s-min=3.9km az=122.5*
BJI ***17*** *00:58:57.1, 32°.31N × 92°.92E, h23km, mB5.3/40, mb5.0/65, ML5.0/4, Ms5.3/66, Ms7 5.1/73*
NEIC ***17*** *00:58:58.6±0.1, 32°.51N × 92°.83E, h35km, mb5.1/61, Error ellipse: s-maj=3.7km s-min=2.9km az=207.0*
GCMT ***17*** *00:58:59.1±0.2, 32°.38N × 92°.84E, h17km, MW5.3/106, Moment Tensor Solution. s61,c82; s106,c197; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.24±.03; Mθθ-0.39±.02; Mϕϕ0.62±.02; Mrθ-0.46±.06; Mθϕ0.81±.02; Mϕr0.15±.05; Best double couple: M0 1.08600×10^17 NP1:ϕs 70.00000°, δ 73.00000°, λ -24.00000°. NP2:ϕs 168.00000°, δ 67.00000°, λ -162.00000°. Principal axes: T 1.0790, Plg4.0000°, Azm120.0000°; N 0.0130, Plg61.0000°, Azm218.0000°; P -1.0930, Plg29.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 00:58:58.5±0.6, 32°.48N±0°.03 × 92°.83E±0°.03, h31km ± 4km, h32km: pP-P, n590, σ1§48/608, mb5.0/166, MS4.8/60, 26C-17D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.12**	**208**	P	Pn	00 59 49.8	+3.8
LSA				S	**Sb**	**01 00 30.8**	**-0.6**
LSA				LR	LR		
	comp=Z,69μm,8.1s						
LSA	**Lhasa**	**3.12**	**208**	*e*P	Pb	00 59 50.1	-3.5
LSA	**Lhasa**	**3.12**	**208**	*e*Pn	Pb	00 59 50.1	-3.5
GTK	**Tadong**	**6.30**	**217**	ex	Pb	01 00 51.5	+4.0
GTK				ex	x	01 02 19.5	
TAPN	**Taplejung**	**6.77**	**222**	*e*Pn	**Pn**	**01 00 36.1**	**+0.1**
TAPN				*e*Sn	**Sn**	**01 01 55.5**	**+3.3**
	comp=Z,436nm,1.0s						
SHL	**Shillong**	**6.94**	**187**	*e*P	**Pn**	**01 00 40.0**	**+1.8**
SHL				ex	x	01 02 06.5	
ODAN	**Odare**	**7.33**	**222**	*e*Pn	**Pn**	**01 00 43.1**	**-0.5**
JIRN	**Jiri**	**7.49**	**232**	*e*Pn	**Pn**	**01 00 46.4**	**+0.4**
JIRN				*e*Sn	**Sn**	**01 02 11.1**	**+1.0**
	comp=Z,303nm,1.0s						
GUN	**Gumba**	**7.54**	**235**	*e*Pn	**Pn**	**01 00 47.3**	**+0.7**
RAMN	**Ramite**	**7.72**	**226**	*e*Pn	**Pn**	**01 00 48.6**	**-0.5**
KKN	**Kakani**	**8.03**	**236**	*e*Pn	**Pn**	**01 00 53.5**	**+0.2**
PKIN	**Phulchoki**	**8.08**	**235**	*e*Pn	**Pn**	**01 00 53.0**	**-1.0**
PKIN				*e*Sn	**Sn**	**01 02 25.3**	**+0.8**
	comp=Z,154nm,0.6s						
DMN	**Daman**	**8.27**	**236**	*e*Pn	**Pn**	**01 00 56.4**	**-0.1**
DMN				*e*Sn	**Sn**	**01 02 30.2**	**+1.3**
	comp=Z,793nm,1.5s						
GKN	**Gorkha**	**8.37**	**240**	*e*Pn	**Pn**	**01 00 57.3**	**-0.5**
DANN	**Dangsing**	**8.84**	**245**	*e*Pn	**Pn**	**01 01 04.2**	**-0.2**
GTA	**Gaotai**	**8.94**	**37**	*e*P	**Pn**	**01 01 07.3**	**+1.8**
GTA				pP		01 01 10.9	
GTA				S	**Sn**	**01 02 51.0**	**+5.8**
GTA				sS		01 02 56.5	
GTA				PMZ			
	comp=Z,86nm,1.5s						
GTA				PMZ			
	comp=Z,1μm,4.4s						
GTA				LN			
	comp=Z,10μm,10.9s						
GTA				LE			
	comp=Z,14μm,10.9s						
GTA				LZ			
	comp=Z,16μm,11.2s						
KOLN	**Koldanda**	**9.26**	**242**	*e*Pn	**Pn**	**01 01 08.8**	**-1.3**
KOLN				*e*Sn	**Sn**	**01 02 53.9**	**+0.5**
	comp=Z,60nm,0.7s						
CD2	**Chengdu**	**9.45**	**97**	P	Pn	01 01 19.1	+6.6
CD2				pP		01 01 22.3	
CD2				sP		01 01 25.1	
CD2				PP	**PnPn**	**01 01 27.0**	**+7.0**
CD2				S	Sn	01 03 06.8	+9.2
CD2				sS		01 03 11.4	
CD2				SS	SnSn	01 03 19.9	+11
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
CD2				pmax	pmax		
	comp=Z,780nm,5.5s						
CD2				LR	LR		
	comp=N,40μm,11.2s						
CD2				LR	LR		
	comp=E,15μm,7.2s						
CD2				LR	LR		
	comp=Z,11μm,8.0s						
PYUN	**Piuthan**	**9.56**	**245**	*e*Pn	**Pn**	**01 01 12.7**	**-1.4**
LZH	**Lanzhou**	**9.80**	**65**	P	**Pn**	**01 01 20.5**	**+3.1**
LZH				sP		01 01 34.8	
LZH				PMZ			
	comp=Z,44nm,1.0s						
LZH				PMZ			
	comp=Z,600nm,8.0s						
LZH				LN			
	comp=Z,23μm,9.6s						
LZH				LE			
	comp=Z,12μm,7.7s						
LZH				LZ			
	comp=Z,10μm,10.1s						
BOK	**Bokaro**	**10.60**	**217**	*e*P	**Pn**	**01 01 28.2**	**-0.1**
BOK				AMB	AMB	01 01 31.3	
	comp=Z,70nm,1.0s						
WMQ	**Urumqi**	**12.02**	**342**	*e*P	**Pn**	**01 01 50.6**	**+3.0**
WMQ				pP	P	01 01 54.8	-5.4
WMQ				sP		01 01 58.0	
WMQ				PP	**PnPn**	**01 02 01.0**	**+5.5**
WMQ				S	**Sn**	**01 04 05.0**	**+4.4**
WMQ				SS	**SnSn**	**01 04 22.0**	**+9.1**
WMQ				PMZ			
	comp=Z,32nm,1.1s						
WMQ				PMZ			
	comp=Z,370nm,4.6s						
WMQ				LN			
	comp=Z,15μm,19.4s						
WMQ				LE			
	comp=Z,17μm,14.6s						
WMQ				LZ			
	comp=Z,9μm,15.4s						
SMLA	**Simla**	**13.39**	**268**	*e*P	**Pn**	**01 02 04.6**	**-1.8**
SMLA				AMB	AMB	01 02 10.3	
	comp=Z,32nm,0.7s						
GYA	**Guiyang**	**13.46**	**113**	*i*P	**Pn**	**01 02 06.3**	**-1.2**
GYA				S	Sn	01 04 42.6	+6.5
GYA				PMZ			
	comp=Z,110nm,1.0s						
GYA				PMZ			
	comp=Z,180nm,5.9s						
GYA				LN			
	comp=Z,10μm,12.1s						
GYA				LE			
	comp=Z,6μm,11.2s						
GYA				LZ			
	comp=Z,5μm,8.4s						
XAN	**Xi'an**	**13.56**	**79**	P	**Pn**	**01 02 08.4**	**-0.4**
XAN				pP	**P**	**01 02 16.4**	**-1.0**
XAN				S	**Sn**	**01 04 42.3**	**+3.9**
XAN				PMZ			
	comp=Z,10.0nm,1.2s						
XAN				LN			
	comp=Z,10μm,18.2s						
XAN				LE			
	comp=Z,1μm,17.0s						
XAN				LZ			
	comp=Z,2μm,12.7s						
CMAI	**Chiengmai2**	**13.68**	**154**	P	**Pn**	**01 02 11.2**	**+0.6**
	comp=Z,39nm,0.8s						
CRAI	**Chiangrai**	**13.94**	**149**	P	**Pn**	**01 02 11.8**	**-2.2**
NDI	**New Delhi**	**13.97**	**258**	*ex*	**Pn**	**01 02 16.5**	**+2.2**
DHRM	**DHARAMSHALA**	**13.97**	**273**	*e*P	**Pn**	**01 02 14.1**	**-0.5**
DHRM				AMB	AMB	01 02 26.3	
	comp=Z,31nm,0.5s						
BHK	**Bhakra**	**13.98**	**270**	*ex*	**P**	**01 02 24.0**	**+2.0**
ENH	**Enshi**	**14.40**	**94**	*e*Pn	**Pn**	**01 02 21.8**	**+1.5**
CMMT	**Chiang Mai**	**14.68**	**157**	P	**Pn**	**01 02 26.5**	**+2.4**
	comp=Z,24nm,1.5s						
CM31	**Chiang Mai Arr**	**15.01**	**157**	*e*Pn	**Pn**	**01 02 26.1**	**-2.4**
CM31				*e*Sn	**S**	**01 05 24.6**	**-6.1**
CMAR	**Chiang Mai Arr**	**15.01**	**157**	*ce*P	**Pn**	**01 02 30.2**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.01**	**157**	Pn	**Pn**	**01 02 26.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=330,slow=12,SNR=22						
CMAR				Sn	**S**	**01 05 24.6**	**-6.1**
	baz=344,slow=22,SNR=2.1						
CMAR				LR	LR	01 08 57.4	
	comp=Z,3μm,19.9s,baz=338,slow=40						
LAMP	**Lampang**	**15.19**	**155**	P	**P**	**01 02 34.7**	**-0.8**
	comp=Z,9.0nm,0.8s,comp=Z,81nm						
KSH	**Kashi**	**15.33**	**302**	P	**Pn**	**01 02 34.6**	**+1.9**
KSH				pP	**pP**	**01 02 43.3**	**-2.0**
KSH				PP	PP	01 02 47.8	
KSH				S	**Sn**	**01 05 21.9**	**+0.4**
KSH				PMZ			
	comp=Z,370nm,3.7s						
KSH				LN			
	comp=Z,5μm,8.9s						
KSH				LE			
	comp=Z,3μm,8.0s						
KSH				LZ			
	comp=Z,4μm,8.5s						
CHLP	**Challavanipeta**	**16.00**	**212**	*e*Pn	**Pn**	**01 02 39.6**	**-1.7**
CHLP				*ep*Pn	**pPn**	**01 02 48.3**	**-0.2**
CHLP				*e*Sn	**Sn**	**01 05 40.1**	**+2.4**
CHLP				IAMs_20	IAMs_20	01 08 29.0	
	comp=Z,3μm,12.4s						
BTO	**Baotou**	**16.00**	**55**	*e*P	**Pn**	**01 02 38.3**	**-3.1**
UTTA	**Uttaradit**	**16.25**	**153**	P	**P**	**01 02 47.7**	**+0.5**
	comp=Z,5.5nm,0.7s						
ULHL	**Ulahol**	**16.37**	**311**	P	**P**	**01 02 50.6**	**+1.8**
	SNR=12						
ULHL	**Ulahol**	**16.37**	**311**	*i* P	**P**	**01 02 50.6**	**+1.8**
MK32	**Makanchi Array**	**16.41**	**334**	*e*Pn	**Pn**	**01 02 45.3**	**-1.2**
MK32				*e*Sn	**Sn**	**01 05 45.9**	**-1.7**
MK32				*e*PcP	**PcP**	**01 07 38.1**	**+0.4**
MK32				*e*ScP	**ScP**	**01 11 12.4**	**+2.5**
MKAR	**Makanchi Array**	**16.41**	**334**	Pn	**Pn**	**01 02 45.3**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=138,slow=13,SNR=59						
MKAR				Sn	**Sn**	**01 05 45.9**	**-1.7**
	baz=146,slow=16,SNR=2.0						
MKAR				PcP	**PcP**	**01 07 38.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=121,slow=1.1,SNR=5.1						
MKAR				LR	LR	01 09 18.0	
	comp=Z,1μm,20.3s,baz=151,slow=38						
MKAR				ScP	**ScP**	**01 11 12.4**	**+2.5**
	comp=Z,0.0nm,0.3s,baz=191,slow=3.7,SNR=4.7						
BHPL	**Bhopal**	**16.42**	**240**	*e*P	**Pn**	**01 02 46.0**	**-0.7**
BHPL				AMB	AMB	01 02 52.0	
	comp=Z,93nm,1.3s						
CHCP	**Chirah Chowk**	**16.44**	**279**	P	**Pn**	**01 02 44.0**	**-3.0**
AAA	**Alma-Ata**	**16.50**	**315**	*i* P	**P**	**01 02 50.8**	**+0.8**
AAA				*e*S	**S**	**01 05 56.8**	**-4.2**
AAA				pmax	pmax		
	comp=Z,1μm,2.7s						
AAA				smax	smax		
	comp=E,2μm,7.4s						
AAA				MLR	MLR		
	comp=Z,7μm,11.0s						
NGP	**Nagpur**	**16.67**	**231**	*e*P	**Pn**	**01 02 48.5**	**-1.4**
NGP				AMB	AMB	01 02 54.4	
	comp=Z,118nm,0.5s						
NGP				*ex*	x	01 05 53.2	
TIY	**Taiyuan**	**16.87**	**67**	*e*P	**P**	**01 02 55.4**	**+1.3**
TIY				S	**S**	**01 06 05.3**	**-3.3**
TIY				PMZ			
	comp=Z,200nm,1.0s						
TIY				LN			
	comp=Z,3μm,5.7s						
TIY				LE			
	comp=Z,5μm,7.6s						
TIY				LZ			
	comp=Z,6μm,11.0s						
AJM	**Ajmer**	**16.92**	**254**	*ex*	**Pn**	**01 02 52.0**	**-1.0**
KZA	**Kyzart**	**16.93**	**309**	P	**P**	**01 02 57.2**	**+2.1**
	SNR=18						
KZA	**Kyzart**	**16.93**	**309**	*i* P	**P**	**01 02 57.2**	**+2.1**
VIS	**Vishakhapatnam**	**17.01**	**213**	*e*P	**Pn**	**01 02 52.7**	**-1.5**
VIS				AMB	AMB	01 03 01.1	
	comp=Z,109nm,1.5s						
TKM2	**Tokmak 2**	**17.13**	**312**	P	**P**	**01 03 00.5**	**+3.4**
	SNR=15						
TKM2	**Tokmak 2**	**17.13**	**312**	*e*P	**Pn**	**01 02 55.5**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,527nm,2.6s						
TKM2	**Tokmak 2**	**17.13**	**312**	*e*Pn	**Pn**	**01 02 55.5**	**-0.2**
	comp=Z,527nm,2.6s						
HHC	**Hu-ho-hao-te**	**17.18**	**56**	*e*P	**Pn**	**01 02 56.1**	**-0.1**
HHC				LR	LR		
	comp=N,4μm,10.2s						
HHC				LR	LR		
	comp=E,9μm,10.4s						
HHC	**Hu-ho-hao-te**	**17.18**	**56**	*e*P	**Pn**	**01 02 55.8**	**-0.4**
HHC				pP	**pP**	**01 03 08.0**	**+2.2**
HHC				S	**Sn**	**01 06 00.5**	**-5.8**
HHC				SS	**SnSn**	**01 06 25.8**	**+6.2**
HHC				PMZ			
	comp=E,23nm,0.8s						
HHC				PMZ			
	comp=E,410nm,4.1s						
HHC				LN			
	comp=E,5μm,11.0s						
HHC				LE			
	comp=E,9μm,10.2s						
HHC				LZ			
	comp=E,8μm,11.4s						
KBK	**Karagaybulak**	**17.40**	**311**	P	**P**	**01 03 02.0**	**+1.8**
	SNR=8.7						
KBK	**Karagaybulak**	**17.40**	**311**	*i* P	**P**	**01 03 01.9**	**+1.8**
UCH	**Uchtor**	**17.48**	**309**	P	**P**	**01 03 02.1**	**+0.8**
	S

EKS2 pmax pmax
comp=Z,144nm,1.3s
EKS2 Erkin-Say 18.16 309 *e*P **P 01 03 09.3 +0.8**
comp=Z,144nm,1.3s
RPR Rampur 18.22 225 *e*P **Pn 01 03 08.4 -0.6**
RPR *e* 01 03 12.5
RPR *e* 01 06 23.9
RPR *e*S **S 01 06 37.2 +1.2**
RPR IAMs_20 IAMs_20 01 10 04.9
comp=Z,6µm,13.0s
KHON Khomkaen 18.45 148 P Pn 01 03 16.8 +4.9
comp=Z,19nm,0.9s,comp=Z,2µm
WHN Wuhan 18.45 90 ⇑P **Pn 01 03 12.8 +0.9**
WHN S **Sn 01 06 36.3 -0.8**
WHN LZ
comp=Z,11µm,14.2s
SONA0 Songino Array 18.47 30 *e*P **P 01 03 11.3 -0.5**
SONA0 *e*ScP ScP 01 11 06.4 -7.9
SONM Songino Array 18.47 30 P **P 01 03 11.3 -0.5**
comp=Z,0.4nm,0.3s,baz=212,slow=13,SNR=26
SONM Lg Lg 01 08 51.2
comp=Z,0.1nm,0.3s,baz=225,slow=24,SNR=2.3
SONM LR LR 01 11 06.4
comp=Z,6µm,19.1s,baz=222,slow=40
ULN Ulaanbaatar 18.77 31*d i*P **P 01 03 15.1 -0.1**
ULN pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 18.77 31 P **Pn 01 03 15.5 -0.3**
SNR=13
ULN Ulaanbaatar 18.77 31 *e*P **P 01 03 13.5 -1.7**
comp=Z,44nm,1.4s
SRDT SRDT 18.94 161 P **Pn 01 03 19.9 +2.1**
comp=Z,106nm,1.4s,comp=Z,3µm
DGPR DIGLIPUR 19.21 180 *e*P **P 01 03 20.1 +0.1**
DGPR AMB AMB 01 03 25.2
comp=Z,81nm,2.1s
ZAK Zakamensk 19.49 20 *e*P **Pn 01 03 24.2 -0.1**
ZAK pmax pmax
comp=Z,37nm,1.2s
HYBB Hyderabad (bro 19.77 224 *e*Pn **P 01 03 26.9 +0.7**
HYBB *e* 01 03 29.1
HYBB *e*S **Sn 01 07 10.6 +1.4**
HYBB IAMs_20 IAMs_20 01 11 00.4
comp=Z,9µm,11.6s
HYB Hyderabad 19.78 224 *e*P **P 01 03 26.0 -0.2**
HYB Hyderabad 19.78 224 *i* P **P 01 03 26.0 -0.2**
HYB *e*S **Sn 01 07 14.0 +4.7**
HYB Hyderabad 19.78 224 *e*P **P 01 03 25.4 -0.8**
HYB AMB AMB 01 03 30.8
comp=Z,63nm,0.2s
HYB Hyderabad 19.78 224 *e*P **P 01 03 26.0 -0.2**
HYB *e*S **Sn 01 07 14.0 +4.7**
KBL Kabul 19.93 282 *e*P **P 01 03 26.9 -1.1**
KBL pmax pmax
comp=Z,112nm,1.4s
KBL Kabul 19.93 282 *e*P **P 01 03 26.9 -1.1**
comp=Z,112nm,1.4s
NJS Nagarjunasagar 20.04 221 *e*Pn Pn 01 03 30.3 -0.6
NJS *e* 01 03 32.1
NJS *e*S **S 01 07 13.2 +0.5**
NJS IAMs_20 IAMs_20 01 11 05.8
comp=Z,8µm,13.0s
MOY Mondy 20.08 15 *e*P Pn 01 03 31.7 +0.3
MOY pmax pmax
comp=Z,175nm,2.7s
BJT Baijiatuau 20.24 62 *e*P Pn 01 03 32.1 -1.0
BJT pmax pmax
comp=Z,98nm,1.0s
BJT Baijiatuau 20.24 62 *e*P Pn 01 03 32.1 -1.0
comp=Z,98nm,1.0s
BJI Beijing 20.25 62 P Pn 01 03 32.5 -0.7
BJI S Sn 01 07 19.8 -0.5
BJI PMZ
comp=Z,96nm,1.5s
BJI PMZ
comp=Z,1µm,6.8s
BJI LN
comp=Z,14µm,15.5s
BJI LE
comp=Z,5µm,14.1s
BJI LZ
comp=Z,1µm,20.7s
QIZ Qiongzhong 20.32 127 P Pn 01 03 35.6 +1.4
QIZ pP pP 01 03 45.5 +5.1
QIZ sP sP 01 03 49.3 +5.0
QIZ LN
comp=Z,3µm,15.9s
QIZ LZ
comp=Z,4µm,11.3s
TIA Tai'an 20.39 73 ⇓P **P 01 03 33.4 +0.6**
TIA S Sn 01 07 22.5 -1.4
TIA PMZ
comp=Z,50nm,0.9s
TIA LN
comp=Z,5µm,11.0s
TIA LE
comp=Z,5µm,14.3s
TIA LZ
comp=Z,5µm,11.3s
GZH Guangzhou 20.39 112 P Pn 01 03 36.4 +1.3
GZH S **S 01 07 20.1 +0.4**
GZH PcP **PcP 01 07 41.6 -3.2**
GZH LN
comp=Z,3µm,6.0s
GZH LE
comp=Z,4µm,8.9s
KKAR Karatay Array 20.52 307 *e*P **P 01 03 33.9 -0.2**
KKAR Karatay Array 20.52 307 *e*P **P 01 03 33.9 -0.2**
UBPT Khong Chiam 20.63 143 P Pn 01 03 38.8 +1.0
comp=Z,70nm,0.9s
PBA Port Blair 20.73 180 *e*P P 01 03 36.3 -0.2
PBA AMB AMB 01 03 59.0
comp=Z,74nm,1.6s
TLY Talaya 20.76 19 *e*P **P 01 03 37.6 +1.0**
TLY pmax pmax
comp=Z,25nm,1.1s
TLY MLR MLR
comp=Z,3µm,12.0s
TLY Talaya 20.76 19 P **P 01 03 36.3 -0.3**
comp=Z,3.3nm,0.8s,baz=213,slow=8.2,SNR=11
TLY Lg Lg 01 09 52.8
comp=Z,1.0nm,0.4s,baz=243,slow=18,SNR=1.7
TLY LR LR 01 12 11.4
comp=Z,3µm,19.6s,baz=205,slow=38
TLY Talaya 20.76 19 P Pn 01 03 38.9 -0.2
SNR=14
TLY Talaya 20.76 19 *e*P Pn 01 03 38.0 -1.1
comp=Z,19nm,1.0s
KURBB Kurchatov Arra 20.98 334 P **P 01 03 38.5 -0.5**
comp=Z,33nm,1.1s,baz=143,slow=11,SNR=116
KURBB ScP **ScP 01 11 23.1 +3.3**
comp=Z,0.9nm,0.8s,baz=148,slow=1.9,SNR=5.6
KURK Kurchatov 21.02 334 P **P 01 03 38.5 -0.9**
comp=Z,328nm,1.0s,SNR=53
KURK Kurchatov 21.02 334 *e*P **P 01 03 38.8 -0.6**
KURK pmax pmax
comp=Z,160nm,1.1s
KURK Kurchatov 21.02 334 P **P 01 03 39.4 0.0**
SNR=63
KURK Kurchatov 21.02 334 *e*P **P 01 03 38.8 -0.6**
comp=Z,160nm,1.1s
KURK *e*ScP **ScP 01 11 23.1 +3.2**
IRK Irkutsk 21.43 20 *e*P **P 01 03 45.6 +1.7**
IRK pmax pmax
comp=Z,192nm,1.5s
NJ2 Nanjing 22.00 84 *e*P **P 01 03 51.1 +1.0**
NJ2 pP **pP 01 03 53.6 -4.9**
NJ2 S **S 01 07 53.3 +2.1**
NJ2 PMZ
comp=Z,40nm,0.9s
NJ2 PMZ
comp=Z,590nm,5.0s
NJ2 LZ
comp=Z,8µm,11.3s
POO Poona 22.00 235 *e*P **P 01 03 51.1 +0.9**
SKHT Srikalahasti 22.17 216 *e*P **P 01 03 53.9 +1.8**
SKHT *e*pP **pP 01 03 60.0 -0.5**
SKHT *e*S **S 01 07 58.2 +3.6**
SKHT IAMs_20 IAMs_20 01 12 21.4
comp=Z,4µm,15.6s
ZALV Zalesovo Beam 22.21 347 *i* P **P 01 03 52.0 -0.1**
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 22.21 347 P **P 01 03 51.3 -0.8**
comp=Z,11nm,0.7s,baz=161,slow=9.4,SNR=50

ZAA1 Zalesovo Array 22.21 347 *e*P **P 01 03 51.3 -0.9**
URV Uravakonda 22.48 223 *e*P **P 01 03 55.5 +0.1**
URV *e* 01 03 57.8
URV *e*S **S 01 08 03.5 +3.1**
URV IAMs_20 IAMs_20 01 12 32.2
comp=Z,8µm,11.7s
NVS Novosibirsk 23.36 346⇑ *i*P **P 01 04 03.7 -0.4**
NVS *e*S **S 01 08 12.8 -1.9**
NVS pmax pmax
comp=Z,139nm,1.5s
NVS pmax pmax
comp=N,167nm,1.8s
NVS pmax pmax
comp=E,58nm,1.4s
NVS smax smax
comp=N,55nm,2.5s
NVS smax smax
comp=E,55nm,2.1s
SURT Suratani 24.05 165 P **P 01 04 14.6 +3.6**
comp=E,38nm,1.1s,comp=E,442nm
SSE Sheshan 24.12 86 *e*P **P 01 04 12.3 +0.8**
SSE pP **pP 01 04 22.8 +2.3**
SSE S **S 01 08 25.1 -2.3**
SSE PMZ
comp=E,19nm,1.1s
SSE PMZ
comp=E,170nm,5.7s
SSE LN
comp=E,5µm,17.6s
SSE LE
comp=E,2µm,17.5s
SSE LZ
comp=E,4µm,10.9s
DL2 Dalian 24.19 67⇑P **P 01 04 12.9 +0.8**
DL2 S **S 01 08 33.5 +5.1**
DL2 PMZ
comp=E,81nm,0.7s
DL2 PMZ
comp=E,780nm,5.9s
DL2 LN
comp=E,3µm,17.8s
DL2 LZ
comp=E,3µm,13.5s
PKDT Phuket 25.00 167 P **P 01 04 24.2 +4.6**
comp=E,124nm,0.8s
SNY Shenyang 26.11 60 ⇓P **P 01 04 29.5 0.0**
SNY S **S 01 08 57.8 -1.1**
SNY PMZ
comp=E,68nm,1.0s
SNY LN
comp=E,3µm,11.8s
SNY LE
comp=E,3µm,14.9s
SNY LZ
comp=E,2µm,18.2s
BVAR Borovoye Array 26.13 328 P **P 01 04 30.1 +0.5**
BVAR 01 07 57.9
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR MLR MLR
comp=Z,2µm,21.4s
BVAR Borovoye Array 26.13 328 P **P 01 04 30.1 +0.5**
comp=Z,3.7nm,0.7s,baz=147,slow=8.3,SNR=19
BVAR PcP **PcP 01 07 57.9 +1.7**
comp=Z,2.4nm,0.7s,baz=151,slow=0.9,SNR=6.0
BVAR ScP **ScP 01 11 36.5 +2.8**
comp=Z,0.4nm,0.4s,baz=159,slow=4.6,SNR=3.8
BVAR LR LR 01 14 56.2
comp=Z,2µm,21.4s,baz=132,slow=37
HIA Hailar 26.17 42*d i*P **P 01 04 31.0 +1.0**
HIA pmax pmax
comp=Z,73nm,1.4s
HIA Hailar 26.17 42 *e*P **P 01 04 30.7 +0.7**
comp=Z,43nm,0.9s
BRVK Borovoye 26.20 328 P **P 01 04 30.1 -0.1**
comp=Z,153nm,0.8s,SNR=11
BRVK Borovoye 26.20 328 *e*P **P 01 04 30.6 +0.4**
BRVK pmax pmax
comp=Z,88nm,1.5s
BRVK Borovoye 26.20 328 *e*P **P 01 04 30.6 +0.4**
comp=Z,88nm,1.5s
SKLT Songkhla 26.21 162 P P 01 04 35.5 +4.9
comp=Z,91nm,0.9s,comp=Z,7µm
NACB Ninganchiao 26.58 101 *e*P **P 01 04 33.9 0.0**
comp=Z,72nm,1.2s
PALK Pallekele 27.50 207 P **P 01 04 44.9 +2.6**
comp=Z,94nm,2.1s,SNR=5.2
PALK Pallekele 27.50 207 *e*P **P 01 04 42.2 -0.1**
PALK pmax pmax
comp=Z,53nm,1.8s
PALK Pallekele 27.50 207 P P 01 04 48.6 +6.3
SNR=5.8
PALK Pallekele 27.50 207 *e*P **P 01 04 42.2 -0.1**
comp=Z,53nm,1.8s
CN2 Changchun 27.86 57 *e*P **P 01 04 45.8 +0.5**
CN2 *e*S **S 01 09 26.1 -0.5**
CN2 PMZ
comp=Z,30nm,1.4s
CN2 LN
comp=Z,2µm,14.0s
CN2 LE
comp=Z,3µm,14.0s
CN2 LZ
comp=Z,3µm,13.0s
KULM Kulim 28.02 163 *e*P **P 01 04 48.1 +1.2**
comp=Z,50nm,1.2s
GEYT Alibeck 28.77 291 P **P 01 04 54.4 +1.0**
comp=Z,4.0nm,0.7s,baz=100,slow=7.7,SNR=7.3
GEYT ScP **ScP 01 11 45.3 +3.2**
comp=Z,1.2nm,0.7s,baz=354,slow=6.0,SNR=5.0
GEYT LR LR 01 18 54.5
comp=Z,1µm,18.1s,baz=125,slow=42
KS15 Wonju Array Si 29.05 70 *e*P **P 01 04 55.5 -0.3**
KSRS Korea Array 29.08 70 P **P 01 04 55.6 -0.5**
KSRS pmax pmax
comp=Z,8.0nm,0.9s
KSRS MLR MLR
comp=Z,404nm,19.8s
KSRS Korea Array 29.08 70 P **P 01 04 55.5 -0.5**
comp=Z,7.5nm,0.8s,baz=270,slow=8.9,SNR=17
KSRS LR LR 01 15 56.1
comp=Z,404nm,19.8s,baz=259,slow=35
BOD Bodaibo 29.16 23 *e*P **P 01 04 57.6 +1.0**
BOD pmax pmax
comp=Z,15nm,1.4s
ABKAR Akbulak array 29.68 314 *e*P **P 01 05 00.2 -1.2**
PSI Prapat 30.07 168 LR LR 01 18 54.3
comp=Z,1µm,18.1s,slow=40
MDJ Mudanjiang 30.95 56 P **P 01 05 12.9 +0.3**
MDJ PMZ
comp=Z,15nm,0.8s
MDJ PMZ
comp=Z,500nm,13.2s
MDJ LN
comp=Z,7µm,14.1s
MDJ LE
comp=Z,2µm,14.6s
MDJ LZ
comp=Z,2µm,12.3s
JOW Kunigami 31.22 91 LR LR 01 18 23.7
comp=Z,157nm,18.1s,baz=294,slow=38
TGY Tagaytay City 31.49 119 LR LR 01 18 38.7
comp=Z,1µm,21.5s,baz=272,slow=38
JNU Nakatsue 31.88 78 *e*P **P 01 05 19.1 -1.8**
comp=Z,28nm,1.2s
MNSI Mandailing Nat 32.15 167 P **P 01 05 26.2 +2.8**
comp=Z,17nm,0.8s,comp=Z,626nm
VLA Vladivostok 32.38 60⇑ *i*P **P 01 05 24.0 -1.2**
VLA *e* 01 06 32.7
VLA *e*S **S 01 10 33.4 -3.9**
VLA pmax pmax
comp=Z,28nm,1.4s
USRK Ussuriysk Ar. 32.58 58 P **P 01 05 26.6 -0.3**
comp=Z,3.9nm,0.8s,baz=267,slow=6.9,SNR=12
USRK LR LR 01 20 18.6
comp=Z,1µm,18.4s,baz=252,slow=39
CLNS Chul'man 32.84 33 *e*P **P 01 05 26.4 -2.8**
CLNS pmax pmax
comp=Z,17nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.2s
CLNS MLR MLR
comp=Z,5µm,13.0s

SVE Sverdlovsk 32.90 327⇓ *i*P **P 01 05 30.6 +1.1**
SVE pmax pmax
comp=Z,36nm,1.1s
SVE MLR MLR
comp=Z,2µm,16.0s
KLR Kul'dur 33.42 48 *e*P **P 01 05 31.6 -2.7**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,45nm,1.6s
KLR MLR MLR
comp=N,3µm,11.0s
KLR MLR MLR
comp=E,2µm,11.0s
KLR MLR MLR
comp=Z,12µm,11.0s
ARU Arti 33.65 326*d i*P **P 01 05 36.3 +0.2**
ARU 01 06 46.2
ARU 01 08 12.2
ARU S **S 01 10 55.4 -1.4**
ARU SS **SnSn 01 12 59.5 -2.1**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU MLR MLR
comp=Z,1µm,19.0s
ARU Arti 33.65 326 *e*P **P 01 05 35.3 -0.8**
comp=Z,27nm,1.4s
KKM Kota Kinabalu 34.17 135 *e*P **P 01 05 40.2 -0.9**
comp=Z,55nm,1.0s
KSM Kuching 34.96 148 *e*P **P 01 05 47.8 -0.1**
comp=Z,35nm,0.6s
SBUM Sibu 34.99 145 *e*P **P 01 05 47.3 -0.9**
comp=Z,9.5nm,0.8s
HABR Khabarovsk 35.37 51 *e*P **P 01 05 49.1 -2.0**
HABR *e**PP pP 01 06 06.0 +5.8
HABR *e* 01 07 09.1
HABR *e* 01 08 17.6
HABR *e*S **S 01 11 18.6 -4.9**
HABR *e*SS **SnSn 01 13 44.3 +0.9**
HABR *e* 01 16 01.5
HABR pmax pmax
comp=Z,12nm,1.0s
HABR pmax pmax
comp=N,12nm,1.0s
HABR pmax pmax
comp=E,12nm,1.0s
HABR MLR MLR
comp=Z,1µm,15.0s
STKI Sintang 36.73 148 P P 01 06 08.4 +5.3
comp=Z,40nm,0.9s,comp=Z,12µm
MAJO Matsushiro 37.35 71 *e*P **P 01 06 07.9 -0.3**
MAJO pmax pmax
comp=Z,209nm,2.7s
MAJO Matsushiro 37.35 71 *e*P **P 01 06 07.9 -0.3**
comp=Z,209nm,2.7s
MAT Matsushiro 37.35 71 P **P 01 06 07.5 -0.7**
MJAR Matsushiro Arr 37.35 71 P **P 01 06 07.9 -0.4**
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR Matsushiro Arr 37.35 71 P **P 01 06 07.9 -0.4**
comp=Z,4.0nm,0.8s,baz=279,slow=8.7,SNR=12
YAK Yakutsk 37.80 27 *e*P **P 01 06 11.4 -0.2**
YAK *e* 01 16 20.4
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,12nm,1.5s
YAK pmax pmax
comp=Z,63nm,3.3s
YAK pmax pmax
comp=N,48nm,3.4s
YAK pmax pmax
comp=E,30nm,2.1s
YAK Yakutsk 37.80 27 P **P 01 06 12.0 +0.4**
comp=E,18nm,0.3s,baz=42,slow=2.2,SNR=4.8
MDSI Maura Dua 38.31 162 P P 01 06 20.3 +3.9
comp=E,10nm,1.1s
TBLG Delisi 39.01 298 P P 01 06 27.4 +5.2
GNI Garni 39.10 295 *e*P **P 01 06 24.8 +1.7**
GNI pmax pmax
comp=Z,25nm,1.2s
GNI Garni 39.10 295 P **P 01 06 24.4 +1.3**
comp=Z,8.7nm,0.8s,baz=137,slow=4.0,SNR=15
GNI Garni 39.10 295 P P 01 06 30.4 +7.3
SNR=5.1
GNI Garni 39.10 295 *e*P **P 01 06 22.3 -0.8**
comp=Z,16nm,0.9s
ZEI Tsey 39.60 299 *e*P P 01 06 18.6 -8.6
ZEI pmax pmax
comp=Z,7.0nm,0.7s
ONI Oni 39.94 299 P **P 01 06 31.8 +1.9**
AKH Akhalkalaki 39.96 297 P P 01 06 37.0 +6.7
ASAJ Asahikawa 40.19 58 P **P 01 06 32.3 +0.4**
ASAJ pmax pmax
comp=Z,31nm,1.1s
ASAJ MLR MLR
comp=Z,849nm,18.4s
ASAJ Asahikawa 40.19 58 P **P 01 06 32.2 +0.4**
comp=Z,31nm,1.1s,baz=279,slow=21,SNR=7.5
ASAJ LR LR 01 23 00.3
comp=Z,849nm,18.4s,baz=330,slow=36
ASAJ Asahikawa 40.19 58 *e*P **P 01 06 30.8 -1.1**
comp=Z,58nm,1.2s
GOF Gofitskoye 40.20 303 *e*P **P 01 06 32.2 +0.3**
KBZ Khabaz 40.31 301 P **P 01 06 32.1 -0.7**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
KBZ MLR MLR
comp=Z,513nm,20.3s
KBZ Khabaz 40.31 301 P **P 01 06 32.1 -0.7**
comp=Z,0.5nm,0.4s,baz=236,slow=24,SNR=4.5
KBZ LR LR 01 25 21.4
comp=Z,513nm,20.3s,baz=152,slow=39
YSS Yuzh-Sakhalins 40.35 54 *e*P **P 01 06 34.4 +1.2**
YSS *e*S **S 01 12 40.0 +1.0**
YSS pmax pmax
comp=Z,130nm,1.5s
YSS MLR MLR
comp=E,2µm,12.0s
YSS MLR MLR
comp=Z,1µm,12.0s
YSS Yuzh-Sakhalins 40.35 54 *e*P **P 01 06 32.2 -1.0**
comp=Z,195nm,1.8s
KIV Kislovodsk 40.46 301 *e*P **P 01 06 35.8 +1.6**
KIV *e* 01 08 13.6
KIV *e* 01 08 38.7
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,749nm,19.0s
KIV Kislovodsk 40.46 301 *e*P **P 01 06 33.2 -1.0**
comp=Z,8.1nm,0.9s
ERM Erimo 40.67 62 *e*P **P 01 06 34.4 -1.5**
ERM pmax pmax
comp=Z,51nm,1.1s
ERM Erimo 40.67 62 *e*P **P 01 06 34.4 -1.5**
comp=Z,51nm,1.1s
RAYN Ar Rayn 42.44 270 *e*P **P 01 06 50.1 -0.6**
comp=Z,2.2nm,0.8s
KPJI Karang Pucung 42.46 156 P P 01 06 56.6 +5.9
comp=Z,35nm,0.9s
SOC Sochi 42.62 301 *e*P **P 01 06 50.4 -1.4**
SOC *e**PP pP 01 07 08.4 +7.3
SOC *e* 01 08 34.4
SOC *e*S S 01 13 06.4 -6.3
SOC pmax pmax
comp=Z,10.0nm,0.6s
SOC MLR MLR
comp=Z,807nm,14.0s
KMSI Cibinong 43.23 131 P P 01 07 08.7 +12
TTSI Tana Toraja 43.62 139 P P 01 07 04.4 +4.2
comp=Z,54nm,0.9s,comp=Z,745nm
TIXI Tiksi 43.66 16*d i*P **P 01 06 59.5 -0.3**
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 43.66 16 *e*P **P 01 06 58.5 -1.4**
comp=Z,15nm,0.8s
ANN Anapa 44.19 303 *e*P **P 01 07 03.9 -0.5**
ANN *e**PP pP 01 07 21.6 +7.9
ANN *e*S **S 01 13 35.1 -0.5**
ANN *e*SS **SS 01 16 49.0 -4.8**
ANN pmax pmax
comp=Z,15nm,0.9s
ANN MLR MLR

comp=Z,626nm,16.0s
ANN MLR MLR

comp=N,382nm,16.0s
ANN MLR MLR

comp=E,688nm,16.0s
SPSI Sidrap Palu 44.36 140 P **P** **01 07 08.7 +2.6**
MOS Moscow 44.47 318 *eP* **P** **01 07 05.5 -1.1**
MOS *e* 01 07 10.8
MOS *e* 01 08 51.0
MOS *eSS* SS 01 17 01.1 +2.0
MOS pmax pmax

comp=Z,52nm,1.1s
MOS MLR MLR

comp=E,2μm,15.0s
MOS MLR MLR

comp=Z,2μm,15.0s
OBN Obninsk 44.99 317 *ceP* **P** **01 07 10.9 +0.2**
OBN *e* 01 07 19.3
OBN *e* 01 08 56.0
OBN pmax pmax

comp=Z,51nm,2.5s
OBN MLR MLR

comp=Z,2μm,21.0s
OBN Obninsk 44.99 317 LR LR 01 27 29.0

comp=Z,2μm,19.3s,baz=94,slow=38
SIM Simferopol' 46.53 303 P **P** **01 07 23.2 +0.2**
SIM S **S** **01 14 13.2 +3.8**
SIM pmax pmax

comp=Z,6.0nm,0.6s
ASF Jabal al Asfar 46.78 285 P **P** **01 07 25.4 +0.1**
ASF pmax pmax

comp=Z,2.0nm,0.7s
ASF MLR MLR

comp=Z,867nm,21.0s
ASF Jabal al Asfar 46.78 285 P **P** **01 07 25.4 +0.1**

comp=Z,1.5nm,0.7s,baz=246,slow=11,SNR=3.7
ASF LR LR 01 29 12.8

comp=Z,867nm,21.0s,baz=36,slow=39
DAMY Dhamar 47.42 260 *eP* **P** **01 07 30.4 -0.3**

comp=Z,27nm,1.3s
BR101 Keskin Array S 47.62 296 *eP* **P** **01 07 31.2 -0.6**
BRTR Keskin Array B 47.62 296 *ceP* **P** **01 07 34.5 +2.7**
BRTR pmax pmax

comp=Z,5.0nm,0.8s
BRTR Keskin Array B 47.62 296 P **P** **01 07 31.2 -0.6**

comp=Z,2.8nm,0.8s,baz=100,slow=7.8,SNR=17
BRTR LR LR 01 31 12.1

comp=Z,355nm,19.0s,baz=102,slow=41
SEY Seymchan 47.84 32 P **P** **01 07 33.3 +0.3**
SEY pmax pmax

comp=Z,10.0nm,0.9s
SEY Seymchan 47.84 32 P **P** **01 07 33.2 +0.3**

comp=Z,9.5nm,0.9s,baz=259,slow=7.1,SNR=25
ANTO Ankara 48.23 297 *eP* **P** **01 07 35.5 -0.9**
ANTO pmax pmax

comp=Z,20nm,1.0s
ANTO Ankara 48.23 297 P **P** **01 07 37.2 +0.8**
SNR=6.2
ANTO Ankara 48.23 297 *eP* **P** **01 07 35.5 -0.9**

comp=Z,20nm,1.0s
JOF Joensuu 48.72 328 *eP* **P** **01 07 40.2 +0.4**
JOF pmax pmax

comp=Z,4.0nm,0.5s
JOF Joensuu 48.72 328 *ep* **P** **01 07 40.2 +0.4**

comp=Z,4.3nm,0.5s
APA Apatity 48.81 334⇑ *iP* **P** **01 07 43.0 +2.6**
APA MLR MLR

comp=Z,2μm,13.0s
AKASG Malin Array Be 49.35 311 P **P** **01 07 44.3 -0.4**
AKASG pmax pmax

comp=Z,5.0nm,0.6s
AKASG MLR MLR

comp=Z,782nm,19.7s
AKASG Malin Array Be 49.35 311 P **P** **01 07 44.3 -0.4**

comp=Z,5.3nm,0.6s,baz=75,slow=7.2,SNR=25
AKASG LR LR 01 30 49.4

comp=Z,782nm,19.7s,baz=70,slow=39
AKBB Malin Array Si 49.35 311 *eP* **P** **01 07 44.3 -0.4**
AKBB Malin Array Si 49.35 311 *eP* **P** **01 07 44.3 -0.4**
KIEV Kiev 49.36 311 *eP* **P** **01 07 44.1 -0.7**
KIEV pmax pmax

comp=Z,39nm,1.7s
KIEV Kiev 49.36 311 *eP* **P** **01 07 44.1 -0.7**

comp=Z,39nm,1.7s
MICGM Minsk 49.99 316 *e* **P** **01 07 47.0 -2.6**
PETK Petropavlovsk- 50.00 45 P **P** **01 07 49.3 -0.4**
PETK pmax pmax

comp=Z,4.0nm,0.8s
PETK MLR MLR

comp=Z,417nm,18.2s
PETK Petropavlovsk- 50.00 45 P **P** **01 07 49.3 -0.4**

comp=Z,3.9nm,0.8s,baz=255,slow=4.5,SNR=5.6
PETK LR LR 01 31 29.6

comp=Z,417nm,18.2s,baz=280,slow=39
PEA2 Petropavlovsk- 50.01 45 *eP* **P** **01 07 49.3 -0.4**
MNK Minsk 50.02 316 *eP* **P** **01 07 47.0 -2.8**
NACGM Naroch 50.62 317 *e* P 01 07 51.0 -3.3
CFR Carcaliu 50.70 304⇑ *iP* **P** **01 07 57.1 +2.1**
KAF Kangasniemi 50.95 326 *eP* **P** **01 07 56.0 -0.7**
KAF pmax pmax

comp=Z,3.0nm,0.5s
KAF Kangasniemi 50.95 326 *ep* **P** **01 07 56.0 -0.7**

comp=Z,2.7nm,0.5s
FIA0 FINESS Array S 51.02 325 *eP* **P** **01 07 58.2 +1.0**
FIA0 FINESS Array S 51.02 325 *eP* **P** **01 07 58.2 +1.0**
FINES FINESS Array B 51.02 325 *ceP* P 01 08 00.7 +3.5
FINES pmax pmax

comp=Z,6.0nm,0.6s
FINES FINESS Array B 51.02 325 P **P** **01 07 58.2 +1.0**

comp=Z,5.7nm,0.6s,baz=101,slow=7.1,SNR=22
FINES LR LR 01 30 41.5

comp=Z,902nm,19.9s,baz=92,slow=37
TESR Tescani 51.52 306⇓ *iP* **P** **01 08 00.4 -0.8**
VRI Vrincioaia 51.57 305⇓ *iP* **P** **01 08 02.6 +1.0**
KEV Kevo 51.57 336 *eP* **P** **01 08 01.3 +0.1**
KEV pmax pmax

comp=Z,1.0nm,0.3s
KEV Kevo 51.57 336 *ep* **P** **01 08 01.3 +0.1**

comp=Z,0.7nm,0.3s
SOEI Soe 51.62 139 P **P** **01 08 02.2 -0.2**
SOEI Soe 51.62 139 *eP* **P** **01 08 01.6 -0.8**

comp=Z,207nm,0.8s
BATI Baumata 51.66 140 P P 01 08 06.4 +3.8
ISR Istrita 51.82 304⇑ *iP* **P** **01 08 03.6 0.0**
ARA0 ARCESS Array S 52.05 336 *eP* **P** **01 08 05.2 +0.3**
ARCES ARCESS Array B 52.05 336 P **P** **01 08 05.2 +0.3**
ARCES pmax pmax

comp=Z,3.0nm,0.9s
ARCES MLR MLR

comp=Z,650nm,19.0s
ARCES ARCESS Array B 52.05 336 P **P** **01 08 05.2 +0.3**

comp=Z,3.2nm,0.9s,baz=91,slow=6.4,SNR=9.2
ARCES LR LR 01 30 29.1

comp=Z,650nm,18.9s,baz=98,slow=36
MLR Muntele Rosu 52.17 305⇓ *iP* **P** **01 08 07.5 +1.2**
BURAR Bucovina Array 52.31 308⇓ *iP* **P** **01 08 06.8 -0.4**
DOPR Dopca 52.47 306⇓ *iP* **P** **01 08 09.2 +0.9**
LVV L'vov 52.76 311 *eP* **P** **01 08 10.2 -0.2**
LVV MLR MLR

comp=Z,500nm,14.0s
LVV MLR MLR

comp=N,300nm,13.0s
LVV MLR MLR

comp=E,500nm,13.0s
SUW Suwalki 52.77 316 *eP* **P** **01 08 10.3 -0.1**
SUW Suwalki 52.77 316 *eP* **P** **01 08 10.2 -0.1**
SUW Suwalki 52.77 316 *eP* **P** **01 08 10.0 -0.4**

comp=E,39nm,0.9s
VOIR 52.80 305⇑ *iP* **P** **01 08 11.5 +0.6**
ARR Arges 53.10 305⇓ *iP* **P** **01 08 13.0 -0.1**
SMG Samos 53.25 295 *ePN* **P** **01 08 15.0 +0.8**
CJR Cluj-Napoca 53.55 307⇓ *iP* **P** **01 08 16.4 0.0**
KWP Kalwaria Pacla 53.63 311 *eP* **P** **01 08 17.6 +0.7**
KWP Kalwaria Pacla 53.63 311 *eP* **P** **01 08 17.5 +0.7**
KWP Kalwaria Pacla 53.63 311⇑ *iP* **P** **01 08 17.6 +0.7**
LOT Lotru 53.68 305⇓ *iP* **P** **01 08 17.5 +0.1**
TRPA Tarpa 54.00 309⇑ *iP* **P** **01 08 20.1 +0.6**
KOLS Kolonicke sedl 54.03 310 *eP* **P** **01 08 20.0 +0.2**
KOLS Kolonicke sedl 54.03 310 *eP* **P** **01 08 20.0 +0.2**
UZH Uzhgorod 54.07 309 *eP* **P** **01 08 19.9 -0.1**
UZH *eS* **S** **01 15 52.8 -1.4**
DRGR 54.14 307⇑ *iP* **P** **01 08 20.9 +0.3**
ZKR Zakros 54.47 292 *ePN* **P** **01 08 25.0 +1.8**
CRVS Cervenica-Dubn 54.56 310 *eP* **P** **01 08 24.0 +0.4**
CRVS Cervenica-Dubn 54.56 310 *eP* **P** **01 08 24.0 +0.4**
STHS Stebnicka Huta 54.61 311 *eP* **P** **01 08 24.3 +0.3**
STHS pmax pmax

comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 54.61 311 *eP* **P** **01 08 24.3 +0.3**
VTS Vitosha 54.71 302⇑ *iP* P 01 08 31.3 +6.4
NPS Neapolis 54.90 293 *ePN* **P** **01 08 25.0 -1.3**
SIRR Siria 54.95 307⇑ *iP* **P** **01 08 27.3 +0.8**
LAST Lasithi 55.03 293 *ePN* **P** **01 08 27.0 -0.3**
BZS Buzias 55.12 306⇑ *iP* **P** **01 08 26.9 -0.8**
NIE Niedzica 55.21 311 *eP* **P** **01 08 29.3 +1.0**
OJC Ojcow 55.38 312 *eP* **P** **01 08 28.7 -0.8**
OJC pmax pmax

comp=Z,75nm,1.8s
OJC Ojcow 55.38 312 *eP* **P** **01 08 30.7 +1.2**
OJC Ojcow 55.38 312 *eP* **P** **01 08 28.7 -0.8**

comp=Z,75nm,1.8s
SIVA Sivas 55.60 293 *ePB* **P** **01 08 30.5 -0.8**
PSZ Piszkesteto 55.78 309 *eP* **P** **01 08 32.2 -0.3**
PSZ pmax pmax

comp=Z,9.0nm,1.1s
PSZ Piszkesteto 55.78 309 *eP* **P** **01 08 32.2 -0.3**

comp=Z,9.3nm,1.1s
KARN Karanos 56.17 293 *ePN* **P** **01 08 34.5 -0.9**
AGG Agios Georgios 56.29 298 *ePN* **P** **01 08 34.5 -1.8**
VYHS Vyhne 56.35 310 *eP* **P** **01 08 36.2 -0.3**
VYHS pmax pmax

comp=Z,6.0nm,1.4s
VYHS Vyhne 56.35 310 *eP* **P** **01 08 36.2 -0.3**
THL Klokotos Trika 56.37 299 *ePN* **P** **01 08 35.0 -1.7**
MAKR Makrakomi, Fth 56.44 298 *ePN* **P** **01 08 39.5 +2.2**
FNA Florina 56.50 300 *ePB* **P** **01 08 39.0 +1.3**
OKC Ostrava-Krasne 56.50 312 *i P* **P** **01 08 37.2 -0.3**
OKC MLR MLR

comp=Z,600nm,14.1s
OKC Ostrava-Krasne 56.50 312 *i P* **P** **01 08 37.2 -0.3**
OKC AMS AMS 01 33 40.0

comp=Z,600nm,14.1s
EVR Evrytania 56.71 298 *ePN* **P** **01 08 38.0 -1.3**
NEST Nestorio 56.84 300 *ePN* **P** **01 08 42.5 +2.3**
MORC Moravsky Berou 56.90 312 *eP* **P** **01 08 39.8 -0.6**
MORC pmax pmax

comp=Z,8.0nm,0.8s
MORC Moravsky Berou 56.90 312 *eP* **P** **01 08 39.8 -0.6**

comp=Z,7.8nm,0.8s
PKSM Moragy 57.01 307⇑ *iP* **P** **01 08 41.0 -0.2**
PKSM Moragy 57.01 307⇓ *eP* **P** **01 08 40.4 -0.8**
JAY Jayapura 57.11 118 LR LR 01 33 06.4

comp=Z,387nm,20.7s,baz=324,slow=36
HFS Hagfors 57.15 324 LR LR 01 34 23.3

comp=Z,916nm,19.0s,baz=76,slow=37
DSL Palaion Diasel 57.18 298 *ePN* **P** **01 08 41.5 -1.0**
PDO Prodromos 57.27 298 *ePN* **P** **01 08 42.0 -1.2**
KRLC Kraliky 57.31 312 *i P* **P** **01 08 43.7 +0.4**
KRLC Kraliky 57.31 312 *i P* **P** **01 08 43.7 +0.4**
PYL PYLOS 57.38 296 *ePN* **P** **01 08 42.5 -1.4**
KSP Ksiaz 57.45 313 *eP* **P** **01 08 44.1 -0.1**
KSP Ksiaz 57.45 313 *eP* **P** **01 08 44.1 -0.1**
DPC Dobruska-Polom 57.54 312 *i P* **P** **01 08 45.7 +0.8**
DPC Dobruska-Polom 57.54 312 *i P* **P** **01 08 45.7 +0.8**
DPC *ex* x 01 08 49.0
DPC AMS AMS 01 36 00.0
DPC Dobruska-Polom 57.54 312 *eP* **P** **01 08 44.6 -0.3**

comp=Z,84nm,1.0s
VRAC Vranov 57.61 311⇓ *iP* **P** **01 08 44.8 -0.6**
IGT Igoumenitsa 57.62 299 *ePN* **P** **01 08 44.5 -1.2**
UPC Upice 57.70 313 *i P* **P** **01 08 46.6 +0.6**
UPC Upice 57.70 313 *i P* **P** **01 08 46.6 +0.6**
UPC *ex* x 01 09 09.7
KEK Kerkira 57.97 300 *ePB* P 01 08 44.5 -3.5
NB2 NORSAR Subarra 58.20 325 P **P** **01 08 49.3 -0.1**

comp=Z,14nm,1.0s,baz=80,slow=7.4
NB200 NORSAR Array S 58.20 325 *eP* **P** **01 08 49.0 -0.4**
NOA NORSAR Array B 58.20 325 P **P** **01 08 49.0 -0.4**
NOA pmax pmax

comp=Z,3.0nm,0.7s
NOA MLR MLR

comp=Z,793nm,18.2s
NOA NORSAR Array B 58.20 325 P **P** **01 08 49.0 -0.4**

comp=Z,3.0nm,0.7s,baz=80,slow=7.1,SNR=15
NOA LR LR 01 35 04.0

comp=Z,793nm,18.1s,baz=55,slow=37
TREC Trest 58.31 311 *i P* **P** **01 08 50.6 +0.3**
TREC MLR MLR

comp=Z,800nm,19.8s
TREC Trest 58.31 311 *i P* **P** **01 08 50.6 +0.3**
TREC AMS AMS 01 37 30.0

comp=Z,800nm,19.8s
CONA Conrad Observa 58.42 310⇑ *iP* **P** **01 08 51.6 +0.4**

comp=Z,20nm,1.0s
PVCC Panska Ves 58.59 313 AMS AMS 01 35 30.0

comp=Z,700nm,12.4s
GOPC GO Pecny, Ondr 58.60 312 *i P* **P** **01 08 52.3 0.0**
GOPC AMS AMS 01 36 30.0

comp=Z,800nm,12.9s
PRU Pruhonice 58.74 312 *i P* **P** **01 08 53.8 +0.6**
PRU MLR MLR

comp=Z,700nm,13.4s
PRU Pruhonice 58.74 312 *i P* **P** **01 08 53.8 +0.6**
PRU AMS AMS 01 35 50.0

comp=Z,700nm,13.4s
PRA Prague 58.78 312 *i P* **P** **01 08 54.2 +0.6**
PRA MLR MLR

comp=Z,800nm,14.0s
PRA Prague 58.78 312 *i P* **P** **01 08 54.2 +0.6**
PRA AMS AMS 01 36 40.0

comp=Z,800nm,14.0s
ARSA Arzberg 58.81 309⇓ *iP* **P** **01 08 53.8 0.0**

comp=Z,8.3nm,1.1s
BRG Berggiesshubel 58.89 313 *i P* **P** **01 08 54.8 +0.5**

comp=Z,11nm,1.1s
BRG *i* 01 09 00.3

comp=Z,11nm,0.8s
BRG Berggiesshubel 58.89 313 *eP* **P** **01 08 54.4 +0.1**

comp=Z,20nm,1.5s
BRG Berggiesshubel 58.89 313 *i P* **P** **01 08 54.8 +0.5**
BRG *i* 01 09 00.3
BRG pmax pmax

comp=Z,11nm,1.1s
BRG pmax pmax

comp=Z,11nm,0.8s
CLL Collm 59.35 314 *eP* **P** **01 08 57.3 -0.2**

comp=Z,16nm,1.5s
CLL Collm 59.35 314 *eP* **P** **01 08 57.0 -0.5**
CLL *e* 01 09 03.0
CLL pmax pmax

comp=Z,8.0nm,1.2s
CLL MLR MLR

comp=Z,1μm,18.4s
CLL Collm 59.35 314 *eP* **P** **01 08 57.0 -0.5**

comp=Z,8.0nm,1.2s
CLL *e* 01 09 03.0
CLL *e(PP)* 01 11 02.0
CLL *eSS* SS 01 21 06.0 +7.5
CLL *e* 01 22 12.0
CLL *eSSS* SSS 01 23 42.0
CLL LmV 01 36 00.0

comp=Z,1μm,18.4s
MOA Molln 59.47 310⇑ *iP* **P** **01 08 55.4 -3.1**

comp=Z,10nm,1.0s
GEC2 GERESS Array S 59.56 311 *eP* **P** **01 08 59.3 +0.2**

comp=Z,21nm,1.5s
GEC2 GERESS Array S 59.56 311 *eP* **P** **01 08 57.7 -1.4**
GEC2 GERESS Array S 59.56 311 *eP* **P** **01 08 57.7 -1.4**
GERES GERESS Array B 59.56 311 P **P** **01 08 59.7 +0.6**
GERES pmax pmax

comp=Z,3.0nm,0.7s
GERES MLR MLR

comp=Z,867nm,20.3s
GERES GERESS Array B 59.56 311 P **P** **01 08 59.6 +0.6**

comp=Z,3.0nm,0.7s,baz=64,slow=6.1,SNR=25
GERES LR LR 01 37 44.5

comp=Z,867nm,20.3s,baz=73,slow=39
KHC Kasperske Hory 59.56 312 *i P* **P** **01 08 58.9 -0.2**
KHC *e* 01 09 04.3
KHC MLR MLR

comp=Z,1μm,14.3s
KHC Kasperske Hory 59.56 312 *i P* **P** **01 08 58.9 -0.2**
KHC *ex* x 01 09 04.3
KHC AMS AMS 01 37 10.0

comp=Z,1μm,14.3s
KHC Kasperske Hory 59.56 312 *eP* **P** **01 08 58.6 -0.5**

comp=Z,36nm,2.1s
WET Wettzell 60.00 312 *eP* **P** **01 09 02.4 +0.3**

comp=Z,8.0nm,1.0s
ROTZ Rotzenmuhle 60.25 313 *eP* **P** **01 09 04.4 +0.7**

comp=Z,19nm,1.3s
BSEG Bad Segeberg 60.25 318 *eP* **P** **01 09 04.2 +0.6**

comp=Z,15nm,0.8s
MOX Moxa 60.37 314 *eP* **P** **01 09 04.6 +0.1**

comp=Z,21nm,1.6s
TRI Trieste 60.42 308 *eP* **P** **01 09 04.0 -0.9**
TRI pmax pmax

comp=Z,16nm,0.8s
TRI Trieste 60.42 308 *eP* **P** **01 09 04.0 -0.9**

comp=Z,16nm,0.8s
RJOB Jochberg 60.46 310 *eP* **P** **01 09 05.3 +0.1**

comp=Z,7.0nm,0.8s
NRDL Niedersach Rie 60.76 316 *eP* **P** **01 09 07.9 +0.9**

comp=Z,18nm,1.2s
CUC Castrocucco 60.78 301 *eP* **P** **01 09 06.8 -0.7**

comp=Z,22nm,1.7s
CLZ Clausthal 60.79 315 *eP* **P** **01 09 07.7 +0.3**

comp=Z,22nm,0.9s
GRF Grafenberg Arr 60.89 313 *eP* **P** **01 09 08.7 +0.6**

comp=Z,19nm,1.1s
GRF *eL* L 01 35 41.4

comp=Z,497nm,20.6s
GRFO Grafenberg 60.89 313 *eP* **P** **01 09 07.2 -0.9**
GRFO pmax pmax

comp=Z,58nm,1.8s
GRFO Grafenberg 60.89 313 *eP* **P** **01 09 07.2 -0.9**

comp=Z,58nm,1.8s
FUR Furstenfeldbru 61.30 311 *eP* **P** **01 09 11.3 +0.4**

comp=Z,19nm,0.9s
CEL Celeste 61.31 299 *eP* **P** **01 09 10.1 -1.1**

comp=Z,18nm,1.0s
FETA Feichten 62.01 310⇑ *iP* **P** **01 09 15.4 -0.5**

comp=Z,10.0nm,0.8s
KMBO Kilima Mbogo 62.14 249 P **P** **01 09 16.9 -0.4**

comp=Z,9.5nm,0.9s,baz=50,slow=11,SNR=8.4
KMBO LR LR 01 37 14.0

comp=Z,269nm,18.6s,baz=55,slow=37
TNS Taunus Mts 62.43 314 *eP* **P** **01 09 18.7 +0.2**

comp=Z,7.0nm,0.9s
FUORN Ofenpass-Fuorn 62.44 310 *eP* **P** **01 09 17.8 -1.1**

comp=Z,61nm,1.9s
BUG Bochum--Univer 62.75 315 *eP* **P** **01 09 20.9 +0.4**

comp=Z,43nm,1.8s
BFO Black Forest 63.12 312 *P* **P** **01 09 22.9 -0.2**

comp=Z,12nm,1.3s
BFO Black Forest 63.12 312 *ceP* **P** **01 09 23.7 +0.6**
BFO Black Forest 63.12 312 *eP* **P** **01 09 22.1 -1.0**

comp=Z,54nm,2.1s
DAG Danmarks Havn 63.33 346 *eP* **P** **01 09 24.0 0.0**
DAG pmax pmax

comp=Z,1.0nm,0.8s
DAG MLR MLR

comp=Z,690nm,23.0s
DAG Danmarks Havn 63.33 346 *i P* **P** **01 09 24.0 0.0**

comp=Z,1.8nm,0.8s
comp=Z,600nm,22.0s
GAMB Gambell 63.70 30 *eP* **P** **01 09 25.6 -1.1**

comp=Z,32nm,1.5s
CDF Champ du Feu 63.75 312 *eP* **P** **01 09 26.8 -0.6**

comp=Z,39nm,1.4s
CDF Champ du Feu 63.75 312 *eP* **P** **01 09 26.8 -0.6**
CDF Champ du Feu 63.75 312 *eP* **P** **01 09 26.8 -0.6**
WLF Walferdange 64.02 314 P **P** **01 09 29.9 +1.0**

comp=Z,23nm,1.7s
WLF Walferdange 64.02 314 *eP* **P** **01 09 29.8 +0.9**

comp=Z,33nm,1.2s
WLF Walferdange 64.02 314 *eP* **P** **01 09 27.9 -1.1**
WLF pmax pmax

comp=Z,23nm,1.1s
WLF Walferdange 64.02 314 *eP* **P** **01 09 27.9 -1.1**

comp=Z,23nm,1.1s
HINF Hinteralfeld 64.22 312 *eP* **P** **01 09 29.7 -0.7**

comp=Z,17nm,0.9s
HINF Hinteralfeld 64.22 312 *eP* **P** **01 09 29.7 -0.7**
HINF Hinteralfeld 64.22 312 *eP* **P** **01 09 29.7 -0.7**
SENIN Lac Senin/Sane 64.46 310 *eP* **P** **01 09 31.2 -1.0**
HAU Haudompre 64.48 312 *eP* **P** **01 09 31.3 -0.7**
HAU *eR*

comp=Z,634nm,18.8s
HAU Haudompre 64.48 312 *eP* **P** **01 09 31.3 -0.7**
HAU Haudompre 64.48 312 *eP* **P** **01 09 31.3 -0.7**
TNA Tin City 64.57 27 *eP* **P** **01 09 31.0 -1.2**

comp=Z,21nm,1.4s
ALE Alert 64.59 356 P P 01 09 37.3 +5.1

comp=Z,77nm,0.5s,SNR=6.6
GIVF Givet 64.67 315 *eP* **P** **01 09 33.0 -0.2**
GIVF Givet 64.67 315 *eP* **P** **01 09 33.0 -0.2**
GIVF Givet 64.67 315 *eP* **P** **01 09 33.0 -0.2**
PAGF Fort de Pagny 64.67 313 *eP* **P** **01 09 33.2 -0.1**

comp=Z,34nm,1.7s
PAGF Fort de Pagny 64.67 313 *eP* **P** **01 09 33.2 -0.1**
PGF Pioggiola 64.71 306 *eP* **P** **01 09 32.9 -0.8**

comp=Z,16nm,0.9s
PGF Pioggiola 64.71 306 *eP* **P** **01 09 32.9 -0.8**
PGF Pioggiola 64.71 306 *eP* **P** **01 09 32.9 -0.8**
DOU Dourbes 64.81 315 P **P** **01 09 34.5 +0.4**

comp=Z,4.7nm,1.4s
BAIF Baives 65.05 315 *eP* **P** **01 09 35.6 -0.1**
BAIF Baives 65.05 315 *eP* **P** **01 09 35.6 -0.1**
BAIF Baives 65.05 315 *eP* **P** **01 09 35.6 -0.1**
MEZF Maizieres J'vi 65.11 313 *eP* **P** **01 09 35.8 -0.3**
MEZF Maizieres J'vi 65.11 313 *eP* **P** **01 09 35.8 -0.3**
LPG La Plagne 65.13 309 *eP* **P** **01 09 36.5 -0.1**

comp=Z,44nm,0.8s
LPG La Plagne 65.13 309 *eP* **P** **01 09 36.5 -0.1**
LPG La Plagne 65.13 309 *eP* **P** **01 09 36.5 -0.1**
LPL La Plagne 65.13 309 *eP* **P** **01 09 36.5 -0.1**

comp=Z,23nm,0.7s
LPL La Plagne 65.13 309 *eP* **P** **01 09 36.5 -0.1**
LPL La Plagne 65.13 309 *eP* **P** **01 09 36.5 -0.1**
CABF La Chapelle 65.15 311 *eP* **P** **01 09 35.7 -0.8**

comp=Z,14nm,0.9s
CABF La Chapelle 65.15 311 *eP* **P** **01 09 35.7 -0.8**
CABF La Chapelle 65.15 311 *eP* **P** **01 09 35.7 -0.8**
SFTF Sexfontaines 65.22 313 *eP* **P** **01 09 36.3 -0.6**
SFTF Sexfontaines 65.22 313 *eP* **P** **01 09 36.3 -0.6**
SBF Sospel 65.28 307 *eP* **P** **01 09 36.7 -0.7**

comp=Z,33nm,0.8s
SBF Sospel 65.28 307 *eP* **P** **01 09 36.7 -0.7**
SBF Sospel 65.28 307 *eP* **P** **01 09 36.7 -0.7**
BNI Bardonecchia 65.34 309 *eP* **P** **01 09 37.0 -0.8**
BNI pmax pmax

comp=Z,15nm,1.2s
BNI Bardonecchia 65.34 309 *eP* **P** **01 09 37.0 -0.8**

comp=Z,15nm,1.2s
MBDF Montbardon 65.40 309 *eP* **P** **01 09 36.9 -1.4**

comp=Z,28nm,0.9s
MBDF Montbardon 65.40 309 *eP* **P** **01 09 36.9 -1.4**
MBDF Montbardon 65.40 309 *eP* **P** **01 09 36.9 -1.4**
WRAB Tennant Creek 65.53 137 P **P** **01 09 39.9 +0.8**

comp=Z,175nm,0.8s,SNR=6.1
WRAB Tennant Creek 65.53 137 *ceP* **P** **01 09 39.7 +0.6**
WRAB pmax pmax

comp=Z,139nm,1.7s
WRAB Tennant Creek 65.53 137 *eP* **P** **01 09 38.7 -0.4**

comp=Z,29nm,0.9s
WRA Warramunga Arr 65.53 137 P **P** **01 09 38.9 -0.2**

comp=Z,18nm,0.8s,baz=332,slow=6.6,SNR=22
WRA PKP2bc 01 38 22.1

comp=Z,1.3nm,1.1s,baz=145,slow=1.7,SNR=4.3
ORIF Oris-en-Rattie 65.92 309 *eP* **P** **01 09 40.6 -0.9**

comp=Z,36nm,1.0s
ORIF *eR*

comp=Z,1μm,21.0s
ORIF Oris-en-Rattie 65.92 309 *eP* **P** **01 09 40.6 -0.9**
ORIF Oris-en-Rattie 65.92 309 *eP* **P** **01 09 40.6 -0.9**
FRF La Foret Royal 65.92 307 *eP* **P** **01 09 40.5 -1.0**

comp=Z,22nm,1.2s
FRF La Foret Royal 65.92 307 *eP* **P** **01 09 40.5 -1.0**
FRF La Foret Royal 65.92 307 *eP* **P** **01 09 40.5 -1.0**
LMR La Mourre 66.10 307 *eP* **P** **01 09 41.9 -0.7**

comp=Z,22nm,1.1s
LMR La Mourre 66.10 307 *eP* **P** **01 09 41.9 -0.7**
LMR La Mourre 66.10 307 *eP* **P** **01 09 41.9 -0.7**
LOR Lormes 66.31 312 *eP* **P** **01 09 42.8 -1.1**

comp=Z,15nm,1.0s
LOR *eR*

comp=Z,535nm,17.2s
LOR Lormes 66.31 312 *eP* **P** **01 09 42.8 -1.1**
LOR Lormes 66.31 312 *eP* **P** **01 09 42.8 -1.1**
SMRF Simiane la Rot 66.48 308 *eP* **P** **01 09 44.7 -0.4**

comp=Z,15nm,1.0s
SMRF Simiane la Rot 66.48 308 *eP* **P** **01 09 44.7 -0.4**
SMF Signal de Mont 66.57 311 *eP* **P** **01 09 44.8 -0.7**

comp=Z,43nm,1.3s

SMF	Signal de Mont	66.57	311	eP		P	01 09 44.8	-0.7
SMF	Signal de Mont	66.57	311	eP		P	01 09 44.8	-0.7
SSF	Saint Saulge	66.61	312	eP		P	01 09 45.2	-0.6
	comp=Z,31nm,1.2s							
SSF	Saint Saulge	66.61	312	eP		P	01 09 45.2	-0.6
SSF	Saint Saulge	66.61	312	eP		P	01 09 45.2	-0.6
VIVF	Saint-Julien-l	66.73	309	eP		P	01 09 46.0	-0.7
VIVF	Saint-Julien-l	66.73	309	eP		P	01 09 46.0	-0.7
VIVF	Saint-Julien-l	66.73	309	eP		P	01 09 46.0	-0.7
AVF	Avril sur Loir	66.82	312	eP		P	01 09 46.4	-0.7
	comp=Z,42nm,1.3s							
AVF	Avril sur Loir	66.82	312	eP		P	01 09 46.4	-0.7
AVF	Avril sur Loir	66.82	312	eP		P	01 09 46.4	-0.7
KEST	Kesra	67.12	299	P		P	01 09 49.4	0.0
	comp=Z,3.1nm,1.1s,baz=98,slow=19,SNR=4.5							
KEST				LR		LR	01 46 28.0	
	comp=Z,86nm,18.8s,baz=6.0,slow=42							
KEST	Kesra	67.12	299	eP		P	01 09 48.3	-1.1
BGF	Bois d'Agland	67.23	312	eP		P	01 09 49.1	-0.7
	comp=Z,9.7nm,0.7s							
BGF	Bois d'Agland	67.23	312	eP		P	01 09 49.1	-0.7
BGF	Bois d'Agland	67.23	312	eP		P	01 09 49.1	-0.7
ABPO	Ambohimpanom	67.27	227	eP		P	01 09 50.5	0.0
ABPO				pmax		pmax		
	comp=Z,21nm,1.3s							
ABPO	Ambohimpanom	67.27	227	eP		P	01 09 50.5	0.0
	comp=Z,21nm,1.3s							
LASF	Ste Croix	67.58	309	eP		P	01 09 51.7	-0.3
	comp=Z,30nm,1.0s							
LASF	Ste Croix	67.58	309	eP		P	01 09 51.7	-0.3
TCF	Toulx Ste Croi	67.74	311	eP		P	01 09 52.7	-0.3
	comp=Z,59nm,1.3s							
TCF	Toulx Ste Croi	67.74	311	eP		P	01 09 52.7	-0.3
TCF	Toulx Ste Croi	67.74	311	eP		P	01 09 52.7	-0.3
AS12	Alice Springs	68.23	140	eP		P	01 09 56.7	+0.4
ASAR	Alice Springs	68.23	140	P		P	01 09 56.7	+0.4
	comp=Z,9.6nm,0.7s,baz=327,slow=6.7,SNR=74							
ASAR				PKP2ab			01 38 16.2	
	comp=Z,0.4nm,0.7s,baz=145,slow=3.9,SNR=3.4							
ASAR				LR		LR	01 42 30.3	
	comp=Z,266nm,20.3s,baz=311,slow=38							
LDF	La Druitiere	68.23	314	eP		P	01 09 55.2	-0.8
	comp=Z,68nm,1.3s							
LDF	La Druitiere	68.23	314	eP		P	01 09 55.2	-0.8
LDF	La Druitiere	68.23	314	eP		P	01 09 55.2	-0.8
FLN	La Foliniere	68.38	315	eP		P	01 09 56.3	-0.6
FLN				eR				
	comp=Z,1µm,20.0s							
FLN	La Foliniere	68.38	315	eP		P	01 09 56.3	-0.6
FLN	La Foliniere	68.38	315	eP		P	01 09 56.3	-0.6
CAF	Calviac	68.40	310	eP		P	01 09 57.1	-0.1
	comp=Z,24nm,1.0s							
CAF	Calviac	68.40	310	eP		P	01 09 57.1	-0.1
CAF	Calviac	68.40	310	eP		P	01 09 57.1	-0.1
RJF	Les Rejaudoux	68.59	311	eP		P	01 09 58.4	0.0
RJF				eR				
	comp=Z,739nm,19.5s							
RJF	Les Rejaudoux	68.59	311	eP		P	01 09 58.4	0.0
RJF	Les Rejaudoux	68.59	311	eP		P	01 09 58.4	0.0
GRR	Gorron	68.77	314	eP		P	01 09 58.6	-0.7
	comp=Z,42nm,1.0s							
GRR	Gorron	68.77	314	eP		P	01 09 58.6	-0.7
GRR	Gorron	68.77	314	eP		P	01 09 58.6	-0.7
MTLF	Montolieu	68.96	309	eP		P	01 10 00.2	-0.5
MTLF	Montolieu	68.96	309	eP		P	01 10 00.2	-0.5
MTLF	Montolieu	68.96	309	eP		P	01 10 00.2	-0.5
MFF	Saint Martin d	69.09	313	eP		P	01 10 00.8	-0.6
MFF	Saint Martin d	69.09	313	eP		P	01 10 00.8	-0.6
MFF	Saint Martin d	69.09	313	eP		P	01 10 00.8	-0.6
LFF	La Frestale	69.24	311	eP		P	01 10 02.4	0.0
LFF	La Frestale	69.24	311	eP		P	01 10 02.4	0.0
LFF	La Frestale	69.24	311	eP		P	01 10 02.4	0.0
IM04	Indian Mountai	69.50	24	eP		P	01 10 02.2	-1.5
SGMF	Saint Gilles	69.84	315	eP		P	01 10 05.6	-0.4
SGMF	Saint Gilles	69.84	315	eP		P	01 10 05.6	-0.4
SGMF	Saint Gilles	69.84	315	eP		P	01 10 05.6	-0.4
COLD	Coldfoot	69.94	22	eP		P	01 10 06.0	-0.3
	comp=Z,9.6nm,1.0s							
SUMG	Summit	70.02	346	eP		P	01 10 05.3	-1.9
SUMG				pmax		pmax		
	comp=Z,196nm,2.9s							
SUMG	Summit	70.02	346	eP		P	01 10 05.3	-1.9
	comp=Z,196nm,2.9s							
SUMG	Summit	70.02	346	*i* P		P	01 10 07.3	+0.1
	comp=Z,7.4nm,1.0s							
ROSF	Rostrenen	70.23	315	eP		P	01 10 08.0	-0.4
	comp=Z,15nm,0.7s							
ROSF	Rostrenen	70.23	315	eP		P	01 10 08.0	-0.4
ROSF	Rostrenen	70.23	315	eP		P	01 10 08.0	-0.4
EPF	Esparros	70.33	309	eP		P	01 10 08.8	-0.4
	comp=Z,9.3nm,0.9s							
EPF	Esparros	70.33	309	eP		P	01 10 08.8	-0.4
EPF	Esparros	70.33	309	eP		P	01 10 08.8	-0.4
QUIF	Quistinic	70.36	315	eP		P	01 10 08.6	-0.6
	comp=Z,76nm,1.3s							
QUIF	Quistinic	70.36	315	eP		P	01 10 08.6	-0.6
QUIF	Quistinic	70.36	315	eP		P	01 10 08.6	-0.6
ETSF	Etsaut	70.98	309	eP		P	01 10 13.2	0.0
	comp=Z,14nm,0.6s							
ETSF	Etsaut	70.98	309	eP		P	01 10 13.2	0.0
ETSF	Etsaut	70.98	309	eP		P	01 10 13.2	0.0
FORT	Forrest	71.21	148	eP		P	01 10 14.6	+0.1
	comp=Z,24nm,0.9s							
SJPF	Ste Jean	71.32	310	eP		P	01 10 15.4	+0.2
	comp=Z,48nm,1.3s							
SJPF	Ste Jean	71.32	310	eP		P	01 10 15.4	+0.2
SJPF	Ste Jean	71.32	310	eP		P	01 10 15.4	+0.2
PPLA	Purkeypile	71.85	26	eP		P	01 10 17.7	-0.4
	comp=Z,89nm,1.6s							
KTH	Kantishna Hill	71.91	25	eP		P	01 10 19.4	+0.9
	comp=Z,18nm,1.1s							
ILAR	Eielson Array	72.53	23	P		P	01 10 21.7	-0.3
ILAR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ILAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
ILAR				MLR		MLR		
	comp=Z,397nm,19.2s							
ILAR	Eielson Array	72.53	23	P		P	01 10 21.7	-0.3
	comp=Z,3.1nm,1.0s,baz=304,slow=4.5,SNR=22							
ILAR				PP		PP	01 12 57.5	-5.5
	comp=Z,1.2nm,1.0s,baz=307,slow=6.7,SNR=4.9							
ILAR				LR		LR	01 45 54.7	
	comp=Z,396nm,19.2s,baz=309,slow=39							
ILB	Eielson Array	72.53	23	eP		P	01 10 21.7	-0.3
ILB				ePP		PP	01 12 57.5	-5.5
RES	Resolute Bay	72.98	2	eP		P	01 10 24.7	+0.2
RES				pmax		pmax		
	comp=Z,41nm,2.3s							
RES	Resolute Bay	72.98	2	LR		LR	01 42 57.9	
	comp=Z,540nm,20.5s,baz=312,slow=36							
RES	Resolute Bay	72.98	2	eP		P	01 10 24.6	+0.2
	comp=Z,41nm,2.3s							
CTA	Charters Tower	73.09	128	P		P	01 10 26.1	+0.2
CTA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
CTA	Charters Tower	73.09	128	P		P	01 10 26.1	+0.2
	comp=Z,2.0nm,0.6s,baz=349,slow=16							
PMR	Palmer	73.78	26	eP		P	01 10 28.2	-1.2
PMR	Palmer	73.78	26	eP		P	01 10 28.2	-1.2
EGAK	Eagle	74.34	21	eP		P	01 10 31.3	-1.3
	comp=Z,26nm,1.5s							
ESDC	Sonseca Array	74.77	307	P		P	01 10 35.6	0.0
	comp=Z,3.9nm,1.0s,baz=52,slow=6.9,SNR=13							
ESDC				LR		LR	01 46 47.3	
	comp=Z,245nm,18.5s,baz=5.0,slow=38							
DIV	Divide	75.31	25	eP		P	01 10 37.3	-1.1
	comp=Z,14nm,0.7s							
DAWY	Dawson	75.39	21	eP		P	01 10 37.5	-1.3
BMRM	Bremner River	75.84	25	eP		P	01 10 39.9	-1.5
	comp=Z,21nm,0.8s							
MVO	Moncorvo	76.04	310	eP		P	01 10 43.7	+0.7
	comp=Z,46nm,2.1s							
HNR	Honiara	76.28	111	LR		LR	01 42 23.5	
	comp=Z,283nm,21.6s,baz=315,slow=34							
PGAV	Gavieira, Arco	76.42	311	eP		P	01 10 47.4	+2.2
	comp=Z,82nm,1.8s							
SFJD	Kangerlussuaq	77.02	346	eP		P	01 10 47.5	-0.4
SFJD				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SFJD				MLR		MLR		
	comp=Z,420nm,22.0s							
SFJD	Kangerlussuaq	77.02	346	LR		LR	01 49 47.6	
	comp=Z,572nm,18.6s,baz=17,slow=40							
SFJD	Kangerlussuaq	77.02	346	*i* P		P	01 10 47.5	-0.4
	comp=Z,8.8nm,1.0s							
	comp=Z,420nm,22.0s							
PBAR	Barrancos	77.59	307	eP		P	01 10 52.0	+0.3
	comp=Z,91nm,1.8s							
LSZ	Lusaka	77.91	243	eP		P	01 10 52.7	-1.1
LSZ				pmax		pmax		
	comp=Z,71nm,2.0s							
LSZ	Lusaka	77.91	243	P		P	01 10 57.0	+3.2
	SNR=5.3							
LSZ	Lusaka	77.91	243	eP		P	01 10 52.7	-1.1
	comp=Z,71nm,2.0s							
EVO	Evora	78.06	308	eP		P	01 10 53.5	-0.8
	comp=Z,90nm,1.5s							
EVO				eR				
	comp=Z,444nm,19.5s							
EVO	Evora	78.06	308	eP		P	01 10 55.2	+0.9
	comp=Z,48nm,1.8s							
EVOP	Sao Brissos	78.13	308	eP		P	01 10 53.5	-1.2
EVOP	Sao Brissos	78.13	308	eP		P	01 10 53.5	-1.2
HYT	Haines Junctio	78.37	23	eP		P	01 10 55.4	-0.3
MESJ	Messejana	78.56	308	eP		P	01 10 58.0	+0.9
	comp=Z,82nm,1.9s							
STKA	Stephens Creek	78.87	139	P		P	01 10 58.7	+0.1
STKA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
STKA				MLR		MLR		
	comp=Z,166nm,19.0s							
STKA	Stephens Creek	78.87	139	P		P	01 10 58.7	+0.1
	comp=Z,4.9nm,0.8s,baz=338,slow=6.1,SNR=8.9							
STKA				LR		LR	01 50 43.3	
	comp=Z,166nm,19.0s,baz=307,slow=39							
STKA	Stephens Creek	78.87	139	eP		P	01 10 58.4	-0.2
	comp=Z,20nm,2.7s							
SKAG	Skagway	80.12	23	eP		P	01 11 03.9	-1.2
	comp=Z,28nm,0.9s							
DLBC	Dease Lake	82.61	21	LR		LR	01 52 23.8	
	comp=Z,702nm,18.4s,baz=324,slow=39							
DLBC	Dease Lake	82.61	21	eP		P	01 11 17.7	-0.7
YKA	Yellowknife Ar	82.82	12	P		P	01 11 18.4	-0.9
	comp=Z,1.3nm,0.9s,baz=338,slow=5.2,SNR=16							
YKA				PKKP		PKKPdf	01 29 30.7	-1.4
	comp=Z,0.2nm,0.9s,baz=150,slow=0.5,SNR=3.4							
YKB5	Yellowknife Ar	82.82	12	eP		P	01 11 18.4	-0.9
TOA0	Torodi Ar. Sit	84.00	282	eP		P	01 11 25.9	-0.4
TORD	Torodi Ar. Bea	84.00	282	P		P	01 11 25.9	-0.4
	comp=Z,28nm,0.7s,baz=49,slow=4.4,SNR=180							
TORD				LR		LR	01 53 33.5	
	comp=Z,333nm,18.1s,baz=60,slow=39							
LBTB	Lobatse	85.87	237	eP		P	01 11 34.3	-1.2
LBTB				pmax		pmax		
	comp=Z,25nm,1.0s							
LBTB	Lobatse	85.87	237	eP		P	01 11 34.3	-1.2
	comp=Z,25nm,1.0s							
SCHQ	Schefferville	91.30	348	LR		LR	01 57 46.0	
	comp=Z,320nm,19.0s,baz=26,slow=39							
FFC	Flin Flon	92.22	9	eP		P	01 12 03.5	-1.5
FFC				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FFC	Flin Flon	92.22	9	eP		P	01 12 03.5	-1.5
	comp=Z,4.8nm,0.8s							
DBIC	Dimbokro	92.90	280	eP		P	01 12 07.9	-1.0
DBIC				pmax		pmax		
	comp=Z,8.0nm,0.8s							
DBIC	Dimbokro	92.90	280	P		P	01 12 08.7	-0.2
	comp=Z,6.6nm,0.8s,baz=64,slow=4.9,SNR=8.1							
DBIC				LR		LR	01 57 03.7	
	comp=Z,422nm,20.4s,baz=38,slow=38							
DBIC	Dimbokro	92.90	280	eP		P	01 12 07.9	-1.0
	comp=Z,8.1nm,0.8s							
KIC	Kosan Boka	92.97	279	eP		P	01 12 07.8	-1.4
	comp=Z,23nm,1.0s							
TIC	Toumodi	93.05	280	eP		P	01 12 09.0	-0.6
	comp=Z,4.2nm,0.2s							
LIC	Lamto	93.28	279	eP		P	01 12 09.2	-1.5
	comp=Z,23nm,1.1s							
LIC				eR				
	comp=Z,669nm,22.2s							
LIC	Lamto	93.28	279	eP		P	01 12 10.1	-0.6
	comp=Z,27nm,1.1s							
LIC	Lamto	93.28	279	eP		P	01 12 09.2	-1.5
ULM	Lac du Bonnet	97.27	6	LR		LR	01 58 00.8	
	comp=Z,258nm,20.2s,baz=10.0,slow=36							
LTX	Lajitas	116.56	16	ePKIKP		PKPdf	01 17 39.8	-0.1
LTX	Lajitas	116.56	16	ePKPdf		PKPdf	01 17 39.8	-0.1
TXAR	Lajitas Array	116.56	16	PKIKP		PKPdf	01 17 39.8	-0.1
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TXAR	Lajitas Array	116.56	16	PKP		PKPdf	01 17 39.8	-0.1
	comp=Z,0.7nm,0.7s,baz=242,slow=1.9,SNR=4.3							
VNDA	Vanda	117.12	167	PKIKP		PKPdf	01 17 38.4	-0.8
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
VNDA	Vanda	117.12	167	PKP		PKPdf	01 17 38.4	-0.8
	comp=Z,1.4nm,0.8s,baz=252,slow=3.2,SNR=2.3							
VNA2	Neumayer--Watz	123.64	203	PKiKP		PKiKP	01 17 53.0	+0.9
	baz=344,slow=4.8							
VNA1	Neumayer--Stat	123.92	203	PKiKP		PKPdf	01 17 52.4	+0.1
VNA3	Neumayer Olymp	124.39	203	PKiKP		PKPdf	01 17 52.1	-1.2
OTAV	Otavalo	146.43	344	ePKPdf		PKPdf	01 18 36.0	-0.4
SAML	Samuel	147.72	311	ePKPdf		PKPdf	01 18 36.9	-1.0
LPAZ	La Paz	156.38	309	PKP		PKPdf	01 18 49.9	-1.6
	comp=Z,2.9nm,0.8s,baz=344,slow=1.7,SNR=6.2							
LPAZ				PKPab		PKPab	01 19 18.9	-1.0
	comp=Z,1.6nm,0.7s,baz=38,slow=8.8,SNR=4.1							

*ISCJB **17** 01:10:13.4±0.6,32.°40N±0.°06×92.°6E±0.°1,h10km, mb3.6/4, Error ellipse: s-maj=13.8km s-min=6.7km az=23.5*
*IDC **17** 01:10:14.0±1.1,32.°43N×92.°74E,h0km,mb3.6/4, mb1 3.6/6,mb1mx3.3/58,mbtmp3.5/6,ML3.2/2,Error ellipse: s-maj=45.1km s-min=22.8km az=56.0*
*BJI **17** 01:10:18.0,32.°45N×92.°88E,h10km, ML3.4/4*
ISC 17 01:10:16.4±0.8,32.°46N±0.°07×92.°6E±0.°1,h10km,n10, σ1§46/10,mb3.8/4,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
LSA	Lhasa	3.01	204	Pg		Pb	01 11 10.5	+0.1	
LSA				Sg		Sg	01 11 52.9	-0.2	
LSA				SME					
	140nm,1.1s								
GTA	Gaotai	9.09	38	eP		Pn	01 12 28.0	+0.2	
GTA				pP			01 12 31.8		
GTA				sP			01 12 34.4		
CD2	Chengdu	9.66	96	eP		Pn	01 12 36.0	+0.4	
MKAR	Makanchi Array	16.34	334	Pn		Pn	01 14 05.5	-0.4	
	0.1nm,0.3s,baz=141,slow=13,SNR=5.1								
SONM	Cerro Negro Array	18.60	30	P		P	01 14 31.4	-2.5	
	0.1nm,0.3s,baz=208,slow=12,SNR=4.6								
KURBB	Kurchatov Arra	20.91	334	P		P	01 14 59.0	+0.2	
	0.6nm,0.7s,baz=140,slow=12,SNR=9.2								
ZALV	Zalesovo Beam	22.18	348	P		P	01 15 15.4	+2.8	
	0.5nm,0.4s,baz=160,slow=9.3,SNR=5.1								
WRA	Warramunga Arr	65.67	137	P		P	01 21 01.2	+0.1	
	0.4nm,0.7s,baz=322,slow=8.0,SNR=6.7								
ASAR	Alice Springs	68.36	139	P		P	01 21 15.4	-2.8	
	0.5nm,0.6s,baz=330,slow=6.4,SNR=3.2								
TORD	Torodi Ar. Bea	83.79	282	P		P	01 22 46.1	-0.3	
	0.8nm,0.7s,baz=47,slow=4.3,SNR=15								

*IDC **17** 01:20:05.5±0.7,25.°33N×66.°38E,h30km±3km, mb3.8/21, mb1 3.9/23,mb1mx3.7/50,mbtmp3.9/23,ML3.9/2,MS4.0/1, Ms1 4.0/1,ms1mx3.1/42,Error ellipse: s-maj=16.7km s-min=12.4km az=7.0*
*NEIC **17** 01:20:05.6±0.4,25.°37N×66.°49E,mb4.4/11,Error ellipse: s-maj=8.6km s-min=7.7km az=173.0*
*MOS **17** 01:20:05.4±1.4,25.°44N×66.°58E,h40km,mb4.3/27,Error ellipse: s-maj=10.8km s-min=6.2km az=89.7*
*OMAN **17** 01:21:41.3,23.°05N×59.°06E,h6km*
ISC 17 01:20:05.5±0.6,25.°39N±0.°07×66.°53E±0.°05,h31km±3km, h31km:pP-P,n114,σ1§24/132,mb4.1/38,2C-2D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	ISC	Res
WBK	Wadi Bani Khal	7.45	250	P		Pn	01 21 50.0	-2.1	
	SNR=37								
SMDO	Samad	8.09	255	P		Pn	01 21 59.1	-1.8	
	SNR=7.5								
JMDO	Jabal Madar	8.28	250	P		Pn	01 22 02.7	-0.8	
	SNR=20								
THW	Thamme Wali	8.67	31	P		Pn	01 22 09.0	+0.2	
BANOM	Banah	9.25	275	⇑*i*P		Pn	01 22 14.4	-2.4	
	SNR=28								
KBL	Kabul	9.37	13	eP		Pn	01 22 19.5	+0.8	
KBL				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KBL	Kabul	9.37	13	eP	n	Pn	01 22 19.4	+0.8	
	comp=Z,8.7nm,0.7s								
HATD	Hatta, Dubai	9.44	269	⇑*i*P		Pn	01 22 19.3	-0.2	
	SNR=9.9								
ASHO	Ashiyiah	9.53	268	⇓*i*P		Pn	01 22 21.3	+0.6	
	SNR=24								
CEP	Cherat	9.61	28	P		Pn	01 22 22.3	+0.4	
FAQ	Al Faqa, Dubai	9.94	269	*i* P		Pn	01 22 26.5	+0.2	
	SNR=26								
NDI	New Delhi	10.07	69	*ex*		Pn	01 22 27.0	-1.1	
NDI				*ex*		Sn	01 24 12.0	-8.0	
CHCP	Chirah Chowk	10.11	34	P		Pn	01 22 28.9	+0.3	
ASUD	Al Ashush, Dub	10.19	268	⇓*i*P		Pn	01 22 29.8	+0.1	
	SNR=21								
DHRM	DHARAMSHALA	10.95	49	eP		Pn	01 22 41.5	+1.2	
DHRM				e*S*		Sn	01 24 37.4	-4.5	
DHRM				AML		AML	01 24 42.9		
	comp=N,216nm,0.6s								
DHRM				AML		AML	01 24 43.2		
	comp=E,259nm,0.8s								
SMLA	Simla	10.97	56	*i* x		Pn	01 22 41.2	+0.8	
SMLA				*i* x		Sn	01 24 35.9	-6.2	
SMLA				AML		AML	01 24 43.5		
	comp=E,83nm,0.4s								
SMLA				AML		AML	01 24 44.7		
	comp=N,75nm,0.4s								
GEYT	Alibeck	14.40	332	Pn		Pn	01 23 27.1	-0.1	
	comp=N,0.3nm,0.3s,baz=225,slow=3.9,SNR=2.7								
PYUN	Piuthan	14.95	76	eP		Pn	01 23 34.1	-0.8	
	comp=N,93nm,0.5s								
PYUN				e*S*		Sn	01 26 10.0	-10	
KOLN	Koldanda	15.45	77	eP		Pn	01 23 40.3	-1.2	
	comp=N,52nm,0.6s								
DANN	Dangsing	15.65	75	eP		Pn	01 23 43.8	-0.4	
	comp=N,67nm,0.8s								
SFK	Sufi-Kurgan	15.71	20	P		Pn	01 23 42.3	-2.4	
SFK				pmax		pmax			
	comp=Z,8.0nm,0.7s								
GKN	Gorkha	16.39	77	eP		Pn	01 23 52.1	-1.4	
	comp=Z,18nm,0.4s								
DMN	Daman	16.77	78	eP		Pn	01 23 56.6	-1.9	
	comp=Z,18nm,0.5s								
KKN	Kakani	16.94	78	eP		Pn	01 23 58.7	-1.8	
	comp=Z,22nm,0.7s								
PKIN	Phulchoki	17.03	79	eP		Pn	01 23 59.9	-1.8	
	comp=Z,24nm,0.5s								
GUN	Gumba	17.48	77	eP		Pn	01 24 05.4	-1.9	
	comp=Z,75nm,0.9s								
JIRN	Jiri	17.74	78	eP		Pn	01 24 08.5	-2.1	
	comp=Z,36nm,0.5s								
KK31	Karatay Array	17.96	9	*i* P		Pn	01 24 11.2	-1.7	
KK31				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KKAR	Karatay Array	17.96	9	eP		Pn	01 24 11.9	-1.0	
KKAR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KKAR	Karatay Array	17.96	9	ePn		Pn	01 24 11.9	-1.0	
	comp=Z,8.0nm,0.8s								
RAMN	Ramite	18.08	81	eP		Pn	01 24 12.9	-1.8	
	comp=Z,28nm,0.5s								
EKS2	Erkin-Say	18.23	17	eP		P	01 24 17.4	+1.2	
EKS2				pmax		pmax			
	comp=Z,11nm,1.0s								
EKS2	Erkin-Say	18.23	17	eP		P	01 24 17.4	+1.2	
	comp=Z,11nm,1.0s								
AAK	Ala-Archa	18.40	19	P		P	01 24 17.9	-0.3	
AAK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
AAK	Ala-Archa	18.40	19	P		P	01 24 17.9	-0.3	
	comp=Z,0.7nm,0.3s,baz=197,slow=5.6,SNR=16								
AAK	Ala-Archa	18.40	19	eP		P	01 24 17.3	-1.0	
	comp=Z,4.9nm,0.6s								
ODAN	Odare	18.79	81	eP		P	01 24 21.4	-1.2	
	comp=Z,43nm,0.8s								
TKM2	Tokmak 2	19.00	21	eP		P	01 24 24.6	-0.2	
TKM2				pmax		pmax			
	comp=Z,5.0nm,0.7s								
TKM2	Tokmak 2	19.00	21	eP		P	01 24 24.6	-0.2	
	comp=Z,5.2nm,0.7s								
TAPN	Taplejung	19.07	79	eP		P	01 24 25.6	-0.3	
	comp=Z,8.7nm,0.4s								
RAYN	Ar Rayn	19.23	269	eP		P	01 24 25.5	-1.9	
	comp=Z,3.4nm,0.7s								
OTUK	Ortayu	23.26	10	P		P	01 25 10.8	+0.5	
OTUK				pmax		pmax			
	comp=Z,22nm,0.9s								
GNI	Garni	23.41	314	eP		P	01 25 13.4	+1.3	
GNI				pmax		pmax			
	comp=Z,4.0nm,1.0s								
GNI	Garni	23.41	314	eP		P	01 25 10.6	-1.5	
	comp=Z,4.5nm,0.8s								
AB31	Akbulak array	24.37	350	eP		P	01 25 21.0	+0.3	
ABKAR	Akbulak array	24.37	350	eP		P	01 25 21.2	+0.5	
	comp=Z,3.7nm,0.8s								
MK31	Makanchi Array	24.77	26	eP		P	01 25 25.6	+1.1	
MK31	Makanchi Array	24.77	26	eP		P	01 25 25.6	+1.1	
MKAR	Makanchi Array	24.77	26	P		P	01 25 25.6	+1.1	
MKAR				pmax		pmax			
	com

AKASG					pmax	pmax			
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**38.13**	**321**	P		**P**	**01 27 22.8**	**+1.2**	
	comp=Z,0.6nm,0.4s,baz=119,slow=6.7,SNR=5.4								
AKASG					pP	**pP**	**01 27 30.8**	**-0.1**	
	comp=Z,1.0nm,0.5s,baz=106,slow=7.9,SNR=3.1								
MLR	**Muntele Rosu**	**38.16**	**312**	P		**P**	**01 27 24.3**	**+2.2**	
	comp=Z,0.3nm,0.5s,baz=174,slow=9.2,SNR=4.2								
KULM	**Kulim**	**38.30**	**116**	*eP*		**P**	**01 27 23.3**	**-0.2**	
	comp=Z,5.6nm,0.8s								
PSI	**Prapat**	**38.41**	**121**	LR		LR	01 45 13.8		
	comp=Z,214nm,18.2s,baz=28,slow=39								
SONM	**Songino Array**	**38.47**	**44**	P		**P**	**01 27 26.9**	**+2.1**	
SONM				*PP		**pP**	**01 27 36.3**	**+2.3**	
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SONM					pmax	pmax			
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**38.47**	**44**	P		**P**	**01 27 26.9**	**+2.1**	
	comp=Z,0.8nm,0.7s,baz=241,slow=8.5,SNR=11								
SONM					pP	**pP**	**01 27 36.3**	**+2.3**	
	comp=Z,2.2nm,0.9s,baz=247,slow=7.7,SNR=12								
BUR08	**Bucovina Ar. S**	**39.33**	**315**	*eP*		**P**	**01 27 32.3**	**+0.3**	
PSZ	**Piszkesteto**	**42.83**	**314**	*eP*		**P**	**01 28 01.0**	**+0.3**	
PSZ					pmax	pmax			
	comp=Z,17nm,1.5s								
PSZ	**Piszkesteto**	**42.83**	**314**	*eP*		**P**	**01 28 01.0**	**+0.3**	
	comp=Z,17nm,1.5s								
FINES	**FINESS Array B**	**45.19**	**334**	P		**P**	**01 28 18.9**	**-0.4**	
FINES				*PP		**pP**	**01 28 27.9**	**-0.8**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
FINES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**45.19**	**334**	P		**P**	**01 28 18.9**	**-0.4**	
	comp=Z,1.6nm,0.7s,baz=119,slow=8.4,SNR=7.0								
FINES					pP	**pP**	**01 28 27.9**	**-0.8**	
	comp=Z,2.5nm,0.7s,baz=138,slow=8.9,SNR=4.9								
GERES	**GERESS Array B**	**47.06**	**314**	P		**P**	**01 28 34.5**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=160,slow=4.3,SNR=3.5								
HFS	**Hagfors**	**50.01**	**329**	P		**P**	**01 28 56.5**	**-0.2**	
HFS				*PP		**pP**	**01 29 05.4**	**-0.8**	
HFS					pmax	pmax			
	comp=Z,3.0nm,0.9s								
HFS					pmax	pmax			
	comp=Z,2.0nm,0.7s								
HFS	**Hagfors**	**50.01**	**329**	P		**P**	**01 28 56.5**	**-0.2**	
	comp=Z,2.5nm,0.8s,baz=105,slow=15,SNR=4.5								
HFS					pP	**pP**	**01 29 05.4**	**-0.8**	
	comp=Z,2.4nm,0.7s,baz=106,slow=9.4,SNR=3.2								
ARCES	**ARCESS Array B**	**50.27**	**343**	P		**P**	**01 28 57.9**	**-0.7**	
ARCES				*PP		**pP**	**01 29 07.4**	**-0.6**	
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
ARCES					pmax	pmax			
	comp=Z,4.0nm,0.7s								
ARCES	**ARCESS Array B**	**50.27**	**343**	P		**P**	**01 28 57.9**	**-0.7**	
	comp=Z,3.2nm,0.9s,baz=148,slow=7.1,SNR=6.1								
ARCES					pP	**pP**	**01 29 07.4**	**-0.6**	
	comp=Z,3.5nm,0.7s,baz=124,slow=7.4,SNR=3.1								
NB2	**NORSAR Subarra**	**51.46**	**329**	P		**P**	**01 29 07.6**	**-0.2**	
	comp=Z,2.0nm,0.7s,baz=104,slow=7.4								
NOA	**NORSAR Array B**	**51.46**	**329**	P		**P**	**01 29 07.5**	**-0.2**	
NOA				*PP		**pP**	**01 29 16.2**	**-1.0**	
NOA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**	**51.46**	**329**	P		**P**	**01 29 07.5**	**-0.2**	
	comp=Z,1.6nm,0.9s,baz=107,slow=7.4,SNR=2.9								
NOA					pP	**pP**	**01 29 16.2**	**-1.0**	
	comp=Z,1.3nm,0.7s,baz=108,slow=7.1,SNR=3.1								
KSAR	**Wonju Array Be**	**52.89**	**61**	P		**P**	**01 29 19.4**	**+0.8**	
KSAR				*PP		**pP**	**01 29 28.7**	**+0.5**	
KSAR	**Wonju Array Be**	**52.89**	**61**	P		**P**	**01 29 19.4**	**+0.8**	
KSAR					pP	**pP**	**01 29 28.6**	**+0.5**	
KSRS	**Korea Array**	**52.92**	**61**	P		**P**	**01 29 19.4**	**+0.6**	
KSRS				*PP		**pP**	**01 29 28.7**	**+0.3**	
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.7s								
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**52.92**	**61**	P		**P**	**01 29 19.4**	**+0.6**	
	comp=Z,1.7nm,0.7s,baz=272,slow=7.4,SNR=7.9								
KSRS					pP	**pP**	**01 29 28.6**	**+0.3**	
	comp=Z,1.0nm,0.3s,baz=272,slow=7.7,SNR=2.9								
TAM	**Tamanrasset**	**55.33**	**281**	*eP*		**P**	**01 29 37.3**	**+0.4**	
TAM					pmax	pmax			
	comp=Z,7.0nm,1.3s								
TAM	**Tamanrasset**	**55.33**	**281**	*eP*		**P**	**01 29 37.3**	**+0.4**	
	comp=Z,7.1nm,1.3s								
EKA	**Eskdalemuir Ar**	**58.04**	**321**	P		**P**	**01 29 54.7**	**-0.7**	
EKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
EKA	**Eskdalemuir Ar**	**58.04**	**321**	P		**P**	**01 29 54.7**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=128,slow=8.1,SNR=2.7								
ESDC	**Sonseca Array**	**59.72**	**303**	P		**P**	**01 30 06.4**	**-1.0**	
	comp=Z,0.7nm,0.8s,baz=64,slow=5.9,SNR=6.1								
TOA0	**Torodi Ar. Sit**	**61.90**	**272**	*eP*		**P**	**01 30 21.8**	**-0.8**	
TORD	**Torodi Ar. Bea**	**61.90**	**272**	P		**P**	**01 30 22.3**	**-0.2**	
	comp=Z,1.8nm,0.7s,baz=70,slow=5.7,SNR=24								
TORD					pP	**pP**	**01 30 31.4**	**-0.8**	
	comp=Z,2.3nm,0.8s,baz=66,slow=5.8,SNR=10								
LBTB	**Lobatse**	**63.86**	**221**	*eP*		**P**	**01 30 36.0**	**+0.6**	
LBTB					pmax	pmax			
	comp=Z,2.0nm,0.6s								
LBTB	**Lobatse**	**63.86**	**221**	*eP*		**P**	**01 30 36.0**	**+0.6**	
	comp=Z,2.2nm,0.6s								
TSUM	**Tsumeb**	**65.04**	**232**	*eP*		**P**	**01 30 44.2**	**+0.9**	
	comp=Z,2.5nm,0.7s								
DBIC	**Dimbokro**	**70.37**	**268**	*eP*		**P**	**01 31 16.2**	**-0.7**	
DBIC					pmax	pmax			
	comp=Z,3.0nm,0.8s								
DBIC	**Dimbokro**	**70.37**	**268**	P		**P**	**01 31 15.2**	**-1.7**	
	comp=Z,2.1nm,0.8s,baz=34,slow=7.3,SNR=3.6								
DBIC	**Dimbokro**	**70.37**	**268**	*eP*		**P**	**01 31 16.2**	**-0.7**	
	comp=Z,3.0nm,0.8s								
WRA	**Warramunga Arr**	**79.81**	**118**	P		**P**	**01 32 12.0**	**+0.7**	
WRA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**79.81**	**118**	P		**P**	**01 32 12.0**	**+0.7**	
	comp=Z,1.3nm,0.7s,baz=314,slow=4.7,SNR=9.4								
WRAB	**Tennant Creek**	**79.82**	**118**	*eP*		**P**	**01 32 10.4**	**-0.9**	
WRAB					pmax	pmax			
	comp=Z,4.0nm,0.9s								
WRAB	**Tennant Creek**	**79.82**	**118**	*eP*		**P**	**01 32 10.4**	**-0.9**	
	comp=Z,4.3nm,0.9s								
ASAR	**Alice Springs**	**81.44**	**121**	P		**P**	**01 32 20.5**	**+0.5**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**81.44**	**121**	P		**P**	**01 32 20.4**	**+0.5**	
	comp=Z,1.1nm,0.8s,baz=300,slow=5.5,SNR=7.0								
YKA	**Yellowknife Ar**	**92.42**	**1**	P		**P**	**01 33 13.5**	**+0.6**	
	comp=Z,0.1nm,0.5s,baz=353,slow=4.8,SNR=6.1								
YKA					pP	**pP**	**01 33 22.8**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=350,slow=4.5,SNR=6.9								

*ISCJB **17** 01:23:09.1±1.4,33.88S±0.04×72.57W±0.05,h20km±10km, mb4.1/8, Error ellipse: s-maj=7.6km s-min=6.4km az=180.0*

*IDC **17** 01:23:09.2±1.1,33.90S×72.39W,h0km,mb3.8/2, mb1 4.0/4,mb1mx3.7/27,mbtmp3.7/4,ML3.6/3,MS3.4/1, Ms1 3.5/1,ms1mx3.0/24,Error ellipse: s-maj=39.1km s-min=22.4km az=87.0*

*GUC **17** 01:23:10.8±0.6,33.94S×72.33W,h22km±4km,ML4.0*

*NEIC **17** 01:23:12.3±2.8,33.86S×72.24W,h24km±19km,mb4.3/7, Error ellipse: s-maj=20.7km s-min=8.5km az=85.0*

ISC 17 01:23:08.2±1.9,33.92S±0.04×72.44W±0.06,h3km±11km, n41,σ1§06/51,mb4.2/8,7C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.85**	**93**	⇓*iP*		**Pb**	**01 23 26.1**	**+0.4**
LNV				*i* S		**Sb**	**01 23 36.9**	**-0.6**
IHA	**Instituto Hidr**	**1.11**	**37**	⇑*iP*		**Pn**	**01 23 31.1**	**+0.4**
TACH	**Talagante**	**1.28**	**78**	⇑*iP*		**Pg**	**01 23 32.6**	**-0.1**
TACH				*i* S		**Sb**	**01 23 50.0**	**+0.2**
NICH	**Los Niches**	**1.47**	**138**	*eP*		**Pb**	**01 23 36.0**	**-0.3**
NICH				*i* S		**Sn**	**01 23 55.7**	**+0.3**
CHCH	**Chadas Angostu**	**1.48**	**91**	⇑*iP*		**Pn**	**01 23 36.0**	**+0.1**
CACH	**El Canelo**	**1.54**	**98**	⇑*iP*		**Pg**	**01 23 37.5**	**-0.2**
CACH				*i* S		**Sg**	**01 23 58.4**	**+0.7**
SAN	**Santiago**	**1.55**	**73**	⇑*iP*		**Pb**	**01 23 37.8**	**+0.1**
SAN				*i* S		**Sb**	**01 23 57.8**	**+0.1**
TALC	**Talca**	**1.62**	**156**	*eP*		**Pb**	**01 23 38.7**	**0.0**
TALC				*i* S		**Sg**	**01 23 59.9**	**-0.4**
PCH	**Pirque**	**1.63**	**80**	⇑*iP*		**Pb**	**01 23 38.6**	**-0.4**
PCH				*i* S		**Sb**	**01 24 00.1**	**+0.1**
PEL	**Peldehue**	**1.66**	**63**	⇑*iP*		**Pb**	**01 23 39.4**	**-0.1**
PEL				*i* S		**Sg**	**01 24 01.2**	**-0.2**
PEL					AML	AML	01 24 09.3	
	comp=N,5μm,0.5s							
CLCH	**Cerro Calan**	**1.67**	**72**	⇓*iP*		**Pb**	**01 23 39.2**	**-0.4**
CLCH				*i* S		**Sg**	**01 24 01.5**	**-0.3**
CLCH					AML	AML	01 24 06.5	
	comp=E,2μm,0.4s							
CLCH					AML	AML	01 24 07.0	
	comp=E,3μm,0.4s							
YECH	**El Yeso**	**1.98**	**83**	*eP*		**Pn**	**01 23 43.7**	**+0.8**
YECH				*i* S		**Sb**	**01 24 09.5**	**-0.7**
LNCH	**Linares**	**2.04**	**161**	*eP*		**Pb**	**01 23 45.7**	**-0.3**
CFAA	**Coronel Fontan**	**4.22**	**58**	Pn		**Pn**	**01 24 15.9**	**+2.3**
	comp=E,0.4nm,0.3s,baz=242,slow=11,SNR=12							
CFAA					Lg	Lg	01 25 18.6	
	comp=E,0.6nm,0.3s,baz=107,slow=16,SNR=3.6							
LCO	**Las Campanas**	**5.11**	**17**	*ePn*		**Pn**	**01 24 26.4**	**+0.4**
	comp=E,13nm,0.6s							
LCO					eLg	Lg	01 25 45.7	
PLCA	**Paso Flores**	**6.96**	**168**	Pn		**Pn**	**01 24 53.4**	**+2.1**
	comp=E,0.8nm,0.3s,baz=339,slow=10.0,SNR=23							
PLCA					Lg	Lg	01 26 51.4	
	comp=E,0.1nm,0.3s,baz=279,slow=5.5,SNR=3.8							
LPAZ	**La Paz**	**17.98**	**14**	P		**Pn**	**01 27 19.0**	**-0.9**
	comp=E,0.1nm,0.3s,baz=176,slow=6.4,SNR=4.8							
LPAZ					LR	LR	01 33 53.8	
	comp=E,104nm,18.9s,baz=88,slow=36							
LPAZ	**La Paz**	**17.98**	**14**	*ePn*		**Pn**	**01 27 20.4**	**+0.5**
	comp=E,5.1nm,1.3s							
SAML	**Samuel**	**26.27**	**21**	*eP*		**P**	**01 28 45.5**	**+0.5**
	comp=E,2.0nm,1.0s							
OTAV	**Otavalo**	**34.44**	**349**	*eP*		**P**	**01 29 57.6**	**-0.1**
	comp=E,2.3nm,0.9s							
CBYP	**Canovanas**	**52.28**	**8**	*eP*		**P**	**01 32 20.3**	**-0.7**
SDDR	**Presa de Saban**	**52.62**	**1**	*eP*		**P**	**01 32 21.7**	**-1.9**
GTBY	**Guantanamo Bay**	**53.61**	**357**	*eP*		**P**	**01 32 31.0**	**+0.2**
QSPA	**South Pole Qui**	**56.32**	**180**	*eP*		**P**	**01 32 50.6**	**+0.5**
	comp=E,16nm,1.7s							
ASCN	**Ascension**	**59.22**	**78**	*eP*		**P**	**01 33 09.7**	**-1.4**
TXAR	**Lajitas Array**	**69.50**	**331**	P		**P**	**01 34 20.6**	**+2.4**
	comp=E,0.4nm,0.6s,baz=158,slow=10,SNR=4.3							
WVT	**Waverly**	**71.16**	**347**	*eP*		**P**	**01 34 28.4**	**+0.3**
	comp=E,2.5nm,0.7s							
TSUM	**Tsumeb**	**79.56**	**106**	*eP*		**P**	**01 35 15.7**	**-1.5**
	comp=E,3.7nm,0.9s							
LBTB	**Lobatse**	**82.64**	**115**	*eP*		**P**	**01 35 33.5**	**+0.1**
	comp=E,3.6nm,1.0s							
TOA0	**Torodi Ar. Sit**	**84.50**	**70**	*eP*		**P**	**01 35 43.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P		**P**	**01 35 43.6**	**+0.7**
	comp=E,0.9nm,0.7s,baz=253,slow=4.1,SNR=14							
WRA	**Warramunga Arr**	**120.67**	**210**	PKP		**PKPdf**	**01 42 02.8**	**+0.6**
	comp=E,0.2nm,0.6s,baz=166,slow=1.5,SNR=2.5							
BR131	**Keskin Array S**	**122.08**	**61**	*e*PKPdf		**PKPdf**	**01 42 04.0**	**-0.3**
ABKAR	**Akbulak array**	**141.89**	**52**	*e*PKPdf		**PKPdf**	**01 42 36.9**	**-4.2**
PALK	**Pallekele**	**143.69**	**131**	*e*PKPdf		**PKPdf**	**01 42 45.8**	**+0.4**
KKAR	**Karatay Array**	**149.80**	**61**	*e*PKPbc		**PKPbc**	**01 42 59.5**	**-0.1**
KURK	**Kurchatov**	**153.05**	**43**	*e*PKPbc		**PKPbc**	**01 43 07.2**	**+0.5**
TKM2	**Tokmak 2**	**153.52**	**61**	*e*PKPbc		**PKPbc**	**01 43 07.3**	**-1.0**
ZAA0	**Zalesovo Array**	**154.33**	**32**	*e*PKPbc		**PKPbc**	**01 43 10.1**	**+0.7**
ZALV	**Zalesovo Beam**	**154.33**	**32**	PKPbc		**PKPbc**	**01 43 10.9**	**+1.5**
	comp=E,1.1nm,0.5s,baz=310,slow=4.0,SNR=7.5							
MKAR	**Makanchi Array**	**156.96**	**49**	PKPab		**PKPab**	**01 43 36.1**	**+1.0**
	comp=E,0.4nm,0.6s,baz=294,slow=4.7,SNR=5.7							

*IDC **17** 01:23:25.8±7.3,17.54S×178.45W,h512km±84km, mb3.4/9, mb1 3.7/9,mb1mx3.3/31,mbtmp4.3/9,Error ellipse: s-maj=52.7km s-min=27.1km az=164.0*

*ISCJB **17** 01:23:27.6±0.9,17.7S±0.3×178.5W±0.2,h547km,mb3.8/9, Error ellipse: s-maj=38.2km s-min=13.5km az=151.4*

ISC 17 01:23:28.6±1.2,17.6S±0.3×178.5W±0.2,h547km,n19, σ0§51/19,mb3.7/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMSA	**Cobar Meteorol**	**35.24**	**240**	P		**P**	**01 29 37.5**	**0.0**
	baz=31,SNR=6.2							
QLP	**Quilpie**	**35.58**	**249**	P		**P**	**01 29 40.1**	**-0.4**
	baz=31,SNR=6.5							
COEN	**Coen**	**37.05**	**270**	P		**P**	**01 29 53.2**	**+0.5**
	baz=32,SNR=3.7							
STKA	**Stephens Creek**	**38.72**	**241**	P		**P**	**01 30 06.3**	**+0.2**
	3.2nm,0.5s,baz=89,slow=8.1,SNR=11							
STKA	**Stephens Creek**	**38.72**	**241**	P		**P**	**01 30 06.5**	**+0.3**
	baz=34,SNR=8.3							
JAY	**Jayapura**	**42.78**	**286**	P		**P**	**01 30 39.0**	**+0.3**
	7.2nm,0.4s,baz=160,slow=7.1,SNR=4.4							
BBOO	**Buckleboo**	**43.49**	**241**	P		**P**	**01 30 43.8**	**-0.1**
	baz=39,SNR=8.2							
WRA	**Warramunga Arr**	**44.63**	**259**	P		**P**	**01 30 52.2**	**-0.8**
	1.5nm,0.5s,baz=96,slow=7.0,SNR=48							
ASAR	**Alice Springs**	**44.81**	**254**	P		**P**	**01 30 54.0**	**-0.3**
	19nm,0.6s,baz=89,slow=8.1,SNR=240							
KDU	**Kakadu**	**47.51**	**269**	P		**P**	**01 31 14.6**	**-0.2**
	baz=42,SNR=4.1							
WRKA	**Warakurna**	**49.88**	**252**	P		**P**	**01 31 32.1**	**-0.2**
	baz=45,SNR=11							
KNRA	**Kununurra**	**50.46**	**264**	P		**P**	**01 31 36.4**	**-0.2**
	baz=45,SNR=5.0							
NVAR	**Mina Array Bea**	**79.26**	**44**	P		**P**	**01 34 37.2**	**-0.6**
	0.5nm,0.5s,baz=227,slow=7.7,SNR=4.1							
TXAR	**Lajitas Array**	**85.89**	**58**	P		**P**	**01 35 12.2**	**+1.0**
	1.2nm,0.8s,baz=217,slow=6.3,SNR=11							
PDAR	**Pinedale Array**	**87.19**	**43**	P		**P**	**01 35 16.4**	**-0.8**
	0.3nm,0.4s,baz=186,slow=3.0,SNR=3.7							
CMAR	**Chiang Mai Arr**	**88.74**	**290**	P		**P**	**01 35 25.3**	**+0.6**
	1.0nm,0.8s,baz=100,slow=2.5,SNR=5.1							
SONM	**Songino Array**	**93.31**	**319**	P		**P**	**01 35 44.9**	**-0.4**
	0.2nm,0.4s,baz=131,slow=5.9,SNR=2.9							
BRTR	**Keskin Array B**	**144.55**	**315**	PKP		**PKPab**	**01 42 03.7**	**-0.4**
	0.6nm,0.5s,baz=48,slow=1.8,SNR=7.3							
GERES	**GERESS Array B**	**147.33**	**345**	PKPbc		**PKPbc**	**01 42 11.1**	**0.0**
	0.2nm,0.5s,baz=12,slow=5.0,SNR=2.8							

GUC 17 01:27:06.0±0.4,33.92S×72.45W,h57km±9km,ML3.7, 1C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.12**	**37**	*eP*		Pn	01 27 26.6	+1.1
NICH	**Los Niches**	**1.48**	**137**	⇓*eP*		Pn	01 27 31.6	+1.3
NICH				*eS*		Sn	01 27 51.4	+2.7
TALC	**Talca**	**1.62**	**156**	*eP*		Pn	01 27 33.9	+1.6
TALC				*eS*		Sn	01 27 55.0	+2.9
PEL	**Peldehue**	**1.66**	**63**	⇑*eP*		Pn	01 27 34.7	+1.8
PEL				*eS*		Sn	01 27 56.2	+2.9
PEL					AML	AML	01 28 04.1	
	comp=N,3μm,0.5s							
CLCH	**Cerro Calan**	**1.68**	**72**	⇓*eP*		Pn	01 27 34.6	+1.5
CLCH				*eS*		Sn	01 27 56.6	+2.9
CLCH					AML	AML	01 28 02.8	
	comp=N,1μm,0.6s							
SJCH	**San Jose de Ma**	**1.77**	**82**	*eP*		Pn	01 27 34.8	+0.4
SJCH				*eS*		Sn	01 27 57.7	+1.8
SJCH					AML	AML	01 27 58.6	
	comp=E,740nm,0.3s							
YECH	**El Yeso**	**1.99**	**83**	*eP*		Pn	01 27 39.6	+2.0
YECH				*eS*		Sn	01 28 05.2	+3.5
YECH					AML	AML	01 28 09.9	
	comp=N,1μm,0.3s							
LNCH	**Linares**	**2.05**	**160**	*eP*		Pn	01 27 39.8	+1.7
LNCH				*eS*		Sn	01 28 05.1	+2.6

MEX 17 01:30:47.7±0.6,32.37N×115.11W,h16km±4km,MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.09**	**296**	*iP*		Pg	01 30 50.8	-0.2
MBIG				*eS*		Sg	01 30 52.6	-0.4
CBX	**Cerro Bola**	**1.32**	**268**	*iP*		Pn	01 31 08.1	-3.6
CBX				*iS*		Sn	01 31 23.4	-5.7
SPIG	**San Pedro Mart**	**1.35**	**193**	*iP*		Pn	01 31 07.8	-4.6
SPIG				*iS*		Sn	01 31 25.1	-5.3

IDC 17 01:35:54.0±2.9,20.87S×175.31W,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.8/35,mbtmp4.3/3,MS4.3/2,Ms1 4.3/2, ms1mx3.3/32,Error ellipse: s-maj=179.0km s-min=47.0km az=158.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.03**	**263**	LR	LR		01 44 25.5	
	comp=Z,479nm,19.3s,baz=5.0,slow=30							
CTA	**Charters Tower**	**35.96**	**264**	P	P		01 42 57.8	+1.1
	2.6nm,0.4s,baz=89,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**46.88**	**257**	P	P		01 44 26.6	+0.2
	3.2nm,0.7s,baz=96,slow=7.6,SNR=33							
ASAR					PcP	PcP	01 45 58.0	-1.4
	0.7nm,0.8s,baz=87,slow=4.7,SNR=4.7							
WRA	**Warramunga Arr**	**47.04**	**262**	P	P		01 44 26.4	-1.3
	1.6nm,0.6s,baz=97,slow=7.8,SNR=33							
ATAH	**Atahualpa**	**93.90**	**99**	LR	LR		02 22 24.9	
	comp=Z,236nm,20.5s,baz=131,slow=30							
AKASG	**Malin Array Be**	**144.52**	**333**	PKP	PKPdf		01 55 31.8	-0.4
	1.1nm,0.5s,baz=42,slow=4.3,SNR=12							
BRTR	**Keskin Array B**	**148.93**	**314**	PKPbc	PKPbc		01 55 44.4	+0.1
	0.6nm,0.6s,baz=114,slow=3.1,SNR=5.2							

*IDC **17** 01:51:32.5±1.2,5.74S×147.60E,h0km,mb4.2/4, mb1 4.5/5,mb1mx3.9/29,mbtmp4.3/5,ML4.7/1,Error ellipse: s-maj=57.6km s-min=26.4km az=114.0*

*ISCJB **17** 01:51:42.1±0.9,5.89S±0.08×147.3E±0.1,h78km,mb4.1/5, Error ellipse: s-maj=14.7km s-min=10.7km az=166.7*

*NEIC **17** 01:51:42.8±2.4,5.83S×147.34E,h81km±19km,mb4.4/3, Error ellipse: s-maj=28.0km s-min=19.1km az=123.0*

ISC 17 01:51:43.3±0.9,5.90S±0.08×147.2E±0.1,h78km,n27, σ1§89/25,mb4.2/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.48**	**180**	*e*Pn		**Pn**	**01 52 35.5**	**+0.3**
PMG				*e*Sn		**Sn**	**01 53 14.2**	**-1.0**
MMPI	**Merauke**	**7.19**	**249**	P		**Pn**	**01 53 28.0**	**+2.3**
	baz=7.0,SNR=3.2							
COEN	**Coen**	**8.91**	**206**	P		**Pn**	**01 53 51.4**	**+2.1**
	baz=8.8,SNR=47							
COEN					S	**Sn**	**01 55 26.3**	**-1.8**
	baz=8.8,SNR=9.0							
COEN	**Coen**	**8.91**	**206**	*e*Pn		**Pn**	**01 53 50.9**	**+1.6**
	14nm,0.5s							
CTAO	**Charters Tower**	**14.13**	**183**	*eP*		Pn	01 54 55.3	-4.5
	19nm,1.2s							
KDU	**Kakadu**	**15.97**	**244**	P		**P**	**01 55 25.8**	**+0.2**
	baz=16,SNR=6.0							
KDU					S	**Sn**	**01 58 14.2**	**-5.8**
	baz=16,SNR=5.2							
QIS	**Mount Isa**	**16.31**	**206**	P		**P**	**01 55 30.4**	**+1.2**
	baz=16,SNR=13							
MTN	**Manton Dam**	**17.24**	**245**	P		**P**	**01 55 42.1**	**+2.6**
	baz=17,SNR=3.5							
WRAB	**Tennant Creek**	**18.69**	**221**	*eP*		**Pn**	**01 55 57.1**	**+0.4**
	14nm,0.6s							
WB2	**Warramunga Arr**	**18.70**	**221**	*eP*		**Pn**	**01 55 57.0**	**+0.1**
WRA	**Warramunga Arr**	**18.71**	**221**	P		**Pn**	**01 55 57.4**	**+0.5**
	2.2nm,0.3s,baz=39,slow=1.1,SNR=95							
KNRA	**Kununurra**	**20.49**	**240**	P		Pn	01 56 17.0	-0.9
	baz=20,SNR=8.1							
RMQ	**Roma**	**20.52**	**176**	P		Pn	01 56 19.8	+1.6
	baz=20,SNR=4.4							
QLP	**Quilpie**	**20.75**	**187**	P		Pn	01 56 19.8	-1.1
	baz=21,SNR=13							
ASAR	**Alice Springs**	**21.79**	**214**	P		**P**	**01 56 30.6**	**+1.7**
	6.3nm,0.5s,baz=46,slow=9.0,SNR=106							
ARMA	**Armidale**	**24.75**	**171**	P		**P**	**01 56 58.9**	**+1.2**
	baz=25,SNR=13							
WRKA	**Warakurna**	**26.24**	**222**	P		**P**	**01 57 13.0**	**+1.7**
	baz=26,SNR=32							
STKA	**Stephens Creek**	**26.36**	**191**	P		**P**	**01 57 12.9**	**+0.8**
	4.5nm,0.9s,baz=7.5

BATI	**Baumata**	**8.06**	**239**	Pn	**Pn**	**03 06 02.2**	**+0.8**
	6.0nm,0.3s,baz=112,slow=1.4,SNR=4.9						
BATI				Sn	**Sn**	**03 07 27.1**	**-4.3**
	4.3nm,0.3s,baz=29,slow=19,SNR=5.8						
KNRA	**Kununurra**	**9.73**	**191**	P	**Pn**	**03 06 22.3**	**-1.3**
	baz=9.9,SNR=103						
KNRA				S	Sn	03 08 04.8	-6.7
	baz=9.9,SNR=7.0						
WSI	**Waingapu**	**10.88**	**250**	S	**Sn**	**03 08 39.5**	**+0.4**
	baz=11,SNR=4.4						
WRAB	**Tennant Creek**	**14.24**	**166**	*e*Pn	**Pn**	**03 07 21.0**	**-1.1**
	6.8nm,0.5s						
WRAB				*e*Sn	Sn	03 09 50.5	-10
WRA	**Warramunga Arr**	**14.25**	**166**	Pn	**Pn**	**03 07 21.0**	**-1.2**
	0.7nm,0.3s,baz=333,slow=13,SNR=22						
WRA				Sn	Sn	03 09 51.0	-9.3
	2.5nm,0.3s,baz=335,slow=21,SNR=14						
COEN	**Coen**	**14.59**	**123**	P	**P**	**03 07 31.3**	**+2.4**
	baz=15,SNR=14						
COEN	**Coen**	**14.59**	**123**	*e*Pn	**Pn**	**03 07 27.9**	**+1.2**
COEN				*e*Sn	Sn	03 10 02.1	-6.6
PMG	**Port Moresby**	**16.67**	**103**	*e*P	**P**	**03 07 52.4**	**+0.4**
	11nm,0.7s						
QIS	**Mount Isa**	**16.81**	**150**	P	**Pn**	**03 07 56.9**	**+3.1**
	baz=17,SNR=8.3						
AS31	**Alice Springs**	**17.77**	**170**	*e*P	**Pn**	**03 08 06.8**	**+1.4**
ASAR	**Alice Springs**	**17.77**	**170**	P	**Pn**	**03 08 06.9**	**+1.5**
	2.0nm,0.3s,baz=349,slow=9.3,SNR=133						
ASAR				Sn	**S**	**03 11 17.6**	**-3.4**
	0.6nm,0.3s,baz=347,slow=26,SNR=6.7						
KKM	**Kota Kinabalu**	**18.79**	**310**	*e*P	**P**	**03 08 16.0**	**+0.8**
	9.2nm,0.4s						
WRKA	**Warakurna**	**19.00**	**187**	P	**Pn**	**03 08 19.5**	**-0.3**
	baz=19,SNR=17						
CTAO	**Charters Tower**	**20.58**	**134**	*e*P	**P**	**03 08 35.5**	**+1.0**
	32nm,1.5s						
FORT	**Forrest**	**24.70**	**185**	*e*P	**P**	**03 09 14.3**	**-0.2**
	10nm,0.7s						
STKA	**Stephens Creek**	**27.64**	**160**	P	**P**	**03 09 43.2**	**+2.5**
	1.9nm,0.4s,baz=354,slow=7.1,SNR=6.6						
SONM	**Songino Array**	**57.78**	**341**	P	**P**	**03 13 43.8**	**+1.1**
	0.3nm,0.5s,baz=155,slow=6.3,SNR=3.8						
MK31	**Makanchi Array**	**67.82**	**326**	*e*P	**P**	**03 14 50.6**	**+1.5**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**03 14 50.7**	**+1.6**
	2.4nm,0.4s,baz=114,slow=8.1,SNR=69						
TKM2	**Tokmak 2**	**69.70**	**320**	*e*P	**P**	**03 15 00.5**	**-0.5**
	0.8nm,0.4s						
AAK	**Ala-Archa**	**70.27**	**319**	*e*P	**P**	**03 15 04.5**	**+0.1**
	0.7nm,0.5s						
EKS2	**Erkin-Say**	**70.74**	**319**	*e*P	**P**	**03 15 07.4**	**+0.1**
	1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**71.05**	**333**	P	**P**	**03 15 09.4**	**+0.8**
	0.5nm,0.6s,baz=142,slow=7.2,SNR=3.4						
KURK	**Kurchatov**	**72.08**	**328**	*e*P	**P**	**03 15 15.3**	**+0.4**
	3.7nm,1.0s						
ABKAR	**Akbulak array**	**82.20**	**321**	*e*P	**P**	**03 16 09.6**	**-1.8**

ISCJB ***17*** *03:50:25.3±0.3,20°.70S±0°.04×69°.55W±0°.05,h91km±3km, mb4.5/61, Error ellipse: s-maj=8.5km s-min=5.3km az=151.2*

IDC ***17*** *03:50:26.7±0.5,20°.71S×69°.54W,h92km±4km,mb4.2/15, mb1 4.3/18,mb1mx4.1/35,mbtmp4.6/18,MS3.6/2, Ms1 3.5/2,ms1mx2.9/22,Error ellipse: s-maj=14.7km s-min=6.9km az=74.0*

GUC ***17*** *03:50:26.0,20°.83S×69°.81W,h71km*

NEIC ***17*** *03:50:27.5±0.6,20°.78S×69°.50W,h101km±5km,mb4.6/48, Error ellipse: s-maj=7.2km s-min=4.7km az=65.0*

NEIC Felt [III] at Alto Hospicio, Huara, Iquique and Pica and [II] at Camina.

BJI ***17*** *03:50:27.0,21°.22S×69°.50W,h105km,mB4.9/2*

ISC 17 03:50:26.4±0.5,20°.79S±0°.04×69°.71W±0°.06,h93km±3km, h94km;pP-P,n514,σ1s15/535,mb4.6/61,176C-198D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.33**	**140**	*e*P		**Pn**	**03 50 39.8**	**-0.7**
PB01	**IPOC Station P**	**0.33**	**140**	⇓*i*P		**Pn**	**03 50 40.5**	**+0.1**
PB01				*i* S		**Sn**	**03 50 50.7**	**-0.2**
PB01				AML		AML	03 50 51.8	
	comp=E,96μm,0.2s							
PATCX	**Punta Patache**	**0.41**	**266**	*e*P		**Pn**	**03 50 40.5**	**-0.5**
PATCX	**Punta Patache**	**0.41**	**266**	⇓*i*P		**Pn**	**03 50 41.0**	**0.0**
PATCX				*i* S		**Sn**	**03 50 51.7**	**-0.2**
PATCX				AML		AML	03 50 52.9	
	comp=E,64μm,0.3s							
HMBC	**Humberstone**	**0.54**	**342**	*e*P		**Pn**	**03 50 41.0**	**-1.0**
HMBC	**Humberstone**	**0.54**	**342**	⇓*i*P		**Pn**	**03 50 41.6**	**-0.4**
HMBC				*i* S		**Sn**	**03 50 53.1**	**-0.4**
HMBC				AML		AML	03 50 53.7	
	comp=N,48μm,0.5s							
PB07	**IPOC Station P**	**0.94**	**190**	*e*P		**Pn**	**03 50 45.3**	**-0.7**
PB07	**IPOC Station P**	**0.94**	**190**	⇑*i*P		**Pn**	**03 50 45.9**	**-0.1**
PB07				*i* S		**Sn**	**03 51 00.1**	**-0.5**
PB07				AML		AML	03 51 01.2	
	comp=N,47μm,0.3s							
PB09	**IPOC Station P**	**1.09**	**156**	*e*P		**Pn**	**03 50 47.5**	**-0.1**
PB09	**IPOC Station P**	**1.09**	**156**	⇑*i*P		**Pn**	**03 50 48.0**	**+0.4**
PB09				*e*S		**Sn**	**03 51 03.9**	**+0.5**
PB09				AML		AML	03 51 05.7	
	comp=E,118μm,0.7s							
PSGC	**Pisagua**	**1.25**	**342**	*e*P		**Pn**	**03 50 48.4**	**-1.0**
PSGC	**Pisagua**	**1.25**	**342**	⇓*i*P		**Pn**	**03 50 48.9**	**-0.5**
PSGC				*i* S		**Sn**	**03 51 05.6**	**-1.0**
PSGC				AML		AML	03 51 07.7	
	comp=N,23μm,0.3s							
PB04	**IPOC Station P**	**1.48**	**172**	*e*P		**Pn**	**03 50 52.8**	**+0.7**
PB04	**IPOC Station P**	**1.48**	**172**	⇑*i*P		**Pn**	**03 50 53.1**	**+1.0**
PB04				AML		AML	03 51 16.5	
	comp=N,16μm,0.5s							
MNMC	**Minimini**	**1.66**	**4**	*e*P		**Pn**	**03 50 54.4**	**-0.2**
MNMC	**Minimini**	**1.66**	**4**	⇑*i*P		**Pn**	**03 50 54.9**	**+0.3**
MNMC				*e*S		**Sn**	**03 51 16.8**	**+0.9**
MNMC				AML		AML	03 51 22.7	
	comp=E,11μm,0.2s							
PB06	**IPOC Station P**	**1.91**	**176**	*e*P		**Pn**	**03 50 56.9**	**-0.8**
PB06	**IPOC Station P**	**1.91**	**176**	⇑*i*P		**Pn**	**03 50 57.4**	**-0.4**
LVC	**Limon Verde**	**1.96**	**158**	P		**Pn**	**03 50 59.1**	**+0.7**
	comp=E,14μm,0.3s,baz=11,slow=8.5							
LVC				S		**Sn**	**03 51 24.0**	**+1.2**
	comp=E,42μm,0.3s,baz=100,slow=20,SNR=57							
LVC	**Limon Verde**	**1.96**	**158**	*e*Pn		**Pn**	**03 50 59.2**	**+0.7**
LVC				*e*Sn		**Sn**	**03 51 21.4**	**-1.4**
PB10	**IPOC Station P**	**2.82**	**196**	*e*P		**Pn**	**03 51 07.9**	**-1.7**
LPAZ	**La Paz**	**4.72**	**19**	P		**Pn**	**03 51 38.5**	**+2.5**
	comp=E,2.4nm,0.3s,baz=280,slow=3.0,SNR=114							
LPAZ	**La Paz**	**4.72**	**19**	*e*P		**Pn**	**03 51 38.3**	**+2.4**
LPAZ	**La Paz**	**4.72**	**19**	*e*Pn		**Pn**	**03 51 38.0**	**+2.1**
LCO	**Las Campanas**	**8.23**	**186**	*e*Pn		**Pn**	**03 52 24.9**	**+1.6**
	comp=E,40nm,0.7s							
SIV	**San Ignacio**	**9.49**	**61**	P		**Pn**	**03 52 37.7**	**-2.6**
	comp=E,14nm,0.3s,baz=260,slow=12,SNR=233							
CFAA	**Coronel Fontan**	**10.85**	**173**	P		Pn	03 52 54.5	-4.3
	comp=E,0.6nm,0.3s,baz=355,slow=8.2,SNR=64							
CFAA				S		Sn	03 54 47.2	-11
	comp=E,0.2nm,0.3s,baz=254,slow=19,SNR=3.7							
SAML	**Samuel**	**13.35**	**29**	*e*Pn		Pn	03 53 27.9	-4.5
ATAH	**Atahualpa**	**15.97**	**327**	P		**P**	**03 54 07.5**	**-0.5**
	comp=E,0.3nm,0.3s,baz=171,slow=18,SNR=2.2							
TRQA	**Tornquist**	**18.46**	**160**	*e*P		**P**	**03 54 34.5**	**-0.3**
	comp=E,8.4nm,0.7s							
PLCA	**Paso Flores**	**19.89**	**182**	P		**P**	**03 54 51.2**	**+0.7**
	comp=E,0.6nm,0.3s,baz=1.7,slow=11,SNR=23							
PLCA	**Paso Flores**	**19.89**	**182**	*e*P		**P**	**03 54 51.2**	**+0.7**
	comp=E,26nm,1.0s							
BDFB	**Brasilia**	**21.23**	**80**	P		**P**	**03 55 03.4**	**-1.7**
	comp=E,9.5nm,0.4s,baz=271,slow=10,SNR=14							
BDFB				LR		LR	04 04 18.8	
	comp=E,148nm,21.0s,baz=230,slow=40							
PTGA	**Pitinga**	**22.09**	**27**	P		**P**	**03 55 12.1**	**-2.1**
	comp=E,21nm,0.5s,baz=205,slow=16,SNR=39							
PTGA	**Pitinga**	**22.09**	**27**	*e*P		**P**	**03 55 13.2**	**-1.0**
	comp=E,21nm,1.0s							
OTAV	**Otavalo**	**22.58**	**337**	*e*P		**P**	**03 55 21.6**	**+1.8**
	comp=E,5.9nm,0.8s							
ROSC	**El Rosal**	**25.89**	**349**	P		**P**	**03 55 50.3**	**0.0**
	comp=E,3.1nm,0.4s,baz=70,slow=20,SNR=4.6							
RCBR	**Riachuelo**	**35.99**	**70**	P		**P**	**03 57 18.6**	**-0.2**
	comp=E,24nm,0.8s,baz=242,slow=8.5,SNR=14							
RCBR	**Riachuelo**	**35.99**	**70**	*e*P		**P**	**03 57 17.7**	**-1.1**
	comp=E,60nm,1.4s							
SJG	**San Juan**	**38.82**	**5**	*e*P		P	03 57 37.6	-4.8
835A	**Beeville**	**55.85**	**330**	⇑P		**P**	**03 59 55.6**	**+1.2**
	baz=56							
933A	**Laredo**	**55.98**	**328**	⇑P		**P**	**03 59 56.5**	**+1.2**
	baz=56							
539A	**Cross D Ranch,**	**56.04**	**334**	⇓P		**P**	**03 59 57.8**	**+2.1**
	baz=56							
834A	**Tilden**	**56.05**	**329**	⇓P		**P**	**03 59 57.2**	**+1.3**
	baz=56							
735A	**Kenedy**	**56.32**	**330**	⇓P		**P**	**03 59 59.6**	**+1.8**
	baz=57							
538A	**Harpers Horsep**	**56.46**	**333**	⇑P		**P**	**04 00 00.8**	**+2.1**
	baz=57							
636A	**Smothers Creek**	**56.51**	**331**	⇓P		**P**	**04 00 01.0**	**+2.0**
	baz=57							
833A	**Chaparral WMA,**	**56.63**	**328**	⇑P		**P**	**04 00 00.3**	**+0.4**
	baz=57,SNR=8.8							
439A	**Center Grove,**	**56.66**	**334**	⇑P		**P**	**04 00 01.8**	**+1.7**
	baz=57							
734A	**La Parita Cree**	**56.66**	**330**	⇓P		**P**	**04 00 01.2**	**+1.0**
	baz=57,SNR=6.1							
537A	**Green Hill Far**	**56.69**	**332**	⇑P		**P**	**04 00 02.0**	**+1.7**
	baz=57							
KMSC	**Kings Mountain**	**56.71**	**349**	⇑P		**P**	**04 00 00.8**	**+0.4**
	baz=57							
635A	**Leesville**	**56.75**	**331**	⇓P		**P**	**04 00 01.3**	**+0.5**
	baz=57							
340A	**Bronson**	**56.86**	**335**	⇑P		**P**	**04 00 02.5**	**+1.0**
	baz=57							
832A	**Faith Ranch, C**	**56.88**	**328**	⇑P		**P**	**04 00 02.4**	**+0.7**
	baz=57,SNR=5.7							
733A	**Divot King Ran**	**56.91**	**329**	⇓P		**P**	**04 00 02.5**	**+0.6**
	baz=57,SNR=5.9							
438A	**Sam Houston St**	**56.91**	**333**	⇑P		**P**	**04 00 03.6**	**+1.7**
	baz=57							
634A	**China Grove, S**	**57.01**	**330**	⇓P		**P**	**04 00 05.1**	**+2.4**
	baz=57							
536A	**Bastrop**	**57.02**	**332**	⇑P		**P**	**04 00 03.5**	**+0.9**
	baz=57							
339A	**Huntington**	**57.05**	**335**	⇓P		**P**	**04 00 04.2**	**+1.3**
	baz=57							
535A	**Dale**	**57.20**	**331**	⇓P		**P**	**04 00 05.3**	**+1.3**
	baz=58							
732A	**Laxson Ranch,**	**57.25**	**328**	⇑P		**P**	**04 00 04.7**	**+0.4**
	baz=58,SNR=7.1							
338A	**Crockett**	**57.38**	**334**	⇓P		**P**	**04 00 07.0**	**+1.8**
	baz=58							
633A	**Saathoff Ranch**	**57.47**	**329**	⇑P		**P**	**04 00 06.7**	**+0.8**
	baz=58							
436A	**Wall Ranch, Ga**	**57.49**	**332**	⇑P		**P**	**04 00 07.6**	**+1.6**
	baz=58							
337A	**Centerville**	**57.58**	**333**	⇓P		**P**	**04 00 08.1**	**+1.5**
	baz=58							
534A	**Blanco**	**57.62**	**330**	⇓P		**P**	**04 00 06.9**	**0.0**
	baz=58,SNR=5.9							
239A	**Gary**	**57.62**	**335**	⇓P		**P**	**04 00 08.4**	**+1.5**
	baz=58							
632A	**Uvalde**	**57.80**	**329**	⇑P		**P**	**04 00 08.6**	**+0.4**
	baz=58,SNR=5.9							
435B	**Jarrell**	**57.85**	**332**	⇓P		**P**	**04 00 09.1**	**+0.5**
	baz=58							
238A	**Jacksonville**	**57.86**	**334**	⇑P		**P**	**04 00 09.1**	**+0.5**
	baz=58							
631A	**Perdido Creek**	**58.11**	**328**	⇑P		**P**	**04 00 11.0**	**+0.7**
	baz=58							
237A	**Washetta, Mont**	**58.14**	**334**	⇓P		**P**	**04 00 11.6**	**+1.1**
	baz=58							
434A	**Burnet**	**58.19**	**331**	⇓P		**P**	**04 00 11.5**	**+0.6**
	baz=58							
532A	**Rocksprings**	**58.37**	**329**	⇑P		**P**	**04 00 13.2**	**+0.9**
	baz=59							
138A	**Matatall Enter**	**58.43**	**335**	⇑P		**P**	**04 00 13.8**	**+1.3**
	baz=59							
433A	**Art**	**58.51**	**330**	⇓P		**P**	**04 00 13.6**	**+0.4**
	baz=59,SNR=11							
334A	**Lometa**	**58.61**	**331**	⇓P		**P**	**04 00 14.3**	**+0.4**
	baz=59							
JCT	**Junction City**	**58.62**	**330**	⇑P		**P**	**04 00 14.2**	**+0.3**
	baz=59,SNR=5.7							
JCT	**Junction City**	**58.62**	**330**	*e*P		**P**	**04 00 14.3**	**+0.3**
	comp=E,13nm,1.0s							
137A	**Heron Place, G**	**58.64**	**334**	⇓P		**P**	**04 00 15.0**	**+1.0**
	baz=59							
531A	**Rocksprings**	**58.71**	**329**	⇓P		**P**	**04 00 15.4**	**+0.8**
	baz=59,SNR=11							
WHTX	**Lake Whitney,**	**58.83**	**332**	⇓P		**P**	**04 00 15.9**	**+0.5**
	baz=59,SNR=5.5							
WHTX	**Lake Whitney,**	**58.83**	**332**	*e*P		**P**	**04 00 15.8**	**+0.5**
432A	**Menard**	**58.94**	**330**	⇑P		**P**	**04 00 16.4**	**+0.2**
	baz=59,SNR=14							
333A	**Richland Sprin**	**58.94**	**331**	⇑P		**P**	**04 00 16.3**	**+0.2**
	baz=59,SNR=9.6							
530A	**J-Ranch, Com**	**59.09**	**328**	⇓P		**P**	**04 00 17.7**	**+0.5**
	baz=59,SNR=12							
234A	**Clairette**	**59.14**	**332**	⇑P		**P**	**04 00 17.9**	**+0.4**
	baz=60,SNR=12							
WVT	**Waverly**	**59.15**	**343**	*e*P		**P**	**04 00 15.7**	**-1.7**
	comp=E,6.1nm,0.7s							
431A	**Sonora**	**59.17**	**329**	⇓P		**P**	**04 00 18.2**	**+0.4**
	baz=60,SNR=11							
135A	**Vickery Place,**	**59.30**	**333**	⇑P		**P**	**04 00 18.8**	**+0.3**
	baz=60							
332A	**Millersview**	**59.34**	**330**	⇓P		**P**	**04 00 19.4**	**+0.5**
	baz=60,SNR=16							
233A	**Rising Star**	**59.49**	**331**	⇓P		**P**	**04 00 20.4**	**+0.5**
	baz=60,SNR=13							
529A	**Stev Forest Ra**	**59.51**	**327**	⇓P		**P**	**04 00 21.1**	**+1.0**
	baz=60,SNR=22							
MIAR	**Mount Ida**	**59.53**	**337**	*e*P		**P**	**04 00 19.9**	**-0.2**
	comp=E,9.3nm,0.8s							
430A	**Baggett Ranch,**	**59.56**	**329**	⇓P		**P**	**04 00 20.8**	**+0.3**
	baz=60,SNR=14							
134A	**White-Moore Ra**	**59.60**	**332**	⇓P		**P**	**04 00 21.0**	**+0.3**
	baz=60							
331A	**San Angelo**	**59.60**	**330**	⇓P		**P**	**04 00 21.0**	**+0.2**
	baz=60,SNR=14							
TXAR	**Lajitas Array**	**59.62**	**326**	P		**P**	**04 00 21.6**	**+0.6**
	comp=E,1.9nm,0.6s,baz=148,slow=8.7,SNR=23							
232A	**Coleman**	**59.72**	**331**	⇑P		**P**	**04 00 21.9**	**+0.4**
	baz=60,SNR=7.8							
429A	**Davenport Ranc**	**59.75**	**328**	⇑P		**P**	**04 00 22.5**	**+0.7**
	baz=60,SNR=18							
Z35A	**Perchaven, San**	**59.90**	**333**	⇓P		**P**	**04 00 23.4**	**+0.8**
	baz=60							
133A	**Hamilton Ranch**	**60.00**	**332**	⇑P		**P**	**04 00 23.8**	**+0.4**
	baz=60,SNR=5.7							
330A	**Mertzon**	**60.04**	**329**	⇓P		**P**	**04 00 23.8**	**+0.1**
	baz=60,SNR=7.2							
231A	**Bronte**	**60.07**	**330**	⇓P		**P**	**04 00 24.3**	**+0.4**
	baz=60							
Z34A	**Collier Ranch,**	**60.21**	**333**	⇓P		**P**	**04 00 25.5**	**+0.6**
	baz=61,SNR=5.5							
ABTX	**Abilene, Hawle**	**60.34**	**331**	⇓P		**P**	**04 00 26.6**	**+0.9**
	baz=61,SNR=6.3							
ABTX	**Abilene, Hawle**	**60.34**	**331**	*e*P		**P**	**04 00 26.1**	**+0.4**
	comp=E,18nm,0.8s							
230A	**Sterling City**	**60.41**	**329**	⇓P		**P**	**04 00 26.8**	**+0.5**
	baz=61							
329A	**Wagon Wheel Ra**	**60.50**	**328**	⇓P		**P**	**04 00 27.7**	**+0.8**
	baz=61,SNR=10							
Z33A	**Whitaker Ranch**	**60.51**	**332**	⇑P		**P**	**04 00 27.4**	**+0.6**
	baz=61,SNR=9.4							
PBMO	**Poplar Bluff**	**60.51**	**341**	*e*P		**P**	**04 00 25.4**	**-1.3**
Y34A	**Reagan Ranch,**	**60.65**	**333**	⇑P		**P**	**04 00 28.5**	**+0.8**
	baz=61,SNR=7.6							
131A	**Roby**	**60.72**	**330**	⇑P		**P**	**04 00 28.9**	**+0.6**
	baz=61							
Z32A	**Haskell**	**60.84**	**332**	⇓P		**P**	**04 00 29.6**	**+0.5**
	baz=61							
130A	**Snyder**	**60.92**	**330**	⇓P		**P**	**04 00 30.1**	**+0.3**
	baz=61,SNR=5.9							
W36A	**Wetumka**	**61.05**	**335**	⇑P		**P**	**04 00 30.4**	**-0.1**
	baz=61							
Y33A	**Hilltop Ranch,**	**61.06**	**333**	⇓P		**P**	**04 00 31.0**	**+0.4**
	baz=61							
Z31A	**Sharp Cattle R**	**61.15**	**331**	⇓P		**P**	**04 00 31.7**	**+0.5**
	baz=62,SNR=8.6							
X34A	**Smith Ranch, M**	**61.23**	**334**	⇓P		**P**	**04 00 32.1**	**+0.4**
	baz=62							
228A	**UT Block 9, Go**	**61.31**	**328**	⇑P		**P**	**04 00 32.3**	**-0.1**
	baz=62							
129A	**Stewart Farms,**	**61.38**	**329**	⇓P		**P**	**04 00 33.1**	**+0.3**
	baz=62							
Y32A	**R-V Farms, Ver**	**61.41**	**332**	⇑P		**P**	**04 00 33.1**	**+0.2**
	baz=62							
TUL1	**Leonard**	**61.57**	**336**	⇑P		**P**	**04 00 33.9**	**0.0**
	baz=62							
Z30A	**Sanderson Ranc**	**61.57**	**330**	⇑P		**P**	**04 00 34.3**	**+0.2**
	baz=62,SNR=6.1							
128A	**Castleberry Fa**	**61.67**	**329**	⇑P		**P**	**04 00 34.9**	**+0.1**
	baz=62							
Y31A	**Rekieta Farm,**	**61.74**	**331**	⇓P		**P**	**04 00 36.1**	**+0.9**
	baz=62,SNR=7.3							
Z29A	**Hungry Hill Ra**	**61.82**	**330**	⇑P		**P**	**04 00 36.2**	**+0.4**
	baz=62							
V35A	**Meyer Ranch, C**	**61.84**	**335**	⇓P		**P**	**04 00 35.8**	**0.0**
	baz=62							
ACSO	**Alum Creek Sta**	**61.96**	**349**	*e*P		**P**	**04 00 36.5**	**+0.1**
	comp=E,16nm,0.8s							
W33A	**Caddo, Fort Co**	**61.97**	**333**	⇑P		**P**	**04 00 37.5**	**+0.8**
	baz=62,SNR=6.3							
Z28A	**Tucker Farm, M**	**62.17**	**329**	⇑P		**P**	**04 00 38.2**	**+0.1**
	baz=62							
V34A	**Guthrie**	**62.17**	**335**	⇑P		**P**	**04 00 37.9**	**-0.1**
	baz=62							
X31A	**McDonald Ranch**	**62.18**	**332**	⇓P		**P**	**04 00 38.0**	**-0.1**
	baz=62							
W32A	**Sentinel**	**62.28**	**333**	⇓P		**P**	**04 00 39.1**	**+0.3**
	baz=63,SNR=11							
Y29A	**Porterfield Fa**	**62.30**	**330**	⇑P		**P**	**04 00 39.0**	**0.0**
	baz=63,SNR=6.4							
MNTX	**Cornudas Mount**	**62.39**	**326**	⇓P		**P**	**04 00 39.3**	**-0.3**
	baz=63,SNR=15							
MNTX	**Cornudas Mount**	**62.39**	**326**	*e*P		**P**	**04 00 39.3**	**-0.3**
	comp=E,7.4nm,0.7s							
X30A	**Coker Ranch, T**	**62.42**	**331**	⇑P		**P**	**04 00 39.6**	**-0.1**
	baz=63,SNR=6.5							
V33A	**Lossen Ranch,**	**62.47**	**334**	⇓P		**P**	**04 00 40.3**	**+0.3**
	baz=63,SNR=5.4							
Y28A	**McKinney Farm,**	**62.61**	**330**	⇑P		**P**	**04 00 40.9**	**-0.1**
	baz=63,SNR=5.1							
W31A	**Holland Ranch,**	**62.63**	**332**	⇓P		**P**	**04 00 41.2**	**+0.1**
	baz=63							
V32A	**Arapaho**	**62.70**	**333**	⇓P		**P**	**04 00 42.2**	**+0.6**
	baz=63							
U34A	**Anderson Ranch**	**62.70**	**335**	⇓P		**P**	**04 00 41.7**	**+0.2**
	baz=63							
X29A	**Tulia**	**62.80**	**331**	⇓P		**P**	**04 00 42.4**	**+0.1**
	baz=63							
MSTX	**Muleshoe**	**62.91**	**329**	⇓P		**P**	**04 00 43.4**	**+0.3**
	baz=63,SNR=13							
MSTX	**Muleshoe**	**62.91**	**329**	*e*P		**P**	**04 00 42.6**	**-0.5**
	comp=E,26nm,1.0s							
U33A	**Lingo Farm, Me**	**62.93**	**334**	⇓P		**P**	**04 00 43.2**	**+0.2**
	baz=63							
SFIN	**Lafayette**	**62.98**	**345**	⇑P		**P**	**04 00 44.4**	**+1.2**
	baz=63							
V31A	**Spring Creek L**	**63.09**	**333**	⇑P		**P**	**04 00 44.8**	**+0.7**
	baz=63							
X28A	**Dimmitt**	**63.09**	**330**	⇑P		**P**	**04 00 44.5**	**+0.3**
	baz=63							
S36A	**Lake Cedric, C**	**63.10**	**337**	⇓P		**P**	**04 00 44.1**	**0.0**
	baz=63,SNR=14							
U32A	**Winter Ranch,**	**63.25**	**334**	⇑P		**P**	**04 00 45.8**	**+0.6**
	baz=64							
S35A	**Otter Creek Ra**	**63.33**	**337**	⇑P		**P**	**04 00 45.8**	**+0.2**
	baz=64,SNR=9.9							
R37A	**Teagarden Farm**	**63.35**	**338**	⇑P		**P**	**04 00 45.8**	**0.0**
	baz=64,SNR=6.9							
V30A	**Spur Ranch, Mi**	**63.44**	**332**	⇓P		**P**	**04 00 47.8**	**+1.2**
	baz=64							
T33A	**Patterson Ranc**	**63.55**	**335**	⇓P		**P**	**04 00 47.9**	**+0.8**
	baz=64							
R36A	**Gordon, Harris**	**63.60**	**338**	⇓P		**P**	**04 00 47.8**	**+0.4**
	baz=64							
S34A	**Willow Spring**	**63.64**	**336**	⇓P		**P**	**04 00 48.4**	**+0.7**
	baz=64							
W28A	**Vega**	**63.70**	**331**	⇑P		**P**	**04 00 48.5**	**+0.2**
	baz=64							
Q37A	**Longview Farm,**	**63.72**	**339**	⇓P		**P**	**04 00 48.5**	**+0.3**
	baz=64							
S33A	**Kaszmaul Farm,**	**63.89**	**335**	⇑P		**P**	**04 00 50.0**	**+0.7**
	baz=64							
T32A	**Huddler Ranch,**	**63.90**	**334**	⇓P		**P**	**04 00 50.5**	**+1.0**
	baz=64							
V29A	**Stinnett**	**63.90**	**332**	⇓P		**P**	**04 00 49.8**	**+0.2**
	baz=64							
U30A	**WK&E Inc. Balk**	**64.07**	**333**	⇓P		**P**	**04 00 51.6**	**+1.0**
	baz=64							

R26A Arlington 66.77 332 ⇓P P 04 01 08.5 +0.4
baz=67,SNR=6.5
P29A Atwood 66.79 334 ⇑P P 04 01 09.4 +1.3
baz=67
O30A MW Ranch, Wils 66.93 335 ⇑P P 04 01 09.8 +0.8
baz=67
KSCO Kaye Shedlock' 67.00 333 ⇓P P 04 01 10.7 +1.2
baz=67
KSCO Kaye Shedlock' 67.00 333 eP P 04 01 09.4 -0.1
comp=E,12nm,0.6s
X18A Snowflake 67.01 325 ⇑P P 04 01 11.6 +1.8
baz=67
R25A Fountain Ranch 67.02 331 ⇑P P 04 01 10.4 +0.7
baz=67
P28A Saint Francis 67.10 334 ⇓P P 04 01 11.1 +1.0
baz=68
O29A 4D Ranch, Culb 67.18 335 ⇓P P 04 01 11.7 +1.2
baz=68
SDCO Great Sand Dun 67.26 330 ⇓P P 04 01 12.3 +0.9
baz=68,SNR=12
SDCO Great Sand Dun 67.26 330 eP P 04 01 12.4 +1.0
comp=E,15nm,1.3s
BGNE Belgrade 67.27 337 ⇓P P 04 01 11.8 +0.7
baz=68,SNR=12
BGNE Belgrade 67.27 337 eP P 04 01 10.6 -0.4
Q26A Hugo 67.32 332 ⇑P P 04 01 12.8 +1.2
baz=68
R24A Sanders Place, 67.47 330 ⇑P P 04 01 13.7 +1.1
baz=68,SNR=9.9
N30A Hueftle Ranch, 67.47 335 ⇑P P 04 01 13.1 +0.7
baz=68
M31A Lambtecht Ranc 67.52 337 ⇑P P 04 01 13.4 +0.7
baz=68
O28A Krutsinger Ran 67.58 334 ⇑P P 04 01 13.9 +0.8
baz=68,SNR=6.0
Q25A Bedland, Calha 67.63 331 ⇑P P 04 01 14.6 +0.9
baz=68
N29A Votaw Ranch, W 67.70 335 ⇓P P 04 01 15.0 +1.2
baz=68
X16A Lo Mia Camp, P 67.75 324 ⇓P P 04 01 16.3 +1.9
baz=68,SNR=7.6
P26A Davis Ranch, A 67.77 332 ⇑P P 04 01 15.6 +1.2
baz=68
R23A Moffat 67.77 330 ⇓P P 04 01 15.6 +1.0
baz=68,SNR=6.2
113A Mohawk Valley, 67.89 321 ⇑P P 04 01 16.1 +1.1
baz=68
S22A 4UR Ranch, Cre 67.89 329 ⇓P P 04 01 16.9 +1.5
baz=68
S22A 4UR Ranch, Cre 67.89 329 eP P 04 01 16.0 +0.6
O27A Beecher Island 67.92 333 ⇓P P 04 01 16.6 +1.3
baz=68,SNR=8.5
Q24A Divide 68.08 331 ⇓P P 04 01 17.9 +1.3
baz=68
Q24A Divide 68.08 331 eP P 04 01 17.9 +1.3
P25A Willow Gulch B 68.09 332 ⇓P P 04 01 17.6 +1.2
baz=68,SNR=11
L31A Butterfield Fa 68.19 337 ⇑P P 04 01 17.7 +0.8
baz=68,SNR=9.7
M29A Burnside Ranch 68.26 335 ⇓P P 04 01 18.8 +1.5
baz=69
Y14A Wickenburg 68.28 322 ⇑P P 04 01 19.3 +1.7
baz=69
MVCO Mesa Verde 68.30 327 ⇓P P 04 01 19.4 +1.5
baz=69,SNR=7.1
MVCO Mesa Verde 68.30 327 eP P 04 01 19.1 +1.2
comp=E,8.9nm,0.8s
L30A Spencer Herefo 68.32 336 ⇑P P 04 01 19.0 +1.3
baz=69
OGNE Ogallala 68.37 334 ⇓P P 04 01 19.5 +1.4
baz=69
P24A Kohler Place, 68.42 331 ⇓P P 04 01 20.3 +1.7
baz=69
N27A Anderson Farm, 68.46 334 ⇓P P 04 01 20.0 +1.4
baz=69
WUAZ Wupatki 68.52 324 ⇑P P 04 01 21.1 +1.9
baz=69,SNR=6.8
WUAZ Wupatki 68.52 324 eP P 04 01 20.6 +1.4
comp=E,13nm,1.0s
O25A Wiggins 68.56 332 ⇓P P 04 01 21.2 +1.9
baz=69
L29A Maesberg Ranch 68.71 336 ⇓P P 04 01 21.9 +1.8
baz=69
GLA Glamis 68.72 320 ⇓P P 04 01 22.9 +2.6
baz=69
GLA Glamis 68.72 320 eP P 04 01 23.1 +2.8
P23A Jefferson 68.73 331 ⇓P P 04 01 22.4 +1.7
baz=69
ECSD EROS Data Cent 68.79 339 ⇑P P 04 01 20.9 +0.3
baz=69,SNR=5.7
ECSD EROS Data Cent 68.79 339 eP P 04 01 19.9 -0.6
comp=E,12nm,1.3s
K30A Basset 68.91 337 ⇑P P 04 01 22.1 +0.8
baz=69,SNR=8.9
LIC Lamto 68.91 74 eP P 04 01 20.7 -1.2
comp=E,44nm,1.3s
ISCO Idaho Springs 68.97 331 ⇓P P 04 01 23.1 +1.0
baz=69,SNR=9.4
ISCO Idaho Springs 68.97 331 eP P 04 01 23.0 +1.0
comp=E,5.7nm,0.8s
M27A Reverse DX Ran 69.01 334 ⇑P P 04 01 23.5 +1.5
baz=69
Y12C Blythe 69.03 321 ⇓P P 04 01 23.8 +1.7
baz=69
TIC Toumodi 69.10 74 eP P 04 01 22.7 -0.4
comp=E,4.7nm,0.2s
SMCO Snowmass 69.10 330 eP P 04 01 24.3 +1.3
PDMCI Parker Dam,Lak 69.19 322 ⇑P P 04 01 25.2 +2.0
baz=70
KIC Kosan Boka 69.23 74 eP P 04 01 22.8 -1.1
comp=E,59nm,1.2s
K29A Lazy Trails An 69.25 336 ⇑P P 04 01 24.3 +0.9
baz=70,SNR=10.0
DBIC Dimbokro 69.25 74 P P 04 01 23.1 -0.9
comp=E,3.7nm,0.5s,baz=228,slow=6.9,SNR=13
DBIC pP PcP 04 01 47.0 -0.2
comp=E,15nm,0.8s,baz=222,slow=6.4,SNR=8.4
DBIC Dimbokro 69.25 74 eP P 04 01 23.3 -0.7
comp=E,12nm,0.8s
DBIC pP PcP 04 01 47.0 -0.2
P22A Eagle 69.33 330 ⇓P P 04 01 26.0 +1.8
baz=70
J30A Dallas 69.43 337 ⇑P P 04 01 25.5 +1.1
baz=70,SNR=10
O23A Lake Granby, G 69.44 331 ⇓P P 04 01 26.5 +1.6
baz=70,SNR=12
N24A Carr 69.48 332 ⇑P P 04 01 26.6 +1.6
baz=70
BC3 Big Chuckawall 69.51 320 ⇓P P 04 01 27.0 +1.7
baz=70,SNR=7.7
MONP Monument Peak, 69.57 319 ⇓P P 04 01 27.6 +1.8
baz=70
BAR Barrett 69.58 319 eP P 04 01 23.8 -1.9
K28A Ten Mile Ranch 69.61 336 ⇑P P 04 01 26.9 +1.2
baz=70,SNR=5.2
W13A Hualapai Mount 69.62 322 ⇓P P 04 01 28.0 +1.9
baz=70
M25A Palm-Egli Farm 69.62 333 ⇓P P 04 01 27.7 +1.8
baz=70
O22A Kremmling 69.69 331 ⇓P P 04 01 27.5 +1.0
baz=70,SNR=12
IRM Iron Mountain 69.69 321 ⇑P P 04 01 27.9 +1.7
baz=70,SNR=5.3
U15A North Rim 69.70 324 ⇑P P 04 01 28.3 +1.7
baz=70,SNR=8.6
L26A Underwood Farm 69.72 334 ⇓P P 04 01 27.2 +0.8
baz=70
J29A Okreek 69.81 337 ⇑P P 04 01 27.3 +0.5
baz=70,SNR=14
I30A Oacoma 69.92 338 ⇑P P 04 01 27.7 +0.2
baz=70,SNR=5.4
K27A Flueckinger Fa 69.94 335 ⇑P P 04 01 29.0 +1.3
baz=70
M24A Cheyenne 69.98 333 ⇓P P 04 01 29.2 +1.1
baz=70
109C Camp Elliot, M 69.99 319 ⇓P P 04 01 29.2 +1.1
baz=70
N23A Red Feather La 70.00 332 ⇑P P 04 01 29.5 +1.1
baz=70,SNR=5.9
N23A Red Feather La 70.00 332 eP P 04 01 29.4 +1.0
BELC Belle Mtn. Jos 70.08 320 ⇑P P 04 01 29.8 +0.9
baz=70
PFO Pinyon Flats O 70.08 320 P P 04 01 31.0 +2.2
comp=E,3.7nm,0.6s,baz=147,slow=6.9,SNR=5.4
PFO Pinyon Flats O 70.08 320 ⇓P P 04 01 30.5 +1.7
baz=70
N22A Wattenberg Ran 70.16 331 ⇓P P 04 01 30.4 +1.1
baz=70,SNR=5.1
J28A Allard Ranch, 70.16 336 ⇑P P 04 01 30.0 +1.0
baz=70,SNR=15
L25A Engebretsen Ra 70.18 334 ⇓P P 04 01 30.4 +1.1
baz=70
BRSD Miller 70.21 338 ⇓P P 04 01 30.9 +1.6
baz=71
J27A Elkhorn Farm, 70.31 336 ⇓P P 04 01 31.3 +1.3
baz=71,SNR=12
I29A Vivian Onida 70.33 337 ⇓P P 04 01 30.3 +0.3
baz=71,SNR=5.2
M23A Laramie 70.37 332 ⇑P P 04 01 31.7 +1.2
baz=71
O20A White River Ci 70.45 330 ⇑P P 04 01 32.9 +1.9
baz=71,SNR=5.1
O20A White River Ci 70.45 330 eP P 04 01 32.4 +1.3
comp=E,13nm,1.0s
L24A Wheatland 70.49 333 ⇓P P 04 01 32.9 +1.7
baz=71
K25A Mack Ranch, Ha 70.52 334 ⇓P P 04 01 32.8 +1.5
baz=71
I28A Midland 70.63 336 ⇑P P 04 01 32.5 +0.7
baz=71
M22A Cedar Creek Ra 70.70 331 ⇑P P 04 01 34.0 +1.4
baz=71
SRU San Rafael Swe 70.78 327 eP P 04 01 34.2 +1.2
comp=E,15nm,0.8s
J26A Sides Ranch, S 70.78 335 ⇓P P 04 01 34.0 +1.2
baz=71
H29A Onida 70.82 337 ⇑P P 04 01 33.4 +0.5
baz=71
G30A Faulkton 70.88 338 ⇓P P 04 01 34.4 +1.1
baz=71
L23A Garrett 70.88 332 ⇑P P 04 01 34.5 +0.9
baz=71
K24A Anderson Ranch 71.00 333 ⇓P P 04 01 35.5 +1.2
baz=71
N20A Spence Gulch, 71.01 330 ⇑P P 04 01 35.7 +1.2
baz=71,SNR=7.0
I27A Quinn 71.02 336 ⇑P P 04 01 35.6 +1.3
baz=71,SNR=5.3
CCUT Cedar City 71.10 325 eP P 04 01 37.5 +2.4
comp=E,13nm,0.9s
J25A Sunshine Ranch 71.14 334 ⇑P P 04 01 37.0 +2.0
baz=72
CIS Catalina Islan 71.14 318 ⇑P P 04 01 37.0 +1.8
baz=72
H28A Mission Ridge 71.15 337 ⇑P P 04 01 35.7 +0.7
baz=72,SNR=10
G29A Hoven 71.20 338 ⇓P P 04 01 36.7 +1.4
baz=72
BFSC Mount Baldy Ra 71.24 319 ⇓P P 04 01 37.3 +1.4
baz=72
TMUT Trail Mountain 71.27 327 eP P 04 01 36.4 +0.3
comp=E,4.9nm,0.8s
FMP Fort Macarthur 71.28 319 ⇓P P 04 01 37.3 +1.4
baz=72
I26A New Underwood 71.30 335 ⇓P P 04 01 37.4 +1.5
baz=72
SHPR Sheep Range 71.35 323 eP P 04 01 37.9 +1.3
K23A Bowen Ranch, D 71.37 333 ⇓P P 04 01 37.9 +1.4
baz=72
J24A Dixon Ranch, L 71.44 334 ⇓P P 04 01 37.8 +0.9
baz=72
F30A Lea 71.45 339 ⇓P P 04 01 37.2 +0.4
baz=72
G28A Parade 71.46 337 ⇑P P 04 01 38.2 +1.4
baz=72
MWC Mount Wilson 71.48 319 eP P 04 01 38.8 +1.5
H27A Howes 71.51 336 ⇓P P 04 01 37.9 +0.8
baz=72
I25A Rochford 71.63 335 ⇑P P 04 01 39.4 +1.4
baz=72,SNR=11
K22A Casper 71.67 332 ⇓P P 04 01 39.6 +1.2
baz=72
K22A Casper 71.67 332 eP P 04 01 38.8 +0.5
comp=E,8.6nm,1.1s
F29A Eureka 71.73 338 ⇓P P 04 01 38.9 +0.5
baz=72
H26A Fairpoint 71.76 336 ⇑P P 04 01 40.2 +1.5
baz=72
RSSD Black Hills 71.84 335 eP P 04 01 40.5 +1.1
I24A Kuemmerle Ranc 71.86 334 ⇓P P 04 01 40.7 +1.3
baz=72
J23A Dilts Ranch, B 71.87 333 ⇑P P 04 01 40.9 +1.5
baz=72
EDW2 Edwards Air Fo 71.88 320 ⇑P P 04 01 40.8 +1.2
baz=72
K21A Alcova 71.98 332 ⇑P P 04 01 41.4 +1.2
baz=72,SNR=13
E30A Jud 72.00 339 ⇑P P 04 01 42.0 +2.0
baz=72
BLG Laguna Peak, P 72.02 319 ⇑P P 04 01 42.1 +1.7
baz=72
MPU Maple Canyon 72.02 327 eP P 04 01 42.2 +1.7
F28A McLaughlin 72.08 338 ⇓P P 04 01 42.2 +1.7
baz=72
H25A Fruitdale 72.08 335 ⇓P P 04 01 42.5 +1.9
baz=72
G27A Dupree 72.09 337 ⇑P P 04 01 41.5 +1.0
baz=72,SNR=5.1
DAU Daniels Canyon 72.13 328 eP P 04 01 42.6 +1.3
OSI Osito Audit: C 72.14 319 ⇓P P 04 01 41.9 +0.7
baz=72
G26A Maurine 72.27 336 ⇑P P 04 01 42.7 +1.0
baz=73,SNR=6.1
J22A Midwest 72.27 333 ⇓P P 04 01 43.0 +1.2
baz=73,SNR=6.7
TPNV Topopah Spring 72.28 322 ⇓P P 04 01 42.9 +0.8
baz=73,SNR=10
TPNV Topopah Spring 72.28 322 eP P 04 01 44.1 +2.1
comp=E,10nm,1.0s
I23A Meade Ranch, G 72.29 334 ⇑P P 04 01 43.2 +1.3
baz=73
E29A Napoleon 72.30 339 ⇓P P 04 01 43.3 +1.5
baz=73
JLU Jordanelle 72.37 328 eP P 04 01 43.8 +1.1
comp=E,11nm,0.9s
D30A Buchanan 72.48 340 ⇓P P 04 01 43.9 +1.0
baz=73
F27A Lemmon 72.54 337 ⇑P P 04 01 45.1 +1.9
baz=73
H24A Dirks Ranch, A 72.56 335 ⇑P P 04 01 44.5 +0.9
baz=73,SNR=5.3
J21A Lysite 72.64 332 ⇑P P 04 01 45.4 +1.3
baz=73,SNR=6.0
SBC Santa Barbara 72.64 318 ⇓P P 04 01 45.9 +1.9
baz=73
AGMN Agassiz Nation 72.65 342 ⇓P P 04 01 44.9 +1.1
baz=73
I22A 9 Mile Ranch, 72.66 333 ⇓P P 04 01 45.0 +0.9
baz=73,SNR=7.9
E28A Huff 72.67 338 ⇑P P 04 01 45.7 +1.7
baz=73
ISA Isabella, Lake 72.70 320 ⇑P P 04 01 46.3 +1.8
baz=73,SNR=9.8
ISA Isabella, Lake 72.70 320 eP P 04 01 45.4 +0.9
comp=E,11nm,0.8s
H23A Clabaugh Cattl 72.75 334 ⇑P P 04 01 46.3 +1.6
baz=73
DUG Dugway, Tooele 72.76 327 ⇓P P 04 01 46.8 +1.9
baz=73,SNR=10
DUG Dugway, Tooele 72.76 327 eP P 04 01 46.1 +1.2
comp=E,3.7nm,0.6s
F26A Lodgepole 72.76 337 ⇓P P 04 01 45.5 +0.9
baz=73,SNR=7.9
E27A Carson 72.85 338 ⇑P P 04 01 46.8 +1.7
baz=73
R11A Troy Canyon, C 72.89 324 ⇓P P 04 01 47.5 +1.8
baz=73,SNR=7.5
C30A Mose, Pekin 72.92 340 ⇑P P 04 01 45.9 +0.5
baz=73
J20A Shoshoni 72.92 332 ⇓P P 04 01 47.0 +1.2
baz=73
I21A Big Trails, Te 72.94 332 ⇓P P 04 01 46.5 +0.6
baz=73,SNR=10
GRAC Grapevine Rang 72.96 322 ⇑P P 04 01 47.0 +1.0
baz=73
G24A Alzada 72.99 335 ⇓P P 04 01 46.8 +0.8
baz=73
F25A Bowman 73.12 336 ⇓P P 04 01 47.8 +1.1
baz=74
PDAR Pinedale Array 73.13 330 P P 04 01 47.5 +0.5
comp=E,1.6nm,0.6s,baz=138,slow=7.3,SNR=16
D28A Regan 73.16 339 ⇓P P 04 01 48.2 +1.3
baz=74
H22A Clearmont 73.17 334 ⇓P P 04 01 48.3 +1.2
baz=74
VES Vestal, Richgr 73.19 320 ⇑P P 04 01 48.6 +1.4
baz=74
HWUT Hardware Ranch 73.19 328 eP P 04 01 47.7 +0.3
comp=E,8.1nm,0.7s
E26A Carlson Angus 73.21 337 ⇑P P 04 01 48.9 +1.6
baz=74
G23A Biddle 73.28 334 ⇓P P 04 01 48.5 +0.8
baz=74,SNR=5.8
J19A Crowheart 73.29 331 ⇑P P 04 01 48.9 +1.0
baz=74,SNR=11
SMMC Simmler 73.39 319 ⇑P P 04 01 50.9 +2.4
baz=74,SNR=5.2
MDND Maddock 73.41 339 ⇓P P 04 01 49.5 +1.2
baz=74
BGU Big Grassy Mou 73.41 327 eP P 04 01 50.0 +1.3
I20A Worland 73.42 332 ⇑P P 04 01 49.8 +1.2
baz=74
D27A Center 73.42 338 ⇓P P 04 01 49.9 +1.5
baz=74
F24A Ekalaka 73.43 335 ⇓P P 04 01 49.8 +1.2
baz=74,SNR=6.1
H21A Big Horn, Sher 73.49 333 ⇑P P 04 01 49.8 +0.8
baz=74,SNR=5.1
B30A Myrvik Farm, E 73.53 341 ⇑P P 04 01 50.1 +1.1
baz=74
C28A Hausauer Farms 73.55 339 ⇑P P 04 01 50.0 +0.8
baz=74
E25A Miller Ranch, 73.58 336 ⇑P P 04 01 50.3 +0.9
baz=74
TPH Tonopah 73.62 323 eP P 04 01 51.1 +1.1
comp=E,22nm,1.6s
G22A Birney 73.66 334 ⇑P P 04 01 50.9 +0.9
baz=74
D26A Manning 73.68 337 ⇓P P 04 01 51.1 +1.1
baz=74
F23A Volborg 73.71 335 ⇓P P 04 01 51.1 +0.9
baz=74
H20A Greybull 73.79 332 ⇑P P 04 01 51.5 +0.8
baz=74,SNR=6.7
I19A Meeteetse 73.87 332 ⇓P P 04 01 52.6 +1.2
baz=74,SNR=6.7
B29A Wagenman Farm, 73.87 340 ⇑P P 04 01 51.5 +0.5
baz=74,SNR=7.3
MTUM Tungsten Hills 73.89 321 eP P 04 01 53.6 +2.0
HVU Hansel Valley 73.92 328 eP P 04 01 52.0 +0.4
comp=E,7.3nm,0.9s
C27A Sayler Ranch, 73.93 338 ⇓P P 04 01 52.2 +0.8
baz=74
A30A Hoffart Farm, 73.95 341 ⇓P P 04 01 52.4 +0.9
baz=74
E24A Baker 73.98 336 ⇑P P 04 01 52.9 +1.2
baz=74
G21A Lodge Grass 74.04 333 ⇓P P 04 01 53.5 +1.3
baz=74
F22A Rosebud 74.10 334 ⇑P P 04 01 53.2 +0.8
baz=74
D25A Fairfield 74.10 337 ⇑P P 04 01 53.6 +1.2
baz=74
B28A Dugan Ranch, T 74.18 339 ⇓P P 04 01 54.0 +1.2
baz=74
A29A Manning Farm, 74.23 340 ⇓P P 04 01 53.3 +0.2
baz=75,SNR=11
C26A Wahner Farm, P 74.23 338 ⇓P P 04 01 54.3 +1.1
baz=75
MLAC Mammoth, Mammo 74.24 321 ⇑P P 04 01 55.5 +1.8
baz=75
H19A Powell 74.36 332 ⇓P P 04 01 55.6 +1.5
baz=75,SNR=5.6
ULM Lac du Bonnet 74.42 343 P P 04 01 53.4 -0.7
comp=E,2.9nm,0.7s,baz=170,slow=7.3,SNR=6.6
D24A Glendive 74.45 336 ⇑P P 04 01 55.9 +1.5
baz=75
G20A Bridger 74.46 333 ⇓P P 04 01 55.3 +0.6
baz=75,SNR=7.1
NVAR Mina Array Bea 74.48 322 P P 04 01 56.0 +1.0
comp=E,3.7nm,0.8s,baz=156,slow=7.2,SNR=16
I17A Pilgrim Ck. 74.49 331 ⇑P P 04 01 56.6 +1.6
baz=75,SNR=11
A28A Rude Farm, Bot 74.55 340 ⇓P P 04 01 55.6 +0.7
baz=75
C25A Freed Ranch, W 74.55 337 ⇓P P 04 01 56.0 +1.0
baz=75
H18A Shoshone NF, C 74.67 332 ⇓P P 04 01 57.0 +1.0
baz=75,SNR=19
FLWY Flagg Ranch 74.67 331 eP P 04 01 57.7 +1.7
C24A Savage 74.83 336 ⇓P P 04 01 58.2 +1.6
baz=75
D23A Lindsay 74.83 336 ⇓P P 04 01 58.1 +1.5
baz=75,SNR=5.7
RLMT Red Lodge 74.84 332 eP P 04 01 57.6 +0.6
comp=E,4.8nm,0.6s
H17A Grant Village 74.86 331 ⇑P P 04 01 59.4 +2.2
baz=75
H17A Grant Village 74.86 331 eP P 04 01 58.5 +1.4
comp=E,2.2nm,0.6s
A27A Ledoux Ranch, 74.91 339 ⇑P P 04 01 58.8 +1.8
baz=75
LKWY Lake 74.91 331 eP P 04 01 59.0 +1.5
comp=E,8.3nm,0.8s
B25A Knox Farm, Ray 74.99 338 ⇓P P 04 02 00.1 +2.5
baz=75
E21A Keefer Ranch, 75.05 334 ⇑P P 04 01 59.7 +1.8
baz=75
D22A Cohagen 75.19 335 ⇑P P 04 02 00.5 +1.8
baz=76
YMR Madison River 75.25 331 eP P 04 02 00.4 +1.1
comp=E,17nm,1.1s
F19A Roth Farm, Mol 75.28 333 ⇓P P 04 02 00.6 +1.3
baz=76,SNR=14
C23A Lambert 75.34 336 ⇓P P 04 02 00.6 +1.0
baz=76
SCHQ Schefferville 75.36 2 P P 04 01 59.0 -0.4
comp=E,4.1nm,1.1s,baz=160,slow=15,SNR=3.1
D21A La Casta Ranch 75.44 335 ⇑P P 04 02 01.4 +1.2
baz=76,SNR=5.9
E20A Meyer Farm, Mu 75.45 334 ⇑P P 04 02 01.7 +1.4
baz=76,SNR=12
DGMT Dagmar 75.53 337 ⇑P P 04 02 01.9 +1.3
baz=76
DGMT Dagmar 75.53 337 eP P 04 02 01.9 +1.3
A25A Svangstu Ranch 75.54 338 ⇑P P 04 02 02.2 +1.5
baz=76
GCMT Greycliff 75.54 332 eP P 04 02 01.5 +0.6
comp=E,4.8nm,0.7s
C22A Vida 75.56 336 ⇓P P 04 02 02.3 +1.5
baz=76
E19A Rath Farm, Rou 75.69 333 ⇓P P 04 02 02.7 +1.1
baz=76,SNR=27
B23A Brockton 75.82 337 ⇓P P 04 02 03.6 +1.3
baz=76,SNR=5.5
A24A Westby 75.84 337 ⇑P P 04 02 04.0 +1.6
baz=76
D20A Manuel Ranch, 75.92 334 ⇑P P 04 02 03.9 +0.9
baz=76,SNR=6.8
HLID Hailey 76.05 328 ⇑P P 04 02 05.3 +1.5
baz=76,SNR=13
HLID Hailey 76.05 328 eP P 04 02 05.1 +1.2
comp=E,7.2nm,1.0s
C21A Desert Coulee 76.10 335 ⇑P P 04 02 05.3 +1.5
baz=76
D19A Cripps Ranch, 76.29 334 ⇓P P 04 02 05.8 +0.8
baz=77,SNR=9.1
C20A Veseth Ranch, 76.37 334 ⇓P P 04 02 06.6 +1.1
baz=77
A22A Carney Farms, 76.60 336 ⇑P P 04 02 07.6 +0.8
baz=77,SNR=6.0
C19A Slack Wire Ran 76.81 334 ⇓P P 04 02 08.7 +0.8
baz=77,SNR=5.9
HRY Holter Researc 77.20 332 eP P 04 02 11.6 +1.4
comp=E,3.6nm,0.8s
A20A Cobblestone Ra 77.28 335 ⇓P P 04 02 11.7 +1.2
baz=78,SNR=7.6
EGMT Eagleton 77.33 334 ⇑P P 04 02 11.7 +0.9
baz=78,SNR=5.2
B19A Brinkman Farms 77.34 334 ⇓P P 04 02 12.5 +1.6
baz=78
A19A Klindworth Far 77.64 335 ⇑P P 04 02 13.6 +1.1
baz=78,SNR=5.5
TORD Torodi Ar. Bea 77.83 71 P P 04 02 13.3 -1.0
comp=E,8.1nm,0.6s,baz=254,slow=5.3,SNR=223
MOD Modoc Plateau 77.96 324 eP P 04 02 15.3 +0.7
comp=E,3.1nm,0.9s
N02D Trinity Center 78.70 322 ⇓P P 04 02 20.6 +2.0
baz=79
M04C Macdoel 78.74 323 ⇑P P 04 02 20.2 +1.3
baz=79
JTMT Jette 79.08 331 eP P 04 02 21.2 +0.6
comp=E,1.8nm,0.8s
YBH Yreka Blue Hor 79.20 323 P P 04 02 21.3 0.0

comp=E,1.5nm,0.7s,baz=106,slow=7.4,SNR=4.1
BSMT Bassoo Peak 79.39 331 *e*P **P** **04 02 23.2 +0.9**
comp=E,3.4nm,1.3s
SUR Sutherland 79.58 121 *e*P **P** **04 02 22.7 -1.2**
J04D Umpqua Nationa 79.84 324 ⇑P **P** **04 02 27.0 +2.0**
baz=80
WALA Waterton Lakes 79.90 332 *e*P P 04 02 16.2 -8.8
comp=E,4.5nm,0.8s
FFC Flin Flon 80.12 342 *e*P **P** **04 02 25.8 -0.1**
comp=E,1.3nm,0.5s
I05D Terrebonne, OR 80.16 325 ⇓P **P** **04 02 28.5 +2.1**
baz=80,SNR=7.1
I04A Tendick Farm, 80.37 324 ⇓P **P** **04 02 28.7 +1.1**
baz=81
G05D Wamic, OR 80.75 326 ⇓P **P** **04 02 31.4 +1.9**
baz=81
NEW Newport 80.76 330 ⇓P **P** **04 02 31.3 +1.7**
baz=81
I03D Drain, OR 80.83 324 ⇑P **P** **04 02 31.9 +2.0**
baz=81
TSUM Tsumeb 80.96 107 *e*P **P** **04 02 31.3 -0.1**
comp=E,2.9nm,0.6s
FCC Fort Churchill 81.78 347 *e*P **P** **04 02 34.1 -0.4**
MDT Midelt 81.87 50 LR LR 04 38 24.8
comp=E,36nm,18.3s,slow=35
EDM Edmonton 82.81 335 *e*P **P** **04 02 39.2 -0.9**
TAM Tamanrasset 85.17 64 *e*P **P** **04 02 53.2 +0.2**
comp=E,7.8nm,1.5s
MAW Mawson 85.22 164 P **P** **04 02 53.0 +0.7**
comp=E,1.2nm,0.6s,baz=240,slow=8.9,SNR=4.3
MAW pP **pP** **04 03 16.6 -0.2**
comp=E,3.2nm,0.8s,baz=210,slow=9.4,SNR=2.9
LBTB Lobatse 85.99 115 *e*P **P** **04 02 56.9 -0.2**
YKA Yellowknife Ar 90.28 341 P **P** **04 03 16.3 0.0**
comp=E,4.0nm,0.8s,baz=135,slow=4.5,SNR=83
YKA pP **pP** **04 03 40.6 -0.4**
comp=E,1.5nm,0.8s,baz=130,slow=4.9,SNR=5.3
KEST Kesra 93.48 53 *e*P **P** **04 03 32.3 +0.4**
RES Resolute Bay 96.61 353 *e*P **P** **04 03 42.3 -2.9**
CSS Prodhromos 112.01 60 *e*PKP **PKiKP** **04 08 51.0 -0.2**
FORT Forrest 125.96 199 *e*PKPdf **PKPdf** **04 09 17.3 -0.9**
AS31 Alice Springs 130.18 209 *e*PKPdf **PKPdf** **04 09 26.1 -0.4**
ASAR Alice Springs 130.18 209 PKP **PKPdf** **04 09 26.2 -0.3**
comp=E,1.3nm,0.8s,baz=155,slow=2.5,SNR=13
ABKAR Akbulak array 131.13 42 *e*PKPdf **PKPdf** **04 09 27.5 +0.1**
WRA Warramunga Arr 133.17 212 PKP **PKPdf** **04 09 32.1 -0.1**
comp=E,1.0nm,0.8s,baz=151,slow=1.7,SNR=9.6
WRAB Tennant Creek 133.17 212 *e*PKPdf **PKPdf** **04 09 32.4 +0.2**
KURK Kurchatov 141.14 32 *e*PKPdf **PKPdf** **04 09 45.8 0.0**
ZALV Zalesovo Beam 141.62 24 PKP **PKPdf** **04 09 45.3 -1.3**
comp=E,1.4nm,0.6s,baz=288,slow=1.8,SNR=6.9
ZALV pPKP **pPKPdf** **04 10 12.6 +0.2**
comp=E,1.1nm,0.6s,baz=309,slow=2.8,SNR=3.7
AAK Ala-Archa 142.96 46 *e*PKPdf **PKPdf** **04 09 49.3 -0.3**
ASAJ Asahikawa 144.53 318 PKP **PKPdf** **04 09 51.9 -0.2**
comp=E,6.3nm,0.8s,baz=327,slow=7.2,SNR=5.3
KSH Kashi 145.23 50 *e*PKPbc **PKPab** **04 09 53.9 +0.2**
KSH pPKP **pPKPdf** **04 10 20.1 +0.7**
KSH sPKP 04 10 31.1
KSH PP **PP** **04 13 16.5 +2.9**
KSH PKS **PKSdf** **04 13 27.8 -1.4**
KSH SKS **SKSdf** **04 16 51.3 -3.3**
KSH PPMZ
comp=E,96nm,6.1s
KSH LN
comp=E,100nm,6.6s
KSH LE
comp=E,100nm,9.9s
KSH LZ
comp=E,170nm,5.5s
MKAR Makanchi Array 145.49 35 PKPbc **PKPab** **04 09 54.3 0.0**
comp=E,3.9nm,0.7s,baz=326,slow=3.9,SNR=51
MKAR pPKPbc pPKPbc 04 10 18.9 -0.5
comp=E,2.0nm,0.8s,baz=317,slow=3.1,SNR=5.2
WMQ Urumqi 150.31 34 *e*PKPbc **PKPdf** **04 10 02.0 +0.2**
USRK Ussuriysk Ar. 150.51 327 PKPbc **PKPbc** **04 10 07.9 +0.5**
comp=E,4.1nm,0.6s,baz=26,slow=1.1,SNR=12
USRK pPKPbc **pPKPbc** **04 10 32.8 -0.2**
comp=E,3.4nm,0.9s,baz=214,slow=1.0,SNR=2.4
MJAR Matsushiro Arr 151.05 309 PKPbc **PKPbc** **04 10 08.1 -0.8**
comp=E,1.6nm,0.6s,baz=129,slow=1.3,SNR=5.0
KAPI Kappang 152.72 201 *e*PKPbc **PKPbc** **04 10 13.1 -0.3**
SONM Songino Array 152.84 6 PKPbc **PKPbc** **04 10 13.3 +0.5**
comp=E,1.1nm,0.5s,baz=322,slow=1.5,SNR=7.1
SONM pPKPbc **pPKPbc** **04 10 37.7 -0.7**
comp=E,0.9nm,0.4s,baz=303,slow=1.5,SNR=4.4
ULN Ulaanbaatar 152.86 5 *e*PKPbc **PKPbc** **04 10 12.5 -0.4**
KSRS Korea Array 157.42 321 PKP **PKPdf** **04 10 12.8 +0.9**
comp=E,0.5nm,0.3s,baz=56,slow=0.5,SNR=5.0
KSRS PKPab **PKPab** **04 10 44.4 +0.7**
comp=E,0.7nm,0.4s,baz=33,slow=5.1,SNR=4.4
KSAR Wonju Array Be 157.45 321 PKP **PKPdf** **04 10 12.8 +0.8**
KSAR PKPab **PKPab** **04 10 44.4 +0.5**
HHC Hu-ho-hao-te 159.98 357 *e*PKP **PKPdf** **04 10 14.9 -0.1**
HHC pPKP **pPKPdf** **04 10 41.1 +0.2**
HHC PP **PP** **04 14 39.1 +3.2**
HHC SKKS 04 21 16.8
HHC PPMZ
comp=E,47nm,7.9s
LZH Lanzhou 163.75 19 *e*PKP **PKPdf** **04 10 18.6 -0.5**
LZH pPKP **pPKPdf** **04 10 47.4 +2.4**
LZH sPKP 04 10 58.3
LZH PKPab **PKPab** **04 11 14.0 +2.5**
CD2 Chengdu 168.34 29 PKP **PKPdf** **04 10 21.0 -1.8**

*ISCJB **17** 03:52:37.3±1.0, 43.7°N±0.3°×29.0°W±0.2, h14km, mb3.7/5, MS3.2/11, Error ellipse: s-maj=40.0km s-min=17.2km az=21.7*
*IDC **17** 03:52:37.2±1.2, 43.73°N×28.99°W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/42, mbtmp3.7/5, ML4.0/1, MS3.3/12, Ms1 3.3/12, ms1mx3.1/44, Error ellipse: s-maj=46.4km s-min=23.7km az=25.0*
ISC 17 03:52:39.2±1.2, 43.7°N±0.3°×29.0°W±0.2, h14km, n15, σ0§67/5, mb3.8/5, MS3.3/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESDC	**Sonseca Array**	**19.08**	**94**	P		**Pn**	**03 57 01.8**	**-0.3**
	0.1nm,0.3s,baz=295,slow=9.7,SNR=5.1							
ESDC				LR	LR	LR	04 02 36.4	
	comp=Z,62nm,21.7s,baz=145,slow=31							
MDT	**Midelt**	**21.92**	**112**	P		P	03 57 37.3	+5.1
	4.4nm,1.1s,baz=328,slow=15,SNR=3.5							
MDT				LR		LR	04 03 19.8	
	comp=Z,70nm,21.4s,baz=341,slow=29							
DAVOX	**Davos/Dischmat**	**27.34**	**70**	LR		LR	04 08 10.3	
	comp=Z,53nm,18.9s,baz=274,slow=34							
NOA	**NORSAR Array B**	**29.41**	**40**	LR		LR	04 09 30.0	
	comp=Z,24nm,18.5s,baz=265,slow=34							
GERES	**GERESS Array B**	**29.64**	**65**	LR		LR	04 09 52.2	
	comp=Z,51nm,18.1s,baz=258,slow=35							
FRB	**Frobisher Bay**	**30.09**	**326**	LR		LR	04 07 39.1	
	comp=Z,72nm,20.9s,baz=194,slow=30							
AKASG	**Malin Array Be**	**39.24**	**59**	LR		LR	04 15 51.2	
	comp=Z,41nm,19.5s,baz=275,slow=36							
TORD	**Torodi Ar. Bea**	**40.24**	**130**	P		**P**	**04 00 15.5**	**-0.1**
	1.4nm,0.8s,baz=330,slow=7.8,SNR=7.6							
TORD				LR		LR	04 15 08.0	
	comp=Z,104nm,20.6s,baz=310,slow=34							
DBIC	**Dimbokro**	**42.53**	**143**	LR		LR	04 16 25.2	
	comp=Z,41nm,18.6s,baz=314,slow=34							
BRTR	**Keskin Array B**	**45.92**	**72**	LR		LR	04 21 00.5	
	comp=Z,26nm,18.4s,baz=278,slow=37							
YKA	**Yellowknife Ar**	**50.55**	**323**	P		**P**	**04 01 36.1**	**-0.6**
	0.4nm,0.8s,baz=64,slow=7.7,SNR=6.7							
ROSC	**El Rosal**	**55.55**	**239**	LR		LR	04 25 15.8	
	comp=Z,38nm,18.5s,baz=32,slow=35							
AKTO	**Aktyubinsk**	**56.37**	**50**	LR		LR	04 25 59.0	
	comp=Z,24nm,19.6s,slow=36							
TXAR	**Lajitas Array**	**59.82**	**283**	P		**P**	**04 02 44.6**	**+0.3**
	0.7nm,0.7s,baz=57,slow=6.6,SNR=5.6							
MKAR	**Makanchi Array**	**71.36**	**43**	P		**P**	**04 03 59.0**	**+0.6**
	1.1nm,0.9s,baz=328,slow=4.5,SNR=8.4							

*ISCJB **17** 04:00:19.6±0.4, 59.68°N±0.02°×24.13°E±0.06, h0km, Error ellipse: s-maj=4.5km s-min=2.9km az=3.3*
*HEL **17** 04:00:20.9±0.1, 59.67°N×24.15°E, h0km, ML1.9, Explosion*
*IDC **17** 04:00:20.4±2.5, 59.68°N×24.30°E, h0km, mb1 3.3/2, mb1mx2.9/33, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=29.5km s-min=8.9km az=144.0*
ISC 17 04:00:19.9±0.9, 59.69°N±0.03°×24.10°E±0.04, h0km, n18, σ1§08/34, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRPE	**Suurupi**	**0.27**	**147**	*e*P		**Pg**	**04 00 25.1**	**+0.1**
SRPE				*e*S		**Sg**	**04 00 28.0**	**-0.4**
MEF	**Metsahovi**	**0.55**	**16**	*e*P		**Pg**	**04 00 30.4**	**-0.1**
MEF				*e*S		**Sg**	**04 00 37.5**	**-0.1**
MTSE	**Matsula**	**0.99**	**189**	*e*P		**Pg**	**04 00 38.5**	**-0.3**
MTSE				*e*S		**Sg**	**04 00 50.2**	**-1.3**
PVF	**Pernaja**	**1.23**	**45**	*e*P		**Pg**	**04 00 42.6**	**-0.9**
PVF				*e*S		**Sg**	**04 00 59.3**	**-0.2**
RAF	**Rauma**	**1.77**	**320**	*e*P		**Pn**	**04 00 52.7**	**+0.9**
RAF				*e*S		**Sn**	**04 01 15.7**	**+0.7**
RAF				MSG			04 01 19.6	
	comp=Z,6.1nm,0.2s							
VSU	**Vasula**	**1.83**	**131**	*e*P		**Pn**	**04 00 52.9**	**+0.3**
VSU				*e*S		**Sn**	**04 01 15.3**	**-1.2**
VJF	**Virojoki**	**1.93**	**62**	*e*P		**Pn**	**04 00 54.1**	**+0.2**
VJF				*e*S		**Sb**	**04 01 20.0**	**-0.5**
VJF				MSG			04 01 22.3	
	comp=Z,10nm,0.2s							
FIA0	**FINESS Array S**	**2.02**	**28**	*e*P		**Pn**	**04 00 56.5**	**+1.3**
FIA0				*e*S		**Sn**	**04 01 21.9**	**+0.9**
FIA0				MSG			04 01 27.1	
	comp=Z,5.3nm,0.2s							
FINES	**FINESS Array B**	**2.02**	**28**	Pn		**Pn**	**04 00 56.1**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=212,slow=14,SNR=204							
FINES				Lg		Lg	04 01 22.2	
	comp=Z,0.9nm,0.3s,baz=226,slow=24,SNR=14							
AAL	**Aland**	**2.12**	**285**	*e*P		**Pn**	**04 00 57.5**	**+0.9**
AAL				*e*S		**Sn**	**04 01 25.4**	**+1.8**
SLIT	**Slitere, Latvi**	**2.27**	**205**	*e*P		**Pn**	**04 00 59.9**	**+1.2**
SLIT				*e*S		**Sn**	**04 01 28.5**	**+1.2**
KEF	**Keuruu**	**2.52**	**8**	*e*P		**Pn**	**04 01 03.8**	**+1.7**
KEF				*e*S		**Sn**	**04 01 33.6**	**+0.2**
KEF				MSG			04 01 38.8	
	comp=Z,8.2nm,0.2s							
KAF	**Kangasniemi**	**2.66**	**23**	*e*P		**Pn**	**04 01 05.2**	**+1.2**
KAF				*e*S		**Sn**	**04 01 37.5**	**+0.5**
KAF				MSG			04 01 44.5	
	comp=Z,4.1nm,0.2s							
SUF	**Sumiainen**	**3.20**	**17**	*e*P		**Pn**	**04 01 12.3**	**+0.9**
SUF				*e*S		**Sn**	**04 01 51.0**	**+0.8**
VAF	**Ylistaro**	**3.44**	**349**	*e*P		**Pn**	**04 01 16.4**	**+1.7**
VAF				*e*S		**Sn**	**04 01 55.7**	**-0.3**
UMAU	**Umeaa**	**4.51**	**340**	*e*P		**Pn**	**04 01 30.5**	**+1.1**
UMAU				*e*S		**Sn**	**04 02 21.7**	**-0.8**
NOA	**NORSAR Array B**	**6.54**	**288**	Pn		**Pn**	**04 01 56.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=82,slow=18,SNR=3.0							
NOA				Sn		**Sn**	**04 03 10.1**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=16,slow=14,SNR=2.6							
ARCES	**ARCESS Array B**	**9.91**	**3**	Pn		**Pn**	**04 02 42.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=8.1							

*BJI **17** 04:22:10.0, 40.40°N×127.20°W, h10km, mB4.9/1, mb4.9/6, Ms4.7/1*
*IDC **17** 04:22:11.5±0.8, 40.48°N×127.24°W, h0km, mb3.9/12, mb1 4.0/17, mb1mx3.8/52, mbtmp3.8/17, ML3.0/3, MS3.5/29, Ms1 3.5/29, ms1mx3.4/45, Error ellipse: s-maj=21.0km s-min=11.1km az=17.0*
*NEIC **17** 04:22:13.0±0.4, 40.39°N×127.21°W, h10km, mb4.5/48, Error ellipse: s-maj=5.7km s-min=3.7km az=224.0*
*ISCJB **17** 04:22:14.5±0.3, 40.58°N±0.02°×127.16°W±0.03°, h16km, mb4.3/45, MS3.5/21, Error ellipse: s-maj=3.8km s-min=3.1km az=139.3*
ISC 17 04:22:14.1±0.5, 40.40°N±0.05°×127.26°W±0.05°, h16km, n389, σ1§74/338, mb4.4/45, MS3.6/21, 114C-97D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMRM	**Mail Ridge**	**2.72**	**93**	*e*Pn		**Pn**	**04 22 55.6**	**-1.5**
KHMM	**Horse Mountain**	**2.73**	**79**	*e*Pn		Pn	04 22 54.1	-3.2
KHMM				*e*Sn		**Sn**	**04 23 27.4**	**-2.6**
KCPM	**Cahto Peak**	**2.91**	**103**	*e*Pn		**Pn**	**04 22 57.6**	**-2.3**
KCPM				*e*Sn		**Sn**	**04 23 30.4**	**-4.2**
KBO	**Bosley Butte**	**2.92**	**51**	*e*Pn		Pn	04 22 56.5	-3.3
KSXB	**Camp Six Broad**	**2.93**	**60**	P		**Pn**	**04 22 57.3**	**-2.7**
KIPM	**Iron Peak**	**2.96**	**100**	*e*Pn		**Pn**	**04 22 58.4**	**-2.1**
L02D	**Cave Junction,**	**3.27**	**56**	⇑P		**Pn**	**04 23 03.2**	**-1.4**
	baz=3.2,SNR=198							
KEBM	**Edson Butte**	**3.30**	**41**	*e*Pn		Pn	04 23 02.0	-3.1
M02C	**Callahan**	**3.48**	**72**	⇑P		**Pn**	**04 23 05.2**	**-2.5**
	baz=3.4,SNR=167							
M02C				⇓S		**Sn**	**04 23 46.5**	**-2.1**
	baz=3.4							
N02D	**Trinity Center**	**3.51**	**79**	⇑P		**Pn**	**04 23 05.6**	**-2.5**
	baz=3.4,SNR=30							
N02D				⇓S		**Sn**	**04 23 47.1**	**-2.2**
	baz=3.4							
HOPS	**Hopland Field**	**3.52**	**112**	*e*Pn		**Pn**	**04 23 05.6**	**-2.6**
WDC	**Whiskeytown Da**	**3.60**	**86**	*e*Pn		**Pn**	**04 23 07.4**	**-1.8**
YBH	**Yreka Blue Hor**	**3.69**	**67**	Pn		**Pn**	**04 23 09.6**	**-0.9**
	35nm,0.3s,baz=268,slow=9.7,SNR=548							
YBH				Sn		**Sn**	**04 23 52.0**	**-1.6**
	6.3nm,0.3s,baz=73,slow=15,SNR=4.2							
YBH				LR		LR	04 24 15.0	
	comp=Z,1μm,20.3s,baz=282,slow=34							
YBH	**Yreka Blue Hor**	**3.69**	**67**	*e*Pn		**Pn**	**04 23 09.1**	**-1.4**
YBH				Sn		**Sn**	**04 23 52.0**	**-1.6**
HUMO	**Hull Mountain**	**3.91**	**54**	*e*Pn		**Pn**	**04 23 11.5**	**-2.0**
MCCM	**Marconi Confer**	**4.08**	**122**	*e*Pn		**Pn**	**04 23 13.7**	**-2.0**
MCCM				*e*Sn		**Sn**	**04 24 01.3**	**-1.8**
BUOR	**Burton Butte**	**4.21**	**62**	P		**Pn**	**04 23 17.8**	**0.0**
M04C	**Macdoel**	**4.32**	**70**	⇑P		**Pn**	**04 23 18.1**	**-1.2**
	baz=4.2,SNR=42							
M04C				⇑S		**Sn**	**04 24 08.3**	**-1.1**
	baz=4.2							
I03D	**Drain, OR**	**4.40**	**40**	⇑P		**Pn**	**04 23 18.4**	**-1.7**
	baz=4.3,SNR=26							
I03D				⇓S		**Sn**	**04 24 09.5**	**-1.4**
	baz=4.3							
HOG	**Hogback Mounta**	**4.57**	**64**	P		**Pn**	**04 23 21.8**	**-0.9**
K04D	**Chiloquin, OR**	**4.69**	**60**	⇑P		**Pn**	**04 23 22.9**	**-1.4**
	baz=4.6,SNR=30							
SAC	**San Andreas**	**4.71**	**125**	*e*Pn		**Pn**	**04 23 22.3**	**-2.1**
SAC				*e*Sn		**Sn**	**04 24 15.5**	**-3.2**
J04D	**Umpqua Nationa**	**4.78**	**52**	⇑P		**Pn**	**04 23 24.6**	**-1.0**
	baz=4.7,SNR=47							
I04A	**Tendick Farm,**	**4.95**	**45**	⇓P		**Pn**	**04 23 26.5**	**-1.3**
	baz=4.9,SNR=28							
I04A				⇑S		**Sn**	**04 24 23.1**	**-1.6**
	baz=4.9							
COR	**Corvallis**	**5.10**	**34**	*e*Pn		**Pn**	**04 23 28.6**	**-1.2**
K05A	**Summer Lake**	**5.31**	**62**	*e*Pn		**Pn**	**04 23 31.9**	**-1.0**
J05D	**Fort Rock, OR**	**5.34**	**55**	⇓P		**Pn**	**04 23 32.2**	**-1.1**
	baz=5.3,SNR=15							
MOD	**Modoc Plateau**	**5.46**	**72**	*e*Pn		**Pn**	**04 23 33.5**	**-1.4**
MOD				*e*Pg		**Pb**	**04 23 50.4**	**+1.2**
MOD				*e*Sn		**Sn**	**04 24 36.7**	**-0.8**
MOD				*e*Sg		Sg	04 25 01.3	-8.1
G03D	**McMinnville, O**	**5.63**	**30**	⇓P		**Pn**	**04 23 36.2**	**-0.9**
	baz=5.6,SNR=10							
G03D				⇓S		**Sn**	**04 24 40.7**	**-0.7**
	baz=5.6							
H04A	**Detroit Lake**	**5.69**	**40**	*e*Pn		**Pn**	**04 23 36.7**	**-1.2**
SAO	**San Andreas Ge**	**5.83**	**127**	*e*Pn		**Pn**	**04 23 38.0**	**-1.8**
SAO				*e*Sn		**Sn**	**04 24 42.9**	**-3.3**
CMB	**Columbia Colle**	**5.84**	**112**	*e*Pn		**Pn**	**04 23 40.9**	**+0.9**
CMB				*e*Sn		**Sn**	**04 24 46.3**	**-0.3**
I05D	**Terrebonne, OR**	**5.89**	**46**	⇑P		**Pn**	**04 23 39.4**	**-1.3**
	baz=5.8,SNR=7.7							
WAKR	**Walker**	**6.34**	**105**	*e*Pn		**Pn**	**04 23 48.3**	**+1.2**
G05D	**Wamic, OR**	**6.52**	**40**	⇑P		**Pn**	**04 23 48.7**	**-0.6**
	baz=6.5,SNR=5.7							
F04A	**Amboy**	**6.56**	**31**	*e*Pn		**Pn**	**04 23 49.4**	**-0.5**
WVOR	**Wild Horse Val**	**6.79**	**70**	*e*Pn		Pn	04 23 49.9	-3.2
I07A	**Izee**	**6.83**	**55**	*e*Pn		**Pn**	**04 23 53.4**	**-0.3**
G06A	**Carlson Farm,**	**6.86**	**43**	*e*Pn		Pn	04 24 02.0	+8.0
MLAC	**Mammoth, Mammo**	**7.12**	**110**	⇓P		**Pn**	**04 24 00.6**	**+2.9**
	baz=7.0							
NVAR	**Mina Array Bea**	**7.21**	**103**	Pn		**Pn**	**04 24 00.2**	**+1.2**
	baz=281,slow=14,SNR=2.8							
PTRM	**Twissleman Ran**	**7.31**	**128**	*e*Pn		**Pn**	**04 23 59.0**	**-1.2**
MTUM	**Tungsten Hills**	**7.43**	**111**	*e*Pn		**Pn**	**04 24 04.1**	**+2.0**
LON	**Longmire**	**7.48**	**30**	*e*Pn		**Pn**	**04 24 02.0**	**-0.4**
RCTC	**Rector, Farmer**	**7.51**	**120**	⇓P		**Pn**	**04 24 01.5**	**-1.3**
	baz=7.4							
SMMC	**Simmler**	**7.67**	**129**	⇑P		**Pn**	**04 24 03.5**	**-1.6**
	baz=7.6							
SMMC				⇑S		**Sn**	**04 25 31.4**	**-0.2**
	baz=7.6							
D05A	**Enumclaw**	**7.78**	**28**	*e*Pn		**Pn**	**04 24 07.8**	**+1.3**
G08A	**Pilot Rock**	**7.81**	**49**	*e*Pn		**Pn**	**04 24 07.0**	**-0.2**
VES	**Vestal, Richgr**	**7.89**	**123**	⇑P		**Pn**	**04 24 07.7**	**-0.3**
	baz=7.8							
VES				⇑S		**Sn**	**04 25 35.7**	**-1.3**
	baz=7.8							
TPH	**Tonopah**	**8.13**	**103**	*e*Pn		**Pn**	**04 24 12.3**	**+0.7**
HAWA	**Hanford**	**8.21**	**41**	*e*Pn		**Pn**	**04 24 11.2**	**-1.3**
LTY	**Liberty**	**8.34**	**33**	*e*Pn		**Pn**	**04 24 15.6**	**+1.2**
ISA	**Isabella, Lake**	**8.39**	**122**	⇓P		**Pn**	**04 24 15.5**	**+0.5**
	baz=8.3							
ISA				⇓S		**Sn**	**04 25 47.8**	**-1.7**
	baz=8.3							
ISA	**Isabella, Lake**	**8.39**	**122**	*e*Pn		**Pn**	**04 24 15.6**	**+0.5**
ARVC	**Arvin**	**8.50**	**126**	⇓P		**Pn**	**04 24 15.9**	**-0.6**
	baz=8.4							
BMO	**Blue Mountains**	**8.58**	**56**	*e*Pn			**04 24 17.2**	**-0.4**
	6.1nm,0.7s							
DAC	**Darwin (Calif)**	**8.64**	**115**	*e*Pn		**Pn**	**04 24 17.1**	**-1.5**
MPMC	**Manual Prospec**	**8.82**	**116**	⇑P		**Pn**	**04 24 21.7**	**+0.6**
	baz=8.7							
MFID	**Camas Ranch**	**9.04**	**67**	*e*Pn		**Pn**	**04 24 23.5**	**-0.4**
ELK	**Elko**	**9.16**	**84**	Pn		**Pn**	**04 24 27.2**	**+1.6**
	0.1nm,0.3s,baz=323,slow=5.1,SNR=3.1							
ELK				LR		LR	04 27 05.3	
	comp=Z,91nm,20.8s,baz=180,slow=32							
F10A	**Beach Ranch, E**	**9.20**	**49**	*e*Pn		**Pn**	**04 24 26.9**	**+0.7**
TPNV	**Topopah Spring**	**9.28**	**108**	*e*Pn		Pn	04 24 32.5	+5.3
GSC	**Goldstone, Bar**	**9.71**	**118**	*e*Pn		**Pn**	**04 24 33.2**	**+0.1**
GSC				*e*Sn		**Sn**	**04 26 21.2**	**-0.6**
B08A	**Colville Reser**	**9.77**	**33**	*e*Pn		**Pn**	**04 24 33.4**	**-0.4**
C09A	**Chrisman Ranch**	**9.82**	**38**	*e*Pn		**Pn**	**04 24 37.2**	**+2.7**
HLID	**Hailey**	**10.07**	**68**	*e*Pn		**Pn**	**04 24 39.2**	**+1.0**
SHPR	**Sheep Range**	**10.26**	**108**	*e*Pn		**Pn**	**04 24 43.9**	**+3.2**
NEW	**Newport**	**10.69**	**39**	LR		LR	04 28 55.7	
	comp=Z,503nm,18.2s,baz=222,slow=38							
BGU	**Big Grassy Mou**	**10.83**	**83**	*e*Pn		**Pn**	**04 24 49.3**	**+0.8**
PFO	**Pinyon Flats O**	**10.98**	**125**	LR		LR	04 29 00.4	
	comp=Z,315nm,19.3s,baz=308,slow=37							
HVU	**Hansel Valley**	**11.02**	**78**	*e*Pn		**Pn**	**04 24 50.0**	**-1.2**
DUG	**Dugway, Tooele**	**11.04**	**86**	*e*Pn		**Pn**	**04 24 52.0**	**+0.6**
CCUT	**Cedar City**	**11.19**	**100**	*e*Pn		**Pn**	**04 24 54.0**	**+0.5**
	27nm,1.4s							
MCMT	**McKenzie Canyo**	**11.50**	**63**	*e*Pn		**Pn**	**04 24 57.1**	**-0.6**
	21nm,1.5s							
MSO	**Missoula**	**11.59**	**52**	*e*Pn		**Pn**	**04 25 00.2**	**+1.4**
BSMT	**Bassoo Peak**	**11.64**	**46**	*e*Pn		Pn	04 25 02.7	+3.0
MVU	**Marysvale**	**11.79**	**94**	*e*Pn		**Pn**	**04 25 02.2**	**+0.5**
BBB	**Bella Bella**	**11.80**	**357**	LR		LR	04 28 30.5	
	comp=Z,144nm,21.4s,baz=185,slow=32							
DLMT	**Dillon**	**11.84**	**60**	*e*Pn		Pn	04 25 06.4	+4.1
JTMT	**Jette**	**11.87**	**47**	*e*Pn		**Pn**	**04 25 02.9**	**+0.3**
	5.5nm,1.4s							
SWMT	**Swartz Lake**	**11.90**	**49**	*e*Pn		**Pn**	**04 25 02.0**	**-1.1**
	4.8nm,1.2s							
HWUT	**Hardware Ranch**	**11.92**	**79**	*e*Pn		**Pn**	**04 25 02.1**	**-1.4**
	21nm,1.5s							
CHMT	**Chamberlain Mo**	**12.04**	**53**	*e*Pn		**Pn**	**04 25 04.5**	**-0.7**
TCUT	**Toone Canyon**	**12.05**	**81**	*e*Pn		**Pn**	**04 25 02.8**	**-2.5**
	20nm,1.4s							
SLMT	**Seeley Lake**	**12.06**	**51**	*e*Pn		**Pn**	**04 25 04.1**	**-1.2**
YBMT	**Yellow Bay**	**12.08**	**48**	*e*Pn		**Pn**	**04 25 05.6**	**0.0**
LRM	**Limekiln Ridge**	**12.10**	**59**	*e*Pn		**Pn**	**04 25 07.3**	**+1.4**
	72nm,1.3s							
DAU	**Daniels Canyon**	**12.20**	**85**	*e*Pn		**Pn**	**04 25 06.2**	**-1.3**
	0.9nm,1.4s							
QLMT	**Earthquake Lak**	**12.47**	**64**	*e*Pn		**Pn**	**04 25 12.1**	**+1.1**
BOZ	**Bozeman (W)**	**12.58**	**60**	*e*Pn		**Pn**	**04 25 12.3**	**0.0**
	22nm,1.6s							
IMW	**Indian Meadow**	**12.61**	**69**	*e*Pn		**Pn**	**04 25 14.7**	**+1.8**
MBW	**Madison River**	**12.75**	**65**	*e*Pn		**Pn**	**04 25 13.7**	**-1.2**
FLWY	**Flagg Ranch**	**12.81**	**68**	*e*Pn		Pn	04 25 19.9	+4.2
WALA	**Waterton Lakes**	**12.83**	**43**	*e*Pn		Pn	04 25 18.8	+3.0
SRU	**San Rafael Swe**	**12.95**	**90**	*e*Pn		**Pn**	**04 25 16.4**	**-1.2**
H17A	**Grant Village**	**12.96**	**67**	*e*Pn		**Pn**	**04 25 19.2**	**+1.5**
LKWY	**Lake**	**13.12**	**66**	*e*Pn		**Pn**	**04 25 18.4**	**-1.5**
	42nm,1.8s							
WUAZ	**Wupatki**	**13.45**	**106**	*

	baz=18							
DGMT	Dagmar	18.29	56	eP	Pn	04 26 26.5	-0.5	
	93nm,2.0s							
Q26A	Hugo	18.33	87	⇓P	P	04 26 29.7	+1.9	
	baz=18							
P26A	Davis Ranch, A	18.34	85	⇑P	P	04 26 29.9	+2.0	
	baz=18							
I26A	New Underwood	18.41	71	⇓P	P	04 26 30.7	+2.1	
	baz=18							
H26A	Fairpoint	18.51	69	⇑P	Pn	04 26 32.1	+2.2	
	baz=18							
R26A	Arlington	18.53	89	⇓P	Pn	04 26 33.2	+3.1	
	baz=18,SNR=6.5							
A24A	Westby	18.55	55	⇓P	Pn	04 26 33.0	+2.8	
	baz=18							
S26A	Kim	18.68	91	⇓P	Pn	04 26 34.0	+2.0	
	baz=18							
C25A	Freed Ranch, W	18.69	59	⇑P	Pn	04 26 34.3	+2.4	
	baz=19							
G26A	Maurine	18.70	67	⇑P	Pn	04 26 34.1	+1.9	
	baz=19							
B25A	Knox Farm, Ray	18.89	57	⇑P	Pn	04 26 36.2	+1.8	
	baz=19							
E26A	Carlson Angus	18.96	63	⇓P	Pn	04 26 36.0	+0.8	
	baz=19							
KSCO	Kaye Shedlock'	18.99	86	⇓P	Pn	04 26 37.5	+1.8	
	baz=19,SNR=7.0							
KSCO	Kaye Shedlock'	18.99	86	eP	Pn	04 26 36.8	+1.0	
	55nm,1.0s							
I27A	Quinn	19.00	71	⇓P	Pn	04 26 36.9	+1.2	
	baz=19,SNR=9.5							
H27A	Howes	19.01	69	⇓P	Pn	04 26 36.8	+1.0	
	baz=19							
J27A	Elkhorn Farm,	19.01	73	⇓P	Pn	04 26 35.9	0.0	
	baz=19							
V26A	Tequesquite Ra	19.02	96	⇓P	Pn	04 26 38.2	+2.1	
	baz=19							
R27A	Eads	19.02	88	⇓P	Pn	04 26 37.8	+1.6	
	baz=19,SNR=7.2							
D26A	Manning	19.08	61	⇑P	Pn	04 26 37.5	+0.8	
	baz=19							
A25A	Svangstu Ranch	19.11	55	⇓P	Pn	04 26 37.7	+0.7	
	baz=19							
OGNE	Ogallala	19.13	80	⇓P	Pn	04 26 37.2	-0.2	
	baz=19							
OGNE	Ogallala	19.13	80	eP	P	04 26 34.2	-2.2	
	8.7nm,0.7s							
F27A	Lemmon	19.18	65	⇑P	P	04 26 37.1	+0.2	
	baz=19							
G27A	Dupree	19.18	67	⇑P	Pn	04 26 37.7	-0.2	
	baz=19							
O28A	Krutsinger Ran	19.44	83	⇑P	Pn	04 26 41.9	+0.9	
	baz=19							
C26A	Wahner Farm, P	19.48	59	⇓P	Pn	04 26 42.3	+0.9	
	baz=19							
K28A	Ten Mile Ranch	19.49	75	⇑P	Pn	04 26 41.7	+0.1	
	baz=19							
B26A	Jensen Ranch,	19.52	58	⇑P	Pn	04 26 42.4	+0.5	
	baz=19							
N28A	Pribbeno Ranch	19.53	81	⇑P	Pn	04 26 42.2	0.0	
	baz=19							
U27A	Thompson Grove	19.54	94	⇑P	Pn	04 26 43.0	+0.7	
	baz=19							
P28A	Saint Francis	19.55	84	⇑P	Pn	04 26 43.2	+0.9	
	baz=19							
E27A	Carson	19.57	64	⇓P	Pn	04 26 43.7	+1.1	
	baz=19							
J28A	Allard Ranch,	19.58	73	⇓P	Pn	04 26 43.8	+1.1	
	baz=19							
Q28A	Sharon Springs	19.59	86	⇓P	Pn	04 26 44.2	+1.4	
	baz=19							
I28A	Midland	19.63	71	⇓P	Pn	04 26 44.2	+0.9	
	baz=20							
MNTX	Cornudas Mount	19.67	109	eP	P	04 26 42.0	-0.3	
	47nm,1.6s							
D27A	Center	19.71	62	⇓P	Pn	04 26 45.2	+1.1	
	baz=20							
R28A	Tribune	19.77	88	⇑P	Pn	04 26 46.3	+1.3	
	baz=20,SNR=7.1							
H28A	Mission Ridge	19.77	69	⇑P	Pn	04 26 46.0	+1.1	
	baz=20							
A26A	Wade Farm, Ken	19.78	56	⇑P	Pn	04 26 47.3	+2.3	
	baz=20							
C27A	Sayler Ranch,	19.84	60	⇑P	Pn	04 26 47.3	+1.5	
	baz=20							
T28A	Walsh	19.86	91	⇓P	Pn	04 26 47.7	+1.6	
	baz=20							
S28A	Manter	19.89	90	⇓P	Pn	04 26 47.3	+0.8	
	baz=20,SNR=10							
M29A	Burnside Ranch	20.08	78	⇑P	Pn	04 26 51.2	+2.5	
	baz=20							
P29A	Atwood	20.17	84	⇑P	Pn	04 26 51.3	+1.6	
	baz=20							
E28A	Huff	20.18	63	⇑P	Pn	04 26 51.2	+1.3	
	baz=20							
L29A	Maesberg Ranch	20.19	77	⇓P	Pn	04 26 50.7	+0.8	
	baz=20							
J29A	Okreek	20.24	73	⇑P	Pn	04 26 51.2	+0.7	
	baz=20,SNR=8.0							
I29A	Vivian Onida	20.26	71	⇑P	Pn	04 26 51.1	+0.4	
	baz=20							
R29A	Marienthal	20.26	87	⇑P	Pn	04 26 52.0	+1.2	
	baz=20							
K29A	Lazy Trails An	20.26	74	⇑P	Pn	04 26 51.7	+0.9	
	baz=20							
Q29A	Oakley	20.27	86	⇑P	Pn	04 26 52.2	+1.2	
	baz=20,SNR=6.4							
A27A	Ledoux Ranch,	20.30	56	⇓P	Pn	04 26 52.2	+1.0	
	baz=20							
H29A	Onida	20.34	69	⇑P	Pn	04 26 51.6	-0.1	
	baz=20,SNR=5.8							
T29A	Hugoton	20.48	91	⇓P	Pn	04 26 54.4	+1.0	
	baz=20							
S29A	Ulysses	20.48	89	⇓P	Pn	04 26 54.5	+1.1	
	baz=20							
MSTX	Muleshoe	20.50	100	⇑P	Pn	04 26 55.1	+1.3	
	baz=20							
MSTX	Muleshoe	20.50	100	eP	P	04 26 52.4	+0.9	
	27nm,1.4s							
G29A	Hoven	20.58	68	⇑P	Pn	04 26 55.7	+1.3	
	baz=20							
F29A	Eureka	20.70	66	⇓P	Pn	04 26 56.0	+0.2	
	baz=21							
P30A	Selden	20.70	84	⇑P	Pn	04 26 56.7	+0.8	
	baz=21							
B28A	Dugan Ranch, T	20.75	58	⇑P	Pn	04 26 56.5	+0.1	
	baz=21							
L30A	Spencer Herefo	20.76	77	⇑P	Pn	04 26 56.4	-0.2	
	baz=21							
K30A	Basset	20.79	75	⇑P	Pn	04 26 56.7	-0.2	
	baz=21							
Q30A	Quinter	20.83	85	⇓P	Pn	04 26 56.8	-0.7	
	baz=21							
J30A	Dallas	20.85	73	⇓P	Pn	04 26 57.1	-0.5	
	baz=21,SNR=9.9							
I30A	Oacoma	20.89	71	⇑P	Pn	04 26 57.6	-0.5	
	baz=21							
E29A	Napoleon	20.90	64	⇓P	Pn	04 26 58.5	+0.2	
	baz=21							
A28A	Rude Farm, Bot	20.91	57	⇑P	Pn	04 26 58.6	+0.3	
	baz=21							
Y28A	McKinney Farm,	20.93	100	⇓P	Pn	04 26 59.4	+0.7	
	baz=21							
R30A	Dighton	20.95	87	⇑P	Pn	04 26 59.1	+0.2	
	baz=21							
AMTX	Amarillo	20.96	97	eP	P	04 26 57.1	+0.7	
	30nm,1.3s							
X29A	Tulia	21.11	98	⇓P	P	04 27 01.9	+3.8	
	baz=21							
G30A	Faulkton	21.12	68	⇓P	P	04 26 59.5	+1.5	
	baz=21							
U30A	WK&E Inc. Balk	21.16	92	⇑P	P	04 27 02.6	+4.1	
	baz=21							
P31A	Stockton	21.36	83	⇓P	P	04 27 03.8	+3.2	
	baz=21							
M31A	Lambtecht Ranc	21.38	78	⇓P	P	04 27 03.4	+2.6	
	baz=21							
Y29A	Porterfield Fa	21.38	100	⇑P	P	04 27 04.9	+4.0	
	baz=21,SNR=5.9							
L31A	Butterfield Fa	21.39	76	⇓P	P	04 27 04.9	+3.9	
	baz=21							
E30A	Jud	21.40	64	⇓P	P	04 27 02.9	+1.9	
	baz=21							
B29A	Wagenman Farm,	21.41	59	⇑P	P	04 27 03.0	+2.0	
	baz=21							
Q31A	Ellis	21.45	85	⇓P	P	04 27 04.3	+2.6	
	baz=21							
228A	UT Block 9, Go	21.49	105	⇑P	P	04 27 05.1	+2.9	
	baz=21							
R31A	Burdett	21.52	87	⇑P	P	04 27 05.1	+2.7	
	baz=21							
D30A	Buchanan	21.57	62	⇓P	P	04 27 05.6	+2.8	
	baz=21							
A29A	Manning Farm,	21.58	57	⇓P	P	04 27 04.8	+1.8	
	baz=21,SNR=5.8							
Z29A	Hungry Hill Ra	21.61	101	⇓P	P	04 27 04.4	+0.9	
	baz=22							
T31A	Randall Ranch,	21.73	90	⇓P	P	04 27 08.3	+3.7	
	baz=22							
X30A	Coker Ranch, T	21.74	97	⇑P	P	04 27 06.3	+1.5	
	baz=22,SNR=7.3							
129A	Stewart Farms,	21.78	103	⇓P	P	04 27 08.3	+3.0	
	baz=22							
C30A	Mose, Pekin	21.85	61	⇑P	P	04 27 09.2	+3.4	
	baz=22							
P32A	Huiting Farm,	21.93	83	⇑P	P	04 27 09.6	+2.9	
	baz=22							
BGNE	Belgrade	21.98	78	⇑P	P	04 27 07.6	+0.2	
	baz=22							
BGNE	Belgrade	21.98	78	eP	P	04 27 05.9	-1.4	
	36nm,0.9s							
V31A	Spring Creek L	22.03	93	⇓P	P	04 27 09.8	+1.9	
	baz=22							
Z30A	Sanderson Ranc	22.04	100	⇑P	P	04 27 10.1	+2.1	
	baz=22							
B30A	Myrvik Farm, E	22.07	59	⇓P	P	04 27 08.5	+0.3	
	baz=22							
R32A	Long Quarter,	22.11	86	⇓P	P	04 27 12.5	+3.8	
	baz=22							
FFC	Flin Flon	22.11	41	eP	P	04 27 07.6	-0.9	
	12nm,1.0s							
W31A	Holland Ranch,	22.16	95	⇓P	P	04 27 11.8	+2.5	
	baz=22							
A30A	Hoffart Farm,	22.19	58	⇓P	P	04 27 11.8	+2.4	
	baz=22							
TXAR	Lajitas Array	22.22	112	P	P	04 27 11.0	+1.0	
	2.3nm,1.1s,baz=294,slow=6.7,SNR=9.5							
TXAR				LR	LR	04 36 48.8		
	comp=Z,82nm,18.4s,baz=0.0,slow=40							
329A	Wagon Wheel Ra	22.26	106	⇑P	P	04 27 12.6	+2.2	
	baz=22,SNR=5.4							
X31A	McDonald Ranch	22.35	96	⇑P	P	04 27 14.0	+2.7	
	baz=22							
Y31A	Rekieta Farm,	22.40	98	⇓P	P	04 27 14.2	+2.4	
	baz=22							
130A	Snyder	22.47	102	⇑P	P	04 27 14.8	+2.2	
	baz=22							
Q33A	Connelly Farm,	22.64	84	⇑P	P	04 27 16.5	+2.2	
	baz=22							
P33A	Williams Farm,	22.65	83	⇓P	P	04 27 16.8	+2.3	
	baz=22							
R33A	Olander Ranch,	22.69	86	⇓P	P	04 27 16.7	+1.8	
	baz=22							
230A	Sterling City	22.70	104	⇑P	P	04 27 16.5	+1.4	
	baz=23							
W32A	Sentinel	22.72	94	⇑P	P	04 27 16.3	+1.1	
	baz=23							
Z31A	Sharp Cattle R	22.76	99	⇑P	P	04 27 16.5	+0.8	
	baz=23							
429A	Davenport Ranc	22.77	107	⇓P	P	04 27 17.1	+1.2	
	baz=23							
529A	Stev Forest Ra	22.80	109	⇑P	P	04 27 17.1	+0.9	
	baz=23							
131A	Roby	22.87	101	⇓P	P	04 27 17.6	+0.8	
	baz=23							
330A	Mertzon	22.89	105	⇓P	P	04 27 17.4	+0.3	
	baz=23							
ECSD	EROS Data Cent	22.93	72	⇑P	P	04 27 17.7	+0.4	
	baz=23,SNR=7.7							
ECSD	EROS Data Cent	22.93	72	eP	P	04 27 16.2	-1.1	
	37nm,1.4s							
Y32A	R-V Farms, Ver	23.00	97	⇑P	P	04 27 18.7	+0.5	
	baz=23							
U33A	Lingo Farm, Me	23.13	90	⇑P	P	04 27 19.4	0.0	
	baz=23							
430A	Baggett Ranch,	23.16	106	⇑P	P	04 27 21.0	+1.1	
	baz=23							
V33A	Lossen Ranch,	23.20	92	⇑P	P	04 27 20.5	+0.4	
	baz=23							
WMOK	White Mounta	23.21	95	eP	P	04 27 18.7	-1.7	
	7.3nm,0.7s							
231A	Bronte	23.27	103	⇑P	P	04 27 21.4	+0.5	
	baz=23							
W33A	Caddo, Fort Co	23.30	94	⇓P	P	04 27 20.2	-1.0	
	baz=23							
YKA	Yellowknife Ar	23.40	15	P	P	04 27 21.2	-0.7	
	1.2nm,0.9s,baz=198,slow=9.2,SNR=16							
YKA				PcP	PcP	04 31 07.3	-0.5	
	0.3nm,0.7s,baz=202,slow=1.5,SNR=6.7							
530A	J-C Ranch, Com	23.43	108	⇑P	P	04 27 23.5	+1.0	
	baz=23							
ABTX	Abilene, Hawle	23.45	101	⇑P	P	04 27 23.0	+0.2	
	baz=23							
ABTX	Abilene, Hawle	23.45	101	eP	P	04 27 20.5	-2.2	
	23nm,1.3s							
331A	San Angelo	23.49	104	⇓P	P	04 27 23.6	+0.4	
	baz=23							
S34A	Willow Spring	23.52	87	⇓P	P	04 27 23.6	+0.3	
	baz=23							
KSU1	Kansas State U	23.55	83	⇑P	P	04 27 24.4	+0.8	
	baz=23							
KSU1	Kansas State U	23.55	83	eP	P	04 27 22.5	-1.1	
	21nm,1.0s							
U34A	Anderson Ranch	23.57	90	⇑P	P	04 27 26.5	+2.6	
	baz=23							
U34A	Anderson Ranch	23.57	90	eP	P	04 27 23.5	-0.4	
	18nm,0.9s							
AGMN	Agassiz Nation	23.67	60	⇓P	P	04 27 25.7	+0.9	
	baz=24							
AGMN	Agassiz Nation	23.67	60	eP	P	04 27 24.3	-0.4	
	53nm,1.8s							
431A	Sonora	23.68	106	⇑P	P	04 27 26.7	+1.7	
	baz=24							
V34A	Guthrie	23.78	91	⇑P	P	04 27 27.4	+1.5	
	baz=24							
232A	Coleman	23.79	102	⇑P	P	04 27 27.9	+1.9	
	baz=24							
W34A	Bridge Creek,	23.80	93	⇑P	P	04 27 26.3	+0.3	
	baz=24							
332A	Millersview	23.96	103	⇑P	P	04 27 29.4	+1.7	
	baz=24							
X34A	Smith Ranch, M	23.99	95	⇑P	P	04 27 28.0	+0.1	
	baz=24							
531A	Rocksprings	24.00	107	⇑P	P	04 27 29.2	+1.1	
	baz=24							
ULM	Lac du Bonnet	24.00	55	P	P	04 27 27.6	-0.2	
	2.0nm,0.8s,baz=273,slow=10,SNR=3.9							
ULM				LR	LR	04 37 01.1		
	comp=Z,258nm,21.0s,baz=267,slow=37							
ULM	Lac du Bonnet	24.00	55	eP	P	04 27 27.9	+0.1	
	27nm,1.5s							
S35A	Otter Creek Ra	24.12	86	⇑P	P	04 27 31.2	+2.1	
	baz=24							
233A	Rising Star	24.29	101	⇓P	P	04 27 32.1	+1.4	
	baz=24							
Y34A	Reagan Ranch,	24.30	96	⇓P	P	04 27 32.6	+1.9	
	baz=24							
V35A	Meyer Ranch, C	24.33	91	⇓P	P	04 27 30.8	-0.1	
	baz=24							
JCT	Junction City	24.38	105	⇓P	P	04 27 32.8	+1.2	
	baz=24							
JCT	Junction City	24.38	105	eP	P	04 27 30.7	-0.9	
	11nm,1.3s							
631A	Perdido Creek	24.39	108	⇑P	P	04 27 33.5	+1.9	
	baz=24,SNR=5.7							
532A	Rocksprings	24.49	106	⇑P	P	04 27 34.5	+1.9	
	baz=24,SNR=5.6							
333A	Richland Sprin	24.56	103	⇑P	P	04 27 36.4	+3.2	
	baz=24							
R36A	Gordon, Harris	24.57	85	⇑P	P	04 27 35.9	+2.6	
	baz=24							
MENT	Mentasta	24.62	342	eP	P	04 27 34.5	+1.0	
134A	White-Moore Ra	24.65	99	⇓P	P	04 27 35.9	+2.0	
	baz=24							
S36A	Lake Cedric, C	24.67	86	⇓P	P	04 27 37.1	+3.0	
	baz=24							
DAWY	Dawson	24.75	347	eP	P	04 27 34.8	+0.2	
	20nm,1.5s							
433A	Art	24.76	104	⇓P	P	04 27 37.9	+2.9	
	baz=25							
234A	Clairette	24.87	100	⇓P	P	04 27 39.6	+3.7	
	baz=25							
RC01	Rabbit Creek A	24.88	334	eP	P	04 27 38.0	+2.2	
	45nm,1.4s							
632A	Uvalde	24.91	107	⇓P	P	04 27 40.8	+4.5	
	baz=25,SNR=7.5							
W36A	Wetumka	25.01	92	⇑P	P	04 27 40.3	+3.1	
	baz=25							
TUL1	Leonard	25.07	90	⇓P	P	04 27 41.8	+4.1	
	baz=25							
R37A	Teagarden Farm	25.09	84	⇓P	P	04 27 41.1	+3.3	
	baz=25							
334A	Lometa	25.11	102	⇓P	P	04 27 41.8	+3.6	
	baz=25							
533A	Kerrville	25.16	105	⇓P	P	04 27 43.6	+5.0	
	baz=25							
732A	Laxson Ranch,	25.21	109	⇓P	P	04 27 44.3	+5.3	
	baz=25							
Q37A	Longview Farm,	25.23	83	⇑P	P	04 27 45.0	+5.8	
	baz=25							
DOT	Dot Lake	25.31	342	eP	P	04 27 40.2	+0.6	
	7.6nm,1.2s							
434A	Burnet	25.34	103	⇑P	P	04 27 46.4	+6.1	
	baz=25							
WHTX	Lake Whitney,	25.38	100	⇑P	P	04 27 44.6	+4.0	
	baz=25							
WHTX	Lake Whitney,	25.38	100	eP	P	04 27 47.5	+6.9	
	22nm,1.1s							
534A	Blanco	25.59	105	⇑P	P	04 27 46.7	+4.2	
	baz=26							
SPMN	Marine on St.	25.61	68	⇓P	P	04 27 46.0	+3.5	
	baz=26							
EGAK	Eagle	25.71	346	eP	P	04 27 42.5	-0.8	
	16nm,1.7s							
833A	Chaparral WMA,	25.86	109	⇑P	P	04 27 47.8	+2.9	
	baz=26							
734A	La Parita Cree	26.17	107	⇑P	P	04 27 52.3	+4.6	
	baz=26							
834A	Tilden	26.58	109	⇑P	P	04 27 54.8	+3.4	
	baz=26							
MCK	McKinley	26.62	338	eP	P	04 27 52.1	+0.6	
	11nm,1.0s							
TRF	Thorofare Moun	26.80	337	eP	P	04 27 54.8	+1.4	
	6.5nm,0.8s							
ILAR	Eielson Array	26.93	341	P	P	04 27 54.8	+0.5	
	2.5nm,0.8s,baz=160,slow=8.1,SNR=29							
ILAR				PcP	PcP	04 31 15.7	0.0	
	0.7nm,0.8s,baz=206,slow=1.9,SNR=6.4							
ILAR				LR	LR	04 36 35.3		
	comp=Z,85nm,21.4s,baz=145,slow=32							
PPLA	Purkeypile	26.99	335	eP	P	04 27 55.9	+0.9	
	40nm,1.5s							
MIAR	Mount Ida	27.26	92	eP	P	04 27 56.1	-1.4	
	24nm,1.7s							
JFWS	Jewell Farm	27.62	73	eP	P	04 28 00.5	-0.2	
	12nm,0.9s							
COLD	Coldfoot	29.72	342	eP	P	04 28 19.5	+0.4	
	6.2nm,1.2s							
WVT	Waverly	31.07	85	eP	P	04 28 30.3	-1.1	
	2.0nm,0.7s							
LRAL	Lakeview Retre	32.88	90	eP	P	04 28 46.9	-0.4	
	16nm,1.2s							
ACSO	Alum Creek Sta	33.49	76	eP	P	04 28 51.3	-1.2	
	26nm,1.4s							
GOGA	Godfrey	35.42	87	eP	P	04 29 09.1	-0.2	
	13nm,1.4s							
BLA	Blacksburg	36.31	80	eP	P	04 29 16.1	-0.8	
	32nm,1.4s							
APG	El Apazote	40.80	118		LR	LR	04 46 58.1	
	comp=Z,73nm,19.0s,slow=36							
SCHQ	Schefferville	41.87	49		LR	LR	04 47 02.0	
	comp=Z,86nm,20.1s,baz=161,slow=36							
TAOE	Nuku Hiva Isla	50.44	197	eT	T	05 25 17.7		
	249nm,0.3s							
PETK	Petropavlovsk-	50.66	311		LR	LR	04 50 11.6	
	comp=Z,16nm,20.4s,baz=75,slow=33							
SEY	Seymchan	50.76	324	P	P	04 31 12.9	0.0	
	3.3nm,0.9s,baz=92,slow=8.1,SNR=11							
SUMG	Summit	51.65	23	eP	P	04 31 19.1	-0.9	
	7.6nm,0.9s							
SUMG	Summit	51.65	23	i P	P	04 31 19.5	-0.5	
	4.7nm,0.9s							
DAG	Danmarks Havn	55.10	15	i P	P	04 31 44.1	-0.6	
	3.5nm,0.9s							
TIXI	Tiksi	56.33	338	eP	P	04 31 52.8	-0.8	
	1.7nm,0.5s							
PMOR	Pomariorio Ree	58.36	204	eT	T	05 35 10.9		
	8.7nm,0.2s							
ROSC	El Rosal	59.14	112		LR	LR	05 00 48.1	
	comp=Z,24nm,18.2s,baz=44,slow=39							
H11N3	WAKE ISLAND Hy	59.26	270		T	T	05 36 38.4	
	baz=53,slow=75,SNR=7.5							
H11N2	WAKE ISLAND Hy	59.27	270		T	T	05 36 43.2	
	baz=53,slow=75,SNR=7.2							
H11N1	WAKE ISLAND Hy	59.28	270		T	T	05 36 39.9	
	baz=53,slow=75,SNR=6.3							
OTAV	Otavalo	59.63	119	eP	P	04 32 17.1	-0.9	
	5.2nm,1.3s							
H11S1	WAKE ISLAND Hy	60.13	269		T	T	05 37 42.2	
	baz=54,slow=75,SNR=5.8							
H11S2	WAKE ISLAND Hy	60.14	269		T	T	05 37 42.6	
	baz=54,slow=75,SNR=4.6							
H11S3	WAKE ISLAND Hy	60.15	269		T	T	05 37 42.9	
	baz=54,slow=75,SNR=4.0							
MEH	Mehetia	61.13	203	eT	T	05 38 38.2		
	7.3nm,0.3s							
TIAR	Tiarei	61.22	204	eT	T	05 38 44.7		
	8.2nm,0.3s							
PPT	Papeete	61.30	204		LR	LR	04 53 21.0	
	comp=Z,54nm,21.5s,baz=0.5,slow=30							
PPT2	Papeete2	61.32	204	eLR	LR	04 50 39.9		
	132nm,26.2s							
PPT2	Papeete2	61.32	204	eT	T	05 38 52.3		
	2.3nm,0.3s							
PAE	Paea	61.39	204	eT	T	05 38 57.6		
	1.0nm,0.3s							
TVO	Taravao	61.40	204	eT	T	05 38 58.5		
	1.1nm,0.3s							
ASAJ	Asahikawa	63.48	306		LR	LR	04 55 43.7	
	comp=Z,15nm,20.3s,baz=130,slow=32							
RKT	Rikitea	63.60	188	eT	T	05 41 44.9		
	3.8nm,0.3s							
TBI	Tubuai	66.71	202	eLR	LR	04 53 05.5		
	109nm,27.0s							
USRK	Uusuriysk Ar.	69.75	311		LR	LR	04 59 43.9	
	comp=Z,30nm,21.1s,baz=275,slow=32							
MJAR	Matsushiro Arr	70.48	302		LR	LR	05 00 31.1	
	comp=Z,28nm,19.7s,baz=45,slow=33							
NOA	NORSAR Array B	73.40	20		LR	LR	05 05 21.1	
	comp=Z,18nm,18.6s,baz=320,slow=35							
FINES	FINESS Array B	76.22	13	P	P	04 34 00.4	-0.7	
	2.1nm,1.0s,baz=338,slow=4.5,SNR=4.4							
FINES				LR	LR	05 06 04.1		
	comp=Z,30nm,19.9s,baz=264,slow=35							
KSRS	Korea Array	76.38	308		LR	LR	05 06 10.8	
	comp=Z,17nm,19.3s,baz=40,slow=35							
SAML	Samuel	76.70	114	eP	P	04 34 04.9	+0.3	
	9.1nm,1.6s							
LPAZ	La Paz	78.68	123	P	P	04 34 16.4	+0.1	
	0.5nm,0.6s,baz=22,slow=5.4,SNR=2.9							
LPAZ	La Paz	78.68

WMQ pP **pP** **04 35 20.5 +0.3**
WMQ PMZ
5.0nm,0.6s
LZH Lanzhou 90.56 321 *e*P **P** **04 35 15.0 -0.7**
LZH pP **PcP** **04 35 19.1 +2.3**
LZH sP **sP** **04 35 21.6 -1.3**
LZH PMZ
14nm,1.0s
CD2 Chengdu 94.75 318 *e*P **P** **04 35 34.5 -0.5**
BRTR Keskin Array B 98.37 15 LR LR 05 24 25.6
comp=Z,9.8nm,18.1s,baz=314,slow=38
MAW Mawson 152.18 188 PKPbc **PKPbc** **04 42 07.0 -0.6**
2.1nm,0.8s,baz=90,slow=3.0,SNR=3.9

GUC 17 04:26:49.6±0.6, 34°.73S×71°.78W, h43km±6km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.53**	**121**	*e*P	Pn	04 27 00.9	+0.1
NICH				*e*S	Sn	04 27 09.1	+0.3
TALC	**Talca**	**0.67**	**170**	*e*P	Pn	04 27 02.7	0.0
TALC				*e*S	Sn	04 27 12.2	0.0
LNCH	**Linares**	**1.12**	**173**	*e*P	Pn	04 27 09.5	+0.6
LNCH				*e*S	Sn	04 27 24.8	+1.6
CLCH	**Cerro Calan**	**1.69**	**38**	*e*P	Pn	04 27 17.9	+1.2
CLCH				*e*S	Sn	04 27 39.8	+2.6
CLCH				AML	AML	04 27 44.3	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.83**	**30**	*e*P	Pn	04 27 20.2	+1.6
PEL				*e*S	Sn	04 27 43.3	+2.7
PEL				AML	AML	04 27 50.4	
	comp=E,698nm,0.3s						

IDC ***17*** *04:30:50.7±1.4, 34°.14N×26°.18E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/38, mbtmp3.6/6, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/28, Error ellipse: s-maj=31.4km s-min=21.6km az=158.0*
ISCJB ***17*** *04:30:55.0±0.8, 34°.31N±0°.07×26°.30E±0°.05, h33km, mb3.7/5, MS2.9/1, Error ellipse: s-maj=10.0km s-min=5.3km az=165.8*
CSEM ***17*** *04:30:55.7±0.7, 34°.42N×26°.31E, h20km, MD3.5, Error ellipse: s-maj=18.1km s-min=6.7km az=170.0*
ATH ***17*** *04:30:57.5, 34°.46N×26°.12E, h33km±4km, MD3.5/8*
DDA ***17*** *04:31:08.3, 34°.85N×27°.21E, h15km, MD3.3*
ISC 17 04:30:55.8±1.0, 34°.34N±0°.07×26°.29E±0°.04, h33km, n45, σ1°.27/50, mb3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.77**	**355**	*e*PN	**Pn**	**04 31 10.6**	**+0.2**
ZKR				*e*SN	**Sn**	**04 31 20.9**	**0.0**
ZKR	**Zakros**	**0.77**	**355**	*e*Pn	**Pn**	**04 31 10.6**	**+0.2**
ZKR				*e*Sn	**Sn**	**04 31 20.9**	**0.0**
LAST	**Lasithi**	**1.06**	**321**	*e*PN	**Pn**	**04 31 15.1**	**+0.7**
LAST	**Lasithi**	**1.06**	**321**	*e*Pn	**Pn**	**04 31 15.1**	**+0.7**
NPS	**Neapolis**	**1.07**	**329**	*e*PN	**Pn**	**04 31 14.9**	**+0.3**
NPS	**Neapolis**	**1.07**	**329**	*e*Pn	**Pn**	**04 31 14.9**	**+0.3**
SIVA	**Sivas**	**1.40**	**299**	*e*PN	**Pn**	**04 31 20.0**	**+1.1**
SIVA	**Sivas**	**1.40**	**299**	*e*Pn	**Pn**	**04 31 20.0**	**+1.1**
KARP	**Karpathos**	**1.40**	**30**	*e*PN	**Pb**	**04 31 22.5**	**+1.2**
IDI	**Anoyia**	**1.49**	**310**	Pn	**Pn**	**04 31 21.4**	**+1.1**
	6.8nm,0.3s,baz=135,slow=15,SNR=44						
VAM	**Vamos**	**2.02**	**302**	*e*PB	**Pn**	**04 31 29.2**	**+1.6**
VAM	**Vamos**	**2.02**	**302**	*e*Pb	**Pn**	**04 31 29.2**	**+1.6**
SANT	**Santorini**	**2.13**	**342**	*e*PN	**Pn**	**04 31 30.4**	**+1.2**
SANT	**Santorini**	**2.13**	**342**	*e*Pn	**Pn**	**04 31 30.4**	**+1.2**
KARN	**Karanos**	**2.22**	**299**	*e*PN	**Pn**	**04 31 31.4**	**+1.1**
KARN	**Karanos**	**2.22**	**299**	*e*Pn	**Pn**	**04 31 31.4**	**+1.1**
ARG	**Arkhangelos**	**2.40**	**38**	*e*PN	**Pb**	**04 31 36.6**	**-1.7**
APE	**Apeiranthos**	**2.79**	**347**	*e*PN	**Pn**	**04 31 39.7**	**+1.5**
APE	**Apeiranthos**	**2.79**	**347**	*e*Pn	**Pn**	**04 31 39.7**	**+1.5**
ANKY	**Antikythira Is**	**2.88**	**303**	*e*PN	**Pn**	**04 31 41.0**	**+1.6**
ANKY	**Antikythira Is**	**2.88**	**303**	*e*Pn	**Pn**	**04 31 41.0**	**+1.6**
TURN	**Turunc**	**3.15**	**36**	*i* P	**Pn**	**04 31 43.3**	**+0.3**
TURN				*i* S	**Sn**	**04 32 18.9**	**-0.5**
TURN	**Turunc**	**3.15**	**36**	*i* P	**Pn**	**04 31 43.3**	**+0.3**
TURN				*i* S	**Sn**	**04 32 18.9**	**-0.5**
KYTH	**Kithira**	**3.29**	**307**	*e*PN	**Pn**	**04 31 45.9**	**+0.9**
KYTH	**Kithira**	**3.29**	**307**	*e*Pn	**Pn**	**04 31 45.9**	**+0.9**
AKAS	**Kas**	**3.30**	**54**	*i* S	**Sn**	**04 32 24.5**	**+1.0**
AKAS	**Kas**	**3.30**	**54**	*i* P	**Pn**	**04 31 48.0**	**+2.7**
AKAS				*i* S	**Sn**	**04 32 24.5**	**+1.0**
SMG	**Samos**	**3.39**	**7**	*e*PN	Pn	04 31 49.7	+3.4
AYDN	**Tasoluk**	**3.55**	**21**	*i* P	Pn	04 31 52.8	+4.2
AYDN				*i* S	**Sn**	**04 32 28.8**	**-0.7**
AYDN	**Tasoluk**	**3.55**	**21**	*i* P	Pn	04 31 52.8	+4.2
AYDN				*i* S	**Sn**	**04 32 28.8**	**-0.7**
VLI	**Veliai**	**3.62**	**312**	*e*PN	**Pn**	**04 31 49.1**	**-0.4**
VLI	**Veliai**	**3.62**	**312**	*e*Pn	**Pn**	**04 31 49.1**	**-0.4**
GOLH	**Golhisar**	**3.92**	**42**	*i* P	Pn	04 31 58.0	+4.2
GOLH				*i* S	**Sn**	**04 32 36.0**	**-2.8**
GOLH	**Golhisar**	**3.92**	**42**	*i* P	Pn	04 31 58.0	+4.2
GOLH				*i* S	**Sn**	**04 32 36.0**	**-2.8**
ITM	**Ithomi**	**4.54**	**310**	*e*PN	**Pn**	**04 32 02.5**	**+0.3**
ITM	**Ithomi**	**4.54**	**310**	*e*Pn	**Pn**	**04 32 02.5**	**+0.3**
GAZI	**Gazipasa**	**5.28**	**67**	*i* P	**Pn**	**04 32 13.2**	**+0.9**
GAZI				*i* S	**Sn**	**04 33 10.2**	**-1.8**
GAZI	**Gazipasa**	**5.28**	**67**	*i* P	**Pn**	**04 32 13.2**	**+0.9**
GAZI				*i* S	**Sn**	**04 33 10.2**	**-1.8**
AKASG	**Malin Array Be**	**16.49**	**7**	Pn	**Pn**	**04 34 45.3**	**+0.9**
	0.6nm,0.3s,baz=196,slow=12,SNR=4.2						
ESDC	**Sonseca Array**	**24.67**	**291**	P	**P**	**04 36 12.5**	**-1.1**
	0.5nm,0.5s,baz=82,slow=9.7,SNR=8.7						
GEYT	**Alibeck**	**25.88**	**73**	LR	LR	04 49 01.2	
	comp=Z,30nm,18.0s,baz=290,slow=42						
TORD	**Torodi Ar. Bea**	**30.71**	**233**	P	**P**	**04 37 06.2**	**-1.6**
	0.3nm,0.4s,baz=32,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**43.45**	**56**	P	**P**	**04 38 57.5**	**+1.9**
	0.6nm,0.6s,baz=270,slow=6.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**44.90**	**46**	P	**P**	**04 39 08.2**	**+1.1**
	0.5nm,0.3s,baz=258,slow=11,SNR=3.5						
SCHQ	**Schefferville**	**64.41**	**320**	P	**P**	**04 41 28.0**	**-0.4**
	3.2nm,1.1s,baz=56,slow=3.6,SNR=3.5						

MEX 17 04:37:04.1±0.6, 32°.49N×115°.33W, h10km, MD3.7, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.14**	**126**	*i* P	Pg	04 37 04.7	-2.5
MBIG				*i* S	Sg	04 37 08.9	-0.5
CBX	**Cerro Bola**	**1.14**	**262**	*i* P	Pb	04 37 22.5	-3.6
CBX				*e*S	Sb	04 37 36.2	-5.0
SPIG	**San Pedro Mart**	**1.44**	**185**	*e*P	Pn	04 37 27.2	-3.5
SPIG				*i* S	Sn	04 37 44.8	-5.3

IDC 17 04:41:31.4±1.6, 10°.78N×85°.84W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/27, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=53.5km s-min=14.2km az=37.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**1.00**	**119**	Pg	Pg	04 41 51.0	+0.3
	49nm,0.3s,baz=313,slow=19,SNR=296						
CMIG	**Matias Romero**	**10.78**	**307**	Pn	Pn	04 44 08.9	+1.7
	0.2nm,0.3s,baz=157,slow=13,SNR=4.9						
TKL	**Tuckaleechee C**	**24.83**	**4**	P	P	04 46 56.9	+1.4
	3.8nm,0.9s,baz=184,slow=12,SNR=3.4						
TXAR	**Lajitas Array**	**24.86**	**321**	P	P	04 46 57.3	+1.4
	0.7nm,0.5s,baz=138,slow=9.6,SNR=13						
NVAR	**Mina Array Bea**	**39.99**	**319**	P	P	04 49 08.1	-0.2
	0.6nm,0.5s,baz=124,slow=7.5,SNR=5.1						
SCHQ	**Schefferville**	**46.44**	**15**	P	P	04 49 59.5	-0.4
	2.4nm,0.5s,baz=216,slow=5.2,SNR=10						
YKA	**Yellowknife Ar**	**55.63**	**344**	P	P	04 51 07.4	-1.4
	0.1nm,0.5s,baz=145,slow=6.8,SNR=5.7						
YKA				PcP	PcP	04 52 07.6	-0.8
	0.3nm,0.7s,baz=147,slow=4.5,SNR=7.7						
ILAR	**Eielson Array**	**68.17**	**336**	P	P	04 52 32.3	-1.0
	0.3nm,0.8s,baz=133,slow=4.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**150.56**	**351**	PKPab	PKPab	05 01 32.1	-0.5
	0.6nm,0.3s,baz=15,slow=3.8,SNR=5.9						

NIED ***17*** *05:02:00, 26°.00N×128°.60E, h26km, Mw3.7 Best double couple: M₀3.63000×10¹⁴ NP1:φs99.00000°, δ37.00000°, λ-28.00000°. NP2:φs213.00000°, δ73.00000°, λ-123.00000°.*
IDC ***17*** *05:02:24.8±1.0, 25°.98N×128°.72E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, Error ellipse: s-maj=52.0km s-min=17.5km az=70.0*
JMA ***17*** *05:02:29.6±0.3, 26°.04N×128°.56E, h45km, M3.6*
ISC 17 05:02:25.6±1.6, 25°.95N±0°.04×128°.66E±0°.04, h11km±10km, n26, σ1°.60/41, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.81**	**315**	P	**Pn**	**05 02 42.6**	**-0.3**
JNTH				*e*S	**Sg**	**05 02 52.3**	**+0.5**
JJT2	**Tamagusuku 2**	**0.84**	**283**	P	**Pn**	**05 02 43.9**	**+0.5**
JJT2				*e*S	**Sn**	**05 02 54.6**	**-1.2**
JOW	**Kunigami**	**0.95**	**338**	P	**Pn**	**05 02 45.2**	**+0.4**
JOW				*e*S	**Sn**	**05 02 56.6**	**-1.8**
JOW	**Kunigami**	**0.95**	**338**	Pn	**Pn**	**05 02 45.1**	**+0.2**
	baz=139,slow=16						
JOW				Sn	**Sg**	**05 02 56.1**	**-0.1**
	baz=90,slow=19						
JIH	**Iheya**	**1.25**	**330**	P	**Pg**	**05 02 49.7**	**+0.1**
JIH				*e*S	**Sn**	**05 03 04.8**	**-1.0**
JOKE	**Okinoerabujima**	**1.41**	**357**	P	**Pb**	**05 02 52.0**	**+0.1**
JOKE				*e*S	**Sb**	**05 03 08.7**	**-1.2**
JAGN	**Aguni-jima**	**1.43**	**297**	P	**Pb**	**05 02 52.0**	**-0.2**
JAGN				*e*S	**Sn**	**05 03 08.7**	**-1.5**
JKE	**Kume jima 2**	**1.73**	**283**	P	**Pn**	**05 02 55.6**	**0.0**
JKE				*e*S	**Sn**	**05 03 14.7**	**-2.9**
JTK	**Tokunoshima**	**1.85**	**8**	P	**Pb**	**05 02 58.4**	**-1.0**
JTK				*e*S	**Sn**	**05 03 19.1**	**-1.5**
JMZ	**Minamidaito 2**	**2.31**	**93**	P	**Pn**	**05 03 03.7**	**+0.2**
JMZ				*e*S	**Sn**	**05 03 28.9**	**-3.0**
JAMN	**Amaminishikomi**	**2.33**	**11**	*e*S	**Sn**	**05 03 31.2**	**-1.3**
JAM	**Amami Oshima**	**2.59**	**19**	*e*S	**Sn**	**05 03 37.8**	**-1.2**
JZK	**Kikaishima**	**2.63**	**26**	P	**Pb**	**05 03 10.4**	**-2.3**
JZK				*e*S	**Sn**	**05 03 40.2**	**+0.3**
JOGS	**Gusukube**	**3.17**	**249**	P	**Pn**	**05 03 16.2**	**+0.7**
JOGS				*e*S	**Sn**	**05 03 53.6**	**+0.3**
JTAJ	**Takarajima**	**3.23**	**8**	P	**Pn**	**05 03 17.0**	**+0.8**
JTAJ				*e*S	**Sn**	**05 03 52.0**	**-2.6**
JMJ	**Miyako jima 2**	**3.25**	**250**	*e*S	**Sn**	**05 03 54.8**	**-0.4**
JIRB	**Irabujima**	**3.35**	**251**	P	**Pn**	**05 03 17.6**	**-0.2**
JIRB				*e*S	**Sn**	**05 03 54.4**	**-3.2**
JTJ	**Tarama**	**3.81**	**251**	P	**Pn**	**05 03 24.1**	**-0.1**
JNN	**Nakanoshima**	**4.03**	**15**	*e*S	**Sn**	**05 04 12.6**	**-1.7**
JISG	**Ishigakijimahi**	**4.17**	**252**	P	**Pn**	**05 03 28.0**	**-1.1**
JISG				*e*S	**Sn**	**05 04 13.2**	**-4.6**
SONM	**Songino Array**	**28.00**	**327**	P	**P**	**05 08 19.4**	**+2.9**
	1.7nm,0.4s,baz=144,slow=11,SNR=24						
MKAR	**Makanchi Array**	**42.01**	**312**	P	**P**	**05 10 16.6**	**-0.3**
	0.4nm,0.5s,baz=97,slow=10,SNR=8.2						
WRA	**Warramunga Arr**	**45.95**	**173**	P	**P**	**05 10 49.7**	**+1.0**
	0.5nm,0.6s,baz=348,slow=8.1,SNR=8.1						
ASAR	**Alice Springs**	**49.58**	**174**	P	**P**	**05 11 18.1**	**+1.2**
	0.3nm,0.7s,baz=0.1,slow=15,SNR=5.6						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**05 13 57.6**	**+0.8**
	0.7nm,0.6s,baz=46,slow=5.5,SNR=7.1						
YKA	**Yellowknife Ar**	**78.62**	**25**	P	**P**	**05 14 27.7**	**+0.6**
	0.1nm,0.7s,baz=302,slow=6.0,SNR=2.8						

IDC 17 05:25:16.8±1.5, 8°.32S×129°.64E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.6/31, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=108.4km s-min=26.0km az=70.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTN	**Manton Dam**	**4.73**	**162**	P	Pb	05 26 37.1	-3.6
	baz=5.1,SNR=8.9						
MTN				S	Sb	05 27 33.5	-4.7
	baz=5.1,SNR=5.3						
KDU	**Kakadu**	**5.16**	**148**	P	Pn	05 26 38.4	+3.0
	baz=5.3,SNR=114						
WRA	**Warramunga Arr**	**12.42**	**159**	Pn	Pn	05 28 15.0	-0.1
	0.4nm,0.3s,baz=337,slow=13,SNR=8.5						
WRA				Sn	Sn	05 30 29.7	-4.6
	0.8nm,0.3s,baz=168,slow=24,SNR=5.7						
ASAR	**Alice Springs**	**15.80**	**166**	Pn	Pn	05 29 01.1	+0.2
	0.1nm,0.3s,baz=333,slow=8.7,SNR=5.0						
ASAR				Sn	Sn	05 31 57.2	+0.4
	0.2nm,0.3s,baz=2.6,slow=26,SNR=4.2						
SONM	**Songino Array**	**59.58**	**342**	P	P	05 35 21.9	-0.6
	0.3nm,0.5s,baz=169,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	**69.13**	**327**	P	P	05 36 25.4	+0.4
	0.9nm,0.4s,baz=113,slow=8.8,SNR=27						

ISCJB ***17*** *05:27:29.9±0.3, 12°.93S±0°.04×169°.02E±0°.06, h625km, mb4.4/45, Error ellipse: s-maj=7.5km s-min=5.4km az=22.3*
BJI ***17*** *05:27:29.7, 12°.55S×169°.47E, h628km, mB4.4/17, mb4.5/31*
NEIC ***17*** *05:27:31.4±0.9, 12°.95S×169°.07E, h630km±12km, mb4.5/28, Error ellipse: s-maj=8.4km s-min=7.0km az=159.0*
IDC ***17*** *05:27:33.5±1.4, 13°.03S×168°.92E, h655km±18km, mb3.6/22, mb1 3.8/23, mb1mx3.7/35, mbtmp4.6/23, Error ellipse: s-maj=11.7km s-min=9.8km az=129.0*
ISC 17 05:27:31.3±0.4, 12°.99S±0°.06×169°.04E±0°.07, h625km, n110, σ1°.34/125, mb4.4/43, 1C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.37**	**195**	P	**P**	**05 29 45.8**	**+1.2**
	6.3nm,0.3s,baz=280,slow=12,SNR=48						
DZM	**Mont Dzumac**	**9.37**	**195**	*e*P	**P**	**05 29 44.4**	**-0.1**
NOUC	**Port Laguerre**	**9.43**	**196**	*e*P	**P**	**05 29 44.7**	**-0.4**
MSVF	**Nonsau**	**9.89**	**120**	*e*Pn	**P**	**05 29 50.4**	**+0.7**
	44nm,0.7s						
EIDS	**Eidsvold**	**20.93**	**231**	P	**P**	**05 31 32.9**	**+0.6**
	baz=21,SNR=5.3						
EIDS	**Eidsvold**	**20.93**	**231**	*e*P	**P**	**05 31 32.9**	**+0.6**
	13nm,0.8s						
CTA	**Charters Tower**	**22.94**	**249**	P	**P**	**05 31 50.6**	**+0.4**
	3.0nm,0.5s,baz=74,slow=14,SNR=5.1						
CTAO	**Charters Tower**	**22.94**	**249**	*e*P	**P**	**05 31 50.7**	**+0.4**
	3.7nm,0.6s						
RMQ	**Roma**	**23.29**	**232**	P	**P**	**05 31 54.5**	**+1.2**
	baz=24,SNR=12						
ARMA	**Armidale**	**23.66**	**220**	P	**P**	**05 31 57.4**	**+0.9**
	baz=24,SNR=20						
ARMA	**Armidale**	**23.66**	**220**	*e*P	**P**	**05 31 57.5**	**+0.9**
	19nm,0.8s						
COEN	**Coen**	**25.17**	**265**	*e*P	**P**	**05 32 10.6**	**+0.7**
	4.7nm,0.5s						
MGCD	**Mangrove Creek**	**25.94**	**216**	P	**P**	**05 32 17.6**	**+1.1**
	baz=26,SNR=5.9						
URZ	**Urewera**	**26.18**	**165**	P	**P**	**05 32 17.9**	**-0.5**
	5.7nm,0.5s,baz=300,slow=3.7,SNR=8.4						
URZ	**Urewera**	**26.18**	**165**	*e*P	**P**	**05 32 17.8**	**-0.7**
	5.7nm,0.4s						
BKZ	**Black Stump Fm**	**26.90**	**167**	*e*P	**P**	**05 32 24.8**	**-0.1**
	18nm,0.7s						
QLP	**Quilpie**	**26.91**	**236**	P	**P**	**05 32 25.3**	**+0.2**
	baz=27,SNR=14						
YNG	**Young**	**28.31**	**218**	P	**P**	**05 32 38.0**	**+0.9**
	baz=28,SNR=8.4						
CMSA	**Cobar Meteorol**	**28.31**	**226**	P	**P**	**05 32 37.5**	**+0.4**
	baz=28,SNR=15						
CNB	**Canberra Magne**	**28.46**	**215**	P	**P**	**05 32 39.3**	**+0.8**
	baz=29,SNR=19						
SNZO	**South Karori**	**28.65**	**171**	*e*P	**P**	**05 32 39.1**	**-0.8**
	44nm,0.5s						
CAN	**Canberra**	**28.67**	**216**	*e*P	**P**	**05 32 40.5**	**+0.2**
	4.7nm,0.6s						
KHZ	**Kahutara**	**29.58**	**173**	*e*P	**P**	**05 32 47.9**	**0.0**
	28nm,0.8s						
JAY	**Jayapura**	**29.90**	**288**	P	**P**	**05 32 50.2**	**-0.9**
	7.2nm,0.5s,baz=120,slow=5.9,SNR=6.0						
RPZ	**Rata Peaks**	**30.67**	**177**	*e*P	**P**	**05 32 56.7**	**-0.5**
	21nm,0.9s						
STKA	**Stephens Creek**	**31.42**	**229**	P	**P**	**05 33 04.7**	**+0.9**
	13nm,0.5s,baz=50,slow=7.9,SNR=45						
STKA	**Stephens Creek**	**31.42**	**229**	P	**P**	**05 33 04.7**	**+0.9**
	baz=32,SNR=46						
STKA	**Stephens Creek**	**31.42**	**229**	*e*P	**P**	**05 33 04.7**	**+0.9**
	3.2nm,0.8s						
TOO	**Toolangi**	**32.26**	**216**	P	**P**	**05 33 11.8**	**+0.9**
	baz=32,SNR=20						
WB2	**Warramunga Arr**	**33.93**	**254**	*e*P	**P**	**05 33 24.4**	**-0.6**
WRAB	**Tennant Creek**	**33.93**	**254**	*e*P	**P**	**05 33 24.4**	**-0.6**
	12nm,0.4s						
WRA	**Warramunga Arr**	**33.94**	**254**	P	**P**	**05 33 24.6**	**-0.6**
	9.6nm,0.3s,baz=84,slow=8.7,SNR=29						
WRA				PcP	**PcP**	**05 35 42.2**	**-2.5**
	1.6nm,0.4s,baz=76,slow=3.5,SNR=5.8						
WRA				S	**S**	**05 38 03.7**	**-4.1**
	4.2nm,1.0s,baz=92,slow=14,SNR=9.9						
AS31	**Alice Springs**	**34.91**	**247**	*e*P	**P**	**05 33 33.2**	**0.0**
ASAR	**Alice Springs**	**34.91**	**247**	P	**P**	**05 33 33.0**	**-0.2**
	18nm,0.5s,baz=73,slow=9.6,SNR=114						
ASAR				PcP	**PcP**	**05 35 46.9**	**-0.7**
	2.2nm,0.7s,baz=91,slow=3.1,SNR=8.3						
ASAR				S	**S**	**05 38 19.2**	**-3.1**
	9.5nm,0.7s,baz=73,slow=16,SNR=32						
MOO	**Moorlands**	**34.93**	**209**	P	**P**	**05 33 34.2**	**+1.3**
	baz=35,SNR=3.7						
TAU	**Tasmania Unive**	**35.23**	**208**	*e*P	**P**	**05 33 36.5**	**+1.0**
	23nm,1.0s						
KDU	**Kakadu**	**35.63**	**266**	P	**P**	**05 33 38.8**	**-0.4**
	baz=36,SNR=35						
BBOO	**Buckleboo**	**36.00**	**231**	P	**P**	**05 33 42.5**	**+0.5**
	baz=36,SNR=39						
BBOO	**Buckleboo**	**36.00**	**231**	*e*P	**P**	**05 33 42.5**	**+0.5**
	20nm,0.6s						
MTN	**Manton Dam**	**36.92**	**266**	P	**P**	**05 33 49.8**	**0.0**
	baz=37,SNR=7.2						
FAKI	**Fak Fak**	**37.73**	**282**	P	**P**	**05 33 55.8**	**-0.5**
	baz=38,SNR=6.9						
KNRA	**Kununurra**	**39.07**	**261**	P	**P**	**05 34 06.7**	**-0.3**
	baz=39,SNR=54						
WRKA	**Warakurna**	**40.19**	**247**	P	**P**	**05 34 16.1**	**+0.2**
	baz=40,SNR=17						
WRKA				S	**S**	**05 39 39.6**	**-0.2**
	baz=40,SNR=5.9						
FORT	**Forrest**	**41.66**	**238**	P	**P**	**05 34 27.8**	**+0.4**
	baz=42,SNR=13						
FORT	**Forrest**	**41.66**	**238**	*e*P	**P**	**05 34 27.3**	**-0.1**
	13nm,0.6s						
SOEI	**Soe**	**43.97**	**269**	P	**P**	**05 34 45.5**	**-0.2**
	baz=44,SNR=3.6						
SOEI	**Soe**	**43.97**	**269**	*e*P	**P**	**05 34 45.3**	**-0.4**
	21nm,0.6s						
BATI	**Baumata**	**44.49**	**269**	P	**P**	**05 34 50.8**	**+1.3**
	77nm,0.5s,baz=166,slow=1.4						
MEEK	**Meekatharra**	**49.05**	**246**	P	**P**	**05 35 23.4**	**-0.1**
	baz=49,SNR=12						
KAPI	**Kappang**	**49.25**	**275**	*e*P	**P**	**05 35 25.2**	**+0.1**
	29nm,1.0s						
JOW	**Kunigami**	**55.98**	**315**	*e*P	**P**	**05 36 12.7**	**+0.1**
	10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**57.20**	**331**	P	**P**	**05 36 20.1**	**-0.7**
	6.0nm,0.7s,baz=167,slow=8.3,SNR=14						
JNU	**Nakatsue**	**58.55**	**323**	P	**P**	**05 36 29.2**	**-0.7**
	17nm,0.9s,baz=77,slow=3.6,SNR=8.1						
JNU	**Nakatsue**	**58.55**	**323**	*e*P	**P**	**05 36 28.4**	**-1.6**
	28nm,1.7s						
ASAJ	**Asahikawa**	**61.73**	**339**	P	**P**	**05 36 50.9**	**+0.4**
	9.7nm,0.8s,baz=201,slow=5.3,SNR=8.6						
ASAJ	**Asahikawa**	**61.73**	**339**	*e*P	**P**	**05 36 50.5**	**0.0**
	3.0nm,0.7s						
VNDA	**Vanda**	**64.64**	**182**	P	**P**	**05 37 08.8**	**+0.2**
	0.7nm,0.6s,baz=357,slow=6.2,SNR=9.0						
VNDA	**Vanda**	**64.64**	**182**	*e*P	**P**	**05 37 09.1**	**+0.6**
	0.7nm,0.6s						
NJ2	**Nanjing**	**65.67**	**314**	*e*P	**P**	**05 37 15.4**	**-0.3**
NJ2				PMZ			
	20nm,0.6s						
USRK	**Ussuriysk Ar.**	**66.15**	**332**	P	**P**	**05 37 18.7**	**+0.2**
	6.4nm,0.7s,baz=139,slow=5.1,SNR=19						
PETK	**Petropavlovsk-**	**66.55**	**353**	P	**P**	**05 37 20.8**	**+0.1**
	6.9nm,0.7s,baz=147,slow=8.3,SNR=8.0						
CN2	**Changchun**	**69.07**	**328**	*e*P	**P**	**05 37 36.1**	**-0.1**
CN2				PMZ			
	20nm,0.9s						
BJI	**Beijing**	**72.02**	**320**	P	**P**	**05 37 53.8**	**+0.2**
BJI				PMZ			
	25nm,0.5s						
GYA	**Guiyang**	**72.17**	**303**	*e*P	**P**	**05 37 54.8**	**-0.1**
GYA				pP	**pP**	**05 40 02.6**	**+1.3**
GYA				sP	**sP**	**05 41 06.0**	**+0.6**
GYA				S	**S**	**05 46 30.4**	**+1.3**
GYA				SKS	**SKSac**	**05 46 55.8**	**-4.8**
GYA				PMZ			
	10.0nm,1.0s						
XAN	**Xi'an**	**73.81**	**311**	P	**P**	**05 38 04.1**	**+0.1**
XAN				PMZ			
	3.0nm,1.0s						
XAN				PMZ			
	15nm,8.9s						
HHC	**Hu-ho-hao-te**	**75.40**	**319**	*e*P	**P**	**05 38 12.9**	**+0.1**
HHC				PMZ			
	19nm,0.9s						
HHC				PMZ			
	73nm,4.4s						
CMAR	**Chiang Mai Arr**	**75.83**	**293**	P	**P**	**05 38 16.4**	**+0.8**
	10.0nm,0.9s,ba

comp=Z,1.7nm,0.9s,baz=176,slow=5.8,SNR=4.2

AKASG	**Malin Array Be**	**130.23**	**327**	PKP	**PKPdf**	05 45 30.5	**-1.2**
	comp=Z,0.6nm,0.6s,baz=47,slow=1.8,SNR=4.9						
AKASG				SKPbc	**SKPbc**	05 47 57.7	**-0.1**
	comp=Z,0.4nm,0.4s,baz=46,slow=4.9,SNR=5.2						
BRTR	**Keskin Array B**	**132.64**	**313**	SKP	**SKPab**	05 48 10.1	**+0.9**
	comp=Z,0.7nm,0.8s,baz=149,slow=3.4,SNR=4.4						
STHS	**Stebnicka Huta**	**135.05**	**330**	*e*PKP	**PKPdf**	05 45 41.4	**+0.5**
CLL	**Collm**	**137.13**	**338**	*e*PKPdf	**PKPdf**	05 45 46.0	**+1.4**
GERES	**GERESS Array B**	**138.84**	**335**	PKhKP	PKPpre	05 45 37.8	
	comp=Z,0.6nm,0.7s,baz=22,slow=4.3,SNR=4.9						
GERES				PKP	**PKPdf**	05 45 48.0	**0.0**
	comp=Z,0.8nm,0.7s,baz=158,slow=1.4,SNR=5.2						
DAVOX	**Davos/Dischmat**	**142.03**	**337**	PKhKP	PKPpre	05 45 49.6	
	comp=Z,3.6nm,0.5s,baz=239,slow=2.6,SNR=12						
BNI	**Bardonecchia**	**144.68**	**338**	*e*PKPdf	PKPbc	05 45 58.9	-0.1
SSB	**Saint Sauveur**	**145.22**	**341**	*e*PKPdf	**PKPbc**	05 46 00.3	**-0.2**
KEST	**Kesra**	**150.88**	**325**	PKPbc	**PKPbc**	05 46 14.8	**-0.4**
	comp=Z,2.7nm,0.7s,baz=294,slow=3.3,SNR=10						
KEST	**Kesra**	**150.88**	**325**	*e*PKPbc	**PKPbc**	05 46 14.1	**-1.1**
ESDC	**Sonseca Array**	**152.71**	**348**	PKPbc	**PKPbc**	05 46 18.7	**-0.4**
	comp=Z,0.7nm,0.6s,baz=7.4,slow=3.2,SNR=5.3						
ESDC				PKPab	**PKPab**	05 46 33.0	**+0.1**
	comp=Z,0.2nm,0.4s,baz=15,slow=4.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**167.67**	**272**	PKP	**PKPdf**	05 46 27.2	**-0.8**
	comp=Z,0.8nm,0.8s,baz=207,slow=0.9,SNR=4.6						
TORD				PKPab	**PKPab**	05 47 38.6	**-0.6**
	comp=Z,2.6nm,1.0s,baz=87,slow=6.0,SNR=9.9						

CSEM ***17*** *05:28:37.3±0.2, 43.39N×21.52E, h2km, ML1.8, Error ellipse: s-maj=5.3km s-min=3.4km az=26.0*

BEO 17 05:28:37.9±0.2, 43.40N×21.56E, h0km, ML1.8/9, 8C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.37**	**241**	*e*Pg	Pg	05 28 43.2	-1.9
SELS	**Selova**	**0.37**	**241**	*e*Pg	Pg	05 28 43.2	-1.9
BOLS	**Boljevac**	**0.52**	**34**	*e*Pg	Pg	05 28 46.5	-1.3
BOLS				*e*Sg	Sg	05 28 53.8	-0.7
BOLS	**Boljevac**	**0.52**	**34**	*e*Pg	Pg	05 28 46.5	-1.3
BOLS				*e*Sg	Sg	05 28 53.8	-0.7
BARS	**Barje**	**0.61**	**162**	*e*Pg	Pg	05 28 48.8	-0.9
BARS				*e*Sg	Sg	05 28 56.6	-1.1
BARS	**Barje**	**0.61**	**162**	*e*Pg	Pg	05 28 48.8	-0.9
BARS				*e*Sg	Sg	05 28 56.6	-1.1
GRUS	**Gruza**	**0.78**	**309**	*e*Pg	Pg	05 28 52.0	-1.0
GRUS				*e*Sg	Sg	05 29 02.7	-0.5
GRUS	**Gruza**	**0.78**	**309**	*e*Pg	Pg	05 28 52.0	-1.0
GRUS				*e*Sg	Sg	05 29 02.7	-0.5
ZAPS	**Zavoj**	**0.79**	**99**	*e*Pg	Pg	05 28 53.1	-0.1
ZAPS				*e*Sg	Sg	05 29 03.8	+0.2
SJES	**Sjenica**	**1.17**	**264**	*e*Pg	Pg	05 29 00.1	-0.3
SJES				*e*Sg	Sg	05 29 14.2	-1.5
TRUS	**Trudelj**	**1.17**	**315**	*e*Pg	Pg	05 28 58.9	-1.5
TRUS				*e*Sg	Sg	05 29 14.1	-1.6
TRUS	**Trudelj**	**1.17**	**315**	*e*Pg	Pg	05 28 58.9	-1.5
TRUS				*e*Sg	Sg	05 29 14.1	-1.6
DIVS	**Divibare**	**1.33**	**302**	*e*Pg	Pg	05 29 01.4	-2.2
DIVS				*e*Sg	Sg	05 29 21.2	+0.2
DIVS	**Divibare**	**1.33**	**302**	*e*Pg	Pg	05 29 01.4	-2.2
DIVS				*e*Sg	Sg	05 29 21.2	+0.2
VTS	**Vitosha**	**1.45**	**123**	*e*Pg	Pn	05 29 04.4	-1.3
VTS				*e*Sg	Sg	05 29 23.9	-1.1
VTS	**Vitosha**	**1.45**	**123**	⇑*i*P	Pn	05 29 04.6	-1.1
VTS	**Vitosha**	**1.45**	**123**	⇑*i*P	Pn	05 29 04.6	-1.1
VTS				*e*Sg	Sg	05 29 23.9	-1.1
VTS				S	Sb	05 29 25.2	-0.1
BBLS	**Lazići**	**1.63**	**287**	*e*Pg	Pn	05 29 08.2	+0.2
BBLS				*e*Sg	Sg	05 29 30.8	+0.2
BBLS	**Lazići**	**1.63**	**287**	*e*Pg	Pn	05 29 08.2	+0.2
BBLS				*e*Sg	Sg	05 29 30.8	+0.2
GZR	**Gura Zlata**	**2.17**	**23**	⇑*i*P	Pb	05 29 16.9	-1.4
GZR	**Gura Zlata**	**2.17**	**23**	⇑*i*P	Pb	05 29 16.9	-1.4
GZR				S	Sb	05 29 46.0	+0.1
BZS	**Buzias**	**2.22**	**1**	*e*Pn	Pn	05 29 15.8	-0.1
BZS				*e*Sg	Sb	05 29 47.4	+0.5
BZS	**Buzias**	**2.22**	**1**	⇑*i*P	Pb	05 29 18.9	0.0
BZS	**Buzias**	**2.22**	**1**	*e*Pn	Pn	05 29 15.8	-0.1
BZS	**Buzias**	**2.22**	**1**	⇑*i*P	Pb	05 29 18.9	0.0
BZS				S	Sb	05 29 47.4	+0.5
MMB	**Musomiste**	**2.42**	**138**	⇑*i*P	Pb	05 29 21.1	-1.2
MMB	**Musomiste**	**2.42**	**138**	⇑*i*P	Pb	05 29 21.1	-1.2
MMB				S	Sn	05 29 50.2	+1.1
DRGR		**3.49**	**13**	S	Sb	05 30 20.0	-3.6

IDC ***17*** *05:43:36.1±1.1, 39.38N×20.58E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.5/35, mbtmp3.6/11, ML3.2/3, Error ellipse: s-maj=21.5km s-min=17.7km az=94.0*

ISCJB ***17*** *05:43:38.3±0.4, 39.39N±0.01×20.56E±0.02, h5km±3km, mb3.7/8, Error ellipse: s-maj=2.9km s-min=1.8km az=147.9*

CSEM ***17*** *05:43:38.8±0.1, 39.38N×20.57E, h2km, MD3.5, Error ellipse: s-maj=2.8km s-min=1.7km az=60.0*

PDG ***17*** *05:43:39.6±1.1, 39.44N×20.58E, h8km±1km, ML3.5/8, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0*

THE ***17*** *05:43:39.2, 39.38N×20.64E, h0km, ML3.4/21, Error ellipse: s-maj=0.6km s-min=0.2km az=262.0*

ATH ***17*** *05:43:39.2, 39.40N×20.61E, h19km, MD3.5/35, ML3.4*

ISC 17 05:43:38.8±0.8, 39.37N±0.01×20.60E±0.02, h10km±6km, n238, σ1§35/315, mb3.7/8, 13C-21D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.26**	**308**	P	**Pg**	05 43 44.8	**+0.5**
IGT				S	**Sg**	05 43 49.2	**+1.4**
IGT	**Igoumenitsa**	**0.26**	**308**	*e*PB	**Pg**	05 43 44.7	**+0.5**
IGT				*e*SB	**Sb**	05 43 49.7	**-0.5**
IGT	**Igoumenitsa**	**0.26**	**308**	P	**Pg**	05 43 44.8	**+0.5**
IGT				S	**Sg**	05 43 49.2	**+1.4**
JAN	**Janina**	**0.35**	**34**	P	**Pg**	05 43 45.5	**-0.3**
JAN				S	**Sg**	05 43 50.7	**+0.3**
JAN	**Janina**	**0.35**	**34**	*e*PB	**Pg**	05 43 45.8	**0.0**
JAN				*e*SB	**Sg**	05 43 51.4	**+1.0**
JAN	**Janina**	**0.35**	**34**	P	**Pg**	05 43 45.5	**-0.3**
JAN	**Janina**	**0.35**	**34**	*e*Pb	**Pg**	05 43 45.8	**0.0**
JAN				S	**Sg**	05 43 50.7	**+0.3**
JAN				*e*Sb	**Sg**	05 43 51.4	**+1.0**
DSL	**Palaion Diasel**	**0.45**	**121**	P	**Pg**	05 43 47.5	**-0.2**
DSL				S	**Sg**	05 43 53.9	**+0.3**
DSL	**Palaion Diasel**	**0.45**	**121**	*e*PB	**Pg**	05 43 47.9	**+0.2**
DSL	**Palaion Diasel**	**0.45**	**121**	P	**Pg**	05 43 47.5	**-0.2**
DSL	**Palaion Diasel**	**0.45**	**121**	*e*Pb	**Pg**	05 43 47.9	**+0.2**
DSL				S	**Sg**	05 43 53.9	**+0.3**
MEV	**Metsovon**	**0.64**	**49**	P	**Pg**	05 43 50.8	**-0.5**
MEV	**Metsovon**	**0.64**	**49**	P	**Pg**	05 43 50.8	**-0.5**
SRN	**Sarande**	**0.69**	**318**	P	**Pg**	05 43 52.3	**+0.1**
SRN	**Sarande**	**0.69**	**318**	P	**Pg**	05 43 52.3	**+0.1**
KEK	**Kerkira**	**0.71**	**299**	P	**Pg**	05 43 52.5	**0.0**
KEK				S	**Sb**	05 44 04.1	**+1.1**
KEK	**Kerkira**	**0.71**	**299**	*e*PN	**Pg**	05 43 52.6	**0.0**
KEK	**Kerkira**	**0.71**	**299**	P	**Pg**	05 43 52.5	**0.0**
KEK				S	**Sb**	05 44 04.1	**+1.1**
PDO	**Prodromos**	**0.89**	**149**	P	**Pb**	05 43 55.9	**-0.5**
PDO				S	**Sb**	05 44 08.8	**+0.5**
PDO	**Prodromos**	**0.89**	**149**	*e*PN	**Pb**	05 43 56.4	**0.0**
PDO				*e*SN	**Sn**	05 44 10.0	**-0.3**
PDO	**Prodromos**	**0.89**	**149**	P	**Pb**	05 43 55.9	**-0.5**
PDO	**Prodromos**	**0.89**	**149**	*e*Pn	**Pb**	05 43 56.4	**0.0**
PDO				S	**Sb**	05 44 08.8	**+0.5**
PDO				*e*Sn	**Sn**	05 44 10.0	**-0.3**
PVO	**Paravola**	**1.04**	**136**	P	**Pb**	05 43 58.5	**-0.4**
PVO				S	**Sg**	05 44 13.4	**+1.0**
PVO	**Paravola**	**1.04**	**136**	P	**Pb**	05 43 58.5	**-0.4**
PVO				S	**Sg**	05 44 13.4	**+1.0**
EVR	**Evrytania**	**1.04**	**115**	P	**Pb**	05 43 58.4	**-0.6**
EVR				S	**Sb**	05 44 13.2	**+0.5**
EVR	**Evrytania**	**1.04**	**115**	*e*PB	**Pb**	05 43 58.4	**-0.6**
EVR	**Evrytania**	**1.04**	**115**	P	**Pb**	05 43 58.4	**-0.6**
EVR				S	**Sb**	05 44 13.2	**+0.5**
NEST	**Nestorio**	**1.10**	**18**	P	**Pb**	05 43 59.4	**-0.6**
NEST				S	**Sn**	05 44 15.5	**-0.1**
NEST	**Nestorio**	**1.10**	**18**	*e*PN	**Pb**	05 43 59.4	**-0.6**
NEST	**Nestorio**	**1.10**	**18**	P	**Pb**	05 43 59.4	**-0.6**
NEST				S	**Sn**	05 44 15.5	**-0.1**
THL	**Klokotos Trika**	**1.11**	**79**	P	**Pb**	05 43 59.3	**-0.8**
THL				S	**Sg**	05 44 15.3	**+0.7**
VLS	**Valsamata**	**1.19**	**180**	P	**Pn**	05 44 01.5	**0.0**
VLS	**Valsamata**	**1.19**	**180**	*e*PB	**Pn**	05 44 01.5	**0.0**
VLS				*e*SN	**Sg**	05 44 19.8	**+2.7**
VLS	**Valsamata**	**1.19**	**180**	P	**Pn**	05 44 01.5	**0.0**
VLS				*e*Sn	**Sg**	05 44 19.8	**+2.7**
MAKR	**Makrakomi, Fth**	**1.24**	**106**	P	**Pn**	05 44 02.0	**-0.2**
MAKR				S	**Sg**	05 44 19.5	**+0.7**
MAKR	**Makrakomi, Fth**	**1.24**	**106**	*e*PN	**Pn**	05 44 02.4	**+0.2**
MAKR	**Makrakomi, Fth**	**1.24**	**106**	P	**Pn**	05 44 02.0	**-0.2**
MAKR	**Makrakomi, Fth**	**1.24**	**106**	*e*Pn	**Pn**	05 44 02.4	**+0.2**
MAKR				S	**Sg**	05 44 19.5	**+0.7**
KBN	**Korca**	**1.26**	**6**	P	**Pn**	05 44 02.7	**+0.2**
KBN				S	**Sg**	05 44 21.4	**+1.8**
KBN	**Korca**	**1.26**	**6**	P	**Pn**	05 44 02.7	**+0.2**
KBN				S	**Sg**	05 44 21.2	**+1.7**
KFL	**Anninata**	**1.27**	**173**	P	**Pn**	05 44 02.7	**+0.2**
KFL				S	**Sg**	05 44 21.4	**+1.8**
KFL	**Anninata**	**1.27**	**173**	P	**Pn**	05 44 02.7	**+0.2**
KFL				S	**Sg**	05 44 21.4	**+1.8**
KZN	**Kozani**	**1.30**	**44**	P	**Pn**	05 44 03.0	**-0.1**
KZN				S	**Sg**	05 44 21.6	**+0.9**
KZN	**Kozani**	**1.30**	**44**	*e*PN	**Pn**	05 44 02.8	**-0.3**
KZN	**Kozani**	**1.30**	**44**	P	**Pn**	05 44 03.0	**-0.1**
KZN				S	**Sg**	05 44 21.6	**+0.9**
EFP	**Efpalio**	**1.39**	**132**	P	**Pb**	05 44 04.8	**0.0**
EFP				S	**Sg**	05 44 24.9	**+1.5**
EFP	**Efpalio**	**1.39**	**132**	*e*PN	**Pg**	05 44 06.3	**+0.9**
EFP	**Efpalio**	**1.39**	**132**	P	**Pb**	05 44 04.8	**0.0**
EFP	**Efpalio**	**1.39**	**132**	*e*Pn	**Pg**	05 44 06.3	**+0.9**
EFP				S	**Sg**	05 44 24.9	**+1.5**
AGG	**Agios Georgios**	**1.39**	**104**	P	**Pn**	05 44 04.3	**+0.1**
AGG	**Agios Georgios**	**1.39**	**104**	*e*PB	**Pn**	05 44 04.5	**+0.3**
AGG	**Agios Georgios**	**1.39**	**104**	P	**Pn**	05 44 04.3	**+0.1**
RLS	**Riolos of Patr**	**1.47**	**152**	P	**Pb**	05 44 06.1	**-0.2**
RLS				S	**Sg**	05 44 27.3	**+1.1**
RLS	**Riolos of Patr**	**1.47**	**152**	*e*PN	**Pb**	05 44 06.4	**+0.1**
RLS	**Riolos of Patr**	**1.47**	**152**	P	**Pb**	05 44 06.1	**-0.2**
RLS	**Riolos of Patr**	**1.47**	**152**	*e*Pn	**Pb**	05 44 06.4	**+0.1**
RLS				S	**Sg**	05 44 27.3	**+1.1**
FNA	**Florina**	**1.53**	**23**	P	**Pn**	05 44 06.8	**+0.5**
FNA				S	**Sg**	05 44 28.4	**+0.2**
FNA	**Florina**	**1.53**	**23**	*e*PN	**Pn**	05 44 06.8	**+0.5**
FNA				*e*SN	**Sg**	05 44 27.9	**-0.3**
FNA	**Florina**	**1.53**	**23**	P	**Pn**	05 44 06.8	**+0.5**
FNA				*e*Sn	**Sg**	05 44 27.9	**-0.3**
FNA				S	**Sg**	05 44 28.4	**+0.2**
KALE	**Kalithea**	**1.55**	**129**	P	**Pn**	05 44 07.2	**+0.7**
KALE				S	**Sb**	05 44 28.5	**+1.3**
KALE	**Kalithea**	**1.55**	**129**	*e*PN	**Pg**	05 44 08.9	**+0.4**
KALE	**Kalithea**	**1.55**	**129**	P	**Pn**	05 44 07.2	**+0.7**
KALE	**Kalithea**	**1.55**	**129**	*e*Pn	**Pg**	05 44 08.9	**+0.4**
KALE				S	**Sb**	05 44 28.5	**+1.3**
LIT	**Litokhoron**	**1.63**	**63**	P	**Pn**	05 44 08.0	**+0.5**
LIT				S	**Sb**	05 44 30.4	**+0.8**
LIT	**Litokhoron**	**1.63**	**63**	*e*PN	**Pb**	05 44 08.6	**-0.4**
LIT	**Litokhoron**	**1.63**	**63**	P	**Pn**	05 44 08.0	**+0.5**
LIT	**Litokhoron**	**1.63**	**63**	*e*Pn	**Pb**	05 44 08.6	**-0.4**
LIT				S	**Sb**	05 44 30.4	**+0.8**
DRO	**Drossia**	**1.66**	**148**	P	**Pn**	05 44 08.8	**+0.8**
DRO	**Drossia**	**1.66**	**148**	*e*PN	**Pg**	05 44 10.7	**0.0**
DRO	**Drossia**	**1.66**	**148**	P	**Pn**	05 44 08.8	**+0.8**
DRO	**Drossia**	**1.66**	**148**	*e*Pn	**Pg**	05 44 10.7	**0.0**
AXAR	**Agios Charalam**	**1.71**	**110**	*e*PN	**Pb**	05 44 10.5	**+0.2**
AXAR	**Agios Charalam**	**1.71**	**110**	*e*Pn	**Pb**	05 44 10.5	**+0.2**
OHR	**Ohrid**	**1.75**	**5**	P	**Pn**	05 44 10.8	**-0.5**
OHR	**Ohrid**	**1.75**	**5**	*i* Pn	**Pb**	05 44 10.5	**+0.5**
KLV	**Kalavryta, Ach**	**1.79**	**137**	P	**Pn**	05 44 10.8	**+1.0**
KLV				S	**Sb**	05 44 34.5	**+0.2**
KLV	**Kalavryta, Ach**	**1.79**	**137**	*e*PN	**Pb**	05 44 12.0	**+0.2**
KLV	**Kalavryta, Ach**	**1.79**	**137**	P	**Pn**	05 44 10.8	**+1.0**
KLV	**Kalavryta, Ach**	**1.79**	**137**	*e*Pn	**Pb**	05 44 12.0	**+0.2**
KLV				S	**Sb**	05 44 34.5	**+0.2**
GUR	**Goura**	**1.98**	**136**	P	**Pn**	05 44 13.2	**+0.8**
GUR				S	**Sb**	05 44 39.6	**0.0**
GUR	**Goura**	**1.98**	**136**	*e*PN	**Pb**	05 44 14.6	**-0.3**
GUR	**Goura**	**1.98**	**136**	P	**Pn**	05 44 13.2	**+0.8**
GUR	**Goura**	**1.98**	**136**	*e*Pn	**Pb**	05 44 14.6	**-0.3**
GUR				S	**Sb**	05 44 39.6	**0.0**
LKR	**Lokris**	**2.00**	**110**	P	**Pn**	05 44 13.5	**+0.9**
LKR	**Lokris**	**2.00**	**110**	*e*PN	**Pb**	05 44 14.7	**-0.6**
LKR	**Lokris**	**2.00**	**110**	P	**Pn**	05 44 13.5	**+0.9**
LKR	**Lokris**	**2.00**	**110**	*e*Pn	**Pb**	05 44 14.7	**-0.6**
XOR	**Xorichti**	**2.01**	**89**	P	**Pn**	05 44 13.2	**+0.4**
XOR				S	**Sb**	05 44 39.4	**-1.1**
XOR	**Xorichti**	**2.01**	**89**	*e*PN	**Pb**	05 44 14.3	**-1.1**
XOR	**Xorichti**	**2.01**	**89**	P	**Pn**	05 44 13.2	**+0.4**
XOR	**Xorichti**	**2.01**	**89**	*e*Pn	**Pb**	05 44 14.3	**-1.1**
XOR				S	**Sb**	05 44 39.4	**-1.1**
AMT	**Artemida-Makis**	**2.03**	**154**	P	**Pn**	05 44 13.9	**+0.9**
AMT	**Artemida-Makis**	**2.03**	**154**	*e*PN	**Pb**	05 44 15.5	**-0.3**
AMT	**Artemida-Makis**	**2.03**	**154**	P	**Pn**	05 44 13.9	**+0.9**
AMT	**Artemida-Makis**	**2.03**	**154**	*e*Pn	**Pb**	05 44 15.5	**-0.3**
SMIA	**Simia**	**2.09**	**103**	*e*PN	**Pb**	05 44 16.3	**-0.4**
SMIA	**Simia**	**2.09**	**103**	*e*Pn	**Pb**	05 44 16.3	**-0.4**
THE	**Thessaloniki**	**2.21**	**54**	*e*PN	**Pb**	05 44 18.7	**-0.1**
THE	**Thessaloniki**	**2.21**	**54**	*e*Pn	**Pb**	05 44 18.7	**-0.1**
SKIA	**Skiathos**	**2.23**	**94**	*e*PN	**Pb**	05 44 17.9	**-1.3**
SKIA	**Skiathos**	**2.23**	**94**	*e*Pn	**Pb**	05 44 17.9	**-1.3**
HORT	**Hortiatis**	**2.28**	**57**	P	**Pn**	05 44 17.3	**+0.8**
HORT	**Hortiatis**	**2.28**	**57**	*e*PB	**Pn**	05 44 17.8	**+1.3**
HORT	**Hortiatis**	**2.28**	**57**	P	**Pn**	05 44 17.3	**+0.8**
LTK	**Loutraki**	**2.29**	**125**	*e*PN	**Pb**	05 44 19.0	**-1.2**
LTK	**Loutraki**	**2.29**	**125**	*e*Pn	**Pb**	05 44 19.0	**-1.2**
PLG	**Polygyros**	**2.41**	**64**	P	**Pn**	05 44 19.0	**+0.7**
PLG	**Polygyros**	**2.41**	**64**	*e*PN	**Pn**	05 44 19.6	**+1.3**
PLG	**Polygyros**	**2.41**	**64**	P	**Pn**	05 44 19.0	**+0.7**
PLG	**Polygyros**	**2.41**	**64**	*e*Pn	**Pn**	05 44 19.6	**+1.3**
MRKA	**Markates**	**2.42**	**105**	P	**Pn**	05 44 19.2	**+0.8**
MRKA				S	**Sb**	05 44 50.5	**-1.7**
MRKA	**Markates**	**2.42**	**105**	*e*PN	**Pn**	05 44 20.0	**+1.6**
MRKA	**Markates**	**2.42**	**105**	P	**Pn**	05 44 19.2	**+0.8**
MRKA	**Markates**	**2.42**	**105**	*e*Pn	**Pn**	05 44 20.0	**+1.6**
MRKA				S	**Sb**	05 44 50.5	**-1.7**
ITM	**Ithomi**	**2.42**	**154**	P	**Pn**	05 44 19.6	**+1.2**
ITM	**Ithomi**	**2.42**	**154**	*e*PB	**Pb**	05 44 21.3	**-1.2**
ITM	**Ithomi**	**2.42**	**154**	P	**Pn**	05 44 19.6	**+1.2**
VLX	**Vlachokerasia**	**2.44**	**144**	*e*PB	**Pn**	05 44 20.8	**+2.1**
PAIG	**Paliouri**	**2.44**	**76**	P	**Pn**	05 44 19.3	**+0.6**
PAIG				S	**Sb**	05 44 51.0	**-1.9**
PAIG	**Paliouri**	**2.44**	**76**	*e*PN	**Pn**	05 44 20.2	**+1.5**
PAIG	**Paliouri**	**2.44**	**76**	P	**Pn**	05 44 19.3	**+0.6**
PAIG	**Paliouri**	**2.44**	**76**	*e*Pn	**Pn**	05 44 20.2	**+1.5**
PAIG				S	**Sb**	05 44 51.0	**-1.9**
VAY	**Valandovo**	**2.46**	**37**	*i* Pn	**Pn**	05 44 20.4	**+1.4**
VAY	**Valandovo**	**2.46**	**37**	*i* Pn	**Pn**	05 44 20.3	**+1.4**
KNT	**Kendrikon**	**2.51**	**44**	P	**Pn**	05 44 20.4	**+0.8**
KNT	**Kendrikon**	**2.51**	**44**	*e*PB	**Pn**	05 44 21.6	**+2.0**
KNT	**Kendrikon**	**2.51**	**44**	P	**Pn**	05 44 20.4	**+0.8**
AOS	**Alonnisos**	**2.55**	**93**	P	**Pn**	05 44 20.9	**+0.7**
AOS				S	**Sn**	05 44 53.1	**+1.8**
AOS	**Alonnisos**	**2.55**	**93**	*e*PN	**Pn**	05 44 21.1	**+0.9**
AOS	**Alonnisos**	**2.55**	**93**	*e*Pn	**Pn**	05 44 21.1	**+0.9**
AOS				S	**Sn**	05 44 53.1	**+1.8**
SOH	**Sokhos**	**2.56**	**55**	P	**Pn**	05 44 21.1	**+0.7**
SOH				S	**Sn**	05 44 53.8	**+2.2**
SOH	**Sokhos**	**2.56**	**55**	*e*PB	**Pn**	05 44 22.7	**+2.7**
SOH	**Sokhos**	**2.56**	**55**	P	**Pn**	05 44 21.1	**+0.7**
SOH				S	**Sn**	05 44 53.8	**+2.2**
PYL	**PYLOS**	**2.63**	**160**	*e*PN	**Pn**	05 44 22.9	**+1.7**
PYL	**PYLOS**	**2.63**	**160**	*e*Pn	**Pn**	05 44 22.9	**+1.7**
OUR	**Ouranopolis**	**2.77**	**69**	P	**Pn**	05 44 24.0	**+0.8**
OUR				S	**Sn**	05 44 58.6	**+1.8**
OUR	**Ouranopolis**	**2.77**	**69**	*e*PN	**Pn**	05 44 24.9	**+1.7**
OUR	**Ouranopolis**	**2.77**	**69**	P	**Pn**	05 44 24.0	**+0.8**
OUR	**Ouranopolis**	**2.77**	**69**	*e*Pn	**Pn**	05 44 24.9	**+1.7**
OUR				S	**Sn**	05 44 58.6	**+1.8**
NAIG	**Nisos Aigina**	**2.78**	**124**	*e*PN	**Pn**	05 44 24.6	**+1.3**
NAIG	**Nisos Aigina**	**2.78**	**124**	*e*Pn	**Pn**	05 44 24.6	**+1.3**
ULC	**Ulcinj**	**2.79**	**339**	⇓*i*Pn	**Pn**	05 44 24.1	**+0.6**
ULC				*e*Sn	**Sn**	05 44 58.7	**+1.5**
ULC	**Ulcinj**	**2.79**	**339**	⇓*i*Pn	**Pn**	05 44 24.1	**+0.6**
ULC				*e*Sn	**Sn**	05 44 58.7	**+1.5**
TAR1	**Taranto**	**2.80**	**295**	*e*Pn	**Pn**	05 44 23.5	**-0.1**
ATH	**Athens Observa**	**2.81**	**119**	*e*PN	**Pn**	05 44 25.9	**+2.2**
ATH	**Athens Observa**	**2.81**	**119**	*e*Pn	**Pn**	05 44 25.9	**+2.2**
PE1	**Pezze di Greco**	**2.83**	**301**	*e*Pn	**Pn**	05 44 23.9	**-0.1**
PTL	**Penteli**	**2.87**	**116**	*e*PN	**Pn**	05 44 26.8	**+2.1**
PTL	**Penteli**	**2.87**	**116**	*e*Pn	**Pn**	05 44 26.8	**+2.1**
SRS	**Serrai**	**2.88**	**52**	P	**Pn**	05 44 25.4	**+0.7**
SRS				S	**Sn**	05 45 01.4	**+2.0**
SRS	**Serrai**	**2.88**	**52**	*e*PN	**Pn**	05 44 25.8	**+1.1**
SRS	**Serrai**	**2.88**	**52**	P	**Pn**	05 44 25.4	**+0.7**
SRS	**Serrai**	**2.88**	**52**	*e*Pn	**Pn**	05 44 25.8	**+1.1**
SRS				S	**Sn**	05 45 01.4	**+2.0**
DRME	**Dracevica, Mon**	**3.01**	**340**	⇓*i*Pn	**Pn**	05 44 27.6	**+1.1**
DRME				*e*Sn	**Sn**	05 45 04.5	**+1.8**
DRME	**Dracevica, Mon**	**3.01**	**340**	⇓*i*Pn	**Pn**	05 44 27.6	**+1.1**
DRME				*e*Sn	**Sn**	05 45 04.5	**+1.8**
NVR	**Nevrokopi**	**3.18**	**51**	*e*PN	**Pn**	05 44 31.1	**+2.2**
NVR	**Nevrokopi**	**3.18**	**51**	*e*Pn	**Pn**	05 44 31.1	**+2.2**
BUM	**Brajici-Budva**	**3.20**	**337**	⇓*i*Pn	**Pn**	05 44 29.8	**+0.6**
BUM				*e*Sn	**Sn**	05 45 08.2	**+0.8**
BUM	**Brajici-Budva**	**3.20**	**337**	⇓*i*Pn	**Pn**	05 44 29.8	**+0.6**
BUM				*e*Sn	**Sn**	05 45 08.2	**+0.8**
PDG	**Podgorica**	**3.22**	**342**	⇓*i*Pn	**Pn**	05 44 30.6	**+1.2**
PDG				*e*Sn	**Sn**	05 45 10.7	**+2.9**
TTG	**Podgorica**	**3.22**	**342**	⇓*i*Pn	**Pn**	05 44 30.6	**+1.2**
TTG				*e*Sn	**Sn**	05 45 10.7	**+2.9**
VLI	**Veliai**	**3.23**	**144**	*e*PN	**Pn**	05 44 32.3	**+2.8**
VLI	**Veliai**	**3.23**	**144**	*e*Pn	**Pn**	05 44 32.3	**+2.8**
MMB	**Musomiste**	**3.26**	**46**	⇑*i*P	Pn	05 44 33.0	+3.1
MMB	**Musomiste**	**3.26**	**46**	⇑*i*P	Pn	05 44 33.0	+3.1
MMB				S	**Sn**	05 45 09.

RMX	**La Rumorosa**	**0.76**	**301**	*e*P		**Pg**	**05 53 11.3**	**-0.1**
RMX				e*S*		**Sg**	**05 53 21.6**	**+0.2**
RMX				AML		AML	05 53 22.8	
	comp=N,3μm,0.3s							
RMX				⇑*e*			05 53 22.8	
ECBX	**El Chinero**	**0.77**	**163**	*e*P		**Pg**	**05 53 11.0**	**-0.3**
ECBX				e*S*		**Sg**	**05 53 21.9**	**+0.6**
GLA	**Glamis**	**0.94**	**26**	*e*Pg		**Pg**	**05 53 12.3**	**-2.3**
ZAX	**El Zacaton**	**1.07**	**230**	*e*P		**Pg**	**05 53 17.3**	**0.0**
ZAX				e*S*		**Sn**	**05 53 32.8**	**+0.2**
CBX	**Cerro Bola**	**1.15**	**276**	*i* P		**Pb**	**05 53 18.1**	**-0.6**
CBX				*i* S		**Sg**	**05 53 33.5**	**-0.3**
CBX	**Cerro Bola**	**1.15**	**276**	*e*P		**Pb**	**05 53 18.0**	**-0.6**
CBX				e*S*		**Sb**	**05 53 34.2**	**+0.5**
CBX				AML		AML	05 53 36.4	
	comp=E,3μm,0.4s							
CBX				⇑*e*			05 53 36.4	
CBX	**Cerro Bola**	**1.15**	**276**	*i* P		**Pb**	**05 53 18.1**	**-0.6**
CBX				*i* S		**Sg**	**05 53 33.5**	**-0.3**
SPIG	**San Pedro Mart**	**1.17**	**187**	*e*P		**Pb**	**05 53 18.3**	**-0.6**
SPIG				*i* S		**Sb**	**05 53 34.6**	**+0.4**
SPIG	**San Pedro Mart**	**1.17**	**187**	*e*P		**Pb**	**05 53 18.6**	**-0.4**
SPIG	**San Pedro Mart**	**1.17**	**187**	*e*P		**Pb**	**05 53 18.3**	**-0.6**
SPX	**San Pedro Mart**	**1.17**	**187**	*e*P		**Pb**	**05 53 18.7**	**-0.3**
ECNX	**Esteban Cantu**	**1.23**	**244**	*e*P		**Pn**	**05 53 19.6**	**-0.2**
ECNX				e*S*		**Sn**	**05 53 37.1**	**+0.7**
BAR	**Barrett**	**1.25**	**293**	*e*P		**Pn**	**05 53 18.9**	**-1.1**
BAR	**Barrett**	**1.25**	**293**	*e*Pn		**Pn**	**05 53 19.0**	**-1.1**
BAR				e*S*g		**Sb**	**05 53 35.7**	**-0.6**
PBX	**Punta Banda**	**1.29**	**249**⇑	*e*P		**Pn**	**05 53 20.6**	**0.0**
PBX				e*S*		**Sn**	**05 53 38.7**	**+0.7**
PFO	**Pinyon Flats O**	**1.70**	**326**	*e*Pn		**Pn**	**05 53 23.9**	**-2.4**
214A	**Organ Pipe Nat**	**2.13**	**96**	*e*Pn		**Pn**	**05 53 29.7**	**-2.5**
214A				e*S*g		**Sb**	**05 54 01.9**	**+0.1**
LDFC	**Landfair**	**2.87**	**3**	*e*Pn		**Pn**	**05 53 44.5**	**+2.1**
LDFC				*e*Pg		**Pg**	**05 53 52.0**	**+0.4**
MWC	**Mount Wilson**	**3.06**	**312**	*e*Pg		**Pb**	**05 53 51.3**	**+0.1**
MWC				e*S*g		**Sg**	**05 54 32.2**	**-2.8**
GSC	**Goldstone, Bar**	**3.33**	**338**	*e*Pg		**Pg**	**05 53 59.8**	**-0.7**
OSI	**Osito Audit: C**	**3.73**	**311**	*e*Pg		**Pb**	**05 54 03.5**	**+0.9**
TUC	**Tucson**	**3.83**	**87**	*e*Pg		**Pg**	**05 54 09.5**	**-0.5**
TUC				e*S*g		**Sb**	**05 54 54.1**	**+3.3**
SHPR	**Sheep Range**	**4.29**	**2**	*e*Pg		**Pg**	**05 54 20.2**	**+1.4**
SHPR				e*S*g		**Sg**	**05 55 15.1**	**+0.8**
ISA	**Isabella, Lake**	**4.34**	**323**	*e*Pg		Pb	05 54 16.2	+3.3
DAC	**Darwin (Calif)**	**4.48**	**336**	*e*Pg		**Pg**	**05 54 22.3**	**-0.2**
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn		**Pn**	**05 54 07.0**	**+0.1**
TPNV	**Topopah Spring**	**4.79**	**351**	*e*Pg		**Pg**	**05 54 26.1**	**-2.4**
TPNV				e*S*g		**Sg**	**05 55 33.5**	**+3.0**
W18A	**Petrified Fore**	**5.48**	**56**	*e*Pn		**Pn**	**05 54 16.1**	**-2.2**
CCUT	**Cedar City**	**5.56**	**16**	*e*Pn		**Pn**	**05 54 19.7**	**+0.1**
CCUT				*e*Pg		**Pg**	**05 54 42.7**	**-0.5**
CCUT				e*S*g		**Sg**	**05 56 00.2**	**+4.9**
R11A	**Troy Canyon, C**	**6.13**	**358**	*e*Pg		**Pg**	**05 54 54.1**	**+0.1**
	comp=E,1.7nm,0.4s							
MVU	**Marysvale**	**6.77**	**21**	*e*Pg		**Pg**	**05 55 03.6**	**-2.6**

ISCJB ***17*** *05:53:13.8±0.7,24.˚16S±0.˚06×67.˚1W±0.˚1, h181km, mb3.2/2, Error ellipse: s-maj=13.1km s-min=8.3km az=168.4*
IDC ***17*** *05:53:13.9±1.2,24.˚22S×67.˚03W, h161km±13km, mb3.3/2, mb1 3.6/7, mb1mx3.3/21, mbtmp3.9/7, Error ellipse: s-maj=20.2km s-min=12.8km az=88.0*
ISC 17 05:53:14.5±0.8, 24.˚20S±0.˚06×67.˚1W±0.˚1, h181km, n11, σ1ꝑ98/14, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.29**	**313**	P	**Pn**	**05 53 55.8**	**+0.8**
	538nm,0.3s,baz=138,slow=7.3,SNR=128						
LVC				S	**Sn**	**05 54 25.7**	**-0.9**
	2μm,0.3s,baz=253,slow=21,SNR=46						
CFAA	**Coronel Fontan**	**7.44**	**187**	P	**Pn**	**05 55 00.8**	**+0.3**
	0.0nm,0.3s,baz=3.2,slow=14,SNR=5.9						
CFAA				S	**Sn**	**05 56 20.4**	**-3.9**
	0.1nm,0.3s,baz=120,slow=20,SNR=6.8						
LPAZ	**La Paz**	**7.93**	**353**	P	**Pn**	**05 55 07.8**	**+0.3**
	2.0nm,0.3s,baz=161,slow=6.3,SNR=56						
LPAZ				S	**Sn**	**05 56 32.8**	**-4.1**
	0.2nm,0.3s,baz=356,slow=16,SNR=3.7						
SIV	**San Ignacio**	**9.95**	**36**	P	**Pn**	**05 55 31.9**	**-1.5**
	1.0nm,0.3s,baz=224,slow=15,SNR=20						
PLCA	**Paso Flores**	**16.73**	**189**	P	**Pn**	**05 56 59.2**	**+0.7**
	0.1nm,0.3s,baz=75,slow=3.7,SNR=3.2						
BDFB	**Brasilia**	**19.86**	**68**	P	**P**	**05 57 32.5**	**+0.6**
	0.8nm,0.3s,baz=229,slow=11,SNR=17						
TORD	**Torodi Ar. Bea**	**76.74**	**69**	P	**P**	**06 04 47.6**	**+1.3**
	0.3nm,0.4s,baz=261,slow=6.0,SNR=6.8						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**06 06 13.6**	**+1.0**
	0.1nm,0.5s,baz=133,slow=5.0,SNR=7.6						
ASAR	**Alice Springs**	**128.23**	**205**	PKP	**PKPdf**	**06 12 01.1**	**+1.2**
	0.5nm,0.8s,baz=155,slow=2.9,SNR=5.2						
WRA	**Warramunga Arr**	**131.40**	**207**	PKP	**PKPdf**	**06 12 07.5**	**+1.4**
	0.4nm,0.5s,baz=155,slow=1.8,SNR=9.9						
MKAR	**Makanchi Array**	**146.75**	**40**	PKPbc	**PKPab**	**06 12 36.9**	**+0.3**
	0.5nm,0.6s,baz=320,slow=2.8,SNR=5.8						

CSEM ***17*** *06:00:48.2±0.1,42.˚49N×1.˚52E, h5km, ML1.4, Error ellipse: s-maj=1.8km s-min=1.5km az=21.0*
LDG ***17*** *06:00:48.6±0.1,42.˚48N×1.˚53E, h5km, Md1.8/3, Ml1.5/4, Error ellipse: s-maj=1.6km s-min=1.5km az=162.0*
MDD 17 06:00:48.9±0.3, 42.˚47N×1.˚54E, h0km, mbLg1.3/5, Error ellipse: s-maj=3.2km s-min=2.5km az=3.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEST	**Esterri de Car**	**0.24**	**302**	P	Pg	06 00 53.5	-0.3
CEST				S	Sg	06 00 57.1	0.0
CORG	**Organya**	**0.29**	**214**	P	Pg	06 00 54.1	-0.5
CORG				S	Sg	06 00 58.4	-0.1
	2.3nm,0.1s						
CSOR	**Sort**	**0.31**	**252**	Pg	Pg	06 00 54.6	-0.6
	0.5nm,0.0s,SNR=15						
CSOR				Lg	Lg	06 00 59.1	
	4.2nm,0.1s,SNR=12						
CSOR	**Sort**	**0.31**	**252**	Pg	Pg	06 00 54.6	-0.5
	0.5nm,0.0s,SNR=15						
CSOR				Lg	Lg	06 00 59.1	
	4.2nm,0.1s,SNR=12						
CLLI	**Llivia**	**0.33**	**89**	Pg	Pg	06 00 54.9	-0.5
	0.6nm,0.0s,SNR=7.9						
CLLI				Lg	Lg	06 00 59.3	
	0.6nm,0.0s,SNR=8.1						
CLLI	**Llivia**	**0.33**	**89**	Pg	Pg	06 00 54.9	-0.5
	0.6nm,0.0s,SNR=7.9						
CLLI				Lg	Lg	06 00 59.3	
	0.6nm,0.0s,SNR=8.1						
EMIR	**Miracle**	**0.56**	**181**	Pg	Pg	06 00 59.6	-0.2
	0.5nm,0.0s,SNR=7.9						
EMIR				Lg	Lg	06 01 06.9	
	2.4nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.56**	**181**	Pg	Pg	06 00 59.6	-0.2
	0.5nm,0.0s,SNR=7.9						
EMIR				Lg	Lg	06 01 06.9	
	2.4nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.98**	**136**	Pg	Pg	06 01 07.5	-0.3
	0.3nm,0.0s,SNR=7.9						
CFON				Lg	Lg	06 01 19.1	
	0.7nm,0.0s,SNR=7.9						
CFON	**Fontmartina**	**0.98**	**136**	Pg	Pg	06 01 07.5	-0.3
	0.3nm,0.0s,SNR=7.9						
CFON				Lg	Lg	06 01 19.1	
	0.7nm,0.0s,SNR=7.9						
SJAF	**Saint Jean de**	**1.00**	**89**	Lg	Lg	06 01 21.0	
	2.9nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**1.00**	**89**	Lg	Lg	06 01 21.0	
	2.9nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.00**	**30**	*e*Pg	Pg	06 01 07.2	-1.0
MTLF				e*S*g	Sg	06 01 20.3	-0.9
	1.3nm,0.2s						
MTLF	**Montolieu**	**1.00**	**30**	Pg	Pg	06 01 07.2	-1.0
MTLF				Lg	Lg	06 01 20.3	
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.00**	**30**	*e*Pg	Pg	06 01 07.2	-1.0
MTLF				e*S*g	Sg	06 01 20.3	-0.9
	0.6nm,0.2s						
EPF	**Esparros**	**1.04**	**303**	*e*Pg	Pg	06 01 08.1	-0.9
EPF				e*S*g	Sg	06 01 21.5	-1.1
	1.3nm,0.2s						
EPF	**Esparros**	**1.04**	**303**	Pg	Pg	06 01 08.1	-0.9
EPF				Lg	Lg	06 01 21.5	
	0.6nm,0.2s						
EPF	**Esparros**	**1.04**	**303**	*e*Pg	Pg	06 01 08.1	-0.9
EPF				e*S*g	Sg	06 01 21.5	-1.1
	0.6nm,0.2s						
EPOB	**Poblet**	**1.17**	**197**	Pg	Pg	06 01 10.5	-1.0
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	06 01 25.8	
	1.0nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.17**	**197**	Pg	Pg	06 01 10.5	-1.0
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	06 01 25.8	
	1.0nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.60**	**286**	*e*Pg	Pn	06 01 18.2	-0.4
ETSF				e*S*g	Sn	06 01 39.7	-0.4
	0.5nm,0.2s						
ETSF	**Etsaut**	**1.60**	**286**	Pg	Pn	06 01 18.2	-0.4
ETSF				Lg	Lg	06 01 39.7	
	0.2nm,0.2s						
ETSF	**Etsaut**	**1.60**	**286**	*e*Pg	Pn	06 01 18.2	-0.4
ETSF				e*S*g	Sn	06 01 39.7	-0.4
	0.2nm,0.2s						

CSEM ***17*** *06:02:20.8±0.3,51.˚50N×6.˚39E, h1km, ML2.9/15, Error ellipse: s-maj=6.0km s-min=4.1km az=138.0*
BGR ***17*** *06:02:21.1±0.7,51.˚50N×6.˚48E, h1km, ML2.3/5, Error ellipse: s-maj=11.1km s-min=4.4km az=116.0*
BUG ***17*** *06:02:21.6,51.˚41N×6.˚57E, h1km, ML2.2*
LDG ***17*** *06:02:22.1±0.1,51.˚49N×6.˚50E, h1km, Md2.9/3, Ml2.8/19, Error ellipse: s-maj=2.0km s-min=1.3km az=139.0, Suspected Mining induced.*
BNS ***17*** *06:02:22.1±0.7,51.˚51N×6.˚55E, h1km, ML2.1*
UCC ***17*** *06:02:32.5,50.˚47N×6.˚60E, h10km, ML2.1*
ISC 17 06:02:19.9±0.8, 51.˚50N±0.˚03×6.˚40E±0.˚02, h0km, n89, σ1ꝑ21/139, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRHE	**Rheinberg**	**0.11**	**84**	Pg	**Pg**	**06 02 22.8**	**+0.8**
BRHE				Sg	**Sg**	**06 02 23.8**	**+0.4**
BRHE	**Rheinberg**	**0.11**	**84**	Pg	**Pg**	**06 02 22.8**	**+0.8**
BRHE				Sg	**Sg**	**06 02 23.8**	**+0.4**
LAUG	**Laupendahl**	**0.38**	**114**	*e*Pg	**Pg**	**06 02 27.6**	**+0.5**
LAUG	**Laupendahl**	**0.38**	**114**	Pg	**Pg**	**06 02 27.6**	**+0.5**
WTSB	**Winterswijk**	**0.53**	**28**	*e*Pg	**Pb**	**06 02 32.1**	**+0.1**
	18nm,0.4s						
WTSB				e*S*g	**Sb**	**06 02 39.7**	**-0.5**
BUG	**Bochum--Univer**	**0.55**	**96**	*e*Pg	**Pg**	**06 02 30.8**	**+0.4**
BUG				Sg	**Sg**	**06 02 37.5**	**0.0**
PLH	**Pulheim**	**0.57**	**152**	*e*Pg	**Pg**	**06 02 32.2**	**+1.5**
PLH				e*S*g	**Sg**	**06 02 39.1**	**+1.0**
	476nm,0.2s						
PLH	**Pulheim**	**0.57**	**152**	Pg	**Pg**	**06 02 32.2**	**+1.5**
PLH				Sg	**Sg**	**06 02 39.1**	**+1.0**
	476nm,0.2s						
BNS	**Bensberg**	**0.73**	**137**	*e*Pg	**Pg**	**06 02 35.1**	**+1.2**
BNS	**Bensberg**	**0.73**	**137**	Pg	**Pg**	**06 02 35.1**	**+1.2**
GSH	**Grosshau**	**0.77**	**181**	*e*Pg	**Pb**	**06 02 37.0**	**+0.9**
GSH				e*S*g	**Sb**	**06 02 47.6**	**+0.5**
	49nm,0.2s						
GSH	**Grosshau**	**0.77**	**181**	Pg	**Pb**	**06 02 37.0**	**+0.9**
GSH				Sg	**Sb**	**06 02 47.6**	**+0.5**
	49nm,0.2s						
HOBG	**Hohbusch**	**0.79**	**131**	*e*Pg	**Pg**	**06 02 36.0**	**+1.1**
HOBG	**Hohbusch**	**0.79**	**131**	Pg	**Pg**	**06 02 36.0**	**+1.1**
HGN	**Heimansgroeve**	**0.80**	**202**	*e*Pg	**Pn**	**06 02 39.8**	**+1.4**
	38nm,0.2s						
HGN				e*S*g	**Sn**	**06 02 52.7**	**+1.8**
HGN	**Heimansgroeve**	**0.80**	**202**	*e*Pg	**Pn**	**06 02 39.8**	**+1.4**
	38nm,0.2s						
DREG	**Dreilaegerbach**	**0.85**	**187**	*e*Pg	**Pb**	**06 02 38.5**	**+1.0**
DREG	**Dreilaegerbach**	**0.85**	**187**	Pg	**Pb**	**06 02 38.5**	**+1.0**
KLL	**Kalltalsperre**	**0.86**	**184**	*e*Pg	**Pb**	**06 02 38.7**	**+1.0**
KLL	**Kalltalsperre**	**0.86**	**184**	Pg	**Pb**	**06 02 38.7**	**+1.0**
WBS	**Wahnbachtalspe**	**0.90**	**141**	e*S*g	**Sg**	**06 02 49.1**	**+0.5**
	35nm,0.2s						
WBS	**Wahnbachtalspe**	**0.90**	**141**	Sg	**Sg**	**06 02 49.1**	**+0.5**
	35nm,0.2s						
MEM	**Membach**	**0.93**	**195**	P	**Pb**	**06 02 40.2**	**+1.4**
MEM	**Membach**	**0.93**	**195**	P	**Pb**	**06 02 40.2**	**+1.4**
STB	**Steinbach**	**0.95**	**163**	*e*Pg	**Pb**	**06 02 40.0**	**+0.7**
STB				e*S*g	**Sb**	**06 02 52.7**	**+0.2**
	75nm,0.4s						
STB	**Steinbach**	**0.95**	**163**	Pg	**Pb**	**06 02 40.0**	**+0.7**
STB				Sg	**Sb**	**06 02 52.7**	**+0.2**
	75nm,0.4s						
TDN	**Todenfeld**	**0.99**	**159**	*e*Pg	**Pb**	**06 02 40.3**	**+0.3**
TDN				e*S*g	**Sg**	**06 02 53.0**	**+1.3**
	6.7nm,0.1s						
TDN	**Todenfeld**	**0.99**	**159**	Pg	**Pb**	**06 02 40.3**	**+0.3**
TDN				Sg	**Sg**	**06 02 53.0**	**+1.3**
	6.7nm,0.1s						
OLFT	**Oleftalsperre**	**1.01**	**179**	*e*Pg	**Pb**	**06 02 41.5**	**+1.2**
OLFT				e*S*g	**Sb**	**06 02 54.9**	**+0.8**
OLFT	**Oleftalsperre**	**1.01**	**179**	Pg	**Pb**	**06 02 41.5**	**+1.2**
OLFT				Sg	**Sb**	**06 02 54.9**	**+0.8**
IBBN	**Ibbenburen**	**1.17**	**46**	*e*Pg	**Pb**	**06 02 43.5**	**+0.6**
IBBN				e*S*g	**Sb**	**06 02 58.8**	**+0.2**
IBBN	**Ibbenburen**	**1.17**	**46**	Pg	**Pb**	**06 02 43.5**	**+0.6**
IBBN				Sg	**Sb**	**06 02 58.8**	**+0.2**
HILG	**Hillesheim**	**1.23**	**171**	*e*Pg	**Pn**	**06 02 45.1**	**+0.9**
HILG	**Hillesheim**	**1.23**	**171**	Pg	**Pn**	**06 02 45.2**	**+0.9**
BCLA	**Clavier**	**1.29**	**213**	P	**Pn**	**06 02 47.3**	**+2.2**
BCLA	**Clavier**	**1.29**	**213**	P	**Pn**	**06 02 47.3**	**+2.2**
SNF	**Seneffe**	**1.67**	**234**	P	**Pn**	**06 02 49.2**	**-1.1**
GIVF	**Givet**	**1.72**	**216**	*e*Pg	**Pg**	**06 02 54.4**	**+1.5**
GIVF				e*S*g	**Sg**	**06 03 16.7**	**+1.5**
	45nm,0.4s						
GIVF	**Givet**	**1.72**	**216**	*e*Pg	**Pg**	**06 02 54.4**	**+1.5**
GIVF				e*S*g	**Sg**	**06 03 16.7**	**+1.5**
	22nm,0.4s						
TNS	**Taunus Mts**	**1.83**	**134**	*e*Pg	**Pn**	**06 02 53.8**	**+1.2**
TNS	**Taunus Mts**	**1.83**	**134**	Pg	**Pn**	**06 02 53.8**	**+1.2**
WLF	**Walferdange**	**1.85**	**185**	P	**Pb**	**06 02 55.1**	**+0.5**
WLF	**Walferdange**	**1.85**	**185**	*e*Pg	**Pb**	**06 02 55.4**	**+0.9**
WLF				e*S*g	**Sb**	**06 03 19.6**	**+1.4**
WLF	**Walferdange**	**1.85**	**185**	P	**Pb**	**06 02 55.0**	**+0.5**
WLF	**Walferdange**	**1.85**	**185**	Pg	**Pb**	**06 02 55.4**	**+0.9**
WLF				Sg	**Sb**	**06 03 19.6**	**+1.4**
BAIF	**Baives**	**2.00**	**225**	*e*Pg	**Pg**	**06 03 00.2**	**+1.9**
BAIF				e*S*g	**Sg**	**06 03 25.9**	**+1.6**
	24nm,0.5s						
BAIF	**Baives**	**2.00**	**225**	*e*Pg	**Pg**	**06 03 00.2**	**+1.9**
BAIF				e*S*g	**Sg**	**06 03 25.9**	**+1.6**
	12nm,0.5s						
CLZ	**Clausthal**	**2.50**	**81**	*e*Pg	**Pb**	**06 03 05.9**	**+0.2**
PAGF	**Fort de Pagny**	**2.98**	**189**	*e*Pn	**Pn**	**06 03 08.4**	**-0.1**
PAGF	**Fort de Pagny**	**2.98**	**189**	*e*Pg	**Pg**	**06 03 17.4**	**+0.4**
PAGF				e*S*g	**Sg**	**06 03 55.5**	**-0.2**
	3.8nm,0.6s						
PAGF	**Fort de Pagny**	**2.98**	**189**	*e*Pn	**Pn**	**06 03 08.4**	**-0.1**
PAGF	**Fort de Pagny**	**2.98**	**189**	*e*Pg	**Pg**	**06 03 17.4**	**+0.4**
PAGF				e*S*g	**Sg**	**06 03 55.5**	**-0.2**
	1.9nm,0.6s						
MEZF	**Maizieres J'vi**	**3.13**	**197**	*e*Pn	**Pn**	**06 03 10.2**	**-0.2**
MEZF				e*S*g	**Sg**	**06 04 00.3**	**0.0**
	12nm,0.4s						
MEZF	**Maizieres J'vi**	**3.13**	**197**	*e*Pn	**Pn**	**06 03 10.2**	**-0.2**
MEZF				e*S*g	**Sg**	**06 04 00.3**	**0.0**
	6.1nm,0.4s						
CDF	**Champ du Feu**	**3.15**	**169**	*e*Pn	**Pn**	**06 03 10.5**	**-0.3**
CDF	**Champ du Feu**	**3.15**	**169**	*e*Pg	**Pg**	**06 03 19.9**	**-0.3**
CDF				e*S*g	**Sg**	**06 04 00.2**	**-0.7**
	6.4nm,0.6s						
CDF	**Champ du Feu**	**3.15**	**169**	*e*Pn	**Pn**	**06 03 10.5**	**-0.3**
CDF	**Champ du Feu**	**3.15**	**169**	*e*Pg	**Pg**	**06 03 19.9**	**-0.3**
CDF				e*S*g	**Sg**	**06 04 00.2**	**-0.7**
	3.2nm,0.6s						
SFTF	**Sexfontaines**	**3.42**	**195**	*e*Pn	**Pn**	**06 03 14.3**	**-0.1**
SFTF	**Sexfontaines**	**3.42**	**195**	*e*Pg	**Pg**	**06 03 25.3**	**-0.1**
	baz=13						
SFTF				e*S*g	**Sg**	**06 04 09.1**	**-0.5**
	7.4nm,0.3s						
SFTF	**Sexfontaines**	**3.42**	**195**	*e*Pn	**Pn**	**06 03 14.3**	**-0.1**
SFTF	**Sexfontaines**	**3.42**	**195**	*e*Pg	**Pg**	**06 03 25.3**	**-0.1**
HAU	**Haudompre**	**3.50**	**181**	*e*Pn	**Pn**	**06 03 15.3**	**-0.3**
HAU				e*S*g	**Sg**	**06 04 11.5**	**-0.9**
	6.7nm,0.4s						
HAU	**Haudompre**	**3.50**	**181**	*e*Pn	**Pn**	**06 03 15.3**	**-0.3**
HAU				e*S*g	**Sg**	**06 04 11.5**	**-0.9**
	3.3nm,0.4s						
HINF	**Hinteralfeld**	**3.70**	**175**	*e*Pn	**Pn**	**06 03 18.1**	**-0.3**
HINF				e*S*g	**Sg**	**06 04 17.6**	**-1.2**
	2.5nm,0.4s						
HINF	**Hinteralfeld**	**3.70**	**175**	*e*Pn	**Pn**	**06 03 18.1**	**-0.3**
LOR	**Lormes**	**4.55**	**202**	*e*Pn	**Pn**	**06 03 31.7**	**+1.7**
	baz=21						
LOR	**Lormes**	**4.55**	**202**	*e*Pg	**Pg**	**06 03 46.4**	**-0.7**
LOR				e*S*n	**Sn**	**06 04 20.4**	**-3.2**
LOR				e*S*g	**Sg**	**06 04 44.9**	**-1.1**
	7.0nm,0.5s						
LOR	**Lormes**	**4.55**	**202**	*e*Pn	**Pn**	**06 03 31.7**	**+1.7**
LOR	**Lormes**	**4.55**	**202**	*e*Pg	**Pg**	**06 03 46.4**	**-0.7**
LOR				e*S*n	**Sn**	**06 04 20.4**	**-3.2**
LOR				e*S*g	**Sg**	**06 04 44.9**	**-1.1**
	3.5nm,0.5s						
BRG	**Berggiesshubel**	**4.79**	**95**	SG	**Sg**	**06 04 55.4**	**+1.7**
	1.8nm,0.8s						
SSF	**Saint Saulge**	**4.83**	**204**	*e*Pn	**Pn**	**06 03 35.3**	**+1.5**
SSF	**Saint Saulge**	**4.83**	**204**	*e*Pg	**Pg**	**06 03 51.8**	**-0.6**
SSF				e*S*n	**Sn**	**06 04 27.2**	**-3.3**
SSF				e*S*g	**Sg**	**06 04 53.6**	**-1.4**
	4.1nm,0.4s						
SSF	**Saint Saulge**	**4.83**	**204**	*e*Pn	**Pn**	**06 03 35.3**	**+1.5**
SSF	**Saint Saulge**	**4.83**	**204**	*e*Pg	**Pg**	**06 03 51.8**	**-0.6**
SSF				e*S*n	**Sn**	**06 04 27.2**	**-3.3**
SSF				e*S*g	**Sg**	**06 04 53.6**	**-1.4**
	2.0nm,0.4s						
CABF	**La Chapelle**	**4.90**	**182**	*e*Pn	**Pn**	**06 03 34.6**	**-0.3**
CABF				e*S*g	**Sg**	**06 04 55.3**	**-2.0**
	1.7nm,0.4s						
CABF	**La Chapelle**	**4.90**	**182**	*e*Pn	**Pn**	**06 03 34.6**	**-0.3**
CABF				e*S*g	**Sg**	**06 04 55.3**	**-2.0**
	0.9nm,0.4s						
LDF	**La Druitiere**	**5.11**	**238**	*e*Pn	**Pn**	**06 03 38.0**	**+0.4**
LDF	**La Druitiere**	**5.11**	**238**	*e*Pn	**Pn**	**06 03 38.0**	**+0.4**
AVF	**Avril sur Loir**	**5.12**	**204**	*e*Pn	**Pn**	**06 03 38.3**	**+0.5**
AVF				e*S*g	**Sg**	**06 05 02.6**	**-1.8**
	1.4nm,0.4s						
AVF	**Avril sur Loir**	**5.12**	**204**	*e*Pn	**Pn**	**06 03 38.3**	**+0.5**
AVF				e*S*g	**Sg**	**06 05 02.6**	**-1.8**
	0.7nm,0.4s						
SMF	**Signal de Mont**	**5.14**	**200**	*e*Pn	**Pn**	**06 03 38.3**	**+0.2**
SMF				e*S*g	**Sg**	**06 05 03.4**	**-1.7**
	3.8nm,0.4s						
SMF	**Signal de Mont**	**5.14**	**200**	*e*Pn	**Pn**	**06 03 38.3**	**+0.2**
SMF				e*S*g	**Sg**	**06 05 03.4**	**-1.7**
	1.9nm,0.4s						
FLN	**La Foliniere**	**5.20**	**241**	*e*Pn	**Pn**	**06 03 39.5**	**+0.6**
FLN	**La Foliniere**	**5.20**	**241**	*e*Pn	**Pn**	**06 03 39.5**	**+0.6**
BGF	**Bois d'Agland**	**5.47**	**207**	*e*Pn	**Pn**	**06 03 42.1**	**-0.5**
BGF				e*S*g	**Sg**	**06 05 13.7**	**-1.9**
	11nm,0.5s						
BGF	**Bois d'Agland**	**5.47**	**207**	*e*Pn	**Pn**	**06 03 42.1**	**-0.5**
TCF	**Toulx Ste Croi**	**5.90**	**209**	*e*Pn	**Pn**	**06 03 48.9**	**+0.3**
TCF				e*S*n	**Sn**	**06 04 52.9**	**-4.0**
TCF				e*S*g	**Sg**	**06 05 27.2**	**-2.2**
	0.6nm,0.2s						
TCF	**Toulx Ste Croi**	**5.90**	**209**	*e*Pn	**Pn**	**06 03 48.9**	**+0.3**

MOS ***17*** *06:08:52.5±1.3,50.˚68N×157.˚90E, h47km, mb4.1/1, Error ellipse: s-maj=48.9km s-min=20.1km az=82.4*
KRSC 17 06:08:52.6±1.1, 50.˚68N×157.˚90E, h47km±19km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.04**	**319**	PN	Pn	06 09 12.5	+1.7
PAU				S	Sn	06 09 25.6

	1.4nm,0.8s,baz=66,slow=9.5,SNR=12						
ASAR				LR	LR	06 25 17.2	
	comp=Z,96nm,19.6s,baz=68,slow=34						
STKA	**Stephens Creek**	**27.61**	**211**	P	**P**	**06 15 29.2**	**+0.2**
	10.0nm,0.7s,baz=33,slow=12,SNR=21						
STKA				LR	LR	06 25 52.8	
	comp=Z,136nm,18.2s,baz=24,slow=35						
STKA	**Stephens Creek**	**27.61**	**211**	P	**P**	**06 15 29.3**	**+0.3**
	baz=28,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**28.37**	**18**	T	T	06 44 18.7	
	baz=198,slow=75,SNR=84						
H11S2	**WAKE ISLAND Hy**	**28.38**	**18**	T	T	06 44 18.9	
	baz=198,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy**	**28.39**	**18**	T	T	06 44 20.0	
	baz=198,slow=75,SNR=49						
KNRA	**Kununurra**	**29.33**	**254**	P	**P**	**06 15 45.1**	**+0.7**
	baz=29,SNR=5.3						
WRKA	**Warakurna**	**32.58**	**236**	P	**P**	**06 16 11.4**	**-1.7**
	baz=32,SNR=23						
MEEK	**Meekatharra**	**41.28**	**239**	P	**P**	**06 17 26.6**	**-0.4**
	baz=41,SNR=5.1						
PPT	**Papeete**	**51.72**	**105**	LR	LR	06 36 49.1	
	comp=Z,34nm,19.7s,baz=272,slow=32						
PPT2	**Papeete2**	**51.72**	**105**	eLR	LR	06 34 19.1	
	78nm,24.8s						
PETK	**Petropavlovsk-**	**61.58**	**360**	LR	LR	06 45 18.4	
	comp=Z,17nm,19.5s,baz=115,slow=35						
CMAR	**Chiang Mai Arr**	**64.16**	**295**	P	**P**	**06 20 15.7**	**-0.6**
	0.5nm,0.4s,baz=114,slow=4.7,SNR=6.8						
VNDA	**Vanda**	**68.81**	**179**	P	**P**	**06 20 47.6**	**+2.6**
	1.5nm,0.8s,baz=336,slow=8.6,SNR=3.6						
SONM	**Songino Array**	**72.36**	**326**	P	**P**	**06 21 08.9**	**+1.6**
	1.2nm,1.1s,baz=123,slow=5.3,SNR=3.5						
QSPA	**South Pole Qui**	**81.28**	**180**	*eP*	**P**	**06 21 56.1**	**-1.1**
	80nm,2.4s						
ILAR	**Eielson Array**	**83.91**	**21**	P	**P**	**06 22 10.2**	**-0.4**
	0.9nm,1.0s,baz=254,slow=5.0,SNR=4.7						
MKAR	**Makanchi Array**	**86.62**	**318**	P	**P**	**06 22 25.7**	**+1.0**
	0.7nm,0.5s,baz=97,slow=5.3,SNR=12						
ZALV	**Zalesovo Beam**	**87.23**	**326**	P	**P**	**06 22 26.8**	**-0.6**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.8						
NVAR	**Mina Array Bea**	**90.49**	**51**	P	**P**	**06 22 44.4**	**+0.9**
	2.3nm,0.8s,baz=244,slow=7.8,SNR=17						
TPH	**Tonopah**	**91.26**	**52**	*eP*	**P**	**06 22 48.0**	**+0.9**
	4.3nm,1.1s						
WALA	**Waterton Lakes**	**95.29**	**41**	*eP*	**P**	**06 23 04.5**	**-0.8**
	2.5nm,0.7s						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**06 23 10.2**	**+0.1**
	0.5nm,1.1s,baz=256,slow=4.8,SNR=4.1						
PDAR	**Pinedale Array**	**97.67**	**48**	P	Pdif	06 23 16.5	+0.1
	0.4nm,0.7s,baz=321,slow=1.2,SNR=4.2						
BDFB	**Brasilia**	**144.69**	**133**	PKP	**PKPab**	**06 29 16.7**	**-0.9**
	1.9nm,0.6s,baz=220,slow=5.4,SNR=5.4						

IDC 17 06:15:10.8±8.7, 21°00S×66°92W, h214km±58km, mb3.2/2, mb1 3.2/3, mb1mx3.0/16, mbtmp3.6/3, Error ellipse: s-maj=107.8km s-min=49.2km az=30.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.82**	**346**	P	Pn	06 16 24.0	-0.2
	0.4nm,0.3s,baz=168,slow=9.3,SNR=15						
LPAZ				S	S	06 17 22.3	+0.4
	0.2nm,0.3s,baz=76,slow=24,SNR=9.2						
TORD	**Torodi Ar. Bea**	**75.44**	**70**	P	P	06 26 31.8	+0.1
	0.8nm,0.5s,baz=257,slow=5.7,SNR=12						
YKA	**Yellowknife Ar**	**91.34**	**340**	P	P	06 27 51.7	-0.1
	0.0nm,0.4s,baz=130,slow=4.8,SNR=4.6						

CSEM 17 06:32:52.6±0.9, 38.56N×38.86E, h2km, MD2.6, Error ellipse: s-maj=19.0km s-min=8.5km az=61.0
DDA 17 06:32:52.7, 38.76N×39.11E, h9km, MD2.6
ISCJB 17 06:32:55.8±0.7, 38.58N±0.03×39.13E±0.06, h10km, Error ellipse: s-maj=6.7km s-min=5.0km az=177.3
ISK 17 06:32:55.3, 38.57N×39.11E, h6km, MD2.6
ISC 17 06:32:55.1±0.9, 38.66N±0.04×39.09E±0.05, h10km, n9, σ1.9s75/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.19**	**207**	*i* Pg	**Pg**	**06 32 58.5**	**-0.6**
ELZG				*i* Sg	**Sg**	**06 33 02.3**	**+0.4**
PTK	**Pertek**	**0.33**	**46**	*e*PG	**Pb**	**06 33 03.6**	**+0.4**
PTK				*e*SG	**Sb**	**06 33 09.3**	**+0.7**
PTK	**Pertek**	**0.33**	**46**	*e*Pg	**Pb**	**06 33 03.6**	**+0.4**
PTK				*e*Sg	**Sb**	**06 33 09.3**	**+0.7**
SVRC	**Sivrice-ELAZID**	**0.33**	**149**	*e*PG	**Pg**	**06 33 00.3**	**-1.4**
SVRC				*e*SG	**Sg**	**06 33 04.7**	**-1.5**
SVRC	**Sivrice-ELAZID**	**0.33**	**149**	*e*Pg	**Pg**	**06 33 00.4**	**-1.4**
SVRC				*e*Sg	**Sg**	**06 33 04.7**	**-1.5**
KEMA	**Kemaliye**	**0.76**	**323**	*e*P	Pg	06 33 03.5	-6.3
KEMA				*e*S	**Sg**	**06 33 16.6**	**-3.2**
KEMA	**Kemaliye**	**0.76**	**323**	*e*P	Pg	06 33 03.5	-6.3
KEMA				*e*S	**Sg**	**06 33 16.6**	**-3.2**
ILIC	**ilic-Erzincan**	**0.89**	**333**	*e*PG	**Pn**	**06 33 14.8**	**+1.0**
ILIC				*e*SG	**Sn**	**06 33 28.5**	**+1.8**
ILIC	**ilic-Erzincan**	**0.89**	**333**	*e*Pg	**Pn**	**06 33 14.8**	**+1.0**
ILIC				*e*Sg	**Sn**	**06 33 28.5**	**+1.8**

NEIC 17 06:50:13.7, 16.17N×98.36W, h11km, MD4.0(MEX), After MEX.
MEX 17 06:50:13.7±0.5, 16.17N×98.36W, h11km±4km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**46**	*e*P	Pg	06 50 19.6	-0.6
PNIG				*i* S	Sg	06 50 24.4	0.0
PNIG	**Pinotepa**	**0.31**	**46**	*e*P	Pg	06 50 19.6	-0.6
PNIG				*i* S	Sg	06 50 24.4	0.0
TLIG	**Tlapa**	**1.40**	**352**	*e*P	Pn	06 50 35.3	-4.0
TLIG				*e*S	Sn	06 50 52.5	-5.3
ACX	**Acapulco**	**1.59**	**296**	*e*P	Pn	06 50 36.6	-5.2
ACX				*i* S	Sn	06 50 56.3	-6.1
ACX	**Acapulco**	**1.59**	**296**	*e*P	Pn	06 50 36.6	-5.2
ACX				*i* S	Sn	06 50 56.3	-6.1
VHO	**Vista Hermosa**	**1.80**	**60**	*e*P	Pn	06 50 42.2	-2.7
VHO				*i* S	Sn	06 51 02.3	-5.7
VHO	**Vista Hermosa**	**1.80**	**60**	*e*P	Pn	06 50 42.2	-2.7
VHO				*i* S	Sn	06 51 02.3	-5.7
CAIG	**El Cayaco**	**2.02**	**296**	*i* P	Pn	06 50 44.4	-3.3
CAIG				*i* S	Sn	06 51 09.0	-4.0
CAIG	**El Cayaco**	**2.02**	**296**	*i* P	Pn	06 50 44.4	-3.3
CAIG				*i* S	Sn	06 51 09.0	-4.0
HUIG	**Huatulco**	**2.21**	**100**	*i* P	Pn	06 50 47.5	-2.7
HUIG				*i* S	Sn	06 51 12.6	-5.0
HUIG	**Huatulco**	**2.21**	**100**	*i* P	Pn	06 50 47.5	-2.7
HUIG				*i* S	Sn	06 51 12.6	-5.0
PLIG	**Platanillo**	**2.46**	**334**	*e*P	Pn	06 50 53.6	-0.3
PLIG				*i* S	Sn	06 51 19.4	-4.7
PLIG	**Platanillo**	**2.46**	**334**	*e*P	Pn	06 50 53.6	-0.3
PLIG				*i* S	Sn	06 51 19.4	-4.7
ARIG	**Puente Sto Nin**	**2.83**	**318**	*i* P	Pn	06 50 55.6	-3.3
ARIG				*i* S	Sn	06 51 29.2	-3.8

IDC 17 06:50:50.9±1.4, 1.77N×96.89E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/29, mbtmp3.9/10, ML4.4/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/40, Error ellipse: s-maj=36.8km s-min=20.5km az=50.0
ISCJB 17 06:50:53.0±0.8, 1.78N±0.09×96.87E±0.10, h28km, mb3.9/11, MS3.2/1, Error ellipse: s-maj=15.1km s-min=11.7km az=142.9
NEIC 17 06:50:56.0±0.5, 1.79N×96.92E, h35km, mb4.1/2, Error ellipse: s-maj=11.0km s-min=8.3km az=52.0
ISC 17 06:50:55.0±1.1, 1.18N±0.1×96.90E±0.10, h28km, n27, σ0.62/18, mb3.9/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.26**	**63**	Pn	**Pn**	**06 51 30.7**	**0.0**
	1.3nm,0.3s,baz=41,slow=23,SNR=5.4						
PSI					Sn	**Sb**	**06 52 03.0**	**0.0**
	11nm,0.3s,baz=186,slow=6.2,SNR=8.1						
PSI					LR	LR	06 52 08.7	
	comp=Z,110nm,20.0s,baz=338,slow=35						
IPM	**Ipoh**	**4.92**	**57**	*e*P	**Pn**	**06 52 08.3**	**+1.2**
KULM	**Kulim**	**5.12**	**47**	*e*Pn	**Pn**	**06 52 09.9**	**+0.1**
	13nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.69**	**7**	Pn	**Pn**	**06 54 46.2**	**-0.9**
	0.5nm,0.3s,baz=202,slow=12,SNR=8.6						
H08S2	**Diego Garcia H**	**26.08**	**249**	T	T	07 23 38.2	
	baz=69,slow=75,SNR=226						
H08S3	**Diego Garcia H**	**26.09**	**249**	T	T	07 23 40.5	
	baz=69,slow=75,SNR=222						
H08S1	**Diego Garcia H**	**26.10**	**249**	T	T	07 23 40.5	
	baz=69,slow=75,SNR=287						
H08N1	**Diego Garcia H**	**27.07**	**252**	T	T	07 25 46.7	
	baz=300,SNR=5.7						
H08N2	**Diego Garcia H**	**27.08**	**252**	T	T	07 25 46.7	
	baz=300,SNR=2.7						
H08N3	**Diego Garcia H**	**27.09**	**252**	T	T	07 25 44.7	
	baz=300,SNR=3.9						
H01W3	**Cape Leeuwin H**	**39.89**	**158**	T	T	07 41 11.8	
	baz=330						
H01W2	**Cape Leeuwin H**	**39.91**	**158**	T	T	07 41 07.1	
	baz=330,SNR=2.6						
H01W1	**Cape Leeuwin H**	**39.91**	**158**	T	T	07 41 21.4	
	baz=330						
WRA	**Warramunga Arr**	**42.60**	**122**	P	**P**	**06 58 49.2**	**+0.2**
	0.4nm,0.5s,baz=301,slow=9.1,SNR=6.0						
WRAB	**Tennant Creek**	**42.60**	**122**	*e*P	**P**	**06 58 48.6**	**-0.6**
	10nm,1.5s						
WB2	**Warramunga Arr**	**42.61**	**122**	*e*P	**P**	**06 58 48.9**	**-0.2**
ASAR	**Alice Springs**	**43.98**	**127**	P	**P**	**06 59 00.1**	**-0.1**
	0.2nm,0.6s,baz=299,slow=7.6,SNR=4.1						
KSAR	**Wonju Array Be**	**45.52**	**35**	P	**P**	**06 59 11.5**	**-0.7**
KSRS	**Korea Array**	**45.55**	**35**	P	**P**	**06 59 11.5**	**-0.9**
	1.1nm,0.6s,baz=224,slow=7.6,SNR=6.0						
SONM	**Songino Array**	**46.61**	**9**	P	**P**	**06 59 21.3**	**+0.5**
	0.7nm,0.5s,baz=195,slow=10,SNR=9.3						
MKAR	**Makanchi Array**	**46.61**	**346**	P	**P**	**06 59 21.1**	**+0.4**
	1.0nm,0.7s,baz=158,slow=8.2,SNR=16						
USRK	**Ussuriysk Ar.**	**52.43**	**31**	P	**P**	**07 00 04.5**	**-0.6**
	1.3nm,0.8s,baz=123,slow=3.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**52.94**	**351**	P	**P**	**07 00 09.2**	**+0.5**
	4.5nm,0.5s,baz=180,slow=6.7,SNR=37						
ABKAR	**Akbulak array**	**56.86**	**332**	*e*P	**P**	**07 00 36.7**	**-0.4**
	0.4nm,0.4s						
IDI	**Anoyia**	**74.32**	**306**	LR	LR	07 40 03.0	
	comp=Z,12nm,19.6s,baz=263,slow=40						
FINES	**FINESS Array B**	**79.35**	**332**	P	**P**	**07 02 58.3**	**+0.2**
	0.6nm,0.6s,baz=127,slow=3.7,SNR=3.8						
ARCES	**ARCESS Array B**	**81.89**	**340**	P	**P**	**07 03 12.2**	**+0.7**
	3.9nm,1.1s,baz=104,slow=7.5,SNR=2.9						

CSEM 17 06:57:26.2, 51.49N×16.12E, h0km
PRU 17 06:57:24.5, 51.54N×16.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**173**	*e*Pg	Pg	06 57 38.6	+0.6
KSP				*e*Sg	Sg	06 57 47.6	+0.4
UPC	**Upice**	**1.04**	**185**	*e*PG	Pg	06 57 44.4	0.0
UPC				*e*SG	Sg	06 57 57.9	0.0
	comp=Z,3.1nm,0.2s						
UPC	**Upice**	**1.04**	**185**	Pg	Pg	06 57 44.4	0.0
UPC				Sg	Sg	06 57 57.9	0.0
	3.1nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG	Pg	06 57 46.9	-0.6
DPC				*e*SG	Sg	06 58 02.5	-0.6
DPC	**Dobruska-Polom**	**1.20**	**175**	Pg	Pg	06 57 46.9	-0.6
DPC				Sg	Sg	06 58 02.5	-0.6
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	Pn	06 57 50.2	-1.4
PVCC				*e*SG	Sg	06 58 09.8	-0.4
	comp=Z,23nm,0.1s						
PVCC	**Panska Ves**	**1.42**	**225**	Pg	Pn	06 57 50.2	-1.4
PVCC				Sg	Sg	06 58 09.8	-0.4
	23nm,0.1s						
BRG	**Berggiesshubel**	**1.54**	**245**	PG	Pn	06 57 53.1	-0.1
BRG				SG	Sn	06 58 13.6	-0.3
	4.9nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	*e*SG	Sb	06 58 22.6	-0.2
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	Sg	Sb	06 58 22.6	-0.2
PRU	**Pruhonice**	**1.86**	**214**	*e*SG	Sb	06 58 23.7	+0.6
	comp=Z,3.8nm,0.3s						
PRU	**Pruhonice**	**1.86**	**214**	Sg	Sb	06 58 23.7	+0.6
	3.8nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PG	Pb	06 58 18.0	+0.5
KHC				*e*SN	Sn	06 58 47.8	-0.3
KHC				*e*SG	Sg	06 58 57.3	-1.2
KHC	**Kasperske Hory**	**2.92**	**215**	Pg	Pb	06 58 18.0	+0.5
KHC				Sn	Sn	06 58 47.8	-0.3
KHC				Sg	Sg	06 58 57.3	-1.2

IDC 17 07:00:05.2±1.4, 12.09N×92.42E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/36, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=52.0km s-min=24.8km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.93**	**44**	Pn	Pn	07 02 16.1	+0.6
	0.3nm,0.3s,baz=234,slow=15,SNR=2.7						
H08S3	**Diego Garcia H**	**27.87**	**226**	T	T	07 35 07.5	
	baz=45,slow=76,SNR=6.3						
H08S2	**Diego Garcia H**	**27.87**	**226**	T	T	07 35 08.3	
	baz=45,slow=76,SNR=8.2						
H08S1	**Diego Garcia H**	**27.89**	**226**	T	T	07 35 09.0	
	baz=45,slow=76,SNR=6.8						
MKAR	**Makanchi Array**	**35.63**	**348**	P	P	07 07 03.4	-1.4
	0.1nm,0.4s,baz=173,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**52.12**	**127**	P	P	07 09 17.4	-0.2
	0.2nm,0.5s,baz=301,slow=9.6,SNR=6.6						
ASAR	**Alice Springs**	**53.94**	**131**	P	P	07 09 31.1	0.0
	0.1nm,0.4s,baz=307,slow=6.4,SNR=5.5						
GERES	**GERESS Array B**	**73.58**	**318**	P	P	07 11 41.5	+1.1
	0.3nm,0.6s,baz=68,slow=5.4,SNR=3.4						

IDC 17 07:03:17.4±1.6, 52.79N×167.70W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/42, mbtmp3.6/9, ML3.4/1, Error ellipse: s-maj=41.9km s-min=20.1km az=8.0
ISCJB 17 07:03:26.2±0.9, 53.10N±0.1×167.50W±0.10, h82km±5km, mb3.6/8, Error ellipse: s-maj=19.9km s-min=6.4km az=156.2
NEIC 17 07:03:27.0, 52.87N×167.36W, h47km, ML3.3(AEIC), After AEIC.
ISC 17 07:03:26.9±1.4, 52.91N±0.1×167.49W±0.07, h72km±10km, n31, σ0.72/33, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.55**	**333**	P	**Pn**	**07 03 40.2**	**-0.3**
OKFG				S	**Sn**	**07 03 50.7**	**+0.3**
NIKH	**Nikolski High**	**0.83**	**274**	P	**Pn**	**07 03 43.4**	**0.0**
NIKH				S	**Sn**	**07 03 56.2**	**+0.6**
MGOD	**Makushin Gods**	**0.95**	**23**	P	**Pn**	**07 03 44.9**	**0.0**
MGOD				S	**Sn**	**07 03 58.4**	**+0.1**
MSOM	**Makushin Julie**	**0.95**	**20**	P	**Pn**	**07 03 45.1**	**+0.2**
MREP	**Makushin Rep't**	**1.00**	**26**	P	**Pn**	**07 03 46.0**	**+0.5**
MSW	**Makushin Switc**	**1.08**	**23**	P	**Pn**	**07 03 46.9**	**+0.3**
MSW				S	**Sn**	**07 04 01.9**	**+0.7**
UNV	**Unalaska Valle**	**1.10**	**32**	P	**Pn**	**07 03 46.4**	**-0.4**
UNV				S	**Sn**	**07 04 00.8**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.48**	**34**	P	**Pn**	**07 03 52.5**	**+0.8**
AKRB				S	**Sn**	**07 04 11.7**	**+1.4**
ZRO	**Akutan Zero**	**1.48**	**37**	P	**Pn**	**07 03 52.0**	**+0.3**
ZRO				S	**Sn**	**07 04 11.0**	**+0.7**
AKUT	**Akutan**	**1.59**	**39**	P	**Pn**	**07 03 53.2**	**+0.1**
AKUT				S	**Sn**	**07 04 12.7**	**-0.2**
WESE	**West Dahl East**	**2.32**	**47**	P	**Pn**	**07 04 03.3**	**+0.3**
SSLW	**Shishaldin Wes**	**2.72**	**46**	P	**Pn**	**07 04 08.4**	**0.0**
FALS	**False Pass**	**3.09**	**50**	P	**Pn**	**07 04 13.5**	**+0.2**
FALS				S	**Sn**	**07 04 48.7**	**-0.4**
DT1	**Dutton Round H**	**3.77**	**52**	P	**Pn**	**07 04 22.6**	**+0.1**
SDPT	**Sand Point**	**4.79**	**57**	P	**Pn**	**07 04 35.8**	**-0.6**
ILAR	**Eielson Array**	**15.85**	**34**	Pn	**Pn**	**07 07 03.0**	**-2.4**
	0.1nm,0.3s,baz=224,slow=10,SNR=6.0						
PETK	**Petropavlovsk-**	**20.83**	**285**	P	Pn	07 08 06.2	+0.7
	3.5nm,0.4s,baz=86,slow=11,SNR=14						
YKA	**Yellowknife Ar**	**29.01**	**50**	P	**P**	**07 09 20.3**	**+0.8**
	0.1nm,0.6s,baz=268,slow=30,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**38.61**	**221**	T	T	07 51 51.4	
	baz=24,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**38.62**	**221**	T	T	07 51 51.9	
	baz=24,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**38.63**	**221**	T	T	07 51 52.8	
	baz=24,slow=76,SNR=29						
PDAR	**Pinedale Array**	**39.18**	**81**	P	**P**	**07 10 47.5**	**-0.3**
	0.4nm,0.5s,baz=296,slow=2.9,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**39.79**	**220**	T	T	07 53 04.0	
	baz=24,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**39.81**	**220**	T	T	07 53 04.3	
	baz=24,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**39.81**	**220**	T	T	07 53 13.2	
	baz=24,slow=76,SNR=11						
TXAR	**Lajitas Array**	**51.60**	**91**	P	**P**	**07 12 26.8**	**+0.9**
	1.5nm,0.7s,baz=306,slow=6.3,SNR=8.2						
SONM	**Songino Array**	**52.00**	**301**	P	**P**	**07 12 28.4**	**-0.3**
	0.2nm,0.5s,baz=42,slow=6.7,SNR=2.3						
ARCES	**ARCESS Array B**	**57.49**	**355**	P	**P**	**07 13 09.1**	**+1.3**
	3.5nm,0.9s,baz=355,slow=6.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**57.78**	**318**	P	**P**	**07 13 10.0**	**-0.2**
	0.4nm,0.5s,baz=28,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**64.25**	**314**	P	**P**	**07 13 53.7**	**-0.4**
	0.3nm,0.3s,baz=54,slow=6.4,SNR=8.4						
FINES	**FINESS Array B**	**65.47**	**353**	P	**P**	**07 14 01.2**	**-0.5**
	0.9nm,0.4s,baz=15,slow=7.9,SNR=6.8						

NEIC 17 07:03:29.3, 20.45N×99.04W, h2km, MD4.0(MEX), After MEX.
MEX 17 07:03:29.3±0.7, 20.45N×99.04W, h2km, MD4.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**0.15**	**179**	*e*P	Pg	07 03 31.2	-1.3
DEIG				*i* S	Sg	07 03 34.0	-0.6
DEIG	**Demacu**	**0.15**	**179**	*e*P	Pg	07 03 31.2	-1.3
DEIG				*i* S	Sg	07 03 34.0	-0.6
ZUVM	**ZUMPANGO**	**0.62**	**183**	*e*P	Pg	07 03 39.8	-1.7
ZUVM				*e*S	Sg	07 03 49.9	0.0
VTVM	**Tizayuca**	**0.72**	**160**	*e*P	Pg	07 03 42.2	-1.3
VTVM				*i* S	Sg	07 03 53.1	0.0
PTVM	**Pico Tres Padr**	**0.85**	**185**	*e*P	Pg	07 03 44.4	-1.7
PTVM				*e*S	Sg	07 03 56.1	-1.3
PTVM	**Pico Tres Padr**	**0.85**	**185**	*e*P	Pg	07 03 44.4	-1.7
PTVM				*e*S	Sg	07 03 56.1	-1.3
IIO	**Organos**	**0.90**	**161**	*e*P	Pg	07 03 45.1	-2.0
IIO				*e*S	Sg	07 03 58.5	-0.6
IIO	**Organos**	**0.90**	**161**	*e*P	Pg	07 03 45.1	-2.0
IIO				*e*S	Sg	07 03 58.5	-0.6
PBIG	**Penon de los B**	**1.00**	**182**	*e*P	Pg	07 03 47.1	-1.5
PBIG				*i* S	Sg	07 04 00.5	-1.1
ATVM	**ATLACOMULCO**	**1.02**	**228**	*i* P	Pg	07 03 46.5	-2.7
ATVM				*i* S	Sg	07 04 00.8	-2.0
SZVM	**Salazar**	**1.17**	**196**	*e*P	Pg	07 03 49.8	-2.4
SZVM				*i* S	Sg	07 04 05.3	-2.4
SZVM	**Salazar**	**1.17**	**196**	*e*P	Pg	07 03 49.8	-2.4
SZVM				*i* S	Sg	07 04 05.3	-2.4
MZVM		**1.27**	**188**	*e*P	Pg	07 03 51.2	-2.4
TOVM	**TOLUCA**	**1.31**	**208**	*e*P	Pg	07 03 51.8	-3.0
TOVM				*i* S	Sg	07 04 08.4	-3.7
AMVM	**AMECAMECA**	**1.33**	**170**	*e*P	Pg	07 03 52.0	-3.3
AMVM				*i* S	Sg	07 04 10.2	-2.6
PPM	**Popocatepetl**	**1.43**	**164**	*e*P	Pn	07 03 53.1	-3.8
PPM				*i* S	Sg	07 04 11.6	-4.8
PPM	**Popocatepetl**	**1.43**	**164**	*e*P	Pn	07 03 53.1	-3.8
PPM				*i* S	Sg	07 04 11.6	-4.8
MAVM	**Malinalco, Edo**	**1.54**	**196**	*e*P	Pn	07 03 55.2	-2.9
MAVM				*i* S	Sn	07 04 13.4	-5.6
YAIG	**Yautepec**	**1.58**	**181**	*i* P	Pn	07 03 55.4	-3.2
YAIG				*i* S	Sn	07 04 15.6	-4.1
YAIG	**Yautepec**	**1.58**	**181**	*i* P	Pn	07 03 55.4	-3.2
YAIG				*i* S	Sn	07 04 15.6	-4.1
PLIG	**Platanillo**	**2.09**	**192**	*e*P	Pn	07 04 02.6	-2.9
PLIG				*i* S	Sn	07 04 27.7	-4.5
PLIG	**Platanillo**	**2.09**	**192**	*e*P	Pn	07 04 02.6	-2.9
PLIG				*i* S	Sn	07 04 27.7	-4.5
MOIG	**Morelia**	**2.16**	**250**	*e*P	Pn	07 04 02.9	-3.7
MOIG				*i* S	Sn	07 04 29.8	-4.4
MOIG	**Morelia**	**2.16**	**250**	*e*P	Pn	07 04 02.9	-3.7
MOIG				*i* S	Sn	07 04 29.8	-4.4
IGIG	**Irapuato, Guan**	**2.17**	**278**	*i* P	Pn	07 04 03.8	-2.9
IGIG				*i* S	Sn	07 04 30.2	-4.2
LVIG	**Laguna Verde**	**2.57**	**106**	*i* P	Pn	07 04 07.9	-4.0
LVIG				*i* S	Sn	07 04 40.6	-3.1
LVIG	**Laguna Verde**	**2.57**	**106**	*i* P	Pn	07 04 07.9	-4.0
LVIG				*i* S	Sn	07 04 40.6	-3.1
ZAIG	**Zacatecas**	**4.01**	**306**	*i* P	Pn	07 04 28.5	-3.7
ZAIG				*i* S	Sn	07 05 16.3	-3.8
ZAIG	**Zacatecas**	**4.01**	**306**	*i* P	Pn	07 04 28.5	-3.7
ZAIG				*i* S	Sn	07 05 16.3	-3.8
LNIG	**Linares**	**4.45**	**355**	*i* P	Pn	07 04 34.5	-3.3
LNIG				*i* S	Sn	07 05 26.4	-3.8
LNIG	**Linares**	**4.45**	**355**

KMSI **Cibinong** **4.20 220** P **Pn** **07 24 04.2 +0.8**
KMSI S **Sn** **07 24 55.9 +4.6**
BUKP Musuan **4.37 338** *e*P **Pn** **07 24 07.7 +1.8**
BUKP *e*S Sn 07 24 36.9 -19
LBMI Labuha **4.47 170** P **Pn** **07 24 05.3 -1.9**
LBMI S **Sn** **07 25 00.4 +2.4**
CGP Cagayan de Oro **5.04 337**⇑ *e*P **Pn** **07 24 16.3 +1.4**
PAGZ Pagadian **5.21 321** *e*P **Pn** **07 24 18.5 +1.2**
BUTP Butuan **5.25 348** *e*P **Pn** **07 24 18.7 +0.9**
MRSI Marisa **5.79 235** P **Pn** **07 24 25.3 +0.1**
MRSI S **Sn** **07 25 35.3 +5.0**
DCPH Dipolog City **5.81 325**⇑ *e*P **Pn** **07 24 28.5 +3.0**
SANI Sanana **5.85 187** P Pn 07 24 21.4 -4.6
SCPH Surigao **6.07 349** *e*P **Pn** **07 24 31.9 +2.9**
SCPH *e*S **Sn** **07 25 31.9 -5.2**
SNPH Sibulan **6.50 328**⇓ *e*P Pn 07 24 26.2 -8.8
MSLP Maasin **6.56 344** *e*P **Pn** **07 24 37.0 +1.3**
APSI Ampana **6.89 227** P **Pn** **07 24 42.6 +2.4**
NLAI Namlea **7.00 177** P **Pn** **07 24 38.6 -3.2**
285nm,0.7s,5µm2.0nm
MSAI Masohi **7.43 163** P **Pn** **07 24 47.5 -0.2**
OCLP Ormoc **7.50 344** *e*P **Pn** **07 24 51.1 +2.4**
PLP Palo **7.52 347**⇑ *e*P **Pn** **07 24 50.9 +2.0**
MPSI Mapaga **7.62 243** P **Pn** **07 24 52.0 +1.7**
GUIM Jordan **7.92 329** *e*P **Pn** **07 24 56.1 +1.7**
PCI Palu **8.30 236** P **Pn** **07 25 00.7 +1.0**
308nm,1.0s,3µm
I39PW PALAU INFRASON **8.64 64** *i* 08 16 30.0
baz=245,slow=321,SNR=0.5
RCP Roxas **8.65 333**⇑ *e*P **Pn** **07 25 06.7 +2.3**
FAKI Fak Fak **8.67 140** P **Pn** **07 25 03.2 -1.4**
FAKI Fak Fak **8.67 140** P **Pn** **07 25 03.2 -1.4**
baz=8.5,SNR=42
FAKI S **Sn** **07 26 36.5 -4.6**
baz=8.5,SNR=5.6
FAKI Fak Fak **8.67 140** *e*Pn **Pn** **07 25 03.3 -1.4**
TSM Tawau **8.83 274** ⇓P **Pn** **07 25 07.4 +0.6**
RKPI Ransiki, Papua **9.14 125** P **Pn** **07 25 09.3 -1.8**
270nm,1.1s,14µm
SDKM Sandakan **9.66 281** ⇓P **Pn** **07 25 19.4 +1.2**
TTSI Tana Toraja **9.67 225** P **Pn** **07 25 19.3 +0.9**
435nm,1.5s,6µm
KDM Kudat **10.31 288** ⇓P **Pn** **07 25 29.0 +1.9**
SPSI Sidrap Palu **10.37 222** P **Pn** **07 25 29.0 +1.1**
143nm,1.4s,2µm
BNSI Bone **10.48 219** P **Pn** **07 25 30.4 +1.0**
130nm,1.4s,2µm
KKM Kota Kinabalu **10.69 282** P **Pn** **07 25 34.6 +2.2**
baz=11,SNR=23
KKM Kota Kinabalu **10.69 282** ⇑P **Pn** **07 25 34.8 +2.4**
KKM Kota Kinabalu **10.69 282** *e*Pn **Pn** **07 25 34.6 +2.2**
KAPI Kappang **11.17 219** *e*Pn Pn 07 25 33.4 -5.5
BKSI Bulukumba **11.19 216** P **Pn** **07 25 40.2 +1.0**
74nm,1.5s,1µm
KBKI Kotabaru **12.67 236** P **Pn** **07 26 00.7 +1.3**
123nm,1.8s,2µm
MTKI Muara Teweh, K **12.71 248** P **Pn** **07 26 01.1 +1.2**
380nm,1.3s,14µm
SMPI Sarmi **13.30 115** P **Pn** **07 26 06.1 -1.9**
192nm,1.1s,2µm
EDFI Ende, Flores **13.43 202** P **Pn** **07 26 10.4 +0.6**
200nm,0.8s,2µm
SOEI Soe **13.68 190** P **Pn** **07 26 13.6 +0.4**
163nm,1.3s,3µm
SOEI Soe **13.68 190** P **Pn** **07 26 15.8 +2.6**
baz=14,SNR=9.4
SOEI Soe **13.68 190** *e*Pn **Pn** **07 26 12.3 -0.9**
SOEI *e*P **P** **07 26 19.8 -0.2**
BBKI Banjar Baru **13.88 239** P **Pn** **07 26 17.3 +1.5**
297nm,2.0s,8µm
BATI Baumata **14.24 192** P **Pn** **07 26 20.5 0.0**
120nm,0.8s,1µm
BATI Baumata **14.24 192** P **Pn** **07 26 18.6 -2.0**
4.2nm,0.3s,baz=218,slow=0.5,SNR=11
SBUM Sibu **14.53 265** ⇑P **Pn** **07 26 26.7 +2.4**
WSI Waingapu **14.82 205** P **Pn** **07 26 29.5 +1.4**
654nm,0.8s,10µm
GENI Genyem **14.87 115** P **Pn** **07 26 27.6 -1.2**
2µm,1.2s,23µm
BASI Baing, Sumba **15.20 204** P **Pn** **07 26 34.8 +1.8**
426nm,1.8s,5µm
WBSI Waikabubak, Su **15.21 209** P **Pn** **07 26 34.6 +1.4**
492nm,0.8s,5µm
JAY Jayapura **15.33 114** P **Pn** **07 26 36.2 +1.5**
JAY pmax pmax
comp=Z,20nm,0.3s
JAY MLR MLR
comp=Z,1µm,20.5s
JAY Jayapura **15.33 114** P **Pn** **07 26 33.7 -1.0**
comp=Z,247nm,1.3s
JAY Jayapura **15.33 114** P **Pn** **07 26 36.2 +1.5**
comp=Z,20nm,0.3s,baz=281,slow=5.9,SNR=53
JAY LR LR 07 32 24.4
comp=Z,1µm,20.5s,baz=304,slow=36
STKI Sintang **15.66 257** P **P** **07 26 41.2 -0.8**
comp=Z,207nm,1.9s
SRBI Singaraja **16.45 224** P **P** **07 26 50.2 -0.6**
comp=Z,206nm,1.9s,comp=Z,3µm
KSM Kuching **16.54 262** P **P** **07 26 52.9 +1.1**
baz=17,SNR=18
KSM Kuching **16.54 262** ⇑P **P** **07 26 53.0 +1.2**
KSM Kuching **16.54 262** *e*P **P** **07 26 52.5 +0.8**
comp=Z,118nm,1.0s
IGBI Denpasar **17.03 223** P **Pn** **07 26 56.4 +0.3**
comp=Z,193nm,1.0s
MTN Manton Dam **17.11 165** P Pn 07 26 51.8 -5.3
baz=17,SNR=17
KDU Kakadu **17.35 161** P Pn 07 26 54.2 -5.8
baz=17,SNR=18
BLJI Banyuglugur **17.39 229** P **P** **07 27 03.0 +1.8**
comp=Z,125nm,1.0s,comp=Z,2µm
JAGI Jajag, Banyuwa **17.47 226** P **P** **07 27 03.3 +1.2**
baz=18,SNR=8.2
JAGI Jajag, Banyuwa **17.47 226** *e*P **Pn** **07 27 00.5 -1.1**
comp=Z,220nm,1.1s
PWJI Pagerwojo **18.94 232** P **P** **07 27 17.6 -0.6**
KNRA Kununurra **19.45 174** P **P** **07 27 21.1 -2.7**
baz=19,SNR=24
WOJI Wonogiri, Jawa **19.53 234** P **Pn** **07 27 29.9 +3.5**
PCJI Pacitan **19.54 232** P **P** **07 27 23.7 -1.1**
comp=Z,94nm,1.1s
TWG Pinlang **19.68 344** *e*P **P** **07 27 23.6 -2.6**
comp=Z,390nm,0.5s
YULB Yu-li **20.17 345** *e*P **P** **07 27 29.1 -2.5**
comp=Z,61nm,0.6s
TPUB Ta-pu **20.26 344** *e*P **P** **07 27 31.1 -1.5**
comp=Z,190nm,0.7s
SSLB Suanglung **20.64 345** *e*P **P** **07 27 34.3 -2.3**
comp=Z,98nm,0.6s
NACB Ninganchiao **20.85 347** *e*P **P** **07 27 37.8 -1.1**
comp=Z,48nm,0.6s
YOJ Yonaguni jima **20.85 351** *e*P Pn 07 27 40.6 -1.3
YOJ pmax pmax
comp=Z,104nm,1.2s
YOJ Yonaguni jima **20.85 351** *e*P Pn 07 27 40.6 -1.4
comp=Z,104nm,1.2s
KPJI Karang Pucung **20.90 238** P **P** **07 27 38.3 -1.2**
comp=Z,87nm,1.3s
YHNB Yeheng **21.38 347** *e*P **P** **07 27 44.0 -0.7**
comp=Z,89nm,0.6s
CMJI Cimerak **21.54 238** P sP 07 28 05.2 -1.7
LEM Lembang **21.78 241** P **P** **07 27 46.5 -2.7**
LEM pmax pmax
comp=Z,19nm,0.5s
LEM MLR MLR
comp=Z,3µm,18.1s
LEM Lembang **21.78 241** P **P** **07 27 52.1 +3.0**
comp=Z,89nm,1.7s,comp=Z,2µm
LEM Lembang **21.78 241** P **P** **07 27 46.5 -2.7**
comp=Z,19nm,0.5s,baz=323,slow=20,SNR=4.3
LEM LR LR 07 38 14.2
comp=Z,3µm,18.1s,baz=36,slow=42
FITZ Fitzroy Crossi **21.78 183** S **S** **07 31 39.8 -7.0**
baz=22,SNR=14
CISI Cisompet, Garu **21.97 239** P sP 07 28 09.9 -1.6
CISI Cisompet, Garu **21.97 239** *e*P **P** **07 27 51.3 +0.3**
comp=Z,63nm,0.8s
CBJI Citeko **22.27 243** P **P** **07 27 56.1 +1.8**
comp=Z,374nm,1.3s
QIZ Qiongzhong **22.38 314** P **P** **07 27 56.0 +0.6**
QIZ pP **pP** **07 28 08.3 -0.1**
QIZ sP **sP** **07 28 14.3 -1.5**
QIZ S **S** **07 31 54.9 -2.7**
QIZ sS **sS** **07 32 18.6 -1.3**
QIZ PMZ
comp=Z,32nm,1.5s
QIZ LN
comp=Z,2µm,15.0s
QIZ LZ
comp=Z,2µm,20.8s
QIZ Qiongzhong **22.38 314** *e*P **P** **07 27 55.5 +0.2**
comp=Z,89nm,1.1s
QZH Quanzhou **22.43 340**⇑ *i*P **P** **07 27 55.8 0.0**
QZH S **S** **07 31 55.8 -2.5**
QZH PMZ
comp=Z,370nm,1.2s
QZH LN
comp=Z,3µm,15.3s
QZH LE
comp=Z,3µm,21.4s
QZH LZ
comp=Z,8µm,24.0s
DSRI Dabo **22.52 260** P **P** **07 27 57.4 +0.5**
comp=Z,170nm,1.5s,comp=Z,8µm
MYKOM Kota Tinggi **22.92 266** *e*P **P** **07 28 00.4 -0.7**
comp=Z,191nm,1.8s
JOW Kunigami **22.96 4** P **P** **07 28 01.6 +0.3**
comp=Z,8.6nm,0.8s,baz=192,slow=6.9,SNR=14
JOW Kunigami **22.96 4** *e*P **P** **07 28 02.1 +0.7**
comp=Z,39nm,0.8s
BTDF Bukit Timah Da **23.04 265** P **P** **07 28 04.0 +1.7**
baz=23,SNR=4.0
GZH Guangzhou **23.13 327** P **P** **07 28 05.0 +1.9**
GZH sP sP 07 28 17.3 -6.4
GZH S **S** **07 32 15.6 +5.6**
GZH LN
GZH comp=Z,2µm,21.6s LE
GZH comp=Z,3µm,19.6s LZ
CGJI Cibinong **23.39 244** P **P** **07 28 03.8 -1.9**
comp=Z,146nm,1.1s,comp=Z,2µm
KLI Kotabumi **23.46 249** P **P** **07 28 10.5 +4.1**
MDSI Maura Dua **23.96 250** P **P** **07 28 10.7 -0.3**
comp=Z,48nm,1.1s,comp=Z,1µm
KASI Kota Agung **24.04 247** P **P** **07 28 11.4 -0.2**
comp=Z,115nm,1.1s,comp=Z,2µm
COEN Coen **24.04 138** P **P** **07 28 09.2 -2.4**
baz=24,SNR=9.0
COEN Coen **24.04 138** *e*P **P** **07 28 09.3 -2.4**
comp=Z,10nm,1.2s
LHSI Lahat **24.37 252** P pP 07 28 26.2 -3.0
WRAB Tennant Creek **24.75 163** P **P** **07 28 15.4 -2.6**
comp=Z,1µm,0.7s
WRAB Tennant Creek **24.75 163** *d*/*i*P **P** **07 28 16.1 -1.9**
WRAB pmax pmax
comp=Z,390nm,0.9s
WRAB Tennant Creek **24.75 163** *e*P **P** **07 28 15.7 -2.4**
comp=Z,244nm,1.0s
WRA Warramunga Arr **24.75 163** P **P** **07 28 16.3 -1.8**
WRA S **S** **07 32 35.8 -0.5**
WRA pmax pmax
comp=Z,96nm,0.6s
WRA smax smax
comp=N,14nm,0.7s
WRA pmax pmax
comp=N,6.0nm,0.8s
WRA Warramunga Arr **24.75 163** P **P** **07 28 16.3 -1.8**
comp=N,96nm,0.6s,baz=344,slow=10.0,SNR=296
WRA S **S** **07 32 35.8 -0.5**
comp=N,14nm,0.7s,baz=333,slow=20,SNR=5.8
WRA ScP **ScP** **07 35 29.3 +1.5**
comp=N,5.5nm,0.8s,baz=343,slow=3.2,SNR=6.8
WB2 Warramunga Arr **24.76 163** *e*P **P** **07 28 16.0 -2.1**
IPM Ipoh **25.62 272** *e*P **P** **07 28 25.1 -1.0**
comp=N,114nm,1.2s
CHBT CHBT **25.69 292** P **P** **07 28 27.2 +0.6**
comp=N,36nm,0.8s,comp=N,3µm
BKNI Bangkinang **25.88 263** P pP 07 28 43.2 +0.3
BKNI Bangkinang **25.88 263** *e*P **P** **07 28 27.8 -0.6**
comp=N,238nm,1.0s
KULM Kulim **26.02 274** *e*P **P** **07 28 28.7 -0.9**
comp=N,74nm,1.2s
SKLT Songkhla **26.18 278** P pP 07 28 47.4 +1.8
KHON Khomkaen **26.57 300** P **P** **07 28 34.9 +0.3**
comp=N,47nm,0.7s,comp=N,2µm
MNSI Mandailing Nat **27.27 264** P **P** **07 28 41.0 +0.1**
comp=N,69nm,1.5s,comp=N,1µm
QIS Mount Isa **27.31 153** P **P** **07 28 40.2 -1.0**
baz=27,SNR=19
CBIJ Chichi jima **27.49 31** P **P** **07 28 41.4 -1.3**
JCJ Chichijima **27.49 31** P **P** **07 28 41.4 -1.3**
comp=N,52nm,0.4s,baz=126,slow=17,SNR=6.0
JCJ LR LR 07 39 14.1
comp=N,834nm,19.5s,baz=231,slow=35
SSE Sheshan **27.65 350** ⇑P **P** **07 28 45.1 +1.0**
SSE pP **pP** **07 28 59.1 +0.4**
SSE sP **sP** **07 29 07.1 +1.4**
SSE S **S** **07 33 25.9 +4.0**
SSE sS **sS** **07 33 49.4 +2.6**
SSE ScS **ScS** **07 39 26.6 -1.5**
SSE PMZ
comp=N,71nm,0.7s
SSE PMZ
comp=N,290nm,5.2s
SSE LN
comp=N,320nm,23.2s
SSE LE
comp=N,1µm,23.4s
SSE LZ
comp=N,660nm,21.4s
PSI Prapat **27.75 269** P **P** **07 28 44.0 -1.4**
PSI pmax pmax
comp=Z,10.0nm,0.6s
PSI MLR MLR
comp=Z,1µm,21.2s
PSI Prapat **27.75 269** P **P** **07 28 44.0 -1.4**
comp=Z,9.7nm,0.6s,baz=98,slow=4.6,SNR=8.8
PSI LR LR 07 40 45.3
comp=Z,1µm,21.2s,baz=96,slow=39
AS31 Alice Springs **28.18 166** *e*P **P** **07 28 46.9 -2.0**
ASAR Alice Springs **28.18 166** P **P** **07 28 47.0 -2.0**
ASAR 07 32 01.9
ASAR S **S** **07 33 33.2 +2.7**
ASAR pmax pmax
comp=Z,7.0nm,0.6s
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASAR smax smax
comp=N,2.0nm,0.8s
ASAR Alice Springs **28.18 166** P **P** **07 28 47.0 -2.0**
comp=N,6.5nm,0.6s,baz=350,slow=7.3,SNR=119
ASAR PcP **PcP** **07 32 01.9 +0.1**
comp=N,3.8nm,0.5s,baz=342,slow=2.2,SNR=5.6
ASAR S **S** **07 33 33.2 +2.7**
comp=N,2.4nm,0.8s,baz=352,slow=21,SNR=3.5
SURT Suratani **28.20 282** P **P** **07 28 49.7 +0.5**
comp=N,7.4nm,0.6s,comp=N,179nm
PBKT Sadao Pong **28.28 298** P **P** **07 28 50.0 +0.1**
comp=N,47nm,0.8s,comp=N,562nm
PKDT Phuket **28.51 280** P **P** **07 28 54.0 +2.0**
comp=N,37nm,0.6s
WRKA Warakurna **28.70 177** P **P** **07 28 51.7 -1.9**
baz=29,SNR=215
GIRL Giralia **28.97 204** P **P** **07 28 55.9 0.0**
baz=29,SNR=4.6
WHN Wuhan **29.05 338** P **P** **07 28 57.0 +0.4**
WHN S **S** **07 33 42.5 -1.5**
WHN LN
comp=N,2µm,14.8s
WHN LE
comp=N,6µm,26.0s
WHN LZ
comp=N,6µm,20.0s
NJ2 Nanjing **29.06 346** *e*P **P** **07 28 59.4 +2.8**
NJ2 pP **pP** **07 29 12.8 +1.5**
NJ2 sP **sP** **07 29 18.3 +0.1**
NJ2 S 07 33 50.5 +6.4
NJ2 sS **sS** **07 34 10.5 +1.5**
NJ2 PMZ
comp=N,50nm,0.7s
NJ2 PMZ
comp=N,410nm,5.3s
NJ2 LN
comp=N,1µm,26.9s
NJ2 LE
comp=N,3µm,24.3s
NJ2 LZ
comp=N,1µm,25.4s
UTTA Uttaradit **29.13 300** P **P** **07 28 57.5 +0.1**
comp=N,11nm,1.2s,comp=N,117nm
SRDT SRDT **29.15 293** P P 07 29 00.9 +3.3
comp=N,54nm,1.0s,comp=N,10µm
JNU Nakatsue **29.43 7** P **P** **07 28 60.0 0.0**
comp=N,23nm,0.7s,baz=216,slow=1.4,SNR=12
JNU Nakatsue **29.43 7** *e*P **P** **07 29 00.4 +0.4**
comp=N,30nm,1.1s
GYA Guiyang **29.60 322** P **P** **07 29 03.8 +2.1**
GYA pP **pP** **07 29 19.3 +3.0**
GYA sP **sP** **07 29 26.4 +3.1**
GYA PP **PnPn** **07 30 03.0 +4.1**
GYA S **S** **07 33 55.8 +2.8**
GYA sS **sS** **07 34 20.6 +2.6**
GYA SS **SnSn** **07 35 32.4 +5.8**
GYA PMZ
comp=N,20nm,1.0s
GYA PMZ
comp=N,130nm,5.2s
GYA LN
comp=N,2µm,16.8s
GYA LE
comp=N,1µm,17.2s
GYA LZ
comp=N,2µm,16.4s
LAMP Lampang **30.25 301** P **P** **07 29 07.9 +0.5**
comp=N,13nm,1.2s,comp=N,264nm
CRAI Chiangrai **30.41 305** P **P** **07 29 06.4 -2.4**
comp=N,16nm,0.8s,comp=N,737nm
KSWAN Wando **30.44 360** P **P** **07 29 10.5 +1.7**
SNR=6.8
KSJDO Jindo **30.52 359** P **P** **07 29 10.8 +1.2**
SNR=7.8
CTA Charters Tower **30.53 142** P **P** **07 29 10.7 +0.9**
CTA 07 35 48.6
CTA pmax pmax
comp=Z,8.0nm,0.6s
CTA pmax pmax
comp=N,3.0nm,0.4s
CTA MLR MLR
comp=Z,493nm,20.3s
CTA Charters Tower **30.53 142** P **P** **07 29 10.7 +0.9**
comp=Z,8.0nm,0.6s,baz=318,slow=12,SNR=6.9
CTA ScP **ScP** **07 35 48.6 +3.1**
comp=Z,2.5nm,0.4s,baz=280,slow=6.1,SNR=3.5
CTA LR LR 07 42 57.8
comp=Z,493nm,20.3s,baz=325,slow=39
CTAO Charters Tower **30.53 142** *e*P **P** **07 29 11.0 +1.2**
CTAO pmax pmax
comp=Z,25nm,1.0s
CTAO Charters Tower **30.53 142** *e*P **P** **07 29 11.0 +1.2**
comp=Z,25nm,1.0s
KSHUK Heuksando **30.76 358** P **P** **07 29 12.1 +0.5**
SNR=6.6
KSMOK Mokpo **30.82 0** P **P** **07 29 13.2 +1.0**
SNR=6.4
CMAR Chiang Mai Arr **30.82 300** *ce*P **P** **07 29 12.8 +0.4**
CMAR pmax pmax
comp=Z,9.0nm,0.6s
CMAR Chiang Mai Arr **30.82 300** P **P** **07 29 11.6 -0.9**
comp=Z,8.8nm,0.6s,baz=120,slow=7.8,SNR=59
CMAR ScP **ScP** **07 35 49.1 +2.7**
comp=Z,1.1nm,0.5s,baz=123,slow=1.7,SNR=5.4
CMAR LR LR 07 42 49.4
comp=Z,769nm,20.1s,baz=130,slow=39
ENH Enshi **30.96 330** *e*P **P** **07 29 13.3 -0.2**
comp=Z,31nm,0.9s
CMMT Chiang Mai **30.96 301** P **P** **07 29 13.2 -0.5**
comp=Z,58nm,0.8s,comp=Z,759nm
MEEK Meekatharra **31.25 194** P **P** **07 29 14.4 -1.7**
baz=31,SNR=16
CMAI Chiengmai2 **31.38 303** P **P** **07 29 16.7 -0.8**
comp=Z,38nm,0.5s,comp=Z,845nm
KSJEU Jeongeup **31.54 0** P **P** **07 29 19.6 +1.1**
SNR=8.7
KSJEO Jeonju **31.99 1** P **P** **07 29 24.1 +1.7**
SNR=5.6
TJN Taejon **32.43 1** *i*P **P** **07 29 26.7 +0.4**
KSBON Boeun **32.56 2** P **P** **07 29 29.1 +1.6**
SNR=13
KSCEA Cheonan **32.87 1** P **P** **07 29 31.5 +1.3**
SNR=8.6
KSTBA Taebaek **33.23 3** P **P** **07 29 35.1 +1.7**
SNR=7.3
KSSWO Suwon **33.31 0** P **P** **07 29 35.6 +1.7**
SNR=6.9
KSICN Icheon **33.34 1** P **P** **07 29 35.9 +1.6**
SNR=10
TIA Tai'an **33.45 346** ⇑P **P** **07 29 34.9 -0.3**
TIA pP **pP** **07 29 46.0 -4.0**
TIA S **S** **07 34 53.4 +0.8**
TIA sS **sS** **07 35 17.3 -0.4**
TIA PMZ
comp=Z,50nm,0.9s
TIA LN
comp=Z,420nm,14.9s
TIA LE
comp=Z,1µm,22.6s
TIA LZ
comp=Z,410nm,21.4s
KSAR Wonju Array Be **33.50 2** P **P** **07 29 36.6 +0.9**
KSAR Wonju Array Be **33.50 2** P **P** **07 29 36.5 +0.9**
KSRS Korea Array **33.52 2** P **P** **07 29 36.6 +0.8**
KSRS pmax pmax
comp=Z,19nm,0.6s
KSRS Korea Array **33.52 2** P **P** **07 29 36.5 +0.8**
comp=Z,19nm,0.6s,baz=180,slow=9.8,SNR=86
INCN Inchon **33.53 360** *e*P **P** **07 29 36.8 +0.9**
comp=Z,22nm,0.6s
KSCHC Chuncheon **33.84 2** P **P** **07 29 41.0 +2.5**
SNR=5.8
KSDDC Dongducheon **33.95 0** P **P** **07 29 42.0 +2.5**
SNR=6.4
KSIJA INJE **34.05 2** P **P** **07 29 42.8 +2.3**
SNR=7.6
KSBAR Backryungdo **34.07 357** P **P** **07 29 42.9 +2.4**
SNR=6.7
YNCB YEONCHEON **34.08 0** P **P** **07 29 43.4 +2.7**
SNR=6.1
MORW Morawa **34.24 197** P **P** **07 29 40.9 -1.3**
baz=34,SNR=6.5
MJAR Matsushiro Arr **34.27 17** P **P** **07 29 41.0 -1.3**
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR MLR MLR
comp=Z,500nm,19.3s
MJAR Matsushiro Arr **34.27 17** P **P** **07 29 41.0 -1.3**
comp=Z,7.8nm,0.9s,baz=202,slow=8.2,SNR=12
MJAR LR LR 07 45 30.6
comp=Z,500nm,19.3s,baz=210,slow=39
MAJO Matsushiro **34.27 17** *i*/*i*P **P** **07 29 41.5 -0.8**
MAJO pmax pmax
comp=Z,427nm,2.5s
MAJO Matsushiro **34.27 17** *e*P **P** **07 29 41.6 -0.8**
comp=Z,35nm,1.2s
XAN Xi'an **34.35 333** P **P** **07 29 41.8 -1.3**
XAN pP **pP** **07 29 56.8 -1.1**
XAN sP **sP** **07 30 04.0 -0.9**
XAN PP **PnPn** **07 30 55.4 -4.0**
XAN S S 07 34 59.5 -7.2
XAN PMZ
comp=Z,17nm,0.8s
XAN PMZ
comp=Z,16nm,4.3s
XAN LN
comp=Z,1µm,18.9s
XAN LE
comp=Z,240nm,21.3s
XAN LZ
comp=Z,380nm,22.7s
FORT Forrest **34.40 178** P **P** **07 29 41.8 -1.8**
baz=34,SNR=34
FORT Forrest **34.40 178** *e*P **P** **07 29 41.8 -1.8**
comp=Z,83nm,0.7s
CD2 Chengdu **34.58 324** P **P** **07 29 45.4 +0.2**
CD2 pP **pP** **07 30 00.1 +0.1**
CD2 sP **sP** **07 30 07.0 +0.1**
CD2 PP **PP** **07 31 03.8 -0.7**
CD2 S **S** **07 35 10.4 +0.1**
CD2 sS **sS** **07 35 35.3 -0.1**
CD2 PcS **PcS** **07 36 03.9 -1.6**
CD2 SS **SnSn** **07 37 26.0 -1.1**
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,150nm,5.0s
CD2 LN
comp=Z,1µm,16.8s
CD2 LE
comp=Z,2µm,16.8s
CD2 LZ
comp=Z,2µm,18.7s

QLP	**Quilpie**	**34.63**	**152**	P		**P**		**07 29 43.6**	**-2.0**
	baz=35,SNR=9.6								
DL2	**Dalian**	**35.25**	**353**	P		**P**		**07 29 52.3**	**+1.5**
DL2				S		**S**		**07 35 23.8**	**+3.5**
DL2				PMZ					
	comp=Z,36nm,0.9s								
DL2				PMZ					
	comp=Z,220nm,5.2s								
DL2				LN					
	comp=Z,250nm,18.9s								
DL2				LE					
	comp=Z,530nm,20.4s								
DL2				LZ					
	comp=Z,380nm,18.4s								
KMBL	**Kambalda**	**35.27**	**187**	P		**P**		**07 29 49.7**	**-1.3**
	baz=35,SNR=8.0								
BLDU	**Ballidu**	**35.53**	**195**	P		**P**		**07 29 51.6**	**-1.6**
	baz=36,SNR=15								
TIY	**Taiyuan**	**36.20**	**341**	*e*P		**P**		**07 29 59.5**	**+0.5**
TIY				S		**S**		**07 35 31.9**	**-3.1**
TIY				PMZ					
	comp=Z,180nm,4.3s								
TIY				LN					
	comp=Z,650nm,13.9s								
TIY				LE					
	comp=Z,510nm,13.7s								
TIY				LZ					
	comp=Z,2μm,27.5s								
BJT	**Baijiatuau**	**37.30**	**347**	*e*P		**P**		**07 30 09.0**	**+0.7**
BJT				pmax		pmax			
	comp=Z,277nm,0.8s								
BJT	**Baijiatuau**	**37.30**	**347**	*e*P		**P**		**07 30 08.9**	**+0.7**
	comp=Z,277nm,0.8s								
BJI	**Beijing**	**37.32**	**347**	P		**P**		**07 30 08.8**	**+0.4**
BJI				pP		**pP**		**07 30 24.8**	**+1.5**
BJI				sP		**sP**		**07 30 30.0**	**-0.2**
BJI				S		**S**		**07 35 55.8**	**+4.0**
BJI				PMZ					
	comp=Z,230nm,1.0s								
BJI				LN					
	comp=Z,410nm,24.6s								
BJI				LE					
	comp=Z,1μm,29.9s								
BJI				LZ					
	comp=Z,610nm,27.2s								
EIDS	**Eidsvold**	**37.42**	**142**	P		**P**		**07 30 08.9**	**-0.6**
	baz=37,SNR=7.2								
EIDS	**Eidsvold**	**37.42**	**142**	*e*P		**P**		**07 30 07.7**	**-1.7**
	comp=Z,32nm,0.8s								
BBOO	**Buckleboo**	**37.47**	**167**	P		**P**		**07 30 08.2**	**-1.6**
	baz=38,SNR=15								
BBOO	**Buckleboo**	**37.47**	**167**	*e*P		**P**		**07 30 08.6**	**-1.2**
	comp=Z,2.3nm,0.9s								
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P		**P**		**07 30 09.8**	**-1.2**
	baz=38,SNR=13								
SNY	**Shenyang**	**37.97**	**356**	⇑P		**P**		**07 30 15.3**	**+1.5**
SNY				S		**S**		**07 35 58.8**	**-2.9**
SNY				PMZ					
	comp=Z,140nm,0.5s								
SNY				PMZ					
	comp=Z,580nm,3.5s								
SNY				LN					
	comp=Z,620nm,20.2s								
SNY				LE					
	comp=Z,750nm,24.3s								
SNY				LZ					
	comp=Z,790nm,24.5s								
STKA	**Stephens Creek**	**38.20**	**159**	P		**P**		**07 30 15.1**	**-0.8**
STKA								07 32 29.6	
STKA				pmax		pmax			
	comp=Z,46nm,0.6s								
STKA				pmax		pmax			
	comp=Z,14nm,0.7s								
STKA	**Stephens Creek**	**38.20**	**159**	P		**P**		**07 30 15.1**	**-0.8**
	comp=Z,46nm,0.6s,baz=331,slow=8.6,SNR=133								
STKA				PcP		**PcP**		**07 32 29.6**	**0.0**
	comp=Z,14nm,0.7s,baz=349,slow=4.8,SNR=3.3								
STKA	**Stephens Creek**	**38.20**	**159**	P		**P**		**07 30 15.3**	**-0.7**
	baz=38,SNR=118								
LZH	**Lanzhou**	**38.44**	**330**	P		**P**		**07 30 17.9**	**-0.2**
LZH				pP		**pP**		**07 30 32.8**	**-0.3**
LZH				sP		**sP**		**07 30 39.6**	**-0.4**
LZH				S		**S**		**07 36 04.3**	**-5.0**
LZH				sS		**sS**		**07 36 35.1**	**+0.5**
LZH				SS		**SnSn**		**07 38 53.0**	**-7.4**
LZH				PMZ					
	comp=Z,310nm,1.8s								
LZH				PMZ					
	comp=Z,190nm,8.2s								
LZH				LN					
	comp=Z,1μm,19.0s								
LZH				LE					
	comp=Z,2μm,19.1s								
LZH				LZ					
	comp=Z,2μm,20.2s								
RKGY	**Rocky Gully**	**39.28**	**193**	P		**P**		**07 30 24.9**	**-0.1**
	baz=39,SNR=8.5								
HHC	**Hu-ho-hao-te**	**39.33**	**342**	*e*P		**P**		**07 30 25.6**	**+0.2**
HHC				sP		**sP**		**07 30 45.9**	**-1.4**
HHC				PP		**PnPn**		**07 32 00.5**	**+0.6**
HHC				S		**S**		**07 36 20.8**	**-1.7**
HHC				sS		**sS**		**07 36 49.1**	**+1.2**
HHC				SS		**SS**		**07 39 10.9**	**-7.3**
HHC				PMZ					
	comp=Z,38nm,0.7s								
HHC				PMZ					
	comp=Z,240nm,4.2s								
HHC				LN					
	comp=Z,1μm,20.0s								
HHC				LE					
	comp=Z,660nm,17.8s								
HHC				LZ					
	comp=Z,1μm,19.7s								
VLA	**Vladivostok**	**39.43**	**6**	⇑*i*P		**P**		**07 30 27.3**	**+1.3**
VLA				*i*				07 31 56.9	
VLA				*e*				07 32 32.4	
VLA				*e*S		**S**		**07 36 25.9**	**+2.3**
VLA				pmax		pmax			
	comp=Z,179nm,2.1s								
CMSA	**Cobar Meteorol**	**39.52**	**154**	P		**P**		**07 30 27.7**	**+0.8**
	baz=40,SNR=10								
SHL	**Shillong**	**39.82**	**306**	*i* PCN		**P**		**07 30 27.5**	**-2.3**
SHL				*ex*		**S**		**07 36 28.0**	**-2.4**
CN2	**Changchun**	**39.85**	**359**	*e*P		**P**		**07 30 30.0**	**+0.4**
CN2				*e*S		**S**		**07 36 32.3**	**+2.3**
CN2				PMZ					
	comp=Z,20nm,0.6s								
CN2				LN					
	comp=Z,500nm,18.0s								
CN2				LE					
	comp=Z,300nm,18.0s								
CN2				LZ					
	comp=Z,500nm,18.0s								
USRK	**Ussuriysk Ar.**	**40.51**	**6**	P		**P**		**07 30 36.1**	**+1.1**
	comp=Z,17nm,0.6s,baz=181,slow=7.7,SNR=40								
USRK				LR		LR		07 45 53.9	
	comp=Z,520nm,21.7s,baz=181,slow=34								
MDJ	**Mudanjiang**	**40.73**	**3**	P		**P**		**07 30 38.1**	**+1.2**
MDJ				pP		**pP**		**07 30 51.8**	**-0.1**
MDJ				sP		**sP**		**07 30 57.0**	**-1.8**
MDJ				PP		**PP**		**07 32 12.8**	**+1.0**
MDJ				S		**S**		**07 36 46.0**	**+2.9**
MDJ				sS		**sS**		**07 37 08.8**	**+0.2**
MDJ				PMZ					
	comp=Z,59nm,1.0s								
MDJ				PMZ					
	comp=Z,190nm,5.6s								
MDJ				LN					
	comp=Z,880nm,24.9s								
MDJ				LE					
	comp=Z,640nm,29.2s								
MDJ				LZ					
	comp=Z,840nm,23.0s								
MDJ	**Mudanjiang**	**40.73**	**3**	*e*P		**P**		**07 30 38.0**	**+1.2**
	comp=Z,32nm,0.6s								
ERM	**Erimo**	**40.80**	**19***c*	*i*P		**P**		**07 30 39.4**	**+2.0**
ERM				pmax		pmax			
	comp=Z,17nm,1.0s								
ERM	**Erimo**	**40.80**	**19**	*e*P		**P**		**07 30 39.9**	**+2.5**
	comp=Z,37nm,1.3s								
ARMA	**Armidale**	**41.53**	**147**	P		**P**		**07 30 43.2**	**-0.5**
	baz=42,SNR=27								
ARMA	**Armidale**	**41.53**	**147**	*e*P		**P**		**07 30 43.6**	**-0.2**
	comp=Z,36nm,0.8s								
LSA	**Lhasa**	**42.38**	**311**	P		**P**		**07 30 51.0**	**-0.2**
LSA	**Lhasa**	**42.38**	**311**	*e*P		**P**		**07 30 51.7**	**+0.5**
LSA				pmax		pmax			
	comp=Z,51nm,0.6s								
LSA	**Lhasa**	**42.38**	**311**	*e*P		**P**		**07 30 51.7**	**+0.5**
	comp=Z,51nm,0.6s								
ASAJ	**Asahikawa**	**42.54**	**17**	P		**P**		**07 30 52.8**	**+1.2**
ASAJ				pmax		pmax			
	comp=Z,36nm,0.9s								
ASAJ				MLR		MLR			
	comp=Z,464nm,21.7s								
ASAJ	**Asahikawa**	**42.54**	**17**	P		P		**07 30 52.8**	**+1.2**
	comp=Z,36nm,0.9s,baz=246,slow=12,SNR=21								
ASAJ				LR		LR		07 48 55.7	
	comp=Z,464nm,21.6s,baz=204,slow=36								
ASAJ	**Asahikawa**	**42.54**	**17**	*e*P		**P**		**07 30 52.9**	**+1.3**
	comp=Z,12nm,0.7s								
GTA	**Gaotai**	**43.03**	**329**	*e*P		**P**		**07 30 55.3**	**-0.6**
GTA				pP		**pP**		**07 31 10.9**	**-0.1**
GTA				sP		**sP**		**07 31 17.6**	**-0.3**
GTA				PP		**PP**		**07 32 39.8**	**+3.0**
GTA				S		**S**		**07 37 17.3**	**-0.2**
GTA				sS		**sS**		**07 37 44.0**	**+0.9**
GTA				SS		**SS**		**07 40 25.3**	**-6.3**
GTA				ScS		**ScS**		**07 40 50.3**	**-1.0**
GTA				PMZ					
	comp=Z,21nm,1.2s								
GTA				PMZ					
	comp=Z,150nm,6.6s								
GTA				LN					
	comp=Z,880nm,20.9s								
GTA				LE					
	comp=Z,1μm,22.3s								
GTA				LZ					
	comp=Z,2μm,20.4s								
YNG	**Young**	**43.05**	**153**	P		**P**		**07 30 57.9**	**+1.9**
	baz=43,SNR=5.1								
MGCD	**Mangrove Creek**	**43.45**	**150**	P		**P**		**07 31 00.7**	**+1.5**
	baz=43,SNR=8.4								
YUK	**Yuzh-Kuril'sk**	**43.50**	**20***d*	*i*P		P		07 30 54.8	-4.6
YUK				*i*				07 32 37.1	
YUK				*i*				07 32 50.2	
YUK				*i* PPP		PPP		07 33 17.0	
YUK				*i* SS		SS		07 40 40.3	+0.1
YUK				*i* SSS		SSS		07 41 26.2	
YUK				MLR		MLR			
	comp=N,313nm,18.0s								
YUK				MLR		MLR			
	comp=E,225nm,18.0s								
YUK				MLR		MLR			
	comp=Z,260nm,18.0s								
TAPN	**Taplejung**	**43.96**	**306**	*e*P		**P**		**07 31 03.0**	**-0.8**
	comp=Z,48nm,0.5s								
ODAN	**Odare**	**44.01**	**305**	*e*P		**P**		**07 31 03.5**	**-0.6**
	comp=Z,57nm,0.4s								
CHLP	**Challavanipeta**	**44.18**	**293**	*e*P		**P**		**07 31 02.9**	**-2.3**
CAN	**Canberra**	**44.18**	**154**	*e*P		**P**		**07 31 05.0**	**0.0**
CAN				pmax		pmax			
	comp=Z,15nm,0.7s								
CAN	**Canberra**	**44.18**	**154**	*e*P		**P**		**07 31 05.0**	**0.0**
	comp=Z,15nm,0.7s								
CNB	**Canberra Magne**	**44.34**	**153**	P		**P**		**07 31 07.3**	**+0.9**
	baz=44,SNR=7.6								
RAMN	**Ramite**	**44.69**	**305**	*e*P		**P**		**07 31 08.6**	**-1.0**
	comp=Z,69nm,0.5s								
TOO	**Toolangi**	**44.71**	**159**	P		**P**		**07 31 10.3**	**+1.1**
	baz=45,SNR=5.4								
HABR	**Khabarovsk**	**45.08**	**8***c*	*e*P		**P**		**07 31 12.8**	**+0.8**
HABR				*e**PP		**pP**		**07 31 27.7**	**+0.5**
HABR				*e*				07 32 48.5	
HABR				*e*				07 32 56.5	
HABR				*e*PPP		PPP		07 33 37.1	
HABR				*e*S		**S**		**07 37 48.1**	**+1.3**
HABR				*e*				07 40 59.4	
HABR				*e*SS		**SS**		**07 41 10.5**	**-0.1**
HABR				*e*SSS		SSS		07 42 00.8	
HABR				pmax		pmax			
	comp=E,35nm,2.3s								
HABR				pmax		pmax			
	comp=Z,42nm,1.1s								
HABR				pmax		pmax			
	comp=N,11nm,0.8s								
HABR				MLR		MLR			
	comp=Z,229nm,17.0s								
YSS	**Yuzh-Sakhalins**	**45.19**	**15**	⇑*i*P		**P**		**07 31 13.3**	**+0.5**
YSS				*e**PP		**pP**		**07 31 27.0**	**-1.1**
YSS				*e*				07 32 53.5	
YSS				*e*S		**S**		**07 37 49.0**	**+0.7**
YSS				pmax		pmax			
	comp=Z,30nm,0.7s								
YSS				MLR		MLR			
	comp=Z,500nm,18.0s								
YSS				MLR		MLR			
	comp=N,600nm,20.0s								
YSS	**Yuzh-Sakhalins**	**45.19**	**15**	*e*P		**P**		**07 31 13.6**	**+0.8**
	comp=N,54nm,1.1s								
JIRN	**Jiri**	**45.31**	**306**	*e*P		**P**		**07 31 13.8**	**-0.8**
	comp=N,72nm,0.6s								
KLR	**Kul'dur**	**45.47**	**5**	*e*P		**P**		**07 31 12.3**	**-2.8**
KLR				*e*S		**S**		**07 37 49.5**	**-2.9**
KLR				*e*SS		**ScS**		**07 41 06.0**	**-0.1**
KLR				MLR		MLR			
	comp=Z,1μm,13.0s								
GUN	**Gumba**	**45.67**	**306**	*e*P		**P**		**07 31 16.7**	**-0.7**
	comp=Z,105nm,0.6s								
HIA	**Hailar**	**45.69**	**354**	*e*P		**P**		**07 31 18.8**	**+1.9**
HIA				pmax		pmax			
	comp=Z,102nm,1.1s								
HIA	**Hailar**	**45.69**	**354**	*e*P		**P**		**07 31 18.8**	**+1.9**
	comp=Z,102nm,1.1s								
PALK	**Pallekele**	**45.90**	**276**	*i* P		**P**		**07 31 18.9**	**-0.2**
PALK	**Pallekele**	**45.90**	**276**	*e*P		**P**		**07 31 18.0**	**-1.1**
	comp=Z,24nm,1.0s								
PKIN	**Phulchoki**	**45.92**	**305**	*e*P		**P**		**07 31 18.1**	**-1.3**
	comp=Z,15nm,0.6s								
KKN	**Kakani**	**46.10**	**306**	*e*P		**P**		**07 31 19.3**	**-1.4**
	comp=Z,26nm,0.4s								
DMN	**Daman**	**46.17**	**305**	*e*P		**P**		**07 31 20.0**	**-1.3**
	comp=Z,56nm,0.8s								
DZM	**Mont Dzumac**	**46.59**	**125**	*e*P		**P**		**07 31 24.3**	**-0.1**
	comp=Z,114nm,1.2s								
GKN	**Gorkha**	**46.71**	**306**	*e*P		**P**		**07 31 23.9**	**-1.5**
	comp=Z,50nm,0.6s								
ULN	**Ulaanbaatar**	**47.05**	**342***c*	*i*P		**P**		**07 31 27.5**	**-0.2**
ULN				pmax		pmax			
	comp=Z,25nm,1.0s								
ULN	**Ulaanbaatar**	**47.05**	**342**	*e*P		**P**		**07 31 26.9**	**-0.7**
	comp=Z,62nm,1.3s								
SONM	**Songino Array**	**47.23**	**341**	P		**P**		**07 31 29.0**	**0.0**
SONM								07 33 16.0	
SONM				pmax		pmax			
	comp=Z,12nm,0.6s								
SONM				pmax		pmax			
	comp=Z,8.0nm,0.8s								
SONM				MLR		MLR			
	comp=Z,901nm,20.7s								
SONM	**Songino Array**	**47.23**	**341**	P		**P**		**07 31 29.0**	**0.0**
	comp=Z,12nm,0.6s,baz=160,slow=8.0,SNR=87								
SONM				PP		**PP**		**07 33 16.0**	**-4.6**
	comp=Z,7.5nm,0.8s,baz=164,slow=7.0,SNR=2.5								
SONM				LR		LR		07 53 58.7	
	comp=Z,901nm,20.7s,baz=152,slow=39								
SKHT	**Srikalahasti**	**47.40**	**285**	*e*P		**P**		**07 31 30.6**	**-0.2**
KOLN	**Koldanda**	**47.47**	**305**	*e*P		**P**		**07 31 30.3**	**-1.0**
	comp=Z,138nm,0.4s								
DANN	**Dangsing**	**47.56**	**306**	*e*P		**P**		**07 31 30.9**	**-1.2**
	comp=Z,220nm,0.5s								
PYUN	**Piuthan**	**48.09**	**305**	*e*P		**P**		**07 31 35.5**	**-0.7**
	comp=Z,244nm,0.5s								
NJS	**Nagarjunasagar**	**48.21**	**289**	*e*P		**P**		**07 31 36.4**	**-0.6**
RPR	**Rampur**	**48.66**	**292**	*e*P		**P**		**07 31 42.7**	**+2.3**
HYB	**Hyderabad**	**49.07**	**290**	*i* P		**P**		**07 31 42.0**	**-1.6**
HYB				*e*sP		sP		07 31 58.0	-7.9
HYBB	**Hyderabad (bro**	**49.07**	**290**	*e*P		**P**		**07 31 42.6**	**-1.0**
CIT	**Chita**	**49.30**	**349**	*e*P		**P**		**07 31 46.2**	**+1.4**
CIT				*e*				07 32 03.6	
CIT				pmax		pmax			
	comp=Z,173nm,1.3s								
URV	**Uravakonda**	**49.91**	**286**	*e*P		**P**		**07 31 49.0**	**-1.1**
ZAK	**Zakamensk**	**50.46**	**341**	⇑*i*P		**P**		**07 31 53.3**	**-0.4**
ZAK				*e*				07 33 13.1	
ZAK				pmax		pmax			
	comp=Z,10.0nm,1.2s								
TLY	**Talaya**	**51.46**	**342**	P		**P**		**07 32 01.1**	**0.0**
	comp=Z,124nm,0.6s,SNR=10								
TLY	**Talaya**	**51.46**	**342**	*e*P		**P**		**07 32 01.8**	**+0.6**
TLY				*e*SS		**ScS**		**07 41 47.7**	**+1.6**
TLY				*e*SSS		SSS		07 42 55.8	
TLY				pmax		pmax			
	comp=Z,17nm,0.8s								
TLY	**Talaya**	**51.46**	**342**	LR		LR		07 56 25.6	
	comp=Z,806nm,20.5s,baz=145,slow=39								
TLY	**Talaya**	**51.46**	**342**	*e*P		**P**		**07 32 01.7**	**+0.6**
	comp=Z,49nm,1.4s								
IRK	**Irkutsk**	**51.76**	**343**	*e*P		**P**		**07 32 02.6**	**-0.7**
IRK				*e*				07 33 15.5	
IRK				pmax		pmax			
	comp=Z,48nm,1.6s								
AGRA	**Agra**	**52.01**	**302**	*e*P		**P**		**07 32 04.1**	**-1.5**
AGRA				*e*P		**P**		**07 32 04.5**	**-1.1**
AGRA				AMB		AMB		07 32 05.1	
	comp=Z,41nm,1.1s								
MOY	**Mondy**	**52.31**	**340**	*e*P		**P**		**07 32 08.1**	**+0.5**
MOY				pmax		pmax			
	comp=Z,31nm,1.2s								
WMQ	**Urumqi**	**52.66**	**325**	*e*P		**P**		**07 32 09.8**	**-0.4**
WMQ				pP		**pP**		**07 32 23.6**	**-2.2**
WMQ				sP		**sP**		**07 32 32.0**	**-0.6**
WMQ				PP		**PP**		**07 34 11.0**	**+1.1**
WMQ				S		**S**		**07 39 32.0**	**-1.6**
WMQ				ScS		**ScS**		**07 41 50.0**	**-4.9**
WMQ				SS		**SS**		**07 43 08.0**	**-4.8**
WMQ				PMZ					
	comp=Z,25nm,1.5s								
WMQ				PMZ					
	comp=Z,150nm,4.4s								
WMQ				LN					
	comp=Z,1μm,17.2s								
WMQ				LE					
	comp=Z,950nm,23.4s								
WMQ				LZ					
	comp=Z,990nm,21.4s								
CLNS	**Chul'man**	**52.91**	**359**	*e*P		P		07 32 16.1	+4.3
CLNS				*e*				07 33 25.8	
CLNS				*e*				07 34 13.2	
CLNS				*e*S		**S**		**07 39 40.1**	**+3.6**
CLNS				*e*SS		**SKiKP**		**07 43 23.2**	**-2.7**
CLNS				pmax		pmax			
	comp=Z,35nm,1.1s								
CLNS				pmax		pmax			
	comp=N,17nm,0.9s								
CLNS				pmax		pmax			
	comp=E,8.0nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,10.0nm,1.1s								
CLNS				pmax		pmax			
	comp=N,8.0nm,1.1s								
CLNS				pmax		pmax			
	comp=E,19nm,1.0s								
CLNS				smax		smax			
	comp=N,64nm,11.2s								
CLNS				smax		smax			
	comp=E,253nm,13.0s								
CLNS				MLR		MLR			
	comp=E,250nm,20.0s								
CLNS				MLR		MLR			
	comp=Z,270nm,17.0s								
CLNS				MLR		MLR			
	comp=N,125nm,17.0s								
SONA	**Sohna**	**53.04**	**303**	*e*P		**P**		**07 32 11.5**	**-1.7**
SONA				AMB		AMB		07 32 13.1	
	comp=Z,45nm,1.4s								
AYAN	**Aya Nagar**	**53.08**	**303**	*e*P		**P**		**07 32 10.6**	**-2.9**
AYAN				AMB		AMB		07 32 12.0	
	comp=Z,33nm,1.1s								
KKR	**Kurukshetra**	**53.80**	**305**	*e*P		**P**		**07 32 15.9**	**-2.8**
KKR				AMB		AMB		07 32 18.0	
	comp=Z,56nm,0.8s								
SMLA	**Simla**	**53.91**	**306**	*ex*		**P**		**07 32 19.0**	**-0.5**
SMLA				*i* P		**P**		**07 32 19.0**	**-0.5**
SMLA				AMB		AMB		07 32 20.4	
	comp=Z,81nm,0.9s								
KHET	**Khetri**	**54.06**	**302**	*e*P		**P**		**07 32 19.4**	**-1.3**
KHET				AMB		AMB		07 32 20.2	
	comp=Z,42nm,0.9s								
BHK	**Bhakra**	**54.61**	**306**	*e*P		**P**		**07 32 25.2**	**+0.5**
BOD	**Bodaibo**	**54.80**	**352**	*e*P		**P**		**07 32 26.5**	**+1.0**
BOD				pmax		pmax			
	comp=Z,38nm,1.5s								
MSVF	**Nonsavu**	**54.96**	**115**	P		**P**		**07 32 28.3**	**+0.8**
	comp=Z,576nm,1.3s,SNR=13								
MSVF	**Nonsavu**	**54.96**	**115**	*e*P		**P**		**07 32 28.6**	**+1.1**
MSVF				pmax		pmax			
	comp=Z,208nm,1.3s								
MSVF	**Nonsavu**	**54.96**	**115**	*e*P		**P**		**07 32 28.6**	**+1.1**
	comp=Z,208nm,1.3s								
DLH	**Dalhousie**	**55.35**	**307**	*e*P		**P**		**07 32 29.0**	**-1.3**
PETK	**Petropavlovsk-**	**55.38**	**22**	P		**P**		**07 32 31.1**	**+1.3**
PETK								07 33 27.6	
PETK				pmax		pmax			
	comp=Z,31nm,0.7s								
PETK				pmax		pmax			
	comp=Z,7.0nm,0.5s								
PETK	**Petropavlovsk-**	**55.38**	**22**	P		**P**		**07 32 31.1**	**+1.3**
	comp=Z,31nm,0.7s,baz=188,slow=6.6,SNR=29								
PETK				PcP		**PcP**		**07 33 27.6**	**-2.0**
	comp=Z,7.1nm,0.5s,baz=197,slow=4.5,SNR=6.7								
PETK				LR		LR		07 55 25.1	
	comp=Z,174nm,21.9s,baz=217,slow=35								
PDGK	**Podgornoye**	**57.35**	**320**	P		**P**		**07 32 43.5**	**-0.5**
PDGK				pmax		pmax			
	comp=Z,76nm,1.5s								
MK31	**Makanchi Array**	**57.49**	**325**	P		**P**		**07 32 44.1**	**-0.9**
MK31				pmax		pmax			
	comp=Z,25nm,0.5s								
MKAR	**Makanchi Array**	**57.49**	**325**	P		**P**		**07 32 44.3**	**-0.7**
	comp=Z,34nm,0.5s,baz=122,slow=8.4,SNR=168								
MKAR				ScP		**ScP**		**07 37 33.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=107,slow=4.8,SNR=2.3								
MKAR				S		**S**		**07 40 36.3**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=90,slow=8.6,SNR=2.8								
MKAR				LR		LR		07 58 51.6	
	comp=Z,908nm,21.6s,baz=108,slow=38								
JASL	**Jaisalmer**	**57.97**	**299**	*e*P		**P**		**07 32 48.0**	**-0.7**
KSH	**Kashi**	**57.98**	**315**	P		**P**		**07 32 49.4**	**+0.7**
KSH				sP		**sP**		**07 33 12.4**	**+1.2**
KSH				PP		**PP**		**07 35 00.3**	**+2.6**
KSH				PcS		**PcS**		**07 37 41.3**	**-0.5**
KSH				S		**S**		**07 40 42.0**	**-3.0**
KSH				sS		**sS**		**07 41 09.8**	**-1.8**
KSH				PMZ					
	comp=Z,51nm,1.3s								
KSH				PMZ					
	comp=Z,110nm,5.5s								
KSH				LN					
	comp=Z,160nm,6.5s								
KSH				LE					
	comp=Z,190nm,6.1s								
KSH				LZ					
	comp=Z,710nm,22.1s								
YAK	**Yakutsk**	**58.14**	**2**	*e*P		**P**		**07 32 49.8**	**+0.6**
YAK				*e*				07 33 39.0	
YAK				*e*				07 34 59.6	
YAK				*e*PPP		PPP		07 36 19.7	
YAK				*e*S		**S**		**07 40 45.2**	**-0.8**
YAK				*e*				07 42 29.8	
YAK				*e*SS		**SS**		**07 44 38.9**	**+0.6**
YAK				pmax		pmax			
	comp=Z,69nm,0.9s								
YAK				pmax		pmax			
	comp=N,14nm,1.0s								
YAK				pmax		pmax			
	comp=E,12nm,1.2s								
YAK				pmax		pmax			
	comp=Z,53nm,2.5s								
YAK				pmax		pmax			
	comp=N

TKM2 pmax pmax
comp=Z,20nm,0.6s
TKM2 Tokmak 2 59.68 319 *e*P **P** **07 33 00.2 -0.3**
comp=Z,24nm,0.9s
SFK Sufi-Kurgan 59.92 315 P **P** **07 33 02.0 -0.3**
SFK pmax pmax
comp=Z,28µm,0.7s
KBK Karagaybulak 60.00 318 P **P** **07 33 03.8 +1.1**
SNR=20
KBK Karagaybulak 60.00 318 *i*P **P** **07 33 03.8 +1.1**
UCH Uchtor 60.11 317 P **P** **07 33 03.8 0.0**
SNR=58
UCH Uchtor 60.11 317 *i*P **P** **07 33 03.8 0.0**
CHMS Chumysh 60.28 318 P **P** **07 33 04.9 +0.4**
SNR=14
CHMS Chumysh 60.28 318 *i*P **P** **07 33 04.8 +0.4**
AAK Ala-Archa 60.29 318 P **P** **07 33 04.2 -0.5**
comp=Z,121nm,0.6s,SNR=14
AAK Ala-Archa 60.29 318 P **P** **07 33 04.5 -0.2**
SNR=13
AAK Ala-Archa 60.29 318*c i*P **P** **07 33 04.0 -0.7**
AAK pmax pmax
comp=Z,88nm,1.6s
AAK Ala-Archa 60.29 318 LR LR 08 03 01.7
comp=Z,232nm,18.6s,baz=90,slow=40
AAK Ala-Archa 60.29 318 *e*P **P** **07 33 04.5 -0.2**
comp=Z,54nm,1.4s
FRU Bishkek 60.30 318 *e*P **P** **07 33 04.0 -0.5**
FRU *e* 07 33 43.0
ZALV Zalesovo Beam 60.52 333 P **P** **07 33 04.5 -1.3**
comp=Z,5.7nm,0.4s,baz=132,slow=6.7,SNR=40
ZALV S S 07 41 28.2 +11
comp=Z,1.7nm,0.9s,baz=152,slow=13,SNR=5.0
ZALV PKP2bc 08 02 34.4
comp=Z,0.4nm,0.5s,baz=325,slow=2.3,SNR=4.6
ZALV LR LR 08 03 11.5
comp=Z,546nm,18.6s,baz=74,slow=40
USP Ospenovka 60.56 318 P **P** **07 33 06.9 +0.5**
SNR=29
USP Ospenovka 60.56 318 *i*P **P** **07 33 06.8 +0.5**
AML Almayashu 60.63 317 P **P** **07 33 07.1 -0.2**
SNR=50
AML Almayashu 60.63 317 *i*P **P** **07 33 07.1 -0.2**
EKS2 Erkin-Say 60.79 318 P **P** **07 33 09.2 +1.2**
SNR=29
EKS2 Erkin-Say 60.79 318 *i*P **P** **07 33 09.2 +1.2**
EKS2 Erkin-Say 60.79 318 *e*P **P** **07 33 07.8 -0.2**
comp=Z,22nm,0.7s
KBL Kabul 61.47 307 *e*P **P** **07 33 12.2 -0.7**
KBL pmax pmax
comp=Z,44nm,1.3s
KBL Kabul 61.47 307 *e*P **P** **07 33 12.2 -0.7**
comp=Z,44nm,1.3s
MNAS Manas 61.58 317 P **P** **07 33 12.9 -0.5**
MNAS pmax pmax
comp=Z,39nm,0.9s
KURK Kurchatov 61.67 327 P **P** **07 33 13.8 +0.2**
comp=Z,579nm,0.6s,SNR=32
KURK Kurchatov 61.67 327 P **P** **07 33 13.1 -0.5**
KURK pmax pmax
comp=Z,45nm,0.6s
KURK Kurchatov 61.67 327 *e*P **P** **07 33 13.0 -0.7**
comp=Z,165nm,0.9s
NVS Novosibirsk 61.80 333⇑ *i*P **P** **07 33 12.1 -2.3**
NVS *e*PS **PnS** **07 42 00.0 +4.5**
NVS pmax pmax
comp=Z,34nm,1.2s
NVS pmax pmax
comp=N,16nm,1.1s
NVS pmax pmax
comp=E,22nm,1.1s
RPZ Rata Peaks 61.83 145 *e*P **P** **07 33 16.6 +1.8**
comp=E,48nm,1.0s
SEY Seymchan 61.97 13 *i*P **P** **07 33 17.4 +2.0**
SEY Seymchan 61.97 13 LR LR 07 58 54.7
comp=E,258nm,21.9s,baz=194,slow=35
URZ Urewera 62.60 137 *e*P **P** **07 33 20.2 +0.1**
comp=E,26nm,1.0s
BKZ Black Stump Fm 62.65 138 *e*P **P** **07 33 20.8 +0.3**
comp=E,44nm,0.8s
DZET Dzherino 62.90 312 P **P** **07 33 21.3 -1.0**
DZET pmax pmax
comp=Z,46nm,1.2s
KK31 Karatay Array 63.17 317 P **P** **07 33 22.8 -1.0**
KK31 pmax pmax
comp=Z,30nm,0.8s
KKAR Karatay Array 63.17 317 *e*P **P** **07 33 23.7 -0.1**
KKAR pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 63.17 317 *e*P **P** **07 33 23.7 -0.1**
comp=Z,18nm,0.7s
AFI Afiamalu 63.49 107 *e*P **P** **07 33 27.0 +0.5**
AFI pmax pmax
comp=Z,133nm,1.1s
AFI Afiamalu 63.49 107 *e*P **P** **07 33 27.0 +0.5**
comp=Z,133nm,1.1s
OTUK Ortayu 64.06 323 P **P** **07 33 28.6 -1.0**
OTUK pmax pmax
comp=Z,24nm,0.7s
BVA0 Borovoye Array 67.25 327 *i*P **P** **07 33 49.6 -0.5**
BVA0 pmax pmax
comp=Z,64nm,1.0s
BVAR Borovoye Array 67.25 327 P **P** **07 33 49.2 -0.9**
BVAR 07 34 17.4
BVAR pmax pmax
comp=Z,14nm,0.6s
BVAR pmax pmax
comp=Z,22nm,0.8s
BVAR MLR MLR
comp=Z,386nm,20.8s
BVAR Borovoye Array 67.25 327 P **P** **07 33 49.2 -0.9**
comp=Z,14nm,0.6s,baz=125,slow=9.3,SNR=90
BVAR PcP **PcP** **07 34 17.4 -0.2**
comp=Z,22nm,0.8s,baz=126,slow=7.5,SNR=5.0
BVAR LR LR 08 04 34.7
comp=Z,386nm,20.8s,baz=118,slow=37
BRVK Borovoye 67.33 327 P **P** **07 33 49.5 -1.0**
comp=Z,404nm,0.7s,SNR=41
TIXI Tiksi 67.78 1*c i*P **P** **07 33 52.7 -0.3**
TIXI pmax pmax
comp=Z,36nm,1.2s
TIXI Tiksi 67.78 1 *e*P **P** **07 33 52.8 -0.2**
comp=Z,69nm,1.3s
IMYA Miami 68.98 307 *e*P **P** **07 34 01.2 -0.3**
IKOO Kooshah 69.19 303 *e*P **P** **07 34 02.3 -0.7**
ISRO Mashad 69.47 307 *e*P **P** **07 34 03.1 -1.4**
IMOG Moghan 69.54 307 *e*P **P** **07 34 03.9 -1.2**
IAKL Akhelmad 70.09 308 *e*P **P** **07 34 07.3 -1.2**
GEYT Alibeck 70.83 309 P **P** **07 34 11.9 -0.7**
comp=Z,3.4nm,0.5s,baz=159,slow=4.5,SNR=12
CASY Casey 70.88 187 *e*P **P** **07 34 12.9 +0.7**
comp=Z,30nm,1.2s
AB31 Akbulak array 72.08 321 *i*P **P** **07 34 19.0 -0.9**
AB31 pmax pmax
comp=Z,28nm,0.7s
ABKAR Akbulak array 72.08 321 *e*P **P** **07 34 19.0 -0.9**
comp=Z,25nm,0.7s
UNV Unalaska Valle 73.38 35 *e*P **P** **07 34 29.1 +1.6**
comp=Z,248nm,1.6s
AKTO Aktyubinsk 73.59 322 P **P** **07 34 27.9 -0.9**
AKTO pmax pmax
comp=Z,34nm,0.9s
AKTO Aktyubinsk 73.59 322 LR LR 08 09 05.8
comp=Z,605nm,21.8s,baz=102,slow=38
SVE Sverdlovsk 73.89 328⇑ *i*P **P** **07 34 30.3 -0.1**
SVE pmax pmax
comp=Z,75nm,0.9s
SVE MLR MLR
comp=Z,660nm,23.0s
GAMB Gambell 74.35 24 *e*P **P** **07 34 34.4 +1.5**
comp=Z,71nm,1.6s
ARU Arti 74.87 328 P **P** **07 34 35.7 -0.4**
comp=Z,285nm,0.6s,SNR=16
ARU Arti 74.87 328*c i*P **P** **07 34 35.0 -1.1**
ARU *PP **PcP** **07 34 51.0 +1.2**
ARU S **S** **07 44 08.3 -0.3**
ARU SS **SS** **07 48 55.2 -2.4**
ARU pmax pmax
comp=Z,55nm,1.2s
ARU Arti 74.87 328 *e*P **P** **07 34 34.5 -1.6**
comp=Z,34nm,0.8s
KIP Kipapa 74.92 69⇑ *e*P **P** **07 34 38.9 +1.8**
KIP pmax pmax
comp=Z,289nm,2.5s
TNA Tin City 76.54 23 *e*P **P** **07 34 46.4 +1.0**
comp=Z,43nm,1.7s

SDPT Sand Point 77.15 34 *e*P **P** **07 34 49.5 +0.5**
comp=Z,250nm,0.8s
RAYN Ar Rayn 80.44 293 P **P** **07 35 06.6 -1.3**
comp=Z,110nm,0.7s,SNR=9.7
RAYN Ar Rayn 80.44 293 *e*P **P** **07 35 06.8 -1.1**
comp=Z,10nm,1.0s
SVW2 Sparrevohn 80.76 29 *e*P **P** **07 35 10.9 +2.2**
OPO Ambohidratompo 81.29 251 P **P** **07 35 11.8 -0.8**
comp=Z,7.4nm,0.8s,baz=65,slow=3.6
ABPO Ambohimpanom 81.31 250 *e*P **P** **07 35 11.9 -0.8**
ABPO pmax pmax
comp=Z,29nm,1.1s
ABPO Ambohimpanom 81.31 250 *e*P **P** **07 35 11.9 -0.8**
comp=Z,29nm,1.1s
OHAK Old Harbor 81.41 33 *e*P **P** **07 35 13.1 +0.8**
comp=Z,86nm,1.3s
GNI Garni 81.42 310*de*P **P** **07 35 13.4 +0.5**
GNI pmax pmax
comp=Z,11nm,1.2s
KDAK Kodiak Island 81.85 32 *i*P **P** **07 35 15.9 +1.4**
KDAK Kodiak Island 81.85 32 *e*P **P** **07 35 15.3 +0.8**
comp=Z,23nm,0.7s
RSO Redoubt South 82.05 30 *e*P **P** **07 35 17.7 +1.9**
comp=Z,66nm,0.8s
ZEI Tsey 82.16 313 *e*P **P** **07 35 14.9 -1.9**
ZEI pmax pmax
comp=Z,28nm,1.4s
IM04 Indian Mountai 82.28 24 *e*P **P** **07 35 18.2 +1.5**
PRGR Permogore 82.44 332⇑ *i*P **P** **07 35 17.4 -0.1**
PRGR *e*PP **pP** **07 35 32.7 -1.4**
PRGR pmax pmax
comp=Z,41nm,0.6s
PPLA Purkeypile 82.58 27 *e*P **P** **07 35 19.9 +1.4**
comp=Z,20nm,0.6s
KBZ Khabaz 82.92 313 P **P** **07 35 19.7 -0.7**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ MLR MLR
comp=Z,246nm,21.3s
KBZ Khabaz 82.92 313 P **P** **07 35 19.7 -0.7**
comp=Z,1.7nm,0.7s,baz=236,slow=24,SNR=6.4
KBZ LR LR 08 16 38.7
comp=Z,246nm,21.2s,baz=192,slow=39
KIV Kislovodsk 83.08 314⇓ *e*P **P** **07 35 21.3 -0.1**
KIV *e*S **S** **07 45 37.6 +0.9**
KIV pmax pmax
comp=Z,4.0nm,1.4s
KIV MLR MLR
comp=Z,402nm,24.0s
KIV Kislovodsk 83.08 314 *e*P **P** **07 35 22.1 +0.7**
comp=Z,7.6nm,0.7s
KTH Kantishna Hill 83.22 27 *e*P **P** **07 35 23.3 +1.7**
comp=Z,112nm,1.6s
TRF Thorofare Moun 83.49 27 *e*P **P** **07 35 24.2 +1.0**
comp=Z,46nm,1.1s
VNDA Vanda 83.49 173 P **P** **07 35 22.8 +0.1**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA MLR MLR
comp=Z,170nm,18.5s
VNDA Vanda 83.49 173 P **P** **07 35 22.8 +0.1**
comp=Z,6.3nm,1.0s,baz=317,slow=7.4,SNR=13
VNDA LR LR 08 14 11.5
comp=Z,170nm,18.5s,baz=342,slow=37
VNDA Vanda 83.49 173 *e*P **P** **07 35 22.8 +0.1**
comp=Z,4.5nm,0.5s
RC01 Rabbit Creek A 83.58 29 *e*P **P** **07 35 24.7 +1.2**
comp=Z,44nm,0.8s
MAW Mawson 83.81 200 P **P** **07 35 25.1 +0.7**
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW Mawson 83.81 200 P **P** **07 35 25.1 +0.7**
comp=Z,4.5nm,1.0s,baz=77,slow=6.5,SNR=4.1
COLD Coldfoot 83.84 23 *e*P **P** **07 35 26.7 +2.0**
comp=Z,40nm,1.0s
PMR Palmer 83.90 29 *e*P **P** **07 35 25.9 +0.8**
PMR Palmer 83.90 29 *e*P **P** **07 35 25.9 +0.8**
VRHR Novokhopersk 83.97 321 *e*P **P** **07 35 25.6 -0.1**
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.6s
MCK McKinley 84.11 26 *e*P **P** **07 35 27.1 +0.9**
MCK pmax pmax
comp=Z,154nm,1.5s
MCK McKinley 84.11 26 *e*P **P** **07 35 27.1 +0.9**
comp=Z,154nm,1.5s
COLA College 84.65 25⇓ *e*P **P** **07 35 28.3 -0.5**
COLA pmax pmax
comp=Z,35nm,1.0s
COLA College 84.65 25 *e*P **P** **07 35 29.1 +0.4**
comp=Z,7.7nm,0.7s
ILAR Eielson Array 85.05 25 P **P** **07 35 30.8 -0.1**
comp=Z,6.0nm,0.8s,baz=253,slow=5.0,SNR=28
ILAR LR LR 08 11 45.9
comp=Z,139nm,19.8s,baz=282,slow=34
PPT Papeete 85.16 108 LR LR 08 08 56.1
comp=Z,115nm,20.2s,baz=266,slow=32
PPT2 Papeete2 85.16 108 *e*P **P** **07 35 33.0 +0.6**
comp=Z,18nm,1.2s
PPT2 Papeete2 85.16 108 *e*S **S** **07 45 58.7 +0.4**
comp=Z,606nm,28.2s
PPT2 Papeete2 85.16 108 *e*LR LR 08 02 29.1
comp=Z,595nm,26.8s
SOC Sochi 85.22 313 *e*P **P** **07 35 30.9 -1.3**
SOC *e*PP **pP** **07 35 47.0 -1.9**
SOC *e*PPP PPP 07 40 40.8
SOC *e*S S 07 45 48.6 -9.3
SOC pmax pmax
comp=Z,9.0nm,0.4s
SOC MLR MLR
comp=Z,337nm,21.0s
VORD Divnogorie 85.45 321 *e*P **P** **07 35 32.3 -0.8**
VORD pmax pmax
comp=Z,30nm,1.0s
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,40nm,1.0s
TVO Taravao 85.48 108 *e*P **P** **07 35 34.4 +0.3**
comp=E,4.2nm,0.8s
DIV Divide 85.50 29 *e*P **P** **07 35 35.2 +1.9**
comp=E,97nm,1.1s
VSR Storozhevoye 85.52 321 *e*P **P** **07 35 32.7 -0.8**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
PAX Paxson 85.65 27 *e*P **P** **07 35 35.0 +1.0**
PAX pmax pmax
comp=Z,73nm,1.6s
PAX Paxson 85.65 27 *e*P **P** **07 35 35.0 +1.0**
comp=Z,74nm,1.6s
TBI Tubuai 85.83 114 *e*S **S** **07 46 06.6 +1.9**
comp=Z,361nm,27.5s
TBI Tubuai 85.83 114 *e*LR LR 08 02 46.7
comp=Z,627nm,27.5s
TMCR Tamitsa 86.03 334 *e*P **P** **07 35 36.7 +1.0**
TMCR pmax pmax
comp=Z,37nm,0.7s
BMRM Bremner River 86.07 29 *e*P **P** **07 35 38.4 +2.3**
comp=Z,49nm,1.1s
DOT Dot Lake 86.28 27 *e*P **P** **07 35 38.8 +1.7**
comp=Z,10nm,1.0s
MOS Moscow 86.37 325 *e*P **P** **07 35 36.4 -1.2**
MOS *e* 07 35 55.1
MOS pmax pmax
comp=Z,107nm,1.4s
PMOR Pomariorio Ree 86.53 105 *e*P **P** **07 35 39.6 +0.4**
comp=Z,66nm,1.4s
VAH Vaihoa 86.81 105 *e*P **P** **07 35 40.5 0.0**
comp=Z,33nm,1.4s
ANN Anapa 86.84 315 *e*P **P** **07 35 39.0 -1.1**
ANN *e*PP **pP** **07 35 55.3 -1.5**
ANN *e* 07 46 02.6
ANN *e* 07 46 09.9
ANN pmax pmax
comp=Z,56nm,1.2s
OBN Obninsk 86.99 325⇓ *i*P **P** **07 35 40.7 +0.1**
OBN *e*S **S** **07 46 18.6 +3.9**
OBN pmax pmax
comp=Z,141nm,1.7s

OBN MLR MLR
comp=Z,432nm,22.0s
OBN Obninsk 86.99 325 LR LR 08 16 33.4
comp=Z,295nm,21.4s,baz=88,slow=37
OBN Obninsk 86.99 325 *e*P **P** **07 35 41.1 +0.5**
comp=Z,33nm,0.5s
EGAK Eagle 87.51 25 *e*P **P** **07 35 43.4 +0.5**
comp=Z,5.7nm,0.8s
APA Apatity 87.78 337⇓ *i*P **P** **07 35 46.0 +1.8**
APA MLR MLR
comp=Z,2µm,16.0s
DAWY Dawson 88.33 26 *e*P **P** **07 35 47.7 +0.8**
JOF Joensuu 89.11 333 *e*P **P** **07 35 49.5 -1.0**
JOF pmax pmax
comp=Z,18nm,0.6s
JOF Joensuu 89.11 333 *ep* **P** **07 35 49.5 -1.0**
comp=Z,18nm,0.6s
KMBO Kilima Mbogo 89.53 269 P **P** **07 35 54.2 +0.3**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO MLR MLR
comp=Z,179nm,18.5s
KMBO Kilima Mbogo 89.53 269 P **P** **07 35 54.1 +0.3**
comp=Z,7.9nm,0.9s,baz=51,slow=6.0,SNR=14
KMBO LR LR 08 17 23.3
comp=Z,179nm,18.5s,baz=94,slow=36
HYT Haines Junctio 89.54 29 *e*P **P** **07 35 53.7 +0.9**
KEV Kevo 89.82 340 *e*P **P** **07 35 52.1 -1.6**
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 89.82 340 *ep* **P** **07 35 52.1 -1.6**
comp=Z,5.2nm,0.6s
BRTR Keskin Array B 89.96 310 P **P** **07 35 53.9 -1.4**
comp=Z,3.3nm,0.6s,baz=109,slow=4.7,SNR=17
BRTR LR LR 08 23 00.2
comp=Z,94nm,20.6s,baz=70,slow=40
ARCES ARCESS Array B 90.38 340 P **P** **07 35 55.9 -0.5**
comp=Z,5.8nm,0.5s,baz=80,slow=6.7,SNR=80
ARCES LR LR 08 21 24.6
comp=Z,269nm,20.8s,baz=82,slow=39
KAF Kangasniemi 91.53 332 *e*P **P** **07 36 00.3 -1.5**
KAF pmax pmax
comp=Z,7.0nm,0.5s
KAF Kangasniemi 91.53 332 *ep* **P** **07 36 00.3 -1.5**
comp=Z,7.2nm,0.5s
FINES FINESS Array B 91.76 332 P **P** **07 36 02.5 -0.4**
comp=Z,3.9nm,0.5s,baz=75,slow=4.4,SNR=36
FINES LR LR 08 22 18.2
comp=Z,386nm,20.0s,baz=70,slow=39
AKASG Malin Array Be 91.83 321 P **P** **07 36 02.3 -1.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG MLR MLR
comp=Z,234nm,21.9s
AKASG Malin Array Be 91.83 321 P **P** **07 36 02.2 -1.2**
comp=Z,2.6nm,0.5s,baz=68,slow=4.3,SNR=20
AKASG LR LR 08 19 43.4
comp=Z,234nm,21.9s,baz=80,slow=37
KIEV Kiev 91.84 321⇑ *i*P **P** **07 36 03.0 -0.5**
KIEV Kiev 91.84 321 *e*P **P** **07 36 02.6 -0.9**
comp=Z,4.3nm,0.5s
WRAK Wrangell Islan 92.90 33 *e*P **P** **07 36 09.0 +0.7**
comp=Z,15nm,0.8s
PSN Preselentsi 93.56 314⇑ P **P** **07 36 11.5 -0.1**
PSN Preselentsi 93.56 314⇑ *i*P **P** **07 36 11.5 -0.1**
DLBC Dease Lake 93.70 31 *e*P **P** **07 36 13.1 +1.0**
QSPA South Pole Qui 93.70 180 P **P** **07 36 12.5 +0.6**
comp=Z,2.9nm,0.7s,baz=320,slow=1.7
TESR Tescani 94.17 317⇓ *i*P **P** **07 36 14.3 -0.1**
VRI Vrincioaia 94.23 316⇑ P **P** **07 36 14.5 -0.2**
VRI Vrincioaia 94.23 316⇑ *i*P **P** **07 36 14.5 -0.2**
PLOR Plostina 94.29 316⇑ P **P** **07 36 14.8 -0.2**
PLOR Plostina 94.29 316⇑ *i*P **P** **07 36 14.8 -0.2**
MLR Muntele Rosu 94.84 316⇑ P **P** **07 36 17.3 -0.3**
MLR Muntele Rosu 94.84 316⇑ *i*P **P** **07 36 17.3 -0.3**
MLR Muntele Rosu 94.84 316 P **P** **07 36 17.5 -0.2**
comp=Z,1.2nm,0.5s,baz=317,slow=3.8,SNR=14
BURAR Bucovina Array 94.94 318⇓ P **P** **07 36 18.2 +0.2**
BURAR Bucovina Array 94.94 318⇓ *i*P **P** **07 36 18.2 +0.2**
VOIR 95.47 316⇓ P **P** **07 36 19.3 -1.2**
VOIR 95.47 316⇓ *i*P **P** **07 36 19.3 -1.2**
ARR Arges 95.77 316⇓ *i*P **P** **07 36 21.4 -0.4**
LOT Lotru 96.35 316⇑ *i*P **P** **07 36 24.8 +0.3**
KOLS Kolonicke sedl 96.58 320 *e*P **P** **07 36 25.7 +0.3**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 96.58 320 *e*P **P** **07 36 25.7 +0.3**
UZH Uzhgorod 96.64 320 *e*P **P** **07 36 23.8 -1.8**
UZH *e* 07 36 34.8
DRGR 96.78 318⇓ P **P** **07 36 26.3 -0.1**
DRGR 96.78 318⇓ *i*P **P** **07 36 26.3 -0.1**
GZR Gura Zlata 97.04 316⇑ P Pdif 07 36 28.2 +0.5
GZR Gura Zlata 97.04 316⇑ *i*P Pdif 07 36 28.1 +0.4
CRVS Cervenica-Dubn 97.11 320 *e*P Pdif 07 36 27.9 +0.1
CRVS pmax pmax
comp=Z,17nm,1.4s
CRVS Cervenica-Dubn 97.11 320 *e*P Pdif 07 36 27.9 +0.1
STHS Stebnicka Huta 97.12 321 *e*P Pdif 07 36 28.9 +1.0
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 97.12 321 *e*P Pdif 07 36 28.9 +1.0
DAG Danmarks Havn 97.19 352⇑ *i*P **P** **07 36 26.9 -0.6**
DAG *i* S pP 07 36 38.2 -6.1
DAG Danmarks Havn 97.19 352⇑ *i*P **P** **07 36 26.9 -0.6**
DAG *i* S pP 07 36 38.2 -6.1
SIRR Siria 97.61 317⇓ *i*P **P** **07 36 30.0 -0.1**
RES Resolute Bay 97.75 10 *e*P Pdif 07 36 30.6 +0.5
RES pmax pmax
comp=Z,3.0nm,0.6s
RES Resolute Bay 97.75 10 *e*P Pdif 07 36 30.6 +0.5
comp=Z,2.7nm,0.6s
HFS Hagfors 97.95 332 P **P** **07 36 30.9 -0.3**
HFS pmax pmax
comp=Z,3.0nm,0.6s
HFS Hagfors 97.95 332 P **P** **07 36 30.9 -0.3**
comp=Z,2.9nm,0.6s,baz=46,slow=6.4,SNR=9.6
NB2 NORSAR Subarra 98.72 334 P **P** **07 36 33.4 -1.3**
comp=Z,6.8nm,0.8s,baz=69,slow=4.8
NOA NORSAR Array B 98.72 334 P **P** **07 36 33.9 -0.8**
comp=Z,2.8nm,0.8s,baz=69,slow=4.5,SNR=6.3
NOA LR LR 08 27 21.5
comp=Z,375nm,18.9s,baz=65,slow=39
RKT Rikitea 99.12 113 *e*LR LR 08 08 57.0
comp=Z,375nm,31.2s
YKA Yellowknife Ar 99.45 24 P **Pdif** **07 36 38.5 +0.6**
comp=Z,1.0nm,0.6s,baz=298,slow=4.2,SNR=27
YKA PKiKP **PKiKP** **07 41 07.7 +0.7**
comp=Z,0.3nm,0.6s,baz=300,slow=1.8,SNR=7.7
YKA PKKP **PKKPdf** **07 53 05.9 -0.7**
comp=Z,0.1nm,0.5s,baz=119,slow=2.8,SNR=5.0
PKSM Moragy 99.65 318⇑ P **Pdif** **07 36 39.3 +0.2**
PKSM Moragy 99.65 318⇑ *i*P **Pdif** **07 36 39.3 +0.2**
BRG Berggiesshubel 101.17 323 P **Pdif** **07 36 46.5 +0.6**
BRG 07 40 57.0
BRG pmax pmax
comp=Z,17nm,1.6s
BRG Berggiesshubel 101.17 323 PDIFF **Pdif** **07 36 46.5 +0.6**
comp=Z,17nm,1.6s
BRG PP **PP** **07 40 57.0 +2.1**
CLL Collm 101.57 324 *e*P **Pdif** **07 36 48.0 +0.4**
CLL *e*S **Sdif** **07 48 31.0 +7.3**
CLL MLR MLR
comp=Z,400nm,21.0s
CLL Collm 101.57 324 *e*Pdif **Pdif** **07 36 48.0 +0.4**
CLL *e* 07 37 06.0
CLL *e* 07 37 15.0
CLL *e*Sdif Sdif 07 48 31.0 +7.3
CLL *e*PS **PS** **07 49 54.0 -9.0**
CLL *e*(PPS) 07 50 36.0
CLL *e*SS SS 07 55 36.0 +10
CLL *e*SSS SSS 07 59 36.0
CLL *e*SSSS 08 02 54.0
CLL LmV 08 30 00.0
comp=Z,400nm,21.0s
CLL LmV 11 06 00.0
comp=Z,200nm,20.3s
GERES GERESS Array B 102.02 322 P **Pdif** **07 36 50.2 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 102.02 322 P **Pdif** **07 36 50.2 +0.4**
comp=Z,0.8nm,0.7s,baz=66,slow=4.5,SNR=8.3
NVAR Mina Array Bea 106.88 48 Pdiff **Pdif** **07 37 13.1 +1.3**
comp=Z,0.3nm,0.7s,baz=259,slow=1.8,SNR=3.2
NVAR PKiKP **PKiKP** **07 41 23.0 +1.4**
comp=Z,0.2nm,0.4s,baz=238,slow=1.7,SNR=3.7

NVAR PKKPab **PKKPab 07 52 54.7 -1.1**
comp=Z,0.3nm,0.5s,baz=116,slow=2.1,SNR=4.1
PDAR Pinedale Array 111.32 41 PKiKP **PKiKP 07 41 30.3 +0.5**
comp=Z,0.4nm,0.9s,baz=347,slow=1.2,SNR=2.6
PDAR PKKPab **PKKPab 07 52 36.2 +0.1**
comp=Z,0.8nm,0.8s,baz=114,slow=3.7,SNR=6.1
I20A Worland 111.69 39 P **PKiKP 07 41 30.5 +0.2**
baz=112
J20A Shoshoni 112.00 40 P **PKiKP 07 41 31.8 +0.9**
baz=112
E23A Ismay 112.13 36 P **PKiKP 07 41 32.2 +1.2**
baz=112
J22A Midwest 113.00 39 P **PKiKP 07 41 33.1 +0.3**
baz=113
J25A Sunshine Ranch 114.68 38 P PKPdf 07 41 36.2 +0.2
baz=115
G27A Dupree 114.71 36 P PKPdf 07 41 36.3 +0.4
baz=115
G28A Parade 115.48 35 P **PKPdf 07 41 37.4 0.0**
baz=116
G30A Faulkton 116.46 35 P **PKPdf 07 41 39.5 +0.2**
baz=116
J29A Okreek 116.78 37 P **PKPdf 07 41 40.6 +0.6**
baz=117
ANMO Albuquerque 117.00 48 *e*PKiKP **PKPdf 07 41 42.2 +1.3**
ANMO Albuquerque 117.00 48 *e*PKPdf **PKPdf 07 41 42.2 +1.3**
J30A Dallas 117.33 36 P **PKPdf 07 41 41.3 +0.3**
baz=117
K30A Basset 117.63 37 P **PKPdf 07 41 42.1 +0.4**
baz=118
T26A Comanche Natio 118.00 44 P **PKPdf 07 41 43.0 +0.3**
baz=118
U26A Atchley Ranch, 118.28 45 P **PKPdf 07 41 43.5 +0.2**
baz=118
V26A Tequesquite Ra 118.54 46 P **PKPdf 07 41 43.9 +0.2**
baz=119
R28A Tribune 118.63 42 P **PKPdf 07 41 44.2 +0.5**
baz=119
ECSD EROS Data Cent 118.75 35 P **PKPdf 07 41 43.8 0.0**
baz=119
Q29A Oakley 118.89 41 P **PKPdf 07 41 44.9 +0.7**
baz=119
U27A Thompson Grove 118.91 45 P **PKPdf 07 41 45.3 +0.8**
baz=119
T28A Walsh 119.05 43 P **PKPdf 07 41 44.8 +0.2**
baz=119
MNTX Cornudas Mount 119.22 50 P **PKPdf 07 41 45.1 +0.1**
baz=119
MNTX Cornudas Mount 119.22 50 *e*PKPdf **PKPdf 07 41 45.9 +0.9**
BGNE Belgrade 119.26 37 P **PKPdf 07 41 44.4 -0.4**
baz=119
BGNE Belgrade 119.26 37 *e*PKPdf **PKPdf 07 41 44.7 -0.1**
Q30A Quinter 119.34 41 P **PKPdf 07 41 45.8 +0.7**
baz=119
P31A Stockton 119.58 40 P **PKPdf 07 41 45.8 +0.3**
baz=120
SPMN Marine on St. 119.84 31 P **PKPdf 07 41 46.4 +0.6**
baz=120
U30A WK&E Inc. Balk 120.36 43 P **PKPdf 07 41 48.0 +0.8**
baz=120
SCHQ Schefferville 120.51 9 PKP **PKPdf 07 41 47.3 +0.5**
comp=Z,3.5nm,1.0s,baz=333,slow=4.5,SNR=4.8
Y28A McKinney Farm, 120.56 47 P **PKPdf 07 41 48.4 +0.7**
baz=121
R32A Long Quarter, 120.63 41 P **PKPdf 07 41 48.2 +0.6**
baz=121
128A Castleberry Fa 121.00 48 P **PKPdf 07 41 48.6 +0.1**
baz=121
T32A Huddler Ranch, 121.18 42 P **PKPdf 07 41 48.9 +0.3**
baz=121
Z29A Hungry Hill Ra 121.27 47 P **PKPdf 07 41 49.1 +0.1**
baz=121
W31A Holland Ranch, 121.56 44 P **PKPdf 07 41 49.9 +0.4**
baz=122
U32A Winter Ranch, 121.57 43 P **PKPdf 07 41 50.3 +0.9**
baz=122
KSU1 Kansas State U 121.57 39 P **PKPdf 07 41 49.8 +0.5**
baz=122
KSU1 Kansas State U 121.57 39 *e*PKPdf **PKPdf 07 41 49.6 +0.3**
TXAR Lajitas Array 121.58 52 PKiKP **PKPdf 07 41 50.0 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 121.58 52 PKP **PKPdf 07 41 50.0 +0.3**
comp=Z,0.8nm,0.6s,baz=222,slow=1.7,SNR=6.6
Z30A Sanderson Ranc 121.68 47 P **PKPdf 07 41 50.4 +0.6**
baz=122
T33A Patterson Ranc 121.69 42 P **PKPdf 07 41 50.2 +0.6**
baz=122
329A Wagon Wheel Ra 121.91 49 P **PKPdf 07 41 50.7 +0.4**
baz=122
529A Stev Forest Ra 122.36 51 P **PKPdf 07 41 52.1 +1.0**
baz=122
429A Davenport Ranc 122.38 50 P **PKPdf 07 41 51.6 +0.4**
baz=122
S35A Otter Creek Ra 122.60 40 P **PKPdf 07 41 51.9 +0.6**
baz=123
R36A Gordon, Harris 122.73 39 P **PKPdf 07 41 52.1 +0.6**
baz=123
JFWS Jewell Farm 122.76 32 *e*PKiKP **PKPdf 07 41 51.3 -0.2**
JFWS Jewell Farm 122.76 32 *e*PKPdf **PKPdf 07 41 51.3 -0.2**
430A Baggett Ranch, 122.80 49 P **PKPdf 07 41 52.8 +0.9**
baz=123
Z32A Haskell 122.86 46 P **PKPdf 07 41 52.5 +0.6**
baz=123
V34A Guthrie 122.87 42 P **PKPdf 07 41 52.6 +0.7**
baz=123
TORD Torodi Ar. Bea 122.88 288 PKP **PKPdf 07 41 52.1 -0.3**
comp=Z,1.8nm,0.6s,baz=76,slow=2.0,SNR=18
TORD PKKPab **PKKPbc 07 51 44.0 -0.5**
comp=Z,0.5nm,0.5s,baz=251,slow=3.0,SNR=10.0
231A Bronte 122.94 48 P **PKPdf 07 41 52.6 +0.4**
baz=123
530A J-C Ranch, Com 123.02 50 P **PKPdf 07 41 53.5 +1.1**
baz=123
S36A Lake Cedric, C 123.04 40 P **PKPdf 07 41 52.6 +0.5**
baz=123
R37A Teagarden Farm 123.16 39 P **PKPdf 07 41 52.5 +0.2**
baz=123
331A San Angelo 123.16 49 P **PKPdf 07 41 53.2 +0.6**
baz=123
431A Sonora 123.33 49 P **PKPdf 07 41 53.4 +0.4**
baz=123
X34A Smith Ranch, M 123.33 44 P **PKPdf 07 41 53.9 +1.1**
baz=123
531A Rocksprings 123.62 50 P **PKPdf 07 41 54.3 +0.7**
baz=124
332A Millersview 123.64 48 P **PKPdf 07 41 54.0 +0.5**
baz=124
W35A Tecumseh 123.69 43 P **PKPdf 07 41 54.5 +1.0**
baz=124
432A Menard 123.85 49 P **PKPdf 07 41 54.4 +0.4**
baz=124
233A Rising Star 123.94 47 P **PKPdf 07 41 54.8 +0.7**
baz=124
JCT Junction City 124.03 49 *e*PKiKP **PKPdf 07 41 55.1 +0.8**
JCT Junction City 124.03 49 P **PKPdf 07 41 54.6 +0.3**
baz=124
JCT Junction City 124.03 49 *e*PKPdf **PKPdf 07 41 55.1 +0.8**
532A Rocksprings 124.13 50 P **PKPdf 07 41 54.3 -0.2**
baz=124
333A Richland Sprin 124.23 48 P **PKPdf 07 41 54.0 -0.6**
baz=124
433A Art 124.43 48 P **PKPdf 07 41 54.7 -0.3**
baz=124
234A Clairette 124.50 47 P **PKPdf 07 41 54.8 -0.3**
baz=124
732A Laxson Ranch, 124.74 51 P **PKPdf 07 41 56.4 +0.7**
baz=125
334A Lometa 124.77 47 P **PKPdf 07 41 55.9 +0.3**
baz=125
832A Faith Ranch, C 124.94 52 P **PKPdf 07 41 56.8 +0.7**
baz=125
434A Burnet 125.01 48 P **PKPdf 07 41 56.8 +0.6**
baz=125
534A Blanco 125.25 49 P **PKPdf 07 41 57.3 +0.7**
baz=125
833A Chaparral WMA, 125.38 51 P **PKPdf 07 41 57.4 +0.5**
baz=125
933A Laredo 125.80 52 P **PKPdf 07 41 58.0 +0.3**
baz=126
MIAR Mount Ida 126.25 41 *e*PKiKP **PKPdf 07 41 59.8 +1.4**
MIAR Mount Ida 126.25 41 *e*PKPdf **PKPdf 07 41 59.8 +1.4**
OLIL Olney 126.86 34 *e*PKPdf **PKPdf 07 42 00.0 +0.6**
WVT Waverly 128.82 36 *e*PKiKP **PKPdf 07 42 03.9 +0.7**
WVT Waverly 128.82 36 *e*PKPdf **PKPdf 07 42 03.9 +0.7**
DBIC Dimbokro 130.54 282 PKiKP **PKPdf 07 42 06.1 -1.0**
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC pmax pmax
comp=N,6.0nm,0.7s
DBIC Dimbokro 130.54 282 PKP **PKPdf 07 42 06.1 -1.0**
comp=N,1.7nm,0.8s,baz=108,slow=3.2,SNR=2.2
DBIC SKPab **SKPab 07 45 26.8 +0.9**
comp=N,5.9nm,0.7s,baz=73,slow=4.7,SNR=7.3
LRAL Lakeview Retre 131.42 38 *e*PKPdf **PKPdf 07 42 09.6 +1.3**
TKL Tuckaleechee C 131.46 33 *e*PKiKP **PKPdf 07 42 09.8 +1.5**
TKL Tuckaleechee C 131.46 33 *e*PKPdf **PKPdf 07 42 09.8 +1.5**
PLCA Paso Flores 140.07 159 PKiKP **PKPdf 07 42 25.3 +1.1**
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA pmax pmax
comp=N,2.0nm,0.8s
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 140.07 159 PKP **PKPdf 07 42 25.3 +1.1**
comp=Z,4.7nm,1.0s,baz=246,slow=2.1,SNR=4.4
PLCA SKPbc **SKiKP 07 45 57.3 -0.7**
comp=Z,2.0nm,0.8s,baz=208,slow=7.1,SNR=3.7
PLCA PKKPab 07 50 34.7
comp=Z,2.2nm,0.9s,baz=113,slow=1.4,SNR=3.3
TRQA Tornquist 144.99 168 *e*PKPdf **PKPab 07 42 32.1 -0.1**
LCO Las Campanas 149.96 148 *e*PKPbc **PKPbc 07 42 47.3 +0.6**
BCIP Isla Barro Col 150.57 64 *e*PKPbc **PKPbc 07 42 48.6 +0.4**
OTAV Otavalo 154.54 81 *e*PKPdf **PKPdf 07 42 50.3 +1.0**
ROSC El Rosal 157.29 68 PKPab **PKPab 07 43 25.6 +1.6**
comp=Z,6.0nm,0.6s,baz=256,slow=12,SNR=6.9
LPAZ La Paz 160.85 131 *e*PKiKP **PKPdf 07 42 57.7 +0.6**
LPAZ La Paz 160.85 131 PKP **PKPdf 07 42 58.1 +1.0**
comp=Z,3.5nm,1.1s,baz=248,slow=5.4,SNR=5.3
LPAZ La Paz 160.85 131 *e*PKPdf **PKPdf 07 42 57.7 +0.6**
LPAZ PKP **PKPdf 07 42 58.1 +1.0**

*NNC **17** 07:41:13.0±0.4, 49.99N×78.66E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=5.4km s-min=2.1km az=89.0*
*IDC **17** 07:41:14.6±0.8, 50.16N×78.86E, h0km, mb4.0/2, mb1 3.8/5, mb1mx3.4/29, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=19.7km s-min=6.5km az=55.0*
ISC 17 07:41:14.3±1.5, 50.06N±0.04×78.69E±0.05, h6km±11km, n26, σ1s46/43, 19C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.54**	**348**	P	**Pg**		**07 41 25.2**	**+0.5**
KUR07				S	**Sb**		**07 41 34.1**	**0.0**
KUR06	**Kurchatov Arra**	**0.56**	**349**	P	**Pb**		**07 41 25.5**	**-0.9**
KUR06				S	**Sb**		**07 41 34.0**	**-0.7**
KUR14	**Kurchatov Arra**	**0.56**	**354**	P	**Pg**		**07 41 25.5**	**+0.4**
KUR14				S	**Sb**		**07 41 34.5**	**-0.3**
KUR15	**Kurchatov Arra**	**0.57**	**352**	P	**Pg**		**07 41 25.6**	**+0.4**
KUR15				S	**Sb**		**07 41 34.5**	**-0.5**
KURBB	**Kurchatov Arra**	**0.57**	**350**	⇑P	**Pg**		**07 41 25.7**	**+0.4**
	53nm,0.3s							
KURBB				⇑S	**Sb**		**07 41 34.4**	**-0.8**
	208nm,0.5s							
KURBB	**Kurchatov Arra**	**0.57**	**350**	Pg	**Pg**		**07 41 24.2**	**-1.1**
	8.8nm,0.3s,baz=165,slow=19,SNR=681							
KUR16	**Kurchatov Arra**	**0.58**	**348**	P	**Pg**		**07 41 25.8**	**+0.4**
KUR16				S	**Sb**		**07 41 34.7**	**-0.8**
KUR17	**Kurchatov Arra**	**0.59**	**346**	P	**Pg**		**07 41 26.0**	**+0.4**
KUR17				S	**Sb**		**07 41 34.7**	**-1.0**
KUR05	**Kurchatov Arra**	**0.59**	**351**	P	**Pg**		**07 41 26.1**	**+0.4**
KUR05				S	**Sb**		**07 41 34.5**	**-1.3**
KUR04	**Kurchatov Arra**	**0.61**	**351**	P	**Pg**		**07 41 26.5**	**+0.4**
KUR04				S	**Sb**		**07 41 35.0**	**-1.3**
KURK	**Kurchatov**	**0.66**	**356**	⇓P	**Pg**		**07 41 27.0**	**+0.1**
	13nm,0.3s							
KURK				⇑S	**Sb**		**07 41 37.7**	**+0.1**
	17nm,0.7s							
MK31	**Makanchi Array**	**4.05**	**142**	⇑Pn	**Pn**		**07 42 17.9**	**+1.1**
	0.3nm,0.2s,baz=15,slow=3.6,SNR=99							
MK31				⇓Pg	**Pb**		**07 42 25.1**	**-0.9**
	1.8nm,0.3s,baz=327,slow=13,SNR=28							
MK31				⇑Sn	**Sn**		**07 43 03.5**	**-1.0**
	1.5nm,0.3s,baz=352,slow=27,SNR=4.0							
MK31				⇑Lg	Lg		07 43 18.1	
	6.2nm,0.3s,baz=339,slow=27,SNR=15							
MKAR	**Makanchi Array**	**4.05**	**142**	Pn	**Pn**		**07 42 17.9**	**+1.1**
	1.2nm,0.3s,baz=327,slow=11,SNR=98							
MKAR				Pg	**Pb**		**07 42 26.2**	**+0.2**
	2.5nm,0.3s,baz=313,slow=17,SNR=32							
MKAR				Sn	**Sn**		**07 43 08.2**	**+3.6**
	1.9nm,0.3s,baz=347,slow=27,SNR=6.0							
MKAR				Lg	Lg		07 43 18.8	
	3.0nm,0.3s,baz=337,slow=27,SNR=5.4							
OTUK	**Ortayu**	**4.55**	**249**	⇓Pn	**Pn**		**07 42 24.6**	**+0.9**
	1.9nm,0.2s							
OTUK				⇓Pg	**Pb**		**07 42 36.8**	**+2.3**
OTUK				⇑Sn	**Sn**		**07 43 16.9**	**+0.2**
	1.9nm,0.4s							
OTUK				⇑Lg	Lg		07 43 36.4	
	7.6nm,0.5s							
I46RU	**ZALESOVO INFRA**	**5.43**	**42**	*i*			08 12 50.0	
	baz=226,slow=328,SNR=0.6							
ZALV	**Zalesovo Beam**	**5.43**	**42**	Pn	Pn		07 42 38.5	+2.8
	2.6nm,0.3s,baz=229,slow=15,SNR=33							
ZALV				Lg	Lg		07 44 03.0	
	0.5nm,0.3s,baz=244,slow=19,SNR=3.4							
BVA0	**Borovoye Array**	**5.97**	**303**	⇑Pn	**Pn**		**07 42 42.4**	**-0.7**
	12nm,1.4s,baz=106,slow=15,SNR=9.8							
BVA0				⇑Sn	**Sn**		**07 43 52.8**	**+1.0**
	4.1nm,1.0s,baz=119,slow=22,SNR=4.3							
BVA0				⇑Lg	Lg		07 44 22.9	
	4.2nm,0.9s,baz=128,slow=29,SNR=3.7							
BVAR	**Borovoye Array**	**5.97**	**303**	Pn	**Pn**		**07 42 45.4**	**+2.3**
	0.6nm,0.3s,baz=86,slow=12,SNR=9.7							
BVAR				Sn	**Sn**		**07 43 53.8**	**+2.0**
	1.0nm,0.3s,baz=112,slow=22,SNR=2.2							
BVAR				Lg	Lg		07 44 24.8	
	0.5nm,0.3s,baz=115,slow=27,SNR=3.3							
BRVK	**Borovoye**	**6.04**	**303**	⇑Pn	**Pn**		**07 42 42.6**	**-1.5**
	8.0nm,1.1s							
BRVK				⇑Sn	**Sn**		**07 43 55.7**	**+2.1**
	7.5nm,0.7s							
BRVK				⇑Lg	Lg		07 44 25.4	
	7.6nm,1.2s							
TKM2	**Tokmak 2**	**7.45**	**198**	⇑Pn	**Pn**		**07 43 00.9**	**-2.8**
	5.8nm,1.4s							
TKM2				⇓Lg	Lg		07 45 04.7	
	3.5nm,0.5s							
AAK	**Ala-Archa**	**7.97**	**203**	Pn	**Pn**		**07 43 12.1**	**+1.3**
	0.9nm,0.3s,baz=217,slow=20,SNR=8.5							
KK31	**Karatay Array**	**8.95**	**222**	⇑Pn	**Pn**		**07 43 21.6**	**-2.4**
	0.4nm,0.3s,baz=36,slow=12,SNR=6.5							
KK31				⇑Sn	**Sn**		**07 45 01.6**	**-3.4**
	0.3nm,0.3s							
KK31				⇓Lg	Lg		07 45 54.4	
	2.2nm,0.7s,baz=35,slow=24,SNR=3.8							
AB31	**Akbulak array**	**12.18**	**273**	⇑Pn	**Pn**		**07 44 05.8**	**-2.4**
	0.1nm,0.3s,baz=80,slow=9.8,SNR=7.7							
AKTO	**Aktyubinsk**	**13.23**	**280**	⇑Pn	Pn		07 44 18.3	-4.3
	0.9nm,0.9s							
ARCES	**ARCESS Array B**	**31.62**	**328**	P	**P**		**07 47 37.8**	**+0.3**
	4.6nm,1.1s,baz=89,slow=8.2,SNR=4.3							
NOA	**NORSAR Array B**	**37.99**	**313**	P	**P**		**07 48 32.9**	**+0.3**
	1.5nm,1.1s,baz=78,slow=7.1,SNR=2.9							

*NEIC **17** 07:45:24.1, 32.01N×115.03W, h10km, ML3.3(PAS), After PAS.*
*MEX **17** 07:45:25.7±0.8, 32.06N×114.96W, h10km, MD3.9*
ISC 17 07:45:23.1±1.3, 32.01N±0.04×115.02W±0.03, h10km±11km, n22, σ1s56/29, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.42**	**340**	*i* P	**Pg**		**07 45 32.4**	**+0.9**
MBIG				*i* S	**Sb**		**07 45 39.6**	**+0.5**
CPBX	**Cerro Prieto**	**0.47**	**330**	*e*P	**Pg**		**07 45 33.1**	**+0.8**
SPIG	**San Pedro Mart**	**1.03**	**202**	*e*P	**Pg**		**07 45 43.4**	**+0.4**
SPIG				*i* S	**Sn**		**07 45 58.4**	**-0.2**
GLA	**Glamis**	**1.05**	**9**	*e*Pg	**Pb**		**07 45 41.8**	**-1.7**
GLA				*e*Sg	**Sb**		**07 45 56.5**	**-0.9**
CBX	**Cerro Bola**	**1.42**	**283**	*e*P	**Pn**		**07 45 48.1**	**-1.0**
CBX				*i* S	**Sn**		**07 46 06.0**	**-2.0**
CBX	**Cerro Bola**	**1.42**	**283**	*e*P	Pn		07 45 44.4	-4.7
BAR	**Barrett**	**1.55**	**296**	*e*Pn	**Pn**		**07 45 51.4**	**+0.6**
BAR				*e*Sg	**Sn**		**07 46 10.2**	**-0.7**
214A	**Organ Pipe Nat**	**1.88**	**91**	*e*Pn	**Pn**		**07 45 55.0**	**-0.4**
PFO	**Pinyon Flats O**	**2.00**	**323**	*e*Pn	**Pn**		**07 45 55.0**	**-2.0**
LDFC	**Landfair**	**3.06**	**359**	*e*Pg	**Pg**		**07 46 23.9**	**+2.1**
MWC	**Mount Wilson**	**3.37**	**312**	*e*Pg	**Pb**		**07 46 23.1**	**+0.1**
MWC				*e*Sg	**Sb**		**07 47 07.6**	**+3.4**
GSC	**Goldstone, Bar**	**3.60**	**336**	*e*Pg	**Pg**		**07 46 33.4**	**+1.2**
TUC	**Tucson**	**3.61**	**84**	*e*Pn	**Pn**		**07 46 21.4**	**+2.2**
TUC				*e*Pg	**Pg**		**07 46 32.6**	**+0.3**
TUC				*e*Sg	**Sg**		**07 47 17.4**	**-1.6**
SHPR	**Sheep Range**	**4.49**	**359**	*e*Pn	**Pn**		**07 46 31.8**	**+0.5**
SHPR				*e*Sg	**Sg**		**07 47 44.8**	**-2.4**
WUAZ	**Wupatki**	**4.63**	**40**	*e*Pn	**Pn**		**07 46 34.6**	**+1.3**
ISA	**Isabella, Lake**	**4.64**	**323**	*e*Pg	**Pg**		**07 46 54.5**	**+2.5**
TPNV	**Topopah Spring**	**5.03**	**349**	*e*Pg	**Pg**		**07 46 59.4**	**-0.1**
	2.7nm,0.6s							
W18A	**Petrified Fore**	**5.39**	**53**	*e*Pn	**Pn**		**07 46 45.5**	**+1.7**
	8.4nm,0.5s							
CCUT	**Cedar City**	**5.70**	**13**	*e*Pn	**Pn**		**07 46 49.3**	**+1.3**
	3.3nm,0.7s							
CCUT				*e*Pg	**Pg**		**07 47 12.6**	**+0.4**
121A	**Cookes Peak, D**	**6.15**	**83**	*e*Pn	**Pn**		**07 46 55.0**	**+0.8**
	5.0nm,0.3s							
R11A	**Troy Canyon, C**	**6.34**	**356**	*e*Pg	Pg		07 47 27.9	+3.3
MVU	**Marysvale**	**6.88**	**19**	*e*Pg	Pg		07 47 31.0	-3.8

IDC 17 08:10:04.7±1.3, 3.81N×126.68E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/36, mbtmp3.4/5, Error ellipse: s-maj=126.3km s-min=20.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.78**	**163**	P	P		08 15 27.2	-1.2
	1.0nm,0.5s,baz=344,slow=10.0,SNR=14							
ASAR	**Alice Springs**	**28.21**	**166**	P	P		08 16 01.0	+1.6
	0.1nm,0.5s,baz=336,slow=11,SNR=4.3							
SONM	**Songino Array**	**47.20**	**341**	P	P		08 18 40.0	+0.7
	0.2nm,0.6s,baz=147,slow=8.1,SNR=2.5							
MKAR	**Makanchi Array**	**57.46**	**325**	P	P		08 19 55.7	+0.2
	0.2nm,0.4s,baz=117,slow=7.2,SNR=4.7							
KURBB	**Kurchatov Arra**	**61.64**	**327**	P	P		08 20 23.2	-1.0
	0.4nm,0.6s,baz=129,slow=6.3,SNR=6.7							

*ISCJB **17** 08:12:17.5±0.4, 32.31N±0.02×115.27W±0.02, h9km±3km, Error ellipse: s-maj=3.3km s-min=3.0km az=17.5*
*NEIC **17** 08:12:17.5, 32.20N×115.32W, h1km, ML3.0(PAS), After PAS.*
*MEX **17** 08:12:18.7±0.9, 32.37N×115.10W, h11km±6km, MD3.6*
*ECX **17** 08:12:19.8±0.5, 32.30N×115.32W, h4km, MD2.9, ML3.1*
ISC 17 08:12:17.8±0.9, 32.27N±0.02×115.29W±0.02, h9km±8km, n44, σ0s90/65, 14C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**355**	⇑*e*P	**Pg**		**08 12 22.0**	**+1.0**
CPBX				AML	AML		08 12 31.5	
	comp=E,20μm,0.3s							
CPBX				⇓*e*			08 12 31.5	
CPBX				AML	AML		08 12 32.2	
	comp=N,22μm,0.8s							
CPBX				⇑*e*			08 12 32.2	
CPBX	**Cerro Prieto**	**0.15**	**355**	*e*P	**Pg**		**08 12 21.8**	**+0.9**
MBIG	**Mexicali**	**0.15**	**29**	*e*P	**Pg**		**08 12 19**	**-1.2**
MBIG				*i* S	**Sg**		**08 12 23.0**	**-0.4**
EMX	**El Mayor**	**0.29**	**172**	⇓*i*P	**Pb**		**08 12 24.5**	**-0.6**
EMX				*e*S	**Sb**		**08 12 29.2**	**-0.8**
SGL	**Mount Signal**	**0.53**	**316**	⇓*i*P	**Pg**		**08 12 28.4**	**+0.4**
COA	**Coachella**	**0.61**	**13**	⇑*i*P	**Pb**		**08 12 30.3**	**-0.3**
RDX	**Rancho Dawling**	**0.65**	**238**	⇑*e*P	**Pb**		**08 12 31.3**	**-0.2**
RDX				*e*S	**Sg**		**08 12 40.2**	**+1.2**
RDX				⇑*e*			08 12 41.8	
RDX				AML	AML		08 12 41.8	
	comp=N,799nm,0.5s							
YUH	**Yuha Desert**	**0.65**	**305**	⇑*i*P	**Pg**		**08 12 30.4**	**0.0**
COK	**Cook Ranch**	**0.68**	**327**	⇑*i*P	**Pg**		**08 12 31.2**	**+0.3**
YMD	**Yuma Desert**	**0.69**	**66**	⇑*i*P	**Pb**		**08 12 31.8**	**-0.2**
RMX	**La Rumorosa**	**0.74**	**296**	*e*P	**Pg**		**08 12 32.0**	**-0.1**
RMX				*e*S	**Sg**		**08 12 41.5**	**-0.4**
RMX				AML	AML		08 12 41.9	
	comp=N,927nm,0.1s							
RMX				⇑*e*			08 12 41.9	
SWSC	**Sam W. Stewart**	**0.79**	**327**	⇓P	**Pg**		**08 12 32.4**	**-0.6**
	baz=0.9,SNR=7.6							
SWSC				S	**Sg**		**08 12 43.2**	**-0.2**
	baz=0.9							
ECBX	**El Chinero**	**0.82**	**166**	*e*P	**Pg**		**08 12 34.0**	**+0.4**
ECBX				*e*S	**Sb**		**08 12 45.8**	**+0.4**
GLA	**Glamis**	**0.87**	**26**	⇓P	**Pg**		**08 12 34.0**	**-0.5**
	baz=0.9							
GLA				S	**Sg**		**08 12 45.3**	**-0.6**
	baz=0.9							
GLA	**Glamis**	**0.87**	**26**	*e*Pg	**Pg**		**08 12 34.0**	**-0.5**
GLA				*e*Sg	**Sg**		**08 12 45.8**	**-0.1**
ZAX	**El Zacaton**	**1.13**	**228**	*e*P	**Pg**		**08 12 39.6**	**+0.1**
ZAX				*e*S	**Sn**		**08 12 55.3**	**-0.3**
MONP	**Monument Peak,**	**1.14**	**303**	⇑P	**Pb**		**08 12 39.2**	**-0.5**
	baz=1.2,SNR=7.1							
MONP				S	**Sg**		**08 12 53.1**	**-1.3**
	baz=1.2							
CBX	**Cerro Bola**	**1.17**	**272**	*i* P	**Pb**		**08 12 39.6**	**-0.6**
CBX				*i* S	**Sg**		**08 12 55.4**	**+0.1**
CBX	**Cerro Bola**	**1.17**	**272**	*e*P	**Pb**		**08 12 39.7**	**-0.5**
CBX				*e*S	**Sg**		**08 12 55.1**	**-0.2**
CBX				AML	AML		08 13 00.1	
	comp=E,411nm,0.8s							
CBX				⇑*e*			08 13 00.1	
CBX	**Cerro Bola**	**1.17**	**272**	*i* P	**Pb**		**08 12 39.6**	**-0.6**
CBX				*e*S	**Sg**		**08 12 54.7**	**-0.6**
SPIG	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**		**08 12 41.2**	**-0.3**
SPIG				*i* S	**Sb**		**08 12 56.7**	**-0.9**
SPIG	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**		**08 12 41.2**	**-0.3**
SPX	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**		**08 12 41.2**	**-0.3**
BAR	**Barrett**	**1.24**	**290**	*e*P	**Pn**		**08 12 40.7**	**-0.6**
BAR	**Barrett**	**1.24**	**290**	*e*Pn	**Pn**		**08 12 40.6**	**-0.6**
BAR				*e*Sg	**Sb**		**08 12 56.2**	**-1.2**
ECNX	**Esteban Cantu**	**1.27**	**241**	*e*P	**Pn**		**08 12 41.8**	**-0.1**
ECNX				*e*S	**Sg**		**08 12 59.0**	**+0.3**
PBX	**Punta Banda**	**1.33**	**247**	*e*P	**Pn**		**08 12 42.7**	**+0.1**
PBX				*e*S	**Sb**		**08 13 00.3**	**+0.2**
113A	**Mohawk Valley,**	**1.38**	**69**	Pb	**Pn**		**08 12 42.1**	**-1.1**
	baz=1.4,SNR=13							
BC3	**Big Chuckawall**	**1.39**	**354**	⇑P	**Pn**		**08 12 41.4**	**-2.0**
	baz=1.5							
109C	**Camp Elliot, M**	**1.65**	**292**	Pb	**Pn**		**08 12 47.6**	**+0.6**
	baz=1.7							
109C				S	**Sn**		**08 13 08.3**	**-0.1**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.66**	**324**	⇑P	**Pn**		**08 12 45.1**	**-2.1**
	baz=1.7,SNR=6.9							
PFO	**Pinyon Flats O**	**1.66**	**324**	*e*Pn	**Pn**		**08 12 45.4**	**-1.8**
MURC	**Murrieta**	**2.08**	**310**	Sb	**Sb**		**08 13 21.6**	**-0.2**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.12**	**98**	P	**Pn**		**08 12 52.3**	**-1.2**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.12**	**98**	*e*Pn	**Pn**		**08 12 52.4**	**-1.2**
BFSC	**Mount Baldy Ra**	**2.79**	**315**	Sb	**Sb**

0.4nm,0.6s,baz=127,slow=6.2,SNR=7.7

IDC 17 08:26:57.8±5.0, 6°87'S×133°21'E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/23, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=305.5km s-min=32.7km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.04**	**175**	Pn	Pn	08 30 05.0	+0.5
	0.1nm,0.3s,baz=356,slow=13,SNR=12						
WRA				Sn	Sn	08 32 23.4	-7.1
	0.2nm,0.3s,baz=2.8,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**16.71**	**178**	Pn	Pn	08 30 53.0	-0.6
	0.1nm,0.3s,baz=356,slow=12,SNR=4.8						
ASAR				Sn	Sn	08 33 51.6	-8.4
	0.1nm,0.3s,baz=357,slow=27,SNR=2.0						
MKAR	**Makanchi Array**	**69.90**	**325**	P	P	08 38 10.7	0.0
	0.2nm,0.4s,baz=111,slow=7.8,SNR=7.3						

GUC 17 08:45:33.4±0.4, 34°84'S×72°79'W, h19km±2km, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.10**	**121**	*e*P	Pn	08 45 52.3	-1.5
TALC				*e*S	Sb	08 46 06.2	-1.6
NICH	**Los Niches**	**1.29**	**97**	*e*P	Pn	08 45 55.4	-1.1
NICH				*e*S	Sn	08 46 11.8	-1.6
LNCH	**Linares**	**1.40**	**136**	⇓*e*P	Pn	08 45 56.5	-1.4
LNCH				*e*S	Sn	08 46 14.6	-1.3
LNV	**Longovilo**	**1.45**	**53**	*e*P	Pn	08 45 57.5	-1.1
CACH	**El Canelo**	**1.95**	**69**	*e*P	Pn	08 46 06.1	+0.4
CHCH	**Chadas Angostu**	**1.99**	**63**	*e*P	Pn	08 46 06.3	+0.1
CLCH	**Cerro Calan**	**2.36**	**53**	*e*P	Pn	08 46 12.1	+0.7
CLCH				*e*S	Sn	08 46 41.2	+1.2
CLCH				AML	AML	08 46 49.9	
	comp=N,338nm,0.5s						
PEL	**Peldehue**	**2.44**	**47**	*e*P	Pn	08 46 12.7	+0.4
PEL				*e*S	Sn	08 46 42.9	+1.2
PEL				AML	AML	08 46 53.6	
	comp=E,306nm,0.6s						

IDC 17 08:58:42.0±0.9, 33°27S×72°38W, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, ML4.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.6/19, Error ellipse: s-maj=27.8km s-min=18.2km az=118.0
ISCJB 17 08:58:42.5±1.5, 33°26S±0°04×72°53W±0°06, h19km±11km, mb4.0/7, MS3.2/1, Error ellipse: s-maj=8.8km s-min=7.0km az=177.5
NEIC 17 08:58:43.9±3.7, 33°26S×72°40W, h13km±22km, mb4.3/4, Error ellipse: s-maj=17.0km s-min=7.3km az=89.0
GUC 17 08:58:43.5±0.6, 33°39S×72°40W, h6km±8km, ML4.0
ISC 17 08:58:42.9±2.8, 33°25S±0°05×72°44W±0°06, h9km±17km, n31, σ0°81/37, mb4.3/7, 3C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.71**	**72**	⇑*i*P	Pb	**08 58 57.8**	**+0.3**
IHA				*i* S	Sb	**08 59 08.5**	**+1.1**
PEL	**Peldehue**	**1.48**	**86**	⇓*i*P	Pn	**08 59 09.8**	**0.0**
PEL				*i* S	Sb	**08 59 29.8**	**+0.2**
PEL				AML	AML	08 59 42.9	
	comp=E,5μm,0.5s						
CLCH	**Cerro Calan**	**1.60**	**96**	⇑*i*P	Pn	**08 59 11.4**	**-0.2**
CLCH				*e*S	Sn	**08 59 32.1**	**-0.3**
CLCH				AML	AML	08 59 45.3	
	comp=E,4μm,0.4s						
CLCH				AML	AML	08 59 46.0	
	comp=E,5μm,0.6s						
LACH	**Col Las Americ**	**1.61**	**98**	*e*P	Pn	**08 59 11.4**	**-0.3**
LACH				AML	AML	08 59 46.7	
	comp=N,1μm,0.7s						
SJCH	**San Jose de Ma**	**1.79**	**103**	⇓*i*P	Pn	**08 59 13.7**	**-0.5**
SJCH				*i* S	Sn	**08 59 36.7**	**-0.4**
YECH	**El Yeso**	**2.02**	**103**	⇓*i*P	Pb	**08 59 20.4**	**+0.4**
YECH				*i* S	Sg	**08 59 46.9**	**-1.0**
YECH				AML	AML	09 00 04.0	
	comp=N,2μm,0.6s						
NICH	**Los Niches**	**2.02**	**150**	*e*P	Pn	**08 59 15.9**	**-1.3**
TALC	**Talca**	**2.25**	**163**	⇓*i*P	Pn	**08 59 20.0**	**-0.4**
TALC				*i* S	Sn	**08 59 47.2**	**-1.0**
LNCH	**Linares**	**2.69**	**165**	⇑*i*P	Pn	**08 59 26.2**	**-0.2**
CFAA	**Coronel Fontan**	**3.92**	**66**	Pn	Pn	**08 59 44.3**	**+0.9**
	comp=N,0.3nm,0.3s,baz=235,slow=12,SNR=49						
CFAA				Lg	Lg	09 00 46.8	
	comp=N,0.6nm,0.3s,baz=314,slow=14,SNR=1.7						
CFAA				LR	LR	09 01 10.9	
	comp=N,16nm,21.6s,baz=14,slow=38						
LCO	**Las Campanas**	**4.48**	**20**	*e*Pn	Pn	**08 59 50.9**	**-0.5**
LCO				*e*Sn	Sn	**09 00 41.0**	**-2.8**
PLCA	**Paso Flores**	**7.62**	**169**	Pn	Pn	**09 00 34.2**	**-0.1**
	comp=N,0.7nm,0.3s,baz=336,slow=11,SNR=15						
PLCA	**Paso Flores**	**7.62**	**169**	*e*Pn	Pn	**09 00 34.0**	**-0.3**
	comp=N,7.6nm,0.8s						
TRQA	**Tornquist**	**9.77**	**122**	*e*Pn	Pn	**09 01 03.9**	**+0.1**
	comp=N,9.1nm,0.8s						
LPAZ	**La Paz**	**17.33**	**14**	Pn	Pn	**09 02 46.1**	**+0.3**
	comp=N,0.1nm,0.3s,baz=194,slow=7.0,SNR=9.9						
LPAZ	**La Paz**	**17.33**	**14**	*e*P	Pn	**09 02 46.0**	**+0.2**
	comp=N,4.9nm,0.8s						
SIV	**San Ignacio**	**20.02**	**34**	P	P	**09 03 16.2**	**0.0**
	comp=N,3.0nm,1.0s,baz=241,slow=13,SNR=6.6						
NNA	**Nana**	**21.54**	**348**	LR	LR	09 10 04.8	
	comp=N,114nm,20.9s,baz=24,slow=32						
SAML	**Samuel**	**25.65**	**22**	*e*P	P	**09 04 14.0**	**+0.9**
	comp=N,2.4nm,0.7s						
SNAA	**Sanae**	**52.41**	**158**	P	P	**09 07 55.8**	**+0.5**
	comp=N,0.8nm,0.7s,baz=280,slow=13,SNR=5.9						
QSPA	**South Pole Qui**	**56.99**	**180**	P	P	**09 08 29.3**	**+0.6**
	comp=N,1.6nm,0.7s,baz=173,slow=2.2,SNR=8.3						
QSPA	**South Pole Qui**	**56.99**	**180**	*e*P	P	**09 08 29.0**	**+0.3**
	comp=N,8.0nm,1.3s						
TXAR	**Lajitas Array**	**68.91**	**331**	P	P	**09 09 50.3**	**+1.9**
	comp=N,0.3nm,0.6s,baz=160,slow=8.6,SNR=2.9						
WVT	**Waverly**	**70.50**	**347**	*e*P	P	**09 09 57.7**	**-0.1**
	comp=N,3.5nm,0.8s						
DBIC	**Dimbokro**	**75.26**	**72**	P	P	**09 10 26.1**	**-0.5**
	comp=N,1.7nm,0.6s,baz=192,slow=9.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P	P	**09 11 15.0**	**-0.5**
	comp=N,2.0nm,0.9s,baz=286,slow=6.2,SNR=9.2						
BVAR	**Borovoye Array**	**146.96**	**42**	PKPbc	**PKPab**	**09 18 26.3**	**-0.6**
	comp=N,0.4nm,0.5s,baz=336,slow=3.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**152.55**	**42**	PKPbc	**PKPbc**	**09 18 38.9**	**-0.5**
	comp=N,0.2nm,0.3s,baz=325,slow=1.5,SNR=2.9						
KURK	**Kurchatov**	**152.55**	**42**	PKPbc	**PKPbc**	**09 18 38.9**	**-0.5**
ZALV	**Zalesovo Beam**	**153.76**	**31**	PKPbc	**PKPbc**	**09 18 41.8**	**-0.2**
	comp=N,0.6nm,0.6s,baz=318,slow=1.9,SNR=3.3						
MKAR	**Makanchi Array**	**156.51**	**47**	PKPab	**PKPab**	**09 19 06.7**	**-0.2**
	comp=N,0.4nm,0.8s,baz=309,slow=4.1,SNR=3.7						

ISCJB 17 09:06:55.7±0.4, 32°62N±0°03×115°65W±0°02, h15km±5km, Error ellipse: s-maj=5.6km s-min=3.3km az=15.4
NEIC 17 09:06:56.3, 32°54N×115°68W, h4km, ML3.3(PAS), After PAS.
ECX 17 09:06:57.3±0.6, 32°58N×115°69W, h3km, MD3.2, ML3.4
MEX 17 09:06:57.0±0.6, 32°66N×115°57W, h15km, MD3.7
ISC 17 09:06:55.4±1.2, 32°59N±0°03×115°66W±0°02, h16km±6km, n28, σ0°84/48, 4C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.08**	**318**	⇓*i*P	Pb	**09 06 58.7**	**+0.1**
YUH	**Yuha Desert**	**0.23**	**284**	⇓*i*P	Pb	**09 07 01.0**	**-0.2**
COK	**Cook Ranch**	**0.26**	**348**	⇓*i*P	Pb	**09 07 02.5**	**+0.7**
CPBX	**Cerro Prieto**	**0.35**	**120**	*e*P	Pb	**09 07 04.0**	**+0.7**
CPBX				*e*S	Sb	**09 07 09.5**	**+0.9**
CPBX				AML	AML	09 07 12.6	
	comp=N,16μm,0.3s						
CPBX				⇓*e*		09 07 12.6	
CPBX	**Cerro Prieto**	**0.35**	**120**	*e*P	Pb	**09 07 03.8**	**+0.5**
RMX	**La Rumorosa**	**0.35**	**272**	*e*P	Pb	**09 07 03.3**	**-0.2**
RMX				*e*S	Sb	**09 07 08.2**	**-0.6**
RMX				⇓*e*		09 07 08.5	
RMX				AML	AML	09 07 08.5	
	comp=N,6μm,0.1s						
CRR	**Carrizo Plain**	**0.39**	**319**	⇓*i*P	Pb	**09 07 04.3**	**+0.2**
MBIG	**Mexicali**	**0.43**	**115**	*e*P	Pb	**09 07 04.4**	**-0.3**
MBIG				*i* S	Sb	**09 07 09.2**	**-1.8**
COA	**Coachella**	**0.53**	**59**	⇑*i*P	Pb	**09 07 07.3**	**+0.9**
EMX	**El Mayor**	**0.70**	**149**	*e*P	Pb	**09 07 09.0**	**-0.3**
EMX				*e*S	Sb	**09 07 18.5**	**-0.1**
RDX	**Rancho Dawling**	**0.70**	**200**	*e*P	Pb	**09 07 09.1**	**-0.4**
RDX				*e*S	Sb	**09 07 18.1**	**-0.8**
RDX				AML	AML	09 07 19.1	
	comp=N,999nm,0.2s						
RDX				⇓*e*		09 07 19.1	
GLA	**Glamis**	**0.84**	**57**	*e*Pg	Pb	**09 07 11.8**	**+0.1**
GLA				*e*Sg	Sb	**09 07 23.1**	**+0.3**
BAR	**Barrett**	**0.86**	**276**	⇑*e*P	Pb	**09 07 12.3**	**+0.3**
BAR	**Barrett**	**0.86**	**276**	*e*Pg	Pb	**09 07 12.2**	**+0.3**
BAR				*e*Sg	Sb	**09 07 23.3**	**0.0**
CBX	**Cerro Bola**	**0.89**	**252**	*i* P	Pb	**09 07 12.8**	**+0.2**
CBX				*e*S	Sb	**09 07 24.2**	**-0.2**
CBX	**Cerro Bola**	**0.89**	**252**	⇑*e*P	Pb	**09 07 12.9**	**+0.3**
CBX				*e*S	Sb	**09 07 24.1**	**-0.2**
CBX				*e*S	Sn	**09 07 24.5**	**-1.7**
CBX				AML	AML	09 07 29.0	
	comp=N,948nm,0.4s						
CBX				⇑*e*		09 07 29.0	
CBX	**Cerro Bola**	**0.89**	**252**	*i* P	Pb	**09 07 12.9**	**+0.3**
CBX				*e*S	Sb	**09 07 24.2**	**-0.2**
ZAX	**El Zacaton**	**1.19**	**206**	*e*P	Pb	**09 07 18.1**	**+0.4**
ZAX				*e*S	Sb	**09 07 33.5**	**+0.5**
ZAX				AML	AML	09 07 36.6	
	comp=N,702nm,0.2s						
ZAX				*e*		09 07 36.6	
PFO	**Pinyon Flats O**	**1.21**	**327**	*e*Pn	Pn	**09 07 17.1**	**-0.8**
PFO				*e*Sn	Sb	**09 07 32.4**	**-1.3**
ECNX	**Esteban Cantu**	**1.22**	**221**	*e*P	Pb	**09 07 18.7**	**+0.4**
ECNX				*e*S	Sn	**09 07 34.4**	**+0.1**
ECBX	**El Chinero**	**1.23**	**155**	*e*P	Pn	**09 07 18.6**	**+0.6**
ECBX				*e*S	Sn	**09 07 35.0**	**+0.7**
PBX	**Punta Banda**	**1.24**	**227**	*e*P	Pn	**09 07 18.8**	**+0.6**
PBX				*e*S	Sn	**09 07 35.2**	**+0.7**
SPIG	**San Pedro Mart**	**1.55**	**174**	*e*P	Pn	**09 07 22.3**	**-0.4**
SPIG				*i* S	Sn	**09 07 41.2**	**-1.5**
SPIG	**San Pedro Mart**	**1.55**	**174**	*e*P	Pn	**09 07 23.0**	**+0.2**
SPIG				*e*S	Sb	**09 07 44.9**	**+1.4**
SPX	**San Pedro Mart**	**1.55**	**174**	*e*P	Pn	**09 07 23.0**	**+0.3**
SPX				*e*S	Sb	**09 07 44.9**	**+1.3**
214A	**Organ Pipe Nat**	**2.50**	**104**	*e*Pn	Pn	**09 07 33.9**	**-1.6**
MWC	**Mount Wilson**	**2.58**	**310**	*e*Pn	Pb	**09 07 41.9**	**+0.4**
MWC				*e*Sn	Sb	**09 08 15.4**	**+2.3**
GSC	**Goldstone, Bar**	**2.87**	**341**	Pn	Pb	**09 07 47.2**	**+1.0**

IDC 17 09:21:47.7±3.5, 5°28S×152°86E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/25, mbtmp3.3/2, Error ellipse: s-maj=154.5km s-min=45.9km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.18**	**229**	P	P	09 26 55.5	-0.7
	0.5nm,0.4s,baz=53,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**25.84**	**223**	P	P	09 27 21.5	+0.3
	0.2nm,0.4s,baz=59,slow=9.5,SNR=9.4						
TORD	**Torodi Ar. Bea**	**150.51**	**287**	PKPbc	PKPbc	09 41 42.4	-0.1
	0.3nm,0.4s,baz=97,slow=2.1,SNR=8.6						

IDC 17 09:25:31.6±3.4, 54°27N×87°18E, h0km, mb1 2.8/1, mb1mx2.7/29, mbtmp2.8/1, ML2.8/1, Error ellipse: s-maj=27.8km s-min=16.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**258**	*i*		09 34 16.7	
	baz=78,slow=330,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.43**	**258**	Pg	Pn	09 25 57.4	-1.4
	0.8nm,0.3s,baz=77,slow=15,SNR=15						
ZALV				Lg	Lg	09 26 17.5	
	1.3nm,0.3s,baz=71,slow=28,SNR=9.4						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	09 27 32.1	+1.6
	0.1nm,0.3s,baz=26,slow=14,SNR=4.6						
MKAR				Sn	Sn	09 29 01.3	-1.5
	0.1nm,0.3s,baz=23,slow=28,SNR=4.7						
MKAR				Lg	Lg	09 29 49.6	
	0.0nm,0.3s,baz=17,slow=26,SNR=3.9						

GUC 17 09:38:29.8±0.6, 34°05S×72°54W, h15km±12km, ML3.5, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.44**	**132**	⇑*i*P	Pn	09 38 53.2	-2.2
NICH				*i* S	Sn	09 39 10.8	-3.3
TALC	**Talca**	**1.54**	**151**	⇑*i*P	Pn	09 38 54.9	-1.8
TALC				*i* S	Sn	09 39 13.4	-3.1
CLCH	**Cerro Calan**	**1.79**	**69**	⇑*i*P	Pn	09 38 58.3	-1.9
CLCH				*i* S	Sn	09 39 20.8	-1.9
CLCH				AML	AML	09 39 31.9	
	comp=E,647nm,0.6s						
PEL	**Peldehue**	**1.79**	**60**	⇓*i*P	Pn	09 38 58.8	-1.4
PEL				AML	AML	09 39 31.0	
	comp=N,856nm,0.9s						
SJCH	**San Jose de Ma**	**1.86**	**78**	⇑*i*P	Pn	09 38 58.3	-3.0
SJCH				*i* S	Sn	09 39 21.5	-3.1
SJCH				AML	AML	09 39 28.6	
	comp=N,637nm,0.7s						
LNCH	**Linares**	**1.96**	**157**	*e*P	Pn	09 39 01.6	-0.9
LNCH				*i* S	Sn	09 39 25.1	-1.7

GUC 17 09:47:58.8±0.7, 38°08S×73°63W, h20km±11km, ML5.0
ISCJB 17 09:47:59.8±2.3, 37°97S±0°03×73°40W±0°08, h27km±16km, mb4.7/33, MS4.2/9, Error ellipse: s-maj=10.2km s-min=5.1km az=170.2
NEIC 17 09:48:01.2±0.2, 37°93S×73°39W, mb4.8/19, ML5.0(GUC), Error ellipse: s-maj=8.3km s-min=5.1km az=78.0
NEIC Felt [IV] at Canete; [III] at Carahue and Renaico; [II] at Santiago. Also felt at Angol, Graneros, Rancagua, Talagante and Temuco.
IDC 17 09:48:01.0±0.5, 37°93S×73°33W, h23km±2km, mb4.3/15, mb1 4.4/19, mb1mx4.3/36, mbtmp4.4/19, ML4.1/3, MS4.1/12, Ms1 4.1/12, ms1mx3.9/23, Error ellipse: s-maj=18.3km s-min=11.2km az=84.0
BJI 17 09:48:03.0, 37°90S×73°40W, h35km, mB5.0/2, Ms5.3/2, Ms7 5.0/2
ISC 17 09:48:01.1±0.5, 37°96S±0°03×73°35W±0°06, h23km±2km, h23km:pP-P, n161, σ0°98/182, mb4.6/33, MS4.1/9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.13**	**10**	⇑*i*P	Pb	**09 48 21.7**	**-0.2**
CCSP				*i* S	Sn	**09 48 38.5**	**+2.3**
CCSP				AML	AML	09 48 43.0	
	comp=E,47μm,0.4s						
VLCH	**Valdivia**	**1.85**	**178**	⇑*i*P	Pn	**09 48 29.2**	**-2.2**
VLCH				*i* S	Sn	**09 48 51.5**	**-2.5**
LNCH	**Linares**	**2.53**	**34**	*e*S	Sb	**09 49 17.2**	**+0.7**
TALC	**Talca**	**2.90**	**29**	*i* S	Sb	**09 49 26.4**	**-0.8**
PLCA	**Paso Flores**	**3.52**	**143**	Pn	Pn	**09 48 56.1**	**+1.7**
	comp=E,9.3nm,0.3s,baz=316,slow=9.1,SNR=33						
PLCA				Pg	Pb	**09 49 03.6**	**+0.9**
	comp=E,52nm,0.3s,baz=318,slow=16,SNR=37						
PLCA				Lg	Lg	09 49 47.5	
	comp=E,43nm,0.3s,baz=232,slow=19,SNR=4.2						
PLCA				LR	LR	09 50 38.6	
	comp=E,3μm,18.9s,baz=304,slow=45						
PLCA	**Paso Flores**	**3.52**	**143**	*e*Pn	Pn	**09 48 55.8**	**+1.3**
PLCA				Pg	Pb	**09 49 03.6**	**+0.9**
PLCA				*e*Sn	Sn	**09 49 36.7**	**+1.3**
PLCA				Lg	Lg	09 49 47.5	
CFAA	**Coronel Fontan**	**7.61**	**35**	Pn	Pn	**09 49 49.7**	**-0.8**
	comp=E,0.4nm,0.3s,baz=196,slow=11,SNR=22						
CFAA				Sn	Sn	**09 51 16.6**	**+0.6**
	comp=E,0.7nm,0.3s,baz=262,slow=21,SNR=2.5						
CFAA				Lg	Lg	09 51 56.4	
	comp=E,0.3nm,0.3s,baz=28,slow=22,SNR=1.1						
CFAA				LR	LR	09 53 36.1	
	comp=E,165nm,18.5s,baz=226,slow=44						
TRQA	**Tornquist**	**8.98**	**94**	*e*Pn	Pn	**09 50 12.1**	**+2.8**
LCO	**Las Campanas**	**9.19**	**15**	*e*Pn	Pn	**09 50 11.0**	**-1.6**
LVC	**Limon Verde**	**15.76**	**15**	Pn	Pn	**09 51 43.2**	**+1.3**
	comp=E,12nm,0.3s,baz=183,slow=2.7,SNR=8.1						
LVC				Lg	Lg	09 55 57.7	
	comp=E,18nm,0.3s,baz=314,slow=22,SNR=6.6						
LVC				LR	LR	09 57 37.6	
	comp=E,846nm,19.1s,baz=201,slow=37						
LVC	**Limon Verde**	**15.76**	**15**	*e*Pn	Pn	**09 51 42.0**	**+0.1**
	comp=E,178nm,2.6s						
LVC				Lg	Lg	09 55 57.7	
USHA	**Ushuaia**	**17.21**	**170**	P	Pn	**09 51 59.4**	**-0.3**
	comp=E,0.4nm,0.3s,baz=276,slow=7.8,SNR=4.7						
EFI	**East Falkland**	**17.43**	**147**	*e*Pn	P	**09 52 03.5**	**-0.1**
	comp=E,63nm,0.9s						
LPAZ	**La Paz**	**22.07**	**13**	P	P	**09 52 56.3**	**+1.2**
	comp=E,10.0nm,1.0s,baz=174,slow=8.1,SNR=13						
LPAZ				LR	LR	10 02 38.8	
	comp=E,229nm,20.9s,baz=164,slow=40						
LPAZ	**La Paz**	**22.07**	**13**	P	P	**09 52 56.3**	**+1.2**
	comp=E,8.4nm,0.8s						
SIV	**San Ignacio**	**24.42**	**30**	P	P	**09 53 17.6**	**-0.4**
	comp=E,11nm,0.9s,baz=220,slow=10,SNR=23						
SIV				LR	LR	10 04 40.2	
	comp=E,627nm,19.2s,baz=208,slow=41						
SAML	**Samuel**	**30.30**	**20**	*e*P	P	**09 54 10.2**	**-0.6**
	comp=E,8.9nm,1.3s						
BDFB	**Brasilia**	**31.52**	**52**	P	P	**09 54 20.6**	**-1.1**
	comp=E,4.9nm,0.8s,baz=211,slow=9.6,SNR=6.9						
BDFB				pP	**pP**	**09 54 27.2**	**-1.4**
	comp=E,14nm,0.8s,baz=217,slow=9.3,SNR=10						
BDFB				LR	LR	10 08 39.4	
	comp=E,837nm,18.5s,baz=218,slow=39						
OTAV	**Otavalo**	**38.30**	**352**	*e*P	P	**09 55 21.7**	**+1.3**
	comp=E,11nm,1.3s						
PTGA	**Pitinga**	**39.04**	**22**	P	P	**09 55 25.5**	**-0.6**
	comp=E,2.9nm,0.5s						
VNA3	**Neumayer Olymp**	**46.14**	**156**	P	P	**09 56 23.5**	**+0.3**
SDV	**Santo Domingo**	**46.67**	**4**	*e*P	P	**09 56 27.6**	**-0.6**
	comp=E,5.8nm,0.9s						
RCBR	**Riachuelo**	**46.68**	**56**	LR	LR	10 17 44.5	
	comp=E,1μm,18.1s,baz=198,slow=38						
RCBR	**Riachuelo**	**46.68**	**56**	*e*P	P	**09 56 28.7**	**+0.5**
	comp=E,21nm,1.1s						
VNA2	**Neumayer--Watz**	**46.82**	**156**	P	P	**09 56 29.0**	**+0.5**
	baz=284,slow=8.7						
SNAA	**Sanae**	**48.36**	**156**	P	P	**09 56 40.5**	**0.0**
	comp=E,5.0nm,0.9s,baz=268,slow=7.1,SNR=12						
SNAA				pP	**pP**	**09 56 47.7**	**-0.1**
	comp=E,4.4nm,0.9s,baz=284,slow=8.1,SNR=6.9						
QSPA	**South Pole Qui**	**52.28**	**180**	P	P	**09 57 10.4**	**-0.1**
	comp=E,6.1nm,0.9s,baz=166,slow=2.3,SNR=12						
QSPA	**South Pole Qui**	**52.28**	**180**	*e*P	P	**09 57 10.6**	**+0.1**
RKT	**Rikitea**	**54.20**	**267**	*e*S	S	**10 05 05.3**	**+4.5**
	comp=E,225nm,31.2s						
RKT				*e*LR	LR	10 13 16.0	
	comp=E,528nm,24.8s						
RKT	**Rikitea**	**54.20**	**267**	*e*T	T	10 55 15.6	
	comp=E,1.0nm,0.3s						
APG	**El Apazote**	**55.08**	**340**	LR	LR	10 16 27.5	
	comp=E,112nm,18.2s,slow=31						
CMIG	**Matias Romero**	**58.38**	**336**	LR	LR	10 17 38.7	
	comp=E,87nm,19.5s,baz=128,slow=30						
VNDA	**Vanda**	**60.02**	**192**	P	P	**09 58 06.2**	**+0.9**
	comp=E,1.8nm,1.0s,baz=199,slow=4.6,SNR=4.4						
TBI	**Tubuai**	**65.43**	**259**	*e*S	S	**10 07 26.4**	**+0.9**
	comp=E,205nm,27.0s						
TBI	**Tubuai**	**65.43**	**259**	*e*LR	LR	10 18 30.3	
	comp=E,392nm,25.2s						
MEH	**Mehetia**	**67.34**	**265**	*e*T	T	11 11 47.5	
	comp=E,12nm,0.2s						
TVO	**Taravao**	**68.32**	**264**	*e*T	T	11 13 03.2	
	comp=E,0.7nm,0.2s						
PAE	**Paea**	**68.65**	**264**	*e*T	T	11 13 27.6	
	comp=E,0.8nm,0.3s						
PPT2	**Papeete2**	**68.69**	**264**	*e*S	S	**10 08 07.2**	**+2.2**
	comp=E,113nm,24.2s						
PPT2	**Papeete2**	**68.69**	**264**	*e*LR	LR	10 19 58.0	
	comp=E,298nm,25.2s						
MAW	**Mawson**	**69.69**	**164**	P	P	**09 59 08.2**	**-0.2**
	comp=E,3.8nm,0.8s,baz=211,slow=9.7,SNR=5.0						
MAW				pP	**pP**	**09 59 16.8**	**+1.0**
	comp=E,3.9nm,0.8s,baz=206,slow=6.8,SNR=3.8						
834A	**Tilden**	**69.85**	**336**	P	P	**09 59 10.9**	**+1.1**
	baz=70						
732A	**Laxson Ranch,**	**70.87**	**335**	P	P	**09 59 15.9**	**-0.1**
	baz=71						
534A	**Blanco**	**71.60**	**337**	P	P	**09 59 20.1**	**-0.3**
	baz=72						
533A	**Kerrville**	**71.81**	**337**	P	P	**09 59 21.3**	**-0.5**
	baz=72						
532A	**Rocksprings**	**72.14**	**336**	P	P	**09 59 23.7**	**0.0**
	baz=72						
434A	**Burnet**	**72.27**	**338**	P	P	**09 59 24.1**	**-0.3**
	baz=73						
531A	**Rocksprings**	**72.38**	**335**	P	P	**09 59 25.8**	**+0.7**
	baz=73						
JCT	**Junction City**	**72.43**	**336**	P	P	**09 59 25.6**	**+0.2**
	baz=73						
JCT	**Junction City**	**72.43**	**336**	*e*P	P	**09 59 25.3**	**-0.2**
	comp=E,28nm,1.5s						
433A	**Art**	**72.47**	**337**	P	P	**09 59 25.3**	**-0.3**
	baz=73						
530A	**J-C Ranch, Com**	**72.63**	**335**	P	P	**09 59 27.2**	**+0.5**
	baz=73						
237A	**Washetta, Mont**	**72.69**	**340**	P	P	**09 59 26.9**	**+0.1**
	baz=73						
TXAR	**Lajitas Array**	**72.71**	**333**	P	P	**09 59 27.1**	**-0.1**
	comp=E,0.6nm,0.7s,baz=150,slow=10,SNR=6.4						
TXAR				pP	**pP**	**09 59 34.8**	**+0.1**
	comp=E,2.5nm,0.9s,baz=140,slow=6.5,SNR=10						
TXAR				LR	LR	10 26 20.8	
	comp=E,161nm,19.4s,baz=0.0,slow=32						
334A

Y32A	**R-V Farms, Ver**	**75.59**	**338**	P		**P**	**09 59 44.0**	**+0.2**
	baz=76							
Z29A	**Hungry Hill Ra**	**75.61**	**336**	P		**P**	**09 59 43.5**	**-0.5**
	baz=76							
X34A	**Smith Ranch, M**	**75.69**	**339**	P		**P**	**09 59 44.6**	**+0.2**
	baz=76							
W34A	**Bridge Creek,**	**76.27**	**340**	P		**P**	**09 59 47.2**	**-0.5**
	baz=77							
W33A	**Caddo, Fort Co**	**76.38**	**339**	P		**P**	**09 59 48.5**	**+0.2**
	baz=77							
Y28A	**McKinney Farm,**	**76.38**	**336**	P		**P**	**09 59 48.5**	**+0.1**
	baz=77							
W32A	**Sentinel**	**76.58**	**338**	P		**P**	**09 59 49.3**	**-0.1**
	baz=77							
V34A	**Guthrie**	**76.76**	**340**	P		**P**	**09 59 50.2**	**-0.3**
	baz=77							
V34A	**Guthrie**	**76.76**	**340**	*e*P		**P**	**09 59 50.1**	**-0.3**
V33A	**Lossen Ranch,**	**76.96**	**339**	P		**P**	**09 59 51.6**	**0.0**
	baz=77							
LIC	**Lamto**	**77.04**	**71**	*e*P		**P**	**09 59 52.7**	**+0.2**
	comp=E,82nm,0.9s							
AMTX	**Amarillo**	**77.10**	**336**	P		**P**	**09 59 52.5**	**+0.1**
	baz=77							
AMTX	**Amarillo**	**77.10**	**336**	*e*P		**P**	**09 59 52.6**	**+0.1**
	comp=E,28nm,1.4s							
TIC	**Toumodi**	**77.32**	**71**	*e*P		**P**	**09 59 54.1**	**0.0**
	comp=E,11nm,0.2s							
KIC	**Kosan Boka**	**77.34**	**72**	*e*P		**P**	**09 59 54.6**	**+0.4**
	comp=E,80nm,0.9s							
DBIC	**Dimbokro**	**77.46**	**71**	P		**P**	**09 59 55.3**	**+0.5**
	comp=E,31nm,0.8s,baz=208,slow=6.1,SNR=35							
DBIC				LR		LR	10 31 07.6	
	comp=E,96nm,18.9s,baz=200,slow=33							
DBIC	**Dimbokro**	**77.46**	**71**	*e*P		**P**	**09 59 55.1**	**+0.3**
	comp=E,30nm,0.8s							
T33A	**Patterson Ranc**	**78.13**	**340**	P		**P**	**09 59 58.2**	**+0.2**
	baz=78							
LAZ	**Ladron**	**78.54**	**332**	P		**P**	**10 00 01.9**	**+1.2**
	comp=E,4.4nm,1.3s							
214A	**Organ Pipe Nat**	**78.69**	**327**	P		**P**	**10 00 02.3**	**+1.1**
	baz=79							
214A	**Organ Pipe Nat**	**78.69**	**327**	*e*P		**P**	**10 00 02.2**	**+0.9**
	comp=E,12nm,1.2s							
ANMO	**Albuquerque**	**78.78**	**333**	*e*P		**P**	**10 00 02.0**	**+0.1**
	comp=E,7.3nm,1.1s							
TSUM	**Tsumeb**	**79.16**	**106**	P		**P**	**10 00 04.5**	**0.0**
	comp=E,4.1nm,1.0s,baz=236,slow=2.3,SNR=4.2							
T28A	**Walsh**	**79.29**	**337**	P		**P**	**10 00 04.5**	**-0.1**
	baz=80							
T25A	**Trinidad**	**80.05**	**335**	P		**P**	**10 00 09.6**	**+0.8**
	baz=80							
S26A	**Kim**	**80.18**	**336**	P		**P**	**10 00 10.0**	**+0.6**
	baz=80							
X16A	**Lo Mia Camp, P**	**80.23**	**329**	P		**P**	**10 00 10.8**	**+0.9**
	baz=80							
R28A	**Tribune**	**80.33**	**338**	P		**P**	**10 00 10.3**	**+0.2**
	baz=81							
Y14A	**Wickenburg**	**80.47**	**327**	P		**P**	**10 00 11.4**	**+0.5**
	baz=81							
S25A	**Robets Cordova**	**80.53**	**335**	P		**P**	**10 00 11.8**	**+0.5**
	baz=81							
P31A	**Stockton**	**80.72**	**340**	P		**P**	**10 00 12.4**	**+0.2**
	baz=81							
SDCO	**Great Sand Dun**	**80.96**	**335**	P		**P**	**10 00 13.9**	**+0.1**
	baz=81							
SDCO	**Great Sand Dun**	**80.96**	**335**	*e*P		**P**	**10 00 14.1**	**+0.3**
LBTB	**Lobatse**	**81.60**	**115**	P		**P**	**10 00 16.6**	**-0.9**
	comp=E,6.9nm,0.7s,baz=268,slow=6.5,SNR=14							
LBTB				pP		**pP**	**10 00 25.4**	**+0.4**
	comp=E,5.6nm,0.8s,baz=267,slow=4.9,SNR=5.6							
P22A	**Eagle**	**83.05**	**335**	P		**P**	**10 00 25.2**	**+0.6**
	baz=83							
L31A	**Butterfield Fa**	**83.07**	**341**	P		**P**	**10 00 24.8**	**+0.3**
	baz=83							
SHPR	**Sheep Range**	**83.58**	**327**	*e*P		**P**	**10 00 28.1**	**+0.7**
	comp=E,10.0nm,1.6s							
K30A	**Basset**	**83.74**	**341**	P		**P**	**10 00 28.2**	**+0.3**
	baz=84							
ECSD	**EROS Data Cent**	**84.00**	**343**	P		**P**	**10 00 28.8**	**-0.4**
	baz=84							
ECSD	**EROS Data Cent**	**84.00**	**343**	*e*P		**P**	**10 00 28.8**	**-0.4**
	comp=E,20nm,1.2s							
TPNV	**Topopah Spring**	**84.42**	**327**	P		**P**	**10 00 32.1**	**+0.5**
	baz=85							
I25A	**Rochford**	**86.11**	**339**	P		**P**	**10 00 38.7**	**-1.2**
	baz=86							
H27A	**Howes**	**86.21**	**340**	P		**P**	**10 00 39.7**	**-0.5**
	baz=86							
HWUT	**Hardware Ranch**	**86.53**	**332**	*e*P		**P**	**10 00 42.1**	**0.0**
	comp=E,18nm,1.5s							
TORD	**Torodi Ar. Bea**	**86.54**	**71**	P		**P**	**10 00 42.0**	**-0.5**
	comp=E,9.8nm,0.9s,baz=239,slow=4.1,SNR=40							
TORD				pP		**pP**	**10 00 50.3**	**+0.1**
	comp=E,2.3nm,0.7s,baz=203,slow=5.0,SNR=6.4							
TORD				PP		**PP**	**10 04 00.6**	**-4.1**
	comp=E,0.6nm,0.8s,baz=252,slow=6.8,SNR=2.7							
TORD				LR		LR	10 36 18.1	
	comp=E,59nm,20.5s,baz=245,slow=34							
NVAR	**Mina Array Bea**	**86.55**	**326**	P		**P**	**10 00 41.5**	**-0.8**
	comp=E,0.2nm,0.4s,baz=139,slow=5.6,SNR=3.2							
NVAR				pP		**pP**	**10 00 50.0**	**+0.1**
	comp=E,0.6nm,0.7s,baz=154,slow=5.5,SNR=3.9							
MSKU	**Masuku**	**86.59**	**89**	P		**P**	**10 00 43.4**	**+0.5**
	comp=E,12nm,0.7s,baz=267,slow=5.9,SNR=6.3							
PDAR	**Pinedale Array**	**86.83**	**334**	P		**P**	**10 00 43.0**	**-0.5**
	comp=E,0.6nm,0.9s,baz=147,slow=8.3,SNR=4.5							
PDAR				pP		**pP**	**10 00 49.8**	**-1.5**
	comp=E,1.3nm,1.0s,baz=150,slow=6.3,SNR=6.4							
G26A	**Maurine**	**86.97**	**340**	P		**P**	**10 00 43.6**	**-0.3**
	baz=87							
J19A	**Crowheart**	**87.10**	**335**	P		**P**	**10 00 44.4**	**-0.4**
	baz=87							
B30A	**Myrvik Farm, E**	**88.85**	**344**	P		**P**	**10 00 52.2**	**-0.6**
	baz=89							
A29A	**Manning Farm,**	**89.50**	**343**	P		**P**	**10 00 55.3**	**-0.5**
	baz=90							
LSZ	**Lusaka**	**89.55**	**109**	*e*P		**P**	**10 00 57.9**	**+0.7**
	comp=E,4.3nm,0.9s							
GERES	**GERESS Array B**	**115.66**	**47**	PKP		**PKPdf**	**10 06 40.2**	**-0.7**
	comp=E,1.3nm,0.8s,baz=164,slow=1.0,SNR=9.5							
GERES				pPKP		PKiKP	10 06 48.8	+7.8
	comp=E,0.4nm,0.4s,baz=240,slow=1.1,SNR=3.6							
BRTR	**Keskin Array B**	**124.61**	**64**	PKP		**PKPdf**	**10 06 57.4**	**-1.1**
	comp=E,2.0nm,0.7s,baz=191,slow=2.4,SNR=12							
AKASG	**Malin Array Be**	**125.60**	**50**	PKP		**PKPdf**	**10 06 58.1**	**-1.7**
	comp=E,0.4nm,0.4s,baz=260,slow=2.3,SNR=6.8							
AKASG				pPKP		**pPKPdf**	**10 07 06.9**	**-0.8**
	comp=E,0.2nm,0.3s,baz=257,slow=1.9,SNR=2.0							
GEYT	**Alibeck**	**142.08**	**75**	PKP		**PKPdf**	**10 07 30.5**	**-0.6**
	comp=E,3.1nm,0.7s,baz=224,slow=4.0,SNR=3.7							
ABKAR	**Akbulak array**	**144.87**	**56**	*e*PKPdf		**PKPab**	**10 07 34.5**	**-0.2**
KBL	**Kabul**	**149.62**	**85**	*e*PKPbc		**PKPbc**	**10 07 48.5**	**-0.4**
KKAR	**Karatay Array**	**152.20**	**68**	*e*PKPbc		**PKPbc**	**10 07 54.0**	**-0.5**
EKS2	**Erkin-Say**	**154.59**	**69**	*e*PKPdf		**PKPdf**	**10 07 51.7**	**+0.3**
EKS2				*e*PKPbc		**PKiKP**	**10 08 00.1**	**+0.3**
MAJO	**Matsushiro**	**154.90**	**277**	*e*PKPbc		**PKPbc**	**10 08 00.2**	**-0.3**
AAK	**Ala-Archa**	**155.12**	**69**	*e*PKPdf		**PKPdf**	**10 07 52.4**	**+0.2**
AAK				*e*PKPbc		PKPbc	10 08 01.5	
AAK				*e*PKPab		**PKPab**	**10 08 17.0**	**+0.1**
TKM2	**Tokmak 2**	**155.93**	**68**	*e*PKPdf		**PKPdf**	**10 07 53.0**	**-0.3**
KSH	**Kashi**	**156.07**	**77**	*e*PKP		PKPdf	10 07 58.8	+5.3
KSH				sPKP			10 08 13.1	
KSH				PKS		**PKSdf**	**10 11 30.8**	**+3.3**
KSH				PPMZ				
	comp=E,110nm,4.6s							
KSH				LN				
	comp=E,140nm,6.4s							
KSH				LE				
	comp=E,120nm,5.8s							
KSH				LZ				
	comp=E,130nm,6.6s							
KURK	**Kurchatov**	**156.40**	**48**	*e*PKPdf		**PKPdf**	**10 07 51.7**	**-1.6**
KURK				*e*PKPab		**PKPab**	**10 08 22.0**	**+0.1**
ZALV	**Zalesovo Beam**	**158.09**	**36**	PKP		**PKPdf**	**10 07 54.0**	**-1.4**
	comp=E,2.5nm,0.9s,baz=282,slow=2.9,SNR=10							
ZALV				pPKP		**pPKPdf**	**10 08 02.8**	**-0.4**
	comp=E,1.9nm,0.7s,baz=304,slow=2.7,SNR=5.2							
ZALV				PKPab		**PKPab**	**10 08 29.2**	**+0.1**
	comp=E,3.3nm,0.9s,baz=297,slow=6.5,SNR=6.4							
CMAR	**Chiang Mai Arr**	**159.44**	**159**	PKP		**PKPdf**	**10 07 57.9**	**-0.2**
	comp=E,0.4nm,0.5s,baz=247,slow=2.9,SNR=4.4							
CMAR				pPKP		**pPKPdf**	**10 08 06.3**	**+0.4**
	comp=E,0.5nm,0.5s,baz=234,slow=2.0,SNR=2.0							
MKAR	**Makanchi Array**	**160.02**	**56**	PKP		**PKPdf**	**10 07 57.3**	**-0.6**
	comp=E,2.3nm,1.0s,baz=304,slow=2.2,SNR=13							
MKAR				pPKP		**pPKPdf**	**10 08 05.5**	**-0.3**
	comp=E,1.7nm,1.0s,baz=299,slow=2.5,SNR=6.7							
MKAR				PKPab		**PKPab**	**10 08 37.0**	**-0.8**
	comp=E,2.0nm,0.7s,baz=289,slow=4.0,SNR=12							
WMQ	**Urumqi**	**164.53**	**62**	*e*PKP		**PKPdf**	**10 08 03.0**	**+0.4**
WMQ				pPKP		**pPKPdf**	**10 08 14.0**	**+3.5**
SONM	**Songino Array**	**170.13**	**1**	PKP		**PKPdf**	**10 08 05.3**	**-1.3**
	comp=E,0.2nm,0.3s,baz=149,slow=3.0,SNR=3.3							
SONM				pPKP		**pPKPdf**	**10 08 12.7**	**-1.8**
	comp=E,0.7nm,0.8s,baz=153,slow=1.7,SNR=4.0							
SONM				PKPab		**PKPab**	**10 09 21.9**	**-0.3**
	comp=E,0.3nm,0.6s,baz=349,slow=4.5,SNR=3.8							
ENH	**Enshi**	**171.98**	**198**	*e*PKPdf		**PKPdf**	**10 08 08.8**	**+0.8**
BJI	**Beijing**	**172.30**	**289**	PKP		**PKPdf**	**10 08 08.1**	**+0.4**
CD2	**Chengdu**	**172.57**	**160**	PKP		**PKPdf**	**10 08 08.0**	**-0.3**
GTA	**Gaotai**	**174.46**	**73**	*e*PKP		**PKPdf**	**10 08 08.8**	**0.0**
GTA				pPKP		**pPKPdf**	**10 08 19.3**	**+2.6**
GTA				sPKP			10 08 23.6	
HHC	**Hu-ho-hao-te**	**175.22**	**309**	*e*PKP		**PKPdf**	**10 08 06.8**	**-2.2**
HHC				PP		**PP**	**10 13 38.3**	**+0.4**
HHC				SS		SS	10 34 55.8	-5.4
HHC				PPMZ				
	comp=E,61nm,6.0s							
HHC				LN				
	comp=E,130nm,16.5s							
HHC				LE				
	comp=E,94nm,14.8s							
HHC				LZ				
	comp=E,120nm,14.8s							
LZH	**Lanzhou**	**177.08**	**129**	*e*PKP		**PKPdf**	**10 08 09.1**	**-0.5**
LZH				pPKP		**pPKPdf**	**10 08 19.0**	**+1.5**
LZH				sPKP			10 08 22.8	
LZH				PKPab		PKPab	10 09 54.3	+0.7

BJI ***17*** *10:02:20.8, 3.°32N× 126.°66E, h63km, mB5.1/54, mb5.3/74, Ms4.7/75, Ms7 4.6/68*

MOS ***17*** *10:02:21.0± 1.0, 3.°67N× 126.°43E, h33km, mb5.5/69, MS4.3/16, Error ellipse: s-maj=9.7km s-min=4.6km az=115.8*

NEIC ***17*** *10:02:23.2± 0.2, 3.°68N× 126.°55E, h35km, mb5.3/55, MW5.3, Error ellipse: s-maj=5.5km s-min=3.9km az=77.0, Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁷Nm; Mrr 0.24; Mθθ 0.80; Mϕϕ -1.04; Mrθ 0.07; Mθϕ 0.33; Mϕr 0.27; Best double couple: M₀ 1.00000×10¹⁷ NP1: ϕs 35.00000°, δ 90.00000°, λ 165.00000°. NP2: ϕs 125.00000°, δ 75.00000°, λ 1.00000°. Principal axes: T 0.8800, Plg 11.0000°, Azm 348.0000°; N 0.2700, Plg 74.0000°, Azm 213.0000°; P -1.1500, Plg 10.0000°, Azm 80.0000°;*

NEIC Felt [III] in the Kepulauan Talaud.

IDC ***17*** *10:02:23.9± 1.3, 3.°65N× 126.°40E, h45km± 11km, mb4.8/29, mb1 4.9/30, mb1mx4.8/34, mbtmp5.0/30, ML5.2/2, MS4.3/31, Ms1 4.3/31, ms1mx4.2/47 Error ellipse: s-maj=15.6km s-min=6.9km az=69.0*

GCMT ***17*** *10:02:23.2± 0.2, 3.°82N× 126.°61E, h24km± 1km, MW5.3/88, Moment Tensor Solution. s65,c88; s88,c145; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr 0.16± .02; Mθθ 0.68± .02; Mϕϕ -0.84± .02; Mrθ 0.22± .03; Mθϕ 0.06± .01; Mϕr 0.93± .08; Best double couple: M₀ 1.15400×10¹⁷ NP1: ϕs 30.00000°, δ 85.00000°, λ 125.00000°. NP2: ϕs 127.00000°, δ 35.00000°, λ 9.00000°. Principal axes: T 0.9140, Plg 40.0000°, Azm 332.0000°; N 0.4800, Plg 35.0000°, Azm 207.0000°; P -1.3940, Plg 31.0000°, Azm 92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***17*** *10:02:24.6± 0.3, 3.°73N× 0.°02× 126.°73E± 0.°02, h66km± 3km, mb5.2/142 Error ellipse: s-maj=3.9km s-min=2.6km az=163.4*

DJA ***17*** *10:02:25.1± 0.3, 4.°N× 2.°× 12.°7E± °, h49km± 3km, M5.2/112, mb5.2/112, mB5.6/69, MLv5.7/16, Mw(mB)5.1/69, Mwp6.6/2*

KLM ***17*** *10:02:26.2, 3.°70N× 126.°71E, h59km, mb5.2, ML5.1, MS6.2*

ISC 17 10:02:25.9±0.3, 3.70N±0.03×126.59E±0.04, h61km±2km, h61km:pP-P, n515, σ1§58/589, mb5.3/141, 42C-34D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.06**	**269**	P		**Pn**	**10 02 44.6**	**-0.2**
SGSI				S		Sn	10 03 07.2	+8.4
GSPH	**General Santos**	**2.88**	**325**	*i*P		**Pn**	**10 03 09.4**	**-0.1**
TNTI	**Ternate**	**3.01**	**165**	P		**Pn**	**10 03 09.7**	**-1.5**
TNTI				S		**Sn**	**10 03 44.3**	**-1.8**
TNTI	**Ternate**	**3.01**	**165**	*e*Pn		**Pn**	**10 03 09.6**	**-1.6**
TNTI				*e*Sn		**Sn**	**10 03 44.1**	**-2.0**
MATI	**Mati**	**3.24**	**354**	*e*P		**Pn**	**10 03 14.7**	**+0.3**
MATI				*e*S		**Sn**	**10 03 46.7**	**-5.1**
DAV	**Davao City (W)**	**3.50**	**343**	*e*Pn		**Pn**	**10 03 16.6**	**-1.3**
KMSI	**Cibinong**	**4.05**	**220**	P		Pn	10 03 29.4	+3.9
CTBH	**Cotabato--PC H**	**4.21**	**326**	*e*P		**Pn**	**10 03 28.9**	**+1.3**
CTBH				*i* S		**Sn**	**10 04 20.6**	**+5.2**
LBMI	**Labuha**	**4.40**	**168**	P		**Pn**	**10 03 29.5**	**-0.8**
BUKP	**Musuan**	**4.42**	**340**	*e*P		**Pn**	**10 03 32.0**	**+1.4**
BUKP				*e*S		Px	10 03 49.3	
GTOI	**Gorontalo**	**4.70**	**230**	P		**Pn**	**10 03 37.0**	**+2.7**
	7.0nm,0.8s,6μm							
CGP	**Cagayan de Oro**	**5.09**	**338**	*e*P		**Pn**	**10 03 40.1**	**+0.4**
PAGZ	**Pagadian**	**5.21**	**322**	*e*P		**Pn**	**10 03 42.6**	**+1.2**
PAGZ				*e*S		Px	10 03 53.2	
BUTP	**Butuan**	**5.32**	**350**	*e*P		**Pn**	**10 03 44.7**	**+1.8**
MRSI	**Marisa**	**5.64**	**236**	P		**Pn**	**10 03 49.5**	**+2.3**
	680nm,0.7s,7μm2.3nm							
MRSI				S		Sn	10 05 01.4	+11
	680nm,0.7s,7μm2.3nm							
SANI	**Sanana**	**5.74**	**186**	P		Pn	10 03 45.1	-3.5
DCPH	**Dipolog City**	**5.82**	**327**	*e*P		**Pn**	**10 03 51.7**	**+2.0**
SCPH	**Surigao**	**6.14**	**350**	*e*P		**Pn**	**10 03 56.0**	**+1.9**
SCPH				*e*S		Px	10 04 21.9	
TOLI	**Toli-Toli**	**6.33**	**246**	*e*Pn		**Pn**	**10 03 54.9**	**-1.8**
	346nm,0.6s							
SNPH	**Sibulan**	**6.52**	**329**	⇓*e*P		Pn	10 03 53.3	-6.1
MSLP	**Maasin**	**6.62**	**345**	*e*P		**Pn**	**10 04 01.1**	**+0.4**
APSI	**Ampana**	**6.74**	**227**	P		Pn	10 04 06.3	+4.1
	1μm,1.0s,10μm3.6nm							
NLAI	**Namlea**	**6.91**	**176**	P		**Pn**	**10 04 02.8**	**-1.8**
	252nm,0.8s,6μm2.1nm							
MSAI	**Masohi**	**7.38**	**162**	P		**Pn**	**10 04 12.0**	**+0.9**
	56nm,0.8s,794nm0.2nm							
MPSI	**Mapaga**	**7.47**	**244**	P		Pn	10 04 16.6	+4.2
	95nm,0.9s,3μm0.6nm							
OCLP	**Ormoc**	**7.56**	**345**	*e*P		**Pn**	**10 04 13.6**	**0.0**
PLP	**Palo**	**7.59**	**348**	*e*P		**Pn**	**10 04 15.3**	**+1.4**
GUIM	**Jordan**	**7.94**	**330**	*e*P		**Pn**	**10 04 18.8**	**0.0**
PCI	**Palu**	**8.15**	**236**	P		Pn	10 04 26.6	+4.9
	248nm,0.8s,2μm							
FAKI	**Fak Fak**	**8.67**	**139**	P		**Pn**	**10 04 27.3**	**-1.4**
	427nm,0.8s,3μm							
FAKI	**Fak Fak**	**8.67**	**139**	P		**Pn**	**10 04 27.4**	**-1.4**
	baz=8.6,SNR=57							
FAKI				S		**Sn**	**10 06 01.6**	**-3.6**
	baz=8.6,SNR=5.4							
FAKI	**Fak Fak**	**8.67**	**139**	*e*Pn		**Pn**	**10 04 27.4**	**-1.4**
RCP	**Roxas**	**8.69**	**334**	⇑*e*P		**Pn**	**10 04 30.8**	**+1.8**
TSM	**Tawau**	**8.72**	**274**	⇓P		**Pn**	**10 04 30.1**	**+0.7**
BNDI	**Bandanaira**	**8.81**	**158**	P		**Pn**	**10 04 30.8**	**+0.1**
	494nm,1.6s,7μm							
RKPI	**Ransiki, Papua**	**9.18**	**124**	P		**Pn**	**10 04 32.9**	**-2.8**
	328nm,0.9s,17μm							
TTSI	**Tana Toraja**	**9.52**	**225**	P		Pn	10 04 45.2	+4.8
	175nm,1.1s,2μm							
SDKM	**Sandakan**	**9.56**	**282**	⇑P		**Pn**	**10 04 43.0**	**+2.0**
BBSI	**Bau Bau**	**9.97**	**204**	P		Pn	10 04 50.4	+3.9
	134nm,0.9s,2μm							
PVCP	**Virac**	**10.12**	**346**	*e*P		Pn	10 04 52.8	+4.2
SPSI	**Sidrap Palu**	**10.22**	**222**	P		Pn	10 04 54.8	+4.9
	83nm,0.9s,1μm							
KDM	**Kudat**	**10.23**	**289**	⇓P		**Pn**	**10 04 50.7**	**+0.7**
BNSI	**Bone**	**10.33**	**219**	P		Pn	10 04 56.0	+4.6
	92nm,1.2s,1μm							
KKM	**Kota Kinabalu**	**10.60**	**283**	P		Pn	10 05 00.3	+5.1
	baz=11,SNR=10							
KKM	**Kota Kinabalu**	**10.60**	**283**	Pn		**Pn**	**10 04 54.3**	**-0.9**
KKM				*e*Sn		Sn	10 06 58.9	+6.4
BKB	**Balikpapan**	**10.87**	**243**	P		Pn	10 05 02.9	+4.1
	162nm,1.5s,2μm							
KAPI	**Kappang**	**11.03**	**218**	Pn		**Pn**	**10 04 59.2**	**-1.7**
BKSI	**Bulukumba**	**11.05**	**216**	P		Pn	10 05 22.9	+22
SRPI	**Serui, Papua**	**11.12**	**120**	P		Pn	10 04 58.8	-3.4
	372nm,1.1s							
BSSI	**Bau Bau, Buton**	**11.52**	**212**	P		Pn	10 05 11.7	+4.0
	123nm,0.9s							
KBKI	**Kotabaru**	**12.52**	**236**	P		Pn	10 05 25.9	+4.5
	66nm,1.3s,1μm							
MTKI	**Muara Teweh, K**	**12.56**	**249**	P		Pn	10 05 27.2	+5.2
	157nm,1.3s							
EDFI	**Ende, Flores**	**13.30**	**202**	P		Pn	10 05 35.7	+3.7
	66nm,1.2s,1μm							
SMPI	**Sarmi**	**13.37**	**115**	P		Pn	10 05 29.1	-3.8
	163nm,1.3s							
SOEI	**Soe**	**13.56**	**190**	P		**Pn**	**10 05 38.5**	**+2.8**
	182nm,0.9s,2μm							
SOEI	**Soe**	**13.56**	**190**	P		**Pn**	**10 05 33.2**	**-2.5**
	baz=13,SNR=3.3							
SOEI	**Soe**	**13.56**	**190**	*e*Pn		**Pn**	**10 05 34.1**	**-1.6**
BBKI	**Banjar Baru**	**13.73**	**239**	P		**P**	**10 05 43.2**	**-1.2**
	165nm,1.3s,4μm							
BATI	**Baumata**	**14.12**	**192**	P		**P**	**10 05 46.4**	**-2.4**
	110nm,1.4s,1μm							
BATI	**Baumata**	**14.12**	**192**	P		**Pn**	**10 05 41.4**	**-1.6**
	5.1nm,0.3s,baz=79,slow=2.8,SNR=7.9							
SBUM	**Sibu**	**14.40**	**265**	*e*Pn		**P**	**10 05 50.1**	**-1.9**
WSI	**Waingapu**	**14.69**	**205**	P		**P**	**10 05 54.8**	**-0.3**
	558nm,0.5s							
GENI	**Genyem**	**14.94**	**115**	P		**Pn**	**10 05 50.7**	**-3.0**
	3μm,1.0s,25μm							
BASI	**Baing, Sumba**	**15.07**	**203**	P		**P**	**10 05 59.7**	**+0.4**
	247nm,1.4s,4μm							
WBSI	**Waikabubak, Su**	**15.07**	**208**	P		**P**	**10 05 59.8**	**+0.4**
	256nm,0.8s,4μm							
JAY	**Jayapura**	**15.40**	**113**	P		**Pn**	**10 06 00.7**	**+1.1**
JAY				pmax		pmax		
	comp=E,23nm,0.3s							
JAY				MLR		MLR		
	comp=E,696nm,21.6s							
JAY	**Jayapura**	**15.40**	**113**	P		**Pn**	**10 05 56.5**	**-3.1**
	comp=E,357nm,1.0s,comp=Z,4μm							
JAY	**Jayapura**	**15.40**	**113**	P		**Pn**	**10 06 00.7**	**+1.1**
	comp=E,23nm,0.3s,baz=265,slow=4.1,SNR=96							
JAY				LR		LR	10 11 49.7	
	comp=E,696nm,21.6s,baz=296,slow=36							
STKI	**Sintang**	**15.53**	**257**	P		**P**	**10 06 06.3**	**+1.8**
	comp=Z,81nm,0.8s							
TWSI	**Taliwang, Sumb**	**15.70**	**218**	P		**P**	**10 06 08.2**	**+1.9**
	comp=Z,2μm,0.7s							
PBKI	**Pangkalan Bun**	**16.21**	**247**	P		**P**	**10 06 15.0**	**+2.9**
	comp=Z,172nm,1.1s,comp=Z,3μm							
SRBI	**Singaraja**	**16.30**	**224**	P		**P**	**10 06 16.1**	**+3.0**
	comp=Z,150nm,1.3s,comp=Z,2μm							
KSM	**Kuching**	**16.41**	**263**	P		**P**	**10 06 16.9**	**+2.6**
	baz=16,SNR=22							
KSM	**Kuching**	**16.41**	**263**	*e*P		**P**	**10 06 16.0**	**+1.7**
	comp=Z,40nm,0.6s							
KMMI	**Kalianget**	**16.52**	**230**	P		**P**	**10 06 19.2**	**+3.8**
	comp=Z,57nm,1.0s							
DNP	**Denpasar**	**16.73**	**223**	P		**P**	**10 06 21.4**	**+3.6**
	comp=Z,551nm,0.3s,comp=Z,37μm							
ABJI	**Asem Bagus**	**16.80**	**227**	P		**P**	**10 06 22.3**	**+3.7**
	comp=Z,62nm,1.2s							
BWJI	**Bawean**	**16.84**	**236**	P		**P**	**10 06 22.8**	**+3.8**
	comp=Z,78nm,1.3s							
IGBI	**Denpasar**	**16.88**	**222**	P		**P**	**10 06 23.3**	**+3.9**
	comp=Z,123nm,1.4s,comp=Z,3μm							
MTN	**Manton Dam**	**17.04**	**165**	P		**Pn**	**10 06 17.1**	**-3.1**
	baz=17,SNR=19							
BLJI	**Banyuglugur**	**17.24**	**229**	P		**P**	**10 06 28.1**	**+4.6**
	comp=Z,70nm,0.8s,comp=Z,4μm							
JAGI	**Jajag, Banyuwa**	**17.32**	**226**	P		**P**	**10 06 28.6**	**+4.3**
	comp=Z,91nm,1.6s,comp=Z,2μm							
KPJI	**Karang Pucung**	**20.75**	**238**	P		Pn	10 07 07.0	+2.2
	comp=Z,104nm,0.9s,comp=Z,2μm							
YOJ	**Yonaguni jima**	**20.93**	**351**	*e*P		**P**	**10 07 03.2**	**-0.5**
YOJ				pmax		pmax		
	comp=Z,90nm,1.0s							
YOJ	**Yonaguni jima**	**20.93**	**351**	*e*P		**P**	**10 07 03.2**	**-0.5**

COEN Coen 24.05 137 P **P** **10 07 33.5 -2.1**
baz=24,SNR=22
COEN Coen 24.05 137 *e*P **P** **10 07 33.7 -1.9**
comp=Z,17nm,0.5s
LWLI Liwa 24.12 249 P **P** **10 07 38.7 +2.3**
comp=Z,88nm,0.2s,comp=Z,7µm
LHSI Lahat 24.23 252 P P 10 07 43.1 +5.8
comp=Z,68nm,1.2s
WRAB Tennant Creek 24.69 162 P **P** **10 07 39.6 -1.8**
comp=Z,921nm,0.8s
WRAB Tennant Creek 24.69 162 *d i*P **P** **10 07 39.2 -2.2**
WRAB Tennant Creek 24.69 162 *e*P **P** **10 07 39.6 -1.8**
comp=Z,264nm,1.3s
WRAB *e*S **S** **10 11 57.6 -1.5**
WRA Warramunga Arr 24.70 162 P **P** **10 07 39.3 -2.2**
WRA S **S** **10 11 59.4 +0.3**
WRA pmax pmax
comp=Z,72nm,0.7s
WRA smax smax
comp=N,16nm,0.9s
WRA pmax pmax
comp=N,6.0nm,0.8s
WRA Warramunga Arr 24.70 162 P **P** **10 07 39.3 -2.2**
comp=N,72nm,0.7s,baz=344,slow=9.9,SNR=212
WRA S **S** **10 11 59.4 +0.3**
comp=N,16nm,0.9s,baz=334,slow=20,SNR=7.1
WRA ScP **ScP** **10 14 53.4 +2.1**
comp=N,6.3nm,0.8s,baz=340,slow=3.2,SNR=7.5
WB2 Warramunga Arr 24.70 162 *e*P **P** **10 07 40.4 -1.1**
WB2 *e*S **S** **10 11 57.5 -1.7**
XMIS Christmas Isla 25.16 236 P **P** **10 07 48.1 +2.4**
baz=25,SNR=3.3
IPM Ipoh 25.51 273 *e*P **P** **10 07 49.7 +0.7**
comp=N,70nm,0.9s
CHBT CHBT 25.62 292 P **P** **10 07 51.0 +1.2**
comp=N,46nm,0.7s
BKNI Bangkinang 25.75 263 P P 10 07 56.2 +5.1
comp=N,141nm,1.0s,comp=N,11µm
BKNI Bangkinang 25.75 263 *e*P **P** **10 07 51.3 +0.2**
comp=N,190nm,1.3s
KULM Kulim 25.91 274 *e*P **P** **10 07 51.6 -0.9**
comp=N,63nm,1.3s
PDSI Padang 26.51 261 P **P** **10 08 01.9 +3.9**
comp=N,32nm,1.0s
KHON Khomkaen 26.52 300 P **P** **10 07 58.4 +0.4**
comp=N,62nm,0.9s,comp=N,2µm
MNSI Mandailing Nat 27.14 265 P **P** **10 08 04.7 +1.0**
comp=N,65nm,0.9s,comp=N,1µm
QIS Mount Isa 27.28 153 P **P** **10 08 04.3 -0.6**
baz=27,SNR=28
CBIJ Chichi jima 27.63 31 *e*P **P** **10 08 08.2 +0.3**
comp=N,52nm,0.8s
JCJ Chichijima 27.63 31 P **P** **10 08 05.7 -2.2**
comp=N,108nm,0.7s,baz=312,slow=15,SNR=4.5
PSI Prapat 27.64 269 P **P** **10 08 05.5 -2.7**
PSI pmax pmax
comp=Z,16nm,0.8s
PSI MLR MLR
comp=Z,665nm,18.9s
PSI Prapat 27.64 269 P **P** **10 08 05.5 -2.7**
comp=Z,16nm,0.8s,baz=78,slow=5.8,SNR=9.7
PSI LR LR 10 21 12.0
comp=Z,665nm,18.9s,baz=85,slow=41
SSE Sheshan 27.72 350 ⇑P **P** **10 08 09.1 +0.5**
SSE pP **pP** **10 08 24.5 +0.9**
SSE sP **sP** **10 08 30.9 0.0**
SSE S **S** **10 12 49.5 +2.7**
SSE sS **sS** **10 13 13.1 +0.7**
SSE ScS **ScS** **10 18 50.0 -2.0**
SSE PMZ
comp=Z,26nm,0.6s
SSE PMZ
comp=Z,160nm,4.1s
SSE LN
comp=Z,200nm,22.7s
SSE LE
comp=Z,880nm,22.8s
SSE LZ
comp=Z,660nm,23.9s
SURT Suratani 28.11 282 P **P** **10 08 13.7 +1.4**
comp=Z,10nm,0.8s,comp=Z,202nm
AS31 Alice Springs 28.12 166 *e*P **P** **10 08 10.9 -1.4**
ASAR Alice Springs 28.12 166 P **P** **10 08 10.9 -1.4**
ASAR S **S** **10 12 54.3 +1.0**
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ASAR smax smax
comp=N,4.0nm,0.9s
ASAR pmax pmax
comp=N,3.0nm,0.7s
ASAR Alice Springs 28.12 166 P **P** **10 08 10.8 -1.4**
comp=N,5.4nm,0.6s,baz=343,slow=7.0,SNR=58
ASAR S **S** **10 12 54.2 +1.0**
comp=N,4.3nm,0.9s,baz=348,slow=20,SNR=5.1
ASAR ScP **ScP** **10 15 03.0 +1.7**
comp=N,3.3nm,0.7s,baz=328,slow=1.2,SNR=4.4
PBKT Sadao Pong 28.23 299 P **P** **10 08 13.7 +0.4**
comp=N,49nm,1.0s,comp=N,836nm
PKDT Phuket 28.41 280 P **P** **10 08 17.9 +2.9**
comp=N,31nm,0.6s,comp=N,4µm
WRKA Warakurna 28.61 177 P **P** **10 08 16.1 -0.6**
baz=29,SNR=90
WRKA S **S** **10 13 00.8 -0.1**
baz=29,SNR=5.6
KCSI Kotacane, Aceh 28.76 271 P **P** **10 08 18.0 -0.2**
comp=N,34nm,0.9s
SRDT SRDT 29.08 293 P **P** **10 08 23.5 +2.6**
comp=N,58nm,1.1s,comp=N,11µm
UTTA Uttaradit 29.08 301 P **P** **10 08 21.4 +0.5**
comp=N,18nm,0.9s,comp=N,152nm
WHN Wuhan 29.10 338 ⇓P **P** **10 08 21.3 +0.4**
WHN S **S** **10 13 08.5 +0.1**
WHN LN
comp=N,3µm,20.2s
WHN LE
comp=N,3µm,20.3s
WHN LZ
comp=N,4µm,18.5s
NJ2 Nanjing 29.13 346 *e*P **P** **10 08 22.1 +1.0**
NJ2 pP **pP** **10 08 36.5 +0.3**
NJ2 sP **sP** **10 08 45.1 +1.7**
NJ2 S **S** **10 13 13.5 +4.7**
NJ2 sS **sS** **10 13 36.5 +2.0**
NJ2 PMZ
comp=N,20nm,0.7s
NJ2 PMZ
comp=N,250nm,8.5s
NJ2 LN
comp=N,2µm,27.6s
NJ2 LE
comp=N,1µm,26.2s
NJ2 LZ
comp=N,1µm,27.7s
JNU Nakatsue 29.55 7 P **P** **10 08 24.0 -0.8**
comp=N,52nm,0.8s,baz=186,slow=1.7,SNR=34
JNU LR LR 10 21 24.4
comp=N,343nm,20.0s,baz=186,slow=38
GYA Guiyang 29.61 322 P **P** **10 08 28.8 +3.2**
GYA pP **pP** **10 08 43.6 +2.9**
GYA PP **PnPn** **10 09 27.4 +4.4**
GYA S **S** **10 13 19.0 +2.2**
GYA sS **sS** **10 13 45.3 +2.8**
GYA SS ScP 10 14 58.8 -7.3
GYA ScS **ScS** **10 19 00.3 -0.9**
GYA PMZ
comp=N,30nm,0.8s
GYA PMZ
comp=N,140nm,4.9s
GYA LN
comp=N,2µm,16.7s
GYA LE
comp=N,2µm,17.4s
GYA LZ
comp=N,3µm,16.8s
LAMP Lampang 30.20 301 P **P** **10 08 32.0 +1.1**
comp=N,18nm,1.0s,comp=N,249nm
CTA Charters Tower 30.53 141 P **P** **10 08 35.1 +1.4**
CTA 10 15 11.4
CTA pmax pmax
comp=Z,13nm,0.8s
CTA pmax pmax
comp=N,11nm,1.0s
CTA MLR MLR
comp=Z,433nm,20.4s
CTA Charters Tower 30.53 141 P **P** **10 08 35.0 +1.4**
comp=Z,13nm,0.8s,baz=314,slow=9.4,SNR=11
CTA ScP **ScP** **10 15 11.3 +2.3**
comp=Z,11nm,1.0s,baz=328,slow=0.8,SNR=4.5
CTA LR LR 10 22 57.3
comp=Z,433nm,20.4s,baz=313,slow=40
CTAO Charters Tower 30.53 141 *e*P **P** **10 08 33.6 -0.1**
CTAO pmax pmax
comp=Z,23nm,1.0s
CTAO Charters Tower 30.53 141 *e*P **P** **10 08 33.6 -0.1**
comp=Z,23nm,1.0s
CMAR Chiang Mai Arr 30.77 301 *ce*P **P** **10 08 36.2 +0.4**
CMAR pmax pmax
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 30.77 301 P **P** **10 08 34.6 -1.2**
comp=Z,21nm,0.8s,baz=113,slow=7.0,SNR=100
CMAR ScP **ScP** **10 15 12.2 +2.3**
comp=Z,1.3nm,0.4s,baz=127,slow=1.6,SNR=6.7
CMAR LR LR 10 22 13.3
comp=Z,483nm,19.9s,baz=128,slow=39
CMMT Chiang Mai 30.91 301 P **P** **10 08 37.3 +0.1**
comp=Z,58nm,0.9s,comp=Z,524nm
MEEK Meekatharra 31.13 194 P **P** **10 08 38.6 -0.4**
baz=31,SNR=13
CMAI Chiengmai2 31.33 303 P **P** **10 08 41.8 +0.8**
comp=Z,40nm,0.6s,comp=Z,3µm
TJN Taejon 32.53 1 *i* P **P** **10 08 50.9 -0.1**
KSBON Boeun 32.66 2 P **P** **10 08 53.6 +1.3**
SNR=12
KSCHJ Chungju 33.04 2 P **P** **10 08 56.3 +0.8**
SNR=7.4
KSSWO Suwon 33.41 1 P **P** **10 08 59.8 +1.1**
SNR=7.6
KSICN Icheon 33.44 1 P **P** **10 08 60.0 +1.0**
SNR=5.3
TIA Tai'an 33.51 346 ⇑P **P** **10 08 59.3 -0.4**
TIA PMZ
comp=Z,90nm,0.9s
KSAR Wonju Array Be 33.60 2 P **P** **10 09 01.0 +0.6**
KSAR 10 11 41.0
KSAR Wonju Array Be 33.60 2 P **P** **10 09 00.9 +0.6**
KSAR PcP **PcP** **10 11 41.0 +1.4**
KSRS Korea Array 33.62 2 P **P** **10 09 01.0 +0.5**
KSRS 10 11 41.0
KSRS pmax pmax
comp=Z,34nm,0.7s
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,382nm,18.7s
KSRS Korea Array 33.62 2 P **P** **10 09 00.9 +0.5**
comp=Z,34nm,0.7s,baz=181,slow=9.7,SNR=161
KSRS PcP **PcP** **10 11 41.0 +1.4**
comp=Z,2.1nm,0.7s,baz=182,slow=3.6,SNR=4.4
KSRS LR LR 10 25 39.8
comp=Z,382nm,18.7s,baz=188,slow=42
INCN Inchon 33.62 0 *e*P **P** **10 09 00.7 +0.1**
comp=Z,47nm,0.7s
KSCHC Chuncheon 33.94 2 P **P** **10 09 04.4 +1.1**
SNR=5.4
KSDDC Dongducheon 34.04 1 P **P** **10 09 05.4 +1.2**
SNR=9.0
MORW Morawa 34.12 197 P **P** **10 09 05.1 +0.1**
baz=34,SNR=16
KSIJA INJE 34.15 2 P **P** **10 09 06.5 +1.3**
SNR=6.0
FORT Forrest 34.31 178 P **P** **10 09 06.0 -0.6**
baz=34,SNR=32
FORT Forrest 34.31 178 *e*P **P** **10 09 05.7 -0.9**
XAN Xi'an 34.38 333 P **P** **10 09 06.0 -1.3**
XAN pP **pP** **10 09 21.0 -1.5**
XAN sP **sP** **10 09 28.3 -1.4**
XAN PP **PnPn** **10 10 21.3 -2.5**
XAN S **S** **10 14 26.0 -4.9**
XAN PMZ
comp=Z,30nm,0.8s
XAN PMZ
comp=Z,18nm,4.2s
XAN LN
comp=Z,1µm,22.0s
XAN LE
comp=Z,190nm,20.6s
XAN LZ
comp=Z,330nm,22.0s
MJAR Matsushiro Arr 34.39 17 P **P** **10 09 05.8 -1.5**
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 34.39 17 P **P** **10 09 05.8 -1.5**
comp=Z,6.4nm,0.9s,baz=184,slow=9.3,SNR=16
MAJO Matsushiro 34.39 17 ⇑*i*P **P** **10 09 06.7 -0.6**
MAJO pmax pmax
comp=Z,172nm,2.5s
MAJO Matsushiro 34.39 17 *e*P **P** **10 09 07.9 +0.6**
MAT Matsushiro 34.39 17 P **P** **10 09 05.5 -1.8**
CD2 Chengdu 34.59 324 P **P** **10 09 08.8 -0.3**
CD2 pP **pP** **10 09 23.8 -0.5**
CD2 sP **sP** **10 09 31.0 -0.5**
CD2 PP **PnPn** **10 10 27.4 +1.0**
CD2 S **S** **10 14 33.9 -0.3**
CD2 sS **sS** **10 14 59.6 -0.4**
CD2 PcS **PcS** **10 15 26.8 -2.5**
CD2 SS **SnSn** **10 16 50.1 -1.2**
CD2 PMZ
comp=Z,50nm,0.7s
CD2 PMZ
comp=Z,170nm,5.0s
CD2 LN
comp=Z,920nm,16.2s
CD2 LE
comp=Z,1µm,18.1s
CD2 LZ
comp=Z,1µm,19.2s
QLP Quilpie 34.60 151 P **P** **10 09 07.6 -1.7**
baz=35,SNR=17
KMBL Kambalda 35.16 187 P **P** **10 09 13.9 -0.1**
baz=35,SNR=8.1
DL2 Dalian 35.33 353 P **P** **10 09 16.3 +1.0**
DL2 S **S** **10 14 47.4 +2.1**
DL2 PMZ
comp=Z,28nm,0.9s
DL2 PMZ
comp=Z,250nm,5.7s
DL2 LE
comp=Z,340nm,21.0s
DL2 LZ
comp=Z,300nm,21.9s
BLDU Ballidu 35.40 195 P **P** **10 09 16.3 +0.3**
baz=35,SNR=11
TIY Taiyuan 36.25 341 *e*P **P** **10 09 22.3 -1.0**
TIY sP **sP** **10 09 48.6 +2.8**
TIY S **S** **10 15 02.8 +3.3**
TIY PMZ
comp=Z,160nm,4.1s
TIY LN
comp=Z,1µm,22.9s
TIY LE
comp=Z,810nm,20.8s
TIY LZ
comp=Z,1µm,24.4s
RMQ Roma 36.88 146 P **P** **10 09 27.6 -1.2**
baz=37,SNR=4.8
BJI Beijing 37.38 347 P **P** **10 09 32.5 -0.3**
BJI pP **pP** **10 09 50.3 +2.1**
BJI S **S** **10 15 13.6 -2.9**
BJI sS **sS** **10 15 43.6 +1.0**
BJI PMZ
comp=Z,380nm,0.9s
BJI LN
comp=Z,340nm,29.1s
BJI LE
comp=Z,740nm,26.6s
BJI LZ
comp=Z,510nm,27.4s
BBOO Buckleboo 37.40 167 P **P** **10 09 32.2 -0.9**
baz=37,SNR=56
BBOO Buckleboo 37.40 167 *e*P **P** **10 09 32.5 -0.6**
comp=Z,17nm,0.9s
EIDS Eidsvold 37.41 142 P **P** **10 09 32.0 -1.3**
baz=37,SNR=11
EIDS Eidsvold 37.41 142 *e*P **P** **10 09 32.0 -1.3**
comp=Z,31nm,0.8s
NWAO Narrogin (SRO) 37.49 193 P **P** **10 09 34.3 +0.5**
baz=38,SNR=19
SNY Shenyang 38.06 356 ⇑P **P** **10 09 39.1 +0.6**
SNY S **S** **10 15 23.6 -3.1**
SNY PMZ
comp=Z,190nm,0.5s
SNY PMZ
comp=Z,870nm,3.5s
SNY LN
comp=Z,400nm,25.0s
SNY LE
comp=Z,430nm,21.1s
SNY LZ
comp=Z,580nm,21.6s
STKA Stephens Creek 38.15 159 P **P** **10 09 38.8 -0.6**
STKA pmax pmax
comp=Z,45nm,0.6s
STKA Stephens Creek 38.15 159 P **P** **10 09 38.8 -0.6**
comp=Z,45nm,0.6s,baz=331,slow=8.3,SNR=131
STKA Stephens Creek 38.15 159 P **P** **10 09 38.5 -1.0**
baz=38,SNR=93
LZH Lanzhou 38.46 330 ⇑P **P** **10 09 42.3 +0.1**
LZH pP **pP** **10 09 57.3 -0.3**
LZH sP **sP** **10 10 04.1 -0.6**
LZH S **S** **10 15 35.5 +2.2**
LZH sS **sS** **10 16 00.5 +1.0**
LZH SS **SS** **10 18 20.1 -4.7**
LZH PMZ
comp=Z,120nm,1.2s
LZH PMZ
comp=Z,280nm,4.0s
LZH LN
comp=Z,940nm,17.8s
LZH LE
comp=Z,2µm,20.2s
LZH LZ
comp=Z,2µm,20.4s
RKGY Rocky Gully 39.16 193 P **P** **10 09 48.8 +0.9**
baz=39,SNR=8.2
HHC Hu-ho-hao-te 39.38 342 *e*P **P** **10 09 49.4 -0.4**
HHC pP **pP** **10 10 04.4 -0.8**
HHC sP **sP** **10 10 10.4 -2.0**
HHC PP **PnPn** **10 11 25.0 +0.5**
HHC S **S** **10 15 45.0 -2.0**
HHC SS **SS** **10 18 41.3 -1.8**
HHC PMZ
comp=Z,22nm,0.9s
HHC PMZ
comp=Z,180nm,5.7s
HHC LN
comp=Z,730nm,19.2s
HHC LE
comp=Z,430nm,17.3s
HHC LZ
comp=Z,730nm,18.2s
CMSA Cobar Meteorol 39.48 154 P **P** **10 09 50.1 -0.5**
baz=40,SNR=22
VLA Vladivostok 39.53 6 ⇑*e*P **P** **10 09 50.3 -0.5**
VLA *e*S **S** **10 15 48.8 -0.1**
VLA pmax pmax
comp=Z,74nm,1.6s
SHL Shillong 39.78 307 ⇑*i*P **P** **10 09 52.8 -0.6**
SHL *ex* x 10 15 51.0
CN2 Changchun 39.95 359 *e*P **P** **10 09 54.1 -0.2**
CN2 *e*pP **pP** **10 10 09.4 -0.3**
CN2 ScP **ScP** **10 15 40.5 -2.1**
CN2 *e*S **S** **10 15 56.4 +1.3**
CN2 PMZ
comp=Z,20nm,0.7s
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,300nm,20.0s
CN2 LZ
comp=Z,600nm,21.0s
USRK Ussuriysk Ar. 40.61 6 P **P** **10 10 00.1 +0.4**
comp=Z,27nm,0.7s,baz=189,slow=7.5,SNR=70
USRK LR LR 10 26 13.4
comp=Z,131nm,20.8s,baz=181,slow=35
MDJ Mudanjiang 40.84 3 P **P** **10 10 02.3 +0.7**
MDJ pP **pP** **10 10 17.8 +0.7**
MDJ sP **sP** **10 10 24.6 +0.4**
MDJ PP **PP** **10 11 38.0 +1.2**
MDJ S **S** **10 16 10.5 +2.2**
MDJ sS sS 10 16 40.3 +5.7
MDJ ScS **ScS** **10 20 00.8 -0.1**
MDJ PMZ
comp=Z,100nm,0.9s
MDJ PMZ
comp=Z,130nm,6.6s
MDJ LN
comp=Z,660nm,24.1s
MDJ LE
comp=Z,480nm,26.3s
MDJ LZ
comp=Z,650nm,24.1s
ERM Erimo 40.93 19 P **P** **10 10 03.8 +1.4**
comp=Z,105nm,1.0s,SNR=6.6
ERM Erimo 40.93 19 *d i*P **P** **10 10 02.9 +0.5**
ERM pmax pmax
comp=Z,35nm,1.7s
ERM Erimo 40.93 19 *e*P **P** **10 10 02.9 +0.5**
comp=Z,14nm,0.8s
ARMA Armidale 41.52 147 P **P** **10 10 07.4 -0.1**
baz=42,SNR=40
ARMA Armidale 41.52 147 *e*P **P** **10 10 07.3 -0.1**
comp=Z,30nm,0.7s
LSA Lhasa 42.35 312 P **P** **10 10 14.5 -0.3**
ASAJ Asahikawa 42.66 17 P **P** **10 10 17.1 +0.6**
ASAJ pmax pmax
comp=Z,29nm,0.8s
ASAJ Asahikawa 42.66 17 P **P** **10 10 17.1 +0.6**
comp=Z,28nm,0.8s,baz=231,slow=12,SNR=31
ASAJ Asahikawa 42.66 17 *e*P **P** **10 10 17.1 +0.6**
comp=Z,13nm,0.8s
YNG Young 43.02 153 P **P** **10 10 19.9 +0.3**
baz=43,SNR=7.7
GTA Gaotai 43.05 329 ⇑P **P** **10 10 19.4 -0.5**
GTA PcP **PcP** **10 12 08.4 -0.8**
GTA S **S** **10 16 41.1 -0.4**
GTA SS SS 10 19 46.3 -9.5
GTA LN
comp=Z,900nm,21.4s
GTA LE
comp=Z,1µm,22.3s
GTA LZ
comp=Z,1µm,21.4s
MGCD Mangrove Creek 43.43 150 P **P** **10 10 24.2 +1.3**
baz=44,SNR=11
YUK Yuzh-Kuril'sk 43.63 20 *c i*P **P** **10 10 25.5 +1.2**
YUK *i* PPP PPP 10 12 42.1
YUK *i* S **S** **10 16 53.6 +4.1**
YUK *i* SS **SS** **10 20 07.6 +1.0**
YUK MLR MLR
comp=N,260nm,17.0s
YUK MLR MLR
comp=E,215nm,17.0s
YUK MLR MLR
comp=Z,205nm,17.0s
TAPN Taplejung 43.92 306 *e*P **P** **10 10 27.1 -0.2**
ODAN Odare 43.97 306 *e*P **P** **10 10 27.4 -0.3**
comp=Z,86nm,0.6s
CHLP Challavanipeta 44.11 293 *e*P **P** **10 10 28.1 -0.5**
CAN Canberra 44.15 153 *e*P **P** **10 10 28.6 0.0**
CAN pmax pmax
comp=Z,17nm,0.6s
CAN Canberra 44.15 153 *e*P **P** **10 10 28.6 0.0**
comp=Z,17nm,0.6s
CNB Canberra Magne 44.30 153 P **P** **10 10 30.9 +0.9**
baz=44,SNR=7.3
RAMN Ramite 44.65 305 *e*P **P** **10 10 32.6 -0.5**
comp=Z,58nm,0.6s
TOO Toolangi 44.66 159 P **P** **10 10 33.9 +1.2**
baz=45,SNR=12
HABR Khabarovsk 45.19 8 *d e*P **P** **10 10 35.9 -0.8**
HABR *e**PP **pP** **10 10 50.8 -1.6**
HABR *e* 10 12 14.1
HABR *e* 10 12 22.1
HABR *e*PPP PPP 10 13 02.4
HABR *e*S **S** **10 17 12.1 0.0**
HABR *e* 10 20 26.2
HABR *e*SSS SSS 10 21 26.8
HABR pmax pmax
comp=N,10.0nm,0.9s
HABR pmax pmax
comp=E,7.0nm,0.9s
HABR pmax pmax
comp=Z,29nm,0.9s
HABR MLR MLR
comp=Z,131nm,16.0s
JIRN Jiri 45.28 306 *e*P **P** **10 10 38.0 -0.2**
comp=Z,54nm,0.5s
YSS Yuzh-Sakhalins 45.31 16 ⇑*i*P **P** **10 10 37.2 -0.5**

YSS eS **S** **10 17 13.0 -0.8**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=N,300nm,18.0s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS Yuzh-Sakhalins 45.31 16 *e*P **P** **10 10 37.5 -0.1**
comp=Z,20nm,0.5s
KLR Kul'dur 45.58 5⇩ *i*P **P** **10 10 36.7 -3.1**
KLR eS **S** **10 17 15.5 -2.1**
KLR pmax pmax
comp=Z,64nm,1.2s
GUN Gumba 45.63 306 *e*P **P** **10 10 40.7 -0.3**
comp=Z,163nm,0.8s
PALK Pallekele 45.80 277 *e*P **P** **10 10 40.5 -1.6**
PALK pmax pmax
comp=Z,12nm,0.9s
PALK Pallekele 45.80 277 *e*P **P** **10 10 40.5 -1.6**
comp=Z,12nm,0.9s
KKN Kakani 46.07 306 *e*P **P** **10 10 43.5 -0.8**
DMN Daman 46.13 305 *e*P **P** **10 10 44.2 -0.7**
comp=Z,46nm,0.8s
DZM Mont Dzumac 46.63 125 *e*P **P** **10 10 48.6 0.0**
comp=Z,88nm,0.8s
DZM eS **S** **10 17 35.5 +1.8**
comp=Z,370nm,31.2s
DZM *e*LR LR 10 23 58.3
comp=Z,467nm,25.2s
DZM Mont Dzumac 46.63 125 P **P** **10 10 48.4 -0.2**
comp=Z,32nm,0.6s,baz=265,slow=7.7,SNR=41
GKN Gorkha 46.67 306 *e*P **P** **10 10 47.7 -1.3**
comp=Z,28nm,0.5s
ULN Ulaanbaatar 47.10 342 *c i*P **P** **10 10 51.7 -0.3**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 47.10 342 *e*P **P** **10 10 51.8 -0.1**
comp=Z,65nm,1.3s
SONM Songino Array 47.28 342 P **P** **10 10 53.1 -0.2**
SONM 10 12 23.6
SONM pmax pmax
comp=Z,18nm,0.7s
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM MLR MLR
comp=Z,619nm,20.1s
SONM Songino Array 47.28 342 P **P** **10 10 53.1 -0.2**
comp=Z,18nm,0.7s,baz=158,slow=8.2,SNR=52
SONM PcP **PcP** **10 12 23.6 0.0**
comp=Z,4.9nm,0.8s,baz=172,slow=3.3,SNR=2.1
SONM LR LR 10 33 32.5
comp=Z,619nm,20.1s,baz=149,slow=40
SKHT Srikalahasti 47.31 285 *e*P **P** **10 10 53.9 0.0**
ADKI Addanki 47.38 288 *e*P **P** **10 10 54.2 -0.2**
ADKI *e*pP pP 10 11 02.4 -7.9
KOLN Koldanda 47.43 305 *e*P **P** **10 10 54.4 -0.5**
comp=Z,127nm,0.5s
DANN Dangsing 47.52 306 *e*P **P** **10 10 55.4 -0.3**
comp=Z,212nm,0.6s
PYUN Piuthan 48.05 305 *e*P **P** **10 10 59.8 +0.1**
comp=Z,259nm,0.5s
NJS Nagarjunasagar 48.13 289 *e*P **P** **10 11 00.3 +0.1**
NJS *e*PP **PP** **10 12 48.7 -4.3**
RPR Rampur 48.58 292 *e*P **P** **10 11 03.8 +0.1**
HYB Hyderabad 48.99 290 *i* P **P** **10 11 05.5 -1.4**
HYB *e*sP sP 10 11 21.0 -8.8
HYBB Hyderabad (bro 49.00 290 *e*P **P** **10 11 05.9 -1.0**
CIT Chita 49.37 349 *e*P **P** **10 11 10.3 +1.1**
CIT *e* 10 11 26.3
CIT pmax pmax
comp=Z,147nm,1.2s
URV Uravakonda 49.83 286 *e*P **P** **10 11 12.2 -1.1**
TLY Talaya 51.52 342 P **P** **10 11 25.6 +0.2**
comp=Z,162nm,0.9s,SNR=9.4
TLY Talaya 51.52 342 *e*P **P** **10 11 26.0 +0.6**
TLY *e* 10 12 46.0
TLY *e*SSS SSS 10 22 19.9
TLY pmax pmax
comp=Z,28nm,0.9s
TLY Talaya 51.52 342 LR LR 10 35 49.6
comp=Z,526nm,20.1s,baz=142,slow=39
TLY Talaya 51.52 342 *e*P **P** **10 11 25.9 +0.5**
comp=Z,24nm,0.9s
IRK Irkutsk 51.82 343 *e*P **P** **10 11 25.4 -2.2**
IRK pmax pmax
comp=Z,61nm,1.6s
AGRA Agra 51.96 302 *e*P **P** **10 11 28.1 -1.0**
AGRA AMB AMB 10 11 29.0
comp=Z,46nm,0.6s
MOY Mondy 52.36 340 *e*P **P** **10 11 32.4 +0.6**
WMQ Urumqi 52.67 325⇑ *i*P **P** **10 11 33.8 -0.4**
WMQ pP **pP** **10 11 49.0 -1.2**
WMQ sP **sP** **10 11 57.9 +0.7**
WMQ PcP **PcP** **10 12 43.5 +0.1**
WMQ PP **PP** **10 13 35.0 +1.1**
WMQ S **S** **10 18 56.0 -1.4**
WMQ ScS **ScS** **10 21 18.0 -0.6**
WMQ SS **SS** **10 22 32.0 -4.7**
WMQ PMZ
comp=Z,19nm,1.0s
WMQ PMZ
comp=Z,99nm,4.6s
WMQ LN
comp=Z,790nm,18.9s
WMQ LE
comp=Z,740nm,20.8s
WMQ LZ
comp=Z,840nm,22.6s
SONA Sohna 53.00 303 *e*P **P** **10 11 35.7 -1.1**
SONA AMB AMB 10 11 36.7
comp=Z,60nm,0.5s
SONA *ex* x 10 18 58.7
CLNS Chul'man 53.00 359 *e*P **P** **10 11 37.3 +0.9**
CLNS *e**PP **pP** **10 11 53.0 +0.6**
CLNS *e* 10 12 43.9
CLNS *e* 10 13 39.9
CLNS eS **S** **10 19 07.1 +5.6**
CLNS pmax pmax
comp=Z,17nm,0.8s
CLNS pmax pmax
comp=N,26nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,7.0nm,1.2s
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS smax smax
comp=N,41nm,11.2s
CLNS smax smax
comp=E,248nm,14.2s
CLNS MLR MLR
comp=Z,250nm,20.0s
AYAN Aya Nagar 53.03 303 *e*P P 10 11 34.1 -2.9
AYAN AMB AMB 10 11 35.8
comp=Z,30nm,1.3s
POO Poona 53.60 290 *e*P **P** **10 11 39.0 -2.4**
POO *ex* x 10 14 15.0
KKR Kurukshetra 53.76 305 *e*P **P** **10 11 41.8 -0.6**
KKR AMB AMB 10 11 42.2
comp=Z,62nm,0.8s
RTK Rohtak 53.80 304 *e*P **P** **10 11 41.4 -1.2**
KHET Khetri 54.02 302 *e*P **P** **10 11 43.3 -1.0**
KHET AMB AMB 10 11 44.2
comp=Z,55nm,0.9s
KHET *ex* x 10 19 12.3
BHK Bhakra 54.57 306 *e*P **P** **10 11 48.8 +0.5**
BOD Bodaibo 54.88 352 *e*P **P** **10 11 50.1 +0.2**
BOD pmax pmax
comp=Z,26nm,0.9s
MSVF Nonsavu 55.03 115 P **P** **10 11 52.6 +0.8**
comp=Z,452nm,1.2s,SNR=8.4
MSVF Nonsavu 55.03 115 *e*P **P** **10 11 52.7 +0.9**
MSVF pmax pmax
comp=Z,145nm,1.3s
MSVF Nonsavu 55.03 115 *e*P **P** **10 11 52.7 +0.9**
comp=Z,145nm,1.3s
DLH Dalhousie 55.32 307 *e*P **P** **10 11 53.0 -0.9**
PETK Petropavlovsk- 55.51 22 P **P** **10 11 55.4 +0.8**
comp=Z,12nm,0.7s,baz=191,slow=6.0,SNR=17
PETK LR LR 10 34 48.8
comp=Z,115nm,21.7s,baz=216,slow=35
PDGK Podgornoye 57.35 321 P **P** **10 12 07.8 0.0**
PDGK pmax pmax
comp=Z,53nm,0.9s
MK31 Makanchi Array 57.50 325 *e*P **P** **10 12 08.3 -0.6**
MK31 pmax pmax
comp=Z,18nm,0.4s
MKAR Makanchi Array 57.50 325 P **P** **10 12 08.4 -0.6**
MKAR 10 13 01.7
MKAR S **S** **10 20 01.7 -0.2**
MKAR pmax pmax
comp=Z,31nm,0.5s
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR pmax pmax
comp=N,3.0nm,0.7s
MKAR smax smax
comp=N,1.0nm,1.0s
MKAR MLR MLR
comp=Z,639nm,21.7s
MKAR Makanchi Array 57.50 325 P **P** **10 12 08.3 -0.6**
comp=Z,31nm,0.5s,baz=119,slow=7.5,SNR=161
MKAR PcP **PcP** **10 13 01.7 -0.2**
comp=Z,15nm,0.8s,baz=116,slow=5.5,SNR=3.8
MKAR ScP **ScP** **10 17 00.1 +3.4**
comp=Z,3.4nm,0.7s,baz=122,slow=4.9,SNR=5.7
MKAR S **S** **10 20 01.6 -0.2**
comp=Z,1.3nm,0.9s,baz=125,slow=15,SNR=4.3
MKAR LR LR 10 38 26.0
comp=Z,638nm,21.7s,baz=110,slow=38
MKAR PKPPKP **P'P'df** **10 42 00.5 +4.5**
comp=Z,0.5nm,1.0s,baz=298,slow=2.6,SNR=3.6
JASL Jaisalmer 57.92 299 *e*P **P** **10 12 11.2 -1.0**
KSH Kashi 57.97 315 P **P** **10 12 13.6 +1.1**
KSH pP **pP** **10 12 29.6 +0.9**
KSH PP **PP** **10 14 23.8 +2.3**
KSH PcS **PcS** **10 17 05.3 -0.3**
KSH S **S** **10 20 06.3 -2.2**
KSH sS **sS** **10 20 33.8 -2.1**
KSH ScS **ScS** **10 21 53.6 -3.3**
KSH PMZ
comp=Z,46nm,1.3s
KSH LN
comp=Z,160nm,5.3s
KSH LE
comp=Z,150nm,6.0s
KSH LZ
comp=Z,550nm,19.4s
YAK Yakutsk 58.24 2 *e*P **P** **10 12 13.8 +0.1**
YAK *e* 10 12 59.7
YAK *e* 10 14 23.8
YAK *e*PPP PPP 10 15 44.0
YAK *e*S **S** **10 20 07.9 -3.0**
YAK *e* 10 21 57.3
YAK pmax pmax
comp=Z,79nm,0.9s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=Z,63nm,2.4s
YAK pmax pmax
comp=N,51nm,1.8s
YAK pmax pmax
comp=E,22nm,1.6s
YAK smax smax
comp=N,258nm,2.9s
YAK smax smax
comp=E,150nm,3.3s
YAK Yakutsk 58.24 2 LR LR 10 38 58.8
comp=E,367nm,19.7s,baz=194,slow=38
YAK Yakutsk 58.24 2 *e*P **P** **10 12 14.3 +0.6**
comp=E,94nm,0.7s
KZA Kyzart 59.54 318 P **P** **10 12 25.1 +1.3**
SNR=13
KZA Kyzart 59.54 318 *i* P **P** **10 12 25.0 +1.3**
TKM2 Tokmak 2 59.68 319 P **P** **10 12 24.0 -0.4**
SNR=21
TKM2 Tokmak 2 59.68 319 P **P** **10 12 24.1 -0.3**
TKM2 pmax pmax
comp=Z,43nm,0.9s
TKM2 Tokmak 2 59.68 319 *e*P **P** **10 12 24.0 -0.4**
comp=Z,43nm,0.8s
SFK Sufi-Kurgan 59.91 315 P **P** **10 12 25.6 -0.5**
SFK pmax pmax
comp=Z,39µm,0.9s
KBK Karagaybulak 59.99 318 P **P** **10 12 27.6 +1.1**
SNR=14
KBK Karagaybulak 59.99 318 *i* P **P** **10 12 27.6 +1.1**
UCH Uchtor 60.10 317 P **P** **10 12 27.8 +0.2**
SNR=43
UCH Uchtor 60.10 317 *i* P **P** **10 12 27.8 +0.2**
CHMS Chumysh 60.27 318 P **P** **10 12 28.6 +0.4**
SNR=9.9
CHMS Chumysh 60.27 318 *i* P **P** **10 12 28.6 +0.4**
AAK Ala-Archa 60.29 318 P **P** **10 12 29.6 +1.1**
comp=Z,86nm,0.6s,SNR=8.8
AAK Ala-Archa 60.29 318 P **P** **10 12 29.4 +0.9**
SNR=11
AAK Ala-Archa 60.29 318 *c i*P **P** **10 12 27.9 -0.6**
AAK pmax pmax
comp=Z,71nm,1.6s
AAK Ala-Archa 60.29 318 LR LR 10 41 24.4
comp=Z,128nm,20.5s,baz=88,slow=39
AAK Ala-Archa 60.29 318 *e*P **P** **10 12 28.1 -0.4**
comp=Z,20nm,1.0s
FRU Bishkek 60.29 318 *e*P **P** **10 12 28.5 +0.2**
USP Ospenovka 60.55 319 P **P** **10 12 29.7 -0.5**
SNR=48
USP Ospenovka 60.55 319 *i* P **P** **10 12 29.6 -0.5**
ZALV Zalesovo Beam 60.55 333 P **P** **10 12 28.6 -1.3**
comp=Z,9.0nm,0.4s,baz=128,slow=6.2,SNR=38
ZALV S **S** **10 20 38.1 -2.9**
comp=Z,0.9nm,0.6s,baz=124,slow=15,SNR=6.0
ZALV PKP2ab 10 42 08.4
comp=Z,0.6nm,0.6s,baz=5.4,slow=3.0,SNR=3.7
ZALV LR LR 10 42 35.6
comp=Z,345nm,18.4s,baz=70,slow=40
AML Almayashu 60.62 317 P **P** **10 12 32.2 +1.2**
SNR=53
AML Almayashu 60.62 317 *i* P **P** **10 12 32.2 +1.2**
EKS2 Erkin-Say 60.78 318 P **P** **10 12 33.0 +1.1**
SNR=33
EKS2 Erkin-Say 60.78 318 *i* P **P** **10 12 32.9 +1.1**
EKS2 Erkin-Say 60.78 318 *e*P **P** **10 12 32.0 +0.2**
comp=Z,46nm,0.8s
KBL Kabul 61.43 308 *e*P **P** **10 12 35.7 -0.8**
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 61.43 308 *e*P **P** **10 12 35.7 -0.8**
comp=Z,33nm,0.9s
MNAS Manas 61.57 317 P **P** **10 12 37.3 +0.1**
MNAS pmax pmax
comp=Z,55nm,1.0s
KURBB Kurchatov Arra 61.69 327 S **S** **10 20 55.2 -0.4**
comp=Z,0.4nm,0.8s,baz=115,slow=18,SNR=2.8
KURK Kurchatov 61.69 328 P **P** **10 12 37.8 +0.2**
comp=Z,585nm,0.6s,SNR=49
KURK Kurchatov 61.69 328 *e*P **P** **10 12 37.5 -0.1**
KURK S **S** **10 20 55.2 -0.5**
KURK pmax pmax
comp=Z,113nm,0.6s
KURK Kurchatov 61.69 328 *e*P **P** **10 12 37.5 -0.1**
comp=Z,114nm,0.6s
KURK S **S** **10 20 55.2 -0.5**
RPZ Rata Peaks 61.82 145 P **P** **10 12 38.7 +0.1**
comp=Z,20nm,0.6s,baz=269,slow=2.6,SNR=14
NVS Novosibirsk 61.84 333⇑ *i*P **P** **10 12 36.9 -1.6**
NVS *e*S **S** **10 20 52.5 -4.8**
NVS *e* 10 22 19.5
NVS pmax pmax
comp=Z,32nm,1.0s
NVS pmax pmax
comp=N,10.0nm,0.6s
NVS pmax pmax
comp=E,10.0nm,0.6s
NVS smax smax
comp=N,11nm,1.7s
NVS smax smax
comp=E,13nm,1.7s
SEY Seymchan 62.09 13 *i* P **P** **10 12 41.9 +1.8**
URZ Urewera 62.61 137 P **P** **10 12 43.7 -0.3**
comp=E,26nm,0.9s,baz=252,slow=3.6,SNR=7.2
URZ Urewera 62.61 137 *e*P **P** **10 12 44.1 +0.1**
comp=E,22nm,0.8s
DZET Dzherino 62.88 312 P **P** **10 12 45.2 -0.8**
DZET pmax pmax
comp=Z,50nm,1.0s
KK31 Karatay Array 63.16 317 *i* P **P** **10 12 47.5 -0.1**
KK31 pmax pmax
comp=Z,49nm,0.9s
KKAR Karatay Array 63.16 317 *e*P **P** **10 12 47.6 0.0**
KKAR pmax pmax
comp=Z,58nm,0.9s
KKAR Karatay Array 63.16 317 *e*P **P** **10 12 47.6 0.0**
comp=Z,58nm,0.9s
OTUK Ortayu 64.06 323 P **P** **10 12 53.0 -0.5**
OTUK pmax pmax
comp=Z,41nm,0.8s
BVA0 Borovoye Array 67.27 327 *i* P **P** **10 13 13.1 -0.9**
BVA0 pmax pmax
comp=Z,76nm,1.1s
BVAR Borovoye Array 67.27 327 LR LR 10 42 59.5
comp=Z,273nm,21.8s,baz=116,slow=36
BRVK Borovoye 67.34 327 P **P** **10 13 14.7 +0.2**
comp=Z,560nm,0.7s,SNR=52
TIXI Tiksi 67.88 1 *c e*P **P** **10 13 17.1 -0.3**
TIXI pmax pmax
comp=Z,18nm,0.7s
TIXI Tiksi 67.88 1 *e*P **P** **10 13 17.4 0.0**
comp=Z,54nm,1.2s
TIXI *e*PP **PP** **10 15 48.0 +0.3**
IDAH Dahanechah 68.48 304 *e*P **P** **10 13 22.6 +0.2**
IMYA Miami 68.95 308 *e*P **P** **10 13 24.9 -0.3**
IKOO Kooshah 69.14 303 *e*P **P** **10 13 26.7 +0.2**
ISRO Mashad 69.44 307 *e*P **P** **10 13 27.6 -0.5**
IMOG Moghan 69.51 307 *e*P **P** **10 13 29.4 +0.7**
IPAY Payeh 69.84 307 *e*P **P** **10 13 30.6 -0.1**
IAKL Akhelmad 70.06 308 *e*P **P** **10 13 31.9 -0.3**
CASY Casey 70.77 187 *e*P **P** **10 13 36.9 +1.5**
comp=Z,13nm,0.8s
GEYT Alibeck 70.81 309 P **P** **10 13 35.7 -0.6**
comp=Z,3.2nm,0.3s,baz=125,slow=4.0,SNR=7.2
GEYT LR LR 10 48 15.5
comp=Z,186nm,21.7s,baz=100,slow=39
ISHV Shirvan 71.06 308 *e*P **P** **10 13 39.0 +1.0**
IBAF Bafgh 71.92 302 *e*P **P** **10 13 42.8 -0.6**
UNV Unalaska Valle 73.53 35 *e*P **P** **10 13 53.5 +1.3**
comp=Z,70nm,1.2s
ISAD Sadrabad 73.55 302 *e*P **P** **10 13 52.2 -0.9**
AKTO Aktyubinsk 73.60 322 P **P** **10 13 51.9 -0.8**
AKTO pmax pmax
comp=Z,19nm,0.9s
AKTO Aktyubinsk 73.60 322 LR LR 10 50 53.8
comp=Z,390nm,19.0s,baz=103,slow=40
IANJ Anjilo 73.76 306 *e*P **P** **10 13 53.6 -0.7**
SVE Sverdlovsk 73.91 328⇑ *i*P **P** **10 13 54.4 0.0**
SVE pmax pmax
comp=Z,67nm,0.9s
ISHM Shahmirzad 74.31 306 *e*P **P** **10 13 57.5 0.0**
GAMB Gambell 74.48 24 *e*P **P** **10 13 59.9 +2.4**
comp=Z,15nm,0.8s
ARU Arti 74.89 328 P **P** **10 13 59.8 -0.2**
comp=Z,338nm,0.5s,SNR=22
ARU Arti 74.89 328 *c i*P **P** **10 13 59.0 -1.0**
ARU *PP **PcP** **10 14 14.1 +0.4**
ARU 10 16 44.0
ARU S **S** **10 23 32.7 +0.3**
ARU pmax pmax
comp=Z,45nm,0.8s
ARU Arti 74.89 328 *e*P **P** **10 13 59.0 -1.0**
comp=Z,32nm,0.6s
IKLH Kolahrood 75.45 303 *e*P **P** **10 14 04.3 +0.2**
IVRN Varamin 75.49 305 *e*P **P** **10 14 03.9 -0.2**
IPIR Pirpir 75.98 303 *e*P **P** **10 14 05.4 -1.8**
RAYN Ar Rayn 80.37 293 P **P** **10 14 30.9 -0.4**
comp=Z,97nm,0.8s,SNR=6.0
RAYN Ar Rayn 80.37 293 *e*P **P** **10 14 30.7 -0.6**
comp=Z,16nm,0.9s
GNI Garni 81.40 310 *d i*P **P** **10 14 37.8 +1.2**
GNI pmax pmax
comp=Z,12nm,1.7s
ZEI Tsey 82.13 313 *e*P **P** **10 14 37.8 -2.7**
ZEI pmax pmax
comp=Z,13nm,0.9s
RSO Redoubt South 82.19 30 *e*P **P** **10 14 42.2 +1.9**
comp=Z,31nm,0.8s
CRZF Crozet Islands 82.21 222 S x 10 25 37.0
CRZF R 10 50 00.0
PRGR Permogore 82.46 332⇑ *i*P **P** **10 14 41.4 -0.1**
PRGR pmax pmax
comp=Z,90nm,0.8s
PPLA Purkeypile 82.72 27 *e*P **P** **10 14 44.5 +1.4**
comp=Z,13nm,0.7s
KBZ Khabaz 82.90 313 LR LR 10 56 03.0
comp=Z,239nm,21.9s,baz=131,slow=39
KIV Kislovodsk 83.06 314 *d e*P **P** **10 14 45.1 -0.1**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,308nm,22.0s
KTH Kantishna Hill 83.36 27 *e*P **P** **10 14 46.3 +0.1**
comp=Z,38nm,1.2s
VNDA Vanda 83.41 173 P **P** **10 14 46.5 +0.3**
VNDA pmax pmax
comp=Z,2.0nm,0.5s
VNDA MLR MLR
comp=Z,111nm,18.0s
VNDA Vanda 83.41 173 P **P** **10 14 46.5 +0.3**
comp=Z,2.3nm,0.5s,baz=320,slow=6.4,SNR=21
VNDA LR LR 10 53 27.9
comp=Z,111nm,18.0s,baz=337,slow=37
VNDA Vanda 83.41 173 *e*P **P** **10 14 46.4 +0.3**
comp=Z,10nm,1.0s
TRF Thorofare Moun 83.63 27 *e*P **P** **10 14 48.6 +0.8**
comp=Z,34nm,1.0s
SEW Seward 83.80 30 P **P** **10 14 49.3 +0.9**
comp=Z,34nm,0.9s
COLD Coldfoot 83.97 23 *e*P **P** **10 14 51.2 +2.0**
comp=Z,23nm,0.9s
VRHR Novokhopersk 83.97 321 *e*P **P** **10 14 48.4 -1.1**
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,30nm,1.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
PMR Palmer 84.04 29 *e*P **P** **10 14 50.6 +1.0**
PMR pmax pmax
comp=Z,68nm,1.4s
PMR Palmer 84.04 29 *e*P **P** **10 14 50.6 +1.0**
comp=Z,68nm,1.4s
MCK McKinley 84.25 26 *e*P **P** **10 14 51.7 +0.9**
MCK pmax pmax
comp=Z,52nm,1.2s
MCK McKinley 84.25 26 *e*P **P** **10 14 51.7 +0.9**
comp=Z,52nm,1.2s
COLA College 84.78 25 *c i*P **P** **10 14 54.6 +1.3**
COLA *i* *PP **pP** **10 15 11.3 +0.8**
COLA pmax pmax
comp=Z,32nm,1.7s
COLA College 84.78 25 *e*P **P** **10 14 54.4 +1.1**
comp=Z,6.7nm,0.8s
ILAR Eielson Array 85.19 25 P **P** **10 14 55.5 +0.1**
comp=Z,3.4nm,0.8s,baz=253,slow=6.5,SNR=28
ILAR LR LR 10 50 24.9
comp=Z,102nm,20.3s,baz=284,slow=34
SOC Sochi 85.21 313 *e*P **P** **10 14 54.3 -1.6**
SOC *e**PP **pP** **10 15 10.9 -2.2**
SOC *e* 10 18 08.7
SOC *e*S S 10 25 13.5 -7.9
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,204nm,19.0s
PPT Papeete 85.24 108 LR LR 10 48 22.0
comp=Z,83nm,19.4s,baz=277,slow=32
PPT2 Papeete2 85.24 108 *e*LR LR 10 41 56.8
comp=Z,399nm,27.2s
VORD Divnogorie 85.45 321 *e*P **P** **10 14 55.7 -1.2**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=E,30nm,0.8s
VSR Storozhevoye 85.53 321 *e*P **P** **10 14 56.8 -0.5**
VSR pmax pmax
comp=Z,50nm,0.9s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.0s
DIV Divide 85.64 29 *e*P **P** **10 15 00.1 +2.2**
comp=E,54nm,0.9s

PAX **Paxson** 85.79 27 *e*P P 10 14 59.0 +0.4
PAX pmax pmax
comp=Z,68nm,1.7s
PAX **Paxson** 85.79 27 *e*P P 10 14 59.0 +0.4
comp=Z,68nm,1.7s
TBI **Tubuai** 85.90 114 *e*S S 10 25 30.9 +1.9
comp=Z,101nm,27.8s
TBI **Tubuai** 85.90 114 *e*LR LR 10 42 15.2
comp=Z,386nm,27.5s
TMCR **Tamitsa** 86.06 334 *e*P P 10 14 59.1 -0.6
TMCR pmax pmax
comp=Z,56nm,0.8s
BMRM **Bremner River** 86.21 29 P P 10 15 02.1 +1.5
comp=Z,34nm,0.9s
MALT **Malatya** 86.29 308 ⇑P P 10 15 02.9 +1.3
MALT **Malatya** 86.29 308 ⇑*i*P P 10 15 02.9 +1.3
MOS **Moscow** 86.39 325 *e*P P 10 15 00.4 -1.1
MOS *e* 10 15 18.4
MOS pmax pmax
comp=Z,77nm,1.2s
ANN **Anapa** 86.82 315 *e*P P 10 15 03.0 -0.9
ANN *e**PP pP 10 15 19.6 -1.5
ANN *e* 10 25 34.0
ANN pmax pmax
comp=Z,58nm,0.8s
ANN MLR MLR
comp=E,1μm,21.0s
ANN MLR MLR
comp=N,630nm,21.0s
ANN MLR MLR
comp=Z,1μm,21.0s
OBN **Obninsk** 87.01 325*d* *i*P P 10 15 04.7 +0.2
OBN pmax pmax
comp=Z,85nm,1.7s
OBN MLR MLR
comp=Z,356nm,24.0s
APA **Apatity** 87.83 337⇓ *i*P P 10 15 14.0 +5.8
APA MLR MLR
comp=Z,2μm,20.0s
MMAI **Mount Meron Ar** 89.00 303 LR LR 10 58 57.6
comp=Z,100nm,21.5s,baz=85,slow=38
JOF **Joensuu** 89.14 333 *e*P P 10 15 12.9 -1.6
JOF pmax pmax
comp=Z,14nm,0.6s
JOF **Joensuu** 89.14 333 *e*p P 10 15 12.9 -1.6
comp=Z,14nm,0.6s
EIL **Elat** 89.61 300 P P 10 15 18.2 +0.7
baz=90,SNR=8.3
HYT **Haines Junctio** 89.68 29 *e*P P 10 15 18.5 +1.2
BRTR **Keskin Array B** 89.93 310*ce*P P 10 15 17.8 -1.2
BRTR pmax pmax
comp=Z,13nm,0.9s
BRTR **Keskin Array B** 89.93 310 P P 10 15 17.9 -1.1
comp=Z,12nm,0.9s,baz=114,slow=4.6,SNR=43
BRTR LR LR 11 03 48.8
comp=Z,69nm,19.0s,baz=53,slow=41
ARCES **ARCESS Array B** 90.43 340 P P 10 15 19.8 -0.7
ARCES pmax pmax
comp=Z,8.0nm,0.5s
ARCES MLR MLR
comp=Z,222nm,21.6s
ARCES **ARCESS Array B** 90.43 340 P P 10 15 19.8 -0.7
comp=Z,7.5nm,0.5s,baz=83,slow=6.4,SNR=76
ARCES LR LR 10 59 41.2
comp=Z,222nm,21.6s,baz=76,slow=38
CSS **Prodhromos** 90.58 305 *e*P P 10 15 21.2 -0.7
comp=Z,4.4nm,0.8s
KAF **Kangasniemi** 91.56 332 *e*P P 10 15 23.9 -1.9
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF **Kangasniemi** 91.56 332 *e*p P 10 15 23.9 -1.9
comp=Z,6.3nm,0.5s
FINES **FINESS Array B** 91.79 332 P P 10 15 26.1 -0.7
comp=Z,2.8nm,0.5s,baz=67,slow=4.9,SNR=37
FINES LR LR 11 02 33.7
comp=Z,194nm,18.2s,baz=44,slow=39
AKASG **Malin Array Be** 91.83 321 P P 10 15 26.2 -1.1
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG MLR MLR
comp=Z,148nm,21.3s
AKASG **Malin Array Be** 91.83 321 P P 10 15 26.2 -1.1
comp=Z,6.1nm,0.7s,baz=66,slow=5.3,SNR=38
AKASG LR LR 10 59 18.8
comp=Z,148nm,21.3s,baz=60,slow=37
KIEV **Kiev** 91.84 321⇓ *i*P P 10 15 26.6 -0.7
KIEV **Kiev** 91.84 321 *e*P P 10 15 26.2 -1.1
comp=Z,8.2nm,0.9s
WRAK **Wrangell Islan** 93.05 33 *e*P P 10 15 34.1 +1.4
comp=Z,10nm,0.8s
TIRR **Tirgusor** 93.26 315⇓ P P 10 15 33.7 -0.4
TIRR **Tirgusor** 93.26 315⇓ *i*P P 10 15 33.7 -0.4
CFR **Carcaliu** 93.35 316⇓ P P 10 15 33.9 -0.6
CFR **Carcaliu** 93.35 316⇓ *i*P P 10 15 33.8 -0.7
TLB **Topalu** 93.51 315⇓ P P 10 15 35.0 -0.2
TLB **Topalu** 93.51 315⇓ *i*P P 10 15 35.0 -0.2
QSPA **South Pole Qui** 93.61 180 P P 10 15 35.8 +0.5
QSPA LR LR 10 58 33.5
comp=Z,2.4nm,0.9s,baz=318,slow=2.6,SNR=19
comp=Z,91nm,21.7s,baz=325,slow=36
DLBC **Dease Lake** 93.84 31 LR LR 10 55 05.2
comp=Z,106nm,19.9s,baz=325,slow=34
DLBC **Dease Lake** 93.84 31 P P 10 15 37.3 +0.8
TESR **Tescani** 94.17 317⇓ *i*P P 10 15 38.3 +0.1
VRI **Vrincioaia** 94.22 316⇑ P P 10 15 38.7 +0.2
VRI **Vrincioaia** 94.22 316⇑ *i*P P 10 15 38.7 +0.2
MLR **Muntele Rosu** 94.83 316⇓ P P 10 15 41.2 -0.2
MLR **Muntele Rosu** 94.83 316⇓ *i*P P 10 15 41.2 -0.2
BURAR **Bucovina Array** 94.93 318⇓ *i*P P 10 15 42.2 +0.4
BURAR **Bucovina Array** 94.93 318⇓ *i*P P 10 15 42.2 +0.4
DOPR **Dopca** 95.12 317⇓ *i*P P 10 15 42.7 +0.1
VOIR 95.45 316⇓ P P 10 15 43.5 -0.7
VOIR 95.45 316⇓ *i*P P 10 15 43.5 -0.7
ARR **Arges** 95.76 316⇑ *i*P P 10 15 45.2 -0.4
KWP **Kalwaria Pacla** 96.14 321 ⇑P P 10 15 47.7 +0.5
KWP **Kalwaria Pacla** 96.14 321 *e*P P 10 15 47.3 +0.1
KWP **Kalwaria Pacla** 96.14 321 ⇑*i*P P 10 15 47.7 +0.5
CJR **Cluj-Napoca** 96.19 318 ⇑P P 10 15 45.6 -2.0
CJR **Cluj-Napoca** 96.19 318 ⇑*i*P P 10 15 45.6 -2.0
BBB **Bella Bella** 96.41 37 LR LR 10 51 50.7
comp=Z,85nm,19.9s,baz=256,slow=31
UZH **Uzhgorod** 96.64 320 *e*P P 10 15 48.6 -0.8
UZH *e* 10 15 58.6
DRGR 96.77 318⇓ P P 10 15 50.2 0.0
DRGR 96.77 318⇓ *i*P P 10 15 50.2 0.0
GZR **Gura Zlata** 97.03 316 ⇑P Pdif 10 15 51.6 +0.1
GZR **Gura Zlata** 97.03 316 ⇑*i*P Pdif 10 15 51.6 +0.1
CRVS **Cervenica-Dubn** 97.11 320 *e*P Pdif 10 15 52.0 +0.3
CRVS pmax pmax
comp=Z,12nm,1.0s
CRVS **Cervenica-Dubn** 97.11 320 *e*P Pdif 10 15 52.0 +0.3
STHS **Stebnicka Huta** 97.12 321 *e*P Pdif 10 15 53.0 +1.3
STHS pmax pmax
comp=Z,4.0nm,0.6s
STHS **Stebnicka Huta** 97.12 321 *e*P Pdif 10 15 53.0 +1.3
MMB **Musomiste** 97.14 313 ⇑P P 10 15 50.3 -1.6
MMB **Musomiste** 97.14 313 ⇑*i*P P 10 15 50.3 -1.6
DAG **Danmarks Havn** 97.27 352 ⇑*i*P P 10 15 50.8 -0.9
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG **Danmarks Havn** 97.27 352 ⇑ *i*P P 10 15 50.8 -0.9
comp=Z,8.3nm,0.9s
SIRR **Siria** 97.60 317⇓ *i*P P 10 15 54.0 +0.1
OJC **Ojcow** 97.82 322 *e*P Pdif 10 15 55.1 +0.3
RES **Resolute Bay** 97.87 10 *e*P Pdif 10 15 54.7 +0.3
RES pmax pmax
comp=Z,3.0nm,0.8s
RES **Resolute Bay** 97.87 10 *e*P Pdif 10 15 54.7 +0.2
comp=Z,2.9nm,0.8s
NB2 **NORSAR Subarra** 98.75 334 P P 10 15 57.5 -1.2
comp=Z,6.3nm,0.8s,baz=66,slow=4.6
NB2 **NORSAR Subarra** 98.75 334 P P 10 15 57.5 -1.2
baz=66,slow=4.6
NOA **NORSAR Array B** 98.75 334 P P 10 15 57.5 -1.2
comp=Z,6.0nm,0.9s,baz=67,slow=4.6,SNR=12
NOA LR LR 11 05 16.6
comp=Z,318nm,20.8s,baz=55,slow=38
VYHS **Vyhne** 98.89 320 *e*P P 10 15 59.0 -0.6
VYHS pmax pmax
comp=Z,4.0nm,1.6s
VYHS **Vyhne** 98.89 320 PDIF P 10 15 59.0 -0.6
LSZ **Lusaka** 99.06 255 *e*P Pdif 10 16 00.7 -0.5
LSZ pmax pmax
comp=Z,2.0nm,0.8s
LSZ **Lusaka** 99.06 255 *e*P Pdif 10 16 00.7 -0.5
comp=Z,1.9nm,0.8s
YKA **Yellowknife Ar** 99.58 24 P Pdif 10 16 03.1 +0.8
comp=Z,0.6nm,0.6s,baz=296,slow=4.1,SNR=18
YKA PKKP PKKPdf 10 32 31.4 +1.3
comp=Z,0.1nm,0.5s,baz=124,slow=2.7,SNR=5.0
PKSM **Moragy** 99.64 318⇓ P Pdif 10 16 02.8 -0.1
PKSM **Moragy** 99.64 318⇓ *i*P Pdif 10 16 02.8 -0.1
BRG **Berggiesshubel** 101.18 323 *e*P Pdif 10 16 10.4 +0.7
comp=Z,8.8nm,1.0s
BRG **Berggiesshubel** 101.18 323 *e*P Pdif 10 16 10.4 +0.7
BRG pmax pmax
comp=Z,9.0nm,1.0s
GERES **GERESS Array B** 102.02 322 P Pdif 10 16 13.9 +0.3
GERES 10 20 27.2
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES **GERESS Array B** 102.02 322 P Pdif 10 16 13.9 +0.3
comp=Z,1.1nm,0.7s,baz=64,slow=6.1,SNR=8.6
GERES PP PP 10 20 27.2 +1.8
comp=Z,1.2nm,0.8s,baz=97,slow=5.4,SNR=4.8
NVAR **Mina Array Bea** 107.03 48 Pdiff Pdif 10 16 37.3 +1.0
comp=Z,0.2nm,0.4s,baz=256,slow=7.0,SNR=3.3
NVAR PP PP 10 21 05.9 +2.8
comp=Z,0.4nm,0.6s,baz=262,slow=2.6,SNR=3.5
NVAR PKKP PKKPdf 10 32 17.0 +0.5
comp=Z,0.6nm,0.7s,baz=127,slow=5.7,SNR=4.7
LPG **La Plagne** 107.68 320 *e*PKIKP PKiKP 10 20 41.2 -5.6
comp=Z,10nm,0.8s
KEST **Kesra** 109.54 310 PP PP 10 21 22.5 +1.3
comp=Z,1.2nm,0.8s,baz=76,slow=4.2,SNR=6.1
PDAR **Pinedale Array** 111.47 41 PKKP PKKPab 10 31 59.1 -0.2
comp=Z,0.9nm,0.8s,baz=164,slow=3.6,SNR=6.7
ESDC **Sonseca Array** 117.39 319 PP PP 10 22 19.1 +2.5
comp=Z,0.7nm,0.8s,baz=52,slow=5.0,SNR=4.2
TXAR **Lajitas Array** 121.73 52 PKP PKPdf 10 21 15.2 +1.4
comp=Z,0.3nm,0.5s,baz=326,slow=3.3,SNR=4.0
TORD **Torodi Ar. Bea** 122.80 288 PKP PKPdf 10 21 16.2 +0.2
comp=Z,2.0nm,0.8s,baz=49,slow=1.9,SNR=13
TORD PKKPbc PKKPab 10 31 09.6 +0.3
comp=Z,0.9nm,0.8s,baz=244,slow=3.1,SNR=7.8
JCT **Junction City** 124.19 49 *e*PKIKP PKPdf 10 21 19.3 +0.9
JCT **Junction City** 124.19 49 *e*PKPdf PKPdf 10 21 19.3 +0.9
MIAR **Mount Ida** 126.39 41 PKIKP PKPdf 10 21 22.6 +0.1
MIAR **Mount Ida** 126.39 41 PKPdf PKPdf 10 21 22.6 +0.1
DBIC **Dimbokro** 130.45 282 PKIKP PKPdf 10 21 32.3 +1.5
DBIC pmax pmax
comp=Z,2.0nm,0.5s
DBIC **Dimbokro** 130.45 282 PKP PKPdf 10 21 32.2 +1.5
comp=Z,1.7nm,0.5s,baz=268,slow=2.3,SNR=3.7
CMIG **Matias Romero** 134.14 62 PKP PKPdf 10 21 37.3 -0.3
comp=Z,1.0nm,0.5s,baz=261,slow=4.8,SNR=2.8
PLCA **Paso Flores** 140.03 160 PKIKP PKPdf 10 21 49.6 +1.6
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA **Paso Flores** 140.03 160 PKP PKPdf 10 21 49.6 +1.6
comp=Z,2.2nm,0.7s,baz=211,slow=5.4,SNR=4.9
TRQA **Tornquist** 144.92 168 PKPdf PKPdf 10 21 56.5 -0.2
JTS **JuntasAbangare** 145.65 66 PKP2 PKPab 10 22 00.3 +1.0
JTS pmax pmax
comp=Z,11nm,0.6s
JTS **JuntasAbangare** 145.65 66 PKPbc PKPab 10 22 00.3 +1.0
comp=Z,11nm,0.6s,baz=12,slow=2.1,SNR=18
CFAA **Coronel Fontan** 148.93 155 PKPbc PKPbc 10 22 08.3 +0.7
comp=Z,1.2nm,0.5s,baz=214,slow=3.5,SNR=24
LCO **Las Campanas** 149.94 149 *e*PKPbc PKPbc 10 22 11.8 +1.3
LCO *e*PKPab PKPab 10 22 17.1 +1.0
BCIP **Isla Barro Col** 150.72 64 *e*PKPdf PKPdf 10 22 07.5 +0.7
ATAH **Atahualpa** 154.90 99 PKPbc PKPbc 10 22 25.4 +3.2
comp=Z,6.6nm,0.9s,baz=0.0,slow=2.0,SNR=4.0
ATAH PKPab PKPab 10 22 37.8 +0.1
comp=Z,11nm,0.9s,baz=105,slow=3.2,SNR=4.5
LVC **Limon Verde** 155.94 143 PKPab PKPab 10 22 39.6 -1.9
comp=Z,19nm,0.9s,baz=238,slow=6.8,SNR=3.8
SDV **Santo Domingo** 158.76 54 *e*PKPdf PKPdf 10 22 18.1 0.0
LPAZ **La Paz** 160.87 132 PKP PKPdf 10 22 21.9 +0.9
comp=Z,0.6nm,0.6s,baz=236,slow=3.6,SNR=2.9
LPAZ PKPab PKPab 10 23 03.2 -0.3
comp=Z,2.3nm,0.8s,baz=248,slow=5.4,SNR=3.7
RCBR **Riachuelo** 162.43 262 PKPab PKPab 10 23 07.6 -2.3
comp=Z,14nm,0.9s,baz=83,slow=8.1,SNR=3.2
SAML **Samuel** 168.98 119 *e*PKPab PKPab 10 23 38.7 +0.1
PTGA **Pitinga** 172.82 66 PKPab PKPab 10 23 55.9 +0.2
comp=Z,1.5nm,0.3s,baz=128,slow=0.7,SNR=6.9

*ISCJB **17** 10:09:49.2±0.5, 33°.91S±0°.04×71°.32W±0°.07, h64km±5km, mb3.9/6, Error ellipse: s-maj=10.4km s-min=5.5km az=19.0*
*IDC **17** 10:09:50.0±0.8, 33°.88S×71°.52W, h57km±6km, mb3.7/4, mb1 3.9/8, mb1mx3.7/19, mbtmp4.0/8, Error ellipse: s-maj=24.2km s-min=13.5km az=127.0*
*NEIC **17** 10:09:50.0, 33°.93S×71°.26W, h50km, mb3.7/4, After GUC.*
NEIC Felt [III] at Mostazal, Rancagua, San Antonio, San Fernando and Santiago and [II] at Santa Cruz and San Felipe.
*GUC **17** 10:09:50.0±0.6, 33°.93S×71°.27W, h50km±4km, ML4.1*

ISC 17 10:09:49.9±0.7, 33°.92S±0°.04×71°.30W±0°.05, h55km±6km, n40, σ1s12/58, mb3.9/6, 7C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	0.10	249	⇑*i*P		Pn	10 09 57.9	-0.4
TACH	**Talagante**	0.40	48	⇑*i*P		Pn	10 10 00.4	-0.1
CHCH	**Chadas Angostu**	0.54	92	⇑*i*P		Pn	10 10 02.0	0.0
CACH	**El Canelo**	0.61	109	⇓*i*P		Pn	10 10 03.4	+0.5
CACH				*e*S		Sn	10 10 13.5	+1.1
SAN	**Santiago**	0.71	49	⇑*i*P		Pn	10 10 04.2	+0.2
SAN				*i* S		Sn	10 10 14.4	+0.2
PCH	**Pirque**	0.72	66	⇑*i*P		Pn	10 10 04.3	+0.2
PCH				*i* S		Sn	10 10 14.7	+0.1
FSR	**Penalolen**	0.78	56	⇓*e*P		Pn	10 10 06.1	+1.2
FSR				*e*S		Sn	10 10 17.4	+1.4
LACH	**Col Las Americ**	0.79	54	⇓*i*P		Pn	10 10 05.0	0.0
LACH				*i* S		Sn	10 10 17.0	+0.8
CLCH	**Cerro Calan**	0.82	51	⇓*i*P		Pn	10 10 05.9	+0.4
CLCH				⇓*e*P		Pn	10 10 06.5	+0.9
CLCH				*i* S		Sn	10 10 17.7	+0.8
CLCH				AML	AML	10 10 20.4	
	comp=E,15μm,0.3s						
CLCH				AML	AML	10 10 21.1	
	comp=E,15μm,0.3s						
SJCH	**San Jose de Ma**	0.83	71	⇓*i*P		Pn	10 10 05.1	-0.6
SJCH				*i* S		Sn	10 10 16.9	-0.3
PEL	**Peldehue**	0.93	34	⇑*i*P		Pn	10 10 07.4	+0.5
PEL				*i* S		Sn	10 10 20.8	+1.4
PEL				AML	AML	10 10 21.5	
	comp=N,14μm,0.3s						
IHA	**Instituto Hidr**	0.94	342	⇑*i*P		Pn	10 10 07.2	+0.3
IHA				*i* S		Sn	10 10 20.6	+1.2
YECH	**El Yeso**	1.04	76	⇓*i*P		Pn	10 10 06.2	-2.4
YECH				*i* S		Sn	10 10 23.4	+1.0
YECH				AML	AML	10 10 25.4	
	comp=N,7μm,0.3s						
NICH	**Los Niches**	1.08	177	*e*P		Pn	10 10 09.0	+0.2
NICH				*i* S		Sn	10 10 23.4	+0.6
TALC	**Talca**	1.50	191	*e*P		Pn	10 10 15.1	+0.6
TALC				*i* S		Sn	10 10 33.8	+0.9
CFAA	**Coronel Fontan**	3.46	49	P		Pn	10 10 43.7	+2.4
	comp=N,5.3nm,0.3s,baz=222,slow=12,SNR=145						
CFAA				S		Sn	10 11 25.9	+4.7
	comp=N,2.1nm,0.3s,baz=174,slow=21,SNR=3.7						
LCO	**Las Campanas**	4.92	6	*e*Pn		Pn	10 11 01.6	0.0
PLCA	**Paso Flores**	6.83	175	P		Pn	10 11 29.6	+2.1
	comp=N,1.6nm,0.3s,baz=346,slow=13,SNR=28						
PLCA	**Paso Flores**	6.83	175	*e*Pn		Pn	10 11 29.2	+1.7
	comp=N,6.0nm,0.4s						
TRQA	**Tornquist**	8.61	121	*e*Pn		Pn	10 11 52.9	+1.1
	comp=N,9.8nm,0.8s						
LVC	**Limon Verde**	11.46	11	P		Pn	10 12 30.2	-0.9
	comp=N,19nm,0.3s,baz=186,slow=9.6,SNR=4.4						
LVC	**Limon Verde**	11.46	11	*e*Pn		Pn	10 12 29.8	-1.4
LPAZ	**La Paz**	17.79	10	P		Pn	10 13 54.0	-0.2
	comp=N,0.2nm,0.3s,baz=178,slow=9.1,SNR=6.6						
LPAZ				pP		pP	10 14 06.0	-0.5
	comp=N,0.3nm,0.3s,baz=184,slow=16,SNR=3.4						
LPAZ	**La Paz**	17.79	10	*e*P		P	10 13 55.0	+0.5
	comp=N,2.8nm,0.6s						
SIV	**San Ignacio**	20.09	30	P		P	10 14 18.7	-0.4
	comp=N,2.9nm,0.5s,baz=210,slow=10.0,SNR=15						
SAML	**Samuel**	25.95	19	*e*P		P	10 15 17.3	0.0
	comp=N,2.6nm,0.6s						
QSPA **South Pole Qui** 56.32 180 P P 10 19 26.1 +1.2
comp=N,1.8nm,0.8s,baz=117,slow=3.3,SNR=5.8
TXAR **Lajitas Array** 69.97 330 P P 10 20 56.3 +0.7
comp=N,0.4nm,0.5s,baz=157,slow=7.9,SNR=5.3
TXAR pP pP 10 21 10.3 -0.5
comp=N,0.5nm,0.6s,baz=154,slow=8.3,SNR=4.6
MNTX **Cornudas Mount** 72.75 330 *e*P P 10 21 11.7 -0.6
comp=N,0.3nm,0.4s
WMOK **Wichita Mounta** 73.00 337 *e*P P 10 21 14.4 +0.7
comp=N,0.7nm,0.5s
TORD **Torodi Ar. Bea** 83.61 70 P P 10 22 12.4 -0.3
comp=N,1.4nm,0.7s,baz=268,slow=7.2,SNR=6.8
WRA **Warramunga Arr** 121.13 208 PKP PKPdf 10 28 36.4 -0.7
comp=N,0.3nm,0.6s,baz=154,slow=1.8,SNR=3.9
ARCES **ARCESS Array B** 123.69 25 PKP PKPdf 10 28 40.1 -0.3
comp=N,3.5nm,0.9s,baz=86,slow=1.6,SNR=4.2
SEY **Seymchan** 140.27 330 PKP PKPdf 10 29 11.9 +0.2
comp=N,0.7nm,0.6s,baz=168,slow=4.5,SNR=4.4
ABKAR **Akbulak array** 141.15 52 *e*PKPdf PKPdf 10 29 13.0 -0.7
BVAR **Borovoye Array** 146.80 43 PKPbc PKPbc 10 29 24.5 -0.9
comp=N,1.1nm,0.3s,baz=284,slow=2.9,SNR=5.1
BVAR pPKPbc pPKPbc 10 29 41.5 0.0
comp=N,0.7nm,0.7s,baz=297,slow=4.4,SNR=2.0
AAK **Ala-Archa** 151.93 62 PKPbc PKPbc 10 29 37.9 -0.9
comp=N,1.4nm,0.6s,baz=117,slow=2.3,SNR=5.4
KURBB **Kurchatov Arra** 152.39 44 PKPbc PKPbc 10 29 38.6 -0.7
comp=N,1.1nm,0.5s,baz=303,slow=2.9,SNR=12
KURBB pPKPbc pPKPbc 10 29 55.0 -0.6
comp=N,0.4nm,0.5s,baz=306,slow=2.9,SNR=3.0
ZALV **Zalesovo Beam** 153.83 33 PKPbc PKPbc 10 29 42.5 +0.1
comp=N,1.5nm,0.6s,baz=306,slow=3.6,SNR=9.0
ZALV PKPab PKPab 10 29 54.8 -0.8
comp=N,1.0nm,0.6s,baz=322,slow=4.6,SNR=5.0
MKAR **Makanchi Array** 156.25 49 PKPab PKPab 10 30 05.5 -0.8
comp=N,0.5nm,0.7s,baz=318,slow=4.5,SNR=4.7

MEX 17 10:15:40.6±1.1, 32°.89N×115°.61W, h17km±71km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	0.59	144	*e*P		Pg	10 15 50.6	-1.6
MBIG				*i* S		Sg	10 15 57.4	-2.6
CBX	**Cerro Bola**	1.06	238	*i* P		Pb	10 15 57.6	-3.1
CBX				*e*S		Sb	10 16 09.1	-5.3
SPIG	**San Pedro Mart**	1.84	176	*i* P		Pn	10 16 09.3	-2.6
SPIG				*i* S		Sn	10 16 30.6	-4.5

DJA 17 10:17:36.5±1.5, 3°S±12°×13°9E±°, h14km±9km, M3.8/3, MLv3.8/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	0.87	59	P		Pg	10 17 52.4	-1.0
GENI				S		Sg	10 18 04.7	-0.1
SMPI	**Sarmi**	1.26	326	P		Pn	10 17 56.9	-2.8
SMPI				S		Sn	10 18 16.4	-0.1
JAY	**Jayapura**	1.39	68	P		Pn	10 18 01.5	0.0
JAY				S		Sn	10 18 18.2	-1.5

IDC 17 10:29:58.2±338.0, 54°.21N×42°.20E, h0km, Error ellipse: s-maj=145.3km s-min=78.2km az=138.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	3.79	314	*i*		10 53 40.0	
	baz=129,slow=322,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	10.42	105	*i*		11 35 00.0	
	baz=297,slow=317,SNR=0.7						
I46RU	**ZALESOVO INFRA**	24.73	73	*i*		13 01 30.0	
	baz=288,slow=328,SNR=1.0						

*ISCJB **17** 10:39:03.5±0.7, 61°.0S±0°.1×25°.4W±0°.3, h10km, mb4.1/8, Error ellipse: s-maj=24.7km s-min=9.8km az=147.9*
*IDC **17** 10:39:04.3±0.7, 60°.85S×25°.72W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.2/16, mbtmp4.2/9, ML4.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.8/17, Error ellipse: s-maj=26.6km s-min=18.5km az=70.0*
*AWI **17** 10:39:17.7, 62°.58S×28°.30W*

ISC 17 10:39:05.7±0.6, 60°.9S±0°.1×25°.6W±0°.2, h10km, n26, σ1s04/18, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	12.03	152	P	**Pn**	**10 41 56.4**	**-0.4**
VNA1	**Neumayer--Stat**	12.03	152	S	Sn	10 44 01.9	-8.9
VNA3	**Neumayer Olymp**	12.16	155	P	**Pn**	**10 41 57.5**	**-1.3**
VNA3	**Neumayer Olymp**	12.16	155	S	Sn	10 44 00.2	-14
VNA2	**Neumayer--Watz**	12.43	151	P	**Pn**	**10 42 00.7**	**-1.6**
	baz=309,slow=18						
VNA2	**Neumayer--Watz**	12.43	151	S	Sn	10 44 07.7	-13
	baz=317,slow=20						
SNAA	**Sanae**	14.02	150	Pn	**Pn**	**10 42 23.2**	**-0.9**
	1.4nm,0.3s,baz=310,slow=15,SNR=83						
SNAA				Sn	Sn	10 44 47.9	-12
	0.4nm,0.3s,baz=305,slow=18,SNR=7.5						
SNAA				LR	LR	10 46 38.9	
	comp=Z,52nm,20.9s,baz=347,slow=32						
QSPA	**South Pole Qui**	29.33	180	P	P	**10 45 09.4**	**+1.1**
	3.8nm,0.7s,baz=202,slow=3.2,SNR=32						
PLCA	**Paso Flores**	33.91	286	P	P	**10 45 49.6**	**+1.0**
	3.0nm,1.0s,baz=326,slow=10,SNR=3.4						
CFAA	**Coronel Fontan**	40.38	297	P	P	**10 46 42.6**	**-1.0**
	0.6nm,0.7s,baz=156,slow=6.8,SNR=7.8						
VNDA	**Vanda**	41.74	182	P	P	**10 46 54.4**	**+0.2**
	1.6nm,0.7s,baz=189,slow=4.3,SNR=9.4						
H10S2	**ASCENSION HYDR**	52.48	14	T	T	11 45 01.7	
	baz=186,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	52.49	14	T	T	11 45 10.9	
	baz=186,slow=75,SNR=10						
H10S1	**ASCENSION HYDR**	52.50	14	T	T	11 45 04.6	
	baz=186,slow=75,SNR=7.8						
H10N3	**ASCENSION HYDR**	53.60	14	T	T	11 46 26.9	
	baz=187,slow=74,SNR=8.1						
H10N2	**ASCENSION HYDR**	53.62	14	T	T	11 46 25.1	
	baz=267,slow=74,SNR=4.2						
LPAZ	**La Paz**	53.91	307	P	P	**10 48 28.1**	**-1.8**
	1.4nm,0.5s,baz=125,slow=4.5,SNR=8.9						
DBIC	**Dimbokro**	69.31	22	P	P	**10 50 13.1**	**+0.1**
	2.8nm,0.7s,baz=192,slow=6.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	76.95	27	P	P	**10 50 58.5**	**+0.3**
	1.3nm,0.4s,baz=202,slow=5.8,SNR=20						
ASAR	**Alice Springs**	94.10	161	P	P	**10 52 24.7**	**+0.3**
	0.7nm,0.7s,baz=182,slow=4.6,SNR=13						
FINES	**FINESS Array B**	128.28	29	PKP	**PKPdf**	**10 58 09.8**	**-0.8**
	1.2nm,0.9s,baz=342,slow=0.4,SNR=3.7						
AKTO	**Aktyubinsk**	129.49	55	PKP	**PKPdf**	**10 58 13.9**	**+0.5**
	0.5nm,0.5s,baz=93,slow=0.4,SNR=3.6						
YKA	**Yellowknife Ar**	140.24	313	PKP	**PKPdf**	**10 58 33.7**	**+0.7**
	0.4nm,0.7s,baz=130,slow=2.5,SNR=11						
SONM	**Songino Array**	149.88	94	PKPbc	**PKPbc**	**10 58 54.7**	**-0.4**
	1.7nm,0.8s,baz=280,slow=2.7,SNR=7.4						
KSRS	**Korea Array**	151.22	133	PKPbc	**PKPbc**	**10 58 59.6**	**+1.2**
	0.5nm,0.4s,baz=186,slow=1.5,SNR=3.5						
ILAR	**Eielson Array**	153.77	304	PKPbc	**PKPbc**	**10 59 04.1**	**+0.8**
	1.3nm,0.9s,baz=143,slow=2.3,SNR=9.7						

*IDC **17** 10:43:06.1±1.9, 2°.72N×31°.88E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML3.6/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/38, Error ellipse: s-maj=44.5km s-min=22.4km az=34.0*

ISC 17 10:43:02.4±1.5, 2°.0N±0°.1×31°.4E±0°.3, h10km, n10, σ2s34/9, mb3.8/6, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	6.66	118	Pn	Pn	10 44 44.6	+4.0
	1.2nm,0.3s,baz=286,slow=16,SNR=6.0						
KMBO				Lg	Lg	10 46 35.0	
	2.5nm,0.3s,baz=11,slow=21,SNR=5.5						
MAUS	**Longido**	7.12	131	*i* P	**Pn**	**10 44 49.9**	**+3.1**
MAUS				*i* S	**Sn**	**10 46 05.8**	**-2.1**
DODT	**Dodoma, Tanzan**

BVAR	**Borovoye Array**	**60.22**	**26**	LR	LR	11 20 03.2	
	comp=Z,68nm,18.9s,baz=248,slow=37						
KURBB	**Kurchatov Arra**	**62.65**	**32**	P	**P**	**10 53 26.8**	**-0.2**
	0.6nm,0.7s,baz=241,slow=6.9,SNR=4.4						
MKAR	**Makanchi Array**	**62.74**	**37**	P	**P**	**10 53 27.3**	**-0.6**
	0.8nm,0.6s,baz=238,slow=6.0,SNR=10						
ZALV	**Zalesovo Beam**	**67.68**	**31**	P	**P**	**10 53 59.3**	**-0.5**
	0.3nm,0.4s,baz=211,slow=8.2,SNR=3.2						

TIR ***17*** *10:49:56.2±12.0, 41.°13N×20.°23E, h7*km*±282*km*, ML2.8*
ATH ***17*** *10:49:58.5, 41.°30N×20.°29E, h10*km*±1*km*, MD3.5/20*
THE ***17*** *10:49:59.9, 41.°19N×20.°27E, h0*km*±1*km*, ML2.6/4, Error ellipse: s-maj=2.0km s-min=0.7km az=8.0*
SKO ***17*** *10:50:00.6, 41.°18N×20.°27E, h0*km
PDG ***17*** *10:50:00.2±0.5, 41.°20N×20.°32E, h3*km*, ML3.0/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
CSEM ***17*** *10:50:00.7±0.2, 41.°17N×20.°32E, h2*km*, ML2.6, Error ellipse: s-maj=5.7km s-min=3.0km az=63.0*
BEO ***17*** *10:50:01.7±0.5, 41.°20N×20.°32E, h0*km*, ML2.9/7*

ISC 17 10:50:00.5±1.0, 41.°19N±0.°01×20.°32E±0.°02, h6km**±9**km**, n105, σ1°29/172, 11C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.38**	**296**	P	**Pg**	**10 50 06.4**	**-1.5**
TIR	**Tirane**	**0.38**	**296**	*e*Pg	**Pg**	**10 50 08.1**	**+0.2**
TIR				*e*Sg	**Sg**	**10 50 12.9**	**0.0**
TIR	**Tirane**	**0.38**	**296**	*e*Pg	**Pg**	**10 50 08.1**	**+0.2**
TIR				*e*Sg	**Sg**	**10 50 12.9**	**0.0**
PHP	**Peshkopia**	**0.51**	**10**	*i* PG	**Pg**	**10 50 09.7**	**-0.6**
PHP				*i* SG	**Sb**	**10 50 18.9**	**-0.7**
PHP	**Peshkopia**	**0.51**	**10**	P	**Pg**	**10 50 09.7**	**-0.6**
PHP	**Peshkopia**	**0.51**	**10**	*i* Pg	**Pg**	**10 50 09.6**	**-0.6**
	SNR=102						
PHP				*i* Sg	**Sb**	**10 50 18.9**	**-0.7**
	SNR=102						
KBN	**Korca**	**0.66**	**148**	*i* PG	**Pg**	**10 50 12.6**	**-0.7**
KBN				*i* SG	**Sg**	**10 50 17.1**	**-4.8**
KBN	**Korca**	**0.66**	**148**	P	**Pg**	**10 50 13.0**	**-0.2**
KBN	**Korca**	**0.66**	**148**	*i* Pg	**Pg**	**10 50 12.6**	**-0.7**
	SNR=104						
FNA	**Florina**	**0.89**	**116**	*i* SG	**Pg**	**10 50 16.9**	**-0.7**
FNA				*i* PG	**Sb**	**10 50 31.1**	**+0.4**
FNA	**Florina**	**0.89**	**116**	P	**Pg**	**10 50 16.9**	**-0.7**
FNA				S	**Sn**	**10 50 31.4**	**-1.6**
FNA	**Florina**	**0.89**	**116**	*e*PB	**Pg**	**10 50 16.8**	**-0.8**
FNA				*e*SG	**Sn**	**10 50 31.4**	**-1.6**
FNA	**Florina**	**0.89**	**116**	*e*Pb	**Pg**	**10 50 16.8**	**-0.8**
FNA				S	**Sn**	**10 50 31.4**	**-1.6**
PUK	**Puka**	**0.92**	**340**	*i* SG	**Pn**	**10 50 22.4**	**+2.3**
PUK				*i* PG	**Sn**	**10 50 31.5**	**-2.1**
NEST	**Nestorio**	**0.95**	**144**	P	**Pg**	**10 50 18.0**	**-0.7**
NEST				S	**Sb**	**10 50 32.4**	**+0.1**
NEST	**Nestorio**	**0.95**	**144**	*e*PG	**Pg**	**10 50 17.9**	**-0.7**
NEST				*e*SB	**Sb**	**10 50 32.8**	**+0.5**
NEST	**Nestorio**	**0.95**	**144**	*e*Pg	**Pg**	**10 50 17.9**	**-0.7**
NEST				S	**Sb**	**10 50 32.4**	**+0.1**
NEST				*e*Sb	**Sb**	**10 50 32.8**	**+0.5**
ULC	**Ulcinj**	**1.12**	**314**	⇑*i* Pg	**Pb**	**10 50 19.9**	**-2.4**
ULC				*e*Sg	**Sn**	**10 50 38.0**	**-0.6**
SKO	**Skopje**	**1.15**	**46**	*e*Pg	**Pb**	**10 50 22.0**	**-0.8**
SKO				*e*Sg	**Sg**	**10 50 37.7**	**+0.2**
SKO	**Skopje**	**1.15**	**46**	*e*Pg	**Pb**	**10 50 22.0**	**-0.8**
SKO				*e*Sg	**Sg**	**10 50 37.7**	**+0.2**
BCI	**Bajram Curri**	**1.20**	**351**	*i* PG	Pg	10 50 27.4	+3.9
BCI				*i* SG	**Sn**	**10 50 41.7**	**+1.2**
DRME	**Dracevica, Mon**	**1.31**	**320**	⇑*i* Pg	**Pn**	**10 50 23.4**	**-2.0**
DRME				*e*Sg	**Sg**	**10 50 44.7**	**+2.0**
DRME	**Dracevica, Mon**	**1.31**	**320**	⇑*i* Pg	**Pn**	**10 50 23.4**	**-2.0**
DRME				*e*Sg	**Sg**	**10 50 44.7**	**+2.0**
KZN	**Kozani**	**1.41**	**128**	P	**Pn**	**10 50 26.3**	**-0.5**
KZN				S	**Sg**	**10 50 47.4**	**+1.6**
KZN	**Kozani**	**1.41**	**128**	*e*PG	**Pn**	**10 50 26.2**	**-0.5**
KZN				*e*SB	**Sg**	**10 50 47.2**	**+1.4**
KZN	**Kozani**	**1.41**	**128**	P	**Pn**	**10 50 26.3**	**-0.5**
KZN				*e*Sb	**Sg**	**10 50 47.2**	**+1.4**
PVY	**Plav**	**1.43**	**349**	⇓*i* Pg	**Pn**	**10 50 26.0**	**-1.2**
PVY				*e*Sg	**Sg**	**10 50 49.1**	**+2.5**
PDG	**Podgorica**	**1.48**	**328**	*e*Pg	**Pn**	**10 50 26.9**	**-0.8**
PDG				*e*Sg	**Sb**	**10 50 47.3**	**-0.1**
PDG	**Podgorica**	**1.48**	**328**	*e*Pg	**Pn**	**10 50 26.9**	**-0.8**
PDG				*e*Sg	**Sb**	**10 50 47.3**	**-0.1**
TTG	**Podgorica**	**1.48**	**328**	⇓*i* Pg	**Pn**	**10 50 26.2**	**-1.5**
TTG				*e*Sg	**Sg**	**10 50 50.3**	**+2.3**
KEK	**Kerkira**	**1.52**	**195**	P	**Pn**	**10 50 27.8**	**-0.5**
KEK				S	**Sb**	**10 50 48.8**	**+0.1**
KEK	**Kerkira**	**1.52**	**195**	*e*PB	**Pb**	**10 50 29.1**	**-0.1**
KEK				*e*SB	**Sg**	**10 50 50.9**	**+1.5**
KEK	**Kerkira**	**1.52**	**195**	P	**Pn**	**10 50 27.8**	**-0.5**
KEK	**Kerkira**	**1.52**	**195**	*e*Pb	**Pb**	**10 50 29.1**	**-0.1**
KEK				S	**Sb**	**10 50 48.8**	**+0.1**
KEK				*e*Sb	**Sg**	**10 50 50.9**	**+1.5**
BUM	**Brajici-Budva**	**1.54**	**317**	⇓*i* Pg	**Pn**	**10 50 28.1**	**-0.6**
BUM				*e*Sg	**Sg**	**10 50 52.9**	**+2.8**
BUM	**Brajici-Budva**	**1.54**	**317**	⇓*i* Pg	**Pn**	**10 50 28.1**	**-0.6**
BUM				*e*Sg	**Sg**	**10 50 52.9**	**+2.8**
MEV	**Metsovon**	**1.56**	**153**	P	**Pn**	**10 50 28.9**	**-0.1**
MEV	**Metsovon**	**1.56**	**153**	P	**Pn**	**10 50 28.9**	**-0.1**
JAN	**Janina**	**1.58**	**165**	*e*PN	**Pg**	**10 50 30.9**	**+0.1**
JAN				*e*SG	**Sg**	**10 50 54.4**	**+3.2**
JAN	**Janina**	**1.58**	**165**	*e*Pn	**Pg**	**10 50 30.9**	**+0.1**
JAN				*e*Sg	**Sg**	**10 50 54.4**	**+3.2**
IGT	**Igoumenitsa**	**1.65**	**180**	*e*PN	**Pb**	**10 50 30.9**	**-0.4**
IGT				*e*SN	**Sg**	**10 50 54.6**	**+1.1**
IGT	**Igoumenitsa**	**1.65**	**180**	*e*Pn	**Pb**	**10 50 30.9**	**-0.4**
IGT				*e*Sn	**Sg**	**10 50 54.6**	**+1.1**
BEY	**Berane**	**1.72**	**349**	*e*Pn	**Pb**	**10 50 31.7**	**-0.8**
BEY				*e*Sn	**Sg**	**10 50 57.8**	**+2.2**
IVA	**Berane**	**1.72**	**349**	*e*Pn	**Pb**	**10 50 31.7**	**-0.8**
IVA				*e*Sn	**Sg**	**10 50 57.8**	**+2.2**
HCY	**Herceg Novi**	**1.86**	**313**	⇓*i* Pn	**Pn**	**10 50 33.4**	**+0.5**
HCY				*e*Sn	**Sg**	**10 51 00.9**	**+0.7**
HCY	**Herceg Novi**	**1.86**	**313**	⇓*i* Pn	**Pn**	**10 50 33.4**	**+0.5**
HCY				*e*Sn	**Sg**	**10 51 00.9**	**+0.7**
NKME	**Niksic**	**1.88**	**328**	⇑*i* Pn	**Pn**	**10 50 33.6**	**+0.3**
NKME				*e*Sn	**Sg**	**10 51 01.4**	**+0.5**
NKME	**Niksic**	**1.88**	**328**	⇑*i* Pn	**Pn**	**10 50 33.6**	**+0.3**
NKME				*e*Sn	**Sg**	**10 51 01.4**	**+0.5**
NKY	**Niksic**	**1.90**	**329**	⇓*i* Pn	**Pn**	**10 50 34.2**	**+0.5**
NKY				*e*Sn	**Sg**	**10 51 01.6**	**-0.1**
NKY	**Niksic**	**1.90**	**329**	⇓*i* Pn	**Pn**	**10 50 34.2**	**+0.5**
NKY				*e*Sn	**Sg**	**10 51 01.6**	**-0.1**
KNT	**Kendrikon**	**1.95**	**90**	*e*PN	**Pn**	**10 50 34.3**	**+0.2**
KNT				*e*SB	**Sn**	**10 50 59.0**	**+0.1**
LIT	**Litokhoron**	**1.97**	**123**	*e*PN	**Pn**	**10 50 35.1**	**+0.6**
BARS	**Barje**	**1.98**	**34**	*e*Pn	**Pb**	**10 50 36.5**	**-0.4**
BARS	**Barje**	**1.98**	**34**	*e*Pn	**Pb**	**10 50 36.5**	**-0.4**
THL	**Klokotos Trika**	**2.07**	**141**	*e*PN	**Pb**	**10 50 37.2**	**-1.3**
THL				*e*SN	**Sb**	**10 51 05.1**	**+0.6**
SJES	**Sjenica**	**2.09**	**353**	*e*Pg	**Pb**	**10 50 39.3**	**+0.4**
SJES				*e*Sg	**Sg**	**10 51 08.6**	**+0.9**
SJES	**Sjenica**	**2.09**	**353**	*e*Pg	**Pb**	**10 50 39.3**	**+0.4**
SJES				*e*Sg	**Sg**	**10 51 08.6**	**+0.9**
SELS	**Selova**	**2.12**	**16**	*e*Pn	**Pb**	**10 50 38.1**	**-1.2**
SELS				*e*Sg	**Sg**	**10 51 07.8**	**-0.7**
TREB	**Trebinje**	**2.12**	**317**	*e*PN	**Pb**	**10 50 38.9**	**-0.5**
TREB	**Trebinje**	**2.12**	**317**	*e*Pn	**Pb**	**10 50 38.9**	**-0.5**
DSL	**Palaion Diasel**	**2.13**	**164**	*e*PN	**Pb**	**10 50 38.1**	**-1.5**
DSL				*e*SN	**Sb**	**10 51 07.3**	**+1.0**
DSL	**Palaion Diasel**	**2.13**	**164**	*e*Pn	**Pb**	**10 50 38.1**	**-1.5**
DSL				*e*Sn	**Sb**	**10 51 07.3**	**+1.0**
BRY	**Bratogost**	**2.17**	**323**	⇑*i* Pn	**Pn**	**10 50 38.2**	**+0.9**
BRY				*e*Sn	**Sb**	**10 51 08.2**	**+0.7**
BRY	**Bratogost**	**2.17**	**323**	⇑*i* Pn	**Pn**	**10 50 38.2**	**+0.9**
BRY				*e*Sn	**Sb**	**10 51 08.2**	**+0.7**
KKB	**Krupnik**	**2.18**	**71**	P	**Pg**	**10 50 42.9**	**+0.6**
KKB	**Krupnik**	**2.18**	**71**	P	**Pg**	**10 50 42.9**	**+0.6**
HORT	**Hortiatis**	**2.19**	**105**	*e*PN	**Pn**	**10 50 38.0**	**+0.5**
HORT				*e*SN	**Sb**	**10 51 06.4**	**-1.5**
PLE	**Pljevlja**	**2.25**	**342**	⇑*i* Pn	**Pb**	**10 50 39.8**	**-1.9**
PLE				*e*Sn	**Sb**	**10 51 10.5**	**+0.6**
PLE	**Pljevlja**	**2.25**	**342**	⇑*i* Pn	**Pb**	**10 50 39.8**	**-1.9**
PLE				*e*Sn	**Sb**	**10 51 10.5**	**+0.6**
UPM	**Unac-Piva**	**2.27**	**333**	⇑*i* Pn	**Pn**	**10 50 40.0**	**+1.2**
UPM				*e*Sn	**Sb**	**10 51 10.6**	**0.0**
UPM	**Unac-Piva**	**2.27**	**333**	⇑*i* Pn	**Pn**	**10 50 40.0**	**+1.2**
UPM				*e*Sn	**Sb**	**10 51 10.6**	**0.0**
SOH	**Sokhos**	**2.32**	**98**	*e*PN	**Pn**	**10 50 39.5**	**+0.1**
SRS	**Serrai**	**2.47**	**90**	*e*PN	**Pn**	**10 50 41.8**	**+0.4**
PLG	**Polygyros**	**2.51**	**108**	*e*PN	**Pn**	**10 50 42.7**	**+0.8**
PLG				*e*SN	**Sn**	**10 51 13.9**	**+1.1**
EVR	**Evrytania**	**2.54**	**153**	*e*PN	**Pn**	**10 50 43.9**	**+1.6**
EVR	**Evrytania**	**2.54**	**153**	*e*Pn	**Pn**	**10 50 43.9**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.58**	**147**	*e*PB	**Pn**	**10 50 43.5**	**+0.7**
MAKR				*e*SN	**Sb**	**10 51 16.9**	**-2.2**
MAKR	**Makrakomi, Fth**	**2.58**	**147**	*e*Pb	**Pn**	**10 50 43.5**	**+0.7**
MAKR				*e*SN	**Sb**	**10 51 16.9**	**-2.2**
STON	**Ston**	**2.58**	**312**	*i* Pn	**Pn**	**10 50 42.4**	**-0.4**
STON				Sn	**Sb**	**10 51 19.1**	**-0.1**
STON	**Ston**	**2.58**	**312**	*e*Pn	**Pn**	**10 50 44.3**	**+1.5**
STON				*e*Sg	**Sg**	**10 51 23.7**	**+0.4**
STON	**Ston**	**2.58**	**312**	*e*Pn	**Pn**	**10 50 44.3**	**+1.5**
STON				Sn	**Sb**	**10 51 19.0**	**-0.1**
MMB	**Musomiste**	**2.60**	**80**	P	**Pb**	**10 50 47.7**	**+0.2**
MMB	**Musomiste**	**2.60**	**80**	P	**Pb**	**10 50 47.7**	**+0.2**
AGG	**Agios Georgios**	**2.65**	**144**	*e*PN	**Pn**	**10 50 45.8**	**+1.9**
AGG	**Agios Georgios**	**2.65**	**144**	*e*Pn	**Pn**	**10 50 45.8**	**+1.9**
PDO	**Prodromos**	**2.67**	**165**	*e*PB	**Pn**	**10 50 45.1**	**+1.1**
PDO	**Prodromos**	**2.67**	**165**	*e*Pb	**Pn**	**10 50 45.1**	**+1.1**
NVR	**Nevrokopi**	**2.67**	**85**	*e*PN	**Pn**	**10 50 44.1**	**-0.1**
ZAPS	**Zavoj**	**2.70**	**39**	*e*Pn	**Pn**	**10 50 46.5**	**+1.9**
ZAPS				*e*Sg	**Sg**	**10 51 27.1**	**-0.2**
ZAPS	**Zavoj**	**2.70**	**39**	*e*Pn	**Pn**	**10 50 46.5**	**+1.9**
GRUS	**Gruza**	**2.72**	**6**	*e*Pn	**Pn**	**10 50 45.9**	**+1.2**
GRUS	**Gruza**	**2.72**	**6**	*e*Pn	**Pn**	**10 50 45.9**	**+1.2**
BBLS	**Lazići**	**2.76**	**346**	*e*Pn	**Pb**	**10 50 47.8**	**-2.6**
BBLS				*e*Sg	**Sg**	**10 51 29.0**	**-0.3**
BBLS	**Lazići**	**2.76**	**346**	*e*Pn	**Pb**	**10 50 47.8**	**-2.6**
XOR	**Xorichti**	**2.85**	**129**	*e*PN	**Pn**	**10 50 47.8**	**+1.2**
DIVS	**Divibare**	**2.92**	**355**	*e*Pn	**Pn**	**10 50 49.5**	**+1.9**
DIVS	**Divibare**	**2.92**	**355**	*e*PN	**Pn**	**10 50 49.5**	**+1.9**
VLS	**Valsamata**	**3.01**	**176**	*e*PN	**Pn**	**10 50 47.7**	**-1.1**
VLS	**Valsamata**	**3.01**	**176**	*e*Pn	**Pn**	**10 50 47.7**	**-1.1**
HAPS	**Han Pijesak,Bl**	**3.07**	**341**	*e*Pn	**Pn**	**10 50 51.0**	**+1.3**
HAPS				*e*Sg	**Sg**	**10 51 39.0**	**-0.1**
HAPS	**Han Pijesak,Bl**	**3.07**	**341**	*e*Pn	**Pn**	**10 50 51.0**	**+1.3**
KALE	**Kalithea**	**3.12**	**153**	*e*PB	**Pn**	**10 50 52.4**	**+2.0**
KALE	**Kalithea**	**3.12**	**153**	*e*Pb	**Pn**	**10 50 52.4**	**+2.0**
KLV	**Kalavryta, Ach**	**3.44**	**155**	*e*PB	**Pn**	**10 50 57.2**	**+2.5**
KLV	**Kalavryta, Ach**	**3.44**	**155**	*e*Pb	**Pn**	**10 50 57.2**	**+2.5**

IDC 17 10:52:25.2±3.1, 0.°10N×97.°36E, h0km**, mb3.6/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=127.9km s-min=23.3km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.31**	**5**	P	P	10 56 42.0	+1.0
	0.3nm,0.3s,baz=198,slow=11,SNR=3.2						
H08S2	**Diego Garcia H**	**25.96**	**252**	T	T	11 24 40.3	
	baz=73,slow=74,SNR=79						
H08S3	**Diego Garcia H**	**25.96**	**252**	T	T	11 24 43.5	
	baz=73,slow=74,SNR=36						
H08S1	**Diego Garcia H**	**25.97**	**252**	T	T	11 24 41.6	
	baz=73,slow=74,SNR=114						
H01W3	**Cape Leeuwin H**	**38.17**	**157**	T	T	11 40 14.5	
	baz=333,slow=76,SNR=5.1						
H01W2	**Cape Leeuwin H**	**38.19**	**157**	T	T	11 40 17.8	
	baz=333,slow=76,SNR=6.8						
H01W1	**Cape Leeuwin H**	**38.19**	**157**	T	T	11 40 15.3	
	baz=333,slow=76,SNR=5.2						
WRA	**Warramunga Arr**	**41.33**	**121**	P	P	11 00 12.7	-0.5
	0.2nm,0.5s,baz=303,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**42.62**	**126**	P	P	11 00 23.9	+0.2
	0.3nm,1.0s,baz=301,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**48.34**	**346**	P	P	11 01 08.3	-0.4
	0.8nm,0.6s,baz=159,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**54.66**	**351**	P	P	11 01 55.6	-0.2
	1.5nm,0.4s,baz=180,slow=7.7,SNR=7.6						

GUC 17 11:02:09.6±0.4, 34.°14S×72.°34W, h40km**±5**km**, ML3.7, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.26**	**134**	*e*P	Pn	11 02 31.8	+1.1
NICH				*e*S	Sn	11 02 48.6	+2.2
TACH	**Talagante**	**1.26**	**68**	*e*P	Pn	11 02 31.6	+0.8
TALC	**Talca**	**1.39**	**155**	*e*P	Pn	11 02 33.5	+1.0
TALC				*e*S	Sn	11 02 51.8	+2.3
CLCH	**Cerro Calan**	**1.67**	**64**	*e*P	Pn	11 02 38.2	+1.7
CLCH				*e*S	Sn	11 02 59.9	+3.1
CLCH				AML	AML	11 03 12.4	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**1.70**	**55**	*e*P	Pn	11 02 38.5	+1.7
PEL				*e*S	Sn	11 03 00.4	+3.0
PEL				AML	AML	11 03 10.8	
	comp=E,2μm,0.6s						
SJCH	**San Jose de Ma**	**1.72**	**74**	*e*P	Pn	11 02 38.4	+1.1
SJCH				*e*S	Sn	11 03 00.5	+2.4
LNCH	**Linares**	**1.81**	**161**	*e*P	Pn	11 02 39.9	+1.6
LNCH				*e*S	Sn	11 03 06.0	+6.0
YECH	**El Yeso**	**1.93**	**77**	*e*P	Pn	11 02 40.9	+0.6
YECH				*e*S	Sn	11 03 05.8	+2.1

IDC 17 11:04:16.6±3.0, 2.°52S×134.°14E, h0km**, mb3.5/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=131.3km s-min=30.8km az=77.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.32**	**179**	P	Pn	11 08 20.3	+0.3
	0.1nm,0.3s,baz=358,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**21.02**	**181**	P	P	11 09 01.9	-0.2
	4.5nm,0.7s,baz=7.1,slow=12,SNR=26						
MKAR	**Makanchi Array**	**66.90**	**324**	P	P	11 15 10.8	0.0
	0.1nm,0.5s,baz=111,slow=7.9,SNR=2.7						

IDC ***17*** *11:16:34.2±2.4, 53.°99N×87.°34E, h0*km*, mb1 3.3/3, mb1mx3.0/31, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=20.5km s-min=13.0km az=64.0*
NNC ***17*** *11:16:37.1±1.8, 53.°88N×87.°13E, h0*km*, mb3.5, mpv3.2, Error ellipse: s-maj=14.0km s-min=11.4km az=1.0*

ISC 17 11:16:35.7±4.1, 54.°2N±0.°2×87.°4E±0.°2, h35km**, n9, σ1°39/13, 7C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**262**	*i*		11 27 10.0	
	baz=83,slow=332,SNR=9.6						
ZALV	**Zalesovo Beam**	**1.55**	**262**	Pg	**Pn**	**11 17 00.1**	**-0.7**
	6.9nm,0.3s,baz=85,slow=16,SNR=100						
ZALV				Lg	Lg	11 17 22.0	
	9.7nm,0.3s,baz=87,slow=27,SNR=18						
KURK	**Kurchatov**	**6.40**	**241**	⇓Pn	**Pn**	**11 18 08.5**	**+1.1**
	1.5nm,0.9s						
KURK				⇑Sn	**Sn**	**11 19 20.5**	**+1.3**
	1.7nm,0.7s						
KURK				⇑Lg	Lg	11 19 50.2	
	5.1nm,0.7s						
KURBB	**Kurchatov Arra**	**6.50**	**240**	⇑Pn	**Pn**	**11 18 09.7**	**+0.9**
	2.5nm,0.7s						
KURBB				⇑Sn	**Sn**	**11 19 22.3**	**+0.6**
	8.2nm,0.7s						
KURBB				⇓Lg	Lg	11 19 54.7	
	13nm,0.7s						
KURBB	**Kurchatov Arra**	**6.50**	**240**	Pn	**Pn**	**11 18 09.3**	**+0.5**
	0.2nm,0.3s,baz=60,slow=14,SNR=8.1						
KURBB				Sn	**Sn**	**11 19 21.0**	**-0.7**
	baz=79,slow=30,SNR=2.4						
KURBB				Lg	Lg	11 19 56.5	
	0.1nm,0.3s,baz=55,slow=31,SNR=6.9						
MK31	**Makanchi Array**	**8.09**	**206**	⇑Pn	**Pn**	**11 18 31.0**	**+0.3**
	0.7nm,0.6s,baz=29,slow=13,SNR=8.6						
MK31				⇑Sn	**Sn**	**11 20 00.8**	**-0.1**
	0.9nm,0.6s,baz=31,slow=26,SNR=5.0						
MK31				⇑Lg	Lg	11 20 41.1	
	3.6nm,0.8s,baz=20,slow=29,SNR=3.6						
MKAR	**Makanchi Array**	**8.09**	**206**	Pn	**Pn**	**11 18 31.0**	**+0.3**
	0.3nm,0.3s,baz=29,slow=14,SNR=11						
MKAR				Sn	**Sn**	**11 20 00.2**	**-0.7**
	0.2nm,0.3s,baz=30,slow=27,SNR=6.6						
MKAR				Lg	Lg	11 20 44.7	
	0.1nm,0.3s,baz=22,slow=28,SNR=4.3						
BVAR	**Borovoye Array**	**10.19**	**270**	Pn	**Pn**	**11 19 01.8**	**+2.5**
	0.4nm,0.3s,baz=75,slow=14,SNR=6.5						
BVAR				Sn	**Sn**	**11 20 49.5**	**-2.6**
	0.3nm,0.3s,baz=19,slow=6.1,SNR=2.9						
SONM	**Songino Array**	**13.52**	**110**	Lg	Lg	11 23 43.0	
	0.2nm,0.3s,baz=308,slow=22,SNR=3.8						

ISCJB ***17*** *11:29:29.4±1.7, 51.°5N±0.°3×176.°9W±0.°2, h48*km*, mb3.9/9, Error ellipse: s-maj=50.4km s-min=13.9km az=172.8*
IDC ***17*** *11:29:29.1±1.8, 51.°31N×176.°91W, h34*km*±7*km*, mb3.4/9, mb1 3.6/10, mb1mx3.4/32, mbtmp3.6/10, ML2.2/1, Error ellipse: s-maj=56.1km s-min=18.0km az=177.0*

ISC 17 11:29:30.2±2.0, 51.°4N±0.°5×176.°8W±0.°1, h48km**, n14, σ1°51/13, mb3.8/9, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**15.69**	**286**	Pn	**Pn**	**11 33 07.0**	**-0.8**
	0.1nm,0.3s,baz=126,slow=14,SNR=2.3						
ILAR	**Eielson Array**	**20.45**	**38**	P	Pn	11 34 05.0	-0.8
	0.2nm,0.5s,baz=228,slow=9.9,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**34.11**	**208**	T	T	12 12 33.4	
	baz=18,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**34.12**	**208**	T	T	12 12 34.1	
	baz=18,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**34.12**	**208**	T	T	12 12 34.8	
	baz=18,slow=75,SNR=7.3						
YKA	**Yellowknife Ar**	**34.31**	**47**	P	**P**	**11 36 12.2**	**+0.6**
	0.1nm,0.6s,baz=278,slow=8.7,SNR=2.6						
YKA				pP	**pP**	**11 36 24.0**	**-0.2**
	0.1nm,0.5s,baz=281,slow=9.2,SNR=2.4						
PDAR	**Pinedale Array**	**45.10**	**73**	P	**P**	**11 37 42.1**	**+0.4**
	0.7nm,0.8s,baz=316,slow=4.8,SNR=6.1						
PDAR				pP	**pP**	**11 37 52.6**	**-2.0**
	1.7nm,0.8s,baz=309,slow=2.8,SNR=8.8						
SONM	**Songino Array**	**47.76**	**298**	P	**P**	**11 38 03.4**	**+1.1**
	0.6nm,0.5s,baz=49,slow=9.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**60.02**	**315**	P	**P**	**11 39 31.9**	**+0.4**
	3.0nm,0.2s,baz=45,slow=6.6,SNR=5.3						
MKAR	**Makanchi Array**	**61.00**	**310**	P	**P**	**11 39 37.9**	**-0.5**
	0.1nm,0.3s,baz=44,slow=6.4,SNR=3.7						
MKAR				pP	**pP**	**11 39 48.1**	**-3.7**
	0.1nm,0.6s,baz=46,slow=4.2,SNR=1.9						
BVAR	**Borovoye Array**	**61.68**	**321**	P	**P**	**11 39 42.7**	**-0.1**
	1.8nm,0.5s,baz=48,slow=6.6,SNR=11						
AKTO	**Aktyubinsk**	**68.39**	**326**	P	**P**	**11 40 27.5**	**+1.1**
	1.5nm,0.5s,baz=45,slow=6.9,SNR=7.7						
CMAR	**Chiang Mai Arr**	**72.26**	**277**	P	**P**	**11 40 51.3**	**+0.9**
	0.5nm,0.4s,baz=28,slow=6.5,SNR=3.2						
BRTR	**Keskin Array B**	**85.44**	**337**	P	**P**	**11 42 03.2**	**+0.6**
	0.9nm,0.7s,baz=65,slow=3.7,SNR=4.9						

IDC ***17*** *11:33:50.5±1.9, 37.°46S×177.°09E, h0*km*, mb4.1/3, mb1 4.3/3, mb1mx3.9/15, mbtmp4.1/3, Error ellipse: s-maj=45.8km s-min=16.7km az=68.0*
ISCJB ***17*** *11:33:53.3±0.6, 38.°05S±0.°03×177.°80E±0.°06, h103*km*±

PRWZ	**Pori Road**	**2.84 208**	PN	**Pn**	**11 34 37.5**	**-2.0**
BFZ	**Birch Farm**	**2.86 203**	PN	**Pn**	**11 34 37.4**	**-2.4**
TIWZ	**Tintock**	**3.06 207**	PN	**Pn**	**11 34 40.3**	**-2.2**
TIWZ			AML	AML	11 35 18.9	
TIWZ			AML	AML	11 35 19.9	
CPWZ	**Castlepoint**	**3.08 202**	⇑PN	**Pn**	**11 34 40.9**	**-1.8**
CPWZ			SN	**Sn**	**11 35 18.2**	**-0.3**
MRZ	**Mangatainoka R**	**3.08 212**	⇓PN	**Pn**	**11 34 40.1**	**-2.6**
MRZ			AML	AML	11 35 20.1	
MRZ			AML	AML	11 35 20.3	
HOWZ	**Holdsworth Sta**	**3.31 210**	PN	Pn	11 34 42.8	-3.1
HOWZ			SN	**Sn**	**11 35 21.3**	**-2.8**
TMWZ	**Te Maipa**	**3.36 204**	PN	**Pn**	**11 34 43.6**	**-2.9**
OGWZ	**Otaki Gorge**	**3.39 214**	PN	**Pn**	**11 34 44.1**	**-2.8**
MTW	**Mount Morrison**	**3.54 208**	PN	Pn	11 34 45.9	-3.0
MTW			AML	AML	11 35 27.5	
MTW			AML	AML	11 35 27.7	
KIW	**Kapiti Island**	**3.54 217**	PN	**Pn**	**11 34 46.3**	**-2.7**
KIW			AML	AML	11 35 28.9	
KIW			AML	AML	11 35 28.9	
TRWZ	**Traveller**	**3.69 204**	PN	Pn	11 34 47.7	-3.2
TRWZ			AML	AML	11 35 31.6	
TRWZ			AML	AML	11 35 31.6	
PAWZ	**Paruwai Farm**	**3.76 207**	PN	Pn	11 34 48.5	-3.5
PAWZ			AML	AML	11 35 32.9	
PAWZ			AML	AML	11 35 32.9	
MSWZ	**Moikau Station**	**3.85 209**	PN	Pn	11 34 49.7	-3.5
MSWZ			AML	AML	11 35 36.4	
MSWZ			AML	AML	11 35 36.4	
PLWZ	**Palliser**	**3.99 207**	PN	Pn	11 34 51.1	-4.0
TCW	**Tory Channel**	**4.12 219**	PN	Pn	11 34 53.3	-3.5
TCW			AML	AML	11 35 43.3	
TCW			AML	AML	11 35 43.5	
NNZ	**Nelson**	**4.60 225**	PN	Pn	11 35 00.1	-3.2
THZ	**Tophouse**	**5.23 223**	⇑PN	Pn	11 35 08.3	-3.6
KHZ	**Kahutara**	**5.40 215**	PN	Pn	11 35 09.9	-4.4
OXZ	**Oxford**	**6.80 217**	PN	Pn	11 35 27.4	-6.0
MQZ	**McQueen's Vall**	**6.82 212**	PN	Pn	11 35 28.3	-5.3
RPZ	**Rata Peaks**	**7.57 220**	Pn	Pn	11 35 40.1	-3.9
	1.0nm,0.3s,baz=36,slow=19,SNR=5.7					
RPZ			Sn	Sn	11 36 59.4	-8.8
	4.0nm,0.3s,baz=204,slow=6.5,SNR=20					
STKA	**Stephens Creek**	**30.09 271**	P	**P**	**11 39 58.8**	**+0.5**
	0.7nm,0.4s,baz=122,slow=9.5,SNR=4.4					
ASAR	**Alice Springs**	**39.87 278**	P	**P**	**11 41 20.8**	**-1.6**
	1.4nm,0.5s,baz=122,slow=7.4,SNR=39					
WRA	**Warramunga Arr**	**41.57 283**	P	**P**	**11 41 34.6**	**-1.8**
	0.8nm,0.3s,baz=124,slow=8.0,SNR=36					
ARCES	**ARCESS Array B**	**145.10 343**	PKhKP	PKPpre	11 53 19.5	
	1.5nm,0.7s,baz=56,slow=3.4,SNR=5.1					
DBIC	**Dimbokro**	**148.68 175**	PKPbc	**PKPab**	**11 53 42.1**	**+3.5**
	0.8nm,0.3s,baz=207,slow=2.3,SNR=3.0					
FINES	**FINESS Array B**	**150.69 332**	PKPbc	**PKPbc**	**11 53 40.6**	**+2.3**
	0.5nm,0.4s,baz=72,slow=6.0,SNR=4.7					

ISCJB ***17*** *11:49:53.2±0.5, 23°.73S±0°.06×180°.0W±0°.1, h518km, mb3.6/10, Error ellipse: s-maj=17.7km s-min=7.6km az=7.9*

IDC ***17*** *11:49:54.1±5.2, 23°.80S×179°.91W, h521km±62km, mb3.2/10, mb1 3.4/11, mb1mx3.2/21, mbtmp4.1/11, Error ellipse: s-maj=34.4km s-min=21.0km az=11.0*

ISC 17 11:49:53.6±0.7, **23°.81S**±0°.08×**179°.9W**±0°.2, **h518**km, **n29,** σ1⁰**37**/33, **mb3.5**/10, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**14.04**	**188**	*e*PN	**P**	**11 52 54.0**	**+0.8**
PUZ	**Puketiti**	**14.30**	**186**	*e*PN	**P**	**11 52 58.8**	**+2.7**
URZ	**Urewera**	**14.62**	**189**	P	**P**	**11 52 58.4**	**-1.1**
	1.9nm,0.3s,baz=56,slow=11,SNR=25						
URZ				S	**S**	**11 55 29.6**	**-3.1**
	0.5nm,0.3s,baz=60,slow=17,SNR=4.5						
URZ	**Urewera**	**14.62**	**189**	*e*PN	**P**	**11 52 58.9**	**-0.5**
URZ				*e*SN	**S**	**11 55 29.7**	**-3.0**
MWZ	**Matawai**	**14.64**	**188**	PN	**P**	**11 53 00.1**	**+0.5**
MWZ				SN	**S**	**11 55 36.8**	**+3.7**
RIGZ	**Rimuhau**	**14.98**	**187**	PN	**P**	**11 53 03.7**	**+0.5**
NMHZ	**Naumai**	**15.49**	**190**	PN	**P**	**11 53 09.0**	**+0.4**
BKZ	**Black Stump Fm**	**15.61**	**190**	SN	**S**	**11 55 50.4**	**-0.9**
BHHZ	**Black Hill Sta**	**16.00**	**191**	PN	**P**	**11 53 13.2**	**-0.6**
NNZ	**Nelson**	**18.24**	**196**	PN	**P**	**11 53 35.4**	**+0.3**
THZ	**Tophouse**	**18.88**	**197**	PN	**P**	**11 53 41.6**	**+0.6**
OXZ	**Oxford**	**20.57**	**197**	*e*P*	**P**	**11 53 55.8**	**-0.5**
RPZ	**Rata Peaks**	**21.20**	**198**	P	**P**	**11 54 02.4**	**+0.4**
	8.3nm,0.5s,baz=4.7,slow=16,SNR=10.0						
MLZ	**Mavora Lakes**	**23.57**	**201**	*e*P*	**P**	**11 54 24.6**	**+1.4**
WHZ	**Wether Hill Ro**	**24.12**	**201**	*e*P*	**P**	**11 54 30.0**	**+1.9**
CTA	**Charters Tower**	**31.56**	**270**	P	**P**	**11 55 34.5**	**+1.1**
	6.3nm,1.0s,baz=93,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**11 57 00.9**	**+0.5**
	0.3nm,0.5s,baz=94,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**42.49**	**266**	P	**P**	**11 57 03.0**	**-0.3**
	0.5nm,0.3s,baz=92,slow=8.4,SNR=40						
PETK	**Petropavlovsk-**	**79.03**	**346**	P	**P**	**12 01 03.4**	**0.0**
	1.3nm,0.6s,baz=147,slow=6.7,SNR=5.7						
NVAR	**Mina Array Bea**	**84.63**	**44**	P	**P**	**12 01 33.5**	**+0.8**
	0.4nm,0.6s,baz=224,slow=8.3,SNR=5.4						
SEY	**Seymchan**	**89.20**	**348**	P	**P**	**12 01 53.1**	**-0.3**
	1.0nm,0.6s,baz=152,slow=4.5,SNR=7.4						
TXAR	**Lajitas Array**	**90.32**	**58**	P	**P**	**12 02 00.2**	**+0.7**
	0.9nm,0.7s,baz=219,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**91.93**	**14**	P	**P**	**12 02 04.5**	**-1.5**
	0.3nm,0.9s,baz=220,slow=6.8,SNR=2.9						
PDAR	**Pinedale Array**	**92.57**	**44**	P	**P**	**12 02 10.3**	**+0.5**
	0.2nm,0.4s,baz=220,slow=5.5,SNR=3.1						
ARCES	**ARCESS Array B**	**131.82**	**348**	PKP	**PKPdf**	**12 08 06.6**	**-0.3**
	1.5nm,0.8s,baz=58,slow=3.0,SNR=5.1						
FINES	**FINESS Array B**	**138.39**	**342**	PKhKP	PKPpre	12 08 10.4	
	2.2nm,0.9s,baz=23,slow=6.2,SNR=3.5						
FINES				PKP	**PKPdf**	**12 08 19.6**	**+0.3**
	0.4nm,0.4s,baz=98,slow=2.8,SNR=5.9						
AKASG	**Malin Array Be**	**144.94**	**327**	PKP	**PKPdf**	**12 08 30.8**	**-0.5**
	0.9nm,0.3s,baz=42,slow=4.5,SNR=8.8						
BRTR	**Keskin Array B**	**147.59**	**307**	PKPbc	**PKPbc**	**12 08 38.8**	**-1.1**
	0.9nm,0.5s,baz=145,slow=4.8,SNR=3.8						
BRTR				PKPab	**PKPab**	**12 08 43.7**	**-0.1**
	1.0nm,0.6s,baz=81,slow=3.8,SNR=4.7						
BRG	**Berggiesshubel**	**150.93**	**342**	*e*PKP	**PKPbc**	**12 08 47.1**	**-0.2**
	4.4nm,0.5s						

IDC ***17*** *11:52:17.4±1.0, 0°.48S×124°.50E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, Error ellipse: s-maj=142.1km s-min=17.3km az=65.0*

DJA ***17*** *11:52:30.2±0.5, 0°.5S×12°.5E±°, h10km, M3.4/6, MLv3.4/6*

ISC 17 11:52:18.8±1.0, **0°.5S**±0°.1×**124°.6E**±0°.1, **h10**km, **n12,** σ0⁰**84**/9, **mb3.4**/5, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.19**	**329**	P	Pg	11 52 45.4	+3.6
SANI	**Sanana**	**2.11**	**139**	P	**Pn**	**11 52 53.8**	**-0.4**
MRSI	**Marisa**	**2.82**	**289**	P	Pg	11 53 13.1	+0.2
LBMI	**Labuha**	**2.91**	**94**	P	**Pg**	**11 53 14.9**	**+0.3**
APSI	**Ampana**	**2.99**	**261**	P	Pg	11 53 21.4	+5.3
TNTI	**Ternate**	**3.02**	**66**	P	**Pg**	**11 53 16.7**	**-0.1**
WRA	**Warramunga Arr**	**21.59**	**154**	P	**P**	**11 57 07.9**	**-1.1**
	0.4nm,0.5s,baz=332,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**24.78**	**159**	P	**P**	**11 57 41.5**	**+0.4**
	0.3nm,0.5s,baz=342,slow=8.9,SNR=7.5						
STKA	**Stephens Creek**	**35.14**	**154**	P	**P**	**11 59 13.5**	**+0.7**
	1.3nm,0.6s,baz=331,slow=9.9,SNR=2.6						
SONM	**Songino Array**	**50.64**	**344**	P	**P**	**12 01 18.6**	**+0.2**
	0.2nm,0.4s,baz=163,slow=5.4,SNR=2.6						
MKAR	**Makanchi Array**	**59.84**	**328**	P	**P**	**12 02 25.4**	**+0.8**
	0.5nm,0.4s,baz=125,slow=8.2,SNR=14						
KURBB	**Kurchatov Arra**	**64.16**	**329**	P	**P**	**12 02 52.3**	**-1.3**
	baz=115,slow=7.4						

IDC ***17*** *11:54:37.0±2.3, 12°.93S×166°.36E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=63.1km s-min=33.2km az=103.0*

ISCJB ***17*** *11:54:41.5±1.6, 13°.1S±0°.1×166°.4E±0°.3, h44km, mb3.7/5, Error ellipse: s-maj=42.5km s-min=19.9km az=173.3*

ISC 17 11:54:42.9±1.8, **13°.1S**±0°.2×**166°.4E**±0°.4, **h44**km, **n6,** σ0⁰**63**/6, **mb3.7**/5, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.98**	**180**	Pn	**Pn**	**11 56 50.2**	**+0.1**
	0.6nm,0.3s,baz=100,slow=20,SNR=6.0						
WRA	**Warramunga Arr**	**31.48**	**253**	P	**P**	**12 01 01.3**	**+0.6**
	0.2nm,0.8s,baz=86,slow=9.6,SNR=2.3						
ASAR	**Alice Springs**	**32.55**	**246**	P	**P**	**12 01 09.4**	**-0.7**
	0.5nm,0.7s,baz=74,slow=9.3,SNR=9.9						
SONM	**Songino Array**	**80.66**	**324**	P	**P**	**12 06 51.4**	**+0.1**
	0.8nm,0.8s,baz=123,slow=5.5,SNR=4.5						
MKAR	**Makanchi Array**	**95.42**	**317**	P	**P**	**12 08 03.2**	**+0.4**
	0.5nm,0.7s,baz=98,slow=4.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**95.56**	**324**	P	**P**	**12 08 02.7**	**-0.5**
	0.6nm,0.6s,baz=108,slow=4.8,SNR=3.7						

GUC 17 12:00:13.7±0.4, **34°.68S**×**71°.86W**, **h6**km±1km, **ML3.6, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.60**	**122**	⇓*e*P	Pg	12 00 24.8	-0.6
NICH				*e*S	Sg	12 00 32.9	-0.3
TALC	**Talca**	**0.73**	**166**	*e*P	Pg	12 00 27.0	-0.9
TALC				*e*S	Sg	12 00 37.2	-0.3
LNV	**Longovilo**	**0.81**	**27**	*e*P	Pg	12 00 28.2	-1.1
LNCH	**Linares**	**1.18**	**170**	*e*P	Pg	12 00 34.4	-2.0
LNCH				*e*S	Sg	12 00 50.0	-1.7
CACH	**El Canelo**	**1.18**	**62**	⇓*e*P	Pg	12 00 34.1	-2.5
CHCH	**Chadas Angostu**	**1.25**	**53**	*e*P	Pg	12 00 35.3	-2.4
SJCH	**San Jose de Ma**	**1.62**	**51**	*e*P	Pn	12 00 40.8	-2.2
SJCH				*e*S	Sn	12 01 01.9	-2.4
SJCH				AML	AML	12 01 04.0	
	comp=E,793nm,0.3s						
FSR	**Penalolen**	**1.63**	**43**	*e*P	Pn	12 00 41.7	-1.4
FSR				*e*S	Sn	12 01 02.7	-1.8
IHA	**Instituto Hidr**	**1.66**	**6**	*e*P	Pn	12 00 42.1	-1.3
CLCH	**Cerro Calan**	**1.69**	**41**	*e*P	Pn	12 00 42.5	-1.4
CLCH				*e*S	Sn	12 01 04.5	-1.3
CLCH				AML	AML	12 01 06.2	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.82**	**33**	*e*P	Pn	12 00 44.4	-1.2
PEL				*e*S	Sn	12 01 08.0	-1.0
PEL				AML	AML	12 01 12.9	
	comp=N,1μm,0.5s						

GUC 17 12:11:14.3±0.3, **34°.11S**×**72°.25W**, **h47**km±24km, **ML3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.23**	**137**	*i* P	Pn	12 11 36.3	+1.2
NICH				*i* S	Sn	12 11 53.3	+2.7
NICH				AML	AML	12 11 59.8	
	comp=E,2μm,0.6s						
TALC	**Talca**	**1.38**	**159**	*i* P	Pn	12 11 38.8	+1.6
TALC				*i* S	Sn	12 11 57.2	+2.9
TALC				AML	AML	12 11 58.6	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**1.59**	**64**	*i* P	Pn	12 11 42.0	+1.8
CLCH				*i* S	Sn	12 12 03.1	+3.5
CLCH				AML	AML	12 12 14.1	
	comp=E,492nm,0.5s						
PEL	**Peldehue**	**1.62**	**54**	*i* P	Pn	12 11 42.4	+1.9
PEL				*i* S	Sn	12 12 03.5	+3.3
PEL				AML	AML	12 12 10.7	
	comp=N,811nm,0.3s						

WEL 17 12:24:46.4±0.3, **38°.59S**×**175°.95E**, **h118**km±2km, **ML3.5**/17, **23C-6D, Error ellipse: s-maj=1.5km s-min=1.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATZ	**Hinemaiaia**	**0.32**	**160**	⇑PN	Pn	12 25 02.9	-0.3
HATZ				SN	Sn	12 25 15.2	-0.7
RITZ	**Rihia Road**	**0.40**	**190**	PN	Pn	12 25 03.8	+0.2
TLZ	**Tolley Road**	**0.41**	**309**	PN	Pn	12 25 03.7	0.0
KATZ	**Kakaramea**	**0.43**	**207**	PN	Pn	12 25 03.8	-0.2
KRVZ	**Karewarewa**	**0.56**	**205**	⇑PN	Pn	12 25 04.5	-0.1
TARZ	**Mount Tarawera**	**0.56**	**51**	PN	Pn	12 25 04.3	-0.4
OTVZ	**Oturere**	**0.62**	**201**	PN	Pn	12 25 05.3	+0.2
TWVZ	**Taurewa**	**0.63**	**219**	⇑PN	Pn	12 25 05.1	-0.1
NGZ	**Ngauruhoe**	**0.65**	**205**	PN	Pn	12 25 05.3	-0.1
COVZ	**Chateau Observ**	**0.69**	**207**	PN	Pn	12 25 05.4	-0.2
WPVZ	**Whakapapa**	**0.69**	**207**	PN	Pn	12 25 05.5	-0.2
TUVZ	**Tukino**	**0.72**	**199**	⇑PN	Pn	12 25 06.0	+0.1
BKZ	**Black Stump Fm**	**0.72**	**144**	PN	Pn	12 25 05.4	-0.4
BKZ				SN	Sn	12 25 19.4	-1.0
BKZ				AML	AML	12 25 22.0	
FWVZ	**Far West T-bar**	**0.73**	**205**	PN	Pn	12 25 05.8	-0.3
WHVZ	**Whangaehu Hut**	**0.75**	**202**	PN	Pn	12 25 06.0	-0.3
TRVZ	**Turoa**	**0.78**	**204**	PN	Pn	12 25 06.3	-0.2
WNVZ	**Wahianoa**	**0.79**	**200**	⇑PN	Pn	12 25 06.5	-0.1
MOVZ	**Moawhango**	**0.83**	**190**	⇑PN	Pn	12 25 06.5	-0.3
NMHZ	**Naumai**	**0.84**	**127**	PN	Pn	12 25 07.4	+0.5
PKVZ	**Pokaka**	**0.84**	**214**	⇑PN	Pn	12 25 06.9	0.0
HIZ	**Hauiti**	**0.86**	**275**	PN	Pn	12 25 06.9	-0.1
MTVZ	**Mangateitei**	**0.88**	**205**	⇑PN	Pn	12 25 07.3	+0.1
BHHZ	**Black Hill Sta**	**0.90**	**174**	⇑PN	Pn	12 25 07.1	-0.3
RAHZ	**Arahi**	**0.95**	**111**	PN	Pn	12 25 08.0	+0.2
RAHZ				SN	Sn	12 25 23.7	-0.2
URZ	**Urewera**	**0.97**	**71**	⇓PN	Pn	12 25 07.1	-0.9
URZ				AML	AML	12 25 23.0	
MCHZ	**McNeill Hill**	**1.03**	**146**	PN	Pn	12 25 09.2	+0.6
VRZ	**Vera Road**	**1.07**	**240**	PN	Pn	12 25 09.1	+0.1
KRHZ	**Kereru**	**1.10**	**163**	⇑PN	Pn	12 25 09.3	-0.1
SNGZ	**Shannon Statio**	**1.11**	**100**	PN	Pn	12 25 09.7	+0.3
WHHZ	**Waihua**	**1.12**	**116**	PN	Pn	12 25 09.5	0.0
RAGZ	**Rawiri**	**1.16**	**86**	PN	Pn	12 25 09.4	-0.6
MWZ	**Matawai**	**1.27**	**79**	PN	Pn	12 25 10.5	-0.6
PNHZ	**Pukenui**	**1.34**	**172**	PN	Pn	12 25 11.4	-0.5
CKHZ	**Cape Kidnapper**	**1.39**	**141**	PN	Pn	12 25 12.6	+0.2
WAZ	**Wanganui**	**1.39**	**212**	PN	Pn	12 25 12.6	+0.2
KAHZ	**Kahuranaki**	**1.41**	**149**	⇑PN	Pn	12 25 12.7	0.0
KNZ	**Kokohu**	**1.42**	**108**	PN	Pn	12 25 12.5	-0.2
RIGZ	**Rimuhau**	**1.43**	**95**	PN	Pn	12 25 12.8	-0.1
TSZ	**Takapari Road**	**1.47**	**180**	⇑PN	Pn	12 25 12.8	-0.6
TKGZ	**Te Karaka**	**1.50**	**85**	⇓PN	Pn	12 25 13.8	+0.1
WPHZ	**Waipukurau**	**1.52**	**166**	⇑PN	Pn	12 25 13.5	-0.5
PRGZ	**Paritu Road**	**1.55**	**103**	⇑PN	Pn	12 25 14.0	-0.3
PXZ	**Pawanui**	**1.61**	**154**	⇑PN	Pn	12 25 14.5	-0.5
PXZ				AML	AML	12 25 38.1	
MHGZ	**Mahia Peninsul**	**1.63**	**111**	PN	Pn	12 25 15.2	-0.1
TWGZ	**Tauwhareparae**	**1.65**	**76**	⇑PN	Pn	12 25 15.5	-0.1
HAZ	**Te Kaha**	**1.67**	**61**	⇓PN	Pn	12 25 14.3	-1.4
DVHZ	**Dannevirke**	**1.72**	**174**	⇑PN	Pn	12 25 15.3	-1.1
PRHZ	**Porangahau**	**1.76**	**163**	⇑PN	Pn	12 25 16.1	-0.7
POWZ	**Post Office Ro**	**1.81**	**184**	PN	Pn	12 25 16.5	-0.9
PUZ	**Puketiti**	**1.89**	**75**	PN	Pn	12 25 17.6	-0.8
ANWZ	**Angora Road**	**1.92**	**168**	⇑PN	Pn	12 25 17.9	-0.8
PRWZ	**Pori Road**	**1.97**	**179**	⇑PN	Pn	12 25 18.4	-1.0
WMGZ	**Waiomatatini S**	**2.09**	**69**	PN	Pn	12 25 20.0	-0.9
MRZ	**Mangatainoka R**	**2.09**	**188**	⇑PN	Pn	12 25 19.3	-1.6
MRZ				AML	AML	12 25 46.3	
BFZ	**Birch Farm**	**2.10**	**174**	⇓PN	Pn	12 25 19.7	-1.4
MXZ	**Matakaoa Point**	**2.12**	**62**	⇓PN	Pn	12 25 20.9	-0.4
TIWZ	**Tintock**	**2.19**	**181**	PN	Pn	12 25 20.6	-1.5
TIWZ				AML	AML	12 25 49.9	
OGWZ	**Otaki Gorge**	**2.31**	**195**	⇑PN	Pn	12 25 22.0	-1.6
CPWZ	**Castlepoint**	**2.33**	**175**	PN	Pn	12 25 22.7	-1.2
HOWZ	**Holdsworth Sta**	**2.33**	**188**	⇑PN	Pn	12 25 22.0	-1.9
KIW	**Kapiti Island**	**2.41**	**199**	PN	Pn	12 25 23.0	-2.0
TMWZ	**Te Maipa**	**2.52**	**181**	PN	Pn	12 25 24.3	-2.1
MTW	**Mount Morrison**	**2.59**	**187**	PN	Pn	12 25 24.9	-2.4
CAW	**Cannon Point**	**2.61**	**195**	PN	Pn	12 25 25.2	-2.3
DUWZ	**D'Urville Isla**	**2.71**	**215**	PN	Pn	12 25 26.7	-2.2
TRWZ	**Traveller**	**2.81**	**184**	PN	Pn	12 25 27.9	-2.3
PAWZ	**Paruwai Farm**	**2.82**	**188**	PN	Pn	12 25 27.6	-2.7
WEL	**Wellington**	**2.84**	**198**	PN	Pn	12 25 28.0	-2.5
MSWZ	**Moikau Station**	**2.87**	**191**	PN	Pn	12 25 28.2	-2.8
TCW	**Tory Channel**	**2.92**	**206**	⇓PN	Pn	12 25 29.0	-2.5
PLWZ	**Palliser**	**3.03**	**190**	PN	Pn	12 25 29.9	-3.1
NNZ	**Nelson**	**3.29**	**216**	PN	Pn	12 25 33.6	-2.8
QRZ	**Quartz Range**	**3.46**	**229**	PN	Pn	12 25 36.4	-2.2
THZ	**Tophouse**	**3.94**	**215**	PN	Pn	12 25 42.1	-3.0
KHZ	**Kahutara**	**4.24**	**205**	PN	Pn	12 25 45.6	-3.5

IDC ***17*** *12:32:31.7±1.8, 5°.09S×129°.96E, h0km, mb3.9/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=137.7km s-min=26.6km az=71.0*

ISCJB ***17*** *12:32:33.4±0.7, 5°.09S±0°.05×130°.02E±0°.07, h28km, mb3.8/3, Error ellipse: s-maj=10.7km s-min=7.9km az=175.3*

DJA ***17*** *12:32:35.1±1.7, 5°S±13°×13°0E±°, h22km±7km, M3.5/6, MLv3.5/6*

ISC 17 12:32:34.3±0.9, **5°.10S**±0°.07×**130°.02E**±0°.08, **h28**km, **n9,** σ1⁰**95**/12, **mb3.8**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.59**	**349**	P	**Pb**	**12 32 44.5**	**-1.6**
BNDI				S	**Sb**	**12 32 52.0**	**-2.1**
MSAI	**Masohi**	**2.05**	**328**	P	**Pn**	**12 33 06.9**	**-0.1**
FAKI	**Fak Fak**	**3.11**	**46**	P	**Pn**	**12 33 22.1**	**+0.6**
FAKI				S	**Sn**	**12 33 58.1**	**+0.3**
NLAI	**Namlea**	**3.45**	**302**	P	**Pn**	**12 33 26.5**	**+0.3**
WRA	**Warramunga Arr**	**15.34**	**164**	Pn	**Pn**	**12 36 08.3**	**-0.8**
	0.2nm,0.3s,baz=347,slow=13,SNR=10						
WRA				Sn	**Sn**	**12 38 54.2**	**-4.0**
	0.0nm,0.3s,baz=332,slow=20,SNR=2.6						
ASAR	**Alice Springs**	**18.83**	**169**	P	**Pn**	**12 36 54.4**	**+1.6**
	0.2nm,0.3s,baz=346,slow=14,SNR=22						
MKAR	**Makanchi Array**	**66.66**	**326**	P	**P**	**12 43 24.3**	**+1.7**
	1.1nm,0.5s,baz=122,slow=8.1,SNR=19						
ZALV	**Zalesovo Beam**	**69.90**	**333**	P	**P**	**12 43 43.8**	**+1.1**
	0.2nm,0.3s,baz=116,slow=6.6,SNR=4.3						
BVAR	**Borovoye Array**	**76.48**	**328**	P	**P**	**12 44 23.3**	**+1.8**
	0.9nm,0.8s,baz=116,slow=6.8,SNR=5.6						

IDC ***17*** *12:40:13.5±1.0, 37°.83N×30°.84E, h0km, mb3.5/7, mb1 3.6/14, mb1mx3.5/31, mbtmp3.4/14, ML3.4/7, MS3.3/18, Ms1 3.3/18, ms1mx3.1/38, Error ellipse: s-maj=16.5km s-min=16.1km az=176.0*

DDA ***17*** *12:40:14.0, 37°.90N×30°.64E, h7km, ML3.9*

ISK ***17*** *12:40:13.5, 37°.86N×30°.71E, h4km, ML3.9*

ISCJB ***17*** *12:40:14.0±0.6, 37°.89N±0°.02×30°.70E±0°.02, h4km±4km, mb3.5/7, MS3.3/12, Error ellipse: s-maj=3.3km s-min=3.1km az=166.5*

CSEM ***17*** *12:40:14.7±0.1, 37°.88N×30°.70E, h2km, ML3.9, Error ellipse: s-maj=2.9km s-min=2.7km az=75.0*

ISC 17 12:40:14.5±1.1, **37°.88N**±0°.02×**30°.72E**±0°.02, **h2**km±8km, **n185,** σ1⁰**108**/186, **mb3.5**/7, **MS3.3**/12, **9C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.17**	**249**	PG	**Pg**	**12 40 17.2**	**-0.6**
ISP				*e*SG	**Sg**	**12 40 20.6**	**+0.6**
ISP	**Isparta**	**0.17**	**249**	*i* Pg	**Pg**	**12 40 17.2**	**-0.6**
ISP				*e*Sg	**Sg**	**12 40 20.6**	**+0.6**
BCK	**Bucak**	**0.43**	**194**	PG	**Pg**	**12 40 21.5**	**-1.3**
BCK				*e*SG	**Sg**	**12 40 28.2**	**-0.3**
BCK	**Bucak**	**0.43**	**194**	*i* Pg	**Pg**	**12 40 21.5**	**-1.3**
BCK				*e*Sg	**Sg**	**12 40 28.2**	**-0.3**
SHUT	**Suhut-Afyon**	**0.68**	**349**	PG	**Pg**	**12 40 27.6**	**0.0**
SHUT	**Suhut-Afyon**	**0.68**	**349**	*i* Pg	**Pg**	**12 40 27.6**	**0.0**
BOLV	**Bolvadin**	**0.85**	**12**	*i* P	**Pg**	**12 40 31.1**	**+0.2**
BOLV				*i* S	**Sb**	**12 40 43.9**	**-0.2**
BOLV	**Bolvadin**	**0.85**	**12**	*i* P	**Pg**	**12 40 31.1**	**+0.2**
BOLV				*i* S	**Sb**	**12 40 43.9**	**-0.2**
ANTB	**Antalya**	**0.98**	**183**	PG	**Pg**	**12 40 33.3**	**0.0**
ANTB

LEF	**Lefka**	**3.26 147**	*e*Pn	**Pn**	**12 41 07.1 +0.5**
ISK	**Istanbul-Kandi**	**3.43 338**	*e*PN	**Pn**	**12 41 10.0 +1.1**
ISK	**Istanbul-Kandi**	**3.43 338**	*e*Pn	**Pn**	**12 41 10.0 +1.1**
LFK	**Lefkose**	**3.44 138**	*e*PN	**Pn**	**12 41 09.2 0.0**
LFK	**Lefkose**	**3.44 138**	*e*Pn	**Pn**	**12 41 09.2 0.0**
KARA	**Karaisali**	**3.50 99**	*e*PN	**Pn**	**12 41 10.5 +0.6**
KARA	**Karaisali**	**3.50 99**	*e*Pn	**Pn**	**12 41 10.5 +0.6**
CSS	**Prodhromos**	**3.59 143**	*e*PN	**Pn**	**12 41 12.5 +1.3**
CSS	**Prodhromos**	**3.59 143**	*e*Pn	**Pn**	**12 41 12.5 +1.3**
KLYT	**Kilyos**	**3.61 339**	*e*PN	**Pn**	**12 41 12.5 +1.1**
KLYT	**Kilyos**	**3.61 339**	*e*Pn	**Pn**	**12 41 12.5 +1.1**
BGKT	**Bogazkoy**	**3.62 336**	*e*PN	**Pn**	**12 41 12.6 +1.0**
BGKT	**Bogazkoy**	**3.62 336**	*e*Pn	**Pn**	**12 41 12.6 +1.0**
EREN	**Erenkoy**	**3.63 129**	*e*PN	**Pn**	**12 41 12.2 +0.5**
EREN	**Erenkoy**	**3.63 129**	*e*Pn	**Pn**	**12 41 12.2 +0.5**
MRMT	**Marmara Adasi**	**3.64 319**	*e*PN	**Pn**	**12 41 12.9 +1.0**
MRMT	**Marmara Adasi**	**3.64 319**	*e*Pn	**Pn**	**12 41 12.9 +1.0**
KRBG	**Karabiga-Canak**	**3.66 314**	*e*PN	**Pn**	**12 41 12.9 +0.9**
KRBG	**Karabiga-Canak**	**3.66 314**	*e*Pn	**Pn**	**12 41 12.9 +0.9**
KARP	**Karpathos**	**3.69 232**	*e*P	**Pn**	**12 41 14.0 +1.4**
CHOS	**Chios island**	**3.71 279**	*e*P	**Pn**	**12 41 13.5 +0.6**
PRK	**Paraskevi**	**3.75 293**	*e*P	**Pn**	**12 41 13.5 +0.3**
CORM	**Corum**	**3.81 52**	*e*PN	**Pn**	**12 41 15.1 +0.8**
CORM	**Corum**	**3.81 52**	*e*Pn	**Pn**	**12 41 15.1 +0.8**
RKY	**Sarkoy-Tekirda**	**3.92 317**	*e*PN	**Pn**	**12 41 16.6 +0.8**
RKY	**Sarkoy-Tekirda**	**3.92 317**	*e*Pn	**Pn**	**12 41 16.6 +0.8**
EZN	**Ezine**	**3.94 301**	*e*PN	**Pn**	**12 41 16.8 +0.8**
EZN	**Ezine**	**3.94 301**	*e*Pn	**Pn**	**12 41 16.8 +0.8**
SIGR	**SIGRI**	**4.04 291**	*e*P	**Pn**	**12 41 17.5 +0.2**
KOZT	**Kozan**	**4.07 94**	*e*PN	**Pn**	**12 41 18.7 +1.0**
KOZT	**Kozan**	**4.07 94**	*e*Pn	**Pn**	**12 41 18.7 +1.0**
CEYT	**Ceyhan**	**4.09 101**	*e*PN	**Pn**	**12 41 19.8 +1.7**
CEYT	**Ceyhan**	**4.09 101**	*e*Pn	**Pn**	**12 41 19.8 +1.7**
APE	**Apeiranthos**	**4.21 260**	*e*P	**Pn**	**12 41 19.5 -0.2**
ALN	**Alexandroupoli**	**4.71 311**	*e*P	**Pn**	**12 41 26.5 0.0**
LIA	**Limnos Island**	**4.77 297**	*e*P	**Pn**	**12 41 27.5 +0.2**
EDRB	**Edirne**	**5.00 324**	*e*PN	**Pn**	**12 41 31.7 +1.1**
EDRB	**Edirne**	**5.00 324**	*e*Pn	**Pn**	**12 41 31.7 +1.1**
IDI	**Anoyia**	**5.36 243**	Pn	**Pn**	**12 41 35.3 -0.2**
	0.6nm,0.3s,baz=56,slow=18,SNR=5.0				
IDI			Sn	**Sn**	**12 42 43.6 +5.8**
	1.0nm,0.3s,baz=193,slow=10.0,SNR=3.5				
KDZ	**Kurdzhali**	**5.55 314**	⇑*i*P	**Pn**	**12 41 40.2 +2.1**
KDZ	**Kurdzhali**	**5.55 314**	⇑*i*P	**Pn**	**12 41 40.2 +2.1**
JMB	**Yambol**	**5.57 327**	⇓*i*P	**Pn**	**12 41 35.3 -3.0**
OUR	**Ouranopolis**	**5.79 297**	*e*P	**Pn**	**12 41 41.3 +0.2**
PSN	**Preselentsi**	**6.11 342**	⇑*i*P	**Pn**	**12 41 44.9 -0.8**
PSN	**Preselentsi**	**6.11 342**	⇑*i*P	**Pn**	**12 41 44.9 -0.8**
MMAI	**Mount Meron Ar**	**6.18 140**	Pn	**Pn**	**12 41 45.8 -1.0**
	5.0nm,0.3s,baz=332,slow=12,SNR=17				
MMAI			Sn	**Sn**	**12 42 56.7 -1.3**
	baz=328,slow=24,SNR=2.0				
MMAI			LR	LR	12 44 40.1
	comp=Z,213nm,19.7s,baz=285,slow=44				
MMLI	**Mount Malkishu**	**6.66 143**	*e*Pn	**Pn**	**12 41 55.5 +2.2**
MMLI	**Mount Malkishu**	**6.66 143**	*e*Pn	**Pn**	**12 41 55.5 +2.2**
TIRR	**Tirgusor**	**6.80 346**	⇓*i*P	**Pn**	**12 41 55.6 +0.5**
TIRR	**Tirgusor**	**6.80 346**	⇓*i*P	**Pn**	**12 41 55.6 +0.5**
TLB	**Topalu**	**6.99 344**	⇑*i*P	**Pn**	**12 41 58.0 +0.1**
TLB	**Topalu**	**6.99 344**	⇑*i*P	**Pn**	**12 41 58.0 +0.1**
CFR	**Carcaliu**	**7.54 346**	⇑*i*P	**Pn**	**12 42 06.7 +1.3**
CFR	**Carcaliu**	**7.54 346**	⇑*i*P	**Pn**	**12 42 06.7 +1.3**
ASF	**Jabal al Asfar**	**7.62 137**	Pn	**Pn**	**12 42 03.9 -2.7**
	0.2nm,0.3s,baz=286,slow=18,SNR=2.0				
MLR	**Muntele Rosu**	**8.40 336**	⇓*i*P	**Pn**	**12 42 14.6 -2.7**
MLR	**Muntele Rosu**	**8.40 336**	Pn	**Pn**	**12 42 18.1 +0.8**
	0.1nm,0.3s,baz=162,slow=6.4,SNR=5.1				
MLR			LR	LR	12 46 15.1
	comp=Z,80nm,18.4s,baz=168,slow=43				
VRI	**Vrincioaia**	**8.51 341**	⇓*i*P	**Pn**	**12 42 17.4 -1.4**
VRI	**Vrincioaia**	**8.51 341**	⇓*i*P	**Pn**	**12 42 17.4 -1.4**
PLOR	**Plostina**	**8.52 340**	⇓*i*P	**Pn**	**12 42 18.4 -0.5**
PLOR	**Plostina**	**8.52 340**	⇓*i*P	**Pn**	**12 42 18.4 -0.5**
VOIR		**8.66 332**	⇑*i*P	**Pn**	**12 42 18.4 -2.4**
RTB	**Rutbah**	**9.20 119**	*e*PN	Px	12 43 02.4
RTB			*e*SN	Sx	12 44 30.2
GNI	**Garni**	**11.14 74**	LR	LR	12 47 46.5
	comp=Z,99nm,19.1s,baz=280,slow=41				
IKRK	**Kirkuk**	**11.22 99**	*e*PG	Px	12 43 54.0
IKRK			*e*SG	Sx	12 45 57.4
BHD	**Baghdad**	**12.03 108**	*e*PN	Px	12 43 19.7
BHD			*e*SN	Sx	12 45 00.3
AKASG	**Malin Array Be**	**12.86 356**	Pn	**Pn**	**12 43 18.8 +0.6**
	0.3nm,0.3s,baz=176,slow=12,SNR=2.8				
IBDR	**Badra**	**13.27 106**	*e*PN	**P**	**12 43 33.8 -0.2**
IBDR			*e*SN	Sx	12 45 22.9
VRAC	**Vranov**	**15.31 323**	LR	LR	12 50 59.1
	comp=Z,47nm,18.6s,baz=130,slow=42				
GERES	**GERESS Array B**	**16.49 317**	Pn	**Pn**	**12 44 08.1 +1.2**
	0.1nm,0.3s,baz=112,slow=15,SNR=5.6				
GERES			LR	LR	12 51 17.2
	comp=Z,116nm,18.6s,baz=112,slow=40				
DAVOX	**Davos/Dischmat**	**17.75 307**	LR	LR	12 52 29.7
	comp=Z,102nm,19.7s,baz=78,slow=41				
CLL	**Collm**	**18.36 323**	*e*PP	PP	12 44 43.0
FINES	**FINESS Array B**	**23.76 354**	P	**P**	**12 45 29.9 +1.9**
	1.2nm,0.8s,baz=184,slow=18,SNR=3.3				
FINES			LR	LR	12 55 18.5
	comp=Z,65nm,19.0s,baz=202,slow=38				
HFS	**Hagfors**	**24.76 340**	LR	LR	12 56 51.2
	comp=Z,102nm,18.2s,baz=148,slow=40				
NOA	**NORSAR Array B**	**26.21 338**	P	**P**	**12 45 52.5 +2.1**
	2.6nm,1.0s,baz=155,slow=9.6,SNR=3.0				
NOA			LR	LR	12 57 55.2
	comp=Z,98nm,18.5s,baz=155,slow=40				
ARCES	**ARCESS Array B**	**31.84 357**	LR	LR	13 00 31.3
	comp=Z,54nm,19.0s,baz=208,slow=38				
TORD	**Torodi Ar. Bea**	**35.69 234**	P	**P**	**12 47 14.2 -0.1**
	0.7nm,0.9s,baz=35,slow=8.2,SNR=4.1				
MKAR	**Makanchi Array**	**38.53 60**	P	**P**	**12 47 38.0 -0.3**
	0.4nm,0.5s,baz=262,slow=10,SNR=6.7				
MKAR			LR	LR	13 05 24.2
	comp=Z,20nm,20.3s,baz=279,slow=39				
ZALV	**Zalesovo Beam**	**39.87 48**	P	**P**	**12 47 47.9 -1.4**
	0.5nm,0.5s,baz=262,slow=10.0,SNR=3.2				
ZALV			LR	LR	13 06 56.0
	comp=Z,18nm,20.9s,baz=51,slow=40				
LSZ	**Lusaka**	**52.93 183**	LR	LR	13 14 24.6
	comp=Z,42nm,21.2s,baz=124,slow=39				
SONM	**Songino Array**	**54.28 54**	P	**P**	**12 49 40.6 -1.4**
	0.3nm,0.7s,baz=291,slow=9.8,SNR=3.0				
TSUM	**Tsumeb**	**58.11 195**	LR	LR	13 16 23.6
	comp=Z,22nm,18.2s,baz=323,slow=37				
CMAR	**Chiang Mai Arr**	**61.89 88**	LR	LR	13 23 00.7
	comp=Z,17nm,20.1s,baz=205,slow=42				
LBTB	**Lobatse**	**62.75 185**	LR	LR	13 21 36.2
	comp=Z,51nm,19.2s,baz=140,slow=40				
SCHQ	**Schefferville**	**63.99 320**	LR	LR	13 19 59.4
	comp=Z,20nm,18.0s,baz=13,slow=37				
PSI	**Prapat**	**71.14 101**	LR	LR	13 25 01.9
	comp=Z,33nm,19.1s,baz=176,slow=38				
YKA	**Yellowknife Ar**	**76.15 344**	P	**P**	**12 52 01.9 -1.6**
	0.4nm,0.9s,baz=39,slow=5.4,SNR=5.1				

ISCJB ***17*** *12:43:03.0±0.5, 32.°57N±0.°03×115.°55W±0.°03, h18km±5km, Error ellipse: s-maj=5.0km s-min=3.6km az=32.2*
MEX ***17*** *12:43:03.1±0.9, 32.°75N×115.°40W, h15km, MD3.8*
NEIC ***17*** *12:43:04.0, 32.°50N×115.°62W, h20km, ML3.5(PAS), After PAS.*
NEIC Felt at Mexicali. Also felt at San Luis Rio Colorado, Sonora and at Holtville, California.
ECX ***17*** *12:43:04.9±0.7, 32.°53N×115.°63W, h3km, MD3.5, ML3.7*

ISC 17 12:43:03.0±1.0, 32.°54N±0.°03×115.°58W±0.°02, h15km±8km, n25, σ0°83/43, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.17**	**311**	⇓*i*P	**Pb**	**12 43 07.6**	**-0.1**
CPBX	**Cerro Prieto**	**0.26**	**118**	⇑*e*P	**Pb**	**12 43 10.1**	**+0.7**
CPBX				*e*S	**Sb**	**12 43 15.2**	**+1.5**
CPBX	**Cerro Prieto**	**0.26**	**118**	*e*P	**Pb**	**12 43 10.2**	**+0.9**
YUH	**Yuha Desert**	**0.31**	**290**	⇑*i*P	**Pg**	**12 43 09.8**	**+0.3**
COK	**Cook Ranch**	**0.33**	**338**	⇓*i*P	**Pb**	**12 43 10.1**	**+0.5**
MBIG	**Mexicali**	**0.34**	**112**	*e*P	**Pg**	**12 43 09.2**	**-0.9**
MBIG				*e*S	**Sg**	**12 43 14.4**	**-0.6**
RMX	**La Rumorosa**	**0.43**	**279**	⇑*e*P	**Pg**	**12 43 11.9**	**+0.2**
RMX				*e*S	**Sg**	**12 43 17.4**	**-0.1**
RMX				⇓*e*		12 43 17.7	
RMX				AML	AML	12 43 17.7	
	comp=N,10μm,0.1s						

EMX	**El Mayor**	**0.62**	**153**	⇓*e*P	**Pg**	**12 43 15.1**	**0.0**
EMX				*e*S	**Sg**	**12 43 23.5**	**+0.2**
RDX	**Rancho Dawling**	**0.68**	**207**	*e*P	**Pg**	**12 43 16.3**	**-0.1**
RDX				*e*S	**Sg**	**12 43 24.8**	**-0.7**
BAR	**Barrett**	**0.94**	**279**	⇑*e*P	**Pb**	**12 43 20.9**	**0.0**
BAR	**Barrett**	**0.94**	**279**	*e*Pg	**Pb**	**12 43 20.9**	**0.0**
BAR				*e*Sg	**Sb**	**12 43 32.0**	**-1.2**
CBX	**Cerro Bola**	**0.95**	**257**	*e*P	**Pb**	**12 43 21.1**	**-0.1**
CBX				*i* S	**Sg**	**12 43 34.4**	**+0.6**
CBX	**Cerro Bola**	**0.95**	**257**	⇑*e*P	**Pb**	**12 43 21.0**	**-0.1**
CBX				*e*S	**Sb**	**12 43 33.5**	**0.0**
CBX				AML	AML	12 43 35.5	
	comp=N,3μm,0.3s						
CBX				⇓*e*		12 43 35.5	
CBX	**Cerro Bola**	**0.95**	**257**	*e*P	**Pb**	**12 43 21.0**	**-0.1**
ECBX	**El Chinero**	**1.15**	**157**	*e*P	**Pn**	**12 43 24.2**	**-0.3**
ECBX				*e*S	**Sb**	**12 43 40.0**	**+0.7**
ZAX	**El Zacaton**	**1.18**	**210**	*e*P	**Pn**	**12 43 25.1**	**+0.1**
ZAX				*e*S	**Sb**	**12 43 40.5**	**+0.2**
ZAX				AML	AML	12 43 42.1	
	comp=E,2μm,0.3s						
ZAX				⇑*e*		12 43 42.1	
ECNX	**Esteban Cantu**	**1.23**	**225**	*e*P	**Pn**	**12 43 26.2**	**+0.4**
ECNX				*e*S	**Sb**	**12 43 42.1**	**+0.3**
PBX	**Punta Banda**	**1.26**	**231**	*e*P	**Pn**	**12 43 26.4**	**+0.4**
PBX				*e*S	**Sb**	**12 43 42.7**	**+0.3**
PFO	**Pinyon Flats O**	**1.30**	**326**	*e*Pn	**Pn**	**12 43 25.7**	**-1.0**
PFO				*e*Sn	**Sb**	**12 43 43.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.49**	**176**	*e*P	**Pn**	**12 43 29.5**	**0.0**
SPIG				*i* S	**Sb**	**12 43 49.9**	**+0.5**
SPIG	**San Pedro Mart**	**1.49**	**176**	*e*P	**Pn**	**12 43 29.3**	**-0.2**
SPIG				*e*S	**Sb**	**12 43 51.0**	**+1.6**
SPX	**San Pedro Mart**	**1.49**	**176**	*e*P	**Pn**	**12 43 29.3**	**-0.2**
SPX				*e*S	**Sb**	**12 43 50.9**	**+1.4**
SPX				AML	AML	12 43 53.3	
	comp=E,452nm,0.4s						
SPX				⇓*e*		12 43 53.3	
214A	**Organ Pipe Nat**	**2.41**	**103**	*e*Pn	**Pn**	**12 43 41.0**	**-0.9**
214A				*e*Sn	**Sn**	**12 44 09.1**	**-2.1**
LDFC	**Landfair**	**2.56**	**9**	*e*Pn	**Pn**	**12 43 45.3**	**+1.2**
MWC	**Mount Wilson**	**2.67**	**310**	*e*Pn	**Pb**	**12 43 51.2**	**+0.7**
MWC				*e*Sn	**Sb**	**12 44 25.6**	**+2.3**

ISCJB ***17*** *12:45:17.8±0.5, 35.°31N±0.°04×28.°99E±0.°09, h30km, Error ellipse: s-maj=11.7km s-min=5.3km az=159.0*
ISK ***17*** *12:45:18.5, 35.°55N×29.°04E, h10km, ML3.2*
CSEM ***17*** *12:45:19.6±0.2, 35.°51N×29.°14E, h20km, ML3.2, Error ellipse: s-maj=9.1km s-min=3.7km az=57.0*
HLW ***17*** *12:45:21.3, 34.°96N×28.°69E, h33km±26km, Md3.6*

ISC 17 12:45:19.1±1.1, 35.°41N±0.°05×29.°11E±0.°08, h30km, n31, σ1°55/30, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**1.23**	**359**	*e*Pn	**Pn**	**12 45 39.6**	**-0.6**
FETY				*e*SN	**Sn**	**12 45 55.0**	**-0.8**
FETY	**Fethiye**	**1.23**	**359**	*e*Pn	**Pn**	**12 45 39.6**	**-0.6**
FETY				*e*Sn	**Sn**	**12 45 55.0**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.46**	**346**	*e*PN	**Pn**	**12 45 42.9**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.46**	**346**	*e*Pn	**Pn**	**12 45 42.9**	**-0.4**
ELL	**Elmali**	**1.49**	**26**	*e*PN	**Pn**	**12 45 44.5**	**+0.6**
ELL	**Elmali**	**1.49**	**26**	*e*Pn	**Pn**	**12 45 44.5**	**+0.6**
DAT	**Datca**	**1.81**	**317**	*e*PN	**Pn**	**12 45 48.6**	**+0.3**
DAT	**Datca**	**1.81**	**317**	*e*Pn	**Pn**	**12 45 48.6**	**+0.3**
YER	**Yerkesik**	**1.85**	**339**	*e*PN	**Pn**	**12 45 49.0**	**+0.2**
YER	**Yerkesik**	**1.85**	**339**	*e*Pn	**Pn**	**12 45 49.0**	**+0.2**
BODT	**Bodrum**	**2.20**	**319**	*e*PN	**Pn**	**12 45 54.3**	**+0.7**
BODT	**Bodrum**	**2.20**	**319**	*e*Pn	**Pn**	**12 45 54.3**	**+0.7**
THR5	**Thira Island,**	**3.21**	**289**	*e*PN	**Pn**	**12 46 09.0**	**+1.5**
THR5	**Thira Island,**	**3.21**	**289**	*e*Pn	**Pn**	**12 46 09.0**	**+1.5**
BLCB	**Balcova**	**3.40**	**332**	*e*PN	**Pn**	**12 46 10.9**	**+0.8**
BLCB	**Balcova**	**3.40**	**332**	*e*Pn	**Pn**	**12 46 10.9**	**+0.8**
CHOS	**Chios island**	**3.85**	**321**	*e*PN	**Pn**	**12 46 17.8**	**+1.5**
CHOS	**Chios island**	**3.85**	**321**	*e*Pn	**Pn**	**12 46 17.8**	**+1.5**
HMAT	**Matruh**	**4.62**	**202**	S	Sn	12 47 08.6	-11
	baz=200						
SLUM		**5.08**	**221**	P	Pn	12 46 29.0	-4.2
	baz=222						
AMAG	**Maghara**	**5.87**	**143**	P	**Pn**	**12 46 46.5**	**+2.5**
	baz=137						
AMAG	**Maghara**	**5.87**	**143**	P	**Pn**	**12 46 46.5**	**+2.5**
RSH		**5.88**	**138**	P	**Pn**	**12 46 46.9**	**+2.7**
	baz=131						
RSH		**5.88**	**138**	P	**Pn**	**12 46 46.9**	**+2.7**
HHAG	**Hagoal**	**5.99**	**154**	S	**Sn**	**12 47 51.0**	**-2.4**
	baz=149						
SUZ		**6.38**	**149**	P	**Pn**	**12 46 52.5**	**+1.5**
	baz=144						
SUZ		**6.38**	**149**	P	**Pn**	**12 46 52.5**	**+1.5**
HNKL	**Nakhl**	**6.83**	**142**	P	**Pn**	**12 46 59.6**	**+2.3**
	baz=136						
HNKL	**Nakhl**	**6.83**	**142**	P	**Pn**	**12 46 59.6**	**+2.3**
SWA2		**6.88**	**208**	P	Pn	12 46 53.9	-3.9
	baz=207						
HFRF	**Wahat Farafira**	**8.26**	**185**	P	**Pn**	**12 47 15.1**	**-1.7**
	baz=183						

IDC ***17*** *12:48:58.4±2.9, 9.°33S×113.°16E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.4/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/16, Error ellipse: s-maj=133.3km s-min=23.4km az=51.0*
DJA ***17*** *12:49:03.4±0.7, 10.°5S±7.°×11.°3E±.°, h57km±27km, M3.8/12, MLv3.8/12*

ISC 17 12:49:00.7±2.2, 9.°6S±0.°1×113.°03E±0.°04, h26km±15km, n17, σ2°89/22, mb3.4/4, MS3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.41**	**17**	P	**Pb**	**12 49 26.6**	**+0.3**
GMJI				S	**Sb**	**12 49 46.1**	**+2.3**
JAGI	**Jajag, Banyuwa**	**1.60**	**44**	P	**Pb**	**12 49 30.6**	**+1.0**
JAGI				S	**Sb**	**12 49 52.6**	**+3.2**
BLJI	**Banyuglugur**	**1.95**	**17**	P	**Pb**	**12 49 35.4**	**-0.2**
BLJI				S	**Sb**	**12 50 00.5**	**+1.0**
PWJI	**Pagerwojo**	**2.00**	**323**	P	**Pb**	**12 49 35.1**	**-1.3**
PWJI				S	**Sb**	**12 49 59.4**	**-1.5**
ABJI	**Asem Bagus**	**2.18**	**33**	P	**Pb**	**12 49 39.0**	**-0.4**
PCJI	**Pacitan**	**2.32**	**308**	P	**Pn**	**12 49 36.1**	**-1.1**
PCJI				S	**Sn**	**12 50 04.2**	**-0.6**
DNP	**Denpasar**	**2.35**	**67**	P	**Pb**	**12 49 41.8**	**-0.6**
DNP				S	**Sb**	**12 50 06.7**	**-4.4**
SRBI	**Singaraja**	**2.65**	**55**	P	**Pn**	**12 49 42.4**	**+0.7**
SRBI				S	**Sn**	**12 50 08.5**	**-4.6**
GRJI	**Gresik**	**2.75**	**349**	P	**Pb**	**12 49 48.3**	**-0.9**
UGM	**Wanagama**	**3.00**	**304**	P	**Pn**	**12 49 48.7**	**+2.0**
UGM				S	**Sn**	**12 50 20.8**	**-1.1**
WRA	**Warramunga Arr**	**22.99**	**119**	P	**P**	**12 54 04.6**	**+0.9**
	0.5nm,0.9s,baz=293,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**24.34**	**128**	P	**P**	**12 54 19.4**	**+2.7**
	0.4nm,0.6s,baz=302,slow=8.6,SNR=11						
CMAR	**Chiang Mai Arr**	**31.19**	**334**	LR	LR	13 08 03.9	
	comp=Z,47nm,18.2s,baz=160,slow=37						
STKA	**Stephens Creek**	**34.50**	**134**	LR	LR	13 10 45.5	
	comp=Z,56nm,20.0s,baz=26,slow=38						
SONM	**Songino Array**	**57.51**	**355**	P	**P**	**12 58 47.2**	**-0.6**
	0.4nm,0.4s,baz=163,slow=5.6,SNR=5.7						
MKAR	**Makanchi Array**	**62.51**	**337**	P	**P**	**12 59 22.7**	**+0.7**
	0.3nm,0.5s,baz=149,slow=6.6,SNR=4.4						
AAK	**Ala-Archa**	**62.80**	**329**	LR	LR	13 32 22.8	
	comp=Z,28nm,18.1s,baz=4.5,slow=42						

ISCJB ***17*** *12:53:01.4±0.6, 11.°33S±0.°08×166.°34E±0.°07, h59km, mb4.1/15, MS3.5/2, Error ellipse: s-maj=11.9km s-min=10.4km az=7.9*
IDC ***17*** *12:53:01.5±1.1, 11.°40S×166.°52E, h48km±6km, mb3.9/15, mb1 4.0/15, mb1mx3.9/21, mbtmp4.1/15, MS3.4/4, Ms1 3.4/4, ms1mx2.9/26, Error ellipse: s-maj=29.7km s-min=15.9km az=125.0*

ISC 17 12:53:02.7±0.6, 11.°38S±0.°07×166.°40E±0.°09, h59km, n28, σ1°34/30, mb4.0/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.64**	**286**	P	**Pn**	**12 54 38.0**	**+0.3**
	43nm,0.3s,baz=81,slow=4.6,SNR=12						
HNR				S	**Sn**	**12 55 51.3**	**-0.7**
	5.2nm,0.3s,baz=90,slow=19,SNR=2.2						
HNR				LR	LR	12 57 19.2	

IDC 17 12:55:41.1±1.9, 17.°82S×69.°22W, h140km±12km, mb2.9/2, mb1 3.2/4, mb1mx3.0/19, mbtmp3.5/4, MS2.5/1, Ms1 2.5/1, ms1mx2.4/5, Error ellipse: s-maj=43.7km s-min=11.7km az=103.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.84**	**34**	P	Pn	12 56 15.1	+0.5
	4.4nm,0.3s,baz=212,slow=7.9,SNR=99						
LPAZ				S	Sn	12 56 39.8	-0.4
	0.9nm,0.3s,baz=127,slow=20,SNR=3.8						
LVC	**Limon Verde**	**4.78**	**177**	P	Pn	12 56 52.7	+1.0
	52nm,0.3s,baz=9.5,slow=12,SNR=28						
LVC				S	Sn	12 57 46.1	-0.6
	33nm,0.3s,baz=319,slow=20,SNR=3.8						
SIV	**San Ignacio**	**8.00**	**78**	P	Pn	12 57 35.6	+0.9
	0.8nm,0.3s,baz=280,slow=12,SNR=6.2						
SIV				LR	LR	13 01 31.6	
	comp=Z,33nm,21.0s,baz=246,slow=44						
TORD	**Torodi Ar. Bea**	**76.42**	**71**	P	P	13 07 15.6	-0.1
	0.5nm,0.6s,baz=262,slow=5.1,SNR=6.8						
YKA	**Yellowknife Ar**	**87.64**	**341**	P	P	13 08 13.0	-0.1
	0.0nm,0.4s,baz=128,slow=5.1,SNR=3.3						

ISCJB ***17*** *13:21:01.6±0.4, 0.°08N±0.°05×123.°20E±0.°04, h162km, mb3.8/10, Error ellipse: s-maj=8.0km s-min=5.9km az=21.2*
IDC ***17*** *13:21:04.5±2.9, 0.°05N×123.°24E, h179km±28km, mb3.5/10, mb1 3.6/10, mb1mx3.4/38, mbtmp4.0/10, Error ellipse: s-maj=26.8km s-min=11.2km az=69.0*
DJA ***17*** *13:21:04.1±0.7, 0.°5S±4.°×12.°3E±.°, h131km±10km, M4.2/10, mb4.0/1, MLv4.3/10*

ISC 17 13:21:02.8±0.6, 0.°02S±0.°06×123.°20E±0.°05, h162km, n26, σ1°24/31, mb3.9/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.98**	**53**	P	**Pn**	**13 21 28.7**	**+0.1**
MRSI	**Marisa**	**1.35**	**291**	P	**Pn**	**13 21 31.7**	**-0.1**
MRSI				S	**Sn**	**13 21 53.3**	**-0.8**
APSI	**Ampana**	**1.79**	**240**	P	**Pn**	**13 21 36.1**	**-0.3**
APSI				S	**Sn**	**13 22 02.2**	**0.0**
MPSI	**Mapaga**	**3.32**	**276**	P	Pn	13 21 48.5	-6.2
SANI	**Sanana**	**3.44**	**126**	P	**Pn**	**13 21 53.7**	**-2.6**
SANI				S	**Sn**	**13 22 34.8**	**-3.0**
TNTI	**Ternate**	**4.24**	**79**	P	**Pn**	**13 22 08.7**	**+2.2**
LBMI	**Labuha**	**4.34**	**98**	P	**Pn**	**13 22 07.2**	**-0.7**
LBMI				S	**Sn**	**13 22 58.2**	**-0.5**
NLAI	**Namlea**	**5.04**	**129**	P	**Pn**	**13 22 17.9**	**+0.8**
BNSI	**Bone**	**5.34**	**215**	P	**Pn**	**13 22 20.8**	**-0.2**
MTN	**Manton Dam**	**14.98**	**149**	P	**P**	**13 24 28.8**	**+0.8**
	baz=17,SNR=5.1						
KDU	**Kakadu**	**15.59**	**144**	P	**P**	**13 24 36.3**	**+1.4**
	baz=18,SNR=4.6						
KNRA	**Kununurra**	**16.50**	**161**	P	**Pn**	**13 24 46.8**	**+1.6**
	baz=19,SNR=10						
WRA	**Warramunga Arr**	**22.61**	**152**	P	**P**	**13 25 49.9**	**-0.2**
	4.1nm,0.6s,baz=328,slow=10,SNR=106						
WRA				ScP	**ScP**	**13 32 58.4**	**-1.9**
	0.3nm,0.7s,baz=322,slow=2.6,SNR=5.8						
WRKA	**Warakurna**	**25.36**	**169**	P	**P**	**13 26 15.6**	**+0.5**
	baz=28,SNR=21						
ASAR	**Alice Springs**	**25.71**	**157**	P	**P**	**13 26 18.7**	**+0.5**
	0.8nm,0.6s,baz=330,slow=8.6,SNR=14						
QIS	**Mount Isa**	**25.97**	**

TORD Torodi Ar. Bea 120.61 285 PKP **PKPdf 13 39 35.6 -0.8**
0.2nm,0.5s,baz=59,slow=2.1,SNR=3.2

*IDC **17** 13:30:01.1±2.4,54.1°S×15.8°W±7.6°E,h0km,mb1 3.1/3, mb1mx2.9/31,mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=20.8km s-min=13.7km az=57.0*
*NNC **17** 13:30:05.3±1.9,53.9°N×86.8°E±7.6°,h0km,mb3.3,mpv3.0, Error ellipse: s-maj=17.5km s-min=12.0km az=170.0*
ISC 17 13:30:03.1±4.1,**54.3N**±0.2°×**87.2E**±0.2°,**h35**km,**n8,** σ1§**36**/13,**2C-6D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**256**	*i*			13 39 30.0	
	baz=80,slow=332,SNR=7.4							
ZALV	**Zalesovo Beam**	**1.44**	**256**	Pg		**Pn**	**13 30 25.4**	**-1.1**
	3.3nm,0.3s,baz=82,slow=16,SNR=42							
ZALV				Lg		Lg	13 30 46.1	
	3.7nm,0.3s,baz=72,slow=28,SNR=14							
ZALV				Rg		Rg	13 30 54.8	
	8.8nm,0.4s,baz=93,slow=22,SNR=8.5							
KURK	**Kurchatov**	**6.35**	**239**	⇑Pn		**Pn**	**13 31 35.5**	**+1.5**
	0.5nm,0.7s							
KURK				⇓Sn		**Sn**	**13 32 45.7**	**+0.5**
	0.6nm,0.5s							
KURK				⇓Lg		Lg	13 33 16.9	
	3.7nm,0.9s							
KURBB	**Kurchatov Arra**	**6.45**	**238**	⇑Pn		**Pn**	**13 31 36.2**	**+0.8**
	2.0nm,0.6s							
KURBB				⇓Sn		**Sn**	**13 32 47.7**	**0.0**
	3.7nm,0.5s							
KURBB				⇓Lg		Lg	13 33 20.0	
	6.5nm,0.7s							
KURBB	**Kurchatov Arra**	**6.45**	**238**	Pn		**Pn**	**13 31 36.4**	**+1.0**
	0.2nm,0.3s,baz=54,slow=14,SNR=11							
KURBB				Sn		**Sn**	**13 32 48.0**	**+0.3**
	0.1nm,0.3s,baz=55,slow=22,SNR=3.9							
KURBB				Lg		Lg	13 33 21.7	
	0.0nm,0.3s,baz=59,slow=31,SNR=3.7							
MK31	**Makanchi Array**	**8.15**	**204**	⇓Pn		**Pn**	**13 31 59.3**	**+0.5**
	0.3nm,0.6s,baz=27,slow=14,SNR=17							
MK31				Sn		**Sn**	**13 33 27.6**	**-2.0**
	0.9nm,0.5s,baz=26,slow=26,SNR=8.9							
MK31				⇓Lg		Lg	13 34 12.2	
	4.8nm,1.1s,baz=31,slow=34,SNR=5.8							
MKAR	**Makanchi Array**	**8.15**	**204**	Pn		**Pn**	**13 31 59.2**	**+0.4**
	0.2nm,0.3s,baz=28,slow=14,SNR=12							
MKAR				Sn		**Sn**	**13 33 30.2**	**+0.6**
	0.3nm,0.3s,baz=29,slow=26,SNR=8.5							
MKAR				Lg		Lg	13 34 15.1	
	0.1nm,0.3s,baz=22,slow=31,SNR=4.1							
BVAR	**Borovoye Array**	**10.05**	**269**	Pn		**Pn**	**13 32 26.9**	**+2.1**
	baz=63,slow=17,SNR=3.7							
BVAR				Sn		**Sn**	**13 34 14.2**	**-1.9**
	0.4nm,0.3s,baz=76,slow=24,SNR=5.4							

*CSEM **17** 13:37:30.4,37.4°N×28.0°E,h7km,MD2.8*
DDA 17 13:37:30.4,37.4°N×28.0°E,h7km,**MD2.8,Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.29**	**326**	*i* P		Pg	13 37 37.2	+0.8
AYDN				*i* S		Sg	13 37 41.5	+1.1
AYDN	**Tasoluk**	**0.29**	**326**	*i* P		Pg	13 37 37.2	+0.8
AYDN				*i* S		Sg	13 37 41.5	+1.1
BDRM	**Kayabasi**	**0.62**	**236**	*i* P		Pg	13 37 42.6	+0.1
BDRM				*i* S		Sb	13 37 52.4	-0.2
BDRM	**Kayabasi**	**0.62**	**236**	*i* P		Pg	13 37 42.6	+0.1
BDRM				*i* S		Sb	13 37 52.4	-0.2
TURN	**Turunc**	**0.68**	**143**	*i* P		Pg	13 37 43.0	-0.5
TURN				*i* S		Sg	13 37 52.7	+0.3
TURN	**Turunc**	**0.68**	**143**	*i* P		Pg	13 37 43.0	-0.5
TURN				*i* S		Sg	13 37 52.7	+0.3
GCAM	**G?zelcaml?**	**0.73**	**293**	*i* P		Pg	13 37 44.2	-0.4
GCAM				*i* S		Sg	13 37 54.2	0.0
GCAM	**G?zelcaml?**	**0.73**	**293**	*i* P		Pg	13 37 44.2	-0.4
GCAM				*i* S		Sg	13 37 54.2	+0.1
MANT	**Manisa**	**1.14**	**19**	*i* P		Pb	13 37 52.7	-0.1
MANT				*i* S		Sb	13 38 07.8	-0.2
MANT	**Manisa**	**1.14**	**19**	*i* P		Pb	13 37 52.7	0.0
MANT				*i* S		Sb	13 38 07.8	-0.1

*ISCJB **17** 14:58:57.0±0.6,21.3°S×0.04°×67.14°W±0.07,h189km±8km, mb3.5/4,Error ellipse: s-maj=10.9km s-min=6.7km az=9.9*
*IDC **17** 14:58:57.4±0.9,21.36°S×67.01°W,h178km±10km,mb3.3/4, mb1 3.5/7,mb1mx3.3/36,mbtmp3.7/7,MS3.2/1,Ms1 3.1/1, ms1mx2.6/10,Error ellipse: s-maj=21.1km s-min=11.0km az=120.0*
*GUC **17** 14:58:58.7±0.4,21.33°S×67.78W,h235km±4km,ML4.2*
ISC 17 14:58:57.5±0.9,**21.32S**±0.06°×**67.13W**±0.09,
h182km±10km,**n19,**σ1§**42**/27,**mb3.5**/4,**2C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.02**	**256**	⇑*e*P		**Pn**	**14 59 36.7**	**+1.6**
PB09				*e*S		**Sn**	**15 00 05.2**	**+0.9**
PB09				AML		AML	15 00 08.5	
	comp=E,907nm,0.4s							
LVC	**Limon Verde**	**2.09**	**232**	P		**Pn**	**14 59 37.5**	**+1.5**
	comp=E,642nm,0.3s,baz=46,slow=8.7,SNR=161							
LVC				S		**Sn**	**15 00 06.8**	**+0.9**
	comp=E,519nm,0.3s,baz=233,slow=19,SNR=37							
PB01	**IPOC Station P**	**2.22**	**277**	⇑*e*P		**Pn**	**14 59 38.1**	**+1.0**
PB01				*e*S		**Sn**	**15 00 07.8**	**-0.2**
PB01				AML		AML	15 00 09.1	
	comp=N,741nm,0.2s							
PB04	**IPOC Station P**	**2.38**	**246**	*e*P		Pn	14 59 46.1	+7.2
PB04				*e*S		Sn	15 00 22.0	+11
PB04				AML		AML	15 00 24.9	
	comp=N,297nm,0.3s							
PB06	**IPOC Station P**	**2.65**	**238**	*e*P		**Pn**	**14 59 43.1**	**+0.8**
PB06				*e*S		**Sn**	**15 00 17.2**	**+0.1**
PB06				AML		AML	15 00 18.1	
	comp=N,338nm,0.6s							
HMBC	**Humberstone**	**2.78**	**291**	⇓*e*P		**Pn**	**14 59 44.0**	**+0.2**
HMBC				*e*S		**Sn**	**15 00 18.5**	**-1.2**
HMBC				AML		AML	15 00 20.3	
	comp=N,330nm,0.3s							
PB11	**IPOC Station P**	**2.83**	**303**	⇓*e*P		**Pn**	**14 59 45.2**	**+0.9**
PB11				*e*S		**Sn**	**15 00 20.6**	**-0.2**
PATCX	**Punta Patache**	**2.87**	**279**	*e*P		**Pn**	**14 59 44.4**	**-0.3**
PATCX				*e*S		**Sn**	**15 00 19.2**	**-2.3**
PATCX				AML		AML	15 00 21.9	
	comp=N,668nm,0.3s							
MNMC	**Minimini**	**3.18**	**313**	⇓*e*P		**Pn**	**14 59 50.1**	**+1.4**
MNMC				*e*S		**Sn**	**15 00 29.1**	**+0.5**
MNMC				AML		AML	15 00 31.9	
	comp=E,396nm,0.1s							
PSGC	**Pisagua**	**3.29**	**301**	*e*P		**Pn**	**14 59 49.9**	**+0.1**
PSGC				*e*S		**Sn**	**15 00 28.9**	**-1.9**
PSGC				AML		AML	15 00 31.3	
	comp=N,200nm,0.3s							
LPAZ	**La Paz**	**5.09**	**349**	P		**Pn**	**15 00 15.7**	**+2.3**
	comp=N,0.4nm,0.3s,baz=117,slow=4.3,SNR=12							
LPAZ				S		**Sn**	**15 01 13.4**	**+0.5**
	comp=N,0.2nm,0.3s,baz=337,slow=23,SNR=10							
SIV	**San Ignacio**	**7.81**	**48**	P		**Pn**	**15 00 48.5**	**0.0**
	comp=N,1.2nm,0.3s,baz=243,slow=9.7,SNR=12							
SIV				S		**Sn**	**15 02 13.9**	**-2.4**
	comp=N,0.4nm,0.3s,baz=312,slow=15,SNR=6.8							
CFAA	**Coronel Fontan**	**10.29**	**185**	S		**Sn**	**15 03 11.8**	**-3.4**
	comp=N,0.1nm,0.3s,baz=198,slow=19,SNR=3.7							
BDFB	**Brasilia**	**18.98**	**76**	LR		LR	15 11 29.6	
	comp=N,78nm,21.2s,baz=260,slow=40							
PDAR	**Pinedale Array**	**74.80**	**329**	P		**P**	**15 10 18.8**	**+0.9**
	comp=N,0.2nm,0.4s,baz=101,slow=9.3,SNR=2.2							
TORD	**Torodi Ar. Bea**	**75.74**	**70**	P		**P**	**15 10 23.1**	**-0.5**
	comp=N,1.1nm,0.4s,baz=254,slow=5.5,SNR=28							
ESDC	**Sonseca Array**	**84.55**	**44**	P		**P**	**15 11 10.7**	**+0.5**
	comp=N,0.4nm,0.6s,baz=234,slow=5.6,SNR=4.1							
YKA	**Yellowknife Ar**	**91.58**	**340**	P		**P**	**15 11 43.5**	**+0.5**
	comp=N,0.4nm,0.6s,baz=130,slow=4.5,SNR=11							
MKAR	**Makanchi Array**	**144.50**	**37**	PKP		PKPbc	15 18 12.0	+0.8
	comp=N,1.1nm,0.7s,baz=310,slow=3.9,SNR=16							

*IDC **17** 15:05:24.9±1.2,28.7°S×178.0°W,h0km,mb3.6/5, mb1 4.0/6,mb1mx3.8/18,mbtmp3.7/6,ML4.1/1,Error ellipse: s-maj=51.4km s-min=27.4km az=149.0*

ISC 17 15:05:44.2±0.8,**29.5S**±0.1°×**179.3W**±0.3,**h200**km,**n32,** σ1§**67**/30,**mb3.2/5,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**8.48**	**192**	PN		**Pn**	**15 07 45.5**	**+2.0**
HAZ	**Te Kaha**	**8.55**	**196**	PN		**Pn**	**15 07 47.3**	**+2.8**
PUZ	**Puketiti**	**8.75**	**193**	PN		**Pn**	**15 07 48.3**	**+1.1**
PUZ						SN	**Sn**	**15 09 23.7**	**-1.7**
TWGZ	**Tauwhareparae**	**8.91**	**194**	PN		**Pn**	**15 07 51.7**	**+2.5**
MWZ	**Matawai**	**9.16**	**196**	PN		**Pn**	**15 07 53.4**	**+0.9**
MWZ						SN	**Sn**	**15 09 35.4**	**+0.3**
URZ	**Urewera**	**9.20**	**198**	Pn		**Pn**	**15 07 55.0**	**+2.1**
	1.7nm,0.3s,baz=268,slow=4.2,SNR=16							
URZ						Sn	**Sn**	**15 09 35.7**	**-0.2**
	3.2nm,0.3s,baz=274,slow=20,SNR=18							
URZ	**Urewera**	**9.20**	**198**	PN		**Pn**	**15 07 55.3**	**+2.4**
RAGZ	**Rawiri**	**9.34**	**196**	PN		**Pn**	**15 07 56.1**	**+1.2**
RAGZ						SN	**Sn**	**15 09 39.4**	**-0.1**
RIGZ	**Rimuhau**	**9.46**	**194**	PN		**Pn**	**15 07 57.4**	**+1.0**
SNGZ	**Shannon Statio**	**9.63**	**196**	PN		**Pn**	**15 07 59.1**	**+0.5**
BKZ	**Black Stump Fm**	**10.21**	**199**	*e*PN		**Pn**	**15 08 06.6**	**+0.5**
FWVZ	**Far West T-bar**	**10.58**	**202**	PN		**P**	**15 08 16.8**	**-1.3**
WNVZ	**Wahianoa**	**10.63**	**202**	PN		**P**	**15 08 17.3**	**-1.3**
PXZ	**Pawanui**	**10.93**	**196**	PN		**Pn**	**15 08 16.1**	**+0.8**
PXZ						*e*SN	Sn	15 10 09.2	-8.0
TSZ	**Takapari Road**	**11.19**	**199**	*e*PN		**P**	**15 08 22.0**	**-2.8**
BFZ	**Birch Farm**	**11.70**	**197**	*e*SN		Sn	15 10 27.4	-8.1
MRZ	**Mangatainoka R**	**11.86**	**199**	*e*PN		**Pn**	**15 08 25.9**	**-1.3**
OGWZ	**Otaki Gorge**	**12.12**	**200**	PN		**P**	**15 08 33.1**	**-1.9**
THZ	**Tophouse**	**13.73**	**205**	*e*PN		**P**	**15 08 53.7**	**+0.7**
KHZ	**Kahutara**	**14.09**	**202**	PN		**P**	**15 08 57.5**	**+0.7**
ASAR	**Alice Springs**	**42.02**	**267**	P		P	15 13 27.3	+11
	0.2nm,0.3s,baz=104,slow=7.3,SNR=6.0							
WRA	**Warramunga Arr**	**42.92**	**272**	P		P	15 13 34.6	+11
	0.3nm,0.4s,baz=109,slow=8.1,SNR=12							
PETK	**Petropavlovsk-**	**84.70**	**346**	P		P	15 17 58.7	+3.6
	1.7nm,0.8s,baz=101,slow=12,SNR=2.4							
NVAR	**Mina Array Bea**	**88.39**	**43**	P		**P**	**15 18 13.6**	**0.0**
	0.2nm,0.8s,baz=221,slow=8.0,SNR=2.4							
TXAR	**Lajitas Array**	**92.89**	**58**	P		**P**	**15 18 33.7**	**-0.9**
	0.1nm,0.5s,baz=196,slow=8.4,SNR=1.8							
MKAR	**Makanchi Array**	**116.34**	**311**	PKP		PKPdf	15 24 10.4	+6.8
	0.2nm,0.4s,baz=215,slow=1.6,SNR=4.4							
JOF	**Joensuu**	**141.19**	**338**	*e*pkp		PKPdf	15 25 01.8	+12
KAF	**Kangasniemi**	**143.35**	**340**	*e*pkp		**PKPdf**	**15 24 57.3**	**+3.4**
FINES	**FINESS Array B**	**143.94**	**340**	PKhKP		PKPpre	15 24 56.1	
	3.3nm,0.7s,baz=238,slow=16,SNR=10							
FINES						PKP	**PKiKP**	**15 25 00.1**	**+1.6**
	3.6nm,0.6s,baz=85,slow=3.3,SNR=20							
HFS	**Hagfors**	**148.16**	**348**	PKPbc		**PKPab**	**15 25 07.9**	**-1.3**
	3.7nm,0.9s,baz=82,slow=3.1,SNR=2.9							
AKASG	**Malin Array Be**	**149.92**	**323**	PKPbc		**PKPab**	**15 25 16.6**	**-0.1**
	1.0nm,0.6s,baz=44,slow=3.6,SNR=9.1							
BRTR	**Keskin Array B**	**151.18**	**300**	PKPbc		**PKPab**	**15 25 20.5**	**-2.0**
	0.6nm,0.6s,baz=114,slow=4.0,SNR=2.8							

GUC 17 15:13:22.6±0.5,**34.09S**×**72.24W**,**h35**km±5km,**ML3.7, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**1.16**	**69**	*e*P		Pn	15 13 43.1	+0.7
NICH	**Los Niches**	**1.24**	**138**	*e*P		Pn	15 13 44.5	+1.1
NICH				*e*S		Sn	15 14 00.8	+1.9
RCDM	**Rinconada Maip**	**1.33**	**64**	*e*P		Pn	15 13 45.5	+0.8
TALC	**Talca**	**1.40**	**159**	*e*P		Pn	15 13 47.2	+1.6
TALC				*e*S		Sn	15 14 05.1	+2.3
SAN	**Santiago**	**1.46**	**65**	*e*P		Pn	15 13 47.7	+1.2
SAN				*e*S		Sn	15 14 07.2	+2.8
CLCH	**Cerro Calan**	**1.57**	**65**	*e*P		Pn	15 13 49.6	+1.5
CLCH				*e*S		Sn	15 14 10.4	+3.0
CLCH					AML	AML	15 14 16.2	
	comp=E,1μm,0.4s							
PEL	**Peldehue**	**1.60**	**54**	*e*P		Pn	15 13 50.2	+1.7
PEL				*e*S		Sn	15 14 11.3	+3.3
PEL					AML	AML	15 14 19.0	
	comp=N,2μm,0.4s							

*NIED **17** 15:38:00,27.80N×130.90E,h5km,Mw4.2 Best double couple: M0 2.57000×10^15 NP1:φs339.00000°,δ49.00000°, λ19.00000°. NP2:φs236.00000°,δ76.00000°,λ137.00000°.*
*IDC **17** 15:38:21.1±0.8,27.95N×130.98E,h0km,mb3.9/16, mb1 4.0/21,mb1mx3.9/33,mbtmp3.9/21,ML3.3/4,MS3.3/10, Ms1 3.4/10,ms1mx2.9/55,Error ellipse: s-maj=23.5km s-min=14.4km az=79.0*
*JMA **17** 15:38:23.4±0.1,27.82N×130.91E,h74km±3km,M4.4*
ISC 17 15:38:22.1±1.8,**27.83N**±0.03×**130.89E**±0.05,**h8**km±11km, **n48,**σ1§**68**/55,**mb4.1**/16,**MS3.4**/8,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.95**	**301**	P		**Pb**	**15 38 42.0**	**+1.3**
JAM	**Amami Oshima**	**1.28**	**297**	P		**Pg**	**15 38 46.3**	**-0.3**
JAM				*e*S		**Sg**	**15 39 02.1**	**-1.1**
JAMN	**Amaminishikomi**	**1.57**	**286**	P		**Pn**	**15 38 50.2**	**-0.1**
JAMN				*e*S		**Sn**	**15 39 10.1**	**-0.7**
JTK	**Tokunoshima**	**1.72**	**269**	P		**Pn**	**15 38 52.5**	**+0.2**
JTK				*e*S		**Sn**	**15 39 12.6**	**-1.8**
JTAJ	**Takarajima**	**1.99**	**312**	P		**Pn**	**15 38 55.4**	**-0.6**
JTAJ				*e*S		**Sn**	**15 39 18.7**	**-2.4**
JMZ	**Minamidaito 2**	**2.02**	**172**	P		**Pn**	**15 38 55.5**	**-0.9**
JMZ				*e*S		**Sn**	**15 39 18.6**	**-3.2**
JOKE	**Okinoerabujima**	**2.11**	**258**	P		**Pn**	**15 38 57.8**	**+0.1**
JOKE				*e*S		**Sn**	**15 39 22.3**	**-1.8**
JNN	**Nakanoshima**	**2.20**	**336**	P		**Pn**	**15 38 58.7**	**-0.2**
JNN				*e*S		**Sn**	**15 39 24.6**	**-1.6**
JYAK	**Yakushimahirau**	**2.43**	**352**	P		**Pn**	**15 39 01.9**	**-0.1**
JYAK				*e*S		**Sn**	**15 39 29.4**	**-2.5**
JOW	**Kunigami**	**2.53**	**248**	P		**Pn**	**15 39 03.3**	**-0.1**
JOW				*e*S		**Sn**	**15 39 31.4**	**-3.0**
JOW	**Kunigami**	**2.53**	**248**	Pn		**Pn**	**15 39 03.3**	**-0.1**
	baz=104,slow=15							
JOW						Sn	**Sn**	**15 39 30.9**	**-3.6**
	34nm,0.3s,baz=34,slow=30,SNR=24							
JKC	**Kuchinoerabu**	**2.70**	**347**	P		**Pn**	**15 39 05.8**	**+0.1**
JKC				*e*S		**Sn**	**15 39 35.6**	**-2.9**
JIH	**Iheya**	**2.72**	**254**	P		**Pn**	**15 39 06.0**	**0.0**
JIH				*e*S		**Sn**	**15 39 36.0**	**-3.0**
JTN	**Tanegashima 3**	**2.82**	**2**	P		**Pn**	**15 39 07.1**	**-0.3**
JNTH	**Nagotoyohara**	**2.87**	**244**	P		**Pn**	**15 39 07.8**	**-0.3**
JNTH				*e*S		**Sn**	**15 39 39.3**	**-3.5**
JJT2	**Tamagusuku 2**	**3.27**	**240**	P		**Pn**	**15 39 13.5**	**-0.1**
JJT2				*e*S		**Sn**	**15 39 50.2**	**-2.5**
JTSR	**Tashiro 2**	**3.33**	**0**	P		**Pn**	**15 39 14.6**	**+0.1**
JTSR				*e*S		**Sn**	**15 39 51.9**	**-2.3**
JAGN	**Aguni-jima**	**3.48**	**250**	P		**Pn**	**15 39 15.9**	**-0.5**
JAGN				*e*S		**Sn**	**15 39 54.3**	**-3.4**
JSU	**Suzuyama**	**3.69**	**354**	P		**Pn**	**15 39 19.1**	**-0.3**
JNAR	**Kushima--Naru**	**3.70**	**5**	P		**Pn**	**15 39 20.0**	**+0.5**
JNU	**Nakatsue**	**5.28**	**360**	Pn		**Pn**	**15 39 40.4**	**-0.9**
	4.7nm,0.3s,baz=206,slow=1.0,SNR=66							
JNU						Sn	**Sn**	**15 40 38.9**	**-3.4**
	9.5nm,0.3s,baz=320,slow=16,SNR=7.6							
JNU						LR	LR	15 41 07.1	
	comp=Z,50nm,18.5s,baz=190,slow=2.2							
KSRS	**Korea Array**	**9.92**	**346**	Pn		Pn	15 40 41.7	-3.2
	0.1nm,0.3s,baz=93,slow=30,SNR=3.4							
MJAR	**Matsushiro Arr**	**10.67**	**34**	Pn		**Pn**	**15 40 54.1**	**-1.1**
	0.3nm,0.3s,baz=219,slow=14,SNR=5.3							
USRK	**Ussuriysk Ar.**	**16.36**	**3**	Pn		**Pn**	**15 42 10.5**	**-1.6**
	0.1nm,0.3s,baz=185,slow=8.4,SNR=2.6							
ASAJ	**Asahikawa**	**18.78**	**27**	LR		LR	15 50 35.4	
	comp=Z,75nm,18.3s,baz=222,slow=39							
SONM	**Songino Array**	**27.61**	**323**	P		**P**	**15 44 11.2**	**+1.2**
	0.3nm,0.4s,baz=143,slow=11,SNR=2.6							
CMAR	**Chiang Mai Arr**	**30.75**	**259**	P		**P**	**15 44 39.8**	**+1.8**
	1.3nm,0.6s,baz=59,slow=6.4,SNR=13							
CMAR						LR	LR	15 57 09.4	
	comp=Z,49nm,20.8s,baz=58,slow=37							
H11N2	**WAKE ISLAND Hy**	**33.82**	**96**	T		T	16 20 47.1	
	baz=292							
H11N1	**WAKE ISLAND Hy**	**33.83**	**96**	T		T	16 20 55.1	
	baz=292							
H11N3	**WAKE ISLAND Hy**	**33.84**	**96**	T		T	16 20 48.3	
	baz=292							
MKAR	**Makanchi Array**	**42.29**	**310**	P		**P**	**15 46 15.6**	**-0.5**
	0.6nm,0.7s,baz=96,slow=9.5,SNR=8.7							
MKAR						LR	LR	16 05 55.1	
	comp=Z,34nm,18.2s,baz=80,slow=39							
ZALV	**Zalesovo Beam**	**42.46**	**321**	P		**P**	**15 46 17.0**	**-0.4**
	0.9nm,0.3s,baz=111,slow=7.8,SNR=5.3							

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**45.38**	**315**	P		**P**	**15 46 39.8**	**-1.0**
	0.4nm,0.3s,baz=100,slow=8.5,SNR=5.2							
WRA	**Warramunga Arr**	**47.60**	**176**	P		**P**	**15 46 59.4**	**+0.9**
	5.8nm,0.6s,baz=354,slow=8.5,SNR=87							
BVAR	**Borovoye Array**	**50.69**	**317**	P		**P**	**15 47 22.4**	**+0.4**
	1.8nm,0.7s,baz=83,slow=12,SNR=11							
ASAR	**Alice Springs**	**51.27**	**176**	P		**P**	**15 47 27.9**	**+1.4**
	2.7nm,0.6s,baz=9.6,slow=14,SNR=102							
AKTO	**Aktyubinsk**	**58.42**	**314**	P		P	15 48 16.2	-1.8
	1.2nm,0.6s,baz=70,slow=19,SNR=3.7							
STKA	**Stephens Creek**	**60.24**	**170**	P		**P**	**15 48 31.9**	**+1.2**
	0.9nm,0.7s,baz=340,slow=10,SNR=3.3							
GEYT	**Alibeck**	**60.55**	**300**	P		**P**	**15 48 34.1**	**+1.0**
	1.0nm,0.4s,baz=46,slow=10,SNR=3.3							
GEYT						LR	LR	16 18 45.1	
	comp=Z,50nm,18.1s,baz=110,slow=40							
ARCES	**ARCESS Array B**	**69.39**	**339**	LR		LR	16 25 60.0	
	comp=Z,28nm,18.4s,baz=30,slow=41							
KBZ	**Khabaz**	**69.98**	**310**	P		**P**	**15 49 35.3**	**+1.2**
	2.1nm,0.8s,baz=236,slow=24,SNR=5.5							
FINES	**FINESS Array B**	**72.64**	**331**	P		**P**	**15 49 50.0**	**+0.2**
	1.2nm,0.7s,baz=74,slow=10,SNR=3.6							
AKASG	**Malin Array Be**	**75.85**	**320**	P		**P**	**15 50 08.8**	**0.0**
	0.2nm,0.4s,baz=56,slow=6.8,SNR=2.8							
AKASG						LR	LR	16 26 48.9	
	comp=Z,38nm,18.0s,baz=265,slow=38							
YKA	**Yellowknife Ar**	**76.07**	**26**	P		**P**	**15 50 08.4**	**-1.4**
	0.2nm,0.7s,baz=299,slow=5.3,SNR=5.3							
BRTR	**Keskin Array B**	**77.92**	**309**	P		**P**	**15 50 22.0**	**+1.2**
	2.0nm,1.0s,baz=90,slow=4.9,SNR=7.2							
URZ	**Urewera**	**78.69**	**145**	LR		LR	16 22 50.4	
	comp=Z,88nm,21.3s,baz=11,slow=34							
MMAI	**Mount Meron Ar**	**79.59**	**302**	LR		LR	16 32 15.9	
	comp=Z,13nm,19.0s,baz=220,slow=41							
MLR	**Muntele Rosu**	**80.25**	**316**	LR		LR	16 30 38.2	
	comp=Z,9nm,18.0s,baz=50,slow=39							

*IDC **17** 15:43:41.2±0.9,30.34N×67.60E,h0km,mb3.6/8, mb1 3.8/10,mb1mx3.5/51,mbtmp3.6/10,ML3.8/2,MS2.9/2, Ms1 2.9/2,ms1mx2.4/44,Error ellipse: s-maj=26.0km s-min=20.7km az=108.0*
ISC 17 15:43:43.2±1.0,**30.33N**±0.10×**67.8E**±0.1,**h14**km,**n12,** σ1§**28**/12,**mb3.6/8,Pakistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**7.14**	**121**	*e*P		Pn	15 45 32.0	+4.7
AJM						**Sn**	**15 46 47.0**	**-1.3**
AAK	**Ala-Archa**	**13.41**	**22**	Pn		**Pn**	**15 46 53.0**	**-0.2**
	0.6nm,0.3s,baz=174,slow=7.1,SNR=12							
AAK						**Sn**	**15 49 20.7**	**-1.4**
	0.1nm,0.3s,baz=335,slow=19,SNR=5.8							
AAK						LR	LR	15 52 48.8	
	comp=Z,16nm,20.2s,baz=201,slow=41							
MKAR	**Makanchi Array**	**19.92**	**30**	P		**P**	**15 48 14.8**	**+0.4**
	0.2nm,0.3s,baz=212,slow=11,SNR=9.6							
KURBB	**Kurchatov Arra**	**21.81**	**19**	P		**P**	**15 48 34.3**	**-0.5**
	0.7nm,0.7s,baz=208,slow=9.6,SNR=6.1							
BVAR	**Borovoye Array**	**22.76**	**4**	P		**P**	**15 48 46.8**	**+1.9**
	0.8nm,0.6s,baz=176,slow=10.0,SNR=2.5							
ZALV	**Zalesovo Beam**	**26.63**	**23**	P		**P**	**15 49 21.9**	**+0.8**
	1.8nm,0.5s,baz=224,slow=11,SNR=13							
LEM	**Lembang**	**53.12**	**127**	LR		LR	16 16 15.9	
	comp=Z,30nm,18.6s,baz=90,slow=37							
ESDC	**Sonseca Array**	**58.11**	**300**	P		**P**	**15 53 35.9**	**-0.4**
	0.1nm,0.4s,baz=81,slow=6.9,SNR=4.1	

BASI	**Baing, Sumba**	**9.32**	**250**	P		**Pn**	**16 02 32.4**	**-0.9**
	291nm,1.1s,5µm								
BASI				S		Sn	16 04 07.2	-10	
	291nm,1.1s,5µm								
BKSI	**Bulukumba**	**9.43**	**280**	P		**Pn**	**16 02 37.2**	**+2.5**	
	70nm,0.9s,702nm								
WSI	**Waingapu**	**9.43**	**253**	P		**Pn**	**16 02 33.9**	**-0.8**	
	490nm,0.6s,8µm								
WSI				S		Sn	16 04 11.4	-7.9	
	490nm,0.6s,8µm								
WSI	**Waingapu**	**9.43**	**253**	P		**Pn**	**16 02 34.4**	**-0.3**	
	baz=9.5,SNR=18								
BNSI	**Bone**	**9.65**	**285**	P		**Pn**	**16 02 40.4**	**+2.7**	
	84nm,0.8s								
KAPI	**Kappang**	**9.85**	**281**	*e*Pn		**Pn**	**16 02 39.1**	**-1.2**	
KAPI				*e*Sn		**Sn**	**16 04 27.5**	**-2.0**	
APSI	**Ampana**	**9.87**	**308**	P		Pn	16 02 44.0	+3.4	
	110nm,1.0s,1µm								
SPSI	**Sidrap Palu**	**10.10**	**287**	P		**Pn**	**16 02 46.2**	**+2.6**	
	77nm,0.5s								
WBSI	**Waikabubak, Su**	**10.28**	**255**	P		**Pn**	**16 02 45.4**	**-0.7**	
	269nm,0.9s,4µm								
WBSI				S		Sn	16 04 22.3	-18	
	269nm,0.9s,4µm								
TTSI	**Tana Toraja**	**10.37**	**292**	P		P	16 02 52.2	-4.5	
SMPI	**Sarmi**	**10.50**	**62**	P		Pn	16 02 43.4	-5.5	
MRSI	**Marisa**	**10.57**	**315**	P		**Pn**	**16 02 52.0**	**+2.2**	
MMPI	**Merauke**	**10.93**	**98**	P		**Pn**	**16 02 56.0**	**+1.5**	
	baz=11,SNR=5.8								
MMPI				S		Sn	16 04 49.0	-6.5	
	baz=11,SNR=7.5								
SGSI	**Sangihe**	**11.34**	**340**	P		Pn	16 02 55.6	-4.3	
PCI	**Palu**	**11.35**	**302**	P		**Pn**	**16 02 58.7**	**-1.4**	
	179nm,1.1s,2µm								
GENI	**Genyem**	**11.55**	**68**	P		**Pn**	**16 03 02.2**	**-0.5**	
JAY	**Jayapura**	**12.08**	**69**	P		**Pn**	**16 03 11.6**	**+2.0**	
	66nm,0.6s								
JAY	**Jayapura**	**12.08**	**69**	P		**Pn**	**16 03 11.3**	**+1.7**	
	6.4nm,0.3s,baz=232,slow=9.0,SNR=22								
JAY				S		**Sn**	**16 05 23.1**	**-0.3**	
	1.5nm,0.3s,baz=108,slow=20,SNR=4.2								
JAY				LR		LR	16 08 44.4		
	comp=Z,148nm,18.2s,baz=248,slow=41								
WRAB	**Tennant Creek**	**13.68**	**160**	Pn		**Pn**	**16 03 27.0**	**-3.1**	
	1µm,0.9s								
WRAB	**Tennant Creek**	**13.68**	**160**	*d i* P		**Pn**	**16 03 27.8**	**-2.3**	
WRAB	**Tennant Creek**	**13.68**	**160**	*e*Pn		**Pn**	**16 03 27.8**	**-2.3**	
WRAB				*e*Sn		**Sn**	**16 05 59.3**	**-2.5**	
WRA	**Warramunga Arr**	**13.69**	**160**	P		**Pn**	**16 03 27.9**	**-2.3**	
	8.0nm,0.3s,baz=338,slow=12,SNR=154								
WRA				S		Sn	16 05 50.4	-11	
	30nm,0.3s,baz=339,slow=22,SNR=13								
WRA				LR		LR	16 09 39.1		
	comp=Z,495nm,19.5s,baz=335,slow=40								
WB2	**Warramunga Arr**	**13.69**	**160**	*e*Pn		**Pn**	**16 03 27.8**	**-2.4**	
WB2				*e*Sn		**Sn**	**16 05 58.8**	**-3.2**	
KBKI	**Kotabaru**	**13.73**	**285**	P		**Pn**	**16 03 32.2**	**+1.4**	
BKB	**Balikpapan**	**13.76**	**294**	P		**P**	**16 03 35.9**	**+1.3**	
BBKI	**Banjar Baru**	**14.97**	**283**	P		**P**	**16 03 50.1**	**+2.1**	
	1µm,1.1s,9µm								
ABJI	**Asem Bagus**	**15.11**	**266**	P		**Pn**	**16 03 48.1**	**+0.1**	
	98nm,0.9s								
COEN	**Coen**	**15.15**	**118**	P		**Pn**	**16 03 47.5**	**-1.0**	
	baz=15,SNR=53								
COEN				S		Sn	16 06 25.6	-11	
	baz=15,SNR=8.8								
COEN	**Coen**	**15.15**	**118**	*e*Pn		**Pn**	**16 03 47.9**	**-0.6**	
	80nm,1.4s								
JAGI	**Jajag, Banyuwa**	**15.22**	**264**	P		**Pn**	**16 03 46.7**	**-2.7**	
	baz=15,SNR=22								
JAGI				S		Sn	16 06 30.0	-8.9	
	baz=15,SNR=4.2								
JAGI	**Jajag, Banyuwa**	**15.22**	**264**	*e*Pn		**Pn**	**16 03 46.7**	**-2.7**	
	63nm,0.7s								
JAGI				*e*Sn		**Sn**	**16 06 37.1**	**-1.8**	
KMMI	**Kalianget**	**15.37**	**269**	P		**P**	**16 03 53.5**	**+1.1**	
	148nm,1.0s								
MTKI	**Muara Teweh, K**	**15.72**	**292**	P		**P**	**16 03 59.0**	**+2.7**	
	373nm,1.0s,3µm								
BLJI	**Banyuglugur**	**15.74**	**266**	P		**Pn**	**16 03 56.0**	**+0.3**	
	156nm,0.7s								
TSM	**Tawau**	**16.12**	**314**	⇓P		**P**	**16 04 02.9**	**+2.1**	
QIS	**Mount Isa**	**16.66**	**145**	P		**Pn**	**16 04 07.4**	**+0.4**	
	baz=17,SNR=118								
GRJI	**Gresik**	**16.84**	**269**	P		**Pn**	**16 04 11.0**	**+1.8**	
	204nm,1.0s,1µm								
ASAR	**Alice Springs**	**17.09**	**166**	P		**Pn**	**16 04 12.7**	**+0.6**	
	17nm,0.3s,baz=342,slow=8.3,SNR=1468								
ASAR				S		S	16 07 12.4	-9.4	
	7.9nm,0.3s,baz=352,slow=29,SNR=5.5								
PWJI	**Pagerwojo**	**17.52**	**266**	P		**P**	**16 04 13.1**	**-3.1**	
SDKM	**Sandakan**	**17.55**	**316**	⇑P		**Pn**	**16 04 20.6**	**+2.9**	
WRKA	**Warakurna**	**17.94**	**183**	P		**Pn**	**16 04 23.2**	**+0.9**	
	baz=18,SNR=417								
PCJI	**Pacitan**	**18.15**	**265**	P		**P**	**16 04 21.9**	**-1.1**	
PBKI	**Pangkalan Bun**	**18.22**	**283**	P		**P**	**16 04 24.0**	**+0.1**	
WOJI	**Wonogiri, Jawa**	**18.39**	**266**	P		**P**	**16 04 21.2**	**-4.5**	
KKM	**Kota Kinabalu**	**18.52**	**314**	P		**Pn**	**16 04 28.8**	**-0.5**	
	baz=18,SNR=5.0								
KKM	**Kota Kinabalu**	**18.52**	**314**	⇓P		**Pn**	**16 04 29.0**	**-0.3**	
KKM	**Kota Kinabalu**	**18.52**	**314**	Pn		**P**	**16 04 25.2**	**-2.0**	
	115nm,0.9s								
MANU	**Manus Island**	**18.53**	**75**	P		**Pn**	**16 04 31.4**	**+2.1**	
	baz=18,SNR=8.0								
UGM	**Wanagama**	**18.79**	**266**	P		**P**	**16 04 30.5**	**+0.5**	
	baz=19,SNR=11								
UGM				S		**S**	**16 07 50.2**	**-5.6**	
	baz=19,SNR=4.1								
SMRI	**Semarang**	**18.86**	**269**	P		P	16 04 22.0	-8.9	
SMRI	**Semarang**	**18.86**	**269**	*e*P		**P**	**16 04 30.1**	**-0.8**	
	254nm,1.4s								
BTM	**Bintulu**	**19.24**	**301**	⇑P		**Pn**	**16 04 38.5**	**+1.0**	
STKI	**Sintang**	**19.26**	**291**	P		**P**	**16 04 35.3**	**+0.1**	
SBUM	**Sibu**	**19.60**	**298**	⇓P		**Pn**	**16 04 40.9**	**-1.0**	
KPJI	**Karang Pucung**	**20.36**	**268**	P		**P**	**16 04 45.2**	**-1.8**	
CMJI	**Cimerak**	**20.84**	**267**	P		**P**	**16 04 47.6**	**-4.5**	
CTA	**Charters Tower**	**20.84**	**130**	P		**P**	**16 04 53.8**	**+1.8**	
	45nm,0.9s,baz=305,slow=13,SNR=27								
CTA				S		**S**	**16 08 41.4**	**+5.2**	
	7.3nm,0.7s,baz=90,slow=20,SNR=2.4								
CTAO	**Charters Tower**	**20.84**	**130**	P		**P**	**16 04 48.5**	**-3.5**	
CTAO				pmax		pmax			
	comp=Z,61nm,0.9s								
CTAO	**Charters Tower**	**20.84**	**130**	P		**P**	**16 04 48.5**	**-3.5**	
	comp=Z,61nm,0.9s								
KSM	**Kuching**	**20.88**	**293**	P		**P**	**16 04 52.7**	**+0.1**	
	baz=21,SNR=15								
KSM	**Kuching**	**20.88**	**293**	*e*P		**P**	**16 04 50.5**	**-2.1**	
	comp=Z,77nm,1.0s								
GIRL	**Giralia**	**21.35**	**222**	P		**P**	**16 05 01.0**	**+3.5**	
	baz=22,SNR=5.2								
CISI	**Cisompet, Garu**	**21.46**	**267**	P		**P**	**16 04 57.8**	**-1.1**	
CISI	**Cisompet, Garu**	**21.46**	**267**	P		**P**	**16 04 58.1**	**-0.8**	
	baz=22,SNR=17								
CISI	**Cisompet, Garu**	**21.46**	**267**	*e*P		**P**	**16 04 57.4**	**-1.5**	
	comp=Z,183nm,0.8s								
LEM	**Lembang**	**21.67**	**269**	P		**P**	**16 04 58.8**	**-2.4**	
LEM	**Lembang**	**21.67**	**269**	P		**P**	**16 04 59.5**	**-1.7**	
	comp=Z,92nm,0.7s,baz=46,slow=5.1,SNR=20								
LEM	**Lembang**	**21.67**	**269**	P		**P**	**16 05 03.8**	**+2.6**	
	baz=22,SNR=4.6								
MEEK	**Meekatharra**	**22.06**	**207**	P		**P**	**16 05 05.4**	**+0.5**	
	baz=22,SNR=26								
CNJI	**Cibinong**	**22.14**	**268**	P		**P**	**16 05 01.1**	**-4.8**	
CBJI	**Citeko**	**22.45**	**270**	P		**P**	**16 05 04.7**	**-4.1**	
CGJI	**Cibinong**	**23.59**	**270**	P		**P**	**16 05 15.1**	**-4.2**	
FORT	**Forrest**	**23.66**	**183**	P		**P**	**16 05 21.6**	**+1.8**	
	baz=24,SNR=119								
FORT				S		Sn	16 09 44.8	-16	
	baz=24,SNR=4.9								
FORT	**Forrest**	**23.66**	**183**	*e*P		**P**	**16 05 18.9**	**-0.9**	
	comp=Z,225nm,0.7s								
QLP	**Quilpie**	**24.00**	**146**	P		**P**	**16 05 24.8**	**+1.9**	
	baz=25,SNR=64								
KMBL	**Kambalda**	**25.23**	**195**	P		**P**	**16 05 35.6**	**+1.6**	
	baz=25,SNR=16								
KMBL				S		**S**	**16 09 47.4**	**-0.8**	
	baz=25,SNR=5.1								
MDSI	**Maura Dua**	**25.27**	**274**	P		**P**	**16 05 32.6**	**-1.9**	
MORW	**Morawa**	**25.31**	**208**	P		**P**	**16 05 35.9**	**+1.1**	
	baz=26,SNR=9.5								
DSRI	**Dabo**	**25.64**	**284**	P		**P**	**16 05 37.0**	**-0.9**	
LHSI	**Lahat**	**26.00**	**276**	P		**P**	**16 05 39.7**	**-1.5**	
BLDU	**Balliduq**	**26.33**	**205**	P		**P**	**16 05 44.9**	**+1.0**	
	baz=26,SNR=8.5								
BBOO	**Buckleboo**	**26.38**	**167**	P		**P**	**16 05 46.0**	**+1.7**	
	baz=27,SNR=30								
BBOO	**Buckleboo**	**26.38**	**167**	*e*P		**P**	**16 05 45.3**	**+0.9**	
	comp=Z,3.3nm,0.6s								
RMQ	**Roma**	**26.69**	**139**	P		**P**	**16 05 49.5**	**+2.3**	
	baz=27,SNR=9.1								
MYKOM	**Kota Tinggi**	**27.01**	**288**	⇓P		**P**	**16 05 52.1**	**+1.9**	
MYKOM	**Kota Tinggi**	**27.01**	**288**	*e*P		**P**	**16 05 49.3**	**-0.9**	
	comp=Z,61nm,1.3s								
STKA	**Stephens Creek**	**27.20**	**157**	*e*P		**P**	**16 05 51.1**	**-0.6**	
STKA				pmax		pmax			
	comp=Z,7.0nm,0.5s								
STKA	**Stephens Creek**	**27.20**	**157**	P		**P**	**16 05 52.6**	**+0.9**	
	comp=Z,30nm,0.5s,baz=329,slow=8.4,SNR=59								
STKA	**Stephens Creek**	**27.20**	**157**	P		**P**	**16 05 53.7**	**+2.0**	
	baz=27,SNR=31								
STKA	**Stephens Creek**	**27.20**	**157**	*e*P		**P**	**16 05 51.1**	**-0.6**	
	comp=Z,7.2nm,0.5s								
KGM	**Kluang**	**27.58**	**288**	⇑P		**P**	**16 05 57.8**	**+2.5**	
NWAO	**Narrogin (SRO)**	**28.16**	**202**	P		**P**	**16 06 00.8**	**+0.6**	
	comp=Z,12nm,0.6s,baz=21,slow=8.3,SNR=12								
NWAO	**Narrogin (SRO)**	**28.16**	**202**	P		**P**	**16 06 02.0**	**+1.8**	
	baz=28,SNR=9.3								
CMSA	**Cobar Meteorol**	**28.72**	**150**	P		**P**	**16 06 07.3**	**+2.1**	
	baz=29,SNR=26								
KTGM	**Kuala Trenggan**	**28.99**	**294**	⇑P		P	16 06 11.1	+3.3	
BKNI	**Bangkinang**	**29.27**	**283**	P		P	16 06 15.5	+5.2	
BKNI	**Bangkinang**	**29.27**	**283**	P		**P**	**16 06 13.3**	**+3.0**	
	baz=29,SNR=5.2								
BKNI	**Bangkinang**	**29.27**	**283**	*e*P		**P**	**16 06 08.1**	**-2.2**	
	comp=Z,95nm,0.8s								
PDSI	**Padang**	**29.53**	**281**	P		**P**	**16 06 09.7**	**-3.0**	
FRIM	**Kepong**	**29.58**	**289**	⇑P		**P**	**16 06 16.2**	**+3.1**	
RKGY	**Rocky Gully**	**29.76**	**201**	P		**P**	**16 06 17.2**	**+2.8**	
	baz=30,SNR=15								
HNR	**Honiara**	**30.27**	**97**	P		**P**	**16 06 20.2**	**+1.0**	
	comp=Z,56nm,0.8s,baz=210,slow=5.0,SNR=6.0								
HNR				LR		LR	16 18 08.8		
	comp=Z,80nm,21.3s,baz=268,slow=35								
IPM	**Ipoh**	**30.58**	**291**	*e*P		**P**	**16 06 21.1**	**-0.8**	
	comp=Z,93nm,1.8s								
MNSI	**Mandailing Nat**	**30.80**	**283**	P		**P**	**16 06 21.8**	**-2.0**	
ARMA	**Armidale**	**31.22**	**141**	P		**P**	**16 06 30.5**	**+3.1**	
	baz=31,SNR=4.0								
KULM	**Kulim**	**31.24**	**292**	*e*P		**P**	**16 06 26.7**	**-1.0**	
	comp=Z,43nm,1.4s								
PSI	**Prapat**	**31.99**	**287**	P		**P**	**16 06 33.0**	**-1.4**	
	comp=Z,102nm,0.8s,baz=149,slow=6.1,SNR=51								
YNG	**Young**	**32.29**	**150**	P		**P**	**16 06 39.5**	**+2.9**	
	baz=32,SNR=7.0								
UBPT	**Khong Chiam**	**32.49**	**313**	P		**P**	**16 06 39.2**	**+0.6**	
	comp=Z,43nm,1.2s								
MGCD	**Mangrove Creek**	**32.90**	**145**	P		P	16 06 45.9	+3.9	
	baz=33,SNR=5.0								
KCSI	**Kotacane, Aceh**	**33.31**	**287**	P		**P**	**16 06 42.7**	**-3.1**	
CHBT	**CHBT**	**33.35**	**306**	P		P	16 06 51.8	+5.7	
	comp=Z,17nm,1.9s								
CAN	**Canberra**	**33.40**	**150**	P		**P**	**16 06 45.6**	**-0.7**	
CAN				pmax		pmax			
	comp=Z,39nm,0.9s								
CAN	**Canberra**	**33.40**	**150**	P		**P**	**16 06 45.6**	**-0.7**	
	comp=Z,39nm,0.9s								
CNB	**Canberra Magne**	**33.58**	**150**	P		P	16 06 51.4	+3.5	
	baz=34,SNR=6.2								
TOO	**Toolangi**	**33.72**	**157**	P		P	16 06 52.8	+3.8	
	baz=34,SNR=7.6								
TPTI		**33.79**	**287**	P		**P**	**16 06 48.7**	**-1.2**	
SURT	**Suratani**	**34.43**	**297**	P		**P**	**16 06 58.2**	**+2.8**	
	comp=Z,6.3nm,1.1s								
LHMI	**Lhok Sumawe**	**34.65**	**290**	P		**P**	**16 06 59.4**	**+2.1**	
	baz=35,SNR=4.9								
LHMI	**Lhok Sumawe**	**34.65**	**290**	*e*P		**P**	**16 06 56.5**	**-0.8**	
	comp=Z,176nm,0.8s								
KHON	**Khomkaen**	**35.12**	**312**	P		**P**	**16 07 01.9**	**+0.6**	
	comp=Z,16nm,0.9s,comp=Z,1µm								
PBKT	**Sadao Pong**	**36.66**	**310**	P		**P**	**16 07 14.7**	**+0.4**	
	comp=Z,21nm,0.9s								
SRDT	**SRDT**	**36.83**	**305**	P		**P**	**16 07 17.6**	**+1.8**	
	comp=Z,62nm,1.3s,comp=Z,6µm								
UTTA	**Uttaradit**	**37.69**	**311**	P		**P**	**16 07 23.6**	**+0.6**	
	comp=Z,28nm,0.8s,comp=Z,198nm								
UMPA	**Umpang Tak**	**38.07**	**308**	P		**P**	**16 07 23.3**	**-3.0**	
	comp=Z,71nm,0.7s,comp=Z,6µm								
MOO	**Moorlands**	**38.60**	**159**	P		P	16 07 34.3	+3.9	
	baz=39,SNR=3.4								
DZM	**Mont Dzumac**	**38.67**	**117**	P		**P**	**16 07 33.2**	**+1.8**	
	comp=Z,21nm,0.7s,baz=94,slow=23,SNR=14								
LAMP	**Lampang**	**38.85**	**311**	P		**P**	**16 07 33.8**	**+1.0**	
	comp=Z,22nm,0.8s,comp=Z,168nm								
CMAR	**Chiang Mai Arr**	**39.33**	**311**	P		**P**	**16 07 37.5**	**+0.7**	
	comp=Z,27nm,0.7s,baz=138,slow=7.2,SNR=229								
CMAR				ScP		**ScP**	**16 13 16.9**	**+0.2**	
	comp=Z,1.9nm,0.9s,baz=148,slow=2.5,SNR=10.0								
CMAR				LR		LR	16 24 56.5		
	comp=Z,54nm,18.7s,baz=148,slow=38								
CRAI	**Chiangrai**	**39.39**	**314**	P		**P**	**16 07 34.6**	**-2.7**	
	comp=Z,157nm,1.1s								
CMMT	**Chiang Mai**	**39.54**	**311**	P		**P**	**16 07 38.7**	**+0.1**	
	comp=Z,99nm,0.8s,comp=Z,884nm								
JNU	**Nakatsue**	**39.95**	**2**	P		**P**	**16 07 40.8**	**-1.0**	
	comp=Z,9.2nm,0.9s,baz=172,slow=7.3,SNR=5.4								
GYA	**Guiyang**	**39.96**	**327**	P		**P**	**16 07 43.6**	**+1.6**	
GYA				pP		**pP**	**16 08 15.8**	**+0.3**	
GYA				sP		**sP**	**16 08 33.0**	**+0.1**	
GYA				PP		**PnPn**	**16 09 21.6**	**-0.5**	
GYA				ScP		**ScP**	**16 13 20.4**	**+1.2**	
GYA				S		**S**	**16 13 38.3**	**+2.2**	
GYA				sS		**sS**	**16 14 36.8**	**+2.2**	
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,5.2s								
WHN	**Wuhan**	**40.07**	**340**	P		**P**	**16 07 43.3**	**+0.7**	
NJ2	**Nanjing**	**40.16**	**346**	*e*P		**P**	**16 07 44.8**	**+1.5**	
NJ2				PMZ					
	comp=Z,40nm,0.6s								
CMAI	**Chiengmai2**	**40.16**	**312**	P		**P**	**16 07 44.0**	**+0.2**	
	comp=Z,100nm,1.0s,comp=Z,4µm								
TJN	**Taejon**	**43.22**	**358**	*e*P		**P**	**16 08 08.7**	**+0.5**	
MAJO	**Matsushiro**	**44.11**	**10**	*d i* P		**P**	**16 08 14.6**	**-0.8**	
MAJO				pmax		pmax			
	comp=Z,114nm,1.2s								
MAJO	**Matsushiro**	**44.11**	**10**	*e*P		P	16 08 11.8	-3.6	
	comp=Z,10.0nm,0.7s								
MAT	**Matsushiro**	**44.11**	**10**	P		**P**	**16 08 14.6**	**-0.8**	
MJAR	**Matsushiro Arr**	**44.11**	**10**	P		**P**	**16 08 13.3**	**-2.0**	
	comp=Z,6.1nm,0.7s,baz=189,slow=9.6,SNR=17								
MJAR				pP		**pP**	**16 08 49.3**	**-0.2**	
	comp=Z,4.6nm,0.8s,baz=183,slow=8.6,SNR=3.8								
MJAR				ScP		**ScP**	**16 13 34.2**	**-1.3**	
	comp=Z,1.1nm,0.9s,baz=201,slow=8.6,SNR=4.2								
KSAR	**Wonju Array Be**	**44.26**	**358**	P		**P**	**16 08 16.2**	**-0.3**	
KSAR				*PP		**pP**	**16 08 51.4**	**+0.8**	
KSAR	**Wonju Array Be**	**44.26**	**358**	P		**P**	**16 08 16.1**	**-0.3**	
KSAR				pP		**pP**	**16 08 51.4**	**+0.8**	
KSRS	**Korea Array**	**44.27**	**358**	P		**P**	**16 08 16.1**	**-0.4**	
	comp=Z,2.8nm,0.8s,baz=176,slow=9.7,SNR=15								
KSRS				pP		**pP**	**16 08 51.4**	**+0.7**	
	comp=Z,3.0nm,1.0s,baz=177,slow=8.8,SNR=2.6								
KSRS				LR		LR	16 26 30.0		
	comp=Z,30nm,18.5s,baz=166,slow=36								
CD2	**Chengdu**	**45.04**	**328**	P		**P**	**16 08 24.0**	**+1.1**	
CD2				pP		**pP**	**16 08 58.0**	**+0.9**	
CD2				sP		**sP**	**16 09 14.8**	**+0.5**	
CD2				PcP		**PcP**	**16 10 03.0**	**+1.8**	
CD2				PP		**PP**	**16 10 13.4**	**+2.0**	
CD2				PcS		**PcS**	**16 13 55.8**	**+0.5**	
CD2				S		**S**	**16 14 52.8**	**+2.6**	
CD2				sS		**sS**	**16 15 50.8**	**+1.1**	
CD2				SS		**SS**	**16 18 11.3**	**-4.2**	
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,160nm,5.4s								
XAN	**Xi'an**	**45.24**	**336**	P		**P**	**16 08 23.3**	**-1.1**	
XAN				PMZ					
	comp=Z,4.0nm,1.0s								
XAN				PMZ					
	comp=Z,20nm,7.8s								
BJI	**Beijing**	**48.41**	**346**	P		**P**	**16 08 49.1**	**+0.3**	
BJI				PMZ					
	comp=Z,51nm,0.5s								
SHL	**Shillong**	**48.82**	**313**	*e*P		**P**	**16 08 51.0**	**-1.5**	
LZH	**Lanzhou**	**49.17**	**332**	*e*P		**P**	**16 08 55.3**	**+0.3**	
LZH				pP		**pP**	**16 09 28.6**	**-1.1**	
LZH				sP		**sP**	**16 09 45.8**	**-1.0**	
LZH				S		**S**	**16 15 54.3**	**+5.3**	
LZH				sS		**sS**	**16 16 46.5**	**-2.8**	
LZH				SS		**SS**	**16 19 19.4**	**-3.2**	
LZH				PMZ					
	comp=Z,32nm,1.3s								
LZH				PMZ					
	comp=Z,110nm,4.0s								
OUZ	**Omahuta**	**49.24**	**131**	*e*P		**P**	**16 08 53.5**	**-1.8**	
	comp=Z,40nm,1.3s								
VLA	**Vladivostok**	**49.96**	**2**	⇓*i* P		**P**	**16 09 01.1**	**+0.6**	
VLA				pmax		pmax			
	comp=Z,23nm,1.2s								
HHC	**Hu-ho-hao-te**	**50.40**	**342**	*e*P		**P**	**16 09 05.1**	**+1.0**	
HHC				sP		sP	16 09 48.9	-7.1	
HHC				S		**S**	**16 16 05.9**	**+0.1**	
HHC				PMZ					
	comp=Z,12nm,1.3s								
HHC				PMZ					
	comp=Z,41nm,6.7s								
HHC				LN					
	comp=Z,97nm,14.9s								
HHC				LE					
	comp=Z,130nm,12.0s								
PALK	**Pallekele**	**50.65**	**285**	*i* P		**P**	**16 09 08.8**	**+2.4**	
PALK	**Pallekele**	**50.65**	**285**	*e*P		**P**	**16 09 05.2**	**-1.1**	
	comp=Z,8.0nm,0.9s								
USRK	**Ussuriysk Ar.**	**51.04**	**2**	P		**P**	**16 09 08.2**	**-0.4**	
	comp=Z,8.1nm,0.8s,baz=187,slow=7.5,SNR=19								
MDJ	**Mudanjiang**	**51.41**	**0**	P		**P**	**16 09 11.8**	**+0.4**	
MDJ				PMZ					
	comp=Z,9.0nm,1.0s								
MDJ				PMZ					
	comp=Z,70nm,5.6s								
CHLP	**Challavanipeta**	**51.46**	**300**	*e*P		**P**	**16 09 13.4**	**+1.2**	
RPZ	**Rata Peaks**	**51.55**	**142**	P		**P**	**16 09 14.6**	**+2.0**	
	comp=Z,40nm,0.6s,baz=234,slow=2.9,SNR=27								
RPZ				LR		LR	16 30 15.2		
	comp=Z,45nm,19.0s,baz=276,slow=35								
RPZ	**Rata Peaks**	**51.55**	**142**	*e*P		**P**	**16 09 10.5**	**-2.1**	
	comp=Z,52nm,0.8s								
LSA	**Lhasa**	**51.84**	**317**	P		**P**	**16 09 15.0**	**-0.5**	
LSA	**Lhasa**	**51.84**	**317**	P		**P**	**16 09 14.2**	**-1.3**	
LSA				pmax		pmax			
	comp=Z,15nm,0.6s								
LSA	**Lhasa**	**51.84**	**317**	P		**P**	**16 09 14.2**	**-1.3**	
	comp=Z,15nm,0.6s								
ASAJ	**Asahikawa**	**52.28**	**12**	P		**P**	**16 09 18.4**	**+0.6**	
	comp=Z,7.9nm,0.5s,baz=216,slow=7.9,SNR=21								
ASAJ				LR		LR	16 32 22.1		
	comp=Z,27nm,18.5s,baz=188,slow=37								
KHZ	**Kahutara**	**52.44**	**139**	*e*P		**P**	**16 09 18.9**	**-0.2**	
	comp=Z,230nm,2.1s								
ODAN	**Odare**	**52.86**	**311**	*e*P		**P**	**16 09 22.6**	**-0.2**	
	comp=Z,37nm,0.4s								
TAPN	**Taplejung**	**52.90**	**312**	*e*P		**P**	**16 09 23.3**	**+0.2**	
	comp=Z,51nm,0.4s								
BKZ	**Black Stump Fm**	**52.97**	**135**	*e*P		**P**	**16 09 22.9**	**-0.3**	
URZ	**Urewera**	**53.04**	**133**	P		**P**	**16 09 25.4**	**+1.7**	
	comp=Z,5.6nm,0.5s,baz=252,slow=6.1,SNR=19								
RAMN	**Ramite**	**53.50**	**311**	*e*P		**P**	**16 09 28.0**	**+0.5**	
	comp=Z,149nm,0.6s								
SKHT	**Srikalahasti**	**53.51**	**293**	*e*P		**P**	**16 09 26.4**	**-1.0**	
GTA	**Gaotai**	**53.74**	**332**	P		**P**	**16 09 29.3**	**+0.5**	
GTA				pP		**pP**	**16 10 05.1**	**+1.0**	
GTA				sP		**sP**	**16 10 23.1**	**+2.1**	
GTA				PcP		**PcP**	**16 10 34.4**	**

KSH S **S** **16 19 48.3 -0.1**
KSH ScS **SKiKP** **16 20 45.5 +0.4**
KSH PMZ
comp=Z,9.0nm,0.9s
KSH PMZ
comp=Z,140nm,4.4s
KSH LN
comp=Z,130nm,5.4s
KSH LE
comp=Z,79nm,4.9s
KSH LZ
comp=Z,160nm,5.8s
MKAR Makanchi Array 67.95 327 P **P** **16 11 05.2 +0.5**
comp=Z,18nm,0.6s,baz=128,slow=7.7,SNR=136
YAK Yakutsk 68.85 0 *eP* **P** **16 11 09.9 +0.1**
YAK *e* 16 11 31.1
YAK *e**PP pP 16 11 58.0 +11
YAK *e* 16 13 45.5
YAK *e*PPP PPP 16 15 27.3
YAK *e*S **S** **16 19 58.2 -3.0**
YAK *e* 16 20 50.9
YAK *e*SS **SS** **16 24 31.6 +1.9**
YAK pmax pmax
comp=Z,30nm,0.7s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=Z,99nm,4.6s
YAK pmax pmax
comp=N,72nm,4.3s
YAK pmax pmax
comp=E,28nm,3.8s
YAK smax smax
comp=N,52nm,2.0s
YAK smax smax
comp=E,54nm,1.5s
YAK Yakutsk 68.85 0 *eP* **P** **16 11 09.7 -0.1**
SFK Sufi-Kurgan 69.57 317 P **P** **16 11 15.4 +0.3**
TKM2 Tokmak 2 69.66 321 P **P** **16 11 16.2 +0.7**
SNR=13
TKM2 Tokmak 2 69.66 321 *i* P **P** **16 11 16.2 +0.7**
TKM2 Tokmak 2 69.66 321 *eP* **P** **16 11 14.6 -0.9**
comp=E,9.0nm,0.7s
KBK Karagaybulak 69.93 320 P **P** **16 11 18.4 +1.2**
SNR=8.4
KBK Karagaybulak 69.93 320 *i* P **P** **16 11 18.3 +1.2**
UCH Uchtor 69.99 320 P **P** **16 11 19.2 +1.3**
SNR=13
UCH Uchtor 69.99 320 *i* P **P** **16 11 19.1 +1.3**
AAK Ala-Archa 70.21 320 P **P** **16 11 19.2 +0.4**
comp=E,64nm,0.7s,SNR=7.8
AAK Ala-Archa 70.21 320 P **P** **16 11 20.0 +1.2**
SNR=8.8
AAK Ala-Archa 70.21 320*c* *i*P **P** **16 11 19.8 +1.0**
AAK pmax pmax
comp=Z,17nm,0.7s
AAK Ala-Archa 70.21 320 *eP* **P** **16 11 17.5 -1.3**
KBL Kabul 70.36 310 *eP* **P** **16 11 19.1 -0.9**
KBL Kabul 70.36 310 *eP* **P** **16 11 19.1 -0.9**
comp=Z,9.4nm,1.0s
AML Almayashu 70.47 319 P **P** **16 11 21.8 +1.1**
SNR=20
AML Almayashu 70.47 319 *i* P **P** **16 11 21.8 +1.1**
USP Ospenovka 70.53 321 P **P** **16 11 21.5 +0.9**
SNR=24
USP Ospenovka 70.53 321 *i* P **P** **16 11 21.4 +0.9**
EKS2 Erkin-Say 70.68 320 P **P** **16 11 23.3 +1.6**
SNR=8.2
EKS2 Erkin-Say 70.68 320 *i* P **P** **16 11 23.2 +1.6**
EKS2 Erkin-Say 70.68 320 *eP* **P** **16 11 20.9 -0.7**
comp=Z,10nm,0.7s
ZALV Zalesovo Beam 71.37 334 P **P** **16 11 25.0 -0.3**
comp=Z,15nm,0.7s,baz=127,slow=5.1,SNR=60
ZALV pP **pP** **16 12 02.2 -0.3**
comp=Z,2.1nm,0.6s,baz=120,slow=5.2,SNR=1.5
ZALV S **S** **16 20 30.2 -0.5**
comp=Z,0.3nm,0.4s,baz=137,slow=13,SNR=4.0
SEY Seymchan 71.94 11 *eP* **P** **16 11 29.8 +1.3**
KURK Kurchatov 72.26 329 P **P** **16 11 31.3 +0.6**
comp=Z,86nm,1.1s,SNR=25
KURK Kurchatov 72.26 329 *eP* **P** **16 11 30.3 -0.4**
KURK pmax pmax
comp=Z,36nm,1.1s
KURK Kurchatov 72.26 329 *eP* **P** **16 11 30.2 -0.4**
comp=Z,36nm,1.1s
VNDA Vanda 72.48 173 P **P** **16 11 32.0 +0.3**
comp=Z,2.3nm,0.5s,baz=314,slow=8.3,SNR=18
NVS Novosibirsk 72.66 334↓ *i*P **P** **16 11 32.1 -0.8**
NVS *e* 16 12 23.9
NVS *e*S **S** **16 20 40.5 -4.9**
NVS pmax pmax
comp=N,8.0nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
NVS pmax pmax
comp=Z,20nm,1.1s
NVS smax smax
comp=N,6.0nm,1.4s
NVS smax smax
comp=E,6.0nm,1.4s
KK31 Karatay Array 73.00 319 *i* P **P** **16 11 35.3 0.0**
KKAR Karatay Array 73.00 319 *eP* **P** **16 11 35.4 +0.1**
KKAR Karatay Array 73.00 319 *eP* **P** **16 11 35.4 +0.1**
MAW Mawson 74.72 201 P **P** **16 11 46.5 +1.6**
comp=E,3.9nm,0.6s,baz=42,slow=6.5,SNR=4.8
IDAH Dahanechah 76.91 306 *eP* **P** **16 12 00.0 +1.7**
IKOO Kooshah 77.52 305 *eP* **P** **16 12 02.6 +0.9**
BVA0 Borovoye Array 77.80 328 *i* P **P** **16 12 02.2 -0.2**
BVA0 pmax pmax
comp=Z,35nm,1.3s
IMYA Miami 77.82 309 *eP* **P** **16 12 04.6 +1.4**
ITEG Tejag 77.86 306 *eP* **P** **16 12 04.5 +1.0**
BRVK Borovoye 77.87 328 P **P** **16 12 03.1 +0.3**
comp=Z,114nm,1.0s,SNR=12
ISRO Mashad 78.30 309 *eP* **P** **16 12 07.3 +1.6**
TIXI Tiksi 78.52 360↓ *eP* **P** **16 12 05.4 -0.6**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
TIXI Tiksi 78.52 360 *eP* **P** **16 12 05.6 -0.3**
comp=Z,8.7nm,0.6s
IPAY Payeh 78.70 309 *eP* **P** **16 12 08.9 +0.8**
ISFR Sfrayin 79.65 310 *eP* **P** **16 12 14.2 +1.0**
GEYT Alibeck 79.81 310 P **P** **16 12 14.2 +0.3**
comp=Z,4.9nm,0.8s,baz=132,slow=2.2,SNR=9.9
IBAF Bafgh 80.11 304 *eP* **P** **16 12 16.2 +0.5**
ISRV Sarvestan 81.64 301 *eP* **P** **16 12 24.7 +0.6**
IPAR Pars 81.80 301 *eP* **P** **16 12 25.3 +0.4**
AB31 Akbulak array 82.19 322 *i* P **P** **16 12 26.2 +0.1**
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 82.19 322 *eP* **P** **16 12 26.2 +0.1**
comp=Z,8.9nm,0.5s
IKAZ Kazeroun 82.81 301 *eP* **P** **16 12 30.0 -0.2**
QSPA South Pole Qui 82.95 180 *eP* **P** **16 12 30.8 +0.9**
comp=Z,13nm,1.3s
AKTO Aktyubinsk 83.76 322 P **P** **16 12 34.2 0.0**
AKTO pmax pmax
comp=Z,14nm,0.6s
IKLH Kolahrood 83.79 305 *eP* **P** **16 12 36.2 +1.1**
IPIR Pirpir 84.22 304 *eP* **P** **16 12 35.9 -1.4**
SVE Sverdlovsk 84.51 329↑ *i*P **P** **16 12 38.7 +0.9**
SVE pmax pmax
comp=Z,52nm,1.0s
IR3 Iran Long-Peri 84.70 307 *eP* **P** **16 12 39.8 +0.4**
ARU Arti 85.44 328 P **P** **16 12 42.6 +0.2**
comp=Z,199nm,1.0s,SNR=12
ARU Arti 85.44 328*d* *i*P **P** **16 12 42.7 +0.3**
ARU *PP **pP** **16 13 19.2 -1.7**
ARU 16 15 59.0
ARU S S 16 22 53.2 -7.4
ARU pmax pmax
comp=Z,37nm,1.0s
ARU Arti 85.44 328 *eP* **P** **16 12 40.6 -1.8**
comp=Z,31nm,0.9s
IRAZ Razeghan 85.56 306 *eP* **P** **16 12 44.5 +0.6**
RAYN Ar Rayn 87.26 294 P **P** **16 12 52.6 +0.5**
comp=Z,150nm,0.7s,SNR=15
RAYN Ar Rayn 87.26 294 *eP* **P** **16 12 50.5 -1.6**
comp=Z,20nm,0.8s
IHRS Heris 88.39 309 *eP* **P** **16 12 57.5 +0.1**
GNI Garni 90.45 310↓ *eP* **P** **16 13 07.6 +0.7**
GNI pmax pmax
comp=Z,7.0nm,1.2s
ZEI Tsey 91.46 313 *eP* **P** **16 13 09.5 -2.1**
ZEI pmax pmax
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 92.04 269 P **P** **16 13 15.4 +0.4**
comp=Z,1.1nm,0.3s,baz=212,slow=7.9,SNR=3.8
KBZ Khabaz 92.32 314 P **P** **16 13 15.0 -0.2**
comp=Z,2.1nm,0.8s,baz=56,slow=24,SNR=6.7
KIV Kislovodsk 92.50 314 *eP* P 16 13 12.7 -3.5
KIV *e**PP pP 16 13 46.5 -8.5
KIV *e* 16 16 56.7
KIV pmax pmax
comp=Z,3.0nm,1.0s
PRGR Permogore 93.20 332 P **P** **16 13 15.8 -3.1**
PRGR pmax pmax
comp=Z,7.0nm,0.8s
ILAR Eielson Array 93.61 25 P **P** **16 13 19.4 -1.4**
comp=Z,1.9nm,0.8s,baz=271,slow=4.4,SNR=14
OBN Obninsk 97.36 325↓ *eP* **P** **16 13 36.8 -1.2**
OBN *i* *PP **pP** **16 14 17.5 +0.6**
OBN *e* 16 17 38.5
OBN pmax pmax
comp=Z,9.0nm,0.6s
BRTR Keskin Array B 98.91 309 P **P** **16 13 44.8 -0.8**
comp=Z,0.9nm,0.7s,baz=137,slow=6.1,SNR=6.5
ARCES ARCESS Array B 101.42 340 P **Pdif** **16 13 55.5 -0.4**
comp=Z,3.7nm,0.8s,baz=37,slow=12,SNR=4.8
AKASG Malin Array Be 101.88 320 P **Pdif** **16 13 56.2 -2.0**
comp=Z,0.4nm,0.4s,baz=66,slow=5.7,SNR=6.3
FINES FINESS Array B 102.53 331 P **Pdif** **16 13 59.5 -1.4**
comp=Z,0.9nm,0.6s,baz=77,slow=6.0,SNR=4.5
YKA Yellowknife Ar 108.02 26 Pdiff **Pdif** **16 14 24.9 -0.4**
comp=Z,0.1nm,0.7s,baz=286,slow=4.9,SNR=3.0
YKA PKiKP **PKiKP** **16 18 31.1 -0.3**
comp=Z,0.3nm,0.7s,baz=288,slow=1.5,SNR=5.7
YKA PKKPbc **PKKPbc** **16 29 44.2 -2.5**
comp=Z,0.6nm,0.8s,baz=106,slow=3.3,SNR=11
NVAR Mina Array Bea 111.74 51 PKKPbc PKKPbc 16 29 41.1 +6.9
comp=Z,0.5nm,0.7s,baz=94,slow=2.9,SNR=4.4
GERES GERESS Array B 112.09 320 PKiKP **PKiKP** **16 18 40.1 +0.4**
comp=Z,0.9nm,0.6s,baz=79,slow=2.1,SNR=9.5
DAVOX Davs/Dischmat 115.14 319 PKP **PKPdf** **16 18 45.6 -0.1**
comp=Z,1.5nm,0.7s,baz=225,slow=7.1,SNR=4.0
HINF Hinteralfeld 116.75 321 *e*PKiKP **PKPdf** **16 18 48.6 0.0**
comp=Z,2.1nm,0.6s
HINF Hinteralfeld 116.75 321 *e*PKiKP **PKPdf** **16 18 48.6 0.0**
HINF Hinteralfeld 116.75 321 *e*PKPdf **PKPdf** **16 18 48.6 0.0**
PDAR Pinedale Array 117.30 45 PKP **PKPdf** **16 18 51.3 +1.2**
comp=Z,0.5nm,0.6s,baz=240,slow=1.5,SNR=4.2
PDAR PKKPbc **PKKPbc** **16 29 15.6 +0.1**
comp=Z,0.3nm,0.7s,baz=122,slow=3.3,SNR=3.6
LPG La Plagne 117.61 318 *e*PKiKP **PKPdf** **16 18 51.2 +0.6**
comp=Z,4.4nm,0.8s
LPG La Plagne 117.61 318 *e*PKiKP **PKPdf** **16 18 51.2 +0.6**
LPG La Plagne 117.61 318 *e*PKPdf **PKPdf** **16 18 51.2 +0.6**
LPL La Plagne 117.62 318 *e*PKiKP **PKPdf** **16 18 51.1 +0.5**
comp=Z,3.9nm,0.7s
LPL La Plagne 117.62 318 *e*PKiKP **PKPdf** **16 18 51.1 +0.5**
LPL La Plagne 117.62 318 *e*PKPdf **PKPdf** **16 18 51.1 +0.5**
CABF La Chapelle 117.67 319 *e*PKiKP **PKPdf** **16 18 50.6 +0.1**
comp=Z,9.0nm,0.8s
CABF La Chapelle 117.67 319 *e*PKiKP **PKPdf** **16 18 50.6 +0.1**
CABF La Chapelle 117.67 319 *e*PKPdf **PKPdf** **16 18 50.6 +0.1**
MBDF Montbardon 117.86 317 *e*PKiKP **PKPdf** **16 18 51.6 +0.6**
comp=Z,6.6nm,0.9s
MBDF Montbardon 117.86 317 *e*PKiKP **PKPdf** **16 18 51.6 +0.6**
MBDF Montbardon 117.86 317 *e*PKPdf **PKPdf** **16 18 51.6 +0.6**
FRF La Foret Royal 118.32 316 *e*PKiKP **PKPdf** **16 18 52.2 +0.5**
FRF La Foret Royal 118.32 316 *e*PKiKP **PKPdf** **16 18 52.2 +0.5**
FRF La Foret Royal 118.32 316 *e*PKPdf **PKPdf** **16 18 52.2 +0.5**
ORIF Oris-en-Rattie 118.39 318 *e*PKiKP **PKPdf** **16 18 52.3 +0.4**
ORIF Oris-en-Rattie 118.39 318 *e*PKiKP **PKPdf** **16 18 52.3 +0.4**
ORIF Oris-en-Rattie 118.39 318 *e*PKPdf **PKPdf** **16 18 52.3 +0.4**
LMR La Mourre 118.48 316 *e*PKiKP **PKPdf** **16 18 52.7 +0.7**
LMR La Mourre 118.48 316 *e*PKiKP **PKPdf** **16 18 52.7 +0.7**
LMR La Mourre 118.48 316 *e*PKPdf **PKPdf** **16 18 52.7 +0.7**
SMRF Simiane la Rot 118.92 317 *e*PKiKP **PKPdf** **16 18 53.7 +0.8**
SMRF Simiane la Rot 118.92 317 *e*PKPdf **PKPdf** **16 18 53.7 +0.8**
EKA Eskdalemuir Ar 118.93 331 PKiKP **PKPdf** **16 18 53.0 +0.5**
EKA Eskdalemuir Ar 118.93 331 PKP **PKPdf** **16 18 53.0 +0.5**
comp=Z,0.7nm,0.6s,baz=8.9,slow=5.0,SNR=3.8
SSF Saint Saulge 119.14 321 *e*PKiKP **PKPdf** **16 18 53.8 +0.6**
comp=Z,3.1nm,0.6s
SSF Saint Saulge 119.14 321 *e*PKiKP **PKPdf** **16 18 53.8 +0.6**
SSF Saint Saulge 119.14 321 *e*PKPdf **PKPdf** **16 18 53.8 +0.6**
VIVF Saint-Julien-l 119.22 318 *e*PKiKP **PKPdf** **16 18 53.9 +0.5**
VIVF Saint-Julien-l 119.22 318 *e*PKiKP **PKPdf** **16 18 53.9 +0.5**
VIVF Saint-Julien-l 119.22 318 *e*PKPdf **PKPdf** **16 18 53.9 +0.5**
BGF Bois d'Agland 119.76 320 *e*PKiKP **PKPdf** **16 18 55.1 +0.7**
comp=Z,9.6nm,0.7s
BGF Bois d'Agland 119.76 320 *e*PKiKP **PKPdf** **16 18 55.1 +0.7**
BGF Bois d'Agland 119.76 320 *e*PKPdf **PKPdf** **16 18 55.1 +0.7**
MTLF Montolieu 121.42 317 *e*PKiKP **PKPdf** **16 18 58.1 +0.4**
MTLF Montolieu 121.42 317 *e*PKiKP **PKPdf** **16 18 58.1 +0.4**
MTLF Montolieu 121.42 317 *e*PKPdf **PKPdf** **16 18 58.1 +0.4**
MFF Saint Martin d 121.62 321 *e*PKiKP **PKPdf** **16 18 58.4 +0.5**
comp=Z,7.8nm,0.8s
MFF Saint Martin d 121.62 321 *e*PKiKP **PKPdf** **16 18 58.4 +0.5**
MFF Saint Martin d 121.62 321 *e*PKPdf **PKPdf** **16 18 58.4 +0.5**
ANMO Albuquerque 121.76 53↑ *i*PKiKP **PKPdf** **16 19 00.0 +1.2**
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 121.76 53 PKP **PKPdf** **16 18 59.7 +0.8**
comp=Z,1.6nm,0.8s,baz=206,slow=3.9,SNR=3.4
TXAR Lajitas Array 125.41 59 PKP **PKPdf** **16 19 07.3 +1.5**
comp=Z,1.0nm,0.9s,baz=253,slow=1.3,SNR=4.2
ESDC Sonseca Array 127.14 315 PP PP 16 21 12.1 +2.8
comp=Z,0.1nm,0.3s,baz=40,slow=6.4,SNR=4.7
TORD Torodi Ar. Bea 128.28 281 PKP **PKPdf** **16 19 12.0 +0.5**
comp=Z,2.5nm,0.7s,baz=78,slow=1.8,SNR=15
TORD SKPbc SKiKP 16 22 15.3 -19
comp=Z,1.8nm,0.9s,baz=81,slow=3.0,SNR=4.6
TORD SKP 16 22 32.0
comp=Z,0.9nm,0.9s,baz=47,slow=2.1,SNR=3.6
MDT Midelt 130.30 307 PKP **PKPdf** **16 19 16.4 +1.3**
comp=Z,1.8nm,0.9s,baz=24,slow=3.6,SNR=2.5
MDT SKPbc **SKPab** **16 22 24.0 -0.2**
comp=Z,4.2nm,0.9s,baz=45,slow=5.2,SNR=5.4
SCHQ Schefferville 130.57 12 SKPbc **SKPbc** **16 22 22.9 -1.5**
comp=Z,5.7nm,0.9s,baz=337,slow=6.5,SNR=5.5
KIC Kosan Boka 134.51 272 *e*PKP1 **SKPbc** **16 22 37.7 -1.6**
comp=Z,46nm,1.1s
DBIC Dimbokro 134.64 272 PKP **PKPdf** **16 19 24.6 +1.0**
comp=Z,3.8nm,0.7s,baz=68,slow=2.5,SNR=5.9
DBIC SKPbc **SKPbc** **16 22 37.7 -2.0**
comp=Z,15nm,0.9s,baz=103,slow=5.1,SNR=14
LIC Lamto 134.78 272 *e*PKP1 **SKPbc** **16 22 38.5 -1.7**
comp=Z,36nm,1.1s
TIC Toumodi 134.80 272 *e*PKP1 **SKPbc** **16 22 38.7 -1.5**
comp=Z,27nm,0.2s
CMIG Matias Romero 135.61 73 SKPbc **SKPbc** **16 22 42.9 +0.3**
comp=Z,2.2nm,0.9s,baz=295,slow=4.8,SNR=5.6
TKL Tuckaleechee C 138.31 42 PKP **PKPdf** **16 19 30.5 +0.6**
comp=Z,2.9nm,0.7s,baz=158,slow=5.4,SNR=3.2
TKL SKPbc **SKPbc** **16 22 47.4 -2.7**
comp=Z,6.7nm,1.1s,baz=270,slow=8.1,SNR=2.4
TEIG Tepich 141.18 66 SKP **SKPbc** **16 22 55.1 -3.1**
comp=Z,16nm,1.0s,baz=270,slow=1.0,SNR=3.0
JTS JuntasAbangare 145.85 82 PKPbc **PKPab** **16 19 45.8 +0.4**
comp=Z,4.9nm,0.5s,baz=330,slow=4.6,SNR=4.5
LPAZ La Paz 151.03 143 PKiKP **PKPdf** **16 19 55.0 +2.0**
LPAZ *e* 16 20 06.7
LPAZ La Paz 151.03 143 PKP **PKPdf** **16 19 55.0 +2.0**
comp=Z,1.2nm,0.8s,baz=303,slow=3.6,SNR=4.1
LPAZ PKPbc **PKPbc** **16 19 58.4 -0.4**
comp=Z,4.4nm,1.0s,baz=86,slow=1.4,SNR=5.1
LPAZ La Paz 151.03 143 PKP **PKPdf** **16 19 55.0 +2.0**
LPAZ PKPbc **PKPbc** **16 19 58.4 -0.4**
LPAZ *e*PKPab **PKPab** **16 20 06.7 -0.1**

ISCJB ***17*** *16:09:52.7±0.4, 32.31N±0.02×115.31W±0.02, h11km±3km, mb3.5/3, MS3.4/7, Error ellipse: s-maj=3.1km s-min=2.5km az=168.8*
NEIC ***17*** *16:09:53.8, 32.28N×115.34W, h6km, ML4.2(PAS), After PAS.*
NEIC Felt [II] at Mexicali. Felt at Chula Vista, El Centro, Heber, Lakeside, Oceanside and San Diego, California.
ECX ***17*** *16:09:54.6±0.6, 32.29N×115.34W, h7km, MD4.1, ML4.2*
MEX ***17*** *16:09:55.0±0.8, 32.37N×115.18W, h18km±9km, MD4.1*
IDC ***17*** *16:09:55.3±1.8, 32.18N×115.25W, h0km, mb3.7/3, mb1 3.8/10, mb1mx3.6/31, mbtmp3.5/10, ML3.4/7, MS3.4/13, Ms1 3.3/13, ms1mx3.1/43, Error ellipse: s-maj=27.2km s-min=11.3km az=37.0*
ISC 17 16:09:53.8±0.9, 32.28N±0.02×115.35W±0.02, h9km±6km, n74, σt‰54/98, mb3.6/3, MS3.5/7, 22C-21D, California-Baja

California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**16**	*eP*	**Pg**	**16 09 56.9**	**0.0**
CPBX				*eS*	**Sg**	**16 09 59.4**	**+0.3**
CPBX	**Cerro Prieto**	**0.14**	**16**	*eP*	**Pg**	**16 09 56.8**	**-0.1**
MBIG	**Mexicali**	**0.18**	**46**	*eP*	**Pg**	**16 09 57.6**	**0.0**
MBIG				*eS*	**Sg**	**16 09 60.0**	**-0.1**
SGL	**Mount Signal**	**0.48**	**319**	*i* P	**Pg**	**16 10 03.1**	**-0.1**
COA	**Coachella**	**0.61**	**18**↓	*i*P	**Pg**	**16 10 05.4**	**-0.2**
RDX	**Rancho Dawling**	**0.61**	**235**↑	*eP*	**Pg**	**16 10 05.6**	**-0.1**
RDX				*eS*	**Sg**	**16 10 14.9**	**+1.1**
RDX				AML	AML	16 10 17.1	
	comp=N,6μm,0.3s						
RDX				↓*e*		16 10 17.1	
COK	**Cook Ranch**	**0.65**	**331**	↓*i*P	**Pg**	**16 10 05.4**	**-0.9**
RMX	**La Rumorosa**	**0.69**	**297**↓	*eP*	**Pg**	**16 10 06.7**	**-0.5**
RMX				*eS*	**Sg**	**16 10 16.2**	**-0.1**
RMX				↑*e*		16 10 18.4	
RMX				AML	AML	16 10 18.4	
	comp=N,11μm,0.5s						
IBP	**Imperial Bould**	**0.73**	**301**	↑P	**Pg**	**16 10 07.4**	**-0.5**
	baz=0.7						
IBP				↓S	**Sg**	**16 10 17.5**	**0.0**
	baz=0.7						
YMD	**Yuma Desert**	**0.73**	**68**↑	*i*P	**Pg**	**16 10 07.0**	**-0.9**
SWSC	**Sam W. Stewart**	**0.76**	**330**	↑P	**Pg**	**16 10 07.5**	**-0.9**
	baz=0.8						
SWSC				↓S	**Sg**	**16 10 18.9**	**+0.7**
	baz=0.8						
GLA	**Glamis**	**0.88**	**30**	↑P	**Pg**	**16 10 09.2**	**-1.6**
	baz=0.9						
GLA				↓S	**Sg**	**16 10 21.6**	**-0.7**
	baz=0.9						
MONP	**Monument Peak,**	**1.09**	**304**	↑P	**Pb**	**16 10 13.2**	**-1.7**
	baz=1.1						
MONP				↑S	**Sb**	**16 10 27.8**	**-1.5**
	baz=1.1						
ZAX	**El Zacaton**	**1.10**	**226**	*eP*	**Pb**	**16 10 14.0**	**-1.0**
ZAX				*eS*	**Sb**	**16 10 29.1**	**-0.3**
CBX	**Cerro Bola**	**1.11**	**272**	*eP*	**Pb**	**16 10 14.2**	**-1.1**
CBX				*eS*	**Sb**	**16 10 29.2**	**-0.7**
CBX	**Cerro Bola**	**1.11**	**272**	*eP*	**Pb**	**16 10 14.2**	**-1.1**
CBX				*eS*	**Sb**	**16 10 29.2**	**-0.7**
CBX				AML	AML	16 10 33.8	
	comp=N,12μm,0.5s						
CBX				↓*e*		16 10 33.8	
CBX	**Cerro Bola**	**1.11**	**272**	*eP*	**Pb**	**16 10 14.2**	**-1.1**
CBX				*eS*	**Sb**	**16 10 29.2**	**-0.7**
BAR	**Barrett**	**1.19**	**290**	*eP*	**Pn**	**16 10 15.2**	**-1.4**
BAR	**Barrett**	**1.19**	**290**	*eP*g	**Pn**	**16 10 15.2**	**-1.4**
BAR				*eS*g	**Sb**	**16 10 31.1**	**-0.9**
ECNX	**Esteban Cantu**	**1.23**	**240**	*eP*	**Pn**	**16 10 16.2**	**-1.0**
ECNX				*eS*	**Sb**	**16 10 32.9**	**-0.4**
SPIG	**San Pedro Mart**	**1.24**	**185**	*eP*	**Pn**	**16 10 15.8**	**-1.7**
SPIG				*i* S	**Sb**	**16 10 31.6**	**-2.1**
SPIG	**San Pedro Mart**	**1.24**	**185**	*eP*	**Pn**	**16 10 15.9**	**-1.7**
SPIG				*eS*	**Sb**	**16 10 32.8**	**-0.9**
SPIG	**San Pedro Mart**	**1.24**	**185**	*eP*	**Pn**	**16 10 15.8**	**-1.7**
SPX	**San Pedro Mart**	**1.24**	**185**	*eP*	**Pn**	**16 10 15.9**	**-1.7**
SPX				*eS*	**Sb**	**16 10 33.6**	**-0.1**
SPX				↓*e*		16 10 36.6	
SPX				AML	AML	16 10 36.6	
	comp=N,2μm,0.2s						
SPX	**San Pedro Mart**	**1.24**	**185**	*eP*	**Pn**	**16 10 15.9**	**-1.7**
PBX	**Punta Banda**	**1.29**	**246**	*eP*	**Pn**	**16 10 17.1**	**-0.9**
PBX				*eS*	**Sb**	**16 10 34.7**	**-0.2**
BC3	**Big Chuckawall**	**1.37**	**356**	↑P	**Pn**	**16 10 16.5**	**-2.7**
	baz=1.4						
BC3				↑S	**Sn**	**16 10 34.5**	**-3.1**
	baz=1.4						
113A	**Mohawk Valley,**	**1.42**	**70**	↓P	**Pn**	**16 10 17.5**	**-2.3**
	baz=1.4						
113A				↑S	**Sn**	**16 10 35.0**	**-3.6**
	baz=1.4						
109C	**Camp Elliot, M**	**1.60**	**293**	↓P	**Pn**	**16 10 20.7**	**-1.5**
	baz=1.6						
109C				↓Sb	**Sn**	**16 10 43.2**	**+0.1**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.62**	**325**	↑P	**Pn**	**16 10 20.2**	**-2.4**
	baz=1.6						
PFO				↑S	**Sn**	**16 10 40.3**	**-3.3**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.62**	**325**	*eP*n	**Pn**	**16 10 20.1**	**-2.4**
PFO				*eS*n	**Sn**	**16 10 41.7**	**-1.9**
Y12C	**Blythe**	**1.62**	**25**	↓P	**Pn**	**16 10 20.1**	**-2.4**
	baz=1.6						
BELC	**Belle Mtn. Jos**	**1.80**	**343**	↑P	**Pn**	**16 10 22.5**	**-2.6**
	baz=1.8						
IRM	**Iron Mountain**	**1.88**	**5**	↑P	**Pn**	**16 10 23.7**	**-2.4**
	baz=1.9						
MURC	**Murrieta**	**2.04**	**311**	↓P	**Pn**	**16 10 26.3**	**-2.0**
	baz=2.0						
MURC				↓Sb	**Sb**	**16 10 56.3**	**-0.1**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.18**	**98**	↓P	**Pn**	**16 10 27.7**	**-2.6**
	baz=2.2						
214A	**Organ Pipe Nat**	**2.18**	**98**	*eP*n	**Pn**	**16 10 27.9**	**-2.4**
214A				*eS*n	**Sn**	**16 10 55.3**	**-2.1**
PDMCI	**Parker Dam,Lak**	**2.25**	**26**	↓Sb	**Sb**	**16 11 02.9**	**+0.4**
	baz=2.3						
Z14A	**Wintersburg**	**2.29**	**61**	↑P	**Pn**	**16 10 29.6**	**-2.2**
	baz=2.3						
Z14A				↓Sb	**Sb**	**16 11 03.7**	**-0.1**
	baz=2.3						
BBRC	**Big Bear Solar**	**2.37**	**327**	↑P	**Pn**	**16 10 30.6**	**-2.4**
	baz=2.4						
GMRC	**Granite Mounta**	**2.50**	**354**	↑P	**Pn**	**16 10 32.7**	**-2.1**
	baz=2.5						
NEE2	**Needles Airpor**	**2.55**	**14**	↑P	**Pn**	**16 10 33.7**	**-1.7**
	baz=2.6						
Y14A	**Wickenburg**	**2.57**	**49**	↓P	**Pn**	**16 10 33.8**	**-1.9**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.75**	**316**	↓P	**Pn**	**16 10 36.2**	**-1.9**
	baz=2.8						
SCI	**San Clemente I**	**2.79**	**285**	↓P	**Pn**	**16 10 36.4**	**-2.1**
	baz=2.8						
SCI				↑Sb	**Sb**	**16 11 18.4**	**+0.5**
	baz=2.8						
CIS	**Catalina Islan**	**2.80**	**294**	↑Sb	**Sb**	**16 11 19.2**	**+0.7**
	baz=2.8						
FMP	**Fort Macarthur**	**2.85**	**301**	↑Sb	**Sb**	**16 11 20.8**	**+0.9**
	baz=2.9						
PASC	**Pasadena Art C**	**3.03**	**309**	*eP*n	**Pn**	**16 10 42.3**	**+0.3**
PASC				*eS*n	**Sn**	**16 11 17.2**	**-1.2**
OSI	**Osito Audit: C**	**3.66**	**310**	Pn	**Pn**	**16 10 51.0**	**+0.5**
OSI				*eS*g	**Sg**	**16 11 49.8**	**-1.4**
TUC	**Tucson**	**3.87**	**88**	*eP*n	**Pn**	**16 10 53.9**	**+0.4**
TUC				*eP*g	**Pg**	**16 11 07.4**	**-0.5**
SHPR	**Sheep Range**	**4.21**	**2**	*eP*n	**Pn**	**16 10 57.8**	**-0.5**
ISA	**Isabella, Lake**	**4.25**	**323**	Pn	**Pn**	**16 10 58.7**	**-0.1**
DAC	**Darwin (Calif)**	**4.39**	**336**	*eP*n	**Pn**	**16 10 60.0**	**-0.9**
DAC				*eP*g	**Pg**	**16 11 18.0**	**0.0**
DAC				*eS*g	**Sg**	**16 12 14.9**	**-0.1**
WUAZ	**Wupatki**	**4.62**	**45**	*eP*n	**Pn**	**16 11 04.3**	**+0.4**
WUAZ				*eS*n	**Sn**	**16 11 58.1**	**+0.3**
W18A	**Petrified Fore**	**5.47**	**57**	*eP*n	**Pn**	**16 11 16.1**	**+0.5**
ARUT	**Antelope Range**	**5.71**	**15**	Pn	**Pn**	**16 11 19.2**	**+0.2**
R11A	**Troy Canyon, C**	**6.05**	**358**	*eP*n	**Pn**	**16 11 23.9**	**+0.3**
R11A				*eP*g	**Pg**	**16 11 49.8**	**0.0**
121A	**Cookes Peak, D**	**6.40**	**86**	*eP*n	**Pn**	**16 11 27.6**	**-0.8**
NVAR	**Mina Array Bea**	**6.59**	**339**	Pn	Pn	16 11 36.6	+5.6
	comp=N,0.1nm,0.3s,baz=166,slow=16,SNR=2.7						
NVAR				Pg	**Pg**	**16 11 58.2**	**-1.7**
	comp=N,0.5nm,0.3s,baz=154,slow=14,SNR=6.0						
ANMO	**Albuquerque**	**7.88**	**68**	Pn	**Pn**	**16 11 49.8**	**+1.1**
	comp=N,0.1nm,0.

YBH Yreka Blue Hor 11.11 330 Pn Pn 16 12 38.9 +6.0
comp=N,0.1nm,0.3s,baz=146,slow=3.6,SNR=2.8
YBH LR LR 16 16 40.4
comp=N,114nm,19.8s,baz=160,slow=36
PDAR Pinedale Array 11.43 22 Pn Pn 16 12 44.0 +6.7
comp=N,0.1nm,0.3s,baz=207,slow=9.6,SNR=4.3
PDAR LR LR 16 17 24.9
comp=N,174nm,19.8s,baz=214,slow=39
NEW Newport 16.02 356 Pn **P** **16 13 46.2 +3.4**
comp=N,0.1nm,0.3s,baz=187,slow=14,SNR=4.7
NEW LR LR 16 19 33.9
comp=N,75nm,20.1s,baz=184,slow=36
BBB Bella Bella 21.96 339 LR LR 16 23 18.7
comp=N,86nm,19.1s,baz=221,slow=36
ULM Lac du Bonnet 23.04 33 P **P** **16 15 02.7 +3.5**
comp=N,1.9nm,0.6s,baz=228,slow=5.5,SNR=3.4
ULM LR LR 16 24 07.0
comp=N,83nm,18.7s,baz=214,slow=37
DLBC Dease Lake 27.99 344 P P 16 15 50.2 +5.5
comp=N,1.0nm,0.8s,baz=168,slow=6.7,SNR=3.0
DLBC LR LR 16 26 54.5
comp=N,130nm,19.3s,baz=170,slow=36
ILAR Eielson Array 37.85 339 P **P** **16 17 12.5 +2.0**
comp=N,0.4nm,0.7s,baz=150,slow=9.4,SNR=4.8
SCHQ Schefferville 40.70 42 LR LR 16 36 15.7
comp=N,38nm,21.1s,baz=326,slow=39
FRB Frobisher Bay 42.78 29 LR LR 16 35 58.6
comp=N,68nm,18.5s,baz=216,slow=36
SFJD Kangerlussuaq 50.88 27 LR LR 16 41 10.3
comp=N,86nm,19.0s,baz=248,slow=37
GERES GERESS Array B 87.33 31 LR LR 17 02 22.1
comp=N,19nm,19.2s,baz=319,slow=36

ISCJB ***17*** *16:12:37.0±0.5,5.4S±0.1×104.9E±0.1,h150km,mb3.5/4, Error ellipse: s-maj=20.9km s-min=7.2km az=136.6*
IDC ***17*** *16:12:37.4±4.1,4.9S×104.9E,h147km±30km,mb3.1/4, mb1 3.4/6,mb1mx3.1/25,mbtmp3.7/6,Error ellipse: s-maj=100.2km s-min=20.6km az=52.0*
DJA ***17*** *16:12:40.2±0.9,5.3S×10.5E±,h116km±8km,M3.0/7, MLv3.0/7*
ISC 17 16:12:37.7±0.9,5.3S±0.1×104.8E±0.1,h150km,n13, σ0.88/14,mb3.4/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.41**	**234**	P	**Pn**	**16 12 58.6**	**0.0**
KASI				S	**Sn**	**16 13 13.5**	**-1.0**
KLI	**Kotabumi**	**0.42**	**4**	P	**Pn**	**16 12 58.8**	**+0.1**
KLSI		**0.60**	**351**	S	**Sn**	**16 13 15.8**	**-0.4**
LWLI	**Liwa**	**0.81**	**289**	P	**Pn**	**16 13 02.0**	**+1.0**
MDSI	**Maura Dua**	**1.02**	**321**	P	**Pn**	**16 13 03.2**	**+0.6**
MDSI				S	**Sn**	**16 13 22.2**	**+0.5**
CGJI	**Cibinong**	**1.58**	**147**	P	**Pn**	**16 13 07.8**	**-0.3**
CGJI				S	Sn	16 13 28.3	-3.1
LHSI	**Lahat**	**1.94**	**318**	P	Pn	16 13 14.3	+2.2
LEM	**Lembang**	**3.17**	**119**	P	**Pn**	**16 13 27.9**	**+0.5**
	5.7nm,0.3s,baz=187,slow=17,SNR=7.3						
BATI	**Baumata**	**19.29**	**106**	P	**P**	**16 16 51.1**	**-0.1**
	1.8nm,0.3s,baz=291,slow=7.9,SNR=4.2						
WRA	**Warramunga Arr**	**32.19**	**120**	P	**P**	**16 18 51.7**	**0.0**
	0.3nm,0.4s,baz=301,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**33.44**	**126**	P	**P**	**16 19 02.7**	**+0.1**
	0.3nm,0.4s,baz=292,slow=7.7,SNR=8.0						
STKA	**Stephens Creek**	**43.39**	**132**	P	**P**	**16 20 26.9**	**+1.5**
	2.2nm,0.5s,baz=302,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**55.56**	**341**	P	**P**	**16 21 55.7**	**-1.8**
	0.1nm,0.4s,baz=151,slow=6.0,SNR=2.5						

ROM 17 16:16:54.4±0.2,42.55N×13.25E,h14km±3km,Md1.6/4, Ml1.1/1,Error ellipse: s-maj=1.8km s-min=1.2km az=106.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.10**	**38**	Pg	Pb	16 16 58.2	-0.2
SMA1				Sg	Sb	16 17 00.6	-0.5
LNSS	**Leonessa**	**0.16**	**289**	Pg	Pg	16 16 58.6	0.0
LNSS				Sg	Sg	16 17 01.7	+0.3
T0106	**Roio Piano**	**0.26**	**157**	Pg	Pg	16 17 00.6	+0.4
T0106				Sg	Sg	16 17 04.8	+0.7
	26μm,29.0s						
TERO	**Teramo**	**0.27**	**74**	Pg	Pg	16 17 00.5	+0.2
TERO				Sg	Sg	16 17 04.8	+0.6
NRCA	**Norcia**	**0.30**	**341**	Pg	Pg	16 17 01.1	+0.3
NRCA				Sg	Sb	16 17 06.1	-0.6

MOS ***17*** *16:42:11.5±1.7,56.15N×114.22E,h10km,mb4.0/4,Error ellipse: s-maj=10.0km s-min=6.8km az=66.0*
MOS Felt (II-III) at Severomuisk.
IDC ***17*** *16:42:13.8±0.8,56.65N×113.63E,h0km,mb3.4/13, mb1 3.6/16,mb1mx3.5/33,mbtmp3.4/16,ML3.1/3,MS3.1/7, Ms1 3.1/7,ms1mx2.8/33,Error ellipse: s-maj=19.5km s-min=13.7km az=160.0*
BYKL ***17*** *16:42:13.6±0.2,56.21N×114.15E,h19km±4km,FELT I=II-III MSK at Severomuisk*
ISC 17 16:42:11.1±1.1,56.10N±0.03×114.15E±0.02,h1km±8km, n85,σ1.971/117,mb3.5/13,MS2.9/6,18C-20D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.33**	**273**	*e*PG	**Pb**	**16 42 20.3**	**+0.4**
SVKR				*e*		16 42 25.1	
SVKR				pmax	pmax		
	comp=Z,18μm,0.3s						
SVKR				smax	smax		
	comp=N,9μm,0.6s						
SVKR	**Severomuysk**	**0.33**	**273**	⇓*i*Pg	**Pb**	**16 42 20.3**	**+0.4**
SVKR				Pmax		16 42 20.5	
	comp=N,18μm,0.3s						
SVKR				*e*Sg	**Sb**	**16 42 25.4**	**-0.4**
SVKR				Smax		16 42 32.7	
	comp=N,16μm,0.6s						
UKT	**Uakit**	**0.68**	**206**	*e*PG	**Pn**	**16 42 27.8**	**-0.2**
UKT				*e*		16 42 37.7	
UKT				pmax	pmax		
	comp=Z,215nm,0.6s						
UKT				smax	smax		
	comp=E,2μm,0.4s						
UKT	**Uakit**	**0.68**	**206**	⇓*i*Pg	**Pn**	**16 42 27.8**	**-0.2**
	comp=E,490nm,0.7s						
UKT				⇓*i*Pg	**Pn**	**16 42 27.8**	**-0.2**
	comp=E,196nm,0.7s						
UKT				⇑*i*Pg	**Pn**	**16 42 27.8**	**-0.2**
	comp=E,465nm,0.7s						
UKT				Pmax		16 42 29.0	
	comp=E,367nm,0.6s						
UKT				*e*Sg	**Sn**	**16 42 38.6**	**-0.7**
UKT				Smax		16 42 41.9	
	comp=E,3μm,0.8s						
NLYR	**Nelyaty**	**0.95**	**65**	*e*PG	**Pg**	**16 42 30.2**	**+0.9**
NLYR				*e*		16 42 42.7	
NLYR				pmax	pmax		
	comp=Z,2μm,0.3s						
NLYR				smax	smax		
	comp=N,6μm,0.8s						
NLYR	**Nelyaty**	**0.95**	**65**	⇓*i*Pg	**Pb**	**16 42 30.5**	**+0.1**
	comp=N,72nm,0.6s						
NLYR				⇓*i*Pg	**Pb**	**16 42 30.5**	**+0.1**
	comp=N,179nm,0.6s						
NLYR				⇓*i*Pg	**Pb**	**16 42 30.5**	**+0.1**
	comp=N,908nm,0.6s						
NLYR				*i* Pb	**Pn**	**16 42 32.4**	**+0.8**
NLYR				max		16 42 32.7	
	comp=N,2μm,0.3s						
NLYR				*e*Sg	**Sb**	**16 42 43.4**	**-0.1**
NLYR				*e*Sb	**Sn**	**16 42 46.3**	**+0.4**
NLYR				max		16 42 46.9	
	comp=N,6μm,0.8s						
YOA	**Uoyan**	**1.36**	**272**	⇓*i*PG	**Pb**	**16 42 38.4**	**+1.0**
YOA				*i*		16 42 57.4	
YOA				pmax	pmax		
	comp=Z,592nm,0.2s						
YOA				smax	smax		
	comp=N,14μm,0.5s						
YOA	**Uoyan**	**1.36**	**272**	⇓*i*Pg	**Pb**	**16 42 38.2**	**+0.8**
YOA				Pmax		16 42 38.8	
	comp=N,675nm,0.3s						
YOA				*e*		16 42 41.2	
YOA				*e*Sg	**Sn**	**16 42 57.2**	**+1.2**
YOA				*e*Sb	**Sb**	**16 42 59.5**	**+4.2**
YOA				max		16 43 00.7	
	comp=N,12μm,0.4s						
KMO	**Kumora**	**1.67**	**264**	*e*PN	**Pg**	**16 42 43.4**	**+0.3**
KMO				*e*		16 43 04.3	
KMO				pmax	pmax		
	comp=Z,207nm,0.2s						
KMO				smax	smax		
	comp=E,5μm,0.9s						
KMO	**Kumora**	**1.67**	**264**	⇑*i*Pg	**Pg**	**16 42 43.2**	**+0.1**
KMO				⇑*i*		16 42 44.0	
KMO				max		16 42 51.7	
	comp=E,823nm,0.4s						
KMO				*i* Sg	**Sg**	**16 43 06.2**	**+1.5**
KMO				Smax		16 43 07.9	
	comp=E,5μm,0.8s						
BOD	**Bodaibo**	**1.73**	**357**	⇑*i*PN	**Pn**	**16 42 42.3**	**0.0**
BOD				*e*		16 43 03.4	
BOD				pmax	pmax		
	comp=Z,895nm,0.2s						
BOD				smax	smax		
	comp=E,3μm,0.2s						
BOD	**Bodaibo**	**1.73**	**357**	⇑*i*Pg	**Pn**	**16 42 42.0**	**-0.3**
BOD				Pmax		16 42 43.3	
	comp=E,894nm,0.4s						
BOD				*i* Sg	**Sn**	**16 43 04.1**	**-0.8**
BOD				Smax		16 43 04.6	
	comp=E,3μm,0.6s						
YLYR	**Ulyunkhan**	**2.10**	**235**	*e*PN	**Pb**	**16 42 49.8**	**-0.1**
YLYR				*e*		16 42 52.1	
YLYR				*e*S	**Sb**	**16 43 17.0**	**+0.5**
YLYR				*e*		16 43 20.9	
YLYR				pmax	pmax		
	comp=Z,356nm,0.4s						
YLYR				smax	smax		
	comp=E,2μm,0.5s						
YLYR	**Ulyunkhan**	**2.10**	**235**	⇓*i*Pn	**Pb**	**16 42 49.9**	**0.0**
YLYR				⇓*i*Pg	**Pg**	**16 42 51.8**	**+0.6**
YLYR				*e*		16 42 57.6	
YLYR				max		16 42 59.8	
	comp=E,308nm,0.7s						
YLYR				*i* Sg	**Sg**	**16 43 21.2**	**+2.8**
YLYR				Smax		16 43 22.8	
	comp=E,2μm,0.5s						
CRS	**Chara**	**2.42**	**69**	*e*PN	**Pn**	**16 42 53.0**	**+1.1**
CRS				*e*		16 42 56.8	
CRS				*e*		16 43 27.6	
CRS				pmax	pmax		
	comp=Z,648nm,0.8s						
CRS				smax	smax		
	comp=E,870nm,0.9s						
CRS	**Chara**	**2.42**	**69**	⇓*i*Pn	**Pn**	**16 42 52.9**	**+1.1**
	comp=E,9.0nm,0.6s						
CRS				⇓*i*Pn	**Pn**	**16 42 52.9**	**+1.1**
	comp=E,28nm,0.6s						
CRS				⇓*i*Pn	**Pn**	**16 42 52.9**	**+1.1**
	comp=E,64nm,0.6s						
CRS				⇑*i*Pg	**Pb**	**16 42 56.6**	**+1.2**
CRS				Pmax		16 42 58.2	
	comp=E,646nm,0.8s						
CRS				*e*PgPg	**PnPn**	**16 43 02.7**	**+3.8**
CRS				*e*Sg	**Sg**	**16 43 28.2**	**-0.5**
CRS				Smax		16 43 36.6	
	comp=E,941nm,1.3s						
NIZ	**Nizh Angarsk**	**2.61**	**265**	*e*PN	**Pn**	**16 42 56.5**	**+2.0**
NIZ				*e*		16 43 00.8	
NIZ				*e*S	**Sn**	**16 43 28.6**	**+1.7**
NIZ				*e*		16 43 35.9	
NIZ				pmax	pmax		
	comp=Z,195nm,0.9s						
NIZ				smax	smax		
	comp=N,908nm,0.5s						
NIZ	**Nizh Angarsk**	**2.61**	**265**	⇓*i*Pn	**Pn**	**16 42 56.3**	**+1.8**
NIZ				*e*Pg	**Pg**	**16 43 00.9**	**-0.2**
NIZ				⇑*i*		16 43 02.7	
	comp=N,32nm,0.8s						
NIZ				⇑*i*		16 43 02.7	
	comp=N,2μm,0.8s						
NIZ				⇓*i*		16 43 02.7	
	comp=N,5μm,0.8s						
NIZ				max		16 43 03.5	
	comp=N,252nm,1.0s						
NIZ				*i* Sg	**Sg**	**16 43 36.0**	**+1.0**
NIZ				Smax		16 43 41.2	
	comp=N,1μm,0.5s						
KHNR	**Khani**	**3.33**	**73**	⇓*i*Pn	**Pn**	**16 43 05.8**	**+1.4**
KHNR				*e*Pg	**Pb**	**16 43 13.4**	**+2.4**
KHNR				*e*Sn	**Sn**	**16 43 39.9**	**-4.7**
KHNR				*e*		16 43 44.2	
KHNR				*e*Sg	**Sg**	**16 43 57.0**	**-1.0**
SYVR	**Suvo**	**3.43**	**226**	*e*PN	**Pn**	**16 43 07.9**	**+2.3**
SYVR				*e*S	**Sn**	**16 43 47.1**	**+0.2**
SYVR				*e*S	**Sg**	**16 44 01.1**	**0.0**
SYVR				smax	smax		
	comp=N,696nm,1.0s						
SYVR	**Suvo**	**3.43**	**226**	*e*Pn	**Pn**	**16 43 07.9**	**+2.3**
SYVR				*e*		16 43 14.5	
SYVR				*e*		16 43 22.7	
SYVR				max		16 43 26.6	
	comp=N,73nm,0.6s						
SYVR				*e*Sg	**Sg**	**16 44 01.9**	**+0.8**
SYVR				Smax		16 44 04.0	
	comp=N,681nm,1.1s						
VTMR	**Vitim**	**3.46**	**346**	⇑*i*Pn	**Pn**	**16 43 06.0**	**0.0**
VTMR				*e*Pg	**Pb**	**16 43 12.9**	**-0.2**
VTMR				*e*		16 43 38.0	
VTMR				*e*Sg	**Sb**	**16 43 57.0**	**+1.4**
TUP	**Tupik**	**3.72**	**114**	*e*PN	**Pn**	**16 43 11.1**	**+1.4**
TUP				*e*		16 43 20.5	
TUP				*e*S	**Sn**	**16 43 55.8**	**+1.6**
TUP				*e*		16 44 10.1	
TUP				pmax	pmax		
	comp=Z,60nm,0.5s						
TUP				smax	smax		
	comp=N,693nm,0.9s						
TUP	**Tupik**	**3.72**	**114**	⇑*i*Pn	**Pn**	**16 43 11.2**	**+1.5**
	comp=N,24nm,0.6s						
TUP				⇓*i*Pn	**Pn**	**16 43 11.2**	**+1.5**
	comp=N,41nm,0.6s						
TUP				⇓*i*Pn	**Pn**	**16 43 11.2**	**+1.5**
	comp=N,73nm,0.6s						
TUP				*e*		16 43 13.1	
TUP				max		16 43 15.0	
	comp=N,45nm,0.5s						
TUP				*e*Pg	**Pb**	**16 43 20.3**	**+2.7**
TUP				*e*Sn	**Sn**	**16 43 51.5**	**-2.7**
TUP				*i* Sg	**Sg**	**16 44 11.1**	**+0.6**
TUP				*e*		16 44 13.4	
TUP				max		16 44 21.8	
	comp=N,729nm,1.2s						
CIT	**Chita**	**4.10**	**185**	*e*Pn	**Pn**	**16 43 16.6**	**+1.6**
CIT				Pg	**Pg**	**16 43 28.5**	**-1.1**
CIT				Pmax		16 43 33.0	
	comp=N,63nm,0.6s						
CIT				*e*Sg	**Sg**	**16 44 24.7**	**+1.9**
CIT				Smax		16 44 29.2	
	comp=N,623nm,0.4s						
YKLR	**Yuktali**	**4.20**	**80**	⇑*i*Pn	**Pn**	**16 43 17.3**	**+1.0**
YKLR				⇓*i*Pg	**Pb**	**16 43 27.9**	**+2.1**
YKLR				*e*Sn	**Sn**	**16 44 07.5**	**+1.5**
YKLR				*i* Sg	**Sg**	**16 44 23.2**	**-2.8**
YKLR				*e*		16 44 29.2	
MXMB	**Maximikha**	**4.23**	**230**	*e*Pn	**Pn**	**16 43 17.0**	**+0.3**
MXMB				*e*		16 43 22.9	
MXMB				*e*Pg	**Pg**	**16 43 30.9**	**-1.2**
MXMB				*e*		16 43 35.5	
MXMB				max		16 43 40.5	
	comp=N,47nm,0.5s						
MXMB				*e*		16 44 11.3	
MXMB				*i* Sg	**Sg**	**16 44 27.4**	**+0.4**
MXMB				Smax		16 44 31.4	
	comp=N,860nm,0.7s						
OGRR	**Ongureny**	**4.52**	**240**	*e*PN	**Pn**	**16 43 22.6**	**+2.0**
OGRR				*e*		16 43 35.0	
OGRR				*e*		16 44 33.8	
OGRR				pmax	pmax		
	comp=Z,53nm,1.0s						
OGRR				smax	smax		
	comp=N,411nm,1.6s						
OGRR	**Ongureny**	**4.52**	**240**	⇑*e*Pn	**Pn**	**16 43 22.6**	**+2.0**
OGRR				*i*		16 43 26.7	
OGRR				*e*Pg	**Pb**	**16 43 33.6**	**+2.5**
OGRR				*e*		16 43 39.0	
OGRR				max		16 43 51.8	
	comp=N,48nm,1.2s						
OGRR				*e*Sg	**Sg**	**16 44 34.1**	**-1.9**
OGRR				Smax		16 44 43.3	
	comp=N,411nm,1.3s						
ZRHB	**Zarechye**	**5.42**	**232**	*e*	**Pb**	**16 43 47.7**	**+1.2**
ZRHB				*e*Pg	**Pg**	**16 43 52.5**	**-2.4**
ZRHB				Pmax		16 44 02.2	
	comp=N,49nm,0.8s						
ZRHB				*e*Sg	**Sg**	**16 45 04.3**	**-0.8**
ZRHB				Smax		16 45 18.1	
	comp=N,742nm,0.8s						
TRG	**Tyrgan**	**5.65**	**237**	*e*PN	**Pn**	**16 43 38.1**	**+1.9**
TRG				*e*		16 43 55.7	
TRG				*e*		16 45 10.4	
TRG				pmax	pmax		
	comp=Z,19nm,0.6s						
TRG				smax	smax		
	comp=E,158nm,0.4s						
TRG	**Tyrgan**	**5.65**	**237**	*e*Pn	Pn	16 43 40.3	+4.1
TRG				⇑*i*		16 43 45.1	
TRG				*e*Pg	Pg	16 43 55.6	-3.7
TRG				Pmax		16 44 03.5	
	comp=E,11nm,0.7s						
TRG				*e*		16 44 45.3	
TRG				*e*Sg	**Sg**	**16 45 10.3**	**-2.1**
TRG				Smax		16 45 25.8	
	comp=E,159nm,1.2s						
IENR	**Iengra**	**5.98**	**84**	⇑*i*Pn	**Pn**	**16 43 41.5**	**+0.7**
IENR				*e*Pg	Pb	16 44 00.6	+4.5
IENR				*e*		16 44 44.0	
IENR				*e*Sg	**Sg**	**16 45 18.9**	**-4.2**
IENR				*e*		16 45 22.1	
KAB	**Kabansk**	**5.99**	**231**	*e*Sg	**Sg**	**16 45 23.8**	**+0.4**
KAB				Smax		16 45 52.1	
	comp=E,682nm,1.3s						
CLNS	**Chul'man**	**6.00**	**78**	*e*PG	Pb	16 44 01.2	+4.8
CLNS				pmax	pmax		
	comp=E,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.6s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.3s						
HRMR	**Khuramsha**	**6.18**	**227**	*e*	Pn	16 43 49.8	+6.4
HRMR				⇓*i*		16 44 02.5	
HRMR				*e*Pg	Pg	16 44 06.0	-3.4
HRMR				*e*		16 44 12.7	
HRMR				max		16 44 13.2	
	comp=N,41nm,0.5s						
HRMR				*e*		16 45 14.7	
HRMR				*e*Sg	**Sg**	**16 45 28.4**	**-1.0**
HRMR				Smax		16 45 39.3	
	comp=N,922nm,0.8s						
KPC	**Khapcheranga**	**6.50**	**190**	*e*PN	**Pn**	**16 43 48.8**	**+0.9**
KPC				*e*		16 44 11.2	
KPC				*e*		16 45 37.9	
KPC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KPC				smax	smax		
	comp=E,156nm,1.3s						
KPC	**Khapcheranga**	**6.50**	**190**	*e*Pn	**Pn**	**16 43 48.8**	**+0.9**
KPC				*e*		16 44 01.5	
KPC				*e*Pg	Pg	16 44 12.0	-3.5
KPC				Pmax		16 44 22.8	
	comp=E,5.0nm,0.4s						
KPC				*e*		16 45 11.8	
KPC				*e*Sg	**Sg**	**16 45 39.9**	**+0.3**
KPC				Smax		16 45 44.9	
	comp=E,157nm,0.8s						
LSTR	**Listvyanka**	**6.94**	**236**	*e*	Pn	16 44 00.3	+6.4
LSTR				*e*Pg	Pb	16 44 17.6	+5.2
LSTR				Pmax		16 44 25.1	
	comp=E,4.0nm,0.7s						
LSTR				*e*Sg	Sg	16 45 47.3	-6.4
LSTR				Smax		16 46 10.0	
	comp=E,242nm,1.3s						
IRK	**Irkutsk**	**6.97**	**240**	*e*PG	Pg	16 44 20.4	-4.1
IRK				*e*		16 45 50.3	
IRK				pmax	pmax		
	comp=Z,21nm,0.1s						
IRK				smax	smax		
	comp=E,262nm,1.0s						
IRK	**Irkutsk**	**6.97**	**240**	*e*	**Pn**	**16 43 51.4**	**-2.9**
IRK				*e*		16 44 12.3	
IRK				*e*		16 44 17.4	
IRK				max		16 44 18.6	
	comp=E,23nm,0.2s						
IRK				*e*Sg	**Sg**	**16 45 51.3**	**-3.3**
IRK				Smax		16 46 01.8	
	comp=E,253nm,1.4s						
TLY	**Talaya**	**7.62**	**239**	*e*PN	Pb	16 44 17.2	-6.8
TLY				*e*		16 44 30.1	
TLY				*e*		16 46 09.2	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TLY				smax	smax		
	comp=N,12nm,0.4s						
TLY	**Talaya**	**7.62**	**239**	*e*Pg	Pg	16 44 30.6	-6.4
TLY				Pmax		16 44 37.3	
	comp=N,5.0nm,0.7s						
TLY				*e*		16 45 47.9	
TLY				*e*Sg	Sg	16 46 09.1	-6.5
TLY				Smax		16 46 18.2	
	comp=N,93nm,2.3s						
TLY	**Talaya**	**7.62**	**239**	Pg	**Pb**	**16 44 22.2**	**-1.8**
	comp=N,0.0nm,0.3s,baz=25,slow=3.4,SNR=3.0						
TLY				Lg	Lg	16 46 09.0	
	comp=N,0.1nm,0.3s,baz=130,slow=14,SNR=12						
HIA	**Hailar**	**7.64**	**151**	⇑*e*PN	**Pn**	**16 44 02.8**	**-0.7**
ARS	**Arshan**	**8.07**	**244**	*e*PG	Pg	16 44 42.1	-3.5
ARS	**Arshan**	**8.07**	**244**	*e*	Pn	16 44 17.7	+8.2
ARS				*e*		16 44 29.1	
ARS				*e*Pg	Pb	16 44 38.6	+6.9
ARS				Pmax		16 45 01.9	
	comp=N,17nm,0.6s						
ARS				*e*Sg	**Sg**	**16 46 24.9**	**-5.3**
ARS				Smax		16 46 32.9	
	comp=N,268nm,0.8s						
ZAK	**Zakamensk**	**8.67**	**233**	*e*PN	Pn	16 44 37.4	+20
ZAK				*e*		16 46 47.9	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAK				smax	smax		
	comp=E,43nm,1.1s						
ZAK	**Zakamensk**	**8.67**	**233**	*e*Pg	Pg	16 44 51.4	-5.6
ZAK				Pmax		16 44 58.5	
	comp=E,2.0nm,0.7s						
ZAK				*e*Sg	**Sg**	**16 46 44.2**	**-5.1**
ZAK				*e*		16 46 54.2	
ZAK				max		16 46 58.4	
	comp=E,43nm,1.1s						
MOY	**Mondy**	**8.95**	**246**	*e*P	Pn	16 44 27.4	+5.9
MOY				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MOY	**Mondy**	**8.95**	**246**	*e*Pn	Pn	16 44 25.1	+3.6
MOY				*e*Pg	Pg	16 44 53.8	-8.5
MOY				Pmax		16 45 00.9	
	comp=Z,9.0nm,0.9s						
MOY				*e*		16 46 18.8	
MOY				*e*Sg	Sg	16 46 50.5	-7.6
MOY				*e*		16 46 57.9	
MOY				max		16 46 59.8	
	comp=Z,174nm,1.4s						
ORL	**Orlik**	**9.11**	**253**	*e*Pn	**Pn**	**16 44 25.4**	**+1.7**
ORL				*e*		16 44 41.8	
ORL				*e*Pg		16 44 58.0	
ORL				Pmax		16 45 07.1	
	comp=Z,9.0nm,0.9s						
ORL				*e*Sn	Sn	16 46 25.6	+19
ORL				*i* Sg		16 46 57.0	
ORL				Smax		16 47 25.6	
	comp=Z,97nm,1.3s						
ULN	**Ulaanbaatar**	**9.33**	**211**	⇑*e*P	**Pn**	**16 44 28.9**	**+2.1**
SONM	**Songino Array**	**9.55**	**213**	Pn	Pn	16 44 35.8	+5.9
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=4.2						
SONM				Pg		16 45 08.6	
	comp=Z,0.4nm,0.3s,baz=18,slow=14,SNR=4.1						
SONM				Lg	Lg	16 47 16.1	
	comp=Z,4.0nm,0.3s,baz=19,slow=28,SNR=21						
YAK	**Yakutsk**	**9.95**	**47**	*e*P	**Pn**	**16 44 37.7**	**+2.7**
YAK				*e*		16 46 29.9	
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK				smax	smax		
	comp=N,4.0nm,0.4s						
YAK				smax	smax		

comp=E,5.0nm,0.5s
YAK smax smax
comp=N,59nm,0.9s
YAK smax smax
comp=E,65nm,0.9s
YAK Yakutsk 9.95 47 Pn Pn 16 44 32.3 -2.7
comp=E,0.0nm,0.3s,baz=166,slow=2.0,SNR=2.7
YAK Lg Lg 16 47 12.0
comp=E,0.0nm,0.3s,baz=302,slow=18,SNR=6.0
KRAR Krasnoyarsk 11.89 278⇑ *eP* **Pn 16 45 02.8 +1.2**
HABR Khabarovsk 14.85 112 P P **Pn 16 45 42.2 +0.2**
HABR *eS* **Sn 16 48 27.4 +0.3**
HABR MLR MLR
comp=Z,81nm,14.0s
USRK Ussuriysk Ar. 16.45 129 Lg Lg 16 51 02.4
comp=Z,0.3nm,0.3s,baz=341,slow=28,SNR=4.6
TIXI Tiksi 16.81 16 *i* P Pn 16 46 00.9 -6.4
ZALV Zalesovo Beam 16.90 275 *i* P **P 16 46 12.6 +1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 16.90 275 Pn **Pn 16 46 08.9 +0.3**
comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=4.5
ZALV Lg Lg 16 51 00.2
comp=Z,0.1nm,0.3s,baz=35,slow=25,SNR=2.6
ZALV LR LR 16 52 57.4
comp=Z,55nm,19.0s,baz=66,slow=39
VLA Vladivostok 17.27 131⇑ *eP* **P 16 46 15.2 +0.3**
VLA pmax pmax
comp=Z,26nm,2.5s
SEY Seymchan 20.30 55 P Pn 16 46 51.6 +1.6
comp=Z,0.9nm,0.9s,baz=270,slow=20,SNR=3.8
SEY Lg Lg 16 52 45.0
comp=Z,2.1nm,0.9s,baz=267,slow=5.2,SNR=5.2
KSRS Korea Array 20.83 148 P Pn 16 47 04.8 +8.5
comp=Z,0.4nm,0.6s,baz=353,slow=12,SNR=2.7
KSRS LR LR 16 55 52.7
comp=Z,43nm,18.6s,baz=351,slow=38
ASAJ Asahikawa 21.65 112 LR LR 16 56 20.6
comp=Z,45nm,19.1s,baz=336,slow=38
KURK Kurchatov 21.68 271 P **P 16 47 03.0 0.0**
KURK pmax pmax
comp=Z,5.0nm,0.2s
MKAR Makanchi Array 21.75 258 P **P 16 47 05.0 +1.1**
comp=Z,1.3nm,0.8s,baz=60,slow=9.9,SNR=14
MKAR LR LR 16 55 56.1
comp=Z,42nm,19.6s,baz=22,slow=38
KURBB Kurchatov Arra 21.78 270 P **P 16 47 03.0 -1.1**
comp=Z,5.0nm,0.2s,baz=68,slow=11,SNR=7.8
BVAR Borovoye Array 25.24 282 P **P 16 47 38.3 0.0**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 25.24 282 P **P 16 47 38.3 0.0**
comp=Z,0.5nm,0.5s,baz=71,slow=11,SNR=2.7
MJAR Matsushiro Arr 25.43 130 LR LR 16 58 05.7
comp=Z,36nm,18.5s,baz=265,slow=37
AAK Ala-Archa 28.68 259 LR LR 17 00 07.7
comp=Z,43nm,19.2s,baz=52,slow=38
ARCES ARCESS Array B 38.74 326 LR LR 17 07 42.2
comp=Z,36nm,20.3s,baz=207,slow=40
FINES FINESS Array B 42.66 315 P **P 16 50 07.7 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 42.66 315 P **P 16 50 07.7 -1.0**
comp=Z,0.6nm,0.7s,baz=69,slow=10,SNR=4.8
ILAR Eielson Array 44.69 37 P **P 16 50 25.2 +0.1**
comp=Z,0.4nm,0.9s,baz=270,slow=4.5,SNR=3.6
AKASG Malin Array Be 47.88 301 *i* P **P 16 50 51.4 +1.1**
AKASG Malin Array Be 47.88 301 P **P 16 50 49.7 -0.6**
comp=Z,0.1nm,0.2s,baz=45,slow=8.0,SNR=4.3
BRTR Keskin Array B 53.24 288 P **P 16 51 30.1 -1.0**
comp=Z,0.3nm,0.6s,baz=52,slow=9.3,SNR=2.5
YKA Yellowknife Ar 55.80 25 P **P 16 51 47.7 -1.5**
comp=Z,0.2nm,0.6s,baz=333,slow=6.7,SNR=4.8
GERES GERESS Array B 56.31 309 P **P 16 51 50.6 -2.6**
comp=Z,0.3nm,0.6s,baz=35,slow=7.4,SNR=4.7
ESDC Sonseca Array 71.16 314 P **P 16 53 30.9 -0.4**
comp=Z,1.0nm,0.7s,baz=35,slow=6.1,SNR=4.3
WRA Warramunga Arr 77.65 161 P P 16 54 14.6 +5.7
comp=Z,0.3nm,0.7s,baz=354,slow=6.7,SNR=3.1
ASAR Alice Springs 81.20 162 P P 16 54 34.5 +6.2
comp=Z,0.2nm,0.8s,baz=0.9,slow=5.2,SNR=3.9

MEX 17 16:51:19.9±0.4, 16°28N×96°24W, h26km±14km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**166**	*eP*	Pb	16 51 28.5	-2.0
HUIG				*eS*	Sb	16 51 36.0	-1.8
VHO	**Vista Hermosa**	**0.92**	**329**	*eP*	Pn	16 51 34.7	-2.8
VHO				*i* S	Sb	16 51 46.2	-3.5
PNIG	**Pinotepa**	**1.82**	**274**	*i* P	Pn	16 51 47.2	-2.4
PNIG				*i* S	Sn	16 52 08.8	-3.0
TLIG	**Tlapa**	**2.57**	**300**	*i* P	Pn	16 51 57.9	-2.1
TLIG				*i* S	Sn	16 52 27.6	-3.0

KRSC 17 16:51:32.9±0.5, 55°08N×160°24E, h6km±3km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.04**	**45**	*i* P	Pg	16 51 35.0	+0.5
TUMR	**Tumrok**	**0.21**	**345**	*i* P	Pg	16 51 37.7	+0.5
TUMR				*i* S	Sg	16 51 40.9	+0.7
KMNR	**Kamenistaya**	**0.68**	**360**	*eP*	Pb	16 51 47.3	+0.1
KMNR				*eS*	Sb	16 51 58.1	+1.2
KOZ	**Kozyrevsk**	**1.00**	**348**	*eP*	Pb	16 51 52.6	0.0
KOZ				*eS*	Sb	16 52 06.1	0.0
MKZ	**Mys Kozlova**	**1.01**	**121**	*i* P	Pg	16 51 52.3	+0.1
MKZ				*i* S	Sb	16 52 06.9	+0.7
KII	**Karymskiy**	**1.15**	**204**	*eP*	Pg	16 51 54.9	-0.1
KII				*eS*	Sn	16 52 11.4	-0.2
ESO	**Esso**	**1.22**	**315**	*i* P	Pg	16 51 55.2	-1.1
ESO				*eS*	Sg	16 52 10.9	-1.2
SRDR	**Sredinnyy**	**1.27**	**347**	*eP*	Pn	16 51 57.1	-0.2
SRDR				*eS*	Sg	16 52 13.6	-0.4
BDR	**Baidarnaya**	**1.59**	**20**	*eP*	Pb	16 52 02.5	-0.2
SMKR	**Semkarok**	**1.66**	**24**	*eP*	Pn	16 52 03.1	+0.6
SRKR	**Sorokina**	**1.66**	**18**	*eP*	Pn	16 52 03.1	+0.5
KBTR	**Krutoberegovo**	**1.85**	**51**	*i* P	Pn	16 52 05.0	0.0
KBTR				*eS*	Sn	16 52 28.8	+0.2
GNL	**Ganaly**	**1.94**	**225**	*eP*	Pb	16 52 07.4	+1.0
GNL				*eS*	Sb	16 52 32.9	-0.2
KRX	**Arik**	**1.96**	**209**	*eP*	Pb	16 52 08.1	-1.1
SDLR	**Sedlovina**	**1.98**	**204**	*eP*	Pb	16 52 08.2	-1.2
SDLR				*eS*	Sn	16 52 33.1	+0.9
KRER	**Koryakskii**	**1.99**	**207**	*eP*	Pb	16 52 08.8	-0.9
NLC	**Nalytchevo**	**1.99**	**196**	*eP*	Pb	16 52 08.4	-1.0
NLC				*eS*	Sb	16 52 35.2	+0.9
SPN	**Mys Shipunski**	**1.99**	**184**	*eP*	Pn	16 52 07.1	+0.1
SPN				*eS*	Sn	16 52 32.3	+0.1
SMAR	**Somma**	**2.01**	**206**	*eP*	Pb	16 52 08.9	-1.2
AVH	**Avacha**	**2.02**	**207**	*eP*	Pb	16 52 09.4	-0.8
KOK	**Koryaka**	**2.03**	**208**	*eP*	Pn	16 52 08.6	+0.9
APC	**Apacha**	**2.83**	**221**	*eP*	Pn	16 52 20.3	+1.8
APC				*eS*	Sn	16 52 54.9	+2.1
RUS	**Russkaya**	**2.85**	**202**	*eP*	Pn	16 52 20.8	+2.1
MTVR	**Mutnovka**	**2.88**	**206**	*eP*	Pn	16 52 21.2	+1.8

IDC ***17*** *17:03:09.4±1.0, 18°.99N×121°.38E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.5/40, mbtmp3.5/7, ML3.6/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/27, Error ellipse: s-maj=35.6km s-min=19.0km az=71.0*
ISCJB ***17*** *17:03:14.9±0.7, 19°.30N±0°.04×121°.20E±0°.08, h39km, mb3.3/6, MS3.6/2, Error ellipse: s-maj=10.5km s-min=6.2km az=178.9*
MAN ***17*** *17:03:14, 19°.22N×121°.20E, h19km, mb4.8, ML3.7, MS3.6*
ISC 17 17:03:16.7±0.9, 19°25N±0°.07×121°19E±0°.08, h39km, n21, σ1s22/15, mb3.3/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.06**	**210**	⇓ *iP*	**Pn**	**17 03 32.5**	**-2.6**
PIP				*eS*	**Sn**	**17 03 48.5**	**-0.2**
SGCP	**Mt. Cagua**	**1.29**	**141**	*eP*	**Pn**	**17 03 36.9**	**-1.3**
SGCP				*eS*	**Sn**	**17 03 53.8**	**-0.4**
APYP	**Conner**	**1.38**	**178**	*eP*	**Pn**	**17 03 38.4**	**-1.0**
APYP				*eS*	**Sn**	**17 03 57.3**	**+0.9**
ABRA	**Dolores**	**1.65**	**196**	*eP*	**Pn**	**17 03 42.3**	**-0.9**
ABRA				*eS*	**Sn**	**17 04 03.7**	**+0.5**
BCPH	**Baguio City Da**	**2.91**	**192**	⇑ *iP*	**Pn**	**17 04 02.0**	**+1.3**
BALP	**Baler**	**3.51**	**174**	*eP*	**Pn**	**17 04 09.4**	**+0.7**
KSRS	**Korea Array**	**19.07**	**17**	P	**P**	**17 07 34.7**	**-1.1**
	0.2nm,0.3s,baz=196,slow=11,SNR=6.8						
KSRS				LR	LR	17 14 20.5	
	comp=Z,48nm,19.3s,baz=206,slow=35						
CMAR	**Chiang Mai Arr**	**21.07**	**272**	P	**P**	**17 07 57.4**	**-0.3**
	0.6nm,0.7s,baz=75,slow=8.8,SNR=6.8						
ASAJ	**Asahikawa**	**30.59**	**31**	LR	LR	17 22 26.3	
	comp=Z,39nm,18.2s,baz=146,slow=38						
SONM	**Songino Array**	**30.95**	**340**	P	**P**	**17 09 31.6**	**+1.5**
	0.2nm,0.4s,baz=132,slow=8.0,SNR=2.7						
WRA	**Warramunga Arr**	**41.03**	**161**	P	P	17 10 52.5	-3.9
	0.5nm,0.4s,baz=347,slow=8.8,SNR=7.6						
MKAR	**Makanchi Array**	**41.99**	**320**	P	**P**	**17 11 04.6**	**+0.5**
	0.3nm,0.7s,baz=104,slow=11,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**42.97**	**83**	T	T	17 56 43.8	
	baz=279,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**42.98**	**83**	T	T	17 56 42.8	
	baz=279,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**42.98**	**83**	T	T	17 56 46.1	
	baz=279,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**42.99**	**81**	T	T	17 56 44.4	
	baz=278,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**42.99**	**81**	T	T	17 56 44.7	
	baz=278,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**43.01**	**81**	T	T	17 56 45.7	
	baz=278,slow=75,SNR=23						
ASAR	**Alice Springs**	**44.42**	**163**	P	P	17 11 19.2	-4.6
	0.4nm,0.5s,baz=344,slow=6.9,SNR=17						
MMAI	**Mount Meron Ar**	**76.35**	**300**	LR	LR	17 51 36.8	
	comp=Z,107nm,21.3s,baz=335,slow=38						
YKA	**Yellowknife Ar**	**87.50**	**23**	P	**P**	**17 15 59.8**	**-0.3**
	0.3nm,0.5s,baz=306,slow=4.6,SNR=12						

MEX 17 17:08:06.5±0.4, 16°23N×98°42W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**61**	*i* P	Pg	17 08 12.4	-0.4
PNIG				*i* S	Sg	17 08 17.2	0.0
TLIG	**Tlapa**	**1.33**	**354**	*eP*	Pn	17 08 28.0	-3.9
TLIG				*eS*	Sg	17 08 44.6	-5.0
VHO	**Vista Hermosa**	**1.82**	**62**	*eP*	Pn	17 08 36.0	-2.7
VHO				*i* S	Sn	17 08 57.6	-4.9
HUIG	**Huatulco**	**2.27**	**101**	*i* P	Pn	17 08 41.6	-3.1

IDC ***17*** *17:11:35.7±0.4, 12°.41S×166°.59E, h0km, mb4.7/29, mb1 4.7/29, mb1mx4.7/38, mbtmp4.6/29, MS3.7/21, Ms1 3.7/21, ms1mx3.6/26, Error ellipse: s-maj=15.5km s-min=11.9km az=108.0*
ISCJB ***17*** *17:11:43.2±0.2, 12°.49S±0°.03×166°.43E±0°.03, h59km, mb4.9/91, MS3.7/19, Error ellipse: s-maj=5.0km s-min=4.7km az=153.4*
NEIC ***17*** *17:11:46.3±1.0, 12°.47S×166°.39E, h76km±9km, mb4.9/50, Error ellipse: s-maj=6.4km s-min=5.6km az=162.0*
BJI ***17*** *17:11:46.0, 11°.94S×166°.70E, h76km, mB5.0/33, mb5.0/51, Ms4.9/15, Ms7 4.5/12*
ISC 17 17:11:44.2±0.4, 12°47S±0°05×166°59E±0°07, h59km, n201, σ1s73/214, mb4.9/90, MS3.7/19, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.19**	**294**	LR	LR	17 16 35.8	
	comp=Z,755nm,19.2s,baz=129,slow=42						
HNR	**Honiara**	**7.19**	**294**	*eP*	**Pn**	**17 13 26.0**	**-0.7**
HNR				*eS*	**Sn**	**17 14 46.0**	**-1.0**
HNR	**Honiara**	**7.19**	**294**	*ePn*	**Pn**	**17 13 26.4**	**-0.3**
DZM	**Mont Dzumac**	**9.55**	**181**	*ePn*	Pn	17 14 02.4	+3.3
	25nm,0.3s						
DZM				*eSn*	**Sn**	**17 15 44.8**	**-0.3**
	38nm,0.3s						
DZM				*eLR*	LR	17 16 16.4	
	2μm,25.4s						
DZM	**Mont Dzumac**	**9.55**	**181**	Pn	**Pn**	**17 14 00.1**	**+0.9**
	3.2nm,0.3s,baz=101,slow=11,SNR=26						
DZM				Sn	**Sn**	**17 15 43.7**	**-1.4**
	baz=270,slow=20,SNR=1.9						
DZM				LR	LR	17 17 12.5	
	comp=Z,1μm,21.6s,baz=16,slow=35						
MSVF	**Nonsavu**	**12.24**	**117**	*ePn*	Pn	17 14 40.4	+4.6
RABL	**Rabaul**	**16.46**	**299**	S	Sn	17 18 25.0	-8.5
	baz=16,SNR=4.5						
EIDS	**Eidsvold**	**19.47**	**227**	P	**Pn**	**17 16 09.0**	**+1.1**
	baz=19,SNR=6.4						
EIDS	**Eidsvold**	**19.47**	**227**	*eP*	**Pn**	**17 16 07.6**	**-0.4**
	25nm,0.7s						
CTA	**Charters Tower**	**20.93**	**246**	P	**P**	**17 16 22.4**	**+0.2**
	9.4nm,0.9s,baz=72,slow=11,SNR=3.2						
CTA				LR	LR	17 23 59.4	
	comp=Z,255nm,19.2s,baz=80,slow=36						
CTAO	**Charters Tower**	**20.93**	**246**	*eP*	P	17 16 13.7	-8.5
RMQ	**Roma**	**21.80**	**228**	P	**P**	**17 16 32.6**	**+1.1**
	baz=21,SNR=12						
RAO	**Raoul Island**	**22.06**	**142**	LR	LR	17 22 35.7	
	comp=Z,110nm,19.7s,baz=305,slow=30						
ARMA	**Armidale**	**22.61**	**215**	P	**P**	**17 16 40.6**	**+0.5**
	baz=22,SNR=9.2						
ARMA	**Armidale**	**22.61**	**215**	*eP*	**P**	**17 16 39.3**	**-0.9**
	24nm,0.9s						
QLP	**Quilpie**	**25.26**	**233**	P	**P**	**17 17 05.0**	**0.0**
	baz=25,SNR=14						
MMPI	**Merauke**	**26.07**	**276**	P	**P**	**17 17 14.5**	**+2.1**
CMSA	**Cobar Meteorol**	**27.03**	**222**	P	**P**	**17 17 23.9**	**+2.9**
	baz=27,SNR=10						
URZ	**Urewera**	**27.35**	**162**	P	**P**	**17 17 24.2**	**+0.5**
	7.1nm,0.5s,baz=270,slow=2.9,SNR=11						
JAY	**Jayapura**	**27.47**	**289**	P	**P**	**17 17 26.3**	**+1.2**
JAY	**Jayapura**	**27.47**	**289**	LR	LR	17 29 31.5	
	comp=Z,125nm,18.9s,baz=228,slow=39						
CNB	**Canberra Magne**	**27.58**	**212**	P	**P**	**17 17 26.7**	**+0.8**
	baz=27,SNR=8.3						
GENI	**Genyem**	**27.94**	**288**	P	**P**	**17 17 31.0**	**+1.8**
BKZ	**Black Stump Fm**	**28.01**	**163**	*eP*	**P**	**17 17 29.4**	**-0.2**
	190nm,2.7s						
SMPI	**Sarmi**	**29.52**	**288**	P	**P**	**17 17 43.2**	**0.0**
STKA	**Stephens Creek**	**30.02**	**226**	P	**P**	**17 17 46.4**	**-1.2**
	8.2nm,0.7s,baz=36,slow=8.9,SNR=23						
STKA				ScP	**ScP**	**17 24 31.5**	**+5.6**
	1.0nm,0.6s,baz=27,slow=4.5,SNR=3.1						
STKA				LR	LR	17 29 10.3	
	comp=Z,439nm,20.1s,baz=56,slow=35						
STKA	**Stephens Creek**	**30.02**	**226**	P	**P**	**17 17 48.1**	**+0.5**
	baz=30,SNR=17						
STKA	**Stephens Creek**	**30.02**	**226**	*eP*	**P**	**17 17 47.7**	**+0.2**
	2.3nm,0.8s						
STKA				ScP	**ScP**	**17 24 31.5**	**+5.6**
TOO	**Toolangi**	**31.32**	**213**	P	**P**	**17 17 59.7**	**+0.7**
	baz=31,SNR=5.2						
RPZ	**Rata Peaks**	**31.38**	**174**	P	**P**	**17 17 59.5**	**+0.1**
	26nm,0.7s,baz=306,slow=2.8,SNR=14						
WRAB	**Tennant Creek**	**31.80**	**252**	*eP*	**P**	**17 18 02.0**	**-1.4**
	3.4nm,0.7s						
WRA	**Warramunga Arr**	**31.81**	**252**	P	**P**	**17 18 01.6**	**-1.8**
	1.9nm,0.5s,baz=83,slow=8.5,SNR=40						
WRA				ScP	**ScP**	**17 24 37.4**	**+5.3**
	1.6nm,0.8s,baz=80,slow=3.9,SNR=9.8						
WRA				LR	LR	17 30 26.3	
	comp=Z,193nm,19.9s,baz=305,slow=36						
AS31	**Alice Springs**	**32.93**	**246**	*eP*	**P**	**17 18 11.7**	**-1.6**
ASAR	**Alice Springs**	**32.93**	**246**	P	**P**	**17 18 11.7**	**-1.7**
	6.4nm,0.8s,baz=68,slow=9.5,SNR=72						
ASAR				ScP	**ScP**	**17 24 40.4**	**+4.5**
	1.2nm,0.8s,baz=88,slow=3.4,SNR=9.4						
KDU	**Kakadu**	**33.29**	**266**	P	**P**	**17 18 16.2**	**-0.2**
	baz=33,SNR=5.0						
MOO	**Moorlands**	**34.30**	**206**	P	**P**	**17 18 25.8**	**+1.0**
	baz=34,SNR=4.7						
BBOO	**Buckleboo**	**34.50**	**229**	P	**P**	**17 18 26.7**	**-0.1**
	baz=34,SNR=14						
BBOO	**Buckleboo**	**34.50**	**229**	*eP*	**P**	**17 18 26.2**	**-0.5**
	5.0nm,0.7s						
MTN	**Manton Dam**	**34.58**	**265**	P	**P**	**17 18 29.8**	**+2.2**
	baz=34,SNR=3.8						
TAU	**Tasmania Unive**	**34.62**	**205**	*eP*	**P**	**17 18 27.7**	**0.0**
	59nm,1.4s						
KNRA	**Kununurra**	**36.80**	**260**	P	**P**	**17 18 46.4**	**-0.3**
	baz=36,SNR=8.5						
WRKA	**Warakurna**	**38.22**	**245**	P	**P**	**17 18 57.6**	**-1.0**
	baz=38,SNR=22						
FORT	**Forrest**	**39.93**	**237**	P	**P**	**17 19 12.3**	**-0.5**
	baz=39,SNR=8.7						
FORT	**Forrest**	**39.93**	**237**	*eP*	**P**	**17 19 10.6**	**-2.3**
	25nm,0.8s						
NLAI	**Namlea**	**40.13**	**280**	P	**P**	**17 19 15.4**	**+0.7**
	53nm,1.2s,647nm						
LBMI	**Labuha**	**40.50**	**284**	P	**P**	**17 19 18.9**	**+1.2**
	52nm,1.3s,744nm						
BATI	**Baumata**	**42.12**	**269**	P	**P**	**17 19 30.6**	**-0.5**
	14nm,0.6s,baz=133,slow=2.1,SNR=5.4						
PPT	**Papeete**	**42.57**	**102**	LR	LR	17 33 42.9	
	comp=Z,116nm,21.4s,baz=294,slow=31						
PPT2	**Papeete2**	**42.57**	**102**	*eS*	S	17 26 10.8	+17
	85nm,29.2s						
PPT2				*eLQ*	LQ	17 29 43.9	
	315nm,29.0s						
PPT2				*eLR*	LR	17 31 35.3	
	591nm,27.0s						
TBI	**Tubuai**	**43.04**	**111**	*eLQ*	LQ	17 29 57.1	
	310nm,30.8s						
TBI				*eLR*	LR	17 32 05.9	
	309nm,31.5s						
PMOR	**Pomariorio Ree**	**44.23**	**99**	*eP*	P	17 19 59.7	+12
	57nm,1.3s						
VAH	**Vaihoa**	**44.48**	**99**	*eP*	P	17 20 01.5	+12
	37nm,1.1s						
KMBL	**Kambalda**	**45.18**	**238**	P	**P**	**17 19 55.3**	**-0.2**
	baz=45,SNR=6.9						
BNSI	**Bone**	**46.62**	**276**	P	**P**	**17 20 07.4**	**+0.5**
	45nm,0.9s						
MEEK	**Meekatharra**	**47.09**	**245**	P	**P**	**17 20 10.7**	**+0.1**
	baz=46,SNR=28						
BLDU	**Ballidu**	**49.36**	**240**	P	**P**	**17 20 28.1**	**+0.1**
	baz=49,SNR=4.1						
NWAO	**Narrogin (SRO)**	**49.38**	**237**	P	**P**	**17 20 27.2**	**-0.8**
	22nm,1.1s,baz=102,slow=7.3,SNR=6.8						
NWAO	**Narrogin (SRO)**	**49.38**	**237**	P	**P**	**17 20 27.9**	**-0.2**
	baz=49,SNR=5.0						
MORW	**Morawa**	**49.69**	**242**	P	**P**	**17 20 30.4**	**-0.1**
	baz=49,SNR=10						
JAGI	**Jajag, Banyuwa**	**51.66**	**269**	P	**P**	**17 20 45.2**	**-0.3**
	61nm,1.0s						
JAGI	**Jajag, Banyuwa**	**51.66**	**269**	P	**P**	**17 20 44.6**	**-0.9**
	baz=51,SNR=7.8						
JAGI	**Jajag, Banyuwa**	**51.66**	**269**	*eP*	**P**	**17 20 43.9**	**-1.6**
	86nm,1.2s						
BBKI	**Banjar Baru**	**51.94**	**275**	P	**P**	**17 20 48.0**	**+0.3**
	33nm,0.9s						
KKM	**Kota Kinabalu**	**53.34**	**287**	P	**P**	**17 20 58.4**	**+0.3**
	baz=53,SNR=8.8						
KKM	**Kota Kinabalu**	**53.34**	**287**	*eP*	**P**	**17 20 57.4**	**-0.7**
	45nm,0.9s						
PWJI	**Pagerwojo**	**54.02**	**269**	P	**P**	**17 21 03.2**	**+0.3**
	37nm,1.2s						
PCJI	**Pacitan**	**54.61**	**269**	P	**P**	**17 21 07.3**	**+0.1**
	75nm,1.1s						
MJAR	**Matsushiro Arr**	**55.61**	**332**	P	**P**	**17 21 12.0**	**-2.0**
	1.5nm,0.6s,baz=171,slow=9.3,SNR=9.9						
MAJO	**Matsushiro**	**55.61**	**332**	*eP*	**P**	**17 21 12.6**	**-1.4**
	9.6nm,1.0s						
SBUM	**Sibu**	**55.99**	**282**	*eP*	**P**	**17 21 17.2**	**+0.1**
	8.2nm,0.9s						
RKT	**Rikitea**	**56.33**	**110**	*eLR*	LR	17 37 52.4	
	218nm,29.0s						
JNU	**Nakatsue**	**56.71**	**324**	P	**P**	**17 21 21.9**	**0.0**
	13nm,0.6s,baz=173,slow=1.2,SNR=22						
JNU	**Nakatsue**	**56.71**	**324**	*eP*	**P**	**17 21 21.8**	**-0.2**
	23nm,1.0s						
KPJI	**Karang Pucung**	**56.95**	**269**	P	**P**	**17 21 25.3**	**+1.3**
YHNB	**Yeheng**	**57.52**	**310**	P	**P**	**17 21 27.4**	**-0.5**
	24nm,0.8s						
KSM	**Kuching**	**57.55**	**280**	P	**P**	**17 21 28.6**	**+0.3**
	baz=57,SNR=6.7						
KSM	**Kuching**	**57.55**	**280**	*eP*	**P**	**17 21 27.8**	**-0.5**
	14nm,1.1s						
LEM	**Lembang**	**58.32**	**270**	P	**P**	**17 21 35.3**	**+1.5**
LEM	**Lembang**	**58.32**	**270**	P	**P**	**17 21 34.5**	**+0.7**
	baz=58,SNR=6.7						
CGJI	**Cibinong**	**60.23**	**269**	P	**P**	**17 21 45.7**	**-1.2**
	98nm,0.9s						
ASAJ	**Asahikawa**	**60.40**	**340**	P	**P**	**17 21 47.0**	**-0.4**
	5.1nm,0.5s,baz=208,slow=6.4,SNR=20						
ASAJ				LR	LR	17 43 32.4	
	comp=Z,83nm,21.6s,baz=160,slow=32						
KSRS	**Korea Array**	**61.51**	**326**	P	**P**	**17 21 53.9**	**-1.2**
	2.7nm,0.7s,baz=140,slow=7.2,SNR=16						
KSRS				LR	LR	17 46 09.9	
	comp=Z,15nm,19.3s,baz=142,slow=34						
KSAR	**Wonju Array Be**	**61.52**	**326**	P	**P**	**17 21 53.9**	**-1.3**
KASI	**Kota Agung**	**61.61**	**270**	P	**P**	**17 21 55.5**	**-0.7**
	52nm,1.0s						
MDSI	**Maura Dua**	**62.12**	**272**	P	**P**	**17 21 58.2**	**-1.4**
	8.7nm,1.5s						
YSS	**Yuzh-Sakhalins**	**62.89**	**342**	P	**P**	**17 22 04.5**	**+0.4**
NJ2	**Nanjing**	**63.61**	**315**	*eP*	**P**	**17 22 10.6**	**+1.5**
NJ2				PMZ			
	50nm,0.8s						
QIZ	**Qiongzhong**	**64.08**	**298**	P	**P**	**17 22 12.8**	**+0.3**
QIZ				S	**S**	**17 30 40.5**	**-4.7**
USRK	**Ussuriysk Ar.**	**64.58**	**333**	P	**P**	**17 22 14.9**	**-0.4**
	5.3nm,1.0s,baz=152,slow=6.6,SNR=9.2						
VNDA	**Vanda**	**65.10**	**181**	P	**P**	**17 22 17.7**	**-0.5**
	3.6nm,0.8s,baz=352,slow=4.0,SNR=21						
VNDA				LR	LR	17 47 12.1	
	comp=Z,90nm,19.6s,baz=355,slow=33						
VNDA	**Vanda**	**65.10**	**181**	*eP*	**P**	**17 22 17.4**	**-0.8**
	6.9nm,1.0s						
CASY	**Casey**	**65.37**	**202**	*eP*	**P**	**17 22 18.7**	**-1.4**
	7.0nm,0.8s						
SBA	**Scott Base**	**65.39**	**180**	*eP*	**P**	**17 22 20.6**	**+0.6**
	19nm,0.9s						
PETK	**Petropavlovsk-**	**65.75**	**354**	P	**P**	**17 22 22.1**	**-0.6**
	2.2nm,0.8s,baz=148,slow=4.8,SNR=7.7						
PETK				LR	LR	17 45 27.4	
	comp=Z,44nm,21.1s,baz=150,slow=31						
WHN	**Wuhan**	**65.95**	**312**	⇓ *iP*	P	**17 22 24.8**	**+0.4**
WHN				*eS*	**S**	**17 31 11.8**	**+4.1**
WHN				LZ

CRAI	**Chiangrai**	**72.78**	**296**	P	**P**	**17 23 04.6**	**-2.2**
	25nm,0.8s						
LAMP	**Lampang**	**72.84**	**294**	P	**P**	**17 23 08.4**	**+1.1**
	13nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.44**	**294**	P	**P**	**17 23 11.8**	**+1.0**
	14nm,0.8s,baz=123,slow=4.6,SNR=103						
CMAR				LR	LR	17 54 09.3	
	comp=Z,20nm,20.9s,baz=168,slow=35						
HHC	**Hu-ho-hao-te**	**73.44**	**320**	*e*P	**P**	**17 23 11.1**	**+0.6**
HHC				PP	**PP**	**17 25 56.0**	**+1.0**
HHC				S	**SKiKP**	**17 32 36.8**	**+0.5**
HHC				PMZ			
	15nm,0.9s						
HHC				PMZ			
	69nm,4.1s						
HHC				LN			
	120nm,15.5s						
HHC				LE			
	140nm,17.9s						
HHC				LZ			
	140nm,20.0s						
CMMT	**Chiang Mai**	**73.55**	**294**	P	**P**	**17 23 12.0**	**+0.5**
	23nm,1.6s						
CMAI	**Chiengmai2**	**73.84**	**295**	P	**P**	**17 23 14.1**	**+0.8**
	21nm,1.2s						
CD2	**Chengdu**	**74.12**	**307**	*e*P	**P**	**17 23 15.0**	**+0.4**
CD2				PcP	**pP**	**17 23 30.4**	**-0.5**
CD2				pP	**pwP**	**17 23 36.0**	**+5.1**
CD2				sP	sP	17 23 44.8	+7.3
CD2				PP	**PP**	**17 26 03.4**	**+2.5**
CD2				S	**SKiKP**	**17 32 40.4**	**+2.9**
CD2				SKS	**SKSac**	**17 33 10.8**	**-6.6**
CD2				sS	**SKKSac**	**17 33 16.1**	**-1.5**
CD2				SS	**SS**	**17 37 29.0**	**-1.0**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	140nm,5.4s						
SEY	**Seymchan**	**75.97**	**353**	P	**P**	**17 23 23.4**	**-1.0**
	2.4nm,0.6s,baz=133,slow=4.3,SNR=16						
LZH	**Lanzhou**	**76.32**	**312**	⇑P	**P**	**17 23 29.1**	**+1.8**
LZH				pP	pP	17 23 50.3	+6.6
LZH				sP	sP	17 23 59.4	+9.2
LZH				PMZ			
	69nm,1.0s						
LZH				PMZ			
	160nm,4.0s						
QSPA	**South Pole Qui**	**77.55**	**180**	*e*P	**P**	**17 23 32.6**	**-1.0**
	58nm,1.6s						
YAK	**Yakutsk**	**79.69**	**343**	*e*P	**P**	**17 23 43.8**	**-1.3**
	8.9nm,0.7s						
ULN	**Ulaanbaatar**	**79.93**	**324**	*e*P	**P**	**17 23 46.6**	**-0.4**
	15nm,0.7s						
SONM	**Songino Array**	**80.30**	**324**	P	**P**	**17 23 49.1**	**+0.2**
	4.9nm,0.6s,baz=141,slow=5.8,SNR=27						
SONM				LR	LR	17 57 47.6	
	comp=Z,28nm,21.9s,baz=179,slow=34						
GTA	**Gaotai**	**80.64**	**314**	P	**P**	**17 23 51.9**	**+1.0**
GTA				pP	pP	17 24 13.3	+5.8
GTA				sP	sP	17 24 22.3	+8.3
GTA				PMZ			
	16nm,1.0s						
SHL	**Shillong**	**81.92**	**298**	*ex*	**P**	**17 23 58.0**	**-0.1**
MCK	**McKinley**	**83.22**	**18**	P	**P**	**17 24 04.6**	**+0.8**
	3.0nm,0.7s						
MAW	**Mawson**	**83.72**	**202**	P	**P**	**17 24 05.5**	**-0.9**
	6.7nm,0.8s,baz=104,slow=8.5,SNR=6.4						
MAW				LR	LR	17 55 54.3	
	comp=Z,58nm,18.0s,baz=238,slow=32						
MAW	**Mawson**	**83.72**	**202**	P	**P**	**17 24 06.5**	**+0.1**
	baz=83,SNR=5.2						
MAW	**Mawson**	**83.72**	**202**	*e*P	**P**	**17 24 06.5**	**+0.1**
	2.3nm,0.4s						
TLY	**Talaya**	**83.76**	**326**	*e*P	**P**	**17 24 06.7**	**-0.2**
	10nm,0.9s						
LSA	**Lhasa**	**83.81**	**302**	P	**P**	**17 24 08.4**	**+0.2**
LSA	**Lhasa**	**83.81**	**302**	*e*P	**P**	**17 24 08.1**	**-0.1**
	12nm,0.6s						
YBH	**Yreka Blue Hor**	**84.29**	**45**	P	**P**	**17 24 09.3**	**-0.6**
	4.5nm,0.8s,baz=229,slow=6.7,SNR=9.8						
YBH	**Yreka Blue Hor**	**84.29**	**45**	*e*P	**P**	**17 24 12.0**	**+2.1**
	51nm,2.2s						
COLA	**College**	**84.37**	**18**	P	**P**	**17 24 11.4**	**+1.8**
ILAR	**Eielson Array**	**84.59**	**18**	P	**P**	**17 24 09.2**	**-1.5**
	3.2nm,0.6s,baz=242,slow=5.3,SNR=35						
ILAR				LR	LR	17 56 02.8	
	comp=Z,72nm,20.6s,baz=207,slow=32						
CMB	**Columbia Colle**	**84.63**	**49**	*e*P	**P**	**17 24 12.6**	**+0.9**
	3.3nm,0.7s						
ISA	**Isabella, Lake**	**85.28**	**52**	*e*P	**P**	**17 24 16.0**	**+1.0**
	34nm,2.0s						
BFSC	**Mount Baldy Ra**	**85.47**	**54**	*e*P	**P**	**17 24 19.0**	**+3.0**
WAKR	**Walker**	**85.49**	**49**	*e*P	**P**	**17 24 17.0**	**+0.9**
TAPN	**Taplejung**	**86.02**	**299**	*e*P	**P**	**17 24 19.2**	**+0.1**
	49nm,1.2s						
MOD	**Modoc Plateau**	**86.03**	**46**	P	**P**	**17 24 19.4**	**+0.7**
	5.4nm,0.6s						
DAC	**Darwin (Calif)**	**86.15**	**52**	*e*P	**P**	**17 24 21.0**	**+1.5**
	3.0nm,0.8s						
ODAN	**Odare**	**86.15**	**298**	*e*P	**P**	**17 24 19.8**	**+0.1**
	66nm,0.7s						
NVAR	**Mina Array Bea**	**86.31**	**50**	P	**P**	**17 24 20.9**	**+0.7**
	3.2nm,0.7s,baz=234,slow=8.4,SNR=26						
YUH	**Yuha Desert**	**86.36**	**56**	*e*P	P	17 24 25.9	+5.5
EGAK	**Eagle**	**86.42**	**20**	*e*P	**P**	**17 24 18.8**	**-1.1**
	5.5nm,0.8s						
WESC	**Westside Schoo**	**86.55**	**56**	*e*P	P	17 24 27.5	+6.3
RAMN	**Ramite**	**86.86**	**298**	*e*P	**P**	**17 24 22.4**	**-0.8**
	48nm,1.0s						
I07A	**Izee**	**87.34**	**44**	*e*P	**P**	**17 24 26.6**	**+1.7**
WVOR	**Wild Horse Val**	**87.38**	**46**	*e*P	**P**	**17 24 27.6**	**+2.3**
	26nm,2.2s						
TPNV	**Topopah Spring**	**87.39**	**51**	*e*P	**P**	**17 24 27.3**	**+1.9**
	5.0nm,0.5s						
JIRN	**Jiri**	**87.40**	**299**	*e*P	**P**	**17 24 26.0**	**+0.1**
	37nm,0.8s						
PALK	**Pallekele**	**87.57**	**278**	*e*P	**P**	**17 24 26.9**	**+0.3**
	17nm,0.9s						
LDFC	**Landfair**	**87.72**	**53**	*e*P	**P**	**17 24 27.5**	**+0.5**
	67nm,0.9s						
GUN	**Gumba**	**87.73**	**299**	*e*P	**P**	**17 24 27.1**	**-0.4**
	49nm,0.8s						
PKIN	**Phulchoki**	**88.06**	**299**	*e*P	**P**	**17 24 28.8**	**-0.2**
	17nm,0.7s						
KKN	**Kakani**	**88.21**	**299**	*e*P	**P**	**17 24 29.4**	**-0.2**
	55nm,0.7s						
DMN	**Daman**	**88.31**	**299**	*e*P	**P**	**17 24 29.8**	**-0.4**
	118nm,0.7s						
GKN	**Gorkha**	**88.81**	**299**	*e*P	**P**	**17 24 31.7**	**-0.7**
	82nm,0.7s						
ELK	**Elko**	**89.27**	**48**	P	**P**	**17 24 34.7**	**+0.3**
	2.3nm,0.7s,baz=268,slow=2.6,SNR=12						
ELK	**Elko**	**89.27**	**48**	*e*P	**P**	**17 24 35.7**	**+1.4**
	1.9nm,0.8s						
MFID	**Camas Ranch**	**89.64**	**45**	*e*P	**P**	**17 24 38.3**	**+2.4**
	3.2nm,0.6s						
KOLN	**Koldanda**	**89.65**	**298**	*e*P	**P**	**17 24 35.4**	**-1.0**
	29nm,0.7s						
DANN	**Dangsing**	**89.65**	**299**	*e*P	**P**	**17 24 35.4**	**-1.1**
	67nm,0.7s						
KNB	**Kanab**	**90.04**	**52**	*e*P	**P**	**17 24 40.0**	**+2.1**
	15nm,1.2s						
PYUN	**Piuthan**	**90.25**	**299**	*e*P	**P**	**17 24 38.0**	**-1.2**
	72nm,0.9s						
HLID	**Hailey**	**90.67**	**46**	*e*P	**P**	**17 24 42.3**	**+1.5**
	2.5nm,0.7s						
WMQ	**Urumqi**	**90.68**	**315**	⇑*i*P	**P**	**17 24 40.6**	**0.0**
WMQ				pP	**pP**	**17 25 01.5**	**+4.1**
WMQ				sP	sP	17 25 09.9	+6.0
WMQ				PP	**PP**	**17 28 18.0**	**+1.3**
WMQ				SKS	**SKSac**	**17 35 03.0**	**-4.4**
WMQ				eS	**SKKSac**	**17 35 27.0**	**+5.0**
WMQ				PMZ			
	9.0nm,0.8s						
WMQ				PMZ			
	140nm,5.0s						
WMQ				LN			
	180nm,28.6s						
WMQ				LE			
	160nm,24.5s						
WMQ				LZ			
	160nm,20.4s						
WUAZ	**Wupatki**	**90.78**	**54**	*e*P	**P**	**17 24 42.7**	**+1.2**
	1.8nm,0.6s						
MVU	**Marysvale**	**90.90**	**51**	*e*P	**P**	**17 24 43.7**	**+1.7**
	6.4nm,1.2s						
BGU	**Big Grassy Mou**	**90.93**	**48**	*e*P	**P**	**17 24 43.9**	**+1.9**
	0.9nm,0.7s						
HVU	**Hansel Valley**	**91.34**	**48**	*e*P	**P**	**17 24 44.8**	**+0.9**
	3.5nm,0.8s						
BSMT	**Bassoo Peak**	**91.65**	**41**	*e*P	**P**	**17 24 46.2**	**+1.0**
	2.1nm,0.8s						
ELU	**Electric Lake**	**91.95**	**50**	*e*P	**P**	**17 24 48.2**	**+1.2**
HWUT	**Hardware Ranch**	**92.17**	**48**	*e*P	**P**	**17 24 49.0**	**+1.2**
	5.0nm,1.0s						
PDAR	**Pinedale Array**	**93.90**	**47**	LR	LR	17 58 58.1	
	comp=Z,33nm,21.2s,baz=244,slow=30						
ANMO	**Albuquerque**	**94.57**	**55**	P	**P**	**17 25 00.1**	**+1.1**
	1.0nm,0.8s,baz=248,slow=1.1,SNR=3.7						
MKAR	**Makanchi Array**	**95.12**	**317**	P	**P**	**17 25 00.7**	**-0.3**
	13nm,0.7s,baz=96,slow=6.5,SNR=153						
MKAR				PKKPbc	**PKKPbc**	**17 41 54.4**	**-2.6**
	0.2nm,0.5s,baz=255,slow=3.7,SNR=4.6						
MKAR				LR	LR	18 06 41.0	
	comp=Z,28nm,21.6s,baz=101,slow=35						
ZALV	**Zalesovo Beam**	**95.19**	**324**	P	**P**	**17 24 59.9**	**-1.2**
	3.1nm,0.8s,baz=112,slow=4.1,SNR=17						
ZALV				LR	LR	18 08 08.0	
	comp=Z,16nm,19.2s,baz=70,slow=36						
TXAR	**Lajitas Array**	**95.78**	**61**	P	**P**	**17 25 04.6**	**+0.1**
	0.9nm,0.7s,baz=229,slow=5.2,SNR=9.3						
TXAR				LR	LR	17 59 10.9	
	comp=Z,57nm,21.9s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**95.85**	**27**	P	**P**	**17 25 01.9**	**-2.0**
	0.3nm,0.4s,baz=258,slow=4.7,SNR=12						
VNA3	**Neumayer Olymp**	**96.45**	**181**	P	**P**	**17 25 04.4**	**-2.2**
VNA2	**Neumayer--Watz**	**96.71**	**182**	P	**P**	**17 25 06.4**	**-1.4**
	baz=172,slow=4.7						
RSSD	**Black Hills**	**98.11**	**47**	*e*P	Pdif	17 25 17.2	+2.3
	3.8nm,0.8s						
KURK	**Kurchatov**	**98.26**	**320**	P	**P**	**17 25 13.2**	**-1.8**
KSH	**Kashi**	**98.28**	**309**	*e*P	Pdif	17 25 16.4	+0.7
KSH				sP	sP	17 25 45.5	+6.6
KSH				PP	**PP**	**17 29 19.6**	**+3.4**
KSH				SKS	**SKSac**	**17 35 46.4**	**-2.3**
KSH				S	**S**	**17 36 33.9**	**-5.2**
KSH				sS	sS	17 37 10.3	+2.5
KSH				PMZ			
	100nm,7.6s						
KSH				LN			
	180nm,7.5s						
KSH				LE			
	130nm,5.0s						
KSH				LZ			
	200nm,5.0s						
TKM2	**Tokmak 2**	**99.09**	**312**	P	**Pdif**	**17 25 16.8**	**-2.5**
AAK	**Ala-Archa**	**99.85**	**312**	LR	LR	18 09 35.1	
	comp=Z,24nm,21.8s,baz=68,slow=35						
ARCES	**ARCESS Array B**	**117.91**	**346**	PKP	**PKPdf**	**17 30 21.9**	**-1.7**
	3.5nm,0.5s,baz=83,slow=2.6,SNR=30						
KBZ	**Khabaz**	**122.72**	**314**	PKP	**PKPdf**	**17 30 33.7**	**+0.2**
	1.4nm,0.8s,baz=236,slow=24,SNR=4.5						
RAYN	**Ar Rayn**	**123.23**	**290**	*e*PKPdf	**PKPdf**	**17 30 34.9**	**-0.3**
FINES	**FINESS Array B**	**123.39**	**339**	PKP	**PKPdf**	**17 30 33.3**	**-1.0**
	2.2nm,0.9s,baz=71,slow=0.8,SNR=6.7						
AKASG	**Malin Array Be**	**128.50**	**327**	PKP	**PKPdf**	**17 30 43.5**	**-0.8**
	0.2nm,0.2s,baz=57,slow=1.9,SNR=4.9						
BRTR	**Keskin Array B**	**130.53**	**312**	SKPbc	**SKPab**	**17 34 11.2**	**+3.7**
	0.8nm,0.8s,baz=93,slow=5.8,SNR=4.9						
EKA	**Eskdalemuir Ar**	**136.49**	**352**	SKPbc	**SKPab**	**17 34 32.5**	**0.0**
	3.1nm,1.0s,baz=0.0,slow=2.5,SNR=4.3						
GERES	**GERESS Array B**	**137.34**	**334**	PKP	**PKPdf**	**17 31 01.8**	**+0.5**
	0.3nm,0.4s,baz=64,slow=3.1,SNR=4.6						
GERES				SKPbc	**SKPab**	**17 34 35.6**	**-1.1**
	0.1nm,0.3s,baz=28,slow=3.2,SNR=4.0						
KEST	**Kesra**	**149.04**	**322**	PKPbc	**PKPbc**	**17 31 26.3**	**0.0**
	4.9nm,0.7s,baz=277,slow=1.2,SNR=24						
ESDC	**Sonseca Array**	**151.64**	**345**	PKPbc	**PKPbc**	**17 31 31.4**	**-0.9**
	2.3nm,0.8s,baz=15,slow=2.2,SNR=10						
ESDC				PKPab	**PKPab**	**17 31 40.2**	**-0.8**
	1.0nm,0.5s,baz=12,slow=3.8,SNR=9.0						
TORD	**Torodi Ar. Bea**	**165.25**	**274**	PKPab	**PKPab**	**17 32 40.9**	**+0.2**
	9.8nm,0.9s,baz=79,slow=4.5,SNR=40						

GUC 17 17:20:12.7±0.3, 35°63S×74°05W, h15km±999km, ML4.3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.43**	**148**	*e*P	Pn	17 20 36.6	-1.4
CCSP				eS	Sn	17 20 54.5	-2.0
CCSP				AML	AML	17 20 58.4	
	comp=E,7μm,0.5s						
TALC	**Talca**	**1.98**	**84**	*e*P	Pn	17 20 45.4	-0.3
TALC				*e*S	Sn	17 21 10.2	0.0

*ISCJB **17** 17:25:22.0±0.5, 32°31N±0°03×115°31W±0°04, h19km±4km, Error ellipse: s-maj=6.0km s-min=5.1km az=18.9*
*NEIC **17** 17:25:21.8, 32°18N×115°36W, h10km, ML3.2(PAS), After PAS.*
*MEX **17** 17:25:24.3±0.5, 32°32N×115°26W, h10km, MD4.1*

ISC 17 17:25:21.4±1.0, 32°24N±0°04×115°33W±0°03, h14km±8km, n23, σ1§37/30, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**8**	*e*P	**Pg**	**17 25 25.9**	**+0.3**
CPBX				*e*S	**Sg**	**17 25 28.0**	**-0.5**
MBIG	**Mexicali**	**0.20**	**35**	*e*P	**Pg**	**17 25 26.7**	**+0.7**
MBIG				*e*S	**Sg**	**17 25 28.9**	**-0.2**
GLA	**Glamis**	**0.91**	**28**	*e*Pg	**Pg**	**17 25 37.9**	**-1.2**
CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**17 25 43.4**	**+0.6**
CBX				*e*S	**Sb**	**17 25 58.0**	**+0.7**
CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**17 25 43.4**	**+0.6**
CBX				*e*S	**Sb**	**17 25 58.0**	**+0.7**
SPIG	**San Pedro Mart**	**1.20**	**185**	*e*P	**Pn**	**17 25 44.8**	**+0.8**
SPIG				*e*S	**Sn**	**17 26 01.0**	**+0.7**
SPIG	**San Pedro Mart**	**1.20**	**185**	*e*P	**Pn**	**17 25 44.8**	**+0.8**
SPIG				*e*S	**Sn**	**17 26 00.7**	**+0.4**
SPX	**San Pedro Mart**	**1.20**	**185**	*e*P	**Pn**	**17 25 44.5**	**+0.5**
SPX				*e*S	**Sn**	**17 26 00.9**	**+0.7**
BAR	**Barrett**	**1.21**	**291**	*e*Pg	**Pg**	**17 25 44.0**	**-0.8**
BAR				*e*Sg	**Sg**	**17 25 59.0**	**-1.6**
PFO	**Pinyon Flats O**	**1.66**	**326**	*e*Pn	**Pn**	**17 25 48.9**	**-1.3**
214A	**Organ Pipe Nat**	**2.16**	**97**	*e*Pn	**Pn**	**17 25 56.3**	**-0.7**
LDFC	**Landfair**	**2.83**	**4**	*e*Pn	**Pn**	**17 26 07.7**	**+1.3**
MWC	**Mount Wilson**	**3.02**	**312**	*e*Pn	**Pb**	**17 26 14.1**	**-0.9**
MWC				*e*Sn	**Sb**	**17 26 51.2**	**-0.7**
GSC	**Goldstone, Bar**	**3.29**	**339**	Pn	Pn	17 26 10.3	-2.3
TUC	**Tucson**	**3.85**	**88**	*e*Pn	**Pn**	**17 26 21.5**	**+1.2**
TUC				*e*Sg	**Sg**	**17 27 21.4**	**-3.8**
SHPR	**Sheep Range**	**4.25**	**2**	*e*Pn	**Pn**	**17 26 26.6**	**+0.7**
ISA	**Isabella, Lake**	**4.29**	**323**	Pn	**Pn**	**17 26 25.5**	**-0.9**
DAC	**Darwin (Calif)**	**4.44**	**336**	Pn	**Pn**	**17 26 30.9**	**+2.5**
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**	**17 26 33.2**	**+2.0**
TPNV	**Topopah Spring**	**4.75**	**351**	Pn	Pn	17 26 38.3	+5.5
W18A	**Petrified Fore**	**5.48**	**57**	*e*Pn	Pn	17 26 38.5	-4.2
	7.9nm,0.4s						
R11A	**Troy Canyon, C**	**6.10**	**358**	Pn	**Pn**	**17 26 53.4**	**+2.2**
	1.0nm,0.5s						
MVU	**Marysvale**	**6.75**	**21**	Pn	**Pn**	**17 27 01.8**	**+1.5**
	2.4nm,0.8s						

IDC 17 17:45:51.8±2.5, 7°38S×128°08E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.1/35, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=291.0km s-min=32.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.88**	**155**	Pn	Pn	17 49 08.5	-1.5
	0.2nm,0.3s,baz=330,slow=13,SNR=13						
WRA				Sn	Sn	17 51 31.4	-14
	0.3nm,0.3s,baz=331,slow=24,SNR=10						
ASAR	**Alice Springs**	**17.13**	**162**	P	P	17 49 54.0	-0.6
	0.1nm,0.3s,baz=344,slow=8.8,SNR=14						
ASAR				S	Sn	17 52 53.8	-10
	0.1nm,0.3s,baz=343,slow=25,SNR=4.5						
MKAR	**Makanchi Array**	**67.52**	**328**	P	P	17 56 49.9	0.0
	0.1nm,0.4s,baz=117,slow=8.1,SNR=4.5						

JMA 17 17:51:07.7±0.5, 44°92N×147°87E, h180km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.18**	**225**	P	Pn	17 51 47.0	+0.3
NEM2				*e*S	Sn	17 52 17.4	+0.4
JNK	**Nakash**	**2.63**	**241**	P	Pn	17 51 52.0	+0.1
JAK	**Akkeshi**	**2.99**	**231**	P	Pn	17 51 56.4	+0.2
JAK				*e*S	Sn	17 52 34.3	+0.3
JAR	**Ashorobuto**	**3.37**	**243**	P	Pn	17 52 01.3	+0.4
JCH	**Churui**	**4.00**	**236**	P	Pn	17 52 08.4	-0.3
JCH				*e*S	Sn	17 52 54.9	-1.5
JNBK	**Urakawa-nobuka**	**4.56**	**236**	P	Pn	17 52 14.5	-1.4
JKB	**Kayabe**	**5.83**	**241**	P	Pn	17 52 30.2	-2.2
JKB				*e*S	Sn	17 53 34.1	-5.0
JOT	**Ohata**	**6.12**	**237**	P	Pn	17 52 33.7	-2.5
JOT				*e*S	Sn	17 53 40.1	-5.7
JANG	**Nango**	**6.53**	**228**	P	Pn	17 52 40.0	-1.6
JMK	**Ichinoseki**	**7.75**	**222**	*e*S	Sn	17 54 22.0	-2.7

IDC 17 18:01:20.9±2.9, 11°96S×164°55E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/36, mbtmp3.5/4, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/15, Error ellipse: s-maj=61.0km s-min=42.3km az=80.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.17**	**299**	LR	LR	18 04 56.0	
	comp=Z,106nm,18.5s,baz=62,slow=42						
DZM	**Mont Dzumac**	**10.22**	**170**	Pn	Pn	18 03 48.4	-0.7
	0.5nm,0.3s,baz=288,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**30.07**	**251**	P	P	18 07 32.4	+0.2
	0.6nm,0.7s,baz=79,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**31.34**	**244**	P	P	18 07 43.2	-0.2
	0.2nm,0.6s,baz=64,slow=10,SNR=7.6						
MKAR	**Makanchi Array**	**93.38**	**317**	P	P	18 14 38.3	+0.1
	0.1nm,0.3s,baz=96,slow=8.5,SNR=3.5						

IDC 17 18:01:51.7±10.0, 31°82S×177°65W, h60km±94km, mb3.5/2, mb1 3.8/3, mb1mx3.4/34, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=82.8km s-min=57.1km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.73**	**212**	P	Pn	18 03 41.7	+0.1
	0.2nm,0.3s,baz=80,slow=18,SNR=4.7						
URZ				S	Sn	18 05 08.1	+0.4
	1.8nm,0.3s,baz=275,slow=2.7,SNR=7.5						
ASAR	**Alice Springs**	**43.35**	**268**	P	P	18 09 48.1	-0.2
	0.5nm,0.5s,baz=108,slow=7.4,SNR=37						
ASAR				pP	pP	18 10 01.9	-1.7
	1.1nm,0.5s,baz=106,slow=7.3,SNR=19						
WRA	**Warramunga Arr**	**44.47**	**273**	P	P	18 09 57.2	-0.1
	1.3nm,0.6s,baz=112,slow=8.0,SNR=43						
WRA				pP	pP	18 10 10.6	-2.0
	2.4nm,0.5s,baz=113,slow=7.9,SNR=18						
QSPA	**South Pole Qui**	**58.30**	**180**	pP	pP	18 11 54.5	-1.5
	1.7nm,0.7s,baz=253,slow=1.1,SNR=14						
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	PKPdf	18 21 24.8	+0.8
	0.9nm,0.5s,baz=54,slow=2.4,SNR=6.0						

IDC 17 18:03:38.9±46.0, 14°77S×173°78W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/40, mbtmp4.1/3, Error ellipse: s-maj=889.8km s-min=169.9km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.04**	**239**	P	P	18 11 48.6	0.0
	2.2nm,0.8s,baz=100,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**49.63**	**256**	P	P	18 12 32.6	0.0
	0.8nm,0.7s,baz=92,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**49.96**	**251**	P	P	18 12 34.8	-0.4
	4.5nm,0.6s,baz=87,slow=8.3,SNR=68						

*IDC **17** 18:03:22.7±4.1, 31°31S×178°32W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/34, mbtmp4.0/2, Error ellipse: s-maj=212.1km s-min=51.0km az=163.0*

ISC 17 18:03:57.7±2.2, 29°8S±0°2×179°6W±0°4, h250km, n13, σ1§09/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.93**	**192**	*e*PN	Pn	18 05 54.5	+4.5
MXZ				SN	S	18 07 09.2	-11
WMGZ	**Waiomatatini S**	**8.16**	**191**	*e*PN	Pn	18 05 57.5	+4.6
PUZ	**Puketiti**	**8.43**	**192**	PN	Pn	18 05 59.9	+3.5
PUZ				SN	S	18 07 18.9	-13
MWZ	**Matawai**	**8.83**	**195**	SN	S	18 07 27.2	-14
URZ	**Urewera**	**8.86**	**197**	PN	**Pn**	**18 06 03.7**	**+1.9**
URZ				SN	S	18 07 26.1	-16
BKZ	**Black Stump Fm**	**9.88**	**198**	PN	**Pn**	**18 06 14.2**	**-0.4**
KAHZ	**Kahuranaki**	**10.38**	**195**	PN	**Pn**	**18 06 20.2**	**-0.7**
PXZ	**Pawanui**	**10.61**	**195**	*e*PN	**Pn**	**18 06 22.8**	**-0.9**
PXZ				SN	S	18 08 00.6	-22
RABL	**Rabaul**	**36.92**	**308**	P	P	18 10 49.0	+6.0
	baz=5.7,SNR=26						
ASAR	**Alice Springs**	**41.76**	**267**	P	**P**	**18 11 22.3**	**-0.6**
	0.6nm,0.5s,baz=108,slow=7.2,SNR=7.9						
WRA	**Warramunga Arr**	**42.70**	**272**	P	**P**	**18 11 30.9**	**+0.4**
	1.3nm,0.3s,baz=111,slow=8.1,SNR=19						
FINES	**FINESS Array B**	**144.11**	**339**	PKPbc	**PKPdf**	**18 23 03.0**	**+0.3**
	0.8nm,0.6s,baz=66,slow=3.5,SNR=4.6						
BRTR	**Keskin Array B**	**151.11**	**299**	PKPbc	**PKPbc**	**18 23 21.1**	**-0.1**
	0.6nm,0.6s,baz=90,slow=3.0,SNR=5.2						

*NIED **17** 18:07:00, 24°50N×122°20E, h32km, Mw3.5 Best double couple: M

NNS	**Nan Shan**	**0.75 264**	⇓*i*P	**Pn**	**18 07 34.8**	**+0.6**
	baz=255					
NNS			*e*S	**Sn**	**18 07 45.9**	**+0.8**
	baz=255					
HWA	**Hwalien**	**0.77 225**	*e*P	**Pn**	**18 07 34.4**	**+0.1**
	baz=212					
NSK	**Sanguang**	**0.78 281**	⇑*i*P	**Pn**	**18 07 35.4**	**+0.9**
	baz=282					
NSK			S	**Sn**	**18 07 46.5**	**+1.1**
	baz=282					
TAP1	**Taipei**	**0.80 310**	⇑*i*P	**Pn**	**18 07 35.2**	**+0.6**
	baz=323					
TAP1			*i* S	**Sn**	**18 07 45.8**	**0.0**
	baz=323					
TAP	**Taipei**	**0.81 309**	⇑*i*P	**Pn**	**18 07 35.2**	**+0.5**
	baz=323					
TAP			*i* S	**Sn**	**18 07 45.7**	**-0.3**
	baz=323					
TWS1	**Kuangyinshan**	**0.91 309**	⇑*i*P	**Pn**	**18 07 36.8**	**+0.8**
	baz=321					
TWS1			S	**Sn**	**18 07 48.9**	**+0.5**
	baz=321					
TWY	**Chenhua**	**0.92 324**	⇑P	**Pn**	**18 07 36.8**	**+0.6**
	baz=327					
TWY			S	**Sn**	**18 07 49.0**	**+0.3**
	baz=327					
WHF	**Hehuan Shan**	**0.93 246**	⇓*i*P	**Pn**	**18 07 37.1**	**+0.3**
	baz=244					
WHF			*i* S	**Sn**	**18 07 49.3**	**-0.2**
	baz=244					
TWT	**Tachien**	**0.97 254**	*e*P	**Pn**	**18 07 38.2**	**+1.2**
	baz=247					
TWT			S	**Sn**	**18 07 50.9**	**+0.8**
	baz=247					
ESL	**Shilin**	**0.99 225**	⇓P	**Pn**	**18 07 36.9**	**-0.3**
	baz=231					
TEGC	**Jichi Village**	**1.01 216**	*e*P	**Pn**	**18 07 38.5**	**+1.1**
	baz=203					
NCU	**National Centr**	**1.02 296**	*e*P	**Pn**	**18 07 38.7**	**+1.2**
	baz=297					
NCU			*e*S	**Sn**	**18 07 52.3**	**+1.3**
	baz=297					
NSTT	**Nanjuang**	**1.09 276**	⇑*i*P	**Pn**	**18 07 39.6**	**+1.1**
	baz=288					
NSTT			S	**Sn**	**18 07 53.6**	**+0.9**
	baz=288					
PCYT	**Pengchaiyu**	**1.10 354**	*e*P	**Pn**	**18 07 39.6**	**+0.9**
	baz=350					
WDT	**Danda**	**1.24 232**	⇓P	**Pn**	**18 07 41.0**	**+0.3**
	baz=221					
WDT			S	**Sn**	**18 07 55.7**	**-0.9**
	baz=221					
EHY	**Hungye**	**1.29 218**	⇓*i*P	**Pn**	**18 07 40.5**	**-0.7**
	baz=224					
TWQ1	**Liyutan**	**1.31 262**	*e*P	**Pn**	**18 07 42.6**	**+1.2**
	baz=262					
TWQ1			*e*S	**Sn**	**18 07 59.6**	**+1.7**
	baz=262					
NSY	**Sanyi**	**1.31 265**	*e*P	**Pn**	**18 07 43.1**	**+1.6**
	baz=265					
SMLT	**Sun Moon Lake**	**1.34 242**	P	**Pn**	**18 07 43.0**	**+1.0**
	baz=232					
SMLT			*e*S	**Sn**	**18 08 00.1**	**+1.2**
	baz=232					
TYC	**Yuchr**	**1.37 243**	*e*P	**Pn**	**18 07 43.3**	**+1.1**
	baz=235					
TYC			*e*S	**Sn**	**18 08 01.5**	**+2.1**
	baz=235					
IRIF	**Iriomote-Funau**	**1.41 97**	P	**Pn**	**18 07 43.4**	**+0.6**
IRIF			S	**Sn**	**18 08 00.9**	**+0.5**
TCU	**Taichung**	**1.44 255**	*e*P	**Pn**	**18 07 44.5**	**+1.4**
	baz=254					
TCU			*e*S	**Sn**	**18 08 02.9**	**+2.0**
	baz=254					
WNT	**Mingjian**	**1.52 245**	*e*P	**Pn**	**18 07 46.0**	**+1.8**
	baz=257					
WNT			*e*S	**Sn**	**18 08 06.0**	**+2.9**
	baz=257					
YUS	**Yu-Shan**	**1.54 228**	⇓P	**Pn**	**18 07 45.7**	**+0.7**
	baz=219					
YUS			*e*S	**Sn**	**18 08 03.8**	**-0.3**
	baz=219					
HATJ	**Hateruma jima**	**1.54 107**	P	**Pn**	**18 07 45.4**	**+0.9**
HATJ			*e*S	**Sn**	**18 08 04.9**	**+1.4**
CHKT	**Chengkung**	**1.61 208**	*e*P	**Pn**	**18 07 44.7**	**-0.8**
	baz=195					
ALS	**Alishan**	**1.62 232**	⇓*e*P	**Pn**	**18 07 47.2**	**+1.2**
	baz=221					
ALS			*e*S	**Sn**	**18 08 06.9**	**+0.9**
	baz=221					
CHN5	**Tsauling**	**1.67 237**	⇓P	**Pn**	**18 07 47.8**	**+1.5**
	baz=225					
CHN5			*e*S	**Sn**	**18 08 09.3**	**+2.6**
	baz=225					
JKRS	**Kuro-shima**	**1.68 100**	P	**Pn**	**18 07 47.5**	**+1.1**
JKRS			S	**Sn**	**18 08 08.1**	**+1.2**
WGK	**Gukeng**	**1.71 241**	*e*P	**Pn**	**18 07 48.9**	**+2.1**
	baz=251					
WGK			*e*S	**Sn**	**18 08 10.8**	**+3.1**
	baz=251					
ELDTW	**Lidau**	**1.71 219**	*e*P	**Pn**	**18 07 46.7**	**-0.3**
	baz=210					
JIJ	**Ishigaki jima**	**1.78 95**	P	**Pn**	**18 07 48.3**	**+0.5**
JIJ			S	**Sn**	**18 08 09.1**	**-0.3**
WTCT	**Ta-ch'eng**	**1.87 250**	*e*P	**Pn**	**18 07 50.0**	**+1.0**
	baz=260					
WTCT			*e*S	**Sn**	**18 08 12.1**	**+0.7**
	baz=260					
CHN4	**Tsaushan**	**1.88 232**	*e*P	**Pn**	**18 07 50.8**	**+1.6**
	baz=221					
CHN4			*e*S	**Sn**	**18 08 14.1**	**+2.4**
	baz=221					
STYT	**Tauyuan**	**1.89 224**	P	**Pn**	**18 07 50.4**	**+1.0**
	baz=222					
STYT			*e*S	**Sn**	**18 08 13.7**	**+1.5**
	baz=222					
CHY	**Chiayi**	**1.92 238**	*e*P	**Pn**	**18 07 51.7**	**+2.1**
	baz=249					
JISG	**Ishigakijimahi**	**1.93 88**	P	**Pn**	**18 07 50.5**	**+0.7**
JISG			S	**Sn**	**18 08 13.3**	**+0.4**
WTP	**Ta-pu**	**1.93 229**	*e*P	**Pn**	**18 07 51.4**	**+1.5**
	baz=218					
WTP			*e*S	**Sn**	**18 08 14.9**	**+1.9**
	baz=218					
TWG	**Pinlang**	**1.99 211**	*e*P	**Pn**	**18 07 49.6**	**-1.0**
	baz=209					
TWG			*e*S	**Sn**	**18 08 12.0**	**-2.4**
	baz=209					
TWK	**Hsinying**	**2.00 232**	*e*P	**Pn**	**18 07 52.7**	**+1.8**
	baz=229					
TWK			*e*S	**Sn**	**18 08 16.9**	**+2.0**
	baz=229					
WSF	**Szhu**	**2.01 244**	*e*P	**Pn**	**18 07 51.6**	**+0.8**
	baz=254					
WSF			*e*S	**Sn**	**18 08 15.9**	**+1.0**
	baz=254					
CHN1	**Nanshi**	**2.03 229**	*e*P	**Pn**	**18 07 52.5**	**+1.3**
	baz=227					
CHN1			*e*S	**Sn**	**18 08 16.5**	**+1.0**
	baz=227					
SGST	**Jiashian**	**2.06 226**	*e*P	**Pn**	**18 07 53.3**	**+1.7**
	baz=216					
SGST			*e*S	**Sn**	**18 08 18.7**	**+2.5**
	baz=216					
CHN3	**Shinhua**	**2.21 230**	*e*P	**Pn**	**18 07 56.3**	**+2.6**
	baz=227					
ECL	**Taimali**	**2.23 211**	*e*P	**Pn**	**18 07 53.0**	**-1.0**
	baz=208					
SCLT	**Jiali**	**2.27 234**	*e*P	**Pn**	**18 07 54.9**	**+0.4**
	baz=222					
SCLT			*e*S	**Sn**	**18 08 23.8**	**+2.4**
	baz=222					
JTJ	**Tarama**	**2.29 87**	P	**Pn**	**18 07 56.3**	**+1.6**
JTJ			*e*S	**Sn**	**18 08 23.0**	**+1.3**
EAST	**Anshuo**	**2.47 210**	*e*P	**Pn**	**18 07 56.6**	**-0.6**
	baz=207					
LAY	**Lan-yu**	**2.55 194**	*e*P	**Pn**	**18 07 57.5**	**-0.8**
	baz=184					
SCZT	**Fangliau**	**2.59 214**	*e*P	**Pn**	**18 08 01.0**	**+2.2**
	baz=212					
PNG	**Penghu**	**2.60 249**	*e*P	**Pn**	**18 07 58.6**	**-0.3**
	baz=247					
WDGT	**Dungji**	**2.64 242**	*e*P	**Pn**	**18 07 60.0**	**+0.4**
	baz=239					
JIRB	**Irabujima**	**2.73 83**	P	**Pn**	**18 08 02.4**	**+1.7**
JIRB			*e*S	**Sn**	**18 08 34.2**	**+1.7**
JIKM	**Ikemajima**	**2.80 81**	P	**Pn**	**18 08 03.7**	**+1.9**
JIKM			*e*S	**Sn**	**18 08 37.0**	**+2.6**
KNM	**Kinmen**	**3.43 269**	*e*P	**Pn**	**18 08 11.0**	**+0.7**
	baz=268					
KSRS	**Korea Array**	**13.79 19**	P	**P**	**18 10 38.6**	**-0.1**
	0.1nm,0.3s,baz=201,slow=9.9,SNR=4.3					
SONM	**Songino Array**	**26.42 336**	P	**P**	**18 12 50.9**	**+0.1**
	1.0nm,0.7s,baz=151,slow=10,SNR=9.2					
ZALV	**Zalesovo Beam**	**40.46 326**	P	**P**	**18 14 49.9**	**-2.3**
	0.3nm,0.4s,baz=114,slow=7.0,SNR=3.1					
FINES	**FINESS Array B**	**71.61 330**	P	**P**	**18 18 34.5**	**-0.1**
	6.0nm,1.2s,baz=103,slow=6.1,SNR=3.5					
YKA	**Yellowknife Ar**	**82.30 23**	P	**P**	**18 19 33.6**	**-1.0**
	0.2nm,0.5s,baz=309,slow=5.1,SNR=8.1					

BJI **17** *18:09:22.5,6˙.25S×147˙.04E,h64km,mB5.0/31,mb4.7/50, Ms4.7/23,Ms7 4.3/21*
IDC **17** *18:09:24.4±4.0,5˙.96S×146˙.74E,h33km±30km,mb4.4/23, mb1 4.4/25,mb1mx4.4/30,mbtmp4.5/25,ML4.0/2,MS4.0/23, Ms1 4.0/23,ms1mx4.0/25,Error ellipse: s-maj=14.8km s-min=7.7km az=108.0*
NEIC **17** *18:09:27.9±1.0,6˙.00S×146˙.64E,h66km±9km,mb4.8/35, Error ellipse: s-maj=7.4km s-min=5.3km az=75.0*
NEIC Felt at Goroka and Port Moresby.
ISCJB **17** *18:09:27.7±0.2,6˙.02S±0˙.03×146˙.66E±0˙.03,h78km, mb4.8/76,Error ellipse: s-maj=4.9km s-min=4.0km az=175.1*
GCMT **17** *18:09:27.9±0.3,5˙.98S×146˙.64E,h35km,MW5.0/58, Moment Tensor Solution. s53,c66; s58,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.56±.14; Mθθ-2.98±.09; Mϕϕ-0.57±.11; Mrθ-0.46±.11; Mθϕ1.14±.07; Mϕr-0.32±.16; Best double couple: M○3.53900×10¹⁶ NP1:ϕs285.00000°,δ48.00000°,λ81.00000°. NP2: ϕs119.00000°,δ43.00000°,λ100.00000°. Principal axes: T 3.6310, Plg83.0000°, Azm131.0000°; N -0.1780, Plg7.0000°, Azm291.0000°; P -3.4480, Plg3.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA **17** *18:09:28.6±0.9,6˙.5S±5˙×14˙.7E±˙,h59km±6km,M4.9/46, mb5.0/46,mB5.3/20,MLv5.2/3,Mw(mB)4.8/20,Mwp5.5/1*

ISC 17 18:09:28.5±0.3,6˙.05S±0˙.04×146˙.72E±0˙.05,h78km,n192, σ1s57/174,mb4.8/74,1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MANU	**Manus Island**	**4.03**	**9**	**P**	**Pn**	**18 10 24.9**	**-3.0**
	baz=4.0,SNR=6.5						
JAY	**Jayapura**	**6.95**	**300**	P	**Pn**	**18 11 08.1**	**+0.4**
	55nm,0.9s,0.3nm						
JAY	**Jayapura**	**6.95**	**300**	P	Pn	18 11 10.6	+2.9
	55nm,0.9s						
JAY	**Jayapura**	**6.95**	**300**	Pn	**Pn**	**18 11 08.1**	**+0.4**
	1.8nm,0.3s,baz=142,slow=3.3,SNR=7.1						
JAY				LR	LR	18 14 13.0	
	comp=Z,3μm,20.5s,baz=148,slow=42						
GENI	**Genyem**	**7.38**	**297**	P	**Pn**	**18 11 13.5**	**0.0**
	164nm,1.2s,3μm1.6nm						
GENI	**Genyem**	**7.38**	**297**	P	Pn	18 11 17.7	+4.2
	164nm,1.2s,3μm						
COEN	**Coen**	**8.60**	**204**	P	**Pn**	**18 11 29.2**	**-1.1**
	baz=8.7,SNR=5.2						
COEN				S	**Sn**	**18 13 02.7**	**-3.0**
	baz=8.7,SNR=5.0						
COEN	**Coen**	**8.60**	**204**	*e*Pn	**Pn**	**18 11 28.6**	**-1.6**
COEN				*e*Sn	**Sn**	**18 13 01.1**	**-4.5**
SMPI	**Sarmi**	**8.95**	**296**	P	**Pn**	**18 11 35.3**	**+0.3**
	92nm,1.3s,2μm						
SMPI	**Sarmi**	**8.95**	**296**	P	**Pn**	**18 11 34.7**	**-0.3**
	92nm,1.3s,2μm						
SRPI	**Serui, Papua**	**11.24**	**291**	P	**Pn**	**18 12 04.8**	**-1.6**
HNR	**Honiara**	**13.53**	**105**	*e*Pn	P	18 12 38.6	-5.0
HNR				*e*Sn	**S**	**18 15 22.2**	**-2.4**
CTA	**Charters Tower**	**13.96**	**182**	Pn	**Pn**	**18 12 40.9**	**-1.9**
	0.2nm,0.3s,baz=16,slow=20,SNR=2.1						
CTA				LR	LR	18 17 50.5	
	comp=Z,2μm,20.8s,baz=5.5,slow=36						
CTAO	**Charters Tower**	**13.96**	**182**	*e*Pn	P	18 12 44.8	-3.6
FAKI	**Fak Fak**	**14.75**	**282**	P	P	18 12 59.1	+1.9
	baz=15,SNR=4.5						
KDU	**Kakadu**	**15.52**	**244**	P	**Pn**	**18 13 01.0**	**-1.9**
	baz=16,SNR=26						
KDU				S	Sn	18 15 45.8	-8.4
	baz=16,SNR=3.5						
QIS	**Mount Isa**	**15.99**	**205**	P	**Pn**	**18 13 08.6**	**-0.2**
	baz=16,SNR=14						
QIS				S	**Sn**	**18 16 03.4**	**-2.1**
	baz=16,SNR=3.4						
MTN	**Manton Dam**	**16.78**	**245**	P	**P**	**18 13 18.3**	**-1.4**
	baz=17,SNR=16						
MSAI	**Masohi**	**17.93**	**278**	P	**Pn**	**18 13 34.4**	**+1.6**
	16nm,1.0s,187nm						
WRAB	**Tennant Creek**	**18.30**	**220**	*e*P	**P**	**18 13 35.5**	**-0.9**
	25nm,0.8s						
WB2	**Warramunga Arr**	**18.31**	**220**	*e*P	**P**	**18 13 35.8**	**-0.7**
WRA	**Warramunga Arr**	**18.31**	**220**	P	**Pn**	**18 13 36.0**	**-1.4**
	1.1nm,0.3s,baz=43,slow=11,SNR=33						
WRA				S	**Sn**	**18 17 01.6**	**-0.1**
	baz=38,slow=21,SNR=11						
WRA				LR	LR	18 21 32.3	
	comp=Z,875nm,18.4s,baz=55,slow=40						
GUMO	**Guam**	**19.60**	**355**	P	**Pn**	**18 13 49.7**	**-3.0**
	30nm,1.2s						
EIDS	**Eidsvold**	**19.66**	**168**	P	**Pn**	**18 13 52.7**	**-0.6**
	baz=20,SNR=4.1						
EIDS	**Eidsvold**	**19.66**	**168**	*e*P	**Pn**	**18 13 52.7**	**-0.6**
	58nm,1.6s						
NLAI	**Namlea**	**19.75**	**277**	P	**Pn**	**18 13 53.6**	**-0.9**
	94nm,1.3s,1μm						
LBMI	**Labuha**	**19.91**	**285**	P	**Pn**	**18 13 54.9**	**-1.5**
	122nm,1.3s,2μm5μm						
KNRA	**Kununurra**	**20.04**	**240**	P	**P**	**18 13 54.1**	**-1.3**
	baz=20,SNR=17						
RMQ	**Roma**	**20.42**	**175**	P	Pn	18 14 01.8	-0.4
	baz=21,SNR=20						
QLP	**Quilpie**	**20.56**	**186**	P	Pn	18 14 02.0	-1.8
	baz=21,SNR=14						
QLP				S	Sn	18 17 58.0	+2.5
	baz=21,SNR=6.6						
SANI	**Sanana**	**21.05**	**280**	P	**P**	**18 14 06.5**	**+0.1**
	55nm,1.2s,888nm						
AS31	**Alice Springs**	**21.42**	**214**	*e*P	**P**	**18 14 10.7**	**+0.5**
ASAR	**Alice Springs**	**21.42**	**214**	P	**P**	**18 14 10.8**	**+0.5**
	3.4nm,0.5s,baz=52,slow=8.3,SNR=53						
ASAR				S	**S**	**18 18 09.4**	**+5.6**
	7.0nm,0.9s,baz=35,slow=17,SNR=8.8						
ASAR				LR	LR	18 23 31.8	
	comp=Z,1μm,18.3s,baz=40,slow=39						
SOEI	**Soe**	**22.53**	**259**	P	**P**	**18 14 21.7**	**-0.7**
	84nm,1.0s,1μm						
SOEI	**Soe**	**22.53**	**259**	P	**P**	**18 14 23.5**	**+1.1**
	baz=22,SNR=8.2						
SOEI	**Soe**	**22.53**	**259**	*e*P	**P**	**18 14 23.0**	**+0.6**
	96nm,1.0s						
SOEI				*e*S	Sn	18 18 33.7	-9.5
BATI	**Baumata**	**23.19**	**258**	P	**P**	**18 14 28.5**	**-0.4**
	70nm,0.8s,902nm						
BATI	**Baumata**	**23.19**	**258**	P	**P**	**18 14 29.6**	**+0.7**
	19nm,0.6s,baz=109,slow=2.7,SNR=7.2						
BATI				LR	LR	18 25 55.3	
	comp=Z,1μm,18.4s,baz=92,slow=43						
KMSI	**Cibinong**	**23.63**	**285**	P	**P**	**18 14 35.0**	**+2.1**
	219nm,1.0s,2μm						
ARMA	**Armidale**	**24.68**	**170**	P	**P**	**18 14 44.5**	**+2.2**
	baz=25,SNR=8.6						
DZM	**Mont Dzumac**	**24.84**	**132**	*e*P	**P**	**18 14 44.7**	**+0.8**
	58nm,1.1s						
DZM				*e*S	**S**	**18 19 03.1**	**+1.7**
	312nm,25.8s						
DZM				*e*LR	LR	18 20 56.3	
	1μm,28.9s						
DZM	**Mont Dzumac**	**24.84**	**132**	P	**P**	**18 14 44.0**	**+0.1**
	26nm,1.0s,baz=17,slow=9.4,SNR=6.6						
DZM				LR	LR	18 23 58.2	
	comp=Z,400nm,20.1s,baz=352,slow=35						
EDFI	**Ende, Flores**	**24.96**	**262**	P	**P**	**18 14 47.9**	**+2.8**
	56nm,0.8s						
CMSA	**Cobar Meteorol**	**25.38**	**182**	P	**P**	**18 14 49.7**	**+1.2**
	baz=26,SNR=9.8						
APSI	**Ampana**	**25.53**	**281**	P	**P**	**18 14 51.8**	**+1.7**
	81nm,1.4s,906nm						
MRSI	**Marisa**	**25.57**	**284**	P	**P**	**18 14 53.1**	**+2.6**
	47nm,1.2s,563nm						
WRKA	**Warakurna**	**25.84**	**221**	P	**P**	**18 14 52.2**	**-0.7**
	baz=26,SNR=34						
STKA	**Stephens Creek**	**26.14**	**190**	P	**P**	**18 14 55.9**	**+0.5**
	2.1nm,0.4s,baz=32,slow=12,SNR=9.9						
STKA				LR	LR	18 26 09.0	
	comp=Z,1μm,18.9s,baz=12,slow=38						
STKA	**Stephens Creek**	**26.14**	**190**	P	**P**	**18 14 56.5**	**+1.1**
	baz=26,SNR=9.1						
STKA	**Stephens Creek**	**26.14**	**190**	*e*P	**P**	**18 14 56.4**	**+1.0**
	5.4nm,1.4s						
WSI	**Waingapu**	**26.41**	**260**	P	**P**	**18 14 59.5**	**+1.4**
	250nm,0.7s						
BKSI	**Bulukumba**	**26.47**	**270**	P	**P**	**18 15 01.5**	**+2.9**
	25nm,1.1s						
BNSI	**Bone**	**26.55**	**272**	P	**P**	**18 15 00.9**	**+1.6**
	27nm,1.0s						
SPSI	**Sidrap Palu**	**26.92**	**273**	P	P	18 15 13.1	+10
WBSI	**Waikabubak, Su**	**27.30**	**261**	P	P	18 15 19.9	+14
PCI	**Palu**	**27.30**	**280**	P	**P**	**18 15 07.4**	**+1.3**
	72nm,1.1s,1μm						
H11S3	**WAKE ISLAND Hy**	**31.35**	**39**	T	T	18 48 31.1	
	baz=225,SNR=10						
H11S2	**WAKE ISLAND Hy**	**31.36**	**39**	T	T	18 48 32.6	
	baz=225						
H11S1	**WAKE ISLAND Hy**	**31.37**	**39**	T	T	18 48 33.6	
	baz=225						
H11N1	**WAKE ISLAND Hy**	**32.40**	**37**	T	T	18 49 50.1	
	baz=219,slow=76,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**32.41**	**37**	T	T	18 49 45.4	
	baz=219,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**32.42**	**37**	T	T	18 49 51.5	
	baz=219,slow=76,SNR=9.0						
KKM	**Kota Kinabalu**	**32.73**	**291**	*e*P	**P**	**18 15 52.7**	**-1.5**
	40nm,1.2s						
MEEK	**Meekatharra**	**33.71**	**229**	P	**P**	**18 16 03.0**	**+0.5**
	baz=34,SNR=24						
KMBL	**Kambalda**	**34.28**	**220**	P	**P**	**18 16 07.9**	**+0.5**
	baz=34,SNR=9.7						
PBKI	**Pangkalan Bun**	**35.09**	**274**	P	P	18 16 17.6	+3.0
	65nm,1.0s						
SBUM	**Sibu**	**35.47**	**283**	*e*P	**P**	**18 16 18.9**	**+1.1**
	26nm,1.5s						
TAU	**Tasmania Unive**	**36.71**	**179**	P	P	18 16 30.7	+2.7
	18nm,1.1s						
MORW	**Morawa**	**36.93**	**228**	P	**P**	**18 16 31.0**	**+0.9**
	baz=37,SNR=5.8						
KSM	**Kuching**	**37.11**	**280**	P	**P**	**18 16 32.7**	**+0.8**
	baz=37,SNR=5.7						
KSM	**Kuching**	**37.11**	**280**	*e*P	**P**	**18 16 32.0**	**+0.2**
	58nm,1.7s						
BLDU	**Ballidu**	**37.30**	**225**	P	**P**	**18 16 33.3**	**+0.1**
	baz=37,SNR=9.6						
CISI	**Cisompet, Garu**	**38.65**	**265**	P	P	18 16 46.5	+1.7
	baz=39,SNR=4.2						
NACB	**Ninganchiao**	**38.76**	**322**	*e*P	**P**	**18 16 45.6**	**+0.1**
	49nm,1.0s						
LEM	**Lembang**	**38.85**	**267**	P	P	18 16 49.7	+3.0
	36nm,0.8s						
YHNB	**Yeheng**	**39.26**	**322**	*e*P	**P**	**18 16 50.8**	**+1.0**
	371nm,2.2s						
CNJI	**Cibinong**	**39.33**	**266**	P	**P**	**18 16 49.8**	**-0.7**
RKGY	**Rocky Gully**	**39.52**	**220**	P	**P**	**18 16 52.9**	**+1.1**
	baz=40,SNR=4.6						
CBJI	**Citeko**	**39.62**	**267**	P	**P**	**18 16 54.5**	**+1.6**
	90nm,0.9s						
JNU	**Nakatsue**	**41.76**	**340**	P	**P**	**18 17 11.2**	**+0.9**
	25nm,0.9s,baz=133,slow=4.2,SNR=12						
JNU	**Nakatsue**	**41.76**	**340**	*e*P	**P**	**18 17 10.6**	**+0.3**
	29nm,1.0s						
URZ	**Urewera**	**42.28**	**144**	P	P	18 17 16.6	+2.2
	4.1nm,0.5s,baz=264,slow=6.9,SNR=9.8						
URZ				LR	LR	18 34 51.5	
	comp=Z,286nm,18.6s,baz=316,slow=36						
MDSI	**Maura Dua**	**42.38**	**270**	P	**P**	**18 17 14.5**	**-1.1**
LHSI	**Lahat**	**43.08**	**271**	P	P	18 17 24.4	+3.1
	20nm,1.0s						
MJAR	**Matsushiro Arr**	**43.11**	**350**	P	**P**	**18 17 20.8**	**-0.3**
	3.8nm,0.9s,baz=172,slow=7.1,SNR=9.6						
MJAR				LR	LR	18 33 52.0	
	comp=Z,69nm,20.8s,baz=180,slow=34						
MAJO	**Matsushiro**	**43.11**	**350**	*e*P	**P**	**18 17 19.6**	**-1.6**
RPZ	**Rata Peaks**	**43.19**	**154**	LR	LR	18 35 33.4	
	comp=Z,237nm,18.5s,baz=316,slow=36						
QIZ	**Qiongzhong**	**44.05**	**305**	P	**P**	**18 17 28.0**	**-1.0**
QIZ				pP	**pP**	**18 17 43.8**	**-4.2**
QIZ				sP	sP	18 17 50.8	-6.1
QIZ				PP	**PcP**	**18 19 11.6**	**-1.7**
QIZ				S	**S**	**18 23 56.4**	**+0.5**
QIZ				sS	**sS**	**18 24 23.3**	**-5.1**
QIZ				PMZ			
	14nm,1.6s						
NJ2	**Nanjing**	**46.27**	**327**	*e*P	**P**	**18 17 45.8**	**-0.5**
NJ2				PMZ			
	20nm,0.7s						
PDSI	**Padang**	**46.43**	**274**	P	P	18 17 51.7	+3.7
KSRS	**Korea Array**	**46.70**	**339**	P	**P**	**18 17 50.4**	**+0.8**
	16nm,1.0s,baz=155,slow=8.9,SNR=48						
KSRS				LR	LR	18 35 35.3	
	comp=Z,223nm,20.8s,baz=149,slow=34						
KSAR	**Wonju Array Be**	**46.70**	**339**	P	**P**	**18 17 50.4**	**+0.8**
IPM	**Ipoh**	**46.80**	**282**	*e*P	**P**	**18 17 51.3**	**+0.4**
	19nm,1.0s						
INCN	**Inchon**	**47.19**	**338**	*e*P	**P**	**18 17 54.3**	**+0.8**
	31nm,1.0s						
KULM	**Kulim**	**47.35**	**283**	*e*P	**P**	**18 17 54.3**	**-0.8**
	23nm,1.1s						
WHN	**Wuhan**	**47.80**	**321**	⇓P	P	18 17 59.6	+1.4
WHN				LZ			
	350nm,15.8s						
CHBT	**CHBT**	**47.90**	**293**	P	**P**	**18 18 00.1**	**+0.8**
	36nm,0.9s,3μm						
KCSI	**Kotacane, Aceh**	**49.79**	**280**	P	**P**	**18 18 14.1**	**+0.2**
	21nm,0.9s						
ASAJ	**Asahikawa**	**50.07**	**356**	P	**P**	**18 18 16.0**	**+0.6**
	4.9nm,0.8s,baz=235,slow=12,SNR=3.6						
ASAJ				LR	LR	18 36 43.2	
	comp=Z,111nm,21.7s,baz=176,slow=33						
PKDT	**Phuket**	**50.20**	**285**	P	**P**	**18 18 17.8**	**+0.9**
	54nm,0.8s						
GYA	**Guiyang**	**50.50**	**312**	*e*P	**P**	**18 18 20.3**	**+1.1**
GYA				pP	**pP**	**18 18 36.8**	**-1.8**
GYA				sP	sP	18 18 42.0	-5.4
GYA				PP	**PP**	**18 20 17.4**	**+1.7**
GYA				ScP	**ScP**	**18 23 27.6**	**+2.1**
GYA				S	**S**	**18 25 28.3**	**+0.6**
GYA				sS	sS	18 25 55.3	-5.5
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	90nm,5.6s						
PBKT	**Sadao Pong**	**50.51**	**297**	P	P	18 18 22.6	+3.4
	6.3nm,1.9s						
ENH	**Enshi**	**50.76**	**317**	P	**P**	**18 18 21.6**	**+0.7**
**UT

BJI LZ
96nm,36.0s
CD2 Chengdu 55.11 314 *e*P P 18 18 54.5 +1.6
CD2 pP pP 18 19 10.6 -2.0
CD2 sP sP 18 19 17.6 -3.8
CD2 PP **PP 18 20 59.9 +2.8**
CD2 PcS **PcS 18 23 53.8 +0.2**
CD2 S **S 18 26 30.9 +0.8**
CD2 sS sS 18 26 58.3 -5.3
CD2 SS **SS 18 30 15.1 -0.2**
HHC Hu-ho-hao-te 56.73 329 *e*P P 18 19 07.4 +3.0
HHC PP **PP 18 21 07.5 -3.9**
HHC PMZ
12nm,1.2s
HHC PMZ
81nm,5.0s
HHC LN
130nm,15.9s
HHC LE
100nm,17.1s
HHC LZ
110nm,15.3s
LZH Lanzhou 58.06 320 *e*P P 18 19 15.5 +1.5
LZH pP pP 18 19 31.3 -2.5
LZH sP sP 18 19 38.0 -4.5
LZH PMZ
30nm,1.1s
LZH PMZ
100nm,4.6s
LZH LN
100nm,19.1s
LZH LE
130nm,13.3s
LZH LZ
180nm,20.0s
PETK Petropavlovsk- 59.66 8 P **P 18 19 25.0 +0.5**
8.8nm,0.9s,baz=178,slow=7.4,SNR=12
PETK LR LR 18 40 59.9
comp=Z,206nm,21.7s,baz=192,slow=32
HIA Hailar 59.90 340 *e*P **P 18 19 26.6 +0.3**
36nm,1.1s
SHL Shillong 61.81 303 *ex* **P 18 19 40.5 +0.7**
GTA Gaotai 62.60 320 *e*P P 18 19 46.3 +1.5
GTA pP pP 18 20 03.0 -1.9
GTA sP sP 18 20 09.1 -4.5
GTA PMZ
7.0nm,1.3s
PPT Papeete 63.15 107 LR LR 18 45 38.8
comp=Z,45nm,18.2s,baz=252,slow=34
PPT2 Papeete2 63.15 107 *e*LR LR 18 38 44.3
175nm,23.2s
TIAR Tiarei 63.37 107 *e*P P 18 19 53.7 +3.5
11nm,0.9s
TBI Tubuai 63.61 113 *e*LR LR 18 38 57.3
224nm,32.8s
ULN Ulaanbaatar 64.02 331 *e*P **P 18 19 54.2 +0.2**
9.2nm,1.0s
LSA Lhasa 64.04 307 P **P 18 19 55.9 +0.9**
LSA Lhasa 64.04 307 *e*P P 18 19 56.2 +1.3
4.0nm,0.6s
SONM Songino Array 64.31 331 P **P 18 19 56.9 +1.0**
5.8nm,1.0s,baz=146,slow=4.9,SNR=28
SONM LR LR 18 49 01.7
comp=Z,90nm,19.3s,baz=190,slow=37
MEH Mehetia 64.60 107 *e*P P 18 20 01.2 +2.9
12nm,0.9s
PMOR Pomariorio Ree 64.71 104 *e*P P 18 20 02.4 +3.4
85nm,1.1s
VAH Vaihoa 64.97 104 *e*P P 18 20 03.6 +2.9
36nm,1.1s
CASY Casey 65.13 195 *e*P **P 18 20 00.8 0.0**
PALK Pallekele 67.17 280 *e*P **P 18 20 13.7 -1.3**
15nm,1.1s
SEY Seymchan 68.92 3 P **P 18 20 24.8 0.0**
4.1nm,0.9s,baz=177,slow=5.4,SNR=19
YAK Yakutsk 69.15 352 P **P 18 20 26.3 +0.2**
2.2nm,0.3s,baz=22,slow=2.4,SNR=7.9
YAK Yakutsk 69.15 352 *e*P **P 18 20 26.9 +0.7**
9.2nm,0.8s
VNDA Vanda 71.88 177 P P 18 20 44.4 +1.7
3.4nm,0.8s,baz=331,slow=7.1,SNR=25
VNDA LR LR 18 50 49.7
comp=Z,121nm,19.7s,baz=344,slow=34
VNDA Vanda 71.88 177 *e*P **P 18 20 44.1 +1.5**
8.0nm,1.2s
SBA Scott Base 72.53 176 *e*P **P 18 20 48.0 +1.5**
WMQ Urumqi 72.64 319 P **P 18 20 48.5 +0.6**
WMQ pP **PcP 18 21 02.6 -2.4**
WMQ sP sP 18 21 11.6 -5.4
WMQ PP **PP 18 23 32.0 +1.4**
WMQ *e*S **S 18 30 07.0 0.0**
WMQ SKS **SKSac 18 30 43.0 -3.2**
WMQ SS **SS 18 34 50.0 +2.0**
WMQ PMZ
8.0nm,0.6s
WMQ PMZ
98nm,5.4s
WMQ LN
230nm,23.8s
WMQ LE
230nm,22.0s
WMQ LZ
250nm,22.0s
RKT Rikitea 76.92 112 *e*LR LR 18 45 06.8
262nm,34.2s
MKAR Makanchi Array 77.36 321 P **P 18 21 15.3 +0.3**
3.0nm,0.8s,baz=105,slow=6.8,SNR=30
MKAR LR LR 18 57 05.7
comp=Z,26nm,19.1s,baz=58,slow=37
MKAR Makanchi Array 77.36 321 *e*P **P 18 21 15.0 +0.1**
TIXI Tiksi 78.43 354 *e*P **P 18 21 19.0 -1.3**
7.7nm,1.1s
ZALV Zalesovo Beam 78.90 328 P **P 18 21 22.6 -0.7**
2.7nm,0.7s,baz=114,slow=5.1,SNR=13
ZALV LR LR 18 56 24.4
comp=Z,68nm,19.5s,baz=70,slow=36
KSH Kashi 79.20 312 *e*P **P 18 21 25.8 +0.4**
KSH pP **pP 18 21 42.4 -3.8**
KSH PP **PP 18 24 27.3 +1.3**
KSH S **S 18 31 18.4 -1.0**
KSH ScS **ScS 18 31 39.5 -2.2**
KSH sS sS 18 31 47.0 -7.9
KSH PMZ
51nm,4.8s
KSH LN
100nm,5.5s
KSH LE
130nm,5.8s
KSH LZ
140nm,6.0s
TKM2 Tokmak 2 80.48 315 *e*P **P 18 21 31.9 -0.5**
KURK Kurchatov 81.08 323 *e*P **P 18 21 33.7 -1.4**
4.8nm,1.0s
AAK Ala-Archa 81.17 315 *e*P **P 18 21 35.8 -0.2**
4.5nm,1.1s
EKS2 Erkin-Say 81.69 315 *e*P **P 18 21 38.8 +0.2**
4.8nm,0.9s
MAW Mawson 82.09 203 P P 18 21 42.6 +2.5
6.5nm,1.0s,baz=87,slow=6.1,SNR=4.1
MAW LR LR 18 56 20.7
comp=Z,137nm,20.9s,baz=59,slow=34
MAW Mawson 82.09 203 *e*P P 18 21 42.2 +2.0
24nm,2.6s
KBL Kabul 83.33 306 P **P 18 21 46.4 -1.1**
QSPA South Pole Qui 83.92 180 *e*P **P 18 21 50.1 +0.3**
11nm,1.0s
KKAR Karatay Array 84.12 314 *e*P **P 18 21 50.9 -0.2**
MCK McKinley 84.39 24 *e*P **P 18 21 52.2 +0.2**
9.0nm,0.9s
COLA College 85.31 23 *e*P **P 18 21 56.3 -0.2**
15nm,1.1s
COLD Coldfoot 85.48 20 *e*P P 18 21 58.7 +1.3
56nm,2.7s
ILAR Eielson Array 85.64 23 P **P 18 21 58.0 -0.3**
4.6nm,0.7s,baz=252,slow=4.8,SNR=41
ILAR LR LR 18 56 07.6
comp=Z,132nm,21.3s,baz=264,slow=33
DOT Dot Lake 86.34 25 *e*P **P 18 22 02.3 +0.5**
6.3nm,0.9s
EGAK Eagle 87.93 24 *e*P **P 18 22 10.3 +0.9**
11nm,1.1s
HYT Haines Junctio 88.37 28 *e*P P 18 22 13.6 +1.9
DAWY Dawson 88.44 25 *e*P P 18 22 13.1 +1.3
DLBC Dease Lake 91.58 32 P **P 18 22 25.7 -1.0**
1.0nm,0.7s,baz=185,slow=25,SNR=3.1
ABKAR **Akbulak array 92.43 319** *e*P **P 18 22 28.9 -1.8**
1.5nm,0.9s
GEYT Alibeck 92.57 308 LR LR 19 06 58.1
comp=Z,27nm,21.1s,baz=105,slow=37
NVAR Mina Array Bea 97.62 52 P Pdif 18 22 56.4 +1.4
0.7nm,0.8s,baz=260,slow=5.7,SNR=5.3
DAC Darwin (Calif) 98.13 54 *e*P Pdif 18 23 02.0 +4.7
3.9nm,0.8s
YKA Yellowknife Ar 99.35 28 P **Pdif 18 23 01.8 0.0**
0.7nm,0.9s,baz=270,slow=4.5,SNR=8.7
TUC Tucson 103.77 58 *e*PKiKP PKiKP 18 27 44.7 +4.6
PDAR Pinedale Array 104.16 48 Pdiff **Pdif 18 23 24.9 +0.9**
0.6nm,0.8s,baz=197,slow=1.5,SNR=4.3
STHS Stebnicka Huta 117.14 323 *e*PKP **PKPdf 18 28 03.8 -1.0**
GERES GERESS Array B 121.79 325 PKP **PKPdf 18 28 13.9 +0.1**
0.3nm,0.7s,baz=46,slow=3.9,SNR=3.6
PLCA Paso Flores 122.23 147 PKP **PKPdf 18 28 16.8 +1.9**
3.5nm,0.7s,baz=199,slow=2.8,SNR=6.5
LRAL Lakeview Retre 123.45 54 *e*PKPdf **PKPdf 18 28 20.1 +2.8**
TSUM Tsumeb 123.98 242 PKPdf **PKPdf 18 28 21.3 +2.4**
CFAA Coronel Fontan 129.86 140 PKP **PKPdf 18 28 31.7 +1.9**
0.8nm,0.9s,baz=248,slow=2.4,SNR=8.5
LVC Limon Verde 134.99 130 *e*PKPdf **PKPdf 18 28 42.5 +2.6**
LPAZ La Paz 139.00 123 PKP **PKPdf 18 28 48.8 +0.9**
4.1nm,1.1s,baz=206,slow=0.4,SNR=7.9
LPAZ La Paz 139.00 123 *e*PKPpre PKPpre 18 28 41.5
LPAZ *e*PKPdf **PKiKP 18 28 50.4 +0.3**
SDV Santo Domingo 142.87 83 *e*PKPpre PKPpre 18 28 47.9
SDV *e*PKPdf **PKiKP 18 28 54.5 -3.2**
TORD Torodi Ar. Bea 144.83 284 PKP **PKPdf 18 28 57.6 +0.1**
7.6nm,0.7s,baz=81,slow=3.5,SNR=50
SJG San Juan 145.77 67 *e*PKPdf **PKPab 18 28 58.8 -1.3**
SAML Samuel 146.68 116 *e*PKPdf **PKPab 18 29 02.9 -0.8**
KIC Kosan Boka 151.62 272 *e*PKIKP **PKPbc 18 29 16.7 +1.7**
116nm,1.4s
DBIC Dimbokro 151.74 273 PKPbc **PKPbc 18 29 15.8 +0.6**
16nm,0.8s,baz=81,slow=2.0,SNR=21
DBIC Dimbokro 151.74 273 *e*PKPdf **PKPbc 18 29 11.3 -3.9**
DBIC *e*PKPab **PKiKP 18 29 16.6 +1.0**
TIC Toumodi 151.90 273 *e*PKIKP **PKPbc 18 29 17.2 +1.5**
37nm,0.7s
LIC Lamto 151.91 272 *e*PKIKP **PKPbc 18 29 17.3 +1.6**
67nm,0.9s
PTGA Pitinga 152.52 103 *e*PKPbc **PKPbc 18 29 19.2 +2.1**
PTGA *e*PKPab **PKPab 18 29 29.0 +1.3**
BDFB Brasilia 153.97 146 PKP **PKPdf 18 29 13.6 +1.4**
5.3nm,0.9s,baz=136,slow=6.1,SNR=6.1
BDFB PKPbc **PKiKP 18 29 21.8 +1.5**
5.5nm,0.7s,baz=190,slow=3.9,SNR=8.3

NIED ***17*** *18:17:00.44′.50N×148′.70E,h44km,Mw4.0 Best double couple: M₀1.25000×10¹⁵ NP1:φ₈161.00000°,δ64.00000°, λ15.00000°. NP2:φ₈64.00000°,δ76.00000°,λ153.00000°.*
MOS ***17*** *18:17:41.1±1.2,44′.28N×148′.93E,h29km,mb4.2/8,Error ellipse: s-maj=11.2km s-min=9.0km az=91.4*
SKHL ***17*** *18:17:42.8±0.7,44′.32N×148′.97E,h34km,mb5.4/2*
ISCJB ***17*** *18:17:42.5±0.5,44′.26N±0′.05×148′.86E±0′.06,h35km, mb3.8/16,Error ellipse: s-maj=8.2km s-min=4.1km az=141.0*
JMA ***17*** *18:17:44.4±0.7,44′.51N×148′.70E,h30km,M4.4*
IDC ***17*** *18:17:45.6±2.4,44′.36N×148′.67E,h49km±22km,mb3.5/11, mb1 3.7/15,mb1mx3.5/49,mbtmp3.7/15,ML3.1/5,MS2.9/2, Ms1 2.9/2,ms1mx2.5/27,Error ellipse: s-maj=24.6km s-min=15.9km az=119.0*

ISC 17 18:17:43.9±0.7,44°23N±0′.05×148°82E±0′.07,h35km,n96, σ1ᵗ76/97,mb3.9/16,12C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.21**	**326**	↑*i*	PN	**Pn**	**Pn**	**18 18 02.8**	**-1.5**
KUR				*i*	S	**Sn**	**Sn**	**18 18 18.0**	**-1.5**
KUR					pmax	pmax	pmax		
	comp=Z,1μm,0.5s								
KUR					pmax	pmax	pmax		
	comp=N,512nm,0.6s								
KUR					pmax	pmax	pmax		
	comp=E,417nm,0.6s								
KUR					smax	smax	smax		
	comp=N,4μm,0.6s								
KUR					smax	smax	smax		
	comp=E,1μm,0.3s								
KUR	**Kuril'sk**	**1.21**	**326**	*e*P		**Pn**	**Pn**	**18 18 02.8**	**-1.5**
KUR					AMB	AMB	AMB	18 18 04.8	
	comp=E,1μm,0.5s								
KUR				*e*S		**Sn**	**Sn**	**18 18 18.0**	**-1.5**
KUR					A	A	A	18 18 21.3	
	comp=E,4μm,0.6s								
KUR					A	A	A	18 18 21.3	
	comp=E,1μm,0.6s								
SHO	**Shikotan**	**1.48**	**257**	*e*P		**Pn**	**Pn**	**18 18 07.7**	**-0.2**
SHO				*e*S		**Sn**	**Sn**	**18 18 26.8**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**2.14**	**266**	*c i*PN		**Pn**	**Pn**	**18 18 17.4**	**+0.4**
YUK				*i*	S	**Sn**	**Sn**	**18 18 42.8**	**+0.5**
YUK					pmax	pmax	pmax		
	comp=N,31nm,0.1s								
YUK					pmax	pmax	pmax		
	comp=Z,252nm,0.1s								
YUK					pmax	pmax	pmax		
	comp=E,53nm,0.2s								
YUK					smax	smax	smax		
	comp=N,1μm,0.5s								
YUK					smax	smax	smax		
	comp=E,796nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.14**	**266**	*e*P		**Pn**	**Pn**	**18 18 17.4**	**+0.4**
YUK					AMB	AMB	AMB	18 18 23.5	
	comp=E,252nm,0.1s								
YUK				*e*S		**Sn**	**Sn**	**18 18 42.8**	**+0.5**
YUK					A	A	A	18 18 47.7	
	comp=E,796nm,0.5s								
YUK					A	A	A	18 18 47.7	
	comp=E,1μm,0.5s								
NEM2	**Nemuro 2**	**2.39**	**250**	P		**Pn**	**Pn**	**18 18 20.7**	**+0.3**
NEM2				*e*S		**Sn**	**Sn**	**18 18 47.7**	**-0.7**
JRA	**Rausu**	**2.68**	**265**	P		**Pn**	**Pn**	**18 18 25.7**	**+1.3**
JNK	**Nakash**	**3.03**	**259**	P		**Pn**	**Pn**	**18 18 30.5**	**+1.2**
JAK	**Akkeshi**	**3.23**	**249**	P		**Pn**	**Pn**	**18 18 32.8**	**+0.7**
JTKR	**Abashiri--Toko**	**3.54**	**268**	P		**Pn**	**Pn**	**18 18 37.6**	**+1.2**
JAR	**Ashorobuto**	**3.77**	**257**	P		**Pn**	**Pn**	**18 18 41.3**	**+1.8**
JOB	**Onbets**	**3.85**	**252**	P		**Pn**	**Pn**	**18 18 42.1**	**+1.5**
JMP	**Maruseppu**	**3.94**	**269**	P		**Pn**	**Pn**	**18 18 43.7**	**+1.9**
HRK	**Horoka**	**4.18**	**261**	*e*P		**Pn**	**Pn**	**18 18 47.7**	**+2.5**
JCH	**Churui**	**4.29**	**250**	P		**Pn**	**Pn**	**18 18 47.8**	**+1.2**
JCH				*e*S		**Sn**	**Sn**	**18 19 35.5**	**+0.1**
JKK2	**Kamakawa 2**	**4.39**	**267**	P		**Pn**	Pn	18 18 52.8	+4.8
ASAJ	**Asahikawa**	**4.48**	**271**	PN		**Pn**	**Pn**	**18 18 50.8**	**+1.6**
ASAJ					pmax	pmax	pmax		
	comp=Z,1.0nm,0.3s								
ASAJ					MLR	MLR	MLR		
	comp=Z,185nm,18.4s								
ASAJ	**Asahikawa**	**4.48**	**271**	P		**Pn**	**Pn**	**18 18 50.8**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=56,slow=12,SNR=5.8								
ASAJ					LR	LR	LR	18 20 48.4	
	comp=Z,185nm,18.4s,baz=155,slow=42								
MYR	**Moyori**	**4.48**	**246**	*e*P		**Pn**	**Pn**	**18 18 51.2**	**+2.0**
JSE	**Soyaes**	**4.51**	**281**	P		**Pn**	**Pn**	**18 18 52.2**	**+2.6**
JFR	**Furan**	**4.64**	**259**	P		Pn	Pn	18 18 55.4	+4.0
ERM	**Erimo**	**4.70**	**244**	*c i*PN		**Pn**	**Pn**	**18 18 55.2**	**+3.0**
ERM	**Erimo**	**4.70**	**244**	*e*P		**Pn**	**Pn**	**18 18 55.2**	**+3.0**
JAB	**Ashibetsu**	**4.82**	**264**	P		Pn	Pn	18 18 58.1	+4.2
JNBK	**Urakawa-nobuka**	**4.84**	**248**	P		**Pn**	**Pn**	**18 18 55.7**	**+1.6**
JNBK				*e*S		**Sn**	**Sn**	**18 19 48.7**	**-0.2**
JBT2	**Biratori 2**	**4.91**	**255**	P		**Pn**	**Pn**	**18 18 58.0**	**+2.8**
YSS	**Yuzh-Sakhalins**	**5.05**	**305**	↑*e*PN		**Pn**	**Pn**	**18 18 58.0**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.05**	**305**	*e*P		**Pn**	**Pn**	**18 18 58.0**	**+0.9**
YSS				*e*S		**Sn**	**Sn**	**18 19 52.0**	**-2.2**
JHR	**Hokuryu**	**5.14**	**267**	P		**Pn**	**Pn**	**18 18 56.1**	**-2.2**
JEW	**Eniwo**	**5.53**	**258**	P		**Pn**	**Pn**	**18 19 06.1**	**+2.4**
JNB	**Noboribetsu**	**5.94**	**255**	P		**Pn**	**Pn**	**18 19 11.6**	**+2.4**
JNB				*e*S		**Sn**	**Sn**	**18 20 16.3**	**+0.3**
JKB	**Kayabe**	**6.16**	**250**	P		**Pn**	**Pn**	**18 19 13.8**	**+1.5**
JKB				*e*S		**Sn**	**Sn**	**18 20 18.6**	**-2.9**
JYM2	**Yakumo 2**	**6.53**	**254**	P		**Pn**	**Pn**	**18 19 19.9**	**+2.6**
JANG	**Nango**	**6.64**	**237**	P		**Pn**	**Pn**	**18 19 19.6**	**+0.7**
JANG				*e*S		**Sn**	**Sn**	**18 20 28.2**	**-5.2**
JTM	**Tenmabayashi**	**6.68**	**242**	*e*S		**Sn**	**Sn**	**18 20 30.8**	**-3.4**
JTH	**Tanohata**	**6.72**	**233**	*e*S		**Sn**	**Sn**	**18 20 29.8**	**-5.4**
JOSM	**Okushiri--Mats**	**7.16**	**256**	P		**Pn**	**Pn**	**18 19 28.0**	**+2.0**
OFUJ	**Ofunato**	**7.42**	**229**	*e*S		**Sn**	**Sn**	**18 20 47.1**	**-5.4**
JRG	**Rokugo**	**7.79**	**234**	*e*S		**Sn**	**Sn**	**18 20 58.4**	**-3.1**
JIO	**Ouri**	**8.05**	**227**	P		**Pn**	**Pn**	**18 19 38.8**	**+0.6**
JIO				*e*S		Sn	Sn	18 21 01.3	-6.7
SKR	**Severo-Kuril's**	**8.13**	**35**	*e*PN		Pn	Pn	18 19 31.7	-7.6
SKR					pmax	pmax	pmax		
	comp=N,30nm,0.5s								
SKR					pmax	pmax	pmax		
	comp=E,30nm,0.5s								
SKR					pmax	pmax	pmax		
	comp=Z,60nm,0.5s								
JFK	**Kawauchi**	**9.12**	**224**	*e*S		Sn	Sn	18 21 28.3	-6.1
PETK	**Petropavlovsk-**	**10.64**	**30**	PN		**Pn**	**Pn**	**18 20 15.0**	**+1.3**
PETK					pmax	pmax	pmax		
	comp=Z,1.0nm,0.3s								
PETK					MLR	MLR	MLR		
	comp=Z,44nm,18.8s								
PETK	**Petropavlovsk-**	**10.64**	**30**	P		**Pn**	**Pn**	**18 20 15.0**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=212,slow=17,SNR=13								
PETK					LR	LR	LR	18 24 17.8	
	comp=Z,44nm,18.8s,baz=252,slow=37								
MAJO	**Matsushiro**	**11.14**	**230**	↓*e*PN		**Pn**	**Pn**	**18 20 23.0**	**+2.3**
MAJO	**Matsushiro**	**11.14**	**230**	*e*P		**Pn**	**Pn**	**18 20 23.0**	**+2.3**
MJAR	**Matsushiro Arr**	**11.14**	**230**	P		**Pn**	**Pn**	**18 20 21.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=33,slow=12,SNR=6.0								
KSRS	**Korea Array**	**17.17**	**254**	P		**Pn**	**Pn**	**18 21 40.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=74,slow=17,SNR=2.9								
SEY	**Seymchan**	**18.85**	**5**	P		**P**	**P**	**18 21 58.8**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=180,slow=9.8,SNR=7.9								
SEY	**Seymchan**	**18.85**	**5**	*e*P		**P**	**P**	**18 21 59.5**	**-1.1**
YAK	**Yakutsk**	**21.06**	**335**	*e*P		**P**	**P**	**18 22 24.5**	**-0.1**
YAK					pmax	pmax	pmax		
	comp=Z,4.0nm,0.7s								
YAK	**Yakutsk**	**21.06**	**335**	*e*P		**P**	**P**	**18 22 24.4**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.71**	**143**	T		T	T	18 54 30.6	
	baz=333,slow=76,SNR=43								
H11N1	**WAKE ISLAND Hy**	**28.72**	**143**	T		T	T	18 54 32.6	
	baz=333,slow=76,SNR=42								
H11N3	**WAKE ISLAND Hy**	**28.73**	**143**	T		T	T	18 54 33.8	
	baz=333,slow=76,SNR=42								
ULN	**Ulaanbaatar**	**28.96**	**292**	↑*e*P		**P**	**P**	**18 23 39.5**	**-0.5**
ULN					pmax	pmax	pmax		
	comp=Z,6.0nm,2.5s								
ULN	**Ulaanbaatar**	**28.96**	**292**	*e*P		**P**	**P**	**18 23 39.5**	**-0.5**
H11S1	**WAKE ISLAND Hy**	**29.71**	**144**	T		T	T	18 56 03.7	
	baz=334,slow=76,SNR=44								
H11S3	**WAKE ISLAND Hy**	**29.72**	**144**	T		T	T	18 55 44.1	
	baz=334,slow=76,SNR=55								
H11S2	**WAKE ISLAND Hy**	**29.73**	**144**	T		T	T	18 55 42.8	
	baz=334,slow=76,SNR=36								
ILAR	**Eielson Array**	**40.39**	**37**	*e*P		**P**	**P**	**18 25 20.9**	**+2.9**
ILAR					pmax	pmax	pmax		
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**40.39**	**37**	P		**P**	**P**	**18 25 17.4**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=277,slow=9.3,SNR=4.3								
MKAR	**Makanchi Array**	**45.43**	**298**	*e*P		**P**	**P**	**18 25 59.5**	**+0.4**
MKAR					pmax	pmax	pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**45.43**	**298**	P		**P**	**P**	**18 25 58.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=74,slow=8.4,SNR=6.1								
MKAR	**Makanchi Array**	**45.43**	**298**	*e*P		**P**	**P**	**18 25 59.5**	**+0.4**
YKA	**Yellowknife Ar**	**54.73**	**34**	P		**P**	**P**	**18 27 09.9**	**+0.6**
YKA					pmax	pmax	pmax		
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**54.73**	**34**	P		**P**	**P**	**18 27 09.9**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=297,slow=6.6,SNR=15								
JOF	**Joensuu**	**62.22**	**333**	*e*P		**P**	**P**	**18 28 00.1**	**-1.4**
JOF					pmax	pmax	pmax		
	comp=Z,1.0nm,0.4s								
JOF	**Joensuu**	**62.22**	**333**	*e*p		**P**	**P**	**18 28 00.1**	**-1.4**
	comp=Z,0.5nm,0.4s								
FINES	**FINESS Array B**	**64.99**	**334**	P		**P**	**P**	**18 28 18.1**	**-1.7**
FINES					pmax	pmax	pmax		
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	**64.99**	**334**	P		**P**	**P**	**18 28 18.1**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=349,slow=3.9,SNR=6.7								
WRA	**Warramunga Arr**	**65.22**	**195**	P		**P**	**P**	**18 28 21.7**	**0.0**
	comp=Z,0.4nm,0.9s,baz=15,slow=7.2,SNR=3.6								
ASAR	**Alice Springs**	**68.93**	**195**	P		**P**	**P**	**18 28 46.9**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=1.3,slow=5.6,SNR=5.0								
NB2	**NORSAR Subarra**	**69.58**	**340**	P		**P**	**P**	**18 28 47.8**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**69.58**	**340**	*e*P		**P**	**P**	**18 28 48.3**	**-0.6**
NOA					pmax	pmax	pmax		
	comp=Z,2.0nm,0.7s								
NOA	**NORSAR Array B**	**69.58**	**340**	P		**P**	**P**	**18 28 47.3**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=30,slow=6.6,SNR=6.4								
NOA	**NORSAR Array B**	**69.58**	**340**	*e*P		**P**	**P**	**18 28 48.3**	**-0.6**
KIV	**Kislovodsk**	**70.33**	**313**	*e*P		**P**	**P**	**18 28 55.8**	**+1.9**
KIV					pmax	pmax	pmax		
	comp=Z,3.0nm,1.0s								
KBZ	**Khabaz**	**70.38**	**312**	P		**P**	**P**	**18 28 54.7**	**+0.7**
KBZ					pmax	pmax	pmax		
	comp=Z,1.0nm,0.7s								
KBZ	**Khabaz**	**70.38**	**312**	P		**P**	**P**	**18 28 54.7**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=236,slow=24,SNR=4.6								
AKASG	**Malin Array Be**	**71.90**	**324**	P		**P**	**P**	**18 29 01.9**	**-1.2**
	comp=Z,0.2nm,0.2s,baz=36,slow=6.2,SNR=6.7								
BURAR	**Bucovina Array**	**75.95**	**324**	↑↑P		**P**	**P**	**18 29 26.8**	**-0.2**
BURAR	**Bucovina Array**	**75.95**	**324**	↑*i*P		**P**	**P**	**18 29 26.8**	**-0.2**
TESR	**Tescani**	**76.21**	**323**	↑*i*P		**P**	**P**	**18 29 28.6**	**+0.2**
TRPA	**Tarpa**	**76.64**	**326**	↑*i*P		**P**	**P**	**18 29 31.7**	**+1.0**
TLB	**Topalu**	**77.09**	**321**	↓↓P		**P**	**P**	**18 29 33.8**	**+0.5**
TLB	**Topalu**	**77.09**	**321**	↓*i*P		**P**	**P**	**18 29 33.8**	**+0.5**
CLL	**Collm**	**77.44**	**333**	↓*i*P		**P**	**P**	**18 29 34.9**	**-0.3**
CLL					pmax	pmax	pmax		
	comp=Z,7.0nm,0.7s								
CLL	**Collm**	**77.44**	**333**	↓*i*P		**P**	**P**	**18 29 34.9**	**-0.3**
	comp=Z,7.0nm,0.7s								
CLL					LmV			19 21 00.0	
	comp=Z,100nm,18.3s								
VOIR		**77.75**	**323**	↑↑P		**P**	**P**	**18 29 37.9**	**+0.8**
VOIR		**77.75**	**323**	↑*i*P		**P**	**P**	**18 29 37.9**	**+0.8**
ARR	**Arges**	**77.98**	**323**	↑*i*P		**P**	**P**	**18 29 40.4**	**+2.0**
BRTR	**Keskin Array B**	**78.08**	**314**	*e*P		**P**	**P**	**18 29 40.2**	**+1.0**
BRTR	**Keskin Array B**	**78.08**	**314**	P		**P**	**P**	**18 29 38.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=96,slow=7.6,SNR=4.1								
GERES	**GERESS Array B**	**79.32**	**332**	P		**P**	**P**	**18 29 45.6**	**-0.1**
GERES					pmax	pmax	pmax		
	comp=Z,1.0nm,0.5s								
GERES	**GERESS Array B**	**79.32**	**332**	P		**P**	**P**	**18 29 45.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=32,slow=5.2,SNR=6.7								

IDC 17 18:26:37.0±3.3,27°80N×111°41W,h0km,mb1 3.8/4, mb1mx3.4/52,mbtmp3.3/4,ML4.8/1,Error ellipse: s-maj=41.3km s-min=15.1km az=17.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.98**	**76**		Pn		Pn	18 28 21.3	+0.7
	3.6nm,0.3s,baz=251,slow=13,SNR=156								
TXAR					Sn		Sn	18 29 40.6	-0.1
	1.2nm,0.3s,baz=268,slow=28,SNR=4.4								
TXAR					Lg		Lg	18 30 14.2	
	0.6nm,0.3s,baz=250,slow=29,SNR=2.7								
ANMO	**Albuquerque**	**8.28**	**29**		Pn		Pn	18 28 40.1	+1.5
	0.1nm,0.3s,baz=218,slow=18,SNR=1.7								
ANMO					Lg		Lg	18 31 00.1	
	1.4nm,0.3s,baz=141,slow=18,SNR=7.1								
NVAR	**Mina Array Bea**	**12.07**	**333**		Pn		Pn	18 29 31.7	+1.2
	baz=162,slow=15,SNR=3.3								
PDAR	**Pinedale Array**	**15.01**	**5**		Pn		P	18 30 15.4

BADI	**Badiali**	**0.13**	**283**	Pg	Pg	18 26 48.4	+0.5
BADI				Sg	Sg	18 26 50.9	+0.9
	181nm,0.2s						
BADI	**Badiali**	**0.13**	**283**	Pg	Pg	18 26 48.4	+0.5
BADI				Sg	Sg	18 26 50.9	+0.9
	181nm,0.2s						
CDCA	**Citt' di Caste**	**0.14**	**262**	Pg	Pg	18 26 48.5	+0.5
CDCA				Sg	Sg	18 26 51.1	+1.0
	125nm,0.3s						
CDCA	**Citt' di Caste**	**0.14**	**262**	Pg	Pg	18 26 48.5	+0.5
CDCA				Sg	Sg	18 26 51.1	+1.0
	125nm,0.3s						
ATFO	**Monte Foce - G**	**0.16**	**136**	Pg	Pg	18 26 48.8	+0.4
ATFO				Sg	Sg	18 26 51.6	+0.8
	129nm,0.1s						
ATFO	**Monte Foce - G**	**0.16**	**136**	Pg	Pg	18 26 48.8	+0.4
ATFO				Sg	Sg	18 26 51.6	+0.8
	129nm,0.1s						
PARC	**Parchiule**	**0.22**	**322**	Pg	Pg	18 26 49.9	+0.5
PARC				Sg	Sg	18 26 54.0	+1.5
	93nm,0.1s						
PARC	**Parchiule**	**0.22**	**322**	Pg	Pg	18 26 49.9	+0.5
PARC				Sg	Sg	18 26 54.0	+1.5
	93nm,0.1s						
MURB	**Monte Urbino**	**0.23**	**161**	Pg	Pg	18 26 50.5	+0.8
MURB				Sg	Sg	18 26 54.4	+1.5
	280nm,0.3s						
MURB	**Monte Urbino**	**0.23**	**161**	Pg	Pg	18 26 50.5	+0.8
MURB				Sg	Sg	18 26 54.4	+1.5
	280nm,0.3s						
FSSB	**Fossombrone**	**0.34**	**50**	Pg	Pg	18 26 52.1	+0.5
FSSB				Sg	Sb	18 26 57.8	-0.9
FSSB	**Fossombrone**	**0.34**	**50**	Pg	Pg	18 26 52.1	+0.5
FSSB				Sg	Sb	18 26 57.8	-0.9
CAFI	**Castiglion Fio**	**0.36**	**246**	Pg	Pg	18 26 52.6	+0.5
CAFI				Sg	Sb	18 26 58.4	-1.1
CAFI	**Castiglion Fio**	**0.36**	**246**	Pg	Pg	18 26 52.6	+0.5
CAFI				Sg	Sb	18 26 58.4	-1.1
CRE	**Caprese Michel**	**0.37**	**292**	Pg	Pg	18 26 52.8	+0.4
CRE				Sg	Sb	18 26 58.7	-1.2
CRE	**Caprese Michel**	**0.37**	**292**	Pg	Pg	18 26 52.8	+0.4
CRE				Sg	Sb	18 26 58.7	-1.2
ARVD	**Arcevia**	**0.38**	**87**	Pg	Pg	18 26 52.8	+0.4
ARVD				Sg	Sb	18 26 59.1	-0.8
ARVD	**Arcevia**	**0.38**	**87**	Pg	Pg	18 26 52.8	+0.4
ARVD				Sg	Sb	18 26 59.1	-0.8
MGAB	**Montegabbione**	**0.61**	**202**	Pg	Pg	18 26 57.0	+0.2
MGAB				Sg	Sb	18 27 06.8	+0.3
MGAB	**Montegabbione**	**0.61**	**202**	Pg	Pg	18 26 57.0	+0.2
MGAB				Sg	Sb	18 27 06.8	+0.3

ISCJB ***17*** *18:27:18.0±0.4, 38°.84N±0°.02×23°.33E±0°.02, h8km±3km, Error ellipse: s-maj=3.3km s-min=2.5km az=31.4*
THE ***17*** *18:27:18.6, 38°.83N×23°.32E, h7km±1km, ML2.2/7, Error ellipse: s-maj=1.6km s-min=0.3km az=313.0*
ATH ***17*** *18:27:18.2, 38°.84N×23°.32E, h12km±1km, MD2.7/19, ML2.1*
CSEM ***17*** *18:27:18.0±0.1, 38°.83N×23°.32E, h10km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.7km az=120.0*

ISC 17 18:27:18.3±0.8, 38°.83N±0°.02×23°.31E±0°.02, h10km±5km, n59, σ0°45/110, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.10**	**302**	P	**Pg**	**18 27 20.8**	**-0.2**
SMIA				S	**Sg**	**18 27 22.7**	**-0.2**
SMIA	**Simia**	**0.10**	**302**	*e*PG	**Pg**	**18 27 20.9**	**-0.1**
SMIA				*e*SG	**Sg**	**18 27 22.7**	**-0.2**
SMIA	**Simia**	**0.10**	**302**	*e*Pg	**Pg**	**18 27 20.9**	**-0.1**
SMIA				S	**Sg**	**18 27 22.7**	**-0.2**
MRKA	**Markates**	**0.25**	**120**	P	**Pg**	**18 27 23.3**	**-0.2**
MRKA				S	**Sg**	**18 27 27.1**	**+0.3**
MRKA	**Markates**	**0.25**	**120**	*e*PG	**Pg**	**18 27 23.2**	**-0.2**
MRKA				*e*SG	**Sg**	**18 27 27.0**	**+0.3**
MRKA	**Markates**	**0.25**	**120**	*e*Pg	**Pg**	**18 27 23.2**	**-0.2**
MRKA				S	**Sg**	**18 27 27.1**	**+0.3**
LKR	**Lokris**	**0.30**	**234**	P	**Pg**	**18 27 24.4**	**0.0**
LKR				S	**Sg**	**18 27 29.0**	**+0.5**
LKR	**Lokris**	**0.30**	**234**	*e*PG	**Pg**	**18 27 24.2**	**-0.2**
LKR				*e*SB	**Sg**	**18 27 28.7**	**+0.2**
LKR	**Lokris**	**0.30**	**234**	*e*Pg	**Pg**	**18 27 24.2**	**-0.2**
LKR				*e*Sb	**Sg**	**18 27 28.7**	**+0.2**
LKR				S	**Sg**	**18 27 29.0**	**+0.5**
SKIA	**Skiathos**	**0.36**	**19**	P	**Pg**	**18 27 25.8**	**+0.3**
SKIA				S	**Sg**	**18 27 31.1**	**+0.8**
SKIA	**Skiathos**	**0.36**	**19**	*e*PB	**Pg**	**18 27 25.8**	**+0.3**
SKIA				*e*SB	**Sg**	**18 27 31.0**	**+0.8**
SKIA	**Skiathos**	**0.36**	**19**	P	**Pg**	**18 27 25.8**	**+0.3**
SKIA				S	**Sg**	**18 27 31.1**	**+0.8**
NEO	**Neokhori**	**0.48**	**352**	*e*PB	**Pg**	**18 27 27.6**	**-0.2**
NEO				*e*SB	**Sg**	**18 27 32.7**	**-1.5**
NEO	**Neokhori**	**0.48**	**352**	*e*Pb	**Pg**	**18 27 27.6**	**-0.2**
NEO				*e*Sb	**Sg**	**18 27 32.7**	**-1.5**
AXAR	**Agios Charalam**	**0.52**	**263**	P	**Pg**	**18 27 28.5**	**+0.1**
AXAR				S	**Sg**	**18 27 36.1**	**+0.9**
AXAR	**Agios Charalam**	**0.52**	**263**	*e*PB	**Pg**	**18 27 28.3**	**-0.1**
AXAR				*e*SB	**Sb**	**18 27 36.4**	**-0.5**
AXAR	**Agios Charalam**	**0.52**	**263**	*e*Pb	**Pg**	**18 27 28.3**	**-0.1**
AXAR				S	**Sg**	**18 27 36.1**	**+0.9**
AXAR				*e*Sb	**Sb**	**18 27 36.4**	**-0.5**
XOR	**Xorichti**	**0.55**	**350**	P	**Pg**	**18 27 28.9**	**0.0**
XOR				S	**Sg**	**18 27 36.9**	**+0.7**
XOR	**Xorichti**	**0.55**	**350**	*e*PB	**Pg**	**18 27 29.0**	**0.0**
XOR				*e*SB	**Sg**	**18 27 36.6**	**+0.4**
XOR	**Xorichti**	**0.55**	**350**	*e*Pb	**Pg**	**18 27 29.0**	**0.0**
XOR				*e*Sb	**Sg**	**18 27 36.6**	**+0.4**
XOR				S	**Sg**	**18 27 36.9**	**+0.7**
AOS	**Alonnisos**	**0.56**	**52**	P	**Pg**	**18 27 28.9**	**-0.3**
AOS				S	**Sg**	**18 27 36.9**	**+0.3**
AOS	**Alonnisos**	**0.56**	**52**	*e*PB	**Pg**	**18 27 28.9**	**-0.3**
AOS				*e*SB	**Sg**	**18 27 36.4**	**-0.2**
AOS	**Alonnisos**	**0.56**	**52**	P	**Pg**	**18 27 28.9**	**-0.3**
AOS				*e*Sb	**Sg**	**18 27 36.4**	**-0.2**
AOS				S	**Sg**	**18 27 36.9**	**+0.3**
AGG	**Agios Georgios**	**0.79**	**284**	P	**Pg**	**18 27 33.1**	**-0.5**
AGG	**Agios Georgios**	**0.79**	**284**	*e*PG	**Pg**	**18 27 32.8**	**-0.8**
AGG				*e*SB	**Sb**	**18 27 44.6**	**-0.3**
AGG	**Agios Georgios**	**0.79**	**284**	*e*Pg	**Pg**	**18 27 32.8**	**-0.8**
AGG	**Agios Georgios**	**0.79**	**284**	P	**Pg**	**18 27 33.1**	**-0.5**
AGG				*e*Sb	**Sb**	**18 27 44.6**	**-0.3**
LTK	**Loutraki**	**0.85**	**199**	P	**Pg**	**18 27 34.7**	**0.0**
LTK	**Loutraki**	**0.85**	**199**	*e*PG	**Pg**	**18 27 34.0**	**-0.7**
LTK				*e*SB	**Sb**	**18 27 46.7**	**+0.2**
LTK	**Loutraki**	**0.85**	**199**	*e*Pg	**Pg**	**18 27 34.0**	**-0.7**
LTK				*e*Sb	**Sb**	**18 27 46.7**	**+0.2**
PTL	**Penteli**	**0.89**	**151**	*e*PN	**Pb**	**18 27 35.9**	**+0.1**
PTL				*e*SB	**Sg**	**18 27 47.1**	**0.0**
PTL	**Penteli**	**0.89**	**151**	*e*Pn	**Pb**	**18 27 35.9**	**+0.1**
PTL				*e*Sb	**Sg**	**18 27 47.1**	**0.0**
ATH	**Athens Observa**	**0.91**	**160**	*e*PB	**Pb**	**18 27 36.1**	**-0.1**
ATH				*e*SB	**Sb**	**18 27 48.2**	**-0.1**
ATH	**Athens Observa**	**0.91**	**160**	*e*Pb	**Pb**	**18 27 36.1**	**-0.1**
ATH				*e*Sb	**Sb**	**18 27 48.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.94**	**282**	*e*PN	**Pb**	**18 27 36.7**	**0.0**
MAKR				*e*SB	**Sb**	**18 27 49.3**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.94**	**282**	*e*Pn	**Pb**	**18 27 36.7**	**0.0**
MAKR				*e*Sb	**Sb**	**18 27 49.3**	**+0.1**
KALE	**Kalithea**	**1.02**	**245**	*e*PB	**Pg**	**18 27 36.8**	**-1.1**
KALE				*e*SB	**Sb**	**18 27 51.7**	**+0.2**
KALE	**Kalithea**	**1.02**	**245**	*e*Pb	**Pg**	**18 27 36.8**	**-1.1**
KALE				*e*Sb	**Sb**	**18 27 51.7**	**+0.2**
PAIG	**Paliouri**	**1.13**	**14**	*e*PB	**Pb**	**18 27 39.4**	**-0.6**
PAIG				*e*SB	**Sb**	**18 27 54.6**	**-0.1**
PAIG	**Paliouri**	**1.13**	**14**	*e*Pb	**Pb**	**18 27 39.4**	**-0.6**
PAIG				*e*Sb	**Sb**	**18 27 54.6**	**-0.1**
EFP	**Efpalio**	**1.17**	**250**	*e*PB	**Pb**	**18 27 40.6**	**0.0**
EFP				*e*SB	**Sn**	**18 27 56.9**	**+0.2**
EFP	**Efpalio**	**1.17**	**250**	*e*Pb	**Pb**	**18 27 40.6**	**0.0**
EFP				*e*Sb	**Sn**	**18 27 56.9**	**+0.2**
GUR	**Goura**	**1.17**	**221**	P	**Pb**	**18 27 40.8**	**+0.1**
GUR	**Goura**	**1.17**	**221**	*e*PG	**Pb**	**18 27 40.3**	**-0.4**
GUR				*e*SB	**Sn**	**18 27 57.1**	**+0.2**
GUR	**Goura**	**1.17**	**221**	*e*Pg	**Pb**	**18 27 40.3**	**-0.4**
GUR	**Goura**	**1.17**	**221**	P	**Pb**	**18 27 40.8**	**+0.1**
GUR				*e*Sb	**Sn**	**18 27 57.1**	**+0.2**
EVR	**Evrytania**	**1.18**	**275**	*e*PB	**Pb**	**18 27 40.9**	**+0.1**
EVR	**Evrytania**	**1.18**	**275**	*e*Pb	**Pb**	**18 27 40.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.20**	**230**	*e*PB	**Pn**	**18 27 41.2**	**0.0**
KLV				*e*SB	**Sg**	**18 27 57.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.20**	**230**	*e*Pb	**Pn**	**18 27 41.2**	**0.0**
KLV				*e*Sb	**Sg**	**18 27 57.5**	**+0.4**
LIT	**Litokhoron**	**1.42**	**334**	*e*PG	**Pn**	**18 27 44.1**	**-0.1**
LIT				*e*SB	**Sn**	**18 28 03.0**	**+0.1**
LIT	**Litokhoron**	**1.42**	**334**	*e*Pg	**Pn**	**18 27 44.1**	**-0.1**
LIT				*e*Sb	**Sn**	**18 28 03.0**	**+0.1**
PLG	**Polygyros**	**1.55**	**4**	*e*PN	**Pn**	**18 27 45.5**	**-0.4**
PLG	**Polygyros**	**1.55**	**4**	*e*Pn	**Pn**	**18 27 45.5**	**-0.4**
PDO	**Prodromos**	**1.68**	**263**	*e*PB	**Pb**	**18 27 49.6**	**+0.3**
PDO				*e*SB	**Sg**	**18 28 12.7**	**+0.3**
PDO	**Prodromos**	**1.68**	**263**	*e*Pb	**Pb**	**18 27 49.6**	**+0.3**
PDO				*e*Sb	**Sg**	**18 28 12.7**	**+0.3**
HORT	**Hortiatis**	**1.77**	**355**	*e*PN	**Pn**	**18 27 49.7**	**+0.6**
HORT	**Hortiatis**	**1.77**	**355**	*e*Pn	**Pn**	**18 27 49.7**	**+0.6**
KNT	**Kendrikon**	**2.35**	**352**	*e*PB	**Pn**	**18 27 57.7**	**+0.7**

IDC 17 18:27:18.1±5.2, 6°.31S×147°.84E, h0km, mb2.8/1, mb1 3.3/2, mb1mx3.1/29, mbtmp3.0/2, ML3.2/1, Error ellipse: s-maj=217.8km s-min=47.1km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.86**	**223**	P	P	18 31 39.7	-0.4
	0.1nm,0.3s,baz=36,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**21.85**	**216**	P	P	18 32 12.7	+0.1
	0.3nm,0.3s,baz=52,slow=8.1,SNR=24						
TORD	**Torodi Ar. Bea**	**145.97**	**284**	PKPbc	PKPdf	18 47 00.1	-0.1
	0.1nm,0.3s,baz=72,slow=2.5,SNR=3.0						

ROM 17 18:27:42.4±0.2, 43°.49N×12°.40E, h6km, Md1.1/3, Ml0.6/1, Error ellipse: s-maj=2.5km s-min=0.6km az=121.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.04**	**97**	Pg	Pg	18 27 44.0	+0.2
ATPC				Sg	Sg	18 27 45.0	+0.1
	127nm,0.1s						
ATVO	**AVT- Monte Val**	**0.10**	**175**	Pg	Pg	18 27 45.0	+0.3
ATVO				Sg	Sg	18 27 47.0	+0.7
	18nm,0.2s						
PIEI	**Pieia**	**0.11**	**64**	Pg	Pg	18 27 45.1	+0.2
PIEI				Sg	Sg	18 27 47.5	+0.9

IDC 17 18:35:19.5±3.4, 6°.90S×148°.44E, h0km, mb3.2/1, mb1 3.6/2, mb1mx3.2/23, mbtmp3.3/2, ML3.4/1, Error ellipse: s-maj=124.9km s-min=44.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**225**	P	P	18 39 40.1	-1.2
	0.1nm,0.3s,baz=51,slow=11,SNR=14						
ASAR	**Alice Springs**	**21.75**	**218**	P	P	18 40 13.2	+0.4
	0.4nm,0.3s,baz=49,slow=8.8,SNR=32						
TORD	**Torodi Ar. Bea**	**146.69**	**283**	PKPbc	PKPbc	18 55 03.9	-0.6
	0.3nm,0.5s,baz=79,slow=4.2,SNR=4.3						

IDC ***17*** *19:22:41.8±1.1, 1°.93N×97°.47E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/36, mbtmp3.6/7, Error ellipse: s-maj=27.8km s-min=18.8km az=50.0*
DJA ***17*** *19:22:53.8±0.5, 2°.N±4°×9°.8E±°, h63km±10km, M3.6/8, MLv3.6/8*

ISC 17 19:22:44.1±1.0, 2°.02N±0°.07×97°.7E±0°.1, h10km, n19, σ1°76/18, mb3.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.32**	**339**	P	Pg	19 23 13.3	+3.7
TPTI				S	**Sg**	**19 23 30.4**	**+3.6**
SNSI	**Sinabang, Aceh**	**1.39**	**286**	P	Pg	19 23 19.0	+8.3
PSI	**Prapat**	**1.49**	**58**	Pg	**Pn**	**19 23 12.1**	**+1.0**
	6.3nm,0.3s,baz=328,slow=15,SNR=23						
PSI				Lg	Lg	19 23 28.1	
	16nm,0.3s,baz=72,slow=20,SNR=20						
KCSI	**Kotacane, Aceh**	**1.50**	**4**	P	**Pg**	**19 23 14.5**	**+1.6**
KCSI				S	**Sn**	**19 23 31.1**	**+0.3**
TSI	**Tuntungan**	**1.73**	**32**	P	**Pg**	**19 23 17.8**	**+0.5**
MNSI	**Mandailing Nat**	**2.27**	**122**	P	**Pg**	**19 23 29.8**	**+2.1**
MNSI				S	**Sb**	**19 23 54.7**	**+1.2**
LHMI	**Lhok Sumawe**	**3.27**	**347**	P	**Pb**	**19 23 39.3**	**-2.9**
LHMI				S	**Sn**	**19 24 14.5**	**+0.1**
BKNI	**Bangkinang**	**3.78**	**116**	P	**Pb**	**19 23 49.6**	**-1.3**
BKNI				S	**Sb**	**19 24 33.4**	**-3.4**
BSI	**Banda Aceh**	**4.18**	**326**	P	Pb	19 23 53.2	-4.7
H08S2	**Diego Garcia H**	**26.88**	**249**	T	T	19 56 06.8	
	baz=70						
H08S3	**Diego Garcia H**	**26.88**	**249**	T	T	19 56 10.0	
	baz=70						
H08S1	**Diego Carcia H**	**26.89**	**249**	T	T	19 56 05.8	
	baz=70,SNR=3.1						
WRA	**Warramunga Arr**	**42.09**	**123**	P	**P**	**19 30 36.4**	**-0.3**
	0.3nm,0.8s,baz=304,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**43.53**	**128**	P	**P**	**19 30 47.6**	**-0.7**
	0.1nm,0.4s,baz=296,slow=7.4,SNR=7.8						
SONM	**Songino Array**	**46.26**	**8**	P	**P**	**19 31 09.3**	**-0.6**
	0.2nm,0.5s,baz=193,slow=5.9,SNR=2.5						
MKAR	**Makanchi Array**	**46.57**	**345**	P	**P**	**19 31 11.6**	**-0.6**
	0.2nm,0.5s,baz=158,slow=8.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**52.83**	**351**	P	**P**	**19 31 59.4**	**-0.3**
	0.9nm,0.5s,baz=171,slow=6.6,SNR=9.1						
STKA	**Stephens Creek**	**53.57**	**133**	P	**P**	**19 32 06.2**	**+0.6**
	1.1nm,0.7s,baz=318,slow=9.1,SNR=3.3						
FINES	**FINESS Array B**	**79.49**	**332**	P	**P**	**19 34 50.6**	**-0.1**
	4.3nm,1.1s,baz=174,slow=3.8,SNR=5.4						

IDC 17 19:29:24.0±12.0, 19°.27S×166°.74E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/32, mbtmp3.7/4, ML3.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/20, Error ellipse: s-maj=206.6km s-min=33.4km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.80**	**186**	Pn	Pn	19 30 09.7	-0.5
	4.8nm,0.3s,baz=122,slow=22,SNR=39						
DZM				Sn	Sn	19 30 46.5	+1.7
	8.7nm,0.3s,baz=311,slow=23,SNR=19						
STKA	**Stephens Creek**	**25.85**	**236**	P	P	19 34 58.9	+1.5
	1.6nm,0.7s,baz=72,slow=5.7,SNR=3.7						
WRA	**Warramunga Arr**	**30.50**	**263**	P	P	19 35 37.9	-1.2
	0.2nm,0.7s,baz=101,slow=8.6,SNR=4.3						
ASAR	**Alice Springs**	**30.83**	**256**	P	P	19 35 42.0	+0.1
	2.4nm,0.7s,baz=81,slow=9.0,SNR=45						
JCJ	**Chichijima**	**51.88**	**332**	LR	LR	19 59 48.6	
	comp=Z,146nm,18.9s,baz=100,slow=35						

ISCJB ***17*** *19:34:12.0±0.8, 37°.31S±0°.06×73°.8W±0°.1, h10km, mb4.2/8, MS3.6/1, Error ellipse: s-maj=17.7km s-min=6.8km az=161.1*
IDC ***17*** *19:34:11.9±1.5, 37°.36S×74°.05W, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.7/28, mbtmp3.6/7, ML3.4/2, MS3.7/1, Ms1 3.6/1, ms1mx3.0/22, Error ellipse: s-maj=40.9km s-min=17.7km az=63.0*
NEIC ***17*** *19:34:13.5±6.6, 37°.29S×73°.92W, h10km±39km, mb4.5/4, Error ellipse: s-maj=28.8km s-min=10.5km az=86.0*

ISC 17 19:34:13.5±0.9, 37°.25S±0°.07×73°.9W±0°.1, h10km, n20, σ1°45/22, mb4.1/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.37**	**144**	Pn	**Pn**	**19 35 18.9**	**-1.0**
	1.0nm,0.3s,baz=314,slow=12,SNR=13						
PLCA				Pg	**Pb**	**19 35 31.4**	**+1.1**
	9.5nm,0.3s,baz=349,slow=16,SNR=30						
PLCA				Lg	Lg	19 36 30.3	
	4.9nm,0.3s,baz=234,slow=9.1,SNR=6.8						
PLCA	**Paso Flores**	**4.37**	**144**	Pn	**Pn**	**19 35 18.9**	**-1.0**
PLCA				Pg	**Pb**	**19 35 31.4**	**+1.1**
PLCA				Lg	Lg	19 36 30.3	
PLCA				eSg	**Sg**	**19 36 33.2**	**-0.5**
CFAA	**Coronel Fontan**	**7.34**	**42**	Pn	**Pn**	**19 36 01.2**	**+0.4**
	0.1nm,0.3s,baz=220,slow=12,SNR=4.7						
TRQA	**Tornquist**	**9.52**	**98**	*e*Pn	**Pn**	**19 36 29.3**	**-1.4**
LVC	**Limon Verde**	**15.22**	**18**	*e*Pn	**Pn**	**19 37 49.4**	**+0.6**
EFI	**East Falkland**	**18.28**	**147**	*e*Pn	**P**	**19 38 28.2**	**+1.0**
LPAZ	**La Paz**	**21.51**	**15**	P	**P**	**19 39 06.2**	**+2.9**
	2.7nm,0.7s,baz=156,slow=8.9,SNR=5.7						
LPAZ	**La Paz**	**21.51**	**15**	*e*P	**P**	**19 38 59.8**	**-3.5**
	5.1nm,0.8s						
SIV	**San Ignacio**	**24.05**	**32**	P	**P**	**19 39 30.4**	**+1.5**
	1.9nm,0.8s,baz=243,slow=6.8,SNR=3.4						
SAML	**Samuel**	**29.81**	**22**	*e*P	**P**	**19 40 21.9**	**+1.1**
	7.2nm,1.4s						
BDFB	**Brasilia**	**31.47**	**54**	LR	LR	19 53 51.1	
	comp=Z,134nm,19.0s,baz=229,slow=37						
VNA3	**Neumayer Olymp**	**46.97**	**157**	P	**P**	**19 42 44.3**	**+0.1**
VNA2	**Neumayer--Watz**	**47.65**	**156**	P	P	19 42 45.1	-4.4
	baz=276,slow=8.2						
QSPA	**South Pole Qui**	**52.99**	**180**	*e*P	**P**	**19 43 29.2**	**-1.0**
	15nm,1.6s						
FDF	**Fort de France**	**53.09**	**16**	*e*P	**P**	**19 43 29.3**	**-1.9**
	64nm,1.1s						
TXAR	**Lajitas Array**	**71.86**	**333**	P	**P**	**19 45 36.4**	**-0.3**
	0.3nm,0.8s,baz=142,slow=8.0,SNR=1.7						
DBIC	**Dimbokro**	**77.68**	**72**	P	**P**	**19 46 10.3**	**-0.3**
	2.4nm,0.9s,baz=98,slow=1.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**86.75**	**71**	P	**P**	**19 46 58.4**	**+0.2**
	0.7nm,0.7s,baz=4.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**157.79**	**35**	PKP	**PKPdf**	**19 54 10.9**	**+1.3**
	0.2nm,0.3s,baz=270,slow=2.6,SNR=3.4						
ZALV				PKPab	**PKPab**	**19 54 43.4**	**+1.1**
	0.5nm,0.6s,baz=302,slow=3.2,SNR=3.3						
MKAR	**Makanchi Array**	**160.00**	**54**	PKPab	**PKPab**	**19 54 52.0**	**-0.2**
	0.4nm,0.9s,baz=1.8,slow=3.8,SNR=3.7						

ISCJB ***17*** *19:41:21.8±0.3, 32°.54N±0°.02×115°.56W±0°.02, h22km±3km, Error ellipse: s-maj=3.4km s-min=3.2km az=175.1*
MEX ***17*** *19:41:21.9±1.0, 32°.66N×115°.48W, h5km, MD3.9*
NEIC ***17*** *19:41:23.0, 32°.49N×115°.59W, h2km, ML4.0(ECX), ML4.0(PAS), After ECX.*
NEIC Felt [IV] at Mexicali. Felt [III] at El Centro and [II] at Heber, California. Also felt at Brawley, Calexico, Campo, Chula Vista, Holtville, San Diego and Spring Valley.
ECX ***17*** *19:41:23.4±0.6, 32°.50N×115°.60W, h4km, MD3.9, ML4.1*

ISC 17 19:41:21.4±1.0, 32°.50N±0°.02×115°.60W±0°.02, h14km±9km, n49, σ0°90/68, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.18**	**325**	⇓*i*P	**Pb**	**19 41 26.5**	**-0.1**
CPBX	**Cerro Prieto**	**0.26**	**108**	*e*P	**Pb**	**19 41 28.2**	**+0.3**
CPBX				*e*P	**Pb**	**19 41 28.2**	**+0.3**
CPBX				*e*S	**Sb**	**19 41 32.3**	**-0.1**
CPBX				⇑*e*		19 41 37.5	
CPBX				AML	AML	19 41 37.5	
	comp=E,75μm,0.4s						
CPBX	**Cerro Prieto**	**0.26**	**108**	*e*P	**Pb**	**19 41 28.3**	**+0.3**
YUH	**Yuha Desert**	**0.31**	**299**	⇑*i*P	**Pb**	**19 41 28.6**	**-0.1**
MBIG	**Mexicali**	**0.35**	**105**	*i* P	**Pg**	**19 41 28.7**	**+0.1**
MBIG				*i* S	**Sg**	**19 41 32.4**	**-1.0**
COK	**Cook Ranch**	**0.36**	**343**	⇓*i*P	**Pb**	**19 41 30.2**	**+0.5**
RMX	**La Rumorosa**	**0.42**	**284**	*e*P	**Pb**	**19 41 30.7**	**0.0**
RMX				*e*S	**Sb**	**19 41 36.5**	**-0.4**
RMX				AML	AML	19 41 37.1	
	comp=N,12μm,0.4s						
RMX				⇑*e*		19 41 37.1	
CRR	**Carrizo Plain**	**0.49**	**321**	⇓*i*P	**Pb**	**19 41 32.1**	**+0.2**
COA	**Coachella**	**0.54**	**48**	⇑*i*P	**Pb**	**19 41 33.2**	**+0.4**
EMX	**El Mayor**	**0.59**	**149**	*e*P	**Pb**	**19 41 33.6**	**0.0**
EMX				*e*S	**Sb**	**19 41 42.0**	**+0.2**
RDX	**Rancho Dawling**	**0.64**	**207**	⇑*i*P	**Pb**	**19 41 34.0**	**+0.1**
RDX				*e*S	**Sg**	**19 41 42.9**	**+0.4**
GLA	**Glamis**	**0.85**	**50**	*e*Pg	**Pb**	**19 41 37.5**	**-0.6**
GLA				*e*Sg	**Sg**	**19 41 48.7**	**-0.5**
CBX	**Cerro Bola**	**0.92**	**259**	*i* P	**Pg**	**19 41 39.5**	**+0.3**
CBX				*i* S	**Sn**	**19 41 52.4**	**-0.7**
CBX	**Cerro Bola**	**0.92**	**259**	*e*P	**Pn**	**19 41 39.8**	**-0.3**
CBX				AML	AML	19 41 55.8	
	comp=E,10μm,0.4s						
CBX				⇓*e*		19 41 55.8	
CBX	**Cerro Bola**	**0.92**	**259**	*i* P	**Pn**	**19 41 39.8**	**-0.3**
CBX				*e*S	**Sb**	**19 41 48.7**	**-2.7**
BAR	**Barrett**	**0.92**	**282**	⇑*i*P	**Pn**	**19 41 39.7**	**-0.3**
BAR	**Barrett**	**0.92**	**282**

MBIG	**Mexicali**	**0.25**	**357**	*i* P		**Pb**	**19 53 31.3**	**+0.6**
MBIG				*i* S		**Sg**	**19 53 33.7**	**+0.2**
CPBX	**Cerro Prieto**	**0.28**	**339**	*e*P		**Pb**	**19 53 31.4**	**+0.1**
CPBX				*e*S		**Sb**	**19 53 35.3**	**-0.5**
CPBX				⇑*e*			19 53 38.2	
CPBX				AML	AML		19 53 38.2	
	comp=E,16μm,0.2s							
CPBX	**Cerro Prieto**	**0.28**	**339**	*e*P		**Pb**	**19 53 31.4**	**+0.1**
CPBX				*i* S		**Sg**	**19 53 33.5**	**-0.9**
YMD	**Yuma Desert**	**0.67**	**53**	⇑*i*P		**Pb**	**19 53 38.4**	**+0.5**
SGL	**Mount Signal**	**0.67**	**317**	⇓*i*P		**Pb**	**19 53 37.9**	**0.0**
RDX	**Rancho Dawling**	**0.68**	**251**	*e*P		**Pb**	**19 53 37.9**	**-0.2**
RDX				*e*S		**Sg**	**19 53 46.7**	**0.0**
RDX				⇓*e*			19 53 48.3	
RDX				AML	AML		19 53 48.3	
	comp=N,1μm,0.4s							
ECBX	**El Chinero**	**0.69**	**170**	*e*P		**Pg**	**19 53 37.9**	**+0.2**
ECBX				*e*S		**Sb**	**19 53 47.4**	**-0.1**
YUH	**Yuha Desert**	**0.80**	**308**	⇓*i*P		**Pb**	**19 53 39.7**	**-0.3**
COK	**Cook Ranch**	**0.83**	**327**	⇑*i*P		**Pg**	**19 53 40.8**	**+0.3**
RMX	**La Rumorosa**	**0.88**	**301**	*e*P		**Pb**	**19 53 41.2**	**-0.3**
RMX				*e*S		**Sb**	**19 53 52.5**	**-0.7**
RMX				AML	AML		19 53 53.5	
	comp=N,919nm,0.1s							
RMX				⇑*e*			19 53 53.5	
GLA	**Glamis**	**0.95**	**18**	*e*Pg		**Pb**	**19 53 41.9**	**-0.7**
GLA				*e*Sg		**Sb**	**19 53 54.2**	**-0.8**
ZAX	**El Zacaton**	**1.12**	**236**	*e*P		**Pb**	**19 53 45.1**	**-0.5**
ZAX				*e*S		**Sb**	**19 53 60.0**	**-0.2**
ZAX				AML	AML		19 54 01.6	
	comp=N,760nm,0.4s							
ZAX				⇑*e*			19 54 01.6	
ZAX				AML	AML		19 54 01.8	
	comp=E,636nm,0.4s							
ZAX				⇑*e*			19 54 01.8	
SPIG	**San Pedro Mart**	**1.13**	**192**	*e*P		**Pb**	**19 53 45.5**	**-0.3**
SPIG				*i* S		**Sb**	**19 53 60.0**	**-0.6**
SPIG	**San Pedro Mart**	**1.13**	**192**	*e*P		**Pb**	**19 53 45.5**	**-0.3**
SPIG				*e*S		**Sb**	**19 54 00.5**	**-0.1**
SPIG	**San Pedro Mart**	**1.13**	**192**	*e*P		**Pb**	**19 53 45.5**	**-0.3**
SPX	**San Pedro Mart**	**1.13**	**192**	*e*P		**Pb**	**19 53 45.5**	**-0.4**
SPX				*e*S		**Sg**	**19 54 01.0**	**+0.1**
SPX				AML	AML		19 54 02.7	
	comp=E,382nm,0.4s							
SPX				⇑*e*			19 54 02.7	
CBX	**Cerro Bola**	**1.26**	**278**	*e*P		**Pn**	**19 53 47.1**	**-0.6**
CBX				*i* S		**Sb**	**19 54 02.8**	**-1.4**
CBX	**Cerro Bola**	**1.26**	**278**	*e*P		**Pn**	**19 53 47.2**	**-0.6**
CBX				*e*S		**Sb**	**19 54 03.8**	**-0.4**
CBX				*e*S		**Sn**	**19 54 04.1**	**-0.5**
CBX				AML	AML		19 54 05.3	
	comp=N,1μm,0.4s							
CBX				⇓*e*			19 54 05.3	
CBX	**Cerro Bola**	**1.26**	**278**	*e*P		**Pn**	**19 53 47.1**	**-0.6**
ECNX	**Esteban Cantu**	**1.30**	**248**	*e*P		**Pn**	**19 53 48.0**	**-0.2**
ECNX				*e*S		**Sn**	**19 54 05.1**	**-0.3**
BAR	**Barrett**	**1.36**	**293**	*e*P		**Pn**	**19 53 49.1**	**+0.1**
BAR	**Barrett**	**1.36**	**293**	*e*Pn		**Pn**	**19 53 48.1**	**-0.9**
BAR				*e*Sn		**Sn**	**19 54 05.7**	**-1.2**
PBX	**Punta Banda**	**1.37**	**253**	*e*P		**Pn**	**19 53 49.1**	**0.0**
PBX				*e*S		**Sb**	**19 54 07.1**	**-0.2**
PFO	**Pinyon Flats O**	**1.80**	**324**	*e*Pn		**Pn**	**19 53 53.4**	**-1.7**
214A	**Organ Pipe Nat**	**2.02**	**95**	*e*Pn		**Pn**	**19 53 57.2**	**-0.9**
214A				*e*Sg		**Sg**	**19 54 29.0**	**-0.5**
LDFC	**Landfair**	**2.92**	**1**	*e*Pn		**Pb**	**19 54 13.6**	**-2.6**
PASC	**Pasadena Art C**	**3.22**	**309**	Pn		**Pb**	**19 54 22.3**	**+0.9**
TUC	**Tucson**	**3.73**	**86**	*e*Pn		**Pn**	**19 54 22.4**	**+0.8**
ISA	**Isabella, Lake**	**4.44**	**323**	Pn		**Pn**	**19 54 32.9**	**+1.6**
ISA				*e*Sn		**Sn**	**19 55 27.6**	**+4.7**
WUAZ	**Wupatki**	**4.62**	**42**	*e*Pn		**Pn**	**19 54 35.0**	**+1.1**
TPNV	**Topopah Spring**	**4.86**	**350**	Pn		**Pn**	**19 54 35.9**	**-1.4**
MNTX	**Cornudas Mount**	**8.34**	**91**	Pn		**Pn**	**19 55 25.6**	**+0.6**

*ISCJB **17** 19:54:04.0±1.3,39°.74N±0°.04×77°.58E±0°.06,h6km±11km, mb3.5/2,Error ellipse: s-maj=8.2km s-min=6.0km az=34.5*
*IDC **17** 19:54:03.8±2.1,39°.97N×77°.01E,h0km,mb3.5/2, mb1 3.4/4,mb1mx3.2/39,mbtmp3.4/4,ML2.7/2,Error ellipse: s-maj=62.8km s-min=21.5km az=139.0*
*KRNET **17** 19:54:05.4±0.1,40°.04N×77°.42E,h2km,mb3.8*
*BJI **17** 19:54:06.2,39°.93N×77°.33E,h15km,ML3.5/8*
*NNC **17** 19:54:08.0±1.4,39°.95N×77°.15E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=14.3km s-min=6.4km az=146.0*

ISC 17 19:54:06.8±3.2,39°.89N±0°.05×77°.37E±0°.05,h12km±22km, n41,σ1$96/50,20C-11D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.14**	**251**	Pg	Pn	19 54 34.5	+5.8
KSH				Sg	Sn	19 54 52.8	+8.5
KSH				SMN			
	1μm,0.3s						
KSH				SME			
	1μm,0.6s						
NRN	**Naryn**	**1.86**	**326**	*i* P	**Pn**	**19 54 38.2**	**-0.6**
	baz=322						
NRN				*e*S	**Sn**	**19 55 01.7**	**-0.6**
	baz=322						
KDJ	**Kajisay**	**2.24**	**356**	⇓*i*P	**Pn**	**19 54 44.5**	**+0.6**
	baz=355						
KDJ				⇓*e*S	**Sn**	**19 55 11.9**	**+0.4**
	baz=355						
ULHL	**Ulahol**	**2.50**	**340**	P	**Pb**	**19 54 50.4**	**-1.4**
	SNR=49						
ULHL	**Ulahol**	**2.50**	**340**	⇑*i*P	**Pb**	**19 54 49.6**	**-2.2**
	baz=338						
ULHL				⇑*i*S	**Sb**	**19 55 22.7**	**+0.1**
	baz=338						
KZA	**Kyzart**	**2.71**	**324**	P	**Pb**	**19 54 53.2**	**-2.2**
	SNR=52						
KZA	**Kyzart**	**2.71**	**324**	⇑*i*P	**Pn**	**19 54 52.2**	**+1.7**
	baz=322						
KZA				⇑*i*S	**Sb**	**19 55 29.5**	**+0.7**
	baz=322						
BOOM	**Boomskoye usch**	**2.81**	**338**	*i* P	**Pn**	**19 54 54.0**	**+2.3**
	baz=336						
BOOM				*e*S	**Sb**	**19 55 29.2**	**-2.2**
	baz=336						
SALK	**Salom-Alik**	**2.88**	**291**	*i* P	**Pn**	**19 54 53.4**	**+0.7**
	baz=288						
SALK				*e*S	**Sb**	**19 55 33.0**	**-0.6**
	baz=288						
SFK	**Sufi-Kurgan**	**2.98**	**274**	⇑Pn	**Pn**	**19 54 54.5**	**+0.5**
	19nm,0.4s						
SFK				⇑Lg	Lg	19 55 36.3	
	108nm,0.8s						
ARLS	**Aral**	**3.03**	**311**	*i* P	**Pn**	**19 54 55.8**	**+1.0**
	baz=309						
UCH	**Uchtor**	**3.18**	**318**	P	**Pn**	**19 54 59.0**	**+2.0**
	SNR=30						
UCH	**Uchtor**	**3.18**	**318**	⇑*i*P	**Pn**	**19 54 58.7**	**+1.7**
	baz=316						
UCH				⇑*i*S	**Sb**	**19 55 40.5**	**-1.8**
	baz=316						
TKM2	**Tokmak 2**	**3.31**	**337**	⇑Pn	**Pn**	**19 55 01.1**	**+2.5**
	21nm,0.8s						
TKM2				⇑Lg	Lg	19 55 48.0	
	40nm,0.6s						
TKM2	**Tokmak 2**	**3.31**	**337**	P	Pn	19 55 01.7	+3.2
	SNR=10						
KBK	**Karagaybulak**	**3.31**	**327**	P	**Pb**	**19 55 04.8**	**-0.7**
	SNR=36						
KNDC	**Almaty**	**3.33**	**355**	⇓Pn	**Pn**	**19 55 01.0**	**+2.2**
KNDC				⇑Lg	Lg	19 55 50.4	
AAK	**Ala-Archa**	**3.49**	**323**	⇓Pn	**Pn**	**19 55 03.3**	**+2.2**
	22nm,0.7s						
AAK				⇑Lg	Lg	19 55 52.8	
	102nm,0.8s						
AAK	**Ala-Archa**	**3.49**	**323**	P	**Pn**	**19 55 03.5**	**+2.5**
	SNR=13						
AML	**Almayashu**	**3.57**	**310**	P	**Pn**	**19 55 04.6**	**+2.3**
	SNR=53						
AML	**Almayashu**	**3.57**	**310**	⇑*i*P	**Pn**	**19 55 04.5**	**+2.2**
	baz=308						
AML				⇑*i*S	**Sb**	**19 55 50.0**	**-3.5**
	baz=308						
FRU	**Bishkek**	**3.59**	**326**	*e*P	Pn	19 55 05.5	+3.1
	baz=324						
CHMS	**Chumysh**	**3.67**	**328**	P	**Pn**	**19 55 05.8**	**+2.3**
	SNR=8.1						
PDGK	**Podgornoye**	**3.78**	**24**	⇓Pn	**Pn**	**19 55 06.5**	**+1.7**
	29nm,0.8s						
PDGK				⇑Sn	**Sb**	**19 55 55.4**	**-3.7**
	56nm,0.6s						
EKS2	**Erkin-Say**	**3.87**	**317**	P	Pn	19 55 09.3	+3.1
	SNR=9.4						
USP	**Ospenovka**	**4.00**	**328**	P	**Sb**	**19 56 09.7**	**+4.1**
	SNR=7.4						
MNAS	**Manas**	**4.49**	**307**	⇓Pn	**Pn**	**19 55 16.0**	**+1.2**
	18nm,1.2s						
MNAS				⇑Lg	Lg	19 56 24.8	
	48nm,1.1s						
KK31	**Karatay Array**	**6.07**	**304**	⇑Pn	**Pn**	**19 55 37.9**	**+1.6**
	0.2nm,0.4s,baz=130,slow=12,SNR=6.2						
KK31				⇓Pg	**Pb**	**19 55 54.3**	**+1.9**
	1.7nm,0.6s,baz=111,slow=16,SNR=12						
KK31				⇑Lg	Lg	19 57 13.2	
	26nm,1.2s,baz=122,slow=28,SNR=3.8						
DZET	**Dzherino**	**6.71**	**263**	⇓Pn	**Pn**	**19 55 44.0**	**-1.2**
	16nm,0.5s						
DZET				⇑Sn	**Sn**	**19 57 01.0**	**-0.6**
	13nm,0.5s						
CHCP	**Chirah Chowk**	**7.04**	**209**	P	**Pn**	**19 55 51.5**	**+1.8**
CEP	**Cherat**	**7.47**	**218**	P	**Pn**	**19 55 56.9**	**+1.2**
CEP				S	**Sn**	**19 57 19.0**	**-1.5**
MK31	**Makanchi Array**	**7.77**	**26**	⇑Pn	**Pn**	**19 55 59.9**	**+0.2**
	0.3nm,0.4s,baz=207,slow=14,SNR=13						
MK31				⇓Pg	Pb	19 56 27.8	+6.4
	1.0nm,0.7s,baz=207,slow=16,SNR=4.5						
MK31				⇓Sn	**Sn**	**19 57 31.1**	**+3.5**
	1.6nm,0.7s						
MK31				⇓Lg	Lg	19 58 09.4	
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**7.77**	**26**	Pn	**Pn**	**19 56 00.6**	**+0.9**
	0.3nm,0.3s,baz=206,slow=13,SNR=12						
MKAR				Lg	Lg	19 58 09.2	
	0.2nm,0.3s,baz=192,slow=23,SNR=4.0						
THW	**Thamme Wali**	**8.41**	**214**	P	**Pn**	**19 56 08.3**	**-0.2**
KURBB	**Kurchatov Arra**	**10.76**	**4**	Pn	**Pn**	**19 56 43.0**	**+2.5**
	baz=182,slow=11						
KURBB				Lg	Lg	19 59 47.3	
KURK	**Kurchatov**	**10.86**	**4**	Pn	**Pn**	**19 56 44.2**	**+2.3**
KURK				Lg	Lg	19 59 52.2	
ZALV	**Zalesovo Beam**	**14.94**	**17**	Pn	**Pn**	**19 57 37.7**	**+0.1**
	0.1nm,0.3s,baz=210,slow=11,SNR=2.7						
SONM	**Songino Array**	**22.28**	**60**	P	**P**	**19 59 04.5**	**+0.7**
	0.5nm,0.7s,baz=262,slow=10.0,SNR=3.0						
CD2	**Chengdu**	**23.24**	**104**	P	**P**	**19 59 15.0**	**+1.1**
CD2	**Chengdu**	**23.24**	**104**	*e*P	**P**	**19 59 15.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**70.74**	**271**	P	**P**	**20 05 20.1**	**-2.9**
	1.4nm,0.8s,baz=46,slow=4.9,SNR=9.2						

IDC 17 19:56:32.1±2.0,1°.86N×127°.30E,h0km,mb3.1/3, mb1 3.4/3,mb1mx3.2/30,mbtmp3.2/3,Error ellipse: s-maj=147.2km s-min=25.3km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**163**	P	P	20 01 34.6	-1.4
	0.5nm,0.5s,baz=342,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**26.18**	**166**	P	P	20 02 09.4	+0.9
	0.2nm,0.8s,baz=346,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**59.41**	**326**	P	P	20 06 36.6	+0.1
	0.1nm,0.5s,baz=120,slow=8.5,SNR=3.5						

*IDC **17** 20:02:46.8±2.0,11°.32S×117°.39E,h0km,mb3.6/2, mb1 3.4/5,mb1mx3.2/23,mbtmp3.3/5,ML3.1/3,Error ellipse: s-maj=74.2km s-min=25.0km az=40.0*
*ISCJB **17** 20:02:51.3±0.5,11°.39S±0°.05×117°.58E±0°.04,h34km, mb3.6/2,Error ellipse: s-maj=6.5km s-min=5.5km az=6.4*
*AUST **17** 20:02:54.0,11°.48S×117°.42E,h60km*
*DJA **17** 20:03:00.6±0.9,11°.S±10°×11°.8E±°,h10km,M4.2/10, mb4.3/1,MLv4.2/10*

ISC 17 20:02:53.3±0.8,11°.35S±0°.07×117°.61E±0°.05,h34km,n23, σ1$51/25,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.43**	**46**	P	**Pn**	**20 03 33.3**	**+2.6**
WBSI				S	**Sn**	**20 03 58.1**	**-1.3**
TWSI	**Taliwang, Sumb**	**2.69**	**344**	P	**Pb**	**20 03 40.9**	**+0.1**
BASI	**Baing, Sumba**	**3.12**	**69**	P	Pn	20 03 43.6	+3.5
WSI	**Waingapu**	**3.12**	**58**	P	**Pn**	**20 03 42.5**	**+2.3**
WSI				S	**Sn**	**20 04 17.4**	**+1.1**
WSI	**Waingapu**	**3.12**	**58**	S	**Sn**	**20 04 15.2**	**-1.1**
	baz=3.2,SNR=4.9						
IGBI	**Denpasar**	**3.50**	**316**	P	**Pb**	**20 03 56.3**	**+1.8**
DNP	**Denpasar**	**3.56**	**318**	P	**Pb**	**20 03 55.5**	**0.0**
SRBI	**Singaraja**	**4.01**	**324**	P	**Pb**	**20 04 01.3**	**-2.0**
JAGI	**Jajag, Banyuwa**	**4.45**	**310**	P	**Pn**	**20 03 59.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.45**	**310**	P	**Pn**	**20 03 58.8**	**+0.4**
	baz=4.5,SNR=9.6						
JAGI				S	**Sn**	**20 04 48.1**	**-1.0**
	baz=4.5,SNR=5.2						
BATI	**Baumata**	**6.05**	**80**	Pn	**Pn**	**20 04 20.8**	**+0.3**
	1.0nm,0.3s,baz=117,slow=4.5,SNR=2.5						
BKSI	**Bulukumba**	**6.48**	**23**	P	**Pn**	**20 04 28.4**	**+2.1**
SOEI	**Soe**	**6.73**	**77**	P	**Pn**	**20 04 31.5**	**+1.6**
	baz=6.8,SNR=5.1						
UGM	**Wanagama**	**7.78**	**295**	P	**Pn**	**20 04 46.4**	**+2.2**
	baz=7.8,SNR=3.7						
UGM				S	**Sn**	**20 06 12.2**	**+1.0**
	baz=7.8,SNR=3.9						
KNRA	**Kununurra**	**11.66**	**113**	S	Sn	20 07 40.2	-6.3
	baz=12,SNR=3.6						
GIRL	**Giralia**	**11.69**	**196**	P	**Pn**	**20 05 37.7**	**-0.1**
	baz=12,SNR=12						
MEEK	**Meekatharra**	**15.24**	**177**	P	**Pn**	**20 06 24.8**	**-1.3**
	baz=15,SNR=7.4						
MEEK				S	Sn	20 08 57.7	-16
	baz=15,SNR=15						
WRKA	**Warakurna**	**16.97**	**145**	P	**Pn**	**20 06 47.4**	**-0.8**
	baz=17,SNR=3.7						
WRKA				S	Sn	20 09 43.2	-13
	baz=17,SNR=9.5						
MORW	**Morawa**	**17.69**	**185**	P	**Pn**	**20 06 57.3**	**+0.1**
	baz=18,SNR=5.1						
MORW				S	Sn	20 09 58.7	-15
	baz=18,SNR=4.6						
WRA	**Warramunga Arr**	**18.22**	**120**	P	**P**	**20 07 02.4**	**-1.3**
	0.1nm,0.3s,baz=291,slow=14,SNR=3.2						
WRA				S	Sn	20 10 11.0	-15
	0.1nm,0.3s,baz=287,slow=23,SNR=7.4						
ASAR	**Alice Springs**	**19.76**	**130**	P	**P**	**20 07 21.4**	**+0.8**
	0.0nm,0.3s,baz=314,slow=13,SNR=3.7						
ASAR				S	S	20 10 50.4	-11
	0.1nm,0.3s,baz=296,slow=23,SNR=8.3						
MKAR	**Makanchi Array**	**65.94**	**334**	P	**P**	**20 13 33.7**	**-2.3**
	0.6nm,1.1s,baz=149,slow=6.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.75**	**340**	P	**P**	**20 14 04.3**	**-1.6**
	0.5nm,0.6s,baz=143,slow=5.0,SNR=4.0						

*BJI **17** 20:05:02.1,19°.40N×65°.50W,h21km,mB5.2/1,Ms5.2/2, Ms7 4.9/2*
*LDG **17** 20:05:03.2±0.3,19°.46N×65°.71W,h10km,Mb4.4/12, Ms3.6/8,Error ellipse: s-maj=15.6km s-min=7.3km az=79.0*
*IDC **17** 20:05:04.1±0.5,19°.36N×65°.64W,h0km,mb4.2/23, mb1 4.3/24,mb1mx4.2/39,mbtmp4.2/24,ML3.1/1,MS3.6/18, Ms1 3.6/18,ms1mx3.4/46,Error ellipse: s-maj=13.7km s-min=11.6km az=77.0*
*NEIC **17** 20:05:06.4±2.5,19°.43N×65°.46W,h11km±16km,mb4.6/75, Error ellipse: s-maj=6.6km s-min=4.5km az=208.0*
NEIC Felt at Fort Buchanan. Felt [II] on Saint Thomas, U.S. Virgin Islands. Also felt on Saint Croix.
*ISCJB **17** 20:05:07.3±1.1,19°.50N±0°.02×65°.45W±0°.02,h25km±8km, mb4.5/101,MS3.5/17,Error ellipse: s-maj=3.9km s-min=2.9km az=179.5*
*RSPR **17** 20:05:07.9,19°.51N×65°.39W,h87km±9km,MD4.9/16*

ISC 17 20:05:06.8±1.7,19°.46N±0°.04×65°.46W±0°.03,h15km±11km, n405,σ1$15/418,mb4.6/101,MS3.6/17,114C-86D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.21**	**156**	⇑*e*P	**Pn**	**20 05 29.5**	**+0.3**
STVI	**Saint Thomas**	**1.21**	**156**	⇑*e*P	**Pn**	**20 05 29.5**	**+0.3**
STVI				*e*S	**Sg**	**20 05 46.7**	**+0.9**
STVI	**Saint Thomas**	**1.21**	**156**	⇑*e*P	**Pn**	**20 05 29.5**	**+0.3**
STVI				*e*S	**Sg**	**20 05 46.7**	**+0.9**
ABV	**Anegada**	**1.30**	**124**	⇓*e*P	**Pn**	**20 05 30.5**	**+0.2**
ABV	**Anegada**	**1.30**	**124**	⇓*e*P	**Pn**	**20 05 30.5**	**+0.2**
ABVI	**Anegada Island**	**1.30**	**124**	⇓*e*P	**Pn**	**20 05 30.5**	**+0.2**
TBVI	**Tortola**	**1.31**	**142**	⇓*e*P	**Pn**	**20 05 31.1**	**+0.4**
TBVI	**Tortola**	**1.31**	**142**	⇓*e*P	**Pn**	**20 05 31.7**	**+0.5**
TBVI	**Tortola**	**1.31**	**142**	⇓*e*P	**Pn**	**20 05 31.1**	**+0.4**
HUMP	**Col San Antoni**	**1.36**	**196**	⇓*e*P	**Pn**	**20 05 32.0**	**+0.6**
HUMP				*e*S	**Sg**	**20 05 51.3**	**+0.5**
HUMP	**Col San Antoni**	**1.36**	**196**	⇑*e*P	**Pn**	**20 05 31.9**	**+0.6**
HUMP	**Col San Antoni**	**1.36**	**196**	⇑*e*P	**Pn**	**20 05 31.9**	**+0.6**
HUMP	**Col San Antoni**	**1.36**	**196**	⇓*e*P	**Pb**	**20 05 32.3**	**+0.2**
HUMP				*e*S	**Sb**	**20 05 50.5**	**+1.2**
HUMP				*e*S	**Sg**	**20 05 51.3**	**+0.5**
HUMP	**Col San Antoni**	**1.36**	**196**	⇑*e*P	**Pn**	**20 05 31.9**	**+0.6**
HUMP				*e*S	**Sb**	**20 05 50.0**	**+0.7**
SJG	**San Juan**	**1.49**	**206**	⇑*e*P	**Pn**	**20 05 33.9**	**+0.8**
SJG	**San Juan**	**1.49**	**206**	⇑*e*P	**Pn**	**20 05 33.9**	**+0.8**
SJG	**San Juan**	**1.49**	**206**	⇑*e*P	**Pn**	**20 05 33.9**	**+0.8**
AOPR	**Arecibo Observ**	**1.65**	**228**	⇓*e*P	**Pn**	**20 05 35.7**	**+0.4**
AOPR	**Arecibo Observ**	**1.65**	**228**	⇓*e*P	**Pn**	**20 05 36.1**	**+0.8**
AOPR	**Arecibo Observ**	**1.65**	**228**	⇓*e*P	**Pn**	**20 05 35.7**	**+0.4**
AOPR	**Arecibo Observ**	**1.65**	**228**	⇓*e*P	**Pn**	**20 05 36.1**	**+0.8**
AOPR				*e*S	**Sb**	**20 05 57.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.65**	**228**	⇓*e*P	**Pn**	**20 05 35.7**	**+0.4**
AOPR				*e*Sn	**Sn**	**20 05 54.5**	**-1.8**
CELP	**Cerrillos**	**1.74**	**218**	⇓*e*P	**Pn**	**20 05 37.0**	**+0.5**
CELP	**Cerrillos**	**1.74**	**218**	⇓*e*P	**Pn**	**20 05 37.3**	**+0.8**
CELP	**Cerrillos**	**1.74**	**218**	⇓*e*P	**Pn**	**20 05 37.0**	**+0.5**
LRS	**Lares**	**1.75**	**228**	⇓*e*P	**Pn**	**20 05 37.0**	**+0.3**
LRS	**Lares**	**1.75**	**228**	⇓*e*P	**Pn**	**20 05 37.0**	**+0.3**
OBIP	**Obispado Ponce**	**1.78**	**218**	⇓*e*P	**Pn**	**20 05 37.4**	**+0.4**
OBIP	**Obispado Ponce**	**1.78**	**218**	⇓*e*P	**Pn**	**20 05 37.4**	**+0.4**
OBIP				*e*S	**Sb**	**20 06 01.9**	**+0.6**
OBIP	**Obispado Ponce**	**1.78**	**218**	⇓*e*P	**Pn**	**20 05 37.4**	**+0.4**
OBIP				*e*S	**Sb**	**20 06 01.9**	**+0.6**
CDVI	**St. Croix**	**1.83**	**159**	*e*Pn	**Pn**	**20 05 40.1**	**+0.2**
CDVI				*e*Sn	**Sg**	**20 06 07.1**	**+1.5**
AGPR	**Aguadilla, PR**	**1.85**	**238**	⇓*e*P	**Pn**	**20 05 38.2**	**+0.3**
AGPR	**Aguadilla, PR**	**1.85**	**238**	⇓*e*P	**Pn**	**20 05 38.2**	**+0.3**
AGPR				*e*S	**Sn**	**20 06 01.1**	**0.0**
AGPR	**Aguadilla, PR**	**1.85**	**238**	⇓*e*P	**Pn**	**20 05 38.2**	**+0.3**
AGPR				*e*S	**Sn**	**20 06 01.1**	**0.0**
ICM	**Isla Caja Muer**	**1.86**	**213**	⇓*e*P	**Pb**	**20 05 39.5**	**-0.9**
ICM	**Isla Caja Muer**	**1.86**	**213**	⇓*e*P	**Pb**	**20 05 39.5**	**-0.9**
ICM	**Isla Caja Muer**	**1.86**	**213**	⇓*e*P	**Pb**	**20 05 39.5**	**-0.9**
ICMP	**Isla Caja de M**	**1.86**	**213**	*e*Pn	**Pn**	**20 05 39.4**	**+1.2**
ICMP				*e*Sn	**Sg**	**20 06 06.0**	**-0.8**
AGP	**Aguadilla**	**1.90**	**237**	*e*Pn	**Pn**	**20 05 39.6**	**+0.8**
AGP				*e*Sn	**Sn**	**20 06 00.5**	**-2.0**
GBPR	**Guanica, Bosqu**	**2.00**	**222**	⇓*e*P	**Pn**	**20 05 41.2**	**+1.2**
GBPR	**Guanica, Bosqu**	**2.00**	**222**	⇓*e*P	**Pn**	**20 05 41.2**	**+1.2**
GBPR				*e*S	**Sb**	**20 06 06.6**	**-1.0**
GBPR	**Guanica, Bosqu**	**2.00**	**222**	⇓*e*P	**Pn**	**20 05 41.2**	**+1.2**
GBPR				*e*S	**Sb**	**20 06 06.6**	**-1.0**
LSP	**Las Mesas**	**2.00**	**230**	⇓*e*P	**Pn**	**20 05 40.8**	**+0.7**
LSP	**Las Mesas**	**2.00**	**230**	⇓*e*P	**Pn**	**20 05 40.8**	**+0.7**
MPR	**Mayaguez**	**2.02**	**232**	⇓*e*P	**Pn**	**20 05 40.5**	**+0.2**
MPR	**Mayaguez**	**2.02**	**232**	⇓*e*P	**Pn**	**20 05 40.5**	**+0.2**
MPR	**Mayaguez**	**2.02**	**232**	⇓*e*P	**Pn**	**20 05 40.5**	**+0.2**
MPR				*e*Sn	**Sn**	**20 06 04.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.13**	**227**	⇓*e*P	**Pn**	**20 05 42.5**	**+0.7**
CRPR	**Cabo Rojo, PR**	**2.13**	**227**	⇓*e*P	**Pn**	**20 05 42.5**	**+0.7**
IDE	**Isla Desecheo**	**2.18**	**241**	⇑*e*P	**Pn**	**20 05 43.2**	**+0.6**
IDE	**Isla Desecheo**	**2.18**	**241**	⇑*e*P	**Pn**	**20 05 43.2**	**+0.6**
IDE				*e*S	**Sb**	**20 06 11.3**	**-1.6**
IDE	**Isla Desecheo**	**2.18**	**241**	⇑*e*P	**Pn**	**20 05 43.2**	**+0.6**
IDE				*e*S	**Sb**	**20 06 11.0**	**-1.9**
SMRT	**St. Maarten**	**2.67**	**121**	⇑*e*P	**Pn**	**20 05 47.4**	**-1.8**
SMRT	**St. Maarten**	**2.67**	**121**	⇑*e*P	**Pn**	**20 05 47.4**	**-1.8**
SMRT	**St. Maarten**	**2.67**	**121**	⇑*e*P	**Pn**	**20 05 47.4**	**-1.8**
SABA	**Saba**	**2.79**	**131**	⇑*e*P	**Pn**	**20 05 50.0**	**-1.0**
SABA	**Saba**	**2.79**	**131**	⇑*e*P	**Pn**	**20 05 50.0**	**-1.0**
SABA	**Saba**	**2.79**	**131**

SSPA	Standing Stone 28nm,1.1s	23.63	336	*e*P	P	20 10 19.7	+2.3
KSPA	Keystone Colle 20nm,1.0s	23.71	340	*e*P	P	20 10 18.1	-0.1
APG	El Apazote 15nm,0.8s,baz=49,slow=3.6,SNR=13	24.28	263	P	P	20 10 20.1	-3.9
APG				LR	LR	20 21 01.4	
	comp=Z,196nm,18.4s,baz=110,slow=40						
BINY	Binghamton	24.36	341	P	P	20 10 26.5	+2.2
ACCN	Adirondack Com 6.0nm,0.9s	24.83	346	P	P	20 10 28.9	+0.5
ACCN				*e*		20 10 52.5	
LBNH	Lisbon 15nm,0.7s	25.29	349	P	P	20 10 27.0	-5.7
LBNH				*e*		20 10 58.4	
MDV	Middlebury	25.30	347	P	P	20 10 32.5	-0.3
MDV				*e*		20 10 60.0	
ACSO	Alum Creek Sta	25.58	328	*e*P	P	20 10 34.6	-0.8
ACSO				*e*		20 12 00.2	
WVT	Waverly 11nm,1.2s	25.73	315	*e*P	P	20 10 36.4	-0.4
WCI	Wyandotte Cave 14nm,1.0s	26.02	320	*e*P	P	20 10 38.9	-0.5
USIN	University of 18nm,0.8s	26.70	318	*e*P	P	20 10 44.8	-0.7
SADO	Sadowa	27.68	339	LR	LR	20 23 44.5	
	comp=Z,82nm,18.3s,baz=136,slow=40						
SFIN	Lafayette 12nm,0.8s	27.90	323	*e*P	P	20 11 00.0	+3.8
CMIG	Matias Romero	28.02	270	LR	LR	20 23 35.2	
	comp=Z,113nm,18.1s,baz=67,slow=40						
SAML	Samuel 6.0nm,1.1s	28.32	175	*e*P	P	20 10 58.3	-1.9
034A	Hebbronville baz=31	31.37	290	⇑P	P	20 11 28.2	+1.0
Z35A	Perchaven, San baz=32	31.50	302	⇓P	P	20 11 29.6	+1.3
734A	La Parita Cree baz=32	31.52	294	⇓P	P	20 11 29.4	+0.9
R37A	Teagarden Farm baz=32	31.64	313	⇓P	P	20 11 29.5	+0.1
434A	Burnet baz=32	31.66	297	⇓P	P	20 11 30.1	+0.4
534A	Blanco baz=32	31.67	296	⇑P	P	20 11 30.7	+0.9
S36A	Lake Cedric, C baz=32	31.91	311	⇓P	P	20 11 32.9	+1.2
933A	Laredo baz=32,SNR=5.1	31.96	291	⇑P	P	20 11 33.1	+0.7
533A	Kerrville baz=32	32.15	296	⇓P	P	20 11 34.5	+0.5
633A	Saathoff Ranch baz=32,SNR=12	32.16	295	⇓P	P	20 11 35.0	+0.9
333A	Richland Sprin baz=32	32.38	298	⇑P	P	20 11 35.8	-0.2
233A	Rising Star baz=32	32.47	299	⇑P	P	20 11 37.8	+1.0
632A	Uvalde baz=33	32.69	294	⇓P	P	20 11 39.8	+1.0
Z33A	Whitaker Ranch baz=33	32.70	302	⇑P	P	20 11 39.1	+0.3
U34A	Anderson Ranch baz=33	32.79	308	⇓P	P	20 11 41.0	+1.4
U34A	Anderson Ranch 17nm,0.9s	32.79	308	*e*P	P	20 11 40.3	+0.8
Y33A	Hilltop Ranch, baz=33	32.80	303	⇓P	P	20 11 40.3	+0.6
JCT	Junction City baz=33	32.88	296	⇓P	P	20 11 41.4	+0.9
532A	Rocksprings baz=33,SNR=7.1	32.90	296	⇓P	P	20 11 41.7	+1.0
432A	Menard baz=33	32.96	297	⇑P	P	20 11 41.4	+0.3
WMOK	Wichita Mounta 7.3nm,0.9s	33.15	304	*e*P	P	20 11 44.0	+1.3
U33A	Lingo Farm, Me baz=33	33.22	307	⇑P	P	20 11 43.6	+0.2
ABTX	Abilene, Hawle baz=33	33.23	300	⇓P	P	20 11 44.1	+0.6
Z32A	Haskell baz=33	33.28	301	⇓P	P	20 11 44.7	+0.8
631A	Perdido Creek baz=33,SNR=6.1	33.35	294	⇑P	P	20 11 45.2	+0.6
X32A	Elmer baz=34	33.45	303	⇑P	P	20 11 46.3	+0.9
531A	Rocksprings baz=34	33.46	295	⇓P	P	20 11 46.1	+0.6
S33A	Kaszmaul Farm, baz=34	33.59	309	⇑P	P	20 11 47.3	+0.8
Z31A	Sharp Cattle R baz=34	33.82	301	⇑P	P	20 11 49.6	+0.9
X31A	McDonald Ranch baz=34	34.06	303	⇑P	P	20 11 50.4	-0.2
Y31A	Rekieta Farm, baz=34	34.09	302	⇑P	P	20 11 51.2	+0.3
530A	J-C Ranch, Com baz=34	34.13	295	⇑P	P	20 11 51.3	-0.1
W31A	Holland Ranch, baz=34	34.20	304	⇓P	P	20 11 52.5	+0.6
330A	Mertzon baz=34	34.22	297	⇓P	P	20 11 52.0	-0.2
V31A	Spring Creek L baz=34	34.31	305	⇓P	P	20 11 53.8	+0.9
R32A	Long Quarter, baz=34	34.43	310	⇑P	P	20 11 54.7	+0.9
S31A	Mullinville baz=35	34.68	309	⇑P	P	20 11 56.9	+0.8
429A	Davenport Ranc baz=35	34.68	296	⇓P	P	20 11 56.1	-0.1
X30A	Coker Ranch, T baz=35	34.71	303	⇑P	P	20 11 57.4	+1.0
529A	Stev Forest Ra baz=35	34.88	295	⇓P	P	20 11 58.6	+0.7
329A	Wagon Wheel Ra baz=35	34.91	297	⇑P	P	20 11 58.6	+0.5
129A	Stewart Farms, baz=35	35.06	299	⇓P	P	20 11 59.1	-0.3
Q31A	Ellis baz=35	35.15	311	⇓P	P	20 12 01.0	+0.8
U30A	WK&E Inc. Balk baz=35	35.17	306	⇑P	P	20 12 00.8	+0.4
Y29A	Porterfield Fa baz=35	35.19	301	⇑P	P	20 12 01.2	+0.7
T30A	Plains baz=35,SNR=5.3	35.25	307	⇑P	P	20 12 01.5	+0.5
SCHQ	Schefferville 2.9nm,0.9s,baz=164,slow=5.1,SNR=3.7	35.32	359	P	P	20 12 01.5	+0.2
SCHQ				LR	LR	20 26 02.9	
	comp=Z,37nm,21.1s,baz=297,slow=36						
P31A	Stockton baz=35	35.35	312	⇓P	P	20 12 02.6	+0.7
X29A	Tulia baz=35	35.37	302	⇑P	P	20 12 02.0	-0.1
S30A	Montezuma baz=35	35.41	308	⇓P	P	20 12 03.1	+0.7
AMTX	Amarillo baz=36	35.47	303	⇑P	P	20 12 03.1	+0.2
SIV	San Ignacio 1.1nm,0.4s,baz=332,slow=13,SNR=5.3	35.50	173	P	P	20 12 00.7	-2.5
R30A	Dighton baz=36	35.51	309	⇑P	P	20 12 03.7	+0.5
W29A	Amarillo baz=36	35.51	304	⇓P	P	20 12 04.0	+0.7
228A	UT Block 9, Go baz=36	35.55	298	⇓P	P	20 12 03.3	-0.4
ECSD	EROS Data Cent baz=36,SNR=10	35.56	320	⇓P	P	20 12 04.4	+0.9
ECSD	EROS Data Cent 12nm,0.8s	35.56	320	*e*P	P	20 12 03.2	-0.3
U29A	Oasis Ranch, S baz=36	35.62	306	⇑P	P	20 12 04.9	+0.7
LPAZ	La Paz 0.6nm,0.4s,baz=29,slow=8.0,SNR=3.2	35.62	184	P	P	20 12 02.5	-2.4
LPAZ				LR	LR	20 28 27.6	
	comp=Z,163nm,18.6s,baz=342,slow=40						
LPAZ	La Paz 54nm,2.5s	35.62	184	*e*P	P	20 12 02.0	-3.0
Q30A	Quinter baz=36	35.73	310	⇓P	P	20 12 06.1	+0.9
T29A	Hugoton baz=36	35.87	307	⇑P	P	20 12 06.8	+0.5
TXAR	Lajitas Array 4.2nm,0.7s,baz=108,slow=10,SNR=36	36.01	293	P	P	20 12 06.8	-0.9
TXAR				LR	LR	20 33 30.1	
	comp=Z,25nm,19.1s,baz=0.0,slow=48						
MSTX	Muleshoe baz=36	36.11	301	⇑P	P	20 12 09.2	+0.7
MSTX	Muleshoe	36.11	301	*e*P	P	20 12 07.8	-0.7
R29A	Marienthal baz=36	36.19	309	⇑P	P	20 12 10.1	+1.0
Q29A	Oakley baz=36	36.25	310	⇑P	P	20 12 10.0	+0.5
U28A	Mallet baz=36	36.33	305	⇓P	P	20 12 11.1	+0.8
S28A	Manter baz=36,SNR=5.1	36.46	307	⇑P	P	20 12 12.4	+0.9
T28A	Walsh baz=36	36.47	307	⇓P	P	20 12 12.5	+1.0
R28A	Tribune baz=37,SNR=5.4	36.66	309	⇓P	P	20 12 13.4	+0.3
T27A	Campo baz=37,SNR=5.4	36.92	306	⇑P	P	20 12 16.0	+0.6
BRSD	Miller baz=37	37.37	319	⇑P	P	20 12 20.1	+1.2
V26A	Tequesquite Ra baz=37,SNR=14	37.38	304	⇑P	P	20 12 19.9	+0.6
U26A	Atchley Ranch, baz=38,SNR=11	37.51	305	⇑P	P	20 12 21.1	+0.6
T26A	Comanche Natio baz=38	37.62	306	⇑P	P	20 12 20.9	-0.5
MNTX	Cornudas Mount 3.7nm,0.8s	37.81	297	*e*P	P	20 12 22.9	0.0
MNTX				*e*		20 14 31.3	
R26A	Arlington baz=38	37.85	308	⇑P	P	20 12 23.7	+0.5
T25A	Trinidad baz=38,SNR=5.8	38.23	306	⇑P	P	20 12 27.0	+0.4
T25A	Trinidad 12nm,1.0s	38.23	306	*e*P	P	20 12 27.9	+1.3
R25A	Fountain Ranch baz=38	38.43	307	⇓P	P	20 12 29.1	+0.9
I28A	Midland baz=39	38.53	317	⇑P	P	20 12 29.8	+1.0
H28A	Mission Ridge baz=39	38.76	318	⇓P	P	20 12 32.0	+1.2
BDFB	Brasilia 0.9nm,0.3s,baz=331,slow=13,SNR=2.3	38.88	153	P	P	20 12 31.8	-0.2
ULM	Lac du Bonnet 1.5nm,0.6s,baz=121,slow=7.8,SNR=7.6	39.07	329	P	P	20 12 32.2	-0.9
ULM				LR	LR	20 29 28.7	
	comp=Z,68nm,19.7s,baz=29,slow=38						
SDCO	Great Sand Dun baz=39,SNR=29	39.23	306	⇑P	P	20 12 35.4	+0.3
BNM	Barren Site	39.27	300	*e*P	P	20 12 36.3	+1.0
ANMO	Albuquerque	39.29	302	P	P	20 12 34.2	-1.3
H27A	Howes baz=39	39.41	318	⇓P	P	20 12 37.2	+1.1
ISCO	Idaho Springs baz=40	39.93	309	⇑P	P	20 12 40.8	-0.1
ISCO	Idaho Springs 7.2nm,1.3s	39.93	309	*e*P	P	20 12 41.4	+0.5
F27A	Lemmon baz=40	39.96	320	⇑P	P	20 12 41.7	+1.0
G26A	Maurine baz=40,SNR=7.1	40.04	319	⇑P	P	20 12 42.6	+1.2
S22A	4UR Ranch, Cre baz=40,SNR=6.3	40.25	306	⇑P	P	20 12 44.7	+1.2
S22A	4UR Ranch, Cre 5.7nm,1.1s	40.25	306	*e*P	P	20 12 44.3	+0.8
O23A	Lake Granby, G baz=40	40.28	310	⇑P	P	20 12 44.0	+0.2
O22A	Kremmling baz=41,SNR=6.2	40.73	309	⇑P	P	20 12 47.6	+0.2
SMCO	Snowmass 5.2nm,1.2s	40.75	308	*e*P	P	20 12 48.5	+0.8
N22A	Wattenberg Ran baz=41	40.86	310	⇓P	P	20 12 49.4	+0.8
M22A	Cedar Creek Ra baz=41	41.16	311	⇑P	P	20 12 51.9	+1.0
MVCO	Mesa Verde baz=41	41.40	305	⇓P	P	20 12 53.3	+0.3
PV01	Paradox Valley	41.68	306	*e*P	P	20 12 55.5	+0.3
J22A	Midwest baz=42	41.78	314	⇓P	P	20 12 55.7	-0.2
LVC	Limon Verde 18nm,0.6s,baz=21,slow=4.7,SNR=8.7	41.96	185	P	P	20 12 55.0	-2.5
LVC	Limon Verde 7.0nm,0.7s	41.96	185	*e*P	P	20 12 54.4	-3.2
O20A	White River Ci baz=42	41.96	309	⇑P	P	20 12 58.6	+1.2
I22A	9 Mile Ranch, baz=42	41.97	315	⇑P	P	20 12 58.6	+1.1
F23A	Volborg baz=42	42.00	318	⇓P	P	20 12 58.1	+0.6
K21A	Alcova baz=42,SNR=9.3	42.04	313	⇓P	P	20 12 58.9	+0.8
X18A	Snowflake baz=42	42.04	300	⇓P	P	20 12 58.6	+0.4
PV05	Paradox Valley	42.07	306	*e*P	P	20 12 59.2	+0.8
PV10	Paradox Valley	42.09	306	*e*P	P	20 12 59.7	+1.1
N20A	Spence Gulch, baz=42	42.18	310	⇑P	P	20 13 00.2	+0.9
PV09	Paradox Valley	42.19	306	*e*P	P	20 13 00.8	+1.3
G22A	Birney baz=42	42.36	317	⇑P	P	20 13 01.3	+0.7
TUC	Tucson 4.3nm,1.1s	42.44	297	*e*P	P	20 13 02.7	+1.4
A24A	Westby baz=43	42.63	323	⇑P	P	20 13 04.1	+1.5
E22A	Miles City baz=43	42.65	318	⇑P	P	20 13 03.3	+0.5
J20A	Shoshoni baz=43	42.86	313	⇓P	P	20 13 05.4	+0.7
D22A	Cohagen baz=43	43.10	319	⇑P	P	20 13 06.8	+0.3
C22A	Vida baz=43	43.18	320	⇓P	P	20 13 08.3	+1.3
X16A	Lo Mia Camp, P baz=43	43.24	300	⇑P	P	20 13 08.5	+0.6
WUAZ	Wupatki baz=43,SNR=6.9	43.35	301	⇓P	P	20 13 09.4	+0.6
WUAZ	Wupatki 10.0nm,0.9s	43.35	301	*e*P	P	20 13 09.7	+0.9
SRU	San Rafael Swe 3.7nm,0.8s	43.40	307	*e*P	P	20 13 09.3	+0.2
J19A	Crowheart baz=44,SNR=5.5	43.49	313	⇓P	P	20 13 10.7	+0.8
D21A	La Casita Ranch baz=44,SNR=7.8	43.56	319	⇑P	P	20 13 12.0	+1.8
BW06	Boulder Array 4.8nm,1.0s	43.69	312	*e*P	P	20 13 11.8	+0.3
PDAR	Pinedale Array 2.4nm,0.8s,baz=116,slow=9.1,SNR=21	43.69	312	P	P	20 13 10.2	-1.3
PDAR				PcP	PcP	20 14 58.3	-0.2
	1.0nm,0.7s,baz=108,slow=5.1,SNR=5.9						
PDAR				LR	LR	20 31 39.2	
	comp=Z,64nm,20.1s,baz=117,slow=37						
TMUT	Trail Mountain 11nm,1.0s	43.95	307	*e*P	P	20 13 14.7	+0.9
E20A	Meyer Farm, Mu baz=44	44.05	318	⇑P	P	20 13 15.3	+1.2
214A	Organ Pipe Nat 5.4nm,0.4s	44.12	296	P	P	20 13 16.2	+1.3
U15A	North Rim baz=44	44.23	303	⇓P	P	20 13 16.6	+0.5
RLMT	Red Lodge 20nm,1.8s	44.27	315	*e*P	P	20 13 16.4	+0.3
D20A	Manuel Ranch, baz=44	44.28	318	⇓P	P	20 13 17.0	+0.9
FRB	Frobisher Bay 8.5nm,1.0s,baz=170,slow=7.6,SNR=12	44.30	358	P	P	20 13 15.8	0.0
H18A	Shoshone NF, C baz=44	44.38	315	⇓P	P	20 13 17.7	+0.6
FCC	Fort Churchill 355nm,1.1s	44.41	339	*e*P	P	20 13 16.6	-0.1
MPU	Mule Canyon 10nm,1.0s	44.44	308	*e*P	P	20 13 18.5	+0.9
E19A	Rath Farm, Rou baz=44,SNR=7.1	44.45	317	⇓P	P	20 13 18.5	+1.1
C20A	Veseth Ranch, baz=44	44.46	319	⇓P	P	20 13 18.5	+1.1
Y14A	Wickenburg baz=44	44.47	299	⇑P	P	20 13 17.9	+0.2
MVU	Marysvale 4.1nm,1.0s	44.55	305	*e*P	P	20 13 19.4	+0.9
LOHW	Long Hollow 5.8nm,0.9s	44.68	313	*e*P	P	20 13 19.8	+0.4
I17A	Pilgrim Ck. baz=45	44.75	313	⇓P	P	20 13 20.9	+0.9
B20A	Solberg Farm, baz=45	44.77	320	⇑P	P	20 13 21.2	+1.3
REDW	Red Top Meadow 12nm,1.2s	44.77	313	*e*P	P	20 13 21.3	+1.1
D19A	Cripps Ranch, baz=45	44.78	318	⇑P	P	20 13 21.2	+1.2
HWUT	Hardware Ranch 7.1nm,1.0s	44.78	310	*e*P	P	20 13 20.0	-0.2
FFC	Flin Flon 3.1nm,0.8s	44.79	331	*e*P	P	20 13 18.4	-1.5
TPAW	Teton Pass 3.7nm,0.9s	44.88	313	*e*P	P	20 13 21.6	+0.5
A20A	Cobblestone Ra baz=45	44.90	321	⇑P	P	20 13 22.3	+1.4
FXWY	Fox Creek 2.9nm,0.8s	44.98	313	*e*P	P	20 13 23.0	+1.2
IMW	Indian Meadow 4.5nm,1.0s	44.99	313	*e*P	P	20 13 22.8	+0.8
CCUT	Cedar City 4.1nm,1.0s	45.27	304	*e*P	P	20 13 25.9	+1.6
B19A	Brinkman Farms baz=45	45.34	320	⇓P	P	20 13 26.3	+1.9
DUG	Dugway, Tooele baz=45	45.36	308	⇓P	P	20 13 24.9	+0.1
DUG	Dugway, Tooele 9.6nm,1.1s	45.36	308	*e*P	P	20 13 24.7	-0.1
ARUT	Antelope Range	45.37	304	*e*P	P	20 13 26.1	+1.1
ARUT				*e*PcP	PcP	20 15 05.5	+1.2
A19A	Klindworth Far baz=45	45.41	321	⇓P	P	20 13 26.6	+1.6
QLMT	Earthquake Lak	45.62	314	*e*P	P	20 13 28.8	+1.9
EGMT	Eagleton baz=46	45.66	319	⇑P	P	20 13 28.5	+1.6
BGU	Big Grassy Mou 12nm,1.1s	45.69	309	*e*P	P	20 13 28.0	+0.6
HVU	Hansel Valley 3.9nm,0.8s	45.70	310	*e*P	P	20 13 28.4	+0.9
GLA	Glamis baz=46	45.90	297	⇑P	P	20 13 28.9	-0.2
IRM	Iron Mountain baz=46,SNR=8.6	46.26	299	⇓P	P	20 13 33.3	+1.4
LDFC	Landfair 20nm,0.9s	46.32	300	*e*P	P	20 13 34.4	+1.9
DLMT	Dillon 4.0nm,0.8s	46.57	315	*e*P	P	20 13 36.1	+1.8
MCMT	McKenzie Canyo	46.58	314	*e*P	P	20 13 36.3	+1.8
GMRC	Granite Mounta baz=47	46.74	300	⇓P	P	20 13 37.4	+1.6
YUH	Yuha Desert	46.80	297	*e*P	P	20 13 32.9	-3.1
TUQ	Turquoise Moun baz=47	47.02	301	⇑P	P	20 13 38.0	+0.1
R11A	Troy Canyon, C baz=47,SNR=6.3	47.13	305	⇓P	P	20 13 39.8	+1.0
R11A	Troy Canyon, C 5.8nm,1.2s	47.13	305	*e*P	P	20 13 39.8	+1.0
MONP	Monument Peak, baz=47	47.23	297	⇓P	P	20 13 40.7	+1.0
ELK	Elko 63nm,2.6s	47.29	308	*e*P	P	20 13 41.5	+1.4
HLID	Hailey baz=47,SNR=6.9	47.32	312	⇑P	P	20 13 41.9	+1.7
HLID	Hailey 4.1nm,0.9s	47.32	312	*e*P	P	20 13 41.4	+1.2
TPNV	Topopah Spring baz=47,SNR=8.0	47.46	303	⇓P	P	20 13 41.9	+0.6
TPNV	Topopah Spring 7.0nm,0.8s	47.46	303	*e*P	P	20 13 43.3	+1.9
CRY	Cary Ranch	47.53	298	*e*P	P	20 13 45.9	+3.9
EML	El Monte Cty P	47.59	297	*e*P	P	20 13 43.5	+1.3
GSC	Goldstone, Bar baz=48	47.73	300	⇓P	P	20 13 44.9	+1.5
GSC	Goldstone, Bar 5.8nm,1.1s	47.73	300	*e*P	P	20 13 45.4	+2.0
SWMT	Swartz Lake	48.16	317	*e*P	P	20 13 47.7	+1.1
YBMT	Yellow Bay	48.28	317	*e*P	P	20 13 48.9	+1.4
MFID	Camas Ranch 6.8nm,0.8s	48.28	311	*e*P	P	20 13 48.5	+0.9
MPMC	Manual Prospec baz=48	48.35	301	⇓P	P	20 13 47.6	-0.8
TPH	Tonopah 6.4nm,0.9s	48.37	304	*e*P	P	20 13 49.5	+1.0
JTMT	Jette	48.42	317	*e*P	P	20 13 49.7	+1.1
DAC	Darwin (Calif) 6.9nm,0.8s	48.46	302	*e*P	P	20 13 50.6	+1.5
LRMC	Laurel Mtn Rad baz=48	48.46	300	⇓P	P	20 13 50.2	+1.0
WALA	Waterton Lakes 3.1nm,0.8s	48.61	319	*e*P	P	20 13 49.4	-0.6
EDW2	Edwards Air Fo baz=49	48.66	300	⇑P	P	20 13 52.0	+1.4
RVCM	Rose Valley Ce	48.67	301	*e*P	P	20 13 49.3	-1.4
BMN	Battle Mountai 10nm,0.9s	48.72	307	*e*P	P	20 13 52.1	+1.1
BSMT	Bassoo Peak	48.77	317	*e*P	P	20 13 52.5	+1.1
NVAR	Mina Array Bea 7.0nm,1.0s,baz=105,slow=6.0,SNR=34	49.26	304	P	P	20 13 55.5	+0.2
BMO	Blue Mountains 22nm,2.0s	49.65	313	*e*P	P	20 13 58.0	0.0
WVOR	Wild Horse Val 8.9nm,1.1s	50.11	309	*e*P	P	20 14 02.6	+1.0
WAKR	Walker	50.15	304	*e*P	P	20 14 04.0	+1.9
NEW	Newport baz=50,SNR=12	50.39	317	⇓P	P	20 14 04.2	+0.6
NEW	Newport 10nm,0.8s	50.39	317	*e*P	P	20 14 04.0	+0.4
CMB	Columbia Colle	50.85	304	P	P	20 14 07.1	0.0
I07A	Izee 10nm,1.0s	51.03	311	*e*P	P	20 14 09.6	+1.1
M04C	Macdoel baz=52	52.36	308	⇓P	P	20 14 19.4	+0.8
K04D	Chiloquin, OR baz=52	52.41	309	⇓P	P	20 14 20.2	+1.3
G05D	Wamic, OR baz=52	52.51	313	⇓P	P	20 14 21.2	+1.7
J04D	Umpqua Nationa baz=53	52.76	310	⇓P	P	20 14 22.2	+0.7
YBH	Yreka Blue Hor 120nm,2.9s	53.01	308	*e*P	P	20 14 23.0	-0.2
H04A	Detroit Lake 22nm,1.5s	53.03	312	*e*P	P	20 14 24.4	+1.1
YKA	Yellowknife Ar baz=110,slow=7.4	54.55	334	P	P	20 14 33.1	-0.9
SUMG	Summit 11nm,1.0s	55.31	10	*e*P	P	20 14 40.9	+1.0
SUMG	Summit 7.1nm,0.9s	55.31	10	⇑*i*P	P	20 14 41.2	+1.3
MDT	Midelt comp=Z,63nm,20.8s,baz=311,slow=29	55.55	63	LR	LR	20 32 01.3	
ESDC	Sonseca Array 1.5nm,0.8s,baz=271,slow=6.2,SNR=9.7	56.08	55	P	P	20 14 47.5	+2.0
GRR	Gorron 14nm,0.9s	58.89	45	*e*P	P	20 15 05.9	+0.7
GRR	Gorron 14nm,0.9s	58.89	45	*e*P	P	20 15 05.9	+0.7
LDF	La Druitiere	59.40	45	*e*P	P	20 15 09.5	+0.8
LDF	La Druitiere	59.40	45	*e*P	P	20 15 09.5	+0.8
EPF	Esparros	59.42	51	*e*P	P	20 15 10.2	+1.2
EPF	Esparros	59.42	51	*e*P	P	20 15 10.2	+1.2
PLCA	Paso Flores 1.4nm,0.7s,baz=8.0,slow=8.7,SNR=3.3	60.07	184	P	P	20 15 13.5	+0.2
PLCA	Paso Flores 2.1nm,0.8s	60.07	184	*e*P	P	20 15 13.0	-0.4
DBIC	Dimbokro 3.0nm,0.8s,baz=288,slow=3.7,SNR=4.7	60.12	93	P	P	20 15 16.1	+1.9
DBIC				LR	LR	20 36 01.7	
	comp=Z,56nm,21.9s,baz=296,slow=31						
RJF	Les Rejaudoux 9.5nm,1.0s	60.33	48	*e*P	P	20 15 15.8	+0.7
RJF				*e*R			
	76nm,17.0s						
RJF	Les Rejaudoux 9.5nm,1.0s	60.33	48	*e*P	P	20 15 15.8	+0.7
DLBC	Dease Lake	60.34	327	*e*P	P	20 15 15.5	+0.4
CAF	Calviac 9.0nm,1.0s	60.70	49	*e*P	P	20 15 18.6	+0.8
CAF	Calviac 9.0nm,1.0s	60.70	49	*e*P	P	20 15 18.6	+0.8
MTLF	Montolieu 3.9nm,0.8s	60.79	51	*e*P	P	20 15 19.1	+0.7
MTLF	Montolieu 3.9nm,0.8s	60.79	51	*e*P	P	20 15 19.1	+0.7
TCF	Toulx Ste Croi	60.84	47	*e*P	P	20 15 19.3	+0.6
TCF	Toulx Ste Croi	60.84	47	*e*P	P	20 15 19.3	+0.6
AVF	Avril sur Loir 12nm,1.2s	61.65	47	*e*P	P	20 15 24.4	+0.3
AVF	Avril sur Loir 12nm,1.2s	61.65	47	*e*P	P	20 15 24.4	+0.3
SSF	Saint Saulge 9.5nm,1.1s	61.76	46	*e*P	P	20 15 25.9	+1.1
SSF	Saint Saulge 9.5nm,1.1s	61.76	46	*e*P	P	20 15 25.9	+1.1
DAG	Danmarks Havn 2.4nm,0.9s	61.90	11	*i*P	P	20 15 24.6	-0.6

LOR	**Lormes**	**62.00**	**46**	*e*P		**P**	**20 15 26.9**	**+0.4**
	3.8nm,0.8s							
LOR				*e*R				
	124nm,18.5s							
LOR	**Lormes**	**62.00**	**46**	*e*P		**P**	**20 15 26.9**	**+0.4**
	3.8nm,0.8s							
VIVF	**Saint-Julien-l**	**62.56**	**49**	*e*P		**P**	**20 15 30.9**	**+0.6**
VIVF	**Saint-Julien-l**	**62.56**	**49**	*e*P		**P**	**20 15 30.9**	**+0.6**
MEZF	**Maizieres J'vi**	**62.83**	**45**	*e*P		**P**	**20 15 32.6**	**+0.6**
	10nm,0.8s							
MEZF	**Maizieres J'vi**	**62.83**	**45**	*e*P		**P**	**20 15 32.6**	**+0.6**
	10nm,0.8s							
PAGF	**Fort de Pagny**	**63.28**	**45**	*e*P		**P**	**20 15 35.4**	**+0.4**
	1.2nm,0.7s							
PAGF	**Fort de Pagny**	**63.28**	**45**	*e*P		**P**	**20 15 35.4**	**+0.4**
	1.2nm,0.6s							
LPL	**La Plagne**	**64.00**	**48**	*e*P		**P**	**20 15 40.3**	**+0.2**
LPL	**La Plagne**	**64.00**	**48**	*e*P		**P**	**20 15 40.3**	**+0.2**
HINF	**Hinteralfeld**	**64.03**	**46**	*e*P		**P**	**20 15 40.8**	**+0.8**
HINF	**Hinteralfeld**	**64.03**	**46**	*e*P		**P**	**20 15 40.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**64.43**	**84**	P		**P**	**20 15 43.3**	**+0.2**
	0.8nm,0.7s,baz=288,slow=7.0,SNR=4.6							
TORD				LR		LR	20 39 04.3	
	comp=Z,83nm,21.9s,baz=255,slow=32							
NOA	**NORSAR Array B**	**66.72**	**31**	LR		LR	20 42 56.8	
	comp=Z,62nm,18.7s,baz=245,slow=34							
CLL	**Collm**	**67.90**	**42**	*e*P		**P**	**20 16 05.0**	**+0.3**
BRG	**Berggiesshubel**	**68.52**	**42**	*e*P		**P**	**20 16 08.9**	**+0.2**
	2.6nm,0.8s							
GERES	**GERESS Array B**	**68.54**	**44**	P		**P**	**20 16 09.1**	**+0.1**
	0.4nm,0.7s,baz=272,slow=5.1,SNR=4.7							
GERES				LR		LR	20 44 05.2	
	comp=Z,55nm,18.7s,baz=286,slow=34							
ILAR	**Eielson Array**	**68.92**	**333**	P		**P**	**20 16 10.8**	**-0.2**
	2.1nm,0.7s,baz=108,slow=4.2,SNR=33							
COLA	**College**	**69.33**	**333**	P		**P**	**20 16 12.6**	**-0.8**
	3.6nm,0.8s							
MCK	**McKinley**	**69.86**	**332**	*e*P		**P**	**20 16 16.7**	**-0.1**
	4.1nm,1.0s							
KTH	**Kantishna Hill**	**70.75**	**332**	*e*P		**P**	**20 16 22.1**	**-0.2**
MORC	**Moravsky Berou**	**70.93**	**43**	*e*P		**P**	**20 16 22.0**	**-1.7**
	2.0nm,0.9s							
VYHS	**Vyhne**	**71.96**	**44**	*e*P		**P**	**20 16 31.9**	**+2.1**
ARCES	**ARCESS Array B**	**72.28**	**22**	P		**P**	**20 16 31.3**	**0.0**
	3.7nm,0.9s,baz=346,slow=2.5,SNR=3.8							
STHS	**Stebnicka Huta**	**73.37**	**43**	*e*P		**P**	**20 16 38.7**	**+0.5**
FINES	**FINESS Array B**	**73.84**	**30**	P		**P**	**20 16 40.9**	**+0.3**
	2.9nm,0.8s,baz=290,slow=3.3,SNR=8.5							
AKASG	**Malin Array Be**	**78.08**	**40**	LR		LR	20 51 39.9	
	comp=Z,52nm,18.2s,baz=285,slow=36							
SANT	**Santorini**	**79.44**	**55**	P		**P**	**20 17 14.5**	**+1.6**
BRTR	**Keskin Array B**	**84.51**	**50**	P		**P**	**20 17 40.1**	**+0.5**
	0.8nm,0.9s,baz=290,slow=3.6,SNR=5.7							
KSH	**Kashi**	**111.15**	**31**	*e*PKP	PKiKP		20 23 33.1	-7.3
KSH				PP	PP		20 24 24.5	+5.9
KSH				PKS	PKSdf		20 27 08.5	-8.7
KSH				SKKS			20 31 07.8	
KSH				LN				
	88nm,5.4s							
KSH				LE				
	90nm,5.4s							
KSH				LZ				
	190nm,5.9s							
HHC	**Hu-ho-hao-te**	**119.93**	**3**	*e*PKP	**PKPdf**		**20 23 54.9**	**-2.3**
HHC				PP	**PP**		**20 25 21.8**	**+2.0**
HHC				SS	SS		20 41 39.9	-4.3
HHC				PPMZ				
	41nm,5.0s							
HHC				LN				
	97nm,16.0s							
HHC				LE				
	87nm,12.0s							
HHC				LZ				
	90nm,14.8s							
LZH	**Lanzhou**	**123.83**	**10**	*e*PKP	**PKPdf**		**20 24 02.3**	**-2.6**
CD2	**Chengdu**	**128.85**	**12**	PKP	**PKPdf**		**20 24 12.0**	**-2.5**
EIDS	**Eidsvold**	**145.78**	**253**	*e*PKPdf	**PKPab**		**20 24 46.7**	**+0.2**
STKA	**Stephens Creek**	**152.74**	**238**	PKPbc	**PKPbc**		**20 25 04.5**	**+0.8**
	5.4nm,0.7s,baz=32,slow=2.8,SNR=14							
WRA	**Warramunga Arr**	**161.35**	**265**	PKP	**PKPdf**		**20 25 07.8**	**+0.1**
	1.9nm,0.9s,baz=58,slow=0.7,SNR=9.3							
WRA				PKPab	**PKPab**		**20 25 50.9**	**-0.9**
	1.4nm,0.8s,baz=90,slow=4.4,SNR=7.2							
ASAR	**Alice Springs**	**161.51**	**253**	PKP	**PKPdf**		**20 25 07.5**	**-0.4**
	1.5nm,1.1s,baz=160,slow=1.8,SNR=8.4							
ASAR				PKPab	**PKPab**		**20 25 52.5**	**0.0**
	2.1nm,0.8s,baz=98,slow=4.3,SNR=17							

NEIC ***17*** *20:12:02.1, 19.°52N×65.°50W, h73km, MD3.5(RSPR), After RSPR.*

RSPR 17 20:12:02.1, 19.°52N×65.°50W, h73km±21km, MD3.5/7, 27C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.27**	**156**	*e*P	Pn	20 12 23.0	-1.1
STVI				*e*S	Sn	20 12 40.9	+0.2
STVI	**Saint Thomas**	**1.27**	**156**	*e*P	Pn	20 12 23.3	-0.9
STVI				*e*S	Sn	20 12 40.9	+0.2
STVI	**Saint Thomas**	**1.27**	**156**	*e*P	Pn	20 12 23.0	-1.1
STVI				*e*S	Sn	20 12 40.9	+0.2
ABV	**Anegada**	**1.35**	**125**	*e*P	Pn	20 12 24.9	-0.3
ABV	**Anegada**	**1.35**	**125**	*e*P	Pn	20 12 24.9	-0.3
ABVI	**Anegada Island**	**1.35**	**125**	*e*P	Pn	20 12 24.9	-0.3
TBVI	**Tortola**	**1.38**	**143**	*e*P	Pn	20 12 24.3	-1.2
TBVI	**Tortola**	**1.38**	**143**	*e*P	Pn	20 12 24.3	-1.2
TBVI	**Tortola**	**1.38**	**143**	*e*P	Pn	20 12 24.3	-1.2
HUMP	**Col San Antoni**	**1.41**	**194**	*e*P	Pn	20 12 25.1	-0.9
HUMP				*e*S	Sn	20 12 43.1	-0.8
HUMP	**Col San Antoni**	**1.41**	**194**	*e*P	Pn	20 12 25.1	-0.9
HUMP				*e*S	Sn	20 12 43.1	-0.8
HUMP	**Col San Antoni**	**1.41**	**194**	*e*P	Pn	20 12 25.1	-0.9
HUMP				*e*S	Sn	20 12 43.1	-0.8
SJG	**San Juan**	**1.53**	**204**	*e*P	Pn	20 12 26.7	-0.9
SJG				*e*S	Sn	20 12 45.8	-1.0
SJG	**San Juan**	**1.53**	**204**	*e*P	Pn	20 12 26.7	-0.9
SJG				*e*S	Sn	20 12 45.8	-1.0
SJG	**San Juan**	**1.53**	**204**	*e*P	Pn	20 12 26.7	-0.9
SJG				*e*S	Sn	20 12 45.8	-1.0
AOPR	**Arecibo Observ**	**1.67**	**226**	*e*P	Pn	20 12 28.2	-1.2
AOPR				*e*S	Sn	20 12 49.8	-0.3
AOPR	**Arecibo Observ**	**1.67**	**226**	*e*P	Pn	20 12 28.2	-1.2
AOPR				*e*S	Sn	20 12 49.8	-0.3
AOPR	**Arecibo Observ**	**1.67**	**226**	*e*P	Pn	20 12 28.2	-1.2
AOPR				*e*S	Sn	20 12 49.8	-0.3
CELP	**Cerrillos**	**1.77**	**216**	*e*P	Pn	20 12 30.8	+0.1
CELP	**Cerrillos**	**1.77**	**216**	*e*P	Pn	20 12 30.8	+0.1
CELP	**Cerrillos**	**1.77**	**216**	*e*P	Pn	20 12 30.8	+0.1
LRS	**Lares**	**1.77**	**226**	*e*P	Pn	20 12 30.3	-0.5
LRS	**Lares**	**1.77**	**226**	*e*P	Pn	20 12 30.3	-0.5
LRS	**Lares**	**1.77**	**226**	*e*P	Pn	20 12 30.3	-0.5
OBIP	**Obispado Ponce**	**1.81**	**216**	*e*P	Pn	20 12 31.5	+0.3
OBIP	**Obispado Ponce**	**1.81**	**216**	*e*P	Pn	20 12 31.5	+0.3
OBIP	**Obispado Ponce**	**1.81**	**216**	*e*P	Pn	20 12 31.5	+0.3
LSP	**Las Mesas**	**2.01**	**229**	*e*P	Pn	20 12 33.4	-0.6
LSP	**Las Mesas**	**2.01**	**229**	*e*P	Pn	20 12 33.4	-0.6
LSP	**Las Mesas**	**2.01**	**229**	*e*P	Pn	20 12 33.4	-0.6
CRPR	**Cabo Rojo, PR**	**2.15**	**226**	*e*P	Pn	20 12 36.2	+0.4
CRPR	**Cabo Rojo, PR**	**2.15**	**226**	*e*P	Pn	20 12 36.2	+0.4
CRPR	**Cabo Rojo, PR**	**2.15**	**226**	*e*P	Pn	20 12 36.2	+0.4
IDE	**Isla Desecheo**	**2.19**	**239**	*e*P	Pn	20 12 35.1	-1.2
IDE	**Isla Desecheo**	**2.19**	**239**	*e*P	Pn	20 12 35.1	-1.2
IDE	**Isla Desecheo**	**2.19**	**239**	*e*P	Pn	20 12 35.1	-1.2
SDDR	**Presa de Saban**	**5.50**	**265**	*e*Pn	Pn	20 13 21.5	0.0
SDDR				*e*Sn	Sn	20 14 18.6	-4.9

ISCJB ***17*** *20:22:10.8±0.4, 22.°45S±0.°06×66.°09W±0.°07, h251km, mb4.1/17, Error ellipse: s-maj=9.2km s-min=8.4km az=29.3*

IDC ***17*** *20:22:11.1±0.9, 22.°38S×66.°10W, h241km±9km, mb3.7/8, mb1 3.7/13, mb1mx3.6/26, mbtmp4.2/13, Error ellipse: s-maj=14.4km s-min=12.4km az=110.0*

LDG ***17*** *20:22:14.8, 21.°52S×65.°91W, h250km*

ISC 17 20:22:11.8±0.6, 22.°39S±0.°08×66.°13W±0.°09, h251km, n33, σ0s80/36, mb4.2/17, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.58**	**265**	P	**Pn**	**20 23 00.7**	**+0.5**
	2µm,0.3s,baz=84,slow=6.8,SNR=430						
LVC				S	**S**	**20 23 37.0**	**-1.5**
	2µm,0.3s,baz=222,slow=20,SNR=47						
LPAZ	**La Paz**	**6.36**	**342**	P	**Pn**	**20 23 46.0**	**+0.8**
	2.0nm,0.3s,baz=164,slow=8.4,SNR=44						
LPAZ				S	**S**	**20 24 57.9**	**-2.0**
	0.7nm,0.3s,baz=11,slow=14,SNR=7.6						
SIV	**San Ignacio**	**7.96**	**38**	P	**Pn**	**20 24 04.8**	**0.0**
	5.6nm,0.3s,baz=242,slow=9.7,SNR=71						
CFAA	**Coronel Fontan**	**9.37**	**191**	P	**Pn**	**20 24 21.4**	**-1.0**
	0.4nm,0.3s,baz=21,slow=11,SNR=43						
CFAA				S	S	20 25 59.0	-9.0
	0.5nm,0.3s,baz=118,slow=21,SNR=17						
BDFB	**Brasilia**	**18.39**	**72**	P	**P**	**20 26 08.9**	**+0.1**
	1.8nm,0.3s,baz=233,slow=12,SNR=20						
PLCA	**Paso Flores**	**18.66**	**191**	P	**P**	**20 26 11.5**	**0.0**
	0.4nm,0.3s,baz=1.8,slow=10,SNR=12						
PTGA	**Pitinga**	**22.35**	**16**	P	**P**	**20 26 47.9**	**-1.2**
	1.7nm,0.3s,baz=235,slow=13,SNR=5.3						
DBIC	**Dimbokro**	**66.54**	**72**	P	**P**	**20 32 34.4**	**-1.0**
	1.8nm,0.6s,baz=222,slow=7.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	**20 33 27.1**	**-0.5**
	3.8nm,0.5s,baz=254,slow=5.5,SNR=62						
PDAR	**Pinedale Array**	**76.19**	**329**	P	**P**	**20 33 33.3**	**+0.6**
	0.4nm,0.8s,baz=122,slow=8.6,SNR=3.7						
SCHQ	**Schefferville**	**76.91**	**360**	P	**P**	**20 33 35.8**	**-0.3**
	2.8nm,0.7s,baz=141,slow=2.3,SNR=6.8						
ULM	**Lac du Bonnet**	**76.97**	**341**	P	**P**	**20 33 36.0**	**-0.5**
	3.1nm,0.5s,baz=162,slow=6.5,SNR=14						
NVAR	**Mina Array Bea**	**77.80**	**321**	P	**P**	**20 33 43.2**	**+1.5**
	0.3nm,0.6s,baz=151,slow=4.1,SNR=3.3						
ESDC	**Sonseca Array**	**84.68**	**43**	P	**P**	**20 34 18.5**	**+0.9**
	2.9nm,0.8s,baz=245,slow=4.4,SNR=15						
SJPF	**Ste Jean**	**88.31**	**42**	*e*P	**P**	**20 34 35.0**	**0.0**
ETSF	**Etsaut**	**88.60**	**42**	*e*P	**P**	**20 34 37.4**	**+1.0**
	4.2nm,0.7s						
EPF	**Esparros**	**89.23**	**42**	*e*P	**P**	**20 34 40.1**	**+0.7**
	5.7nm,0.9s						
LFF	**La Frestale**	**90.48**	**41**	*e*P	**P**	**20 34 45.4**	**+0.4**
	6.6nm,0.6s						
MTLF	**Montolieu**	**90.57**	**43**	*e*P	**P**	**20 34 45.8**	**+0.3**
MFF	**Saint Martin d**	**90.84**	**39**	*e*P	**P**	**20 34 46.9**	**+0.2**
	13nm,0.9s						
CAF	**Calviac**	**91.28**	**41**	*e*P	**P**	**20 34 48.5**	**-0.3**
	3.4nm,0.6s						
VIVF	**Saint-Julien-l**	**92.86**	**42**	*e*P	**P**	**20 34 56.8**	**+0.7**
	8.0nm,1.1s						
SMF	**Signal de Mont**	**93.22**	**40**	*e*P	**P**	**20 34 57.9**	**+0.2**
LOR	**Lormes**	**93.54**	**40**	*e*P	**P**	**20 34 59.5**	**+0.4**
ORIF	**Oris-en-Rattie**	**93.64**	**43**	*e*P	**P**	**20 35 00.8**	**+1.0**
	11nm,0.9s						
LPL	**La Plagne**	**94.45**	**42**	*e*P	**P**	**20 35 03.9**	**+0.3**
	3.5nm,0.6s						
LPG	**La Plagne**	**94.45**	**42**	*e*P	**P**	**20 35 04.1**	**+0.4**
	2.7nm,0.6s						
ASAR	**Alice Springs**	**130.24**	**204**	PKP	**PKPdf**	**20 40 53.5**	**+0.7**
	0.3nm,0.6s,baz=148,slow=1.9,SNR=6.5						
WRA	**Warramunga Arr**	**133.41**	**207**	PKP	**PKPdf**	**20 40 59.5**	**+0.5**
	0.3nm,0.4s,baz=158,slow=1.7,SNR=10						
ZALV	**Zalesovo Beam**	**141.60**	**28**	PKP	**PKPdf**	**20 41 13.4**	**+0.5**
	0.7nm,0.4s,baz=279,slow=2.9,SNR=4.7						
MKAR	**Makanchi Array**	**144.78**	**39**	PKP	**PKPab**	**20 41 19.3**	**+0.9**
	4.2nm,0.8s,baz=314,slow=3.6,SNR=55						
SONM	**Songino Array**	**153.92**	**12**	PKPbc	**PKPbc**	**20 41 41.9**	**+0.4**
	0.7nm,0.6s,baz=65,slow=1.2,SNR=5.6						
SONM				PKPab	**PKPab**	**20 41 56.5**	**+0.8**
	0.5nm,0.7s,baz=314,slow=7.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**165.47**	**103**	PKPab	**PKPab**	**20 42 47.2**	**+0.4**
	0.5nm,0.7s,baz=248,slow=6.3,SNR=5.3						

CSEM ***17*** *20:31:48.4, 43.°48N×12.°41E, h7km, MD1.3/4*

ROM 17 20:31:48.4±0.2, 43.°48N×12.°41E, h7km±1km, Md1.3/4, MI0.7/3, Error ellipse: s-maj=1.0km s-min=0.8km az=164.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.03**	**84**	Pg	Pg	20 31 49.8	0.0
ATPC				Sg	Sg	20 31 51.1	+0.2
	144nm,0.2s						
ATPC	**Poggio Castell**	**0.03**	**84**	Pg	Pg	20 31 49.8	0.0
ATPC				Sg	Sg	20 31 51.1	+0.2
	144nm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**182**	Pg	Pg	20 31 51.0	+0.3
ATVO				Sg	Sg	20 31 52.9	+0.7
	23nm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**182**	Pg	Pg	20 31 51.0	+0.3
ATVO				Sg	Sg	20 31 52.9	+0.7
	23nm,0.2s						
PIEI	**Pieia**	**0.11**	**57**	Pg	Pg	20 31 51.1	+0.2
PIEI				Sg	Sg	20 31 53.5	+0.9
	29nm,0.2s						
PIEI	**Pieia**	**0.11**	**57**	Pg	Pg	20 31 51.1	+0.2
PIEI				Sg	Sg	20 31 53.5	+0.9
	29nm,0.2s						
BADI	**Badiali**	**0.13**	**285**	Pg	Pg	20 31 51.5	+0.4
BADI				Sg	Sg	20 31 53.9	+0.9
	14nm,0.2s						
BADI	**Badiali**	**0.13**	**285**	Pg	Pg	20 31 51.5	+0.4
BADI				Sg	Sg	20 31 53.9	+0.9
	14nm,0.2s						

MAN 17 20:33:41, 18.°66N×121.°67E, h25km, mb4.6, ML3.5, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.55**	**139**	*e*P	Pn	20 33 53.2	0.0
SGCP				*e*S	Sn	20 34 03.0	+1.4
APYP	**Conner**	**0.89**	**207**	*e*P	Pb	20 33 57.6	-0.1
APYP				*e*S	Sn	20 34 11.2	+1.3
CVP	**Callao Caves**	**0.96**	**171**	*e*P	Pb	20 34 00.1	+1.1
CVP				*e*S	Sn	20 34 14.9	+3.1
ABRA	**Dolores**	**1.35**	**222**	*e*P	Pn	20 34 04.5	+0.2
ABRA				*e*S	Sn	20 34 21.4	-0.1
BCPH	**Baguio City Da**	**2.49**	**205**	*i*P	Pb	20 34 24.0	-1.3
BCPH				*i*S	Sb	20 34 55.8	+0.1
BALP	**Baler**	**2.90**	**182**	*e*P	Pn	20 34 27.9	+2.2

BUC 17 20:33:53.4±0.5, 46.°66N×24.°91E, h10km, MD2.6/3, 8C-4D, Error ellipse: s-maj=8.0km s-min=4.4km az=80.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DOPR	**Dopca**	**0.77**	**154**	*i*P	Pb	20 34 09.2	+0.2
DOPR				*i*S	Sb	20 34 19.6	0.0
DOPR	**Dopca**	**0.77**	**154**	*i*P	Pb	20 34 09.2	+0.2
BURAR	**Bucovina Array**	**0.97**	**12**	*i*P	Pn	20 34 13.0	-0.3
BURAR	**Bucovina Array**	**0.97**	**12**	*i*P	Pn	20 34 13.0	-0.3
VOIR		**1.23**	**175**	*i*P	Pg	20 34 17.2	0.0
VOIR				*i*S	Sn	20 34 33.9	+0.3
VOIR		**1.23**	**175**	*i*P	Pg	20 34 17.2	0.0
ARR	**Arges**	**1.31**	**188**	*i*P	Pg	20 34 18.5	-0.2
ARR				*i*S	Sg	20 34 36.3	+0.5
ARR	**Arges**	**1.31**	**188**	*i*P	Pg	20 34 18.5	-0.2
LOT	**Lotru**	**1.45**	**213**	*i*S	Sb	20 34 39.7	+0.4
LOT	**Lotru**	**1.45**	**213**	S	Sb	20 34 39.7	+0.4
DRGR		**1.52**	**276**	*i*P	Pb	20 34 21.5	-0.2
DRGR				*i*S	Sn	20 34 40.5	-0.1
DRGR		**1.52**	**276**	*i*P	Pb	20 34 21.5	-0.2
GZR	**Gura Zlata**	**1.95**	**230**	*i*P	Pn	20 34 27.2	+0.5
GZR				*i*S	Sb	20 34 53.1	-0.6
GZR	**Gura Zlata**	**1.95**	**230**	*i*P	Pn	20 34 27.2	+0.5

IDC 17 20:37:56.8±1.3, 18.°61N×146.°77E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.3/42, mbtmp3.5/4, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/30, Error ellipse: s-maj=61.1km s-min=25.4km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**18.91**	**299**	LR	LR	20 47 49.4	
	comp=Z,266nm,19.1s,slow=31						
MJAR	**Matsushiro Arr**	**19.39**	**339**	P	P	20 42 24.3	0.0
	0.1nm,0.3s,baz=156,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**40.21**	**198**	P	P	20 45 35.5	+0.2
	0.4nm,0.4s,baz=20,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**43.86**	**197**	P	P	20 46 04.5	-0.5
	0.5nm,0.7s,baz=17,slow=6.8,SNR=12						
NVAR	**Mina Array Bea**	**82.39**	**52**	P	P	20 50 21.3	-0.1
	0.3nm,0.6s,baz=265,slow=5.9,SNR=3.1						

MOS ***17*** *20:52:41.1±1.0, 11.°87N×86.°59W, h33km, mb5.2/46, MS5.1/23, Error ellipse: s-maj=10.0km s-min=5.0km az=108.9*

NEIC ***17*** *20:52:42.2±0.2, 11.°68N×86.°81W, h33km, mb5.1/170, MS5.2/144, MW5.4, Error ellipse: s-maj=6.6km s-min=3.6km az=210.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17 Nm; Mrr 1.66; Mθθ -0.54; Mφφ -1.12; Mrθ 0.48; Mrφ 0.36; Mθφ -0.62; Best double couple: M0 1.70000×10^17 NP1:ϕs149.00000°, δ59.00000°, λ86.00000°. NP2:ϕs337.00000°, δ31.00000°, λ97.00000°. Principal axes: T 1.8600, Plg75.0000°, Azm47.0000°; N -0.3800, Plg3.0000°, Azm151.0000°; P -1.4800, Plg13.0000°, Azm242.0000°;*

NEIC Felt [IV] at Leon and [II] at Managua. Also felt at Ciudad Dario, Ciudad Sandino and Masaya.

IDC ***17*** *20:52:42.6±0.6, 11.°93N×86.°60W, h36km±5km, mb4.5/24, mb1 4.6/26, mb1mx4.4/45, mbtmp4.7/26, ML4.5/2, MS5.1/34, Ms1 5.1/34, ms1mx5.0/41 Error ellipse: s-maj=18.6km s-min=9.6km az=56.0*

BJI ***17*** *20:52:42.4, 11.°70N×86.°90W, h37km, mB5.3/22, Ms5.6/27, Ms7 5.3/26*

GCMT ***17*** *20:52:42.3±0.1, 11.°39N×87.°18W, h34km, MW5.5/113, Moment Tensor Solution. s106,c198; s113,c243; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr 2.11±.03; Mθθ -1.75±.03; Mφφ -0.35±.03; Mre 1.17±.04; Mθφ 1.17±.02; Mrθ -0.58±.04; Best double couple: M0 2.61300×10^17 NP1:ϕs118.00000°, δ60.00000°, λ88.00000°. NP2:ϕs302.00000°, δ30.00000°, λ93.00000°. Principal axes: T 2.4620, Plg75.0000°, Azm23.0000°; N 0.3090, Plg2.0000°, Azm119.0000°; P -2.7640, Plg15.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

CASC ***17*** *20:52:43.2±2.8, 11.°59N×87.°03W, h27km±22km, MD4.7, ML4.7, mb5.4(NEIC)*

ISCJB ***17*** *20:52:43.9±0.3, 11.°74N±0.°03×86.°83W±0.°03, h62km±2km, mb5.1/197, Error ellipse: s-maj=6.4km s-min=2.3km az=35.7*

ISC 17 20:52:43.2±0.4, 11.°66N±0.°04×86.°89W±0.°04, h43km±3km, h43km:pP-P, n1014, σ1933/968, mb5.1/197, MS5.2/185, 184C-215D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.85**	**13**	*i*P	**Pn**	**20 53 00.2**	**+1.4**
CNGN				*e*S	**Sn**	**20 53 15.1**	**+4.9**
GBS2	**Las Lilas**	**1.64**	**120**	*i*P	Pn	20 53 12.9	+3.4
GBS3	**Finca Las Im¨¡**	**1.66**	**122**	*i*P	**Pn**	**20 53 13.0**	**+3.2**
LAPC	**Finca la Perla**	**1.69**	**122**	*i*P	**Pn**	**20 53 11.1**	**+0.8**
GB1A	**Borinquen Arri**	**1.69**	**120**	*i*P	**Pn**	**20 53 11.4**	**+1.1**
BUEV	**Buena Vista**	**1.69**	**120**	*i*P	**Pn**	**20 53 12.6**	**+2.3**
GPS1	**Guardaparques**	**1.75**	**120**	*i*P	**Pn**	**20 53 12.4**	**+1.2**
GPS2	**Hotel Rinc¨‡n**	**1.76**	**121**	*i*P	**Pn**	**20 53 12.8**	**+1.5**
CNCH	**Conchagua**	**1.85**	**330**	*i*P	**Pn**	**20 53 12.9**	**+0.4**
LIM1	**Limonal**	**1.88**	**121**	*i*P	**Pn**	**20 53 14.0**	**+1.1**
GUAB	**Guayabo de Bag**	**1.89**	**120**	*i*P	**Pn**	**20 53 14.6**	**+1.3**
GUAB				*i*S	Sn	20 53 45.0	+9.3
HORNC	**Hornillas**	**1.93**	**119**	*i*P	**Pn**	**20 53 15.0**	**+1.4**
VCR	**Vista de Mar**	**1.97**	**141**	*e*P	**Pn**	**20 53 13.6**	**-0.6**
CUI	**Cuipilapa**	**1.97**	**120**	*i*P	**Pn**	**20 53 16.2**	**+2.1**
PTEN	**Parque Tenorio**	**2.10**	**117**	*i*P	**Pn**	**20 53 16.8**	**+1.0**
PTEN				*i*S	**Sn**	**20 53 43.9**	**+3.1**
AMAS	**Alto Masis**	**2.14**	**119**	*i*P	**Pn**	**20 53 18.1**	**+1.6**
BLLM	**Bellamira**	**2.20**	**324**	*i*P	**Pn**	**20 53 18.0**	**+0.7**
VSM	**San Miguel**	**2.21**	**323**	*i*P	**Pn**	**20 53 17.9**	**+0.3**
JTS	**JuntasAbangare**	**2.34**	**125**	Pn	**Pn**	**20 53 20.5**	**+1.3**
	7µm,0.6s,SNR=78						
JTS	**JuntasAbangare**	**2.34**	**125**	*e*P	**Pn**	**20 53 20.6**	**+1.3**
JTS	**JuntasAbangare**	**2.34**	**125**	Pn	**Pn**	**20 53 19.7**	**+0.5**
	95nm,0.3s,baz=316,slow=16,SNR=93						
JTS				Sn	Sn	20 53 56.9	+10
	707nm,0.3s,baz=176,slow=19,SNR=10						
JTS	**JuntasAbangare**	**2.34**	**125**	*e*Pn	**Pn**	**20 53 20.6**	**+1.4**
JTS				Sn	Sn	20 53 56.9	+10
CEDE	**Laguna Cede¨‹o**	**2.45**	**118**	*i*P	**Pn**	**20 53 22.3**	**+1.6**
CAHU	**Cacacuatique**	**2.46**	**329**	*i*P	**Pn**	**20 53 22.1**	**+1.1**
FORC	**Fortuna**	**2.49**	**118**	*i*P	**

636A **Smothers Creek** 20.10 333 ⇓P Pn 20 57 14.8 -0.6
baz=20,SNR=43
538A **Harpers Horsep** 20.12 338 ⇓P Pn 20 57 15.7 +0.1
baz=20,SNR=8.1
CRPR **Cabo Rojo, PR** 20.13 69 *eP* Pn 20 57 18.7 +2.9
comp=Z,50nm,1.0s
LSP **Las Mesas** 20.20 69 *eP* **P** **20 57 14.2 -0.2**
AGPR **Aguadilla, PR** 20.25 68 P **P** **20 57 15.7 +0.7**
734A **La Parita Cree** 20.27 329 ⇓P **P** **20 57 15.4 +0.3**
baz=20,SNR=27
833A **Chaparral WMA,** 20.29 327 ⇑P **P** **20 57 16.1 +0.7**
baz=20,SNR=135
537A **Green Hill Far** 20.31 336 ⇓P Pn 20 57 17.6 -0.3
baz=20,SNR=42
635A **Leesville** 20.34 332 ⇑P **P** **20 57 16.7 +0.8**
baz=20,SNR=12
439A **Center Grove,** 20.39 340 ⇓P Pn 20 57 18.5 -0.2
baz=20,SNR=18
LRS **Lares** 20.45 69 *eP* **P** **20 57 16.2 -1.0**
ATAH **Atahualpa** 20.50 155 P Pn 20 57 19.9 -0.8
comp=Z,12nm,0.9s,baz=326,slow=9.3,SNR=6.5
ATAH LR LR 21 04 23.8
comp=Z,12µm,20.2s,baz=342,slow=34
733A **Divot King Ran** 20.55 327 ⇓P **P** **20 57 18.6 +0.5**
baz=21,SNR=54
AOPR **Arecibo Observ** 20.55 69 *eP* Pn 20 57 20.2 -0.6
comp=Z,55nm,0.8s
832A **Faith Ranch, C** 20.57 325 ⇓P **P** **20 57 18.4 0.0**
baz=21,SNR=38
438A **Sam Houston St** 20.59 339 ⇓P Pn 20 57 21.0 -0.1
baz=21,SNR=13
OBIP **Obispado Ponce** 20.60 70 *eP* **P** **20 57 17.9 -0.9**
comp=Z,94nm,1.1s
634A **China Grove, S** 20.61 330 ⇑P **P** **20 57 18.8 0.0**
baz=21,SNR=12
536A **Bastrop** 20.61 334 ⇓P **P** **20 57 20.0 +1.1**
baz=21,SNR=8.4
CELP **Cerrillos** 20.63 70 *eP* **P** **20 57 20.2 +1.0**
ICMP **Isla Caja de M** 20.63 70 *eP* **P** **20 57 20.1 +0.9**
340A **Bronson** 20.69 343 ⇑P Pn 20 57 21.4 -1.0
baz=21,SNR=22
VBMS **Vicksburg** 20.73 351 *eP* Pn 20 57 23.8 +1.0
comp=Z,117nm,0.6s
535A **Dale** 20.80 333 ⇓P **P** **20 57 22.2 +1.4**
baz=21,SNR=15
339A **Huntington** 20.82 341 ⇓P Pn 20 57 22.5 -1.3
baz=21,SNR=26
437A **Phantom Ranch,** 20.91 337 ⇑P Pn 20 57 23.9 -0.9
baz=21,SNR=9.9
732A **Laxson Ranch,** 20.92 326 ⇑P **P** **20 57 23.0 +0.9**
baz=21,SNR=36
633A **Saathoff Ranch** 21.08 329 ⇓P **P** **20 57 23.7 -0.2**
baz=21,SNR=28
338A **Crockett** 21.09 340 ⇓P **P** **20 57 25.8 +1.9**
baz=21,SNR=16
436A **Wall Ranch, Ga** 21.11 336 ⇓P **P** **20 57 25.4 +1.2**
baz=21,SNR=16
534A **Blanco** 21.21 331 ⇓P **P** **20 57 25.6 +0.3**
baz=21,SNR=43
NATX **Nacogdoches** 21.25 341 *eP* **P** **20 57 26.9 +1.3**
comp=Z,217nm,0.9s
337A **Centerville** 21.25 338 ⇓P **P** **20 57 27.4 +1.7**
baz=21,SNR=11
LRAL **Lakeview Retre** 21.27 360 *eP* **P** **20 57 27.3 +1.4**
comp=Z,57nm,0.8s
HUMP **Col San Antoni** 21.32 70 *eP* **P** **20 57 27.4 +0.8**
comp=Z,98nm,1.4s
CBYP **Canovanas** 21.35 70 *eP* **P** **20 57 27.8 +0.9**
comp=Z,47nm,0.8s
239A **Gary** 21.43 342 ⇑P **P** **20 57 29.4 +1.8**
baz=22,SNR=14
632A **Uvalde** 21.43 328 ⇓P **P** **20 57 28.9 +1.2**
baz=22,SNR=12
435B **Jarrell** 21.45 334 ⇓P **P** **20 57 28.7 +0.9**
baz=22,SNR=12
533A **Kerrville** 21.51 330 ⇑P **P** **20 57 28.8 +0.3**
baz=22,SNR=30
238A **Jacksonville** 21.62 341 ⇓P **P** **20 57 30.8 +1.2**
baz=22,SNR=11
336A **Riesel** 21.68 336 ⇓P **P** **20 57 31.1 +0.8**
baz=22,SNR=7.7
434A **Burnet** 21.78 333 ⇑P **P** **20 57 31.5 +0.1**
baz=22,SNR=50
631A **Perdido Creek** 21.78 326 ⇑P **P** **20 57 31.7 +0.3**
baz=22,SNR=46
335A **Moody** 21.82 335 ⇓P **P** **20 57 32.1 +0.3**
baz=22,SNR=16
237A **Washetta, Mont** 21.84 339 ⇓P **P** **20 57 32.2 +0.2**
baz=22
GOGA **Godfrey** 21.87 8 *eP* **P** **20 57 33.7 +1.4**
GOGA pmax pmax
comp=Z,67nm,0.6s
GOGA MLR MLR
comp=Z,3µm,21.0s
GOGA **Godfrey** 21.87 8 *eP* **P** **20 57 33.7 +1.4**
comp=Z,67nm,0.6s
GOGA LR LR
comp=Z,3µm,21.0s
532A **Rocksprings** 21.99 329 ⇑P **P** **20 57 33.7 -0.1**
baz=22,SNR=42
433A **Art** 22.11 331 ⇓P **P** **20 57 33.9 -1.0**
baz=22,SNR=52
STVI **Saint Thomas** 22.20 70 *eP* **P** **20 57 37.9 +1.9**
comp=Z,782nm,2.3s
334A **Lometa** 22.20 334 ⇓P **P** **20 57 36.1 +0.1**
baz=22,SNR=25
138A **Matatall Enter** 22.21 341 ⇑P **P** **20 57 36.6 +0.6**
baz=22,SNR=9.5
NHSC **New Hope** 22.21 15 *eP* **P** **20 57 37.4 +1.4**
comp=Z,297nm,1.2s
NHSC LR LR
comp=Z,6µm,20.0s
JCT **Junction City** 22.23 329 *eP* **P** **20 57 35.4 -0.8**
JCT pmax pmax
comp=Z,45nm,0.9s
JCT MLR MLR
comp=Z,2µm,22.0s
JCT **Junction City** 22.23 329 ⇓P **P** **20 57 35.9 -0.4**
baz=22,SNR=9.2
JCT **Junction City** 22.23 329 *eP* **P** **20 57 35.4 -0.8**
comp=Z,45nm,0.9s
JCT LR LR
comp=Z,2µm,22.0s
CDVI **St. Croix** 22.23 72 *eP* **P** **20 57 34.0 -2.3**
531A **Rocksprings** 22.35 327 ⇑P **P** **20 57 37.5 -0.2**
baz=22,SNR=15
137A **Heron Place, G** 22.37 340 ⇓P **P** **20 57 38.6 +0.9**
baz=22,SNR=6.4
WHTX **Lake Whitney,** 22.45 336 ⇑P **P** **20 57 39.0 +0.4**
baz=22,SNR=22
WHTX **Lake Whitney,** 22.45 336 *eP* **P** **20 57 38.9 +0.3**
comp=Z,163nm,0.9s
333A **Richland Sprin** 22.53 332 ⇓P **P** **20 57 38.9 -0.6**
baz=23,SNR=80
432A **Menard** 22.54 330 ⇑P **P** **20 57 39.1 -0.5**
baz=23,SNR=32
234A **Clairette** 22.74 335 ⇑P **P** **20 57 41.4 -0.3**
baz=23,SNR=48
530A **J-C Ranch, Com** 22.77 326 ⇑P **P** **20 57 42.7 +0.7**
baz=23,SNR=56
431A **Sonora** 22.80 328 ⇑P **P** **20 57 41.9 -0.4**
baz=23,SNR=27
OXF **Oxford** 22.86 355 *eP* **P** **20 57 42.2 -0.7**
OXF pmax pmax
comp=Z,115nm,0.5s
OXF **Oxford** 22.86 355 *eP* **P** **20 57 42.2 -0.7**
comp=Z,116nm,0.5s
135A **Vickery Place,** 22.93 337 ⇑P **P** **20 57 43.9 +0.2**
baz=23,SNR=6.7
332A **Millersview** 22.94 331 ⇑P **P** **20 57 43.9 +0.1**
baz=23,SNR=50
233A **Rising Star** 23.08 333 ⇓P **P** **20 57 44.7 -0.5**
baz=23,SNR=51
331A **San Angelo** 23.21 329 ⇓P **P** **20 57 45.7 -0.8**
baz=23,SNR=42
430A **Baggett Ranch,** 23.21 327 ⇑P **P** **20 57 46.2 -0.3**
baz=23,SNR=13
134A **White-Moore Ra** 23.21 335 ⇑P **P** **20 57 46.3 -0.1**
baz=23,SNR=17
529A **Stev Forest Ra** 23.24 325 ⇑P **P** **20 57 45.8 -1.0**
baz=23,SNR=35
232A **Coleman** 23.31 332 ⇓P **P** **20 57 47.3 -0.1**
baz=23,SNR=44
429A **Davenport Ranc** 23.44 326 ⇓P **P** **20 57 48.3 -0.4**
baz=24,SNR=37
SWET **Sewanee** 23.46 2 *eP* **P** **20 57 49.2 +0.3**
TXAR **Lajitas Array** 23.52 321 P **P** **20 57 49.7 +0.1**
comp=Z,58nm,0.8s,baz=140,slow=9.9,SNR=160

TXAR PcP **PcP** **21 01 35.9 +1.5**
comp=Z,3.1nm,0.6s,baz=152,slow=5.1,SNR=11
TXAR ScP **ScP** **21 05 11.1 +1.8**
comp=Z,0.1nm,0.4s,baz=114,slow=2.2,SNR=2.9
TXAR LR LR 21 08 22.6
comp=Z,1µm,18.6s,baz=0.0,slow=40
UALR **University of** 23.54 349 *eP* **P** **20 57 48.1 -1.4**
comp=Z,37nm,0.8s
Z35A **Perchen, San** 23.56 338 ⇓P **P** **20 57 50.1 +0.3**
baz=24,SNR=29
MIAR **Mount Ida** 23.58 346 *eP* **P** **20 57 49.6 -0.3**
MIAR pmax pmax
comp=Z,86nm,0.7s
MIAR MLR MLR
comp=Z,4µm,22.0s
MIAR **Mount Ida** 23.58 346 *eP* **P** **20 57 49.6 -0.3**
comp=Z,86nm,0.7s
MIAR LR LR
comp=Z,4µm,22.0s
133A **Hamilton Ranch** 23.59 334 ⇓P **P** **20 57 50.2 0.0**
baz=24,SNR=42
231A **Bronte** 23.67 331 ⇓P **P** **20 57 50.2 -0.7**
baz=24,SNR=17
330A **Mertzon** 23.67 328 ⇑P **P** **20 57 50.2 -0.8**
baz=24,SNR=33
Z34A **Collier Ranch,** 23.85 337 ⇓P **P** **20 57 52.4 -0.1**
baz=24,SNR=145
SMRT **St. Marten** 23.87 72 *eP* **P** **20 57 50.4 -2.5**
comp=Z,81nm,0.8s
KMSC **Kings Mountain** 23.91 11 ⇑P **P** **20 57 54.5 +1.4**
baz=24,SNR=17
KMSC **Kings Mountain** 23.91 11 *eP* **P** **20 57 54.2 +1.2**
comp=Z,43nm,0.8s
ABTX **Abilene, Hawle** 23.93 333 ⇑P **P** **20 57 52.8 -0.5**
baz=24,SNR=29
ABTX **Abilene, Hawle** 23.93 333 *eP* **P** **20 57 53.0 -0.3**
comp=Z,33nm,0.9s
230A **Sterling City** 24.02 329 ⇑P **P** **20 57 54.2 0.0**
baz=24,SNR=15
HBAR **Harrisburg** 24.03 352 P **P** **20 57 54.5 +0.3**
TKL **Tuckaleechee C** 24.05 6 *eP* **P** **20 57 55.5 +1.1**
TKL **Tuckaleechee C** 24.05 6 P **P** **20 57 53.4 -1.0**
comp=Z,69nm,1.0s,baz=175,slow=11,SNR=40
TKL LR LR 21 07 31.1
comp=Z,4µm,21.3s,baz=191,slow=37
TKL **Tuckaleechee C** 24.05 6 *eP* **P** **20 57 55.5 +1.1**
Z33A **Whitzar Ranch** 24.11 335 ⇓P **P** **20 57 55.4 +0.4**
baz=24,SNR=51
329A **Wagon Wheel Ra** 24.15 327 ⇓P **P** **20 57 55.9 +0.4**
baz=24,SNR=46
H06E1 **SOCORRO T-PHAS** 24.23 290 T T 21 23 08.3
SNR=22
Y34A **Reagan Ranch,** 24.31 338 ⇑P **P** **20 57 57.0 +0.2**
baz=24,SNR=55
131A **Roby** 24.31 331 ⇓P **P** **20 57 57.0 +0.2**
baz=24,SNR=9.9
WVT **Waverly** 24.37 358 *eP* **P** **20 57 56.7 -0.6**
WVT pmax pmax
comp=Z,18nm,0.6s
WVT **Waverly** 24.37 358 *eP* **P** **20 57 56.7 -0.6**
comp=Z,18nm,0.6s
Z32A **Haskell** 24.43 334 ⇑P **P** **20 57 58.3 +0.4**
baz=24,SNR=29
229A **Bryant Ranch,** 24.44 328 ⇑P **P** **20 57 58.1 +0.1**
baz=24,SNR=30
130A **Snyder** 24.52 330 ⇑P **P** **20 57 58.8 +0.1**
baz=25,SNR=8.0
Y33A **Hilltop Ranch,** 24.69 336 ⇑P **P** **20 58 00.5 +0.3**
baz=25,SNR=43
GRGR **Grenville** 24.70 86 *eP* **P** **20 58 00.8 +0.3**
GRGR LR LR
comp=Z,2µm,21.0s
Z31A **Sharp Cattle R** 24.74 333 ⇑P **P** **20 58 00.6 -0.1**
baz=25,SNR=23
CNNC **Cliffs of the** 24.85 18 PFAKE
CNNC LR LR 20 58 10.0 +8.4
comp=Z,4µm,20.0s
W36A **Wetumka** 24.86 342 ⇑P **P** **20 58 01.5 -0.2**
baz=25,SNR=30
X34A **Smith Ranch, M** 24.91 338 ⇓P **P** **20 58 02.4 +0.2**
baz=25,SNR=80
228A **UT Block 9, Go** 24.97 327 ⇑P **P** **20 58 03.0 +0.1**
baz=25,SNR=25
129A **Stewart Farms,** 25.00 329 ⇓P **P** **20 58 03.4 +0.3**
baz=25,SNR=52
ANWB **Willy Bob** 25.00 73 PFAKE
ANWB LR LR 20 58 10.0 +6.8
comp=Z,3µm,21.0s
Y32A **R-V Farms, Ver** 25.02 335 ⇓P **P** **20 58 03.2 0.0**
baz=25,SNR=22
X33A **Lawton** 25.11 337 ⇓P **P** **20 58 04.0 0.0**
baz=25,SNR=158
Z30A **Sanderson Ranc** 25.16 331 ⇓P **P** **20 58 04.2 -0.4**
baz=25,SNR=32
PBMO **Poplar Bluff** 25.21 353 *eP* **P** **20 58 04.2 -0.7**
comp=Z,63nm,1.1s
FDF **Fort de France** 25.24 80 PFAKE
FDF LR LR 20 58 20.0 +15
comp=Z,3µm,20.0s
128A **Castleberry Fa** 25.30 328 ⇓P **P** **20 58 05.7 -0.3**
baz=25,SNR=47
X32A **Elmer** 25.31 335 ⇓P **P** **20 58 06.2 +0.4**
baz=25,SNR=66
Y31A **Rekieta Farm,** 25.33 333 ⇑P **P** **20 58 06.3 +0.2**
baz=25,SNR=35
WMOK **Wichita Mounta** 25.39 337 *eP* **P** **20 58 06.1 -0.5**
WMOK pmax pmax
comp=Z,204nm,0.9s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK **Wichita Mounta** 25.39 337 *eP* **P** **20 58 06.1 -0.5**
comp=Z,204nm,0.9s
WMOK LR LR
comp=Z,2µm,21.0s
Z29A **Hungry Hill Ra** 25.42 330 ⇓P **P** **20 58 06.8 -0.2**
baz=26,SNR=54
LPIG **La Paz** 25.44 302 LR LR 21 08 54.2
comp=Z,3µm,20.2s,baz=120,slow=38
TUL1 **Leonard** 25.45 343 ⇓P **P** **20 58 06.5 -0.5**
baz=26,SNR=42
TUL1 **Leonard** 25.45 343 *eP* **P** **20 58 06.2 -0.8**
comp=Z,139nm,1.0s
W34A **Bridge Creek,** 25.46 339 ⇓P **P** **20 58 06.8 -0.5**
baz=26,SNR=64
W34A **Bridge Creek,** 25.46 339 *eP* **P** **20 58 06.7 -0.5**
comp=Z,259nm,0.8s
NNA **Nana** 25.53 157 LR LR 21 07 12.0
comp=Z,2µm,21.3s,baz=326,slow=34
Y30A **Stafford Cattl** 25.55 332 ⇓P **P** **20 58 08.1 +0.1**
baz=26,SNR=36
V35A **Meyer Ranch, C** 25.63 341 ⇓P **P** **20 58 07.9 -0.8**
baz=26,SNR=30
W33A **Caddo, Fort Co** 25.64 338 ⇓P **P** **20 58 09.2 +0.4**
baz=26,SNR=55
X31A **McDonald Ranch** 25.78 335 ⇓P **P** **20 58 10.4 +0.2**
baz=26,SNR=32
Z28A **Tucker Farm, M** 25.78 329 ⇓P **P** **20 58 10.0 -0.2**
baz=26,SNR=73
Y29A **Porterfield Fa** 25.89 331 ⇓P **P** **20 58 11.4 +0.2**
baz=26,SNR=46
W32A **Sentinel** 25.91 336 ⇑P **P** **20 58 11.4 +0.1**
baz=26,SNR=129
V34A **Guthrie** 25.91 340 ⇓P **P** **20 58 10.8 -0.5**
baz=26,SNR=25
V34A **Guthrie** 25.91 340 *eP* **P** **20 58 10.0 -1.3**
comp=Z,224nm,0.8s
X30A **Coker Ranch, T** 26.01 333 ⇑P **P** **20 58 12.1 -0.1**
baz=26,SNR=58
SIUC **Southern Illin** 26.02 356 *eP* **P** **20 58 11.8 -0.5**
comp=Z,57nm,0.8s
BLA **Blacksburg** 26.09 12 *eP* **P** **20 58 14.7 +1.7**
BLA pmax pmax
comp=Z,37nm,1.0s
BLA MLR MLR
comp=Z,4µm,20.0s
BLA **Blacksburg** 26.09 12 *eP* **P** **20 58 14.7 +1.7**
comp=Z,37nm,1.0s
BLA LR LR
comp=Z,4µm,20.0s
V33A **Lossen Ranch,** 26.17 339 ⇓P **P** **20 58 13.6 0.0**
baz=26,SNR=40
USIN **University of** 26.20 359 *eP* **P** **20 58 11.9 -2.0**
comp=Z,36nm,0.7s
Y28A **McKinney Farm,** 26.21 330 ⇑P **P** **20 58 13.9 -0.2**
baz=26,SNR=35
VWCC **Virginia Weste** 26.22 13 *eP* **P** **20 58 14.0 -0.1**
MNTX **Cornudas Mount** 26.24 322 ⇓P **P** **20 58 14.0 -0.3**
baz=26,SNR=59
MNTX **Cornudas Mount** 26.24 322 *eP* **P** **20 58 12.9 -1.4**
comp=Z,24nm,0.8s
MNTX LR LR
comp=Z,1µm,21.0s
W31A **Holland Ranch,** 26.25 335 ⇓P **P** **20 58 14.6 +0.3**
baz=26,SNR=10
V32A **Arapaho** 26.36 337 ⇑P **P** **20 58 15.7 +0.4**
baz=26,SNR=64
X29A **Tulia** 26.39 332 ⇓P **P** **20 58 15.8 +0.1**
baz=26,SNR=50
WCI **Wyandotte Cave** 26.46 1 *eP* **P** **20 58 15.7 -0.5**
WCI pmax pmax
comp=Z,47nm,0.7s
WCI **Wyandotte Cave** 26.46 1 *eP* **P** **20 58 15.7 -0.5**
comp=Z,47nm,0.7s
U34A **Anderson Ranch** 26.47 340 ⇑P **P** **20 58 15.5 -0.8**
baz=26,SNR=22
U34A **Anderson Ranch** 26.47 340 *eP* **P** **20 58 15.3 -1.0**
comp=Z,80nm,0.7s
W30A **Crocket Farms** 26.50 334 ⇓P **P** **20 58 16.7 0.0**
baz=27
MSTX **Muleshoe** 26.52 329 ⇑P **P** **20 58 16.9 -0.1**
baz=27,SNR=39
MSTX **Muleshoe** 26.52 329 *eP* **P** **20 58 16.3 -0.6**
comp=Z,158nm,1.0s
U33A **Lingo Farm, Me** 26.66 340 ⇑P **P** **20 58 17.5 -0.6**
baz=27,SNR=35
X28A **Dimmitt** 26.68 331 ⇑P **P** **20 58 18.2 -0.2**
baz=27,SNR=19
V31A **Spring Creek L** 26.71 336 ⇑P **P** **20 58 19.0 +0.4**
baz=27,SNR=118
BBGH **Gun Hill** 26.73 84 PFAKE
BBGH LR LR 20 58 30.0 +11
comp=Z,5µm,21.0s
AMTX **Amarillo** 26.74 332 ⇑P **P** **20 58 18.9 0.0**
baz=27
AMTX **Amarillo** 26.74 332 *eP* **P** **20 58 18.8 -0.1**
comp=Z,118nm,0.9s
AMTX *ePcP* **PcP** **21 01 42.9 +1.4**
W29A **Amarillo** 26.92 333 ⇓P **P** **20 58 20.1 -0.4**
baz=27,SNR=12
U32A **Winter Ranch,** 26.93 338 ⇓P **P** **20 58 20.5 0.0**
baz=27,SNR=11
OLIL **Olney** 26.98 358 *eP* **P** **20 58 20.1 -0.7**
comp=Z,33nm,0.6s
V30A **Spur Ranch, Mi** 27.05 335 ⇑P **P** **20 58 23.0 +1.3**
baz=27
S36A **Lake Cedric, C** 27.10 345 ⇓P **P** **20 58 21.5 -0.4**
baz=27,SNR=79
JSRW **J. Sargeant Re** 27.15 16 *eP* **P** **20 58 24.8 +2.4**
U31A **Nine Bar Ranch** 27.24 337 ⇓P **P** **20 58 25.1 +1.8**
baz=27,SNR=6.0
S35A **Otter Creek Ra** 27.25 344 ⇑P **P** **20 58 23.0 -0.4**
baz=27,SNR=44
T33A **Patterson Ranc** 27.29 340 ⇑P **P** **20 58 23.5 -0.2**
baz=27
W28A **Vega** 27.29 332 ⇓P **P** **20 58 24.2 +0.3**
baz=27
BLO **Bloomington** 27.40 1 *eP* **P** **20 58 24.9 +0.3**
BLO pmax pmax
comp=Z,29nm,0.9s
BLO **Bloomington** 27.40 1 *eP* **P** **20 58 24.9 +0.3**
comp=Z,30nm,0.9s
R37A **Teagarden Farm** 27.47 346 ⇑P **P** **20 58 24.7 -0.6**
baz=28,SNR=28
S34A **Willow Spring** 27.50 342 ⇓P **P** **20 58 25.6 +0.1**
baz=28
V29A **Stinnett** 27.50 334 ⇑P **P** **20 58 27.1 +1.4**
baz=28
T32A **Huddler Ranch,** 27.61 339 ⇑P **P** **20 58 26.5 -0.1**
baz=28,SNR=22
R36A **Gordon, Harris** 27.64 345 ⇓P **P** **20 58 26.2 -0.6**
baz=28,SNR=31
S33A **Kaszmaul Farm,** 27.68 341 ⇑P **P** **20 58 26.6 -0.6**
baz=28,SNR=10
U30A **WK&E Inc. Balk** 27.69 336 ⇑P **P** **20 58 30.1 +2.7**
baz=28,SNR=43
V28A **Channing** 27.71 332 ⇑P **P** **20 58 28.5 +0.9**
baz=28,SNR=23
CBN **Corbin Frederi** 27.77 16 PFAKE
CBN LR LR 20 58 40.0 +12
comp=Z,5µm,20.0s
T31A **Randall Ranch,** 27.81 338 ⇑P **P** **20 58 32.1 +3.7**
baz=28,SNR=11
U29A **Oasis Ranch, S** 27.88 335 ⇓P **P** **20 58 29.6 +0.5**
baz=28,SNR=7.1
Q37A **Longview Farm,** 27.92 347 ⇑P **P** **20 58 29.2 -0.2**
baz=28,SNR=7.4
V27A **Dan Oppiter Fa** 27.99 332 ⇑P **P** **20 58 30.7 +0.6**
baz=28,SNR=15
S32A **Newby Ranch, P** 28.08 339 ⇑P **P** **20 58 31.1 +0.2**
baz=28
T30A **Plains** 28.10 336 ⇓P **P** **20 58 31.5 +0.5**
baz=28,SNR=6.0
S31A **Mullinville** 28.20 339 ⇓P **P** **20 58 32.1 +0.2**
baz=28,SNR=13
U28A **Mallet** 28.23 333 ⇑P **P** **20 58 32.4 +0.1**
baz=28
121A **Cookes Peak, D** 28.28 321 ⇑P **P** **20 58 34.4 +1.5**
baz=28,SNR=14
121A **cookes Peak, D** 28.28 321 *eP* **P** **20 58 33.7 +0.9**
comp=Z,28nm,0.8s
R33A **Olander Ranch,** 28.32 341 ⇑P **P** **20 58 32.8 -0.1**
baz=28,SNR=18
V26A **Tequesquite Ra** 28.48 330 ⇓P **P** **20 58 34.9 +0.4**
baz=29,SNR=48
T29A **Hugoton** 28.49 335 ⇑P **P** **20 58 35.0 +0.5**
baz=29,SNR=5.6
319A **Douglas** 28.50 317 ⇓P **P** **20 58 35.1 +0.4**
baz=29
U27A **Thompson Grove** 28.53 332 ⇓P **P** **20 58 35.1 +0.2**
baz=29,SNR=16
S30A **Montezuma** 28.59 337 ⇑P **P** **20 58 35.3 0.0**
baz=29,SNR=6.9
SFIN **Lafayette** 28.60 360 ⇓P **P** **20 58 35.1 -0.2**
baz=29,SNR=7.5
SFIN **Lafayette** 28.60 360 *eP* **P** **20 58 34.9 -0.4**
comp=Z,27nm,0.8s
KSU1 **Kansas State U** 28.66 344 ⇓P **P** **20 58 35.6 -0.2**
baz=29,SNR=19
KSU1 **Kansas State U** 28.66 344 *eP* **P** **20 58 34.8 -1.0**
comp=Z,91nm,0.8s
KSU1 LR LR
comp=Z,2µm,22.0s
R32A **Long Quarter,** 28.66 340 ⇑P **P** **20 58 35.9 0.0**
baz=29,SNR=11
ACSO **Alum Creek Sta** 28.66 6 *eP* **P** **20 58 36.2 +0.4**
comp=Z,52nm,0.6s
ACSO LR LR
comp=Z,4µm,21.0s
BNM **Barren Site** 28.72 324 *eP* **P** **20 58 38.6 +1.7**
T28A **Walsh** 28.80 334 ⇓P **P** **20 58 37.1 -0.2**
baz=29,SNR=10.0
R31A **Burdett** 28.82 339 ⇑P **P** **20 58 37.7 +0.3**
baz=29,SNR=13
S29A **Ulysses** 28.82 336 ⇓P **P** **20 58 38.8 +1.4**
baz=29,SNR=9.5
LPM **Los Pinos Moun** 28.84 325 *eP* **P** **20 58 40.8 +2.9**
LPM *eScS* ScS 21 09 19.9 +1.2
Q33A **Connelly Farm,** 28.91 342 ⇓P **P** **20 58 39.7 +1.6**
baz=29,SNR=24
LENM **Lemitar** 28.93 324 *eP* **P** **20 58 41.3 +2.7**
LENM *ePcP* **PcP** **21 01 49.1 +2.1**
LENM *eScS* ScS 21 09 20.3 +1.1
U26A **Atchley Ranch,** 28.94 331 ⇓P **P** **20 58 39.2 +0.5**
baz=29,SNR=17
BBSR **BB Station** 29.01 41 PFAKE
BBSR LR LR 20 58 50.0 +11
comp=Z,5µm,20.0s
SDMD **Soldier's Deli** 29.04 16 *eP* **P** **20 58 38.1 -1.2**
comp=Z,66nm,0.7s
R30A **Dighton** 29.08 338 ⇓P **P** **20 58 40.2 +0.5**
baz=29,SNR=14
S28A **Manter** 29.11 335 ⇑P **P** **20 58 40.3 +0.3**
baz=29,SNR=10
Q32A **Meitler Ranch,** 29.13 341 ⇑P **P** **20 58 40.1 0.0**
baz=29,SNR=22
LAZ **Ladron** 29.20 324 *eP* **P** **20 58 42.6 +1.6**
LAZ *eScS* ScS 21 09 20.6 +0.2
ANMO **Albuquerque** 29.21 326 *eP* **P** **20 58 41.9 +0.8**
ANMO pmax pmax
comp=Z,91nm,2.5s
ANMO **Albuquerque** 29.21 326 P **P** **20 58 41.9 +0.8**
comp=Z,1.7nm,0.4s,baz=145,slow=9.8,SNR=9.8
ANMO PcP **PcP** **21 01 48.7 +1.0**
comp=Z,7.0nm,0.9s,baz=190,slow=7.8,SNR=4.9
ANMO LR LR 21 11 43.9

comp=Z,1µm,21.6s,baz=134,slow=39
ANMO Albuquerque 29.21 326 eP P 20 58 41.9 +0.8
comp=Z,16nm,1.0s
ANMO eP cP P 21 01 49.5 +1.8
P33A Williams Farm, 29.27 343 ⇑P P 20 58 41.5 +0.1
baz=29,SNR=24
Q31A Ellis 29.41 340 ⇓P P 20 58 43.2 +0.6
baz=30,SNR=10
PTGA Pitinga 29.45 113 P P 20 58 42.6 -0.6
comp=Z,10nm,0.7s,baz=329,slow=6.7,SNR=9.7
PTGA LR LR 21 11 59.9
comp=Z,5µm,18.7s,baz=292,slow=40
T26A Comanche Natio 29.50 332 ⇑P P 20 58 44.0 +0.3
baz=30
R29A Marienthal 29.53 337 ⇓P P 20 58 44.5 +0.8
baz=30
Q30A Quinter 29.68 339 ⇑P P 20 58 45.9 +0.9
baz=30
P32A Huiting Farm, 29.72 342 ⇓P P 20 58 45.6 +0.3
baz=30,SNR=45
R28A Tribune 29.72 336 ⇑P P 20 58 45.6 +0.2
baz=30,SNR=27
MVL Millersville 29.72 16 eP P 20 58 46.2 +1.0
comp=Z,73nm,1.6s
S26A Kim 29.82 333 ⇑P P 20 58 47.2 +0.8
baz=30
T25A Trinidad 29.86 331 ⇓P P 20 58 47.2 +0.4
baz=30,SNR=10
T25A Trinidad 29.86 331 eP P 20 58 47.8 +1.0
comp=Z,17nm,0.8s
P31A Stockton 29.87 340 ⇑P P 20 58 47.4 +0.7
baz=30,SNR=9.3
Q29A Oakley 29.88 338 ⇓P P 20 58 47.4 +0.7
baz=30
SSPA Standing Stone 29.93 14 eP P 20 58 47.5 +0.4
comp=Z,73nm,1.4s
R27A Eads 30.08 335 ⇓P P 20 58 49.8 +1.2
baz=30
TUC Tucson 30.08 317 eP P 20 58 49.9 +1.2
TUC e 21 01 51.4
TUC e 21 09 29.7
TUC pmax pmax
comp=Z,21nm,1.0s
TUC MLR MLR
comp=Z,4µm,21.0s
TUC Tucson 30.08 317 eP P 20 58 49.9 +1.2
comp=Z,22nm,1.0s
TUC eP cP P 21 01 51.4 +1.6
TUC eS cS S 21 09 29.7 +5.2
TUC LR LR
comp=Z,4µm,21.0s
P30A Selden 30.19 339 ⇑P P 20 58 50.3 +0.8
baz=30,SNR=5.7
O32A Brockman Farm, 30.21 343 ⇑P P 20 58 49.6 -0.1
baz=30,SNR=27
S25A Robets Cordova 30.29 332 ⇑P P 20 58 52.6 +2.0
baz=30,SNR=13
Q28A Sharon Springs 30.35 337 ⇓P P 20 58 51.7 +0.7
baz=30
R26A Arlington 30.37 334 ⇑P P 20 58 52.0 +0.8
baz=30
O31A Woolen Ranch, 30.43 341 ⇑P P 20 58 51.7 +0.1
baz=30,SNR=17
ALLY Alegheny Colle 30.45 10 eP P 20 58 52.2 +0.5
comp=Z,22nm,0.6s
P29A Atwood 30.48 338 ⇑P P 20 58 52.8 +0.7
baz=31
R25A Fountain Ranch 30.61 332 ⇓P P 20 58 54.7 +1.3
baz=31,SNR=8.8
KSCO Kaye Shedlock' 30.62 335 ⇑P P 20 58 54.2 +0.8
baz=31,SNR=8.1
KSCO Kaye Shedlock' 30.62 335 eP P 20 58 53.0 -0.5
comp=Z,43nm,0.8s
SCIA State Center 30.63 351 eP P 20 58 52.0 -1.3
comp=Z,21nm,0.5s
SCIA LR LR
comp=Z,1µm,20.0s
AAM Ann Arbor 30.65 5 eP P 20 58 53.9 +0.4
AAM pmax pmax
comp=Z,45nm,0.5s
AAM MLR MLR
comp=Z,3µm,21.0s
AAM Ann Arbor 30.65 5 eP P 20 58 53.9 +0.4
comp=Z,45nm,0.5s
AAM LR LR
comp=Z,3µm,21.0s
N32A Stulken Farm, 30.68 343 ⇓P P 20 58 54.4 +0.6
baz=31
O30A MW Ranch, Wils 30.69 340 ⇓P P 20 58 54.7 +0.7
baz=31,SNR=9.5
P28A Saint Francis 30.76 337 ⇑P P 20 58 55.5 +0.9
baz=31,SNR=7.0
SDCO Great Sand Dun 30.86 330 ⇑P P 20 58 56.3 +0.5
baz=31,SNR=38
O29A 4D Ranch, Culb 30.90 339 ⇑P P 20 58 56.5 +0.7
baz=31
Q26A Hugo 30.92 334 ⇓P P 20 58 57.4 +1.3
baz=31,SNR=5.1
N31A Bailey Ranch, 30.93 342 ⇑P P 20 58 57.1 +1.1
baz=31
ERPA Erie 30.93 10 eP P 20 58 55.2 -0.7
comp=Z,48nm,0.6s
ERPA LR LR
comp=Z,2µm,21.0s
X18A Snowflake 30.96 321 ⇑P P 20 58 59.2 +2.7
baz=31,SNR=5.9
R24A Sanders Place, 31.06 332 ⇑P P 20 58 59.3 +1.8
baz=31
W18A Petrified Fore 31.23 322 ⇑P P 20 59 03.4 +4.5
baz=31,SNR=5.6
W18A Petrified Fore 31.23 322 eP P 20 58 59.9 +1.1
comp=Z,44nm,0.9s
Q25A Bedland, Calha 31.23 333 ⇑P P 20 58 59.1 +0.3
baz=31
SAML Samuel 31.23 130 eP P 20 58 58.4 -0.4
comp=Z,42nm,0.8s
SAML eP cP P 21 01 53.9 +1.0
SAML LR LR
comp=Z,4µm,20.0s
BGNE Belgrade 31.23 344 ⇑P P 20 58 59.0 +0.4
baz=31
BGNE Belgrade 31.23 344 eP P 20 58 58.0 -0.7
comp=Z,201nm,0.8s
ODNJ Ogdensburg 31.23 18 eP P 20 58 59.2 +0.6
comp=Z,29nm,1.2s
O28A Krutsinger Ran 31.25 338 ⇑P P 20 59 00.1 +1.1
baz=31
N30A Hueftle Ranch, 31.26 340 ⇓P P 20 59 00.2 +1.2
baz=31
214A Organ Pipe Nat 31.27 314 ⇑P P 20 59 01.3 +2.2
baz=31
214A Organ Pipe Nat 31.27 314 P P 20 58 55.1 -4.0
comp=Z,11nm,1.1s
JFWS Jewell Farm 31.27 355 eP P 20 58 58.3 -0.6
JFWS pmax pmax
comp=Z,39nm,0.8s
JFWS MLR MLR
comp=Z,1µm,19.0s
JFWS Jewell Farm 31.27 355 eP P 20 58 58.3 -0.6
comp=Z,38nm,0.8s
JFWS LR LR
comp=Z,1µm,19.0s
KSPA Keystone Colle 31.34 16 eP P 20 59 01.1 +1.5
comp=Z,28nm,0.8s
R23A Moffat 31.37 331 ⇓P P 20 59 01.1 +0.9
baz=31,SNR=24
P26A Davis Ranch, A 31.38 335 ⇓P P 20 59 01.2 +1.0
baz=32
M31A Lambtecht Ranc 31.41 342 ⇓P P 20 59 01.1 +0.8
baz=32,SNR=12
N29A Votaw Ranch, W 31.46 340 ⇓P P 20 59 02.0 +1.3
baz=32
S22A 4UR Ranch, Cre 31.52 329 ⇑P P 20 59 02.2 +0.6
baz=32,SNR=25
S22A 4UR Ranch, Cre 31.52 329 eP P 20 59 02.5 +0.9
comp=Z,13nm,0.7s
S22A eP cP P 21 01 55.7 +1.9
N28A Pribbeno Ranch 31.66 339 ⇓P P 20 59 03.6 +1.1
baz=32
Q24A Divide 31.67 332 ⇑P P 20 59 03.6 +0.7
baz=32
Q24A Divide 31.67 332 eP P 20 59 05.8 +2.8
comp=Z,91nm,2.5s
P25A Willow Gulch B 31.69 334 ⇓P P 20 59 03.9 +1.1
baz=32
X16A Lo Mia Camp, P 31.82 319 ⇓P P 20 59 05.1 +1.0
baz=32,SNR=26
BINY Binghamton 31.88 15 eP P 20 59 04.8 +0.5
comp=Z,49nm,0.8s
BINY LR LR
comp=Z,5µm,20.0s
MMNY Mt. Morris Dam 31.93 13 eP P 20 59 05.5 +0.8
comp=Z,102nm,1.3s
Q23A Hartsel 31.94 331 ⇑P P 20 59 06.2 +0.9
baz=32
MVCO Mesa Verde 31.99 326 ⇓P P 20 59 06.6 +0.9
baz=32,SNR=19
MVCO Mesa Verde 31.99 326 eP P 20 59 06.5 +0.8
comp=Z,25nm,0.8s
MVCO eP cP P 21 01 57.0 +2.0
MVCO LR LR
comp=Z,2µm,20.0s
OGNE Ogallala 32.06 338 ⇓P P 20 59 06.9 +0.9
baz=32
OGNE Ogallala 32.06 338 P P 20 59 06.6 +0.6
comp=Z,74nm,1.0s
OGNE LR LR
comp=Z,3µm,22.0s
N27A Anderson Farm, 32.13 337 ⇑P P 20 59 07.8 +1.2
baz=32
L31A Butterfield Fa 32.14 343 ⇑P P 20 59 06.9 +0.3
baz=32,SNR=12
O25A Wiggins 32.17 335 ⇑P P 20 59 08.3 +1.3
baz=32
L30A Spencer Herefo 32.19 342 ⇓P P 20 59 08.0 +0.9
baz=32,SNR=7.6
M28A Bar X Bar Ranc 32.23 339 ⇓P P 20 59 08.6 +1.1
baz=32
P23A Jefferson 32.32 332 ⇓P P 20 59 10.3 +1.7
baz=32,SNR=19
WUAZ Wupatki 32.49 321 ⇓P P 20 59 11.2 +1.3
baz=33,SNR=26
WUAZ Wupatki 32.49 321 eP P 20 59 11.2 +1.3
comp=Z,30nm,0.9s
WUAZ eP cP P 21 01 58.0 +1.7
WUAZ LR LR
comp=Z,3µm,19.0s
L29A Maesberg Ranch 32.53 341 ⇓P P 20 59 10.6 +0.5
baz=33,SNR=12
Y14A Wickenburg 32.55 317 ⇓P P 20 59 11.8 +1.4
baz=33
ISCO Idaho Springs 32.56 333 eP P 20 59 10.9 +0.2
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO MLR MLR
comp=Z,1µm,22.0s
ISCO Idaho Springs 32.56 333 ⇓P P 20 59 11.2 +0.5
baz=33,SNR=12
ISCO Idaho Springs 32.56 333 eP P 20 59 10.9 +0.2
comp=Z,8.9nm,0.9s
ISCO LR LR
comp=Z,1µm,22.0s
O24A Longmont 32.58 334 ⇓P P 20 59 11.0 +0.3
baz=33
SMCO Snowmass 32.70 330 eP P 20 59 13.0 +0.9
comp=Z,37nm,1.2s
SMCO eP cP P 21 01 58.8 +1.7
M27A Reverse DX Ran 32.70 338 ⇓P P 20 59 12.3 +0.6
baz=33
PV01 Paradox Valley 32.71 327 eP P 20 59 12.4 +0.5
N25A Grover 32.74 335 ⇓P P 20 59 12.8 +0.7
baz=33
K30A Basset 32.82 343 ⇓P P 20 59 13.2 +0.6
baz=33,SNR=26
PV05 Paradox Valley 32.95 327 eP P 20 59 14.7 +0.6
PV05 eP cP P 21 01 59.4 +1.8
TRY Troy 33.02 18 eP P 20 59 15.6 +1.3
comp=Z,58nm,0.9s
O23A Lake Granby, G 33.03 333 ⇓P P 20 59 15.4 +0.6
baz=33,SNR=22
ECSD EROS Data Cent 33.04 347 ⇑P P 20 59 13.4 -1.1
baz=33,SNR=68
ECSD EROS Data Cent 33.04 347 eP P 20 59 12.8 -1.6
comp=Z,76nm,0.8s
ECSD LR LR
comp=Z,3µm,22.0s
N24A Carr 33.08 335 ⇓P P 20 59 16.3 +1.2
baz=33
K29A Lazy Trails An 33.11 342 ⇓P P 20 59 15.4 +0.3
baz=33,SNR=23
PV10 Paradox Valley 33.14 327 eP P 20 59 16.2 +0.5
PV10 eP cP P 21 01 59.8 +1.7
M25A Palm-Egli Farm 33.26 336 ⇑P P 20 59 18.3 +1.7
baz=33
O22A Kremmling 33.27 332 ⇓P P 20 59 17.4 +0.4
baz=33,SNR=18
PV09 Paradox Valley 33.28 327 eP P 20 59 17.8 +0.8
PV09 eP cP P 21 02 00.7 +2.1
GLA Glamis 33.29 314 ⇑P P 20 59 18.4 +1.5
baz=33
J30A Dallas 33.38 343 ⇓P P 20 59 17.6 +0.1
baz=34,SNR=21
K28A Ten Mile Ranch 33.40 340 ⇑P P 20 59 18.9 +1.2
baz=34
L26A Underwood Farm 33.40 338 ⇑P P 20 59 19.4 +1.6
baz=34
LPAZ La Paz 33.40 146 eP P 20 59 19.6 +1.0
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
LPAZ La Paz 33.40 146 LR LR 21 13 16.0
comp=Z,4µm,19.4s,baz=316,slow=37
LPAZ La Paz 33.40 146 eP P 20 59 19.6 +1.0
comp=Z,7.4nm,0.9s
PDMCI Parker Dam,Lak 33.52 317 ⇓P P 20 59 21.1 +2.4
baz=34,SNR=15
N23A Red Feather La 33.60 333 ⇓P P 20 59 21.2 +1.6
baz=34,SNR=12
N23A Red Feather La 33.60 333 eP P 20 59 20.2 +0.5
comp=Z,10nm,0.8s
ACCN Adirondack Com 33.62 18 P P 20 59 19.0 -0.5
comp=Z,21nm,1.0s
U15A North Rim 33.65 321 ⇑P P 20 59 21.7 +1.6
baz=34,SNR=12
SADO Sadowa 33.65 10 P P 20 59 18.3 -1.4
comp=Z,18nm,0.7s,baz=209,slow=9.3,SNR=15
SADO LR LR 21 13 08.2
comp=Z,2µm,20.1s,baz=218,slow=37
K27A Flueckinger Fa 33.68 339 ⇑P P 20 59 21.9 +1.7
baz=34
J29A Okreek 33.70 342 ⇑P P 20 59 20.4 +0.1
baz=34,SNR=29
PHWY Pilot Hill 33.72 334 eP P 20 59 20.8 +0.1
comp=Z,11nm,0.8s
N22A Wattenberg Ran 33.75 333 ⇑P P 20 59 22.6 +1.6
baz=34,SNR=11
WESC Westside Schoo 33.77 313 eP P 20 59 16.8 -4.2
SPMN Marine on St. 33.83 352 ⇑P P 20 59 20.3 -0.9
baz=34,SNR=29
SPMN Marine on St. 33.83 352 eP P 20 59 20.0 -1.3
comp=Z,104nm,0.4s
W13A Hualapai Mount 33.83 318 ⇑P P 20 59 22.6 +1.0
baz=34,SNR=19
L25A Engebretsen Ra 33.84 337 ⇓P P 20 59 23.5 +1.9
baz=34
YUH Yuha Desert 33.85 313 eP P 20 59 17.1 -4.6
YUH eS P 20 59 44.6 +6.1
YUH eS cP S 21 05 44.8 +3.4
I30A Oacoma 33.91 344 ⇓P P 20 59 21.4 -0.6
baz=34,SNR=24
SWSC Sam W. Stewart 33.91 313 ⇓P P 20 59 26.0 +3.7
baz=34
M23A Laramie 33.97 334 ⇓P P 20 59 24.2 +1.3
baz=34
J28A Allard Ranch, 33.99 341 ⇑P P 20 59 23.0 +0.2
baz=34,SNR=16
NCB Newcomb 34.00 16 PFAKE 20 59 30.0 +7.2
NCB LR LR
comp=Z,5µm,20.0s
BC3 Big Chuckawall 34.06 315 ⇑P P 20 59 24.9 +1.3
baz=34
O20A White River Ci 34.06 330 ⇑P P 20 59 24.9 +1.3
baz=34,SNR=17
O20A White River Ci 34.06 330 eP P 20 59 24.8 +1.1
comp=Z,52nm,0.8s
O20A eP cP P 21 02 01.8 +1.2
J27A Elkhorn Farm, 34.09 340 ⇓P P 20 59 25.9 +2.1
baz=34
IRM Iron Mountain 34.13 316 ⇓P P 20 59 29.5 +5.4
baz=34,SNR=5.5
K25A Mack Ranch, Ha 34.19 337 ⇑P P 20 59 26.8 +2.1
baz=34
I29A Vivian Onida 34.26 343 ⇓P P 20 59 24.7 -0.4
baz=34,SNR=24
BRSD Miller 34.27 345 ⇑P P 20 59 24.6 -0.6
baz=34,SNR=29
BRSD Miller 34.27 345 eP P 20 59 24.2 -1.0
comp=Z,319nm,0.8s
BRSD eS cP S cP 21 05 43.0 +0.3
M22A Cedar Creek Ra 34.30 333 ⇓P P 20 59 29.1 +3.3
baz=34
MONP Monument Peak, 34.34 313 ⇑P P 20 59 28.2 +2.0
baz=34
PTN Potsdam (NY) 34.35 15 eP P 20 59 26.2 +0.3
PTN pmax pmax
comp=Z,125nm,1.1s
PTN Potsdam (NY) 34.35 15 eP P 20 59 26.1 +0.3
comp=Z,125nm,1.1s
KNB Kanab 34.35 322 eP P 20 59 28.7 +2.5
KNB e 21 02 03.7
KNB pmax pmax
comp=Z,42nm,1.1s
KNB Kanab 34.35 322 eP P 20 59 28.7 +2.5
comp=Z,42nm,1.1s
KNB eP cP P 21 02 03.7 +2.2
COWI Conover 34.37 357 eP P 20 59 24.8 -1.3
comp=Z,45nm,0.6s
COWI LR LR
comp=Z,1µm,21.0s
SRU San Rafael Swe 34.47 327 eP P 20 59 27.8 +0.6
SRU e 21 02 03.5
SRU pmax pmax
comp=Z,32nm,0.7s
SRU San Rafael Swe 34.47 327 eP P 20 59 27.8 +0.6
comp=Z,32nm,0.7s
SRU eP cP P 21 02 03.5 +1.7
I28A Midland 34.49 342 ⇓P P 20 59 27.5 +0.4
baz=35,SNR=32
LONY Lake Ozonia 34.50 16 eP P 20 59 27.4 +0.3
comp=Z,66nm,1.1s
LONY LR LR
comp=Z,5µm,19.0s
J26A Sides Ranch, S 34.51 339 ⇑P P 20 59 28.6 +1.2
baz=35,SNR=12
N20A Spence Gulch, 34.61 331 ⇑P P 20 59 29.4 +1.0
baz=35,SNR=29
LDFC Landfair 34.62 317 eP P 20 59 30.8 +2.3
comp=Z,24nm,0.9s
BELC Belle Mtn. Jos 34.62 315 ⇑P P 20 59 33.4 +4.9
baz=35,SNR=5.6
L22A Ellis Ranch, M 34.74 334 ⇓P P 20 59 30.9 +1.4
baz=35,SNR=16
PFO Pinyon Flats O 34.74 314 ⇓P P 20 59 31.4 +1.9
baz=35
PFO Pinyon Flats O 34.74 314 eP cP P cP 21 02 04.3 +1.7
PFO LR LR
comp=Z,3µm,19.0s
DPP Dos Picos Cty 34.77 312 eP P 20 59 30.0 +0.4
H29A Onida 34.78 343 ⇓P P 20 59 29.1 -0.5
baz=35,SNR=11
GMRC Granite Mounta 34.82 316 ⇓P P 20 59 32.1 +1.9
baz=35
I27A Quinn 34.84 341 ⇓P P 20 59 31.4 +1.3
baz=35,SNR=20
J25A Sunshine Ranch 34.84 338 ⇑P P 20 59 31.4 +1.2
baz=35
PLM Palomar 34.89 313 eP P 20 59 32.3 +1.4
PLM e 21 00 57.0
PLM Palomar 34.89 313 eP P 20 59 32.3 +1.4
PLM eP P P 21 00 57.0 +6.4
LBNH Lisbon 34.93 19 eP P 20 59 31.6 +0.8
LBNH pmax pmax
comp=Z,430nm,2.8s
LBNH MLR MLR
comp=Z,5µm,20.0s
LBNH Lisbon 34.93 19 eP P 20 59 31.6 +0.8
comp=Z,430nm,2.8s
LBNH LR LR
comp=Z,5µm,20.0s
G30A Faulkton 34.96 345 ⇓P P 20 59 30.4 -0.7
baz=35,SNR=8.2
TMUT Trail Mountain 34.97 326 eP P 20 59 33.6 +1.9
comp=Z,32nm,1.0s
TMUT eP cP P 21 02 04.9 +1.4
MVU Marysvale 34.98 324 eP P 20 59 34.3 +2.6
comp=Z,12nm,0.8s
MVU eP cP P 21 02 05.4 +2.0
K23A Bowen Ranch, D 35.00 336 ⇓P P 20 59 34.6 +2.9
baz=35,SNR=5.5
CCUT Cedar City 35.03 322 eP P 20 59 34.4 +2.3
comp=Z,15nm,0.9s
CCUT eP cP P 21 02 06.1 +2.5
H28A Mission Ridge 35.06 342 ⇓P P 20 59 32.6 +0.6
baz=35,SNR=6.3
I26A New Underwood 35.07 340 ⇑P P 20 59 33.7 +1.6
baz=35
J24A Dixon Ranch, L 35.11 337 ⇑P P 20 59 34.0 +1.4
baz=35
ARUT Antelope Range 35.23 322 eP P 20 59 35.2 +1.5
ARUT eS S 21 05 01.9 -2.6
ARUT Antelope Range 35.23 322 eP P 20 59 35.2 +1.5
ARUT eS S 21 05 01.9 -2.6
K22A Casper 35.28 335 ⇑P P 20 59 35.3 +1.2
baz=35
K22A Casper 35.28 335 eP P 20 59 35.0 +0.8
comp=Z,23nm,0.8s
HEC Hector,Ludlow 35.31 316 ⇑P P 20 59 36.0 +1.6
baz=35
H27A Howes 35.35 341 ⇓P P 20 59 34.8 +0.3
baz=35,SNR=77
I25A Rochford 35.36 339 ⇑P P 20 59 35.6 +0.8
baz=35,SNR=21
G28A Parade 35.40 343 ⇑P P 20 59 35.3 +0.4
baz=36,SNR=6.2
SHPR Sheep Range 35.50 319 eP P 20 59 39.9 +3.9
SHPR eP cP P 21 02 07.2 +2.4
I24A Kuemmerle Ranc 35.55 338 ⇓P P 20 59 36.7 +0.4
baz=36,SNR=5.8
RSSD Black Hills 35.56 339 eP P 20 59 37.1 +0.6
RSSD pmax pmax
comp=Z,21nm,0.7s
RSSD Black Hills 35.56 339 eP P 20 59 37.1 +0.6
comp=Z,21nm,0.7s
H26A Fairpoint 35.56 340 ⇓P P 20 59 37.5 +1.2
baz=36,SNR=8.9
K21A Alcova 35.58 334 ⇓P P 20 59 37.4 +0.7
baz=36,SNR=14
F30A Leola 35.59 345 ⇓P P 20 59 35.7 -0.8
baz=36,SNR=7.2
MPU Maple Canyon 35.71 327 eP P 20 59 38.2 +0.3
comp=Z,44nm,1.0s
MPU eP cP P 21 02 07.2 +1.8
F29A Eureka 35.79 344 ⇑P P 20 59 37.2 -1.1
baz=36,SNR=14
DAU Daniels Canyon 35.80 327 eP P 20 59 39.7 +0.9
DAU e 21 02 07.5
DAU Daniels Canyon 35.80 327 eP P 20 59 39.7 +0.9
DAU eP cP P 21 02 07.5 +1.7
H25A Fruitdale 35.84 339 ⇑P P 20 59 40.4 +1.6
baz=36
VTV Victorville 35.85 314 eP P 20 59 39.4 +0.4
VTV Victorville 35.85 314 eP P 20 59 39.4 +0.4
J22A Midwest 35.89 335 ⇑P P 20 59 40.4 +1.1
baz=36
GSC Goldstone, Bar 35.89 316 eP P 20 59 41.4 +2.0
GSC e 21 02 07.6
GSC pmax pmax
comp=Z,5.0nm,0.8s
GSC Goldstone, Bar 35.89 316 ⇓P P 20 59 41.0 +1.6
baz=36
GSC Goldstone, Bar 35.89 316 eP P 20 59 41.4 +2.0
comp=Z,5.1nm,0.8s
GSC eP cP P 21 02 07.6 +1.6
NLU North Lily Min 35.91 326 eP P 20 59 43.1 +3.4
comp=Z,16nm,1.3s
NLU eP cP P 21 02 08.1 +2.1
I23A Meade Ranch, G 35.95 337 ⇑P P 20 59 41.5 +1.7
baz=36
HTU Hoyt Peak 35.97 328 eP P 20 59 40.6 +0.4
G27A Dupree 35.97 342 ⇓P P 20 59 39.8 -0.1
baz=36,SNR=16
JLU Jordanelle 36.04 327 eP P 20 59 41.7 +1.0
comp=Z,20nm,0.7s
F28A McLaughlin 36.07 343 ⇓P P 20 59 40.4 -0.2
baz=36,SNR=13
G26A Maurine 36.10 341 ⇓P P 20 59 41.3 +0.3
baz=36,SNR=19
E30A Jud 36.19 346 ⇓P P 20 59 40.4 -1.2
baz=36,SNR=15
J21A Lysite 36.24 334 ⇓P P 20 59 42.7 +0.3
baz=36,SNR=29
PASC Pasadena Art C 36.26 313 eP P 20 59 44.0 +1.5

CTU **Camp Tracy** 36.26 327 *e*P P 20 59 43.9 +1.3
comp=Z,35nm,1.0s
H24A **Dirks Ranch, A** 36.28 339 ⇑P P 20 59 43.3 +0.7
baz=36,SNR=17
I22A **9 Mile Ranch,** 36.29 336 ⇑P P 20 59 43.5 +0.8
baz=36,SNR=8.7
EYMN **Ely** 36.37 355 *e*P P 20 59 41.4 -1.8
comp=Z,55nm,1.4s
EYMN LR LR
comp=Z,1µm,20.0s
CCCA **Chr Cany lake** 36.40 316 *e*P P 20 59 43.8 +0.1
CCCA *ep*P **pP** 20 59 55.6 +0.2
CCCA *e*S **S** 21 05 24.9 +2.6
E29A **Napoleon** 36.43 345 ⇑P P 20 59 43.3 -0.4
baz=36,SNR=11
H23A **Clabaugh Cattl** 36.44 338 ⇑P P 20 59 45.4 +1.5
baz=36
F27A **Lemmon** 36.45 342 ⇓P P 20 59 44.3 +0.4
baz=36,SNR=14
TPNV **Topopah Spring** 36.46 319 *e*P P 20 59 46.0 +1.7
TPNV *e* 21 02 09.5
TPNV pmax pmax
comp=Z,17nm,0.9s
TPNV **Topopah Spring** 36.46 319 ⇓P P 20 59 45.7 +1.4
baz=36,SNR=20
TPNV **Topopah Spring** 36.46 319 *e*P P 20 59 46.0 +1.7
comp=Z,17nm,0.9s
TPNV *e*PcP **PcP** 21 02 09.5 +1.8
FSU **Fish Springs** 36.48 325 *e*P P 20 59 45.8 +1.4
DUG **Dugway, Tooele** 36.48 326 *e*P P 20 59 45.5 +1.1
DUG pmax pmax
comp=Z,23nm,1.1s
DUG MLR MLR
comp=Z,3µm,19.0s
DUG **Dugway, Tooele** 36.48 326 ⇓P P 20 59 45.6 +1.2
baz=37,SNR=16
DUG **Dugway, Tooele** 36.48 326 *e*P P 20 59 45.5 +1.1
DUG comp=Z,22nm,1.1s LR LR
comp=Z,3µm,19.0s
J20A **Shoshoni** 36.52 334 ⇓P P 20 59 45.5 +0.9
baz=37,SNR=33
I21A **Big Trails, Te** 36.55 335 ⇓P P 20 59 45.7 +0.7
baz=37,SNR=12
FURC **Furnace Creek,** 36.59 318 ⇓P P 20 59 45.5 +0.4
baz=37
LRMC **Laurel Mtn Rad** 36.59 315 ⇑P P 20 59 45.8 +0.4
baz=37
F26A **Lodgepole** 36.62 341 ⇓P P 20 59 46.2 +0.7
baz=37,SNR=9.3
MCU **Monte Cristo P** 36.69 328 *e*P P 20 59 47.0 +0.6
MCU *e*PcP **PcP** 21 02 09.4 +0.9
E28A **Huff** 36.71 344 ⇓P P 20 59 45.6 -0.5
baz=37,SNR=9.1
PKME **Peaks-Kenny Pk** 36.71 21 *e*P P 20 59 48.0 +1.9
PKME LR LR
comp=Z,4µm,19.0s
BW06 **Boulder Array** 36.72 332 *e*P P 20 59 46.3 -0.2
comp=Z,15nm,0.8s
BW06 LR LR
comp=Z,2µm,19.0s
PDAR **Pinedale Array** 36.72 332 P P 20 59 46.2 -0.3
comp=Z,12nm,0.5s,baz=130,slow=10,SNR=96
PDAR PcP **PcP** 21 02 08.3 -0.1
comp=Z,2.6nm,0.6s,baz=135,slow=5.3,SNR=3.7
PDAR ScP **ScP** 21 05 53.1 +1.2
comp=Z,0.5nm,0.9s,baz=100,slow=3.7,SNR=2.9
PDAR LR LR 21 19 29.0
comp=Z,2µm,18.9s,baz=138,slow=44
D30A **Buchanan** 36.72 346 ⇓P P 20 59 45.5 -0.7
baz=37,SNR=19
G24A **Alzada** 36.74 339 ⇑P P 20 59 47.2 +0.8
baz=37
RSUT **Red Spur Mount** 36.77 329 *e*P P 20 59 47.2 +0.1
MPMC **Manual Prospec** 36.78 316 ⇓P P 20 59 46.3 -0.7
baz=37,SNR=13
E27A **Carson** 36.82 343 ⇑P P 20 59 47.1 +0.1
baz=37,SNR=25
HWUT **Hardware Ranch** 36.83 329 *e*P P 20 59 47.2 -0.1
comp=Z,55nm,0.8s
HWUT LR LR
comp=Z,2µm,19.0s
H22A **Clearmont** 36.83 337 ⇓P P 20 59 47.8 +0.6
baz=37
J19A **Crowheart** 36.88 333 ⇓P P 20 59 47.6 -0.2
baz=37,SNR=21
R11A **Troy Canyon, C** 36.89 321 ⇑P P 20 59 48.6 +0.7
baz=37,SNR=19
R11A **Troy Canyon, C** 36.89 321 *e*P P 20 59 49.2 +1.2
comp=Z,11nm,1.0s
R11A *e*PcP **PcP** 21 02 10.4 +1.4
BMUT **Black Mountain** 36.92 329 *e*P P 20 59 48.7 +0.5
F25A **Bowman** 36.94 341 ⇓P P 20 59 48.7 +0.5
baz=37
DAC **Darwin (Calif)** 36.97 317 *e*P P 20 59 50.7 +2.0
DAC *e* 21 02 11.0
DAC pmax pmax
comp=Z,12nm,1.4s
DAC **Darwin (Calif)** 36.97 317 *e*P P 20 59 50.7 +2.0
comp=Z,12nm,1.4s
DAC *e*PcP **PcP** 21 02 11.0 +1.7
G23A **Biddle** 36.98 338 ⇓P P 20 59 48.9 +0.4
baz=37,SNR=10
WWPM **Walker Pass** 37.01 316 *e*ScP **ScP** 21 05 54.3 +1.3
I20A **Worland** 37.02 334 ⇓P P 20 59 49.4 +0.5
baz=37,SNR=21
HDU **Hyde Park** 37.07 329 *e*P P 20 59 49.5 0.0
BGU **Big Grassy Mou** 37.11 326 *e*P P 20 59 50.5 +0.7
comp=Z,20nm,1.0s
E26A **Carlson Angus** 37.12 342 ⇓P P 20 59 50.2 +0.6
baz=37
H21A **Big Horn, Sher** 37.13 336 ⇑P P 20 59 50.4 +0.5
baz=37,SNR=17
F24A **Ekalaka** 37.20 340 ⇓P P 20 59 51.1 +0.7
baz=37,SNR=11
BSC **Santa Cruz Isl** 37.21 312 ⇑P P 20 59 51.1 +0.6
baz=37
C30A **Mose, Pekin** 37.22 347 ⇑P P 20 59 49.6 -0.8
baz=37,SNR=47
ISA **Isabella, Lake** 37.23 315 *e*P P 20 59 55.5 +4.7
ISA *e* 21 02 11.9
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA **Isabella, Lake** 37.23 315 ⇓P P 20 59 51.5 +0.7
baz=37
ISA **Isabella, Lake** 37.23 315 *e*P P 20 59 55.5 +4.7
comp=Z,6.1nm,0.9s
ISA *e*PcP **PcP** 21 02 11.8 +1.9
D28A **Regan** 37.24 345 ⇓P P 20 59 50.3 -0.4
baz=37,SNR=21
AGMN **Agassiz Nation** 37.28 350 ⇓P P 20 59 49.9 -1.0
baz=37,SNR=25
AGMN **Agassiz Nation** 37.28 350 *e*P P 20 59 49.5 -1.4
comp=Z,76nm,0.9s
AGMN LR LR
comp=Z,1µm,22.0s
G22A **Birney** 37.33 337 ⇓P P 20 59 51.9 +0.4
baz=37,SNR=7.7
H20A **Greybull** 37.40 335 ⇑P P 20 59 52.5 +0.4
baz=38,SNR=20
D27A **Center** 37.42 344 ⇓P P 20 59 52.6 +0.4
baz=38,SNR=12
F23A **Volborg** 37.43 339 ⇑P P 20 59 52.7 +0.4
baz=38,SNR=11
E25A **Miller Ranch,** 37.43 341 ⇑P P 20 59 53.3 +1.0
baz=38,SNR=10
AHID **Auburn Hatcher** 37.45 330 *e*P P 20 59 53.0 +0.3
comp=Z,56nm,0.9s
AHID *e*PcP **PcP** 21 02 11.5 +0.9
AHID LR LR
comp=Z,2µm,22.0s
I19A **Meeteetse** 37.46 334 ⇓P P 20 59 53.5 +0.8
baz=38,SNR=13
SIV **San Ignacio** 37.52 137 P P 20 59 54.3 +1.0
comp=Z,153nm,0.7s,baz=314,slow=8.9,SNR=127
SIV PcP **PcP** 21 02 12.1 +1.1
comp=Z,11nm,0.7s,baz=277,slow=3.0,SNR=3.7
SIV LR LR 21 15 51.3
comp=Z,3µm,19.8s,baz=324,slow=37
HVU **Hansel Valley** 37.58 328 *e*P P 20 59 54.7 +1.0
HVU *e* 21 02 12.2
HVU pmax pmax
comp=Z,37nm,0.8s
HVU **Hansel Valley** 37.58 328 *e*P P 20 59 54.7 +1.0
comp=Z,37nm,0.8s
HVU *e*PcP **PcP** 21 02 12.2 +1.2
MDND **Maddock** 37.61 346 ⇑P P 20 59 53.4 -0.3
baz=38,SNR=8.3
MDND **Maddock** 37.61 346 *e*P P 20 59 53.3 -0.5
comp=Z,249nm,0.9s
D26A **Manning** 37.61 343 ⇑P P 20 59 53.7 -0.1
baz=38,SNR=15
C28A **Hausauer Farms** 37.68 345 ⇓P P 20 59 54.5 +0.1
baz=38,SNR=6.2
G21A **Lodge Grass** 37.69 336 ⇓P P 20 59 54.7 +0.2
baz=38
NPI **North Pocatell** 37.71 328 *e*P P 20 59 55.3 +0.5
VES **Vestal, Richgr** 37.75 315 ⇓P P 20 59 54.1 -0.9
baz=38
TPH **Tonopah** 37.75 319 *e*P P 20 59 57.2 +1.9
TPH pmax pmax
comp=Z,9.0nm,1.0s
TPH **Tonopah** 37.75 319 *e*P P 20 59 57.2 +1.9
comp=Z,8.6nm,1.0s
E24A **Baker** 37.78 340 ⇑P P 20 59 55.8 +0.6
baz=38,SNR=12
REDW **Red Top Meadow** 37.78 331 *e*P P 20 59 55.7 +0.2
comp=Z,75nm,0.8s
F22A **Rosebud** 37.79 338 ⇑P P 20 59 55.5 +0.2
baz=38,SNR=13
SNOW **Snow King Moun** 37.81 331 *e*P P 20 59 56.0 +0.2
comp=Z,63nm,0.8s
TIN **Tinemaha, Big** 37.82 317 ⇑P P 20 59 56.2 +0.4
baz=38
LOHW **Long Hollow** 37.86 332 *e*P P 20 59 56.3 +0.2
comp=Z,16nm,0.7s
B30A **Myrvik Farm, E** 37.90 348 ⇑P P 20 59 55.3 -0.8
baz=38,SNR=55
TPAW **Teton Pass** 37.93 331 *e*P P 20 59 57.2 +0.4
comp=Z,49nm,0.9s
H19A **Powell** 37.96 334 ⇓P P 20 59 57.5 +0.6
baz=38,SNR=6.3
C27A **Sayler Ranch,** 37.97 344 ⇓P P 20 59 57.1 +0.3
baz=38,SNR=5.4
D25A **Fairfield** 37.99 342 ⇑P P 20 59 57.8 +0.8
baz=38,SNR=9.0
E23A **Ismay** 38.06 339 ⇑P P 20 59 58.7 +1.1
baz=38
FXWY **Fox Creek** 38.08 331 *e*P P 20 59 58.2 +0.2
comp=Z,18nm,0.8s
I17A **Pilgrim Ck.** 38.08 332 ⇓P P 20 59 59.5 +1.5
baz=38
G20A **Bridger** 38.09 335 ⇓P P 20 59 58.0 0.0
baz=38,SNR=14
RCTC **Rector, Farmer** 38.10 316 ⇑P P 21 00 03.1 +5.1
baz=38
B29A **Wagenman Farm,** 38.13 347 ⇑P P 20 59 57.5 -0.6
baz=38,SNR=30
ELK **Elko** 38.22 324 *e*P P 21 00 00.2 +1.0
ELK *e* 21 02 14.6
ELK pmax pmax
comp=Z,16nm,0.9s
ELK **Elko** 38.22 324 *e*P P 21 00 00.2 +1.0
comp=Z,16nm,0.9s
ELK *e*PcP **PcP** 21 02 14.6 +1.6
IMW **Indian Meadow** 38.23 332 *e*P P 20 59 59.7 +0.4
comp=Z,19nm,0.6s
IMW *e*PcP **PcP** 21 02 14.5 +1.3
C26A **Wahner Farm, P** 38.24 343 ⇓P P 20 59 59.0 0.0
baz=38,SNR=27
E22A **Miles City** 38.24 339 ⇓P P 20 59 58.8 -0.3
baz=38,SNR=16
H18A **Shoshone NF, C** 38.26 334 ⇓P P 20 59 59.5 0.0
baz=38,SNR=32
FLWY **Flagg Ranch** 38.26 332 *e*P P 20 59 58.7 -0.8
FLWY *ep*P **pP** 21 00 09.2 -2.1
D24A **Glendive** 38.27 341 ⇓P P 20 59 59.6 +0.2
baz=38,SNR=16
A30A **Hoffart Farm,** 38.35 348 ⇓P P 20 59 59.1 -0.8
baz=38,SNR=27
LVC **Limon Verde** 38.35 153 LR LR 21 15 45.9
comp=Z,9µm,20.6s,baz=322,slow=36
B28A **Dugan Ranch, T** 38.36 346 ⇑P P 20 59 59.7 -0.3
baz=38,SNR=12
RLMT **Red Lodge** 38.45 334 *e*P P 21 00 00.9 -0.2
comp=Z,58nm,1.4s
RLMT LR LR
comp=Z,2µm,22.0s
H17A **Grant Village** 38.45 332 ⇑P P 21 00 02.2 +1.1
baz=38
H17A **Grant Village** 38.45 332 *e*P P 21 00 02.3 +1.1
comp=Z,14nm,0.9s
C25A **Fred Ranch, W** 38.47 342 ⇑P P 21 00 01.7 +0.7
baz=38,SNR=5.6
LKWY **Lake** 38.50 333 PFAKE 21 00 10.0 +8.4
LKWY LR LR
comp=Z,3µm,20.0s
F20A **Billings** 38.53 336 ⇑P P 21 00 02.1 +0.4
baz=39
A29A **Manning Farm,** 38.54 347 ⇓P P 21 00 01.0 -0.5
baz=39,SNR=76
B27A **Peters Farms,** 38.54 345 ⇑P P 21 00 01.9 +0.4
baz=39
LAO **LASA Array** 38.55 339 *e*P P 21 00 07.3 +5.6
comp=Z,45nm,1.0s
LAO LR LR
comp=Z,2µm,22.0s
MCID **Moose Creek** 38.57 332 *e*P P 21 00 02.2 +0.1
YFT **Old Faithful** 38.61 332 *e*P P 21 00 04.3 +1.9
comp=Z,40nm,1.1s
D23A **Lindsay** 38.62 340 ⇑P P 21 00 02.6 +0.3
baz=39
NVAR **Mina Array Bea** 38.65 319 P P 21 00 03.5 +0.6
comp=Z,5.6nm,0.9s,baz=122,slow=7.2,SNR=28
NVAR PcP **PcP** 21 02 15.7 +1.2
comp=Z,15nm,0.7s,baz=138,slow=3.3,SNR=21
C24A **Savage** 38.67 341 ⇑P P 21 00 03.4 +0.7
baz=39
E21A **Keefer Ranch,** 38.74 338 ⇑P P 21 00 04.2 +0.9
baz=39
YNR **Norris Junctio** 38.74 333 *e*P P 21 00 05.4 +1.8
comp=Z,10nm,0.9s
A28A **Rude Farm, Bot** 38.76 346 ⇓P P 21 00 03.2 -0.2
baz=39
B26A **Jensen Ranch,** 38.78 344 ⇑P P 21 00 03.9 +0.4
baz=39
YPM **Purple Mountai** 38.78 332 *e*P P 21 00 05.2 +1.2
YMR **Madison River** 38.84 332 *e*P P 21 00 05.3 +1.0
comp=Z,28nm,0.8s
F19A **Rom Farm, Mol** 38.90 335 ⇓P P 21 00 04.6 -0.1
baz=39,SNR=20
D22A **Cohagen** 38.93 339 ⇑P P 21 00 05.6 +0.7
baz=39,SNR=21
B25A **Knox Farm, Ray** 38.95 343 ⇑P P 21 00 06.1 +1.2
baz=39
A27A **Ledoux Ranch,** 39.04 345 ⇓P P 21 00 06.0 +0.2
baz=39
E20A **Meyer Farm, Mu** 39.11 337 ⇓P P 21 00 06.4 0.0
baz=39,SNR=32
GCMT **Greycliff** 39.15 335 *e*P P 21 00 06.8 -0.1
D21A **La Casta Ranch** 39.15 338 ⇑P P 21 00 07.6 +0.8
baz=39
C23A **Lambert** 39.16 340 ⇓P P 21 00 07.0 +0.2
baz=39,SNR=17
QLMT **Earthquake Lak** 39.17 332 *e*P P 21 00 08.8 +1.7
BMN **Battle Mountai** 39.18 322 *e*P P 21 00 07.4 +0.2
BMN pmax pmax
comp=Z,31nm,1.0s
BMN **Battle Mountai** 39.18 322 *e*P P 21 00 07.4 +0.2
comp=Z,31nm,1.0s
ULM **Lac du Bonnet** 39.18 351 *e*P P 21 00 04.8 -2.0
ULM pmax pmax
comp=Z,49nm,0.7s
ULM **Lac du Bonnet** 39.18 351 P P 21 00 04.7 -2.1
comp=Z,66nm,0.8s,baz=166,slow=8.3,SNR=98
ULM LR LR 21 17 00.4
comp=Z,877nm,20.7s,baz=170,slow=37
ULM **Lac du Bonnet** 39.18 351 *e*P P 21 00 04.8 -2.0
comp=Z,49nm,0.7s
A26A **Wade Farm, Ken** 39.20 344 ⇓P P 21 00 07.0 -0.1
baz=39,SNR=6.6
E19A **Rath Farm, Rou** 39.33 336 ⇓P P 21 00 08.2 -0.1
baz=39,SNR=11
C22A **Vida** 39.34 340 ⇑P P 21 00 08.5 +0.2
baz=39,SNR=22
WAKR **Walker** 39.42 318 *e*P P 21 00 12.0 +2.7
DGMT **Dagmar** 39.43 342 ⇑P P 21 00 08.8 -0.2
baz=40,SNR=21
DGMT **Dagmar** 39.43 342 *e*P P 21 00 08.7 -0.4
comp=Z,63nm,0.6s
DGMT LR LR
comp=Z,2µm,21.0s
A25A **Svangstu Ranch** 39.53 343 ⇑P P 21 00 09.8 -0.1
baz=40,SNR=8.6
D20A **Manuel Ranch,** 39.60 337 ⇓P P 21 00 10.6 +0.2
baz=40,SNR=19
B23A **Brockton** 39.67 341 ⇓P P 21 00 11.4 +0.4
baz=40,SNR=10
HLID **Hailey** 39.69 328 ⇑P P 21 00 11.8 +0.3
baz=40,SNR=28
HLID **Hailey** 39.69 328 *e*P P 21 00 11.5 0.0
comp=Z,17nm,0.8s
HLID *e*PcP **PcP** 21 02 19.4 +1.8
HLID LR LR
comp=Z,2µm,19.0s
A24A **Westby** 39.78 342 ⇑P P 21 00 12.3 +0.3
baz=40,SNR=18
CMB **Columbia Colle** 39.79 317 *e*P P 21 00 15.0 +2.8
CMB *e* 21 02 19.9
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB **Columbia Colle** 39.79 317 *e*P P 21 00 15.0 +2.8
comp=Z,10.0nm,1.1s
CMB *e*PcP **PcP** 21 02 19.9 +2.0
C21A **Desert Coulee** 39.83 339 ⇓P P 21 00 12.4 +0.1
baz=40
MCMT **McKenzie Canyo** 39.83 331 *e*P P 21 00 13.5 +0.8
B22A **Reddig Ranch S** 39.86 340 ⇓P P 21 00 12.9 +0.3
baz=40,SNR=5.8
BOZ **Bozeman (W)** 39.89 333 *e*P P 21 00 12.3 -0.7
BOZ pmax pmax
comp=Z,13nm,0.6s
BOZ MLR MLR
comp=Z,1µm,22.0s
BOZ **Bozeman (W)** 39.89 333 *e*P P 21 00 12.3 -0.7
comp=Z,13nm,0.6s
BOZ LR LR
comp=Z,1µm,22.0s
D19A **Cripps Ranch,** 39.94 337 ⇑P P 21 00 13.6 +0.2
baz=40,SNR=8.7
C20A **Veseth Ranch,** 40.07 338 ⇓P P 21 00 14.5 +0.2
baz=40,SNR=21
DLMT **Dillon** 40.11 332 *e*P P 21 00 15.3 +0.4
comp=Z,17nm,0.8s
B21A **Ellsworth Farm** 40.32 339 ⇑P P 21 00 17.1 +0.7
baz=40
MFID **Camas Ranch** 40.33 327 *e*P P 21 00 17.7 +1.0
comp=Z,20nm,1.2s
MFID *e*PcP **PcP** 21 02 21.1 +1.6
LRM **Limekiln Ridge** 40.39 332 *e*P P 21 00 17.8 +0.4
LRM *e*PcP **PcP** 21 02 21.6 +1.8
A22A **Carney Farms,** 40.43 341 ⇓P P 21 00 18.5 +1.2
baz=40
C19A **Slack Wire Ran** 40.48 337 ⇓P P 21 00 18.6 +0.9
baz=40
A21A **Bergtoll Ranch** 40.77 340 ⇓P P 21 00 20.5 +0.4
baz=41
HRY **Holter Researc** 40.80 334 *e*P P 21 00 20.8 +0.2
EGMT **Eagleton** 40.99 337 ⇓P P 21 00 21.9 -0.1
baz=41,SNR=9.4
EGMT **Eagleton** 40.99 337 *e*P P 21 00 21.6 -0.3
comp=Z,20nm,0.8s
EGMT LR LR
comp=Z,1µm,22.0s
A20A **Cobblestone Ra** 41.02 339 ⇑P P 21 00 22.5 +0.3
baz=41,SNR=27
B19A **Brinkman Farms** 41.03 338 ⇓P P 21 00 22.6 +0.3
baz=41,SNR=13
WVOR **Wild Horse Val** 41.26 324 *e*P P 21 00 25.5 +1.2
WVOR *e* 21 02 24.7
WVOR pmax pmax
comp=Z,31nm,0.9s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR **Wild Horse Val** 41.26 324 *e*P P 21 00 25.5 +1.2
comp=Z,30nm,0.9s
WVOR *e*PcP **PcP** 21 02 24.7 +2.1
WVOR LR LR
comp=Z,2µm,19.0s
A19A **Klindworth Far** 41.35 338 ⇓P P 21 00 25.4 +0.4
baz=41,SNR=8.0
CHMT **Chamberlain Mo** 41.58 333 *e*P P 21 00 26.8 -0.3
MSO **Missoula** 41.83 332 ⇓P P 21 00 28.8 -0.1
baz=42,SNR=19
MSO **Missoula** 41.83 332 *e*P P 21 00 28.4 -0.6
comp=Z,13nm,0.8s
SLMT **Seeley Lake** 41.94 333 *e*P P 21 00 29.4 -0.5
BMO **Blue Mountains** 42.09 328 *e*P P 21 00 30.2 -0.9
comp=Z,18nm,0.8s
BMO LR LR
comp=Z,4µm,20.0s
SWMT **Swartz Lake** 42.37 333 *e*P P 21 00 33.3 0.0
YBMT **Yellow Bay** 42.64 333 *e*P P 21 00 35.8 +0.2
JTMT **Jette** 42.67 333 *e*P P 21 00 35.5 -0.3
K05A **Summer Lake** 42.76 323 *e*PcP **PcP** 21 02 29.5 +1.8
I07A **Izee** 42.78 325 *e*P P 21 00 36.8 0.0
comp=Z,9.8nm,0.8s
I07A *e*PcP **PcP** 21 02 29.3 +1.7
F10A **Beach Ranch, E** 42.81 329 *e*P P 21 00 36.5 -0.4
comp=Z,37nm,0.9s
BLMT **Blacktail Moun** 42.91 333 *e*P P 21 00 38.1 +0.3
BSMT **Bassoo Peak** 42.98 332 *e*P P 21 00 38.3 -0.1
G08A **Pilot Rock** 43.26 327 *e*P P 21 00 41.9 +1.3
comp=Z,6.1nm,0.8s
G08A *e*PP **PcP** 21 02 31.0 +1.9
LCO **Las Campanas** 43.36 159 PFAKE 21 00 50.0 +8.3
LCO LR LR
comp=Z,1µm,19.0s
WALA **Waterton Lakes** 43.50 334 *e*P P 21 00 42.6 +0.1
comp=Z,438nm,0.8s
E09A **Wood Farm, Sta** 43.64 329 *e*P P 21 00 44.5 +1.0
comp=Z,17nm,0.9s
HAWA **Hanford** 44.28 328 *e*P P 21 00 48.6 0.0
comp=Z,19nm,0.8s
HAWA *e*PcP **PcP** 21 02 34.1 +1.7
HAWA LR LR
comp=Z,2µm,19.0s
I04A **Tendick Farm,** 44.28 323 ⇓P P 21 00 48.3 -0.4
baz=44
RPN **Rapa Nui** 44.29 209 LR LR 21 14 28.8
comp=Z,3µm,20.8s,baz=81,slow=29
RSW **Rattlesnake Hi** 44.31 328 P P 21 00 48.9 -0.1
NEW **Newport** 44.36 331 *e*P P 21 00 48.5 -0.8
NEW pmax pmax
comp=Z,12nm,0.8s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW **Newport** 44.36 331 ⇓P P 21 00 48.7 -0.5
baz=44,SNR=6.9
NEW **Newport** 44.36 331 *e*P P 21 00 48.5 -0.8
comp=Z,12nm,0.8s
NEW LR LR
comp=Z,2µm,19.0s
D08A **Wollman Farm,** 44.40 329 *e*P P 21 00 49.4 -0.3
comp=Z,28nm,0.8s
GBB **Gable Butte** 44.47 328 P P 21 00 50.2 +0.1
G05D **Wamic, OR** 44.52 325 ⇓P P 21 00 51.6 +1.0
baz=45
MDW **Midway** 44.54 328 P P 21 00 51.0 +0.3
MDW **Midway** 44.54 328 P P 21 00 51.0 +0.3
FFC **Flin Flon** 44.58 348 P P 21 00 50.0 -0.8
comp=Z,197nm,0.8s,SNR=20
FFC **Flin Flon** 44.58 348 *e*P P 21 00 50.1 -0.8
FFC pmax pmax
comp=Z,25nm,0.8s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC **Flin Flon** 44.58 348 *e*P P 21 00 50.1 -0.8
comp=Z,25nm,0.8s
FFC LR LR
comp=Z,2µm,19.0s
C09A **Chrisman Ranch** 44.59 330 *e*P P 21 00 51.4 +0.3
C09A *ep*P **pP** 21 01 02.1 -0.9
C09A *e*ScP **ScP** 21 06 19.8 -2.6
H04A **Detroit Lake** 44.67 324 *e*P P 21 00 51.7 -0.1
comp=Z,53nm,1.3s
H04A *e*PcP **PcP** 21 02 34.6 +0.8
TRW **Toppenish Ridg** 44.75 327 P P 21 00 53.1 +0.7
WTV **Waterville** 45.35 329 P P 21 00 57.6 +0.3
LTY **Liberty** 45.44 328 *e*P P 21 00 57.9 0.0
comp=Z,21nm,1.1s
B08A **Colville Reser** 45.49 330 *e*P P 21 00 57.7 -0.5
comp=Z,12nm,0.8s
B08A *e*PcP **PcP** 21 02 37.5 +0.9
F04A **Amboy** 45.55 325 *e*PcP **PcP** 21 02 37.7 +0.9
LON **Longmire** 45.72 327 *e*P P 21 01 00.4 +0.3
LON *e* 21 02 38.2
LON **Longmire** 45.72 327 *e*P P 21 01 00.4 +0.3
LON *e*PcP **PcP** 21 02 38.2 +0.7
NLW **Nelson Butte** 45.80 329 P P 21 01 00.6 -0.3
SCHQ **Schefferville** 45.88 16 P P 21 00 58.9 -2.3

comp=Z,8.3nm,0.5s,baz=213,slow=5.9,SNR=40
SCHQ LR LR 21 20 22.9

comp=Z,4μm,21.4s,baz=210,slow=36
SCHQ Schefferville 45.88 16 *eP* **P 21 00 59.8 -1.4**
comp=Z,16nm,0.8s
WRW Wenatchee Ridg 45.93 328 P **P 21 01 02.2 +0.3**
D05A Enumclaw 46.09 327 *eP* **P 21 01 05.0 +2.0**
comp=Z,24nm,0.9s
EDM Edmonton 46.54 338 *eP* **P 21 01 05.1 -1.3**
EDM Edmonton 46.54 338 *eP* **P 21 01 05.1 -1.3**
BDFB Brasilia 47.09 124 *eP* **P 21 01 10.4 -0.9**
BDFB Brasilia 47.09 124 P **P 21 01 10.2 -1.2**
comp=Z,24nm,0.7s,baz=286,slow=9.7,SNR=28
BDFB Brasilia 47.09 124 *eP* **P 21 01 10.4 -0.9**
NLWA Neilton Lookou 47.22 326 PFAKE 21 01 20.0 +8.1
NLWA LR LR
comp=Z,5μm,21.0s
FCC Fort Churchill 47.32 355 *eP* **P 21 01 10.5 -1.8**
FCC pmax pmax
comp=Z,1μm,0.8s
FCC Fort Churchill 47.32 355 *eP* **P 21 01 10.5 -1.8**
comp=Z,1μm,0.8s
BBB Bella Bella 52.27 329 LR LR 21 28 03.6
comp=Z,1μm,21.1s,baz=136,slow=41
RCBR Riachuelo 53.62 106 P **P 21 01 59.8 -0.9**
comp=Z,13nm,0.8s,baz=253,slow=9.3,SNR=5.1
RCBR Riachuelo 53.62 106 P **P 21 01 59.8 -0.9**
RCBR LR LR
comp=Z,4μm,19.0s
PLCA Paso Flores 54.28 165 *eP* **P 21 02 07.7 +2.6**
PLCA *PP **pP** 21 02 18.5 +1.1
PLCA pmax pmax
comp=Z,14nm,0.8s
PLCA Paso Flores 54.28 165 P **P 21 02 05.6 +0.5**
comp=Z,6.6nm,0.8s,baz=340,slow=9.5,SNR=7.6
PLCA pP **pP** 21 02 18.5 +1.1
comp=Z,11nm,0.8s,baz=348,slow=4.2,SNR=5.6
PLCA LR LR 21 20 51.9
comp=Z,732nm,19.4s,baz=7.0,slow=31
PLCA Paso Flores 54.28 165 *eP* **P 21 02 07.7 +2.6**
comp=Z,14nm,0.8s
PLCA pP **pP** 21 02 18.5 +1.1
YKA Yellowknife Ar 54.51 345 PKPPKP P'P'df 21 32 13.5 -7.2
comp=Z,0.4nm,0.8s,baz=342,slow=3.2,SNR=7.4
TRQA Tornquist 54.69 156 PFAKE 21 02 20.0 +12
TRQA LR LR
comp=Z,1μm,22.0s
PTCN Pitcairn Islan 55.74 229 PFAKE 21 02 30.0 +14
PTCN LR LR
comp=Z,5μm,19.0s
WRAK Wrangell Islan 56.71 332 *ep* **pP** 21 02 33.1 -1.5
WRAK LR LR
comp=Z,1μm,20.0s
TAOE Nuku Hiva Isla 56.74 251 *eT* T 22 03 15.3
comp=Z,144nm,0.3s
DLBC Dease Lake 56.85 335 LR LR 21 32 48.2
comp=Z,2μm,18.3s,baz=116,slow=42
DLBC Dease Lake 56.85 335 *eP* **P 21 02 23.4 0.0**
RKT Rikitea 58.39 234 *eS* **S 21 10 37.5 +2.8**
comp=Z,3μm,26.2s
RKT *eSS **SS** 21 14 28.9 +1.2
comp=Z,508nm,32.5s
RKT *eLR LR 21 19 46.9
comp=Z,2μm,25.5s,baz=40
RKT Rikitea 58.39 234 *eT* T 22 05 21.1
comp=Z,7.7nm,0.2s
SFJD Kangerlussuaq 60.32 16 LR LR 21 28 22.6
comp=Z,3μm,21.6s,baz=218,slow=36
HYT Haines Junctio 61.33 334 *eP* **P 21 02 54.8 +0.4**
SACV Santiago Islan 61.50 79 PFAKE 21 03 10.0 +14
SACV LR LR
comp=Z,935nm,20.0s
RES Resolute Bay 63.16 358 *eP* **P 21 03 04.4 -1.8**
RES pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 63.16 358 *eP* **P 21 03 04.4 -1.8**
comp=Z,8.9nm,0.8s
DAWY Dawson 63.73 337 *eP* **P 21 03 09.0 -1.3**
comp=Z,15nm,1.1s
EGAK Eagle 64.74 337 *eP* **P 21 03 15.8 -1.0**
comp=Z,10nm,0.9s
EGAK LR LR
comp=Z,3μm,22.0s
DOT Dot Lake 65.37 336 *eP* **P 21 03 20.6 -0.3**
comp=Z,17nm,0.8s
PAX Paxson 65.67 335 *eP* **P 21 03 22.2 -0.8**
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 65.67 335 *eP* **P 21 03 22.2 -0.8**
comp=Z,8.7nm,0.8s
PMOR Pomariorio Ree 65.97 248 *eT* T 22 14 46.6
comp=Z,7.9nm,0.2s
RC01 Rabbit Creek A 66.87 332 *eP* **P 21 03 30.8 +0.3**
comp=Z,29nm,0.9s
ILAR Eielson Array 66.95 336 P **P 21 03 29.8 -1.3**
comp=Z,7.4nm,0.8s,baz=109,slow=5.1,SNR=64
ILAR PP **PP 21 05 58.7 -0.1**
comp=Z,3.2nm,0.9s,baz=106,slow=7.2,SNR=5.7
ILAR LR LR 21 36 42.5
comp=Z,2μm,20.9s,baz=118,slow=40
SUMG Summit 67.21 14 *i* P **P 21 03 33.4 +0.3**
SUMG *i* 21 03 49.8
SUMG MLR MLR
comp=Z,1μm,24.0s
SUMG Summit 67.21 14 *eP* **P 21 03 33.3 +0.3**
comp=Z,21nm,1.0s
SUMG Summit 67.21 14 *i* P **P 21 03 33.4 +0.3**
SUMG *i* 21 03 49.8
comp=Z,1μm,24.0s
KDAK Kodiak Island 67.31 328 PFAKE 21 03 50.0 +17
KDAK LR LR
comp=Z,1μm,20.0s
COLA College 67.38 336 *c i* P **P 21 03 33.0 -0.7**
COLA pmax pmax
comp=Z,52nm,1.0s
COLA College 67.38 336 *eP* **P 21 03 33.2 -0.5**
comp=Z,25nm,1.2s
COLA LR LR
comp=Z,1μm,21.0s
MCK McKinley 67.40 335 *eP* **P 21 03 32.5 -1.5**
MCK pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 67.40 335 *eP* **P 21 03 32.5 -1.5**
comp=Z,18nm,0.9s
EFI East Falkland 67.84 161 PFAKE 21 03 50.0 +13
EFI LR LR
comp=Z,2μm,20.0s
TRF Thorofare Moun 67.88 334 *eP* **P 21 03 36.4 -0.7**
comp=Z,23nm,0.9s
RSO Redoubt South 68.10 331 *eP* **P 21 03 38.3 -0.3**
KTH Kantishna Hill 68.18 334 *eP* **P 21 03 37.9 -1.1**
comp=Z,15nm,1.0s
PPT Papeete 68.37 246 LR LR 21 25 50.4
comp=Z,1μm,18.9s,baz=49,slow=29
PPT2 Papeete2 68.38 246 *eS* **S 21 12 37.6 -2.0**
comp=Z,2μm,28.5s
PPT2 *eSS **SS** 21 17 01.6 -2.4
comp=Z,387nm,26.8s
PPT2 *eLR LR 21 24 19.3
comp=Z,3μm,23.8s,baz=54
PPLA Purkeypile 68.52 333 *eP* **P 21 03 40.0 -1.1**
comp=Z,66nm,1.5s
COLD Coldfoot 69.12 338 *eP* **P 21 03 45.1 +0.4**
comp=Z,14nm,0.9s
SVW2 Sparrevohn 69.60 331 *eP* **P 21 03 45.5 -2.2**
IM04 Indian Mountai 70.08 336 *eP* **P 21 03 48.7 -1.9**
TBI Tubuai 70.39 240 *eS* **S 21 13 05.6 +2.6**
comp=Z,877nm,27.0s
TBI Tubuai 70.39 240 *eLR* LR 21 25 15.0
comp=Z,3μm,24.5s,baz=61
TBI Tubuai 70.39 240 *eT* T 22 20 18.7
comp=Z,8.4nm,0.3s
FALS False Pass 72.79 324 *eP* **P 21 04 07.2 +0.2**
MTE Manteigas 74.46 51 PFAKE 21 04 30.0 +13
MTE LR LR
comp=Z,3μm,20.0s
UNV Unalaska Valle 74.54 323 *eP* **P 21 04 18.4 +1.0**
comp=Z,42nm,0.7s
ASCN Ascension 74.71 102 PFAKE 21 04 30.0 +11
ASCN LR LR
comp=Z,1μm,19.0s
RTC Rabat Centre 75.37 58 PFAKE 21 04 30.0 +7.4
RTC LR LR
comp=Z,2μm,20.0s
TNA Tin City 75.75 335 *eP* **P 21 04 24.2 +0.2**
comp=Z,6.2nm,0.9s
ESK Eskdalemuir 76.92 36 PFAKE 21 04 40.0 +9.1
ESK LR LR
comp=Z,1μm,20.0s
EKA Eskdalemuir Ar 76.94 36 P **P 21 04 28.4 -2.7**
comp=Z,1.7nm,0.6s,baz=272,slow=5.8,SNR=9.4
PAB San Pablo 76.96 52 PFAKE 21 04 40.0 +8.4
PAB LR LR
comp=Z,2μm,20.0s
ESDC Sonseca Array 77.25 52 P **P 21 04 30.6 -2.6**
comp=Z,2.4nm,0.8s,baz=284,slow=5.6,SNR=10.0
ESDC LR LR 21 34 24.3
comp=Z,1μm,20.4s,baz=275,slow=33
HOPE Hope Point 78.27 153 *eP* **P 21 04 39.5 +1.2**
comp=Z,66nm,1.0s
HOPE LR LR
comp=Z,805nm,19.0s
GRR Gorron 78.76 43 *eP* **P 21 04 39.4 -1.9**
comp=Z,37nm,1.1s
GRR Gorron 78.76 43 *eP* **P 21 04 39.4 -1.9**
GRR pmax pmax
comp=Z,37nm,1.1s
GRR Gorron 78.76 43 *eP* **P 21 04 39.4 -1.9**
comp=Z,37nm,1.1s
SJPF Ste Jean 78.99 48 *eP* **P 21 04 41.4 -1.4**
comp=Z,26nm,1.2s
SJPF Ste Jean 78.99 48 *eP* **P 21 04 41.4 -1.4**
SJPF pmax pmax
comp=Z,26nm,1.2s
SJPF Ste Jean 78.99 48 *eP* **P 21 04 41.4 -1.4**
comp=Z,26nm,1.2s
LDF La Druitiere 79.23 42 *eP* **P 21 04 41.7 -2.2**
comp=Z,9.4nm,0.8s
LDF La Druitiere 79.23 42 *eP* **P 21 04 41.7 -2.2**
LDF pmax pmax
comp=Z,9.0nm,0.8s
LDF La Druitiere 79.23 42 *eP* **P 21 04 41.7 -2.2**
comp=Z,9.4nm,0.8s
MFF Saint Martin d 79.41 44 *eP* **P 21 04 43.6 -1.3**
comp=Z,17nm,1.1s
MFF Saint Martin d 79.41 44 *eP* **P 21 04 43.6 -1.3**
MFF pmax pmax
comp=Z,17nm,1.1s
MFF Saint Martin d 79.41 44 *eP* **P 21 04 43.6 -1.3**
comp=Z,17nm,1.1s
LFF La Frestale 80.20 46 *eP* **P 21 04 48.1 -1.2**
comp=Z,8.7nm,0.7s
LFF La Frestale 80.20 46 *eP* **P 21 04 48.1 -1.2**
LFF pmax pmax
comp=Z,9.0nm,0.7s
LFF La Frestale 80.20 46 *eP* **P 21 04 48.1 -1.2**
comp=Z,8.7nm,0.7s
KBS Kingsbay 80.33 11 PFAKE 21 05 00.0 +11
KBS LR LR
comp=Z,2μm,20.0s
ADK Adak 80.80 321 PFAKE 21 05 00.0 +7.7
ADK LR LR
comp=Z,1μm,20.0s
LIC Lamto 80.83 86 *eP* P 21 04 49.3 -3.9
comp=Z,15nm,1.0s
LIC *eR
comp=Z,741nm,19.5s
LIC Lamto 80.83 86 *eP* P 21 04 49.3 -3.9
comp=Z,15nm,1.0s
DBIC Dimbokro 80.91 85 P **P 21 04 50.9 -2.8**
comp=Z,4.5nm,0.9s,baz=271,slow=5.5,SNR=4.7
TCF Toulx Ste Croi 81.06 45 *eP* **P 21 04 51.7 -2.2**
comp=Z,5.9nm,0.9s
TCF Toulx Ste Croi 81.06 45 *eP* **P 21 04 51.7 -2.2**
TCF pmax pmax
comp=Z,6.0nm,0.9s
TCF Toulx Ste Croi 81.06 45 *eP* **P 21 04 51.7 -2.2**
comp=Z,5.9nm,0.9s
SPITS Spitsbergen Ar 81.36 12 P **P 21 04 53.1 -1.7**
comp=Z,4.1nm,0.7s,baz=242,slow=3.1,SNR=11
BGF Bois d'Agland 81.46 44 *eP* **P 21 04 55.2 -0.8**
BGF Bois d'Agland 81.46 44 *eP* **P 21 04 55.2 -0.8**
BGF Bois d'Agland 81.46 44 *eP* **P 21 04 55.2 -0.8**
AVF Avril sur Loir 81.78 44 *eP* **P 21 04 56.3 -1.3**
AVF Avril sur Loir 81.78 44 *eP* **P 21 04 56.3 -1.3**
AVF Avril sur Loir 81.78 44 *eP* **P 21 04 56.3 -1.3**
SSF Saint Saulge 81.84 44 *eP* **P 21 04 56.8 -1.2**
SSF Saint Saulge 81.84 44 *eP* **P 21 04 56.8 -1.2**
SSF Saint Saulge 81.84 44 *eP* **P 21 04 56.8 -1.2**
LOR Lormes 82.05 43 *eP* **P 21 04 58.2 -0.9**
comp=Z,17nm,1.3s
LOR *eR
comp=Z,3μm,21.0s
LOR Lormes 82.05 43 *eP* **P 21 04 58.2 -0.9**
LOR pmax pmax
comp=Z,17nm,1.3s
LOR Lormes 82.05 43 *eP* **P 21 04 58.2 -0.9**
comp=Z,17nm,1.3s
SMF Signal de Mont 82.13 44 *eP* **P 21 04 57.6 -1.9**
comp=Z,7.8nm,0.9s
SMF Signal de Mont 82.13 44 *eP* **P 21 04 57.6 -1.9**
SMF pmax pmax
comp=Z,8.0nm,0.9s
SMF Signal de Mont 82.13 44 *eP* **P 21 04 57.6 -1.9**
comp=Z,7.8nm,0.9s
LASF Ste Croix 82.53 47 *eP* **P 21 04 59.8 -1.9**
LASF Ste Croix 82.53 47 *eP* **P 21 04 59.8 -1.9**
MEZF Maizieres J'vi 82.65 42 *eP* **P 21 05 00.8 -1.4**
MEZF Maizieres J'vi 82.65 42 *eP* **P 21 05 00.8 -1.4**
SSB Saint Sauveur 82.82 45 PFAKE 21 05 10.0 +6.8
SSB LR LR
comp=Z,2μm,20.0s
VIVF Saint-Julien-l 82.98 46 *eP* **P 21 05 02.3 -1.7**
comp=Z,8.4nm,1.0s
VIVF Saint-Julien-l 82.98 46 *eP* **P 21 05 02.3 -1.7**
VIVF pmax pmax
comp=Z,8.0nm,1.0s
VIVF Saint-Julien-l 82.98 46 *eP* **P 21 05 02.3 -1.7**
comp=Z,8.4nm,1.0s
WLF Walferdange 83.17 41 PFAKE 21 05 20.0 +15
WLF LR LR
comp=Z,2μm,22.0s
KONO Kongsberg 83.29 31 PFAKE 21 05 20.0 +15
KONO LR LR
comp=Z,1μm,21.0s
HAU Haudompre 83.59 42 *eP* **P 21 05 05.6 -1.5**
HAU *eR
comp=Z,3μm,20.5s
HAU Haudompre 83.59 42 *eP* **P 21 05 05.6 -1.5**
HAU Haudompre 83.59 42 *eP* **P 21 05 05.6 -1.5**
CABF La Chapelle 83.66 44 *eP* **P 21 05 06.4 -1.2**
comp=Z,9.2nm,1.0s
CABF La Chapelle 83.66 44 *eP* **P 21 05 06.4 -1.2**
CABF pmax pmax
comp=Z,9.0nm,1.0s
CABF La Chapelle 83.66 44 *eP* **P 21 05 06.4 -1.2**
comp=Z,9.2nm,1.0s
NOA NORSAR Array B 83.79 29 LR LR 21 39 40.6
comp=Z,1μm,20.3s,baz=270,slow=34
HINF Hinteralfeld 83.96 43 *eP* **P 21 05 07.3 -1.7**
HINF Hinteralfeld 83.96 43 *eP* **P 21 05 07.3 -1.7**
HINF Hinteralfeld 83.96 43 *eP* **P 21 05 07.3 -1.7**
ECH Echery 84.09 42 *eP* **P 21 05 09.2 -0.4**
ECH pmax pmax
comp=Z,4.0nm,1.0s
ECH MLR MLR
comp=Z,2μm,20.0s
ECH Echery 84.09 42 *eP* **P 21 05 09.2 -0.4**
comp=Z,4.1nm,1.0s
ECH LR LR
comp=Z,2μm,20.0s
CDF Champ du Feu 84.13 42 *eP* **P 21 05 08.4 -1.5**
comp=Z,5.8nm,0.9s
CDF Champ du Feu 84.13 42 *eP* **P 21 05 08.4 -1.5**
CDF pmax pmax
comp=Z,6.0nm,0.9s
CDF Champ du Feu 84.13 42 *eP* **P 21 05 08.4 -1.5**
comp=Z,5.8nm,0.9s
LPG La Plagne 84.32 45 *eP* **P 21 05 09.7 -1.5**
comp=Z,5.9nm,1.0s
LPG La Plagne 84.32 45 *eP* **P 21 05 09.7 -1.5**
LPG pmax pmax
comp=Z,6.0nm,1.0s
LPG La Plagne 84.32 45 *eP* **P 21 05 09.7 -1.5**
comp=Z,5.9nm,1.0s
BNI Bardonecchia 84.35 45 PFAKE 21 05 20.0 +8.8
BNI LR LR
comp=Z,2μm,20.0s
MBDF Montbardon 84.48 46 *eP* **P 21 05 10.5 -1.3**
comp=Z,5.3nm,0.7s
MBDF Montbardon 84.48 46 *eP* **P 21 05 10.5 -1.3**
MBDF pmax pmax
comp=Z,5.0nm,0.7s
MBDF Montbardon 84.48 46 *eP* **P 21 05 10.5 -1.3**
comp=Z,5.3nm,0.7s
SHEL Horse Pasture 84.83 107 PFAKE 21 05 20.0 +6.1
SHEL LR LR
comp=Z,2μm,22.0s
BFO Black Forest 84.83 42 PFAKE 21 05 20.0 +6.6
BFO LR LR
comp=Z,2μm,21.0s
TRIS Tristan da Cun 84.96 129 PFAKE 21 05 30.0 +16
TRIS LR LR
comp=Z,1μm,19.0s
HFS Hagfors 85.19 30 P **P 21 05 12.9 -2.0**
comp=Z,2.6nm,0.8s,baz=208,slow=2.9,SNR=6.2
TUE Stuetta 85.89 44 PFAKE 21 05 30.0 +11
TUE LR LR
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 86.05 77 LR LR 21 41 07.5
comp=Z,605nm,20.2s,baz=270,slow=34
DAVOX Davos/Dischmat 86.19 43 P **P 21 05 19.6 -0.8**
comp=Z,2.5nm,0.8s,baz=293,slow=9.1,SNR=5.4
ARCES ARCESS Array B 86.75 19 P **P 21 05 21.5 -0.9**
comp=Z,4.9nm,0.9s,baz=275,slow=4.8,SNR=7.3
ARCES LR LR 21 43 08.2
comp=Z,815nm,18.9s,baz=302,slow=35
CLL Collm 87.09 38 *eP* **P 21 05 24.0 -0.4**
CLL *eS* **S 21 15 58.0 -2.5**
CLL MLR MLR
comp=Z,2μm,20.6s
CLL Collm 87.09 38 *eP* **P 21 05 24.0 -0.4**
CLL *ePP **PP** 21 08 43.0 -5.0
CLL *eS **S** 21 15 58.0 -2.5
CLL *ePS **PnS** 21 17 04.0 -0.6
CLL *eSS SS 21 22 00.0 +16
CLL *eSSS SSS 21 25 18.0
CLL *e*(SSSS) 21 28 06.0
CLL LmH 21 39 00.0
comp=Z,2μm,21.6s
CLL LmV 21 40 00.0
comp=Z,2μm,20.6s
KEV Kevo 87.12 19 PFAKE 21 05 40.0 +16
KEV LR LR
comp=Z,1μm,19.0s
VLC Villacollemand 87.13 46 PFAKE 21 05 40.0 +15
VLC LR LR
comp=Z,633nm,20.0s
VSL Villasalto 87.45 50 PFAKE 21 05 40.0 +14
VSL LR LR
comp=Z,2μm,20.0s
TAM Tamanrasset 87.75 67 PFAKE 21 05 40.0 +12
TAM LR LR
comp=Z,1μm,20.0s
AFI Afiamalu 87.89 255 PFAKE 21 05 40.0 +11
AFI LR LR
comp=Z,2μm,20.0s
GERES GERESS Array B 88.18 41 P **P 21 05 27.9 -1.9**
comp=Z,0.6nm,0.7s,baz=304,slow=3.1,SNR=4.8
GERES pP **pP 21 05 39.2 -3.6**
comp=Z,0.6nm,0.8s,baz=289,slow=4.1,SNR=3.4
GERES LR LR 21 40 27.8
comp=Z,2μm,21.1s,baz=270,slow=33
PVCC Panska Ves 88.26 39 AMS AMS 21 41 10.0
comp=Z,2μm,18.6s
PRA Prague 88.30 39 *eXS* S 21 16 28.6 +17
PRA AMS AMS 21 43 20.0
comp=Z,2μm,18.9s
PRU Pruhonice 88.39 39 *eS* **S 21 16 16.6 +3.6**
PRU *ePS **PS** 21 17 25.5 +4.1
PRU *ex* x 21 22 32.5
PRU AMS AMS 21 44 50.0
comp=Z,2μm,17.3s
GOPC GO Pecny, Ondr 88.56 39 *eS* **S 21 16 19.6 +4.9**
GOPC AMS AMS 21 44 10.0
comp=Z,2μm,17.6s
TREC Trest 89.18 40 AMS AMS 21 44 40.0
comp=Z,2μm,18.0s
DPC Dobruska-Polom 89.38 39 AMS AMS 21 42 10.0
AQU L'Aquila 89.71 47 PFAKE 21 05 50.0 +13
AQU LR LR
comp=Z,874nm,20.0s
FINES FINESS Array B 90.43 26 P **P 21 05 37.8 -2.1**
comp=Z,1.9nm,0.9s,baz=204,slow=4.2,SNR=4.2
FINES LR LR 21 43 11.0
comp=Z,2μm,21.2s,baz=293,slow=34
LVZ Lovozero 90.46 19 PFAKE 21 05 50.0 +10
LVZ LR LR
comp=Z,2μm,22.0s
OKC Ostrava-Krasne 90.66 39 AMS AMS 21 44 50.0
comp=Z,2μm,18.1s
CLTB Caltabellotta 90.84 51 PFAKE 21 05 50.0 +7.5
CLTB LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 92.12 49 PFAKE 21 06 00.0 +12
CUC LR LR
comp=Z,822nm,19.0s
WDD Wield Dalam 92.31 53 PFAKE 21 06 00.0 +11
WDD LR LR
comp=Z,681nm,20.0s
PSZ Piszkesteto 92.39 40 PFAKE 21 06 00.0 +11
PSZ LR LR
comp=Z,2μm,22.0s
CEL Celeste 92.68 50 PFAKE 21 06 00.0 +9.0
CEL LR LR
comp=Z,831nm,20.0s
SEY Seymchan 92.89 337 *i* P **P 21 05 51.1 -0.2**
SEY Seymchan 92.89 337 LR LR 21 51 22.1
comp=Z,758nm,21.7s,baz=43,slow=38
TIP Timpagrande 93.06 49 PFAKE 21 06 00.0 +7.3
TIP LR LR
comp=Z,975nm,20.0s
KWP Kalwaria Pacla 93.50 38 PFAKE 21 06 10.0 +16
KWP LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 93.51 349 ‖ *i* P **P 21 05 52.4 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 93.51 349 *eP* **P 21 05 52.1 -1.9**
comp=Z,4.4nm,0.7s
TIXI *ePP **PP** 21 09 38.1 -0.2
TIXI LR LR
comp=Z,818nm,21.0s
LVV L'vov 94.22 37 *eP* P 21 06 14.4 +17
LVV MLR MLR
comp=Z,700nm,18.0s
LVV MLR MLR
comp=N,500nm,19.0s
LVV MLR MLR
comp=E,500nm,18.0s
PET Petropavlovsk 94.87 327 *eP* P 21 05 55.6 -5.0
PET *e* 21 09 54.0
PET *eS* S 21 17 01.6 -10
PET *ePPS PPS 21 18 40.4
PET pmax pmax
comp=Z,100nm,8.6s
PET Petropavlovsk 94.87 327 PFAKE 21 06 10.0 +9.4
PET LR LR
comp=Z,610nm,20.0s
PETK Petropavlovsk- 95.34 327 P **P 21 06 01.8 -1.0**
comp=Z,2.8nm,0.8s,baz=108,slow=9.8,SNR=4.5
PETK LR LR 21 50 37.2
comp=Z,232nm,21.0s,baz=61,slow=36
RAO Raoul Island 96.49 242 LR LR 21 38 49.9
comp=Z,651nm,21.9s,baz=67,slow=29
KIEV Kiev 96.84 35 ‖ *eP* **P 21 06 11.6 +2.0**
KIEV Kiev 96.84 35 PFAKE 21 06 20.0 +10
KIEV LR LR
comp=Z,2μm,21.0s
AKASG Malin Array Be 96.85 35 LR LR 21 46 35.1
comp=Z,2μm,21.3s,baz=280,slow=34
OBN Obninsk 98.39 29 ‖ *eP* **P 21 06 16.4 -0.1**
OBN *e* 21 10 20.2
OBN pmax pmax
comp=Z,26nm,2.5s
OBN Obninsk 98.39 29 PFAKE 21 06 30.0 +13
OBN LR LR
comp=Z,890nm,21.0s
SANT Santorini 100.49 49 PFAKE 21 06 40.0 +14
SANT LR LR
comp=Z,499nm,19.0s
YAK Yakutsk 101.17 343 PFAKE 21 06 40.0 +11
YAK LR LR
comp=Z,627nm,21.0s
QSPA South Pole Qui 101.63 180 PFAKE 21 06 40.0 +9.2
QSPA LR LR
comp=Z,1μm,20.0s
ISP Isparta 103.56 46 PFAKE 21 06 50.0 +10

ISP LR LR
comp=Z,493nm,20.0s
SNZO South Karori 103.88 230 PFAKE 21 06 50.0 +8.8
SNZO LR LR
comp=Z,2µm,20.0s
ANTO Ankara 104.19 44 PFAKE 21 06 50.0 +7.2
ANTO LR LR
comp=Z,752nm,20.0s
ARU Arti 106.33 19 PFAKE 21 11 10.0
ARU LR LR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 106.75 327 PFAKE 21 11 20.0
YSS LR LR
comp=Z,239nm,22.0s
CSS Prodhromos 106.88 48 PFAKE 21 11 20.0
CSS LR LR
comp=Z,121nm,22.0s
TSUM Tsumeb 107.28 107 PFAKE 21 11 20.0
TSUM LR LR
comp=Z,862nm,20.0s
KIV Kislovodsk 108.17 36 PFAKE 21 11 20.0
KIV LR LR
comp=Z,738nm,22.0s
ERM Erimo 109.56 323 PFAKE 21 11 20.0
ERM LR LR
comp=Z,615nm,22.0s
DZM Mont Dzumac 109.61 251 *e*PS PS 21 21 06.0 -4.5
comp=Z,299nm,29.3s
DZM Mont Dzumac 109.61 251 *e*LR LR 21 42 49.1
comp=Z,2µm,33.6s
SUR Sutherland 111.05 120 PFAKE 21 11 20.0
SUR LR LR
comp=Z,1µm,20.0s
GNI Garni 111.71 38 PFAKE 21 11 30.0
GNI LR LR
comp=Z,479nm,19.0s
BRVK Borovoye 112.63 15 PFAKE 21 11 30.0
BRVK LR LR
comp=Z,1µm,20.0s
ABKAR Akbulak array 112.68 23 *e*PKiKP **PKiKP 21 11 15.6 +0.5**
USRK Ussuriysk Ar. 114.14 330 PKP PKPdf 21 11 17.8 -0.3
comp=Z,2.2nm,0.8s,baz=192,slow=0.5,SNR=10
ZALV Zalesovo Beam 114.27 5 PKP PKPdf 21 11 16.9 -1.2
comp=Z,0.7nm,0.3s,baz=273,slow=3.5,SNR=4.5
HNR Honiara 114.38 265 PFAKE 21 11 30.0 +11
HNR LR LR
comp=Z,1.0nm,19.0s
HIA Hailar 114.95 341 PFAKE 21 11 30.0 +10
HIA LR LR
comp=Z,915nm,22.0s
MDJ Mudanjiang 114.95 332 PFAKE 21 11 30.0 +10
MDJ LR LR
comp=Z,417nm,20.0s
MJAR Matsushiro Arr 115.96 321 PKP **PKPdf 21 11 19.7 -2.1**
comp=Z,0.9nm,0.5s,baz=102,slow=1.1,SNR=5.6
MAJO Matsushiro 115.96 321 PFAKE 21 11 30.0 +8.1
MAJO LR LR
comp=Z,579nm,20.0s
TLY Talaya 116.26 353 PFAKE 21 11 30.0 +8.0
TLY LR LR
comp=Z,559nm,20.0s
KURK Kurchatov 116.61 10 PKIKP **PKPdf 21 11 21.0 -1.7**
KURK MLR MLR
comp=Z,1µm,21.0s
KURK Kurchatov 116.61 10 PKP **PKPdf 21 11 21.0 -1.7**
KURK PKKPbc **PKKPbc 21 21 50.9 -0.9**
KURK LR LR
comp=Z,1µm,21.0s
KURBB Kurchatov Arra 116.68 10 PKP **PKPdf 21 11 21.0 -1.8**
comp=Z,0.9nm,0.7s,baz=355,slow=2.0,SNR=7.2
KURBB PKKPbc **PKKPbc 21 21 50.9 -0.6**
comp=Z,0.7nm,0.9s,baz=166,slow=3.3,SNR=4.7
DRV Dumont d'Urvil 116.80 199 SP SP 21 21 56.0 -12
DRV SS SS 21 28 45.0 +11
DRV R 21 47 00.0
LSZ Lusaka 116.96 101 PFAKE 21 11 40.0 +16
LSZ LR LR
comp=Z,739nm,19.0s
ZAK Zakamensk 117.58 353 *e*PKIKP **PKPdf 21 11 23.6 -1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.9s
ULN Ulaanbaatar 119.45 349 *e*PKIKP **PKPdf 21 11 28.4 0.0**
ULN MLR MLR
comp=Z,629nm,20.0s
ULN Ulaanbaatar 119.45 349 *e*PKPdf **PKPdf 21 11 28.4 0.0**
ULN LR LR
comp=Z,629nm,20.0s
SONM Songino Array 119.60 350 PKP **PKPdf 21 11 28.3 -0.3**
comp=Z,2.0nm,0.4s,baz=310,slow=1.4,SNR=18
SONM pPKP **pPKPdf 21 11 39.5 -2.6**
comp=Z,2.2nm,0.6s,baz=282,slow=0.8,SNR=6.8
MAW Mawson 120.66 167 PKP **PKPdf 21 11 29.3 -0.5**
comp=Z,3.7nm,0.9s,baz=291,slow=5.4,SNR=4.4
GEYT Allbeck 120.78 32 PKP **PKPdf 21 11 29.8 -1.4**
comp=Z,1.9nm,0.7s,baz=294,slow=4.7,SNR=4.4
MKAR Makanchi Array 121.01 9 *e*PKIKP **PKPdf 21 11 30.0 -1.3**
MKAR Makanchi Array 121.01 9 PKP **PKPdf 21 11 29.9 -1.4**
comp=Z,0.7nm,0.5s,baz=319,slow=2.5,SNR=13
MKAR PKKPbc **PKKPbc 21 21 35.6 -0.2**
comp=Z,0.3nm,0.8s,baz=155,slow=6.0,SNR=3.6
KSRS Korea Array 121.22 328 PKP **PKPdf 21 11 32.4 +0.5**
comp=Z,12nm,0.8s,baz=11,slow=1.7,SNR=58
KSRS pPKP **pPKPdf 21 11 43.4 -2.0**
comp=Z,8.5nm,0.7s,baz=6.3,slow=2.0,SNR=10
KSAR Wonju Array Be 121.25 328 PKIKP **PKPdf 21 11 32.4 +0.4**
KSAR 21 11 43.4
KSAR Wonju Array Be 121.25 328 PKP **PKPdf 21 11 32.4 +0.4**
KSAR pPKP **pPKPdf 21 11 43.4 -2.1**
RAYN Ar Rayn 121.77 53 PFAKE 21 11 50.0 +17
RAYN LR LR
comp=Z,844nm,21.0s
INCN Inchon 121.86 329 PFAKE 21 11 40.0 +6.8
INCN LR LR
comp=Z,306nm,19.0s
EKS2 Erkin-Say 123.11 17 *e*PKIKP **PKPdf 21 11 36.7 +1.1**
EKS2 MLR MLR
comp=Z,889nm,19.0s
EKS2 Erkin-Say 123.11 17 *e*PKPdf **PKPdf 21 11 36.7 +1.1**
EKS2 LR LR
comp=Z,889nm,19.0s
AAK Ala-Archa 123.34 16 ||*i*PKIKP **PKPdf 21 11 35.6 -0.5**
AAK Ala-Archa 123.34 16 PKP **PKPdf 21 11 35.4 -0.7**
comp=Z,1.1nm,0.7s,baz=288,slow=7.8,SNR=7.5
AAK Ala-Archa 123.34 16 *e*PKPdf **PKPdf 21 11 36.9 +0.8**
AAK *ep*PKPdf **pPKPdf 21 11 55.3 +5.8**
AAK LR LR
comp=Z,1µm,20.0s
TKM2 Tokmak 2 123.36 15 PFAKE 21 11 50.0 +14
TKM2 LR LR
comp=Z,1µm,20.0s
CASY Casey 124.18 188 PFAKE 21 11 50.0 +13
CASY LR LR
comp=Z,2µm,21.0s
BJI Beijing 124.28 339 PKP **PKPdf 21 11 37.9 +0.2**
BJI PP **PP 21 13 22.5 +0.5**
BJI PPMZ
comp=Z,130nm,11.2s
BJI LN
comp=Z,370nm,24.5s
BJI LE
comp=Z,520nm,23.7s
BJI LZ
comp=Z,790nm,27.2s
BJT Baijiatuan 124.30 339 PFAKE 21 11 50.0 +12
BJT LR LR
comp=Z,1µm,21.0s
CAN Canberra 124.39 235 PFAKE 21 11 50.0 +12
CAN LR LR
comp=Z,669nm,21.0s
WMQ Urumqi 124.56 5 *e*PKP **PKPdf 21 11 40.0 +1.7**
WMQ PP PP 21 13 32.0 +8.3
WMQ PKS **PKSdf 21 15 15.0 +0.1**
WMQ SKS **SKSdf 21 18 47.0 0.0**
WMQ SKKS **SKKSac 21 20 15.0 -5.2**
WMQ SS **SS 21 30 16.0 +2.9**
WMQ PPMZ
comp=Z,120nm,6.8s
WMQ LN
comp=Z,1µm,20.8s
WMQ LE
comp=Z,680nm,17.7s
WMQ LZ
comp=Z,1µm,21.2s
HHC Hu-ho-hao-te 125.03 343 *e*PKP **PKPdf 21 11 36.9 -2.4**
HHC sPKP 21 11 50.3
HHC PP **PP 21 13 29.0 +1.9**
HHC SKKS 21 20 17.9
HHC PPMZ
comp=Z,69nm,7.1s
HHC LN
comp=Z,350nm,22.6s
HHC LE
comp=Z,340nm,20.2s
HHC LZ
comp=Z,330nm,20.3s
KSH Kashi 126.64 16 *e*PKP PKPdf 21 11 49.6 +7.1
KSH sPKP 21 12 04.0
KSH PP PP 21 13 56.8 +19
KSH PKS PKSdf 21 15 24.8 +5.6
KSH SKS **SKSdf 21 18 56.1 +4.9**
KSH SKKS SKKSac 21 20 44.9 +11
KSH AMB AMB
comp=Z,110nm,5.2s
KSH LR LR
comp=N,95nm,6.4s
KSH LR LR
comp=E,160nm,5.5s
KSH LR LR
comp=Z,750nm,20.6s
PMG Port Moresby 126.87 267 PFAKE 21 12 00.0 +17
PMG LR LR
comp=Z,647nm,20.0s
CTAO Charters Tower 128.38 254 PFAKE 21 12 00.0 +14
CTAO LR LR
comp=Z,668nm,21.0s
GTA Gaotai 128.81 353 *e*PKP **PKPdf 21 11 47.0 +0.4**
GTA PP **PP 21 13 56.3 +4.4**
GTA SKS **SKSdf 21 18 53.6 -1.6**
GTA SKKS **SKKSac 21 20 48.8 +1.5**
GTA SS **SS 21 31 07.1 +0.9**
GTA PPMZ
comp=Z,100nm,6.5s
GTA LN
comp=Z,560nm,20.4s
GTA LE
comp=Z,400nm,21.8s
GTA LZ
comp=Z,740nm,23.3s
STKA Stephens Creek 131.14 238 *e*PKIKP **PKPdf 21 11 52.0 +1.0**
STKA Stephens Creek 131.14 238 PKP **PKPdf 21 11 50.5 -0.5**
comp=Z,2.7nm,0.6s,baz=38,slow=1.9,SNR=7.3
STKA Stephens Creek 131.14 238 *e*PKPdf **PKPdf 21 11 52.0 +1.0**
LZH Lanzhou 131.44 348 *e*PKP **PKPdf 21 11 53.9 +2.2**
LZH sPKP 21 12 10.5
XAN Xi'an 132.12 342 PKP **PKPdf 21 11 52.6 -0.3**
WHN Wuhan 133.32 335 ⇑PKP **PKPdf 21 11 54.8 -0.4**
WHN sPKP 21 12 07.3
WHN PKS **PKSdf 21 15 31.0 -0.7**
WHN LZ
comp=Z,1µm,20.6s
YHNB Yeheng 134.55 323 PFAKE 21 12 10.0 +12
YHNB LR LR
comp=Z,557nm,20.0s
OPO Ambohidratompo135.24 105 PKP **PKPdf 21 11 58.9 -0.3**
comp=Z,2.7nm,0.6s,baz=337,slow=1.8,SNR=5.7
ABPO Ambohimpanom 135.26 105 *e*PKIKP **PKPdf 21 12 01.9 +2.6**
ABPO MLR MLR
comp=Z,989nm,19.0s
ABPO Ambohimpanom 135.26 105 *e*PKPdf **PKPdf 21 12 01.9 +2.6**
ABPO LR LR
comp=Z,989nm,19.0s
ENH Enshi 135.42 340 *e*PKPdf **PKPdf 21 11 58.6 -0.6**
ENH LR LR
comp=Z,268nm,20.0s
CD2 Chengdu 136.45 347 PKP **PKPdf 21 11 59.0 -2.1**
CD2 PP **PP 21 14 43.8 +2.9**
CD2 PKS **PKSdf 21 15 34.3 -3.2**
CD2 SKS SKSdf 21 19 01.8 -7.2
CD2 SKKS **SKKSac 21 21 27.3 -6.7**
CD2 SS **SS 21 32 36.6 -2.5**
CD2 PPMZ
comp=Z,220nm,5.6s
CD2 LN
comp=Z,560nm,18.6s
CD2 LE
comp=Z,700nm,21.6s
CD2 LZ
comp=Z,640nm,19.6s
LSA Lhasa 138.83 3 *e*PKIKP **PKPdf 21 12 06.9 +0.8**
LSA MLR MLR
comp=Z,1µm,22.0s
LSA Lhasa 138.83 3 *e*PKPdf **PKPdf 21 12 06.9 +0.8**
LSA LR LR
comp=Z,1µm,22.0s
ASAR Alice Springs 139.48 247 PKhKP PKPpre 21 11 58.0
comp=Z,1.8nm,0.7s,baz=112,slow=3.1,SNR=12
ASAR PKP **PKPdf 21 12 07.0 +0.2**
comp=Z,3.2nm,0.7s,baz=108,slow=3.0,SNR=10
WB2 Warramunga Arr 139.56 253 *e*PKPpre PKPpre 21 12 01.9
WB2 *e*PKPdf **PKPdf 21 12 07.3 +0.3**
WRAB Tennant Creek 139.56 253 *e*PKIKP **PKPdf 21 12 08.1 +1.1**
WRAB MLR MLR
comp=Z,885nm,21.0s
WRAB Tennant Creek 139.56 253 *e*PKPdf **PKPdf 21 12 08.1 +1.1**
WRAB LR LR
comp=Z,885nm,21.0s
WRA Warramunga Arr 139.57 253 PKP **PKPdf 21 12 06.3 -0.8**
comp=Z,4.4nm,0.7s,baz=93,slow=2.9,SNR=13
WRA pPKP **pPKPdf 21 12 18.6 -1.9**
comp=Z,7.2nm,0.6s,baz=90,slow=2.2,SNR=11
GYA Guiyang 139.88 341 *e*Pdif **Pdif 21 09 20.3 -1.6**
GYA PKP **PKPdf 21 12 05.4 -2.2**
GYA PP **PP 21 15 05.6 +3.2**
GYA SKKS 21 21 49.3
GYA SS **SS 21 33 18.0 -2.0**
GYA PPMZ
comp=Z,160nm,8.4s
GYA LN
comp=Z,170nm,22.5s
GYA LE
comp=Z,140nm,23.0s
GYA LZ
comp=Z,150nm,21.6s
MSEY Mahe Island 142.15 83 PFAKE 21 12 20.0 +8.1
MSEY LR LR
comp=Z,654nm,20.0s
FORT Forrest 142.50 234 *e*PKPdf **PKPdf 21 12 12.2 +0.2**
DAV Davao City (W) 142.72 298 PFAKE 21 12 20.0 +7.1
DAV LR LR
comp=Z,332nm,19.0s
RER Riviere de l'E 143.02 110 PFAKE 21 12 30.0 +17
RER LR LR
comp=Z,1µm,22.0s
QIZ Qiongzhong 145.32 331 PKPbc **PKPbc 21 12 16.1 -1.0**
QIZ PP **PP 21 15 35.1 -0.4**
QIZ SS SS 21 34 23.4 0.0
QIZ PPMZ
comp=Z,130nm,6.2s
QIZ LN
comp=Z,390nm,21.5s
QIZ LZ
comp=Z,530nm,22.5s
QIZ Qiongzhong 145.32 331 PFAKE 21 12 30.0 +13
QIZ LR LR
comp=Z,565nm,20.0s
HYB Hyderabad 147.72 27 *i* PKP **PKPdf 21 12 22.5 +1.1**
CHTO Chiang Mai 149.17 349 PFAKE 21 12 40.0 +7.8
CHTO LR LR
comp=Z,566nm,21.0s
SOEI Soe 149.33 271 *e*PKPbc **PKPbc 21 12 29.6 +1.0**
CMAR Chiang Mai Arr 149.52 349 PKP **PKPdf 21 12 23.5 -0.8**
comp=Z,6.5nm,0.8s,baz=311,slow=2.4,SNR=46
CMAR PKPbc **PKPbc 21 12 28.4 -0.4**
comp=Z,14nm,0.7s,baz=340,slow=3.5,SNR=40
KKM Kota Kinabalu 151.05 306 *e*PKPbc **PKPbc 21 12 34.2 +1.5**
KKM LR LR
comp=Z,511nm,20.0s
KAPI Kappang 152.84 282 PFAKE 21 12 40.0 +3.4
KAPI LR LR
comp=Z,355nm,20.0s
SBUM Sibu 156.38 305 *e*PKPab **PKPab 21 13 04.2 +1.5**
KSM Kuching 158.49 306 *e*PKPab **PKPab 21 13 12.8 +1.0**
KSM LR LR
comp=Z,696nm,21.0s
DGAR Diego Garcia 159.20 80 PFAKE 21 12 50.0 +12
DGAR LR LR
comp=Z,948nm,20.0s
KULM Kulim 161.56 336 PFAKE 21 12 50.0 +10
KULM LR LR
comp=Z,606nm,21.0s
IPM Ipoh 162.13 333 *e*PKPdf **PKPdf 21 12 41.4 +0.3**
PSI Prapat 164.51 338 PKP **PKPdf 21 12 42.3 -1.2**
comp=Z,7.8nm,0.8s,baz=228,slow=7.2,SNR=6.6
COCO West Island 176.31 261 PFAKE 21 13 00.0 +10
COCO LR LR
comp=Z,612nm,19.0s

*ISCJB **17** 20:53:17.5±0.4, 22°.73S±0°.04×69°.06W±0°.06, h100km±3km, mb4.4/28, Error ellipse: s-maj=9.1km s-min=6.1km az=175.7*
*GUC **17** 20:53:17.9±0.4, 22°.68S×69°.17W, h100km±2km, ML4.5*
*IDC **17** 20:53:18.7±0.8, 22°.80S×68°.98W, h96km±3km, mb4.0/12, mb1 4.1/15, mb1mx3.9/41, mbtmp4.3/15, MS4.2/1, Ms1 4.2/1, ms1mx3.0/33, Error ellipse: s-maj=18.3km s-min=15.3km az=56.0*
*NEIC **17** 20:53:18.1±0.7, 22°.84S×68°.99W, h95km±7km, mb4.4/17, Error ellipse: s-maj=12.3km s-min=8.6km az=87.0*
ISC 17 20:53:18.7±0.6, **22°.74S**±0°.05×**69°.13W**±0°.06, **h101**km±5km, **n63**, σ1**§47**/65, **mb4.4**/28, **7D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.24**	**57**	P		P	**Pn**	**20 53 34.2**	**+0.7**
	12µm,0.3s,baz=133,slow=7.5,SNR=2003								
LVC				S		S	**Sn**	**20 53 44.4**	**-0.1**
	52µm,0.3s,baz=165,slow=20,SNR=316								
PB06	**IPOC Station P**	**0.41**	**275**	*e*P		P	**Pn**	**20 53 33.4**	**-0.8**
PB06				*e*S		S	**Sn**	**20 53 44.9**	**-0.9**
PB06				AML		AML		20 53 46.4	
	comp=E,25µm,0.6s								
PB06	**IPOC Station P**	**0.41**	**275**	*e*P		P	**Pn**	**20 53 33.7**	**-0.5**
PB04	**IPOC Station P**	**0.58**	**325**	||*e*P		Pn	20 53 38.8	+3.6
PB04				*e*S		Sn		20 53 54.5	+6.9
PB04				AML		AML		20 53 57.2	
	comp=N,12µm,0.9s								
PB04	**IPOC Station P**	**0.58**	**325**	*e*P		Pn		20 53 39.4	+4.2
PB09	**IPOC Station P**	**0.95**	**354**	||*e*P		**Pn**	**20 53 38.5**	**-0.4**
PB09				*e*S		**Sn**		**20 53 53.0**	**-1.0**
PB09	**IPOC Station P**	**0.95**	**354**	*e*P		**Pn**		**20 53 39.2**	**+0.3**
PB07	**IPOC Station P**	**1.23**	**325**	||*e*P		**Pn**	**20 53 42.0**	**-0.1**
PB07				*e*S		**Sn**		**20 53 58.4**	**-1.2**
PB07				AML		AML		20 53 59.8	
	comp=E,10µm,0.3s								
PB07	**IPOC Station P**	**1.23**	**325**	*e*P		**Pn**		**20 53 41.4**	**-0.6**
PB10	**IPOC Station P**	**1.52**	**239**	||*e*P		**Pn**	**20 53 45.0**	**-0.4**
PB10				*e*S		**Sn**		**20 54 05.2**	**-0.2**
PB10	**IPOC Station P**	**1.52**	**239**	*e*P		**Pn**		**20 53 44.9**	**-0.4**
PB01	**IPOC Station P**	**1.72**	**349**	*e*P		**Pn**		**20 53 47.5**	**-0.5**
PATCX	**Punta Patache**	**2.14**	**333**	||*e*P		**Pn**	**20 53 52.1**	**-1.1**
PATCX				*e*S		**Sn**		**20 54 18.3**	**-1.2**
PATCX				AML		AML		20 54 20.4	
	comp=N,2µm,0.2s								
PATCX	**Punta Patache**	**2.14**	**333**	*e*P		**Pn**		**20 53 52.1**	**-1.1**
HMBC	**Humberstone**	**2.55**	**344**	||*e*P		**Pn**	**20 53 57.9**	**-0.9**
HMBC				*e*S		**Sn**		**20 54 28.5**	**-0.9**
HMBC				AML		AML		20 54 29.6	
	comp=E,3µm,0.5s								
HMBC	**Humberstone**	**2.55**	**344**	*e*P		**Pn**		**20 53 57.4**	**-1.3**
PB11	**IPOC Station P**	**3.01**	**350**	*e*P		**Pn**		**20 54 03.5**	**-1.3**
PSGC	**Pisagua**	**3.26**	**343**	||*e*P		**Pn**	**20 54 06.1**	**-2.1**
PSGC				*e*S		**Sn**		**20 54 44.0**	**-2.3**
PSGC				AML		AML		20 55 09.3	
	comp=N,1µm,0.2s								
PSGC	**Pisagua**	**3.26**	**343**	*e*P		**Pn**		**20 54 06.1**	**-2.1**
MNMC	**Minimini**	**3.62**	**353**	*e*P		**Pn**		**20 54 12.5**	**-0.6**
LCO	**Las Campanas**	**6.40**	**192**	*e*P		Pn		20 54 58.3	+7.6
LCO	**Las Campanas**	**6.40**	**192**	*e*Pn		Pn		20 54 46.7	-4.0
	comp=N,60nm,0.6s								
LCO				*e*Sn		Sn		20 55 56.0	-6.5
LPAZ	**La Paz**	**6.49**	**9**	P		**Pn**		**20 54 52.9**	**+0.6**
	comp=N,3.4nm,0.3s,baz=182,slow=4.5,SNR=62								
TLL	**Tololo Astrono**	**7.55**	**191**	*e*P		Pn		20 55 12.9	+6.6
CFAA	**Coronel Fontan**	**8.86**	**175**	P		**Pn**		**20 55 22.5**	**-1.5**
	comp=N,0.7nm,0.3s,baz=348,slow=13,SNR=56								
CFAA				S		**Sn**		**20 56 57.3**	**-4.8**
	comp=N,0.7nm,0.3s,baz=314,slow=7.3,SNR=9.5								
SIV	**San Ignacio**	**10.14**	**50**	P		**Pn**		**20 55 38.8**	**-2.6**
	comp=N,1.3nm,0.3s,baz=261,slow=11,SNR=19								
ROCH	**El Roble**	**10.33**	**189**	*e*P		Pn		20 55 58.6	+14
SAML	**Samuel**	**14.85**	**24**	*e*Pn		Pn		20 56 40.0	-3.7
TRQA	**Tornquist**	**16.45**	**160**	*e*Pn		**Pn**		**20 57 01.6**	**-1.9**
	comp=N,21nm,0.8s								
TRQA				*ep*P		**pP**		**20 57 26.2**	**+3.0**
BDFB	**Brasilia**	**21.14**	**74**	P		**P**		**20 57 54.6**	**-1.3**
	comp=N,15nm,0.6s,baz=251,slow=13,SNR=30								
PTGA	**Pitinga**	**23.62**	**23**	P		**P**		**20 58 19.6**	**-1.3**
	comp=N,3.2nm,0.3s,baz=201,slow=11,SNR=12								
OTAV	**Otavalo**	**24.58**	**337**	*e*P		**P**		**20 58 30.3**	**+0.3**
	comp=N,7.5nm,0.8s								
SDV	**Santo Domingo**	**31.47**	**357**	P		**P**		**20 59 33.1**	**+2.0**
	comp=N,23nm,1.1s								
USHA	**Ushuaia**	**32.05**	**179**	LR		LR		21 13 00.6	
	comp=N,383nm,18.5s,baz=330,slow=37								
BCIP	**Isla Barro Col**	**33.40**	**341**	P		**P**		**20 59 47.4**	**-0.4**
	comp=N,21nm,0.9s								
RCBR	**Riachuelo**	**36.19**	**67**	P		**P**		**21 00 12.1**	**+0.1**
	comp=N,14nm,1.0s,baz=171,slow=5.7,SNR=4.7								
JTS	**JuntasAbangare**	**36.31**	**333**	P		**P**		**21 00 14.3**	**+1.4**
	comp=N,40nm,1.4s								
TEIG	**Tepich**	**46.62**	**335**	P		**P**		**21 01 36.8**	**-0.2**
TKL	**Tuckaleechee C**	**59.72**	**346**	P		**P**		**21 03 12.8**	**0.0**
	comp=N,7.6nm,0.9s,baz=153,slow=8.8,SNR=7.2								
WVT	**Waverly**	**61.17**	**343**	*e*P		**P**		**21 03 22.0**	**-0.6**
	comp=N,16nm,0.8s								
MIAR	**Mount Ida**	**61.53**	**337**	*e*P		**P**		**21 03 23.1**	**-2.0**
	comp=N,5.4nm,0.6s								
TXAR	**Lajitas Array**	**61.53**	**326**	P		**P**		**21 03 26.3**	**+1.0**
	comp=N,0.6nm,0.6s,baz=152,slow=10.0,SNR=3.5								
ANMO	**Albuquerque**	**67.43**	**327**	P		**P**		**21 04 05.5**	**+1.7**
	comp=N,2.4nm,0.7s,baz=111,slow=5.6,SNR=4.8								
TUC	**Tucson**	**67.69**	**323**	*e*P		**P**		**21 04 05.9**	**+0.6**
	comp=N,5.0nm,1.1s								
214A	**Organ Pipe Nat**	**68.59**	**321**	*e*P		**P**		**21 04 13.2**	**+2.2**
	comp=N,7.9nm,1.5s								
SDCO	**Great Sand Dun**	**69.21**	**330**	*e*P		**P**		**21 04 16.7**	**+1.7**
	comp=N,2.4nm,0.9s								
DBIC	**Dimbokro**	**69.28**	**73**	P		**P**		**21 04 16.2**	**+0.6**
	comp=N,3.1nm,0.9s,baz=176,slow=16,SNR=2.5								
DBIC	**Dimbokro**	**69.28**	**73**	P		**P**		**21 04 16.0**	**+0.4**
	comp=N,6.7nm,1.0s								
CCUT	**Cedar City**	**73.00**	**325**	*e*P		**P**		**21 04 40.6**	**+2.8**
	comp=N,5.4nm,0.9s								
RSSD	**Black Hills**	**73.83**	**335**	P		**P**		**21 04 43.5**	**+1.0**
	comp=N,2.4nm,0.6s								
ISA	**Isabella, Lake**	**74.53**	**320**	*e*P		**P**		**21 04 48.5**	**+1.9**
	comp=N,3.9nm,0.8s								
SBA	**Scott Base**	**74.58**	**190**	*e*P		**P**		**21 04 45.9**	**-0.2**
	comp=N,17nm,1.5s								
PDAR	**Pinedale Array**	**75.08**	**330**	P		**P**		**21 04 51.2**	**+1.4**
	comp=N,0.7nm,0.7s,baz=129,slow=2.9,SNR=4.1								
HWUT	**Hardware Ranch**	**75.13**	**328**	*e*P		**P**		**21 04 51.0**	**+0.9**
	comp=N,2.8nm,0.6s								
NVAR	**Mina Array Bea**	**76.34**	**322**	P		**P**		**21 04 59.6**	**+2.5**
	comp=N,0.4nm,0.3s,baz=179,slow=8.7,SNR=4.6								
ULM	**Lac du Bonnet**	**76.44**	**343**	P		**P**		**21 04 57.0**	**0.0**
	comp=N,2.2nm,0.5s,baz=145,slow=10,SNR=5.8								
SCHQ	**Schefferville**	**77.28**	**1**	P		**P**		**21 05 01.1**	**-0.6**
TOA0	**Torodi Ar. Sit**	**77.96**	**70**	*e*P		**P**		**21 05 06.3**	**0.0**
TORD	**Torodi Ar. Bea**	**77.96**	**70**	P		**P**		**21 05 06.8**	**+0.4**
	comp=N,4.4nm,0.5s,baz=256,slow=5.2,SNR=83								
HLID	**Hailey**	**77.98**	**328**	*e*P		**P**		**21 05 08.4**	**+2.3**
	comp=N,3.4nm,0.8s								
WALA	**Waterton Lakes**	**81.87**	**332**	P		**P**		**21 05 28.2**	**+1.4**
	comp=N,4.6nm,0.8s								
YKA	**Yellowknife Ar**	**92.29**	**341**	P		**P**		**21 06 17.2**	**+0.2**
	comp=N,2.1nm,0.7s,baz=136,slow=4.5,SNR=10.0								
USRK	**Ussuriysk Ar.**	**152.43**	**326**	PKPbc		**PKPbc**		**21 13 04.0**	**+0.9**
	comp=N,0.9nm,0.8s,baz=90,slow=0.4,SNR=4.2								

*NEIC **17** 20:55:41.8±2.2, 58°.72S×25°.46W, h92km±19km, mb4.2/5, Error ellipse: s-maj=18.8km s-min=12.3km az=68.0*
*IDC **17** 20:55:45.2±5.0, 58°.93S×23°.90W, h105km±44km, mb4.1/9, mb1 4.2/10, mb1mx3.8/39, mbtmp4.4/10, MS3.6/3, Ms1 3.6/3, ms1mx3.4/20, Error ellipse: s-maj=22.4km s-min=16.1km az=87.0*
*AWI **17** 20:55:49.5, 60°.37S×27°.26W*
ISC 17 20:55:42.4±0.5, **58°.8S**±0°.1×**25°.4W**±0°.1, **h100**km, **n55**, σ1**§57**/36, **mb4.4**/16, **1C-1D**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.61**	**302**	*e*Pn	**Pn**	**20 57 30.4**	**-0.1**
	183nm,1.0s						
VNA1	**Neumayer--Stat**	**13.88**	**156**	P	Pn	20 58 49.8	-4.6
VNA3	**Neumayer Olymp**	**14.07**	**159**	P	Pn	20 58 51.5	-5.5
VNA3	**Neumayer Olymp**	**14.07**	**159**	S	Sn	21 01 13.6	-18
VNA2	**Neumayer--Watz**	**14.28**	**156**	P	Pn	20 58 54.6	-5.0
	baz=319,slow=15						
VNA2	**Neumayer--Watz**	**14.28**	**156**	S	Sn	21 01 20.7	-16
	baz=322,slow=24						
SNAA	**Sanae**	**15.84**	**154**	P	Pn	20 59 09.7	-10
SNAA				S	Sn	21 01 44.2	-30
SNAA	**Sanae**	**15.84**	**154**	P	**Pn**	**20 59 15.1**	**-4.2**
	1.1nm,0.3s,baz=327,slow=15,SNR=74						
SNAA				S	Sn	21 01 58.5	-16
	0.1nm,0.3s,baz=18,slow=20,SNR=3.3						
SNAA				LR	LR	21 03 58.7	
	comp=Z,89nm,20.0s,baz=12,slow=32						
PMSA	**Palmer Station**	**18.98**	**235**	LR	LR	21 07 02.3	
	comp=Z,223nm,19.2s,baz=126,slow=35						
SYO	**Syowa Base**	**28.87**	**137**	*e*P	P	21 01 20.2	-11
SYO	**Syowa Base**	**28.87**	**137**	*e*P	P	21 01 26.1	-4.9
TRQA	**Tornquist**	**31.33**	**295**	P	**P**	**21 01 51.8**	**-1.3**
	5.2nm,0.8s						
QSPA	**South Pole Qui**	**31.45**	**180**	P	**P**	**21 01 54.3**	**+0.3**
	9.3nm,0.6s,baz=189,slow=2.8,SNR=130						
MAW	**Mawson**	**37.38**	**141**	*e*P	**P**	**21 02 42.8**	**-2.1**
	0.6nm,0.7s						
CFAA	**Coronel Fontan**	**39.56**	**294**	P	P	21 03 13.6	+10
	0.9nm,0.7s,baz=160,slow=9.1,SNR=4.7						
SUR	**Sutherland**	**40.55**	**70**	LR	LR	21 15 08.8	
	comp=Z,123nm,19.4s,baz=190,slow=29						
SBA	**Scott Base**	**43.40**	**184**	*e*P	**P**	**21 03 35.9**	**+1.6**
	5.3nm,0.8s						
VNDA	**Vanda**	**43.86**	**182**	P	**P**	**21 03 39.6**	**+1.6**
	7.9nm,0.7s,baz=187,slow=6.9,SNR=63						
TSUM	**Tsumeb**	**50.28**	**57**	P	**P**	**21 04 27.9**	**-0.8**
	1.9nm,0.8s,baz=199,slow=6.3,SNR=8.5						
H10S2	**ASCENSION HYDR**	**50.40**	**14**	T	T	21 59 00.5	
	baz=188,slow=75,SNR=34						
H10S3	**ASCENSION HYDR**	**50.40**	**14**	T	T	21 59 00.9	
	baz=188,slow=75,SNR=35						
H10S1	**ASCENSION HYDR**	**50.42**	**14**	T	T	21 59 01.9	
	baz=188,slow=75,SNR=32						
H10N1	**ASCENSION HYDR**	**51.52**	**14**	T	T	22 00 13.1	
	baz=180,slow=72,SNR=12						
H10N3	**ASCENSION HYDR**	**51.52**	**14**	T	T	22 00 24.9	
	baz=180,slow=72,SNR=8.3						
H10N2	**ASCENSION HYDR**	**51.53**	**14**	T	T	22 00 14.6	
	baz=180,slow=72,SNR=22						
LPAZ	**La Paz**	**52.75**	**305**	P	P	21 04 56.4	+8.7
	2.3nm,0.6s,baz=150,slow=4.9,SNR=6.1						
LPAZ	**La Paz**	**52.75**	**305**	*e*P	**P**	**21 04 44.9**	**-2.8**
SAML	**Samuel**	**57.42**	**314**	*e*P	**P**	**21 05 17.8**	**-2.7**
LIC	**Lamto**	**66.84**	**22**	*e*P	**P**	**21 06 23.6**	**+0.2**
	50nm,1.3s						
KIC	**Kosan Boka**	**67.03**	**22**	*e*P	**P**	**21 06 24.4**	**-0.2**
	80nm,1.9s						
TIC	**Toumodi**	**67.25**	**22**	*e*P	**P**	**21 06 25.4**	**-0.6**
	6.0nm,0.2s						
DBIC	**Dimbokro**	**67.31**	**22**	P	**P**	**21 06 26.1**	**-0.3**
	3.4nm,0.7s,baz=167,slow=4.8,SNR=7.2						
OTAV	**Otavalo**	**71.97**	**303**	P	**P**	**21 06 54.3**	**-1.3**
	2.7nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.02**	**27**	*e*P	**P**	**21 07 12.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**75.02**	**27**	P	**P**	**21 07 13.4**	**+0.7**
	5.6nm,0.8s,baz=200,slow=6.3,SNR=24						
STKA	**Stephens Creek**	**89.02**	**169**	P	**P**	**21 08 27.3**	**+1.4**
	2.9nm,0.7s,baz=156,slow=5.8,SNR=7.6						
STKA	**Stephens Creek**	**89.02**	**169**	*e*P	**P**	**21 08 26.7**	**+0.8**
	0.8nm,0.8s						
ASAR	**Alice Springs**	**96.07**	**161**	P	**P**	**21 08 59.0**	**+0.5**
	1.2nm,0.7s,baz=183,slow=4.0,SNR=24						
PDAR	**Pinedale Array**	**122.59**	**300**	PKhKP	PKPpre	21 14 25.9	
	0.7nm,0.5s,baz=123,slow=5.6,SNR=7.0						
ULM	**Lac du Bonnet**	**122.88**	**314**	PKhKP	PKPpre	21 14 25.4	
	1.4nm,0.4s,baz=132,slow=3.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**123.19**	**111**	PKP	**PKPdf**	**21 14 27.8**	**+0.6**
	0.6nm,0.3s,baz=235,slow=3.2,SNR=3.2						
NVAR	**Mina Array Bea**	**123.31**	**290**	PKP	**PKPdf**	**21 14 29.0**	**+2.0**
	1.2nm,0.6s,baz=132,slow=3.0,SNR=4.6						
FINES	**FINESS Array B**	**126.37**	**28**	PKP	**PKPdf**	**21 14 32.5**	**+0.7**
	1.5nm,0.5s,baz=163,slow=3.9,SNR=19						
KAF	**Kangasniemi**	**127.00**	**28**	*e*p	**PKPdf**	**21 14 33.6**	**+0.6**
ABKAR	**Akbulak array**	**128.12**	**56**	*e*PKPdf	**PKPdf**	**21 14 35.8**	**+0.2**
JOF	**Joensuu**	**128.93**	**29**	*e*p	**PKPdf**	**21 14 35.7**	**-0.9**
AAK	**Ala-Archa**	**129.96**	**72**	PKP	**PKPdf**	**21 14 40.5**	**+1.0**
	0.8nm,0.4s,baz=138,slow=4.5,SNR=4.5						
ARCES	**ARCESS Array B**	**133.14**	**22**	PKP	**PKPdf**	**21 14 45.3**	**+0.8**
	2.2nm,0.6s,baz=258,slow=1.9,SNR=14						
BVAR	**Borovoye Array**	**135.41**	**59**	PKP	**PKPdf**	**21 14 49.6**	**+0.4**
	1.1nm,0.5s,baz=197,slow=3.0,SNR=8.0						
ZAA0	**Zalesovo Array**	**142.66**	**66**	*e*PKPpre	PKPpre	21 14 58.4	
SONM	**Songino Array**	**149.85**	**90**	PKPbc	**PKPbc**	**21 15 20.8**	**+0.9**
	1.9nm,0.5s,baz=227,slow=2.7,SNR=11						
ULN	**Ulaanbaatar**	**150.21**	**90**	PKPdf	**PKPdf**	**21 15 16.0**	**+0.5**
ULN				*e*PKPbc	**PKiKP**	**21 15 20.9**	**-0.7**
TLY	**Talaya**	**150.73**	**81**	PKPbc	**PKPbc**	**21 15 23.2**	**+1.5**
	1.1nm,0.5s,baz=234,slow=8.7,SNR=4.7						
DOT	**Dot Lake**	**151.10**	**306**	*e*PKPbc	**PKPbc**	**21 15 23.8**	**+1.6**
DOT				*e*PKPab	**PKPab**	**21 15 34.2**	**+3.8**
ILAR	**Eielson Array**	**152.61**	**307**	PKPbc	**PKPbc**	**21 15 27.1**	**+1.5**
	9.6nm,0.9s,baz=144,slow=6.3,SNR=33						

*ISCJB **17** 20:59:28.8±0.5,37.7S±0.1×51.3E±0.1, h10km, mb4.1/15, MS4.1/3, Error ellipse: s-maj=17.4km s-min=13.8km az=154.9*

*IDC **17** 20:59:29.0±0.6,37.66S×51.30E, h0km, mb4.2/14, mb1 4.2/15, mb1mx3.9/50, mbtmp4.1/15, ML3.5/1, MS4.0/4, Ms1 4.0/4, ms1mx3.6/26, Error ellipse: s-maj=22.9km s-min=17.7km az=45.0*

*NEIC **17** 20:59:30.5±0.5, 37.66S×51.32E, h10km, mb4.5/2, Error ellipse: s-maj=16.9km s-min=13.1km az=61.0*

ISC 17 20:59:30.5±0.7, 37.7S±0.1×51.3E±0.1, h10km, n28, σ0.9 91/19, mb4.2/15, MS3.9/3, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.35**	**348**	P	**Pn**	**21 03 57.6**	**+0.1**
	0.2nm,0.3s,baz=150,slow=8.1,SNR=2.9						
OPO				LR	LR	21 10 10.6	
	comp=Z,206nm,18.8s,baz=178,slow=33						
LBTB	**Lobatse**	**25.23**	**293**	P	**P**	**21 04 56.8**	**0.0**
	2.7nm,0.8s,baz=146,slow=11,SNR=3.1						
LBTB				LR	LR	21 12 37.8	
	comp=Z,97nm,21.8s,baz=151,slow=31						
LSZ	**Lusaka**	**30.26**	**311**	P	P	21 05 36.6	-5.3
	9.0nm,1.4s						
H08S1	**Diego Carcia H**	**35.50**	**38**	T	T	21 43 38.5	
	baz=209,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**35.51**	**38**	T	T	21 43 39.0	
	baz=209,slow=75,SNR=6.7						
H08S3	**Diego Garcia H**	**35.52**	**38**	T	T	21 43 43.0	
	baz=209,slow=75,SNR=10						
KMBO	**Kilima Mbogo**	**38.59**	**337**	LR	LR	21 20 35.4	
	comp=Z,200nm,21.3s,baz=100,slow=33						
SNAA	**Sanae**	**43.60**	**202**	P	**P**	**21 07 34.4**	**-0.1**
	1.7nm,1.0s,baz=58,slow=3.1,SNR=3.9						
H01W2	**Cape Leeuwin H**	**49.88**	**107**	T	T	22 01 55.3	
	baz=248,slow=75,SNR=85						
H01W3	**Cape Leeuwin H**	**49.88**	**107**	T	T	22 01 55.9	
	baz=248,slow=75,SNR=100						
H01W1	**Cape Leeuwin H**	**49.89**	**107**	T	T	22 01 56.6	
	baz=248,slow=75,SNR=84						
QSPA	**South Pole Qui**	**52.54**	**180**	P	**P**	**21 08 44.5**	**+0.7**
	3.6nm,1.0s,baz=219,slow=3.9,SNR=5.2						
DBIC	**Dimbokro**	**68.36**	**297**	P	**P**	**21 10 31.6**	**-0.8**
	2.7nm,0.7s,baz=132,slow=4.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**68.69**	**307**	P	**P**	**21 10 34.1**	**-0.3**
	1.4nm,1.2s,baz=108,slow=4.8,SNR=4.0						
ASAR	**Alice Springs**	**70.33**	**105**	P	**P**	**21 10 44.6**	**-0.1**
	2.2nm,0.8s,baz=233,slow=5.6,SNR=19						
STKA	**Stephens Creek**	**71.56**	**116**	P	**P**	**21 10 51.1**	**-0.8**
	1.9nm,0.9s,baz=348,slow=6.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**71.56**	**48**	P	**P**	**21 10 52.0**	**0.0**
	1.2nm,0.8s,baz=228,slow=7.0,SNR=10						
MMAI	**Mount Meron Ar**	**71.86**	**346**	P	**P**	**21 10 55.6**	**+2.1**
	2.9nm,0.9s,baz=167,slow=8.6,SNR=5.0						
WRA	**Warramunga Arr**	**72.73**	**102**	P	**P**	**21 11 00.4**	**+1.2**
	3.9nm,1.0s,baz=230,slow=5.2,SNR=19						
LSA	**Lhasa**	**76.68**	**35**	P	**P**	**21 11 21.9**	**-0.3**
AAK	**Ala-Archa**	**82.65**	**17**	P	**P**	**21 11 54.6**	**+0.6**
	2.1nm,0.7s,baz=256,slow=3.1,SNR=6.5						
AAK	**Ala-Archa**	**82.65**	**17**	P	**P**	**21 11 53.4**	**-0.6**
	6.2nm,1.1s						
URZ	**Urewera**	**89.45**	**140**	LR	LR	21 45 33.1	
	comp=Z,540nm,18.9s,baz=88,slow=31						
KURBB	**Kurchatov Arra**	**91.11**	**17**	P	**P**	**21 12 34.5**	**-0.3**
	0.4nm,0.3s,baz=174,slow=15,SNR=4.7						
KURK	**Kurchatov**	**91.22**	**17**	P	**P**	**21 12 34.5**	**-0.8**
BVAR	**Borovoye Array**	**91.82**	**11**	P	**P**	**21 12 37.5**	**-0.6**
	0.7nm,0.7s,baz=189,slow=7.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**95.71**	**19**	P	**P**	**21 12 54.2**	**-1.8**
	1.1nm,0.8s,baz=329,slow=1.7,SNR=2.4						
ILAR	**Eielson Array**	**150.78**	**16**	PKPbc	**PKPbc**	**21 19 21.9**	**-0.3**
	1.4nm,0.8s,baz=314,slow=2.9,SNR=9.6						

IDC 17 21:03:17.0±2.8, 9.12S×156.24E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/26, mbtmp3.6/2, Error ellipse: s-maj=126.8km s-min=46.5km az=139.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.74**	**241**	P	P	21 08 30.9	-0.2
	1.3nm,0.7s,baz=67,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**25.79**	**233**	P	P	21 08 50.5	+0.5
	0.9nm,0.9s,baz=67,slow=10,SNR=7.0						
TORD	**Torodi Ar. Bea**	**154.71**	**281**	PKPbc	PKPbc	21 23 20.9	-0.3
	0.6nm,0.9s,baz=108,slow=3.2,SNR=2.7						

*CASC **17** 21:03:23.8±2.4, 11.56N×87.05W, h6km±14km, MD4.5, ML4.5, mb4.8(NEIC)*

*IDC **17** 21:03:25.5±0.6, 11.94N×86.55W, h32km±4km, mb4.3/15, mb1 4.5/17, mb1mx4.2/34, mbtmp4.5/17, ML3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx3.7/34, Error ellipse: s-maj=25.6km s-min=10.8km az=59.0*

*BJI **17** 21:03:25.2, 11.60N×86.90W, h36km, mB5.2/4, Ms5.5/5, Ms7 5.2/5*

*ISCJB **17** 21:03:26.6±0.3, 11.69N±0.04×86.82W±0.04, h63km±3km, mb4.8/129, Error ellipse: s-maj=9.7km s-min=3.1km az=42.4*

*NEIC **17** 21:03:27.2±1.9, 11.85N×86.80W, h50km±5km, mb4.8/124, Error ellipse: s-maj=17.2km s-min=10.2km az=57.0*

NEIC Felt at Leon and Managua.

ISC 17 21:03:25.3±0.6, 11.57N±0.07×86.97W±0.07, h40km±5km, h40km:pP-P, n559, σ19 21/599, mb4.8/129, 154C-181D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS2	**Las Lilas**	**1.66**	**116**	*i* P	**Pn**	**21 03 52.9**	**+1.0**
LAPC	**Finca la Perla**	**1.71**	**118**	*i* P	**Pn**	**21 03 54.1**	**+1.6**
GB1A	**Boringuen Arri**	**1.71**	**116**	*i* P	**Pn**	**21 03 53.4**	**+0.7**
BUEV	**Buena Vista**	**1.71**	**117**	*i* P	**Pn**	**21 03 54.1**	**+1.4**
GPS2	**Hotel Rinc‾‡n**	**1.78**	**117**	*i* P	**Pn**	**21 03 55.4**	**+1.8**
CNCH	**Conchagua**	**1.89**	**334**	*i* P	**Pn**	**21 03 56.0**	**+0.8**
CNCH				*e*S	**Sn**	**21 04 20.7**	**+2.8**
LIM1	**Limonal**	**1.90**	**117**	*i* P	**Pn**	**21 03 56.9**	**+1.6**
VCR	**Vista de Mar**	**1.95**	**137**	*e*P	**Pn**	**21 03 56.6**	**+0.7**
CUI	**Cuipilapa**	**1.99**	**117**	*i* P	**Pn**	**21 03 58.1**	**+1.6**
CUI				*i* S	**Sn**	**21 04 24.7**	**+4.5**
PTEN	**Parque Tenorio**	**2.12**	**113**	*i* P	**Pn**	**21 04 00.2**	**+1.9**
AMAS	**Alto Masis**	**2.16**	**116**	*i* P	**Pn**	**21 04 01.2**	**+2.3**
BLLM	**Bellamira**	**2.23**	**326**	*i* P	**Pn**	**21 04 01.0**	**+1.1**
BLLM				*e*S	**Sn**	**21 04 28.9**	**+2.6**
VSM	**San Miguel**	**2.24**	**325**	*i* P	**Pn**	**21 04 01.2**	**+1.0**
JTS	**JuntasÁbangare**	**2.35**	**123**	Pn	**Pn**	**21 04 03.6**	**+2.2**
	22nm,0.3s,baz=313,slow=17,SNR=45						
JTS				Lg	Lg	21 04 37.6	
	52nm,0.3s,baz=281,slow=14,SNR=5.7						
CAHU	**Cacacuatique**	**2.50**	**331**	*i* P	**Pn**	**21 04 05.2**	**+1.5**
CAHU				*e*S	**Sn**	**21 04 37.2**	**+4.2**
JCR	**Jicaral**	**2.50**	**133**	*e*P	**Pn**	**21 04 05.6**	**+2.0**
JCR				*e*S	Sn	21 04 48.8	+16
SNVI	**San Vicente**	**2.73**	**318**	*i* P	**Pn**	**21 04 07.0**	**+0.2**
SNVI				*e*S	**Sn**	**21 04 41.7**	**+3.1**
LFRS	**El Faro**	**2.89**	**315**	*i* P	**Pn**	**21 04 09.1**	**+0.2**
CGA2	**Cerro Gallo 2**	**2.91**	**122**	*e*P	Pn	21 04 12.6	+3.4
LBRS	**Las Brisas**	**2.96**	**317**	*e*P	**Pn**	**21 04 11.1**	**+1.3**
SNET	**Serv Nac Est T**	**3.05**	**314**	AML	AML	21 05 03.8	
	comp=Z,3µm,0.4s						
BOQS	**Boqueron**	**3.12**	**314**	*i* P	**Pn**	**21 04 13.2**	**+1.1**
BOQS				*e*S	**Sn**	**21 04 51.2**	**+3.0**
SBLS	**San Blas**	**3.43**	**311**	*e*P	**Pn**	**21 04 17.3**	**+0.8**
QCR	**Quepos**	**3.49**	**127**	*e*P	Pn	21 04 24.4	+7.4
RTR	**El Retiro**	**3.49**	**312**	*e*P	**Pn**	**21 04 17.8**	**+0.6**
URSC	**Urasca**	**3.58**	**119**	*e*P	Pn	21 04 23.8	+5.3
URSC				*e*S	Sn	21 05 18.0	+18
RBDL	**Robledal**	**3.66**	**314**	*i* P	**Pn**	**21 04 20.6**	**+1.0**
BUS	**Buena Vista**	**3.74**	**122**	*e*P	Pn	21 04 24.9	+4.0
ACR	**Cerro Adams**	**4.74**	**127**	*e*P	**Pn**	**21 04 34.3**	**0.0**
APG	**El Apazote**	**4.82**	**315**	Pn	Pn	21 04 31.8	-3.8
	comp=Z,2.5nm,0.3s,baz=100,slow=20,SNR=11						
BCIP	**Isla Barro Col**	**7.41**	**108**	*e*Pn	**Pn**	**21 05 10.0**	**-1.0**
TEIG	**Tepich**	**8.70**	**352**	Pn	Pn	21 05 24.3	-4.3
	comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=2.3						
TEIG				LR	LR	21 09 19.6	
	comp=Z,2µm,18.7s,baz=95,slow=42						
TEIG	**Tepich**	**8.70**	**352**	*e*Pn	Pn	21 05 25.1	-3.5
CMIG	**Matias Romero**	**9.43**	**306**	Pn	**Pn**	**21 05 39.1**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=105,slow=11,SNR=20						
CMIG				Sn	**Sn**	**21 07 21.3**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=143,slow=15,SNR=1.8						
ROSC	**El Rosal**	**14.17**	**117**	Pn	**P**	**21 06 48.7**	**-2.0**
	baz=90,slow=20,SNR=2.5						
ROSC	**El Rosal**	**14.17**	**117**	*e*Pn	**Pn**	**21 06 44.5**	**+0.6**
SDV	**Santo Domingo**	**16.30**	**98**	*e*Pn	**P**	**21 07 15.2**	**+1.1**
	comp=Z,11nm,0.9s						
035Z	**Hargill**	**18.13**	**326**	⇓P	**P**	**21 07 36.2**	**+2.0**
	baz=18						
035A	**Encino**	**18.53**	**327**	⇓P	**Pn**	**21 07 40.4**	**+1.4**
	baz=18						
034A	**Hebbronville**	**18.94**	**326**	⇓P	**Pn**	**21 07 45.4**	**+1.4**
	baz=19						
738A	**Farr-Stevens R**	**19.00**	**336**	⇓P	**Pn**	**21 07 45.7**	**+1.1**
	baz=19						
934A	**Benavides**	**19.28**	**327**	⇑P	**Pn**	**21 07 48.6**	**+0.6**
	baz=19						
835A	**Beeville**	**19.49**	**330**	⇑P	**Pn**	**21 07 50.6**	**+0.1**
	baz=20						
933A	**Laredo**	**19.70**	**326**	⇓P	**Pn**	**21 07 52.4**	**-0.6**
	baz=20						
834A	**Tilden**	**19.72**	**328**	⇓P	**Pn**	**21 07 53.0**	**-0.3**
	baz=20						
539A	**Cross D Ranch,**	**19.80**	**340**	⇓P	**Pn**	**21 07 55.2**	**+1.0**
	baz=20						
735A	**Kenedy**	**19.95**	**331**	⇓P	**Pn**	**21 07 57.4**	**+1.4**
	baz=20						
TIGA	**Tifton**	**20.02**	**8**	⇓P	**Pn**	**21 07 57.4**	**+0.7**
	baz=20						
TIGA	**Tifton**	**20.02**	**8**	*e*P	**P**	**21 07 54.9**	**+0.2**
	comp=Z,130nm,0.9s						
HKT	**Hockley**	**20.06**	**337**	*e*P	**P**	**21 07 56.0**	**+0.9**
	comp=Z,69nm,1.0s						
636A	**Smothers Creek**	**20.15**	**334**	⇓P	Pn	21 07 58.6	+0.4
	baz=20						
538A	**Harpers Horsep**	**20.18**	**338**	⇓P	Pn	21 07 59.2	+0.6
	baz=20						
734A	**La Parita Cree**	**20.31**	**329**	⇑P	**P**	**21 07 58.3**	**+0.4**
	baz=20						
833A	**Chaparral WMA,**	**20.32**	**327**	⇑P	**P**	**21 07 59.2**	**+1.1**
	baz=20						
537A	**Green Hill Far**	**20.36**	**336**	⇓P	Pn	21 08 00.5	-0.2
	baz=20						
635A	**Leesville**	**20.39**	**332**	⇓P	**P**	**21 07 59.6**	**+0.9**
	baz=20						
439A	**Center Grove,**	**20.45**	**340**	⇓P	Pn	21 08 01.4	-0.4
	baz=20						
733A	**Divot King Ran**	**20.58**	**328**	⇓P	**P**	**21 08 01.7**	**+0.8**
	baz=21						
832A	**Faith Ranch, C**	**20.61**	**326**	⇓P	**P**	**21 08 02.0**	**+0.8**
	baz=21						
438A	**Sam Houston St**	**20.65**	**339**	⇓P	Pn	21 08 04.0	-0.1
	baz=21						
634A	**China Grove, S**	**20.65**	**331**	⇓P	**P**	**21 08 02.0**	**+0.4**
	baz=21						
536A	**Bastrop**	**20.67**	**334**	⇑P	**P**	**21 08 03.0**	**+1.3**
	baz=21						
340A	**Bronson**	**20.76**	**343**	⇓P	Pn	21 08 05.1	-0.3
	baz=21						
535A	**Dale**	**20.84**	**333**	⇑P	**P**	**21 08 05.0**	**+1.3**
	baz=21						
339A	**Huntington**	**20.88**	**342**	⇓P	Pn	21 08 06.1	-0.6
	baz=21						
732A	**Laxson Ranch,**	**20.95**	**326**	⇑P	**P**	**21 08 05.6**	**+0.7**
	baz=21,SNR=17						
633A	**Saathoff Ranch**	**21.12**	**329**	⇑P	**P**	**21 08 06.8**	**+0.1**
	baz=21,SNR=8.8						
338A	**Crockett**	**21.15**	**340**	⇓P	**P**	**21 08 08.9**	**+1.9**
	baz=21,SNR=9.5						
436A	**Wall Ranch, Ga**	**21.16**	**336**	⇑P	**P**	**21 08 08.6**	**+1.5**
	baz=21,SNR=5.5						
534A	**Blanco**	**21.25**	**331**	⇓P	**P**	**21 08 08.4**	**+0.2**
	baz=21,SNR=19						
337A	**Centerville**	**21.31**	**339**	⇑P	**P**	**21 08 10.4**	**+1.7**
	baz=21						
NATX	**Nacogdoches**	**21.31**	**342**	*e*P	**P**	**21 08 06.7**	**-2.0**
	comp=Z,99nm,0.8s						
LRAL	**Lakeview Retre**	**21.36**	**360**	*e*P	**P**	**21 08 08.4**	**-0.8**
	comp=Z,28nm,0.8s						
632A	**Uvalde**	**21.47**	**328**	⇓P	**P**	**21 08 12.6**	**+2.1**
	baz=22,SNR=12						
239A	**Gary**	**21.49**	**342**	⇓P	**P**	**21 08 12.1**	**+1.5**
	baz=22						
435B	**Jarrell**	**21.50**	**334**	⇑P	**P**	**21 08 12.1**	**+1.4**
	baz=22,SNR=6.4						
533A	**Kerrville**	**21.55**	**330**	⇑P	**P**	**21 08 12.1**	**+0.7**
	baz=22,SNR=17						
238A	**Jacksonville**	**21.68**	**341**	⇑P	**P**	**21 08 14.0**	**+1.3**
	baz=22						
336A	**Riesel**	**21.73**	**337**	⇑P	**P**	**21 08 13.8**	**+0.6**
	baz=22,SNR=26						
631A	**Perdido Creek**	**21.82**	**326**	⇓P	**P**	**21 08 14.9**	**+0.8**
	baz=22,SNR=38						
434A	**Burnet**	**21.82**	**333**	⇓P	**P**	**21 08 15.2**	**+0.9**
	baz=22,SNR=23						
335A	**Moody**	**21.87**	**335**	⇑P	**P**	**21 08 15.8**	**+1.1**
	baz=22,SNR=24						
GOGA	**Godfrey**	**21.97**	**8**	*e*P	**P**	**21 08 13.9**	**-1.9**
	comp=Z,38nm,0.9s						
PCRV	**Puerto La Cruz**	**21.98**	**91**	P	**P**	**21 08 16.5**	**+0.5**
	comp=Z,12nm,0.5s,baz=228,slow=4.2,SNR=8.5						
532A	**Rocksprings**	**22.03**	**329**	⇓P	**P**	**21 08 17.2**	**+0.7**
	baz=22,SNR=15						
433A	**Art**	**22.15**	**331**	⇓P	**P**	**21 08 17.6**	**-0.2**
	baz=22,SNR=24						
334A	**Lometa**	**22.25**	**334**	⇑P	**P**	**21 08 20.7**	**+1.9**
	baz=22,SNR=16						
JCT	**Junction City**	**22.27**	**330**	⇑P	**P**	**21 08 19.0**	**-0.1**
	baz=22,SNR=7.9						
JCT	**Junction City**	**22.27**	**330**	*e*P	**P**	**21 08 17.2**	**-1.8**
	comp=Z,28nm,0.8s						
138A	**Matatall Enter**	**22.28**	**342**	⇓P	**P**	**21 08 20.7**	**+1.7**
	baz=22,SNR=20						
531A	**Rocksprings**	**22.39**	**328**	⇑P	**P**	**21 08 22.6**	**+2.2**
	baz=22,SNR=5.3						
137A	**Heron Place, G**	**22.43**	**340**	⇓P	**P**	**21 08 23.5**	**+2.8**
	baz=22						
WHTX	**Lake Whitney,**	**22.50**	**336**	⇑P	**P**	**21 08 22.3**	**+0.8**
	baz=22,SNR=21						
WHTX	**Lake Whitney,**	**22.50**	**336**	*e*P	**P**	**21 08 21.1**	**-0.4**
	comp=Z,100nm,1.0s						
333A	**Richland Sprin**	**22.58**	**332**	⇑P	**P**	**21 08 22.5**	**+0.1**
	baz=23,SNR=45						
432A	**Menard**	**22.59**	**330**	⇓P	**P**	**21 08 22.6**	**+0.1**
	baz=23,SNR=11						
234A	**Clairette**	**22.79**	**335**	⇑P	**P**	**21 08 25.1**	**+0.5**
	baz=23,SNR=25						
530A	**J-C Ranch, Com**	**22.80**	**326**	⇑P	**P**	**21 08 25.6**	**+0.8**
	baz=23,SNR=37						
431A	**Sonora**	**22.84**	**328**	⇓P	**P**	**21 08 25.4**	**+0.3**
	baz=23,SNR=13						
OXF	**Oxford**	**22.94**	**355**	*e*P	**P**	**21 08 24.8**	**-1.3**
	comp=Z,46nm,0.8s						
332A	**Millersview**	**22.98**	**331**	⇑P	**P**	**21 08 27.2**	**+0.7**
	baz=23,SNR=27						
135A	**Vickery Place,**	**22.99**	**337**	⇑P	**P**	**21 08 26.6**	**+0.1**
	baz=23,SNR

comp=Z,138nm,1.0s
Z29A Hungry Hill Ra 25.46 330 ⇑P P 21 08 50.5 +0.8
baz=26
TUL1 Leonard 25.51 343 ⇑P P 21 08 49.8 -0.3
baz=26,SNR=24
TUL1 Leonard 25.51 343 eP P 21 08 48.9 -1.2
comp=Z,72nm,0.9s
W34A Bridge Creek, 25.52 339 ⇑P P 21 08 50.5 +0.4
baz=26,SNR=37
W34A Bridge Creek, 25.52 339 eP P 21 08 49.6 -0.6
comp=Z,196nm,0.9s
Y30A Stafford Cattl 25.59 332 ⇓P P 21 08 51.2 +0.4
baz=26
V35A Meyer Ranch, C 25.69 341 ⇓P P 21 08 51.1 -0.5
baz=26,SNR=13
W33A Caddo, Fort Co 25.69 338 ⇓P P 21 08 52.8 +1.1
baz=26,SNR=33
Z28A Tucker Farm, M 25.82 329 ⇓P P 21 08 53.7 +0.7
baz=26,SNR=43
X31A McDonald Ranch 25.83 335 ⇑P P 21 08 54.0 +1.0
baz=26,SNR=19
Y29A Porterfield Fa 25.94 331 ⇓P P 21 08 54.8 +0.7
baz=26,SNR=19
W32A Sentinel 25.96 337 ⇓P P 21 08 54.8 +0.6
baz=26,SNR=72
V34A Guthrie 25.98 340 ⇓P P 21 08 53.6 -0.7
baz=26,SNR=16
V34A Guthrie 25.98 340 eP P 21 08 52.9 -1.4
comp=Z,105nm,0.8s
X30A Coker Ranch, T 26.06 333 ⇑P P 21 08 55.2 +0.1
baz=26,SNR=34
SIUC Southern Illin 26.11 356 eP P 21 08 54.7 -0.7
comp=Z,22nm,0.8s
V33A Lossen Ranch, 26.23 339 ⇓P P 21 08 56.2 -0.4
baz=26,SNR=21
Y28A McKinney Farm, 26.25 330 ⇑P P 21 08 57.0 +0.1
baz=26,SNR=24
MNTX Cornudas Mount 26.27 323 ⇑P P 21 08 57.0 0.0
baz=26,SNR=24
W31A Holland Ranch, 26.30 335 ⇑P P 21 08 58.3 +1.0
baz=26,SNR=5.9
VWCC Virginia Weste 26.32 13 eP P 21 08 56.8 -0.6
V32A Arapaho 26.41 338 ⇑P P 21 08 59.3 +1.1
baz=26,SNR=36
X29A Tulia 26.43 332 ⇓P P 21 08 59.2 +0.6
baz=26,SNR=32
U34A Anderson Ranch 26.53 341 ⇓P P 21 08 58.8 -0.4
baz=26,SNR=17
U34A Anderson Ranch 26.53 341 eP P 21 08 57.6 -1.6
comp=Z,48nm,0.8s
WCI Wyandotte Cave 26.55 1 eP P 21 08 58.4 -1.1
comp=Z,16nm,0.8s
W30A Crocket Farms 26.56 334 ⇑P P 21 09 00.4 +0.8
baz=27
MSTX Muleshoe 26.56 330 ⇑P P 21 08 59.5 -0.2
baz=27,SNR=42
MSTX Muleshoe 26.56 330 eP P 21 08 59.2 -0.5
comp=Z,77nm,0.9s
U33A Lingo Farm, Me 26.72 340 ⇑P P 21 09 00.8 -0.1
baz=27,SNR=22
X28A Dimmitt 26.73 331 ⇑P P 21 09 01.1 -0.1
baz=27
V31A Spring Creek L 26.77 336 ⇑P P 21 09 02.0 +0.6
baz=27,SNR=60
AMTX Amarillo 26.79 332 ⇓P P 21 09 01.9 +0.2
baz=27
AMTX Amarillo 26.79 332 eP P 21 09 01.0 -0.7
comp=Z,59nm,0.9s
W29A Amarillo 26.97 333 ⇑P P 21 09 03.6 +0.3
baz=27
U32A Winter Ranch, 26.98 338 ⇑P P 21 09 03.4 +0.1
baz=27,SNR=14
OLIL Olney 27.07 358 eP P 21 09 04.2 +0.1
comp=Z,17nm,0.6s
V30A Spur Ranch, Mi 27.10 335 ⇑P P 21 09 04.6 +0.1
baz=27
S36A Lake Cedric, C 27.16 345 ⇓P P 21 09 04.6 -0.3
baz=27,SNR=33
U31A Nine Bar Ranch 27.29 337 ⇓P P 21 09 06.4 +0.2
baz=27,SNR=8.1
S35A Otter Creek Ra 27.32 344 ⇓P P 21 09 06.0 -0.3
baz=27,SNR=38
W28A Vega 27.34 332 ⇓P P 21 09 08.3 +1.6
baz=27
T33A Patterson Ranc 27.35 340 ⇓P P 21 09 06.4 -0.2
baz=27
R37A Teagarden Farm 27.54 347 ⇓P P 21 09 07.7 -0.6
baz=28,SNR=8.1
V29A Stinnett 27.55 334 ⇑P P 21 09 11.8 +3.3
baz=28
S34A Willow Spring 27.56 342 ⇓P P 21 09 09.0 +0.4
baz=28
T32A Huddler Ranch, 27.67 339 ⇑P P 21 09 09.8 +0.2
baz=28,SNR=6.3
R36A Gordon, Harris 27.71 345 ⇓P P 21 09 09.4 -0.4
baz=28,SNR=14
S33A Kaszmaul Farm, 27.74 341 ⇑P P 21 09 09.8 -0.3
baz=28,SNR=8.0
U30A WK&E Inc. Balk 27.75 336 ⇑P P 21 09 11.7 +1.4
baz=28,SNR=25
V28A Channing 27.75 333 ⇓P P 21 09 11.3 +0.9
baz=28,SNR=10
T31A Randall Ranch, 27.87 338 ⇓P P 21 09 11.6 +0.3
baz=28,SNR=7.1
V27A Dan Oppiter Fa 28.04 332 ⇑P P 21 09 14.7 +1.8
baz=28
T30A Plains 28.15 337 ⇑P P 21 09 14.1 +0.2
baz=28
S31A Mullinville 28.26 339 ⇑P P 21 09 14.7 -0.1
baz=28
U28A Mallet 28.28 333 ⇓P P 21 09 14.9 -0.1
baz=28
121A Cookes Peak, D 28.31 321 ⇑P P 21 09 16.8 +1.3
baz=28,SNR=9.5
R33A Olander Ranch, 28.39 342 ⇓P P 21 09 15.7 -0.2
baz=28,SNR=5.7
319A Douglas 28.52 317 ⇑P P 21 09 20.0 +2.7
baz=29
V26A Tequesquite Ra 28.52 330 ⇓P P 21 09 19.0 +1.7
baz=28
T29A Hugoton 28.55 336 ⇓P P 21 09 17.6 +0.2
baz=29,SNR=5.8
U27A Thompson Grove 28.58 333 ⇑P P 21 09 21.7 +3.9
baz=29,SNR=9.3
S30A Montezuma 28.64 337 ⇓P P 21 09 20.2 +2.0
baz=29,SNR=5.7
SFIN Lafayette 28.69 360 ⇑P P 21 09 18.4 -0.1
baz=29
R32A Long Quarter, 28.72 341 ⇑P P 21 09 19.1 +0.3
baz=29,SNR=6.3
KSU1 Kansas State U 28.73 344 ⇓P P 21 09 18.5 -0.4
baz=29,SNR=11
KSU1 Kansas State U 28.73 344 eP P 21 09 17.2 -1.7
comp=Z,59nm,0.9s
T28A Walsh 28.86 334 ⇓P P 21 09 20.3 +0.1
baz=29
R31A Burdett 28.88 339 ⇓P P 21 09 20.7 +0.4
baz=29
S29A Ulysses 28.88 336 ⇑P P 21 09 25.6 +5.3
baz=29,SNR=6.4
Q33A Connelly Farm, 28.98 342 ⇓P P 21 09 21.0 -0.1
baz=29,SNR=12
U26A Atchley Ranch, 28.98 331 ⇓P P 21 09 22.5 +1.1
baz=29,SNR=7.7
R30A Dighton 29.14 338 ⇓P P 21 09 23.5 +0.9
baz=29,SNR=9.7
S28A Manter 29.16 335 ⇓P P 21 09 22.8 -0.1
baz=29
Q32A Meitler Ranch, 29.19 341 ⇓P P 21 09 23.8 +0.8
baz=29,SNR=7.1
LAZ Ladron 29.23 324 eP P 21 09 22.6 -1.1
ANMO Albuquerque 29.24 326 P P 21 09 25.5 +1.7
comp=Z,2.4nm,0.7s,baz=131,slow=11,SNR=5.1
ANMO PcP PcP 21 12 31.6 +1.4
comp=Z,2.3nm,0.8s,baz=140,slow=4.8,SNR=3.4
ANMO Albuquerque 29.24 326 eP P 21 09 23.2 -0.5
comp=Z,8.0nm,0.9s
ANMO ePcP PcP 21 12 31.0 +0.8
P33A Williams Farm, 29.34 343 ⇓P P 21 09 25.0 +0.6
baz=29,SNR=11
Q31A Ellis 29.48 340 ⇓P P 21 09 26.0 +0.4
baz=30
S27A Las Animas 29.66 334 ⇓P P 21 09 27.3 -0.2
baz=30
Q30A Quinter 29.73 339 ⇑P P 21 09 27.7 -0.2
baz=30
R28A Tribune 29.77 336 ⇓P P 21 09 28.4 +0.1
baz=30,SNR=16

P32A Huiting Farm, 29.78 342 ⇑P P 21 09 28.1 -0.1
baz=30,SNR=16
T25A Trinidad 29.90 331 ⇑P P 21 09 31.2 +1.6
baz=30,SNR=7.7
T25A Trinidad 29.90 331 eP P 21 09 30.0 +0.5
comp=Z,8.8nm,0.8s
Q29A Oakley 29.93 338 ⇑P P 21 09 29.8 +0.1
baz=30
P31A Stockton 29.94 341 ⇓P P 21 09 29.7 0.0
baz=30
TUC Tucson 30.10 317 eP P 21 09 31.6 +0.4
comp=Z,7.8nm,0.9s
R27A Eads 30.13 335 ⇓P P 21 09 33.8 +2.3
baz=30
P30A Selden 30.25 339 ⇑P P 21 09 35.3 +2.8
baz=30
O32A Brockman Farm, 30.27 343 ⇑P P 21 09 32.8 +0.2
baz=30,SNR=9.5
S25A Robets Cordova 30.33 332 ⇑P P 21 09 34.3 +0.9
baz=30
Q28A Sharon Springs 30.40 337 ⇑P P 21 09 34.2 +0.3
baz=30
R26A Arlington 30.42 334 ⇓P P 21 09 35.0 +1.0
baz=30
O31A Woolen Ranch, 30.49 341 ⇑P P 21 09 35.0 +0.4
baz=30,SNR=9.6
P29A Atwood 30.54 338 ⇓P P 21 09 35.6 +0.5
baz=31
R25A Fountain Ranch 30.66 333 ⇑P P 21 09 36.8 +0.6
baz=31
KSCO Kaye Shedlock' 30.68 336 ⇓P P 21 09 36.7 +0.4
baz=31
KSCO Kaye Shedlock' 30.68 336 eP P 21 09 36.0 -0.4
comp=Z,18nm,0.9s
O30A MW Ranch, Wils 30.75 340 ⇓P P 21 09 37.5 +0.6
baz=31
P28A Saint Francis 30.82 337 ⇓P P 21 09 37.8 +0.3
baz=31
SDCO Great Sand Dun 30.90 331 ⇑P P 21 09 39.9 +1.3
baz=31,SNR=24
O29A 4D Ranch, Culb 30.96 339 ⇑P P 21 09 39.4 +0.7
baz=31
Q26A Hugo 30.97 334 ⇓P P 21 09 39.0 0.0
baz=31
X18A Snowflake 30.99 321 ⇑P P 21 09 42.2 +3.0
baz=31
N31A Bailey Ranch, 30.99 342 ⇑P P 21 09 39.4 +0.4
baz=31
R24A Sanders Place, 31.11 332 ⇓P P 21 09 42.2 +2.0
baz=31
S23A Nye Farm, Mont 31.12 330 ⇑P P 21 09 39.8 -0.5
baz=31
SAML Samuel 31.23 130 eP P 21 09 40.8 -0.4
comp=Z,9.8nm,0.6s
W18A Petrified Fore 31.25 322 ⇓P P 21 09 44.6 +3.0
baz=31
Q25A Bedland, Calha 31.28 333 ⇑P P 21 09 42.2 +0.5
baz=31
BGNE Belgrade 31.30 344 ⇓P P 21 09 42.3 +0.6
baz=31
BGNE Belgrade 31.30 344 eP P 21 09 41.1 -0.5
comp=Z,104nm,0.8s
O28A Krutsinger Ran 31.31 338 ⇓P P 21 09 42.5 +0.7
baz=31
JFWS Jewell Farm 31.36 355 eP P 21 09 41.3 -0.8
comp=Z,26nm,0.9s
R23A Moffat 31.41 331 ⇓P P 21 09 44.3 +1.3
baz=31,SNR=14
P26A Davis Ranch, A 31.43 335 ⇑P P 21 09 44.4 +1.3
baz=32
M31A Lambtecht Ranc 31.48 343 ⇓P P 21 09 43.8 +0.6
baz=32
S22A 4UR Ranch, Cre 31.56 329 ⇓P P 21 09 45.4 +1.1
baz=32,SNR=11
S22A 4UR Ranch, Cre 31.56 329 eP P 21 09 45.4 +1.1
comp=Z,6.6nm,0.8s
S22A ePcP PcP 21 12 36.6 +0.2
P25A Willow Gulch B 31.74 334 ⇑P P 21 09 47.8 +2.0
baz=32
X16A Lo Mia Camp, P 31.84 320 ⇓P P 21 09 48.6 +1.9
baz=32,SNR=11
BINY Binghamton 31.98 16 eP P 21 09 47.5 -0.1
comp=Z,311nm,2.5s
MVCO Mesa Verde 32.03 326 ⇓P P 21 09 49.5 +1.1
baz=32
MVCO Mesa Verde 32.03 326 eP P 21 09 49.3 +0.9
comp=Z,13nm,0.9s
MVCO ePcP PcP 21 12 38.7 +1.1
L31A Butterfield Fa 32.20 343 ⇑P P 21 09 49.6 0.0
baz=32,SNR=8.0
L30A Spencer Herefo 32.25 342 ⇑P P 21 09 51.9 +1.9
baz=32
P23A Jefferson 32.36 332 ⇑P P 21 09 52.5 +1.1
baz=32,SNR=12
WUAZ Wupatki 32.51 321 ⇓P P 21 09 55.4 +2.8
baz=32
WUAZ Wupatki 32.51 321 eP P 21 09 53.0 +0.4
comp=Z,14nm,0.9s
WUAZ ePcP PcP 21 12 40.6 +1.8
Y14A Wickenburg 32.57 317 ⇑P P 21 09 54.7 +1.8
baz=33
ISCO Idaho Springs 32.61 333 ⇓P P 21 09 54.4 +0.9
baz=33,SNR=5.4
ISCO Idaho Springs 32.61 333 eP P 21 09 52.6 -0.9
comp=Z,9.2nm,1.4s
SMCO Snowmass 32.74 331 eP P 21 09 54.5 -0.3
comp=Z,12nm,1.1s
PV01 Paradox Valley 32.75 328 eP P 21 09 53.5 -1.2
K30A Basset 32.88 343 ⇑P P 21 09 56.1 +0.6
baz=33,SNR=13
P22A Eagle 32.97 331 ⇓P P 21 09 58.3 +1.7
baz=33
PV05 Paradox Valley 32.99 327 eP P 21 09 55.5 -1.3
O23A Lake Granby, G 33.08 333 ⇓P P 21 09 59.1 +1.5
baz=33,SNR=9.0
ECSD EROS Data Cent 33.11 347 ⇓P P 21 09 56.3 -1.3
baz=33,SNR=28
ECSD EROS Data Cent 33.11 347 eP P 21 09 55.5 -2.0
comp=Z,43nm,0.9s
N24A Carr 33.13 335 ⇓P P 21 09 60.0 +2.0
baz=33
K29A Lazy Trails An 33.17 342 ⇑P P 21 09 59.0 +0.9
baz=33,SNR=10
PV10 Paradox Valley 33.18 327 eP P 21 09 57.7 -0.8
PV09 Paradox Valley 33.32 327 eP P 21 09 59.8 +0.1
PV09 ePcP PcP 21 12 42.2 +1.0
O22A Kremmling 33.32 332 ⇓P P 21 10 00.8 +1.1
baz=33,SNR=10
LPAZ La Paz 33.37 146 P P 21 10 02.6 +1.9
comp=Z,1.0nm,0.5s,baz=109,slow=3.5,SNR=5.2
LPAZ PcP PcP 21 12 44.9 +2.8
comp=Z,0.8nm,0.5s,baz=315,slow=1.4,SNR=3.2
J30A Dallas 33.45 343 ⇑P P 21 10 00.7 +0.2
baz=34,SNR=5.8
K28A Ten Mile Ranch 33.46 341 ⇑P P 21 10 02.3 +1.6
baz=34
Y12C Blythe 33.48 316 ⇓P P 21 10 05.3 +4.4
baz=34
PDMCI Parker Dam,Lak 33.54 317 ⇑P P 21 10 02.8 +1.5
baz=34
N23A Red Feather La 33.65 334 ⇑P P 21 10 03.7 +1.1
baz=34
N23A Red Feather La 33.65 334 eP P 21 10 02.6 +0.1
comp=Z,28nm,1.8s
U15A North Rim 33.67 322 ⇑P P 21 10 04.7 +1.9
baz=34
SADO Sadowa 33.76 10 P P 21 10 01.8 -1.3
comp=Z,2.1nm,0.4s,baz=222,slow=13,SNR=4.5
J29A Okreek 33.76 342 ⇑P P 21 10 03.6 +0.4
baz=34,SNR=19
PHWY Pilot Hill 33.77 335 eP P 21 10 03.3 -0.3
comp=Z,6.6nm,0.8s
N22A Wattenberg Ran 33.80 333 ⇓P P 21 10 05.7 +1.9
baz=34
W13A Hualapai Mount 33.84 318 ⇓P P 21 10 08.1 +3.8
baz=34
SPMN Marine on St. 33.91 353 ⇓P P 21 10 02.9 -1.4
baz=34,SNR=22
SPMN Marine on St. 33.91 353 eP P 21 10 02.1 -2.2
comp=Z,59nm,0.5s
I30A Oacoma 33.98 344 ⇑P P 21 10 04.5 -0.5
baz=34,SNR=13
J28A Allard Ranch, 34.06 341 ⇓P P 21 10 06.9 +1.1
baz=34,SNR=6.6
BC3 Big Chuckawall 34.07 315 ⇓P P 21 10 08.1 +2.0
baz=34
O20A White River Ci 34.10 330 ⇑P P 21 10 08.0 +1.6
baz=34,SNR=13

O20A White River Ci 34.10 330 eP P 21 10 06.6 +0.2
comp=Z,29nm,0.8s
IRM Iron Mountain 34.14 316 ⇑P P 21 10 09.3 +2.6
baz=34
I29A Vivian Onida 34.32 343 ⇑P P 21 10 08.0 0.0
baz=34,SNR=10
BRSD Miller 34.34 345 ⇑P P 21 10 07.7 -0.5
baz=34,SNR=9.7
BRSD Miller 34.34 345 eP P 21 10 06.6 -1.6
comp=Z,160nm,0.8s
M22A Cedar Creek Ra 34.34 333 ⇑P P 21 10 09.1 +0.6
baz=34
MONP Monument Peak, 34.34 313 ⇑P P 21 10 11.4 +2.8
baz=34
KNB Kanab 34.38 322 eP P 21 10 09.2 +0.4
comp=Z,15nm,1.0s
PTN Potsdam (NY) 34.46 15 eP P 21 10 08.9 -0.3
comp=Z,34nm,0.9s
COWI Conover 34.46 357 eP P 21 10 07.2 -2.1
comp=Z,19nm,0.8s
SRU San Rafael Swe 34.50 327 eP P 21 10 10.0 +0.1
comp=Z,16nm,0.8s
I28A Midland 34.56 342 ⇑P P 21 10 10.6 +0.5
baz=35,SNR=20
J26A Sides Ranch, S 34.57 339 ⇓P P 21 10 10.9 +0.7
baz=35,SNR=5.6
LONY Lake Ozonia 34.61 16 eP P 21 10 10.2 -0.3
comp=Z,19nm,1.0s
LDFC Landfair 34.64 317 eP P 21 10 13.6 +2.6
comp=Z,16nm,1.0s
N20A Spence Gulch, 34.65 331 ⇓P P 21 10 12.4 +1.1
baz=35,SNR=15
L22A Ellis Ranch, M 34.79 334 ⇓P P 21 10 14.1 +1.8
baz=35,SNR=6.8
GMRC Granite Mounta 34.84 316 ⇓P P 21 10 14.4 +1.6
baz=35
H29A Onida 34.85 343 ⇓P P 21 10 12.0 -0.6
baz=35,SNR=5.2
J25A Sunshine Ranch 34.90 338 ⇓P P 21 10 13.4 +0.2
baz=35
I27A Quinn 34.90 341 ⇓P P 21 10 14.7 +1.6
baz=35,SNR=8.5
TMUT Trail Mountain 35.01 326 eP P 21 10 15.3 +0.9
comp=Z,14nm,1.0s
TMUT ePcP PcP 21 12 48.0 +2.0
MVU Marysvale 35.01 324 eP P 21 10 15.7 +1.3
comp=Z,5.9nm,0.9s
MVU ePcP PcP 21 12 47.8 +1.9
G30A Faulkton 35.03 345 ⇓P P 21 10 13.8 -0.4
baz=35,SNR=5.1
K23A Bowen Ranch, D 35.05 336 ⇑P P 21 10 15.4 +0.9
baz=35
CCUT Cedar City 35.05 322 eP P 21 10 17.4 +2.6
comp=Z,7.1nm,0.9s
CCUT ePcP PcP 21 12 48.2 +2.1
H28A Mission Ridge 35.13 342 ⇑P P 21 10 15.0 0.0
baz=35
I26A New Underwood 35.13 340 ⇑P P 21 10 16.5 +1.4
baz=35
J24A Dixon Ranch, L 35.16 337 ⇓P P 21 10 17.1 +1.7
baz=35
ARUT Antelope Range 35.26 322 eP P 21 10 17.2 +0.8
K22A Casper 35.33 335 ⇑P P 21 10 18.0 +1.1
baz=35
K22A Casper 35.33 335 eP P 21 10 17.1 +0.1
comp=Z,11nm,1.0s
H27A Howes 35.41 341 ⇑P P 21 10 18.0 +0.5
baz=35,SNR=16
I25A Rochford 35.42 339 ⇓P P 21 10 19.2 +1.5
baz=35,SNR=9.8
SHPR Sheep Range 35.52 319 eP P 21 10 17.1 -1.6
SHPR ePcP PcP 21 12 49.0 +1.6
I24A Kuemmerle Ranc 35.60 338 ⇓P P 21 10 20.2 +1.0
baz=36
RSSD Black Hills 35.62 339 eP P 21 10 19.1 -0.3
comp=Z,8.9nm,0.9s
K21A Alcova 35.63 334 ⇑P P 21 10 20.2 +0.6
baz=36
F30A Leola 35.66 345 ⇓P P 21 10 18.8 -0.7
baz=36
MPU Maple Canyon 35.75 327 eP P 21 10 20.5 -0.2
comp=Z,21nm,0.9s
MPU ePcP PcP 21 12 49.3 +1.3
DAU Daniels Canyon 35.84 328 eP P 21 10 19.1 -2.3
DAU ePcP PcP 21 12 50.5 +2.0
F29A Eureka 35.86 345 ⇓P P 21 10 20.3 -0.9
baz=36,SNR=6.7
H25A Fruitdale 35.90 340 ⇑P P 21 10 22.7 +1.0
baz=36
BFSC Mount Baldy Ra 35.93 314 ⇓P P 21 10 26.9 +4.7
baz=36
J22A Midwest 35.94 336 ⇑P P 21 10 23.1 +0.9
baz=36
G27A Dupree 36.04 342 ⇑P P 21 10 23.5 +0.7
baz=36,SNR=6.5
JLU Jordanelle 36.07 328 eP P 21 10 22.4 -1.0
comp=Z,11nm,0.8s
JLU ePcP PcP 21 12 50.6 +1.5
F28A McLaughlin 36.14 344 ⇓P P 21 10 23.4 -0.2
baz=36,SNR=7.8
G26A Maurine 36.17 341 ⇑P P 21 10 24.6 +0.7
baz=36,SNR=6.1
E30A Jud 36.26 346 ⇓P P 21 10 23.9 -0.7
baz=36,SNR=10
J21A Lysite 36.29 334 ⇓P P 21 10 26.6 +1.4
baz=36,SNR=19
CTU Camp Tracy 36.30 327 eP P 21 10 24.9 -0.4
comp=Z,16nm,0.8s
H24A Dirks Ranch, A 36.34 339 ⇓P P 21 10 26.7 +1.2
baz=36,SNR=8.8
I22A 9 Mile Ranch, 36.34 336 ⇓P P 21 10 26.9 +1.3
baz=36
TPNV Topopah Spring 36.48 319 ⇓P P 21 10 29.4 +2.5
baz=36,SNR=12
TPNV Topopah Spring 36.48 319 eP P 21 10 26.8 -0.1
comp=Z,10nm,0.9s
TPNV ePcP PcP 21 12 52.2 +2.0
E29A Napoleon 36.50 345 ⇓P P 21 10 25.9 -0.8
baz=36,SNR=5.3
F27A Lemmon 36.51 342 ⇓P P 21 10 27.4 +0.5
baz=36,SNR=6.7
DUG Dugway, Tooele 36.52 326 ⇓P P 21 10 28.8 +1.7
baz=36
DUG Dugway, Tooele 36.52 326 eP P 21 10 27.4 +0.3
comp=Z,8.9nm,0.9s
J20A Shoshoni 36.57 334 ⇑P P 21 10 29.1 +1.6
baz=37,SNR=11
I21A Big Trails, Te 36.61 335 ⇓P P 21 10 28.5 +0.7
baz=37
F26A Lodgepole 36.69 342 ⇓P P 21 10 29.1 +0.7
baz=37
BW06 Boulder Array 36.76 332 eP P 21 10 28.9 -0.4
comp=Z,8.4nm,0.8s
PD31 Pinedale Array 36.76 332 eP P 21 10 29.2 0.0
PD31 ePcP PcP 21 12 51.3 +0.2
PDAR Pinedale Array 36.76 332 P P 21 10 29.2 0.0
comp=Z,9.2nm,0.8s,baz=128,slow=10,SNR=57
PDAR PcP PcP 21 12 51.3 +0.2
comp=Z,1.2nm,0.8s,baz=121,slow=4.8,SNR=3.7
E28A Huff 36.77 344 ⇑P P 21 10 28.9 -0.2
baz=37
D30A Buchanan 36.79 347 ⇓P P 21 10 28.6 -0.5
baz=37,SNR=12
MPMC Manual Prospec 36.79 317 ⇑P P 21 10 30.9 +1.3
baz=37
HWUT Hardware Ranch 36.87 329 eP P 21 10 30.5 +0.4
comp=Z,30nm,0.8s
HWUT ePcP PcP 21 12 51.7 +0.4
H22A Clearmont 36.88 337 ⇑P P 21 10 30.9 +0.8
baz=37
E27A Carson 36.88 343 ⇓P P 21 10 30.3 +0.3
baz=37,SNR=11
R11A Troy Canyon, C 36.91 321 ⇓P P 21 10 32.0 +1.4
baz=37
R11A Troy Canyon, C 36.91 321 eP P 21 10 28.0 -2.6
comp=Z,6.0nm,1.0s
J19A Crowheart 36.92 333 ⇑P P 21 10 30.5 -0.1
baz=37,SNR=7.7
DAC Darwin (Calif) 36.98 317 eP P 21 10 30.3 -0.9
comp=Z,3.0nm,0.8s
DAC ePcP PcP 21 12 53.5 +1.7
G23A Biddle 37.03 338 ⇓P P 21 10 31.1 -0.3
baz=37
I20A Worland 37.07 334 ⇓P P 21 10 32.5 +0.7
baz=37,SNR=10
BGU Big Grassy Mou 37.15 327 eP P 21 10 33.0 +0.5
comp=Z,13nm,1.0s
H21A Big Horn, Sher 37.18 336 ⇑P P 21 10 32.8 +0.2

baz=37,SNR=10
E26A Carlson Angus 37.18 342 ⇑P P 21 10 32.3 -0.2
baz=37
C30A Mose, Pekin 37.29 347 ⇑P P 21 10 32.7 -0.7
baz=37,SNR=18
D28A Regan 37.31 345 ⇑P P 21 10 33.4 -0.2
baz=37,SNR=10
AGMN Agassiz Nation 37.36 350 ⇓P P 21 10 32.9 -1.1
baz=37,SNR=11
AGMN Agassiz Nation 37.36 350 *e*P P 21 10 32.2 -1.8
comp=Z,27nm,0.8s
G22A Birney 37.38 337 ⇑P P 21 10 34.2 -0.2
baz=37
H20A Greybull 37.45 335 ⇑P P 21 10 34.8 -0.2
baz=38,SNR=7.0
F23A Volborg 37.49 339 ⇑P P 21 10 35.3 +0.1
baz=38
D27A Center 37.49 344 ⇓P P 21 10 34.6 -0.6
baz=38,SNR=5.9
AHID Auburn Hatcher 37.49 330 *e*P P 21 10 36.0 +0.5
comp=Z,16nm,0.8s
E25A Miller Ranch, 37.50 341 ⇑P P 21 10 35.4 +0.1
baz=38
SIV San Ignacio 37.51 136 P P 21 10 37.6 +2.0
comp=Z,36nm,0.6s,baz=314,slow=8.6,SNR=85
SIV PcP PcP 21 12 54.5 +1.1
comp=Z,2.7nm,0.6s,baz=242,slow=1.7,SNR=6.0
I19A Meeteetse 37.51 334 ⇓P P 21 10 37.5 +1.9
baz=38,SNR=6.4
HVU Hansel Valley 37.62 328 *e*P P 21 10 36.3 -0.2
comp=Z,15nm,0.9s
HVU *e*PcP PcP 21 12 54.7 +1.2
D26A Manning 37.68 343 ⇑P P 21 10 37.3 +0.5
baz=38,SNR=7.6
MDND Maddock 37.68 346 ⇑P P 21 10 36.4 -0.4
baz=38,SNR=6.0
MDND Maddock 37.68 346 *e*P P 21 10 35.5 -1.2
comp=Z,572nm,0.8s
C28A Hausauer Farms 37.75 345 ⇑P P 21 10 37.1 -0.2
baz=38
TPH Tonopah 37.77 320 *e*P P 21 10 37.7 -0.2
comp=Z,7.7nm,1.3s
REDW Red Top Meadow 37.83 331 *e*P P 21 10 38.2 -0.1
comp=Z,38nm,0.8s
E24A Baker 37.84 340 ⇓P P 21 10 38.8 +0.7
baz=38,SNR=5.9
F22A Rosebud 37.85 338 ⇑P P 21 10 38.3 +0.1
baz=38
SNOW Snow King Moun 37.86 331 *e*P P 21 10 39.1 +0.5
comp=Z,31nm,0.9s
LOHW Long Hollow 37.90 332 *e*P P 21 10 38.9 -0.1
comp=Z,12nm,1.1s
B30A Myrvik Farm, E 37.97 348 ⇑P P 21 10 38.0 -1.1
baz=38,SNR=14
TPAW Teton Pass 37.97 331 *e*P P 21 10 39.8 +0.3
comp=Z,17nm,0.8s
H19A Powell 38.01 334 ⇑P P 21 10 39.9 +0.1
baz=38
D25A Fairfield 38.05 342 ⇓P P 21 10 41.2 +1.2
baz=38
FXWY Fox Creek 38.12 331 *e*P P 21 10 40.1 -0.7
comp=Z,5.7nm,0.8s
I17A Pilgrim Ck. 38.13 332 ⇓P P 21 10 42.3 +1.5
baz=38
G20A Bridger 38.14 336 ⇓P P 21 10 40.6 -0.2
baz=38,SNR=5.6
B29A Wagenman Farm, 38.21 347 ⇑P P 21 10 40.8 -0.4
baz=38,SNR=20
ELK Elko 38.25 324 *e*P P 21 10 42.4 +0.5
comp=Z,8.2nm,0.8s
ELK *e*PcP PcP 21 12 57.0 +1.4
IMW Indian Meadow 38.28 332 *e*P P 21 10 42.1 -0.1
comp=Z,6.8nm,0.8s
IMW *e*PcP PcP 21 12 57.1 +1.3
E22A Miles City 38.30 339 ⇓P P 21 10 42.3 +0.3
baz=38
C26A Wahner Farm, P 38.30 344 ⇓P P 21 10 42.2 +0.2
baz=38,SNR=9.2
FLWY Flagg Ranch 38.31 332 *e*P P 21 10 41.7 -0.6
comp=Z,14nm,0.9s
H18A Shoshone NF, C 38.31 334 ⇓P P 21 10 42.7 +0.4
baz=38,SNR=9.8
D24A Glendive 38.34 341 ⇑P P 21 10 43.0 +0.7
baz=38,SNR=7.1
B28A Dugan Ranch, T 38.43 346 ⇓P P 21 10 43.0 0.0
baz=38,SNR=7.1
A30A Hoffart Farm, 38.43 348 ⇑P P 21 10 42.1 -0.9
baz=38,SNR=5.9
H17A Grant Village 38.49 333 ⇓P P 21 10 45.2 +1.3
baz=38
H17A Grant Village 38.49 333 *e*P P 21 10 45.3 +1.4
comp=Z,61nm,2.3s
RLMT Red Lodge 38.50 334 *e*P P 21 10 43.3 -0.6
comp=Z,7.7nm,0.7s
C25A Freed Ranch, W 38.54 342 ⇓P P 21 10 44.1 +0.1
baz=38,SNR=6.2
LKWY Lake 38.55 333 *e*P P 21 10 43.9 -0.4
comp=Z,60nm,2.3s
F20A Billings 38.59 336 ⇓P P 21 10 45.3 +0.8
baz=39
A29A Manning Farm, 38.61 347 ⇑P P 21 10 44.0 -0.6
baz=39,SNR=27
B27A Peters Farms, 38.61 345 ⇓P P 21 10 44.5 0.0
baz=39
YFT Old Faithful 38.66 332 *e*P P 21 10 46.0 +0.7
comp=Z,36nm,1.5s
YFT *e*PcP PcP 21 12 57.4 +0.5
NV01 Mina Array Sit 38.67 319 *e*P P 21 10 47.0 +1.5
NV01 *e*PcP PcP 21 12 58.8 +1.8
NVAR Mina Array Bea 38.67 319 P P 21 10 47.0 +1.5
comp=Z,2.2nm,0.7s,baz=130,slow=7.3,SNR=18
NVAR PcP PcP 21 12 58.8 +1.8
comp=Z,4.6nm,0.7s,baz=133,slow=3.7,SNR=18
D23A Lindsay 38.68 340 ⇑P P 21 10 46.0 +0.8
baz=39
C24A Savage 38.73 341 ⇑P P 21 10 46.5 +0.9
baz=39
B26A Jensen Ranch, 38.84 344 ⇑P P 21 10 46.9 +0.3
baz=39
YMR Madison River 38.88 332 *e*P P 21 10 47.2 +0.1
comp=Z,14nm,0.9s
F19A Roth Farm, Mol 38.95 335 ⇑P P 21 10 47.9 +0.4
baz=39,SNR=9.4
D22A Cohagen 38.99 339 ⇓P P 21 10 48.3 +0.5
baz=39,SNR=6.4
E20A Meyer Farm, Mu 39.16 337 ⇓P P 21 10 49.9 +0.6
baz=39,SNR=14
GCMT Greycliff 39.20 335 *e*P P 21 10 48.0 -1.7
BMN Battle Mountai 39.20 323 *e*P P 21 10 49.7 -0.1
comp=Z,15nm,0.9s
C23A Lambert 39.22 341 ⇓P P 21 10 50.5 +0.9
baz=39,SNR=5.8
QLMT Earthquake Lak 39.22 332 *e*P P 21 10 50.2 +0.3
QLMT *e*PcP PcP 21 12 59.5 +1.0
ULM Lac du Bonnet 39.26 351 P P 21 10 47.8 -2.1
comp=Z,29nm,0.8s,baz=171,slow=9.0,SNR=47
A26A Wade Farm, Ken 39.27 344 ⇓P P 21 10 50.0 0.0
baz=39
E19A Rath Farm, Rou 39.38 336 ⇓P P 21 10 51.3 +0.2
baz=39,SNR=6.1
C22A Vida 39.40 340 ⇓P P 21 10 51.9 +0.7
baz=39,SNR=7.5
WAKR Walker 39.44 318 *e*P P 21 10 50.8 -1.2
DGMT Dagmar 39.50 342 ⇓P P 21 10 52.1 +0.1
baz=40,SNR=8.8
DGMT Dagmar 39.50 342 *e*P P 21 10 51.2 -0.8
comp=Z,27nm,0.8s
A25A Svangstu Ranch 39.60 343 ⇓P P 21 10 53.4 +0.5
baz=40
D20A Manuel Ranch, 39.65 337 ⇓P P 21 10 54.1 +0.8
baz=40,SNR=8.5
HLID Hailey 39.73 328 ⇑P P 21 10 54.7 +0.5
baz=40,SNR=14
HLID Hailey 39.73 328 *e*P P 21 10 53.4 -0.8
comp=Z,7.7nm,0.8s
HLID *e*PcP PcP 21 13 02.0 +1.8
B23A Brockton 39.74 341 ⇑P P 21 10 54.9 +0.9
baz=40,SNR=5.9
A24A Westby 39.84 342 ⇑P P 21 10 55.4 +0.5
baz=40,SNR=6.2
MCMT McKenzie Canyo 39.88 331 *e*P P 21 10 56.1 +0.6
BOZ Bozeman (W) 39.94 333 *e*P P 21 10 55.9 +0.1
comp=Z,7.2nm,0.8s
D19A Cripps Ranch, 40.00 337 ⇓P P 21 10 56.8 +0.6
baz=40,SNR=6.1
C20A Veseth Ranch, 40.12 338 ⇓P P 21 10 57.7 +0.4
baz=40,SNR=7.7
DLMT Dillon 40.16 332 *e*P P 21 10 58.1 +0.4
comp=Z,8.2nm,0.8s
MFID Camas Ranch 40.37 327 *e*P P 21 10 59.2 -0.2
comp=Z,4.5nm,0.8s
MFID *e*PcP PcP 21 13 03.0 +0.8
LRM Limekiln Ridge 40.44 332 *e*P P 21 10 59.5 -0.6
HRY Holter Researc 40.85 334 *e*P P 21 11 02.7 -0.6
EGMT Eagleton 41.04 337 ⇓P P 21 11 05.2 +0.4
baz=41,SNR=6.4
EGMT Eagleton 41.04 337 *e*P P 21 11 04.0 -0.9
comp=Z,6.9nm,0.7s
A20A Cobblestone Ra 41.08 339 ⇑P P 21 11 05.5 +0.4
baz=41,SNR=12
B19A Brinkman Farms 41.09 338 ⇓P P 21 11 05.6 +0.4
baz=41,SNR=6.6
WVOR Wild Horse Val 41.29 324 *e*P P 21 11 07.7 +0.7
comp=Z,14nm,0.9s
WVOR *e*PcP PcP 21 13 07.3 +2.2
A19A Klindworth Far 41.41 338 ⇓P P 21 11 07.9 0.0
baz=41
CHMT Chamberlain Mo 41.63 333 *e*P P 21 11 09.0 -0.9
MSO Missoula 41.88 332 ⇓P P 21 11 12.2 +0.5
baz=42,SNR=8.0
MSO Missoula 41.88 332 *e*P P 21 11 11.2 -0.5
comp=Z,10nm,1.0s
BMO Blue Mountains 42.13 328 *e*P P 21 11 12.3 -1.4
comp=Z,7.1nm,0.8s
BMO *e*PcP PcP 21 13 08.2 +0.3
JTMT Jette 42.72 333 *e*P P 21 11 17.4 -1.2
JTMT *e*PcP PcP 21 13 10.4 +0.6
M04C Macdoel 42.81 321 ⇑P P 21 11 20.1 +0.6
baz=43
I07A Izee 42.81 325 *e*P P 21 11 18.1 -1.4
I07A *e*PcP PcP 21 13 11.8 +1.6
BSMT Bassoo Peak 43.02 333 *e*P P 21 11 20.7 -0.5
K04D Chiloquin, OR 43.24 322 ⇑P P 21 11 23.6 +0.7
baz=43
G08A Pilot Rock 43.29 327 *e*P P 21 11 21.5 -1.8
comp=Z,4.8nm,0.9s
G08A *e*PP PcP 21 13 12.6 +0.8
J05D Fort Rock, OR 43.32 323 ⇑P P 21 11 24.0 +0.5
baz=43
WALA Waterton Lakes 43.55 334 *e*P P 21 11 24.5 -0.8
comp=Z,56nm,2.5s
E09A Wood Farm, Sta 43.68 329 *e*P P 21 11 25.4 -0.8
comp=Z,8.6nm,0.8s
I04A Tendick Farm, 44.31 323 ⇓P P 21 11 32.5 +1.1
baz=44
HAWA Hanford 44.32 328 *e*P P 21 11 31.3 -0.1
comp=Z,9.7nm,0.8s
NEW Newport 44.40 331 ⇓P P 21 11 32.5 +0.5
baz=44
NEW Newport 44.40 331 *e*P P 21 11 31.2 -0.8
comp=Z,4.5nm,0.8s
D08A Wollman Farm, 44.44 329 *e*P P 21 11 32.0 -0.4
comp=Z,17nm,0.9s
G05D Wamic, OR 44.55 325 ⇓P P 21 11 35.2 +1.9
baz=45
E07A Sunnyside 44.59 328 *e*P P 21 11 32.8 -0.8
comp=Z,30nm,0.8s
C09A Chrisman Ranch 44.63 330 *e*P P 21 11 33.2 -0.7
comp=Z,14nm,1.0s
C09A *e*PcP PcP 21 13 17.0 +0.9
FFC Flin Flon 44.65 348 *e*P P 21 11 32.6 -1.3
comp=Z,14nm,0.8s
LTY Liberty 45.47 328 *e*P P 21 11 40.2 -0.4
comp=Z,8.7nm,1.1s
B08A Colville Reser 45.53 330 *e*P P 21 11 39.4 -1.6
comp=Z,7.1nm,0.8s
SCHQ Schefferville 45.98 16 P P 21 11 42.1 -2.3
comp=Z,3.0nm,0.5s,baz=222,slow=6.2,SNR=14
SCHQ Schefferville 45.98 16 *e*P P 21 11 42.7 -1.8
comp=Z,16nm,1.1s
EDM Edmonton 46.60 338 *e*P P 21 11 47.9 -1.5
B06A Marblemount 46.71 329 *e*P P 21 11 49.3 -0.9
comp=Z,14nm,0.7s
BDFB Brasilia 47.10 124 P P 21 11 53.3 -0.5
comp=Z,6.7nm,0.6s,baz=294,slow=10,SNR=13
BDFB Brasilia 47.10 124 *e*P P 21 11 53.6 -0.2
FCC Fort Churchill 47.40 355 *e*P P 21 11 53.9 -1.5
comp=Z,24nm,0.9s
PLCA Paso Flores 54.21 165 P P 21 12 48.2 +1.2
comp=Z,2.3nm,1.0s,baz=280,slow=11,SNR=2.4
PLCA pP pP 21 12 59.2 +0.6
comp=Z,3.0nm,0.8s,baz=330,slow=8.4,SNR=3.2
PLCA Paso Flores 54.21 165 *e*P P 21 12 47.7 +0.7
comp=Z,156nm,2.6s
YKA Yellowknife Ar 54.58 345 P P 21 12 48.1 -1.2
baz=139,slow=7.6
YKA PcP PcP 21 13 51.7 -0.4
baz=148,slow=4.2
YKB5 Yellowknife Ar 54.58 345 *e*P P 21 12 48.1 -1.2
YKB5 *e*PcP PcP 21 13 51.7 -0.4
DLBC Dease Lake 56.90 335 *e*P P 21 13 06.1 -0.1
RES Resolute Bay 63.25 358 *e*P P 21 13 47.9 -1.4
comp=Z,7.4nm,1.2s
EGAK Eagle 64.80 337 *e*P P 21 13 58.4 -1.3
comp=Z,5.7nm,0.9s
DOT Dot Lake 65.42 336 *e*P P 21 14 02.9 -0.8
comp=Z,27nm,0.7s
PAX Paxson 65.72 335 *e*P P 21 14 04.5 -1.3
comp=Z,7.0nm,0.8s
ILAR Eielson Array 67.01 336 P P 21 14 12.8 -1.1
comp=Z,3.0nm,0.6s,baz=109,slow=4.8,SNR=37
ILB Eielson Array 67.01 336 *e*P P 21 14 12.6 -1.3
MCK McKinley 67.45 335 *e*P P 21 14 15.7 -1.1
comp=Z,16nm,0.9s
COLD Coldfoot 69.18 338 *e*P P 21 14 27.3 -0.2
comp=Z,8.6nm,1.0s
ESDC Sonseca Array 77.36 52 P P 21 15 14.2 -2.2
comp=Z,0.3nm,0.5s,baz=288,slow=5.5,SNR=4.7
TOA0 Torodi Ar. Sit 86.14 77 *e*P P 21 16 00.7 -2.3
TORD Torodi Ar. Bea 86.14 77 P P 21 16 00.7 -2.3
comp=Z,0.3nm,0.8s,baz=285,slow=5.1,SNR=2.1
ARA0 ARCESS Array S 86.86 19 *e*P P 21 16 04.1 -1.3
ARCES ARCESS Array B 86.86 19 P P 21 16 04.1 -1.3
comp=Z,3.0nm,0.8s,baz=303,slow=5.3,SNR=2.9
SEY Seymchan 92.94 337 P P 21 16 33.8 -0.2
comp=Z,1.5nm,0.8s,baz=69,slow=4.5,SNR=8.0
TIXI Tiksi 93.59 349 *e*P P 21 16 35.0 -1.8
comp=Z,2.4nm,0.8s
KURK Kurchatov 116.71 10 *e*PKPdf PKPdf 21 22 04.5 -0.8
KURK *ep*PKPdf pPKPdf 21 22 16.0 -2.0
KURBB Kurchatov Arra 116.79 10 PKP PKPdf 21 22 04.5 -1.0
comp=Z,0.3nm,0.6s,baz=340,slow=1.9,SNR=4.5
KURBB pPKP pPKPdf 21 22 16.0 -2.2
comp=Z,0.3nm,0.5s,baz=338,slow=2.0,SNR=3.1
SONA0 Songino Array 119.67 350 *e*PKPdf PKPdf 21 22 11.6 +0.3
SONA0 *ep*PKPdf pPKPdf 21 22 22.4 -1.6
SONM Songino Array 119.67 350 PKP PKPdf 21 22 11.6 +0.3
comp=Z,1.2nm,0.4s,baz=7.9,slow=0.5,SNR=8.6
SONM pPKP pPKPdf 21 22 22.4 -1.6
comp=Z,1.0nm,0.6s,baz=305,slow=1.5,SNR=4.2
MK32 Makanchi Array 121.11 9 *e*PKPdf PKPdf 21 22 12.9 -1.1
MKAR Makanchi Array 121.11 9 PKP PKPdf 21 22 12.9 -1.1
comp=Z,0.2nm,0.4s,baz=309,slow=3.3,SNR=8.6
KSRS Korea Array 121.26 328 PKP PKPdf 21 22 15.2 +0.7
comp=Z,4.3nm,0.8s,baz=21,slow=1.9,SNR=19
KSRS pPKP pPKPdf 21 22 25.6 -1.5
comp=Z,2.7nm,0.8s,baz=7.4,slow=1.1,SNR=5.6
KS15 Wonju Array Si 121.29 328 *e*PKPdf PKPdf 21 22 15.2 +0.7
KS15 *ep*PKPdf pPKPdf 21 22 25.6 -1.6
BJI Beijing 124.34 339 PKP PKPdf 21 22 20.8 +0.5
WMQ Urumqi 124.66 5 *e*PKP PKPdf 21 22 19.0 -1.9
WMQ *e*PP PP 21 24 11.3 +4.5
WMQ PKS PKSdf 21 25 54.0 -3.6
WMQ SKKS 21 30 56.0
WMQ SS SS 21 41 00.0 +3.0
WMQ PPMZ
comp=Z,80nm,6.4s
WMQ LN
comp=Z,160nm,20.0s
WMQ LE
comp=Z,110nm,21.9s
WMQ LZ
comp=Z,170nm,22.0s
HHC Hu-ho-hao-te 125.10 343 *e*PKP PKPdf 21 22 19.5 -2.4
HHC PP PP 21 24 11.1 +1.1
HHC PPMZ
comp=Z,88nm,7.8s
HHC LN
comp=Z,290nm,18.6s
HHC LE
comp=Z,280nm,17.0s
HHC LZ
comp=Z,280nm,16.9s
KSH Kashi 126.75 16 *e*PKP PKPdf 21 22 29.1 +4.0
KSH *e*PP PP 21 24 31.9 +11
KSH PKS PKSdf 21 26 04.5 +2.6
KSH SKS SKSdf 21 29 35.5 +1.3
KSH PPMZ
comp=Z,61nm,5.2s
KSH LN
comp=Z,190nm,6.9s
KSH LE
comp=Z,150nm,5.9s
KSH LZ
comp=Z,520nm,20.1s
GTA Gaotai 128.89 353 *e*PKP PKPdf 21 22 29.8 +0.6
GTA sPKP 21 22 47.8
STKA Stephens Creek 131.03 238 PKP PKPdf 21 22 34.7 +1.4
comp=Z,1.3nm,0.7s,baz=63,slow=2.3,SNR=3.6
STKA Stephens Creek 131.03 238 *e*PKPdf PKPdf 21 22 34.2 +0.9
LZH Lanzhou 131.51 348 *e*PKP PKPdf 21 22 35.5 +1.1
LZH sPKP 21 22 52.0
CD2 Chengdu 136.52 347 PKP PKPdf 21 22 41.0 -2.7
AS12 Alice Springs 139.37 247 *e*PKPpre PKPpre 21 22 43.1
AS12 *e*PKPdf **PKiKP** 21 22 50.7 -0.7
ASAR Alice Springs 139.37 247 PKiKP PKPpre 21 22 43.1
comp=Z,0.5nm,0.7s,baz=116,slow=3.9,SNR=4.8
ASAR PKP **PKiKP** 21 22 50.7 -0.7
comp=Z,0.7nm,0.6s,baz=104,slow=2.9,SNR=9.0
WRA Warramunga Arr 139.47 253 PKhKP PKPpre 21 22 47.5
comp=Z,1.6nm,0.7s,baz=93,slow=2.5,SNR=21
WRA PKP **PKiKP** 21 22 51.0 -0.6
comp=Z,1.5nm,0.6s,baz=92,slow=2.3,SNR=22
CM31 Chiang Mai Arr 149.60 349 *e*PKPdf **PKPdf** 21 23 07.8 +1.0
CM31 *e*PKPbc **PKPbc** 21 23 12.2 -0.3
CMAR Chiang Mai Arr 149.60 349 PKP **PKPdf** 21 23 07.8 +1.0
comp=Z,4.5nm,0.7s,baz=307,slow=2.3,SNR=20
CMAR PKPbc **PKiKP** 21 23 12.2 -0.3
comp=Z,4.6nm,0.6s,baz=328,slow=3.1,SNR=30
CMAR pPKPbc **pPKPbc** 21 23 22.5 -1.6
comp=Z,6.4nm,0.9s,baz=341,slow=3.3,SNR=10.0

GUC 17 21:11:37.2±0.5, 35.42S×72.53W, h12km±3km, ML3.8,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.73**	**88**	*e*P	Pb	21 11 51.8	0.0
TALC				*e*S	Sb	21 12 02.9	+1.1
COCH	**Cobquecura**	**0.74**	**197**	*e*P	Pb	21 11 52.0	-0.1
COCH				*e*S	Sb	21 12 02.8	+0.7
LNCH	**Linares**	**0.86**	**120**	*e*P	Pg	21 11 53.9	-0.1
LNCH				*e*S	Sn	21 12 06.9	-1.0
NICH	**Los Niches**	**1.14**	**69**	*e*P	Pb	21 11 58.8	-0.1
NICH				*e*S	Sn	21 12 15.3	+0.6
CLCH	**Cerro Calan**	**2.61**	**40**	*e*P	Pb	21 12 21.9	-2.1
CLCH				*e*S	Sb	21 12 56.1	0.0
CLCH				AML	AML	21 13 02.4	
	comp=E,470nm,0.6s						
PEL	**Peldehue**	**2.74**	**34**	*e*P	Pb	21 12 23.8	-2.4
PEL				*e*S	Sb	21 12 58.8	-1.0
PEL				AML	AML	21 13 10.6	
	comp=N,566nm,0.6s						
FCH	**Farellones**	**2.79**	**42**	*e*P	Pn	21 12 21.1	-1.1
FCH				*e*S	Sn	21 12 57.7	+1.6
FCH				AML	AML	21 13 02.3	
	comp=E,202nm,0.4s						

MOS **17** *21:16:24.5±2.2, 49.°30N×155.°65E, h44km, mb4.0/8, Error ellipse: s-maj=13.0km s-min=6.1km az=72.5*
ISCJB **17** *21:16:26.5±0.6, 49.°34N±0.°05×155.°57E±0.°08, h62km±4km, mb3.9/30, Error ellipse: s-maj=11.0km s-min=4.4km az=135.8*
SKHL **17** *21:16:26.8±0.2, 49.°25N×155.°98E, h82km±7km, mb5.1/4, msh5.9/4*
IDC **17** *21:16:26.5±0.8, 49.°43N×155.°45E, h47km±7km, mb3.5/21, mb1 3.7/22, mb1mx3.6/47, mbtmp3.8/22, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/36, Error ellipse: s-maj=20.1km s-min=12.2km az=151.0*
KRSC **17** *21:16:27.0±3.0, 49.°30N×156.°79E, h40km±27km, ML4.7*
BJI **17** *21:16:27.6, 49.°20N×155.°50E, h70km, mB4.5/4, mb4.3/5*
ISC 17 21:16:27.8±0.7, 49.°32N±0.°06×155.°63E±0.°06, h60km±5km, n114, σ1°18/126, mb3.8/30, 3C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.40**	**13**	⇓*i*PN	Pn	21 16 42.0	-9.0
SKR				*e*S	Sn	21 16 59.7	-8.8
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				smax	smax		
	comp=N,2μm,0.4s						
SKR				smax	smax		
	comp=E,1μm,0.4s						
SKR				smax	smax		
	comp=N,2μm,2.0s						
SKR				smax	smax		
	comp=E,2μm,2.0s						
SKR	**Severo-Kuril's**	**1.40**	**13**	*i* P	**Pn**	**21 16 49.8**	**-1.2**
SKR				*i* S	**Sn**	**21 17 07.5**	**-1.0**
SKR	**Severo-Kuril's**	**1.40**	**13**	*e*P	**Pn**	**21 16 50.0**	**-1.0**
SKR				AMB	AMB	21 16 54.7	
	comp=E,324nm,0.4s						
SKR				*e*S	**Sn**	**21 17 07.5**	**-1.0**
SKR				A	A	21 17 10.7	
	comp=E,3μm,0.3s						
PAU	**Pauzhetka**	**2.28**	**19**	PN	**Pn**	**21 17 02.2**	**-0.7**
PAU				S	**Sn**	**21 17 29.3**	**-0.5**
PAU	**Pauzhetka**	**2.28**	**19**	*i* P	**Pn**	**21 17 02.2**	**-0.7**
PAU				*e*S	**Sn**	**21 17 29.3**	**-0.5**
PAU	**Pauzhetka**	**2.28**	**19**	*e*P	**Pn**	**21 17 02.7**	**-0.2**
PAU				*e*S	**Sn**	**21 17 29.5**	**-0.3**
PAU				A	A	21 17 32.8	
	comp=E,3μm,0.9s						
MIPR	**Malaya Ipel'ka**	**3.04**	**13**	*e*P	**Pn**	**21 17 13.0**	**-0.4**
ASAK	**Asacha**	**3.39**	**24**	*e*P	**Pn**	**21 17 19.1**	**+0.9**
MTVR	**Mutnovka**	**3.56**	**26**	*e*P	**Pn**	**21 17 20.9**	**+0.4**
MTVR				*e*S	**Sn**	**21 18 01.5**	**+0.2**
RUS	**Russkaya**	**3.61**	**29**	PN	**Pn**	**21 17 20.3**	**-0.8**
RUS				S	**Sn**	**21 18 00.6**	**-1.9**
RUS	**Russkaya**	**3.61**	**29**	*e*P	**Pn**	**21 17 20.3**	**-0.8**
RUS				*e*S	**Sn**	**21 18 00.6**	**-1.9**
APC	**Apacha**	**3.73**	**14**	*e*P	**Pn**	**21 17 24.3**	**+1.5**
PETK	**Petropavlovsk-**	**4.01**	**18**	P	**Pn**	**21 17 27.8**	**+1.1**
	comp=E,3.3nm,0.3s,baz=182,slow=14,SNR=17						
PETK				S	Sn	21 18 21.9	+10
	comp=E,2.9nm,0.3s,baz=130,slow=16,SNR=3.5						
PETK				LR	LR	21 19 17.6	
	comp=E,131nm,19.2s,baz=234,slow=43						
PET	**Petropavlovsk**	**4.17**	**26**	*e*PN	**Pn**	**21 17 30.3**	**+1.6**
PET				*e*S	**Sn**	**21 18 14.9**	**-1.2**
PET				pmax	pmax		
	comp=Z,31nm,0.6s						
PET				smax	smax		
	comp=E,218nm,0.7s						
PET				smax	smax		
	comp=N,180nm,0.5s						
PET	**Petropavlovsk**	**4.17**	**26**	*e*P	**Pn**	**21 17 28.9**	**+0.2**
PET				*e*S	**Sn**	**21 18 15.1**	**-1.0**
PET	**Petropavlovsk**	**4.17**	**26**	*e*P	**Pn**	**21 17 29.1**	**+0.4**
PET				AMB	AMB	21 17 32.3	
	comp=N,311nm,1.5s						
PET				*e*S	**Sn**	**21 18 15.2**	**-0.9**
PET				A	A	21 18 22.4	
	comp=N,2μm,0.7s						
UGLR	**Uglovaya**	**4.38**	**26**	*e*P	**Pn**	**21 17 32.7**	**+0.9**
KOK	**Koryaka**	**4.40**	**24**	*e*P	**Pn**	**21 17 33.7**	**+1.7**
AVH	**Avacha**	**4.40**	**25**	*e*P	**Pn**	**21 17 33.2**	**+1.1**
SMAR	**Somma**	**4.42**	**26**	*e*P	**Pn**	**21 17 33.6**	**+1.2**
KRER	**Koryakskii**	**4.44**	**25**	*e*P	**Pn**	**21 17 32.7**	**0.0**
SDLR	**Sedlovina**	**4.46**	**26**	*e*P	**Pn**	**21 17 33.3**	**+0.5**
KRX	**Arik**	**4.46**	**24**	*e*P	**Pn**	**21 17 34.0**	**+1.0**
NLC	**Nalytchevo**	**4.51**	**30**	S	**Sn**	**21 18 24.0**	**-0.4**
GNL	**Ganaly**	**4.61**	**17**	*e*P	**Pn**	**21 17 36.9**	**+2.0**
SPN	**Mys Shipunski**	**4.68**	**34**	PN	**Pn**	**21 17 34.9**	**-0.9**
SPN	**Mys Shipunski**	**4.68**	**34**	*e*P	**Pn**	**21 17 34.9**	**-0.9**
MKZ	**Mys Kozlova**	**6.46**	**33**	PN	**Pn**	**21 17 58.2**	**-1.8**
MKZ	**Mys Kozlova**	**6.46**	**33**	*e*P	**Pn**	**21 17 58.2**	**-1.8**
MKZ				*e*S	Sn	21 19 05.7	-6.5
TUMR	**Tumrok**	**6.58**	**23**	*e*P	**Pn**	**21 18 03.1**	**+1.2**

KUR	**Kuril'sk**	**6.68**	**235**	⇓*i* PN	**Pn**	**21 18 04.2 +1.1**
KUR				*e*S	Sn	21 19 27.4 +10
KUR				pmax	pmax	
	comp=E,47nm,1.1s					
KUR				pmax	pmax	
	comp=Z,18nm,1.1s					
KUR				pmax	pmax	
	comp=N,26nm,0.6s					
KUR				smax	smax	
	comp=E,28nm,0.6s					
KUR				smax	smax	
	comp=N,49nm,1.3s					
KUR	**Kuril'sk**	**6.68**	**235**	*e*P	**Pn**	**21 18 04.2 +1.1**
KUR				AMB	AMB	21 18 10.7
	comp=N,48nm,1.1s					
KUR				*e*rx	rx	21 19 27.4
KUR				A	A	21 19 29.2
	comp=N,28nm,0.6s					
KUR				A	A	21 19 29.2
	comp=N,49nm,0.6s					
SHO	**Shikotan**	**8.15**	**231**	*e*P	**Pn**	**21 18 25.4 +2.2**
SHO				*e*S	**Sn**	**21 19 53.8 0.0**
KBTR	**Krutoberegovo**	**8.16**	**30**	PN	**Pn**	**21 18 22.2 -1.1**
KBTR	**Krutoberegovo**	**8.16**	**30**	*e*P	**Pn**	**21 18 22.2 -1.1**
YUK	**Yuzh-Kuril'sk**	**8.54**	**235**	*i* PN	**Pn**	**21 18 27.8 -0.8**
BKI	**Bering**	**8.65**	**43**	*e*S	Sn	21 19 55.4 -11
YSS	**Yuzh-Sakhalins**	**8.93**	**259**	⇑*e*PN	Pn	21 18 38.3 +4.4
YSS				pmax	pmax	
	comp=Z,20nm,1.0s					
YSS	**Yuzh-Sakhalins**	**8.93**	**259**	*e*P	Pn	21 18 37.3 +3.4
YSS				AMB	AMB	21 18 59.4
	comp=Z,155nm,0.5s					
ASAJ	**Asahikawa**	**10.35**	**245**	LR	LR	21 22 31.9
	comp=Z,142nm,18.6s,baz=20,slow=36					
HABR	**Khabarovsk**	**13.56**	**274**	*e*P	**Pn**	**21 19 35.5 -1.5**
HABR				*e*S	**Sn**	**21 22 04.7 -1.2**
HABR				pmax	pmax	
	comp=Z,12nm,1.8s					
HABR				pmax	pmax	
	comp=Z,10.0nm,1.6s					
HABR				MLR	MLR	
	comp=Z,67nm,18.0s					
SEY	**Seymchan**	**13.76**	**354**	P	**Pn**	**21 19 41.8 +2.2**
	comp=Z,0.2nm,0.3s,baz=203,slow=20,SNR=7.0					
USRK	**Ussuriysk Ar.**	**16.96**	**261**	P	**P**	**21 20 23.1 +1.3**
	comp=Z,0.1nm,0.3s,baz=56,slow=13,SNR=6.9					
MAJO	**Matsushiro**	**17.99**	**231**	⇑*e*P	**P**	**21 20 29.2 -4.1**
MAJO				pmax	pmax	
	comp=Z,89nm,1.7s					
MJAR	**Matsushiro Arr**	**17.99**	**231**	P	**P**	**21 20 33.5 +0.2**
	comp=Z,0.3nm,0.3s,baz=16,slow=12,SNR=6.6					
YAK	**Yakutsk**	**19.21**	**321**	*i* P	**Pn**	**21 20 49.9 +2.0**
YAK	**Yakutsk**	**19.21**	**321**	*e*P	**Pn**	**21 20 49.8 +1.9**
KSRS	**Korea Array**	**23.23**	**250**	*e*P	**P**	**21 21 31.5 +2.0**
KSRS				pmax	pmax	
	comp=Z,3.0nm,1.0s					
KSRS	**Korea Array**	**23.23**	**250**	P	**P**	**21 21 29.7 +0.2**
	comp=Z,3.0nm,1.1s,baz=50,slow=10.0,SNR=8.0					
TIK	**Tiksi**	**25.52**	**341**	*e*P	**P**	**21 21 50.0 -0.1**
TIXI	**Tiksi**	**25.53**	**341**	⇓*i* P	**P**	**21 21 50.0 -0.2**
TIXI				pmax	pmax	
	comp=Z,4.0nm,1.7s					
H11N2	**WAKE ISLAND Hy**	**30.88**	**159**	T	T	21 55 25.9
	baz=346,slow=76,SNR=12					
H11N1	**WAKE ISLAND Hy**	**30.89**	**159**	T	T	21 55 28.7
	baz=346,slow=76,SNR=6.8					
H11N3	**WAKE ISLAND Hy**	**30.89**	**159**	T	T	21 55 28.8
	baz=346,slow=76,SNR=22					
H11S1	**WAKE ISLAND Hy**	**32.01**	**160**	T	T	21 56 53.6
	baz=347,slow=76,SNR=146					
H11S3	**WAKE ISLAND Hy**	**32.02**	**160**	T	T	21 56 53.1
	baz=347,slow=76,SNR=412					
H11S2	**WAKE ISLAND Hy**	**32.03**	**160**	T	T	21 56 51.9
	baz=347,slow=76,SNR=144					
TLY	**Talaya**	**32.58**	**294**	*e*P	**P**	**21 22 52.9 -0.1**
TLY	**Talaya**	**32.58**	**294**	*e*P	**P**	**21 22 52.9 -0.1**
COLA	**College**	**33.08**	**41**	*ce*P	**P**	**21 22 57.8 +0.6**
COLA				*i* *PP	**pP**	**21 23 16.6 +4.5**
COLA	**College**	**33.08**	**41**	*e*P	**P**	**21 22 57.8 +0.6**
ZALV	**Zalesovo Beam**	**42.51**	**304**	PcP	**PcP**	**21 26 09.0 +0.7**
	comp=Z,1.2nm,0.8s,baz=47,slow=2.6,SNR=4.8					
DLBC	**Dease Lake**	**42.61**	**48**	P	**P**	**21 24 17.0 -0.6**
	comp=Z,0.7nm,0.6s,baz=260,slow=6.1,SNR=3.6					
BBB	**Bella Bella**	**46.25**	**56**	PcP	**PcP**	**21 26 22.3 +1.2**
	comp=Z,2.3nm,0.5s,baz=202,slow=5.4,SNR=4.3					
MKAR	**Makanchi Array**	**47.28**	**296**	P	**P**	**21 24 54.1 -0.7**
MKAR						21 26 25.5
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.9s					
MKAR	**Makanchi Array**	**47.28**	**296**	P	**P**	**21 24 54.1 -0.7**
	comp=Z,0.5nm,0.8s,baz=69,slow=8.3,SNR=4.8					
MKAR				PcP	**PcP**	**21 26 25.4 +0.5**
	comp=Z,0.6nm,0.9s,baz=46,slow=6.2,SNR=3.7					
KURK	**Kurchatov**	**47.37**	**303**	P	**P**	**21 24 54.7 -0.7**
KURK						21 26 25.7
KURK				pmax	pmax	
	comp=Z,1.0nm,0.7s					
KURK	**Kurchatov**	**47.37**	**303**	*e*P	**P**	**21 24 54.4 -1.0**
KURBB	**Kurchatov Arra**	**47.47**	**303**	P	**P**	**21 24 54.7 -1.4**
KURBB				PcP	**PcP**	**21 26 25.6 +0.1**
	comp=Z,0.9nm,0.7s,baz=63,slow=3.4,SNR=8.1					
RES	**Resolute Bay**	**47.85**	**20**	P	**P**	**21 24 58.0 -0.8**
RES				pmax	pmax	
	comp=Z,1.0nm,0.6s					
RES	**Resolute Bay**	**47.85**	**20**	P	**P**	**21 24 58.0 -0.8**
	comp=Z,0.9nm,0.6s,baz=221,slow=2.8,SNR=5.8					
YKA	**Yellowknife Ar**	**47.86**	**39**	P	**P**	**21 25 00.1 +1.1**
YKA				pmax	pmax	
	comp=Z,1.0nm,0.6s					
YKA	**Yellowknife Ar**	**47.86**	**39**	P	**P**	**21 25 00.1 +1.1**
	comp=Z,0.5nm,0.6s,baz=296,slow=7.1,SNR=8.7					
AAK	**Ala-Archa**	**54.21**	**296**	P	**P**	**21 25 45.9 -1.3**
	comp=Z,0.4nm,0.5s,baz=23,slow=7.7,SNR=2.0					
ARU	**Arti**	**54.26**	**317**	*di* P	**P**	**21 25 46.4 -0.7**
ARU				*PP	**pP**	**21 26 02.2 -0.8**
ARU						21 27 45.9
ARU				S	**S**	**21 33 20.0 +0.2**
ARU				SS	**SS**	**21 37 00.5 -1.1**
ARU	**Arti**	**54.26**	**317**	*e*P	**P**	**21 25 46.4 -0.7**
CMAR	**Chiang Mai Arr**	**54.61**	**257**	P	**P**	**21 25 51.4 +1.2**
	comp=Z,4.0nm,0.8s,baz=29,slow=7.6,SNR=17					
NVAR	**Mina Array Bea**	**59.78**	**65**	P	**P**	**21 26 27.4 +0.8**
	comp=Z,0.2nm,0.5s,baz=282,slow=7.4,SNR=4.1					
NVAR				pP	**pP**	**21 26 40.6 -2.1**
	comp=Z,0.9nm,0.8s,baz=296,slow=7.9,SNR=4.2					
ELK	**Elko**	**60.05**	**61**	P	**P**	**21 26 29.8 +1.3**
	comp=Z,0.3nm,0.3s,baz=0.8,slow=14,SNR=2.5					
ELK				pP	**pP**	**21 26 42.7 -1.9**
	comp=Z,0.4nm,0.3s,baz=293,slow=8.5,SNR=2.3					
PDAR	**Pinedale Array**	**61.89**	**56**	P	**P**	**21 26 42.3 +1.4**
	comp=Z,0.7nm,0.9s,baz=215,slow=1.8,SNR=4.6					
FRB	**Frobisher Bay**	**62.06**	**21**	P	**P**	**21 26 40.6 -0.8**
	comp=Z,2.1nm,0.6s,baz=313,slow=9.0,SNR=4.5					
FINES	**FINESS Array B**	**62.42**	**335**	*e*P	**P**	**21 26 43.0 -0.8**
FINES	**FINESS Array B**	**62.42**	**335**	P	**P**	**21 26 42.0 -1.8**
	comp=Z,0.3nm,0.4s,baz=38,slow=7.7,SNR=5.7					
FINES	**FINESS Array B**	**62.42**	**335**	*e*P	**P**	**21 26 43.0 -0.8**
SCHQ	**Schefferville**	**70.28**	**25**	P	**P**	**21 27 34.1 -0.1**
	comp=Z,1.5nm,0.7s,baz=354,slow=10,SNR=4.6					
AKASG	**Malin Array Be**	**70.32**	**327**	P	**P**	**21 27 33.0 -1.5**
AKASG	**Malin Array Be**	**70.32**	**327**	P	**P**	**21 27 33.0 -1.5**
	comp=Z,0.4nm,0.4s,baz=30,slow=5.9,SNR=2.3					
WRA	**Warramunga Arr**	**71.51**	**201**	*e*P	**P**	**21 27 41.4 -0.6**
WRA	**Warramunga Arr**	**71.51**	**201**	P	**P**	**21 27 41.1 -0.9**
	comp=Z,0.3nm,0.5s,baz=17,slow=6.7,SNR=7.9					
WRA	**Warramunga Arr**	**71.51**	**201**	*e*P	**P**	**21 27 41.4 -0.6**
TXAR	**Lajitas Array**	**74.79**	**63**	P	**P**	**21 28 02.4 +0.9**
TXAR				*PP	**PcP**	**21 28 15.3 -0.1**
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
TXAR	**Lajitas Array**	**74.79**	**63**	P	**P**	**21 28 02.4 +0.9**
	comp=Z,0.5nm,0.6s,baz=293,slow=5.1,SNR=5.4					
TXAR				pP	**PcP**	**21 28 15.2 -0.1**
	comp=Z,0.9nm,0.6s,baz=297,slow=4.1,SNR=8.1					
ASAR	**Alice Springs**	**75.20**	**201**	P	**P**	**21 28 03.2 -0.4**
	comp=Z,0.3nm,0.5s,baz=15,slow=5.4,SNR=6.3					
ASAR	**Alice Springs**	**75.20**	**201**	*e*P	**P**	**21 28 03.8 +0.2**
GERES	**GERESS Array B**	**76.85**	**335**	*e*P	**P**	**21 28 13.4 +0.4**
GERES				pmax	pmax	
	comp=Z,1.0nm,0.6s					
GERES	**GERESS Array B**	**76.85**	**335**	P	**P**	**21 28 11.5 -1.5**
	comp=Z,0.5nm,0.6s,baz=41,slow=4.3,SNR=5.2					
GERES	**GERESS Array B**	**76.85**	**335**	*e*P	**P**	**21 28 13.4 +0.4**
BRTR	**Keskin Array B**	**77.64**	**318**	*i* P	**P**	**21 28 20.1 +2.5**
BRTR	**Keskin Array B**	**77.64**	**318**	P	**P**	**21 28 17.6 0.0**
	comp=Z,0.7nm,1.0s,baz=33,slow=3.4,SNR=4.0					
CDF	**Champ du Feu**	**78.88**	**339**	*e*P	**P**	**21 28 24.4 +0.2**
PAGF	**Fort de Pagny**	**79.10**	**340**	*e*P	**P**	**21 28 25.4 +0.1**
LDF	**La Druitiere**	**80.24**	**344**	*e*P	**P**	**21 28 30.9 -0.6**
LOR	**Lormes**	**80.72**	**341**	*e*P	**P**	**21 28 33.7 -0.5**
	comp=Z,3.1nm,0.7s					
SGMF	**Saint Gilles**	**80.99**	**345**	*e*P	**P**	**21 28 35.5 0.0**
	comp=Z,12nm,0.8s					
SSF	**Saint Saulge**	**81.00**	**341**	*e*P	**P**	**21 28 36.0 +0.4**
ROSF	**Rostrenen**	**81.03**	**346**	*e*P	**P**	**21 28 35.9 +0.2**
AVF	**Avril sur Loir**	**81.29**	**341**	*e*P	**P**	**21 28 36.8 -0.3**
	comp=Z,4.6nm,0.9s					
SMF	**Signal de Mont**	**81.32**	**341**	*e*P	**P**	**21 28 36.9 -0.4**
BGF	**Bois d'Agland**	**81.62**	**341**	*e*P	**P**	**21 28 38.3 -0.6**
LPL	**La Plagne**	**81.73**	**338**	*e*P	**P**	**21 28 40.1 +0.3**
	comp=Z,5.2nm,0.8s					
LPG	**La Plagne**	**81.74**	**338**	*e*P	**P**	**21 28 40.4 +0.5**
	comp=Z,11nm,0.9s					
TCF	**Toulx Ste Croi**	**82.00**	**342**	*e*P	**P**	**21 28 40.3 -0.7**
	comp=Z,1.4nm,0.5s					
VIVF	**Saint-Julien-l**	**82.83**	**340**	*e*P	**P**	**21 28 45.6 +0.3**
	comp=Z,4.3nm,0.8s					
ESDC	**Sonseca Array**	**89.57**	**344**	P	**P**	**21 29 17.5 -1.0**
	comp=Z,0.1nm,0.4s,baz=358,slow=3.7,SNR=5.7					

IDC 17 21:16:41.6±1.1, 18°.58N×145°.58E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.5/42, mbtmp3.7/6, Error ellipse: s-maj=39.4km s-min=28.8km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.84**	**197**	P	P	21 24 16.5	-0.5
	0.8nm,0.9s,baz=16,slow=8.3,SNR=5.5						
KURBB	**Kurchatov Arra**	**61.33**	**318**	P	P	21 26 59.1	+0.1
	0.3nm,0.4s,baz=93,slow=7.4,SNR=7.9						
ILAR	**Eielson Array**	**63.80**	**26**	P	P	21 27 14.1	-1.3
	0.8nm,0.9s,baz=256,slow=6.1,SNR=5.0						
BVAR	**Borovoye Array**	**66.49**	**320**	P	P	21 27 33.4	+0.4
	0.8nm,0.5s,baz=97,slow=5.9,SNR=3.8						
YKA	**Yellowknife Ar**	**78.14**	**28**	P	P	21 28 42.8	+0.3
	0.3nm,0.7s,baz=289,slow=5.4,SNR=4.8						
NVAR	**Mina Array Bea**	**83.30**	**52**	P	P	21 29 11.6	+0.7
	0.5nm,0.5s,baz=263,slow=7.1,SNR=4.5						

ISCJB 17 21:17:53.0±0.5, 42°.63N±0°.04×141°.82E±0°.05, h137km±3km, mb3.6/5, Error ellipse: s-maj=7.7km s-min=5.0km az=144.1
JMA 17 21:17:53.5±0.1, 42°.66N×141°.76E, h139km±2km, M2.8
IDC 17 21:17:54.8±1.7, 42°.80N×141°.42E, h125km±13km, mb3.3/4, mb1 3.2/5, mb1mx2.9/43, mbtmp3.6/5, Error ellipse: s-maj=34.6km s-min=19.4km az=125.0

ISC 17 21:17:54.1±0.9, 42°.63N±0°.05×141°.82E±0°.04, h135km±6km, n23, σ0°88/39, mb3.8/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEW	**Eniwo**	**0.35**	**308**	P	**Pn**	**21 18 12.7**	**-0.3**
JEW				*e*S	**Sn**	**21 18 27.1**	**-0.2**
JBT2	**Biratori 2**	**0.43**	**69**	P	**Pn**	**21 18 13.7**	**+0.4**
JBT2				*e*S	**Sn**	**21 18 28.9**	**+1.0**
JNB	**Noboribetsu**	**0.60**	**255**	P	**Pn**	**21 18 13.8**	**-0.5**
JNB				*e*S	**Sn**	**21 18 29.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.77**	**116**	P	**Pn**	**21 18 16.0**	**+0.5**
JNBK				*e*S	**Sn**	**21 18 33.4**	**+1.7**
JFR	**Furan**	**0.78**	**46**	P	**Pn**	**21 18 15.3**	**-0.3**
JFR				*e*S	**Sn**	**21 18 31.5**	**-0.4**
JAB	**Ashibetsu**	**0.93**	**18**	P	**Pn**	**21 18 16.9**	**+0.2**
JAB				*e*S	**Sn**	**21 18 34.3**	**+0.3**
JKB	**Kayabe**	**0.94**	**219**	P	**Pn**	**21 18 16.3**	**-0.6**
JKB				*e*S	**Sn**	**21 18 33.5**	**-0.7**
JHR	**Hokuryu**	**1.12**	**356**	P	**Pn**	**21 18 18.8**	**+0.3**
JHR				*e*S	**Sn**	**21 18 37.4**	**+0.2**
JCH	**Churui**	**1.14**	**90**	P	**Pn**	**21 18 18.2**	**-0.5**
JCH				*e*S	**Sn**	**21 18 36.4**	**-1.0**
JSK	**Shakotan**	**1.23**	**307**	*e*S	**Sn**	**21 18 38.7**	**-0.3**
JOT	**Ohata**	**1.37**	**205**	P	**Pn**	**21 18 20.7**	**-0.4**
JOT				*e*S	**Sn**	**21 18 41.1**	**-0.6**
JKK2	**Kamakawa 2**	**1.42**	**28**	P	**Pn**	**21 18 21.3**	**-0.3**
JKK2				*e*S	**Sn**	**21 18 42.1**	**-0.5**
JAR	**Ashorobuto**	**1.58**	**64**	P	**Pn**	**21 18 22.8**	**-0.5**
JAR				*e*S	**Sn**	**21 18 44.8**	**-0.9**
ASAJ	**Asahikawa**	**1.59**	**20**	P	**Pn**	**21 18 23.1**	**-0.4**
	6.1nm,0.3s,baz=229,slow=11,SNR=7.1						
ASAJ				S	**Sn**	**21 18 45.1**	**-0.9**
	6.0nm,0.3s,baz=95,slow=33,SNR=19						
JOSM	**Okushiri--Mats**	**1.82**	**253**	P	**Pn**	**21 18 25.7**	**-0.5**
JOSM				*e*S	**Sn**	**21 18 50.1**	**-0.6**
JTKR	**Abashiri--Toko**	**2.03**	**48**	P	**Pn**	**21 18 28.9**	**+0.3**
JTKR				*e*S	**Sn**	**21 18 55.4**	**+0.3**
JAK	**Akkeshi**	**2.15**	**79**	P	**Pn**	**21 18 29.1**	**-0.9**
JAK				*e*S	**Sn**	**21 18 55.5**	**-2.1**
MJAR	**Matsushiro Arr**	**6.69**	**206**	P	**Pn**	**21 19 30.5**	**+0.6**
	0.3nm,0.3s,baz=27,slow=12,SNR=4.4						
ZALV	**Zalesovo Beam**	**38.57**	**307**	P	**P**	**21 25 03.3**	**-0.1**
	0.5nm,0.3s,baz=88,slow=8.0,SNR=2.3						
KURBB	**Kurchatov Arra**	**42.99**	**303**	P	**P**	**21 25 41.3**	**+1.7**
	1.0nm,0.4s,baz=74,slow=8.9,SNR=9.4						
BVAR	**Borovoye Array**	**47.18**	**309**	P	**P**	**21 26 11.7**	**-1.1**
	0.7nm,0.3s,baz=74,slow=10,SNR=5.7						
YKA	**Yellowknife Ar**	**58.85**	**32**	P	**P**	**21 27 40.1**	**+2.0**
	0.1nm,0.5s,baz=289,slow=7.8,SNR=3.7						
FINES	**FINESS Array B**	**64.04**	**331**	P	**P**	**21 28 11.4**	**-1.5**
	0.9nm,0.5s,baz=52,slow=5.6,SNR=6.7						

ISCJB 17 21:28:01.5±0.4, 32°.30N±0°.02×115°.33W±0°.03, h12km±3km, Error ellipse: s-maj=3.6km s-min=3.1km az=1.7
NEIC 17 21:28:02.2, 32°.27N×115°.37W, h6km, MD4.1(MEX), ML3.7(PAS), After PAS.
ECX 17 21:28:03.2±0.6, 32°.31N×115°.38W, h6km, MD3.7, ML3.9
MEX 17 21:28:03.6±1.1, 32°.32N×115°.33W, h4km±16km, MD4.1

ISC 17 21:28:01.8±0.9, 32°.26N±0°.02×115°.39W±0°.02, h10km±7km, n47, σ1°39/71, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**24**	⇑*e*P	**Pg**	**21 28 05.5**	**0.0**
CPBX				*e*S	**Sg**	**21 28 07.7**	**-0.4**
CPBX	**Cerro Prieto**	**0.17**	**24**	*e*P	**Pg**	**21 28 05.5**	**0.0**
MBIG	**Mexicali**	**0.22**	**47**	*e*P	**Pg**	**21 28 06.8**	**+0.5**
MBIG				*e*S	**Sg**	**21 28 09.0**	**-0.3**
EMX	**El Mayor**	**0.30**	**156**	*e*P	**Pg**	**21 28 08.2**	**+0.4**
EMX				*e*S	**Sg**	**21 28 12.9**	**+1.2**
SGL	**Mount Signal**	**0.48**	**324**	⇑*i* P	**Pg**	**21 28 11.1**	**-0.1**
RDX	**Rancho Dawling**	**0.58**	**235**	*e*P	**Pb**	**21 28 14.1**	**-0.1**
RDX				*e*S	**Sb**	**21 28 22.7**	**+0.2**
RDX				⇓*e*		21 28 24.7	
RDX				AML	AML	21 28 24.7	
	comp=N,4μm,0.3s						
YUH	**Yuha Desert**	**0.60**	**311**	⇓*i* P	**Pg**	**21 28 13.0**	**-0.4**
COA	**Coachella**	**0.64**	**20**	⇓*i* P	**Pg**	**21 28 13.8**	**-0.4**
COK	**Cook Ranch**	**0.65**	**334**	⇓*i* P	**Pg**	**21 28 14.3**	**-0.2**
RMX	**La Rumorosa**	**0.68**	**300**	*e*P	**Pg**	**21 28 14.8**	**-0.2**
RMX				*e*S	**Sg**	**21 28 23.6**	**-0.2**
ECBX	**El Chinero**	**0.84**	**160**	*e*P	**Pg**	**21 28 18.1**	**+0.1**
ECBX				*e*S	**Sb**	**21 28 29.8**	**+0.1**
GLA	**Glamis**	**0.92**	**31**	*e*Pg	**Pg**	**21 28 17.7**	**-1.8**
GLA				*e*Sg	**Sg**	**21 28 29.3**	**-2.2**
ZAX	**El Zacaton**	**1.06**	**226**	*e*P	**Pg**	**21 28 22.4**	**+0.2**
ZAX				*e*S	**Sb**	**21 28 37.0**	**+0.7**
ZAX				⇓*e*		21 28 41.2	
ZAX				AML	AML	21 28 41.2	
	comp=N,2μm,0.5s						
ZAX				⇑*e*		21 28 44.1	
CBX	**Cerro Bola**	**1.08**	**273**	*e*P	**Pg**	**21 28 22.4**	**-0.3**
CBX				*i* S	**Sg**	**21 28 36.7**	**0.0**
CBX	**Cerro Bola**	**1.08**	**273**	*e*P	**Pg**	**21 28 22.4**	**-0.3**
CBX				*e*S	**Sg**	**21 28 36.9**	**+0.2**
CBX				⇓*e*		21 28 42.0	
CBX				AML	AML	21 28 42.0	
	comp=N,4μm,0.4s						
CBX	**Cerro Bola**	**1.08**	**273**	*e*P	**Pg**	**21 28 22.5**	**-0.2**
CBX				*i* S	**Sg**	**21 28 36.7**	**0.0**
BAR	**Barrett**	**1.17**	**291**	*e*P	**Pg**	**21 28 23.0**	**-1.2**
BAR	**Barrett**	**1.17**	**291**	*e*Pg	**Pg**	**21 28 23.0**	**-1.2**
BAR				*e*Sg	**Sg**	**21 28 37.9**	**-1.5**
ECNX	**Esteban Cantu**	**1.19**	**240**	*e*P	**Pb**	**21 28 24.6**	**0.0**
ECNX				*e*S	**Sb**	**21 28 41.0**	**+0.8**
SPIG	**San Pedro Mart**	**1.21**	**183**	*i* P	**Pb**	**21 28 24.6**	**-0.4**
SPIG				*i* S	**Sg**	**21 28 40.4**	**-0.5**
SPIG	**San Pedro Mart**	**1.21**	**183**	*e*P	**Pb**	**21 28 24.7**	**-0.4**
SPIG				*e*S	**Sn**	**21 28 42.3**	**+0.4**
SPIG	**San Pedro Mart**	**1.21**	**183**	*i* P	**Pb**	**21 28 24.6**	**-0.4**
SPIG				*i* S	**Sg**	**21 28 40.4**	**-0.5**
SPX	**San Pedro Mart**	**1.21**	**183**	⇑*e*P	**Pb**	**21 28 24.7**	**-0.4**
SPX				*e*S	**Sn**	**21 28 42.7**	**+0.8**
SPX	**San Pedro Mart**	**1.21**	**183**	*e*P	**Pb**	**21 28 24.5**	**-0.6**
SPX				*i* S	**Sg**	**21 28 41.0**	**0.0**
PBX	**Punta Banda**	**1.25**	**246**	*e*P	**Pn**	**21 28 25.4**	**0.0**
PFO	**Pinyon Flats O**	**1.62**	**327**	*e*Pn	**Pn**	**21 28 28.2**	**-2.4**
PFO				*e*Sn	**Sn**	**21 28 47.2**	**-4.4**
214A	**Organ Pipe Nat**	**2.21**	**97**	*e*Pn	**Pn**	**21 28 36.0**	**-2.6**
214A				*e*Pg	**Pg**	**21 28 44.8**	**+0.7**
214A				*e*Sn	**Sb**	**21 29 08.2**	**-1.0**
LDFC	**Landfair**	**2.82**	**5**	*e*Pn	**Pn**	**21 28 46.5**	**-0.6**
LDFC				*e*Sn	**Sn**	**21 29 23.8**	**+2.6**
MWC	**Mount Wilson**	**2.97**	**312**	*e*Pn	**Pb**	**21 28 53.2**	**-1.8**
MWC				*e*Sb	**Sb**	**21 29 33.6**	**+2.0**
PASC	**Pasadena Art C**	**3.02**	**310**	*e*Pn	**Pb**	**21 28 55.1**	**-0.6**
PASC				*e*Sb	**Sb**	**21 29 33.9**	**+1.2**
GSC	**Goldstone, Bar**	**3.26**	**339**	*e*Pg	Pg	21 29 07.3	+3.1
OSI	**Osito Audit: C**	**3.65**	**311**	*e*Pn	**Pn**	**21 29 01.5**	**+3.1**
TUC	**Tucson**	**3.90**	**88**	*e*Pn	**Pn**	**21 28 58.9**	**-3.0**
TUC				*e*Sb	**Sb**	**21 30 00.4**	**+2.3**
SHPR	**Sheep Range**	**4.24**	**2**	*e*Pn	**Pn**	**21 29 05.9**	**-0.7**
ISA	**Isabella, Lake**	**4.25**	**324**	*e*Pb	**Pb**	**21 29 18.6**	**+1.8**
DAC	**Darwin (Calif)**	**4.40**	**336**	*e*Pg	**Pg**	**21 29 28.9**	**+2.7**
WUAZ	**Wupatki**	**4.66**	**45**	*e*Pn	**Pn**	**21 29 12.8**	**+0.4**
TPNV	**Topopah Spring**	**4.73**	**352**	*e*Pn	**Pn**	**21 29 16.5**	**+3.1**
W18A	**Petrified Fore**	**5.50**	**57**	*e*Pn	**Pn**	**21 29 24.2**	**+0.1**
	comp=N,23nm,0.7s						
CCUT	**Cedar City**	**5.53**	**17**	*e*Pn	**Pn**	**21 29 24.9**	**+0.4**
TPH	**Tonopah**	**5.99**	**346**	*e*Pg	**Pg**	**21 29 59.2**	**+2.6**
R11A	**Troy Canyon, C**	**6.08**	**359**	*e*Pg	**Pg**	**21 29 56.0**	**-2.2**
121A	**Cookes Peak, D**	**6.43**	**86**	*e*Pn	**Pn**	**21 29 36.2**	**-0.6**
LENM	**Lemitar**	**7.30**	**73**	*e*Pn	**Pn**	**21 29 49.1**	**+0.3**
MVCO	**Mesa Verde**	**7.52**	**47**	*e*Pn	**Pn**	**21 29 52.8**	**+1.0**
PV01	**Paradox Valley**	**8.09**	**42**	*e*Pn	**Pn**	**21 30 00.6**	**+1.0**
MNTX	**Cornudas Mount**	**8.52**	**91**	*e*Pn	**Pn**	**21 30 04.2**	**-1.1**

NNC 17 21:28:34.6±3.6, 37°.52N×71°.73E, h157km, mb2.7, mpv3.7, Error ellipse: s-maj=34.1km s-min=13.2km az=161.0

ISC 17 21:28:35.4±3.1, 37°.5N±0°.2×71°.78E±0°.09, h130km, n14, σ1°14/18, 3C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.67**	**300**	⇓P	**Pn**	**21 29 17.0**	**-0.8**
	21nm,0.4s						
DZET				⇓S	**Sn**	**21 29 52.2**	**+1.8**
	66nm,0.5s						
SFK	**Sufi-Kurgan**	**2.85**	**28**	⇓P	**Pn**	**21 29 20.8**	**+0.6**
	13nm,0.3s						
SFK				⇓S	**Sn**	**21 29 57.3**	**+2.4**
	68nm,0.5s						
AML	**Almayashu**	**4.86**	**17**	P	**Pn**	**21 29 46.1**	**-0.8**
	SNR=46						
MNAS	**Manas**	**5.01**	**6**	⇓P	**Pn**	**21 29 48.5**	**-0.2**
	4.6nm,0.4s						
MNAS				⇑S	**Sn**	**21 30 45.1**	**-0.7**
	40nm,0.6s						
UCH	**Uchtor**	**5.17**	**23**	P	**Pn**	**21 29 50.6**	**-0.5**
	SNR=36						
EKS2	**Erkin-Say**	**5.38**	**16

MAKR S Sn 21 34 12.2 +0.2
MAKR Makrakomi, Fth 1.22 111 *e*PB Pg 21 33 53.6 -1.5
MAKR Makrakomi, Fth 1.22 111 P Pg 21 33 53.4 -1.7
MAKR S Sn 21 34 12.2 +0.2
VLS Valsamata 1.29 183 P Pn 21 33 55.6 -0.4
VLS Valsamata 1.29 183 *e*PN Pn 21 33 55.7 -0.3
VLS *e*SN Sn 21 34 14.4 +0.8
VLS Valsamata 1.29 183 P Pn 21 33 55.6 -0.4
VLS *e*SN Sn 21 34 14.4 +0.8
AGG Agios Georgios 1.36 108 *e*PN Pn 21 33 56.6 -0.5
AGG Agios Georgios 1.36 108 *e*Pn Pn 21 33 56.6 -0.5
EFP Efpalio 1.42 137 P Pn 21 33 57.9 +0.1
EFP S Sg 21 34 17.8 +0.6
EFP Efpalio 1.42 137 *e*PN Pb 21 33 58.1 -0.3
EFP Efpalio 1.42 137 *e*Pn Pb 21 33 58.1 -0.3
EFP S Sg 21 34 17.8 +0.6
FNA Florina 1.42 22 *i* PG Pn 21 33 58.2 +0.3
FNA Florina 1.42 22 P Pn 21 33 58.2 +0.3
FNA S Sg 21 34 18.3 +0.9
FNA Florina 1.42 22 *e*PN Pn 21 33 57.7 -0.2
FNA Florina 1.42 22 *e*Pn Pn 21 33 57.7 -0.2
FNA Florina 1.42 22 P Pn 21 33 58.2 +0.3
FNA S Sg 21 34 18.3 +0.9
LIT Litokhoron 1.54 65 P Pn 21 33 59.5 0.0
LIT S Sg 21 34 21.0 -0.1
LIT Litokhoron 1.54 65 *e*PN Pn 21 33 59.8 +0.3
LIT Litokhoron 1.54 65 P Pn 21 33 59.5 0.0
LIT Litokhoron 1.54 65 *e*Pn Pn 21 33 59.8 +0.3
LIT S Sg 21 34 21.0 -0.1
RLS Riolos of Patr 1.54 156 P Pb 21 34 00.0 -0.4
RLS Riolos of Patr 1.54 156 *e*PN Pn 21 33 59.8 +0.3
RLS Riolos of Patr 1.54 156 *e*Pn Pn 21 33 59.8 +0.3
KALE Kalithea 1.57 133 P Pn 21 33 59.7 -0.3
KALE S Sb 21 34 21.6 +0.4
KALE Kalithea 1.57 133 *e*PN Pb 21 34 00.6 -0.5
KALE Kalithea 1.57 133 P Pn 21 33 59.7 -0.3
KALE Kalithea 1.57 133 *e*Pn Pb 21 34 00.6 -0.5
KALE S Sb 21 34 21.6 +0.4
AXAR Agios Charalam 1.70 114 P Pn 21 34 01.3 -0.4
AXAR S Sb 21 34 24.9 +0.1
AXAR Agios Charalam 1.70 114 *e*PN Pb 21 34 02.8 -0.4
AXAR Agios Charalam 1.70 114 P Pn 21 34 01.3 -0.4
AXAR Agios Charalam 1.70 114 *e*Pn Pb 21 34 02.8 -0.4
AXAR S Sb 21 34 24.9 +0.1
DRO Drossia 1.72 151 *e*PN Pn 21 34 02.6 +0.6
DRO Drossia 1.72 151 *e*Pn Pn 21 34 02.6 +0.6
KLV Kalavryta, Ach 1.83 140 *e*PN Pb 21 34 05.4 -0.1
KLV Kalavryta, Ach 1.83 140 *e*Pn Pb 21 34 05.4 -0.1
XOR Xorichti 1.96 92 P Pn 21 34 05.2 -0.1
XOR S Sn 21 34 31.2 +1.1
XOR Xorichti 1.96 92 *e*PN Pn 21 34 06.2 +0.9
XOR Xorichti 1.96 92 P Pn 21 34 05.2 -0.1
XOR Xorichti 1.96 92 *e*Pn Pn 21 34 06.2 +0.9
XOR S Sn 21 34 31.2 +1.1
NEO Neokhori 1.99 94 *e*PN Pb 21 34 07.3 -0.8
NEO Neokhori 1.99 94 *e*Pn Pb 21 34 07.3 -0.8
LKR Lokris 1.99 113 *e*PN Pn 21 34 06.5 +0.8
LKR Lokris 1.99 113 *e*Pn Pn 21 34 06.5 +0.8
GRG Griva 1.99 41 *e*PB Pn 21 34 05.3 -0.5
GRG Griva 1.99 41 *e*Pb Pn 21 34 05.3 -0.5
GUR Goura 2.01 139 *e*PN Pb 21 34 07.8 -0.8
GUR Goura 2.01 139 *e*Pn Pb 21 34 07.8 -0.8
SMIA Simia 2.06 106 *e*PN Pn 21 34 07.5 +0.8
SMIA Simia 2.06 106 *e*Pn Pn 21 34 07.5 +0.8
AMT Artemida-Makis 2.10 157 *e*PN Pn 21 34 08.1 +0.9
AMT Artemida-Makis 2.10 157 *e*Pn Pn 21 34 08.1 +0.9
THE Thessaloniki 2.11 56 *e*PN Pn 21 34 07.9 +0.6
THE Thessaloniki 2.11 56 *e*Pn Pn 21 34 07.9 +0.6
HORT Hortiatis 2.18 58 *e*PB Pn 21 34 08.0 -0.4
HORT Hortiatis 2.18 58 *e*Pb Pn 21 34 08.0 -0.4
SKIA Skiathos 2.19 97 *e*PN Pb 21 34 10.1 -1.5
SKIA Skiathos 2.19 97 *e*Pn Pb 21 34 10.1 -1.5
SFD Strofades 2.23 173 *e*PN Pb 21 34 11.0 -1.2
SFD Strofades 2.23 173 *e*Pn Pb 21 34 11.0 -1.2
LTK Loutraki 2.31 128 *e*PN Pb 21 34 12.0 -1.5
LTK Loutraki 2.31 128 *e*Pn Pb 21 34 12.0 -1.5
PLG Polygyros 2.32 66 *e*PB Pn 21 34 11.6 +1.4
PLG Polygyros 2.32 66 *e*Pb Pn 21 34 11.6 +1.4
PAIG Paliouri 2.37 78 *e*PN Pn 21 34 12.5 +1.6
PAIG Paliouri 2.37 78 *e*Pn Pn 21 34 12.5 +1.6
MRKA Markates 2.40 108 P Pn 21 34 12.1 +0.8
MRKA Markates 2.40 108 *e*PB Pn 21 34 11.8 +0.5
MRKA Markates 2.40 108 *e*Pb Pn 21 34 11.8 +0.5
MRKA Markates 2.40 108 P Pn 21 34 12.1 +0.8
KNT Kendrikon 2.40 45 P Pn 21 34 11.8 +0.4
KNT Kendrikon 2.40 45 *e*PB Pn 21 34 11.9 +1.5
KNT Kendrikon 2.40 45 P Pn 21 34 11.8 +0.4
SOH Sokhos 2.46 56 P Pn 21 34 12.7 +0.5
SOH Sokhos 2.46 56 *e*PB Pn 21 34 12.8 +0.5
SOH Sokhos 2.46 56 P Pn 21 34 12.7 +0.5
VLX Vlachokerasia 2.49 147 P Pn 21 34 13.0 +0.4
VLX Vlachokerasia 2.49 147 *e*PB Pn 21 34 14.1 +1.5
VLX Vlachokerasia 2.49 147 P Pn 21 34 13.0 +0.4
VLX Vlachokerasia 2.49 147 *e*Pb Pn 21 34 14.1 +1.5
ITM Ithomi 2.49 156 *e*PB Pn 21 34 14.3 +1.7
ITM Ithomi 2.49 156 *e*Pb Pn 21 34 14.3 +1.7
AOS Alonnisos 2.51 96 P Pn 21 34 12.7 -0.1
AOS Alonnisos 2.51 96 *e*PB Pn 21 34 13.9 +1.1
AOS Alonnisos 2.51 96 P Pn 21 34 12.7 -0.1
AOS Alonnisos 2.51 96 *e*Pb Pn 21 34 13.9 +1.1
OUR Ouranopolis 2.69 70 *e*PN Pn 21 34 16.3 +1.0
OUR Ouranopolis 2.69 70 *e*Pn Pn 21 34 16.3 +1.0
PYL PYLOS 2.70 161 *e*PB Pn 21 34 17.8 +2.3
PYL PYLOS 2.70 161 *e*Pb Pn 21 34 17.8 +2.3
SRS Serrai 2.78 53 *e*PN Pn 21 34 16.9 +0.4
SRS Serrai 2.78 53 *e*Pn Pn 21 34 16.9 +0.4
ATH Athens Observa 2.81 121 *e*PN Pn 21 34 18.4 +1.4
ATH Athens Observa 2.81 121 *e*Pn Pn 21 34 18.4 +1.4
PE1 Pezze di Greco 2.82 299 *e*Pn Pn 21 34 18.0 +0.9
PTL Penteli 2.87 119 *e*PN Pn 21 34 19.0 +1.2
PTL Penteli 2.87 119 *e*Pn Pn 21 34 19.0 +1.2
NVR Nevrokopi 3.08 51 *e*PB Pn 21 34 22.7 +2.0
NVR Nevrokopi 3.08 51 *e*Pb Pn 21 34 22.7 +2.0
MMB Musomiste 3.15 47 ∥ *i*P Pn 21 34 22.7 +1.0
MMB Musomiste 3.15 47 S Sb 21 35 04.6 -2.0
MMB Musomiste 3.15 47 ∥ *i*P Pn 21 34 22.7 +1.0
VLI Veliai 3.28 146 *e*PN Pn 21 34 24.9 +1.5
VLI Veliai 3.28 146 *e*Pn Pn 21 34 24.9 +1.5
BARS Barje 3.46 14 *e*Pn Pn 21 34 27.3 +1.5
VTS Vitosha 3.67 31 ⇑ *i*P Pn 21 34 31.6 +2.8
VTS Vitosha 3.67 31 ⇑ *i*P Pn 21 34 31.6 +2.8
KYTH Kithira 3.69 149 *e*PN Pn 21 34 31.1 +2.0
KYTH Kithira 3.69 149 *e*Pn Pn 21 34 31.1 +2.0
CDT Castel del Mon 3.73 297 *e*Pn Pn 21 34 30.0 +0.4
SJES Sjenica 3.83 352 *e*Pn Pn 21 34 33.0 +2.0
STON Ston 4.07 328 *e*Pn Pn 21 34 33.0 -1.2
STON Sn Sn 21 35 19.8 -2.3
STON Ston 4.07 328 *e*Pn Pn 21 34 33.0 -1.2
STON Sn Sn 21 35 19.8 -2.3
ANKY Antikythira Is 4.16 149 *e*PN Pn 21 34 36.9 +1.4
ANKY Antikythira Is 4.16 149 *e*Pn Pn 21 34 36.9 +1.4
KDZ Kurdzhali 4.22 57 ∥ *i*P Pn 21 34 37.3 +0.9
KDZ Kurdzhali 4.22 57 ∥ *i*P Pn 21 34 37.3 +0.9
CHOS Chios island 4.34 103 *e*PN Pn 21 34 39.5 +1.5
CHOS Chios island 4.34 103 *e*Pn Pn 21 34 39.5 +1.5
ALN Alexandroupoli 4.36 69 *e*PN Pn 21 34 39.8 +1.6
ALN Alexandroupoli 4.36 69 *e*Pn Pn 21 34 39.8 +1.6
GRUS Gruza 4.42 0 *e*Pn Pn 21 34 40.4 +1.4
BBLS Lazići 4.50 348 *e*Pn Pn 21 34 41.6 +1.4
DIVS Divibare 4.66 354 *e*Pn Pn 21 34 43.0 +0.6
KARN Karanos 4.81 146 *e*PN Pn 21 34 44.5 0.0
KARN Karanos 4.81 146 *e*Pn Pn 21 34 44.5 0.0
TEKS Tekeris 5.15 351 *e*Pn Pn 21 34 49.0 -0.1
ARR Arges 6.58 25 ∥ *i*P Pn 21 35 10.9 +2.0
ARR Arges 6.58 25 ∥ *i*P Pn 21 35 10.9 +2.0
VOIR 6.79 27 ⇑ *i*P Pn 21 35 14.5 +2.8
VOIR 6.79 27 ⇑ *i*P Pn 21 35 14.5 +2.8
PKSM Moragy 6.90 348 ⇑ *i*P Pn 21 35 16.5 +3.4
MLR Muntele Rosu 7.17 31 ∥ *i*P Pn 21 35 20.3 +3.3
PLOR Plostina 7.75 33 ∥ *i*P Pn 21 35 26.7 +1.8
PLOR Plostina 7.75 33 ∥ *i*P Pn 21 35 26.7 +1.8
VRI Vrincioaia 7.80 33 ∥ *i*P Pn 21 35 27.6 +2.2
VRI Vrincioaia 7.80 33 ∥ *i*P Pn 21 35 27.6 +2.2
BRTR Keskin Array B 10.02 84 Pn Pn 21 36 01.0 +4.9
0.0nm,0.3s,baz=278,slow=9.8,SNR=2.9
GERES GERESS Array B 10.62 334 Pn Pn 21 36 09.0 +4.8
0.1nm,0.3s,baz=158,slow=14,SNR=3.2
FINES FINESS Array B 22.25 7 P **P 21 38 31.0 +2.2**
2.0nm,0.9s,baz=181,slow=9.7,SNR=4.5

MKAR Makanchi Array 44.54 60 P **P 21 41 41.5 -2.3**
0.2nm,0.4s,baz=290,slow=7.3,SNR=7.5
ZALV Zalesovo Beam 44.75 49 P **P 21 41 43.5 -2.0**
0.6nm,0.5s,baz=280,slow=8.3,SNR=4.2

KRSC 17 21:49:33.3±2.6, 49.18N×156.71E, h15km±40km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.55**	**346**	*e*P		Pn	21 49 59.1	-1.2
SKR				*e*S		Sn	21 50 18.2	-1.9
PAU	**Pauzhetka**	**2.29**	**2**	*e*P		Pn	21 50 11.4	+1.0
PAU				*e*S		Sn	21 50 39.1	+0.8
MIPR	**Malaya Ipel'ka**	**3.10**	**1**	*e*P		Pn	21 50 22.8	+1.2
ASAK	**Asacha**	**3.29**	**13**	*e*P		Pb	21 50 27.9	-3.5
MTVR	**Mutnovka**	**3.43**	**15**	*e*P		Pn	21 50 29.4	+3.0
MTVR				*e*S		Sb	21 51 11.7	-3.9
RUS	**Russkaya**	**3.45**	**19**	*e*P		Pn	21 50 29.7	+3.3
RUS				*e*S		Sb	21 51 12.2	-3.4
UGLR	**Uglovaya**	**4.24**	**17**	*e*P		Pn	21 50 42.3	+4.8
AVH	**Avacha**	**4.28**	**17**	*e*P		Pn	21 50 42.4	+4.5
KOK	**Koryaka**	**4.29**	**16**	*e*P		Pn	21 50 43.2	+5.1
SMAR	**Somma**	**4.29**	**17**	*e*P		Pn	21 50 42.7	+4.5
KRER	**Koryakskii**	**4.32**	**16**	*e*P		Pn	21 50 43.2	+4.6
SDLR	**Sedlovina**	**4.32**	**18**	*e*P		Pn	21 50 42.5	+4.0
KRX	**Arik**	**4.35**	**15**	*e*P		Pn	21 50 43.2	+4.2
SPN	**Mys Shipunski**	**4.44**	**27**	*e*P		Pn	21 50 44.0	+4.0
SPN				*e*S		Sn	21 51 37.3	+6.0
GNL	**Ganaly**	**4.58**	**9**	*e*P		Pn	21 50 47.0	+4.9
MKZ	**Mys Kozlova**	**6.21**	**28**	*e*P		Pn	21 51 07.3	+3.0
KBTR	**Krutoberegovo**	**7.95**	**25**	*e*P		Pn	21 51 31.8	+3.6

GUC 17 21:53:05.9±0.3, 34.19S×72.82W, h15km±6km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.20**	**79**	*e*P		Pb	21 53 28.3	+0.1
IHA	**Instituto Hidr**	**1.52**	**41**	*e*P		Pb	21 53 33.8	-0.1
NICH	**Los Niches**	**1.54**	**122**	*e*P		Pg	21 53 37.5	+1.9
NICH				*e*S		Sg	21 53 58.9	+3.2
RCDM	**Rinconada Maip**	**1.82**	**68**	*e*P		Pb	21 53 38.5	-0.5
RCDM				*e*S		Sg	21 54 03.2	-1.3
CHCH	**Chadas Angostu**	**1.82**	**82**	*e*P		Pb	21 53 38.7	-0.3
CACH	**El Canelo**	**1.84**	**88**	*e*P		Pb	21 53 39.6	0.0
CLCH	**Cerro Calan**	**2.06**	**68**	*e*P		Pb	21 53 42.5	-0.7
CLCH				*e*S		Sb	21 54 10.3	+1.6
CLCH				AML		AML	21 54 20.4	
	comp=N,766nm,0.6s							
PEL	**Peldehue**	**2.07**	**60**	*e*P		Pb	21 53 42.5	-0.8
PEL				*e*S		Sb	21 54 10.1	+1.3
PEL				AML		AML	21 54 15.2	
	comp=N,2μm,0.6s							

*ISCJB **17** 22:07:43.3±0.5, 9.83N±0.07×57.10E±0.06, h13km, mb4.3/45, Error ellipse: s-maj=10.2km s-min=8.6km az=168.5*
*IDC **17** 22:07:43.1±0.6, 9.78N×57.20E, h0km, mb4.1/22, mb1 4.2/22, mb1mx4.1/39, mbtmp4.1/22, Error ellipse: s-maj=15.8km s-min=13.8km az=148.0*
*NEIC **17** 22:07:44.8±0.4, 9.83N×57.09E, h10km, mb4.7/23, Error ellipse: s-maj=9.7km s-min=8.2km az=160.0*
*CSEM **17** 22:07:45.0±0.2, 9.87N×57.18E, h10km, mb4.5/21, Error ellipse: s-maj=10.4km s-min=8.6km az=159.0*
ISC 17 22:07:45.3±0.6, 9.82N±0.10×57.20E±0.09, h13km, n146, σ1§13/147, mb4.3/45, 14C-4D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
RAYN	**Ar Rayn**	**17.62**	**322**	*e*Pn		**Pn**	**22 11 47.2**	**-3.6**
	6.2nm,0.7s							
FURI	**Furi**	**18.30**	**269**	*e*Pn		**P**	**22 12 01.6**	**+2.0**
FURI	**Furi**	**18.30**	**269**	*e*Pn		**P**	**22 12 01.6**	**+2.0**
H08N2	**Diego Garcia H**	**21.12**	**139**	T		T	22 34 11.9	
	baz=318,slow=76,SNR=237							
H08N3	**Diego Garcia H**	**21.14**	**139**	T		T	22 34 12.6	
	baz=318,slow=76,SNR=250							
H08N1	**Diego Garcia H**	**21.15**	**139**	T		T	22 34 13.5	
	baz=318,slow=76,SNR=250							
KMBO	**Kilima Mbogo**	**22.64**	**242**	P		**P**	**22 12 46.0**	**-0.7**
	2.3nm,0.6s,baz=48,slow=13,SNR=9.6							
KBL	**Kabul**	**26.89**	**22**	*e*P		**P**	**22 13 28.1**	**+1.8**
	1.9nm,0.7s							
KBL	**Kabul**	**26.89**	**22**	*e*P		**P**	**22 13 28.1**	**+1.8**
	1.9nm,0.7s							
GEYT	**Allbeck**	**28.00**	**2**	P		**P**	**22 13 38.8**	**+2.8**
	0.4nm,0.4s,baz=169,slow=8.5,SNR=2.1							
GNI	**Garni**	**32.17**	**342**	P		**P**	**22 14 15.0**	**+1.9**
	2.8nm,0.5s,baz=266,slow=5.1,SNR=6.0							
GNI	**Garni**	**32.17**	**342**	*e*P		**P**	**22 14 13.9**	**+0.8**
	6.7nm,0.8s							
GNI	**Garni**	**32.17**	**342**	*e*P		**P**	**22 14 13.9**	**+0.8**
	6.7nm,0.8s							
KKAR	**Karatay Array**	**35.13**	**17**	*e*P		**P**	**22 14 38.0**	**-0.7**
KKAR	**Karatay Array**	**35.13**	**17**	*e*P		**P**	**22 14 38.0**	**-0.7**
EKS2	**Erkin-Say**	**35.79**	**21**	*e*P		**P**	**22 14 46.7**	**+2.2**
	8.5nm,1.1s							
KBZ	**Khabaz**	**36.00**	**342**	P		**P**	**22 14 47.2**	**+1.2**
	3.0nm,0.8s,baz=233,slow=20,SNR=8.9							
AAK	**Ala-Archa**	**36.02**	**22**	*e*P		**P**	**22 14 49.3**	**+2.8**
	4.3nm,1.1s							
BRTR	**Keskin Array B**	**36.43**	**329**	P		**P**	**22 14 50.8**	**+0.7**
	0.6nm,0.8s,baz=156,slow=6.0,SNR=5.4							
BRTR				PcP		**PcP**	**22 17 14.5**	**+0.4**
	1.1nm,0.8s,baz=137,slow=5.4,SNR=7.3							
LSZ	**Lusaka**	**38.05**	**229**	P		**P**	**22 15 04.1**	**+0.1**
	3.0nm,0.7s,baz=25,slow=9.3,SNR=8.8							
LSZ	**Lusaka**	**38.05**	**229**	*e*P		**P**	**22 15 03.8**	**-0.3**
	3.2nm,0.7s							
LSZ	**Lusaka**	**38.05**	**229**	*e*P		**P**	**22 15 03.8**	**-0.3**
	3.2nm,0.7s							
IDI	**Anoyia**	**38.84**	**316**	PcP		**PcP**	**22 17 22.4**	**+0.9**
	1.4nm,0.5s,baz=141,slow=6.5,SNR=4.0							
ABKAR	**Akbulak array**	**39.38**	**3**	*e*P		**P**	**22 15 14.3**	**-0.3**
	1.8nm,0.8s							
ABKAR	**Akbulak array**	**39.38**	**3**	*e*P		**P**	**22 15 14.3**	**-0.3**
	1.8nm,0.8s							
AKTO	**Aktyubinsk**	**40.49**	**1**	P		**P**	**22 15 24.9**	**+1.0**
	2.5nm,0.7s,baz=195,slow=7.9,SNR=9.7							
CMAR	**Chiang Mai Arr**	**41.30**	**73**	P		**P**	**22 15 32.0**	**+1.1**
	2.9nm,0.9s,baz=264,slow=9.2,SNR=16							
MK31	**Makanchi Array**	**42.58**	**26**	*e*P		**P**	**22 15 41.6**	**+0.6**
MK31	**Makanchi Array**	**42.58**	**26**	*e*P		**P**	**22 15 41.6**	**+0.6**
MKAR	**Makanchi Array**	**42.58**	**26**	P		**P**	**22 15 41.9**	**+0.8**
	2.2nm,0.7s,baz=212,slow=8.4,SNR=29							
MKAR				PcP		**PcP**	**22 17 32.6**	**-0.8**
	0.5nm,0.7s,baz=231,slow=3.0,SNR=4.4							
VTS	**Vitosha**	**44.14**	**324**	⇑ *i*P		**P**	**22 15 54.5**	**+0.6**
VTS	**Vitosha**	**44.14**	**324**	⇑ *i*P		**P**	**22 15 54.5**	**+0.6**
VRI	**Vrincioaia**	**44.38**	**330**	⇑ *i*P		**P**	**22 15 57.5**	**+1.9**
PLOR	**Plostina**	**44.41**	**329**	⇑ *i*P		**P**	**22 15 58.1**	**+2.3**
MLR	**Muntele Rosu**	**44.51**	**329**	∥ *i*P		**P**	**22 15 58.2**	**+1.4**
MLR	**Muntele Rosu**	**44.51**	**329**	∥ *i*P		**P**	**22 15 58.2**	**+1.4**
TESR	**Tescani**	**44.87**	**330**	⇑ *i*P		**P**	**22 15 59.6**	**+0.1**
TESR	**Tescani**	**44.87**	**330**	⇑ *i*P		**P**	**22 15 59.6**	**+0.1**
ARR	**Arges**	**45.11**	**328**	⇑ *i*P		**P**	**22 16 01.6**	**+0.1**
ARR	**Arges**	**45.11**	**328**	⇑ *i*P		**P**	**22 16 01.6**	**+0.1**
DOPR	**Dopca**	**45.12**	**329**	∥ *i*P		**P**	**22 16 01.5**	**0.0**
DOPR	**Dopca**	**45.12**	**329**	∥ *i*P		**P**	**22 16 01.5**	**0.0**
LOT	**Lotru**	**45.63**	**327**	⇑ *i*P		**P**	**22 16 05.0**	**-0.6**
LOT	**Lotru**	**45.63**	**327**	⇑ *i*P		**P**	**22 16 05.0**	**-0.6**
BURAR	**Bucovina Array**	**46.34**	**330**	⇑ *i*P		**P**	**22 16 11.8**	**+0.6**
BURAR	**Bucovina Array**	**46.34**	**330**	⇑ *i*P		**P**	**22 16 11.8**	**+0.6**
LBTB	**Lobatse**	**46.35**	**221**	P		**P**	**22 16 11.4**	**-0.1**
	2.0nm,0.8s,baz=56,slow=4.5,SNR=5.6							
AKASG	**Malin Array Be**	**46.82**	**336**	P		**P**	**22 16 14.2**	**-0.6**
	0.4nm,0.5s,baz=154,slow=8.2,SNR=5.4							
BZS	**Buzias**	**46.90**	**326**	⇑ *i*P		**P**	**22 16 15.0**	**-0.5**
BZS	**Buzias**	**46.90**	**326**	⇑ *i*P		**P**	**22 16 15.0**	**-0.5**
ZALV	**Zalesovo Beam**	**49.24**	**21**	P		**P**	**22 16 33.6**	**+0.2**
	1.6nm,0.4s,baz=225,slow=7.3,SNR=14							
GERES	**GERESS Array B**	**53.17**	**325**	P		**P**	**22 17 02.1**	**-1.1**
	0.2nm,0.6s,baz=129,slow=7.7,SNR=3.2							
GERES				PcP		**PcP**	**22 18 11.0**	**-0.2**
	0.7nm,0.8s,baz=161,slow=6.2,SNR=3.7							
DAVOX	**Davos/Dischmat**	**54.39**	**322**	PcP		**PcP**	**22 18 16.8**	**+0.8**
	baz=252,slow=3.2							
TORD	**Torodi Ar. Bea**	**54.41**	**279**	P		**P**	**22 17 13.0**	**+0.3**
	1.8nm,0.9s,baz=95,slow=6.8,SNR=11							
TORD				PcP		**PcP**	**22 18 16.7**	**+0.2**
	0.8nm,0.8s,baz=68,slow=4.4,SNR=4.6							
TORD	**Torodi Ar. Bea**	**54.41**	**279**	P		**P**	**22 17 13.0**	**+0.3**
LPG	**La Plagne**	**55.82**	**319**	*e*P		**P**	**22 17 21.0**	**-1.8**
	6.1nm,0.8s							
LPG	**La Plagne**	**55.82**	**319**	*e*P		**P**	**22 17 21.0**	**-1.8**
	3.0nm,0.8s							
LPG	**La Plagne**	**55.82**	**319**	*e*P		**P**	**22 17 21.0**	**-1.8**
	6.1nm,0.8s							
LPL	**La Plagne**	**55.84**	**319**	*e*P		**P**	**22 17 21.8**	**-1.0**
LPL	**La Plagne**	**55.84**	**319**	*e*P		**P**	**22 17 21.8**	**-1.0**
LPL	**La Plagne**	**55.84**	**319**	*e*P		**P**	**22 17 21.8**	**-1.0**
SONM	**Songino Array**	**56.00**	**38**	P		**P**	**22 17 24.7**	**+0.9**
	0.8nm,0.6s,baz=237,slow=8.1,SNR=7.3							
SONM				PcP		**PcP**	**22 18 21.1**	**-1.1**
	0.4nm,0.6s,baz=250,slow=4.2,SNR=2.6							
JOF	**Joensuu**	**56.19**	**346**	*e*p		**P**	**22 17 23.7**	**-1.0**
	2.2nm,0.6s							
JOF	**Joensuu**	**56.19**	**346**	*e*P		**P**	**22 17 23.7**	**-1.0**
	2.2nm,0.6s							
FINES	**FINESS Array B**	**56.36**	**343**	P		**P**	**22 17 24.6**	**-1.3**
	2.8nm,0.7s,baz=139,slow=12,SNR=9.8							
ULN	**Ulaanbaatar**	**56.42**	**38**	*e*P		**P**	**22 17 25.4**	**-1.4**
	0.9nm,0.7s							
ULN	**Ulaanbaatar**	**56.42**	**38**	*e*P		**P**	**22 17 25.4**	**-1.4**
	0.9nm,0.7s							
CABF	**La Chapelle**	**56.68**	**320**	*e*P		**P**	**22 17 28.8**	**+0.1**
	32nm,1.0s							
CABF	**La Chapelle**	**56.68**	**320**	*e*P		**P**	**22 17 28.8**	**+0.1**
	16nm,1.0s							
CABF	**La Chapelle**	**56.68**	**320**	*e*P		**P**	**22 17 28.8**	**+0.1**
	32nm,1.0s							
CDF	**Champ du Feu**	**56.69**	**322**	*e*P		**P**	**22 17 28.3**	**-0.4**
	18nm,1.3s							
CDF	**Champ du Feu**	**56.69**	**322**	*e*P		**P**	**22 17 28.3**	**-0.4**
	8.8nm,1.3s							
CDF	**Champ du Feu**	**56.69**	**322**	*e*P		**P**	**22 17 28.3**	**-0.4**
	18nm,1.3s							
HINF	**Hinteralfeld**	**56.70**	**322**	*e*P		**P**	**22 17 27.3**	**-1.4**
HINF	**Hinteralfeld**	**56.70**	**322**	*e*P		**P**	**22 17 27.3**	**-1.4**
HINF	**Hinteralfeld**	**56.70**	**322**	*e*P		**P**	**22 17 27.3**	**-1.4**
KAF	**Kangasniemi**	**56.82**	**343**	*e*p		P	22 17 24.3	-5.0
	1.8nm,0.7s							
VIVF	**Saint-Julien-l**	**56.94**	**318**	*e*P		**P**	**22 17 29.5**	**-0.9**
VIVF	**Saint-Julien-l**	**56.94**	**318**	*e*P		**P**	**22 17 29.5**	**-0.9**
VIVF	**Saint-Julien-l**	**56.94**	**318**	*e*P		**P**	**22 17 29.5**	**-0.9**
HAU	**Haudompre**	**57.09**	**322**	*e*P		**P**	**22 17 29.8**	**-1.6**
	5.1nm,0.8s							
HAU	**Haudompre**	**57.09**	**322**	*e*P		**P**	**22 17 29.8**	**-1.6**
	2.5nm,0.8s							
HAU	**Haudompre**	**57.09**	**322**	*e*P		**P**	**22 17 29.8**	**-1.6**
	5.1nm,0.8s							
PAGF	**Fort de Pagny**	**57.69**	**322**	*e*P		**P**	**22 17 34.4**	**-1.3**
	3.7nm,0.9s							
PAGF	**Fort de Pagny**	**57.69**	**322**	*e*P		**P**	**22 17 34.4**	**-1.3**
	1.9nm,0.9s							
PAGF	**Fort de Pagny**	**57.69**	**322**	*e*P		**P**	**22 17 34.4**	**-1.3**
	3.7nm,0.9s							
SFTF	**Sexfontaines**	**57.97**	**321**	*e*P		**P**	**22 17 36.5**	**-1.1**
	36nm,1.3s							
SFTF	**Sexfontaines**	**57.97**	**321**	*e*P		**P**	**22 17 36.5**	**-1.1**
	18nm,1.3s							
SFTF	**Sexfontaines**	**57.97**	**321**	*e*P		**P**	**22 17 36.5**	**-1.1**
	36nm,1.3s							
MEZF	**Maizieres J'vi**	**58.08**	**322**	*e*P		**P**	**22 17 37.4**	**-1.0**
	9.2nm,0.7s							
MEZF	**Maizieres J'vi**	**58.08**	**322**	*e*P		**P**	**22 17 37.4**	**-1.0**
	4.6nm,0.7s							
MEZF	**Maizieres J'vi**	**58.08**	**322**	*e*P		**P**	**22 17 37.4**	**-1.0**
	9.2nm,0.7s							
MTLF	**Montolieu**	**58.10**	**315**	*e*P		**P**	**22 17 37.3**	**-1.3**
MTLF	**Montolieu**	**58.10**	**315**	*e*P		**P**	**22 17 37.3**	**-1.3**
MTLF	**Montolieu**	**58.10**	**315**	*e*P		**P**	**22 17 37.3**	**-1.3**
SMF	**Signal de Mont**	**58.13**	**319**	*e*P		**P**	**22 17 37.8**	**-1.0**
SMF	**Signal de Mont**	**58.13**	**319**	*e*P		**P**	**22 17 37.8**	**-1.0**
SMF	**Signal de Mont**	**58.13**	**319**	*e*P		**P**	**22 17 37.8**	**-1.0**
LOR	**Lormes**	**58.34**	**320**	*e*P		**P**	**22 17 39.0**	**-1.3**
LOR	**Lormes**	**58.34**	**320**	*e*P		**P**	**22 17 39.0**	**-1.3**
LOR	**Lormes**	**

0.1nm,0.3s,baz=348,slow=9.3,SNR=2.7
TORD Torodi Ar. Bea 78.34 70 P P 22 20 53.6 -0.5
0.3nm,0.6s,baz=257,slow=3.8,SNR=3.8
KURBB Kurchatov Arra 142.75 34 PKP PKPdf 22 28 26.1 -0.5
0.2nm,0.6s,baz=303,slow=3.3,SNR=5.4
ZALV Zalesovo Beam 143.39 25 PKP PKPdf 22 28 26.8 -0.8
0.8nm,0.5s,baz=322,slow=4.5,SNR=4.6
MKAR Makanchi Array 147.03 37 PKPbc PKPab 22 28 37.1 -0.6
0.4nm,0.7s,baz=290,slow=3.5,SNR=5.8
MJAR Matsushiro Arr 152.40 306 PKPbc PKPbc 22 28 49.0 -0.9
1.0nm,0.5s,baz=39,slow=5.0,SNR=6.7

IDC 17 22:34:31.2±2.0, 0.°11N×126.°07E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.1/3, Error ellipse: s-maj=182.8km s-min=26.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.51**	**158**	P	P	22 39 22.1	+0.1
	0.6nm,0.7s,baz=336,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**24.83**	**163**	P	P	22 39 55.4	-0.1
	0.3nm,0.5s,baz=345,slow=7.8,SNR=8.2						
MKAR	**Makanchi Array**	**60.17**	**327**	P	P	22 44 40.9	0.0
	0.1nm,0.4s,baz=118,slow=8.0,SNR=4.9						

*ISCJB **17** 22:52:03.7±0.6, 20.°18S±0.°04×69.°3W±0.°1, h112km±7km, mb3.3/2, Error ellipse: s-maj=18.0km s-min=5.7km az=173.2*
*GUC **17** 22:52:03.5±0.4, 20.°18S×69.°28W, h106km±3km, ML3.6*
*IDC **17** 22:52:05.1±1.7, 20.°23S×68.°93W, h112km±17km, mb3.2/2, mb1 3.4/5, mb1mx3.2/36, mbtmp3.7/5, Error ellipse: s-maj=41.1km s-min=15.6km az=101.0*
ISC 17 22:52:04.3±0.9, 20.°18S±0.°04×69.°3W±0.°1, h106km±9km, n15, σ0°64/23, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.52**	**324**	↑*e*P	**Pn**	**22 52 20.6**	**-0.5**
PB11				*e*S	**Sn**	**22 52 33.5**	**-0.1**
HMBC	**Humberstone**	**0.53**	**260**	*e*P	**Pn**	**22 52 21.0**	**-0.1**
HMBC				*e*S	**Sn**	**22 52 34.3**	**+0.6**
HMBC				AML	AML	22 52 34.8	
	comp=E,4μm,0.8s						
PB01	**IPOC Station P**	**0.87**	**190**	↓*e*P	**Pn**	**22 52 23.6**	**-0.4**
PB01				*e*S	**Sn**	**22 52 38.9**	**+0.2**
PB01				AML	AML	22 52 39.9	
	comp=N,5μm,0.3s						
PSGC	**Pisagua**	**0.95**	**308**	↑*e*P	**Pn**	**22 52 24.7**	**0.0**
PSGC				*e*S	**Sn**	**22 52 40.8**	**+0.7**
PSGC				AML	AML	22 52 42.5	
	comp=E,1μm,0.4s						
PATCX	**Punta Patache**	**1.00**	**230**	↑*e*P	**Pn**	**22 52 25.4**	**+0.1**
PATCX				*e*S	**Sn**	**22 52 42.2**	**+1.1**
PATCX				AML	AML	22 52 46.7	
	comp=N,898nm,0.4s						
MNMC	**Minimini**	**1.08**	**347**	*e*P	**Pn**	**22 52 26.2**	**-0.1**
MNMC				*e*S	**Sn**	**22 52 43.1**	**+0.3**
MNMC				AML	AML	22 52 45.4	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**1.61**	**177**	*e*P	**Pn**	**22 52 32.5**	**+0.1**
PB09				*e*S	**Sn**	**22 52 54.4**	**+0.7**
PB07	**IPOC Station P**	**1.62**	**199**	*e*P	**Pn**	**22 52 32.5**	**0.0**
PB07				*e*S	**Sn**	**22 52 54.8**	**+0.8**
PB07				AML	AML	22 53 02.5	
	comp=E,746nm,0.5s						
LVC	**Limon Verde**	**2.45**	**171**	P	**Pn**	**22 52 43.5**	**+0.3**
	comp=E,352nm,0.3s,baz=358,slow=8.6,SNR=75						
LVC				S	**Sn**	**22 53 12.9**	**0.0**
	comp=E,618nm,0.3s,baz=135,slow=20,SNR=26						
PB06	**IPOC Station P**	**2.52**	**185**	*e*P	**Pn**	**22 52 44.6**	**+0.6**
PB06				AML	AML	22 53 22.2	
	comp=N,256nm,1.1s						
LPAZ	**La Paz**	**4.04**	**17**	P	**Pn**	**22 53 06.1**	**+1.4**
	comp=N,1.3nm,0.3s,baz=185,slow=8.2,SNR=45						
SIV	**San Ignacio**	**8.89**	**63**	P	Pn	22 54 04.6	-5.4
	comp=N,0.7nm,0.3s,baz=261,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**77.29**	**71**	P	**P**	**23 03 46.5**	**-1.1**
	comp=N,0.2nm,0.4s,baz=253,slow=5.4,SNR=9.9						
YKA	**Yellowknife Ar**	**89.82**	**341**	P	**P**	**23 04 50.6**	**+0.1**
	comp=N,0.2nm,0.7s,baz=127,slow=4.5,SNR=5.9						
MKAR	**Makanchi Array**	**144.79**	**34**	PKP	**PKPab**	**23 11 27.8**	**-0.2**
	comp=N,0.1nm,0.7s,baz=318,slow=1.9,SNR=3.0						

GUC 17 23:01:15.6±0.4, 34.°27S×71.°99W, h40km±1km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.57**	**57**	*e*P	Pn	23 01 26.9	-0.4
NICH	**Los Niches**	**0.96**	**140**	↑*e*P	Pn	23 01 33.0	+0.3
NICH				*e*S	Sn	23 01 46.1	+1.0
CHCH	**Chadas Angostu**	**1.16**	**74**	↑*e*P	Pn	23 01 36.4	+1.0
CACH	**El Canelo**	**1.16**	**83**	↓*e*P	Pn	23 01 37.0	+1.4
TALC	**Talca**	**1.16**	**166**	↓*e*P	Pn	23 01 36.2	+0.8
TALC				*e*S	Sn	23 01 51.9	+1.8
CLCH	**Cerro Calan**	**1.49**	**55**	↑*e*P	Pn	23 01 41.5	+1.5
CLCH				*e*S	Sn	23 02 01.0	+2.7
CLCH				AML	AML	23 02 02.5	
	comp=N,1μm,0.8s						
SJCH	**San Jose de Ma**	**1.50**	**66**	*e*P	Pn	23 01 41.0	+0.9
SJCH				*e*S	Sn	23 02 00.7	+2.2
SJCH				AML	AML	23 02 03.4	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.56**	**44**	↑*e*P	Pn	23 01 42.5	+1.6
PEL				*e*S	Sn	23 02 03.1	+3.1
PEL				AML	AML	23 02 08.9	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**1.61**	**169**	*e*P	Pn	23 01 43.0	+1.6
LNCH				*e*S	Sn	23 02 04.0	+3.0
YECH	**El Yeso**	**1.69**	**70**	*e*P	Pn	23 01 45.0	+1.9
YECH				*e*S	Sn	23 02 07.3	+3.5
YECH				AML	AML	23 02 15.8	
	comp=N,903nm,0.3s						
COCH	**Cobquecura**	**1.97**	**199**	*e*P	Pn	23 01 47.8	+1.3

*ISCJB **17** 23:13:03.1±0.5, 29.°83N±0.°06×139.°33E±0.°08, h450km, mb3.5/15, Error ellipse: s-maj=9.5km s-min=8.3km az=19.4*
*IDC **17** 23:13:03.1±0.8, 29.°75N×139.°14E, h424km±11km, mb3.3/15, mb1 3.4/20, mb1mx3.2/57, mbtmp4.1/20, Error ellipse: s-maj=21.1km s-min=15.6km az=35.0*
*JMA **17** 23:13:07.0±0.4, 30.°31N×139.°51E, h449km, M3.9*
ISC 17 23:13:04.8±0.8, 29.°9N±0.°1×139.°3E±0.°1, h450km, n48, σ1°30/52, mb3.7/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.28**	**8**	P	**P**	**23 14 13.7**	**-0.1**
JHJ2				S	**S**	**23 15 05.7**	**-4.3**
JCJ	**Chichijima**	**3.74**	**137**	P	P	23 14 14.0	-3.8
	12nm,0.3s,baz=5.6,slow=19,SNR=10.0						
JCJ				S	**S**	**23 15 13.1**	**-3.9**
	baz=287,slow=19						
TK02	**Tokai 2**	**4.29**	**343**	P	**P**	**23 14 22.3**	**+0.2**
TTO1	**TONANKAI O.B.S**	**4.33**	**331**	P	**P**	**23 14 23.2**	**+0.8**
TTO2	**TONANKAI O.B.S**	**4.33**	**334**	P	**P**	**23 14 22.6**	**+0.2**
TK04	**Tokai 4**	**4.68**	**345**	P	**P**	**23 14 25.8**	**0.0**
JIM2	**Oshima 2**	**4.85**	**1**	P	**P**	**23 14 29.0**	**+1.4**
JIZS	**Izushimoda**	**4.87**	**356**	P	**P**	**23 14 26.4**	**-1.3**
BSO1	**Boso 1**	**4.99**	**16**	P	**P**	**23 14 29.3**	**+1.0**
JIE	**Ise**	**5.03**	**335**	P	**P**	**23 14 28.8**	**-0.5**
BSO3	**Boso 3**	**5.04**	**11**	P	**P**	**23 14 28.2**	**-0.9**
SHZ3	**Shizuoka 3**	**5.28**	**350**	P	**P**	**23 14 30.5**	**-1.3**
JOD2	**Odawara 2**	**5.40**	**358**	P	**P**	**23 14 31.2**	**-1.7**
JYN	**Shimob**	**5.67**	**354**	P	**P**	**23 14 34.3**	**-1.3**
JRY	**Ryogami san**	**6.16**	**357**	P	**P**	**23 14 39.1**	**-1.5**
MJAR	**Matsushiro Arr**	**6.73**	**352**	P	**P**	**23 14 44.4**	**-2.2**
	5.0nm,0.3s,baz=171,slow=11,SNR=66						
MAT	**Matsushiro**	**6.74**	**352**	P	**P**	**23 14 44.6**	**-2.0**
JNU	**Nakatsue**	**7.89**	**297**	P	**P**	**23 14 57.9**	**-1.1**
	0.6nm,0.3s,baz=101,slow=5.8,SNR=6.2						
KSRS	**Korea Array**	**12.13**	**312**	P	**P**	**23 15 44.0**	**-0.9**
	0.6nm,0.3s,baz=128,slow=11,SNR=9.2						
USRK	**Ussuriysk Ar.**	**15.45**	**340**	P	**P**	**23 16 20.2**	**-0.3**
	0.9nm,0.3s,baz=155,slow=10,SNR=20						
SONM	**Songino Array**	**30.98**	**315**	P	**P**	**23 18 43.4**	**-0.2**
	0.2nm,0.4s,baz=124,slow=9.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**38.35**	**262**	P	**P**	**23 19 44.4**	**-1.5**
	1.5nm,0.4s,baz=58,slow=6.5,SNR=12						
TAPN	**Taplejung**	**45.06**	**280**	*e*P	**P**	**23 20 39.0**	**-0.5**
	12nm,0.3s						
ODAN	**Odare**	**45.47**	**279**	*e*P	**P**	**23 20 41.7**	**-0.9**
	18nm,0.5s						
ZALV	**Zalesovo Beam**	**45.75**	**318**	P	**P**	**23 20 44.0**	**-0.1**
	0.6nm,0.3s,baz=109,slow=7.7,SNR=4.0						
ZALV				PcP	**PcP**	**23 22 13.2**	**+0.4**
	0.4nm,0.4s,baz=147,slow=3.0,SNR=3.6						
RAMN	**Ramite**	**46.12**	**280**	*e*P	**P**	**23 20 47.2**	**-0.4**
	20nm,0.4s						
JIRN	**Jiri**	**46.27**	**281**	*e*P	**P**	**23 20 49.0**	**+0.1**
	42nm,0.3s						
GUN	**Gumba**	**46.47**	**281**	*e*P	**P**	**23 20 50.3**	**-0.1**
MKAR	**Makanchi Array**	**46.78**	**308**	P	**P**	**23 20 51.6**	**-0.5**
	0.4nm,0.4s,baz=89,slow=8.9,SNR=3.6						
MKAR				PcP	**pP**	**23 22 17.6**	**-1.3**
	0.4nm,0.5s,baz=80,slow=7.5,SNR=4.7						
KKN	**Kakani**	**47.01**	**281**	*e*P	**P**	**23 20 53.8**	**-0.6**
	11nm,0.5s						
DMN	**Daman**	**47.21**	**281**	*e*P	**P**	**23 20 55.1**	**-0.8**
	5.6nm,0.3s						
GKN	**Gorkha**	**47.50**	**282**	*e*P	**P**	**23 20 57.5**	**-0.5**
	6.4nm,0.3s						
DANN	**Dangsing**	**48.15**	**283**	*e*P	**P**	**23 21 02.8**	**-0.3**
	25nm,0.5s						
KOLN	**Koldanda**	**48.44**	**282**	*e*P	**P**	**23 21 04.6**	**-0.6**
	18nm,0.6s						
PYUN	**Piuthan**	**48.87**	**283**	*e*P	**P**	**23 21 08.2**	**-0.2**
	118nm,0.4s						
BVAR	**Borovoye Array**	**54.30**	**316**	P	**P**	**23 21 47.4**	**+0.2**
	3.0nm,0.4s,baz=95,slow=7.2,SNR=30						
BVAR				PcP	**PcP**	**23 22 45.9**	**+1.3**
	0.8nm,0.6s,baz=94,slow=8.0,SNR=3.7						
AKTO	**Aktyubinsk**	**62.29**	**314**	P	**P**	**23 22 41.5**	**-0.1**
	2.0nm,0.6s,baz=75,slow=13,SNR=9.0						
ARCES	**ARCESS Array B**	**70.10**	**340**	P	**P**	**23 23 31.7**	**+1.6**
	3.6nm,0.8s,baz=69,slow=7.9,SNR=5.5						
YKA	**Yellowknife Ar**	**70.92**	**28**	P	**P**	**23 23 36.8**	**+1.7**
	0.1nm,0.5s,baz=296,slow=6.1,SNR=2.9						
KBZ	**Khabaz**	**74.28**	**312**	P	**P**	**23 23 56.0**	**+1.2**
	2.0nm,0.7s,baz=236,slow=24,SNR=5.7						
FINES	**FINESS Array B**	**74.35**	**333**	P	**P**	**23 23 55.8**	**+0.9**
	0.7nm,0.3s,baz=89,slow=4.4,SNR=11						
AKASG	**Malin Array Be**	**78.90**	**323**	P	**P**	**23 24 20.7**	**+0.5**
	0.4nm,0.4s,baz=50,slow=5.8,SNR=6.2						
HFS	**Hagfors**	**79.89**	**336**	P	**P**	**23 24 26.1**	**+0.8**
	2.2nm,0.6s,baz=76,slow=6.3,SNR=12						
NB2	**NORSAR Subarra**	**80.11**	**337**	P	**P**	**23 24 27.1**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=45,slow=5.6						
NOA	**NORSAR Array B**	**80.11**	**337**	P	**P**	**23 24 27.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=60,slow=6.2,SNR=4.3						
BRTR	**Keskin Array B**	**82.28**	**311**	P	**P**	**23 24 39.2**	**+0.9**
	comp=Z,4.nm,0.9s,baz=101,slow=3.7,SNR=15						
EKA	**Eskdalemuir Ar**	**89.26**	**340**	P	**P**	**23 25 12.8**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=46,slow=4.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.87**	**310**	PKP	**PKPdf**	**23 31 06.7**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=23,slow=1.1,SNR=4.8						

DJA 17 23:14:04.8±1.0, 2.°N±6.°×9.°6E±.°, h21km±6km, M3.7/7, mb3.9/1, MLv3.6/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.55**	**22**	P	Pb	23 14 16.1	+0.3
SNSI				S	Sn	23 14 24.8	-1.1
TPTI		**1.72**	**38**	P	Pn	23 14 33.0	-0.5
TPTI				S	Sn	23 14 55.5	+0.7
KCSI	**Kotacane, Aceh**	**2.31**	**46**	P	Pn	23 14 41.9	+0.3
KCSI				S	Sn	23 15 11.3	+1.9
TSI	**Tuntungan**	**2.91**	**57**	P	Pn	23 14 50.4	+0.4
TSI				S	Sn	23 15 26.2	+1.8
LHMI	**Lhok Sumawe**	**3.41**	**14**	P	Pn	23 14 56.9	+0.1
MNSI	**Mandailing Nat**	**3.63**	**108**	P	Pn	23 14 59.8	0.0

*IDC **17** 23:14:49.8±3.6, 34.°41N×140.°60E, h70km±23km, mb3.4/5, mb1 3.6/8, mb1mx3.4/29, mbtmp3.9/8, Error ellipse: s-maj=68.1km s-min=18.5km az=64.0*
*ISCJB **17** 23:14:51.3±0.6, 34.°40N±0.°04×140.°32E±0.°05, h86km±4km, mb3.5/5, Error ellipse: s-maj=6.8km s-min=6.4km az=169.0*
*JMA **17** 23:14:51.5±0.2, 34.°41N×140.°32E, h83km±2km, M3.3*
ISC 17 23:14:52.5±0.9, 34.°42N±0.°05×140.°30E±0.°05, h81km±7km, n23, σ0°68/36, mb3.6/5, 6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.42**	**24**	↑P	**Pn**	**23 15 05.1**	**-0.3**
BSO3				S	**Sn**	**23 15 16.0**	**+1.1**
BSO2	**Boso 2**	**0.50**	**48**	S	**Sn**	**23 15 17.3**	**+1.3**
BSO4	**Boso 4**	**0.57**	**3**	↑P	**Pn**	**23 15 06.7**	**-0.2**
BSO4				S	**Sn**	**23 15 18.3**	**+0.8**
BSO1	**Boso 1**	**0.61**	**67**	↓P	**Pn**	**23 15 06.2**	**-0.4**
BSO1				S	**Sn**	**23 15 17.1**	**-0.1**
TATJ	**Tateyama 2**	**0.70**	**331**	↑P	**Pn**	**23 15 08.3**	**+0.1**
KTR	**Katsuura**	**0.73**	**1**	↑P	**Pn**	**23 15 08.0**	**-0.5**
KTR				S	**Sn**	**23 15 20.5**	**+0.1**
JIM2	**Oshima 3**	**0.78**	**293**	↑P	**Pn**	**23 15 08.3**	**-0.8**
JIM2				S	**Sn**	**23 15 20.6**	**-0.8**
I30JP	**ISUMI INFRASON**	**0.89**	**1**	P	**Pn**	**23 15 09.7**	**-0.6**
I30JP				S	**Sn**	**23 15 24.6**	**+1.0**
JKO	**Kozu shima**	**0.99**	**257**	P	**Pn**	**23 15 11.5**	**+0.1**
JKO				S	**Sn**	**23 15 26.7**	**+1.1**
KTJJ	**Kamata 2**	**1.14**	**297**	↑P	**Pn**	**23 15 12.8**	**-0.4**
KTJJ				S	**Sn**	**23 15 28.0**	**-0.8**
JIZS	**Izushimoda**	**1.21**	**285**	↓P	**Pn**	**23 15 14.0**	**-0.1**
JIZS				S	**Sn**	**23 15 30.6**	**+0.2**
JOD2	**Odawara 2**	**1.31**	**311**	P	**Pn**	**23 15 14.7**	**-0.7**
JOD2				S	**Sn**	**23 15 31.8**	**-0.8**
JHJ2	**Mitsune**	**1.36**	**197**	↓P	**Pn**	**23 15 16.1**	**+0.1**
JHJ2				S	**Sn**	**23 15 33.8**	**0.0**
JYN	**Shimob**	**1.80**	**307**	P	**Pn**	**23 15 22.4**	**+0.6**
JYN				S	**Sn**	**23 15 44.8**	**+0.7**
MJAR	**Matsushiro Arr**	**2.72**	**322**	P	**Pn**	**23 15 33.8**	**-0.3**
	8.5nm,0.3s,baz=68,slow=13,SNR=21						
MJAR				S	**Sn**	**23 16 06.9**	**+0.8**
	9.4nm,0.3s,baz=134,slow=14,SNR=11						
MAT	**Matsushiro**	**2.73**	**322**	P	**Pn**	**23 15 34.6**	**+0.5**
MAT				S	**Sn**	**23 16 07.2**	**+1.1**
JCJ	**Chichijima**	**7.47**	**167**	P	Pn	23 16 35.2	-3.6
	15nm,0.3s,baz=81,slow=19,SNR=2.8						
JNU	**Nakatsue**	**7.95**	**263**	P	**Pn**	**23 16 45.8**	**+0.5**
	0.5nm,0.3s,baz=100,slow=10,SNR=3.9						
SONM	**Songino Array**	**28.59**	**308**	P	**P**	**23 20 41.7**	**+0.7**
	0.9nm,0.6s,baz=112,slow=9.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**43.05**	**314**	P	**P**	**23 22 44.1**	**+0.1**
	0.8nm,0.3s,baz=111,slow=6.8,SNR=5.6						
MKAR	**Makanchi Array**	**44.79**	**304**	P	**P**	**23 22 57.9**	**-0.2**
	0.5nm,0.5s,baz=84,slow=10,SNR=7.1						
AKASG	**Malin Array Be**	**75.81**	**322**	P	**P**	**23 26 28.4**	**-1.2**
	0.2nm,0.3s,baz=46,slow=7.6,SNR=4.8						
BRTR	**Keskin Array B**	**79.90**	**311**	P	**P**	**23 26 52.7**	**0.0**
	0.3nm,0.8s,baz=91,slow=6.3,SNR=3.6						

*MOS **17** 23:15:19.6±0.9, 6.°63S×147.°19E, h42km, mb6.3/64, MS5.7/23, Error ellipse: s-maj=6.8km s-min=5.1km az=92.1*
*BJI **17** 23:15:20.1, 6.°62S×147.°77E, h68km, mB6.0/70, mb5.7/83, Ms5.9/94, Ms7 5.9/84*
*NEIC **17** 23:15:22.0±0.1, 6.°67S×147.°29E, h53km, mb6.2/150, ME6.0, MW6.1, MW6.2, MW6.2, Error ellipse: s-maj=3.1km s-min=3.0km az=184.0, Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁸Nm; Mrr2.19; Mθθ-2.91; Mϕϕ0.72; Mrθ0.09; Mθϕ0.71; Mϕr-0.09; Best double couple: M₀2.70000×10¹⁸ NP1:ϕs104.00000°, δ46.00000°, λ94.00000°. NP2:ϕs278.00000°, δ44.00000°, λ86.00000°. Principal axes: T 2.2000, Plg86.0000°, Azm79.0000°; N 0.8500, Plg3.0000°, Azm280.0000°; P -3.0500, Plg1.0000°, Azm190.0000°; Broadband fault plane solution: P waves. NP1:ϕs90.00000°, δ40.00000°, λ90.00000°. NP2: ϕs270.00000°, δ50.00000°, λ90.00000°. Principal axes: T Plg85.0000°, Azm180.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm360.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Madang, [IV] at Lae, [III] at Goroka and Port Moresby and [II] at Alotau. Also felt at Bulolo, Kainantu, Kerema, Kimbe and Wau.
*ISCJB **17** 23:15:22.1±0.4, 6.°69S×147.°27E±0.°01, h62km±3km, mb6.2/286 Error ellipse: s-maj=2.8km s-min=2.3km az=36.7*
*GCMT **17** 23:15:22.0±0.1, 6.°82S×147.°30E, h63km, MW6.2/128, Moment Tensor Solution. s128,c270; s123,c455; Duration: 29 Moment tensor: Scale 10¹⁸Nm; Mrr1.90±.01; Mθθ-2.42±.01; Mϕϕ0.51±.01; Mrθ-0.35±.01; Mθϕ-0.17±.01; Mϕr0.01±.01; Best double couple: M₀2.19300×10¹⁸ NP1:ϕs268.00000°, δ50.00000°, λ91.00000°. NP2:ϕs86.00000°, δ40.00000°, λ88.00000°. Principal axes: T 1.9290, Plg85.0000°, Azm190.0000°; N 0.5230, Plg1.0000°, Azm87.0000°; P -2.4580, Plg5.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **17** 23:15:24.0±0.0, 6.°88S×147.°31E, h50km, Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr1.75; Mθθ-0.69; Mϕϕ-0.35; Mrθ-1.77; Mθϕ-0.77; Mϕr0.02; Best double couple: M₀2.10000×10¹⁸ NP1:ϕs282.00000°, δ58.00000°, λ116.00000°. NP2:ϕs59.00000°, δ41.00000°, λ55.00000°. Principal axes: T 2.7300, Plg60.0000°, Azm194.0000°; N -0.1000, Plg17.0000°, Azm71.0000°; P -1.9100, Plg23.0000°, Azm334.0000°;*
*IDC **17** 23:15:26.2±0.9, 6.°64S×147.°28E, h87km±7km, mb5.6/33, mb1 5.6/35, mb1mx5.6/37, mbtmp5.9/35, MS5.7/34, Ms1 5.7/34, ms1mx5.6/40 Error ellipse: s-maj=9.9km s-min=5.9km az=73.0*
*DJA **17** 23:15:28.1±0.5, 7.°S±3.°×14.°7E±.°, h92km±4km, M6.4/148, mb6.3/148, mB6.7/143, MLv6.7/3, Mw(mB)6.5/143, Mwp6.1/36*
*NEIC **17** 23:15:41.1±0.0, 6.°51S×146.°95E, h53km, Moment Tensor Solution. s53 Moment tensor: Scale 10¹⁸Nm; Mrr2.61; Mθθ-2.58; Mϕϕ-0.03; Mrθ-0.45; Mθϕ-0.17; Mϕr-0.57; Best double couple: M₀2.70000×10¹⁸ NP1:ϕs255.00000°, δ51.00000°, λ76.00000°. NP2:ϕs97.00000°, δ41.00000°, λ107.00000°. Principal axes: T 2.7600, Plg77.0000°, Azm111.0000°; N -0.1200, Plg10.0000°, Azm263.0000°; P -2.6400, Plg5.0000°, Azm354.0000°;*
ISC 17 23:15:23.3±0.2, 6.°70S±0.°02×147.°30E±0.°03, h66km±1km, h66km:pP-P, n2108, σ1°54/2932, mb6.2/280, 529C-486D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPI	**Merauke**	**7.08**	**255**	P	**Pn**	**23 17 06.1**	**+1.8**
	3μm,0.6s,71μm202μm32nm						
MMPI				S	**Sn**	**23 18 23.9**	**+0.5**
	3μm,0.6s,71μm202μm32nm						
JAY	**Jayapura**	**7.78**	**302**	P	Pn	23 17 17.3	+3.3
	726nm,0.7s,16μm6.0nm						
JAY	**Jayapura**	**7.78**	**302**	P	**Pn**	**23 17 14.6**	**+0.6**
	25nm,0.3s,baz=124,slow=7.2,SNR=32						
JAY				S	**Sn**	**23 18 44.1**	**+3.4**
	baz=141,slow=13,SNR=1.7						
JAY				LR	LR	23 21 01.0	
	comp=Z,176μm,20.9s,baz=112,slow=43						
GENI	**Genyem**	**8.20**	**300**	P	Pn	23 17 22.9	+3.3
	2μm,0.8s,42μm182μm						
COEN	**Coen**	**8.28**	**209**	S	Sn	23 18 46.4	-6.4
	baz=8.2,SNR=12						
COEN	**Coen**	**8.28**	**209**	*e*Pn	**Pn**	**23 17 20.6**	**-0.1**
COEN				*e*Sn	**Sn**	**23 18 48.0**	**-4.8**
SMPI	**Sarmi**	**9.76**	**298**	P	**Pn**	**23 17 42.6**	**+1.6**
	1μm,1.2s,24μm						
SRPI	**Serui, Papua**	**12.03**	**293**	P	**Pn**	**23 18 13.3**	**+1.3**
	1μm,0.7s,14μm82μm						
HNR	**Honiara**	**12.81**	**103**	*e*P	**Pn**	**23 18 24.1**	**+1.4**
HNR				*e*		23 20 49.0	
HNR	**Honiara**	**12.81**	**103**	*e*P	**Pn**	**23 18 24.0**	**+1.4**
HNR				*e*S	Sn	23 20 54.0	+10
HNR	**Honiara**	**12.81**	**103**	*e*Pn	**Pn**	**23 18 24.1**	**+1.4**
HNR				*e*Sn	**Sn**	**23 20 49.0**	**+5.4**
CTA	**Charters Tower**	**13.35**	**184**	P	**Pn**	**23 18 31.0**	**+1.1**
CTA				S	**Sn**	**23 20 54.0**	**-2.7**
CTA				pmax	pmax		
	comp=Z,24nm,0.3s						
CTA				smax	smax		
	comp=N,10.0nm,0.3s						
CTA	**Charters Tower**	**13.35**	**184**	P	**Pn**	**23 18 31.0**	**+1.1**
	comp=N,24nm,0.3s,baz=6.3,slow=15,SNR=125						
CTA				S	**Sn**	**23 20 54.0**	**-2.7**
	comp=N,9.8nm,0.3s,baz=98,slow=19,SNR=3.1						
CTAO	**Charters Tower**	**13.35**	**184**	*e*P	**Pn**	**23 18 31.3**	**+1.4**
CTAO				*e*		23 20 53.2	
CTAO	**Charters Tower**	**13.35**	**184**	*e*Pn	**Pn**	**23 18 31.2**	**+1.4**
CTAO				*e*Sn	**Sn**	**23 20 53.2**	**-3.5**
RKPI	**Ransiki, Papua**	**14.07**	**291**	P	**P**	**23 18 43.1**	**-2.2**
	comp=N,2μm,1.3s,comp=N,37μm						
FAKI	**Fak Fak**	**15.46**	**283**	P	**P**	**23 18 59.8**	**-1.0**
	comp=N,2μm,0.8s,comp=N,43μmcomp=N,59μm						
FAKI	**Fak Fak**	**15.46**	**283**	P	**P**	**23 19 00.1**	**-0.7**
	baz=15,SNR=67						
FAKI				S	**S**	**23 22 04.6**	**+4.2**
	baz=15,SNR=11						
FAKI	**Fak Fak**	**15.46**	**283**	*e*Pn	**P**	**23 19 00.3**	**-0.5**
	comp=N,1μm,1.0s						
QIS	**Mount Isa**	**15.67**	**208**	P	**Pn**	**23 19 00.2**	**0.0**
	baz=16,SNR=381						
QIS				S	**Sn**	**23 21 45.

ASAR pmax pmax
comp=Z,1.0nm,1.1s
ASAR Alice Springs 21.22 216 P **P** **23 20 03.9 0.0**
comp=Z,352nm,0.6s,baz=50,slow=8.9,SNR=955
ASAR S **S** **23 23 54.4 -2.0**
comp=Z,295nm,1.1s,baz=29,slow=20,SNR=9.8
ASAR LR LR 23 28 51.0
comp=Z,31µm,21.1s,baz=34,slow=38
ASAR P3KPbc 23 53 56.8
comp=Z,1.4nm,1.1s,baz=161,slow=0.9,SNR=4.7
TNTI Ternate 21.24 290 P **P** **23 20 07.8 +3.7**
comp=Z,2µm,0.8s,comp=Z,34µmcomp=Z,52µm
TNTI Ternate 21.24 290 *e*P **P** **23 20 05.8 +1.7**
comp=Z,1µm,0.7s
TNTI *e*S Sn 23 24 03.6 -3.7
SANI Sanana 21.74 281 P **P** **23 20 10.4 +0.9**
comp=Z,1µm,1.5s,comp=Z,25µmcomp=Z,49µm
SOEI Soe 23.00 261 P **P** **23 20 24.4 +1.4**
comp=Z,911nm,0.7s,comp=Z,27µmcomp=Z,57µm
SOEI Soe 23.00 261 P **P** **23 20 23.4 +0.4**
baz=23,SNR=71
SOEI Soe 23.00 261 *e*P **P** **23 20 23.2 +0.2**
comp=Z,3µm,1.4s
BATI Baumata 23.64 260 P **P** **23 20 31.1 +2.2**
comp=Z,933nm,0.6s,comp=Z,19µmcomp=Z,2µm
BATI Baumata 23.64 260 P **P** **23 20 30.4 +1.5**
comp=Z,792nm,0.5s,baz=146,slow=2.4,SNR=151
BATI LR LR 23 32 38.0
comp=Z,35µm,18.1s,baz=118,slow=44
ARMA Armidale 23.94 171 P **P** **23 20 31.4 -0.2**
baz=24,SNR=209
ARMA S S 23 24 51.4 +7.8
baz=24,SNR=6.2
ARMA Armidale 23.94 171 *e*P **P** **23 20 31.7 +0.1**
comp=Z,695nm,1.1s
DZM Mont Dzumac 23.98 132 *e*P **P** **23 20 31.5 -0.4**
comp=Z,3µm,1.4s
DZM *e*S **S** **23 24 41.6 -2.8**
comp=Z,28µm,29.2s
DZM *e*LR LR 23 26 26.8
comp=Z,95µm,27.6s
DZM Mont Dzumac 23.98 132 P **P** **23 20 32.2 +0.3**
comp=Z,620nm,0.9s,baz=315,slow=6.8,SNR=133
DZM S **S** **23 24 37.6 -6.8**
comp=Z,11nm,0.8s,baz=314,slow=5.0,SNR=2.3
DZM LR LR 23 29 06.1
comp=Z,26µm,21.9s,baz=318,slow=34
SGSI Sangihe 24.06 295 P **P** **23 20 34.6 +1.9**
comp=Z,3µm,0.9s,comp=Z,29µm
KMSI Cibinong 24.37 286 P **P** **23 20 36.8 +1.3**
comp=Z,16µm,0.6s,comp=Z,152µmcomp=Z,36µm
CMSA Cobar Meteorol 24.76 183 P **P** **23 20 38.6 -0.2**
baz=25,SNR=426
CMSA S **S** **23 25 03.5 +7.1**
baz=25,SNR=8.2
KWAJ Kwajalein Atol 25.43 53 *e*P **P** **23 20 47.0 +1.8**
KWAJ pmax pmax
comp=Z,545nm,1.3s
KWAJ Kwajalein Atol 25.43 53 *e*P **P** **23 20 47.0 +1.8**
comp=Z,545nm,1.3s
EDFI Ende, Flores 25.46 264 P **P** **23 20 45.4 -0.1**
comp=Z,1µm,0.7s,comp=Z,11µm
STKA Stephens Creek 25.61 191 P **P** **23 20 46.5 -0.1**
STKA 23 24 16.0
STKA S **S** **23 25 06.0 -4.1**
STKA pmax pmax
comp=Z,148nm,0.3s
STKA pmax pmax
comp=Z,149nm,1.1s
STKA smax smax
comp=N,61nm,1.1s
STKA MLR MLR
STKA pmax pmax
comp=Z,35µm,19.2s
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 25.61 191 P **P** **23 20 46.5 -0.1**
comp=Z,148nm,0.3s,baz=357,slow=8.2,SNR=444
STKA PcP **PcP** **23 24 16.0 -0.1**
comp=Z,149nm,1.1s,baz=350,slow=6.1,SNR=4.0
STKA S **S** **23 25 06.0 -4.1**
comp=Z,60nm,1.1s,baz=134,slow=16,SNR=1.8
STKA LR LR 23 31 33.1
comp=Z,35µm,19.2s,baz=6.7,slow=38
STKA P3KP 23 54 31.5
comp=Z,3.1nm,0.9s,baz=188,slow=7.1,SNR=2.9
STKA Stephens Creek 25.61 191 P **P** **23 20 46.4 -0.2**
baz=26,SNR=498
STKA Stephens Creek 25.61 191 *e*P **P** **23 20 46.5 -0.1**
comp=Z,94nm,1.0s
STKA *e*PcP **PcP** **23 24 17.1 +1.0**
STKA *e*S **S** **23 25 06.0 -4.1**
STKA *e*ScS **ScS** **23 31 33.1 -6.2**
DAV Davao City (W) 25.63 302 P **P** **23 20 50.0 +3.1**
SNR=5.3
DAV Davao City (W) 25.63 302 *e*P **P** **23 20 48.1 +1.1**
comp=Z,2µm,1.8s
GSPH General Santos 25.67 299 ⇑*i*P **P** **23 20 47.2 -0.2**
WRKA Warakurna 25.76 223 P **P** **23 20 47.4 -0.6**
baz=26,SNR=1000
WRKA S **S** **23 25 10.5 -2.1**
baz=26,SNR=9.0
APSI Ampana 26.23 282 P **P** **23 20 54.6 +2.3**
comp=Z,1µm,1.8s,comp=Z,21µmcomp=Z,25µm
MRSI Marisa 26.29 285 P **P** **23 20 54.0 +1.0**
comp=Z,538nm,0.8s,comp=Z,6µm
BUKP Musuan 26.49 303 *e*P **P** **23 20 57.1 +2.3**
BUKP *e*S **pP** **23 21 09.6 -1.0**
MGCD Mangrove Creek 26.61 173 P **P** **23 20 56.0 +0.4**
baz=27,SNR=51
BUTP Butuan 26.63 305 *e*P **P** **23 20 57.1 +1.1**
BSSI Bau Bau, Buton 26.65 270 P **P** **23 20 58.0 +1.8**
comp=Z,899nm,1.6s,comp=Z,15µm
BASI Baing, Sumba 26.66 261 P **P** **23 20 58.1 +1.8**
comp=Z,2µm,1.5s,comp=Z,31µm
CTBH Cotabato--PC H 26.84 301 *e*P **P** **23 20 57.4 -0.4**
WSI Waingapu 26.89 262 P **P** **23 20 59.4 +1.1**
comp=Z,4µm,1.7s,comp=Z,43µm
WSI Waingapu 26.89 262 P P 23 20 53.2 -5.1
baz=27,SNR=5.3
LHI Lord Howe Isla 27.03 157 P **P** **23 21 02.7 +3.3**
baz=27,SNR=5.7
BKSI Bulukumba 27.07 271 P **P** **23 21 01.1 +1.2**
comp=Z,222nm,1.2s,comp=Z,5µm
CGP Cagayan de Oro 27.11 303 *e*P **P** **23 21 01.1 +0.9**
BNSI Bone 27.16 273 P **P** **23 21 02.7 +1.9**
comp=Z,365nm,1.8s,comp=Z,8µmcomp=Z,19µm
SCPH Surigao 27.21 307 *e*P **P** **23 21 01.1 -0.1**
KAPI Kappang 27.46 272 P **P** **23 21 04.3 +0.9**
comp=Z,2µm,1.4s,SNR=26
KAPI Kappang 27.46 272 P **P** **23 21 04.7 +1.2**
SNR=27
KAPI Kappang 27.46 272 *e*P **P** **23 21 04.4 +1.0**
comp=Z,154nm,1.4s
KAPI *e*PcP **PcP** **23 24 23.2 +2.5**
KAPI *e*ScP **ScP** **23 27 58.6 +2.8**
YNG Young 27.48 178 P **P** **23 21 03.9 +0.4**
baz=28,SNR=76
YNG S S 23 25 52.7 +13
baz=28,SNR=6.6
SPSI Sidrap Palu 27.55 274 P **P** **23 21 05.0 +0.8**
comp=Z,185nm,1.6s,comp=Z,5µm
TOLI Toli-Toli 27.57 285 *e*P **P** **23 21 04.9 +0.4**
comp=Z,547nm,0.5s
TTSI Tana Toraja 27.62 276 P **P** **23 21 07.0 +2.1**
comp=Z,375nm,0.9s,comp=Z,7µm
WBSI Waikabubak, Su 27.78 262 P **P** **23 21 06.6 +0.2**
comp=Z,625nm,1.0s,comp=Z,11µm
PAGZ Pagadian 27.89 301 *e*P **P** **23 21 07.6 +0.3**
PCI Palu 27.99 281 P **P** **23 21 10.5 +2.3**
comp=Z,2µm,1.2s,comp=Z,23µm
BBOO Buckleboo 28.01 200 P **P** **23 21 07.9 -0.2**
baz=28,SNR=575
BBOO S **S** **23 25 49.7 +1.9**
baz=28,SNR=9.8
BBOO Buckleboo 28.01 200 *e*P **P** **23 21 07.7 -0.5**
comp=Z,48nm,0.9s
BBOO *e*S **S** **23 25 49.5 +1.6**
MPSI Mapaga 28.23 283 P **P** **23 21 10.7 +0.4**
comp=Z,303nm,2.0s,comp=Z,7µm
CNB Canberra Magne 28.54 176 P **P** **23 21 13.3 +0.3**
baz=29,SNR=48
FORT Forrest 29.99 215 P **P** **23 21 25.6 -0.2**
baz=30,SNR=421
FORT Forrest 29.99 215 *e*P **P** **23 21 25.6 -0.2**
FORT *e*S **S** **23 26 22.1 +3.0**
SGKI Sangatta, Kali 30.25 280 P P 23 21 35.3 +7.0

MILA Mila 30.26 177 P **P** **23 21 28.6 +0.4**
baz=30,SNR=42
TOO Toolangi 30.77 183 P **P** **23 21 33.2 +0.6**
baz=31,SNR=63
BKB Balikpapan 30.80 279 P P 23 21 36.5 +3.4
comp=Z,973nm,1.3s,comp=Z,13µm
KBKI Kotabaru 31.20 275 P **P** **23 21 37.6 +1.0**
comp=Z,156nm,1.5s,comp=Z,4µm
TSM Tawau 31.34 290 ⇓P **P** **23 21 38.9 +1.1**
SRBI Singaraja 31.85 265 P **P** **23 21 43.3 +1.0**
comp=Z,153nm,1.1s,comp=Z,4µmcomp=Z,14µm
DNP Denpasar 31.86 264 P **P** **23 21 42.4 0.0**
comp=Z,763nm,1.0s
IGBI Denpasar 31.93 264 P **P** **23 21 42.6 -0.4**
comp=Z,2µm,0.4s,comp=Z,28µm
MSVF Nonsavu 31.93 113 P **P** **23 21 44.3 +1.2**
comp=Z,2µm,1.1s,SNR=25
MSVF Nonsavu 31.93 113 *e*P **P** **23 21 44.3 +1.2**
MSVF pmax pmax
comp=Z,335nm,1.1s
MSVF Nonsavu 31.93 113 *e*P **P** **23 21 44.3 +1.2**
comp=Z,335nm,1.1s
SJMP San Jose 32.25 306 *e*P P 23 21 50.6 +4.9
SDKM Sandakan 32.45 292 ⇑P **P** **23 21 48.5 +0.8**
BBKI Banjar Baru 32.49 274 P **P** **23 21 49.3 +1.3**
comp=Z,482nm,1.3s,comp=Z,9µm
ABJI Asem Bagus 32.82 266 P **P** **23 21 51.1 +0.3**
comp=Z,220nm,1.4s,comp=Z,5µm
MTKI Muara Teweh, K 32.82 279 P **P** **23 21 51.6 +0.7**
comp=Z,318nm,1.3s,comp=Z,16µm
KDM Kudat 33.27 293 ⇓P **P** **23 21 55.6 +0.8**
BLJI Banyuglugur 33.45 266 P **P** **23 21 56.1 -0.3**
comp=Z,254nm,1.0s,comp=Z,5µm
KKM Kota Kinabalu 33.51 292 P **P** **23 21 57.7 +0.7**
baz=33,SNR=22
KKM S **S** **23 27 14.6 +0.1**
baz=33,SNR=5.0
KKM Kota Kinabalu 33.51 292 ⇓P **P** **23 21 57.8 +0.9**
KKM Kota Kinabalu 33.51 292 *e*P **P** **23 21 57.1 +0.1**
comp=Z,239nm,0.8s
KKM *e*PcP **PcP** **23 24 37.3 +0.6**
GMJI Gumukmas 33.60 265 P **P** **23 21 56.7 -1.0**
comp=Z,129nm,1.0s,comp=Z,4µmcomp=Z,12µm
LUBP Lubang 33.67 307 *e*P **P** **23 21 57.1 -1.1**
MEEK Meekatharra 33.74 231 P **P** **23 21 59.2 +0.4**
baz=34,SNR=1000
MEEK S **S** **23 27 17.5 -0.3**
baz=34,SNR=13
BALP Baler 33.86 311 *e*P **P** **23 21 59.4 -0.4**
CBI Chichi jima 33.95 352 *e*P **P** **23 21 59.4 -1.1**
CBI *e*S S 23 27 13.9 -6.9
CBIJ Chichi jima 33.96 352 *e*P **P** **23 22 00.2 -0.4**
comp=Z,918nm,0.9s
CBIJ *e*S **S** **23 27 23.2 +2.3**
JCJ Chichijima 33.96 352 P **P** **23 21 59.4 -1.1**
comp=Z,426nm,0.6s,baz=279,slow=10,SNR=13
JCJ S S 23 27 13.9 -7.0
comp=Z,98nm,0.9s,baz=242,slow=17,SNR=2.6
JCJ LR LR 23 33 42.5
comp=Z,19µm,22.0s,baz=174,slow=32
KMBL Kambalda 34.17 221 P **P** **23 22 02.6 +0.2**
baz=34,SNR=171
KMBL S **S** **23 27 24.9 +0.7**
baz=34,SNR=5.5
BWJI Bawean 34.45 269 P **P** **23 22 06.4 +1.4**
comp=Z,246nm,1.9s,comp=Z,4µm
GRJI Gresik 34.58 268 P **P** **23 22 06.1 0.0**
comp=Z,144nm,1.2s,comp=Z,2µm
TBJI Tambak Boyo 35.20 268 P P 23 22 07.3 -4.2
comp=Z,1µm,0.7s,comp=Z,60µm
PWJI Pagerwojo 35.23 266 P **P** **23 22 10.9 -0.8**
comp=Z,240nm,0.7s,comp=Z,5µmcomp=Z,14µm
APYP Conner 35.47 314 *e*P **P** **23 22 12.9 -0.8**
BTM Bintulu 35.55 285 ⇑P **P** **23 22 17.0 +2.5**
GIRL Giralia 35.58 240 P **P** **23 22 16.3 +1.7**
baz=35,SNR=124
MOO Moorlands 35.59 180 P **P** **23 22 15.4 +0.9**
baz=36,SNR=22
PBKI Pangkalan Bun 35.73 275 P **P** **23 22 17.3 +1.3**
comp=Z,1µm,1.4s,comp=Z,19µm
PCJI Pacitan 35.84 265 P **P** **23 22 16.5 -0.5**
comp=Z,1µm,1.8s,comp=Z,13µm
TAU Tasmania Unive 36.06 180 P **P** **23 22 19.6 +1.1**
comp=Z,980nm,1.0s,SNR=15
TAU Tasmania Unive 36.06 180 *e*P **P** **23 22 18.8 +0.3**
TAU *e* 23 24 45.0
TAU pmax pmax
comp=Z,233nm,1.1s
TAU Tasmania Unive 36.06 180 *e*P **P** **23 22 18.8 +0.3**
comp=Z,233nm,1.1s
TAU *e*PcP **PcP** **23 24 45.0 +1.5**
TAU *e*ScP **ScP** **23 28 27.2 +3.0**
UWJI Ujung Watu 36.11 268 P **P** **23 22 20.6 +1.3**
comp=Z,724nm,1.9s,comp=Z,10µm
SBUM Sibu 36.18 283 ⇑P **P** **23 22 22.3 +2.4**
SBUM Sibu 36.18 283 *e*P **P** **23 22 21.3 +1.4**
comp=Z,1µm,2.1s
SBUM *e*S **S** **23 27 56.4 +0.9**
SBUM *e*ScP **ScP** **23 28 29.4 +4.1**
STKI Sintang 36.37 279 P **P** **23 22 23.1 +1.6**
comp=Z,353nm,2.1s,comp=Z,10µm
UGM Wanagama 36.49 266 P **P** **23 22 23.0 +0.4**
comp=Z,979nm,1.4s,comp=Z,15µm
UGM Wanagama 36.49 266 P **P** **23 22 23.1 +0.4**
baz=36,SNR=18
UGM S **S** **23 27 58.5 -1.8**
baz=36,SNR=7.9
UGM Wanagama 36.49 266 *e*P **P** **23 22 22.6 0.0**
comp=Z,2µm,1.5s
SMRI Semarang 36.59 267 P **P** **23 22 23.8 +0.4**
comp=Z,835nm,1.8s,comp=Z,16µm
SMRI Semarang 36.59 267 P **P** **23 22 24.5 +1.0**
baz=36,SNR=14
SMRI Semarang 36.59 267 *e*P **P** **23 22 23.8 +0.4**
comp=Z,1µm,1.3s
MORW Morawa 36.94 229 P **P** **23 22 26.5 +0.3**
baz=37,SNR=296
MORW S **S** **23 28 06.9 +0.2**
baz=37,SNR=9.7
BLDU Ballidu 37.27 226 P **P** **23 22 29.3 +0.3**
baz=37,SNR=241
BLDU S **S** **23 28 12.5 +0.8**
baz=37,SNR=8.7
OUZ Omahuta 37.28 143 *e*P **P** **23 22 30.3 +1.3**
comp=Z,120nm,1.0s
KSM Kuching 37.81 281 P **P** **23 22 34.9 +1.2**
baz=38,SNR=34
KSM S **S** **23 28 25.3 +5.1**
baz=38,SNR=4.9
KSM Kuching 37.81 281 ⇓P **P** **23 22 35.8 +2.1**
KSM Kuching 37.81 281 *e*P **P** **23 22 34.6 +0.9**
comp=Z,1µm,1.9s
KPJI Karang Pucung 38.08 267 P **P** **23 22 36.6 +0.6**
comp=Z,876nm,0.7s,comp=Z,9µmcomp=Z,574µm
JOW Kunigami 38.09 332 P **P** **23 22 36.5 +0.6**
comp=Z,35nm,0.6s,baz=159,slow=11,SNR=7.3
JOW S **S** **23 28 21.3 -2.9**
comp=Z,0.8nm,0.5s,baz=107,slow=19,SNR=4.2
JOW LR LR 23 35 37.4
comp=Z,2µm,21.1s,baz=165,slow=32
JOW Kunigami 38.09 332 *e*P **P** **23 22 35.7 -0.2**
comp=Z,2µm,1.6s
JOW *e*S **S** **23 28 21.3 -2.9**
JOW *e* 23 35 37.4
NWAO Narrogin (SRO) 38.22 223 P **P** **23 22 37.3 +0.3**
NWAO S **S** **23 28 24.3 -1.8**
NWAO pmax pmax
comp=Z,192nm,0.5s
NWAO smax smax
comp=N,89nm,1.2s
NWAO MLR MLR
comp=Z,200nm,18.8s
NWAO Narrogin (SRO) 38.22 223 P **P** **23 22 37.3 +0.3**
comp=Z,192nm,0.5s,baz=53,slow=8.0,SNR=203
NWAO S **S** **23 28 24.3 -1.8**
comp=Z,89nm,1.2s,baz=206,slow=20,SNR=6.6
NWAO LR LR 23 39 42.2
comp=Z,200nm,18.8s,baz=52,slow=38
NWAO Narrogin (SRO) 38.22 223 P **P** **23 22 37.4 +0.4**
baz=38,SNR=129
NWAO S **S** **23 28 26.2 +0.1**
baz=38,SNR=7.8
CMJI Cimerak 38.55 266 P **P** **23 22 39.2 -0.8**
comp=Z,2µm,1.3s,comp=Z,18µm
TWG Pinlang 38.98 320 *e*P **P** **23 22 41.9 -1.5**
comp=Z,187nm,0.6s
YOJ Yonaguni jima 38.99 323 *e*P **P** **23 22 44.0 +0.6**

YOJ pmax pmax
comp=Z,407nm,1.1s
YOJ Yonaguni jima 38.99 323 *e*P **P** **23 22 44.0 +0.6**
comp=Z,407nm,1.1s
CISI Cisompet, Garu 39.18 266 P **P** **23 22 44.8 -0.5**
comp=Z,2µm,1.4s,comp=Z,32µm
CISI Cisompet, Garu 39.18 266 P **P** **23 22 45.6 +0.3**
baz=39,SNR=32
CISI S **S** **23 28 39.3 -1.8**
baz=39,SNR=6.2
CISI Cisompet, Garu 39.18 266 *e*P **P** **23 22 45.3 0.0**
comp=Z,2µm,0.9s
CISI *e*PcP **PcP** **23 24 54.6 +0.9**
CISI *e*S **S** **23 28 39.9 -1.3**
YULB Yu-li 39.25 320 *e*P **P** **23 22 45.5 -0.2**
comp=Z,69nm,0.8s
LEM Lembang 39.40 267 P **P** **23 22 47.8 +0.5**
comp=Z,959nm,0.7s,comp=Z,21µm
LEM Lembang 39.40 267 LR LR 23 41 41.6
comp=Z,5µm,21.6s,baz=78,slow=40
LEM Lembang 39.40 267 P **P** **23 22 48.6 +1.4**
baz=39,SNR=12
RKGY Rocky Gully 39.41 221 P **P** **23 22 48.1 +1.3**
baz=39,SNR=136
TPUB Ta-pu 39.61 320 *e*P **P** **23 22 47.7 -1.0**
comp=Z,157nm,0.6s
TPUB *e*S **S** **23 28 48.3 +1.2**
NACB Ninganchiao 39.63 322 *e*P **P** **23 22 48.9 +0.1**
comp=Z,880nm,1.7s
NACB *e*S **S** **23 28 49.5 +2.2**
RAO Raoul Island 39.71 129 P **P** **23 22 49.4 0.0**
comp=Z,1µm,1.0s,baz=180,slow=2.6,SNR=15
RAO LR LR 23 36 43.0
comp=Z,10µm,21.5s,baz=311,slow=32
SSLB Suanglung 39.75 321 *e*P **P** **23 22 49.5 -0.4**
comp=Z,74nm,0.6s
CNJI Cibinong 39.87 267 P **P** **23 22 50.6 -0.4**
comp=Z,3µm,1.5s,comp=Z,40µm
YHNB Yeheng 40.13 322 *e*P **P** **23 22 53.4 +0.4**
comp=Z,254nm,0.8s
YHNB *e*S **S** **23 28 54.7 -0.3**
CBJI Citeko 40.18 268 P **P** **23 22 52.8 -0.8**
comp=Z,3µm,0.6s,comp=Z,38µm
JHJ2 Mitsune 40.23 350 *e*P **P** **23 22 53.1 -0.4**
comp=Z,552nm,0.9s
TATO Taipei 40.29 322 *e*P **P** **23 22 54.8 +0.6**
comp=Z,457nm,0.8s
TNG Tangerang 40.40 268 P **P** **23 22 57.3 +2.0**
comp=Z,2µm,1.4s,comp=Z,23µm
SKJI Sukabumi 40.45 267 P **P** **23 22 56.2 +0.4**
comp=Z,4µm,0.7s,comp=Z,37µm
QRZ Quartz Range 40.77 150 PN **P** **23 22 59.6 +1.6**
AFI Afiamalu 40.84 103 *e*P **P** **23 22 58.9 -0.2**
AFI pmax pmax
comp=Z,296nm,1.0s
AFI Afiamalu 40.84 103 *e*P **P** **23 22 58.9 -0.2**
comp=Z,296nm,1.0s
SBJI Serang 40.91 268 P **P** **23 23 00.3 +0.7**
comp=Z,315nm,1.8s,comp=Z,7µm
KNTN Kanton 41.01 87 *e*P **P** **23 23 01.1 +0.7**
comp=Z,3µm,1.6s
DSZ Denniston Nort 41.13 152 PN **P** **23 23 02.7 +1.6**
TRVZ Turoa 41.23 146 PN **P** **23 23 04.1 +1.9**
WNVZ Wahianoa 41.28 146 PN **P** **23 23 04.3 +1.8**
XMI Christmas Isla 41.30 262 P **P** **23 23 04.7 +2.0**
baz=41,SNR=15
XMI S **S** **23 29 17.7 +5.1**
baz=41,SNR=7.3
CGJI Cibinong 41.32 268 P **P** **23 23 02.3 -0.7**
comp=Z,2µm,0.5s,comp=Z,22µm
XMIS Christmas Isla 41.33 262 P **P** **23 23 04.5 +1.5**
baz=41,SNR=22
XMIS S S 23 28 54.1 -19
baz=41,SNR=3.2
XMIS Christmas Isla 41.33 262 *e*P **P** **23 23 04.3 +1.3**
comp=Z,588nm,1.5s
URZ Urewera 41.41 144 P **P** **23 23 03.5 +0.1**
comp=Z,37nm,0.7s,baz=298,slow=3.2,SNR=35
URZ PcP **PcP** **23 24 58.9 -1.5**
comp=Z,60nm,0.8s,baz=336,slow=9.4,SNR=3.2
URZ Urewera 41.41 144 *e*P **P** **23 23 03.6 +0.3**
URZ *e*PcP **PcP** **23 24 58.9 -1.5**
URZ *e*ScP **ScP** **23 28 46.9 +2.1**
H01W1 Cape Leeuwin H 41.45 223 P **P** **23 23 05.6 +2.2**
baz=82,slow=6.9,SNR=23
H01W3 Cape Leeuwin H 41.45 223 P **P** **23 23 05.8 +2.3**
baz=82,slow=6.9,SNR=23
H01W2 Cape Leeuwin H 41.46 223 P **P** **23 23 05.9 +2.4**
baz=82,slow=6.9,SNR=19
HAZ Te Kaha 41.48 143 PN **P** **23 23 04.0 +0.1**
NNZ Nelson 41.49 150 PN **P** **23 23 04.4 +0.5**
THZ Tophouse 41.67 151 PN **P** **23 23 05.9 +0.5**
THZ SN **S** **23 29 17.6 +0.1**
BKZ Black Stump Fm 41.67 145 *e*P **P** **23 23 06.3 +0.8**
comp=Z,130nm,1.0s
BKZ *e*ScP **ScP** **23 28 49.1 +3.2**
JCZ Jackson Bay 41.70 157 PN **P** **23 23 07.0 +1.2**
BLSI Bandar Lampung 41.84 269 P **P** **23 23 07.6 +0.4**
comp=Z,402nm,1.6s,comp=Z,6µm
TCW Tory Channel 41.93 149 PN **P** **23 23 08.0 +0.5**
TCW SN **S** **23 29 21.1 -0.1**
MCHZ McNeill Hill 41.97 145 PN **P** **23 23 08.7 +0.7**
PUZ Puketiti 41.98 143 *e*PN **P** **23 23 08.1 +0.1**
KIW Kapiti Island 42.00 148 PN **P** **23 23 09.1 +1.0**
KIW SN **S** **23 29 22.1 -0.3**
QZH Quanzhou 42.08 319 ⇑*i*P **P** **23 23 09.5 +0.6**
QZH pP **pP** **23 23 24.1 -1.3**
QZH S **S** **23 29 24.0 +0.3**
QZH ScS **ScS** **23 33 02.6 -2.9**
QZH PMZ
comp=Z,300nm,0.7s
QZH PMZ
comp=Z,2µm,4.8s
QZH LN
comp=Z,7µm,30.6s
QZH LE
comp=Z,9µm,34.0s
QZH LZ
comp=Z,49µm,21.4s
RIGZ Rimuhau 42.09 144 PN **P** **23 23 08.7 -0.2**
OGWZ Otaki Gorge 42.11 148 *e*PN **P** **23 23 09.3 +0.3**
OGWZ SN **S** **23 29 23.9 0.0**
LTZ Lake Taylor 42.15 152 PN **P** **23 23 10.3 +0.9**
MRZ Mangatainoka R 42.21 148 PN **P** **23 23 09.7 -0.1**
SNZO South Karori 42.22 149 *e*P **P** **23 23 10.5 +0.6**
comp=Z,2µm,1.3s
KNZ Kokohu 42.25 144 PN **P** **23 23 10.4 +0.3**
KLI Kotabumi 42.26 270 P **P** **23 23 10.4 -0.2**
comp=Z,328nm,2.0s,comp=Z,9µm
CAW Cannon Point 42.26 148 PN **P** **23 23 11.0 +0.8**
HOWZ Holdsworth Sta 42.35 148 PN **P** **23 23 11.0 0.0**
HOWZ *e*SN **S** **23 29 26.9 -0.5**
RPZ Rata Peaks 42.35 154 LR LR 23 41 06.3
comp=Z,12µm,18.1s,baz=323,slow=36
RPZ Rata Peaks 42.35 154 PN **P** **23 23 11.0 0.0**
RPZ Rata Peaks 42.35 154 *e*P **P** **23 23 11.5 +0.5**
comp=Z,796nm,1.4s
PXZ Pawanui 42.47 146 PN **P** **23 23 12.0 +0.1**
KHZ Kahutara 42.47 151 PN **P** **23 23 11.6 -0.3**
KHZ Kahutara 42.47 151 *e*P **P** **23 23 12.2 +0.3**
comp=Z,2µm,1.4s
OXZ Oxford 42.48 153 *e*PN **P** **23 23 11.5 -0.4**
MTW Mount Morrison 42.53 148 PN **P** **23 23 12.2 -0.2**
LBZ Lake Benmore 42.53 156 PN **P** **23 23 12.8 +0.4**
MLZ Mavora Lakes 42.55 158 PN **P** **23 23 13.5 +0.9**
ANWZ Angora Road 42.55 147 PN **P** **23 23 13.2 +0.6**
JNU Nakatsue 42.57 339 P **P** **23 23 12.7 -0.1**
comp=Z,308nm,0.9s,baz=162,slow=3.4,SNR=125
JNU ScP **ScP** **23 28 49.0 -0.6**
comp=Z,28nm,0.9s,baz=117,slow=4.1,SNR=6.7
JNU S **S** **23 29 27.5 -3.3**
comp=Z,8.5nm,0.8s,baz=238,slow=22,SNR=7.5
JNU LR LR 23 38 14.9
comp=Z,11µm,21.7s,baz=168,slow=32
JNU Nakatsue 42.57 339 *e*P **P** **23 23 12.7 -0.1**
comp=Z,769nm,1.4s
JNU *e*ScP **ScP** **23 28 50.6 +1.0**
JNU *e*S **S** **23 29 27.5 -3.3**
KASI Kota Agung 42.57 269 P **P** **23 23 12.0 -1.1**
comp=Z,818nm,0.9s,comp=Z,10µm
MSWZ Moikau Station 42.58 149 PN **P** **23 23 12.7 -0.1**
BFZ Birch Farm 42.58 147 PN **P** **23 23 12.8 -0.1**
BFZ Birch Farm 42.58 147 *e*P **P** **23 23 13.5 +0.6**
comp=Z,655nm,1.0s
PAWZ Paruwai Farm 42.65 148 PN **P** **23 23 13.3 -0.1**

PAWZ eSN **S** **23 29 31.1 -0.7**
TMWZ Te Maipa 42.70 148 PN **P** **23 23 13.8 0.0**
PLWZ Palliser 42.70 149 PN **P** **23 23 13.5 -0.3**
PLWZ eSN **S** **23 29 31.0 -1.6**
TRWZ Traveller 42.80 148 PN **P** **23 23 15.4 +0.8**
WHZ Wether Hill Ro 42.94 159 PN **P** **23 23 16.2 +0.5**
WHZ Wether Hill Ro 42.94 159 *eP* **P** **23 23 16.1 +0.5**
comp=Z,440nm,1.2s
MDSI Maura Dua 42.97 271 P **P** **23 23 16.0 -0.4**
comp=Z,628nm,1.6s,comp=Z,12μm
LWLI Liwa 43.04 270 P **P** **23 23 16.8 -0.3**
comp=Z,666nm,1.3s,comp=Z,11μm
MQZ McQueen's Vall 43.05 153 PN **P** **23 23 17.1 +0.6**
ODZ Otahua Downs 43.26 156 PN **P** **23 23 18.6 +0.4**
ODZ Otahua Downs 43.26 156 *eP* **P** **23 23 19.1 +0.8**
comp=Z,774nm,1.8s
NIUE Niue 43.34 111 P **P** **23 23 21.1 +1.8**
baz=44,SNR=17
TPRI Tanjung Pinang 43.35 278 P **P** **23 23 20.9 +1.4**
comp=Z,696nm,0.7s,comp=Z,46μm
HKC Hong Kong Obse 43.40 313 *i* P **P** **23 23 22.0 +2.3**
TUZ Tuapeka 43.61 157 PN **P** **23 23 21.7 +0.6**
LHSI Lahat 43.68 271 P **P** **23 23 22.3 +0.2**
comp=Z,490nm,1.8s,comp=Z,10μmcomp=Z,13μm
JMBI JAMBI 43.82 275 P **P** **23 23 25.5 +2.3**
comp=Z,1μm,1.7s,comp=Z,19μm
MJAR Matsushiro Arr 43.85 349 P **P** **23 23 22.4 -0.7**
MJAR S **S** **23 29 45.5 -4.0**
MJAR pmax pmax
comp=Z,99nm,0.7s
MJAR pmax pmax
comp=N,12nm,1.1s
MJAR smax smax
comp=N,2.0nm,0.9s
MJAR MLR MLR
comp=Z,7μm,20.5s
MJAR Matsushiro Arr 43.85 349 P **P** **23 23 22.4 -0.7**
comp=Z,99nm,0.7s,baz=179,slow=10,SNR=142
MJAR ScP **ScP** **23 28 53.2 -1.4**
comp=Z,12nm,1.1s,baz=170,slow=3.1,SNR=5.6
MJAR S **S** **23 29 45.5 -4.0**
comp=Z,2.0nm,0.9s,baz=159,slow=6.3,SNR=2.1
MJAR LR LR 23 40 22.1
comp=Z,7μm,20.5s,baz=155,slow=34
MAJO Matsushiro **43.85 349** *c i* P **P** **23 23 22.4 -0.7**
MAJO pmax pmax
comp=Z,3μm,1.2s
MAJO Matsushiro 43.85 349 *eP* **P** **23 23 22.5 -0.6**
comp=Z,1μm,1.7s
MAJO *eScP* **ScP** **23 28 53.2 -1.4**
MAJO *eS* **S** **23 29 45.5 -4.0**
MAT Matsushiro 43.85 349 P **P** **23 23 22.5 -0.6**
MAT S **S** **23 29 48.6 -0.9**
BTDF Bukit Timah Da 44.18 279 P **P** **23 23 28.0 +1.9**
baz=44,SNR=9.7
MYKOM **Kota Tinggi 44.19 279** *eP* **P** **23 23 26.9 +0.8**
comp=Z,1μm,1.9s
MYKOM *eScP* **ScP** **23 29 01.5 +5.0**
MNAI Manna 44.19 271 P **P** **23 23 28.0 +1.8**
comp=Z,441nm,0.6s,comp=Z,9μm
MNAI Manna 44.19 271 P **P** **23 23 28.2 +1.9**
baz=44,SNR=9.6
MNAI Manna 44.19 271 *eP* **P** **23 23 26.1 -0.2**
comp=Z,366nm,1.0s
GZH Guangzhou 44.48 313 P **P** **23 23 30.6 +2.3**
GZH PP **PP** **23 25 15.3 +2.0**
GZH S **S** **23 30 03.9 +4.9**
GZH LN
comp=Z,11μm,17.7s
GZH LE
comp=Z,11μm,16.9s
KSJJU Jeju 44.51 335 ⇓P **P** **23 23 28.7 +0.2**
SNR=22
KSJJU Jeju 44.51 335 ⇓P **P** **23 23 28.7 +0.2**
SNR=22
KSJJU ⇓S **S** **23 29 57.6 -1.5**
QIZ Qiongzhong 44.90 305 P **P** **23 23 32.8 +1.0**
QIZ pP **pP** **23 23 48.5 +0.1**
QIZ sP **sP** **23 23 55.5 -0.5**
QIZ PP **PP** **23 25 18.9 +1.0**
QIZ S **S** **23 30 07.0 +1.8**
QIZ PMZ
comp=Z,1μm,6.8s
QIZ LN
comp=Z,5μm,17.3s
QIZ LZ
comp=Z,14μm,27.0s
QIZ Qiongzhong 44.90 305 *eP* **P** **23 23 32.4 +0.7**
comp=Z,134nm,0.8s
KSBUS Busan 45.11 339 ⇑P **P** **23 23 33.4 +0.3**
SNR=14
KSBUS Busan 45.11 339 ⇑P **P** **23 23 33.4 +0.3**
SNR=14
KSBUS ⇓S **S** **23 30 06.1 -1.6**
SSE Sheshan 45.13 328 ⇑P **P** **23 23 33.5 +0.1**
SSE pP **pP** **23 23 50.8 +0.8**
SSE sP **sP** **23 23 58.6 +1.0**
SSE PcP **PcP** **23 25 13.8 +0.8**
SSE S **S** **23 30 06.8 -1.3**
SSE sS **sS** **23 30 37.3 +0.9**
SSE PMZ
comp=Z,59nm,0.7s
SSE PMZ
comp=Z,660nm,6.2s
SSE LN
comp=Z,9μm,21.0s
SSE LE
comp=Z,3μm,21.0s
SSE LZ
comp=Z,11μm,20.7s
KSHAN Haenam 45.49 336 P **P** **23 23 36.2 +0.1**
SNR=26
KSHAN Haenam 45.49 336 P **P** **23 23 36.2 +0.1**
SNR=26
KSJDO Jindo 45.50 335 ⇑P **P** **23 23 36.1 -0.2**
SNR=47
KSJDO Jindo 45.50 335 ⇑P **P** **23 23 36.1 -0.2**
SNR=47
KSMOK Mokpo 45.59 336 ⇑P **P** **23 23 36.8 -0.1**
SNR=27
KSMOK Mokpo 45.59 336 ⇑P **P** **23 23 36.8 -0.1**
SNR=27
KSDAG Daegu 45.65 339 ⇑P **P** **23 23 37.7 +0.3**
SNR=34
KSDAG Daegu 45.65 339 ⇑P **P** **23 23 37.7 +0.3**
SNR=34
KSDAG ⇓S **S** **23 30 13.9 -1.7**
KSKWJ Gwangju 45.83 337 ⇑P **P** **23 23 38.3 -0.5**
SNR=7.3
KSKWJ Gwangju 45.83 337 ⇑P **P** **23 23 38.3 -0.5**
SNR=7.3
KSKWJ ⇑S **S** **23 30 16.0 -2.1**
KSPHA Pohang 45.87 340 ⇑P **P** **23 23 39.6 +0.5**
SNR=6.4
KSPHA Pohang 45.87 340 ⇑P **P** **23 23 39.6 +0.5**
SNR=6.4
KSHUK Heuksando 46.05 335 ⇑P **P** **23 23 40.7 +0.1**
SNR=21
SDSI Sungai Dareh 46.11 275 P **P** **23 23 41.6 +0.2**
comp=Z,479nm,2.0s,comp=Z,15μm
KSJEU Jeongeup 46.15 337 ⇓P **P** **23 23 41.0 -0.3**
SNR=24
KSULJ Uljin 46.32 340 ⇓P **P** **23 23 42.7 +0.1**
SNR=10
KSULJ ⇑S **S** **23 30 22.8 -2.2**
KSJEO Jeonju 46.40 337 ⇑P **P** **23 23 43.0 -0.3**
SNR=12
BKNI Bangkinang 46.69 277 P **P** **23 23 46.1 +0.1**
comp=Z,503nm,1.9s,comp=Z,11μmcomp=Z,21μm
BKNI Bangkinang 46.69 277 P **P** **23 23 47.5 +1.5**
baz=46,SNR=4.6
BKNI Bangkinang 46.69 277 *eP* **P** **23 23 46.1 +0.1**
comp=Z,2μm,1.9s
KSBON Boeun 46.70 338 P **P** **23 23 46.4 +0.7**
SNR=20
TJN Taejon 46.76 338 *i* P **P** **23 23 45.7 -0.4**
KSTBA Taebaek 46.85 340 P **P** **23 23 47.3 +0.4**
SNR=17
UBPT Khong Chiam 46.85 298 P **P** **23 23 48.6 +1.4**
comp=Z,355nm,0.7s,comp=Z,8μm
KSCHJ Chungju 46.97 339 ⇓P **P** **23 23 48.1 +0.4**
SNR=28
KSYOW Yeongwol 47.07 339 ⇑P **P** **23 23 49.1 +0.6**
SNR=18
NJ2 Nanjing 47.13 326 *eP* **P** **23 23 49.8 +0.8**
NJ2 pP **pP** **23 24 05.0 -0.8**
NJ2 sP **sP** **23 24 12.5 -0.8**
NJ2 S **S** **23 30 34.0 -2.7**
NJ2 sS **sS** **23 31 04.5 -0.6**
NJ2 PMZ
comp=Z,120nm,1.0s
NJ2 PMZ
comp=Z,980nm,9.9s
NJ2 LN
comp=Z,25μm,26.9s
NJ2 LE
comp=Z,48μm,23.6s
NJ2 LZ
comp=Z,48μm,23.6s
KSCEA Cheonan 47.19 338 ⇑P **P** **23 23 49.7 +0.2**
SNR=21
KSWJU Wonju 47.42 339 ⇑P **P** **23 23 51.6 +0.4**
SNR=49
KSDGY Daegwallycong 47.46 340 ⇑P **P** **23 23 52.1 +0.4**
SNR=17
KSSES Seosan 47.47 337 ⇑P **P** **23 23 51.8 +0.2**
SNR=27
KSRS Korea Array 47.51 339 P **P** **23 23 52.3 +0.4**
KSRS S **S** **23 30 42.6 +0.6**
KSRS pmax pmax
comp=Z,186nm,0.7s
KSRS pmax pmax
comp=N,8.0nm,1.1s
KSRS smax smax
comp=N,1.0nm,0.4s
KSRS MLR MLR
comp=Z,11μm,21.1s
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS Korea Array 47.51 339 P **P** **23 23 52.3 +0.4**
comp=Z,186nm,0.7s,baz=152,slow=8.2,SNR=250
KSRS ScP **ScP** **23 29 08.8 -0.9**
comp=Z,7.8nm,1.1s,baz=140,slow=4.1,SNR=6.6
KSRS S **S** **23 30 42.5 +0.6**
comp=Z,0.5nm,0.4s,baz=164,slow=16,SNR=4.9
KSRS LR LR 23 41 26.9
comp=Z,11μm,21.1s,baz=146,slow=33
KSRS PKPPKP P'P'df 23 54 39.0 -26
comp=Z,3.6nm,0.9s,baz=7.0,slow=2.6,SNR=8.4
KSRS PKP2ab 23 56 03.0
comp=Z,2.6nm,0.9s,baz=351,slow=4.6,SNR=5.0
IPM Ipoh 47.51 282 *eP* **P** **23 23 53.8 +1.3**
comp=Z,576nm,0.5s
IPM *eScP* **ScP** **23 29 15.2 +4.8**
KS15 Wonju Array Si 47.51 339 *eP* **P** **23 23 52.3 +0.4**
KS15 *eScP* **ScP** **23 29 08.8 -0.9**
KS15 *eS* **S** **23 30 42.5 +0.5**
KSICN Icheon 47.55 338 P **P** **23 23 52.7 +0.5**
SNR=50
KSJMJ Jumunjin 47.60 340 P **P** **23 23 53.4 +0.8**
SNR=44
KSSWO Suwon 47.69 338 P **P** **23 23 53.8 +0.5**
SNR=35
KSCHC Chuncheon 47.84 339 P **P** **23 23 55.1 +0.6**
SNR=17
KSSEO Seoul 47.90 338 P **P** **23 23 55.9 +1.0**
SNR=21
KSIJA INJE 47.92 340 P **P** **23 23 55.9 +0.8**
SNR=64
INCN Inchon 48.01 338 P **P** **23 23 56.4 +0.6**
SNR=32
INCN Inchon 48.01 338 *eP* **P** **23 23 56.4 +0.6**
comp=Z,294nm,0.9s
KSSKC Sokcho 48.05 340 P **P** **23 23 56.9 +0.8**
SNR=32
KULM Kulim 48.06 283 *eP* **P** **23 23 57.1 +0.4**
KULM *eScP* **ScP** **23 29 16.4 +3.7**
SEHB SEOHWA 48.12 340 P **P** **23 23 57.6 +0.9**
SNR=22
MNSI Mandailing Nat 48.20 277 P **P** **23 23 58.2 +0.5**
comp=Z,208nm,2.3s,comp=Z,6μm
KSCWO Cheorwon 48.22 339 P **P** **23 23 58.3 +0.9**
SNR=72
KSDDC Dongducheon 48.22 338 P **P** **23 23 58.4 +1.0**
SNR=31
KSGAH Ganghwa 48.27 338 P **P** **23 23 58.8 +1.0**
SNR=19
KSMUS Musan 48.32 338 P **P** **23 23 58.9 +0.7**
SNR=18
YNCB YEONCHEON 48.39 338 P **P** **23 23 59.7 +1.0**
SNR=27
SKLT Songkhla 48.56 286 P **P** **23 24 02.2 +1.7**
comp=Z,705nm,1.3s,comp=Z,10μm
MCQ Macquarie Isla 48.58 171 *eP* **P** **23 24 01.0 +1.1**
MCQ Macquarie Isla 48.58 171 P **P** **23 24 01.4 +1.4**
baz=49,SNR=20
MCQ Macquarie Isla 48.58 171 *eP* **P** **23 24 01.0 +1.1**
ERM Erimo 48.63 356 *d i* P **P** **23 24 01.2 +0.8**
ERM pmax pmax
comp=Z,176nm,1.5s
ERM Erimo 48.63 356 *eP* **P** **23 24 01.5 +1.0**
comp=Z,223nm,1.4s
WHN Wuhan 48.67 321 ⇑P **P** **23 24 02.0 +1.0**
WHN pP **pP** **23 24 18.9 +1.1**
WHN S **S** **23 30 59.9 +1.3**
WHN PMZ
comp=Z,400nm,1.4s
WHN PMZ
comp=Z,2μm,7.5s
WHN LN
comp=Z,6μm,18.3s
WHN LE
comp=Z,4μm,12.2s
WHN LZ
comp=Z,9μm,19.8s
CHBT CHBT 48.69 293 P **P** **23 24 02.6 +1.2**
comp=Z,1μm,0.8s,comp=Z,11μm
PSI Prapat 49.21 280 S **S** **23 31 03.7 -3.3**
comp=Z,3.0nm,0.4s,baz=150,slow=16,SNR=4.5
PSI LR LR 23 51 23.1
comp=Z,4μm,18.2s,baz=128,slow=44
KHON Khomkaen 49.61 298 P **P** **23 24 10.3 +1.9**
comp=Z,95nm,0.8s,comp=Z,1μm
TSI Tuntungan 49.70 280 P **P** **23 24 10.1 +0.9**
comp=Z,717nm,0.9s,comp=Z,11μm
COCO West Island 50.02 260 P **P** **23 24 14.7 +3.1**
comp=Z,5μm,0.5s,SNR=18
COCO West Island 50.02 260 *eP* **P** **23 24 14.3 +2.7**
COCO *e* 23 25 32.9
COCO pmax pmax
comp=Z,3μm,1.5s
COCO West Island 50.02 260 P **P** **23 24 14.3 +2.7**
SNR=16
COCO West Island 50.02 260 *eP* **P** **23 24 14.3 +2.7**
comp=Z,3μm,1.5s
COCO *e*PcP **PcP** **23 25 32.9 +2.1**
KCSI Kotacane, Aceh 50.48 280 P **P** **23 24 14.8 -0.3**
comp=Z,974nm,0.8s,comp=Z,12μm
YUK Yuzh-Kuril'sk 50.51 359 *c i* P P 23 24 08.9 -5.9
YUK *i* 23 25 33.1
YUK *i* 23 26 12.7
YUK *i* PPP PPP 23 27 08.9
YUK *i* S **S** **23 31 19.1 -4.8**
YUK *i* 23 34 00.0
YUK *i* SS **SS** **23 35 01.2 +2.2**
YUK MLR MLR
comp=N,2μm,20.0s
YUK MLR MLR
comp=E,898nm,20.0s
YUK MLR MLR
comp=Z,200nm,20.0s
ASAJ Asahikawa 50.76 356 P **P** **23 24 17.8 +1.2**
ASAJ S **S** **23 31 25.8 -1.5**
ASAJ pmax pmax
comp=Z,188nm,1.0s
ASAJ pmax pmax
comp=N,10.0nm,0.9s
ASAJ smax smax
comp=N,1.0nm,0.4s
ASAJ MLR MLR
comp=Z,5μm,21.6s
ASAJ Asahikawa 50.76 356 P **P** **23 24 17.8 +1.2**
comp=Z,188nm,1.0s,baz=224,slow=9.3,SNR=110
ASAJ ScP **ScP** **23 29 24.2 +0.7**
comp=Z,10nm,0.9s,baz=224,slow=7.0,SNR=3.4
ASAJ S **S** **23 31 25.8 -1.5**
comp=Z,0.9nm,0.3s,baz=43,slow=19,SNR=2.3
ASAJ LR LR 23 44 41.2
comp=Z,5μm,21.6s,baz=190,slow=35
ASAJ Asahikawa 50.76 356 *eP* **P** **23 24 17.3 +0.7**
comp=Z,290nm,1.1s
ASAJ *eScP* **ScP** **23 29 24.2 +0.7**
ASAJ *eS* **S** **23 31 25.8 -1.5**
SURT Suratani 50.79 287 P **P** **23 24 18.5 +1.1**
comp=Z,295nm,0.8s,comp=Z,5μm
PKDT Phuket 50.94 286 P **P** **23 24 19.5 +1.0**
comp=Z,682nm,0.9s,comp=Z,10μm
TPTI 51.01 280 P **P** **23 24 18.9 -0.2**
comp=Z,293nm,0.6s
TIA Tai'an 51.23 329 ⇑P **P** **23 24 19.8 -0.5**
TIA pP **pP** **23 24 36.8 -0.5**
TIA sP **sP** **23 24 47.5 +2.7**
TIA S S 23 31 25.6 -8.6
TIA PMZ
comp=Z,130nm,1.5s
TIA LN
comp=Z,10μm,19.6s
TIA LE
comp=Z,6μm,17.2s
TIA LZ
comp=Z,13μm,20.2s
DL2 Dalian 51.25 334 ⇑P **P** **23 24 20.9 +0.5**
DL2 S **S** **23 31 34.0 -0.3**
DL2 ScS **ScS** **23 34 01.3 -3.6**
DL2 PMZ
comp=Z,220nm,1.4s
DL2 PMZ
comp=Z,1μm,4.1s
DL2 LN
comp=Z,4μm,21.7s
DL2 LE
comp=Z,3μm,21.0s
DL2 LZ
comp=Z,6μm,21.2s
PBKT Sadao Pong 51.33 297 P **P** **23 24 22.8 +1.4**
comp=Z,301nm,1.2s,comp=Z,6μm
GYA Guiyang 51.37 312 ⇑ *i* P **P** **23 24 22.3 +0.6**
GYA pP **pP** **23 24 42.0 +3.3**
GYA sP **sP** **23 24 50.6 +4.4**
GYA PP **PP** **23 26 23.0 +3.5**
GYA ScP **ScP** **23 29 25.4 -1.3**
GYA S **S** **23 31 33.9 -2.8**
GYA ScS **ScS** **23 34 02.0 -4.6**
GYA SS **SS** **23 35 12.6 -0.8**
GYA PMZ
comp=Z,60nm,0.6s
GYA PMZ
comp=Z,2μm,7.5s
GYA LN
comp=Z,4μm,20.5s
GYA LE
comp=Z,5μm,24.5s
GYA LZ
comp=Z,6μm,21.7s
VLA Vladivostok 51.52 346 *c i* P **P** **23 24 22.9 +0.5**
VLA pmax pmax
comp=Z,431nm,1.7s
ENH Enshi 51.63 317 *eP* **P** **23 24 23.9 +0.4**
comp=Z,58nm,1.1s
ENH *eS* **S** **23 31 38.9 -1.2**
LHMI Lhok Sumawe 51.64 282 P **P** **23 24 25.0 +1.2**
comp=Z,2μm,0.6s,comp=Z,22μm
LHMI Lhok Sumawe 51.64 282 P **P** **23 24 25.0 +1.2**
baz=52,SNR=88
LHMI S **S** **23 31 42.3 +1.8**
baz=52,SNR=5.6
LHMI Lhok Sumawe 51.64 282 *eP* **P** **23 24 24.7 +0.9**
comp=Z,1μm,0.6s
SNSI Sinabang, Aceh 51.68 278 P **P** **23 24 24.9 +0.8**
comp=Z,1μm,0.8s,comp=Z,20μm
KUR Kuril'sk 51.70 1 *d i* P **P** **23 24 21.9 -1.7**
KUR *i* S **S** **23 31 38.8 -1.4**
KUR pmax pmax
comp=N,403nm,1.6s
KUR pmax pmax
comp=Z,2μm,1.6s
KUR pmax pmax
comp=E,149nm,0.8s
KUR pmax pmax
comp=Z,2μm,1.6s
KUR smax smax
comp=E,2μm,21.0s
KUR smax smax
comp=Z,3μm,21.0s
KUR smax smax
comp=N,2μm,20.6s
UTTA Uttaradit 52.16 298 P **P** **23 24 29.1 +1.5**
comp=N,266nm,0.7s,comp=N,2μm
SRDT SRDT 52.17 294 P **P** **23 24 29.6 +1.9**
comp=N,2μm,1.7s,comp=N,27μm
USRK Ussuriysk Ar. 52.52 346 P **P** **23 24 30.2 +0.5**
comp=N,106nm,0.7s,baz=176,slow=6.9,SNR=137
USRK ScP **ScP** **23 29 33.2 +2.2**
comp=N,5.3nm,0.9s,baz=224,slow=4.0,SNR=4.7
USRK S **S** **23 31 51.4 -0.2**
comp=N,1.5nm,0.8s,baz=169,slow=15,SNR=4.2
USRK LR LR 23 44 47.6
comp=N,7μm,20.4s,baz=149,slow=34
USRK PKPPKP P'P'df 23 54 37.6 -20
comp=N,1.1nm,0.7s,baz=49,slow=8.6,SNR=4.9
USRK PKP2ab 23 55 42.5
comp=N,2.8nm,0.9s,baz=262,slow=4.4,SNR=3.2
SNY Shenyang 52.94 338 ⇑P **P** **23 24 32.9 0.0**
SNY S **S** **23 31 52.3 -5.1**
SNY PMZ
comp=N,190nm,1.6s
SNY PMZ
comp=N,1μm,4.2s
SNY LN
comp=N,9μm,24.0s
SNY LE
comp=N,8μm,20.6s
SNY LZ
comp=N,17μm,25.7s
RAR Rarotonga 53.10 111 *eP* **P** **23 24 35.3 +0.8**
RAR pmax pmax
comp=Z,2μm,1.2s
RAR Rarotonga 53.10 111 *eP* **P** **23 24 35.3 +0.8**
comp=Z,2μm,1.2s
LAMP Lampang 53.27 299 P **P** **23 24 37.7 +1.9**
comp=Z,179nm,0.7s,comp=Z,1μm
CRAI Chiangrai 53.34 301 P **P** **23 24 34.6 -1.7**
comp=Z,248nm,0.8s,comp=Z,6μm
MDJ Mudanjiang 53.51 344 P **P** **23 24 37.3 +0.2**
MDJ pP **pP** **23 24 55.1 +0.9**
MDJ sP **sP** **23 25 03.9 +2.3**
MDJ PP **PP** **23 26 39.3 +0.9**
MDJ ScP **ScP** **23 29 35.3 -0.1**
MDJ PcS **PcS** **23 29 41.6 -0.6**
MDJ S **S** **23 32 06.1 +1.0**
MDJ ScS **ScS** **23 34 20.0 -0.5**
MDJ PMZ
comp=Z,100nm,1.3s
MDJ PMZ
comp=Z,1μm,7.0s
MDJ LN
comp=Z,10μm,27.0s
MDJ LE
comp=Z,5μm,30.2s
MDJ LZ
comp=Z,15μm,26.6s
MDJ Mudanjiang 53.51 344 *eP* **P** **23 24 37.1 0.0**
comp=Z,352nm,1.6s
YSS Yuzh-Sakhalins 53.57 356 *α i* P **P** **23 24 38.0 +0.6**
YSS *e* *PP **pP** **23 24 54.0 -0.5**
YSS *e* 23 25 42.0
YSS *e*PPP PPP 23 27 45.0
YSS *e*S **S** **23 32 02.0 -3.7**
YSS *e*PS **PKiKP** **23 32 15.0 -4.8**
YSS *e* 23 34 22.0
YSS *e*SS **SS** **23 35 50.0 +2.8**
YSS pmax pmax
comp=Z,220nm,1.0s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS MLR MLR
comp=Z,4μm,18.0s
YSS MLR MLR
comp=N,3μm,19.0s
YSS MLR MLR
comp=E,2μm,19.0s
YSS Yuzh-Sakhalins 53.57 356 *eP* **P** **23 24 37.8 +0.4**
comp=E,280nm,1.1s
YSS *e*ScP **ScP** **23 29 37.4 +1.8**
CM31 Chiang Mai Arr 53.85 299 *eP* **P** **23 24 41.8 +1.8**
CM31 *e*ScP **ScP** **23 29 39.0 +1.5**
CM31 *e*S **S** **23 32 09.7 -0.8**
ASAJ *e*ScP **ScP** **23 29 24.2 +0.7**
ASAJ *e*S **S** **23 31 25.8 -1.5**

CMAR	**Chiang Mai Arr**	**53.85**	**299**	P	**P**		**23**	**24**	**41.8**	**+1.8**
CMAR				S	**S**		**23**	**32**	**09.7**	**-0.8**
CMAR				pmax	pmax					
	comp=Z,254nm,0.6s									
CMAR				pmax	pmax					
	comp=N,4.0nm,0.8s									
CMAR				smax	smax					
	comp=N,1.0nm,0.5s									
CMAR				MLR	MLR					
	comp=Z,2µm,19.7s									
CMAR				pmax	pmax					
	comp=Z,6.0nm,1.0s									
CMAR	**Chiang Mai Arr**	**53.85**	**299**	P	**P**		**23**	**24**	**41.8**	**+1.8**
	comp=Z,254nm,0.6s,baz=121,slow=5.8,SNR=736									
CMAR				ScP	**ScP**		**23**	**29**	**39.0**	**+1.5**
	comp=Z,3.7nm,0.8s,baz=142,slow=3.4,SNR=3.2									
CMAR				S	**S**		**23**	**32**	**09.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=143,slow=3.2,SNR=2.7									
CMAR				LR	LR		23	48	59.6	
	comp=Z,2µm,19.7s,baz=118,slow=37									
CMAR				PKPPKP	P'P'df		23	54	51.9	-7.1
	comp=Z,6.0nm,1.0s,baz=284,slow=3.0,SNR=11									
CMAR				P4KPbc			00	02	04.3	
	comp=Z,2.6nm,0.8s,baz=123,slow=2.7,SNR=19									
CMMT	**Chiang Mai**	**53.98**	**299**	P	**P**		**23**	**24**	**42.2**	**+1.2**
	comp=Z,436nm,0.7s,comp=Z,7µm									
CN2	**Changchun**	**54.02**	**341**	*e*P	**P**		**23**	**24**	**40.5**	**-0.3**
CN2				*e*pP	**pP**		**23**	**24**	**56.3**	**-1.6**
CN2				*e*sP	**sP**		**23**	**25**	**03.3**	**-2.0**
CN2				*e*S	**S**		**23**	**32**	**07.6**	**-4.3**
CN2				PMZ						
	comp=Z,50nm,1.4s									
CN2				PMZ						
	comp=Z,200nm,5.0s									
CN2				LN						
	comp=Z,8µm,20.0s									
CN2				LE						
	comp=Z,4µm,20.0s									
CN2				LZ						
	comp=Z,7µm,21.0s									
CMAI	**Chiengmai2**	**54.35**	**300**	P	**P**		**23**	**24**	**45.5**	**+1.7**
	comp=Z,162nm,0.8s									
XAN	**Xi'an**	**54.41**	**321**	P	**P**		**23**	**24**	**43.8**	**-0.1**
XAN				pP	**pP**		**23**	**25**	**02.3**	**+1.3**
XAN				sP	**sP**		**23**	**25**	**11.3**	**+2.8**
XAN				PP	**PP**		**23**	**26**	**43.5**	**-3.2**
XAN				PMZ						
	comp=Z,38nm,0.7s									
XAN				PMZ						
	comp=Z,280nm,6.8s									
XAN				LN						
	comp=Z,5µm,34.4s									
XAN				LE						
	comp=Z,3µm,32.6s									
XAN				LZ						
	comp=Z,3µm,29.0s									
MHMT	**Maesarieng**	**54.62**	**298**	P	**P**		**23**	**24**	**47.1**	**+1.4**
	comp=Z,252nm,0.6s									
BJT	**Baijiatuau**	**54.64**	**331**	*e*P	**P**		**23**	**24**	**45.3**	**-0.1**
BJT				*e*S	**S**		**23**	**32**	**20.2**	**-0.3**
BJT				pmax	pmax					
	comp=Z,826nm,1.9s									
BJT	**Baijiatuau**	**54.64**	**331**	*e*P	**P**		**23**	**24**	**45.3**	**-0.1**
	comp=Z,826nm,1.9s									
BJT				*e*S	**S**		**23**	**32**	**20.2**	**-0.3**
BJI	**Beijing**	**54.66**	**331**	P	**P**		**23**	**24**	**45.3**	**-0.2**
BJI				pP	**pP**		**23**	**25**	**01.1**	**-1.5**
BJI				PcP	**PcP**		**23**	**25**	**48.8**	**+1.2**
BJI				S	**S**		**23**	**32**	**19.4**	**-1.2**
BJI				sS	**sS**		**23**	**32**	**48.3**	**-1.3**
BJI				ScS	**ScS**		**23**	**34**	**27.8**	**-1.0**
BJI				PMZ						
	comp=Z,180nm,1.5s									
BJI				PMZ						
	comp=Z,2µm,3.6s									
BJI				LN						
	comp=Z,7µm,21.2s									
BJI				LE						
	comp=Z,10µm,22.2s									
BJI				LZ						
	comp=Z,13µm,34.3s									
TIY	**Taiyuan**	**54.85**	**326**	*e*P	**P**		**23**	**24**	**46.9**	**-0.2**
TIY				pP	**pP**		**23**	**25**	**03.8**	**-0.4**
TIY				sP	**sP**		**23**	**25**	**14.1**	**+2.5**
TIY				S	**S**		**23**	**32**	**23.1**	**-0.4**
TIY				PMZ						
	comp=Z,36nm,0.5s									
TIY				PMZ						
	comp=Z,1µm,6.6s									
TIY				LN						
	comp=Z,5µm,16.8s									
TIY				LE						
	comp=Z,4µm,18.2s									
TIY				LZ						
	comp=Z,18µm,28.4s									
CMBY	**CAMPBELL BAY**	**54.96**	**283**	*e*P	**P**		**23**	**24**	**48.4**	**+0.2**
CMBY				AMB	AMB		23	24	49.1	
	comp=Z,412nm,1.9s									
XMAS	**Kiritimati**	**55.83**	**83**	*e*P	**P**		**23**	**24**	**55.6**	**+1.2**
	comp=Z,873nm,1.0s									
CD2	**Chengdu**	**55.98**	**314**	⇑*i*P	**P**		**23**	**24**	**56.0**	**+0.7**
CD2				pP	**pP**		**23**	**25**	**13.0**	**+0.6**
CD2				sP	**sP**		**23**	**25**	**20.8**	**+0.9**
CD2				PcP	**PcP**		**23**	**25**	**52.8**	**-0.3**
CD2				PP	**PP**		**23**	**27**	**02.9**	**+2.1**
CD2				PcS	**PcS**		**23**	**29**	**51.9**	**-1.7**
CD2				S	**S**		**23**	**32**	**37.8**	**-0.9**
CD2				sS	**sS**		**23**	**33**	**07.4**	**-0.4**
CD2				SS	**SS**		**23**	**36**	**24.9**	**-1.0**
CD2				PMZ						
	comp=Z,300nm,0.6s									
CD2				PMZ						
	comp=Z,2µm,5.7s									
CD2				LN						
	comp=Z,5µm,21.1s									
CD2				LE						
	comp=Z,4µm,19.6s									
CD2				LZ						
	comp=Z,8µm,27.9s									
HABR	**Khabarovsk**	**55.98**	**350**	*c i*P	**P**		**23**	**24**	**54.5**	**-0.4**
HABR				*e**PP	**pP**		**23**	**25**	**09.8**	**-2.2**
HABR				*e*			23	25	51.4	
HABR				*e*			23	26	58.7	
HABR				PPP	PPP		23	28	13.6	
HABR				*e*S	**S**		**23**	**32**	**38.1**	**+0.1**
HABR				*e*			23	34	36.8	
HABR				*e*SS	**SS**		**23**	**36**	**24.9**	**-0.3**
HABR				pmax	pmax					
	comp=N,143nm,2.0s									
HABR				pmax	pmax					
	comp=Z,448nm,2.0s									
HABR				pmax	pmax					
	comp=E,12nm,1.0s									
HABR				pmax	pmax					
	comp=Z,1µm,2.6s									
HABR				MLR	MLR					
	comp=E,2µm,19.0s									
HABR				MLR	MLR					
	comp=Z,3µm,16.0s									
HABR				MLR	MLR					
	comp=N,1µm,16.0s									
PBA	**Port Blair**	**57.25**	**288**	*e*P	P		23	25	04.9	+0.4
PBA				AMB	AMB		23	25	05.9	
	comp=Z,286nm,2.1s									
KLR	**Kul'dur**	**57.33**	**348**	⇓*i*P	**P**		**23**	**25**	**01.7**	**-2.7**
KLR				*e*PPP	PPP		23	28	39.0	
KLR				*e*S	**S**		**23**	**32**	**53.0**	**-2.9**
KLR				*e*			23	34	43.0	
KLR				pmax	pmax					
	comp=N,110nm,1.6s									
KLR				pmax	pmax					
	comp=E,120nm,1.6s									
KLR				pmax	pmax					
	comp=Z,400nm,1.6s									
KLR				pmax	pmax					
	comp=Z,2µm,7.5s									
KLR				smax	smax					
	comp=N,3µm,7.0s									
KLR				smax	smax					
	comp=E,2µm,7.0s									
KLR				MLR	MLR					
	comp=Z,4µm,13.0s									
DGPR	**DIGLIPUR**	**57.50**	**290**	*e*P	**P**		**23**	**25**	**07.1**	**+0.8**
DGPR				AMB	AMB		23	25	09.5	
	comp=Z,294nm,0.7s									
HHC	**Hu-ho-hao-te**	**57.58**	**328**	*e*P	**P**		**23**	**25**	**06.8**	**+0.3**
HHC				pP	**pP**		**23**	**25**	**22.8**	**-1.0**
HHC				sP	**sP**		**23**	**25**	**31.3**	**+0.1**
HHC				S	**S**		**23**	**32**	**59.0**	**-0.7**
HHC				SS	**SS**		**23**	**36**	**49.6**	**-1.4**
HHC				PMZ						
	comp=Z,75nm,1.1s									
HHC				PMZ						
	comp=Z,890nm,3.8s									
HHC				LN						
	comp=Z,4µm,20.2s									
HHC				LE						
	comp=Z,6µm,18.2s									
HHC				LZ						
	comp=Z,11µm,20.4s									
SKR	**Severo-Kuril's**	**57.66**	**7**	*e*P	P		23	24	59.4	-7.2
SKR				*e*			23	27	20.0	
SKR				*e*S	S		23	32	53.0	-7.0
SKR				*e*PS	**PnS**		**23**	**33**	**20.0**	**-0.2**
SKR				*e*SSS	SSS		23	39	16.0	
SKR				pmax	pmax					
	comp=N,180nm,1.0s									
SKR				pmax	pmax					
	comp=Z,220nm,1.0s									
SKR				pmax	pmax					
	comp=N,2µm,3.0s									
SKR				pmax	pmax					
	comp=E,2µm,3.0s									
SKR				pmax	pmax					
	comp=Z,2µm,3.0s									
SKR				smax	smax					
	comp=N,6µm,10.0s									
SKR				smax	smax					
	comp=E,3µm,10.0s									
SKR				MLR	MLR					
	comp=N,3µm,18.0s									
SKR				MLR	MLR					
	comp=E,3µm,18.0s									
SKR				MLR	MLR					
	comp=Z,5µm,18.0s									
BTO	**Baotou**	**58.23**	**327**	*e*P	**P**		**23**	**25**	**11.0**	**0.0**
LZH	**Lanzhou**	**58.93**	**319**	⇑P	**P**		**23**	**25**	**17.1**	**+1.0**
LZH				pP	**pP**		**23**	**25**	**32.1**	**-1.3**
LZH				sP	**sP**		**23**	**25**	**40.3**	**-0.5**
LZH				S	**S**		**23**	**33**	**17.0**	**-0.6**
LZH				sS	**sS**		**23**	**33**	**45.1**	**-1.8**
LZH				SS	**SS**		**23**	**37**	**13.3**	**+0.8**
LZH				PMZ						
	comp=Z,86nm,1.0s									
LZH				PMZ						
	comp=Z,480nm,6.2s									
LZH				LN						
	comp=Z,5µm,21.6s									
LZH				LE						
	comp=Z,4µm,18.9s									
LZH				LZ						
	comp=Z,19µm,33.9s									
DRV	**Dumont d'Urvil**	**60.08**	**183**	P	P		23	25	12.0	-11
DRV				S	S		23	33	07.0	-24
DRV				SS	SS		23	37	38.0	+9.2
DRV				L	L		23	40	00.0	
DRV				R			23	43	00.0	
PETK	**Petropavlovsk-**	**60.23**	**7**	P	**P**		**23**	**25**	**25.1**	**+0.6**
PETK				S	**S**		**23**	**33**	**30.2**	**-3.2**
PETK				pmax	pmax					
	comp=Z,116nm,1.0s									
PETK				pmax	pmax					
	comp=N,12nm,0.9s									
PETK				smax	smax					
	comp=N,1.0nm,0.4s									
PETK				MLR	MLR					
	comp=Z,9µm,21.4s									
PETK				pmax	pmax					
	comp=Z,7.0nm,0.9s									
PETK	**Petropavlovsk-**	**60.23**	**7**	P	**P**		**23**	**25**	**25.1**	**+0.6**
	comp=Z,116nm,1.0s,baz=173,slow=6.0,SNR=81									
PETK				ScP	**ScP**		**23**	**30**	**05.4**	**+0.6**
	comp=Z,12nm,0.9s,baz=174,slow=3.0,SNR=5.0									
PETK				S	**S**		**23**	**33**	**30.2**	**-3.2**
	comp=Z,1.3nm,0.4s,baz=126,slow=31,SNR=5.2									
PETK				LR	LR		23	47	49.1	
	comp=Z,9µm,21.4s,baz=198,slow=32									
PETK				PKP2bc			23	54	53.1	
	comp=Z,7.3nm,0.9s,baz=132,slow=2.2,SNR=6.7									
PEA2	**Petropavlovsk-**	**60.23**	**7**	*e*P	**P**		**23**	**25**	**25.1**	**+0.6**
PEA2				*e*ScP	**ScP**		**23**	**30**	**05.4**	**+0.6**
PEA2				*e*S	**S**		**23**	**33**	**30.2**	**-3.2**
PET	**Petropavlovsk**	**60.27**	**8**	⇑*i*P	**P**		**23**	**25**	**24.4**	**-0.3**
PET				*e*			23	27	38.5	
PET				*i* S	**S**		**23**	**33**	**31.2**	**-2.6**
PET				*e*PS	**PnS**		**23**	**33**	**52.7**	**-3.3**
PET				*i*			23	35	07.5	
PET				*e*SS	**SS**		**23**	**37**	**27.1**	**-5.3**
PET				pmax	pmax					
	comp=Z,2µm,4.9s									
PET				pmax	pmax					
	comp=Z,109nm,1.4s									
PET				pmax	pmax					
	comp=Z,1µm,19.0s									
PET	**Petropavlovsk**	**60.27**	**8**	*e*P	**P**		**23**	**25**	**24.7**	**0.0**
	comp=Z,201nm,1.4s									
PET				*e*ScP	**ScP**		**23**	**30**	**06.4**	**+1.4**
HON	**Honolulu**	**60.44**	**61**	*e*P	**P**		**23**	**25**	**29.3**	**+2.8**
HON	**Honolulu**	**60.44**	**61**	*e*P	**P**		**23**	**25**	**29.3**	**+2.8**
KIP	**Kipapa**	**60.47**	**61**	⇑*i*P	**P**		**23**	**25**	**28.1**	**+1.4**
KIP				pmax	pmax					
	comp=Z,331nm,1.2s									
KIP	**Kipapa**	**60.47**	**61**	*e*P	**P**		**23**	**25**	**28.3**	**+1.6**
	comp=Z,269nm,1.0s									
OPA	**Opana**	**60.57**	**61**	*e*P	**P**		**23**	**25**	**28.8**	**+1.4**
OPA	**Opana**	**60.57**	**61**	*e*P	**P**		**23**	**25**	**28.8**	**+1.4**
HIA	**Hailar**	**60.71**	**340**	*e*P	**P**		**23**	**25**	**28.0**	**+0.1**
HIA				pmax	pmax					
	comp=Z,1µm,2.0s									
HIA	**Hailar**	**60.71**	**340**	*e*P	**P**		**23**	**25**	**28.0**	**+0.1**
	comp=Z,1µm,2.0s									
KKH	**Kailua Kona**	**61.61**	**64**	*e*P	**P**		**23**	**25**	**33.6**	**-0.8**
KKH	**Kailua Kona**	**61.61**	**64**	*e*P	**P**		**23**	**25**	**33.6**	**-0.8**
HKL	**Haleakala**	**61.75**	**62**	*e*P	**P**		**23**	**25**	**36.2**	**+0.3**
HKL	**Haleakala**	**61.75**	**62**	*e*P	**P**		**23**	**25**	**36.2**	**+0.3**
POHA	**Pohakuloa**	**62.07**	**64**	*e*P	**P**		**23**	**25**	**39.4**	**+1.5**
	comp=Z,751nm,1.3s									
PAE	**Paea**	**62.41**	**106**	*e*P	**P**		**23**	**25**	**41.0**	**+1.1**
	comp=Z,70nm,1.4s									
PPT	**Papeete**	**62.41**	**106**	P	**P**		**23**	**25**	**41.7**	**+1.8**
PPT				pmax	pmax					
	comp=Z,179nm,0.9s									
PPT				MLR	MLR					
	comp=Z,4µm,21.6s									
PPT	**Papeete**	**62.41**	**106**	P	**P**		**23**	**25**	**41.7**	**+1.8**
	comp=Z,179nm,0.9s,baz=327,slow=0.6,SNR=20									
PPT				LR	LR		23	48	09.6	
	comp=Z,4µm,21.6s,baz=270,slow=31									
PPT	**Papeete**	**62.41**	**106**	*e*P	**P**		**23**	**25**	**41.4**	**+1.5**
PPT2	**Papeete2**	**62.41**	**106**	*e*P	**P**		**23**	**25**	**41.5**	**+1.5**
	comp=Z,302nm,1.2s									
PPT2				*e*S	**S**		**23**	**34**	**02.8**	**+0.4**
	comp=Z,5µm,25.2s									
PPT2				*e*LQ	LQ		23	41	34.6	
	comp=Z,12µm,34.5s									
PPT2				*e*LR	LR		23	44	15.4	
	comp=Z,13µm,23.8s									
TIAR	**Tiarei**	**62.63**	**106**	*e*P	**P**		**23**	**25**	**42.9**	**+1.5**
	comp=Z,161nm,1.1s									
SHL	**Shillong**	**62.65**	**303**	⇑*i*P	**P**		**23**	**25**	**42.0**	**+0.4**
SHL				*e*S	**S**		**23**	**34**	**08.5**	**+3.1**
TVO	**Taravao**	**62.72**	**106**	*e*P	**P**		**23**	**25**	**43.6**	**+1.5**
	comp=Z,137nm,1.3s									
TBI	**Tubuai**	**62.82**	**113**	*e*P	**P**		**23**	**25**	**43.7**	**+1.1**
	comp=Z,721nm,1.0s									
TBI				*e*S	**S**		**23**	**34**	**07.9**	**+0.6**
	comp=Z,9µm,28.8s									
TBI				*e*LQ	LQ		23	41	43.5	
	comp=Z,11µm,32.0s									
TBI				*e*LR	LR		23	44	27.3	
	comp=Z,11µm,27.2s									
GTA	**Gaotai**	**63.47**	**320**	⇑P	**P**		**23**	**25**	**47.6**	**+0.9**
GTA				pP	**pP**		**23**	**26**	**04.6**	**+0.4**
GTA				sP	**sP**		**23**	**26**	**12.8**	**+1.2**
GTA				PcP	**PcP**		**23**	**26**	**23.6**	**+0.7**
GTA				S	**S**		**23**	**34**	**15.4**	**+0.3**
GTA				sS	**sS**		**23**	**34**	**42.8**	**-1.9**
GTA				SS	**SS**		**23**	**38**	**25.0**	**+1.6**
GTA				PMZ						
	comp=Z,120nm,0.8s									
GTA				PMZ						
	comp=Z,2µm,4.8s									
GTA				LN						
	comp=Z,3µm,20.4s									
GTA				LE						
	comp=Z,4µm,29.5s									
GTA				LZ						
	comp=Z,7µm,35.2s									
MEH	**Mehetia**	**63.85**	**107**	*e*P	**P**		**23**	**25**	**50.6**	**+1.1**
	comp=Z,129nm,1.1s									
PMOR	**Pomariorio Ree**	**63.99**	**103**	*e*P	**P**		**23**	**25**	**52.1**	**+1.7**
	comp=Z,1µm,1.3s									
PMOR	**Pomariorio Ree**	**63.99**	**103**	*e*P'P'	**P'P'bc**		**23**	**54**	**50.5**	**-0.3**
	comp=Z,1µm,2.0s									
VAH	**Vaihoa**	**64.25**	**104**	*e*P	**P**		**23**	**25**	**53.4**	**+1.3**
	comp=Z,425nm,1.2s									
VAH	**Vaihoa**	**64.25**	**104**	*e*P'P'	**P'P'bc**		**23**	**54**	**49.7**	**-0.4**
	comp=Z,820nm,2.1s									
CASY	**Casey**	**64.67**	**196**	*e*P	**P**		**23**	**25**	**54.1**	**+0.2**
	comp=Z,345nm,0.6s									
ULN	**Ulaanbaatar**	**64.86**	**331**	*c i*P	**P**		**23**	**25**	**56.2**	**+0.6**
ULN				pmax	pmax					
	comp=Z,278nm,2.0s									
ULN	**Ulaanbaatar**	**64.86**	**331**	P	**P**		**23**	**25**	**56.6**	**+1.0**
	SNR=58									
ULN	**Ulaanbaatar**	**64.86**	**331**	*e*P	**P**		**23**	**25**	**56.3**	**+0.6**
	comp=Z,77nm,0.7s									
LSA	**Lhasa**	**64.90**	**307**	P	**P**		**23**	**25**	**58.1**	**+1.4**
LSA				pP	**pP**		**23**	**26**	**11.8**	**-2.4**
LSA				S	S		23	34	26.8	-7.0
LSA				LE						
	comp=Z,4µm,31.3s									
LSA				LZ						
	comp=Z,6µm,34.3s									
LSA	**Lhasa**	**64.90**	**307**	*e*P	**P**		**23**	**25**	**57.9**	**+1.2**
LSA				*e*S	**S**		**23**	**34**	**35.7**	**+1.9**
LSA				pmax	pmax					
	comp=Z,167nm,0.9s									
LSA	**Lhasa**	**64.90**	**307**	*e*P	**P**		**23**	**25**	**57.9**	**+1.2**
	comp=Z,167nm,0.9s									
LSA				*e*S	**S**		**23**	**34**	**35.7**	**+1.9**
SONA0	**Songino Array**	**65.16**	**331**	*e*P	**P**		**23**	**25**	**57.8**	**+0.3**
SONA0				*e*S	**S**		**23**	**34**	**35.5**	**-0.1**
SONA0				*e*PKKPdf	**PKKPdf**		**23**	**46**	**20.6**	**-4.1**
SONM	**Songino Array**	**65.16**	**331**	P	**P**		**23**	**25**	**57.8**	**+0.3**
SONM				S	**S**		**23**	**34**	**35.5**	**-0.1**
SONM				pmax	pmax					
	comp=Z,25nm,0.6s									
SONM				smax	smax					
	comp=N,1.0nm,0.9s									
SONM				MLR	MLR					
	comp=Z,7µm,21.6s									
SONM				pmax	pmax					
	comp=Z,5.0nm,1.1s									
SONM	**Songino Array**	**65.16**	**331**	P	**P**		**23**	**25**	**57.8**	**+0.3**
	comp=Z,25nm,0.6s,baz=140,slow=12,SNR=82									
SONM				S	**S**		**23**	**34**	**35.5**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=132,slow=4.1,SNR=3.0									
SONM				PKKP	**PKKPdf**		**23**	**46**	**20.6**	**-4.1**
	comp=Z,0.4nm,0.5s,baz=148,slow=1.4,SNR=3.7									
SONM				LR	LR		23	53	36.5	
	comp=Z,7µm,21.6s,baz=136,slow=35									
SONM				PKPPKP	**P'P'df**		**23**	**54**	**35.8**	**-3.2**
	comp=Z,5.4nm,1.1s,baz=299,slow=2.1,SNR=9.4									
CIT	**Chita**	**65.22**	**338**	*e*P	**P**		**23**	**25**	**58.0**	**+0.3**
CIT				*e*			23	26	14.3	
CIT				*e*			23	26	26.9	
CIT				*e*S	**S**		**23**	**34**	**38.4**	**+2.4**
CIT				pmax	pmax					
	comp=Z,710nm,2.0s									
CLNS	**Chul'man**	**65.93**	**347**	*e*P	**P**		**23**	**26**	**03.1**	**+0.9**
CLNS				*e**PP	**pP**		**23**	**26**	**19.1**	**-0.7**
CLNS				*e*			23	26	37.1	
CLNS				*e*			23	28	26.4	
CLNS				*e*S	**S**		**23**	**34**	**44.2**	**-0.3**
CLNS				*e*			23	35	55.0	
CLNS				*e*SS	**SS**		**23**	**39**	**02.4**	**+1.5**
CLNS				pmax	pmax					
	comp=Z,99nm,1.3s									
CLNS				pmax	pmax					
	comp=N,84nm,1.4s									
CLNS				pmax	pmax					
	comp=E,16nm,1.2s									
CLNS				pmax	pmax					
	comp=E,18nm,1.0s									
CLNS				pmax	pmax					
	comp=Z,29nm,1.2s									
CLNS				pmax	pmax					
	comp=N,21nm,1.3s									
CLNS				smax	smax					
	comp=N,3µm,11.2s									
CLNS				smax	smax					
	comp=E,1µm,11.2s									
CLNS				MLR	MLR					
	comp=Z,2µm,16.0s									
CLNS				MLR	MLR					
	comp=E,669nm,18.0s									
CLNS				MLR	MLR					
	comp=N,1µm,16.0s									
ADK	**Adak**	**65.98**	**24**	*e*P	**P**		**23**	**26**	**03.0**	**+0.4**
ADK				pmax	pmax					
	comp=Z,2µm,2.8s									
ADK	**Adak**	**65.98**	**24**	*e*P	**P**		**23**	**26**	**03.0**	**+0.4**
	comp=Z,2µm,2.8s									
BWNR	**Bhubaneshwar**	**66.11**	**296**	*e*P	P		23	26	08.0	+3.9
BWNR				*ex*	x		23	26	08.0	
TAPN	**Taplejung**	**66.78**	**303**	*e*P	**P**		**23**	**26**	**09.8**	**+1.2**
	comp=Z,356nm,0.6s									
ODAN	**Odare**	**66.88**	**303**	*e*P	**P**		**23**	**26**	**10.3**	**+1.1**
	comp=Z,694nm,0.8s									
BOK	**Bokaro**	**67.12**	**299**	*e*P	**P**		**23**	**26**	**10.7**	**+0.2**
BOK				AMB	AMB		23	26	14.0	
	comp=Z,347nm,0.6s									
CHLP	**Challavanipeta**	**67.19**	**293**	*e*P	**P**		**23**	**26**	**13.3**	**+2.3**
CHLP				lAmb	lAmb		23	26	14.3	
	comp=Z,460nm,0.7s									
CHLP				*e*sP	sP		23	26	30.5	-5.4
CHLP				*e*PP	**PP**		**23**	**28**	**34.9**	**-4.9**
CHLP				*e*S	**S**		**23**	**35**	**04.0**	**+3.1**
CHLP				*e*SKSac	**SKSac**		**23**	**36**	**03.0**	**-0.1**
CHLP				*e*			23	39	13.9	
CHLP				*e*P'P'bc	**P'P'bc**		**23**	**54**	**39.0**	**-1.9**
RAMN	**Ramite**	**67.57**	**303**	*e*P	**P**		**23**	**26**	**14.5**	**+1.0**
	comp=Z,326nm,0.6s									
VIS	**Vishakhapatnam**	**67.65**	**292**	*e*P	**P**		**23**	**26**	**14.2**	**+0.4**
VIS				AMB	AMB		23	26	16.6	
	comp=Z,524nm,1.8s									
PALK	**Pallekele**	**67.87**	**281**	P	**P**		**23**	**26**	**17.3**	**+1.9**
	comp=Z,1µm,0.7s,SNR=71									
PALK	**Pallekele**	**67.87**	**281**	*i* P	**P**		**23**	**26**	**16.9**	**+1.5**
PALK	**Pallekele**	**67.87**	**281**	P	**P**		**23**	**26**	**17.3**	**+1.9**
	SNR=29									
PALK	**Pallekele**

IRK eS **S** **23 35 25.8 +2.0**
IRK pmax pmax
comp=Z,199nm,2.5s
SEY Seymchan 69.54 2 *i* P **P** **23 26 25.0 +0.2**
SEY Seymchan 69.54 2 P **P** **23 26 24.9 +0.1**
comp=Z,34nm,0.8s,baz=181,slow=4.7,SNR=71
SEY LR LR 23 53 15.7
comp=Z,7μm,21.8s,baz=189,slow=33
SEY PKPPKP **P'P'df** **23 54 29.4 -1.1**
comp=Z,16nm,1.1s,baz=31,slow=2.0,SNR=21
GKN Gorkha 69.56 303 *eP* **P** **23 26 26.8 +0.9**
comp=Z,856nm,0.6s
BOD Bodaibo 69.73 342 *i* P **P** **23 26 25.5 -0.6**
BOD pmax pmax
comp=Z,99nm,1.6s
YAK Yakutsk 69.87 351 *c iP* **P** **23 26 26.8 0.0**
YAK *e* 23 26 43.0
YAK *e**PP **PcP** **23 26 52.5 +3.6**
YAK *e* 23 29 03.8
YAK eS **S** **23 35 30.0 -1.2**
YAK *e**SS **SKiKP** **23 36 13.9 +6.1**
YAK *e* 23 36 17.2
YAK pmax pmax
comp=Z,97nm,1.3s
YAK pmax pmax
comp=N,69nm,1.4s
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=Z,26nm,0.6s
YAK pmax pmax
comp=N,78nm,1.5s
YAK pmax pmax
comp=E,45nm,1.0s
YAK smax smax
comp=E,2μm,3.2s
YAK smax smax
comp=N,3μm,5.3s
YAK Yakutsk 69.87 351 P **P** **23 26 26.9 0.0**
comp=N,28nm,0.5s,baz=179,slow=0.7,SNR=34
YAK PKP2bc 23 54 28.2
comp=N,16nm,0.5s,baz=174,slow=1.5,SNR=4.0
AIS Amsterdam Isla 69.92 232 P P 23 26 16.0 -12
AIS S **S** **23 35 30.0 -2.9**
AIS R 23 48 00.0
SKHT Srikalahasti 70.09 287 *eP* **P** **23 26 30.5 +1.4**
SKHT IAmb IAmb 23 26 32.2
comp=Z,294nm,1.0s
SKHT *es*P sP 23 26 48.3 -5.9
SKHT *e* 23 28 55.8
SKHT eS **S** **23 35 36.9 +1.3**
SKHT *e*SKSac **ScS** **23 36 28.2 +1.8**
SKHT eSS **SS** **23 40 03.6 -2.9**
SKHT *eP*'P'df **P'P'df** **23 54 31.2 -2.4**
MOY Mondy 70.33 331 *eP* **P** **23 26 30.5 +0.5**
MOY pmax pmax
comp=Z,356nm,3.2s
KOLN Koldanda 70.36 302 *eP* **P** **23 26 31.7 +0.9**
comp=Z,1μm,0.6s
DANN Dangsing 70.41 303 *eP* **P** **23 26 31.9 +0.7**
comp=Z,852nm,0.6s
PYUN Piuthan 70.97 303 *eP* **P** **23 26 35.2 +0.7**
comp=Z,1μm,0.7s
NJS Nagarjunasagar 71.09 290 *eP* **P** **23 26 36.1 +0.9**
NJS IAmb IAmb 23 26 37.7
comp=Z,1μm,1.6s
NJS *e*PcP **pP** **23 26 53.5 +0.5**
NJS *e*PP **PP** **23 29 14.7 +1.1**
NJS eS **S** **23 35 46.8 -0.3**
NJS *e*SKSac **ScS** **23 36 34.1 -0.2**
NJS *e* 23 40 11.7
NJS *eP*'P'df P'P'df 23 54 26.5 -5.3
VNDA Vanda 71.20 177 P **P** **23 26 35.4 +0.7**
VNDA S **S** **23 35 46.2 -0.2**
VNDA pmax pmax
comp=Z,277nm,0.8s
VNDA smax smax
comp=N,1.0nm,0.8s
VNDA pmax pmax
comp=Z,2.0nm,1.1s
VNDA MLR MLR
comp=Z,7μm,18.7s
VNDA Vanda 71.20 177 P **P** **23 26 35.4 +0.7**
comp=Z,277nm,0.8s,baz=332,slow=6.6,SNR=976
VNDA S **S** **23 35 46.2 -0.2**
comp=Z,0.9nm,0.8s,baz=356,slow=19,SNR=3.0
VNDA PKPPKP P'P'df 23 54 18.5 -11
comp=Z,1.7nm,1.1s,baz=330,slow=1.6,SNR=3.2
VNDA LR LR 23 55 47.1
comp=Z,7μm,18.7s,baz=331,slow=34
VNDA Vanda 71.20 177 *eP* **P** **23 26 35.8 +1.0**
comp=Z,509nm,1.1s
VNDA *e*S **S** **23 35 46.2 -0.2**
RPR Rampur 71.64 292 *eP* **P** **23 26 39.7 +1.2**
RPR IAmb IAmb 23 26 41.1
comp=Z,3μm,1.9s
RPR *e*PcP **PcP** **23 26 57.0 -0.4**
RPR eS **S** **23 35 54.1 +0.7**
RPR *e*SKSac **SKKSac** **23 36 37.0 +0.1**
RPR *e* 23 40 18.4
RPR *eP*'P'df P'P'df 23 54 24.8 -5.9
UNV Unalaska Valle 71.70 27 *eP* **P** **23 26 38.7 +0.6**
comp=Z,144nm,1.4s
TRD Trivandrum 71.73 281 *eP* **P** **23 26 39.3 +0.2**
TRD AMB AMB 23 26 42.3
comp=Z,394nm,1.0s
SBA Scott Base 71.84 176 *eP* **P** **23 26 40.3 +1.7**
SBA pmax pmax
comp=Z,2μm,2.3s
SBA Scott Base 71.84 176 *eP* **P** **23 26 40.3 +1.7**
comp=Z,2μm,2.3s
HYB Hyderabad 71.99 291 *i* P **P** **23 26 40.5 -0.2**
comp=Z,300nm,1.0s
HYB *ep*P **pP** **23 26 56.0 -2.4**
HYB *es*P **sP** **23 27 02.0 -3.7**
HYB *e*PP PP 23 29 08.0 -13
HYB eS **S** **23 35 58.0 +0.5**
HYB *e*ScS **SKKSac** **23 36 40.5 +0.8**
HYB *e* 23 40 24.0
HYB *e*PKPPKP **P'P'df** **23 54 26.0 -4.2**
HYB Hyderabad 71.99 291 *eP* **P** **23 26 40.4 -0.2**
HYB AMB AMB 23 26 44.4
comp=Z,289nm,1.5s
HYBB Hyderabad (bro 71.99 291 *eP* **P** **23 26 41.4 +0.7**
HYBB IAmb IAmb 23 26 43.4
comp=Z,249nm,0.8s
HYBB *e*PcP **PcP** **23 26 58.8 -0.1**
HYBB eS **S** **23 35 56.5 -1.1**
HYBB *e*SKSac **SKKSac** **23 36 40.5 +0.7**
HYBB *e* 23 40 23.4
HYBB *eP*'P'df P'P'df 23 54 24.8 -5.4
AKUT Akutan 72.21 27 *eP* **P** **23 26 41.9 +0.8**
NGP Nagpur 72.43 295 *eP* **P** **23 26 43.0 -0.2**
NGP eS **S** **23 36 02.6 +0.2**
URV Uravakonda 72.66 288 *eP* **P** **23 26 45.7 +1.0**
URV *es*P sP 23 27 03.4 -6.4
URV *e*PP **PP** **23 29 24.8 -2.4**
URV eS **S** **23 36 06.2 +0.9**
URV *e*SKSac **ScS** **23 36 47.6 +0.7**
WMQ Urumqi 73.52 319 *i P* **P** **23 26 49.8 +0.6**
WMQ pP **pP** **23 27 07.1 0.0**
WMQ sP **sP** **23 27 13.3 -1.1**
WMQ PP **PP** **23 29 39.1 +5.1**
WMQ S **S** **23 36 14.5 +0.4**
WMQ SKS **SKSac** **23 36 45.4 -4.7**
WMQ PMZ
comp=Z,100nm,1.5s
WMQ PMZ
comp=Z,2μm,5.2s
WMQ LN
comp=Z,3μm,21.0s
WMQ LE
comp=Z,2μm,21.0s
WMQ LZ
comp=Z,5μm,29.5s
HVS Khovu-Aksy 73.66 328 *de*P **P** **23 26 51.0 +1.1**
HVS pmax pmax
comp=Z,757nm,1.2s
LGTI Lohaghat 73.68 303 *eP* **P** **23 26 52.7 +2.3**
FALS False Pass 73.73 27 *eP* **P** **23 26 50.5 +0.4**
comp=Z,63nm,0.8s
PTH Pithoragarh 73.73 303 *eP* **P** **23 26 50.8 -0.2**
H08S2 Diego Garcia H 74.14 264 P **P** **23 26 55.5 +2.4**
baz=46,slow=6.0,SNR=57
H08S3 Diego Garcia H 74.15 264 P **P** **23 26 55.2 +2.0**
baz=46,slow=6.0,SNR=112
H08S1 Diego Garcia H 74.16 264 P **P** **23 26 55.3 +2.1**
baz=46,slow=6.0,SNR=64
DGAR Diego Garcia 74.20 264 P **P** **23 26 55.2 +1.5**
comp=Z,4μm,0.7s,SNR=19
DGAR Diego Garcia 74.20 264 *c iP* **P** **23 26 54.3 +0.6**
DGAR Diego Garcia 74.20 264 P **P** **23 26 55.0 +1.2**
SNR=23
DGAR Diego Garcia 74.20 264 *eP* **P** **23 26 54.9 +1.2**
comp=Z,2μm,1.5s
BHPL Bhopal 74.41 296 *eP* **P** **23 26 54.5 -0.3**
BHPL AMB AMB 23 26 56.6
comp=Z,487nm,1.4s
AGRA Agra 74.99 300 *eP* **P** **23 26 58.4 +0.4**
AGRA AMB AMB 23 26 59.5
comp=Z,324nm,0.6s
SDPT Sand Point 75.38 28 *eP* **P** **23 26 59.2 -0.4**
comp=Z,217nm,1.1s
MNCY Minicoy 75.53 280 *eP* **pP** **23 27 19.0 -0.3**
MNCY *ex* x 23 28 16.0
H08N1 Diego Garcia H 75.72 265 P **P** **23 27 03.5 +1.4**
baz=165,slow=3.0,SNR=120
H08N2 Diego Garcia H 75.73 265 P **P** **23 27 03.7 +1.6**
baz=165,slow=3.0,SNR=86
H08N3 Diego Garcia H 75.74 265 P **P** **23 27 03.8 +1.6**
baz=165,slow=3.0,SNR=72
DDI Dehra Dun 75.75 303 *eP* **P** **23 27 02.7 +0.3**
DDI AMB AMB 23 27 06.1
comp=Z,490nm,1.9s
SONA Sohna 76.00 301 *eP* **P** **23 27 04.3 +0.5**
SONA AMB AMB 23 27 05.4
comp=Z,268nm,0.8s
GOA Goa 76.02 288 *eP* **P** **23 27 04.2 +0.1**
GOA AMB AMB 23 27 06.4
comp=Z,570nm,2.3s
AYAN Aya Nagar 76.02 301 *eP* **P** **23 27 04.0 +0.1**
AYAN AMB AMB 23 27 05.4
comp=Z,291nm,0.7s
RKT Rikitea 76.13 112 *eP* **P** **23 27 05.4 +0.7**
comp=Z,386nm,1.2s
RKT *es* **S** **23 36 43.4 -0.5**
comp=Z,2μm,29.8s
RKT Rikitea 76.13 112 *e*LQ LQ 23 47 23.7
comp=Z,3μm,37.8s
RKT *e*LR LR 23 50 36.9
comp=Z,18μm,33.2s
KUDL Kundal 76.47 301 *eP* **P** **23 27 06.8 +0.4**
KUDL AMB AMB 23 27 07.9
comp=Z,293nm,1.2s
PAF Port-aux-Franc 76.54 221 P P 23 26 48.0 -18
PAF S SKiKP 23 36 31.0 +13
PAF L L 23 47 00.0
PAF R 23 51 00.0
POO Poona 76.60 291 *i PS* **P** **23 27 06.0 -1.4**
comp=Z,650nm,1.0s
POO *eP* **P** **23 27 07.8 +0.3**
POO AMB AMB 23 27 11.4
comp=Z,513nm,2.5s
KKR Kurukshetra 76.68 303 *eP* **P** **23 27 08.3 +0.6**
KKR AMB AMB 23 27 11.6
comp=Z,594nm,0.9s
SMLA Simla 76.72 304 *i P* **P** **23 27 08.1 +0.3**
SMLA AMB AMB 23 27 16.9
comp=Z,679nm,0.4s
SMLA *i* x x 23 36 48.3
GAMB Gambell 76.75 17 *eP* **P** **23 27 07.9 +0.7**
comp=Z,159nm,1.7s
SDNR Sundarnagar 76.98 304 *eP* **P** **23 27 11.0 +1.7**
KHET Khetri 77.04 301 *eP* **P** **23 27 10.2 +0.5**
KHET AMB AMB 23 27 12.5
comp=Z,465nm,0.8s
BHK Bhakra 77.41 304 *eP* **P** **23 27 13.0 +1.2**
BOM Bombay 77.64 291 *ex* **P** **23 27 13.8 +0.6**
AJM Ajmer 77.65 299 *ex* **P** **23 27 13.0 -0.2**
DHRM DHARAMSHALA 77.74 305 *eP* **P** **23 27 14.7 +0.9**
DHRM AMB AMB 23 27 16.7
comp=Z,1μm,0.7s
DLH Dalhousie 78.09 305 *eP* **P** **23 27 16.0 +0.3**
DLH *ex* x 23 27 24.0
MK32 Makanchi Array 78.23 320 *eP* **P** **23 27 16.1 +0.2**
MK32 *es* **S** **23 37 03.4 -2.4**
MK32 *e*PKKPdf **PKKPdf** **23 46 05.2 +0.7**
MK32 *e*PKKPbc **PKKPbc** **23 46 15.3 -1.1**
MKAR Makanchi Array 78.23 320 P **P** **23 27 16.2 +0.2**
MKAR S **S** **23 37 03.4 -2.4**
MKAR pmax pmax
comp=Z,31nm,0.6s
MKAR smax smax
comp=N,5.0nm,1.2s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,1μm,19.6s
MKAR Makanchi Array 78.23 320 P **P** **23 27 16.1 +0.2**
comp=Z,31nm,0.6s,baz=98,slow=7.5,SNR=329
MKAR S **S** **23 37 03.4 -2.4**
comp=Z,4.8nm,1.2s,baz=112,slow=6.5,SNR=5.9
MKAR PKKP **PKKPdf** **23 46 05.2 +0.7**
comp=Z,1.0nm,0.9s,baz=294,slow=1.2,SNR=4.0
MKAR PKKPbc **PKKPbc** **23 46 15.3 -1.1**
comp=Z,5.2nm,0.9s,baz=318,slow=1.6,SNR=16
MKAR PKPPKP P'P'df 23 54 04.3 -13
comp=Z,0.8nm,0.9s,baz=256,slow=2.0,SNR=4.5
MKAR LR LR 00 02 24.2
comp=Z,1μm,19.6s,baz=92,slow=36
MKAR Makanchi Array 78.23 320 *eP* **P** **23 27 16.1 +0.1**
MKAR *es* **S** **23 37 04.7 -1.0**
TIXI Tiksi 79.13 354 *c iP* **P** **23 27 19.2 -1.1**
TIXI pmax pmax
comp=Z,107nm,1.4s
TIXI Tiksi 79.13 354 *eP* **P** **23 27 19.0 -1.3**
comp=Z,51nm,0.7s
TIXI *es* **S** **23 37 14.3 -0.1**
TNA Tin City 79.17 17 *eP* **P** **23 27 20.7 +0.1**
comp=Z,86nm,1.5s
ZALV Zalesovo Beam 79.76 328 P **P** **23 27 23.2 -0.9**
ZALV S **S** **23 37 17.9 -3.8**
ZALV pmax pmax
comp=Z,157nm,0.6s
ZALV smax smax
comp=N,8.0nm,1.1s
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV pmax pmax
comp=Z,13nm,0.9s
ZALV MLR MLR
comp=Z,10μm,21.7s
ZALV Zalesovo Beam 79.76 328 P **P** **23 27 23.2 -0.9**
comp=Z,157nm,0.6s,baz=114,slow=5.6,SNR=660
ZALV S **S** **23 37 17.9 -3.8**
comp=Z,7.5nm,1.1s,baz=126,slow=9.8,SNR=9.3
ZALV PKKPbc **PKKPbc** **23 46 11.5 -1.8**
comp=Z,9.0nm,0.8s,baz=298,slow=3.2,SNR=24
ZALV PKPPKP **P'P'df** **23 54 17.8 +4.1**
comp=Z,13nm,0.9s,baz=276,slow=2.7,SNR=17
ZALV LR LR 00 02 19.4
comp=Z,10μm,21.6s,baz=88,slow=35
ZAA1 Zalesovo Array 79.76 328 *eP* **P** **23 27 23.2 -0.9**
ZAA1 *es* **S** **23 37 17.9 -3.8**
ZAA1 *e*PKKPbc **PKKPbc** **23 46 11.5 -1.8**
KSH Kashi 80.07 312 *i P* **P** **23 27 28.5 +2.2**
KSH sP sP 23 27 57.3 +5.7
KSH PP PP 23 30 34.8 +5.6
KSH S **S** **23 37 27.4 +1.6**
KSH SKS **SKSac** **23 37 34.8 -3.5**
KSH sS sS 23 38 02.0 +5.5
KSH SS **SS** **23 42 43.0 +5.5**
KSH PMZ
comp=Z,74nm,0.9s
KSH PMZ
comp=Z,2μm,4.4s
KSH LN
comp=Z,2μm,19.8s
KSH LE
comp=Z,3μm,21.7s
KSH LZ
comp=Z,1μm,17.7s
KDAK Kodiak Island 80.37 28 *i* P P 23 27 30.7 +3.4
KDAK Kodiak Island 80.37 28 *eP* **P** **23 27 27.7 +0.4**
comp=Z,142nm,1.1s
PTCN Pitcairn Islan 80.51 114 *eP* **P** **23 27 28.6 -0.2**
comp=Z,798nm,1.2s
ULHL Ulahol 80.69 315 P P 23 27 33.3 +3.6
SNR=7.2
ULHL Ulahol 80.69 315 *i* P P 23 27 33.3 +3.6
SVW2 Sparrevohn 80.75 24 *eP* **P** **23 27 29.5 +0.1**
NVS Novosibirsk 80.98 328 *i P* **P** **23 27 29.8 -0.8**
NVS *i* S **S** **23 37 29.9 -4.5**
NVS pmax pmax
comp=N,68nm,1.4s
NVS pmax pmax
comp=E,110nm,1.4s
NVS pmax pmax
comp=Z,150nm,1.4s
NVS smax smax
comp=N,224nm,2.4s
NVS smax smax
comp=E,330nm,2.4s
KZA Kyzart 81.35 314 P **P** **23 27 34.8 +1.3**
SNR=194
KZA Kyzart 81.35 314 *i* P P **23 27 34.7 +1.3**
TKM2 Tokmak 2 81.35 315 P **P** **23 27 33.7 +0.5**
SNR=54
TKM2 Tokmak 2 81.35 315 *i* P **P** **23 27 33.7 +0.5**
TKM2 Tokmak 2 81.35 315 *eP* **P** **23 27 33.4 +0.2**
comp=E,233nm,1.8s
TKM2 *es* **S** **23 37 39.2 0.0**
BHJ Bhuj 81.38 295 *eP* **P** **23 27 33.9 +0.5**
BHJ AMB AMB 23 27 36.2
comp=Z,761nm,1.4s
RSO Redoubt South 81.61 26 *eP* **P** **23 27 34.1 -0.1**
MAW Mawson 81.72 203 *eP* **P** **23 27 34.8 +0.4**
MAW pmax pmax
comp=Z,96nm,1.1s
MAW Mawson 81.72 203 P **P** **23 27 34.6 +0.3**
comp=Z,249nm,1.0s,baz=83,slow=6.4,SNR=184
MAW PKKPbc **PKKPbc** **23 46 07.6 -1.1**
comp=Z,8.5nm,0.9s,baz=228,slow=4.7,SNR=6.0
MAW LR LR 00 01 50.4
comp=Z,5μm,22.0s,baz=82,slow=34
MAW Mawson 81.72 203 P **P** **23 27 34.7 +0.4**
baz=82,SNR=77
MAW Mawson 81.72 203 *eP* **P** **23 27 34.8 +0.4**
comp=Z,96nm,1.1s
MAW *e*PKKPbc **PKKPbc** **23 46 07.6 -1.1**
KBK Karagaybulak 81.73 315 P **P** **23 27 35.8 +0.6**
SNR=39
KBK Karagaybulak 81.73 315 *i* P **P** **23 27 35.8 +0.6**
UCH Uchtor 81.91 314 P **P** **23 27 37.6 +1.1**
SNR=96
UCH Uchtor 81.91 314 *i* P **P** **23 27 37.6 +1.1**
KURK Kurchatov 81.95 323 P **P** **23 27 35.8 -0.1**
comp=Z,290nm,0.8s,SNR=22
KURK Kurchatov 81.95 323 *eP* **P** **23 27 35.8 -0.1**
KURK *es* **S** **23 37 42.7 -1.9**
KURK pmax pmax
comp=Z,738nm,2.2s
KURK Kurchatov 81.95 323 P **P** **23 27 36.0 +0.2**
SNR=48
KURK Kurchatov 81.95 323 *eP* **P** **23 27 35.8 -0.1**
comp=Z,738nm,2.2s
KURK *es* **S** **23 37 42.7 -1.9**
CHMS Chumysh 81.97 315 P **P** **23 27 36.5 +0.3**
SNR=48
CHMS Chumysh 81.97 315 *i* P **P** **23 27 36.5 +0.3**
KURBB Kurchatov Arra 81.97 323 PKPPKP P'P'df 23 53 58.4 -12
comp=Z,0.7nm,0.7s,baz=267,slow=3.9,SNR=4.1
FRU Bishkek 82.01 315 *i P* **P** **23 27 36.0 -0.5**
FRU *i* S **S** **23 37 44.0 -1.7**
FRU pmax pmax
comp=Z,880nm,3.0s
FRU smax smax
comp=E,550nm,3.0s
AAK Ala-Archa 82.04 315 P **P** **23 27 37.2 +0.4**
comp=E,343nm,0.8s,SNR=44
AAK Ala-Archa 82.04 315 P **P** **23 27 37.5 +0.8**
SNR=56
AAK Ala-Archa 82.04 315 *eP* **P** **23 27 37.4 +0.6**
AAK *es* **S** **23 37 47.3 +1.0**
AAK pmax pmax
comp=Z,707nm,1.1s
AAK Ala-Archa 82.04 315 S **S** **23 37 45.1 -1.3**
comp=Z,1.5nm,0.8s,baz=306,slow=22,SNR=8.8
AAK PKKPbc **PKKPbc** **23 46 07.2 -0.6**
baz=211,slow=3.3
AAK PKPPKP P'P'df 23 53 56.5 -14
comp=Z,1.9nm,1.0s,baz=279,slow=4.7,SNR=4.1
AAK Ala-Archa 82.04 315 P **P** **23 27 37.8 +1.0**
SNR=38
AAK Ala-Archa 82.04 315 *eP* **P** **23 27 37.4 +0.6**
comp=Z,707nm,1.1s
AAK *es* **S** **23 37 47.3 +1.0**
AAK *e*PKKPbc **PKKPbc** **23 46 07.2 -0.6**
USP Ospenovka 82.22 315 P **P** **23 27 38.1 +0.5**
SNR=68
USP Ospenovka 82.22 315 *i* P **P** **23 27 38.0 +0.5**
AML Almayashu 82.47 314 P **P** **23 27 40.4 +1.1**
SNR=123
AML Almayashu 82.47 314 *i* P **P** **23 27 40.4 +1.1**
EKS2 Erkin-Say 82.56 314 P **P** **23 27 40.4 +1.0**
SNR=95
EKS2 Erkin-Say 82.56 314 *eP* **P** **23 27 40.3 +0.9**
EKS2 *es* **S** **23 37 52.2 +0.7**
EKS2 pmax pmax
comp=Z,98nm,1.0s
EKS2 Erkin-Say 82.56 314 *eP* **P** **23 27 40.3 +0.9**
comp=Z,98nm,1.0s
EKS2 *es* **S** **23 37 52.2 +0.7**
SEW Seward 82.90 27 *eP* **P** **23 27 39.5 -1.1**
comp=Z,133nm,0.9s
PPLA Purkeypile 83.05 24 *eP* **P** **23 27 40.9 -0.6**
comp=Z,362nm,2.0s
RC01 Rabbit Creek A 83.22 26 *eP* **P** **23 27 41.8 -0.5**
comp=Z,224nm,1.4s
QSPA South Pole Qui 83.27 180 S **S** **23 37 56.4 -1.5**
comp=Z,4.6nm,1.1s,baz=0.0,slow=23,SNR=6.7
QSPA PKKPbc **PKKPbc** **23 46 01.3 -4.6**
comp=Z,14nm,0.9s,baz=266,slow=1.0,SNR=25
CAST Castle Rocks 83.35 23 *eP* **P** **23 27 42.3 -0.6**
comp=Z,54nm,1.0s
KTH Kantishna Hill 83.87 23 *eP* **P** **23 27 44.8 -0.9**
comp=Z,125nm,1.2s
IM04 Indian Mountai 84.02 21 *eP* **P** **23 27 45.9 -0.4**
TRF Thorofare Moun 84.08 24 *eP* **P** **23 27 45.8 -1.0**
comp=Z,61nm,1.0s
KBL Kabul 84.18 306 *eP* **P** **23 27 47.5 -0.6**
KBL *es* **S** **23 38 08.6 +0.2**
KBL pmax pmax
comp=Z,386nm,1.7s
KBL Kabul 84.18 306 P **P** **23 27 48.1 +0.1**
baz=84,SNR=23
KBL Kabul 84.18 306 *eP* **P** **23 27 47.5 -0.6**
comp=Z,386nm,1.7s
KBL *es* **S** **23 38 08.6 +0.2**
MCK McKinley 84.74 24 *eP* **P** **23 27 49.0 -1.0**
MCK pmax pmax
comp=Z,130nm,0.9s
MCK McKinley 84.74 24 *eP* **P** **23 27 49.0 -1.0**
comp=Z,130nm,0.9s
MCK *e*SKSac **SKSac** **23 38 06.6 -1.7**
DIV Divide 84.97 27 *eP* **P** **23 27 51.6 +0.4**
comp=Z,164nm,1.2s
KKAR Karatay Array 84.99 314 *eP* **P** **23 27 51.8 +0.1**
KKAR *es* **S** **23 38 16.5 +0.8**
KKAR Karatay Array 84.99 314 *eP* **P** **23 27 51.8 +0.1**
KKAR *es* **S** **23 38 16.5 +0.8**
BMRM Bremner River 85.44 27 *eP* **P** **23 27 53.5 -0.1**
comp=Z,186nm,1.2s
COLA College 85.67 23 *c iP* **P** **23 27 53.2 -1.3**
COLA *i* *PP **pP** **23 28 12.1 -0.7**
COLA pmax pmax
comp=Z,460nm,1.2s
COLA College 85.67 23 *eP* **P** **23 27 53.4 -1.1**
comp=Z,88nm,0.9s
PAX Paxson 85.84 25 *eP* **P** **23 27 55.1 -0.5**
PAX pmax pmax
comp=Z,74nm,1.4s
PAX Paxson 85.84 25 *eP* **P** **23 27 55.1 -0.5**
comp=Z,74nm,1.4s
COLD Coldfoot 85.88 20 *eP* **P** **23 27 55.8 +0.2**
comp=Z,80nm,1.1s
ILAR Eielson Array 86.00 23 P **P** **23 27 54.5 -1.7**
comp=Z,36nm,0.8s,baz=255,slow=4.8,SNR=177
ILAR PKKPbc **PKKPbc** **23 45 55.8 -3.4**
comp=Z,2.9nm,0.8s,baz=345,slow=0.8,SNR=12
ILAR PKPPKP P'P'df 23 53 51.0 -11
comp=Z,0.8nm,0.9s,baz=26,slow=0.9,SNR=4.5

ILAR LR LR 00 04 25.6
comp=Z,2µm,19.9s,baz=251,slow=34
ILB Eielson Array 86.00 23 *e*P **P 23 27 54.5 -1.7**
ILB *e*PKKPbc **PKKPbc 23 45 55.8 -3.4**
DOT Dot Lake 86.69 25 *e*P **P 23 27 59.4 -0.2**
comp=Z,100nm,1.1s
BVAR Borovoye Array 87.51 324 P **P 23 28 03.1 -0.7**
BVAR S **SKSac 23 38 21.4 -4.5**
BVAR pmax pmax
comp=Z,56nm,0.6s
BVAR smax smax
comp=N,2.0nm,0.9s
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,1.0s
BVAR MLR MLR
comp=Z,2µm,21.3s
BVAR Borovoye Array 87.51 324 P **P 23 28 03.1 -0.7**
comp=Z,56nm,0.6s,baz=111,slow=6.1,SNR=341
BVAR S **SKSac 23 38 21.4 -4.5**
comp=Z,1.7nm,0.9s,baz=173,slow=5.8,SNR=2.6
BVAR PKKPbc **PKKPbc 23 45 53.5 -1.5**
comp=Z,1.2nm,0.6s,baz=284,slow=1.7,SNR=9.4
BVAR PKPPKP **P'P'df 23 53 59.2 -0.5**
comp=Z,1.4nm,1.0s,baz=205,slow=6.4,SNR=6.0
BVAR LR LR 00 07 52.6
comp=Z,2µm,21.3s,baz=90,slow=36
MRIV Mauritius Mete 87.53 250 *e*P **P 23 28 05.5 +0.8**
BRVK Borovoye 87.58 324 P **P 23 28 03.8 -0.4**
comp=Z,346nm,0.6s,SNR=56
BRVK Borovoye 87.58 324*c i*P **P 23 28 03.3 -0.8**
BRVK pmax pmax
comp=Z,71nm,1.4s
BRVK MLR MLR
comp=Z,5µm,24.0s
BRVK Borovoye 87.58 324 P **P 23 28 03.8 -0.4**
SNR=22
BRVK Borovoye 87.58 324 *e*P **P 23 28 03.4 -0.7**
comp=Z,35nm,0.7s
BRVK *e*SKKSac **S 23 38 37.0 -3.4**
EGAK Eagle 88.28 24 *e*P **P 23 28 07.2 +0.1**
comp=Z,131nm,1.1s
HYT Haines Junctio 88.66 28 *e*P **P 23 28 09.6 +0.3**
SIT Sitka 88.76 32 *e*P **P 23 28 09.1 -0.5**
SIT Sitka 88.76 32 *e*P **P 23 28 09.1 -0.5**
DAWY Dawson 88.78 25 *e*P **P 23 28 09.8 +0.2**
CRZF Crozet Islands 88.94 224 P P 23 27 50.0 -21
CRZF Crozet Islands 88.94 224 S SKSac 23 38 25.0 -10
CRZF SS SS 23 44 36.0 -11
CRZF L L 23 51 00.0
CRZF R 23 58 00.0
SKAG Skagway 89.35 30 *e*P **P 23 28 11.7 -0.6**
H02N1 VAN INLET T-PH 89.46 36 P **P 23 28 14.9 +1.8**
SNR=8.6
H02S1 DAWSON INLET T 89.49 36 P **P 23 28 14.8 +1.7**
SNR=5.4
CRAG Craig 89.59 34 *e*P **P 23 28 13.6 +0.1**
WRAK Wrangell Islan 90.22 33 *e*P **P 23 28 14.8 -1.7**
comp=Z,126nm,1.4s
WBK Wadi Bani Khal 91.01 293 P **P 23 28 22.5 +1.5**
SNR=29
MSEY Mahe Island 91.27 265 P **P 23 28 24.8 +2.4**
comp=Z,406nm,1.7s,SNR=8.9
MSEY Mahe Island 91.27 265 *i* P **P 23 28 24.9 +2.5**
MSEY Mahe Island 91.27 265 P **P 23 28 24.6 +2.1**
SNR=10
MSEY Mahe Island 91.27 265 *e*P **P 23 28 20.9 -1.6**
comp=Z,857nm,2.3s
IDAH Dahanechah 91.43 303 *e*P **P 23 28 23.9 +0.9**
IMYA Miami 91.67 306 *e*P **P 23 28 24.2 +0.3**
JMDO Jabal Madar 91.78 292 P **P 23 28 25.7 +1.1**
SNR=15
DLBC Dease Lake 91.83 31 PKPPKP **P'P'df 23 53 52.2 +0.7**
comp=Z,4.0nm,1.2s,baz=107,slow=2.1,SNR=4.0
DLBC LR LR 00 03 10.5
comp=Z,4µm,21.4s,baz=262,slow=31
DLBC Dease Lake 91.83 31 *e*P **P 23 28 24.4 +0.4**
SMDO Samad 91.90 293 P **P 23 28 26.4 +1.1**
SNR=16
BBB Bella Bella 91.92 38 LR LR 00 02 43.4
comp=Z,6µm,20.8s,baz=240,slow=31
ISRO Mashad 92.18 306 *e*P **P 23 28 27.5 +1.3**
IMOG Moghan 92.26 306 *e*P **P 23 28 28.0 +1.2**
HOQ Hoqain 92.64 293 P **P 23 28 29.6 +1.2**
SNR=38
BSY Bisya 92.65 292 P **P 23 28 29.4 +0.9**
SNR=23
IAKL Akhelmad 92.78 306 *e*P **P 23 28 30.3 +1.1**
ABKAR Akbulak array 93.30 319 *e*P **P 23 28 29.6 -1.3**
KEBM Edson Butte 93.31 47 *e*P **P 23 28 32.6 +1.4**
comp=Z,199nm,1.3s
KBO Bosley Butte 93.32 48 *e*P **P 23 28 33.0 +1.7**
comp=Z,387nm,1.3s
ARQ Araqi 93.33 293 P **P 23 28 32.6 +0.9**
SNR=26
GEYT Alibeck 93.43 308 P **P 23 28 31.7 -0.1**
comp=Z,33nm,0.8s,baz=132,slow=2.2,SNR=67
GEYT LR LR 00 13 46.5
comp=Z,1µm,21.5s,baz=70,slow=38
ISFR Sfrayin 93.43 307 *e*P **P 23 28 32.9 +0.7**
KMRM Mail Ridge 93.50 50 *e*P **P 23 28 34.2 +2.0**
comp=Z,407nm,1.4s
KCPM Cahto Peak 93.55 51 *e*P **P 23 28 34.0 +1.6**
comp=Z,212nm,1.3s
KHMM Horse Mountain 93.55 49 *e*P **P 23 28 34.7 +2.2**
comp=Z,316nm,1.2s
SHAO Shalim 93.63 288 P **P 23 28 34.6 +1.5**
SNR=5.5
KIPM Iron Peak 93.64 51 *e*P **P 23 28 34.7 +1.8**
SVE Sverdlovsk 93.73 327*d i*P **P 23 28 31.4 -1.3**
SVE *e* 23 32 19.1
SVE *i* S **SKSac 23 38 56.9 -4.6**
SVE *e* 23 40 55.1
SVE pmax pmax
comp=Z,74nm,1.5s
SVE MLR MLR
comp=Z,4µm,19.0s
SVE MLR MLR
comp=E,3µm,20.0s
L02D Cave Junction, 93.77 48 ⇑P **P 23 28 35.4 +2.1**
baz=94,SNR=20
UOSS Wadi Hilu 93.78 295 P **P 23 28 33.6 -0.1**
comp=E,425nm,1.6s,SNR=22
BANOM Banah 93.79 296 P **P 23 28 35.0 +1.2**
SNR=14
HOPS Hopland Field 93.87 51 *e*P **P 23 28 35.4 +1.6**
comp=E,88nm,1.5s
ASHO Ashiyiah 93.89 294 P **P 23 28 34.7 +0.5**
SNR=42
MCCM Marconi Confer 93.94 52 *e*P **P 23 28 33.5 -0.6**
comp=E,818nm,2.5s
NLWA Neilton Lookou 94.08 43 *e*P **P 23 28 35.6 +1.0**
comp=E,98nm,1.4s
I03D Drain, OR 94.11 47 ⇑P **P 23 28 36.8 +2.1**
baz=94,SNR=10
COR Corvallis 94.22 46 *e*P **P 23 28 36.0 +0.8**
COR pmax pmax
comp=Z,352nm,1.8s
COR Corvallis 94.22 46 *e*P **P 23 28 36.0 +0.8**
comp=Z,352nm,1.8s
M02C Callahan 94.26 49 ⇑P **P 23 28 37.7 +2.1**
baz=94,SNR=72
HUMO Hull Mountain 94.29 48 *e*P **P 23 28 37.5 +1.8**
comp=Z,209nm,1.3s
G03D McMinnville, O 94.30 45 ⇓P **P 23 28 37.7 +2.1**
baz=94
N02D Trinity Center 94.33 49 ⇓P **P 23 28 38.0 +2.0**
baz=94,SNR=60
YBH Yreka Blue Hor 94.40 49 *e*P **P 23 28 38.1 +1.8**
YBH pmax pmax
comp=Z,233nm,1.3s
YBH Yreka Blue Hor 94.40 49 P **P 23 28 36.2 0.0**
comp=Z,99nm,1.1s,baz=213,slow=1.8,SNR=68
YBH LR LR 00 05 20.2
comp=Z,12µm,20.6s,baz=291,slow=32
YBH Yreka Blue Hor 94.40 49 *e*P **P 23 28 38.1 +1.8**
comp=Z,232nm,1.3s
WDC Whiskeytown Da 94.42 50 *e*P **P 23 28 38.0 +1.7**
WDC pmax pmax
comp=Z,378nm,1.5s
WDC Whiskeytown Da 94.42 50 *e*P **P 23 28 38.0 +1.7**
comp=Z,378nm,1.5s
PGC Sidney 94.48 42 *e*P **P 23 28 37.5 +1.2**
comp=Z,88nm,1.3s
F04D Rainier, OR 94.56 44 ⇓P **P 23 28 39.0 +2.2**
baz=95
AKTO Aktyubinsk 94.66 320 P **P 23 28 35.7 -1.4**
AKTO pmax pmax
comp=Z,10.0nm,0.7s
AKTO MLR MLR
comp=Z,2µm,19.8s
AKTO Aktyubinsk 94.66 320 P **P 23 28 35.7 -1.4**
comp=Z,10nm,0.7s,baz=100,slow=7.0,SNR=38
AKTO LR LR 00 13 19.2
comp=Z,2µm,19.8s,baz=87,slow=37
I04A Tendick Farm, 94.79 47 ⇑P **P 23 28 39.9 +1.9**
baz=95,SNR=15
ARU Arti 94.83 326 P **P 23 28 35.9 -1.8**
comp=Z,238nm,0.6s,SNR=18
ARU Arti 94.83 326*c i*P **P 23 28 36.0 -1.8**
ARU *PP **pP 23 28 51.8 -4.4**
ARU 23 32 24.1
ARU PPP PPP 23 34 26.4
ARU S **SKSac 23 39 05.5 -2.0**
ARU *SS **SKKSac 23 39 36.9 +7.1**
ARU SP **SP 23 41 02.3 0.0**
ARU PS **PS 23 41 15.4 +4.3**
ARU SS **SS 23 46 05.7 -6.1**
ARU pmax pmax
comp=Z,84nm,1.7s
ARU MLR MLR
comp=Z,6µm,22.0s
ARU Arti 94.83 326 *e*P **P 23 28 35.8 -2.0**
comp=Z,28nm,0.8s
RBK Rabkut 94.93 287 P **P 23 28 39.9 +0.7**
SNR=23
IBAF Bafgh 94.94 301 *e*P **P 23 28 39.0 -0.1**
F04A Amboy 94.95 44 *e*P **P 23 28 39.1 +0.5**
comp=Z,108nm,1.4s
SAO San Andreas Ge 94.96 54 *e*P **P 23 28 40.0 +1.2**
SAO pmax pmax
comp=Z,52nm,1.6s
SAO San Andreas Ge 94.96 54 *e*P **P 23 28 40.0 +1.2**
comp=Z,52nm,1.6s
J04D Umpqua Nationa 94.97 47 ⇓P **P 23 28 41.0 +2.0**
baz=95,SNR=19
H04A Detroit Lake 95.02 46 *e*P **P 23 28 39.4 +0.4**
comp=Z,251nm,1.8s
M04C Macdoel 95.05 49 ⇑P **P 23 28 40.8 +1.4**
baz=95,SNR=47
K04D Chiloquin, OR 95.18 48 ⇓P **P 23 28 41.8 +1.9**
baz=95,SNR=13
D05A Enumclaw 95.34 43 *e*P **P 23 28 40.0 -0.3**
comp=Z,208nm,1.6s
A05A Maple Falls 95.40 41 *e*P **P 23 28 40.9 +0.3**
comp=Z,57nm,1.3s
LON Longmire 95.44 44 *e*P **P 23 28 41.2 +0.3**
LON pmax pmax
comp=Z,40nm,1.6s
LON Longmire 95.44 44 *e*P **P 23 28 41.2 +0.3**
comp=Z,40nm,1.6s
I05D Terrebonne, OR 95.60 46 ⇑P **P 23 28 43.8 +2.1**
baz=96,SNR=18
J05D Fort Rock, OR 95.61 47 ⇓P **P 23 28 44.3 +2.5**
baz=96,SNR=9.3
G05D Wamic, OR 95.68 45 ⇓P **P 23 28 44.1 +2.2**
baz=96
IMEH Mehriz 95.74 301 *e*P **P 23 28 42.2 -0.6**
B06A Marblemount 95.77 42 *e*P **P 23 28 42.5 +0.2**
ABTO Aybut 95.78 287 P **P 23 28 44.0 +1.0**
SNR=14
K05A Summer Lake 95.82 48 *e*P **P 23 28 44.4 +1.5**
comp=Z,348nm,1.5s
PTRM Twissleman Ran 95.87 55 *e*P **P 23 28 42.7 -0.4**
CMB Columbia Colle 95.90 52 *e*P **P 23 28 44.2 +1.0**
CMB pmax pmax
comp=Z,117nm,1.4s
CMB Columbia Colle 95.90 52 *e*P **P 23 28 44.2 +1.0**
comp=Z,117nm,1.4s
ICHK Chekchek 95.97 302 *e*P **P 23 28 43.6 -0.2**
SOKR Solikamsk 95.99 329*c i*P **P 23 28 41.5 -1.4**
SOKR 23 32 37.1
SOKR S **SKSac 23 39 09.3 -4.0**
SOKR SS **SS 23 46 34.9 +7.0**
SOKR pmax pmax
comp=Z,20nm,1.4s
SOKR MLR MLR
comp=Z,8µm,22.0s
SMMC Simmler 96.02 55 ⇓P **P 23 28 46.4 +2.6**
baz=96
G06A Carlson Farm, 96.16 45 *e*P **P 23 28 45.0 +0.8**
SBC Santa Barbara 96.20 56 ⇓P **P 23 28 47.2 +2.6**
baz=96
MOD Modoc Plateau 96.20 49 *e*P **P 23 28 45.8 +1.2**
comp=Z,243nm,1.6s
BSC Santa Cruz Isl 96.23 57 ⇑P **P 23 28 47.4 +2.7**
baz=96,SNR=9.0
LTY Liberty 96.24 43 *e*P **P 23 28 45.4 +0.8**
comp=Z,133nm,1.7s
WAKR Walker 96.67 52 *e*P **P 23 28 48.5 +1.6**
RCTC Rector, Farmer 96.70 54 ⇑P **P 23 28 49.2 +2.4**
baz=97
BLG Laguna Peak, P 96.71 56 ⇑P **P 23 28 49.3 +2.3**
baz=97
IGLO Ghaloghah 96.73 306 *e*P **P 23 28 46.5 -0.7**
E07A Sunnyside 96.77 44 *e*P **P 23 28 48.7 +1.8**
VES Vestal, Richgr 96.80 55 ⇓P **P 23 28 48.8 +1.6**
baz=97,SNR=9.0
I07A Izee 96.90 46 *e*P **P 23 28 48.9 +1.2**
comp=Z,234nm,1.8s
ARVC Arvin 96.97 55 ⇑P **P 23 28 50.6 +2.6**
baz=97,SNR=19
HAWA Hanford 96.98 44 *e*P **P 23 28 49.1 +1.3**
comp=Z,65nm,1.1s
OSI Osito Audit: C 97.02 56 ⇓P Pdif 23 28 50.4 +1.9
baz=97,SNR=6.7
OSI Osito Audit: C 97.02 56 *e*P Pdif 23 28 48.4 0.0
comp=Z,207nm,1.5s
SCI San Clemente I 97.08 58 ⇓P Pdif 23 28 50.9 +2.2
baz=97,SNR=5.5
MLAC Mammoth, Mammo 97.10 53 ⇓P Pdif 23 28 50.9 +1.9
baz=97
B08A Colville Reser 97.19 42 *e*P Pdif 23 28 49.0 +0.1
NVL N'lazarevskaya 97.20 194 ⇑*i*P **P 23 28 47.2 -1.1**
NVL *e*PP pP 23 28 58.9 -7.8
NVL *e* 23 32 42.0
CIS Catalina Islan 97.22 57 ⇑P Pdif 23 28 51.4 +2.1
baz=97,SNR=15
ISA Isabella, Lake 97.29 55 *e*P Pdif 23 28 50.1 +0.5
ISA Isabella, Lake 97.29 55 ⇑P Pdif 23 28 51.4 +1.8
baz=97,SNR=29
ISA Isabella, Lake 97.29 55 *e*P Pdif 23 28 50.1 +0.5
ABPO Ambohimpanom 97.29 250 *e*P **P 23 28 49.5 -0.5**
ABPO pmax pmax
comp=Z,76nm,1.2s
ABPO Ambohimpanom 97.29 250 *e*P **P 23 28 49.5 -0.5**
comp=Z,76nm,1.2s
DECC Green Verdugo 97.33 56 ⇑P Pdif 23 28 51.3 +1.5
baz=97,SNR=13
FMP Fort Macarthur 97.33 57 ⇑P Pdif 23 28 51.9 +2.2
baz=97
G08A Pilot Rock 97.34 45 *e*P Pdif 23 28 50.7 +1.0
comp=Z,172nm,1.8s
OPO Ambohidratompo 97.40 250 P Pdif 23 28 50.8 +0.2
comp=Z,79nm,1.0s,baz=95,slow=4.3,SNR=63
D08A Wollman Farm, 97.43 43 *e*P Pdif 23 28 51.0 +1.1
comp=Z,78nm,1.3s
PASC Pasadena Art C 97.44 56 *e*P Pdif 23 28 50.9 +0.6
comp=Z,237nm,1.3s
WVOR Wild Horse Val 97.47 48 *e*P Pdif 23 28 51.6 +1.2
WVOR pmax pmax
comp=Z,757nm,2.8s
WVOR Wild Horse Val 97.47 48 *e*P Pdif 23 28 51.6 +1.3
comp=Z,757nm,2.8s
IFIR Firoozkooh 97.55 305 *e*P **P 23 28 50.8 -0.2**
MWC Mount Wilson 97.55 56 *e*P Pdif 23 28 52.1 +1.1
MWC pmax pmax
comp=Z,377nm,1.3s
MWC Mount Wilson 97.55 56 *e*P Pdif 23 28 52.1 +1.1
comp=Z,377nm,1.3s
TIN Tinemaha, Big 97.55 54 ⇓P Pdif 23 28 52.7 +1.9
baz=98,SNR=7.3
NV01 Mina Array Sit 97.56 52 *e*P Pdif 23 28 51.8 +0.8
NVAR Mina Array Bea 97.56 52 P Pdif 23 28 51.8 +0.8
comp=Z,48nm,1.1s,baz=253,slow=4.4,SNR=127
NVAR PKPPKP P'P'df 23 53 27.1 -15
comp=Z,0.4nm,0.6s,baz=85,slow=6.4,SNR=3.7
EDW2 Edwards Air Fo 97.64 56 ⇓P Pdif 23 28 53.5 +2.3
baz=98,SNR=75
IZEF Zefreh 97.77 302 *e*P **P 23 28 51.1 -0.9**
BFSC Mount Baldy Ra 97.88 56 ⇓P Pdif 23 28 53.9 +1.5
baz=98,SNR=31
C09A Chrisman Ranch 97.89 43 *e*P Pdif 23 28 52.4 +0.4
comp=Z,34nm,0.9s
IPRN Peran 97.92 306 *e*P **P 23 28 51.2 -1.2**
LRMC Laurel Mtn Rad 97.92 55 ⇑P Pdif 23 28 54.1 +1.6
baz=98,SNR=80
E09A Wood Farm, Sta 97.95 44 *e*P Pdif 23 28 53.6 +1.4
comp=Z,104nm,1.1s
IKAZ Kazeroun 98.02 299 *e*P **P 23 28 52.2 -1.1**
DAC Darwin (Calif) 98.03 54 *e*P Pdif 23 28 54.1 +1.0
DAC pmax pmax
comp=Z,168nm,1.3s
DAC Darwin (Calif) 98.03 54 *e*P Pdif 23 28 54.1 +1.0
comp=Z,168nm,1.3s
MPMC Manual Prospec 98.10 55 ⇓P Pdif 23 28 54.8 +1.4
baz=98,SNR=71
IDMV Damavand 98.14 305 *e*P **P 23 28 52.9 -0.8**
MURC Murrieta 98.23 57 ⇓P Pdif 23 28 55.3 +1.5
baz=98,SNR=13
GRAC Grapevine Rang 98.24 54 ⇑P Pdif 23 28 55.9 +2.1
baz=98
109C Camp Elliot, M 98.28 58 ⇑P Pdif 23 28 56.4 +2.3
baz=98,SNR=8.7
IVRN Varamin 98.36 304 *e*P **P 23 28 54.0 -0.4**
TPH Tonopah 98.39 53 *e*P Pdif 23 28 55.1 +0.4
TPH pmax pmax
comp=Z,89nm,1.4s
TPH Tonopah 98.39 53 *e*P Pdif 23 28 55.1 +0.4
comp=Z,89nm,1.4s
IKLH Kolahrood 98.41 303 *e*P **P 23 28 54.8 -0.1**
RRX Edison Barstow 98.45 56 ⇑P Pdif 23 28 57.5 +2.8
baz=98
BMN Battle Mountai 98.47 50 *e*P Pdif 23 28 55.4 +0.5
BMN pmax pmax
comp=Z,59nm,1.4s
BMN Battle Mountai 98.47 50 *e*P Pdif 23 28 55.4 +0.5
comp=Z,59nm,1.4s
BBRC Big Bear Solar 98.50 56 ⇑P Pdif 23 28 57.2 +1.9
baz=98
BMO Blue Mountains 98.50 46 *e*P Pdif 23 28 55.3 +0.4
BMO pmax pmax
comp=Z,52nm,1.1s
BMO Blue Mountains 98.50 46 *e*P Pdif 23 28 55.3 +0.4
comp=Z,52nm,1.1s
F10A Beach Ranch, E 98.57 45 *e*P Pdif 23 28 56.0 +0.8
FURC Furnace Creek, 98.63 54 ⇑P Pdif 23 28 57.6 +2.1
baz=99,SNR=40
GSC Goldstone, Bar 98.63 55 *e*P Pdif 23 28 57.1 +1.5
GSC pmax pmax
comp=Z,113nm,1.4s
GSC Goldstone, Bar 98.63 55 ⇓P Pdif 23 28 58.1 +2.5
baz=99,SNR=36
GSC Goldstone, Bar 98.63 55 *e*P Pdif 23 28 57.1 +1.4
comp=Z,113nm,1.4s
BAR Barrett 98.64 58 *e*P Pdif 23 28 56.1 +0.4
NEW Newport 98.67 42 *e*P Pdif 23 28 55.8 +0.4
NEW pmax pmax
comp=Z,55nm,1.0s
NEW Newport 98.67 42 LR LR 00 05 37.8
comp=Z,3µm,21.7s,baz=263,slow=30
NEW Newport 98.67 42 ⇓P Pdif 23 28 56.8 +1.4
baz=99
NEW Newport 98.67 42 *e*P Pdif 23 28 55.8 +0.3
comp=Z,55nm,1.0s
PFO Pinyon Flats O 98.86 57 *e*P Pdif 23 28 58.4 +1.7
PFO pmax pmax
comp=Z,88nm,1.2s
PFO Pinyon Flats O 98.86 57 ⇓P Pdif 23 28 58.1 +1.3
baz=99,SNR=43
PFO Pinyon Flats O 98.86 57 *e*P Pdif 23 28 58.4 +1.7
comp=Z,88nm,1.2s
MONP Monument Peak, 98.86 58 ⇑P Pdif 23 28 58.5 +1.6
baz=99,SNR=46
IPIR Pirpir 98.97 302 *e*P **P 23 28 55.7 -1.8**
HEC Hector,Ludlow 99.00 56 ⇓P **Pdif 23 28 59.4 +2.1**
baz=99,SNR=18
SHOC Shoshone, Teco 99.08 55 ⇑P **Pdif 23 28 59.8 +2.3**
baz=99,SNR=8.2
IBP Imperial Bould 99.12 58 ⇑P **Pdif 23 28 59.8 +1.9**
baz=99,SNR=15
TPNV Topopah Spring 99.13 54 *e*P **Pdif 23 28 59.3 +1.4**
TPNV pmax pmax
comp=Z,107nm,1.3s
TPNV Topopah Spring 99.13 54 ⇓P **Pdif 23 28 59.9 +2.0**
baz=99
TPNV Topopah Spring 99.13 54 *e*P **Pdif 23 28 59.3 +1.4**
comp=Z,107nm,1.3s
IMHD Mahdasht 99.25 305 *e*P **Pdif 23 28 58.6 +0.2**
BELC Belle Mtn. Jos 99.25 57 ⇑P **Pdif 23 29 00.5 +2.0**
baz=99,SNR=46
TUQ Turquoise Moun 99.35 55 ⇓P **Pdif 23 29 01.1 +2.2**
baz=99,SNR=29
SNAA Sanae 99.36 189 PP PP 23 32 58.3 -3.0
comp=Z,36nm,1.1s,baz=145,slow=8.4,SNR=17
SNAA PKKPbc **PKKPbc 23 45 20.4 -3.9**
comp=Z,3.6nm,0.9s,baz=262,slow=3.8,SNR=11
SWSC Sam W. Stewart 99.39 58 ⇑P **Pdif 23 29 01.6 +2.6**
baz=99,SNR=23
MFID Camas Ranch 99.55 47 *e*Pdif **Pdif 23 29 00.4 +0.8**
comp=Z,72nm,1.3s
GMRC Granite Mounta 99.55 56 ⇑P **Pdif 23 29 01.9 +2.1**
baz=100
MUKL Al Mukalla 99.62 284 *e*P **Pdif 23 29 01.0 +0.7**
YKA Yellowknife Ar 99.64 28 P **Pdif 23 28 59.0 -0.4**
comp=Z,12nm,1.0s,baz=274,slow=4.8,SNR=66
YKA PP **PP 23 33 02.3 -1.7**
comp=Z,1.6nm,0.8s,baz=273,slow=7.5,SNR=4.1
YKA PKiKP **PKiKP 23 33 27.7 -0.1**
comp=Z,3.4nm,0.7s,baz=277,slow=1.4,SNR=22
YKA PKKPbc **PKKPbc 23 45 20.1 -3.3**
comp=Z,6.4nm,0.9s,baz=87,slow=2.9,SNR=26
YKA PKPPKP P'P'df 23 53 24.3 -12
comp=Z,0.3nm,0.8s,baz=39,slow=2.0,SNR=4.8
YKB5 Yellowknife Ar 99.64 28 *e*Pdif **Pdif 23 28 59.0 -0.4**
YKB5 *e*PP **PP 23 33 02.4 -1.7**
YKB5 *e*PKiKP **PKiKP 23 33 27.7 -0.2**
YKB5 *e*PKKPbc **PKKPbc 23 45 20.1 -3.3**
R11A Troy Canyon, C 99.69 52 ⇑P **Pdif 23 29 02.2 +1.8**
baz=100
R11A Troy Canyon, C 99.69 52 *e*Pdif **Pdif 23 29 01.4 +1.0**
comp=Z,34nm,1.3s
BC3 Big Chuckawall 99.69 57 ⇓P **Pdif 23 29 02.6 +2.2**
baz=100
IRAZ Razeghan 99.85 305 *e*P **Pdif 23 29 01.1 -0.1**
IRM Iron Mountain 99.96 57 ⇓P **Pdif 23 29 03.7 +2.2**
baz=100,SNR=47
ELK Elko 99.98 50 *e*P **Pdif 23 29 02.9 +1.2**
ELK pmax pmax
comp=Z,38nm,1.3s
ELK Elko 99.98 50 *e*Pdif **Pdif 23 29 02.9 +1.2**
comp=Z,38nm,1.3s
SHPR Sheep Range 100.00 54 *e*Pdif **Pdif 23 29 03.6 +1.8**
LDFC Landfair 100.01 56 *e*Pdif **Pdif 23 29 03.5 +1.7**
GLA Glamis 100.20 58 *e*P **Pdif 23 29 04.3 +1.7**
GLA Glamis 100.20 58 ⇑P **Pdif 23 29 05.0 +2.3**
baz=100,SNR=9.3
GLA Glamis 100.20 58 *e*Pdif **Pdif 23 29 04.3 +1.7**
BSMT Bassoo Peak 100.24 43 *e*Pdif **Pdif 23 29 03.0 +0.4**
NEE2 Needles Airpor 100.41 56 ⇑P **Pdif 23 29 05.8 +2.3**
baz=100
Y12C Blythe 100.47 57 ⇓P **Pdif 23 29 05.8 +2.1**
baz=100,SNR=22
BLMT Blacktail Moun 100.52 43 *e*Pdif **Pdif 23 29 04.4 +0.5**
HLID Hailey 100.58 47 ⇓P **Pdif 23 29 06.4 +2.2**
baz=101
HLID Hailey 100.58 47 *e*Pdif **Pdif 23 29 05.7 +1.4**
JTMT Jette 100.58 43 *e*Pdif **Pdif 23 29 05.4 +1.3**
VNA2 Neumayer--Watz 100.71 188 P **Pdif 23 29 04.4 +0.4**
baz=144,slow=5.1
VNA3 Neumayer Olymp 100.72 187 P **Pdif 23 29 04.2 +0.1**
YBMT Yellow Bay 100.76 43 *e*Pdif **Pdif 23 29 05.0 +0.1**
SWMT Swartz Lake 100.78 43 *e*Pdif **Pdif 23 29 05.7 +0.8**
WALA Waterton Lakes 100.78 41 *e*Pdif **Pdif 23 29 06.4 +1.5**
PDMCI Parker Dam,Lak 100.80 56 ⇑P **Pdif 23 29 07.7 +2.5**
baz=101,SNR=24
MSO Missoula 100.84 44 ⇓P **Pdif 23 29 07.0 +1.7**
baz=101
MSO Missoula 100.84 44 *e*Pdif **Pdif 23 29 05.5 +0.3**
MSO *e*PKiKP **PKiKP 23 33 26.9 -3.8**
EDM Edmonton 100.93 37 *e*P **Pdif 23 29 05.6 +0.2**
EDM Edmonton 100.93 37 *e*Pdif **Pdif 23 29 05.6 +0.2**
EDM *e*PKiKP **PKiKP 23 33 29.3 -1.3**
W13A Hualapai Mount 101.02 56 ⇓P **Pdif 23 29 09.2 +2.8**
baz=101
VNA1 Neumayer--Stat 101.08 188 P **Pdif 23 29 05.9 +0.2**
113A Mohawk Valley, 101.09 58 ⇓P **Pdif 23 29 09.6 +3.1**

baz=101,SNR=7.7
SLMT Seeley Lake 101.13 43 *e*Pdif **Pdif 23 29 08.1 +1.5**
SLMT *e*PKiKP **PKiKP 23 33 30.6 -0.7**
CHMT Chamberlain Mo 101.31 44 *e*Pdif **Pdif 23 29 08.1 +0.7**
ARUT Antelope Range 101.38 53 *e*P **Pdif 23 29 08.6 +0.7**
ARUT Antelope Range 101.38 53 *e*Pdif **Pdif 23 29 08.6 +0.7**
PRGR Permogore 101.41 332 *e*P **Pdif 23 29 04.7 -2.5**
PRGR *e* 23 33 14.8
PRGR pmax pmax
comp=Z,41nm,0.9s
CCUT Cedar City 101.44 53 *e*Pdif **Pdif 23 29 09.9 +1.6**
BGU Big Grassy Mou 101.65 50 *e*Pdif **Pdif 23 29 09.7 +0.7**
MCMT McKenzie Canyo 101.67 46 *e*Pdif **Pdif 23 29 10.0 +0.9**
MAK Makhachkala 101.70 312 *i* P **Pdif 23 29 08.3 -0.6**
MAK *e* 23 33 20.5
Y14A Wickenburg 101.74 57 ⇓P **Pdif 23 29 12.4 +2.9**
baz=102,SNR=21
Y14A ⇑P PKKPdf 23 45 40.4 +17
baz=102
Z14A Wintersburg 101.78 57 ⇑P **Pdif 23 29 12.8 +3.2**
baz=102,SNR=21
Z14A ⇑P PKKPdf 23 45 40.4 +18
baz=102
HVU Hansel Valley 101.83 49 *e*P **Pdif 23 29 11.2 +1.4**
HVU Hansel Valley 101.83 49 *e*Pdif **Pdif 23 29 11.2 +1.4**
DLMT Dillon 101.83 45 *e*Pdif **Pdif 23 29 10.7 +1.0**
DUG Dugway, Tooele 101.83 50 *e*P **Pdif 23 29 11.2 +1.3**
DUG Dugway, Tooele 101.83 50 ⇑P **Pdif 23 29 11.9 +2.0**
baz=102
DUG ⇓P PKKPdf 23 45 38.4 +15
baz=102
DUG Dugway, Tooele 101.83 50 *e*Pdif **Pdif 23 29 11.2 +1.3**
KNB Kanab 101.88 54 *e*P **Pdif 23 29 12.0 +1.8**
KNB Kanab 101.88 54 *e*Pdif **Pdif 23 29 12.0 +1.8**
214A Organ Pipe Nat 101.89 59 ⇑P **Pdif 23 29 12.2 +2.1**
baz=102
214A ⇑P PKKPdf 23 45 39.9 +17
baz=102
LRM Limekiln Ridge 101.91 45 *e*Pdif **Pdif 23 29 10.3 +0.1**
HRY Holter Researc 102.29 44 *e*Pdif **Pdif 23 29 13.4 +1.7**
U15A North Rim 102.31 54 ⇓P **Pdif 23 29 15.2 +3.0**
baz=102,SNR=23
U15A ⇑P PKKPdf 23 45 37.7 +15
baz=102
MVU Marysvale 102.34 52 *e*Pdif **Pdif 23 29 10.4 -1.9**
NLU North Lily Min 102.41 51 *e*Pdif **Pdif 23 29 12.9 +0.4**
BOZ Bozeman (W) 102.49 45 *e*P **Pdif 23 29 13.8 +1.1**
BOZ Bozeman (W) 102.49 45 *e*Pdif **Pdif 23 29 13.8 +1.1**
CTU Camp Tracy 102.63 50 *e*Pdif **Pdif 23 29 13.3 -0.1**
QLMT Earthquake Lak 102.68 46 *e*Pdif **Pdif 23 29 14.9 +1.3**
HWUT Hardware Ranch 102.74 49 *e*Pdif **Pdif 23 29 14.4 +0.5**
MPU Maple Canyon 102.74 51 *e*Pdif **Pdif 23 29 15.4 +1.4**
JLU Jordanelle 102.86 50 *e*Pdif **Pdif 23 29 15.8 +1.2**
TCUT Toone Canyon 102.87 49 *e*Pdif **Pdif 23 29 14.6 0.0**
DAU Daniels Canyon 103.02 50 *e*P **Pdif 23 29 16.2 +0.9**
DAU Daniels Canyon 103.02 50 *e*Pdif **Pdif 23 29 16.2 +0.9**
YMR Madison River 103.02 46 *e*Pdif **Pdif 23 29 15.0 -0.1**
AHID Auburn Hatcher 103.03 48 *e*Pdif **Pdif 23 29 16.1 +1.0**
X16A Lo Mia Camp, P 103.03 56 ⇑P **Pdif 23 29 18.8 +3.5**
baz=103,SNR=11
X16A ⇓P PKKPdf 23 45 34.9 +14
baz=103
FXWY Fox Creek 103.03 47 *e*Pdif **Pdif 23 29 16.1 +0.8**
WUAZ Wupatki 103.07 55 ⇓P **Pdif 23 29 17.9 +2.4**
baz=103
WUAZ ⇑P PKKPdf 23 45 34.6 +14
baz=103
WUAZ Wupatki 103.07 55 *e*Pdif **Pdif 23 29 16.3 +0.9**
IMW Indian Meadow 103.08 47 *e*Pdif **Pdif 23 29 16.8 +1.3**
TMUT Trail Mountain 103.10 51 *e*Pdif **Pdif 23 29 14.9 -0.8**
TPAW Teton Pass 103.10 47 *e*Pdif **Pdif 23 29 16.9 +1.3**
YFT Old Faithful 103.13 46 *e*Pdif **Pdif 23 29 16.9 +1.3**
REDW Red Top Meadow 103.18 47 *e*Pdif **Pdif 23 29 17.1 +1.3**
IMRD Marand 103.21 308 *e*P **Pdif 23 29 14.9 -1.1**
YNR Norris Junctio 103.22 46 *e*Pdif **Pdif 23 29 18.4 +2.3**
SNOW Snow King Moun 103.24 47 *e*Pdif **Pdif 23 29 17.9 +1.7**
FLWY Flagg Ranch 103.25 46 *e*Pdif **Pdif 23 29 17.5 +1.4**
H17A Grant Village 103.31 46 ⇑P **Pdif 23 29 18.6 +2.2**
baz=103
H17A ⇓P PKKPdf 23 45 33.7 +13
baz=103
H17A Grant Village 103.31 46 *e*Pdif **Pdif 23 29 18.0 +1.5**
DGRG David-gareji 103.34 311 P **Pdif 23 29 20.6 +4.2**
LOHW Long Hollow 103.34 47 *e*Pdif **Pdif 23 29 18.1 +1.5**
LOHW *e*PP **PKiKP 23 33 36.4 +0.9**
I17A Pilgrim Ck. 103.34 47 ⇓P **Pdif 23 29 18.9 +2.3**
baz=103,SNR=11
I17A ⇑P PKKPdf 23 45 32.9 +12
baz=103
LKWY Lake 103.43 46 *e*P **Pdif 23 29 17.8 +0.8**
LKWY Lake 103.43 46 *e*Pdif **Pdif 23 29 17.8 +0.8**
RAYN Ar Rayn 103.44 293 *e*Pdif **Pdif 23 29 16.8 -0.4**
RES Resolute Bay 103.58 14 *e*P **Pdif 23 29 15.9 -0.7**
RES *e* 23 33 35.8
RES Resolute Bay 103.58 14 Pdiff **Pdif 23 29 16.4 -0.2**
comp=Z,5.6nm,1.2s,baz=306,slow=6.8,SNR=11
RES PKiKP **PKiKP 23 33 35.8 +1.1**
comp=Z,14nm,1.2s,baz=311,slow=0.4,SNR=16
RES Resolute Bay 103.58 14 *e*Pdif **Pdif 23 29 15.8 -0.7**
RES *e*PP **PKiKP 23 33 35.8 +1.1**
EGMT Eagleton 103.61 42 ⇑P **Pdif 23 29 19.5 +2.0**
baz=104
EGMT ⇓P PKKPdf 23 45 30.3 +10
baz=104,SNR=7.3
EGMT Eagleton 103.61 42 *e*Pdif **Pdif 23 29 18.6 +1.1**
TUC Tucson 103.61 58 *e*P **Pdif 23 29 20.0 +2.2**
TUC Tucson 103.61 58 *e*Pdif **Pdif 23 29 20.0 +2.2**
SRU San Rafael Swe 103.64 51 *e*P **Pdif 23 29 19.2 +1.3**
SRU San Rafael Swe 103.64 51 *e*Pdif **Pdif 23 29 19.2 +1.3**
HOPEN Hopen 103.72 348 *e*PP PP 23 33 31.2 -3.0
HOPEN *e* 23 42 43.6
HOPEN IAMs_20 IAMs_20 00 12 34.2
comp=Z,8μm,21.0s
SEAG Tbilisi Sea 103.75 311 P **Pdif 23 29 24.7 +6.5**
TBLG Delisi 103.80 311 P **Pdif 23 29 17.7 -0.8**
GCMT Greycliff 103.86 45 *e*Pdif **Pdif 23 29 20.3 +1.6**
GNI Garni 103.89 310 *e*P **Pdif 23 29 19.1 +0.1**
GNI Garni 103.89 310 PKKPbc PKKPbc 23 45 07.1 -3.3
comp=Z,1.2nm,0.5s,baz=186,slow=2.2,SNR=3.2
GNI Garni 103.89 310 P **Pdif 23 29 19.8 +0.8**
SNR=5.3
GNI Garni 103.89 310 *e*Pdif **Pdif 23 29 19.1 +0.1**
GNI *e*PKKPbc **PKKPbc 23 45 07.1 -3.3**
H18A Shoshone NF, C 103.95 46 ⇓P **Pdif 23 29 20.7 +1.5**
baz=104
H18A ⇑P PKKPdf 23 45 28.9 +9.5
baz=104
B19A Brinkman Farms 104.10 42 ⇓P **Pdif 23 29 21.8 +2.2**
baz=104,SNR=5.6
B19A ⇑P **PKKPab 23 45 28.2 +0.7**
baz=104
C19A Slack Wire Ran 104.11 43 ⇑P **Pdif 23 29 21.5 +1.8**
baz=104
C19A ⇓P **PKKPab 23 45 28.9 +1.4**
baz=104
DAMY Dhamar 104.11 283 *e*Pdif **Pdif 23 29 21.1 +0.4**
DAMY *e*PKiKP **PKiKP 23 33 36.0 -1.7**
BW06 Boulder Array 104.16 48 *e*Pdif **Pdif 23 29 20.3 0.0**
BW06 *e*PKiKP **PKiKP 23 33 37.6 +0.6**
PD31 Pinedale Array 104.16 48 *e*Pdif **Pdif 23 29 20.4 +0.1**
PD31 *e*PKiKP **PKiKP 23 33 37.6 +0.6**
PD31 *e*PKKPbc **PKKPbc 23 45 07.9 -1.9**
PDAR Pinedale Array 104.16 48 Pdiff **Pdif 23 29 20.6 +0.3**
comp=Z,16nm,0.9s,baz=242,slow=2.4,SNR=69
PDAR PKiKP **PKiKP 23 33 37.6 +0.6**
comp=Z,2.9nm,0.9s,baz=195,slow=2.7,SNR=5.7
PDAR PKKPbc **PKKPbc 23 45 07.9 -1.9**
comp=Z,1.5nm,0.9s,baz=113,slow=3.3,SNR=4.2
PDAR PKPPKP **P'P'df 23 53 27.1 -2.5**
comp=Z,4.8nm,1.1s,baz=101,slow=3.2,SNR=14
A19A Klindworth Far 104.19 41 ⇑P **Pdif 23 29 22.5 +2.5**
baz=104,SNR=13
A19A ⇑P **PKKPab 23 45 27.2 +0.1**
baz=104
RLMT Red Lodge 104.19 45 *e*Pdif **Pdif 23 29 23.0 +2.7**
X18A Snowflake 104.26 56 ⇓P **Pdif 23 29 24.3 +3.5**
baz=104,SNR=16
X18A ⇑P **PKKPab 23 45 29.4 +2.2**
baz=104
D19A Cripps Ranch, 104.28 43 ⇓P **Pdif 23 29 22.7 +2.2**
baz=104,SNR=9.1
D19A ⇑P **PKKPab 23 45 26.7 0.0**
baz=104,SNR=7.7
SLBS Sierra La Lagu 104.32 67 *e*Pdif **Pdif 23 29 16.9 -4.3**

SPA0 Spitsbergen Ar 104.33 351 *e*Pdif **Pdif 23 29 19.0 -1.0**
SPA0 *e*PKiKP **PKiKP 23 33 37.1 +1.0**
SPA0 *e*PKKPbc **PKKPbc 23 45 07.6 -2.4**
SPITS Spitsbergen Ar 104.33 351 P **Pdif 23 29 19.0 -1.0**
SPITS pmax pmax
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 104.33 351 Pdiff **Pdif 23 29 19.0 -1.0**
comp=Z,7.3nm,0.9s,baz=83,slow=8.5,SNR=6.7
SPITS PKiKP **PKiKP 23 33 37.1 +1.0**
comp=Z,20nm,1.0s,baz=107,slow=4.5,SNR=7.5
SPITS PKKPbc **PKKPbc 23 45 07.6 -2.4**
comp=Z,13nm,0.9s,baz=142,slow=4.2,SNR=11
TMCR Tamitsa 104.35 335 *e*P **Pdif 23 29 20.2 0.0**
TMCR *e* 23 33 36.5
TMCR pmax pmax
comp=Z,44nm,0.7s
F19A Roth Farm, Mol 104.35 44 ⇑P **Pdif 23 29 23.4 +2.6**
baz=104,SNR=14
F19A ⇑P **PKKPab 23 45 27.2 +0.7**
baz=104,SNR=11
E19A Rath Farm, Rou 104.41 44 ⇑P **Pdif 23 29 23.1 +2.0**
baz=104
E19A ⇓P **PKKPab 23 45 27.0 +0.8**
baz=104,SNR=12
W18A Petrified Fore 104.42 56 ⇓P **Pdif 23 29 23.6 +2.1**
baz=104
W18A Petrified Fore 104.42 56 *e*Pdif **Pdif 23 29 21.4 -0.1**
H19A Powell 104.43 46 ⇓P **Pdif 23 29 24.1 +2.8**
baz=104
H19A ⇑P **PKKPab 23 45 25.8 -0.4**
baz=104
I19A Meeteetse 104.47 46 ⇑P **Pdif 23 29 23.6 +2.0**
baz=104
I19A ⇑P **PKKPab 23 45 26.0 -0.1**
baz=104,SNR=5.5
J19A Crowheart 104.49 47 ⇑P **Pdif 23 29 23.4 +1.8**
baz=104
J19A ⇓P **PKKPab 23 45 26.0 0.0**
baz=104
KBS Kingsbay 104.50 352 *e*PP PP 23 33 41.6 +1.6
KBS *e*SKSac **SKSac 23 39 55.1 +0.6**
KBS *e*SS SKKPbc 23 48 36.7 -11
ONI Oni 104.70 312 P **Pdif 23 29 22.2 -0.2**
B20A Solberg Farm, 104.72 42 ⇓P **Pdif 23 29 24.1 +1.8**
baz=105
B20A ⇓P **PKKPab 23 45 25.3 +0.5**
baz=105,SNR=9.4
A20A Cobblestone Ra 104.73 41 ⇓P **PKKPab 23 45 25.1 +0.4**
baz=105,SNR=9.9
PV09 Paradox Valley 104.75 52 *e*Pdif **Pdif 23 29 22.6 -0.4**
AKH Akhalkalaki 104.76 311 P **Pdif 23 29 22.8 -0.1**
GOF Gofitskoye 104.78 315 *e*P **pPdif 23 29 42.1 +1.0**
GOF pmax pmax
comp=Z,21nm,1.3s
D20A Manuel Ranch, 104.79 43 ⇓P **Pdif 23 29 24.3 +1.6**
baz=105
D20A ⇓P **PKKPab 23 45 24.6 +0.1**
baz=105,SNR=5.7
PV05 Paradox Valley 104.80 53 *e*Pdif **Pdif 23 29 22.9 -0.3**
C20A Veseth Ranch, 104.81 43 ⇓P **Pdif 23 29 24.6 +1.8**
baz=105
C20A ⇓P **PKKPab 23 45 24.3 0.0**
baz=105,SNR=10
PV10 Paradox Valley 104.83 52 *e*Pdif **Pdif 23 29 23.6 +0.2**
PV10 *e*PKiKP **PKiKP 23 33 39.3 +0.9**
E20A Meyer Farm, Mu 104.85 44 ⇓P **Pdif 23 29 24.8 +1.8**
baz=105
E20A ⇑P **PKKPab 23 45 25.1 +0.9**
baz=105
319A Douglas 104.90 59 ⇑P **Pdif 23 29 24.9 +1.3**
baz=105
319A ⇓P **PKKPab 23 45 26.7 +2.4**
baz=105
F20A Billings 104.91 44 ⇓P **Pdif 23 29 25.1 +1.7**
baz=105
F20A ⇓P **PKKPab 23 45 24.3 +0.4**
baz=105,SNR=5.9
G20A Bridger 104.92 45 ⇓P **PKKPab 23 45 23.4 -0.6**
baz=105
KBZ Khabaz 105.01 313 P **Pdif 23 29 23.3 -0.3**
KBZ pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 105.01 313 Pdiff **Pdif 23 29 23.3 -0.3**
comp=Z,1.4nm,0.7s,baz=56,slow=23,SNR=6.1
I20A Worland 105.11 46 ⇓P **PKiKP 23 33 40.0 +1.4**
baz=105
I20A ⇓P **PKKPab 23 45 23.1 0.0**
baz=105
KIV Kislovodsk 105.14 314 *e*P **Pdif 23 29 23.1 -1.3**
KIV Kislovodsk 105.14 314 *e*Pdif **Pdif 23 29 23.1 -1.3**
KIV *e*PKiKP **PKiKP 23 33 38.0 -0.6**
H20A Greybull 105.15 46 ⇓P **Pdif 23 29 28.2 +3.8**
baz=105,SNR=6.5
H20A ⇓P **PKiKP 23 33 40.0 +1.3**
baz=105
H20A ⇑P **PKKPab 23 45 22.7 -0.3**
baz=105,SNR=6.2
APA Apatity 105.16 339 ⇓*i*P **Pdif 23 29 23.8 0.0**
APA *i* 23 33 48.0
APA *i* 23 39 58.0
APA *i* 23 40 42.0
APA *i* S **Sdif 23 41 11.0 -1.8**
APA pmax pmax
comp=Z,28nm,0.8s
APA MLR MLR
comp=Z,10μm,27.0s
J20A Shoshoni 105.19 47 ⇑P **Pdif 23 29 26.0 +1.3**
baz=105,SNR=6.5
J20A ⇑P **PKiKP 23 33 40.2 +1.4**
baz=105
J20A ⇓P **PKKPab 23 45 23.4 +0.5**
baz=105,SNR=5.5
PV01 Paradox Valley 105.21 52 *e*Pdif **Pdif 23 29 23.9 -1.2**
HSPB Hornsund (broa 105.23 350 *e*PP PP 23 33 45.5 +0.1
HSPB *e*SKSac **SKSac 23 39 59.7 +1.9**
N20A Spence Gulch, 105.27 50 ⇑P **Pdif 23 29 26.2 +1.0**
baz=105
N20A ⇑P **PKiKP 23 33 40.3 +1.2**
baz=105
N20A ⇓P **PKKPab 23 45 24.6 +1.9**
baz=105
PV15 Paradox Valley 105.27 52 *e*Pdif **Pdif 23 29 25.7 +0.4**
MVCO Mesa Verde 105.32 53 ⇑P **Pdif 23 29 27.8 +2.3**
baz=105
MVCO ⇓P **PKiKP 23 33 40.1 +0.8**
baz=105
MVCO ⇑P **PKKPab 23 45 23.4 +0.9**
baz=105
MVCO Mesa Verde 105.32 53 *e*Pdif **Pdif 23 29 25.7 +0.1**
MVCO *e*PKiKP **PKiKP 23 33 39.5 +0.2**
O20A White River Ci 105.34 50 ⇓P **Pdif 23 29 27.8 +2.3**
baz=105,SNR=11
O20A ⇓P **PKiKP 23 33 40.0 +0.8**
baz=105
O20A White River Ci 105.34 50 *e*Pdif **Pdif 23 29 27.6 +2.1**
O20A *e*PKiKP **PKiKP 23 33 41.2 +2.0**
A21A Bergtoll Ranch 105.37 41 ⇓P **Pdif 23 29 24.1 -1.1**
baz=105
A21A ⇑P **PKiKP 23 33 40.4 +1.6**
baz=105
A21A ⇑P **PKKPab 23 45 22.4 +0.6**
baz=105
B21A Ellsworth Farm 105.38 42 ⇓P **PKiKP 23 33 39.7 +0.8**
baz=105
B21A ⇑P **PKKPab 23 45 22.4 +0.7**
baz=105,SNR=14
C21A Desert Coulee 105.40 42 ⇑P **Pdif 23 29 28.0 +2.5**
baz=105
C21A ⇑P **PKiKP 23 33 39.6 +0.7**
baz=105
C21A ⇑P **PKKPab 23 45 21.7 0.0**
baz=105,SNR=6.1
D21A La Casta Ranch 105.57 43 ⇓P **PKiKP 23 33 40.3 +1.1**
baz=106
D21A ⇑P **PKKPab 23 45 21.5 +0.5**
baz=106,SNR=8.2
E21A Keefer Ranch, 105.57 44 ⇑P **PKKPab 23 45 21.5 +0.5**
baz=106
F21A Absaloka Mine, 105.62 44 ⇓P **Pdif 23 29 29.9 +3.4**
baz=106
G21A Lodge Grass 105.63 45 ⇑P **Pdif 23 29 27.6 +1.0**
baz=106
G21A ⇓P **PKiKP 23 33 40.7 +1.2**
baz=106
G21A ⇓P **PKKPab 23 45 21.0 +0.2**
baz=106

J21A Lysite 105.66 47 ⇓P **Pdif 23 29 29.2 +2.3**
baz=106
J21A ⇓P **PKiKP 23 33 40.8 +1.1**
baz=106
CHVG Ch'k'valeri 105.69 312 P **Pdif 23 29 19.5 -7.3**
I21A Big Trails, Te 105.72 46 ⇑P **PKiKP 23 33 40.2 +0.4**
baz=106
I21A ⇓P **PKKPab 23 45 20.3 -0.2**
baz=106,SNR=12
H21A Big Horn, Sher 105.81 46 ⇓P **Pdif 23 29 30.2 +2.8**
baz=106
H21A ⇓P **PKiKP 23 33 41.1 +1.2**
baz=106
H21A ⇓P **PKKPab 23 45 20.0 0.0**
baz=106
K21A Alcova 105.87 48 ⇓P **Pdif 23 29 26.5 -1.3**
baz=106
K21A ⇓P **PKiKP 23 33 41.1 +1.0**
baz=106
K21A ⇓P **PKKPab 23 45 19.8 -0.1**
baz=106
A22A Carney Farms, 106.03 41 ⇓P **PKiKP 23 33 41.1 +1.0**
baz=106
A22A ⇓P **PKKPab 23 45 19.6 +0.6**
baz=106,SNR=9.6
B22A Reddig Ranch S 106.07 42 ⇑P **Pdif 23 29 30.7 +2.3**
baz=106
B22A ⇓P **PKiKP 23 33 41.5 +1.3**
baz=106
B22A ⇓P **PKKPab 23 45 19.6 +0.8**
baz=106
D22A Cohagen 106.11 43 ⇓P **PKiKP 23 33 41.4 +1.2**
baz=106
D22A ⇑P **PKKPab 23 45 19.8 +1.2**
baz=106
121A Cookes Peak, D 106.14 58 ⇑P **PKiKP 23 33 41.5 +0.6**
baz=106
121A ⇑P **PKKPab 23 45 21.7 +2.8**
baz=106
LAO LASA Array 106.14 43 *e*Pdif **Pdif 23 29 31.7 +2.9**
C22A Vida 106.22 42 ⇑P **PKiKP 23 33 42.5 +2.0**
baz=106
C22A ⇑P **PKKPab 23 45 18.4 +0.3**
baz=106
F22A Rosebud 106.23 44 ⇓P **PKiKP 23 33 41.7 +1.1**
baz=106
F22A ⇑P **PKKPab 23 45 18.8 +0.8**
baz=106,SNR=6.4
G22A Birney 106.27 45 ⇓P **Pdif 23 29 26.5 -2.9**
baz=106
G22A ⇓P **PKiKP 23 33 41.2 +0.5**
baz=106
G22A ⇑P **PKKPab 23 45 18.1 +0.2**
baz=106,SNR=7.6
I22A 9 Mile Ranch, 106.29 46 ⇑P **PKiKP 23 33 41.1 +0.4**
baz=106
I22A ⇑P **PKKPab 23 45 18.6 +0.7**
baz=106
H22A Clearmont 106.31 46 ⇓P **PKKPab 23 45 18.4 +0.5**
baz=106
J22A Midwest 106.35 47 ⇓P **Pdif 23 29 30.5 +0.6**
baz=106
J22A ⇓P **PKiKP 23 33 42.3 +1.4**
baz=106
J22A ⇓P **PKKPab 23 45 17.9 +0.2**
baz=106
E22A Miles City 106.36 44 ⇑P **PKiKP 23 33 41.7 +1.0**
baz=106
E22A ⇑P **PKKPab 23 45 17.9 +0.4**
baz=106,SNR=14
SMCO Snowmass 106.39 51 *e*Pdif **Pdif 23 29 32.1 +1.7**
KEV Kevo 106.44 342 *e*P **Pdif 23 29 27.6 -1.8**
KEV pmax pmax
comp=Z,11nm,0.7s
KEV Kevo 106.44 342 *e*p **Pdif 23 29 27.6 -1.8**
comp=Z,11nm,0.7s
KEV Kevo 106.44 342 *e*p **PKiKP 23 33 40.1 0.0**
comp=Z,5.7nm,0.8s
M22A Cedar Creek Ra 106.47 49 ⇑P **Pdif 23 29 32.2 +1.6**
baz=106
M22A ⇑P **PKiKP 23 33 42.5 +1.2**
baz=106
M22A ⇑P **PKKPab 23 45 18.4 +1.1**
baz=106
P22A Eagle 106.52 51 ⇓P **PKiKP 23 33 42.4 +0.9**
baz=106
P22A ⇓P **PKKPab 23 45 17.9 +0.8**
baz=106,SNR=6.4
L22A Ellis Ranch, M 106.53 48 ⇓P **PKiKP 23 33 42.4 +1.0**
baz=106
L22A ⇓P **PKKPab 23 45 17.9 +0.9**
baz=106
LAZ Ladron 106.59 56 *e*Pdif **Pdif 23 29 33.2 +2.0**
S22A 4UR Ranch, Cre 106.61 53 ⇑P **PKiKP 23 33 42.7 +0.9**
baz=107
S22A ⇓P **PKKPab 23 45 17.7 +0.8**
baz=107
S22A 4UR Ranch, Cre 106.61 53 *e*Pdif **Pdif 23 29 30.8 -0.5**
S22A *e*PKiKP **PKiKP 23 33 44.0 +2.3**
O22A Kremmling 106.63 50 ⇑P **PKiKP 23 33 42.5 +0.7**
baz=107
O22A ⇑P **PKKPab 23 45 17.2 +0.5**
baz=107,SNR=6.1
N22A Wattenberg Ran 106.64 50 ⇑P **Pdif 23 29 30.2 -1.1**
baz=107
N22A ⇑P **PKiKP 23 33 43.1 +1.4**
baz=107
N22A ⇓P **PKKPab 23 45 18.1 +1.5**
baz=107
C23A Lambert 106.68 42 ⇓P **Pdif 23 29 31.1 0.0**
baz=107
C23A ⇓P **PKiKP 23 33 42.7 +1.4**
baz=107
C23A ⇓P **PKKPab 23 45 16.9 +0.9**
baz=107
B23A Brockton 106.71 41 ⇓P **Pdif 23 29 32.6 +1.4**
baz=107
B23A ⇓P **PKiKP 23 33 42.4 +1.1**
baz=107
B23A ⇓P **PKKPab 23 45 16.7 +0.8**
baz=107,SNR=7.8
LENM Lemitar 106.73 56 *e*Pdif **Pdif 23 29 29.8 -2.0**
LENM *e*PKiKP **PKiKP 23 33 42.9 +0.9**
D23A Lindsay 106.76 43 ⇓P **PKiKP 23 33 42.3 +0.9**
baz=107
D23A ⇑P **PKKPab 23 45 17.4 +1.7**
baz=107
Y22D IRIS PASSCAL I 106.78 57 ⇓P **Pdif 23 29 35.6 +3.6**
baz=107
Y22D ⇑P **PKiKP 23 33 42.5 +0.5**
baz=107
E23A Ismay 106.79 44 ⇓P **PKiKP 23 33 42.4 +0.9**
baz=107
E23A ⇑P **PKKPab 23 45 16.5 +0.9**
baz=107
F23A Volborg 106.83 44 ⇓P **Pdif 23 29 35.2 +3.4**
baz=107
F23A ⇑P **PKiKP 23 33 42.2 +0.6**
baz=107
F23A ⇑P **PKKPab 23 45 15.5 +0.1**
baz=107,SNR=9.1
G23A Biddle 106.91 45 ⇓P **Pdif 23 29 33.0 +0.8**
baz=107
G23A ⇑P **PKiKP 23 33 42.9 +1.1**
baz=107
G23A ⇓P **PKKPab 23 45 15.5 +0.4**
baz=107
H23A Clabaugh Cattl 106.99 46 ⇓P **PKiKP 23 33 43.2 +1.1**
baz=107
H23A ⇓P **PKKPab 23 45 15.7 +0.9**
baz=107
LPM Los Pinos Moun 107.01 56 *e*Pdif **Pdif 23 29 34.4 +1.3**
LPM *e*PKiKP **PKiKP 23 33 42.9 +0.4**
ARA0 ARCESS Array S 107.01 342 *e*Pdif **Pdif 23 29 31.1 -1.0**
ARA0 *e*PKiKP **PKiKP 23 33 41.4 +0.2**
ARA0 *e*PKKPbc **PKKPbc 23 44 58.8 -2.9**
ARCES ARCESS Array B 107.01 342 Pdiff **Pdif 23 29 31.1 -0.9**
comp=Z,25nm,0.8s,baz=63,slow=4.4,SNR=22
ARCES PKiKP **PKiKP 23 33 41.4 +0.2**
comp=Z,11nm,1.0s,baz=100,slow=1.5,SNR=22
ARCES PKKPbc **PKKPbc 23 44 58.8 -2.9**
comp=Z,3.7nm,0.6s,baz=239,slow=3.6,SNR=17
N23A Red Feather La 107.01 49 ⇑P **Pdif 23 29 34.0 +1.0**
baz=107
N23A ⇓P **PKiKP 23 33 43.0 +0.6**
baz=107
N23A ⇓P **PKKPab 23 45 15.5 +0.6**
baz=107

N23A	**Red Feather La**	**107.01**	**49**	*e*Pdif	**Pdif**	**23 29 33.2**	**+0.2**
N23A				*e*PKiKP	**PKiKP**	**23 33 44.1**	**+1.7**
BNM	**Barren Site**	**107.02**	**56**	*e*Pdif	**Pdif**	**23 29 33.9**	**+0.8**
BNM				*e*PKiKP	**PKiKP**	**23 33 43.3**	**+0.7**
K23A	**Bowen Ranch, D**	**107.05**	**47**	⇑P	**Pdif**	**23 29 35.6**	**+2.6**
	baz=107						
L23A	**Garrett**	**107.06**	**48**	⇓P	**Pdif**	**23 29 34.1**	**+0.9**
	baz=107						
L23A				⇑P	**PKiKP**	**23 33 42.9**	**+0.5**
	baz=107						
O23A	**Lake Granby, G**	**107.10**	**50**	⇑P	**Pdif**	**23 29 36.6**	**+3.1**
	baz=107,SNR=7.3						
O23A				⇓P	**PKiKP**	**23 33 43.6**	**+1.0**
	baz=107						
O23A				⇓P	**PKKPab**	**23 45 15.5**	**+0.9**
	baz=107,SNR=8.9						
ANMO	**Albuquerque**	**107.11**	**56**	*e*P	**Pdif**	**23 29 35.6**	**+2.1**
ANMO	**Albuquerque**	**107.11**	**56**	*e*Pdif	**Pdif**	**23 29 35.6**	**+2.1**
ANMO				*e*PKiKP	**PKiKP**	**23 33 42.7**	**+0.1**
M23A	**Laramie**	**107.12**	**49**	⇑P	**Pdif**	**23 29 36.2**	**+2.8**
	baz=107						
M23A				⇓P	**PKiKP**	**23 33 43.2**	**+0.7**
	baz=107						
C24A	**Savage**	**107.23**	**42**	⇓P	**PKiKP**	**23 33 43.9**	**+1.6**
	baz=107						
C24A				⇓P	**PKKPab**	**23 45 14.5**	**+1.0**
	baz=107						
DGMT	**Dagmar**	**107.23**	**41**	⇓P	**Pdif**	**23 29 37.3**	**+3.8**
	baz=107						
DGMT				⇓P	**PKiKP**	**23 33 43.2**	**+0.9**
	baz=107						
DGMT				⇑P	**PKKPab**	**23 45 14.3**	**+0.8**
	baz=107,SNR=5.0						
DGMT	**Dagmar**	**107.23**	**41**	*e*Pdif	**Pdif**	**23 29 34.9**	**+1.4**
P23A	**Jefferson**	**107.25**	**51**	⇓P	**Pdif**	**23 29 35.2**	**+1.0**
	baz=107,SNR=7.4						
P23A				⇑P	**PKiKP**	**23 33 44.6**	**+1.6**
	baz=107						
P23A				⇓P	**PKKPab**	**23 45 14.5**	**+0.5**
	baz=107,SNR=5.3						
OBN	**Obninsk**	**107.27**	**326**	Pdiff	**Pdif**	**23 29 32.0**	**-1.4**
	comp=Z,5.8nm,0.5s,baz=128,slow=10,SNR=3.1						
OBN				PKiKP	**PKiKP**	**23 33 43.3**	**+1.3**
	comp=Z,6.7nm,0.4s,baz=90,slow=3.6,SNR=7.1						
OBN	**Obninsk**	**107.27**	**326**	*e*Pdif	**Pdif**	**23 29 32.0**	**-1.4**
OBN				*e*PKiKP	**PKiKP**	**23 33 42.4**	**+0.4**
OBN				*e*PKiKP	**PKiKP**	**23 33 43.3**	**+1.3**
S23A	**Nye Farm, Mont**	**107.27**	**53**	⇓P	**PKiKP**	**23 33 43.9**	**+0.9**
	baz=107						
A24A	**Westby**	**107.28**	**41**	⇓P	**PKiKP**	**23 33 43.5**	**+1.2**
	baz=107						
A24A				⇓P	**PKKPab**	**23 45 14.3**	**+1.0**
	baz=107,SNR=6.0						
Q23A	**Hartsel**	**107.30**	**51**	⇑P	**PKiKP**	**23 33 43.2**	**+0.2**
	baz=107						
SOC	**Sochi**	**107.32**	**313**	*c i*P	**Pdif**	**23 29 28.4**	**-5.5**
SOC				*i*		23 34 01.9	
SOC				*e*PPP	PPP	23 36 16.3	
SOC				*e*		23 40 08.7	
SOC				*i* SS	SS	23 49 07.6	+1.8
SOC				pmax	pmax		
	comp=Z,14nm,0.9s						
SOC				MLR	MLR		
	comp=Z,3μm,20.0s						
PHWY	**Pilot Hill**	**107.34**	**49**	*e*Pdif	**Pdif**	**23 29 35.5**	**+1.0**
PHWY				*e*PKiKP	**PKiKP**	**23 33 43.6**	**+0.5**
FFC	**Flin Flon**	**107.35**	**35**	*e*PKiKP	**PKiKP**	**23 33 42.4**	**+0.2**
D24A	**Glendive**	**107.36**	**43**	⇓P	**PKiKP**	**23 33 43.9**	**+1.3**
	baz=107						
D24A				⇓P	**PKKPab**	**23 45 13.3**	**+0.4**
	baz=107						
R23A	**Moffat**	**107.37**	**52**	⇑P	**Pdif**	**23 29 33.9**	**-0.8**
	baz=107,SNR=5.4						
R23A				⇓P	**PKiKP**	**23 33 44.5**	**+1.3**
	baz=107						
R23A				⇑P	**PKKPab**	**23 45 14.1**	**+0.6**
	baz=107						
ISCO	**Idaho Springs**	**107.38**	**50**	*e*P	**Pdif**	**23 29 36.5**	**+1.8**
ISCO	**Idaho Springs**	**107.38**	**50**	⇓P	**Pdif**	**23 29 36.9**	**+2.2**
	baz=107,SNR=12						
ISCO				⇑P	**PKiKP**	**23 33 44.5**	**+1.3**
	baz=107						
ISCO				⇑P	**PKKPab**	**23 45 14.3**	**+0.9**
	baz=107,SNR=5.5						
ISCO	**Idaho Springs**	**107.38**	**50**	*e*Pdif	**Pdif**	**23 29 36.5**	**+1.8**
ISCO				*e*PKiKP	**PKiKP**	**23 33 44.3**	**+1.2**
E24A	**Baker**	**107.46**	**43**	⇓P	**Pdif**	**23 29 37.3**	**+2.7**
	baz=107						
E24A				⇓P	**PKiKP**	**23 33 43.8**	**+1.0**
	baz=107						
E24A				⇓P	**PKKPdf**	**23 45 12.9**	**+0.2**
	baz=107						
F24A	**Ekalaka**	**107.48**	**44**	⇓P	**PKiKP**	**23 33 44.2**	**+1.3**
	baz=108						
F24A				⇓P	**PKKPdf**	**23 45 13.6**	**+0.9**
	baz=108						
H24A	**Dirks Ranch, A**	**107.56**	**45**	⇓P	**Pdif**	**23 29 36.5**	**+1.4**
	baz=108,SNR=7.1						
H24A				⇑P	**PKiKP**	**23 33 43.4**	**+0.3**
	baz=108						
H24A				⇓P	**PKKPab**	**23 45 12.2**	**-0.1**
	baz=108,SNR=6.9						
G24A	**Alzada**	**107.57**	**45**	⇑P	**Pdif**	**23 29 37.9**	**+2.7**
	baz=108						
G24A				⇑P	**PKiKP**	**23 33 43.5**	**+0.4**
	baz=108						
JOF	**Joensuu**	**107.59**	**334**	*e*P	**Pdif**	**23 29 33.3**	**-1.4**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JOF	**Joensuu**	**107.59**	**334**	*e*p	**Pdif**	**23 29 33.3**	**-1.4**
	comp=Z,6.6nm,0.6s						
JOF	**Joensuu**	**107.59**	**334**	*e*p	**PKiKP**	**23 33 42.3**	**-0.1**
	comp=Z,4.4nm,0.8s						
JOF	**Joensuu**	**107.59**	**334**	*e*p	**PKKPbc**	**23 44 55.3**	**-4.3**
	comp=Z,5.7nm,0.8s						
I24A	**Kuemmerle Ranc**	**107.63**	**46**	⇑P	**Pdif**	**23 29 38.2**	**+2.7**
	baz=108						
I24A				⇑P	**PKiKP**	**23 33 43.6**	**+0.4**
	baz=108						
L24A	**Wheatland**	**107.64**	**48**	⇑P	**Pdif**	**23 29 39.4**	**+3.8**
	baz=108						
L24A				⇓P	**PKiKP**	**23 33 43.9**	**+0.5**
	baz=108						
K24A	**Anderson Ranch**	**107.64**	**47**	⇑P	**PKiKP**	**23 33 43.9**	**+0.5**
	baz=108						
SDCO	**Great Sand Dun**	**107.66**	**53**	⇓P	**Pdif**	**23 29 41.3**	**+5.3**
	baz=108,SNR=12						
SDCO				⇑P	**PKiKP**	**23 33 43.9**	**+0.2**
	baz=108						
SDCO				⇑P	**PKKPdf**	**23 45 13.3**	**+0.9**
	baz=108,SNR=10						
J24A	**Dixon Ranch, L**	**107.68**	**47**	⇓P	**Pdif**	**23 29 38.3**	**+2.5**
	baz=108						
J24A				⇑P	**PKiKP**	**23 33 44.0**	**+0.7**
	baz=108						
J24A				⇓P	**PKKPdf**	**23 45 13.6**	**+1.3**
	baz=108						
O24A	**Longmont**	**107.76**	**50**	⇑P	**Pdif**	**23 29 40.5**	**+4.3**
	baz=108,SNR=6.8						
O24A				⇓P	**PKiKP**	**23 33 44.6**	**+0.9**
	baz=108						
O24A				⇓P	**PKKPdf**	**23 45 12.9**	**+0.7**
	baz=108						
M24A	**Cheyenne**	**107.79**	**49**	⇓P	**Pdif**	**23 29 32.6**	**-3.7**
	baz=108,SNR=5.1						
M24A				⇑P	**PKiKP**	**23 33 44.3**	**+0.6**
	baz=108						
M24A				⇑P	**PKKPdf**	**23 45 12.6**	**+0.5**
	baz=108						
Q24A	**Divide**	**107.82**	**51**	⇑P	**PKiKP**	**23 33 44.4**	**+0.4**
	baz=108						
N24A	**Carr**	**107.82**	**49**	⇓P	**Pdif**	**23 29 33.2**	**-3.3**
	baz=108,SNR=12						
N24A				⇑P	**PKiKP**	**23 33 44.9**	**+1.1**
	baz=108						
A25A	**Svangstu Ranch**	**107.86**	**41**	⇓P	**PKKPdf**	**23 45 11.4**	**-0.5**
	baz=108						
R24A	**Sanders Place,**	**107.93**	**52**	⇑P	**Pdif**	**23 29 34.9**	**-2.1**
	baz=108,SNR=7.5						
R24A				⇑P	**PKiKP**	**23 33 43.7**	**-0.4**
	baz=108						
R24A				⇑P	**PKKPdf**	**23 45 11.9**	**+0.1**
	baz=108,SNR=5.8						
B25A	**Knox Farm, Ray**	**107.95**	**41**	⇓P	**Pdif**	**23 29 39.5**	**+2.8**
	baz=108						
B25A				⇑P	**PKKPdf**	**23 45 12.4**	**+0.6**
	baz=108						
P24A	**Kohler Place,**	**107.95**	**51**	⇓P	**PKKPab**	**23 45 12.4**	**+1.7**
	baz=108						
C25A	**Freed Ranch, W**	**107.98**	**42**	⇑P	**PKiKP**	**23 33 43.4**	**-0.2**
	baz=108						
C25A				⇓P	**PKKPdf**	**23 45 11.7**	**0.0**
	baz=108						
RSSD	**Black Hills**	**108.02**	**46**	*e*P	**Pdif**	**23 29 38.4**	**+1.1**
RSSD	**Black Hills**	**108.02**	**46**	*e*Pdif	**Pdif**	**23 29 38.4**	**+1.1**
RSSD				*e*PKiKP	**PKiKP**	**23 33 45.0**	**+0.9**
D25A	**Fairfield**	**108.04**	**43**	⇓P	**Pdif**	**23 29 40.5**	**+3.4**
	baz=108						
D25A				⇓P	**PKiKP**	**23 33 44.5**	**+0.6**
	baz=108						
D25A				⇑P	**PKKPab**	**23 45 10.7**	**+0.7**
	baz=108						
E25A	**Miller Ranch,**	**108.09**	**43**	⇓P	**Pdif**	**23 29 36.7**	**-0.7**
	baz=108						
E25A				⇓P	**PKiKP**	**23 33 45.0**	**+1.0**
	baz=108						
F25A	**Bowman**	**108.15**	**44**	⇑P	**Pdif**	**23 29 40.8**	**+3.1**
	baz=108						
F25A				⇑P	**PKiKP**	**23 33 45.0**	**+0.9**
	baz=108						
F25A				⇓P	**PKKPab**	**23 45 10.2**	**+0.7**
	baz=108,SNR=5.1						
MNTX	**Cornudas Mount**	**108.21**	**59**	⇓P	**Pdif**	**23 29 42.3**	**+4.1**
	baz=108,SNR=16						
MNTX				⇓P	**PKiKP**	**23 33 45.8**	**+1.2**
	baz=108						
MNTX				⇑P	**PKKPdf**	**23 45 10.7**	**-0.2**
	baz=108						
I25A	**Rochford**	**108.25**	**46**	⇑P	**Pdif**	**23 29 41.6**	**+3.3**
	baz=108,SNR=6.3						
I25A				⇑P	**PKiKP**	**23 33 45.5**	**+1.0**
	baz=108						
I25A				⇓P	**PKKPab**	**23 45 10.2**	**+0.9**
	baz=108						
H25A	**Fruitdale**	**108.25**	**45**	⇓P	**Pdif**	**23 29 40.1**	**+1.9**
	baz=108						
H25A				⇑P	**PKKPab**	**23 45 09.8**	**+0.7**
	baz=108						
J25A	**Sunshine Ranch**	**108.29**	**47**	⇑P	**Pdif**	**23 29 39.4**	**+1.0**
	baz=108,SNR=7.3						
J25A				⇓P	**PKiKP**	**23 33 45.1**	**+0.6**
	baz=108						
J25A				⇓P	**PKKPdf**	**23 45 10.7**	**-0.4**
	baz=108						
G25A	**Newell**	**108.29**	**45**	⇑P	PKKPbc	23 44 51.2	-5.8
	baz=108,SNR=7.1						
K25A	**Mack Ranch, Ha**	**108.35**	**47**	⇓P	**Pdif**	**23 29 42.9**	**+4.2**
	baz=108						
K25A				⇓P	**PKiKP**	**23 33 46.3**	**+1.7**
	baz=108						
M25A	**Palm-Egli Farm**	**108.37**	**49**	⇑P	**Pdif**	**23 29 39.9**	**+1.0**
	baz=108						
M25A				⇓P	**PKiKP**	**23 33 46.0**	**+1.3**
	baz=108						
S25A	**Robets Cordova**	**108.51**	**53**	⇓P	**Pdif**	**23 29 41.4**	**+1.7**
	baz=108,SNR=11						
S25A				⇓P	**PKiKP**	**23 33 46.6**	**+1.4**
	baz=108						
S25A				⇓P	**PKKPab**	**23 45 09.3**	**+1.0**
	baz=108,SNR=16						
P25A	**Willow Gulch B**	**108.52**	**51**	⇑P	**PKiKP**	**23 33 46.4**	**+1.3**
	baz=108						
Q25A	**Bedland, Calha**	**108.53**	**51**	⇓P	**Pdif**	**23 29 42.9**	**+3.2**
	baz=108,SNR=6.2						
Q25A				⇑P	**PKiKP**	**23 33 46.7**	**+1.4**
	baz=108						
Q25A				⇓P	**PKKPab**	**23 45 09.0**	**+0.9**
	baz=108,SNR=12						
B26A	**Jensen Ranch,**	**108.53**	**41**	⇑P	**Pdif**	**23 29 39.3**	**0.0**
	baz=108						
B26A				⇑P	**PKiKP**	**23 33 46.7**	**+2.0**
	baz=108						
B26A				⇓P	**PKKPab**	**23 45 08.6**	**+0.8**
	baz=108						
A26A	**Wade Farm, Ken**	**108.56**	**41**	⇓P	**PKiKP**	**23 33 46.0**	**+1.3**
	baz=108						
A26A				⇑P	**PKKPab**	**23 45 08.1**	**+0.5**
	baz=108						
R25A	**Fountain Ranch**	**108.58**	**52**	⇓P	**Pdif**	**23 29 42.2**	**+2.3**
	baz=109,SNR=6.5						
R25A				⇓P	**PKiKP**	**23 33 46.1**	**+0.9**
	baz=109						
R25A				⇑P	**PKKPab**	**23 45 08.6**	**+0.7**
	baz=109,SNR=10						
T25A	**Trinidad**	**108.58**	**53**	⇑P	**Pdif**	**23 29 43.0**	**+3.0**
	baz=109,SNR=8.4						
T25A				⇓P	**PKiKP**	**23 33 46.4**	**+1.0**
	baz=109						
T25A				⇑P	**PKKPab**	**23 45 08.6**	**+0.6**
	baz=109,SNR=6.6						
T25A	**Trinidad**	**108.58**	**53**	*e*Pdif	**Pdif**	**23 29 39.4**	**-0.7**
T25A				*e*PKiKP	**PKiKP**	**23 33 44.2**	**-1.1**
D26A	**Manning**	**108.65**	**43**	⇓P	**PKiKP**	**23 33 46.2**	**+1.2**
	baz=109						
D26A				⇑P	**PKKPab**	**23 45 07.6**	**+0.4**
	baz=109						
F26A	**Lodgepole**	**108.70**	**44**	⇓P	**PKiKP**	**23 33 46.1**	**+1.0**
	baz=109						
F26A				⇓P	**PKKPab**	**23 45 07.6**	**+0.5**
	baz=109						
C26A	**Wahner Farm, P**	**108.73**	**42**	⇓P	**PKiKP**	**23 33 46.2**	**+1.1**
	baz=109						
C26A				⇓P	**PKKPab**	**23 45 07.4**	**+0.5**
	baz=109,SNR=7.1						
E26A	**Carlson Angus**	**108.73**	**43**	⇓P	**PKiKP**	**23 33 46.2**	**+1.0**
	baz=109						
E26A				⇓P	**PKKPab**	**23 45 07.2**	**+0.3**
	baz=109						
ANN	**Anapa**	**108.77**	**315**	*i* P	**Pdif**	**23 29 40.8**	**+0.5**
ANN				*e*		23 34 13.5	
ANN				*e*		23 40 16.5	
ANN				*e*SP	SP	23 43 25.9	-4.6
ANN				*e*SS	SS	23 49 36.1	+11
ANN				pmax	pmax		
	comp=Z,33nm,1.5s						
ANN				MLR	MLR		
	comp=N,2μm,19.0s						
ANN				MLR	MLR		
	comp=Z,3μm,19.0s						
ANN				MLR	MLR		
	comp=E,1μm,19.0s						
J26A	**Sides Ranch, S**	**108.82**	**47**	⇑P	**Pdif**	**23 29 43.8**	**+3.0**
	baz=109						
J26A				⇑P	**PKiKP**	**23 33 46.4**	**+0.9**
	baz=109						
J26A				⇑P	**PKKPab**	**23 45 07.1**	**+0.5**
	baz=109						
H26A	**Fairpoint**	**108.83**	**45**	⇑P	**PKiKP**	**23 33 46.3**	**+0.9**
	baz=109						
H26A				⇓P	**PKKPab**	**23 45 07.5**	**+1.0**
	baz=109						
K26A	**Motz Farm, Whi**	**108.84**	**47**	⇓P	**Pdif**	**23 29 40.7**	**-0.1**
	baz=109						
K26A				⇓P	**PKiKP**	**23 33 46.0**	**+0.5**
	baz=109						
K26A				⇑P	**PKKPab**	**23 45 07.1**	**+0.5**
	baz=109						
G26A	**Maurine**	**108.84**	**44**	⇑P	**Pdif**	**23 29 41.2**	**+0.4**
	baz=109						
G26A				⇓P	**PKiKP**	**23 33 46.0**	**+0.6**
	baz=109						
G26A				⇑P	**PKKPab**	**23 45 06.7**	**+0.2**
	baz=109,SNR=5.9						
I26A	**New Underwood**	**108.87**	**46**	⇓P	**Pdif**	**23 29 43.0**	**+2.0**
	baz=109						
I26A				⇑P	**PKiKP**	**23 33 46.4**	**+0.8**
	baz=109						
I26A				⇓P	**PKKPab**	**23 45 06.7**	**+0.3**
	baz=109						
MALT	**Malatya**	**108.93**	**308**	⇑*i*P	**PKKPbc**	**23 44 56.1**	**+1.4**
TRO	**Tromso**	**108.93**	**343**	*e*PP	PP	23 34 12.7	+0.1
TRO				*e*SKSac	**SKSac**	**23 40 11.5**	**-2.7**
TRO				*e*		23 43 32.6	
L26A	**Underwood Farm**	**109.01**	**48**	⇓P	**Pdif**	**23 29 41.9**	**+0.3**
	baz=109						
L26A				⇑P	**PKiKP**	**23 33 46.6**	**+0.7**
	baz=109						
M26A	**McRoberts Ranc**	**109.04**	**49**	⇑P	**Pdif**	**23 29 43.3**	**+1.5**
	baz=109						
M26A				⇓P	**PKiKP**	**23 33 46.6**	**+0.6**
	baz=109						
A27A	**Ledoux Ranch,**	**109.06**	**40**	⇑P	**PKiKP**	**23 33 47.0**	**+1.4**
	baz=109						
N26A	**Koester Ranch,**	**109.07**	**49**	⇓P	**PKiKP**	**23 33 46.4**	**+0.4**
	baz=109						
O26A	**Horse Wrangler**	**109.08**	**50**	⇑P	**PKiKP**	**23 33 46.7**	**+0.5**
	baz=109						
O26A				⇓P	**PKKPab**	**23 45 06.7**	**+1.1**
	baz=109,SNR=7.0						
Q26A	**Hugo**	**109.09**	**51**	⇑P	**Pdif**	**23 29 46.1**	**+3.9**
	baz=109,SNR=6.2						
Q26A				⇑P	**PKiKP**	**23 33 47.0**	**+0.8**
	baz=109						
Q26A				⇓P	**PKKPab**	**23 45 06.8**	**+1.2**
	baz=109						
P26A	**Davis Ranch, A**	**109.14**	**51**	⇓P	**Pdif**	**23 29 44.4**	**+2.0**
	baz=109,SNR=9.9						
P26A				⇑P	**PKiKP**	**23 33 47.4**	**+1.1**
	baz=109						
P26A				⇑P	**PKKPab**	**23 45 06.7**	**+1.3**
	baz=109,SNR=9.5						
F27A	**Lemmon**	**109.14**	**44**	⇓P	**PKiKP**	**23 33 47.0**	**+1.0**
	baz=109						
C27A	**Sayler Ranch,**	**109.14**	**42**	⇓P	**Pdif**	**23 29 45.3**	**+3.2**
	baz=109						
C27A				⇓P	**PKiKP**	**23 33 47.0**	**+1.1**
	baz=109						
C27A				⇑P	**PKKPab**	**23 45 06.3**	**+1.3**
	baz=109,SNR=5.1						
B27A	**Peters Farms,**	**109.17**	**41**	⇑P	**PKiKP**	**23 33 46.9**	**+1.1**
	baz=109						
B27A				⇑P	**PKKPab**	**23 45 06.4**	**+1.5**
	baz=109						
U26A	**Atchley Ranch,**	**109.19**	**54**	⇓P	**Pdif**	**23 29 46.7**	**+4.0**
	baz=109,SNR=7.4						
U26A				⇑P	**PKiKP**	**23 33 47.6**	**+1.1**
	baz=109						
U26A				⇑P	**PKKPab**	**23 45 05.9**	**+0.7**
	baz=109,SNR=9.3						
R26A	**Arlington**	**109.22**	**52**	⇓P	**Pdif**	**23 29 46.3**	**+3.6**
	baz=109,SNR=7.7						
R26A				⇑P	**PKiKP**	**23 33 48.0**	**+1.5**
	baz=109						
R26A				⇑P	**PKKPab**	**23 45 06.2**	**+1.2**
	baz=109,SNR=12						
V26A	**Tequesquite Ra**	**109.22**	**55**	⇓P	**Pdif**	**23 29 46.7**	**+4.0**
	baz=109,SNR=7.9						
V26A				⇓P	**PKiKP**	**23 33 47.4**	**+0.9**
	baz=109						
V26A				⇑P	**PKKPab**	**23 45 06.7**	**+1.6**
	baz=109						
T26A	**Comanche Natio**	**109.23**	**53**	⇑P	**Pdif**	**23 29 47.2**	**+4.3**
	baz=109						
T26A				⇓P	**PKiKP**	**23 33 47.9**	**+1.3**
	baz=109						
T26A				⇓P	**PKKPab**	**23 45 06.2**	**+1.1**
	baz=109,SNR=11						
D27A	**Center**	**109.25**	**42**	⇑P	**PKiKP**	**23 33 47.8**	**+1.7**
	baz=109						
D27A				⇓P	**PKKPab**	**23 45 06.0**	**+1.4**
	baz=109						
S26A	**Kim**	**109.28**	**53**	⇑P	**Pdif**	**23 29 46.0**	**+3.0**
	baz=109,SNR=9.0						
S26A				⇑P	**PKiKP**	**23 33 47.8**	**+1.2**
	baz=109						
S26A				⇑P	**PKKPab**	**23 45 05.9**	**+1.2**
	baz=109,SNR=12						
G27A	**Dupree**	**109.29**	**44**	⇑P	**Pdif**	**23 29 45.1**	**+2.3**
	baz=109						
G27A				⇑P	**PKiKP**	**23 33 47.5**	**+1.2**
	baz=109						
H27A	**Howes**	**109.32**	**45**	⇓P	**Pdif**	**23 29 46.5**	**+3.6**
	baz=109						
H27A				⇑P	**PKiKP**	**23 33 47.1**	**+0.8**
	baz=109						
H27A				⇑P	**PKKPab**	**23 45 05.7**	**+1.4**
	baz=109						
FURI	**Furi**	**109.35**	**277**	*e*Pdif	**Pdif**	**23 29 46.2**	**+2.2**
FURI				*e*PKiKP	**PKiKP**	**23 33 48.9**	**+1.3**
E27A	**Carson**	**109.35**	**43**	⇓P	**PKiKP**	**23 33 48.1**	**+1.8**
	baz=109						
I27A	**Quinn**	**109.44**	**46**	⇓P	**Pdif**	**23 29 46.3**	**+2.8**
	baz=109						
I27A				⇓P	**PKiKP**	**23 33 47.7**	**+1.2**
	baz=109						
K27A	**Flueckinger Fa**	**109.53**	**47**	⇑P	**Pdif**	**23 29 47.7**	**+3.8**
	baz=110						
DAG	**Danmarks Havn**	**109.55**	**357**	*i* P	**PKiKP**	**23 33 45.2**	**-0.6**
	comp=E,9.7nm,0.9s						
DAG	**Danmarks Havn**	**109.55**	**357**	*i* P	**PKKPbc**	**23 44 49.3**	**-4.4**
	comp=E,9.0nm,1.0s						
N27A	**Anderson Farm,**	**109.59**	**49**	⇑P	**Pdif**	**23 29 47.9**	**+3.6**
	baz=110,SNR=6.1						
N27A				⇑P	**PKiKP**	**23 33 47.8**	**+0.8**
	baz=110						
M27A	**Reverse DX Ran**	**109.60**	**48**	⇑P	**Pdif**	**23 29 45.7**	**+1.4**
	baz=110						
J27A	**Elkhorn Farm,**	**109.60**	**47**	⇓P	**PKiKP**	**23 33 48.8**	**+1.8**
	baz=110						
A28A	**Rude Farm, Bot**	**109.70**	**40**	⇑P	**PKiKP**	**23 33 48.4**	**+1.6**
	baz=110						
R27A	**Eads**	**109.73**	**52**	⇓P	**PKiKP**	**23 33 48.3**	**+0.9**
	baz=110						
R27A				⇓P	**PKKPab**	**23 45 03.7**	**+0.9**
	baz=110,SNR=13						
B28A	**Dugan Ranch, T**	**109.74**	**41**	⇑P	**PKiKP**	**23 33 48.0**	**+1.1**
	baz=110						
B28A				⇓P	**PKKPab**	**23 45 02.7**	**+0.4**
	baz=110						
KSCO	**Kaye Shedlock'**	**109.77**	**51**	⇓P	**Pdif**	**23 29 48.2**	**+3.1**
	baz=110						
KSCO				⇓P	**PKiKP**	**23 33 47.8**	**+0.4**
	baz=110						
KSCO				⇑P	**PKKPab**	**23 45 03.7**	**+1.1**
	baz=110						
KSCO	**Kaye Shedlock'**	**109.77**	**51**	*e*Pdif	**Pdif**	**23 29 46.1**	**+0.9**
KSCO				*e*PKiKP	**PKiKP**	**23 33 48.0**	**+0.5**
KMBO	**Kilima Mbogo**	**109.77**	**266**	Pdiff	**Pdif**	**23 29 47.4**	**+1.6**
	comp=E,4.3nm,1.1s,baz=121,slow=6.6,SNR=15						
KMBO				PKiKP	**PKiKP**	**23 33 50.4**	**+2.1**
	comp=E,8.5nm,1.1s,baz=48,slow=3.4,SNR=7.4						
KMBO				PP	**PP**	**23 34 21.8**	**+0.9**
	comp=E,0.7nm,0.3s,baz=114,slow=8.0,SNR=8.0						
KMBO				PKKPbc	**PKKPbc**	**23 44 54.5**	**+3.1**
	comp=E,1.2nm,0.7s,baz=112,slow=6.4,SNR=4.9						
KMBO				PKKP	**PKKPdf**	**23 45 07.5**	**-0.3**
	comp=E,2.7nm,0.8s,baz=302,slow=3.2,SNR=6.0						
LTX	**Lajitas**	**109.83**	**61**	*e*P	**Pdif**	**23 29 47.7**	**+2.1**
LTX				*e*		23 34 20.3	
LTX				*e*		23 44 52.8	
LTX	**Lajitas**	**109.83**	**61**	*e*Pdif	**Pdif**	**23 29 47.7**	**+2.1**
LTX				*e*PKiKP	**PKiKP**	**23 33 48.7**	**+0.9**
LTX				*e*PP	**PP**	**23 34 20.3**	**-0.5**
LTX				*e*PKKPbc	**PKKPbc**	**23 44 52.8**	**+1.3**
LTX				*e*PKKPab	**PKKPab**	**

baz=110
V27A ⇓P **PKiKP 23 33 48.5 +0.5**
baz=110
V27A ⇓P **PKKPab 23 45 03.0 +1.4**
baz=110,SNR=6.6
KAF Kangasniemi 110.05 335 *e*P **Pdif 23 29 42.9 -2.7**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 110.05 335 *e*p **Pdif 23 29 42.9 -2.7**
comp=Z,6.2nm,0.6s
KAF Kangasniemi 110.05 335 *e*p **PKiKP 23 33 46.5 -0.5**
comp=Z,13nm,0.6s
KAF Kangasniemi 110.05 335 *e*p PKKPbc 23 44 46.2 -5.6
comp=Z,7.1nm,0.7s
G28A Parade 110.06 44 ⇓P **PKiKP 23 33 48.4 +0.7**
baz=110
G28A ⇓P **PKKPab 23 45 02.1 +1.0**
baz=110
H28A Mission Ridge 110.06 45 ⇓P **PKiKP 23 33 48.3 +0.6**
baz=110
H28A ⇓P **PKKPab 23 45 02.3 +1.2**
baz=110
I28A Midland 110.08 46 ⇑P **PKiKP 23 33 48.5 +0.8**
baz=110
I28A ⇓P **PKKPab 23 45 02.0 +1.0**
baz=110
J28A Allard Ranch, 110.13 46 ⇑P **Pdif 23 29 50.6 +4.1**
baz=110
J28A ⇑P **PKiKP 23 33 48.7 +0.8**
baz=110
J28A ⇑P **PKKPab 23 45 02.3 +1.5**
baz=110
K28A Ten Mile Ranch 110.16 47 ⇓P **Pdif 23 29 49.8 +3.1**
baz=110
K28A ⇓P **PKiKP 23 33 48.9 +0.9**
baz=110
KUZU Kuzuini 110.17 307 *i* P **PKiKP 23 33 48.6 +0.4**
MSTX Muleshoe 110.23 56 ⇓P **PKiKP 23 33 49.5 +1.1**
baz=110
MSTX ⇓P **PKKPab 23 45 02.3 +1.7**
baz=110,SNR=24
MSTX Muleshoe 110.23 56 *e*Pdif **Pdif 23 29 50.3 +3.0**
MSTX *e*PKiKP **PKiKP 23 33 49.7 +1.3**
MSTX *e*PKKPbc **PKKPbc 23 44 49.4 -1.0**
MSTX *e*PKKPab **PKKPab 23 45 01.8 +1.2**
O28A Krutsinger Ran 110.27 50 ⇓P **Pdif 23 29 50.5 +3.2**
baz=110
O28A ⇓P **PKiKP 23 33 49.4 +1.1**
baz=110
O28A ⇑P **PKKPab 23 45 01.6 +1.4**
baz=110
FCC Fort Churchill 110.29 29 *e*PKiKP **PKiKP 23 33 47.9 +0.4**
FCC *e*PKKPbc **PKKPbc 23 44 46.4 -4.4**
FCC *e*PKKPab **PKKPab 23 44 59.0 -0.7**
N28A Pribbeno Ranch 110.36 49 ⇑P **PKiKP 23 33 49.4 +0.9**
baz=110
N28A ⇑P **PKKPab 23 45 01.1 +1.2**
baz=110
P28A Saint Francis 110.36 50 ⇑P **PKiKP 23 33 49.6 +1.1**
baz=110
P28A ⇑P **PKKPab 23 45 01.3 +1.4**
baz=110
A29A Manning Farm, 110.36 40 ⇓P **PKiKP 23 33 49.4 +1.3**
baz=110
A29A ⇑P **PKKPab 23 44 59.8 +0.2**
baz=110,SNR=6.1
MDND Maddock 110.37 41 ⇓P **PKKPab 23 45 00.3 +0.7**
baz=110,SNR=6.1
MDND Maddock 110.37 41 *e*PKiKP **PKiKP 23 33 48.2 +0.1**
MDND *e*PKKPbc **PKKPbc 23 44 48.1 -2.2**
MDND *e*PKKPab **PKKPab 23 44 59.1 -0.5**
M28A Bar X Bar Ranc 110.37 48 ⇑P **Pdif 23 29 50.7 +2.9**
baz=110
M28A ⇓P **PKiKP 23 33 49.2 +0.7**
baz=110
Q28A Sharon Springs 110.38 51 ⇓P **Pdif 23 29 52.0 +4.2**
baz=110
Q28A ⇑P **PKiKP 23 33 50.1 +1.6**
baz=110
Q28A ⇑P **PKKPab 23 45 00.7 +0.8**
baz=110
B29A Wagenman Farm, 110.39 41 ⇓P **Pdif 23 29 51.6 +4.0**
baz=110
B29A ⇓P **PKiKP 23 33 49.1 +1.0**
baz=110
B29A ⇑P **PKKPbc 23 44 51.0 +0.7**
baz=110,SNR=5.5
B29A ⇑P **PKKPab 23 45 00.0 +0.6**
baz=110
T28A Walsh 110.41 53 ⇑P **Pdif 23 29 50.7 +2.7**
baz=110,SNR=6.8
T28A ⇑P **PKiKP 23 33 49.4 +0.7**
baz=110
T28A ⇑P **PKKPab 23 45 00.5 +0.8**
baz=110,SNR=6.2
U28A Mallet 110.41 54 ⇑P **Pdif 23 29 49.9 +1.8**
baz=110
U28A ⇑P **PKiKP 23 33 49.4 +0.7**
baz=110
U28A ⇑P **PKKPab 23 45 00.5 +0.7**
baz=110,SNR=10
FIA0 FINESS Array S 110.43 334 *e*P **Pdif 23 29 45.8 -1.6**
FIA0 *i* 23 33 48.2
FIA0 *e* 23 44 48.8
FIA0 *e* 23 44 59.6
FIA0 FINESS Array S 110.43 334 *e*Pdif **Pdif 23 29 45.8 -1.6**
FIA0 *e*PKiKP **PKiKP 23 33 48.1 +0.4**
FIA0 *e*PKKPbc **PKKPbc 23 44 48.8 -1.7**
FIA0 *e*PKKPab **PKKPab 23 44 59.6 +0.6**
FINES FINESS Array B 110.43 334 Pdiff **Pdif 23 29 45.8 -1.6**
comp=Z,7.5nm,0.6s,baz=98,slow=3.8,SNR=33
FINES PKiKP **PKiKP 23 33 48.1 +0.4**
comp=Z,15nm,0.8s,baz=100,slow=3.1,SNR=21
FINES PKKPbc **PKKPbc 23 44 48.8 -1.7**
comp=Z,5.9nm,0.9s,baz=127,slow=5.0,SNR=7.2
FINES PKKPab **PKKPab 23 44 59.6 +0.6**
comp=Z,4.7nm,0.9s,baz=116,slow=4.4,SNR=5.8
V28A Channing 110.49 54 ⇑P **Pdif 23 29 50.9 +2.5**
baz=110
V28A ⇓P **PKiKP 23 33 49.9 +1.1**
baz=110
R28A Tribune 110.49 52 ⇓P **Pdif 23 29 51.8 +3.4**
baz=110,SNR=8.3
R28A ⇑P **PKiKP 23 33 49.8 +1.1**
baz=110
R28A ⇓P **PKKPab 23 45 00.4 +1.0**
baz=110,SNR=9.8
S28A Manter 110.52 52 ⇓P **PKiKP 23 33 49.6 +0.7**
baz=110
S28A ⇑P **PKKPab 23 45 00.1 +0.9**
baz=110,SNR=7.9
228A UT Block 9, Go 110.55 58 ⇑P **Pdif 23 29 52.3 +3.6**
baz=110
228A ⇓P **PKKPab 23 45 00.6 +1.4**
baz=110,SNR=23
W28A Vega 110.56 55 ⇓P **PKiKP 23 33 50.8 +1.8**
baz=110
W28A ⇓P **PKKPab 23 45 00.3 +1.1**
baz=110
128A Castleberry Fa 110.59 58 ⇓P **Pdif 23 29 48.9 0.0**
baz=111
128A ⇑P **PKKPab 23 45 00.1 +1.2**
baz=111,SNR=14
Z28A Tucker Farm, M 110.61 57 ⇑P **PKKPab 23 44 59.8 +0.9**
baz=111,SNR=9.8
HAVZ Havza 110.62 311 *i* P **PKiKP 23 33 48.3 -0.6**
E29A Napoleon 110.62 43 ⇑P **PKKPab 23 44 59.5 +1.0**
baz=111
H29A Onida 110.63 45 ⇓P **Pdif 23 29 49.8 +1.1**
baz=111
H29A ⇓P **PKiKP 23 33 48.6 -0.1**
baz=111
H29A ⇑P **PKKPab 23 44 59.8 +1.3**
baz=111
X28A Dimmitt 110.64 56 ⇓P **Pdif 23 29 49.4 +0.3**
baz=111
X28A ⇓P **PKiKP 23 33 51.3 +2.1**
baz=111
X28A ⇑P **PKKPbc 23 44 51.8 +2.8**
baz=111,SNR=8.2
F29A Eureka 110.66 44 ⇓P **Pdif 23 29 51.6 +2.8**
baz=111
F29A ⇓P **PKiKP 23 33 50.2 +1.5**
baz=111
Y28A McKinney Farm, 110.67 56 ⇑P **Pdif 23 29 48.6 -0.6**
baz=111
Y28A ⇓P **PKiKP 23 33 49.9 +0.6**
baz=111
Y28A ⇑P **PKKPab 23 44 59.9 +1.3**
baz=111,SNR=14
I29A Vivian Onida 110.69 45 ⇓P **PKiKP 23 33 50.4 +1.5**
baz=111
I29A ⇓P **PKKPab 23 44 59.2 +0.9**
baz=111
KULLO Kullorsuaq 110.70 7 *i* P **PKiKP 23 33 47.7 -0.3**
comp=Z,15nm,0.9s
J29A Okreek 110.78 46 ⇓P **Pdif 23 29 54.1 +4.6**
baz=111
J29A ⇓P **PKiKP 23 33 50.0 +0.9**
baz=111
ASF Jabal al Asfar 110.80 302 PKiKP **PKiKP 23 33 50.2 +0.7**
baz=340,slow=1.7
ASF PKKPbc **PKKPbc 23 44 49.9 +1.5**
comp=Z,5.9nm,0.9s,baz=194,slow=4.3,SNR=9.2
K29A Lazy Trails An 110.91 47 ⇑P **Pdif 23 29 52.1 +2.1**
baz=111
K29A ⇓P **PKiKP 23 33 49.6 +0.2**
baz=111
L29A Maesberg Ranch 110.92 48 ⇓P **Pdif 23 29 51.7 +1.6**
baz=111
A30A Hoffart Farm, 110.95 40 ⇑P **PKiKP 23 33 49.7 +0.5**
baz=111
A30A ⇓P **PKKPbc 23 44 48.3 -0.1**
baz=111,SNR=8.3
R29A Marienthal 111.00 51 ⇑P **Pdif 23 29 53.6 +3.0**
baz=111
R29A ⇓P **PKiKP 23 33 50.5 +0.8**
baz=111
R29A ⇑P **PKKPab 23 44 57.8 +0.8**
baz=111,SNR=6.7
O29A 4D Ranch, Culb 111.00 50 ⇓P **PKiKP 23 33 49.3 -0.3**
baz=111
AMTX Amarillo 111.03 55 ⇓P **Pdif 23 29 54.1 +3.3**
baz=111
AMTX Amarillo 111.03 55 *e*Pdif **Pdif 23 29 53.2 +2.4**
AMTX *e*PKiKP **PKiKP 23 33 49.6 -0.2**
AMTX *e*PKKPbc PKKPbc 23 44 42.1 -5.7
AMTX *e*PKKPab **PKKPab 23 44 56.6 -0.4**
V29A Stinnett 111.04 54 ⇓P **PKiKP 23 33 50.8 +0.9**
baz=111
T29A Hugoton 111.06 53 ⇑P **PKiKP 23 33 50.9 +1.0**
baz=111
T29A ⇓P **PKKPab 23 44 57.8 +1.0**
baz=111,SNR=7.3
Q29A Oakley 111.06 51 ⇑P **Pdif 23 29 52.8 +2.0**
baz=111,SNR=6.8
Q29A ⇓P **PKiKP 23 33 51.0 +1.2**
baz=111
Q29A ⇑P **PKKPab 23 44 57.6 +0.8**
baz=111,SNR=13
B30A Myrvik Farm, E 111.06 41 ⇓P **Pdif 23 29 52.4 +1.9**
baz=111
B30A ⇑P **PKiKP 23 33 49.6 +0.2**
baz=111
SIM Simferopol' 111.06 316 P **Pdif 23 29 51.1 +0.6**
SIM *i* 23 33 50.6
SIM PS PS 23 43 48.3 -13
SIM SS SS 23 50 07.5 +12
SIM pmax pmax
comp=Z,85nm,7.7s
D30A Buchanan 111.10 42 ⇓P **PKiKP 23 33 50.1 +0.6**
baz=111
129A Stewart Farms, 111.11 58 ⇓P **PKiKP 23 33 50.7 +0.6**
baz=111
129A ⇓P **PKKPab 23 44 57.4 +0.7**
baz=111,SNR=14
329A Wagon Wheel Ra 111.12 59 ⇑P **Pdif 23 29 56.5 +5.2**
baz=111
329A ⇓P **PKiKP 23 33 50.9 +0.8**
baz=111
329A ⇑P **PKKPab 23 44 57.6 +1.0**
baz=111,SNR=12
S29A Ulysses 111.13 52 ⇓P **PKiKP 23 33 50.4 +0.4**
baz=111
S29A ⇓P **PKKPab 23 44 57.5 +1.0**
baz=111,SNR=5.8
E30A Jud 111.13 43 ⇑P **PKiKP 23 33 50.4 +0.8**
baz=111
C30A Mose, Pekin 111.14 41 ⇓P **PKiKP 23 33 50.6 +1.0**
baz=111
Y29A Porterfield Fa 111.15 56 ⇓P **Pdif 23 29 56.5 +5.2**
baz=111
Y29A ⇓P **PKiKP 23 33 51.3 +1.1**
baz=111
Y29A ⇓P **PKKPab 23 44 57.9 +1.4**
baz=111,SNR=7.7
U29A Oasis Ranch, S 111.17 54 ⇓P **PKiKP 23 33 51.2 +1.1**
baz=111
U29A ⇑P **PKKPab 23 44 57.5 +1.1**
baz=111
Z29A Hungry Hill Ra 111.18 57 ⇑P **PKiKP 23 33 51.0 +0.8**
baz=111
Z29A ⇓P **PKKPab 23 44 57.2 +0.8**
baz=111,SNR=30
F30A Leola 111.20 43 ⇑P **PKiKP 23 33 50.8 +1.1**
baz=111
F30A ⇓P **PKKPab 23 44 56.4 +0.5**
baz=111
229A Bryant Ranch, 111.22 58 ⇑P **Pdif 23 29 54.9 +3.2**
baz=111
229A ⇑P **PKKPab 23 44 57.4 +1.2**
baz=111,SNR=6.4
G30A Faulkton 111.27 44 ⇓P **PKiKP 23 33 50.8 +0.8**
baz=111
429A Davenport Ranc 111.27 60 ⇓P **Pdif 23 29 56.8 +4.8**
baz=111
429A ⇑P **PKiKP 23 33 51.2 +0.8**
baz=111
429A ⇑P **PKKPab 23 44 57.4 +1.4**
baz=111,SNR=14
I30A Oacoma 111.33 45 ⇓P **PKiKP 23 33 51.4 +1.3**
baz=111
CTKT Corum 111.39 311 *i* P **PKiKP 23 33 51.0 +0.5**
J30A Dallas 111.40 46 ⇑P **PKiKP 23 33 50.9 +0.7**
baz=111
N30A Hueftle Ranch, 111.42 49 ⇑P **PKiKP 23 33 51.2 +0.8**
baz=111
K30A Basset 111.44 47 ⇓P **PKiKP 23 33 51.5 +1.1**
baz=111
K30A ⇑P **PKKPab 23 44 56.5 +1.5**
baz=111
M30A Dale-Ortello V 111.46 48 ⇑P **PKiKP 23 33 52.0 +1.5**
baz=111
L30A Spencer Herefo 111.49 48 ⇓P **PKKPab 23 44 55.5 +0.7**
baz=112
P30A Selden 111.52 50 ⇓P **PKiKP 23 33 51.5 +0.8**
baz=112
P30A ⇑P **PKKPab 23 44 55.6 +0.9**
baz=112,SNR=7.5
BRSD Miller 111.55 45 ⇑P **PKiKP 23 33 51.0 +0.5**
baz=112
BRSD ⇑P **PKKPab 23 44 55.3 +0.9**
baz=112
BRSD Miller 111.55 45 *e*PKiKP **PKiKP 23 33 51.2 +0.7**
BRSD *e*PKKPbc **PKKPbc 23 44 45.0 -1.4**
BRSD *e*PKKPab **PKKPab 23 44 54.8 +0.4**
O30A MW Ranch, Wils 111.56 49 ⇑P **PKiKP 23 33 51.7 +1.1**
baz=112
O30A ⇓P **PKKPab 23 44 55.2 +0.7**
baz=112,SNR=5.4
Q30A Quinter 111.63 51 ⇑P **PKiKP 23 33 51.8 +0.9**
baz=112
Q30A ⇓P **PKKPab 23 44 55.6 +1.3**
baz=112
S30A Montezuma 111.64 52 ⇓P **PKiKP 23 33 51.9 +1.0**
baz=112
S30A ⇑P **PKKPab 23 44 55.3 +1.1**
baz=112,SNR=6.2
U30A WK&E Inc. Balk 111.65 53 ⇓P **PKiKP 23 33 51.8 +0.8**
baz=112
U30A ⇓P **PKKPab 23 44 55.5 +1.3**
baz=112,SNR=7.4
Z30A Sanderson Ranc 111.66 57 ⇓P **PKiKP 23 33 51.8 +0.8**
baz=112
Z30A ⇑P **PKKPab 23 44 55.6 +1.4**
baz=112,SNR=13
T30A Plains 111.68 53 ⇑P **PKiKP 23 33 52.2 +1.2**
baz=112
T30A ⇓P **PKKPab 23 44 55.1 +1.1**
baz=112
R30A Dighton 111.69 52 ⇑P **Pdif 23 29 58.0 +4.4**
baz=112
R30A ⇓P **PKiKP 23 33 52.4 +1.4**
baz=112
R30A ⇑P **PKKPab 23 44 55.0 +1.1**
baz=112,SNR=10
V30A Spur Ranch, Mi 111.72 54 ⇑P **Pdif 23 29 55.9 +2.0**
baz=112
V30A ⇑P **PKiKP 23 33 52.6 +1.4**
baz=112
V30A ⇑P **PKKPab 23 44 55.0 +1.1**
baz=112
X30A Coker Ranch, T 111.74 56 ⇓P **PKiKP 23 33 52.4 +1.2**
baz=112
X30A ⇓P **PKKPab 23 44 54.8 +1.0**
baz=112,SNR=9.2
Y30A Stafford Cattl 111.79 56 ⇓P **PKiKP 23 33 52.4 +1.1**
baz=112
Y30A ⇑P **PKKPab 23 44 54.9 +1.3**
baz=112
530A J-C Ranch, Com 111.79 60 ⇓P **PKiKP 23 33 52.1 +0.7**
baz=112
530A ⇑P **PKKPab 23 44 55.0 +1.4**
baz=112,SNR=11
330A Mertzon 111.82 59 ⇑P **Pdif 23 29 58.3 +3.9**
baz=112
330A ⇓P **PKiKP 23 33 51.9 +0.5**
baz=112
330A ⇑P **PKKPab 23 44 54.7 +1.2**
baz=112,SNR=10
230A Sterling City 111.82 58 ⇓P **PKiKP 23 33 52.3 +0.8**
baz=112
230A ⇑P **PKKPab 23 44 54.9 +1.4**
baz=112,SNR=26
430A Baggett Ranch, 111.82 60 ⇑P **PKiKP 23 33 52.6 +1.1**
baz=112
430A ⇑P **PKKPab 23 44 55.0 +1.5**
baz=112,SNR=5.9
USHA Ushuaia 111.83 159 PKiKP **PKiKP 23 33 51.7 +1.1**
comp=Z,23nm,1.1s,baz=257,slow=6.7,SNR=4.1
CDAG Cicekdag 111.87 310 *i* P **PKiKP 23 33 51.2 -0.1**
130A Snyder 111.87 58 ⇑P **Pdif 23 29 56.6 +2.1**
baz=112
130A ⇑P **PKiKP 23 33 52.1 +0.6**
baz=112
130A ⇑P **PKKPab 23 44 55.0 +1.8**
baz=112,SNR=14
W30A Crocket Farms 111.89 55 ⇑P **PKiKP 23 33 52.4 +0.9**
baz=112
W30A ⇓P **PKKPab 23 44 54.9 +1.8**
baz=112
MMAI Mount Meron Ar 111.97 303 PKKPbc PKKPbc 23 44 46.1 +1.5
comp=Z,5.5nm,0.9s,baz=30,slow=4.0,SNR=7.0
MMAI PKKPab **PKKPab 23 44 55.4 +2.5**
comp=Z,5.5nm,0.9s,baz=29,slow=1.9,SNR=6.7
L31A Butterfield Fa 112.09 47 ⇑P **PKiKP 23 33 52.3 +0.7**
baz=112
L31A ⇓P **PKKPab 23 44 54.4 +2.3**
baz=112
ILGA Ilgaz 112.11 312 *i* P **PKiKP 23 33 51.6 -0.3**
O31A Woolen Ranch, 112.11 49 ⇑P **PKiKP 23 33 52.8 +1.1**
baz=112
O31A ⇓P **PKKPab 23 44 52.6 +0.5**
baz=112
ULM Lac du Bonnet 112.12 38 PKiKP **PKiKP 23 33 50.7 -0.6**
comp=Z,8.9nm,0.4s,baz=245,slow=1.2,SNR=28
ULM PKKPbc **PKKPbc 23 44 42.8 -1.8**
comp=Z,6.4nm,1.0s,baz=58,slow=2.8,SNR=5.5
ULM PKKPab **PKKPab 23 44 50.8 -0.9**
comp=Z,12nm,0.9s,baz=111,slow=4.6,SNR=12
ULM Lac du Bonnet 112.12 38 *e*PKiKP **PKiKP 23 33 51.0 -0.4**
ULM *e*PKKPbc **PKKPbc 23 44 42.1 -2.5**
ULM *e*PKKPab **PKKPab 23 44 51.0 -0.7**
M31A Lambtecht Ranc 112.16 48 ⇑P **PKiKP 23 33 52.7 +0.9**
baz=112
M31A ⇓P **PKKPab 23 44 52.9 +1.1**
baz=112
P31A Stockton 112.18 50 ⇑P **PKiKP 23 33 52.8 +1.0**
baz=112
P31A ⇓P **PKKPab 23 44 52.6 +0.8**
baz=112,SNR=7.0
Q31A Ellis 112.26 51 ⇑P **PKiKP 23 33 53.1 +1.0**
baz=112
Q31A ⇑P **PKKPab 23 44 52.1 +0.7**
baz=112
N31A Bailey Ranch, 112.27 49 ⇓P **PKiKP 23 33 53.0 +1.0**
baz=112
N31A ⇓P **PKKPab 23 44 52.0 +0.7**
baz=112
R31A Burdett 112.27 51 ⇑P **PKiKP 23 33 53.3 +1.2**
baz=112
R31A ⇑P **PKKPab 23 44 52.1 +0.8**
baz=112,SNR=7.7
MNK Minsk 112.28 327 *e* **PKiKP 23 33 50.0 -1.5**
MNK *e* 23 34 43.0
MNK *e*PS **PS 23 44 02.0 -10**
MNK *e*PPS PPS 23 45 12.0
MNK MLR MLR
comp=Z,6μm,22.0s
MNK MLR MLR
comp=E,4μm,23.0s
MNK MLR MLR
comp=Z,14μm,24.0s
MNK MLR MLR
comp=N,3μm,22.0s
Y31A Rekieta Farm, 112.30 56 ⇑P **PKiKP 23 33 53.1 +0.8**
baz=112
Y31A ⇑P **PKKPab 23 44 52.6 +1.3**
baz=112,SNR=11
U31A Nine Bar Ranch 112.31 54 ⇓P **PKiKP 23 33 53.9 +1.7**
baz=112
U31A ⇓P **PKKPab 23 44 52.4 +1.1**
baz=112
T31A Randall Ranch, 112.34 53 ⇑P **PKiKP 23 33 53.7 +1.4**
baz=112
T31A ⇓P **PKKPab 23 44 52.2 +1.2**
baz=112
131A Roby 112.35 58 ⇓P **PKiKP 23 33 53.4 +1.0**
baz=112
131A ⇑P **PKKPab 23 44 52.8 +1.6**
baz=112,SNR=17
431A Sonora 112.37 60 ⇓P **PKiKP 23 33 52.9 +0.4**
baz=112
431A ⇑P **PKKPab 23 44 52.5 +1.4**
baz=112,SNR=16
W31A Holland Ranch, 112.40 55 ⇑P **PKiKP 23 33 53.7 +1.2**
baz=112
W31A ⇓P **PKKPab 23 44 51.9 +1.1**
baz=112
V31A Spring Creek L 112.41 54 ⇓P **PKiKP 23 33 53.6 +1.1**
baz=112
V31A ⇑P **PKKPab 23 44 52.1 +1.3**
baz=112,SNR=10
BR101 Keskin Array S 112.41 310 *e*Pdif **Pdif 23 29 56.5 -0.4**
BR101 *e*PKiKP **PKiKP 23 33 52.4 0.0**
BR101 *e*PKKPbc **PKKPbc 23 44 42.4 -1.1**
BRTR Keskin Array B 112.41 310 Pdiff **Pdif 23 29 56.5 -0.4**
comp=N,0.8nm,0.8s,baz=115,slow=3.8,SNR=6.7
BRTR PKiKP **PKiKP 23 33 52.4 0.0**
comp=N,5.4nm,0.9s,baz=130,slow=1.9,SNR=18
BRTR PKKPbc **PKKPbc 23 44 42.4 -1.1**
comp=N,4.7nm,1.0s,baz=222,slow=1.7,SNR=11
S31A Mullinville 112.41 52 ⇓P **PKKPab 23 44 51.7 +1.0**
baz=112
X31A McDonald Ranch 112.45 55 ⇑P **PKiKP 23 33 53.1 +0.6**
baz=112
X31A ⇓P **PKKPab 23 44 51.7 +1.1**
baz=112,SNR=13
331A San Angelo 112.46 59 ⇓P **PKiKP 23 33 53.4 +0.7**
baz=112
331A ⇑P **PKKPab 23 44 51.9 +1.3**
baz=112,SNR=18
531A Rocksprings 112.47 60 ⇑P **PKiKP 23 33 53.2 +0.5**
baz=112
531A ⇑P **PKKPab 23 44 51.8 +1.2**
baz=112,SNR=11
Z31A Sharp Cattle R 112.48 57 ⇓P **PKiKP 23 33 53.0 +0.4**
baz=112
Z31A ⇑P **PKKPab 23 44 52.1 +1.6**
baz=112,SNR=28
231A Bronte 112.49 58 ⇓P **PKiKP 23 33 53.4 +0.7**
baz=112
231A ⇓P **PKKPab 23 44 51.9 +1.4**
baz=112,SNR=10
631A Perdido Creek 112.52 61 ⇑P **PKiKP 23 33 53.6 +0.8**
baz=112
631A ⇑P **PKKPab 23 44 51.6 +1.2**
baz=112,SNR=11
AGMN Agassiz Nation 112.69 40 ⇓P **PKiKP 23 33 53.2 +0.7**
baz=113
AGMN ⇓P **PKKPab 23 44 49.6 +0.3**
baz=113
AGMN Agassiz Nation 112.69 40 *e*PKiKP **PKiKP 23 33 52.2 -0.3**

AGMN ePKKPbc **PKKPbc** **23 44 38.1 -4.6**
AGMN ePKKPab **PKKPab** **23 44 49.0 -0.2**
AKASG **Malin Array Be** **112.75 323** Pdiff **Pdif** **23 29 56.8 -1.1**
comp=N,0.2nm,0.2s,baz=57,slow=3.5,SNR=4.3
AKASG PKiKP **PKiKP** **23 33 52.7 +0.2**
comp=N,5.9nm,0.7s,baz=59,slow=2.2,SNR=32
AKASG PKKPbc **PKKPbc** **23 44 40.3 -2.2**
comp=N,0.8nm,0.4s,baz=260,slow=3.7,SNR=14
AKBB **Malin Array Si** **112.75 323** eP **Pdif** **23 29 56.8 -1.1**
AKBB *i* 23 33 52.7
AKBB **Malin Array Si** **112.75 323** ePdif **Pdif** **23 29 56.8 -1.1**
AKBB ePKiKP **PKiKP** **23 33 52.7 +0.2**
AKBB ePKKPbc **PKKPbc** **23 44 40.3 -2.2**
BGNE **Belgrade** **112.75 48** ⇑P **PKiKP** **23 33 53.3 +0.4**
baz=113
BGNE ⇓P **PKKPab** **23 44 49.7 +0.5**
baz=113
BGNE **Belgrade** **112.75 48** ePKiKP **PKiKP** **23 33 52.6 -0.2**
P32A **Huiting Farm,** **112.76 50** ⇓P **PKiKP** **23 33 53.8 +0.9**
baz=113
P32A ⇓P **PKKPab** **23 44 49.9 +0.7**
baz=113
KIEV **Kiev** **112.76 323** ePKiKP **PKiKP** **23 33 52.1 -0.4**
KIEV ePKKPbc **PKKPbc** **23 44 39.7 -2.8**
N32A **Stulken Farm,** **112.77 49** ⇓P **PKiKP** **23 33 54.2 +1.3**
baz=113
N32A ⇓P **PKKPab** **23 44 49.9 +0.8**
baz=113
AK11 **Malin Array Si** **112.79 323** ePKiKP **PKiKP** **23 33 51.3 -1.3**
S32A **Newby Ranch, P** **112.83 52** ⇑P **PKiKP** **23 33 54.2 +1.0**
baz=113
S32A ⇑P **PKKPab** **23 44 50.0 +1.1**
baz=113
O32A **Brockman Farm,** **112.88 49** ⇓P **PKiKP** **23 33 54.5 +1.3**
baz=113
O32A ⇓P **PKKPab** **23 44 49.3 +0.7**
baz=113
R32A **Long Quarter,** **112.88 51** ⇑P **PKiKP** **23 33 54.2 +0.9**
baz=113
R32A ⇑P **PKKPab** **23 44 49.6 +1.0**
baz=113
Q32A **Meitler Ranch,** **112.90 51** ⇓P **PKiKP** **23 33 54.5 +1.3**
baz=113
Q32A ⇓P **PKKPab** **23 44 49.4 +0.8**
baz=113
T32A **Huddler Ranch,** **112.92 53** ⇓P **PKiKP** **23 33 55.5 +2.1**
baz=113
T32A ⇑P **PKKPab** **23 44 49.4 +0.9**
baz=113,SNR=12
Y32A **R-V Farms, Ver** **112.97 56** ⇓P **PKiKP** **23 33 55.3 +1.8**
baz=113
Y32A ⇓P **PKKPab** **23 44 49.6 +1.3**
baz=113,SNR=11
ABTX **Abilene, Hawle** **112.98 58** ⇑P **PKiKP** **23 33 55.2 +1.6**
baz=113
ABTX ⇓P **PKKPab** **23 44 49.7 +1.3**
baz=113,SNR=13
ABTX **Abilene, Hawle** **112.98 58** ePKiKP **PKiKP** **23 33 53.5 -0.1**
ABTX ePKKPab **PKKPab** **23 44 49.6 +1.3**
W32A **Sentinel** **112.98 55** ⇑P **PKiKP** **23 33 55.9 +2.4**
baz=113
W32A ⇑P **PKKPab** **23 44 49.3 +1.0**
baz=113,SNR=5.8
U32A **Winter Ranch,** **112.99 53** ⇓P **PKiKP** **23 33 55.3 +1.8**
baz=113
U32A ⇑P **PKKPab** **23 44 49.4 +1.2**
baz=113
ANTO **Ankara** **113.03 310** ⇑*i*P **PKiKP** **23 33 54.2 +0.7**
ANTO **Ankara** **113.03 310** P **PKiKP** **23 33 54.9 +1.4**
SNR=11
ANTO **Ankara** **113.03 310** ePKiKP **PKiKP** **23 33 52.0 -1.5**
ANTO ePKKPbc **PKKPbc** **23 44 37.3 -4.1**
ANTO ePKKPab **PKKPab** **23 44 49.1 +1.1**
532A **Rocksprings** **113.03 60** ⇑P **PKiKP** **23 33 55.5 +1.7**
baz=113
532A ⇑P **PKKPab** **23 44 49.7 +1.5**
baz=113,SNR=18
Z32A **Haskell** **113.03 57** ⇓P **PKiKP** **23 33 55.5 +1.8**
baz=113
Z32A ⇑P **PKKPab** **23 44 49.7 +1.6**
baz=113,SNR=16
332A **Millersview** **113.04 59** ⇓P **PKiKP** **23 33 55.2 +1.5**
baz=113
332A ⇑P **PKKPab** **23 44 49.5 +1.4**
baz=113,SNR=26
X32A **Elmer** **113.05 56** ⇑P **PKiKP** **23 33 55.2 +1.6**
baz=113
X32A ⇑P **PKKPab** **23 44 48.9 +1.0**
baz=113,SNR=6.6
432A **Menard** **113.05 59** ⇓P **PKiKP** **23 33 55.3 +1.5**
baz=113
432A ⇑P **PKKPab** **23 44 49.2 +1.1**
baz=113,SNR=14
V32A **Arapaho** **113.06 54** ⇓P **PKiKP** **23 33 55.7 +2.1**
baz=113
V32A ⇓P **PKKPab** **23 44 49.2 +1.2**
baz=113,SNR=5.8
232A **Coleman** **113.06 58** ⇑P **PKiKP** **23 33 55.8 +2.0**
baz=113
232A ⇑P **PKKPab** **23 44 49.4 +1.4**
baz=113,SNR=11
JCT **Junction City** **113.08 60** ⇑P **PKiKP** **23 33 55.5 +1.6**
baz=113
JCT ⇑P **PKKPab** **23 44 49.5 +1.5**
baz=113,SNR=18
JCT **Junction City** **113.08 60** ePKiKP **PKiKP** **23 33 54.7 +0.9**
JCT ePKKPbc **PKKPbc** **23 44 38.3 -2.5**
JCT ePKKPab **PKKPab** **23 44 49.1 +1.2**
732A **Laxson Ranch,** **113.11 62** ⇓P **PKiKP** **23 33 55.7 +1.9**
baz=113
732A ⇑P **PKKPab** **23 44 49.5 +1.7**
baz=113,SNR=9.2
832A **Faith Ranch, C** **113.14 62** ⇑P **PKiKP** **23 33 55.7 +1.7**
baz=113
832A ⇑P **PKKPab** **23 44 49.2 +1.5**
baz=113
632A **Uvalde** **113.19 61** ⇑P **PKiKP** **23 33 55.6 +1.5**
baz=113
632A ⇑P **PKKPab** **23 44 49.3 +1.8**
baz=113,SNR=15
ECSD **EROS Data Cent** **113.35 45** ⇑P **PKiKP** **23 33 53.9 0.0**
baz=113
ECSD ⇓P **PKKPab** **23 44 46.8 +0.4**
baz=113
ECSD **EROS Data Cent** **113.35 45** ePKiKP **PKiKP** **23 33 53.0 -0.9**
ECSD ePKKPbc PKKPbc 23 44 32.8 -7.5
ECSD ePKKPab **PKKPab** **23 44 46.1 -0.4**
WMOK **Wichita Mounta** **113.41 55** ePKiKP **PKiKP** **23 33 53.0 -1.3**
WMOK ePKKPbc **PKKPbc** **23 44 39.8 0.0**
WMOK ePKKPab **PKKPab** **23 44 46.5 +0.1**
CSS **Prodhromos** **113.43 305** ePKiKP **PKiKP** **23 33 54.0 -0.3**
CSS ePKKPbc **PKKPbc** **23 44 39.7 0.0**
Q33A **Connelly Farm,** **113.46 50** ⇓P **PKiKP** **23 33 55.2 +1.0**
baz=113
Q33A ⇑P **PKKPab** **23 44 46.6 +0.5**
baz=113,SNR=13
R33A **Olander Ranch,** **113.47 51** ⇓P **PKiKP** **23 33 55.4 +1.0**
baz=113
R33A ⇑P **PKKPab** **23 44 46.7 +0.7**
baz=113
T33A **Patterson Ranc** **113.48 53** ⇑P **PKiKP** **23 33 56.2 +1.9**
baz=113
T33A ⇓P **PKKPab** **23 44 46.7 +0.7**
baz=113
P33A **Williams Farm,** **113.48 50** ⇓P **PKiKP** **23 33 56.1 +1.8**
baz=113
P33A ⇑P **PKKPab** **23 44 46.5 +0.5**
baz=113
ERMK **Ermenek** **113.50 307** *i*P **PKiKP** **23 33 55.3 +0.6**
S33A **Kaszmaul Farm,** **113.58 52** ⇓P **PKiKP** **23 33 56.1 +1.5**
baz=114
S33A ⇑P **PKKPab** **23 44 46.1 +0.5**
baz=114,SNR=9.5
133A **Hamilton Ranch** **113.59 57** ⇑P **PKiKP** **23 33 56.1 +1.4**
baz=114
133A ⇓P **PKKPab** **23 44 46.9 +1.3**
baz=114,SNR=11
W33A **Caddo, Fort Co** **113.61 55** ⇑P **PKiKP** **23 33 56.2 +1.5**
baz=114
W33A ⇓P **PKKPab** **23 44 47.2 +1.7**
baz=114,SNR=5.9
Z33A **Whitaker Ranch** **113.63 57** ⇑P **PKiKP** **23 33 56.7 +2.0**
baz=114
Z33A ⇓P **PKKPab** **23 44 46.8 +1.4**
baz=114,SNR=12
Y33A **Hilltop Ranch,** **113.64 56** ⇓P **PKiKP** **23 33 56.6 +1.8**
baz=114
Y33A ⇓P **PKKPab** **23 44 46.2 +0.8**
baz=114,SNR=5.4
833A **Chaparral WMA,** **113.65 62** ⇓P **PKiKP** **23 33 57.1 +2.2**
baz=114
833A ⇑P **PKKPab** **23 44 47.0 +1.6**
baz=114
V33A **Lossen Ranch,** **113.65 54** ⇑P **PKiKP** **23 33 56.5 +1.7**
baz=114
V33A ⇓P **PKKPab** **23 44 46.3 +1.0**
baz=114,SNR=5.4
433A **Art** **113.66 59** ⇑P **PKiKP** **23 33 56.5 +1.6**
baz=114
433A ⇓P **PKKPab** **23 44 46.6 +1.3**
baz=114,SNR=17
X33A **Lawton** **113.67 55** ⇓P **PKiKP** **23 33 56.3 +1.5**
baz=114
X33A ⇓P **PKKPab** **23 44 46.1 +0.9**
baz=114
233A **Rising Star** **113.68 58** ⇓P **PKiKP** **23 33 56.4 +1.5**
baz=114
233A ⇑P **PKKPab** **23 44 46.8 +1.6**
baz=114,SNR=12
U33A **Lingo Farm, Me** **113.69 53** ⇑P **PKiKP** **23 33 56.4 +1.6**
baz=114,SNR=10
333A **Richland Sprin** **113.69 59** ⇑P **PKiKP** **23 33 56.3 +1.4**
baz=114
333A ⇓P **PKKPab** **23 44 46.2 +1.0**
baz=114,SNR=19
733A **Divot King Ran** **113.70 62** ⇑P **PKiKP** **23 33 56.9 +1.9**
baz=114
733A ⇓P **PKKPab** **23 44 46.7 +1.5**
baz=114
633A **Saathoff Ranch** **113.73 61** ⇓P **PKiKP** **23 33 57.0 +2.0**
baz=114
633A ⇑P **PKKPab** **23 44 46.5 +1.4**
baz=114,SNR=7.5
533A **Kerrville** **113.79 60** ⇑P **PKiKP** **23 33 56.4 +1.2**
baz=114
533A ⇑P **PKKPab** **23 44 46.1 +1.2**
baz=114,SNR=6.4
933A **Laredo** **113.81 63** ⇓P **PKiKP** **23 33 57.2 +1.9**
baz=114
933A ⇑P **PKKPab** **23 44 46.4 +1.7**
baz=114
GAZI **Gazipasa** **114.04 307** *i*P **PKiKP** **23 33 54.5 -1.0**
SUMG **Summit** **114.09 2** ePKiKP **PKiKP** **23 33 55.2 +0.2**
SUMG ePKKPbc **PKKPbc** **23 44 36.5 -2.6**
SUMG ePKKPab **PKKPab** **23 44 43.0 -0.1**
SUMG **Summit** **114.09 2** *i*P PKPdf 23 33 54.2 -0.8
comp=N,26nm,1.0s
SUMG *i* 23 34 50.7
SUMG **Summit** **114.09 2** ⇑*i*P **PKKPbc** **23 44 36.5 -2.6**
comp=N,31nm,1.0s
KIS **Kishinev** **114.13 319** ePKP PKPdf 23 33 55.0 -0.3
KIS **Kishinev** **114.13 319** ePP **PP** **23 34 51.0 +0.4**
KIS eSKKS **Sdif** **23 42 30.0 +1.5**
KIS **Kishinev** **114.13 319** ePS PS 23 44 30.0 +0.9
KIS LRM MLR 00 27 00.0
comp=N,2µm,17.0s
KIS **Kishinev** **114.13 319** eP **PKKPbc** **23 44 36.0 -1.7**
U34A **Anderson Ranch** **114.15 53** ⇑P PKPdf 23 33 57.2 +1.5
baz=114
U34A ⇓P **PKKPab** **23 44 43.9 +0.9**
baz=114,SNR=11
U34A **Anderson Ranch** **114.15 53** ePKiKP **PKiKP** **23 33 56.4 +0.8**
U34A ePKKPbc **PKKPbc** **23 44 36.9 -0.4**
U34A ePKKPab **PKKPab** **23 44 43.0 0.0**
W34A **Bridge Creek,** **114.16 54** ⇓P PKPdf 23 33 57.1 +1.4
baz=114
W34A ⇓P **PKKPab** **23 44 44.2 +1.2**
baz=114,SNR=6.9
W34A **Bridge Creek,** **114.16 54** ePKiKP **PKiKP** **23 33 56.5 +0.8**
W34A ePKKPbc **PKKPbc** **23 44 33.0 -4.3**
W34A ePKKPab **PKKPab** **23 44 44.0 +1.0**
X34A **Smith Ranch, M** **114.21 55** ⇓P PKPdf 23 33 57.6 +1.8
baz=114
X34A ⇓P **PKKPab** **23 44 43.9 +1.1**
baz=114,SNR=7.4
S34A **Willow Spring** **114.26 52** ⇓P PKPdf 23 33 57.3 +1.5
baz=114
S34A ⇓P **PKKPab** **23 44 43.4 +0.8**
baz=114
V34A **Guthrie** **114.26 54** ⇑P PKPdf 23 33 57.1 +1.2
baz=114
V34A ⇓P **PKKPab** **23 44 43.3 +0.7**
baz=114
V34A **Guthrie** **114.26 54** ePKiKP **PKiKP** **23 33 56.5 +0.6**
V34A ePKKPab **PKKPab** **23 44 42.1 -0.4**
534A **Blanco** **114.27 60** ⇓P PKPdf 23 33 57.0 +0.9
baz=114
534A ⇓P **PKKPab** **23 44 44.2 +1.6**
baz=114,SNR=12
134A **White-Moore Ra** **114.30 57** ⇓P PKPdf 23 33 57.5 +1.4
baz=114
134A ⇑P **PKKPab** **23 44 43.6 +1.1**
baz=114,SNR=9.5
Z34A **Collier Ranch,** **114.32 56** ⇓P PKPdf 23 33 57.2 +1.1
baz=114
Z34A ⇓P **PKKPab** **23 44 43.6 +1.2**
baz=114,SNR=13
234A **Clairette** **114.32 58** ⇓P PKPdf 23 33 57.5 +1.4
baz=114
234A ⇓P **PKKPab** **23 44 43.8 +1.4**
baz=114,SNR=12
334A **Lometa** **114.32 59** ⇑P PKPdf 23 33 57.2 +1.1
baz=114
334A ⇑P **PKKPab** **23 44 43.8 +1.4**
baz=114,SNR=25
734A **La Parita Cree** **114.33 61** ⇑P **PKKPab** **23 44 43.9 +1.5**
baz=114
434A **Burnet** **114.36 59** ⇑P PKPdf 23 33 57.0 +0.7
baz=114
434A ⇓P **PKKPab** **23 44 43.6 +1.3**
baz=114,SNR=12
Y34A **Reagan Ranch,** **114.36 56** ⇓P PKPdf 23 33 57.2 +1.1
baz=114
Y34A ⇑P **PKKPab** **23 44 43.4 +1.3**
baz=114,SNR=11
KSU1 **Kansas State U** **114.37 50** ⇓P PKPdf 23 33 57.6 +1.6
baz=114
KSU1 ⇓P **PKKPab** **23 44 42.2 +0.2**
baz=114
KSU1 **Kansas State U** **114.37 50** ePKiKP PKPdf 23 33 55.5 -0.5
KSU1 ePKKPbc **PKKPbc** **23 44 36.6 -0.1**
KSU1 ePKKPab **PKKPab** **23 44 41.4 -0.6**
034A **Hebbronville** **114.39 63** ⇑P PKPdf 23 33 56.7 +0.4
baz=114
834A **Tilden** **114.41 62** ⇓P **PKKPab** **23 44 44.2 +2.2**
baz=114
634A **China Grove, S** **114.45 61** ⇓P PKPdf 23 33 57.8 +1.4
baz=114
634A ⇑P **PKKPab** **23 44 44.1 +2.3**
baz=114
934A **Benavides** **114.48 63** ⇓P PKPdf 23 33 57.4 +0.9
baz=114
934A ⇑P **PKKPab** **23 44 44.2 +2.5**
baz=114,SNR=5.1
SEYT **Eskypehyr** **114.56 310** *i*P PKPdf 23 33 56.8 +0.3
TLCR **114.64 317** ⇓*i*P PKPdf 23 33 56.5 +0.2
LEOM **Leova** **114.66 318** ⇓*i*P **PKKPbc** **23 44 35.6 -0.3**
V35A **Meyer Ranch, C** **114.82 54** ⇑P PKPdf 23 33 58.5 +1.5
baz=115
V35A ⇓P **PKKPab** **23 44 41.0 +1.0**
baz=115,SNR=5.3
135A **Vickery Place,** **114.86 57** ⇓P PKPdf 23 33 59.1 +1.9
baz=115
135A ⇑P **PKKPab** **23 44 41.0 +1.1**
baz=115,SNR=5.2
Z35A **Perchaven, San** **114.88 56** ⇑P PKPdf 23 33 59.1 +2.0
baz=115
Z35A ⇓P **PKKPab** **23 44 41.3 +1.4**
baz=115,SNR=8.3
S35A **Otter Creek Ra** **114.88 52** ⇓P PKPdf 23 33 58.3 +1.2
baz=115
S35A ⇑P **PKKPab** **23 44 40.6 +0.8**
baz=115
W35A **Tecumseh** **114.89 54** ⇓P PKPdf 23 33 58.3 +1.2
baz=115
W35A ⇓P **PKKPab** **23 44 40.9 +1.2**
baz=115
WHTX **Lake Whitney,** **114.90 58** ⇑P PKPdf 23 33 58.4 +1.2
baz=115
WHTX ⇑P **PKKPab** **23 44 40.6 +0.8**
baz=115,SNR=14
WHTX **Lake Whitney,** **114.90 58** ePKiKP **PKiKP** **23 33 57.5 +0.2**
WHTX ePKKPbc **PKKPbc** **23 44 34.1 -0.5**
WHTX ePKKPab **PKKPab** **23 44 40.5 +0.7**
035A **Encino** **114.91 64** ⇓P PKPdf 23 33 59.4 +2.1
baz=115
035A ⇑P **PKKPab** **23 44 40.7 +0.9**
baz=115
435B **Jarrell** **114.95 59** ⇓P PKPdf 23 33 58.8 +1.5
baz=115
435B ⇓P **PKKPab** **23 44 41.7 +2.1**
baz=115,SNR=12
635A **Leesville** **114.95 61** ⇑P PKPdf 23 33 59.2 +1.8
baz=115
635A ⇓P **PKKPab** **23 44 41.6 +2.0**
baz=115
735A **Kenedy** **114.98 61** ⇓P PKPdf 23 33 59.5 +2.1
baz=115
735A ⇑P **PKKPab** **23 44 41.5 +2.0**
baz=115,SNR=5.3
035Z **Hargill** **114.99 64** ⇑P PKPdf 23 33 59.0 +1.5
baz=115
SUW **Suwalki** **114.99 327** ePKP PKPdf 23 33 56.9 +0.2
SUW LMZ LR 00 17 58.3
SUW **Suwalki** **114.99 327** ePKiKP PKPdf 23 33 57.0 +0.3
SUW ePKKPbc **PKKPbc** **23 44 33.6 -1.4**
SUW ePKKPab **PKKPab** **23 44 39.9 +1.0**
335A **Moody** **115.02 59** ⇑P **PKPdf** **23 33 58.9 +1.4**
baz=115
335A ⇓P **PKKPab** **23 44 40.7 +1.4**
baz=115,SNR=10
835A **Beeville** **115.02 62** ⇑P **PKKPab** **23 44 42.0 +2.7**
baz=115,SNR=7.2
535A **Dale** **115.05 60** ⇑P **PKPdf** **23 33 58.5 +1.0**
baz=115
535A ⇓P **PKKPab** **23 44 41.1 +2.0**
baz=115
CFR **Carcaliu** **115.11 317** ⇑*i*P **PKPdf** **23 33 58.6 +1.4**
LBTB **Lobatse** **115.14 239** PKP **PKPdf** **23 33 58.8 +0.7**
comp=N,30nm,0.9s,baz=153,slow=3.3,SNR=24
LBTB PKKPbc **PKKPbc** **23 44 34.1 +0.4**
comp=N,10nm,0.9s,baz=273,slow=4.5,SNR=9.6
LBTB **Lobatse** **115.14 239** ePKiKP **PKiKP** **23 33 57.1 -1.0**
LBTB eSP SP 23 44 35.3 +4.1
MANR **Mangalia** **115.18 315** ⇑*i*P **PKPdf** **23 33 58.4 +1.0**
MANR **Mangalia** **115.18 315** ⇓*i*P **PKKPab** **23 44 40.2 +1.9**
TLB **Topalu** **115.34 316** ⇑*i*P **PKPdf** **23 33 58.4 +0.7**
R36A **Gordon, Harris** **115.38 51** ⇑P **PKPdf** **23 33 58.9 +0.9**
baz=115
R36A ⇑P **PKKPab** **23 44 37.9 +0.4**
baz=115
W36A **Wetumka** **115.42 54** ⇓P **PKPdf** **23 33 59.1 +1.0**
baz=115
W36A ⇑P **PKKPab** **23 44 38.4 +0.9**
baz=115,SNR=13
S36A **Lake Cedric, C** **115.43 51** ⇓P **PKPdf** **23 33 59.0 +0.9**
baz=115
S36A ⇓P **PKKPab** **23 44 37.8 +0.5**
baz=115
536A **Bastrop** **115.48 60** ⇑P **PKKPab** **23 44 38.1 +0.8**
baz=116
PSN **Preselentsi** **115.50 315** ⇓*i*P **PKPdf** **23 33 58.9 +0.9**
PSN **Preselentsi** **115.50 315** ⇑*i*P **PKKPbc** **23 44 31.6 -1.3**
336A **Riesel** **115.50 59** ⇓P **PKPdf** **23 33 59.5 +1.1**
baz=116
336A ⇓P **PKKPab** **23 44 38.7 +1.5**
baz=116
PETR **Petresti** **115.56 318** ⇓*i*P **PKPdf** **23 34 00.2 +2.2**
636A **Smothers Creek** **115.56 61** ⇓P **PKPdf** **23 34 00.2 +1.7**
baz=116
636A ⇓P **PKKPab** **23 44 39.3 +2.4**
baz=116,SNR=6.6
EYMN **Ely** **115.58 40** ePKPdf **PKPdf** **23 33 57.5 -0.6**
EYMN ePKKPbc **PKKPab** **23 44 35.8 -0.7**
SPMN **Marine on St.** **115.58 43** ⇓P **PKPdf** **23 33 58.9 +0.7**
baz=116
SPMN ⇑P **PKKPab** **23 44 36.9 +0.4**
baz=116
SPMN **Marine on St.** **115.58 43** ePKPdf **PKPdf** **23 33 58.4 +0.2**
SPMN ePKKPbc **PKKPbc** **23 44 30.9 -1.8**
SPMN *e* 23 44 35.7
436A **Wall Ranch, Ga** **115.62 59** ⇓P **PKPdf** **23 34 00.1 +1.5**
baz=116
TUL1 **Leonard** **115.63 53** ⇓P **PKPdf** **23 34 00.2 +1.7**
baz=116
TUL1 ⇓P **PKKPab** **23 44 37.0 +0.5**
baz=116
TUL1 **Leonard** **115.63 53** ePKPdf **PKPdf** **23 33 59.4 +0.8**
TUL1 ePKKPbc **PKKPbc** **23 44 30.4 -1.8**
TUL1 *e* 23 44 36.3
MSAB **Monastry St. A** **115.63 316** ⇓*i*P **PKKPab** **23 44 37.3 +1.0**
GDZ **Gediz** **115.69 310** *i*P **PKPdf** **23 33 58.0 -0.7**
TESR **Tescani** **115.69 319** ⇓*i*P **PKPdf** **23 33 59.3 +1.0**
VRI **Vrincioaia** **115.85 318** ⇑*i*P **PKPdf** **23 33 59.8 +1.1**
VRI **Vrincioaia** **115.85 318** ⇑*i*P **PKKPbc** **23 44 29.8 -2.0**
LSZ **Lusaka** **115.86 250** PKP **PKPdf** **23 34 01.1 +1.4**
comp=N,26nm,0.6s,baz=35,slow=3.5,SNR=45
LSZ PKKPbc **PKKPbc** **23 44 33.0 +1.9**
comp=N,3.7nm,0.9s,baz=9.5,slow=5.7,SNR=6.1
LSZ **Lusaka** **115.86 250** P **PKPdf** **23 34 01.2 +1.5**
SNR=19
LSZ **Lusaka** **115.86 250** ePKPdf **PKPdf** **23 34 00.6 +1.0**
LSZ ePKKPbc **PKKPbc** **23 44 26.2 -4.9**
LSZ eSP SP 23 44 33.0 -5.3
LSZ ePKKPab **PKKPab** **23 44 39.0 +2.4**
R37A **Teagarden Farm** **115.90 51** ⇑P **PKPdf** **23 34 00.0 +1.1**
baz=116
R37A ⇓P **PKKPab** **23 44 35.6 +0.3**
baz=116
PLOR **Plostina** **115.90 318** ⇑*i*P **PKPdf** **23 33 59.7 +0.9**
PLOR **Plostina** **115.90 318** ⇓*i*P **PKKPbc** **23 44 28.4 -3.2**
SUR **Sutherland** **115.98 229** PKP **PKPdf** **23 34 01.4 +1.8**
comp=N,54nm,1.2s,baz=150,slow=4.1,SNR=10.0
SUR **Sutherland** **115.98 229** ePKPdf **PKPdf** **23 34 01.0 +1.4**
Q37A **Longview Farm,** **116.06 50** ⇑P **PKPdf** **23 33 58.7 -0.6**
baz=116
Q37A ⇓P **PKKPab** **23 44 34.7 +0.2**
baz=116
537A **Green Hill Far** **116.13 60** ⇑P **PKPdf** **23 34 00.9 +1.3**
baz=116
537A ⇓P **PKKPab** **23 44 36.2 +1.8**
baz=116
437A **Phantom Ranch,** **116.17 59** ⇓P **PKKPab** **23 44 36.6 +2.4**
baz=116
PRD **Provadia** **116.18 315** *i*P **PKPdf** **23 34 00.0 +0.7**
AKAS **Kas** **116.20 307** *i*P **PKPdf** **23 33 59.2 -0.6**
137A **Heron Place, G** **116.23 57** ⇑P **PKPdf** **23 34 01.8 +2.1**
baz=116
137A ⇓P **PKKPab** **23 44 35.6 +1.7**
baz=116,SNR=17
SCIA **State Center** **116.23 46** ePKPdf **PKPdf** **23 33 59.5 +0.1**
SCIA ePKKPbc **PKKPbc** **23 44 27.5 -2.8**
SCIA eSP SP 23 44 34.3 -5.9
BURAR **Bucovina Array** **116.25 320** ⇓*i*P **PKPdf** **23 34 03.0 +3.5**
BURAR **Bucovina Array** **116.25 320** ⇓*i*P **PKKPab** **23 44 31.8 -1.8**
237A **Washetta, Mont** **116.28 58** ⇑P **PKPdf** **23 34 01.5 +1.6**
baz=116
237A ⇑P **PKKPab** **23 44 35.5 +1.8**
baz=116
HFS **Hagfors** **116.31 336** PKP **PKPdf** **23 33 58.7 -0.4**
comp=N,7.1nm,0.7s,baz=90,slow=3.0,SNR=12
337A **Centerville** **116.32 58** ⇑P **PKPdf** **23 34 01.6 +1.6**
baz=116
337A ⇓P **PKKPab** **23 44 35.7 +2.2**
baz=116
ILULI **Ilulissat** **116.40 7** *i*P **PKPdf** **23 33 59.0 0.0**
comp=N,27nm,0.8s
MLR **Muntele Rosu** **116.48 318** ⇓*i*P **PKPdf** **23 34 00.2 +0.2**
MLR **Muntele Rosu** **116.48 318** ⇓*i*P PKKPbc 23 44 23.3 -6.4
MLR **Muntele Rosu** **116.48 318** PKKPbc PKKPbc 23 44 24.2 -5.5
comp=N,1.6nm,1.2s,baz=303,slow=9.1,SNR=3.8
SULR **116.53 317** ⇓*i*P **PKKPab** **23 44 34.6 +2.3**
SECR **116.55 317** ⇑*i*P **PKPdf** **23 34 01.7 +1.7**
HKT **Hockley** **116.56 60** ePKPdf **PKPdf** **23 34 00.8 +0.4**
HKT ePKKPbc **PKKPbc** **23 44 25.4 -3.2**
HKT eSP SP 23 44 33.5 -10
NB201 **NORSAR Array S** **116.68 338** ePKPdf **PKPdf** **23 33 59.7 -0.1**
DOPR **Dopca** **116.70 318** ⇑*i*P **PKPdf** **23 34 02.1 +1.8**
DOPR **Dopca** **116.70 318** ⇑*i*P **PKKPbc** **23 44 27.6 -1.2**
NB2 **NORSAR Subarra** **116.71 338** PKPdf **PKPdf** **23 33 59.5 -0.4**
comp=Z,13nm,1.0s,baz=44,slow=1.9
NB2 **NORSAR Subarra** **116.71 338** PKPdf **PKPdf** **23 33 59.5 -0.4**
baz=44,slow=1.9
NB200 **NORSAR Array S** **116.71 338** ePKPdf **PKPdf** **23 33 59.8 -0.1**
NB200 ePKKPbc **PKKPbc** **23 44 27.7 -1.6**
NB200 eSP SP 23 44 57.5 +14
NOA **NORSAR Array B** **116.71 338** PKP **PKPdf** **23 33 59.8 -0.1**
comp=Z,23nm,0.9s,baz=52,slow=2.0,SNR=24
NOA PKKPbc **PKKPbc** **23 44 27.7 -1.6**

comp=Z,5.8nm,0.9s,baz=52,slow=3.4,SNR=16
NOA PKKP **PKKPdf** 23 44 57.5 +2.0
comp=Z,2.2nm,0.9s,baz=277,slow=4.0,SNR=3.5
438A **Sam Houston St** 116.75 59 ⇑P **PKPdf** 23 34 02.7 +1.9
baz=117
438A ⇑P **PKKPab** 23 44 34.1 +2.4
baz=117
138A **Matatall Enter** 116.78 57 ⇑P **PKPdf** 23 34 02.9 +2.0
baz=117
138A ⇑P **PKKPab** 23 44 33.6 +2.1
baz=117,SNR=5.2
338A **Crockett** 116.80 58 ⇓P **PKPdf** 23 34 00.9 0.0
baz=117
338A ⇓P **PKKPab** 23 44 33.6 +2.1
baz=117,SNR=8.2
TURN **Turunc** 116.86 308 *i* P **PKPdf** 23 34 01.8 +1.0
238A **Jacksonville** 116.86 58 ⇓P **PKKPab** 23 44 33.4 +2.2
baz=117,SNR=8.9
738A **Farr-Stevens R** 116.86 61 ⇓P **PKKPab** 23 44 32.5 +1.3
baz=117
JMB **Yambol** 116.96 314 ⇓*i*P **PKPdf** 23 33 59.4 -1.5
JMB **Yambol** 116.96 314 ⇑*i*P **PKKPab** 23 44 30.0 -0.5
AKHS **Akhisar** 117.01 310 *i* P **PKPdf** 23 34 01.1 0.0
KWP **Kalwaria Pacla** 117.05 323 *e*PKP **PKPdf** 23 34 01.3 +0.5
KWP LMZ LR 00 22 04.3
KWP **Kalwaria Pacla** 117.05 323 ⇑*i*P **PKPdf** 23 34 01.3 +0.5
KWP **Kalwaria Pacla** 117.05 323 ⇑*i*P **PKKPbc** 23 44 27.6 -0.1
KWP **Kalwaria Pacla** 117.05 323 *e*PKPdf **PKPdf** 23 34 01.4 +0.5
KWP *e*PKKPbc **PKKPbc** 23 44 27.2 -0.5
VOIR 117.10 318 ⇓*i*P **PKPdf** 23 34 03.0 +1.8
VOIR 117.10 318 ⇓*i*P **PKKPab** 23 44 28.1 -1.8
SZH **Strazhica** 117.18 315 *i* P **PKPdf** 23 34 00.5 -0.8
BEL **Belsk** 117.23 326 *e*PKP **PKPdf** 23 34 02.6 +1.5
BEL LMZ LR 00 22 55.5
NATX **Nacogdoches** 117.28 58 *e*PKPdf **PKPdf** 23 34 02.4 +0.5
NATX *e*PKKPbc **PKKPab** 23 44 29.8 +0.5
BMR **Baia Mare** 117.32 321 ⇑*i*P **PKPdf** 23 34 02.8 +1.4
BMR **Baia Mare** 117.32 321 ⇓*i*P **PKKPbc** 23 44 26.1 -0.6
BMR **Baia Mare** 117.32 321 ⇓*i*P **PKKPbc** 23 44 26.1 -0.6
439A **Center Grove,** 117.35 59 ⇑P **PKPdf** 23 34 04.4 +2.4
baz=117
ARG **Arkhangelos** 117.37 307 *e*P **PKPdf** 23 34 02.0 +0.1
ARR **Arges** 117.40 318 ⇑*i*P **PKPdf** 23 34 03.4 +1.7
ARR **Arges** 117.40 318 ⇑*i*P **PKKPbc** 23 44 24.9 -1.5
239A **Gary** 117.40 57 ⇓P **PKPdf** 23 34 03.3 +1.3
baz=117
239A ⇓P **PKKPab** 23 44 30.8 +2.0
baz=117
339A **Huntington** 117.44 58 ⇑P **PKPdf** 23 34 03.9 +1.8
baz=117
339A ⇑P **PKKPab** 23 44 30.6 +2.0
baz=117
HUMR **Humele** 117.44 317 ⇓*i*P **PKPdf** 23 34 02.0 +0.3
HUMR **Humele** 117.44 317 ⇑*i*P **PKKPab** 23 44 26.5 -1.8
539A **Cross D Ranch,** 117.49 60 ⇓P **PKPdf** 23 34 03.6 +1.4
baz=118
FRB **Frobisher Bay** 117.51 17 PKP **PKPdf** 23 34 00.7 -0.6
comp=Z,43nm,1.1s,baz=294,slow=2.6,SNR=34
KOLS **Kolonicke sedl** 117.59 322 *e*PKP **PKPdf** 23 34 02.5 +0.6
CJR **Cluj-Napoca** 117.60 320 ⇑*i*P **PKPdf** 23 34 03.8 +1.7
MIAR **Mount Ida** 117.67 55 *e*PKPdf **PKPdf** 23 34 02.3 -0.1
MIAR *e*PKKPbc **PKKPab** 23 44 27.9 +0.4
COWI **Conover** 117.73 41 *e*PKPdf **PKPdf** 23 34 02.1 -0.1
GCAM **G?zelcaml?** 117.73 309 *i* P **PKPdf** 23 34 02.5 0.0
TRPA **Tarpa** 117.74 322 ⇑*i*P **PKPdf** 23 34 03.1 +0.9
TRPA **Tarpa** 117.74 322 ⇓*e*PKPdf **PKPdf** 23 34 02.9 +0.7
ALN **Alexandroupoli** 117.79 313 *e*P **PKPdf** 23 34 02.0 -0.5
LOT **Lotru** 117.94 318 ⇑*i*P **PKPdf** 23 34 03.6 +0.8
340A **Bronson** 117.99 58 ⇑P **PKPdf** 23 34 04.7 +1.5
baz=118
340A ⇓P **PKKPab** 23 44 27.7 +1.5
baz=118,SNR=7.1
STHS **Stebnicka Huta** 118.01 323 *e*PKP **PKPdf** 23 34 03.7 +1.0
KDZ **Kurdzhali** 118.03 314 ⇑*i*P **PKPdf** 23 34 03.1 +0.1
KDZ **Kurdzhali** 118.03 314 ⇑*i*P **PKKPab** 23 44 27.2 +1.4
SMG **Samos** 118.03 309 *e*P **PKPdf** 23 34 03.0 -0.1
JFWS **Jewell Farm** 118.04 45 *e*PKPdf **PKPdf** 23 34 02.6 -0.3
JFWS *e*PKKPbc **PKKPab** 23 44 25.7 0.0
PRK **Paraskevi** 118.08 311 *e*P **PKPdf** 23 34 06.0 +2.9
CRVS **Cervenica-Dubn** 118.09 323 *e*PKP **PKPdf** 23 34 03.8 +0.9
RDO **Rodhopi** 118.09 313 *e*P **PKPdf** 23 34 02.5 -0.6
DRGR 118.14 320 ⇑*i*P **PKPdf** 23 34 04.7 +1.6
DRGR 118.14 320 ⇑*i*P **PKKPbc** 23 44 23.9 +0.1
DRGR 118.14 320 *i* Pn **PKKPbc** 23 44 23.9 +0.1
KONO **Kongsberg** 118.22 337 *e*PKPdf **PKPdf** 23 34 03.0 +0.2
KARP **Karpathos** 118.28 307 P **PKPdf** 23 34 04.1 +0.4
KARP **Karpathos** 118.28 307 *e*P **PKPdf** 23 34 04.0 +0.4
KARP **Karpathos** 118.28 307 *e*PKPdf **PKPdf** 23 34 04.1 +0.4
SMTH **Samothraki Isl** 118.29 313 *e*P **PKPdf** 23 34 03.0 -0.5
DEV **Deva** 118.35 319 ⇑*i*P **PKPdf** 23 34 04.9 +1.5
DEV **Deva** 118.35 319 ⇓*i*P **PKKPab** 23 44 23.2 -1.1
SIGR **SIGRI** 118.40 311 P **PKPdf** 23 34 04.4 +0.7
SIGR **SIGRI** 118.40 311 *e*P **PKPdf** 23 34 04.0 +0.3
SIGR **SIGRI** 118.40 311 *e*PKPdf **PKPdf** 23 34 04.4 +0.7
CHOS **Chios island** 118.46 310 P **PKPdf** 23 34 03.6 -0.4
CHOS **Chios island** 118.46 310 *e*P **PKPdf** 23 34 05.0 +1.0
CHOS **Chios island** 118.46 310 *e*PKPdf **PKPdf** 23 34 03.6 -0.4
GKP **Gorka Klasztor** 118.47 328 *e*PKP **PKPdf** 23 34 03.4 0.0
GKP LMZ LR 00 25 08.7
OJC **Ojcow** 118.51 325 *e*PKP **PKPdf** 23 34 03.2 -0.4
OJC LMZ LR 00 27 40.5
OJC **Ojcow** 118.51 325 *e*PKPdf **PKPdf** 23 34 04.5 +0.9
OJC *e*PKKPbc **PKKPbc** 23 44 20.8 -1.7
RZN **Rozhen** 118.52 314 *i* P **PKPdf** 23 34 03.9 -0.3
SFJD **Kangerlussuaq** 118.55 8 PKP **PKPdf** 23 34 04.1 +0.9
comp=Z,36nm,0.9s,baz=349,slow=4.0,SNR=14
SFJD **Kangerlussuaq** 118.55 8 *e*PKPdf **PKPdf** 23 34 03.2 +0.1
SFJD **Kangerlussuaq** 118.55 8 *i* P **PKPdf** 23 34 02.0 -1.2
comp=Z,29nm,0.9s
NIE **Niedzica** 118.56 324 *e*PKP **PKPdf** 23 34 05.0 +1.2
NIE LMZ LR 00 22 32.4
GZR **Gura Zlata** 118.61 319 ⇑*i*P **PKPdf** 23 34 05.1 +1.0
GZR **Gura Zlata** 118.61 319 ⇑*i*P **PKKPab** 23 44 21.8 -1.4
UALR **University of** 118.62 54 *e*PKPdf **PKPdf** 23 34 04.7 +0.4
UALR *e*PKKPbc **PKKPab** 23 44 22.5 -0.8
PGB **Panagyurishte** 118.64 315 *i* P **PKPdf** 23 34 03.4 -0.8
BSD **Bornholm Skovb** 118.66 331 *i* P **PKPdf** 23 34 05.8 +2.1
comp=Z,43nm,0.8s
MPEP **Malo Peshtene** 118.67 316 *i* P **PKPdf** 23 34 04.7 +0.5
LIA **Limnos Island** 118.71 312 *e*P **PKPdf** 23 34 06.0 +1.7
SIRR **Siria** 119.01 320 ⇑*i*P **PKPdf** 23 34 06.1 +1.4
SIRR **Siria** 119.01 320 ⇑*i*P **PKKPab** 23 44 20.1 -1.3
SIRR **Siria** 119.01 320 ⇑*i*P **PKKPab** 23 44 20.1 -1.3
ZKR **Zakros** 119.13 307 *e*P **PKPdf** 23 34 06.0 +0.7
HOPE **Hope Point** 119.16 177 *e*PKPdf **PKPdf** 23 34 04.9 +0.2
APE **Apeiranthos** 119.20 309 *e*P **PKPdf** 23 34 04.0 -1.4
NVR **Nevrokopi** 119.23 314 P **PKPdf** 23 34 04.9 -0.4
NVR **Nevrokopi** 119.23 314 *e*P **PKPdf** 23 34 05.0 -0.4
NVR **Nevrokopi** 119.23 314 *e*PKPdf **PKPdf** 23 34 04.9 -0.4
MMB **Musomiste** 119.25 314 ⇓*i*P **PKPdf** 23 34 04.9 -0.5
MMB **Musomiste** 119.25 314 ⇑*i*P **PKKPab** 23 44 20.1 -0.4
MMB **Musomiste** 119.25 314 ⇑*i*P **PKPdf** 23 34 04.3 -1.1
BZS **Buzias** 119.29 319 ⇑*i*P **PKPdf** 23 34 06.6 +1.3
BZS **Buzias** 119.29 319 ⇑*i*P **PKKPab** 23 44 19.8 -0.4
VTS **Vitosha** 119.30 315 ⇓*i*P **PKPdf** 23 34 07.0 +1.4
VTS **Vitosha** 119.30 315 ⇑*i*P **PKKPab** 23 44 23.4 +3.0
VTS **Vitosha** 119.30 315 *i* P **PKPdf** 23 34 05.6 0.0
SLM **Saint Louis** 119.31 49 *e*PKPdf **PKPdf** 23 34 05.0 -0.5
SLM *e*PKKPbc **PKKPbc** 23 44 19.3 +0.1
SANT **Santorini** 119.43 308 *e*P **PKPdf** 23 34 06.0 +0.1
PSZ **Piszkesteto** 119.45 322 ⇑*i*P **PKPdf** 23 34 06.9 +1.3
PSZ **Piszkesteto** 119.45 322 *e*PKPdf **PKPdf** 23 34 05.8 +0.2
PSZ **Piszkesteto** 119.45 322 ⇑*e*PKPdf **PKPdf** 23 34 05.5 -0.1
OUR **Ouranopolis** 119.46 313 *e*P PKPdf 23 34 16.0 +10
COP **Copenhagen** 119.50 333 *i* P **PKPdf** 23 34 07.6 +2.3
comp=Z,34nm,0.9s
SRS **Serrai** 119.50 314 *e*P **PKPdf** 23 34 05.5 -0.3
NPS **Neapolis** 119.58 307 P **PKPdf** 23 34 06.3 +0.1
NPS **Neapolis** 119.58 307 *e*P **PKPdf** 23 34 07.0 +0.8
NPS **Neapolis** 119.58 307 *e*PKPdf **PKPdf** 23 34 06.3 +0.1
OKC **Ostrava-Krasne** 119.63 325 *e*PKPdf **PKPdf** 23 34 06.7 +0.9
OKC *e*PP **PP** 23 35 30.2 +1.4
OKC *e*SKKS 23 42 24.6
OKC *e*PS **PS** 23 45 19.0 +0.1
OKC *e*SS **SS** 23 51 50.4 +2.8
OKC AMS AMS 00 24 20.0
comp=Z,2µm,16.7s
PBMO **Poplar Bluff** 119.66 51 *e*PKPdf **PKPdf** 23 34 05.9 -0.4
PBMO *e*PKKPbc **PKKPbc** 23 44 18.0 +0.2
BANR **Banloc** 119.69 319 ⇑*i*P **PKPdf** 23 34 08.1 +2.1
LAST **Lasithi** 119.71 307 *e*P **PKPdf** 23 34 07.0 +0.5
SOH **Sokhos** 119.77 314 *e*P **PKPdf** 23 34 06.5 +0.1

HBAR **Harrisburg** 119.78 53 *e*PKPdf **PKPdf** 23 34 06.4 -0.1
HBAR *e*PKKPbc **PKKPab** 23 44 18.5 +0.2
LLD **Lille Linde** 119.80 332 *i* P **PKPdf** 23 34 08.0 +2.1
PAIG **Paliouri** 119.80 312 *e*P **PKPdf** 23 34 05.5 -0.9
PLG **Polygyros** 119.84 313 *e*P **PKPdf** 23 34 07.0 +0.5
VYHS **Vyhne** 119.84 323 *e*PKP **PKPdf** 23 34 06.1 -0.2
AOS **Alonnisos** 119.88 312 *e*P PKPdf 23 34 12.5 +5.9
PKSN **Nyarlorinc** 119.89 321 ⇓*e*PKPdf **PKPdf** 23 34 07.5 +1.1
KNT **Kendrikon** 119.98 314 *e*P **PKPdf** 23 34 06.0 -0.8
MORC **Moravsky Berou** 120.01 325 ⇓*i*P **PKPdf** 23 34 07.5 +0.9
MORC **Moravsky Berou** 120.01 325 ⇓*i*P **PKKPbc** 23 44 15.6 -1.5
MORC **Moravsky Berou** 120.01 325 *e*PKPdf **PKPdf** 23 34 06.9 +0.3
MORC *e*PKKPbc **PKKPab** 23 44 16.0 -1.1
HORT **Hortiatis** 120.02 313 *e*P **PKPdf** 23 34 06.0 -0.9
THE **Thessaloniki** 120.11 313 *e*P **PKPdf** 23 34 07.0 0.0
IDI **Anoyia** 120.15 307 PKP **PKPdf** 23 34 07.4 +0.1
comp=Z,33nm,0.6s,baz=168,slow=9.7,SNR=52
IDI PKKPbc **PKKPab** 23 44 17.8 +1.0
comp=Z,29nm,1.0s,baz=269,slow=5.6,SNR=13
IDI PKKP **PKKPdf** 23 44 47.8 -0.7
comp=Z,15nm,1.1s,baz=314,slow=3.2,SNR=3.2
BUD **Budapest** 120.17 322 ⇓*e*PKPdf **PKPdf** 23 34 07.9 +1.0
GNAR **Gosnell** 120.19 52 *e*PKPdf **PKPdf** 23 34 07.8 +0.5
GNAR *e*PKKPbc **PKKPbc** 23 44 15.3 -0.6
KSP **Ksiaz** 120.19 326 *e*PKP **PKPdf** 23 34 07.5 +0.7
KSP LMZ LR 00 22 12.4
PKS6 **Bocsa** 120.21 321 ⇓*e*PKPdf **PKPdf** 23 34 07.9 +0.9
PTL **Penteli** 120.22 310 P **PKPdf** 23 34 07.0 -0.3
PTL **Penteli** 120.22 310 *e*P **PKPdf** 23 34 06.5 -0.8
PTL **Penteli** 120.22 310 *e*PKPdf **PKPdf** 23 34 07.0 -0.3
MRKA **Markates** 120.23 311 P **PKPdf** 23 34 06.9 -0.4
MRKA **Markates** 120.23 311 *e*P **PKPdf** 23 34 07.0 -0.4
PKS7 **Kunszentmiklos** 120.27 321 ⇓*e*PKPdf **PKPdf** 23 34 08.1 +1.0
SIVA **Sivas** 120.28 307 *e*P **PKPdf** 23 34 08.5 +1.0
KRLC **Kraliky** 120.30 325 *e*PKPdf **PKPdf** 23 34 07.1 0.0
NEO **Neokhori** 120.33 312 *e*P **PKPdf** 23 34 07.0 -0.5
XOR **Xorichti** 120.33 312 *e*P **PKPdf** 23 34 08.0 +0.5
SIUC **Southern Illin** 120.34 50 *e*PKPdf **PKPdf** 23 34 07.4 -0.1
SIUC *e*PKKPbc **PKKPbc** 23 44 14.8 -0.6
ATH **Athens Observa** 120.35 310 *e*P **PKPdf** 23 34 06.5 -1.0
DPC **Dobruska-Polom** 120.42 326 *e*PKPdf **PKPdf** 23 34 07.6 +0.2
DPC *e*PP **PP** 23 35 33.9 -0.3
DPC *e*SKKS 23 42 25.8
DPC *e*SP **SP** 23 45 17.2 0.0
DPC *e*x x 23 46 39.9
DPC *e*x x 23 52 20.5
DPC AMS AMS 00 24 50.0
MUD **Monsted U'grnd** 120.47 335 *i* P **PKPdf** 23 34 08.9 +1.8
comp=Z,22nm,1.0s
SMIA **Simia** 120.47 311 *e*P **PKPdf** 23 34 08.0 +0.2
PKS2 **Kecel** 120.47 321 ⇓*e*PKPdf **PKPdf** 23 34 08.4 +0.9
UPC **Upice** 120.51 326 *e*PKPdf **PKPdf** 23 34 07.5 0.0
UPC *e*x x 23 34 18.7
PKSG 120.59 322 ⇓*e*PKPdf **PKPdf** 23 34 08.0 +0.3
LIT **Litokhoron** 120.62 313 P **PKPdf** 23 34 07.2 -0.8
LIT **Litokhoron** 120.62 313 *e*P **PKPdf** 23 34 07.5 -0.5
LIT **Litokhoron** 120.62 313 *e*PKPdf **PKPdf** 23 34 07.2 -0.8
VBMS **Vicksburg** 120.66 57 *e*PKPdf **PKPdf** 23 34 09.0 +0.7
VBMS *e*PKKPbc **PKKPab** 23 44 14.8 +0.3
VAM **Vamos** 120.66 307 P **PKPdf** 23 34 07.5 -1.4
VAM **Vamos** 120.66 307 *e*P **PKPdf** 23 34 07.5 -0.7
VAM **Vamos** 120.66 307 *e*PKPdf **PKPdf** 23 34 06.8 -1.4
CSKK **Cs^ákako** 120.69 322 ⇓*e*PKPdf **PKPdf** 23 34 08.2 +0.3
LKR **Lokris** 120.69 311 P **PKPdf** 23 34 07.1 -1.1
LKR **Lokris** 120.69 311 *e*P **PKPdf** 23 34 08.0 -0.2
LKR **Lokris** 120.69 311 *e*PKPdf **PKPdf** 23 34 07.1 -1.1
VRAC **Vranov** 120.77 325 ⇓*i*P **PKPdf** 23 34 08.8 +0.8
VRAC **Vranov** 120.77 325 PKP **PKPdf** 23 34 08.6 +0.6
comp=Z,24nm,1.1s,baz=87,slow=1.8,SNR=35
PKST **T^s** 120.87 322 ⇓*e*PKPdf **PKPdf** 23 34 08.5 +0.2
OLIL **Olney** 120.88 49 *e*PKPdf **PKPdf** 23 34 08.5 0.0
OLIL *e*PKKPbc **PKKPbc** 23 44 13.1 -0.2
KARN **Karanos** 120.89 307 *e*P **PKPdf** 23 34 09.0 +0.3
LTK **Loutraki** 120.90 311 P **PKPdf** 23 34 07.9 -0.7
LTK **Loutraki** 120.90 311 *e*P **PKPdf** 23 34 07.5 -1.1
LTK **Loutraki** 120.90 311 *e*PKPdf **PKPdf** 23 34 07.9 -0.7
AXAR **Agios Charalam** 120.91 311 P **PKPdf** 23 34 08.1 -0.5
AXAR **Agios Charalam** 120.91 311 *e*P **PKPdf** 23 34 09.0 +0.4
AXAR **Agios Charalam** 120.91 311 *e*PKPdf **PKPdf** 23 34 08.1 -0.5
PKSM **Moragy** 120.95 321 ⇓*i*P **PKPdf** 23 34 09.1 +0.7
PKSM **Moragy** 120.95 321 ⇑*i*P **PKKPab** 23 44 13.7 +0.8
PKSM **Moragy** 120.95 321 ⇑*e*PKPdf **PKPdf** 23 34 08.4 0.0
PKS9 **Tamasi** 121.02 321 ⇓*e*PKPdf **PKPdf** 23 34 09.4 +0.9
OXF **Oxford** 121.03 54 *e*PKPdf **PKPdf** 23 34 08.4 -0.5
OXF *e*PKKPbc **PKKPbc** 23 44 12.5 -0.2
KZN **Kozani** 121.07 313 *e*P **PKPdf** 23 34 09.0 0.0
AGG **Agios Georgios** 121.08 312 P **PKPdf** 23 34 08.0 -1.0
AGG **Agios Georgios** 121.08 312 *e*P **PKPdf** 23 34 08.5 -0.5
AGG **Agios Georgios** 121.08 312 *e*PKPdf **PKPdf** 23 34 08.0 -1.0
SFIN **Lafayette** 121.10 47 ⇓P **PKPdf** 23 34 10.0 +1.1
baz=121
SFIN **Lafayette** 121.10 47 *e*PKPdf **PKPdf** 23 34 08.9 0.0
SFIN *e*PKKPbc **PKKPab** 23 44 11.4 -1.0
THL **Klokotos Trika** 121.14 313 P **PKPdf** 23 34 07.5 -1.5
THL **Klokotos Trika** 121.14 313 *e*P **PKPdf** 23 34 08.0 -1.0
FNA **Florina** 121.20 314 P **PKPdf** 23 34 08.7 -0.5
FNA **Florina** 121.20 314 *e*P **PKPdf** 23 34 09.5 +0.3
FNA **Florina** 121.20 314 *e*PKPdf **PKPdf** 23 34 08.7 -0.5
MAKR **Makrakomi, Fth** 121.22 312 P **PKPdf** 23 34 09.0 -0.2
MAKR **Makrakomi, Fth** 121.22 312 *e*P **PKPdf** 23 34 10.0 +0.8
MAKR **Makrakomi, Fth** 121.22 312 *e*PKPdf **PKPdf** 23 34 09.0 -0.2
ANKY **Antikythira Is** 121.25 308 P **PKPdf** 23 34 09.4 +0.1
ANKY **Antikythira Is** 121.25 308 *e*P **PKPdf** 23 34 10.0 +0.7
ANKY **Antikythira Is** 121.25 308 *e*PKPdf **PKPdf** 23 34 09.4 +0.1
PVCC **Panska Ves** 121.29 327 *e*PKPdf **PKPdf** 23 34 09.8 +0.8
PVCC *e*pPKP **pPKPdf** 23 34 26.7 -1.4
PVCC *e*PP **PP** 23 35 39.4 -0.6
PVCC *e*SKKS 23 42 35.6
PVCC *e*x x 23 52 25.4
PVCC AMS AMS 00 28 50.0
comp=Z,5µm,21.2s
VLI **Veliai** 121.30 309 P **PKPdf** 23 34 08.7 -0.7
VLI **Veliai** 121.30 309 *e*P **PKPdf** 23 34 09.0 -0.4
VLI **Veliai** 121.30 309 *e*PKPdf **PKPdf** 23 34 08.7 -0.7
KYTH **Kithira** 121.34 309 *e*P **PKPdf** 23 34 10.0 +0.5
PLCA **Paso Flores** 121.38 147 PKP **PKPdf** 23 34 11.1 +1.4
comp=Z,51nm,1.0s,baz=201,slow=3.4,SNR=46
PLCA PKKPbc **PKKPbc** 23 44 08.8 -3.0
comp=Z,3.3nm,0.7s,baz=34,slow=3.7,SNR=7.1
PLCA PKKP **PKKPdf** 23 44 46.1 +0.3
comp=Z,1.2nm,0.5s,baz=280,slow=1.2,SNR=3.8
PLCA **Paso Flores** 121.38 147 *e*P **PKPdf** 23 34 11.0 +1.4
GUR **Goura** 121.40 311 P **PKPdf** 23 34 09.2 -0.5
GUR **Goura** 121.40 311 *e*P **PKPdf** 23 34 09.5 -0.2
GUR **Goura** 121.40 311 *e*PKPdf **PKPdf** 23 34 09.2 -0.5
TREC **Trest** 121.41 325 *e*PKPdf **PKPdf** 23 34 09.4 +0.1
TREC *e*PP PP 23 35 33.6 -7.4
TREC *e*SP SP 23 45 22.7 -3.4
TREC AMS AMS 00 30 00.0
comp=Z,3µm,18.8s
KALE **Kalithea** 121.41 311 P **PKPdf** 23 34 09.4 -0.3
KALE **Kalithea** 121.41 311 *e*P **PKPdf** 23 34 10.0 +0.3
KALE **Kalithea** 121.41 311 *e*PKPdf **PKPdf** 23 34 09.4 -0.3
USIN **University of** 121.44 49 *e*PKPdf **PKPdf** 23 34 09.9 +0.3
USIN *e*PKKPbc **PKKPab** 23 44 09.1 -1.9
BRG **Berggiesshubel** 121.45 327 PKP **PKPdf** 23 34 09.6 +0.3
comp=Z,147nm,1.2s
BRG *i* 23 34 26.1
comp=Z,43nm,1.2s
BRG *e* 23 34 36.9
comp=Z,30nm,1.1s
BRG PP **PP** 23 35 42.0 +0.9
BRG SKS **SKSdf** 23 41 09.0 -6.6
BRG SS SS 23 52 19.0 +8.3
comp=N,7µm,25.4s
comp=E,6µm,28.0s
comp=Z,8µm,27.3s
BRG **Berggiesshubel** 121.45 327 *e*PKP **PKPdf** 23 34 09.3 +0.1
BRG *e*PKKP **PKKPab** 23 44 10.5 -0.2
GOPC **GO Pecny, Ondr** 121.49 326 *e*PKPdf **PKPdf** 23 34 09.5 +0.1
GOPC *e*PP **PP** 23 35 39.4 -2.1
GOPC *e*SKKS 23 42 29.6
GOPC *e*SP **SP** 23 45 26.5 -0.2
GOPC *e*x x 23 46 49.6
GOPC *e*SS **SS** 23 52 13.3 +1.9
GOPC AMS AMS 00 28 40.0
comp=Z,4µm,20.2s
BORG **Borgarnes** 121.49 354 PKP **PKPdf** 23 34 10.8 +1.9
comp=Z,29nm,0.9s,baz=265,slow=3.0,SNR=4.4
EVR **Evrytania** 121.49 312 P **PKPdf** 23 34 09.4 -0.4
EVR **Evrytania** 121.49 312 *e*P **PKPdf** 23 34 10.5 +0.7

EVR **Evrytania** 121.49 312 *e*PKPdf **PKPdf** 23 34 09.4 -0.4
KLV **Kalavryta, Ach** 121.51 311 P **PKPdf** 23 34 09.8 -0.1
KLV **Kalavryta, Ach** 121.51 311 *e*P **PKPdf** 23 34 10.0 +0.1
KLV **Kalavryta, Ach** 121.51 311 *e*PKPdf **PKPdf** 23 34 09.8 -0.1
BSEG **Bad Segeberg** 121.53 332 *e*PKP **PKPdf** 23 34 09.7 +0.4
BSEG *e*PKKP **PKKPab** 23 44 10.5 +0.3
VLX **Vlachokerasia** 121.54 310 P **PKPdf** 23 34 10.4 +0.4
VLX **Vlachokerasia** 121.54 310 *e*P **PKPdf** 23 34 10.0 0.0
VLX **Vlachokerasia** 121.54 310 *e*PKPdf **PKPdf** 23 34 10.4 +0.4
PHP **Peshkopia** 121.54 315 P **PKPdf** 23 34 09.8 0.0
PHP **Peshkopia** 121.54 315 *e*PKPdf **PKPdf** 23 34 09.8 0.0
NEST **Nestorio** 121.56 314 P **PKPdf** 23 34 08.8 -1.1
NEST **Nestorio** 121.56 314 *e*P **PKPdf** 23 34 10.5 +0.6
SOP **Sopron** 121.57 323 ⇓*e*PKPdf **PKPdf** 23 34 09.8 +0.2
EFP **Efpalio** 121.58 311 P **PKPdf** 23 34 09.9 0.0
EFP **Efpalio** 121.58 311 *e*P **PKPdf** 23 34 10.5 +0.6
PRU **Pruhonice** 121.59 326 *e*PKPdf **PKPdf** 23 34 10.1 +0.6
PRU *e*pPKP **pPKPdf** 23 34 25.6 -3.0
PRU *e*PP **PP** 23 35 43.1 +1.0
PRU *e*SKKS 23 42 29.0
PRU *e*SP **SP** 23 45 26.0 -1.5
PRU *e*x x 23 46 48.2
PRU *e*SS **SS** 23 52 19.5 +6.9
PRU AMS AMS 00 28 20.0
comp=Z,4µm,21.8s
PRA **Prague** 121.61 326 *e*PKPdf **PKPdf** 23 34 10.3 +0.7
PRA *e*PP **PP** 23 35 44.7 +2.5
PRA *e*SKKS 23 42 33.8
PRA *e*SP **SP** 23 45 25.2 -2.5
PRA *e*x x 23 46 53.0
PRA AMS AMS 00 28 20.0
comp=Z,5µm,19.8s
KBN **Korca** 121.67 314 P **PKPdf** 23 34 10.2 +0.1
KBN **Korca** 121.67 314 *e*PKPdf **PKPdf** 23 34 10.2 +0.1
CLL **Collm** 121.71 328 *e*PKP **PKPdf** 23 34 09.6 -0.1
CLL *e*PKKP **PKKPab** 23 44 09.9 +0.4
CLL **Collm** 121.71 328 *i* PKiKP **PKPdf** 23 34 09.8 +0.1
comp=Z,223nm,1.6s
CLL *e*pPKiKP **pPKiKP** 23 34 26.0 -3.0
CLL *e*PP **PP** 23 35 41.0 -1.8
CLL *e*sPP 23 36 06.0
CLL *e*SKKSac SKKSac 23 42 36.0 -0.6
CLL *e*PKKPbc **PKKPab** 23 44 07.0 -2.5
CLL *i* PKKPab **PKKPbc** 23 44 10.3 -0.3
comp=Z,38nm,1.2s
CLL *e*sPKKPab 23 44 32.0
CLL *e*PKKPdf **PKKPdf** 23 44 45.0 -0.7
CLL *e*SP **SP** 23 45 30.0 +1.5
CLL *e*SPP SPP 23 46 54.0
CLL *e*PKKSbc PKKSbc 23 47 55.0 -6.4
CLL *e*SKKPdf **SKKPdf** 23 48 10.0 -5.5
CLL *e*SS SS 23 52 24.0 +10
CLL *e*SSS SSS 23 56 42.0
CLL *e* 23 57 36.0
CLL LmV 00 29 00.0
comp=Z,6µm,21.8s
CLL **Collm** 121.71 328 *e*PKPdf **PKPdf** 23 34 09.5 -0.2
CLL *e*PKKPbc **PKKPab** 23 44 07.7 -1.8
CONA **Conrad Observa** 121.86 324 ⇑*i*PKiKP **PKPdf** 23 34 10.1 -0.2
comp=Z,127nm,1.8s,SNR=44
DRO **Drossia** 121.87 311 P **PKPdf** 23 34 10.9 +0.5
DRO **Drossia** 121.87 311 *e*P **PKPdf** 23 34 11.0 +0.5
ITM **Ithomi** 121.94 310 P **PKPdf** 23 34 10.2 -0.4
ITM **Ithomi** 121.94 310 *e*P **PKPdf** 23 34 11.0 +0.4
ITM **Ithomi** 121.94 310 *e*PKPdf **PKPdf** 23 34 10.2 -0.4
DSL **Palaion Diasel** 121.95 312 P **PKPdf** 23 34 10.5 -0.1
DSL **Palaion Diasel** 121.95 312 *e*P **PKPdf** 23 34 11.5 +0.9
DSL **Palaion Diasel** 121.95 312 *e*PKPdf **PKPdf** 23 34 10.5 -0.1
JAN **Janina** 121.95 313 P **PKPdf** 23 34 11.0 +0.4
JAN **Janina** 121.95 313 *e*P **PKPdf** 23 34 11.5 +0.9
JAN **Janina** 121.95 313 *e*PKPdf **PKPdf** 23 34 11.0 +0.4
BEHE **Becsehely** 122.00 322 ⇓*e*PKPdf **PKPdf** 23 34 11.6 +1.2
AMT **Artemida-Makis** 122.00 310 P **PKPdf** 23 34 11.1 +0.3
AMT **Artemida-Makis** 122.00 310 *e*P **PKPdf** 23 34 11.0 +0.3
RLS **Riolos of Patr** 122.02 311 P **PKPdf** 23 34 10.6 -0.1
RLS **Riolos of Patr** 122.02 311 *e*P **PKPdf** 23 34 11.5 +0.8
RLS **Riolos of Patr** 122.02 311 *e*PKPdf **PKPdf** 23 34 10.6 -0.1
PDO **Prodromos** 122.06 312 P **PKPdf** 23 34 10.0 -0.8
PDO **Prodromos** 122.06 312 *e*P **PKPdf** 23 34 11.5 +0.7
PYL **PYLOS** 122.17 310 P **PKPdf** 23 34 10.4 -0.6
PYL **PYLOS** 122.17 310 *e*P **PKPdf** 23 34 10.5 -0.6
PYL **PYLOS** 122.17 310 *e*PKPdf **PKPdf** 23 34 10.4 -0.6
VTN **Vitineika** 122.28 311 P **PKPdf** 23 34 13.1 +1.9
IGT **Igoumenitsa** 122.37 313 P **PKPdf** 23 34 11.0 -0.4
IGT **Igoumenitsa** 122.37 313 *e*P **PKPdf** 23 34 12.0 +0.6
IGT **Igoumenitsa** 122.37 313 *e*PKPdf **PKPdf** 23 34 11.0 -0.4
ARSA **Arzberg** 122.39 323 ⇑*i*PKPdf **PKPdf** 23 34 10.6 -0.6
comp=Z,49nm,1.3s,SNR=22
NRDL **Niedersach Rie** 122.50 330 *e*PKP **PKPdf** 23 34 11.6 +0.5
NRDL *e*PKKP **PKKPbc** 23 44 08.1 +0.5
KFI **Anninata** 122.51 311 P **PKPdf** 23 34 13.2 +1.5
KHC **Kasperske Hory** 122.57 326 *e*PKPdf **PKPdf** 23 34 12.5 +1.0
KHC *e*PKKP **PKKPab** 23 44 06.5 +0.6
KHC *e*x x 23 47 07.0
SFD **Strofades** 122.61 310 *e*P **PKPdf** 23 34 12.0 +0.1
VLS **Valsamata** 122.64 311 *e*P **PKPdf** 23 34 12.0 0.0
GEC2 **GERESS Array S** 122.65 325 *e*PKP **PKPd

FUR Furstenfeldbru 124.38 326 ePKP PKPdf 23 34 15.0 0.0
FUR ePKKP PKKPbc 23 43 59.7 -0.5
WTSB Winterswijk 124.42 332 ePKP PKPdf 23 34 14.7 -0.2
comp=Z,229nm,1.1s
ABTA Abfaltersbach 124.43 324⇑iPKPdf PKPdf 23 34 14.5 -0.7
comp=Z,154nm,1.2s,SNR=64
BUG Bochum-Univer 124.53 331 ePKP PKPdf 23 34 15.2 +0.1
BUG ePKKP PKKPbc 23 43 59.1 -0.5
DRUM Mains of Drumt 124.59 340 eP PKPdf 23 34 15.2 +0.1
WATA Walderalm 124.66 325⇑iPKiKP PKPdf 23 34 15.6 -0.1
comp=Z,224nm,1.5s,SNR=39
WTTA Wattenberg 124.66 325⇑iPKiKP PKPdf 23 34 15.7 -0.1
comp=Z,328nm,1.3s,SNR=76
SADO Sadowa 124.67 39 PKKPbc PKKPbc 23 43 57.1 -1.7
comp=Z,9.7nm,1.1s,baz=136,slow=5.1,SNR=3.6
TNS Taunus Mts 124.70 329 ePKP PKPdf 23 34 15.8 +0.2
TNS ePKKP PKKPbc 23 43 58.1 -0.9
SCHQ Schefferville 124.76 23 PKP PKPdf 23 34 15.3 -0.2
comp=Z,29nm,0.8s,baz=1.4,slow=2.6,SNR=28
SCHQ PKKPbc PKKPab 23 43 57.4 +0.9
comp=Z,3.8nm,0.8s,baz=202,slow=8.0,SNR=9.5
MDO Dochfour 124.77 342⇑eP PKPdf 23 34 15.1 -0.4
MOTA Moosalm 124.92 325⇑iPKiKP PKPdf 23 34 16.0 -0.3
comp=Z,248nm,1.4s,SNR=68
KAC Achnashellach 125.00 342 eP PKPdf 23 34 15.2 -0.7
RETA Reutte 125.04 325⇑iPKPdf PKPdf 23 34 15.8 -0.6
comp=Z,99nm,1.5s,SNR=37
EDU Dundee 125.06 340⇑eP PKPdf 23 34 15.9 -0.1
STU Stuttgart 125.17 327 ePKP PKPdf 23 34 16.5 0.0
STU ePKKP PKKPbc 23 43 56.4 -0.6
STU Stuttgart 125.17 327 ePKPdf PKPdf 23 34 16.3 -0.1
KPL Plockton 125.25 342 eP PKPdf 23 34 17.1 +0.8
KSB Sheil Bridge 125.28 342⇑eP PKPdf 23 34 15.6 -0.8
FETA Feichten 125.31 325⇑iPKiKP PKPdf 23 34 16.9 -0.2
comp=Z,163nm,1.2s,SNR=66
ERPA Erie 125.36 42 ePKPdf PKPdf 23 34 17.0 0.0
ESY Stoneypath 125.42 340⇑eP PKPdf 23 34 16.7 0.0
CUC Castrocucco 125.43 315 ePKPdf PKPdf 23 34 16.0 -1.3
HGN Heimansgroeve 125.61 331 ePKP PKPdf 23 34 16.9 -0.3
comp=Z,269nm,1.5s
DAVA Damuels 125.65 325⇑iPKiKP PKPdf 23 34 17.6 -0.1
comp=Z,173nm,1.3s,SNR=42
MEM Membach 125.68 331 PKP PKPdf 23 34 17.5 +0.2
MEM Membach 125.68 331 ePKPdf PKPdf 23 34 18.0 +0.6
EBL Broad Law 125.69 340⇑eP PKPdf 23 34 17.2 0.0
BEBN Eben Emael 125.71 331 PKP PKPdf 23 34 17.3 -0.1
BFO Black Forest 125.90 327 ePKP PKPdf 23 34 17.6 -0.3
BFO ePKKP PKKPbc 23 43 53.6 -0.7
BFO Black Forest 125.90 327 ePKPdf PKPdf 23 34 17.9 0.0
DAVOX Davos/Dischmat 125.93 325 PKP PKPdf 23 34 18.5 +0.2
comp=Z,50nm,0.6s,baz=136,slow=1.3,SNR=79
EKA Eskdalemuir Ar 126.08 340 PKP PKPdf 23 34 17.9 0.0
comp=Z,51nm,0.7s,baz=23,slow=3.4,SNR=102
GOGA Godfrey 126.08 53 ePKPdf PKPdf 23 34 18.9 +0.3
ESK Eskdalemuir 126.11 340 eP PKPdf 23 34 18.4 +0.4
ESK AMS AMS 00 24 32.2
comp=Z,4μm,26.2s
ESK AMS AMS 00 24 33.9
comp=Z,13μm,26.2s
XAL Allendale 126.12 339⇑eP PKPdf 23 34 18.1 0.0
BCLA Clavier 126.14 331 PKP PKPdf 23 34 18.5 +0.2
ECK Cauldkaine Hil 126.19 339⇑eP PKPdf 23 34 17.7 -0.5
WLF Walferdange 126.21 330 PKP PKPdf 23 34 19.0 +0.6
WLF Walferdange 126.21 330 ePKP PKPdf 23 34 19.3 +0.9
WLF ePKKP PKKPbc 23 43 52.7 -0.4
CDF Champ du Feu 126.41 328 ePKIKP PKPdf 23 34 18.6 -0.4
comp=Z,331nm,1.5s
CDF Champ du Feu 126.41 328 ePKPdf PKPdf 23 34 18.6 -0.4
MMNY Mt. Morris Dam 126.44 41 ePKPdf PKPdf 23 34 18.6 -0.4
TIGA Tifton 126.56 56 ⇑P PKPdf 23 34 21.0 +1.3
baz=126
SNF Seneffe 126.57 331 PKP PKPdf 23 34 19.5 +0.5
GIVF Givet 126.58 331 ePKIKP PKPdf 23 34 19.4 +0.3
comp=Z,684nm,1.4s
GIVF Givet 126.58 331 ePKPdf PKPdf 23 34 19.4 +0.3
HPK Haverah Park 126.60 338⇑eP PKPdf 23 34 19.3 +0.2
HPK AMS AMS 00 31 19.5
comp=Z,4μm,25.5s
KESW Keswick, Cumbr 126.65 339 eP PKPdf 23 34 19.0 -0.1
KESW AMS AMS 00 24 21.6
comp=Z,4μm,34.0s
DOU Dourbes 126.70 331 PKP PKPdf 23 34 19.6 +0.3
GCD Castle Douglas 126.72 340⇑eP PKPdf 23 34 19.1 -0.1
BAIF Baives 126.91 331 ePKIKP PKPdf 23 34 20.1 +0.4
comp=Z,488nm,1.6s
BAIF Baives 126.91 331 ePKPdf PKPdf 23 34 20.1 +0.4
GAL1 Galloway 126.98 340 eP PKPdf 23 34 19.3 -0.4
GAL1 AMS AMS 00 27 02.2
comp=Z,3μm,25.9s
HINF Hinteralfeld 127.00 327 ePKIKP PKPdf 23 34 19.7 -0.4
comp=Z,799nm,1.5s
HINF Hinteralfeld 127.00 327 ePKPdf PKPdf 23 34 19.7 -0.4
LHO Holmfirth 127.01 337 eP PKPdf 23 34 19.4 -0.5
VLC Villacollemand 127.06 322 ePKPdf PKPdf 23 34 19.1 -1.1
BLA Blacksburg 127.10 48 ePKPdf PKPdf 23 34 21.1 +0.5
KBI1 Birley Grange 127.11 337⇑eP PKPdf 23 34 19.7 -0.3
PAGF Fort de Pagny 127.13 329 ePKIKP PKPdf 23 34 20.4 +0.2
comp=Z,130nm,1.6s
PAGF Fort de Pagny 127.13 329 ePKPdf PKPdf 23 34 20.4 +0.2
HAU Haudompre 127.15 328 ePKIKP PKPdf 23 34 20.3 0.0
comp=Z,726nm,1.4s
HAU eR 23 34 20.3 0.0
comp=Z,8μm,21.8s
HAU Haudompre 127.15 328 ePKPdf PKPdf 23 34 20.3 0.0
PTN Potsdam (NY) 127.32 37 ePKPdf PKPdf 23 34 20.5 -0.2
VWCC Virginia Weste 127.41 48 ePKPdf PKPdf 23 34 20.9 -0.2
SSPA Standing Stone 127.44 43 ePKPpre PKPpre 23 34 08.1 -1.1
SSPA ePKPdf PKiKP 23 34 21.4 -0.1
STNC Stoke 127.49 337⇑eP PKPdf 23 34 20.8 +0.1
STNC AMS AMS 00 30 00.9
comp=Z,4μm,26.9s
MEZF Maizieres J'vi 127.51 329 ePKIKP PKPdf 23 34 21.3 +0.4
comp=Z,1μm,1.7s
MEZF Maizieres J'vi 127.51 329 ePKPdf PKPdf 23 34 21.3 +0.4
LONY Lake Ozonia 127.53 37 ePKPdf PKPdf 23 34 21.3 +0.1
SFTF Sexfontaines 127.71 329 ePKIKP PKPdf 23 34 21.6 +0.3
comp=Z,820nm,1.8s
SFTF Sexfontaines 127.71 329 ePKPdf PKPdf 23 34 21.6 +0.3
GMM Mts of Mourne 127.91 340 eP PKPdf 23 34 21.6 +0.1
BINY Binghamton 127.94 40 ePKPdf PKPdf 23 34 22.3 +0.3
WPM1 Penmaenmawr 128.00 338⇑eP PKPdf 23 34 21.8 +0.1
FOEL Foel Wylfa 128.03 338 eP PKPdf 23 34 21.6 -0.2
FOEL AMS AMS 00 26 18.8
comp=Z,3μm,31.3s
WME Myndd Eilian 128.03 339⇑eP PKPdf 23 34 22.0 +0.2
NCB Newcomb 128.10 37 ePKPdf PKPdf 23 34 22.4 +0.1
HMNX Herstmonceux 128.12 334 AMS AMS 00 23 36.0
comp=Z,5μm,28.4s
CABF La Chapelle 128.15 327 ePKIKP PKPdf 23 34 22.7 +0.3
comp=Z,1μm,1.5s
CABF La Chapelle 128.15 327 ePKPdf PKPdf 23 34 22.7 +0.3
WLF1 Llynfaes 128.15 339⇑eP PKPdf 23 34 22.0 0.0
WLF1 AMS AMS 00 25 34.7
comp=Z,3μm,26.8s
YLL Llanberis 128.19 339⇑eP PKPdf 23 34 21.9 -0.1
HLM1 Long Mynd 128.20 337 eP PKPdf 23 34 21.8 -0.4
HLM1 AMS AMS 00 30 33.0
comp=Z,4μm,21.8s
TLL Tololo Astrono 128.24 137 eP PKPdf 23 34 24.3 +1.0
JTS JuntasAbangare 128.24 82 ePKPdf PKPdf 23 34 23.9 +0.6
JTS ePP PP 23 36 27.6 -0.4
YRC Rhoscolyn 128.25 339⇑eP PKPdf 23 34 22.1 0.0
KSPA Keystone Colle 128.40 41 ePKPdf PKPdf 23 34 21.9 -0.9
YRE Yr Eifl 128.41 339 eP PKPdf 23 34 21.6 -0.9
LPG La Plagne 128.45 325 ePKIKP PKPdf 23 34 23.4 +0.2
comp=Z,438nm,1.6s
LPG La Plagne 128.45 325 ePKPdf PKPdf 23 34 23.4 +0.2
LPL La Plagne 128.45 325 ePKIKP PKPdf 23 34 23.3 +0.2
comp=Z,371nm,1.6s
LPL La Plagne 128.45 325 ePKPdf PKPdf 23 34 23.3 +0.2
WOL Wolverton 128.46 335 eP PKPdf 23 34 21.8 -0.8
WOL AMS AMS 00 24 00.3
comp=Z,5μm,30.9s
STRD Stroud 128.49 336 eP PKPdf 23 34 22.7 0.0
STRD AMS AMS 00 22 36.6
comp=Z,4μm,35.2s
SWN1 Swindon 128.54 336 eP PKPdf 23 34 23.7 +0.9
SWN1 AMS AMS 00 22 52.6
comp=Z,5μm,38.8s
MCH1 Michaelchurch 128.65 337 eP PKPdf 23 34 23.2 +0.2
MONM Monmouth 128.69 337 eP PKPdf 23 34 22.9 -0.2
MONM AMS AMS 00 31 37.0
comp=Z,4μm,24.4s
MDV Middlebury 128.71 37 ePKPdf PKPdf 23 34 22.6 -0.8
OLDB Oldbury-Upon-S 128.73 336 eP PKPdf 23 34 23.1 -0.1
OLDB AMS AMS 00 30 27.4
comp=Z,4μm,22.5s
JSRW J. Sargeant Re 128.75 46 ePKPdf PKPdf 23 34 24.2 +0.6
BNI Bardonecchia 128.75 325 ePKPdf PKPdf 23 34 24.3 +0.7
ACCN Adirondack Com 128.76 38 ePKPdf PKPdf 23 34 24.2 +0.7
PGF Pioggiola 128.77 321 ePKIKP PKPdf 23 34 23.5 -0.2
comp=Z,708nm,1.7s
PGF Pioggiola 128.77 321 ePKPdf PKPdf 23 34 23.5 -0.2
MVL Millersville 128.77 43 ePKPdf PKPdf 23 34 23.0 -0.6
NHSC New Hope 128.79 53 ePKPdf PKPdf 23 34 24.2 +0.4
BATH Bath 128.81 336 eP PKPdf 23 34 23.6 +0.3
MBDF Montbardon 128.89 324 ePKIKP PKPdf 23 34 23.8 -0.1
comp=Z,357nm,1.7s
MBDF Montbardon 128.89 324 ePKPdf PKPdf 23 34 23.8 -0.1
LOR Lormes 128.92 329 ePKIKP PKPdf 23 34 23.8 +0.1
comp=Z,625nm,1.5s
LOR eR 23 34 23.8 +0.1
comp=Z,10μm,22.8s
LOR Lormes 128.92 329 ePKPdf PKPdf 23 34 23.8 +0.1
LPW Lampeter 128.97 338⇑eP PKPdf 23 34 22.8 -0.7
LPW AMS AMS 00 26 30.9
comp=Z,4μm,30.4s
CFAA Coronel Fontan 128.99 140 PKP PKPdf 23 34 24.1 -0.3
comp=Z,14nm,0.9s,baz=247,slow=3.8,SNR=13
CFAA PP PP 23 36 30.6 -1.1
comp=Z,3.3nm,1.2s,baz=235,slow=8.9,SNR=7.0
SBF Sospel 129.00 323 ePKIKP PKPdf 23 34 23.7 -0.3
comp=Z,740nm,1.5s
SBF Sospel 129.00 323 ePKPdf PKPdf 23 34 23.7 -0.3
LCO Las Campanas 129.02 136 eP PKPdf 23 34 26.3 +1.5
LCO Las Campanas 129.02 136 ePKPdf PKPdf 23 34 25.6 +0.8
URVA University of 129.05 46 ePKPdf PKPdf 23 34 24.5 +0.3
TRY Troy 129.12 39 ePKPdf PKPdf 23 34 23.8 -0.4
SSF Saint Saulge 129.24 329 ePKIKP PKPdf 23 34 24.5 +0.2
comp=Z,604nm,1.5s
SSF Saint Saulge 129.24 329 ePKPdf PKPdf 23 34 24.5 +0.2
ORIF Oris-en-Rattie 129.29 325 ePKIKP PKPdf 23 34 24.7 +0.1
comp=Z,456nm,1.7s
ORIF eR 23 34 24.7 +0.1
comp=Z,8μm,21.5s
ORIF Oris-en-Rattie 129.29 325 ePKPdf PKPdf 23 34 24.7 +0.1
LBNH Lisbon 129.31 36 ePKPdf PKPdf 23 34 24.9 +0.4
SMF Signal de Mont 129.33 328 ePKIKP PKPdf 23 34 24.5 0.0
comp=Z,751nm,1.5s
SMF Signal de Mont 129.33 328 ePKPdf PKPdf 23 34 24.5 0.0
ODNJ Ogdensburg 129.39 41 ePKPdf PKPdf 23 34 24.3 -0.4
AVF Avril sur Loir 129.49 328 ePKIKP PKPdf 23 34 24.7 -0.1
comp=Z,537nm,1.8s
AVF Avril sur Loir 129.49 328 ePKPdf PKPdf 23 34 24.7 -0.1
HYF Humbligny 129.54 329 ePKIKP PKPdf 23 34 25.4 +0.5
HYF Humbligny 129.54 329 ePKPdf PKPdf 23 34 25.4 +0.5
BRNJ Basking Ridge 129.62 41 ePKPdf PKPdf 23 34 24.9 -0.3
FRF La Foret Royal 129.64 323 ePKIKP PKPdf 23 34 25.1 -0.1
comp=Z,809nm,1.7s
FRF La Foret Royal 129.64 323 ePKPdf PKPdf 23 34 25.1 -0.1
HEX Exmoor 129.69 337 eP PKPdf 23 34 25.0 0.0
CNNC Cliffs of the 129.76 49 ePKPdf PKPdf 23 34 24.8 -0.8
LMR La Mourre 129.85 323 ePKIKP PKPdf 23 34 25.5 -0.1
comp=Z,473nm,1.5s
LMR La Mourre 129.85 323 ePKPdf PKPdf 23 34 25.5 -0.1
PAL Palisades 129.89 41 ePKPdf PKPdf 23 34 26.2 +0.5
BGF Bois d'Agland 129.91 328 ePKIKP PKPdf 23 34 25.9 +0.3
comp=Z,762nm,1.6s
BGF Bois d'Agland 129.91 328 ePKPdf PKPdf 23 34 25.9 +0.3
PQI Presque Isle 129.95 31 ePKPdf PKPdf 23 34 25.5 -0.1
CPNY Central Park 129.96 41 ePKPdf PKPdf 23 34 25.7 -0.1
LDF La Druitiere 129.97 332 ePKIKP PKPdf 23 34 25.6 0.0
comp=Z,485nm,1.5s
LDF La Druitiere 129.97 332 ePKPdf PKPdf 23 34 25.6 0.0
VIVF Saint-Julien-l 130.01 326 ePKIKP PKPdf 23 34 26.0 +0.1
comp=Z,509nm,1.6s
VIVF Saint-Julien-l 130.01 326 ePKPdf PKPdf 23 34 26.0 +0.1
FLN La Foliniere 130.01 333 ePKIKP PKPdf 23 34 25.7 0.0
comp=Z,679nm,1.5s
FLN eR 23 34 25.7 0.0
comp=Z,7μm,20.2s
FLN La Foliniere 130.01 333 ePKPdf PKPdf 23 34 25.7 0.0
HTL Hartland 130.01 337 eP PKPdf 23 34 26.2 +0.7
HTL AMS AMS 00 27 30.6
comp=Z,3μm,26.2s
SMRF Simiane la Rot 130.03 324 ePKIKP PKPdf 23 34 26.4 +0.5
comp=Z,594nm,1.4s
SMRF Simiane la Rot 130.03 324 ePKPdf PKPdf 23 34 26.4 +0.5
VSL Villasalto 130.08 317 ePKPdf PKPdf 23 34 26.8 +0.7
QUA2 Belchertown 130.18 38 ePKPdf PKPdf 23 34 27.0 +0.8
PKME Peaks-Kenny Pk 130.18 33 ePKPdf PKPdf 23 34 26.9 +0.8
DYA Yadsworthy 130.23 336⇑eP PKPdf 23 34 25.6 -0.4
DYA AMS AMS 00 32 34.2
comp=Z,4μm,24.3s
DYA Yadsworthy 130.23 336 ePKPdf PKPdf 23 34 26.7 +0.7
YLE Yale 130.34 40 ePKPpre PKPpre 23 34 26.1
YLE ePKPdf PKPdf 23 34 26.5 0.0
TCF Toulx Ste Croi 130.42 329 ePKIKP PKPdf 23 34 26.9 +0.3
comp=Z,738nm,1.5s
TCF Toulx Ste Croi 130.42 329 ePKPdf PKPdf 23 34 26.9 +0.3
WVL Waterville 130.42 34 ePKPpre PKPpre 23 34 25.1
WVL ePKPdf PKPdf 23 34 25.3 -1.3
JSA Saint Aubin 130.45 334 eP PKPdf 23 34 26.2 -0.3
JSA AMS AMS 00 24 57.3
comp=Z,5μm,32.1s
GRR Gorron 130.46 332 ePKIKP PKPdf 23 34 26.8 +0.3
comp=Z,665nm,1.5s
GRR Gorron 130.46 332 ePKPdf PKPdf 23 34 26.8 +0.3
BRYW Bryant College 130.88 38 ePKPpre PKPpre 23 34 27.5
BRYW ePKPdf PKiKP 23 34 28.4 -0.1
BRYW eSKPbc SKPbc 23 37 44.9 -1.4
BRYW eSKPdf SKPab 23 37 45.4 -1.1
CCA1 Carnmenellis 130.94 337 eP PKPdf 23 34 27.9 +0.5
LASF Ste Croix 130.95 325 ePKIKP PKPdf 23 34 27.9 +0.2
comp=Z,574nm,1.6s
LASF Ste Croix 130.95 325 ePKPdf PKPdf 23 34 27.9 +0.2
VAL Valentia 131.25 342⇓iP PKPdf 23 34 29.0 +1.1
SGMF Saint Gilles 131.32 333 ePKIKP PKPdf 23 34 28.2 0.0
comp=Z,200nm,1.0s
SGMF Saint Gilles 131.32 333 ePKPdf PKPdf 23 34 28.2 0.0
MFF Saint Martin d 131.39 330 ePKIKP PKPdf 23 34 28.5 +0.1
comp=Z,515nm,1.6s
MFF Saint Martin d 131.39 330 ePKPdf PKPdf 23 34 28.5 +0.1
CAF Calviac 131.40 327 ePKIKP PKPdf 23 34 29.2 +0.7
comp=Z,486nm,1.6s
CAF Calviac 131.40 327 ePKPdf PKPdf 23 34 29.2 +0.7
RJF Les Rejaudoux 131.44 328 ePKIKP PKPdf 23 34 29.1 +0.6
comp=Z,573nm,1.8s
RJF eR 23 34 29.1 +0.6
comp=Z,6μm,21.8s
RJF Les Rejaudoux 131.44 328 ePKPdf PKPdf 23 34 29.1 +0.6
EMMW East Machias 131.54 33 ePKPdf PKPdf 23 34 27.6 -1.0
EMMW eSKPbc SKPbc 23 37 48.7 +0.3
ROSF Rostrenen 131.57 334 ePKIKP PKPdf 23 34 28.6 -0.1
comp=Z,90nm,0.9s
ROSF Rostrenen 131.57 334 ePKPdf PKPdf 23 34 28.6 -0.1
QUIF Quistinic 131.84 334 ePKIKP PKPdf 23 34 29.3 +0.1
comp=Z,615nm,1.9s
QUIF Quistinic 131.84 334 ePKPdf PKPdf 23 34 29.3 +0.1
KEST Kesra 131.88 313 PKP PKPdf 23 34 30.2 +0.5
comp=Z,9.9nm,0.9s,baz=265,slow=1.5,SNR=18
KEST SKP 23 37 53.6
comp=Z,15nm,1.1s,baz=304,slow=3.7,SNR=5.7
KEST Kesra 131.88 313 ePKPdf PKPdf 23 34 29.1 -0.7
KEST eSKPbc SKPab 23 37 51.2 +0.2
LFF La Frestale 132.09 328 ePKIKP PKPdf 23 34 30.2 +0.5
comp=Z,536nm,1.5s
LFF La Frestale 132.09 328 ePKPdf PKPdf 23 34 30.2 +0.5
NNA Nana 132.34 113 ePKPdf PKPdf 23 34 30.8 -0.4
MTLF Montolieu 132.34 326 ePKIKP PKPdf 23 34 30.4 +0.1
comp=Z,326nm,1.7s
MTLF Montolieu 132.34 326 ePKPdf PKPdf 23 34 30.4 +0.1
PB10 IPOC Station P 132.37 130 eP PKPdf 23 34 34.3 +3.4
TRIS Tristan da Cun 132.47 202 ePKPdf PKPdf 23 34 31.5 +0.8
DRLN Deer Lake 132.71 22 ePKPpre PKPpre 23 34 31.4
DRLN ePKPdf PKiKP 23 34 31.6 -0.3
DRLN eSKPbc SKPab 23 37 53.8 -0.2
CMAH Djebel Manchou 132.84 315 P PKPdf 23 34 32.0 +0.5
ABSA Djebel Ababsia 132.97 315 P PKPdf 23 34 32.4 +0.6
MSKU Masuku 133.04 261 PKP PKPdf 23 34 32.8 +0.3
comp=Z,109nm,0.9s,baz=99,slow=3.7
MSKU PP PP 23 36 58.4 -0.8
comp=Z,27nm,0.9s,baz=122,slow=8.6,SNR=6.3
MSKU Masuku 133.04 261 ePKPpre PKPpre 23 34 18.5
MSKU ePKPdf PKPdf 23 34 30.4 -2.1
MSKU ePP PP 23 36 57.6 -1.6
MSKU eSKPbc SKiKP 23 38 00.5 -3.7
MSKU eSKPdf SKPdf 23 38 00.7 -1.5
CAEH 'Ain El Ouahch 133.16 316 P PKPdf 23 34 32.2 +0.1
BCIP Isla Barro Col 133.27 84 ePKPdf PKPdf 23 34 31.5 -1.3
BCIP ePP PP 23 36 56.4 -4.3
BCIP eSKPbc SKPbc 23 37 56.2 +0.8
BCIP eSKPdf SKPab 23 37 56.7 -0.8
CKFL Kef-Lekhel 133.44 315 P PKPdf 23 34 33.4 +0.7
PB06 IPOC Station P 133.57 130 eP PKPdf 23 34 35.3 +1.9
EPF Esparros 133.58 327 ePKIKP PKPdf 23 34 32.9 +0.2
comp=Z,315nm,1.7s
EPF Esparros 133.58 327 ePKPdf PKPdf 23 34 32.9 +0.2
CASM Ain Smara 133.67 315 P PKPdf 23 34 33.8 +0.7
PB07 IPOC Station P 133.87 129 eP PKPdf 23 34 36.0 +2.0
PB04 IPOC Station P 133.88 130 eP PKPdf 23 34 35.6 +1.8
OTAV Otavalo 133.91 96 ePKPpre PKPpre 23 34 23.9
OTAV ePKPdf PKPdf 23 34 35.3 +0.6
OTAV eSKPbc SKPab 23 38 01.9 +1.0
OTAV eSKPdf SKPdf 23 38 02.5 -1.8
DFRA Djebel Bou Aff 133.95 316 P PKPdf 23 34 35.0 +1.3
LVC Limon Verde 134.12 130 PKhKP PKPpre 23 34 21.3
baz=280,slow=5.6
LVC PKP PKPdf 23 34 35.0 +0.4
comp=Z,98nm,1.0s,baz=255,slow=3.2,SNR=5.6
LVC PP PP 23 37 05.2 -0.2
comp=Z,119nm,1.2s,baz=221,slow=7.3,SNR=7.0
LVC SKP 23 38 03.0
comp=Z,20nm,0.9s,baz=240,slow=7.2,SNR=1.9
LVC Limon Verde 134.12 130 ePKPpre PKPpre 23 34 19.7
LVC ePKPdf PKiKP 23 34 36.4 +0.5
LVC ePP PP 23 37 04.4 -1.0
LVC eSKPbc SKPab 23 38 03.0 +1.7
ETSF Etsaut 134.16 327 ePKIKP PKPdf 23 34 34.8 +1.0
comp=Z,94nm,0.9s
ETSF Etsaut 134.16 327 ePKPdf PKPdf 23 34 34.8 +1.0
PATCX Punta Patache 134.16 128 eP PKPdf 23 34 37.8 +3.3
PB09 IPOC Station P 134.33 129 eP PKPdf 23 34 26.9 -8.0
PB09 eP PKiKP 23 34 37.4 +1.1
SJPF Ste Jean 134.37 328 ePKIKP PKPdf 23 34 34.8 +0.7
SJPF Ste Jean 134.37 328 ePKPdf PKPdf 23 34 34.8 +0.7
SET Setif 134.46 316 P PKPdf 23 34 37.5 +2.4
PB01 IPOC Station P 134.56 128 eP PKPdf 23 34 36.7 +1.5
HMBC Humberstone 134.66 127 eP PKPdf 23 34 36.8 +1.3
PSGC Pisagua 134.83 126 eP PKPdf 23 34 37.3 +1.5
MTDJ Mount Denham 134.87 71 ePKPdf PKPdf 23 34 36.1 +0.2
EMHD Djebel Mahouad 136.13 317 P PKPdf 23 34 39.0 +1.2
GTBY Guantanamo Bay 136.82 68 ePKPdf PKPdf 23 34 37.7 -1.6
EBNR Beni Rached 137.04 318 P PKPdf 23 34 41.0 +1.6
ECHA Ech Chlef 137.23 318 P PKPdf 23 34 43.0 +3.4
EANR 'Ain N'Sour 137.52 318 P PKPdf 23 34 44.6 +4.3
ETRT Tiaret 137.70 317 P PKPdf 23 34 46.5 +5.8
PBRG Braganca 138.13 331 ePKPdf PKPdf 23 34 41.8 +0.6
LPAZ La Paz 138.15 123 PKhKP PKPpre 23 34 31.9
comp=Z,17nm,1.0s,baz=266,slow=2.1,SNR=18
LPAZ PKP PKPdf 23 34 42.6 0.0
comp=Z,84nm,1.0s,baz=354,slow=0.4,SNR=29
LPAZ La Paz 138.15 123 eP PKPpre 23 34 31.9
LPAZ La Paz 138.15 123 ePKPpre PKPpre 23 34 30.1
LPAZ ePKPdf PKPdf 23 34 43.0 +0.3
LPAZ eP PP 23 37 30.4 -1.0
LPAZ eSKPab SKPab 23 38 19.7 +0.1
ESDC Sonseca Array 138.24 326 PKhKP PKPpre 23 34 30.9
comp=Z,0.3nm,0.4s,baz=24,slow=2.6,SNR=7.4
ESDC PKP PKPdf 23 34 41.4 -0.1
comp=Z,8.4nm,0.8s,baz=22,slow=2.6,SNR=17
PAB San Pablo 138.54 326 ePKPdf PKPdf 23 34 41.4 -0.7
ROSC El Rosal 138.55 90 PKhKP PKPpre 23 34 35.1
comp=Z,25nm,0.7s,baz=273,slow=6.0,SNR=7.5
ROSC PKP PKPdf 23 34 43.0 -0.2
comp=Z,66nm,0.8s,baz=257,slow=19,SNR=26
ROSC El Rosal 138.55 90 ePKPpre PKPpre 23 34 31.5
ROSC ePKPdf PKPdf 23 34 44.2 +1.0
ROSC eP PP 23 37 33.9 -0.4
ROSC eSKPab SKiKP 23 38 16.5 +0.6
PGAV Gavieira, Arco 138.73 332 ePKPdf PKPdf 23 34 42.8 +0.4
PGAV Gavieira, Arco 138.73 332 eLR LR 00 23 20.2
comp=Z,4μm,20.0s
MVO Moncorvo 138.76 330 ePKPdf PKPdf 23 34 42.2 -0.2
MVO Moncorvo 138.76 330 eLR LR 00 22 25.6
comp=Z,5μm,22.0s
PCAB Cabril 138.82 332 ePKPdf PKPdf 23 34 42.7 +0.2
POLO Lamas de Olo 138.97 331 ePKPdf PKPdf 23 34 43.3 +0.5
PVRL Vila Real 139.01 331 ePKPdf PKPdf 23 34 44.5 +1.7
CPUP Villa Florida 139.39 145 PKhKP PKPpre 23 34 35.5
comp=Z,6.9nm,1.0s,baz=177,slow=2.8,SNR=11
CPUP Villa Florida 139.39 145 ePKPpre PKPpre 23 34 33.4
CPUP ePKPdf PKPdf 23 34 44.4 +0.5
CPUP eP PP 23 37 36.5 -0.8
LGNH LØogne 139.42 69 ePKPdf PKPdf 23 34 44.2 +0.1
PVIS Viseu 139.52 331 ePKPdf PKPdf 23 34 45.1 +1.3
MTE Manteigas 139.59 330 ePKPdf PKPdf 23 34 41.8 -2.1
MTE Manteigas 139.59 330 eLQ LQ 00 16 40.6
MTE eLR LR 00 23 37.2
comp=Z,5μm,24.0s
MTE Manteigas 139.59 330 ePKPdf PKPdf 23 34 40.8 -3.1
MTE eSKPdf SKPbc 23 38 15.1 +1.1
PAPH Port-au-Prince 139.71 69 ePKPdf PKPdf 23 34 44.3 -0.3
PCBR Castelo Branco 139.98 329 ePKPdf PKPdf 23 34 45.7 +1.1
PMRV Marv??o 140.25 329 ePKPdf PKPdf 23 34 45.8 +0.7
PMRV Marv??o 140.25 329 ePPP PP 23 37 44.4 +1.8
PMRV Marv??o 140.25 329 eLR LR 00 23 55.8
comp=Z,3μm,22.0s
SDDR Presa de Saban 140.54 68 ePKPpre PKPpre 23 34 37.9
SDDR ePKPdf PKPdf 23 34 46.1 -0.1
PESTR Estremoz 140.77 328 ePKPdf PKPdf 23 34 41.4 -4.7
PMTG Montargil 140.94 329 ePKPdf PKPdf 23 34 46.3 0.0
PBAR Barrancos 140.98 327 ePKPdf PKPdf 23 34 47.1 +0.7
EVO Evora 141.24 328 ePKIKP PKPdf 23 34 47.3 +0.4
comp=Z,511nm,1.6s
EVO eR 23 34 47.3 +0.4
comp=Z,4μm,21.2s
EVO Evora 141.24 328 ePKPdf PKPdf 23 34 45.8 -1.1
EVO Evora 141.24 328 ePPP PP 23 37 51.5 +2.9
EVOP Sao Brissos 141.30 329 ePKPdf PKPdf 23 34 47.3 +0.3
PACT Alcochete 141.48 329 ePKPdf PKPdf 23 34 49.3 +2.0
LIS Lisbon 141.68 330 eP PKPdf 23 34 45.8 -1.9
LIS AMS AMS 00 38 35.1
comp=Z,5μm,20.2s
PNCL Nicolau / Gran 141.82 329 ePKPdf PKPdf 23 34 47.9 0.0
MESJ Messejana 141.86 328 eP PKPdf 23 34 46.4 -1.6
MESJ AMS AMS 00 38 21.0
comp=Z,3μm,22.0s
MESJ Messejana 141.86 328 ePKPdf PKPdf 23 34 48.7 +0.7
MESJ Messejana 141.86 328 ePPP PP 23 37 53.3 +0.9
PVAQ Vaqueiros 141.91 327 ePKPdf PKPdf 23 34 48.3 +0.2
PVAQ Vaqueiros 141.91 327 eLR LR 00 23 46.1
comp=Z,3μm,22.0s
PCVE Castro Verde 141.92 328 ePKPdf PKPdf 23 34 48.5 +0.4
PCVE Castro Verde 141.92 328 ePPP PP 23 37 54.4 +1.6
PBDV Barranco-do-Ve 142.15 327 ePKPdf PKPdf 23 34 48.9 +0.3
PTEO Sao Teotonio 142.35 328 ePKPdf PKPdf 23 34 49.7 +0.8
SMN1 Samana, DR 142.35 67 ePKPpre PKPpre 23 34 46.2
MORF Marmelete 142.49 328 eP PKPdf 23 34 47.8 -1.4
MORF AMS AMS 00 38 05.2
comp=Z,2μm,22.0s
MORF Marmelete 142.49 328 ePKPdf PKPdf 23 34 48.4 -0.8
PFVI Vila Bisbo 142.71 328 ePKPdf PKPdf 23 34 50.6 +1.0
MDT Midelt 143.17 319 PKP PKPbc 23 34 48.4 +0.6
comp=Z,6.4nm,0.5s,baz=302,slow=1.0,SNR=28
PCDR Punta Cana, DR 143.33 68 ePKPpre PKPpre 23 34 47.5
RTC Rabat Centre 143.83 322 ePKPdf PKPdf 23 34 50.8 -0.8
SIV San Ignacio 143.98 129 PKP PKPbc 23 34 50.1 -0.3
comp=Z,26nm,0.6s,baz=246,slow=5.0,SNR=56
SIV PP PP 23 38 04.5 -1.6
comp=Z,15nm,0.9s,baz=219,slow=8.8,SNR=4.6
AGP Aguadilla 144.50 68 ePKPdf PKPab 23 34 51.5 -0.2
MPR Mayaguez 144.55 68 ePKPdf PKPab 23 34 51.3 -0.5
LSP Las Mesas 144.61 68 ePKPdf PKPbc 23 34 52.5 +0.2
CRPR Cabo Rojo, PR 144.63 68 ePKPdf PKPab 23 34 51.8 -0.3
LRS Lares 144.80 68 ePKPdf PKPab 23 34 51.8 -1.0
AOPR Arecibo Observ 144.87 68 ePKPbc PKPab 23 34 52.3 -0.8
OBIP Obispado Ponce 145.08 68 ePKPbc PKPbc 23 34 52.6 -1.1
OBIP eP PP 23 38 11.7 -1.5
SHEL Horse Pasture 145.09 230 ePKPbc PKPdf 23 34 54.3 -0.1
CELP Cerrillos 145.10 68 ePKPbc PKPbc 23 34 53.3 -0.5
CELP eP PP 23 38 10.9 -2.5
ICMP Isla Caja de M 145.19 68 ePKPbc PKPbc 23 34 52.9 -1.2
ICMP eP PP 23 38 12.1 -1.8
SJG San Juan 145.48 68 ePKPdf PKPdf 23 34 54.5 -0.4
SJG eP PP 23 38 13.9 -1.7
TOA0 Torodi Ar. Sit 145.55 283 ePKPdf PKPdf 23 34 54.6 -0.4
TOA0 eP PP 23 38 16.8 +0.5
TORD Torodi Ar. Bea 145.55 283 PKPbc PKPdf 23 34 54.6 -0.4
comp=Z,304nm,0.6s,baz=

TORD				PP		**PP**	**23 38 16.8**		**+0.5**
	comp=Z,9.3nm,0.9s,baz=79,slow=7.5,SNR=5.0								
HUMP	**Col San Antoni**	**145.75**	**68**	*e*PKPdf		**PKPbc**	**23 34 55.6**		**-0.2**
HUMP				*e*PP		**PP**	**23 38 14.9**		**-2.3**
SAML	**Samuel**	**145.87**	**117**	*e*PKPdf		**PKPdf**	**23 34 55.5**		**-0.2**
STVI	**Saint Thomas**	**146.52**	**67**	*e*PKPdf		**PKPdf**	**23 34 56.8**		**+0.2**
TBVI	**Tortola**	**146.81**	**66**	*e*PKPdf		**PKPdf**	**23 34 57.5**		**+0.4**
CDVI	**St. Croix**	**146.85**	**68**	*e*PKPdf		**PKPbc**	**23 34 58.4**		**-0.7**
H07S1	**FLORES T-PHASE**	**147.44**	**358**	PKPbc		**PKPab**	**23 35 02.3**		**+0.1**
PGRA	**Graciosa**	**147.53**	**353**	*e*PKP		**PKPbc**	**23 35 00.0**		**-0.4**
ADH	**Angra Heroismo**	**147.81**	**352**	*e*PKP		**PKPbc**	**23 35 01.6**		**+0.4**
ROSA	**Rosais**	**147.87**	**353**	*e*PKP		**PKPbc**	**23 35 01.5**		**+0.1**
PMAN	**Manadas**	**147.94**	**353**	*e*PKP		**PKPdf**	**23 35 00.0**		**+1.5**
TOPO	**Topo**	**147.96**	**353**	*e*PKP		**PKPab**	**23 35 03.4**		**-0.9**
PCED	**Cedros**	**148.01**	**354**	*e*PKP		**PKPbc**	**23 35 02.6**		**+0.9**
PICO	**Pico**	**148.11**	**354**	*e*PKP		**PKPab**	**23 35 04.1**		**-0.8**
PCAN	**Candelaria**	**148.15**	**354**	*e*PKP		**PKPdf**	**23 35 00.4**		**+1.5**
SABA	**Saba**	**148.28**	**67**	*e*PKPdf		**PKPbc**	**23 35 01.8**		**-1.2**
SMRT	**St. Maarten**	**148.31**	**66**	*e*PKPdf		**PKPdf**	**23 34 59.6**		**-0.1**
BART	**Pico Bartolome**	**148.32**	**349**	*e*PKP		**PKPbc**	**23 35 01.0**		**-1.7**
PSET	**Sete Cidades**	**148.38**	**349**	*e*PKP		**PKPbc**	**23 35 01.6**		**-1.2**
PDA	**Ponta Delgada**	**148.44**	**349**	*e*PKP		**PKPbc**	**23 35 01.6**		**-1.3**
PSMN	**Pico do Norte,**	**149.04**	**348**	*e*PKP		**PKPdf**	**23 35 01.1**		**+0.8**
PSMA	**Santa Maria**	**149.06**	**348**	*e*PKP		**PKPdf**	**23 35 01.4**		**+1.1**
MBWH		**149.49**	**68**	*e*P		**PKPdf**	**23 35 02.1**		**+0.5**
ANWB	**Willy Bob**	**149.60**	**66**	*e*P		**PKPdf**	**23 35 01.7**		**0.0**
ANWB	**Willy Bob**	**149.60**	**66**	*e*PKPdf		**PKPdf**	**23 35 00.3**		**-1.4**
ANWB				*e*PKPbc		**PKPbc**	**23 35 06.8**		**+0.5**
LZG	**Guadaloupe-1**	**150.03**	**69**	*e*P		**PKPdf**	**23 35 03.6**		**+1.2**
MLG	**Mont-d'or**	**150.11**	**69**	*e*P		**PKPdf**	**23 35 02.9**		**+0.2**
FNG	**Fond-Bernard**	**150.13**	**69**	*e*P		**PKPdf**	**23 35 03.8**		**+1.1**
SSG	**Sans Toucher**	**150.13**	**69**	*e*P		**PKPdf**	**23 35 04.0**		**+1.3**
HMG	**Houelmont**	**150.14**	**70**	*e*P		**PKPdf**	**23 35 01.3**		**-1.3**
SCG	**Saint Claude**	**150.15**	**69**	*e*P		**PKPdf**	**23 35 04.7**		**+2.0**
TAG	**Tarade**	**150.16**	**69**	*e*P		**PKPdf**	**23 35 01.9**		**-0.9**
CRG	**Carmichael**	**150.16**	**69**	*e*P		**PKPdf**	**23 35 04.0**		**+1.1**
LKG	**Breislack**	**150.16**	**69**	*e*P		**PKPdf**	**23 35 03.0**		**+0.2**
PHG	**Guadaloupe-2**	**150.19**	**69**	*e*P		**PKPdf**	**23 35 04.7**		**+1.9**
TBG	**Guadaloupe-3**	**150.22**	**70**	*e*P		**PKPdf**	**23 35 03.5**		**+0.7**
H05N1	**Guadeloupe/Mar** SNR=38	**150.65**	**69**	PKPbc		**PKPbc**	**23 35 08.7**		**-0.3**
DLPL	**La Plaine**	**150.72**	**71**	*e*		**PKPdf**	**23 35 02.6**		**-0.9**
GRW	**Mount Saint Ca**	**150.93**	**77**	*e*		**PKPbc**	**23 35 09.0**		**-0.7**
GRGR	**Grenville**	**150.94**	**77**	*e*P		**PKPdf**	**23 35 02.4**		**-1.6**
GRGR	**Grenville**	**150.94**	**77**	*e*PKPdf		**PKPdf**	**23 35 03.2**		**-0.7**
GRGR				*e*PKPbc		**PKPbc**	**23 35 08.7**		**-1.0**
GRHS	**Sauteurs**	**150.94**	**77**	*e*		**PKPbc**	**23 35 08.5**		**-1.2**
FDF	**Fort de France**	**150.95**	**72**	*e*P		**PKPdf**	**23 35 04.5**		**+0.5**
GRSS	**Sisters**	**150.96**	**77**	*e*		**PKPbc**	**23 35 09.5**		**-0.2**
SVB	**Belmont**	**151.15**	**75**	*e*P		**PKPdf**	**23 35 03.8**		**-0.4**
SVB	**Belmont**	**151.15**	**75**	*e*		**PKPdf**	**23 35 03.8**		**-0.4**
H05S1	**Guadeloupe/Mar**	**151.32**	**72**	PKPbc		**PKPbc**	**23 35 09.9**		**-0.6**
TPP	**Pointe-a-Pierr**	**151.34**	**81**	*e*		**PKPbc**	**23 35 08.2**		**-2.4**
TRN	**Trinidad (W)**	**151.36**	**80**	*e*		**PKPbc**	**23 35 12.7**		**+2.1**
MCLT	**Moule a Chique**	**151.36**	**74**	*e*		**PKPdf**	**23 35 03.8**		**-0.7**
MCLT	**Moule a Chique**	**151.36**	**74**	*e*P		**PKPdf**	**23 35 04.3**		**-0.2**
TBH	**Brigand Hill**	**151.70**	**80**	*e*		**PKPbc**	**23 35 08.8**		**-2.6**
PTGA	**Pitinga** comp=Z,92nm,1.0s,baz=254,slow=2.8	**151.80**	**104**	PKP		**PKPdf**	**23 35 05.5**		**+0.2**
PTGA				PKPbc		**PKiKP**	**23 35 12.1**		**0.0**
	baz=240,slow=3.7								
PTGA				PKPab		**PKPab**	**23 35 20.3**		**-0.6**
	comp=Z,129nm,1.0s,baz=260,slow=9.2,SNR=3.4								
PTGA	**Pitinga**	**151.80**	**104**	*e*PKPdf		**PKPdf**	**23 35 05.5**		**+0.2**
PTGA				*e*PKPbc		**PKiKP**	**23 35 12.5**		**+0.4**
PTGA				*e*PKPab		**PKPab**	**23 35 20.3**		**-0.6**
TPR	**Prospect**	**151.91**	**79**	*e*		**PKPbc**	**23 35 14.8**		**+2.8**
BOT	**Bacolet**	**151.97**	**79**	*e*		**PKPbc**	**23 35 08.8**		**-3.2**
TOSP	**Speyside**	**152.14**	**79**	*e*		**PKPdf**	**23 35 06.9**		**+1.2**
TOSP	**Speyside**	**152.14**	**79**	*i*		**PKPdf**	**23 35 07.2**		**+1.5**
KIC	**Kosan Boka** comp=Z,2µm,1.4s	**152.22**	**271**	*e*PKIKP		**PKPdf**	**23 35 06.4**		**+0.5**
DBIC	**Dimbokro** comp=Z,60nm,1.1s,baz=71,slow=1.9,SNR=26	**152.35**	**272**	PKP		**PKPdf**	**23 35 06.0**		**0.0**
DBIC				PKPbc		**PKiKP**	**23 35 13.7**		**+0.5**
	comp=Z,157nm,0.6s,baz=76,slow=2.8,SNR=146								
DBIC				PKPab		**PKPab**	**23 35 23.9**		**+0.7**
	comp=Z,86nm,0.7s,baz=88,slow=6.4,SNR=11								
DBIC				PP		**PP**	**23 38 55.4**		**-0.6**
	comp=Z,11nm,0.9s,baz=90,slow=8.7,SNR=4.1								
DBIC	**Dimbokro**	**152.35**	**272**	*e*PKPdf		**PKPdf**	**23 35 06.8**		**+0.7**
DBIC				*e*PKPbc		**PKiKP**	**23 35 14.6**		**+1.4**
DBIC				*e*PKPab		**PKPab**	**23 35 25.0**		**+1.8**
DBIC				*e*PP		**PP**	**23 38 55.3**		**-0.6**
LIC	**Lamto** comp=Z,192nm,1.3s	**152.50**	**271**	⇑*i*PKIKP		**PKPdf**	**23 35 06.7**		**+0.4**
LIC				*e*R					
	comp=Z,3µm,21.0s								
LIC	**Lamto** comp=Z,1µm,1.3s	**152.50**	**271**	*e*PKIKP		**PKPdf**	**23 35 06.7**		**+0.4**
LIC	**Lamto**	**152.50**	**271**	*e*PKPdf		**PKPdf**	**23 35 06.7**		**+0.4**
TIC	**Toumodi** comp=Z,346nm,0.8s	**152.51**	**272**	*e*PKIKP		**PKPdf**	**23 35 06.8**		**+0.4**
BBGH	**Gun Hill**	**152.79**	**74**	*e*PKPdf		**PKPdf**	**23 35 03.6**		**-3.1**
BBGH				*e*PKPbc		**PKPbc**	**23 35 09.8**		**-4.0**
BBGH				*e*PKPab		**PKPab**	**23 35 25.7**		**+0.7**
BDFB	**Brasilia** comp=Z,103nm,1.0s,baz=207,slow=1.0,SNR=85	**153.11**	**146**	PKP		**PKPdf**	**23 35 08.0**		**+0.7**
BDFB				PKPbc		**PKPbc**	**23 35 14.7**		**0.0**
	comp=Z,361nm,1.0s,baz=184,slow=3.7,SNR=70								
BDFB				PKPab		**PKPab**	**23 35 25.9**		**-0.3**
	comp=Z,63nm,0.7s,baz=162,slow=3.7,SNR=6.8								
BDFB				PP		**PP**	**23 38 56.9**		**-1.7**
	comp=Z,6.2nm,0.6s,baz=219,slow=8.4,SNR=1.8								
BDFB	**Brasilia**	**153.11**	**146**	*e*PKPdf		**PKPdf**	**23 35 08.1**		**+0.7**
BDFB				*e*PKPbc		**PKiKP**	**23 35 15.6**		**+0.8**
BDFB				*e*PKPab		**PKPab**	**23 35 25.9**		**-0.3**
BDFB				*e*PP		**PP**	**23 38 56.9**		**-1.7**
ASCN	**Ascension**	**156.64**	**232**	*e*PKPdf		**PKPdf**	**23 35 09.3**		**-2.8**
BBTS	**Babate** comp=Z,105nm,1.1s,baz=231,slow=2.5,SNR=6.6	**162.27**	**298**	PKP		**PKPdf**	**23 35 19.5**		**+1.1**
BBTS				PKPab		**PKPab**	**23 36 06.2**		**+0.4**
	comp=Z,118nm,0.9s,baz=104,slow=0.3,SNR=10								
BBTS				PP		**PP**	**23 39 52.7**		**+2.8**
	comp=Z,19nm,0.9s,baz=189,slow=2.4,SNR=3.6								
RCBR	**Riachuelo** comp=Z,48nm,1.2s,baz=97,slow=1.8,SNR=8.1	**167.15**	**166**	PKP		**PKPdf**	**23 35 23.2**		**+0.3**
RCBR				PKPab		**PKPab**	**23 36 27.9**		**+0.8**
	comp=Z,57nm,0.9s,baz=230,slow=5.1,SNR=11								
RCBR				PP		**PP**	**23 40 15.3**		**+1.6**
	comp=Z,5.6nm,0.7s,baz=175,slow=10,SNR=3.6								
RCBR	**Riachuelo**	**167.15**	**166**	*e*PKPdf		**PKPdf**	**23 35 22.3**		**-0.5**
RCBR				*e*PKPab		**PKPab**	**23 36 27.4**		**+0.4**
RCBR				*e*PP		**PP**	**23 40 15.3**		**+1.6**
SACV	**Santiago Islan**	**167.87**	**313**	*e*PKPdf		**PKPdf**	**23 35 22.6**		**-0.6**

ROM 17 23:32:32.6±0.1, 42°57N×13°22E, h11km, Md1.5/3, MlI0.5/3, Error ellipse: s-maj=1.0km s-min=0.3km az=170.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.11**	**55**	Pg	Pg	23 32 35.9	+0.3
SMA1				Sg	Sg	23 32 38.2	+0.5
	20nm,0.2s						
LNSS	**Leonessa**	**0.13**	**285**	Pg	Pg	23 32 36.3	+0.3
LNSS				Sg	Sg	23 32 39.1	+0.7
	10.0nm,0.1s						
NRCA	**Norcia**	**0.28**	**344**	Pg	Pg	23 32 38.8	+0.4
NRCA				Sg	Sg	23 32 43.3	+1.0
	9.0nm,1.2s						

CSEM 17 23:41:27.4, 38.14N×22.14E, h20km, MD2.3

ATH 17 23:41:27.4, 38.14N×22.14E, h20km±3km, MD2.3/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.10**	**175**	*e*PB	Pb	23 41 31.8	+0.3
KLV				*e*SB	Sb	23 41 34.1	-0.1
KLV	**Kalavryta, Ach**	**0.10**	**175**	*e*Pb	Pb	23 41 31.8	+0.3
KLV				*e*Sb	Sb	23 41 34.1	-0.1
GUR	**Goura**	**0.26**	**142**	*e*PB	Pb	23 41 33.1	-0.5
GUR				*e*SB	Sb	23 41 38.1	+0.3
GUR	**Goura**	**0.26**	**142**	*e*Pb	Pb	23 41 33.1	-0.5
GUR				*e*Sb	Sb	23 41 38.1	+0.3
EFP	**Efpalio**	**0.34**	**327**	*e*PB	Pb	23 41 34.7	-0.1
EFP	**Efpalio**	**0.34**	**327**	*e*Pb	Pb	23 41 34.7	-0.1
DRO	**Drossia**	**0.39**	**241**	*e*PB	Pb	23 41 35.5	-0.1
DRO	**Drossia**	**0.39**	**241**	*e*Pb	Pb	23 41 35.5	-0.1

ISCJB 17 23:43:31.2±0.4, 48.15N±0.02×18.63E±0.03, h11km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=157.8
IPEC 17 23:43:31.6±0.2, 48.14N×18.64E, h17km±1km, ML1.6/2, Error ellipse: s-maj=1.3km s-min=0.8km az=55.0
CSEM 17 23:43:32.0±0.2, 48.17N×18.56E, h5km, ML2.0, Error ellipse: s-maj=4.9km s-min=3.9km az=74.0
PRU 17 23:43:34.1, 48.40N×18.57E, h16km, Tectonic Event Near Nitra, Slovakia

ISC 17 23:43:31.7±0.9, 48.17N±0.02×18.63E±0.02, h16km±8km, n46, σ0979/75, 10C-8D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VYHS	**Vyhne**	**0.35**	**23**	*e*Pg	**Pg**	**23 43 39.2**	**+0.1**
VYHS				*e*Sg	**Sg**	**23 43 43.6**	**-0.5**
VYHS	**Vyhne**	**0.35**	**23**	*e*PG	**Pg**	**23 43 39.2**	**+0.1**
VYHS				*e*SG	**Sg**	**23 43 43.6**	**-0.5**
BUD	**Budapest**	**0.73**	**159**	*e*Pg	**Pg**	**23 43 44.8**	**-1.3**
BUD				*e*Sg	**Sg**	**23 43 55.1**	**-0.7**
BUD	**Budapest**	**0.73**	**159**	*e*Pg	**Pg**	**23 43 44.8**	**-1.3**
BUD				*e*Sg	**Sg**	**23 43 55.1**	**-0.7**
PKSG		**0.79**	**192**	⇑*e*Pg	**Pg**	**23 43 47.5**	**+0.3**
PKSG				⇑*e*Sg	**Sg**	**23 43 58.3**	**+0.7**
PKSG		**0.79**	**192**	⇑*e*PG	**Pg**	**23 43 47.5**	**+0.3**
PKSG				*e*Sg	**Sg**	**23 43 58.3**	**+0.7**
CSKK	**Cs˘‡kako**	**0.84**	**197**	⇓*e*Pg	**Pg**	**23 43 48.5**	**+0.4**
CSKK				⇓*e*Sg	**Sg**	**23 43 59.6**	**+0.4**
CSKK	**Cs˘‡kako**	**0.84**	**197**	⇓*e*PG	**Pg**	**23 43 48.5**	**+0.4**
CSKK				*e*Sg	**Sg**	**23 43 59.6**	**+0.4**
SMOL	**Smolenice**	**0.87**	**294**	*e*Pg	**Pn**	**23 43 49.5**	**+0.1**
SMOL				*e*Sg	**Sn**	**23 44 01.9**	**+0.1**
SMOL	**Smolenice**	**0.87**	**294**	*e*PG	**Pn**	**23 43 49.5**	**+0.1**
SMOL				*e*SG	**Sn**	**23 44 01.9**	**+0.1**
PSZ	**Piszkesteto**	**0.89**	**106**	⇓*i*P	**Pb**	**23 43 48.6**	**-0.2**
PSZ				S	**Sb**	**23 43 59.8**	**-0.7**
PSZ	**Piszkesteto**	**0.89**	**106**	⇓*e*Pg	**Pb**	**23 43 48.3**	**-0.5**
PSZ				*e*Sg	**Sb**	**23 43 59.7**	**-0.7**
PSZ	**Piszkesteto**	**0.89**	**106**	⇓*e*Pg	**Pb**	**23 43 48.3**	**-0.5**
PSZ				*e*Sg	**Sb**	**23 43 59.7**	**-0.7**
PKST	**T˘˘s**	**0.99**	**204**	⇑*e*Pg	**Pb**	**23 43 50.8**	**+0.2**
PKST				⇑*e*Sg	**Sn**	**23 44 04.6**	**-0.2**
PKST	**T˘˘s**	**0.99**	**204**	⇑*e*PG	**Pb**	**23 43 50.8**	**+0.2**
PKST				*e*Sg	**Sn**	**23 44 04.6**	**-0.2**
LANS	**Liptovska Anna**	**1.13**	**29**	*e*Pg	**Pn**	**23 43 53.5**	**+0.5**
SOP	**Sopron**	**1.47**	**252**	*e*Pn	**Pb**	**23 43 58.4**	**-0.4**
SOP				*e*Sg	**Sg**	**23 44 19.2**	**0.0**
SOP	**Sopron**	**1.47**	**252**	*e*Pn	**Pb**	**23 43 58.4**	**-0.4**
SOP				*e*Sn	**Sg**	**23 44 19.2**	**0.0**
PKSN	**Nyarlorinc**	**1.52**	**146**	*e*Pn	**Pn**	**23 43 59.3**	**+1.0**
PKSN				*e*Sg	**Sg**	**23 44 21.4**	**+0.6**
PKSN	**Nyarlorinc**	**1.52**	**146**	*e*Pn	**Pn**	**23 43 59.3**	**+1.0**
PKSN				*e*Sn	**Sg**	**23 44 21.4**	**+0.6**
PKS9	**Tamasi**	**1.60**	**189**	⇓*e*Pn	**Pb**	**23 44 00.5**	**-0.4**
PKS9				*e*Sg	**Sg**	**23 44 24.4**	**+1.2**
PKS9	**Tamasi**	**1.60**	**189**	⇓*e*Pn	**Pb**	**23 44 00.5**	**-0.4**
PKS9				*e*Sn	**Sg**	**23 44 24.4**	**+1.2**
PKS6	**Bocsa**	**1.69**	**158**	*e*Sg	**Sg**	**23 44 26.5**	**+0.3**
PKS6	**Bocsa**	**1.69**	**158**	*e*Sn	**Sg**	**23 44 26.5**	**+0.3**
OKC	**Ostrava-Krasne** comp=Z,2.9nm,0.3s	**1.70**	**349**	*e*SG	**Sn**	**23 44 21.8**	**-0.4**
OKC	**Ostrava-Krasne** 2.9nm,0.3s	**1.70**	**349**	Sg	**Sn**	**23 44 21.8**	**-0.4**
PKS2	**Kecel**	**1.72**	**166**	*e*Sg	**Sg**	**23 44 28.1**	**+0.9**
PKS2	**Kecel**	**1.72**	**166**	*e*Sn	**Sg**	**23 44 28.1**	**+0.9**
KRUC	**Moravsky**	**1.73**	**302**	*e*Pn	**Pn**	**23 44 01.4**	**+0.2**
MORC	**Moravsky Berou**	**1.76**	**336**	*e*Pn	**Pn**	**23 44 02.5**	**+0.8**
MORC				*e*Sn	**Sn**	**23 44 24.3**	**+0.5**
	5.1nm,0.2s						
VRAC	**Vranov**	**1.77**	**311**	⇓*i*P	**Pn**	**23 44 01.1**	**-0.6**
VRAC	**Vranov**	**1.77**	**311**	S	**Sn**	**23 44 24.0**	**+0.2**
VRAC	**Vranov**	**1.77**	**311**	⇓*i*P	**Pn**	**23 44 01.1**	**-0.6**
VRAC	**Vranov**	**1.77**	**311**	*e*Pn	**Pn**	**23 44 02.2**	**+0.5**
VRAC				*e*Sn	**Sn**	**23 44 24.2**	**+0.4**
	3.5nm,0.3s						
PKSM	**Moragy**	**1.96**	**180**	⇑*e*Pn	**Pn**	**23 44 04.3**	**0.0**
PKSM				*e*Sg	**Sg**	**23 44 34.1**	**-0.6**
PKSM	**Moragy**	**1.96**	**180**	⇑*e*Pn	**Pn**	**23 44 04.3**	**0.0**
PKSM				*e*Sn	**Sg**	**23 44 34.1**	**-0.6**
CRVS	**Cervenica-Dubn**	**2.02**	**68**	*e*Pn	**Pb**	**23 44 08.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.02**	**68**	*e*PN	**Pb**	**23 44 08.8**	**+0.7**
STHS	**Stebnicka Huta**	**2.13**	**53**	*e*Pn	**Pb**	**23 44 10.5**	**+0.5**
STHS	**Stebnicka Huta**	**2.13**	**53**	*e*PN	**Pb**	**23 44 10.5**	**+0.5**
KRLC	**Kraliky**	**2.26**	**328**	*e*PG	**Pb**	**23 44 11.6**	**-0.6**
KRLC				*e*SG	**Sn**	**23 44 37.7**	**+1.6**
TREC	**Trest**	**2.37**	**300**	*e*Pn	**Pn**	**23 44 11.6**	**+1.7**
TREC				*e*Sn	**Sn**	**23 44 37.7**	**-0.9**
DPC	**Dobruska-Polom**	**2.66**	**326**	*e*SG	**Sb**	**23 44 50.8**	**-0.5**
DPC	**Dobruska-Polom**	**2.66**	**326**	Sg	**Sb**	**23 44 50.8**	**-0.5**
KHC	**Kasperske Hory**	**3.48**	**288**	*e*PN	**Pn**	**23 44 27.0**	**+1.7**
KHC				*e*SN	**Sn**	**23 45 04.0**	**-2.2**
KHC				*ex*	x	23 45 28.0	
KHC	**Kasperske Hory**	**3.48**	**288**	*e*Pn	**Pn**	**23 44 27.0**	**+1.7**
KHC				Sn	**Sn**	**23 45 04.0**	**-2.2**

ROM 17 23:47:07.7±0.1, 42°28N×13°46E, h8km±1km, Md1.5/4, MlI.1/1, Error ellipse: s-maj=1.8km s-min=0.4km az=25.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T0106	**Roio Piano**	**0.06**	**298**	Pg	Pg	23 47 10.0	+0.2
T0106				Sg	Sg	23 47 11.4	+0.2
	34nm,0.2s						
AQU	**L'Aquila**	**0.09**	**332**	Pg	Pg	23 47 10.3	+0.3
AQU				Sg	Sg	23 47 12.2	+0.5
	24nm,0.8s						
FAGN	**Fagnano**	**0.09**	**97**	Pg	Pg	23 47 10.4	+0.3
FAGN				Sg	Sg	23 47 12.2	+0.4
	61nm,0.3s						
T0104	**Madonna delle**	**0.12**	**313**	Pg	Pg	23 47 10.8	+0.3
T0104				Sg	Sg	23 47 13.1	+0.6

GUC 17 23:50:26.2±0.4, 33.94S×72.41W, h21km±5km, ML3.5, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**1.26**	**77**	*e*P	Pb	23 50 49.3	0.0
RCDM	**Rinconada Maip**	**1.41**	**72**	⇓*e*P	Pb	23 50 51.6	-0.2
RCDM				*e*S	Sb	23 51 11.0	+1.5
RCDM				*e*S	Sn	23 51 11.3	+2.6
RCDM				AML	AML	23 51 16.5	
	comp=N,682nm,0.8s						
NICH	**Los Niches**	**1.44**	**138**	⇑*e*P	Pb	23 50 52.4	+0.1
NICH				*e*S	Sb	23 51 12.0	+1.8
SAN	**Santiago**	**1.54**	**72**	*e*P	Pb	23 50 54.1	0.0
SAN				*e*S	Sb	23 51 15.0	+1.9
TALC	**Talca**	**1.59**	**156**	*e*P	Pb	23 50 54.8	0.0
TALC				*e*S	Sb	23 51 16.1	+1.7
PEL	**Peldehue**	**1.65**	**62**	⇑*e*P	Pb	23 50 55.8	-0.2
PEL				*e*S	Sb	23 51 17.9	+1.6
PEL				AML	AML	23 51 27.4	
	comp=N,2µm,0.5s						
CLCH	**Cerro Calan**	**1.66**	**71**	⇑*e*P	Pb	23 50 56.0	0.0
CLCH				*e*S	Sb	23 51 18.8	+2.2
CLCH				AML	AML	23 51 23.0	
	comp=E,719nm,0.5s						
SJCH	**San Jose de Ma**	**1.74**	**81**	*e*P	Pb	23 50 57.1	-0.4
SJCH				*e*S	Sb	23 51 20.9	+1.9
SJCH				AML	AML	23 51 26.7	
	comp=N,578nm,0.7s						
YECH	**El Yeso**	**1.96**	**83**	⇓*e*P	Pb	23 51 01.1	-0.5
YECH				*e*S	Sb	23 51 28.0	+2.2
YECH				AML	AML	23 51 34.9	
	comp=N,681nm,0.4s						

IDC 17 23:51:35.6±4.5, 4.71S×148.69E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.1/31, mbtmp3.2/2, Error ellipse: s-maj=179.0km s-min=48.6km az=111.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.61**	**222**	P	P	23 56 16.2	-0.4
	0.3nm,0.4s,baz=49,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**23.64**	**216**	P	P	23 56 49.4	+0.6
	0.4nm,0.4s,baz=46,slow=9.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**146.38**	**287**	PKPbc	PKPdf	00 11 18.4	+0.1
	1.6nm,1.1s,baz=108,slow=2.2,SNR=5.6						

IDC 17 23:55:44.4±1.0, 13.39N×89.35W, h0km, mb4.1/13, mb1 4.3/14, mb1mx3.9/44, mbtmp4.1/14, ML3.7/1, Error ellipse: s-maj=32.3km s-min=16.2km az=40.0
NEIC 17 23:55:46.6±4.4, 13.41N×89.36W, h13km±28km, MD4.0(SNET), Error ellipse: s-maj=24.1km s-min=10.5km az=221.0
NEIC Felt [II] at San Salvador.
CASC 17 23:55:48.0±2.2, 12.91N×89.94W, h15km±11km, MD4.3, ML4.0
ISCJB 17 23:55:49.7±0.7, 13.01N±0.07×89.85W±0.05, h74km±5km, mb3.9/12, Error ellipse: s-maj=12.9km s-min=5.4km az=34.1

ISC 17 23:55:51.4±1.3, 13.08N±0.08×89.79W±0.06, h64km±10km, n41, σ1887/47, mb4.0/12, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.78**	**12**	⇓*i*P	**Pn**	**23 56 05.8**	**-1.2**
SNET	**Serv Nac Est T**	**0.82**	**42**	*i* P	**Pn**	**23 56 06.4**	**-1.0**
SNET				*e*S	**Sn**	**23 56 19.9**	**+0.8**
SNET				AML	AML	23 56 23.3	
	comp=Z,4µm,0.4s						
BOQS	**Boqueron**	**0.82**	**37**	⇑*i*P	**Pn**	**23 56 06.8**	**-0.8**
BOQS				*e*S	**Sn**	**23 56 23.2**	**+3.8**
LFRS	**El Faro**	**0.90**	**53**	⇓*i*P	**Pn**	**23 56 07.6**	**-0.8**
LBRS	**Las Brisas**	**0.98**	**48**	*i* P	**Pn**	**23 56 09.3**	**-0.1**
SNVI	**San Vicente**	**1.07**	**60**	*e*P	**Pn**	**23 56 10.8**	**+0.2**
VSM	**San Miguel**	**1.52**	**77**	*e*P	**Pn**	**23 56 17.0**	**+0.3**
BLLM	**Bellamira**	**1.56**	**76**	*e*P	**Pn**	**23 56 15.6**	**-1.4**
NBG	**Las Nubes**	**1.60**	**340**	*e*P	**Pn**	**23 56 17.9**	**+0.1**
NBG				*e*S	**Sn**	**23 56 41.3**	**+3.7**
CAHU	**Cacacuatique**	**1.69**	**66**	*e*P	**Pn**	**23 56 20.1**	**+1.3**
CNCH	**Conchagua**	**1.92**	**84**	*e*P	**Pn**	**23 56 22.6**	**+0.7**
MRL	**Marmol**	**1.98**	**3**	*e*P	**Pn**	**23 56 24.3**	**+1.5**
MRL				*e*S	Sn	23 56 56.0	+9.2
APG	**El Apazote**	**2.02**	**341**	Pn	Pn	23 56 17.2	-6.2
	comp=Z,71nm,0.3s,baz=147,slow=22,SNR=508						
APG				Sn	**Sn**	**23 56 43.1**	**-4.7**
	comp=Z,42nm,0.3s,baz=101,slow=17,SNR=4.2						
JAT	**Jato**	**2.18**	**305**	*e*P	Pn	23 56 22.6	-2.7
JAT				*e*S	**Sn**	**23 56 51.1**	**-0.1**
JTS	**JuntasAbangare**	**5.49**	**120**	Pn	**Pn**	**23 57 10.9**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=306,slow=17,SNR=8.7						
JTS				Lg	Lg	23 58 40.5	
	comp=Z,0.7nm,0.3s,baz=175,slow=19,SNR=

comp=Z,0.1nm,0.3s,baz=291,slow=11,SNR=3.7
ARCES ARCESS Array B 86.33 19 P P 00 08 25.1 -1.1
comp=Z,4.2nm,0.9s,baz=334,slow=4.4,SNR=5.0
TORD Torodi Ar. Bea 88.50 77 P P 00 08 37.1 -0.6
comp=Z,0.3nm,0.6s,baz=293,slow=3.5,SNR=4.4
MKAR Makanchi Array 119.98 6 PKP PKPdf 00 14 35.0 0.0
comp=Z,0.1nm,0.4s,baz=2.9,slow=2.9,SNR=3.9
WRA Warramunga Arr 137.24 255 PKP PKPdf 00 15 12.0 +3.6
comp=Z,0.3nm,0.3s,baz=87,slow=2.9,SNR=3.1
ASAR Alice Springs 137.37 249 PKP PKPdf 00 15 13.6 +5.0
comp=Z,0.2nm,0.3s,baz=88,slow=2.2,SNR=3.3
CMAR Chiang Mai Arr 147.50 344 PKPbc PKPbc 00 15 29.4 +0.2
comp=Z,2.3nm,0.7s,baz=340,slow=3.9,SNR=14

IDC 18 00:01:31.8±3.1, 6.88S×148.13E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/36, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=80.5km s-min=35.7km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.65**	**225**	P		P		00 05 50.8	-0.6
	0.3nm,0.3s,baz=51,slow=11,SNR=13								
ASAR	**Alice Springs**	**21.57**	**218**	P		P		00 06 23.6	+0.3
	0.6nm,0.5s,baz=54,slow=8.9,SNR=15								
CMAR	**Chiang Mai Arr**	**54.65**	**298**	P		P		00 11 02.3	-0.6
	0.6nm,0.4s,baz=99,slow=2.6,SNR=5.2								
TORD	**Torodi Ar. Bea**	**146.39**	**283**	PKPbc		PKPbc		00 21 15.5	-0.4
	0.4nm,0.3s,baz=86,slow=3.2,SNR=16								

*ISCJB **18** 00:03:09.6±0.6, 38.71N±0.03×39.98E±0.03, h2km±6km, Error ellipse: s-maj=4.9km s-min=4.1km az=35.6*
*DDA **18** 00:03:09.8, 38.74N×40.01E, h12km, MD3.0*
*ISK **18** 00:03:09.3, 38.72N×40.06E, h10km, MD3.2*
*CSEM **18** 00:03:10.5±0.3, 38.69N×39.94E, h10km, MD3.2, Error ellipse: s-maj=7.6km s-min=6.9km az=153.0*
ISC 18 00:03:09.6±1.2, 38.73N±0.02×39.98E±0.02, h4km±12km, n36, σ0.79/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.42**	**70**	*e*Pg		**Pb**		**00 03 20.6**	**+0.8**
BINT				*e*Sg		**Sb**		**00 03 28.7**	**+2.1**
PTK	**Pertek**	**0.49**	**289**	*e*PG		**Pb**		**00 03 20.6**	**-0.3**
PTK				*e*SG		**Sb**		**00 03 28.9**	**+0.4**
PTK	**Pertek**	**0.49**	**289**	*e*Pg		**Pb**		**00 03 20.6**	**-0.3**
PTK				*e*Sg		**Sb**		**00 03 28.9**	**+0.4**
BNGB	**Bingˆll**	**0.60**	**64**	*e*PG		**Pg**		**00 03 20.6**	**-0.7**
BNGB				*e*SG		**Sg**		**00 03 28.7**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.64**	**236**	*e*PG		**Pg**		**00 03 23.0**	**+1.2**
SVRC	**Sivrice-ELAZID**	**0.64**	**236**	*e*Pg		**Pg**		**00 03 23.0**	**+1.2**
DYBB	**Diyarbakir**	**0.79**	**171**	*e*PG		**Pg**		**00 03 24.6**	**-0.1**
DIY	**Diyarbakir**	**0.86**	**167**	*e*Pg		**Pg**		**00 03 24.6**	**-1.5**
ERZN	**Erzincan**	**0.88**	**347**	*e*PG		**Pg**		**00 03 26.1**	**-0.3**
BNGL	**BINGOL**	**0.94**	**76**	*i* P		**Pg**		**00 03 27.5**	**-0.2**
BNGL				*i* S		**Sn**		**00 03 43.7**	**-0.1**
EUZM	**Uzumlu**	**1.00**	**347**	*i* P		**Pg**		**00 03 28.8**	**0.0**
EUZM				*i* S		**Sb**		**00 03 43.8**	**+0.7**
EUZM	**Uzumlu**	**1.00**	**347**	*i* P		**Pg**		**00 03 28.8**	**0.0**
EUZM				*i* S		**Sb**		**00 03 43.8**	**+0.7**
KEMA	**Kemaliye**	**1.28**	**295**	*i* P		**Pn**		**00 03 32.7**	**-1.7**
KEMA				*i* S		**Sb**		**00 03 51.5**	**+0.4**
KEMA	**Kemaliye**	**1.28**	**295**	*i* P		**Pn**		**00 03 32.7**	**-1.7**
KEMA				*i* S		**Sb**		**00 03 51.5**	**+0.4**
MALT	**Malatya**	**1.29**	**252**	*e*PN		**Pb**		**00 03 34.4**	**-0.1**
MALT	**Malatya**	**1.29**	**252**	*e*Pn		**Pb**		**00 03 34.4**	**-0.1**
ILIC	**ilic-Erzincan**	**1.31**	**304**	*e*PN		**Pb**		**00 03 35.1**	**+0.1**
ILIC	**ilic-Erzincan**	**1.31**	**304**	*e*Pn		**Pb**		**00 03 35.1**	**+0.1**
BEST	**Besiri**	**1.32**	**129**	*i* P		**Pb**		**00 03 34.5**	**-0.5**
BEST				*i* S		**Sg**		**00 03 52.7**	**+0.7**
MAZI	**Mazidag**	**1.32**	**164**	*e*PN		**Pn**		**00 03 34.0**	**-1.0**
MAZI	**Mazidag**	**1.32**	**164**	*e*Pn		**Pn**		**00 03 34.0**	**-1.0**
KOPT	**Kop Dagi**	**1.35**	**17**	*i* P		**Pg**		**00 03 35.9**	**+0.4**
KOPT	**Kop Dagi**	**1.35**	**17**	*i* P		**Pg**		**00 03 35.9**	**+0.4**
MARD	**Mardin**	**1.55**	**156**	*i* P		**Pn**		**00 03 37.8**	**-0.3**
MARD				*i* S		**Sg**		**00 03 58.9**	**-0.5**
URFA	**Urfa**	**1.58**	**216**	*e*PN		**Pn**		**00 03 38.3**	**-0.2**
URFA	**Urfa**	**1.58**	**216**	*e*Pn		**Pn**		**00 03 38.3**	**-0.2**
ERZM	**Erzurum**	**1.59**	**42**	*i* P		**Pb**		**00 03 39.5**	**-0.3**
ERZM	**Erzurum**	**1.59**	**42**	*i* P		**Pb**		**00 03 39.5**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.66**	**4**	*e*PN		**Pn**		**00 03 39.4**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.66**	**4**	*e*Pn		**Pn**		**00 03 39.4**	**-0.4**
EKAR	**Karacoban**	**1.71**	**71**	*i* P		**Pg**		**00 03 43.5**	**+1.1**
EKAR	**Karacoban**	**1.71**	**71**	*i* P		**Pg**		**00 03 43.5**	**+1.1**
EKAR				*i* S		Sg		00 04 11.9	+7.4
GUMT	**Gumushane**	**1.77**	**348**	*e*PN		**Pb**		**00 03 41.9**	**-0.8**
GUMT	**Gumushane**	**1.77**	**348**	*e*Pn		**Pb**		**00 03 41.9**	**-0.8**
DARE	**Darende-Malaty**	**1.96**	**266**	*e*PN		**Pn**		**00 03 44.4**	**+0.6**
DARE	**Darende-Malaty**	**1.96**	**266**	*e*Pn		**Pn**		**00 03 44.4**	**+0.6**

IDC 18 00:08:32.1±1.3, 34.85N×80.33E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.3/56, mbtmp3.5/6, ML3.0/1, Error ellipse: s-maj=38.9km s-min=26.2km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.03**	**6**	Pn		Pn		00 11 25.5	+0.7
	0.1nm,0.3s,baz=187,slow=13,SNR=6.9								
KURBB	**Kurchatov Arra**	**15.82**	**356**	Pn		Pn		00 12 15.2	-1.0
	baz=179,slow=11,SNR=2.4								
CMAR	**Chiang Mai Arr**	**23.24**	**130**	P		P		00 13 41.4	+0.3
	0.4nm,0.4s,baz=308,slow=10,SNR=6.4								
FINES	**FINESS Array B**	**43.14**	**325**	P		P		00 16 34.1	0.0
	1.7nm,0.8s,baz=146,slow=8.4,SNR=4.3								
TORD	**Torodi Ar. Bea**	**73.36**	**275**	P		P		00 20 06.3	+0.1
	0.6nm,0.6s,baz=55,slow=5.0,SNR=7.2								
YKA	**Yellowknife Ar**	**82.25**	**7**	P		P		00 20 54.3	-0.7
	0.1nm,0.4s,baz=340,slow=5.6,SNR=3.6								

IDC 18 00:13:28.8±3.7, 6.89S×148.03E, h0km, mb2.7/1, mb1 3.3/2, mb1mx3.1/38, mbtmp3.0/2, Error ellipse: s-maj=142.7km s-min=46.1km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.58**	**224**	P		P		00 17 47.4	-0.2
	baz=49,slow=11,SNR=2.3								
ASAR	**Alice Springs**	**21.51**	**218**	P		P		00 18 19.6	0.0
	0.2nm,0.5s,baz=54,slow=8.5,SNR=5.0								
TORD	**Torodi Ar. Bea**	**146.30**	**283**	PKPbc		PKPdf		00 33 11.7	+0.3
	0.2nm,0.6s,baz=78,slow=3.6,SNR=8.1								

*ISCJB **18** 00:15:40.0±0.7, 13.30N±0.08×50.02E±0.06, h10km, mb3.7/10, Error ellipse: s-maj=11.5km s-min=7.8km az=22.8*
*IDC **18** 00:15:40.1±1.0, 13.22N×50.19E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=23.6km s-min=22.1km az=16.0*
ISC 18 00:15:41.8±0.9, 13.4N±0.1×50.04E±0.08, h10km, n16, σ1.9/40/15, mb3.8/10, 1C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.47**	**319**	*i*P		**Pn**		**00 16 07.3**	**-1.1**
MUKL				*i* S		**Sn**		**00 16 25.7**	**-2.0**
MUKL				AML		AML		00 16 26.6	
	comp=N,380nm,0.7s								
BDHA	**Al Bayda'**	**4.39**	**278**	*i*P		**Pn**		**00 16 49.5**	**+0.7**
BDHA				*e*				00 16 49.9	
	baz=106,slow=16								
BDHA				*i* S		**Sn**		**00 17 38.1**	**-2.0**
KMBO	**Kilima Mbogo**	**19.19**	**222**	P		**P**		**00 20 05.6**	**-0.6**
	comp=N,0.2nm,0.3s,baz=30,slow=9.2,SNR=5.0								
ASF	**Jabal al Asfar**	**22.26**	**329**	P		**P**		**00 20 41.2**	**+2.0**
	comp=N,0.8nm,0.7s,baz=126,slow=6.1,SNR=2.1								
GEYT	**Alibeck**	**25.50**	**15**	P		**P**		**00 21 10.7**	**+0.3**
	comp=N,1.2nm,0.6s,baz=205,slow=6.6,SNR=5.1								
H08N2	**Diego Garcia H**	**28.57**	**132**	T		T		00 51 11.0	
	baz=313,slow=76,SNR=12								
H08N3	**Diego Garcia H**	**28.58**	**132**	T		T		00 51 10.1	
	baz=313,slow=76,SNR=12								
H08N1	**Diego Garcia H**	**28.59**	**132**	T		T		00 51 10.1	
	baz=313,slow=76,SNR=12								
BRTR	**Keskin Array B**	**29.97**	**334**	P		**P**		**00 21 52.3**	**+1.7**
	comp=N,0.4nm,0.9s,baz=136,slow=13,SNR=4.2								
MKAR	**Makanchi Array**	**42.91**	**33**	P		**P**		**00 23 40.1**	**-0.6**
	comp=N,0.2nm,0.5s,baz=218,slow=7.7,SNR=4.3								
TORD	**Torodi Ar. Bea**	**47.00**	**276**	P		**P**		**00 24 14.6**	**+1.0**
	comp=N,0.7nm,0.8s,baz=92,slow=7.2,SNR=5.6								
CMAR	**Chiang Mai Arr**	**47.19**	**77**	P		**P**		**00 24 14.3**	**-0.9**
	comp=N,1.5nm,0.8s,baz=276,slow=9.2,SNR=12								
ZALV	**Zalesovo Beam**	**48.87**	**27**	P		**P**		**00 24 28.2**	**+0.7**
	comp=N,0.4nm,0.5s,baz=286,slow=5.8,SNR=2.8								
FINES	**FINESS Array B**	**51.04**	**345**	P		**P**		**00 24 45.0**	**+1.1**
	comp=N,1.6nm,0.7s,baz=171,slow=9.8,SNR=3.5								
WRA	**Warramunga Arr**	**89.25**	**111**	P		**P**		**00 28 37.7**	**-1.1**
	comp=N,1.3nm,0.8s,baz=302,slow=3.5,SNR=8.0								
ASAR	**Alice Springs**	**89.79**	**114**	P		**P**		**00 28 40.2**	**-1.1**
	comp=N,0.5nm,0.5s,baz=285,slow=4.7,SNR=7.9								

*IDC **18** 00:27:02.6±0.9, 11.39N×125.37E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.8/36, mbtmp3.9/12, Error ellipse: s-maj=61.5km s-min=15.7km az=65.0*
*MAN **18** 00:27:05, 11.34N×124.72E, h6km, mb5.0, ML4.0, MS4.1*
MAN INTENSITY II - TACLOBAN CITY; CAPOOCAN LEYTE.
*ISCJB **18** 00:27:06.7±1.9, 11.33N±0.03×124.72E±0.06, h15km±13km, mb3.9/14, Error ellipse: s-maj=9.6km s-min=5.2km az=175.3*
*NEIC **18** 00:27:08.0±0.5, 11.35N×125.35E, h35km, mb4.1/2, Error ellipse: s-maj=30.6km s-min=7.6km az=65.0*
NEIC Felt [II PIVS] at Capoocan and Tacloban, Leyte.
ISC 18 00:27:05.2±1.2, 11.34N±0.03×124.78E±0.05, h8km±8km, n31, σ1.9/37/32, mb3.8/14, 3C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.33**	**211**	*e*P		**Pg**		**00 27 11.6**	**-0.2**
OCLP				*e*S		**Sg**		**00 27 16.7**	**+0.5**
BESP	**Borongan**	**0.69**	**68**	*e*P		**Pb**		**00 27 20.4**	**+0.8**
CNP	**Catarman**	**1.17**	**354**	*e*P		**Pg**		**00 27 26.7**	**-1.0**
CNP				*e*S		**Sn**		**00 27 43.7**	**-0.4**
MSLP	**Maasin**	**1.20**	**176**	*e*P		**Pg**		**00 27 28.1**	**-0.2**
MSLP				*e*S		Sn		00 27 53.0	+8.2
SCPH	**Surigao**	**1.69**	**156**	*i*P		**Pb**		**00 27 36.4**	**-0.3**
SCPH				*e*S		**Sn**		**00 27 57.1**	**+0.1**
RCP	**Roxas**	**2.01**	**277**	*e*P		**Pn**		**00 27 39.1**	**-0.4**
GUIM	**Jordan**	**2.27**	**252**	*e*P		**Pn**		**00 27 43.4**	**+0.4**
PVCP	**Virac**	**2.33**	**345**	*e*P		**Pn**		**00 27 44.1**	**+0.2**
PVCP	**Virac**	**2.33**	**345**	*i*P		**Pn**		**00 27 44.2**	**+0.4**
PVCP				*i* S		**Sg**		**00 28 19.7**	**-0.3**
BUTP	**Butuan**	**2.49**	**161**	*e*P		**Pn**		**00 27 48.1**	**+2.0**
OTRP	**Odiongan**	**2.89**	**291**	*e*P		**Pn**		**00 27 52.4**	**+0.8**
DCPH	**Dipolog City**	**3.08**	**207**	*e*P		**Pn**		**00 27 53.2**	**-1.0**
GQP	**Guinayangan**	**3.42**	**318**	*e*P		**Pb**		**00 28 06.6**	**+0.5**
BUKP	**Musuan**	**3.45**	**175**	*e*P		**Pn**		**00 28 00.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**25.93**	**289**	P		**P**		**00 32 42.0**	**+3.7**
	0.4nm,0.4s,baz=88,slow=7.4,SNR=4.7								
WRAB	**Tennant Creek**	**32.47**	**163**	*e*P		**P**		**00 33 34.1**	**-2.3**
	1.8nm,0.8s								
WRA	**Warramunga Arr**	**32.48**	**163**	P		**P**		**00 33 34.1**	**-2.3**
	0.4nm,0.6s,baz=345,slow=9.6,SNR=7.4								
ASAR	**Alice Springs**	**35.91**	**166**	P		**P**		**00 34 04.0**	**-2.2**
	0.4nm,0.3s,baz=343,slow=7.3,SNR=14								
SONM	**Songino Array**	**39.52**	**340**	P		**P**		**00 34 37.1**	**+0.4**
	0.8nm,0.8s,baz=148,slow=8.7,SNR=4.4								
H11S3	**WAKE ISLAND Hy**	**41.04**	**75**	T		T		01 18 09.4	
	baz=288,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hy**	**41.05**	**75**	T		T		01 18 10.6	
	baz=288,slow=74,SNR=4.7								
H11S2	**WAKE ISLAND Hy**	**41.05**	**75**	T		T		01 18 10.9	
	baz=288,slow=74,SNR=7.9								
STKA	**Stephens Creek**	**45.89**	**160**	P		**P**		**00 35 25.9**	**-2.4**
	1.2nm,0.7s,baz=326,slow=8.2,SNR=3.0								
MKAR	**Makanchi Array**	**50.30**	**323**	P		**P**		**00 36 03.9**	**+1.5**
	0.6nm,0.7s,baz=120,slow=8.6,SNR=8.3								
ZALV	**Zalesovo Beam**	**53.00**	**332**	P		**P**		**00 36 22.2**	**-0.2**
	0.9nm,0.6s,baz=131,slow=6.1,SNR=6.7								
KURK	**Kurchatov**	**54.37**	**326**	*e*P		**P**		**00 36 34.2**	**+1.7**
	4.8nm,1.0s								
ARCES	**ARCESS Array B**	**82.69**	**340**	P		**P**		**00 39 28.8**	**-0.3**
	5.4nm,1.0s,baz=19,slow=5.1,SNR=4.5								
BRTR	**Keskin Array B**	**83.73**	**309**	P		**P**		**00 39 35.6**	**+0.3**
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.2								
FINES	**FINESS Array B**	**84.26**	**331**	P		**P**		**00 39 36.8**	**-0.5**
	6.4nm,1.1s,baz=103,slow=6.1,SNR=6.5								
AKASG	**Malin Array Be**	**84.82**	**321**	P		**P**		**00 39 40.2**	**-0.1**
	1.5nm,0.7s,baz=62,slow=5.2,SNR=10.0								
GERES	**GERESS Array B**	**94.96**	**322**	P		**P**		**00 40 29.3**	**+0.8**
	0.1nm,0.3s,baz=26,slow=4.7,SNR=3.7								

IDC 18 00:31:04.9±3.5, 6.68S×147.81E, h0km, mb2.8/1, mb1 3.3/2, mb1mx3.1/25, mbtmp3.0/2, ML3.3/1, Error ellipse: s-maj=127.4km s-min=44.7km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**223**	P		P		00 35 22.7	-1.0
	0.1nm,0.3s,baz=48,slow=11,SNR=6.7								
ASAR	**Alice Springs**	**21.54**	**217**	P		P		00 35 56.0	-0.1
	0.2nm,0.4s,baz=51,slow=8.9,SNR=5.6								
TORD	**Torodi Ar. Bea**	**146.04**	**284**	PKPbc		PKPdf		00 50 47.4	+0.2
	0.2nm,0.3s,baz=86,slow=3.8,SNR=8.5								

GUC 18 00:33:00.6±0.4, 37.78S×73.43W, h39km±6km, ML4.4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.97**	**15**	*i* P		Pn		00 33 18.1	+0.5
CCSP				*i* S		Sn		00 33 31.3	+1.2
CCSP				AML		AML		00 33 34.5	
	comp=E,6μm,0.4s								
VLCH	**Valdivia**	**2.03**	**176**	*i* P		Pn		00 33 33.6	+1.4
VLCH				*i* S		Sn		00 33 58.0	+1.8
VLCH				AML		AML		00 34 18.8	
	comp=E,9μm,0.5s								
LNCH	**Linares**	**2.42**	**38**	*i* P		Pn		00 33 40.4	+2.8
LNCH				*i* S		Sn		00 34 09.3	+3.3
LNCH				AML		AML		00 34 20.1	
	comp=E,2μm,1.0s								
TALC	**Talca**	**2.78**	**32**	*i* P		Pn		00 33 43.8	+1.2
TALC				*i* S		Sn		00 34 16.3	+1.4
TALC				AML		AML		00 34 29.6	
	comp=N,5μm,0.8s								

IDC 18 00:38:18.4±3.3, 6.76S×148.27E, h0km, mb2.7/1, mb1 3.2/2, mb1mx3.0/28, mbtmp2.9/2, ML3.2/1, Error ellipse: s-maj=120.6km s-min=44.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.83**	**225**	P		P		00 42 39.6	-0.5
	0.1nm,0.3s,baz=50,slow=11,SNR=5.3								
ASAR	**Alice Springs**	**21.75**	**218**	P		P		00 43 12.1	+0.3
	0.3nm,0.7s,baz=50,slow=8.3,SNR=4.8								
TORD	**Torodi Ar. Bea**	**146.50**	**284**	PKPbc		PKPdf		00 58 01.9	+0.5
	0.2nm,0.5s,baz=73,slow=3.5,SNR=4.0								

IDC 18 00:41:35.5±2.7, 3.70S×135.42E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=130.7km s-min=28.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.18**	**184**	Pn		Pn		00 45 23.2	-1.2
	0.0nm,0.3s,baz=3.4,slow=12,SNR=3.6								
ASAR	**Alice Springs**	**19.90**	**184**	P		P		00 46 09.2	+0.5
	0.1nm,0.3s,baz=5.2,slow=11,SNR=15								
MKAR	**Makanchi Array**	**68.60**	**324**	P		P		00 52 39.6	-0.8
	0.2nm,0.5s,baz=123,slow=5.3,SNR=4.7								
ZALV	**Zalesovo Beam**	**71.17**	**331**	P		P		00 52 57.2	+1.2
	0.5nm,0.7s,baz=122,slow=7.2,SNR=2.5								

IDC 18 00:59:16.1±3.6, 23.63S×169.79E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=86.7km s-min=52.8km az=34.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.46**	**296**	Pn		Pn		01 00 11.2	-0.2
	4.7nm,0.3s,baz=117,slow=15,SNR=56								
DZM						Sn	Sn	01 00 54.1	+0.9
	2.3nm,0.3s,baz=151,slow=18,SNR=2.9								
ASAR	**Alice Springs**	**32.82**	**263**	P		P		01 05 51.2	-0.4
	0.4nm,0.5s,baz=93,slow=8.9,SNR=7.7								
WRA	**Warramunga Arr**	**33.07**	**269**	P		P		01 05 54.2	+0.4
	0.4nm,0.8s,baz=102,slow=8.0,SNR=3.3								
CMAR	**Chiang Mai Arr**	**80.79**	**295**	P		P		01 11 32.1	+0.1
	0.9nm,0.4s,baz=135,slow=5.3,SNR=5.4								

IDC 18 01:10:03.9±2.5, 15.71S×177.66W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/36, mbtmp3.8/3, Error ellipse: s-maj=325.7km s-min=30.9km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.77**	**257**	P		P		01 18 27.4	-0.3
	0.3nm,0.9s,baz=91,slow=8.2,SNR=4.8								
ASAR	**Alice Springs**	**46.11**	**252**	P		P		01 18 30.2	0.0
	2.7nm,0.4s,baz=87,slow=7.7,SNR=45								
TXAR	**Lajitas Array**	**84.22**	**58**	P		P		01 22 37.8	0.0
	0.3nm,0.6s,baz=245,slow=3.9,SNR=3.0								

*IDC **18** 01:17:24.8±0.8, 2.26N×126.53E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/40, mbtmp3.9/10, Error ellipse: s-maj=69.5km s-min=14.7km az=69.0*
*NEIC **18** 01:17:29.8±2.9, 2.73N×127.78E, h46km±26km, mb4.2/2, Error ellipse: s-maj=38.2km s-min=9.8km az=61.0*
*ISCJB **18** 01:17:30.6±0.4, 2.56N±0.04×126.91E±0.07, h53km, mb3.9/12, Error ellipse: s-maj=10.3km s-min=5.3km az=158.0*
*DJA **18** 01:17:32.0±0.4, 2.7N±3×12.7E±3, h10km, M4.4/10, mb4.5/5, mB5.1/2, MLv4.3/10, Mw(mB)4.5/2*
ISC 18 01:17:32.9±0.7, 2.48N±0.05×126.85E±0.08, h53km, n36, σ1.6/66/39, mb3.9/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.77**	**163**	P		**Pn**		**01 18 00.6**	**-0.6**
TNTI				S		**Sn**		**01 18 25.4**	**+2.7**
TNTI	**Ternate**	**1.77**	**163**	*e*Pn		**Pn**		**01 18 00.7**	**-0.5**
SGSI	**Sangihe**	**1.78**	**312**	P		**Pn**		**01 18 01.5**	**+0.1**
SGSI				S		**Sn**		**01 18 25.3**	**+2.4**
LBMI	**Labuha**	**3.16**	**168**	P		**Pn**		**01 18 21.9**	**+1.6**
LBMI				S		**Sn**		**01 19 00.0**	**+3.2**
KMSI	**Cibinong**	**3.44**	**237**	P		**Pn**		**01 18 24.6**	**+0.6**
SANI	**Sanana**	**4.58**	**191**	P		**Pn**		**01 18 39.6**	**-0.1**
MRSI	**Marisa**	**5.29**	**248**	P		**Pn**		**01 18 50.8**	**+1.3**
	37nm,0.7s,0.1nm								
NLAI	**Namlea**	**5.69**	**177**	P		**Pn**		**01 18 56.0**	**+1.1**
	20nm,0.7s,3μm0.2nm								
MSAI	**Masohi**	**6.15**	**160**	P		**Pn**		**01 19 02.4**	**+1.2**
	14nm,0.3s,746nm0.1nm								
APSI	**Ampana**	**6.20**	**237**	P		**Pn**		**01 19 02.7**	**+0.8**
KKM	**Kota Kinabalu**	**11.18**	**289**	P		**Pn**		**01 20 10.6**	**+0.3**
	baz=11,SNR=3.3								
SOEI	**Soe**	**12.42**	**192**	S		**Sn**		**01 22 41.3**	**-3.0**
	baz=12,SNR=4.6								
KDU	**Kakadu**	**16.07**	**160**	P		**P**		**01 21 19.3**	**+1.2**
	baz=16,SNR=3.4								
KNRA	**Kununurra**	**18.14**	**174**	P		**P**		**01 21 39.1**	**-1.8**
	baz=18,SNR=6.0								
MANU	**Manus Island**	**21.00**	**102**	P		**P**		**01 22 13.0**	**+0.8**
	baz=21,SNR=11								
WRAB	**Tennant Creek**	**23.46**	**162**	*e*P		**P**		**01 22 35.3**	**-2.6**
	6.5nm,0.8s								
WRA	**Warramunga Arr**	**23.46**	**162**	P		**P**		**01 22 35.3**	**-2.6**
	1.7nm,0.4s,baz=345,slow=11,SNR=31								
WB2	**Warramunga Arr**	**23.47**	**162**	*e*P		**P**		**01 22 35.2**	**-2.8**
QIS	**Mount Isa**	**26.09**	**152**	P		**P**		**01 23 01.7**	**-0.2**
	baz=26,SNR=6.1								
KULM	**Kulim**	**26.29**	**277**	*e*P		P		01 23 10.3	+6.6
ASAR	**Alice Springs**	**26.88**	**166**	P		**P**		**01 23 06.3**	**-2.7**
	0.8nm,0.5s,baz=350,slow=7.6,SNR=23								
WRKA	**Warakurna**	**27.39**	**177**	P		**P**		**01 23 13.1**	**-0.5**
	baz=28,SNR=16								
WRKA				S		**S**		**01 27 47.5**	**-2.7**
	baz=28,SNR=9.8								
MEEK	**Meekatharra**	**30.02**	**195**	P		**P**		**01 23 39.0**	**+2.0**
	ba

0.7nm,0.8s,baz=232,slow=4.7,SNR=4.4
AKASG **Malin Array Be** 74.74 336 P P 01 45 16.3 +0.4
0.1nm,0.3s,baz=128,slow=5.2,SNR=3.5

IDC ***18*** *01:38:25.4±0.5, 18°05.N×81°.75W, h0km, mb4.4/19, mb1 4.6/23, mb1mx4.4/39, mbtmp4.4/23, ML4.0/4, MS4.2/15, Ms1 4.2/15, ms1mx4.0/44, Error ellipse: s-maj=17.6km s-min=10.9km az=60.0*

ISCJB ***18*** *01:38:27.0±0.2, 18°.06N±0°.03×81°.59W±0°.02, h18km, mb4.7/117, MS4.5/16, Error ellipse: s-maj=5.1km s-min=2.5km az=22.6*

GCMT ***18*** *01:38:27.0±0.3, 18°.04N×81°.74W, h12km, MW5.0/62, Moment Tensor Solution. s15,c16; s62,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.90±.15; $M_{\theta\theta}$0.89±.15; $M_{\phi\phi}$3.01±.12; $M_{r\theta}$-1.79±.69; $M_{r\phi}$-2.24±.11; $M_{\theta\phi}$0.53±.55; Best double couple: M_o4.58400×10^{16} NP1:ϕ_s131.00000°,δ57.00000°,λ-110.00000°. NP2: ϕ_s344.00000°,δ38.00000°,λ-63.00000°. Principal axes: T 4.6660, Plg10.0000°, Azm235.0000°; N -0.1650, Plg16.0000°, Azm143.0000°; P -4.5010, Plg71.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *01:38:27.0±0.2, 18°.00N×81°.67W, h10km, mb4.8/88 Error ellipse: s-maj=4.4km s-min=2.9km az=41.0*

NEIC Felt at George Town.

BJI ***18*** *01:38:28.0, 18°.00N×81°.60W, h10km, mB5.4/4, Ms5.2/4, Ms7 4.9/4*

ISC 18 01:38:27.9±0.3, 18°.00N±0°.05×81°.73W±0°.05, h18km, n611, σ1§40/612, mb4.8/117, MS4.5/18, 179C-173D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**3.99**	**86**	*e*Pn		**Pn**		**01 39 25.3**	**-3.0**
MTDJ				*e*Sn		**Sn**		**01 40 12.2**	**-2.6**
GTBY	**Guantanamo Bay**	**6.55**	**72**	*e*Pn		**Pn**		**01 40 01.3**	**-2.1**
TEIG	**Tepich**	**6.58**	**291**	Pn		**Pn**		**01 40 02.1**	**-1.7**
	16nm,0.3s,baz=68,slow=3.2,SNR=93								
TEIG				Sn		Sn		01 41 11.9	-6.5
	14nm,0.3s,baz=36,slow=20,SNR=8.0								
TEIG				LR		LR		01 42 22.9	
	comp=Z,3μm,19.9s,baz=103,slow=36								
TEIG	**Tepich**	**6.58**	**291**	*e*Pn		**Pn**		**01 40 01.9**	**-1.9**
TEIG				*e*Sn		**Sn**		**01 41 13.7**	**-4.7**
JTS	**JuntasAbangare**	**8.28**	**203**	Pn		**Pn**		**01 40 26.4**	**-0.7**
	1.4nm,0.3s,baz=355,slow=12,SNR=9.4								
JTS	**JuntasAbangare**	**8.28**	**203**	*e*Pn		**Pn**		**01 40 25.9**	**-1.2**
APG	**El Apazote**	**8.89**	**252**	Pn		Pn		01 40 28.5	-7.3
	0.8nm,0.3s,baz=99,slow=0.6,SNR=6.9								
APG				Sn		Sn		01 42 42.6	+27
	0.9nm,0.3s,baz=131,slow=20,SNR=2.9								
APG				LR		LR		01 43 38.6	
	comp=Z,1μm,18.8s,baz=78,slow=35								
SDDR	**Presa de Saban**	**9.95**	**83**	*e*Pn		**Pn**		**01 40 51.1**	**+0.9**
SDDR				*e*Sn		**Sn**		**01 42 39.8**	**-1.7**
CMIG	**Matias Romero**	**12.58**	**268**	Pn		**Pn**		**01 41 25.4**	**-0.7**
	0.3nm,0.3s,baz=70,slow=12,SNR=6.0								
CMIG				Sn		Sn		01 43 38.1	-7.8
	0.4nm,0.3s,baz=38,slow=19,SNR=3.4								
CMIG				LR		LR		01 46 02.6	
	comp=Z,1μm,21.4s,baz=70,slow=36								
TIGA	**Tifton**	**13.49**	**353**	⇑P		**Pn**		**01 41 39.4**	**+1.0**
	baz=14								
TIGA	**Tifton**	**13.49**	**353**	*e*Pn		**Pn**		**01 41 38.7**	**+0.3**
TIGA				*e*Sn		Sn		01 44 00.5	-7.4
SDV	**Santo Domingo**	**14.08**	**129**	*e*Pn		Pn		01 41 43.0	-3.8
SJG	**San Juan**	**14.81**	**87**	*e*Pn		**Pn**		**01 41 55.5**	**-1.1**
GOGA	**Godfrey**	**15.43**	**355**	*e*Pn		**Pn**		**01 42 04.2**	**-0.5**
	98nm,0.9s								
GOGA				*e*P		**P**		**01 42 10.5**	**+1.4**
LRAL	**Lakeview Retre**	**15.71**	**343**	*e*Pn		**Pn**		**01 42 07.1**	**-1.2**
	26nm,1.1s								
LRAL				*e*Sn		Sn		01 44 46.0	-16
KMSC	**Kings Mountain**	**17.08**	**1**	⇑P		**P**		**01 42 26.9**	**-0.6**
	baz=17,SNR=8.7								
KMSC	**Kings Mountain**	**17.08**	**1**	*e*Pn		**Pn**		**01 42 26.7**	**+0.9**
035Z	**Hargill**	**17.30**	**302**	⇑P		**Pn**		**01 42 29.7**	**+1.0**
	baz=17								
340A	**Bronson**	**17.32**	**323**	⇑P		**Pn**		**01 42 29.6**	**+0.9**
	baz=17								
HKT	**Hockley**	**17.52**	**315**	*e*Pn		**Pn**		**01 42 30.2**	**-1.1**
	45nm,1.4s								
035A	**Encino**	**17.54**	**303**	⇓P		**P**		**01 42 32.6**	**0.0**
	baz=18								
339A	**Huntington**	**17.65**	**321**	⇓P		**Pn**		**01 42 33.6**	**+0.7**
	baz=18								
TKL	**Tuckaleechee C**	**17.68**	**355**	P		**Pn**		**01 42 32.7**	**-0.6**
	0.4nm,0.3s,baz=176,slow=13,SNR=5.7								
TKL				LR		LR		01 49 14.0	
	comp=Z,280nm,19.8s,baz=176,slow=37								
TKL	**Tuckaleechee C**	**17.68**	**355**	*e*Pn		**Pn**		**01 42 33.6**	**+0.3**
438A	**Sam Houston St**	**17.81**	**318**	⇓P		**P**		**01 42 36.1**	**+0.6**
	baz=18								
OXF	**Oxford**	**17.82**	**339**	*e*Pn		**Pn**		**01 42 34.7**	**-0.2**
	94nm,1.2s								
537A	**Green Hill Far**	**17.93**	**315**	⇑P		**P**		**01 42 37.6**	**+0.8**
	baz=18								
OTAV	**Otavalo**	**17.94**	**169**	*e*Pn		**P**		**01 42 37.5**	**-0.1**
	62nm,1.4s								
835A	**Beeville**	**17.98**	**308**	⇓P		**P**		**01 42 38.1**	**+0.6**
	baz=18								
NATX	**Nacogdoches**	**18.02**	**322**	*e*Pn		**Pn**		**01 42 36.5**	**-0.9**
034A	**Hebbronville**	**18.06**	**303**	⇑P		**P**		**01 42 40.7**	**+2.3**
	baz=18								
636A	**Smothers Creek**	**18.08**	**312**	⇓P		**P**		**01 42 39.9**	**+1.3**
	baz=18,SNR=16								
239A	**Gary**	**18.09**	**323**	⇑P		**P**		**01 42 40.5**	**+1.8**
	baz=18								
338A	**Crockett**	**18.12**	**320**	⇑P		**P**		**01 42 40.3**	**+1.3**
	baz=18								
934A	**Benavides**	**18.18**	**305**	⇓P		**P**		**01 42 41.6**	**+2.0**
	baz=18,SNR=11								
735A	**Kenedy**	**18.27**	**309**	⇓P		**P**		**01 42 42.7**	**+2.1**
	baz=18								
536A	**Bastrop**	**18.43**	**314**	⇑P		**Pn**		**01 42 44.7**	**+2.1**
	baz=18								
337A	**Centerville**	**18.45**	**319**	⇓P		**Pn**		**01 42 44.6**	**+1.8**
	baz=18								
834A	**Tilden**	**18.45**	**306**	⇓P		**Pn**		**01 42 44.1**	**+1.3**
	baz=18,SNR=9.1								
238A	**Jacksonville**	**18.46**	**322**	⇓P		**Pn**		**01 42 44.5**	**+1.6**
	baz=18								
635A	**Leesville**	**18.54**	**311**	⇑P		**Pn**		**01 42 44.9**	**+1.1**
	baz=19								
436A	**Wall Ranch, Ga**	**18.68**	**316**	⇑P		**Pn**		**01 42 47.5**	**+1.9**
	baz=19								
535A	**Dale**	**18.76**	**313**	⇓P		**Pn**		**01 42 48.7**	**+2.1**
	baz=19								
933A	**Laredo**	**18.77**	**304**	⇓P		**Pn**		**01 42 49.0**	**+2.2**
	baz=19,SNR=13								
734A	**La Parita Cree**	**18.82**	**308**	⇑P		**Pn**		**01 42 48.8**	**+1.5**
	baz=19,SNR=8.0								
WVT	**Waverly**	**18.85**	**345**	*e*P		**P**		**01 42 47.3**	**+0.3**
	68nm,1.1s								
237A	**Washetta, Mont**	**18.87**	**320**	⇓P		**Pn**		**01 42 50.1**	**+2.2**
	baz=19								
138A	**Matatall Enter**	**18.92**	**323**	⇑P		**Pn**		**01 42 50.0**	**+1.5**
	baz=19								
634A	**China Grove, S**	**18.95**	**310**	⇓P		**Pn**		**01 42 49.7**	**+0.8**
	baz=19								
BLA	**Blacksburg**	**19.18**	**3**	*e*P		**P**		**01 42 50.6**	**0.0**
	77nm,1.5s								
833A	**Chaparral WMA,**	**19.20**	**306**	⇑P		**Pn**		**01 42 53.1**	**+1.2**
	baz=19,SNR=13								
UALR	**University of**	**19.20**	**333**	*e*P		**Pn**		**01 42 52.6**	**+0.8**
	280nm,2.2s								
435B	**Jarrell**	**19.22**	**314**	⇑P		**Pn**		**01 42 52.7**	**+0.6**
	baz=19								
VWCC	**Virginia Weste**	**19.24**	**4**	*e*P		**Pn**		**01 42 52.1**	**-0.1**
137A	**Heron Place, G**	**19.26**	**322**	⇑P		**Pn**		**01 42 54.1**	**+1.6**
	baz=19								
GNAR	**Gosnell**	**19.34**	**339**	*e*P		**Pn**		**01 42 53.9**	**+0.3**
GLAT	**Glass**	**19.39**	**341**	*e*P		**P**		**01 42 51.7**	**-1.2**
534A	**Blanco**	**19.40**	**311**	⇓P		**Pn**		**01 42 55.1**	**+0.8**
	baz=20,SNR=7.5								
335A	**Moody**	**19.43**	**316**	⇓P		**Pn**		**01 42 55.5**	**+0.9**
	baz=20								
MIAR	**Mount Ida**	**19.58**	**330**	*e*P		**P**		**01 42 56.0**	**+1.0**
	258nm,2.3s								
633A	**Saathoff Ranch**	**19.60**	**309**	⇑P		**Pn**		**01 42 57.5**	**+0.8**
	baz=20,SNR=15								
832A	**Faith Ranch, C**	**19.63**	**305**	⇓P		**Pn**		**01 42 57.6**	**+0.5**
	baz=20,SNR=16								
434A	**Burnet**	**19.71**	**313**	⇑P		**Pn**		**01 42 58.3**	**+0.3**
	baz=20,SNR=7.0								
533A	**Kerrville**	**19.83**	**311**	⇑P		**Pn**		**01 43 00.4**	**+1.0**
	baz=20,SNR=10								
732A	**Laxson Ranch,**	**19.84**	**306**	⇓P		**Pn**		**01 42 60.0**	**+0.5**
	baz=20,SNR=24								
WHTX	**Lake Whitney,**	**19.90**	**317**	⇑P		**Pn**		**01 43 00.4**	**+0.2**
	baz=20,SNR=10.0								
WHTX	**Lake Whitney,**	**19.90**	**317**	*e*Pn		**Pn**		**01 43 01.2**	**+1.0**
JSRW	**J. Sargeant Re**	**19.91**	**9**	*e*P		**P**		**01 42 59.5**	**+0.9**
334A	**Lometa**	**20.00**	**315**	⇓P		Pn		01 43 01.5	+0.1
	baz=20,SNR=11								
632A	**Uvalde**	**20.08**	**308**	⇑P		Pn		01 43 02.4	0.0
	baz=20,SNR=49								
PBMO	**Poplar Bluff**	**20.22**	**339**	*e*Pn		Pn		01 43 04.1	+0.1
	74nm,1.1s								
135A	**Victory Place,**	**20.24**	**319**	⇓P		Pn		01 43 06.9	+2.6
	baz=20								
234A	**Clairette**	**20.35**	**316**	⇓P		Pn		01 43 05.6	+0.1
	baz=20								
532A	**Rocksprings**	**20.49**	**309**	⇑P		Pn		01 43 06.8	-0.5
	baz=20,SNR=31								
333A	**Richland Sprin**	**20.50**	**314**	⇑P		Pn		01 43 07.1	-0.3
	baz=21,SNR=12								
WCI	**Wyandotte Cave**	**20.55**	**350**	*e*P		**P**		**01 43 06.4**	**+0.8**
	36nm,1.1s								
USIN	**University of**	**20.56**	**347**	*e*P		**P**		**01 43 06.6**	**+1.0**
	51nm,1.0s								
JCT	**Junction City**	**20.61**	**310**	⇓P		**P**		**01 43 07.6**	**+1.4**
	baz=21,SNR=12								
JCT	**Junction City**	**20.61**	**310**	*e*P		**P**		**01 43 07.0**	**+0.8**
	36nm,1.0s								
631A	**Perdido Creek**	**20.63**	**307**	⇑P		**P**		**01 43 07.9**	**+1.3**
	baz=21,SNR=11								
Z35A	**Perchaven, San**	**20.67**	**321**	⇑P		Pn		01 43 09.7	+0.4
	baz=21								
134A	**White-Moore Ra**	**20.68**	**318**	⇑P		Pn		01 43 10.1	+0.8
	baz=21								
432A	**Menard**	**20.82**	**311**	⇓P		**P**		**01 43 10.1**	**+1.6**
	baz=21,SNR=48								
233A	**Rising Star**	**20.86**	**315**	⇑P		Pn		01 43 11.3	-0.3
	baz=21								
531A	**Rocksprings**	**20.98**	**309**	⇓P		**P**		**01 43 11.7**	**+1.3**
	baz=21,SNR=24								
BBSR	**BB Station**	**20.99**	**44**	*e*P		**P**		**01 43 09.4**	**-0.9**
	201nm,1.5s								
332A	**Millersview**	**21.07**	**313**	P		**P**		**01 43 12.0**	**+0.8**
	baz=21,SNR=25								
Z34A	**Collier Ranch,**	**21.10**	**320**	⇓P		**P**		**01 43 16.2**	**+4.6**
	baz=21,SNR=10.0								
133A	**Hamilton Ranch**	**21.24**	**316**	⇓P		**P**		**01 43 14.8**	**+1.7**
	baz=21,SNR=6.0								
232A	**Coleman**	**21.29**	**314**	⇑P		**P**		**01 43 15.3**	**+1.6**
	baz=21,SNR=18								
431A	**Sonora**	**21.30**	**310**	⇑P		**P**		**01 43 15.0**	**+1.2**
	baz=21,SNR=14								
OLIL	**Olney**	**21.39**	**346**	*e*P		**P**		**01 43 16.0**	**+1.3**
	125nm,1.0s								
W36A	**Wetumka**	**21.39**	**326**	⇓P		**P**		**01 43 16.9**	**+2.2**
	baz=22								
Y34A	**Reagan Ranch,**	**21.41**	**321**	⇓P		**P**		**01 43 18.5**	**+3.6**
	baz=22,SNR=8.8								
BLO	**Bloomington**	**21.51**	**350**	*e*P		**P**		**01 43 17.1**	**+1.3**
	347nm,2.3s								
331A	**San Angelo**	**21.51**	**312**	⇓P		**P**		**01 43 17.4**	**+1.4**
	baz=22,SNR=39								
530A	**J-C Ranch, Com**	**21.57**	**308**	⇓P		**P**		**01 43 18.1**	**+1.4**
	baz=22,SNR=33								
Z33A	**Whitaker Ranch**	**21.58**	**318**	⇓P		**P**		**01 43 18.6**	**+1.9**
	baz=22								
ABTX	**Abilene, Hawle**	**21.73**	**315**	⇑P		**P**		**01 43 19.7**	**+1.3**
	baz=22								
ABTX	**Abilene, Hawle**	**21.73**	**315**	*e*P		**P**		**01 43 18.9**	**+0.6**
	144nm,1.9s								
W35A	**Tecumseh**	**21.76**	**325**	⇑P		**P**		**01 43 20.2**	**+1.7**
	baz=22								
TUL1	**Leonard**	**21.76**	**328**	⇑P		**P**		**01 43 20.2**	**+1.6**
	baz=22,SNR=5.8								
TUL1	**Leonard**	**21.76**	**328**	*e*P		**P**		**01 43 18.9**	**+0.3**
	28nm,1.0s								
231A	**Bronte**	**21.78**	**313**	⇓P		**P**		**01 43 20.3**	**+1.4**
	baz=22,SNR=7.3								
430A	**Baggett Ranch,**	**21.81**	**309**	⇓P		**P**		**01 43 20.8**	**+1.5**
	baz=22,SNR=8.4								
SLM	**Saint Louis**	**21.86**	**342**	*e*P		**P**		**01 43 21.0**	**+1.3**
X34A	**Smith Ranch, M**	**21.90**	**322**	⇓P		**P**		**01 43 21.9**	**+1.8**
	baz=22								
Z32A	**Haskell**	**22.05**	**317**	⇓P		**P**		**01 43 23.8**	**+2.1**
	baz=22								
330A	**Mertzon**	**22.10**	**311**	⇓P		**P**		**01 43 23.9**	**+1.5**
	baz=22,SNR=21								
ACSO	**Alum Creek Sta**	**22.18**	**357**	*e*P		**P**		**01 43 24.2**	**+1.2**
	66nm,1.2s								
V35A	**Meyer Ranch, C**	**22.19**	**326**	⇓P		**P**		**01 43 25.5**	**+2.3**
	baz=22								
429A	**Davenport Ranc**	**22.22**	**308**	⇓P		**P**		**01 43 26.0**	**+2.3**
	baz=22,SNR=9.0								
529A	**Stev Forest Ra**	**22.23**	**307**	⇑P		**P**		**01 43 25.5**	**+1.8**
	baz=22,SNR=22								
X33A	**Lawton**	**22.25**	**321**	⇓P		**P**		**01 43 26.8**	**+2.8**
	baz=22								
131A	**Roby**	**22.26**	**315**	⇓P		**P**		**01 43 26.4**	**+2.3**
	baz=22,SNR=7.2								
230A	**Sterling City**	**22.31**	**312**	⇑P		**P**		**01 43 25.6**	**+0.9**
	baz=22								
W34A	**Bridge Creek,**	**22.32**	**323**	⇓P		**P**		**01 43 26.9**	**+2.2**
	baz=22,SNR=7.4								
W34A	**Bridge Creek,**	**22.32**	**323**	*e*P		**P**		**01 43 26.0**	**+1.4**
MVL	**Millersville**	**22.41**	**11**	*e*P		**P**		**01 43 29.8**	**+4.3**
	44nm,1.4s								
Y32A	**R-V Farms, Ver**	**22.47**	**319**	⇑P		**P**		**01 43 28.7**	**+2.4**
	baz=22,SNR=15								
Z31A	**Sharp Cattle R**	**22.49**	**316**	⇑P		**P**		**01 43 28.5**	**+2.0**
	baz=23,SNR=14								
WMOK	**Wichita Mounta**	**22.56**	**321**	*e*P		**P**		**01 43 27.8**	**+0.6**
	18nm,1.2s								
130A	**Snyder**	**22.61**	**314**	⇑P		**P**		**01 43 28.7**	**+0.9**
	baz=23								
V34A	**Guthrie**	**22.61**	**325**	⇑P		**P**		**01 43 29.4**	**+1.6**
	baz=23								
V34A	**Guthrie**	**22.61**	**325**	*e*P		**P**		**01 43 29.9**	**+2.2**
	78nm,1.2s								
X32A	**Elmer**	**22.65**	**320**	⇓P		**P**		**01 43 30.5**	**+2.3**
	baz=23,SNR=14								
W33A	**Caddo, Fort Co**	**22.66**	**322**	⇑P		**P**		**01 43 30.7**	**+2.4**
	baz=23								
329A	**Wagon Wheel Ra**	**22.72**	**310**	⇑P		**P**		**01 43 31.1**	**+2.1**
	baz=23								
SFIN	**Lafayette**	**22.78**	**349**	⇑P		**P**		**01 43 31.5**	**+2.1**
	baz=23,SNR=15								
SFIN	**Lafayette**	**22.78**	**349**	*e*P		**P**		**01 43 30.1**	**+0.7**
	47nm,1.0s								
SSPA	**Standing Stone**	**22.80**	**8**	*e*P		**P**		**01 43 34.4**	**+4.8**
229A	**Bryant Ranch,**	**22.85**	**311**	⇑P		**P**		**01 43 32.7**	**+2.3**
	baz=23								
Y31A	**Rekieta Farm,**	**22.97**	**317**	⇑P		**P**		**01 43 33.3**	**+1.7**
	baz=23,SNR=16								
TXAR	**Lajitas Array**	**23.00**	**303**	P		**P**		**01 43 32.5**	**+0.5**
	14nm,1.0s,baz=119,slow=7.7,SNR=57								
TXAR				LR		LR		01 53 50.1	
	comp=Z,257nm,20.9s,baz=0.0,slow=40								
V33A	**Lossen Ranch,**	**23.03**	**324**	⇑P		**P**		**01 43 34.1**	**+2.0**
	baz=23								
U34A	**Anderson Ranch**	**23.07**	**326**	⇓P		**P**		**01 43 34.4**	**+1.9**
	baz=23								
U34A	**Anderson Ranch**	**23.07**	**326**	*e*P		**P**		**01 43 33.9**	**+1.3**
	49nm,1.3s								
W32A	**Sentinel**	**23.10**	**321**	⇑P		**P**		**01 43 34.4**	**+1.5**
	baz=23,SNR=7.5								
S36A	**Lake Cedric, C**	**23.11**	**331**	⇓P		**P**		**01 43 34.0**	**+1.1**
	baz=23,SNR=6.1								
Z30A	**Sanderson Ranc**	**23.13**	**315**	⇓P		**P**		**01 43 35.0**	**+1.8**
	baz=23,SNR=16								
X31A	**McDonald Ranch**	**23.22**	**319**	⇑P		**P**		**01 43 36.0**	**+1.9**
	baz=23								
R37A	**Teagarden Farm**	**23.25**	**333**	⇓P		**P**		**01 43 35.9**	**+1.5**
	baz=23								
129A	**Stewart Farms,**	**23.26**	**313**	⇑P		**P**		**01 43 35.2**	**+0.7**
	baz=23,SNR=6.7								
Y30A	**Stafford Cattl**	**23.33**	**316**	⇑P		**P**		**01 43 36.9**	**+1.6**
	baz=23								
U33A	**Lingo Farm, Me**	**23.38**	**325**	⇑P		**P**		**01 43 37.3**	**+1.7**
	baz=23								
V32A	**Arapaho**	**23.39**	**322**	⇓P		**P**		**01 43 37.9**	**+2.1**
	baz=24								
S35A	**Otter Creek Ra**	**23.42**	**330**	⇓P		**P**		**01 43 36.8**	**+0.8**
	baz=24,SNR=6.3								
228A	**UT Block 9, Go**	**23.50**	**311**	⇓P		**P**		**01 43 37.4**	**+0.5**
	baz=24,SNR=8.4								
Z29A	**Hungry Hill Ra**	**23.50**	**314**	⇓P		**P**		**01 43 38.0**	**+1.0**
	baz=24,SNR=17								
R36A	**Gordon, Harris**	**23.56**	**332**	⇑P		**P**		**01 43 38.0**	**+0.6**
	baz=24,SNR=13								
W31A	**Holland Ranch,**	**23.56**	**320**	⇑P		**P**		**01 43 38.8**	**+1.3**
	baz=24								
Q37A	**Longview Farm,**	**23.57**	**335**	⇓P		**P**		**01 43 38.7**	**+1.2**
	baz=24								
X30A	**Coker Ranch, T**	**23.67**	**318**	⇓P		**P**		**01 43 40.0**	**+1.4**
	baz=24,SNR=17								
128A	**Castleberry Fa**	**23.69**	**312**	⇓P		**P**		**01 43 40.0**	**+1.2**
	baz=24,SNR=8.5								
S34A	**Willow Spring**	**23.82**	**329**	⇑P		**P**		**01 43 41.1**	**+1.2**
	baz=24								
Y29A	**Porterfield Fa**	**23.83**	**315**	⇑P		**P**		**01 43 41.1**	**+1.0**
	baz=24,SNR=15								
U32A	**Winter Ranch,**	**23.83**	**324**	⇓P		**P**		**01 43 41.3**	**+1.2**
	baz=24								
V31A	**Spring Creek L**	**23.90**	**321**	⇑P		**P**		**01 43 41.5**	**+0.7**
	baz=24								
T33A	**Patterson Ranc**	**23.93**	**326**	⇑P		**P**		**01 43 42.2**	**+1.2**
	baz=24								
W30A	**Crocket Farms**	**23.95**	**319**	⇓P		**P**		**01 43 42.6**	**+1.3**
	baz=24								
Z28A	**Tucker Farm, M**	**23.99**	**313**	⇓P		**P**		**01 43 42.9**	**+1.2**
	baz=24,SNR=11								
S33A	**Kaszmaul Farm,**	**24.19**	**327**	⇑P		**P**		**01 43 45.0**	**+1.6**
	baz=24								
X29A	**Tulia**	**24.20**	**316**	⇓P		**P**		**01 43 44.5**	**+0.9**
	baz=24,SNR=9.4								
Y28A	**McKinney Farm,**	**24.25**	**315**	⇑P		**P**		**01 43 45.2**	**+1.1**
	baz=24,SNR=14								
AAM	**Ann Arbor**	**24.28**	**357**	*e*P		**P**		**01 43 44.4**	**+0.2**
	24nm,1.0s								
U31A	**Nine Bar Ranch**	**24.31**	**322**	⇑P		**P**		**01 43 45.8**	**+1.2**
	baz=24								
T32A	**Huddler Ranch,**	**24.37**	**325**	⇑P		**P**		**01 43 46.7**	**+1.7**
	baz=24,SNR=7.5								
V30A	**Spur Ranch, Mi**	**24.40**	**320**	⇑P		**P**		**01 43 46.8**	**+1.3**
	baz=24								
AMTX	**Amarillo**	**24.46**	**317**	⇑P		**P**		**01 43 47.0**	**+1.0**
	baz=24								
AMTX	**Amarillo**	**24.46**	**317**	*e*P		**P**		**01 43 46.1**	**+0.1**
	68nm,1.0s								
X28A	**Dimmitt**	**24.57**	**316**	⇑P		**P**		**01 43 48.2**	**+1.2**
	baz=25								
W29A	**Amarillo**	**24.59**	**318**	⇑P		**P**		**01 43 48.7**	**+1.5**
	baz=25,SNR=5.8								
MSTX	**Muleshoe**	**24.64**	**314**	⇓P		**P**		**01 43 48.7**	**+1.0**
	baz=25,SNR=7.8								
MSTX	**Muleshoe**	**24.64**	**314**	*e*P		**P**		**01 43 48.0**	**+0.3**
	32nm,1.0s								
KSU1	**Kansas State U**	**24.69**	**331**	⇑P		**P**		**01 43 49.2**	**+1.2**
	baz=25,SNR=16								
KSU1	**Kansas State U**	**24.69**	**331**	*e*P		**P**		**01 43 48.0**	**+0.1**
	109nm,1.0s								
R33A	**Olander Ranch,**	**24.72**	**328**	⇑P		**P**		**01 43 50.6**	**+2.3**
	baz=25,SNR=11								
T31A	**Randall Ranch,**	**24.73**	**324**	⇑P		**P**		**01 43 49.8**	**+1.5**
	baz=25								
S32A	**Newby Ranch, P**	**24.76**	**326**	⇑P		**P**		**01 43 50.7**	**+2.1**
	baz=25								
U30A	**WK&E Inc. Balk**	**24.89**	**322**	⇓P		**P**		**01 43 51.5**	**+1.6**
	baz=25,SNR=7.5								
V29A	**Stinnett**	**24.98**	**319**	⇑P		**P**		**01 43 52.5**	**+1.8**
	baz=25,SNR=11								
S31A	**Mullinville**	**24.99**	**325**	⇓P		**P**		**01 43 52.8**	**+2.1**
	baz=25,SNR=6.5								
R32A	**Long Quarter,**	**25.18**	**327**	⇑P		**P**		**01 43 54.1**	**+1.7**
	baz=25								
Q33A	**Connelly Farm,**	**25.18**	**329**	P		**P**		**01 43 53.3**	**+0.9**
	baz=25,SNR=49								
ATAH	**Atahualpa**	**25.19**	**172**	P		**P**		**01 43 54.0**	**+1.0**
	2.6nm,0.5s,baz=5.2,slow=11,SNR=2.1								
U29A	**Oasis Ranch, S

baz=28,SNR=15
LAZ Ladron 27.93 311 eP P 01 44 18.3 +0.8
4.1nm,1.3s
R25A Fountain Ranch 28.13 320 ⇓P P 01 44 20.7 +1.5
baz=28,SNR=21
L31A Butterfield Fa 28.17 332 ⇑P P 01 44 20.3 +0.9
baz=28,SNR=6.9
Q26A Hugo 28.18 322 ⇓P P 01 44 21.3 +1.7
baz=28
319A Douglas 28.26 303 ⇓P P 01 44 22.9 +2.5
baz=28
N28A Pribbeno Ranch 28.32 327 ⇑P P 01 44 23.3 +2.6
baz=28
PTGA Pitinga 28.37 129 P P 01 44 22.8 +1.4
2.1nm,0.7s,baz=322,slow=14,SNR=3.6
L30A Spencer Herefo 28.39 331 ⇓P P 01 44 22.8 +1.5
baz=28
M29A Burnside Ranch 28.46 329 ⇓P P 01 44 23.0 +1.0
baz=28
P26A Davis Ranch, A 28.51 323 ⇑P P 01 44 25.1 +2.5
baz=29
ECSD EROS Data Cent 28.57 337 ⇓P P 01 44 24.3 +1.5
baz=29,SNR=14
ECSD EROS Data Cent 28.57 337 eP P 01 44 22.5 -0.4
22nm,1.1s
SDCO Great Sand Dun 28.64 318 ⇑P P 01 44 25.3 +1.4
baz=29,SNR=17
SDCO Great Sand Dun 28.64 318 eP P 01 44 25.8 +1.9
18nm,1.2s
SPMN Marine on St. 28.68 344 ⇑P P 01 44 25.2 +1.4
baz=29,SNR=6.9
SPMN Marine on St. 28.68 344 eP P 01 44 23.9 +0.1
37nm,1.1s
M28A Bar X Bar Ranc 28.76 328 ⇑P P 01 44 27.2 +2.6
baz=29
OGNE Ogallala 28.77 327 ⇓P P 01 44 25.6 +0.9
baz=29
L29A Maesberg Ranch 28.83 330 ⇑P P 01 44 26.4 +1.1
baz=29
K30A Basset 28.91 332 ⇓P P 01 44 27.5 +1.5
baz=29,SNR=10
N27A Anderson Farm, 28.93 326 ⇑P P 01 44 28.0 +1.8
baz=29
R23A Moffat 29.12 319 ⇑P P 01 44 30.4 +2.3
baz=29
K29A Lazy Trails An 29.30 331 ⇓P P 01 44 31.2 +1.8
baz=29
J30A Dallas 29.38 333 ⇓P P 01 44 30.8 +0.7
baz=30
S22A 4UR Ranch, Cre 29.50 317 ⇑P P 01 44 34.3 +2.8
baz=30,SNR=7.4
L27A T5 Ranch, Ells 29.74 328 ⇓P P 01 44 34.9 +1.5
baz=30
K28A Ten Mile Ranch 29.75 330 ⇓P P 01 44 35.0 +1.5
baz=30
J29A Okreek 29.81 332 ⇑P P 01 44 34.5 +0.6
baz=30,SNR=32
I30A Oacoma 29.83 334 ⇑P P 01 44 35.4 +1.3
baz=30
P23A Jefferson 29.85 320 ⇑P P 01 44 37.0 +2.4
baz=30
O24A Longmont 29.87 322 ⇓P P 01 44 36.5 +1.9
baz=30
ISCO Idaho Springs 29.98 321 ⇑P P 01 44 37.3 +1.5
baz=30,SNR=6.1
ISCO Idaho Springs 29.98 321 eP P 01 44 36.5 +0.8
38nm,1.9s
X18A Snowflake 30.05 309 ⇑P P 01 44 37.8 +1.4
baz=30
BRSD Miller 30.07 335 ⇑P P 01 44 37.9 +1.7
baz=30
L26A Underwood Farm 30.10 327 ⇓P P 01 44 38.1 +1.6
baz=30
W18A Petrified Fore 30.16 310 ⇑P P 01 44 38.8 +1.6
baz=30
K27A Flueckinger Fa 30.16 329 ⇑P P 01 44 39.2 +2.0
baz=30
NNA Nana 30.18 170 eP P 01 44 38.5 +1.1
17nm,0.9s
M25A Palm-Egli Farm 30.19 325 ⇑P P 01 44 40.0 +2.7
baz=30
N24A Carr 30.23 324 ⇓P P 01 44 39.7 +1.9
baz=30
J28A Allard Ranch, 30.24 331 ⇓P P 01 44 38.6 +0.9
baz=30,SNR=7.9
I29A Vivian Onida 30.29 333 ⇑P P 01 44 38.7 +0.6
baz=30,SNR=7.2
MVCO Mesa Verde 30.31 315 ⇑P P 01 44 38.6 -0.1
baz=30
O23A Lake Granby, G 30.42 322 ⇓P P 01 44 41.8 +2.1
baz=30
SMCO Snowmass 30.43 319 eP P 01 44 42.9 +3.1
J27A Elkhorn Farm, 30.47 330 ⇑P P 01 44 41.2 +1.4
baz=30
L25A Engebretsen Ra 30.64 326 ⇑P P 01 44 43.4 +2.0
baz=31
I28A Midland 30.66 332 ⇓P P 01 44 42.3 +0.9
baz=31,SNR=8.7
G30A Faulkton 30.72 335 ⇓P P 01 44 42.5 +0.6
baz=31,SNR=7.3
H29A Onida 30.74 334 ⇓P P 01 44 42.7 +0.6
baz=31
O22A Kremmling 30.77 321 ⇑P P 01 44 44.2 +1.5
baz=31,SNR=12
EYMN Ely 30.92 347 eP P 01 44 43.7 +0.1
24nm,1.4s
J26A Sides Ranch, S 31.03 329 ⇑P P 01 44 45.6 +0.9
baz=31
G29A Hoven 31.08 335 ⇑P P 01 44 46.4 +1.3
baz=31
I27A Quinn 31.11 331 ⇑P P 01 44 46.4 +0.9
baz=31,SNR=7.7
X16A Lo Mia Camp, P 31.12 308 ⇑P P 01 44 46.9 +1.2
baz=31
F30A Leola 31.26 336 ⇑P P 01 44 47.5 +0.8
baz=31
214A Organ Pipe Nat 31.29 302 ⇑P P 01 44 48.5 +1.4
baz=31
G28A Parade 31.40 333 ⇓P P 01 44 49.0 +1.1
baz=32
J25A Sunshine Ranch 31.45 328 ⇓P P 01 44 50.2 +1.8
baz=32,SNR=10
I26A New Underwood 31.46 330 ⇓P P 01 44 49.4 +0.9
baz=32
WUAZ Wupatki 31.53 310 ⇓P P 01 44 50.9 +1.5
baz=32,SNR=20
WUAZ Wupatki 31.53 310 eP P 01 44 50.7 +1.3
28nm,1.0s
L23A Garrett 31.55 325 ⇓P P 01 44 50.9 +1.4
baz=32
H27A Howes 31.56 332 ⇑P P 01 44 49.7 +0.3
baz=32,SNR=17
F29A Eureka 31.57 335 ⇑P P 01 44 50.1 +0.7
baz=32,SNR=6.7
M22A Cedar Creek Ra 31.58 323 ⇑P P 01 44 52.5 +2.7
baz=32
O20A White River Ci 31.78 319 ⇓P P 01 44 53.1 +1.5
baz=32,SNR=7.2
O20A White River Ci 31.78 319 eP P 01 44 53.5 +2.0
J24A Dixon Ranch, L 31.84 327 ⇓P P 01 44 53.1 +1.2
baz=32
H26A Fairpoint 31.86 331 ⇓P P 01 44 54.0 +2.0
baz=32
Z14A Wintersburg 31.87 305 ⇓P P 01 44 53.6 +1.4
baz=32
I25A Rochford 31.87 329 ⇓P P 01 44 53.5 +1.3
baz=32,SNR=18
F28A McLaughlin 31.97 334 ⇓P P 01 44 54.2 +1.3
baz=32,SNR=10.0
G27A Dupree 32.08 333 ⇑P P 01 44 55.2 +1.4
baz=32,SNR=5.2
RSSD Black Hills 32.09 329 eP P 01 44 55.1 +0.9
18nm,1.1s
E29A Napoleon 32.11 336 ⇓P P 01 44 55.3 +1.2
baz=32
Y14A Wickenburg 32.13 306 ⇓P P 01 44 56.0 +1.5
baz=32
I24A Kuemmerle Ranc 32.20 328 ⇑P P 01 44 56.4 +1.4
baz=32,SNR=5.6
N20A Spence Gulch, 32.21 321 ⇑P P 01 44 57.6 +2.2
baz=32,SNR=5.9
D30A Buchanan 32.24 338 ⇓P P 01 44 55.6 +0.4
baz=32
H25A Fruitdale 32.26 330 ⇓P P 01 44 56.1 +0.6
baz=32
G26A Maurine 32.30 332 ⇑P P 01 44 56.0 +0.1
baz=32
AGMN Agassiz Nation 32.34 342 ⇑P P 01 44 56.2 +0.1
baz=32,SNR=28
AGMN Agassiz Nation 32.34 342 eP P 01 44 56.0 -0.2
50nm,1.2s
K22A Casper 32.36 325 eP P 01 44 57.6 +1.1
60nm,0.4s
SAML Samuel 32.44 144 eP P 01 44 57.2 -0.1
13nm,1.2s
D29A Pettibone, Tap 32.50 337 ⇑P P 01 44 57.8 +0.3
baz=33,SNR=13
F27A Lemmon 32.50 333 ⇓P P 01 44 58.5 +0.8
baz=33,SNR=9.7
E28A Huff 32.52 335 ⇓P P 01 44 58.6 +0.9
baz=33
U15A North Rim 32.60 310 ⇓P P 01 45 00.0 +1.2
baz=33,SNR=5.1
C30A Mose, Pekin 32.65 339 ⇓P P 01 44 59.2 +0.4
baz=33,SNR=18
SRU San Rafael Swe 32.67 316 eP P 01 45 00.7 +1.3
30nm,1.2s
I23A Meade Ranch, G 32.70 327 ⇑P P 01 45 01.0 +1.6
baz=33
K21A Alcova 32.75 324 ⇓P P 01 45 01.8 +1.8
baz=33
E27A Carson 32.76 334 ⇓P P 01 45 01.0 +1.2
baz=33,SNR=8.3
F26A Lodgepole 32.77 333 ⇑P P 01 45 00.6 +0.6
baz=33
H24A Dirks Ranch, A 32.81 329 ⇑P P 01 45 01.0 +0.6
baz=33,SNR=17
J22A Midwest 32.85 326 ⇓P P 01 45 02.6 +1.8
baz=33
D28A Regan 32.98 336 ⇑P P 01 45 02.8 +1.1
baz=33
H23A Clabaugh Cattl 33.09 328 ⇑P P 01 45 05.4 +2.6
baz=33
PDMCI Parker Dam,Lak 33.13 306 ⇑P P 01 45 04.9 +1.7
baz=33
E26A Carlson Angus 33.16 333 ⇓P P 01 45 04.1 +0.7
baz=33,SNR=6.4
MDND Maddock 33.17 338 ⇑P P 01 45 04.5 +1.1
baz=33
MDND Maddock 33.17 338 eP P 01 45 02.9 -0.5
108nm,1.1s
G24A Alzada 33.17 330 ⇓P P 01 45 05.1 +1.6
baz=33
F25A Bowman 33.18 332 ⇑P P 01 45 04.1 +0.6
baz=33
I22A 9 Mile Ranch, 33.18 326 ⇓P P 01 45 04.6 +1.0
baz=33
W13A Hualapai Mount 33.24 307 ⇑P P 01 45 05.8 +1.4
baz=33
Y12C Blythe 33.24 305 ⇓P P 01 45 05.1 +0.9
baz=33
B30A Myrik Farm, E 33.24 340 ⇓P P 01 45 04.3 +0.3
baz=33,SNR=30
GLA Glamis 33.25 303 ⇓P P 01 45 05.0 +0.7
baz=33
D27A Center 33.29 335 ⇑P P 01 45 05.7 +1.3
baz=33
J21A Lysite 33.33 325 ⇓P P 01 45 06.5 +1.4
baz=33,SNR=7.1
C28A Hausauer Farms 33.34 337 ⇑P P 01 45 06.5 +1.6
baz=33
G23A Biddle 33.54 329 ⇓P P 01 45 07.7 +0.9
baz=34,SNR=9.4
I21A Big Trails, Te 33.55 326 ⇓P P 01 45 07.6 +0.7
baz=34,SNR=11
E25A Miller Ranch, 33.59 333 ⇓P P 01 45 08.1 +1.0
baz=34
H22A Clearmont 33.59 327 ⇓P P 01 45 08.5 +1.3
baz=34,SNR=9.8
D26A Manning 33.60 334 ⇑P P 01 45 08.3 +1.1
baz=34
B29A Wagenman Farm, 33.60 339 ⇓P P 01 45 07.8 +0.7
baz=34,SNR=17
A30A Hoffart Farm, 33.66 340 ⇑P P 01 45 08.0 +0.4
baz=34,SNR=7.6
J20A Shoshoni 33.69 324 ⇑P P 01 45 08.4 +0.3
baz=34
C27A Sayler Ranch, 33.77 336 ⇑P P 01 45 09.7 +1.1
baz=34
DAU Daniels Canyon 33.84 317 eP P 01 45 11.7 +2.0
CCUT Cedar City 33.86 312 eP P 01 45 12.1 +2.3
IRM Iron Mountain 33.87 305 ⇑P P 01 45 09.6 -0.1
baz=34
F23A Volborg 33.93 330 ⇓P P 01 45 10.0 -0.1
baz=34
BC3 Big Chuckawall 33.94 304 ⇑P P 01 45 10.9 +0.5
baz=34
B28A Dugan Ranch, T 33.95 338 ⇑P P 01 45 11.0 +0.9
baz=34
A29A Manning Farm, 33.95 339 ⇑P P 01 45 10.6 +0.4
baz=34,SNR=16
H21A Big Horn, Sher 33.97 327 ⇑P P 01 45 11.6 +1.0
baz=34
G22A Birney 34.00 328 ⇓P P 01 45 12.4 +1.6
baz=34
ARUT Antelope Range 34.02 312 eP P 01 45 12.0 +0.9
0.9nm,1.1s
E24A Baker 34.04 332 ⇓P P 01 45 12.2 +1.2
baz=34
D25A Fairfield 34.06 333 ⇑P P 01 45 11.6 +0.4
baz=34
JLU Jordanelle 34.07 318 eP P 01 45 14.7 +3.1
C26A Wahner Farm, P 34.09 335 ⇓P P 01 45 11.7 +0.2
baz=34,SNR=5.8
I20A Worland 34.10 325 ⇑P P 01 45 12.7 +1.0
baz=34
ULM Lac du Bonnet 34.12 344 P P 01 45 10.9 -0.7
29nm,1.0s,baz=158,slow=7.7,SNR=28
NLU North Lily Min 34.13 316 eP P 01 45 14.6 +2.5
BW06 Boulder Array 34.16 322 eP P 01 45 12.5 +0.2
14nm,1.1s
PDAR Pinedale Array 34.16 322 P P 01 45 12.6 +0.3
7.2nm,1.0s,baz=126,slow=9.1,SNR=30
PDAR PcP PcP 01 47 48.7 -0.6
1.5nm,1.0s,baz=98,slow=4.7,SNR=3.8
J19A Crowheart 34.17 323 ⇓P P 01 45 13.4 +1.0
baz=34
B27A Peters Farms, 34.24 337 ⇓P P 01 45 13.8 +1.1
baz=34
A28A Rude Farm, Bot 34.30 338 ⇑P P 01 45 14.1 +0.8
baz=34
H20A Greybull 34.38 326 ⇑P P 01 45 14.8 +0.7
baz=34
F22A Rosebud 34.38 329 ⇓P P 01 45 14.6 +0.6
baz=34,SNR=15
G21A Lodge Grass 34.47 328 ⇓P P 01 45 15.2 +0.3
baz=34
D24A Glendive 34.47 332 ⇑P P 01 45 15.4 +0.7
baz=34,SNR=9.5
C25A Freed Ranch, W 34.48 334 ⇑P P 01 45 15.6 +0.8
baz=34
GMRC Granite Mounta 34.48 306 ⇑P P 01 45 15.7 +0.6
baz=34
BELC Belle Mtn. Jos 34.48 304 ⇓P P 01 45 15.2 0.0
baz=34
B26A Jensen Ranch, 34.59 336 ⇑P P 01 45 16.3 +0.5
baz=35
I19A Meeteetse 34.63 324 ⇓P P 01 45 17.1 +0.8
baz=35
A27A Ledoux Ranch, 34.69 337 ⇑P P 01 45 17.9 +1.4
baz=35
HWUT Hardware Ranch 34.69 319 eP P 01 45 17.4 +0.5
12nm,1.0s
E22A Miles City 34.71 330 ⇓P P 01 45 17.2 +0.3
baz=35,SNR=5.9
SHPR Sheep Range 34.73 309 eP P 01 45 18.2 +0.9
14nm,1.2s
DUG Dugway, Tooele 34.74 316 ⇑P P 01 45 17.3 0.0
baz=35,SNR=12
DUG Dugway, Tooele 34.74 316 eP P 01 45 18.5 +1.2
12nm,1.2s
C24A Savage 34.83 333 ⇓P P 01 45 18.3 +0.5
baz=35,SNR=6.3
F21A Absaloka Mine, 34.84 328 ⇓P P 01 45 18.0 -0.1
baz=35
B25A Knox Farm, Ray 34.88 335 ⇑P P 01 45 18.6 +0.3
baz=35
D23A Lindsay 34.91 332 ⇓P P 01 45 19.2 +0.6
baz=35,SNR=7.5
TUQ Turquoise Moun 34.91 307 ⇓P P 01 45 20.8 +2.0
baz=35
A26A Wade Farm, Ken 34.94 336 ⇑P P 01 45 19.5 +0.7
baz=35
G20A Bridger 34.99 327 ⇓P P 01 45 19.3 0.0
baz=35,SNR=6.7
HEC Hector,Ludlow 35.01 305 ⇓P P 01 45 19.2 -0.5
baz=35
109C Camp Elliot, M 35.03 302 ⇑P P 01 45 19.6 -0.1
baz=35
H19A Powell 35.03 325 ⇓P P 01 45 20.3 +0.6
baz=35
BGU Big Grassy Mou 35.26 317 eP P 01 45 23.1 +1.3
REDW Red Top Meadow 35.27 322 eP P 01 45 23.1 +1.2
MURC Murrieta 35.31 303 ⇓P P 01 45 22.8 +0.6
baz=35
E21A Keefer Ranch, 35.33 329 ⇑P P 01 45 23.2 +1.0
baz=35
D22A Cohagen 35.34 331 ⇓P P 01 45 22.8 +0.5
baz=35,SNR=19
F20A Billings 35.35 327 ⇑P P 01 45 22.9 +0.5
baz=35
C23A Lambert 35.37 332 ⇓P P 01 45 23.5 +1.0
baz=35,SNR=5.7
A25A Svangstu Ranch 35.39 335 ⇑P P 01 45 23.2 +0.6
baz=36
TPAW Teton Pass 35.40 322 eP P 01 45 24.3 +1.2
H18A Shoshone NF, C 35.41 325 ⇓P P 01 45 23.8 +0.7
baz=36
I17A Pilgrim Ck. 35.45 323 ⇑P P 01 45 24.4 +0.9
baz=36
DGMT Dagmar 35.46 334 ⇓P P 01 45 23.7 +0.5
baz=36,SNR=8.5
DGMT Dagmar 35.46 334 eP P 01 45 23.5 +0.2
40nm,1.2s
RLMT Red Lodge 35.48 326 eP P 01 45 23.3 -0.3
40nm,1.8s
FXWY Fox Creek 35.54 322 eP P 01 45 25.2 +1.0
C22A Vida 35.64 332 ⇓P P 01 45 26.0 +1.2
baz=36,SNR=8.3
D21A La Casta Ranch 35.66 330 ⇑P P 01 45 26.9 +1.8
baz=36
TPNV Topopah Spring 35.71 309 ⇑P P 01 45 26.8 +1.0
baz=36,SNR=9.7
TPNV Topopah Spring 35.71 309 eP P 01 45 27.3 +1.6
A24A Westby 35.74 335 ⇑P P 01 45 26.9 +1.3
baz=36,SNR=6.6
R11A Troy Canyon, C 35.79 311 ⇓P P 01 45 28.0 +1.6
baz=36,SNR=8.4
F19A Roth Farm, Mol 35.79 327 ⇑P P 01 45 26.7 +0.5
baz=36,SNR=11
B23A Brockton 35.79 333 ⇓P P 01 45 27.2 +1.1
baz=36,SNR=16
E20A Meyer Farm, Mu 35.82 328 ⇑P P 01 45 27.3 +0.9
baz=36,SNR=9.4
BFSC Mount Baldy Ra 35.87 304 ⇓P P 01 45 29.1 +2.1
baz=36
FURC Furnace Creek, 35.99 308 ⇓P P 01 45 30.0 +2.1
baz=36
B22A Reddig Ranch S 36.11 332 ⇓P P 01 45 30.1 +1.2
baz=36
E19A Rath Farm, Rou 36.12 328 ⇑P P 01 45 29.7 +0.7
baz=36,SNR=14
GCMT Greycliff 36.13 326 eP P 01 45 29.3 +0.1
38nm,1.6s
D20A Manuel Ranch, 36.23 329 ⇓P P 01 45 30.6 +0.7
baz=36,SNR=18
C21A Desert Coulee 36.26 331 ⇑P P 01 45 30.6 +0.5
baz=36,SNR=12
LRMC Laurel Mtn Rad 36.28 306 ⇓P P 01 45 30.2 -0.3
baz=36
EDW2 Edwards Air Fo 36.32 305 ⇓P P 01 45 33.1 +2.3
baz=36
MPMC Manual Prospec 36.32 307 ⇑P P 01 45 31.5 +0.5
baz=36
QLMT Earthquake Lak 36.49 324 eP P 01 45 33.1 +0.8
0.7nm,1.1s
A22A Carney Farms, 36.59 333 ⇓P P 01 45 33.8 +0.8
baz=37,SNR=9.5
C20A Veseth Ranch, 36.60 330 ⇓P P 01 45 33.8 +0.7
baz=37,SNR=51
LPAZ La Paz 36.61 158 P P 01 45 34.5 +0.6
3.9nm,1.1s,baz=349,slow=7.8,SNR=5.6
LPAZ La Paz 36.61 158 eP P 01 45 34.2 +0.3
11nm,1.5s
D19A Cripps Ranch, 36.65 329 ⇓P P 01 45 34.3 +0.8
baz=37,SNR=12
TPH Tonopah 36.86 310 eP P 01 45 36.4 +0.8
11nm,1.1s
BOZ Bozeman (W) 37.10 325 eP P 01 45 37.7 +0.3
13nm,1.4s
C19A Slack Wire Ran 37.12 329 ⇓P P 01 45 38.7 +1.2
baz=37,SNR=20
B20A Solberg Farm, 37.13 331 ⇓P P 01 45 38.4 +0.9
baz=37,SNR=11
MCMT McKenzie Canyo 37.30 323 eP P 01 45 40.7 +1.4
7.8nm,1.2s
BSC Santa Cruz Isl 37.37 303 ⇓P P 01 45 40.7 +1.0
baz=37
A20A Cobblestone Ra 37.40 331 ⇑P P 01 45 40.6 +0.8
baz=38,SNR=34
VES Vestal, Richgr 37.47 306 ⇓P P 01 45 42.6 +2.0
baz=38,SNR=6.3
HLID Hailey 37.52 320 ⇓P P 01 45 42.4 +1.3
baz=38,SNR=17
HLID Hailey 37.52 320 eP P 01 45 42.5 +1.3
17nm,1.2s
SBC Santa Barbara 37.55 303 ⇑P P 01 45 42.4 +1.2
baz=38
B19A Brinkman Farms 37.57 330 ⇓P P 01 45 42.1 +0.8
baz=38
LRM Limekiln Ridge 37.66 324 eP P 01 45 43.1 +0.8
EGMT Eagleton 37.67 329 ⇓P P 01 45 42.9 +0.7
baz=38,SNR=22
EGMT Eagleton 37.67 329 eP P 01 45 42.6 +0.5
40nm,1.1s
NVAR Mina Array Bea 37.78 310 P P 01 45 43.1 -0.3
4.5nm,1.0s,baz=113,slow=8.0,SNR=16
A19A Klindworth Far 37.81 331 ⇓P P 01 45 44.3 +1.0
baz=38,SNR=13
HRY Holter Researc 37.87 326 eP P 01 45 44.2 +0.2
18nm,1.4s
SCHQ Schefferville 38.50 14 P P 01 45 49.3 +0.3
7.5nm,0.9s,baz=188,slow=7.6,SNR=6.7
SCHQ LR LR 02 02 30.7
comp=Z,568nm,18.5s,baz=214,slow=38
CHMT Chamberlain Mo 38.77 325 eP P 01 45 51.6 0.0
31nm,2.4s
MSO Missoula 39.09 325 ⇑P P 01 45 54.1 0.0
baz=39
WVOR Wild Horse Val 39.66 316 eP P 01 45 59.7 +0.7
30nm,1.2s
YBMT Yellow Bay 39.75 326 eP P 01 46 00.1 +0.4
8.1nm,1.3s
FFC Flin Flon 39.82 342 eP P 01 45 58.8 -1.1
JTMT Jette 39.83 325 eP P 01 46 02.2 +1.8
2.9nm,1.0s
BSMT Bassoo Peak 40.16 325 eP P 01 46 02.8 -0.4
18nm,1.8s
M04C Macdoel 41.56 313 ⇑P P 01 46 14.1 -0.6
baz=42
NEW Newport 41.68 324 ⇓P P 01 46 16.2 +0.7
baz=42
NEW Newport 41.68 324 eP P 01 46 16.5 +1.0
7.9nm,1.2s
FCC Fort Churchill 41.70 350 eP P 01 46 14.6 -0.8
20nm,1.1s
LVC Limon Verde 42.26 162 P P 01 46 22.2 +1.5
50nm,1.0s,baz=349,slow=7.7,SNR=6.1
LVC Limon Verde 42.26 162 eP P 01 46 23.1 +2.3
32nm,1.3s
EDM Edmonton 42.89 332 eP P 01 46 24.9 -0.4
FRB Frobisher Bay 46.59 8 LR LR 02 06 33.4
comp=Z,415nm,19.1s,baz=190,slow=36
BDFB Brasilia 47.13 133 P P 01 46 59.8 +0.3
5.6nm,1.0s,baz=298,slow=7.7,SNR=7.1
LCO Las Campanas 47.93 167 eP P 01 47 06.4 +0.6
5.6nm,0.6s
YKA Yellowknife Ar 49.98 341 P P 01 47 19.9 -0.8
4.9nm,0.9s,baz=135,slow=8.1,SNR=45
YKA PcP PcP 01 48 40.2 -0.4
1.4nm,1.0s,baz=139,slow=4.2,SNR=6.7
YKA PP PP 01 49 15.3 -0.3
1.8nm,1.0s,baz=132,slow=9.1,SNR=4.1
CFAA Coronel Fontan 50.99 165 P P 01 47 29.4 +0.6
0.1nm,0.3s,baz=315,slow=9.3,SNR=3.8
DLBC Dease Lake 53.55 331 eP P 01 47 49.1 +1.6
RES Resolute Bay 57.16 356 eP P 01 48 13.6 +0.5
12nm,0.9s
PLCA Paso Flores 59.35 170 eP P 01 48 27.2 -1.7
26nm,1.6s
INK Inuvik 59.74 340 eP P 01 48 31.2 -0.1
SUMG Summit 59.89 14 eP P 01 48 31.9 -0.9
16nm,1.3s
SUMG Summit 59.89 14 i P P 01 48 31.6 -1.2

5.9nm,1.0s
BORG Borgarnes 61.38 25 LR LR 02 13 14.5
comp=Z,255nm,19.2s,baz=231,slow=34
BORG Borgarnes 61.38 25 *e*P **P 01 48 44.7 +2.2**
36nm,1.1s
PAX Paxson 62.25 332 *e*P **P 01 48 48.3 -0.3**
7.5nm,1.2s
ILAR Eielson Array 63.33 334 P **P 01 48 55.3 -0.3**
4.2nm,1.0s,baz=108,slow=4.5,SNR=21
SEW Seward 63.48 329 *e*P **P 01 48 57.6 +0.9**
MCK McKinley 63.95 333 *e*P **P 01 49 01.1 +1.3**
8.5nm,1.1s
KTH Kantishna Hill 64.79 332 *e*P **P 01 49 04.3 -1.0**
EVOP Sao Brissos 66.34 55 *e*P **P 01 49 16.2 +0.5**
36nm,1.3s
EVO Evora 66.43 55 *e*P **P 01 49 16.2 -0.1**
36nm,1.3s
DAG Danmarks Havn 66.54 13 *i* P **P 01 49 13.6 -2.7**
2.1nm,1.0s
ESK Eskdalemuir 68.88 37 *e*P **P 01 49 31.8 +0.3**
46nm,1.7s
ROSF Rostrenen 69.15 44 *e*P **P 01 49 33.7 +0.4**
ROSF Rostrenen 69.15 44 *e*P **P 01 49 33.7 +0.4**
ESDC Sonseca Array 69.45 54 P **P 01 49 35.6 +0.2**
2.6nm,0.8s,baz=289,slow=5.8,SNR=16
GRR Gorron 70.75 44 *e*P **P 01 49 43.5 +0.4**
20nm,1.1s
GRR Gorron 70.75 44 *e*P **P 01 49 43.5 +0.4**
20nm,1.1s
FLN La Foliniere 70.97 44 *e*P **P 01 49 44.9 +0.5**
29nm,1.2s
FLN La Foliniere 70.97 44 *e*P **P 01 49 44.9 +0.5**
29nm,1.2s
SJPF Ste Jean 71.09 50 *e*P **P 01 49 45.3 0.0**
32nm,1.4s
SJPF Ste Jean 71.09 50 *e*P **P 01 49 45.3 0.0**
32nm,1.4s
LDF La Druitiere 71.22 44 *e*P **P 01 49 45.5 -0.4**
28nm,1.2s
LDF La Druitiere 71.22 44 *e*P **P 01 49 45.5 -0.4**
28nm,1.2s
MFF Saint Martin d 71.43 46 *e*P **P 01 49 47.6 +0.4**
MFF Saint Martin d 71.43 46 *e*P **P 01 49 47.6 +0.4**
ETSF Etsaut 71.60 50 *e*P **P 01 49 49.3 +0.9**
ETSF Etsaut 71.60 50 *e*P **P 01 49 49.3 +0.9**
EPF Esparros 72.23 50 *e*P **P 01 49 53.0 +0.8**
39nm,1.5s
EPF Esparros 72.23 50 *e*P **P 01 49 53.0 +0.8**
39nm,1.5s
LFF La Frestale 72.25 48 *e*P **P 01 49 52.7 +0.5**
42nm,1.3s
LFF La Frestale 72.25 48 *e*P **P 01 49 52.7 +0.5**
42nm,1.3s
RJF Les Rejaudoux 72.75 47 *e*P **P 01 49 55.4 +0.2**
22nm,1.2s
RJF Les Rejaudoux 72.75 47 *e*P **P 01 49 55.4 +0.2**
22nm,1.2s
TCF Toulx Ste Croi 73.08 46 *e*P **P 01 49 57.3 +0.1**
23nm,1.3s
TCF Toulx Ste Croi 73.08 46 *e*P **P 01 49 57.3 +0.1**
23nm,1.3s
CAF Calviac 73.19 48 *e*P **P 01 49 58.1 +0.3**
22nm,1.2s
CAF Calviac 73.19 48 *e*P **P 01 49 58.1 +0.3**
22nm,1.2s
BGF Bois d'Agland 73.48 46 *e*P **P 01 49 59.5 0.0**
13nm,1.1s
BGF Bois d'Agland 73.48 46 *e*P **P 01 49 59.5 0.0**
13nm,1.1s
MTLF Montolieu 73.54 49 *e*P **P 01 50 00.4 +0.5**
MTLF Montolieu 73.54 49 *e*P **P 01 50 00.4 +0.5**
AVF Avril sur Loir 73.79 45 *e*P **P 01 50 01.0 -0.3**
20nm,1.4s
AVF Avril sur Loir 73.79 45 *e*P **P 01 50 01.0 -0.3**
20nm,1.4s
SSF Saint Saulge 73.85 45 *e*P **P 01 50 01.4 -0.2**
SSF Saint Saulge 73.85 45 *e*P **P 01 50 01.4 -0.2**
LOR Lormes 74.05 45 *e*P **P 01 50 02.6 -0.3**
LOR Lormes 74.05 45 *e*P **P 01 50 02.6 -0.3**
SMF Signal de Mont 74.14 46 *e*P **P 01 50 03.2 -0.2**
SMF Signal de Mont 74.14 46 *e*P **P 01 50 03.2 -0.2**
LASF Ste Croix 74.59 48 *e*P **P 01 50 06.7 +0.6**
15nm,1.2s
LASF Ste Croix 74.59 48 *e*P **P 01 50 06.7 +0.6**
15nm,1.2s
MEZF Maizieres J'vi 74.64 44 *e*P **P 01 50 06.5 +0.3**
64nm,1.5s
MEZF Maizieres J'vi 74.64 44 *e*P **P 01 50 06.5 +0.3**
64nm,1.5s
SFTF Sexfontaines 74.68 44 *e*P **P 01 50 06.5 0.0**
SFTF Sexfontaines 74.68 44 *e*P **P 01 50 06.5 0.0**
VIVF Saint-Julien-l 75.03 47 *e*P **P 01 50 09.5 +0.9**
36nm,1.4s
VIVF Saint-Julien-l 75.03 47 *e*P **P 01 50 09.5 +0.9**
36nm,1.4s
PAGF Fort de Pagny 75.07 43 *e*P **P 01 50 09.0 +0.3**
5.8nm,1.2s
PAGF Fort de Pagny 75.07 43 *e*P **P 01 50 09.0 +0.3**
5.8nm,1.2s
WLF Walferdange 75.15 42 *e*P **P 01 50 10.2 +1.0**
6.2nm,0.8s
LIC Lamto 75.48 88 *e*P **P 01 50 11.8 +0.1**
LIC Lamto 75.48 88 *e*P **P 01 50 11.8 +0.1**
HAU Haudompre 75.58 44 *e*P **P 01 50 11.7 0.0**
HAU Haudompre 75.58 44 *e*P **P 01 50 11.7 0.0**
CABF La Chapelle 75.67 45 *e*P **P 01 50 12.5 +0.2**
21nm,1.3s
CABF La Chapelle 75.67 45 *e*P **P 01 50 12.5 +0.2**
21nm,1.3s
NOA NORSAR Array B 75.85 30 LR LR 02 19 38.9
comp=Z,176nm,20.8s,baz=260,slow=33
HINF Hinteralfeld 75.95 44 *e*P **P 01 50 13.6 -0.2**
15nm,1.3s
HINF Hinteralfeld 75.95 44 *e*P **P 01 50 13.6 -0.2**
15nm,1.3s
CDF Champ du Feu 76.11 43 *e*P **P 01 50 14.7 -0.1**
39nm,1.7s
CDF Champ du Feu 76.11 43 *e*P **P 01 50 14.7 -0.1**
39nm,1.7s
LPL La Plagne 76.33 46 *e*P **P 01 50 17.1 +0.8**
20nm,1.4s
LPL La Plagne 76.33 46 *e*P **P 01 50 17.1 +0.8**
20nm,1.4s
LPG La Plagne 76.34 46 *e*P **P 01 50 17.4 +1.0**
11nm,1.1s
LPG La Plagne 76.34 46 *e*P **P 01 50 17.4 +1.0**
11nm,1.1s
LMR La Mourre 76.62 49 *e*P **P 01 50 17.9 +0.2**
10.0nm,1.1s
LMR La Mourre 76.62 49 *e*P **P 01 50 17.9 +0.2**
10.0nm,1.1s
FRF La Foret Royal 76.67 48 *e*P **P 01 50 18.2 +0.2**
15nm,1.1s
FRF La Foret Royal 76.67 48 *e*P **P 01 50 18.2 +0.2**
15nm,1.1s
HFS Hagfors 77.24 31 LR LR 02 19 44.6
comp=Z,148nm,20.4s,baz=300,slow=32
GRF Grafenberg Arr 78.36 41 *e*P **P 01 50 28.7 +1.4**
comp=Z,10.0nm,1.4s
GRF *e*L L 02 19 50.0
comp=Z,463nm,21.0s
CLL Collm 79.06 40 *e*(P) **P 01 50 34.0 +2.9**
comp=Z,11nm,1.4s
CLL *e*SSSS 02 11 36.0
CLL Lm MLR 02 19 00.0
comp=Z,500nm,20.2s
BRG Berggiesshubel 79.74 40 *e*(P) **P 01 50 37.5 +2.7**
comp=Z,27nm,1.1s
TORD Torodi Ar. Bea 79.89 79 P **P 01 50 36.0 -0.2**
comp=Z,0.6nm,0.7s,baz=295,slow=5.2,SNR=7.2
GERES GERESS Array B 80.15 42 P **P 01 50 37.8 +0.6**
comp=Z,1.1nm,0.9s,baz=285,slow=5.0,SNR=6.7
GERES LR LR 02 21 25.0
comp=Z,353nm,21.5s,baz=262,slow=32
PVCC Panska Ves 80.22 40 AMS AMS 02 19 20.0
comp=Z,600nm,17.1s
PRA Prague 80.27 41 AMS AMS 02 20 30.0
PRU Pruhonice 80.36 41 *e*P **P 01 50 38.8 +0.6**
PRU AMS AMS 02 20 30.0
comp=Z,700nm,16.2s
GOPC GO Pecny, Ondr 80.53 41 AMS AMS 02 20 30.0
comp=Z,500nm,18.1s
KEST Kesra 80.56 56 P **P 01 50 40.8 +1.1**
comp=Z,2.4nm,1.0s,baz=234,slow=0.6,SNR=5.4
KEST Kesra 80.56 56 *e*P **P 01 50 40.3 +0.6**
TAM Tamanrasset 80.77 69 *e*P **P 01 50 41.5 +0.4**
comp=Z,2.3nm,1.0s

UPC Upice 81.11 40 *e*P **P 01 50 43.0 +0.8**
UPC *ex* x 01 50 54.1
TREC Trest 81.15 41 *e*P **P 01 50 43.7 +1.3**
TREC *ex* x 01 50 56.1
TREC AMS AMS 02 20 30.0
comp=Z,600nm,18.4s
DPC Dobruska-Polom 81.35 40 *e*P **P 01 50 43.9 +0.4**
DPC *ex* x 01 50 58.0
DPC *ex* x 01 51 23.9
DPC AMS AMS 02 20 40.0
KRLC Kraliky 81.71 40 *e*P **P 01 50 46.9 +1.4**
KRLC *ex* x 01 50 55.4
KRLC *ex* x 01 51 22.9
AQU L'Aquila 81.77 48 *e*P **P 01 50 45.4 -0.5**
comp=Z,6.8nm,1.1s
MORC Moravsky Berou 82.27 40 *e*P **P 01 50 47.9 -0.5**
comp=Z,4.3nm,1.2s
FINES FINESS Array B 82.56 27 P **P 01 50 49.4 -0.2**
comp=Z,4.2nm,1.1s,baz=264,slow=4.1,SNR=5.8
FINES LR LR 02 23 17.3
comp=Z,280nm,21.5s,baz=261,slow=33
OKC Ostrava-Krasne 82.62 40 AMS AMS 02 20 50.0
comp=Z,500nm,17.1s
VYHS Vyhne 83.50 41 *e*P **P 01 50 55.0 +0.3**
PMSA Palmer Station 83.62 172 *e*P **P 01 50 56.4 +1.7**
comp=Z,98nm,1.1s
PSZ Piszkesteto 84.36 41 *e*P **P 01 50 59.1 -0.1**
comp=Z,8.3nm,1.1s
TIP Timpagrande 85.18 50 *e*P **P 01 51 03.1 -0.5**
comp=Z,5.8nm,1.2s
TIXI Tiksi 88.18 351 *e*P **P 01 51 16.6 -0.8**
comp=Z,3.9nm,1.1s
KIEV Kiev 88.81 36 *e*P **P 01 51 21.3 +0.5**
LSZ Lusaka 113.16 99 *e*PKP **PKiKP 01 57 07.1 +1.7**
CN2 Changchun 113.65 339 *e*PKP **PKiKP 01 57 01.8 -3.7**
MAJO Matsushiro 113.93 326 *e*PKP **PKiKP 01 57 06.9 +0.6**
SONM Songino Array 114.07 354 PP **PP 01 57 57.6 -1.9**
comp=Z,0.2nm,0.3s,baz=19,slow=6.2,SNR=3.6
WMQ Urumqi 117.72 9 *e*PKP **PKPdf 01 57 10.0 -3.4**
KSH Kashi 119.11 20 *e*PKP **PKPdf 01 57 16.8 +0.5**
KSH PP **PP 01 58 39.0 +4.0**
KSH PKS **PKSdf 02 00 52.3 -0.8**
KSH SKS **SKSdf 02 04 27.8 -0.1**
KSH SKKS **SKKSac 02 05 31.3 -4.6**
KSH PPMZ
comp=Z,93nm,5.2s
KSH LN
comp=Z,60nm,5.1s
KSH LE
comp=Z,77nm,6.2s
KSH LZ
comp=Z,190nm,7.6s
HHC Hu-ho-hao-te 120.17 348 *e*PKP **PKPdf 01 57 19.5 +1.2**
HHC PP PP 01 58 48.4 +6.4
HHC SKS **SKSdf 02 04 28.5 -1.3**
HHC SKKS **SKKSac 02 05 40.0 -2.7**
HHC SS **SKKSdf 02 15 16.4 +6.9**
HHC PPMZ
comp=Z,61nm,9.0s
HHC LN
comp=Z,200nm,20.6s
HHC LE
comp=Z,210nm,19.2s
HHC LZ
comp=Z,170nm,17.3s
LZH Lanzhou 125.95 354 *e*PKP **PKPdf 01 57 25.3 -4.3**
LZH sPKP 01 57 32.1
NJ2 Nanjing 126.47 338 PKP **PKPdf 01 57 30.1 -0.3**
CD2 Chengdu 131.09 354 PKP **PKPdf 01 57 38.5 -0.9**
CD2 PP **PP 01 59 59.0 +4.3**
CD2 PKS **PKSdf 02 01 13.5 -2.5**
CD2 SKS **SKSdf 02 04 47.3 -3.1**
CD2 SKKS **SKKSac 02 06 48.9 -3.4**
CD2 SS **SS 02 17 25.4 +1.0**
CD2 PPMZ
comp=Z,120nm,6.2s
CMAR Chiang Mai Arr 143.77 359 PKP **PKPdf 01 58 02.7 -0.2**
comp=Z,0.9nm,0.4s,baz=322,slow=1.7,SNR=8.8
WB2 Warramunga Arr 145.87 261 *e*PKPbc **PKPdf 01 58 06.5 +0.1**
WRAB Tennant Creek 145.87 261 *e*PKPbc **PKPdf 01 58 06.2 -0.3**
WRA Warramunga Arr 145.88 261 PKP **PKPdf 01 58 05.5 -0.9**
comp=Z,2.6nm,0.7s,baz=85,slow=3.5,SNR=19
AS31 Alice Springs 146.28 254 *e*PKPbc **PKPdf 01 58 06.8 -0.3**
ASAR Alice Springs 146.28 254 PKP **PKPdf 01 58 07.0 -0.2**
comp=Z,9.8nm,1.0s,baz=100,slow=2.9,SNR=35
PALK Pallekele 149.48 36 *e*PKPdf **PKPdf 01 58 13.5 +0.8**
PALK *e*PKPbc **PKPbc 01 58 17.3 +0.1**
FORT Forrest 150.14 239 *e*PKPdf **PKPdf 01 58 14.0 +0.8**
FORT *e*PKPbc **PKPbc 01 58 17.9 -0.4**
KKM Kota Kinabalu 150.26 322 *e*PKPdf **PKPdf 01 58 14.5 +0.5**
KKM *e*PKPbc **PKiKP 01 58 19.9 -0.1**
KULM Kulim 156.74 354 *e*PKPdf **PKPdf 01 58 23.9 +0.7**

IDC ***18*** *01:41:31.8±3.2, 11.89N×86.68W, h40km±28km, mb3.9/13, mb1 4.1/14, mb1mx3.8/40, mbtmp4.1/14, ML3.7/1, MS4.1/1, Ms1 4.1/1, ms1mx3.3/35, Error ellipse: s-maj=35.0km s-min=12.4km az=55.0*
ISCJB ***18*** *01:41:33.2±0.3, 12.12N±0.06×86.40W±0.07, h50km, mb4.4/38, MS3.9/1, Error ellipse: s-maj=11.6km s-min=4.4km az=139.8*
BJI ***18*** *01:41:34.0, 12.20N×86.40W, h36km, mB5.3/2, Ms5.2/2, Ms7 4.8/2*
NEIC ***18*** *01:41:35.4±1.0, 12.01N×86.42W, h69km±10km, mb4.6/27, Error ellipse: s-maj=12.6km s-min=5.7km az=56.0*
NEIC Felt [III] at Managua. Also felt at Carlos Fonseca Amador, Ciudad Sandino, El Crucero, Esteli, Leon, Potosi, San Rafael del Sur and Ticuantepe.

ISC 18 01:41:34.5±0.5, 12.09N±0.08×86.4W±0.1, h50km, n277, σ0.97/285, mb4.5/38, 101C-104D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.29**	**141**	Pn	**Pn**		**01 42 08.3**	**-1.6**
	18nm,0.3s,baz=306,slow=18,SNR=54							
JTS				Sn	**Sn**		**01 42 38.1**	**+1.2**
	88nm,0.3s,baz=294,slow=20,SNR=7.8							
JTS	**JuntasAbangare**	**2.29**	**141**	*e*Pn	**Pn**		**01 42 10.4**	**+0.5**
JTS				Sn	**Sn**		**01 42 38.1**	**+1.2**
GTBY	**Guantanamo Bay**	**13.37**	**53**	*e*Pn	**Pn**		**01 44 41.3**	**-0.4**
OTAV	**Otavalo**	**14.18**	**146**	*e*Pn	**Pn**		**01 44 53.3**	**+0.3**
SDV	**Santo Domingo**	**15.84**	**100**	*e*Pn	**Pn**		**01 45 15.2**	**+0.7**
035Z	**Hargill**	**18.02**	**324**	⇓P	**P**		**01 45 40.5**	**-0.8**
	baz=18							
034A	**Hebbronville**	**18.83**	**324**	⇑P	**P**		**01 45 50.0**	**-0.3**
	baz=19,SNR=6.0							
834A	**Tilden**	**19.58**	**326**	⇓P	**P**		**01 45 58.5**	**0.0**
	baz=20							
933A	**Laredo**	**19.59**	**324**	⇓P	**P**		**01 45 58.3**	**-0.3**
	baz=20							
HKT	**Hockley**	**19.81**	**335**	*e*P	**P**		**01 46 01.6**	**+0.7**
	10nm,0.9s							
636A	**Smothers Creek**	**19.94**	**332**	⇑P	**P**		**01 46 03.6**	**+1.3**
	baz=20							
537A	**Green Hill Far**	**20.13**	**334**	⇓P	**P**		**01 46 06.5**	**+2.1**
	baz=20							
439A	**Center Grove,**	**20.16**	**339**	⇓P	**P**		**01 46 04.7**	**0.0**
	baz=20							
734A	**La Parita Cree**	**20.16**	**328**	⇑P	**P**		**01 46 04.1**	**-0.6**
	baz=20							
833A	**Chaparral WMA,**	**20.20**	**325**	⇑P	**P**		**01 46 04.8**	**-0.4**
	baz=20,SNR=10							
635A	**Leesville**	**20.20**	**330**	⇑P	**P**		**01 46 05.2**	**0.0**
	baz=20							
832A	**Faith Ranch, C**	**20.50**	**324**	⇑P	**P**		**01 46 07.8**	**-0.7**
	baz=21,SNR=6.4							
535A	**Dale**	**20.64**	**332**	⇓P	**P**		**01 46 10.8**	**+0.9**
	baz=21							
ATAH	**Atahualpa**	**20.69**	**157**	LR	LR		01 53 08.9	
	comp=Z,515nm,20.1s,baz=342,slow=34							
732A	**Laxson Ranch,**	**20.84**	**325**	⇑P	**P**		**01 46 12.1**	**0.0**
	baz=21							
LRAL	**Lakeview Retre**	**20.86**	**359**	*e*P	**P**		**01 46 11.5**	**-0.8**
	7.1nm,0.7s							
337A	**Centerville**	**21.04**	**337**	⇑P	**P**		**01 46 16.0**	**+1.8**
	baz=21							
534A	**Blanco**	**21.07**	**330**	⇓P	**P**		**01 46 14.1**	**-0.5**
	baz=21							
239A	**Gary**	**21.18**	**341**	⇓P	**P**		**01 46 15.6**	**-0.1**
	baz=21							
435B	**Jarrell**	**21.28**	**333**	⇓P	**P**		**01 46 16.7**	**-0.2**
	baz=21							
632A	**Uvalde**	**21.34**	**326**	⇑P	**P**		**01 46 18.1**	**+0.7**
	baz=22							
238A	**Jacksonville**	**21.38**	**339**	⇓P	**P**		**01 46 19.3**	**+1.4**
	baz=22							
533A	**Kerrville**	**21.39**	**329**	⇑P	**P**		**01 46 17.9**	**-0.1**
	baz=22							
434A	**Burnet**	**21.62**	**331**	⇓P	**P**		**01 46 20.2**	**-0.4**
	baz=22							
237A	**Washetta, Mont**	**21.63**	**338**	⇓P	**P**		**01 46 20.6**	**+0.1**
	baz=22							
335A	**Moody**	**21.64**	**334**	⇑P	**P**		**01 46 20.2**	**-0.5**
	baz=22							
532A	**Rocksprings**	**21.89**	**327**	⇓P	**P**		**01 46 23.2**	**-0.2**
	baz=22							
433A	**Art**	**21.97**	**330**	⇑P	**P**		**01 46 23.9**	**-0.4**
	baz=22							
138A	**Matatall Enter**	**21.97**	**340**	⇓P	**P**		**01 46 25.2**	**+1.0**
	baz=22							
334A	**Lometa**	**22.05**	**332**	⇓P	**P**		**01 46 26.0**	**+1.0**
	baz=22							
JCT	**Junction City**	**22.11**	**328**	⇓P	**P**		**01 46 26.1**	**+0.3**
	baz=22							
531A	**Rocksprings**	**22.26**	**326**	⇑P	**P**		**01 46 27.8**	**+0.4**
	baz=22							
WHTX	**Lake Whitney,**	**22.27**	**335**	⇑P	**P**		**01 46 28.0**	**+0.7**
	baz=22,SNR=6.7							
WHTX	**Lake Whitney,**	**22.27**	**335**	*e*P	**P**		**01 46 27.5**	**+0.2**
	15nm,0.7s							
333A	**Richland Sprin**	**22.39**	**331**	⇑P	**P**		**01 46 28.9**	**+0.2**
	baz=22							
432A	**Menard**	**22.42**	**329**	⇓P	**P**		**01 46 28.2**	**-0.9**
	baz=23							
234A	**Clairette**	**22.57**	**333**	⇑P	**P**		**01 46 30.6**	**-0.1**
	baz=23							
530A	**J-C Ranch, Com**	**22.69**	**325**	⇑P	**P**		**01 46 31.5**	**-0.5**
	baz=23							
431A	**Sonora**	**22.70**	**327**	⇓P	**P**		**01 46 32.9**	**+0.9**
	baz=23							
332A	**Millersview**	**22.81**	**329**	⇑P	**P**		**01 46 32.9**	**-0.2**
	baz=23							
233A	**Rising Star**	**22.93**	**332**	⇑P	**P**		**01 46 33.9**	**-0.4**
	baz=23							
134A	**White-Moore Ra**	**23.03**	**334**	⇑P	**P**		**01 46 35.3**	**-0.1**
	baz=23							
331A	**San Angelo**	**23.09**	**328**	⇓P	**P**		**01 46 35.9**	**-0.2**
	baz=23							
430A	**Baggett Ranch,**	**23.12**	**326**	⇑P	**P**		**01 46 36.8**	**+0.4**
	baz=23							
232A	**Coleman**	**23.17**	**330**	⇑P	**P**		**01 46 36.9**	**0.0**
	baz=23							
529A	**Stev Forest Ra**	**23.18**	**323**	⇑P	**P**		**01 46 37.3**	**+0.3**
	baz=23							
MIAR	**Mount Ida**	**23.29**	**345**	*e*P	**P**		**01 46 39.0**	**+1.1**
	14nm,0.7s							
Z35A	**Perchaven, San**	**23.36**	**337**	⇓P	**P**		**01 46 39.0**	**+0.4**
	baz=24							
429A	**Davenport Ranc**	**23.36**	**325**	⇓P	**P**		**01 46 39.4**	**+0.7**
	baz=24							
KMSC	**Kings Mountain**	**23.41**	**11**	⇓P	**P**		**01 46 39.9**	**+0.8**
	baz=24							
133A	**Hamilton Ranch**	**23.43**	**333**	⇑P	**P**		**01 46 39.5**	**+0.2**
	baz=24							
TXAR	**Lajitas Array**	**23.50**	**320**	P	**P**		**01 46 38.5**	**-1.6**
	4.4nm,0.7s,baz=143,slow=9.7,SNR=12							
TXAR				PcP	**PcP**		01 50 24.2	-0.6
	0.8nm,0.6s,baz=161,slow=5.3,SNR=7.5							
330A	**Mertzon**	**23.56**	**327**	⇓P	**P**		**01 46 41.2**	**+0.5**
	baz=24							
TKL	**Tuckaleechee C**	**23.59**	**5**	P	**P**		**01 46 41.5**	**+0.8**
	5.3nm,0.7s,baz=171,slow=11,SNR=2.9							
TKL	**Tuckaleechee C**	**23.59**	**5**	*e*P	**P**		**01 46 40.6**	**-0.2**
Z34A	**Collier Ranch,**	**23.66**	**335**	⇑P	**P**		**01 46 41.7**	**+0.3**
	baz=24,SNR=13							
Z33A	**Whitaker Ranch**	**23.94**	**334**	⇓P	**P**		**01 46 44.7**	**+0.7**
	baz=24,SNR=6.6							
329A	**Wagon Wheel Ra**	**24.06**	**326**	⇓P	**P**		**01 46 45.5**	**+0.2**
	baz=24							
Y34A	**Reagan Ranch,**	**24.11**	**336**	⇓P	**P**		**01 46 45.9**	**+0.3**
	baz=24,SNR=10							
Z32A	**Haskell**	**24.27**	**333**	⇑P	**P**		**01 46 47.5**	**+0.4**
	baz=24							
229A	**Bryant Ranch,**	**24.34**	**327**	⇑P	**P**		**01 46 47.9**	**+0.2**
	baz=24							
130A	**Snyder**	**24.39**	**329**	⇓P	**P**		**01 46 48.7**	**+0.5**
	baz=24							
Y33A	**Hilltop Ranch,**	**24.50**	**335**	⇓P	**P**		**01 46 49.5**	**+0.3**
	baz=25							
H06E1	**SOCORRO T-PHAS**	**24.53**	**289**	T	T		02 11 52.0	
	SNR=10							
Z31A	**Sharp Cattle R**	**24.59**	**331**	⇑P	**P**		**01 46 50.0**	**+0.1**
	baz=25							
X34A	**Smith Ranch, M**	**24.70**	**337**	⇓P	**P**		**01 46 51.6**	**+0.7**
	baz=25,SNR=9.1							
Y32A	**R-V Farms, Ver**	**24.84**	**334**	⇓P	**P**		**01 46 53.6**	**+1.3**
	baz=25							
W35A	**Tecumseh**	**24.85**	**339**	⇑P	**P**		**01 46 53.6**	**+1.4**
	baz=25							
228A	**UT Block 9, Go**	**24.88**	**326**	⇓P	**P**		**01 46 52.3**	**-0.4**
	baz=25							
129A	**Stewart Farms,**	**24.88**	**328**	⇑P	**P**		**01 46 52.9**	**+0.2**
	baz=25							
X33A	**Lawton**	**24.91**	**336**	⇓P	**P**		**01 46 53.2**	**+0.3**
	baz=25,SNR=28							
Z30A	**Sanderson Ranc**	**25.03**	**330**	⇑P	**P**		**01 46 54.1**	**+0.1**
	baz=25							
X32A	**Elmer**	**25.13**	**334**	⇑P	**P**		**01 46 55.9**	**+1.0**
	baz=25,SNR=8.8							
Y31A	**Rekieta Farm,**	**25.17**	**332**	⇓P	**P**		**01 46 55.8**	**+0.5**
	baz=25							
TUL1	**Leonard**	**25.19**	**342**	⇑P	**P**		**01 46 55.8**	**+0.5**
	baz=25							
TUL1	**Leonard**	**25.19**	**342**	*e*P	**P**		**01 46 55.5**	**+0.1**
	23nm,0.8s							
WMOK	**Wichita Mounta**	**25.20**	**336**	*e*P	**P**		**01 46 53.7**	**-1.8**
	22nm,0.9s							
128A	**Castleberry Fa**	**25.20**	**327**	⇑P	**P**		**01 46 55.8**	**+0.1**
	baz=25							
W34A	**Bridge Creek,**	**25.24**	**338**	⇑P	**P**		**01 46 56.7**	**+0.8**
	baz=25,SNR=7.2							
W34A	**Bridge Creek,**	**25.24**	**338**	*e*P	**P**		**01 46 56.2**	**+0.4**
	49nm,0.8s							
Z29A	**Hungry Hill Ra**	**25.30**	**329**	⇓P	**P**		**01 46 56.9**	**+0.4**
	baz=25							
V35A	**Meyer Ranch, C**	**25.39**	**340**	⇓P	**P**		**01 46 57.4**	**+0.2**
	baz=26							
Y30A	**Stafford Cattl**	**25.40**	**331**	⇓P	**P**		**01 46 58.2**	**+0.8**
	baz=26							
W33A	**Caddo, Fort Co**	**25.43**	**337**	⇓P	**P**		**01 46 58.6**	**+1.0**
	baz=26,SNR=9.7							
X31A	**McDonald Ranch**	**25.61**	**333**	⇓P	**P**		**01 47 00.4**	**+1.1**
	baz=26							
Z28A	**Tucker Farm, M**	**25.67**	**328**	⇓P	**P**		**01 46 59.6**	**-0.3**
	baz=26							
V34A	**Guthrie**	**25.69**	**339**	⇓P	**P**		**01 47 00.0**	**+0.1**
	baz=26							
W32A	**Sentinel**	**25.72**	**335**	⇓P	**P**		**01 47 01.6**	**+1.4**
	baz=26,SNR=12							
NNA	**Nana**	**25.74**	**158**	*e*P	**P**		**01 47 02.8**	**+2.3**
	6.9nm,0.5s							
Y29A	**Porterfield Fa**	**25.76**	**330**	⇑P	**P**		**01 47 00.9**	**+0.2**
	baz=26							
X30A	**Coker Ranch, T**	**25.86**	**332**	⇑P	**P**		**01 47 02.5**	**+0.9**
	baz=26,SNR=6.2							
V33A	**Lossen Ranch,**	**25.95**	**338**	⇓P	**P**		**01 47 03.1**	**+0.8**
	baz=26							
Y28A	**McKinney Farm,**	**26.09**	**329**	⇓P	**P**		**01 47 03.9**	**+0.3**
	baz=26							
V32A	**Arapaho**	**26.16**	**336**	⇑P	**P**		**01 47 05.0**	**+0.8**
	baz=26,SNR=7.2							
MNTX	**Cornudas Mount**	**26.20**	**321**	⇓P	**P**		**01 47 05.3**	**+0.7**
	baz=26							
MNTX	**Cornudas Mount**	**26.20**	**321**	*e*P	**P**		**01 47 04.3**	**-0.3**
	4.3nm,0.9s							
U34A	**Anderson Ranch**	**26.23**	**339**	⇓P	**P**		**01 47 05.2**	**+0.4**
	baz=26							
X29A	**Tulia**	**26.25**	**330**	⇑P	**P**		**01 47 05.3**	**+0.2**
	baz=26,SNR=6.0							
MSTX	**Muleshoe**	**26.40**	**328**	⇑P	**P**		**01 47 06.5**	**0.0**
	baz=26							
MSTX	**Muleshoe**	**26.40**	**328**	*e*P	**P**		**01 47 06.2**	**-0.4**
	17nm,0.8s							
U33A	**Lingo Farm, Me**	**26.43**	**338**	⇑P	**P**		**01 47 07.7**	**+1.0**
	baz=27							
V31A	**Spring Creek L**	**26.53**	**335**	⇓P	**P**		**01 47 08.5**	**+1.0**
	baz=27,SNR=13							
X28A	**Dimmitt**	**26.55**	**330**	⇓P	**P**		**01 47 08.9**	**+1.1**
	baz=27							
AMTX	**Amarillo**	**26.59**	**331**	⇓P	**P**		**01 47 10.2**	**+2.0**
	baz=27							

U32A	Winter Ranch, baz=27	26.72 337	⇑P	P	01 47 10.2 +0.9
S36A	Lake Cedric, C baz=27,SNR=15	26.82 344	⇑P	P	01 47 10.6 +0.5
S35A	Otter Creek Ra baz=27,SNR=8.5	26.99 343	⇓P	P	01 47 11.9 +0.3
R37A	Teagarden Farm baz=27	27.18 345	⇑P	P	01 47 13.4 +0.1
S34A	Willow Spring baz=27	27.25 341	⇓P	P	01 47 14.7 +0.8
R36A	Gordon, Harris baz=28	27.36 344	⇑P	P	01 47 15.1 +0.2
S33A	Kaszmaul Farm, baz=28	27.44 340	⇑P	P	01 47 15.9 +0.2
U30A	WK&E Inc. Balk baz=28,SNR=6.5	27.51 335	⇑P	P	01 47 17.5 +1.1
V28A	Channing baz=28	27.56 331	⇑P	P	01 47 18.2 +1.3
Q37A	Longview Farm, baz=28	27.62 346	⇑P	P	01 47 17.9 +0.6
U27A	Thompson Grove baz=28	28.39 331	⇑P	P	01 47 25.1 +0.8
S30A	Montezuma baz=28	28.39 336	⇑P	P	01 47 25.3 +1.1
T28A	Walsh baz=29	28.64 333	⇓P	P	01 47 27.2 +0.8
Q33A	Connelly Farm, baz=29	28.66 341	⇓P	P	01 47 26.8 +0.2
R30A	Dighton baz=29	28.87 337	⇓P	P	01 47 29.3 +0.8
Q32A	Meitler Ranch, baz=29	28.89 340	⇑P	P	01 47 29.0 +0.4
S28A	Manter baz=29	28.93 334	⇓P	P	01 47 29.6 +0.5
P33A	Williams Farm, baz=29	29.02 342	⇓P	P	01 47 30.4 +0.7
ANMO	Albuquerque 0.6nm,0.5s,baz=169,slow=8.7,SNR=2.0	29.13 325	P	P	01 47 29.8 -1.3
T26A	Comanche Natio baz=30	29.36 331	⇓P	P	01 47 33.2 +0.2
P32A	Huiting Farm, baz=30	29.47 341	⇓P	P	01 47 34.5 +0.7
R28A	Tribune baz=30	29.53 335	⇓P	P	01 47 35.6 +1.1
O32A	Brockman Farm, baz=30	29.95 342	⇓P	P	01 47 38.1 +0.1
O31A	Woolen Ranch, baz=30	30.19 340	⇓P	P	01 47 40.8 +0.7
N32A	Stulken Farm, baz=31	30.42 342	⇓P	P	01 47 43.6 +1.5
R25A	Fountain Ranch baz=31	30.46 332	⇑P	P	01 47 43.3 +0.5
SDCO	Great Sand Dun baz=31	30.73 330	⇑P	P	01 47 46.2 +0.9
SDCO	Great Sand Dun 3.0nm,0.6s	30.73 330	*e*P	P	01 47 46.5 +1.2
BGNE	Belgrade baz=31	30.97 343	⇓P	P	01 47 47.4 +0.5
L31A	Butterfield Fa baz=32	31.88 342	⇑P	P	01 47 55.5 +0.5
P23A	Jefferson baz=32	32.17 331	⇑P	P	01 47 59.0 +1.0
L29A	Maesberg Ranch baz=32	32.29 340	⇓P	P	01 47 59.4 +0.8
K30A	Basset baz=33	32.56 342	⇑P	P	01 48 01.7 +0.7
ECSD	EROS Data Cent baz=33,SNR=7.7	32.74 346	⇓P	P	01 48 02.1 -0.4
ECSD	EROS Data Cent 12nm,0.9s	32.74 346	*e*P	P	01 48 01.3 -1.2
K29A	Lazy Trails An baz=33,SNR=5.4	32.86 341	⇑P	P	01 48 04.5 +0.8
J30A	Dallas baz=33	33.12 342	⇑P	P	01 48 06.3 +0.4
O22A	Kremmling baz=33	33.13 331	⇑P	P	01 48 06.4 +0.1
M24A	Cheyenne baz=34	33.41 334	⇑P	P	01 48 09.5 +0.9
J29A	Okreek baz=34,SNR=9.1	33.45 341	⇑P	P	01 48 09.2 +0.5
SPMN	Marine on St. baz=34,SNR=9.3	33.47 352	⇓P	P	01 48 08.9 +0.1
SPMN	Marine on St. 18nm,0.6s	33.47 352	*e*P	P	01 48 08.4 -0.4
I30A	Oacoma baz=34,SNR=7.3	33.64 343	⇓P	P	01 48 10.7 +0.3
O20A	White River Ci baz=34	33.93 329	⇑P	P	01 48 13.9 +0.8
O20A	White River Ci 7.5nm,0.8s	33.93 329	*e*P	P	01 48 13.2 0.0
BRSD	Miller baz=34	34.00 344	⇑P	P	01 48 13.7 +0.2
BRSD	Miller 54nm,0.8s	34.00 344	*e*P	P	01 48 13.0 -0.4
I29A	Vivian Onida baz=34	34.00 342	⇓P	P	01 48 14.1 +0.6
I28A	Midland baz=34,SNR=5.7	34.25 341	⇓P	P	01 48 16.5 +0.8
J26A	Sides Ranch, S baz=34	34.29 338	⇓P	P	01 48 16.3 +0.2
L23A	Garrett baz=34	34.32 334	⇑P	P	01 48 17.0 +0.4
SRU	San Rafael Swe 6.3nm,0.7s	34.38 326	*e*P	P	01 48 15.9 -1.1
N20A	Spence Gulch, baz=35	34.47 330	⇑P	P	01 48 18.4 +0.6
H29A	Onida baz=35	34.52 343	⇑P	P	01 48 17.9 -0.1
L22A	Ellis Ranch, M baz=35	34.57 333	⇓P	P	01 48 18.1 -0.5
I27A	Quinn baz=35	34.60 340	⇓P	P	01 48 20.1 +1.4
G30A	Faulkton baz=35	34.68 344	⇓P	P	01 48 19.2 -0.2
H28A	Mission Ridge baz=35	34.81 342	⇑P	P	01 48 21.1 +0.6
G29A	Hoven baz=35	34.95 343	⇑P	P	01 48 21.8 +0.1
H27A	Howes baz=35,SNR=10	35.11 340	⇓P	P	01 48 24.0 +0.9
I25A	Rochford baz=35	35.14 338	⇓P	P	01 48 24.3 +0.8
H26A	Fairpoint baz=36	35.33 340	⇑P	P	01 48 25.9 +1.0
F29A	Eureka baz=36	35.52 344	⇓P	P	01 48 26.2 -0.4
G27A	Dupree baz=36	35.72 341	⇓P	P	01 48 28.6 +0.2
F28A	McLaughlin baz=36	35.80 343	⇓P	P	01 48 29.0 -0.1
G26A	Maurine baz=36	35.86 340	⇓P	P	01 48 30.0 +0.5
E30A	Jud baz=36	35.90 345	⇓P	P	01 48 29.8 0.0
H24A	Dirks Ranch, A baz=36	36.07 338	⇓P	P	01 48 31.7 +0.3
I22A	9 Mile Ranch, baz=36	36.10 335	⇓P	P	01 48 32.1 +0.3
E29A	Napoleon baz=36	36.15 344	⇑P	P	01 48 32.9 +1.0
F27A	Lemmon baz=36	36.19 341	⇑P	P	01 48 32.8 +0.4
J20A	Shoshoni baz=36	36.35 333	⇑P	P	01 48 34.6 +0.7
F26A	Lodgepole baz=36	36.38 341	⇑P	P	01 48 35.0 +1.0
D30A	Buchanan baz=37	36.43 346	⇑P	P	01 48 34.4 +0.1
E28A	Huff baz=37	36.44 343	⇓P	P	01 48 34.4 0.0
E27A	Carson baz=37	36.56 342	⇑P	P	01 48 36.1 +0.7
PDAR	Pinedale Array 1.9nm,0.6s,baz=131,slow=11,SNR=12	36.58 331	P	P	01 48 34.3 -1.6
PDAR	0.6nm,0.7s,baz=139,slow=6.0,SNR=3.2		PcP	PcP	01 50 57.1 -1.3
D29A	Pettibone, Tap baz=37	36.59 345	⇑P	P	01 48 35.6 -0.1
FURC	Furnace Creek, baz=37	36.60 317	⇑P	P	01 48 35.6 -0.2
F25A	Bowman baz=37	36.70 340	⇑P	P	01 48 37.2 +0.5
HWUT	Hardware Ranch 8.7nm,0.8s	36.72 328	*e*P	P	01 48 36.2 -0.8
J19A	Crowheart baz=37	36.72 332	⇓P	P	01 48 37.1 0.0
I20A	Worland baz=37	36.85 334	⇑P	P	01 48 38.2 +0.1
C30A	Mose, Pekin baz=37,SNR=6.4	36.92 346	⇑P	P	01 48 38.4 -0.1
H21A	Big Horn, Sher baz=37	36.94 335	⇑P	P	01 48 38.9 +0.1
AGMN	Agassiz Nation baz=37,SNR=6.5	36.95 349	⇑P	P	01 48 38.5 -0.2
AGMN	Agassiz Nation 12nm,0.9s	36.95 349	*e*P	P	01 48 38.5 -0.2
D27A	Center baz=37	37.16 343	⇓P	P	01 48 41.2 +0.6
H20A	Greybull baz=37	37.22 334	⇓P	P	01 48 40.9 -0.3
I19A	Meeteetse baz=37	37.30 333	⇓P	P	01 48 42.2 +0.2
MDND	Maddock baz=38	37.32 345	⇓P	P	01 48 42.3 +0.4
D26A	Manning baz=38	37.36 342	⇓P	P	01 48 42.5 +0.3
SIV	San Ignacio 16nm,0.7s,baz=316,slow=8.5,SNR=34	37.51 137	P	P	01 48 42.6 -1.3
F22A	Rosebud baz=38	37.58 337	⇑P	P	01 48 44.6 +0.4
B30A	Myrvik Farm, E baz=38,SNR=7.3	37.59 347	⇓P	P	01 48 43.9 -0.2
REDW	Red Top Meadow	37.65 330	*e*P	P	01 48 44.7 -0.3
C27A	Sayler Ranch, baz=38	37.70 343	⇑P	P	01 48 45.8 +0.6
D25A	Fairfield baz=38	37.74 341	⇓P	P	01 48 46.5 +1.0
TPAW	Teton Pass	37.79 330	*e*P	P	01 48 46.8 +0.5
B29A	Wagenman Farm, baz=38	37.84 346	⇓P	P	01 48 46.8 +0.5
I17A	Pilgrim Ck. baz=38	37.94 331	⇑P	P	01 48 47.5 +0.2
C26A	Wahner Farm, P baz=38,SNR=5.2	37.97 343	⇑P	P	01 48 48.0 +0.5
E22A	Miles City baz=38	38.02 338	⇑P	P	01 48 48.3 +0.4
A30A	Hoffart Farm, baz=38,SNR=6.5	38.05 347	⇑P	P	01 48 48.2 +0.2
B28A	Dugan Ranch, T baz=38	38.07 345	⇓P	P	01 48 49.0 +0.7
IMW	Indian Meadow	38.09 331	*e*P	P	01 48 48.7 -0.1
H18A	Shoshone NF, C baz=38	38.10 333	⇑P	P	01 48 48.3 -0.5
MTUM	Tungsten Hills	38.22 317	*e*P	P	01 48 51.9 +2.0
A29A	Manning Farm, baz=38,SNR=6.9	38.24 346	⇑P	P	01 48 49.5 -0.1
NVAR	Mina Array Bea 0.9nm,0.8s,baz=135,slow=10,SNR=3.1	38.64 318	P	P	01 48 51.0 -2.4
NVAR	1.6nm,0.7s,baz=145,slow=3.0,SNR=8.1		PcP	PcP	01 51 03.8 -1.1
D22A	Cohagen baz=39	38.71 338	⇑P	P	01 48 54.1 +0.5
ULM	Lac du Bonnet 9.1nm,0.8s,baz=172,slow=8.7,SNR=14	38.84 350	P	P	01 48 53.6 -1.0
E20A	Meyer Farm, Mu baz=39	38.91 336	⇓P	P	01 48 55.9 +0.5
C23A	Lambert baz=39	38.92 340	⇑P	P	01 48 56.1 +0.7
A26A	Wade Farm, Ken baz=39	38.93 344	⇑P	P	01 48 55.5 +0.1
C22A	Vida baz=39	39.11 339	⇑P	P	01 48 57.8 +0.8
DGMT	Dagmar baz=39	39.18 341	⇓P	P	01 48 58.1 +0.5
DGMT	Dagmar 15nm,0.7s	39.18 341	*e*P	P	01 48 57.5 0.0
D20A	Manuel Ranch, baz=40	39.40 337	⇑P	P	01 48 59.7 +0.2
B23A	Brockton baz=40	39.43 341	⇓P	P	01 48 59.9 +0.2
A24A	Westby baz=40	39.52 342	⇓P	P	01 49 01.4 +1.0
HLID	Hailey baz=40	39.59 328	⇓P	P	01 49 01.2 0.0
HLID	Hailey 2.3nm,0.8s	39.59 328	*e*P	P	01 49 01.2 0.0
C21A	Desert Coulee baz=40	39.62 338	⇓P	P	01 49 01.9 +0.7
MCMT	McKenzie Canyo 2.8nm,1.0s	39.70 330	*e*P	P	01 49 02.5 +0.4
BOZ	Bozeman (W) 1.8nm,0.6s	39.73 332	*e*P	P	01 49 01.6 -0.7
D19A	Cripps Ranch, baz=40	39.75 336	⇑P	P	01 49 02.1 -0.3
C20A	Veseth Ranch, baz=40	39.86 337	⇑P	P	01 49 03.5 +0.3
A22A	Carney Farms, baz=40	40.20 340	⇓P	P	01 49 06.2 +0.1
LRM	Limekiln Ridge 14nm,0.6s	40.24 332	*e*P	P	01 49 06.4 -0.3
C19A	Slack Wire Ran baz=40	40.28 336	⇑P	P	01 49 06.9 +0.2
B20A	Solberg Farm, baz=41	40.47 338	⇑P	P	01 49 08.8 +0.5
EGMT	Eagleton baz=41	40.79 336	⇓P	P	01 49 11.2 +0.2
A20A	Cobblestone Ra baz=41,SNR=5.4	40.80 338	⇓P	P	01 49 11.5 +0.4
B19A	Brinkman Farms baz=41	40.83 337	⇓P	P	01 49 11.7 +0.4
A19A	Klindworth Far baz=41	41.14 338	⇓P	P	01 49 14.8 +0.9
MSO	Missoula baz=42	41.68 332	⇓P	P	01 49 18.3 0.0
J04D	Umpqua Nationa baz=44	43.74 322	⇑P	P	01 49 36.0 +0.9
FFC	Flin Flon 3.6nm,0.7s	44.27 347	*e*P	P	01 49 38.7 -0.3
SCHQ	Scheffer ville 2.4nm,0.6s,baz=214,slow=9.3,SNR=6.0	45.34 16	P	P	01 49 47.9 +0.3
BDFB	Brasilia 4.5nm,0.6s,baz=294,slow=11,SNR=12	46.94 125	P	P	01 49 59.0 -1.8
FCC	Fort Churchill	46.94 355	*e*P	P	01 49 59.5 -0.5
CPUP	Villa Florida 0.4nm,0.7s,baz=318,slow=7.8,SNR=4.4	47.52 144	P	P	01 50 02.3 -2.7
YKA	Yellowknife Ar 2.5nm,0.7s,baz=139,slow=7.5,SNR=36	54.23 344	P	P	01 50 53.7 -1.2
YKA	0.8nm,0.7s,baz=146,slow=4.0,SNR=14		PcP	PcP	01 51 57.6 -1.1
RES	Resolute Bay	62.77 357	*e*P	P	01 51 53.1 -1.1
INK	Inuvik 2.7nm,0.9s	63.85 342	*e*P	P	01 52 00.1 -1.3
ILAR	Eielson Array 1.0nm,0.6s,baz=140,slow=4.2,SNR=10.0	66.76 336	P	P	01 52 18.9 -1.5
COLA	College	67.18 336	*e*P	P	01 52 23.1 +0.1
MCK	McKinley 17nm,1.5s	67.22 335	*e*P	P	01 52 24.5 +1.2
BORG	Borgarnes 67nm,1.2s	68.62 25	*e*P	P	01 52 31.8 -0.3
ESDC	Sonseca Array 0.3nm,0.6s,baz=286,slow=5.5,SNR=4.2	76.62 52	P	P	01 53 21.3 +1.1
LBTB	Lobatse	114.84 112	*e*PKPdf	PKPdf	02 00 13.3 +2.7
CN2	Changchun	117.26 335	*e*PKP	PKPdf	02 00 15.3 +0.7
SONM	Songino Array 0.5nm,0.5s,baz=1.1,slow=1.3,SNR=6.1	119.27 350	PKP	PKPdf	02 00 16.5 -1.9
MKAR	Makanchi Array 0.2nm,0.6s,baz=335,slow=2.4,SNR=3.3	120.52 9	PKP	PKPdf	02 00 19.3 -1.5
KSRS	Korea Array 1.5nm,0.8s,baz=355,slow=2.2,SNR=6.0	121.11 328	PKP	PKPdf	02 00 20.9 -1.2
KSAR	Wonju Array Be	121.14 328	PKP	PKPdf	02 00 20.9 -1.3
WMQ	Urumqi	124.11 5	*e*PKP	PKPdf	02 00 29.0 +1.2
HHC	Hu-ho-hao-te	124.77 343	*e*PKP	PKPdf	02 00 30.0 +0.8
HHC			PP	PP	02 02 17.8 +2.0
HHC			SKS	SKSdf	02 07 39.3 +2.0
HHC			SKKS	SKKSac	02 09 08.1 -3.4
HHC			SS	SS	02 19 09.0 +3.0
HHC	120nm,9.3s		PPMZ		
HHC	160nm,18.6s		LN		
HHC	130nm,19.1s		LE		
HHC	100nm,19.6s		LZ		
KSH	Kashi	126.11 17	*e*PKP	PKPdf	02 00 37.0 +5.1
KSH			PKS	PKSdf	02 04 12.3 +3.7
KSH			SKS	SKSdf	02 07 43.3 +3.4
KSH	86nm,3.7s		PPMZ		
KSH	61nm,5.1s		LN		
KSH	78nm,6.1s		LE		
KSH	120nm,7.4s		LZ		
NJ2	Nanjing	129.88 332	*e*PKP	PKPdf	02 00 40.3 +1.2
LZH	Lanzhou	131.12 349	*e*PKP	PKPdf	02 00 41.8 +0.2
CD2	Chengdu	136.15 347	PKP	PKPdf	02 00 50.0 -1.0
ASAR	Alice Springs 0.7nm,0.6s,baz=114,slow=3.0,SNR=7.3	140.07 248	PKP	PKPdf	02 00 55.7 -2.7
WRAB	Tennant Creek	140.12 253	*e*PKPdf	PKPdf	02 01 01.0 +2.5
WRA	Warramunga Arr 0.8nm,0.6s,baz=92,slow=2.8,SNR=11	140.13 253	PKP	PKPdf	02 00 56.4 -2.1
FORT	Forrest	143.12 234	*e*PKPdf	PKPdf	02 01 05.8 +2.2
CMAR	Chiang Mai Arr 2.6nm,0.7s,baz=304,slow=2.1,SNR=5.2	149.19 350	PKP	PKPdf	02 01 12.8 -1.4

IDC ***18*** *01:47:49.5±1.5, 37.30S×73.02W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/28, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=51.0km s-min=23.4km az=80.0*

ISCJB ***18*** *01:47:52.9±1.3, 37.3S±0.1×72.9W±0.3, h33km, mb3.8/4, Error ellipse: s-maj=36.6km s-min=14.4km az=176.2*

ISC 18 01:47:54.5±1.4, 37.3S±0.1×72.9W±0.3, h33km, n6, σ0s 44/6, mb3.8/4, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	3.90	152	Pn	Pn	Pn	01 48 52.1	0.0
	0.7nm,0.3s,baz=329,slow=12,SNR=7.5							
CFAA	Coronel Fontan	6.87	36	Pn	Pn	Pn	01 49 33.2	+0.3
	0.1nm,0.3s,baz=216,slow=15,SNR=2.8							
LPAZ	La Paz	21.35	13	P	P	P	01 52 38.9	-0.7
	3.4nm,0.8s,baz=176,slow=10,SNR=4.9							
SNAA	Sanae	48.83	157	P	P	P	01 56 36.2	0.0
	1.2nm,0.8s,baz=276,slow=11,SNR=6.5							
TXAR	Lajitas Array	72.28	332	P	P	P	01 59 16.8	+0.3
	1.3nm,1.0s,baz=152,slow=7.9,SNR=4.8							
TORD	Torodi Ar. Bea	86.01	70	P	P	P	02 00 31.8	0.0
	0.4nm,0.7s,baz=223,slow=5.9,SNR=4.3							

GUC ***18*** *01:49:33.9±0.4, 37.38S×74.02W, h9km±2km, ML5.6*

IDC ***18*** *01:49:34.4±0.4, 37.16S×73.68W, h0km, mb4.6/17, mb1 4.7/21, mb1mx4.7/30, mbtmp4.6/21, ML4.0/4, MS5.4/13, Ms1 5.4/13, ms1mx5.1/25, Error ellipse: s-maj=19.7km s-min=11.5km az=92.0*

ISCJB ***18*** *01:49:37.0±1.3, 37.19S±0.03×73.78W±0.07, h29km±9km, mb5.0/99, MS5.2/165, Error ellipse: s-maj=9.7km s-min=4.7km az=159.4*

MOS ***18*** *01:49:38.5±1.2, 37.12S×73.72W, h33km, mb5.2/28, MS5.2/20, Error ellipse: s-maj=15.8km s-min=7.9km az=102.0*

GCMT ***18*** *01:49:38.5±0.1, 37.41S×74.19W, h15km, MW5.6/115, Moment Tensor Solution. s61,c95; s115,c232; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr1.73±.04; Mθθ0.01±.02; Mϕϕ-1.74±.03; Mrθ0.01±.06; Mθϕ-0.06±.02; Mϕr-2.25±.11; Best double couple: Mo2.84200×10^17 NP1:ϕs180.00000°, δ71.00000°, λ89.00000°. NP2:ϕs4.00000°, δ19.00000°, λ93.00000°. Principal axes: T 2.8370, Plg64.0000°, Azm88.0000°; N 0.0050, Plg1.0000°, Azm180.0000°; P -2.8470, Plg26.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***18*** *01:49:38.5±1.9, 37.16S×73.75W, h30km±13km, mb5.1/78, MS5.2/144, ML5.6(GUC) Error ellipse: s-maj=8.8km s-min=4.2km az=68.0*

NEIC Felt [V] at La Laja, San Pedro de la Paz and San Rosendo; [IV] at Angol, Arauco, Canete, Concepcion, Contulmo, Lebu, Los Alamos, Lota, Puerto Saavedra, Renaico, Tirua and Tubul; [III] at Los Angeles, Talcahuano and Temuco; [II] at Chillan. Also felt at Chiguayante, Coronel and Parral.

BJI ***18*** *01:49:39.3, 37.20S×73.80W, h31km, mB5.6/18, Ms5.6/18, Ms7 5.4/20*

ISC 18 01:49:38.6±0.6, 37.17S±0.04×73.78W±0.05, h29km±3km, h27km:pP-P, n521, σ1s25/442, mb5.1/100, MS5.3/165, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.63	59	⇑*i*P	P	Pb	01 49 50.6	-0.5
CCSP				*i* S	S	Sn	01 50 03.6	+3.1
CCSP				AML	AML		01 50 09.0	
	comp=E,196μm,0.5s							
LNCH	Linares	2.19	54	*e*P	P	Pn	01 50 14.0	+0.9
LNCH				*i* S	S	Sb	01 50 45.6	+1.3
LNCH				AML	AML		01 50 59.5	
	comp=E,60μm,0.6s							
TALC	Talca	2.47	45	*i* P	P	Pb	01 50 19.8	-2.5
TALC				*i* S	S	Sb	01 50 54.7	+2.3
TALC				AML	AML		01 51 09.3	
	comp=N,57μm,0.5s							
VLCH	Valdivia	2.67	171	*i* P	P	Pn	01 50 16.3	-3.2
VLCH				*i* S	S	Sn	01 50 48.1	-2.8
VLCH				AML	AML		01 51 25.6	
	comp=E,31μm,1.1s							
NICH	Los Niches	2.99	44	*i* P	P	Pn	01 50 26.9	+2.9
NICH				*i* S	S	Sb	01 51 07.3	+0.1
NICH				AML	AML		01 51 26.1	
	comp=N,38μm,0.7s							
PLCA	Paso Flores	4.36	146	*e*P	P	Pn	01 50 42.8	-0.2
PLCA	Paso Flores	4.36	146	Pn	P	Pn	01 50 42.0	-1.0
	comp=N,3.9nm,0.3s,baz=319,slow=13,SNR=3.9							
PLCA				Lg	Lg		01 51 48.4	
	comp=N,37nm,0.3s,baz=349,slow=17,SNR=3.9							
PLCA	Paso Flores	4.36	146	*e*Pn	P	Pn	01 50 42.8	-0.2
PLCA				Lg	Lg		01 51 48.4	
PLCA				*e*Lg	Lg		01 51 58.4	
CFAA	Coronel Fontan	7.19	41	Pn	P	Pn	01 51 20.6	-1.2
	comp=N,0.5nm,0.3s,baz=208,slow=13,SNR=5.3							
CFAA				Lg	Lg		01 53 06.1	
	comp=N,1.3nm,0.3s,baz=280,slow=13,SNR=4.5							
CFAA				LR	LR		01 53 53.6	
	comp=N,850nm,19.1s,baz=223,slow=36							
LCO	Las Campanas	8.53	18	*e*Pn	P	Pn	01 51 38.4	-2.1
TRQA	Tornquist	9.41	99	*e*Pn	P	Pn	01 51 53.1	+0.9
TRQA				*e*Lg	Lg		01 54 36.9	
LVC	Limon Verde	15.10	18	Pn	P	Pn	01 53 08.9	-1.2
	comp=N,11nm,0.3s,baz=202,slow=15,SNR=7.2							
LVC				LR	LR		01 59 07.6	
	comp=N,29μm,20.3s,baz=197,slow=38							
LVC	Limon Verde	15.10	18	*e*Pn	P	Pn	01 53 08.8	-1.4
LVC				*e*Lg	Lg		01 56 46.3	
CPUP	Villa Florida	17.65	57	*e*P	P	Pn	01 53 42.0	-0.3
CPUP				pmax	pmax			
	comp=Z,3.0nm,1.3s							
CPUP	Villa Florida	17.65	57	P	P	Pn	01 53 41.1	-1.2
	comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=12							
CPUP				LR	LR		02 01 12.1	
	comp=Z,78μm,21.1s,baz=220,slow=40							
CPUP	Villa Florida	17.65	57	*e*Pn	P	Pn	01 53 42.0	-0.3
	comp=Z,3.4nm,1.3s							
USHA	Ushuaia	18.05	170	P	P	Pn	01 53 46.5	-0.4
	comp=Z,0.5nm,0.3s,baz=349,slow=15,SNR=6.1							
USHA				LR	LR		02 00 30.6	
	comp=Z,10μm,19.8s,baz=324,slow=36							
EFI	East Falkland	18.28	147	P	P	Pn	01 53 50.4	+0.5
	comp=Z,2μm,1.1s,SNR=12							
EFI	East Falkland	18.28	147	*d i*P	P	Pn	01 53 50.3	+0.4
EFI	East Falkland	18.28	147	*e*Pn	P	P	01 53 48.9	-1.0
	comp=Z,410nm,0.9s							
LPAZ	La Paz	21.39	15	*e*P	P	P	01 54 25.7	+1.1
LPAZ				pmax	pmax			
	comp=Z,115nm,1.1s							
LPAZ	La Paz	21.39	15	P	P	P	01 54 25.4	+0.8
	comp=Z,72nm,1.0s,baz=185,slow=9.1,SNR=40							
LPAZ	La Paz	21.39	15	*e*P	P	P	01 54 25.7	+1.1
	comp=Z,115nm,1.1s							
SIV	San Ignacio	23.91	31	P	P	P	01 54 49.6	-0.4
	comp=Z,30nm,1.0s,baz=207,slow=9.0,SNR=33							
SIV				LR	LR		02 06 06.9	
	comp=Z,15μm,19.2s,baz=222,slow=42							
NNA	Nana	25.22	353	P	P	P	01 55 02.2	+0.1
NNA				MLR	MLR			
	comp=Z,4μm,19.0s							
NNA	Nana	25.22	353	P	P	P	01 55 02.1	+0.1
	comp=Z,8.1nm,0.6s,baz=199,slow=14,SNR=2.6							
NNA	Nana	25.22	353	P	P	P	01 55 02.1	+0.1
NNA				LR	LR			
	comp=Z,4μm,19.0s							
PMSA	Palmer Station	28.25	171	LR	LR		02 07 55.9	
	comp=Z,6μm,18.1s,baz=326,slow=39							
PMSA	Palmer Station	28.25	171	PFAKE			01 55 40.0	+11

PMSA LR LR
comp=Z,9µm,19.0s
SAML Samuel 29.69 22 *e*P **P 01 55 41.2 -0.8**
comp=Z,64nm,1.9s
SAML LR LR
comp=Z,9µm,20.0s
ATAH Atahualpa 30.19 351 P **P 01 55 47.6 +0.7**
comp=Z,3.2nm,0.6s,baz=140,slow=7.9,SNR=2.4
HOPE Hope Point 30.69 136 P **P 01 55 51.8 +1.3**
comp=Z,606nm,1.0s,SNR=5.2
HOPE Hope Point 30.69 136 *e*P **P 01 55 50.6 0.0**
comp=Z,110nm,1.0s
HOPE LR LR
comp=Z,3µm,21.0s
BDFB Brasilia 31.32 54 P **P 01 55 55.8 -0.8**
comp=Z,17nm,0.9s,baz=215,slow=8.3,SNR=22
BDFB LR LR 02 09 59.7
comp=Z,16µm,18.1s,baz=223,slow=39
OTAV Otavalo 37.47 352 *e*P **P 01 56 52.3 +2.2**
comp=Z,42nm,1.2s
OTAV LR LR
comp=Z,2µm,20.0s
PTGA Pitinga 38.44 23 P **P 01 56 57.4 -0.4**
comp=Z,14nm,0.9s,baz=207,slow=8.1,SNR=24
PTGA Pitinga 38.44 23 *e*P **P 01 56 56.2 -1.6**
comp=Z,346nm,2.4s
PTGA LR LR
comp=Z,6µm,20.0s
ROSC El Rosal 41.81 359 P **P 01 57 28.3 +2.1**
comp=Z,4.7nm,0.4s,baz=254,slow=8.6,SNR=4.3
SDV Santo Domingo 45.90 4 *e*P **P 01 57 58.7 -0.2**
comp=Z,20nm,0.9s
SDV LR LR
comp=Z,4µm,20.0s
BCIP Isla Barro Col 46.44 352 *e*P **P 01 58 02.8 0.0**
comp=Z,342nm,2.3s
BCIP LR LR
comp=Z,1µm,20.0s
RCBR Riachuelo 46.53 57 *e*P **P 01 58 03.7 0.0**
comp=Z,50nm,1.3s
RCBR LR LR
comp=Z,10µm,19.0s
VNA3 Neumayer Olymp 47.00 157 P **P 01 58 07.5 +0.8**
VNA1 Neumayer--Stat 47.35 156 P **P 01 58 10.6 +1.3**
VNA2 Neumayer--Watz 47.68 156 P **P 01 58 12.9 +1.0**
TRIS Tristan da Cun 48.22 110 PFAKE 01 58 30.0 +13
TRIS LR LR
comp=Z,2µm,19.0s
JTS JuntasAbangare 48.36 345⇑ *e*P **P 01 58 19.4 +1.6**
JTS pmax pmax
comp=Z,10.0nm,0.6s
JTS JuntasAbangare 48.36 345 P **P 01 58 18.6 +0.8**
comp=Z,1.8nm,0.5s,baz=172,slow=11,SNR=1.9
JTS JuntasAbangare 48.36 345 P **P 01 58 18.6 +0.8**
JTS LR LR
comp=Z,1µm,20.0s
SNAA Sanae 49.22 157 P **P 01 58 24.0 +0.1**
SNAA Sanae 49.22 157 P **P 01 58 24.0 +0.1**
comp=Z,21nm,0.9s,baz=278,slow=7.7,SNR=42
GRGR Grenville 50.34 15 *e*P **P 01 58 31.8 -1.1**
comp=Z,148nm,0.8s
GRGR LR LR
comp=Z,3µm,20.0s
BBGH Gun Hill 51.80 18 PFAKE 01 59 00.0 +16
BBGH LR LR
comp=Z,6µm,21.0s
FDF Fort de France 52.98 15 PFAKE 01 59 00.0 +7.4
FDF LR LR
comp=Z,3µm,19.0s
QSPA South Pole Qui 53.08 180 P **P 01 58 53.4 +0.4**
comp=Z,17nm,1.0s,baz=140,slow=4.5,SNR=28
QSPA South Pole Qui 53.08 180 *e*P **P 01 58 52.9 -0.1**
comp=Z,44nm,1.0s
QSPA LR LR
comp=Z,2µm,19.0s
RKT Rikitea 53.90 267 *e*S **S 02 06 35.5 +2.5**
comp=Z,1µm,26.0s
RKT *e*LR LR 02 14 46.3
comp=Z,4µm,27.2s,baz=123
RKT Rikitea 53.90 267 *e*T T 02 56 45.1
comp=Z,3.3nm,0.2s
NVL N'lazarevskaya 54.00 156⇑ *i*P **P 01 59 00.3 +0.8**
NVL *e**PP **pP 01 59 06.0 -2.4**
NVL *e*PPP PPP 02 02 16.6
NVL *e*S **S 02 06 30.5 -2.6**
NVL *e* 02 06 55.0
NVL *e* 02 08 46.5
NVL *e*SS **SS 02 10 19.8 +5.8**
NVL pmax pmax
comp=Z,54nm,1.6s
NVL MLR MLR
comp=Z,2µm,16.0s
MTDJ Mount Denham 55.21 356 PFAKE 01 59 20.0 +11
MTDJ LR LR
comp=Z,1µm,19.0s
OBIP Obispado Ponce 55.33 8 *e*P **P 01 59 09.8 +0.2**
comp=Z,94nm,1.4s
CELP Cerrillos 55.36 8 *e*P **P 01 59 09.8 -0.1**
SJG San Juan 55.45 9 PFAKE 01 59 20.0 +9.5
SJG LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 55.70 14 PFAKE 01 59 20.0 +7.7
ANWB LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 55.90 3 PFAKE 01 59 30.0 +16
SDDR LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 56.80 359 *e*P **P 01 59 19.6 -0.6**
GTBY LR LR
comp=Z,1µm,19.0s
GRTK Grand Turk 58.42 3 PFAKE 01 59 40.0 +8.5
GRTK LR LR
comp=Z,2µm,20.0s
TEIG Tepich 58.70 344 PFAKE 01 59 50.0 +17
TEIG LR LR
comp=Z,815nm,19.0s
SBA Scott Base 59.69 192 PFAKE 01 59 50.0 +10
SBA LR LR
comp=Z,2µm,20.0s
VNDA Vanda 60.72 192 *e*P **P 01 59 47.6 +0.8**
VNDA pmax pmax
comp=Z,28nm,1.5s
VNDA Vanda 60.72 192 P **P 01 59 48.0 +1.1**
comp=Z,2.1nm,0.9s,baz=127,slow=6.6,SNR=9.6
VNDA Vanda 60.72 192 *e*P **P 01 59 47.6 +0.8**
comp=Z,28nm,1.5s
ASCN Ascension 60.98 77 PFAKE 02 00 00.0 +10
ASCN LR LR
comp=Z,3µm,19.0s
SHEL Horse Pasture 63.14 90 PFAKE 02 00 20.0 +16
SHEL LR LR
comp=Z,2µm,20.0s
TBI Tubuai 65.25 259 *e*S **S 02 09 01.4 +2.0**
comp=Z,3µm,28.0s
TBI Tubuai 65.25 259 *e*LR LR 02 19 57.2
comp=Z,3µm,26.5s,baz=130
TBI Tubuai 65.25 259 *e*T T 03 10 57.1
comp=Z,4.8nm,0.3s
MEH Mehetia 67.07 264 *e*T T 03 13 16.3
comp=Z,50nm,0.2s
TVO Taravao 68.07 264 *e*P P 02 00 40.2 +4.4
comp=Z,13nm,1.2s
TVO Taravao 68.07 264 *e*T T 03 14 30.5
comp=Z,1.5nm,0.3s
VAH Vaihoa 68.18 267 *e*P P 02 00 40.3 +3.8
comp=Z,21nm,0.9s
KVTX Kingsville 68.24 337 PFAKE 02 00 50.0 +14
KVTX LR LR
comp=Z,702nm,19.0s
TIAR Tiarei 68.26 264 *e*P P 02 00 41.3 +4.3
comp=Z,7.9nm,0.9s
TIAR Tiarei 68.26 264 *e*T T 03 14 45.3
comp=Z,8.6nm,0.3s
PAE Paea 68.39 264 *e*P P 02 00 42.1 +4.3
comp=Z,18nm,1.4s
PPT2 Papeete2 68.43 264 *e*P P 02 00 42.6 +4.5
comp=Z,56nm,1.4s
PPT2 *e*S **S 02 09 40.9 +2.8**
comp=Z,1µm,23.2s
PPT2 Papeete2 68.43 264 *e*LR LR 02 21 23.0
comp=Z,4µm,25.0s,baz=120
PPT Papeete 68.44 264 LR LR 02 22 47.0
comp=Z,2µm,19.8s,baz=112,slow=29
933A Laredo 68.75 336 P **P 02 00 39.8 +0.1**
baz=69
TIGA Tifton 68.86 351 *e*P **P 02 00 39.6 -0.7**
comp=Z,15nm,0.8s
BRAL Brewton 68.95 348 PFAKE 02 00 50.0 +9.2
BRAL LR LR
comp=Z,750nm,19.0s
834A Tilden 68.99 337 P **P 02 00 41.4 +0.3**
baz=69
833A Chaparral WMA, 69.44 336 P **P 02 00 44.7 +0.8**
baz=70
832A Faith Ranch, C 69.60 335 P **P 02 00 45.4 +0.5**
baz=70
HKT Hockley 69.89 340 *e*P **P 02 00 47.1 +0.5**
HKT pmax pmax
comp=Z,27nm,1.7s
HKT Hockley 69.89 340 *e*P **P 02 00 47.1 +0.5**
comp=Z,27nm,1.7s
732A Laxson Ranch, 70.01 336 P **P 02 00 48.2 +0.8**
baz=70
SACV Santiago Islan 70.12 52 PFAKE 02 01 00.0 +12
SACV LR LR
comp=Z,2µm,19.0s
NHSC New Hope 70.17 354 PFAKE 02 01 00.0 +12
NHSC LR LR
comp=Z,2µm,20.0s
MAW Mawson 70.55 164 P **P 02 00 50.6 +0.4**
comp=Z,7.4nm,0.7s,baz=223,slow=7.8,SNR=12
MAW LR LR 02 33 21.2
comp=Z,3µm,18.1s,baz=228,slow=37
632A Uvalde 70.67 336 P **P 02 00 52.2 +0.8**
baz=71
GOGA Godfrey 70.80 351 *e*P **P 02 00 51.3 -0.8**
GOGA pmax pmax
comp=Z,13nm,1.2s
GOGA MLR MLR
comp=Z,692nm,21.0s
GOGA Godfrey 70.80 351 *e*P **P 02 00 51.3 -0.8**
comp=Z,14nm,1.2s
GOGA LR LR
comp=Z,692nm,21.0s
LRAL Lakeview Retre 70.92 348 *e*P **P 02 00 53.0 +0.1**
comp=Z,10nm,0.9s
533A Kerrville 70.95 337 P **P 02 00 54.1 +0.9**
baz=71
532A Rocksprings 71.28 336 P **P 02 00 55.7 +0.4**
baz=72
434A Burnet 71.41 338 P **P 02 00 56.5 +0.5**
baz=72
531A Rocksprings 71.52 336 P **P 02 00 57.5 +0.8**
baz=72
JCT Junction City 71.57 336 *e*P **P 02 00 58.1 +1.1**
JCT pmax pmax
comp=Z,116nm,2.1s
JCT Junction City 71.57 336 P **P 02 00 57.5 +0.5**
baz=72
JCT Junction City 71.57 336 *e*P **P 02 00 58.1 +1.1**
comp=Z,116nm,2.1s
433A Art 71.60 337 P **P 02 00 57.0 -0.1**
baz=72
530A J-O Ranch, Com 71.77 335 P **P 02 00 58.8 +0.6**
baz=72
TXAR Lajitas Array 71.85 333 P **P 02 00 59.4 +0.7**
comp=Z,1.6nm,0.6s,baz=158,slow=9.0,SNR=19
TXAR LR LR 02 27 39.6
comp=Z,954nm,19.1s,baz=0.0,slow=32
334A Lometa 71.88 338 P **P 02 00 59.0 +0.2**
baz=72
432A Menard 71.94 337 P **P 02 00 59.2 0.0**
baz=72
431A Sonora 72.02 336 P **P 02 00 60.0 +0.3**
baz=72
529A Stev Forest Ra 72.05 334 P **P 02 01 00.5 +0.6**
baz=72
333A Richland Sprin 72.10 337 P **P 02 01 00.2 +0.1**
baz=72
CNNC Cliffs of the 72.14 356 PFAKE 02 01 10.0 +10
CNNC LR LR
comp=Z,759nm,19.0s
138A Matatall Enter 72.26 341 P **P 02 01 02.2 +1.2**
baz=73
WHTX Lake Whitney, 72.27 339 P **P 02 01 01.2 +0.1**
baz=73
WHTX Lake Whitney, 72.27 339 *e*P **P 02 01 01.2 +0.1**
comp=Z,25nm,1.1s
KMSC Kings Mountain 72.28 354 P **P 02 01 01.1 0.0**
baz=73
KMSC Kings Mountain 72.28 354 *e*P P 02 00 57.1 -4.0
430A Baggett Ranch, 72.32 335 P **P 02 01 01.8 +0.3**
baz=73
332A Millersview 72.39 337 P **P 02 01 01.8 -0.1**
baz=73
429A Davenport Ranc 72.40 335 P **P 02 01 02.2 +0.3**
baz=73
234A Clairette 72.48 338 P **P 02 01 02.8 +0.4**
baz=73
331A San Angelo 72.54 336 P **P 02 01 02.9 +0.1**
baz=73
233A Rising Star 72.72 338 P **P 02 01 03.7 -0.1**
baz=73
232A Coleman 72.83 337 P **P 02 01 04.4 -0.1**
baz=73
330A Mertzon 72.87 336 P **P 02 01 04.5 -0.3**
baz=73
TKL Tuckaleechee C 73.05 352 *e*P **P 02 01 04.7 -0.9**
TKL Tuckaleechee C 73.05 352 *e*P **P 02 01 04.7 -0.9**
231A Bronte 73.08 337 P **P 02 01 06.0 +0.1**
baz=73
329A Wagon Wheel Ra 73.22 335 P **P 02 01 07.1 +0.3**
baz=74
230A Sterling City 73.30 336 P **P 02 01 07.8 +0.6**
baz=74
DRV Dumont d'Urvil 73.30 193 S S 02 10 14.0 -19
DRV L L 02 20 00.0
DRV R 02 25 00.0
ABTX Abilene, Hawle 73.51 337 *e*P **P 02 01 06.9 -1.6**
comp=Z,26nm,1.1s
MIAR Mount Ida 73.69 343 PFAKE 02 01 20.0 +11
MIAR LR LR
comp=Z,682nm,19.0s
131A Roby 73.79 337 P **P 02 01 10.2 +0.1**
baz=74
130A Snyder 73.90 336 P **P 02 01 10.7 0.0**
baz=74
WVT Waverly 74.08 348 *e*P **P 02 01 11.1 -0.6**
WVT pmax pmax
comp=Z,16nm,0.9s
WVT Waverly 74.08 348 *e*P **P 02 01 11.1 -0.6**
comp=Z,16nm,0.9s
Z32A Hackell 74.10 338 P **P 02 01 12.1 +0.3**
baz=74
BLA Blacksburg 74.26 354 PFAKE 02 01 20.0 +7.2
BLA LR LR
comp=Z,716nm,19.0s
Z31A Sharp Cattle R 74.31 337 P **P 02 01 13.6 +0.5**
baz=75
128A Castleberry Fa 74.42 335 P **P 02 01 14.0 +0.2**
baz=75
RAR Rarotonga 74.43 255 PFAKE 02 01 30.0 +16
RAR LR LR
comp=Z,2.0nm,21.0s
SUR Sutherland 74.54 119 P **P 02 01 16.3 +1.3**
comp=Z,245nm,1.2s,SNR=5.1
SUR Sutherland 74.54 119 *e*P **P 02 01 15.5 +0.5**
comp=Z,9.3nm,1.0s
SUR LR LR
comp=Z,1µm,19.0s
Z30A Sanderson Ranc 74.59 336 P **P 02 01 14.9 +0.1**
baz=75
MNTX Cornudas Mount 74.61 332 P **P 02 01 14.9 +0.1**
baz=75
MNTX Cornudas Mount 74.61 332 *e*P **P 02 01 14.8 -0.1**
comp=Z,8.2nm,0.9s
MNTX LR LR
comp=Z,733nm,21.0s
Z29A Hungry Hill Ra 74.75 336 P **P 02 01 15.5 -0.2**
baz=75
Y31A Rekieta Farm, 74.94 337 P **P 02 01 17.2 +0.5**
baz=75
CBN Corbin Frederi 75.07 357 PFAKE 02 01 30.0 +13
CBN LR LR
comp=Z,1µm,19.0s
PBMO Poplar Bluff 75.18 346 *e*P **P 02 01 20.4 +2.4**
comp=Z,10nm,0.8s
WMOK Wichita Mounta 75.23 339 *e*P **P 02 01 19.5 +1.1**
WMOK pmax pmax
comp=Z,15nm,1.1s
WMOK MLR MLR
comp=Z,384nm,22.0s
WMOK Wichita Mounta 75.23 339 *e*P **P 02 01 19.5 +1.1**
comp=Z,15nm,1.1s
WMOK LR LR
comp=Z,384nm,22.0s
Y29A Porterfield Fa 75.29 336 P **P 02 01 19.3 +0.4**
baz=76
X31A McDonald Ranch 75.48 338 P **P 02 01 20.2 +0.3**
baz=76
Y28A McKinney Farm, 75.52 336 P **P 02 01 20.0 -0.2**
baz=76
TUL1 Leonard 75.53 342 P **P 02 01 20.2 +0.1**
baz=76
TUL1 Leonard 75.53 342 *e*P **P 02 01 20.1 +0.1**
comp=Z,18nm,1.0s
V35A Meyer Ranch, C 75.65 341 P **P 02 01 20.6 -0.1**
baz=76
W32A Sentinel 75.72 339 P **P 02 01 22.1 +0.9**
baz=76
MSTX Muleshoe 75.75 335 P **P 02 01 22.2 +0.7**
baz=76
MSTX Muleshoe 75.75 335 *e*P **P 02 01 22.2 +0.7**
comp=Z,20nm,1.1s
X29A Tulia 75.84 336 P **P 02 01 22.8 +0.8**
baz=76
WCI Wyandotte Cave 75.91 350 *e*P **P 02 01 22.3 +0.1**
WCI pmax pmax
comp=Z,6.0nm,0.9s
WCI Wyandotte Cave 75.91 350 *e*P **P 02 01 22.3 +0.1**
comp=Z,5.8nm,0.9s
AMTX Amarillo 76.24 337 P **P 02 01 25.2 +1.0**
baz=77
AMTX Amarillo 76.24 337 *e*P **P 02 01 24.6 +0.4**
comp=Z,43nm,1.3s
121A Cookes Peak, D 76.27 331 *e*P **P 02 01 24.6 +0.1**
W29A Amarillo 76.45 337 P **P 02 01 25.9 +0.5**
baz=77
CASY Casey 76.83 182 *e*P **P 02 01 27.3 +0.1**
comp=Z,68nm,1.4s
LIC Lamto 77.11 72 *e*P **P 02 01 30.0 +0.4**
comp=Z,68nm,1.0s
UPI Upington 77.14 116 P **P 02 01 29.8 +0.1**
comp=Z,55nm,3.2s
S36A Lake Cedric, C 77.20 342 P **P 02 01 29.9 +0.4**
baz=78
TUC Tucson 77.28 329 *e*P **P 02 01 31.4 +1.2**
TUC pmax pmax
comp=Z,18nm,1.5s
TUC MLR MLR
comp=Z,747nm,20.0s
TUC Tucson 77.28 329 *e*P **P 02 01 31.4 +1.2**
comp=Z,18nm,1.5s
TUC LR LR
comp=Z,747nm,20.0s
TIC Toumodi 77.39 72 *e*P **P 02 01 31.5 +0.3**
comp=Z,44nm,0.9s
WIN Windhoek 77.40 109 P **P 02 01 30.9 -0.5**
WIN pmax pmax
comp=Z,26nm,3.0s
WIN Windhoek 77.40 109 P **P 02 01 30.9 -0.5**
comp=Z,26nm,3.0s
LPM Los Pinos Moun 77.41 333 *e*P **P 02 01 31.8 +0.8**
KIC Kosan Boka 77.42 72 *e*P **P 02 01 31.8 +0.5**
comp=Z,78nm,0.9s
ACSO Alum Creek Sta 77.49 353 *e*P **P 02 01 30.7 -0.4**
comp=Z,17nm,0.8s
ACSO LR LR
comp=Z,693nm,20.0s
DBIC Dimbokro 77.53 72 *e*P **P 02 01 32.6 +0.7**
DBIC pmax pmax
comp=Z,35nm,1.0s
DBIC Dimbokro 77.53 72 P **P 02 01 32.4 +0.5**
comp=Z,22nm,0.8s,baz=211,slow=6.6,SNR=22
DBIC LR LR 02 34 10.6
comp=Z,2µm,18.1s,baz=218,slow=35
DBIC Dimbokro 77.53 72 *e*P **P 02 01 32.6 +0.7**
comp=Z,35nm,1.0s
LAZ Ladron 77.68 332 *e*P **P 02 01 32.7 +0.2**
comp=Z,19nm,1.6s
214A Organ Pipe Nat 77.84 327 P **P 02 01 34.0 +0.8**
baz=78
214A Organ Pipe Nat 77.84 327 *e*P **P 02 01 34.0 +0.8**
comp=Z,36nm,1.6s
ANMO Albuquerque 77.92 333⇑ *i*P **P 02 01 35.3 +1.5**
ANMO pmax pmax
comp=Z,64nm,1.8s
ANMO Albuquerque 77.92 333 *e*P **P 02 01 34.8 +1.0**
comp=Z,12nm,1.1s
ANMO LR LR
comp=Z,887nm,20.0s
T28A Walsh 78.43 337 P **P 02 01 36.7 +0.2**
baz=79
KSU1 Kansas State U 78.75 342 PFAKE 02 01 50.0 +12
KSU1 LR LR
comp=Z,526nm,21.0s
BINY Binghamton 79.02 358 PFAKE 02 01 50.0 +11
BINY LR LR
comp=Z,1µm,19.0s
ERPA Erie 79.11 355 PFAKE 02 01 50.0 +10
ERPA LR LR
comp=Z,825nm,20.0s
T25A Trinidad 79.18 336 P **P 02 01 41.7 +0.9**
baz=80
S26A Kim 79.32 336 P **P 02 01 42.3 +0.9**
baz=80
R28A Tribune 79.47 338 P **P 02 01 42.7 +0.5**
baz=80
Q30A Quinter 79.59 339 P **P 02 01 43.7 +0.9**
baz=80
AAM Ann Arbor 79.60 353 PFAKE 02 01 50.0 +7.4
AAM LR LR
comp=Z,882nm,21.0s
TSUM Tsumeb 79.71 106 *e*P **P 02 01 43.3 -0.8**
comp=Z,18nm,1.1s
TSUM LR LR
comp=Z,2µm,19.0s
R27A Eads 79.72 337 P **P 02 01 44.1 +0.6**
baz=80
SNZO South Karori 79.93 225 PFAKE 02 02 00.0 +15
SNZO LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 80.30 330 *e*P **P 02 01 45.7 -1.1**
comp=Z,16nm,1.2s
WUAZ LR LR
comp=Z,620nm,19.0s
R24A Sanders Place, 80.41 335 P **P 02 01 48.1 +0.8**
baz=81
S22A 4UR Ranch, Cre 80.56 334 P **P 02 01 49.1 +0.8**
baz=81
R23A Moffat 80.61 335 P **P 02 01 49.3 +0.7**
baz=81
SCIA State Center 80.68 345 PFAKE 02 02 00.0 +12
SCIA LR LR
comp=Z,524nm,19.0s
MVCO Mesa Verde 80.68 333 *e*P **P 02 01 48.6 -0.3**
comp=Z,16nm,1.2s
MVCO LR LR
comp=Z,1µm,20.0s
NCB Newcomb 80.76 360 PFAKE 02 02 00.0 +11
NCB LR LR
comp=Z,942nm,19.0s
PFO Pinyon Flats O 80.87 325 *e*P **P 02 01 49.0 -0.8**
PFO pmax pmax
comp=Z,14nm,1.3s
PFO MLR MLR
comp=Z,698nm,20.0s
PFO Pinyon Flats O 80.87 325 *e*P **P 02 01 49.0 -0.8**
comp=Z,14nm,1.3s
PFO LR LR
comp=Z,698nm,20.0s
W13A Hualapai Mount 80.99 328 P **P 02 01 50.8 +0.2**
baz=81
LBNH Lisbon 81.05 1 PFAKE 02 02 00.0 +10
LBNH LR LR
comp=Z,842nm,20.0s
P26A Davis Ranch, A 81.05 337 P **P 02 01 51.1 +0.4**
baz=81
JFWS Jewell Farm 81.10 348 PFAKE 02 02 00.0 +9.3
JFWS LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 81.41 359 PFAKE 02 02 00.0 +7.7
LONY LR LR
comp=Z,956nm,19.0s
GMRC Granite Mounta 81.49 326 P **P 02 01 54.4 +1.3**
baz=82
LDFC Landfair 81.50 327 *e*P **P 02 01 52.0 -1.1**
comp=Z,30nm,1.4s
PV01 Paradox Valley 81.52 333 *e*P **P 02 01 53.9 +0.5**
SEK Senekal 81.68 119 P **P 02 01 54.4 -0.2**
comp=Z,86nm,2.7s

OGNE Ogallala 81.93 339 PFAKE 02 02 10.0 +15
OGNE LR LR
comp=Z,620nm,19.0s
ISCO Idaho Springs 81.99 336 *e*P **P** **02 01 54.0 -1.9**
ISCO pmax pmax
comp=Z,19nm,1.5s
ISCO MLR MLR
comp=Z,450nm,20.0s
ISCO Idaho Springs 81.99 336 P **P** **02 01 56.7 +0.8**
baz=82
ISCO Idaho Springs 81.99 336 *e*P **P** **02 01 54.0 -1.9**
comp=Z,19nm,1.5s
ISCO LR LR
comp=Z,450nm,20.0s
RUDU RUNDU 82.10 106 P **P** **02 01 57.0 +0.2**
comp=Z,92nm,1.7s
PKME Peaks-Kenny Pk 82.15 3 PFAKE 02 02 10.0 +14
PKME LR LR
comp=Z,871nm,21.0s
P22A Eagle 82.19 335 P **P** **02 01 58.0 +1.1**
baz=82
LBTB Lobatse 82.25 115 *e*P **P** **02 01 57.3 -0.3**
LBTB pmax pmax
comp=Z,52nm,1.0s
LBTB Lobatse 82.25 115 *e*P **P** **02 01 57.3 -0.3**
comp=Z,52nm,1.0s
PRYS Parys 82.35 118 P **P** **02 01 58.1 0.0**
comp=Z,21nm,2.7s
O22A Kremmling 82.63 335 P **P** **02 02 00.3 +1.1**
baz=83
SHPR Sheep Range 82.73 328 *e*P **P** **02 02 01.3 +1.7**
comp=Z,15nm,1.3s
CCUT Cedar City 82.86 329 *e*P **P** **02 01 58.9 -1.5**
comp=Z,8.6nm,1.1s
ARUT Antelope Range 83.10 329 *e*P **P** **02 02 01.5 0.0**
ARUT pmax pmax
comp=Z,4.0nm,1.8s
ARUT Antelope Range 83.10 329 *e*P **P** **02 02 01.5 0.0**
comp=Z,3.7nm,1.8s
SRU San Rafael Swe 83.10 332 *e*P **P** **02 02 01.8 +0.2**
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 83.10 332 *e*P **P** **02 02 01.8 +0.2**
comp=Z,8.7nm,1.0s
ECSD EROS Data Cent 83.15 344 P **P** **02 02 01.8 +0.4**
baz=84
ECSD EROS Data Cent 83.15 344 *e*P **P** **02 02 01.3 -0.1**
comp=Z,26nm,0.9s
ECSD LR LR
comp=Z,443nm,20.0s
O20A White River Ci 83.18 334 *e*P **P** **02 02 01.9 -0.1**
comp=Z,12nm,1.1s
MVU Marysvale 83.22 331 *e*P **P** **02 01 59.9 -2.4**
comp=Z,8.5nm,1.2s
ERPM east rand prop 83.33 118 P **P** **02 02 03.6 +0.4**
comp=Z,95nm,2.4s
ISA Isabella, Lake 83.50 325 *e*P **P** **02 02 02.6 -0.9**
ISA pmax pmax
comp=Z,9.0nm,1.1s
ISA Isabella, Lake 83.50 325 *e*P **P** **02 02 02.5 -0.9**
comp=Z,9.0nm,1.1s
CRZF Crozet Islands 83.54 146 S Sx 02 11 51.0
CRZF SS SS 02 17 27.0 -22
CRZF R 02 28 00.0
SLR Silverton 83.73 117 P **P** **02 02 05.2 -0.1**
SLR pmax pmax
comp=Z,58nm,2.3s
SLR Silverton 83.73 117 P **P** **02 02 05.2 -0.1**
comp=Z,58nm,2.3s
J29A Okreek 83.75 341 P **P** **02 02 04.6 +0.1**
baz=84
SPMN Marine on St. 83.79 347 *e*P **P** **02 02 04.2 -0.5**
COWI Conover 84.03 349 PFAKE 02 02 20.0 +14
COWI LR LR
comp=Z,634nm,19.0s
NLU North Lily Min 84.43 331 *e*P **P** **02 02 05.7 -2.7**
comp=Z,54nm,2.0s
DAU Daniels Canyon 84.52 332 *e*P **P** **02 02 08.9 0.0**
DAU pmax pmax
comp=Z,1.0nm,1.1s
DAU Daniels Canyon 84.52 332 *e*P **P** **02 02 08.9 0.0**
comp=Z,0.7nm,1.1s
I28A Midland 84.52 341 P **P** **02 02 08.5 0.0**
baz=85
JLU Jordanelle 84.75 332 *e*P **P** **02 02 09.0 -1.0**
comp=Z,6.7nm,1.0s
K22A Casper 84.86 336 *e*P **P** **02 02 09.0 -1.4**
comp=Z,41nm,1.3s
DUG Dugway, Tooele 84.92 331 *e*P **P** **02 02 11.2 +0.5**
DUG pmax pmax
comp=Z,16nm,1.2s
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway, Tooele 84.92 331 *e*P **P** **02 02 11.2 +0.5**
comp=Z,16nm,1.2s
DUG LR LR
comp=Z,1µm,19.0s
TPH Tonopah 84.93 327 *e*P **P** **02 02 12.4 +1.5**
TPH pmax pmax
comp=Z,16nm,1.3s
TPH Tonopah 84.93 327 *e*P **P** **02 02 12.4 +1.5**
comp=Z,16nm,1.3s
TCUT Toone Canyon 85.19 332 *e*P **P** **02 02 12.4 +0.2**
comp=Z,28nm,1.2s
I25A Rochford 85.25 339 P **P** **02 02 12.3 -0.1**
baz=86
RSSD Black Hills 85.43 339 *e*P **P** **02 02 13.5 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 85.43 339 *e*P **P** **02 02 13.5 +0.2**
comp=Z,9.1nm,0.9s
HWUT Hardware Ranch 85.67 333 *e*P **P** **02 02 14.1 -0.4**
comp=Z,94nm,1.8s
HWUT LR LR
comp=Z,574nm,19.0s
NVAR Mina Array Bea 85.70 326 P **P** **02 02 14.2 -0.5**
comp=Z,1.0nm,0.8s,baz=157,slow=5.4,SNR=4.9
NVAR PKKPbc **PKKPbc** **02 20 17.3 -0.5**
comp=Z,0.3nm,0.3s,baz=336,slow=2.0,SNR=3.7
BW06 Boulder Array 85.97 334 PFAKE 02 02 30.0 +14
BW06 LR LR
comp=Z,974nm,21.0s
PDAR Pinedale Array 85.97 334 P **P** **02 02 16.1 +0.1**
comp=Z,0.4nm,0.5s,baz=157,slow=8.0,SNR=4.0
J20A Shoshoni 86.00 336 P **P** **02 02 16.8 +0.8**
baz=86
H24A Dirks Ranch, A 86.16 339 P **P** **02 02 16.5 -0.2**
baz=86
EYMN Ely 86.20 348 PFAKE 02 02 30.0 +13
EYMN LR LR
comp=Z,531nm,20.0s
J19A Crowheart 86.24 335 P **P** **02 02 16.7 -0.6**
baz=87
WAKR Walker 86.27 326 *e*P **P** **02 02 17.0 -0.6**
comp=Z,28nm,1.8s
HVU Hansel Valley 86.27 332 *e*P **P** **02 02 16.5 -0.9**
HVU pmax pmax
comp=Z,18nm,1.3s
HVU Hansel Valley 86.27 332 *e*P **P** **02 02 16.5 -0.9**
comp=Z,18nm,1.3s
AHID Auburn Hatcher 86.51 333 *e*P **P** **02 02 16.2 -2.5**
AHID LR LR
comp=Z,765nm,20.0s
TORD Torodi Ar. Bea 86.61 71 P **P** **02 02 19.2 -0.3**
comp=Z,4.3nm,0.7s,baz=242,slow=3.1,SNR=27
TORD LR LR 02 39 35.4
comp=Z,1µm,18.3s,baz=240,slow=35
MSNA Messina 87.08 116 P **P** **02 02 19.9 -2.0**
comp=Z,56nm,2.7s
C30A Mose, Pekin 87.33 344 P **P** **02 02 22.7 +0.4**
baz=88
AGMN Agassiz Nation 87.33 345 P **P** **02 02 21.7 -0.5**
baz=88
AGMN Agassiz Nation 87.33 345 *e*P **P** **02 02 21.3 -0.9**
comp=Z,12nm,1.0s
AGMN LR LR
comp=Z,871nm,21.0s
D26A Manning 87.67 341 P **P** **02 02 24.2 +0.3**
baz=88
H18A Shoshone NF, C 87.69 335 P **P** **02 02 24.6 +0.2**
baz=88
MDND Maddock 87.72 343 P **P** **02 02 24.1 0.0**
baz=88
MDND Maddock 87.72 343 *e*P **P** **02 02 24.2 0.0**
comp=Z,58nm,1.0s
LKWY Lake 87.84 335 PFAKE 02 02 40.0 +15
LKWY LR LR
comp=Z,1µm,19.0s
RLMT Red Lodge 87.96 336 PFAKE 02 02 40.0 +14
RLMT LR LR
comp=Z,586nm,21.0s
B30A Myrvik Farm, E 88.00 344 P **P** **02 02 25.1 -0.3**
baz=88
C27A Sayler Ranch, 88.06 342 P **P** **02 02 25.7 -0.1**
baz=88
PAF Port-aux-Franc 88.14 157 S SKSac 02 12 41.0 -12
PAF SS **SS** **02 19 01.0 +5.4**
PAF L L 02 25 00.0
PAF R 02 31 00.0
LAO LASA Array 88.41 338 *e*P **P** **02 02 27.6 +0.1**
LAO LR LR
comp=Z,502nm,22.0s
HLID Hailey 88.42 332 *e*P **P** **02 02 27.3 -0.4**
comp=Z,50nm,2.0s
HLID LR LR
comp=Z,496nm,20.0s
QLMT Earthquake Lak 88.43 334 *e*P **P** **02 02 26.9 -1.0**
comp=Z,1.9nm,1.2s
A30A Hoffart Farm, 88.46 344 P **P** **02 02 27.3 -0.2**
baz=89
A29A Manning Farm, 88.65 344 P **P** **02 02 28.2 -0.3**
baz=89
MFID Camas Ranch 88.84 331 *e*P **P** **02 02 29.0 -0.6**
comp=Z,21nm,1.5s
MCMT McKenzie Canyo 88.93 333 *e*P **P** **02 02 30.8 +0.5**
comp=Z,2.9nm,1.0s
WVOR Wild Horse Val 89.15 329 PFAKE 02 02 40.0 +8.8
WVOR LR LR
comp=Z,491nm,20.0s
ULM Lac du Bonnet 89.20 346 P **P** **02 02 31.1 +0.1**
comp=Z,4.5nm,1.0s,baz=162,slow=3.9,SNR=6.5
BOZ Bozeman (W) 89.21 335 PFAKE 02 02 40.0 +8.6
BOZ LR LR
comp=Z,602nm,20.0s
DGMT Dagmar 89.46 340 PFAKE 02 02 40.0 +7.7
DGMT LR LR
comp=Z,538nm,19.0s
LSZ Lusaka 90.14 109 *e*P **P** **02 02 36.9 +0.4**
LSZ pmax pmax
comp=Z,142nm,2.0s
LSZ MLR MLR
comp=Z,1µm,20.0s
LSZ Lusaka 90.14 109 *e*P **P** **02 02 36.9 +0.4**
comp=Z,142nm,2.0s
LSZ LR LR
comp=Z,1µm,20.0s
BMO Blue Mountains 90.62 331 PFAKE 02 02 50.0 +12
BMO LR LR
comp=Z,397nm,19.0s
EGMT Eagleton 90.68 337 PFAKE 02 02 50.0 +12
EGMT LR LR
comp=Z,317nm,19.0s
JTMT Jette 91.95 334 *e*P **P** **02 02 43.8 -0.3**
comp=Z,6.5nm,1.3s
TAU Tasmania Unive 91.96 209 PFAKE 02 03 00.0 +16
TAU LR LR
comp=Z,835nm,22.0s
HAWA Hanford 92.77 330 PFAKE 02 03 00.0 +12
HAWA LR LR
comp=Z,616nm,21.0s
NEW Newport 93.40 333 *e*P **P** **02 02 49.2 -1.5**
NEW pmax pmax
comp=Z,2.0nm,1.0s
NEW MLR MLR
comp=Z,572nm,19.0s
NEW Newport 93.40 333 *e*P **P** **02 02 49.2 -1.5**
comp=Z,1.8nm,1.0s
NEW LR LR
comp=Z,572nm,19.0s
RTC Rabat Centre 94.28 50 PFAKE 02 03 10.0 +15
RTC LR LR
comp=Z,3µm,20.0s
FFC Flin Flon 94.68 344 PFAKE 02 03 10.0 +14
FFC LR LR
comp=Z,840nm,19.0s
NLWA Neilton Lookou 95.34 328 PFAKE 02 03 10.0 +10
NLWA LR LR
comp=Z,678nm,20.0s
TAM Tamanrasset 95.44 66 *e*P **P** **02 03 01.1 +0.3**
TAM pmax pmax
comp=Z,85nm,2.4s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 95.44 66 *e*P **P** **02 03 01.1 +0.3**
comp=Z,85nm,2.4s
TAM LR LR
comp=Z,2µm,20.0s
MORF Marmelete 95.46 47 *e*P **P** **02 03 00.7 +0.2**
MORF *e*S **SKSac** **02 13 34.0 -0.3**
MORF AMS AMS 02 47 41.7
comp=Z,2µm,12.9s
MORF Marmelete 95.46 47 *e*P **P** **02 03 00.6 +0.2**
MORF *e*S **SKSac** **02 13 33.9 -0.3**
MESJ Messejana 96.07 46 *e*P **P** **02 03 03.2 +0.1**
MESJ *e*S **SKSac** **02 13 36.5 -0.8**
MESJ AMS AMS 02 45 01.3
comp=Z,2µm,17.7s
MESJ Messejana 96.07 46 *e*P **P** **02 03 03.2 +0.1**
MESJ *e*S **SKSac** **02 13 36.5 -0.8**
LIS Lisbon 96.14 45 *e*P **P** **02 03 03.5 +0.1**
LIS AMS AMS 02 44 24.1
comp=Z,2µm,18.4s
LIS Lisbon 96.14 45 *e*P **P** **02 03 03.5 +0.1**
CAN Canberra 97.66 214 PFAKE 02 03 20.0 +9.3
CAN LR LR
comp=Z,921nm,19.0s
MTE Manteigas 98.19 45 PFAKE 02 03 20.0 +7.2
MTE LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 98.24 234 *e*LR LR 02 35 09.4
comp=Z,2µm,26.1s
DZM Mont Dzumac 98.24 234 LR LR 02 37 06.8
comp=Z,576nm,21.8s,baz=180,slow=29
PAB San Pablo 99.47 47 PFAKE 02 03 30.0 +12
PAB LR LR
comp=Z,2µm,19.0s
ESDC Sonseca Array 99.78 47 LR LR 02 47 03.2
comp=Z,1µm,19.6s,baz=235,slow=35
ABPO Ambohimpanom 101.22 124 PFAKE 02 03 40.0 +13
ABPO LR LR
comp=Z,1µm,21.0s
YKA Yellowknife Ar 104.60 342 Pdiff **Pdif** **02 03 43.9 +3.3**
comp=Z,0.2nm,0.8s,baz=141,slow=4.6,SNR=3.3
YKA PP **PP** **02 08 01.2 +0.5**
comp=Z,0.5nm,1.0s,baz=138,slow=6.6,SNR=2.8
SFJD Kangerlussuaq 105.34 9 PFAKE 02 08 10.0
SFJD LR LR
comp=Z,735nm,20.0s
WRAK Wrangell Islan 105.58 331 PFAKE 02 08 10.0
WRAK LR LR
comp=Z,596nm,19.0s
VSL Villasalto 107.91 54 PFAKE 02 08 10.0
VSL LR LR
comp=Z,920nm,19.0s
SSB Saint Sauveur 108.17 47 PFAKE 02 08 10.0
SSB LR LR
comp=Z,1µm,20.0s
TARA Tarawa 109.27 257 PFAKE 02 08 20.0
TARA LR LR
comp=Z,3µm,22.0s
BNI Bardonecchia 109.30 48 PFAKE 02 08 20.0
BNI LR LR
comp=Z,2µm,20.0s
WDD Wield Dalam 109.37 59 PFAKE 02 08 20.0
WDD LR LR
comp=Z,5µm,20.0s
CLTB Caltabellotta 109.39 57 PFAKE 02 08 20.0
CLTB LR LR
comp=Z,2µm,20.0s
BORG Borgarnes 109.55 21 PFAKE 02 08 20.0
BORG LR LR
comp=Z,974nm,19.0s
ESK Eskdalemuir 109.98 35 PFAKE 02 08 20.0
ESK LR LR
comp=Z,1µm,20.0s
VLC Villacollemand 111.05 50 PFAKE 02 08 20.0
VLC LR LR
comp=Z,957nm,19.0s
ECH Echery 111.29 45 PFAKE 02 08 20.0
ECH LR LR
comp=Z,1µm,20.0s
WLF Walferdange 111.50 43 PFAKE 02 08 20.0
WLF LR LR
comp=Z,2µm,20.0s
CEL Celeste 111.55 58 PFAKE 02 08 20.0
CEL LR LR
comp=Z,2µm,19.0s
TUE Stuetta 111.64 48 PFAKE 02 08 20.0
TUE LR LR
comp=Z,2µm,20.0s
CTAO Charters Tower 111.68 221 PFAKE 02 08 20.0
CTAO LR LR
comp=Z,800nm,20.0s
AQU L'Aquila 112.00 53 PFAKE 02 08 20.0
AQU LR LR
comp=Z,2µm,19.0s
BFO Black Forest 112.01 45 PFAKE 02 08 20.0
BFO LR LR
comp=Z,1µm,21.0s
CUC Castrocucco 112.38 56 PFAKE 02 08 20.0
CUC LR LR
comp=Z,1µm,19.0s
TIP Timpagrande 112.60 57 PFAKE 02 08 20.0
TIP LR LR
comp=Z,2µm,20.0s
ASAR Alice Springs 114.11 208 PKP PKPdf 02 08 14.3 -1.2
comp=Z,0.5nm,0.7s,baz=153,slow=1.6,SNR=4.9
ASAR PKKPbc **PKKPbc** **02 18 53.6 -1.8**
comp=Z,0.2nm,0.5s,baz=340,slow=2.9,SNR=3.8
EGAK Eagle 114.32 334 PFAKE 02 08 30.0 +16
EGAK LR LR
comp=Z,521nm,20.0s
GERES GERESS Array B 115.37 47 PKP **PKPdf** **02 08 16.7 -0.3**
comp=Z,1.3nm,0.9s,baz=186,slow=1.9,SNR=7.3
CLL Collm 116.11 44 *e*PKIKP **PKPdf** **02 08 20.0 +1.8**
CLL *e* 02 09 29.0
CLL MLR MLR
comp=Z,1µm,21.2s
CLL Collm 116.11 44 *e*PKiKP **PKPdf** **02 08 20.0 +1.8**
CLL *e*PP **PP** **02 09 29.0 +4.9**
CLL *e*SS SS 02 25 26.0 +1.0
CLL *e* 02 28 03.0
CLL *e*SSS SSS 02 29 47.0
CLL *e*SSSS 02 33 12.0
CLL Lm MLR 02 56 00.0
comp=N,100nm,18.4s
CLL Lm MLR 02 56 00.0
comp=E,800nm,20.7s
CLL Lm MLR 02 56 00.0
comp=Z,1µm,21.2s
PRA Prague 116.36 46 AMS AMS 03 01 10.0
comp=Z,1µm,19.2s
PRU Pruhonice 116.38 46 AMS AMS 03 01 30.0
comp=Z,800nm,15.1s
GOPC GO Pecny, Ondr 116.49 46 AMS AMS 02 59 10.0
comp=Z,1µm,19.5s
TREC Trest 116.62 47 AMS AMS 03 04 50.0
comp=Z,900nm,16.0s
PVCC Panska Ves 116.64 46 AMS AMS 03 08 00.0
comp=Z,800nm,18.1s
COLA College 116.77 333 PFAKE 02 08 30.0 +11
COLA LR LR
comp=Z,429nm,19.0s
MSEY Mahe Island 117.08 120 PFAKE 02 08 30.0 +8.6
MSEY LR LR
comp=Z,920nm,20.0s
SANT Santorini 117.30 64 PFAKE 02 08 30.0 +8.9
SANT LR LR
comp=Z,765nm,20.0s
WRA Warramunga Arr 117.31 210 PKP **PKPdf** **02 08 20.8 -0.8**
comp=Z,1.0nm,0.6s,baz=162,slow=1.7,SNR=5.3
WRA PKKPbc **PKKPbc** **02 18 43.7 -0.5**
comp=Z,0.3nm,0.9s,baz=339,slow=3.5,SNR=2.9
WRAB Tennant Creek 117.32 210 *e*PKIKP **PKPdf** **02 08 21.2 -0.5**
WRAB MLR MLR
comp=Z,1µm,20.0s
WRAB Tennant Creek 117.32 210 *e*PKPdf **PKPdf** **02 08 21.2 -0.5**
WRAB LR LR
comp=Z,1µm,20.0s
DPC Dobruska-Polom 117.57 46 *e*PKIKP **PKPdf** **02 08 21.1 0.0**
DPC *e* 02 08 31.2
DPC Dobruska-Polom 117.57 46 *e*PKPdf **PKPdf** **02 08 21.1 0.0**
DPC *ep*PKP **pPKPdf** **02 08 31.2 +0.4**
DPC *ex* x 02 08 46.2
DPC AMS AMS 02 59 30.0
KRLC Kraliky 117.72 47 *e*PKIKP **PKPdf** **02 08 22.9 +1.5**
KRLC *e* 02 08 32.4
KRLC Kraliky 117.72 47 *e*PKPdf **PKPdf** **02 08 22.9 +1.5**
KRLC *ep*PKP **pPKPdf** **02 08 32.4 +1.3**
MORC Moravsky Berou 118.03 47 *e*PKIKP **PKPdf** **02 08 22.1 +0.1**
MORC Moravsky Berou 118.03 47 *e*PKPdf **PKPdf** **02 08 22.1 +0.1**
KONO Kongsberg 118.13 35 PFAKE 02 08 30.0 +8.2
KONO LR LR
comp=Z,2µm,19.0s
OKC Ostrava-Krasne 118.41 47 AMS AMS 03 01 30.0
comp=Z,900nm,16.8s
PSZ Piszkesteto 118.66 50 PFAKE 02 08 30.0 +6.6
PSZ LR LR
comp=Z,872nm,19.0s
PMG Port Moresby 119.85 228 PFAKE 02 08 40.0 +13
PMG LR LR
comp=Z,406nm,19.0s
UZH Uzhgorod 120.41 50 *i* PKIKP PKPdf 02 08 32.4 +5.8
UZH *e* 02 08 39.8
UZH *i* 02 08 44.8
UZH *e* 02 09 59.0
UZH *e* 02 15 14.2
UZH *i* SSS SSS 02 30 48.4
KWP Kalwaria Pacla 121.05 49 *e*PKIKP **PKPdf** **02 08 27.3 -0.5**
KWP MLR MLR
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 121.05 49 *e*PKPdf **PKPdf** **02 08 27.3 -0.5**
KWP LR LR
comp=Z,1µm,20.0s
ISP Isparta 121.58 64 PFAKE 02 08 40.0 +11
ISP LR LR
comp=Z,1µm,21.0s
CSS Prodhromos 122.42 68 PFAKE 02 08 40.0 +9.1
CSS LR LR
comp=Z,127nm,20.0s
SUW Suwalki 122.87 44 *e*PKIKP **PKPdf** **02 08 28.9 -2.2**
SUW Suwalki 122.87 44 *e*PKPdf **PKPdf** **02 08 28.9 -2.2**
ANTO Ankara 124.02 63 PFAKE 02 08 50.0 +16
ANTO LR LR
comp=Z,969nm,20.0s
BRTR Keskin Array B 124.57 63 PKP **PKPdf** **02 08 35.2 +0.1**
comp=Z,2.6nm,0.8s,baz=196,slow=2.6,SNR=21
H11N3 WAKE ISLAND Hyl 124.76 269 T T 04 25 34.8
baz=122,slow=76,SNR=3.2
H11N1 WAKE ISLAND Hyl 124.77 269 T T 04 25 34.7
baz=122,slow=76,SNR=4.2
H11N2 WAKE ISLAND Hyl 124.78 269 T T 04 25 36.7
baz=122,slow=76,SNR=3.9
TNA Tin City 124.82 330 *e*PKPdf **PKPdf** **02 08 35.4 +0.9**
KIEV Kiev 125.34 49 *ij*PKIKP **PKPdf** **02 08 35.1 -0.9**
KIEV Kiev 125.34 49 *e*PKPdf **PKPdf** **02 08 35.8 -0.2**
KIEV LR LR
comp=Z,667nm,20.0s
AKASG Malin Array Be 125.35 49 PKP **PKPdf** **02 08 35.2 -0.7**
comp=Z,1.2nm,0.7s,baz=261,slow=2.5,SNR=7.3
AKASG PP **PP** **02 10 23.2 -4.1**
comp=Z,1.3nm,0.8s,baz=256,slow=6.0,SNR=6.9
KBS Kingsbay 125.36 14 PFAKE 02 08 50.0 +15
KBS LR LR
comp=Z,475nm,20.0s
DGAR Diego Garcia 125.56 137 PFAKE 02 08 50.0 +12
DGAR LR LR
comp=Z,809nm,19.0s
RAYN Ar Rayn 126.68 87 *e*PKPdf **PKPdf** **02 08 39.7 +0.2**
SIM Simferopol' 126.72 57 PKIKP **PKPdf** **02 08 41.0 +2.2**
SIM *e* 02 10 42.0
SIM *e*PPS PPS 02 22 18.0
SIM pmax pmax
comp=Z,30nm,11.1s
KEV Kevo 128.02 26 PFAKE 02 08 50.0 +9.5
KEV LR LR
comp=Z,1µm,20.0s
ANN Anapa 128.92 59 *i* PKIKP **PKPdf** **02 08 45.6 +2.6**
ANN pmax pmax
comp=Z,23nm,1.3s
COCO West Island 130.12 168 PFAKE 02 09 00.0 +14
COCO LR LR
comp=Z,1µm,21.0s
SOC Sochi 130.14 61 *e*P **Pdif** **02 05 33.2 -1.5**
SOC *i* 02 08 44.9
SOC *e*PPP PPP 02 13 43.6
SOC *e*SS SS 02 28 23.3 -0.1
SOC pmax pmax

	comp=Z,64nm,1.2s								
OBN	**Obninsk**	**130.69**	**45**	ǁ	*e*PKIKP	**PKPdf**	**02 08 46.2**	**+0.2**	
OBN					pmax	pmax			
	comp=Z,5.0nm,1.1s								
OBN					MLR	MLR			
	comp=Z,886nm,17.0s								
OBN	**Obninsk**	**130.69**	**45**		PFAKE		02 09 00.0	+14	
OBN					LR	LR			
	comp=Z,1μm,20.0s								
LVZ	**Lovozero**	**130.72**	**28**		PFAKE		02 09 00.0	+14	
LVZ					LR	LR			
	comp=Z,1μm,19.0s								
CHVG	**Ch'k'valeri**	**131.56**	**62**		P	**PP**	**02 11 07.7**	**-0.6**	
KIV	**Kislovodsk**	**132.31**	**61**	*i*	PKIKP	**PKPdf**	**02 08 49.5**	**-0.1**	
KIV				*e*			02 11 09.3		
KIV				*e*	PS	**PS**	**02 21 26.1**	**-3.1**	
KIV				*e*	SS	SS	02 28 46.6	-3.6	
KIV					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KIV	**Kislovodsk**	**132.31**	**61**	*e*	PKPdf	**PKPdf**	**02 08 48.9**	**-0.8**	
KIV					LR	LR			
	comp=Z,508nm,19.0s								
GNI	**Garni**	**132.74**	**66**ǁ	*e*	PKIKP	**PKPdf**	**02 08 50.8**	**+0.1**	
GNI	**Garni**	**132.74**	**66**	*e*	PKPdf	**PKPdf**	**02 08 51.0**	**+0.3**	
GNI					LR	LR			
	comp=Z,722nm,21.0s								
GOF	**Gofitskoye**	**132.83**	**60**	*e*	PKHKP	PKPpre	02 08 30.3		
TBLG	**Delisi**	**133.19**	**64**		P	**PP**	**02 11 16.1**	**-2.7**	
IRAZ	**Razeghan**	**135.16**	**75**	*e*	P	**PKPdf**	**02 08 55.3**	**-0.2**	
MAK	**Makhachkala**	**135.48**	**63**	*i*	PKIKP	**PKPdf**	**02 08 53.0**	**-2.4**	
MAK				*e*			02 16 06.9		
MAK				*e*	SP	SP	02 21 49.5	-2.7	
MAK				*e*	SS	**SS**	**02 29 28.6**	**+0.4**	
MAK				*e*	SSS	SSS	02 34 37.8		
MAK					pmax	pmax			
	comp=Z,43nm,0.7s								
PRGR	**Permogore**	**135.71**	**37**		PKIKP	**PKPdf**	**02 08 53.8**	**-1.5**	
PRGR					pmax	pmax			
	comp=Z,13nm,1.2s								
KAPI	**Kappang**	**136.18**	**200**	*e*	PKPdf	**PKPdf**	**02 08 57.0**	**-0.8**	
KAPI					LR	LR			
	comp=Z,500nm,19.0s								
PET	**Petropavlovsk**	**140.68**	**311**		PFAKE		02 09 20.0	+15	
PET					LR	LR			
	comp=Z,488nm,20.0s								
ITEG	**Tejag**	**141.21**	**82**	*e*	P	**PKPdf**	**02 09 05.2**	**-1.4**	
IKOO	**Kooshah**	**141.25**	**83**	*e*	P	PKPdf	02 09 00.6	-6.2	
SEY	**Seymchan**	**142.00**	**328**	*e*	PKIKP	**PKPdf**	**02 09 08.3**	**+1.5**	
IDAH	**Dahanechah**	**142.04**	**83**	*e*	P	PKPdf	02 09 02.5	-5.6	
GEYT	**Alibeck**	**142.19**	**74**		PKhKP	PKPpre	02 09 03.5		
	comp=Z,3.7nm,0.9s,baz=255,slow=4.5,SNR=8.4								
PALK	**Pallekele**	**142.26**	**136**	*e*	PKIKP	**PKPdf**	**02 09 08.6**	**-0.2**	
PALK	**Pallekele**	**142.26**	**136**	*e*	PKPdf	**PKPdf**	**02 09 08.6**	**-0.2**	
ISRO	**Mashad**	**142.82**	**77**	*e*	P	**PKPdf**	**02 09 04.4**	**-4.8**	
ARU	**Arti**	**143.04**	**43**	*i*	PKIKP	**PKPdf**	**02 09 09.7**	**+0.9**	
ARU							02 12 15.4		
ARU					MLR	MLR			
	comp=Z,1μm,21.0s								
ARU	**Arti**	**143.04**	**43**	*e*	PKPdf	PKPbc	02 09 06.3	+0.6	
ARU					LR	LR			
	comp=Z,2μm,21.0s								
IMYA	**Miami**	**143.32**	**77**	*e*	P	PKPbc	02 09 07.1	-0.3	
AKTO	**Aktyubinsk**	**143.41**	**53**		PKHKP	PKPpre	02 09 05.5		
AKTO					pmax	pmax			
	comp=Z,44nm,2.2s								
TIXI	**Tiksi**	**143.52**	**348**ǁ	*i*	PKIKP	**PKPdf**	**02 09 10.5**	**+1.3**	
TIXI	**Tiksi**	**143.52**	**348**	*e*	PKPdf	PKPab	02 09 05.3	-0.3	
TIXI					LR	LR			
	comp=Z,397nm,21.0s								
KSM	**Kuching**	**144.28**	**187**	*e*	PKPdf	PKPbc	02 09 10.5	-0.1	
KSM					LR	LR			
	comp=Z,345nm,21.0s								
ABKAR	**Akbulak array**	**144.71**	**55**	*e*	PKPdf	PKPbc	02 09 10.9	0.0	
DAV	**Davao City (W)**	**145.24**	**215**		PFAKE		02 09 30.0	+16	
DAV					LR	LR			
	comp=Z,354nm,19.0s								
URV	**Uravakonda**	**146.08**	**123**	*e*	PKiKP	**PKPab**	**02 09 17.2**	**+0.3**	
POO	**Poona**	**146.12**	**114**ǁ	*i*	P	**PKPdf**	**02 09 13.0**	**-2.4**	
	comp=Z,114nm,1.2s								
SKHT	**Srikalahasti**	**146.78**	**128**	*e*	PKPab	**PKPbc**	**02 09 18.7**	**+0.4**	
LHMI	**Lhok Sumawe**	**147.10**	**163**	*e*	PKPbc	**PKPbc**	**02 09 18.6**	**-0.7**	
IPM	**Ipoh**	**147.12**	**170**	*e*	PKPbc	**PKPdf**	**02 09 18.2**	**+1.0**	
KKM	**Kota Kinabalu**	**147.71**	**199**	*e*	PKPbc	**PKPbc**	**02 09 19.7**	**-1.4**	
KKM					LR	LR			
	comp=Z,404nm,19.0s								
KULM	**Kulim**	**147.87**	**170**	*e*	PKPbc	**PKPbc**	**02 09 20.6**	**-0.7**	
KULM					LR	LR			
	comp=Z,601nm,19.0s								
ADKI	**Addanki**	**148.52**	**125**	*e*	PKiKP	**PKiKP**	**02 09 24.0**	**-0.5**	
NJS	**Nagarjunasagar**	**148.59**	**124**	*e*	PKiKP	**PKPbc**	**02 09 23.0**	**-0.2**	
HYB	**Hyderabad**	**148.70**	**121**	*i*	PKP	**PKPdf**	**02 09 21.0**	**+1.3**	
HYB				*e*	PKPAB	**PKPab**	**02 09 27.5**	**+0.4**	
HYB				*e*			02 09 31.0		
HYBB	**Hyderabad (bro**	**148.70**	**121**	*e*	PKiKP	**PKPbc**	**02 09 23.5**	**0.0**	
YUK	**Yuzh-Kuril'sk**	**149.36**	**295**	*i*	PKIKP	PKPdf	02 09 14.0	-5.9	
YUK				*i*			02 12 56.1		
YUK				*i*			02 25 40.8		
YUK				*i*	SS	SS	02 32 10.2	+1.3	
KBL	**Kabul**	**149.88**	**84**	*e*	PKHKP	PKPpre	02 09 21.0		
KBL				*e*			02 09 32.0		
KBL	**Kabul**	**149.88**	**84**	*e*	PKPdf	**PKPdf**	**02 09 21.0**	**-0.3**	
KBL				*e*	PKPbc	**PKPbc**	**02 09 26.3**	**+0.1**	
KBL				*e*	PKPab	**PKPab**	**02 09 32.0**	**+0.1**	
RPR	**Rampur**	**150.20**	**120**	*e*	PKiKP	**PKPbc**	**02 09 27.3**	**+0.2**	
BRVK	**Borovoye**	**150.46**	**46**ǁ	*i*	PKIKP	**PKPbc**	**02 09 27.7**	**+1.0**	
BRVK	**Borovoye**	**150.46**	**46**	*e*	PKPbc	**PKPbc**	**02 09 27.4**	**+0.7**	
BRVK					LR	LR			
	comp=Z,2μm,20.0s								
BVA0	**Borovoye Array**	**150.53**	**46**	*i*	PKIKP	**PKPdf**	**02 09 22.0**	**+0.5**	
BVA0					pmax	pmax			
	comp=Z,219nm,2.2s								
BVAR	**Borovoye Array**	**150.53**	**46**		PKP	**PKPdf**	**02 09 22.1**	**+0.6**	
	comp=Z,0.8nm,0.7s,baz=306,slow=3.0,SNR=5.2								
BVAR					PKPbc	**PKiKP**	**02 09 27.6**	**0.0**	
	comp=Z,12nm,1.0s,baz=291,slow=4.0,SNR=32								
DZET	**Dzherino**	**150.61**	**75**		PKIKP	**PKPbc**	**02 09 26.1**	**-1.6**	
DZET					pmax	pmax			
	comp=Z,64nm,1.4s								
YAK	**Yakutsk**	**151.16**	**337**	*e*	PKIKP	**PKPbc**	**02 09 26.7**	**-1.3**	
YAK				*e*			02 13 11.0		
YAK				*e*			02 16 34.2		
YAK				*e*	SSS	SSS	02 38 17.8		
YAK					pmax	pmax			
	comp=Z,20nm,0.9s								
YAK					pmax	pmax			
	comp=N,79nm,3.9s								
YAK					pmax	pmax			
	comp=Z,156nm,3.3s								
YAK	**Yakutsk**	**151.16**	**337**		PKP	**PKPdf**	**02 09 22.6**	**+0.5**	
	comp=Z,6.9nm,0.3s,baz=354,slow=1.7,SNR=1.7								
YAK					PKPbc	**PKPbc**	**02 09 28.1**	**+0.1**	
	comp=Z,17nm,0.6s,baz=296,slow=1.1,SNR=6.4								
YAK	**Yakutsk**	**151.16**	**337**	*e*	PKPdf	**PKPdf**	**02 09 22.6**	**+0.5**	
YAK				*e*	PKPbc	**PKPbc**	**02 09 28.0**	**0.0**	
YAK				*e*	PKPab	**PKPab**	**02 09 35.6**	**-0.3**	
YAK					LR	LR			
	comp=Z,508nm,19.0s								
ERM	**Erimo**	**151.28**	**291**		PFAKE		02 09 30.0	+1.1	
ERM					LR	LR			
	comp=Z,933nm,21.0s								
YSS	**Yuzh-Sakhalins**	**151.39**	**302**	*e*	PKIKP	**PKPbc**	**02 09 28.0**	**-1.1**	
YSS				*e*			02 09 35.0		
YSS	**Yuzh-Sakhalins**	**151.39**	**302**		PFAKE		02 09 30.0	+0.9	
YSS					LR	LR			
	comp=Z,256nm,20.0s								
KK31	**Karatay Array**	**152.21**	**66**	*i*	PKIKP	**PKPbc**	**02 09 30.6**	**-0.5**	
KK31					pmax	pmax			
	comp=Z,22nm,1.1s								
KKAR	**Karatay Array**	**152.21**	**66**	*e*	PKIKP	**PKPbc**	**02 09 31.0**	**-0.1**	
KKAR				*e*			02 09 40.4		
KKAR	**Karatay Array**	**152.21**	**66**	*e*	PKPbc	**PKPbc**	**02 09 31.0**	**-0.1**	
KKAR				*e*	PKPab	**PKPab**	**02 09 40.4**	**-0.6**	
CHLP	**Challavanipeta**	**153.10**	**128**	*e*	PKPbc	**PKPbc**	**02 09 31.9**	**-1.8**	
NDI	**New Delhi**	**154.30**	**101**	*ex*		**PKPbc**	**02 09 35.0**	**-1.1**	
MJAR	**Matsushiro Arr**	**154.46**	**278**		PKPbc	**PKPbc**	**02 09 38.1**	**+1.9**	
	comp=Z,0.3nm,0.4s,baz=141,slow=2.3,SNR=3.1								
MJAR					PKPab	**PKPab**	**02 09 52.4**	**+1.7**	
	comp=Z,0.4nm,0.5s,baz=132,slow=3.5,SNR=3.6								
MAJO	**Matsushiro**	**154.46**	**278**		PFAKE		02 09 40.0	+3.8	
MAJO					LR	LR			
	comp=Z,484nm,19.0s								
EKS2	**Erkin-Say**	**154.62**	**67**	*e*	PKIKP	**PKPdf**	**02 09 27.8**	**-0.2**	
EKS2				*e*			02 09 36.5		
EKS2					*e*		02 09 50.5		
EKS2					MLR	MLR			
	comp=Z,690nm,19.0s								
EKS2	**Erkin-Say**	**154.62**	**67**	*e*	PKPdf	**PKPdf**	**02 09 27.8**	**-0.2**	
EKS2				*e*	PKPbc	**PKPbc**	**02 09 36.5**	**0.0**	
EKS2				*e*	PKPab	**PKPab**	**02 09 50.5**	**-0.9**	
EKS2					LR	LR			
	comp=Z,690nm,19.0s								
AAK	**Ala-Archa**	**155.15**	**67**	*e*	PKIKP	**PKPdf**	**02 09 28.8**	**0.0**	
AAK				*e*			02 09 37.7		
AAK				*e*			02 09 52.9		
AAK					MLR	MLR			
	comp=Z,628nm,19.0s								
AAK	**Ala-Archa**	**155.15**	**67**	*e*	PKPdf	**PKPdf**	**02 09 28.8**	**0.0**	
AAK				*e*	PKPbc	PKPbc	02 09 37.6		
AAK				*e*	PKPab	**PKPab**	**02 09 52.9**	**-0.8**	
AAK					LR	LR			
	comp=Z,628nm,19.0s								
FRU	**Bishkek**	**155.23**	**67**	*e*	PKIKP	**PKPdf**	**02 09 33.0**	**+4.3**	
FRU				*i*			02 09 53.0		
FRU				*i*			02 13 31.0		
TKM2	**Tokmak 2**	**155.94**	**67**	*e*	PKIKP	**PKPdf**	**02 09 29.6**	**-0.3**	
TKM2				*e*			02 09 38.4		
TKM2				*e*			02 09 57.1		
TKM2					MLR	MLR			
	comp=Z,573nm,20.0s								
TKM2	**Tokmak 2**	**155.94**	**67**	*e*	PKPdf	**PKPdf**	**02 09 29.6**	**-0.3**	
TKM2				*e*	PKPbc	PKPbc	02 09 38.4		
TKM2				*e*	PKPab	**PKPab**	**02 09 57.1**	**-0.1**	
TKM2					LR	LR			
	comp=Z,573nm,20.0s								
KURK	**Kurchatov**	**156.12**	**47**	*e*	PKIKP	**PKPdf**	**02 09 29.3**	**-0.3**	
KURK				*e*			02 09 38.6		
KURK				*e*			02 09 56.5		
KURK					MLR	MLR			
	comp=Z,715nm,19.0s								
KURK	**Kurchatov**	**156.12**	**47**	*e*	PKPdf	**PKPdf**	**02 09 29.3**	**-0.3**	
KURK				*e*	PKPbc	PKPbc	02 09 38.6		
KURK				*e*	PKPab	**PKPab**	**02 09 56.5**	**-0.8**	
KURK					LR	LR			
	comp=Z,715nm,19.0s								
KSH	**Kashi**	**156.21**	**75**		PKP	**PKPdf**	**02 09 30.4**	**+0.1**	
KSH					pPKP	**pPKPdf**	**02 09 41.3**	**+1.4**	
KSH					PKS	**PKSdf**	**02 13 02.8**	**-1.5**	
KSH					PP	**PP**	**02 13 39.1**	**+2.6**	
KSH					SKS	**SKSdf**	**02 16 31.4**	**-3.1**	
KSH					SKKS	**SKKSac**	**02 20 21.9**	**-1.6**	
KSH					PPMZ				
	comp=Z,530nm,4.2s								
KSH					LN				
	comp=Z,88nm,5.0s								
KSH					LE				
	comp=Z,140nm,4.9s								
KSH					LZ				
	comp=Z,360nm,18.8s								
NVS	**Novosibirsk**	**156.36**	**34**	*e*	PKIKP	**PKPdf**	**02 09 28.7**	**-1.0**	
NVS				*e*			02 13 39.4		
NVS					pmax	pmax			
	comp=E,19nm,2.3s								
NVS					pmax	pmax			
	comp=Z,65nm,2.3s								
ZALV	**Zalesovo Beam**	**157.65**	**35**		PKP	**PKPdf**	**02 09 31.2**	**-0.2**	
	comp=Z,4.2nm,0.9s,baz=284,slow=2.4,SNR=17								
ZALV					PKPab	**PKPab**	**02 10 03.8**	**0.0**	
	comp=Z,2.6nm,0.7s,baz=300,slow=4.8,SNR=4.3								
PYUN	**Piuthan**	**158.49**	**108**	*e*	P	**PKPab**	**02 10 08.1**	**-0.4**	
	comp=Z,58nm,0.7s								
KOLN	**Koldanda**	**158.78**	**110**	*e*	P	**PKPab**	**02 10 09.1**	**-0.7**	
	comp=Z,32nm,1.0s								
DANN	**Dangsing**	**159.20**	**108**	*e*	P	**PKPab**	**02 10 11.4**	**-0.3**	
	comp=Z,116nm,1.0s								
GKN	**Gorkha**	**159.68**	**110**	*e*	P	**PKPab**	**02 10 13.3**	**-0.3**	
	comp=Z,170nm,1.7s								
DMN	**Daman**	**159.82**	**112**	*e*	P	**PKPab**	**02 10 13.9**	**-0.5**	
	comp=Z,28nm,0.9s								
MKAR	**Makanchi Array**	**159.84**	**54**		PKP	**PKPdf**	**02 09 34.3**	**0.0**	
	comp=Z,1.9nm,0.9s,baz=286,slow=2.1,SNR=9.6								
MKAR					PKPab	**PKPab**	**02 10 13.1**	**-0.6**	
	comp=Z,4.0nm,0.8s,baz=283,slow=4.7,SNR=8.1								
MKAR					PP	**PP**	**02 13 55.6**	**-0.2**	
	comp=Z,1.2nm,0.9s,baz=266,slow=7.3,SNR=3.6								
PKIN	**Phulchoki**	**160.02**	**113**	*e*	P	**PKPab**	**02 10 14.4**	**-0.8**	
	comp=Z,15nm,0.7s								
KKN	**Kakani**	**160.05**	**112**	*e*	P	**PKPab**	**02 10 14.7**	**-0.6**	
	comp=Z,35nm,1.0s								
CMAR	**Chiang Mai Arr**	**160.29**	**159**		PKP	**PKPdf**	**02 09 36.2**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=242,slow=1.5,SNR=2.4								
RAMN	**Ramite**	**160.53**	**116**	*e*	P	**PKPab**	**02 10 16.8**	**-0.7**	
	comp=Z,34nm,0.8s								
GUN	**Gumba**	**160.56**	**112**	*e*	P	**PKPab**	**02 10 17.2**	**-0.5**	
CHTO	**Chiang Mai**	**160.63**	**159**		PFAKE		02 09 50.0	+14	
CHTO					LR	LR			
	comp=Z,280nm,19.0s								
JIRN	**Jiri**	**160.65**	**114**	*e*	P	**PKPab**	**02 10 17.6**	**-0.5**	
	comp=Z,49nm,1.1s								
MDJ	**Mudanjiang**	**160.87**	**300**		PFAKE		02 09 50.0	+15	
MDJ					LR	LR			
	comp=Z,532nm,20.0s								
ODAN	**Odare**	**161.04**	**117**	*e*	P	**PKPab**	**02 10 19.3**	**-0.4**	
	comp=Z,46nm,1.0s								
TAPN	**Taplejung**	**161.56**	**117**	*e*	P	**PKPab**	**02 10 21.1**	**-0.9**	
	comp=Z,58nm,1.6s								
QIZ	**Qiongzhong**	**161.65**	**191**		PKP	**PKPdf**	**02 09 36.6**	**-0.5**	
QIZ					PP	**PP**	**02 14 06.6**	**+2.2**	
QIZ					SS	SS	02 34 23.3	+3.9	
QIZ					PPMZ				
	comp=Z,170nm,3.7s								
QIZ					LZ				
	comp=Z,390nm,21.2s								
QIZ	**Qiongzhong**	**161.65**	**191**		PFAKE		02 09 50.0	+13	
QIZ					LR	LR			
	comp=Z,529nm,20.0s								
YHNB	**Yeheng**	**162.02**	**230**		PFAKE		02 09 50.0	+13	
YHNB					LR	LR			
	comp=Z,517nm,19.0s								
TATO	**Taipei**	**162.18**	**231**		PFAKE		02 09 50.0	+13	
TATO					LR	LR			
	comp=Z,610nm,19.0s								
SHL	**Shillong**	**163.18**	**129**	*ex*		**PKPab**	**02 10 29.0**	**0.0**	
INCN	**Inchon**	**163.76**	**277**		PFAKE		02 09 50.0	+11	
INCN					LR	LR			
	comp=Z,412nm,20.0s								
CN2	**Changchun**	**163.96**	**300**	*e*	PKP	**PKPdf**	**02 09 39.4**	**+0.8**	
HIA	**Hailar**	**164.43**	**325**		PFAKE		02 09 50.0	+11	
HIA					LR	LR			
	comp=Z,635nm,21.0s								
WMQ	**Urumqi**	**164.43**	**59**	*e*	PKP	**PKPdf**	**02 09 38.3**	**-0.8**	
WMQ					pPKP	**pPKPdf**	**02 09 49.0**	**+0.2**	
WMQ					sPKP		02 09 54.3		
WMQ					PKPab	**PKPab**	**02 10 34.8**	**+0.9**	
WMQ					PKS	**PKSdf**	**02 13 10.0**	**-2.0**	
WMQ					PP	**PP**	**02 14 19.0**	**-1.4**	
WMQ					SKS	**SKSdf**	**02 16 38.0**	**-3.4**	
WMQ					SKKS	**SKKSac**	**02 21 05.5**	**-0.3**	
WMQ					SS	**SS**	**02 34 56.1**	**+5.6**	
WMQ					PPMZ				
	comp=Z,660nm,9.4s								
WMQ					LN				
	comp=Z,810nm,23.6s								
WMQ					LE				
	comp=Z,790nm,20.0s								
WMQ					LZ				
	comp=Z,680nm,20.1s								
TLY	**Talaya**	**165.37**	**6**		PFAKE		02 09 50.0	+10	
TLY					LR	LR			
	comp=Z,695nm,19.0s								
LSA	**Lhasa**	**165.39**	**116**		PFAKE		02 09 50.0	+9.1	
LSA					LR	LR			
	comp=Z,683nm,20.0s								
NJ2	**Nanjing**	**168.41**	**248**	*e*	PKP	**PKPdf**	**02 09 43.3**	**+0.8**	
ULN	**Ulaanbaatar**	**169.29**	**357**	*e*	PKIKP	**PKPdf**	**02 09 42.2**	**-0.6**	
ULN					MLR	MLR			
	comp=Z,695nm,21.0s								
ULN	**Ulaanbaatar**	**169.29**	**357**	*e*	PKPdf	**PKPdf**	**02 09 42.2**	**-0.6**	
ULN					LR	LR			
	comp=Z,695nm,21.0s								
GYA	**Guiyang**	**169.32**	**182**	*e*	PKP	**PKPdf**	**02 09 43.0**	**-0.4**	
GYA					sPKP		02 09 57.8		
GYA					PKPab	**PKPab**	**02 10 58.3**	**+2.6**	
GYA					PKS	**PKSdf**	**02 13 13.6**	**-2.5**	
GYA					PP	**PP**	**02 14 48.4**	**+4.1**	
GYA					SKKS		02 21 29.8		
GYA					SS	**SS**	**02 35 38.0**	**+0.3**	
GYA					PPMZ				
	comp=Z,130nm,8.0s								
GYA					LN				
	comp=Z,160nm,22.9s								
GYA					LE				
	comp=Z,120nm,23.5s								
GYA					LZ				
	comp=Z,140nm,21.7s								
SONM	**Songino Array**	**169.34**	**359**		PKP	**PKPdf**	**02 09 42.7**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=202,slow=1.6,SNR=2.0								
SONM					PKPab	**PKPab**	**02 10 53.9**	**-1.4**	
	comp=Z,1.2nm,0.9s,baz=307,slow=2.8,SNR=4.5								
BJI	**Beijing**	**171.69**	**293**		PKP	**PKPdf**	**02 09 45.0**	**+0.9**	
BJI					SKS	**SKSdf**	**02 16 44.1**	**-1.1**	
BJI					PPMZ				
	comp=Z,280nm,8.0s								
BJI					LN				
	comp=Z,630nm,20.4s								
BJI					LE				
	comp=Z,500nm,19.6s								
BJI					LZ				
	comp=Z,520nm,23.7s								
BJT	**Baijiatuan**	**171.71**	**293**		PFAKE		02 09 50.0	+5.9	
BJT					LR	LR			
	comp=Z,652nm,21.0s								
ENH	**Enshi**	**172.60**	**203**		PFAKE		02 10 00.0	+15	
ENH					LR	LR			
	comp=Z,267nm,20.0s								
CD2	**Chengdu**	**173.43**	**161**		PKP	**PKPdf**	**02 09 44.0**	**-1.2**	
CD2					pPKP	**pPKPdf**	**02 09 55.8**	**+0.9**	
CD2					sPKP		02 09 59.5		
CD2					PKS	**PKSdf**	**02 13 15.3**	**-2.3**	
CD2					PP	**PP**	**02 15 08.1**	**+3.2**	
CD2					SKS	**SKSdf**	**02 16 42.1**	**-4.3**	
CD2					SKKS	**SKKSac**	**02 21 49.3**	**-0.7**	
CD2					SS	**SS**	**02 36 17.8**	**-0.5**	
CD2					PPMZ				
	comp=Z,120nm,5.4s								
HHC	**Hu-ho-hao-te**	**174.45**	**313**	*e*	PKP	**PKPdf**	**02 09 41.4**	**-4.0**	
HHC					sPKP		02 09 55.0		
HHC					PP	**PP**	**02 15 11.8**	**+1.1**	
HHC					PPMZ				
	comp=Z,210nm,9.0s								
HHC					LN				
	comp=Z,650nm,17.3s								
HHC					LE				
	comp=Z,380nm,14.7s								
HHC					LZ				
	comp=Z,480nm,16.1s								
GTA	**Gaotai**	**174.49**	**64**	*e*	PKP	**PKPdf**	**02 09 45.3**	**-0.1**	
GTA					pPKP	**pPKPdf**	**02 09 56.1**	**+1.0**	
GTA					sPKP		02 09 59.9		
GTA					PKPab	**PKPab**	**02 11 20.8**	**+2.1**	
GTA					PP	**PP**	**02 15 11.4**	**0.0**	
GTA					SKKS		02 21 52.3		
GTA					PPMZ				
	comp=Z,530nm,6.3s								
GTA					LN				
	comp=Z,450nm,17.1s								
GTA					LE				
	comp=Z,380nm,18.5s								
GTA					LZ				
	comp=Z,810nm,20.9s								
LZH	**Lanzhou**	**177.81**	**119**	*e*	PKP	**PKPdf**	**02 09 45.0**	**-1.3**	
LZH					pPKP	**pPKPdf**	**02 09 55.1**	**-0.9**	
LZH					sPKP		02 09 59.0		
LZH					SKKS		02 22 11.4		
LZH					LN				
	comp=Z,550nm,16.6s								
LZH					LE				
	comp=Z,940nm,19.8s								
LZH					LZ				
	comp=Z,950nm,17.6s								

IDC 18 01:58:51.7±2.6, 6.65S×147.73E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/34, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=65.9km s-min=31.2km az=90.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.54**	**223**	P	P	02 03 09.7	-0.3
	0.2nm,0.3s,baz=49,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.51**	**217**	P	P	02 03 42.3	-0.2
	0.8nm,0.5s,baz=52,slow=9.7,SNR=19						
STKA	**Stephens Creek**	**25.74**	**192**	P	P	02 04 23.9	-0.2
	0.8nm,0.5s,baz=15,slow=11,SNR=3.1						
CMAR	**Chiang Mai Arr**	**54.20**	**298**	P	P	02 08 18.9	-0.5
	0.8nm,0.3s,baz=122,slow=5.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**145.95**	**284**	PKPbc	PKPbc	02 18 34.2	-0.2
	1.2nm,0.5s,baz=73,slow=3.7,SNR=26						

*ATH **18** 02:03:37.2, 36.11N×21.57E, h14km±2km, MD3.4/20*
*CSEM **18** 02:03:39.2±0.8, 36.25N×21.75E, h2km, ML2.6, Error ellipse: s-maj=17.5km s-min=7.8km az=51.0*
*THE **18** 02:03:40.7, 36.27N×21.78E, h0km±1km, ML2.6/5, Error ellipse: s-maj=2.2km s-min=0.6km az=224.0*

ISC 18 02:03:38.4±1.9, 36.21N±0.06×21.66E±0.07, h2km±12km, n77, σ1.09/87, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.69**	**5**	P	**Pg**	**02 03 52.1**	**+0.5**
PYL				S	**Sb

MAKR	**Makrakomi, Fth**	**2.83**	**7**	*e*PB	**Pn**	**02 04 27.0**	**+2.4**
MAKR	**Makrakomi, Fth**	**2.83**	**7**	*e*Pb	**Pn**	**02 04 27.0**	**+2.4**
AGG	**Agios Georgios**	**2.86**	**10**	*e*PB	**Pn**	**02 04 27.1**	**+2.1**
AGG	**Agios Georgios**	**2.86**	**10**	*e*Pb	**Pn**	**02 04 27.1**	**+2.1**
DSL	**Palaion Diasel**	**2.96**	**351**	*e*PN	**Pn**	**02 04 27.7**	**+1.3**
DSL	**Palaion Diasel**	**2.96**	**351**	*e*Pn	**Pn**	**02 04 27.7**	**+1.3**
THL	**Klokotos Trika**	**3.36**	**5**	*e*PN	**Pn**	**02 04 31.9**	**0.0**
THL	**Klokotos Trika**	**3.36**	**5**	*e*Pn	**Pn**	**02 04 31.9**	**0.0**
IGT	**Igoumenitsa**	**3.48**	**343**	*e*PN	**Pn**	**02 04 33.1**	**-0.5**
IGT	**Igoumenitsa**	**3.48**	**343**	*e*Pn	**Pn**	**02 04 33.1**	**-0.5**
LIT	**Litokhoron**	**3.94**	**9**	*e*PB	**Pn**	**02 04 42.2**	**+2.3**
LIT	**Litokhoron**	**3.94**	**9**	*e*Pb	**Pn**	**02 04 42.2**	**+2.3**
NEST	**Nestorio**	**4.23**	**354**	*e*PN	**Pn**	**02 04 45.8**	**+1.9**
NEST	**Nestorio**	**4.23**	**354**	*e*Pn	**Pn**	**02 04 45.8**	**+1.9**
HORT	**Hortiatis**	**4.53**	**14**	*e*PN	**Pn**	**02 04 48.7**	**+0.7**
HORT	**Hortiatis**	**4.53**	**14**	*e*Pn	**Pn**	**02 04 48.7**	**+0.7**
THE	**Thessaloniki**	**4.54**	**13**	*e*PN	**Pn**	**02 04 48.6**	**+0.6**
THE	**Thessaloniki**	**4.54**	**13**	*e*Pn	**Pn**	**02 04 48.6**	**+0.6**
FNA	**Florina**	**4.58**	**357**	*e*PN	**Pn**	**02 04 49.2**	**+0.6**
FNA	**Florina**	**4.58**	**357**	*e*Pn	**Pn**	**02 04 49.2**	**+0.6**
SOH	**Sokhos**	**4.79**	**16**	*e*PN	**Pn**	**02 04 52.4**	**+0.8**
SOH	**Sokhos**	**4.79**	**16**	*e*Pn	**Pn**	**02 04 52.4**	**+0.8**
KNT	**Kendrikon**	**5.04**	**11**	*e*PN	**Pn**	**02 04 56.5**	**+1.5**
KNT	**Kendrikon**	**5.04**	**11**	*e*Pn	**Pn**	**02 04 56.5**	**+1.5**
SRS	**Serrai**	**5.13**	**17**	*e*PN	**Pn**	**02 04 56.9**	**+0.7**
SRS	**Serrai**	**5.13**	**17**	*e*Pn	**Pn**	**02 04 56.9**	**+0.7**

*ISCJB **18** 02:10:18.1±0.6,32.°16N±0.°02×115.°11W±0.°04,h13km±5km, Error ellipse: s-maj=5.3km s-min=4.2km az=170.8*
*NEIC **18** 02:10:20.0,32.°14N×115.°19W,h9km,ML3.0(PAS), ML3.2(ECX),After ECX.*
*ECX **18** 02:10:20.5±0.6,32.°14N×115.°19W,h9km,MD3.1,ML3.3*
*MEX **18** 02:10:21.5±0.9,32.°21N×115.°11W,h15km,MD3.8*
ISC 18 02:10:18.5±1.0,**32.°11N**±0.°02×**115.°16W**±0.°02,**h14**km±8km, **n29**,σ0**°82**/58,**6C-1D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.30**	**354**	*e*P	**Pb**	**02 10 25.7**	**+0.1**
MBIG				*e*S	**Sg**	**02 10 28.6**	**-0.4**
CPBX	**Cerro Prieto**	**0.33**	**339**	*e*P	**Pb**	**02 10 26.1**	**-0.1**
CPBX				*e*P	**Pg**	**02 10 26.2**	**+0.8**
CPBX				*e*S	**Sg**	**02 10 30.2**	**+0.2**
CPBX				*e*S	**Sb**	**02 10 31.5**	**+0.1**
CPBX				⇑*e*		02 10 33.2	
CPBX				AML	AML	02 10 33.2	
	comp=N,16μm,0.4s						
CPBX	**Cerro Prieto**	**0.33**	**339**	*e*P	**Pb**	**02 10 26.0**	**-0.1**
CPBX				*e*S	**Sg**	**02 10 30.3**	**+0.2**
YMD	**Yuma Desert**	**0.69**	**49**	⇑*i*P	**Pg**	**02 10 32.1**	**+0.3**
RDX	**Rancho Dawling**	**0.69**	**255**	*e*P	**Pg**	**02 10 32.0**	**+0.1**
RDX				*e*S	**Sb**	**02 10 41.8**	**0.0**
RDX				⇓*e*		02 10 43.8	
RDX				AML	AML	02 10 43.8	
	comp=N,1μm,0.4s						
RDX	**Rancho Dawling**	**0.69**	**255**	*e*P	**Pg**	**02 10 32.0**	**+0.1**
RDX				*e*S	**Sb**	**02 10 41.8**	**0.0**
SGL	**Mount Signal**	**0.72**	**319**	⇑*i*P	**Pg**	**02 10 32.6**	**+0.1**
COA	**Coachella**	**0.75**	**2**	⇑*i*P	**Pb**	**02 10 33.8**	**+0.4**
YUH	**Yuha Desert**	**0.84**	**310**	⇑*i*P	**Pg**	**02 10 34.4**	**-0.4**
RMX	**La Rumorosa**	**0.92**	**303**	*e*P	**Pg**	**02 10 35.8**	**-0.6**
RMX				*e*S	**Sg**	**02 10 47.7**	**-0.7**
RMX	**La Rumorosa**	**0.92**	**303**	*e*P	**Pg**	**02 10 35.8**	**-0.6**
RMX				*e*S	**Sg**	**02 10 47.7**	**-0.7**
GLA	**Glamis**	**0.98**	**17**	*e*Pg	**Pb**	**02 10 36.2**	**-1.1**
GLA				*e*Sg	**Sg**	**02 10 49.4**	**+1.0**
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P	**Pb**	**02 10 39.7**	**+0.4**
SPIG				*i* S	**Sn**	**02 10 55.9**	**+1.2**
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P	**Pb**	**02 10 39.7**	**+0.4**
SPIG				*e*S	**Sn**	**02 10 54.8**	**+0.1**
SPX	**San Pedro Mart**	**1.09**	**194**	*e*P	**Pb**	**02 10 39.7**	**+0.4**
SPX				*e*S	**Sn**	**02 10 55.4**	**+0.8**
SPX	**San Pedro Mart**	**1.09**	**194**	*e*P	**Pb**	**02 10 39.7**	**0.0**
SPX				*e*S	**Sn**	**02 10 55.4**	**+0.8**
ZAX	**El Zacaton**	**1.12**	**238**	*e*P	**Pb**	**02 10 39.6**	**0.0**
ZAX				*e*S	**Sn**	**02 10 55.1**	**+0.2**
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pn**	**02 10 41.7**	**-0.5**
CBX				*e*S	**Sb**	**02 10 57.0**	**-2.1**
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pn**	**02 10 41.8**	**-0.4**
CBX				*e*S	**Sg**	**02 10 59.7**	**-0.5**
CBX				AML	AML	02 11 02.0	
	comp=N,477nm,0.3s						
CBX				⇑*e*		02 11 02.0	
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pn**	**02 10 41.7**	**-0.5**
CBX				*e*S	**Sb**	**02 10 57.0**	**-2.1**
CBX				*e*S	**Sg**	**02 10 59.7**	**-0.5**
ECNX	**Esteban Cantu**	**1.30**	**250**	*e*P	**Pb**	**02 10 43.1**	**+0.3**
ECNX				*e*S	**Sg**	**02 11 00.5**	**-0.1**
PBX	**Punta Banda**	**1.38**	**255**	*e*P	**Pn**	**02 10 43.7**	**+0.4**
PBX				*e*S	**Sb**	**02 11 02.0**	**+0.5**
BAR	**Barrett**	**1.40**	**294**	*e*Pn	**Pn**	**02 10 42.9**	**-0.7**
BAR				*e*Sn	**Sn**	**02 11 01.5**	**-0.3**
PFO	**Pinyon Flats O**	**1.85**	**324**	*e*Pn	**Pn**	**02 10 49.0**	**-0.9**
PFO				*e*Sg	**Sb**	**02 11 16.0**	**+0.8**
214A	**Organ Pipe Nat**	**2.00**	**94**	*e*Pn	**Pn**	**02 10 51.0**	**-0.9**
214A				*e*Pg	**Pb**	**02 10 55.5**	**+0.9**
LDFC	**Landfair**	**2.96**	**1**	*e*Pn	**Pn**	**02 11 05.6**	**+0.5**
LDFC				*e*Pg	**Pg**	**02 11 16.3**	**+1.0**
MWC	**Mount Wilson**	**3.22**	**312**	*e*Pn	**Pn**	**02 11 09.1**	**+0.3**
MWC				*e*Sn	**Sn**	**02 11 48.0**	**+1.0**
MWC				*e*Sg	**Sb**	**02 11 57.2**	**+2.6**
GSC	**Goldstone, Bar**	**3.47**	**337**	*e*Pn	**Pn**	**02 11 12.5**	**+0.4**
GSC				*e*Pg	**Pg**	**02 11 25.0**	**0.0**
TUC	**Tucson**	**3.71**	**86**	*e*Pg	**Pg**	**02 11 29.6**	**-0.1**
TUC				*e*Sg	**Sg**	**02 12 15.6**	**-2.2**

*IDC **18** 02:13:22.2±1.0,25.°82N×123.°64E,h0km,mb3.7/5, mb1 3.7/8,mb1mx3.4/39,mbtmp3.7/8,ML3.6/2,MS4.2/2, Ms1 4.2/2,ms1mx3.3/49,Error ellipse: s-maj=29.6km s-min=17.9km az=65.0*
*ISCJB **18** 02:13:39.6±0.4,26.°41N±0.°07×125.°06E±0.°06, h195km±6km,mb3.4/6,Error ellipse: s-maj=13.4km s-min=4.2km az=142.0*
*JMA **18** 02:13:41.5±0.2,26.°47N×124.°98E,h179km,M3.8*
ISC 18 02:13:40.3±0.8,**26.°46N**±0.°08×**125.°02E**±0.°07, **h192**km±10km,**n34,**σ1**°51**/47,**mb3.5**/6,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.54**	**172**	P	**Pn**	**02 14 14.6**	**+0.9**
JIKM				*e*S	**Sn**	**02 14 38.8**	**-0.8**
JKE	**Kume jima 2**	**1.59**	**94**	P	**Pn**	**02 14 15.3**	**+1.2**
JKE				*e*S	**Sn**	**02 14 40.2**	**0.0**
JIRB	**Irabujima**	**1.63**	**175**	P	**Pn**	**02 14 15.2**	**+0.6**
JIRB				*e*S	**Sn**	**02 14 39.5**	**-1.6**
JMJ	**Miyako jima 2**	**1.66**	**171**	P	**Pn**	**02 14 15.9**	**+1.1**
JMJ				*e*S	**Sn**	**02 14 40.6**	**-1.0**
JOGS	**Gusukube**	**1.73**	**168**	P	**Pn**	**02 14 16.8**	**+1.3**
JOGS				S	**Sn**	**02 14 42.1**	**-0.7**
JTJ	**Tarama**	**1.84**	**189**	P	**Pn**	**02 14 17.4**	**+0.9**
JTJ				S	**Sn**	**02 14 42.9**	**-1.8**
JISG	**Ishigakijimahi**	**1.97**	**199**	P	**Pn**	**02 14 18.3**	**+0.3**
JISG				*e*S	**Sn**	**02 14 45.2**	**-2.0**
JAGN	**Aguni-jima**	**2.00**	**86**	P	**Pn**	**02 14 19.0**	**+0.9**
JAGN				*e*S	**Sn**	**02 14 46.8**	**-0.7**
JIJ	**Ishigaki jima**	**2.23**	**201**	P	**Pn**	**02 14 20.6**	**-0.2**
JIJ				*e*S	**Sn**	**02 14 48.9**	**-3.3**
JKRS	**Kuro-shima**	**2.40**	**203**	P	**Pn**	**02 14 22.5**	**0.0**
JKRS				*e*S	**Sn**	**02 14 52.9**	**-2.5**
IRIF	**Iriomote-Funau**	**2.42**	**209**	P	**Pn**	**02 14 22.7**	**-0.1**
IRIF				*e*S	**Sn**	**02 14 54.1**	**-1.7**
JJT2	**Tamagusuku 2**	**2.47**	**97**	P	**Pn**	**02 14 24.2**	**+0.9**
JJT2				*e*S	**Sn**	**02 14 57.0**	**+0.2**
HATJ	**Hateruma jima**	**2.63**	**205**	P	**Pn**	**02 14 25.5**	**+0.2**
HATJ				*e*S	**Sn**	**02 14 57.9**	**-2.4**
JNTH	**Nagotoyohara**	**2.69**	**88**	P	**Pn**	**02 14 26.7**	**+0.8**
YOJ	**Yonaguni jima**	**2.69**	**223**	P	**Pn**	**02 14 26.9**	**+0.9**
JIH	**Iheya**	**2.70**	**77**	P	**Pn**	**02 14 26.7**	**+0.8**
JIH				S	**Sn**	**02 14 59.8**	**-1.7**
JYNG	**Yonagunijimaku**	**2.74**	**224**	P	**Pn**	**02 14 27.3**	**+0.8**
JOW	**Kunigami**	**2.94**	**82**	P	**Pn**	**02 14 29.4**	**+0.6**
JOW				*e*S	**Sn**	**02 15 05.0**	**-1.6**
JOW	**Kunigami**	**2.94**	**82**	Pn	**Pn**	**02 14 28.5**	**-0.3**
	baz=231,slow=13						
JOKE	**Okinoerabujima**	**3.29**	**73**	*e*S	**Sn**	**02 15 12.0**	**-2.3**

JTK	**Tokunoshima**	**3.74**	**68**	P	**Pn**	**02 14 38.8**	**+0.2**
JTK				*e*S	**Sn**	**02 15 21.4**	**-2.8**
JAMN	**Amaminishikomi**	**4.10**	**63**	P	**Pn**	**02 14 42.8**	**-0.2**
JAMN				*e*S	**Sn**	**02 15 29.1**	**-3.1**
JAM	**Amami Oshima**	**4.51**	**63**	*e*S	**Sn**	**02 15 37.7**	**-4.0**
JMZ	**Minamidaito 2**	**5.61**	**95**	P	**Pn**	**02 15 02.6**	**+0.2**
JMZ				*e*S	Sn	02 16 01.2	-5.9
JNU	**Nakatsue**	**8.36**	**36**	Pn	Pn	02 15 41.8	+3.5
	0.6nm,0.3s,baz=220,slow=7.9,SNR=6.1						
KSRS	**Korea Array**	**11.23**	**12**	Pn	**Pn**	**02 16 17.0**	**+1.5**
	0.3nm,0.3s,baz=192,slow=11,SNR=2.6						
SONM	**Songino Array**	**25.86**	**330**	P	**P**	**02 18 55.3**	**+1.0**
	0.4nm,0.3s,baz=145,slow=11,SNR=3.8						
LEM	**Lembang**	**37.15**	**209**	LR	LR	02 34 48.9	
	comp=Z,156nm,20.9s,baz=216,slow=36						
MKAR	**Makanchi Array**	**39.24**	**313**	P	P	02 20 48.3	-1.8
	0.5nm,0.4s,baz=102,slow=8.8,SNR=12						
ZALV	**Zalesovo Beam**	**40.34**	**324**	P	**P**	**02 20 59.2**	**+0.2**
	0.9nm,0.5s,baz=114,slow=8.7,SNR=6.1						
KURBB	**Kurchatov Arra**	**42.71**	**317**	P	**P**	**02 21 17.9**	**-0.4**
	0.7nm,0.5s,baz=107,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**47.01**	**168**	P	**P**	**02 21 52.6**	**+0.1**
	1.0nm,0.4s,baz=349,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**50.57**	**169**	P	**P**	**02 22 19.8**	**+0.2**
	0.3nm,0.5s,baz=351,slow=10,SNR=5.7						
BRTR	**Keskin Array B**	**74.61**	**307**	LR	LR	03 03 10.7	
	comp=Z,329nm,20.6s,baz=264,slow=40						

IDC 18 02:23:18.1±2.9,**4.°18S**×**153.°55E**,**h0**km,**mb3.7**/3, **mb1 3.9**/3,**mb1mx3.4**/36,**mbtmp3.7**/3,**MS4.5**/2,**Ms1 4.4**/2, **ms1mx3.4**/37,**Error ellipse: s-maj=98.2km s-min=45.5km az=110.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.41**	**229**	P	P	02 28 38.7	+0.2
	1.7nm,0.6s,baz=55,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.10**	**223**	P	P	02 29 03.2	+0.2
	0.2nm,0.6s,baz=62,slow=8.6,SNR=3.7						
STKA	**Stephens Creek**	**29.75**	**201**	P	P	02 29 26.8	+0.4
	0.8nm,0.6s,baz=31,slow=5.9,SNR=3.5						
STKA				LR	LR	02 43 08.1	
	comp=Z,964nm,18.6s,baz=127,slow=40						
BVAR	**Borovoye Array**	**89.20**	**323**	LR	LR	03 14 01.2	
	comp=Z,176nm,21.5s,baz=290,slow=34						
TORD	**Torodi Ar. Bea**	**150.81**	**290**	PKPbc	PKPbc	02 43 12.7	-1.0
	0.8nm,1.0s,baz=73,slow=1.7,SNR=7.2						

*ISCJB **18** 02:27:26.0±0.4,32.°75N±0.°02×115.°78W±0.°02,h1km±4km, Error ellipse: s-maj=3.3km s-min=2.6km az=172.5*
*NEIC **18** 02:27:28.6,32.°68N×115.°79W,h4km,ML3.5(PAS), ML3.6(ECX),After PAS.*
NEIC Felt at El Centro, San Diego and Wildomar.
*ECX **18** 02:27:28.9±0.7,32.°68N×115.°78W,h4km,MD3.4,ML3.6*
ISC 18 02:27:28.2±0.9,**32.°68N**±0.°02×**115.°77W**±0.°02,**h11**km±6km, **n35,**σ1**°39**/66,**7C-6D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.05**	**128**	⇓*i*P	**Pg**	**02 27 30.1**	**-0.3**
COK	**Cook Ranch**	**0.17**	**13**	⇓*i*P	**Pg**	**02 27 32.3**	**+0.3**
CRR	**Carrizo Plain**	**0.26**	**321**	⇓*i*P	**Pg**	**02 27 33.5**	**-0.1**
RMX	**La Rumorosa**	**0.27**	**253**	⇑*i*P	**Pg**	**02 27 33.7**	**-0.1**
RMX				*e*S	**Sg**	**02 27 37.8**	**+0.2**
RMX	**La Rumorosa**	**0.27**	**253**	*i* P	**Pg**	**02 27 30.7**	**-3.2**
RMX				*e*S	**Sg**	**02 27 37.8**	**+0.2**
CPBX	**Cerro Prieto**	**0.48**	**123**	*e*P	**Pg**	**02 27 36.9**	**-0.7**
CPBX				*e*S	**Sg**	**02 27 44.5**	**+0.7**
CPBX				*e*		02 27 49.0	
CPBX				AML	AML	02 27 49.0	
	comp=N,13μm,0.2s						
CPBX				⇑*e*		02 27 49.7	
CPBX				AML	AML	02 27 49.7	
	comp=E,19μm,0.2s						
COA	**Coachella**	**0.58**	**71**	⇑*i*P	**Pg**	**02 27 39.7**	**+0.2**
BAR	**Barrett**	**0.76**	**270**	*i* P	**Pg**	**02 27 42.4**	**-0.5**
BAR	**Barrett**	**0.76**	**270**	*e*Pg	**Pg**	**02 27 42.2**	**-0.7**
BAR				*e*Sg	**Sg**	**02 27 52.1**	**-0.8**
RDX	**Rancho Dawling**	**0.76**	**191**	⇓*e*P	**Pg**	**02 27 42.3**	**-0.7**
RDX				*e*S	**Sg**	**02 27 52.5**	**-0.6**
RDX				⇑*e*		02 27 53.9	
RDX				AML	AML	02 27 53.9	
	comp=N,1μm,0.2s						
RDX	**Rancho Dawling**	**0.76**	**191**	*e*P	**Pg**	**02 27 42.3**	**-0.7**
RDX				*e*S	**Sg**	**02 27 52.3**	**-0.7**
EMX	**El Mayor**	**0.82**	**147**	*e*P	**Pg**	**02 27 42.9**	**-1.3**
EMX				*e*S	**Sg**	**02 27 54.3**	**-0.7**
EMX				⇑*e*		02 27 55.4	
	comp=N,2μm,0.5s						
EMX	**El Mayor**	**0.82**	**147**	*e*P	**Pg**	**02 27 42.9**	**-1.3**
EMX				*e*S	**Sg**	**02 27 54.3**	**-0.7**
CBX	**Cerro Bola**	**0.84**	**244**	⇑*e*P	**Pg**	**02 27 44.0**	**-0.4**
CBX				*e*S	**Sg**	**02 27 54.9**	**-0.5**
CBX				⇓*e*		02 27 55.9	
CBX				AML	AML	02 27 55.9	
	comp=E,2μm,0.2s						
CBX	**Cerro Bola**	**0.84**	**244**	*e*P	**Pg**	**02 27 44.0**	**-0.4**
CBX				*e*S	**Sg**	**02 27 54.9**	**-0.5**
GLA	**Glamis**	**0.88**	**65**	*e*Pg	**Pg**	**02 27 43.8**	**-1.4**
GLA				*e*Sg	**Sg**	**02 27 55.8**	**-0.9**
PFO	**Pinyon Flats O**	**1.09**	**328**	*e*Pg	**Pg**	**02 27 47.0**	**-2.2**
PFO				*e*Sg	**Sg**	**02 28 01.4**	**-2.0**
PBX	**Punta Banda**	**1.24**	**221**	*e*P	**Pg**	**02 27 50.7**	**-1.3**
PBX				*e*S	**Sg**	**02 28 07.3**	**-0.8**
ECNX	**Esteban Cantu**	**1.24**	**215**	*e*P	**Pg**	**02 27 50.8**	**-1.3**
ECNX				*e*S	**Sg**	**02 28 07.1**	**-1.0**
ZAX	**El Zacaton**	**1.24**	**200**	*e*P	**Pg**	**02 27 50.9**	**-1.2**
ZAX				*e*S	**Sg**	**02 28 07.1**	**-1.1**
ZAX				AML	AML	02 28 08.3	
	comp=N,1μm,0.3s						
ZAX				⇑*e*		02 28 08.3	
ECBX	**El Chinero**	**1.35**	**153**	*e*P	**Pn**	**02 27 52.3**	**-0.7**
ECBX				*e*S	**Sg**	**02 28 10.6**	**-1.2**
ECBX				⇓*e*		02 28 13.2	
ECBX				AML	AML	02 28 13.2	
	comp=E,1μm,0.7s						
SPIG	**San Pedro Mart**	**1.65**	**171**	*e*P	**Pn**	**02 27 57.3**	**-0.2**
SPIG				*e*S	**Sn**	**02 28 19.3**	**+0.5**
SPX	**San Pedro Mart**	**1.65**	**171**	*e*P	**Pn**	**02 27 57.4**	**-0.1**
SPX				*e*S	**Sn**	**02 28 20.2**	**+1.3**
LDFC	**Landfair**	**2.45**	**13**	*e*Pn	**Pn**	**02 28 07.8**	**-0.6**
LDFC				*e*Pg	**Pg**	**02 28 15.6**	**+0.3**
PASC	**Pasadena Art C**	**2.50**	**307**	*e*Pg	**Pb**	**02 28 12.4**	**-0.9**
PASC				*e*Sg	**Sb**	**02 28 44.8**	**+0.6**
214A	**Organ Pipe Nat**	**2.61**	**105**	*e*Pn	**Pn**	**02 28 08.1**	**-2.3**
GSC	**Goldstone, Bar**	**2.75**	**342**	*e*Pn	**Pn**	**02 28 10.8**	**-1.6**
GSC				*e*Pg	**Pg**	**02 28 19.9**	**-1.0**
GSC				*e*Sg	**Sb**	**02 28 53.9**	**+2.6**
OSI	**Osito Audit: C**	**3.13**	**309**	*e*Pn	**Pn**	**02 28 18.7**	**+1.2**
OSI				*e*Pg	**Pg**	**02 28 27.6**	**-0.5**
OSI				*e*Sg	**Sb**	**02 29 04.8**	**+2.7**
ISA	**Isabella, Lake**	**3.72**	**324**	*e*Pn	**Pn**	**02 28 25.7**	**-0.1**
ISA				*e*Pg	**Pb**	**02 28 35.8**	**+1.7**
ISA				*e*Sn	**Sn**	**02 29 10.7**	**+1.0**
ISA				*e*Sg	**Sg**	**02 29 24.3**	**-3.5**
SHPR	**Sheep Range**	**3.85**	**7**	*e*Pn	**Pn**	**02 28 27.6**	**0.0**
SHPR				*e*Pg	**Pg**	**02 28 40.3**	**-1.7**
SHPR				*e*Sn	**Sn**	**02 29 13.1**	**+0.3**
SHPR				*e*Sg	**Sg**	**02 29 29.6**	**-2.3**
DAC	**Darwin (Calif)**	**3.89**	**338**	*e*Pn	**Pn**	**02 28 27.3**	**-0.8**
DAC				*e*Pg	**Pb**	**02 28 39.9**	**+3.0**
DAC				*e*Sg	**Sg**	**02 29 29.7**	**-3.5**
TUC	**Tucson**	**4.23**	**94**	*e*Pn	**Pn**	**02 28 30.8**	**-1.9**
WUAZ	**Wupatki**	**4.62**	**51**	*e*Pn	**Pn**	**02 28 38.8**	**+0.6**
WUAZ				*e*Pg	**Pg**	**02 28 55.9**	**-0.8**
TPH	**Tonopah**	**5.51**	**348**	*e*Pg	Pg	02 29 10.2	-3.6
	comp=E,2.0nm,0.7s						
CMB	**Columbia Colle**	**6.54**	**326**	*e*Pg	Pg	02 29 28.5	-4.9
CMB				*e*Sg	Sg	02 30 49.8	-8.2

*ISCJB **18** 02:28:33.6±0.2,59.°34N±0.°03×153.°19W±0.°04, h116km±2km,mb3.6/9,Error ellipse: s-maj=4.6km s-min=3.1km az=145.3*
*IDC **18** 02:28:35.0±2.5,59.°53N×153.°36W,h102km±21km,mb3.4/9, mb1 3.7/12,mb1mx3.4/49,mbtmp3.8/12,Error ellipse: s-maj=22.1km s-min=13.1km az=21.0*
*NEIC **18** 02:28:36.0,59.°32N×153.°17W,h104km,MG4.0(AEIC), After AEIC.*
ISC 18 02:28:34.8±0.7,**59.°35N**±0.°05×**153.°20W**±0.°04, **h107**km±5km,**n130,**σ0**°75**/145,**mb3.6**/9,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUP	**Augustine Pinn**	**0.11**	**274**	P	**Pn**	**02 28 50.4**	**+0.7**
AUI	**Augustine Isla**	**0.12**	**261**	P	**Pn**	**02 28 50.0**	**+0.4**
AUI				S	**Sn**	**02 28 59.3**	**-1.4**
AUL	**Augustine Lava**	**0.12**	**284**	P	**Pn**	**02 28 50.2**	**+0.6**
AUL				S	**Sn**	**02 29 01.1**	**+0.4**
AUH	**Augustine H**	**0.12**	**275**	P	**Pn**	**02 28 50.3**	**+0.6**
OPT	**Oil Point**	**0.30**	**357**	P	**Pn**	**02 28 50.7**	**+0.5**
MCNL	**McNeil River**	**0.61**	**254**	P	**Pn**	**02 28 52.4**	**+0.3**
MCNL				S	**Sn**	**02 29 04.2**	**-0.8**
ILS	**Iliamna Low So**	**0.61**	**6**	P	**Pn**	**02 28 52.4**	**+0.2**
FONW	**Fourpeaked Sta**	**0.64**	**216**	P	**Pn**	**02 28 52.7**	**+0.3**
PDB	**Pedro Bay**	**0.67**	**311**	P	**Pn**	**02 28 53.0**	**+0.5**
PDB				S	**Sn**	**02 29 06.2**	**+0.3**
IVE	**Iliamna Volcan**	**0.67**	**8**	P	**Pn**	**02 28 52.9**	**+0.2**
ILW	**Iliamna West**	**0.71**	**3**	P	**Pn**	**02 28 53.5**	**+0.4**
HOM	**Homer**	**0.85**	**68**	P	**Pn**	**02 28 54.9**	**+0.7**
HOM				S	**Sn**	**02 29 09.4**	**+0.6**
CNPM	**China Poot**	**1.02**	**79**	P	**Pn**	**02 28 56.1**	**+0.2**
CNPM				S	**Sn**	**02 29 12.2**	**+0.3**
RSO	**Redoubt South**	**1.14**	**11**	*e*Pn	**Pn**	**02 28 57.9**	**+0.5**
RDWB	**Redoubt West**	**1.15**	**9**	P	**Pn**	**02 28 57.9**	**+0.4**
RDWB				S	**Sn**	**02 29 15.1**	**+0.4**
RDN	**Redoubt North**	**1.19**	**11**	P	**Pn**	**02 28 58.5**	**+0.6**
NCT	**North Crescent**	**1.22**	**6**	P	**Pn**	**02 28 58.7**	**+0.6**
BRLK	**Bradley Lake**	**1.25**	**70**	P	**Pn**	**02 28 58.3**	**-0.1**
BRLK				S	**Sn**	**02 29 15.8**	**-0.5**
DFR	**Drift River**	**1.27**	**12**	P	**Pn**	**02 28 59.4**	**+0.7**
KAKN	**Katmai Knife C**	**1.44**	**223**	P	**Pn**	**02 29 00.7**	**0.0**
KAKN				S	**Sn**	**02 29 19.4**	**-0.9**
KVTA	**Katmai Vly 10**	**1.46**	**229**	P	**Pn**	**02 29 01.2**	**+0.3**
KCE	**Katmai Mt Cerb**	**1.52**	**224**	P	**Pn**	**02 29 02.4**	**+0.8**
KARR	**Katmai Barrier**	**1.53**	**218**	P	**Pn**	**02 29 01.7**	**-0.1**
KABU	**Katmai Buttres**	**1.53**	**226**	P	**Pn**	**02 29 02.5**	**+0.6**
KABU				S	**Sn**	**02 29 22.5**	**+0.1**
KELA	**Mount Kelaz**	**1.60**	**236**	P	**Pn**	**02 29 02.8**	**+0.1**
KDAK	**Kodiak Island**	**1.61**	**168**	P	**Pn**	**02 29 01.5**	**-1.2**
SLKM	**Skilak Lake**	**1.90**	**51**	P	**Pn**	**02 29 06.4**	**+0.1**
CKL	**Chakachamna La**	**1.90**	**13**	P	**Pn**	**02 29 07.2**	**+0.8**
CKN	**Chakachatna No**	**1.94**	**15**	P	**Pn**	**02 29 07.8**	**+0.9**
SPBG	**Spurr Blockage**	**1.96**	**12**	P	**Pn**	**02 29 08.0**	**+0.9**
BGL	**Barrier Glacie**	**1.96**	**12**	P	**Pn**	**02 29 08.2**	**+1.0**
SEW	**Seward**	**2.04**	**67**	P	**Pn**	**02 29 08.1**	**0.0**
SVW2	**Sparrevohn**	**2.11**	**327**	P	**Pn**	**02 29 09.5**	**+0.5**
OHAK	**Old Harbor**	**2.14**	**181**	P	**Pn**	**02 29 08.0**	**-1.3**
STLK	**Strandline Lak**	**2.26**	**17**	P	**Pn**	**02 29 11.8**	**+0.8**
PLK3	**Peulik 3**	**2.32**	**225**	P	**Pn**	**02 29 12.2**	**+0.5**
FIB	**Fire Island**	**2.36**	**38**	P	**Pn**	**02 29 14.0**	**+1.8**
**PL

0.4nm,0.5s,baz=64,slow=3.4,SNR=2.1
ZALV Zalesovo Beam 57.84 324 P **P 02 38 13.9 -0.6**
0.6nm,0.4s,baz=29,slow=6.0,SNR=4.1
NOA NORSAR Array B 59.33 9 PcP **PcP 02 39 09.8 -1.9**
1.3nm,0.8s,baz=336,slow=4.3,SNR=3.3
MKAR Makanchi Array 64.87 321 P **P 02 39 01.4 -0.7**
0.2nm,0.5s,baz=26,slow=5.8,SNR=3.4
ESDC Sonseca Array 78.09 24 P **P 02 40 21.9 +0.3**
0.2nm,0.4s,baz=345,slow=6.8,SNR=4.0

IDC 18 02:28:45.4±2.7, 6.75S×147.89E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=95.1km s-min=29.1km az=98.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**224**	P		P	P	02 33 03.5	-0.6
	0.2nm,0.3s,baz=50,slow=12,SNR=14								
ASAR	**Alice Springs**	**21.52**	**217**	P		P	P	02 33 36.5	+0.2
	0.6nm,0.6s,baz=52,slow=8.5,SNR=9.6								
STKA	**Stephens Creek**	**25.68**	**192**	P		P	P	02 34 17.1	-0.1
	0.7nm,0.4s,baz=18,slow=6.4,SNR=3.5								
MKAR	**Makanchi Array**	**78.64**	**320**	P		P	P	02 40 49.1	-0.3
	0.1nm,0.4s,baz=92,slow=8.9,SNR=3.9								
TORD	**Torodi Ar. Bea**	**146.13**	**283**	PKPbc		PKPbc	PKPbc	02 48 28.2	-0.4
	0.7nm,0.5s,baz=73,slow=3.6,SNR=38								

IDC 18 02:46:06.6±3.3, 6.71S×147.48E, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.1/35, mbtmp3.1/2, ML3.5/1, Error ellipse: s-maj=118.8km s-min=42.8km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.32**	**223**	P		P	Pn	02 50 22.3	-0.1
	0.2nm,0.3s,baz=48,slow=11,SNR=11								
ASAR	**Alice Springs**	**21.32**	**216**	P		P	P	02 50 55.1	-0.2
	0.2nm,0.4s,baz=48,slow=8.7,SNR=7.5								
TORD	**Torodi Ar. Bea**	**145.72**	**283**	PKPbc		PKPdf		03 05 47.8	-0.5
	1.3nm,1.0s,baz=90,slow=3.4,SNR=8.0								

GUC 18 02:50:04.1±0.5, 33.83S×71.36W, h41km±3km, ML2.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.14**	**200**	*eP*		Pn		02 50 11.0	-0.1
LNV				*eS*		Sn		02 50 16.4	+0.4
RCDM	**Rinconada Maip**	**0.57**	**54**	*eP*		Pn		02 50 15.7	-0.2
RCDM				*eS*		Sn		02 50 24.5	+0.3
CHCH	**Chadas Angostu**	**0.59**	**100**	*eP*		Pn		02 50 16.6	+0.4
CHCH				*eS*		Sn		02 50 26.1	+1.2
CACH	**El Canelo**	**0.69**	**115**	*eP*		Pn		02 50 18.6	+1.0
CACH				*eS*		Sn		02 50 29.2	+1.8
PEL	**Peldehue**	**0.88**	**40**	*eP*		Pn		02 50 20.6	+0.5
PEL				*eS*		Sn		02 50 33.2	+1.4
PEL				AML		AML		02 50 36.7	
	comp=E,183nm,0.5s								

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*IDC **18** 02:52:15.2±0.4, 37.17S×73.83W, h0km, mb4.6/19, mb1 4.7/23, mb1mx4.6/26, mbtmp4.6/23, ML3.7/4, MS4.6/10, Ms1 4.6/10, ms1mx4.2/35, Error ellipse: s-maj=18.0km s-min=11.3km az=85.0*

*GUC **18** 02:52:16.2±0.4, 37.32S×74.02W, h27km±2km, ML5.0*

*ISCJB **18** 02:52:17.4±1.4, 37.25S±0.03×73.71W±0.06, h18km±9km, mb4.7/57, MS4.5/9, Error ellipse: s-maj=.8.1km s-min=4.4km az=171.6*

*GCMT **18** 02:52:18.4±0.3, 37.28S×74.22W, h22km±1km, MW5.1/69, Moment Tensor Solution. s26,c28; s69,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.70±.33; $M_{\theta\theta}$-0.38±.17; $M_{\phi\phi}$-4.32±.21; $M_{r\theta}$-0.83±.30; $M_{\theta\phi}$0.22±.12; $M_{\phi r}$-2.22±.28; Best double couple: $M_0$5.09100×10^{16} NP1:ϕ_s187.00000°,δ59.00000°,λ100.00000°. NP2: ϕ_s348.00000°,δ33.00000°,λ74.00000°. Principal axes: T 5.3460, Plg74.0000°, Azm123.0000°; N -0.5100, Plg8.0000°, Azm2.0000°; P -4.8370, Plg13.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 02:52:18.4±2.8, 37.17S×73.76W, h20km±16km, mb4.9/40, ML5.0(GUC) Error ellipse: s-maj=9.7km s-min=4.8km az=75.0*

NEIC Felt [IV] at Coronel and Lota and [III] at Concepcion. Also felt at Angol, Canete, Chiguayante and Talcahuano.

*MOS **18** 02:52:19.5±1.0, 37.17S×73.76W, h33km, mb5.1/18, Error ellipse: s-maj=17.9km s-min=8.8km az=102.2*

*BJI **18** 02:52:22.7, 37.10S×73.80W, h30km, mB5.1/4, Ms5.1/5, Ms7 4.9/5*

ISC 18 02:52:20.0±0.8, 37.18S±0.04×73.74W±0.06, h31km±5km, n465, σ1°41/478, mb4.8/57, MS4.6/9, 99C-104D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.61**	**56**	*eP*			**Pb**	**02 52 31.7**	**-0.6**
CCSP				*i* S			**Sn**	**02 52 43.6**	**+2.3**
CCSP				AML		AML	AML	02 52 51.2	
	comp=E,27μm,0.4s								
LNCH	**Linares**	**2.18**	**53**	*i* P			**Pn**	**02 52 55.5**	**+1.3**
LNCH				*i* S			**Sb**	**02 53 25.2**	**-0.1**
LNCH				AML		AML	AML	02 53 38.9	
	comp=N,9μm,0.8s								
TALC	**Talca**	**2.46**	**44**	*eP*			**Pn**	**02 52 59.1**	**+1.0**
TALC				*eS*			**Sb**	**02 53 32.1**	**-1.5**
TALC				AML		AML	AML	02 53 48.9	
	comp=N,9μm,0.6s								
VLCH	**Valdivia**	**2.65**	**172**	*eP*			Pn	02 52 57.3	-3.3
VLCH				*eS*			**Sn**	**02 53 27.9**	**-3.7**
VLCH				AML		AML	AML	02 53 53.7	
	comp=E,6μm,0.7s								
NICH	**Los Niches**	**2.98**	**44**	*i* P			**Pn**	**02 53 06.2**	**+1.0**
NICH				*i* S			**Sb**	**02 53 44.4**	**-3.9**
NICH				AML		AML	AML	02 54 07.6	
	comp=E,8μm,0.9s								
PLCA	**Paso Flores**	**4.33**	**146**	*eP*			**Pn**	**02 53 24.1**	**+0.3**
PLCA				*e*				02 54 14.2	
PLCA	**Paso Flores**	**4.33**	**146**	Pn			**Pn**	**02 53 23.3**	**-0.5**
	comp=E,2.4nm,0.3s,baz=324,slow=15,SNR=40								
PLCA				Lg			Lg	02 54 34.4	
	comp=E,12nm,0.3s,baz=234,slow=19,SNR=3.2								
PLCA	**Paso Flores**	**4.33**	**146**	*eP*			**Pn**	**02 53 24.1**	**+0.3**
PLCA	**Paso Flores**	**4.33**	**146**	*e*Pn			**Pn**	**02 53 24.1**	**+0.3**
PLCA				*e*Sn			**Sn**	**02 54 14.2**	**+0.9**
PLCA				Lg			Lg	02 54 34.4	
ROCH	**El Roble**	**4.76**	**29**	*eP*			**Pn**	**02 53 29.2**	**-0.7**
CFAA	**Coronel Fontan**	**7.19**	**41**	Pn			**Pn**	**02 54 02.1**	**-0.9**
	comp=E,0.6nm,0.3s,baz=211,slow=13,SNR=16								
CFAA				Sn			**Sn**	**02 55 26.6**	**+3.0**
	comp=E,0.3nm,0.3s,baz=227,slow=14,SNR=3.1								
CFAA				LR			LR	02 57 28.5	
	comp=E,316nm,18.9s,baz=225,slow=43								
CFAA	**Coronel Fontan**	**7.19**	**41**	Pn			**Pn**	**02 54 02.1**	**-0.9**
CFAA				Sn			**Sn**	**02 55 26.6**	**+3.0**
TLL	**Tololo Astrono**	**7.41**	**20**	*eP*			**Pn**	**02 54 06.0**	**-0.4**
LCO	**Las Campanas**	**8.54**	**18**	*eP*			**Pn**	**02 54 20.4**	**-1.4**
LCO	**Las Campanas**	**8.54**	**18**	*e*Pn			Pn	02 54 18.4	-3.4
LCO				*e*Sn			**Sn**	**02 55 52.8**	**-4.5**
TRQA	**Tornquist**	**9.37**	**99**	*eP*			**Pn**	**02 54 34.9**	**+1.9**
TRQA	**Tornquist**	**9.37**	**99**	*e*Pn			**Pn**	**02 54 34.6**	**+1.6**
TRQA				*e*Lg			Lg	02 57 18.9	
CHRN	**Cochrane**	**9.98**	**176**	*eP*			**Pn**	**02 54 42.1**	**+0.8**
PB06	**IPOC Station P**	**14.87**	**15**	*eP*			**Pn**	**02 55 49.1**	**+0.8**
LVC	**Limon Verde**	**15.11**	**17**	Pn			**Pn**	**02 55 50.6**	**-0.9**
	comp=E,11nm,0.3s,baz=193,slow=15,SNR=3.6								
LVC				LR			LR	03 02 12.4	
	comp=E,5μm,18.4s,baz=200,slow=40								
LVC	**Limon Verde**	**15.11**	**17**	*e*Pn			**Pn**	**02 55 49.5**	**-2.1**
PB04	**IPOC Station P**	**15.32**	**15**	*eP*			**P**	**02 55 58.4**	**-0.1**
PB07	**IPOC Station P**	**15.76**	**13**	*eP*			P	02 56 08.1	+4.4
PB01	**IPOC Station P**	**16.50**	**14**	*eP*			**Pn**	**02 56 08.4**	**-1.0**
PATCX	**Punta Patache**	**16.60**	**12**	*eP*			**P**	**02 56 15.3**	**+2.4**
HMBC	**Humberstone**	**17.18**	**12**	*eP*			**P**	**02 56 22.0**	**+2.7**
CPUP	**Villa Florida**	**17.63**	**57**	*eP*			**Pn**	**02 56 23.6**	**+0.2**
CPUP				pmax		pmax	pmax		
	comp=Z,2.0nm,1.5s								
CPUP	**Villa Florida**	**17.63**	**57**	P			**Pn**	**02 56 22.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=210,slow=14,SNR=6.6								
CPUP				Lg			Lg	03 01 41.8	
	comp=Z,0.0nm,0.3s,baz=162,slow=20,SNR=2.1								
CPUP				LR			LR	03 03 53.4	
	comp=Z,9μm,20.3s,baz=216,slow=40								
CPUP	**Villa Florida**	**17.63**	**57**	*e*Pn			**Pn**	**02 56 23.6**	**+0.2**
	comp=Z,1.6nm,1.5s								
CPUP				Lg			Lg	03 01 41.8	
USHA	**Ushuaia**	**18.02**	**170**	P			**Pn**	**02 56 26.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=339,slow=12,SNR=3.2								
USHA	**Ushuaia**	**18.02**	**170**	P			**Pn**	**02 56 26.1**	**-1.9**
EFI	**East Falkland**	**18.25**	**148**	*d* iP			**Pn**	**02 56 31.7**	**+0.9**
EFI						pmax	pmax		
	comp=Z,372nm,1.2s								
EFI	**East Falkland**	**18.25**	**148**	*eP*			**Pn**	**02 56 30.9**	**+0.1**
	comp=Z,110nm,1.0s								
MNMC	**Minimini**	**18.35**	**13**	*eP*			**Pn**	**02 56 33.0**	**+0.5**
LPAZ	**La Paz**	**21.40**	**15**	*eP*			**P**	**02 57 07.6**	**+1.7**
LPAZ	**La Paz**	**21.40**	**15**	P			**P**	**02 57 05.6**	**-0.3**
	comp=Z,23nm,1.0s,baz=180,slow=9.7,SNR=32								
LPAZ	**La Paz**	**21.40**	**15**	*eP*			**P**	**02 57 07.7**	**+1.7**
	comp=Z,35nm,1.0s								
SIV	**San Ignacio**	**23.91**	**31**	P			**P**	**02 57 30.4**	**-0.9**
	comp=Z,6.5nm,0.8s,baz=206,slow=7.2,SNR=18								
SIV				LR			LR	03 08 48.0	
	comp=Z,2μm,19.5s,baz=222,slow=42								
SIV	**San Ignacio**	**23.91**	**31**	P			**P**	**02 57 30.4**	**-0.9**
PMSA	**Palmer Station**	**28.23**	**171**	LR			LR	03 10 01.1	
	comp=Z,749nm,18.5s,baz=306,slow=38								
SAML	**Samuel**	**29.69**	**21**	*eP*			**P**	**02 58 22.4**	**-0.9**
	comp=Z,20nm,1.4s								
BDFB	**Brasilia**	**31.30**	**54**	P			**P**	**02 58 37.7**	**0.0**
BDFB	**Brasilia**	**31.30**	**54**	P			**P**	**02 58 37.7**	**0.0**
	comp=Z,12nm,1.0s,baz=210,slow=11,SNR=14								
BDFB				LR			LR	03 12 31.9	
	comp=Z,1μm,18.8s,baz=224,slow=39								
BDFB	**Brasilia**	**31.30**	**54**	P			**P**	**02 58 37.7**	**0.0**
OTAV	**Otavalo**	**37.49**	**352**	*eP*			**P**	**02 59 32.0**	**+0.4**
	comp=Z,33nm,1.6s								
PTGA	**Pitinga**	**38.44**	**23**	*eP*			**P**	**02 59 37.9**	**-1.2**
	comp=Z,11nm,1.1s								
ROSC	**El Rosal**	**41.83**	**359**	P			**P**	**03 00 08.0**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=140,slow=7.9,SNR=4.0								
ROSC	**El Rosal**	**41.83**	**359**	P			**P**	**03 00 08.0**	**+0.4**
SDV	**Santo Domingo**	**45.92**	**4**	*eP*			**P**	**03 00 39.1**	**-1.1**
	comp=Z,6.7nm,0.9s								
VNA3	**Neumayer Olymp**	**46.97**	**157**	P			**P**	**03 00 48.3**	**+0.6**
VNA1	**Neumayer--Stat**	**47.32**	**156**	P			**P**	**03 00 51.2**	**+0.8**
VNA2	**Neumayer--Watz**	**47.65**	**156**	P			**P**	**03 00 53.5**	**+0.5**
	baz=272,slow=8.4								
JTS	**JuntasAbangare**	**48.38**	**345**	*e*P			**P**	**03 01 01.3**	**+2.1**
JTS						pmax	pmax		
	comp=Z,51nm,1.8s								
JTS	**JuntasAbangare**	**48.38**	**345**	*eP*			**P**	**03 00 59.3**	**+0.1**
	comp=Z,18nm,1.1s								
SNAA	**Sanae**	**49.19**	**157**	P			**P**	**03 01 05.2**	**+0.3**
SNAA	**Sanae**	**49.19**	**157**	P			**P**	**03 01 05.2**	**+0.3**
	comp=Z,17nm,1.1s,baz=282,slow=7.3,SNR=24								
SNAA	**Sanae**	**49.19**	**157**	P			**P**	**03 01 05.2**	**+0.3**
GRGR	**Grenville**	**50.35**	**15**	*eP*			**P**	**03 01 14.1**	**-0.2**
QSPA	**South Pole Qui**	**53.06**	**180**	P			**P**	**03 01 34.4**	**+0.3**
	comp=Z,17nm,1.0s,baz=149,slow=3.6,SNR=23								
QSPA	**South Pole Qui**	**53.06**	**180**	*eP*			**P**	**03 01 34.0**	**-0.2**
	comp=Z,22nm,1.1s								
RKT	**Rikitea**	**53.93**	**267**	*eS*			**S**	**03 09 12.7**	**-1.8**
	comp=Z,206nm,25.8s								
RKT				*e*LR			LR	03 17 24.8	
	comp=Z,722nm,29.0s								
NVL	**N'lazarevskaya**	**53.97**	**156**	*eP*			**P**	**03 01 40.1**	**-0.4**
NVL						pmax	pmax		
	comp=Z,12nm,1.0s								
OBIP	**Obispado Ponce**	**55.34**	**8**	*eP*			**P**	**03 01 50.6**	**-0.4**
SDDR	**Presa de Saban**	**55.91**	**3**	*eP*			**P**	**03 01 54.4**	**-0.8**
GTBY	**Guantanamo Bay**	**56.82**	**358**	*eP*			**P**	**03 02 01.0**	**-0.5**
VNDA	**Vanda**	**60.71**	**192**	*eP*			**P**	**03 02 29.5**	**+1.5**
VNDA						pmax	pmax		
	comp=Z,13nm,1.4s								
VNDA	**Vanda**	**60.71**	**192**	P			**P**	**03 02 28.8**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=148,slow=6.0,SNR=7.6								
VNDA	**Vanda**	**60.71**	**192**	*eP*			**P**	**03 02 29.4**	**+1.5**
	comp=Z,13nm,1.4s								
ASCN	**Ascension**	**60.96**	**77**	*eP*			**P**	**03 02 31.3**	**+0.7**
	comp=Z,96nm,0.9s								
TBI	**Tubuai**	**65.28**	**259**	*eS*			**S**	**03 11 41.8**	**+0.9**
	comp=Z,446nm,30.8s								
TBI	**Tubuai**	**65.28**	**259**	*e*LR			LR	03 22 35.5	
	comp=Z,573nm,28.0s								
MEH	**Mehetia**	**67.10**	**264**	*eT*			T	04 15 53.9	
	comp=Z,15nm,0.2s								
PPT2	**Papeete2**	**68.46**	**264**	*eS*			**S**	**03 12 20.4**	**+0.8**
	comp=Z,175nm,24.2s								
PPT2	**Papeete2**	**68.46**	**264**	*e*LR			LR	03 24 01.6	
	comp=Z,611nm,25.5s								
PPT	**Papeete**	**68.47**	**264**	LR			LR	03 25 25.2	
	comp=Z,362nm,18.0s,baz=124,slow=29								
933A	**Laredo**	**68.78**	**336**	↓P			**P**	**03 03 21.9**	**+0.9**
	baz=69								
835A	**Beeville**	**68.94**	**337**	↓P			**P**	**03 03 24.1**	**+2.1**
	baz=69								
834A	**Tilden**	**69.02**	**337**	↓P			**P**	**03 03 24.3**	**+1.8**
	baz=69								
735A	**Kenedy**	**69.47**	**338**	↓P			**P**	**03 03 26.8**	**+1.5**
	baz=70								
833A	**Chaparral WMA,**	**69.47**	**336**	↓P			**P**	**03 03 26.4**	**+1.1**
	baz=70,SNR=8.5								
832A	**Faith Ranch, C**	**69.63**	**335**	↑P			**P**	**03 03 27.5**	**+1.2**
	baz=70								
636A	**Smothers Creek**	**69.83**	**338**	↓P			**P**	**03 03 28.5**	**+1.0**
	baz=70								
HKT	**Hockley**	**69.92**	**340**	*eP*			**P**	**03 03 28.3**	**+0.3**
HKT						pmax	pmax		
	comp=Z,44nm,2.0s								
HKT	**Hockley**	**69.92**	**340**	*eP*			**P**	**03 03 28.3**	**+0.3**
	comp=Z,44nm,2.0s								
732A	**Laxson Ranch,**	**70.04**	**336**	↓P			**P**	**03 03 29.4**	**+0.6**
	baz=70,SNR=12								
537A	**Green Hill Far**	**70.18**	**339**	↑P			**P**	**03 03 32.1**	**+2.4**
	baz=70								
633A	**Saathoff Ranch**	**70.45**	**337**	↓P			**P**	**03 03 33.3**	**+1.9**
	baz=71								
MAW	**Mawson**	**70.52**	**164**	P			**P**	**03 03 31.4**	**0.0**
MAW	**Mawson**	**70.52**	**164**	P			**P**	**03 03 31.4**	**0.0**
	comp=Z,9.5nm,1.0s,baz=202,slow=5.4,SNR=5.9								
MAW				LR			LR	03 35 53.0	
	comp=Z,461nm,18.2s,baz=234,slow=37								
MAW	**Mawson**	**70.52**	**164**	P			**P**	**03 03 31.4**	**0.0**
438A	**Sam Houston St**	**70.58**	**340**	↑P			**P**	**03 03 34.8**	**+2.7**
	baz=71								
632A	**Uvalde**	**70.69**	**336**	↑P			**P**	**03 03 34.3**	**+1.5**
	baz=71								
534A	**Blanco**	**70.77**	**337**	↑P			**P**	**03 03 35.3**	**+2.1**
	baz=71								
340A	**Bronson**	**70.80**	**342**	↑P			**P**	**03 03 35.7**	**+2.3**
	baz=71								
GOGA	**Godfrey**	**70.82**	**351**	*eP*			**P**	**03 03 32.6**	**-0.8**
GOGA						pmax	pmax		
	comp=Z,5.0nm,0.8s								
GOGA	**Godfrey**	**70.82**	**351**	*eP*			**P**	**03 03 32.6**	**-0.8**
	comp=Z,5.1nm,0.8s								
631A	**Perdido Creek**	**70.87**	**335**	↓P			**P**	**03 03 36.2**	**+2.3**
	baz=71								
LRAL	**Lakeview Retre**	**70.94**	**348**	*eP*			**P**	**03 03 33.8**	**-0.5**
	comp=Z,7.8nm,1.0s								
533A	**Kerrville**	**70.98**	**337**	↑P			**P**	**03 03 36.1**	**+1.5**
	baz=71								
338A	**Crockett**	**71.11**	**341**	↓P			**P**	**03 03 37.2**	**+1.9**
	baz=71								
435B	**Jarrell**	**71.20**	**338**	↑P			**P**	**03 03 38.6**	**+2.7**
	baz=72								
532A	**Rocksprings**	**71.31**	**336**	↓P			**P**	**03 03 38.9**	**+2.3**
	baz=72,SNR=12								
434A	**Burnet**	**71.44**	**338**	↑P			**P**	**03 03 38.3**	**+1.0**
	baz=72								
531A	**Rocksprings**	**71.55**	**336**	↑P			**P**	**03 03 39.2**	**+1.1**
	baz=72,SNR=9.8								
JCT	**Junction City**	**71.60**	**336**	*eP*			**P**	**03 03 37.7**	**-0.7**
JCT						pmax	pmax		
	comp=Z,17nm,1.2s								
JCT	**Junction City**	**71.60**	**336**	↑P			**P**	**03 03 40.7**	**+2.4**
	baz=72								
JCT	**Junction City**	**71.60**	**336**	*eP*			**P**	**03 03 37.7**	**-0.7**
	comp=Z,17nm,1.2s								
238A	**Jacksonville**	**71.67**	**341**	↑P			**P**	**03 03 40.0**	**+1.3**
	baz=72								
530A	**J-C Ranch, Com**	**71.80**	**335**	↑P			**P**	**03 03 41.2**	**+1.6**
	baz=72,SNR=9.5								
TXAR	**Lajitas Array**	**71.88**	**333**	P			**P**	**03 03 40.1**	**0.0**
TXAR	**Lajitas Array**	**71.88**	**333**	P			**P**	**03 03 40.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=152,slow=8.0,SNR=21								
TXAR				LR			LR	03 30 21.2	
	comp=Z,164nm,18.1s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**71.88**	**333**	P			**P**	**03 03 40.1**	**0.0**
334A	**Lometa**	**71.91**	**338**	↓P			**P**	**03 03 40.5**	**+0.3**
	baz=72								
432A	**Menard**	**71.96**	**337**	↓P			**P**	**03 03 40.6**	**0.0**
	baz=72								
431A	**Sonora**	**72.05**	**336**	↑P			**P**	**03 03 41.9**	**+0.8**
	baz=72								
529A	**Stev Forest Ra**	**72.08**	**334**	↓P			**P**	**03 03 42.4**	**+1.1**
	baz=72								
333A	**Richland Sprin**	**72.13**	**337**	↑P			**P**	**03 03 43.0**	**+1.5**
	baz=72								
138A	**Matatall Enter**	**72.29**	**341**	↓P			**P**	**03 03 44.5**	**+2.2**
	baz=73								
WHTX	**Lake Whitney,**	**72.30**	**339**	↓P			**P**	**03 03 45.5**	**+3.0**
	baz=73								
WHTX	**Lake Whitney,**	**72.30**	**339**	*eP*			**P**	**03 03 42.5**	**+0.1**
KMSC	**Kings Mountain**	**72.31**	**353**	*eP*			**P**	**03 03 40.9**	**-1.5**
	comp=Z,48nm,1.6s								
430A	**Baggett Ranch,**	**72.35**	**335**	↓P			**P**	**03 03 43.8**	**+1.0**
	baz=73								
137A	**Heron Place, G**	**72.40**	**341**	↓P			**P**	**03 03 45.6**	**+2.6**
	baz=73								
332A	**Millersview**	**72.42**	**337**	↓P			**P**	**03 03 44.2**	**+1.0**
	baz=73								
429A	**Davenport Ranc**	**72.42**	**335**	↓P			**P**	**03 03 45.2**	**+1.8**
	baz=73								
234A	**Clairette**	**72.51**	**338**	↓P			**P**	**03 03 45.9**	**+2.1**
	baz=73								
331A	**San Angelo**	**72.57**	**336**	↓P			**P**	**03 03 45.3**	**+1.1**
	baz=73,SNR=11								
233A	**Rising Star**	**72.75**	**338**	↓P			**P**	**03 03 47.1**	**+1.9**
	baz=73								
232A	**Coleman**	**72.86**	**337**	↓P			**P**	**03 03 46.0**	**+0.1**
	baz=73								
330A	**Mertzon**	**72.90**	**336**	↑P			**P**	**03 03 46.9**	**+0.8**
	baz=73								
134A	**White-Moore Ra**	**73.03**	**339**	↓P			**P**	**03 03 46.8**	**0.0**
	baz=73								
231A	**Bronte**	**73.11**	**337**	↑P			**P**	**03 03 48.1**	**+0.8**
	baz=73,SNR=5.1								
329A	**Wagon Wheel Ra**	**73.24**	**335**	↓P			**P**	**03 03 50.9**	**+2.7**
	baz=74								
133A	**Hamilton Ranch**	**73.30**	**338**	↑P			**P**	**03 03 48.9**	**+0.5**
	baz=74								
230A	**Sterling City**	**73.32**	**336**	↑P			**P**	**03 03 50.3**	**+1.7**
	baz=74								
ABTX	**Abilene, Hawle**	**73.54**	**337**	↑P			**P**	**03 03 52.3**	**+2.5**
	baz=74								
ABTX	**Abilene, Hawle**	**73.54**	**337**	*eP*			**P**	**03 03 47.9**	**-1.9**
	comp=Z,7.7nm,0.7s								
229A	**Bryant Ranch,**	**73.63**	**335**	↓P			**P**	**03 03 51.0**	**+0.6**
	baz=74								
131A	**Roby**	**73.82**	**337**	↑P			**P**	**03 03 52.7**	**+1.2**
	baz=74								
Z33A	**Whitaker Ranch**	**73.89**	**338**	↑P			**P**	**03 03 52.7**	**+0.8**
	baz=74								
130A	**Snyder**	**73.93**	**336**	↑P			**P**	**03 03 54.4**	**+2.3**
	baz=74								
228A	**UT Block 9, Go**	**74.03**	**335**	↓P			**P**	**03 03 53.8**	**+1.0**
	baz=74								
WVT	**Waverly**	**74.11**	**348**	*eP*			**P**	**03 03 52.2**	**-0.8**
WVT						pmax	pmax		
	comp=Z,21nm,1.3s								
WVT	**Waverly**	**74.11**	**348**	*eP*			**P**	**03 03 52.2**	**-0.8**
	comp=Z,21nm,1.3s								
Z32A	**Haskell**	**74.12**	**338**	↓P			**P**	**03 03 53.9**	**+0.7**
	baz=74								
Y34A	**Reagan Ranch,**	**74.23**	**339**	↑P			**P**	**03 03 56.2**	**+2.4**
	baz=74								
129A	**Stewart Farms,**	**74.25**	**336**	↓P			**P**	**03 03 54.7**	**+0.7**
	baz=74								
Z31A	**Sharp Cattle R**	**74.34**	**337**	↑P			**P**	**03 03 55.2**	**+0.7**
	baz=75								
128A	**Castleberry Fa**	**74.45**	**335**	↓P			**P**	**03 03 56.2**	**+1.0**
	baz=75								
Z30A	**Sanderson Ranc**	**74.62**	**336**	↓P			**P**	**03 03 58.6**	**+2.4**
	baz=75								
MNTX	**Cornudas Mount**	**74.64**	**332**	*eP*			**P**	**03 03 55.5**	**-0.7**
	comp=Z,4.5nm,1.0s								
Y32A	**R-V Farms, Ver**	**74.76**	**338**	↓P			**P**	**03 03 58.5**	**+1.6**
	baz=75								
Z29A	**Hungry Hill Ra**	**74.78**	**

DBIC LR LR 03 36 32.3
comp=Z,205nm,18.1s,baz=203,slow=34
DBIC Dimbokro 77.51 72 *e*P **P** **03 04 14.0 +1.0**
comp=Z,29nm,1.1s
ACSO Alum Creek Sta 77.51 353 *e*P **P** **03 04 11.7 -0.7**
comp=Z,12nm,0.8s
R37A Teagarden Farm 77.61 343 ⇑P **P** **03 04 14.6 +1.7**
baz=78
LAZ Ladron 77.71 332 *e*P **P** **03 04 14.7 +0.8**
V26A Tequesquite Ra 77.78 335 ⇓P **P** **03 04 15.8 +1.6**
baz=78
214A Organ Pipe Nat 77.87 327 ⇑P **P** **03 04 16.0 +1.3**
baz=78
ANMO Albuquerque 77.94 333 *ce*P **P** **03 04 15.9 +0.7**
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO Albuquerque 77.94 333 *e*P **P** **03 04 14.5 -0.7**
comp=Z,10nm,1.2s
U27A Thompson Grove 78.04 336 ⇓P **P** **03 04 16.4 +0.8**
baz=78
T29A Hugoton 78.24 338 ⇑P P 03 04 20.0 +3.4
baz=78
U26A Atchley Ranch, 78.31 336 ⇑P **P** **03 04 19.3 +2.1**
baz=79
T28A Walsh 78.46 337 ⇓P **P** **03 04 18.8 +0.9**
baz=79
S28A Manter 78.83 338 ⇑P **P** **03 04 20.7 +0.9**
baz=79
T26A Comanche Natio 78.98 336 ⇓P **P** **03 04 22.1 +1.3**
baz=79
113A Mohawk Valley, 78.98 326 ⇓P **P** **03 04 23.0 +2.3**
baz=79
T25A Trinidad 79.21 335 ⇓P **P** **03 04 23.8 +1.6**
baz=80
T25A Trinidad 79.21 335 *e*P **P** **03 04 23.4 +1.2**
S26A Kim 79.35 336 ⇓P **P** **03 04 24.0 +1.2**
baz=80,SNR=8.4
R29A Marienthal 79.37 338 ⇑P **P** **03 04 24.1 +1.3**
baz=80
X16A Lo Mia Camp, P 79.41 329 ⇓P **P** **03 04 25.0 +1.7**
baz=80
Q31A Ellis 79.41 340 ⇑P **P** **03 04 25.5 +2.5**
baz=80
R28A Tribune 79.49 338 ⇑P **P** **03 04 24.4 +0.9**
baz=80
Q30A Quinter 79.62 339 ⇑P **P** **03 04 25.6 +1.5**
baz=80
TSUM Tsumeb 79.67 106 P **P** **03 04 25.6 +0.6**
comp=Z,3.8nm,1.0s,baz=239,slow=5.9,SNR=3.0
TSUM Tsumeb 79.67 106 *e*P **P** **03 04 25.7 +0.6**
comp=Z,10.0nm,1.3s
S25A Robets Cordova 79.69 336 ⇑P **P** **03 04 26.0 +1.3**
baz=80
R27A Eads 79.74 337 ⇓P **P** **03 04 26.1 +1.2**
baz=80
R26A Arlington 79.96 337 ⇓P **P** **03 04 27.1 +1.0**
baz=80
SDCO Great Sand Dun 80.13 335 ⇓P **P** **03 04 28.7 +1.5**
baz=80
SDCO Great Sand Dun 80.13 335 *e*P **P** **03 04 28.4 +1.2**
comp=Z,5.4nm,1.3s
Y12C Blythe 80.15 326 ⇓P **P** **03 04 29.6 +2.5**
baz=80
Q28A Sharon Springs 80.16 338 ⇑P **P** **03 04 29.9 +2.8**
baz=80
WUAZ Wupatki 80.33 330 *e*P **P** **03 04 29.4 +1.2**
comp=Z,4.0nm,0.8s
KSCO Kaye Shedlock' 80.36 338 ⇓P **P** **03 04 30.0 +1.8**
baz=81
P29A Atwood 80.40 339 ⇑P **P** **03 04 29.8 +1.5**
baz=81
R24A Sanders Place, 80.43 335 ⇑P **P** **03 04 30.6 +1.8**
baz=81
BC3 Big Chuckawall 80.48 326 ⇑P **P** **03 04 30.6 +1.6**
baz=81
Q26A Hugo 80.55 337 ⇓P **P** **03 04 31.9 +2.6**
baz=81
S22A 4UR Ranch, Cre 80.58 334 ⇓P **P** **03 04 31.4 +1.7**
baz=81
109C Camp Elliot, M 80.60 324 ⇑P **P** **03 04 31.8 +2.3**
baz=81
P28A Saint Francis 80.61 338 ⇓P **P** **03 04 32.0 +2.4**
baz=81
R23A Moffat 80.64 335 ⇓P **P** **03 04 32.3 +2.4**
baz=81
O30A MW Ranch, Wils 80.69 340 ⇑P **P** **03 04 32.0 +2.1**
baz=81
MVCO Mesa Verde 80.71 333 ⇑P **P** **03 04 31.7 +1.4**
baz=81
MVCO Mesa Verde 80.71 333 *e*P **P** **03 04 30.6 +0.4**
comp=Z,8.2nm,1.3s
IRM Iron Mountain 80.77 326 ⇓P **P** **03 04 32.2 +1.7**
baz=81
N32A Stulken Farm, 80.77 341 ⇓P **P** **03 04 32.3 +2.1**
baz=81
Q25A Bedland, Calha 80.77 336 ⇑P **P** **03 04 32.2 +1.6**
baz=81
O29A 4D Ranch, Culb 80.85 339 ⇑P **P** **03 04 32.1 +1.4**
baz=81
PFO Pinyon Flats O 80.90 325 ⇓P **P** **03 04 32.2 +1.0**
baz=81
W13A Hualapai Mount 81.02 328 ⇑P **P** **03 04 33.4 +1.4**
baz=81
BELC Belle Mtn. Jos 81.02 326 ⇑P **P** **03 04 32.7 +0.8**
baz=81
P26A Davis Ranch, A 81.08 337 ⇑P **P** **03 04 33.5 +1.4**
baz=81
Q24A Divide 81.11 336 ⇓P **P** **03 04 33.8 +1.4**
baz=81
O28A Krutsinger Ran 81.13 339 ⇓P **P** **03 04 33.6 +1.3**
baz=81
MURC Murrieta 81.23 324 ⇓P **P** **03 04 34.6 +1.7**
baz=82
P25A Willow Gulch B 81.29 337 ⇓P **P** **03 04 34.7 +1.4**
baz=82
U15A North Rim 81.49 329 ⇑P **P** **03 04 36.5 +2.0**
baz=82
GMRC Granite Mounta 81.52 326 ⇓P **P** **03 04 36.2 +1.7**
baz=82
PV01 Paradox Valley 81.55 333 *e*P **P** **03 04 35.4 +0.7**
P23A Jefferson 81.71 335 ⇑P P 03 04 39.8 +4.1
baz=82
O25A Wiggins 81.83 337 ⇓P P 03 04 39.7 +3.7
baz=82
HEC Hector,Ludlow 81.86 326 ⇑P **P** **03 04 38.2 +2.0**
baz=82
SMCO Snowmass 81.92 335 *e*P **P** **03 04 38.0 +1.1**
N27A Anderson Farm, 81.98 338 ⇓P P 03 04 40.0 +3.2
baz=82
ISCO Idaho Springs 82.02 336 *e*P **P** **03 04 38.0 +0.7**
ISCO pmax pmax
comp=Z,11nm,1.5s
ISCO Idaho Springs 82.02 336 ⇓P **P** **03 04 39.7 +2.5**
baz=82
ISCO Idaho Springs 82.02 336 *e*P **P** **03 04 38.0 +0.7**
comp=Z,11nm,1.5s
TUQ Turquoise Moun 82.19 326 ⇑P **P** **03 04 40.0 +2.0**
baz=82
LBTB Lobatse 82.21 115 *e*P **P** **03 04 38.3 -0.3**
LBTB pmax pmax
comp=Z,14nm,0.9s
LBTB Lobatse 82.21 115 P **P** **03 04 39.0 +0.4**
comp=Z,13nm,0.9s,baz=252,slow=5.7,SNR=14
LBTB Lobatse 82.21 115 *e*P **P** **03 04 38.3 -0.3**
comp=Z,14nm,0.9s
P22A Eagle 82.22 335 ⇓P **P** **03 04 41.1 +2.9**
baz=82
L31A Butterfield Fa 82.24 341 ⇓P **P** **03 04 39.6 +1.6**
baz=82
O23A Lake Granby, G 82.49 336 ⇓P P 03 04 43.6 +3.9
baz=83
O22A Kremmling 82.66 335 ⇓P **P** **03 04 41.7 +1.1**
baz=83
SHPR Sheep Range 82.76 328 *e*P **P** **03 04 40.8 -0.2**
comp=Z,6.1nm,1.1s
K30A Basset 82.90 341 ⇓P **P** **03 04 42.6 +1.2**
baz=83
N23A Red Feather La 83.12 336 ⇓P **P** **03 04 44.7 +1.8**
baz=83
SRU San Rafael Swe 83.13 332 *e*P **P** **03 04 44.0 +1.1**
SRU San Rafael Swe 83.13 332 *e*P **P** **03 04 44.0 +1.1**
K29A Lazy Trails An 83.17 341 ⇑P **P** **03 04 44.2 +1.4**
baz=84
ECSD EROS Data Cent 83.17 344 ⇓P **P** **03 04 43.8 +1.0**
baz=84
ECSD EROS Data Cent 83.17 344 *e*P **P** **03 04 42.5 -0.2**
comp=Z,15nm,1.1s
N22A Wattenberg Ran 83.20 336 ⇓P **P** **03 04 45.8 +2.5**
baz=84
O20A White River Ci 83.21 334 ⇑P **P** **03 04 45.9 +2.6**
baz=84
M24A Cheyenne 83.28 337 ⇓P **P** **03 04 44.8 +1.2**
baz=84
K28A Ten Mile Ranch 83.41 340 ⇓P **P** **03 04 46.1 +2.0**
baz=84
J30A Dallas 83.48 341 ⇓P **P** **03 04 45.6 +1.2**
baz=84
ISA Isabella, Lake 83.53 325 ⇑P **P** **03 04 46.3 +1.4**
baz=84
TPNV Topopah Spring 83.60 327 ⇑P **P** **03 04 46.2 +0.9**
baz=84
J29A Okreek 83.77 341 ⇑P **P** **03 04 47.3 +1.4**
baz=84
M22A Cedar Creek Ra 83.79 336 ⇑P **P** **03 04 48.1 +1.8**
baz=84
N20A Spence Gulch, 83.84 334 ⇑P **P** **03 04 49.0 +2.4**
baz=84
J28A Allard Ranch, 84.03 340 ⇓P **P** **03 04 49.6 +2.4**
baz=84
J27A Elkhorn Farm, 84.08 340 ⇓P **P** **03 04 49.0 +1.5**
baz=84
L23A Garrett 84.14 337 ⇑P P 03 04 51.2 +3.2
baz=84
K24A Anderson Ranch 84.42 338 ⇑P **P** **03 04 52.1 +2.8**
baz=85
R11A Troy Canyon, C 84.49 328 ⇑P **P** **03 04 51.8 +2.0**
baz=85
DAU Daniels Canyon 84.54 332 *e*P **P** **03 04 49.7 -0.6**
DAU pmax pmax
comp=Z,1.0nm,1.5s
DAU Daniels Canyon 84.54 332 *e*P **P** **03 04 49.7 -0.6**
comp=Z,0.8nm,1.5s
I28A Midland 84.55 340 ⇑P **P** **03 04 51.0 +1.2**
baz=85
JLU Jordanelle 84.78 332 *e*P **P** **03 04 53.9 +2.5**
K22A Casper 84.89 336 ⇑P **P** **03 04 52.9 +1.2**
baz=85
K22A Casper 84.89 336 *e*P **P** **03 04 51.6 -0.1**
comp=Z,51nm,1.7s
J24A Dixon Ranch, L 84.92 338 ⇑P **P** **03 04 53.1 +1.3**
baz=85
DUG Dugway, Tooele 84.95 331 *e*P **P** **03 04 53.0 +0.9**
DUG Dugway, Tooele 84.95 331 ⇓P **P** **03 04 54.0 +1.9**
baz=85
DUG Dugway, Tooele 84.95 331 *e*P **P** **03 04 53.0 +0.9**
TPH Tonopah 84.96 327 *e*P **P** **03 04 53.5 +1.2**
TPH Tonopah 84.96 327 *e*P **P** **03 04 53.5 +1.2**
G30A Faulkton 85.09 342 ⇓P **P** **03 04 53.9 +1.5**
baz=85
I25A Rochford 85.28 339 ⇑P **P** **03 04 54.8 +1.1**
baz=86
RSSD Black Hills 85.46 339 *e*P **P** **03 04 54.8 +0.1**
RSSD Black Hills 85.46 339 *e*P **P** **03 04 54.8 +0.1**
HWUT Hardware Ranch 85.70 333 *e*P **P** **03 04 55.8 -0.1**
comp=Z,40nm,1.7s
NVAR Mina Array Bea 85.73 326 P **P** **03 04 56.5 +0.4**
comp=Z,0.8nm,0.8s,baz=148,slow=6.4,SNR=6.2
NVAR Mina Array Bea 85.73 326 P **P** **03 04 56.5 +0.4**
H25A Fruitdale 85.79 339 ⇓P **P** **03 04 58.0 +1.9**
baz=86
I22A 9 Mile Ranch, 85.99 337 ⇑P **P** **03 04 57.9 +0.7**
baz=86
PDAR Pinedale Array 86.00 334 P **P** **03 04 57.1 -0.2**
comp=Z,3.3nm,1.1s,baz=152,slow=6.0,SNR=11
PDAR Pinedale Array 86.00 334 P **P** **03 04 57.1 -0.2**
J20A Shoshoni 86.02 336 ⇓P **P** **03 04 58.9 +1.5**
baz=86
G27A Dupree 86.03 341 ⇑P **P** **03 04 59.7 +2.5**
baz=86
G26A Maurine 86.13 340 ⇑P **P** **03 04 58.6 +0.9**
baz=86
F28A McLaughlin 86.17 341 ⇓P **P** **03 04 59.4 +1.5**
baz=86
I21A Big Trails, Te 86.18 336 ⇑P **P** **03 05 00.5 +2.4**
baz=86
H24A Dirks Ranch, A 86.18 339 ⇑P **P** **03 04 59.3 +1.3**
baz=86
J19A Crowheart 86.27 335 ⇓P **P** **03 04 59.6 +1.0**
baz=87
E30A Jud 86.32 343 ⇑P **P** **03 04 59.9 +1.3**
baz=87
ELK Elko 86.38 330 P **P** **03 04 58.8 -0.5**
ELK Elko 86.38 330 P **P** **03 04 58.8 -0.5**
comp=Z,2.4nm,0.9s,baz=124,slow=6.3,SNR=5.5
ELK Elko 86.38 330 P **P** **03 04 58.8 -0.5**
F27A Lemmon 86.51 341 ⇑P **P** **03 05 02.6 +3.0**
baz=87
I20A Worland 86.57 336 ⇓P P 03 05 03.3 +3.3
baz=87
TORD Torodi Ar. Bea 86.58 71 P **P** **03 05 00.7 0.0**
comp=Z,4.0nm,0.8s,baz=234,slow=3.8,SNR=21
TORD LR LR 03 42 07.6
comp=Z,118nm,18.1s,baz=90,slow=34
TORD Torodi Ar. Bea 86.58 71 P **P** **03 05 00.7 0.0**
D30A Buchanan 86.86 343 ⇑P **P** **03 05 02.1 +1.0**
baz=87
MSKU Masuku 86.90 90 P **P** **03 05 03.3 +1.0**
comp=Z,10nm,0.7s,baz=234,slow=5.1,SNR=6.8
MSKU Masuku 86.90 90 P **P** **03 05 03.3 +1.0**
I19A Meeteetse 86.93 335 ⇓P P 03 05 05.2 +3.3
baz=87
H20A Greybull 87.01 336 ⇑P **P** **03 05 03.0 +0.9**
baz=87
F24A Ekalaka 87.15 339 ⇑P **P** **03 05 04.0 +1.3**
baz=88
E26A Carlson Angus 87.18 341 ⇓P **P** **03 05 05.0 +2.2**
baz=88
F23A Volborg 87.32 338 ⇑P **P** **03 05 06.0 +2.5**
baz=88
C30A Mose, Pekin 87.35 344 ⇑P **P** **03 05 04.9 +1.3**
baz=88
AGMN Agassiz Nation 87.36 345 ⇑P **P** **03 05 04.6 +1.0**
baz=88
AGMN Agassiz Nation 87.36 345 *e*P **P** **03 05 03.5 -0.1**
comp=Z,8.9nm,0.9s
I17A Pilgrim Ck. 87.37 334 ⇓P **P** **03 05 05.4 +1.4**
baz=88
D26A Manning 87.69 341 ⇓P **P** **03 05 06.4 +1.1**
baz=88
H18A Shoshone NF, C 87.72 335 ⇑P **P** **03 05 07.1 +1.4**
baz=88
B30A Myrvik Farm, E 88.03 344 ⇓P **P** **03 05 07.5 +0.8**
baz=88,SNR=8.3
D25A Fairfield 88.04 340 ⇓P **P** **03 05 08.1 +1.2**
baz=88
C27A Sayler Ranch, 88.09 342 ⇑P **P** **03 05 09.1 +2.0**
baz=88
B29A Wagenman Farm, 88.27 343 ⇓P **P** **03 05 08.7 +0.8**
baz=89
HLID Hailey 88.45 332 ⇓P **P** **03 05 11.1 +2.0**
baz=89
A30A Hobart Farm, 88.48 344 ⇑P **P** **03 05 11.6 +2.7**
baz=89
B28A Dugan Ranch, T 88.49 343 ⇑P **P** **03 05 09.8 +0.8**
baz=89
A29A Manning Farm, 88.67 344 ⇓P **P** **03 05 10.3 +0.4**
baz=89,SNR=5.1
MCMT McKenzie Canyo 88.96 333 *e*P **P** **03 05 12.0 +0.4**
comp=Z,4.0nm,1.3s
ULM Lac du Bonnet 89.22 346 P **P** **03 05 11.9 -0.4**
ULM Lac du Bonnet 89.22 346 P **P** **03 05 11.9 -0.4**
comp=Z,3.4nm,0.9s,baz=180,slow=4.0,SNR=6.6
ULM Lac du Bonnet 89.22 346 P **P** **03 05 11.9 -0.4**
LSZ Lusaka 90.10 109 *e*P **P** **03 05 18.9 +1.3**
LSZ pmax pmax
comp=Z,41nm,1.9s
LSZ Lusaka 90.10 109 P **P** **03 05 18.3 +0.7**
comp=Z,3.1nm,0.8s,baz=137,slow=4.3,SNR=5.7
LSZ Lusaka 90.10 109 *e*P **P** **03 05 18.9 +1.3**
comp=Z,41nm,1.9s
TAM Tamanrasset 95.42 66 *e*P **P** **03 05 42.5 +0.6**
TAM pmax pmax
comp=Z,2.0nm,1.1s
TAM Tamanrasset 95.42 66 *e*P **P** **03 05 42.5 +0.6**
comp=Z,1.9nm,1.1s
YKA Yellowknife Ar 104.63 342 PP PP 03 10 41.9 -0.2
comp=Z,0.1nm,0.5s,baz=142,slow=7.1,SNR=2.8
YKA Yellowknife Ar 104.63 342 PP PP 03 10 41.9 -0.2
ASAR Alice Springs 114.11 208 PKIKP PKPdf 03 10 55.2 -1.5
ASAR Alice Springs 114.11 208 PKP PKPdf 03 10 55.2 -1.5
comp=Z,0.3nm,0.7s,baz=142,slow=2.2,SNR=7.0
ASAR Alice Springs 114.11 208 PKP PKPdf 03 10 55.2 -1.5
GERES GERESS Array B 115.36 47 PKIKP **PKPdf** **03 10 58.0 -0.2**
GERES GERESS Array B 115.36 47 PKP **PKPdf** **03 10 58.0 -0.2**
comp=Z,0.7nm,0.7s,baz=318,slow=1.3,SNR=5.2
GERES GERESS Array B 115.36 47 PKP **PKPdf** **03 10 58.0 -0.2**
WRA Warramunga Arr 117.31 210 PKIKP **PKPdf** **03 11 01.5 -1.4**
WRA Warramunga Arr 117.31 210 PKP **PKPdf** **03 11 01.5 -1.4**
comp=Z,0.8nm,0.6s,baz=166,slow=1.4,SNR=14
WRA Warramunga Ar 117.31 210 PKP **PKPdf** **03 11 01.5 -1.4**
WRAB Tennant Creek 117.32 210 *e*PKIKP **PKPdf** **03 11 03.8 +0.9**
WRAB Tennant Creek 117.32 210 *e*PKPdf **PKPdf** **03 11 03.8 +0.9**
DPC Dobruska-Polom 117.56 46 *e*PKIKP **PKPdf** **03 11 02.7 +0.4**
DPC Dobruska-Polom 117.56 46 *e*PKPdf **PKPdf** **03 11 02.7 +0.4**
MORC Moravsky Berou 118.02 47 *e*PKIKP **PKPdf** **03 11 03.7 +0.4**
MORC Moravsky Berou 118.02 47 *e*PKPdf **PKPdf** **03 11 03.7 +0.4**
COEN Coen 118.40 222 *e*PKPdf **PKPdf** **03 11 05.8 +0.8**
KWP Kalwaria Pacla 121.03 49 *e*PKIKP **PKPdf** **03 11 09.6 +0.6**
KWP Kalwaria Pacla 121.03 49 *e*PKPdf **PKPdf** **03 11 09.6 +0.6**
SUW Suwalki 122.86 44 *e*PKIKP **PKPdf** **03 11 12.4 +0.1**
SUW Suwalki 122.86 44 *e*PKPdf **PKPdf** **03 11 12.4 +0.1**
BRTR Keskin Array B 124.55 63 PKIKP **PKPdf** **03 11 16.3 0.0**
BRTR Keskin Array B 124.55 63 PKP **PKPdf** **03 11 16.2 0.0**
comp=Z,1.6nm,0.9s,baz=182,slow=2.9,SNR=9.4
BRTR Keskin Array B 124.55 63 PKP **PKPdf** **03 11 16.2 0.0**
TNA Tin City 124.85 330 *e*PKPdf **PKPdf** **03 11 14.6 -1.2**
KIEV Kiev 125.33 49 *e*PKIKP **PKPdf** **03 11 16.8 -0.3**
KIEV Kiev 125.33 49 *e*PKPdf **PKPdf** **03 11 16.8 -0.3**
AKASG Malin Array Be 125.34 49 PKIKP **PKPdf** **03 11 15.8 -1.3**
AKASG 03 13 04.7
AKASG Malin Array Be 125.34 49 PKP **PKPdf** **03 11 15.8 -1.3**
comp=Z,0.2nm,0.3s,baz=274,slow=2.5,SNR=5.4
AKASG PP **PP** **03 13 04.7 -3.7**
comp=Z,0.3nm,0.4s,baz=256,slow=6.6,SNR=8.8
AKASG Malin Array Be 125.34 49 PKP **PKPdf** **03 11 15.8 -1.3**
AKASG PP **PP** **03 13 04.7 -3.7**
OBN Obninsk 130.68 45 ⇑*i*PKIKP **PKPdf** **03 11 27.6 +0.4**
OBN *e* 03 13 46.1
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,195nm,20.0s
KIV Kislovodsk 132.30 61 *e*PKIKP **PKPdf** **03 11 31.6 +0.8**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 132.30 61 *e*PKPdf **PKPdf** **03 11 31.3 +0.5**
SEY Seymchan 142.03 328 *e*PKIKP **PKPdf** **03 11 47.7 -0.3**
GEYT Alibeck 142.17 74 PKhKP PKPpre 03 11 42.3
comp=Z,3.6nm,0.9s,baz=242,slow=3.2,SNR=6.3
PALK Pallekele 142.23 136 *e*PKIKP **PKPdf** **03 11 45.9 -4.1**
PALK Pallekele 142.23 136 *e*PKPdf **PKPdf** **03 11 45.9 -4.1**
ARU Arti 143.04 43 *i* PKIKP PKPbc 03 11 47.8 +0.9
ARU Arti 143.04 43 *e*PKPdf PKPbc 03 11 47.1 +0.1
AKTO Aktyubinsk 143.40 53 PKHKP PKPpre 03 11 46.3
AKTO Aktyubinsk 143.40 53 PKPbc PKPpre 03 11 46.2
comp=Z,4.0nm,0.9s,baz=323,slow=2.4,SNR=16
AKTO Aktyubinsk 143.40 53 PKPpre PKPpre 03 11 46.2
TIXI Tiksi 143.55 348 *e*PKHKP PKPpre 03 11 46.4
TIXI Tiksi 143.55 348 *e*PKPdf PKPab 03 11 46.4 -0.5
KSM Kuching 144.27 187 *e*PKPdf **PKPab** **03 11 51.7 +0.3**
AB31 Akbulak array 144.69 55 *i* PKIKP **PKPab** **03 11 52.1 +0.2**
AB31 pmax pmax
comp=Z,19nm,0.8s
ABKAR Akbulak array 144.69 55 *e*PKPdf **PKPab** **03 11 51.9 -0.1**
PSI Prapat 145.12 167 PKIKP **PKPbc** **03 11 53.7 -0.9**
PSI Prapat 145.12 167 PKPbc **PKPbc** **03 11 53.7 -0.9**
comp=Z,55nm,1.0s,baz=180,slow=5.1,SNR=44
PSI Prapat 145.12 167 PKPbc **PKPbc** **03 11 53.7 -0.9**
POO Poona 146.08 114 *e*P **PKPdf** **03 11 55.0 -1.5**
LHMI Lhok Sumawe 147.07 163 *e*PKPbc **PKPbc** **03 11 59.9 -0.5**
IPM Ipoh 147.10 170 *e*PKPbc **PKPdf** **03 11 58.7 +0.3**
KKM Kota Kinabalu 147.70 199 *e*PKPbc **PKPbc** **03 12 03.0 +0.7**
KULM Kulim 147.84 169 *e*PKPbc **PKPbc** **03 12 01.8 -0.8**
HYB Hyderabad 148.66 121 *i* PKP **PKPbc** **03 12 03.5 -1.1**
KBL Kabul 149.85 84 *e*PKP2 **PKPbc** **03 12 07.7 +0.4**
KBL Kabul 149.85 84 *e*PKPbc **PKPbc** **03 12 07.7 +0.4**
BRVK Borovoye 150.45 46 *e*PKIKP **PKPbc** **03 12 08.1 +0.2**
BRVK *e* 03 12 13.9
BRVK Borovoye 150.45 46 *e*PKPbc **PKPbc** **03 12 08.1 +0.2**
BRVK *e*PKPab **PKPab** **03 12 13.8 -0.7**
BVA0 Borovoye Array 150.52 46 *i* PKIKP **PKPbc** **03 12 08.2 +0.1**
BVA0 pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 150.52 46 PKIKP **PKPdf** **03 12 02.4 -0.3**
BVAR 03 12 08.4
BVAR Borovoye Array 150.52 46 PKP **PKPdf** **03 12 02.4 -0.3**
comp=Z,5.4nm,0.8s,baz=238,slow=1.4,SNR=6.0
BVAR PKPbc **PKPbc** **03 12 08.4 +0.4**
comp=Z,5.5nm,0.8s,baz=298,slow=3.1,SNR=28
BVAR Borovoye Array 150.52 46 PKP **PKPdf** **03 12 02.4 -0.3**
BVAR PKPbc **PKPbc** **03 12 08.4 +0.4**
DZET Dzherino 150.59 75 PKIKP **PKPbc** **03 12 08.7 -0.1**
DZET pmax pmax
comp=Z,25nm,0.8s
YAK Yakutsk 151.19 337 *e*PKIKP **PKPbc** **03 12 07.2 -2.1**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK Yakutsk 151.19 337 PKP **PKPdf** **03 12 03.8 +0.4**
comp=Z,12nm,0.5s,baz=357,slow=1.2,SNR=3.7
YAK PKPbc **PKPbc** **03 12 08.5 -0.8**
comp=Z,16nm,0.5s,baz=130,slow=1.2,SNR=6.5
YAK Yakutsk 151.19 337 *e*PKPdf **PKPdf** **03 12 03.9 +0.5**
YAK *e*PKPbc **PKPbc** **03 12 08.8 -0.5**
YAK *e*PKPab **PKPab** **03 12 16.5 -0.7**
YSS Yuzh-Sakhalins 151.43 302 *e*PKIKP **PKPbc** **03 12 09.8 -0.5**
KK31 Karatay Array 152.19 66 *i* PKIKP **PKPbc** **03 12 12.0 -0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 152.19 66 *e*PKIKP **PKPdf** **03 12 05.9 +0.3**
KKAR *e* 03 12 11.9
KKAR *e* 03 12 21.7
KKAR Karatay Array 152.19 66 *e*PKPdf **PKPdf** **03 12 05.9 +0.3**
KKAR *e*PKPbc **PKPbc** **03 12 11.9 -0.4**
KKAR *e*PKPab **PKPab** **03 12 21.7 -0.5**
AAK Ala-Archa 155.12 67 *e*PKIKP **PKPdf** **03 12 10.3 +0.3**
AAK *e* 03 12 19.2
AAK *e* 03 12 35.0
AAK Ala-Archa 155.12 67 PKP **PKPdf** **03 12 10.1 +0.1**
comp=Z,1.2nm,0.7s,baz=135,slow=2.9,SNR=5.0
AAK PKPbc PKPbc 03 12 19.3
comp=Z,3.8nm,0.7s,baz=154,slow=1.9,SNR=13
AAK PKPab **PKPab** **03 12 34.7 -0.1**
comp=Z,6.3nm,1.1s,baz=236,slow=5.8,SNR=9.6
AAK Ala-Archa 155.12 67 *e*PKPdf **PKPdf** **03 12 10.2 +0.3**
AAK *e*PKPbc PKPbc 03 12 19.2
AAK *e*PKPab **PKPab** **03 12 35.0 +0.2**
TKM2 Tokmak 2 155.92 67 *e*PKIKP **PKPdf** **03 12 11.1 0.0**
TKM2 *e* 03 12 21.1
TKM2 *e* 03 12 38.0
TKM2 Tokmak 2 155.92 67 *e*PKPdf **PKPdf** **03 12 11.1 0.0**
TKM2 *e*PKPbc PKPbc 03 12 21.1
TKM2 *e*PKPab **PKPab** **03 12 38.0 -0.3**
KURK Kurchatov 156.11 47 *e*PKIKP **PKPdf** **03 12 10.9 +0.1**
KURK *e* 03 12 20.5
KURK Kurchatov 156.11 47 *e*PKPdf **PKPdf** **03 12 10.9 +0.1**
KURK *e*PKPbc PKPbc 03 12 20.5
KURK *e*PKPab **PKPab** **03 12 38.8 +0.3**
KSH Kashi 156.19 75 PKP **PKPdf** **03 12 12.3 +0.9**
KSH *ep*PKP **pPKPdf** **03 12 23.0 +1.4**
KSH PKS **PKSdf** **03 15 44.9 -0.6**
KSH PP **PP** **03 16 19.6 +2.0**
KSH SKS **SKSdf** **03 19 13.3 -2.2**
KSH SKKS **SKKSac** **03 23 02.9 -1.6**
KSH PPMZ
comp=Z,57nm,3.5s
KSH LN
comp=Z,57nm,4.7s
KSH LE
comp=Z,77nm,5.1s
KSH LZ
comp=Z,180nm,7.3s
NVS Novosibirsk 156.36 34 *e*PKIKP **PKPdf** **03 12 06.9 -4.0**
NVS pmax pmax
comp=E,4.0nm,1.7s
NVS pmax pmax
comp=Z,8.0nm,1.7s
ZALV Zalesovo Beam 157.64 35 PKIKP **PKPdf** **03 12 11.7 -0.9**
ZALV Zalesovo Beam 157.64 35 PKP **PKPdf** **03 12 11.7 -0.9**
comp=Z,3.9nm,1.0s,baz=270,slow=1.5,SNR=15
ZALV PKPab **PKPab** **03 12 45.2 +0.2**
comp=Z,1.8nm,0.6s,baz=301,slow=5.3,SNR=5.4
ZALV Zalesovo Beam 157.64 35 PKP **PKPdf** **03 12 11.7 -0.9**
ZALV PKPab **PKPab** **03 12 45.2 +0.2**
BOD Bodaibo 158.73 349 *e*PKP2 **PKPab** **03 12 47.9 -1.6**
BOD pmax pmax
comp=Z,4.0nm,1.9s
MK31 Makanchi Array 159.83 54 *i* PKIKP **PKPdf** **03 12 14.3 -1.2**
MKAR Makanchi Array 159.83 54 PKIKP **PKPdf** **03 12 15.1 -0.4**

MKAR								03 12 54.5	
MKAR								03 16 34.3	
MKAR	**Makanchi Array**	**159.83**	**54**	PKP		**PKPdf**		**03 12 15.1**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=299,slow=1.5,SNR=9.9								
MKAR				PKPab		**PKPab**		**03 12 54.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=289,slow=3.7,SNR=11								
MKAR				PP		**PP**		**03 16 34.3**	**-2.7**
	comp=Z,1.5nm,1.1s,baz=309,slow=3.9,SNR=5.2								
MKAR	**Makanchi Array**	**159.83**	**54**	PKP		**PKPdf**		**03 12 15.1**	**-0.4**
MKAR				PKPab		**PKPab**		**03 12 54.5**	**-0.3**
MKAR				PP		**PP**		**03 16 34.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**160.27**	**159**	PKIKP		**PKPdf**		**03 12 16.7**	**-0.1**
CMAR								03 12 56.8	
CMAR	**Chiang Mai Arr**	**160.27**	**159**	PKP		**PKPdf**		**03 12 16.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=252,slow=2.4,SNR=4.6								
CMAR				PKPab		**PKPab**		**03 12 56.8**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=209,slow=4.6,SNR=5.2								
CMAR	**Chiang Mai Arr**	**160.27**	**159**	PKP		**PKPdf**		**03 12 16.7**	**-0.1**
CMAR				PKPab		**PKPab**		**03 12 56.8**	**-0.4**
CN2	**Changchun**	**163.99**	**300**	*e*PKP		**PKPdf**		**03 12 21.4**	**+1.6**
WMQ	**Urumqi**	**164.41**	**59**	*e*PKP		**PKPdf**		**03 12 21.5**	**+1.2**
WMQ				pPKP		**pPKPdf**		**03 12 32.0**	**+1.5**
WMQ				LN					
	comp=Z,150nm,20.4s								
WMQ				LE					
	comp=Z,280nm,36.2s								
WMQ				LZ					
	comp=Z,160nm,20.6s								
TLY	**Talaya**	**165.39**	**6**	*e*PKP2		**PKPab**		**03 13 23.7**	**+4.8**
TLY				pmax		pmax			
	comp=Z,80nm,1.0s								
ZAK	**Zakamensk**	**166.63**	**8**	*e*PKP2		**PKPab**		**03 13 21.1**	**-3.4**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
NJ2	**Nanjing**	**168.43**	**247**	*e*PKP		**PKPdf**		**03 12 24.6**	**+0.9**
SONM	**Songino Array**	**169.35**	**360**	PKP2		**PKPab**		**03 13 36.7**	**+0.1**
SONM	**Songino Array**	**169.35**	**360**	PKPab		**PKPab**		**03 13 36.7**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=340,slow=6.0,SNR=5.6								
SONM	**Songino Array**	**169.35**	**360**	PKPab		**PKPab**		**03 13 36.7**	**+0.1**
CD2	**Chengdu**	**173.41**	**161**	PKP		**PKPdf**		**03 12 26.0**	**-0.4**
GTA	**Gaotai**	**174.47**	**64**	*e*PKP		PKPdf		03 12 33.3	+6.7
GTA				pPKP		pPKPdf		03 12 43.4	+6.6
GTA				sPKP				03 12 47.5	
GTA				PKPab		**PKPab**		**03 14 00.8**	**+1.0**
HHC	**Hu-ho-hao-te**	**174.48**	**313**	*e*PKP		**PKPdf**		**03 12 26.8**	**+0.2**
HHC				sPKP				03 12 40.8	
HHC				PP		**PP**		**03 17 53.9**	**+1.9**
HHC				SKS		**SKSdf**		**03 19 25.8**	**-1.6**
HHC				SKKS		**SKKSac**		**03 24 37.8**	**+1.6**
HHC				SS		**SS**		**03 39 15.4**	**+4.4**
HHC				PPMZ					
	comp=Z,190nm,10.0s								
HHC				LN					
	comp=Z,160nm,20.1s								
HHC				LE					
	comp=Z,150nm,19.6s								
HHC				LZ					
	comp=Z,79nm,19.3s								
LZH	**Lanzhou**	**177.77**	**119**	*e*PKP		**PKPdf**		**03 12 26.9**	**-0.6**
LZH				pPKP		**pPKPdf**		**03 12 37.1**	**-0.6**
LZH				sPKP				03 12 41.0	
LZH				LN					
	comp=Z,240nm,15.5s								
LZH				LE					
	comp=Z,190nm,13.4s								
LZH				LZ					
	comp=Z,170nm,18.8s								

IDC 18 02:58:44.6±2.7, 6°55S×147°86E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/37, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=79.7km s-min=41.6km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.70**	**223**	P	P	03 03 04.8	0.0
	0.1nm,0.3s,baz=50,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**21.67**	**217**	P	P	03 03 36.9	-0.3
	0.2nm,0.5s,baz=43,slow=10,SNR=6.6						
STKA	**Stephens Creek**	**25.87**	**192**	P	P	03 04 18.4	+0.3
	1.4nm,0.9s,baz=6.3,slow=9.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**146.05**	**284**	PKPbc	PKPdf	03 18 26.7	-0.2
	0.2nm,0.4s,baz=75,slow=3.7,SNR=9.3						

*ISCJB **18** 03:04:23.5±0.6, 17°.36S±0°.06×70°.00W±0°.10, h117km, mb4.0/9, Error ellipse: s-maj=13.9km s-min=8.4km az=163.2*
*IDC **18** 03:04:26.9±1.4, 17°.46S×69°.86W, h141km±11km, mb3.6/7, mb1 3.7/11, mb1mx3.4/46, mbtmp4.1/11, MS3.9/2, Ms1 3.9/2, ms1mx3.2/40, Error ellipse: s-maj=18.7km s-min=11.7km az=102.0*
*NEIC **18** 03:04:27.2±0.9, 17°.39S×69°.92W, h141km±9km, mb4.3/4, Error ellipse: s-maj=13.0km s-min=11.3km az=54.0*
ISC 18 03:04:24.9±0.7, 17°43S±0°.06×70°00W±0°.08, h117km, n17, σ1§76/19, mb4.3/9, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.12**	**58**	P	**Pn**	**03 05 02.5**	**+2.3**
	27nm,0.3s,baz=253,slow=8.6,SNR=667						
LPAZ				S	**Sn**	03 05 29.9	+2.6
	3.2nm,0.3s,baz=359,slow=23,SNR=5.7						
LPAZ	**La Paz**	**2.12**	**58**	*e*Pn	**Pn**	**03 05 02.9**	**+2.6**
LPAZ				*e*Sn	**Sn**	**03 05 28.8**	**+1.6**
LVC	**Limon Verde**	**5.25**	**169**	P	**Pn**	**03 05 44.5**	**+3.0**
	37nm,0.3s,baz=346,slow=12,SNR=24						
LVC				S	**Sn**	**03 06 41.9**	**+0.8**
	82nm,0.3s,baz=239,slow=20,SNR=15						
SIV	**San Ignacio**	**8.67**	**82**	P	**Pn**	**03 06 28.1**	**+0.6**
	2.4nm,0.3s,baz=284,slow=11,SNR=26						
SIV				S	**Sn**	**03 08 00.7**	**-2.9**
	0.2nm,0.3s,baz=108,slow=16,SNR=4.5						
PTGA	**Pitinga**	**19.31**	**32**	P	**P**	**03 08 40.7**	**-0.2**
	0.9nm,0.3s,baz=323,slow=23,SNR=5.7						
OTAV	**Otavalo**	**19.43**	**334**	*e*P	**P**	**03 08 42.5**	**-0.3**
	1.3nm,0.8s						
BDFB	**Brasilia**	**21.15**	**88**	P	**P**	**03 09 01.7**	**+0.8**
	1.0nm,0.5s,baz=285,slow=6.2,SNR=3.4						
ROSC	**El Rosal**	**22.56**	**349**	LR	LR	03 17 51.9	
	comp=Z,367nm,19.0s,baz=201,slow=36						
JTS	**JuntasAbangare**	**31.26**	**331**	P	**P**	**03 10 35.1**	**+1.3**
	1.8nm,0.3s,baz=115,slow=23,SNR=7.8						
HKT	**Hockley**	**53.29**	**332**	*e*P	P	03 13 35.2	+3.5
	5.2nm,1.2s						
WHTX	**Lake Whitney,**	**55.75**	**332**	*e*P	**P**	**03 13 49.7**	**+0.1**
	1.9nm,0.4s						
DBIC	**Dimbokro**	**68.63**	**75**	P	**P**	**03 15 14.9**	**-1.1**
	2.3nm,0.5s,baz=227,slow=7.5,SNR=7.4						
DBIC	**Dimbokro**	**68.63**	**75**	*e*P	**P**	**03 15 15.1**	**-0.9**
	2.9nm,0.6s						
ULM	**Lac du Bonnet**	**71.15**	**343**	P	**P**	**03 15 29.3**	**-1.3**
	2.0nm,0.3s,baz=144,slow=6.1,SNR=11						
ULM				LR	LR	03 48 16.7	
	comp=Z,83nm,21.3s,baz=68,slow=37						
TORD	**Torodi Ar. Bea**	**77.00**	**72**	P	**P**	**03 16 04.0**	**-1.4**
	1.6nm,0.3s,baz=255,slow=4.9,SNR=65						
ESDC	**Sonseca Array**	**83.69**	**45**	P	**P**	**03 16 39.5**	**-1.3**
	0.1nm,0.3s,baz=256,slow=5.4,SNR=3.3						
YKA	**Yellowknife Ar**	**87.03**	**341**	P	**P**	**03 16 56.4**	**-0.3**
	0.3nm,0.7s,baz=135,slow=4.9,SNR=8.3						

*NEIC **18** 03:12:35.6, 32°.27N×115°.35W, h15km, ML3.0(PAS), After PAS.*
*MEX **18** 03:12:37.0±0.6, 32°.31N×115°.31W, h7km±12km, MD3.8*
ISC 18 03:12:34.6±0.9, 32°26N±0°.04×115°33W±0°.03, h16km±6km, n16, σ1§16/33, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**9**	*e*P	**Pg**	**03 12 39.1**	**+0.3**
CPBX				*e*S	**Sg**	**03 12 40.7**	**-0.9**
MBIG	**Mexicali**	**0.19**	**38**	*e*P	**Pg**	**03 12 39.9**	**+0.7**
MBIG				*e*S	**Sg**	**03 12 42.1**	**-0.1**
GLA	**Glamis**	**0.90**	**28**	*e*Pg	**Pb**	**03 12 50.8**	**-1.0**
GLA				*e*Sg	**Sg**	**03 13 01.8**	**-2.1**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pb**	**03 12 55.6**	**-0.2**
CBX				*i* S	**Sb**	**03 13 10.0**	**-0.3**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pb**	**03 12 55.6**	**-0.2**
BAR	**Barrett**	**1.21**	**291**	*e*Pn	**Pn**	**03 12 56.7**	**-0.2**
BAR				*e*Sn	**Sb**	**03 13 12.0**	**-0.4**
SPIG	**San Pedro Mart**	**1.22**	**185**	*e*P	**Pn**	**03 12 57.4**	**+0.2**
SPIG				*e*S	**Sb**	**03 13 13.3**	**+0.3**
SPIG	**San Pedro Mart**	**1.22**	**185**	*e*P	**Pn**	**03 12 57.4**	**+0.2**
SPIG				*e*S	**Sb**	**03 13 13.3**	**+0.3**
PFO	**Pinyon Flats O**	**1.64**	**325**	*e*Pn	**Pn**	**03 13 01.5**	**-1.4**
PFO				*e*Pg	**Pg**	**03 13 06.6**	**+0.4**
PFO				*e*Sn	**Sn**	**03 13 23.4**	**-0.4**
PFO				*e*Sg	**Sg**	**03 13 27.4**	**-0.2**
214A	**Organ Pipe Nat**	**2.16**	**97**	*e*Pn	**Pn**	**03 13 09.4**	**-0.6**
214A				*e*Pg	**Pg**	**03 13 17.1**	**+0.9**
214A				*e*Sg	**Sb**	**03 13 42.5**	**+2.6**
LDFC	**Landfair**	**2.82**	**4**	*e*Pn	**Pn**	**03 13 19.3**	**+0.3**
LDFC				*e*Pg	**Pg**	**03 13 28.5**	**-0.1**
MWC	**Mount Wilson**	**3.01**	**311**	*e*Pg	**Pb**	**03 13 28.8**	**+0.9**
MWC				*e*Sg	**Sb**	**03 14 06.8**	**+2.4**
PASC	**Pasadena Art C**	**3.06**	**309**	*e*Pn	**Pn**	**03 13 22.9**	**+0.7**
GSC	**Goldstone, Bar**	**3.27**	**338**	*e*Pg	**Pg**	**03 13 36.7**	**-0.6**
TUC	**Tucson**	**3.85**	**88**	*e*Pn	**Pn**	**03 13 33.8**	**+0.5**
TUC				*e*Pg	**Pg**	**03 13 47.4**	**-1.0**
TUC				*e*Sn	**Sn**	**03 14 18.9**	**+0.6**
TUC				*e*Sg	**Sg**	**03 14 35.4**	**-3.0**
WUAZ	**Wupatki**	**4.62**	**44**	*e*Pn	**Pn**	**03 13 45.9**	**+1.9**

*MEX **18** 03:16:59.6±1.0, 32°.25N×114°.87W, h13km±24km, MD3.9*
*ECX **18** 03:17:00.2±0.7, 32°.14N×115°.13W, h9km, MD3.8, ML4.0*
*NEIC **18** 03:17:00.0, 32°.14N×115°.14W, h9km, MD4.1(MEX), ML3.8(PAS), ML4.0(ECX), After ECX.*
*IDC **18** 03:17:02.0±1.7, 31°.63N×114°.98W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.3/25, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=26.7km s-min=14.0km az=37.0*
ISC 18 03:16:59.8±0.8, 32°11N±0°.02×115°14W±0°.02, h13km±5km, n53, σ1§55/83, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.15**	**215**	⇑*e*P	**Pg**	**03 17 03.8**	**+0.3**
EMX				*e*S	**Sg**	**03 17 06.8**	**+0.8**
EMX				⇓*e*		03 17 09.6	
	comp=E,15μm,0.5s						
EMX	**El Mayor**	**0.15**	**215**	*e*P	**Pg**	**03 17 03.8**	**+0.3**
EMX				*e*S	**Sg**	**03 17 06.8**	**+0.8**
MBIG	**Mexicali**	**0.30**	**350**	*e*P	**Pg**	**03 17 05.3**	**-0.7**
MBIG				*i* S	**Sb**	**03 17 11.3**	**-0.5**
CPBX	**Cerro Prieto**	**0.33**	**335**	*e*P	**Pg**	**03 17 06.3**	**-0.3**
CPBX				⇓*e*P	**Pg**	**03 17 06.3**	**-0.3**
CPBX				*e*S	**Sg**	**03 17 10.8**	**-0.4**
CPBX				*e*S	**Sg**	**03 17 10.9**	**-0.4**
CPBX	**Cerro Prieto**	**0.33**	**335**	*e*P	**Pg**	**03 17 06.3**	**-0.3**
CPBX				*i* S	**Sg**	**03 17 10.1**	**-1.1**
ECBX	**El Chinero**	**0.65**	**173**	*e*P	**Pg**	**03 17 11.7**	**-0.7**
ECBX				*e*S	**Sg**	**03 17 20.9**	**0.0**
RDX	**Rancho Dawling**	**0.71**	**255**	⇑*e*P	**Pg**	**03 17 13.6**	**0.0**
RDX				*e*S	**Sg**	**03 17 23.0**	**+0.1**
RDX				⇓*e*		03 17 25.5	
RDX				AML	AML	03 17 25.5	
	comp=N,5μm,0.5s						
RDX	**Rancho Dawling**	**0.71**	**255**	*e*P	**Pg**	**03 17 13.7**	**0.0**
RDX				*e*S	**Sg**	**03 17 23.0**	**+0.1**
SGL	**Mount Signal**	**0.73**	**317**	⇑*i*P	**Pg**	**03 17 12.3**	**-1.7**
RMX	**La Rumorosa**	**0.93**	**302**	*e*P	**Pg**	**03 17 16.2**	**-1.7**
RMX				*e*S	**Sg**	**03 17 29.3**	**-0.8**
RMX				AML	AML	03 17 30.0	
	comp=N,7μm,0.2s						
RMX				⇓*e*		03 17 30.0	
RMX	**La Rumorosa**	**0.93**	**302**	*e*P	**Pg**	**03 17 15.9**	**-1.9**
RMX				*e*S	**Sg**	**03 17 29.3**	**-0.8**
GLA	**Glamis**	**0.97**	**16**	*e*Pg	**Pg**	**03 17 16.6**	**-2.0**
GLA				*e*Sg	**Sg**	**03 17 27.9**	**-3.4**
SPIG	**San Pedro Mart**	**1.10**	**195**	⇓*e*P	**Pb**	**03 17 19.7**	**-1.2**
SPIG				*e*S	**Sg**	**03 17 35.0**	**-0.5**
SPX	**San Pedro Mart**	**1.10**	**195**	⇓*e*P	**Pb**	**03 17 19.7**	**-1.2**
SPX				*e*S	**Sg**	**03 17 35.5**	**0.0**
SPX				AML	AML	03 17 37.5	
	comp=N,2μm,0.5s						
SPX				⇑*e*		03 17 37.5	
SPX	**San Pedro Mart**	**1.10**	**195**	*e*P	**Pb**	**03 17 19.7**	**-1.2**
SPX				*e*S	**Sg**	**03 17 35.5**	**0.0**
ZAX	**El Zacaton**	**1.14**	**238**	*e*P	**Pb**	**03 17 20.2**	**-1.2**
ZAX				*e*S	**Sg**	**03 17 35.7**	**-0.8**
CBX	**Cerro Bola**	**1.31**	**279**	*e*P	**Pn**	**03 17 22.3**	**-1.6**
CBX				*e*S	**Sb**	**03 17 40.9**	**-0.2**
CBX	**Cerro Bola**	**1.31**	**279**	⇑*e*P	**Pn**	**03 17 22.3**	**-1.6**
CBX				*e*S	**Sb**	**03 17 40.6**	**-0.5**
CBX				AML	AML	03 17 42.6	
	comp=N,6μm,0.3s						
CBX				*e*		03 17 42.6	
CBX	**Cerro Bola**	**1.31**	**279**	*e*P	**Pn**	**03 17 22.3**	**-1.6**
ECNX	**Esteban Cantu**	**1.32**	**250**	*e*P	**Pn**	**03 17 23.0**	**-1.1**
ECNX				*e*S	**Sb**	**03 17 41.0**	**-0.5**
PBX	**Punta Banda**	**1.40**	**255**	⇑*e*P	**Pn**	**03 17 24.1**	**-0.9**
PBX				*e*S	**Sn**	**03 17 43.7**	**+0.3**
PBX	**Punta Banda**	**1.40**	**255**	*e*P	**Pn**	**03 17 24.1**	**-0.9**
PBX				*e*S	**Sn**	**03 17 43.7**	**+0.3**
PFO	**Pinyon Flats O**	**1.86**	**324**	*e*Pn	Pn	03 17 28.6	-2.9
PFO				*e*Pg	**Pb**	**03 17 34.1**	**+0.4**
214A	**Organ Pipe Nat**	**1.98**	**94**	*e*Pn	Pn	03 17 29.9	-3.2
LDFC	**Landfair**	**2.96**	**0**	*e*Pn	**Pn**	**03 17 47.9**	**+1.3**
LDFC				*e*Pg	**Pb**	**03 17 54.3**	**+1.8**
MWC	**Mount Wilson**	**3.23**	**311**	*e*Pn	**Pn**	**03 17 50.8**	**+0.4**
MWC				*e*Pg	**Pb**	**03 17 58.4**	**+1.3**
MWC				*e*Sn	**Sn**	**03 18 28.8**	**0.0**
MWC				*e*Sg	**Sb**	**03 18 39.8**	**+3.3**
PASC	**Pasadena Art C**	**3.28**	**310**	*e*Pg	**Pb**	**03 18 00.0**	**+2.2**
PASC				*e*Sg	**Sb**	**03 18 40.0**	**+2.4**
GSC	**Goldstone, Bar**	**3.47**	**337**	*e*Pg	**Pb**	**03 18 00.7**	**-0.5**
TUC	**Tucson**	**3.70**	**86**	*e*Pn	**Pn**	**03 17 56.9**	**+0.2**
TUC				*e*Pg	**Pg**	**03 18 09.0**	**-1.7**
TUC				*e*Sg	**Sb**	**03 18 53.2**	**+3.4**
SHPR	**Sheep Range**	**4.38**	**360**	*e*Pn	**Pn**	**03 18 05.4**	**-0.9**
SHPR				*e*Pg	Pg	03 18 20.8	-2.9
SHPR				*e*Sn	**Sn**	**03 18 57.9**	**+0.7**
SHPR				*e*Sg	**Sg**	**03 19 15.1**	**-5.4**
ISA	**Isabella, Lake**	**4.50**	**323**	*e*Pg	Pg	03 18 22.6	-3.4
ISA				*e*Sg	**Sb**	**03 19 17.2**	**+4.4**
WUAZ	**Wupatki**	**4.62**	**42**	*e*Pn	**Pn**	**03 18 28.9**	**-0.6**
WUAZ				*e*Pg	**Pb**	**03 18 23.4**	**+2.5**
DAC	**Darwin (Calif)**	**4.62**	**335**	*e*Pn	**Pn**	**03 18 10.0**	**+0.4**
DAC				*e*Pg	**Pg**	**03 18 26.0**	**-2.4**
W18A	**Petrified Fore**	**5.41**	**55**	*e*Pn	**Pn**	**03 18 20.0**	**-0.5**
W18A				*e*Sg	**Sb**	**03 19 42.3**	**+3.0**
ARUT	**Antelope Range**	**5.83**	**13**	*e*Pn	**Pn**	**03 18 26.1**	**-0.1**
ARUT				*e*Pg	**Pb**	**03 18 44.3**	**+2.8**
ARUT				*e*Sg	Sg	03 20 00.9	-6.1
TPH	**Tonopah**	**6.19**	**345**	*e*Pn	**Pn**	**03 18 30.9**	**-0.2**
TPH				*e*Pg	**Pg**	**03 18 58.3**	**0.0**
TPH				*e*Sg	Sg	03 20 10.8	-7.6
R11A	**Troy Canyon, C**	**6.23**	**357**	*e*Pg	Pg	03 18 54.7	-4.5
R11A				*e*Sg	Sb	03 20 10.8	+8.0
121A	**Cookes Peak, D**	**6.24**	**84**	*e*Pn	**Pn**	**03 18 30.2**	**-1.6**
121A				*e*Sg	Sb	03 20 10.7	+7.6
MVU	**Marysvale**	**6.81**	**20**	*e*Pn	**Pn**	**03 18 39.0**	**-0.6**
MVU				*e*Pg	Pg	03 19 06.3	-3.9
NVAR	**Mina Array Bea**	**6.81**	**339**	Pg	Pg	03 19 04.5	-5.8
	comp=N,0.1nm,0.3s,baz=169,slow=16,SNR=2.7						
NVAR				Lg	Lg	03 20 51.9	
	comp=N,0.1nm,0.3s,baz=150,slow=31,SNR=2.4						
LAZ	**Ladron**	**7.08**	**69**	*e*Pn	**Pn**	**03 18 42.7**	**-0.6**
LAZ				*e*Pg	**Pg**	**03 19 13.7**	**-1.6**
LAZ				*e*Sg	Sb	03 20 34.4	+7.2
CMB	**Columbia Colle**	**7.30**	**325**	*e*Pn	**Pn**	**03 18 46.6**	**+0.3**
MVCO	**Mesa Verde**	**7.47**	**45**	*e*Pn	**Pn**	**03 18 49.1**	**+0.4**
MVCO				*e*Pg	Pg	03 19 18.0	-4.8
MVCO				*e*Sg	Sg	03 20 49.5	-11
ANMO	**Albuquerque**	**7.78**	**66**	Pn	Pn	03 18 59.6	+6.7
	comp=N,0.2nm,0.3s,baz=216,slow=10,SNR=4.7						
ANMO				Lg	Lg	03 21 12.9	
	comp=N,0.1nm,0.3s,baz=19,slow=22,SNR=2.3						
TMUT	**Trail Mountain**	**7.85**	**23**	*e*Pg	Pg	03 19 26.1	-3.9
SRU	**San Rafael Swe**	**7.93**	**27**	*e*Pn	**Pn**	**03 18 55.0**	**+0.1**
SRU				*e*Pg	Pb	03 19 22.4	+5.2
SRU				*e*Sg	Sg	03 21 08.6	-5.9
PV10	**Paradox Valley**	**7.99**	**37**	*e*Pn	**Pn**	**03 18 58.0**	**+2.1**
PV01	**Paradox Valley**	**8.06**	**40**	*e*Pn	**Pn**	**03 18 56.9**	**0.0**
MNTX	**Cornudas Mount**	**8.31**	**90**	*e*Pn	**Pn**	**03 18 58.3**	**-1.7**
MNTX				*e*Sn	**Sn**	**03 20 33.0**	**-0.7**
TXAR	**Lajitas Array**	**10.26**	**103**	Pn	**Pn**	**03 19 28.2**	**+1.4**
	comp=N,0.4nm,0.3s,baz=283,slow=13,SNR=14						
TXAR				Lg	Lg	03 22 19.1	
	comp=N,0.1nm,0.3s,baz=279,slow=29,SNR=3.3						
PDAR	**Pinedale Array**	**11.52**	**21**	Pg	Pn	03 20 39.9	+56
	comp=N,0.0nm,0.3s,baz=201,slow=15,SNR=3.0						
PDAR				Lg	Lg	03 23 16.2	
	baz=195,slow=30,SNR=5.1						
ILAR	**Eielson Array**	**38.07**	**339**	P	P	03 24 24.6	+6.8
	comp=N,0.4nm,0.7s,baz=153,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**92.12**	**333**	P	P	03 30 17.0	+7.9
	comp=N,0.2nm,0.6s,baz=46,slow=4.2,SNR=5.1						

*IDC **18** 03:21:43.2±1.4, 37°.22S×74°.14W, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.8/36, mbtmp3.7/10, ML3.5/3, MS3.3/2, Ms1 3.3/2, ms1mx3.1/24, Error ellipse: s-maj=30.5km s-min=19.6km az=59.0*
*ISCJB **18** 03:21:47.8±0.9, 37°.17S±0°.08×73°.8W±0°.1, h33km, mb3.8/7, MS4.0/1, Error ellipse: s-maj=14.2km s-min=11.2km az=9.7*
*NEIC **18** 03:21:48.0, 37°.40S×73°.80W, h32km, mb4.3/2, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at Coronel and Lota.
ISC 18 03:21:49.0±1.0, 37°21S±0°.10×74°0W±0°.1, h35km, n17, σ1§16/17, mb3.8/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.43**	**144**	P	**Pn**	**03 22 53.8**	**0.0**
	1.6nm,0.3s,baz=327,slow=12,SNR=21						
PLCA				Lg	Lg	03 24 06.0	
	6.5nm,0.3s,baz=46,slow=18,SNR=5.6						
PLCA	**Paso Flores**	**4.43**	**144**	*e*Pn	**Pn**	**03 22 54.5**	**+0.7**
CFAA	**Coronel Fontan**	**7.34**	**42**	Pn	**Pn**	**03 23 31.9**	**-1.8**
	0.2nm,0.3s,baz=209,slow=6.6,SNR=13						
CFAA				Sn	**Sn**	**03 24 55.4**	**-0.4**
	0.2nm,0.3s,baz=239,slow=18,SNR=2.3						
CFAA				LR	LR	03 26 56.2	
	comp=Z,43nm,18.4s,baz=222,slow=42						
TRQA	**Tornquist**	**9.57**	**99**	*e*Pn	**Pn**	**03 24 04.5**	**+0.2**
LVC	**Limon Verde**	**15.19**	**18**	Pn	**Pn**	**03 25 21.7**	**+0.5**
	4.0nm,0.3s,baz=143,slow=20,SNR=1.9						
LVC	**Limon Verde**	**15.19**	**18**	P	**P**	**03 25 26.0**	**+0.2**
CPUP	**Villa Florida**	**17.81**	**57**	P	**P**	**03 25 55.2**	**+0.6**
	0.0nm,0.3s,baz=179,slow=18,SNR=3.1						
CPUP	**Villa Florida**	**17.81**	**57**	*e*P	**P**	**03 25 56.4**	**+1.8**
LPAZ	**La Paz**	**21.47**	**16**	P	**P**	**03 26 36.0**	**+0.8**
	5.6nm,1.1s,baz=138,slow=2.9,SNR=8.7						
LPAZ	**La Paz**	**21.47**	**16**	*e*P	**P**	**03 26 37.4**	**+2.2**
	7.0nm,1.0s						
SIV	**San Ignacio**	**24.03**	**32**	P	**P**	**03 27 00.2**	**-0.6**
	1.2nm,0.8s,baz=227,slow=14,SNR=6.9						
BDFB	**Brasilia**	**31.48**	**54**	P	**P**	**03 28 07.0**	**-0.6**
	1.6nm,1.3s,baz=243,slow=9.0,SNR=2.5						
OTAV	**Otavalo**	**37.48**	**353**	*e*P	**P**	**03 29 01.2**	**+1.3**
	13nm,1.2s						
TXAR	**Lajitas Array**	**71.80**	**333**	P	**P**	**03 33 08.5**	**+0.4**
	0.2nm,0.5s,baz=149,slow=7.2,SNR=1.9						
NVAR	**Mina Array Bea**	**85.64**	**327**	P	**P**	**03 34 22.2**	**-1.8**
	0.4nm,0.6s,baz=126,slow=4.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**86.78**	**71**	P	**P**	**03 34 29.9**	**0.0**
	0.6nm,0.8s,baz=215,slow=4.7,SNR=7.6						
YBH	**Yreka Blue Hor**	**90.28**	**326**	LR	LR	04 05 56.2	
	comp=Z,65nm,20.9s,baz=258,slow=29						

CASC 18 03:22:05.6±1.9, 12°03N×87°02W, h35km±14km, MD3.7, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.47**	**328**	*e*P	Pn	03 22 29.8	0.0
CNCH				*e*S	Sn	03 22 48.1	+0.1
VSM	**San Miguel**	**1.85**	**319**	*e*P	Pn	03 22 35.4	+0.2
GBS2	**Las Lilas**	**1.94**	**127**	*i* P	Pn	03 22 37.5	+1.3
GBS3	**Finca Las Im˜¡**	**1.97**	**129**	*i* P	Pn	03 22 36.8	+0.2
GB1A	**Borinquen Arri**	**1.99**	**127**	*i* P

338A	Crockett baz=18	18.26 320	⇓P	P	03 29 02.8 +2.3
735A	Kenedy baz=18	18.37 310	⇓P	P	03 29 04.2 +2.5
834A	Tilden baz=18	18.54 307	⇓P	Pn	03 29 06.4 +2.6
536A	Bastrop baz=18	18.55 314	⇑P	Pn	03 29 06.1 +2.2
337A	Centerville baz=18	18.59 319	⇓P	Pn	03 29 06.4 +2.1
238A	Jacksonville baz=18	18.61 322	⇓P	Pn	03 29 06.5 +1.9
635A	Leesville baz=19	18.64 311	⇑P	Pn	03 29 07.1 +2.1
436A	Wall Ranch, Ga baz=19	18.81 316	⇓P	Pn	03 29 08.8 +1.8
933A	Laredo baz=19,SNR=8.0	18.85 304	⇓P	Pn	03 29 09.9 +2.3
535A	Dale baz=19	18.88 313	⇑P	Pn	03 29 09.2 +1.4
734A	La Parita Cree baz=19	18.92 309	⇓P	Pn	03 29 10.5 +2.1
237A	Washetta, Mont baz=19	19.02 321	⇓P	Pn	03 29 11.5 +1.9
634A	China Grove, S baz=19	19.06 310	⇑P	Pn	03 29 11.9 +1.9
WVT	Waverly 21nm,0.9s	19.07 345	eP	Pn	P 03 29 08.9 -0.4
138A	Matatall Enter baz=19	19.07 324	⇑P	Pn	03 29 11.8 +1.6
336A	Riesel baz=19	19.24 318	⇑P	P	03 29 12.6 +1.3
833A	Chaparral WMA, baz=19,SNR=20	19.29 306	⇓P	P	03 29 13.6 +1.8
435B	Jarrell baz=19	19.34 315	⇓P	P	03 29 13.7 +1.2
137A	Heron Place, G baz=19	19.41 322	⇑P	P	03 29 14.9 +1.8
534A	Blanco baz=20,SNR=11	19.51 312	⇑P	Pn	03 29 19.3 +3.8
335A	Moody baz=20	19.55 316	⇑P	P	03 29 16.3 +1.6
633A	Saathoff Ranch baz=20,SNR=12	19.70 309	⇓P	P	03 29 18.3 +2.0
832A	Faith Ranch, C baz=20,SNR=14	19.71 305	⇓P	P	03 29 18.4 +1.9
MIAR	Mount Ida 64nm,1.9s	19.75 330	eP	P	03 29 15.4 -1.4
434A	Burnet baz=20,SNR=12	19.83 314	⇓P	Pn	03 29 20.4 +1.1
732A	Laxson Ranch, baz=20,SNR=12	19.93 307	⇑P	P	03 29 20.9 +2.2
533A	Kerrville baz=20	19.93 311	⇑P	Pn	03 29 21.3 +0.7
WHTX	Lake Whitney, baz=20	20.03 318	⇓P	Pn	03 29 22.6 +0.9
WHTX	Lake Whitney,	20.03 318	eP	P	03 29 18.3 -1.6
334A	Lometa baz=20,SNR=13	20.12 315	⇓P	Pn	03 29 23.4 +0.6
632A	Uvalde baz=20,SNR=26	20.18 309	⇑P	P	03 29 23.7 +2.2
433A	Art baz=20,SNR=13	20.36 313	⇓P	P	03 29 25.9 +2.3
234A	Clairette baz=20	20.48 317	⇓P	Pn	03 29 27.6 +0.6
532A	Rocksprings baz=21,SNR=13	20.59 310	⇑P	P	03 29 28.3 +2.2
333A	Richland Sprin baz=21,SNR=7.5	20.62 314	⇓P	Pn	03 29 29.5 +0.8
JCT	Junction City baz=21,SNR=10	20.71 311	⇑P	P	03 29 29.1 +1.7
JCT	Junction City 13nm,0.9s	20.71 311	eP	P	03 29 27.7 +0.3
631A	Perdido Creek baz=21,SNR=36	20.72 307	⇓P	P	03 29 29.2 +1.8
WCI	Wyandotte Cave 17nm,1.0s	20.78 350	eP	P	03 29 28.2 +0.2
USIN	University of 31nm,1.1s	20.78 347	eP	P	03 29 27.6 -0.4
Z35A	Perchaven, San baz=21	20.82 321	⇓P	Pn	03 29 32.5 +1.7
432A	Menard baz=21,SNR=19	20.93 312	⇓P	P	03 29 31.7 +2.0
233A	Rising Star baz=21	20.99 316	⇓P	Pn	03 29 33.2 +0.2
531A	Rocksprings baz=21,SNR=12	21.08 309	⇑P	P	03 29 33.5 +2.0
332A	Millersview baz=21,SNR=8.6	21.18 313	⇑P	P	03 29 34.4 +2.0
133A	Hamilton Ranch baz=21	21.37 317	⇓P	P	03 29 36.7 +2.2
431A	Sonora baz=21,SNR=8.2	21.40 310	⇓P	P	03 29 36.8 +2.0
232A	Coleman baz=21,SNR=5.9	21.41 314	⇑P	P	03 29 37.2 +2.2
Y34A	Reagan Ranch, baz=22	21.55 322	⇑P	P	03 29 38.8 +2.4
W36A	Wetumka baz=22,SNR=5.8	21.56 326	⇓P	P	03 29 38.6 +2.1
OLIL	Olney 198nm,1.8s	21.62 347	eP	P	03 29 37.3 +0.3
331A	San Angelo baz=22,SNR=20	21.62 312	⇓P	P	03 29 39.2 +2.0
530A	J-C Ranch, Com baz=22,SNR=17	21.66 308	⇑P	P	03 29 39.5 +1.9
Z33A	Whitaker Ranch baz=22	21.71 319	⇓P	P	03 29 39.8 +1.7
BLO	Bloomington 14nm,0.8s	21.73 350	eP	P	03 29 38.7 +0.5
231A	Bronte baz=22	21.90 314	⇑P	P	03 29 41.5 +1.4
430A	Baggett Ranch, baz=22	21.92 310	⇑P	P	03 29 42.1 +1.8
W35A	Tecumseh baz=22	21.92 325	⇑P	P	03 29 41.8 +1.5
TUL1	Leonard baz=22	21.93 328	⇑P	P	03 29 41.9 +1.5
TUL1	Leonard 14nm,0.9s	21.93 328	eP	P	03 29 39.6 -0.8
Y33A	Hilltop Ranch, baz=22	22.11 320	⇓P	P	03 29 44.4 +2.0
Z32A	Haskell baz=22	22.18 318	⇑P	P	03 29 46.0 +2.9
330A	Mertzon baz=22,SNR=11	22.20 311	⇓P	P	03 29 44.8 +1.3
529A	Stev Forest Ra baz=22	22.32 307	⇑P	P	03 29 46.4 +1.7
429A	Davenport Ranc baz=22,SNR=5.3	22.32 309	⇓P	P	03 29 45.7 +1.0
V35A	Meyer Ranch, C baz=22	22.36 326	⇓P	P	03 29 47.3 +2.4
131A	Roby baz=22	22.39 315	⇓P	P	03 29 47.2 +1.8
X33A	Lawton baz=22	22.40 322	⇓P	P	03 29 47.9 +2.5
ACSO	Alum Creek Sta 14nm,0.8s	22.43 358	eP	P	03 29 46.9 +1.2
230A	Sterling City baz=22	22.43 312	⇓P	P	03 29 47.5 +1.7
W34A	Bridge Creek, baz=22	22.47 324	⇑P	P	03 29 48.9 +2.6
W34A	Bridge Creek, 23nm,1.2s	22.47 324	eP	P	03 29 44.2 -2.0
Y32A	R-V Farms, Ver baz=22,SNR=8.7	22.61 319	⇑P	P	03 29 49.6 +1.9
Z31A	Sharp Cattle R baz=23	22.62 317	⇑P	P	03 29 50.0 +2.1
130A	Snyder baz=23	22.73 314	⇓P	P	03 29 50.9 +1.9
V34A	Guthrie baz=23,SNR=6.6	22.77 325	⇓P	P	03 29 51.3 +1.8
V34A	Guthrie 17nm,1.0s	22.77 325	eP	P	03 29 48.5 -0.9
X32A	Elmer baz=23,SNR=7.1	22.79 320	⇓P	P	03 29 51.5 +1.9
329A	Wagon Wheel Ra baz=23	22.83 311	⇓P	P	03 29 51.9 +1.8
SFIN	Lafayette baz=23,SNR=7.4	23.01 350	⇑P	P	03 29 52.9 +1.1
SFIN	Lafayette 21nm,0.9s	23.01 350	eP	P	03 29 51.9 +0.1
TXAR	Lajitas Array 6.5nm,0.8s,baz=120,slow=8.9,SNR=32	23.08 304	P	P	03 29 53.4 +0.6
Y31A	Rekieta Farm, baz=23,SNR=10.0	23.10 318	⇑P	P	03 29 55.0 +2.1
V33A	Lossen Ranch, baz=23	23.19 324	⇑P	P	03 29 55.3 +1.6
U34A	Anderson Ranch baz=23	23.23 326	⇑P	P	03 29 55.6 +1.4
U34A	Anderson Ranch 8.6nm,0.8s	23.23 326	eP	P	03 29 52.8 -1.4
W32A	Sentinel baz=23	23.25 321	⇑P	P	03 29 56.1 +1.7
Z30A	Sanderson Ranc baz=23,SNR=8.7	23.25 315	⇓P	P	03 29 55.6 +1.2
S36A	Lake Cedric, C baz=23,SNR=5.5	23.29 331	⇑P	P	03 29 55.5 +0.8
X31A	McDonald Ranch baz=23	23.36 320	⇓P	P	03 29 57.2 +1.7
129A	Stewart Farms, baz=23	23.37 313	⇓P	P	03 29 56.6 +0.9
R37A	Teagarden Farm baz=23	23.44 334	⇓P	P	03 29 56.9 +0.6
Y30A	Stafford Cattl baz=23	23.46 317	⇑P	P	03 29 58.3 +1.7
V32A	Arapaho baz=24	23.54 323	⇑P	P	03 29 59.5 +2.2
S35A	Otter Creek Ra baz=24	23.59 330	⇓P	P	03 29 58.2 +0.4
228A	UT Block 9, Go baz=24	23.60 311	⇑P	P	03 29 59.0 +1.0
Z29A	Hungry Hill Ra baz=24,SNR=7.4	23.62 315	⇓P	P	03 29 59.2 +1.0
W31A	Holland Ranch, baz=24	23.71 321	⇑P	P	03 29 59.9 +1.0
R36A	Gordon, Harris baz=24,SNR=11	23.74 332	⇓P	P	03 29 59.6 +0.4
Q37A	Longview Farm, baz=24	23.76 335	⇑P	P	03 29 59.6 +0.2
128A	Castleberry Fa baz=24	23.80 312	⇑P	P	03 30 01.2 +1.3
X30A	Coker Ranch, T baz=24,SNR=18	23.80 318	⇑P	P	03 30 01.3 +1.4
Y29A	Porterfield Fa baz=24,SNR=10.0	23.96 316	⇓P	P	03 30 03.2 +1.8
S34A	Willow Spring baz=24	23.99 329	⇓P	P	03 30 02.9 +1.3
V31A	Spring Creek L baz=24	24.05 322	⇓P	P	03 30 04.1 +1.9
Z28A	Tucker Farm, M baz=24,SNR=6.1	24.11 314	⇓P	P	03 30 04.0 +1.1
X29A	Tulia baz=24,SNR=8.7	24.33 317	⇓P	P	03 30 06.3 +1.4
S33A	Kaszmaul Farm, baz=24	24.35 327	⇓P	P	03 30 05.9 +0.9
Y28A	McKinney Farm, baz=24,SNR=9.2	24.37 315	⇑P	P	03 30 06.7 +1.5
U31A	Nine Bar Ranch baz=24	24.46 323	⇑P	P	03 30 07.6 +1.5
T32A	Huddler Ranch, baz=24	24.53 325	⇓P	P	03 30 07.9 +1.3
V30A	Spur Ranch, Mi baz=24	24.54 321	⇓P	P	03 30 07.6 +0.8
AMTX	Amarillo baz=24	24.59 318	⇑P	P	03 30 08.9 +1.7
AMTX	Amarillo 32nm,1.0s	24.59 318	eP	P	03 30 07.5 +0.3
X28A	Dimmitt baz=25	24.70 316	⇑P	P	03 30 09.7 +1.4
W29A	Amarillo baz=25,SNR=5.0	24.72 318	⇓P	P	03 30 10.0 +1.6
MSTX	Muleshoe baz=25	24.76 315	⇓P	P	03 30 10.0 +1.2
MSTX	Muleshoe 12nm,1.0s	24.76 315	eP	P	03 30 09.3 +0.5
KSU1	Kansas State U baz=25,SNR=8.9	24.87 332	⇑P	P	03 30 10.1 +0.5
KSU1	Kansas State U 36nm,0.9s	24.87 332	eP	P	03 30 09.8 +0.1
T31A	Randall Ranch, baz=25	24.88 324	⇑P	P	03 30 11.3 +1.6
R33A	Olander Ranch, baz=25,SNR=5.2	24.89 329	⇑P	P	03 30 11.1 +1.2
S32A	Newby Ranch, P baz=25	24.92 326	⇑P	P	03 30 11.4 +1.3
U30A	WK&E Inc. Balk baz=25	25.04 322	⇑P	P	03 30 12.9 +1.7
V29A	Stinnett baz=25	25.12 320	⇑P	P	03 30 13.7 +1.6
S31A	Mullinville baz=25	25.15 325	⇓P	P	03 30 13.5 +1.3
R32A	Long Quarter, baz=25	25.35 328	⇑P	P	03 30 15.5 +1.6
Q33A	Connelly Farm, baz=25,SNR=18	25.36 330	⇓P	P	03 30 15.3 +1.3
MNTX	Cornudas Mount baz=25,SNR=7.3	25.45 307	⇑P	P	03 30 16.1 +1.1
MNTX	Cornudas Mount 4.0nm,1.0s	25.45 307	eP	P	03 30 15.8 +0.8
V28A	Channing baz=25	25.48 319	⇓P	P	03 30 16.6 +1.2
P33A	Williams Farm, baz=26	25.64 331	⇑P	P	03 30 17.8 +1.2
R31A	Burdett baz=26	25.67 326	⇓P	P	03 30 18.1 +1.2
Q32A	Meitler Ranch, baz=26,SNR=10	25.71 329	⇓P	P	03 30 19.2 +2.0
S30A	Montezuma baz=26	25.71 324	⇑P	P	03 30 18.4 +1.1
V27A	Dan Oppiter Fa baz=26	25.87 318	⇓P	P	03 30 20.2 +1.3
U28A	Mallet baz=26	25.88 320	⇓P	P	03 30 20.3 +1.4
SCIA	State Center 30nm,0.8s	25.98 340	eP	P	03 30 19.5 -0.1
S29A	Ulysses baz=26	26.06 323	⇑P	P	03 30 22.0 +1.5
R30A	Dighton baz=26	26.07 325	⇑P	P	03 30 21.8 +1.3
JFWS	Jewell Farm 11nm,0.6s	26.09 346	eP	P	03 30 20.7 +0.1
Q31A	Ellis baz=26	26.14 328	⇑P	P	03 30 22.4 +1.3
P32A	Huiting Farm, baz=26,SNR=17	26.22 330	⇓P	P	03 30 23.3 +1.5
U27A	Thompson Grove baz=26	26.28 319	⇓P	P	03 30 24.2 +1.6
T28A	Walsh baz=26	26.30 321	⇑P	P	03 30 24.2 +1.5
S28A	Manter baz=26,SNR=5.8	26.49 322	⇑P	P	03 30 25.8 +1.4
V26A	Tequesquite Ra baz=26	26.51 317	⇓P	P	03 30 25.4 +0.8
P31A	Stockton baz=26	26.52 328	⇑P	P	03 30 25.8 +1.2
O32A	Brockman Farm, baz=26	26.57 331	⇑P	P	03 30 26.1 +1.1
T27A	Campo baz=27	26.63 320	⇓P	P	03 30 26.6 +0.9
R29A	Marienthal baz=27	26.64 325	⇑P	P	03 30 26.3 +0.6
U26A	Atchley Ranch, baz=27,SNR=5.2	26.84 318	⇑P	P	03 30 29.1 +1.4
Q29A	Oakley baz=27	26.88 325	⇑P	P	03 30 28.9 +0.9
R28A	Tribune baz=27	26.96 324	⇑P	P	03 30 30.0 +1.4
P30A	Selden baz=27	26.98 327	⇑P	P	03 30 30.2 +1.5
O31A	Woolen Ranch, baz=27	26.98 329	⇓P	P	03 30 30.0 +1.3
T26A	Comanche Natio baz=27	27.24 320	⇓P	P	03 30 32.1 +0.8
O30A	MW Ranch, Wils baz=27	27.36 329	⇓P	P	03 30 32.6 +0.4
P29A	Atwood baz=27	27.38 327	⇑P	P	03 30 33.6 +1.2
R27A	Eads baz=27	27.48 322	⇓P	P	03 30 34.8 +1.4
O29A	4D Ranch, Culb baz=28	27.69 328	⇓P	P	03 30 36.1 +0.9
Y22D	IRB PASSCAL I baz=28	27.72 311	⇓P	P	03 30 37.2 +1.6
T25A	Trinidad baz=28	27.72 319	⇓P	P	03 30 37.1 +1.4
T25A	Trinidad 7.8nm,1.1s	27.72 319	eP	P	03 30 38.3 +2.6
M31A	Lambtecht Ranc baz=28,SNR=5.1	27.75 331	⇓P	P	03 30 36.6 +1.0
P28A	Saint Francis baz=28	27.79 326	⇑P	P	03 30 37.5 +1.4
ANMO	Albuquerque 1.8nm,1.1s,baz=131,slow=14,SNR=3.7	27.84 313	P	P	03 30 36.3 -0.4
ANMO	Albuquerque 52nm,2.8s	27.84 313	eP	P	03 30 38.2 +1.5
N30A	Hueftle Ranch, baz=28	27.85 329	⇑P	P	03 30 37.6 +1.0
R26A	Arlington baz=28	27.88 322	⇓P	P	03 30 37.9 +1.0
KSCO	Kaye Shedlock' baz=28	27.88 324	⇑P	P	03 30 38.1 +1.1
S25A	Robets Cordova baz=28,SNR=6.5	28.06 320	⇓P	P	03 30 40.3 +1.7
O28A	Krutsinger Ran baz=28	28.20 326	⇓P	P	03 30 41.2 +1.4
P27A	Ficken Ranch, baz=28	28.23 325	⇑P	P	03 30 40.8 +0.8
R25A	Fountain Ranch baz=28,SNR=7.4	28.28 320	⇑P	P	03 30 42.1 +1.5
M30A	Dale-Ortello V baz=28	28.32 331	⇑P	P	03 30 41.9 +1.1
Q26A	Hugo baz=28	28.33 323	⇑P	P	03 30 42.3 +1.3
L31A	Butterfield Fa baz=28	28.36 333	⇑P	P	03 30 42.0 +1.0
L30A	Spencer Herefo baz=28	28.57 331	⇑P	P	03 30 44.5 +1.6
M29A	Burnside Ranch baz=28	28.63 329	⇑P	P	03 30 45.1 +1.6
P26A	Davis Ranch, A baz=29	28.66 324	⇑P	P	03 30 45.6 +1.7
Q25A	Bedland, Calha baz=29	28.75 322	⇓P	P	03 30 45.8 +1.0
ECSD	EROS Data Cent baz=29,SNR=8.4	28.77 337	⇓P	P	03 30 44.6 0.0
ECSD	EROS Data Cent 6.8nm,0.8s	28.77 337	eP	P	03 30 44.2 -0.4
SDCO	Great Sand Dun baz=29,SNR=7.1	28.78 319	⇑P	P	03 30 46.4 +1.2
SDCO	Great Sand Dun 7.3nm,1.3s	28.78 319	eP	P	03 30 46.9 +1.7
R24A	Sanders Place, baz=29	28.83 320	⇓P	P	03 30 47.5 +2.0
SPMN	Marine on St. baz=29	28.89 344	⇓P	P	03 30 46.2 +0.4
SPMN	Marine on St. 17nm,1.1s	28.89 344	eP	P	03 30 45.1 -0.6
M28A	Bar X Bar Ranc baz=29	28.93 329	⇑P	P	03 30 47.6 +1.4
OGNE	Ogallala baz=29	28.93 327	⇑P	P	03 30 47.9 +1.7
S23A	Nye Farm, Mont baz=29	29.07 318	⇓P	P	03 30 48.9 +1.2
K30A	Basset baz=29,SNR=12	29.10 332	⇑P	P	03 30 48.6 +1.0
P25A	Willow Gulch B baz=29	29.10 323	⇑P	P	03 30 48.8 +1.0
R23A	Moffat baz=29	29.25 319	⇑P	P	03 30 50.8 +1.4
K29A	Lazy Trails An baz=29	29.48 332	⇑P	P	03 30 51.6 +0.6
M27A	Reverse DX Ran baz=30	29.54 328	⇓P	P	03 30 51.5 -0.1
J30A	Dallas baz=30	29.57 333	⇓P	P	03 30 51.5 -0.3
S22A	4UR Ranch, Cre baz=30	29.63 317	⇑P	P	03 30 53.3 +0.6
S22A	4UR Ranch, Cre 15nm,1.9s	29.63 317	eP	P	03 30 55.0 +2.3
M26A	McRoberts Ranc baz=30	29.89 327	⇓P	P	03 30 54.6 -0.1
L27A	T5 Ranch, Ells baz=30	29.91 328	⇓P	P	03 30 55.2 +0.3
K28A	Ten Mile Ranch baz=30	29.93 330	⇑P	P	03 30 55.8 +0.7
P23A	Jefferson baz=30	30.00 321	⇑P	P	03 30 56.8 +0.8
J29A	Okreek baz=30,SNR=19	30.00 332	⇓P	P	03 30 55.4 -0.2
I30A	Oacoma baz=30	30.02 334	⇓P	P	03 30 55.9 +0.1
ISCO	Idaho Springs baz=30	30.13 322	⇓P	P	03 30 58.8 +1.7
K27A	Flueckinger Fa baz=30	30.34 329	⇑P	P	03 30 59.4 +0.7
J28A	Allard Ranch, baz=30,SNR=7.0	30.42 331	⇓P	P	03 30 59.3 -0.1
I29A	Vivian Onida baz=30,SNR=6.0	30.48 333	⇑P	P	03 30 59.4 -0.4
J27A	Elkhorn Farm, baz=30	30.65 330	⇓P	P	03 31 02.3 +0.9
M24A	Cheyenne baz=31	30.79 325	⇑P	P	03 31 04.0 +1.2
I28A	Midland baz=31,SNR=6.3	30.84 332	⇑P	P	03 31 03.4 +0.3
G30A	Faulkton baz=31,SNR=13	30.91 336	⇑P	P	03 31 03.3 -0.3
H29A	Onida baz=31	30.93 334	⇑P	P	03 31 03.3 -0.5
J26A	Sides Ranch, S baz=31	31.20 329	⇓P	P	03 31 07.9 +1.6
L24A	Wheatland baz=31	31.24 326	⇑P	P	03 31 07.8 +1.0
G29A	Hoven baz=31	31.27 335	⇓P	P	03 31 08.2 +1.4
I27A	Quinn baz=31,SNR=6.5	31.29 331	⇑P	P	03 31 07.1 +0.1
H28A	Mission Ridge baz=31	31.31 333	⇓P	P	03 31 08.7 +1.5
F30A	Leola baz=31	31.45 337	⇑P	P	03 31 08.7 +0.3
J25A	Sunshine Ranch baz=32,SNR=6.3	31.62 329	⇓P	P	03 31 11.3 +1.3
WUAZ	Wupatki baz=32,SNR=7.8	31.63 310	⇓P	P	03 31 12.5 +2.3
WUAZ	Wupatki 14nm,1.1s	31.63 310	eP	P	03 31 12.6 +2.3
I26A	New Underwood baz=32	31.64 330	⇑P	P	03 31 11.2 +1.1
L23A	Garrett baz=32	31.71 325	⇑P	P	03 31 12.7 +1.7
M22A	Cedar Creek Ra baz=32	31.74 323	⇑P	P	03 31 13.2 +2.0
H27A	Howes baz=32,SNR=6.2	31.74 332	⇑P	P	03 31 11.6 +0.6
F29A	Eureka baz=32	31.76 336	⇑P	P	03 31 11.2 +0.1
O20A	White River Ci baz=32	31.92 320	⇑P	P	03 31 15.1 +2.3
E30A	Jud baz=32	31.98 337	⇑P	P	03 31 13.1 +0.1
J24A	Dixon Ranch, L baz=32	32.01 328	⇓P	P	03 31 15.8 +2.4
H26A	Fairpoint baz=32	32.05 331	⇑P	P	03 31 14.2 +0.5
I25A	Rochford baz=32,SNR=8.2	32.05 329	⇓P	P	03 31 15.0 +1.1
F28A	McLaughlin baz=32	32.16 335	⇓P	P	03 31 14.9 +0.3
G27A	Dupree baz=32	32.26 333	⇑P	P	03 31 15.8 +0.2
RSSD	Black Hills 5.9nm,1.1s	32.27 329	eP	P	03 31 16.4 +0.5
E29A	Napoleon baz=32	32.30 337	⇓P	P	03 31 16.0 +0.1
N20A	Spence Gulch, baz=32	32.36 321	⇓P	P	03 31 19.1 +2.4
I24A	Kuemmerle Ranc baz=32	32.37 328	⇑P	P	03 31 18.4 +1.8
113A	Mohawk Valley, baz=32	32.39 304	⇓P	P	03 31 18.2 +1.4
H25A	Fruitdale baz=32	32.43 330	⇓P	P	03 31 17.6 +0.5
D30A	Buchanan baz=32,SNR=6.6	32.44 338	⇓P	P	03 31 16.9 -0.1
G26A	Maurine baz=32	32.49 332	⇑P	P	03 31 17.4 -0.1
J23A	Dilts Ranch, B baz=32	32.52 327	⇑P	P	03 31 18.3 +0.4
K22A	Casper baz=32	32.52 325	⇑P	P	03 31 20.0 +2.0
AGMN	Agassiz Nation baz=32,SNR=14	32.56 342	⇑P	P	03 31 17.6 -0.4
AGMN	Agassiz Nation 12nm,0.7s	32.56 342	eP	P	03 31 17.3 -0.7
F27A	Lemmon baz=33	32.69 333	⇓P	P	03 31 19.7 +0.3
D29A	Pettibone, Tap baz=33	32.70 337	⇑P	P	03 31 19.5 +0.1
E28A	Huff baz=33	32.71 336	⇓P	P	03 31 19.8 +0.3
SRU	San Rafael Swe 7.8nm,0.9s	32.80 316	eP	P	03 31 22.5 +2.0
C30A	Mose, Pekin baz=33,SNR=7.3	32.85 339	⇓P	P	03 31 20.4 -0.2

E27A	Carson baz=33	32.95	335	⇓P	P	03 31 21.8 +0.2
F26A	Lodgepole baz=33	32.95	333	⇑P	P	03 31 22.4 +0.8
H24A	Dirks Ranch, A baz=33,SNR=6.3	32.98	330	⇓P	P	03 31 22.2 +0.3
J22A	Midwest baz=33	33.01	326	⇓P	P	03 31 23.2 +1.0
H23A	Clabaugh Cattl baz=33	33.26	329	⇓P	P	03 31 24.6 +0.2
Y12C	Blythe baz=33	33.32	305	⇑P	P	03 31 26.8 +1.8
GLA	Glamis baz=33	33.33	304	⇑P	P	03 31 27.2 +2.1
W13A	Hualapai Mount baz=33	33.33	308	⇑P	P	03 31 26.6 +1.4
I22A	9 Mile Ranch, baz=33	33.34	327	⇓P	P	03 31 25.6 +0.5
G24A	Alzada baz=33	33.35	330	⇑P	P	03 31 26.1 +1.0
E26A	Carlson Angus baz=33	33.35	334	⇓P	P	03 31 25.3 +0.2
F25A	Bowman baz=33	33.36	332	⇑P	P	03 31 25.4 +0.2
MDND	Maddock baz=33	33.37	338	⇑P	P	03 31 25.4 +0.3
B30A	Myrvik Farm, E baz=33,SNR=6.3	33.45	340	⇑P	P	03 31 25.9 0.0
D27A	Center baz=33	33.48	335	⇑P	P	03 31 27.5 +1.4
J21A	Lysite baz=33	33.49	325	⇓P	P	03 31 27.7 +1.2
I21A	Big Trails, Te baz=34	33.72	326	⇑P	P	03 31 29.2 +0.8
G23A	Biddle baz=34	33.72	329	⇑P	P	03 31 29.1 +0.8
F24A	Ekalaka baz=34	33.75	331	⇑P	P	03 31 28.7 +0.1
H22A	Clearmont baz=34	33.76	328	⇓P	P	03 31 29.6 +0.9
E25A	Miller Ranch, baz=34	33.78	333	⇓P	P	03 31 28.7 -0.1
D26A	Manning baz=34	33.79	334	⇑P	P	03 31 29.2 +0.3
B29A	Wagenman Farm, baz=34,SNR=6.0	33.81	339	⇓P	P	03 31 28.8 -0.1
J20A	Shoshoni baz=34	33.84	325	⇓P	P	03 31 29.9 +0.4
A30A	Hoffart Farm, baz=34	33.87	340	⇓P	P	03 31 28.8 -0.7
BC3	Big Chuckawall baz=34	34.02	304	⇓P	P	03 31 32.6 +1.4
H21A	Big Horn, Sher baz=34	34.14	327	⇓P	P	03 31 32.8 +0.8
B28A	Dugan Ranch, T baz=34	34.15	338	⇑P	P	03 31 32.5 +0.5
A29A	Manning Farm, baz=34,SNR=9.9	34.16	339	P	P	03 31 31.3 -0.7
G22A	Birney baz=34	34.17	329	⇓P	P	03 31 33.2 +0.9
D25A	Fairfield baz=34	34.25	334	⇑P	P	03 31 33.4 +0.5
I20A	Worland baz=34	34.26	325	⇓P	P	03 31 34.2 +1.1
PDAR	Pinedale Array 1.9nm,0.9s,baz=128,slow=11,SNR=12	34.31	323	P	P	03 31 34.1 +0.5
J19A	Crowheart baz=34	34.33	324	⇑P	P	03 31 34.7 +1.0
ULM	Lac du Bonnet 12nm,0.9s,baz=154,slow=8.1,SNR=26	34.33	344	P	P	03 31 32.2 -1.2
B27A	Peters Farms, baz=34	34.44	337	⇑P	P	03 31 34.9 +0.5
H20A	Greybull baz=34	34.55	326	⇓P	P	03 31 36.7 +1.1
BELC	Belle Mtn. Jos baz=34	34.56	305	⇑P	P	03 31 37.7 +1.8
GMRC	Granite Mounta baz=34	34.56	306	⇓P	P	03 31 37.4 +1.5
G21A	Lodge Grass baz=34	34.64	328	⇑P	P	03 31 36.3 0.0
D24A	Glendive baz=34	34.66	333	⇑P	P	03 31 37.1 +0.7
I19A	Meeteetse baz=35	34.79	325	⇑P	P	03 31 38.8 +1.0
HWUT	Hardware Ranch 6.1nm,1.2s	34.83	319	*eP*	P	03 31 38.6 +0.5
DUG	Dugway, Tooele baz=35	34.87	316	⇑P	P	03 31 39.6 +1.2
DUG	Dugway, Tooele 5.0nm,1.2s	34.87	316	*eP*	P	03 31 40.5 +2.1
E22A	Miles City baz=35	34.89	330	⇓P	P	03 31 38.8 +0.4
C24A	Savage baz=35	35.02	333	⇓P	P	03 31 39.9 +0.3
B25A	Knox Farm, Ray baz=35	35.07	335	⇑P	P	03 31 40.2 +0.2
D23A	Lindsay baz=35	35.09	332	⇑P	P	03 31 41.1 +0.9
G20A	Bridger baz=35	35.15	327	⇑P	P	03 31 41.0 +0.2
H19A	Powell baz=35	35.20	326	⇑P	P	03 31 41.7 +0.5
REDW	Red Top Meadow 18nm,1.6s	35.42	322	*eP*	P	03 31 44.6 +1.4
D22A	Cohagen baz=35,SNR=7.6	35.52	331	⇑P	P	03 31 44.4 +0.6
C23A	Lambert baz=35,SNR=7.0	35.56	333	⇓P	P	03 31 45.3 +1.2
I17A	Pilgrim Ck. baz=36	35.60	323	⇑P	P	03 31 46.0 +1.2
DGMT	Dagmar baz=36	35.65	334	⇓P	P	03 31 45.8 +0.8
FXWY	Fox Creek 29nm,2.6s	35.69	323	*eP*	P	03 31 47.0 +1.4
IMW	Indian Meadow	35.79	323	*eP*	P	03 31 47.9 +1.4
TPNV	Topopah Spring baz=36	35.81	309	⇑P	P	03 31 49.4 +2.7
TPNV	Topopah Spring 5.3nm,1.0s	35.81	309	*eP*	P	03 31 49.1 +2.5
C22A	Vida baz=36	35.83	332	⇓P	P	03 31 47.0 +0.5
D21A	La Casta Ranch baz=36	35.84	330	⇓P	P	03 31 48.5 +1.9
R11A	Troy Canyon, C baz=36	35.90	312	⇓P	P	03 31 48.9 +1.4
R11A	Troy Canyon, C	35.90	312	*eP*	P	03 31 49.5 +2.0
A24A	Westby baz=36	35.93	335	⇑P	P	03 31 47.7 +0.4
F19A	Roth Farm, Mol baz=36,SNR=5.3	35.96	327	⇓P	P	03 31 49.0 +1.3
B23A	Brockton baz=36	35.98	334	⇑P	P	03 31 48.5 +0.7
E20A	Meyer Farm, Mu baz=36,SNR=5.6	35.99	329	⇓P	P	03 31 48.7 +0.8
FURC	Furnace Creek, baz=36	36.09	308	⇓P	P	03 31 50.5 +1.7
E19A	Rath Farm, Rou baz=36,SNR=6.3	36.29	328	⇓P	P	03 31 51.5 +0.9
LRMC	Laurel Mtn Rad baz=36	36.37	306	⇑P	P	03 31 52.9 +1.5
EDW2	Edwards Air Fo baz=36	36.40	305	⇑P	P	03 31 53.5 +1.9
D20A	Manuel Ranch, baz=36,SNR=7.8	36.41	329	⇑P	P	03 31 52.4 +0.9
MPMC	Manual Prospec baz=36	36.41	307	⇓P	P	03 31 52.9 +1.0
C21A	Desert Coulee baz=36,SNR=6.9	36.44	331	⇓P	P	03 31 52.5 +0.8
ELK	Elko 0.6nm,0.6s,baz=112,slow=21,SNR=4.2	36.75	316	P	P	03 31 55.6 +0.9
A22A	Carney Farms, baz=37	36.78	333	⇑P	P	03 31 55.6 +1.0
C20A	Veseth Ranch, baz=37,SNR=17	36.78	330	⇑P	P	03 31 55.5 +0.9
D19A	Cripps Ranch, baz=37,SNR=12	36.82	329	⇓P	P	03 31 55.7 +0.7
TPH	Tonopah 3.0nm,0.9s	36.97	310	*eP*	P	03 31 58.6 +2.1
A21A	Bergtoll Ranch baz=37	37.22	332	⇓P	P	03 31 59.2 +0.9
C19A	Slack Wire Ran baz=37,SNR=5.7	37.30	329	⇑P	P	03 31 59.8 +0.8
B20A	Solberg Farm, baz=37,SNR=6.2	37.31	331	⇓P	P	03 32 00.3 +1.2
MCMT	McKenzie Canyo 4.0nm,1.3s	37.45	323	*eP*	P	03 32 02.5 +2.0
A20A	Cobblestone Ra baz=38,SNR=17	37.58	332	⇑P	P	03 32 02.6 +1.1
HLID	Hailey baz=38,SNR=6.0	37.66	320	⇑P	P	03 32 04.3 +1.9
HLID	Hailey 41nm,3.0s	37.66	320	*eP*	P	03 32 04.2 +1.9
B19A	Brinkman Farms baz=38	37.75	330	⇑P	P	03 32 03.1 +0.3
EGMT	Eagleton baz=38,SNR=6.2	37.84	329	⇓P	P	03 32 04.5 +0.8
EGMT	Eagleton 11nm,1.0s	37.84	329	*eP*	P	03 32 04.3 +0.7
NVAR	Mina Array Bea 1.0nm,0.7s,baz=112,slow=8.6,SNR=7.2	37.89	310	P	P	03 32 05.2 +0.8
A19A	Klindworth Far baz=38,SNR=8.6	37.99	331	⇑P	P	03 32 05.7 +0.7
MFID	Camas Ranch 15nm,1.9s	38.46	319	*eP*	P	03 32 10.2 +1.2
SCHQ	Schefferville 2.1nm,0.7s,baz=228,slow=7.7,SNR=4.1	38.76	14	P	P	03 32 10.5 -0.7
SCHQ				LR	LR	03 48 12.5
SIV	comp=Z,155nm,20.1s,baz=64,slow=36 San Ignacio 5.1nm,0.8s,baz=341,slow=7.3,SNR=10	39.26	147	P	P	03 32 15.9 +0.1
WVOR	Wild Horse Val 11nm,1.1s	39.79	316	*eP*	P	03 32 21.9 +1.7
BSMT	Bassoo Peak	40.32	325	*eP*	P	03 32 25.5 +0.9
M04C	Macdoel baz=42	41.68	314	⇓P	P	03 32 36.2 +0.4
NEW	Newport 1.2nm,0.7s,baz=135,slow=17,SNR=3.1	41.84	325	P	P	03 32 36.7 -0.2
NEW	Newport baz=42	41.84	325	⇑P	P	03 32 37.9 +1.0
NEW	Newport 3.7nm,1.0s	41.84	325	*eP*	P	03 32 37.0 +0.1
FCC	Fort Churchill 3.9nm,0.5s	41.94	350	*eP*	P	03 32 37.4 0.0
EDM	Edmonton	43.07	333	*eP*	P	03 32 46.7 -0.1
YKA	Yellowknife Ar 1.2nm,0.8s,baz=135,slow=8.3,SNR=33	50.19	341	P	P	03 33 41.4 -1.0
RES	Resolute Bay 3.8nm,0.8s	57.40	356	*eP*	P	03 34 33.6 -1.4
PLCA	Paso Flores 1.7nm,0.8s,baz=356,slow=11,SNR=3.5	59.12	170	P	P	03 34 46.3 -1.2
INK	Inuvik 2.5nm,1.1s,baz=290,slow=1.6,SNR=3.7	59.95	340	P	P	03 34 52.0 -0.9
ILAR	Eielson Array 1.2nm,1.0s,baz=106,slow=4.6,SNR=6.2	63.52	334	P	P	03 35 16.4 -0.6
ESDC	Sonseca Array 1.2nm,0.9s,baz=284,slow=6.4,SNR=4.6	69.66	54	P	P	03 35 57.5 +0.8
DBIC	Dimbokro comp=Z,40nm,18.4s,baz=7.0,slow=35	75.59	88	LR	LR	04 09 18.6
FINES	FINESS Array B 2.7nm,1.0s,baz=338,slow=2.1,SNR=3.7	82.81	27	P	P	03 37 10.6 -0.4
CN2	Changchun	113.86	339	*e*PKP	PKiKP	03 43 23.3 -2.8
WMQ	Urumqi	117.98	9	*e*PKP	PKPdf	03 43 32.0 -2.1
HHC	Hu-ho-hao-te	120.39	348	*e*PKP	PKPdf	03 43 41.3 +2.4
HHC				PP	PP	03 45 05.8 +2.1
HHC				SKS	SKSdf	03 50 52.3 +0.9
HHC				SKKS	SKKSac	03 51 59.3 -6.0
HHC				SS	SS	04 01 35.1 +3.7
HHC	130nm,19.1s			LN		
HHC	230nm,18.6s			LE		
LZH	Lanzhou	126.19	354	*e*PKP	PKPdf	03 43 47.0 -3.2
LZH				sPKP		03 43 53.6
NJ2	Nanjing	126.67	338	*e*PKP	PKPdf	03 43 52.6 +1.6
CD2	Chengdu	131.32	354	PKP	PKPdf	03 44 00.1 +0.1
STKA	Stephens Creek 1.0nm,0.6s,baz=12,slow=3.2,SNR=4.0	138.45	242	PKP	PKPdf	03 44 14.0 +0.9
WRA	Warramunga Arr 2.2nm,0.7s,baz=87,slow=3.5,SNR=29	145.77	260	PKPbc	PKPdf	03 44 27.1 +0.7
ASAR	Alice Springs 3.6nm,0.9s,baz=103,slow=3.3,SNR=19	146.15	254	PKPbc	PKPdf	03 44 27.9 +0.8

CASC 18 03:26:52.1±3.7, 8°55'N×83°77'W, h6km±25km, MD3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	Cerro Adams	0.60	80	*eP*	Pg	03 27 03.1	-0.7
ACR				*eS*	Sg	03 27 12.7	+1.0
QCR	Quepos	0.96	336	*eP*	Pg	03 27 10.4	-0.1
QCR				*eS*	Sg	03 27 22.8	-0.1
BUS	Buena Vista	1.00	1	*eP*	Pg	03 27 11.2	-0.8
BRU2	Volcan	1.09	77	*eP*	Pg	03 27 13.0	-0.3
BRU2				*eS*	Sb	03 27 28.3	-0.1
TBS2		1.12	77	*eP*	Pg	03 27 13.9	-0.1
TBS2				*eS*	Sn	03 27 32.8	+2.1
URSC	Urasca	1.28	360	*eP*	Pn	03 27 15.8	-1.0
URSC				*eS*	Sn	03 27 39.7	+5.2
CGA2	Cerro Gallo 2	1.61	335	*eP*	Pb	03 27 22.1	-0.5

*ISCJB **18** 03:30:06.9±0.6, 17°.9S±0°.1×178°.5W±0°.1, h579km, mb3.7/11, Error ellipse: s-maj=21.2km s-min=10.5km az=138.2*

*IDC **18** 03:30:09.8±3.6, 17°.95S×178°.56W, h601km±43km, mb3.2/11, mb1 3.4/12, mb1mx3.3/22, mbtmp4.2/12, Error ellipse: s-maj=22.0km s-min=20.1km az=118.0*

ISC 18 03:30:07.4±0.7, 18°.0S±0°.1×178°.3W±0°.1, h579km, n29, σ1°.35/32, mb3.5/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.86	252	P	P	03 33 14.3	-0.7
	1.3nm,0.3s,baz=71,slow=23,SNR=9.5						
URZ	Urewera	20.56	190	P	P	03 34 04.0	-3.0
	4.8nm,0.5s,baz=76,slow=3.9,SNR=7.1						
RPZ	Rata Peaks	27.14	197	P	P	03 35 06.4	+1.0
	3.4nm,0.4s,baz=269,slow=1.6,SNR=6.6						
ARMA	Armidale	29.95	240	P	P	03 35 30.8	+0.8
	baz=34,SNR=8.0						
MGCD	Mangrove Creek	31.29	235	P	P	03 35 42.5	+1.3
	baz=36,SNR=5.6						
CNB	Canberra Magne	33.41	233	P	P	03 36 00.0	+0.7
	baz=38,SNR=34						
CMSA	Cobar Meteorol	35.16	241	P	P	03 36 13.9	0.0
	baz=40,SNR=14						
QLP	Quilpie	35.56	249	P	P	03 36 16.9	-0.3
	baz=40,SNR=10						
TOO	Toolangi	37.16	231	P	P	03 36 30.9	+0.6
	baz=41,SNR=8.1						
STKA	Stephens Creek	38.64	241	P	P	03 36 42.8	+0.5
	8.1nm,0.6s,baz=90,slow=9.1,SNR=21						
STKA	Stephens Creek	38.64	241	P	P	03 36 42.9	+0.6
	baz=43,SNR=12						
BBOO	Buckleboo	43.41	241	P	P	03 37 20.0	-0.1
	baz=48,SNR=17						
WRA	Warramunga Arr	44.68	260	P	P	03 37 28.9	-1.1
	2.5nm,0.7s,baz=92,slow=7.5,SNR=57						
WRA				PcP	PcP	03 38 59.4	-0.5
	0.5nm,0.3s,baz=90,slow=3.8,SNR=5.7						
ASAR	Alice Springs	44.83	254	P	P	03 37 30.6	-0.5
	17nm,0.7s,baz=88,slow=8.6,SNR=267						
ASAR				PcP	PcP	03 38 60.0	-0.5
	0.9nm,0.5s,baz=101,slow=3.6,SNR=6.1						
KDU	Kakadu	47.62	269	P	P	03 37 51.9	-0.5
	baz=52,SNR=3.2						
WRKA	Warakurna	49.88	252	P	P	03 38 08.4	-0.5
	baz=54,SNR=47						
WRKA				S	S	03 44 41.9	+5.0
	baz=54,SNR=12						
KNRA	Kununurra	50.54	264	P	P	03 38 13.2	-0.6
	baz=55,SNR=4.1						
MEEK	Mekatharra	58.46	249	P	P	03 39 08.0	-1.1
	baz=63,SNR=4.6						
VNDA	Vanda	60.35	185	P	P	03 39 21.2	+0.5
	0.7nm,0.5s,baz=0.9,slow=6.7,SNR=5.5						
PETK	Petropavlovsk-	73.80	345	P	P	03 40 43.1	-0.2
	1.0nm,0.6s,baz=145,slow=8.5,SNR=3.3						
NVAR	Mina Array Bea	79.45	44	P	P	03 41 16.3	+1.5
	0.3nm,0.6s,baz=206,slow=12,SNR=2.8						
SEY	Seymchan	83.89	347	P	P	03 41 36.2	-0.3
	0.6nm,0.5s,baz=135,slow=8.7,SNR=4.0						
ILAR	Eielson Array	85.97	13	P	P	03 41 45.9	-0.7
	0.2nm,0.5s,baz=235,slow=7.6,SNR=3.2						
TXAR	Lajitas Array	86.00	58	P	P	03 41 49.6	+2.0
	1.4nm,0.7s,baz=224,slow=5.9,SNR=12						
PDAR	Pinedale Array	87.38	43	P	P	03 41 54.6	+0.5
	0.5nm,0.7s,baz=242,slow=9.5,SNR=3.6						
MKAR	Makanchi Array	109.25	314	PKiKP	PKiKP	03 47 30.8	-1.5
	0.1nm,0.5s,baz=83,slow=2.7,SNR=3.9						
BRTR	Keskin Array B	144.90	315	PKP	PKPdf	03 48 39.5	-0.2
	1.0nm,0.8s,baz=131,slow=4.2,SNR=6.2						
GERES	GERESS Array B	147.73	345	PKPbc	PKPbc	03 48 47.4	-0.4
	1.1nm,0.6s,baz=27,slow=3.4,SNR=8.7						
TORD	Torodi Ar. Bea	175.16	180	PKPab	PKPab	03 50 52.0	-0.1
	0.2nm,0.5s,baz=198,slow=5.0,SNR=6.8						

*IDC **18** 03:47:15.0±14.0, 53°.73N×164°.78W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.2/60, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=266.9km s-min=33.3km az=84.0*

*ISCJB **18** 03:47:24.8±0.7, 53°.89N±0°.06×163°.43W±0°.06, h39km, mb3.4/3, Error ellipse: s-maj=9.5km s-min=4.4km az=160.1*

*NEIC **18** 03:47:25.0, 53°.89N×163°.49W, h26km, ML3.4(AEIC), After AEIC.*

ISC 18 03:47:26.4±0.9, 53°.97N±0°.08×163°.52W±0°.05, h39km, n33, σ0°.50/31, mb3.6/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	West Dahl East	0.80	309	P	Pn	03 47 40.9	-0.4
WESN	West Dahl Nort	0.87	314	P	Pn	03 47 42.2	+0.1
SSLW	Shishaldin Wes	0.88	337	P	Pn	03 47 42.3	0.0
SSLN	Shishaldin Nor	0.89	342	P	Pn	03 47 42.9	+0.5
FALS	False Pass	0.89	4	P	Pn	03 47 42.2	-0.2
FALS				S	Sn	03 47 55.0	+0.9
DRIA	Deer Island	1.24	36	P	Pn	03 47 46.7	-0.5
AKSA	Akutan Strait	1.29	278	P	Pn	03 47 47.5	-0.4
AKA	Akutan	1.34	278	P	Pn	03 47 48.5	+0.1
AKA				S	Sn	03 48 05.8	+0.8
AKUT	Akutan	1.34	278	P	Pn	03 47 48.1	-0.3
AKUT				S	Sn	03 48 05.7	+0.7
DT1	Dutton Round H	1.35	32	P	Pn	03 47 48.4	-0.2
DTNA	Dutton South F	1.39	31	P	Pn	03 47 49.3	0.0
ZRO	Akutan Zero	1.46	276	P	Pn	03 47 49.7	-0.4
AKGG	Akutan Green G	1.47	280	P	Pn	03 47 50.4	0.0
LVA	Lava Point	1.49	278	P	Pn	03 47 50.6	-0.1
AKRB	Akutan Reef Bi	1.51	277	P	Pn	03 47 50.8	-0.1
UNV	Unalaska Valle	1.77	267	P	Pn	03 47 53.3	-1.1
UNV				S	Sn	03 48 16.3	+0.7
MTBL	Makushin Table	1.87	271	P	Pn	03 47 55.8	-0.1
MREP	Makushin Rep't	1.92	267	P	Pn	03 47 56.8	+0.3
MSW	Makushin Switc	1.93	270	P	Pn	03 47 56.2	-0.4
MCIR	Makushin Cirqu	1.99	271	P	Pn	03 47 57.7	+0.2
SDPT	Sand Point	2.24	51	P	Pn	03 48 01.6	+0.7
OKFG	Magazine Ridge	2.67	260	P	Pn	03 48 07.1	+0.3
ILAR	Eielson Array 0.1nm,0.3s,baz=215,slow=11,SNR=3.2	13.69	31	Pn	Pn	03 50 37.0	-0.7
INK	Inuvik 0.8nm,0.6s,baz=241,slow=8.8,SNR=13	20.08	33	P	P	03 51 55.4	-0.7
YKA	Yellowknife Ar 0.1nm,0.4s,baz=270,slow=9.1,SNR=5.2	26.51	52	P	P	03 52 59.3	-0.4
NVAR	Mina Array Bea 0.4nm,0.6s,baz=292,slow=7.8,SNR=4.0	34.28	98	P	P	03 54 09.4	+0.5
H11N2	WAKE ISLAND Hy baz=26,slow=76,SNR=17	41.00	225	T	T	04 38 46.5	
H11N3	WAKE ISLAND Hy baz=26,slow=76,SNR=16	41.00	225	T	T	04 38 39.9	
H11N1	WAKE ISLAND Hy baz=26,slow=76,SNR=10	41.01	225	T	T	04 38 47.3	
H11S1	WAKE ISLAND Hy baz=25,slow=76,SNR=21	42.17	225	T	T	04 40 07.8	
H11S2	WAKE ISLAND Hy baz=25,slow=76,SNR=15	42.18	225	T	T	04 40 08.6	
H11S3	WAKE ISLAND Hy baz=25,slow=76,SNR=15	42.19	225	T	T	04 40 14.6	
TXAR	Lajitas Array 0.7nm,0.5s,baz=303,slow=5.3,SNR=7.1	49.28	95	P	P	03 56 11.4	+0.2

IDC 18 03:47:59.8±5.0, 29°.53S×176°.81W, h83km±29km, mb3.4/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.7/3, Error ellipse: s-maj=164.3km s-min=58.0km az=10.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island 394nm,0.3s,baz=122,slow=19,SNR=30	1.01	286	P	Pn	03 48 19.1	0.0
RAO				S	Sn	03 48 34.0	+0.4
STKA	774nm,0.3s,baz=28,slow=23,SNR=14 Stephens Creek 0.9nm,0.5s,baz=93,slow=11,SNR=3.4	35.69	256	P	P	03 54 50.9	+0.6
ASAR	Alice Springs 0.2nm,0.5s,baz=108,slow=7.6,SNR=5.8	44.20	266	P	P	03 56 00.2	-0.6
WRA	Warramunga Arr 0.4nm,0.3s,baz=111,slow=8.1,SNR=17	45.11	271	P	P	03 56 07.9	-0.2

IDC 18 03:57:01.7±3.4, 6°.39S×147°.15E, h0km, mb2.7/1, mb1 3.2/2, mb1mx3.0/24, mbtmp2.9/2, ML3.0/1, Error ellipse: s-maj=119.1km s-min=43.8km az=115.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=48,slow=11,SNR=5.5	18.34	222	P	Pn	04 01 17.2	-0.5
ASAR	Alice Springs 0.2nm,0.6s,baz=34,slow=12,SNR=4.7	21.39	215	P	P	04 01 51.4	+0.2
TORD	Torodi Ar. Bea 0.1nm,0.4s,baz=84,slow=3.2,SNR=6.7	145.32	284	PKPbc	PKPbc	04 16 41.5	-0.9

*IDC **18** 03:57:54.7±4.7, 33°.40N×141°.30E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.2/26, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=164.1km s-min=27.2km az=66.0*

*ISCJB **18** 03:57:59.7±1.0, 33°.46N±0°.05×141°.08E±0°.09, h58km±12km, mb3.5/2, Error ellipse: s-maj=13.1km s-min=7.4km az=15.3*

*JMA **18** 03:58:00.4±0.2, 33°.53N×141°.01E, h59km, M3.1*

ISC 18 03:58:00.7±2.1, 33°.45N±0°.07×141°.1E±0°.1, h43km±25km, n15, σ0°.91/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	1.12	253	P	Pn	03 58 19.9	+0.1
JHJ2				S	Sn	03 58 34.1	+0.1
JHCJ	Hachijojimakas	1.14	251	P	Pn	03 58 20.2	0.0
JHCJ				S	Sn	03 58 34.6	-0.1
BSO1	Boso 1	1.21	356	P	Pn	03 58 20.4	-0.2
BSO1				S	Sn	03 58 36.2	+0.7
BSO3	Boso 3	1.43	341	P	Pn	03 58 23.4	-0.5
BSO4	Boso 4	1.66	338	P	Pn	03 58 27.1	-0.1
JKO	Kozu shima	1.78	295	P	Pn	03 58 28.6	-0.4
JKO				S	Sn	03 58 50.5	+0.1
JIM2	Oshima 3	1.87	313	P	Pn	03 58 29.1	-1.1
JIZS	Izushimoda	2.23	305	P	Pn	03 58 34.8	-0.3
JOD2	Odawara 2	2.45	318	P	Pn	03 58 37.4	-0.8
JOD2				S	Sn	03 59 04.7	-2.3
TK02	Tokai 2	2.82	281	P	Pn	03 58 43.8	+0.8
JYN	Shimob	2.93	315	P	Pn	03 58 45.3	+0.5
MJAR	Matsushiro Arr 2.1nm,0.3s,baz=139,slow=13,SNR=28	3.89	323	Pn	Pn	03 58 58.0	+0.1
MJAR				Sn	Sn	03 59 44.4	+2.1
MAT	Matsushiro	3.89	323	P	Pn	03 58 58.8	+0.9
MAT				S	Sn	03 59 43.1	+0.8
WRA	Warramunga Arr 0.4nm,0.3s,baz=6.9,slow=7.7,SNR=17	53.48	188	P	P	04 07 16.5	-0.3
ASAR	Alice Springs 0.1nm,0.4s,baz=1.4,slow=5.5,SNR=5.5	57.21	188	P	P	04 07 43.5	-0.1

MAN 18 04:05:05, 13°.54N×120°.43E, h35km, mb3.7, ML2.5, MS2.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.27	317	*eP*	Pn	04 05 14.6	+2.0
LUBP				*eS*	Sn	04 05 21.4	+3.7
PGP	Puerto Galera	0.51	94	⇓*iP*	Pn	04 05 17.4	+1.6
PGP				*iS*	Sn	04 05 26.4	+3.1
SJMP	San Jose	1.26	148	*eP*	Pn	04 05 28.6	+2.5
BUSP	Coron	1.54	189	*eP*	Pn	04 05 31.1	+1.0

n107, σ1§33/106, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op		h m s	ISC
ANTB	**Antalya**	**0.91**	**352**	*e*PG	Pn	04 26 07.0	-1.4
ANTB				*e*SG	**Sn**	**04 26 17.8**	**-2.7**
ANTB	**Antalya**	**0.91**	**352**	*e*Pg	Pn	04 26 07.0	-1.4
ANTB				*e*Sg	**Sn**	**04 26 17.8**	**-2.7**
AKAS	**Kas**	**1.00**	**284**	*i* P	**Pn**	**04 26 10.3**	**+0.6**
AKAS	**Kas**	**1.00**	**284**	*i* P	**Pn**	**04 26 10.3**	**+0.6**
AKAS				*i* S	Sn	04 26 30.9	+8.1
ELL	**Elmali**	**1.04**	**316**	*e*PG	**Pn**	**04 26 09.8**	**-0.5**
ELL	**Elmali**	**1.04**	**316**	*e*Pg	**Pn**	**04 26 09.8**	**-0.5**
KORT	**Korkueli**	**1.07**	**340**	*i* P	Pn	04 26 09.8	-0.9
KORT				*i* S	**Sn**	**04 26 27.8**	**+3.3**
KORT	**Korkueli**	**1.07**	**340**	*i* P	Pn	04 26 09.8	-0.9
KORT				*i* S	**Sn**	**04 26 27.8**	**+3.3**
GAZI	**Gazipasa**	**1.25**	**78**	*i* P	Pn	04 26 10.9	-2.1
GAZI				*i* S	**Sn**	**04 26 26.0**	**-2.7**
GAZI	**Gazipasa**	**1.25**	**78**	*i* P	Pn	04 26 10.9	-2.1
GAZI				*i* S	**Sn**	**04 26 26.0**	**-2.7**
BCK	**Bucak**	**1.48**	**353**	*e*PN	Pn	04 26 14.9	-1.3
BCK	**Bucak**	**1.48**	**353**	*e*Pn	Pn	04 26 14.9	-1.3
FETY	**Fethiye**	**1.53**	**295**	*e*PN	**Pn**	**04 26 17.5**	**+0.6**
FETY	**Fethiye**	**1.53**	**295**	*e*Pn	**Pn**	**04 26 17.5**	**+0.6**
AKMC	**Akamas**	**1.57**	**127**	P	**Pn**	**04 26 17.5**	**0.0**
	baz=322						
AKMC	**Akamas**	**1.57**	**127**	P	**Pn**	**04 26 17.5**	**0.0**
GOLH	**Golhisar**	**1.59**	**321**	*i* P	**Pn**	**04 26 19.1**	**+1.2**
GOLH	**Golhisar**	**1.59**	**321**	*i* P	**Pn**	**04 26 19.1**	**+1.2**
GOLH				*i* S	Sn	04 26 47.1	+10
PPCY	**Paphos**	**1.68**	**131**	P	**Pn**	**04 26 20.0**	**+1.2**
	baz=324						
PPCY	**Paphos**	**1.68**	**131**	P	**Pn**	**04 26 20.0**	**+1.2**
ALFC	**Alevga**	**1.68**	**119**	P	Pn	04 26 18.0	-1.0
	baz=314						
ALFC				S	**Sn**	**04 26 41.1**	**+1.7**
ALFC	**Alevga**	**1.68**	**119**	P	Pn	04 26 18.0	-1.0
ALFC				S	**Sn**	**04 26 41.1**	**+1.7**
ERMK	**Ermenek**	**1.82**	**69**	*i* P	**Pn**	**04 26 20.1**	**-1.0**
ERMK				*i* S	**Sn**	**04 26 47.6**	**+4.6**
ERMK	**Ermenek**	**1.82**	**69**	*i* P	**Pn**	**04 26 20.1**	**-1.0**
ERMK				*i* S	**Sn**	**04 26 47.6**	**+4.6**
ISP	**Isparta**	**1.84**	**353**	*e*PN	**Pn**	**04 26 20.8**	**-0.4**
ISP	**Isparta**	**1.84**	**353**	*e*Pn	**Pn**	**04 26 20.8**	**-0.4**
AKDN	**Akdeniz- K¨–br**	**1.89**	**111**	*e*PN	Pn	04 26 28.5	+6.7
DALY	**Dalyan (Mu¨la**	**1.92**	**296**	*e*PN	**Pn**	**04 26 22.7**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.92**	**296**	*e*Pn	**Pn**	**04 26 22.7**	**+0.5**
TURN	**Turunc**	**1.98**	**297**	*i* P	Pn	04 26 26.0	+3.0
TURN	**Turunc**	**1.98**	**297**	*i* P	Pn	04 26 26.0	+3.0
TURN				*i* S	Sn	04 26 53.0	+6.4
MAMC	**Mammari**	**2.13**	**112**	P	**Pn**	**04 26 24.2**	**-0.9**
	baz=305						
MAMC	**Mammari**	**2.13**	**112**	P	**Pn**	**04 26 24.2**	**-0.9**
DENT	**Denizli**	**2.26**	**322**	*e*PN	**Pn**	**04 26 26.6**	**-0.3**
DENT	**Denizli**	**2.26**	**322**	*e*Pn	**Pn**	**04 26 26.6**	**-0.3**
CSS	**Prodhromos**	**2.30**	**116**	P	**Pn**	**04 26 26.5**	**-1.0**
	baz=308						
CSS	**Prodhromos**	**2.30**	**116**	P	**Pn**	**04 26 26.5**	**-1.0**
KONT	**Konya--Tatoy**	**2.31**	**32**	*e*PN	**Pn**	**04 26 28.1**	**+0.5**
KONT	**Konya--Tatoy**	**2.31**	**32**	*e*Pn	**Pn**	**04 26 28.1**	**+0.5**
YER	**Yerkesik**	**2.33**	**300**	*e*PN	**Pn**	**04 26 28.5**	**+0.6**
YER	**Yerkesik**	**2.33**	**300**	*e*Pn	**Pn**	**04 26 28.5**	**+0.6**
LADK	**Ladik-KONYA**	**2.53**	**29**	*e*PN	**Pn**	**04 26 31.4**	**+0.7**
LADK	**Ladik-KONYA**	**2.53**	**29**	*e*Pn	**Pn**	**04 26 31.4**	**+0.7**
KHL	**Karahalli**	**2.54**	**337**	*e*PN	Pn	04 26 29.8	-1.0
KHL	**Karahalli**	**2.54**	**337**	*e*Pn	Pn	04 26 29.8	-1.0
SHUT	**Suhut-Afyon**	**2.56**	**356**	*e*PN	**Pn**	**04 26 30.1**	**-1.1**
SHUT	**Suhut-Afyon**	**2.56**	**356**	*e*Pn	**Pn**	**04 26 30.1**	**-1.1**
DAT	**Datca**	**2.71**	**287**	*e*PN	**Pn**	**04 26 34.8**	**+1.7**
DAT	**Datca**	**2.71**	**287**	*e*Pn	**Pn**	**04 26 34.8**	**+1.7**
BOLV	**Bolvadin**	**2.72**	**2**	*i* P	**Pn**	**04 26 33.5**	**+0.2**
BOLV				*i* S	**Sn**	**04 27 06.1**	**+1.0**
BOLV	**Bolvadin**	**2.72**	**2**	*i* P	**Pn**	**04 26 33.5**	**+0.2**
BOLV				*i* S	**Sn**	**04 27 06.1**	**+1.0**
KDHN	**Kadinhani**	**2.73**	**22**	*i* P	**Pn**	**04 26 32.8**	**-0.7**
KDHN				*i* S	**Sn**	**04 27 05.8**	**+0.5**
KDHN	**Kadinhani**	**2.73**	**22**	*i* P	**Pn**	**04 26 32.8**	**-0.7**
KDHN				*i* S	**Sn**	**04 27 05.8**	**+0.5**
KIZK	**Mersin**	**2.74**	**79**	*i* P	**Pn**	**04 26 34.2**	**+0.7**
KIZK				*i* S	**Sn**	**04 27 08.1**	**+2.7**
KIZK	**Mersin**	**2.74**	**79**	*i* P	**Pn**	**04 26 34.2**	**+0.7**
KIZK				*i* S	**Sn**	**04 27 08.1**	**+2.7**
AYDN	**Tasoluk**	**2.88**	**306**	*i* P	**Pn**	**04 26 37.0**	**+1.6**
AYDN				*i* S	**Sn**	**04 27 08.4**	**-0.4**
AYDN	**Tasoluk**	**2.88**	**306**	*i* P	**Pn**	**04 26 37.0**	**+1.6**
AYDN				*i* S	**Sn**	**04 27 08.4**	**-0.4**
BDRM	**Kayabasi**	**2.91**	**293**	*i* P	**Pn**	**04 26 35.7**	**-0.1**
BDRM				*i* S	**Sn**	**04 27 09.8**	**+0.2**
BDRM	**Kayabasi**	**2.91**	**293**	*i* P	**Pn**	**04 26 35.7**	**-0.1**
BDRM				*i* S	**Sn**	**04 27 09.8**	**+0.2**
KIZT	**Kizilcal**	**3.01**	**16**	*e*PN	**Pn**	**04 26 37.2**	**0.0**
KIZT	**Kizilcal**	**3.01**	**16**	*e*Pn	**Pn**	**04 26 37.2**	**0.0**
BODT	**Bodrum**	**3.01**	**292**	*e*PN	**Pn**	**04 26 38.3**	**+1.1**
BODT	**Bodrum**	**3.01**	**292**	*e*Pn	**Pn**	**04 26 38.3**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.04**	**311**	*e*PN	**Pn**	**04 26 37.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**3.04**	**311**	*e*Pn	**Pn**	**04 26 37.7**	**0.0**
KULA	**Kula-Manisa**	**3.04**	**326**	*e*PN	**Pn**	**04 26 37.2**	**-0.5**
KULA	**Kula-Manisa**	**3.04**	**326**	*e*Pn	**Pn**	**04 26 37.2**	**-0.5**
MANT	**Manisa**	**3.07**	**325**	*i* P	Pn	04 26 37.3	-0.9
MANT	**Manisa**	**3.07**	**325**	*i* P	Pn	04 26 37.3	-0.9
MANT				*i* S	Sn	04 27 04.1	-10
SULT	**Sultanhani-AKS**	**3.09**	**44**	*e*PN	**Pn**	**04 26 39.3**	**+1.0**
SULT	**Sultanhani-AKS**	**3.09**	**44**	*e*Pn	**Pn**	**04 26 39.3**	**+1.0**
ALT	**Altintas**	**3.11**	**350**	*e*PN	**Pn**	**04 26 38.1**	**-0.5**
ALT	**Altintas**	**3.11**	**350**	*e*Pn	**Pn**	**04 26 38.1**	**-0.5**
GDZ	**Gediz**	**3.26**	**342**	*i* P	**Pn**	**04 26 40.7**	**-0.1**
GDZ				*i* S	**Sn**	**04 27 18.6**	**+0.1**
GDZ	**Gediz**	**3.26**	**342**	*i* P	**Pn**	**04 26 40.7**	**-0.1**
GDZ				*i* S	**Sn**	**04 27 18.6**	**+0.1**
GCAM	**G?zelcaml?**	**3.33**	**302**	*i* P	**Pn**	**04 26 41.0**	**-0.5**
GCAM				*i* S	**Sn**	**04 27 17.2**	**-2.7**
GCAM	**G?zelcaml?**	**3.33**	**302**	*i* P	**Pn**	**04 26 41.0**	**-0.5**
GCAM				*i* S	**Sn**	**04 27 17.2**	**-2.7**
SVRH	**Sivrihisar-ESK**	**3.50**	**9**	*e*PN	**Pn**	**04 26 43.9**	**0.0**
SVRH	**Sivrihisar-ESK**	**3.50**	**9**	*e*Pn	**Pn**	**04 26 43.9**	**0.0**
ESKT	**Eskisehir**	**3.52**	**1**	*e*PN	**Pn**	**04 26 43.8**	**-0.5**
ESKT	**Eskisehir**	**3.52**	**1**	*e*Pn	**Pn**	**04 26 43.8**	**-0.5**
SEYT	**Eskypehyr**	**3.52**	**1**	*i* P	**Pn**	**04 26 44.3**	**0.0**
SEYT				*i* S	**Sn**	**04 27 24.4**	**-0.3**
SEYT	**Eskypehyr**	**3.52**	**1**	*i* P	**Pn**	**04 26 44.3**	**0.0**
SEYT				*i* S	**Sn**	**04 27 24.4**	**-0.3**
YAYL	**Yayladag**	**4.30**	**88**	*i* P	Pn	04 26 51.3	-3.7
YAYL				*i* S	**Sn**	**04 27 42.6**	**-1.3**
YAYL	**Yayladag**	**4.30**	**88**	*i* P	Pn	04 26 51.3	-3.7
YAYL				*i* S	**Sn**	**04 27 42.6**	**-1.3**
KAMA	**Osmaniye**	**4.87**	**74**	*i* P	**Pn**	**04 27 02.1**	**-0.6**
KAMA				*i* S	**Sn**	**04 27 55.5**	**-2.3**
RSH		**5.58**	**153**	P	**Pn**	**04 27 11.7**	**-0.8**
	baz=154						
RSH		**5.58**	**153**	P	**Pn**	**04 27 11.7**	**-0.8**
AMAG	**Maghara**	**5.70**	**159**	P	**Pn**	**04 27 14.0**	**-0.2**
	baz=159						
AMAG	**Maghara**	**5.70**	**159**	P	**Pn**	**04 27 14.0**	**-0.2**
HMAT	**Matruh**	**5.78**	**213**	P	Pn	04 27 13.3	-2.0
	baz=212						
HMAT				AMP		04 28 00.0	
	comp=E,10μm,0.2s,logA/T=4.6,baz=212						
HMAT	**Matruh**	**5.78**	**213**	P	Pn	04 27 13.3	-2.0
KOT	**Kottamia**	**6.11**	**172**	P	Pn	04 27 18.9	-0.9
	baz=171						
KOT	**Kottamia**	**6.11**	**172**	P	**Pn**	**04 27 19.4**	**-0.5**
HHAG	**Hagoal**	**6.12**	**169**	P	Pn	04 27 18.9	-0.9
	baz=169						
HHAG	**Hagoal**	**6.12**	**169**	P	**Pn**	**04 27 19.4**	**-0.5**
HNAT	**Natroun**	**6.34**	**181**	P	Pn	04 27 22.1	-0.9
	baz=181						
HNAT	**Natroun**	**6.34**	**181**	P	Pn	04 27 22.1	-0.9
SUZ		**6.37**	**164**	P	**Pn**	**04 27 23.0**	**-0.3**
	baz=164						
SUZ		**6.37**	**164**	P	**Pn**	**04 27 23.0**	**-0.3**
HSAF	**As Saff**	**6.39**	**174**	P	Pn	04 27 22.9	-0.7
	baz=173						
HSAF	**As Saff**	**6.39**	**174**	P	Pn	04 27 22.9	-0.7
GLL	**Jalalah**	**6.44**	**173**	P	**Pn**	**04 27 23.7**	**-0.7**
	baz=172						
GLL	**Jalalah**	**6.44**	**173**	P	**Pn**	**04 27 23.7**	**-0.7**
SLUM		**6.47**	**228**	P	Pn	04 27 22.3	-2.4
	baz=226						
SLUM				S	Sn	04 28 31.5	-5.6
	baz=226						
SLUM		**6.47**	**228**	P	Pn	04 27 22.3	-2.4
SWA2		**8.10**	**215**	P	Pn	04 27 45.6	-1.5
	baz=214						

IDC 18 04:32:00.1±0.9, 32.38N×92.70E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/56, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=58.6km s-min=19.3km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op		h m s	ISC
MKAR	**Makanchi Array**	**16.46**	**334**	Pn	Pn	04 35 51.5	-0.9
	0.1nm,0.3s,baz=142,slow=14,SNR=7.9						
KURBB	**Kurchatov Arra**	**21.03**	**334**	P	P	04 36 45.1	-0.2
	0.8nm,0.6s,baz=141,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**22.29**	**348**	P	P	04 36 58.6	-0.2
	0.2nm,0.3s,baz=165,slow=12,SNR=2.0						
GERES	**GERESS Array B**	**59.55**	**311**	P	P	04 42 05.2	-0.2
	0.1nm,0.3s,baz=82,slow=7.0,SNR=2.4						
WRA	**Warramunga Arr**	**65.53**	**137**	P	P	04 42 46.1	+0.5
	0.8nm,0.9s,baz=334,slow=6.4,SNR=6.1						
ASAR	**Alice Springs**	**68.22**	**139**	P	P	04 43 02.3	-0.4
	0.7nm,0.6s,baz=327,slow=6.5,SNR=8.2						
TORD	**Torodi Ar. Bea**	**83.91**	**282**	P	P	04 44 32.5	+0.1
	0.8nm,0.6s,baz=46,slow=4.6,SNR=12						

IDC 18 04:35:56.9±3.2, 7.00S×148.36E, h0km, mb2.7/1, mb1 3.2/2, mb1mx3.1/34, mbtmp3.0/2, ML3.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.6/3, Error ellipse: s-maj=120.1km s-min=43.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**8.83**	**300**	LR	LR	04 41 09.9	
	comp=Z,49nm,20.3s,baz=308,slow=36						
WRA	**Warramunga Arr**	**18.72**	**225**	P	P	04 40 16.3	-1.0
	0.1nm,0.3s,baz=51,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**21.62**	**218**	P	P	04 40 48.9	0.0
	0.5nm,0.5s,baz=49,slow=9.2,SNR=9.0						
TORD	**Torodi Ar. Bea**	**146.63**	**283**	PKPbc	PKPbc	04 55 41.1	-0.5
	0.2nm,0.3s,baz=74,slow=3.9,SNR=11						

KRSC 18 04:48:33.6±1.5, 49.82N×158.17E, h46km±24km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.57**	**304**	*e*P	Pn	04 49 00.1	+1.1
SKR				*e*S	Sn	04 49 19.0	+0.8
PAU	**Pauzhetka**	**1.86**	**333**	*e*P	Pn	04 49 05.5	+2.5
PAU				*e*S	Sn	04 49 28.5	+3.3
ASAK	**Asacha**	**2.57**	**356**	P	Pn	04 49 15.8	+2.9
MIPR	**Malaya Ipel'ka**	**2.61**	**341**	*e*P	Pn	04 49 16.9	+3.5
RUS	**Russkaya**	**2.62**	**5**	*e*P	Pn	04 49 15.9	+2.5
MTVR	**Mutnovka**	**2.67**	**0**	*e*P	Pn	04 49 16.9	+2.7
MTVR				*e*S	Sn	04 49 48.2	+2.8
APC	**Apacha**	**3.17**	**349**	P	Pn	04 49 24.3	+3.3
UGLR	**Uglovaya**	**3.42**	**7**	*e*P	Pn	04 49 27.8	+3.3
AVH	**Avacha**	**3.47**	**6**	*e*P	Pn	04 49 29.6	+4.5
SMAR	**Somma**	**3.47**	**6**	*e*P	Pn	04 49 28.7	+3.3
KOK	**Koryaka**	**3.49**	**5**	*e*P	Pn	04 49 29.6	+4.1
SDLR	**Sedlovina**	**3.49**	**7**	*e*P	Pn	04 49 29.1	+3.6
KRER	**Koryakskii**	**3.51**	**6**	*e*P	Pn	04 49 29.8	+3.9
KRX	**Arik**	**3.56**	**5**	*e*P	Pn	04 49 30.3	+3.9
GNL	**Ganaly**	**3.88**	**358**	*e*P	Pn	04 49 34.9	+4.0
TUMR	**Tumrok**	**5.60**	**12**	*e*P	Pn	04 49 59.2	+4.7
KBTR	**Krutoberegovo**	**6.98**	**22**	*e*P	Pn	04 50 17.2	+4.0

IDC 18 04:50:13.8±1.8, 0.59N×97.05E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/27, mbtmp3.5/8, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/35, Error ellipse: s-maj=54.6km s-min=21.2km az=60.0

DJA 18 04:50:17.9±1.4, 1.1N±8.3×97.7E±1.1, h10km, M3.1/4, MLv3.1/4

ISC 18 04:50:19.0±1.3, 0.85N±0.09×97.4E±0.1, h27km, n18, σ1§08/14, mb3.5/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.89**	**325**	P	Pb	04 50 57.0	+4.1
MNSI	**Mandailing Nat**	**2.17**	**91**	P	**Pb**	**04 50 56.2**	**-1.3**
MNSI				S	**Sb**	**04 51 25.2**	**+1.2**
TPTI		**2.41**	**354**	P	**Pn**	**04 50 55.1**	**-1.5**
TPTI				S	**Sb**	**04 51 31.9**	**+1.0**
PSI	**Prapat**	**2.46**	**38**	Pn	**Pb**	**04 51 00.7**	**-1.9**
	0.7nm,0.3s,baz=189,slow=10,SNR=4.0						
KCSI	**Kotacane, Aceh**	**2.68**	**8**	P	**Pn**	**04 51 01.0**	**+0.6**
KCSI				S	**Sn**	**04 51 32.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P	**P**	**04 54 23.0**	**+0.1**
	0.1nm,0.3s,baz=193,slow=12,SNR=5.0						
H08S2	**Diego Garcia H**	**26.25**	**251**	T	T	05 22 42.9	
	baz=72						
H08S3	**Diego Garcia H**	**26.25**	**251**	T	T	05 22 38.8	
	baz=72						
H08S1	**Diego Carcia H**	**26.27**	**251**	T	T	05 22 42.2	
	baz=72						
H01W3	**Cape Leeuwin H**	**38.84**	**158**	T	T	05 38 53.0	
	baz=334,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**38.85**	**158**	T	T	05 38 50.5	
	baz=334,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**38.85**	**158**	T	T	05 38 45.0	
	baz=334,slow=76,SNR=9.5						
WRA	**Warramunga Arr**	**41.67**	**122**	P	**P**	**04 58 05.8**	**+0.2**
	0.3nm,0.7s,baz=301,slow=8.7,SNR=3.7						
ASAR	**Alice Springs**	**43.01**	**127**	P	**P**	**04 58 16.4**	**-0.1**
	0.2nm,0.5s,baz=297,slow=7.9,SNR=6.5						
SONM	**Songino Array**	**47.45**	**8**	P	**P**	**04 58 52.4**	**+1.0**
	0.2nm,0.4s,baz=198,slow=9.1,SNR=1.9						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**04 58 53.2**	**+0.4**
	0.8nm,0.6s,baz=156,slow=7.7,SNR=12						
KURBB	**Kurchatov Arra**	**52.12**	**345**	P	**P**	**04 59 26.7**	**-0.2**
	0.2nm,0.3s,baz=156,slow=7.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**53.94**	**351**	P	**P**	**04 59 40.5**	**+0.3**
	1.3nm,0.6s,baz=183,slow=7.1,SNR=8.3						
ZALV				LR	LR	05 25 10.4	
	comp=Z,20nm,18.8s,baz=68,slow=39						

GUC 18 04:51:44.0±0.5, 37.06S×74.11W, h14km±5km, ML4.2, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.83**	**75**	*e*P	Pg	04 51 59.0	-1.2
CCSP				*e*S	Sg	04 52 10.3	-0.7
CCSP				AML	AML	04 52 13.9	
	comp=E,12μm,0.5s						
COCH	**Cobquecura**	**1.41**	**49**	*e*P	Pn	04 52 08.0	-1.3
COCH				*e*S	Sn	04 52 26.7	-1.0
LNCH	**Linares**	**2.36**	**60**	*e*P	Pn	04 52 23.2	+0.9
LNCH				*e*S	Sn	04 52 52.7	+1.7

ATH 18 05:00:49.1, 36.74N×20.73E, h10km±2km, MD3.5/18

CSEM 18 05:00:50.8±0.5, 36.77N×20.83E, h2km, ML3.1, Error ellipse: s-maj=8.8km s-min=4.9km az=39.0

THE 18 05:00:51.6, 36.85N×20.82E, h0km±1km, ML3.1/7, Error ellipse: s-maj=2.0km s-min=0.8km az=236.0

ISC 18 05:00:48.7±2.0, 36.72N±0.06×20.73E±0.06, h1km±10km, n67, σ0§88/92, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.57**	**24**	P	**Pg**	**05 01 00.1**	**+0.4**
SFD				S	**Sg**	**05 01 06.5**	**-0.7**
SFD	**Strofades**	**0.57**	**24**	*e*PB	**Pg**	**05 01 00.4**	**+0.7**
SFD				*e*SB	**Sg**	**05 01 08.4**	**+1.2**
SFD	**Strofades**	**0.57**	**24**	P	**Pg**	**05 01 00.1**	**+0.4**
SFD	**Strofades**	**0.57**	**24**	*e*Pb	**Pg**	**05 01 00.4**	**+0.7**
SFD				S	**Sg**	**05 01 06.5**	**-0.7**
SFD				*e*Sb	**Sg**	**05 01 08.4**	**+1.2**
PYL	**PYLOS**	**0.83**	**78**	P	**Pg**	**05 01 05.0**	**+0.4**
PYL				S	**Sb**	**05 01 16.7**	**-1.0**
PYL	**PYLOS**	**0.83**	**78**	*e*PB	**Pg**	**05 01 05.0**	**+0.4**
PYL				*e*SB	**Sb**	**05 01 16.7**	**-1.0**
PYL	**PYLOS**	**0.83**	**78**	P	**Pg**	**05 01 05.0**	**+0.4**
PYL				S	**Sb**	**05 01 16.7**	**-1.0**
ITM	**Ithomi**	**1.06**	**64**	P	**Pg**	**05 01 09.0**	**-0.1**
ITM	**Ithomi**	**1.06**	**64**	*e*PG	**Pg**	**05 01 08.6**	**-0.5**
ITM				*e*SB	**Sg**	**05 01 23.1**	**+0.2**
ITM	**Ithomi**	**1.06**	**64**	*e*Pg	**Pg**	**05 01 08.6**	**-0.5**
ITM	**Ithomi**	**1.06**	**64**	P	**Pg**	**05 01 09.0**	**-0.1**
ITM				*e*Sb	**Sg**	**05 01 23.1**	**+0.2**
AMT	**Artemida-Makis**	**1.12**	**44**	P	**Pg**	**05 01 10.0**	**-0.3**
AMT				S	**Sg**	**05 01 24.5**	**-0.4**
AMT	**Artemida-Makis**	**1.12**	**44**	*e*PB	**Pg**	**05 01 09.9**	**-0.3**
AMT	**Artemida-Makis**	**1.12**	**44**	P	**Pg**	**05 01 10.0**	**-0.3**
AMT				S	**Sg**	**05 01 24.5**	**-0.4**
KFL	**Anninata**	**1.38**	**2**	P	**Pg**	**05 01 14.8**	**-0.5**
KFL				S	**Sg**	**05 01 33.7**	**+0.5**
KFL	**Anninata**	**1.38**	**2**	P	**Pg**	**05 01 14.8**	**-0.5**
KFL				S	**Sg**	**05 01 33.7**	**+0.5**
DRO	**Drossia**	**1.46**	**32**	P	**Pn**	**05 01 15.6**	**-0.6**
DRO				S	**Sg**	**05 01 35.5**	**0.0**
DRO	**Drossia**	**1.46**	**32**	*e*PG	**Pn**	**05 01 15.4**	**-0.8**
DRO	**Drossia**	**1.46**	**32**	P	Pn	05 01 15.6	-0.6
DRO				S	**Sg**	**05 01 35.5**	**0.0**
VLS	**Valsamata**	**1.46**	**356**	P	**Pn**	**05 01 16.2**	**0.0**
VLS	**Valsamata**	**1.46**	**356**	*e*PG	**Pn**	**05 01 16.0**	**-0.2**
VLS	**Valsamata**	**1.46**	**356**	P	Pn	05 01 16.2	0.0
RLS	**Riolos of Patr**	**1.46**	**24**	P	**Pn**	**05 01 15.8**	**-0.4**
RLS	**Riolos of Patr**	**1.46**	**24**	*e*PG	**Pn**	**05 01 15.8**	**-0.4**
RLS	**Riolos of Patr**	**1.46**	**24**	P	Pn	05 01 15.8	-0.4
VLX	**Vlachokerasia**	**1.47**	**63**	P	**Pn**	**05 01 16.7**	**+0.2**
VLX				S	**Sn**	**05 01 36.5**	**+0.1**
VLX	**Vlachokerasia**	**1.47**	**63**	*e*PG	**Pn**	**05 01 15.7**	**-0.8**
VLX	**Vlachokerasia**	**1.47**	**63**	*e*Pg	Pn	05 01 15.7	-0.8
VLX	**Vlachokerasia**	**1.47**	**63**	P	**Pn**	**05 01 16.7**	**+0.2**
VLX				S	**Sn**	**05 01 36.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.74**	**40**	P	**Pn**	**05 01 21.0**	**+0.9**
KLV	**Kalavryta, Ach**	**1.74**	**40**	*e*PG	Pn	05 01 20.9	+0.9
KLV	**Kalavryta, Ach**	**1.74**	**40**	P	Pn	05 01 21.0	+0.9
GUR	**Goura**	**1.77**	**46**	P	Pn	05 01 20.9	+0.4
GUR				S	**Sn**	**05 01 43.7**	**0.0**
GUR	**Goura**	**1.77**	**46**	*e*PN	**Pn**	**05 01 20.9**	**+0.4**
GUR	**Goura**	**1.77**	**46**	P	Pn	05 01 20.9	+0.4
GUR				S	**Sn**	**05 01 43.7**	**0.0**
VLI	**Veliai**	**1.77**	**90**	P	**Pb**	**05 01 22.3**	**+0.3**
VLI				S	**Sg**	**05 01 45.7**	**0.0**
VLI	**Veliai**	**1.77**	**90**	*e*PG	**Pb**	**05 01 22.4**	**+0.4**
VLI	**Veliai**	**1.77**	**90**	*e*Pg	**Pb**	**05 01 22.4**	**+0.4**
VLI				S	**Sg**	**05 01 45.7**	**0.0**
PDO	**Prodromos**	**1.91**	**11**	P	**Pn**	**05 01 23.4**	**+1.0**
PDO	**Prodromos**	**1.91**	**11**	*e*PN	Pn	05 01 23.1	+0.7
PDO	**Prodromos**	**1.91**	**11**	*e*Pn	Pn	05 01 23.1	+0.7
PDO	**Prodromos**	**1.91**	**11**	P	Pn	05 01 23.4	+1.0
KYTH	**Kithira**	**1.91**	**103**	*e*PN	**Pb**	**05 01 24.1**	**-0.3**
KYTH	**Kithira**	**1.91**	**103**	*e*Pn	**Pb**	**05 01 24.1**	**-0.3**
EFP	**Efpalio**	**1.94**	**28**	*e*PN	Pn	05 01 24.3	+1.5
EFP	**Efpalio**	**1.94**	**28**	*e*Pn	Pn	05 01 24.3	+1.5
KALE	**Kalithea**	**2.01**	**34**	*e*PN	Pn	05 01 25.3	+1.5
KALE	**Kalithea**	**2.01**	**34**	*e*Pn	Pn	05 01 25.3	+1.5
LTK	**Loutraki**	**2.21**	**53**	P	Pn	05 01 27.1	+0.6
LTK				S	**Sn**	**05 01 54.9**	**+0.5**
LTK	**Loutraki**	**2.21**	**53**	*e*PN

SONM	**Songino Array**	**46.47**	**9**	P		**P**	**05 23 38.9**	**+0.2**
	1.2nm,0.3s,baz=190,slow=9.3,SNR=17							
SONM				PcP		**PcP**	**05 25 13.8**	**+0.8**
	0.8nm,0.6s,baz=194,slow=4.3,SNR=4.4							
SONM				pPcP			05 25 21.5	
	0.3nm,0.4s,baz=205,slow=3.2,SNR=4.3							
GEYT	**Alibeck**	**50.35**	**320**	P		**P**	**05 24 09.4**	**+0.6**
	1.2nm,0.3s,baz=183,slow=9.7,SNR=2.5							
GEYT				pP		**pP**	**05 24 15.8**	**-1.5**
	2.2nm,0.4s,baz=134,slow=4.2,SNR=2.0							
KURBB	**Kurchatov Arra**	**50.90**	**345**	P		**P**	**05 24 13.2**	**+0.7**
	1.5nm,0.6s,baz=167,slow=7.1,SNR=6.8							
KURBB				pP		**pP**	**05 24 20.8**	**-0.3**
	1.2nm,0.5s,baz=164,slow=6.5,SNR=3.7							
MJAR	**Matsushiro Arr**	**51.45**	**43**	P		**P**	**05 24 17.3**	**+0.3**
	0.7nm,0.5s,baz=200,slow=6.8,SNR=4.5							
ZALV	**Zalesovo Beam**	**52.76**	**351**	P		**P**	**05 24 26.7**	**+0.4**
	3.5nm,0.4s,baz=180,slow=6.8,SNR=32							
ZALV				pP		**pP**	**05 24 33.5**	**-1.4**
	1.9nm,0.4s,baz=174,slow=6.9,SNR=7.9							
BVAR	**Borovoye Array**	**55.40**	**341**	P		**P**	**05 24 45.8**	**+0.2**
	1.4nm,0.7s,baz=143,slow=9.8,SNR=11							
BVAR				pP		**pP**	**05 24 53.5**	**-0.9**
	1.9nm,0.8s,baz=141,slow=9.6,SNR=6.2							
FINES	**FINESS Array B**	**79.13**	**333**	P		**P**	**05 27 16.2**	**+0.4**
	4.5nm,1.0s,baz=161,slow=24,SNR=4.2							
FINES				pP		**PcP**	**05 27 23.8**	**-0.4**
	0.7nm,0.6s,baz=169,slow=5.0,SNR=0.7							
ARCES	**ARCESS Array B**	**81.69**	**340**	P		**P**	**05 27 29.9**	**+0.4**
	2.0nm,0.9s,baz=62,slow=11,SNR=4.2							
ARCES				pP		**PcP**	**05 27 35.9**	**+0.6**
	3.7nm,0.9s,baz=101,slow=6.3,SNR=2.3							
H09W1	**TRISTAN DA CUN**	**06.35**	**232**	T		T	07 29 01.8	
	SNR=10							

IDC ***18*** *05:23:24.7±1.0, 37.°17S×73.°58W, h0km, mb4.0/8, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, ML3.2/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/29, Error ellipse: s-maj=31.4km s-min=15.1km az=89.0*

ISCJB ***18*** *05:23:25.4±0.8, 37.°15S±0.°07×73.°7W±0.°2, h14km, mb4.0/8, MS3.8/3, Error ellipse: s-maj=19.5km s-min=8.9km az=15.3*

ISC 18 05:23:26.5±0.8, 37.°15S±0.°09×73.°7W±0.°2, h14km, n18, σ0§87/18, mb4.0/8, MS4.0/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.36**	**146**	Pn		**Pn**	**Pn**	**05 24 32.9**	**+0.6**
	0.6nm,0.3s,baz=331,slow=13,SNR=7.7								
PLCA				Lg		Lg	Lg	05 25 38.5	
	3.5nm,0.3s,baz=255,slow=12,SNR=3.4								
PLCA				LR		LR	LR	05 25 40.6	
	comp=Z,114nm,20.2s,baz=322,slow=32								
CFAA	**Coronel Fontan**	**7.17**	**41**	Pn		**Pn**	**Pn**	**05 25 10.7**	**-0.2**
	0.1nm,0.3s,baz=198,slow=12,SNR=8.9								
CFAA				Sn		**Sn**	**Sn**	**05 26 33.3**	**+1.2**
	0.1nm,0.3s,baz=138,slow=23,SNR=0.9								
CFAA				Lg		Lg	Lg	05 26 49.0	
	0.1nm,0.3s,baz=173,slow=13,SNR=3.1								
CFAA				LR		LR	LR	05 28 24.4	
	comp=Z,83nm,20.2s,baz=224,slow=42								
LVC	**Limon Verde**	**15.08**	**17**	Pn		**Pn**	**Pn**	**05 26 59.3**	**-0.1**
	4.6nm,0.3s,baz=262,slow=16,SNR=1.8								
LVC				Lg		Lg	Lg	05 31 05.2	
	3.1nm,0.3s,baz=295,slow=22,SNR=3.2								
CPUP	**Villa Florida**	**17.62**	**57**	LR		LR	LR	05 34 12.6	
	comp=Z,1μm,18.2s,baz=220,slow=37								
LPAZ	**La Paz**	**21.37**	**15**	P		**P**	**P**	**05 28 15.9**	**+1.7**
	6.8nm,0.9s,baz=188,slow=7.4,SNR=12								
SIV	**San Ignacio**	**23.88**	**31**	P		**P**	**P**	**05 28 39.8**	**0.0**
	4.9nm,1.0s,baz=231,slow=8.4,SNR=10								
BDFB	**Brasilia**	**31.29**	**54**	P		**P**	**P**	**05 29 45.7**	**-0.6**
	4.2nm,1.1s,baz=232,slow=6.5,SNR=4.4								
BDFB				LR		LR	LR	05 43 48.2	
	comp=Z,313nm,19.4s,baz=248,slow=39								
PTGA	**Pitinga**	**38.41**	**23**	P		**P**	**P**	**05 30 47.0**	**-0.6**
	1.1nm,0.4s,baz=200,slow=11,SNR=4.0								
RCBR	**Riachuelo**	**46.50**	**57**	LR		LR	LR	05 53 42.1	
	comp=Z,174nm,18.9s,baz=212,slow=39								
SNAA	**Sanae**	**49.22**	**157**	P		**P**	**P**	**05 32 14.4**	**+0.4**
	3.1nm,1.2s,baz=260,slow=10,SNR=5.9								
QSPA	**South Pole Qui**	**53.09**	**180**	P		**P**	**P**	**05 32 43.7**	**+0.5**
	1.8nm,1.0s,baz=148,slow=9.5,SNR=3.0								
LPIG	**La Paz**	**69.99**	**325**	LR		LR	LR	05 56 31.1	
	comp=Z,21nm,21.9s,baz=18,slow=28								
TXAR	**Lajitas Array**	**71.85**	**333**	P		**P**	**P**	**05 34 49.9**	**+1.0**
	0.4nm,0.6s,baz=145,slow=13,SNR=2.6								
TORD	**Torodi Ar. Bea**	**86.58**	**71**	P		**P**	**P**	**05 36 09.4**	**-0.1**
	0.9nm,0.9s,baz=229,slow=6.7,SNR=4.5								
BRTR	**Keskin Array B**	**124.53**	**63**	PKP		**PKPdf**	**PKPdf**	**05 42 25.7**	**+0.4**
	0.4nm,0.7s,baz=301,slow=0.8,SNR=3.5								
PSI	**Prapat**	**145.15**	**167**	PKPbc		**PKPbc**	**PKPbc**	**05 43 03.3**	**-0.5**
	7.1nm,0.8s,baz=218,slow=2.8,SNR=7.7								
BVAR	**Borovoye Array**	**150.50**	**46**	PKPbc		**PKPbc**	**PKPbc**	**05 43 16.4**	**-0.7**
	0.5nm,0.5s,baz=298,slow=3.1,SNR=3.8								
BVAR				PKPab		**PKPab**	**PKPab**	**05 43 22.4**	**-1.4**
	0.5nm,0.4s,baz=289,slow=4.5,SNR=4.0								
MKAR	**Makanchi Array**	**159.81**	**54**	PKP		**PKPdf**	**PKPdf**	**05 43 23.8**	**-0.8**
	0.3nm,0.8s,baz=17,slow=2.0,SNR=3.7								
MKAR				PKPab		**PKPab**	**PKPab**	**05 44 02.9**	**-0.8**
	0.5nm,0.8s,baz=275,slow=4.4,SNR=5.6								

MEX 18 05:24:00.0±0.6, 32.°31N×115.°20W, h15km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.10**	**359**	*e*P		Pg		05 24 03.1	-0.1
MBIG				*i* S		Sg		05 24 05.2	-0.2
CBX	**Cerro Bola**	**1.24**	**271**	*e*P		Pn		05 24 19.5	-3.6
CBX				*i* S		Sb		05 24 33.9	-5.4
SPIG	**San Pedro Mart**	**1.28**	**190**	*e*P		Pn		05 24 19.9	-3.9
SPIG				*i* S		Sb		05 24 35.4	-5.4

ISCJB ***18*** *05:26:02.3±0.4, 36.°43N±0.°03×69.°59E±0.°05, h150km, mb3.3/7, Error ellipse: s-maj=6.4km s-min=3.6km az=144.1*

IDC ***18*** *05:26:04.9±1.1, 36.°37N×69.°68E, h173km±7km, mb3.2/8, mb1 3.3/14, mb1mx3.1/33, mbtmp3.8/14, Error ellipse: s-maj=24.3km s-min=15.8km az=154.0*

NNC ***18*** *05:26:09.4±1.4, 36.°90N×69.°76E, h164km±11km, mb3.1, mpv4.2, Error ellipse: s-maj=14.4km s-min=8.1km az=165.0*

ISC 18 05:26:03.6±0.6, 36.°46N±0.°06×69.°68E±0.°06, h150km, n50, σ1§71/60, mb3.3/7, 11C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.44**	**344**	⇑P		**Pn**	**Pn**	**05 26 45.7**	**+1.6**
	66nm,0.1s								
DZET				⇑S		**Sn**	**Sn**	**05 27 14.9**	**-0.4**
	672nm,0.3s								
SFK	**Sufi-Kurgan**	**4.66**	**39**	⇑P		**Pn**	**Pn**	**05 27 13.9**	**+1.3**
	7.3nm,0.2s								
SFK				⇑S		**Sn**	**Sn**	**05 28 04.2**	**-2.2**
	98nm,0.4s								
MNAS	**Manas**	**6.41**	**19**	P		**Pn**	**Pn**	**05 27 36.1**	**+0.3**
MNAS				S		**Sn**	**Sn**	**05 28 45.4**	**-2.6**
AML	**Almayashu**	**6.46**	**28**	P		**Pn**	**Pn**	**05 27 37.2**	**+0.4**
	SNR=172								
DLH	**Dalhousie**	**6.50**	**125**	*e*P		**Pn**	**Pn**	**05 27 40.0**	**+2.9**
DLH				*e*S		**Sn**	**Sn**	**05 28 52.0**	**+1.7**
KK31	**Karatay Array**	**6.67**	**5**	P		**Pn**	**Pn**	**05 27 39.2**	**+0.1**
	2.1nm,0.2s,baz=198,slow=16,SNR=190								
KK31				⇓S		Sn	Sn	05 28 49.3	-4.8
	10nm,0.3s,baz=204,slow=19,SNR=15								
UCH	**Uchtor**	**6.87**	**32**	P		**Pn**	**Pn**	**05 27 43.0**	**+0.7**
	SNR=12								
DHRM	**DHARAMSHALA**	**6.90**	**126**	*e*P		**Pn**	**Pn**	**05 27 43.8**	**+1.3**
DHRM				*e*S		**Sn**	**Sn**	**05 28 58.5**	**-1.4**
DHRM				AML		AML	AML	05 29 01.7	
	comp=N,169nm,1.2s								
DHRM				AML		AML	AML	05 29 02.4	
	comp=E,245nm,0.6s								
EKS2	**Erkin-Say**	**6.96**	**26**	P		**Pn**	**Pn**	**05 27 43.7**	**+0.6**
	SNR=22								
KZA	**Kyzart**	**7.08**	**36**	P		**Pn**	**Pn**	**05 27 45.2**	**+0.2**
	SNR=13								
AAK	**Ala-Archa**	**7.20**	**30**	⇑P		**Pn**	**Pn**	**05 27 47.0**	**+0.7**
	comp=E,19nm,0.7s								
AAK				⇑S		Sn	Sn	05 29 03.8	-3.3
	comp=E,34nm,0.6s								
AAK	**Ala-Archa**	**7.20**	**30**	P		**Pn**	**Pn**	**05 27 47.2**	**+0.8**
	SNR=37								
AAK	**Ala-Archa**	**7.20**	**30**	P		**Pn**	**Pn**	**05 27 47.1**	**+0.7**
	comp=E,5.1nm,0.3s,baz=200,slow=8.3,SNR=107								
AAK				S		**Sn**	**Sn**	**05 29 04.6**	**-2.4**
	comp=E,6.6nm,0.3s,baz=97,slow=20,SNR=13								
KBK	**Karagaybulak**	**7.41**	**32**	P		**Pn**	**Pn**	**05 27 50.1**	**+1.0**
	SNR=5.3								
CHMS	**Chumysh**	**7.61**	**29**	P		**Pn**	**Pn**	**05 27 52.0**	**+0.3**
	SNR=19								
ULHL	**Ulahol**	**7.70**	**39**	P		**Pn**	**Pn**	**05 27 53.5**	**+0.4**
	SNR=7.9								
USP	**Ospenovka**	**7.75**	**27**	P		**Pn**	**Pn**	**05 27 53.4**	**-0.1**
	SNR=14								
TKM2	**Tokmak 2**	**7.90**	**33**	⇓P		**Pn**	**Pn**	**05 27 55.9**	**+0.1**
	comp=E,7.4nm,0.6s								
TKM2				⇓S		Sn	Sn	05 29 20.5	-3.5
	comp=E,9.8nm,0.6s								
TKM2	**Tokmak 2**	**7.90**	**33**	P		**Pn**	**Pn**	**05 27 56.1**	**+0.3**
	SNR=26								
SMLA	**Simla**	**8.19**	**128**	*e*P		**Pn**	**Pn**	**05 27 59.2**	**-0.2**
SMLA				*e*S		**Sn**	**Sn**	**05 29 25.1**	**-5.5**
SMLA				AML		AML	AML	05 29 32.5	
	comp=E,73nm,0.4s								
SMLA				AML		AML	AML	05 29 33.8	
	comp=N,71nm,0.4s								
GEYT	**Alibeck**	**9.34**	**283**	P		**Pn**	**Pn**	**05 28 14.4**	**-0.5**
	comp=N,1.4nm,0.3s,baz=89,slow=12,SNR=4.8								
GEYT				S		**Sn**	**Sn**	**05 29 54.9**	**-3.6**
	comp=N,1.5nm,0.3s,baz=250,slow=33,SNR=1.7								
NDI	**New Delhi**	**10.02**	**139**	*e*S		Sn	Sn	05 30 06.0	-8.9
MK31	**Makanchi Array**	**13.97**	**38**	⇑P		**Pn**	**Pn**	**05 29 16.9**	**+2.0**
	comp=N,0.5nm,0.3s,baz=221,slow=15,SNR=26								
MKAR	**Makanchi Array**	**13.97**	**38**	P		**Pn**	**Pn**	**05 29 14.5**	**-0.5**
	comp=N,0.3nm,0.3s,baz=223,slow=16,SNR=14								
PYUN	**Piuthan**	**14.00**	**123**	*e*P		**Pn**	**Pn**	**05 29 14.3**	**-1.4**
	comp=N,62nm,0.4s								
DANN	**Dangsing**	**14.37**	**120**	*e*P		**Pn**	**Pn**	**05 29 21.7**	**+1.3**
	comp=N,12nm,0.3s								
KOLN	**Koldanda**	**14.62**	**122**	*e*P		**Pn**	**Pn**	**05 29 23.0**	**-0.5**
	comp=N,11nm,0.3s								
AB31	**Akbulak array**	**14.63**	**334**	⇑P		**Pn**	**Pn**	**05 29 24.5**	**+1.3**
	comp=N,0.4nm,0.3s,baz=148,slow=13,SNR=19								
AB31				⇑S		Sn	Sn	05 32 01.4	-4.0
	comp=N,0.2nm,0.2s,baz=145,slow=24,SNR=4.5								
GKN	**Gorkha**	**15.19**	**119**	*e*P		**P**	**P**	**05 29 32.4**	**+0.3**
	comp=N,25nm,0.4s								
KURBB	**Kurchatov Arra**	**15.53**	**21**	⇓P		**Pn**	**Pn**	**05 29 35.6**	**+1.3**
	comp=N,1.7nm,0.4s								
KURBB	**Kurchatov Arra**	**15.53**	**21**	P		**Pn**	**Pn**	**05 29 35.9**	**+1.5**
	comp=N,0.2nm,0.3s,baz=213,slow=9.4,SNR=6.7								
KURK	**Kurchatov**	**15.64**	**22**	⇑P		**Pn**	**Pn**	**05 29 36.8**	**+1.2**
	comp=N,1.5nm,1.1s								
DMN	**Daman**	**15.76**	**120**	*e*P		**Pn**	**Pn**	**05 29 38.2**	**+0.5**
	comp=N,12nm,0.3s								
KKN	**Kakani**	**15.78**	**119**	*e*P		**P**	**P**	**05 29 39.5**	**+0.9**
	comp=N,29nm,0.5s								
PKIN	**Phulchoki**	**15.99**	**119**	*e*P		**Pn**	**Pn**	**05 29 40.1**	**-0.3**
	comp=N,15nm,0.3s								
GUN	**Gumba**	**16.13**	**117**	*e*P		**Pn**	**Pn**	**05 29 43.0**	**+0.7**
	comp=N,21nm,0.4s								
AKTO	**Aktyubinsk**	**16.31**	**333**	⇑P		**Pn**	**Pn**	**05 29 42.2**	**-1.6**
	comp=N,2.5nm,1.1s								
AKTO	**Aktyubinsk**	**16.31**	**333**	P		**Pn**	**Pn**	**05 29 43.6**	**-0.2**
	comp=N,0.2nm,0.3s,baz=151,slow=11,SNR=5.3								
AKTO				pP		pP		05 30 16.5	+6.8
	comp=N,0.2nm,0.3s,baz=145,slow=12,SNR=4.2								
AKTO				sP		**sP**	**sP**	**05 30 28.8**	**0.0**
	comp=N,0.4nm,0.3s,baz=132,slow=16,SNR=4.6								
JIRN	**Jiri**	**16.50**	**117**	*e*P		**Pn**	**Pn**	**05 29 46.6**	**-0.2**
	comp=N,26nm,0.3s								
BVAR	**Borovoye Array**	**16.57**	**2**	P		**P**	**P**	**05 29 48.8**	**+1.8**
	comp=N,0.2nm,0.3s,baz=171,slow=10,SNR=5.7								
RAMN	**Ramite**	**17.22**	**119**	*e*P		**P**	**P**	**05 29 54.8**	**+0.3**
TAPN	**Taplejung**	**17.78**	**116**	*e*P		**P**	**P**	**05 30 02.2**	**+1.5**
	comp=N,8.2nm,0.3s								
ZALV	**Zalesovo Beam**	**20.41**	**26**	P		**P**	**P**	**05 30 28.3**	**-0.3**
	comp=N,3.5nm,0.4s,baz=215,slow=11,SNR=28								
SONM	**Songino Array**	**29.24**	**56**	P		**P**	**P**	**05 31 51.6**	**+0.3**
	comp=N,1.1nm,0.8s,baz=274,slow=10,SNR=9.5								
ARCES	**ARCESS Array B**	**40.78**	**338**	P		**P**	**P**	**05 33 30.1**	**+0.6**
	comp=N,4.1nm,1.0s,baz=107,slow=7.7,SNR=7.3								
NOA	**NORSAR Array B**	**43.78**	**323**	P		**P**	**P**	**05 33 53.4**	**-0.5**
	comp=N,0.6nm,0.7s,baz=100,slow=7.9,SNR=3.4								
TORD	**Torodi Ar. Bea**	**64.65**	**268**	P		**P**	**P**	**05 36 23.8**	**-1.7**
	comp=N,0.3nm,0.5s,baz=44,slow=5.9,SNR=6.3								
TORD				pP		**pP**	**pP**	**05 37 06.1**	**+4.8**
	comp=N,0.3nm,0.6s,baz=52,slow=5.5,SNR=1.9								
INK	**Inuvik**	**74.11**	**9**	P		**P**	**P**	**05 37 23.1**	**+0.4**
	comp=N,0.4nm,0.7s,baz=0.0,slow=10,SNR=3.1								
YKA	**Yellowknife Ar**	**81.33**	**2**	P		**P**	**P**	**05 38 01.7**	**-1.1**
	comp=N,0.1nm,0.6s,baz=349,slow=5.6,SNR=2.7								
YKA				pP		**pP**	**pP**	**05 38 45.1**	**+5.0**
	comp=N,0.2nm,0.6s,baz=349,slow=5.5,SNR=5.5								
YKA				sP		sP	sP	05 39 02.6	+6.6
	comp=N,0.2nm,0.7s,baz=353,slow=5.1,SNR=3.1								
ASAR	**Alice Springs**	**85.11**	**124**	P		**P**	**P**	**05 38 20.8**	**-2.0**
	comp=N,0.2nm,0.6s,baz=322,slow=4.1,SNR=3.8								

IDC ***18*** *05:31:26.7±0.6, 61.°80S×161.°23E, h0km, mb4.6/9, mb1 4.8/11, mb1mx4.6/17, mbtmp4.6/11, ML4.4/2, MS4.6/8, Ms1 4.6/8, ms1mx4.3/18, Error ellipse: s-maj=27.1km s-min=17.3km az=83.0*

ISCJB ***18*** *05:31:27.5±0.4, 61.°76S±0.°05×161.°1E±0.°2, h10km, mb4.7/18, MS4.6/7, Error ellipse: s-maj=12.6km s-min=7.7km az=7.1*

BJI ***18*** *05:31:28.5, 61.°80S×161.°10E, h10km, mB5.5/8, mb5.5/3, Ms5.3/8, Ms7 4.6/9*

GCMT ***18*** *05:31:28.4±0.2, 61.°69S×161.°26E, h12km, MW5.2/82, Moment Tensor Solution. s55,c76; s82,c119; Duration: 0 Moment tensor: Scale 10[16]Nm; Mrr=1.72±.16; Mθθ=6.15±.13; Mϕϕ=-4.43±.14; Mrθ=-1.81±.35; Mϕθ=-3.46±.12; Mϕr=0.11±.39; Best double couple: M=6.53300×10[16] NP1:ϕs=242.00000°, δ90.00000°, λ166.00000°. NP2: ϕs=332.00000°, δ76.00000°, λ1.00000°. Principal axes: T 7.4970, Plg10.0000°, Azm196.0000°; N -1.9280, Plg76.0000°, Azm60.0000°; P -5.5690, Plg10.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *05:31:28.4±0.3, 61.°82S×161.°16E, h10km, mb5.1/14 Error ellipse: s-maj=12.2km s-min=7.0km az=95.0*

ISC 18 05:31:28.7±0.4, 61.°91S±0.°07×161.°17E±0.°10, h10km, n138, σ1§49/122, mb4.8/18, MS4.6/7, 13C-7D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.53**	**350**	Pn		Pn	Pn	05 33 10.9	-7.4
	3μm,0.7s								
VNDA	**Vanda**	**15.69**	**179**	Pn		**Pn**	**Pn**	**05 35 09.7**	**+0.3**
	1.6nm,0.3s,baz=347,slow=13,SNR=52								
VNDA	**Vanda**	**15.69**	**179**	Pn		**Pn**	**Pn**	**05 35 09.7**	**+0.3**
	10nm,1.2s								
SBA	**Scott Base**	**16.12**	**176**	*e*Pn		**P**	**P**	**05 35 17.0**	**-1.2**
	332nm,1.7s								
WHZ	**Wether Hill Ro**	**16.52**	**17**	*e*Pn		**Pn**	**Pn**	**05 35 17.9**	**-2.4**
	321nm,1.7s								
ODZ	**Otahua Downs**	**17.78**	**22**	*e*Pn		**Pn**	**Pn**	**05 35 34.6**	**-1.4**
	105nm,1.2s								
RPZ	**Rata Peaks**	**19.14**	**22**	P		**P**	**P**	**05 35 50.1**	**-1.7**
	1.1nm,0.3s,baz=147,slow=3.6,SNR=12								
RPZ				LR		LR	LR	05 42 31.0	
	comp=Z,3μm,18.4s,baz=219,slow=35								
TAU	**Tasmania Unive**	**20.74**	**330**	*e*P		**P**	**P**	**05 36 08.8**	**-0.3**
KHZ	**Kahutara**	**20.88**	**26**	*e*P		**P**	**P**	**05 36 10.8**	**+0.2**
	1μm,2.5s								
CASY	**Casey**	**22.02**	**237**	*e*P		**P**	**P**	**05 36 27.1**	**+4.3**
	269nm,2.4s								
SNZO	**South Karori**	**22.19**	**28**	*e*P		**P**	**P**	**05 36 24.2**	**-0.5**
	78nm,1.3s								
BKZ	**Black Stump Fm**	**24.64**	**30**	*e*P		**P**	**P**	**05 36 49.0**	**-0.2**
	100nm,1.6s								
URZ	**Urewera**	**25.65**	**30**	P		**P**	**P**	**05 36 57.7**	**-0.5**
	16nm,1.0s,baz=198,slow=1.7,SNR=8.2								
URZ				LR		LR	LR	05 46 01.0	
	comp=Z,2μm,18.5s,baz=203,slow=34								
CAN	**Canberra**	**27.70**	**338**	*e*P		**P**	**P**	**05 37 15.1**	**-1.8**
	3.8nm,0.9s								
QSPA	**South Pole Qui**	**28.18**	**180**	P		**P**	**P**	**05 37 22.6**	**+1.6**
	3.3nm,1.0s,baz=334,slow=1.8,SNR=6.0								
QSPA				LR		LR	LR	05 47 15.8	
	comp=Z,1μm,21.6s,baz=26,slow=34								
STKA	**Stephens Creek**	**32.61**	**328**	P		**P**	**P**	**05 38 00.3**	**+0.1**
	8.1nm,1.0s,baz=152,slow=11,SNR=9.8								
STKA				LR		LR	LR	05 49 16.0	
	comp=Z,1μm,18.0s,baz=157,slow=33								
BBOO	**Buckleboo**	**33.28**	**319**	*e*P		**P**	**P**	**05 38 06.1**	**0.0**
	1.7nm,1.1s								
EIDS	**Eidsvold**	**37.16**	**345**	*e*P		**P**	**P**	**05 38 40.5**	**+0.9**
	34nm,1.4s								
FORT	**Forrest**	**37.84**	**310**	*e*P		**P**	**P**	**05 38 44.4**	**-0.8**
	59nm,1.4s								
MAW	**Mawson**	**38.05**	**218**	LR		LR	LR	05 54 50.5	
	comp=Z,2μm,18.7s,baz=108,slow=37								
H01W1	**Cape Leeuwin H**	**39.92**	**290**	T		T	T	06 21 36.4	
	baz=146,slow=76,SNR=252								
H01W2	**Cape Leeuwin H**	**39.93**	**290**	T		T	T	06 21 36.8	
	baz=146,slow=76,SNR=344								
H01W3	**Cape Leeuwin H**	**39.94**	**290**	T		T	T	06 21 36.7	
	baz=146,slow=76,SNR=276								
DZM	**Mont Dzumac**	**39.98**	**8**	*e*LR		LR	LR	05 50 01.8	
	821nm,24.1s								
ASAR	**Alice Springs**	**42.49**	**322**	P		**P**	**P**	**05 39 22.8**	**-1.1**
	21nm,0.8s,baz=162,slow=8.5,SNR=255								
ASAR				PcP		**PcP**	**PcP**	**05 41 15.2**	**-1.3**
	2.0nm,0.8s,baz=155,slow=4.1,SNR=4.8								
WB2	**Warramunga Arr**	**45.89**	**324**	*e*P		**P**	**P**	**05 39 49.0**	**-2.1**
WRA	**Warramunga Arr**	**45.89**	**324**	P		**P**	**P**	**05 39 49.0**	**-2.2**
	5.4nm,1.1s,baz=163,slow=6.7,SNR=14								
WRA				PcP		**PcP**	**PcP**	**05 41 26.7**	**-1.4**
	3.3nm,0.8s,baz=164,slow=3.0,SNR=13								
WRAB	**Tennant Creek**	**45.90**	**324**	*e*P		**P**	**P**	**05 39 48.9**	**-2.3**
	35nm,1.6s								
PAF	**Port-aux-Franc**	**48.60**	**241**	S		**S**	**S**	**05 47 08.0**	**-5.3**
PAF				R				05 50 00.0	
TBI	**Tubuai**	**50.92**	**64**	*e*LQ		LQ	LQ	05 52 13.4	
	1μm,28.8s								
TBI				*e*LR		LR	LR	05 54 37.5	
	447nm,30.8s,baz=205								
TBI	**Tubuai**	**50.92**	**64**	*e*T		T	T	06 34 39.5	
	32nm,0.3s								
HNR	**Honiara**	**52.39**	**358**	LR		LR	LR	05 57 52.4	
	comp=Z,759nm,21.6s,baz=161,slow=30								
PAE	**Paea**	**55.93**	**61**	*e*T		T	T	06 41 01.6	
	11nm,0.3s								
TVO	**Taravao**	**55.96**	**61**	*e*T		T	T	06 41 04.2	
	7.1nm,0.4s								
PPT2	**Papeete2**	**56.00**	**61**	*e*S		**S**	**S**	**05 48 58.9**	**+3.5**
	112nm,26.5s								
PPT2				*e*LR		LR	LR	05 57 09.1	
	896nm,28.2s,baz=202								
PPT2	**Papeete2**	**56.00**	**61**	*e*T		T	T	06 41 07.0	
	22nm,0.3s								
PPT	**Papeete**	**56.02**	**61**	LR		LR	LR	05 58 41.9	
	comp=Z,174nm,21.5s,baz=192,slow=29								
TIAR	**Tiarei**	**56.12**	**61**	*e*T		T	T	06 41 16.0	
	9.1nm,0.3s								
MEH	**Mehetia**	**56.37**	**62**	*e*T		T	T	06 41 38.5	
	22nm,0.3s								
RKT	**Rikitea**	**57.60**	**78**	*e*T		T	T	06 43 22.3	
	37nm,0.3s								
CRZF	**Crozet Islands**	**58.13**	**230**	S		**S**	**S**	**05 49 20.0**	**-2.8**
CRZF				R				05 59 00.0	
VAH	**Vaihoa**	**58.92**	**61**	*e*T		T	T	06 44 45.4	
	92nm,0.2s								
JAY	**Jayapura**	**61.22**	**337**	LR

0.6nm,0.6s,baz=29,slow=3.3,SNR=4.0
TIXI Tiksi 135.14 346 *e*PKPdf **PKPdf 05 50 45.1 -1.2**
YKA Yellowknife Ar 139.30 45 PKhKP PKPpre 05 50 43.8
0.5nm,0.8s,baz=222,slow=3.2,SNR=9.6
YKA PKP **PKPdf 05 50 51.3 -3.0**
0.7nm,0.8s,baz=229,slow=3.4,SNR=9.4
PYL PYLOS 144.56 244 *e*P **PKPab 05 51 02.7 -0.3**
PTL Penteli 144.62 248 *e*P **PKPab 05 51 02.9 -0.3**
ITM Ithomi 144.73 245 *e*P **PKPab 05 51 03.1 -0.6**
LTK Loutraki 144.99 247 *e*P PKPbc 05 51 02.1 -2.5
GUR Goura 145.18 246 *e*P **PKPbc 05 51 05.3 0.0**
MRKA Markates 145.28 248 *e*P PKPdf 05 51 11.9 +6.2
KLV Kalavryta, Ach 145.35 246 *e*P **PKPab 05 51 06.1 +0.1**
DRO Drossia 145.47 245 *e*P **PKPab 05 51 06.4 0.0**
KALE Kalithea 145.65 246 *e*P **PKPdf 05 51 06.3 -0.1**
RLS Riolos of Patr 145.66 245 *e*P **PKPab 05 51 07.3 +0.3**
AXAR Agios Charalam 145.74 247 *e*P **PKPab 05 51 07.7 +0.4**
EFP Efpalio 145.78 246 *e*P **PKPbc 05 51 07.2 +0.1**
AGG Agios Georgios 146.09 247 *e*P **PKPdf 05 51 07.4 +0.3**
VLS Valsamata 146.14 244 *e*P **PKPbc 05 51 08.3 +0.1**
MAKR Makrakomi, Fth 146.17 247 *e*P **PKPbc 05 51 08.4 +0.1**
EVR Evrytania 146.23 246 *e*P **PKPbc 05 51 08.6 0.0**
PDO Prodromos 146.24 245 *e*P **PKPdf 05 51 03.8 -3.5**
RDO Rodhopi 146.40 253 *e*P **PKPdf 05 51 08.0 +0.5**
OUR Ouranopolis 146.44 250 *e*P **PKPab 05 51 12.6 +2.7**
THL Klokotos Trika 146.68 247 *e*P **PKPbc 05 51 09.2 -0.5**
KDZ Kurdzhali 146.86 253 ⇑*i*P **PKPbc 05 51 09.8 -0.4**
KDZ Kurdzhali 146.86 253 *e*P **PKPdf 05 51 04.7 -3.6**
LIT Litokhoron 146.91 248 *e*P **PKPab 05 51 11.8 0.0**
PRD Provadia 147.17 257 *e*P **PKPdf 05 51 08.8 +0.1**
RZN Rozhen 147.20 252 *e*P **PKPbc 05 51 10.7 -0.7**
NVR Nevrokopi 147.32 251 *e*P **PKPbc 05 51 10.6 -0.9**
IGT Igoumenitsa 147.38 245 *e*P **PKPbc 05 51 11.6 -0.1**
MMB Musomiste 147.57 251 ⇓*i*P **PKPab 05 51 15.1 +0.7**
MMB Musomiste 147.57 251 *e*P **PKPbc 05 51 11.0 -1.2**
KNT Kendrikon 147.59 250 *e*P **PKPbc 05 51 11.6 -0.7**
NEST Nestorio 147.80 247 *e*P **PKPbc 05 51 12.8 -0.1**
TLB Topalu 147.94 259 ⇓*i*P **PKPbc 05 51 12.6 -0.4**
KKB Krupnik 148.08 251 *e*P **PKPdf 05 51 11.9 +1.6**
CFR Carcaliu 148.34 260 ⇑*i*P **PKPbc 05 51 13.6 -0.4**
KEST Kesra 148.38 227 PKPbc **PKPbc 05 51 14.6 0.0**
2.3nm,1.0s,baz=330,slow=4.1,SNR=4.2
TIP Timpagrande 148.58 240 *e*PKPbc **PKPbc 05 51 15.2 +0.2**
VTS Vitosha 148.60 252 ⇓*i*P **PKPbc 05 51 14.9 -0.1**
VTS Vitosha 148.60 252 *e*P **PKPbc 05 51 13.7 -1.3**
MPEP Malo Peshtene 148.96 253 *e*P **PKPbc 05 51 14.9 -0.8**
MDT Midelt 149.48 204 PKPbc **PKPbc 05 51 16.5 -1.0**
2.4nm,0.9s,baz=185,slow=1.6,SNR=3.5
VRI Vrincioaia 149.51 260 ⇑*i*P **PKPbc 05 51 16.2 -0.8**
PLOR Plostina 149.53 259 ⇑*i*P **PKPbc 05 51 16.4 -0.7**
MLR Muntele Rosu 149.59 258 ⇑*i*P **PKPbc 05 51 16.6 -0.8**
MLR Muntele Rosu 149.59 258 PKPbc **PKPbc 05 51 16.7 -0.7**
1.8nm,0.8s,baz=175,slow=2.3,SNR=19
VOIR 149.97 257 ⇑*i*P **PKPbc 05 51 17.3 -1.0**
TESR Tescani 150.03 260 ⇑*i*P **PKPbc 05 51 17.7 -0.6**
ARR Arges 150.10 257 ⇑*i*P **PKPbc 05 51 17.8 -0.8**
DOPR Dopca 150.21 258 ⇑*i*P **PKPbc 05 51 18.5 -0.2**
LOT Lotru 150.56 256 ⇓*i*P **PKPbc 05 51 19.6 -0.1**
GZR Gura Zlata 150.98 255 ⇓*i*P **PKPbc 05 51 20.9 +0.3**
OBN Obninsk 151.09 282 PKPbc **PKPbc 05 51 20.4 0.0**
24nm,0.6s,baz=357,slow=5.5,SNR=5.6
OBN Obninsk 151.09 282 *e*PKPbc **PKPbc 05 51 19.8 -0.6**
OBN *e*PKPab **PKPab 05 51 27.4 -0.9**
BURAR Bucovina Array 151.50 260 ⇑*i*P **PKPbc 05 51 22.4 +0.6**
RES Resolute Bay 151.59 33 PKPbc **PKPbc 05 51 19.7 -1.4**
3.3nm,1.0s,baz=246,slow=3.3,SNR=13
BZS Buzias 151.68 254 ⇓*i*P **PKPbc 05 51 21.6 -0.6**
AKASG Malin Array Be 151.76 269 PKPbc **PKPbc 05 51 21.3 -0.9**
4.3nm,0.6s,baz=83,slow=2.5,SNR=29
KIEV Kiev 151.77 269 *e*PKPbc **PKPbc 05 51 21.2 -0.9**
KIEV *e*PKPab **PKPab 05 51 31.3 0.0**
DRGR 152.06 257 ⇓*i*P **PKPbc 05 51 22.4 -0.7**
SIRR Siria 152.15 255 ⇑*i*P **PKPbc 05 51 22.9 -0.3**
TRPA Tarpa 153.12 258 ⇑*i*P **PKPbc 05 51 25.1 -0.2**
PKSM Moragy 153.47 251 ⇑*i*P **PKPbc 05 51 25.7 -0.4**
ESDC Sonseca Array 155.95 209 PKPbc PKPdf 05 51 30.5 +8.3
0.4nm,0.6s,baz=146,slow=2.6,SNR=4.6
DAVOX Davos/Dischmat 157.70 240 PKPab **PKPab 05 51 56.3 -0.6**
2.6nm,0.6s,baz=122,slow=8.3,SNR=5.8
CLL Collm 159.74 253 *e*PKPab **PKPab 05 52 06.0 +0.6**
comp=Z,3.0nm,1.1s

IDC ***18*** *05:33:43.4±0.4, 15°.34S×172°.17W, h0km, mb4.4/24, mb1 4.6/24, mb1mx4.5/30, mbtmp4.4/24, MS4.2/6, Ms1 4.2/6, ms1mx3.6/33, Error ellipse: s-maj=19.9km s-min=12.4km az=128.0*
ISCJB ***18*** *05:33:45.8±0.2, 15°.34S±0°.07×172°.28W±0°.05, h23km, mb4.6/85, MS4.2/6, Error ellipse: s-maj=11.9km s-min=4.9km az=149.0*
BJI ***18*** *05:33:46.7, 15°.86S×172°.59W, h27km, mB5.2/6, mb5.1/11, Ms5.1/5, Ms7 4.9/5*
NEIC ***18*** *05:33:48.9±0.2, 15°.32S×172°.29W, h35km, mb4.7/61, Error ellipse: s-maj=11.1km s-min=4.3km az=143.0*
ISC 18 05:33:47.5±0.4, 15°.36S±0°.10×172°.21W±0°.09, h23km, h23km:pP-P, n472, σ0°92/459, mb4.7/85, MS4.2/7, 130C-118D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.50**	**16**	*e*Pn			Pn	05 34 06.0	-7.0
AFI				*e*Sn			Sn	05 34 22.1	-10
NIUE	**Niue**	**4.29**	**150**	P			Pn	05 34 45.0	-6.5
baz=4.0,SNR=36									
NIUE				S			Sn	05 35 28.0	-13
baz=4.0,SNR=7.7									
MSVF	**Nonsavu**	**9.63**	**254**	*e*Pn			**Pn**	**05 36 06.1**	**+1.3**
RAR	**Rarotonga**	**13.17**	**118**	*e*Pn			Pn	05 36 46.6	-6.5
DZM	**Mont Dzumac**	**21.28**	**248**	*e*LR			LR	05 43 38.9	
750nm,25.1s									
DZM	**Mont Dzumac**	**21.28**	**248**	LR			LR	05 45 23.2	
comp=Z,740nm,20.3s,baz=44,slow=33									
PPT	**Papeete**	**21.82**	**99**	LR			LR	05 44 34.8	
comp=Z,280nm,20.1s,baz=276,slow=30									
PPT2	**Papeete2**	**21.82**	**99**	*e*LQ			LQ	05 42 43.8	
1μm,26.2s									
PPT2				*e*LR			LR	05 43 43.9	
735nm,24.5s,baz=259									
TBI	**Tubuai**	**22.87**	**114**	*e*LQ			LQ	05 43 11.7	
774nm,29.0s									
TBI				*e*LR			LR	05 44 05.1	
790nm,26.2s,baz=290									
URZ	**Urewera**	**24.69**	**200**	P			**P**	**05 39 08.3**	**+1.5**
9.8nm,0.4s,baz=329,slow=3.0,SNR=14									
URZ	**Urewera**	**24.69**	**200**	*e*P			**P**	**05 39 08.4**	**+1.7**
EIDS	**Eidsvold**	**35.72**	**248**	*e*P			**P**	**05 40 41.8**	**-2.9**
8.5nm,1.1s									
RKT	**Rikitea**	**35.92**	**108**	*e*LR			LR	05 50 17.8	
370nm,24.0s,baz=287									
ARMA	**Armidale**	**36.35**	**239**	P			**P**	**05 40 49.3**	**-0.8**
baz=37,SNR=3.9									
ARMA	**Armidale**	**36.35**	**239**	*e*P			**P**	**05 40 48.8**	**-1.2**
8.7nm,0.9s									
H11S2	**WAKE ISLAND Hy**	**39.53**	**328**	T			T	06 23 43.2	
baz=145									
H11S3	**WAKE ISLAND Hy**	**39.54**	**328**	T			T	06 23 41.1	
baz=145									
H11S1	**WAKE ISLAND Hy**	**39.55**	**328**	T			T	06 23 45.2	
baz=145									
CNB	**Canberra Magne**	**39.69**	**233**	P			**P**	**05 41 17.5**	**-0.6**
baz=40,SNR=4.6									
H11N3	**WAKE ISLAND Hy**	**40.46**	**329**	T			T	06 24 50.4	
baz=145,slow=75,SNR=3.0									
H11N1	**WAKE ISLAND Hy**	**40.46**	**329**	T			T	06 24 50.7	
baz=145,slow=75,SNR=19									
H11N2	**WAKE ISLAND Hy**	**40.47**	**329**	T			T	06 24 50.7	
baz=145,slow=75,SNR=14									
CMSA	**Cobar Meteorol**	**41.56**	**240**	P			**P**	**05 41 32.3**	**-1.3**
baz=42,SNR=11									
TOO	**Toolangi**	**43.38**	**231**	P			**P**	**05 41 47.9**	**-0.4**
baz=44,SNR=5.3									
STKA	**Stephens Creek**	**45.05**	**240**	P			**P**	**05 42 00.7**	**-1.1**
9.0nm,0.8s,baz=94,slow=10,SNR=20									
STKA	**Stephens Creek**	**45.05**	**240**	P			**P**	**05 42 01.0**	**-0.8**
baz=46,SNR=7.6									
STKA	**Stephens Creek**	**45.05**	**240**	*e*P			**P**	**05 42 01.1**	**-0.8**
BBOO	**Buckleboo**	**49.83**	**240**	P			**P**	**05 42 38.0**	**-1.0**
baz=50,SNR=13									
BBOO	**Buckleboo**	**49.83**	**240**	*e*P			**P**	**05 42 37.7**	**-1.2**
9.4nm,0.7s									
WRAB	**Tennant Creek**	**50.96**	**257**	*e*P			**P**	**05 42 46.7**	**-1.0**
WRA	**Warramunga Arr**	**50.97**	**257**	P			**P**	**05 42 46.3**	**-1.5**
1.5nm,0.5s,baz=96,slow=6.7,SNR=30									
WRA					LR		LR	06 04 09.0	
comp=Z,222nm,18.4s,baz=45,slow=36									
ASAR	**Alice Springs**	**51.22**	**252**	P			**P**	**05 42 48.3**	**-1.3**
16nm,0.6s,baz=90,slow=7.7,SNR=146									
ASAR					LR		LR	06 03 00.1	
comp=Z,340nm,20.4s,baz=131,slow=34									
MTN	**Manton Dam**	**54.88**	**265**	P			P	05 43 21.8	+5.2
baz=56,SNR=3.2									
VNDA	**Vanda**	**63.54**	**186**	P			**P**	**05 44 15.9**	**+0.3**
2.6nm,0.9s,baz=354,slow=5.6,SNR=8.6									
MEEK	**Meekatharra**	**64.89**	**248**	P			**P**	**05 44 25.7**	**+0.3**
baz=66,SNR=3.1									
BLDU	**Ballidu**	**66.23**	**243**	P			**P**	**05 44 34.3**	**+0.3**
baz=67,SNR=5.8									
MJAR	**Matsushiro Arr**	**69.65**	**319**	P			**P**	**05 44 55.3**	**+0.1**
0.9nm,0.6s,baz=162,slow=7.0,SNR=4.6									
ARVC	**Arvin**	**71.28**	**44**	⇑P			**P**	**05 45 06.3**	**+1.0**
baz=72									
KMRM	**Mail Ridge**	**71.33**	**37**	*e*P			**P**	**05 45 06.2**	**+0.7**
22nm,1.0s									
VES	**Vestal, Richgr**	**71.52**	**43**	⇑P			**P**	**05 45 06.8**	**+0.1**
baz=72,SNR=5.5									
EDW2	**Edwards Air Fo**	**71.70**	**45**	⇓P			**P**	**05 45 07.9**	**0.0**
baz=72									
ISA	**Isabella, Lake**	**71.83**	**44**	⇑P			**P**	**05 45 09.1**	**+0.5**
baz=72,SNR=5.3									
ISA	**Isabella, Lake**	**71.83**	**44**	*e*P			**P**	**05 45 08.6**	**-0.1**
9.1nm,1.1s									
CMB	**Columbia Colle**	**71.98**	**41**	*e*P			**P**	**05 45 08.9**	**-0.6**
4.8nm,0.8s									
N02D	**Trinity Center**	**72.39**	**37**	⇑P			**P**	**05 45 12.0**	**+0.1**
baz=73									
M02C	**Callahan**	**72.58**	**37**	⇓P			**P**	**05 45 13.8**	**+0.8**
baz=73									
MPMC	**Manual Prospec**	**72.71**	**44**	⇑P			**P**	**05 45 13.9**	**-0.2**
baz=73,SNR=7.5									
MTUM	**Tungsten Hills**	**72.74**	**42**	*e*P			**P**	**05 45 14.4**	**+0.2**
GSC	**Goldstone, Bar**	**72.75**	**45**	⇑P			**P**	**05 45 14.3**	**+0.2**
baz=73									
GSC	**Goldstone, Bar**	**72.75**	**45**	*e*P			**P**	**05 45 13.3**	**-0.9**
4.8nm,1.1s									
DAC	**Darwin (Calif)**	**72.76**	**44**	*e*P			**P**	**05 45 13.9**	**-0.5**
8.0nm,1.4s									
HEC	**Hector,Ludlow**	**72.81**	**45**	⇓P			**P**	**05 45 14.7**	**+0.2**
baz=73									
WAKR	**Walker**	**72.86**	**41**	*e*P			**P**	**05 45 14.8**	**-0.1**
YBH	**Yreka Blue Hor**	**72.88**	**37**	P			**P**	**05 45 15.1**	**+0.3**
6.0nm,0.8s,baz=169,slow=1.8,SNR=19									
PETK	**Petropavlovsk-**	**72.95**	**342**	P			**P**	**05 45 14.4**	**-0.4**
3.8nm,0.9s,baz=118,slow=8.6,SNR=5.9									
GMRC	**Granite Mounta**	**73.25**	**46**	⇓P			**P**	**05 45 16.8**	**-0.3**
baz=73									
GRAC	**Grapevine Rang**	**73.32**	**43**	⇓P			**P**	**05 45 17.5**	**0.0**
baz=74,SNR=6.9									
M04C	**Macdoel**	**73.41**	**37**	⇑P			**P**	**05 45 18.7**	**+0.7**
baz=74									
TUQ	**Turquoise Moun**	**73.42**	**45**	⇑P			**P**	**05 45 19.0**	**+0.8**
baz=74									
SHOC	**Shoshone, Teco**	**73.43**	**45**	⇑P			**P**	**05 45 17.9**	**-0.2**
baz=74									
NVAR	**Mina Array Bea**	**73.53**	**41**	P			**P**	**05 45 18.4**	**-0.5**
5.4nm,0.7s,baz=228,slow=10,SNR=58									
TPH	**Tonopah**	**74.03**	**42**	*e*P			**P**	**05 45 21.6**	**-0.2**
19nm,1.2s									
TPNV	**Topopah Spring**	**74.03**	**44**	⇓P			**P**	**05 45 21.7**	**-0.1**
baz=74,SNR=6.6									
TPNV	**Topopah Spring**	**74.03**	**44**	*e*P			**P**	**05 45 21.0**	**-0.8**
6.1nm,0.9s									
J04D	**Umpqua Nationa**	**74.18**	**36**	⇑P			**P**	**05 45 23.2**	**+0.7**
baz=74									
I04A	**Tendick Farm,**	**74.37**	**35**	⇓P			**P**	**05 45 23.6**	**+0.2**
baz=75									
MOD	**Modoc Plateau**	**74.38**	**38**	*e*P			**P**	**05 45 23.2**	**-0.5**
6.8nm,0.8s									
SHPR	**Sheep Range**	**74.52**	**45**	*e*P			**P**	**05 45 24.6**	**0.0**
K05A	**Summer Lake**	**74.55**	**37**	*e*P			**P**	**05 45 25.1**	**+0.4**
17nm,1.2s									
W13A	**Hualapai Mount**	**74.65**	**46**	⇓P			**P**	**05 45 25.5**	**0.0**
baz=75									
QSPA	**South Pole Qui**	**74.69**	**180**	P			**P**	**05 45 25.1**	**0.0**
14nm,0.9s,baz=40,slow=1.4,SNR=30									
R11A	**Troy Canyon, C**	**75.25**	**43**	⇓P			**P**	**05 45 28.7**	**-0.1**
baz=75,SNR=8.0									
R11A	**Troy Canyon, C**	**75.25**	**43**	*e*P			**P**	**05 45 28.5**	**-0.3**
4.2nm,1.0s									
I05D	**Terrebonne, OR**	**75.31**	**35**	⇑P			**P**	**05 45 29.5**	**+0.6**
baz=76									
BMN	**Battle Mountai**	**75.38**	**40**	*e*P			**P**	**05 45 28.9**	**-0.6**
6.1nm,0.8s									
TUC	**Tucson**	**75.48**	**50**	*e*P			**P**	**05 45 29.9**	**-0.3**
3.1nm,1.0s									
WVOR	**Wild Horse Val**	**75.69**	**38**	*e*P			**P**	**05 45 31.2**	**0.0**
8.1nm,1.0s									
X16A	**Lo Mia Camp, P**	**76.03**	**48**	⇓P			**P**	**05 45 34.1**	**+0.7**
baz=76									
319A	**Douglas**	**76.16**	**52**	⇑P			**P**	**05 45 34.1**	**0.0**
baz=76									
I07A	**Izee**	**76.18**	**36**	*e*P			**P**	**05 45 33.6**	**-0.4**
15nm,1.3s									
G06A	**Carlson Farm,**	**76.27**	**35**	*e*P			**P**	**05 45 34.0**	**-0.3**
CCUT	**Cedar City**	**76.29**	**44**	*e*P			**P**	**05 45 35.7**	**+0.8**
22nm,1.5s									
ARUT	**Antelope Range**	**76.37**	**44**	*e*P			**P**	**05 45 35.4**	**+0.2**
0.8nm,1.1s									
U15A	**North Rim**	**76.44**	**46**	⇓P			**P**	**05 45 35.5**	**-0.3**
baz=77									
D05A	**Enumclaw**	**76.79**	**33**	*e*P			**P**	**05 45 37.7**	**+0.5**
27nm,1.2s									
ELK	**Elko**	**76.80**	**41**	P			**P**	**05 45 37.3**	**-0.4**
3.4nm,0.9s,baz=207,slow=2.7,SNR=12									
ELK	**Elko**	**76.80**	**41**	P			**P**	**05 45 37.3**	**-0.4**
6.8nm,1.2s									
KSRS	**Korea Array**	**76.94**	**315**	P			**P**	**05 45 39.5**	**+1.3**
1.8nm,0.8s,baz=127,slow=6.8,SNR=6.8									
KSAR	**Wonju Array Be**	**76.96**	**315**	P			**P**	**05 45 39.5**	**+1.2**
G08A	**Pilot Rock**	**77.23**	**35**	*e*P			**P**	**05 45 39.8**	**-0.1**
E07A	**Sunnyside**	**77.52**	**34**	*e*P			**P**	**05 45 41.4**	**+0.1**
11nm,1.0s									
LTY	**Liberty**	**77.52**	**33**	*e*P			**P**	**05 45 40.9**	**-0.5**
8.9nm,1.3s									
MVU	**Marysvale**	**77.57**	**44**	*e*P			**P**	**05 45 42.1**	**+0.1**
9.8nm,1.0s									
HAWA	**Hanford**	**77.59**	**34**	*e*P			**P**	**05 45 41.4**	**-0.3**
13nm,1.3s									
BMO	**Blue Mountains**	**77.91**	**37**	*e*P			**P**	**05 45 43.0**	**-0.6**
7.2nm,1.2s									
MFID	**Camas Ranch**	**77.94**	**38**	*e*P			**P**	**05 45 43.8**	**0.0**
6.5nm,0.9s									
USRK	**Ussuriysk Ar.**	**78.04**	**323**	P			**P**	**05 45 45.3**	**+1.1**
1.2nm,0.6s,baz=104,slow=8.0,SNR=4.3									
DUG	**Dugway, Tooele**	**78.05**	**42**	⇓P			**P**	**05 45 44.5**	**-0.1**
baz=78,SNR=7.7									
DUG	**Dugway, Tooele**	**78.05**	**42**	*e*P			**P**	**05 45 44.0**	**-0.6**
5.1nm,0.8s									
KSM	**Kuching**	**78.33**	**275**	P			**P**	**05 45 47.7**	**+1.2**
baz=79,SNR=4.0									
D08A	**Wollman Farm,**	**78.33**	**34**	*e*P			**P**	**05 45 45.5**	**-0.3**
E09A	**Wood Farm, Sta**	**78.42**	**35**	*e*P			**P**	**05 45 45.2**	**-1.1**
F10A	**Beach Ranch, E**	**78.61**	**36**	*e*P			**P**	**05 45 45.2**	**-2.3**
6.0nm,0.9s									
TMUT	**Trail Mountain**	**78.64**	**44**	*e*P			**P**	**05 45 48.4**	**+0.3**
17nm,0.9s									
MPU	**Maple Canyon**	**78.73**	**43**	*e*P			**P**	**05 45 47.8**	**-0.6**
7.9nm,1.0s									
HLID	**Hailey**	**78.87**	**39**	⇑P			**P**	**05 45 49.4**	**+0.3**
baz=79									
HLID	**Hailey**	**78.87**	**39**	*e*P			**P**	**05 45 49.0**	**-0.2**
7.7nm,0.9s									
B08A	**Colville Reser**	**78.92**	**33**	*e*P			**P**	**05 45 48.0**	**-1.1**
11nm,1.3s									
HVU	**Hansel Valley**	**78.92**	**41**	*e*P			**P**	**05 45 48.9**	**-0.5**
SRU	**San Rafael Swe**	**79.01**	**44**	*e*P			**P**	**05 45 50.0**	**0.0**
6.7nm,0.8s									
C09A	**Chrisman Ranch**	**79.13**	**34**	*e*P			**P**	**05 45 50.0**	**-0.2**
JLU	**Jordanelle**	**79.15**	**43**	*e*P			**P**	**05 45 50.3**	**-0.5**
6.5nm,0.7s									
DAU	**Daniels Canyon**	**79.18**	**43**	*e*P			**P**	**05 45 50.8**	**-0.2**
MNTX	**Cornudas Mount**	**79.28**	**53**	⇓P			**P**	**05 45 51.7**	**+0.3**
baz=80									
TCUT	**Toone Canyon**	**79.44**	**42**	*e*P			**P**	**05 45 52.0**	**-0.4**
24nm,1.0s									
TXAR	**Lajitas Array**	**79.64**	**56**	P			**P**	**05 45 53.5**	**0.0**
1.2nm,0.9s,baz=215,slow=8.5,SNR=5.3									
TXAR					LR		LR	06 14 24.8	
comp=Z,110nm,19.9s,baz=0.0,slow=31									
PV01	**Paradox Valley**	**79.87**	**46**	*e*P			**P**	**05 45 54.5**	**-0.2**
ANMO	**Albuquerque**	**79.90**	**50**	P			**P**	**05 45 54.1**	**-0.9**
1.3nm,0.7s,baz=238,slow=6.8,SNR=7.9									
ANMO	**Albuquerque**	**79.90**	**50**	*e*P			**P**	**05 45 54.2**	**-0.7**
NEW	**Newport**	**80.03**	**34**	P			**P**	**05 45 54.1**	**-1.0**
1.2nm,0.6s,baz=198,slow=6.6,SNR=5.0									
MCMT	**McKenzie Canyo**	**80.51**	**38**	*e*P			**P**	**05 45 58.0**	**0.0**
5.2nm,1.1s									
S22A	**4UR Ranch, Cre**	**80.90**	**47**	⇓P			**P**	**05 46 00.8**	**+0.5**
baz=81									
S22A	**4UR Ranch, Cre**	**80.90**	**47**	*e*P			**P**	**05 46 00.7**	**+0.3**
5.7nm,0.9s									
DLMT	**Dillon**	**80.94**	**38**	*e*P			**P**	**05 45 59.9**	**-0.4**
6.9nm,1.3s									
REDW	**Red Top Meadow**	**80.96**	**40**	*e*P			**P**	**05 45 59.4**	**-1.0**
12nm,1.3s									
TPAW	**Teton Pass**	**80.96**	**40**	*e*P			**P**	**05 46 00.5**	**0.0**
8.0nm,0.8s									
MSO	**Missoula**	**80.97**	**36**	⇓P			**P**	**05 46 00.0**	**-0.3**
baz=81,SNR=7.3									
MSO	**Missoula**	**80.97**	**36**	*e*P			**P**	**05 45 59.3**	**-1.0**
11nm,1.1s									
FXWY	**Fox Creek**	**80.99**	**40**	*e*P			**P**	**05 46 00.3**	**-0.4**
7.7nm,1.3s									
NJ2	**Nanjing**	**81.06**	**307**	*e*P			**P**	**05 46 00.3**	**-0.6**
NJ2					PMZ				
30nm,0.8s									
BSMT	**Bassoo Peak**	**81.06**	**35**	*e*P			**P**	**05 46 00.2**	**-0.7**
IMW	**Indian Meadow**	**81.18**	**40**	*e*P			**P**	**05 46 01.7**	**0.0**
6.4nm,0.8s									
LOHW	**Long Hollow**	**81.24**	**40**	*e*P			**P**	**05 46 01.7**	**-0.2**
4.7nm,1.0s									
SWMT	**Swartz Lake**	**81.31**	**36**	*e*P			**P**	**05 46 01.1**	**-1.0**
3.1nm,1.2s									
QLMT	**Earthquake Lak**	**81.36**	**39**	*e*P			**P**	**05 46 03.0**	**+0.4**
N20A	**Spence Gulch,**	**81.37**	**44**	⇓P			**P**	**05 46 02.2**	**-0.6**
baz=82									
CHMT	**Chamberlain Mo**	**81.41**	**36**	*e*P			**P**	**05 46 02.4**	**-0.3**
I17A	**Pilgrim Ck.**	**81.41**	**40**	⇑P			**P**	**05 46 03.1**	**+0.2**
baz=82									
FLWY	**Flagg Ranch**	**81.42**	**40**	*e*P			**P**	**05 46 03.2**	**+0.3**
9.8nm,1.0s									
SMCO	**Snowmass**	**81.46**	**46**	*e*P			**P**	**05 46 03.4**	**0.0**
8.0nm,1.2s									
PDAR	**Pinedale Array**	**81.47**	**41**	P			**P**	**05 46 02.3**	**-1.0**
3.1nm,0.8s,baz=217,slow=3.1,SNR=25									
YMR	**Madison River**	**81.56**	**39**	*e*P			**P**	**05 46 04.5**	**+0.9**
26nm,1.6s									
429A	**Davenport Ranc**	**81.56**	**55**	⇓P			**P**	**05 46 03.7**	**-0.1**
baz=82,SNR=16									
H17A	**Grant Village**	**81.66**	**40**	⇓P			**P**	**05 46 04.9**	**+0.7**
baz=82									
H17A	**Grant Village**	**81.66**	**40**	*e*P			**P**	**05 46 05.2**	**+1.0**
4.5nm,0.8s									
BOZ	**Bozeman (W)**	**81.67**	**38**	*e*P			**P**	**05 46 03.2**	**-0.9**
7.8nm,1.4s									
DOT	**Dot Lake**	**81.72**	**12**	*e*P			**P**	**05 46 03.4**	**-0.3**
16nm,1.5s									
CN2	**Changchun**	**81.80**	**320**	*e*P			**P**	**05 46 07.3**	**+2.7**
P22A	**Eagle**	**81.80**	**45**	⇑P			**P**	**05 46 05.4**	**+0.3**
baz=82									
R23A	**Moffat**	**81.81**	**47**	⇑P			**P**	**05 46 04.9**	**-0.2**
baz=82									
329A	**Wagon Wheel Ra**	**81.84**	**54**	⇓P			**P**	**05 46 04.6**	**-0.6**
baz=82									
SDCO	**Great Sand Dun**	**81.84**	**47**	⇑P			**P**	**05 46 05.1**	**-0.3**
baz=82									
LKWY	**Lake**	**81.85**	**40**	*e*P			**P**	**05 46 06.1**	**+0.9**
3.9nm,0.8s									
128A	**Castleberry Fa**	**81.90**	**53**	⇓P			**P**	**05 46 05.3**	**-0.2**
baz=82			

U27A **Thompson Grove** 83.20 49 ⇓P P 05 46 12.4 +0.1
baz=83
Z30A **Sanderson Ranc** 83.21 53 ⇓P P 05 46 12.1 -0.2
baz=83
X29A **Tulia** 83.23 52 ⇑P P 05 46 12.3 -0.2
baz=83
S26A **Kim** 83.23 48 ⇑P P 05 46 12.3 -0.2
baz=83
Q25A **Bedland, Calha** 83.24 47 ⇓P P 05 46 12.7 +0.1
baz=83
035A **Encino** 83.27 60 ⇓P P 05 46 11.9 -0.7
baz=83
633A **Saathoff Ranch** 83.30 57 ⇑P P 05 46 12.4 -0.3
baz=84,SNR=5.6
H20A **Greybull** 83.30 40 ⇓P P 05 46 12.4 -0.2
baz=84,SNR=8.6
231A **Bronte** 83.32 54 ⇑P P 05 46 12.2 -0.6
baz=84
834A **Tilden** 83.32 59 ⇑P P 05 46 13.2 +0.3
baz=84,SNR=8.4
432A **Menard** 83.33 56 ⇓P P 05 46 12.7 -0.3
baz=84,SNR=6.8
M23A **Laramie** 83.36 44 ⇑P P 05 46 12.8 -0.3
baz=84
V28A **Channing** 83.37 50 ⇑P P 05 46 13.1 0.0
baz=84
K22A **Casper** 83.37 43 ⇑P P 05 46 13.1 0.0
baz=84
K22A **Casper** 83.37 43 *e*P P 05 46 13.3 +0.2
8.2nm,1.1s
F19A **Roth Farm, Mol** 83.39 39 ⇓P P 05 46 12.9 -0.1
baz=84,SNR=5.4
AMTX **Amarillo** 83.42 51 ⇑P P 05 46 12.7 -0.7
baz=84
I21A **Big Trails, Te** 83.42 41 ⇑P P 05 46 12.8 -0.6
baz=84,SNR=9.7
R26A **Arlington** 83.54 48 ⇑P P 05 46 13.3 -0.7
baz=84,SNR=8.7
W29A **Amarillo** 83.54 51 ⇓P P 05 46 13.8 -0.3
baz=84
P25A **Willow Gulch B** 83.55 46 ⇓P P 05 46 14.0 -0.1
baz=84,SNR=10
332A **Millersview** 83.56 55 ⇓P P 05 46 13.9 -0.2
baz=84,SNR=5.7
533A **Kerrville** 83.64 57 ⇑P P 05 46 14.0 -0.5
baz=84,SNR=8.7
N24A **Carr** 83.64 45 ⇑P P 05 46 14.7 +0.2
baz=84
L23A **Garrett** 83.67 43 ⇓P P 05 46 14.3 -0.4
baz=84,SNR=8.1
Q26A **Hugo** 83.75 47 ⇑P P 05 46 14.6 -0.5
baz=84
J22A **Midwest** 83.76 42 ⇓P P 05 46 14.8 -0.3
baz=84,SNR=10.0
E19A **Rath Farm, Rou** 83.79 38 ⇓P P 05 46 15.0 0.0
baz=84,SNR=7.7
232A **Coleman** 83.83 55 ⇓P P 05 46 15.1 -0.4
baz=84,SNR=6.4
433A **Art** 83.84 56 ⇑P P 05 46 15.2 -0.4
baz=84,SNR=6.9
F20A **Billings** 83.85 39 ⇑P P 05 46 15.1 -0.2
baz=84
X30A **Coker Ranch, T** 83.86 52 ⇓P P 05 46 16.1 +0.5
baz=84
V29A **Stinnett** 83.94 50 ⇓P P 05 46 15.9 -0.1
baz=84
M24A **Cheyenne** 83.96 44 ⇑P P 05 46 16.3 +0.2
baz=84
H21A **Big Horn, Sher** 83.97 41 ⇑P P 05 46 16.1 0.0
baz=84
I22A **9 Mile Ranch,** 83.98 42 ⇑P P 05 46 16.2 +0.1
baz=84
Z31A **Sharp Cattle R** 83.98 53 ⇓P P 05 46 16.0 -0.2
baz=84
R27A **Eads** 84.00 48 ⇓P P 05 46 16.1 -0.2
baz=84
EGMT **Eagleton** 84.01 37 ⇓P P 05 46 16.1 +0.1
baz=84
EGMT **Eagleton** 84.01 37 *e*P P 05 46 15.6 -0.5
9.0nm,1.1s
T28A **Walsh** 84.01 49 ⇑P P 05 46 15.9 -0.5
baz=84
K23A **Bowen Ranch, D** 84.01 43 ⇑P P 05 46 16.1 -0.2
baz=84
534A **Blanco** 84.07 57 ⇓P P 05 46 16.3 -0.5
baz=84,SNR=6.4
D19A **Cripps Ranch,** 84.08 38 ⇑P P 05 46 16.5 0.0
baz=84,SNR=8.6
ABTX **Abilene, Hawle** 84.11 54 ⇓P P 05 46 16.5 -0.4
baz=84
ABTX **Abilene, Hawle** 84.11 54 *e*P P 05 46 16.4 -0.5
12nm,0.9s
333A **Richland Sprin** 84.14 55 ⇑P P 05 46 16.4 -0.7
baz=84,SNR=5.6
Y31A **Rekieta Farm,** 84.14 53 ⇓P P 05 46 16.4 -0.6
baz=84
P26A **Davis Ranch, A** 84.15 46 ⇓P P 05 46 17.4 +0.3
baz=84
G21A **Lodge Grass** 84.15 40 ⇑P P 05 46 16.6 -0.3
baz=84
N25A **Grover** 84.17 45 ⇑P P 05 46 17.8 +0.6
baz=84
E20A **Meyer Farm, Mu** 84.20 39 ⇓P P 05 46 17.1 0.0
baz=84,SNR=5.2
C19A **Slack Wire Ran** 84.27 37 ⇑P P 05 46 17.5 +0.1
baz=84,SNR=12
H22A **Clearmont** 84.39 41 ⇑P P 05 46 18.3 +0.2
baz=85
635A **Leesville** 84.41 58 ⇓P P 05 46 18.8 +0.3
baz=85
KSCO **Kaye Shedlock'** 84.42 47 ⇑P P 05 46 18.7 +0.3
baz=85
233A **Rising Star** 84.46 55 ⇑P P 05 46 18.4 -0.4
baz=85
D20A **Manuel Ranch,** 84.49 38 ⇓P P 05 46 18.5 0.0
baz=85,SNR=10
Z32A **Haskell** 84.49 53 ⇑P P 05 46 18.4 -0.4
baz=85,SNR=12
434A **Burnet** 84.52 56 ⇑P P 05 46 18.7 -0.4
baz=85,SNR=5.3
X31A **McDonald Ranch** 84.61 52 ⇓P P 05 46 19.0 -0.5
baz=85
B19A **Brinkman Farms** 84.69 37 ⇑P P 05 46 19.7 +0.2
baz=85
G22A **Birney** 84.72 40 ⇑P P 05 46 19.7 -0.1
baz=85
R28A **Tribune** 84.73 48 ⇓P P 05 46 20.0 0.0
baz=85,SNR=8.3
334A **Lometa** 84.74 56 ⇑P P 05 46 19.6 -0.5
baz=85,SNR=10.0
Y32A **R-V Farms, Ver** 84.78 53 ⇑P P 05 46 19.7 -0.5
baz=85,SNR=6.1
W31A **Holland Ranch,** 84.85 52 ⇑P P 05 46 20.9 +0.3
baz=85
EDM **Edmonton** 84.85 31 *e*P P 05 46 19.3 -0.9
C20A **Veseth Ranch,** 84.87 38 ⇑P P 05 46 20.5 +0.1
baz=85,SNR=7.3
J24A **Dixon Ranch, L** 84.90 43 ⇓P P 05 46 20.7 -0.1
baz=85
Q28A **Sharon Springs** 85.01 47 ⇓P P 05 46 21.1 -0.2
baz=85
O27A **Beecher Island** 85.02 46 ⇓P P 05 46 21.8 +0.4
baz=85
636A **Smothers Creek** 85.03 58 ⇑P P 05 46 22.0 +0.5
baz=85
Z33A **Whitaker Ranch** 85.04 54 ⇑P P 05 46 21.4 -0.2
baz=85
A19A **Klindworth Far** 85.05 36 ⇓P P 05 46 21.2 -0.1
baz=85,SNR=5.3
234A **Clairette** 85.06 55 ⇑P P 05 46 21.4 -0.3
baz=85
435B **Jarrell** 85.06 56 ⇑P P 05 46 21.7 -0.1
baz=85
X32A **Elmer** 85.06 52 ⇑P P 05 46 21.2 -0.5
baz=85,SNR=6.5
V31A **Spring Creek L** 85.16 51 ⇓P P 05 46 22.9 +0.7
baz=85
D21A **La Casta Ranch** 85.16 39 ⇓P P 05 46 22.2 +0.2
baz=85,SNR=5.3
B20A **Solberg Farm,** 85.22 37 ⇓P P 05 46 22.1 0.0
baz=85
536A **Bastrop** 85.23 57 ⇓P P 05 46 23.3 +0.8
baz=85
G23A **Biddle** 85.28 41 ⇓P P 05 46 22.8 +0.2
baz=86
134A **White-Moore Ra** 85.31 55 ⇑P P 05 46 23.3 +0.4
baz=86
W32A **Sentinel** 85.36 52 ⇓P P 05 46 22.6 -0.5
baz=86,SNR=7.2
335A **Moody** 85.36 56 ⇓P P 05 46 23.0 -0.2
baz=86
U31A **Nine Bar Ranch** 85.38 51 ⇓P P 05 46 23.3 +0.1
baz=86
L26A **Underwood Farm** 85.39 44 ⇑P P 05 46 23.1 -0.1
baz=86
Y33A **Hilltop Ranch,** 85.41 53 ⇓P P 05 46 23.0 -0.5
baz=86
S30A **Montezuma** 85.42 49 ⇓P P 05 46 22.9 -0.6
baz=86
C21A **Desert Coulee** 85.46 38 ⇑P P 05 46 23.7 +0.3
baz=86
O28A **Krutsinger Ran** 85.48 46 ⇓P P 05 46 24.0 +0.3
baz=86
A20A **Cobblestone Ra** 85.49 37 ⇓P P 05 46 23.2 -0.3
baz=86,SNR=8.8
J25A **Sunshine Ranch** 85.49 43 ⇑P P 05 46 23.4 -0.3
baz=86
E22A **Miles City** 85.50 39 ⇓P P 05 46 23.7 +0.1
baz=86
F23A **Volborg** 85.50 40 ⇑P P 05 46 23.4 -0.2
baz=86,SNR=6.2
Q29A **Oakley** 85.55 48 ⇓P P 05 46 24.4 +0.3
baz=86
WHTX **Lake Whitney,** 85.59 55 ⇓P P 05 46 24.2 -0.1
baz=86
H24A **Dirks Ranch, A** 85.60 41 ⇑P P 05 46 23.8 -0.4
baz=86,SNR=9.9
OGNE **Ogallala** 85.64 46 ⇓P P 05 46 24.1 -0.4
baz=86
RSSD **Black Hills** 85.66 42 *e*P P 05 46 23.1 -1.6
14nm,1.2s
D22A **Cohagen** 85.69 39 ⇓P P 05 46 24.9 +0.4
baz=86
436A **Wall Ranch, Ga** 85.69 57 ⇓P P 05 46 25.2 +0.4
baz=86
Z34A **Collier Ranch,** 85.73 54 ⇑P P 05 46 24.8 -0.2
baz=86
V32A **Arapaho** 85.73 51 ⇓P P 05 46 25.2 +0.2
baz=86
T31A **Randall Ranch,** 85.79 50 ⇑P P 05 46 25.2 -0.1
baz=86
I25A **Rochford** 85.81 42 ⇓P P 05 46 25.2 -0.1
baz=86,SNR=5.8
R30A **Dighton** 85.81 49 ⇓P P 05 46 25.3 -0.1
baz=86
135A **Vickery Place,** 85.83 55 ⇑P P 05 46 25.9 +0.4
baz=86
336A **Riesel** 85.87 56 ⇑P P 05 46 26.0 +0.3
baz=86
L27A **T5 Ranch, Ells** 85.92 44 ⇓P P 05 46 25.8 -0.1
baz=86
J26A **Sides Ranch, S** 85.93 43 ⇓P P 05 46 25.9 0.0
baz=86
G24A **Alzada** 85.95 41 ⇓P P 05 46 25.8 -0.1
baz=86
W33A **Caddo, Fort Co** 85.96 52 ⇓P P 05 46 26.7 +0.6
baz=86
U32A **Winter Ranch,** 86.02 51 ⇑P P 05 46 26.5 +0.1
baz=86
Y34A **Reagan Ranch,** 86.07 53 ⇓P P 05 46 26.5 -0.2
baz=86
A21A **Bergtoll Ranch** 86.12 37 ⇑P P 05 46 26.7 0.0
baz=86
Q30A **Quinter** 86.12 48 ⇓P P 05 46 26.7 -0.2
baz=86
S31A **Mullinville** 86.13 49 ⇑P P 05 46 26.6 -0.3
baz=86
H25A **Fruitdale** 86.16 42 ⇑P P 05 46 27.1 +0.2
baz=86
F24A **Ekalaka** 86.16 40 ⇓P P 05 46 26.9 -0.1
baz=86
Z35A **Perchaven, San** 86.23 54 ⇓P P 05 46 27.4 -0.1
baz=86
437A **Phantom Ranch,** 86.24 57 ⇓P P 05 46 28.3 +0.7
baz=86
X34A **Smith Ranch, M** 86.24 53 ⇑P P 05 46 27.6 +0.1
baz=86
P30A **Selden** 86.33 47 ⇓P P 05 46 27.4 -0.5
baz=86
R31A **Burdett** 86.36 49 ⇓P P 05 46 27.6 -0.5
baz=86
438A **Sam Houston St** 86.75 57 ⇑P P 05 46 30.6 +0.5
baz=87
D24A **Glendive** 86.80 39 ⇑P P 05 46 30.9 +0.9
baz=87
C24A **Savage** 86.92 39 ⇑P P 05 46 31.4 +0.8
baz=87
I27A **Quinn** 86.93 43 ⇓P P 05 46 31.7 +1.0
baz=87
R32A **Long Quarter,** 87.00 49 ⇑P P 05 46 31.1 -0.1
baz=87
B23A **Brockton** 87.01 38 ⇑P P 05 46 31.1 +0.1
baz=87
338A **Crockett** 87.09 57 ⇑P P 05 46 32.3 +0.6
baz=87
137A **Heron Place, G** 87.16 55 ⇓P P 05 46 32.8 +0.8
baz=87
L29A **Maesberg Ranch** 87.16 45 ⇓P P 05 46 33.0 +1.1
baz=87
W35A **Tecumseh** 87.17 53 ⇑P P 05 46 32.3 +0.2
baz=87
J28A **Allard Ranch,** 87.20 44 ⇓P P 05 46 32.6 +0.5
baz=87
238A **Jacksonville** 87.46 56 ⇑P P 05 46 34.3 +0.8
baz=88
K29A **Lazy Trails An** 87.55 44 ⇑P P 05 46 34.4 +0.7
baz=88
339A **Huntington** 87.69 57 ⇓P P 05 46 35.2 +0.6
baz=88
D26A **Manning** 87.93 40 ⇑P P 05 46 35.9 +0.5
baz=88
INK **Inuvik** 87.96 13 P P 05 46 33.9 -1.1
2.1nm,0.8s,baz=297,slow=2.3,SNR=8.6
MAW **Mawson** 88.20 198 P P 05 46 35.9 -0.4
6.5nm,0.9s,baz=107,slow=3.3,SNR=6.5
E27A **Carson** 88.22 41 ⇑P P 05 46 37.9 +1.1
baz=88
YKA **Yellowknife Ar** 89.61 23 P P 05 46 41.9 -1.0
1.7nm,0.8s,baz=239,slow=4.6,SNR=35
PSI **Prapat** 89.64 273 P P 05 46 42.2 -2.2
4.9nm,0.8s,baz=111,slow=5.9,SNR=6.3
HHC **Hu-ho-hao-te** 89.84 313 *e*P P 05 46 45.5 +0.8
HHC pP **pP** 05 46 54.9 +2.6
HHC PP **PP** 05 50 21.3 +3.7
HHC S **S** 05 57 33.8 -2.0
HHC SS **SS** 06 03 30.9 -2.9
HHC PMZ
18nm,0.9s
HHC PMZ
120nm,4.4s
HHC LN
160nm,20.4s
HHC LE
480nm,17.3s
HHC LZ
57nm,16.7s
JTS **JuntasAbangare** 90.07 79 *e*P P 05 46 47.3 +1.0
16nm,1.2s
CD2 **Chengdu** 92.77 301 *e*P P 05 46 58.0 -0.4
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
100nm,5.2s
ULM **Lac du Bonnet** 93.18 39 LR LR 06 22 18.3
comp=Z,177nm,20.3s,baz=248,slow=31
CMAR **Chiang Mai Arr** 93.69 288 P P 05 47 04.2 +1.2
0.6nm,0.3s,baz=88,slow=2.4,SNR=5.5
LZH **Lanzhou** 94.12 306 *e*P P 05 47 05.0 +0.3
LZH pP **pP** 05 47 15.1 +2.8
LZH sP **sP** 05 47 18.8 +3.8
LZH PMZ
14nm,1.0s
LZH LN
330nm,10.8s
LZH LE
220nm,11.8s
LZH LZ
380nm,12.2s
ZALV **Zalesovo Beam** 109.89 322 PKiKP **PKiKP** 05 52 15.4 -1.2
0.3nm,0.5s,baz=180,slow=1.3,SNR=3.7
MKAR **Makanchi Array** 111.61 315 PKiKP **PKiKP** 05 52 18.7 -1.6
0.4nm,0.7s,baz=70,slow=0.8,SNR=4.3
KURK **Kurchatov** 113.86 319 PKiKP **PKiKP** 05 52 23.5 -0.8
KURBB **Kurchatov Arra** 113.93 319 PKiKP **PKiKP** 05 52 23.5 -1.0
1.0nm,0.8s,baz=96,slow=1.9,SNR=7.8
KSH **Kashi** 116.37 307 *e*PKP **PKPdf** 05 52 30.3 +0.6

KSH *e*PP PP 05 53 45.3 +9.1
KSH SKS **SKSdf** 05 59 37.5 -3.2
KSH SKKS **SKKSac** 06 00 33.9 -2.1
KSH PPMZ
40nm,5.3s
KSH LN
56nm,5.2s
KSH LE
100nm,10.5s
KSH LZ
160nm,7.3s
BVAR **Borovoye Array** 118.55 322 PKP **PKPdf** 05 52 32.5 -0.8
1.3nm,0.7s,baz=76,slow=0.6,SNR=7.3
ARCES **ARCESS Array B** 124.72 353 PKP **PKPdf** 05 52 44.0 -0.7
5.0nm,0.8s,baz=321,slow=1.6,SNR=7.8
AKTO **Aktyubinsk** 126.66 322 PKP **PKPdf** 05 52 46.8 -2.2
0.6nm,0.5s,baz=13,slow=6.0,SNR=3.6
FINES **FINESS Array B** 132.14 348 PKP **PKPdf** 05 52 58.4 -0.6
2.4nm,0.8s,baz=78,slow=1.3,SNR=7.7
HFS **Hagfors** 135.08 356 PKP **PKPdf** 05 53 04.5 -0.1
1.9nm,0.6s,baz=116,slow=3.4,SNR=5.1
EKA **Eskdalemuir Ar** 139.22 10 PKP **PKPdf** 05 53 12.9 +0.5
0.6nm,0.7s,baz=252,slow=6.9,SNR=3.5
GKP **Gorka Klasztor** 141.45 351 *e*P PKPdf 05 53 24.1 +7.6
NRDL **Niedersach Rie** 142.91 358 *e*PKP **PKPdf** 05 53 14.9 -4.1
LSZ **Lusaka** 143.49 214 PKP PKPbc 05 53 19.4 +0.8
1.5nm,0.7s,baz=39,slow=6.5,SNR=4.2
CLZ **Clausthal** 143.55 357 *e*PKP PKPab 05 53 17.1 +0.4
KWP **Kalwaria Pacla** 143.72 344 *e*P PKPab 05 53 17.9 +0.5
KWP **Kalwaria Pacla** 143.72 344 ⇓*i*P PKPab 05 53 17.7 +0.3
OJC **Ojcow** 143.89 347 *e*P PKPab 05 53 18.2 +0.2
CLL **Collm** 143.90 354 *e*PKP PKPab 05 53 18.3 +0.3
CLL **Collm** 143.90 354 *i* (PKPdf) PKPab 05 53 18.4 +0.4
comp=Z,6.0nm,0.8s
KSP **Ksiaz** 143.95 351 *e*P PKPbc 05 53 19.0 +0.2
BUG **Bochum--Univer** 144.00 1 *e*PKP PKPab 05 53 17.7 -0.7
BRG **Berggiesshubel** 144.23 353 *e*P **PKPab** 05 53 18.6 -0.6
comp=Z,3.7nm,1.0s
UPC **Upice** 144.31 351 *e*PKP **PKPdf** 05 53 21.1 -0.6
TSUM **Tsumeb** 144.33 196 PKP PKPbc 05 53 21.3 +0.3
comp=Z,7.5nm,0.9s,baz=137,slow=6.5,SNR=9.0
DPC **Dobruska-Polom** 144.42 351 *e*PKP PKPbc 05 53 20.4 0.0
DPC *ex* x 05 53 24.4
DPC *ep*PKP pPKPdf 05 53 33.5 +3.8
DPC **Dobruska-Polom** 144.42 351 *e*PKPdf PKPbc 05 53 20.7 +0.3
PVCC **Panska Ves** 144.49 353 *e*PKP **PKPdf** 05 53 21.5 -0.5
NIE **Niedzica** 144.52 346 *e*P **PKPab** 05 53 20.7 +0.2
UCC **Uccle** 144.54 4 PKP **PKPab** 05 53 20.4 0.0
OKC **Ostrava-Krasne** 144.59 348 *e*PKP **PKPab** 05 53 20.5 -0.2
OKC *ex* x 05 53 25.8
KRLC **Kraliky** 144.61 350 *e*PKP **PKPab** 05 53 20.8 0.0
KRLC *ex* x 05 53 24.7
KRLC *ep*PKP **pPKPdf** 05 53 33.5 +3.4
DAMY **Dhamar** 144.66 274 *e*PKPdf PKPbc 05 53 22.9 +0.5
MOX **Moxa** 144.67 356 *e*PKP **PKPab** 05 53 20.7 -0.2
BURAR **Bucovina Array** 144.74 339 ⇑*i*P **PKPab** 05 53 21.5 +0.1
MORC **Moravsky Berou** 144.76 349 ⇓*i*P **PKPab** 05 53 21.5 +0.1
MORC **Moravsky Berou** 144.76 349 *e*PKPdf **PKPab** 05 53 21.1 -0.3
MEM **Membach** 144.81 2 PKP **PKPab** 05 53 21.0 -0.4
MEM APKP **pPKPdf** 05 53 33.7 +3.4
SNF **Seneffe** 144.82 4 PKP **PKPab** 05 53 21.1 -0.4
SNF APKP **pPKPdf** 05 53 33.7 +3.4
PRA **Prague** 144.96 353 *e*PKP **PKPab** 05 53 22.1 +0.1
BCLA **Clavier** 144.97 3 PKP **PKPab** 05 53 21.6 -0.4
PRU **Pruhonice** 145.03 352 *e*PKP **PKPbc** 05 53 22.2 0.0
GOPC **GO Pecny, Ondr** 145.07 352 *e*PKP **PKPbc** 05 53 22.3 -0.1
TRPA **Tarpa** 145.13 343 ⇓*i*P **PKPbc** 05 53 22.5 -0.1
TESR **Tescani** 145.17 337 ⇓*i*P **PKPbc** 05 53 22.4 -0.4
TNS **Taunus Mts** 145.22 359 *e*PKP **PKPbc** 05 53 22.2 -0.7
BMR **Baia Mare** 145.25 341 ⇑*i*P **PKPbc** 05 53 23.1 +0.1
DOU **Dourbes** 145.26 4 PKP **PKPbc** 05 53 22.7 -0.3
TLCR 145.38 333 ⇑*i*P **PKPab** 05 53 24.0 +0.3
VRAC **Vranov** 145.38 350 ⇓*i*P **PKPbc** 05 53 23.4 0.0
GIUM **Giurgiulesti** 145.40 334 ⇑*i*P PKPbc 05 53 17.5 -6.0
ROTZ **Rotzenmuhle** 145.49 355 *e*PKP **PKPdf** 05 53 23.4 -0.3
TREC **Trest** 145.57 351 *e*PKP **PKPdf** 05 53 23.9 0.0
TREC *ex* x 05 53 28.5
GRF **Grafenberg Arr** 145.64 356 *e*PKP **PKPdf** 05 53 23.7 -0.3
GRF *ep*PKP **pPKPdf** 05 53 36.7 +4.9
GRF *e*L L 07 07 52.7
comp=Z,102nm,20.6s
GRFO **Grafenberg** 145.64 356 *e*PKPdf **PKPdf** 05 53 24.1 +0.2
CFR **Carcaliu** 145.67 334 ⇑*i*P **PKPbc** 05 53 24.5 +0.1
VRI **Vrincioaia** 145.68 336 ⇑*i*P **PKPdf** 05 53 24.3 +0.1
PLOR **Plostina** 145.72 336 ⇑*i*P **PKPdf** 05 53 24.6 +0.3
WLF **Walferdange** 145.76 2 PKP **PKPbc** 05 53 24.8 +0.2
WLF **Walferdange** 145.76 2 *e*PKP **PKPdf** 05 53 24.0 -0.2
WLF **Walferdange** 145.76 2 *e*PKPdf **PKPab** 05 53 25.1 +0.1
KHC **Kasperske Hory** 145.99 353 *e*PKP **PKPbc** 05 53 25.5 +0.1
KHC *ep*PKP **pPKPdf** 05 53 38.5 +6.1
PSZ **Piszkesteto** 146.02 345 ⇑*i*P **PKPbc** 05 53 25.4 -0.2
PSZ **Piszkesteto** 146.02 345 *e*PKPdf **PKPbc** 05 53 25.4 -0.2
WET **Wettzell** 146.05 354 *e*PKP **PKPdf** 05 53 24.7 0.0
DOPR **Dopca** 146.10 338 ⇑*i*P **PKPdf** 05 53 24.2 -0.7
TLB **Topalu** 146.19 334 ⇑*i*P **PKPbc** 05 53 26.4 +0.4
GEC2 **GERESS Array S** 146.25 353 *e*PKP **PKPdf** 05 53 25.6 +0.4
GERES **GERESS Array B** 146.25 353 PKPbc **PKPdf** 05 53 25.8 +0.6
comp=Z,2.8nm,0.7s,baz=40,slow=2.3,SNR=21
DRGR 146.28 341 ⇑*i*P **PKPdf** 05 53 24.0 -1.3
MLR **Muntele Rosu** 146.29 337 ⇑*i*P **PKPbc** 05 53 26.9 +0.4
MLR **Muntele Rosu** 146.29 337 PKPbc **PKPbc** 05 53 26.7 +0.2
comp=Z,0.8nm,0.8s,baz=344,slow=6.8,SNR=4.1
KMBO **Kilima Mbogo** 146.58 243 PKPbc **PKPab** 05 53 29.3 -0.2
comp=Z,2.9nm,0.8s,baz=76,slow=4.8,SNR=7.6
STU **Stuttgart** 146.66 359 *e*PKP **PKPbc** 05 53 26.9 -0.4
STU **Stuttgart** 146.66 358 *e*PKPdf **PKPbc** 05 53 27.4 +0.1
VOIR 146.68 338 ⇑*i*P **PKPbc** 05 53 28.0 +0.4
BRTR **Keskin Array B** 146.84 322 PKPbc **PKPbc** 05 53 28.1 -0.3
comp=Z,4.4nm,0.8s,baz=116,slow=2.3,SNR=26
CONA **Conrad Observa** 146.84 350 *i* PKPab **PKPbc** 05 53 28.2 +0.2
comp=Z,18nm,1.4s,SNR=7.7
ARR **Arges** 146.89 338 ⇑*i*P **PKPab** 05 53 29.1 -0.4
SIRR **Siria** 147.07 342 ⇑*i*P **PKPbc** 05 53 28.8 +0.2
BFO **Black Forest** 147.12 359 *e*PKP **PKPbc** 05 53 28.0 -0.7
BFO *ep*PKP **pPKPdf** 05 53 40.8 +6.4
BFO **Black Forest** 147.12 359 *e*PKPbc **PKPbc** 05 53 28.2 -0.5
LOT **Lotru** 147.12 339 ⇑*i*P **PKPbc** 05 53 28.1 -0.8
FUR **Furstenfeldbru** 147.16 356 *e*PKP **PKPbc** 05 53 28.4 -0.4
MOA **Molln** 147.16 352 ⇓*i*PKPab **PKPbc** 05 53 28.6 -0.2
comp=Z,18nm,1.3s
RJOB **Jochberg** 147.45 354 *e*PKP **PKPbc** 05 53 29.2 -0.5
GZR **Gura Zlata** 147.50 340 ⇓*i*P **PKPbc** 05 53 30.2 +0.3
ARSA **Arzberg** 147.56 350 ⇑*i*PKPab **PKPbc** 05 53 29.7 -0.2
comp=Z,5.9nm,1.0s
BZS **Buzias** 147.67 342 ⇑*i*P **PKPbc** 05 53 30.2 0.0
RETA **Reutte** 147.87 356 ⇑*i*PKPbc **PKPbc** 05 53 30.3 -0.5
comp=Z,12nm,1.2s,SNR=5.9
PKSM **Moragy** 147.92 346 ⇑*i*P **PKPbc** 05 53 30.3 -0.6
WTTA **Wattenberg** 148.03 355 *i* PKiKP **PKPbc** 05 53 31.1 -0.3
comp=Z,11nm,0.5s,SNR=6.4
DAVA **Damuels** 148.12 357 ⇑*i*PKPbc **PKPbc** 05 53 30.8 -0.8
comp=Z,15nm,1.1s,SNR=5.9
SOKA **Soboth** 148.19 351 *i* PKPbc **PKPbc** 05 53 31.2 -0.5
comp=Z,11nm,1.4s,SNR=5.3
FETA **Feichten** 148.34 356 ⇓*i*PKiKP **PKPbc** 05 53 32.2 -0.1
comp=Z,9.1nm,0.9s
ASF **Jabal al Asfar** 148.68 307 PKPbc **PKPbc** 05 53 33.9 +0.4
comp=Z,3.2nm,0.8s,baz=66,slow=3.6,SNR=5.0
VTS **Vitosha** 149.80 337 ⇑*i*P **PKPbc** 05 53 36.3 +0.3
SSB **Saint Sauveur** 150.05 5 *e*PKPdf **PKPbc** 05 53 30.8 -0.7
SSB *e*PKPbc **PKPbc** 05 53 36.0 -0.4
BNI **Bardonecchia** 150.38 2 *e*PKPdf **PKPdf** 05 53 32.6 +0.5
BNI *e*PKPbc **PKPbc** 05 53 37.8 +0.4
PCAB **Cabril** 150.40 24 *e*PKPbc **PKPbc** 05 53 37.7 +0.4
MMB **Musomiste** 150.45 335 ⇑*i*P **PKPbc** 05 53 37.2 -0.3
POLO **Lamas de Olo** 150.77 24 *e*PKPdf **PKPdf** 05 53 33.3 +0.5
POLO **Lamas de Olo** 150.77 24 *e*PKPbc **PKPbc** 05 53 38.1 -0.2
PBRG **Braganca** 150.81 23 *e*PKPbc **PKPbc** 05 53 38.0 -0.3
PVRL **Vila Real** 150.89 24 *e*PKPbc **PKPbc** 05 53 38.7 +0.2
MVO **Moncorvo** 151.25 24 *e*PKPbc **PKPbc** 05 53 39.5 +0.1
PVIS **Viseu** 151.29 25 *e*PKPbc **PKPbc** 05 53 39.5 0.0
PCAS **Casmilo, Conde** 151.58 27 *e*PKPbc **PKPbc** 05 53 40.0 -0.1
MTE **Manteigas** 151.70 25 *e*PKPbc **PKPbc** 05 53 40.3 -0.2
PCBR **Castelo Branco** 152.19 26 *e*PKPdf **PKPdf** 05 53 34.7 -0.1
PCBR **Castelo Branco** 152.19 26 *e*PKPbc **PKPbc** 05 53 41.4 -0.1
PMTG **Montargil** 152.51 28 *e*PKPbc **PKPbc** 05 53 41.9 -0.3
PMRV **Marv??o** 152.57 26 *e*PKPbc **PKPbc** 05 53 42.2 -0.2
ESDC **Sonseca Array** 153.68 21 PKP **PKPdf** 05 53 37.1 0.0
comp=Z,0.4nm,0.7s,baz=302,slow=2.1,SNR=4.2
ESDC PKPbc **PKPbc** 05 53 44.8 -0.1
comp=Z,2.3nm,0.7s,baz=327,slow=2.8,SNR=20
ESDC PKPab **PKPab** 05 53 57.2 -0.3
comp=Z,0.7nm,0.7s,baz=327,slow=4.6,SNR=3.9

TORD	**Torodi Ar. Bea**	**173.69**	**110**	PKP	**PKPdf**	**05 53 54.3**	**-1.8**
	comp=Z,1.5nm,1.0s,baz=318,slow=1.9,SNR=6.0						
TORD				PKPab	**PKPab**	**05 55 22.9**	**-3.0**
	comp=Z,1.0nm,1.0s,baz=265,slow=3.8,SNR=3.3						

IDC 18 05:36:18.8±1.1, 17°.08N×145°.91E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/65, mbtmp3.7/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/42, Error ellipse: s-maj=31.3km s-min=27.9km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.83**	**83**	T	T	06 01 24.1	
	baz=268,slow=75,SNR=167						
H11S1	**WAKE ISLAND Hy**	**19.84**	**83**	T	T	06 01 25.0	
	baz=268,slow=75,SNR=219						
H11S2	**WAKE ISLAND Hy**	**19.85**	**83**	T	T	06 01 26.9	
	baz=268,slow=75,SNR=189						
H11N1	**WAKE ISLAND Hy**	**20.08**	**79**	T	T	06 01 45.5	
	baz=265,slow=75,SNR=1032						
H11N2	**WAKE ISLAND Hy**	**20.08**	**79**	T	T	06 01 46.3	
	baz=265,slow=75,SNR=802						
H11N3	**WAKE ISLAND Hy**	**20.09**	**79**	T	T	06 01 46.3	
	baz=265,slow=75,SNR=1062						
JNU	**Nakatsue**	**20.95**	**322**	LR	LR	05 48 05.0	
	comp=Z,30nm,18.4s,baz=241,slow=34						
WRA	**Warramunga Arr**	**38.51**	**198**	P	P	05 43 43.5	+0.4
	1.2nm,0.8s,baz=20,slow=9.3,SNR=2.6						
SONM	**Songino Array**	**44.53**	**322**	P	P	05 44 33.9	+1.4
	0.2nm,0.4s,baz=158,slow=4.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**44.65**	**279**	P	P	05 44 31.9	-1.8
	1.3nm,0.3s,baz=69,slow=6.7,SNR=5.3						
MKAR	**Makanchi Array**	**59.73**	**315**	P	P	05 46 26.3	+0.7
	0.7nm,0.9s,baz=97,slow=6.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**62.66**	**319**	P	P	05 46 44.8	-0.4
	1.3nm,1.1s,baz=99,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**	**79.32**	**28**	P	P	05 48 24.6	-1.6
	0.2nm,0.7s,baz=287,slow=5.4,SNR=5.0						
NVAR	**Mina Array Bea**	**83.97**	**52**	P	P	05 48 52.4	+0.8
	0.2nm,0.5s,baz=282,slow=5.2,SNR=2.5						

*CSEM **18** 05:50:26.8, 42°.02N×13°.26E, h9km, MD2.9/20*
ROM 18 05:50:26.8±0.1, 42°.02N×13°.26E, h9km, Md2.9/20, Ml2.3/21, Error ellipse: s-maj=0.7km s-min=0.6km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTQR	**Pietraquaria**	**0.11**	**88**	Pg	Pg	05 50 30.2	+0.6
PTQR				Sg	Sg	05 50 31.8	+0.3
	144nm,0.2s						
PTQR	**Pietraquaria**	**0.11**	**88**	Pg	Pg	05 50 30.2	+0.6
PTQR				Sg	Sg	05 50 31.8	+0.3
	144nm,0.2s						
CERT	**Cerreto**	**0.22**	**251**	Pg	Pg	05 50 32.1	+0.8
CERT				Sg	Sg	05 50 35.7	+1.3
	614nm,0.4s						
CERT	**Cerreto**	**0.22**	**251**	Pg	Pg	05 50 32.1	+0.8
CERT				Sg	Sg	05 50 35.7	+1.3
	614nm,0.4s						
GUAR	**Guarcino**	**0.23**	**169**	Pg	Pg	05 50 32.4	+0.9
GUAR				Sg	Sg	05 50 36.2	+1.5
	496nm,0.2s						
GUAR	**Guarcino**	**0.23**	**169**	Pg	Pg	05 50 32.4	+0.9
GUAR				Sg	Sg	05 50 36.2	+1.5
	496nm,0.2s						
FIAM	**Fiamignano**	**0.27**	**338**	Pg	Pg	05 50 33.2	+0.8
FIAM				Sg	Sb	05 50 37.6	-1.2
	532nm,0.6s						
FIAM	**Fiamignano**	**0.27**	**338**	Pg	Pg	05 50 33.2	+0.8
FIAM				Sg	Sb	05 50 37.6	-1.2
	532nm,0.6s						
T0106	**Roio Piano**	**0.30**	**18**	Pg	Pg	05 50 33.7	+0.6
T0106				Sg	Sb	05 50 38.6	-1.3
	564nm,0.5s						
VVLD	**Villa Vallelon**	**0.31**	**118**	Pg	Pg	05 50 33.6	+0.5
VVLD				Sg	Sb	05 50 39.3	-0.6
	393nm,0.4s						
VVLD	**Villa Vallelon**	**0.31**	**118**	Pg	Pg	05 50 33.6	+0.5
VVLD				Sg	Sb	05 50 39.3	-0.6
	393nm,0.4s						
T0104	**Madonna delle**	**0.35**	**10**	Pg	Pg	05 50 34.3	+0.5
T0104				Sg	Sb	05 50 39.9	-1.1
FAGN	**Fagnano**	**0.35**	**44**	Pg	Pg	05 50 34.3	+0.5
FAGN				Sg	Sb	05 50 40.8	-0.2
	786nm,0.4s						
FAGN	**Fagnano**	**0.35**	**44**	Pg	Pg	05 50 34.3	+0.5
FAGN				Sg	Sb	05 50 40.8	-0.2
	786nm,0.4s						
AQU	**L'Aquila**	**0.35**	**18**	Pg	Pg	05 50 34.6	+0.7
AQU				Sg	Sb	05 50 40.4	-0.7
	329nm,0.4s						
AQU	**L'Aquila**	**0.35**	**18**	Pg	Pg	05 50 34.6	+0.7
AQU				Sg	Sb	05 50 40.4	-0.7
	329nm,0.4s						
MTCE	**Montecelio**	**0.38**	**271**	Pg	Pg	05 50 35.0	+0.6
MTCE				Sg	Sb	05 50 40.9	-0.9
	191nm,0.6s						
MTCE	**Montecelio**	**0.38**	**271**	Pg	Pg	05 50 35.0	+0.6
MTCE				Sg	Sb	05 50 40.9	-0.9
	191nm,0.6s						
POFI	**Posta Fibreno**	**0.45**	**131**	Pg	Pg	05 50 35.9	+0.1
POFI				Sg	Sb	05 50 43.3	-0.7
	206nm,1.0s						
POFI	**Posta Fibreno**	**0.45**	**131**	Pg	Pg	05 50 35.9	+0.1
POFI				Sg	Sb	05 50 43.3	-0.7
	206nm,1.0s						
GIUL	**Giuliano Di Ro**	**0.46**	**180**	Pg	Pg	05 50 36.4	+0.6
	102nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.46**	**180**	Pg	Pg	05 50 36.4	+0.6
	102nm,0.5s						
RMP	**Rome, Mte Porz**	**0.46**	**244**	Pg	Pb	05 50 36.7	-0.4
	353nm,0.3s						
RMP	**Rome, Mte Porz**	**0.46**	**244**	Pg	Pb	05 50 36.7	-0.4
	353nm,0.3s						
RDP	**Rocca di Papa**	**0.48**	**237**	Pg	Pb	05 50 36.9	-0.6
	594nm,0.4s						
RDP	**Rocca di Papa**	**0.48**	**237**	Pg	Pb	05 50 36.9	-0.6
	594nm,0.4s						
INTR	**Introdacqua**	**0.48**	**91**	Pg	Pg	05 50 36.7	+0.3
	195nm,0.6s						
INTR	**Introdacqua**	**0.48**	**91**	Pg	Pg	05 50 36.7	+0.3
	195nm,0.6s						
SDI	**San Donato**	**0.52**	**127**	Pg	Pg	05 50 36.9	0.0
	61nm,0.2s						
SDI	**San Donato**	**0.52**	**127**	Pg	Pg	05 50 36.9	0.0
	61nm,0.2s						
MNS	**Montasola**	**0.56**	**311**	Pg	Pg	05 50 37.9	+0.1
	101nm,0.5s						
MNS	**Montasola**	**0.56**	**311**	Pg	Pg	05 50 37.9	+0.1
	101nm,0.5s						
VCEL	**Villa Celiera**	**0.57**	**49**	Pg	Pb	05 50 38.7	-0.5
	219nm,0.6s						
VCEL	**Villa Celiera**	**0.57**	**49**	Pg	Pb	05 50 38.7	-0.5
	219nm,0.6s						
LNSS	**Leonessa**	**0.61**	**345**	Pg	Pg	05 50 38.9	+0.2
	167nm,0.4s						
LNSS	**Leonessa**	**0.61**	**345**	Pg	Pg	05 50 38.9	+0.2
	167nm,0.4s						
SMA1	**SAN MARTINO**	**0.61**	**5**	Pg	Pg	05 50 39.2	+0.3
	197nm,0.5s						
TERO	**Teramo**	**0.66**	**23**	Pg	Pg	05 50 39.6	0.0
	90nm,0.5s						
TERO	**Teramo**	**0.66**	**23**	Pg	Pg	05 50 39.6	0.0
	90nm,0.5s						
LPEL	**Lama dei Pelig**	**0.69**	**87**	Pg	Pg	05 50 40.2	-0.1
	61nm,0.5s						
LPEL	**Lama dei Pelig**	**0.69**	**87**	Pg	Pg	05 50 40.2	-0.1
	61nm,0.5s						
CERA	**Filignano**	**0.71**	**126**	Pg	Pg	05 50 40.3	-0.3
	205nm,1.0s						
CERA	**Filignano**	**0.71**	**126**	Pg	Pg	05 50 40.3	-0.3
	205nm,1.0s						
RNI2	**Rionero Sannit**	**0.74**	**115**	Pg	Pg	05 50 41.3	+0.1
	108nm,0.6s						
RNI2	**Rionero Sannit**	**0.74**	**115**	Pg	Pg	05 50 41.3	+0.1
	108nm,0.6s						

*CSEM **18** 05:51:38.2, 43°.49N×12°.42E, h9km, MD1.6/5*
ROM 18 05:51:38.2±0.1, 43°.49N×12°.42E, h9km, Md1.6/5, Ml1.5/7, Error ellipse: s-maj=0.6km s-min=0.4km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPC	**Poggio Castell**	**0.03**	**100**	Pg	Pg	05 51 40.2	+0.2
ATPC				Sg	Sg	05 51 41.4	+0.2
ATPC	**Poggio Castell**	**0.03**	**100**	Pg	Pg	05 51 40.2	+0.2
ATPC				Sg	Sg	05 51 41.4	+0.2
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	05 51 41.2	+0.4
PIEI				Sg	Sg	05 51 43.3	+0.7
	271nm,0.2s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	05 51 41.2	+0.4
PIEI				Sg	Sg	05 51 43.3	+0.7
	271nm,0.2s						
BADI	**Badiali**	**0.13**	**281**	Pg	Pg	05 51 41.7	+0.6
BADI				Sg	Sg	05 51 44.0	+0.8
	153nm,0.2s						
BADI	**Badiali**	**0.13**	**281**	Pg	Pg	05 51 41.7	+0.6
BADI				Sg	Sg	05 51 44.0	+0.8
	153nm,0.2s						
CDCA	**Citt' di Caste**	**0.14**	**258**	Pg	Pg	05 51 41.7	+0.5
CDCA				Sg	Sg	05 51 44.3	+1.0
	78nm,0.2s						
CDCA	**Citt' di Caste**	**0.14**	**258**	Pg	Pg	05 51 41.7	+0.5
CDCA				Sg	Sg	05 51 44.3	+1.0
	78nm,0.2s						
ATFO	**Monte Foce - G**	**0.17**	**136**	Pg	Pg	05 51 42.2	+0.3
ATFO				Sg	Sg	05 51 45.4	+1.0
	72nm,0.1s						
ATFO	**Monte Foce - G**	**0.17**	**136**	Pg	Pg	05 51 42.2	+0.3
ATFO				Sg	Sg	05 51 45.4	+1.0
	72nm,0.1s						
PARC	**Parchiule**	**0.21**	**322**	Pg	Pg	05 51 43.2	+0.6
PARC				Sg	Sg	05 51 46.8	+1.3
	52nm,0.4s						
PARC	**Parchiule**	**0.21**	**322**	Pg	Pg	05 51 43.2	+0.6
PARC				Sg	Sg	05 51 46.8	+1.3
	52nm,0.4s						
MURB	**Monte Urbino**	**0.24**	**160**	Pg	Pg	05 51 43.8	+0.7
MURB				Sg	Sg	05 51 48.0	+1.6
	293nm,0.2s						
MURB	**Monte Urbino**	**0.24**	**160**	Pg	Pg	05 51 43.8	+0.7
MURB				Sg	Sg	05 51 48.0	+1.6
	293nm,0.2s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	05 51 45.8	+0.4
CAFI				Sg	Sb	05 51 52.1	-0.6
	12nm,0.1s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	05 51 45.8	+0.4
CAFI				Sg	Sb	05 51 52.1	-0.6
	12nm,0.1s						

*SKHL **18** 05:52:34.4±0.4, 52°.19N×142°.33E, h10km, mb4.6/8, Ms3.9/4*
*BJI **18** 05:52:36.7, 52°.10N×142°.30E, h10km, mB4.6/2, mb4.3/4, Ms4.6/3, Ms7 4.3/4*
*IDC **18** 05:52:36.5±0.5, 52°.17N×142°.24E, h0km, mb4.0/19, mb1 4.1/25, mb1mx4.0/49, mbtmp3.9/25, ML3.4/5, MS3.1/7, Ms1 3.1/7, ms1mx2.9/40, Error ellipse: s-maj=15.8km s-min=11.0km az=136.0*
*MOS **18** 05:52:36.9±1.2, 52°.19N×142°.32E, h12km, mb4.4/24, Error ellipse: s-maj=11.1km s-min=6.9km az=76.8*
*ISCJB **18** 05:52:36.5±0.2, 52°.17N±0°.02×142°.15E±0°.03, h10km, mb4.3/45, MS3.5/5, Error ellipse: s-maj=3.1km s-min=2.7km az=10.8*
*NEIC **18** 05:52:41.2±1.9, 52°.14N×142°.14E, h30km±14km, mb4.6/24, Error ellipse: s-maj=6.2km s-min=4.8km az=146.0*
ISC 18 05:52:38.0±0.4, 52°.18N±0°.03×142°.16E±0°.03, h10km, n112, σ1§69/115, mb4.3/45, MS3.5/5, 8C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**1.33**	**318**	⇓*i*Pg	**Pb**	**05 53 02.0**	**-1.0**
NKL				AMB	AMB	05 53 03.0	
	2μm,1.0s						
NKL				AMB	AMB	05 53 03.0	
	1μm,1.0s						
NKL				AMB	AMB	05 53 03.0	
	2μm,1.0s						
NKL				AMB	AMB	05 53 06.2	
	5μm,0.4s						
NKL				*i* Sg	**Sg**	**05 53 21.0**	**+0.3**
NKL				A	A	05 53 23.0	
	8μm,1.0s						
NKL				A	A	05 53 23.3	
	8μm,0.6s						
NKL				AMS	AMS	05 54 49.0	
	1μm,6.0s						
TYV	**Tymovskoe**	**1.35**	**167**	*e*Pg	**Pn**	**05 53 00.5**	**-2.5**
TYV				AMB	AMB	05 53 06.0	
	2μm,1.0s						
TYV				*e*Sg	**Sn**	**05 53 19.0**	**-2.0**
TYV				A	A	05 53 34.0	
	14μm,4.0s						
OKH	**Okha**	**1.45**	**18**	⇑*i*Pg	**Pg**	**05 53 04.7**	**-1.1**
OKH				*e*Pg	**Pg**	**05 53 04.7**	**-1.1**
OKH				AMB	AMB	05 53 05.0	
	700nm,1.0s						
OKH				⇑*i*Sg	**Sg**	**05 53 26.0**	**+1.4**
OKH				A	A	05 53 29.0	
	13μm,1.0s						
OKH				A	A	05 53 29.9	
	8μm,1.0s						
UGL	**Uglegorsk**	**3.11**	**181**	*e*PN	**Pg**	**05 53 38.0**	**+0.5**
UGL				pmax	pmax		
	comp=Z,237nm,0.6s						
UGL	**Uglegorsk**	**3.11**	**181**	*e*Pg	**Pg**	**05 53 36.5**	**-1.0**
UGL				AMB	AMB	05 53 41.5	
	comp=Z,237nm,0.6s						
UGL				*e*Sg	**Sg**	**05 54 19.5**	**+1.7**
UGL				A	A	05 54 24.5	
	comp=Z,494nm,0.9s						
UGL				A	A	05 54 24.5	
	comp=Z,888nm,0.9s						
GRNR	**Gornyy**	**3.86**	**251**	*e*P	**Pn**	**05 53 36.3**	**-1.1**
GRNR				AMB	AMB	05 53 37.0	
	comp=Z,100nm,0.5s						
GRNR				*e*Pg	**Pg**	**05 53 49.5**	**-2.4**
GRNR				AMB	AMB	05 53 50.5	
	comp=Z,57nm,0.5s						
GRNR				*e*S	**Sn**	**05 54 22.0**	**-0.8**
GRNR				A	A	05 54 38.7	
	comp=Z,390nm,0.5s						
GRNR				A	A	05 54 38.7	
	comp=Z,270nm,0.5s						
GRNR				*e*Sg	**Sg**	**05 54 43.0**	**+1.2**
GRNR				A	A	05 54 45.0	
	comp=Z,330nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.25**	**176**	⇑*i*PN	**Pn**	**05 53 57.5**	**+1.0**
YSS				*e*S	**Sn**	**05 54 59.0**	**+2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=N,80nm,0.9s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
YSS				MLR	MLR		
	comp=N,600nm,13.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**176**	⇑*i*P	**Pn**	**05 53 55.5**	**-0.9**
YSS				AMB	AMB	05 53 58.8	
	comp=N,30nm,0.9s						
YSS				*e*S	**Sn**	**05 54 54.2**	**-2.7**
YSS				A	A	05 55 09.0	
	comp=N,80nm,0.9s						
YSS				*e*Sg	Sg	05 55 31.0	+4.6
YSS				AMS	AMS	05 56 25.0	
	comp=N,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.25**	**176**	*e*Pg	**Pn**	**05 53 57.4**	**+1.0**
EKMR	**Ekimchan**	**5.68**	**283**	*e*P	**Pn**	**05 54 02.5**	**0.0**
EKMR				*e*Pg	Pg	05 54 23.0	-3.8
EKMR				AMB	AMB	05 54 26.0	
	comp=N,73nm,0.5s						
EKMR				AMB	AMB	05 54 26.0	
	comp=N,51nm,0.5s						
EKMR				AMB	AMB	05 54 26.0	
	comp=N,67nm,0.5s						
EKMR				*e*S	**Sn**	**05 55 06.5**	**-1.2**
EKMR				*e*Sg	**Sg**	**05 55 43.5**	**+3.2**
EKMR				A	A	05 55 48.0	
	comp=N,680nm,0.8s						
EKMR				A	A	05 55 48.0	
	comp=N,150nm,0.8s						
EKMR				A	A	05 55 48.0	
	comp=N,250nm,0.8s						
HABR	**Khabarovsk**	**5.88**	**234**	*e*PN	Pn	05 54 09.1	+4.0
HABR				*e*SS	**Sb**	**05 55 26.9**	**-3.9**
HABR				pmax	pmax		
	comp=E,9.0nm,0.5s						
HABR				pmax	pmax		
	comp=E,46nm,0.4s						
HABR				pmax	pmax		
	comp=Z,37nm,0.3s						
HABR				pmax	pmax		
	comp=N,29nm,0.3s						
HABR				pmax	pmax		
	comp=N,55nm,0.3s						
HABR				smax	smax		
	comp=N,322nm,0.8s						
HABR				MLR	MLR		
	comp=Z,368nm,13.0s						
KLR	**Kul'dur**	**7.24**	**250**	*e*PN	Pn	05 54 27.0	+3.1
KLR				*e*		05 55 56.5	
KLR				MLR	MLR		
	comp=E,1μm,8.5s						
KLR				MLR	MLR		
	comp=Z,3μm,8.5s						
KLR	**Kul'dur**	**7.24**	**250**	*e*P	Pn	05 54 27.0	+3.1
KLR				*e*S	Sn	05 55 56.5	+10
KLR				AMS	AMS	05 57 08.0	
	comp=Z,1μm,8.5s						
KLR				AMS	AMS	05 57 08.0	
	comp=Z,3μm,8.5s						
TEY	**Ternei**	**8.04**	**209**	*e*P	**Pn**	**05 54 35.0**	**+0.2**
TEY				*e*S	**Sn**	**05 56 09.5**	**+3.8**
TEY				*e*Sg	Sg	05 57 06.5	+11
TEY				A	A	05 57 07.3	
	comp=Z,170nm,0.9s						
TEY				AMS	AMS	05 57 44.6	
	comp=Z,1μm,8.0s						
ASAJ	**Asahikawa**	**8.08**	**178**	PN	**Pn**	**05 54 36.8**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.08**	**178**	Pn	**Pn**	**05 54 36.8**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=39,slow=31,SNR=7.0						
BMKR	**Bomnak**	**8.35**	**293**	*e*P	Pn	05 54 41.4	+2.4
BMKR				AMB	AMB	05 54 46.1	
	comp=Z,5.0nm,0.6s						
BMKR				*e*Pg	Pg	05 55 13.5	-4.2
BMKR				*e*S	Sn	05 56 19.0	+5.8
BMKR				*e*Sg	Sg	05 57 12.0	+6.4
BMKR				A	A	05 57 14.4	
	comp=Z,129nm,0.9s						
YASR	**Yasnyy**	**8.68**	**283**	*e*P	**Pn**	**05 54 41.8**	**-1.8**
YASR				*e*Pg	Pg	05 55 11.7	-12
YASR				*e*Sg	**Sg**	**05 57 13.0**	**-3.4**
YASR				A	A	05 57 19.0	
	comp=Z,110nm,0.7s						
YASR				A	A	05 57 19.0	
	comp=Z,24nm,0.7s						
YASR				A	A	05 57 19.0	
	comp=Z,20nm,0.7s						
ZEA	**Zeya**	**9.14**	**286**	*e*P	**Pn**	**05 54 50.8**	**+1.0**
ZEA				*e*S	**Sn**	**05 56 37.2**	**+4.6**
ZEA				*e*Sg		05 57 32.5	
ZEA				A	A	05 57 43.0	
	comp=Z,180nm,1.0s						
ZEA				AMS	AMS	05 58 34.0	
	comp=Z,500nm,12.0s						
ZEA				AMS	AMS	05 58 34.0	
	comp=Z,600nm,12.0s						
KROS	**Kirovskiy**	**9.37**	**290**	*e*P	Pn	05 54 55.6	+2.6
KROS				AMB	AMB	05 54 57.3	
	comp=Z,14nm,0.9s						
KROS				*e*Sg		05 57 38.5	
KROS				A	A	05 57 45.5	
	comp=Z,44nm,0.6s						
PETK	**Petropavlovsk-**	**9.49**	**78**	Pn	**Pn**	**05 54 53.3**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=282,slow=10,SNR=11						
PETK				Sn	**Sn**	**05 56 36.3**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=252,slow=14,SNR=2.1						
PETK				LR	LR	05 58 39.1	
	comp=Z,94nm,19.1s,baz=243,slow=38						
USRK	**Ussuriysk Ar.**	**10.47**	**224**	Pn	**Pn**	**05 55 08.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=30,slow=11,SNR=4.7						
USRK				Lg	Lg	05 58 07.5	
	comp=Z,0.2nm,0.3s,baz=29,slow=28,SNR=5.2						
YAK	**Yakutsk**	**11.95**	**331**	Lg	Lg	05 58 48.1	
	comp=Z,0.0nm,0.3s,baz=52,slow=23,SNR=6.9						
YAK				LR	LR	05 59 46.3	
	comp=Z,53nm,20.8s,baz=137,slow=36						
SEY	**Seymchan**	**12.07**	**23**	Pn	**Pn**	**05 55 31.4**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=195,slow=20,SNR=3.2						
SEY				LR	LR	06 00 41.4	
	comp=Z,135nm,21.9s,baz=220,slow=40						
HIA	**Hailar**	**14.49**	**267**	⇑*e*P	**Pn**	**05 56 04.5**	**+1.5**
HIA	**Hailar**	**14.49**	**267**	*e*Pn	**Pn**	**05 56 03.0**	**0.0**
	comp=Z,8.0nm,0.4s						
MJAR	**Matsushiro Arr**	**15.89**	**192**	Pn	**Pn**	**05 56 21.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=357,slow=13,SNR=2.7						
BOD	**Bodaibo**	**17.03**	**300**	*e*P	**Pn**	**05 56 34.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSRS	**Korea Array**	**17.81**	**220**	P	**P**	**05 56 47.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=8.9						
KSRS				LR	LR	06 03 16.7	
	comp=Z,85nm,20.9s,baz=49,slow=36						
KSAR	**Wonju Array Be**	**17.83**	**220**	P	**P**	**05 56 47.8**	**+1.0**
KSAR	**Wonju Array Be**	**17.83**	**220**	P	**P**	**05 56 47.8**	**+1.0**
TIXI	**Tiksi**	**20.42**	**348**	⇓*e*P	Pn	05 57 14.8	-2.1
TIXI				pmax	pmax		
	comp=Z,14nm,1.7s						
TIXI	**Tiksi**	**20.42**	**348**	*e*P	Pn	05 57 16.1	-0.9
	comp=Z,14nm,1.0s						
JNU	**Nakatsue**	**20.73**	**208**	P	**P**	**05 57 16.8**	**-1.8**
	comp=Z,4.1nm,0.9s,baz=38,slow=17,SNR=3.5						
BJT	**Baijiatuau**	**21.61**	**246**	*e*P	**P**	**05 57 26.2**	**-1.8**
BJT				pmax	pmax		
	comp=Z,13nm,0.3s						
BJT	**Baijiatuau**	**21.61**	**246**	*e*P	**P**	**05 57 26.2**	**-1.8**
	comp=Z,13nm,0.3s						
ULN	**Ulaanbaatar**	**22.82**	**273**	⇑*i*P	**P**	**05 57 42.8**	**+1.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**22.82**	**273**	*e*P	**P**	**05 57 42.4**	**+1.3**
	comp=Z,5.7nm,1.0s						
SONM	**Songino Array**	**23.24**	**274**	P	**P**	**05 57 45.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=61,slow=9.0,SNR=9.5						
SONM				Lg	Lg	06 04 54.4	
	comp=Z,1.4nm,1.0s,baz=60,slow=24,SNR=7.3						
TLY	**Talaya**	**23.57**	**284**	*e*P	**P**	**05 57 50.1**	**+1.6**
TLY				*e*S	**S**	**06 01 57.5**	**-5.0**
TLY				*e*SS	SnSn	06 02 50.3	+12
TLY				pmax	pmax		
	comp=Z,11nm,1.2s						
TLY				MLR	MLR		
	comp=Z,255nm,14.0s						
TLY	**Talaya**	**23.57**	**284**	P	**P**	**05 57 49.6**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=68,slow=4.4,SNR=9.8						
TLY				Lg	Lg	06 05 10.7	
	comp=Z,1.3nm,0.4s,baz=326,slow=17,SNR=3.1						
HHC	**Hu-ho-hao-te**	**23.73**	**254**	*e*P	**P**	**05 57 50.4**	**+0.2**
HHC				PP	PnPn	05 58 23.9	+6.4
HHC				S	**S**	**06 02 02.8**	**-2.6**
HHC				sS	**sS**	**06 02 09.0**	**-1.4**
HHC				SS	**SnSn**	**06 02 51.6**	**+8.7**
HHC				PMZ			
	comp=Z,19nm,1.0s						
HHC				PMZ			
	comp=Z,56nm,4.4s						
HHC				LN			
	comp=Z,390nm,7.7s						
HHC				LE			
	comp=Z,420nm,7.4s						
HHC				LZ			
	comp=Z,370nm,9.

comp=Z,1.1nm,0.8s,baz=61,slow=7.0,SNR=5.8
ZALV PcP **PcP** **06 01 58.8 +0.5**
comp=Z,1.0nm,0.6s,baz=76,slow=0.8,SNR=4.7
ZALV LR LR 06 13 42.1
comp=Z,65nm,20.5s,baz=70,slow=38
NVS Novosibirsk 34.25 298 *e*P P 05 59 18.5 -5.2
NVS pmax pmax
comp=N,2.0nm,1.4s
NVS pmax pmax
comp=E,6.0nm,1.4s
NVS pmax pmax
comp=Z,8.0nm,1.4s
COLD Coldfoot 35.21 39 *e*P **P** **05 59 32.7 +0.8**
comp=Z,66nm,2.5s
TRF Thorofare Moun 35.95 45 *e*P **P** **05 59 39.8 +1.3**
comp=Z,8.5nm,0.8s
MCK McKinley 36.46 44 *e*P **P** **05 59 43.7 +1.0**
MCK pmax pmax
comp=Z,112nm,2.3s
MCK McKinley 36.46 44 *e*P **P** **05 59 43.7 +1.0**
comp=Z,112nm,2.3s
COLA College 36.63 42↓ *e*P **P** **05 59 44.9 +0.9**
COLA pmax pmax
comp=Z,61nm,2.7s
COLA College 36.63 42 *e*P **P** **05 59 44.3 +0.2**
comp=Z,102nm,2.9s
ILAR Eielson Array 37.05 42 P **P** **05 59 47.8 +0.1**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 37.05 42 P **P** **05 59 47.8 +0.1**
comp=Z,2.7nm,0.8s,baz=286,slow=8.1,SNR=32
MKAR Makanchi Array 38.29 286 *i* P P 06 00 01.1 +2.7
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 38.29 286 P **P** **05 59 58.7 +0.3**
comp=Z,2.0nm,0.7s,baz=66,slow=7.1,SNR=17
MKAR LR LR 06 16 37.2
comp=Z,69nm,18.1s,baz=40,slow=38
KURK Kurchatov 38.50 294 *e*P P 06 00 04.6 +4.6
KURK pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 38.50 294 *e*P P 06 00 04.6 +4.6
comp=Z,3.5nm,1.2s
EGAK Eagle 39.40 41 *e*P **P** **06 00 07.8 +0.3**
comp=Z,13nm,0.8s
AAK Ala-Archa 45.22 286↓ *i* P **P** **06 00 55.9 +0.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 45.22 286 *e*P **P** **06 00 56.4 +1.0**
comp=Z,2.4nm,0.9s
EKS2 Erkin-Say 45.63 286 *e*P P 06 01 04.0 +5.5
EKS2 pmax pmax
comp=Z,3.0nm,0.9s
EKS2 Erkin-Say 45.63 286 *e*P P 06 01 04.0 +5.5
comp=Z,3.2nm,0.9s
ARU Arti 46.11 310 *d i* P **P** **06 01 03.5 +1.6**
ARU 06 02 42.0
ARU S S 06 07 52.6 +5.3
ARU pmax pmax
comp=Z,19nm,2.5s
ARU Arti 46.11 310 *e*P **P** **06 01 03.0 +1.0**
comp=Z,19nm,1.5s
CMAR Chiang Mai Arr 47.63 242 P **P** **06 01 14.8 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 47.63 242 P **P** **06 01 14.8 +0.5**
comp=Z,0.9nm,0.3s,baz=18,slow=7.8,SNR=6.3
ABKAR Akbulak array 49.47 301 *e*P **P** **06 01 28.5 +0.4**
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 50.77 36 P **P** **06 01 37.8 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 50.77 36 P **P** **06 01 37.8 +0.1**
comp=Z,1.5nm,0.8s,baz=309,slow=7.6,SNR=38
FINES FINESS Array B 55.88 329 P **P** **06 02 16.5 +1.2**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 55.88 329 P **P** **06 02 16.4 +1.2**
comp=Z,2.8nm,0.8s,baz=46,slow=5.5,SNR=6.3
NOA NORSAR Array B 60.53 335 P **P** **06 02 48.3 +0.4**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,6.0nm,21.5s
NOA NORSAR Array B 60.53 335 P **P** **06 02 48.3 +0.4**
comp=Z,2.2nm,0.9s,baz=32,slow=6.9,SNR=3.4
NOA LR LR 06 31 28.9
comp=Z,6.4nm,21.5s,baz=115,slow=38
BSMT Bassoo Peak 60.74 49 *e*P **P** **06 02 50.0 +0.3**
comp=Z,2.5nm,0.9s
FFC Flin Flon 60.92 37 *e*P **P** **06 02 50.5 -0.1**
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 60.92 37 *e*P **P** **06 02 50.5 -0.1**
comp=Z,5.8nm,1.0s
JTMT Jette 61.05 49 *e*P **P** **06 02 52.1 +0.3**
KIV Kislovodsk 61.85 306 *e*P **P** **06 02 58.2 +1.0**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,68nm,17.0s
EGMT Eagleton 62.89 46 *e*P **P** **06 03 04.5 +0.5**
AKASG Malin Array Be 62.90 319 *ce*P P 06 03 07.9 +3.9
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 62.90 319 P **P** **06 03 04.0 +0.1**
comp=Z,0.6nm,0.6s,baz=24,slow=3.2,SNR=4.8
HRY Holter Researc 62.94 48 *e*P **P** **06 03 05.0 +0.6**
DLMT Dillon 63.59 49 *e*P **P** **06 03 08.8 -0.1**
comp=Z,6.6nm,0.9s
BOZ Bozeman (W) 63.83 49 *e*P **P** **06 03 11.0 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 63.83 49 *e*P **P** **06 03 11.0 +0.6**
comp=Z,2.0nm,0.9s
MCMT McKenzie Canyo 63.88 50 *e*P **P** **06 03 10.7 -0.2**
comp=Z,0.8nm,0.7s
H17A Grant Village 65.27 49 *e*P P 06 03 22.4 +2.4
comp=Z,4.4nm,1.0s
RLMT Red Lodge 65.31 48 *e*P **P** **06 03 20.8 +0.6**
comp=Z,3.2nm,0.6s
FXWY Fox Creek 65.63 50 *e*P **P** **06 03 23.6 +1.3**
comp=Z,2.5nm,0.6s
NVAR Mina Array Bea 65.94 58 P **P** **06 03 24.4 0.0**
comp=Z,0.8nm,0.7s,baz=300,slow=5.9,SNR=8.0
ULM Lac du Bonnet 66.74 36 P **P** **06 03 28.2 -0.8**
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 66.74 36 P **P** **06 03 28.2 -0.8**
comp=Z,2.6nm,0.8s,baz=317,slow=6.0,SNR=6.5
PDAR Pinedale Array 66.99 49 P **P** **06 03 30.7 -0.3**
comp=Z,2.1nm,0.9s,baz=312,slow=1.9,SNR=12
JLU Jordanelle 67.76 52 *e*P **P** **06 03 35.3 -0.6**
comp=Z,13nm,1.8s
CLL Collm 68.33 328 *e*P P 06 03 42.0 +3.0
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 68.33 328 *e*P P 06 03 41.0 +2.0
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 69.47 309 *ce*P **P** **06 03 48.0 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 69.47 309 P **P** **06 03 46.3 -0.2**
comp=Z,1.0nm,0.9s,baz=356,slow=3.8,SNR=3.5
ECSD EROS Data Cent 71.85 41 *e*P **P** **06 04 00.2 -0.6**
comp=Z,4.9nm,0.7s
WRA Warramunga Arr 72.14 188 *i* P **P** **06 04 03.2 +0.6**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 72.14 188 P **P** **06 04 01.8 -0.8**
comp=Z,1.2nm,0.9s,baz=5.0,slow=6.8,SNR=8.1
ASAR Alice Springs 75.87 188 P **P** **06 04 24.9 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 75.87 188 P **P** **06 04 24.9 +0.5**
comp=Z,1.3nm,0.5s,baz=4.2,slow=5.4,SNR=24
MNTX Cornudas Mount 77.79 54 *e*P **P** **06 04 36.1 +0.8**
comp=Z,42nm,2.8s
TXAR Lajitas Array 80.56 54 P **P** **06 04 51.3 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 80.56 54 P **P** **06 04 51.3 +0.6**
comp=Z,1.7nm,0.8s,baz=305,slow=4.4,SNR=14
ESDC Sonseca Array 83.89 334 P **P** **06 05 08.4 +0.5**
comp=Z,0.5nm,0.6s,baz=12,slow=4.2,SNR=2.9
CPUP Villa Florida 150.29 37 PKIKP **PKPbc** **06 12 29.3 +0.2**
CPUP pmax pmax
comp=Z,1.0nm,1.0s
CPUP Villa Florida 150.29 37 PKPbc **PKPbc** **06 12 29.3 +0.2**
comp=Z,0.9nm,1.0s,baz=284,slow=3.2,SNR=2.9

*CSEM **18** 05:53:14.4, 46.04N×14.36E, h0km, ML0.7*
LJU 18 05:53:14.4, 46.05N×14.36E, h14km, ML0.8, 4C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRNS	**Crni Vrh**	**0.08**	**296**	⇑ *i*	Pg	05 53 17.4	+0.1
CRNS				*i*	Sg	05 53 19.4	0.0
	comp=Z,12nm,0.1s						
LJU	**Ljubljana**	**0.12**	**92**	⇑ *i*	Pg	05 53 17.9	+0.2
LJU				*i*	Sg	05 53 20.3	+0.3
	comp=Z,10.0nm,0.1s						
LJU	**Ljubljana**	**0.12**	**92**	⇑ *i*	Pg	05 53 17.9	+0.2
LJU				*i*	Sg	05 53 20.3	+0.3
	comp=Z,10.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.24**	**77**	⇑ *i*	Pg	05 53 19.8	+0.1
VNDS				*i*	Sg	05 53 23.8	+0.5
	comp=Z,3.0nm,0.1s						
MOZS	**Mozjanca**	**0.25**	**13**	⇓ *i*	Pg	05 53 20.0	+0.1
MOZS	**Mozjanca**	**0.25**	**13**	⇓ *i*	Pg	05 53 20.0	+0.1
JAVS	**Javornik**	**0.26**	**234**	*i*	Pg	05 53 20.1	0.0
JAVS				*i*	Sg	05 53 24.4	+0.5
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**0.26**	**234**	*i*	Pg	05 53 20.1	0.0
JAVS				*i*	Sg	05 53 24.4	+0.5
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.31**	**172**	⇓ *i*	Pg	05 53 21.1	+0.2
CEY				*i*	Sg	05 53 25.5	+0.2
	comp=Z,11nm,0.2s						
CEY	**Cerknica**	**0.31**	**172**	⇓ *i*	Pg	05 53 21.1	+0.2
CEY				*i*	Sg	05 53 25.5	+0.2
	comp=Z,11nm,0.2s						
GORS	**Gorjuse**	**0.37**	**317**	*i*	Sg	05 53 27.3	0.0
GORS	**Gorjuse**	**0.37**	**317**	*i*	Sg	05 53 27.3	0.0
VISS	**Visnje**	**0.41**	**126**	*i*	Pg	05 53 22.7	0.0
VISS				*i*	Sg	05 53 28.2	-0.2
	comp=Z,2.0nm,0.1s						
VISS	**Visnje**	**0.41**	**126**	*i*	Pg	05 53 22.7	0.0
VISS				*i*	Sg	05 53 28.2	-0.1
	comp=Z,2.0nm,0.1s						

IDC 18 05:59:24.4±3.2, 6.81S×147.91E, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.1/33, mbtmp3.1/2, ML3.5/1, Error ellipse: s-maj=111.6km s-min=42.8km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.55**	**224**	P	P	06 03 41.5	-1.3
	0.1nm,0.3s,baz=49,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**21.49**	**217**	P	P	06 04 15.1	+0.1
	0.3nm,0.4s,baz=52,slow=9.1,SNR=9.2						
TORD	**Torodi Ar. Bea**	**146.17**	**283**	PKPbc	PKPdf	06 19 07.2	+0.5
	0.2nm,0.4s,baz=95,slow=3.6,SNR=3.3						

IDC 18 06:14:03.9±2.4, 54.13N×86.45E, h0km, mb1 3.1/2, mb1mx2.9/37, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=19.5km s-min=11.9km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**260**	*i*		06 20 25.5	
	baz=80,slow=320,SNR=3.2						
ZALV	**Zalesovo Beam**	**0.98**	**260**	Pg	Pg	06 14 21.1	-1.6
	0.9nm,0.3s,baz=82,slow=17,SNR=18						
ZALV				Lg	Lg	06 14 36.5	
	1.6nm,0.3s,baz=75,slow=28,SNR=19						
ZALV				Rg	Rg	06 14 40.9	
	6.4nm,0.6s,baz=78,slow=29,SNR=8.8						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	06 15 34.8	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=17						
KURBB				Lg	Lg	06 17 14.5	
	0.0nm,0.3s,baz=52,slow=34,SNR=4.5						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 15 59.6	+0.9
	0.2nm,0.3s,baz=26,slow=14,SNR=15						
MKAR				Sn	Sn	06 17 27.4	-0.4
	0.1nm,0.3s,baz=22,slow=27,SNR=5.6						
MKAR				Lg	Lg	06 18 10.9	
	0.0nm,0.3s,baz=23,slow=28,SNR=6.2						

*CSEM **18** 06:19:46.8±0.1, 43.49N×12.42E, h10km, ML2.8/18, Error ellipse: s-maj=2.2km s-min=1.6km az=19.0*
ROM 18 06:19:46.3±0.1, 43.49N×12.41E, h8km, Ml2.2/16, Error ellipse: s-maj=0.8km s-min=0.6km az=22.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.03**	**100**	Pg	Pg	06 19 48.2	+0.2
ATPC				Sg	Sg	06 19 49.4	+0.3
	7μm,0.2s						
ATPC	**Poggio Castell**	**0.03**	**100**	Pg	Pg	06 19 48.2	+0.2
ATPC				Sg	Sg	06 19 49.4	+0.3
	7μm,0.2s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	06 19 49.2	+0.4
PIEI				Sg	Sg	06 19 51.5	+0.9
	2μm,0.2s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	06 19 49.2	+0.4
PIEI				Sg	Sg	06 19 51.5	+0.9
	2μm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**183**	Pg	Pg	06 19 49.3	+0.5
ATVO				Sg	Sg	06 19 51.3	+0.7
	3μm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**183**	Pg	Pg	06 19 49.3	+0.5
ATVO				Sg	Sg	06 19 51.3	+0.7
	3μm,0.2s						
BADI	**Badiali**	**0.13**	**281**	Pg	Pg	06 19 49.7	+0.5
BADI				Sg	Sg	06 19 52.1	+1.0
	2μm,0.2s						
BADI	**Badiali**	**0.13**	**281**	Pg	Pg	06 19 49.7	+0.5
BADI				Sg	Sg	06 19 52.1	+1.0
	2μm,0.2s						
CDCA	**Citt' di Caste**	**0.13**	**258**	Pg	Pg	06 19 49.8	+0.6
CDCA				Sg	Sg	06 19 52.3	+1.1
	979nm,0.3s						
CDCA	**Citt' di Caste**	**0.13**	**258**	Pg	Pg	06 19 49.8	+0.6
CDCA				Sg	Sg	06 19 52.3	+1.1
	979nm,0.3s						
ATFO	**Monte Foce - G**	**0.17**	**136**	Pg	Pg	06 19 50.3	+0.4
ATFO				Sg	Sg	06 19 53.4	+1.0
	509nm,0.5s						
ATFO	**Monte Foce - G**	**0.17**	**136**	Pg	Pg	06 19 50.3	+0.4
ATFO				Sg	Sg	06 19 53.4	+1.0
	509nm,0.5s						
PARC	**Parchiule**	**0.21**	**322**	Pg	Pg	06 19 51.2	+0.6
PARC				Sg	Sg	06 19 55.1	+1.6
	399nm,0.3s						
PARC	**Parchiule**	**0.21**	**322**	Pg	Pg	06 19 51.2	+0.6
PARC				Sg	Sg	06 19 55.1	+1.6
	399nm,0.3s						
MURB	**Monte Urbino**	**0.24**	**160**	Pg	Pg	06 19 51.8	+0.6
MURB				Sg	Sg	06 19 56.1	+1.6
	2μm,0.2s						
MURB	**Monte Urbino**	**0.24**	**160**	Pg	Pg	06 19 51.8	+0.6
MURB				Sg	Sg	06 19 56.1	+1.6
	2μm,0.2s						
FSSB	**Fossombrone**	**0.34**	**52**	Pg	Pg	06 19 53.5	+0.5
FSSB				Sg	Sb	06 19 59.4	-0.7
	277nm,0.3s						
FSSB	**Fossombrone**	**0.34**	**52**	Pg	Pg	06 19 53.5	+0.5
FSSB				Sg	Sb	06 19 59.4	-0.7
	277nm,0.3s						
CAFI	**Castiglion Fio**	**0.36**	**244**	Pg	Pg	06 19 53.9	+0.4
CAFI				Sg	Sb	06 20 00.1	-0.8
	181nm,0.3s						
CAFI	**Castiglion Fio**	**0.36**	**244**	Pg	Pg	06 19 53.9	+0.4
CAFI				Sg	Sb	06 20 00.1	-0.8
	181nm,0.3s						
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pg	06 19 54.0	+0.4
CRE				Sg	Sg	06 19 59.8	+1.3
	88nm,0.3s						
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pg	06 19 54.0	+0.4
CRE				Sg	Sg	06 19 59.8	+1.3
	88nm,0.3s						
ARVD	**Arcevia**	**0.38**	**88**	Pg	Pg	06 19 54.3	+0.4
ARVD				Sg	Sb	06 20 00.7	-0.8
	100nm,0.4s						
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	06 19 57.4	+0.3
ASQU				Sg	Sb	06 20 06.6	+0.2
	47nm,0.3s						
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	06 19 57.4	+0.3
ASQU				Sg	Sb	06 20 06.6	+0.2
	47nm,0.3s						
CING	**Cingoli**	**0.58**	**101**	Pg	Pg	06 19 57.9	+0.3
CING				Sg	Sb	06 20 07.2	0.0
	44nm,0.4s						
CING	**Cingoli**	**0.58**	**101**	Pg	Pg	06 19 57.9	+0.3
CING				Sg	Sb	06 20 07.2	0.0
	44nm,0.4s						
SFI	**Santa Sofia**	**0.59**	**316**	Pg	Pg	06 19 57.9	+0.2
SFI				Sg	Sb	06 20 07.1	-0.3
	32nm,0.5s						
SFI	**Santa Sofia**	**0.59**	**316**	Pg	Pg	06 19 57.9	+0.2
SFI				Sg	Sb	06 20 07.1	-0.3
	32nm,0.5s						
MGAB	**Montegabbione**	**0.61**	**201**	Pg	Pg	06 19 58.4	+0.2
MGAB				Sg	Sb	06 20 08.2	+0.1
MGAB	**Montegabbione**	**0.61**	**201**	Pg	Pg	06 19 58.4	+0.2
MGAB				Sg	Sb	06 20 08.2	+0.1
FDMO	**Fiordimonte**	**0.67**	**132**	Pg	Pg	06 19 59.3	+0.1
FDMO				Sg	Sb	06 20 09.9	+0.3
	32nm,0.2s						
FDMO	**Fiordimonte**	**0.67**	**132**	Pg	Pg	06 19 59.3	+0.1
FDMO				Sg	Sb	06 20 09.9	+0.3
	32nm,0.2s						
SACS	**San Casciano d**	**0.74**	**210**	Pg	Pg	06 20 00.7	+0.1
	47nm,0.3s						

*CSEM **18** 06:20:11.4, 43.49N×12.41E, h9km, MD1.1/6*
ROM 18 06:20:11.4±0.1, 43.49N×12.41E, h9km, Md1.1/6, Ml1.1/5, Error ellipse: s-maj=0.3km s-min=0.2km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.04**	**100**	Pg	Pg	06 20 13.3	+0.2
ATPC				Sg	Sg	06 20 14.7	+0.3
	269nm,0.1s						
ATPC	**Poggio Castell**	**0.04**	**100**	Pg	Pg	06 20 13.3	+0.2
ATPC				Sg	Sg	06 20 14.7	+0.3
	269nm,0.1s						
PIEI	**Pieia**	**0.10**	**62**	Pg	Pg	06 20 14.3	+0.3
PIEI				Sg	Sg	06 20 16.4	+0.6
	75nm,0.3s						
PIEI	**Pieia**	**0.10**	**62**	Pg	Pg	06 20 14.3	+0.3
PIEI				Sg	Sg	06 20 16.4	+0.6
	75nm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**181**	Pg	Pg	06 20 14.3	+0.3
ATVO				Sg	Sg	06 20 16.4	+0.6
	95nm,0.1s						
ATVO	**AVT- Monte Val**	**0.10**	**181**	Pg	Pg	06 20 14.3	+0.3
ATVO				Sg	Sg	06 20 16.4	+0.6
	95nm,0.1s						
BADI	**Badiali**	**0.12**	**281**	Pg	Pg	06 20 14.6	+0.4
BADI				Sg	Sg	06 20 17.0	+0.8
	61nm,0.1s						
BADI	**Badiali**	**0.12**	**281**	Pg	Pg	06 20 14.6	+0.4
BADI				Sg	Sg	06 20 17.0	+0.8
	61nm,0.1s						
CDCA	**Citt' di Caste**	**0.13**	**257**	Pg	Pg	06 20 14.8	+0.5
CDCA				Sg	Sg	06 20 17.3	+1.0
	27nm,0.1s						
CDCA	**Citt' di Caste**	**0.13**	**257**	Pg	Pg	06 20 14.8	+0.5
CDCA				Sg	Sg	06 20 17.3	+1.0
	27nm,0.1s						
PARC	**Parchiule**	**0.20**	**323**	Pg	Pg	06 20 16.2	+0.5
	9.0nm,0.2s						
PARC	**Parchiule**	**0.20**	**323**	Pg	Pg	06 20 16.2	+0.5
	9.0nm,0.2s						

*CSEM **18** 06:21:28.0±0.1, 44.35N×7.28E, h12km, ML1.5/7, Error ellipse: s-maj=2.1km s-min=1.3km az=71.0*
*GEN **18** 06:21:28.8, 44.34N×7.27E, h10km, ML0.9*
*LDG **18** 06:21:28.3±0.1, 44.34N×7.32E, h2km, Md1.8/3, Ml1.7/8, Error ellipse: s-maj=2.6km s-min=1.2km az=80.0*
ROM 18 06:21:28.9±0.1, 44.35N×7.24E, h5km, Md1.5/3, Error ellipse: s-maj=1.5km s-min=0.4km az=68.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STV	**Sant Anna di V**	**0.12**	**149**	Pg	Pg	06 21 31.9	+0.4
STV				Sg	Sg	06 21 33.8	+0.6
STV	**Sant Anna di V**	**0.12**	**149**	P	Pg	06 21 31.8	+0.3
STV				Sg	Sg	06 21 33.6	+0.6
DOI	**San Damiano**	**0.15**	**1**	Pg	Pg	06 21 32.6	+0.4
DOI				Sg	Sg	06 21 35.1	+0.7
DOI	**San Damiano**	**0.15**	**1**	Pg	Pg	06 21 32.6	+0.4
DOI				Sg	Sg	06 21 35.1	+0.7
ENR	**Entracque**	**0.18**	**133**	P	Pg	06 21 32.4	-0.2
ENR				S	Sg	06 21 34.9	-0.1
PZZ	**Stroppo**	**0.18**	**330**	Pg	Pg	06 21 33.1	+0.4
PZZ				Sg	Sg	06 21 36.0	+0.7
PZZ	**Stroppo**	**0.18**	**330**	P	Pg	06 21 33.1	+0.4
PZZ				Sg	Sg	06 21 36.0	+0.7
BHB	**Bricherasio**	**0.49**	**2**	P	Pg	06 21 37.3	-1.2
BHB				S	Sg	06 21 43.9	-1.1
MBDF	**Montbardon**	**0.51**	**319**	*e*Pg	Pg	06 21 38.8	-0.1
MBDF				*e*Sg	Sg	06 21 46.3	+0.7
	3.2nm,0.2s						
MBDF	**Montbardon**	**0.51**	**319**	*e*Pg	Pg	06 21 38.8	-0.1
MBDF				*e*Sg	Sg	06 21 46.3	+0.7
	1.6nm,0.2s						
SBF	**Sospel**	**0.51**	**164**	*e*Pg	Pg	06 21 37.2	-1.6
SBF				*e*Sg	Sg	06 21 43.4	-2.0
	3.4nm,0.2s						
SBF	**Sospel**	**0.51**	**164**	*e*Pg	Pg	06 21 37.2	-1.6
SBF	**Sospel**	**0.51**	**164**	*e*Sg	Sg	06 21 43.4	-2.0
	1.7nm,0.2s						
RORO	**Rocca Rossa**	**0.64**	**111**	P	Pg	06 21 40.5	-0.7
RORO				S	Sg	06 21 48.6	-0.9
RRL	**Rocca Remolon**	**0.66**	**331**	P	Pg	06 21 41.4	-0.5
RRL				S	Sg	06 21 50.1	-0.5
FRF	**La Foret Royal**	**0.90**	**209**	*e*Pg	Pg	06 21 45.8	-0.3
FRF				*e*Sg	Sg	06 21 57.0	-0.8
	3.7nm,0.2s						
FRF	**La Foret Royal**	**0.90**	**209**	*e*Pg	Pg	06 21 45.8	-0.3
FRF				*e*Sg	Sg	06 21 57.0	-0.8
	1.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.13**	**301**	*e*Pg	Pg	06 21 50.3	-0.4
ORIF				*e*Sg	Sg	06 22 04.8	-0.6
	1.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.13**	**301**	*e*Pg	Pg	06 21 50.3	-0.4
ORIF				*e*Sg	Sg	06 22 04.8	-0.6
	0.8nm,0.3s						
LMR	**La Mourre**	**1.15**	**208**	*e*Pg	Pg	06 21 50.2	-0.7
LMR				*e*Sg	Sg	06 22 04.8	-0.9
	6.4nm,0.2s						
LMR	**La Mourre**	**1.15**	**208**	*e*Pg	Pg	06 21 50.2	-0.7
LMR	**La Mourre**	**1.15**	**208**	*e*Sg	Sg	06 22 04.8	-0.9
	3.2nm,0.2s						
LPG	**La Plagne**	**1.20**	**343**	*e*Pg	Pg	06 21 51.6	-0.8
LPG				*e*Sg	Sg	06 22 07.2	-1.0
	0.9nm,0.3s						
LPG	**La Plagne**	**1.20**	**343**	*e*Pg	Pg	06 21 51.6	-0.8
LPG				*e*Sg	Sg	06 22 07.2	-1.0
	0.4nm,0.3s						
LPL	**La Plagne**	**1.22**	**343**	*e*Pg	Pg	06 21 51.9	-0.8
LPL				*e*Sg	Sg	06 22 08.0	-0.8
	0.9nm,0.3s						
LPL	**La Plagne**	**1.22**	**343**	*e*Pg	Pg	06 21 51.9	-0.8
LPL				*e*Sg	Sg	06 22 08.0	-0.8
	0.4nm,0.3s						
SMRF	**Simiane la Rot**	**1.26**	**253**	*e*Pg	Pg	06 21 53.0	-0.1
SMRF				*e*Sg	Sb	06 22 09.6	-0.1
	3.2nm,0.4s						
SMRF	**Simiane la Rot**	**1.26**	**253**	*e*Pg	Pg	06 21 53.0	-0.1
SMRF				*e*Sg	Sb	06 22 09.6	-0.1
	1.6nm,0.4s						
VIVF	**Saint-Julien-l**	**1.90**	**286**	*e*Pn	Pn	06 22 00.9	-1.2
VIVF				*e*Sn	Sn	06 22 24.2	-2.3
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**1.90**	**286**	*e*Pn	Pn	06 22 00.9	-1.2
VIVF				*e*Sn	Sn	06 22 24.2	-2.3
	0.1nm,0.2s						

*ISCJB **18** 06:25:01.2±0.5, 37.1°S±0.05×73.85W±0.07, h14km, mb4.2/13, MS3.9/3, Error ellipse: s-maj=9.5km s-min=5.8km az=32.0*
*GUC **18** 06:25:01.3±0.4, 36.95S×74.18W, h28km±2km, ML4.8*
*IDC **18** 06:25:03.9±0.7, 37.12S×73.51W, h20km±3km, mb3.9/11, mb1 4.0/14, mb1mx3.9/28, mbtmp4.0/14, ML3.3/3, MS4.1/5, Ms1 4.1/5, ms1mx3.6/24, Error ellipse: s-maj=21.4km s-min=14.2km az=80.0*
*NEIC **18** 06:25:05.8±0.5, 37.09S×73.61W, h35km, mb4.2/1, Error ellipse: s-maj=13.0km s-min=9.3km az=82.0*

ISC 18 06:25:03.0±0.6, 37.14S±0.06×73.62W±0.08, h14km, n42, σ1§42/47, mb4.2/13, MS3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.50**	**54**	*i* P	**Pn**	**06 25 16.2**	**+0.4**
CCSP				*i* S	**Sn**	**06 25 27.9**	**+3.7**
COCH	**Cobquecura**	**1.21**	**34**	*i* P	**Pn**	**06 25 24.4**	**-1.0**
COCH				*i* S	**Sg**	**06 25 42.0**	**0.0**
LNCH	**Linares**	**2.08**	**52**	*i* P	**Pb**	**06 25 38.9**	**-1.6**
LNCH				*i* S	**Sb**	**06 26 07.1**	**+1.0**
LNCH				AML	AML	06 26 26.5	
	comp=N,7μm,0.7s						
TALC	**Talca**	**2.37**	**43**	*i* P	**Pn**	**06 25 42.0**	**+0.7**
TALC				*i* S	**Sb**	**06 26 12.7**	**-1.7**
TALC				AML	AML	06 26 32.9	
	comp=N,5μm,0.4s						
PLCA	**Paso Flores**	**4.31**	**147**	Pn	**Pn**	**06 26 09.0**	**+0.8**
	comp=N,0.5nm,0.3s,baz=327,slow=13,SNR=12						
PLCA				Lg	Lg	06 27 20.4	
	comp=N,1.0nm,0.3s,baz=41,slow=20,SNR=2.5						
PLCA	**Paso Flores**	**4.31**	**147**	*eP*	**Pn**	**06 26 10.0**	**+1.8**
ROCH	**El Roble**	**4.67**	**28**	*eP*	**Pn**	**06 26 13.0**	**-0.4**
CFAA	**Coronel Fontan**	**7.09**	**40**	Pn	**Pn**	**06 26 46.0**	**-0.4**
	comp=N,0.2nm,0.3s,baz=196,slow=11,SNR=12						
CFAA				Sn	**Sn**	**06 28 07.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=224,slow=20,SNR=7.0						
CFAA				Lg	Lg	06 28 30.2	
	comp=N,0.1nm,0.3s,baz=316,slow=18,SNR=6.1						
CFAA				LR	LR	06 29 08.7	
	comp=N,15nm,18.6s,baz=225,slow=35						
TLL	**Tololo Astrono**	**7.34**	**19**	*eP*	**Pn**	**06 26 51.8**	**+1.8**
LCO	**Las Campanas**	**8.47**	**18**	*eP*	Pn	06 27 10.7	+5.2
TRQA	**Tornquist**	**9.29**	**99**	*eP*	Pn	06 27 20.8	+4.4
TRQA	**Tornquist**	**9.29**	**99**	*ePn*	**Pn**	**06 27 19.0**	**+2.6**
	comp=N,12nm,0.9s						
CHRN	**Cochrane**	**10.02**	**177**	*eP*	Pn	06 27 30.3	+3.9
LVC	**Limon Verde**	**15.04**	**17**	Pn	**Pn**	**06 28 32.9**	**-2.5**
	comp=N,6.5nm,0.3s,baz=207,slow=11,SNR=3.6						
LVC				LR	LR	06 34 10.3	
	comp=N,797nm,20.6s,baz=198,slow=36						
PB01	**IPOC Station P**	**16.44**	**14**	*eP*	**Pn**	**06 28 52.3**	**-1.1**
HMBC	**Humberstone**	**17.11**	**12**	*eP*	**P**	**06 29 06.4**	**+2.8**
CPUP	**Villa Florida**	**17.53**	**57**	Pn	**P**	**06 29 08.0**	**0.0**
	comp=N,0.0nm,0.3s,baz=213,slow=17,SNR=2.4						
CPUP				LR	LR	06 36 36.0	
	comp=N,2μm,18.9s,baz=200,slow=40						
MNMC	**Minimini**	**18.29**	**12**	*eP*	**P**	**06 29 18.8**	**+2.1**
LPAZ	**La Paz**	**21.33**	**15**	P	**P**	**06 29 51.4**	**+1.1**
	comp=N,7.0nm,0.7s,baz=194,slow=8.0,SNR=20						
SIV	**San Ignacio**	**23.82**	**31**	P	**P**	**06 30 15.4**	**-0.2**
	comp=N,4.2nm,0.7s,baz=234,slow=11,SNR=19						
SIV				LR	LR	06 41 30.7	
	comp=N,345nm,18.9s,baz=222,slow=42						
BDFB	**Brasilia**	**31.20**	**53**	P	**P**	**06 31 21.2**	**-0.8**
	comp=N,4.0nm,0.9s,baz=217,slow=8.1,SNR=7.0						
BDFB				LR	LR	06 45 15.5	
	comp=N,218nm,21.3s,baz=225,slow=39						
PTGA	**Pitinga**	**38.36**	**22**	P	**P**	**06 32 22.5**	**-1.2**
	comp=N,2.6nm,0.4s,baz=287,slow=23,SNR=4.8						
PTGA				pP	**pP**	**06 32 28.9**	**+0.9**
	comp=N,5.6nm,1.0s,baz=177,slow=13,SNR=3.3						
JTS	**JuntasAbangare**	**48.36**	**345**	P	**P**	**06 33 44.9**	**+0.5**
	comp=N,194nm,0.9s						
SNAA	**Sanae**	**49.19**	**157**	P	**P**	**06 33 50.1**	**-0.1**
	comp=N,1.8nm,0.8s,baz=259,slow=10,SNR=6.2						
QSPA	**South Pole Qui**	**53.10**	**180**	P	**P**	**06 34 19.5**	**-0.3**
	comp=N,1.7nm,0.8s,baz=178,slow=4.4,SNR=3.7						
RKT	**Rikitea**	**54.03**	**267**	*eT*	T	07 32 05.4	
	comp=N,0.6nm,0.2s						
TBI	**Tubuai**	**65.38**	**259**	*e*LR	LR	06 54 31.0	
	comp=N,96nm,28.5s						
PPT2	**Papeete2**	**68.56**	**264**	*e*LR	LR	06 56 00.7	
	comp=N,101nm,25.0s						
PPT	**Papeete**	**68.57**	**264**	LR	LR	06 58 10.6	
	comp=N,76nm,19.7s,baz=100,slow=29						
TXAR	**Lajitas Array**	**71.88**	**333**	P	**P**	**06 36 25.1**	**-0.5**
	comp=N,0.3nm,0.7s,baz=140,slow=7.1,SNR=3.2						
TXAR				pP	**pP**	**06 36 31.5**	**+1.4**
	comp=N,1.0nm,0.7s,baz=155,slow=8.4,SNR=7.7						
ABTX	**Abilene, Hawk**	**73.53**	**337**	*eP*	**P**	**06 36 34.9**	**-0.4**
	comp=N,1.1nm,0.4s						
DBIC	**Dimbokro**	**77.40**	**72**	P	**P**	**06 36 56.2**	**-1.6**
	comp=N,8.1nm,1.0s,baz=155,slow=7.0,SNR=4.4						
NVAR	**Mina Array Bea**	**85.75**	**326**	P	**P**	**06 37 42.6**	**+0.8**
	comp=N,0.1nm,0.4s,baz=114,slow=8.3,SNR=3.5						
NVAR				pP	**pP**	**06 37 49.5**	**+3.1**
	comp=N,0.3nm,0.6s,baz=151,slow=5.0,SNR=3.1						
PDAR	**Pinedale Array**	**86.00**	**334**	P	**P**	**06 37 43.4**	**+0.5**
	comp=N,0.4nm,0.8s,baz=123,slow=6.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.48**	**71**	P	**P**	**06 37 45.0**	**-0.6**
	comp=N,1.7nm,0.9s,baz=219,slow=3.1,SNR=5.9						
TORD				pP	**pP**	**06 37 51.1**	**+0.8**
	comp=N,0.9nm,0.8s,baz=208,slow=2.8,SNR=2.8						
ABKAR	**Akbulak array**	**144.59**	**55**	*e*PKPdf	**PKPab**	**06 44 36.6**	**-0.5**
BVAR	**Borovoye Array**	**150.42**	**46**	PKPbc	**PKPbc**	**06 44 53.0**	**-0.4**
	comp=N,0.8nm,0.5s,baz=270,slow=1.4,SNR=5.7						
BVAR				pPKPbc	**PKPab**	**06 44 60.0**	**0.0**
	comp=N,1.9nm,0.8s,baz=264,slow=1.4,SNR=5.9						
KKAR	**Karatay Array**	**152.08**	**66**	*e*PKPbc	**PKPbc**	**06 44 56.8**	**-0.8**
KURBB	**Kurchatov Arra**	**155.99**	**47**	PKPab	**PKPab**	**06 45 21.6**	**-1.9**
	comp=N,0.4nm,0.8s,baz=280,slow=3.7,SNR=4.1						
KURK	**Kurchatov**	**156.01**	**47**	PKPab	**PKPab**	**06 45 21.6**	**-2.0**
ZALV	**Zalesovo Beam**	**157.55**	**35**	PKPab	**PKPab**	**06 45 29.2**	**-0.9**
	comp=N,0.4nm,0.3s,baz=289,slow=4.4,SNR=2.1						
ZALV				pPKPab	**pPKPab**	**06 45 36.5**	**+1.7**
	comp=N,1.1nm,0.7s,baz=286,slow=5.4,SNR=2.4						
MKAR	**Makanchi Array**	**159.72**	**54**	PKPab	**PKPab**	**06 45 39.3**	**-0.6**
	comp=N,0.5nm,0.9s,baz=298,slow=3.9,SNR=5.0						
MKAR				PP	**PP**	**06 49 21.9**	**0.0**
	comp=N,0.8nm,1.1s,baz=311,slow=2.9,SNR=3.0						

IDC 18 06:25:59.0±14.0, 14.26N×146.08E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/39, mbtmp3.5/4, Error ellipse: s-maj=402.8km s-min=47.1km az=177.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**20.21**	**75**	T	T	06 52 15.1	
	baz=266,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**20.23**	**75**	T	T	06 52 07.6	
	baz=266,slow=74,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**20.23**	**75**	T	T	06 52 05.4	
	baz=266						
MKAR	**Makanchi Array**	**61.83**	**316**	P	P	06 36 19.4	-0.6
	0.1nm,0.3s,baz=94,slow=8.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**64.88**	**319**	P	P	06 36 40.5	+0.5
	0.2nm,0.3s,baz=95,slow=6.7,SNR=5.0						
ILAR	**Eielson Array**	**67.47**	**25**	P	P	06 36 56.1	-0.3
	0.3nm,0.4s,baz=258,slow=5.8,SNR=4.5						
YKA	**Yellowknife Ar**	**81.73**	**28**	P	P	06 38 19.5	+0.3
	0.2nm,0.6s,baz=286,slow=5.1,SNR=5.3						

IDC 18 06:38:23.5±2.8, 54.57N×86.64E, h0km, mb1 3.3/2, mb1mx2.9/42, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=22.5km s-min=14.9km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**241**	*i*		06 46 10.0	
	baz=58,slow=325,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.24**	**240**	Pg	Pg	06 38 45.4	-1.8
	2.1nm,0.3s,baz=55,slow=17,SNR=27						
ZALV				Lg	Lg	06 39 03.6	
	3.3nm,0.3s,baz=59,slow=28,SNR=22						
ZALV				Rg	Rg	06 39 16.1	
	5.8nm,0.5s,baz=56,slow=31,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.33**	**235**	Pn	Pn	06 39 58.9	+0.9
	0.3nm,0.3s,baz=51,slow=14,SNR=10.0						
KURBB				Sn	Sn	06 41 11.8	+0.9
	0.1nm,0.3s,baz=73,slow=17,SNR=0.9						
KURBB				Lg	Lg	06 41 43.5	
	0.0nm,0.3s,baz=51,slow=34,SNR=2.9						
MKAR	**Makanchi Array**	**8.26**	**201**	Pn	Pn	06 40 25.6	+1.0
	0.2nm,0.3s,baz=23,slow=13,SNR=13						
MKAR				Sn	Sn	06 41 57.5	-1.0
	0.1nm,0.3s,baz=24,slow=28,SNR=6.7						
MKAR				Lg	Lg	06 42 42.3	
	0.0nm,0.3s,baz=31,slow=32,SNR=2.7						

*ISCJB **18** 06:45:39.3±0.4, 8.49S±0.08×113.81E±0.04, h131km±3km, mb4.0/7, Error ellipse: s-maj=12.8km s-min=5.2km az=13.0*
*DJA **18** 06:45:42.1±0.6, 9°S±6°×11°4E±°, h101km±5km, M4.1/14, mb4.5/1, mB5.2/1, MLv3.9/14, Mw(mB)4.6/1*
*IDC **18** 06:45:43.1±8.4, 8.25S×113.96E, h157km±78km, mb3.5/6, mb1 3.7/6, mb1mx3.3/29, mbtmp3.9/6, Error ellipse: s-maj=70.9km s-min=15.0km az=56.0*

ISC 18 06:45:39.8±0.7, 8.50S±0.08×113.80E±0.04, h126km±6km, n27, σ1§06/36, mb3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.35**	**85**	P	**Pn**	**06 45 57.9**	**+0.2**
JAGI				S	**Sn**	**06 46 10.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**0.35**	**85**	P	**Pn**	**06 45 57.1**	**-0.5**
	baz=0.3,SNR=738						
JAGI				S	**Sn**	**06 46 10.6**	**-0.5**
	baz=0.3,SNR=15						
GMJI	**Gumukmas**	**0.42**	**303**	P	**Pn**	**06 45 58.2**	**+0.2**
GMJI				S	**Sn**	**06 46 11.6**	**0.0**
BLJI	**Banyuglugur**	**0.78**	**345**	P	**Pn**	**06 46 00.7**	**+0.3**
BLJI				S	**Sn**	**06 46 16.3**	**+0.3**
ABJI	**Asem Bagus**	**0.82**	**32**	P	**Pn**	**06 46 01.7**	**+0.9**
IGBI	**Denpasar**	**1.37**	**103**	P	**Pn**	**06 46 06.9**	**+0.8**
IGBI				S	**Sn**	**06 46 26.7**	**+0.6**
DNP	**Denpasar**	**1.41**	**97**	P	**Pn**	**06 46 07.8**	**+1.2**
DNP				S	**Sn**	**06 46 26.7**	**-0.2**
SRBI	**Singaraja**	**1.46**	**74**	P	**Pn**	**06 46 07.9**	**+0.7**
SRBI				S	**Sn**	**06 46 28.7**	**+0.7**
PWJI	**Pagerwojo**	**2.03**	**283**	P	**Pn**	**06 46 14.2**	**+0.2**
PWJI				S	**Sn**	**06 46 41.3**	**+1.2**
GRJI	**Gresik**	**2.05**	**320**	P	**Pn**	**06 46 15.4**	**+1.2**
PCJI	**Pacitan**	**2.61**	**277**	P	**Pn**	**06 46 22.3**	**+1.0**
PCJI				S	**Sn**	**06 46 54.6**	**+1.4**
UGM	**Wanagama**	**3.29**	**280**	P	**Pn**	**06 46 30.9**	**+0.7**
	baz=3.3,SNR=3.8						
BBKI	**Banjar Baru**	**5.12**	**12**	P	**Pn**	**06 46 56.4**	**+1.9**
XMIS	**Christmas Isla**	**8.27**	**256**	P	**Pn**	**06 47 35.8**	**-1.2**
	baz=8.4,SNR=5.9						
XMIS				S	Sn	06 48 51.0	-18
	baz=8.4,SNR=4.4						
MTN	**Manton Dam**	**17.57**	**106**	P	**Pn**	**06 49 36.7**	**-0.3**
	baz=18,SNR=7.5						
WRA	**Warramunga Arr**	**22.90**	**122**	P	**P**	**06 50 32.7**	**-0.3**
	7.0nm,0.6s,baz=299,slow=11,SNR=122						
ASAR	**Alice Springs**	**24.45**	**130**	P	**P**	**06 50 48.0**	**+0.8**
	5.3nm,0.6s,baz=305,slow=8.7,SNR=73						
CMAR	**Chiang Mai Arr**	**30.54**	**331**	P	**P**	**06 51 41.4**	**-0.2**
	0.5nm,0.3s,baz=162,slow=8.5,SNR=7.4						
BBOO	**Buckleboo**	**31.77**	**143**	P	**P**	**06 51 53.6**	**+1.3**
	baz=32,SNR=18						
QLP	**Quilpie**	**33.99**	**126**	P	**P**	**06 52 13.8**	**+2.1**
	baz=34,SNR=8.8						
STKA	**Stephens Creek**	**34.75**	**136**	P	**P**	**06 52 19.8**	**+1.6**
	13nm,0.3s,baz=312,slow=8.6,SNR=29						
STKA	**Stephens Creek**	**34.75**	**136**	P	**P**	**06 52 19.7**	**+1.5**
	baz=35,SNR=16						
SONM	**Songino Array**	**56.47**	**354**	P	**P**	**06 55 07.4**	**-1.4**
	0.4nm,0.5s,baz=167,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**61.79**	**336**	P	**P**	**06 55 43.5**	**-1.8**
	0.6nm,0.5s,baz=145,slow=7.7,SNR=11						
BRTR	**Keskin Array B**	**87.89**	**311**	P	**P**	**06 58 14.6**	**-1.0**
	0.6nm,0.8s,baz=139,slow=5.9,SNR=4.0						
YKA	**Yellowknife Ar**	**115.79**	**23**	PKP	**PKPdf**	**07 04 06.3**	**-0.8**
	0.1nm,0.5s,baz=320,slow=1.6,SNR=7.3						
BDFB	**Brasilia**	**150.00**	**217**	PKPbc	**PKPbc**	**07 05 16.6**	**-0.2**
	1.5nm,0.5s,baz=121,slow=1.3,SNR=4.0						

*CSEM **18** 06:50:55.0, 38.57N×16.09E, h9km, MD2.0/6*
ROM 18 06:50:55.0±0.2, 38.57N×16.09E, h9km±2km, Md2.0/6, Ml1.7/5, Error ellipse: s-maj=1.4km s-min=0.8km az=141.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAC	**Placanica**	**0.30**	**113**	Pg	Pb	06 51 01.9	-0.7
PLAC				Sg	Sb	06 51 06.8	-0.9
	72nm,0.3s						
PLAC	**Placanica**	**0.30**	**113**	Pg	Pb	06 51 01.9	-0.7
PLAC				Sg	Sb	06 51 06.8	-0.9
	72nm,0.3s						
CEL	**Celeste**	**0.34**	**206**	Pg	Pb	06 51 02.6	-0.7
CEL				Sg	Sb	06 51 08.2	-0.7
	35nm,0.3s						
CEL	**Celeste**	**0.34**	**206**	Pg	Pb	06 51 02.6	-0.7
CEL				Sg	Sb	06 51 08.2	-0.7
	35nm,0.3s						
GRI	**Girifalco**	**0.37**	**45**	Pg	Pb	06 51 03.1	-0.7
GRI				Sg	Sb	06 51 08.5	-1.2
	44nm,0.4s						
GRI	**Girifalco**	**0.37**	**45**	Pg	Pb	06 51 03.1	-0.7
GRI				Sg	Sb	06 51 08.5	-1.2
	44nm,0.4s						
SOI	**Samo**	**0.49**	**183**	Pg	Pg	06 51 05.1	+0.5
SOI				Sg	Sb	06 51 12.4	-0.8
SOI	**Samo**	**0.49**	**183**	Pg	Pg	06 51 05.1	+0.5
SOI				Sg	Sb	06 51 12.4	-0.8
MSRU	**Castanea**	**0.55**	**237**	Pg	Pb	06 51 06.3	-0.5
MSRU				Sg	Sb	06 51 14.2	-0.5
	94nm,0.7s						
MSRU	**Castanea**	**0.55**	**237**	Pg	Pb	06 51 06.3	-0.5
MSRU				Sg	Sb	06 51 14.2	-0.5
	94nm,0.7s						
SERS	**Sersale**	**0.67**	**45**	Pg	Pg	06 51 08.0	-0.1
SERS				Sg	Sb	06 51 18.2	-0.3
SERS	**Sersale**	**0.67**	**45**	Pg	Pg	06 51 08.0	-0.1
SERS				Sg	Sb	06 51 18.2	-0.3
MILZ	**Milazzo**	**0.73**	**247**	Pg	Pg	06 51 09.1	0.0
MILZ				Sg	Sg	06 51 19.3	+0.6
	71nm,0.7s						
MILZ	**Milazzo**	**0.73**	**247**	Pg	Pg	06 51 09.1	0.0
MILZ				Sg	Sg	06 51 19.3	+0.6
	71nm,0.7s						

*ISK **18** 06:52:49.9, 37.24N×28.18E, h5km, MD2.7*
*CSEM **18** 06:52:51.4±0.2, 37.21N×28.20E, h8km, MD2.7, Error ellipse: s-maj=7.1km s-min=4.0km az=44.0*
DDA 18 06:52:50.9, 37.21N×28.22E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.09**	**143**	*e*PG	Pg	06 52 53.6	+0.5
YER				*e*SG	Sg	06 52 55.5	+0.9
YER	**Yerkesik**	**0.09**	**143**	*e*Pg	Pg	06 52 53.6	+0.5
YER				*e*Sg	Sg	06 52 55.5	+0.9
TURN	**Turunc**	**0.45**	**137**	*i* P	Pg	06 52 59.6	-0.1
TURN				*i* S	Sb	06 53 07.6	-0.5
TURN	**Turunc**	**0.45**	**137**	*i* P	Pg	06 52 59.6	-0.1
TURN				*i* S	Sb	06 53 07.6	-0.5
DALY	**Dalyan (Mu˘la**	**0.52**	**138**	*e*Pg	Pb	06 53 02.3	0.0
DALY	**Dalyan (Mu˘la**	**0.52**	**138**	*e*Pg	Pb	06 53 02.3	0.0
AYDN	**Tasoluk**	**0.53**	**329**	*i* P	Pb	06 53 02.2	-0.4
AYDN				*i* S	Sb	06 53 09.6	-0.9
AYDN	**Tasoluk**	**0.53**	**329**	*i* P	Pb	06 53 02.2	-0.4
AYDN				*i* S	Sb	06 53 09.6	-0.9
BDRM	**Kayabasi**	**0.63**	**257**	*i* S	Sb	06 53 12.8	-0.6
BDRM	**Kayabasi**	**0.63**	**257**	*i* P	Pg	06 53 02.6	-0.6
BDRM				*i* S	Sb	06 53 12.8	-0.6
DAT	**Datca**	**0.70**	**227**	*e*PG	Pg	06 53 04.6	+0.1
DAT	**Datca**	**0.70**	**227**	*e*Pg	Pg	06 53 04.6	+0.1
BODT	**Bodrum**	**0.74**	**259**	*e*PG	Pg	06 53 04.7	-0.5
BODT	**Bodrum**	**0.74**	**259**	*e*Pg	Pg	06 53 04.7	-0.4
AYDB	**Zeytinkoy-Aydi**	**0.78**	**341**	*e*PG	Pg	06 53 05.0	-1.2
AYDB	**Zeytinkoy-Aydi**	**0.78**	**341**	*e*Pg	Pg	06 53 05.0	-1.2
FETY	**Fethiye**	**0.90**	**129**	*e*PG	Pb	06 53 09.4	+0.6
FETY	**Fethiye**	**0.90**	**129**	*e*Pg	Pn	06 53 09.4	-0.6
GCAM	**G?zelcaml?**	**0.93**	**303**	*i* P	Pn	06 53 10.0	-0.3
GCAM				*i* S	Sb	06 53 21.3	-0.4
GCAM	**G?zelcaml?**	**0.93**	**303**	*i* P	Pn	06 53 10.0	-0.3
GCAM				*i* S	Sb	06 53 21.3	-0.4
MANT	**Manisa**	**1.31**	**12**	*i* S	Sg	06 53 33.7	+0.1
MANT	**Manisa**	**1.31**	**12**	*i* P	Pb	06 53 16.1	-0.1
MANT				*i* S	Sg	06 53 33.7	0.0
AKAS	**Kas**	**1.48**	**131**	*i* P	Pg	06 53 22.4	+3.0
AKAS	**Kas**	**1.48**	**131**	*i* P	Pg	06 53 22.4	+3.0
AKAS				*i* S	Sg	06 53 46.9	+8.1

*CSEM **18** 06:53:56.1, 43.49N×12.41E, h9km, MD1.7/8*
ROM 18 06:53:56.1±0.1, 43.49N×12.41E, h9km, Md1.7/8, Ml1.4/8, Error ellipse: s-maj=0.5km s-min=0.4km az=35.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.03**	**103**	Pg	Pg	06 53 58.2	+0.3
ATPC				Sg	Sg	06 53 59.5	+0.3
	626nm,0.1s						
ATPC	**Poggio Castell**	**0.03**	**103**	Pg	Pg	06 53 58.2	+0.3
ATPC				Sg	Sg	06 53 59.5	+0.3
	626nm,0.1s						
PIEI	**Pieia**	**0.10**	**61**	Pg	Pg	06 53 59.2	+0.5
PIEI				Sg	Sg	06 54 01.3	+0.7
	198nm,0.1s						
PIEI	**Pieia**	**0.10**	**61**	Pg	Pg	06 53 59.2	+0.5
PIEI				Sg	Sg	06 54 01.3	+0.7
	198nm,0.1s						
ATVO	**AVT- Monte Val**	**0.11**	**183**	Pg	Pg	06 53 59.2	+0.4
ATVO				Sg	Sg	06 54 01.3	+0.6
	166nm,0.2s						
ATVO	**AVT- Monte Val**	**0.11**	**183**	Pg	Pg	06 53 59.2	+0.4
ATVO				Sg	Sg	06 54 01.3	+0.6
	166nm,0.2s						
BADI	**Badiali**	**0.12**	**280**	Pg	Pg	06 53 59.6	+0.5
BADI				Sg	Sg	06 54 01.9	+0.8
	160nm,0.2s						
BADI	**Badiali**	**0.12**	**280**	Pg	Pg	06 53 59.6	+0.5
BADI				Sg	Sg	06 54 01.9	+0.8
	160nm,0.2s						
CDCA	**Citt' di Caste**	**0.14**	**257**	Pg	Pg	06 53 59.7	+0.6
CDCA				Sg	Sg	06 54 02.3	+1.1
	67nm,0.3s						
CDCA	**Citt' di Caste**	**0.14**	**257**	Pg	Pg	06 53 59.7	+0.6
CDCA				Sg	Sg	06 54 02.3	+1.1
	67nm,0.3s						
ATFO	**Monte Foce - G**	**0.17**	**137**	Pg	Pg	06 54 00.4	+0.6
ATFO				Sg	Sg	06 54 03.3	+0.9
	30nm,0.2s						
ATFO	**Monte Foce - G**	**0.17**	**137**	Pg	Pg	06 54 00.4	+0.6
ATFO				Sg	Sg	06 54 03.3	+0.9
	30nm,0.2s						
PARC	**Parchiule**	**0.20**	**322**	Pg	Pg	06 54 01.2	+0.8
PARC				Sg	Sg	06 54 04.8	+1.4
	31nm,0.3s						
PARC	**Parchiule**	**0.20**	**322**	Pg	Pg	06 54 01.2	+0.8
PARC				Sg	Sg	06 54 04.8	+1.4
	31nm,0.3s						
MURB	**Monte Urbino**	**0.24**	**160**	Pg	Pg	06 54 02.0	+0.9
MURB				Sg	Sg	06 54 06.1	+1.7
	163nm,0.2s						
MURB	**Monte Urbino**	**0.24**	**160**	Pg	Pg	06 54 02.0	+0.9
MURB				Sg	Sg	06 54 06.1	+1.7
	163nm,0.2s						
FSSB	**Fossombrone**	**0.33**	**52**	Pg	Pg	06 54 03.3	+0.5
	31nm,0.2s						
FSSB	**Fossombrone**	**0.33**	**52**	Pg	Pg	06 54 03.3	+0.5
	31nm,0.2s						
CAFI	**Castiglion Fio**	**0.36**	**244**	Pg	Pg	06 54 03.9	+0.6
CAFI	**Castiglion Fio**	**0.36**	**244**	Pg	Pg	06 54 03.9	+0.6

IDC 18 06:58:59.0±3.5, 6.81S×148.29E, h0km, mb2.7/1, mb1 3.2/2, mb1mx3.1/27, mbtmp2.9/2, ML3.3/1, Error ellipse: s-maj=127.9km s-min=45.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.81**	**225**	P	P	07 03 19.4	-1.0
	0.1nm,0.3s,baz=50,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**21.73**	**218**	P	P	07 03 51.6	-0.4
	0.1nm,0.3s,baz=48,slow=8.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.53**	**283**	PKPbc	PKPbc	07 18 43.2	-0.2
	0.3nm,0.4s,baz=83,slow=3.4,SNR=6.3						

IDC 18 06:59:30.2±2.4, 34.07S×56.13E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/24, mbtmp3.7/3, Error ellipse: s-maj=84.0km s-min=55.7km az=33.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**30.32**	**34**	T	T	07 36 52.8	
	baz=210						
H08S2	**Diego Garcia H

MNMC					AML	AML	07 04 43.9	
	comp=E,510nm,0.4s							
PB10	**IPOC Station P**	**2.95**	**219**	*eP*		**Pn**	**07 04 15.5**	**+0.1**
PB10				*eS*		**Sn**	**07 04 50.7**	**+0.2**
PB10					AML	AML	07 05 02.0	
	comp=N,742nm,0.4s							
LPAZ	**La Paz**	**4.92**	**5**	P		**Pn**	**07 04 42.9**	**+0.5**
	comp=N,1.5nm,0.3s,baz=195,slow=5.5,SNR=62							
LPAZ				S		**Sn**	**07 05 42.5**	**+4.0**
	comp=N,0.1nm,0.3s,baz=272,slow=15,SNR=2.5							
LPAZ					LR	LR	07 07 35.1	
	comp=N,24nm,19.0s,baz=52,slow=49							
SIV	**San Ignacio**	**8.78**	**55**	P		**Pn**	**07 05 31.6**	**-2.6**
	comp=N,3.0nm,0.3s,baz=252,slow=14,SNR=93							
PLCA	**Paso Flores**	**19.53**	**185**	P		**Pn**	**07 07 51.0**	**0.0**
	comp=N,0.1nm,0.3s,baz=4.0,slow=8.4,SNR=4.1							
BDFB	**Brasilia**	**20.23**	**78**	P		**P**	**07 07 54.5**	**-2.1**
	comp=N,0.1nm,0.3s,baz=243,slow=18,SNR=3.3							
SNAA	**Sanae**	**62.43**	**161**	P		**P**	**07 13 41.4**	**+0.5**
	comp=N,0.6nm,0.9s,baz=274,slow=14,SNR=2.7							
QSPA	**South Pole Qui**	**68.97**	**180**	P		**P**	**07 14 24.6**	**+1.6**
	comp=N,1.1nm,0.5s,baz=119,slow=18,SNR=15							
TORD	**Torodi Ar. Bea**	**76.93**	**70**	P		**P**	**07 15 09.6**	**-1.1**
	comp=N,1.3nm,0.8s,baz=253,slow=4.7,SNR=11							
YKA	**Yellowknife Ar**	**91.04**	**340**	P		**P**	**07 16 21.8**	**+0.6**
	comp=N,0.4nm,0.6s,baz=134,slow=4.8,SNR=14							
WRA	**Warramunga Arr**	**133.37**	**210**	PKP		**PKPdf**	**07 22 34.2**	**+0.3**
	comp=N,0.3nm,0.5s,baz=155,slow=1.8,SNR=3.2							
ZALV	**Zalesovo Beam**	**141.55**	**25**	PKP		**PKPdf**	**07 22 46.5**	**-1.3**
	comp=N,0.3nm,0.3s,baz=323,slow=4.5,SNR=2.6							
MKAR	**Makanchi Array**	**145.20**	**36**	PKPbc		**PKPbc**	**07 22 54.2**	**-0.1**
	comp=N,1.2nm,0.7s,baz=322,slow=3.3,SNR=16							

NEIC 18 07:11:29.4, 51.68N×175.34W, h35km, ML3.8(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADK	**Adak**	**0.86**	**284**	P		Pn	07 11 45.1	+0.1
ADK				S		Sn	07 11 57.9	+1.5
KOKL	**Mount Kliuchef**	**0.96**	**47**	P		Pn	07 11 46.8	+0.3
KOKL				S		Sn	07 11 59.5	+0.6
KOFP	**Korovin Flat P**	**0.97**	**52**	P		Pn	07 11 47.1	+0.4
NIKH	**Nikolski High**	**4.18**	**69**	P		Pn	07 12 32.2	+1.5
NIKH				S		Sn	07 13 22.0	+3.7
OKFG	**Magazine Ridge**	**4.85**	**66**	P		Pn	07 12 41.1	+1.2
OKFG				S		Sn	07 13 58.7	+3.8
MREP	**Makushin Rep't**	**5.64**	**64**	P		Pn	07 12 51.5	+0.7
UNV	**Unalaska Valle**	**5.79**	**65**	P		Pn	07 12 52.7	0.0
UNV				S		Sn	07 14 01.6	+3.9

IGQ 18 07:12:10.0±0.3, 0.33N×78.39W, h1km±71km, Mb4.1, 10C-1D, Error ellipse: s-maj=1.7km s-min=1.2km az=12.8, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OTAV	**Otavalo**	**0.10**	**212**	P		Pg	07 12 13.0	+0.4
OTAV	**Otavalo**	**0.10**	**212**	S		Sg	07 12 16.7	+2.2
ANGU	**Angureal**	**0.48**	**126**	P		Pg	07 12 20.5	+0.5
YANA	**Yana**	**0.48**	**202**	P		Pg	07 12 20.2	+0.4
CAYA	**Cayambe**	**0.48**	**122**	↑P		Pg	07 12 20.1	+0.2
CAYR	**Refugio Cayamb**	**0.50**	**129**	P		Pb	07 12 21.7	-0.6
PINO	**Pino**	**0.53**	**204**	↑P		Pg	07 12 21.4	+0.5
GGP	**Refugio Guagua**	**0.54**	**202**	↑P		Pg	07 12 21.5	+0.4
TERV	**Terraza Guagua**	**0.54**	**203**	P		Pb	07 12 22.6	-0.4
JUA2	**San Juan 2**	**0.58**	**201**	P		Pb	07 12 22.9	-0.6
ANTI	**Antisana**	**0.81**	**163**	P		Pg	07 12 26.2	0.0
CHAR	**Charly**	**0.83**	**120**	P		Pg	07 12 27.1	+0.5
LAV4	**Lava4-Reventad**	**0.87**	**119**	↑P		Pg	07 12 27.1	-0.1
VC1	**Cotopaxi 1**	**0.96**	**181**	S		Sb	07 12 43.8	-0.1
VC1	**Cotopaxi 1**	**0.96**	**181**	P		Pg	07 12 29.3	+0.1
NAS2	**Nasa**	**0.97**	**184**	P		Pb	07 12 30.6	+0.4
NAS2	**Nasa**	**0.97**	**184**	S		Sb	07 12 43.8	-0.2
BVC2	**Cotopaxi Volca**	**0.98**	**181**	↑P		Pb	07 12 30.6	+0.1
BVC2	**Cotopaxi Volca**	**0.98**	**181**	↑S		Sb	07 12 43.6	-0.8
COV1	**Cotopaxi Volc**	**0.98**	**177**	P		Pg	07 12 30.0	+0.2
BREF	**Cotopaxi Volca**	**0.99**	**183**	↑P		Pb	07 12 30.9	+0.1
BREF	**Cotopaxi Volca**	**0.99**	**183**	↑S		Sg	07 12 43.2	-0.1
BTAM	**Cotopaxi Volca**	**0.99**	**180**	↑S		Sb	07 12 44.7	-0.2
BTAM	**Cotopaxi Volca**	**0.99**	**180**	↑P		Pb	07 12 30.8	0.0
CAMI	**Rancho Maria**	**1.00**	**186**	P		Pg	07 12 30.3	+0.4
TAMB	**Tambo**	**1.01**	**179**	P		Pg	07 12 30.3	+0.1
MOV1	**Cotopaxi Vol s**	**1.03**	**183**	P		Pg	07 12 30.5	-0.2
PAST	**Pastocalle**	**1.04**	**194**	P		Pg	07 12 31.1	+0.4
PAST	**Pastocalle**	**1.04**	**194**	S		Sb	07 12 45.4	-0.7
PISA	**Pisayambo**	**1.38**	**180**	P		Pn	07 12 36.5	-0.5
MAG1	**Magdalena**	**1.44**	**254**	P		Pb	07 12 37.5	-0.1
BRUN	**Tungurahua Vol**	**1.74**	**181**	↓P		Pb	07 12 44.7	+0.9
JUI6	**Juive**	**1.74**	**182**	P		Pg	07 12 43.5	-0.3
BULB	**Ulba Tungurahu**	**1.75**	**180**	P		Pb	07 12 43.6	+0.1
ULBA	**Ulba**	**1.77**	**180**	P		Pb	07 12 43.0	-0.7
BPAT	**Tungurahua Vol**	**1.82**	**181**	P		Pg	07 12 45.6	+0.1
BMAS	**Trigal station**	**1.82**	**183**	P		Pb	07 12 44.8	+0.2
IGUA	**Igualata**	**1.82**	**188**	P		Pn	07 12 43.5	+0.3
ARRY	**Arrayan**	**1.82**	**182**	P		Pb	07 12 44.9	+0.3
ARRY	**Arrayan**	**1.82**	**182**	S		Sb	07 13 08.7	+0.4
PAT1	**Patacocha**	**1.82**	**181**	P		Pn	07 12 43.5	+0.4
JAMA	**Jama**	**1.90**	**252**	P		Pn	07 12 43.2	-0.5

IDC 18 07:16:57.4±2.4, 6.21S×127.46E, h0km, mb3.4/1, mb1 4.3/3, mb1mx3.6/27, mbtmp4.0/3, ML4.2/2, Error ellipse: s-maj=305.7km s-min=29.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**5.79**	**56**	P		Pg	07 18 50.4	+1.9
	baz=5.9,SNR=3.8							
FAKI				S		Sb	07 19 52.7	+3.4
	baz=5.9,SNR=6.9							
MTN	**Manton Dam**	**7.53**	**151**	P		Pb	07 19 05.4	-3.6
	baz=7.5,SNR=3.5							
WSI	**Waingapu**	**7.88**	**244**	S		Sb	07 20 40.0	-10
	baz=7.8,SNR=3.8							
KDU	**Kakadu**	**8.12**	**143**	P		Pb	07 19 11.6	-7.5
	baz=8.1,SNR=5.8							
WRA	**Warramunga Arr**	**15.20**	**155**	Pn		Pn	07 20 35.4	+1.7
	0.9nm,0.3s,baz=334,slow=13,SNR=41							
COEN	**Coen**	**17.28**	**118**	P		Pn	07 20 58.1	-2.2
	baz=17,SNR=8.3							
ASAR	**Alice Springs**	**18.43**	**161**	P		Pn	07 21 13.7	-1.0
	1.6nm,0.3s,baz=342,slow=13,SNR=178							
QIS	**Mount Isa**	**18.51**	**142**	P		Pn	07 21 15.6	+0.1
	baz=18,SNR=4.1							
WRKA	**Warakurna**	**18.74**	**178**	P		Pn	07 21 19.0	+0.6
	baz=19,SNR=11							
MKAR	**Makanchi Array**	**66.20**	**328**	P		P	07 27 47.1	0.0
	0.2nm,0.5s,baz=121,slow=6.7,SNR=3.4							

IDC 18 07:23:24.2±2.4, 6.04S×129.75E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=173.8km s-min=30.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**3.98**	**39**	P		Pn	07 24 24.0	-2.6
	baz=3.5,SNR=13							
FAKI				S		Sn	07 25 00.2	-14
	baz=3.5,SNR=20							
MTN	**Manton Dam**	**6.89**	**169**	P		Pn	07 25 14.5	+7.9
	baz=6.9,SNR=30							
MTN				S		Sn	07 26 28.5	+2.7
	baz=6.9,SNR=6.1							
KDU	**Kakadu**	**7.13**	**158**	P		Pn	07 25 13.6	+3.7
	baz=7.0,SNR=88							
KDU				S		Sn	07 26 27.9	-3.6
	baz=7.0,SNR=6.2							
KNRA	**Kununurra**	**9.62**	**186**	P		Pn	07 25 53.4	+9.3
	baz=9.9,SNR=8.5							
KNRA				S		Sn	07 27 37.1	+4.1
	baz=9.9,SNR=6.3							
WRA	**Warramunga Arr**	**14.52**	**163**	Pn		Pn	07 26 49.2	-2.0
	0.5nm,0.3s,baz=345,slow=13,SNR=20							
WRA					Sn	Sn	07 29 20.1	-13
	0.5nm,0.3s,baz=330,slow=21,SNR=6.8							
ASAR	**Alice Springs**	**17.97**	**168**	P		P	07 27 36.9	+0.5
	0.6nm,0.3s,baz=344,slow=8.6,SNR=40							
ASAR				S		Sn	07 30 45.4	-12
	0.1nm,0.3s,baz=356,slow=26,SNR=3.8							

MKAR	**Makanchi Array**	**67.29**	**327**	P		P	07 34 20.9	0.0
	0.2nm,0.5s,baz=129,slow=7.7,SNR=3.6							

NIED ***18*** *07:33:00.3, 37.40N×141.90E, h38km, Mw4.0 Best double couple: M0 1.14000×10^15 NP1:φ=244.00000°, δ=43.00000°, λ=77.00000°. NP2:φ=81.00000°, δ=48.00000°, λ=102.00000°.*
IDC ***18*** *07:33:41.2±0.7, 37.28N×141.79E, h0km, mb3.9/19, mb1 4.0/22, mb1mx4.0/31, mbtmp3.8/22, ML3.6/3, MS2.8/2, Ms1 3.0/2, ms1mx2.5/42, Error ellipse: s-maj=17.9km s-min=15.9km az=130.0*
ISCJB ***18*** *07:33:43.5±0.5, 37.38N±0.04×141.90E±0.04, h24km, mb3.9/22, MS3.0/1, Error ellipse: s-maj=5.4km s-min=3.9km az=152.9*
JMA ***18*** *07:33:45.7±0.1, 37.38N×141.78E, h40km±3km, M4.2 Broadband fault plane solution: P waves. NP1: φ=78.00000°, δ60.00000°, λ115.00000°. NP2: φ=214.00000°, δ38.00000°, λ53.00000°. Principal axes: T Plg65.0000°, Azm33.0000°; N Plg22.0000°, Azm245.0000°; P Plg12.0000°, Azm150.0000°;*
JMA Felt II J1.
NEIC ***18*** *07:33:46.5±2.2, 37.34N×141.77E, h35km±15km, mb4.5/3, MW4.0(NIED) Error ellipse: s-maj=10.5km s-min=6.3km az=133.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi.

ISC 18 07:33:45.3±0.6, 37.41N±0.05×141.81E±0.05, h24km, n48, σ0s83/55, mb3.9/22, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.75**	**267**	↓P		**Pb**	**07 33 59.6**	**-0.1**
JFK				S		**Sb**	**07 34 08.9**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.86**	**250**	↑P		**Pb**	**07 34 01.0**	**-0.7**
ONAJ				S		**Sb**	**07 34 11.6**	**-1.3**
JMM	**Marumori**	**0.93**	**300**	↓P		**Pb**	**07 34 02.4**	**-0.3**
JMM				S		**Sb**	**07 34 14.1**	**-0.5**
JIO	**Ouri**	**1.11**	**341**	↓P		**Pn**	**07 34 05.2**	**-0.1**
JIO				S		**Sb**	**07 34 18.5**	**-1.3**
JFT	**Otama**	**1.18**	**276**	↓P		**Pn**	**07 34 06.6**	**+0.3**
JFT				S		**Sn**	**07 34 21.0**	**-0.6**
JOU	**Okura**	**1.32**	**317**	↓P		**Pn**	**07 34 08.5**	**+0.2**
JOU				S		**Sn**	**07 34 25.2**	**+0.1**
JYS	**Shirataka**	**1.60**	**301**	P		**Pn**	**07 34 12.9**	**+0.7**
JYS				eS		**Sb**	**07 34 33.3**	**-0.7**
JMK	**Ichinoseki**	**1.61**	**343**	↓P		**Pn**	**07 34 12.7**	**+0.5**
JMK				S		**Sn**	**07 34 32.8**	**+0.6**
JFY	**Yanaizu**	**1.68**	**271**	P		**Pn**	**07 34 13.6**	**+0.4**
JFY				S		**Sn**	**07 34 34.5**	**+0.6**
JYK	**Kaneyama**	**1.89**	**323**	↓P		**Pn**	**07 34 16.8**	**+0.7**
MJAR	**Matsushiro Arr**	**3.01**	**254**	Pn		**Pn**	**07 34 30.6**	**-0.9**
	6.0nm,0.3s,baz=81,slow=15,SNR=34							
MJAR					Sn	**Sn**	**07 35 09.6**	**+2.8**
	13nm,0.3s,baz=78,slow=30,SNR=5.5							
MJAR					LR	LR	07 35 55.3	
	comp=Z,125nm,19.4s,baz=70,slow=46							
MAJO	**Matsushiro**	**3.01**	**254**	*e*Pn		**Pn**	**07 34 32.5**	**+1.0**
MAT	**Matsushiro**	**3.01**	**254**	P		**Pn**	**07 34 32.8**	**+1.2**
MAT				S		**Sn**	**07 35 07.8**	**+0.9**
ASAJ	**Asahikawa**	**6.73**	**5**	Pn		**Pn**	**07 35 22.6**	**+0.1**
	3.1nm,0.3s,baz=208,slow=11,SNR=24							
ASAJ					Sn	**Sn**	**07 36 38.4**	**0.0**
	0.7nm,0.3s,baz=96,slow=19,SNR=3.9							
ASAJ	**Asahikawa**	**6.73**	**5**	Pn		**Pn**	**07 35 22.6**	**+0.1**
	2.6nm,1.2s							
ASAJ					Sn	**Sn**	**07 36 38.4**	**0.0**
ASAJ					eSn	Sb	07 36 38.9	-23
YSS	**Yuzh-Sakhalins**	**9.56**	**4**	*e*Pn		**Pn**	**07 36 02.5**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.07**	**315**	Pn		**Pn**	**07 36 09.5**	**+1.2**
	0.5nm,0.3s,baz=137,slow=12,SNR=9.7							
SEY	**Seymchan**	**26.36**	**11**	P		**P**	**07 39 20.8**	**+1.5**
	1.0nm,0.4s,baz=195,slow=7.8,SNR=7.3							
SONM	**Songino Array**	**27.84**	**303**	P		**P**	**07 39 33.5**	**+0.6**
	1.2nm,0.5s,baz=103,slow=9.5,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**28.07**	**122**	T		T	08 09 08.8	
	baz=315,slow=75,SNR=153							
H11N1	**WAKE ISLAND Hy**	**28.08**	**122**	T		T	08 09 10.5	
	baz=315,slow=75,SNR=172							
H11N3	**WAKE ISLAND Hy**	**28.09**	**122**	T		T	08 09 12.8	
	baz=315,slow=75,SNR=161							
H11S1	**WAKE ISLAND Hy**	**28.80**	**124**	T		T	08 10 03.4	
	baz=317,slow=76,SNR=75							
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T		T	08 10 03.4	
	baz=317,slow=76,SNR=78							
H11S2	**WAKE ISLAND Hy**	**28.82**	**124**	T		T	08 10 01.1	
	baz=317,slow=76,SNR=54							
ZALV	**Zalesovo Beam**	**41.90**	**312**	P		**P**	**07 41 33.4**	**-0.1**
	0.7nm,0.3s,baz=94,slow=8.6,SNR=4.8							
CMAR	**Chiang Mai Arr**	**41.90**	**255**	LR		LR	07 59 41.6	
	comp=Z,18nm,20.5s,baz=310,slow=37							
MKAR	**Makanchi Array**	**44.19**	**302**	P		**P**	**07 41 52.2**	**0.0**
	1.1nm,0.5s,baz=86,slow=9.9,SNR=20							
KURK	**Kurchatov**	**45.95**	**308**	*e*P		**P**	**07 42 05.7**	**-0.4**
	4.5nm,0.7s							
ILAR	**Eielson Array**	**49.01**	**33**	P		**P**	**07 42 30.4**	**+0.7**
	0.9nm,0.6s,baz=261,slow=6.0,SNR=15							
TKM2	**Tokmak 2**	**49.73**	**298**	*e*P		**P**	**07 42 35.1**	**-0.7**
	2.2nm,0.5s							
INK	**Inuvik**	**53.91**	**27**	P		**P**	**07 43 07.0**	**+0.7**
	0.7nm,0.5s,baz=294,slow=6.4,SNR=10.0							
WRA	**Warramunga Arr**	**57.48**	**188**	P		**P**	**07 43 31.3**	**-1.1**
	0.7nm,0.4s,baz=6.4,slow=7.2,SNR=25							
ABKAR	**Akbulak array**	**57.94**	**310**	*e*P		**P**	**07 43 35.1**	**-0.3**
	9.7nm,0.7s							
ASAR	**Alice Springs**	**61.20**	**188**	P		**P**	**07 43 56.5**	**-1.6**
	0.4nm,0.8s,baz=11,slow=6.0,SNR=5.2							
RES	**Resolute Bay**	**62.16**	**15**	P		**P**	**07 44 04.1**	**+0.1**
	0.6nm,0.4s,baz=355,slow=7.5,SNR=9.8							
YKA	**Yellowknife Ar**	**63.33**	**30**	P		**P**	**07 44 12.2**	**+0.3**
	0.4nm,0.6s,baz=305,slow=6.9,SNR=16							
YKA					PcP	**PcP**	**07 44 47.9**	**-0.9**
	0.1nm,0.5s,baz=297,slow=3.4,SNR=4.4							
ARCES	**ARCESS Array B**	**63.76**	**339**	P		**P**	**07 44 14.9**	**+0.2**
	5.5nm,1.1s,baz=12,slow=6.7,SNR=4.1							
FINES	**FINESS Array B**	**64.53**	**332**	P		**P**	**07 44 45.1**	**-0.9**
	2.3nm,0.9s,baz=20,slow=6.1,SNR=4.7							
NOA	**NORSAR Array B**	**73.96**	**337**	P		**P**	**07 45 18.4**	**0.0**
	0.9nm,0.8s,baz=25,slow=6.4,SNR=2.5							
AKASG	**Malin Array Be**	**74.19**	**322**	P		**P**	**07 45 19.6**	**-0.2**
	0.3nm,0.3s,baz=46,slow=6.6,SNR=2.5							
NVAR	**Mina Array Bea**	**74.51**	**53**	P		**P**	**07 45 22.9**	**+0.7**
	0.5nm,0.7s,baz=281,slow=5.5,SNR=5.8							
PDAR	**Pinedale Array**	**77.18**	**46**	P		**P**	**07 45 38.0**	**+0.6**
	0.6nm,0.7s,baz=238,slow=6.2,SNR=5.4							
BRTR	**Keskin Array B**	**78.84**	**312**	P		**P**	**07 45 46.4**	**-0.1**
	0.4nm,0.8s,baz=72,slow=0.5,SNR=4.1							
GERES	**GERESS Array B**	**82.56**	**328**	P		**P**	**07 46 06.6**	**+0.4**
	0.3nm,0.4s,baz=24,slow=7.5,SNR=2.8							
TXAR	**Lajitas Array**	**89.64**	**53**	P		**P**	**07 46 41.8**	**+0.3**
	0.4nm,0.5s,baz=300,slow=3.2,SNR=9.5							
TORD	**Torodi Ar. Bea**	**117.29**	**315**	PKP		**PKPdf**	**07 52 27.9**	**-1.3**
	0.4nm,0.8s,baz=11,slow=1.5,SNR=2.9							
LPAZ	**La Paz**	**146.23**	**60**	PKPbc		**PKPdf**	**07 53 24.5**	**+0.7**
	0.9nm,0.5s,baz=32,slow=2.3,SNR=8.6							

ISCJB ***18*** *07:47:03.1±0.5, 26.62N±0.09×126.20E±0.08, h125km±8km, mb3.1/4, Error ellipse: s-maj=18.4km s-min=3.4km az=140.9*
JMA ***18*** *07:47:04.9±0.3, 26.57N×126.23E, h123km±3km, M3.2*
IDC ***18*** *07:47:05.3±2.6, 26.66N×126.37E, h133km±26km, mb2.8/4, mb1 3.0/5, mb1mx2.9/27, mbtmp3.2/5, Error ellipse: s-maj=38.6km s-min=22.3km az=66.0*

ISC 18 07:47:04.3±0.9, 26.58N±0.08×126.25E±0.07, h131km±8km, n26, σ1s48/42, mb3.0/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKE	**Kume jima 2**	**0.54**	**118**	P		**Pn**	**07 47 23.7**	**+0.1**
JKE				*e*S		**Sn**	**07 47 37.8**	**-0.4**
JAGN	**Aguni-jima**	**0.89**	**89**	P		**Pn**	**07 47 26.4**	**+0.2**
JAGN				*e*S		**Sn**	**07 47 42.4**	**-0.4**
JJT2	**Tamagusuku 2**	**1.41**	**108**	P		**Pn**	**07 47 32.8**	**+1.4**
JNTH	**Nagotoyohara**	**1.59**	**92**	P		**Pn**	**07 47 34.2**	**+0.9**
JNTH				*e*S		**Sn**	**07 47 54.8**	**-0.7**
JIH	**Iheya**	**1.60**	**73**	P		**Pn**	**07 47 34.0**	**+0.5**
JIH				*e*S		**Sn**	**07 47 55.3**	**-0.5**
JOW	**Kunigami**	**1.83**	**82**	P		**Pn**	**07 47 36.6**	**+0.4**
JOW				*e*S		**Sn**	**07 47 59.6**	**-1.0**
JOW	**Kunigami**	**1.83**	**82**	P		**Pn**	**07 47 36.6**	**+0.4**
	baz=201,slow=8.6							
JOW				S		**Sn**	**07 47 59.5**	**-1.0**

	3.8nm,0.3s,baz=180,slow=17,SNR=15							
JIKM	**Ikemajima**	**1.88**	**209**	*e*S		**Sn**	**07 48 01.1**	**-0.6**
JMJ	**Miyako jima 2**	**1.96**	**206**	*e*S		**Sn**	**07 48 01.9**	**-1.5**
JOGS	**Gusukube**	**1.97**	**203**	*e*S		**Sn**	**07 48 03.6**	**0.0**
JIRB	**Irabujima**	**2.00**	**209**	P		**Pn**	**07 47 38.0**	**-0.2**
JIRB				*e*S		**Sn**	**07 48 02.8**	**-1.4**
JOKE	**Okinoerabujima**	**2.21**	**69**	P		**Pn**	**07 47 41.3**	**+0.5**
JOKE				*e*S		**Sn**	**07 48 07.5**	**-1.4**
JTJ	**Tarama**	**2.38**	**216**	P		**Pn**	**07 47 43.4**	**+0.4**
JTJ				*e*S		**Sn**	**07 48 10.7**	**-2.1**
JISG	**Ishigakijimahi**	**2.65**	**222**	P		**Pn**	**07 47 46.5**	**+0.1**
JISG				*e*S		**Sn**	**07 48 16.8**	**-2.0**
JTK	**Tokunoshima**	**2.69**	**63**	P		**Pn**	**07 47 46.9**	**+0.1**
JTK				*e*S		**Sn**	**07 48 17.7**	**-1.9**
JIJ	**Ishigaki jima**	**2.92**	**221**	P		**Pn**	**07 47 49.4**	**-0.4**
JIJ				*e*S		**Sn**	**07 48 21.6**	**-3.4**
JAMN	**Amaminishikomi**	**3.08**	**57**	P		**Pn**	**07 47 51.6**	**-0.3**
JAMN				*e*S		**Sn**	**07 48 26.9**	**-1.8**
JKRS	**Kuro-shima**	**3.09**	**221**	P		**Pn**	**07 47 52.9**	**+0.8**
JKRS				*e*S		**Sn**	**07 48 27.2**	**-1.8**
IRIF	**Iriomote-Funau**	**3.19**	**226**	P		**Pn**	**07 47 54.2**	**+0.8**
IRIF				*e*S		**Sn**	**07 48 29.2**	**-2.2**
JAM	**Amami Oshima**	**3.49**	**58**	P		**Pn**	**07 47 56.8**	**-0.5**
JAM				*e*S		**Sn**	**07 48 36.1**	**-2.2**
JMZ	**Minamidaito 2**	**4.53**	**99**	*e*S		**Sn**	**07 48 58.1**	**-4.8**
JNU	**Nakatsue**	**7.66**	**31**	P		**Pn**	**07 48 53.6**	**+0.6**
	0.3nm,0.3s,baz=225,slow=5.7,SNR=2.2							
SONM	**Songino Array**	**26.32**	**329**	P		**P**	**07 52 29.2**	**+1.4**
	0.4nm,0.8s,baz=134,slow=6.4,SNR=3.6							
MKAR	**Makanchi Array**	**39.98**	**312**	P		**P**	**07 54 25.7**	**-0.3**
	0.1nm,0.5s,baz=96,slow=9.0,SNR=3.4							
ASAR	**Alice Springs**	**50.50**	**171**	P		**P**	**07 55 50.6**	**+1.5**
	0.2nm,0.4s,baz=349,slow=6.5,SNR=5.4							
YKA	**Yellowknife Ar**	**78.95**	**24**	P		**P**	**07 58 53.2**	**+0.2**
	0.1nm,0.4s,baz=301,slow=5.2,SNR=5.8							

GUC ***18*** *07:53:24.8±0.4, 33.64S×72.80W, h42km±12km, ML4.9*
IDC ***18*** *07:53:26.2±0.6, 33.77S×72.30W, h0km, mb4.1/12, mb1 4.2/17, mb1mx4.1/22, mbtmp4.0/17, ML4.0/5, MS4.0/6, Ms1 4.0/6, ms1mx3.6/23, Error ellipse: s-maj=20.2km s-min=13.6km az=102.0*
ISCJB ***18*** *07:53:30.7±1.0, 33.74S±0.04×72.25W±0.09, h41km±9km, mb4.3/21, MS3.8/5, Error ellipse: s-maj=12.7km s-min=7.3km az=176.0*
NEIC ***18*** *07:53:32.0±0.5, 33.66S×72.14W, h35km, mb4.6/12, Error ellipse: s-maj=13.1km s-min=9.5km az=85.0*
NEIC Felt at La Ligua.
BJI ***18*** *07:53:31.7, 33.40S×72.00W, h35km, mB4.8/2, Ms5.3/2, Ms7 4.8/3*

ISC 18 07:53:30.9±1.2, 33.76S±0.04×72.45W±0.06, h30km±7km, n70, σ1s51/75, mb4.4/21, MS3.9/5, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.99**	**43**	*e*P		**Pn**	**07 53 46.0**	**-2.7**
IHA				*i* S		**Sn**	**07 54 05.5**	**+3.8**
PEL	**Peldehue**	**1.60**	**68**	*e*P		**Pn**	**07 53 56.1**	**-1.0**
PEL				*e*S		**Sb**	**07 54 20.0**	**+0.5**
NICH	**Los Niches**	**1.60**	**141**	*i* P		**Pn**	**07 53 56.4**	**-0.7**
NICH				*i* S		**Sb**	**07 54 20.7**	**+1.1**
CLCH	**Cerro Calan**	**1.64**	**78**	↑*i*P		**Pn**	**07 53 56.6**	**-1.0**
CLCH				*e*P		**Pn**	**07 53 57.2**	**-0.5**
CLCH				*i* S		**Sb**	**07

MOD	**Modoc Plateau**	**87.17**	**326**	*e*P		P	08 06 22.8	+8.8
	comp=E,35nm,2.3s							
YKA	**Yellowknife Ar**	**101.72**	**341**	P		**Pdif**	**08 07 19.6**	**-0.4**
	comp=E,0.1nm,0.5s,baz=140,slow=4.4,SNR=3.9							
WRA	**Warramunga Arr**	**120.81**	**210**	PKP		**PKPdf**	**08 12 18.5**	**-2.1**
	comp=E,0.2nm,0.6s,baz=158,slow=1.7,SNR=4.8							
H11S2	**WAKE ISLAND Hyd**	**25.43**	**270**	T		T	10 31 26.3	
	baz=118,slow=74,SNR=6.7							
H11S1	**WAKE ISLAND Hyd**	**25.44**	**270**	T		T	10 31 30.7	
	baz=118,slow=74,SNR=4.5							
H11S3	**WAKE ISLAND Hyd**	**25.45**	**270**	T		T	10 31 28.0	
	baz=118,slow=74,SNR=5.9							
BVAR	**Borovoye Array**	**147.33**	**43**	PKPbc		**PKPbc**	**08 13 11.0**	**+0.1**
	comp=E,2.0nm,0.8s,baz=298,slow=3.2,SNR=10							
KKAR	**Karatay Array**	**149.73**	**61**	*e*PKPbc		**PKPbc**	**08 13 17.6**	**+0.1**
AAK	**Ala-Archa**	**152.69**	**61**	PKPbc		**PKPbc**	**08 13 25.0**	**+0.4**
	comp=E,2.6nm,0.8s,baz=268,slow=1.8,SNR=7.4							
KURK	**Kurchatov**	**152.93**	**43**	*e*PKPbc		**PKPbc**	**08 13 24.7**	**+0.1**
KSH	**Kashi**	**154.10**	**68**	*e*PKPbc		**PKPdf**	**08 13 21.4**	**+1.8**
KSH				*es*PKP			08 13 35.4	
KSH				PKS		**PKSdf**	**08 16 54.0**	**+0.1**
KSH				PP		**PP**	**08 17 19.5**	**+2.7**
KSH				SKS		**SKSdf**	**08 20 22.9**	**-1.4**
KSH				SKKS		**SKKSac**	**08 24 02.6**	**-1.7**
KSH				PPMZ				
	comp=E,82nm,4.4s							
KSH				LN				
	comp=E,99nm,6.1s							
KSH				LE				
	comp=E,110nm,5.1s							
KSH				LZ				
	comp=E,160nm,5.9s							
ZALV	**Zalesovo Beam**	**154.20**	**32**	PKPbc		**PKPbc**	**08 13 26.9**	**-0.4**
	comp=E,3.0nm,0.8s,baz=293,slow=2.8,SNR=13							
MKAR	**Makanchi Array**	**156.86**	**48**	PKP		**PKPdf**	**08 13 23.7**	**+0.7**
	comp=E,0.2nm,0.6s,baz=27,slow=3.5,SNR=2.8							
MKAR				PKPab		**PKPab**	**08 13 52.5**	**-0.4**
	comp=E,1.2nm,0.7s,baz=300,slow=3.9,SNR=11							
WMQ	**Urumqi**	**161.59**	**51**	*e*PKP		**PKPdf**	**08 13 30.4**	**+1.8**
WMQ				LZ				
	comp=E,110nm,18.2s							
CN2	**Changchun**	**162.85**	**311**	*e*PKP		**PKPdf**	**08 13 32.4**	**+2.7**
SONM	**Songino Array**	**165.91**	**3**	PKPab		**PKPab**	**08 14 31.7**	**-0.6**
	comp=E,0.4nm,0.7s,baz=347,slow=4.6,SNR=3.7							
NJ2	**Nanjing**	**170.35**	**263**	*e*PKP		PKPdf	08 13 30.6	-5.3
HHC	**Hu-ho-hao-te**	**172.23**	**337**	*e*PKP		**PKPdf**	**08 13 38.0**	**+1.3**
HHC				sPKP			08 13 51.4	
HHC				PP		**PP**	**08 18 53.6**	**+2.3**
HHC				SKS		**SKSdf**	**08 20 34.1**	**-3.7**
HHC				SKKS		**SKKSac**	**08 25 38.9**	**+2.7**
HHC				SS		**SS**	**08 40 00.9**	**+1.9**
HHC				PPMZ				
	comp=E,26nm,6.6s							
HHC				LN				
	comp=E,120nm,18.6s							
HHC				LE				
	comp=E,170nm,19.2s							
HHC				LZ				
	comp=E,92nm,20.6s							
CD2	**Chengdu**	**175.72**	**130**	PKP		**PKPdf**	**08 13 38.0**	**-0.1**
LZH	**Lanzhou**	**176.17**	**52**	*e*PKP		**PKPdf**	**08 13 38.8**	**+0.6**
LZH				pPKP		**pPKPdf**	**08 13 49.0**	**+0.7**
LZH				sPKP			08 13 53.3	

*CSEM **18** 08:02:54.4, 43.49N×12.42E, h9km, ML1.5/5*
ROM 18 08:02:54.4±0.1, 43.49N×12.42E, h9km, Ml1.5/5, Error ellipse: s-maj=0.6km s-min=0.5km az=24.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.03**	**102**	Pg	Pg	08 02 56.4	+0.2
ATPC				Sg	Sg	08 02 57.6	+0.1
	733nm,0.2s						
ATPC	**Poggio Castell**	**0.03**	**102**	Pg	Pg	08 02 56.4	+0.2
ATPC				Sg	Sg	08 02 57.6	+0.1
	733nm,0.2s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	08 02 57.4	+0.4
PIEI				Sg	Sg	08 02 59.4	+0.6
	181nm,0.2s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	08 02 57.4	+0.4
PIEI				Sg	Sg	08 02 59.4	+0.6
	181nm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**184**	Pg	Pg	08 02 57.5	+0.4
ATVO				Sg	Sg	08 02 59.5	+0.6
	186nm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**184**	Pg	Pg	08 02 57.5	+0.4
ATVO				Sg	Sg	08 02 59.5	+0.6
	186nm,0.3s						
BADI	**Badiali**	**0.13**	**280**	Pg	Pg	08 02 57.9	+0.5
BADI				Sg	Sg	08 03 00.3	+0.8
	92nm,0.2s						
BADI	**Badiali**	**0.13**	**280**	Pg	Pg	08 02 57.9	+0.5
BADI				Sg	Sg	08 03 00.3	+0.8
	92nm,0.2s						
CDCA	**Citt' di Caste**	**0.14**	**258**	Pg	Pg	08 02 58.0	+0.5
CDCA				Sg	Sg	08 03 00.5	+0.9
	93nm,0.3s						
CDCA	**Citt' di Caste**	**0.14**	**258**	Pg	Pg	08 02 58.0	+0.5
CDCA				Sg	Sg	08 03 00.5	+0.9
	93nm,0.3s						
PARC	**Parchiule**	**0.21**	**321**	Pg	Pg	08 02 59.3	+0.5
PARC				Sg	Sg	08 03 03.2	+1.5
PARC	**Parchiule**	**0.21**	**321**	Pg	Pg	08 02 59.3	+0.5
PARC				Sg	Sg	08 03 03.2	+1.5
MURB	**Monte Urbino**	**0.24**	**161**	Pg	Pg	08 03 00.0	+0.7
MURB				Sg	Sg	08 03 04.3	+1.6
	37nm,0.3s						
MURB	**Monte Urbino**	**0.24**	**161**	Pg	Pg	08 03 00.0	+0.7
MURB				Sg	Sg	08 03 04.3	+1.6
	37nm,0.3s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	08 03 02.1	+0.4
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	08 03 02.1	+0.4
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pb	08 03 02.5	-0.7
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pb	08 03 02.5	-0.7
ARVD	**Arcevia**	**0.38**	**88**	Pg	Pg	08 03 02.4	+0.4
ARVD	**Arcevia**	**0.38**	**88**	Pg	Pg	08 03 02.4	+0.4

*CSEM **18** 08:03:15.4, 43.48N×12.42E, h8km, MD1.0/4*
ROM 18 08:03:15.4±0.1, 43.48N×12.42E, h8km±1km, Md1.0/4, Ml1.4/4, Error ellipse: s-maj=0.6km s-min=0.5km az=8.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.03**	**89**	Pg	Pg	08 03 17.1	+0.1
ATPC				Sg	Sg	08 03 18.4	+0.3
	183nm,0.2s						
ATPC	**Poggio Castell**	**0.03**	**89**	Pg	Pg	08 03 17.1	+0.1
ATPC				Sg	Sg	08 03 18.4	+0.3
	183nm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**184**	Pg	Pg	08 03 18.1	+0.3
ATVO				Sg	Sg	08 03 20.1	+0.7
	167nm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**184**	Pg	Pg	08 03 18.1	+0.3
ATVO				Sg	Sg	08 03 20.1	+0.7
	167nm,0.3s						
PIEI	**Pieia**	**0.10**	**57**	Pg	Pg	08 03 18.1	+0.2
PIEI				Sg	Sg	08 03 20.1	+0.5
	108nm,0.2s						
PIEI	**Pieia**	**0.10**	**57**	Pg	Pg	08 03 18.1	+0.2
PIEI				Sg	Sg	08 03 20.1	+0.5
	108nm,0.2s						
BADI	**Badiali**	**0.13**	**283**	Pg	Pg	08 03 18.6	+0.3
BADI				Sg	Sg	08 03 21.0	+0.8
	92nm,0.2s						
BADI	**Badiali**	**0.13**	**283**	Pg	Pg	08 03 18.6	+0.3
BADI				Sg	Sg	08 03 21.0	+0.8
	92nm,0.2s						
CDCA	**Citt' di Caste**	**0.14**	**261**	Pg	Pg	08 03 18.6	+0.3
CDCA				Sg	Sg	08 03 21.2	+0.9
	74nm,0.3s						
CDCA	**Citt' di Caste**	**0.14**	**261**	Pg	Pg	08 03 18.6	+0.3
CDCA				Sg	Sg	08 03 21.2	+0.9
	74nm,0.3s						
PARC	**Parchiule**	**0.21**	**323**	Pg	Pg	08 03 20.6	+0.8
PARC				Sg	Sg	08 03 24.1	+1.4
PARC	**Parchiule**	**0.21**	**323**	Pg	Pg	08 03 20.6	+0.8
PARC				Sg	Sg	08 03 24.1	+1.4

*CSEM **18** 08:03:25.2, 43.49N×12.41E, h9km, ML2.3/5*

ROM 18 08:03:25.2±0.0, 43.49N×12.41E, h9km, Ml2.3/5, Error ellipse: s-maj=0.5km s-min=0.4km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.04**	**103**	Pg	Pg	08 03 27.3	+0.3
ATPC				Sg	Sg	08 03 28.6	+0.2
	3μm,0.2s						
ATPC	**Poggio Castell**	**0.04**	**103**	Pg	Pg	08 03 27.3	+0.3
ATPC				Sg	Sg	08 03 28.6	+0.2
	3μm,0.2s						
PIEI	**Pieia**	**0.10**	**63**	Pg	Pg	08 03 28.2	+0.3
PIEI				Sg	Sg	08 03 30.4	+0.7
PIEI	**Pieia**	**0.10**	**63**	Pg	Pg	08 03 28.2	+0.3
PIEI				Sg	Sg	08 03 30.4	+0.7
ATVO	**AVT- Monte Val**	**0.11**	**181**	Pg	Pg	08 03 28.3	+0.4
ATVO				Sg	Sg	08 03 30.4	+0.6
	596nm,0.3s						
ATVO	**AVT- Monte Val**	**0.11**	**181**	Pg	Pg	08 03 28.3	+0.4
ATVO				Sg	Sg	08 03 30.4	+0.6
	596nm,0.3s						
BADI	**Badiali**	**0.12**	**280**	Pg	Pg	08 03 28.6	+0.5
BADI				Sg	Sg	08 03 30.9	+0.8
	1μm,0.2s						
BADI	**Badiali**	**0.12**	**280**	Pg	Pg	08 03 28.6	+0.5
BADI				Sg	Sg	08 03 30.9	+0.8
	1μm,0.2s						
CDCA	**Citt' di Caste**	**0.13**	**257**	Pg	Pg	08 03 28.7	+0.5
CDCA				Sg	Sg	08 03 31.2	+1.0
	411nm,0.3s						
CDCA	**Citt' di Caste**	**0.13**	**257**	Pg	Pg	08 03 28.7	+0.5
CDCA				Sg	Sg	08 03 31.2	+1.0
	411nm,0.3s						
ATFO	**Monte Foce - G**	**0.17**	**136**	Pg	Pg	08 03 29.4	+0.4
ATFO				Sg	Sg	08 03 32.5	+1.0
ATFO	**Monte Foce - G**	**0.17**	**136**	Pg	Pg	08 03 29.4	+0.4
ATFO				Sg	Sg	08 03 32.5	+1.0
PARC	**Parchiule**	**0.20**	**322**	Pg	Pg	08 03 30.2	+0.7
PARC				Sg	Sg	08 03 33.8	+1.4
PARC	**Parchiule**	**0.20**	**322**	Pg	Pg	08 03 30.2	+0.7
PARC				Sg	Sg	08 03 33.8	+1.4
MURB	**Monte Urbino**	**0.24**	**159**	Pg	Pg	08 03 30.9	+0.7
MURB				Sg	Sg	08 03 35.2	+1.6
MURB	**Monte Urbino**	**0.24**	**159**	Pg	Pg	08 03 30.9	+0.7
MURB				Sg	Sg	08 03 35.2	+1.6
FSSB	**Fossombrone**	**0.34**	**53**	Pg	Pg	08 03 32.5	+0.6
FSSB				Sg	Sb	08 03 38.3	-0.6
FSSB	**Fossombrone**	**0.34**	**53**	Pg	Pg	08 03 32.5	+0.6
FSSB				Sg	Sb	08 03 38.3	-0.6
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pg	08 03 33.0	+0.5
CRE				Sg	Sb	08 03 38.6	-1.1
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pg	08 03 33.0	+0.5
CRE				Sg	Sb	08 03 38.6	-1.1
CAFI	**Castiglion Fio**	**0.36**	**244**	Pg	Pg	08 03 32.9	+0.5
CAFI	**Castiglion Fio**	**0.36**	**244**	Pg	Pg	08 03 32.9	+0.5
ARVD	**Arcevia**	**0.39**	**88**	Pg	Pg	08 03 33.3	+0.4
ARVD				Sg	Sb	08 03 39.8	-0.6
ARVD	**Arcevia**	**0.39**	**88**	Pg	Pg	08 03 33.3	+0.4
ARVD				Sg	Sb	08 03 39.8	-0.6
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	08 03 35.6	-0.3
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	08 03 35.6	-0.3
PESA	**Pesaro**	**0.55**	**35**	Pg	Pg	08 03 36.4	+0.5
PESA	**Pesaro**	**0.55**	**35**	Pg	Pg	08 03 36.4	+0.5
SFI	**Santa Sofia**	**0.58**	**316**	Pg	Pg	08 03 36.6	0.0
SFI	**Santa Sofia**	**0.58**	**316**	Pg	Pg	08 03 36.6	0.0
CING	**Cingoli**	**0.58**	**101**	Pg	Pg	08 03 36.6	0.0
CING	**Cingoli**	**0.58**	**101**	Pg	Pg	08 03 36.6	0.0
MGAB	**Montegabbione**	**0.62**	**201**	Pg	Pb	08 03 37.7	-0.5
MGAB	**Montegabbione**	**0.62**	**201**	Pg	Pb	08 03 37.7	-0.5
FDMO	**Fiordimonte**	**0.67**	**132**	Pg	Pg	08 03 38.3	+0.1
FDMO	**Fiordimonte**	**0.67**	**132**	Pg	Pg	08 03 38.3	+0.1
SACS	**San Casciano d**	**0.74**	**210**	Pg	Pg	08 03 39.9	+0.4

IDC 18 08:05:07.5±3.4, 6.87S×148.37E, h0km, mb2.8/1, mb1 3.2/2, mb1mx3.1/18, mbtmp3.0/2, ML3.2/1, Error ellipse: s-maj=114.8km s-min=45.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.82**	**225**	P	P	08 09 27.9	-1.0
	0.1nm,0.3s,baz=51,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**21.72**	**218**	P	P	08 10 00.3	-0.2
	0.2nm,0.5s,baz=47,slow=9.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.62**	**283**	PKPbc	PKPbc	08 24 51.9	-0.3
	0.3nm,0.5s,baz=85,slow=2.6,SNR=4.7						

*ISCJB **18** 08:09:31.8±0.2, 37.23S±0.04×73.84W±0.05, h10km, mb4.5/28, MS4.3/10, Error ellipse: s-maj=5.5km s-min=4.9km az=33.2*
*IDC **18** 08:09:31.8±0.7, 37.17S×73.61W, h0km, mb4.4/11, mb1 4.5/14, mb1mx4.4/20, mbtmp4.4/14, ML3.4/3, MS4.2/12, Ms1 4.2/12, ms1mx3.9/31, Error ellipse: s-maj=23.1km s-min=16.3km az=95.0*
*GUC **18** 08:09:34.0±0.6, 37.26S×73.91W, h37km±2km, ML5.1*
*NEIC **18** 08:09:37.4±0.4, 37.13S×73.54W, h35km, mb4.6/14, ML5.1(GUC), Error ellipse: s-maj=10.3km s-min=8.2km az=80.0*
NEIC Felt [III] at La Laja. Also felt at Chillan.
*BJI **18** 08:09:38.3, 37.00S×73.50W, h35km, mB5.0/5, Ms5.3/4, Ms7 5.1/5*
ISC 18 08:09:34.2±0.4, 37.19S±0.05×73.55W±0.07, h14km, n183, σ1s18/186, mb4.6/28, MS4.3/10, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.49**	**45**	*i*P	**Pn**	**08 09 48.3**	**+1.5**
CCSP				*i* S	**Sn**	**08 09 59.3**	**+4.2**
CCSP				AML	AML	08 10 05.3	
	comp=N,25μm,0.6s						
LNCH	**Linares**	**2.06**	**50**	*i*P	**Pb**	**08 10 11.0**	**-0.4**
LNCH				*i* S	**Sg**	**08 10 39.8**	**-0.7**
LNCH				AML	AML	08 11 02.5	
	comp=N,10μm,0.6s						
TALC	**Talca**	**2.36**	**41**	*i*P	**Pb**	**08 10 15.2**	**-1.3**
TALC				*i* S	**Sb**	**08 10 45.6**	**+0.1**
VLCH	**Valdivia**	**2.62**	**175**	*i*P	**Pn**	**08 10 14.6**	**-1.5**
VLCH				*i* S	**Sn**	**08 10 45.6**	**-2.1**
VLCH				AML	AML	08 11 09.1	
	comp=E,21μm,0.6s						
NICH	**Los Niches**	**2.88**	**41**	*e*P	Pb	08 10 22.0	-3.3
NICH				*es*	**Sb**	**08 10 58.8**	**-1.6**
NICH				AML	AML	08 11 21.9	
	comp=N,10μm,0.9s						
PLCA	**Paso Flores**	**4.24**	**148**	Pn	**Pn**	**08 10 38.8**	**+0.4**
	comp=N,0.7nm,0.3s,baz=339,slow=14,SNR=30						
PLCA				Lg	Lg	08 11 53.6	
	comp=N,5.1nm,0.3s,baz=40,slow=5.2,SNR=3.7						
PLCA	**Paso Flores**	**4.24**	**148**	Pn	**Pn**	**08 10 38.8**	**+0.4**
PLCA				Lg	Lg	08 11 53.6	
CFAA	**Coronel Fontan**	**7.09**	**40**	Pn	**Pn**	**08 11 17.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=19						
CFAA				Sn	**Sn**	**08 12 37.7**	**-0.3**
	comp=N,0.0nm,0.3s,baz=203,slow=10,SNR=4.0						
CFAA				Lg	Lg	08 13 05.5	
	comp=N,0.2nm,0.3s,baz=250,slow=12,SNR=6.9						
CFAA				LR	LR	08 14 31.1	
	comp=N,290nm,19.6s,baz=224,slow=42						
CFAA	**Coronel Fontan**	**7.09**	**40**	Pn	**Pn**	**08 11 17.7**	**+0.1**
CFAA				Sn	**Sn**	**08 12 37.7**	**-0.3**
CFAA				Lg	Lg	08 13 05.5	
LCO	**Las Campanas**	**8.50**	**17**	*e*Pn	**Pn**	**08 11 35.5**	**-1.6**
TRQA	**Tornquist**	**9.22**	**99**	*e*Pn	Pn	08 11 50.6	+3.9
LVC	**Limon Verde**	**15.07**	**17**	Pn	**Pn**	**08 13 06.7**	**-0.3**
	comp=N,24nm,0.3s,baz=137,slow=6.8,SNR=16						
LVC	**Limon Verde**	**15.07**	**17**	Pn	**Pn**	**08 13 06.7**	**-0.3**
CPUP	**Villa Florida**	**17.51**	**56**	P	**P**	**08 13 39.6**	**+0.7**
	comp=N,0.1nm,0.3s,baz=197,slow=14,SNR=4.4						
CPUP				LR	LR	08 21 08.5	
	comp=N,6μm,21.5s,baz=218,slow=40						
CPUP	**Villa Florida**	**17.51**	**56**	P	**P**	**08 13 39.6**	**+0.7**
LPAZ	**La Paz**	**21.36**	**14**	P	**P**	**08 14 22.1**	**+0.2**
	comp=N,12nm,0.8s,baz=163,slow=12,SNR=28						
LPAZ	**La Paz**	**21.36**	**14**	P	**P**	**08 14 22.1**	**+0.2**
SIV	**San Ignacio**	**23.83**	**31**	P	**P**	**08 14 46.9**	**-0.1**
	comp=N,13nm,0.9s,baz=229,slow=11,SNR=32						
SIV				LR	LR	08 26 02.3	
	comp=N,1μm,19.1s,baz=222,slow=42						

SIV	**San Ignacio**	**23.83**	**31**	P		**P**	**08 14 46.9**	**-0.1**
PMSA	**Palmer Station**	**28.19**	**171**	LR		LR	08 27 46.4	
	comp=N,554nm,18.2s,baz=342,slow=39							
SAML	**Samuel**	**29.64**	**21**	*e*P		**P**	**08 15 39.5**	**+0.2**
	comp=N,4.1nm,1.1s							
BDFB	**Brasilia**	**31.18**	**53**	P		**P**	**08 15 53.0**	**-0.1**
	comp=N,8.5nm,0.9s,baz=213,slow=7.2,SNR=13							
BDFB				LR		LR	08 29 55.7	
	comp=N,1μm,20.8s,baz=223,slow=39							
BDFB	**Brasilia**	**31.18**	**53**	P		**P**	**08 15 53.0**	**-0.1**
OTAV	**Otavalo**	**37.52**	**352**	*e*P		**P**	**08 16 47.9**	**-0.4**
	comp=N,9.9nm,1.3s							
PTGA	**Pitinga**	**38.39**	**22**	*e*P		**P**	**08 16 54.7**	**-0.5**
	comp=N,12nm,1.2s							
ROSC	**El Rosal**	**41.84**	**359**	P		**P**	**08 17 23.4**	**-0.8**
	comp=N,4.7nm,0.8s,baz=132,slow=4.5,SNR=7.0							
ROSC	**El Rosal**	**41.84**	**359**	P		**P**	**08 17 23.4**	**-0.8**
SDV	**Santo Domingo**	**45.91**	**4**	*e*P		**P**	**08 17 56.0**	**-0.7**
	comp=N,8.3nm,1.0s							
VNA3	**Neumayer Olymp**	**46.90**	**157**	P		**P**	**08 18 04.7**	**+1.0**
VNA2	**Neumayer--Watz**	**47.58**	**156**	P		**P**	**08 18 10.6**	**+1.6**
QSPA	**South Pole Qui**	**53.05**	**180**	P		**P**	**08 18 51.3**	**+0.6**
	comp=N,5.5nm,1.0s,baz=160,slow=4.5,SNR=8.6							
QSPA	**South Pole Qui**	**53.05**	**180**	P		**P**	**08 18 51.3**	**+0.6**
RKT	**Rikitea**	**54.08**	**267**	*e*LR		LR	08 34 43.5	
	comp=N,390nm,29.5s,baz=125							
RKT	**Rikitea**	**54.08**	**267**	*e*T		T	09 16 39.3	
	comp=N,1.6nm,0.2s							
TBI	**Tubuai**	**65.43**	**259**	*e*S		**S**	**08 29 05.8**	**+4.8**
	comp=N,227nm,30.0s							
TBI	**Tubuai**	**65.43**	**259**	*e*LR		LR	08 39 56.3	
	comp=N,274nm,26.2s,baz=127							
MEH	**Mehetia**	**67.26**	**264**	*e*T		T	09 33 12.6	
	comp=N,20nm,0.2s							
PPT2	**Papeete2**	**68.61**	**264**	*e*S		**S**	**08 29 43.7**	**+4.0**
	comp=N,96nm,24.0s							
PPT2	**Papeete2**	**68.61**	**264**	*e*LR		LR	08 41 19.3	
	comp=N,342nm,25.0s,baz=121							
PPT	**Papeete**	**68.63**	**264**	LR		LR	08 42 10.5	
	comp=N,257nm,18.0s,baz=127,slow=29							
933A	**Laredo**	**68.85**	**336**	P		**P**	**08 20 38.8**	**+0.6**
	baz=69							
834A	**Tilden**	**69.09**	**336**	P		**P**	**08 20 40.2**	**+0.6**
	baz=69							
833A	**Chaparral WMA,**	**69.54**	**336**	P		**P**	**08 20 42.5**	**0.0**
	baz=70							
832A	**Faith Ranch, C**	**69.70**	**335**	P		**P**	**08 20 43.1**	**-0.3**
	baz=70							
636A	**Smothers Creek**	**69.89**	**338**	P		**P**	**08 20 43.4**	**-1.1**
	baz=70							
732A	**Laxson Ranch,**	**70.11**	**335**	P		**P**	**08 20 45.2**	**-0.7**
	baz=70							
MAW	**Mawson**	**70.47**	**164**	LR		LR	08 53 13.0	
	comp=N,245nm,19.5s,baz=238,slow=37							
633A	**Saathoff Ranch**	**70.52**	**336**	P		**P**	**08 20 48.8**	**+0.3**
	baz=71							
535A	**Dale**	**70.56**	**338**	P		**P**	**08 20 48.8**	**+0.2**
	baz=71							
632A	**Uvalde**	**70.77**	**336**	P		**P**	**08 20 49.7**	**-0.3**
	baz=71							
533A	**Kerrville**	**71.05**	**337**	P		**P**	**08 20 51.5**	**-0.2**
	baz=71							
532A	**Rocksprings**	**71.38**	**336**	P		**P**	**08 20 53.1**	**-0.6**
	baz=72							
434A	**Burnet**	**71.50**	**338**	P		**P**	**08 20 54.1**	**-0.3**
	baz=72							
531A	**Rocksprings**	**71.62**	**336**	P		**P**	**08 20 55.0**	**-0.1**
	baz=72							
JCT	**Junction City**	**71.67**	**336**	P		**P**	**08 20 54.9**	**-0.6**
	baz=72							
JCT	**Junction City**	**71.67**	**336**	*e*P		**P**	**08 20 55.0**	**-0.5**
	comp=N,9.2nm,1.1s							
433A	**Art**	**71.70**	**337**	P		**P**	**08 20 54.2**	**-1.4**
	baz=72							
238A	**Jacksonville**	**71.73**	**341**	P		**P**	**08 20 55.0**	**-0.7**
	baz=72							
530A	**J-C Ranch, Com**	**71.87**	**335**	P		**P**	**08 20 56.2**	**-0.5**
	baz=72							
TXAR	**Lajitas Array**	**71.95**	**333**	P		**P**	**08 20 56.7**	**-0.6**
	comp=N,2.9nm,1.0s,baz=156,slow=6.4,SNR=16							
TXAR				LR		LR	08 46 41.9	
	comp=N,96nm,20.9s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**71.95**	**333**	P		**P**	**08 20 56.7**	**-0.6**
334A	**Lometa**	**71.98**	**338**	P		**P**	**08 20 56.7**	**-0.6**
	baz=72							
431A	**Sonora**	**72.12**	**336**	P		**P**	**08 20 56.9**	**-1.3**
	baz=72							
529A	**Stev Forest Ra**	**72.15**	**334**	P		**P**	**08 20 57.2**	**-1.2**
	baz=72							
333A	**Richland Sprin**	**72.20**	**337**	P		**P**	**08 20 57.8**	**-0.7**
	baz=72							
KMSC	**Kings Mountain**	**72.33**	**353**	P		**P**	**08 20 58.8**	**-0.4**
	baz=73							
430A	**Baggett Ranch,**	**72.42**	**335**	P		**P**	**08 20 59.6**	**-0.4**
	baz=73							
332A	**Millersview**	**72.49**	**337**	P		**P**	**08 20 59.9**	**-0.4**
	baz=73							
429A	**Davenport Ranc**	**72.50**	**335**	P		**P**	**08 21 00.1**	**-0.4**
	baz=73							
234A	**Clairette**	**72.57**	**338**	P		**P**	**08 20 59.6**	**-1.2**
	baz=73							
331A	**San Angelo**	**72.64**	**336**	P		**P**	**08 20 59.5**	**-1.7**
	baz=73							
233A	**Rising Star**	**72.81**	**338**	P		**P**	**08 21 01.

comp=N,7.8nm,1.6s
V26A Tequesquite Ra 77.86 335 P P 08 21 30.4 -0.9
baz=78
ANMO Albuquerque 78.02 333 *e*P **P 08 21 32.7 +0.4**
comp=N,7.1nm,1.2s
T29A Hugoton 78.31 338 P P 08 21 33.5 -0.2
baz=79
S30A Montezuma 78.51 338 P P 08 21 34.3 -0.5
baz=79
T28A Walsh 78.53 337 P P 08 21 34.7 -0.3
baz=79
T26A Comanche Natio 79.05 336 P P 08 21 39.2 +1.3
baz=79
T25A Trinidad 79.28 335 P P 08 21 39.7 +0.5
baz=80
S26A Kim 79.42 336 P P 08 21 39.9 +0.1
baz=80
Q30A Quinter 79.68 339 P P 08 21 40.9 -0.2
baz=80
S25A Robets Cordova 79.77 336 P P 08 21 42.1 +0.2
baz=80
R27A Eads 79.81 337 P P 08 21 41.9 0.0
baz=80
R26A Arlington 80.03 337 P P 08 21 43.4 +0.3
baz=80
SDCO Great Sand Dun 80.20 335 P P 08 21 45.4 +1.1
baz=80
SDCO Great Sand Dun 80.20 335 *e*P **P 08 21 46.2 +1.9**
comp=N,22nm,2.0s
R24A Sanders Place, 80.51 335 P P 08 21 46.2 +0.4
baz=81
SMCO Snowmass 81.99 334 *e*P **P 08 21 55.2 +1.3**
LBTB Lobatse 82.07 115 P P 08 21 54.9 +0.3
comp=N,6.7nm,1.0s,baz=278,slow=5.8,SNR=6.7
LBTB LR LR 08 54 12.4
comp=N,69nm,20.2s,baz=250,slow=33
LBTB Lobatse 82.07 115 P P 08 21 54.9 +0.3
TUQ Turquoise Moun 82.28 326 P P 08 21 57.1 +1.8
baz=82
O22A Kremmling 82.73 335 P P 08 21 57.1 -0.5
baz=83
SHPR Sheep Range 82.85 327 *e*P **P 08 21 59.0 +0.8**
comp=N,7.1nm,1.3s
K30A Basset 82.96 341 P P 08 21 58.9 +0.5
baz=83
ARUT Antelope Range 83.21 329 *e*P **P 08 22 01.2 +1.2**
comp=N,0.7nm,1.2s
ECSD EROS Data Cent 83.23 343 P P 08 21 59.0 -0.7
baz=84
ECSD EROS Data Cent 83.23 343 *e*P **P 08 21 59.0 -0.7**
comp=N,8.1nm,1.1s
N22A Wattenberg Ran 83.27 335 P P 08 22 00.9 +0.5
baz=84
MPMC Manual Prospec 83.50 326 P P 08 22 01.4 -0.2
baz=84
DAC Darwin (Calif) 83.73 326 *e*P **P 08 22 00.1 -2.7**
comp=N,13nm,1.6s
J29A Okreek 83.83 341 P P 08 22 03.9 +1.0
baz=84
R11A Troy Canyon, C 84.58 328 P P 08 22 06.8 -0.3
baz=85
DUG Dugway, Tooele 85.03 331 P P 08 22 09.9 +0.7
baz=85
TPH Tonopah 85.06 327 *e*P **P 08 22 10.3 +0.9**
comp=N,10nm,1.4s
NVAR Mina Array Bea 85.83 326 P P 08 22 13.6 +0.3
comp=N,0.4nm,0.7s,baz=151,slow=6.8,SNR=4.4
NVAR Mina Array Bea 85.83 326 P P 08 22 13.6 +0.3
PDAR Pinedale Array 86.07 334 P P 08 22 14.1 -0.3
comp=N,1.5nm,1.0s,baz=147,slow=3.5,SNR=7.9
PDAR Pinedale Array 86.07 334 P P 08 22 14.2 -0.3
G27A Dupree 86.09 340 P P 08 22 14.9 +0.7
baz=86
G26A Maurine 86.19 340 P P 08 22 15.3 +0.6
baz=86
J19A Crowheart 86.34 335 P P 08 22 15.8 +0.1
baz=87
TORD Torodi Ar. Bea 86.44 71 P P 08 22 17.1 +0.5
comp=N,4.2nm,1.1s,baz=236,slow=3.9,SNR=12
TORD LR LR 09 01 08.9
comp=N,119nm,18.0s,baz=230,slow=36
TORD Torodi Ar. Bea 86.44 71 P P 08 22 17.1 +0.5
F27A Lemmon 86.57 341 P P 08 22 17.1 +0.5
baz=87
MSKU Masuku 86.74 90 LR LR 08 59 02.1
comp=N,57nm,18.2s,baz=256,slow=34
E26A Carlson Angus 87.24 340 P P 08 22 19.5 -0.4
baz=88
C30A Mose, Pekin 87.40 343 P P 08 22 20.1 -0.4
baz=88
I17A Pilgrim Ck. 87.44 334 P P 08 22 20.6 -0.5
baz=88
D26A Manning 87.75 341 P P 08 22 21.9 -0.4
baz=88
B30A Myrvik Farm, E 88.08 344 P P 08 22 23.0 -0.7
baz=88
A29A Manning Farm, 88.72 343 P P 08 22 26.2 -0.6
baz=89
WRA Warramunga Arr 117.39 210 PKP **PKPdf 08 28 21.2 +1.4**
comp=N,0.3nm,0.6s,baz=153,slow=1.4,SNR=4.9
WRA Warramunga Arr 117.39 210 PKP **PKPdf 08 28 21.2 +1.4**
WRAB Tennant Creek 117.39 210 *e*PKPdf **PKPdf 08 28 20.8 +0.9**
BRTR Keskin Array B 124.41 63 PKP **PKPdf 08 28 31.4 -1.3**
comp=N,0.8nm,0.9s,baz=177,slow=2.5,SNR=4.0
BRTR Keskin Array B 124.41 63 PKP **PKPdf 08 28 31.4 -1.3**
H11S2 WAKE ISLAND Hyl 124.46 268 T T 10 45 14.4
baz=128
H11S1 WAKE ISLAND Hyl 124.47 268 T T 10 45 13.9
baz=128
H11S3 WAKE ISLAND Hyl 124.47 268 T T 10 45 13.9
baz=128
TIXI Tiksi 143.59 348 *e*PKPdf PKPab 08 29 03.1 -0.7
ABKAR Akbulak array 144.57 55 *e*PKPdf PKPbc 08 29 08.8 +0.4
PSI Prapat 145.08 167 PKPbc **PKPbc 08 29 08.9 -2.3**
comp=N,19nm,1.0s,baz=194,slow=14,SNR=11
PSI Prapat 145.08 167 PKPbc **PKPbc 08 29 08.9 -2.3**
HYB Hyderabad 148.52 121 *i* PKP **PKPbc 08 29 20.5 -0.5**
BVAR Borovoye Array 150.41 46 PKPbc **PKPbc 08 29 24.2 -0.4**
comp=N,2.0nm,0.9s,baz=289,slow=4.5,SNR=8.3
BVAR Borovoye Array 150.41 46 PKPbc **PKPbc 08 29 24.2 -0.4**
KKAR Karatay Array 152.05 67 PKPdf **PKPdf 08 29 21.1 -1.1**
AAK Ala-Archa 154.98 67 *e*PKPab **PKPab 08 29 51.6 +0.6**
KSH Kashi 156.04 75 *e*PKP **PKPdf 08 29 30.0 +1.9**
KSH pPKP pPKPdf 08 29 40.8 +7.9
KSH PKS **PKSdf 08 33 02.8 +0.7**
KSH *e*PP PP 08 33 40.3 +6.9
KSH SKS **SKSdf 08 36 30.9 -3.1**
KSH PPMZ
comp=N,110nm,3.7s
KSH LN
comp=N,88nm,5.6s
KSH LE
comp=N,140nm,4.9s
KSH LZ
comp=N,180nm,5.8s
ZALV Zalesovo Beam 157.56 35 PKP **PKPdf 08 29 27.4 -1.9**
comp=N,1.6nm,0.9s,baz=284,slow=2.4,SNR=6.4
ZALV PKPab **PKPab 08 30 01.9 +0.5**
comp=N,1.7nm,0.8s,baz=289,slow=4.5,SNR=4.7
ZALV Zalesovo Beam 157.56 35 PKP **PKPdf 08 29 27.4 -1.9**
ZALV PKPab **PKPab 08 30 01.9 +0.5**
MKAR Makanchi Array 159.71 54 PKP **PKPdf 08 29 30.9 -1.4**
comp=N,0.6nm,0.9s,baz=0.0,slow=2.4,SNR=3.8
MKAR PKPab **PKPab 08 30 11.0 0.0**
comp=N,0.7nm,0.7s,baz=308,slow=2.8,SNR=5.4
MKAR PP **PP 08 33 51.5 -1.6**
comp=N,0.2nm,0.3s,baz=272,slow=5.9,SNR=5.2
MKAR Makanchi Array 159.71 54 PKP **PKPdf 08 29 30.9 -1.4**
MKAR PKPab **PKPab 08 30 11.0 0.0**
MKAR PP **PP 08 33 51.5 -1.6**
CN2 Changchun 164.13 300 *e*PKP **PKPdf 08 29 38.5 +1.7**
WMQ Urumqi 164.28 59 *e*PKP **PKPdf 08 29 38.8 +1.8**
WMQ LZ
comp=N,140nm,18.6s
NJ2 Nanjing 168.57 247 *e*PKP **PKPdf 08 29 42.4 +1.8**
SONM Songino Array 169.36 0 PKPab **PKPab 08 30 52.7 -0.7**
comp=N,0.8nm,1.0s,baz=8.7,slow=1.9,SNR=3.3
SONM Songino Array 169.36 0 PKPab **PKPab 08 30 52.7 -0.7**
CD2 Chengdu 173.35 160 PKP **PKPdf 08 29 43.0 -0.2**
HHC Hu-ho-hao-te 174.60 314 *e*PKP **PKPdf 08 29 44.0 +0.6**
HHC sPKP 08 29 56.8
HHC PP **PP 08 35 10.0 +0.7**
HHC SKS **SKSdf 08 36 45.8 -0.3**
HHC SKKS **SKKSac 08 41 52.1 -3.2**
HHC SS **SS 08 56 29.3 -1.2**
HHC PPMZ
comp=N,45nm,5.5s
HHC LN
comp=N,67nm,18.8s
HHC LE
comp=N,130nm,20.8s
HHC LZ
comp=N,95nm,19.4s
LZH Lanzhou 177.63 117 *e*PKP **PKPdf 08 29 44.0 -0.3**
LZH pPKP **pPKPdf 08 29 54.0 +4.8**
LZH sPKP 08 29 57.6

*ISCJB **18** 08:35:02.1±0.6,0.°32N×0.°02×78.°37W×0.°03,h2km±4km, mb4.0/17,MS4.1/1,Error ellipse: s-maj=5.3km s-min=3.5km az=170.6*
*IDC **18** 08:35:02.4±0.6,0.°48N×78.°13W,h0km,mb3.8/12, mb1 4.0/16,mb1mx3.9/31,mbtmp3.8/16,ML3.4/4,MS3.7/2, Ms1 3.8/2,ms1mx3.0/36,Error ellipse: s-maj=30.7km s-min=12.2km az=61.0*
*IGQ **18** 08:35:02±0.2,0.°28N×78.°38W,h1km±69km,Mb4.5,Error ellipse: s-maj=1.3km s-min=0.7km az=12.2*
*NEIC **18** 08:35:04.0,0.°25N×78.°36W,h5km,mb4.4/6,MD4.5(IGQ), After IGQ.*
NEIC Felt at Cotacachi and Ibarra, Ecuador.

ISC 18 08:35:02.7±1.2,0.°31N±0.°04×78.°37W±0.°03,h5km±7km, n118,σ1°21/120,mb4.0/17,46C-14D,Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**0.11**	**227**	⇓	S	**Sg**	**08 35 07.8**	**+1.0**
OTAV	**Otavalo**	**0.11**	**227**	⇓	P	**Pg**	**08 35 05.6**	**+0.4**
OTAV	**Otavalo**	**0.11**	**227**	*e*	Pg	**Pg**	**08 35 04.5**	**-0.7**
OTAV				*e*	Sg	**Sg**	**08 35 06.7**	**-0.2**
ANGU	**Angureal**	**0.45**	**126**	⇑	P	**Pg**	**08 35 11.3**	**-0.2**
CAYA	**Cayambe**	**0.45**	**122**	⇑	P	**Pg**	**08 35 12.0**	**+0.5**
CAYR	**Refugio Cayamb**	**0.47**	**129**	⇑	P	**Pg**	**08 35 12.6**	**+0.7**
YANA	**Yana**	**0.47**	**205**	⇑	P	**Pg**	**08 35 11.2**	**-0.7**
ELAGU	**Cayambe Volc**	**0.51**	**131**	⇑	P	**Pg**	**08 35 12.1**	**-0.5**
PINO	**Pino**	**0.52**	**207**	⇑	P	**Pg**	**08 35 12.3**	**-0.5**
GGP	**Refugio Guagua**	**0.53**	**205**	⇑	P	**Pg**	**08 35 12.4**	**-0.6**
TERV	**Terraza Guagua**	**0.54**	**206**		P	**Pg**	**08 35 12.4**	**-0.7**
JUA2	**San Juan 2**	**0.57**	**204**		P	**Pg**	**08 35 13.6**	**-0.1**
ANTI	**Antisana**	**0.78**	**164**	⇑	P	**Pg**	**08 35 17.2**	**-0.7**
CHAR	**Charly**	**0.81**	**119**	⇑	P	**Pg**	**08 35 18.7**	**+0.5**
CONE	**Cono NE Rev Vo**	**0.82**	**117**	⇓	P	**Pg**	**08 35 18.8**	**+0.3**
LAV4	**Lava4-Reventad**	**0.84**	**118**	⇓	P	**Pg**	**08 35 18.0**	**-0.9**
VC1	**Cotopaxi 1**	**0.95**	**182**	⇑	P	**Pg**	**08 35 20.0**	**-0.9**
NAS2	**Nasa**	**0.95**	**186**		P	**Pg**	**08 35 21.6**	**+0.5**
BVC2	**Cotopaxi Volca**	**0.96**	**182**	⇑	P	**Pg**	**08 35 21.5**	**+0.3**
BVC2	**Cotopaxi Volca**	**0.96**	**182**	⇑	S	**Sg**	**08 35 34.3**	**+0.5**
BVC2	**Cotopaxi Volca**	**0.96**	**182**	⇑	P	**Pg**	**08 35 20.5**	**-0.8**
BVC2	**Cotopaxi Volca**	**0.96**	**182**	⇑	S	**Sg**	**08 35 34.3**	**+0.5**
COV1	**Cotopaxi Volc**	**0.97**	**178**	⇑	P	**Pg**	**08 35 21.9**	**+0.6**
BREF	**Cotopaxi Volca**	**0.98**	**184**	⇑	S	**Sg**	**08 35 34.2**	**-0.1**
BREF	**Cotopaxi Volca**	**0.98**	**184**	⇑	S	**Sg**	**08 35 34.2**	**-0.1**
BREF	**Cotopaxi Volca**	**0.98**	**184**	⇑	P	**Pg**	**08 35 21.8**	**+0.3**
BREF	**Cotopaxi Volca**	**0.98**	**184**	⇑	P	**Pg**	**08 35 21.8**	**+0.3**
BTAM	**Cotopaxi Volca**	**0.98**	**181**	⇑	P	**Pg**	**08 35 21.8**	**+0.2**
BTAM	**Cotopaxi Volca**	**0.98**	**181**	⇑	S	**Sg**	**08 35 34.6**	**+0.2**
BTAM	**Cotopaxi Volca**	**0.98**	**181**	⇑	P	**Pg**	**08 35 21.7**	**+0.2**
BTAM	**Cotopaxi Volca**	**0.98**	**181**	⇑	S	**Sg**	**08 35 34.6**	**+0.2**
CAMI	**Rancho Maria**	**0.99**	**188**	⇑	P	**Pg**	**08 35 21.2**	**-0.6**
TAMB	**Tambo**	**1.00**	**180**	⇑	P	**Pg**	**08 35 21.9**	**0.0**
MOV1	**Cotopaxi Vol s**	**1.02**	**184**	⇑	P	**Pg**	**08 35 21.4**	**-1.0**
PAST	**Pastocalle**	**1.03**	**195**	⇓	P	**Pg**	**08 35 22.1**	**-0.5**
PISA	**Pisayambo**	**1.36**	**181**		P	**Pn**	**08 35 27.1**	**-1.8**
MAG1	**Magdalena**	**1.45**	**255**		P	**Pn**	**08 35 28.3**	**-1.4**
BRUN	**Tungurahua Vol**	**1.72**	**181**		P	**Pn**	**08 35 33.2**	**-0.5**
BULB	**Ulba Tungurahu**	**1.74**	**181**	⇑	P	**Pn**	**08 35 33.3**	**-0.6**
BULB	**Ulba Tungurahu**	**1.74**	**181**	⇑	P	**Pn**	**08 35 33.3**	**-0.6**
ULBA	**Ulba**	**1.75**	**181**		P	**Pn**	**08 35 34.1**	**0.0**
BBIL	**Ulba Tungurahu**	**1.75**	**184**		P	**Pn**	**08 35 33.4**	**-0.8**
BBIL	**Ulba Tungurahu**	**1.75**	**184**		P	**Pn**	**08 35 33.4**	**-0.8**
BPAT	**Tungurahua Vol**	**1.80**	**182**	⇑	P	**Pn**	**08 35 35.7**	**+0.8**
BPAT	**Tungurahua Vol**	**1.80**	**182**	⇑	P	**Pn**	**08 35 35.7**	**+0.8**
BMAS	**Trigal station**	**1.81**	**183**	⇑	P	**Pn**	**08 35 35.6**	**+0.8**
BMAS	**Trigal station**	**1.81**	**183**	⇑	P	**Pn**	**08 35 35.6**	**+0.8**
ARRY	**Arrayan**	**1.81**	**183**	⇓	P	**Pb**	**08 35 35.9**	**-0.7**
PAT1	**Patacocha**	**1.81**	**182**	⇑	P	**Pb**	**08 35 36.6**	**-0.1**
IGUA	**Igualata**	**1.81**	**188**		P	**Pn**	**08 35 35.3**	**+0.2**
ROSC	**El Rosal**	**6.06**	**42**		Pn	**Pn**	**08 36 33.8**	**+0.5**
	0.4nm,0.3s,baz=273,slow=17,SNR=1.9							
ATAH	**Atahualpa**	**7.40**	**180**		Pn	**Pn**	**08 36 54.0**	**+2.1**
	0.5nm,0.3s,baz=4.1,slow=14,SNR=3.9							
ATAH					Sn	Sn	08 38 23.7	+7.3
	0.4nm,0.3s,baz=354,slow=10,SNR=1.7							
JTS	**JuntasAbangare**	**11.88**	**327**		Pn	**Pn**	**08 37 53.2**	**+0.2**
	0.1nm,0.3s,baz=169,slow=4.3,SNR=5.1							
JTS					LR	LR	08 41 56.7	
	comp=Z,139nm,18.9s,baz=148,slow=35							
SAML	**Samuel**	**17.71**	**122**	*e*	Pn	**Pn**	**08 39 08.0**	**-2.4**
	6.8nm,0.8s							
SAML				*e*	S	**Sn**	**08 42 28.1**	**0.0**
PTGA	**Pitinga**	**18.43**	**93**		P	**Pn**	**08 39 16.9**	**-2.4**
	0.2nm,0.3s,baz=309,slow=6.5,SNR=2.1							
APG	**El Apazote**	**18.87**	**321**		P	**P**	**08 39 22.2**	**-2.0**
	0.1nm,0.3s,baz=152,slow=18,SNR=5.0							
LPAZ	**La Paz**	**19.34**	**149**		P	**Pn**	**08 39 30.7**	**-0.2**
	0.1nm,0.3s,baz=343,slow=14,SNR=7.4							
TEIG	**Tepich**	**22.04**	**335**		P	**P**	**08 39 58.4**	**0.0**
	3.8nm,0.7s,baz=221,slow=20,SNR=5.3							
CMIG	**Matias Romero**	**23.29**	**317**		P	**P**	**08 40 12.6**	**+1.0**
	3.0nm,0.8s,baz=91,slow=8.4,SNR=5.8							
SIV	**San Ignacio**	**23.54**	**134**		P	**P**	**08 40 15.4**	**+1.2**
	2.0nm,0.8s,baz=326,slow=13,SNR=6.7							
LVC	**Linon Verde**	**24.58**	**159**		P	**P**	**08 40 25.3**	**+1.1**
	9.6nm,0.8s,baz=297,slow=16,SNR=3.1							
CPUP	**Villa Florida**	**33.36**	**144**		LR	LR	08 56 08.9	
	comp=Z,348nm,18.3s,baz=306,slow=38							
933A	**Laredo**	**33.75**	**325**		P	**P**	**08 41 47.4**	**+1.9**
	baz=34							
832A	**Faith Ranch, C**	**34.66**	**325**		P	**P**	**08 41 54.7**	**+1.2**
	baz=35							
732A	**Laxson Ranch,**	**35.00**	**326**		P	**P**	**08 41 57.5**	**+1.2**
	baz=35							
534A	**Blanco**	**35.21**	**329**		P	**P**	**08 41 58.9**	**+0.8**
	baz=35							
533A	**Kerrville**	**35.53**	**328**		P	**P**	**08 42 02.9**	**+1.9**
	baz=36							
532A	**Rocksprings**	**36.04**	**327**	⇓	P	**P**	**08 42 06.5**	**+1.1**
	baz=36							
531A	**Rocksprings**	**36.42**	**327**	⇓	P	**P**	**08 42 11.0**	**+2.4**
	baz=37,SNR=14							
530A	**J-C Ranch, Com**	**36.85**	**326**	⇓	P	**P**	**08 42 14.0**	**+1.8**
	baz=37,SNR=11							
431A	**Sonora**	**36.85**	**327**	⇑	P	**P**	**08 42 14.2**	**+1.9**
	baz=37							
430A	**Baggett Ranch,**	**37.28**	**326**	⇑	P	**P**	**08 42 17.4**	**+1.5**
	baz=38							
429A	**Davenport Ranc**	**37.52**	**326**	⇓	P	**P**	**08 42 19.8**	**+1.8**
	baz=38,SNR=6.2							
TXAR	**Lajitas Array**	**37.62**	**322**		P	**P**	**08 42 19.5**	**+0.6**
	0.6nm,0.8s,baz=138,slow=9.5,SNR=6.2							
TXAR					PcP	**PcP**	**08 44 35.5**	**-1.2**
	0.6nm,0.9s,baz=134,slow=7.2,SNR=4.3							
330A	**Mertzon**	**37.72**	**327**	⇑	P	**P**	**08 42 20.5**	**+0.8**
	baz=38							
329A	**Wagon Wheel Ra**	**38.22**	**326**	⇑	P	**P**	**08 42 25.6**	**+1.7**
	baz=38,SNR=9.2							
229A	**Bryant Ranch,**	**38.50**	**327**	⇑	P	**P**	**08 42 27.6**	**+1.5**
	baz=39							
129A	**Stewart Farms,**	**39.04**	**328**	⇑	P	**P**	**08 42 31.9**	**+1.2**
	baz=39							
Z30A	**Sanderson Ranc**	**39.16**	**329**	⇑	P	**P**	**08 42 33.2**	**+1.5**
	baz=39							
128A	**Castleberry Fa**	**39.36**	**327**		P	**P**	**08 42 34.8**	**+1.3**
	baz=40							
W33A	**Caddo, Fort Co**	**39.41**	**334**		P	**P**	**08 42 35.3**	**+1.6**
	baz=40							
Z29A	**Hungry Hill Ra**	**39.44**	**329**	⇑	P	**P**	**08 42 35.5**	**+1.4**
	baz=40							
W32A	**Sentinel**	**39.74**	**333**		P	**P**	**08 42 37.8**	**+1.3**
	baz=40							
Z28A	**Tucker Farm, M**	**39.82**	**328**	⇓	P	**P**	**08 42 38.3**	**+1.0**
	baz=40							
Y29A	**Porterfield Fa**	**39.89**	**329**	⇑	P	**P**	**08 42 39.2**	**+1.3**
	baz=40,SNR=17							
Y28A	**McKinney Farm,**	**40.23**	**329**	⇑	P	**P**	**08 42 42.0**	**+1.4**
	baz=40,SNR=5.1							
MNTX	**Cornudas Mount**	**40.34**	**323**		P	**P**	**08 42 42.8**	**+1.3**
	baz=40							
X29A	**Tulia**	**40.37**	**330**		P	**P**	**08 42 43.6**	**+1.8**
	baz=41							
MSTX	**Muleshoe**	**40.55**	**328**	⇓	P	**P**	**08 42 44.5**	**+1.1**
	baz=41,SNR=12							
MSTX	**Muleshoe**	**40.55**	**328**	*e*	P	**P**	**08 42 44.6**	**+1.2**
	16nm,0.9s							
X28A	**Dimmitt**	**40.68**	**329**	⇑	P	**P**	**08 42 45.4**	**+1.0**
	baz=41,SNR=7.0							
AMTX	**Amarillo**	**40.70**	**330**	⇑	P	**P**	**08 42 45.9**	**+1.3**
	baz=41							
AMTX	**Amarillo**	**40.70**	**330**	*e*	P	**P**	**08 42 44.9**	**+0.3**
	12nm,1.1s							
PLCA	**Paso Flores**	**41.47**	**171**		P	**P**	**08 42 51.8**	**+1.0**
	3.9nm,0.8s,baz=347,slow=9.8,SNR=8.6							
V27A	**Dan Oppiter Fa**	**41.97**	**330**	⇑	P	**P**	**08 42 56.6**	**+1.5**
	baz=42							
121A	**Cookes Peak, D**	**42.38**	**322**		P	**P**	**08 43 01.0**	**+2.5**
	baz=43							
121A	**Cookes Peak, D**	**42.38**	**322**	*e*	P	**P**	**08 42 58.8**	**+0.3**
	3.9nm,0.8s							
V26A	**Tequesquite Ra**	**42.49**	**329**	⇑	P	**P**	**08 43 01.4**	**+2.1**
	baz=43,SNR=8.2							
S29A	**Ulysses**	**42.65**	**333**	⇓	P	**P**	**08 43 03.1**	**+2.7**
	baz=43							
R30A	**Dighton**	**42.82**	**334**	⇓	P	**P**	**08 43 03.9**	**+2.1**
	baz=43							
U26A	**Atchley Ranch,**	**42.93**	**329**		P	**P**	**08 43 05.0**	**+2.1**
	baz=43							
ANMO	**Albuquerque**	**43.30**	**326**	*e*	P	**P**	**08 43 08.1**	**+2.2**
	3.7nm,0.9s							
R28A	**Tribune**	**43.55**	**333**	⇑	P	**P**	**08 43 09.4**	**+1.6**
	baz=44,SNR=7.2							
R27A	**Eads**	**43.96**	**332**		P	**P**	**08 43 12.9**	**+1.8**
	baz=44							
R26A	**Arlington**	**44.28**	**331**		P	**P**	**08 43 15.9**	**+2.3**
	baz=44							
SDCO	**Great Sand Dun**	**44.86**	**329**		P	**P**	**08 43 20.5**	**+1.9**
	baz=45							
PDAR	**Pinedale Array**	**50.68**	**330**		P	**P**	**08 44 04.5**	**+0.9**
	0.6nm,0.9s,baz=122,slow=9.6,SNR=3.2							
ULM	**Lac du Bonnet**	**51.95**	**346**		P	**P**	**08 44 12.7**	**+0.1**
	1.6nm,0.8s,baz=154,slow=7.0,SNR=3.9							
NVAR	**Mina Array Bea**	**52.73**	**321**		P	**P**	**08 44 20.9**	**+1.9**
	0.7nm,0.8s,baz=115,slow=7.9,SNR=6.3							
YKA	**Yellowknife Ar**	**67.71**	**343**		P	**P**	**08 45 60.0**	**-0.9**
	0.6nm,0.7s,baz=138,slow=6.0,SNR=16							
YKA	**Yellowknife Ar**	**67.71**	**343**		P	**P**	**08 46 00.0**	**-0.9**
EGAK	**Eagle**	**78.42**	**337**	*e*	P	**P**	**08 47 04.5**	**+0.3**
	20nm,1.5s							
TORD	**Torodi Ar. Bea**	**80.25**	**77**		P	**P**	**08 47 14.0**	**-1.3**
	0.4nm,0.9s,baz=292,slow=7.6,SNR=2.3							
ILAR	**Eielson Array**	**80.69**	**336**		P	**P**	**08 47 16.4**	**-0.2**
	1.2nm,0.8s,baz=119,slow=4.3,SNR=14							
ZALV	**Zalesovo Beam**	**124.16**	**12**		PKP	**PKPdf**	**08 54 02.3**	**-0.3**
	0.2nm,0.3s,baz=321,slow=1.8,SNR=3.9							
SONM	**Songino Array**	**131.87**	**356**		PKP	**PKPdf**	**08 54 17.8**	**+0.2**
	0.5nm,0.9s,baz=0.0,slow=1.4,SNR=3.6							
ASAR	**Alice Springs**	**141.02**	**231**		PKP	**PKPdf**	**08 54 34.0**	**-1.2**
	0.6nm,0.9s,baz=121,slow=3.2,SNR=4.7							
WRA	**Warramunga Arr**	**142.50**	**237**		PKP	**PKPdf**	**08 54 36.3**	**-1.5**
	1.1nm,1.2s,baz=114,slow=2.6,SNR=4.3							

DDA 18 08:35:37.0,36.°91N×36.°36E,h7km,MD2.5,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.38**	**41**	*i*	P	Pg	08 35 44.1	-0.4
KAMA				*i*	S	Sg	08 35 49.9	+0.3
KUZU	**Kuzuini**	**0.59**	**103**	*i*	P	Pn	08 35 51.9	-0.1
KUZU				*i*	S	Sn	08 36 02.3	+0.4
HCB	**Kahramanmara¯**	**0.62**	**45**	*i*	P	Pb	08 35 50.5	+0.1
HCB				*i*	S	Sb	08 35 58.5	-0.8
YAYL	**Yayladag**	**0.89**	**193**	*i*	P	Pg	08 35 54.0	-0.4
YAYL				*i*	S	Sn	08 36 09.0	-0.5
GZT	**Gaziantep**	**1.06**	**65**	*i*	P	Pb	08 35 58.0	0.0
GZT				*i*	S	Sn	08 36 15.8	+2.0

*CSEM **18** 08:36:37.7±2.4,38.°51N×27.°98E,h5km,MD2.6,Error ellipse: s-maj=59.3km s-min=12.7km az=136.0*
*DDA **18** 08:36:38.8,38.°02N×28.°61E,h7km,MD2.6*
*ISCJB **18** 08:36:39.3±2.0,38.°06N±0.°09×28.°6E±0.°2,h9km,Error ellipse: s-maj=21.5km s-min=5.6km az=36.4*

ISC 18 08:36:39.5±1.5,38.°2N±0.°1×28.°4E±0.°1,h9km,n6,σ0°64/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.39**	**29**	*e*	PG	**Pb**	**08 36 48.0**	**-0.6**
KULA				*e*	SG	**Sb**	**08 36 55.4**	**+0.8**
KULA	**Kula-Manisa**	**0.39**	**29**	*e*	Pg	**Pb**	**08 36 48.0**	**-0.6**
KULA				*e*	Sg	**Sb**	**08 36 55.4**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.48**	**242**	*e*	PG	**Pb**	**08 36 49.6**	**-0.6**
AYDB				*e*	SG	**Sb**	**08 36 58.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.48**	**242**	*e*	Pg	**Pb**	**08 36 49.6**	**-0.6**
AYDB				*e*	Sg	**Sb**	**08 36 58.0**	**+0.6**
AYDN	**Tasoluk**	**0.67**	**220**	*i*	P	**Pb**	**08 36 53.1**	**-0.3**
AYDN				*i*	S	**Sb**	**08 37 03.2**	**+0.4**
AYDN	**Tasoluk**	**0.67**	**220**	*i*	P	**Pb**	**08 36 53.1**	**-0.3**
AYDN				*i*	S	**Sb**	**08 37 03.2**	**+0.4**

IDC 18 08:41:44.9±2.8,13.°22S×167.°68E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/35,mbtmp3.6/4,MS2.9/1,Ms1 2.9/1, ms1mx2.5/24,Error ellipse: s-maj=126.2km s-min=33.2km az=136.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.46**	**296**		LR	LR	08 47 06.0	
	comp=Z,75nm,18.9s,baz=124,slow=38							
STKA	**Stephens Creek**	**30.28**	**228**		P	P	08 47 58.4	+0.5
	0.7nm,0.8s,baz=61,slow=9.1,SNR=3.9							
WRA	**Warramunga Arr**	**32.60**	**254**		P	P	08 48 18.1	-0.4
	0.6nm,0.9s,baz=86,slow=9.3,SNR=5.2							
ASAR	**Alice Springs**	**33.60**	**247**		P	P	08 48 27.1	-0.1
	0.6nm,0.6s,baz=78,slow=9.2,SNR=13							
ILAR	**Eielson Array**	**84.97**	**18**		P	P	08 54 21.6	0.0
	0.2nm,0.8s,baz=223,slow=6.1,SNR=4

RES	**Resolute Bay**	**29.82**	**333**	P	**P**	**09 22 41.8**	**-0.5**
	0.4nm,0.6s,baz=27,slow=6.8,SNR=2.7						
RES				LR	LR	09 33 05.4	
	comp=Z,49nm,21.1s,baz=312,slow=33						
ARCES	**ARCESS Array B**	**29.96**	**38**	P	**P**	**09 22 43.5**	**-0.2**
	2.4nm,0.8s,baz=266,slow=4.9,SNR=5.0						
GERES	**GERESS Array B**	**30.21**	**82**	P	**P**	**09 22 44.8**	**-1.4**
	0.4nm,0.7s,baz=303,slow=5.7,SNR=2.8						
GERES				LR	LR	09 33 45.0	
	comp=Z,63nm,19.9s,baz=261,slow=34						
FCC	**Fort Churchill**	**31.32**	**301**	*eP*	**P**	**09 22 54.0**	**-1.7**
	6.7nm,1.0s						
FINES	**FINESS Array B**	**31.62**	**53**	LR	LR	09 34 25.4	
	comp=Z,46nm,18.0s,baz=150,slow=34						
ULM	**Lac du Bonnet**	**36.01**	**288**	P	**P**	**09 23 35.5**	**-1.2**
	1.4nm,0.7s,baz=57,slow=5.3,SNR=4.2						
ULM				LR	LR	09 36 53.0	
	comp=Z,90nm,21.4s,baz=74,slow=34						
FFC	**Flin Flon**	**36.95**	**298**	*eP*	**P**	**09 23 44.5**	**-0.1**
	3.4nm,0.9s						
AKASG	**Malin Array Be**	**37.81**	**69**	P	**P**	**09 23 51.6**	**-0.3**
	0.3nm,0.3s,baz=307,slow=8.5,SNR=7.3						
YKA	**Yellowknife Ar**	**39.15**	**314**	P	**P**	**09 24 02.1**	**-0.9**
	1.6nm,0.9s,baz=64,slow=8.8,SNR=15						
YKA				PcP	**PcP**	**09 26 11.1**	**-1.0**
	0.6nm,0.9s,baz=57,slow=3.5,SNR=6.4						
INK	**Inuvik**	**43.04**	**327**	P	**P**	**09 24 34.4**	**-0.5**
	2.9nm,1.1s,baz=68,slow=8.4,SNR=5.4						
MIAR	**Mount Ida**	**44.71**	**267**	*eP*	**P**	**09 24 48.8**	**+0.1**
	5.6nm,1.0s						
EGMT	**Eagleton**	**44.73**	**293**	*eP*	**P**	**09 24 50.0**	**+1.1**
	7.7nm,1.0s						
W34A	**Bridge Creek,**	**46.62**	**271**	*eP*	**P**	**09 25 04.0**	**+0.2**
	8.0nm,0.6s						
BRTR	**Keskin Array B**	**47.05**	**79**	P	**P**	**09 25 08.2**	**+0.8**
	1.9nm,0.9s,baz=315,slow=6.2,SNR=9.1						
BRTR				LR	LR	09 46 18.5	
	comp=Z,35nm,18.3s,baz=309,slow=38						
PDAR	**Pinedale Array**	**48.04**	**288**	P	**P**	**09 25 14.2**	**-0.9**
	0.8nm,1.0s,baz=37,slow=9.1,SNR=4.5						
PDAR				LR	LR	09 44 28.0	
	comp=Z,99nm,18.0s,baz=66,slow=35						
AMTX	**Amarillo**	**49.10**	**274**	*eP*	**P**	**09 25 25.2**	**+2.0**
	4.6nm,0.7s						
ILAR	**Eielson Array**	**49.40**	**328**	P	**P**	**09 25 24.2**	**-0.8**
	2.1nm,1.0s,baz=42,slow=6.3,SNR=13						
ILAR				LR	LR	09 45 54.4	
	comp=Z,105nm,18.5s,baz=90,slow=36						
COLA	**College**	**49.61**	**329**	*eP*	**P**	**09 25 28.0**	**+1.4**
	4.5nm,1.0s						
HLID	**Hailey**	**50.11**	**291**	*eP*	**P**	**09 25 32.1**	**+1.2**
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**50.89**	**131**	P	**P**	**09 25 35.5**	**-1.4**
	1.0nm,0.9s,baz=328,slow=7.2,SNR=4.1						
TORD				LR	LR	09 44 31.4	
	comp=Z,37nm,19.2s,baz=235,slow=33						
JCT	**Junction City**	**51.26**	**269**	*eP*	**P**	**09 25 40.7**	**+1.1**
	5.3nm,1.0s						
AKTO	**Aktyubinsk**	**52.40**	**54**	P	**P**	**09 25 48.1**	**+0.4**
	2.0nm,0.9s,baz=297,slow=13,SNR=6.3						
TIXI	**Tiksi**	**52.84**	**6**	*eP*	**P**	**09 25 51.7**	**+1.1**
	5.1nm,1.1s						
WVOR	**Wild Horse Val**	**53.13**	**293**	*eP*	**P**	**09 25 55.0**	**+1.6**
	5.6nm,1.2s						
DBIC	**Dimbokro**	**54.22**	**142**	LR	LR	09 46 20.8	
	comp=Z,77nm,18.3s,baz=319,slow=33						
TXAR	**Lajitas Array**	**54.32**	**271**	P	**P**	**09 26 00.8**	**-1.4**
	0.3nm,0.7s,baz=67,slow=9.6,SNR=3.8						
TXAR				LR	LR	09 48 48.3	
	comp=Z,63nm,18.6s,baz=0.0,slow=36						
TPH	**Tonopah**	**55.49**	**288**	*eP*	**P**	**09 26 11.1**	**+0.3**
	3.4nm,1.0s						
NVAR	**Mina Array Bea**	**55.82**	**290**	P	**P**	**09 26 13.0**	**-0.1**
	0.3nm,0.6s,baz=76,slow=6.3,SNR=3.5						
BVAR	**Borovoye Array**	**55.88**	**45**	P	**P**	**09 26 13.0**	**-0.1**
	0.8nm,0.7s,baz=310,slow=5.6,SNR=4.8						
ROSC	**El Rosal**	**59.27**	**227**	P	**P**	**09 26 38.8**	**+1.0**
	1.9nm,0.3s,baz=82,slow=23,SNR=7.5						
KURK	**Kurchatov**	**60.89**	**42**	P	**P**	**09 26 48.4**	**+0.3**
KURBB	**Kurchatov Arra**	**60.93**	**42**	P	**P**	**09 26 48.4**	**+0.1**
	0.7nm,0.8s,baz=320,slow=7.7,SNR=5.7						
MKAR	**Makanchi Array**	**65.50**	**42**	P	**P**	**09 27 18.2**	**-0.5**
	0.5nm,0.7s,baz=346,slow=4.4,SNR=4.7						
SONM	**Songino Array**	**72.28**	**26**	P	**P**	**09 28 02.4**	**+1.3**
	0.6nm,0.9s,baz=328,slow=5.1,SNR=4.2						
LPAZ	**La Paz**	**76.57**	**212**	P	**P**	**09 28 28.5**	**+1.7**
	1.1nm,1.0s,baz=307,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	**147.38**	**19**	PKPbc	**PKPbc**	**09 36 18.8**	**-0.6**
	2.8nm,0.6s,baz=350,slow=2.3,SNR=9.4						

IDC ***18*** *09:28:24.6±0.7, 3°.78S×142°.12E, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.4/21, mbtmp4.3/15, ML4.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=22.9km s-min=11.5km az=94.0*

BJI ***18*** *09:28:27.7, 4°.14S×142°.28E, h55km, mB5.1/18, mb4.9/22, Ms4.8/13, Ms7 4.5/10*

ISCJB ***18*** *09:28:30.1±0.8, 3°.80S±0°.03×141°.92E±0°.05, h44km±7km, mb4.7/35, MS3.1/4, Error ellipse: s-maj=8.6km s-min=5.3km az=162.2*

NEIC ***18*** *09:28:31.6±1.1, 3°.73S×141°.99E, h46km±10km, mb4.8/27, Error ellipse: s-maj=10.3km s-min=6.8km az=60.0*

DJA ***18*** *09:28:31.6±2.6, 4°S±8°×14°2E±2°8, h10km, M4.5/4, mb4.8/4, MLv4.3/3*

ISC 18 09:28:33.0±0.4,**3°.83S**±0°.04×**141°.87E**±0°.07,**h57**km±2km, **n96**,σ1=**59**/121,**mb4.8**/34,**MS3.1**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.75**	**318**	P	Pn	09 28 57.4	-3.7
JAY	**Jayapura**	**1.75**	**318**	Pg	Pn	09 28 57.8	-3.3
	55nm,0.3s,baz=161,slow=9.0,SNR=63						
JAY				Lg	Lg	09 29 20.0	
	80nm,0.3s,baz=105,slow=19,SNR=8.4						
JAY				LR	LR	09 29 58.3	
	comp=Z,1μm,18.8s,baz=172,slow=50						
GENI	**Genyem**	**2.10**	**306**	P	**Pn**	**09 29 04.2**	**-1.6**
SMPI	**Sarmi**	**3.65**	**300**	P	**Pn**	**09 29 26.5**	**-0.5**
PMG	**Port Moresby**	**7.63**	**137**	*e*Pn	**Pn**	**09 30 22.4**	**+0.8**
FAKI	**Fak Fak**	**9.65**	**275**	*e*Pn	**Pn**	**09 30 48.9**	**-0.4**
COEN	**Coen**	**10.14**	**173**	*e*Pn	**Pn**	**09 30 56.4**	**+0.4**
KDU	**Kakadu**	**12.80**	**226**	P	**Pn**	**09 31 32.0**	**-0.2**
	baz=13,SNR=29						
KDU				S	**Sn**	**09 33 50.0**	**-3.1**
	baz=13,SNR=5.3						
MTN	**Manton Dam**	**13.89**	**229**	P	**Pn**	**09 31 47.6**	**+0.5**
	baz=14,SNR=6.6						
MTN				S	**Sn**	**09 34 15.9**	**-3.9**
	baz=14,SNR=4.7						
QIS	**Mount Isa**	**16.77**	**187**	P	**P**	**09 32 26.0**	**+0.4**
	baz=17,SNR=3.2						
KNRA	**Kununurra**	**17.46**	**227**	P	**Pn**	**09 32 31.9**	**-0.8**
	baz=17,SNR=7.7						
KNRA				S	Sn	09 35 38.0	-8.5
	baz=17,SNR=3.4						
WRAB	**Tennant Creek**	**17.61**	**204**	Pn	**Pn**	**09 32 33.0**	**-1.5**
	79nm,0.5s,SNR=7.8						
WRAB	**Tennant Creek**	**17.61**	**204**	*eP*	**Pn**	**09 32 33.1**	**-1.4**
	11nm,0.7s						
WB2	**Warramunga Arr**	**17.61**	**204**	*eP*	**P**	**09 32 34.9**	**0.0**
WRA	**Warramunga Arr**	**17.62**	**204**	P	**Pn**	**09 32 33.2**	**-1.4**
	0.7nm,0.3s,baz=26,slow=11,SNR=31						
WRA				S	**Sn**	**09 35 45.1**	**-5.2**
	0.2nm,0.3s,baz=17,slow=22,SNR=2.9						
WRA				Lg	Lg	09 37 49.3	
	baz=29,slow=28,SNR=3.1						
WRA				LR	LR	09 39 59.0	
	comp=Z,108nm,21.4s,baz=195,slow=39						
SOEI	**Soe**	**18.44**	**250**	P	Pn	09 33 01.5	+17
SOEI	**Soe**	**18.44**	**250**	*eP*	**Pn**	**09 32 48.0**	**+3.2**
	48nm,0.7s						
HNR	**Honiara**	**18.79**	**108**	LR	LR	09 39 27.1	
	comp=Z,129nm,19.0s,baz=232,slow=36						
BATI	**Baumata**	**19.14**	**250**	P	**Pn**	**09 32 53.0**	**-0.2**
	2.4nm,0.3s,baz=198,slow=11,SNR=2.0						
MRSI	**Marisa**	**20.37**	**282**	P	Pn	09 33 13.3	+5.6
APSI	**Ampana**	**20.41**	**278**	P	Pn	09 33 07.0	-1.2
	57nm,1.1s						
ASAR	**Alice Springs**	**21.17**	**201**	P	**P**	**09 33 13.4**	**-0.3**
	3.0nm,0.8s,baz=32,slow=9.3,SNR=18						
ASAR				S	Sn	09 37 11.2	-4.5
	1.3nm,1.0s,baz=22,slow=27,SNR=3.7						
ASAR				LR	LR	09 41 25.0	
	comp=Z,112nm,19.9s,baz=31,slow=37						
BKSI	**Bulukumba**	**21.73**	**265**	P	**P**	**09 33 22.2**	**+2.4**
KAPI	**Kappang**	**22.09**	**266**	*eP*	**P**	**09 33 27.0**	**+3.4**
	44nm,1.6s						
QLP	**Quilpie**	**22.73**	**175**	P	**P**	**09 33 31.2**	**+0.8**
	baz=23,SNR=5.3						
EIDS	**Eidsvold**	**23.17**	**158**	P	**P**	**09 33 36.3**	**+1.5**
	baz=23,SNR=3.5						
EIDS	**Eidsvold**	**23.17**	**158**	*e*P	**P**	**09 33 36.1**	**+1.3**
	14nm,0.9s						
RMQ	**Roma**	**23.47**	**164**	P	**P**	**09 33 39.3**	**+1.6**
	baz=24,SNR=5.9						
WRKA	**Warakurna**	**24.80**	**211**	P	**P**	**09 33 49.6**	**-0.3**
	baz=25,SNR=15						
TGY	**Tagaytay City**	**27.36**	**311**	LR	LR	09 45 57.0	
	comp=Z,27nm,20.3s,baz=359,slow=38						
STKA	**Stephens Creek**	**27.90**	**181**	P	**P**	**09 34 18.0**	**+0.3**
	1.5nm,0.5s,baz=3.4,slow=9.9,SNR=6.4						
STKA				LR	LR	09 47 39.0	
	comp=Z,114nm,19.6s,baz=27,slow=41						
STKA	**Stephens Creek**	**27.90**	**181**	P	**P**	**09 34 19.6**	**+1.9**
	baz=28,SNR=4.3						
STKA	**Stephens Creek**	**27.90**	**181**	*eP*	**P**	**09 34 18.6**	**+0.9**
	6.9nm,2.0s						
BBOO	**Buckleboo**	**29.34**	**190**	P	**P**	**09 34 31.5**	**+1.0**
	baz=29,SNR=5.1						
FORT	**Forrest**	**29.80**	**204**	P	**P**	**09 34 35.7**	**+1.1**
	baz=30,SNR=8.0						
CNB	**Canberra Magne**	**32.09**	**168**	P	**P**	**09 34 56.3**	**+1.6**
	baz=32,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**33.01**	**47**	T	T	10 09 01.6	
	baz=228						
H11S2	**WAKE ISLAND Hy**	**33.02**	**47**	T	T	10 09 01.9	
	baz=228						
H11S1	**WAKE ISLAND Hy**	**33.03**	**47**	T	T	10 08 59.9	
	baz=228						
TOO	**Toolangi**	**33.74**	**175**	P	**P**	**09 35 11.0**	**+1.9**
	baz=34,SNR=3.6						
MORW	**Morawa**	**35.09**	**222**	P	**P**	**09 35 21.2**	**+0.3**
	baz=35,SNR=5.5						
BLDU	**Ballidu**	**35.69**	**219**	P	**P**	**09 35 26.3**	**+0.2**
	baz=36,SNR=5.1						
NJ2	**Nanjing**	**41.86**	**330**	*e*P	**P**	**09 36 16.3**	**-1.4**
NJ2				PMZ			
	60nm,0.6s						
OUZ	**Omahuta**	**42.86**	**141**	*e*P	**P**	**09 36 27.3**	**+1.5**
	14nm,0.8s						
KSRS	**Korea Array**	**43.08**	**344**	LR	LR	09 52 23.8	
	comp=Z,18nm,20.6s,baz=295,slow=33						
GYA	**Guiyang**	**45.46**	**314**	P	**P**	**09 36 47.9**	**+1.0**
GYA				pP	**pP**	**09 37 01.8**	**+0.2**
GYA				sP	**sP**	**09 37 08.0**	**-0.2**
GYA				PP	**PP**	**09 38 34.5**	**+0.3**
GYA				ScP	**ScP**	**09 42 12.3**	**-1.1**
GYA				S	**S**	**09 43 25.5**	**+0.8**
GYA				sS	**sS**	**09 43 50.0**	**+0.4**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,5.2s						
GYA				LN			
	580nm,18.2s						
GYA				LE			
	520nm,19.0s						
GYA				LZ			
	560nm,18.6s						
URZ	**Urewera**	**46.96**	**142**	*e*P	**P**	**09 36 58.2**	**-0.1**
	28nm,1.6s						
BKZ	**Black Stump Fm**	**47.15**	**143**	*e*P	**P**	**09 37 00.0**	**+0.1**
	28nm,1.3s						
RPZ	**Rata Peaks**	**47.36**	**151**	*e*P	**P**	**09 37 01.2**	**-0.2**
	354nm,2.6s						
KHZ	**Kahutara**	**47.66**	**148**	*e*P	**P**	**09 37 03.1**	**-0.7**
	50nm,1.3s						
CMAR	**Chiang Mai Arr**	**47.73**	**299**	P	**P**	**09 37 05.3**	**+0.7**
	0.5nm,0.5s,baz=99,slow=5.6,SNR=2.0						
BFZ	**Birch Farm**	**47.98**	**145**	*e*P	**P**	**09 37 05.5**	**-0.7**
	73nm,1.3s						
USRK	**Ussuriysk Ar.**	**48.63**	**351**	P	**P**	**09 37 10.4**	**-0.7**
	1.9nm,0.8s,baz=183,slow=7.7,SNR=7.0						
MDJ	**Mudanjiang**	**49.47**	**348**	P	**P**	**09 37 17.8**	**+0.2**
MDJ				pP	**pP**	**09 37 30.6**	**-1.9**
MDJ				sP	**sP**	**09 37 37.0**	**-2.0**
MDJ				PcP	**PcP**	**09 38 34.3**	**-4.6**
MDJ				PP	**PP**	**09 39 10.6**	**-1.7**
MDJ				ScS	**ScS**	**09 47 00.1**	**-4.2**
MDJ				PMZ			
	2.0nm,0.7s						
MDJ				PMZ			
	56nm,6.4s						
MDJ				LN			
	54nm,10.6s						
MDJ				LE			
	56nm,6.6s						
MDJ				LZ			
	110nm,7.6s						
BJI	**Beijing**	**49.63**	**334**	P	**P**	**09 37 19.0**	**+0.2**
BJI				S	**S**	**09 44 24.5**	**+1.3**
BJI				PMZ			
	8.0nm,0.6s						
BJI				LN			
	95nm,3.8s						
BJI				LE			
	100nm,5.2s						
CN2	**Changchun**	**49.67**	**344**	*e*P	P	09 37 22.3	+3.2
CD2	**Chengdu**	**50.15**	**316**	*e*P	**P**	**09 37 24.0**	**+1.0**
CD2				pP	**pP**	**09 37 38.0**	**0.0**
CD2				sP	**sP**	**09 37 44.3**	**-0.2**
CD2				PcP	**PcP**	**09 38 42.8**	**+1.0**
CD2				PP	**PP**	**09 39 20.8**	**+2.0**
CD2				PcS	**PcS**	**09 42 38.4**	**-0.7**
CD2				S	**S**	**09 44 31.0**	**+0.1**
CD2				sS	**sS**	**09 44 55.0**	**-1.1**
CD2				SS	**SS**	**09 48 01.8**	**-3.2**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	140nm,5.6s						
HHC	**Hu-ho-hao-te**	**52.40**	**331**	*e*P	**P**	**09 37 40.8**	**+1.0**
HHC				sP	**sP**	**09 38 04.4**	**+3.1**
HHC				S	**S**	**09 45 01.3**	**-0.4**
HHC				sS	**sS**	**09 45 26.8**	**-0.2**
HHC				SS	**SS**	**09 48 38.1**	**-2.3**
HHC				PMZ			
	33nm,0.9s						
HHC				PMZ			
	75nm,4.9s						
HHC				LN			
	99nm,14.9s						
HHC				LE			
	100nm,16.3s						
LZH	**Lanzhou**	**53.30**	**322**	*e*P	**P**	**09 37 48.3**	**+1.7**
LZH				pP	**pP**	**09 38 02.6**	**+1.0**
LZH				sP	**sP**	**09 38 09.9**	**+1.8**
LZH				PMZ			
	15nm,1.0s						
GTA	**Gaotai**	**57.86**	**322**	*e*P	**P**	**09 38 20.5**	**+1.2**
GTA				pP	**pP**	**09 38 33.8**	**-0.7**
GTA				sP	**sP**	**09 38 40.6**	**-0.3**
GTA				PMZ			
	8.0nm,1.1s						
PETK	**Petropavlovsk-**	**58.28**	**11**	P	**P**	**09 38 21.3**	**-0.4**
	1.2nm,0.5s,baz=167,slow=7.1,SNR=4.1						
SONM	**Songino Array**	**60.11**	**333**	P	**P**	**09 38 35.2**	**+0.6**
	0.5nm,0.7s,baz=151,slow=6.6,SNR=4.2						
SONM				PcP	**PcP**	**09 39 19.6**	**-0.3**
	0.5nm,0.5s,baz=160,slow=4.7,SNR=4.1						
WMQ	**Urumqi**	**67.86**	**321**	P	**P**	**09 39 26.8**	**+1.2**
WMQ				pP	**pP**	**09 39 43.5**	**+2.4**
WMQ				sP	**sP**	**09 39 47.3**	**-0.2**
WMQ				PMZ			
	15nm,1.2s						
WMQ				PMZ			
	110nm,4.6s						
WMQ				LZ			
	100nm,16.4s						
MKAR	**Makanchi Array**	**72.61**	**322**	P	**P**	**09 39 55.1**	**+0.6**
	9.0nm,0.7s,baz=110,slow=7.4,SNR=122						
KSH	**Kashi**	**74.15**	**313**	*e*P	**P**	**09 40 06.3**	**+2.4**
KSH				sP	**sP**	**09 40 24.6**	**-1.3**
KSH				*e*PP	**PP**	**09 42 54.8**	**+4.7**
KSH				S	**S**	**09 49 36.0**	**+2.9**
KSH				sS	SKSac	09 49 58.3	-8.7
KSH				SKS	**SKKSac**	**09 50 05.8**	**-1.4**
KSH				PMZ			
	73nm,4.1s						
KSH				LN			
	100nm,4.5s						
KSH				LE			
	110nm,4.8s						
KSH				LZ			
	160nm,5.6s						
VNDA	**Vanda**	**74.41**	**176**	P	**P**	**09 40 04.1**	**-0.4**
	2.3nm,0.6s,baz=327,slow=6.9,SNR=20						
VNDA	**Vanda**	**74.41**	**176**	*e*P	**P**	**09 40 04.2**	**-0.3**
	2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**74.50**	**329**	P	**P**	**09 40 04.8**	**-0.6**
	0.9nm,0.5s,baz=104,slow=6.3,SNR=9.2						
AAK	**Ala-Archa**	**76.21**	**315**	*e*P	**P**	**09 40 16.4**	**+0.8**
	4.4nm,1.1s						
KURK	**Kurchatov**	**76.45**	**324**	P	**P**	**09 40 16.1**	**-0.5**
	25nm,0.9s,SNR=5.4						
KURK	**Kurchatov**	**76.45**	**324**	*e*P	**P**	**09 40 16.6**	**0.0**
	9.6nm,1.0s						
KKAR	**Karatay Array**	**79.14**	**315**	*e*P	**P**	**09 40 31.9**	**0.0**
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**82.04**	**325**	P	**P**	**09 40 47.2**	**+0.1**
	9.5nm,0.7s,baz=113,slow=7.0,SNR=54						
BRVK	**Borovoye**	**82.11**	**325**	P	**P**	**09 40 47.6**	**+0.1**
	65nm,0.7s,SNR=6.8						
BRVK	**Borovoye**	**82.11**	**325**	*e*P	**P**	**09 40 47.6**	**+0.1**
	6.4nm,0.6s						
KTH	**Kantishna Hill**	**83.47**	**25**	*e*P	**P**	**09 40 52.7**	**-1.7**
	9.0nm,0.8s						
TRF	**Thorofare Moun**	**83.69**	**25**	*e*P	**P**	**09 40 53.8**	**-1.9**
	114nm,2.5s						
MCK	**McKinley**	**84.36**	**25**	*e*P	**P**	**09 40 57.6**	**-1.3**
	15nm,0.8s						
DIV	**Divide**	**84.91**	**28**	*e*P	**P**	**09 41 00.9**	**-0.8**
	18nm,0.6s						
COLD	**Coldfoot**	**85.13**	**21**	*e*P	**P**	**09 41 02.3**	**-0.3**
	4.7nm,0.9s						
COLA	**College**	**85.20**	**24**	*e*P	**P**	**09 41 01.1**	**-1.8**
	9.1nm,0.8s						
ILAR	**Eielson Array**	**85.55**	**24**	P	**P**	**09 41 02.6**	**-2.1**
	9.2nm,0.7s,baz=256,slow=4.9,SNR=95						
PAX	**Paxson**	**85.59**	**26**	*e*P	**P**	**09 41 04.1**	**-1.0**
	3.3nm,0.4s						
QSPA	**South Pole Qui**	**86.12**	**180**	*e*P	**P**	**09 41 06.9**	**-0.9**
	121nm,3.0s						
DOT	**Dot Lake**	**86.40**	**25**	*e*P	**P**	**09 41 08.3**	**-0.7**
	9.6nm,0.9s						
ABKAR	**Akbulak array**	**87.61**	**320**	*e*P	**P**	**09 41 14.0**	**-1.1**
	2.8nm,0.8s						
EGAK	**Eagle**	**87.91**	**25**	*e*P	**P**	**09 41 15.8**	**-0.5**
	11nm,1.1s						
DAWY	**Dawson**	**88.51**	**26**	*e*P	**P**	**09 41 19.2**	**+0.1**
WVOR	**Wild Horse Val**	**99.58**	**48**	*e*P	**Pdif**	**09 42 09.7**	**-0.9**
	27nm,2.3s						
YKA	**Yellowknife Ar**	**99.62**	**27**	P	**Pdif**	**09 42 08.7**	**-1.3**
	0.7nm,0.7s,baz=282,slow=4.0,SNR=14						
NVAR	**Mina Array Bea**	**100.07**	**52**	P	**Pdif**	**09 42 10.1**	**-2.9**
	0.2nm,0.5s,baz=256,slow=3.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**139.60**	**286**	PKP	**PKPdf**	**09 47 55.9**	**+0.6**
	0.3nm,0.9s,baz=49,slow=4.0,SNR=2.9						
LPAZ	**La Paz**	**144.23**	**125**	PKP	PKPbc	09 48 02.3	-0.4
	0.5nm,0.6s,baz=213,slow=5.4,SNR=3.0						
LPAZ	**La Paz**	**144.23**	**125**	PKP	PKPbc	09 48 02.3	-0.4
LPAZ				*e*PKPdf	**PKPdf**	**09 48 03.4**	**-1.0**
DBIC	**Dimbokro**	**146.75**	**276**	PKPbc	**PKPbc**	**09 48 09.1**	**-0.7**
	1.6nm,0.5s,baz=108,slow=19,SNR=5.5						
SDV	**Santo Domingo**	**147.32**	**80**	*e*PKPdf	**PKPdf**	**09 48 09.8**	**+0.6**

MEX 18 09:30:59.4±0.5,**32°.43N**×**115°.19W**,**h18**km±4km,**MD3.5, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.03**	**198**	*i* P	Pg	09 31 01.4	-1.1
MBIG				*e*S	Sg	09 31 03.6	-1.0
CBX	**Cerro Bola**	**1.25**	**265**	*e*P	Pn	09 31 18.7	-3.6
CBX				*i* P	Pb	09 31 18.9	-3.8
CBX				*i* S	Sb	09 31 33.3	-5.4
SPIG	**San Pedro Mart**	**1.40**	**190**	*e*P	Pn	09 31 20.8	-3.7
SPIG				*i* S	Sn	09 31 37.8	-5.2

NSSC 18 09:53:34.8±1.5,**34°.38N**×**36°.77E**,**h7**km±6km,**MD1.1, ML1.6, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.33**	**246**	*e*P	Pg	09 53 41.7	+0.3
HAWK	**Haweek**	**0.34**	**295**	*e*P	Pg	09 53 41.5	0.0
HAWK				*e*S	Sg	09 53 46.0	-0.1
HAWK				AML	AML	09 53 48.8	
	comp=N,90nm,0.2s						
HAWK				AML	AML	09 53 49.2	
	comp=E,188nm,0.3s						
HAWK				AML	AML	09 53 51.0	
	comp=Z,121nm,0.2s						
MARH	**Ras Al Marh**	**0.43**	**215**	*e*P	Pg	09 53 43.9	+0.4
MARH				*e*S	Sg	09 53 50.0	+0.6
MARH				AML	AML	09 53 52.8	
	comp=E,65nm,0.2s						
MARH				AML	AML	09 53 53.5	
	comp=N,80nm,0.3s						
MARH				AML	AML	09 53 56.6	
	comp=Z,39nm,0.3s						
HWQ	**Hawqa**	**0.69**	**262**	*e*P	Pg	09 53 48.5	+0.2
BIDA	**Albida**	**0.73**	**330**	*e*P	Pb	09 53 50.3	+0.3
BIDA				*e*S	Sg	09 53 59.6	+0.8
BIDA				AML	AML	09 54 04.0	
	comp=N,57nm,0.4s						
BIDA				AML	AML	09 54 04.6	
	comp=E,53nm,0.5s						
BIDA				AML	AML	09 54 06.0	
	comp=Z,25nm,0.3s						
WRDH	**Warideh**	**1.17**	**345**	*e*P	Pg	09 53 56.0	-1.2
WRDH				*e*S	Sb	09 54 12.8	0.0
WRDH				AML	AML	09 54 18.5	
	comp=Z,23nm,0.3s						
WRDH				AML	AML	09 54 18.9	
	comp=E,31nm,0.5s						
WRDH				AML	AML	09 54 19.1	
	comp=N,19nm,0.3s						
BRBR	**Barbar**	**1.18**	**216**	*e*P	Pg	09 53 56.2	-1.6
BRBR				*e*S	Sb	09 54 13.5	-0.1
BRBR				AML	AML	09 54 20.3	
	comp=E,12nm,0.6s						
BRBR				AML	AML	09 54 25.0	
	comp=Z,10nm,0.5s						
BRBR				AML	AML	09 54 25.4	
	comp=N,11nm,0.3s						
ZALF	**Zalf**	**1.53**	**162**	*e*P	Pn	09 54 02.0	-0.6
ZALF				*e*S	Sn	09 54 22.4	-0.3
ZALF	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.60**	**60**	*e*PG	**Pn**	**09 55 11.1**	**0.0**
DAT				*e*SG	**Sn**	**09 55 24.7**	**-1.8**
DAT	**Datca**	**0.60**	**60**	*e*Pg	**Pn**	**09 55 11.1**	**0.0**
DAT				*e*Sg	**Sn**	**09 55 24.7**	**-1.8**
BODT	**Bodrum**	**0.71**	**25**	*e*PG	**Pn**	**09 55 10.9**	**-0.7**
BODT				*e*SG	**Sn**	**09 55 25.9**	**-1.7**
BODT	**Bodrum**	**0.71**	**25**	*e*Pg	**Pn**	**09 55 10.9**	**-0.7**
BODT				*e*Sg	**Sn**	**09 55 25.9**	**-1.7**
BDRM	**Kayabasi**	**0.76**	**33**	*i* P	**Pn**	**09 55 12.1**	**+0.1**
BDRM				*i* S	**Sn**	**09 55 27.0**	**-1.3**
BDRM	**Kayabasi**	**0.76**	**33**	*i* P	**Pn**	**09 55 12.1**	**+0.1**
BDRM				*i* S	**Sn**	**09 55 27.0**	**-1.3**
KARP	**Karpathos**	**0.90**	**168**	⇑*i* P	**Pn**	**09 55 14.4**	**+1.2**
KARP				*e*S	**Sn**	**09 55 30.6**	**+0.4**
KARP	**Karpathos**	**0.90**	**168**	⇑*i* P	**Pn**	**09 55 14.4**	**+1.2**
KARP				*e*S	**Sn**	**09 55 30.6**	**+0.4**
ARG	**Arkhangelos**	**0.99**	**102**	*e*P	**Pn**	**09 55 15.2**	**+1.3**
ARG				*e*S	**Sn**	**09 55 31.7**	**+0.2**
ARG	**Arkhangelos**	**0.99**	**102**	*e*P	**Pn**	**09 55 15.2**	**+1.3**
ARG				*e*S	**Sn**	**09 55 31.7**	**+0.2**
SANT	**Santorini**	**1.19**	**268**	*e*P	**Pn**	**09 55 16.9**	**+1.0**
SANT	**Santorini**	**1.19**	**268**	*e*P	**Pn**	**09 55 16.9**	**+1.0**
SMG	**Samos**	**1.28**	**357**	⇓*i* P	**Pn**	**09 55 16.5**	**-0.3**
SMG	**Samos**	**1.28**	**357**	⇓*i* P	**Pn**	**09 55 16.5**	**-0.3**
APE	**Apeiranthos**	**1.30**	**300**	*e*PN	**Pn**	**09 55 17.8**	**+0.8**
APE	**Apeiranthos**	**1.30**	**300**	*e*P	**Pn**	**09 55 17.6**	**+0.6**
APE	**Apeiranthos**	**1.30**	**300**	*e*P	**Pn**	**09 55 17.6**	**+0.6**
GCAM	**G?zelcami?**	**1.30**	**11**	*i* P	**Pn**	**09 55 16.8**	**-0.1**
GCAM	**G?zelcami?**	**1.30**	**11**	*i* P	**Pn**	**09 55 16.8**	**-0.1**
GCAM				*i* S	**Sn**	**09 55 35.3**	**-1.6**
YER	**Yerkesik**	**1.30**	**56**	*e*PN	**Pn**	**09 55 16.8**	**-0.2**
YER	**Yerkesik**	**1.30**	**56**	*e*Pn	**Pn**	**09 55 16.8**	**-0.2**
TURN	**Turunc**	**1.42**	**71**	*i* P	**Pn**	**09 55 15.4**	**-2.8**
TURN	**Turunc**	**1.42**	**71**	*i* P	**Pn**	**09 55 15.4**	**-2.8**
TURN				*i* S	Sn	09 55 32.3	-6.8
ZKR	**Zakros**	**1.43**	**204**	*e*P	**Pn**	**09 55 20.3**	**+1.9**
ZKR	**Zakros**	**1.43**	**204**	*e*P	**Pn**	**09 55 20.3**	**+1.9**
DALY	**Dalyan (Mu˘la**	**1.44**	**74**	*e*PN	**Pn**	**09 55 19.3**	**+0.9**
DALY	**Dalyan (Mu˘la**	**1.44**	**74**	*e*Pn	**Pn**	**09 55 19.3**	**+0.9**
AYDN	**Tasoluk**	**1.45**	**31**	*i* P	**Pn**	**09 55 20.2**	**+1.6**
AYDN				*i* S	**Sn**	**09 55 39.4**	**-0.6**
AYDN	**Tasoluk**	**1.45**	**31**	*i* P	**Pn**	**09 55 20.2**	**+1.6**
AYDN				*i* S	**Sn**	**09 55 39.4**	**-0.6**
NPS	**Neapolis**	**1.58**	**223**	*e*P	**Pn**	**09 55 21.3**	**+1.3**
NPS	**Neapolis**	**1.58**	**223**	*e*P	**Pn**	**09 55 21.3**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**26**	*e*PN	**Pn**	**09 55 21.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**26**	*e*Pn	**Pn**	**09 55 21.2**	**-0.3**
LAST	**Lasithi**	**1.73**	**224**	*e*P	**Pn**	**09 55 23.6**	**+1.8**
LAST				*e*S	**Sn**	**09 55 46.0**	**+0.5**
LAST	**Lasithi**	**1.73**	**224**	*e*P	**Pn**	**09 55 23.6**	**+1.8**
FETY	**Fethiye**	**1.75**	**82**	*e*PN	**Pn**	**09 55 22.1**	**+0.1**
FETY	**Fethiye**	**1.75**	**82**	*e*Pn	**Pn**	**09 55 22.1**	**+0.1**
BLCB	**Balcova**	**1.96**	**3**	*e*PN	**Pn**	**09 55 24.4**	**0.0**
BLCB	**Balcova**	**1.96**	**3**	*e*Pn	**Pn**	**09 55 24.4**	**0.0**
IZM	**Izmir**	**1.99**	**8**	*e*PN	**Pn**	**09 55 24.8**	**0.0**
IZM	**Izmir**	**1.99**	**8**	*e*Pn	**Pn**	**09 55 24.8**	**0.0**
IDI	**Anoyia**	**2.01**	**236**	P	**Pn**	**09 55 26.0**	**+0.9**
	7.9nm,0.3s,baz=48,slow=10.0,SNR=68						
IDI				S	**Sn**	**09 55 50.2**	**-1.2**
	17nm,0.3s,baz=8.7,slow=23,SNR=8.1						
CHOS	**Chios island**	**2.08**	**341**	*e*PN	**Pn**	**09 55 25.9**	**0.0**
CHOS	**Chios island**	**2.08**	**341**	*e*P	**Pn**	**09 55 26.0**	**0.0**
CHOS	**Chios island**	**2.08**	**341**	*e*P	**Pn**	**09 55 26.0**	**0.0**
AKAS	**Kas**	**2.17**	**94**	*i* P	**Pn**	**09 55 28.3**	**+1.2**
AKAS				*i* S	**Sn**	**09 55 54.7**	**-0.3**
AKAS	**Kas**	**2.17**	**94**	*i* P	**Pn**	**09 55 28.3**	**+1.2**
AKAS				*i* S	**Sn**	**09 55 54.7**	**-0.3**
SIVA	**Sivas**	**2.23**	**231**	*e*P	**Pn**	**09 55 29.8**	**+2.1**
SIVA	**Sivas**	**2.23**	**231**	*e*P	**Pn**	**09 55 29.8**	**+2.1**
GOLH	**Golhisar**	**2.26**	**68**	*i* P	**Pn**	**09 55 29.4**	**+1.2**
GOLH				*i* S	**Sn**	**09 55 56.8**	**-0.2**
GOLH	**Golhisar**	**2.26**	**68**	*i* P	**Pn**	**09 55 29.4**	**+1.2**
GOLH				*i* S	**Sn**	**09 55 56.8**	**-0.2**
VAM	**Vamos**	**2.44**	**246**	*e*P	**Pn**	**09 55 31.2**	**+0.9**
VAM	**Vamos**	**2.44**	**246**	*e*P	**Pn**	**09 55 31.2**	**+0.9**
KARN	**Karanos**	**2.65**	**248**	*e*P	**Pn**	**09 55 33.9**	**+0.9**
KARN	**Karanos**	**2.65**	**248**	*e*P	**Pn**	**09 55 33.9**	**+0.9**
GVD	**Gavdhos**	**2.81**	**237**	*e*P	**Pn**	**09 55 37.0**	**+2.0**
GVD	**Gavdhos**	**2.81**	**237**	*e*P	**Pn**	**09 55 37.0**	**+2.0**
SLUM		**5.12**	**197**	P	**Pn**	**09 56 06.7**	**+1.2**
	baz=199						
SLUM				S	**Sn**	**09 57 00.2**	**-3.6**
	baz=199						
SLUM		**5.12**	**197**	P	**Pn**	**09 56 06.7**	**+1.2**
SLUM				S	**Sn**	**09 57 00.2**	**-3.6**
HMAT	**Matruh**	**5.32**	**178**	P	**Pn**	**09 56 09.4**	**+1.3**
	baz=181						
HMAT				AMP		09 57 00.0	
	comp=E,70µm,0.2s,logA/T=5.6,baz=181						
HMAT	**Matruh**	**5.32**	**178**	P	**Pn**	**09 56 09.4**	**+1.3**
MMB	**Musomiste**	**5.73**	**335**	*e*P	**Pn**	**09 56 13.5**	**-0.1**
MMB	**Musomiste**	**5.73**	**335**	*e*P	**Pn**	**09 56 13.5**	**-0.1**
KKB	**Krupnik**	**6.20**	**332**	*e*P	Pn	09 56 08.7	-11
SWA2		**7.27**	**190**	P	**Pn**	**09 56 35.2**	**+0.9**
	baz=192						
SWA2				S	**Sn**	**09 57 50.8**	**-4.6**
	baz=192						
SWA2		**7.27**	**190**	P	**Pn**	**09 56 35.2**	**+0.9**
SWA2				S	**Sn**	**09 57 50.8**	**-4.6**
HNAT	**Natroun**	**7.45**	**154**	P	**Pn**	**09 56 36.8**	**+0.1**
	baz=155						
HNAT	**Natroun**	**7.45**	**154**	P	**Pn**	**09 56 36.8**	**+0.1**
FYM	**Al Fayyum**	**7.55**	**152**	P	**Pn**	**09 56 38.2**	**+0.1**
	baz=152						
FYM	**Al Fayyum**	**7.55**	**152**	P	**Pn**	**09 56 38.2**	**+0.1**
KOT	**Kottamia**	**7.67**	**146**	P	**Pn**	**09 56 39.6**	**-0.1**
	baz=147						
KOT	**Kottamia**	**7.67**	**146**	P	**Pn**	**09 56 39.6**	**-0.1**
MMAI	**Mount Meron Ar**	**7.76**	**114**	P	**Pn**	**09 56 39.9**	**-1.0**
	comp=E,2.0nm,0.3s,baz=306,slow=12,SNR=2.3						
HHAG	**Hagoal**	**7.77**	**145**	P	**Pn**	**09 56 41.5**	**+0.3**
	baz=145						
HHAG				S	Sn	09 57 59.4	-8.2
	baz=145						
HHAG	**Hagoal**	**7.77**	**145**	P	**Pn**	**09 56 41.4**	**+0.3**
HHAG				S	Sn	09 57 59.4	-8.2
AMAG	**Maghara**	**7.79**	**136**	P	**Pn**	**09 56 41.0**	**-0.3**
	baz=136						
AMAG	**Maghara**	**7.79**	**136**	P	**Pn**	**09 56 41.1**	**-0.3**
RSH		**7.86**	**132**	P	**Pn**	**09 56 42.2**	**0.0**
	baz=132						
RSH		**7.86**	**132**	P	**Pn**	**09 56 42.2**	**0.0**
GLL	**Jalalah**	**7.92**	**148**	P	**Pn**	**09 56 42.7**	**-0.4**
	baz=149						
GLL	**Jalalah**	**7.92**	**148**	P	**Pn**	**09 56 42.7**	**-0.4**
SUZ		**8.22**	**141**	P	**Pn**	**09 56 48.1**	**+1.0**
	baz=142						
SUZ		**8.22**	**141**	P	**Pn**	**09 56 48.1**	**+1.0**
AWBH		**8.25**	**168**	P	**Pn**	**09 56 48.0**	**+0.5**
	baz=169						
AWBH		**8.25**	**168**	P	**Pn**	**09 56 48.0**	**+0.5**
HNKL	**Nakhl**	**8.76**	**136**	P	**Pn**	**09 56 54.5**	**+0.1**
	baz=136						
HNKL	**Nakhl**	**8.76**	**136**	P	**Pn**	**09 56 54.6**	**+0.1**
HFRF	**Wahat Farafira**	**9.32**	**172**	P	**Pn**	**09 57 02.7**	**+0.8**
	baz=173						
HFRF	**Wahat Farafira**	**9.32**	**172**	P	**Pn**	**09 57 02.7**	**+0.8**
TR2		**9.86**	**143**	P	**Pn**	**09 57 09.6**	**+0.6**
	baz=143						
TR2		**9.86**	**143**	P	**Pn**	**09 57 09.6**	**+0.6**
HKAT	**Jabal Katrina**	**9.88**	**141**	P	**Pn**	**09 57 10.2**	**+0.7**
	baz=141						
HKAT	**Jabal Katrina**	**9.88**	**141**	P	**Pn**	**09 57 10.2**	**+0.7**
TR1		**10.28**	**143**	P	**Pn**	**09 57 15.2**	**+0.5**
	baz=143						
TR1		**10.28**	**143**	P	**Pn**	**09 57 15.2**	**+0.5**
FINES	**FINESS Array B**	**25.05**	**359**	P	**P**	**10 00 01.7**	**-0.4**
	comp=E,4.3nm,1.0s,baz=165,slow=12,SNR=6.0						
HFS	**Hagfors**	**25.21**	**344**	P	**P**	**10 00 03.3**	**-0.3**
	comp=E,1.0nm,0.3s,baz=141,slow=9.6,SNR=10						
TORD	**Torodi Ar. Bea**	**32.40**	**231**	P	P	10 01 14.3	+6.4
	comp=E,0.1nm,0.3s,baz=33,slow=8.7,SNR=5.2						
ARCES	**ARCESS Array B**	**33.18**	**359**	P	**P**	**10 01 13.4**	**-0.6**
	comp=E,5.4nm,1.1s,baz=167,slow=8.3,SNR=7.3						
MKAR	**Makanchi Array**	**41.88**	**58**	P	**P**	**10 02 28.4**	**+0.8**
	comp=E,0.5nm,0.5s,baz=269,slow=8.9,SNR=10						
ZALV	**Zalesovo Beam**	**43.09**	**47**	P	**P**	**10 02 37.9**	**+0.8**
	comp=E,0.4nm,0.4s,baz=280,slow=10,SNR=2.9						
SONM	**Songino Array**	**57.57**	**52**	P	**P**	**10 04 27.5**	**+1.2**
	comp=E,0.1nm,0.4s,baz=292,slow=3.9,SNR=2.3						

*IDC **18** 10:01:56.3±1.0,35°.87S×72°.75W,h0km,mb3.8/6, mb1 4.0/8,mb1mx3.8/32,mbtmp3.8/8,ML3.5/3,MS3.5/4, Ms1 3.6/4,ms1mx3.1/21,Error ellipse: s-maj=35.3km s-min=20.7km az=93.0*

*ISCJB **18** 10:01:59.0±0.8,35°.94S±0°.04×72°.92W±0°.07,h30km±5km, mb3.9/7,MS3.2/3,Error ellipse: s-maj=10.4km s-min=5.9km az=32.8*

*GUC **18** 10:02:00.1±0.7,36°.01S×72°.78W,h32km±2km, ML4.3*

*NEIC **18** 10:02:01.7±1.6,35°.87S×72°.80W,h35km±16km,mb4.3/3, Error ellipse: s-maj=23.7km s-min=9.7km az=88.0*

ISC 18 10:01:59.9±1.1,35°.94S±0°.06×72°.85W±0°.08,h26km±8km, n24,σ1$13/27,mb3.9/7,MS3.1/3,4C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.20**	**167**	*e*P	**Pb**	**10 02 05.9**	**+0.2**
COCH				*i* S	**Sb**	**10 02 09.8**	**+0.3**
CCSP	**San Pedro de C**	**0.93**	**193**	⇑*i* P	**Pb**	**10 02 15.7**	**-1.7**
CCSP				*i* S	**Sb**	**10 02 28.0**	**-1.3**
CCSP				AML	AML	10 02 30.1	
	comp=E,18µm,0.3s						
LNCH	**Linares**	**1.01**	**85**	⇓*i* P	**Pn**	**10 02 17.6**	**-0.9**
LNCH				*i* S	**Sb**	**10 02 30.7**	**-1.1**
TALC	**Talca**	**1.12**	**62**	⇑*i* P	**Pn**	**10 02 19.5**	**-0.5**
TALC				*e*S	**Sb**	**10 02 35.0**	**+0.1**
NICH	**Los Niches**	**1.61**	**55**	⇑*i* P	**Pb**	**10 02 27.9**	**-1.2**
NICH				*i* S	**Sb**	**10 02 48.9**	**-0.2**
NICH				AML	AML	10 03 02.1	
	comp=N,6µm,0.7s						
CLCH	**Cerro Calan**	**3.17**	**38**	⇓*i* P	**Pn**	**10 02 49.0**	**+0.8**
CLCH				*e*S	**Sn**	**10 03 27.0**	**+1.8**
CLCH				AML	AML	10 03 45.7	
	comp=E,1µm,0.3s						
PEL	**Peldehue**	**3.31**	**33**	⇑*i* P	**Pn**	**10 02 51.4**	**+1.2**
PEL				AML	AML	10 03 51.4	
	comp=N,970nm,0.5s						
PLCA	**Paso Flores**	**5.12**	**160**	Pn	**Pn**	**10 03 16.3**	**+1.3**
	comp=N,1.8nm,0.3s,baz=328,slow=10,SNR=42						
PLCA				Lg	Lg	10 04 28.4	
	comp=N,0.9nm,0.3s,baz=257,slow=19,SNR=1.5						
CFAA	**Coronel Fontan**	**5.78**	**43**	Pn	**Pn**	**10 03 23.3**	**-0.7**
	comp=N,0.2nm,0.3s,baz=202,slow=7.3,SNR=7.6						
CFAA				Lg	Lg	10 04 42.3	
	comp=N,0.2nm,0.3s,baz=253,slow=19,SNR=6.6						
CFAA				LR	LR	10 05 41.9	
	comp=N,18nm,21.6s,baz=238,slow=40						
LCO	**Las Campanas**	**7.14**	**15**	*e*Pn	**Pn**	**10 03 42.4**	**-0.6**
LCO				*e*Sn	**Sn**	**10 05 02.0**	**-1.4**
TRQA	**Tornquist**	**8.95**	**107**	*e*Pn	**Pn**	**10 04 09.8**	**+2.2**
	comp=N,20nm,1.0s						
CPUP	**Villa Florida**	**16.36**	**58**	LR	LR	10 12 47.1	
	comp=N,833nm,18.9s,baz=205,slow=40						
LPAZ	**La Paz**	**20.02**	**13**	P	**P**	**10 06 30.3**	**-1.2**
	comp=N,0.0nm,0.3s,baz=184,slow=8.8,SNR=4.8						
LPAZ	**La Paz**	**20.02**	**13**	*e*P	Pn	10 06 32.6	-0.9
	comp=N,5.9nm,1.3s						
SIV	**San Ignacio**	**22.47**	**31**	P	**P**	**10 06 56.5**	**-0.8**
	comp=N,3.3nm,0.8s,baz=266,slow=14,SNR=14						
SIV				LR	LR	10 16 16.0	
	comp=N,74nm,20.0s,baz=213,slow=38						
PMSA	**Palmer Station**	**29.35**	**172**	LR	LR	10 17 38.0	
	comp=N,52nm,21.0s,baz=268,slow=32						
BDFB	**Brasilia**	**29.99**	**54**	LR	LR	10 21 44.8	
	comp=N,87nm,21.2s,baz=211,slow=40						
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**10 11 24.5**	**+0.8**
	comp=N,1.9nm,0.8s,baz=113,slow=12,SNR=7.0						
QSPA	**South Pole Qui**	**54.30**	**180**	*e*P	**P**	**10 11 24.6**	**+0.8**
	comp=N,5.8nm,1.2s						
TXAR	**Lajitas Array**	**71.11**	**332**	P	**P**	**10 13 16.8**	**+0.7**
	comp=N,0.3nm,0.6s,baz=154,slow=8.1,SNR=6.0						
ECSD	**EROS Data Cent**	**82.19**	**343**	*e*P	**P**	**10 14 18.7**	**+0.4**
	comp=N,3.5nm,0.9s						
NVAR	**Mina Array Bea**	**85.10**	**326**	P	**P**	**10 14 34.6**	**+0.9**
	comp=N,0.3nm,0.6s,baz=116,slow=4.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.49**	**70**	P	**P**	**10 14 34.9**	**-0.9**
	comp=N,0.3nm,0.8s,baz=236,slow=5.6,SNR=3.3						
ULM	**Lac du Bonnet**	**88.20**	**345**	P	**P**	**10 14 47.8**	**-0.4**
	comp=N,0.5nm,0.5s,baz=140,slow=7.9,SNR=2.4						

*IDC **18** 10:11:12.0±1.6,5°.64S×130°.91E,h0km,mb4.0/4, mb1 4.1/6,mb1mx3.8/29,mbtmp4.0/6,ML4.2/2,Error ellipse: s-maj=198.7km s-min=20.2km az=70.0*

*ISCJB **18** 10:11:25.2±0.6,6°.11S±0°.04×130°.74E±0°.08,h124km, mb4.1/5,Error ellipse: s-maj=11.7km s-min=5.5km az=179.3*

*NEIC **18** 10:11:25.1±1.8,6°.16S×130°.24E,h108km±22km,mb4.4/3, Error ellipse: s-maj=29.7km s-min=10.5km az=76.0*

ISC 18 10:11:25.9±0.6,6°.16S±0°.05×130°.73E±0°.09,h124km,n21, σ2$79/26,mb4.0/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.56**	**25**	P	**Pn**	**10 12 21.7**	**+1.9**
	baz=3.8,SNR=32						
FAKI				S	**Sn**	**10 13 01.3**	**-0.1**
	baz=3.8,SNR=28						
FAKI	**Fak Fak**	**3.56**	**25**	*e*Pn	**Pn**	**10 12 21.3**	**+1.6**
FAKI				*e*Sn	**Sn**	**10 12 58.6**	**-2.8**
MTN	**Manton Dam**	**6.65**	**177**	P	Pn	10 13 05.0	+3.8
	baz=6.9,SNR=34						
MTN				S	**Sn**	**10 14 17.2**	**+1.6**
	baz=6.9,SNR=9.8						
KDU	**Kakadu**	**6.71**	**165**	P	Pn	10 13 05.2	+3.3
	baz=7.1,SNR=202						
KDU				S	**Sn**	**10 14 18.2**	**+1.2**
	baz=7.1,SNR=12						
KNRA	**Kununurra**	**9.65**	**191**	P	**Pn**	**10 13 42.5**	**+0.9**
	baz=9.8,SNR=96						
KNRA				S	**Sn**	**10 15 24.2**	**-4.1**
	baz=9.8,SNR=7.3						
WRAB	**Tennant Creek**	**14.13**	**166**	*e*Pn	**Pn**	**10 14 41.6**	**+0.9**
	4.8nm,0.7s						
WRAB				*e*Sn	**Sn**	**10 17 12.0**	**-4.9**
WRA	**Warramunga Arr**	**14.14**	**166**	Pn	**Pn**	**10 14 40.7**	**-0.1**
	1.3nm,0.3s,baz=340,slow=14,SNR=49						
WRA				Sn	Sn	10 17 09.1	-8.0
	1.4nm,0.3s,baz=334,slow=22,SNR=11						
WB2	**Warramunga Arr**	**14.14**	**166**	*e*Pn	**Pn**	**10 14 41.8**	**+0.9**
WB2				*e*Sn	**Sn**	**10 17 12.0**	**-5.1**
COEN	**Coen**	**14.49**	**123**	P	P	10 14 52.7	+4.3
	baz=15,SNR=6.9						
COEN	**Coen**	**14.49**	**123**	*e*Pn	P	10 14 51.9	+3.5
COEN				*e*Sn	**Sn**	**10 17 22.8**	**-2.7**
QIS	**Mount Isa**	**16.70**	**150**	P	**P**	**10 15 17.5**	**+4.6**
	baz=17,SNR=4.6						
ASAR	**Alice Springs**	**17.67**	**170**	P	**Pn**	**10 15 27.1**	**+2.6**
	0.8nm,0.3s,baz=348,slow=11,SNR=70						
ASAR				S	**S**	**10 18 35.5**	**-5.5**
	0.3nm,0.3s,baz=345,slow=26,SNR=7.5						
KKM	**Kota Kinabalu**	**18.89**	**310**	*e*P	**P**	**10 15 35.1**	**-2.0**
	15nm,0.8s						
WRKA	**Warakurna**	**18.91**	**187**	P	**Pn**	**10 15 40.1**	**+0.9**
	baz=19,SNR=31						
MEEK	**Meekatharra**	**23.41**	**208**	P	**P**	**10 16 25.0**	**+1.1**
	baz=23,SNR=3.5						
STKA	**Stephens Creek**	**27.53**	**160**	P	**Pn**	**10 17 03.7**	**+2.7**
	1.4nm,0.4s,baz=341,slow=10.0,SNR=7.7						
STKA	**Stephens Creek**	**27.53**	**160**	P	**P**	**10 17 03.8**	**+2.8**
	baz=28,SNR=6.6						
SONM	**Songino Array**	**57.89**	**341**	P	**P**	**10 21 04.6**	**-0.3**
	0.5nm,0.7s,baz=160,slow=5.5,SNR=4.2						
MKAR	**Makanchi Array**	**67.93**	**326**	P	**P**	**10 22 10.8**	**-0.6**
	1.2nm,0.4s,baz=114,slow=8.3,SNR=30						
ZALV	**Zalesovo Beam**	**71.16**	**333**	P	**P**	**10 22 28.8**	**-2.2**
	0.3nm,0.3s,baz=129,slow=5.5,SNR=2.6						
QSPA	**South Pole Qui**	**83.81**	**180**	*e*P	**P**	**10 23 42.0**	**+0.7**
	102nm,2.5s						

*ISCJB **18** 10:15:54.7±0.5,36°.38N±0°.05×1°.62E±0°.05,h21km±9km, Error ellipse: s-maj=10.4km s-min=4.0km az=146.8*

*CRAAG **18** 10:15:54.6,36°.24N×1°.66E, Ml4.0*

*MDD **18** 10:15:55.5±0.7,36°.30N×1°.65E,h6km±9km,mb4.2/30, Error ellipse: s-maj=9.7km s-min=4.9km az=160.0, PRXIMO*

*CSEM **18** 10:15:55.2±0.2,36°.28N×1°.60E,h12km,ML4.0,Error ellipse: s-maj=5.2km s-min=4.1km az=142.0*

*INMG **18** 10:15:57.3±1.2,36°.29N×1°.71E,h31km±18km,ML2.7, Error ellipse: s-maj=6.9km s-min=3.7km az=131.0*

ISC 18 10:15:55.1±1.2,36°.33N±0°.04×1°.64E±0°.03,h19km±4km, n105,σ1$57/154,1C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.09**	**249**	P	**Pg**	**10 15 57.8**	**-1.2**
EBNR	**Beni Rached**	**0.09**	**249**	P	**Pg**	**10 15 57.8**	**-1.2**
ECHA	**Ech Chlef**	**0.28**	**232**	P	**Pg**	**10 16 00.5**	**-1.0**
ECHA	**Ech Chlef**	**0.28**	**232**	P	**Pg**	**10 16 00.5**	**-1.0**
ECHF	**Ech Chlef**	**0.29**	**235**	P	**Pg**	**10 16 00.5**	**-1.2**
EANR	**'Ain N'Sour**	**0.57**	**230**	P	**Pg**	**10 16 05.8**	**-0.9**
EANR	**'Ain N'Sour**	**0.57**	**230**	P	**Pg**	**10 16 05.8**	**-0.9**
EANR	**'Ain N'Sour**	**0.57**	**230**	P	**Pg**	**10 16 05.8**	**-0.9**
OKGL	**Djebel Kef Gue**	**0.85**	**251**	P	**Pg**	**10 16 11.5**	**-0.3**
	945nm,0.4s,SNR=7.9						
OKGL				S	**Sn**	**10 16 24.4**	**+0.3**
	4µm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.85**	**251**	P	**Pg**	**10 16 11.5**	**-0.3**
	945nm,0.4s,SNR=7.9						
OKGL				S	**Sn**	**10 16 24.9**	**+0.8**
	4µm,0.3s,SNR=7.9						
ETRT	**Tiaret**	**0.97**	**197**	P	**Pb**	**10 16 13.0**	**-0.4**
ETRT	**Tiaret**	**0.97**	**197**	P	**Pb**	**10 16 13.0**	**-0.4**
ETRT	**Tiaret**	**0.97**	**197**	P	**Pb**	**10 16 13.0**	**-0.4**
EMHD	**Djebel Mahouad**	**1.07**	**96**	P	**Pg**	**10 16 15.3**	**-0.7**
EMHD	**Djebel Mahouad**	**1.07**	**96**	P	**Pg**	**10 16 15.3**	**-0.7**
EMHD	**Djebel Mahouad**	**1.07**	**96**	P	**Pg**	**10 16 15.3**	**-0.7**
OJGS	**Djebel Guires**	**1.09**	**222**	P	**Sg**	**10 16 35.0**	**+4.3**
ODJA	**Bouhanifia**	**1.76**	**236**	P	Pg	10 16 34.0	+5.0
USTO	**Oran**	**1.87**	**252**	P	**Sg**	**10 16 54.0**	**-1.4**
EIBI	**Ibiza**	**2.71**	**355**	P	**Pn**	**10 16 38.9**	**+1.3**
	11nm,0.3s,SNR=52						
EIBI				S	**Sn**	**10 17 08.8**	**-1.0**
	23nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.71**	**355**	P	**Pn**	**10 16 38.9**	**+1.3**
	11nm,0.3s,SNR=52						
EIBI				S	**Sn**	**10 17 08.8**	**-1.0**
	23nm,0.2s,SNR=7.9						
OLHC	**Oulhaca**	**2.71**	**248**	P	Pn	10 16 33.0	-4.6
OLHC	**Oulhaca**	**2.71**	**248**	P	Pn	10 16 33.0	-4.6
EMUR	**La Murta**	**2.75**	**304**	P	**Pn**	**10 16 38.2**	**-0.1**
	5.4nm,0.3s,SNR=20						
EMUR				S	**Sn**	**10 17 10.3**	**-0.7**
	10nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.75**	**304**	P	**Pn**	**10 16 38.2**	**-0.1**
	5.4nm,0.3s,SNR=20						
EMUR				S	**Sn**	**10 17 10.7**	**-0.3**
	10nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.80**	**329**	P	**Pn**	**10 16 39.6**	**+0.7**
	1.9nm,0.3s,SNR=19						
EBEN				S	**Sn**	**10 17 11.9**	**-0.2**
	9.7nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**2.80**	**329**	P	**Pn**	**10 16 39.6**	**+0.7**
	1.9nm,0.3s,SNR=19						
EBEN				S	**Sn**	**10 17 11.9**	**-0.2**
	9.7nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**3.16**	**283**	P	**Pn**	**10 16 44.7**	**+0.9**
	SNR=7.9						
ENIJ				S	**Sn**	**10 17 21.4**	**+0.5**
	22nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**3.16**	**283**	P	**Pn**	**10 16 44.7**	**+0.9**
	SNR=7.9						
ENIJ				S	**Sn**	**10 17 21.1**	**+0.1**
	22nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.43**	**313**	P	**Pn**	**10 16 48.9**	**+1.3**
	6.2nm,0.3s,SNR=38						
ETOB				S	**Sn**	**10 17 28.0**	**+0.2**

	5.2nm,0.3s,SNR=8.2							
ECOG				S	Sn	10 17 52.1	+3.2	
	12nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**4.36**	**338**	P	Pn	10 17 02.0	+1.5	
	6.6nm,0.4s,SNR=72							
EMOS				S	Sn	10 17 49.9	-0.9	
	10nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**4.36**	**338**	P	Pn	10 17 02.0	+1.5	
	6.6nm,0.4s,SNR=72							
EMOS				S	Sn	10 17 49.9	-0.9	
	10nm,0.3s,SNR=7.9							
SELV	**Sierra Elvira**	**4.40**	**284**	P	Pn	10 17 03.0	+2.1	
	5.1nm,0.2s,SNR=7.9							
SELV				S	Sn	10 17 56.0	+4.3	
	20nm,0.6s,SNR=7.9							
SELV	**Sierra Elvira**	**4.40**	**284**	P	Pn	10 17 03.0	+2.1	
	5.1nm,0.2s,SNR=7.9							
SELV				S	Sn	10 17 56.0	+4.3	
	20nm,0.6s,SNR=7.9							
ERON	**Agron**	**4.43**	**281**	P	Pn	10 17 00.9	-0.5	
	8.5nm,0.2s,SNR=7.9							
ERON				S	Sn	10 17 53.7	+1.2	
	29nm,0.4s,SNR=7.9							
ERON	**Agron**	**4.43**	**281**	P	Pn	10 17 00.9	-0.5	
	8.5nm,0.2s,SNR=7.9							
ERON				S	Sn	10 17 53.7	+1.2	
	29nm,0.4s,SNR=7.9							
EBAN	**Banos Encina**	**4.70**	**295**	P	Pn	10 17 06.4	+1.4	
	2.8nm,0.1s,SNR=7.9							
EBAN				S	Sn	10 18 00.1	+1.1	
	4.1nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**4.70**	**295**	P	Pn	10 17 06.4	+1.4	
	2.8nm,0.1s,SNR=7.9							
EBAN				S	Sn	10 18 00.1	+1.1	
	4.1nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.74**	**348**	P	Pn	10 17 07.5	+1.9	
	3.0nm,0.2s,SNR=37							
ERTA				S	Sn	10 17 58.1	-1.8	
	2.8nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**4.74**	**348**	P	Pn	10 17 07.4	+1.9	
	3.0nm,0.2s,SNR=37							
ERTA				S	Sn	10 17 58.1	-1.8	
	2.8nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.04**	**355**	P	Pn	10 17 10.9	+1.2	
	2.2nm,0.4s,SNR=17							
EPOB				S	Sn	10 18 06.1	-1.3	
	1.3nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.04**	**355**	P	Pn	10 17 10.9	+1.2	
	2.2nm,0.4s,SNR=17							
EPOB				S	Sn	10 18 06.1	-1.3	
	1.3nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**5.17**	**275**	P	Pn	10 17 10.6	-0.9	
	9.9nm,0.8s,SNR=12							
EMIJ				S	Sn	10 18 06.0	-4.7	
	SNR=7.9							
EMIJ	**Mijas**	**5.17**	**275**	P	Pn	10 17 10.6	-0.9	
	9.9nm,0.8s,SNR=12							
EMIJ				S	Sn	10 18 06.0	-4.7	
	SNR=7.9							
EADA	**Adamuz**	**5.29**	**292**	P	Pn	10 17 14.0	+0.9	
	0.9nm,0.3s,SNR=23							
EADA	**Adamuz**	**5.29**	**292**	P	Pn	10 17 14.0	+0.9	
	0.9nm,0.3s,SNR=23							
ETOR	**Torete**	**5.34**	**328**	P	Pn	10 17 18.7	+4.9	
	2.9nm,0.2s,SNR=7.9							
ETOR	**Torete**	**5.34**	**328**	P	Pn	10 17 18.7	+4.9	
	2.9nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.46**	**6**	P	Pn	10 17 17.0	+1.4	
	2.2nm,0.2s,SNR=10							
CFON				S	Sn	10 18 16.9	-1.0	
	2.5nm,0.2s,SNR=7.9							
CFON	**Fontmartina**	**5.46**	**6**	P	Pn	10 17 17.0	+1.4	
	2.2nm,0.2s,SNR=10							
ESDC	**Sonseca Array**	**5.54**	**309**	P	Pn	10 17 17.0	+0.4	
	0.9nm,0.2s,baz=124,slow=13,SNR=32							
ESDC				S	Sn	10 18 18.5	-1.3	
	1.2nm,0.2s,baz=121,slow=24,SNR=7.9							
ESDC	**Sonseca Array**	**5.54**	**309**	P	Pn	10 17 17.0	+0.4	
	0.9nm,0.2s,SNR=32							
EMIR	**Miracle**	**5.58**	**359**	P	Pn	10 17 19.7	+2.5	
	4.2nm,0.1s,SNR=7.2							
EMIR				S	Sn	10 18 20.3	-0.5	
	5.4nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**5.58**	**359**	P	Pn	10 17 19.7	+2.5	
	4.2nm,0.1s,SNR=7.2							
PAB	**San Pablo**	**5.72**	**306**	⇑P	Pn	10 17 19.7	+0.6	
	0.7nm,0.2s,SNR=18							
PAB				S	Sn	10 18 22.6	-1.6	
	SNR=7.9							
PAB	**San Pablo**	**5.72**	**306**	P	Pn	10 17 19.7	+0.6	
	0.7nm,0.2s,SNR=7.9							
PAB				S	Sn	10 18 24.1	-0.1	
	SNR=7.9							
ECAB	**El Cabril**	**5.90**	**289**	P	Pn	10 17 21.6	+0.1	
	1.6nm,0.1s,SNR=7.9							
ECAB				S	Sn	10 18 25.5	-3.0	
	SNR=7.9							
ECAB	**El Cabril**	**5.90**	**289**	P	Pn	10 17 21.5	+0.1	
	1.6nm,0.1s,SNR=7.9							
ECAB				S	Sn	10 18 28.8	+0.3	
	SNR=7.9							
CSOR	**Sort**	**6.05**	**356**	P	Pn	10 17 26.0	+2.3	
	1.7nm,0.2s,SNR=9.3							
CSOR				S	Sn	10 18 31.6	-0.9	
	2.3nm,0.4s,SNR=7.9							
CSOR	**Sort**	**6.05**	**356**	P	Pn	10 17 26.0	+2.3	
	1.7nm,0.2s,SNR=9.3							
CLLI	**Llivia**	**6.15**	**2**	P	Pn	10 17 27.3	+2.3	
	SNR=7.9							
CLLI	**Llivia**	**6.15**	**2**	P	Pn	10 17 27.3	+2.3	
	SNR=7.9							
EMIN	**Mina Concepcio**	**6.80**	**285**	P	Pn	10 17 34.7	+0.8	
	2.0nm,0.5s,SNR=6.9							
EMIN				S	Sn	10 18 48.6	-2.1	
	3.1nm,0.5s,SNR=7.9							
EMIN	**Mina Concepcio**	**6.80**	**285**	P	Pn	10 17 34.7	+0.8	
	2.0nm,0.5s,SNR=6.9							
PBAR	**Barrancos**	**7.16**	**288**	*e*P	Pn	10 17 39.2	+0.4	
PBAR				*e*S	Sn	10 18 56.5	-3.1	
PBAR				A	A	10 19 07.4		
	3.9nm,0.5s							
PBAR	**Barrancos**	**7.16**	**288**	P	Pn	10 17 39.2	+0.4	
PBAR				S	Sn	10 18 56.5	-3.1	
	3.9nm,0.5s							
PBAR	**Barrancos**	**7.16**	**288**	*e*P	Pn	10 17 39.2	+0.4	
PVAQ	**Vaqueiros**	**7.58**	**281**	*e*Pn	Pn	10 17 44.6	+0.1	
PVAQ				*e*Sn	Sn	10 19 07.1	-2.7	
PVAQ				A	A	10 19 13.5		
	2.4nm,0.3s							
PVAQ	**Vaqueiros**	**7.58**	**281**	Pn	Pn	10 17 44.6	+0.1	
PVAQ				Sn	Sn	10 19 07.1	-2.7	
	2.4nm,0.3s							
PVAQ	**Vaqueiros**	**7.58**	**281**	*e*Pn	Pn	10 17 44.6	+0.1	
PBDV	**Barranco-do-Ve**	**7.73**	**280**	*e*Pn	Pn	10 17 47.0	+0.3	
PBDV	**Barranco-do-Ve**	**7.73**	**280**	Pn	Pn	10 17 47.0	+0.3	
PBDV	**Barranco-do-Ve**	**7.73**	**280**	*e*Pn	Pn	10 17 47.0	+0.3	
PESTR	**Estremoz**	**7.75**	**292**	*e*Pn	Pn	10 17 48.1	+1.2	
PESTR				A	A	10 19 16.3		
	1.4nm,0.5s							
PESTR	**Estremoz**	**7.75**	**292**	*e*Pn	Pn	10 17 48.1	+1.2	
	1.4nm,0.5s							
ELAN	**Lanestosa**	**7.92**	**332**	P	Pn	10 17 52.4	+3.2	
	2.4nm,0.3s,SNR=21							
ELAN	**Lanestosa**	**7.92**	**332**	P	Pn	10 17 52.4	+3.2	
	2.4nm,0.3s,SNR=21							
MESJ	**Messejana**	**8.02**	**284**	*e*Pn	Pn	10 17 50.5	-0.1	
MESJ	**Messejana**	**8.02**	**284**	Pn	Pn	10 17 50.5	-0.1	
MESJ	**Messejana**	**8.02**	**284**	*e*Pn	Pn	10 17 50.5	-0.1	
PNCL	**Nicolau / Gran**	**8.30**	**285**	*e*Pn	Pn	10 17 54.5	0.0	
PNCL	**Nicolau / Gran**	**8.30**	**285**	*e*Pn	Pn	10 17 54.5	0.0	
MVO	**Moncorvo**	**8.32**	**308**	S	Sn	10 19 24.5	-3.5	
	2.5nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**8.59**	**313**	P	Pn	10 17 59.6	+1.2	
	2.0nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**8.73**	**325**	P	Pn	10 18 02.9	+2.5	
	9.1nm,1.0s,SNR=6.7							
EARI	**Arriondas**	**8.73**	**325**	P	Pn	10 18 02.9	+2.5	
	9.1nm,1.0s,SNR=6.7							

*ISCJB **18** 10:30:50.4±0.5, 32.°77N±0.°03×115.°87W±0.°03, h2km±6km, Error ellipse: s-maj=4.9km s-min=4.2km az=179.5*
*MEX **18** 10:30:51.1±1.1, 33.°02N×115.°86W, h18km±111km, MD3.7 NEIC **18** 10:30:52.2, 32.°68N×115.°86W, h3km, ML3.5(PAS), After PAS.*

ISC 18 10:30:51.6±1.2, **32.°69N**±0.°03×**115.°85W**±0.°02, **h4**km±14km,
n26,σ1°**33**/37, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.62**	**117**	*e*P	**Pg**	**10 31 04.1**	**+0.6**
MBIG				*i* S	**Sb**	**10 31 14.1**	**+0.1**
BAR	**Barrett**	**0.69**	**270**	*e*Pg	**Pg**	**10 31 04.9**	**0.0**
BAR				*e*Sg	**Sg**	**10 31 14.2**	**+0.3**
CBX	**Cerro Bola**	**0.78**	**242**	*i* P	**Pg**	**10 31 06.9**	**+0.3**
CBX				*i* S	**Sg**	**10 31 17.3**	**+0.6**
CBX	**Cerro Bola**	**0.78**	**242**	*i* P	**Pg**	**10 31 06.9**	**+0.3**
CBX				*i* S	**Sg**	**10 31 17.3**	**+0.6**
GLA	**Glamis**	**0.94**	**67**	*e*Pg	**Pg**	**10 31 08.3**	**-1.2**
GLA				*e*Sg	**Sg**	**10 31 21.1**	**-0.7**
PFO	**Pinyon Flats O**	**1.05**	**331**	*e*Pn	**Pg**	**10 31 10.7**	**-1.1**
PFO				*e*Sg	**Sg**	**10 31 24.9**	**-0.6**
SPX	**San Pedro Mart**	**1.67**	**168**	*e*P	**Pn**	**10 31 20.5**	**-1.5**
MWC	**Mount Wilson**	**2.40**	**310**	*e*Pg	**Pb**	**10 31 34.8**	**-0.7**
PASC	**Pasadena Art C**	**2.45**	**308**	*e*Pg	**Pb**	**10 31 36.6**	**+0.3**
PASC				*e*Sg	**Sb**	**10 32 06.0**	**-0.9**
LDFC	**Landfair**	**2.46**	**14**	*e*Pg	**Pg**	**10 31 38.6**	**-0.3**
214A	**Organ Pipe Nat**	**2.67**	**105**	*e*Pn	**Pn**	**10 31 32.5**	**-3.1**
GSC	**Goldstone, Bar**	**2.73**	**343**	*e*Pn	**Pn**	**10 31 36.5**	**+0.1**
GSC				*e*Pg	**Pb**	**10 31 42.6**	**+1.6**
OSI	**Osito Audit: C**	**3.07**	**310**	*e*Pg	**Pb**	**10 31 46.8**	**-0.1**
ISA	**Isabella, Lake**	**3.68**	**325**	*e*Pg	**Pb**	**10 31 58.0**	**+0.7**
SHPR	**Sheep Range**	**3.85**	**8**	*e*Pn	**Pn**	**10 31 51.5**	**-0.4**
SHPR				*e*Pg	**Pg**	**10 32 06.5**	**+1.0**
SHPR				*e*Sg	**Sg**	**10 32 53.4**	**-2.0**
DAC	**Darwin (Calif)**	**3.86**	**339**	*e*Pn	**Pn**	**10 31 51.4**	**-0.6**
DAC				*e*Pg	**Pg**	**10 32 05.5**	**-0.1**
TUC	**Tucson**	**4.30**	**94**	*e*Pn	**Pn**	**10 31 55.6**	**-2.3**
TUC				*e*Sg	**Sb**	**10 33 04.0**	**+3.9**
WUAZ	**Wupatki**	**4.67**	**52**	*e*Pn	**Pn**	**10 32 02.9**	**-0.1**
CCUT	**Cedar City**	**5.26**	**22**	*e*Pg	**Pg**	**10 32 36.8**	**+4.3**
ARUT	**Antelope Range**	**5.46**	**21**	*e*Pg	**Pg**	**10 32 38.6**	**+2.4**
TPH	**Tonopah**	**5.49**	**349**	*e*Pn	**Pn**	**10 32 14.0**	**-0.4**
	4.1nm,0.8s						
TPH				*e*Pg	**Pg**	**10 32 37.9**	**+1.0**
W18A	**Petrified Fore**	**5.63**	**63**	*e*Pn	**Pn**	**10 32 17.0**	**+0.6**
R11A	**Troy Canyon, C**	**5.66**	**2**	*e*Pg	**Pg**	**10 32 38.7**	**-1.3**
121A	**Cookes Peak, D**	**6.81**	**89**	*e*Pn	**Pn**	**10 32 31.3**	**-1.2**
	8.8nm,0.4s						
PV01	**Paradox Valley**	**8.05**	**46**	*e*Pn	Pn	10 32 53.0	+3.4
PV01				*e*Sg	**Sg**	**10 35 10.1**	**0.0**
MSTX	**Muleshoe**	**11.02**	**80**	*e*Pn	Pn	10 33 33.6	+3.4
	6.0nm,1.3s						

MAN 18 10:33:50, 18.°05N×120.°39E, h33km**, mb4.3, ML3.1, MS2.9, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.35**	**39**	⇑*i*P	Pn	10 34 00.7	+1.8
PIP				*e*S	Sn	10 34 07.6	+3.1
ABRA	**Dolores**	**0.51**	**142**	*e*P	Pn	10 34 02.4	+1.5
ABRA				*e*S	Sn	10 34 10.7	+2.2
APYP	**Conner**	**0.84**	**103**	*e*P	Pb	10 34 06.8	+0.7
APYP				*e*S	Sb	10 34 18.1	+1.0

IDC 18 10:35:35.9±3.3, **54.°18N×87.°27E, h0**km**, mb1 2.3**/1, **mb1mx2.3**/42, **mbtmp2.3**/1, **ML2.3**/1, **Error ellipse: s-maj=29.8km s-min=18.4km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**262**	*i*		10 44 59.9	
	baz=82,slow=330,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.46**	**262**	Pg	Pn	10 36 01.5	-2.1
	1.0nm,0.3s,baz=81,slow=16,SNR=16						
ZALV				Lg	Lg	10 36 22.8	
	0.6nm,0.3s,baz=80,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	10 37 35.7	+1.6
	0.0nm,0.3s,baz=25,slow=30,SNR=3.6						
MKAR				Lg	Lg	10 39 50.8	
	0.0nm,0.3s,baz=28,slow=28,SNR=3.8						

IDC 18 10:40:57.8±3.0, **53.°68N×87.°12E, h0**km**, mb1 2.8**/1, **mb1mx2.6**/39, **mbtmp2.8**/1, **ML2.7**/1, **Error ellipse: s-maj=29.4km s-min=16.6km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**282**	*i*		10 50 00.8	
	baz=102,slow=332,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.39**	**282**	Pg	Pn	10 41 22.5	-1.9
	0.8nm,0.3s,baz=102,slow=16,SNR=11						
ZALV				Lg	Lg	10 41 42.7	
	0.7nm,0.3s,baz=102,slow=29,SNR=8.9						
MKAR	**Makanchi Array**	**7.55**	**206**	Pn	Pn	10 42 50.7	+1.6
	0.1nm,0.3s,baz=26,slow=13,SNR=7.5						

*ISCJB **18** 10:43:23.8±0.6, 20.°82S±0.°05×69.°6W±0.°1, h63km±9km, mb3.7/3, Error ellipse: s-maj=16.9km s-min=8.0km az=170.3*
*IDC **18** 10:43:27.8±2.2, 20.°95S×69.°38W, h84km±19km, mb3.5/3, mb1 3.7/5, mb1mx3.4/17, mbtmp4.0/5, MS2.7/1, Ms1 2.8/1, ms1mx2.2/19, Error ellipse: s-maj=37.2km s-min=16.0km az=95.0*

ISC 18 10:43:24.4±1.1, **20.°84S**±0.°05×**69.°62W**±0.°09, **h54**km±10km, **n22**,σ1°**20**/16, **mb3.9**/3, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.24**	**149**	*e*P	**Pn**	**10 43 33.2**	**-0.3**
PATCX	**Punta Patache**	**0.50**	**272**	*e*P	**Pn**	**10 43 35.7**	**-0.2**
HMBC	**Humberstone**	**0.61**	**336**	*e*P	**Pn**	**10 43 37.7**	**+0.4**
PB07	**IPOC Station P**	**0.92**	**196**	*e*P	**Pn**	**10 43 39.9**	**-1.4**
PSGC	**Pisagua**	**1.32**	**339**	*e*P	**Pn**	**10 43 46.9**	**+0.3**
PB04	**IPOC Station P**	**1.43**	**175**	*e*P	**Pn**	**10 43 48.8**	**+0.9**
MNMC	**Minimini**	**1.70**	**1**	*e*P	**Pn**	**10 43 53.4**	**+1.5**
PB06	**IPOC Station P**	**1.86**	**179**	*e*P	**Pn**	**10 43 53.0**	**-1.0**
LVC	**Limon Verde**	**1.89**	**160**	P	**Pn**	**10 43 55.5**	**+1.0**
	14µm,0.3s,baz=336,slow=9.4,SNR=2317						
LVC				S	**Sn**	**10 44 18.2**	**+1.0**
	15µm,0.3s,baz=270,slow=20,SNR=35						
PB10	**IPOC Station P**	**2.80**	**198**	*e*P	**Pn**	**10 44 09.2**	**+2.5**
LPAZ	**La Paz**	**4.74**	**18**	P	Pn	10 44 39.0	+5.1
	3.2nm,0.3s,baz=205,slow=5.8,SNR=90						
LPAZ				LR	LR	10 46 54.8	
	comp=Z,76nm,19.7s,baz=111,slow=43						
SIV	**San Ignacio**	**9.44**	**61**	P	**Pn**	**10 45 37.9**	**+0.1**
	2.9nm,0.3s,baz=264,slow=10,SNR=36						
BDFB	**Brasilia**	**21.15**	**79**	P	**P**	**10 48 04.8**	**-0.5**
	3.0nm,0.3s,baz=255,slow=13,SNR=7.0						
TORD	**Torodi Ar. Bea**	**77.76**	**71**	P	**P**	**10 55 14.8**	**-1.5**
	0.5nm,0.4s,baz=255,slow=4.8,SNR=9.7						
YKA	**Yellowknife Ar**	**90.34**	**341**	P	**P**	**10 56 19.5**	**+0.4**
	0.1nm,0.6s,baz=135,slow=4.6,SNR=3.9						
H11S2	**WAKE ISLAND Hyf**	**27.13**	**278**	T	T	13 21 56.6	
	baz=103,slow=75,SNR=152						
H11S1	**WAKE ISLAND Hyf**	**27.14**	**278**	T	T	13 21 55.8	
	baz=103,slow=75,SNR=98						
H11S3	**WAKE ISLAND Hyf**	**27.15**	**278**	T	T	13 21 56.5	
	baz=103,slow=75,SNR=95						
H11N3	**WAKE ISLAND Hyf**	**27.20**	**279**	T	T	13 22 01.8	
	baz=102,slow=75,SNR=50						
H11N2	**WAKE ISLAND Hyf**	**27.21**	**279**	T	T	13 22 03.1	
	baz=102,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hyf**	**27.22**	**279**	T	T	13 22 03.0	
	baz=102,slow=75,SNR=28						
MKAR	**Makanchi Array**	**145.48**	**35**	PKPbc	**PKPab**	**11 02 56.4**	**-0.5**
	0.5nm,0.8s,baz=316,slow=5.1,SNR=5.3						

*ISCJB **18** 10:52:49.1±0.8, 13.°53S±0.°07×77.°1W±0.°1, h28km, mb3.6/7, MS2.9/2, Error ellipse: s-maj=17.5km s-min=9.1km az=159.5*
*IDC **18** 10:52:53.6±2.6, 13.°42S×76.°96W, h47km±21km, mb3.4/7, mb1 3.7/10, mb1mx3.6/21, mbtmp3.7/10, ML3.4/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/14, Error ellipse: s-maj=33.9km s-min=14.7km az=67.0*

ISC 18 10:52:51.5±0.9, **13.°44S**±0.°10×**77.°0W**±0.°1, **h28**km, **n15**, σ1°**29**/14, **mb3.6/7, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.45**	**6**	P	**Pn**	**10 53 15.9**	**+0.1**
	63nm,0.3s,baz=186,slow=13,SNR=108						
NNA				S	**Sn**	**10 53 34.9**	**+0.9**
	146nm,0.3s,baz=174,slow=13,SNR=22						
ATAH	**Atahualpa**	**6.41**	**348**	P	**Pn**	**10 54 27.4**	**+2.9**
	1.5nm,0.3s,baz=186,slow=5.5,SNR=6.8						
LPAZ	**La Paz**	**9.03**	**109**	P	**Pn**	**10 55 01.1**	**+0.5**
	0.1nm,0.3s,baz=283,slow=8.7,SNR=4.7						
LPAZ				LR	LR	10 59 06.1	
	comp=Z,78nm,20.6s,baz=262,slow=41						
LVC	**Limon Verde**	**11.93**	**141**	P	**Pn**	**10 55 41.7**	**+1.7**
	15nm,0.3s,baz=321,slow=12,SNR=3.7						
LVC				S	Sn	10 57 42.4	-10
	9.0nm,0.3s,baz=327,slow=11,SNR=2.9						
LVC				LR	LR	10 59 30.9	
	comp=Z,229nm,18.4s,baz=288,slow=33						
ROSC	**El Rosal**	**18.36**	**8**	LR	LR	11 05 48.6	
	comp=Z,100nm,18.6s,baz=244,slow=42						
PTGA	**Pitinga**	**21.07**	**55**	P	**P**	**10 57 32.8**	**-0.9**
	0.9nm,0.3s,baz=288,slow=20,SNR=2.8						
PTGA				LR	LR	11 06 53.8	
	comp=Z,28nm,20.5s,baz=176,slow=40						
JTS	**JuntasAbangare**	**24.86**	**341**	LR	LR	11 06 42.6	
	comp=Z,54nm,18.0s,baz=192,slow=33						
TXAR	**Lajitas Array**	**49.71**	**329**	P	**P**	**11 01 39.5**	**-1.9**
	0.3nm,0.7s,baz=153,slow=9.4,SNR=5.7						
PDAR	**Pinedale Array**	**63.40**	**334**	P	**P**	**11 03 18.9**	**+0.2**
	0.3nm,0.8s,baz=128,slow=8.2,SNR=2.5						
NVAR	**Mina Array Bea**	**64.46**	**325**	P	**P**	**11 03 26.3**	**+0.5**
	0.5nm,0.7s,baz=131,slow=6.1,SNR=6.7						
ULM	**Lac du Bonnet**	**65.54**	**347**	P	**P**	**11 03 31.5**	**-0.8**
	1.0nm,0.5s,baz=184,slow=15,SNR=2.9						
YKA	**Yellowknife Ar**	**81.17**	**343**	P	**P**	**11 05 03.6**	**-0.5**
	0.2nm,0.6s,baz=139,slow=6.0,SNR=5.8						
TORD	**Torodi Ar. Bea**	**82.32**	**75**	P	**P**	**11 05 11.0**	**-0.2**
	0.9nm,0.3s,baz=254,slow=4.3,SNR=5.8						
WRA	**Warramunga Arr**	**134.71**	**224**	PKP	**PKPdf**	**11 12 07.8**	**-0.6**
	0.5nm,0.7s,baz=135,slow=2.1,SNR=4.4						
SONM	**Songino Array**	**145.59**	**356**	PKPbc	**PKPdf**	**11 12 27.4**	**0.0**
	0.3nm,0.5s,baz=339,slow=2.0,SNR=3.6						

*IDC **18** 11:00:52.1±2.2, 3.°17N×95.°59E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/32, mbtmp3.5/7, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.3/35, Error ellipse: s-maj=69.7km s-min=20.6km az=56.0*
*ISCJB **18** 11:00:54.8±1.0, 3.°2N±0.°1×95.°68E±0.°07, h31km, mb3.6/5, Error ellipse: s-maj=15.3km s-min=9.2km az=22.1*
*DJA **18** 11:00:59.7±0.8, 3.°N±6.°×9.°6E±.°, h77km±11km, M3.6/7, mb3.7/1, MLv3.5/7*

ISC 18 11:00:57.2±1.1, **3.°21N**±0.°06×**95.°82E**±0.°09, **h31**km, **n16**, σ1°**29**/15, **mb3.6/5, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.94**	**147**	P	**Pb**	**11 01 16.2**	**+1.1**
TPTI		**1.36**	**88**	P	**Pn**	**11 01 19.7**	**-0.4**
TPTI				S	**Sn**	**11 01 36.6**	**-0.5**
KCSI	**Kotacane, Aceh**	**1.98**	**81**	P	**Pn**	**11 01 30.2**	**+1.6**
KCSI				S	**Sb**	**11 01 55.4**	**-1.4**
LHMI	**Lhok Sumawe**	**2.30**	**29**	P	**Pb**	**11 01 38.4**	**+0.3**
LHMI				S	Sb	11 02 17.7	+12
PSI	**Prapat**	**3.13**	**97**	Pn	**Pn**	**11 01 46.6**	**+2.1**
	2.3nm,0.3s,baz=312,slow=9.5,SNR=8.8						
PSI				LR	LR	11 02 43.4	
	comp=Z,63nm,18.8s,baz=246,slow=33						
MNSI	**Mandailing Nat**	**4.46**	**122**	P	**Pn**	**11 02 00.1**	**-2.6**
RGRI	**Rengat**	**7.41**	**118**	P	**Pn**	**11 02 43.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**15.46**	**11**	Pn	**Pn**	**11 04 33.7**	**+0.5**
	0.1nm,0.3s,baz=196,slow=12,SNR=6.9						
H08S2	**Diego Garcia H**	**25.65**	**245**	T	T	11 32 46.9	
	baz=66,slow=75,SNR=6.5						
H08S3	**Diego Garcia H**	**25.65**	**245**	T	T	11 32 48.1	
	baz=66,slow=75,SNR=6.8						
H08S1	**Diego Garcia H**	**25.67**	**245**	T	T	11 32 48.3	
	baz=66,slow=75,SNR=6.5						
WRA	**Warramunga Arr**	**44.27**	**123**	P	**P**	**11 09 05.2**	**+0.8**
	0.6nm,0.6s,baz=300,slow=9.2,SNR=6.8						
MKAR	**Makanchi Array**	**44.98**	**347**	P	**P**	**11 09 09.4**	**-0.2**
	0.2nm,0.4s,baz=162,slow=7.3,SNR=6.6						
SONM	**Songino Array**	**45.38**	**10**	P	**P**	**11 09 11.9**	**-1.0**
	0.6nm,0.6s,baz=199,slow=8.0,SNR=4.3						
ASAR	**Alice Springs**	**45.70**	**128**	P	**P**	**11 09 16.3**	**+0.5**
	0.2nm,0.7s,baz=302,slow=7.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**51.38**	**352**	P	**P**	**11 09 58.7**	**-0.2**
	1.6nm

0.2nm,0.6s,baz=306,slow=4.2,SNR=3.9

GUC 18 11:39:20.6±0.4, 37°79S×73°35W, h28km±2km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.96**	**12**	*i* P	Pn	11 39 37.4	-0.8
CCSP				*i* S	Sn	11 39 49.5	-1.5
COCH	**Cobquecura**	**1.71**	**15**	*i* P	Pn	11 39 48.8	+0.2
COCH				*i* S	Sn	11 40 10.4	+0.9
VLCH	**Valdivia**	**2.02**	**178**	*i* P	Pn	11 39 53.5	+0.7
VLCH				*i* S	Sn	11 40 18.3	+1.3
LNCH	**Linares**	**2.39**	**37**	*i* P	Pn	11 39 58.6	+0.7
LNCH				*i* S	Sn	11 40 27.8	+1.4
TALC	**Talca**	**2.76**	**31**	*i* S	Sn	11 40 36.3	+1.0
TALC				AML	AML	11 40 47.2	
	comp=N,978nm,0.7s						

IDC ***18*** *11:52:57.0±4.2, 14°.18N×92°.72W, h0km, mb3.2/2, mb1 3.5/6, mb1mx3.3/36, mbtmp3.2/6, ML3.2/4, Error ellipse: s-maj=70.1km s-min=23.4km az=1.0*

ISC 18 11:53:04.9±2.3, 14°.4N±0°.2×92°.80W±0°.08, h46km, n6, σ0s86/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.34**	**74**	Pn	Pn	11 53 35.8	-5.4
	3.7nm,0.3s,baz=256,slow=8.3,SNR=30						
APG				Sn	**Sn**	**11 54 09.2**	**+0.4**
	1.4nm,0.3s,baz=76,slow=22,SNR=5.6						
CMIG	**Matias Romero**	**3.37**	**324**	Pn	Pn	11 53 51.7	-3.4
	0.8nm,0.3s,baz=165,slow=15,SNR=11						
CMIG				Sn	**Sn**	**11 54 33.8**	**-0.1**
	3.0nm,0.3s,baz=76,slow=12,SNR=7.5						
TEIG	**Tepich**	**7.25**	**36**	Pn	**Pn**	**11 54 47.5**	**-0.8**
	1.4nm,0.3s,baz=308,slow=20,SNR=15						
TEIG				Sn	**Sn**	**11 56 10.1**	**+0.8**
	0.5nm,0.3s,baz=1.2,slow=9.7,SNR=3.6						
TXAR	**Lajitas Array**	**17.97**	**328**	P	**Pn**	**11 57 11.7**	**+0.2**
	0.0nm,0.3s,baz=134,slow=12,SNR=2.5						
NVAR	**Mina Array Bea**	**32.90**	**321**	P	**P**	**11 59 36.1**	**+1.0**
	0.2nm,0.5s,baz=129,slow=8.7,SNR=4.0						
YKA	**Yellowknife Ar**	**50.49**	**347**	P	**P**	**12 01 57.3**	**-0.7**
	0.2nm,0.6s,baz=153,slow=7.4,SNR=4.5						

IDC ***18*** *12:05:44.6±1.0, 6°.72S×147°.54E, h0km, mb3.9/9, mb1 4.2/10, mb1mx3.9/19, mbtmp4.0/10, ML4.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/19, Error ellipse: s-maj=33.7km s-min=18.7km az=92.0*

ISCJB ***18*** *12:05:52.1±0.5, 6°.78S±0°.05×147°.30E±0°.08, h65km, mb3.8/10, Error ellipse: s-maj=11.7km s-min=6.8km az=22.5*

NEIC ***18*** *12:05:54.1±1.5, 6°.77S×147°.38E, h72km±12km, mb4.1/3, Error ellipse: s-maj=17.0km s-min=7.7km az=82.0*

ISC 18 12:05:53.6±0.7, 6°.79S±0°.07×147°.36E±0°.10, h65km, n29, σ0s71/32, mb4.0/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**5.44**	**62**	P	**Pn**	**12 07 12.7**	**+0.6**
	baz=5.6,SNR=4.0						
JAY	**Jayapura**	**7.87**	**302**	Pn	Pn	**12 07 46.2**	**+0.6**
	0.3nm,0.3s,baz=51,slow=17,SNR=2.7						
JAY				LR	LR	12 11 18.5	
	comp=Z,113nm,21.3s,baz=203,slow=42						
COEN	**Coen**	**8.22**	**210**	P	**Pn**	**12 07 51.9**	**+1.6**
	baz=8.2,SNR=22						
COEN				S	**Sn**	**12 09 21.4**	**-0.4**
	baz=8.2,SNR=7.5						
COEN	**Coen**	**8.22**	**210**	*e*Pn	**Pn**	**12 07 51.2**	**+0.8**
COEN				*e*Sn	**Sn**	**12 09 21.5**	**-0.3**
CTA	**Charters Tower**	**13.26**	**185**	Pn	**Pn**	**12 08 59.9**	**+0.8**
	0.2nm,0.3s,baz=352,slow=16,SNR=2.6						
QIS	**Mount Isa**	**15.61**	**208**	P	**P**	**12 09 32.2**	**-0.6**
	baz=16,SNR=3.3						
KDU	**Kakadu**	**15.79**	**247**	P	**Pn**	**12 09 31.9**	**-0.2**
	baz=16,SNR=6.8						
WRAB	**Tennant Creek**	**18.17**	**223**	*e*P	**Pn**	**12 10 01.4**	**-0.1**
	5.4nm,0.8s						
WB2	**Warramunga Arr**	**18.18**	**223**	*e*P	**P**	**12 10 01.3**	**+0.1**
WRA	**Warramunga Arr**	**18.18**	**223**	P	**P**	**12 10 01.3**	**+0.1**
	0.8nm,0.3s,baz=51,slow=11,SNR=31						
WRA				S	Sn	12 13 15.2	-9.0
	0.1nm,0.3s,baz=52,slow=23,SNR=4.2						
QLP	**Quilpie**	**19.91**	**188**	P	**Pn**	**12 10 21.1**	**-1.1**
	baz=20,SNR=13						
KNRA	**Kununurra**	**20.25**	**243**	P	**P**	**12 10 23.2**	**-0.5**
	baz=20,SNR=4.4						
AS31	**Alice Springs**	**21.18**	**216**	*e*P	**P**	**12 10 34.5**	**+0.7**
ASAR	**Alice Springs**	**21.18**	**216**	P	**P**	**12 10 34.1**	**+0.3**
	3.0nm,0.5s,baz=54,slow=9.0,SNR=76						
ASAR				S	**S**	**12 14 26.2**	**+0.2**
	0.9nm,1.0s,baz=33,slow=26,SNR=4.1						
BATI	**Baumata**	**23.67**	**260**	P	**P**	**12 10 59.3**	**-0.3**
	8.7nm,0.5s,baz=166,slow=4.6,SNR=3.5						
STKA	**Stephens Creek**	**25.53**	**191**	P	**P**	**12 11 15.0**	**-1.2**
	2.1nm,0.4s,baz=355,slow=8.4,SNR=8.5						
STKA	**Stephens Creek**	**25.53**	**191**	P	**P**	**12 11 16.1**	**-0.1**
	baz=26,SNR=5.4						
WRKA	**Warakurna**	**25.73**	**223**	P	**P**	**12 11 17.5**	**-0.6**
	baz=26,SNR=38						
MEEK	**Meekatharra**	**33.73**	**231**	P	**P**	**12 12 29.0**	**0.0**
	baz=34,SNR=10						
MORW	**Morawa**	**36.92**	**229**	P	**P**	**12 12 56.4**	**0.0**
	baz=37,SNR=4.9						
KSRS	**Korea Array**	**47.61**	**339**	P	**P**	**12 14 22.4**	**-0.7**
	2.0nm,1.0s,baz=155,slow=9.4,SNR=3.8						
KSRS				LR	LR	12 34 01.5	
	comp=Z,20nm,18.6s,baz=177,slow=36						
KSAR	**Wonju Array Be**	**47.62**	**339**	P	**P**	**12 14 22.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**53.94**	**299**	P	**P**	**12 15 12.3**	**+1.2**
	1.3nm,0.6s,baz=119,slow=5.8,SNR=9.4						
VNDA	**Vanda**	**71.11**	**177**	P	**P**	**12 17 05.2**	**+0.6**
	1.5nm,0.6s,baz=332,slow=7.2,SNR=19						
MKAR	**Makanchi Array**	**78.33**	**320**	P	**P**	**12 17 47.1**	**+0.2**
	0.1nm,0.5s,baz=36,slow=8.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**79.86**	**328**	P	**P**	**12 17 53.6**	**-1.5**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.6						
QSPA	**South Pole Qui**	**83.18**	**180**	*e*P	**P**	**12 18 12.6**	**0.0**
	3.7nm,0.6s						
ILAR	**Eielson Array**	**86.06**	**23**	P	**P**	**12 18 26.6**	**-0.3**
	0.6nm,0.9s,baz=217,slow=7.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**145.62**	**283**	PKPbc	**PKPbc**	**12 25 25.7**	**-0.3**
	1.3nm,0.5s,baz=75,slow=3.9,SNR=31						

IDC ***18*** *12:27:01.4±6.2, 36°.32N×70°.95E, h182km±49km, mb3.0/5, mb1 3.1/10, mb1mx2.8/45, mbtmp3.5/10, Error ellipse: s-maj=59.6km s-min=23.2km az=52.0*

NNC ***18*** *12:27:08.3±2.8, 37°.03N×71°.18E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=23.1km s-min=9.6km az=171.0*

ISC 18 12:27:05.2±2.0, 36°.7N±0°.2×70°.94E±0°.09, h188km, n16, σ1s38/19, mb3.3/4, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**322**	⇓P	**Pn**	**12 27 50.8**	**+0.5**
	26nm,0.5s						
DZET				⇑Sn	**Sn**	**12 28 24.8**	**-0.8**
	132nm,0.6s						
SFK	**Sufi-Kurgan**	**3.84**	**31**	⇓Pn	**Pn**	**12 28 05.9**	**+1.1**
	1.1nm,0.2s						
SFK				⇑Sn	**Sn**	**12 28 47.3**	**-4.2**
	10.0nm,0.3s						
MNAS	**Manas**	**5.87**	**11**	⇓Pn	**Pn**	**12 28 31.8**	**+1.1**
	2.0nm,0.5s						
MNAS				⇑Sn	**Sn**	**12 29 37.8**	**-0.4**
	38nm,0.7s						
KK31	**Karatay Array**	**6.37**	**357**	Pn	**Pn**	**12 28 37.8**	**+0.7**
	1.6nm,0.3s,baz=184,slow=12,SNR=21						
KK31				Sn	**Sn**	**12 29 48.6**	**-1.1**
	4.2nm,0.3s,baz=184,slow=15,SNR=16						
AAK	**Ala-Archa**	**6.50**	**24**	⇑Pn	**Pn**	**12 28 39.6**	**+0.7**
	4.1nm,1.4s						
AAK				⇑Sn	**Sn**	**12 29 54.2**	**+1.3**
	2.2nm,0.5s						
AAK	**Ala-Archa**	**6.50**	**24**	P	**Pn**	**12 28 40.0**	**+1.2**
	1.2nm,0.3s,baz=152,slow=5.4,SNR=13						
TKM2	**Tokmak 2**	**7.14**	**29**	⇑Pn	**Pn**	**12 28 47.6**	**+0.3**
	4.4nm,0.6s						
MKAR	**Makanchi Array**	**13.13**	**37**	P	**Pn**	**12 30 04.8**	**+0.2**
	0.1nm,0.3s,baz=225,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**14.92**	**19**	P	**P**	**12 30 29.4**	**+1.7**
	0.0nm,0.3s,baz=208,slow=12,SNR=3.7						
BVAR	**Borovoye Array**	**16.30**	**359**	P	**Pn**	**12 30 44.0**	**+0.6**
	0.3nm,0.3s,baz=163,slow=12,SNR=4.5						
AKTO	**Aktyubinsk**	**16.55**	**330**	P	**Pn**	**12 30 46.6**	**0.0**
	0.3nm,0.3s,baz=140,slow=12,SNR=7.4						
ZALV	**Zalesovo Beam**	**19.72**	**25**	P	**P**	**12 31 20.4**	**+0.2**
	0.4nm,0.3s,baz=218,slow=9.1,SNR=3.3						
ARCES	**ARCESS Array B**	**40.91**	**338**	P	**P**	**12 34 28.1**	**-0.6**
	1.8nm,0.8s,baz=347,slow=1.6,SNR=3.6						
YKA	**Yellowknife Ar**	**81.01**	**3**	P	**P**	**12 38 57.8**	**-0.7**
	0.1nm,0.3s,baz=349,slow=5.5,SNR=3.2						
WRA	**Warramunga Arr**	**82.15**	**122**	P	P	12 39 00.9	-4.2
	0.3nm,0.5s,baz=324,slow=4.9,SNR=8.6						
ASAR	**Alice Springs**	**84.42**	**125**	P	P	12 39 12.4	-4.3
	0.3nm,0.6s,baz=308,slow=5.0,SNR=12						

BJI ***18*** *12:29:50.1, 39°.30N×70°.10E, h5km, mb3.5/1, ML4.0/1, Ms3.8/1, Ms7 3.4/1*

IDC ***18*** *12:29:50.4±0.8, 39°.26N×70°.33E, h0km, mb3.9/13, mb1 4.0/21, mb1mx3.8/45, mbtmp3.9/21, ML3.4/7, MS2.7/5, Ms1 2.8/5, ms1mx2.5/33, Error ellipse: s-maj=15.9km s-min=10.3km az=155.0*

ISCJB ***18*** *12:29:51.8±0.3, 39°.53N±0°.03×70°.06E±0°.03, h10km, mb3.9/15, MS3.1/3, Error ellipse: s-maj=4.6km s-min=3.1km az=157.5*

NNC ***18*** *12:29:52.8±0.4, 39°.48N×70°.02E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=9.0km s-min=2.2km az=138.0*

KRNET ***18*** *12:29:52.8±0.1, 39°.43N×70°.19E, h25km, mb4.3*

NEIC ***18*** *12:29:57.4±0.8, 39°.42N×70°.31E, h46km±7km, mb4.3/4, Error ellipse: s-maj=8.4km s-min=7.7km az=140.0*

ISC 18 12:29:52.9±0.5, 39°.40N±0°.05×70°.18E±0°.04, h10km, n68, σ1s57/75, mb4.0/15, MS2.7/3, 20C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.82**	**37**	*i* P	**Pg**	**12 30 07.5**	**-1.3**
	baz=37						
BTK				*e*S	**Sg**	**12 30 19.1**	**-0.4**
	baz=37						
DZET	**Dzherino**	**1.21**	**241**	⇓P	**Pn**	**12 30 14.6**	**-1.4**
	48nm,0.3s						
DZET				⇓S	**Sb**	**12 30 30.6**	**-1.0**
	634nm,0.4s						
DRK	**Karamyk**	**1.26**	**86**	*e*P	**Pn**	**12 30 16.0**	**-0.8**
	baz=87						
DRK				*e*S	**Sb**	**12 30 32.0**	**-1.3**
	baz=87						
CHVK	**Chauvay**	**1.73**	**64**	*e*P	**Pn**	**12 30 23.0**	**-0.3**
	baz=65						
CHVK				*e*S	**Sn**	**12 30 45.0**	**-0.5**
	baz=65						
SFK	**Sufi-Kurgan**	**2.64**	**75**	⇑Pn	**Pb**	**12 30 39.7**	**-0.7**
	94nm,0.7s						
SFK				⇑Lg	Lg	12 31 18.2	
	503nm,0.7s						
MNAS	**Manas**	**3.55**	**29**	⇓Pn	**Pn**	**12 30 49.9**	**+1.7**
	8.7nm,0.3s						
MNAS				⇑Pg	**Pb**	**12 30 57.8**	**+1.9**
	55nm,0.6s						
MNAS				⇓Lg	Lg	12 31 44.4	
	159nm,0.6s						
KK31	**Karatay Array**	**3.71**	**4**	⇑Pn	Pn	12 30 53.1	+2.8
	11nm,0.4s,baz=175,slow=12,SNR=78						
KK31				⇑Pg	**Pb**	**12 31 00.1**	**+1.6**
	99nm,0.5s,baz=192,slow=16,SNR=6.8						
KK31				Lg	Lg	12 31 48.8	
	94nm,0.5s,baz=181,slow=31,SNR=7.6						
KKAR	**Karatay Array**	**3.71**	**4**	*e*Pn	Pn	12 30 53.3	+3.1
KKAR				*e*Sg	**Sg**	**12 31 50.5**	**-1.5**
AML	**Almayashu**	**3.82**	**43**	P	**Pn**	**12 30 53.5**	**+1.4**
	SNR=16						
EKS2	**Erkin-Say**	**4.25**	**39**	P	**Pn**	**12 30 59.8**	**+2.1**
	SNR=6.7						
EKS2	**Erkin-Say**	**4.25**	**39**	*e*Pn	**Pn**	**12 30 59.5**	**+1.8**
UCH	**Uchtor**	**4.34**	**48**	P	**Pn**	**12 31 01.0**	**+1.7**
	SNR=14						
KSH	**Kashi**	**4.49**	**87**	Pn	**Pn**	**12 30 59.8**	**-1.2**
KSH				SMN			
	370nm,1.0s						
KSH				SME			
	250nm,0.9s						
AAK	**Ala-Archa**	**4.59**	**44**	⇑Pn	**Pn**	**12 31 03.7**	**+1.2**
	12nm,0.8s						
AAK				⇓Pg	**Pb**	**12 31 15.2**	**+1.5**
	56nm,0.9s						
AAK				⇓Lg	Lg	12 32 16.8	
	147nm,0.7s						
AAK	**Ala-Archa**	**4.59**	**44**	P	**Pn**	**12 31 04.7**	**+2.1**
	SNR=11						
AAK	**Ala-Archa**	**4.59**	**44**	Pn	**Pn**	**12 31 04.5**	**+2.0**
	3.5nm,0.3s,baz=205,slow=7.8,SNR=17						
AAK				Lg	Lg	12 32 17.5	
	10nm,0.3s,baz=347,slow=21,SNR=5.3						
KZA	**Kyzart**	**4.69**	**54**	P	**Pn**	**12 31 06.2**	**+2.2**
	SNR=14						
KBL	**Kabul**	**4.93**	**191**	*e*Pn	**Pn**	**12 31 10.0**	**+2.7**
CHMS	**Chumysh**	**4.98**	**42**	P	**Pn**	**12 31 10.1**	**+2.3**
	SNR=11						
USP	**Ospenovka**	**5.05**	**39**	P	**Pn**	**12 31 10.0**	**+1.3**
	SNR=17						
TKM2	**Tokmak 2**	**5.39**	**48**	⇓Pn	**Pn**	**12 31 14.7**	**+1.1**
	25nm,0.6s						
TKM2				⇑Sn	**Sn**	**12 32 18.2**	**+2.4**
	37nm,0.7s						
TKM2				⇓Lg	Lg	12 32 45.5	
	89nm,0.8s						
TKM2	**Tokmak 2**	**5.39**	**48**	P	**Pn**	**12 31 15.1**	**+1.5**
	SNR=25						
TKM2	**Tokmak 2**	**5.39**	**48**	*e*Pn	**Pn**	**12 31 14.8**	**+1.2**
	32nm,0.4s						
ULHL	**Ulahol**	**5.41**	**56**	P	Pn	12 31 18.6	+4.8
	SNR=5.8						
KNDC	**Almaty**	**6.38**	**51**	⇑Lg	Lg	12 33 16.6	
	126nm,1.0s						
PDGK	**Podgornoye**	**8.02**	**58**	⇑Pn	**Pn**	**12 31 51.4**	**+1.9**
	5.3nm,0.9s						
PDGK				⇓Lg	Lg	12 34 08.5	
	29nm,1.1s						
IMYA	**Miami**	**8.53**	**252**	*e*P	**Pn**	**12 31 57.5**	**+0.8**
IMOG	**Moghan**	**9.19**	**252**	*e*P	**Pn**	**12 32 07.6**	**+1.9**
GEYT	**Alibeck**	**9.55**	**265**	Pn	**Pn**	**12 32 10.5**	**+0.1**
	0.5nm,0.3s,baz=65,slow=12,SNR=3.4						
GEYT				Sn	**Sn**	**12 33 59.9**	**+2.1**
	1.6nm,0.3s,baz=110,slow=17,SNR=3.9						
MK31	**Makanchi Array**	**11.53**	**46**	⇓Pn	**Pn**	**12 32 39.1**	**+1.6**
	1.0nm,0.6s,baz=225,slow=8.2,SNR=11						
MK31				⇑Lg	Lg	12 36 00.4	
	4.5nm,0.8s,baz=234,slow=14,SNR=5.3						
MKAR	**Makanchi Array**	**11.53**	**46**	Pn	**Pn**	**12 32 36.8**	**-0.6**
	0.1nm,0.3s,baz=226,slow=11,SNR=4.1						
MKAR				Lg	Lg	12 35 49.0	
	0.2nm,0.3s,baz=240,slow=22,SNR=3.9						
MKAR				LR	LR	12 37 45.7	
	comp=Z,22nm,21.7s,baz=237,slow=41						
AB31	**Akbulak array**	**12.27**	**327**	⇑Pn	**Pn**	**12 32 46.2**	**-1.4**
	1.9nm,0.4s						
AB31				⇑Sn	**Sn**	**12 35 00.8**	**-3.5**
	3.4nm,0.4s,baz=149,slow=23,SNR=7.5						
ABKAR	**Akbulak array**	**12.27**	**327**	*e*Pn	**Pn**	**12 32 45.8**	**-1.8**
	3.4nm,0.4s						
ABKAR				*e*Sn	**Sn**	**12 35 01.3**	**-3.0**
KURBB	**Kurchatov Arra**	**12.67**	**25**	⇓Pn	**Pn**	**12 32 52.0**	**-1.1**
	2.4nm,0.8s						
KURBB				⇑Lg	Lg	12 36 35.9	
	32nm,0.8s						
KURBB	**Kurchatov Arra**	**12.67**	**25**	Pn	**Pn**	**12 32 50.2**	**-2.9**
	0.1nm,0.3s,baz=217,slow=13,SNR=4.5						
KURBB				Lg	Lg	12 36 32.1	
	0.1nm,0.3s,baz=216,slow=29,SNR=7.5						
KURK	**Kurchatov**	**12.78**	**25**	⇑Pn	**Pn**	**12 32 54.5**	**0.0**
	1.2nm,0.8s						
KURK				⇑Lg	Lg	12 36 37.3	
	9.4nm,0.9s						
KURK	**Kurchatov**	**12.78**	**25**	Pn	Pn	12 32 50.2	-4.4
KURK				Lg	Lg	12 36 32.1	
BVA0	**Borovoye Array**	**13.63**	**1**	Pn	**Pn**	**12 33 06.0**	**-0.1**
	2.8nm,0.7s,baz=230,slow=38,SNR=12						
BVA0				⇑Lg	Lg	12 37 03.2	
	17nm,1.4s						
BVAR	**Borovoye Array**	**13.63**	**1**	Pn	**Pn**	**12 33 05.2**	**-0.9**
	0.4nm,0.3s,baz=165,slow=12,SNR=9.9						
BVAR				Lg	Lg	12 37 09.3	
	baz=175,slow=25,SNR=2.9						
BVAR				LR	LR	12 38 45.3	
	comp=Z,65nm,18.8s,baz=227,slow=39						
BRVK	**Borovoye**	**13.66**	**0**	⇑Pn	**Pn**	**12 33 06.1**	**-0.4**
	7.4nm,1.0s						
BRVK				⇑Lg	Lg	12 37 03.9	
	13nm,0.9s						
BRVK	**Borovoye**	**13.66**	**0**	*e*Pn	**Pn**	**12 33 06.8**	**+0.3**
AKTO	**Aktyubinsk**	**13.98**	**326**	⇑Pn	**Pn**	**12 33 09.4**	**-1.5**
	8.9nm,1.3s						
AKTO				⇑Sn	**Sn**	**12 35 43.4**	**-2.6**
	7.5nm,0.8s						
AKTO	**Aktyubinsk**	**13.98**	**326**	Pn	**Pn**	**12 33 08.7**	**-2.2**
	0.2nm,0.3s,baz=131,slow=16,SNR=4.2						
ZALV	**Zalesovo Beam**	**17.63**	**30**	P	**Pn**	**12 33 56.9**	**-1.5**
	0.6nm,0.3s,baz=221,slow=11,SNR=13						
ZALV				LR	LR	12 41 07.2	
	comp=Z,34nm,21.0s,baz=246,slow=38						
ARU	**Arti**	**18.69**	**340**	*e*P	**Pn**	**12 34 11.5**	**+0.1**
	5.9nm,0.9s						
GNI	**Garni**	**19.55**	**280**	P	**Pn**	**12 34 22.7**	**+0.6**
	1.4nm,0.3s,baz=156,slow=18,SNR=2.3						
KBZ	**Khabaz**	**20.82**	**291**	P	Pn	12 34 36.1	-0.7
	0.8nm,0.4s,baz=236,slow=24,SNR=3.6						
GTA	**Gaotai**	**22.86**	**80**	*e*P	**P**	**12 34 58.3**	**+1.9**
GTA				pP	**pP**	**12 35 03.5**	**+4.2**
GTA				sP	sP	12 35 06.6	+6.0
GTA				PMZ			
	2.0nm,1.1s						
TLY	**Talaya**	**26.22**	**51**	LR	LR	12 46 01.5	
	comp=Z,10nm,20.2s,baz=181,slow=37						
SONM	**Songino Array**	**27.34**	**60**	P	**P**	**12 35 37.9**	**-0.1**
	0.2nm,0.6s,baz=302,slow=8.3,SNR=3.4						
BRTR	**Keskin Array B**	**28.05**	**282**	P	**P**	**12 35 45.8**	**+1.3**
	1.9nm,0.8s,baz=92,slow=8.4,SNR=12						
HHC	**Hu-ho-hao-te**	**31.47**	**74**	*e*P	**P**	**12 36 14.4**	**-0.3**
HHC				PP	**PnPn**	**12 37 17.5**	**0.0**
HHC				LN			
	83nm,14.8s						
HHC				LE			
	89nm,16.0s						
HHC				LZ			
	54nm,13.6s						
CMAR	**Chiang Mai Arr**	**32.47**	**122**	LR	LR	12 50 16.6	
	comp=Z,17nm,20.0s,baz=340,slow=38						
FINES	**FINESS Array B**	**34.74**	**324**	P	**P**	**12 36 43.6**	**+0.8**
	2.3nm,0.7s,baz=110,slow=11,SNR=6.9						
ARCES	**ARCESS Array B**	**38.23**	**336**	P	**P**	**12 37 13.1**	**+0.6**
	1.6nm,0.6s,baz=90,slow=6.1,SNR=9.2						
NB2	**NORSAR Subarra**	**41.70**	**321**	P	**P**	**12 37 41.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**41.70**	**321**	P	**P**	**12 37 41.4**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=108,slow=7.6,SNR=5.2						
TIXI	**Tiksi**	**43.35**	**23**	*e*P	**P**	**12 37 54.1**	**-0.6**
	comp=Z,5.6nm,0.8s						
ESDC	**Sonseca Array**	**55.57**	**296**	P	**P**	**12 39 28.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=58,slow=7.3,SNR=16						
SUMG	**Summit**	**58.12**	**340**	*e*P	**P**	**12 39 47.3**	**+0.8**
	comp=Z,2.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.18**	**267**	P	**P**	**12 40 33.9**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=52,slow=5.5,SNR=24						
INK	**Inuvik**	**71.15**	**9**	P	**P**	**12 41 11.4**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=10,slow=5.5,SNR=6.6						
ILAR	**Eielson Array**	**72.17**	**16**	P	**P**	**12 41 16.9**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=335,slow=4.0,SNR=4.0						
YKA	**Yellowknife Ar**	**78.38**	**2**	P	**P**	**12 41 52.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=352,slow=5.7,SNR=22						
WRA	**Warramunga Arr**	**84.07**	**122**	P	**P**	**12 42 22.4**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=324,slow=5.0,SNR=34						
WRAB	**Tennant Creek**	**84.07**	**122**	*e*P	**P**	**12 42 22.5**	**-1.4**
	comp=Z,2.2nm,0.6s						
WB2	**Warramunga Arr**	**84.08**	**122**	*e*P	**P**	**12 42 22.7**	**-1.3**
ASAR	**Alice Springs**	**86.44**	**125**	P	**P**	**12 42 34.3**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=326,slow=4.3,SNR=16						
ASAR				LR	LR	13 26 02.6	
	comp=Z,79nm,20.0s,baz=116,slow=39						

IDC 18 12:38:59.2±3.4, 54°.23N×87°.30E, h0km, mb1 2.8/2, mb1mx2.7/30, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=30.8km s-min=19.3km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**260**	*i*		12 48 30.0	
	baz=80,slow=330,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.49**	**260**	Pg	Pn	12 39 25.6	-1.6
	2.2nm,0.3s,baz=80,slow=16,SNR=35						
ZALV				Lg	Lg	12 39 46.6	
	1.1nm,0.3s,baz=74,slow=25,SNR=8.7						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	12 40 36.4	+0.8
	0.1nm,0.3s,baz=58,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**8.10**	**205**	Pn	Pn	12 40 59.3	+1.2
	0.1nm,0.3s,baz=26,slow=12,SNR=4.4						

IDC ***18*** *13:01:08.9±0.8, 31°.69S×177°.91W, h0km, mb4.2/6, mb1 4.4/9, mb1mx4.1/34, mbtmp4.2/9, ML4.0/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/33, Error ellipse: s-maj=31.7km s-min=18.8km az=133.0*

ISCJB ***18*** *13:01

PPT2	**Papeete2** 3.3nm,0.3s	**29.29**	**68**	*e*T	T	13 38 01.1			
PPT	**Papeete** comp=Z,67nm,18.3s,baz=245,slow=36	**29.30**	**68**	LR	LR	13 18 48.4			
QLP	**Quilpie** baz=35,SNR=5.5	**33.25**	**269**	P	**P**	**13 07 49.6**	**+1.4**		
STKA	**Stephens Creek** 2.4nm,0.7s,baz=94,slow=8.5,SNR=7.3	**34.20**	**259**	P	**P**	**13 07 58.2**	**+1.7**		
STKA	comp=Z,150nm,18.1s,baz=39,slow=34			LR	LR	13 20 27.1			
STKA	**Stephens Creek** baz=36,SNR=4.9	**34.20**	**259**	P	**P**	**13 07 58.2**	**+1.7**		
BBOO	**Buckleboo** baz=40,SNR=5.3	**38.63**	**256**	P	**P**	**13 08 34.6**	**+0.3**		
AS31	**Alice Springs**	**43.04**	**268**	*e*P	**P**	**13 09 10.0**	**-0.8**		
ASAR	**Alice Springs** 3.1nm,0.4s,baz=106,slow=7.1,SNR=47	**43.05**	**268**	P	**P**	**13 09 11.4**	**+0.6**		
WB2	**Warramunga Arr**	**44.14**	**273**	*e*P	**P**	**13 09 20.0**	**+0.4**		
WRAB	**Tennant Creek** 11nm,0.9s	**44.14**	**273**	*e*P	**P**	**13 09 20.0**	**+0.4**		
WRA	**Warramunga Arr** 6.9nm,0.5s,baz=112,slow=8.0,SNR=79	**44.15**	**273**	P	**P**	**13 09 20.0**	**+0.4**		
WRKA	**Warakurna** baz=49,SNR=12	**47.32**	**264**	P	**P**	**13 09 44.2**	**-0.5**		
MTN	**Manton Dam** baz=52,SNR=3.2	**50.18**	**280**	P	P	13 10 11.2	+4.6		
KNRA	**Kununurra** baz=53,SNR=12	**50.80**	**275**	P	**P**	**13 10 12.9**	**+1.5**		
QSPA	**South Pole Qui** 9.2nm,0.8s	**58.46**	**180**	*e*P	P	13 11 09.6	+3.1		
VNA3	**Neumayer Olymp**	**77.06**	**176**	P	**P**	**13 13 05.5**	**+2.2**		
VNA2	**Neumayer--Watz** baz=168,slow=2.3	**77.49**	**177**	P	P	13 13 08.2	+2.5		
VNA1	**Neumayer--Stat**	**77.72**	**177**	P	**P**	**13 13 07.0**	**+0.1**		
PETK	**Petropavlovsk-** 2.1nm,0.8s,baz=108,slow=8.0,SNR=3.7	**87.02**	**346**	P	**P**	**13 13 54.9**	**-0.5**		
NVAR	**Mina Array Bea** 0.7nm,1.0s,baz=232,slow=6.8,SNR=3.1	**89.16**	**43**	P	**P**	**13 14 06.9**	**+0.6**		
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=261,slow=3.5,SNR=2.6	**93.07**	**57**	P	**P**	**13 14 25.0**	**+0.4**		
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=84,slow=2.0,SNR=8.8	**118.56**	**310**	PKP	**PKPdf**	**13 19 57.5**	**-0.5**		
ARCES	**ARCESS Array B** 2.2nm,0.9s,baz=98,slow=2.7,SNR=6.9	**139.81**	**347**	PKhKP	PKPpre	13 20 31.6			
FINES	**FINESS Array B** 7.3nm,0.6s,baz=70,slow=3.3,SNR=65	**146.31**	**339**	PKPbc	**PKPbc**	**13 20 50.3**	**-0.1**		
NB2	**NORSAR Subarra** comp=Z,3.8nm,1.0s,baz=18,slow=4.3	**149.98**	**351**	PKP	**PKPbc**	**13 21 00.2**	**0.0**		
NOA	**NORSAR Array B** comp=Z,2.8nm,1.0s,baz=14,slow=4.1,SNR=3.7	**149.98**	**351**	PKPbc	**PKPbc**	**13 21 00.4**	**+0.1**		
HFS	**Hagfors** comp=Z,7.9nm,0.9s,baz=101,slow=6.0,SNR=5.0	**150.46**	**348**	PKPbc	**PKPbc**	**13 21 01.2**	**-0.1**		
AKASG	**Malin Array Be** comp=Z,3.1nm,0.8s,baz=54,slow=2.9,SNR=12	**152.28**	**321**	PKPbc	**PKPbc**	**13 21 05.8**	**0.0**		
BRTR	**Keskin Array B** comp=Z,1.1nm,0.6s,baz=101,slow=1.3,SNR=6.4	**153.16**	**296**	PKPbc	**PKPbc**	**13 21 08.2**	**-0.2**		
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,1.0s,baz=179,slow=3.3,SNR=5.0	**161.58**	**179**	PKPab	**PKPab**	**13 21 57.8**	**+1.2**		

GUC 18 13:04:50.8±0.4, 35°.15S×72°.25W, h22km±5km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.56**	**117**	*i* P	Pb	13 05 01.8	-0.3
TALC				*i* S	Sb	13 05 09.7	+0.1
TALC	comp=N,20μm,0.1s			AML	AML	13 05 11.1	
NICH	**Los Niches**	**0.85**	**81**	*i* P	Pb	13 05 06.3	-0.6
NICH				*i* S	Sb	13 05 18.2	+0.4
COCH	**Cobquecura**	**1.08**	**204**	*i* P	Pn	13 05 09.8	-0.8
COCH				*i* S	Sb	13 05 24.1	-0.2
CCSP	**San Pedro de C**	**1.83**	**202**	*i* S	Sb	13 05 45.7	-0.4
CCSP	comp=N,718nm,0.3s			AML	AML	13 05 54.3	

*ATH **18** 13:20:22.5, 34°.11N×25°.17E, h7km±3km, MD3.4/8*
*CSEM **18** 13:20:22.5, 34°.11N×25°.17E, h7km, MD3.4*
*IDC **18** 13:20:23.4±1.8, 33°.95N×24°.88E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/4, mbtmp3.2/3, ML3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx1.9/20, Error ellipse: s-maj=60.4km s-min=30.9km az=141.0*
*ISCJB **18** 13:20:25.0±1.5, 34°.2N±0°.1×25°.16E±0°.09, h20km, mb3.1/2, Error ellipse: s-maj=15.4km s-min=10.2km az=22.5*

ISC 18 13:20:24.1±1.5, 34°.2N±0°.1×25°.19E±0°.05, h20km, n20, σ0§69/18, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.89**	**340**	*e*PB	**Pb**	**13 20 39.6**	**-1.2**
SIVA				*e*SB	**Sn**	**13 20 54.0**	**+0.3**
SIVA	**Sivas**	**0.89**	**340**	*e*Pb	**Pb**	**13 20 39.6**	**-1.2**
SIVA				*e*Sb	**Sn**	**13 20 54.0**	**+0.3**
LAST	**Lasithi**	**1.00**	**14**	*e*PB	**Pn**	**13 20 42.9**	**-0.3**
LAST	**Lasithi**	**1.00**	**14**	*e*Pb	**Pn**	**13 20 42.9**	**-0.3**
NPS	**Neapolis**	**1.13**	**18**	*e*PN	**Pb**	**13 20 44.8**	**-0.2**
NPS	**Neapolis**	**1.13**	**18**	*e*Pn	**Pb**	**13 20 44.8**	**-0.2**
ZKR	**Zakros**	**1.26**	**42**	*e*PB	**Pb**	**13 20 47.6**	**+0.4**
ZKR	**Zakros**	**1.26**	**42**	*e*Pb	**Pb**	**13 20 47.6**	**+0.4**
VAM	**Vamos**	**1.46**	**327**	*e*PG	**Pb**	**13 20 50.8**	**+0.1**
VAM	**Vamos**	**1.46**	**327**	*e*Pg	**Pb**	**13 20 50.8**	**+0.1**
KARN	**Karanos**	**1.60**	**320**	*e*PB	**Pb**	**13 20 53.7**	**+0.7**
KARN	**Karanos**	**1.60**	**320**	*e*Pb	**Pb**	**13 20 53.7**	**+0.7**
KARP	**Karpathos**	**2.12**	**50**	*e*PN	**Pb**	**13 21 01.6**	**-0.2**
KARP	**Karpathos**	**2.12**	**50**	*e*Pn	**Pb**	**13 21 01.6**	**-0.2**
VLI	**Veliai**	**3.12**	**325**	*e*PN	Pb	13 21 15.6	-3.4
VLI	**Veliai**	**3.12**	**325**	*e*Pn	Pb	13 21 15.6	-3.4
GNI	**Garni** comp=Z,17nm,19.7s,baz=259,slow=37	**16.67**	**63**	LR	LR	13 30 48.0	
GERES	**GERESS Array B** 0.1nm,0.3s,baz=151,slow=11,SNR=7.1	**16.95**	**333**	P	**P**	**13 24 23.3**	**+1.3**
TORD	**Torodi Ar. Bea** 0.5nm,0.8s,baz=34,slow=7.7,SNR=4.0	**29.89**	**231**	P	**P**	**13 26 29.8**	**-0.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=268,slow=8.7,SNR=2.7	**44.30**	**56**	P	P	13 28 37.5	+5.0

IDC 18 13:21:11.5±3.9, 6°.84S×148°.10E, h0km, mb2.8/1, mb1 3.3/2, mb1mx3.0/37, mbtmp3.0/2, ML3.1/1, Error ellipse: s-maj=151.1km s-min=46.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=50,slow=11,SNR=4.8	**18.65**	**224**	P	P	13 25 30.7	-0.4
ASAR	**Alice Springs** 0.2nm,0.5s,baz=52,slow=8.9,SNR=9.9	**21.58**	**218**	P	P	13 26 03.2	+0.1
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=82,slow=3.3,SNR=6.9	**146.35**	**283**	PKPbc	PKPdf	13 40 54.7	+0.4

*ISCJB **18** 13:26:31.7±0.7, 24°.5N±0°.1×94°.9E±0°.1, h112km, mb3.3/7, Error ellipse: s-maj=18.5km s-min=9.2km az=38.3*
*IDC **18** 13:26:33.2±3.6, 24°.65N×95°.13E, h104km±37km, mb3.2/7, mb1 3.3/8, mb1mx3.0/48, mbtmp3.5/8, MS3.6/1, Ms1 3.6/1, ms1mx2.4/26, Error ellipse: s-maj=51.3km s-min=13.6km az=61.0*

ISC 18 13:26:33.2±1.0, 24°.5N±0°.2×94°.9E±0°.1, h112km, n11, σ0§78/10, mb3.4/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.89**	**286**	*e*P	**Pn**	**13 26 53.0**	**-0.5**
SHL	**Shillong**	**2.90**	**291**	*e*SN	**Sn**	**13 27 52.5**	**-0.1**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=329,slow=12,SNR=6.7	**7.14**	**147**	P	**Pn**	**13 28 14.7**	**-0.3**
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=150,slow=9.5,SNR=21	**24.39**	**339**	P	**P**	**13 31 42.0**	**+1.0**
AAK	**Ala-Archa** 0.4nm,0.5s,baz=217,slow=17,SNR=1.9	**24.67**	**322**	P	**P**	**13 31 44.6**	**+0.8**
SONM	**Songino Array** 0.3nm,0.4s,baz=193,slow=9.5,SNR=3.6	**24.99**	**19**	P	**P**	**13 31 45.4**	**-1.2**
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=148,slow=10,SNR=2.8	**28.95**	**338**	P	**P**	**13 32 22.5**	**+0.7**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=152,slow=8.2,SNR=2.3	**30.32**	**348**	P	**P**	**13 32 34.3**	**+0.4**
AKTO	**Aktyubinsk** comp=Z,71nm,18.4s,baz=183,slow=38	**38.42**	**322**	LR	LR	13 50 39.0	
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=324,slow=7.3,SNR=10.0	**58.57**	**136**	P	**P**	**13 36 18.6**	**+0.1**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=318,slow=6.4,SNR=11	**61.06**	**139**	P	**P**	**13 36 36.0**	**+0.4**

*GUC **18** 13:30:43.0, 15°.94N×92°.32W, h10km*
*MOS **18** 13:30:56.8±1.1, 14°.64N×91°.90W, h59km, mb5.6/83, MS5.1/33, Error ellipse: s-maj=6.6km s-min=4.1km az=99.0*
*BJI **18** 13:30:56.7, 14°.50N×92°.00W, h44km, mB5.4/29, Ms5.5/36, Ms7 5.3/36*
*ISCJB **18** 13:30:57.9±0.4, 14°.47N±0°.02×92°.03W±0°.02, h74km±3km, mb5.2/303, Error ellipse: s-maj=4.2km s-min=2.7km az=32.0*
*NEIC **18** 13:30:58.3±0.2, 14°.51N×91°.99W, mb5.4/231, MW5.6, MD5.6(MEX), MD5.8(SNET), Error ellipse: s-maj=4.4km s-min=2.6km az=213.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^17^Nm; Mrr=0.63; Mθθ=0.08; Mφφ=0.71; Mrθ=2.06; Mrφ=-0.14; Mθφ=-2.12; Best double couple: Mo3.00000×10^17^ NP1:ϕs317.00000°, δ85.00000°, λ=97.00000°. NP2:ϕs191.00000°, δ9.00000°, λ=-36.00000°. Principal axes: T 2.9600, Plg39.0000°, Azm53.0000°; N 0.1500, Plg7.0000°, Azm317.0000°; P -3.1100, Plg49.0000°, Azm218.0000°;*
NEIC Felt [IV] at Quetzaltenango, San Marcos La Laguna and San Pedro Sacatepequez; [III] at Panajachel; [II] at Antigua Guatemala, Guatemala, Mixco and Santa Cruz La Laguna. Felt in much of central and southern Guatemala. Felt [II] at San Salvador, El Salvador. Felt at Tapachula and Tuxtla Gutierrez, Mexico.
*GCMT **18** 13:30:58.3±0.1, 14°.47N×92°.38W, h75km±1km, MW5.6/116, Moment Tensor Solution. s111,c204; s116,c245; Duration: 1§6 Moment tensor: Scale 10^17^Nm; Mrr=-0.37±.04; Mθθ=-0.14±.04; Mφφ=0.51±.05; Mrθ=2.11±.03; Mθφ=0.04±.04; Mrφ=-2.67±.03; Best double couple: Mo3.43200×10^17^ NP1:ϕs322.00000°, δ87.00000°, λ=-96.00000°. NP2:ϕs208.00000°, δ6.00000°, λ=-25.00000°. Principal axes: T 3.3600, Plg42.0000°, Azm58.0000°; N 0.1440, Plg6.0000°, Azm323.0000°; P -3.5040, Plg47.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **18** 13:30:58.6±0.4, 14°.68N×91°.92W, h62km±2km, mb4.7/33, mb1 4.8/37, mb1mx4.8/41, mbtmp5.0/37, MS4.8/28, Ms1 4.8/28, ms1mx4.8/30 Error ellipse: s-maj=12.4km s-min=6.7km az=52.0*
*MEX **18** 13:30:58.3±0.3, 14°.21N×92°.47W, h21km±20km, MD5.6*
*SZGRF **18** 13:31:06.3, 15°.50N×90°.50W, h60km, mb5.2, Guatemala*

ISC 18 13:30:58.0±0.3, 14°.46N±0°.04×92°.17W±0°.03, h63km±1km, h62km:pP-P, n1275, σ1§48/1348, mb5.3/312, 213C-215D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.45**	**349**	*e*P	**Pn**	**13 31 09.9**	**+0.2**
THIG				*i* S	**Sn**	**13 31 19.2**	**+1.0**
THIG		**0.45**	**349**	*e*P	**Pn**	**13 31 09.9**	**+0.2**
THIG				*i* S	**Sn**	**13 31 19.2**	**+1.0**
PCIG		**1.60**	**321**	*e*P	**Pn**	**13 31 23.1**	**-1.0**
PCIG				*i* S	**Sn**	**13 31 42.8**	**-0.9**
PCIG		**1.60**	**321**	*e*P	**Pn**	**13 31 23.1**	**-1.0**
PCIG				*i* S	**Sn**	**13 31 42.8**	**-0.9**
APG	**El Apazote** 707nm,0.3s,baz=256,slow=7.0,SNR=2577	**1.74**	**72**	P	**Pn**	**13 31 23.2**	**-3.0**
APG	4μm,0.3s,baz=6.6,slow=18,SNR=25			S	**Sn**	**13 31 48.4**	**+0.9**
CCIG	**Comitan**	**1.81**	**1**	*e*P	**Pn**	**13 31 29.9**	**+2.7**
CCIG				*e*S	**Sn**	**13 31 54.0**	**+4.8**
CCIG	**Comitan**	**1.81**	**1**	*e*P	**Pn**	**13 31 29.9**	**+2.7**
CCIG				*e*S	**Sn**	**13 31 54.0**	**+4.8**
CMIG	**Matias Romero** 139nm,0.3s,baz=127,slow=11,SNR=515	**3.69**	**315**	P	**Pn**	**13 31 52.2**	**-0.4**
CMIG	1μm,0.3s,baz=74,slow=18,SNR=9.1			S	**Sn**	**13 32 35.8**	**+0.8**
HUIG	**Huatulco**	**4.02**	**289**	*e*P	**Pn**	**13 31 54.3**	**-2.7**
HUIG	**Huatulco**	**4.02**	**289**	*e*P	**Pn**	**13 31 54.3**	**-2.7**
TUIG	**Tuzandepetl**	**4.16**	**329**	*e*P	**Pn**	**13 31 58.8**	**-0.2**
TUIG	**Tuzandepetl**	**4.16**	**329**	*e*P	**Pn**	**13 31 58.8**	**-0.2**
SCIG	**Sabancuy**	**4.58**	**12**	*e*P	**Pn**	**13 32 06.0**	**+1.2**
SCIG				*i* S	Sn	13 33 03.1	+6.5
SCIG	**Sabancuy**	**4.58**	**12**	*e*P	**Pn**	**13 32 06.5**	**+1.7**
SCIG				*i* S	Sn	13 33 03.1	+6.5
VHO	**Vista Hermosa**	**5.10**	**301**	*e*P	**Pn**	**13 32 12.0**	**-0.1**
VHO				*i* S	**Sn**	**13 33 07.4**	**-2.4**
VHO	**Vista Hermosa**	**5.10**	**301**	*e*P	**Pn**	**13 32 12.2**	**+0.2**
VHO				*i* S	**Sn**	**13 33 08.1**	**-1.6**
PNIG	**Pinotepa**	**6.05**	**289**	*e*P	**Pn**	**13 32 23.2**	**-1.7**
PNIG				*i* S	**Sn**	**13 32 29.1**	**-3.9**
PNIG	**Pinotepa**	**6.05**	**289**	*e*P	**Pn**	**13 32 23.2**	**-1.7**
PNIG				*i* S	**Sn**	**13 33 29.1**	**-3.9**
TPIG	**Tehuac#an**	**6.35**	**309**	*e*P	**Pn**	**13 32 28.3**	**-0.8**
TPIG				*e*S	**Sn**	**13 33 39.3**	**-1.0**
TPIG	**Tehuac#an**	**6.35**	**309**	*e*P	**Pn**	**13 32 28.3**	**-0.8**
TPIG				*e*S	**Sn**	**13 33 39.3**	**-1.0**
LVIG	**Laguna Verde**	**6.62**	**323**	*e*P	**Pn**	**13 32 30.4**	**-2.3**
LVIG				*e*S	**Sn**	**13 33 42.1**	**-4.7**
LVIG	**Laguna Verde**	**6.62**	**323**	*e*P	**Pn**	**13 32 30.4**	**-2.3**
LVIG				*e*S	**Sn**	**13 33 42.1**	**-4.7**
TEIG	**Tepich**	**6.84**	**32**	*i* P	**Pn**	**13 32 37.1**	**+1.5**
TEIG				*i* S	Sn	13 33 59.4	+7.4
TEIG	**Tepich** 315nm,0.3s,baz=230,slow=1.5,SNR=430	**6.84**	**32**	P	**Pn**	**13 32 37.0**	**+1.4**
TEIG	54nm,0.3s,baz=301,slow=19,SNR=4.0			S	**Sn**	**13 33 51.6**	**-0.4**
TEIG	comp=Z,27μm,21.0s,baz=217,slow=46			LR	LR	13 35 55.0	
TEIG	**Tepich**	**6.84**	**32**	*e*P	**Pn**	**13 32 37.4**	**+1.7**
TEIG				S	**Sn**	**13 33 51.6**	**-0.4**
TEIG				*i* S	Sn	13 33 59.4	+7.4
TLIG	**Tlapa**	**6.88**	**297**	*e*P	**Pn**	**13 32 35.2**	**-1.1**
TLIG				*i* S	**Sn**	**13 33 50.0**	**-3.3**
PPM	**Popocatepetl**	**7.69**	**307**	*e*P	**Pn**	**13 32 47.8**	**0.0**
PPM				*i* S	**Sn**	**13 34 13.8**	**0.0**
PPM	**Popocatepetl**	**7.69**	**307**	*e*P	**Pn**	**13 32 47.8**	**0.0**
PPM				*i* S	**Sn**	**13 34 13.8**	**0.0**
PPM	**Popocatepetl**	**7.69**	**307**	*e*P	**Pn**	**13 32 47.8**	**0.0**
PPM				*i* S	**Sn**	**13 34 13.8**	**0.0**
YAIG	**Yautepec**	**7.92**	**304**	*e*P	**Pn**	**13 32 51.4**	**+0.7**
YAIG				*i* S	**Sn**	**13 34 17.6**	**-1.4**
YAIG	**Yautepec**	**7.92**	**304**	*e*P	**Pn**	**13 32 51.7**	**+1.0**
YAIG				*i* S	**Sn**	**13 34 17.6**	**-1.4**
MEIG	**Mezcala**	**7.94**	**297**	*e*P	**Pn**	**13 32 50.5**	**-0.3**
MEIG				*i* S	**Sn**	**13 34 16.3**	**-3.0**
MEIG	**Mezcala**	**7.94**	**297**	*e*P	**Pn**	**13 32 50.5**	**-0.3**
MEIG				*i* S	**Sn**	**13 34 16.3**	**-3.0**
PLIG	**Platanillo**	**8.04**	**300**	*e*P	**Pn**	**13 32 52.6**	**+0.3**
PLIG				*i* S	**Sn**	**13 34 20.4**	**-1.5**
PLIG	**Platanillo**	**8.04**	**300**	*e*P	**Pn**	**13 32 52.6**	**+0.3**
PLIG				*i* S	**Sn**	**13 34 20.4**	**-1.5**
JTS	**JuntasAbangare** 4μm,0.9s,SNR=21	**8.18**	**120**	Pn	Pn	13 32 58.0	+3.9
JTS	**JuntasAbangare**	**8.18**	**120**	*e*P	Pn	13 32 57.4	+3.3
JTS	comp=Z,990nm,0.9s			pmax	pmax		
JTS	**JuntasAbangare** comp=Z,15nm,0.3s,baz=302,slow=9.7,SNR=39	**8.18**	**120**	P	**Pn**	**13 32 56.9**	**+2.8**
JTS	comp=Z,28nm,0.3s,baz=150,slow=20,SNR=2.6			S	Sn	13 34 37.7	+13
JTS	**JuntasAbangare** comp=Z,990nm,0.9s	**8.18**	**120**	*e*P	Pn	13 32 57.4	+3.3
JTS				S	Sn	13 34 37.7	+13
CAIG	**El Cayaco**	**8.21**	**289**	*e*P	**Pn**	**13 32 54.1**	**-0.3**
CAIG				*i* S	**Sn**	**13 33 24.2**	**-2.5**
CAIG	**El Cayaco**	**8.21**	**289**	*e*P	**Pn**	**13 32 54.1**	**-0.3**
CAIG				*i* S	**Sn**	**13 34 23.2**	**-2.5**
UNM	**Universidad Na**	**8.27**	**307**	*e*P	**Pn**	**13 32 57.4**	**+1.9**
UNM				*e*S	**Sn**	**13 34 30.5**	**+2.9**
UNM	**Universidad Na**	**8.27**	**307**	*e*P	**Pn**	**13 32 55.5**	**0.0**
UNM				*i* S	**Sn**	**13 34 26.2**	**-1.5**
UNM	**Universidad Na**	**8.27**	**307**	*e*P	**Pn**	**13 32 57.4**	**+1.9**
UNM				*e*S	**Sn**	**13 34 30.5**	**+2.9**
ARIG	**Puente Sto Nin**	**8.71**	**297**	*e*P	**Pn**	**13 33 00.4**	**-1.0**
ARIG				*i* S	**Sn**	**13 34 35.9**	**-2.3**
DEIG	**Demacu**	**8.75**	**313**	*e*P	**Pn**	**13 33 04.5**	**+2.4**
DEIG	**Demacu**	**8.75**	**313**	*e*P	**Pn**	**13 33 04.5**	**+2.4**
ZIIG	**Zihuatanejo**	**9.46**	**291**	*e*P	**Pn**	**13 33 12.3**	**+0.7**
ZIIG	**Zihuatanejo**	**9.46**	**291**	*e*P	**Pn**	**13 33 12.3**	**+0.7**
MOIG	**Morelia**	**10.06**	**302**	*e*P	**Pn**	**13 33 22.4**	**+2.4**
MOIG	**Morelia**	**10.06**	**302**	*e*P	**Pn**	**13 33 22.4**	**+2.4**
IGIG	**Irapuato, Guan**	**10.74**	**307**	*e*P	**Pn**	**13 33 31.5**	**+2.3**
MMIG	**Aquila**	**11.38**	**291**	*i* P	**Pn**	**13 33 37.7**	**0.0**
MMIG	**Aquila**	**11.38**	**291**	*i* P	**Pn**	**13 33 37.7**	**0.0**
EZ5V		**12.02**	**296**	*i* P	**Pn**	**13 33 48.8**	**+2.1**
R15V		**12.24**	**294**	*e*P	**Pn**	**13 33 50.5**	**+0.9**
LNIG	**Linares**	**12.44**	**328**	*e*P	**Pn**	**13 33 53.4**	**+1.1**
LNIG	**Linares**	**12.44**	**328**	*e*P	**Pn**	**13 33 53.4**	**+1.1**
ZAIG	**Zacatecas**	**12.85**	**312**	*e*P	**Pn**	**13 33 59.6**	**+1.4**
ZAIG	**Zacatecas**	**12.85**	**312**	*e*P	**Pn**	**13 33 59.6**	**+1.4**
035Z	**Hargill** baz=13	**13.15**	**336**	⇑P	**Pn**	**13 34 04.5**	**+2.6**
BCIP	**Isla Barro Col** comp=Z,124nm,0.8s	**13.17**	**112**	*e*P	**Pn**	**13 34 02.5**	**+0.3**
ANIG	**Ahuacatlan**	**13.46**	**301**	*e*P	**Pn**	**13 34 07.5**	**+1.3**
ANIG	**Ahuacatlan**	**13.46**	**301**	*e*P	**Pn**	**13 34 07.5**	**+1.3**
035A	**Encino** baz=14,SNR=5.8	**13.59**	**337**	⇓P	**Pn**	**13 34 09.5**	**+1.7**
034A	**Hebbronville** baz=14,SNR=13	**13.94**	**335**	⇓P	**Pn**	**13 34 15.4**	**+3.0**
MCJ	**Malvern**	**14.33**	**74**	*i* P	**P**	**13 34 23.9**	**+0.7**
934A	**Benavides** baz=14,SNR=10	**14.35**	**337**	⇓P	**P**	**13 34 20.6**	**-2.6**
CVJ	**Coleyville**	**14.54**	**73**	*i* P	**P**	**13 34 25.6**	**+0.1**
MTDJ	**Mount Denham** comp=Z,338nm,0.8s	**14.54**	**73**	*e*P	**P**	**13 34 23.8**	**-1.7**
933A	**Laredo** baz=15,SNR=52	**14.66**	**334**	⇑P	**P**	**13 34 24.5**	**-2.2**
835A	**Beeville** baz=15,SNR=18	**14.73**	**340**	⇓P	**P**	**13 34 25.5**	**-1.9**
BBJ	**Bamboo Saint A**	**14.82**	**73**	*i* P	**P**	**13 34 30.4**	**+1.8**
834A	**Tilden** baz=15,SNR=21	**14.83**	**337**	⇓P	**P**	**13 34 26.7**	**-1.9**
STH	**Stony Hill**	**15.18**	**74**	*i* P	**P**	**13 34 30.8**	**-1.7**
HOJ	**Hope**	**15.22**	**75**	*i* P	**Pn**	**13 34 30.6**	**+1.3**
GWJ	**Greenwich**	**15.26**	**74**	*i* P	**P**	**13 34 33.5**	**0.0**
833A	**Chaparral WMA,** baz=15,SNR=50	**15.34**	**335**	⇑P	**P**	**13 34 32.6**	**-1.6**
734A	**La Parita Cree** baz=16,SNR=8.3	**15.49**	**339**	⇓P	**P**	**13 34 34.6**	**-1.3**
832A	**Faith Ranch, C** baz=16,SNR=57	**15.55**	**333**	⇓P	**P**	**13 34 35.5**	**-1.0**
636A	**Smothers Creek** baz=16,SNR=11	**15.62**	**344**	⇑P	**P**	**13 34 36.6**	**-0.6**
733A	**Divot King Ran** baz=16,SNR=32	**15.65**	**336**	⇓P	**P**	**13 34 36.4**	**-1.2**
635A	**Leesville** baz=16	**15.73**	**342**	⇓P	**P**	**13 34 37.7**	**-0.8**
539A	**Cross D Ranch,** baz=16	**15.75**	**352**	⇓P	**P**	**13 34 37.6**	**-1.1**
HKT	**Hockley**	**15.78**	**348**	*e*P	**Pn**	**13 34 36.2**	**-0.1**
HKT	comp=Z,171nm,1.4s			pmax	pmax		
HKT	**Hockley** comp=Z,171nm,1.4s	**15.78**	**348**	*e*P	**Pn**	**13 34 36.2**	**-0.1**
634A	**China Grove, S** baz=16	**15.91**	**340**	⇑P	**P**	**13 34 40.5**	**0.0**
732A	**Laxson Ranch,** baz=16,SNR=68	**15.93**	**334**	⇓P	**P**	**13 34 40.6**	**-0.2**
538A	**Harpers Horsep** baz=16	**15.98**	**350**	⇓P	**P**	**13 34 41.3**	**0.0**
537A	**Green Hill Far** baz=16,SNR=12	**16.01**	**347**	⇓P	**P**	**13 34 41.6**	**0.0**
MAIG	**Mazatlaan**	**16.03**	**305**	*e*P	**Pn**	**13 34 40.6**	**+1.0**
MAIG	**Mazatlaan**	**16.03**	**305**	*e*P	**Pn**	**13 34 40.6**	**+1.0**
633A	**Saathoff Ranch** baz=16,SNR=21	**16.27**	**338**	⇓P	**P**	**13 34 44.1**	**-0.4**
535A	**Dale** baz=16	**16.27**	**343**	⇑P	**P**	**13 34 44.0**	**-0.6**
439A	**Center Grove,** baz=16	**16.43**	**352**	⇓P	**P**	**13 34 47.1**	**+0.8**
438A	**Sam Houston St** baz=16,SNR=32	**16.50**	**350**	⇓P	**P**	**13 34 47.6**	**+0.6**
632A	**Uvalde** baz=17,SNR=45	**16.55**	**336**	⇑P	**P**	**13 34 47.1**	**-0.5**
534A	**Blanco** baz=17,SNR=53	**16.55**	**340**	⇓P	**Pn**	**13 34 46.4**	**+0.4**
437A	**Phantom Ranch,** baz=17	**16.70**	**348**	⇓P	**P**	**13 34 50.9**	**+1.7**
533A	**Kerrville** baz=17,SNR=29	**16.78**	**339**	⇓P	**P**	**13 34 50.4**	**+0.2**
436A	**Wall Ranch, Ga** baz=17	**16.78**	**346**	⇑P	**P**	**13 34 52.2**	**+2.1**
631A	**Perdido Creek** baz=17,SNR=68	**16.79**	**334**	⇓P	**P**	**13 34 50.1**	**-0.2**
339A	**Huntington** baz=17,SNR=14	**16.94**	**353**	⇓P	**P**	**13 34 52.0**	**+0.2**
340A	**Bronson** baz=17,SNR=24	**16.95**	**355**	⇑P	**P**	**13 34 52.3**	**+0.3**
435B	**Jarrell** baz=17	**16.99**	**344**	⇓P	**P**	**13 34 52.8**	**+0.3**
338A	**Crockett** baz=17,SNR=13	**17.06**	**351**	⇑P	**P**	**13 34 54.8**	**+1.5**
337A	**Centerville** baz=17	**17.12**	**349**	⇓P	**P**	**13 34 55.4**	**+1.5**
BRAL	**Brewton** comp=Z,506nm,1.1s	**17.13**	**15**	*e*P	**P**	**13 34 53.6**	**-0.4**
532A	**Rocksprings** baz=17,SNR=41	**17.14**	**337**	⇓

comp=Z,640nm,18.2s,baz=0.0,slow=41
TXAR P3KP 14 10 08.4
comp=Z,0.0nm,0.3s,baz=219,slow=2.3,SNR=3.8
430A Baggett Ranch, 18.26 334 ⇓P Pn 13 35 09.1 +2.0
baz=18,SNR=30
234A Clairette 18.30 344 ⇓P Pn 13 35 09.3 +1.8
baz=18
138A Matatall Enter 18.31 352 ⇓P Pn 13 35 10.1 +2.5
baz=18,SNR=11
137A Heron Place, G 18.35 350 ⇓P Pn 13 35 10.2 +2.2
baz=18
331A San Angelo 18.40 337 ⇓P Pn 13 35 10.1 +1.4
baz=18,SNR=60
429A Davenport Ranc 18.41 333 ⇓P Pn 13 35 10.2 +1.3
baz=18,SNR=76
H06E1 SOCORRO T-PHAS 18.47 286 T T 13 54 02.8
SNR=143
233A Rising Star 18.53 342 ⇑P Pn 13 35 11.3 +1.0
baz=19,SNR=32
135A Vickery Place, 18.64 346 ⇓P Pn 13 35 11.2 -0.3
baz=19,SNR=9.1
TIGA Tifton 18.64 24 ⇑P Pn 13 35 11.9 +0.3
baz=19,SNR=34
TIGA Tifton 18.64 24 eP Pn 13 35 11.5 -0.1
comp=Z,355nm,1.0s
232A Coleman 18.65 340 ⇑P Pn 13 35 13.0 +1.2
baz=19,SNR=32
330A Mertzon 18.78 335 ⇑P Pn 13 35 13.6 +0.2
baz=19,SNR=74
134A White-Moore Ra 18.82 344 ⇑P Pn 13 35 14.1 +0.4
baz=19,SNR=21
231A Bronte 18.92 338 ⇓P Pn 13 35 15.7 +0.7
baz=19,SNR=28
LRAL Lakeview Retre 19.08 13 eP Pn 13 35 17.3 +0.5
comp=Z,111nm,0.8s
LRAL eS S 13 38 36.9 -12
133A Hamilton Ranch 19.08 342 ⇑P Pn 13 35 17.2 +0.3
baz=19,SNR=23
SLBS Sierra La Lagu 19.12 301 eP Pn 13 35 18.7 +1.2
230A Sterling City 19.18 336 ⇓P Pn 13 35 18.0 -0.1
baz=19,SNR=71
329A Wagon Wheel Ra 19.18 334 ⇓P Pn 13 35 19.5 +1.4
baz=19
ABTX Abilene, Hawle 19.32 341 ⇓P Pn 13 35 20.3 +0.6
baz=19,SNR=53
ABTX Abilene, Hawle 19.32 341 eP Pn 13 35 19.4 -0.3
comp=Z,112nm,0.8s
Z35A Perchaven, San 19.34 347 ⇓P Pn 13 35 20.2 +0.2
baz=19,SNR=18
229A Bryant Ranch, 19.53 335 ⇓P Pn 13 35 22.8 +0.5
baz=20,SNR=23
Z34A Collier Ranch, 19.54 346 ⇑P Pn 13 35 21.8 -0.4
baz=20,SNR=34
OTAV Otavalo 19.59 135 eP Pn 13 35 23.2 -0.4
comp=Z,74nm,1.0s
LPIG La Paz 19.60 302 P Pn 13 35 23.7 +0.7
baz=11,slow=1.9,SNR=13
131A Roby 19.62 339 ⇑P Pn 13 35 23.2 -0.1
baz=20,SNR=26
Z33A Whitaker Ranch 19.68 343 ⇑P Pn 13 35 24.3 +0.4
baz=20,SNR=47
130A Snyder 19.75 338 ⇓P Pn 13 35 24.5 -0.3
baz=20,SNR=49
Z32A Haskell 19.90 342 ⇓P P 13 35 25.5 +1.0
baz=20,SNR=111
228A UT Block 9, Go 19.99 333 ⇑P Pn 13 35 27.2 -0.5
baz=20,SNR=38
ROSC El Rosal 20.00 117 P Pn 13 35 27.3 -0.9
comp=Z,3.5nm,0.3s,baz=138,slow=0.9,SNR=34
ROSC LR LR 13 43 48.2
comp=Z,1μm,21.9s,baz=330,slow=39
MIAR Mount Ida 20.04 357 eP P 13 35 26.2 +0.3
MIAR pmax pmax
comp=Z,538nm,1.3s
MIAR Mount Ida 20.04 357 eP P 13 35 26.2 +0.3
comp=Z,538nm,1.3s
Y34A Reagan Ranch, 20.06 346 ⇑P Pn 13 35 27.4 -1.1
baz=20,SNR=23
OXF Oxford 20.12 7 eP P 13 35 26.8 0.0
OXF pmax pmax
comp=Z,406nm,1.0s
OXF Oxford 20.12 7 eP P 13 35 26.8 0.0
comp=Z,406nm,1.0s
Z31A Sharp Cattle R 20.12 340 ⇓P P 13 35 27.9 +1.0
baz=20,SNR=62
129A Stewart Farms, 20.13 336 ⇓P Pn 13 35 28.3 -1.1
baz=20,SNR=73
UALR University of 20.23 360 eP P 13 35 27.3 -0.6
comp=Z,370nm,1.1s
Y33A Hilltop Ranch, 20.32 344 ⇑P P 13 35 30.1 +1.2
baz=20,SNR=25
128A Castleberry Fa 20.38 334 ⇑P P 13 35 30.9 +1.2
baz=20,SNR=93
Z30A Sanderson Ranc 20.43 338 ⇑P P 13 35 30.9 +0.6
baz=20,SNR=77
GOGA Godfrey 20.46 21 eP P 13 35 30.8 +0.4
GOGA pmax pmax
comp=Z,260nm,1.0s
GOGA MLR MLR
comp=Z,11μm,21.0s
GOGA Godfrey 20.46 21 eP P 13 35 30.8 +0.4
comp=Z,260nm,1.0s
GOGA LR LR
comp=Z,11μm,21.0s
SDDR Presa de Saban 20.50 74 eP P 13 35 29.0 -2.1
comp=Z,365nm,1.3s
SDDR LR LR
comp=Z,4μm,21.0s
Y32A R-V Farms, Ver 20.54 343 ⇓P P 13 35 32.2 +0.9
baz=21,SNR=40
Z29A Hungry Hill Ra 20.62 337 ⇓P P 13 35 32.6 +0.3
baz=21,SNR=145
X34A Smith Ranch, M 20.70 347 ⇑P Pn 13 35 35.6 -0.4
baz=21,SNR=15
Y31A Rekieta Farm, 20.75 341 ⇑P P 13 35 34.5 +0.8
baz=21,SNR=123
X33A Lawton 20.80 345 ⇑P P 13 35 35.1 +1.0
baz=21,SNR=31
GDL2 Guadalupe Moun 20.88 330 eP P 13 35 36.6 +1.5
comp=Z,306nm,0.7s
Y30A Stafford Cattl 20.89 339 ⇑P P 13 35 36.3 +1.1
baz=21,SNR=57
X32A Elmer 20.89 343 ⇑P P 13 35 36.0 +0.9
baz=21,SNR=34
W36A Wetumka 20.91 351 ⇑P P 13 35 35.6 +0.3
baz=21,SNR=29
Z28A Tucker Farm, M 20.92 335 ⇑P P 13 35 36.6 +1.1
baz=21,SNR=62
MNTX Cornudas Mount 20.99 327 ⇓P P 13 35 37.5 +1.2
baz=21,SNR=340
MNTX Cornudas Mount 20.99 327 eP P 13 35 36.8 +0.5
comp=Z,261nm,1.1s
MNTX epP pP 13 35 49.9 +0.1
MNTX LR LR
comp=Z,1μm,20.0s
W35A Tecumseh 21.04 349 ⇑P P 13 35 37.1 +0.4
baz=21
WMOK Wichita Mounta 21.05 345 eP P 13 35 33.1 -3.8
WMOK pmax pmax
comp=Z,94nm,1.0s
WMOK MLR MLR
comp=Z,812nm,19.0s
WMOK Wichita Mounta 21.05 345 eP P 13 35 33.1 -3.8
comp=Z,94nm,1.0s
WMOK LR LR
comp=Z,812nm,19.0s
Y29A Porterfield Fa 21.15 338 ⇓P P 13 35 38.9 +1.0
baz=21,SNR=34
GRTK Grand Turk 21.19 68 P P 13 35 38.4 -0.1
comp=Z,704nm,1.0s
GRTK LR LR
comp=Z,3μm,20.0s
X31A McDonald Ranch 21.28 342 ⇓P P 13 35 40.6 +1.2
baz=21,SNR=64
W34A Bridge Creek, 21.29 347 ⇓P P 13 35 39.4 0.0
baz=21,SNR=34
W34A Bridge Creek, 21.29 347 eP P 13 35 38.2 -1.2
comp=Z,138nm,0.7s
W33A Caddo, Fort Co 21.37 346 ⇑P P 13 35 41.3 +1.1
baz=21,SNR=33
X30A Coker Ranch, T 21.40 340 ⇓P P 13 35 41.6 +1.1
baz=22,SNR=59
Y28A McKinney Farm, 21.41 337 ⇓P P 13 35 41.6 +0.8
baz=22,SNR=68
CGIG 21.50 320 eP P 13 35 44.1 +2.3
GNAR Gosnell 21.50 5 P P 13 35 42.7 +1.1
HALT Halls 21.51 6 P P 13 35 41.5 -0.2
NHSC New Hope 21.53 28 eP P 13 35 44.1 +2.2

comp=Z,815nm,1.0s
NHSC LR LR
comp=Z,7μm,22.0s
W32A Sentinel 21.54 344 ⇑P P 13 35 42.5 +0.4
baz=22,SNR=44
TUL1 Leonard 21.61 352 ⇑P P 13 35 42.3 -0.4
baz=22,SNR=13
TUL1 Leonard 21.61 352 eP P 13 35 41.1 -1.7
comp=Z,110nm,0.7s
V35A Meyer Ranch, C 21.62 350 ⇑P P 13 35 42.5 -0.4
baz=22,SNR=23
MSTX Muleshoe 21.67 336 ⇑P P 13 35 44.4 +0.9
baz=22,SNR=65
MSTX Muleshoe 21.67 336 eP P 13 35 43.4 -0.1
comp=Z,95nm,0.7s
X29A Tulia 21.68 338 ⇓P P 13 35 44.5 +0.9
baz=22,SNR=26
W31A Holland Ranch, 21.79 343 ⇑P P 13 35 45.5 +0.7
baz=22,SNR=22
SDV Santo Domingo 21.80 102 eP P 13 35 43.7 -1.6
comp=Z,392nm,0.9s
SDV LR LR
comp=Z,1μm,20.0s
V34A Guthrie 21.82 348 ⇓P P 13 35 44.5 -0.5
baz=22,SNR=37
V34A Guthrie 21.82 348 eP P 13 35 42.0 -3.0
comp=Z,205nm,0.9s
GLAT Glass 21.87 6 P P 13 35 47.4 +1.8
WVT Waverly 21.93 9 eP P 13 35 45.2 -1.0
WVT pmax pmax
comp=Z,63nm,0.8s
WVT Waverly 21.93 9 eP P 13 35 45.2 -1.0
comp=Z,63nm,0.8s
X28A Dimmitt 21.93 337 ⇓P P 13 35 46.9 +0.5
baz=22,SNR=15
V33A Lossen Ranch, 21.97 347 ⇓P P 13 35 46.7 +0.1
baz=22,SNR=35
W30A Crocket Farms 21.98 341 ⇑P P 13 35 46.3 -0.5
baz=22,SNR=7.2
V32A Arapaho 22.05 345 ⇑P P 13 35 47.9 +0.4
baz=22,SNR=23
AMTX Amarillo 22.07 339 ⇑P P 13 35 48.7 +0.8
baz=22
AMTX Amarillo 22.07 339 eP P 13 35 47.8 -0.1
comp=Z,112nm,0.5s
W29A Amarillo 22.27 339 ⇑P P 13 35 51.4 +1.4
baz=22,SNR=20
V31A Spring Creek L 22.31 343 ⇑P P 13 35 51.2 +0.8
baz=22,SNR=57
U34A Anderson Ranch 22.41 349 ⇑P P 13 35 50.6 -0.7
baz=22,SNR=9.2
U34A Anderson Ranch 22.41 349 eP P 13 35 49.9 -1.5
comp=Z,604nm,1.4s
SMN1 Samana, DR 22.41 75 P P 13 35 51.2 -0.4
SMN1 epP pP 13 36 03.9 -1.4
TKL Tuckaleechee C 22.42 18 eP P 13 35 51.8 +0.3
TKL Tuckaleechee C 22.42 18 P P 13 35 50.8 -0.7
comp=Z,57nm,0.9s,baz=193,slow=11,SNR=37
TKL LR LR 13 45 53.4
comp=Z,8μm,20.2s,baz=194,slow=40
TKL Tuckaleechee C 22.42 18 eP P 13 35 51.8 +0.3
U33A Lingo Farm, Me 22.52 347 ⇑P P 13 35 51.2 -1.4
baz=23
V30A Spur Ranch, Mi 22.55 342 ⇑P P 13 35 54.0 +1.1
baz=23,SNR=7.5
W28A Vega 22.59 338 ⇓P P 13 35 54.0 +0.6
baz=23,SNR=24
HSIG 22.62 313 eP P 13 35 54.8 +1.1
SRIG Santa Rosalia 22.66 308 eP P 13 35 55.1 +1.1
U32A Winter Ranch, 22.67 346 ⇓P P 13 35 54.0 -0.2
baz=23,SNR=12
KMSC Kings Mountain 22.79 23 ⇓P P 13 35 55.4 0.0
baz=23,SNR=14
KMSC Kings Mountain 22.79 23 eP P 13 35 55.6 +0.2
comp=Z,352nm,1.3s
U31A Nine Bar Ranch 22.88 344 ⇓P P 13 35 57.5 +1.2
baz=23
V29A Stinnett 22.91 340 ⇓P P 13 35 57.6 +0.8
baz=23,SNR=5.4
121A Cookes Peak, D 22.94 324 ⇓P P 13 35 59.1 +2.0
baz=23
121A Cookes Peak, D 22.94 324 eP P 13 35 58.5 +1.3
comp=Z,398nm,1.1s
319A Douglas 23.00 320 ⇑P P 13 35 59.5 +1.7
baz=23,SNR=107
V28A Channing 23.04 339 ⇓P P 13 35 58.8 +0.7
baz=23,SNR=39
T33A Patterson Ranc 23.17 348 ⇑P P 13 35 59.1 -0.2
baz=23
U30A WK&E Inc. Balk 23.25 342 ⇓P P 13 36 00.6 +0.6
baz=23,SNR=46
V27A Dan Oppiter Fa 23.27 338 ⇓P P 13 36 00.9 +0.7
baz=23,SNR=26
SIUC Southern Illin 23.31 6 eP P 13 35 59.6 -0.9
comp=Z,383nm,1.0s
U29A Oasis Ranch, S 23.36 341 ⇑P P 13 36 01.8 +0.6
baz=24,SNR=16
S36A Lake Cedric, C 23.37 353 ⇓P P 13 36 00.0 -1.1
baz=23,SNR=23
T32A Huddler Ranch, 23.41 346 ⇑P P 13 36 01.1 -0.4
baz=24,SNR=22
S35A Otter Creek Ra 23.42 352 ⇑P P 13 36 00.6 -1.0
baz=24,SNR=37
T31A Randall Ranch, 23.52 345 ⇑P P 13 36 02.4 -0.1
baz=24,SNR=20
S34A Willow Spring 23.56 350 ⇓P P 13 36 02.4 -0.5
baz=24,SNR=15
U28A Mallet 23.61 339 ⇑P P 13 36 04.0 +0.6
baz=24
S33A Kaszmaul Farm, 23.62 348 ⇑P P 13 36 02.2 -1.2
baz=24,SNR=8.2
Y22D IRRASSCAL I 23.65 328 ⇓P P 13 36 06.4 +2.4
baz=24,SNR=22
V26A Tequesquite Ra 23.66 336 ⇓P P 13 36 05.8 +1.8
baz=24,SNR=22
LPM Los Pinos Moun 23.70 329 eP P 13 36 05.6 +1.3
comp=Z,167nm,1.2s
T30A Plains 23.70 343 ⇓P P 13 36 05.3 +1.0
baz=24,SNR=19
USIN University of 23.75 9 eP P 13 36 03.2 -1.3
comp=Z,451nm,1.1s
USIN epP pP 13 36 19.1 -0.3
LENM Lemitar 23.75 328 eP P 13 36 06.3 +1.5
comp=Z,244nm,1.4s
U27A Thompson Grove 23.86 338 ⇓P P 13 36 06.3 +0.6
baz=24,SNR=65
R37A Teagarden Farm 23.88 355 ⇑P P 13 36 05.4 -0.3
baz=24,SNR=8.2
S32A Newby Ranch, P 23.91 347 ⇓P P 13 36 06.3 +0.2
baz=24,SNR=9.0
R36A Gordon, Harris 23.95 354 ⇑P P 13 36 06.7 +0.3
baz=24
S31A Mullinville 23.96 346 ⇑P P 13 36 06.9 +0.3
baz=24,SNR=19
T29A Hugoton 24.02 342 ⇑P P 13 36 07.5 +0.4
baz=24,SNR=36
LAZ Ladron 24.02 328 eP P 13 36 09.2 +1.8
comp=Z,3μm,1.6s
ANMO Albuquerque 24.12 330 ceP P 13 36 09.6 +1.4
ANMO pmax pmax
comp=Z,466nm,1.0s
ANMO Albuquerque 24.12 330 P P 13 36 09.6 +1.4
comp=Z,73nm,0.7s,baz=145,slow=12,SNR=278
ANMO Albuquerque 24.12 330 eP P 13 36 09.5 +1.4
comp=Z,0.4nm,0.6s
ANMO LR LR
comp=Z,1μm,21.0s
SLM Saint Louis 24.14 4 eP P 13 36 07.5 -0.6
SLM e*PP pP 13 36 21.6 -1.7
SLM pmax pmax
comp=Z,60nm,0.6s
SLM Saint Louis 24.14 4 eP P 13 36 07.5 -0.6
comp=Z,60nm,0.6s
SLM epP pP 13 36 21.6 -1.7
U26A Atchley Ranch, 24.17 337 ⇑P P 13 36 09.1 +0.5
baz=24,SNR=69
S30A Montezuma 24.23 344 ⇑P P 13 36 09.4 +0.3
baz=24,SNR=40
WCI Wyandotte Cave 24.24 11 eP P 13 36 08.3 -0.8
WCI pmax pmax
comp=Z,197nm,0.8s
WCI Wyandotte Cave 24.24 11 eP P 13 36 08.3 -0.8
comp=Z,197nm,0.8s
T28A Walsh 24.24 340 ⇓P P 13 36 09.3 +0.1
baz=24,SNR=13
CRPR Cabo Rojo, PR 24.32 78 P P 13 36 09.2 -0.7
CNNC Cliffs of the 24.36 29 eP P 13 36 10.4 +0.3
comp=Z,68nm,0.8s

CNNC epP pP 13 36 23.8 -1.5
CNNC LR LR
comp=Z,8μm,22.0s
T27A Campo 24.39 339 ⇑P P 13 36 11.2 +0.6
baz=24,SNR=10
S29A Ulysses 24.40 343 ⇓P P 13 36 11.5 +0.9
baz=24,SNR=60
OLIL Olney 24.45 8 eP P 13 36 09.8 -1.0
comp=Z,221nm,0.8s
OLIL epP pP 13 36 25.8 -0.3
R32A Long Quarter, 24.56 348 ⇑P P 13 36 11.8 -0.2
baz=25,SNR=11
TUC Tucson 24.58 319 eP P 13 36 13.2 +0.9
TUC pmax pmax
comp=Z,67nm,1.0s
TUC MLR MLR
comp=Z,6μm,19.0s
TUC Tucson 24.58 319 eP P 13 36 13.2 +0.9
comp=Z,67nm,1.0s
TUC LR LR
comp=Z,6μm,19.0s
S28A Manter 24.61 341 ⇓P P 13 36 13.2 +0.7
baz=25
R31A Burdett 24.61 346 ⇓P P 13 36 12.5 +0.1
baz=25,SNR=35
R30A Dighton 24.79 345 ⇑P P 13 36 14.2 +0.1
baz=25,SNR=62
T26A Comanche Natio 24.80 338 ⇓P P 13 36 15.4 +1.0
baz=25,SNR=20
CELP Cerrillos 24.82 78 eP P 13 36 14.9 +0.4
KSU1 Kansas State U 24.86 352 ⇓P P 13 36 13.9 -0.8
baz=25,SNR=19
KSU1 Kansas State U 24.86 352 eP P 13 36 12.9 -1.7
comp=Z,190nm,1.0s
KSU1 epP pP 13 36 28.3 -1.5
KSU1 LR LR
comp=Z,2μm,22.0s
Q33A Connelly Farm, 24.95 350 ⇑P P 13 36 16.1 +0.6
baz=25,SNR=9.9
BLA Blacksburg 24.96 23 eP P 13 36 15.3 -0.4
BLA pmax pmax
comp=Z,182nm,1.1s
BLA MLR MLR
comp=Z,5μm,21.0s
BLA Blacksburg 24.96 23 eP P 13 36 15.3 -0.4
comp=Z,182nm,1.1s
BLA LR LR
comp=Z,5μm,21.0s
Q32A Meitler Ranch, 25.08 348 ⇑P P 13 36 16.6 0.0
baz=25,SNR=52
T25A Trinidad 25.08 336 ⇑P P 13 36 18.8 +1.9
baz=25,SNR=78
R29A Marienthal 25.15 343 ⇑P P 13 36 17.5 0.0
baz=25,SNR=28
VWCC Virginia Weste 25.16 23 eP P 13 36 17.1 -0.3
S26A Kim 25.16 339 ⇓P P 13 36 18.1 +0.5
baz=25,SNR=16
SJG San Juan 25.23 78 PFAKE 13 36 30.0 +12
SJG LR LR
comp=Z,1.0nm,19.0s
Q31A Ellis 25.27 347 ⇑P P 13 36 18.2 -0.2
baz=25,SNR=6.2
R28A Tribune 25.27 342 ⇑P P 13 36 18.3 -0.2
baz=25,SNR=36
P33A Williams Farm, 25.35 350 ⇑P P 13 36 19.7 +0.6
baz=25
Q30A Quinter 25.43 345 ⇓P P 13 36 20.3 +0.4
baz=26,SNR=40
ATAH Atahualpa 25.44 147 P P 13 36 23.3 +2.7
comp=Z,44nm,0.8s,baz=345,slow=4.7,SNR=22
ATAH LR LR 13 43 35.6
comp=Z,1μm,21.6s,baz=327,slow=30
CBYP Canovanas 25.52 78 eP P 13 36 20.2 -0.8
comp=Z,48nm,0.9s
R27A Eads 25.53 340 ⇑P P 13 36 21.3 +0.5
baz=26,SNR=24
Q29A Oakley 25.55 344 ⇑P P 13 36 21.4 +0.4
baz=26,SNR=20
S25A Robets Cordova 25.55 337 ⇑P P 13 36 22.7 +1.6
baz=26,SNR=47
X18A Snowflake 25.63 324 ⇑P P 13 36 24.4 +2.5
baz=26,SNR=21
214A Organ Pipe Nat 25.67 316 ⇓P P 13 36 24.1 +2.0
baz=26,SNR=48
214A Organ Pipe Nat 25.67 316 eP P 13 36 23.5 +1.4
comp=Z,40nm,0.8s
P32A Huiting Farm, 25.70 348 ⇑P P 13 36 22.8 +0.5
baz=26
P31A Stockton 25.76 347 ⇑P P 13 36 23.3 +0.5
baz=26,SNR=18
R26A Arlington 25.76 339 ⇑P P 13 36 23.3 +0.3
baz=26,SNR=19
MTP Monte Pirata 25.80 78 eP P 13 36 21.9 -1.4
comp=Z,79nm,0.8s
R25A Fountain Ranch 25.92 338 ⇑P P 13 36 26.3 +1.8
baz=26,SNR=11
W18A Petrified Fore 25.94 326 ⇑P P 13 36 26.6 +1.8
baz=26,SNR=18
W18A Petrified Fore 25.94 326 eP P 13 36 26.5 +1.8
comp=Z,174nm,1.4s
Q28A Sharon Springs 25.94 343 ⇑P P 13 36 25.2 +0.5
baz=26,SNR=12
P30A Seiden 25.98 346 ⇑P P 13 36 24.9 0.0
baz=26,SNR=23
SDCO Great Sand Dun 26.04 335 ⇑P P 13 36 27.2 +1.5
baz=26,SNR=45
KSCO Kaye Shedlock' 26.14 341 ⇑P P 13 36 26.9 +0.5
baz=26
KSCO Kaye Shedlock' 26.14 341 eP P 13 36 26.7 +0.3
comp=Z,104nm,1.0s
SFIN Lafayette 26.20 9 ⇓P P 13 36 26.2 -0.6
baz=26,SNR=19
SFIN Lafayette 26.20 9 eP P 13 36 25.4 -1.3
comp=Z,77nm,0.8s
P29A Atwood 26.20 345 ⇓P P 13 36 27.5 +0.5
baz=26,SNR=11
S23A Nye Farm, Mont 26.21 335 ⇓P P 13 36 29.5 +2.3
baz=26,SNR=22
O32A Brockman Farm, 26.25 349 ⇓P P 13 36 27.9 +0.6
baz=26
R24A Sanders Place, 26.30 337 ⇓P P 13 36 28.6 +0.6
baz=26,SNR=28
Q26A Hugo 26.34 340 ⇓P P 13 36 28.8 +0.5
baz=26,SNR=9.9
O31A Woolen Ranch, 26.35 348 ⇑P P 13 36 28.8 +0.6
baz=26
STVI Saint Thomas 26.39 78 eP P 13 36 27.7 -1.0
comp=Z,145nm,1.0s
JSRW J. Sargeant Re 26.39 26 eP P 13 36 28.0 -0.6
P28A Saint Francis 26.40 343 ⇓P P 13 36 29.2 +0.5
baz=26,SNR=9.8
X16A Lo Mia Camp, P 26.41 322 ⇑P P 13 36 30.5 +1.5
baz=26,SNR=81
O30A MW Ranch, Wils 26.54 346 ⇓P P 13 36 30.5 +0.6
baz=27,SNR=7.2
R23A Moffat 26.55 335 ⇑P P 13 36 32.2 +1.9
baz=27,SNR=33
Q25A Bedland, Calha 26.59 339 ⇑P P 13 36 31.4 +0.9
baz=27,SNR=10
S22A 4UR Ranch, Cre 26.59 333 ⇑P P 13 36 32.8 +2.1
baz=27,SNR=94
P27A Ficken Ranch, 26.62 342 ⇓P P 13 36 32.5 +1.8
baz=27
Z14A Wintersburg 26.64 319 ⇓P P 13 36 33.2 +2.3
baz=27,SNR=17
O29A 4D Ranch, Culb 26.66 345 ⇑P P 13 36 31.9 +0.9
baz=27,SNR=6.2
N32A Stulken Farm, 26.75 350 ⇑P P 13 36 34.1 +2.4
baz=27
113A Mohawk Valley, 26.80 317 ⇑P P 13 36 33.9 +1.6
baz=27,SNR=23
P26A Davis Ranch, A 26.86 341 ⇑P P 13 36 35.0 +2.0
baz=27
ACSO Alum Creek Sta 26.91 16 eP P 13 36 32.2 -0.9
comp=Z,159nm,1.2s
ACSO LR LR
comp=Z,5μm,20.0s
O28A Krutsinger Ran 26.92 344 ⇑P P 13 36 33.8 +0.5
baz=27
MVCO Mesa Verde 26.92 330 ⇑P P 13 36 34.8 +1.2
baz=27,SNR=182
MVCO Mesa Verde 26.92 330 PFAKE 13 36 50.0 +16
MVCO LR LR
comp=Z,2μm,20.0s
N31A Bailey Ranch, 26.92 349 ⇓P P 13 36 36.0 +2.6
baz=27
Q24A Divide 26.96 337 ⇓P P 13 36 35.8 +1.8
baz=27

CBN **Corbin Frederi** 27.04 26 eP P 13 36 34.6 +0.3
comp=Z,72nm,0.6s
CBN LR LR
comp=Z,5µm,21.0s
Y14A Wickenburg 27.05 319 ⇑P P 13 36 36.5 +1.9
baz=27,SNR=38
P25A Willow Gulch B 27.09 339 ⇓P P 13 36 37.1 +2.0
baz=27
WUAZ Wupatki 27.15 324 ⇓P P 13 36 37.7 +2.1
baz=27,SNR=38
WUAZ Wupatki 27.15 324 eP P 13 36 35.9 +0.3
comp=Z,87nm,1.2s
WUAZ LR LR
comp=Z,4µm,21.0s
Q23A Hartsel 27.17 336 ⇓P P 13 36 37.7 +1.8
baz=27
O27A Beecher Island 27.18 343 ⇓P P 13 36 36.6 +0.9
baz=27
PCRV Puerto La Cruz 27.23 96 ScP ScP 13 43 29.8 -0.7
comp=Z,6.7nm,0.9s,baz=330,slow=8.1,SNR=2.7
PCRV LR LR 13 48 13.6
comp=Z,3µm,21.4s,slow=38
N29A Votaw Ranch, W 27.28 346 ⇓P P 13 36 37.5 +1.0
baz=27
BGNE Belgrade 27.35 350 ⇓P P 13 36 37.3 +0.2
baz=27
BGNE Belgrade 27.35 350 eP P 13 36 36.8 -0.4
comp=Z,31nm,0.5s
P24A Kohler Place, 27.35 338 ⇑P P 13 36 39.7 +2.2
baz=28
SCIA State Center 27.36 358 PFAKE 13 36 50.0 +13
SCIA LR LR
comp=Z,2µm,22.0s
N28A Pribbeno Ranch 27.38 344 ⇑P P 13 36 38.8 +1.3
baz=28
M31A Lambtecht Ranc 27.43 349 ⇑P P 13 36 39.3 +1.4
baz=28
P23A Jefferson 27.58 337 ⇓P P 13 36 41.4 +1.8
baz=28,SNR=29
GLA Glamis 27.69 316 ⇑P P 13 36 42.6 +2.3
baz=28,SNR=25
PV01 Paradox Valley 27.70 331 eP P 13 36 42.8 +2.2
OGNE Ogallala 27.75 344 ⇑P P 13 36 43.0 +2.1
baz=28,SNR=5.8
OGNE Ogallala 27.75 344 eP P 13 36 40.9 +0.1
comp=Z,58nm,1.0s
OGNE LR LR
comp=Z,1µm,20.0s
N27A Anderson Farm, 27.76 343 ⇓P P 13 36 42.7 +1.7
baz=28,SNR=11
ISCO Idaho Springs 27.86 337 eP P 13 36 42.8 +0.7
ISCO pmax pmax
comp=Z,40nm,1.3s
ISCO MLR MLR
comp=Z,857nm,22.0s
ISCO Idaho Springs 27.86 337 ⇓P P 13 36 43.7 +1.6
baz=28,SNR=21
ISCO Idaho Springs 27.86 337 eP P 13 36 42.8 +0.7
comp=Z,40nm,1.3s
ISCO LR LR
comp=Z,857nm,22.0s
M29A Burnside Ranch 27.89 346 ⇓P P 13 36 43.7 +1.7
baz=28
Y12C Blythe 27.91 317 ⇑P P 13 36 44.2 +2.0
baz=28,SNR=14
O24A Longmont 27.95 339 ⇓P P 13 36 44.9 +2.2
baz=28
PDMCI Parker Dam,Lak 28.00 319 ⇓P P 13 36 45.0 +1.9
baz=28,SNR=43
P22A Eagle 28.13 336 ⇑P P 13 36 46.3 +1.9
baz=28,SNR=12
SDMD Soldier's Deli 28.28 26 eP P 13 36 44.9 -0.5
comp=Z,124nm,1.1s
SWSC Sam W. Stewart 28.28 315 ⇑P P 13 36 47.5 +2.0
baz=28,SNR=17
U15A North Rim 28.32 324 ⇓P P 13 36 48.1 +2.0
baz=28,SNR=56
O23A Lake Granby, G 28.34 337 ⇑P P 13 36 48.1 +1.8
baz=28
W13A Hualapai Mount 28.36 320 ⇑P P 13 36 48.6 +2.1
baz=28,SNR=35
JFWS Jewell Farm 28.40 3 eP P 13 36 46.3 -0.2
JFWS pmax pmax
comp=Z,47nm,0.7s
JFWS MLR MLR
comp=Z,2µm,19.0s
JFWS Jewell Farm 28.40 3 eP P 13 36 46.3 -0.2
comp=Z,47nm,0.7s
JFWS LR LR
comp=Z,2µm,19.0s
BC3 Big Chuckawall 28.46 316 ⇓P P 13 36 49.1 +1.8
baz=29,SNR=97
O22A Kremmling 28.53 337 ⇑P P 13 36 48.5 +0.5
baz=29,SNR=17
M26A McRoberts Ranc 28.55 343 ⇓P P 13 36 49.7 +1.8
baz=29
IRM Iron Mountain 28.57 317 ⇓P P 13 36 49.9 +1.8
baz=29,SNR=46
MONP Monument Peak, 28.68 314 ⇑P P 13 36 50.9 +1.5
baz=29,SNR=10
AAM Ann Arbor 28.70 13 eP P 13 36 48.8 -0.3
AAM e*PP pP 13 37 04.4 0.0
AAM pmax pmax
comp=Z,67nm,1.0s
AAM MLR MLR
comp=Z,3µm,19.0s
AAM Ann Arbor 28.70 13 eP P 13 36 48.8 -0.3
comp=Z,67nm,1.0s
AAM epP pP 13 37 04.4 0.0
AAM LR LR
comp=Z,3µm,19.0s
BAR Barrett 28.75 313 eP P 13 36 50.6 +0.9
comp=Z,62nm,1.6s
M25A Palm-Egli Farm 28.79 341 ⇓P P 13 36 52.3 +2.1
baz=29
SSPA Standing Stone 28.91 23 eP P 13 36 50.3 -0.7
comp=Z,39nm,1.0s
N23A Red Feather La 28.94 338 ⇑P P 13 36 53.4 +1.7
baz=29
ALLY Alegheny Colle 29.03 19 eP P 13 36 51.5 -0.6
comp=Z,24nm,0.8s
ALLY epP pP 13 37 07.5 +0.1
BELC Belle Mtn. Jos 29.04 316 ⇓P P 13 36 54.3 +1.9
baz=29,SNR=29
N22A Wattenberg Ran 29.05 337 ⇓P P 13 36 54.7 +2.1
baz=29,SNR=9.4
L26A Underwood Farm 29.05 343 ⇑P P 13 36 54.5 +2.1
baz=29
K29A Lazy Trails An 29.06 348 ⇑P P 13 36 53.3 +0.9
baz=29
M24A Cheyenne 29.07 340 ⇓P P 13 36 54.7 +2.1
baz=29
LDFC Landfair 29.11 319 eP P 13 36 55.0 +1.9
comp=Z,14nm,1.3s
PFO Pinyon Flats O 29.12 315 P P 13 36 54.8 +1.6
comp=Z,126nm,1.1s,SNR=9.1
PFO Pinyon Flats O 29.12 315 eP P 13 36 54.7 +1.6
PFO pmax pmax
comp=Z,141nm,1.9s
PFO MLR MLR
comp=Z,2µm,20.0s
PFO Pinyon Flats O 29.12 315 ⇓P P 13 36 55.1 +1.9
baz=29,SNR=15
PFO Pinyon Flats O 29.12 315 eP P 13 36 54.7 +1.6
comp=Z,141nm,1.9s
PFO LR LR
comp=Z,2µm,20.0s
109C Camp Elliot, M 29.16 313 ⇑P P 13 36 55.7 +2.3
baz=29,SNR=8.5
O20A White River Ci 29.19 334 ⇓P P 13 36 56.1 +2.3
baz=29,SNR=19
O20A White River Ci 29.19 334 eP P 13 36 54.7 +0.9
comp=Z,31nm,0.9s
K28A Ten Mile Ranch 29.25 346 ⇓P P 13 36 56.4 +2.3
baz=29
GMRC Granite Mounta 29.28 318 ⇑P P 13 36 56.7 +2.1
baz=29,SNR=36
ANWB Willy Bob 29.36 80 PFAKE 13 37 10.0 +15
ANWB LR LR
comp=Z,3µm,22.0s
SRU San Rafael Swe 29.40 330 eP P 13 36 56.3 +0.7
SRU pmax pmax
comp=Z,148nm,1.5s
SRU San Rafael Swe 29.40 330 eP P 13 36 56.3 +0.7
comp=Z,148nm,1.5s
ECSD EROS Data Cent 29.42 353 ⇓P P 13 36 55.9 +0.3
baz=30,SNR=12
ECSD EROS Data Cent 29.42 353 eP P 13 36 53.1 -2.5
comp=Z,22nm,1.1s
ECSD LR LR
comp=Z,2µm,22.0s
L25A Engebretsen Ra 29.42 342 ⇑P P 13 36 57.7 +2.0
baz=30
J30A Dallas 29.44 349 ⇓P P 13 36 57.6 +1.8
baz=30
K27A Flueckinger Fa 29.45 345 ⇑P P 13 36 57.6 +1.7
baz=30
ERPA Erie 29.51 19 PFAKE 13 37 10.0 +14
ERPA LR LR
comp=Z,8µm,20.0s
L24A Wheatland 29.62 341 ⇓P P 13 37 00.0 +2.5
baz=30
MURC Murrieta 29.62 314 ⇓P P 13 36 59.6 +2.1
baz=30,SNR=15
M22A Cedar Creek Ra 29.63 338 ⇑P P 13 37 00.1 +2.4
baz=30,SNR=8.7
CCUT Cedar City 29.72 325 P P 13 36 59.6 +1.1
comp=Z,69nm,0.9s
HEC Hector,Ludlow 29.75 317 ⇑P P 13 37 01.5 +2.8
baz=30,SNR=5.4
GRGR Grenville 29.78 91 PFAKE 13 37 10.0 +11
GRGR LR LR
comp=Z,2µm,20.0s
MVU Marysvale 29.79 327 eP P 13 37 00.8 +1.6
comp=Z,199nm,1.8s
N20A Spence Gulch, 29.79 335 ⇓P P 13 37 01.1 +2.1
baz=30,SNR=67
BBRC Big Bear Solar 29.81 316 ⇓P P 13 37 02.3 +3.0
baz=30,SNR=9.5
K25A Mack Ranch, Ha 29.81 342 ⇓P P 13 37 00.5 +1.4
baz=30
TUQ Turquoise Moun 29.85 319 ⇑P P 13 37 01.6 +2.0
baz=30,SNR=41
TMUT Trail Mountain 29.88 329 eP P 13 37 00.4 +0.5
comp=Z,99nm,1.2s
J28A Allard Ranch, 29.89 347 ⇑P P 13 37 02.0 +2.2
baz=30,SNR=5.2
J27A Elkhorn Farm, 29.91 346 ⇑P P 13 37 01.4 +1.5
baz=30,SNR=7.1
ARUT Antelope Range 29.93 325 eP P 13 37 02.7 +2.4
ARUT pmax pmax
comp=Z,21nm,1.1s
ARUT Antelope Range 29.93 325 eP P 13 37 02.7 +2.4
comp=Z,21nm,1.1s
L23A Garrett 29.94 340 ⇓P P 13 37 01.7 +1.3
baz=30,SNR=10
I30A Oacoma 30.00 349 ⇓P P 13 37 01.7 +1.0
baz=30
FDF Fort de France 30.01 86 PFAKE 13 37 10.0 +8.9
FDF LR LR
comp=Z,7µm,21.0s
SHPR Sheep Range 30.06 321 eP P 13 37 02.5 +1.0
comp=Z,105nm,1.3s
L22A Ellis Ranch, M 30.12 339 ⇑P P 13 37 04.2 +2.2
baz=30
J26A Sides Ranch, S 30.24 344 ⇓P P 13 37 03.5 +0.7
baz=30,SNR=30
I29A Vivian Onida 30.27 348 ⇑P P 13 37 02.9 -0.2
baz=30,SNR=11
BFSC Mount Baldy Ra 30.30 315 ⇓P P 13 37 05.4 +1.9
baz=30,SNR=12
GSC Goldstone, Bar 30.34 318 eP P 13 37 05.5 +1.6
GSC pmax pmax
comp=Z,37nm,1.4s
GSC Goldstone, Bar 30.34 318 ⇑P P 13 37 05.8 +1.9
baz=30,SNR=13
GSC Goldstone, Bar 30.34 318 eP P 13 37 05.5 +1.6
comp=Z,38nm,1.4s
NNA Nana 30.35 149 LR LR 13 47 24.5
comp=Z,896nm,20.6s,baz=328,slow=32
CIS Catalina Islan 30.36 313 ⇓P P 13 37 06.2 +2.2
baz=30,SNR=8.7
SHOC Shoshone, Teco 30.37 319 ⇓P P 13 37 05.8 +1.7
baz=30,SNR=6.6
I28A Midland 30.43 347 ⇓P P 13 37 06.2 +1.8
baz=30
BRSD Miller 30.44 350 eP P 13 37 04.3 -0.3
comp=Z,53nm,0.9s
K23A Bowen Ranch, D 30.48 340 ⇑P P 13 37 06.2 +1.1
baz=31
J25A Sunshine Ranch 30.51 343 ⇓P P 13 37 06.4 +1.1
baz=31,SNR=13
MWC Mount Wilson 30.56 315 eP P 13 37 07.7 +1.7
MWC pmax pmax
comp=Z,59nm,1.3s
MWC Mount Wilson 30.56 315 eP P 13 37 07.7 +1.7
comp=Z,59nm,1.3s
PASC Pasadena Art C 30.62 314 eP P 13 37 08.2 +2.0
comp=Z,49nm,1.4s
MPU Maple Canyon 30.64 330 eP P 13 37 08.2 +1.6
comp=Z,99nm,1.0s
SPMN Mane on St. 30.67 359 ⇓P P 13 37 07.0 +0.5
baz=31
SPMN Marine on St. 30.67 359 eP P 13 37 05.2 -1.3
comp=Z,39nm,0.5s
I27A Quinn 30.69 346 ⇑P P 13 37 07.6 +0.7
baz=31,SNR=7.8
K22A Casper 30.70 339 ⇓P P 13 37 08.9 +1.9
baz=31,SNR=7.4
K22A Casper 30.70 339 P P 13 37 07.9 +0.9
comp=Z,111nm,1.7s
J24A Dixon Ranch, L 30.70 342 ⇑P P 13 37 09.0 +2.0
baz=31
DECC Green Verdugo 30.77 314 ⇓P P 13 37 09.9 +2.4
baz=31,SNR=5.9
DAU Daniels Canyon 30.77 331 eP P 13 37 09.8 +1.9
DAU pmax pmax
comp=Z,10.0nm,1.4s
DAU Daniels Canyon 30.77 331 eP P 13 37 09.8 +1.9
comp=Z,10nm,1.4s
NLU North Lily Min 30.81 329 eP P 13 37 09.3 +1.2
comp=Z,322nm,2.2s
H29A Onida 30.84 349 ⇓P P 13 37 08.5 +0.5
baz=31
I26A New Underwood 30.85 345 ⇑P P 13 37 09.4 +1.1
baz=31,SNR=7.2
EDW2 Edwards Air Fo 30.88 316 ⇓P P 13 37 10.2 +1.6
baz=31,SNR=19
K21A Alcova 30.94 338 ⇓P P 13 37 11.3 +2.1
baz=31
BINY Binghamton 30.98 24 eP P 13 37 07.3 -2.0
comp=Z,131nm,1.2s
BINY LR LR
comp=Z,3µm,20.0s
JLU Jordanelle 31.01 331 eP P 13 37 11.4 +1.6
comp=Z,28nm,1.0s
TPNV Topopah Spring 31.01 321 ⇑P P 13 37 12.6 +2.8
baz=31,SNR=40
LRMC Laurel Mtn Rad 31.03 317 ⇓P P 13 37 12.2 +2.2
baz=31,SNR=29
I25A Rochford 31.07 344 ⇑P P 13 37 10.8 +0.4
baz=31,SNR=18
SNCC San Nicolas Is 31.08 312 ⇓P P 13 37 11.4 +1.0
baz=31
FURC Furnace Creek, 31.09 319 ⇑P P 13 37 12.8 +2.5
baz=31,SNR=9.3
G30A Faulkton 31.14 350 ⇑P P 13 37 10.6 -0.1
baz=31,SNR=34
I24A Kuemmerle Ranc 31.18 342 ⇓P P 13 37 13.1 +2.0
baz=31,SNR=6.1
BLG Laguna Peak, P 31.20 314 ⇑P P 13 37 13.8 +2.4
baz=31
CTU Camp Tracy 31.22 331 eP P 13 37 14.0 +2.3
comp=Z,63nm,1.0s
H27A Howes 31.23 346 ⇓P P 13 37 12.8 +1.2
baz=31,SNR=8.1
OSI Osito Audit: C 31.24 315 ⇑P P 13 37 14.3 +2.6
baz=31,SNR=5.4
OSI Osito Audit: C 31.24 315 eP P 13 37 13.5 +1.7
comp=Z,49nm,1.1s
MPMC Manual Prospec 31.24 318 ⇓P P 13 37 13.7 +1.7
baz=31,SNR=91
RSSD Black Hills 31.25 343 eP P 13 37 11.5 -0.4
RSSD pmax pmax
comp=Z,11nm,0.7s
RSSD Black Hills 31.25 343 eP P 13 37 11.5 -0.4
comp=Z,12nm,0.7s
G29A Hoven 31.33 349 ⇓P P 13 37 14.6 +2.2
baz=31
J22A Midwest 31.35 340 ⇑P P 13 37 14.6 +1.8
baz=31,SNR=11
DUG Dugway, Tooele 31.36 329 eP P 13 37 14.0 +1.1
DUG pmax pmax
comp=Z,56nm,1.2s
DUG MLR MLR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 31.36 329 ⇓P P 13 37 15.0 +2.1
baz=32,SNR=44
DUG Dugway, Tooele 31.36 329 eP P 13 37 14.0 +1.1
comp=Z,56nm,1.2s
DUG LR LR
comp=Z,4µm,20.0s
H26A Fairpoint 31.38 345 ⇓P P 13 37 14.9 +2.0
baz=32
TCUT Toone Canyon 31.39 331 eP P 13 37 14.8 +1.5
comp=Z,100nm,0.9s
DAC Darwin (Calif) 31.44 318 eP P 13 37 14.4 +0.7
DAC pmax pmax
comp=Z,57nm,1.2s
DAC Darwin (Calif) 31.44 318 eP P 13 37 14.4 +0.7
comp=Z,57nm,1.2s
R11A Troy Canyon, C 31.54 323 ⇓P P 13 37 17.0 +2.5
baz=32,SNR=56
R11A Troy Canyon, C 31.54 323 eP P 13 37 15.8 +1.3
comp=Z,82nm,1.4s
BSC Santa Cruz Isl 31.54 313 ⇓P P 13 37 16.3 +1.9
baz=32
ARVC Arvin 31.59 315 ⇓P P 13 37 16.9 +2.1
baz=32,SNR=17
H25A Fruitdale 31.59 344 ⇑P P 13 37 15.8 +1.0
baz=32,SNR=30
J21A Lysite 31.63 339 ⇑P P 13 37 16.6 +1.3
baz=32,SNR=35
COWI Conover 31.64 4 eP P 13 37 12.9 -2.2
comp=Z,25nm,0.8s
COWI LR LR
comp=Z,3µm,22.0s
ISA Isabella, Lake 31.66 317 eP P 13 37 16.3 +0.8
ISA pmax pmax
comp=Z,193nm,2.1s
ISA Isabella, Lake 31.66 317 ⇑P P 13 37 17.6 +2.2
baz=32,SNR=22
ISA Isabella, Lake 31.66 317 eP P 13 37 16.3 +0.8
comp=Z,193nm,2.1s
BBGH Gun Hill 31.69 88 PFAKE 13 37 30.0 +14
BBGH LR LR
comp=Z,5µm,20.0s
GRAC Grapevine Rang 31.74 320 ⇑P P 13 37 18.7 +2.6
baz=32,SNR=38
I22A 9 Mile Ranch, 31.78 340 ⇓P P 13 37 17.5 +0.9
baz=32,SNR=8.8
HWUT Hardware Ranch 31.85 332 eP P 13 37 18.2 +1.0
comp=Z,54nm,0.9s
HWUT LR LR
comp=Z,2µm,19.0s
J20A Shoshoni 31.86 338 ⇑P P 13 37 19.1 +1.8
baz=32,SNR=16
G27A Dupree 31.91 347 ⇓P P 13 37 19.8 +2.3
baz=32
F29A Eureka 31.93 350 ⇓P P 13 37 17.7 0.0
baz=32
BW06 Boulder Array 31.93 335 eP P 13 37 18.7 +0.7
comp=Z,20nm,1.1s
BW06 LR LR
comp=Z,1µm,21.0s
PDAR Pinedale Array 31.93 335 P P 13 37 18.9 +1.0
comp=Z,6.1nm,0.6s,baz=134,slow=8.6,SNR=38
PDAR PcP PcP 13 40 07.5 +0.4
comp=Z,12nm,1.0s,baz=172,slow=1.3,SNR=11
PDAR ScP ScP 13 43 45.3 0.0
comp=Z,3.2nm,1.1s,baz=60,slow=2.2,SNR=2.4
H24A Dirks Ranch, A 31.97 343 ⇑P P 13 37 18.9 +0.8
baz=32,SNR=38
G26A Maurine 31.98 346 ⇓P P 13 37 20.4 +2.2
baz=32
I21A Big Trails, Te 31.98 339 ⇑P P 13 37 20.2 +1.9
baz=32,SNR=12
BGU Big Grassy Mou 32.02 329 eP P 13 37 20.2 +1.6
comp=Z,65nm,0.9s
G25A Newell 32.08 345 ⇑P P 13 37 21.8 +2.8
baz=32
F28A McLaughlin 32.12 349 ⇑P P 13 37 19.6 +0.2
baz=32,SNR=6.2
J19A Crowheart 32.16 337 ⇓P P 13 37 21.2 +1.3
baz=32,SNR=13
VES Vestal, Richgr 32.16 316 ⇓P P 13 37 22.7 +2.9
baz=32,SNR=50
TIN Tinemaha, Big 32.32 319 ⇓P P 13 37 24.3 +3.0
baz=32,SNR=7.3
TPH Tonopah 32.33 321 eP P 13 37 22.5 +1.0
TPH pmax pmax
comp=Z,88nm,1.3s
TPH Tonopah 32.33 321 eP P 13 37 22.5 +1.0
comp=Z,88nm,1.3s
H22A Clearmont 32.37 341 ⇑P P 13 37 22.5 +0.9
baz=32,SNR=11
F27A Lemmon 32.40 347 ⇑P P 13 37 22.2 +0.5
baz=32
E30A Jud 32.44 351 ⇓P P 13 37 23.3 +1.2
baz=32
G24A Alzada 32.47 344 ⇑P P 13 37 23.5 +1.0
baz=33,SNR=6.9
SMMC Simmler 32.49 315 ⇓P P 13 37 24.6 +1.9
baz=33,SNR=5.7
F26A Lodgepole 32.52 346 ⇑P P 13 37 23.8 +1.0
baz=33,SNR=10
RCTC Rector, Farmer 32.54 317 ⇑P P 13 37 25.5 +2.4
baz=33,SNR=32
HVU Hansel Valley 32.55 331 eP P 13 37 24.6 +1.3
HVU pmax pmax
comp=Z,162nm,1.2s
HVU Hansel Valley 32.55 331 eP P 13 37 24.6 +1.3
comp=Z,162nm,1.2s
AHID Auburn Hatcher 32.58 334 eP P 13 37 24.4 +0.8
comp=Z,51nm,0.9s
AHID LR LR
comp=Z,2µm,20.0s
E29A Napoleon 32.62 350 ⇓P P 13 37 24.4 +0.7
baz=33
H21A Big Horn, Sher 32.62 340 ⇓P P 13 37 25.7 +1.9
baz=33,SNR=5.6
G23A Biddle 32.62 343 ⇓P P 13 37 24.8 +1.0
baz=33,SNR=22
F25A Bowman 32.78 345 ⇓P P 13 37 26.1 +1.0
baz=33,SNR=15
I19A Meeteetse 32.79 337 ⇑P P 13 37 26.4 +0.9
baz=33,SNR=25
E28A Huff 32.80 349 ⇑P P 13 37 26.6 +1.3
baz=33
H20A Greybull 32.82 339 ⇑P P 13 37 26.7 +1.1
baz=33,SNR=44
E27A Carson 32.83 348 ⇓P P 13 37 26.6 +1.0
baz=33,SNR=9.5
ACCN Adirondack Com 32.91 25 eP P 13 37 25.6 -0.6
comp=Z,210nm,2.2s
G22A Birney 32.91 341 ⇓P P 13 37 27.4 +1.0
baz=33
F24A Ekalaka 32.95 344 ⇓P P 13 37 27.4 +0.7
baz=33,SNR=20
D30A Buchanan 33.01 352 ⇓P P 13 37 27.3 +0.2
baz=33,SNR=11
MLAC Mammoth, Mammo 33.05 319 ⇓P P 13 37 30.0 +2.2
baz=33,SNR=16
E26A Carlson Angus 33.06 347 ⇑P P 13 37 27.9 +0.3
baz=33,SNR=25
F23A Volborg 33.10 343 ⇓P P 13 37 28.6 +0.6
baz=33,SNR=25
NV11 Mina Array Sit 33.12 321 eP P 13 37 30.4 +2.1
NCB Newcomb 33.17 24 eP P 13 37 27.2 -1.3
comp=Z,62nm,1.1s
NCB LR LR
comp=Z,3µm,21.0s
G21A Lodge Grass 33.20 340 ⇑P P 13 37 29.6 +0.7
baz=33,SNR=6.7
NVAR Mina Array Bea 33.21 321 P P 13 37 31.3 +2.1
comp=Z,100nm,0.9s,baz=130,slow=8.4,SNR=361
NVAR PcP PcP 13 40 12.5 +1.8
comp=Z,18nm,0.8s,baz=136,slow=4.0,SNR=8.1
NVAR ScP ScP 13 43 51.1 +1.3
comp=Z,0.8nm,0.7s,baz=144,slow=3.2,SNR=3.3
E25A Miller Ranch, 33.30 346 ⇓P P 13 37 30.3 +0.6
baz=33,SNR=21
I17A Pilgrim Ck. 33.30 335 ⇓P P 13 37 31.4 +1.4
baz=33,SNR=34
H19A Powell 33.33 338 ⇓P P 13 37 32.2 +2.2
baz=33,SNR=22
D28A Regan 33.38 350 ⇑P P 13 37 31.6 +1.3
baz=34
EYMN Ely 33.39 1 eP P 13 37 27.8 -2.6
comp=Z,8.1nm,0.6s
EYMN epP pP 13 37 44.8 -1.0
EYMN LR LR
comp=Z,937nm,19.0s
F22A Rosebud 33.40 342 ⇑P P 13 37 31.9 +1.3

baz=34,SNR=5.4
D27A Center 33.47 348 ⇑P P 13 37 30.7 -0.5
baz=34,SNR=10
G20A Bridger 33.53 339 ⇓P P 13 37 32.7 +0.8
baz=34,SNR=22
C30A Mose, Pekin 33.56 352 ⇓P P 13 37 31.6 -0.3
baz=34,SNR=11
LONY Lake Ozonia 33.58 23 *e*P P 13 37 30.7 -1.3
comp=Z,48nm,1.0s
LONY LR LR
comp=Z,4µm,22.0s
E24A Baker 33.58 345 ⇑P P 13 37 32.7 +0.6
baz=34,SNR=23
D26A Manning 33.59 347 ⇓P P 13 37 31.8 -0.3
baz=34,SNR=11
H18A Shoshone NF, C 33.59 337 ⇓P P 13 37 33.5 +1.1
baz=34,SNR=95
MDV Middlebury 33.61 25 *e*P P 13 37 31.2 -1.1
H17A Grant Village 33.70 336 ⇑P P 13 37 35.8 +2.3
baz=34,SNR=12
H17A Grant Village 33.70 336 *e*P P 13 37 35.3 +1.9
comp=Z,57nm,1.4s
LKWY Lake 33.77 336 *e*P P 13 37 35.8 +1.7
LKWY pmax pmax
comp=Z,48nm,1.3s
LKWY MLR MLR
comp=Z,2µm,22.0s
LKWY Lake 33.77 336 *e*P P 13 37 35.8 +1.7
comp=Z,48nm,1.3s
LKWY LR LR
comp=Z,2µm,22.0s
RLMT Red Lodge 33.82 338 *e*P P 13 37 34.8 +0.4
comp=Z,19nm,0.9s
RLMT LR LR
comp=Z,1µm,19.0s
YFT Old Faithful 33.85 336 *e*P P 13 37 36.0 +1.3
comp=Z,78nm,1.4s
MDND Maddock 33.86 351 ⇓P P 13 37 34.5 0.0
baz=34,SNR=11
MDND Maddock 33.86 351 *e*P P 13 37 33.4 -1.0
comp=Z,126nm,0.8s
AGMN Agassiz Nation 33.88 356 ⇑P P 13 37 35.4 +0.8
baz=34
AGMN Agassiz Nation 33.88 356 P P 13 37 32.5 -2.1
comp=Z,46nm,1.1s
AGMN LR LR
comp=Z,1µm,19.0s
BMN Battle Mountai 33.88 325 *e*P P 13 37 36.4 +1.5
BMN pmax pmax
comp=Z,104nm,1.2s
BMN Battle Mountai 33.88 325 *e*P P 13 37 36.4 +1.5
comp=Z,104nm,1.2s
D25A Fairfield 33.90 346 ⇑P P 13 37 35.4 +0.6
baz=34,SNR=14
E22A Miles City 33.91 343 ⇓P P 13 37 36.1 +1.1
baz=34
WAKR Walker 33.96 320 *e*P P 13 37 37.6 +2.0
comp=Z,116nm,1.4s
YNR Norris Junctio 34.01 336 *e*P P 13 37 38.2 +2.1
comp=Z,27nm,1.2s
F20A Billings 34.02 340 ⇑P P 13 37 36.5 +0.5
baz=34,SNR=9.5
C27A Sayler Ranch, 34.05 349 ⇓P P 13 37 36.7 +0.5
baz=34,SNR=8.6
YMR Madison River 34.08 336 *e*P P 13 37 38.3 +1.6
comp=Z,75nm,1.1s
D24A Glendive 34.10 345 ⇓P P 13 37 37.5 +0.9
baz=34,SNR=12
LAO LASA Array 34.22 343 *e*P P 13 37 38.3 +0.6
comp=Z,42nm,0.9s
LAO LR LR
comp=Z,788nm,19.0s
B30A Myrvik Farm, E 34.27 353 ⇑P P 13 37 38.7 +0.6
baz=34,SNR=18
C26A Wahner Farm, P 34.27 348 ⇑P P 13 37 38.6 +0.5
baz=34,SNR=12
CMB Columbia Colle 34.28 318 *e*P P 13 37 39.4 +1.1
CMB pmax pmax
comp=Z,25nm,1.0s
CMB Columbia Colle 34.28 318 *e*P P 13 37 39.4 +1.1
comp=Z,25nm,1.0s
LBNH Lisbon 34.33 26 *e*P P 13 37 38.3 -0.3
LBNH pmax pmax
comp=Z,18nm,1.0s
LBNH MLR MLR
comp=Z,4µm,21.0s
LBNH Lisbon 34.33 26 *e*P P 13 37 38.3 -0.3
comp=Z,18nm,1.0s
LBNH LR LR
comp=Z,4µm,21.0s
E21A Keefer Ranch, 34.34 342 ⇑P P 13 37 39.4 +0.7
baz=34
F19A Roth Farm, Mol 34.34 339 ⇑P P 13 37 40.2 +1.4
baz=34,SNR=28
D23A Lindsay 34.38 344 ⇓P P 13 37 40.8 +1.7
baz=34,SNR=23
QLMT Earthquake Lak 34.40 335 *e*P P 13 37 41.3 +1.9
comp=Z,7.8nm,1.4s
C25A Freed Ranch, W 34.41 347 ⇑P P 13 37 40.0 +0.7
baz=34
B29A Wagenman Farm, 34.42 352 ⇓P P 13 37 40.0 +0.7
baz=34,SNR=26
C24A Savage 34.51 345 ⇑P P 13 37 41.1 +1.0
baz=35,SNR=12
GCMT Greycliff 34.54 338 *e*P P 13 37 41.1 +0.5
comp=Z,19nm,0.9s
B28A Dugan Ranch, T 34.56 350 ⇓P P 13 37 41.3 +0.8
baz=35,SNR=11
D22A Cohagen 34.62 343 ⇑P P 13 37 41.5 +0.4
baz=35,SNR=104
E20A Meyer Farm, Mu 34.64 340 ⇓P P 13 37 42.1 +0.8
baz=35,SNR=22
HLID Hailey 34.69 331 ⇓P P 13 37 43.4 +1.5
baz=35,SNR=81
HLID Hailey 34.69 331 *e*P P 13 37 43.1 +1.2
comp=Z,90nm,1.1s
HLID LR LR
comp=Z,3µm,20.0s
A30A Hoffart Farm, 34.75 353 ⇑P P 13 37 42.5 +0.4
baz=35,SNR=18
D21A La Casta Ranch 34.78 342 ⇓P P 13 37 44.4 +1.9
baz=35,SNR=20
E19A Rath Farm, Rou 34.81 340 ⇓P P 13 37 43.8 +0.9
baz=35,SNR=26
A29A Manning Farm, 34.85 352 ⇓P P 13 37 43.8 +0.7
baz=35,SNR=8.3
B25A Knox Farm, Ray 34.92 347 ⇑P P 13 37 44.4 +0.8
baz=35,SNR=6.7
C23A Lambert 34.96 345 ⇓P P 13 37 44.8 +0.8
baz=35,SNR=26
MCMT McKenzie Canyo 34.99 334 *e*P P 13 37 46.6 +2.1
comp=Z,50nm,1.0s
A28A Rude Farm, Bot 34.99 351 ⇑P P 13 37 45.0 +0.7
baz=35
C22A Vida 35.09 344 ⇓P P 13 37 45.8 +0.7
baz=35,SNR=34
BOZ Bozeman (W) 35.16 336 *e*P P 13 37 46.6 +0.7
BOZ pmax pmax
comp=Z,21nm,1.0s
BOZ MLR MLR
comp=Z,802nm,21.0s
BOZ Bozeman (W) 35.16 336 *e*P P 13 37 46.6 +0.7
comp=Z,21nm,1.0s
BOZ LR LR
comp=Z,802nm,21.0s
D20A Manuel Ranch, 35.16 341 ⇓P P 13 37 47.7 +2.0
baz=35,SNR=26
A27A Ledoux Ranch, 35.20 350 ⇓P P 13 37 46.4 +0.4
baz=35
PTGA Pitinga 35.27 113 LR LR 13 54 30.0
comp=Z,418nm,21.7s,baz=301,slow=40
PTGA Pitinga 35.27 113 *e*P P 13 37 46.2 -0.8
comp=Z,62nm,1.0s
PTGA *ep*P *pP* 13 38 02.0 -0.5
A26A Wade Farm, Ken 35.29 349 ⇑P P 13 37 47.2 +0.4
baz=35,SNR=36
DGMT Dagmar 35.34 346 ⇑P P 13 37 47.5 +0.3
baz=35,SNR=16
DGMT Dagmar 35.34 346 *e*P P 13 37 46.6 -0.6
comp=Z,64nm,0.9s
DGMT LR LR
comp=Z,1µm,20.0s
D19A Cripps Ranch, 35.46 340 ⇑P P 13 37 50.2 +1.9
baz=36,SNR=17
C21A Desert Coulee 35.50 343 ⇓P P 13 37 49.4 +0.7
baz=36,SNR=23
B23A Brockton 35.52 345 ⇓P P 13 37 49.5 +0.7
baz=36,SNR=17
A25A Svangstu Ranch 35.54 348 ⇓P P 13 37 49.2 +0.3
baz=36,SNR=17
B22A Reddig Ranch S 35.63 344 ⇑P P 13 37 51.3 +1.5
baz=36,SNR=6.4
LRM Limekiln Ridge 35.63 335 *e*P P 13 37 50.5 +0.5
comp=Z,621nm,1.3s
C20A Veseth Ranch, 35.67 342 ⇑P P 13 37 51.1 +1.0
baz=36,SNR=29
A24A Westby 35.72 347 ⇓P P 13 37 51.4 +0.8
baz=36,SNR=11
ULM Lac du Bonnet 35.82 356 P P 13 37 48.7 -2.6
comp=Z,6.1nm,0.5s,baz=172,slow=10,SNR=19
ULM PcP PcP 13 40 17.9 +0.2
comp=Z,30nm,0.7s,baz=155,slow=3.7,SNR=7.4
ULM ScP ScP 13 43 56.6 -1.9
comp=Z,9.7nm,1.0s,baz=80,slow=12,SNR=2.3
ULM LR LR 13 55 59.6
comp=Z,1µm,18.3s,baz=174,slow=42
A23A Redstone 35.96 346 ⇑P P 13 37 53.3 +0.8
baz=36
C19A Slack Wire Ran 36.02 341 ⇓P P 13 37 53.8 +0.7
baz=36,SNR=22
WVOR Wild Horse Val 36.02 326 *e*P P 13 37 54.5 +1.2
WVOR pmax pmax
comp=Z,159nm,1.4s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 36.02 326 *e*P P 13 37 54.5 +1.2
comp=Z,160nm,1.4s
WVOR LR LR
comp=Z,2µm,20.0s
B21A Ellsworth Farm 36.02 343 ⇑P P 13 37 53.7 +0.5
baz=36
HRY Holter Researc 36.12 337 *e*P P 13 37 54.8 +0.8
comp=Z,11nm,0.5s
A22A Carney Farms, 36.24 345 ⇓P P 13 37 56.2 +1.2
baz=36,SNR=24
PKME Peaks-Kenny Pk 36.30 28 *e*P P 13 37 54.5 -1.0
PKME LR LR
comp=Z,3µm,19.0s
B20A Solberg Farm, 36.32 342 ⇑P P 13 37 56.6 +0.9
baz=36,SNR=27
EGMT Eagleton 36.50 340 ⇓P P 13 37 58.2 +0.9
baz=37,SNR=26
EGMT Eagleton 36.50 340 *e*P P 13 37 57.0 -0.2
comp=Z,87nm,1.1s
EGMT LR LR
comp=Z,739nm,20.0s
MOD Modoc Plateau 36.60 324 *e*P P 13 37 58.8 +0.5
comp=Z,80nm,1.2s
B19A Brinkman Farms 36.62 341 ⇓P P 13 37 59.9 +1.7
baz=37,SNR=15
A20A Cobblestone Ra 36.69 343 ⇓P P 13 38 00.4 +1.5
baz=37,SNR=27
CHMT Chamberlain Mo 36.84 336 *e*P P 13 38 00.9 +0.5
comp=Z,7.9nm,0.7s
A19A Klindworth Far 36.98 342 ⇑P P 13 38 02.4 +1.2
baz=37,SNR=19
SAML Samuel 36.98 127 *e*P P 13 38 00.8 -0.9
comp=Z,78nm,0.9s
SAML *ep*P *pP* 13 38 16.4 -0.8
SAML LR LR
comp=Z,1µm,22.0s
BMO Blue Mountains 37.04 330 *e*P P 13 38 01.8 -0.1
comp=Z,76nm,1.1s
BMO LR LR
comp=Z,4µm,20.0s
MSO Missoula 37.05 335 ⇑P P 13 38 03.4 +1.4
baz=37,SNR=38
WDC Whiskeytown Da 37.12 320 *e*P P 13 38 01.9 -0.6
WDC *e**PP *pP* 13 38 19.0 +0.9
WDC *e* 13 40 22.0
WDC pmax pmax
comp=Z,30nm,1.4s
WDC Whiskeytown Da 37.12 320 *e*P P 13 38 01.9 -0.6
comp=Z,30nm,1.4s
WDC *ep*P *pP* 13 38 19.0 +0.9
WDC *e*PcP PcP 13 40 22.0 +0.2
WDC *ep*PcP 13 40 39.9
SLMT Seeley Lake 37.20 336 *e*P P 13 38 03.5 +0.2
comp=Z,7.6nm,0.5s
KCPM Cahto Peak 37.27 318 *e*P P 13 38 06.5 +2.5
comp=Z,90nm,1.5s
KIPM Iron Peak 37.27 319 *e*P P 13 38 06.3 +2.3
comp=Z,103nm,1.1s
KIPM *ep*P *pP* 13 38 23.7 +4.1
M04C Macdoel 37.41 322 ⇓P P 13 38 07.2 +2.0
baz=38,SNR=32
N02D Trinity Center 37.45 321 ⇓P P 13 38 05.7 +0.3
baz=38,SNR=6.6
SWMT Swartz Lake 37.62 336 *e*P P 13 38 07.0 +0.2
comp=Z,11nm,0.9s
M02C Callahan 37.79 321 ⇑P P 13 38 09.0 +0.8
baz=38,SNR=6.5
F10A Beach Ranch, E 37.83 331 P P 13 38 09.3 +0.8
K04D Chiloquin, OR 37.89 324 ⇓P P 13 38 11.0 +1.9
baz=38,SNR=9.0
YBH Yreka Blue Hor 37.90 322 *e*P P 13 38 09.0 -0.3
YBH *e**PP *pP* 13 38 24.5 -0.4
YBH 13 40 24.0
YBH pmax pmax
comp=Z,8.0nm,0.6s
YBH Yreka Blue Hor 37.90 322 P P 13 38 09.4 +0.2
comp=Z,5.0nm,0.7s,baz=135,slow=5.5,SNR=21
YBH PcP PcP 13 40 24.0 -0.3
comp=Z,11nm,0.9s,baz=89,slow=5.7,SNR=6.2
YBH Yreka Blue Hor 37.90 322 *e*P P 13 38 09.0 -0.3
comp=Z,7.9nm,0.6s
YBH *ep*P *pP* 13 38 24.5 -0.4
YBH PcP PcP 13 40 23.9 -0.3
YBMT Yellow Bay 37.91 336 *e*P P 13 38 09.7 +0.5
comp=Z,16nm,0.8s
JTMT Jette 37.92 336 *e*P P 13 38 09.9 +0.5
comp=Z,59nm,1.6s
J05D Fort Rock, OR 38.01 325 ⇓P P 13 38 12.5 +2.3
baz=38,SNR=7.9
KHMM Horse Mountain 38.03 320 *e*P P 13 38 12.2 +1.8
comp=Z,204nm,1.4s
BLMT Blacktail Moun 38.17 336 *e*P P 13 38 12.4 +0.8
comp=Z,58nm,1.5s
BSMT Bassoo Peak 38.21 335 *e*P P 13 38 12.5 +0.6
comp=Z,12nm,0.9s
J04D Umpqua Nationa 38.48 324 ⇑P P 13 38 16.0 +1.8
baz=39,SNR=45
HUMO Hull Mountain 38.58 323 *e*P P 13 38 14.7 -0.1
comp=Z,11nm,1.0s
L02D Cave Junction, 38.69 322 ⇓P P 13 38 17.2 +1.4
baz=39
LPAZ La Paz 38.70 141 *e*P P 13 38 17.3 +0.5
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 38.70 141 P P 13 38 17.5 +0.7
comp=Z,17nm,0.8s,baz=329,slow=8.5,SNR=56
LPAZ LR LR 13 53 30.0
comp=Z,514nm,19.8s,baz=324,slow=35
LPAZ La Paz 38.70 141 *e*P P 13 38 17.6 +0.8
LPAZ La Paz 38.70 141 *e*P P 13 38 17.3 +0.5
comp=Z,3.7nm,1.1s
I05D Terrebonne, OR 38.76 326 ⇑P P 13 38 18.2 +1.9
baz=39,SNR=25
WALA Waterton Lakes 38.85 337 *e*P P 13 38 18.1 +1.0
comp=Z,123nm,1.9s
I04A Tendick Farm, 39.00 325 ⇑P P 13 38 19.9 +1.5
baz=39,SNR=36
KBO Bosley Butte 39.10 321 *e*P P 13 38 21.2 +1.9
comp=Z,334nm,1.4s
HAWA Hanford 39.23 330 *e*P P 13 38 20.1 -0.1
comp=Z,20nm,0.7s
HAWA LR LR
comp=Z,2µm,19.0s
G05D Wamic, OR 39.34 327 ⇑P P 13 38 23.4 +2.2
baz=39,SNR=22
BENWA Benson Ranch 39.41 330 P P 13 38 23.0 +1.3
I03D Drain, OR 39.47 324 ⇓P P 13 38 23.9 +1.7
baz=40,SNR=34
NEW Newport 39.51 334 *e*P P 13 38 22.6 0.0
NEW pmax pmax
comp=Z,19nm,0.8s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 39.51 334 ⇑P P 13 38 23.7 +1.1
baz=40,SNR=30
NEW Newport 39.51 334 *e*P P 13 38 22.6 0.0
comp=Z,19nm,0.8s
NEW LR LR
comp=Z,2µm,20.0s
KEBM Edson Butte 39.55 322 *e*P P 13 38 25.0 +2.0
comp=Z,312nm,1.1s
TRW Toppenish Ridg 39.66 329 P P 13 38 25.9 +2.0
VLL Laurance Lake 39.68 327 P P 13 38 26.7 +2.6
COR Corvallis 39.99 325 *e*P P 13 38 28.1 +1.6
COR pmax pmax
comp=Z,217nm,1.4s
COR Corvallis 39.99 325 *e*P P 13 38 28.1 +1.6
comp=Z,216nm,1.4s
EBG Ellensburg 40.10 330 P P 13 38 29.2 +1.7
SAW Saint Andrews 40.11 331 P P 13 38 28.9 +1.4
G03D McMinnville, O 40.37 326 ⇓P P 13 38 31.4 +1.8
baz=40,SNR=16
WTV Waterville 40.37 331 P P 13 38 31.2 +1.5
LON Longmire 40.61 329 *e*P P 13 38 32.5 +0.8
LON pmax pmax
comp=Z,45nm,0.8s
LON Longmire 40.61 329 *e*P P 13 38 32.5 +0.8
comp=Z,45nm,0.8s
F04D Rainier, OR 40.79 327 ⇓P P 13 38 35.3 +2.2
baz=41,SNR=6.7
FFC Flin Flon 40.90 351 P P 13 38 32.0 -1.9
comp=Z,87nm,0.4s,SNR=5.6
FFC Flin Flon 40.90 351 *e*P P 13 38 32.5 -1.4
FFC pmax pmax
comp=Z,7.0nm,0.5s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 40.90 351 *e*P P 13 38 32.5 -1.4
comp=Z,7.2nm,0.5s
FFC LR LR
comp=Z,2µm,21.0s
PB01 IPOC Station P 41.73 147 *e*P P 13 38 42.8 +1.6
PB07 IPOC Station P 42.09 148 *e*P P 13 38 46.1 +1.9
NLWA Neilton Lookou 42.09 328 *e*P P 13 38 45.2 +1.4
comp=Z,208nm,1.3s
NLWA LR LR
comp=Z,3µm,21.0s
EDM Edmonton 42.15 341 *e*P P 13 38 43.1 -1.1
EDM pmax pmax
comp=Z,54nm,0.5s
EDM Edmonton 42.15 341 *e*P P 13 38 43.1 -1.1
comp=Z,54nm,0.5s
VDB Vedder Mountai 42.32 331 P P 13 38 45.9 +0.3
MCW Mount Constitu 42.43 330 P P 13 38 47.6 +1.1
MCW Mount Constitu 42.43 330 P P 13 38 47.6 +1.1
PB09 IPOC Station P 42.48 148 *e*P P 13 38 49.6 +2.2
PGC Sidney 42.71 329 *e*P P 13 38 49.7 +1.0
comp=Z,188nm,1.1s
PB06 IPOC Station P 43.06 149 *e*P P 13 38 53.7 +1.6
SIV San Ignacio 43.13 133 P P 13 38 52.9 +0.4
comp=Z,31nm,0.8s,baz=315,slow=9.4,SNR=78
LVC Limon Verde 43.32 148 P P 13 38 56.1 +1.8
comp=Z,88nm,0.8s,baz=312,slow=6.2,SNR=22
LVC Limon Verde 43.32 148 *e*P P 13 38 56.1 +1.8
comp=Z,36nm,0.9s
LVC *ep*P *pP* 13 39 12.2 +2.0
LVC LR LR
comp=Z,1µm,20.0s
FCC Fort Churchill 44.25 359 *e*P P 13 39 01.2 +0.3
FCC pmax pmax
comp=Z,26nm,0.9s
FCC Fort Churchill 44.25 359 *e*P P 13 39 01.1 +0.3
comp=Z,26nm,0.9s
SCHQ Schefferville 44.85 21 P P 13 39 03.9 -2.0
comp=Z,26nm,1.0s,baz=222,slow=6.2,SNR=19
SCHQ PcP PcP 13 40 46.9 +0.3
comp=Z,17nm,0.8s,baz=243,slow=4.1,SNR=2.7
SCHQ LR LR 13 58 49.9
comp=Z,6µm,21.8s,baz=217,slow=38
LCO Las Campanas 47.94 154 *e*P P 13 39 32.2 +1.5
LCO Las Campanas 47.94 154 *e*P P 13 39 31.5 +0.8
comp=Z,61nm,1.2s
LCO LR LR
comp=Z,1µm,22.0s
TLL Tololo Astrono 48.91 155 *e*P P 13 39 40.3 +2.2
YKA Yellowknife Ar 50.54 347 P P 13 39 49.3 -0.5
comp=Z,27nm,0.7s,baz=152,slow=7.2,SNR=265
YKA ScP ScP 13 44 59.1 +1.5
comp=Z,10nm,0.9s,baz=142,slow=4.0,SNR=20
YKA PKPPKP P'P'df 14 10 35.9 -2.7
comp=Z,0.6nm,1.0s,baz=13,slow=3.6,SNR=4.1
CFAA Coronel Fontan 51.24 154 P P 13 39 56.3 +0.8
comp=Z,3.5nm,1.0s,baz=333,slow=7.2,SNR=46
ROCH El Roble 51.32 157 *e*P P 13 39 58.0 +1.7
WRAK Wrangell Islan 51.86 333 PFAKE 13 40 10.0 +10
WRAK LR LR
comp=Z,2µm,22.0s
DLBC Dease Lake 52.17 336 *e*P P 13 40 04.2 +2.0
comp=Z,149nm,1.1s
CPUP Villa Florida 52.84 140 *e*P P 13 40 06.9 -0.5
CPUP pmax pmax
comp=Z,2.0nm,1.3s
CPUP Villa Florida 52.84 140 P P 13 40 07.1 -0.3
comp=Z,4.4nm,0.9s,baz=316,slow=8.0,SNR=19
CPUP LR LR 14 04 01.9
comp=Z,2µm,20.2s,baz=316,slow=38
CPUP Villa Florida 52.84 140 *e*P P 13 40 06.8 -0.5
comp=Z,2.1nm,1.3s
BDFB Brasilia 52.91 123 P P 13 40 08.1 -0.1
comp=Z,39nm,1.0s,baz=288,slow=8.3,SNR=40
BDFB pP pP 13 40 24.6 0.0
comp=Z,76nm,1.0s,baz=286,slow=10,SNR=15
BDFB LR LR 14 04 46.6
comp=Z,676nm,21.4s,baz=300,slow=38
TAOE Nuku Hiva Isla 52.92 247 *e*T T 14 36 20.9
comp=Z,415nm,0.3s
PTCN Pitcairn Islan 53.95 224 PFAKE 13 40 30.0 +14
PTCN LR LR
comp=Z,1µm,20.0s
RKT Rikitea 56.12 229 *e*P P 13 40 32.5 +1.3
comp=Z,111nm,1.5s
RKT *e*S S 13 48 16.0 +0.1
comp=Z,327nm,32.0s
RKT *e*LR LR 13 56 59.7
comp=Z,7µm,27.8s
RKT Rikitea 56.12 229 *e*T T 14 40 34.9
comp=Z,20nm,0.3s
PLCA Paso Flores 58.46 161 *e*P P 13 40 48.3 +0.8
PLCA pmax pmax
comp=Z,117nm,1.5s
PLCA Paso Flores 58.46 161 P P 13 40 48.6 +1.0
comp=Z,26nm,1.0s,baz=340,slow=7.5,SNR=20
PLCA LR LR 14 00 22.4
comp=Z,1µm,21.3s,baz=338,slow=30
PLCA Paso Flores 58.46 161 *e*P P 13 40 48.6 +1.0
PLCA Paso Flores 58.46 161 *e*P P 13 40 48.3 +0.8
comp=Z,117nm,1.5s
SFJD Kangerlussuaq 59.13 18 PFAKE 13 41 00.0 +8.3
SFJD LR LR
comp=Z,3µm,21.0s
DAWY Dawson 59.19 338 *e*P P 13 40 52.2 -0.1
comp=Z,21nm,0.8s
RCBR Riachuelo 59.33 106 *e*P P 13 40 53.8 -0.3
comp=Z,36nm,0.8s
RCBR LR LR
comp=Z,818nm,21.0s
TRQA Tornquist 59.43 153 *e*P P 13 40 54.6 +0.4
TRQA Tornquist 59.43 153 *e*P P 13 40 53.3 -0.9
comp=Z,32nm,1.1s
TRQA LR LR
comp=Z,792nm,20.0s
BMRM Bremner River 59.69 333 *e*P P 13 40 57.1 +1.3
comp=Z,58nm,1.0s
INK Inuvik 59.95 344 P P 13 40 57.6 +0.3
comp=Z,50nm,0.7s,baz=126,slow=6.2,SNR=223
INK ScP ScP 13 45 38.1 -0.6
comp=Z,6.4nm,0.9s,baz=137,slow=6.7,SNR=4.0
INK PKP2bc 14 10 32.5
comp=Z,1.8nm,1.0s,baz=332,slow=4.9,SNR=3.1
INK LR LR 14 10 57.2
comp=Z,2µm,20.6s,baz=130,slow=40
EGAK Eagle 60.22 338 *e*P P 13 40 59.2 -0.1
comp=Z,66nm,1.0s
EGAK LR LR
comp=Z,1µm,20.0s
RES Resolute Bay 60.24 359 *e*P P 13 40 57.3 -2.0
RES pmax pmax
comp=Z,8.0nm,0.7s
RES Resolute Bay 60.24 359 *e*P P 13 40 57.3 -2.0
comp=Z,8.1nm,0.7s
DIV Divide 60.27 333 *e*P P 13 41 01.2 +1.5
comp=Z,54nm,1.0s
ILULI Ilulissat 60.49 16 *e*P P 13 41 01.3 +0.2
ILULI MLR MLR
comp=Z,4µm,21.0s
ILULI Ilulissat 60.49 16 *i* P P 13 41 01.3 +0.2
comp=Z,5µm,20.0s

DOT **Dot Lake** **60.73 336** *e*P **P** **13 41 03.8 +0.9**
comp=Z,99nm,1.1s
PAX **Paxson** **60.97 335** *e*P **P** **13 41 04.9 +0.3**
PAX pmax pmax
comp=Z,82nm,1.1s
PAX **Paxson** **60.97 335** *e*P **P** **13 41 04.9 +0.3**
comp=Z,82nm,1.1s
RC01 **Rabbit Creek A** **62.01 332** *e*P **P** **13 41 12.1 +0.6**
comp=Z,100nm,1.0s
KDAK **Kodiak Island** **62.24 328** *i* P **P** **13 41 14.3 +1.3**
VAH **Vaihoa** **62.26 244** *e*P **P** **13 41 14.7 +0.9**
comp=Z,234nm,1.2s
VAH *e*pP **pP** **13 41 32.8 +2.2**
comp=Z,92nm,1.1s
VAH **Vaihoa** **62.26 244** *e*T T 13 41 33.3
comp=Z,16nm,0.2s
ILAR **Eielson Array** **62.35 337** P **P** **13 41 13.8 +0.1**
comp=Z,68nm,1.0s,baz=119,slow=4.5,SNR=234
ILAR PKP2bc 14 10 32.1
comp=Z,1.2nm,1.0s,baz=297,slow=4.0,SNR=4.8
ILAR LR LR 14 12 04.8
comp=Z,1μm,18.7s,baz=116,slow=40
PMOR **Pomariorio Ree** **62.39 244** *e*P **P** **13 41 15.7 +1.0**
comp=Z,331nm,1.7s
PMOR **Pomariorio Ree** **62.39 244** *e*T T 14 48 23.7
comp=Z,6.2nm,0.2s
KIP **Kipapa** **62.64 287** *ce*P **P** **13 41 17.7 +1.3**
KIP pmax pmax
comp=Z,115nm,1.3s
MCK **McKinley** **62.71 335** *e*P **P** **13 41 15.8 -0.4**
MCK pmax pmax
comp=Z,109nm,1.3s
MCK **McKinley** **62.71 335** *e*P **P** **13 41 15.8 -0.4**
comp=Z,109nm,1.3s
COLA **College** **62.77 337**⇑ *i*P **P** **13 41 16.8 +0.4**
COLA pmax pmax
comp=Z,260nm,1.2s
COLA **College** **62.77 337** *e*P **P** **13 41 16.5 +0.1**
comp=Z,63nm,0.9s
COLA LR LR
comp=Z,1μm,21.0s
TRF **Thorofare Moun** **63.15 335** *e*P **P** **13 41 19.5 +0.2**
comp=Z,120nm,1.0s
KULLO **Kullorsuaq** **63.16 10** *e*P **P** **13 41 18.1 -0.8**
KULLO MLR MLR
comp=Z,1μm,30.0s
KULLO **Kullorsuaq** **63.16 10** *i* P **P** **13 41 18.1 -0.8**
comp=Z,1μm,29.0s
RSO **Redoubt South** **63.17 331** *e*P **P** **13 41 19.6 +0.1**
comp=Z,174nm,0.7s
KTH **Kantishna Hill** **63.45 335** *e*P **P** **13 41 21.1 -0.1**
comp=Z,49nm,0.9s
PPLA **Purkeypile** **63.75 334** *e*P **P** **13 41 23.4 +0.3**
comp=Z,186nm,1.4s
CHRN **Cochrane** **63.75 165** *e*P **P** **13 41 26.1 +3.0**
MEH **Mehetia** **63.79 242** *e*P **P** **13 41 24.6 +0.6**
comp=Z,62nm,1.4s
COLD **Coldfoot** **64.64 339** *e*P **P** **13 41 29.9 +1.1**
comp=Z,79nm,1.2s
TIAR **Tiarei** **64.75 242** *e*P **P** **13 41 30.7 +0.4**
comp=Z,27nm,1.0s
TIAR *e*pP **pP** **13 41 48.8 +1.7**
comp=Z,29nm,1.0s
TVO **Taravao** **64.77 242** *e*P **P** **13 41 31.0 +0.6**
comp=Z,42nm,1.4s
TVO **Taravao** **64.77 242** *e*T T 14 51 14.5
comp=Z,1.4nm,0.3s
PPT **Papeete** **64.95 243** P **P** **13 41 33.9 +2.3**
comp=Z,15nm,0.6s,baz=160,slow=1.4,SNR=4.2
PPT LR LR 14 02 22.0
comp=Z,803nm,20.3s,baz=50,slow=29
PPT2 **Papeete2** **64.96 242** *e*P **P** **13 41 32.2 +0.5**
comp=Z,61nm,1.4s
PPT2 *e*S **S** **13 50 09.1 -0.1**
comp=Z,1μm,29.8s
PPT2 *e*SS **SS** **13 54 24.7 +2.4**
comp=Z,342nm,27.5s
PPT2 *e*LR LR 14 00 47.6
comp=Z,6μm,27.8s
PAE **Paea** **64.99 242** *e*P **P** **13 41 32.3 +0.5**
comp=Z,25nm,1.3s
SUMG **Summit** **65.84 15** *i* P **P** **13 41 36.6 -0.3**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG MLR MLR
comp=Z,2μm,18.0s
SUMG **Summit** **65.84 15** *e*P **P** **13 41 35.2 -1.7**
comp=Z,20nm,0.9s
SUMG **Summit** **65.84 15** *i* P **P** **13 41 36.6 -0.3**
comp=Z,8.5nm,0.9s
comp=Z,2μm,18.0s
SACV **Santiago Islan** **66.06 80** PFAKE 13 41 50.0 +11
SACV LR LR
comp=Z,2μm,20.0s
TBI **Tubuai** **67.46 237** *e*P **P** **13 41 47.7 +0.2**
comp=Z,154nm,1.4s
TBI *e*pP **pP** **13 42 06.1 +1.7**
comp=Z,150nm,1.3s
TBI *e*S **S** **13 50 39.3 +0.1**
comp=Z,460nm,30.5s
TBI *e*SS **SS** **13 55 02.9 +2.1**
comp=Z,212nm,31.0s
TBI *e*LR LR 14 02 10.3
comp=Z,5μm,28.8s
TBI **Tubuai** **67.46 237** *e*T T 14 54 33.0
comp=Z,8.8nm,0.3s
BORG **Borgarnes** **68.87 26** PFAKE 13 42 10.0 +14
BORG LR LR
comp=Z,2μm,22.0s
ALE **Alert** **69.12 4** P **P** **13 41 55.9 -1.1**
comp=Z,62nm,0.8s,SNR=5.6
UNV **Unalaska Valle** **69.21 322** *e*P **P** **13 41 58.2 +0.3**
comp=Z,149nm,1.0s
TNA **Tin City** **71.04 335** *e*P **P** **13 42 10.0 +1.0**
comp=Z,57nm,1.0s
USHA **Ushuaia** **71.90 166** P **P** **13 42 15.2 +1.0**
comp=Z,17nm,0.9s,baz=335,slow=6.9,SNR=4.9
DAG **Danmarks Havn** **72.26 13** *i* P **P** **13 42 13.8 -2.3**
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG MLR MLR
comp=Z,3μm,20.0s
DAG **Danmarks Havn** **72.26 13** *i* P **P** **13 42 13.8 -2.3**
comp=Z,12nm,0.9s
comp=Z,2μm,20.0s
ADK **Adak** **75.39 320** PFAKE 13 42 50.0 +15
ADK LR LR
comp=Z,849nm,19.0s
PGAV **Gavieira, Arco** **75.99 50** *e*P **P** **13 42 37.5 -1.2**
comp=Z,44nm,2.1s
PGAV **Gavieira, Arco** **75.99 50** *e*LR LR 14 06 17.9
comp=Z,1μm,22.0s
PCAS **Casmilo, Conde** **76.06 52** *e*P **P** **13 42 39.0 0.0**
comp=Z,62nm,1.4s
PMTG **Montargil** **76.39 53** *e*P **P** **13 42 39.9 -1.0**
comp=Z,50nm,1.2s
POLO **Lamas de Olo** **76.42 50** *e*P **P** **13 42 39.8 -1.3**
comp=Z,17nm,1.5s
PVIS **Viseu** **76.43 51** *e*P **P** **13 42 41.1 -0.1**
comp=Z,28nm,1.6s
EVOP **Sao Brissos** **76.55 53**⇑ *i*P **P** **13 42 40.3 -1.4**
EVOP pmax pmax
comp=Z,45nm,1.1s
EVOP **Sao Brissos** **76.55 53**⇑ *i*P **P** **13 42 40.3 -1.4**
comp=Z,45nm,1.1s
EVO **Evora** **76.63 53**⇑ *i*P **P** **13 42 40.3 -1.9**
comp=Z,45nm,1.1s
EVO *e*R
comp=Z,1μm,20.8s
EVO **Evora** **76.63 53** *e*P **P** **13 42 41.9 -0.3**
comp=Z,34nm,1.7s
MTE **Manteigas** **76.74 51** *e*P **P** **13 42 41.4 -1.5**
comp=Z,40nm,1.8s
MTE *e*S **S** **13 52 26.2 +0.9**
MTE *e*LQ LQ 14 01 48.7
MTE *e*LR LR 14 06 38.8
comp=Z,1μm,20.0s
MTE **Manteigas** **76.74 51** PFAKE 13 42 50.0 +7.1
MTE LR LR
comp=Z,2μm,22.0s
PCBR **Castelo Branco** **76.86 52** *e*P **P** **13 42 43.0 -0.5**
comp=Z,28nm,1.1s
PMRV **Marv??o** **76.99 52** *e*P **P** **13 42 44.0 -0.3**
comp=Z,33nm,1.7s
PMRV **Marv??o** **76.99 52** *e*LR LR 14 06 47.9
comp=Z,1μm,22.0s
MVO **Moncorvo** **77.02 51** *e*P **P** **13 42 43.4 -1.1**
comp=Z,38nm,1.2s
MVO **Moncorvo** **77.02 51** *e*LR LR 14 06 55.4
comp=Z,930nm,20.0s
PVAQ **Vaqueiros** **77.02 54** *e*P **P** **13 42 44.9 +0.4**
comp=Z,58nm,2.2s
PVAQ **Vaqueiros** **77.02 54** *e*LR LR 14 06 51.5
comp=Z,812nm,24.0s
PBRG **Braganca** **77.15 50** *e*P **P** **13 42 44.0 -1.2**
comp=Z,31nm,2.0s
PBAR **Barrancos** **77.44 54** *e*P **P** **13 42 45.3 -1.5**
comp=Z,46nm,1.7s
ESK **Eskdalemuir** **77.67 36** P **P** **13 42 45.2 -2.5**
comp=Z,156nm,1.0s,SNR=5.3
ESK **Eskdalemuir** **77.67 36** *i* P **P** **13 42 46.9 -0.8**
ESK **Eskdalemuir** **77.67 36** *e*P **P** **13 42 44.6 -3.1**
comp=Z,71nm,1.2s
ESK LR LR
comp=Z,1μm,21.0s
EKA **Eskdalemuir Ar** **77.69 36** P **P** **13 42 45.9 -2.0**
comp=Z,8.8nm,0.6s,baz=278,slow=5.6,SNR=3.5
RTC **Rabat Centre** **78.24 58** PFAKE 13 43 00.0 +8.7
RTC LR LR
comp=Z,777nm,20.0s
KBS **Kingsbay** **78.59 11** PFAKE 13 43 00.0 +7.6
KBS LR LR
comp=Z,2μm,20.0s
ROSF **Rostrenen** **78.62 43** *e*P **P** **13 42 50.9 -2.3**
comp=Z,26nm,1.1s
ROSF **Rostrenen** **78.62 43** *e*P **P** **13 42 50.9 -2.3**
ROSF pmax pmax
comp=Z,26nm,1.1s
ROSF **Rostrenen** **78.62 43** *e*P **P** **13 42 50.9 -2.3**
comp=Z,26nm,1.1s
QUIF **Quistinic** **78.76 43** *e*P **P** **13 42 51.7 -2.2**
comp=Z,61nm,1.2s
QUIF **Quistinic** **78.76 43** *e*P **P** **13 42 51.7 -2.2**
QUIF pmax pmax
comp=Z,61nm,1.2s
QUIF **Quistinic** **78.76 43** *e*P **P** **13 42 51.7 -2.2**
comp=Z,61nm,1.2s
SGMF **Saint Gilles** **79.11 43** *e*P **P** **13 42 53.2 -2.6**
comp=Z,45nm,1.3s
SGMF **Saint Gilles** **79.11 43** *e*P **P** **13 42 53.2 -2.6**
SGMF pmax pmax
comp=Z,45nm,1.3s
SGMF **Saint Gilles** **79.11 43** *e*P **P** **13 42 53.2 -2.6**
comp=Z,45nm,1.3s
PAB **San Pablo** **79.29 52** *e*P **P** **13 42 54.3 -2.8**
PAB pmax pmax
comp=Z,22nm,1.2s
PAB MLR MLR
comp=Z,2μm,22.0s
PAB **San Pablo** **79.29 52** *e*P **P** **13 42 54.3 -2.8**
comp=Z,22nm,1.2s
PAB LR LR
comp=Z,2μm,22.0s
ESDC **Sonseca Array** **79.56 52** P **P** **13 42 56.6 -2.0**
comp=Z,11nm,1.0s,baz=288,slow=5.4,SNR=42
ESDC PKKPbc **PKKPbc** **14 01 47.5 +0.4**
comp=Z,0.5nm,0.7s,baz=68,slow=2.3,SNR=5.4
ESDC LR LR 14 13 02.9
comp=Z,1μm,21.7s,baz=275,slow=32
GRR **Gorron** **80.20 43** *e*P **P** **13 42 59.6 -2.1**
comp=Z,74nm,1.0s
GRR **Gorron** **80.20 43** *e*P **P** **13 42 59.6 -2.1**
GRR pmax pmax
comp=Z,74nm,1.0s
GRR **Gorron** **80.20 43** *e*P **P** **13 42 59.6 -2.1**
comp=Z,74nm,1.0s
MDT **Midelt** **80.30 59** P **P** **13 43 01.7 -1.0**
comp=Z,9.0nm,1.1s,baz=293,slow=2.7,SNR=6.6
ASCN **Ascension** **80.30 101** PFAKE 13 43 10.0 +7.1
ASCN LR LR
comp=Z,1μm,19.0s
FLN **La Foliniere** **80.38 42** *e*P **P** **13 43 00.8 -1.9**
comp=Z,53nm,0.9s
FLN *e*R
comp=Z,2μm,21.8s
FLN **La Foliniere** **80.38 42** *e*P **P** **13 43 00.8 -1.9**
FLN pmax pmax
comp=Z,53nm,0.9s
FLN **La Foliniere** **80.38 42** *e*P **P** **13 43 00.8 -1.9**
comp=Z,53nm,0.9s
LDF **La Druitiere** **80.65 42** *e*P **P** **13 43 02.1 -2.0**
comp=Z,89nm,1.2s
LDF **La Druitiere** **80.65 42** *e*P **P** **13 43 02.1 -2.0**
LDF pmax pmax
comp=Z,89nm,1.2s
LDF **La Druitiere** **80.65 42** *e*P **P** **13 43 02.1 -2.0**
comp=Z,89nm,1.2s
SJPF **Ste Jean** **80.95 48** *e*P **P** **13 43 04.1 -1.8**
comp=Z,62nm,1.3s
SJPF **Ste Jean** **80.95 48** *e*P **P** **13 43 04.1 -1.8**
SJPF pmax pmax
comp=Z,62nm,1.3s
SJPF **Ste Jean** **80.95 48** *e*P **P** **13 43 04.1 -1.8**
comp=Z,62nm,1.3s
MFF **Saint Martin d** **81.02 44** *e*P **P** **13 43 03.9 -2.3**
comp=Z,38nm,1.1s
MFF **Saint Martin d** **81.02 44** *e*P **P** **13 43 03.9 -2.3**
MFF pmax pmax
comp=Z,39nm,1.1s
MFF **Saint Martin d** **81.02 44** *e*P **P** **13 43 03.9 -2.3**
comp=Z,38nm,1.1s
ETSF **Etsaut** **81.47 48** *e*P **P** **13 43 06.9 -1.9**
comp=Z,49nm,1.3s
ETSF **Etsaut** **81.47 48** *e*P **P** **13 43 06.9 -1.9**
ETSF pmax pmax
comp=Z,49nm,1.3s
ETSF **Etsaut** **81.47 48** *e*P **P** **13 43 06.9 -1.9**
comp=Z,49nm,1.3s
LFF **La Frestale** **81.97 46** *e*P **P** **13 43 09.1 -2.1**
comp=Z,72nm,1.1s
LFF **La Frestale** **81.97 46** *e*P **P** **13 43 09.1 -2.1**
LFF pmax pmax
comp=Z,72nm,1.1s
LFF **La Frestale** **81.97 46** *e*P **P** **13 43 09.1 -2.1**
comp=Z,72nm,1.1s
EPF **Esparros** **82.09 48** *e*P **P** **13 43 09.9 -2.1**
comp=Z,57nm,1.4s
EPF **Esparros** **82.09 48** *e*P **P** **13 43 09.9 -2.1**
EPF pmax pmax
comp=Z,57nm,1.4s
EPF **Esparros** **82.09 48** *e*P **P** **13 43 09.9 -2.1**
comp=Z,57nm,1.4s
RJF **Les Rejaudoux** **82.43 45** *e*P **P** **13 43 11.4 -2.2**
comp=Z,77nm,1.4s
RJF *e*R
comp=Z,2μm,23.0s
RJF **Les Rejaudoux** **82.43 45** *e*P **P** **13 43 11.4 -2.2**
RJF pmax pmax
comp=Z,77nm,1.4s
RJF **Les Rejaudoux** **82.43 45** *e*P **P** **13 43 11.4 -2.2**
comp=Z,77nm,1.4s
TCF **Toulx Ste Croi** **82.68 44** *e*P **P** **13 43 12.5 -2.4**
comp=Z,62nm,1.3s
TCF **Toulx Ste Croi** **82.68 44** *e*P **P** **13 43 12.5 -2.4**
TCF pmax pmax
comp=Z,62nm,1.3s
TCF **Toulx Ste Croi** **82.68 44** *e*P **P** **13 43 12.5 -2.4**
comp=Z,62nm,1.3s
HYF **Humbligny** **82.74 43** *e*P **P** **13 43 13.2 -2.0**
HYF **Humbligny** **82.74 43** *e*P **P** **13 43 13.2 -2.0**
CAF **Calviac** **82.89 46** *e*P **P** **13 43 13.8 -2.3**
comp=Z,27nm,1.2s
CAF **Calviac** **82.89 46** *e*P **P** **13 43 13.8 -2.3**
CAF pmax pmax
comp=Z,27nm,1.2s
CAF **Calviac** **82.89 46** *e*P **P** **13 43 13.8 -2.3**
comp=Z,27nm,1.2s
UCC **Uccle** **83.00 39** P **P** **13 43 16.3 -0.1**
comp=Z,37nm,1.4s
SNF **Seneffe** **83.03 40** P **P** **13 43 16.1 -0.4**
SNF AP **pP** **13 43 33.1 -0.9**
BGF **Bois d'Agland** **83.05 44** *e*P **P** **13 43 14.5 -2.3**
comp=Z,57nm,1.0s
BGF **Bois d'Agland** **83.05 44** *e*P **P** **13 43 14.5 -2.3**
BGF pmax pmax
comp=Z,57nm,1.0s
BGF **Bois d'Agland** **83.05 44** *e*P **P** **13 43 14.5 -2.3**
comp=Z,57nm,1.0s
BAIF **Baives** **83.09 40** *e*P **P** **13 43 15.0 -1.9**
comp=Z,45nm,1.3s
BAIF **Baives** **83.09 40** *e*P **P** **13 43 15.0 -1.9**
BAIF pmax pmax
comp=Z,45nm,1.3s
BAIF **Baives** **83.09 40** *e*P **P** **13 43 15.0 -1.9**
comp=Z,45nm,1.3s
HOPE **Hope Point** **83.15 151** *e*P **P** **13 43 18.2 +1.3**
comp=Z,195nm,1.4s
HOPE LR LR
comp=Z,912nm,19.0s
DOU **Dourbes** **83.32 40** P **P** **13 43 17.8 -0.4**
comp=Z,8.0nm,1.3s
DOU AP **pP** **13 43 34.8 -0.8**
AVF **Avril sur Loir** **83.33 44** *e*P **P** **13 43 15.5 -2.7**
comp=Z,27nm,1.1s
AVF **Avril sur Loir** **83.33 44** *e*P **P** **13 43 15.5 -2.7**
AVF pmax pmax
comp=Z,27nm,1.1s
AVF **Avril sur Loir** **83.33 44** *e*P **P** **13 43 15.5 -2.7**
comp=Z,27nm,1.1s
MTLF **Montolieu** **83.36 47** *e*P **P** **13 43 16.4 -2.1**
comp=Z,60nm,1.3s
MTLF **Montolieu** **83.36 47** *e*P **P** **13 43 16.4 -2.1**
MTLF pmax pmax
comp=Z,60nm,1.3s
MTLF **Montolieu** **83.36 47** *e*P **P** **13 43 16.4 -2.1**
comp=Z,60nm,1.3s
SSF **Saint Saulge** **83.36 43** *e*P **P** **13 43 15.9 -2.5**
comp=Z,45nm,1.1s
SSF **Saint Saulge** **83.36 43** *e*P **P** **13 43 15.9 -2.5**
SSF pmax pmax
comp=Z,45nm,1.1s
SSF **Saint Saulge** **83.36 43** *e*P **P** **13 43 15.9 -2.5**
comp=Z,45nm,1.1s
GIVF **Givet** **83.46 40** *e*P **P** **13 43 17.2 -1.6**
comp=Z,54nm,1.3s
GIVF **Givet** **83.46 40** *e*P **P** **13 43 17.2 -1.6**
GIVF pmax pmax
comp=Z,54nm,1.3s
GIVF **Givet** **83.46 40** *e*P **P** **13 43 17.2 -1.6**
comp=Z,54nm,1.3s
KONO **Kongsberg** **83.49 30** PFAKE 13 43 30.0 +11
KONO LR LR
comp=Z,2μm,22.0s
LOR **Lormes** **83.55 43** *e*P **P** **13 43 17.1 -2.3**
comp=Z,81nm,1.2s
LOR *e*R
comp=Z,346nm,20.2s
LOR **Lormes** **83.55 43** *e*P **P** **13 43 17.1 -2.3**
LOR pmax pmax
comp=Z,81nm,1.2s
LOR **Lormes** **83.55 43** *e*P **P** **13 43 17.1 -2.3**
comp=Z,81nm,1.2s
BCLA **Clavier** **83.68 40** P **P** **13 43 18.1 -1.9**
comp=Z,26nm,2.1s
SMF **Signal de Mont** **83.69 44** *e*P **P** **13 43 17.4 -2.7**
comp=Z,37nm,1.1s
SMF **Signal de Mont** **83.69 44** *e*P **P** **13 43 17.4 -2.7**
SMF pmax pmax
comp=Z,37nm,1.1s
SMF **Signal de Mont** **83.69 44** *e*P **P** **13 43 17.4 -2.7**
comp=Z,37nm,1.1s
NB2 **NORSAR Subarra** **83.82 28** P **P** **13 43 19.7 -0.8**
comp=Z,1.2nm,0.6s,baz=289,slow=5.1
NOA **NORSAR Array B** **83.82 28** P **P** **13 43 19.7 -0.8**
comp=Z,9.3nm,1.1s,baz=290,slow=5.0,SNR=5.4
NOA LR LR 14 17 36.1
comp=Z,983nm,21.8s,baz=285,slow=34
MEZF **Maizieres J'vi** **84.02 42** *e*P **P** **13 43 19.8 -1.9**
comp=Z,60nm,1.2s
MEZF **Maizieres J'vi** **84.02 42** *e*P **P** **13 43 19.8 -1.9**
comp=Z,60nm,1.2s
MEM **Membach** **84.06 39** P **P** **13 43 21.8 -0.1**
comp=Z,7.3nm,1.1s
SFTF **Sexfontaines** **84.08 42** *e*P **P** **13 43 20.0 -2.1**
comp=Z,69nm,1.1s
SFTF **Sexfontaines** **84.08 42** *e*P **P** **13 43 20.0 -2.1**
comp=Z,69nm,1.1s
LASF **Ste Croix** **84.34 46** *e*P **P** **13 43 22.0 -1.5**
comp=Z,55nm,1.3s
LASF **Ste Croix** **84.34 46** *e*P **P** **13 43 22.0 -1.5**
comp=Z,55nm,1.3s
WLF **Walferdange** **84.41 40** P **P** **13 43 24.0 +0.4**
WLF AP **pP** **13 43 40.5 -0.6**
WLF **Walferdange** **84.41 40** *e*P **P** **13 43 23.0 -0.7**
comp=Z,52nm,1.9s
WLF **Walferdange** **84.41 40** *e*P **P** **13 43 22.8 -0.9**
WLF pmax pmax
comp=Z,30nm,1.5s
WLF MLR MLR
comp=Z,2μm,20.0s
WLF **Walferdange** **84.41 40** *e*P **P** **13 43 22.8 -0.9**
comp=Z,30nm,1.5s
WLF LR LR
comp=Z,2μm,20.0s
PAGF **Fort de Pagny** **84.43 41** *e*P **P** **13 43 22.2 -1.6**
comp=Z,17nm,1.1s
PAGF **Fort de Pagny** **84.43 41** *e*P **P** **13 43 22.2 -1.6**
comp=Z,17nm,1.1s
SSB **Saint Sauveur** **84.51 45** PFAKE 13 43 30.0 +5.7
SSB LR LR
comp=Z,1μm,22.0s
BUG **Bochum--Univer** **84.60 38** *e*P **P** **13 43 23.8 -0.8**
comp=Z,24nm,1.2s
IBBN **Ibbenburen** **84.65 37** *e*P **P** **13 43 24.2 -0.6**
comp=Z,35nm,1.5s
VIVF **Saint-Julien-l** **84.70 45** *e*P **P** **13 43 24.0 -1.3**
comp=Z,72nm,1.2s
VIVF **Saint-Julien-l** **84.70 45** *e*P **P** **13 43 24.0 -1.3**
VIVF pmax pmax
comp=Z,72nm,1.2s
VIVF **Saint-Julien-l** **84.70 45** *e*P **P** **13 43 24.0 -1.3**
comp=Z,72nm,1.2s
HAU **Haudompre** **84.98 42** *e*P **P** **13 43 24.7 -1.9**
comp=Z,51nm,1.0s
HAU *e*R
comp=Z,776nm,20.8s
HAU **Haudompre** **84.98 42** *e*P **P** **13 43 24.7 -1.9**
HAU pmax pmax
comp=Z,51nm,1.0s
HAU **Haudompre** **84.98 42** *e*P **P** **13 43 24.7 -1.9**
comp=Z,51nm,1.0s
CABF **La Chapelle** **85.19 43** *e*P **P** **13 43 26.1 -1.7**
comp=Z,76nm,1.3s
CABF **La Chapelle** **85.19 43** *e*P **P** **13 43 26.1 -1.7**
CABF pmax pmax
comp=Z,76nm,1.3s
CABF **La Chapelle** **85.19 43** *e*P **P** **13 43 26.1 -1.7**
comp=Z,76nm,1.3s
HFS **Hagfors** **85.28 29** P **P** **13 43 26.6 -1.2**
comp=Z,6.4nm,0.9s,baz=207,slow=2.6,SNR=2.7
HINF **Hinteralfeld** **85.36 42** *e*P **P** **13 43 26.5 -2.1**
comp=Z,42nm,1.3s
HINF **Hinteralfeld** **85.36 42** *e*P **P** **13 43 26.5 -2.1**
HINF pmax pmax
comp=Z,42nm,1.3s
HINF **Hinteralfeld** **85.36 42** *e*P **P** **13 43 26.5 -2.1**
comp=Z,42nm,1.3s
ECH **Echery** **85.44 41** *e*P **P** **13 43 27.9 -1.1**
ECH pmax pmax
comp=Z,24nm,1.1s
ECH MLR MLR
comp=Z,961nm,22.0s
ECH **Echery** **85.44 41** *e*P **P** **13 43 27.9 -1.1**
comp=Z,24nm,1.1s
ECH LR LR
comp=Z,961nm,22.0s
CDF **Champ du Feu** **85.47 41** *e*P **P** **13 43 27.3 -1.8**
comp=Z,54nm,1.3s
CDF **Champ du Feu** **85.47 41** *e*P **P** **13 43 27.3 -1.8**
CDF pmax pmax
comp=Z,54nm,1.3s
CDF **Champ du Feu** **85.47 41** *e*P **P** **13 43 27.3 -1.8**
comp=Z,54nm,1.3s
ORIF **Oris-en-Rattie** **85.52 45** *e*P **P** **13 43 28.0 -1.5**
comp=Z,29nm,1.0s
ORIF *e*R
comp=Z,686nm,22.0s
ORIF **Oris-en-Rattie** **85.52 45** *e*P **P** **13 43 28.0 -1.5**
ORIF pmax pmax
comp=Z,29nm,1.0s
ORIF **Oris-en-Rattie** **85.52 45** *e*P **P** **13 43 28.0 -1.5**
comp=Z,29nm,1.0s
SMRF **Simiane la Rot** **85.56 46** *e*P **P** **13 43 28.6 -1.0**
comp=Z,75nm,1.4s
SMRF **Simiane la Rot** **85.56 46** *e*P **P** **13 43 28.6 -1.0**
comp=Z,75nm,1.4s
TIC **Toumodi** **85.62 84** *e*PKP2 **P** **13 43 30.8 +0.3**
comp=Z,6.3nm,0.3s
BSEG **Bad Segeberg** **85.63 35** *e*P **P** **13 43 29.1 -0.5**
comp=Z,39nm,1.1s
TNS **Taunus Mts** **85.67 39** *e*P **P** **13 43 29.5 -0.6**
comp=Z,50nm,1.3s

LIC	**Lamto**	**85.72**	**85**	⇑*iP*		**P**	**13 43 30.4**	**-0.5**
	comp=Z,72nm,1.3s,baz=277							
LIC				*e*R				
	comp=Z,491nm,21.2s							
LIC	**Lamto**	**85.72**	**85**	*e*PKP2		**P**	**13 43 30.0**	**-0.9**
	comp=Z,69nm,1.3s							
LIC	**Lamto**	**85.72**	**85**	⇑*iP*		**P**	**13 43 30.4**	**-0.5**
	comp=Z,72nm,1.3s							
ARCES	**ARCESS Array B**	**85.75**	**18**	P		**P**	**13 43 28.4**	**-1.6**
	comp=Z,2.9nm,0.5s,baz=289,slow=3.7,SNR=23							
ARCES				LR		LR	14 21 41.7	
	comp=Z,1μm,21.6s,baz=304,slow=36							
DBIC	**Dimbokro**	**85.78**	**84**	*e*P		**P**	**13 43 30.7**	**-0.5**
DBIC				pmax		pmax		
	comp=Z,11nm,0.9s							
DBIC	**Dimbokro**	**85.78**	**84**	P		**P**	**13 43 30.8**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=312,slow=5.2,SNR=7.3							
DBIC				LR		LR	14 18 11.1	
	comp=Z,395nm,21.8s,baz=262,slow=33							
DBIC	**Dimbokro**	**85.78**	**84**	*e*P		**P**	**13 43 30.7**	**-0.5**
	comp=Z,11nm,0.9s							
LPL	**La Plagne**	**85.93**	**44**	*e*P		**P**	**13 43 30.5**	**-1.2**
	comp=Z,73nm,1.3s							
LPL	**La Plagne**	**85.93**	**44**	*e*P		**P**	**13 43 30.5**	**-1.2**
LPL				pmax		pmax		
	comp=Z,73nm,1.3s							
LPL	**La Plagne**	**85.93**	**44**	*e*P		**P**	**13 43 30.5**	**-1.2**
	comp=Z,73nm,1.3s							
LPG	**La Plagne**	**85.95**	**44**	*e*P		**P**	**13 43 30.8**	**-1.0**
	comp=Z,103nm,1.4s							
LPG	**La Plagne**	**85.95**	**44**	*e*P		**P**	**13 43 30.8**	**-1.0**
LPG				pmax		pmax		
	comp=Z,103nm,1.4s							
LPG	**La Plagne**	**85.95**	**44**	*e*P		**P**	**13 43 30.8**	**-1.0**
	comp=Z,103nm,1.4s							
KIC	**Kosan Boka**	**85.96**	**85**	*e*PKP2		**P**	**13 43 31.2**	**-0.9**
	comp=Z,30nm,0.8s							
NRDL	**Niedersach Rie**	**85.97**	**37**	*e*P		**P**	**13 43 30.9**	**-0.4**
	comp=Z,28nm,1.3s							
BNI	**Bardonecchia**	**86.02**	**45**	*e*P		**P**	**13 43 31.7**	**-0.4**
BNI				pmax		pmax		
	comp=Z,33nm,1.3s							
BNI				MLR		MLR		
	comp=Z,1μm,22.0s							
BNI	**Bardonecchia**	**86.02**	**45**	*e*P		**P**	**13 43 31.6**	**-0.4**
	comp=Z,33nm,1.3s							
BNI				LR		LR		
	comp=Z,1μm,22.0s							
KEV	**Kevo**	**86.09**	**18**	*e*P		**P**	**13 43 29.9**	**-1.7**
KEV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KEV	**Kevo**	**86.09**	**18**	PFAKE			13 43 40.0	+8.4
KEV				LR		LR		
	comp=Z,3μm,22.0s							
BFO	**Black Forest**	**86.16**	**41**	P		**P**	**13 43 31.2**	**-1.3**
	comp=Z,81nm,1.2s,SNR=11							
BFO	**Black Forest**	**86.16**	**41**	*e*P		**P**	**13 43 30.9**	**-1.6**
	comp=Z,23nm,1.2s							
BFO	**Black Forest**	**86.16**	**41**	*i* P		**P**	**13 43 32.1**	**-0.4**
BFO	**Black Forest**	**86.16**	**41**	*e*P		**P**	**13 43 31.5**	**-1.0**
	comp=Z,22nm,1.3s							
BFO				LR		LR		
	comp=Z,990nm,21.0s							
MBDF	**Montbardon**	**86.18**	**45**	*e*P		**P**	**13 43 31.4**	**-1.4**
	comp=Z,39nm,1.1s							
MBDF	**Montbardon**	**86.18**	**45**	*e*P		**P**	**13 43 31.4**	**-1.4**
MBDF				pmax		pmax		
	comp=Z,39nm,1.1s							
MBDF	**Montbardon**	**86.18**	**45**	*e*P		**P**	**13 43 31.4**	**-1.4**
	comp=Z,39nm,1.1s							
CLZ	**Clausthal**	**86.33**	**37**	*e*P		**P**	**13 43 33.3**	**0.0**
	comp=Z,30nm,1.2s							
CLZ				*ep*P		**pP**	**13 43 50.7**	**-0.1**
LMR	**La Mourre**	**86.39**	**46**	*e*P		**P**	**13 43 31.8**	**-1.9**
	comp=Z,81nm,1.2s							
LMR	**La Mourre**	**86.39**	**46**	*e*P		**P**	**13 43 31.8**	**-1.9**
LMR				pmax		pmax		
	comp=Z,81nm,1.2s							
LMR	**La Mourre**	**86.39**	**46**	*e*P		**P**	**13 43 31.8**	**-1.9**
	comp=Z,81nm,1.2s							
FRF	**La Foret Royal**	**86.42**	**46**	*e*P		**P**	**13 43 32.1**	**-1.7**
	comp=Z,93nm,1.3s							
FRF	**La Foret Royal**	**86.42**	**46**	*e*P		**P**	**13 43 32.1**	**-1.7**
FRF				pmax		pmax		
	comp=Z,93nm,1.3s							
FRF	**La Foret Royal**	**86.42**	**46**	*e*P		**P**	**13 43 32.1**	**-1.7**
	comp=Z,93nm,1.3s							
STU	**Stuttgart**	**86.58**	**41**	*e*P		**P**	**13 43 33.8**	**-0.7**
	comp=Z,24nm,1.0s							
STU	**Stuttgart**	**86.58**	**41**	*e*P		**P**	**13 43 33.8**	**-0.7**
STU				*e**PP		**pP**	**13 43 51.0**	**-1.0**
STU	**Stuttgart**	**86.58**	**41**	*e*P		**P**	**13 43 33.8**	**-0.7**
STU				*ep*P		**pP**	**13 43 51.0**	**-1.0**
SBF	**Sospel**	**86.88**	**46**	*e*P		**P**	**13 43 34.3**	**-1.9**
	comp=Z,101nm,1.2s							
SBF	**Sospel**	**86.88**	**46**	*e*P		**P**	**13 43 34.3**	**-1.9**
SBF				pmax		pmax		
	comp=Z,101nm,1.2s							
SBF	**Sospel**	**86.88**	**46**	*e*P		**P**	**13 43 34.3**	**-1.9**
	comp=Z,101nm,1.2s							
TUE	**Stuetta**	**87.39**	**43**	PFAKE			13 43 50.0	+11
TUE				LR		LR		
	comp=Z,1μm,20.0s							
MOX	**Moxa**	**87.46**	**38**	*e*P		**P**	**13 43 37.7**	**-1.0**
	comp=Z,11nm,1.2s							
MOX				*ep*P		**pP**	**13 43 54.2**	**-2.1**
DAVA	**Damuels**	**87.48**	**42**	*i* PcP		**P**	**13 43 38.8**	**-0.3**
	comp=Z,42nm,1.3s,SNR=18							
GRFO	**Grafenberg**	**87.54**	**39**	*e*P		**P**	**13 43 38.6**	**-0.6**
GRFO				pmax		pmax		
	comp=Z,34nm,1.3s							
GRFO	**Grafenberg**	**87.54**	**39**	*e*P		**P**	**13 43 38.6**	**-0.6**
	comp=Z,34nm,1.3s							
GRF	**Grafenberg Arr**	**87.54**	**39**	*e*P		**P**	**13 43 39.2**	**0.0**
	comp=Z,34nm,1.3s							
GRF				*ep*P		**pP**	**13 43 55.7**	**-1.0**
DAVOX	**Davos/Dischmat**	**87.64**	**42**	P		**P**	**13 43 39.6**	**-0.3**
	comp=Z,11nm,1.0s,baz=277,slow=7.5,SNR=13							
RETA	**Reutte**	**87.98**	**41**	*i* PcP		**P**	**13 43 41.0**	**-0.4**
	comp=Z,27nm,1.1s,SNR=15							
CLL	**Collm**	**88.05**	**37**	*e*P		**P**	**13 43 41.1**	**-0.4**
	comp=Z,8.0nm,1.2s							
CLL	**Collm**	**88.05**	**37**	*i* P		**P**	**13 43 41.1**	**-0.4**
CLL				*e**SP		**sP**	**13 44 05.0**	**-1.0**
CLL				*e*			13 54 09.0	
CLL				pmax		pmax		
	comp=Z,15nm,1.6s							
CLL	**Collm**	**88.05**	**37**	*i* P		**P**	**13 43 41.1**	**-0.4**
	comp=Z,15nm,1.6s							
CLL				*ep*P		**pP**	**13 43 58.0**	**-1.1**
CLL				*es*P		**sP**	**13 44 05.0**	**-1.0**
CLL				*i*			13 44 14.5	
CLL				*e*			13 44 29.0	
CLL				*es*PP			13 47 30.0	
CLL				*e*SKSac		**SKSac**	**13 54 09.0**	**+4.3**
CLL				*ePS*		**PnS**	**13 55 30.0**	**+0.5**
CLL				*e*SS		SS	14 00 18.0	+9.0
CLL				*e*			14 03 12.0	
CLL				*e*SSSS			14 07 06.0	
CLL				*e*			14 08 12.0	
FUR	**Furstenfeldbru**	**88.08**	**41**	*e*P		**P**	**13 43 41.8**	**0.0**
	comp=Z,42nm,1.6s							
FETA	**Feichten**	**88.11**	**42**	⇑*iPcP*		**P**	**13 43 41.4**	**-0.8**
	comp=Z,13nm,1.2s,SNR=6.0							
ROTZ	**Rotzenmuhle**	**88.11**	**39**	*e*P		**P**	**13 43 41.3**	**-0.6**
	comp=Z,11nm,1.3s							
MOTA	**Moosalm**	**88.25**	**41**	*i* PcP		**P**	**13 43 42.5**	**-0.2**
	comp=Z,11nm,1.0s,SNR=7.8							
SEY	**Seymchan**	**88.27**	**336**	*i* P		**P**	**13 43 43.4**	**+1.1**
PGF	**Pioggiola**	**88.37**	**46**	*e*P		**P**	**13 43 41.3**	**-2.1**
	comp=Z,73nm,1.3s							
PGF	**Pioggiola**	**88.37**	**46**	*e*P		**P**	**13 43 41.3**	**-2.1**
PGF				pmax		pmax		
	comp=Z,73nm,1.3s							
PGF	**Pioggiola**	**88.37**	**46**	*e*P		**P**	**13 43 41.3**	**-2.1**
	comp=Z,73nm,1.3s							
WET	**Wettzell**	**88.74**	**39**	*e*P		**P**	**13 43 44.7**	**-0.2**
	comp=Z,21nm,1.4s							
WET				*ep*P		**pP**	**13 44 01.3**	**-1.2**
BRG	**Berggiesshubel**	**88.76**	**38**	*e*P		**P**	**13 43 43.5**	**-1.4**
	comp=Z,8.1nm,1.2s							
BRG				*e*			13 44 09.0	
BRG				PP		**PP**	**13 47 13.0**	**-1.1**
BRG				SKS		**SKSac**	**13 54 10.0**	**+1.0**
BRG				S		**ScS**	**13 54 31.0**	**-1.4**
	comp=N,718nm,29.1s							
	comp=E,1μm,29.1s							
	comp=Z,2μm,27.9s							
BRG	**Berggiesshubel**	**88.76**	**38**	*e*P		**P**	**13 43 44.8**	**-0.1**
	comp=Z,8.0nm,1.2s							
BRG	**Berggiesshubel**	**88.76**	**38**	*e*P		**P**	**13 43 43.5**	**-1.4**
BRG				*e*			13 44 09.0	
BRG							13 47 13.0	
BRG							13 54 10.0	
BRG				S		**ScS**	**13 54 31.0**	**-1.4**
BRG				pmax		pmax		
	comp=Z,8.0nm,1.3s							
BRG				MLR		MLR		
	comp=N,718nm,29.1s							
BRG				MLR		MLR		
	comp=E,1μm,29.1s							
BRG				MLR		MLR		
	comp=Z,2μm,27.9s							
VLC	**Villacollemand**	**88.82**	**45**	PFAKE			13 44 00.0	+15
VLC				LR		LR		
	comp=Z,587nm,22.0s							
KHC	**Kasperske Hory**	**89.18**	**39**	*e*P		**P**	**13 43 46.5**	**-0.4**
KHC	**Kasperske Hory**	**89.18**	**39**	*e*P		**P**	**13 43 46.5**	**-0.4**
KHC				*ex*		x	13 44 22.0	
RJOB	**Jochberg**	**89.19**	**41**	*e*P		**P**	**13 43 46.3**	**-0.8**
	comp=Z,11nm,1.4s							
PVCC	**Panska Ves**	**89.26**	**38**	AMS		AMS	14 21 00.0	
APA	**Apatity**	**89.26**	**18**	*e*P		P	13 43 52.4	+5.5
PRA	**Prague**	**89.35**	**38**	AMS		AMS	14 24 40.0	
	comp=Z,900nm,20.6s							
ABTA	**Abfaltersbach**	**89.35**	**42**	*i* PcP		**P**	**13 43 47.4**	**-0.5**
	comp=Z,19nm,1.2s,SNR=7.1							
GEC2	**GERESS Array B**	**89.36**	**39**	*e*P		**P**	**13 43 47.3**	**-0.6**
	comp=Z,9.0nm,1.2s							
GERES	**GERESS Array B**	**89.36**	**39**	P		**P**	**13 43 46.5**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=298,slow=2.9,SNR=19							
GERES				PKKPbc		**PKKPbc**	**14 01 22.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=119,slow=4.7,SNR=3.4							
GERES				LR		LR	14 22 19.4	
	comp=Z,1μm,20.3s,baz=276,slow=35							
LVZ	**Lovozero**	**89.43**	**18**	PFAKE			13 44 00.0	+12
LVZ				LR		LR		
	comp=Z,2μm,20.0s							
PRU	**Pruhonice**	**89.45**	**38**	*e*P		**P**	**13 43 47.4**	**-0.7**
PRU				*e*			13 54 12.7	
PRU				*e*			13 55 45.6	
PRU				MLR		MLR		
	comp=Z,600nm,19.6s							
PRU	**Pruhonice**	**89.45**	**38**	*e*P		**P**	**13 43 47.4**	**-0.7**
PRU				*e*SKS		**SKSac**	**13 54 12.7**	**-0.3**
PRU				*ePS*		**PnS**	**13 55 45.6**	**-0.4**
PRU				AMS		AMS	14 22 00.0	
	comp=Z,600nm,19.6s							
VSL	**Villasalto**	**89.59**	**49**	PFAKE			13 44 00.0	+11
VSL				LR		LR		
	comp=Z,916nm,22.0s							
GOPC	**GO Pecny, Ondr**	**89.62**	**38**	*e*P		**P**	**13 43 48.6**	**-0.4**
GOPC				*e*SKS		**SKSac**	**13 54 14.6**	**+0.5**
GOPC				*ePS*		**PnS**	**13 55 44.9**	**-3.2**
GOPC				AMS		AMS	14 21 40.0	
	comp=Z,700nm,21.7s							
PET	**Petropavlovsk**	**89.68**	**325**	*e*P		**P**	**13 43 49.7**	**+0.6**
PET				*e**PP		**pP**	**13 44 07.0**	**+0.3**
PET				*e*S		**S**	**13 54 34.3**	**-1.3**
PET				*e*SS		**SS**	**14 00 36.7**	**+4.3**
PET				pmax		pmax		
	comp=Z,29nm,1.3s							
PET				MLR		MLR		
	comp=Z,400nm,22.0s							
PET				MLR		MLR		
	comp=Z,300nm,20.0s							
PET	**Petropavlovsk**	**89.68**	**325**	PFAKE			13 44 00.0	+11
PET				LR		LR		
	comp=Z,250nm,20.0s							
KBA	**Koelnbreinsper**	**89.77**	**41**	⇑*iPcP*		**P**	**13 43 49.7**	**-0.3**
	comp=Z,10nm,1.2s							
TIXI	**Tiksi**	**89.78**	**348**	⇑*iP*		**P**	**13 43 48.8**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,39nm,1.2s							
TIXI	**Tiksi**	**89.78**	**348**	*e*P		**P**	**13 43 48.4**	**-0.8**
	comp=Z,34nm,0.9s							
TIXI				*ep*P		**pP**	**13 44 06.4**	**-0.4**
TIXI				LR		LR		
	comp=Z,488nm,20.0s							
KAF	**Kangasniemi**	**89.90**	**24**	*e*P		**P**	**13 43 48.2**	**-1.8**
KAF				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MOA	**Molln**	**90.07**	**40**	⇑*iPcP*		**P**	**13 43 50.2**	**-0.9**
	comp=Z,5.9nm,1.2s							
UPC	**Upice**	**90.12**	**37**	*e*P		**P**	**13 43 50.9**	**-0.4**
UPC	**Upice**	**90.12**	**37**	*e*P		**P**	**13 43 50.9**	**-0.4**
KSP	**Ksiaz**	**90.15**	**37**	*e*P		**P**	**13 43 51.2**	**-0.2**
FINES	**FINESS Array B**	**90.16**	**25**	P		**P**	**13 43 49.8**	**-1.3**
	comp=Z,12nm,1.1s,baz=281,slow=2.2,SNR=11							
FINES				LR		LR	14 23 17.4	
	comp=Z,698nm,20.6s,baz=299,slow=35							
PETK	**Petropavlovsk-**	**90.17**	**326**	P		**P**	**13 43 51.8**	**+0.3**
	comp=Z,16nm,0.9s,baz=87,slow=8.8,SNR=19							
PETK				*pP*		**pP**	**13 44 09.3**	**+0.2**
	comp=Z,28nm,1.0s,baz=80,slow=11,SNR=12							
PETK				LR		LR	14 24 34.8	
	comp=Z,99nm,19.4s,baz=56,slow=36							
TREC	**Trest**	**90.28**	**39**	AMS		AMS	14 21 10.0	
	comp=Z,1μm,22.8s							
DPC	**Dobruska-Polom**	**90.36**	**37**	*e*P		**P**	**13 43 51.9**	**-0.6**
DPC				*e**PP		**pP**	**13 44 10.2**	**+0.1**
DPC				*e*			13 44 17.6	
DPC				*e*			13 47 24.0	
DPC				*e*			13 54 22.6	
DPC				*e*			13 55 57.4	
DPC	**Dobruska-Polom**	**90.36**	**37**	*e*P		**P**	**13 43 51.9**	**-0.6**
DPC				*ex*		x	13 43 56.8	
DPC				*ep*P		**pP**	**13 44 10.2**	**+0.1**
DPC				*es*P		**sP**	**13 44 17.6**	**+0.7**
DPC				*e*PP		**PP**	**13 47 24.0**	**-2.9**
DPC				*e*SKS		**SKSac**	**13 54 22.6**	**+4.1**
DPC				*ePS*		**PnS**	**13 55 57.4**	**+0.5**
DPC				AMS		AMS	14 21 40.0	
TORD	**Torodi Ar. Bea**	**90.44**	**76**	P		P	13 43 50.1	-3.3
	comp=Z,0.7nm,0.6s,baz=298,slow=5.0,SNR=10							
TORD				PKKPbc		**PKKPbc**	**14 01 21.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=100,slow=1.9,SNR=4.8							
SHEL	**Horse Pasture**	**90.56**	**106**	PFAKE			13 44 00.0	+6.0
SHEL				LR		LR		
	comp=Z,1μm,22.0s							
JAVS	**Javornik**	**90.66**	**42**	*i* P		**P**	**13 43 53.3**	**-0.7**
KRLC	**Kraliky**	**90.74**	**38**	*e*P		**P**	**13 43 53.4**	**-0.9**
KRLC	**Kraliky**	**90.74**	**38**	*e*P		**P**	**13 43 53.4**	**-0.9**
OBKA	**Obir**	**90.75**	**41**	⇓*iPcP*		**P**	**13 43 53.5**	**-0.9**
	comp=Z,8.1nm,1.1s							
KEST	**Kesra**	**90.75**	**53**	P		**P**	**13 43 52.1**	**-2.5**
	comp=Z,4.0nm,1.0s,baz=287,slow=1.7,SNR=7.0							
KEST				PKKPbc		**PKKPbc**	**14 01 20.7**	**0.0**
	comp=Z,1.7nm,1.0s,baz=39,slow=16,SNR=3.7							
KEST				LR		LR	14 19 46.0	
	comp=Z,159nm,21.6s,baz=242,slow=32							
KEST	**Kesra**	**90.75**	**53**	P		**P**	**13 43 54.7**	**0.0**
KEST				PKKPbc		**PKKPbc**	**14 01 20.7**	**0.0**
VRAC	**Vranov**	**90.94**	**38**	P		**P**	**13 43 53.9**	**-1.2**
	comp=Z,7.7nm,1.0s,baz=306,slow=4.6,SNR=6.7							
SOKA	**Soboth**	**91.00**	**41**	⇑*iPcP*		**P**	**13 43 54.9**	**-0.6**
	comp=Z,8.1nm,1.3s							
CONA	**Conrad Observa**	**91.04**	**40**	⇓*iPcP*		**P**	**13 43 55.4**	**-0.3**
	comp=Z,8.7nm,1.4s							
VISS	**Visnje**	**91.20**	**42**	*e*P		**P**	**13 43 56.5**	**0.0**
MORC	**Moravsky Berou**	**91.31**	**38**	*e*P		**P**	**13 43 57.0**	**+0.1**
MORC				pmax		pmax		
	comp=Z,10.0nm,1.3s							
MORC	**Moravsky Berou**	**91.31**	**38**	*e*P		**P**	**13 43 57.0**	**+0.1**
	comp=Z,9.6nm,1.3s							
JOF	**Joensuu**	**91.38**	**22**	*e*P		**P**	**13 43 54.8**	**-2.0**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.7s							
GROS	**Grobnik**	**91.38**	**41**	*e*P		**P**	**13 43 57.0**	**-0.3**
TAM	**Tamanrasset**	**91.39**	**66**	*e*P		**P**	**13 43 57.7**	**-0.2**
TAM				pmax		pmax		
	comp=Z,2.0nm,0.4s							
TAM				MLR		MLR		
	comp=Z,875nm,21.0s							
TAM	**Tamanrasset**	**91.39**	**66**	*e*P		**P**	**13 43 57.7**	**-0.2**
	comp=Z,1.6nm,0.4s							
TAM				LR		LR		
	comp=Z,875nm,21.0s							
AQU	**L'Aquila**	**91.50**	**46**	PFAKE			13 44 10.0	+12
AQU				LR		LR		
	comp=Z,1μm,21.0s							
BOJS	**Bojanci**	**91.58**	**42**	*e*P		**P**	**13 43 57.0**	**-1.1**
OKC	**Ostrava-Krasne**	**91.65**	**37**	*e*P		**P**	**13 43 58.4**	**0.0**
OKC				*e*			13 54 29.6	
OKC	**Ostrava-Krasne**	**91.65**	**37**	*e*P		**P**	**13 43 58.4**	**0.0**
OKC				*e*SKS		**SKSac**	**13 54 29.6**	**+3.9**
OKC				AMS		AMS	14 20 00.0	
OJC	**Ojcow**	**92.44**	**37**	*e*P		**P**	**13 44 02.1**	**0.0**
VYHS	**Vyhne**	**92.62**	**38**	*e*P		**P**	**13 44 03.0**	**+0.1**
VYHS				pmax		pmax		
	comp=Z,3.0nm,1.1s							
VYHS	**Vyhne**	**92.62**	**38**	*e*P		**P**	**13 44 03.0**	**+0.1**
CLTB	**Caltabellotta**	**93.07**	**50**	PFAKE			13 44 20.0	+15
CLTB				LR		LR		
	comp=Z,728nm,21.0s							
NIE	**Niedzica**	**93.10**	**37**	*e*P		**P**	**13 44 05.0**	**-0.1**
RAO	**Raoul Island**	**93.31**	**241**	LR		LR	14 15 14.0	
	comp=Z,417nm,20.8s,baz=61,slow=28							
PSZ	**Piszkesteto**	**93.51**	**39**	*e*P		**P**	**13 44 07.2**	**+0.1**
PSZ				pmax		pmax		
	comp=Z,19nm,1.5s							
PSZ				MLR		MLR		
	comp=Z,840nm,21.0s							
PSZ	**Piszkesteto**	**93.51**	**39**	*e*P		**P**	**13 44 07.2**	**+0.1**
	comp=Z,19nm,1.5s							
PSZ				LR		LR		
	comp=Z,840nm,21.0s							
CRVS	**Cervenica-Dubn**	**94.00**	**37**	*e*P		P	13 44 01.1	-8.2
CRVS	**Cervenica-Dubn**	**94.00**	**37**	*e*P		P	13 44 01.1	-8.2
CUC	**Castrocucco**	**94.07**	**47**	PFAKE			13 44 20.0	+10
CUC				LR		LR		
	comp=Z,614nm,22.0s							
KWP	**Kalwaria Pacla**	**94.39**	**36**	*e*P		**P**	**13 44 11.7**	**+0.7**
KWP	**Kalwaria Pacla**	**94.39**	**36**	*e*P		**P**	**13 44 11.7**	**+0.7**
KWP	**Kalwaria Pacla**	**94.39**	**36**	*e*P		**P**	**13 44 11.4**	**+0.4**
	comp=Z,19nm,1.2s							
KWP				LR		LR		
	comp=Z,1μm,20.0s							
KOLS	**Kolonicke sedl**	**94.46**	**37**	*e*P		**P**	**13 44 11.2**	**-0.2**
KOLS	**Kolonicke sedl**	**94.46**	**37**	*e*P		**P**	**13 44 11.2**	**-0.2**
UZH	**Uzhgorod**	**94.62**	**37**	*e*P		**P**	**13 44 12.0**	**-0.1**
UZH				*e**PP		**pP**	**13 44 29.4**	**-0.3**
UZH				*e*			13 47 55.6	
UZH				*e*			13 54 44.0	
UZH				*e*S		**S**	**13 55 16.4**	**-3.6**
UZH				*e*PS		PS	13 57 10.2	+27
UZH				*i* SS		**SS**	**14 01 47.8**	**+4.3**
WDD	**Wield Dalam**	**94.67**	**51**	PFAKE			13 44 20.0	+7.4
WDD				LR		LR		
	comp=Z,534nm,21.0s							
CEL	**Celeste**	**94.79**	**49**	PFAKE			13 44 20.0	+6.8
CEL				LR		LR		
	comp=Z,712nm,20.0s							
TIP	**Timpagrande**	**95.06**	**48**	PFAKE			13 44 20.0	+5.6
TIP				LR		LR		
	comp=Z,220nm,19.0s							
YAK	**Yakutsk**	**96.97**	**342**	*e*P		**P**	**13 44 22.7**	**+0.3**
YAK				*e**PP		**pP**	**13 44 39.5**	**-0.6**
YAK				*e*			13 48 17.6	
YAK				*e*S		**SKSac**	**13 54 54.0**	**+0.1**
YAK				*i* *SS		x	13 55 28.3	
YAK				*e*SS		**SS**	**14 02 11.1**	**-4.7**
YAK				pmax		pmax		
	comp=Z,15nm,1.0s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.1s							
YAK				pmax		pmax		
	comp=N,4.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,6.0nm,0.7s							
YAK				pmax		pmax		
	comp=N,12nm,1.9s							
YAK				pmax		pmax		
	comp=E,11nm,1.4s							
YAK				smax		smax		
	comp=N,51nm,1.8s							
YAK				smax		smax		
	comp=E,44nm,2.3s							
YAK				pmax		pmax		
	comp=N,639nm,22.0s							
YAK				MLR		MLR		
	comp=E,246nm,22.0s							
YAK				MLR		MLR		
	comp=N,544nm,27.0s							
YAK				MLR		MLR		
	comp=Z,756nm,24.0s							
YAK	**Yakutsk**	**96.97**	**342**	*e*P		**P**	**13 44 22.5**	**0.0**
	comp=Z,26nm,1.3s							
YAK				LR		LR		
	comp=Z,414nm,21.0s							
PRGR	**Permogore**	**97.16**	**19**	*e*P		**P**	**13 44 21.1**	**-2.2**
PRGR				*e**PP		**pP**	**13 44 39.7**	**-1.3**
PRGR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KIEV	**Kiev**	**97.43**	**33**	PFAKE			13 44 40.0	+15
KIEV				LR		LR		
	comp=Z,824nm,22.0s							
AKASG	**Malin Array Be**	**97.44**	**33**	P		**P**	**13 44 23.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=296,slow=3.1,SNR=4.3							
AKASG				PKKPbc		**PKKPbc**	**14 01 00.0**	**-3.6**
	comp=Z,0.1nm,0.2s,baz=84,slow=2.9,SNR=4.6							
AKASG				LR		LR	14 28 08.2	
	comp=Z,422nm,21.4s,baz=300,slow=35							
MLR	**Muntele Rosu**	**98.33**	**39**	P		**P**	**13 44 28.3**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=304,slow=8.6,SNR=5.5							
OBN	**Obninsk**	**98.35**	**27**	*e*P		Pdif	13 44 28.9	+0.1
OBN				pmax		pmax		
	comp=Z,6.0nm,1.2s							
OBN				MLR		MLR		
	comp=Z,2μm,24.0s							
OBN	**Obninsk**	**98.35**	**27**	PFAKE			13 44 40.0	+11
OBN			

MDJ Mudanjiang 110.02 330 PFAKE 13 49 30.0
MDJ LR LR
comp=Z,307nm,22.0s
MJAR Matsushiro Arr 110.51 319 PKKP **PKKPdf 14 00 41.5 +0.7**
comp=Z,1.7nm,1.1s,baz=226,slow=3.5,SNR=4.3
MAJO Matsushiro 110.51 319 PFAKE 13 49 40.0
MAJO LR LR
comp=Z,376nm,19.0s
HIA Hailar 110.56 338 PFAKE 13 49 40.0
HIA LR LR
comp=Z,537nm,20.0s
NVS Novosibirsk 110.86 3 *e*PKIKP PKiKP 13 49 36.7 +13
NVS *e* 13 55 56.8
BRVK Borovoye 111.08 11 *c i*PKIKP **PKiKP 13 49 28.0 +3.6**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
BRVK Borovoye 111.08 11 PFAKE 13 49 40.0
BRVK LR LR
comp=Z,1μm,22.0s
BVAR Borovoye Array 111.13 11 PKiKP **PKiKP 13 49 25.1 +0.6**
comp=Z,1.0nm,0.6s,baz=53,slow=0.6,SNR=9.0
ZALV Zalesovo Beam 111.82 2 PKiKP **PKiKP 13 49 25.3 -0.4**
comp=Z,1.3nm,0.4s,baz=265,slow=2.1,SNR=8.8
ABKAR Akbulak array 111.94 19 *e*PKiKP **PKiKP 13 49 27.1 +1.0**
IRK Irkutsk 112.06 349 *e*PKIKP **pPKiKP 13 49 44.8 +0.2**
IRK pmax pmax
comp=Z,21nm,2.0s
GNI Garni 112.52 35 PFAKE 13 49 40.0
GNI LR LR
comp=Z,425nm,21.0s
CN2 Changchun 112.61 331 *e*Pdif **Pdif 13 45 36.9 +4.4**
CN2 *eP*P PP 13 50 22.3 +8.2
CN2 LN
comp=Z,200nm,20.0s
CN2 LE
comp=Z,200nm,20.0s
CN2 LZ
comp=Z,200nm,20.0s
TLY Talaya 112.71 349 PFAKE 13 49 40.0
TLY LR LR
comp=Z,415nm,21.0s
TSUM Tsumeb 112.99 105 PFAKE 13 49 40.0
TSUM LR LR
comp=Z,620nm,20.0s
CBIJ Chichi jima 113.00 308 PKKPbc PKKPbc 14 00 15.6 -0.1
JCJ Chichijima 113.00 308 SKP **SKPdf 13 52 59.3 +0.3**
comp=Z,122nm,0.8s,baz=287,slow=19,SNR=2.7
JCJ PKKPbc **PKKPbc 14 00 15.6 -0.1**
baz=299,slow=19
ZAK Zakamensk 114.03 349 *e*PKIKP PKPpre 13 49 19.1
ZAK pmax pmax
comp=Z,3.0nm,1.3s
KURK Kurchatov 114.61 6 *e*PKIKP PKPdf 13 49 31.0 -0.1
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 114.61 6 *e*PKiKP **PKiKP 13 49 30.9 -0.2**
KURK SKP 13 53 05.1
KURK LR LR
comp=Z,2μm,20.0s
KURBB Kurchatov Arra 114.69 7 PKP PKPdf 13 49 31.4 +0.1
comp=Z,2.8nm,0.6s,baz=348,slow=1.7,SNR=40
KURBB SKP 13 53 05.1
comp=Z,2.1nm,0.9s,baz=347,slow=1.8,SNR=7.6
ULN Ulaanbaatar 115.62 346 *c i*PKIKP **PKPdf 13 49 33.4 0.0**
ULN pmax pmax
comp=Z,4.0nm,1.7s
ULN Ulaanbaatar 115.62 346 *e*PKPdf **PKPdf 13 49 34.2 +0.7**
ULN LR LR
comp=Z,586nm,22.0s
SONM Songino Array 115.81 346 PKP **PKPdf 13 49 34.1 +0.3**
comp=Z,2.1nm,0.8s,baz=8.4,slow=1.0,SNR=16
SONM PKKPbc **PKKPbc 14 00 05.3 -1.8**
comp=Z,0.3nm,0.4s,baz=201,slow=3.3,SNR=4.1
KSRS Korea Array 116.07 325 PKP **PKPdf 13 49 34.9 +0.6**
comp=Z,3.1nm,0.7s,baz=15,slow=2.0,SNR=12
KSRS pPKP pPKPdf 13 49 52.5 -0.1
comp=Z,5.0nm,0.8s,baz=26,slow=1.7,SNR=8.7
KSAR Wonju Array Be 116.10 325 PKIKP **PKPdf 13 49 34.9 +0.5**
KSAR 13 49 52.6
KSAR Wonju Array Be 116.10 325 PKP **PKPdf 13 49 34.9 +0.5**
KSAR pPKP pPKPdf 13 49 52.5 -0.1
INCN Inchon 116.75 326 PFAKE 13 49 50.0 +14
INCN LR LR
comp=Z,353nm,20.0s
SUR Sutherland 116.89 119 PKP **PKPdf 13 49 36.8 +0.5**
comp=Z,5.3nm,0.8s,baz=283,slow=3.8,SNR=4.4
SUR pPKP pPKPdf 13 49 54.6 +0.1
comp=Z,7.2nm,0.9s,baz=244,slow=12,SNR=3.3
SUR Sutherland 116.89 119 PKP **PKPdf 13 49 36.8 +0.5**
SUR pPKP pPKPdf 13 49 54.6 +0.1
SUR LR LR
comp=Z,644nm,21.0s
DRV Dumont d'Urvil 117.66 201 SP SP 14 00 31.0 +4.2
DRV R 14 25 00.0
MKAR Makanchi Array 118.83 4 PKP **PKPdf 13 49 38.9 -0.5**
comp=Z,1.9nm,0.6s,baz=358,slow=1.8,SNR=27
MKAR pPKP **pPKPdf 13 49 57.3 -0.5**
comp=Z,4.0nm,0.9s,baz=7.6,slow=1.8,SNR=9.6
MKAR SKP 13 53 11.7
comp=Z,1.4nm,0.9s,baz=339,slow=2.0,SNR=3.9
BJI Beijing 119.70 335 PKP **PKPdf 13 49 41.6 +0.3**
BJI PP **PP 13 51 04.4 +0.7**
BJI SS SS 14 07 23.5 +0.8
BJI PPMZ
comp=Z,200nm,4.5s
BJI LN
comp=Z,610nm,21.5s
BJI LE
comp=Z,270nm,22.1s
BJI LZ
comp=Z,480nm,22.1s
BJT Baijiatuau 119.72 335 PFAKE 13 49 50.0 +8.7
BJT LR LR
comp=Z,601nm,21.0s
HHC Hu-ho-hao-te 120.73 339 *e*PKP **PKPdf 13 49 38.3 -5.1**
HHC SKS **SKSdf 13 56 46.6 -3.7**
HHC PPMZ
comp=Z,43nm,5.2s
HHC LN
comp=Z,460nm,23.0s
HHC LE
comp=Z,410nm,20.6s
HHC LZ
comp=Z,500nm,22.1s
GEYT Alibeck 120.89 27 PKP **PKPdf 13 49 43.5 -0.2**
comp=Z,6.9nm,0.7s,baz=270,slow=4.3,SNR=16
GEYT PKKPbc **PKKPbc 13 59 47.3 -1.1**
comp=Z,0.8nm,0.4s,baz=318,slow=8.7,SNR=5.6
LBTB Lobatse 120.92 111 PKIKP **PKPdf 13 49 44.5 +0.4**
LBTB 13 50 02.3
LBTB *e* 13 50 03.0
LBTB Lobatse 120.92 111 PKP **PKPdf 13 49 44.5 +0.4**
comp=Z,5.3nm,0.8s,baz=290,slow=1.8,SNR=7.6
LBTB pPKP **pPKPdf 13 50 02.3 -0.1**
comp=Z,17nm,0.9s,baz=255,slow=2.7,SNR=10
LBTB PKKPbc **PKKPab 13 59 49.3 +1.0**
comp=Z,1.6nm,0.7s,baz=140,slow=6.4,SNR=3.3
LBTB Lobatse 120.92 111 PKP **PKPdf 13 49 44.5 +0.4**
LBTB *e*PKPdf **PKiKP 13 49 44.6 +0.4**
LBTB pPKP **pPKPdf 13 50 02.3 -0.1**
LBTB *ep*PKPdf pPKPdf 13 50 03.0 +0.6
LBTB PKKPbc **PKKPab 13 59 49.4 +1.0**
USP Ospenovka 121.27 11 P **PKPdf 13 49 45.6 +1.3**
SNR=13
CAN Canberra 121.65 237 PFAKE 13 50 00.0 +15
CAN LR LR
comp=Z,791nm,22.0s
EKS2 Erkin-Say 121.71 12 P **PKPdf 13 49 47.3 +2.1**
SNR=5.7
EKS2 Erkin-Say 121.71 12 *e*PKIKP **PKPdf 13 49 46.4 +1.1**
EKS2 *e* 13 50 04.5
EKS2 MLR MLR
comp=Z,861nm,22.0s
EKS2 Erkin-Say 121.71 12 *e*PKPdf **PKPdf 13 49 46.4 +1.1**
EKS2 *ep*PKPdf **pPKPdf 13 50 04.5 +1.0**
EKS2 LR LR
comp=Z,861nm,22.0s
TKM2 Tokmak 2 121.81 11 P **PKPdf 13 49 46.6 +1.1**
SNR=11
TKM2 Tokmak 2 121.81 11 *e*PKIKP **PKPdf 13 49 45.9 +0.4**
TKM2 *e* 13 50 04.2
TKM2 MLR MLR
comp=Z,877nm,21.0s
TKM2 Tokmak 2 121.81 11 *e*PKPdf **PKPdf 13 49 45.9 +0.4**
TKM2 *ep*PKPdf **pPKPdf 13 50 04.2 +0.3**
TKM2 LR LR
comp=Z,877nm,21.0s
AAK Ala-Archa 121.88 12 P **PKPdf 13 49 47.0 +1.4**
SNR=7.6
AAK Ala-Archa 121.88 12 PKIKP **PKPdf 13 49 45.2 -0.4**
AAK 13 50 02.1
AAK *e* 13 50 04.6
AAK MLR MLR
comp=Z,908nm,22.0s
AAK Ala-Archa 121.88 12 PKP **PKPdf 13 49 45.2 -0.4**
comp=Z,2.8nm,0.6s,baz=206,slow=0.1,SNR=10
AAK pPKP **pPKPdf 13 50 02.1 -1.9**
comp=Z,7.2nm,0.9s,baz=113,slow=6.4,SNR=3.7
AAK Ala-Archa 121.88 12 PKP **PKPdf 13 49 45.2 -0.4**
AAK *e*PKPdf **PKiKP 13 49 45.5 -0.3**
AAK pPKP **pPKPdf 13 50 02.1 -1.9**
AAK *ep*PKPdf pPKPdf 13 50 04.6 +0.7
AAK LR LR
comp=Z,908nm,22.0s
KBK Karagaybulak 121.95 11 P **PKPdf 13 49 47.0 +1.2**
SNR=7.5
TAU Tasmania Unive 121.98 228 PFAKE 13 50 00.0 +15
TAU LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 122.00 0 *e*PKP **PKPdf 13 49 46.5 +0.8**
WMQ sPKP 13 50 05.0
WMQ PP PP 13 51 25.5 +6.4
WMQ SKKS 13 58 15.3
WMQ PPMZ
comp=Z,230nm,5.8s
WMQ LN
comp=Z,790nm,24.2s
WMQ LE
comp=Z,720nm,24.2s
WMQ LZ
comp=Z,1μm,28.8s
AML Almayashu 122.20 12 P **PKPdf 13 49 47.9 +1.3**
SNR=16
UCH Uchtor 122.28 12 P **PKPdf 13 49 48.5 +1.7**
SNR=12
TIA Tai'an 122.50 332 PKP **PKPdf 13 49 47.1 +0.3**
LSZ Lusaka 122.52 99 *e*PKIKP **PKPdf 13 49 48.0 +0.6**
LSZ 13 50 05.9
LSZ *e* 13 50 06.5
LSZ MLR MLR
comp=Z,287nm,20.0s
LSZ Lusaka 122.52 99 PKP **PKPdf 13 49 48.1 +0.6**
comp=Z,3.9nm,0.8s,baz=22,slow=8.3,SNR=6.8
LSZ pPKP **pPKPdf 13 50 05.8 +0.1**
comp=Z,17nm,1.0s,baz=21,slow=5.8,SNR=11
LSZ Lusaka 122.52 99 *e*PKPdf **PKPdf 13 49 48.0 +0.6**
LSZ PKP **PKPdf 13 49 48.1 +0.6**
LSZ pPKP **pPKPdf 13 50 05.8 +0.1**
LSZ *ep*PKPdf pPKPdf 13 50 06.5 +0.7
LSZ LR LR
comp=Z,287nm,20.0s
KZA Kyzart 122.56 11 P **PKPdf 13 49 49.0 +1.7**
SNR=6.2
IKAZ Kazeroun 123.98 38 *e*P **PKPdf 13 49 50.9 +0.6**
CTAO Charters Tower 124.16 255 PFAKE 13 50 00.0 +10
CTAO LR LR
comp=Z,1μm,21.0s
MAW Mawson 124.45 169 PKP **PKPdf 13 49 49.5 0.0**
comp=Z,3.0nm,0.7s,baz=278,slow=6.1,SNR=3.6
MAW pPKP **pPKPdf 13 50 07.9 +0.1**
comp=Z,2.9nm,0.6s,baz=237,slow=5.2,SNR=3.5
MAW PKKP **PKKPdf 14 00 19.8 +4.2**
comp=Z,3.3nm,0.4s,baz=63,slow=22,SNR=14
IPAR Pars 124.64 37 *e*P **PKPdf 13 49 52.0 +0.5**
NJ2 Nanjing 125.02 328 *e*PKP **PKPdf 13 49 52.4 +0.7**
NJ2 PP **PP 13 51 42.0 +2.1**
NJ2 PPMZ
comp=Z,40nm,6.7s
NJ2 LN
comp=Z,840nm,22.5s
NJ2 LE
comp=Z,910nm,23.2s
ISRV Sarvestan 125.02 37 *e*P **PKPdf 13 49 53.0 +0.8**
KSH Kashi 125.18 11 *e*PKP **PKPdf 13 49 53.6 +1.6**
KSH sPKP 13 50 07.9
KSH PKS **PKSdf 13 53 29.0 +0.2**
KSH SKS **SKSdf 13 57 00.4 +1.6**
KSH SKKS **SKKSac 13 58 29.4 -5.5**
KSH PPMZ
comp=Z,77nm,6.0s
KSH LN
comp=Z,140nm,5.0s
KSH LE
comp=Z,160nm,6.3s
KSH LZ
comp=Z,1μm,20.4s
IKOO Kooshah 125.83 30 *e*P **PKPdf 13 49 54.5 +0.9**
CASY Casey 126.05 191 PFAKE 13 50 00.0 +7.5
CASY LR LR
comp=Z,1μm,22.0s
LZH Lanzhou 127.50 344 ⇑PKP PKPdf 13 50 16.0 +19
LZH sPKP 13 50 31.6
LZH LR LR
comp=N,2μm,19.5s
LZH LR LR
comp=E,1μm,20.2s
LZH LR LR
comp=Z,1μm,20.8s
XAN Xi'an 127.75 338 PKP **PKPdf 13 49 57.3 +0.3**
XAN sPKP 13 50 13.3
XAN PPMZ
comp=Z,19nm,5.0s
XAN LN
comp=Z,520nm,21.3s
XAN LE
comp=Z,250nm,21.3s
XAN LZ
comp=Z,230nm,21.3s
STKA Stephens Creek 128.13 241 PKP **PKPdf 13 49 57.8 +0.1**
comp=Z,27nm,0.9s,baz=28,slow=1.1,SNR=57
STKA pPKP **pPKPdf 13 50 16.9 +0.9**
comp=Z,14nm,0.7s,baz=357,slow=1.9,SNR=7.9
DAMY Dhamar 128.25 58 PKPdf **PKPdf 13 49 59.9 +1.2**
KMBO Kilima Mbogo 128.31 80 PKP **PKPdf 13 50 00.0 +1.2**
comp=Z,3.2nm,0.8s,baz=278,slow=3.7,SNR=9.1
KMBO pPKP **pPKPdf 13 50 17.3 +0.2**
comp=Z,4.5nm,0.8s,baz=322,slow=3.2,SNR=5.0
WHN Wuhan 128.49 331 PKP **PKPdf 13 49 55.4 -3.0**
WHN LZ
comp=Z,1μm,19.9s
YHNB Yeheng 129.16 320 PFAKE 13 50 10.0 +10
YHNB LR LR
comp=Z,481nm,19.0s
ASUD Al Ashush, Dub 129.85 40 ⇑ *i*PKiKP **PKiKP 13 50 02.4 +0.5**
SNR=5.7
SSLB Suanglung 130.06 319 *e*PKPdf **PKPdf 13 50 02.3 +0.7**
HATD Hatta, Dubai 130.19 39 ⇓ *i*PKiKP **PKiKP 13 50 02.4 -0.3**
SNR=6.3
ENH Enshi 130.88 335 *e*PKPdf **PKPdf 13 50 04.0 +1.0**
ENH *ep*PKPdf **pPKPdf 13 50 21.5 +0.2**
ENH LR LR
comp=Z,370nm,20.0s
CD2 Chengdu 132.36 341 PKP **PKPdf 13 50 05.4 -0.4**
CD2 sPKP 13 50 28.8
CD2 PP **PP 13 52 31.8 +4.1**
CD2 PKS **PKSdf 13 53 40.3 -2.1**
CD2 SKS **SKSdf 13 57 09.0 -3.2**
CD2 SKKS **SKKSac 13 59 16.0 -3.9**
CD2 SS **SS 14 10 01.9 +0.9**
CD2 PPMZ
comp=Z,220nm,5.6s
CD2 LN
comp=Z,780nm,20.1s
CD2 LE
comp=Z,700nm,22.0s
CD2 LZ
comp=Z,900nm,20.1s
WB2 Warramunga Arr 135.33 256 *e*PKPdf **PKPdf 13 50 12.2 +0.6**
WRAB Tennant Creek 135.33 256 *ce*PKIKP **PKPdf 13 50 11.4 -0.1**
WRAB Tennant Creek 135.33 256 *e*PKPdf **PKPdf 13 50 11.6 +0.1**
WRAB LR LR
comp=Z,740nm,21.0s
WRA Warramunga Arr 135.34 256 PKhKP PKPpre 13 49 57.7
comp=Z,2.7nm,0.7s,baz=90,slow=3.6,SNR=9.8
WRA PKP **PKPdf 13 50 12.2 +0.6**
comp=Z,10nm,0.8s,baz=84,slow=2.1,SNR=31
WRA pPKP pPKPdf 13 50 30.9 +1.0
comp=Z,7.3nm,0.9s,baz=81,slow=2.2,SNR=6.3
GYA Guiyang 135.39 336 Pdif **Pdif 13 47 13.0 -1.4**
GYA PKP **PKPdf 13 50 10.5 -1.2**
GYA PP **PP 13 52 51.4 +4.2**
GYA PKS **PKSdf 13 53 45.6 -2.7**
GYA SKKS 13 59 35.0
GYA SS **SS 14 10 37.8 -0.2**
GYA PPMZ
comp=Z,180nm,7.8s
GYA LN
comp=Z,240nm,22.6s
GYA LE
comp=Z,190nm,23.2s
GYA LZ
comp=Z,260nm,22.8s
AS31 Alice Springs 135.66 251 *e*PKPdf **PKPdf 13 50 12.9 +0.8**
ASAR Alice Springs 135.66 251 PKhKP PKPpre 13 49 56.1
comp=Z,0.7nm,0.6s,baz=105,slow=3.5,SNR=11
ASAR PKP **PKPdf 13 50 12.4 +0.3**
comp=Z,7.0nm,0.8s,baz=101,slow=1.9,SNR=18
ASAR pPKP pPKPdf 13 50 30.9 +0.5
comp=Z,4.3nm,0.8s,baz=100,slow=1.9,SNR=9.5
ASAR PKKP **PKKPdf 13 59 53.1 -0.3**
comp=Z,0.4nm,0.8s,baz=279,slow=1.6,SNR=4.7
LSA Lhasa 135.98 356 PKP **PKPdf 13 50 14.0 +0.8**
LSA Lhasa 135.98 356 *e*PKIKP **PKPdf 13 50 14.2 +1.0**
LSA MLR MLR
comp=Z,415nm,21.0s
LSA Lhasa 135.98 356 *e*PKPdf **PKPdf 13 50 14.2 +1.0**
LSA LR LR
comp=Z,415nm,21.0s
CRZF Crozet Islands 136.18 144 PP PP 13 52 42.0 -11
CRZF SS SS 14 10 38.0 -10
DAV Davao City (W) 136.87 297 PFAKE 13 50 30.0 +15
DAV LR LR
comp=Z,247nm,21.0s
DANN Dangsing 137.26 5 *e*P PKPpre 13 50 06.7
comp=Z,50nm,0.8s
DANN Dangsing 137.26 5 *e*P **SKPdf 13 53 46.6 +1.5**
comp=Z,107nm,1.3s
PYUN Piuthan 137.43 6 *e*P PKPpre 13 50 08.3
comp=Z,84nm,0.6s
GKN Gorkha 137.68 4 *e*P PKPpre 13 50 07.5
GKN Gorkha 137.68 4 *e*P **SKPdf 13 53 46.8 +1.1**
comp=Z,60nm,1.1s
KOLN Koldanda 137.82 6 *e*P PKPpre 13 50 08.0
comp=Z,25nm,0.8s
KOLN Koldanda 137.82 6 *e*P **SKPdf 13 53 45.7 -0.3**
comp=Z,8.8nm,0.8s
GUN Gumba 137.84 3 *e*P **SKPdf 13 53 48.1 +1.9**
comp=Z,137nm,1.1s
KKN Kakani 137.93 3 *e*P PKPpre 13 50 07.2
comp=Z,42nm,0.9s
KKN Kakani 137.93 3 *e*P **SKPdf 13 53 47.2 +1.0**
comp=Z,133nm,1.7s
JIRN Jiri 138.10 2 *e*P PKPpre 13 50 07.2
comp=Z,7.3nm,0.6s
JIRN Jiri 138.10 2 *e*P **SKPdf 13 53 49.2 +2.5**
comp=Z,36nm,1.1s
PKIN Phulchoki 138.15 3 *e*P PKPpre 13 50 07.8
comp=Z,44nm,1.1s
PKIN Phulchoki 138.15 3 *e*P **SKPdf 13 53 47.6 +0.9**
comp=Z,27nm,1.1s
TAPN Taplejung 138.44 0 *e*P PKPpre 13 50 06.2
TAPN Taplejung 138.44 0 *e*P **SKPdf 13 53 49.3 +2.1**
comp=Z,42nm,1.1s
RAMN Ramite 138.82 2 *e*P PKPpre 13 50 08.3
comp=Z,39nm,0.9s
RAMN Ramite 138.82 2 *e*P **SKPbc 13 53 48.3 +0.5**
comp=Z,37nm,1.1s
ODAN Odare 138.93 1 *e*P PKPpre 13 50 07.3
comp=Z,68nm,1.4s
ODAN Odare 138.93 1 *e*P **SKPbc 13 53 49.2 +1.1**
comp=Z,22nm,1.1s
FORT Forrest 139.72 239 *e*PKPdf **PKPdf 13 50 19.7 +0.4**
SHL Shillong 140.02 354 *e*P PKPpre 13 50 14.5
QIZ Qiongzhong 140.28 326 PKP **PKPdf 13 50 20.3 -0.4**
QIZ PP **PP 13 53 18.6 +0.8**
QIZ SS SS 14 11 38.0 +1.7
QIZ PPMZ
comp=Z,170nm,4.5s
QIZ LN
comp=Z,520nm,19.8s
QIZ LZ
comp=Z,620nm,22.6s
QIZ Qiongzhong 140.28 326 PFAKE 13 50 30.0 +9.3
QIZ LR LR
comp=Z,621nm,20.0s
OPO Ambohidratompo 140.88 102 PKP **PKPdf 13 50 19.9 -2.0**
comp=Z,6.4nm,0.9s,baz=234,slow=5.7,SNR=5.4
ABPO Ambohimpanom 140.92 102 *e*PKIKP **PKPdf 13 50 22.0 0.0**
ABPO MLR MLR
comp=Z,457nm,21.0s
ABPO Ambohimpanom 140.92 102 *e*PKPdf **PKPdf 13 50 22.0 0.0**
ABPO LR LR
comp=Z,457nm,21.0s
PAF Port-aux-Franc 142.33 161 PP PP 13 53 21.0 -8.8
PAF SS SS 14 11 51.0 -8.3
SOEI Soe 144.09 273 *e*PKPdf **PKPdf 13 50 26.9 -0.8**
POO Poona 144.44 23 *ex* **PKPab 13 50 23.0 -3.4**
BATI Baumata 144.76 273 PKPbc **PKPdf 13 50 28.8 0.0**
comp=Z,85nm,0.8s,baz=200,slow=0.3,SNR=30
MPSI Mapaga 145.03 292 P **PKPdf 13 50 29.0 -0.2**
comp=Z,547nm,1.2s,comp=Z,6μm
KKM Kota Kinabalu 145.25 304 PFAKE 13 50 40.0 +10
KKM LR LR
comp=Z,473nm,22.0s
CMAR Chiang Mai Arr 145.50 341 PKPbc **PKPab 13 50 30.2 -0.1**
comp=Z,120nm,1.0s,baz=344,slow=4.0,SNR=383
CMAR pPKPbc pPKPbc 13 50 48.2 0.0
comp=Z,92nm,0.9s,baz=334,slow=2.2,SNR=14
RPR Rampur 145.84 14 *e*PKPab **PKPab 13 50 31.5 0.0**
RPR *ep*PKPab pPKPab 13 50 49.2 -0.2
RPR *e* 13 51 04.5
MSEY Mahe Island 146.70 76 *i* PKP2 **PKPab 13 50 34.9 -0.2**
MSEY Mahe Island 146.70 76 *e*PKPbc **PKPbc 13 50 34.0 +0.1**
MSEY LR LR
comp=Z,475nm,22.0s
HYBB Hyderabad (bro 147.03 16 *e*PKPbc **PKPdf 13 50 32.8 +0.2**
HYBB *e*PKPab **PKPbc 13 50 34.5 -0.1**
HYBB *ep*PKPbc **pPKPbc 13 50 51.2 -1.6**
HYBB *e* 13 51 06.9
HYB Hyderabad 147.03 16 *i* PKP **PKPdf 13 50 31.5 -1.1**
HYB *ep*PKP **pPKPdf 13 50 52.0 +1.1**
HYB *e* 13 51 04.0
CHLP Challavanipeta 147.03 7 *e*PKPbc **PKPdf 13 50 33.5 +1.0**
CHLP *e*PKPab **PKPbc 13 50 34.9 +0.3**
CHLP *ep*PKPbc **pPKPbc 13 50 51.1 -1.6**
CHLP *e* 13 51 08.4
KAPI Kappang 147.21 283 PKPdf **PKPdf 13 50 33.4 +0.5**
KAPI LR LR
comp=Z,232nm,19.0s
NWAO Narrogin (SRO) 147.56 230 PKPbc **PKPbc 13 50 35.8 +0.1**
comp=Z,48nm,0.9s,baz=136,slow=5.1,SNR=21
NWAO pPKPbc **pPKPbc 13 50 54.7 +0.8**
comp=Z,33nm,0.8s,baz=123,slow=6.2,SNR=6.4
NJS Nagarjunasagar 148.06 16 *e*PKPbc **PKPdf 13 50 35.0 +0.8**
NJS *e*PKiKP **PKPbc 13 50 37.7 +0.3**
NJS *ep*PKPbc **pPKPbc 13 50 52.8 -2.8**
NJS *e* 13 51 09.7
ADKI Addanki 148.90 15 *e*PKPbc **PKPbc 13 50 37.7 -1.9**
ADKI *e*PKiKP **PKiKP 13 50 39.5 -1.5**
ADKI *e*PKPab **PKPab 13 50 42.1 -1.5**
ADKI *ep*PKPdf **pPKPdf 13 50 53.7 -0.3**
ADKI *ep*PKiKP **pPKiKP 13 50 59.0 -0.3**
ADKI *e* 13 51 11.5
URV Uravakonda 148.97 20 *e*PKPbc **PKPdf 13 50 36.6 +0.8**
URV *e*PKiKP **PKPbc 13 50 40.3 +0.4**
URV *ep*PKPdf **pPKPdf 13 50 54.2 +0.1**
URV *ep*PKiKP **pPKiKP 13 50 58.0 -1.4**
SKHT Srikalahasti 150.85 16 *e*PKPdf **PKPdf 13 50 39.3 +0.5**
SKHT *e*PKiKP **PKiKP 13 50 45.2 +0.1**
SKHT *es*PKPdf **sPKPdf 13 51 02.7 -1.0**
SKHT *e* 13 51 18.3
KSM Kuching 152.68 304 *e*PKPdf **PKPdf 13 50 42.4 +0.8**
KSM *e*PKPbc **PKiKP 13 50 49.2 +0.3**
KSM *e*PKPab **PKPab 13 51 00.6 +1.2**
KSM LR LR
comp=Z,515nm,21.0s
KULM Kulim 156.62 326 *e*PKPdf **PKPdf 13 50 47.6 +0.6**
IPM Ipoh 157.08 324 *e*PKPdf **PKPdf 13 50 48.2 +0.5**
PALK Pallekele 157.28 19 *e*PKiKP **PKPdf 13 50 48.5 +0.6**
PALK Pallekele 157.28 19 *e*PKPdf **PKPdf 13 50 48.5 +0.6**
PSI Prapat 159.63 326 PKP **PKPdf 13 50 50.8 -0.1**
comp=Z,5.8nm,0.5s,baz=216,slow=3.5,SNR=15
PSI pPKP **pPKPdf 13 51 09.7 +0.4**
comp=Z,13nm,0.8s,baz=221,slow=1.2,SNR=4.2

PSI PKPab **PKPab** **13 51 29.8 +0.5**
comp=Z,22nm,0.8s,baz=20,slow=4.8,SNR=7.6

PSI pPKPab **pPKPab** **13 51 47.6 +0.6**
comp=Z,76nm,1.0s,baz=321,slow=1.4,SNR=13

DGAR Diego Garcia 163.37 67 PFAKE 13 51 10.0 +15
DGAR LR LR
comp=Z,794nm,19.0s

COCO West Island 170.95 283 PFAKE 13 51 10.0 +10
COCO LR LR
comp=Z,506nm,19.0s

ISCJB ***18*** *13:40:58.6±0.7,24˚10S±0˚08×66˚85W±0˚10,h181km, mb3.4/6,Error ellipse: s-maj=13.6km s-min=10.3km az=141.0*

IDC ***18*** *13:41:00.3±1.1,24˚02S×66˚94W,h188km±9km,mb3.2/6, mb1 3.5/9,mb1mx3.3/40,mbtmp3.8/9,Error ellipse: s-maj=18.0km s-min=14.1km az=56.0*

ISC 18 13:40:59.7±0.7,24˚09S±0˚09×66˚9W±0˚1,h181km,n14, σ0ˢ72/15,mb3.6/6,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.35**	**308**	P	**Pn**	**13 41 42.3**	**+1.3**
	1µm,0.3s,baz=121,slow=7.9,SNR=204						
LVC				S	**Sn**	**13 42 13.4**	**+0.3**
	1µm,0.3s,baz=299,slow=18,SNR=39						
CFAA	**Coronel Fontan**	**7.58**	**189**	P	**Pn**	**13 42 48.2**	**+0.8**
	0.1nm,0.3s,baz=8.0,slow=10,SNR=12						
LPAZ	**La Paz**	**7.85**	**351**	P	**Pn**	**13 42 51.4**	**-0.3**
	0.6nm,0.3s,baz=172,slow=7.1,SNR=5.6						
SIV	**San Ignacio**	**9.75**	**35**	P	**Pn**	**13 43 17.1**	**+1.0**
	1.1nm,0.3s,baz=234,slow=16,SNR=6.1						
BDFB	**Brasilia**	**19.65**	**68**	P	**P**	**13 45 15.1**	**+0.2**
	1.5nm,0.3s,baz=231,slow=11,SNR=12						
SNAA	**Sanae**	**59.24**	**161**	P	**P**	**13 50 42.4**	**+0.7**
	1.0nm,1.0s,baz=290,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**63.80**	**324**	P	**P**	**13 51 12.4**	**-0.4**
	0.2nm,0.6s,baz=145,slow=3.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.53**	**69**	P	**P**	**13 52 29.6**	**-0.7**
	0.4nm,0.3s,baz=250,slow=5.7,SNR=13						
PDAR	**Pinedale Array**	**77.27**	**329**	P	**P**	**13 52 33.9**	**-0.3**
	0.2nm,0.5s,baz=134,slow=7.8,SNR=3.7						
ULM	**Lac du Bonnet**	**78.34**	**341**	P	**P**	**13 52 38.7**	**-0.8**
	0.9nm,0.5s,baz=168,slow=9.3,SNR=3.5						
YKA	**Yellowknife Ar**	**94.24**	**340**	P	**P**	**13 53 57.0**	**-0.6**
	0.3nm,0.5s,baz=134,slow=4.6,SNR=14						
ASAR	**Alice Springs**	**128.41**	**205**	PKP	**PKPdf**	**13 59 45.1**	**-0.5**
	0.3nm,0.6s,baz=131,slow=1.5,SNR=4.6						
WRA	**Warramunga Arr**	**131.58**	**207**	PKP	**PKPdf**	**13 59 51.5**	**-0.2**
	0.3nm,0.3s,baz=154,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**146.54**	**40**	PKPbc	**PKPdf**	**14 00 18.2**	**+0.3**
	0.8nm,0.6s,baz=310,slow=3.5,SNR=6.8						

DJA 18 13:42:18.2±0.4,1˚S±4˚×12˚2E±˚,h10km,M3.6/2,MLv3.6/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.18**	**210**	P	Pg	13 42 23.4	+1.3
APSI				S	Sg	13 42 27.4	+2.6
MRSI	**Marisa**	**1.23**	**9**	P	Pn	13 42 36.2	-5.3
MRSI				S	Sb	13 42 51.4	-6.2
GTOI	**Gorontalo**	**1.87**	**43**	P	Pn	13 42 50.0	-0.3
PCI	**Palu**	**1.91**	**265**	P	Pn	13 42 50.8	0.0
MPSI	**Mapaga**	**2.13**	**300**	P	Pn	13 42 53.5	-0.4
KMSI	**Cibinong**	**2.60**	**60**	P	Pn	13 43 00.3	0.0
TTSI	**Tana Toraja**	**2.98**	**220**	P	Pn	13 43 05.5	-0.1
SPSI	**Sidrap Palu**	**3.75**	**212**	P	Pn	13 43 15.4	-0.8
SPSI				S	Sn	13 44 02.4	+2.0
BNSI	**Bone**	**3.98**	**204**	P	Pn	13 43 19.3	0.0

IDC ***18*** *13:42:43.9±1.6,34˚68S×72˚24W,h0km,mb3.4/2, mb1 3.6/5,mb1mx3.5/36,mbtmp3.4/5,ML3.5/3,MS4.2/1, Ms1 4.2/1,ms1mx3.1/12,Error ellipse: s-maj=43.4km s-min=30.9km az=82.0*

ISCJB ***18*** *13:42:44.9±2.1,34˚69S±0˚04×72˚25W±0˚08,h14km±15km, mb3.4/2,MS4.0/1,Error ellipse: s-maj=11.8km s-min=5.9km az=20.6*

GUC ***18*** *13:42:46.0±0.5,34˚69S×72˚15W,h5km±3km,ML4.2*

ISC 18 13:42:44.2±2.7,34˚66S±0˚06×72˚22W±0˚09,h3km±16km, n19,σ1ˢ53/20,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.88**	**147**	*i* P	**Pg**	**13 43 00.9**	**-0.2**
TALC				*i* S	**Sg**	**13 43 12.2**	**-0.2**
LNCH	**Linares**	**1.29**	**157**	*i* P	**Pn**	**13 43 07.6**	**-1.6**
COCH	**Cobquecura**	**1.54**	**197**	*i* P	**Pn**	**13 43 12.2**	**-0.5**
COCH				*i* S	**Sn**	**13 43 32.1**	**-1.1**
FSR	**Penalolen**	**1.83**	**50**	*i* P	**Pn**	**13 43 16.9**	**+0.2**
FSR				*i* S	**Sn**	**13 43 40.5**	**0.0**
SJCH	**San Jose de Ma**	**1.85**	**57**	*i* P	**Pn**	**13 43 16.7**	**-0.3**
SJCH				*i* S	**Sn**	**13 43 40.2**	**-0.7**
CLCH	**Cerro Calan**	**1.88**	**48**	*i* P	**Pn**	**13 43 17.9**	**+0.5**
CLCH				*i* S	**Sn**	**13 43 41.8**	**+0.1**
CLCH				AML	AML	13 43 47.2	
	comp=N,3µm,0.7s						
YECH	**El Yeso**	**2.03**	**61**	*i* P	**Pn**	**13 43 20.2**	**+0.5**
YECH				*i* S	**Sn**	**13 43 46.4**	**+0.7**
CFAA	**Coronel Fontan**	**4.52**	**49**	Pn	**Pn**	**13 43 55.9**	**+2.2**
	comp=N,0.2nm,0.3s,baz=224,slow=14,SNR=8.9						
CFAA				Sn	**Sb**	**13 44 56.3**	**-2.9**
	comp=N,0.3nm,0.3s,baz=88,slow=16,SNR=3.6						
PLCA	**Paso Flores**	**6.20**	**168**	Pn	**Pn**	**13 44 18.2**	**+1.4**
	comp=N,0.5nm,0.3s,baz=348,slow=16,SNR=3.7						
PLCA				Sn	**Sb**	**13 45 51.5**	**+3.9**
	comp=N,0.2nm,0.3s,baz=68,slow=19,SNR=2.4						
LPAZ	**La Paz**	**18.66**	**12**	P	**P**	**13 47 04.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=190,slow=6.1,SNR=2.6						
SIV	**San Ignacio**	**21.11**	**31**	LR	LR	13 56 39.9	
	comp=N,732nm,21.0s,baz=326,slow=40						
TXAR	**Lajitas Array**	**70.24**	**331**	P	**P**	**13 53 59.1**	**+0.3**
	comp=N,0.1nm,0.5s,baz=148,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**84.57**	**70**	P	**P**	**13 55 18.3**	**-1.0**
	comp=N,0.6nm,0.9s,baz=245,slow=3.0,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**125.61**	**269**	T	T	16 19 56.1	
	baz=111						
H11S1	**WAKE ISLAND Hy**	**125.62**	**269**	T	T	16 20 02.1	
	baz=111						
H11S3	**WAKE ISLAND Hy**	**125.63**	**269**	T	T	16 20 00.4	
	baz=111						
H11N3	**WAKE ISLAND Hy**	**126.04**	**270**	T	T	16 20 30.4	
	baz=120						
H11N1	**WAKE ISLAND Hy**	**126.06**	**270**	T	T	16 20 28.6	
	baz=120						
H11N2	**WAKE ISLAND Hy**	**126.06**	**270**	T	T	16 20 28.9	
	baz=120						

IDC ***18*** *13:47:09.8±0.8,6˚67S×147˚70E,h0km,mb4.0/14, mb1 4.2/17,mb1mx4.1/37,mbtmp4.1/17,ML3.7/3,MS3.8/2, Ms1 3.8/2,ms1mx3.0/27,Error ellipse: s-maj=32.8km s-min=14.1km az=87.0*

NEIC ***18*** *13:47:10.7±0.5,6˚65S×147˚81E,h10km,mb4.3/2,Error ellipse: s-maj=11.9km s-min=8.0km az=95.0*

ISCJB ***18*** *13:47:14.2±0.5,6˚67S±0˚05×147˚37E±0˚10,h35km, mb4.0/14,MS4.4/1,Error ellipse: s-maj=13.9km s-min=6.4km az=10.2*

ISC 18 13:47:16.1±0.7,6˚72S±0˚07×147˚4E±0˚1,h35km,n46, σ1ˢ52/39,mb4.0/14,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**5.40**	**63**	P	Pn	13 48 40.3	+6.0
	baz=5.5,SNR=9.2						
JAY	**Jayapura**	**7.84**	**302**	Pn	**Pn**	**13 49 08.8**	**+1.0**
	0.3nm,0.3s,baz=190,slow=11,SNR=2.0						
JAY				LR	LR	13 52 57.4	
	comp=Z,201nm,20.6s,baz=144,slow=43						
COEN	**Coen**	**8.29**	**209**	P	**Pn**	**13 49 16.7**	**+2.8**
	baz=8.2,SNR=22						
COEN				S	**Sn**	**13 50 45.3**	**-1.0**
	baz=8.2,SNR=4.2						
COEN	**Coen**	**8.29**	**209**	*e*Pn	**Pn**	**13 49 16.0**	**+2.1**
	9.4nm,0.4s						
HNR	**Honiara**	**12.75**	**103**	*e*P	Pn	13 50 04.5	-11
CTA	**Charters Tower**	**13.33**	**185**	Pn	**Pn**	**13 50 23.5**	**+0.5**
	0.1nm,0.3s,baz=11,slow=16,SNR=2.1						
KDU	**Kakadu**	**15.82**	**247**	P	**P**	**13 50 57.5**	**-2.4**
	baz=16,SNR=3.9						

WRAB Tennant Creek 18.22 223 *e*P **Pn** **13 51 27.5 +1.1**
6.2nm,0.6s

WB2 Warramunga Arr 18.23 223 *e*P **Pn** **13 51 27.1 +0.6**
WRA Warramunga Arr 18.23 223 P **Pn** **13 51 26.5 -0.1**
0.6nm,0.3s,baz=51,slow=11,SNR=12

WRA S **Sn** **13 54 44.0 -5.3**
0.1nm,0.3s,baz=54,slow=24,SNR=3.3

QLP Quilpie 19.98 188 P **Pn** **13 51 48.2 +0.8**
baz=20,SNR=17

AS31 Alice Springs 21.24 216 *e*P **P** **13 52 00.1 +0.8**
ASAR Alice Springs 21.24 216 P **P** **13 52 00.5 +1.1**
4.7nm,0.6s,baz=43,slow=8.4,SNR=28

ASAR S **S** **13 55 53.6 -0.1**
2.1nm,1.0s,baz=49,slow=21,SNR=4.6

CMSA Cobar Meteorol 24.74 183 P **P** **13 52 36.3 +1.9**
baz=25,SNR=5.7

STKA Stephens Creek 25.60 191 P **P** **13 52 41.5 -0.7**
4.1nm,0.8s,baz=31,slow=9.2,SNR=6.2

STKA Stephens Creek 25.60 191 P **P** **13 52 44.2 +2.0**
baz=26,SNR=6.7

WRKA Warakurna 25.78 223 P **P** **13 52 43.4 -0.5**
baz=26,SNR=8.1

WRKA S S 13 56 51.3 -20
baz=26,SNR=5.2

BBOO Buckleboo 28.01 201 P **P** **13 53 04.8 +0.9**
baz=28,SNR=6.9

H11S3 WAKE ISLAND Hy 31.48 37 T T 14 26 33.1
baz=213

H11S2 WAKE ISLAND Hy 31.49 37 T T 14 26 41.1
baz=213

H11S1 WAKE ISLAND Hy 31.50 37 T T 14 26 21.6
baz=213

H11N1 WAKE ISLAND Hy 32.55 36 T T 14 27 56.2
baz=216

H11N3 WAKE ISLAND Hy 32.57 36 T T 14 28 02.9
baz=216

H11N2 WAKE ISLAND Hy 32.57 36 T T 14 28 07.3
baz=216

MEEK Meekatharra 33.77 231 P **P** **13 53 54.8 0.0**
baz=34,SNR=8.4

UGM Wanagama 36.55 266 P P 13 54 22.1 +3.1
baz=36,SNR=14

MORW Morawa 36.97 229 P **P** **13 54 22.2 -0.1**
baz=37,SNR=4.4

JNU Nakatsue 42.60 339 P **P** **13 55 07.8 -1.3**
3.8nm,0.8s,baz=144,slow=8.7,SNR=3.0

MJAR Matsushiro Arr 43.88 349 P **P** **13 55 18.1 -1.2**
0.5nm,0.6s,baz=108,slow=11,SNR=4.5

KSRS Korea Array 47.55 339 P **P** **13 55 48.7 +0.5**
3.7nm,0.9s,baz=146,slow=8.2,SNR=9.1

KSAR Wonju Array Be 47.55 339 P **P** **13 55 48.7 +0.5**
USRK Ussuriysk Ar. 52.55 346 P **P** **13 56 26.5 +0.5**
1.6nm,0.8s,baz=180,slow=5.8,SNR=5.0

CMAR Chiang Mai Arr 53.90 299 P **P** **13 56 38.5 +1.9**
4.2nm,0.7s,baz=123,slow=5.8,SNR=24

SONM Songino Array 65.20 331 P **P** **13 57 54.8 +0.7**
0.4nm,0.6s,baz=126,slow=3.6,SNR=4.2

VNDA Vanda 71.18 177 P **P** **13 58 31.0 +0.1**
0.8nm,0.6s,baz=345,slow=6.6,SNR=5.5

MKAR Makanchi Array 78.27 320 P **P** **13 59 12.4 -0.2**
0.3nm,0.4s,baz=95,slow=8.8,SNR=7.1

ZALV Zalesovo Beam 79.81 328 P **P** **13 59 19.0 -1.8**
1.8nm,0.7s,baz=128,slow=4.9,SNR=8.9

KURK Kurchatov 82.00 323 P **P** **13 59 31.2 -1.3**
KURBB Kurchatov Arra 82.02 323 P **P** **13 59 31.2 -1.4**
0.3nm,0.6s,baz=107,slow=4.1,SNR=5.0

QSPA South Pole Qui 83.25 180 P **P** **13 59 38.4 -0.6**
3.3nm,0.6s,baz=315,slow=0.9,SNR=30

QSPA South Pole Qui 83.25 180 *e*P **P** **13 59 38.2 -0.7**
3.0nm,0.6s

ILAR Eielson Array 86.00 23 P **P** **13 59 50.8 -1.8**
0.8nm,0.8s,baz=255,slow=4.6,SNR=8.1

BVAR Borovoye Array 87.56 324 P **P** **13 59 59.0 -1.5**
baz=125,slow=7.6

YBH Yreka Blue Hor 94.37 49 LR LR 14 33 40.6
comp=Z,144nm,20.1s,baz=80,slow=30

TORD Torodi Ar. Bea 145.61 283 PKPbc **PKPab** **14 06 52.2 -0.2**
6.9nm,0.9s,baz=76,slow=3.9,SNR=31

DBIC Dimbokro 152.40 272 PKPbc **PKPbc** **14 07 09.6 -0.1**
1.1nm,0.5s,baz=81,slow=1.0,SNR=3.9

IDC 18 13:48:50.9±9.5,17˚82S×178˚09W,h621km±121km, mb2.9/7,mb1 3.2/7,mb1mx2.9/37,mbtmp3.8/7,Error ellipse: s-maj=59.6km s-min=37.6km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.94**	**259**	P	P	13 56 12.8	0.0
	0.6nm,0.3s,baz=96,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**45.10**	**254**	P	P	13 56 13.8	-0.1
	0.6nm,0.3s,baz=90,slow=8.5,SNR=13						
PETK	**Petropavlovsk-**	**73.67**	**345**	P	P	13 59 23.1	+0.5
	0.8nm,0.7s,baz=132,slow=8.2,SNR=4.1						
NVAR	**Mina Array Bea**	**79.15**	**44**	P	P	13 59 52.9	-0.2
	0.4nm,0.6s,baz=216,slow=8.7,SNR=4.4						
SEY	**Seymchan**	**83.76**	**347**	P	P	14 00 15.6	-0.1
	0.8nm,0.6s,baz=260,slow=24,SNR=6.4						
TXAR	**Lajitas Array**	**85.69**	**58**	P	P	14 00 26.7	+0.7
	0.3nm,0.7s,baz=221,slow=7.0,SNR=4.7						
YKA	**Yellowknife Ar**	**94.12**	**25**	P	P	14 01 03.4	-0.7
	0.1nm,0.7s,baz=241,slow=4.5,SNR=3.4						
BRTR	**Keskin Array B**	**144.93**	**315**	PKP	PKPdf	14 07 18.5	-0.5
	0.4nm,0.5s,baz=39,slow=3.0,SNR=2.6						

IDC 18 14:00:12.7±1.9,2˚31N×128˚22E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/29,mbtmp3.7/4,Error ellipse: s-maj=139.7km s-min=23.3km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.91**	**165**	P	P	14 05 18.3	-0.1
	1.1nm,0.7s,baz=344,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.41**	**168**	P	P	14 05 51.5	+0.3
	0.9nm,0.7s,baz=352,slow=7.9,SNR=20						
STKA	**Stephens Creek**	**36.29**	**161**	P	P	14 07 17.4	-0.7
	2.0nm,0.8s,baz=336,slow=8.5,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**40.97**	**64**	T	T	14 51 14.0	
	baz=240,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.98**	**64**	T	T	14 51 01.7	
	baz=240						
H11S1	**WAKE ISLAND Hy**	**40.98**	**64**	T	T	14 51 04.9	
	baz=240,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.55**	**63**	T	T	14 51 44.9	
	baz=234,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.56**	**63**	T	T	14 51 48.2	
	baz=234						
H11N3	**WAKE ISLAND Hy**	**41.57**	**63**	T	T	14 51 49.6	
	baz=234,slow=75						
MKAR	**Makanchi Array**	**59.56**	**325**	P	P	14 10 18.4	+0.2
	0.4nm,0.6s,baz=112,slow=8.8,SNR=7.7						

IDC 18 14:10:49.1±4.2,18˚01S×176˚87W,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.5/19,mbtmp3.4/3,MS3.8/1,Ms1 3.8/1, ms1mx3.1/20,Error ellipse: s-maj=312.0km s-min=36.8km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**24.06**	**288**	LR	LR	14 25 27.4	
	comp=Z,213nm,19.9s,baz=92,slow=36						
WRA	**Warramunga Arr**	**46.05**	**259**	P	P	14 19 14.7	-0.4
	0.4nm,0.6s,baz=96,slow=7.0,SNR=9.6						
ASAR	**Alice Springs**	**46.17**	**254**	P	P	14 19 16.1	+0.1
	0.3nm,0.4s,baz=87,slow=8.7,SNR=17						
PDAR	**Pinedale Array**	**86.43**	**43**	P	P	14 23 34.0	0.0
	0.3nm,0.9s,baz=218,slow=5.7,SNR=2.2						

IDC ***18*** *14:14:53.7±0.8,0˚54N×126˚13E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.8/32,mbtmp3.9/8,Error ellipse: s-maj=48.1km s-min=16.1km az=74.0*

ISCJB ***18*** *14:14:58.3±0.5,0˚62N±0˚06×126˚28E±0˚05,h44km, mb4.0/10,Error ellipse: s-maj=9.3km s-min=6.6km az=33.5*

DJA ***18*** *14:14:59.3±0.3,1˚N±3˚×12˚6E±˚,h10km,M3.8/4,MLv3.8/4*

NEIC ***18*** *14:15:01.2±1.3,0˚55N×126˚38E,h59km±14km,mb4.2/3, Error ellipse: s-maj=15.4km s-min=9.2km az=71.0*

ISC 18 14:15:00.1±0.7,0˚58N±0˚07×126˚24E±0˚04,h44km,n24, σ1ˢ46/26,mb4.0/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.14**	**81**	P	**Pn**	**14 15 19.4**	**-0.3**
TNTI				S	**Sn**	**14 15 38.2**	**+4.1**
TNTI	**Ternate**	**1.14**	**81**	*e*P	**Pn**	**14 15 19.3**	**-0.3**
LBMI	**Labuha**	**1.75**	**134**	P	**Pn**	**14 15 27.6**	**-0.4**
KMSI	**Cibinong**	**2.26**	**270**	P	**Pn**	**14 15 33.7**	**-1.3**
KMSI				S	**Sn**	**14 16 04.6**	**+2.9**
SANI	**Sanana**	**2.63**	**186**	P	**Pn**	**14 15 41.0**	**+0.9**
NLAI	**Namlea**	**3.89**	**167**	P	**Pn**	**14 15 58.1**	**+0.6**
MRSI	**Marisa**	**4.30**	**269**	P	**Pn**	**14 16 04.0**	**+0.9**
MSAI	**Masohi**	**4.74**	**145**	P	**Pn**	**14 16 10.2**	**+1.1**
APSI	**Ampana**	**4.83**	**252**	P	**Pn**	**14 16 10.3**	**0.0**
MPSI	**Mapaga**	**6.35**	**268**	P	**Pn**	**14 16 32.6**	**+1.4**
KSM	**Kuching**	**15.96**	**273**	*e*P	**P**	**14 18 44.3**	**-0.3**
	16nm,0.8s						
WRAB	**Tennant Creek**	**21.89**	**159**	*e*P	**P**	**14 19 48.0**	**-1.5**
	5.2nm,0.6s						
WRA	**Warramunga Arr**	**21.89**	**159**	P	**P**	**14 19 48.5**	**-1.1**
	1.4nm,0.4s,baz=338,slow=11,SNR=45						
WB2	**Warramunga Arr**	**21.89**	**159**	*e*P	**P**	**14 19 48.5**	**-1.0**
AS31	**Alice Springs**	**25.23**	**163**	*e*P	**P**	**14 20 21.6**	**-0.5**
ASAR	**Alice Springs**	**25.23**	**163**	P	**P**	**14 20 22.8**	**+0.7**
	1.8nm,0.6s,baz=346,slow=12,SNR=47						
STKA	**Stephens Creek**	**35.41**	**157**	P	**P**	**14 21 49.7**	**-2.3**
	1.0nm,0.4s,baz=297,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**37.46**	**16**	P	**P**	**14 22 08.2**	**-1.2**
	0.9nm,0.6s,baz=183,slow=9.6,SNR=5.6						
SONM	**Songino Array**	**50.12**	**343**	P	**P**	**14 23 51.4**	**+0.3**
	0.3nm,0.4s,baz=163,slow=5.6,SNR=3.8						
PETK	**Petropavlovsk-**	**58.51**	**22**	P	**P**	**14 24 53.5**	**+1.6**
	1.3nm,0.7s,baz=182,slow=3.0,SNR=7.4						
MKAR	**Makanchi Array**	**59.87**	**327**	P	**P**	**14 25 00.9**	**-0.5**
	1.5nm,0.5s,baz=120,slow=8.1,SNR=17						
ZALV	**Zalesovo Beam**	**63.17**	**334**	P	**P**	**14 25 23.6**	**+0.2**
	2.6nm,0.5s,baz=111,slow=8.2,SNR=3.1						
KURK	**Kurchatov**	**64.13**	**329**	*e*P	**P**	**14 25 29.0**	**-0.9**
	5.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**123.37**	**286**	PKP	**PKPdf**	**14 33 53.1**	**-0.4**
	0.5nm,0.9s,baz=54,slow=2.6,SNR=3.2						

IDC 18 14:16:21.2±4.9,18˚91S×179˚14E,h0km,mb4.1/2, mb1 4.4/2,mb1mx3.6/18,mbtmp4.1/2,Error ellipse: s-maj=295.6km s-min=61.3km az=154.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.16**	**261**	P	P	14 24 15.3	-0.7
	0.6nm,0.6s,baz=96,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**42.28**	**255**	P	P	14 24 17.1	+0.2
	5.9nm,0.6s,baz=90,slow=7.8,SNR=123						
FINES	**FINESS Array B**	**133.47**	**343**	PKP	PKPdf	14 35 38.8	-0.3
	2.9nm,0.6s,baz=60,slow=3.4,SNR=13						

IDC 18 14:22:06.7±3.3,20˚48S×175˚50W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.4/42,mbtmp3.5/2,Error ellipse: s-maj=193.8km s-min=51.8km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.80**	**256**	P	P	14 30 38.8	+0.2
	0.4nm,0.5s,baz=92,slow=8.1,SNR=20						
ASAR				PcP	PcP	14 32 10.6	-1.3
	0.2nm,0.6s,baz=103,slow=4.2,SNR=7.0						
WRA	**Warramunga Arr**	**46.92**	**261**	P	P	14 30 39.2	-0.3
	0.2nm,0.3s,baz=97,slow=7.5,SNR=17						
AKASG	**Malin Array Be**	**144.09**	**333**	PKP	PKPbc	14 41 42.7	+0.5
	0.2nm,0.3s,baz=39,slow=4.2,SNR=8.0						
BRTR	**Keskin Array B**	**148.54**	**314**	PKPbc	PKPbc	14 41 56.2	+0.3
	0.3nm,0.5s,baz=149,slow=2.9,SNR=3.0						

LDG ***18*** *14:28:43.6±0.3,17˚79S×65˚30W,h390km,Mb4.1/10, Error ellipse: s-maj=24.5km s-min=13.9km az=115.0*

ISCJB ***18*** *14:28:45.6±0.5,17˚93S±0˚04×65˚09W±0˚05,h408km±5km, mb4.5/124,Error ellipse: s-maj=7.9km s-min=5.2km az=147.6*

BJI ***18*** *14:28:46.6,18˚00S×65˚00W,h411km,mB5.5/3*

GUC ***18*** *14:28:47.0,18˚10S×65˚08W,h408km*

IDC ***18*** *14:28:48.6±0.5,18˚00S×65˚21W,h429km±4km,mb4.1/20, mb1 4.1/29,mb1mx4.0/40,mbtmp4.8/29,Error ellipse: s-maj=9.5km s-min=7.5km az=60.0*

NEIC ***18*** *14:28:48.5±0.2,17˚99S×65˚13W,mb4.6/103,Error ellipse: s-maj=6.7km s-min=5.2km az=58.0*

NEIC Felt at Cochabamba.

ISC 18 14:28:47.8±0.5,18˚06S±0˚05×65˚24W±0˚06,h426km±4km, h426km:pP-P,n585,σ1ˢ06/607,mb4.5/124,174C-186D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.28**	**302**	P	**P**	**14 29 56.9**	**+0.9**
	52nm,0.3s,baz=108,slow=5.7,SNR=2113						
LPAZ				S	**S**	**14 30 50.4**	**-0.7**
	baz=28,slow=24,SNR=6.9						
LPAZ	**La Paz**	**3.28**	**302**	*e*P	**P**	**14 29 56.4**	**+0.4**
LPAZ	**La Paz**	**3.28**	**302**	*i* P	**P**	**14 29 56.8**	**+0.8**
LPAZ				S	**S**	**14 30 50.4**	**-0.7**
LPAZ				*e*S	**S**	**14 30 50.7**	**-0.7**
MNMC	**Minimini**	**4.27**	**255**	*e*P	**P**	**14 30 04.3**	**+0.1**
SIV	**San Ignacio**	**4.48**	**63**	P	**P**	**14 30 07.2**	**+1.2**
	22nm,0.3s,baz=262,slow=8.7,SNR=251						
SIV				S	**S**	**14 31 10.1**	**+0.4**
	1.4nm,0.3s,baz=318,slow=23,SNR=16						
PB11	**IPOC Station P**	**4.51**	**247**	*e*P	**P**	**14 30 05.9**	**-0.5**
PSGC	**Pisagua**	**4.88**	**251**	*e*P	**P**	**14 30 09.7**	**-0.1**
HMBC	**Humberstone**	**4.92**	**243**	*e*P	**P**	**14 30 09.1**	**-1.2**
PB01	**IPOC Station P**	**4.99**	**233**	*e*P	**P**	**14 30 10.2**	**-0.7**
PB09	**IPOC Station P**	**5.29**	**225**	*e*P	**P**	**14 30 14.0**	**-0.1**
PATCX	**Punta Patache**	**5.39**	**239**	*e*P	**P**	**14 30 13.7**	**-1.3**
LVC	**Limon Verde**	**5.69**	**217**	P	**P**	**14 30 18.5**	**+0.2**
	3µm,0.3s,baz=32,slow=7.7,SNR=166						
LVC				S	**S**	**14 31 28.4**	**-3.8**
	1µm,0.3s,baz=127,slow=20,SNR=16						
LVC	**Limon Verde**	**5.69**	**217**	*e*P	**P**	**14 30 17.7**	**-0.5**
	202nm,0.6s						
LVC				*e*S	**S**	**14 31 28.0**	**-4.1**
LVC				S	S	14 31 28.4	-3.9
PB07	**IPOC Station P**	**5.70**	**229**	*e*P	**P**	**14 30 17.8**	**-0.4**
PB04	**IPOC

ANWB **Willy Bob** 35.67 6 *eP* P 14 35 05.3 -3.1
239nm,0.6s
OBIP **Obispado Ponce** 35.90 358 *eP* P 14 35 08.5 -1.8
64nm,0.9s
USHA **Ushuaia** 36.78 183 P P 14 35 18.1 +0.9
3.0nm,0.4s,baz=345,slow=7.5,SNR=7.3
TEIG **Tepich** 44.26 328 *eP* P 14 36 16.6 -1.3
20nm,0.4s,baz=67,slow=1.1,SNR=52
TEIG ScP ScP 14 41 04.9 +0.5
5.1nm,0.9s,baz=140,slow=5.1,SNR=5.1
TEIG **Tepich** 44.26 328 *eP* P 14 36 16.4 -1.5
18nm,0.4s
TEIG ScP ScP 14 41 04.9 +0.5
CMIG **Matias Romero** 45.52 318 P P 14 36 27.9 +0.2
12nm,0.6s,baz=107,slow=6.2,SNR=19
PMSA **Palmer Station** 46.69 179 P P 14 36 37.0 +1.1
18nm,0.8s,baz=49,slow=8.0,SNR=6.8
TIGA **Tifton** 52.28 340 ⇓P P 14 37 17.3 -0.7
baz=52
GOGA **Godfrey** 54.06 341 *eP* P 14 37 27.6 -3.2
LRAL **Lakeview Retre** 54.90 338 *eP* P 14 37 35.1 -1.7
9.7nm,0.4s
KMSC **Kings Mountain** 55.07 344 ⇑P P 14 37 37.7 -0.3
baz=55,SNR=5.9
KMSC **Kings Mountain** 55.07 344 *eP* P 14 37 37.3 -0.7
16nm,0.6s
539A **Cross D Ranch,** 55.68 329 ⇓P P 14 37 43.4 +1.1
baz=56
934A **Benavides** 55.68 324 ⇑P P 14 37 43.1 +0.8
baz=56
835A **Beeville** 55.83 325 ⇑P P 14 37 44.6 +1.2
baz=56
834A **Tilden** 56.11 324 ⇑P P 14 37 45.8 +0.5
baz=56
933A **Laredo** 56.12 323 ⇑P P 14 37 46.1 +0.7
baz=56,SNR=7.8
TKL **Tuckaleechee C** 56.24 342 *eP* P 14 37 44.8 -1.3
439A **Center Grove,** 56.27 329 ⇓P P 14 37 47.5 +1.1
baz=56
735A **Kenedy** 56.27 325 ⇓P P 14 37 47.2 +0.8
baz=56
636A **Smothers Creek** 56.36 326 ⇓P P 14 37 48.3 +1.2
baz=57,SNR=5.1
340A **Bronson** 56.37 331 ⇓P P 14 37 47.4 +0.4
baz=57
537A **Green Hill Far** 56.46 328 ⇑P P 14 37 49.0 +1.3
baz=57
438A **Sam Houston St** 56.58 329 ⇓P P 14 37 49.2 +0.6
baz=57
339A **Huntington** 56.61 330 ⇓P P 14 37 49.5 +0.8
baz=57,SNR=5.1
734A **La Parita Cree** 56.67 325 ⇑P P 14 37 49.8 +0.6
baz=57
833A **Chaparral WMA,** 56.73 324 ⇑P P 14 37 50.2 +0.5
baz=57,SNR=9.7
733A **Divot King Ran** 56.98 324 ⇓P P 14 37 51.7 +0.3
baz=57
338A **Crockett** 56.99 329 ⇑P P 14 37 52.6 +1.2
baz=57
NATX **Nacogdoches** 57.01 330 *eP* P 14 37 51.9 +0.3
44nm,0.9s
832A **Faith Ranch, C** 57.03 323 ⇓P P 14 37 52.1 +0.4
baz=57
535A **Dale** 57.07 326 ⇓P P 14 37 52.9 +0.9
baz=57
239A **Gary** 57.14 330 ⇓P P 14 37 53.7 +1.3
baz=57
337A **Centerville** 57.24 329 ⇓P P 14 37 54.3 +1.2
baz=58
732A **Laxson Ranch,** 57.37 324 ⇓P P 14 37 54.5 +0.4
baz=58
238A **Jacksonville** 57.43 330 ⇑P P 14 37 54.7 +0.3
baz=58
633A **Saathoff Ranch** 57.48 325 ⇑P P 14 37 55.1 +0.2
baz=58,SNR=6.3
534A **Blanco** 57.55 326 ⇓P P 14 37 55.0 -0.3
baz=58
435B **Jarrell** 57.67 327 ⇑P P 14 37 57.0 +0.9
baz=58
237A **Washetta, Mont** 57.76 329 ⇑P P 14 37 57.8 +1.1
baz=58
336A **Riesel** 57.78 328 ⇑P P 14 37 57.3 +0.5
baz=58,SNR=5.6
632A **Uvalde** 57.86 324 ⇓P P 14 37 57.6 +0.2
baz=58,SNR=9.3
533A **Kerrville** 57.88 325 ⇓P P 14 37 57.6 0.0
baz=58,SNR=8.2
WVT **Waverly** 57.98 338 *eP* P 14 37 56.1 -2.0
37nm,0.6s
335A **Moody** 57.99 327 ⇓P P 14 37 58.5 +0.2
baz=58,SNR=12
434A **Burnet** 58.05 326 ⇓P P 14 37 58.7 -0.1
baz=58
137A **Heron Place, G** 58.23 330 ⇓P P 14 38 00.6 +0.8
baz=58
631A **Perdido Creek** 58.23 324 ⇓P P 14 37 59.8 -0.1
baz=58,SNR=9.5
532A **Rocksprings** 58.40 325 ⇓P P 14 38 01.5 +0.4
baz=59,SNR=7.3
433A **Art** 58.44 326 ⇑P P 14 38 01.4 0.0
baz=59,SNR=15
334A **Lometa** 58.45 327 ⇑P P 14 38 01.6 +0.2
baz=59,SNR=11
WHTX **Lake Whitney,** 58.57 328 ⇓P P 14 38 02.5 +0.3
baz=59,SNR=5.2
WHTX **Lake Whitney,** 58.57 328 *eP* P 14 38 02.1 -0.1
18nm,0.9s
JCT **Junction City** 58.62 325 ⇑P P 14 38 02.6 0.0
baz=59,SNR=7.6
JCT **Junction City** 58.62 325 *eP* P 14 38 02.3 -0.3
14nm,0.9s
531A **Rocksprings** 58.78 324 ⇑P P 14 38 04.0 +0.2
baz=59,SNR=18
333A **Richland Sprin** 58.83 326 ⇓P P 14 38 04.1 +0.1
baz=59,SNR=11
MIAR **Mount Ida** 58.85 333 *eP* P 14 38 02.6 -1.5
8.1nm,0.6s
432A **Menard** 58.92 325 ⇓P P 14 38 04.7 0.0
baz=59,SNR=27
234A **Clairette** 58.93 327 ⇑P P 14 38 04.9 +0.2
baz=59,SNR=13
135A **Vickery Place,** 59.00 328 ⇓P P 14 38 05.2 +0.1
baz=59,SNR=5.2
431A **Sonora** 59.21 325 ⇑P P 14 38 06.7 0.0
baz=59,SNR=7.5
530A **J-C Ranch, Com** 59.22 324 ⇓P P 14 38 06.9 +0.3
baz=59,SNR=14
332A **Millersview** 59.28 326 ⇓P P 14 38 07.2 +0.1
baz=60,SNR=12
233A **Rising Star** 59.33 327 ⇑P P 14 38 07.6 +0.1
baz=60,SNR=8.6
134A **White-Moore Ra** 59.35 328 ⇑P P 14 38 07.8 +0.3
baz=60
WCI **Wyandotte Cave** 59.38 341 *eP* P 14 38 05.6 -2.0
16nm,0.8s
Z35A **Perchaven, San** 59.55 329 ⇓P P 14 38 09.1 +0.3
baz=60
331A **San Angelo** 59.59 325 ⇑P P 14 38 09.1 -0.1
baz=60,SNR=10
232A **Coleman** 59.62 326 ⇓P P 14 38 09.6 +0.2
baz=60,SNR=17
430A **Baggett Ranch,** 59.64 324 ⇑P P 14 38 09.4 -0.1
baz=60,SNR=16
529A **Stev Forest Ra** 59.70 323 ⇓P P 14 38 10.3 +0.4
baz=60,SNR=44
133A **Hamilton Ranch** 59.81 327 ⇑P P 14 38 10.6 0.0
baz=60,SNR=9.4
429A **Davenport Ranc** 59.89 323 ⇑P P 14 38 11.2 0.0
baz=60,SNR=16
SIUC **Southern Illin** 59.89 338 *eP* P 14 38 09.1 -1.9
16nm,0.7s
Z34A **Collier Ranch,** 59.91 329 ⇑P P 14 38 11.7 +0.5
baz=60,SNR=15
TXAR **Lajitas Array** 59.97 321 P P 14 38 11.6 -0.2
2.2nm,0.6s,baz=146,slow=8.1,SNR=29
231A **Bronte** 60.02 326 ⇑P P 14 38 11.6 -0.4
baz=60,SNR=6.6
330A **Mertzon** 60.08 325 ⇑P P 14 38 12.4 -0.1
baz=60
ABTX **Abilene, Hawle** 60.20 327 ⇑P P 14 38 13.2 0.0
baz=60
Z33A **Whitaker Ranch** 60.27 328 ⇓P P 14 38 13.9 +0.2
baz=60,SNR=16
Y34A **Reagan Ranch,** 60.30 329 ⇑P P 14 38 13.9 +0.1
baz=60,SNR=7.5
230A **Sterling City** 60.41 325 ⇓P P 14 38 15.1 +0.4
baz=61
W36A **Wetumka** 60.54 331 ⇑P P 14 38 14.9 -0.5
baz=61,SNR=8.5
329A **Wagon Wheel Ra** 60.59 324 ⇑P P 14 38 15.9 0.0
baz=61
131A **Roby** 60.63 326 ⇓P P 14 38 16.5 +0.4
baz=61,SNR=11
Z32A **Haskell** 60.65 327 ⇓P P 14 38 16.5 +0.3
baz=61,SNR=7.7
Y33A **Hilltop Ranch,** 60.77 328 ⇑P P 14 38 17.8 +0.9
baz=61
BINY **Binghamton** 60.77 351 *eP* P 14 38 16.5 -0.3
W35A **Tecumseh** 60.85 331 ⇓P P 14 38 17.2 -0.3
baz=61
229A **Bryant Ranch,** 60.86 325 ⇓P P 14 38 17.2 -0.5
baz=61
X34A **Smith Ranch, M** 60.86 329 ⇓P P 14 38 17.6 0.0
baz=61,SNR=7.2
130A **Snyder** 60.88 326 ⇑P P 14 38 18.1 +0.3
baz=61
TUL1 **Leonard** 60.98 332 ⇓P P 14 38 17.9 -0.4
baz=61,SNR=13
TUL1 **Leonard** 60.98 332 *eP* P 14 38 17.5 -0.8
18nm,0.6s
Z31A **Sharp Cattle R** 61.00 327 ⇑P P 14 38 18.9 +0.3
baz=61,SNR=17
X33A **Lawton** 61.14 329 ⇓P P 14 38 18.9 -0.5
baz=61,SNR=7.5
Y32A **R-V Farms, Ver** 61.18 328 ⇑P P 14 38 20.2 +0.5
baz=61
V35A **Meyer Ranch, C** 61.33 331 ⇑P P 14 38 20.7 0.0
baz=62,SNR=11
W34A **Bridge Creek,** 61.34 330 ⇑P P 14 38 20.7 -0.1
baz=62
129A **Stewart Farms,** 61.39 325 ⇑P P 14 38 21.2 0.0
baz=62,SNR=11
228A **UT Block 9, Go** 61.40 324 ⇓P P 14 38 21.1 -0.2
baz=62
ERPA **Erie** 61.41 348 *eP* P 14 38 20.4 -0.6
X32A **Elmer** 61.43 328 ⇑P P 14 38 21.6 +0.2
baz=62
WMOK **Wichita Mounta** 61.43 329 *eP* P 14 38 20.6 -0.7
3.4nm,0.4s
Z30A **Sanderson Ranc** 61.49 326 ⇑P P 14 38 21.6 -0.3
baz=62,SNR=7.3
Y31A **Rekieta Farm,** 61.57 327 ⇑P P 14 38 22.5 +0.2
baz=62,SNR=11
SFIN **Lafayette** 61.60 341 ⇓P P 14 38 20.6 -1.7
baz=62,SNR=9.8
W33A **Caddo, Fort Co** 61.61 329 ⇓P P 14 38 23.5 +1.0
baz=62,SNR=15
V34A **Guthrie** 61.71 330 ⇑P P 14 38 22.8 -0.3
baz=62,SNR=17
V34A **Guthrie** 61.71 330 *eP* P 14 38 22.4 -0.8
46nm,0.7s
128A **Castleberry Fa** 61.72 325 ⇓P P 14 38 23.1 -0.3
baz=62,SNR=9.0
Z29A **Hungry Hill Ra** 61.78 326 ⇑P P 14 38 23.8 0.0
baz=62
Y30A **Stafford Cattl** 61.83 327 ⇑P P 14 38 24.1 0.0
baz=62
X31A **McDonald Ranch** 61.95 328 ⇑P P 14 38 24.7 0.0
baz=62,SNR=13
W32A **Sentinel** 61.97 329 ⇑P P 14 38 25.2 +0.4
baz=62,SNR=22
V33A **Loen Ranch,** 62.06 330 ⇑P P 14 38 25.5 +0.1
baz=62,SNR=6.6
Z28A **Tucker Farm, M** 62.17 325 ⇓P P 14 38 26.2 -0.2
baz=62
U34A **Anderson Ranch** 62.21 331 ⇓P P 14 38 26.6 +0.2
baz=62,SNR=20
U34A **Anderson Ranch** 62.21 331 *eP* P 14 38 26.0 -0.4
66nm,0.5s
Y29A **Porterfield Fa** 62.23 326 ⇑P P 14 38 26.5 -0.2
baz=62,SNR=11
VNA3 **Neumayer Olymp** 62.25 162 P P 14 38 27.1 +0.9
X30A **Coker Ranch, T** 62.26 327 ⇑P P 14 38 26.9 0.0
baz=62,SNR=14
V32A **Arapaho** 62.35 329 ⇑P P 14 38 27.8 +0.4
baz=63,SNR=5.5
W31A **Holland Ranch,** 62.37 328 ⇑P P 14 38 27.5 0.0
baz=63
VNA1 **Neumayer--Stat** 62.40 162 P P 14 38 28.3 +1.2
S36A **Lake Cedric, C** 62.41 333 ⇑P P 14 38 27.4 -0.3
baz=63,SNR=7.3
U33A **Lingo Farm, Me** 62.48 330 ⇓P P 14 38 28.3 +0.1
baz=63
Y28A **McKinney Farm,** 62.57 326 ⇓P P 14 38 28.5 -0.5
baz=63
R37A **Teagarden Farm** 62.58 334 ⇑P P 14 38 27.8 -1.0
baz=63,SNR=8.9
S35A **Otter Creek Ra** 62.69 333 ⇓P P 14 38 29.4 -0.1
baz=63,SNR=38
X29A **Tulia** 62.69 326 ⇑P P 14 38 29.5 -0.2
baz=63,SNR=7.8
MNTX **Cornudas Mount** 62.69 322 ⇑P P 14 38 29.3 -0.4
baz=63,SNR=11
MNTX **Cornudas Mount** 62.69 322 *eP* P 14 38 28.4 -1.2
7.1nm,1.1s
VNA2 **Neumayer--Watz** 62.77 162 P P 14 38 30.4 +0.8
baz=291,slow=6.8
V31A **Spring Creek L** 62.78 329 ⇓P P 14 38 31.2 +1.0
baz=63,SNR=5.8
U32A **Winter Ranch,** 62.85 330 ⇓P P 14 38 31.0 +0.3
baz=63,SNR=5.1
R36A **Gordon, Harris** 62.87 334 ⇓P P 14 38 30.2 -0.5
baz=63,SNR=8.9
MSTX **Muleshoe** 62.90 325 ⇑P P 14 38 30.8 -0.3
baz=63,SNR=11
MSTX **Muleshoe** 62.90 325 *eP* P 14 38 30.6 -0.5
15nm,0.8s
Q37A **Longview Farm,** 62.90 335 ⇑P P 14 38 29.9 -0.9
baz=63,SNR=9.0
LONY **Lake Ozonia** 62.96 353 *eP* P 14 38 30.5 -0.6
30nm,1.3s
X28A **Dimmitt** 63.01 326 ⇑P P 14 38 31.8 0.0
baz=63
AMTX **Amarillo** 63.02 327 ⇑P P 14 38 31.9 +0.1
baz=63
AMTX **Amarillo** 63.02 327 *eP* P 14 38 30.3 -1.5
11nm,0.4s
S34A **Willow Spring** 63.05 332 ⇑P P 14 38 32.0 +0.1
baz=63
T33A **Patterson Ranc** 63.06 331 ⇓P P 14 38 32.6 +0.6
baz=63
W29A **Amarillo** 63.18 327 ⇓P P 14 38 33.1 +0.2
baz=63
U31A **Nine Bar Ranch** 63.26 329 ⇑P P 14 38 34.4 +1.1
baz=64
S33A **Kaszmaul Farm,** 63.37 331 ⇓P P 14 38 34.5 +0.6
baz=64
T32A **Huddler Ranch,** 63.46 330 ⇓P P 14 38 35.1 +0.5
baz=64
W28A **Vega** 63.58 327 ⇓P P 14 38 35.8 +0.3
baz=64
T31A **Randall Ranch,** 63.75 330 ⇓P P 14 38 37.0 +0.6
baz=64,SNR=8.2
S32A **Newby Ranch, P** 63.89 331 ⇑P P 14 38 37.8 +0.5
baz=64,SNR=7.3
R33A **Olander Ranch,** 63.94 332 ⇓P P 14 38 38.0 +0.3
baz=64
V28A **Channing** 63.97 327 ⇑P P 14 38 38.6 +0.7
baz=64
KSU1 **Kansas State U** 63.99 333 ⇓P P 14 38 37.4 -0.6
baz=64,SNR=8.0
KSU1 **Kansas State U** 63.99 333 *eP* P 14 38 37.0 -0.9
36nm,0.8s
S31A **Mullinville** 64.08 330 ⇓P P 14 38 39.3 +0.8
baz=64,SNR=5.1
V27A **Dan Oppiter Fa** 64.29 327 ⇓P P 14 38 40.6 +0.6
baz=64
R32A **Long Quarter,** 64.37 331 ⇓P P 14 38 40.5 +0.1
baz=65,SNR=6.2
SNAA **Sanae** 64.42 162 P P 14 38 40.9 +0.6
4.3nm,0.6s,baz=275,slow=6.3,SNR=56
DBIC **Dimbokro** 64.44 73 P P 14 38 40.7 -0.6
4.7nm,0.7s,baz=236,slow=5.9,SNR=6.0
Q33A **Connelly Farm,** 64.44 332 ⇓P P 14 38 41.2 +0.4
baz=65
S30A **Montezuma** 64.56 330 ⇓P P 14 38 42.2 +0.5
baz=65,SNR=5.4
T29A **Hugoton** 64.59 329 ⇑P P 14 38 42.8 +0.9
baz=65
R31A **Burdett** 64.64 331 ⇑P P 14 38 42.6 +0.5
baz=65
121A **Cookes Peak, D** 64.72 321 ⇑P P 14 38 43.9 +1.0
baz=65,SNR=6.5
121A **Cookes Peak, D** 64.72 321 *eP* P 14 38 44.1 +1.2
6.5nm,0.8s
P33A **Williams Farm,** 64.74 333 ⇑P P 14 38 42.9 +0.2
baz=65
Q32A **Meitler Ranch,** 64.76 332 ⇓P P 14 38 42.8 0.0
baz=65,SNR=14
U27A **Thompson Grove** 64.79 327 ⇑P P 14 38 44.5 +1.2
baz=65
V26A **Tequesquite Ra** 64.82 326 ⇓P P 14 38 44.1 +0.6
baz=65
319A **Douglas** 64.83 319 ⇑P P 14 38 44.7 +1.1
baz=65,SNR=12
S29A **Ulysses** 64.86 329 ⇓P P 14 38 44.6 +1.0
baz=65
JFWS **Jewell Farm** 64.89 340 *eP* P 14 38 42.2 -1.4
24nm,0.8s
T28A **Walsh** 64.97 328 ⇓P P 14 38 44.6 +0.3
baz=65
R30A **Dighton** 64.99 330 ⇓P P 14 38 45.1 +0.7
baz=65,SNR=6.4
Q31A **Ellis** 65.15 331 ⇑P P 14 38 46.0 +0.6
baz=65
S28A **Manter** 65.23 329 ⇑P P 14 38 46.4 +0.5
baz=66,SNR=7.2
T27A **Campo** 65.23 328 ⇓P P 14 38 46.5 +0.5
baz=66,SNR=6.1
U26A **Atchley Ranch,** 65.25 326 ⇑P P 14 38 46.7 +0.5
baz=66,SNR=17
P32A **Huiting Farm,** 65.30 332 ⇑P P 14 38 46.4 +0.2
baz=66
R29A **Marienthal** 65.51 330 ⇓P P 14 38 48.3 +0.6
baz=66,SNR=8.6
Q30A **Quinter** 65.51 331 ⇓P P 14 38 48.3 +0.6
baz=66,SNR=9.5
P31A **Stockton** 65.56 332 ⇑P P 14 38 48.2 +0.3
baz=66,SNR=8.2
ANMO **Albuquerque** 65.66 324 *eP* P 14 38 48.9 0.0
7.3nm,1.1s
O32A **Brockman Farm,** 65.67 333 ⇓P P 14 38 48.7 0.0
baz=66
T26A **Comanche Natio** 65.77 327 ⇓P P 14 38 49.8 +0.3
baz=66,SNR=11
R28A **Tribune** 65.77 329 ⇓P P 14 38 50.1 +0.7
baz=66
Q29A **Oakley** 65.80 330 ⇑P P 14 38 50.0 +0.5
baz=66,SNR=13
P30A **Selden** 65.98 331 ⇑P P 14 38 51.2 +0.6
baz=66
S26A **Kim** 66.04 327 ⇓P P 14 38 52.3 +1.2
baz=66,SNR=7.3
O31A **Woolen Ranch,** 66.05 332 ⇓P P 14 38 51.3 +0.3
baz=66
T25A **Trinidad** 66.17 327 ⇓P P 14 38 52.6 +0.6
baz=66
R27A **Eads** 66.21 328 ⇓P P 14 38 52.6 +0.5
baz=66
P29A **Atwood** 66.34 331 ⇓P P 14 38 53.7 +0.8
baz=67
Q28A **Sharon Springs** 66.34 330 ⇓P P 14 38 53.4 +0.4
baz=67
O30A **MW Ranch, Wils** 66.40 331 ⇑P P 14 38 53.5 +0.3
baz=67,SNR=6.7
TUC **Tucson** 66.41 319 *eP* P 14 38 54.1 +0.7
11nm,0.8s
N31A **Bailey Ranch,** 66.43 333 ⇑P P 14 38 53.6 +0.3
baz=67
R26A **Arlington** 66.55 328 ⇑P P 14 38 55.0 +0.7
baz=67,SNR=8.5
BGNE **Belgrade** 66.56 334 ⇓P P 14 38 54.0 -0.2
baz=67,SNR=6.5
BGNE **Belgrade** 66.56 334 *eP* P 14 38 53.4 -0.8
52nm,0.5s
S25A **Robets Cordova** 66.57 327 ⇑P P 14 38 55.6 +1.1
baz=67,SNR=9.3
KSCO **Kaye Shedlock'** 66.69 329 ⇑P P 14 38 56.0 +0.9
baz=67
O29A **4D Ranch, Culb** 66.70 331 ⇓P P 14 38 55.6 +0.5
baz=67
P28A **Saint Francis** 66.71 330 ⇑P P 14 38 55.4 +0.2
baz=67
R25A **Fountain Ranch** 66.86 327 ⇓P P 14 38 56.8 +0.6
baz=67
M31A **Lambtecht Ranc** 66.87 333 ⇑P P 14 38 56.3 +0.2
baz=67
N30A **Hueftle Ranch,** 66.92 332 ⇑P P 14 38 57.0 +0.5
baz=67
P27A **Ficken Ranch,** 67.09 329 ⇓P P 14 38 58.7 +1.1
baz=67
O28A **Krutsinger Ran** 67.15 330 ⇑P P 14 38 58.7 +0.7
baz=67
N29A **Votaw Ranch, W** 67.17 332 ⇓P P 14 38 58.5 +0.5
baz=67
SDCO **Great Sand Dun** 67.19 326 ⇓P P 14 38 59.5 +1.0
baz=67,SNR=20
R24A **Sanders Place,** 67.35 327 ⇑P P 14 39 00.4 +1.1
baz=68,SNR=9.0
X18A **Snowflake** 67.40 321 ⇑P P 14 39 01.0 +1.3
baz=68,SNR=5.5
Q25A **Bedland, Calha** 67.42 328 ⇓P P 14 39 01.1 +1.2
baz=68
214A **Organ Pipe Nat** 67.47 317 ⇑P P 14 39 01.3 +1.4
baz=68
P26A **Davis Ranch, A** 67.47 329 ⇓P P 14 39 01.0 +1.0
baz=68
N28A **Pribbeno Ranch** 67.49 331 ⇓P P 14 39 01.3 +1.3
baz=68
O27A **Beecher Island** 67.54 330 ⇑P P 14 39 01.6 +1.3
baz=68,SNR=5.2
W18A **Petrified Fore** 67.68 322 ⇓P P 14 39 02.5 +1.0
baz=68
L30A **Spencer Herefo** 67.68 333 ⇑P P 14 39 02.6 +1.5
baz=68
R23A **Moffat** 67.70 326 ⇑P P 14 39 02.7 +1.1
baz=68,SNR=6.3
M29A **Burnside Ranch** 67.70 332 ⇓P P 14 39 02.4 +1.1
baz=68
SPMN **Marine on St.** 67.79 339 ⇓P P 14 39 00.6 -1.0
baz=68,SNR=5.8
SPMN **Marine on St.** 67.79 339 *eP* P 14 39 00.2 -1.4
5.7nm,0.3s
P25A **Willow Gulch B** 67.84 328 ⇑P P 14 39 03.4 +1.1
baz=68,SNR=5.1
ECSD **EROS Data Cent** 67.89 336 ⇓P P 14 39 01.5 -0.7
baz=68,SNR=5.4
ECSD **EROS Data Cent** 67.89 336 *eP* P 14 39 00.8 -1.5
2.0nm,0.4s
S22A **4UR Ranch, Cre** 67.90 325 ⇓P P 14 39 03.8 +0.9
baz=68,SNR=5.1
OGNE **Ogallala** 67.92 331 ⇓P P 14 39 03.8 +1.2
baz=68
Q24A **Divide** 67.92 327 ⇓P P 14 39 04.2 +1.2
baz=68,SNR=5.7
M28A **Bar X Bar Ranc** 67.97 331 ⇑P P 14 39 04.0 +1.1
baz=68
O26A **Horse Wrangler** 67.98 329 ⇑P P 14 39 04.6 +1.5
baz=68
N27A **Anderson Farm,** 68.05 330 ⇑P P 14 39 04.8 +1.3
baz=68
K30A **Basset** 68.23 333 ⇓P P 14 39 05.0 +0.6
baz=68
X16A **Lo Mia Camp, P** 68.23 320 ⇓P P 14 39 06.6 +1.8
baz=68,SNR=16
O25A **Wiggins** 68.27 329 ⇓P P 14 39 06.1 +1.2
baz=68
N26A **Koester Ranch,** 68.39 330 ⇑P P 14 39 07.0 +1.4
baz=69
MVCO **Mesa Verde** 68.44 324 ⇓P P 14 39 07.2 +1.1
baz=69,SNR=27
MVCO **Mesa Verde** 68.44 324 *eP* P 14 39 06.8 +0.7
34nm,1.0s
Z14A **Wintersburg** 68.47 318 ⇓P P 14 39 07.6 +1.6
baz=69
M27A **Reverse DX Ran** 68.54 331 ⇓P P 14 39 07.8 +1.4
baz=69
P23A **Jefferson** 68.58 327 ⇑P P 14 39 08.3 +1.3
baz=69
K29A **Lazy Trails An** 68.60 333 ⇑P P 14 39 07.2 +0.4
baz=69
113A **Mohawk Valley,** 68.61 317 ⇓P P 14 39 08.3 +1.4
baz=69,SNR=5.2
J30A **Dallas** 68.71 334 ⇑P P 14 39 07.3 -0.1
baz=69,SNR=5.4
ISCO **Idaho Springs** 68.79 328 ⇑P P 14 39 09.1 +0.8
baz=69,SNR=7.6
ISCO **Idaho Springs** 68.79 328 *eP* P 14 39 09.0 +0.8
3.6nm,0.8s
M26A **McRoberts Ranc** 68.85 330 ⇑P P 14 39 09.3 +0.9
baz=69
Y14A **Wickenburg** 68.88 319 ⇑P P 14 39 10.3 +1.7
baz=69
WUAZ **Wupatki** 68.93 321 ⇓P P 14 39 10.7 +1.7
baz=69,SNR=10

WUAZ	Wupatki 18nm,1.1s	68.93	321	eP	P	14 39 10.3 +1.3
PV01	Paradox Valley 1µm,0.9s	69.13	325	eP	P	14 39 11.5 +1.2
N24A	Carr baz=69	69.19	329	⇓P	P	14 39 12.1 +1.6
P22A	Eagle baz=70,SNR=10	69.22	327	⇓P	P	14 39 11.9 +1.0
O23A	Lake Granby, G baz=70,SNR=8.9	69.25	328	⇑P	P	14 39 12.5 +1.5
M25A	Palm-Egli Farm baz=70	69.26	330	⇑P	P	14 39 12.0 +1.1
K27A	Flueckinger Fa baz=70	69.40	332	⇓P	P	14 39 12.8 +1.1
BRSD	Miller baz=70	69.40	335	⇑P	P	14 39 12.1 +0.6
GLA	Glamis baz=70	69.47	317	⇓P	P	14 39 13.6 +1.4
J28A	Allard Ranch, baz=70	69.53	333	⇓P	P	14 39 12.7 +0.4
O22A	Kremmling baz=70,SNR=16	69.53	327	⇓P	P	14 39 13.8 +1.1
I29A	Vivian Onida baz=70,SNR=5.0	69.61	334	⇓P	P	14 39 12.4 -0.4
M24A	Cheyenne baz=70,SNR=11	69.65	329	⇓P	P	14 39 14.7 +1.4
Y12C	Blythe baz=70,SNR=5.7	69.72	318	⇓P	P	14 39 15.3 +1.7
J27A	Elkhorn Farm, baz=70	69.73	332	⇑P	P	14 39 14.7 +1.1
L25A	Engebretsen Ra baz=70	69.77	330	⇓P	P	14 39 15.1 +1.2
N23A	Red Feather La baz=70,SNR=5.8	69.77	328	⇓P	P	14 39 15.4 +1.2
EYMN	Ely 2.9nm,0.4s	69.79	342	eP	P	14 39 11.8 -1.9
PDMCI	Parker Dam,Lak baz=70	69.83	318	⇓P	P	14 39 16.0 +1.8
N22A	Wattenberg Ran baz=70,SNR=7.2	69.96	328	⇓P	P	14 39 16.6 +1.4
I28A	Midland baz=70	69.97	333	⇑P	P	14 39 15.6 +0.7
H29A	Onida baz=70	70.07	334	⇓P	P	14 39 16.4 +0.8
U15A	North Rim baz=70,SNR=33	70.09	321	⇓P	P	14 39 18.2 +2.0
M23A	Laramie baz=70,SNR=9.6	70.09	329	⇑P	P	14 39 17.1 +1.0
W13A	Hualapai Mount baz=70,SNR=6.5	70.19	319	⇓P	P	14 39 18.5 +1.8
BC3	Big Chuckawall baz=70,SNR=8.6	70.26	317	⇑P	P	14 39 18.8 +1.7
J26A	Sides Ranch, S baz=70,SNR=5.3	70.26	332	⇓P	P	14 39 17.8 +1.1
IRM	Iron Mountain baz=71,SNR=8.1	70.38	318	⇓P	P	14 39 19.3 +1.6
O20A	White River Ci baz=71,SNR=10.0	70.40	326	⇓P	P	14 39 19.1 +1.2
O20A	White River Ci 14nm,0.9s	70.40	326	eP	P	14 39 18.3 +0.4
MONP	Monument Peak, baz=71,SNR=12	70.42	316	⇓P	P	14 39 18.7 +0.6
H28A	Mission Ridge baz=71	70.45	334	⇑P	P	14 39 18.9 +1.1
M22A	Cedar Creek Ra baz=71,SNR=13	70.48	328	⇓P	P	14 39 19.4 +1.0
L23A	Garrett baz=71	70.57	329	⇑P	P	14 39 19.7 +0.9
J25A	Sunshine Ranch baz=71	70.65	331	⇑P	P	14 39 20.2 +1.1
BELC	Belle Mtn. Jos baz=71,SNR=8.5	70.83	317	⇑P	P	14 39 22.3 +1.9
H27A	Howes baz=71,SNR=9.8	70.86	333	⇓P	P	14 39 20.4 +0.1
L22A	Ellis Ranch, M baz=71	70.87	329	⇑P	P	14 39 21.8 +1.3
F29A	Eureka baz=71	70.90	335	⇑P	P	14 39 20.3 -0.1
SRU	San Rafael Swe 17nm,0.7s	70.91	324	eP	P	14 39 21.3 +0.5
N20A	Spence Gulch, baz=71,SNR=12	70.91	327	⇑P	P	14 39 22.1 +1.2
LDFC	Landfair 40nm,0.9s	70.94	318	eP	P	14 39 22.9 +1.8
J24A	Dixon Ranch, L baz=71,SNR=6.8	71.00	331	⇓P	P	14 39 22.5 +1.3
K23A	Bowen Ranch, D baz=71,SNR=6.3	71.02	330	⇑P	P	14 39 22.6 +1.2
GMRC	Granite Mounta baz=71,SNR=20	71.10	318	⇑P	P	14 39 24.3 +2.2
I25A	Rochford baz=71,SNR=17	71.11	332	⇓P	P	14 39 22.8 +0.8
H26A	Fairpoint baz=71	71.15	333	⇓P	P	14 39 23.4 +1.4
RSSD	Black Hills 4.6nm,0.6s	71.33	332	eP	P	14 39 23.4 +0.1
MURC	Murrieta baz=72	71.37	316	⇑P	P	14 39 25.5 +2.0
K22A	Casper baz=72,SNR=6.5	71.38	329	⇓P	P	14 39 24.8 +1.3
K22A	Casper 25nm,1.1s	71.38	329	eP	P	14 39 24.5 +1.0
I24A	Kuemmerle Ranc baz=72	71.39	331	⇓P	P	14 39 24.4 +0.9
G27A	Dupree baz=72	71.40	334	⇓P	P	14 39 23.9 +0.4
TMUT	Trail Mountain 7.1nm,0.5s	71.42	324	eP	P	14 39 25.1 +1.0
E29A	Napoleon baz=72	71.43	336	⇑P	P	14 39 24.5 +1.0
MVU	Marysvale 20nm,0.8s	71.44	323	eP	P	14 39 25.6 +1.4
AGMN	Agassiz Nation baz=72,SNR=18	71.50	339	⇓P	P	14 39 23.4 -0.6
AGMN	Agassiz Nation 20nm,0.7s	71.50	339	eP	P	14 39 23.3 -0.6
H25A	Fruitdale baz=72	71.52	332	⇑P	P	14 39 24.6 +0.4
D30A	Buchanan baz=72,SNR=7.8	71.54	337	⇓P	P	14 39 24.1 -0.1
HEC	Hector,Ludlow baz=72,SNR=13	71.56	318	⇑P	P	14 39 26.7 +2.0
BBRC	Big Bear Solar baz=72	71.59	317	⇓P	P	14 39 27.3 +2.2
G26A	Maurine baz=72,SNR=6.5	71.61	333	⇑P	P	14 39 24.7 -0.1
ARUT	Antelope Range 2.7nm,0.9s	71.68	322	eP	P	14 39 27.4 +2.0
TUQ	Turquoise Moun baz=72,SNR=5.9	71.68	318	⇑P	P	14 39 27.0 +1.5
K21A	Alcova baz=72,SNR=8.6	71.72	329	⇑P	P	14 39 27.2 +1.6
E28A	Huff baz=72	71.85	335	⇓P	P	14 39 26.5 +0.5
SHPR	Sheep Range 17nm,1.2s	71.88	320	eP	P	14 39 28.1 +1.4
G25A	Newell baz=72	71.89	333	⇑P	P	14 39 26.6 +0.3
J22A	Midwest baz=72,SNR=16	71.92	330	⇑P	P	14 39 27.6 +0.8
C30A	Mose, Pekin baz=72,SNR=7.6	71.93	337	⇑P	P	14 39 26.5 +0.1
H24A	Dirks Ranch, A baz=72,SNR=13	72.05	332	⇓P	P	14 39 27.6 +0.3
BFSC	Mount Baldy Ra baz=72	72.06	316	⇓P	P	14 39 29.6 +1.9
F26A	Lodgepole baz=72	72.08	333	⇓P	P	14 39 28.5 +1.0
E27A	Carson baz=72	72.09	334	⇓P	P	14 39 28.5 +1.0
QSPA	South Pole Qui 11nm,0.6s	72.12	180	eP	P	14 39 28.8 +1.3
MPU	Maple Canyon 16nm,0.9s	72.15	324	eP	P	14 39 29.2 +1.0
GSC	Goldstone, Bar baz=72,SNR=7.4	72.16	318	⇑P	P	14 39 29.9 +1.7
DAU	Daniels Canyon 1.0nm,0.7s	72.22	325	eP	P	14 39 30.2 +1.5
I22A	9 Mile Ranch, baz=72,SNR=11	72.29	330	⇑P	P	14 39 29.7 +0.9
NLU	North Lily Min 8.1nm,0.9s	72.36	324	eP	P	14 39 30.7 +1.3
G24A	Alzada baz=73	72.43	332	⇑P	P	14 39 30.4 +0.9
JLU	Jordanelle 19nm,0.7s	72.45	325	eP	P	14 39 31.2 +1.2
MDND	Maddock baz=73,SNR=11	72.47	336	⇑P	P	14 39 30.2 +0.6
MDND	Maddock 92nm,0.9s	72.47	336	eP	P	14 39 29.9 +0.2
F25A	Bowman baz=73	72.48	333	⇑P	P	14 39 30.8 +1.0
B30A	Myrvik Farm, E baz=73,SNR=12	72.50	338	⇑P	P	14 39 29.7 -0.1
SCHQ	Schefferville 9.2nm,0.6s,baz=197,slow=5.7,SNR=31	72.61	359	P	P	14 39 29.6 -0.6
I21A	Big Trails, Te baz=73,SNR=30	72.62	329	⇓P	P	14 39 31.5 +0.8
D27A	Center baz=73	72.62	335	⇑P	P	14 39 31.5 +1.0
J20A	Shoshoni baz=73,SNR=7.3	72.66	329	⇓P	P	14 39 32.5 +1.5
EDW2	Edwards Air Fo baz=73,SNR=5.3	72.67	317	⇑P	P	14 39 32.6 +1.5
G23A	Biddle baz=73,SNR=11	72.77	331	⇑P	P	14 39 32.4 +0.8
TCUT	Toone Canyon 7.5nm,0.5s	72.79	325	eP	P	14 39 33.1 +1.1
LRMC	Laurel Mtn Rad baz=73,SNR=6.6	72.83	317	⇑P	P	14 39 33.7 +1.5
TPNV	Topopah Spring baz=73,SNR=26	72.84	319	⇓P	P	14 39 34.3 +2.1
F24A	Ekalaka baz=73,SNR=6.4	72.85	332	⇑P	P	14 39 32.3 +0.3
B29A	Wagenman Farm, baz=73,SNR=10	72.89	337	⇑P	P	14 39 32.3 +0.2
A30A	Hoffart Farm, baz=73,SNR=9.7	72.90	338	⇑P	P	14 39 32.0 -0.1
FURC	Furnace Creek, baz=73,SNR=10	72.92	319	⇑P	P	14 39 34.7 +2.3
DUG	Dugway, Tooele baz=73,SNR=22	72.93	324	⇓P	P	14 39 34.4 +1.8
DUG	Dugway, Tooele 17nm,0.8s	72.93	324	eP	P	14 39 34.0 +1.3
TORD	Torodi Ar. Bea 5.7nm,0.5s,baz=253,slow=5.6,SNR=98	72.93	70	P	P	14 39 32.1 -0.9
TORD				S	SKiKP	14 48 19.6 -0.9
	1.2nm,1.0s,baz=252,slow=11,SNR=5.1					
BW06	Boulder Array 13nm,0.4s	72.98	327	eP	P	14 39 33.5 +0.5
PDAR	Pinedale Array 13nm,0.4s,baz=124,slow=9.0,SNR=193	72.98	327	P	P	14 39 33.5 +0.5
PDAR				pP	pP	14 41 08.2 +2.3
	0.6nm,0.6s,baz=144,slow=7.8,SNR=2.7					
MPMC	Manual Prospec baz=73,SNR=7.9	73.06	318	⇓P	P	14 39 34.9 +1.3
J19A	Crowheart baz=73,SNR=30	73.08	328	⇑P	P	14 39 34.6 +1.1
H21A	Big Horn, Sher baz=73,SNR=7.2	73.11	330	⇑P	P	14 39 34.0 +0.5
I20A	Worland baz=73,SNR=21	73.12	329	⇓P	P	14 39 34.5 +0.9
F23A	Volborg baz=73,SNR=13	73.18	332	⇓P	P	14 39 34.4 +0.5
ULM	Lac du Bonnet 38nm,0.5s,baz=149,slow=6.5,SNR=150	73.19	340	P	P	14 39 33.0 -0.7
G22A	Birney baz=73	73.20	331	⇓P	P	14 39 34.4 +0.4
A29A	Manning Farm, baz=74,SNR=14	73.22	337	⇑P	P	14 39 34.0 +0.1
B28A	Dugan Ranch, T baz=74	73.25	336	⇓P	P	14 39 34.7 +0.6
DAC	Darwin (Calif) 9.8nm,0.9s	73.26	318	eP	P	14 39 35.6 +0.9
R11A	Troy Canyon, C baz=74,SNR=17	73.33	321	⇑P	P	14 39 37.3 +2.2
R11A	Troy Canyon, C 11nm,0.9s	73.33	321	eP	P	14 39 36.7 +1.6
E24A	Baker baz=74,SNR=6.8	73.34	333	⇑P	P	14 39 35.7 +0.9
D25A	Fairfield baz=74,SNR=7.0	73.39	334	⇓P	P	14 39 36.2 +1.2
C26A	Wahner Farm, P baz=74,SNR=5.2	73.43	335	⇑P	P	14 39 35.8 +0.6
ISA	Isabella, Lake baz=74,SNR=8.2	73.45	317	⇑P	P	14 39 37.8 +2.1
ISA	Isabella, Lake 15nm,1.3s	73.45	317	eP	P	14 39 37.5 +1.8
H20A	Greybull baz=74,SNR=31	73.46	330	⇓P	P	14 39 36.1 +0.5
BGU	Big Grassy Mou 18nm,0.7s	73.55	324	eP	P	14 39 37.4 +1.2
GRAC	Grapevine Rang baz=74	73.57	319	⇑P	P	14 39 38.0 +1.7
A28A	Rude Farm, Bot baz=74	73.60	337	⇓P	P	14 39 36.2 +0.1
F22A	Rosebud baz=74,SNR=5.7	73.61	331	⇑P	P	14 39 36.7 +0.3
I19A	Meetse baz=74,SNR=14	73.61	329	⇓P	P	14 39 37.6 +1.0
G21A	Lodge Grass baz=74	73.63	330	⇓P	P	14 39 37.3 +0.8
D24A	Glendive baz=74	73.79	333	⇑P	P	14 39 38.4 +1.1
B26A	Jensen Ranch, baz=74	73.92	335	⇓P	P	14 39 39.2 +1.2
VES	Vestal, Richgr baz=74,SNR=5.5	73.96	317	⇑P	P	14 39 40.2 +1.8
HVU	Hansel Valley 20nm,1.0s	73.99	325	eP	P	14 39 38.8 +0.1
H19A	Powell baz=74,SNR=15	74.07	329	⇑P	P	14 39 40.0 +0.9
G20A	Bridger baz=74,SNR=19	74.10	330	⇑P	P	14 39 39.4 +0.2
TPH	Tonopah 13nm,1.3s	74.15	320	eP	P	14 39 41.2 +1.5
D23A	Lindsay baz=74	74.21	333	⇓P	P	14 39 41.3 +1.6
B25A	Knox Farm, Ray baz=74	74.21	335	⇑P	P	14 39 41.1 +1.4
LAO	LASA Array 4.2nm,0.5s	74.28	332	eP	P	14 39 40.5 +0.3
I17A	Pilgrim Ck. baz=75,SNR=26	74.32	328	⇓P	P	14 39 42.6 +1.9
H18A	Shoshone NF, C baz=75,SNR=36	74.41	329	⇓P	P	14 39 41.8 +0.7
F20A	Billings baz=75,SNR=5.6	74.50	330	⇓P	P	14 39 42.2 +0.8
RLMT	Red Lodge 19nm,0.4s	74.54	329	eP	P	14 39 42.6 +0.8
E21A	Keefer Ranch, baz=75	74.56	331	⇓P	P	14 39 42.8 +1.1
D22A	Cohagen baz=75,SNR=9.4	74.62	332	⇓P	P	14 39 43.1 +1.1
H17A	Grant Village baz=75,SNR=20	74.66	328	⇑P	P	14 39 44.6 +2.0
H17A	Grant Village 11nm,0.6s	74.66	328	eP	P	14 39 44.2 +1.7
C23A	Lambert baz=75	74.69	333	⇑P	P	14 39 43.4 +1.0
A25A	Svangstu Ranch baz=75,SNR=5.6	74.72	335	⇓P	P	14 39 43.6 +1.1
DGMT	Dagmar baz=75,SNR=7.7	74.79	334	⇑P	P	14 39 44.1 +1.2
DGMT	Dagmar 45m,1.1s	74.79	334	eP	P	14 39 43.4 +0.4
YFT	Old Faithful 17nm,0.8s	74.83	328	eP	P	14 39 45.8 +2.3
D21A	La Casta Ranch baz=75,SNR=13	74.92	332	⇓P	P	14 39 44.7 +1.0
F19A	Roth Farm, Mol baz=75,SNR=17	74.92	330	⇓P	P	14 39 44.6 +0.8
YNR	Norris Junctio 5.9nm,0.7s	74.94	328	eP	P	14 39 46.8 +2.6
C22A	Vida baz=75,SNR=7.0	74.94	333	⇓P	P	14 39 44.7 +0.9
E20A	Meyer Farm, Mu baz=75,SNR=15	75.01	331	⇓P	P	14 39 45.2 +0.9
NVAR	Mina Array Bea 7.9nm,0.9s,baz=134,slow=6.0,SNR=48	75.04	319	P	P	14 39 46.2 +1.3
YMR	Madison River 49nm,1.2s	75.05	328	eP	P	14 39 46.5 +1.7
A24A	Westby baz=75,SNR=5.9	75.07	335	⇑P	P	14 39 45.6 +1.1
B23A	Brockton baz=75,SNR=17	75.12	334	⇑P	P	14 39 46.0 +1.2
GCMT	Greycliff 7.0nm,0.4s	75.22	330	eP	P	14 39 46.4 +0.8
E19A	Rath Farm, Rou baz=76,SNR=10	75.29	330	⇓P	P	14 39 46.8 +0.9
QLMT	Earthquake Lak 1.0nm,0.6s	75.40	328	eP	P	14 39 48.4 +1.7
B22A	Reddig Ranch S baz=76	75.42	333	⇓P	P	14 39 47.7 +1.1
D20A	Manuel Ranch, baz=76,SNR=8.4	75.45	331	⇑P	P	14 39 47.4 +0.6
C21A	Desert Coulee baz=76,SNR=15	75.54	332	⇓P	P	14 39 47.9 +0.7
D19A	Cripps Ranch, baz=76	75.85	331	⇓P	P	14 39 50.3 +1.3
C20A	Veseth Ranch, baz=76,SNR=7.4	75.86	332	⇓P	P	14 39 49.4 +0.5
A22A	Carney Farms, baz=76,SNR=16	75.92	334	⇑P	P	14 39 50.4 +1.1
B21A	Ellsworth Farm baz=76	75.96	333	⇑P	P	14 39 50.7 +1.2
BOZ	Bozeman (W) 3.0nm,0.6s	76.08	328	eP	P	14 39 50.9 +0.5
HLID	Hailey baz=76,SNR=101	76.09	325	⇑P	P	14 39 52.7 +2.1
HLID	Hailey 42nm,0.7s	76.09	325	eP	P	14 39 52.2 +1.7
MCMT	McKenzie Canyo 14nm,0.6s	76.12	327	eP	P	14 39 52.3 +1.5
C19A	Slack Wire Ran baz=77,SNR=12	76.35	331	⇑P	P	14 39 52.4 +0.7
B20A	Solberg Farm, baz=77	76.41	332	⇓P	P	14 39 52.7 +0.7
LRM	Limekiln Ridge 30nm,0.7s	76.61	328	eP	P	14 39 54.2 +0.7
A20A	Cobblestone Ra baz=77,SNR=16	76.69	333	⇓P	P	14 39 54.4 +0.8
B19A	Brinkman Farms baz=77,SNR=16	76.83	332	⇑P	P	14 39 55.4 +1.1
EGMT	Eagleton baz=77,SNR=12	76.88	331	⇓P	P	14 39 55.3 +0.6
EGMT	Eagleton 25nm,1.0s	76.88	331	eP	P	14 39 55.0 +0.3
HRY	Holter Researc 11nm,0.6s	76.92	329	eP	P	14 39 56.2 +1.2
A19A	Klindworth Far baz=77,SNR=15	77.09	332	⇓P	P	14 39 56.6 +0.8
TSUM	Tsumeb 5.2nm,0.6s,baz=245,slow=5.8,SNR=24	77.69	106	P	P	14 40 00.3 +0.4
WVOR	Wild Horse Val 4.8nm,1.0s	77.72	323	eP	P	14 39 59.8 +0.4
CHMT	Chamberlain Mo 3.2nm,0.9s	77.77	329	eP	P	14 40 00.6 +0.9
MSO	Missoula baz=78,SNR=11	78.05	328	⇓P	P	14 40 02.4 +1.2
SLMT	Seeley Lake 16nm,0.9s	78.11	329	eP	P	14 40 02.4 +0.9
MOD	Modoc Plateau 9.3nm,1.0s	78.37	321	eP	P	14 40 04.4 +1.3
BMO	Blue Mountains 25nm,0.8s	78.50	325	eP	P	14 40 04.8 +1.2
SWMT	Swartz Lake 13nm,0.8s	78.55	329	eP	P	14 40 04.8 +1.0
YBMT	Yellow Bay 23nm,0.8s	78.79	329	eP	P	14 40 06.2 +1.1
JTMT	Jette 14nm,0.5s	78.85	329	eP	P	14 40 06.3 +0.9
FFC	Flin Flon 3.7nm,0.8s	78.98	339	eP	P	14 40 04.8 -1.0
BLMT	Blacktail Moun 12nm,0.5s	79.07	329	eP	P	14 40 07.7 +1.0
BSMT	Bassoo Peak 16nm,0.6s	79.17	329	eP	P	14 40 08.1 +0.9
M04C	Macdoel baz=79,SNR=5.3	79.22	321	⇑P	P	14 40 08.9 +1.4
N02D	Trinity Center baz=80	79.28	319	⇓P	P	14 40 08.9 +1.0
POLO	Lamas de Olo 17nm,1.9s	79.49	40	eP	P	14 40 09.8 +0.8
WALA	Waterton Lakes 4.8nm,0.4s	79.56	330	eP	P	14 40 09.4 +0.2
M02C	Callahan baz=80	79.61	320	⇓P	P	14 40 10.8 +1.2
K04D	Chiloquin, OR baz=80	79.66	321	⇓P	P	14 40 11.0 +1.1
J05D	Fort Rock, OR baz=80	79.75	322	⇓P	P	14 40 12.2 +1.8
MVO	Moncorvo 18nm,2.1s	79.84	41	eP	P	14 40 11.2 +0.4
J04D	Umpqua Nationa baz=80,SNR=5.4	80.24	322	⇑P	P	14 40 14.1 +1.1
HUMO	Hull Mountain 2.8nm,0.5s	80.37	321	eP	P	14 40 13.9 +0.4
PBRG	Braganca 24nm,1.8s	80.38	40	eP	P	14 40 14.4 +0.8
I05D	Terrebonne, OR baz=81,SNR=13	80.44	323	⇑P	P	14 40 15.9 +2.0
L02D	Cave Junction, baz=81	80.51	320	⇓P	P	14 40 15.9 +1.7
NEW	Newport baz=81	80.61	328	⇑P	P	14 40 14.8 +0.2
NEW	Newport 7.2nm,1.2s	80.61	328	eP	P	14 40 14.2 -0.4
HAWA	Hanford 14nm,1.0s	80.69	325	eP	P	14 40 16.4 +1.3
I04A	Tendick Farm, baz=81	80.74	322	⇓P	P	14 40 16.4 +1.0
VNDA	Vanda 2.8nm,0.7s,baz=134,slow=3.9,SNR=15	80.80	189	P	P	14 40 16.3 +1.1
OD2	Odessa Site #2	80.87	326	P	P	14 40 17.1 +1.1
DPW	Davenport	80.91	327	P	P	14 40 17.3 +1.1
ESDC	Sonseca Array 0.3nm,0.3s,baz=241,slow=6.2,SNR=7.1	80.97	43	P	P	14 40 17.3 +0.5
G05D	Wamic, OR baz=81,SNR=6.6	80.97	324	⇓P	P	14 40 18.3 +1.7
VFP	Flag Point	81.10	324	P	P	14 40 19.3 +1.9
TRW	Toppenish Ridg	81.17	325	P	P	14 40 19.4 +1.8
WTV	Waterville	81.72	326	P	P	14 40 21.4 +0.9
LON	Longmire 3.6nm,1.0s	82.15	325	eP	P	14 40 23.2 +0.5
EDM	Edmonton	82.20	333	eP	P	14 40 22.4 -0.3
SJPF	Ste Jean	84.52	41	eP	P	14 40 34.9 +0.3
SJPF	Ste Jean	84.52	41	eP	P	14 40 34.9 +0.3
ETSF	Etsaut	84.83	42	eP	P	14 40 36.4 +0.1
ETSF	Etsaut	84.83	42	eP	P	14 40 36.4 +0.1
QUIF	Quistinic	85.89	37	eP	P	14 40 40.2 -0.9
QUIF	Quistinic	85.89	37	eP	P	14 40 40.2 -0.9
ROSF	Rostrenen	86.05	36	eP	P	14 40 41.0 -0.9
ROSF	Rostrenen	86.05	36	eP	P	14 40 41.0 -0.9
SGMF	Saint Gilles	86.41	37	eP	P	14 40 42.4 -1.2
SGMF	Saint Gilles	86.41	37	eP	P	14 40 42.4 -1.2
MAW	Mawson 2.5nm,0.6s,baz=217,slow=9.6,SNR=4.1	86.58	162	P	P	14 40 44.9 +0.7
LFF	La Frestale 7.5nm,0.6s	86.67	41	eP	P	14 40 45.2 +0.3
LFF	La Frestale 6.2nm,0.6s	86.67	41	eP	P	14 40 45.2 +0.3
MFF	Saint Martin d 6.2nm,0.6s	86.96	39	eP	P	14 40 45.8 -0.5
MFF	Saint Martin d 6.2nm,0.6s	86.96	39	eP	P	14 40 45.8 -0.5
RJF	Les Rejaudoux	87.32	40	eP	P	14 40 47.7 -0.4
RJF	Les Rejaudoux	87.32	40	eP	P	14 40 47.7 -0.4
GRR	Gorron 7.8nm,0.7s	87.45	37	eP	P	14 40 47.4 -1.1
GRR	Gorron 7.8nm,0.7s	87.45	37	eP	P	14 40 47.4 -1.1
FLN	La Foliniere 1.8nm,0.4s	87.85	37	eP	P	14 40 49.8 -0.6
FLN	La Foliniere 1.8nm,0.4s	87.85	37	eP	P	14 40 49.8 -0.6
LDF	La Druitiere	87.97	37	eP	P	14 40 50.0 -1.0
LDF	La Druitiere	87.97	37	eP	P	14 40 50.0 -1.0
TCF	Toulx Ste Croi	88.22	40	eP	P	14 40 51.3 -1.0
TCF	Toulx Ste Croi	88.22	40	eP	P	14 40 51.3 -1.0
BGF	Bois d'Agland	88.74	40	eP	P	14 40 53.9 -0.8
BGF	Bois d'Agland	88.74	40	eP	P	14 40 53.9 -0.8
AVF	Avril sur Loir 3.6nm,0.8s	89.16	40	eP	P	14 40 55.4 -1.2
AVF	Avril sur Loir 3.6nm,0.8s	89.16	40	eP	P	14 40 55.4 -1.2
YKA	Yellowknife Ar 5.8nm,0.4s,baz=122,slow=4.7,SNR=318	89.16	339	P	P	14 40 56.5 +0.4
YKA				pP	pP	14 42 35.0 +1.5
	0.6nm,0.7s,baz=125,slow=4.4,SNR=5.0					
SSF	Saint Saulge 9.4nm,0.9s	89.37	40	eP	P	14 40 56.4 -1.2
SSF	Saint Saulge 9.4nm,0.9s	89.37	40	eP	P	14 40 56.4 -1.2
SMF	Signal de Mont 5.7nm,0.7s	89.39	40	eP	P	14 40 56.9 -0.8
SMF	Signal de Mont 5.7nm,0.6s	89.39	40	eP	P	14 40 56.9 -0.8
LOR	Lormes 4.9nm,0.7s	89.68	40	eP	P	14 40 57.8 -1.3
LOR	Lormes 4.9nm,0.7s	89.68	40	eP	P	14 40 57.8 -1.3
ORIF	Oris-en-Rattie	89.89	42	eP	P	14 41 00.1 -0.1

ORIF	Oris-en-Rattie	89.89	42	*e*P	P	14 41 00.1	-0.1	
PAGF	Fort de Pagny 1.4nm,0.6s	91.38	39	*e*P	P	14 41 06.9	0.0	
PAGF	Fort de Pagny 1.4nm,0.6s	91.38	39	*e*P	P	14 41 06.9	0.0	
CDF	Champ du Feu 2.1nm,0.5s	92.25	39	*e*P	P	14 41 10.1	-0.9	
CDF	Champ du Feu 2.1nm,0.5s	92.25	39	*e*P	P	14 41 10.1	-0.9	
INK	Inuvik 1.3nm,0.8s,baz=111,slow=3.6,SNR=14	98.93	340	P	P	14 41 40.8	+0.2	
SEY	Seymchan 1.9nm,0.6s,baz=108,slow=2.9,SNR=15	128.22	339	PKP	PKPdf	14 47 04.6	+0.5	
SEY				SKPbc	SKiKP	14 49 43.5	-16	
	1.0nm,0.6s,baz=116,slow=4.4,SNR=5.9							
BVAR	Borovoye Array 3.4nm,0.7s,baz=288,slow=3.0,SNR=29	131.02	34	SKPbc	SKPab	14 49 54.3	-0.2	
ASAR	Alice Springs 0.1nm,0.5s,baz=129,slow=2.1,SNR=6.0	134.51	205	PKhKP	PKPpre	14 47 02.0		
ASAR				PKP	PKPdf	14 47 17.6	+0.2	
	1.1nm,0.8s,baz=137,slow=1.7,SNR=16							
ASAR				SKPbc	SKPbc	14 50 07.0	+0.2	
	5.9nm,0.6s,baz=145,slow=4.0,SNR=80							
AS31	Alice Springs	134.51	205	*e*PKPdf	PKPdf	14 47 17.4	+0.1	
KURK	Kurchatov	136.57	33	PKPpre	PKPpre	14 47 09.7		
KURK				PKP	PKPdf	14 47 19.9	-0.3	
KURK				SKP		14 50 12.2		
KURBB	Kurchatov Arra 0.1nm,0.4s,baz=58,slow=5.7,SNR=4.1	136.58	33	PKhKP	PKPpre	14 47 09.7		
KURBB				PKP	PKPdf	14 47 19.9	-0.3	
	0.5nm,0.5s,baz=300,slow=2.7,SNR=8.2							
KURBB				SKP		14 50 12.2		
	1.2nm,0.8s,baz=302,slow=3.4,SNR=14							
ZALV	Zalesovo Beam 0.2nm,0.3s,baz=35,slow=29,SNR=2.5	137.38	26	PKhKP	PKPpre	14 47 12.2		
ZALV				PKP	PKPdf	14 47 21.5	-0.1	
	1.6nm,0.5s,baz=232,slow=1.6,SNR=5.4							
ZALV				SKP		14 50 14.5		
	3.9nm,0.7s,baz=309,slow=3.9,SNR=18							
WRA	Warramunga Arr 0.4nm,0.7s,baz=139,slow=2.6,SNR=9.1	137.63	208	PKhKP	PKPpre	14 47 12.1		
WRA				PKP	PKPdf	14 47 23.6	+0.4	
	0.9nm,0.6s,baz=161,slow=1.5,SNR=10							
WRA				SKP		14 50 16.4		
	5.3nm,0.7s,baz=157,slow=2.4,SNR=35							
KSH	Kashi	140.25	49	*e*PKP	PKPdf	14 47 26.4	-1.1	
KSH				sPKP		14 49 48.3		
KSH				PP	PP	14 50 30.8	0.0	
KSH				PKS	PKSdf	14 51 01.0	-2.5	
KSH				SKS	SKSdf	14 53 54.8	-2.0	
KSH				SKKS	SKKSac	14 56 38.9	-2.0	
KSH				PPMZ				
	140nm,5.4s							
MKAR	Makanchi Array 0.5nm,0.5s,baz=333,slow=2.0,SNR=6.5	140.83	36	PKhKP	PKPpre	14 47 21.4		
MKAR				SKP		14 50 22.2		
	1.0nm,0.6s,baz=297,slow=1.6,SNR=8.7							
ASAJ	Asahikawa 5.0nm,0.6s,baz=326,slow=1.3,SNR=11	145.06	324	PKPbc	PKPbc	14 47 36.4	+0.3	
TLY	Talaya 5.6nm,0.7s,baz=8.7,slow=6.1,SNR=4.5	145.32	12	PKPbc	PKPab	14 47 37.5	0.0	
WMQ	Urumqi	145.67	36	PKPbc	PKPab	14 47 38.8	-0.4	
SONM	Songino Array 3.1nm,0.6s,baz=97,slow=11,SNR=3.7	149.52	11	PKPbc	PKPbc	14 47 48.3	+0.1	
SONM				PKPab	PKPab	14 47 55.3	+0.6	
	4.3nm,0.7s,baz=322,slow=4.0,SNR=18							
SONM				pPKPbc	pPKPbc	14 49 32.3	+1.7	
	1.4nm,0.8s,baz=286,slow=1.1,SNR=6.8							
ULN	Ulaanbaatar	149.61	10	ePKPbc	PKPbc	14 47 48.9	+0.5	
ULN				ePKPab	PKPab	14 47 55.2	+0.2	
USRK	Ussuriysk Ar. 8.4nm,0.6s,baz=335,slow=1.2,SNR=28	150.19	335	PKPbc	PKPbc	14 47 50.1	+0.6	
USRK				PKPab	PKPab	14 47 58.5	+1.2	
	2.9nm,0.6s,baz=9.2,slow=2.5,SNR=7.3							
MJAR	Matsushiro Arr 1.0nm,0.4s,baz=97,slow=1.7,SNR=7.4	152.32	316	PKPbc	PKPbc	14 47 55.1	+0.3	
MJAR				PKPab	PKPab	14 48 06.3	-0.4	
	1.4nm,0.6s,baz=68,slow=3.9,SNR=6.2							
CN2	Changchun	152.80	343	*e*PKPbc	PKPdf	14 47 47.5	-0.5	
HHC	Hu-ho-hao-te	157.12	6	*e*PKP	PKPdf	14 47 52.3	-1.8	
HHC				pPKP	pPKPdf	14 49 35.0	-2.9	
HHC				sPKP		14 50 13.8		
HHC				PP	PP	14 52 05.3	-1.2	
HHC				SKS	SKSdf	14 54 18.4	-0.8	
HHC				SKKS	SKKSac	14 58 17.0	+3.3	
HHC				PPMZ				
	210nm,9.8s							
KSRS	Korea Array 2.1nm,0.9s,baz=27,slow=4.2,SNR=5.9	157.49	332	PKPab	PKPab	14 48 29.4	+0.8	
KSAR	Wonju Array Be	157.51	332	PKPab	PKPab	14 48 29.4	+0.6	
LZH	Lanzhou	159.61	26	*e*PKP	PKPdf	14 47 55.5	-1.8	
LZH				pPKP	pPKPdf	14 49 37.0	-4.2	
LZH				sPKP		14 50 17.8		
CD2	Chengdu	163.77	36	PKP	PKPdf	14 47 59.0	-2.5	
NJ2	Nanjing	165.59	346	*e*PKP	PKPdf	14 48 04.0	+1.1	

IDC ***18*** *14:36:26.6±1.7, 32.°82N×96.°61E, h0km, mb3.2/3, mb1 3.4/5, mb1mx3.1/49, mbtmp3.3/5, ML3.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/26, Error ellipse: s-maj=76.2km s-min=23.4km az=60.0*

ISCJB ***18*** *14:36:27.0±0.8, 32.°90N±0.°08×96.°5E±0.°1, h10km, mb3.2/3, MS3.0/1, Error ellipse: s-maj=14.9km s-min=8.7km az=33.5*

ISC 18 14:36:29.0±1.0**, 32.°97N**±0.°09×**96.°6E**±0.°1**, h10**km**, n19,**
σ1⁹**12**/14**, mb3.1**/3**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung 4.9nm,0.4s	9.49	236	*e*P	Pn	14 38 46.3	+0.3
ODAN	Odare 15nm,0.5s	10.02	235	*e*P	Pn	14 38 52.9	-0.3
JIRN	Jiri 5.5nm,0.5s	10.41	242	*e*P	Pn	14 38 58.9	+0.2
GUN	Gumba 7.5nm,0.3s	10.51	244	*e*P	Pn	14 39 01.0	+1.0
RAMN	Ramite 5.0nm,0.4s	10.52	238	*e*P	Pn	14 38 58.0	-2.0
KKN	Kakani 5.8nm,0.4s	11.02	245	*e*P	Pn	14 39 06.2	-0.8
PKI	Pulchoki 6.2nm,0.4s	11.04	244	*e*P	Pn	14 39 06.8	-0.5
PKIN	Phulchoki 7.1nm,0.4s	11.04	244	*e*P	Pn	14 39 06.2	-1.1
GKN	Gorkha	11.41	247	*e*P	Pn	14 39 11.1	-1.1
DANN	Dangsing 4.4nm,0.3s	11.94	251	*e*P	Pn	14 39 16.6	-3.0
KOLN	Koldanda 2.2nm,0.3s	12.33	249	*e*P	Pn	14 39 19.3	-5.6
PYUN	Piuthan 22nm,0.5s	12.66	251	*e*P	Pn	14 39 23.1	-6.3
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=342,slow=11,SNR=3.1	14.61	171	Pn	Pn	14 39 57.2	+1.4
SONM	Songino Array 0.1nm,0.3s,baz=210,slow=11,SNR=2.8	16.61	24	Pn	Pn	14 40 21.9	-0.1
MKAR	Makanchi Array 0.1nm,0.3s,baz=139,slow=14,SNR=3.8	17.58	326	P	Pn	14 40 33.9	-0.2
KURBB	Kurchatov Arra 0.7nm,0.9s,baz=139,slow=11,SNR=9.3	22.08	328	P	P	14 41 24.1	+0.1
ZALV	Zalesovo Beam 0.4nm,0.5s,baz=158,slow=9.3,SNR=3.4	22.58	342	P	P	14 41 31.3	+1.9
TGY	Tagaytay City comp=Z,30nm,18.3s,baz=270,slow=38	29.07	124	LR	LR	14 55 02.1		
WRA	Warramunga Arr 0.4nm,0.7s,baz=345,slow=6.2,SNR=6.7	63.80	140	P	P	14 46 59.7	-1.8	

KRSC 18 14:47:13.3±1.7**, 50.°13N**×**156.°77E, h110**km±20km**, ML3.9,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.69	323	P	Pn	14 47 32.7	+1.2
SKR				S	Sn	14 47 45.6	+0.3
PAU	Pauzhetka	1.34	1	P	Pn	14 47 39.8	+1.7
PAU				S	Sn	14 47 59.1	+2.1
MIPR	Malaya Ipel'ka	2.15	360	P	Pn	14 47 49.2	+1.0
ASAK	Asacha	2.37	17	P	Pn	14 47 53.5	+2.5
ASAK				S	Sn	14 48 22.9	+2.9
MTVR	Mutnovka	2.52	20	P	Pn	14 47 55.4	+2.3
MTVR				S	Sn	14 48 26.5	+2.8
RUS	Russkaya	2.56	25	P	Pn	14 47 55.5	+2.2
RUS				S	Sn	14 48 26.0	+1.9
APC	Apacha	2.81	5	P	Pn	14 47 57.8	+1.1
PET	Petropavlovsk	3.13	21	P	Pn	14 48 02.8	+1.9
PET				S	Sn	14 48 39.9	+2.3
UGLR	Uglovaya	3.34	22	P	Pn	14 48 06.6	+2.7
AVH	Avacha	3.37	21	P	Pn	14 48 06.9	+2.6
KOK	Koryaka	3.38	19	P	Pn	14 48 06.3	+2.0
SMAR	Somma	3.38	21	P	Pn	14 48 06.8	+2.2
KRER	Koryakskii	3.41	20	P	Pn	14 48 06.7	+1.8
SDLR	Sedlovina	3.42	22	P	Pn	14 48 07.5	+2.6
KRX	Arik	3.44	19	P	Pn	14 48 07.7	+2.4
NLC	Nalytchevo	3.44	27	S	Sn	14 48 45.6	+0.5
SPN	Mys Shipunski	3.60	33	P	Pn	14 48 09.5	+2.3
SPN				S	Sn	14 48 50.4	+1.5
GNL	Ganaly	3.65	11	P	Pn	14 48 08.5	+0.5
MKZ	Mys Kozlova	5.38	33	P	Pn	14 48 32.4	+1.4
MKZ				S	Sn	14 49 31.3	-0.3
KBTR	Krutoberegovo	7.09	29	P	Pn	14 48 56.8	+2.5

ISCJB ***18*** *14:51:28.5±1.1, 49.°27S±0.°10×121.°1E±0.°4, h10km, mb3.8/5, MS3.1/1, Error ellipse: s-maj=38.0km s-min=14.2km az=1.9*

IDC ***18*** *14:51:29.3±1.5, 49.°28S×121.°24E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/25, mbtmp4.1/6, ML2.9/1, MS3.3/1, Ms1 3.2/1, ms1mx2.9/23, Error ellipse: s-maj=66.7km s-min=18.4km az=100.0*

ISC 18 14:51:30.2±1.3**, 49.°3S**±0.°1×**121.°1E**±0.°3**, h10**km**, n13,**
σ0⁹**64**/7**, mb3.9**/5**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H baz=162,slow=74,SNR=130	15.26	338	T	T	15 10 28.1	
H01W1	Cape Leeuwin H baz=162,slow=74,SNR=101	15.26	338	T	T	15 10 30.8	
H01W3	Cape Leeuwin H baz=162,slow=74,SNR=98	15.27	338	T	T	15 10 31.8	
NWAO	Narrogin (SRO) 2.1nm,0.3s,baz=165,slow=8.8,SNR=19	16.58	348	Pn	Pn	14 55 23.0	+0.3
STKA	Stephens Creek 2.5nm,0.7s,baz=189,slow=6.4,SNR=8.0	23.19	49	P	P	14 56 37.6	+0.7
STKA				LR	LR	15 03 51.0	
	comp=Z,73nm,21.3s,baz=178,slow=32						
ASAR	Alice Springs 2.3nm,1.1s,baz=201,slow=9.5,SNR=18	27.46	26	P	P	14 57 16.3	-0.1
WRA	Warramunga Arr 0.5nm,0.5s,baz=198,slow=8.0,SNR=7.5	31.11	25	P	P	14 57 47.8	-1.0
VNDA	Vanda 1.5nm,0.8s,baz=293,slow=17,SNR=8.9	32.28	165	P	P	14 57 58.3	-0.2
QSPA	South Pole Qui 2.4nm,0.6s,baz=347,slow=9.7,SNR=27	40.86	180	P	P	14 59 12.1	+0.2
H08S2	Diego Garcia H baz=144,slow=76,SNR=4.6	58.06	299	T	T	16 03 53.7	
H08S1	Diego Garcia H baz=144,slow=76,SNR=6.0	58.08	299	T	T	16 03 59.9	
H08S3	Diego Garcia H baz=144,slow=76,SNR=6.9	58.09	299	T	T	16 03 54.8	
YKA	Yellowknife Ar 0.8nm,0.6s,baz=270,slow=2.7,SNR=26	147.19	45	PKPbc	PKPab	15 11 14.2	+0.2

IDC ***18*** *14:54:04.1±0.8, 55.°88S×27.°34W, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.1/1, Error ellipse: s-maj=37.7km s-min=20.4km az=88.0*

ISCJB ***18*** *14:54:15.7±0.8, 56.°0S±0.°1×27.°3W±0.°2, h112km, mb3.8/5, Error ellipse: s-maj=21.3km s-min=14.6km az=147.4*

NEIC ***18*** *14:54:15.7±2.2, 55.°98S×27.°25W, h94km±20km, mb4.1/1, Error ellipse: s-maj=25.1km s-min=12.1km az=68.0*

ISC 18 14:54:17.6±0.8**, 56.°0S**±0.°1×**27.°5W**±0.°2**, h112**km**, n16,**
σ0⁹**79**/10**, mb3.9**/5**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.46	285	*e*Pn	Pn	14 55 35.9	-0.7
HOPE				Sn	Sn	14 56 21.7	-16
SNAA	Sanae 0.1nm,0.3s,baz=318,slow=14,SNR=7.3	18.84	156	P	P	14 58 27.3	-1.1
QSPA	South Pole Qui 0.6nm,0.4s,baz=18,slow=4.7,SNR=8.0	34.25	180	P	P	15 00 52.4	0.0
VNDA	Vanda 0.6nm,0.7s,baz=192,slow=7.4,SNR=3.8	46.61	183	P	P	15 02 34.4	+0.8
H10S2	ASCENSION HYDR baz=192	48.00	17	T	T	15 55 35.2	
H10S3	ASCENSION HYDR baz=192	48.00	17	T	T	15 55 35.2	
H10S1	ASCENSION HYDR baz=192	48.01	17	T	T	15 55 36.1	
H10N1	ASCENSION HYDR baz=204	49.12	17	T	T	15 56 45.4	
H10N3	ASCENSION HYDR baz=204	49.12	17	T	T	15 56 59.9	
H10N2	ASCENSION HYDR baz=204	49.13	17	T	T	15 56 49.9	
LPAZ	La Paz 0.9nm,0.3s,baz=151,slow=6.0,SNR=11	50.23	305	P	P	15 03 03.3	+0.5
LPAZ	La Paz 1.0nm,0.5s	50.23	305	*e*P	P	15 03 03.7	+0.9
DBIC	Dimbokro 0.8nm,0.5s,baz=188,slow=4.6,SNR=2.7	65.18	25	P	P	15 04 46.3	-0.3
TORD	Torodi Ar. Bea 1.0nm,0.4s,baz=200,slow=6.2,SNR=19	73.09	30	P	P	15 05 35.4	0.0
ILAR	Eielson Array 0.9nm,0.7s,baz=102,slow=0.5,SNR=14	149.97	312	PKPbc	PKPbc	15 13 52.6	-0.6
MJAR	Matsushiro Arr 0.3nm,0.3s,baz=210,slow=1.6,SNR=5.3	158.24	147	PKP	PKPdf	15 14 01.3	+0.6

IDC 18 14:57:52.1±7.1**, 31.°27S**×**178.°15W, h0**km**, mb3.4**/2**,**
mb1 3.7/2**, mb1mx3.4**/28**, mbtmp3.4**/2**, Error ellipse:**
s-maj=304.1km s-min=56.2km az=157.0, Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs 0.5nm,0.9s,baz=109,slow=7.7,SNR=7.1	42.94	268	P	P	15 05 52.8	-0.3
WRA	Warramunga Arr 0.2nm,0.3s,baz=112,slow=8.1,SNR=9.8	44.01	273	P	P	15 06 01.6	-0.1
FINES	FINESS Array B 0.7nm,0.7s,baz=46,slow=6.0,SNR=4.2	145.91	339	PKPbc	PKPdf	15 17 32.0	-0.2

GUC 18 14:58:50.9±0.4**, 37.°23S**×**73.°41W, h94**km±9km**, ML3.8,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.46	32	*i* P	Pn	14 59 03.2	-2.5
CCSP				AML	AML	14 59 14.8	
	comp=E,7μm,0.4s						
COCH	Cobquecura	1.21	25	*i* P	Pn	14 59 13.6	+0.4
COCH				*i* S	Sn	14 59 30.5	+0.4
LNCH	Linares	2.01	47	*i* P	Pn	14 59 23.8	+0.4
LNCH				*i* S	Sn	14 59 48.6	+0.6
TALC	Talca	2.33	39	*i* S	Sn	14 59 55.8	+0.3

IDC ***18*** *15:07:24.9±2.6, 6.°87N×126.°49E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/37, mbtmp3.3/3, Error ellipse: s-maj=199.0km s-min=28.3km az=66.0*

ISCJB ***18*** *15:07:30.1±0.8, 6.°72N±0.°08×126.°04E±0.°08, h53km, mb3.2/3, Error ellipse: s-maj=14.2km s-min=8.0km az=137.2*

MAN ***18*** *15:07:30, 6.°83N×126.°09E, h44km, mb4.8, ML3.7, MS3.7*

ISC 18 15:07:31.5±1.1**, 6.°8N**±0.°1×**126.°02E**±0.°08**, h53**km**, n8,**
σ1⁹**73**/12**, mb3.0**/3**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.30	50	*e*P	Pn	15 07 40.0	-0.9
MATI				*e*S	Sn	15 07 46.8	-0.9
BUKP	Musuan	1.47	320	*e*P	Pn	15 07 55.4	-0.3
BUKP				*e*S	Sn	15 08 13.8	-0.1
CGP	Cagayan de Oro	2.14	322	*e*P	Pn	15 08 04.9	+0.1
CGP				*i* S	Sn	15 08 30.4	+0.1
PAGZ	Pagadian	2.84	293	*e*P	Pn	15 08 15.3	+1.0
PAGZ				*e*S	Sn	15 08 42.8	-4.5
MSLP	Maasin	3.55	341	*e*P	Pn	15 08 23.6	-0.5
WRA	Warramunga Arr 0.3nm,0.7s,baz=345,slow=10,SNR=5.1	27.76	163	P	P	15 13 16.0	+0.6
ASAR	Alice Springs 0.1nm,0.3s,baz=343,slow=7.3,SNR=12	31.20	166	P	P	15 13 45.5	-0.3
MKAR	Makanchi Array 0.2nm,0.5s,baz=124,slow=8.3,SNR=3.5	54.70	324	P	P	15 16 57.1	+1.8

IDC ***18*** *15:09:31.9±8.0, 17.°87S×178.°03W, h470km±90km, mb3.2/7, mb1 3.4/7, mb1mx3.1/21, mbtmp4.1/7, Error ellipse: s-maj=39.1km s-min=23.0km az=48.0*

ISC 18 15:09:39.3±2.2**, 18.°0S**±0.°2×**177.°9W**±0.°3**, h590**km**, n15,**
σ0⁹**86**/13**, mb3.5**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera 8.0nm,0.8s,baz=292,slow=1.9,SNR=14	20.63	191	P	P	15 13 38.7	-0.3
CNB	Canberra Magne baz=35,SNR=9.4	33.77	233	P	P	15 15 34.2	+0.6
CMSA	Cobar Meteorol baz=37,SNR=16	35.55	241	P	P	15 15 48.4	+0.1
QLP	Quilpie baz=37,SNR=14	35.99	249	P	P	15 15 51.5	-0.5
TOO	Toolangi baz=39,SNR=5.6	37.50	231	P	P	15 16 05.6	+1.3
STKA	Stephens Creek 3.4nm,0.5s,baz=90,slow=11,SNR=17	39.03	241	P	P	15 16 17.2	+0.4
STKA	Stephens Creek baz=40,SNR=11	39.03	241	P	P	15 16 17.3	+0.6
BBOO	Buckleboo baz=45,SNR=10	43.81	241	P	P	15 16 54.5	+0.2
WRA	Warramunga Arr 0.3nm,0.5s,baz=97,slow=7.3,SNR=12	45.13	260	P	P	15 17 03.4	-1.2
ASAR	Alice Springs 6.1nm,0.5s,baz=88,slow=8.9,SNR=197	45.27	254	P	P	15 17 05.5	-0.2
WRKA	Warakurna baz=51,SNR=9.4	50.31	252	P	P	15 17 43.1	-0.1
MJAR	Matsushiro Arr 0.7nm,0.5s,baz=155,slow=6.8,SNR=6.0	68.33	323	P	P	15 19 43.9	+1.1
QSPA	South Pole Qui 1.2nm,0.8s,baz=320,slow=0.8,SNR=5.2	72.02	180	P	P	15 20 07.9	+3.7
ILAR	Eielson Array 0.4nm,0.9s,baz=218,slow=5.2,SNR=5.3	85.89	13	P	P	15 21 19.9	+2.8
GERES	GERESS Array B 0.3nm,0.4s,baz=29,slow=2.2,SNR=4.8	147.87	346	PKPbc	PKPab	15 28 22.4	-1.3

IDC ***18*** *15:15:42.8±1.6, 8.°37S×124.°72E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.6/35, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=46.0km s-min=25.5km az=70.0*

NEIC ***18*** *15:15:43.3±0.8, 8.°30S×124.°65E, h10km, mb4.6/1, Error ellipse: s-maj=18.3km s-min=9.6km az=45.0*

DJA ***18*** *15:15:55.7±0.9, 9.°S±4.°×12.°4E±.°, h24km±19km, M3.9/6, mb4.0/1, MLv3.8/6*

ISC 18 15:15:45.6±0.7**, 8.°47S**±0.°05×**124.°39E**±0.°06**, h20**km**, n34,**
σ1⁹**79**/31**, mb3.8**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.29	185	P	Pb	15 16 12.7	+3.5
SOEI				S	Sn	15 16 25.7	+0.5
SOEI	Soe baz=1.3,SNR=217	1.29	185	P	Pb	15 16 12.7	+3.5
SOEI				S	Sn	15 16 27.4	+2.1
	baz=1.3,SNR=7.6						
SOEI	Soe	1.29	185	*e*Pn	Pb	15 16 12.9	+3.8
BATI	Baumata	1.87	202	P	Pb	15 16 18.9	-0.2
BATI				S	Sn	15 16 38.0	-1.6
BATI	Baumata 36nm,0.3s,baz=80,slow=2.8,SNR=88	1.87	202	Pn	Pb	15 16 19.1	0.0
BATI				Sn	Sn	15 16 36.1	-3.5
	116nm,0.3s,baz=41,slow=20,SNR=81						
EDFI	Ende, Flores	2.68	264	P	Pb	15 16 33.6	+0.6
BASI	Baing, Sumba	4.14	245	P	Pb	15 16 53.5	-4.4
WSI	Waingapu	4.21	253	P	Pb	15 16 54.5	-4.5
BSSI	Bau Bau, Buton	4.50	301	P	Pb	15 17 01.8	-2.2
KDI	Kendari	4.81	338	P	Pb	15 17 10.0	+0.7
BKSI	Bulukumba	5.26	306	P	Pb	15 17 13.3	-3.6
KAPI	Kappang	5.74	306	Pn	Pn	15 17 10.8	+1.1
MTN	Manton Dam baz=7.8,SNR=40	7.93	124	P	Pn	15 17 45.3	+5.6
MTN				S	Sn	15 19 05.9	-3.0
	baz=7.8,SNR=20						
KNRA	Kununurra baz=8.3,SNR=21	8.35	150	P	Pn	15 17 46.5	+1.0
KNRA				S	Sn	15 19 09.9	-9.3
	baz=8.3,SNR=11						
KDU	Kakadu baz=8.9,SNR=23	8.98	119	P	Pn	15 18 00.0	+5.7
KDU				S	Sn	15 19 32.9	-2.1
	baz=8.9,SNR=7.5						
JAGI	Jajag, Banyuwa baz=10,SNR=4.1	10.13	269	P	Pn	15 18 11.4	+1.5
JAGI	Jajag, Banyuwa	10.13	269	*e*Pn	Pn	15 18 09.9	0.0
WRA	Warramunga Arr 0.6nm,0.3s,baz=320,slow=14,SNR=22	14.93	141	Pn	Pn	15 19 14.3	-1.3
WRA				Sn	Sn	15 21 44.1	-17
	2.1nm,0.3s,baz=330,slow=22,SNR=13						
WRAB	Tennant Creek	14.93	141	*e*P	Pn	15 19 14.0	-1.6
WB2	Warramunga Arr	14.94	141	*e*P	Pn	15 19 14.2	-1.5
CISI	Cisompet, Garu baz=17,SNR=3.9	16.44	272	P	P	15 19 36.7	-1.3
WRKA	Warakurna baz=17,SNR=8.2	16.89	168	P	Pn	15 19 38.4	-2.6
WRKA				S	Sn	15 22 28.2	-20
	baz=17,SNR=3.7						
AS31	Alice Springs	17.65	150	*e*Pn	Pn	15 19 49.0	-1.5
ASAR	Alice Springs 0.3nm,0.3s,baz=320,slow=11,SNR=28	17.65	150	Pn	Pn	15 19 49.0	-1.5
ASAR				Sn	Sn	15 22 49.0	-18
	0.2nm,0.3s,baz=324,slow=28,SNR=8.3						
MEEK	Meekatharra baz=19,SNR=3.1	18.89	196	P	Pn	15 20 07.0	+1.5
QIS	Mount Isa baz=19,SNR=8.7	18.99	131	P	Pn	15 20 08.4	+1.5
QIS				S	Sn	15 23 26.1	-13
	baz=19,SNR=3.8						
COEN	Coen baz=19,SNR=8.6	19.21	108	P	Pn	15 20 13.2	+3.7
BBOO	Buckleboo baz=27,SNR=5.7	26.53	158	P	P	15 21 20.7	-1.3
STKA	Stephens Creek 0.8nm,0.5s,baz=320,slow=13,SNR=3.5	28.26	148	P	P	15 21 37.1	-0.4
CMSA	Cobar Meteorol baz=30,SNR=8.6	30.33	142	P	P	15 21 57.0	+1.0
MILA	Mila baz=36,SNR=8.7	36.26	145	P	P	15 22 48.8	+1.2
NFK	Norfolk Island baz=46,SNR=3.7	45.70	123	P	P	15 24 12.8	+7.3
MKAR	Makanchi Array 0.4nm,0.5s,baz=130,slow=8.0,SNR=6.0	66.54	330	P	P	15 26 35.2	+1.0
TIXI	Tiksi 4.0nm,0.6s	80.00	1	*e*P	P	15 27 51.0	-2.0

NNC ***18*** *15:15:59.1±1.5, 37.°18N×71.°28E, h178km±10km, mb2.6, mpv3.6, Error ellipse: s-maj=13.6km s-min=5.8km az=162.0*

IDC ***18*** *15:16:01.9±5.2, 37.°48N×70.°92E, h176km±28km, mb3.7/2, mb1 3.3/6, mb1mx2.8/

3.7nm,1.1s
TKM2 ⇑S **Sn** **15 18 51.2 +2.3**
5.6nm,1.2s
GEYT Alibeck 10.44 278 P **Pn** **15 18 23.1 -0.6**
0.5nm,0.3s,baz=82,slow=10,SNR=4.7
MKAR Makanchi Array 12.68 37 P Pn 15 18 56.2 +3.6
0.1nm,0.3s,baz=218,slow=12,SNR=6.3
AB31 Akbulak array 14.62 329 ⇑P **P** **15 19 19.6 0.0**
0.8nm,0.5s
AB31 ⇑S **Sn** **15 21 56.5 -3.0**
0.9nm,0.6s,baz=152,slow=23,SNR=4.1
BVA0 Borovoye Array 15.90 358 ⇑P **Pn** **15 19 33.2 +0.1**
1.8nm,1.2s,baz=151,slow=12,SNR=6.1
AKTO Aktyubinsk 16.33 329 ⇑P **Pn** **15 19 38.7 +0.4**
1.8nm,0.6s
AKTO ⇑S **S** **15 22 36.6 -3.0**
1.2nm,0.7s
ZALV Zalesovo Beam 19.27 25 P **P** **15 20 08.9 -1.6**
0.3nm,0.3s,baz=216,slow=11,SNR=4.5
FINES FINESS Array B 37.06 326 P P 15 22 51.1 -1.8
4.9nm,1.1s,baz=107,slow=12,SNR=5.7
ARCES ARCESS Array B 40.63 337 P **P** **15 23 20.9 -1.7**
3.7nm,1.0s,baz=122,slow=8.6,SNR=5.0

IDC 18 15:35:22.9±59.0, 14.78S×171.62W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/27, mbtmp3.9/3, Error ellipse: s-maj=1162.0km s-min=204.6km az=78.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.83**	**240**	P	P	15 43 47.0	+0.1
	1.3nm,0.9s,baz=80,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**51.66**	**256**	P	P	15 44 31.6	-0.4
	0.6nm,0.8s,baz=87,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**51.94**	**251**	P	P	15 44 34.1	0.0
	2.1nm,0.7s,baz=88,slow=8.1,SNR=48						

*IDC **18** 15:46:30.9±1.2, 37.89N×31.13E, h0km, mb3.1/2, mb1 3.3/7, mb1mx3.1/29, mbtmp3.2/7, ML3.1/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/23, Error ellipse: s-maj=20.9km s-min=15.8km az=133.0*
*ISK **18** 15:46:31.8, 37.92N×31.06E, h7km, ML3.5*
*ISCJB **18** 15:46:32.2±0.5, 37.90N±0.02×31.07E±0.02, h10km±4km, mb3.1/2, Error ellipse: s-maj=3.0km s-min=2.8km az=139.4*
*NIC **18** 15:46:32.2, 37.83N×30.75E, h51km, mb4.0, ML3.6*
*CSEM **18** 15:46:32.4±0.1, 37.91N×31.07E, h5km, ML3.5, Error ellipse: s-maj=2.9km s-min=2.7km az=65.0*
*DDA **18** 15:46:32.4, 37.97N×31.02E, h34km, MD3.5*
ISC 18 15:46:33.0±1.0, 37.91N±0.02×31.06E±0.02, h12km±8km, n158, σ1§07/192, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.44**	**258**	*e*PG	**Pg**	**15 46 40.7**	**-1.0**
ISP				*e*SG	**Sg**	**15 46 47.9**	**+0.3**
ISP	**Isparta**	**0.44**	**258**	*e*Pg	**Pg**	**15 46 40.7**	**-1.0**
ISP				*e*Sg	**Sg**	**15 46 47.9**	**+0.3**
BCK	**Bucak**	**0.59**	**220**	*e*PG	**Pg**	**15 46 43.7**	**-0.8**
BCK				*e*SG	**Sg**	**15 46 52.3**	**0.0**
BCK	**Bucak**	**0.59**	**220**	*e*Pg	**Pg**	**15 46 43.7**	**-0.8**
BCK				*e*Sg	**Sg**	**15 46 52.3**	**0.0**
SHUT	**Suhut-Afyon**	**0.76**	**328**	*e*PG	**Pg**	**15 46 46.8**	**-0.9**
SHUT	**Suhut-Afyon**	**0.76**	**328**	*e*Pg	**Pg**	**15 46 46.8**	**-0.9**
BOLV	**Bolvadin**	**0.81**	**354**	*i* P	**Pg**	**15 46 47.7**	**-1.0**
BOLV				*i* S	**Sb**	**15 47 00.9**	**+0.9**
BOLV	**Bolvadin**	**0.81**	**354**	*i* P	**Pg**	**15 46 47.7**	**-1.0**
BOLV				*i* S	**Sb**	**15 47 00.9**	**+0.9**
KONT	**Konya--Tatoy**	**1.03**	**88**	*e*PG	**Pg**	**15 46 51.7**	**-1.1**
KONT	**Konya--Tatoy**	**1.03**	**88**	*e*Pg	**Pg**	**15 46 51.7**	**-1.1**
KDHN	**Kadinhani**	**1.03**	**53**	*i* P	**Pg**	**15 46 51.3**	**-1.5**
KDHN				*i* S	**Sb**	**15 47 07.2**	**+0.9**
KDHN	**Kadinhani**	**1.03**	**53**	*i* P	**Pg**	**15 46 51.3**	**-1.5**
KDHN				*i* S	**Sb**	**15 47 07.2**	**+0.9**
ANTB	**Antalya**	**1.06**	**198**	*e*PG	**Pg**	**15 46 52.7**	**-0.8**
ANTB	**Antalya**	**1.06**	**198**	*e*Pg	**Pg**	**15 46 52.7**	**-0.8**
LADK	**Ladik-KONYA**	**1.07**	**74**	*e*PG	**Pg**	**15 46 52.7**	**-0.9**
LADK	**Ladik-KONYA**	**1.07**	**74**	*e*Pg	**Pg**	**15 46 52.7**	**-0.9**
KORT	**Korkueli**	**1.07**	**212**	*i* P	**Pg**	**15 46 51.2**	**-2.5**
KORT				*i* S	**Sn**	**15 47 09.7**	**+0.9**
KORT	**Korkueli**	**1.07**	**212**	*i* P	**Pg**	**15 46 51.2**	**-2.5**
KORT				*i* S	**Sn**	**15 47 09.7**	**+0.9**
KIZT	**Kizilcal**	**1.16**	**33**	*e*PN	**Pb**	**15 46 54.3**	**-0.7**
KIZT	**Kizilcal**	**1.16**	**33**	*e*Pn	**Pb**	**15 46 54.3**	**-0.7**
KHL	**Karahalli**	**1.28**	**289**	*e*PN	**Pn**	**15 46 56.3**	**-0.5**
KHL	**Karahalli**	**1.28**	**289**	*e*Pn	**Pn**	**15 46 56.3**	**-0.5**
ALT	**Altintas**	**1.36**	**327**	*e*PN	**Pn**	**15 46 57.6**	**-0.3**
ALT	**Altintas**	**1.36**	**327**	*e*Pn	**Pn**	**15 46 57.6**	**-0.3**
GOLH	**Golhisar**	**1.37**	**241**	*i* P	**Pn**	**15 46 57.7**	**-0.3**
GOLH	**Golhisar**	**1.37**	**241**	*i* P	**Pn**	**15 46 57.7**	**-0.3**
GOLH				*i* S	**Sg**	**15 47 22.6**	**+5.4**
ELL	**Elmali**	**1.48**	**219**	*e*PN	**Pn**	**15 46 59.8**	**+0.2**
ELL	**Elmali**	**1.48**	**219**	*e*Pn	**Pn**	**15 46 59.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.57**	**13**	*e*PN	**Pn**	**15 47 00.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.57**	**13**	*e*Pn	**Pn**	**15 47 00.9**	**+0.1**
ESKT	**Eskisehir**	**1.61**	**354**	*e*PN	**Pn**	**15 47 01.4**	**0.0**
ESKT	**Eskisehir**	**1.61**	**354**	*e*Pn	**Pn**	**15 47 01.4**	**0.0**
SEYT	**Eskypehyr**	**1.61**	**354**	*i* P	**Pn**	**15 47 00.6**	**-0.8**
SEYT				*i* S	**Sn**	**15 47 22.1**	**-0.1**
SEYT	**Eskypehyr**	**1.61**	**354**	*i* P	**Pn**	**15 47 00.6**	**-0.8**
SEYT				*i* S	**Sn**	**15 47 22.1**	**-0.1**
DENT	**Denizli**	**1.62**	**265**	*e*PN	**Pn**	**15 47 01.6**	**+0.2**
DENT	**Denizli**	**1.62**	**265**	*e*Pn	**Pn**	**15 47 01.6**	**+0.2**
GDZ	**Gediz**	**1.71**	**314**	*i* P	**Pn**	**15 47 02.0**	**-0.7**
GDZ				*i* S	**Sn**	**15 47 22.4**	**-2.1**
GDZ	**Gediz**	**1.71**	**314**	*i* P	**Pn**	**15 47 02.0**	**-0.7**
GDZ				*i* S	**Sn**	**15 47 22.4**	**-2.1**
ERMK	**Ermenek**	**1.95**	**130**	*i* P	**Pn**	**15 47 06.2**	**+0.2**
ERMK				*i* S	**Sb**	**15 47 33.8**	**+1.0**
ERMK	**Ermenek**	**1.95**	**130**	*i* P	**Pn**	**15 47 06.2**	**+0.2**
ERMK				*i* S	**Sb**	**15 47 33.8**	**+1.0**
GAZI	**Gazipasa**	**1.95**	**149**	*i* P	**Pn**	**15 47 06.2**	**+0.2**
GAZI				*i* S	**Sb**	**15 47 33.3**	**+0.5**
GAZI	**Gazipasa**	**1.95**	**149**	*i* P	**Pn**	**15 47 06.2**	**+0.2**
GAZI				*i* S	**Sb**	**15 47 33.3**	**+0.5**
SULT	**Sultanhani-AKS**	**1.96**	**81**	*e*PN	**Pn**	**15 47 06.2**	**+0.2**
SULT	**Sultanhani-AKS**	**1.96**	**81**	*e*Pn	**Pn**	**15 47 06.3**	**+0.2**
TVSB	**Tavsanli**	**1.98**	**321**	*e*PN	**Pn**	**15 47 06.2**	**-0.2**
TVSB	**Tavsanli**	**1.98**	**321**	*e*Pn	**Pn**	**15 47 06.2**	**-0.2**
KULA	**Kula-Manisa**	**1.98**	**288**	*e*PN	**Pn**	**15 47 06.7**	**+0.2**
KULA	**Kula-Manisa**	**1.98**	**288**	*e*Pn	**Pn**	**15 47 06.7**	**+0.2**
BORA	**Eskisehir**	**2.02**	**347**	*i* P	**Pn**	**15 47 07.2**	**+0.2**
BORA				*i* S	**Sn**	**15 47 32.3**	**+0.1**
BORA	**Eskisehir**	**2.02**	**347**	*i* P	**Pn**	**15 47 07.2**	**+0.2**
BORA				*i* S	**Sn**	**15 47 32.3**	**+0.1**
FETY	**Fethiye**	**2.03**	**232**	*e*PN	**Pn**	**15 47 07.6**	**+0.6**
FETY	**Fethiye**	**2.03**	**232**	*e*Pn	**Pn**	**15 47 07.6**	**+0.6**
AKAS	**Kas**	**2.04**	**215**	*i* P	**Pb**	**15 47 10.4**	**+0.3**
AKAS	**Kas**	**2.04**	**215**	*i* P	**Pb**	**15 47 10.4**	**+0.3**
AKAS				*i* S	**Sg**	**15 47 40.8**	**+2.1**
DEMI	**Demirci**	**2.16**	**302**	*i* P	**Pn**	**15 47 08.1**	**-0.7**
DEMI				*i* S	**Sn**	**15 47 35.4**	**-0.2**
DEMI	**Demirci**	**2.16**	**302**	*i* P	**Pn**	**15 47 08.1**	**-0.7**
DEMI				*i* S	**Sn**	**15 47 35.4**	**-0.2**
AFSR	**Afˇar-Bala (A**	**2.19**	**45**	*e*PN	**Pn**	**15 47 09.5**	**+0.1**
AFSR	**Afˇar-Bala (A**	**2.19**	**45**	*e*Pn	**Pn**	**15 47 09.5**	**+0.1**
DALY	**Dalyan (Muˇla**	**2.21**	**241**	*e*PN	**Pn**	**15 47 09.8**	**+0.4**
DALY	**Dalyan (Muˇla**	**2.21**	**241**	*e*Pn	**Pn**	**15 47 09.8**	**+0.4**
TURN	**Turunc**	**2.22**	**243**	*i* P	**Pg**	**15 47 14.8**	**-0.7**
TURN	**Turunc**	**2.22**	**243**	*i* P	**Pg**	**15 47 14.8**	**-0.7**
BBAL	**Bala**	**2.29**	**44**	*i* P	**Pn**	**15 47 09.7**	**-1.0**
BBAL	**Bala**	**2.29**	**44**	*i* P	**Pn**	**15 47 09.7**	**-1.0**
BBAL				*i* S	**Sg**	**15 47 48.6**	**+2.0**
YER	**Yerkesik**	**2.34**	**251**	*e*PN	**Pn**	**15 47 11.9**	**+0.5**
YER	**Yerkesik**	**2.34**	**251**	*e*Pn	**Pn**	**15 47 11.9**	**+0.5**
ANTO	**Ankara**	**2.37**	**34**	*e*PN	**Pn**	**15 47 12.4**	**+0.6**
ANTO	**Ankara**	**2.37**	**34**	*e*Pn	**Pn**	**15 47 12.4**	**+0.6**
LOD	**Lodumlu**	**2.38**	**33**	*e*PN	**Pn**	**15 47 12.5**	**+0.7**
LOD	**Lodumlu**	**2.38**	**33**	*e*Pn	**Pn**	**15 47 12.5**	**+0.7**
GPA	**Golpazari**	**2.44**	**346**	*e*PN	**Pn**	**15 47 13.5**	**+0.8**
GPA	**Golpazari**	**2.44**	**346**	*e*Pn	**Pn**	**15 47 13.5**	**+0.8**
CAVI	**Cavuskoy**	**2.48**	**338**	*e*PN	**Pn**	**15 47 13.5**	**+0.4**
CAVI	**Cavuskoy**	**2.48**	**338**	*e*Pn	**Pn**	**15 47 13.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**272**	*e*PN	**Pn**	**15 47 14.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**272**	*e*Pn	**Pn**	**15 47 14.1**	**+0.4**
KAMT	**Kaman**	**2.53**	**54**	*e*PN	**Pn**	**15 47 14.6**	**+0.6**
KAMT	**Kaman**	**2.53**	**54**	*e*Pn	**Pn**	**15 47 14.6**	**+0.6**
AYDN	**Tasoluk**	**2.54**	**265**	*i* P	**Pn**	**15 47 15.3**	**+1.3**
AYDN				*i* S	**Sn**	**15 47 44.4**	**-0.4**
AYDN	**Tasoluk**	**2.54**	**265**	*i* P	**Pn**	**15 47 15.3**	**+1.3**
AYDN				*i* S	**Sn**	**15 47 44.4**	**-0.4**
GULT	**Gulveren**	**2.55**	**351**	*e*PN	**Pn**	**15 47 14.7**	**+0.5**
GULT	**Gulveren**	**2.55**	**351**	*e*Pn	**Pn**	**15 47 14.7**	**+0.5**
MDUB	**Mudurnu**	**2.56**	**2**	*e*PN	**Pn**	**15 47 14.7**	**+0.4**
MDUB	**Mudurnu**	**2.56**	**2**	*e*Pn	**Pn**	**15 47 14.7**	**+0.4**
BRTR	**Keskin Array B**	**2.71**	**47**	Pn	**Pn**	**15 47 16.2**	**-0.2**
	1.7nm,0.3s,baz=229,slow=16,SNR=44						
BRTR				Sn	**Sn**	**15 47 49.8**	**+0.7**
	2.1nm,0.3s,baz=208,slow=21,SNR=9.5						
IZI	**Iznik**	**2.72**	**333**	*e*PN	**Pn**	**15 47 16.5**	**0.0**
IZI	**Iznik**	**2.72**	**333**	*e*Pn	**Pn**	**15 47 16.5**	**0.0**
ADVT	**Abdulvahap**	**2.72**	**338**	*e*PN	**Pn**	**15 47 17.2**	**+0.7**
ADVT	**Abdulvahap**	**2.72**	**338**	*e*Pn	**Pn**	**15 47 17.2**	**+0.7**
AKS	**Akhisar**	**2.73**	**292**	*e*PN	**Pn**	**15 47 17.3**	**+0.7**
AKS	**Akhisar**	**2.73**	**292**	*e*Pn	**Pn**	**15 47 17.3**	**+0.7**
NIG	**Nigde**	**2.81**	**85**	*e*PN	**Pn**	**15 47 18.5**	**+0.6**
NIG	**Nigde**	**2.81**	**85**	*e*Pn	**Pn**	**15 47 18.5**	**+0.6**
SPNC	**Sapanca-Adapaz**	**2.83**	**348**	*e*PN	**Pn**	**15 47 18.8**	**+0.8**
SPNC	**Sapanca-Adapaz**	**2.83**	**348**	*e*Pn	**Pn**	**15 47 18.8**	**+0.8**
KIZK	**Mersin**	**2.84**	**119**	*i* P	**Pn**	**15 47 20.5**	**+2.3**
KIZK				*i* S	**Sb**	**15 47 58.2**	**-0.2**
KIZK	**Mersin**	**2.84**	**119**	*i* P	**Pn**	**15 47 20.5**	**+2.3**
KIZK				*i* S	**Sb**	**15 47 58.2**	**-0.2**
GEMT	**Gemlik**	**2.91**	**331**	*e*PN	**Pn**	**15 47 19.8**	**+0.7**
GEMT	**Gemlik**	**2.91**	**331**	*e*Pn	**Pn**	**15 47 19.8**	**+0.7**
MERS	**Mersin**	**2.95**	**110**	*e*PN	**Pn**	**15 47 20.8**	**+1.1**
MERS	**Mersin**	**2.95**	**110**	*e*Pn	**Pn**	**15 47 20.8**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.98**	**326**	*e*PN	**Pn**	**15 47 20.8**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.98**	**326**	*e*Pn	**Pn**	**15 47 20.8**	**+0.8**
ALFC	**Alevga**	**3.02**	**155**	P	**Pn**	**15 47 18.6**	**-2.0**
	baz=331						
ALFC				S	**Sn**	**15 47 55.0**	**-1.6**
ALFC	**Alevga**	**3.02**	**155**	P	**Pn**	**15 47 18.6**	**-2.0**
ALFC				S	**Sn**	**15 47 55.0**	**-1.6**
DAT	**Datca**	**3.02**	**248**	*e*PN	**Pn**	**15 47 21.5**	**+0.8**
DAT	**Datca**	**3.02**	**248**	*e*Pn	**Pn**	**15 47 21.5**	**+0.8**
BALB	**Balikesir**	**3.03**	**306**	*e*PN	**Pn**	**15 47 21.5**	**+0.8**
BALB	**Balikesir**	**3.03**	**306**	*e*Pn	**Pn**	**15 47 21.5**	**+0.8**
IZM	**Izmir**	**3.04**	**280**	*e*PN	**Pn**	**15 47 20.9**	**+0.1**
IZM	**Izmir**	**3.04**	**280**	*e*Pn	**Pn**	**15 47 21.0**	**+0.1**
AKMC	**Akamas**	**3.06**	**160**	P	**Pn**	**15 47 18.7**	**-2.4**
	baz=336						
AKMC	**Akamas**	**3.06**	**160**	P	**Pn**	**15 47 18.7**	**-2.4**
CDAG	**Cicekdag**	**3.10**	**56**	*i* P	**Pn**	**15 47 21.9**	**+0.1**
CDAG				*i* S	**Sn**	**15 47 58.6**	**-0.2**
CDAG	**Cicekdag**	**3.10**	**56**	*i* P	**Pn**	**15 47 21.9**	**+0.1**
CDAG				*i* S	**Sn**	**15 47 58.6**	**-0.2**
HRT	**Hereke**	**3.10**	**340**	*e*PN	**Pn**	**15 47 22.5**	**+0.8**
HRT	**Hereke**	**3.10**	**340**	*e*Pn	**Pn**	**15 47 22.5**	**+0.8**
BODT	**Bodrum**	**3.10**	**255**	*e*PN	**Pn**	**15 47 22.5**	**+0.8**
BODT	**Bodrum**	**3.10**	**255**	*e*Pn	**Pn**	**15 47 22.5**	**+0.8**
ARMT	**Armutlu**	**3.15**	**328**	*e*PN	**Pn**	**15 47 23.5**	**+1.1**
ARMT	**Armutlu**	**3.15**	**328**	*e*Pn	**Pn**	**15 47 23.5**	**+1.1**
LEF	**Lefka**	**3.15**	**152**	*e*PN	**Pn**	**15 47 21.6**	**-0.8**
LEF	**Lefka**	**3.15**	**152**	*e*Pn	**Pn**	**15 47 21.6**	**-0.8**
KCTX	**Karacabey (Bur**	**3.15**	**319**	*e*PN	**Pn**	**15 47 22.8**	**+0.3**
KCTX	**Karacabey (Bur**	**3.15**	**319**	*e*Pn	**Pn**	**15 47 22.8**	**+0.3**
PPCY	**Paphos**	**3.19**	**161**	P	**Pn**	**15 47 21.1**	**-1.9**
	baz=336						
PPCY	**Paphos**	**3.19**	**161**	P	**Pn**	**15 47 21.1**	**-1.9**
KARA	**Karaisali**	**3.24**	**100**	*e*PN	**Pn**	**15 47 24.5**	**+0.9**
KARA	**Karaisali**	**3.24**	**100**	*e*Pn	**Pn**	**15 47 24.5**	**+0.9**
MAMC	**Mammari**	**3.24**	**147**	P	**Pn**	**15 47 24.1**	**+0.5**
	baz=323						
MAMC	**Mammari**	**3.24**	**147**	P	**Pn**	**15 47 24.1**	**+0.5**
LFK	**Lefkose**	**3.29**	**142**	*e*PN	**Pn**	**15 47 25.8**	**+1.4**
LFK	**Lefkose**	**3.29**	**142**	*e*Pn	**Pn**	**15 47 25.8**	**+1.4**
SILT	**Sile**	**3.42**	**342**	*e*PN	**Pn**	**15 47 27.1**	**+1.1**
SILT	**Sile**	**3.42**	**342**	*e*Pn	**Pn**	**15 47 27.1**	**+1.1**
EREN	**Erenkoy**	**3.45**	**133**	*e*PN	**Pn**	**15 47 27.5**	**+1.1**
EREN	**Erenkoy**	**3.45**	**133**	*e*Pn	**Pn**	**15 47 27.5**	**+1.1**
CSS	**Prodhromos**	**3.47**	**147**	P	**Pn**	**15 47 25.4**	**-1.4**
	baz=324						
CSS	**Prodhromos**	**3.47**	**147**	*e*PN	**Pn**	**15 47 26.9**	**+0.2**
CSS	**Prodhromos**	**3.47**	**147**	P	**Pn**	**15 47 25.4**	**-1.4**
CSS	**Prodhromos**	**3.47**	**147**	*e*Pn	**Pn**	**15 47 27.0**	**+0.2**
SZAC	**Souni-Zanaja**	**3.48**	**154**	P	**Pn**	**15 47 29.3**	**+2.4**
	baz=331						
SZAC	**Souni-Zanaja**	**3.48**	**154**	P	**Pn**	**15 47 29.3**	**+2.4**
EDC	**Edincik**	**3.48**	**315**	*e*PN	**Pn**	**15 47 27.9**	**+1.0**
EDC	**Edincik**	**3.48**	**315**	*e*Pn	**Pn**	**15 47 27.9**	**+1.0**
ISK	**Istanbul-Kandi**	**3.51**	**334**	*e*PN	**Pn**	**15 47 28.1**	**+0.8**
ISK	**Istanbul-Kandi**	**3.51**	**334**	*e*Pn	**Pn**	**15 47 28.1**	**+0.8**
BGKT	**Bogazkoy**	**3.71**	**332**	*e*PN	**Pn**	**15 47 30.9**	**+0.8**
BGKT	**Bogazkoy**	**3.71**	**332**	*e*Pn	**Pn**	**15 47 30.9**	**+0.8**
CHOS	**Chios island**	**3.98**	**278**	*e*PN	**Pn**	**15 47 35.4**	**+1.6**
CHOS	**Chios island**	**3.98**	**278**	*e*Pn	**Pn**	**15 47 35.4**	**+1.6**
IDI	**Anoyia**	**5.62**	**244**	Pn	**Pn**	**15 47 57.7**	**+1.4**
	0.2nm,0.3s,baz=239,slow=12,SNR=2.8						
MMAI	**Mount Meron Ar**	**6.03**	**143**	Pn	**Pn**	**15 48 01.4**	**-0.8**
	3.0nm,0.3s,baz=329,slow=11,SNR=7.4						
MMAI				Sn	**Sn**	**15 49 12.4**	**+1.2**
	1.0nm,0.3s,baz=320,slow=24,SNR=2.3						
ASF	**Jabal al Asfar**	**7.46**	**138**	Pn	**Pn**	**15 48 22.4**	**+0.6**
	0.2nm,0.3s,baz=306,slow=14,SNR=2.2						
MLR	**Muntele Rosu**	**8.48**	**335**	Pn	**Pn**	**15 48 38.4**	**+2.7**
	0.1nm,0.3s,baz=153,slow=16,SNR=3.5						
GERES	**GERESS Array B**	**16.65**	**317**	LR	LR	15 58 39.5	
	comp=Z,34nm,18.5s,baz=74,slow=44						
TORD	**Torodi Ar. Bea**	**35.93**	**235**	P	**P**	**15 53 31.7**	**-1.6**
	0.6nm,0.9s,baz=37,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**38.29**	**60**	P	**P**	**15 53 53.3**	**+0.2**
	0.1nm,0.7s,baz=289,slow=9.0,SNR=2.7						

*NIED **18** 16:09:00, 33.40N×141.00E, h50km, Mw4.3 Best double couple: M₀3.06000×10¹⁵ NP1:φs184.00000°, δ37.00000°, λ108.00000°. NP2:φs342.00000°, δ55.00000°, λ77.00000°.*
*MOS **18** 16:09:07.1±1.2, 33.23N×141.10E, h28km, mb4.3/21, Error ellipse: s-maj=16.6km s-min=7.6km az=114.3*
*ISCJB **18** 16:09:10.6±0.7, 33.30N±0.04×141.03E±0.06, h52km±5km, mb4.1/31, MS3.2/11, Error ellipse: s-maj=7.8km s-min=6.0km az=169.9*
*BJI **18** 16:09:10.5, 33.30N×141.10E, h48km, mb4.1/4, Ms3.7/1, Ms7 3.4/1*
*JMA **18** 16:09:11.1±0.1, 33.35N×141.01E, h53km, M4.2*
JMA Felt I J1.
*IDC **18** 16:09:13.1±2.1, 33.26N×140.88E, h55km±17km, mb3.7/21, mb1 3.9/25, mb1mx3.8/43, mbtmp4.0/25, ML3.2/3, MS3.2/12, Ms1 3.2/12, ms1mx3.0/37, Error ellipse: s-maj=17.1km s-min=11.0km az=76.0*
ISC 18 16:09:11.6±0.6, 33.26N±0.04×141.08E±0.06, h45km±4km, n87, σ1§52/102, mb4.0/31, MS3.3/11, 6C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.07**	**262**	P	**Pn**	**16 09 29.7**	**-0.4**
JHJ2				S	**Sn**	**16 09 43.6**	**-0.2**
JHCJ	**Hachijojimakas**	**1.09**	**260**	P	**Pn**	**16 09 29.7**	**-0.7**
BSO1	**Boso 1**	**1.39**	**357**	P	**Pn**	**16 09 33.7**	**-0.4**
BSO3	**Boso 3**	**1.61**	**343**	P	**Pn**	**16 09 36.4**	**-0.9**
BSO3				*e*S	**Sn**	**16 09 55.7**	**-1.0**
BSO4	**Boso 4**	**1.83**	**341**	P	**Pn**	**16 09 39.9**	**-0.6**
BSO4				*e*S	**Sn**	**16 10 00.5**	**-1.9**
JNIO	**Niijimaoohara**	**1.86**	**307**	P	**Pn**	**16 09 40.3**	**-0.6**
JNIO				S	**Sn**	**16 09 59.9**	**-3.3**
JKO	**Kozu shima**	**1.86**	**300**	P	**Pn**	**16 09 40.3**	**-0.7**
JKO				S	**Sn**	**16 10 01.7**	**-1.7**
JIM2	**Oshima 3**	**2.00**	**317**	P	**Pn**	**16 09 41.6**	**-1.3**
JIM2				*e*S	**Sn**	**16 10 03.2**	**-3.5**
JIZS	**Izushimoda**	**2.34**	**309**	P	**Pn**	**16 09 47.0**	**-0.5**
JIZS				*e*S	**Sn**	**16 10 13.4**	**-1.6**
JOD2	**Odawara 2**	**2.59**	**321**	P	**Pn**	**16 09 50.0**	**-1.0**
JOD2				S	**Sn**	**16 10 17.5**	**-4.0**
TK02	**Tokai 2**	**2.86**	**285**	P	**Pn**	**16 09 55.0**	**+0.6**
TK02				S	**Sn**	**16 10 26.5**	**-1.0**
TK04	**Tokai 4**	**2.89**	**294**	P	**Pn**	**16 09 55.8**	**+0.8**
SHZ3	**Shizuoka 3**	**2.98**	**308**	P	**Pn**	**16 09 57.1**	**+0.7**
SHZ3				S	**Sn**	**16 10 31.1**	**+0.1**
MJAR	**Matsushiro Arr**	**4.04**	**325**	P	**Pn**	**16 10 11.5**	**+0.7**
MJAR				S	**Sn**	**16 10 56.2**	**-0.7**
	comp=Z,7.0nm,0.3s			pmax	pmax		
MJAR				smax	smax		
	comp=N,8.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.04**	**325**	P	**Pn**	**16 10 11.5**	**+0.7**
	comp=N,7.0nm,0.3s,baz=158,slow=12,SNR=99						
MJAR				S	**Sn**	**16 10 56.2**	**-0.7**
	comp=N,7.5nm,0.3s,baz=180,slow=14,SNR=7.1						
MAJO	**Matsushiro**	**4.04**	**325**	⇑*i* P	**Pn**	**16 10 11.4**	**+0.5**
MAT	**Matsushiro**	**4.04**	**325**	P	**Pn**	**16 10 11.6**	**+0.7**
MAT				S	**Sn**	**16 10 56.1**	**-0.8**
JCJ	**Chichijima**	**6.22**	**171**	P	**Pn**	**16 10 40.8**	**0.0**
	comp=N,14nm,0.3s,baz=351,slow=20,SNR=10						
JCJ				S	**Sn**	**16 11 47.2**	**-3.4**
	comp=N,10.0nm,0.3s,baz=263,slow=13,SNR=3.6						
JNU	**Nakatsue**	**8.55**	**272**	P	**Pn**	**16 11 12.9**	**0.0**
	comp=N,0.2nm,0.3s,baz=90,slow=8.1,SNR=4.4						
ASAJ	**Asahikawa**	**10.90**	**6**	P	**Pn**	**16 11 42.5**	**-2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,97nm,21.0s						
ASAJ	**Asahikawa**	**10.90**	**6**	P	**Pn**	**16 11 42.5**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=227,slow=10,SNR=22						
ASAJ				LR	LR	16 16 44.2	
	comp=Z,97nm,21.0s,baz=160,slow=41						
KSRS	**Korea Array**	**11.53**	**295**	P	**Pn**	**16 11 54.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=112,slow=15,SNR=8.9						
KSRS				LR	LR	16 16 09.3	
	comp=Z,114nm,20.8s,baz=91,slow=36						
PETK	**Petropavlovsk-**	**23.14**	**26**	LR	LR	16 25 45.5	
	comp=Z,22nm,18.7s,baz=218,slow=43						
HHC	**Hu-ho-hao-te**	**24.66**	**296**	*e*P	**P**	**16 14 28.8**	**+0.7**
HHC				sP	**sP**	**16 14 45.6**	**0.0**
HHC				PP	**PnPn**	**16 15 06.1**	**+4.8**
HHC				S	**S**	**16 18 43.3**	**-3.4**
HHC				sS	**sS**	**16 19 05.8**	**-0.8**
HHC				SS	**SnSn**	**16 19 40.8**	**+5.4**
HHC				PMZ			
	comp=Z,10.0nm,1.0s						
HHC				LN			
	comp=Z,73nm,10.0s						
HHC				LE			
	comp=Z,88nm,13.5s						
HHC				LZ			
	comp=Z,81nm,14.2s						
H11N2	**WAKE ISLAND Hy**	**26.66**	**114**	T	T	16 43 43.7	
	baz=306,slow=75,SNR=94						
H11N1	**WAKE ISLAND Hy**	**26.66**	**114**	T	T	16 43 45.6	
	baz=306,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**26.68**	**114**	T	T	16 43 42

KIV	**Kislovodsk**	**73.19**	**312**	*e*P		P		16 20 31.6	-6.1
KIV				pmax		pmax			
	comp=Z,7.0nm,0.9s								
KIV				MLR		MLR			
	comp=Z,19nm,18.0s								
AKASG	**Malin Array Be**	**77.12**	**323**	*ce*P		**P**		**16 20 59.0**	**-1.1**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**77.12**	**323**	P		**P**		**16 20 59.1**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=47,slow=6.0,SNR=18								
AKASG				LR		LR		16 58 51.7	
	comp=Z,28nm,18.4s,baz=50,slow=39								
KIEV	**Kiev**	**77.13**	**323**	⇑*i*P		**P**		**16 20 59.2**	**-0.9**
NVAR	**Mina Array Bea**	**77.49**	**52**	P		**P**		**16 21 04.7**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=282,slow=5.4,SNR=8.3								
NOA	**NORSAR Array B**	**77.56**	**338**	P		**P**		**16 21 01.9**	**-0.5**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
NOA				MLR		MLR			
	comp=Z,11nm,21.2s								
NOA	**NORSAR Array B**	**77.56**	**338**	P		**P**		**16 21 01.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=17,slow=5.1,SNR=4.4								
NOA				LR		LR		17 00 03.4	
	comp=Z,11nm,21.2s,baz=245,slow=39								
BRTR	**Keskin Array B**	**81.15**	**312**	*ce*P		**P**		**16 21 22.7**	**+0.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**81.15**	**312**	P		**P**		**16 21 22.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=112,slow=5.5,SNR=6.7								
DPC	**Dobruska-Polom**	**83.50**	**328**	*e*P		**P**		**16 21 33.8**	**-0.7**
DPC				*e*				16 21 48.4	
DPC	**Dobruska-Polom**	**83.50**	**328**	*e*P		**P**		**16 21 33.8**	**-0.7**
DPC				*ex*		x		16 21 35.5	
DPC				*e*P		**pP**		**16 21 48.4**	**+0.4**
MMAI	**Mount Meron Ar**	**83.93**	**306**	P		**P**		**16 21 38.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=58,slow=5.4,SNR=5.9								
CLL	**Collm**	**84.23**	**330**	*e*P		**P**		**16 21 36.0**	**-2.1**
CLL				*e*				16 21 44.0	
CLL				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CLL	**Collm**	**84.23**	**330**	*e*P		**P**		**16 21 36.0**	**-2.1**
	comp=Z,4.0nm,1.1s								
CLL				*e*				16 21 44.0	
CLL				*e*pP		**pP**		**16 21 54.0**	**+2.4**
PRU	**Pruhonice**	**84.55**	**329**	*e*P		**P**		**16 21 40.5**	**+0.7**
PRU	**Pruhonice**	**84.55**	**329**	*e*P		**P**		**16 21 40.5**	**+0.7**
GERES	**GERESS Array B**	**85.77**	**328**	P		**P**		**16 21 45.8**	**-0.2**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
GERES				MLR		MLR			
	comp=Z,20nm,19.9s								
GERES	**GERESS Array B**	**85.77**	**328**	P		**P**		**16 21 45.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=48,slow=6.0,SNR=6.8								
GERES				LR		LR		17 04 31.2	
	comp=Z,20nm,19.9s,baz=316,slow=39								
TXAR	**Lajitas Array**	**92.64**	**52**	P		**P**		**16 22 19.8**	**+0.9**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
TXAR	**Lajitas Array**	**92.64**	**52**	P		**P**		**16 22 19.8**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=302,slow=2.8,SNR=12								
LPAZ	**La Paz**	**148.70**	**64**	PKP2		**PKPbc**		**16 28 56.6**	**+1.4**
LPAZ				pmax		pmax			
	comp=Z,3.0nm,0.9s								
LPAZ	**La Paz**	**148.70**	**64**	PKPbc		**PKPbc**		**16 28 56.6**	**+1.4**
	comp=Z,2.8nm,0.9s,baz=146,slow=3.6,SNR=12								

*ISCJB **18** 16:14:43.4±0.5, 36.°05N±0.°04×71.°05E±0.°06, h102km, mb3.4/7, Error ellipse: s-maj=8.2km s-min=3.8km az=150.3*
*IDC **18** 16:14:43.2±5.6, 36.°05N×71.°17E, h74km±48km, mb3.3/8, mb1 3.5/12, mb1mx3.2/42, mbtmp3.7/12, ML3.7/4, Error ellipse: s-maj=36.1km s-min=21.7km az=32.0*
*NNC **18** 16:14:50.9±1.9, 36.°63N×70.°82E, h154km±16km, mb2.9, mpv3.8, Error ellipse: s-maj=16.6km s-min=8.4km az=168.0*

ISC 18 16:14:44.4±0.6, 36.°07N±0.°05×71.°02E±0.°06, h102km, n48, σ2.°25/60, mb3.6/7, 12C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.24**	**328**	⇑P	**Pn**	**16 15 33.9**	**+0.5**
	9.0nm,0.3s						
DZET				⇑S	**Sn**	**16 16 09.0**	**-2.3**
	209nm,0.5s						
SFK	**Sufi-Kurgan**	**4.39**	**26**	⇑P	**Pn**	**16 15 51.3**	**+2.2**
	4.4nm,0.2s						
SFK				⇓S	**Sn**	**16 16 39.6**	**+0.4**
	22nm,0.3s						
DLH	**Dalhousie**	**5.40**	**129**	*e*P	**Pn**	**16 16 04.0**	**+1.3**
DLH				*ex*	**Sn**	**16 17 08.0**	**+4.3**
AML	**Almayashu**	**6.40**	**18**	P	**Pn**	**16 16 16.4**	**0.0**
	SNR=138						
MNAS	**Manas**	**6.51**	**10**	⇑P	**Pn**	**16 16 17.6**	**-0.1**
	3.7nm,0.5s						
MNAS				⇑S	**Sn**	**16 17 25.2**	**-5.3**
UCH	**Uchtor**	**6.72**	**23**	P	**Pn**	**16 16 21.5**	**+0.7**
	SNR=8.7						
SDNR	**Sundarnagar**	**6.73**	**131**	*e*P	Pn	16 16 24.0	+3.4
SDNR				*e*S	**Sn**	**16 17 33.0**	**-2.8**
KZA	**Kyzart**	**6.84**	**27**	P	**Pn**	**16 16 22.2**	**-0.2**
	SNR=23						
EKS2	**Erkin-Say**	**6.92**	**17**	P	**Pn**	**16 16 23.4**	**+0.2**
	SNR=18						
KK31	**Karatay Array**	**7.03**	**357**	P	**Pn**	**16 16 24.4**	**-0.3**
	2.8nm,0.3s,baz=176,slow=12,SNR=168						
KK31				⇑S	**Sn**	**16 17 37.9**	**-5.2**
	20nm,0.5s,baz=187,slow=24,SNR=16						
AAK	**Ala-Archa**	**7.08**	**21**	⇑P	**Pn**	**16 16 25.7**	**+0.2**
	3.0nm,0.3s						
AAK				⇑S	**Sn**	**16 17 40.3**	**-4.1**
	13nm,0.8s						
AAK	**Ala-Archa**	**7.08**	**21**	P	**Pn**	**16 16 26.1**	**+0.6**
	SNR=7.7						
AAK	**Ala-Archa**	**7.08**	**21**	P	**Pn**	**16 16 26.0**	**+0.6**
	3.2nm,0.3s,baz=262,slow=0.6,SNR=26						
AAK				S	**Sn**	**16 17 40.8**	**-3.6**
	1.7nm,0.3s,baz=160,slow=22,SNR=11						
SMLA	**Simla**	**7.11**	**132**	*i* P	**Pn**	**16 16 27.8**	**+2.0**
SMLA				*i* S	**Sn**	**16 17 42.2**	**-2.8**
SMLA				*i* S	**Sn**	**16 17 42.2**	**-2.8**
SMLA				AML	AML	16 17 45.4	
	comp=E,118nm,0.1s						
SMLA				AML	AML	16 17 46.5	
	comp=N,116nm,0.9s						
ULHL	**Ulahol**	**7.38**	**32**	P	**Pn**	**16 16 30.1**	**+0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.70**	**26**	⇓P	**Pn**	**16 16 33.8**	**0.0**
	comp=N,8.6nm,1.2s						
TKM2				⇑S	**Sn**	**16 17 56.3**	**-3.2**
	comp=N,10nm,1.1s						
TKM2	**Tokmak 2**	**7.70**	**26**	P	**Pn**	**16 16 33.9**	**0.0**
	SNR=7.4						
KHET	**Khetri**	**8.95**	**152**	*ex*	**Pn**	**16 16 51.8**	**+1.0**
KHET				*e*S	**Sn**	**16 18 25.2**	**-4.6**
KHET				AML	AML	16 18 27.5	
	comp=N,207nm,0.2s						
KHET				AML	AML	16 18 27.5	
	comp=E,201nm,0.2s						
NDI	**New Delhi**	**9.04**	**143**	*e*S	**Sn**	**16 18 30.0**	**-1.9**
AYAN	**Aya Nagar**	**9.16**	**144**	*e*S	**Sn**	**16 18 29.4**	**-5.5**
SONA	**Sohna**	**9.34**	**145**	*e*S	**Sn**	**16 18 35.3**	**-3.9**
SONA				AML	AML	16 18 36.9	
	comp=E,37nm,0.2s						
SONA				AML	AML	16 18 40.4	
	comp=N,17nm,0.4s						
GEYT	**Alibeck**	**10.49**	**284**	P	**Pn**	**16 17 10.0**	**-1.7**
	comp=N,0.5nm,0.3s,baz=93,slow=13,SNR=4.2						
GEYT				S	**Sn**	**16 19 03.7**	**-3.5**
	comp=N,1.6nm,0.3s,baz=119,slow=20,SNR=6.5						
DANN	**Dangsing**	**13.24**	**122**	*e*P	**Pn**	**16 17 46.9**	**-1.7**
	comp=N,8.5nm,0.4s						
KOLN	**Koldanda**	**13.50**	**124**	*e*P	**Pn**	**16 17 51.7**	**-0.3**
	comp=N,3.8nm,0.3s						
GKN	**Gorkha**	**14.06**	**121**	*e*P	**Pn**	**16 17 58.2**	**-1.0**
	comp=N,6.0nm,0.3s						
DMN	**Daman**	**14.63**	**121**	*e*P	**Pn**	**16 18 06.2**	**-0.4**
	comp=N,5.5nm,0.4s						
KKN	**Kakani**	**14.64**	**120**	*e*P	**Pn**	**16 18 05.6**	**-1.1**
	comp=N,2.7nm,0.2s						
PKIN	**Phulchoki**	**14.85**	**121**	*e*P	**Pn**	**16 18 09.1**	**-0.3**
	comp=N,5.9nm,0.3s						
PKI	**Pulchoki**	**14.87**	**121**	*e*P	**Pn**	**16 18 09.4**	**-0.2**
	comp=N,4.5nm,0.2s						
GUN	**Gumba**	**14.99**	**119**	*e*P	**Pn**	**16 18 10.1**	**-1.1**
	comp=N,3.7nm,0.3s						
JIRN	**Jiri**	**15.36**	**119**	*e*P	**Pn**	**16 18 14.4**	**-1.5**
	comp=N,11nm,0.3s						
AB31	**Akbulak array**	**15.47**	**332**	⇑P	**Pn**	**16 18 16.4**	**-0.3**
	comp=N,0.4nm,0.2s						
AB31				⇑S	Sn	16 20 56.1	-11
	comp=N,5.0nm,0.7s						
KURBB	**Kurchatov Arra**	**15.52**	**18**	P	**P**	**16 18 19.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=4.6						
RAMN	**Ramite**	**16.08**	**120**	*e*P	**Pn**	**16 18 24.0**	**-0.8**
TAPN	**Taplejung**	**16.63**	**117**	*e*P	**Pn**	**16 18 31.1**	**-0.6**
	comp=N,9.7nm,0.6s						
ODAN	**Odare**	**16.69**	**119**	*e*P	**Pn**	**16 18 31.9**	**-0.4**
BVAR	**Borovoye Array**	**16.96**	**359**	P	**P**	**16 18 36.5**	**+1.1**
	comp=N,0.4nm,0.3s,baz=152,slow=11,SNR=6.4						
AKTO	**Aktyubinsk**	**17.16**	**331**	⇑P	**Pn**	**16 18 37.4**	**-0.3**
	comp=N,3.4nm,0.8s						
AKTO				⇓S	Sn	16 21 38.9	-9.4
	comp=N,2.1nm,0.6s						
AKTO	**Aktyubinsk**	**17.16**	**331**	P	**P**	**16 18 38.6**	**+0.9**
	comp=N,0.5nm,0.3s,baz=137,slow=9.5,SNR=9.9						
ZALV	**Zalesovo Beam**	**20.30**	**24**	P	**P**	**16 19 11.9**	**+0.1**
	comp=N,0.9nm,0.3s,baz=216,slow=9.2,SNR=8.5						
FINES	**FINESS Array B**	**37.85**	**326**	P	**P**	**16 21 53.4**	**+2.5**
	comp=N,0.5nm,0.4s,baz=126,slow=9.5,SNR=5.0						
ARCES	**ARCESS Array B**	**41.55**	**338**	P	**P**	**16 22 23.9**	**+2.5**
	comp=N,3.6nm,1.0s,baz=114,slow=8.1,SNR=7.0						
NB2	**NORSAR Subarra**	**44.73**	**323**	P	**P**	**16 22 49.2**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.73**	**323**	P	**P**	**16 22 49.2**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=102,slow=7.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**65.73**	**269**	P	**P**	**16 25 20.1**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=45,slow=6.0,SNR=4.1						
YKA	**Yellowknife Ar**	**81.67**	**3**	P	**P**	**16 26 53.8**	**+2.9**
	comp=Z,0.1nm,0.5s,baz=347,slow=5.8,SNR=4.4						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**16 26 53.1**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=329,slow=4.7,SNR=4.5						
ASAR	**Alice Springs**	**84.00**	**125**	P	**P**	**16 27 05.1**	**+1.6**
	comp=Z,0.2nm,0.9s,baz=317,slow=3.9,SNR=3.9						

NNC 18 16:24:22.9±3.8, 36.°93N×70.°96E, h0km, mb3.5, mpv3.2, 5C-5D, Error ellipse: s-maj=30.6km s-min=13.1km az=174.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.52**	**319**	⇑Pn	Pn	16 25 05.2	0.0
	2.5nm,0.3s						
DZET				⇓Sn	Sn	16 25 38.3	+1.6
	28nm,0.4s						
SFK	**Sufi-Kurgan**	**3.67**	**32**	⇓Pn	Pn	16 25 21.3	+0.1
	1.4nm,0.3s						
SFK				⇑Sn	Sn	16 26 08.8	+3.5
	1.4nm,0.2s						
MNAS	**Manas**	**5.67**	**12**	⇓Pn	Pn	16 25 47.9	-0.7
	2.0nm,0.7s						
MNAS				⇑Sn	Sn	16 26 53.4	-1.2
	2.5nm,0.6s						
KK31	**Karatay Array**	**6.17**	**357**	Pn	Pn	16 25 54.5	-0.9
	1.9nm,0.4s,baz=174,slow=12,SNR=73						
KK31				⇑Sn	Sn	16 27 05.3	-1.3
	0.5nm,0.3s,baz=187,slow=24,SNR=5.7						
AAK	**Ala-Archa**	**6.31**	**24**	⇓Pn	Pn	16 25 55.9	-1.5
	1.9nm,0.4s						
AAK				⇓Sn	Sn	16 27 09.9	-0.4
	2.0nm,0.7s						
AB31	**Akbulak array**	**14.69**	**330**	⇑P	Pn	16 27 47.2	-4.6
	0.2nm,0.6s,baz=149,slow=13,SNR=5.0						

*CSEM **18** 16:40:53.7, 39.°51N×31.°49E, h2km, MD2.5*

ISK 18 16:40:53.7, 39.°51N×31.°49E, h2km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRH	**Sivrihisar-ESK**	**0.07**	**161**	PG	Pg	16 40 55.4	+0.2
SVRH	**Sivrihisar-ESK**	**0.07**	**161**	*i* Pg	Pg	16 40 55.4	+0.2
ESKT	**Eskisehir**	**0.50**	**271**	*e*PG	Pg	16 41 04.3	+0.9
ESKT				*e*SG	Sb	16 41 12.1	-1.1
ESKT	**Eskisehir**	**0.50**	**271**	*e*Pg	Pg	16 41 04.3	+0.8
ESKT				*e*Sg	Sb	16 41 12.1	-1.2
KIZT	**Kizilcal**	**0.70**	**154**	*e*PG	Pb	16 41 08.2	-0.5
KIZT	**Kizilcal**	**0.70**	**154**	*e*Pg	Pb	16 41 08.2	-0.6
ALT	**Altintas**	**1.17**	**247**	*e*PN	Pn	16 41 17.2	0.0
ALT	**Altintas**	**1.17**	**247**	*e*Pn	Pn	16 41 17.2	0.0
TVSB	**Tavsanli**	**1.57**	**268**	*e*PN	Pb	16 41 23.4	-0.3
TVSB	**Tavsanli**	**1.57**	**268**	*e*Pn	Pb	16 41 23.4	-0.3

*ISCJB **18** 16:47:54.9±0.4, 58.°38N±0.°04×153.°47W±0.°06, h84km±6km, mb3.2/2, Error ellipse: s-maj=6.9km s-min=4.4km az=141.7*
*NEIC **18** 16:47:57.3, 58.°39N×153.°55W, h64km, ML2.6(AEIC), After AEIC.*
*IDC **18** 16:48:02.3±8.8, 58.°92N×153.°67W, h108km±78km, mb3.1/2, mb1 2.9/4, mb1mx2.7/35, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=68.4km s-min=31.5km az=10.0*

ISC 18 16:47:56.0±0.9, 58.°40N±0.°04×153.°51W±0.°04, h74km±10km, n41, σ1.°03/50, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**0.79**	**141**	P	**Pn**	**16 48 12.3**	**+0.2**
KDAK				S	**Sn**	**16 48 24.6**	**+0.5**
KABR	**Katmai Barrier**	**0.82**	**252**	P	**Pn**	**16 48 12.1**	**-0.5**
KAKN	**Katmai Knife C**	**0.83**	**264**	P	**Pn**	**16 48 12.2**	**-0.5**
KAKN				S	**Sn**	**16 48 24.8**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.90**	**261**	P	**Pn**	**16 48 13.7**	**+0.2**
MCNL	**McNeil River**	**0.90**	**332**	P	**Pn**	**16 48 13.6**	**+0.1**
KVTA	**Katmai Vly 10**	**0.94**	**270**	P	**Pn**	**16 48 13.8**	**-0.2**
AUH	**Augustine H**	**0.97**	**2**	P	**Pn**	**16 48 15.7**	**+1.3**
KELA	**Mount Kelaz**	**1.18**	**273**	P	**Pn**	**16 48 16.7**	**-0.2**
OHAK	**Old Harbor**	**1.18**	**174**	P	**Pn**	**16 48 16.9**	**0.0**
OHAK				S	**Sn**	**16 48 31.7**	**-0.9**
OPT	**Oil Point**	**1.27**	**6**	P	**Pn**	**16 48 18.8**	**+0.7**
ILS	**Iliamna Low So**	**1.58**	**8**	P	**Pn**	**16 48 22.6**	**+0.4**
PLK2	**Peulik 2**	**1.63**	**248**	P	**Pn**	**16 48 23.1**	**+0.4**
CNPM	**China Poot**	**1.63**	**45**	P	**Pn**	**16 48 23.4**	**+0.6**
CNPM				S	**Sn**	**16 48 44.0**	**+0.9**
PLK3	**Peulik 3**	**1.63**	**245**	P	**Pn**	**16 48 23.1**	**+0.4**
PLK3				S	**Sn**	**16 48 42.6**	**-0.5**
PLK4	**Peulik 4**	**1.70**	**244**	P	**Pn**	**16 48 24.0**	**+0.3**
PLK1	**Peulik 1**	**1.75**	**251**	P	**Pn**	**16 48 24.8**	**+0.5**
BRLK	**Bradley Lake**	**1.93**	**43**	P	**Pn**	**16 48 26.8**	**+0.1**
BRLK				S	**Sn**	**16 48 50.2**	**+0.1**
RSO	**Redoubt South**	**2.11**	**10**	*e*Pn	**Pn**	**16 48 29.7**	**+0.4**
RSO				*e*Sn	**Sn**	**16 48 52.9**	**-1.8**
RDWB	**Redoubt West**	**2.12**	**9**	P	**Pn**	**16 48 30.1**	**+0.6**
SEW	**Seward**	**2.70**	**49**	*e*Pn	**Pn**	**16 48 36.4**	**-0.6**
SEW				*e*Sn	**Sn**	**16 49 06.1**	**-2.4**
SLKM	**Skilak Lake**	**2.70**	**37**	P	**Pn**	**16 48 38.4**	**+1.2**
SVW2	**Sparrevohn**	**2.91**	**340**	P	**Pn**	**16 48 39.9**	**0.0**
STLK	**Strandline Lak**	**3.22**	**14**	P	**Pn**	**16 48 45.0**	**+0.7**
RC01	**Rabbit Creek A**	**3.31**	**34**	P	**Pn**	**16 48 45.8**	**+0.4**
SUA	**Susitna One**	**3.38**	**23**	P	**Pn**	**16 48 47.0**	**+0.7**
SKT	**Skwentna**	**3.73**	**14**	P	**Pn**	**16 48 51.5**	**+0.5**
HIN	**Hinchinbrook I**	**4.10**	**58**	P	**Pn**	**16 48 56.3**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.51**	**58**	P	**Pn**	**16 49 01.3**	**-0.3**
VLZ	**Valdez**	**4.55**	**50**	P	**Pn**	**16 49 02.5**	**+0.4**
PPLA	**Purkeypile**	**4.56**	**8**	P	**Pn**	**16 49 04.6**	**+2.0**
TT01	**Tatalina**	**4.69**	**346**	P	**Pn**	**16 49 04.7**	**+0.5**
DIV	**Divide**	**4.77**	**52**	P	**Pn**	**16 49 05.1**	**-0.3**
KLU	**Klutina**	**4.92**	**48**	P	**Pn**	**16 49 07.6**	**+0.3**
BMRM	**Bremner River**	**5.20**	**56**	P	**Pn**	**16 49 10.9**	**-0.2**
TRF	**Thorofare Moun**	**5.31**	**16**	P	**Pn**	**16 49 13.1**	**+0.3**
MCK	**McKinley**	**5.79**	**21**	*e*Pn	**Pn**	**16 49 20.9**	**+1.6**
ILAR	**Eielson Array**	**7.13**	**23**	P	**Pn**	**16 49 38.6**	**+1.2**
	0.1nm,0.3s,baz=222,slow=13,SNR=7.3						
ILAR				S	**Sn**	**16 50 52.7**	**-4.1**
	0.4nm,0.3s,baz=207,slow=29,SNR=10						
ILB	**Eielson Array**	**7.13**	**23**	P	**Pn**	**16 49 36.6**	**-0.8**
YKA	**Yellowknife Ar**	**19.40**	**61**	P	**P**	**16 52 16.6**	**+0.9**
	0.1nm,0.3s,baz=273,slow=9.8,SNR=8.2						
SEY	**Seymchan**	**26.21**	**303**	P	**P**	**16 53 22.3**	**-1.0**
	0.3nm,0.5s,baz=85,slow=8.4,SNR=4.0						
SONM	**Songino Array**	**55.53**	**306**	P	**P**	**16 57 24.3**	**+1.1**
	0.2nm,0.4s,baz=40,slow=6.8,SNR=4.3						

*ISCJB **18** 16:49:28.0±0.4, 32.°27N±0.°02×115.°30W±0.°03, h14km±4km, Error ellipse: s-maj=4.9km s-min=3.8km az=163.8*

*NEIC **18** 16:49:29.0, 32.°28N×115.°35W, h5km, ML2.9(PAS), ML3.3(ECX), After ECX.*
*ECX **18** 16:49:29.6±0.5, 32.°28N×115.°35W, h8km, MD2.9, ML3.1*
*MEX **18** 16:49:30.6±0.5, 32.°38N×115.°25W, h20km, MD3.5*

ISC 18 16:49:27.9±0.9, 32.°24N±0.°02×115.°35W±0.°03, h10km±8km, n26, σ0.°67/41, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**12**	*e*P	**Pb**	**16 49 32.6**	**-0.7**
CPBX				*e*S	**Sg**	**16 49 34.7**	**+0.2**
MBIG	**Mexicali**	**0.21**	**37**	*e*P	**Pg**	**16 49 32.9**	**+0.6**
MBIG				*e*S	**Sg**	**16 49 35.7**	**+0.4**
EMX	**El Mayor**	**0.27**	**160**	*e*P	**Pg**	**16 49 32.8**	**-0.5**
EMX				*e*S	**Sg**	**16 49 36.9**	**+0.1**
EMX				⇑*e*		16 49 38.1	
	comp=N,2μm,0.4s						
SGL	**Mount Signal**	**0.52**	**322**	⇓*i*P	**Pb**	**16 49 38.5**	**-0.6**
RDX	**Rancho Dawling**	**0.59**	**239**	*e*P	**Pb**	**16 49 40.3**	**-0.1**
RDX				*e*S	**Sb**	**16 49 48.8**	**-0.2**
RDX				AML	AML	16 49 51.3	
	comp=N,732nm,0.3s						
RDX				⇑*e*		16 49 51.3	
YUH	**Yuha Desert**	**0.64**	**310**	⇑*e*P	**Pg**	**16 49 40.5**	**+0.3**
COA	**Coachella**	**0.65**	**17**	⇑*e*P	**Pg**	**16 49 40.8**	**+0.2**
RMX	**La Rumorosa**	**0.72**	**301**	*e*P	**Pg**	**16 49 42.0**	**+0.2**
RMX				*e*S	**Sg**	**16 49 51.2**	**0.0**
RMX				*e*		16 49 53.4	
RMX				AML	AML	16 49 53.4	
	comp=N,662nm,0.1s						
YMD	**Yuma Desert**	**0.75**	**65**	⇓*e*P	**Pg**	**16 49 42.3**	**-0.1**
ECBX	**El Chinero**	**0.80**	**162**	⇓*e*P	**Pg**	**16 49 42.2**	**-1.2**
ECBX				*e*S	**Sg**	**16 49 53.3**	**-0.6**
CRR	**Carrizo Plain**	**0.83**	**321**	*e*P	**Pg**	**16 49 43.9**	**-0.1**
ZAX	**El Zacaton**	**1.07**	**228**	*e*P	**Pg**	**16 49 49.0**	**+0.6**
ZAX				*e*S	**Sb**	**16 50 03.4**	**+0.8**
ZAX				⇑*e*		16 50 04.9	
ZAX				AML	AML	16 50 04.9	
	comp=E,608nm,0.3s						
CBX	**Cerro Bola**	**1.12**	**274**	*e*P	**Pb**	**16 49 49.1**	**-0.3**
CBX				*i* S	**Sb**	**16 50 03.6**	**-0.4**
CBX	**Cerro Bola**	**1.12**	**274**	*e*P	**Pb**	**16 49 49.1**	**-0.3**
CBX				*e*S	**Sg**	**16 50 04.0**	**+0.1**
CBX				⇓*e*		16 50 06.2	
CBX				AML	AML	16 50 06.2	
	comp=E,376nm,0.5s						
CBX	**Cerro Bola**	**1.12**	**274**	*e*P	**Pb**	**16 49 49.1**	**-0.3**
SPIG	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pn**	**16 49 51.1**	**+0.1**
SPIG				*i* S	**Sn**	**16 50 07.8**	**+0.4**
SPIG	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pn**	**16 49 50.9**	**-0.1**
SPIG				*e*S	**Sb**	**16 50 07.2**	**+0.8**
SPIG	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pn**	**16 49 50.7**	**-0.2**
SPX	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pn**	**16 49 51.0**	**+0.1**
SPX				*e*S	**Sn**	**16 50 08.3**	**+0.9**
SPX				AML	AML	16 50 10.4	
	comp=E,235nm,0.4s						
BAR	**Barrett**	**1.20**	**292**	*e*Pn	**Pb**	**16 49 49.7**	**-1.1**
BAR				*e*S	**Sb**	**16 50 05.4**	**-1.0**
ECNX	**Esteban Cantu**	**1.21**	**242**	*e*P	**Pn**	**16 49 51.1**	**+0.2**
ECNX				*e*S	**Sn**	**16 50 07.8**	**+0.3**
PBX	**Punta Banda**	**1.27**	**247**	*e*P	**Pn**	**16 49 52.0**	**+0.3**
PBX				*e*S	**Sg**	**16 50 09.2**	**+0.4**
PFO	**Pinyon Flats O**	**1.65**	**326**	*e*Pn	**Pn**	**16 49 55.8**	**-1.3**
214A	**Organ Pipe Nat**	**2.17**	**97**	*e*Pn	**Pn**	**16 50 02.6**	**-1.5**
TUC	**Tucson**	**3.87**	**88**	Pg	**Pg**	**16 50 43.5**	**+1.5**
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn	**Pn**	**16 50 39.3**	**+1.0**

*ISCJB **18** 17:04:17.8±0.5, 32.°19N±0.°02×115.°21W±0.°03, h12km±3km, Error ellipse: s-maj=4.5km s-min=3.3km az=161.9*
*NEIC **18** 17:04:19.0, 32.°18N×115.°23W, h9km, ML3.1(PAS), ML3.4(ECX), After ECX.*
*ECX **18** 17:04:19.1±0.6, 32.°19N×115.°23W, h9km, MD3.1, ML3.3*
*MEX **18** 17:04:19.5±0.6, 32.°22N×115.°10W, h10km, MD3.6*

ISC 18 17:04:18.0±0.9, 32.°16N±0.°03×115.°23W±0.°03, h13km±8km, n24, σ0.°85/44, 1C-4D, California-Baja California border region

| Code | Station Name | Δ° | AZ° | Phase ID | | Time |

*ISCJB **18** 17:23:18.2±0.4,44˚.93S±0˙.04×167˚.49E±0˙.05,h50km, mb3.6/3, Error ellipse: s-maj=5.2km s-min=5.1km az=1.1*
*WEL **18** 17:23:20.0±0.3,45˚.11S×167˚.46E,h71km±2km,ML4.5/15, Error ellipse: s-maj=2.7km s-min=1.2km az=90.0*
WEL Felt in the Otago region, maximum reported intensity MM 4.
*IDC **18** 17:23:21.8±3.5,44˚.85S×167˚.76E,h102km±39km, mb3.2/3, mb1 3.5/5, mb1mx3.3/27, mbtmp3.7/5, Error ellipse: s-maj=36.2km s-min=22.6km az=42.0*

ISC 18 17:23:19.4±0.7,45˚.11S±0˙.05×167˚.50E±0˙.06,h50km,n41, σ1f83/42,mb3.5/3,2C-6D,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.53**	**35**	⇑PN	**Pn**	**17 23 33.0**	**+2.0**
MSZ				SN	**Sn**	**17 23 43.3**	**+4.0**
MSZ				AML	AML	17 23 45.3	
MSZ				AML	AML	17 23 45.3	
MSZ				AML	AML	17 23 45.3	
MLZ	**Mavora Lakes**	**0.53**	**117**	⇓PN	**Pn**	**17 23 33.2**	**+2.1**
MLZ				SN	**Sn**	**17 23 43.3**	**+3.8**
MLZ				AML	AML	17 23 43.9	
WHZ	**Wether Hill Ro**	**0.85**	**158**	⇓PN	**Pn**	**17 23 36.6**	**+1.5**
WHZ				SN	**Sn**	**17 23 48.7**	**+2.2**
WHZ				AML	AML	17 23 50.7	
WKZ	**Wanaka**	**1.11**	**76**	⇓PN	**Pn**	**17 23 40.4**	**+1.7**
WKZ				AML	AML	17 23 56.6	
WKZ				AML	AML	17 23 57.7	
WKZ				AML	AML	17 23 57.7	
WKZ				AML	AML	17 23 57.9	
EAZ	**Earnscleugh**	**1.28**	**96**	⇓PN	**Pn**	**17 23 42.5**	**+1.5**
EAZ				SN	**Sn**	**17 23 58.9**	**+1.8**
EAZ				AML	AML	17 23 58.9	
EAZ				AML	AML	17 23 58.9	
EAZ				AML	AML	17 24 00.0	
JCZ	**Jackson Bay**	**1.37**	**41**	PN	**Pn**	**17 23 43.2**	**+1.0**
JCZ				AML	AML	17 24 05.3	
JCZ				AML	AML	17 24 05.7	
TUZ	**Tuapeka**	**1.72**	**120**	PN	**Pn**	**17 23 47.6**	**+0.7**
APZ	**The Paps**	**1.76**	**169**	PN	**Pn**	**17 23 48.1**	**+0.6**
APZ				AML	AML	17 24 12.2	
APZ				AML	AML	17 24 14.1	
SYZ	**Scrubby Hill**	**1.83**	**142**	PN	**Pn**	**17 23 49.1**	**+0.7**
SYZ				AML	AML	17 24 12.0	
SYZ				AML	AML	17 24 12.1	
LBZ	**Lake Benmore**	**2.04**	**70**	⇓PN	**Pn**	**17 23 51.2**	**-0.2**
LBZ				AML	AML	17 24 14.8	
LBZ				AML	AML	17 24 15.2	
FOZ	**Fox Glacier**	**2.20**	**46**	PN	**Pn**	**17 23 54.3**	**+0.8**
FOZ				AML	AML	17 24 32.1	
FOZ				AML	AML	17 24 33.7	
ODZ	**Otahua Downs**	**2.23**	**90**	⇑PN	**Pn**	**17 23 54.0**	**+0.2**
HHSZ	**Highcliff Hill**	**2.31**	**111**	PN	**Pn**	**17 23 55.9**	**+0.9**
RPZ	**Rata Peaks**	**2.90**	**63**	⇓PN	**Pn**	**17 24 01.9**	**-1.2**
RPZ				AML	AML	17 24 36.3	
RPZ				AML	AML	17 24 43.4	
RPZ	**Rata Peaks**	**2.90**	**63**	P	**Pn**	**17 24 02.0**	**-1.2**
	37nm,0.3s,baz=271,slow=5.2,SNR=223						
RPZ				S	**Sn**	**17 24 34.5**	**-2.2**
	102nm,0.3s,baz=131,slow=10,SNR=27						
WVZ	**Waitaha Valley**	**3.09**	**50**	PN	**Pn**	**17 24 04.2**	**-1.5**
WVZ				AML	AML	17 24 45.0	
OXZ	**Oxford**	**3.72**	**63**	PN	Pn	17 24 11.8	-2.4
MQZ	**McQueen's Vall**	**3.95**	**71**	PN	**Pn**	**17 24 15.8**	**-1.6**
CRLZ	**Canterbury Las**	**3.98**	**69**	PN	**Pn**	**17 24 16.0**	**-1.8**
LTZ	**Lake Taylor**	**4.16**	**58**	PN	Pn	17 24 18.0	-2.3
LTZ				AML	AML	17 25 06.2	
LTZ				AML	AML	17 25 13.7	
DSZ	**Denniston Nort**	**4.59**	**45**	PN	**Pn**	**17 24 24.7**	**-1.7**
THZ	**Tophouse**	**5.16**	**52**	*e*PN	Pn	17 24 31.6	-2.5
THZ				AML	AML	17 25 36.1	
THZ				AML	AML	17 25 37.0	
NNZ	**Nelson**	**5.79**	**50**	AML	AML	17 25 51.4	
KHEZ	**Kahui Hut**	**7.56**	**42**	*e*PN	**Pn**	**17 25 07.0**	**0.0**
VRZ	**Vera Road**	**8.05**	**45**	*e*PN	**Pn**	**17 25 12.4**	**-1.2**
PKVZ	**Pokaka**	**8.22**	**48**	*e*PN	**Pn**	**17 25 17.9**	**+1.8**
WTAZ	**Waiatarua**	**9.76**	**36**	*e*PN	**Pn**	**17 25 37.4**	**+0.3**
URZ	**Urewera**	**9.92**	**50**	P	**Pn**	**17 25 38.5**	**-0.7**
	0.2nm,0.3s,baz=266,slow=13,SNR=3.1						
URZ				S	Sn	17 27 17.6	-11
	0.6nm,0.3s,baz=126,slow=19,SNR=3.6						
KUZ	**Kuaotunu**	**10.41**	**39**	*e*PN	**Pn**	**17 25 46.1**	**+0.2**
WCZ	**Waipu Caves**	**10.53**	**32**	*e*PN	**Pn**	**17 25 47.3**	**-0.3**
OUZ	**Omahuta**	**10.92**	**27**	PN	**Pn**	**17 25 52.8**	**0.0**
MOO	**Moorlands**	**14.91**	**273**	P	**Pn**	**17 26 48.1**	**+1.2**
	baz=16,SNR=3.7						
MOO				S	Sn	17 29 18.0	-13
	baz=16,SNR=4.2						
MILA	**Mila**	**15.98**	**294**	P	**Pn**	**17 27 00.7**	**-0.1**
	baz=17,SNR=30						
CNB	**Canberra Magne**	**16.93**	**299**	P	**Pn**	**17 27 13.5**	**+0.8**
	baz=18,SNR=9.6						
TOO	**Toolangi**	**18.13**	**287**	P	**Pn**	**17 27 31.7**	**+4.3**
	baz=19,SNR=3.6						
ASAR	**Alice Springs**	**34.65**	**297**	P	**P**	**17 30 01.8**	**-2.2**
	0.5nm,0.8s,baz=135,slow=6.8,SNR=11						
WRA	**Warramunga Arr**	**37.15**	**302**	P	**P**	**17 30 22.7**	**-2.7**
	0.5nm,0.7s,baz=139,slow=7.9,SNR=6.9						
MTN	**Manton Dam**	**44.59**	**305**	P	**P**	**17 31 27.6**	**+0.9**
	baz=46,SNR=3.8						
QSPA	**South Pole Qui**	**45.02**	**180**	P	**P**	**17 31 29.0**	**-0.7**
	1.0nm,0.8s,baz=270,slow=3.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**145.93**	**205**	PKPbc	**PKPdf**	**17 42 49.9**	**-3.0**
	1.0nm,0.5s,baz=166,slow=3.1,SNR=14						
FINES	**FINESS Array B**	**152.28**	**320**	PKPbc	**PKPdf**	**17 43 03.8**	**+2.3**
	2.5nm,1.1s,baz=140,slow=4.5,SNR=3.0						

*IDC **18** 17:34:05.8±0.9,54˚.37N×168˚.95E,h0km,mb3.4/7, mb1 3.7/8,mb1mx3.4/40,mbtmp3.4/8,ML2.8/1,MS2.2/1, Ms1 2.2/1,ms1mx2.1/24,Error ellipse: s-maj=36.3km s-min=19.7km az=157.0*
*ISCJB **18** 17:34:07.7±0.7,54˚.19N±0˙.07×168˚.63E±0˙.07,h20km, mb3.3/7,Error ellipse: s-maj=9.6km s-min=5.9km az=172.6*
*KRSC **18** 17:34:07.9±0.9,54˚.17N×168˚.58E,h45km±16km,ML3.8*

ISC 18 17:34:08.6±0.9,54˚.21N±0˙.09×168˚.77E±0˙.07,h20km,n29, σ1f33/32,mb3.4/7,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.90**	**303**	*e*P	**Pn**	**17 34 38.5**	**-1.4**
BKI				*e*S	**Sn**	**17 35 01.5**	**-1.7**
KBTR	**Krutoberegovo**	**3.95**	**303**	*e*P	**Pn**	**17 35 09.0**	**+1.0**
KBTR				*e*S	**Sn**	**17 35 54.6**	**+0.9**
MKZ	**Mys Kozlova**	**4.13**	**278**	*e*P	**Pn**	**17 35 11.1**	**+0.6**
MKZ				*e*S	**Sn**	**17 35 56.7**	**-1.4**
SPN	**Mys Shipunski**	**5.32**	**261**	*e*P	**Pn**	**17 35 27.0**	**+0.2**
SPN				*e*S	**Sn**	**17 36 25.9**	**-1.6**
SDLR	**Sedlovina**	**5.94**	**265**	*e*P	**Pn**	**17 35 36.2**	**+0.7**
SDLR				*e*S	**Sn**	**17 36 41.8**	**-1.1**
OSSR	**Ossora**	**5.95**	**330**	*e*P	**Pn**	**17 35 37.4**	**+2.0**
UGLR	**Uglovaya**	**5.99**	**264**	*e*P	**Pn**	**17 35 37.3**	**+1.1**
UGLR				*e*S	**Sn**	**17 36 42.8**	**-1.4**
SMAR	**Somma**	**5.99**	**265**	*e*P	**Pn**	**17 35 37.3**	**+1.0**
KRER	**Koryakskii**	**6.01**	**265**	*e*P	**Pn**	**17 35 37.7**	**+1.2**
KRER				*e*S	**Sn**	**17 36 43.7**	**-1.1**
AVH	**Avacha**	**6.03**	**265**	*e*P	**Pn**	**17 35 37.6**	**+1.0**
KRX	**Arik**	**6.06**	**266**	*e*P	**Pn**	**17 35 38.0**	**+0.9**
KOK	**Koryaka**	**6.08**	**265**	*e*P	**Pn**	**17 35 38.2**	**+0.8**
RUS	**Russkaya**	**6.40**	**258**	*e*P	**Pn**	**17 35 41.9**	**+0.3**
GNL	**Ganaly**	**6.41**	**270**	*e*P	**Pn**	**17 35 43.5**	**+1.5**
MTVR	**Mutnovka**	**6.57**	**259**	P	**Pn**	**17 35 44.8**	**+0.6**
MTVR				*e*S	**Sn**	**17 36 56.0**	**-2.5**
PETK	**Petropavlovsk-**	**6.67**	**265**	Pn	**Pn**	**17 35 47.6**	**+2.1**
	1.0nm,0.3s,baz=98,slow=18,SNR=12						
PETK				Sn	**Sn**	**17 37 01.4**	**+0.5**
	0.7nm,0.3s,baz=248,slow=18,SNR=5.7						
PETK				LR	LR	17 38 26.2	
	comp=Z,20nm,20.1s,baz=98,slow=38						
ILAR	**Eielson Array**	**24.32**	**47**	P	**P**	**17 39 22.6**	**-2.0**
	0.3nm,0.6s,baz=251,slow=6.9,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**34.45**	**183**	T	T	18 17 23.4	
	baz=2.2,slow=76,SNR=122						
H11N3	**WAKE ISLAND Hy**	**34.46**	**183**	T	T	18 17 21.9	
	baz=2.2,slow=76,SNR=104						
H11N1	**WAKE ISLAND Hy**	**34.47**	**183**	T	T	18 17 24.8	
	baz=2.2,slow=76,SNR=128						
H11S1	**WAKE ISLAND Hy**	**35.67**	**183**	T	T	18 18 57.4	
	baz=2.1,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy**	**35.69**	**183**	T	T	18 18 54.3	
	baz=2.1,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**35.69**	**183**	T	T	18 18 55.8	
	baz=2.1,slow=76,SNR=40						
SONM	**Songino Array**	**38.60**	**287**	P	**P**	**17 41 31.4**	**+1.3**
	0.4nm,0.6s,baz=63,slow=8.2,SNR=3.8						
YKA	**Yellowknife Ar**	**38.75**	**46**	P	**P**	**17 41 29.8**	**-1.2**
	0.1nm,0.3s,baz=290,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**52.20**	**300**	P	**P**	**17 43 17.4**	**-0.3**
	0.2nm,0.7s,baz=61,slow=6.8,SNR=2.7						
TXAR	**Lajitas Array**	**65.40**	**74**	P	**P**	**17 44 49.6**	**-0.1**
	0.2nm,0.6s,baz=299,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**79.55**	**213**	P	**P**	**17 46 14.8**	**+0.9**
	0.8nm,0.9s,baz=31,slow=5.8,SNR=4.6						
ASAR	**Alice Springs**	**83.18**	**212**	P	**P**	**17 46 34.7**	**+1.7**
	0.8nm,0.9s,baz=24,slow=4.6,SNR=7.9						

*CSEM **18** 17:37:07.8±0.1,43˚.46N×12˚.42E,h8km,ML2.8/19,Error ellipse: s-maj=2.5km s-min=2.0km az=17.0*
*LDG **18** 17:37:09.0±0.1,43˚.44N×12˚.52E,h10km,Ml2.5/10,Error ellipse: s-maj=3.0km s-min=2.6km az=38.0*

ROM 18 17:37:07.2±0.0,43˚.48N×12˚.41E,h8km,Ml2.6/24,2C-2D, Error ellipse: s-maj=0.7km s-min=0.5km az=18.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPC	**Poggio Castell**	**0.03**	**89**	Pg	Pg	17 37 09.0	+0.1
ATPC				Sg	Sg	17 37 10.2	+0.1
	14µm,0.6s						
ATPC	**Poggio Castell**	**0.03**	**89**	Pg	Pg	17 37 09.0	+0.1
ATPC				Sg	Sg	17 37 10.2	+0.1
	14µm,0.6s						
ATVO	**AVT- Monte Val**	**0.10**	**182**	Pg	Pg	17 37 10.1	+0.5
ATVO				Sg	Sg	17 37 12.1	+0.7
	4µm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**182**	Pg	Pg	17 37 10.1	+0.5
ATVO				Sg	Sg	17 37 12.1	+0.7
	4µm,0.3s						
PIEI	**Pieia**	**0.11**	**58**	Pg	Pg	17 37 10.1	+0.3
PIEI				Sg	Sg	17 37 12.2	+0.6
	3µm,0.2s						
PIEI	**Pieia**	**0.11**	**58**	Pg	Pg	17 37 10.1	+0.3
PIEI				Sg	Sg	17 37 12.2	+0.6
	3µm,0.2s						
BADI	**Badiali**	**0.13**	**284**	Pg	Pg	17 37 10.5	+0.4
BADI				Sg	Sg	17 37 12.8	+0.8
BADI	**Badiali**	**0.13**	**284**	Pg	Pg	17 37 10.5	+0.4
BADI				Sg	Sg	17 37 12.8	+0.8
CDCA	**Citt' di Caste**	**0.13**	**261**	Pg	Pg	17 37 10.6	+0.5
CDCA				Sg	Sg	17 37 13.1	+1.0
	4µm,0.6s						
CDCA	**Citt' di Caste**	**0.13**	**261**	Pg	Pg	17 37 10.6	+0.5
CDCA				Sg	Sg	17 37 13.1	+1.0
	4µm,0.6s						
ATFO	**Monte Foce - G**	**0.16**	**134**	Pg	Pg	17 37 11.1	+0.3
ATFO				Sg	Sg	17 37 14.4	+1.2
	966nm,0.6s						
ATFO	**Monte Foce - G**	**0.16**	**134**	Pg	Pg	17 37 11.1	+0.3
ATFO				Sg	Sg	17 37 14.4	+1.2
	966nm,0.6s						
PARC	**Parchiule**	**0.21**	**323**	Pg	Pg	17 37 12.0	+0.4
PARC				Sg	Sg	17 37 15.8	+1.3
	2µm,0.4s						
PARC	**Parchiule**	**0.21**	**323**	Pg	Pg	17 37 12.0	+0.4
PARC				Sg	Sg	17 37 15.8	+1.3
	2µm,0.4s						
MURB	**Monte Urbino**	**0.23**	**159**	Pg	Pg	17 37 12.5	+0.5
MURB				Sg	Sg	17 37 16.7	+1.5
	3µm,0.2s						
MURB	**Monte Urbino**	**0.23**	**159**	Pg	Pg	17 37 12.5	+0.5
MURB				Sg	Sg	17 37 16.7	+1.5
	3µm,0.2s						
FSSB	**Fossombrone**	**0.34**	**51**	Pg	Pg	17 37 14.2	+0.2
FSSB				Sg	Sb	17 37 20.4	-0.8
	864nm,0.3s						
FSSB	**Fossombrone**	**0.34**	**51**	Pg	Pg	17 37 14.2	+0.2
FSSB				Sg	Sb	17 37 20.4	-0.8
	864nm,0.3s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	17 37 14.7	+0.4
CAFI				Sg	Sb	17 37 20.8	-0.9
	446nm,0.3s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	17 37 14.7	+0.4
CAFI				Sg	Sb	17 37 20.8	-0.9
	446nm,0.3s						
CRE	**Caprese Michel**	**0.36**	**293**	Pg	Pg	17 37 14.7	+0.2
CRE				Sg	Sg	17 37 20.6	+1.1
	534nm,0.3s						
CRE	**Caprese Michel**	**0.36**	**293**	Pg	Pg	17 37 14.7	+0.2
CRE				Sg	Sg	17 37 20.6	+1.1
	534nm,0.3s						
ARVD	**Arcevia**	**0.39**	**87**	Pg	Pg	17 37 15.1	+0.3
ARVD				Sg	Sb	17 37 21.6	-0.9
	231nm,0.5s						
ARVD	**Arcevia**	**0.39**	**87**	Pg	Pg	17 37 15.1	+0.3
ARVD				Sg	Sb	17 37 21.6	-0.9
	231nm,0.5s						
RSM	**Repubblica di**	**0.45**	**3**	Pg	Pb	17 37 17.3	-0.2
	398nm,0.7s						
RSM	**Repubblica di**	**0.45**	**3**	Pg	Pb	17 37 17.3	-0.2
	398nm,0.7s						
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	17 37 18.6	+0.6
ASQU				Sg	Sb	17 37 27.2	-0.2
	287nm,0.4s						
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	17 37 18.6	+0.6
ASQU				Sg	Sb	17 37 27.2	-0.2
	287nm,0.4s						
PESA	**Pesaro**	**0.56**	**34**	Pg	Pg	17 37 18.5	+0.5
	430nm,0.4s						
PESA	**Pesaro**	**0.56**	**34**	Pg	Pg	17 37 18.5	+0.5
	430nm,0.4s						
CING	**Cingoli**	**0.58**	**100**	Pg	Pg	17 37 18.6	+0.1
CING				Sg	Sb	17 37 27.9	-0.2
	145nm,0.8s						
CING	**Cingoli**	**0.58**	**100**	Pg	Pg	17 37 18.6	+0.1
CING				Sg	Sb	17 37 27.9	-0.2
	145nm,0.8s						
SFI	**Santa Sofia**	**0.59**	**316**	Pg	Pg	17 37 18.9	+0.2
SFI				Sg	Sb	17 37 28.1	-0.3
	140nm,0.3s						
SFI	**Santa Sofia**	**0.59**	**316**	Pg	Pg	17 37 18.9	+0.2
SFI				Sg	Sb	17 37 28.1	-0.3
	140nm,0.3s						
MGAB	**Montegabbione**	**0.61**	**201**	Pg	Pg	17 37 19.2	+0.2
	548nm,0.5s						
MGAB	**Montegabbione**	**0.61**	**201**	Pg	Pg	17 37 19.2	+0.2
	548nm,0.5s						
FDMO	**Fiordimonte**	**0.66**	**132**	Pg	Pg	17 37 20.1	0.0
	72nm,0.2s						
FDMO	**Fiordimonte**	**0.66**	**132**	Pg	Pg	17 37 20.1	0.0
	72nm,0.2s						
SACS	**San Casciano d**	**0.73**	**210**	Pg	Pg	17 37 21.4	0.0
	223nm,0.8s						
CSNT	**Castellina Chi**	**0.82**	**270**	Pg	Pg	17 37 23.1	+0.1
	214nm,0.6s						
CSNT	**Castellina Chi**	**0.82**	**270**	Pg	Pg	17 37 23.1	+0.1
	214nm,0.6s						
NRCA	**Norcia**	**0.83**	**141**	Pg	Pg	17 37 23.2	0.0
	131nm,0.9s						
NRCA	**Norcia**	**0.83**	**141**	Pg	Pg	17 37 23.2	0.0
	131nm,0.9s						
AOI	**Ancona**	**0.87**	**85**	Pg	Pg	17 37 24.2	+0.2
	102nm,0.9s						
AOI	**Ancona**	**0.87**	**85**	Pg	Pg	17 37 24.2	+0.2
	102nm,0.9s						
ARCI	**Arcidosso**	**0.93**	**228**	Pg	Pg	17 37 25.1	-0.1
	125nm,0.9s						
ARCI	**Arcidosso**	**0.93**	**228**	Pg	Pg	17 37 25.1	-0.1
	125nm,0.9s						
LNSS	**Leonessa**	**0.99**	**152**	Pg	Pg	17 37 26.1	-0.3
	125nm,0.7s						
LNSS	**Leonessa**	**0.99**	**152**	Pg	Pg	17 37 26.1	-0.3
	125nm,0.7s						
GUMA	**Gualdo di Mace**	**1.19**	**110**	Pg	Pb	17 37 22.9	-7.1
	463nm,1.0s						
SKDS	**Skadanscina**	**2.36**	**28**	*i* Pn	Pn	17 37 46.5	+0.2
SKDS	**Skadanscina**	**2.36**	**28**	Pn	Pn	17 37 46.5	+0.2
PGF	**Pioggiola**	**2.67**	**251**	*e*Pn	Pn	17 37 51.9	+1.3
PGF				*e*Sn	Sn	17 38 22.9	-0.3
	3.6nm,0.5s						
PGF	**Pioggiola**	**2.67**	**251**	*e*Pn	Pn	17 37 51.9	+1.3
PGF				*e*Sn	Sn	17 38 22.9	-0.3
	1.8nm,0.5s						
CADS	**Cadrg**	**2.91**	**18**	*e*Pn	Pn	17 37 53.9	+0.1
CADS				*e*Sn	Sn	17 38 30.5	+1.6
CADS	**Cadrg**	**2.91**	**18**	*e*Pn	Pn	17 37 53.8	0.0
CADS				*e*Sn	Sn	17 38 30.5	+1.6
ABTA	**Abfaltersbach**	**3.27**	**1**	⇑*i*Pn	Pn	17 38 00.1	+1.3
ABTA	**Abfaltersbach**	**3.27**	**1**	Pn	Pn	17 38 00.1	+1.3
SBF	**Sospel**	**3.63**	**278**	*e*Pn	Pn	17 38 05.0	+1.2
SBF				*e*Sn	Sn	17 38 45.4	-1.5
	6.3nm,0.4s						
SBF	**Sospel**	**3.63**	**278**	*e*Pn	Pn	17 38 05.0	+1.2
SBF				*e*Sn	Sn	17 38 45.4	-1.5
	3.2nm,0.4s						
FETA	**Feichten**	**3.73**	**342**	⇓*i*Pn	Pn	17 38 08.3	+3.0
FETA	**Feichten**	**3.73**	**342**	Pn	Pn	17 38 08.3	+3.0
FRF	**La Foret Royal**	**4.19**	**273**	*e*Pn	Pn	17 38 12.6	+1.2
FRF				*e*Sn	Sn	17 38 59.0	-1.6
	0.9nm,0.3s						
FRF	**La Foret Royal**	**4.19**	**273**	*e*Pn	Pn	17 38 12.6	+1.2
FRF				*e*Sn	Sn	17 38 59.0	-1.6
	0.4nm,0.3s						
DAVA	**Damuels**	**4.20**	**336**	⇑*i*Pn	Pn	17 38 15.0	+3.3
DAVA	**Damuels**	**4.20**	**336**	Pn	Pn	17 38 15.0	+3.2
MBDF	**Montbardon**	**4.25**	**289**	*e*Pn	Pn	17 38 13.3	+0.9
MBDF	**Montbardon**	**4.25**	**289**	*e*Pn	Pn	17 38 13.3	+0.9
LMR	**La Mourre**	**4.30**	**270**	*e*Pn	Pn	17 38 14.0	+1.1
LMR	**La Mourre**	**4.30**	**270**	*e*Pn	Pn	17 38 14.0	+1.1
LPG	**La Plagne**	**4.53**	**298**	*e*Pn	Pn	17 38 17.2	+0.9
LPG				*e*Sn	Sn	17 39 07.2	-2.2
	1.0nm,0.4s						
LPG	**La Plagne**	**4.53**	**298**	*e*Pn	Pn	17 38 17.2	+0.9
LPG				*e*Sn	Sn	17 39 07.2	-2.2
	0.5nm,0.4s						
LPL	**La Plagne**	**4.54**	**299**	*e*Pn	Pn	17 38 17.4	+0.9
LPL				*e*Sn	Sn	17 39 07.5	-2.2
	1.0nm,0.3s						
LPL	**La Plagne**	**4.54**	**299**	*e*Pn	Pn	17 38 17.4	+0.9
LPL				*e*Sn	Sn	17 39 07.5	-2.2
	0.5nm,0.3s						
MOA	**Molln**	**4.56**	**16**	⇓*i*Pn	Pn	17 38 17.2	+0.7
MOA	**Molln**	**4.56**	**16**	Pn	Pn	17 38 17.2	+0.7
ORIF	**Oris-en-Rattie**	**4.91**	**289**	*e*Pn	Pn	17 38 22.3	+0.9
ORIF	**Oris-en-Rattie**	**4.91**	**289**	*e*Pn	Pn	17 38 22.3	+0.9
SMRF	**Simiane la Rot**	**4.98**	**278**	*e*Pn	Pn	17 38 23.4	+1.1
SMRF	**Simiane la Rot**	**4.98**	**278**	*e*Pn	Pn	17 38 23.4	+1.1
CABF	**La Chapelle**	**5.47**	**307**	*e*Pn	Pn	17 38 29.7	+0.7
CABF				*e*Sn	Sn	17 39 29.4	-2.7
	0.3nm,0.2s						
CABF	**La Chapelle**	**5.47**	**307**	*e*Pn	Pn	17 38 29.7	+0.7
HINF	**Hinteralfeld**	**5.83**	**320**	*e*Pn	Pn	17 38 34.6	+0.7
HINF				*e*Sn	Sn	17 39 37.8	-3.2
	2.8nm,0.5s						
HINF	**Hinteralfeld**	**5.83**	**320**	*e*Pn	Pn	17 38 34.6	+0.7
CDF	**Champ du Feu**	**6.09**	**326**	*e*Pn	Pn	17 38 38.7	+1.1
CDF				*e*Sn	Sn	17 39 44.4	-3.2
	0.9nm,0.3s						
CDF	**Champ du Feu**	**6.09**	**326**	*e*Pn	Pn	17 38 38.7	+1.1
HAU	**Haudompre**	**6.20**	**319**	*e*Pn	Pn	17 38 39.7	+0.7
HAU				*e*Sn	Sn	17 39 47.0	-3.1
	3.0nm,0.3s						
HAU	**Haudompre**	**6.20**	**319**	*e*Pn	Pn	17 38 39.7	+0.7

*CSEM **18** 17:37:42.5,43˚.49N×12˚.42E,h9km,ML1.6/10*

ROM 18 17:37:42.5±0.0,43˚.49N×12˚.42E,h9km,Ml1.6/10,Error ellipse: s-maj=0.4km s-min=0.3km az=24.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPC	**Poggio Castell**	**0.03**	**99**	Pg	Pg	17 37 44.5	+0.2
ATPC				Sg	Sg	17 37 45.7	+0.2
	879nm,0.6s						
ATPC	**Poggio Castell**	**0.03**	**99**	Pg	Pg	17 37 44.5	+0.2
ATPC				Sg	Sg	17 37 45.7	+0.2
	879nm,0.6s						
PIEI	**Pieia**	**0.10**	**59**	Pg	Pg	17 37 45.5	+0.4
PIEI				Sg	Sg	17 37 47.5	+0.6
	180nm,0.2s						
PIEI	**Pieia**	**0.10**	**59**	Pg	Pg	17 37 45.5	+0.4
PIEI				Sg	Sg	17 37 47.5	+0.6
	180nm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**185**	Pg	Pg	17 37 45.5	+0.4
ATVO				Sg	Sg	17 37 47.6	+0.7
	189nm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**185**	Pg	Pg	17 37 45.5	+0.4
ATVO				Sg	Sg	17 37 47.6	+0.7
	189nm,0.3s						
BADI	**Badiali**	**0.13**	**281**	Pg	Pg	17 37 45.9	+0.4
BADI				Sg	Sg	17 37 48.3	+0.7
BADI	**Badiali**	**0.13**	**281**	Pg	Pg	17 37 45.9	+0.4
BADI				Sg	Sg	17 37 48.3	+0.7
CDCA	**Citt' di Caste**	**0.14**	**259**	Pg	Pg	17 37 46.1	+0.5
CDCA				Sg	Sg	17 37 48.6	+0.9
	232nm,0.6s						
CDCA

*CSEM **18** 17:58:53.9, 43°.48N × 12°.41E, h9km, MD2.5/24*
ROM 18 17:58:53.9±0.1, 43°.48N×12°.41E, h9km, Md2.5/24, Ml2.1/23, Error ellipse: s-maj=0.8km s-min=0.6km az=10.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPC	**Poggio Castell**	**0.03**	**95**	Pg	Pg	17 58 55.9	+0.2
ATPC				Sg	Sg	17 58 57.1	+0.2
	1μm,0.3s						
ATPC	**Poggio Castell**	**0.03**	**95**	Pg	Pg	17 58 55.9	+0.2
ATPC				Sg	Sg	17 58 57.1	+0.2
	1μm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**181**	Pg	Pg	17 58 56.9	+0.4
ATVO				Sg	Sg	17 58 59.0	+0.7
	1μm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**181**	Pg	Pg	17 58 56.9	+0.4
ATVO				Sg	Sg	17 58 59.0	+0.7
	1μm,0.3s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	17 58 56.9	+0.4
PIEI				Sg	Sg	17 58 59.2	+0.8
	2μm,0.4s						
PIEI	**Pieia**	**0.10**	**60**	Pg	Pg	17 58 56.9	+0.4
PIEI				Sg	Sg	17 58 59.2	+0.8
	2μm,0.4s						
BADI	**Badiali**	**0.12**	**282**	Pg	Pg	17 58 57.2	+0.4
BADI				Sg	Sg	17 58 59.6	+0.8
	2μm,0.2s						
BADI	**Badiali**	**0.12**	**282**	Pg	Pg	17 58 57.2	+0.4
BADI				Sg	Sg	17 58 59.6	+0.8
	2μm,0.2s						
CDCA	**Citt' di Caste**	**0.13**	**259**	Pg	Pg	17 58 57.4	+0.6
CDCA				Sg	Sg	17 58 59.9	+1.0
	875nm,0.6s						
CDCA	**Citt' di Caste**	**0.13**	**259**	Pg	Pg	17 58 57.4	+0.6
CDCA				Sg	Sg	17 58 59.9	+1.0
	875nm,0.6s						
ATFO	**Monte Foce - G**	**0.17**	**135**	Pg	Pg	17 58 58.0	+0.4
ATFO				Sg	Sg	17 59 01.1	+1.0
	526nm,0.5s						
ATFO	**Monte Foce - G**	**0.17**	**135**	Pg	Pg	17 58 58.0	+0.4
ATFO				Sg	Sg	17 59 01.1	+1.0
	526nm,0.5s						
PARC	**Parchiule**	**0.21**	**323**	Pg	Pg	17 58 58.7	+0.5
PARC				Sg	Sg	17 59 02.8	+1.6
	398nm,0.2s						
PARC	**Parchiule**	**0.21**	**323**	Pg	Pg	17 58 58.7	+0.5
PARC				Sg	Sg	17 59 02.8	+1.6
	398nm,0.2s						
MURB	**Monte Urbino**	**0.24**	**159**	Pg	Pg	17 58 59.5	+0.7
MURB				Sg	Sg	17 59 03.8	+1.7
	1μm,0.3s						
MURB	**Monte Urbino**	**0.24**	**159**	Pg	Pg	17 58 59.5	+0.7
MURB				Sg	Sg	17 59 03.8	+1.7
	1μm,0.3s						
FSSB	**Fossombrone**	**0.34**	**52**	Pg	Pg	17 59 01.0	+0.3
FSSB				Sg	Sb	17 59 07.0	-0.8
	287nm,0.4s						
FSSB	**Fossombrone**	**0.34**	**52**	Pg	Pg	17 59 01.0	+0.3
FSSB				Sg	Sb	17 59 07.0	-0.8
	287nm,0.4s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	17 59 01.5	+0.5
CAFI				Sg	Sb	17 59 08.0	-0.3
	184nm,0.3s						
CAFI	**Castiglion Fio**	**0.36**	**245**	Pg	Pg	17 59 01.5	+0.5
CAFI				Sg	Sb	17 59 08.0	-0.3
	184nm,0.3s						
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pg	17 59 01.4	+0.2
CRE				Sg	Sg	17 59 07.3	+1.2
	134nm,0.3s						
CRE	**Caprese Michel**	**0.36**	**292**	Pg	Pg	17 59 01.4	+0.2
CRE				Sg	Sg	17 59 07.3	+1.2
	134nm,0.3s						
ARVD	**Arcevia**	**0.39**	**88**	Pg	Pg	17 59 01.9	+0.3
ARVD				Sg	Sb	17 59 08.4	-0.7
	83nm,0.5s						
ARVD	**Arcevia**	**0.39**	**88**	Pg	Pg	17 59 01.9	+0.3
ARVD				Sg	Sb	17 59 08.4	-0.7
	83nm,0.5s						
RSM	**Repubblica di**	**0.45**	**4**	Pg	Pb	17 59 04.1	0.0
	114nm,0.9s						
RSM	**Repubblica di**	**0.45**	**4**	Pg	Pb	17 59 04.1	0.0
	114nm,0.9s						
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	17 59 05.0	+0.3
	64nm,0.3s						
ASQU	**Asqua**	**0.55**	**305**	Pg	Pg	17 59 05.0	+0.3
	64nm,0.3s						
PESA	**Pesaro**	**0.55**	**34**	Pg	Pg	17 59 05.2	+0.5
PESA				Sg	Sb	17 59 14.4	+0.5
	135nm,0.2s						
PESA	**Pesaro**	**0.55**	**34**	Pg	Pg	17 59 05.2	+0.5
PESA				Sg	Sb	17 59 14.4	+0.5
	135nm,0.2s						
CING	**Cingoli**	**0.58**	**100**	Pg	Pg	17 59 05.3	0.0
	42nm,0.5s						
CING	**Cingoli**	**0.58**	**100**	Pg	Pg	17 59 05.3	0.0
	42nm,0.5s						
SFI	**Santa Sofia**	**0.59**	**316**	Pg	Pg	17 59 05.2	-0.1
	35nm,0.3s						
SFI	**Santa Sofia**	**0.59**	**316**	Pg	Pg	17 59 05.2	-0.1
	35nm,0.3s						
CESI	**CESI - Serrava**	**0.60**	**143**	Pg	Pg	17 59 05.8	+0.2
	7.0nm,0.4s						
CESI	**CESI - Serrava**	**0.60**	**143**	Pg	Pg	17 59 05.8	+0.2
	7.0nm,0.4s						
MGAB	**Montegabbione**	**0.61**	**201**	Pg	Pg	17 59 06.0	+0.2
MGAB				Sg	Sb	17 59 15.8	+0.2
	263nm,0.6s						
MGAB	**Montegabbione**	**0.61**	**201**	Pg	Pg	17 59 06.0	+0.2
MGAB				Sg	Sb	17 59 15.8	+0.2
	263nm,0.6s						
FDMO	**Fiordimonte**	**0.67**	**132**	Pg	Pg	17 59 06.8	-0.1
	32nm,0.8s						
FDMO	**Fiordimonte**	**0.67**	**132**	Pg	Pg	17 59 06.8	-0.1
	32nm,0.8s						
SACS	**San Casciano d**	**0.73**	**210**	Pg	Pg	17 59 08.3	+0.2
	61nm,0.8s						
CSNT	**Castellina Chi**	**0.81**	**270**	Pg	Pg	17 59 09.9	+0.2
	51nm,0.6s						
CSNT	**Castellina Chi**	**0.81**	**270**	Pg	Pg	17 59 09.9	+0.2
	51nm,0.6s						
NRCA	**Norcia**	**0.83**	**141**	Pg	Pg	17 59 09.8	-0.2
	26nm,0.6s						
NRCA	**Norcia**	**0.83**	**141**	Pg	Pg	17 59 09.8	-0.2
	26nm,0.6s						
ARCI	**Arcidosso**	**0.93**	**228**	Pg	Pg	17 59 11.5	-0.5
	26nm,0.7s						
ARCI	**Arcidosso**	**0.93**	**228**	Pg	Pg	17 59 11.5	-0.5
	26nm,0.7s						

*ISCJB **18** 18:06:22.9±0.2, 43°.66N±0°.01×105°.25W±0°.02, h0km, mb4.4/2, MS3.3/1, Error ellipse: s-maj=1.9km s-min=1.8km az=8.0*
*IDC **18** 18:06:22.2±1.8, 43°.57N×105°.32W, h0km, mb4.0/2, mb1 3.7/6, mb1mx3.4/31, mbtmp3.5/6, ML3.3/4, MS3.0/2, Ms1 3.0/2, ms1mx2.4/48, Error ellipse: s-maj=46.4km s-min=7.6km az=150.0*
*NEIC **18** 18:06:23.9±2.5, 43°.63N×105°.19W, h1km±23km, ML3.6, Error ellipse: s-maj=9.1km s-min=7.3km az=52.0, Suspected Mining explosion.*
NEIC 75 km [50 miles] SSE of Gillette.
ISC 18 18:06:23.4±0.6, 43°.68N±0°.02×105°.25W±0°.02, h0km, n113, σ1§40/134, 39C-45D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.33**	**331**	⇑P	**Pg**	**18 06 29.6**	**0.0**
	baz=0.4,SNR=46						
J23A	**Dilts Ranch, B**	**0.35**	**219**	⇓P	**Pg**	**18 06 30.0**	**-0.2**
	baz=0.3,SNR=574						
I24A	**Kuemmerle Ranc**	**0.48**	**68**	⇑P	**Pb**	**18 06 33.7**	**-1.3**
	baz=0.5,SNR=364						
J24A	**Dixon Ranch, L**	**0.55**	**129**	⇓P	**Pg**	**18 06 34.1**	**+0.2**
	baz=0.5,SNR=169						
H23A	**Clabaugh Cattl**	**0.89**	**353**	P	**Pg**	**18 06 40.5**	**0.0**
	baz=0.9,SNR=14						
H23A				⇓S	**Sg**	**18 06 52.5**	**+0.3**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.92**	**284**	P	**Pg**	**18 06 40.4**	**-0.8**
	baz=1.0,SNR=266						
I22A				⇓S	**Sg**	**18 06 52.2**	**-0.9**
	baz=1.0						
J22A	**Midwest**	**0.94**	**254**	P	**Pg**	**18 06 40.1**	**-1.2**
	baz=1.0,SNR=106						
J22A				⇑S	**Sg**	**18 06 52.6**	**-0.9**
	baz=1.0						
K23A	**Bowen Ranch, D**	**0.96**	**197**	⇓P	**Pg**	**18 06 41.2**	**-0.7**
	baz=0.9						
K23A				⇑S	**Sg**	**18 06 53.5**	**-0.8**
	baz=0.9						
RSSD	**Black Hills**	**0.98**	**63**	*e*Pg	**Pb**	**18 06 42.5**	**-1.0**
K24A	**Anderson Ranch**	**1.00**	**162**	⇑P	**Pg**	**18 06 42.1**	**-0.6**
	baz=1.0,SNR=23						
K24A				⇓S	**Sb**	**18 06 56.0**	**-1.6**
	baz=1.0						
J25A	**Sunshine Ranch**	**1.09**	**105**	⇓P	**Pb**	**18 06 44.0**	**-1.2**
	baz=1.0,SNR=56						
J25A				⇑S	**Sb**	**18 06 59.4**	**-0.6**
	baz=1.0						
I25A	**Rochford**	**1.15**	**72**	⇑P	**Pg**	**18 06 45.0**	**-0.4**
	baz=1.1,SNR=153						
I25A				⇑S	**Sn**	**18 07 02.0**	**-1.5**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.18**	**25**	P	**Pg**	**18 06 45.5**	**-0.5**
	baz=1.2,SNR=143						
H24A				⇑S	**Sb**	**18 07 02.9**	**+0.2**
	baz=1.2						
H22A	**Clearmont**	**1.22**	**319**	⇓P	**Pg**	**18 06 45.3**	**-1.4**
	baz=1.3,SNR=86						
K22A	**Casper**	**1.39**	**223**	⇑P	**Pn**	**18 06 48.1**	**-2.1**
	baz=1.4,SNR=29						
K22A	**Casper**	**1.39**	**223**	*e*Pn	**Pn**	**18 06 48.0**	**-2.3**
K22A				*e*Sn	**Sn**	**18 07 10.4**	**+1.1**
K25A	**Mack Ranch, Ha**	**1.46**	**136**	⇓Pb	**Pb**	**18 06 51.0**	**-0.7**
	baz=1.4,SNR=46						
K25A				⇓S	**Sn**	**18 07 11.7**	**+0.5**
	baz=1.4						
I21A	**Big Trails, Te**	**1.49**	**276**	⇓P	**Pn**	**18 06 49.7**	**-1.9**
	baz=1.5,SNR=211						
I21A				⇑S	**Sn**	**18 07 10.8**	**-1.0**
	baz=1.5						
H25A	**Fruitdale**	**1.52**	**51**	⇓Pb	**Pb**	**18 06 52.2**	**-0.3**
	baz=1.5,SNR=78						
H25A				⇓S	**Sn**	**18 07 13.2**	**+0.8**
	baz=1.5						
G23A	**Biddle**	**1.53**	**356**	⇓P	**Pn**	**18 06 51.6**	**-0.6**
	baz=1.6,SNR=110						
G23A				⇓S	**Sn**	**18 07 13.1**	**+0.3**
	baz=1.6						
L23A	**Garrett**	**1.60**	**192**	⇑P	**Pn**	**18 06 51.8**	**-1.4**
	baz=1.6,SNR=192						
L23A				⇓Sb	**Sg**	**18 07 15.0**	**+0.3**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.61**	**307**	⇑P	**Pn**	**18 06 52.2**	**-1.0**
	baz=1.7,SNR=47						
J26A	**Sides Ranch, S**	**1.62**	**102**	⇓Pb	**Pb**	**18 06 53.4**	**-0.9**
	baz=1.6,SNR=31						
J21A	**Lysite**	**1.64**	**259**	⇓P	**Pn**	**18 06 52.2**	**-1.5**
	baz=1.7,SNR=184						
J21A				⇓S	**Sn**	**18 07 14.4**	**-1.1**
	baz=1.7						
L24A	**Wheatland**	**1.65**	**172**	⇑Pb	**Pn**	**18 06 53.2**	**-0.6**
	baz=1.6,SNR=28						
L24A				⇑S	**Sg**	**18 07 15.6**	**-0.8**
	baz=1.6						
G22A	**Birney**	**1.71**	**334**	⇓Pb	**Pn**	**18 06 55.1**	**+0.4**
	baz=1.8,SNR=100						
G24A	**Alzada**	**1.75**	**19**	⇓Pb	**Pn**	**18 06 56.0**	**+0.8**
	baz=1.8,SNR=15						
I26A	**New Underwood**	**1.76**	**78**	⇓Pb	**Pb**	**18 06 56.3**	**-0.4**
	baz=1.7,SNR=21						
L25A	**Engebretsen Ra**	**1.79**	**148**	⇓Pb	**Pb**	**18 06 56.5**	**-0.7**
	baz=1.7,SNR=43						
K26A	**Motz Farm, Whi**	**1.80**	**122**	⇑Pb	**Pb**	**18 06 56.7**	**-0.6**
	baz=1.7						
K21A	**Alcova**	**1.80**	**235**	⇑P	**Pn**	**18 06 55.4**	**-0.5**
	baz=1.8,SNR=288						
K21A				⇓S	**Sn**	**18 07 19.4**	**-0.2**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.86**	**208**	⇑P	**Pn**	**18 06 56.5**	**-0.3**
	baz=1.8,SNR=95						
G25A	**Newell**	**2.00**	**40**	⇓Pb	**Pb**	**18 07 00.1**	**-0.7**
	baz=2.0						
H26A	**Fairpoint**	**2.01**	**61**	⇓Pb	**Pb**	**18 07 00.9**	**-0.1**
	baz=2.0,SNR=8.1						
F23A	**Volborg**	**2.05**	**357**	⇓P	**Pn**	**18 06 59.6**	**+0.3**
	baz=2.1,SNR=165						
J20A	**Shoshoni**	**2.09**	**262**	⇓Pb	**Pn**	**18 07 01.2**	**+1.3**
	baz=2.1,SNR=243						
G21A	**Lodge Grass**	**2.09**	**318**	⇓P	**Pn**	**18 06 59.9**	**0.0**
	baz=2.1,SNR=40						
I20A	**Worland**	**2.10**	**278**	⇑P	**Pn**	**18 06 59.8**	**-0.3**
	baz=2.1,SNR=126						
H20A	**Greybull**	**2.14**	**293**	⇓P	**Pn**	**18 07 00.6**	**0.0**
	baz=2.2,SNR=13						
F22A	**Rosebud**	**2.22**	**341**	⇑P	**Pn**	**18 07 01.6**	**0.0**
	baz=2.3						
M24A	**Cheyenne**	**2.23**	**172**	⇓Pb	**Pb**	**18 07 03.6**	**-1.1**
	baz=2.2,SNR=38						
M23A	**Laramie**	**2.23**	**189**	⇑Pb	**Pb**	**18 07 03.4**	**-1.4**
	baz=2.2,SNR=15						
F24A	**Ekalaka**	**2.24**	**14**	⇑P	**Pn**	**18 07 02.5**	**+0.5**
	baz=2.3,SNR=15						
L26A	**Underwood Farm**	**2.29**	**135**	⇓P	**Pn**	**18 07 03.4**	**+0.9**
	baz=2.2						
J27A	**Elkhorn Farm,**	**2.40**	**99**	⇓Pb	**Pb**	**18 07 07.1**	**-0.4**
	baz=2.3						
K27A	**Flueckinger Fa**	**2.41**	**113**	⇑Pb	**Pb**	**18 07 07.0**	**-0.6**
	baz=2.3						
M25A	**Palm-Egli Farm**	**2.41**	**158**	⇓P	**Pb**	**18 07 05.6**	**-2.2**
	baz=2.4,SNR=10						
M22A	**Cedar Creek Ra**	**2.48**	**204**	⇑P	**Pn**	**18 07 06.2**	**+0.9**
	baz=2.5,SNR=248						
F25A	**Bowman**	**2.58**	**29**	⇓P	**Pn**	**18 07 08.4**	**+1.8**
	baz=2.6,SNR=13						
G20A	**Bridger**	**2.63**	**307**	P	**Pn**	**18 07 06.6**	**-0.6**
	baz=2.7,SNR=97						
J19A	**Crowheart**	**2.80**	**263**	⇑P	**Pn**	**18 07 10.5**	**+0.8**
	baz=2.8,SNR=130						
E22A	**Miles City**	**2.81**	**350**	⇑P	**Pn**	**18 07 09.1**	**-0.5**
	baz=2.9,SNR=9.5						
N23A	**Red Feather La**	**2.83**	**191**	⇑P	**Pn**	**18 07 10.4**	**+0.3**
	baz=2.8,SNR=59						
H19A	**Powell**	**2.87**	**292**	P	**Pn**	**18 07 10.9**	**+0.3**
	baz=2.9,SNR=40						
G27A	**Dupree**	**2.92**	**53**	⇑P	**Pn**	**18 07 12.1**	**+0.9**
	baz=2.9,SNR=8.4						
E24A	**Baker**	**2.96**	**13**	⇑P	**Pn**	**18 07 12.9**	**+1.1**
	baz=3.0,SNR=17						
F20A	**Billings**	**2.96**	**317**	⇑P	**Pn**	**18 07 11.3**	**-0.6**
	baz=3.0,SNR=16						
E25A	**Miller Ranch,**	**3.11**	**24**	⇓P	**Pn**	**18 07 15.8**	**+1.9**
	baz=3.1						
F27A	**Lemmon**	**3.18**	**45**	⇑P	**Pn**	**18 07 14.4**	**-0.3**
	baz=3.2						
RLMT	**Red Lodge**	**3.23**	**298**	*e*Pn	**Pn**	**18 07 15.5**	**0.0**
RLMT				*e*Sn	**Sn**	**18 07 57.5**	**+2.8**
BW06	**Boulder Array**	**3.28**	**255**	*e*Pn	**Pn**	**18 07 16.8**	**+0.4**
BW06				*e*Pg	Pg	18 07 31.5	+5.1
BW06				*e*Sn	**Sn**	**18 07 58.9**	**+2.7**
PDAR	**Pinedale Array**	**3.28**	**255**	Pn	**Pn**	**18 07 16.2**	**-0.1**
	2.5nm,0.3s,baz=78,slow=15,SNR=47						
PDAR				Lg	Lg	18 08 02.1	
	20nm,0.3s,baz=69,slow=32,SNR=12						
F19A	**Roth Farm, Mol**	**3.42**	**311**	⇑P	**Pn**	**18 07 18.1**	**+0.1**
	baz=3.5,SNR=66						
D23A	**Lindsay**	**3.50**	**0**	⇓P	**Pn**	**18 07 18.4**	**-0.7**
	baz=3.5						
O23A	**Lake Granby, G**	**3.50**	**188**	⇓P	**Pn**	**18 07 21.2**	**+1.8**
	baz=3.5,SNR=17						
OGNE	**Ogallala**	**3.62**	**138**	Pn	**Pn**	**18 07 21.7**	**+0.8**
OGNE				*e*Pg	**Pg**	**18 07 34.6**	**+1.7**
O22A	**Kremmling**	**3.64**	**196**	⇑P	**Pn**	**18 07 21.3**	**-0.1**
	baz=3.6,SNR=9.2						
GCMT	**Greycliff**	**3.79**	**305**	*e*Pn	**Pn**	**18 07 24.2**	**+0.9**
GCMT				*e*Sn	**Sn**	**18 08 12.8**	**+4.1**
GCMT				*e*Sg	Sg	18 08 33.6	+8.2
LKWY	**Lake**	**3.82**	**285**	*e*Pn	**Pn**	**18 07 25.7**	**+2.0**
LKWY				*e*Sn	**Sn**	**18 08 12.9**	**+3.5**
ISCO	**Idaho Springs**	**3.88**	**184**	*e*Pn	**Pn**	**18 07 25.3**	**+0.6**
ISCO				*e*Sg	**Sg**	**18 08 31.6**	**+3.4**
C24A	**Savage**	**3.90**	**8**	⇑P	**Pn**	**18 07 25.5**	**+0.9**
	baz=3.9,SNR=20						
H17A	**Grant Village**	**3.91**	**282**	*e*Pn	**Pn**	**18 07 27.1**	**+2.0**
H17A				*e*Pg	Pg	18 07 45.8	+7.4
H17A				*e*Sn	**Sn**	**18 08 15.4**	**+3.7**
C22A	**Vida**	**4.09**	**354**	⇓P	**Pn**	**18 07 28.2**	**+0.8**
	baz=4.1,SNR=23						
C23A	**Lambert**	**4.13**	**1**	⇓P	**Pn**	**18 07 28.2**	**+0.5**
	baz=4.2,SNR=38						
O20A	**White River Ci**	**4.19**	**213**	*e*Pn	**Pn**	**18 07 29.2**	**+0.4**
O20A				*e*Sg	**Sg**	**18 08 43.4**	**+5.5**
YMR	**Madison River**	**4.23**	**286**	*e*Pn	Pn	18 07 32.7	+3.3
YMR				*e*Pg	Pg	18 07 50.4	+5.9
YMR				*e*Sn	**Sn**	**18 08 22.9**	**+3.3**
P26A	**Davis Ranch, A**	**4.35**	**160**	⇑P	**Pn**	**18 07 31.4**	**+0.4**
	baz=4.3,SNR=32						
C20A	**Veseth Ranch,**	**4.48**	**335**	⇓P	**Pn**	**18 07 32.7**	**+0.1**
	baz=4.5,SNR=12						
P27A	**Ficken Ranch,**	**4.58**	**153**	⇑P	**Pn**	**18 07 33.9**	**-0.1**
	baz=4.5,SNR=7.2						
QLMT	**Earthquake Lak**	**4.59**	**287**	Pn	Pn	18 07 38.6	+4.3
QLMT				*e*Sg	Sg	18 08 58.5	+7.6
B23A	**Brockton**	**4.79**	**2**	⇓P	**Pn**	**18 07 37.4**	**+0.5**
	baz=4.8,SNR=11						
B25A	**Knox Farm, Ray**	**4.82**	**17**	⇑P	**Pn**	**18 07 37.9**	**+0.6**
	baz=4.8,SNR=7.9						
DGMT	**Dagmar**	**4.85**	**8**	⇑P	**Pn**	**18 07 39.5**	**+1.8**
	baz=4.9,SNR=16						
DGMT	**Dagmar**	**4.85**	**8**	*e*Pn	**Pn**	**18 07 39.1**	**+1.4**
Q26A	**Hugo**	**4.92**	**164**	⇓P	**Pn**	**18 07 39.2**	**+0.3**
	baz=4.9,SNR=7.1						
BOZ	**Bozeman (W)**	**4.96**	**296**	*e*Pn	**Pn**	**18 07 38.9**	**-0.5**
	5.4nm,0.4s						
KSCO	**Kaye Shedlock'**	**5.06**	**156**	Pn	**Pn**	**18 07 39.5**	**-1.2**
	38nm,0.4s						
KSCO				*e*Pg	Pg	18 08 03.1	+2.7
HWUT	**Hardware Ranch**	**5.10**	**248**	*e*Pn	**Pn**	**18 07 41.7**	**+0.4**
	16nm,0.8s						
TCUT	**Toone Canyon**	**5.23**	**243**	*e*Pn	**Pn**	**18 07 43.4**	**+0.2**
	29nm,0.8s						
DAU	**Daniels Canyon**	**5.54**	**236**	*e*Pn	**Pn**	**18 07 49.8**	**+2.4**
	1.6nm,0.9s						
DAU				*e*Sn	**Sn**	**18 08 54.2**	**+2.3**
R26A	**Arlington**	**5.54**	**165**	⇓P	**Pn**	**18 07 47.3**	**+0.1**
	baz=5.5,SNR=26						
HVU	**Hansel Valley**	**5.86**	**254**	Pn	**Pn**	**18 07 52.6**	**+0.9**
	13nm,0.9s						
SRU	**San Rafael Swe**	**6.05**	**223**	*e*Pn	**Pn**	**18 07 53.3**	**-1.0**
	30nm,1.0s						
S26A	**Kim**	**6.20**	**167**	⇓P	**Pn**	**18 07 55.3**	**-1.0**
	baz=6.2,SNR=19						
ECSD	**EROS Data Cent**	**6.26**	**87**	Pn	**Pn**	**18 07 56.3**	**-0.7**
	4.4nm,0.4s						
TMUT	**Trail Mountain**	**6.26**	**228**	*e*Pn	**Pn**	**18 07 57.9**	**+0.5**
	5.8nm,0.3s						
CHMT	**Chamberlain Mo**	**6.51**	**303**	*e*Pn	**Pn**	**18 08 00.6**	**0.0**
	1.2nm,0.4s						
DUG	**Dugway, Tooele**	**6.63**	**241**	*e*Pn	**Pn**	**18 08 01.6**	**-0.7**
	6.7nm,1.0s						
HLID	**Hailey**	**6.66**	**272**	*e*Pn	**Pn**	**18 08 03.6**	**+1.0**
	13nm,1.4s						
T28A	**Walsh**	**6.97**	**159**	⇑P	**Pn**	**18 08 06.1**	**-0.8**
	baz=6.9,SNR=7.9						
MVU	**Marysvale**	**7.37**	**228**	*e*Pn	**Pn**	**18 08 13.2**	**+0.6**
	18nm,1.2s						
YBMT	**Yellow Bay**	**7.42**	**307**	*e*Pn	**Pn**	**18 08 12.0**	**-1.1**
	3.3nm,0.3s						
JTMT	**Jette**	**7.52**	**306**	*e*Pn	**Pn**	**18 08 15.2**	**+0.8**
	1.0nm,0.3s						
ELK	**Elko**	**7.97**	**252**	Lg	Lg	18 10 30.4	
	0.1nm,0.3s,baz=270,slow=20,SNR=2.4						
ANMO	**Albuquerque**	**8.77**	**187**	Lg	Lg	18 10 57.8	
	0.1nm,0.3s,baz=26,slow=17,SNR=4.0						
I10CA	**LAC DU BONNET**	**9.07**	**41**	*i*		19 01 50.0	
	baz=223,slow=320,SNR=1.2						
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**18 08 35.2**	**-1.7**
	0.9nm,0.3s,baz=238,slow=12,SNR=9.4						
ULM				Sn	**Sn**	**18 10 16.3**	**-4.6**
	0.5nm,0.3s,baz=180,slow=18,SNR=4.0						
ULM				Lg	Lg	18 11 07.3	
	0.5nm,0.3s,baz=128,slow=19,SNR=4.3						
NEW	**Newport**	**9.46**	**303**	Lg	Lg	18 11 11.3	
	0.1nm,0.3s,baz=221,slow=20,SNR=3.1						
NEW				LR	LR	18 13 15.1	
	comp=Z,31nm,18.3s,baz=70,slow=44						
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**18 09 06.4**	**+1.9**
	0.1nm,0.3s,baz=54,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**19.63**	**347**	P	**P**	**18 10 53.9**	**+0.7**
	0.1nm,0.3s,baz=156,slow=11,SNR=7.0						
TEIG	**Tepich**	**27.35**	**143**	LR	LR	18 25 10.6	
	comp=Z,84nm,18.6s,baz=54,slow=41						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**18 16 39.8**	**-1.5**
	4.4nm,1.1s,baz=338,slow=6.8,SNR=4.4						
FINES	**FINESS Array B**	**68.08**	**23**	P	**P**	**18 17 24.4**	**0.0**
	1.6nm,0.9s,baz=270,slow=5.0,SNR=3.5						

IDC 18 18:08:05.4±5.0, 18°.44S×175°.65W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/34, mbtmp4.3/3, Error ellipse: s-maj=158.7km s-min=97.0km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLP	**Quilpie**	**37.81**	**250**	P	P	18 15 24.5	+0.8
	baz=31,SNR=6.4						
STKA	**Stephens Creek**	**40.69**	**242**	P	P	18 15 47.8	0.0
	2.1nm,0.6s,baz=87,slow=8.6,SNR=8.1						
STKA	**Stephens Creek**	**40.69**	**242**	P	P	18 15 47.8	0.0
	baz=34,SNR=7.8						
QIS	**Mount Isa**	**42.13**	**260**	P	P	18 16 02.9	+3.1
	baz=36,SNR=3.6						
BBOO

ML3.1(ECX), After ECX.
*ECX **18** 18:36:16.5±0.6, 32°.29N×115°.34W, h7km, MD2.8, ML3.0*
*MEX **18** 18:36:17.6±0.8, 32°.35N×115°.28W, h13km±9.4km, MD3.5*
ISC 18 18:36:14.8±0.8, 32°29N±0°.02×115°34W±0°.03, h18km±5km, n28, σ0°33/47, 4C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.13**	**12**	*eP*	**Pg**	**18 36 18.8**	**0.0**
CPBX				*eS*	**Sg**	**18 36 21.4**	**-0.1**
CPBX				⇓*e*		18 36 29.0	
CPBX				AML	AML	18 36 29.0	
	comp=N,15μm,0.2s						
CPBX	**Cerro Prieto**	**0.13**	**12**	*eP*	**Pg**	**18 36 18.8**	**0.0**
CPBX				*eS*	**Sg**	**18 36 21.4**	**-0.1**
MBIG	**Mexicali**	**0.16**	**45**	*eP*	**Pg**	**18 36 19.3**	**+0.1**
MBIG				*i S*	**Sg**	**18 36 22.0**	**-0.2**
EMX	**El Mayor**	**0.31**	**165⇓**	*eP*	**Pg**	**18 36 21.6**	**+0.1**
EMX				*eS*	**Sg**	**18 36 25.8**	**-0.3**
EMX	**El Mayor**	**0.31**	**165⇓**	*eP*	**Pg**	**18 36 21.6**	**+0.1**
EMX				*eS*	**Sg**	**18 36 25.8**	**-0.3**
SGL	**Mount Signal**	**0.48**	**317⇓**	*iP*	**Pb**	**18 36 25.1**	**+0.2**
WESC	**Westside Schoo**	**0.57**	**324**	*eP*	**Pb**	**18 36 26.9**	**+0.6**
COA	**Coachella**	**0.60**	**17⇑**	*iP*	**Pb**	**18 36 27.5**	**+0.8**
YUH	**Yuha Desert**	**0.61**	**306⇓**	*iP*	**Pg**	**18 36 27.1**	**+0.1**
RDX	**Rancho Dawling**	**0.63**	**235**	*eP*	**Pb**	**18 36 27.6**	**+0.2**
RDX				*eS*	**Sb**	**18 36 36.2**	**+0.2**
RDX				⇓*e*		18 36 38.4	
	comp=E,569nm,0.3s						
RDX	**Rancho Dawling**	**0.63**	**235**	*eP*	**Pb**	**18 36 27.6**	**+0.2**
RDX				*eS*	**Sb**	**18 36 36.2**	**+0.2**
RMX	**La Rumorosa**	**0.70**	**296**	*eP*	**Pg**	**18 36 28.6**	**0.0**
RMX				*eS*	**Sb**	**18 36 38.4**	**+0.4**
RMX				⇑*e*		18 36 38.9	
RMX				AML	AML	18 36 38.9	
	comp=N,502nm,0.5s						
YMD	**Yuma Desert**	**0.72**	**68⇑**	*iP*	**Pb**	**18 36 29.1**	**+0.3**
ECBX	**El Chinero**	**0.85**	**163**	*eP*	**Pb**	**18 36 31.1**	**0.0**
ECBX				*eS*	**Sg**	**18 36 42.8**	**+0.1**
ECBX				⇑*e*		18 36 43.6	
ECBX				AML	AML	18 36 43.6	
	comp=N,706nm,0.2s						
GLA	**Glamis**	**0.87**	**29**	*e*Pg	**Pb**	**18 36 31.1**	**-0.3**
ZAX	**El Zacaton**	**1.11**	**226**	*eP*	**Pg**	**18 36 36.2**	**-0.2**
ZAX				*eS*	**Sn**	**18 36 50.8**	**+0.3**
CBX	**Cerro Bola**	**1.12**	**271**	*eP*	**Pg**	**18 36 36.5**	**-0.2**
CBX				*i S*	**Sb**	**18 36 49.9**	**-0.3**
CBX	**Cerro Bola**	**1.12**	**271**	*eP*	**Pb**	**18 36 36.3**	**+0.5**
CBX				*eS*	**Sg**	**18 36 51.6**	**+0.2**
CBX				⇓*e*		18 36 53.3	
CBX				AML	AML	18 36 53.3	
	comp=N,324nm,0.5s						
CBX	**Cerro Bola**	**1.12**	**271**	*eP*	**Pb**	**18 36 36.3**	**+0.5**
CBX				*eS*	**Sn**	**18 36 51.1**	**+0.2**
BAR	**Barrett**	**1.20**	**289**	*eP*	**Pb**	**18 36 37.1**	**+0.1**
ECNX	**Esteban Cantu**	**1.25**	**240**	*eP*	**Pb**	**18 36 37.9**	**+0.1**
ECNX				*eS*	**Sg**	**18 36 54.8**	**-0.4**
SPIG	**San Pedro Mart**	**1.25**	**185**	*eP*	**Pn**	**18 36 38.0**	**+0.3**
SPIG				*eS*	**Sn**	**18 36 54.5**	**+0.3**
SPX	**San Pedro Mart**	**1.25**	**185**	*eP*	**Pn**	**18 36 38.0**	**+0.3**
SPX				*eS*	**Sg**	**18 36 54.8**	**-0.5**
SPX	**San Pedro Mart**	**1.25**	**185**	*eP*	**Pn**	**18 36 38.0**	**+0.3**
SPX				*eS*	**Sg**	**18 36 54.9**	**-0.5**
PBX	**Punta Banda**	**1.30**	**245**	*eP*	**Pb**	**18 36 38.9**	**+0.1**
PBX				*eS*	**Sg**	**18 36 56.4**	**-0.6**
PFO	**Pinyon Flats O**	**1.62**	**325**	*e*Pn	**Pn**	**18 36 42.3**	**-0.3**
PFO				*e*Sn	**Sn**	**18 37 02.4**	**-0.6**
214A	**Organ Pipe Nat**	**2.17**	**98**	*e*Pn	**Pn**	**18 36 49.7**	**-0.4**
GSC	**Goldstone, Bar**	**3.24**	**338**	Pn	**Pn**	**18 37 04.3**	**-0.6**

*IDC **18** 18:39:01.0±1.3, 26°.64S×64°.28W, h0km, mb3.7/2, mb1 3.5/6, mb1mx3.5/19, mbtmp3.4/6, ML3.2/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=31.7km s-min=28.9km az=3.0*
*ISCJB **18** 18:39:03.0±0.9, 26°.6S±0°.1×64°.2W±0°.1, h33km, mb3.7/2, MS2.9/1, Error ellipse: s-maj=16.6km s-min=13.9km az=26.5*
ISC 18 18:39:05.6±1.0, 26°7S±0°.1×64°2W±0°.1, h35km, n8, σ0°92/7, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**6.05**	**215**	Pn	**Pn**	**18 40 32.0**	**-0.6**
	0.2nm,0.3s,baz=37,slow=13,SNR=11						
CFAA				Lg	Lg	18 42 08.4	
	0.6nm,0.3s,baz=288,slow=20,SNR=5.2						
CPUP	**Villa Florida**	**6.19**	**88**	Pn	**Pn**	**18 40 34.6**	**+0.1**
	0.1nm,0.3s,baz=260,slow=16,SNR=12						
CPUP				Lg	Lg	18 42 24.4	
	3.2nm,0.3s,baz=163,slow=19,SNR=3.9						
LPAZ	**La Paz**	**10.94**	**340**	Pn	**Pn**	**18 41 40.6**	**+0.3**
	0.1nm,0.3s,baz=180,slow=6.1,SNR=2.8						
LPAZ				Lg	Lg	18 45 04.6	
	0.2nm,0.3s,baz=263,slow=8.1,SNR=5.0						
SIV	**San Ignacio**	**11.02**	**16**	Pn	**Pn**	**18 41 39.5**	**-1.4**
	0.3nm,0.3s,baz=216,slow=13,SNR=3.5						
PTGA	**Pitinga**	**26.11**	**10**	LR	LR	18 54 28.9	
	comp=Z,39nm,20.9s,baz=142,slow=36						
TXAR	**Lajitas Array**	**67.30**	**323**	P	**P**	**18 49 57.1**	**0.0**
	0.4nm,0.9s,baz=120,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**75.24**	**67**	P	**P**	**18 50 46.2**	**+0.9**
	1.6nm,0.8s,baz=246,slow=6.1,SNR=16						
MKAR	**Makanchi Array**	**146.83**	**44**	PKPbc	**PKPbc**	**18 58 44.5**	**+0.5**
	0.7nm,0.6s,baz=299,slow=3.3,SNR=9.3						

*IDC **18** 19:02:48.4±0.9, 33°.98N×69°.98E, h0km, mb3.7/9, mb1 3.7/14, mb1mx3.6/31, mbtmp3.6/14, ML3.4/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/33, Error ellipse: s-maj=21.5km s-min=19.6km az=73.0*
*ISCJB **18** 19:02:50.6±0.5, 33°.79N±0°.04×70°.03E±0°.07, h33km, mb3.6/9, Error ellipse: s-maj=8.7km s-min=4.6km az=152.6*
*NNC **18** 19:02:55.6±2.9, 33°.86N×70°.08E, h79km±33km, mb3.5, mpv4.0, Error ellipse: s-maj=23.2km s-min=21.8km az=87.0*
ISC 18 19:02:52.8±0.8, 33°80N±0°.07×69°98E±0°.08, h35km, n35, σ1°61/40, mb3.6/9, 9C-3D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**5.08**	**350**	⇑Pn	**Pn**	**19 04 08.0**	**+1.4**
	11nm,0.4s						
DZET				⇑Sn	**Sn**	**19 05 07.1**	**+3.1**
	28nm,0.5s						
SFK	**Sufi-Kurgan**	**6.81**	**23**	⇑Pn	**Pn**	**19 04 31.9**	**+1.5**
	5.9nm,0.4s						
SFK				⇑Sn	**Sn**	**19 05 47.2**	**+0.4**
	8.8nm,0.6s						
MNAS	**Manas**	**8.89**	**12**	⇓Pn	Pn	19 05 02.2	+3.3
	4.6nm,1.1s						
MNAS				⇑Sn	**Sn**	**19 06 40.9**	**+2.9**
	2.5nm,0.5s						
KK31	**Karatay Array**	**9.30**	**2**	Pn	**Pn**	**19 05 03.5**	**-0.8**
	2.2nm,0.5s,baz=187,slow=14,SNR=49						
KK31				⇓Sn	**Sn**	**19 06 46.3**	**-1.3**
	2.7nm,0.7s,baz=187,slow=27,SNR=4.4						
AAK	**Ala-Archa**	**9.50**	**21**	⇑Pn	**Pn**	**19 05 09.6**	**+2.3**
	6.2nm,1.3s						
AAK				⇑Sn	**Sn**	**19 06 52.8**	**-0.1**
	5.0nm,0.8s						
AAK	**Ala-Archa**	**9.50**	**21**	Pn	**Pn**	**19 05 06.8**	**-0.5**
	0.6nm,0.3s,baz=187,slow=5.3,SNR=8.6						
AAK				Sn	**Sn**	**19 06 50.7**	**-2.2**
	0.1nm,0.3s,baz=162,slow=20,SNR=2.1						
AAK				LR	LR	19 08 27.8	
	comp=Z,22nm,18.4s,baz=223,slow=36						
TKM2	**Tokmak 2**	**10.11**	**24**	⇑Pn	**Pn**	**19 05 17.1**	**+1.5**
	4.7nm,1.1s						
GEYT	**Alibeck**	**10.47**	**297**	Pn	**Pn**	**19 05 19.2**	**-1.3**
	baz=112,slow=11,SNR=2.1						
DANN	**Dangsing**	**12.99**	**111**	*eP*	**Pn**	**19 05 54.9**	**-0.3**
	5.5nm,0.2s						
KOLN	**Koldanda**	**13.15**	**114**	*eP*	**Pn**	**19 05 58.8**	**+1.5**
	3.8nm,0.3s						
GKN	**Gorkha**	**13.84**	**111**	*eP*	**Pn**	**19 06 05.9**	**-0.8**
	8.4nm,0.5s						
DMN	**Daman**	**14.39**	**111**	*eP*	**Pn**	**19 06 13.4**	**-0.9**
	8.4nm,0.6s						
KKN	**Kakani**	**14.44**	**110**	*eP*	**Pn**	**19 06 13.2**	**-1.7**
	14nm,0.6s						
PKIN	**Phulchoki**	**14.63**	**111**	*eP*	**Pn**	**19 06 16.0**	**-1.6**
	9.9nm,0.4s						
PKI	**Pulchoki**	**14.65**	**111**	*eP*	**Pn**	**19 06 16.0**	**-1.8**
	7.2nm,0.3s						
GUN	**Gumba**	**14.86**	**109**	*eP*	**Pn**	**19 06 18.0**	**-2.6**
	6.3nm,0.4s						
JIRN	**Jiri**	**15.21**	**109**	*eP*	**Pn**	**19 06 24.0**	**-1.4**
	11nm,0.3s						
RAMN	**Ramite**	**15.87**	**111**	*eP*	**Pn**	**19 06 33.3**	**-0.6**
	9.2nm,0.4s						
MK31	**Makanchi Array**	**15.99**	**32**	Pn	**Pn**	**19 06 35.5**	**+0.6**
	0.9nm,0.7s,baz=211,slow=13,SNR=13						
MKAR	**Makanchi Array**	**15.99**	**32**	Pn	**Pn**	**19 06 34.2**	**-0.8**
	0.2nm,0.3s,baz=211,slow=9.4,SNR=12						
MKAR				LR	LR	19 13 08.1	
	comp=Z,26nm,20.6s,baz=202,slow=39						
TAPN	**Taplejung**	**16.56**	**108**	*eP*	**Pn**	**19 06 40.5**	**-2.1**
	3.5nm,0.3s						
AB31	**Akbulak array**	**17.15**	**337**	Pn	**Pn**	**19 06 48.9**	**-0.6**
	0.3nm,0.4s,baz=273,slow=35,SNR=14						
KURBB	**Kurchatov Arra**	**17.94**	**18**	P	**Pn**	**19 06 56.7**	**-2.6**
	0.0nm,0.3s,baz=205,slow=10,SNR=7.5						
BVA0	**Borovoye Array**	**19.22**	**1**	⇑Pn	**P**	**19 07 12.7**	**-1.0**
	1.1nm,0.7s,baz=146,slow=11,SNR=6.4						
BVAR	**Borovoye Array**	**19.22**	**1**	P	**P**	**19 07 13.8**	**+0.1**
	0.3nm,0.3s,baz=166,slow=11,SNR=8.0						
BRVK	**Borovoye**	**19.25**	**1**	⇓Pn	**Pn**	**19 07 16.2**	**+1.0**
	5.3nm,1.2s						
ZALV	**Zalesovo Beam**	**22.71**	**23**	P	**P**	**19 07 48.4**	**-3.0**
	1.0nm,0.4s,baz=224,slow=10,SNR=7.8						
SONM	**Songino Array**	**30.61**	**52**	P	**P**	**19 09 04.4**	**+0.8**
	0.3nm,0.6s,baz=243,slow=6.3,SNR=4.1						
AKASG	**Malin Array Be**	**34.06**	**312**	P	**P**	**19 09 33.6**	**+0.1**
	0.3nm,0.5s,baz=104,slow=8.7,SNR=4.6						
ARCES	**ARCESS Array B**	**43.34**	**330**	P	**P**	**19 10 48.8**	**-2.3**
	6.3nm,1.1s,baz=60,slow=4.9,SNR=4.7						
NOA	**NORSAR Array B**	**46.06**	**325**	P	**P**	**19 11 12.5**	**-0.5**
	0.5nm,0.7s,baz=107,slow=7.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**64.83**	**269**	P	**P**	**19 13 29.8**	**+1.2**
	0.4nm,0.7s,baz=50,slow=5.6,SNR=2.9						
WRA	**Warramunga Arr**	**81.30**	**121**	P	**P**	**19 15 07.2**	**+1.4**
	1.5nm,0.9s,baz=327,slow=5.0,SNR=13						
ASAR	**Alice Springs**	**83.42**	**124**	P	**P**	**19 15 18.3**	**+1.5**
	0.5nm,0.6s,baz=308,slow=5.0,SNR=12						
YKA	**Yellowknife Ar**	**83.97**	**2**	P	**P**	**19 15 19.5**	**+0.5**
	0.1nm,0.5s,baz=350,slow=5.2,SNR=5.6						

*NIED **18** 19:14:00, 40°.80N×143°.20E, h14km, Mw3.6 Best double couple: M0 2.64000×10^14 NP1:φs 239.00000°, δ40.00000°, λ126.00000°. NP2:φs 15.00000°, δ58.00000°, λ63.00000°.*
*JMA **18** 19:14:48.1±0.3, 40°.80N×143°.22E, h9km±4km, M3.7*
*ISCJB **18** 19:14:49.6±0.7, 40°.79N±0°.03×143°.34E±0°.07, h45km±7km, mb3.5/7, Error ellipse: s-maj=9.3km s-min=4.1km az=29.5*
*IDC **18** 19:14:52.6±2.8, 40°.80N×143°.14E, h50km±24km, mb3.3/7, mb1 3.3/10, mb1mx3.2/29, mbtmp3.4/10, ML2.7/3, Error ellipse: s-maj=34.2km s-min=22.9km az=100.0*
ISC 18 19:14:49.8±2.4, 40°82N±0°.04×143°29E±0°06, h28km±17km, n30, σ1°03/37, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.20**	**355**	P	**Pn**	**19 15 10.7**	**-0.1**
JEM				*eS*	**Sb**	**19 15 27.7**	**+0.7**
JTH	**Tanohata**	**1.40**	**232**	P	**Pn**	**19 15 12.9**	**-0.6**
JTH				*eS*	**Sn**	**19 15 30.1**	**-1.0**
JANG	**Nango**	**1.42**	**252**	P	**Pn**	**19 15 12.9**	**-1.0**
JANG				*eS*	**Sn**	**19 15 30.6**	**-1.1**
JNBK	**Urakawa-nobuka**	**1.52**	**345**	P	**Pn**	**19 15 15.4**	**+0.3**
JNBK				*eS*	**Sn**	**19 15 35.4**	**+1.5**
JTM	**Tenmabayashi**	**1.69**	**270**	P	**Pn**	**19 15 17.2**	**-0.3**
JTM				*eS*	**Sn**	**19 15 38.1**	**-0.1**
JOT	**Ohata**	**1.79**	**289**	P	**Pn**	**19 15 18.7**	**-0.1**
JOT				*eS*	**Sn**	**19 15 40.5**	**-0.1**
JCH	**Churui**	**1.79**	**2**	P	**Pn**	**19 15 19.0**	**0.0**
JCH				*eS*	**Sn**	**19 15 40.7**	**-0.1**
JKB	**Kayabe**	**2.01**	**303**	P	**Pn**	**19 15 21.9**	**0.0**
JKB				*eS*	**Sn**	**19 15 47.2**	**+1.2**
JOM	**Ohasama**	**2.04**	**229**	P	**Pn**	**19 15 23.1**	**+0.8**
JOM				*eS*	**Sn**	**19 15 48.2**	**+1.4**
JFR	**Furan**	**2.40**	**348**	P	**Pn**	**19 15 29.5**	**+2.2**
JAK	**Akkeshi**	**2.42**	**25**	P	**Pn**	**19 15 27.4**	**-0.1**
JAK				*eS*	**Sn**	**19 15 55.0**	**-1.1**
JEW	**Eniwo**	**2.44**	**326**	P	**Pn**	**19 15 29.4**	**+1.5**
JEW				*eS*	**Sb**	**19 16 00.9**	**-1.8**
JMK	**Ichinoseki**	**2.45**	**221**	P	**Pn**	**19 15 28.7**	**+0.7**
JMK				*eS*	**Sn**	**19 15 58.5**	**+1.5**
JAR	**Ashorobuto**	**2.50**	**8**	P	**Pn**	**19 15 28.6**	**-0.1**
JAR				*eS*	**Sn**	**19 15 56.7**	**-1.6**
ASAJ	**Asahikawa**	**3.34**	**351**	P	**Pn**	**19 15 41.5**	**+1.4**
	0.8nm,0.3s,baz=222,slow=16,SNR=21						
MJAR	**Matsushiro Arr**	**5.83**	**225**	P	**Pn**	**19 16 15.7**	**+1.2**
	0.4nm,0.3s,baz=29,slow=15,SNR=8.5						
USRK	**Ussuriysk Ar.**	**9.00**	**296**	P	**Pn**	**19 16 58.9**	**+1.0**
	0.2nm,0.3s,baz=94,slow=13,SNR=6.0						
SONM	**Songino Array**	**27.11**	**297**	P	**P**	**19 20 30.5**	**+0.1**
	0.2nm,0.3s,baz=96,slow=7.8,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**29.12**	**129**	T	T	19 51 29.8	
	baz=322,slow=74,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**29.13**	**129**	T	T	19 51 35.9	
	baz=322,slow=74,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**29.13**	**129**	T	T	19 51 35.7	
	baz=322,slow=74,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**29.96**	**131**	T	T	19 52 39.4	
	baz=323,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.96**	**131**	T	T	19 52 38.6	
	baz=323,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**29.98**	**131**	T	T	19 52 40.6	
	baz=323,slow=76,SNR=10						
ZALV	**Zalesovo Beam**	**40.55**	**309**	P	**P**	**19 22 26.0**	**-0.5**
	0.6nm,0.3s,baz=95,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**43.45**	**299**	P	**P**	**19 22 50.1**	**-0.3**
	0.2nm,0.5s,baz=70,slow=8.4,SNR=5.1						
INK	**Inuvik**	**50.36**	**29**	P	**P**	**19 23 45.5**	**+1.6**
	0.4nm,0.4s,baz=300,slow=5.3,SNR=3.4						
WRA	**Warramunga Arr**	**61.02**	**190**	P	**P**	**19 25 00.2**	**-0.6**
	0.3nm,0.7s,baz=5.0,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**66.15**	**332**	P	**P**	**19 25 33.7**	**-0.6**
	1.4nm,0.8s,baz=94,slow=5.7,SNR=6.2						
AKASG	**Malin Array Be**	**72.20**	**322**	P	**P**	**19 26 11.5**	**-0.5**
	0.1nm,0.3s,baz=44,slow=6.9,SNR=4.4						

IDC 18 19:23:16.4±17.0, 16°43S×179°33W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/19, mbtmp4.1/3, ML5.8/1, Error ellipse: s-maj=338.8km s-min=51.8km az=54.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**12.83**	**174**	Pn	Pn	19 26 20.3	+0.2
	51nm,0.3s,baz=36,slow=19,SNR=3.3						
STKA	**Stephens Creek**	**38.60**	**239**	P	P	19 30 41.5	+0.1
	0.7nm,0.4s,baz=89,slow=9.4,SNR=7.3						
WRA	**Warramunga Arr**	**44.06**	**258**	P	P	19 31 26.2	-0.2
	0.5nm,0.3s,baz=94,slow=7.4,SNR=29						
ASAR	**Alice Springs**	**44.37**	**253**	P	P	19 31 28.5	-0.4
	4.7nm,0.4s,baz=89,slow=8.0,SNR=154						

*NEIC **18** 19:27:59.0, 19°.37N×65°.40W, h101km, MD3.7(RSPR), After RSPR.*
*RSPR **18** 19:27:59.9, 19°.37N×65°.40W, h102km±7km, MD3.7/7*
ISC 18 19:28:00.3±2.6, 19°4N±0°.1×65°43W±0°05, h77km±42km, n37, σ0°57/53, 14C-17D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.16**	**157⇓**	*eP*	**Pn**	**19 28 20.6**	**-0.6**
STVI	**Saint Thomas**	**1.16**	**157⇓**	*eP*	**Pn**	**19 28 20.6**	**-0.6**
STVI				*eS*	**Sn**	**19 28 38.2**	**+1.2**
STVI	**Saint Thomas**	**1.16**	**157⇓**	*eP*	**Pn**	**19 28 20.6**	**-0.6**
STVI				*eS*	**Sn**	**19 28 38.2**	**+1.2**
CBYP	**Canovanas**	**1.22**	**199**	*e*Pn	**Pn**	**19 28 21.2**	**-0.8**
CBYP				*e*Sn	**Sn**	**19 28 37.9**	**-0.4**
ABV	**Anegada**	**1.25**	**124⇓**	*eP*	**Pn**	**19 28 21.6**	**-0.8**
ABV	**Anegada**	**1.25**	**124⇓**	*eP*	**Pn**	**19 28 21.6**	**-0.8**
ABV				*eS*	**Sn**	**19 28 39.7**	**+0.8**
ABVI	**Anegada Island**	**1.25**	**124⇓**	*eP*	**Pn**	**19 28 21.6**	**-0.8**
ABVI				*eS*	**Sn**	**19 28 39.7**	**+0.8**
TBVI	**Tortola**	**1.27**	**142⇓**	*eP*	**Pn**	**19 28 22.7**	**+0.1**
TBVI	**Tortola**	**1.27**	**142⇓**	*eP*	**Pn**	**19 28 22.7**	**+0.1**
TBVI	**Tortola**	**1.27**	**142⇓**	*eP*	**Pn**	**19 28 22.7**	**+0.1**
MTP	**Monte Pirata**	**1.33**	**185⇓**	*eP*	**Pn**	**19 28 23.1**	**-0.3**
MTP	**Monte Pirata**	**1.33**	**185⇓**	*eP*	**Pn**	**19 28 23.6**	**+0.2**
MTP				*eS*	**Sn**	**19 28 40.7**	**0.0**
MTP	**Monte Pirata**	**1.33**	**185⇓**	*eP*	**Pn**	**19 28 23.1**	**-0.3**
MTP				*eS*	**Sn**	**19 28 40.7**	**0.0**
HUMP	**Col San Antoni**	**1.34**	**197⇓**	*eP*	**Pn**	**19 28 23.1**	**-0.4**
HUMP	**Col San Antoni**	**1.34**	**197⇓**	*eP*	**Pn**	**19 28 23.1**	**-0.4**
HUMP				*eS*	**Sn**	**19 28 41.5**	**+0.5**
HUMP	**Col San Antoni**	**1.34**	**197⇓**	*eP*	**Pn**	**19 28 23.1**	**-0.4**
HUMP				*eS*	**Sn**	**19 28 41.5**	**+0.5**
CPD	**Cerro la Pandu**	**1.46**	**198⇑**	*eP*	**Pn**	**19 28 24.7**	**-0.4**
CPD	**Cerro la Pandu**	**1.46**	**198⇑**	*eP*	**Pn**	**19 28 24.7**	**-0.4**
CPD				*eS*	**Sn**	**19 28 44.1**	**+0.4**
CPD	**Cerro la Pandu**	**1.46**	**198⇑**	*eP*	**Pn**	**19 28 24.7**	**-0.4**
CPD				*eS*	**Sn**	**19 28 44.1**	**+0.4**
SJG	**San Juan**	**1.48**	**208⇑**	*eP*	**Pn**	**19 28 24.9**	**-0.4**
SJG	**San Juan**	**1.48**	**208⇑**	*eP*	**Pn**	**19 28 24.9**	**-0.4**
SJG	**San Juan**	**1.48**	**208**	*e*Pn	**Pn**	**19 28 25.0**	**-0.4**
SJG				*e*Sn	**Sn**	**19 28 43.3**	**-0.8**
AOPR	**Arecibo Observ**	**1.65**	**230⇓**	*eP*	**Pn**	**19 28 27.1**	**-0.5**
AOPR	**Arecibo Observ**	**1.65**	**230⇓**	*eP*	**Pn**	**19 28 27.1**	**-0.5**
AOPR				*eS*	**Sn**	**19 28 48.9**	**+0.6**
AOPR	**Arecibo Observ**	**1.65**	**230⇓**	*eP*	**Pn**	**19 28 27.1**	**-0.5**
AOPR				*eS*	**Sn**	**19 28 48.9**	**+0.6**
CELP	**Cerrillos**	**1.73**	**219⇓**	*eP*	**Pn**	**19 28 28.4**	**-0.2**
CELP	**Cerrillos**	**1.73**	**219⇓**	*eP*	**Pn**	**19 28 28.4**	**-0.2**
CELP	**Cerrillos**	**1.73**	**219**	*e*Pn	**Pn**	**19 28 28.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.77**	**219**	*e*Pn	**Pn**	**19 28 28.5**	**-0.7**
OBIP				*e*Sn	**Sn**	**19 28 51.4**	**+0.3**
CDVI	**St. Croix**	**1.79**	**159**	*e*Pn	**Pn**	**19 28 28.9**	**-0.4**
CDVI				*e*Sn	**Sn**	**19 28 50.8**	**-0.5**
AGPR	**Aguadilla, PR**	**1.86**	**239**	*e*Pn	**Pn**	**19 28 29.3**	**-1.0**
LSP	**Las Mesas**	**2.00**	**232⇑**	*eP*	**Pn**	**19 28 32.8**	**+0.5**
LSP	**Las Mesas**	**2.00**	**232⇑**	*eP*	**Pn**	**19 28 32.8**	**+0.5**
LSP	**Las Mesas**	**2.00**	**232⇑**	*eP*	**Pn**	**19 28 32.8**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.13**	**229⇓**	*eP*	**Pn**	**19 28 34.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.13**	**229⇓**	*eP*	**Pn**	**19 28 34.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.13**	**229⇓**	*eP*	**Pn**	**19 28 34.0**	**0.0**

*IDC **18** 19:30:34.1±0.7, 35°.88S×73°.24W, h0km, mb3.9/11, mb1 4.1/13, mb1mx3.9/35, mbtmp3.9/13, ML3.6/2, MS4.1/1, Ms1 4.1/1, ms1mx2.8/24, Error ellipse: s-maj=26.2km s-min=14.2km az=84.0*
*ISCJB **18** 19:30:36.9±0.6, 35°.89S±0°.07×73°.2W±0°.1, h28km, mb4.0/10, Error ellipse: s-maj=16.1km s-min=8.9km az=22.2*
ISC 18 19:30:38.4±0.7, 35°87S±0°09×73°2W±0°1, h28km, n17, σ0°80/17, mb3.9/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.29**	**157**	Pn	**Pn**	**19 31 56.1**	**+0.5**
	0.8nm,0.3s,baz=329,slow=11,SNR=14						
PLCA				Lg	Lg	19 33 21.4	
	1.5nm,0.3s,baz=254,slow=16,SNR=7.0						
CFAA	**Coronel Fontan**	**5.96**	**46**	Pn	**Pn**	**19 32 04.0**	**-0.7**
	0.5nm,0.3s,baz=220,slow=12,SNR=16						
CFAA				Sn	**Sn**	**19 33 13.1**	**+1.0**
	0.5nm,0.3s,baz=214,slow=16,SNR=3.6						
CFAA				LR	LR	19 34 32.7	
	comp=Z,27nm,21.5s,baz=242,slow=40						
CPUP	**Villa Florida**	**16.60**	**59**	LR	LR	19 41 29.0	
	comp=Z,728nm,20.3s,baz=204,slow=39						
LPAZ	**La Paz**	**20.03**	**14**	P	**P**	**19 35 10.6**	**+0.8**
	1.7nm,0.6s,baz=207,slow=2.1,SNR=7.8						
SIV	**San Ignacio**	**22.58**	**32**	P	**P**	**19 35 36.6**	**-0.1**
	0.9nm,0.4s,baz=230

Ms1 3.3/5,ms1mx2.9/30,Error ellipse: s-maj=13.6km s-min=9.9km az=58.0

NEIC ***18*** *19:52:04.8±0.7,7.°11S×129.°54E,h110km±7km,mb4.7/17, Error ellipse: s-maj=7.0km s-min=5.7km az=224.0*

DJA ***18*** *19:52:06.9±0.2,7.°S±2.°×13.°0E±.°,h114km±4km,M4.8/47, mb4.9/47,mB5.3/18,MLv5.0/12,Mw(mB)4.7/18*

ISC 18 19:52:04.1±0.3,7.14S±0.04×129.56E±0.04,h100km,n157, σ1§40/162,mb4.5/36,12C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.62**	**7**	P		**P**	**Pn**	**19 52 47.5**	**+2.6**
BNDI				S		Sn	Sn	19 53 24.0	+7.8
MSAI	**Masohi**	**3.82**	**350**	P		**P**	**Pn**	**19 53 04.1**	**+3.2**
MSAI				S		Sn	Sn	19 53 52.3	+7.3
NLAI	**Namlea**	**4.59**	**328**	P		**P**	**Pn**	**19 53 14.1**	**+2.8**
FAKI	**Fak Fak**	**4.97**	**33**	P		**P**	**Pn**	**19 53 17.9**	**+1.4**
	114nm,0.8s,4µm1.5nm								
FAKI	**Fak Fak**	**4.97**	**33**	P		**P**	**Pn**	**19 53 17.5**	**+0.9**
	baz=5.0,SNR=37								
FAKI				S			**Sn**	**19 54 13.1**	**+0.2**
	baz=5.0,SNR=23								
FAKI	**Fak Fak**	**4.97**	**33**	*e*Pn		**P**	**Pn**	**19 53 17.4**	**+0.8**
FAKI				*e*Sn			**Sn**	**19 54 12.3**	**-0.6**
SOEI	**Soe**	**5.85**	**243**	P		**P**	**Pn**	**19 53 29.9**	**+1.5**
	258nm,0.7s,5µm3.7nm								
SOEI				S			**Sn**	**19 54 32.7**	**-1.5**
	258nm,0.7s,5µm3.7nm								
SOEI	**Soe**	**5.85**	**243**	P		**P**	**Pn**	**19 53 29.9**	**+1.5**
	baz=5.8,SNR=227								
SOEI				S			**Sn**	**19 54 34.4**	**+0.1**
	baz=5.8,SNR=6.9								
SOEI	**Soe**	**5.85**	**243**	*e*Pn		**P**	**Pn**	**19 53 30.2**	**+1.8**
SOEI				*e*Sn			**Sn**	**19 54 34.4**	**+0.1**
MTN	**Manton Dam**	**5.87**	**165**	P		**P**	**Pn**	**19 53 28.7**	**0.0**
	baz=5.9,SNR=1000								
MTN				S			**Sn**	**19 54 32.1**	**-2.5**
	baz=5.9,SNR=10								
SANI	**Sanana**	**6.19**	**325**	P		**P**	**Pn**	**19 53 35.9**	**+2.9**
	55nm,1.5s,0.2nm								
KDU	**Kakadu**	**6.21**	**153**	P		**P**	**Pn**	**19 53 33.2**	**-0.1**
	baz=6.3,SNR=711								
KDU				S			**Sn**	**19 54 39.8**	**-3.1**
	baz=6.3,SNR=6.7								
BATI	**Baumata**	**6.58**	**242**	P		**P**	**Pn**	**19 53 36.2**	**-2.1**
BATI	**Baumata**	**6.58**	**242**	P		**P**	**Pn**	**19 53 39.5**	**+1.2**
	61nm,0.3s,baz=93,slow=4.3,SNR=125								
BATI				S			**Sn**	**19 54 51.5**	**-0.5**
	150nm,0.3s,baz=141,slow=8.5,SNR=9.8								
BATI				LR		LR	LR	19 56 28.7	
	comp=Z,266nm,18.2s,baz=53,slow=40								
LBMI	**Labuha**	**6.78**	**342**	P		**P**	Pn	19 53 44.6	+3.5
	115nm,1.1s,1µm0.4nm								
RKPI	**Ransiki, Papua**	**7.24**	**40**	P		**P**	**Pn**	**19 53 48.7**	**+1.4**
	160nm,0.7s,6µm2.4nm								
EDFI	**Ende, Flores**	**7.96**	**258**	P		**P**	**Pn**	**19 53 59.8**	**+2.6**
	40nm,0.9s,0.2nm								
KNRA	**Kununurra**	**8.52**	**185**	P		**P**	**Pn**	**19 54 03.4**	**-1.3**
	baz=8.5,SNR=374								
KNRA				S			Sn	19 55 33.5	-5.6
	baz=8.5,SNR=9.7								
WSI	**Waingapu**	**9.50**	**254**	S		**Sn**	**Sn**	**19 56 02.5**	**-0.7**
	baz=9.4,SNR=3.9								
BKSI	**Bulukumba**	**9.56**	**280**	P		**P**	**Pn**	**19 54 19.9**	**+1.1**
	41nm,1.0s								
BNSI	**Bone**	**9.79**	**286**	P		**P**	**Pn**	**19 54 23.2**	**+1.1**
	45nm,1.2s								
APSI	**Ampana**	**10.03**	**308**	P		**P**	Pn	19 54 29.0	+3.7
	62nm,1.1s,586nm								
SPSI	**Sidrap Palu**	**10.25**	**287**	P		**P**	**Pn**	**19 54 29.6**	**+1.4**
	29nm,0.8s								
TTSI	**Tana Toraja**	**10.52**	**292**	P		**P**	**Pn**	**19 54 33.9**	**+1.9**
	23nm,1.3s,603nm								
MRSI	**Marisa**	**10.73**	**315**	P		**P**	Pn	19 54 38.3	+3.5
	72nm,1.1s,625nm								
MMPI	**Merauke**	**10.80**	**98**	P		**P**	**Pn**	**19 54 37.0**	**+1.2**
	baz=11,SNR=6.5								
MMPI				S			Sn	19 56 29.7	-5.0
	baz=11,SNR=4.1								
GENI	**Genyem**	**11.49**	**67**	P		**P**	**Pn**	**19 54 47.1**	**+2.0**
	50nm,1.0s								
PCI	**Palu**	**11.51**	**302**	P		**P**	**Pn**	**19 54 47.4**	**+2.1**
	50nm,1.0s								
TOLI	**Toli-Toli**	**12.00**	**313**	*e*Pn		**P**	**Pn**	**19 54 51.6**	**-0.3**
TOLI				*e*Sn			**Sn**	**19 57 01.1**	**-2.7**
JAY	**Jayapura**	**12.01**	**68**	P		**P**	**Pn**	**19 54 53.2**	**+1.1**
	1.0nm,0.3s,baz=231,slow=11,SNR=5.9								
MPSI	**Mapaga**	**12.17**	**307**	P		**P**	**Pn**	**19 54 56.3**	**+2.2**
	17nm,1.2s								
WRAB	**Tennant Creek**	**13.54**	**160**	*e*Pn			Pn	19 55 08.6	-3.5
WRAB				*e*Sn			Sn	19 57 30.0	-11
WRA	**Warramunga Arr**	**13.54**	**160**	P			Pn	19 55 09.1	-3.1
	24nm,0.3s,baz=332,slow=12,SNR=268								
WRA				S			Sn	19 57 30.8	-10
	22nm,0.3s,baz=335,slow=22,SNR=11								
KBKI	**Kotabaru**	**13.87**	**285**	P		**P**	**Pn**	**19 55 18.8**	**+2.3**
	29nm,0.7s								
COEN	**Coen**	**14.99**	**118**	P		**P**	**Pn**	**19 55 31.4**	**+0.6**
	baz=15,SNR=31								
COEN				S			Sn	19 58 05.8	-11
	baz=15,SNR=6.3								
COEN	**Coen**	**14.99**	**118**	*e*Pn		**P**	**Pn**	**19 55 30.3**	**-0.5**
	3.3nm,0.6s								
BBKI	**Banjar Baru**	**15.11**	**283**	P		**P**	**P**	**19 55 34.4**	**-0.7**
	161nm,1.0s,1µm								
BLJI	**Banyuglugur**	**15.85**	**267**	P		**P**	**P**	**19 55 43.7**	**+0.4**
TSM	**Tawau**	**16.28**	**314**	⇑P		**P**	**P**	**19 55 51.1**	**+2.9**
QIS	**Mount Isa**	**16.51**	**145**	P		**P**	**Pn**	**19 55 49.5**	**-0.2**
	baz=17,SNR=37								
AS31	**Alice Springs**	**16.95**	**166**	*e*Pn		**P**	**Pn**	**19 55 53.8**	**-1.4**
ASAR	**Alice Springs**	**16.95**	**166**	P		**P**	**Pn**	**19 55 54.2**	**-1.0**
	6.8nm,0.3s,baz=332,slow=8.6,SNR=332								
ASAR				S			Sn	19 58 54.0	-10
	9.0nm,0.3s,baz=343,slow=25,SNR=11								
ASAR				LR			LR	20 02 59.5	
	comp=Z,83nm,18.7s,baz=324,slow=38								
PMG	**Port Moresby**	**17.56**	**99**	*e*P		**P**	**P**	**19 56 02.0**	**-0.3**
	251nm,1.1s								
WRKA	**Warakurna**	**17.84**	**184**	P		**P**	**P**	**19 56 04.4**	**-0.8**
	baz=18,SNR=640								
PBKI	**Pangkalan Bun**	**18.36**	**283**	P		**P**	**Pn**	**19 56 13.7**	**+1.4**
	388nm,0.9s,3µm								
MANU	**Manus Island**	**18.45**	**75**	S		**S**	**S**	**19 59 35.3**	**-2.4**
	baz=18,SNR=5.1								
KKM	**Kota Kinabalu**	**18.68**	**314**	P		**P**	**Pn**	**19 56 19.3**	**+3.1**
	baz=19,SNR=3.7								
KKM	**Kota Kinabalu**	**18.68**	**314**	⇑P		**P**	**Pn**	**19 56 16.1**	**0.0**
KDM	**Kudat**	**18.88**	**317**	⇑P		**P**	**P**	**19 56 16.9**	**+0.2**
UGM	**Wanagama**	**18.89**	**266**	P		**P**	**P**	**19 56 18.0**	**+1.1**
	baz=19,SNR=5.5								
UGM				S			**S**	**19 59 44.4**	**-2.2**
	baz=19,SNR=3.3								
BTM	**Bintulu**	**19.39**	**301**	⇑P		**P**	**Pn**	**19 56 24.7**	**+0.2**
STKI	**Sintang**	**19.41**	**291**	P		**P**	**P**	**19 56 23.7**	**+1.2**
	89nm,1.0s,6µm								
SBUM	**Sibu**	**19.76**	**298**	⇑P		**P**	**Pn**	**19 56 28.5**	**-0.3**
SBUM	**Sibu**	**19.76**	**298**	*e*Pn		**P**	**Pn**	**19 56 28.0**	**-0.8**
	93nm,1.1s								
KPJI	**Karang Pucung**	**20.47**	**268**	P		**P**	**P**	**19 56 33.0**	**-1.0**
CTA	**Charters Tower**	**20.68**	**130**	P		**P**	**P**	**19 56 38.7**	**+2.5**
	12nm,0.8s,baz=306,slow=13,SNR=6.8								
CTA				S			**S**	**20 00 22.1**	**+0.2**
	3.0nm,0.7s,baz=233,slow=19,SNR=2.4								
KSM	**Kuching**	**21.03**	**293**	⇑P		**P**	**P**	**19 56 42.0**	**+2.0**
KSM	**Kuching**	**21.03**	**293**	P		**P**	**P**	**19 56 39.6**	**-0.5**
	22nm,0.9s								
GIRL	**Giralia**	**21.34**	**222**	P		**P**	**P**	**19 56 45.3**	**+2.0**
	baz=21,SNR=6.3								
CISI	**Cisompet, Garu**	**21.57**	**268**	P		**P**	**P**	**19 56 45.9**	**0.0**
	197nm,0.7s,2µm								
CISI	**Cisompet, Garu**	**21.57**	**268**	P		**P**	**P**	**19 56 43.4**	**-2.5**
	baz=22,SNR=26								
CISI	**Cisompet, Garu**	**21.57**	**268**	P		**P**	**P**	**19 56 44.4**	**-1.5**
	122nm,0.6s								
LEM	**Lembang**	**21.79**	**269**	P		**P**	**P**	**19 56 47.0**	**-1.3**
	60nm,0.8s								
LEM	**Lembang**	**21.79**	**269**	P		**P**	**P**	**19 56 47.3**	**-1.0**
	40nm,0.7s,baz=316,slow=20,SNR=9.4								
LEM	**Lembang**	**21.79**	**269**	P		**P**	**P**	**19 56 47.2**	**-1.0**
	baz=22,SNR=3.1								
MEEK	**Meekatharra**	**22.01**	**207**	P		**P**	**P**	**19 56 50.6**	**+0.2**
	baz=22,SNR=27								
TPI	**Tanjungpandan**	**22.25**	**280**	P		**P**	**P**	**19 56 54.6**	**+1.6**
	59nm,0.9s								
CNJI	**Cibinong**	**22.26**	**268**	P			P	19 56 47.2	-5.9
CBJI	**Citeko**	**22.57**	**270**	P			**P**	**19 56 53.4**	**-2.9**
FORT	**Forrest**	**23.56**	**183**	P		**P**	**P**	**19 57 06.5**	**+0.9**
	baz=24,SNR=60								
FORT	**Forrest**	**23.56**	**183**	*e*P		**P**	**P**	**19 57 06.4**	**+0.9**
	78nm,0.6s								
CGJI	**Cibinong**	**23.70**	**270**	P		**P**	**P**	**19 57 05.0**	**-2.1**
QLP	**Quilpie**	**23.85**	**146**	P		**P**	**P**	**19 57 10.0**	**+1.8**
	baz=24,SNR=78								
QLP				S			S	20 01 34.3	+17
	baz=24,SNR=5.5								
KMBL	**Kambalda**	**25.15**	**196**	P		**P**	**P**	**19 57 21.1**	**+1.0**
	baz=25,SNR=6.0								
MORW	**Morawa**	**25.27**	**209**	P		**P**	**P**	**19 57 21.7**	**+0.6**
	baz=25,SNR=18								
MORW				S			S	20 02 10.1	+30
	baz=25,SNR=3.3								
LHSI	**Lahat**	**26.12**	**276**	P		**P**	**P**	**19 57 32.3**	**+3.3**
BBOO	**Buckleboo**	**26.24**	**168**	P		**P**	**P**	**19 57 30.6**	**+0.7**
	baz=26,SNR=51								
BBOO	**Buckleboo**	**26.24**	**168**	*e*P		**P**	**P**	**19 57 30.5**	**+0.6**
	0.9nm,0.6s								
BLDU	**Ballidu**	**26.28**	**206**	P		**P**	**P**	**19 57 31.2**	**+0.9**
	baz=26,SNR=26								
STKA	**Stephens Creek**	**27.05**	**157**	P		**P**	**P**	**19 57 38.4**	**+1.2**
	12nm,0.5s,baz=330,slow=8.5,SNR=66								
STKA				LR			LR	20 10 22.2	
	comp=Z,81nm,20.1s,baz=8.7,slow=40								
STKA	**Stephens Creek**	**27.05**	**157**	P		**P**	**P**	**19 57 38.5**	**+1.3**
	baz=27,SNR=50								
STKA	**Stephens Creek**	**27.05**	**157**	*e*P		**P**	**P**	**19 57 37.4**	**+0.2**
	3.3nm,0.8s								
MYKOM	**Kota Tinggi**	**27.15**	**288**	⇑P		**P**	**P**	**19 57 39.4**	**+1.2**
KGM	**Kluang**	**27.73**	**288**	⇑P		**P**	**P**	**19 57 44.2**	**+0.8**
NWAO	**Narrogin (SRO)**	**28.10**	**202**	P		**P**	**P**	**19 57 47.0**	**+0.5**
	12nm,0.6s,baz=42,slow=7.1,SNR=16								
NWAO	**Narrogin (SRO)**	**28.10**	**202**	P		**P**	**P**	**19 57 47.7**	**+1.2**
	baz=28,SNR=12								
CMSA	**Cobar Meteorol**	**28.57**	**150**	P		**P**	**P**	**19 57 52.4**	**+1.8**
	29,SNR=56								
KTGM	**Kuala Trenggan**	**29.14**	**294**	⇑P		**P**	**P**	**19 57 54.7**	**-1.3**
RKGY	**Rocky Gully**	**29.70**	**201**	P		**P**	**P**	**19 58 03.8**	**+3.1**
	baz=30,SNR=8.7								
FRIM	**Kepong**	**29.73**	**289**	⇑P		**P**	**P**	**19 58 01.3**	**+0.2**
HNR	**Honiara**	**30.15**	**96**	LR		LR	LR	20 10 08.3	
	comp=Z,75nm,19.0s,baz=249,slow=36								
IPM	**Ipoh**	**30.73**	**291**	⇑P		**P**	**P**	**19 58 09.7**	**-0.4**
IPM	**Ipoh**	**30.73**	**291**	*e*P		**P**	**P**	**19 58 09.7**	**-0.4**
	7.4nm,0.7s								
MNSI	**Mandailing Nat**	**30.93**	**284**	P		**P**	**P**	**19 58 12.0**	**+0.2**
	28nm,0.7s,911nm								
KULM	**Kulim**	**31.39**	**292**	⇑P		**P**	**P**	**19 58 15.8**	**0.0**
KULM	**Kulim**	**31.39**	**292**	*e*P		**P**	**P**	**19 58 15.5**	**-0.3**
	12nm,0.9s								
YNG	**Young**	**32.13**	**150**	P		**P**	**P**	**19 58 24.6**	**+2.4**
	baz=32,SNR=11								
PSI	**Prapat**	**32.13**	**287**	P		**P**	**P**	**19 58 20.8**	**-1.7**
	9.1nm,0.6s,baz=91,slow=6.5,SNR=11								
TOO	**Toolangi**	**33.57**	**157**	P		**P**	**P**	**19 58 37.7**	**+3.0**
	baz=34,SNR=13								
UTTA	**Uttaradit**	**37.85**	**311**	P		**P**	**P**	**19 59 11.8**	**+0.4**
	4.4nm,0.7s,41nm								
LAMP	**Lampang**	**39.01**	**311**	P		**P**	**P**	**19 59 22.9**	**+1.7**
	3.7nm,0.7s								
CMAR	**Chiang Mai Arr**	**39.49**	**311**	P		**P**	**P**	**19 59 25.2**	**+0.1**
	4.0nm,0.6s,baz=137,slow=7.0,SNR=52								
CMAR				PcP			**PcP**	**20 01 31.9**	**+0.7**
	0.9nm,0.7s,baz=175,slow=2.4,SNR=4.7								
CMAR				ScP			**ScP**	**20 05 09.4**	**-1.5**
	1.1nm,0.9s,baz=164,slow=3.0,SNR=9.0								
CMAR				LR			LR	20 16 48.0	
	comp=Z,16nm,21.2s,baz=157,slow=38								
CRAI	**Chiangrai**	**39.55**	**314**	P		**P**	**P**	**19 59 24.6**	**-1.0**
	294nm,0.9s								
CMMT	**Chiang Mai**	**39.70**	**311**	P		**P**	**P**	**19 59 27.1**	**+0.2**
	17nm,0.8s								
WHN	**Wuhan**	**40.21**	**339**	P		**P**	**P**	**19 59 30.9**	**0.0**
CMAI	**Chiengmai2**	**40.32**	**312**	P		**P**	**P**	**19 59 32.4**	**+0.2**
	58nm,0.7s								
MJAR	**Matsushiro Arr**	**44.20**	**10**	P		**P**	**P**	**20 00 01.2**	**-2.1**
	1.7nm,0.8s,baz=188,slow=9.1,SNR=7.2								
KSAR	**Wonju Array Be**	**44.38**	**358**	P		**P**	**P**	**20 00 04.7**	**+0.1**
KSRS	**Korea Array**	**44.39**	**358**	P		**P**	**P**	**20 00 04.7**	**0.0**
	0.5nm,0.4s,baz=177,slow=8.9,SNR=3.5								
USRK	**Ussuriysk Ar.**	**51.15**	**2**	P		**P**	**P**	**20 00 56.4**	**-0.4**
	1.5nm,0.7s,baz=181,slow=7.1,SNR=8.1								
LSA	**Lhasa**	**52.00**	**317**	P		**P**	**P**	**20 01 03.9**	**-0.1**
LSA	**Lhasa**	**52.00**	**317**	P		**P**	**P**	**20 01 02.2**	**-1.8**
	8.6nm,0.6s								
ODAN	**Odan**	**53.02**	**311**	*e*P		**P**	**P**	**20 01 10.7**	**-0.6**
	78nm,0.4s								
TAPN	**Taplejung**	**53.06**	**312**	*e*P		**P**	**P**	**20 01 11.0**	**-0.7**
	100nm,0.4s								
RAMN	**Ramite**	**53.66**	**311**	*e*P		**P**	**P**	**20 01 15.8**	**-0.2**
	215nm,0.4s								
GTA	**Gaotai**	**53.89**	**332**	*e*P		**P**	**P**	**20 01 17.8**	**+0.5**
GTA				PMZ					
	7.0nm,1.0s								
JIRN	**Jiri**	**54.35**	**311**	*e*P		**P**	**P**	**20 01 21.1**	**-0.1**
	70nm,0.4s								
GUN	**Gumba**	**54.72**	**312**	*e*P		**P**	**P**	**20 01 23.2**	**-0.6**
	152nm,0.4s								
PKI	**Pulchoki**	**54.89**	**311**	*e*P		**P**	**P**	**20 01 24.2**	**-0.8**
	50nm,0.5s								
PKIN	**Phulchoki**	**54.90**	**311**	*e*P		**P**	**P**	**20 01 24.9**	**-0.1**
	18nm,0.4s								
KKN	**Kakani**	**55.10**	**311**	*e*P		**P**	**P**	**20 01 25.7**	**-0.7**
	53nm,0.4s								
DMN	**Daman**	**55.14**	**311**	*e*P		**P**	**P**	**20 01 26.0**	**-0.7**
	43nm,0.4s								
GKN	**Gorkha**	**55.70**	**311**	*e*P		**P**	**P**	**20 01 29.9**	**-0.7**
	149nm,0.3s								
KOLN	**Koldanda**	**56.36**	**310**	*e*P		**P**	**P**	**20 01 34.9**	**-0.5**
	62nm,0.4s								
DANN	**Dangsing**	**56.54**	**311**	*e*P		**P**	**P**	**20 01 36.4**	**-0.4**
	31nm,0.4s								
PYUN	**Piuthan**	**56.99**	**310**	*e*P		**P**	**P**	**20 01 39.5**	**-0.4**
	208nm,0.6s								
ULN	**Ulaanbaatar**	**58.27**	**342**	*e*P		**P**	**P**	**20 01 47.8**	**-0.6**
	6.6nm,0.6s								
SONM	**Songino Array**	**58.44**	**342**	P		**P**	**P**	**20 01 49.9**	**+0.4**
	3.3nm,0.5s,baz=159,slow=7.1,SNR=47								
TLY	**Talaya**	**62.67**	**342**	P		**P**	**P**	**20 02 19.3**	**+1.2**
	2.5nm,0.4s,baz=65,slow=2.3,SNR=3.3								
MKAR	**Makanchi Array**	**68.11**	**327**	P		**P**	**P**	**20 02 53.0**	**-0.2**
	15nm,0.6s,baz=114,slow=8.8,SNR=216								
MKAR	**Makanchi Array**	**68.11**	**327**	*e*P		**P**	**P**	**20 02 53.3**	**+0.1**
AAK	**Ala-Archa**	**70.37**	**320**	P		**P**	**P**	**20 03 08.3**	**+0.8**
	4.5nm,0.6s,baz=118,slow=6.5,SNR=15								
AAK				LR			LR	20 36 53.3	
	comp=Z,2µm,19.2s,baz=228,slow=38								
KBL	**Kabul**	**70.52**	**310**	P		**P**	**P**	**20 03 10.0**	**+1.3**
	baz=71,SNR=3.3								
KBL	**Kabul**	**70.52**	**310**	*e*P		**P**	**P**	**20 03 08.5**	**-0.1**
	5.7nm,0.7s								
EKS2	**Erkin-Say**	**70.84**	**320**	P		**P**	**P**	**20 03 10.7**	**+0.4**
ZALV	**Zalesovo Beam**	**71.52**	**334**	P		**P**	**P**	**20 03 12.8**	**-1.2**
	2.9nm,0.5s,baz=112,slow=4.0,SNR=20								
KURK	**Kurchatov**	**72.41**	**329**	*e*P		**P**	**P**	**20 03 18.5**	**-0.8**
	15nm,1.0s								
KKAR	**Karatay Array**	**73.16**	**319**	P			P	20 03 20.8	-3.3
MAW	**Mawson**	**74.66**	**201**	P		**P**	**P**	**20 03 32.4**	**+0.1**
	2.0nm,0.7s,baz=94,slow=14,SNR=2.7								
IDAH	**Dahanechah**	**77.07**	**306**	*e*P		**P**	**P**	**20 03 47.8**	**+0.7**
IKOO	**Kooshah**	**77.68**	**305**	*e*P		**P**	**P**	**20 03 51.3**	**+0.9**
IMYA	**Miami**	**77.98**	**309**	*e*P		**P**	**P**	**20 03 53.7**	**+1.7**
ITEG	**Tejag**	**78.02**	**306**	*e*P		**P**	**P**	**20 03 53.6**	**+1.3**
TIXI	**Tiksi**	**78.63**	**360**	*e*P		**P**	**P**	**20 03 53.4**	**-1.1**
	14nm,1.8s								
IPAY	**Payeh**	**78.86**	**309**	*e*P		**P**	**P**	**20 03 58.6**	**+1.8**
IKRD	**Kardeh**	**79.33**	**309**	*e*P		**P**	**P**	**20 03 57.6**	**-1.8**
OPO	**Ambohidratompo**	**80.56**	**252**	P		**P**	**P**	**20 04 06.3**	**0.0**
	2.8nm,0.7s,baz=77,slow=4.9,SNR=4.1								
QSPA	**South Pole Qui**	**82.83**	**180**	*e*P		**P**	**P**	**20 04 17.9**	**+0.6**
ARU	**Arti**	**85.60**	**328**	*e*P		**P**	**P**	**20 04 29.8**	**-1.4**
	5.3nm,0.8s								
RAYN	**Ar Rayn**	**87.41**	**294**	*e*P		**P**	**P**	**20 04 39.7**	**-1.2**
	9.7nm,0.7s								
ILAR	**Eielson Array**	**93.66**	**25**	P		**P**	**P**	**20 05 07.0**	**-2.0**
	0.7nm,0.9s,baz=258,slow=4.5,SNR=3.7								
ARCES	**ARCESS Array B**	**101.56**	**340**	P		**P**	**Pdif**	**20 05 42.9**	**-1.6**
	2.7nm,0.9s,baz=73,slow=6.8,SNR=3.6								
GERES	**GERESS Array B**	**112.25**	**320**	PKiKP		**PKiKP**	**PKiKP**	**20 10 27.4**	**-1.0**
	0.3nm,0.6s,baz=52,slow=2.2,SNR=5.6								
TXAR	**Lajitas Array**	**125.37**	**59**	PKP		**PKPdf**	**PKPdf**	**20 10 53.0**	**-1.1**
	0.1nm,0.4s,baz=194,slow=4.7,SNR=4.2								
TORD	**Torodi Ar. Bea**	**128.41**	**281**	PKP		**PKPdf**	**PKPdf**	**20 10 59.5**	**-0.7**
	0.5nm,0.5s,baz=86,slow=2.0,SNR=10								
CPUP	**Villa Florida**	**146.06**	**169**	PKPbc		**PKPdf**	**PKPdf**	**20 11 31.9**	**-0.3**
	0.3nm,0.6s,baz=175,slow=6.9,SNR=2.6								
LPAZ	**La Paz**	**150.87**	**143**	PKPbc		**PKPbc**	**PKPbc**	**20 11 47.8**	**+1.0**
	1.2nm,0.4s,baz=42,slow=4.7,SNR=10								

IDC ***18*** *19:58:41.7±1.8,6.°64S×147.°88E,h0km,mb3.6/6, mb1 3.9/7,mb1mx3.7/31,mbtmp3.7/7,ML3.6/1,Error ellipse: s-maj=56.7km s-min=26.4km az=114.0*

ISCJB ***18*** *19:58:47.5±1.7,6.°7S±0.°2×147.°7E±0.°3,h54km,mb3.6/6, Error ellipse: s-maj=53.0km s-min=18.1km az=21.9*

ISC 18 19:58:48.8±1.9,6.8S±0.2×147.9E±0.4,h54km,n8,σ0§52/8, mb3.6/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.53**	**224**	P		**P**	**Pn**	**20 03 02.0**	**+0.3**
	0.2nm,0.3s,baz=49,slow=11,SNR=2.4								
ASAR	**Alice Springs**	**21.49**	**217**	P		**P**	**P**	**20 03 32.7**	**-0.4**
	1.5nm,0.6s,baz=54,slow=9.3,SNR=2.4								
CMAR	**Chiang Mai Arr**	**54.35**	**298**	P		**P**	**P**	**20 08 11.0**	**+0.6**
	0.8nm,0.5s,baz=122,slow=5.6,SNR=12								
SONM	**Songino Array**	**65.48**	**331**	P		**P**	**P**	**20 09 26.2**	**-0.2**
	0.1nm,0.4s,baz=145,slow=6.9,SNR=3.7								
MKAR	**Makanchi Array**	**78.63**	**320**	P		**P**	**P**	**20 10 44.7**	**-0.2**
	0.1nm,0.3s,baz=98,slow=9.5,SNR=5.0								
ZALV	**Zalesovo Beam**	**80.11**	**328**	P		**P**	**P**	**20 10 52.1**	**-0.7**
	0.8nm,0.6s,baz=122,slow=6.4,SNR=4.7								
ILAR	**Eielson Array**	**85.86**	**23**	P		**P**	**P**	**20 11 22.8**	**+0.4**
	0.4nm,0.8s,baz=250,slow=5.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**146.09**	**283**	PKPbc		**PKPab**		**20 18 24.4**	**-0.1**
	0.8nm,0.4s,baz=83,slow=3.3,SNR=29								

IDC 18 20:02:44.0±28.0,22.°51S×174.°08W,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.8/21,mbtmp4.2/4,Error ellipse: s-maj=513.9km s-min=153.1km az=77.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.96**	**266**	P		P	P	20 09 56.1	+0.8
	6.8nm,0.3s,baz=94,slow=11,SNR=10								
STKA	**Stephens Creek**	**40.28**	**247**	P		P	P	20 10 22.0	-1.1
	0.6nm,0.4s,baz=109,slow=11,SNR=3.8								
ASAR	**Alice Springs**	**47.64**	**258**	P		P	P	20 11 21.9	-0.5
	0.9nm,0.6s,baz=95,slow=7.7,SNR=17								
WRA	**Warramunga Arr**	**47.96**	**263**	P		P	P	20 11 24.9	+0.1
	1.8nm,

SDDR eSn Sn 20 17 53.6 -0.9
MTP Monte Pirata 2.81 90⇑ eP Pn 20 17 22.6 +0.4
STVI Saint Thomas 3.39 85⇑ eP Pn 20 17 30.0 +0.1
STVI Saint Thomas 3.39 85 ePn Pn 20 17 29.6 -0.3
STVI ⇑eP Pn 20 17 30.0 +0.1
STVI eSn Sn 20 18 07.5 -1.7
CDVI St. Croix 3.58 95⇓ eP Pn 20 17 31.7 -0.8
CDVI St. Croix 3.58 95 ePn Pn 20 17 31.3 -1.2
CDVI ⇓eP Pn 20 17 31.7 -0.8
CDVI eSn Sn 20 18 12.9 -0.9
TBVI Tortola 3.71 84⇑ eP Pn 20 17 33.2 -1.1
TBVI Tortola 3.71 84⇑ eP Pn 20 17 33.2 -1.1
ABVI Anegada Island 4.01 80⇑ eP Pn 20 17 37.8 -0.6
ABV Anegada 4.01 80⇑ eP Pn 20 17 37.8 -0.7
GRTK Grand Turk 4.20 324⇑ eP Pn 20 17 39.2 -1.7
GRTK eS Sn 20 18 25.6 -3.3
SABA Saba 5.04 95⇓ eP Pn 20 17 52.5 +0.1
SABA Saba 5.04 95⇓ eP Pn 20 17 52.5 +0.1
SMRT St. Maarten 5.17 90⇑ eP Pn 20 17 54.0 -0.2
SMRT St. Maarten 5.17 90 eP Pn 20 17 54.0 -0.2
SMRT St. Maarten 5.17 90⇑ eP Pn 20 17 54.0 -0.2
ANWB Willy Bob 6.42 93 eP Pn 20 18 09.9 -1.2
ANWB Willy Bob 6.42 93 eS Sn 20 19 20.3 -2.6
GTBY Guantanamo Bay 6.50 287⇓ eP Pn 20 18 10.5 -1.8
GTBY Guantanamo Bay 6.50 287⇓ eP Pn 20 18 10.5 -1.8
LZG Guadaloupe-1 6.73 106 eP Pn 20 18 15.4 +0.1
SSG Sans Toucher 6.83 106 eP Pn 20 18 16.8 -0.2
FNG Fond-Bernard 6.83 106 eP Pn 20 18 16.9 0.0
HMG Houelmont 6.84 107 eP Pn 20 18 17.4 +0.3
SCG Saint Claude 6.85 106 eP Pn 20 18 17.0 -0.1
CRG Carmichael 6.86 106 eP Pn 20 18 17.4 +0.1
TAG Tarade 6.86 106 eP Pn 20 18 17.6 +0.3
LKG Breislack 6.86 106 eP Pn 20 18 18.0 +0.6
ECG Echelle 6.87 106 eP Pn 20 18 17.3 -0.2
PHG Guadaloupe-2 6.89 106 eP Pn 20 18 17.5 -0.2
SEG Port Louis 6.90 103 eP Pn 20 18 17.9 +0.2
DOG Dongo Capester 6.90 106 eP Pn 20 18 18.0 +0.2
TBG Guadaloupe-3 6.94 108 eP Pn 20 18 18.4 +0.2
BBL Barber's Block 7.21 110 eP Pn 20 18 22.5 +0.5
MGG Marie-Galante 7.21 106 eP Pn 20 18 22.7 +0.6
DEG La Desirade 7.34 103 eP Pn 20 18 23.9 +0.1
CMJ Castle Mountai 7.48 272 *i* P Pn 20 18 25.5 -0.1
DLPL La Plaine 7.48 110 *e* Pn 20 18 26.8 +1.1
YHJ Yallahs 7.60 270 *i* P Pn 20 18 27.6 +0.3
FDF Fort de France 7.81 114 eP Pn 20 18 30.3 0.0
FDF *e* 20 19 57.1
FDF pmax pmax
comp=Z,485nm,0.4s
FDF Fort de France 7.81 114 eP Pn 20 18 30.2 0.0
FDF Fort de France 7.81 114 eP Pn 20 18 30.7 +0.4
FDF Fort de France 7.81 114 eP x 20 19 50.4
FDF eS Sn 20 19 53.8 -3.4
FDF Fort de France 7.81 114 ePn Pn 20 18 30.3 0.0
comp=Z,485nm,0.4s
FDF eSn Sn 20 19 57.0 -0.1
STH Stony Hill 7.89 271 *i* P Pn 20 18 31.1 -0.2
STH *i* S Sn 20 19 57.4 -1.8
BIM Bigot 7.98 115 eP Pn 20 18 33.3 +0.8
BIM Bigot 7.98 115 eP Sn 20 19 50.1 -11
BNJ Bonny Gate 8.03 273 *i* P Pn 20 18 33.9 +0.7
PCJ Portland Cotta 8.24 269 *i* P Pn 20 18 36.7 +0.7
SVB Belmont 8.48 123 *e* Pn 20 18 39.3 +0.1
SVB Belmont 8.48 123 eP Pn 20 18 39.9 +0.6
SVB eS x 20 19 07.8
MCLT Moule a Chique 8.49 120 eP Pn 20 18 39.2 -0.2
MCLT Moule a Chique 8.49 120 *e* Pn 20 18 39.4 0.0
MTDJ Mount Denham 8.58 272⇓ eP Pn 20 18 41.0 +0.2
MTDJ Mount Denham 8.58 272 ePn Pn 20 18 41.5 +0.7
MTDJ eSn Sn 20 20 15.2 -0.8
MCJ Malvern 8.73 270 *i* P Pn 20 18 42.6 -0.3
GRSS Sisters 8.80 130 *e* Pn 20 18 45.3 +1.6
GRSS Sisters 8.80 130 *e* Sn 20 20 16.3 -5.0
GRHS Sauteurs 8.83 130 *e* Pn 20 18 45.6 +1.5
GRHS Sauteurs 8.83 130 *e* Sn 20 20 16.8 -5.2
GRW Mount Saint Ca 8.86 131 eP Pn 20 18 45.8 +1.1
GRGR Grenville 8.89 131 eP Pn 20 18 45.6 +0.8
BBGH Gun Hill 9.93 118 ePn Pn 20 19 00.7 +1.6
comp=Z,1μm,0.7s
BBGH eSn Sn 20 20 47.3 -1.4
TRN Trinidad (W) 10.11 136 eP Pn 20 19 05.0 +3.5
TRN Trinidad (W) 10.11 136 eS Sn 20 20 49.6 -3.5
TPR Prospect 10.16 132 eP Pn 20 19 07.0 +4.8
BOT Bacolet 10.21 131 eP Pn 20 19 06.2 +3.3
BOT Bacolet 10.21 131 eS Sn 20 20 40.7 -15
TOSP Speyside 10.25 130 *e* Pn 20 19 05.2 +1.7
TOSP Speyside 10.25 130 eP Pn 20 19 06.2 +2.7
TPP Pointe-a-Pierr 10.32 138 eP Pn 20 19 11.3 +6.9
TPP Pointe-a-Pierr 10.32 138 eS Sn 20 20 54.0 -4.4
TBH Brigand Hill 10.45 135 eP Pn 20 19 11.9 +5.7
TBH Brigand Hill 10.45 135 eS Sn 20 20 52.7 -8.8
ROSC El Rosal 14.34 204 P Pn 20 20 00.5 +2.1
comp=Z,4.9nm,0.3s,baz=46,slow=5.6,SNR=32
ROSC S Sn 20 22 37.8 +1.2
comp=Z,3.5nm,0.3s,baz=87,slow=24,SNR=4.0
ROSC LR LR 20 25 49.8
comp=Z,326nm,21.4s,baz=349,slow=38
BBSR BB Station 14.62 13 ePn Pn 20 20 01.1 -0.4
comp=Z,139nm,0.3s
JTS JuntasAbangare 17.72 246 Pn Pn 20 20 42.8 +2.4
comp=Z,3μm,1.0s,SNR=45
JTS JuntasAbangare 17.72 246⇑ *i* P Pn 20 20 42.6 +2.3
JTS JuntasAbangare 17.72 246 P Pn 20 20 42.7 +2.4
comp=Z,6.4nm,0.3s,baz=67,slow=8.6,SNR=90
JTS S Sn 20 23 52.5 -5.2
comp=Z,0.5nm,0.3s,baz=266,slow=19,SNR=3.0
JTS JuntasAbangare 17.72 246 P Pn 20 20 42.7 +2.4
comp=Z,234nm,1.1s
JTS S Sn 20 23 52.5 -5.2
NHSC New Hope 18.26 327 eP Pn 20 20 46.7 +0.1
comp=Z,256nm,1.1s
TEIG Tepich 18.79 280 P P 20 20 52.0 +0.3
comp=Z,2.2nm,0.3s,baz=198,slow=2.2,SNR=12
TEIG Tepich 18.79 280 eP P 20 20 52.4 +0.7
TIGA Tifton 19.05 317⇓ P Pn 20 20 56.2 +0.2
baz=19
OTAV Otavalo 20.26 210 ePn Pn 20 21 11.8 +0.8
comp=Z,115nm,0.9s
GOGA Godfrey 20.31 322 eP P 20 21 08.6 +0.5
GOGA pmax pmax
comp=Z,118nm,1.2s
GOGA Godfrey 20.31 322 eP P 20 21 08.6 +0.5
comp=Z,118nm,1.2s
KMSC Kings Mountain 20.45 329⇑ P P 20 21 10.6 +1.1
baz=20
KMSC Kings Mountain 20.45 329 eP P 20 21 08.9 -0.7
comp=Z,30nm,0.8s
PTGA Pitinga 20.51 155 P Pn 20 21 12.1 -1.2
comp=Z,6.9nm,0.5s,baz=336,slow=13,SNR=15
PTGA Pitinga 20.51 155 eP P 20 21 11.5 +1.1
comp=Z,73nm,1.1s
JSRW J. Sargeant Re 21.18 339 eP P 20 21 17.4 +0.1
APG El Apazote 21.27 265 P P 20 21 14.8 -3.9
comp=Z,41nm,0.9s,baz=90,slow=7.4,SNR=43
CBN Corbin Frederi 21.48 341 eP P 20 21 20.7 +0.1
comp=Z,78nm,0.6s
BLA Blacksburg 21.73 334 eP P 20 21 23.5 +0.2
BLA pmax pmax
comp=Z,88nm,0.8s
BLA Blacksburg 21.73 334 eP P 20 21 23.5 +0.2
comp=Z,88nm,0.8s
TKL Tuckaleechee C 22.11 325 P P 20 21 27.2 -0.1
comp=Z,10nm,0.7s,baz=155,slow=12,SNR=13
TKL S S 20 25 25.7 0.0
comp=Z,21nm,0.6s,baz=228,slow=12,SNR=6.3
LRAL Lakeview Retre 22.29 315 eP P 20 21 29.5 +0.2
comp=Z,150nm,1.2s
SDMD Soldier's Deli 22.43 343 eP P 20 21 31.3 +0.6
comp=Z,135nm,0.9s
SDMD epP pP 20 21 48.5 0.0
MVL Millersville 22.86 344 eP P 20 21 33.2 -1.8
comp=Z,44nm,1.1s
ODNJ Ogdensburg 23.50 348 eP P 20 21 41.2 +0.2
comp=Z,37nm,0.8s
SSPA Standing Stone 23.87 342 eP P 20 21 45.5 +1.1
comp=Z,41nm,1.1s
KSPA Keystone Colle 24.19 347 eP P 20 21 48.7 +1.4
comp=Z,180nm,2.1s
HRV Adam Dziewonsk 24.47 355 eP P 20 21 49.7 -0.1
HRV *e*PP pP 20 22 09.5 -0.3
HRV pmax pmax
comp=Z,37nm,1.1s
HRV Adam Dziewonsk 24.47 355 eP P 20 21 49.7 -0.1
comp=Z,37nm,1.1s
HRV epP pP 20 22 09.4 -0.3
WVT Waverly 24.78 320 eP P 20 21 52.6 -0.2
WVT pmax pmax
comp=Z,55nm,0.7s
WVT Waverly 24.78 320 eP P 20 21 52.6 -0.2
comp=Z,55nm,0.7s
OXF Oxford 24.79 315 eP P 20 21 52.8 0.0
OXF pmax pmax
comp=Z,321nm,1.1s
OXF Oxford 24.79 315 eP P 20 21 52.8 0.0
comp=Z,321nm,1.1s
BINY Binghamton 24.86 347 eP P 20 21 53.4 0.0
comp=Z,80nm,1.4s
CMIG Matias Romero 25.16 272 P P 20 21 56.8 +0.4
comp=Z,2.4nm,0.7s,baz=69,slow=5.8,SNR=4.6
ACSO Alum Creek Sta 25.35 333 eP P 20 21 58.0 +0.2
comp=Z,27nm,0.9s
WCI Wyandotte Cave 25.37 326 eP P 20 21 58.7 +0.6
WCI pmax pmax
comp=Z,35nm,1.0s
WCI Wyandotte Cave 25.37 326 eP P 20 21 58.7 +0.6
comp=Z,35nm,1.0s
ALLY Alegheny Colle 25.50 339 eP P 20 21 59.4 +0.2
comp=Z,23nm,0.7s
UTMT University of 25.56 319 eP P 20 22 04.0 +4.2
ACCN Adirondack Com 25.58 351 eP P 20 21 59.5 -0.4
comp=Z,37nm,0.9s
HALT Halls 25.58 318 eP P 20 21 59.6 -0.4
GLAT Glass 25.77 319 eP P 20 22 01.9 +0.2
MMNY Mt. Morris Dam 25.82 344 eP P 20 22 03.4 +1.3
comp=Z,47nm,0.9s
USIN University of 25.94 324 P P 20 22 02.6 -0.6
comp=Z,63nm,1.0s
MDV Middlebury 26.12 352 eP P 20 22 05.5 +0.7
MDV epP pP 20 22 24.4 -0.5
BLO Bloomington 26.19 327 P P 20 22 05.8 +0.3
BLO pmax pmax
comp=Z,50nm,1.3s
BLO Bloomington 26.19 327 P P 20 22 05.8 +0.3
comp=Z,50nm,1.3s
WVL Waterville 26.41 358 eP P 20 22 08.3 +0.9
comp=Z,326nm,2.4s
340A Bronson 26.51 305⇓ P P 20 22 09.7 +1.3
baz=26
SIUC Southern Illin 26.66 321 eP P 20 22 09.9 +0.2
comp=Z,69nm,1.1s
539A Cross D Ranch, 26.68 302⇑ P P 20 22 11.2 +1.2
baz=27
OLIL Olney 26.72 324 eP P 20 22 10.9 +0.7
comp=Z,84nm,0.9s
PBMO Poplar Bluff 26.81 318 eP P 20 22 11.8 +0.8
comp=Z,34nm,1.1s
ATAH Atahualpa 26.91 202 P P 20 22 14.5 +1.9
comp=Z,16nm,0.8s,baz=8.2,slow=6.7,SNR=9.6
439A Center Grove, 26.96 303⇑ P P 20 22 13.6 +1.1
baz=27
339A Huntington 27.00 304⇓ P P 20 22 14.3 +1.4
baz=27
738A Fort Stevens R 27.03 298⇑ P P 20 22 14.4 +1.3
baz=27
239A Gary 27.21 306⇑ P P 20 22 16.2 +1.4
baz=27
NATX Nacogdoches 27.25 305 P P 20 22 15.2 +0.1
comp=Z,228nm,1.6s
538A Harpers Horsep 27.34 301⇓ P P 20 22 17.2 +1.3
baz=27
AAM Ann Arbor 27.36 335 P P 20 22 16.5 +0.6
AAM pmax pmax
comp=Z,21nm,0.6s
AAM Ann Arbor 27.36 335 P P 20 22 16.5 +0.6
comp=Z,21nm,0.6s
SAML Samuel 27.38 169 eP P 20 22 17.4 +1.0
comp=Z,30nm,1.1s
SAML epP pP 20 22 35.7 -0.9
SFIN Lafayette 27.39 328⇑ P P 20 22 17.6 +1.4
baz=27
SFIN Lafayette 27.39 328 P P 20 22 16.4 +0.2
comp=Z,68nm,1.5s
438A Sam Houston St 27.51 302⇑ P P 20 22 18.1 +0.6
baz=28
HKT Hockley 27.53 300 eP P 20 22 17.7 +0.1
HKT pmax pmax
comp=Z,85nm,2.0s
HKT Hockley 27.53 300 eP P 20 22 17.7 +0.1
comp=Z,85nm,2.0s
338A Crockett 27.61 304⇓ P P 20 22 19.8 +1.5
baz=28
MIAR Mount Ida 27.69 311 eP P 20 22 19.7 +0.7
MIAR pmax pmax
comp=Z,54nm,1.5s
MIAR Mount Ida 27.69 311 eP P 20 22 19.7 +0.7
comp=Z,54nm,1.5s
238A Jacksonville 27.71 305⇑ P P 20 22 20.6 +1.4
baz=28
138A Matatall Enter 27.95 306⇑ P P 20 22 23.1 +1.8
baz=28
537A Green Hill Far 27.97 300⇑ P P 20 22 22.4 +0.9
baz=28
SADO Sadowa 28.05 344 P P 20 22 21.4 -0.6
comp=Z,4.2nm,0.3s,baz=181,slow=8.6,SNR=11
337A Centerville 28.05 303⇓ P P 20 22 23.4 +1.2
baz=28
936A North Padre Is 28.07 295⇑ P P 20 22 23.4 +0.9
baz=28
437A Phantom Ranch, 28.08 302⇑ P P 20 22 23.5 +1.0
baz=28
237A Washetta, Mont 28.24 305⇓ P P 20 22 24.7 +0.7
baz=28
736A Circle Diamond 28.26 298⇓ P P 20 22 25.5 +1.4
baz=28
636A Smothers Creek 28.40 299⇑ P P 20 22 26.4 +1.1
baz=28
137A Heron Place, G 28.44 306⇑ P P 20 22 27.2 +1.5
baz=28
035Z Hargill 28.54 292⇓ P P 20 22 28.1 +1.5
baz=28
536A Bastrop 28.58 300⇓ P P 20 22 28.5 +1.5
baz=29
035A Encino 28.66 293⇑ P P 20 22 29.1 +1.4
baz=29
835A Beeville 28.73 296⇑ P P 20 22 29.5 +1.2
baz=29
336A Riesel 28.84 303⇓ P P 20 22 29.9 +0.7
baz=29
735A Kenedy 28.85 297⇓ P P 20 22 30.7 +1.3
baz=29
635A Leesville 28.97 298⇑ P P 20 22 31.2 +0.7
baz=29
535A Dale 28.99 300⇑ P P 20 22 31.7 +1.2
baz=29
934A Benavides 29.16 294⇓ P P 20 22 32.9 +0.8
baz=29
034A Hebbronville 29.20 293⇑ P P 20 22 33.6 +1.2
baz=29
435B Jarrell 29.23 301⇓ P P 20 22 33.5 +0.7
baz=29,SNR=5.8
335A Moody 29.27 302⇓ P P 20 22 34.1 +1.0
baz=29
834A Tilden 29.31 295⇑ P P 20 22 34.9 +1.5
baz=29
634A China Grove, S 29.45 298⇓ P P 20 22 35.9 +1.2
baz=29
734A La Parita Cree 29.49 297⇓ P P 20 22 36.2 +1.1
baz=30
WHTX Lake Whitney, 29.54 303⇑ P P 20 22 36.4 +1.0
baz=30,SNR=8.8
WHTX Lake Whitney, 29.54 303 eP P 20 22 35.5 0.0
comp=Z,382nm,2.7s
135A Vickery Place, 29.71 305⇑ P P 20 22 37.9 +1.0
baz=30
534A Blanco 29.74 299⇓ P P 20 22 37.5 +0.3
baz=30,SNR=5.2
434A Burnet 29.80 301⇓ P P 20 22 38.4 +0.6
baz=30,SNR=5.7
933A Laredo 29.82 294⇓ P P 20 22 38.6 +0.6
baz=30
Z35A Perchaven, San 29.89 306⇑ P P 20 22 39.3 +0.8
baz=30
W36A Wetumka 29.89 310⇓ P P 20 22 39.3 +0.8
baz=30
334A Lometa 29.94 302⇓ P P 20 22 39.4 +0.4
baz=30
TUL1 Leonard 29.94 312⇓ P P 20 22 39.9 +0.9
baz=30,SNR=21
TUL1 Leonard 29.94 312 eP P 20 22 39.2 +0.3
comp=Z,85nm,1.0s
833A Chaparral WMA, 30.08 295⇓ P P 20 22 40.8 +0.5
baz=30
733A Divot King Ran 30.08 296⇑ P P 20 22 40.6 +0.3
baz=30
234A Clairette 30.09 303⇓ P P 20 22 41.0 +0.7
baz=30,SNR=7.1
633A Saathoff Ranch 30.17 298⇓ P P 20 22 41.5 +0.4
baz=30,SNR=7.8
533A Kerrville 30.21 299⇑ P P 20 22 41.7 +0.2
baz=30
134A White-Moore Ra 30.24 304⇑ P P 20 22 42.6 +0.9
baz=30,SNR=9.2
W35A Tecumseh 30.37 310⇑ P P 20 22 43.8 +1.0
baz=30
Z34A Collier Ranch, 30.41 306⇓ P P 20 22 44.6 +1.4
baz=30
433A Art 30.46 300⇑ P P 20 22 44.0 +0.3
baz=30,SNR=13
Y34A Reagan Ranch, 30.52 307⇑ P P 20 22 45.2 +1.1
baz=30,SNR=23
R37A Teagarden Farm 30.54 317⇑ P P 20 22 44.9 +0.7
baz=30
333A Richland Sprin 30.54 301⇓ P P 20 22 45.0 +0.6
baz=30,SNR=10
832A Faith Ranch, C 30.57 295⇑ P P 20 22 44.4 -0.2
baz=30,SNR=12
Q37A Longview Farm, 30.62 318⇑ P P 20 22 45.2 +0.3
baz=31,SNR=5.5
V35A Meyer Ranch, C 30.62 311⇓ P P 20 22 45.2 +0.3
baz=31
732A Laxson Ranch, 30.66 296⇓ P P 20 22 45.4 0.0
baz=31
632A Uvalde 30.69 298⇑ P P 20 22 45.8 +0.1
baz=31
233A Rising Star 30.70 303⇓ P P 20 22 45.9 +0.2
baz=31,SNR=10
S36A Lake Cedric, C 30.73 315⇓ P P 20 22 46.4 +0.5
baz=31,SNR=19
X34A Smith Ranch, M 30.84 308⇓ P P 20 22 48.0 +1.1
baz=31,SNR=13
JFWS Jewell Farm 30.85 328 eP P 20 22 47.0 +0.1
JFWS pmax pmax
comp=Z,53nm,0.7s
JFWS Jewell Farm 30.85 328 eP P 20 22 47.0 +0.1
comp=Z,53nm,0.7s
133A Hamilton Ranch 30.91 304⇑ P P 20 22 48.8 +1.1
baz=31,SNR=9.4
532A Rocksprings 30.95 299⇑ P P 20 22 48.7 +0.6
baz=31,SNR=9.7
JCT Junction City 30.96 299 eP P 20 22 47.7 -0.4
JCT pmax pmax
comp=Z,77nm,1.9s
JCT Junction City 30.96 299⇓ P P 20 22 48.5 +0.4
baz=31,SNR=6.6
JCT Junction City 30.96 299 eP P 20 22 47.7 -0.4
comp=Z,77nm,1.9s
R36A Gordon, Harris 30.99 316⇓ P P 20 22 48.9 +0.7
baz=31,SNR=7.3
NNA Nana 31.00 196 eP P 20 22 49.1 +0.6
NNA Nana 31.00 196 eP P 20 22 49.1 +0.6
comp=Z,37nm,0.6s
Z33A Whitaker Ranch 31.04 305⇑ P P 20 22 49.5 +0.8
baz=31,SNR=8.9
W34A Bridge Creek, 31.07 309⇑ P P 20 22 49.2 +0.3
baz=31
W34A Bridge Creek, 31.07 309 eP P 20 22 49.2 +0.3
comp=Z,46nm,1.3s
432A Menard 31.07 300⇓ P P 20 22 49.5 +0.5
baz=31,SNR=8.7
V34A Guthrie 31.14 310 eP P 20 22 49.8 +0.2
comp=Z,157nm,1.9s
332A Millersview 31.18 301⇑ P P 20 22 50.6 +0.6
baz=31,SNR=5.8
S35A Otter Creek Ra 31.20 314⇓ P P 20 22 50.7 +0.7
baz=31,SNR=12
Y33A Hilltop Ranch, 31.20 306⇑ P P 20 22 50.9 +0.8
baz=31
232A Coleman 31.26 302⇑ P P 20 22 51.2 +0.5
baz=31,SNR=10
X33A Lawton 31.32 307⇑ P P 20 22 51.7 +0.5
baz=31,SNR=12
631A Perdido Creek 31.34 297⇓ P P 20 22 51.6 +0.2
baz=31,SNR=6.6
U34A Anderson Ranch 31.43 311⇓ P P 20 22 53.0 +0.8
baz=31,SNR=8.7
ABTX Abilene, Hawle 31.50 303⇓ P P 20 22 53.3 +0.5
baz=32,SNR=8.7
ABTX Abilene, Hawle 31.50 303 eP P 20 22 53.3 +0.5
comp=Z,157nm,1.7s
531A Rocksprings 31.50 298⇓ P P 20 22 53.0 +0.2
baz=32,SNR=8.2
W33A Caddo, Fort Co 31.55 309⇓ P P 20 22 53.6 +0.4
baz=32
Z32A Haskell 31.60 305⇓ P P 20 22 54.1 +0.5
baz=32,SNR=18
WMOK Wichita Mounta 31.61 308 eP P 20 22 53.8 +0.1
WMOK pmax pmax
comp=Z,199nm,2.5s
WMOK Wichita Mounta 31.61 308 eP P 20 22 53.8 +0.1
comp=Z,200nm,2.5s
431A Sonora 31.69 299⇓ P P 20 22 55.0 +0.5
baz=32,SNR=13
V33A Lossen Ranch, 31.70 310⇑ P P 20 22 54.7 +0.2
baz=32
331A San Angelo 31.71 301⇑ P P 20 22 55.1 +0.4
baz=32,SNR=8.0
S34A Willow Spring 31.75 314⇑ P P 20 22 55.6 +0.8
baz=32
231A Bronte 31.81 302⇓ P P 20 22 55.7 +0.1
baz=32,SNR=5.1
Y32A R-V Farms, Ver 31.83 306⇓ P P 20 22 56.3 +0.6
baz=32,SNR=12
U33A Lingo Farm, Me 31.84 311⇑ P P 20 22 56.5 +0.7
baz=32,SNR=5.1
X32A Elmer 31.87 307⇑ P P 20 22 56.7 +0.7
baz=32,SNR=7.8
131A Roby 32.10 303⇓ P P 20 22 58.3 +0.2
baz=32
W32A Sentinel 32.11 308⇓ P P 20 22 58.8 +0.7
baz=32,SNR=34
Z31A Sharp Cattle R 32.13 304⇓ P P 20 22 58.7 +0.4
baz=32,SNR=13
KSU1 Kansas State U 32.14 316⇑ P P 20 22 59.4 +1.2
baz=32,SNR=7.2
KSU1 Kansas State U 32.14 316 eP P 20 22 58.2 -0.1
comp=Z,37nm,0.9s
530A J-C Ranch, Com 32.16 298⇓ P P 20 22 59.0 +0.3
baz=32,SNR=12
T33A Patterson Ranc 32.24 312⇓ P P 20 23 00.1 +0.9
baz=32
430A Baggett Ranch, 32.24 299⇑ P P 20 22 59.6 +0.3
baz=32
S33A Kaszmaul Farm, 32.31 313⇑ P P 20 23 01.1 +1.3
baz=32,SNR=7.6
330A Mertzon 32.36 300⇓ P P 20 23 00.4 0.0
baz=32,SNR=12
230A Sterling City 32.44 301⇑ P P 20 23 01.4 +0.3
baz=32,SNR=6.6
Y31A Rekieta Farm, 32.45 305⇓ P P 20 23 01.4 +0.4
baz=32,SNR=8.3
U32A Winter Ranch, 32.46 310⇑ P P 20 23 02.0 +0.8
baz=32
X31A McDonald Ranch 32.48 307⇑ P P 20 23 01.6 +0.3
baz=32,SNR=9.7
130A Snyder 32.54 303⇑ P P 20 23 02.2 +0.3
baz=32
R33A Olander Ranch, 32.65 314⇓ P P 20 23 03.8 +1.1
baz=33,SNR=17
W31A Holland Ranch, 32.66 308⇑ P P 20 23 03.4 +0.4
baz=33,SNR=7.1
COWI Conover 32.74 333 eP P 20 23 04.2 +0.7
comp=Z,57nm,1.5s
429A Davenport Ranc 32.74 299⇓ P P 20 23 03.8 0.0
baz=33,SNR=10
T32A Huddler Ranch, 32.76 312⇑ P P 20 23 04.6 +0.8
baz=33
V31A Spring Creek L 32.82 309⇑ P P 20 23 05.5 +1.1
baz=33,SNR=14
Q33A Connelly Farm, 32.89 315⇑ P P 20 23 06.0 +1.1
baz=33,SNR=38
Z30A Sanderson Ranc 32.89 304⇑ P P 20 23 05.5 +0.4
baz=33,SNR=21
529A Stev Forest Ra 32.90 298⇓ P P 20 23 05.3 +0.2
baz=33,SNR=14
Y30A Stafford Cattl 32.91 305⇓ P P 20 23 05.4 +0.2
baz=33,SNR=6.9
S32A Newby Ranch, P 33.01 312⇑ P P 20 23 06.7 +0.7
baz=33
P33A Williams Farm, 33.03 316⇑ P P 20 23 06.5 +0.4
baz=33,SNR=5.8

229A **Bryant Ranch,** 33.03 301 ⇓P P 20 23 06.7 +0.4
baz=33,SNR=8.2
329A **Wagon Wheel Ra** 33.04 300 ⇓P P 20 23 06.6 +0.3
baz=33,SNR=27
U31A **Nine Bar Ranch** 33.08 310 ⇓P P 20 23 07.0 +0.5
baz=33
X30A **Coker Ranch, T** 33.09 306 ⇓P P 20 23 07.1 +0.3
baz=33,SNR=6.5
W30A **Crocket Farms** 33.14 307 ⇓P P 20 23 08.2 +1.1
baz=33
R32A **Long Quarter,** 33.20 314 ⇑P P 20 23 08.8 +1.2
baz=33,SNR=12
T31A **Randall Ranch,** 33.26 311 ⇓P P 20 23 09.4 +1.2
baz=33,SNR=8.2
129A **Stewart Farms,** 33.27 302 ⇓P P 20 23 09.0 +0.6
baz=33,SNR=8.4
Z29A **Hungry Hill Ra** 33.34 303 ⇓P P 20 23 09.4 +0.5
baz=33,SNR=16
S31A **Mullinville** 33.36 312 ⇑P P 20 23 10.1 +1.1
baz=33
Q32A **Meitler Ranch,** 33.38 315 ⇓P P 20 23 10.2 +1.1
baz=33,SNR=17
V30A **Spur Ranch, Mi** 33.45 308 ⇑P P 20 23 10.8 +1.0
baz=33,SNR=8.0
Y29A **Porterfield Fa** 33.51 304 ⇓P P 20 23 10.9 +0.5
baz=34,SNR=22
R31A **Burdett** 33.70 313 ⇓P P 20 23 13.0 +1.0
baz=34,SNR=17
228A **UT Block 9, Go** 33.71 301 ⇓P P 20 23 12.2 0.0
baz=34,SNR=16
P32A **Huiting Farm,** 33.72 316 ⇓P P 20 23 12.6 +0.5
baz=34,SNR=15
U30A **WK&E Inc. Balk** 33.73 309 ⇓P P 20 23 12.9 +0.7
baz=34
X29A **Tulia** 33.73 305 ⇓P P 20 23 12.5 +0.1
baz=34,SNR=15
128A **Castleberry Fa** 33.77 302 ⇑P P 20 23 12.6 -0.1
baz=34,SNR=13
SPMN **Marine on St.** 33.79 328 ⇑P P 20 23 13.3 +0.8
baz=34
O32A **Brockman Farm,** 33.84 317 ⇓P P 20 23 13.4 +0.2
baz=34
T30A **Plains** 33.86 310 ⇑P P 20 23 14.5 +1.2
baz=34,SNR=5.8
AMTX **Amarillo** 33.87 306 ⇑P P 20 23 13.7 +0.2
baz=34
AMTX **Amarillo** 33.87 306 *e*P P 20 23 13.4 -0.1
comp=Z,371nm,3.0s
Z28A **Tucker Farm, M** 33.89 303 ⇓P P 20 23 14.1 +0.4
baz=34,SNR=6.9
W29A **Amarillo** 33.93 307 ⇓P P 20 23 14.6 +0.5
baz=34
Q31A **Ellis** 33.95 314 ⇓P P 20 23 15.1 +1.0
baz=34,SNR=8.6
TXAR **Lajitas Array** 33.95 296 P P 20 23 14.1 -0.2
comp=Z,2.7nm,0.6s,baz=109,slow=8.9,SNR=42
TXAR PcP PcP 20 25 51.4 +0.6
comp=Z,2.6nm,0.7s,baz=128,slow=4.9,SNR=6.7
TXAR ScP ScP 20 29 26.2 -1.5
comp=Z,4.4nm,1.0s,baz=120,slow=5.0,SNR=15
TXAR LR LR 20 39 41.5
comp=Z,88nm,21.5s,baz=0.0,slow=41
Y28A **McKinney Farm,** 33.98 304 P P 20 23 14.4 -0.1
baz=34,SNR=18
S30A **Montezuma** 34.06 311 ⇓P P 20 23 16.3 +1.1
baz=34,SNR=11
V29A **Stinnett** 34.12 308 ⇓P P 20 23 16.2 +0.6
baz=34
N32A **Stulken Farm,** 34.12 318 ⇑P P 20 23 16.2 +0.7
baz=34
X28A **Dimmitt** 34.14 305 ⇓P P 20 23 16.1 +0.2
baz=34
U29A **Oasis Ranch, S** 34.15 309 ⇑P P 20 23 16.5 +0.5
baz=34
LPAZ **La Paz** 34.17 179 *e*P P 20 23 17.7 +0.9
LPAZ pmax pmax
comp=Z,20nm,1.0s
LPAZ **La Paz** 34.17 179 P P 20 23 17.9 +1.1
comp=Z,4.2nm,0.4s,baz=353,slow=3.8,SNR=14
LPAZ LR LR 20 39 42.8
comp=Z,200nm,18.1s,baz=335,slow=40
LPAZ **La Paz** 34.17 179 *e*P P 20 23 17.7 +0.9
comp=Z,20nm,1.0s
P31A **Stockton** 34.19 315 ⇓P P 20 23 16.9 +0.7
baz=34,SNR=12
R30A **Dighton** 34.22 313 ⇑P P 20 23 17.4 +0.9
baz=34,SNR=22
BGNE **Belgrade** 34.38 319 ⇓P P 20 23 18.6 +0.8
baz=34
W28A **Vega** 34.41 307 ⇑P P 20 23 18.6 +0.4
baz=34
MSTX **Muleshoe** 34.41 304 ⇓P P 20 23 18.5 +0.3
baz=34,SNR=21
MSTX **Muleshoe** 34.41 304 *e*P P 20 23 18.2 0.0
comp=Z,161nm,1.6s
T29A **Hugoton** 34.46 310 ⇓P P 20 23 19.7 +1.1
baz=34,SNR=7.4
O31A **Woolen Ranch,** 34.47 316 ⇑P P 20 23 19.0 +0.4
baz=34,SNR=7.7
Q30A **Quinter** 34.50 314 ⇓P P 20 23 19.8 +0.9
baz=34,SNR=23
S29A **Ulysses** 34.52 311 ⇓P P 20 23 20.2 +1.1
baz=34,SNR=10
N31A **Bailey Ranch,** 34.58 317 ⇓P P 20 23 20.0 +0.5
baz=35
V28A **Channing** 34.60 307 ⇑P P 20 23 20.0 +0.1
baz=35
P30A **Selden** 34.79 315 ⇑P P 20 23 22.0 +0.7
baz=35,SNR=21
ECSD **EROS Data Cent** 34.83 323 ⇑P P 20 23 21.8 +0.2
baz=35,SNR=28
ECSD **EROS Data Cent** 34.83 323 *e*P P 20 23 21.8 +0.2
comp=Z,31nm,0.8s
U28A **Mallet** 34.83 308 ⇓P P 20 23 22.3 +0.5
baz=35
M31A **Lambtecht Ranc** 34.87 318 ⇓P P 20 23 22.4 +0.4
baz=35,SNR=5.7
R29A **Marienthal** 34.89 312 ⇑P P 20 23 23.5 +1.2
baz=35,SNR=11
O30A **MW Ranch, Wils** 34.97 316 ⇑P P 20 23 23.4 +0.5
baz=35
Q29A **Oakley** 34.99 313 ⇓P P 20 23 23.9 +0.8
baz=35,SNR=30
T28A **Walsh** 35.04 310 ⇓P P 20 23 24.5 +0.8
baz=35
V27A **Dan Oppiter Fa** 35.06 307 ⇓P P 20 23 24.5 +0.6
baz=35
S28A **Manter** 35.07 310 ⇓P P 20 23 24.8 +0.9
baz=35,SNR=6.0
L31A **Butterfield Fa** 35.24 319 ⇑P P 20 23 25.7 +0.5
baz=35
P29A **Atwood** 35.28 314 ⇑P P 20 23 26.4 +0.8
baz=35,SNR=6.9
U27A **Thompson Grove** 35.30 308 ⇑P P 20 23 26.3 +0.4
baz=35,SNR=16
N30A **Hueftle Ranch,** 35.31 317 ⇓P P 20 23 26.4 +0.6
baz=35
R28A **Tribune** 35.33 312 ⇓P P 20 23 26.7 +0.6
baz=35,SNR=24
O29A **4D Ranch, Culb** 35.44 315 ⇓P P 20 23 27.6 +0.6
baz=35,SNR=8.4
T27A **Campo** 35.47 309 ⇓P P 20 23 27.6 +0.3
baz=35
Q28A **Sharon Springs** 35.66 313 ⇑P P 20 23 29.7 +0.8
baz=36,SNR=7.5
L30A **Spencer Herefo** 35.66 318 ⇓P P 20 23 29.5 +0.6
baz=36,SNR=6.9
N29A **Votaw Ranch, W** 35.66 316 ⇓P P 20 23 29.5 +0.6
baz=36
V26A **Tequesquite Ra** 35.80 307 ⇑P P 20 23 30.8 +0.6
baz=36,SNR=7.0
P28A **Saint Francis** 35.83 314 ⇑P P 20 23 31.0 +0.6
baz=36
S27A **Las Animas** 35.84 310 ⇑P P 20 23 31.1 +0.6
baz=36
MNTX **Cornudas Mount** 35.90 299 ⇑P P 20 23 31.4 +0.4
baz=36,SNR=31
MNTX **Cornudas Mount** 35.90 299 *e*P P 20 23 31.1 +0.1
comp=Z,111nm,1.8s
U26A **Atchley Ranch,** 35.98 308 ⇓P P 20 23 32.1 +0.3
baz=36,SNR=20
K30A **Basset** 35.99 320 ⇓P P 20 23 32.2 +0.6
baz=36,SNR=5.8
R27A **Eads** 36.01 311 ⇑P P 20 23 32.7 +0.7
baz=36,SNR=9.3
M29A **Burnside Ranch** 36.02 317 ⇓P P 20 23 32.5 +0.6
baz=36
O28A **Krutsinger Ran** 36.10 314 ⇑P P 20 23 33.3 +0.7
baz=36
T26A **Comanche Natio** 36.15 309 ⇑P P 20 23 33.8 +0.5
baz=36,SNR=5.7
KSCO **Kaye Shedlock'** 36.19 312 ⇓P P 20 23 34.5 +1.0
baz=36,SNR=5.8
KSCO **Kaye Shedlock'** 36.19 312 *e*P P 20 23 34.5 +1.0
comp=Z,159nm,1.7s
L29A **Maesberg Ranch** 36.20 318 ⇓P P 20 23 33.9 +0.4
baz=36
N28A **Pribbeno Ranch** 36.21 315 ⇑P P 20 23 34.1 +0.6
baz=36,SNR=5.3
S26A **Kim** 36.23 310 ⇓P P 20 23 34.4 +0.5
baz=36,SNR=5.9
J30A **Dallas** 36.28 321 ⇓P P 20 23 34.4 +0.3
baz=36,SNR=6.6
P27A **Ficken Ranch,** 36.39 313 ⇓P P 20 23 36.1 +0.9
baz=36
M28A **Bar X Bar Ranc** 36.44 317 ⇓P P 20 23 36.3 +0.8
baz=36,SNR=9.1
K29A **Lazy Trails An** 36.47 319 ⇓P P 20 23 36.1 +0.4
baz=36
R26A **Arlington** 36.48 311 ⇑P P 20 23 36.5 +0.5
baz=36
I30A **Oacoma** 36.57 321 ⇑P P 20 23 37.0 +0.5
baz=37
BRSD **Miller** 36.60 322 ⇓P P 20 23 37.2 +0.5
baz=37
O27A **Beecher Island** 36.61 314 ⇓P P 20 23 38.1 +1.1
baz=37
OGNE **Ogallala** 36.66 316 ⇓P P 20 23 38.1 +0.8
baz=37
OGNE **Ogallala** 36.66 316 *e*P P 20 23 37.5 +0.1
comp=Z,127nm,1.6s
SCHQ **Schefferville** 36.69 2 P P 20 23 38.3 +1.0
comp=Z,23nm,0.5s,baz=194,slow=6.9,SNR=66
SCHQ LR LR 20 37 19.4
comp=Z,82nm,21.2s,baz=193,slow=34
SCHQ **Schefferville** 36.69 2 *e*P P 20 23 38.3 +1.0
comp=Z,33nm,0.8s
T25A **Trinidad** 36.75 308 ⇑P P 20 23 39.1 +0.8
baz=37,SNR=16
T25A **Trinidad** 36.75 308 *e*P P 20 23 39.2 +0.8
comp=Z,46nm,1.4s
Q26A **Hugo** 36.79 312 ⇓P P 20 23 39.9 +1.3
baz=37,SNR=9.9
J29A **Okreek** 36.83 320 ⇑P P 20 23 39.2 +0.5
baz=37,SNR=9.9
N27A **Anderson Farm,** 36.93 315 ⇑P P 20 23 40.3 +0.5
baz=37,SNR=7.8
P26A **Davis Ranch, A** 36.93 313 ⇓P P 20 23 41.1 +1.3
baz=37,SNR=8.8
R25A **Fountain Ranch** 37.03 310 ⇓P P 20 23 41.0 +0.4
baz=37,SNR=21
K28A **Ten Mile Ranch** 37.10 318 ⇓P P 20 23 41.7 +0.6
baz=37
G30A **Faulkton** 37.12 323 ⇓P P 20 23 41.7 +0.6
baz=37,SNR=9.3
I29A **Vivian Onida** 37.15 321 ⇑P P 20 23 42.0 +0.5
baz=37,SNR=8.4
M27A **Reverse DX Ran** 37.17 316 ⇓P P 20 23 42.6 +0.8
baz=37,SNR=5.3
O26A **Horse Wrangler** 37.20 314 ⇑P P 20 23 43.1 +1.1
baz=37
Q25A **Bedland, Calha** 37.30 311 ⇓P P 20 23 44.2 +1.2
baz=37,SNR=5.5
L27A **T5 Ranch, Ells** 37.39 317 ⇑P P 20 23 44.0 +0.4
baz=37
J28A **Allard Ranch,** 37.40 320 ⇓P P 20 23 44.0 +0.4
baz=37,SNR=7.9
N26A **Koester Ranch,** 37.40 315 ⇓P P 20 23 44.4 +0.7
baz=37,SNR=7.0
H29A **Onida** 37.44 322 ⇑P P 20 23 44.4 +0.5
baz=37
AGMN **Agassiz Nation** 37.44 330 ⇓P P 20 23 44.3 +0.4
baz=37,SNR=7.2
F30A **Leola** 37.48 324 ⇑P P 20 23 44.8 +0.6
baz=38
P25A **Willow Gulch B** 37.49 312 ⇑P P 20 23 45.1 +0.6
baz=38
LPM **Los Pinos Moun** 37.57 303 *e*P P 20 23 46.2 +0.9
ANMO **Albuquerque** 37.61 304 *c i*P P 20 23 46.4 +0.8
ANMO pmax pmax
comp=Z,53nm,1.4s
ANMO **Albuquerque** 37.61 304 *e*P P 20 23 46.2 +0.6
comp=Z,22nm,1.3s
M26A **McRoberts Ranc** 37.64 316 ⇓P P 20 23 45.9 +0.2
baz=38
K27A **Flueckinger Fa** 37.65 318 ⇓P P 20 23 45.9 +0.1
baz=38
R24A **Sanders Place,** 37.66 310 ⇑P P 20 23 47.5 +1.4
baz=38,SNR=22
I28A **Midland** 37.66 320 ⇓P P 20 23 46.1 +0.3
baz=38,SNR=7.5
O25A **Wiggins** 37.70 313 ⇓P P 20 23 46.9 +0.5
baz=38
SDCO **Great Sand Dun** 37.77 309 ⇓P P 20 23 48.0 +0.9
baz=38,SNR=39
SDCO **Great Sand Dun** 37.77 309 *e*P P 20 23 48.0 +0.9
comp=Z,48nm,1.4s
J27A **Elkhorn Farm,** 37.78 319 ⇓P P 20 23 47.5 +0.6
baz=38
LENM **Lemitar** 37.80 303 *e*P P 20 23 47.1 -0.2
E30A **Jud** 37.82 325 ⇓P P 20 23 47.8 +0.7
baz=38
L26A **Underwood Farm** 37.87 316 ⇑P P 20 23 48.5 +0.9
baz=38
F29A **Eureka** 37.92 324 ⇓P P 20 23 48.5 +0.5
baz=38
H28A **Mission Ridge** 37.95 321 ⇑P P 20 23 48.9 +0.7
baz=38
Q24A **Divide** 37.97 311 ⇑P P 20 23 49.5 +0.7
baz=38,SNR=8.0
Q24A **Divide** 37.97 311 *e*P P 20 23 48.4 -0.4
comp=Z,39nm,1.3s
N25A **Grover** 37.98 314 ⇑P P 20 23 49.6 +0.9
baz=38
P24A **Kohler Place,** 38.01 312 ⇓P P 20 23 49.8 +0.9
baz=38
121A **Cookes Peak, D** 38.08 300 ⇓P P 20 23 50.7 +1.1
baz=38,SNR=6.5
121A **Cookes Peak, D** 38.08 300 P P 20 23 50.0 +0.4
comp=Z,13nm,0.9s
121A *e*pP pP 20 24 10.1 -0.3
G28A **Parade** 38.11 322 ⇑P P 20 23 50.5 +1.0
baz=38,SNR=7.8
D30A **Buchanan** 38.12 326 ⇓P P 20 23 50.1 +0.6
baz=38
S23A **Nye Farm, Mont** 38.13 309 ⇓P P 20 23 50.8 +0.7
baz=38
R23A **Moffat** 38.17 309 ⇑P P 20 23 51.2 +0.8
baz=38,SNR=28
M25A **Palm-Egli Farm** 38.24 315 ⇑P P 20 23 51.8 +1.0
baz=38
I27A **Quinn** 38.24 320 ⇓P P 20 23 51.2 +0.6
baz=38,SNR=9.0
K26A **Motz Farm, Whi** 38.25 317 ⇓P P 20 23 51.3 +0.5
baz=38
E29A **Napoleon** 38.26 325 ⇓P P 20 23 51.5 +0.7
baz=38
C30A **Mose, Pekin** 38.35 327 ⇓P P 20 23 52.2 +0.8
baz=38
O24A **Longmont** 38.37 313 ⇑P P 20 23 53.2 +1.3
baz=38
Q23A **Hartsel** 38.44 310 ⇑P P 20 23 54.2 +1.4
baz=38
F28A **McLaughlin** 38.48 323 ⇑P P 20 23 53.5 +0.8
baz=38
J26A **Sides Ranch, S** 38.49 318 ⇑P P 20 23 53.0 +0.2
baz=38
L25A **Engebretsen Ra** 38.51 316 ⇓P P 20 23 53.9 +0.9
baz=38,SNR=5.2
N24A **Carr** 38.53 314 ⇓P P 20 23 54.5 +1.2
baz=38,SNR=8.1
D29A **Pettibone, Tap** 38.54 325 ⇑P P 20 23 54.0 +1.0
baz=38
H27A **Howes** 38.55 321 ⇓P P 20 23 53.7 +0.4
baz=38,SNR=6.9
P23A **Jefferson** 38.62 311 ⇑P P 20 23 54.7 +0.4
baz=39,SNR=8.2
ISCO **Idaho Springs** 38.62 312 *e*P P 20 23 55.2 +1.0
ISCO pmax pmax
comp=Z,54nm,1.4s
ISCO **Idaho Springs** 38.62 312 ⇓P P 20 23 55.0 +0.7
baz=39,SNR=32
ISCO **Idaho Springs** 38.62 312 *e*P P 20 23 55.2 +1.0
comp=Z,54nm,1.4s
K25A **Mack Ranch, Ha** 38.66 317 ⇑P P 20 23 55.3 +1.0
baz=39,SNR=5.4
I26A **New Underwood** 38.72 319 ⇑P P 20 23 55.1 +0.5
baz=39
B30A **Myrvik Farm, E** 38.76 328 ⇓P P 20 23 55.3 +0.4
baz=39,SNR=9.6
S22A **4UR Ranch, Cre** 38.76 308 ⇓P P 20 23 55.8 +0.4
baz=39,SNR=19
S22A **4UR Ranch, Cre** 38.76 308 *e*P P 20 23 56.3 +0.9
comp=Z,26nm,1.3s
M24A **Cheyenne** 38.77 315 ⇓P P 20 23 56.6 +1.3
baz=39,SNR=7.6
ULM **Lac du Bonnet** 38.83 332 P P 20 23 54.6 -0.8
comp=Z,11nm,0.9s,baz=133,slow=8.5,SNR=22
ULM pP pP 20 24 15.2 -1.1
comp=Z,11nm,1.1s,baz=156,slow=4.9,SNR=3.4
ULM ScP ScP 20 29 43.1 -2.1
comp=Z,3.4nm,0.8s,baz=103,slow=9.1,SNR=5.4
ULM LR LR 20 40 12.7
comp=Z,117nm,20.2s,baz=234,slow=36
E28A **Huff** 38.84 324 ⇓P P 20 23 56.8 +1.2
baz=39
G27A **Dupree** 38.87 322 ⇑P P 20 23 57.0 +1.1
baz=39,SNR=32
H26A **Fairpoint** 38.97 320 ⇑P P 20 23 57.8 +1.1
baz=39
J25A **Sunshine Ranch** 38.99 318 ⇑P P 20 23 57.6 +0.6
baz=39
O23A **Lake Granby, G** 39.00 312 ⇓P P 20 23 58.5 +1.2
baz=39,SNR=13
MDND **Maddock** 39.03 326 ⇑P P 20 23 58.1 +0.9
baz=39
A30A **Hoffart Farm,** 39.07 329 P P 20 23 57.4 0.0
baz=39,SNR=9.5
319A **Douglas** 39.10 298 ⇑P P 20 23 58.7 +0.6
baz=39,SNR=5.0
PHWY **Pilot Hill** 39.13 314 *e*P P 20 23 58.8 +0.3
comp=Z,65nm,1.6s
BDFB **Brasilia** 39.14 148 P P 20 23 59.2 +0.8
comp=Z,1.1nm,0.4s,baz=289,slow=19,SNR=3.1
BDFB LR LR 20 41 25.5
comp=Z,190nm,18.9s,baz=320,slow=38
D28A **Regan** 39.15 325 ⇑P P 20 23 58.9 +0.8
baz=39
F27A **Lemmon** 39.20 322 ⇑P P 20 23 59.8 +1.2
baz=39,SNR=23
G26A **Maurine** 39.22 321 ⇓P P 20 23 59.4 +0.5
baz=39,SNR=7.7
E27A **Carson** 39.25 323 ⇑P P 20 24 00.6 +1.6
baz=39,SNR=9.7
I25A **Rochford** 39.25 319 ⇓P P 20 23 59.9 +0.6
baz=39,SNR=16
B29A **Wagenman Farm,** 39.29 327 ⇓P P 20 24 00.2 +0.9
baz=39,SNR=5.5
K24A **Anderson Ranch** 39.33 316 ⇑P P 20 24 00.8 +0.9
baz=39
C28A **Hausauer Farms** 39.36 326 ⇓P P 20 24 00.8 +0.9
baz=39
P22A **Eagle** 39.36 311 ⇓P P 20 24 01.0 +0.7
baz=39,SNR=9.9
SMCO **Snowmass** 39.37 310 *e*P P 20 24 00.6 +0.1
comp=Z,55nm,1.2s
O22A **Kremmling** 39.43 312 ⇑P P 20 24 01.6 +0.7
baz=39,SNR=28
H25A **Fruitdale** 39.47 320 ⇑P P 20 24 01.3 +0.3
baz=40,SNR=7.9
RSSD **Black Hills** 39.49 319 *e*P P 20 24 01.8 +0.5
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD **Black Hills** 39.49 319 *e*P P 20 24 01.8 +0.5
comp=Z,8.0nm,1.0s
J24A **Dixon Ranch, L** 39.51 317 ⇓P P 20 24 02.1 +0.8
baz=40
A29A **Manning Farm,** 39.52 328 ⇑P P 20 24 01.4 +0.2
baz=40
F26A **Lodgepole** 39.56 322 ⇑P P 20 24 02.5 +0.8
baz=40,SNR=7.0
N22A **Wattenberg Ran** 39.61 313 ⇓P P 20 24 03.3 +0.9
baz=40,SNR=11
D27A **Center** 39.62 324 ⇓P P 20 24 03.5 +1.4
baz=40
L23A **Garrett** 39.64 315 ⇓P P 20 24 03.3 +0.7
baz=40,SNR=11
G25A **Newell** 39.66 321 ⇓P P 20 24 03.4 +0.9
baz=40,SNR=11
I24A **Kuemmerle Ranc** 39.74 318 ⇓P P 20 24 03.7 +0.4
baz=40
E26A **Carlson Angus** 39.79 323 ⇓P P 20 24 04.6 +1.1
baz=40,SNR=9.2
B28A **Dugan Ranch, T** 39.80 327 ⇑P P 20 24 04.3 +0.7
baz=40
MVCO **Mesa Verde** 39.85 307 ⇓P P 20 24 04.5 +0.1
baz=40
MVCO **Mesa Verde** 39.85 307 *e*P P 20 24 05.1 +0.6
comp=Z,23nm,1.6s
K23A **Bowen Ranch, D** 39.87 316 ⇓P P 20 24 05.7 +1.3
baz=40
M22A **Cedar Creek Ra** 39.95 314 ⇑P P 20 24 06.0 +0.8
baz=40
C27A **Sayler Ranch,** 39.96 325 ⇓P P 20 24 06.0 +1.1
baz=40
A28A **Rude Farm, Bot** 40.04 327 ⇓P P 20 24 06.2 +0.6
baz=40
F25A **Bowman** 40.07 322 ⇑P P 20 24 06.5 +0.6
baz=40
D26A **Manning** 40.09 324 ⇓P P 20 24 07.1 +1.1
baz=40,SNR=6.3
L22A **Ellis Ranch, M** 40.10 315 ⇓P P 20 24 07.2 +0.9
baz=40,SNR=6.1
J23A **Dilts Ranch, B** 40.12 317 ⇑P P 20 24 06.6 +0.1
baz=40
H24A **Dirks Ranch, A** 40.12 319 ⇑P P 20 24 06.5 +0.1
baz=40,SNR=11
PV01 **Paradox Valley** 40.19 308 *e*P P 20 24 08.2 +1.0
comp=Z,6μm,1.6s
B27A **Peters Farms,** 40.25 326 ⇓P P 20 24 07.7 +0.5
baz=40
W18A **Petrified Fore** 40.25 303 ⇑P P 20 24 08.4 +0.8
baz=40
X18A **Snowflake** 40.28 302 ⇓P P 20 24 08.9 +0.9
baz=40,SNR=10
I23A **Meade Ranch, G** 40.32 318 ⇓P P 20 24 08.2 +0.2
baz=40
G24A **Alzada** 40.33 320 ⇓P P 20 24 08.3 +0.2
baz=40
E25A **Miller Ranch,** 40.34 322 ⇑P P 20 24 09.3 +1.2
baz=40,SNR=6.5
C26A **Wahner Farm, P** 40.35 325 ⇑P P 20 24 09.0 +0.8
baz=40
K22A **Casper** 40.42 316 ⇑P P 20 24 09.7 +0.7
baz=40,SNR=9.1
K22A **Casper** 40.42 316 *e*P P 20 24 08.8 -0.2
comp=Z,107nm,1.9s
LVC **Limon Verde** 40.46 181 P P 20 24 09.5 0.0
comp=Z,36nm,0.6s,baz=17,slow=5.3,SNR=15
LVC pP pP 20 24 30.3 -0.3
comp=Z,20nm,0.6s,baz=4.3,slow=5.4,SNR=3.3
TUC **Tucson** 40.52 299 *e*P P 20 24 10.4 +0.6
TUC pmax pmax
comp=Z,23nm,1.7s
TUC **Tucson** 40.52 299 *e*P P 20 24 10.4 +0.6
comp=Z,23nm,1.7s
H23A **Clabaugh Cattl** 40.56 319 ⇓P P 20 24 10.8 +0.8
baz=40
A27A **Ledoux Ranch,** 40.57 327 ⇑P P 20 24 10.6 +0.7
baz=41
F24A **Ekalaka** 40.61 321 ⇑P P 20 24 11.2 +0.8
baz=41
O20A **White River Ci** 40.62 311 ⇓P P 20 24 11.7 +1.0
baz=41,SNR=14
O20A **White River Ci** 40.62 311 *e*P P 20 24 11.7 +1.0
comp=Z,60nm,1.4s
D25A **Fairfield** 40.65 323 ⇓P P 20 24 12.0 +1.4
baz=41,SNR=5.4
J22A **Midwest** 40.73 317 ⇓P P 20 24 11.8 +0.4
baz=41,SNR=20
B26A **Jensen Ranch,** 40.75 325 ⇑P P 20 24 11.9 +0.4
baz=41
G23A **Biddle** 40.87 320 ⇑P P 20 24 13.0 +0.5
baz=41,SNR=8.3
N20A **Spence Gulch,** 40.89 312 ⇓P P 20 24 13.0 +0.1
baz=41
K21A **Alcova** 40.90 315 ⇓P P 20 24 14.0 +1.0
baz=41,SNR=30
E24A **Baker** 40.91 322 ⇓P P 20 24 13.8 +1.0
baz=41
C25A **Freed Ranch, W** 40.93 324 ⇑P P 20 24 14.0 +1.1
baz=41
I22A **9 Mile Ranch,** 40.94 317 ⇑P P 20 24 13.3 +0.1
baz=41,SNR=7.9

A26A	Wade Farm, Ken	40.96	326	⇓P		P		20 24 13.5	+0.5
	baz=41									
F23A	Volborg	41.13	320	⇓P		P		20 24 14.8	+0.2
	baz=41,SNR=15									
H22A	Clearmont	41.18	318	⇑P		P		20 24 15.3	+0.2
	baz=41									
B25A	Knox Farm, Ray	41.20	325	⇑P		P		20 24 16.1	+1.0
	baz=41									
D24A	Glendive	41.21	323	⇑P		P		20 24 16.7	+1.4
	baz=41,SNR=12									
J21A	Lysite	41.33	316	⇑P		P		20 24 16.8	+0.4
	baz=41,SNR=14									
I21A	Big Trails, Te	41.43	317	⇑P		P		20 24 16.8	-0.4
	baz=41,SNR=16									
G22A	Birney	41.43	319	⇑P		P		20 24 17.5	+0.3
	baz=41,SNR=20									
X16A	Lo Mia Camp, P	41.46	302	⇑P		P		20 24 17.8	+0.1
	baz=41									
E23A	Ismay	41.46	321	⇓P		P		20 24 18.0	+0.7
	baz=41									
C24A	Savage	41.49	323	⇓P		P		20 24 18.2	+0.7
	baz=42									
A25A	Svangstu Ranch	41.55	326	⇑P		P		20 24 18.7	+0.8
	baz=42									
H21A	Big Horn, Sher	41.63	318	⇓P		P		20 24 18.9	+0.1
	baz=42									
WUAZ	Wupatki	41.64	303	⇓P		P		20 24 20.1	+1.0
	baz=42,SNR=7.8									
WUAZ	Wupatki	41.64	303	*e*P		P		20 24 19.4	+0.3
	comp=Z,72nm,1.8s									
F22A	Rosebud	41.68	320	⇓P		P		20 24 19.8	+0.7
	baz=42,SNR=32									
D23A	Lindsay	41.75	322	⇑P		P		20 24 20.9	+1.2
	baz=42									
J20A	Shoshoni	41.76	316	⇓P		P		20 24 20.6	+0.8
	baz=42,SNR=14									
E22A	Miles City	41.82	321	⇑P		P		20 24 20.3	+0.1
	baz=42,SNR=15									
DGMT	Dagmar	41.88	324	⇑P		P		20 24 21.7	+1.1
	baz=42,SNR=11									
DGMT	Dagmar	41.88	324	*e*P		P		20 24 21.9	+1.3
	comp=Z,44nm,0.8s									
SRU	San Rafael Swe	41.95	309	*e*P		P		20 24 22.2	+0.7
SRU					pmax	pmax				
	comp=Z,37nm,1.3s									
SRU	San Rafael Swe	41.95	309	*e*P		P		20 24 22.2	+0.7
	comp=Z,37nm,1.3s									
G21A	Lodge Grass	42.01	319	⇑P		P		20 24 21.9	0.0
	baz=42,SNR=12									
A24A	Westby	42.02	325	⇑P		P		20 24 22.2	+0.3
	baz=42									
I20A	Worland	42.04	317	⇑P		P		20 24 22.6	+0.5
	baz=42,SNR=8.6									
C23A	Lambert	42.07	323	⇓P		P		20 24 23.2	+0.9
	baz=42,SNR=21									
LAO	LASA Array	42.10	321	*e*P		P		20 24 23.0	+0.4
	comp=Z,76nm,1.4s									
214A	Organ Pipe Nat	42.16	298	⇓P		P		20 24 23.9	+0.7
	baz=42									
H20A	Greybull	42.18	317	⇓P		P		20 24 23.3	0.0
	baz=42,SNR=9.1									
F21A	Absaloka Mine,	42.23	320	⇓P		P		20 24 24.0	+0.3
	baz=42									
D22A	Cohagen	42.31	322	⇓P		P		20 24 25.6	+1.4
	baz=42,SNR=6.7									
B23A	Brockton	42.32	324	⇓P		P		20 24 25.4	+1.2
	baz=42,SNR=15									
J19A	Crowheart	42.37	315	⇑P		P		20 24 25.5	+0.6
	baz=42,SNR=12									
C22A	Vida	42.44	323	⇓P		P		20 24 26.4	+1.2
	baz=42,SNR=14									
Z14A	Wintersburg	42.49	300	⇓P		P		20 24 27.3	+1.4
	baz=42									
TMUT	Trail Mountain	42.51	309	*e*P		P		20 24 27.2	+0.9
	comp=Z,71nm,1.2s									
PDAR	Pinedale Array	42.51	314	P		P		20 24 25.9	-0.2
	comp=Z,3.4nm,1.0s,baz=118,slow=8.6,SNR=20									
PDAR					PcP	PcP		20 26 16.9	-0.5
	comp=Z,3.2nm,0.8s,baz=114,slow=4.3,SNR=5.4									
PDAR					ScP	ScP		20 29 58.4	-1.8
	comp=Z,3.5nm,0.9s,baz=115,slow=6.5,SNR=12									
PDAR					LR	LR		20 43 21.7		
	comp=Z,161nm,18.4s,baz=132,slow=38									
BW06	Boulder Array	42.52	314	P		P		20 24 23.9	-2.3
	comp=Z,31nm,1.6s									
BW06					*e*pP	pP		20 24 46.8	-0.5
E21A	Keefer Ranch,	42.55	320	⇑P		P		20 24 27.1	+0.9
	baz=42									
U15A	North Rim	42.58	304	⇓P		P		20 24 27.7	+0.9
	baz=42,SNR=17									
I19A	Meeteetse	42.64	316	⇓P		P		20 24 27.9	+0.8
	baz=43,SNR=16									
Y14A	Wickenburg	42.64	301	⇓P		P		20 24 28.3	+1.2
	baz=43,SNR=8.5									
G20A	Bridger	42.64	318	⇑P		P		20 24 27.2	+0.2
	baz=43,SNR=12									
D21A	La Casta Ranch	42.75	321	⇓P		P		20 24 29.5	+1.7
	baz=43,SNR=10.0									
B22A	Reddig Ranch S	42.80	323	⇑P		P		20 24 30.2	+2.1
	baz=43,SNR=9.5									
F20A	Billings	42.86	319	⇓P		P		20 24 29.6	+0.8
	baz=43,SNR=16									
DAU	Daniels Canyon	42.89	310	*e*P		P		20 24 27.1	-2.2
DAU				*e**P	P	pP		20 24 50.1	-0.4
DAU	Daniels Canyon	42.89	310	*e*P		P		20 24 27.1	-2.2
DAU				*e*pP		pP		20 24 50.1	-0.4
H19A	Powell	42.90	317	⇑P		P		20 24 29.9	+0.8
	baz=43,SNR=12									
MVU	Marysvale	43.04	307	*e*P		P		20 24 31.9	+1.5
	comp=Z,84nm,1.9s									
MPU	Maple Canyon	43.04	310	*e*P		P		20 24 29.9	-0.5
	comp=Z,45nm,1.1s									
MPU					*e*pP	pP		20 24 53.9	+2.3
113A	Mohawk Valley,	43.08	299	⇓P		P		20 24 31.9	+1.3
	baz=43									
JLU	Jordanelle	43.09	311	*e*P		P		20 24 30.9	+0.1
	comp=Z,15nm,1.1s									
A22A	Carney Farms,	43.12	324	⇓P		P		20 24 32.0	+1.3
	baz=43,SNR=17									
E20A	Meyer Farm, Mu	43.17	320	⇓P		P		20 24 32.2	+1.0
	baz=43,SNR=33									
C21A	Desert Coulee	43.19	322	⇑P		P		20 24 32.4	+1.1
	baz=43									
RLMT	Red Lodge	43.27	318	*e*P		P		20 24 32.6	+0.4
	comp=Z,23nm,0.8s									
H18A	Shoshone NF, C	43.34	317	⇑P		P		20 24 32.9	+0.1
	baz=43,SNR=18									
NLU	North Lily Min	43.34	309	*e*P		P		20 24 33.3	+0.4
	comp=Z,30nm,1.2s									
F19A	Roth Farm, Mol	43.38	319	⇓P		P		20 24 33.6	+0.7
	baz=43,SNR=13									
B21A	Ellsworth Farm	43.44	323	⇑P		P		20 24 35.3	+2.0
	baz=43									
D20A	Manuel Ranch,	43.45	321	⇑P		P		20 24 34.5	+1.1
	baz=43,SNR=23									
HWUT	Hardware Ranch	43.49	312	*e*P		P		20 24 33.7	-0.3
	comp=Z,22nm,1.2s									
LOHW	Long Hollow	43.54	315	*e*P		P		20 24 34.9	+0.4
	comp=Z,72nm,1.7s									
E19A	Rath Farm, Rou	43.55	320	⇓P		P		20 24 35.5	+1.2
	baz=44,SNR=44									
W13A	Hualapai Mount	43.57	302	⇓P		P		20 24 35.7	+1.0
	baz=44									
REDW	Red Top Meadow	43.62	315	*e*P		P		20 24 35.9	+0.9
PDMCI	Parker Dam,Lak	43.63	301	⇓P		P		20 24 36.1	+1.1
	baz=44									
I17A	Pilgrim Ck.	43.64	315	⇑P		P		20 24 36.1	+0.9
	baz=44,SNR=7.6									
C20A	Veseth Ranch,	43.67	322	⇓P		P		20 24 36.3	+1.1
	baz=44,SNR=17									
TPAW	Teton Pass	43.73	315	*e*P		P		20 24 36.6	+0.6
	comp=Z,22nm,1.3s									
FLWY	Flagg Ranch	43.79	316	*e*P		P		20 24 37.0	+0.6
	comp=Z,26nm,1.4s									
GCMT	Greycliff	43.81	318	*e*P		P		20 24 37.2	+0.7
	comp=Z,44nm,1.4s									
H17A	Grant Village	43.83	316	⇑P		P		20 24 37.7	+1.0
	baz=44									
H17A	Grant Village	43.83	316	*e*P		P		20 24 37.0	+0.2
	comp=Z,20nm,1.5s									
FXWY	Fox Creek	43.84	315	*e*P		P		20 24 37.5	+0.7
	comp=Z,23nm,1.4s									
Y12C	Blythe	43.85	300	⇓P		P		20 24 37.7	+0.9
	baz=44									
IMW	Indian Meadow	43.88	315	*e*P		P		20 24 37.8	+0.6
	comp=Z,27nm,1.8s									
D19A	Cripps Ranch,	43.93	320	⇑P		P		20 24 38.5	+1.1
	baz=44,SNR=16									
DUG	Dugway, Tooele	43.96	310	*e*P		P		20 24 37.9	+0.2
DUG					pmax	pmax				
	comp=Z,28nm,1.2s									
DUG	Dugway, Tooele	43.96	310	⇓P		P		20 24 38.7	+1.0
	baz=44,SNR=22									
DUG	Dugway, Tooele	43.96	310	*e*P		P		20 24 37.9	+0.2
	comp=Z,28nm,1.2s									
B20A	Solberg Farm,	44.03	322	⇑P		P		20 24 39.9	+1.9
	baz=44,SNR=9.5									
A20A	Cobblestone Ra	44.19	323	⇓P		P		20 24 41.2	+1.9
	baz=44,SNR=26									
BGU	Big Grassy Mou	44.33	311	*e*P		P		20 24 41.4	+0.7
HVU	Hansel Valley	44.41	312	*e*P		P		20 24 41.6	+0.3
HVU	Hansel Valley	44.41	312	*e*P		P		20 24 41.6	+0.3
IRM	Iron Mountain	44.43	301	⇓P		P		20 24 42.2	+0.7
	baz=44,SNR=10									
QLMT	Earthquake Lak	44.56	316	P		P		20 24 42.9	+0.4
B19A	Brinkman Farms	44.58	322	⇓P		P		20 24 43.6	+1.2
	baz=44,SNR=24									
FFC	Flin Flon	44.62	333	P		P		20 24 42.5	-0.1
	comp=Z,102nm,0.6s,SNR=8.9									
FFC	Flin Flon	44.62	333	*e*P		P		20 24 41.1	-1.5
FFC					pmax	pmax				
	comp=Z,8.0nm,0.6s									
FFC	Flin Flon	44.62	333	*e*P		P		20 24 41.1	-1.5
	comp=Z,7.8nm,0.6s									
A19A	Klindworth Far	44.69	323	⇑P		P		20 24 44.3	+1.0
	baz=45,SNR=14									
EGMT	Eagleton	44.85	321	⇓P		P		20 24 46.0	+1.4
	baz=45,SNR=18									
EGMT	Eagleton	44.85	321	*e*P		P		20 24 45.8	+1.1
	comp=Z,58nm,1.1s									
EGMT					*e*pP	pP		20 25 06.9	+0.9
SHPR	Sheep Range	44.85	304	*e*P		P		20 24 46.2	+1.3
GMRC	Granite Mounta	44.95	301	⇓P		P		20 24 46.8	+1.2
	baz=45,SNR=12									
BOZ	Bozeman (W)	45.01	317	*e*P		P		20 24 46.1	+0.1
BOZ					pmax	pmax				
	comp=Z,45nm,1.4s									
BOZ	Bozeman (W)	45.01	317	*e*P		P		20 24 46.1	+0.1
	comp=Z,45nm,1.4s									
TUQ	Turquoise Moun	45.27	302	⇓P		P		20 24 49.4	+1.2
	baz=45,SNR=14									
CPUP	Villa Florida	45.48	166	P		P		20 24 49.2	-0.4
	comp=Z,1.0nm,0.8s,baz=349,slow=7.3,SNR=10.0									
CPUP					LR	LR		20 44 20.7		
	comp=Z,739nm,20.3s,baz=350,slow=36									
MCMT	McKenzie Canyo	45.49	316	*e*P		P		20 24 50.8	+0.8
	comp=Z,17nm,1.4s									
HEC	Heor,Ludlow	45.50	301	⇓P		P		20 24 51.2	+1.2
	baz=45,SNR=7.2									
DLMT	Dillon	45.52	317	*e*P		P		20 24 51.3	+1.2
	comp=Z,101nm,1.8s									
R11A	Troy Canyon, C	45.57	306	⇓P		P		20 24 52.3	+1.7
	baz=46,SNR=44									
R11A	Troy Canyon, C	45.57	306	*e*P		P		20 24 51.7	+1.2
	comp=Z,61nm,1.4s									
LRM	Limekiln Ridge	45.60	317	P		P		20 24 50.1	-0.7
SHOC	Shoshone, Teco	45.63	303	⇑P		P		20 24 52.5	+1.6
	baz=46									
TPNV	Topopah Spring	45.80	304	*e*P		P		20 24 54.5	+2.1
TPNV	Topopah Spring	45.80	304	⇓P		P		20 24 54.4	+2.1
	baz=46,SNR=42									
TPNV	Topopah Spring	45.80	304	*e*P		P		20 24 54.5	+2.1
ELK	Elko	45.89	310	*e*P		P		20 24 54.3	+1.2
ELK					pmax	pmax				
	comp=Z,24nm,1.4s									
ELK	Elko	45.89	310	*e*P		P		20 24 54.3	+1.2
	comp=Z,24nm,1.4s									
GSC	Goldstone, Bar	45.96	302	*e*P		P		20 24 55.2	+1.6
GSC					pmax	pmax				
	comp=Z,18nm,0.9s									
GSC	Goldstone, Bar	45.96	302	⇓P		P		20 24 55.1	+1.6
	baz=46,SNR=12									
GSC	Goldstone, Bar	45.96	302	*e*P		P		20 24 55.2	+1.6
	comp=Z,18nm,0.9s									
MURC	Murrieta	46.04	299	⇓P		P		20 24 50.3	-3.9
	baz=46,SNR=6.2									
RRX	Edison Barstow	46.05	301	⇑P		P		20 24 56.5	+2.3
	baz=46									
HLID	Hailey	46.12	314	⇓P		P		20 24 56.1	+1.3
	baz=46,SNR=19									
HLID	Hailey	46.12	314	*e*P		P		20 24 53.6	-1.2
	comp=Z,26nm,1.4s									
BFSC	Mount Baldy Ra	46.50	300	⇓P		P		20 24 59.5	+1.5
	baz=46									
CHMT	Chamberlain Mo	46.53	318	*e*P		P		20 24 58.9	+0.8
MPMC	Manual Prospec	46.63	303	⇓P		P		20 25 00.0	+1.1
	baz=46,SNR=15									
GRAC	Grapevine Rang	46.69	304	⇑P		P		20 25 01.2	+2.0
	baz=47,SNR=6.8									
LRMC	Laurel Mtn Rad	46.70	302	⇓P		P		20 25 00.2	+0.8
	baz=47,SNR=12									
DAC	Darwin (Calif)	46.74	303	*e*P		P		20 24 59.8	-0.1
DAC					pmax	pmax				
	comp=Z,18nm,0.8s									
DAC	Darwin (Calif)	46.74	303	*e*P		P		20 24 59.8	-0.1
	comp=Z,18nm,0.8s									
TPH	Tonopah	46.77	306	*e*P		P		20 25 01.6	+1.6
TPH					pmax	pmax				
	comp=Z,50nm,1.3s									
TPH	Tonopah	46.77	306	*e*P		P		20 25 01.6	+1.6
	comp=Z,50nm,1.3s									
SLMT	Seeley Lake	46.81	319	*e*P		P		20 25 00.9	+0.7
EDW2	Edwards Air Fo	46.86	301	⇑P		P		20 25 01.3	+0.7
	baz=47,SNR=18									
MSO	Missoula	46.94	318	⇓P		P		20 25 02.0	+0.9
	baz=47,SNR=10.0									
MSO	Missoula	46.94	318	*e*P		P		20 25 01.9	+0.8
	comp=Z,26nm,1.4s									
CIS	Catalina Islan	47.02	299	⇑P		P		20 25 03.3	+1.5
	baz=47									
MFID	Camas Ranch	47.05	313	*e*P		P		20 25 01.0	-1.0
	comp=Z,41nm,1.5s									
DECC	Green Verdugo	47.06	300	⇓P		P		20 25 03.5	+1.3
	baz=47									
SCI	San Clemente I	47.10	298	⇓P		P		20 25 03.8	+1.3
	baz=47									
SWMT	Swartz Lake	47.23	319	*e*P		P		20 25 04.2	+0.8
BMN	Battle Mountai	47.27	309	*e*P		P		20 25 04.7	+0.8
BMN					pmax	pmax				
	comp=Z,22nm,1.0s									
BMN	Battle Mountai	47.27	309	*e*P		P		20 25 04.7	+0.8
	comp=Z,22nm,1.0s									
ISA	Isabella, Lake	47.36	302	*e*P		P		20 25 06.2	+1.7
ISA					pmax	pmax				
	comp=Z,25nm,1.5s									
ISA	Isabella, Lake	47.36	302	⇑P		P		20 25 06.0	+1.5
	baz=47,SNR=5.5									
ISA	Isabella, Lake	47.36	302	*e*P		P		20 25 06.2	+1.7
	comp=Z,25nm,1.5s									
TIN	Tinemaha, Big	47.37	304	⇓P		P		20 25 06.5	+1.9
	baz=47									
YBMT	Yellow Bay	47.38	319	*e*P		P		20 25 05.4	+0.9
JTMT	Jette	47.50	319	*e*P		P		20 25 06.3	+0.9
NV11	Mina Array Sit	47.56	306	*e*P		P		20 25 07.1	+1.0
NV11					*e*pP	pP		20 25 26.9	-0.8
ARVC	Arvin	47.57	301	⇓P		P		20 25 08.4	+2.3
	baz=48,SNR=8.6									
BLG	Laguna Peak, P	47.64	300	⇓P		P		20 25 07.9	+1.3
	baz=48									
BLMT	Blacktail Moun	47.65	319	*e*P		P		20 25 07.5	+0.8
NVAR	Mina Array Bea	47.67	306	P		P		20 25 07.8	+0.8
	comp=Z,13nm,0.8s,baz=93,slow=6.0,SNR=72									
NVAR					pP	pP		20 25 28.5	-0.1
	comp=Z,5.6nm,0.8s,baz=95,slow=7.5,SNR=4.2									
NVAR					ScP	ScP		20 30 20.9	-0.7
	comp=Z,1.0nm,0.7s,baz=141,slow=3.4,SNR=4.9									
MTUM	Tungsten Hills	47.69	304	*e*P		P		20 25 08.8	+1.6
WALA	Warton Lakes	47.79	321	*e*P		P		20 25 08.3	+0.6
BSMT	Bassoo Peak	47.86	319	*e*P		P		20 25 09.2	+0.9
VES	Vestal, Richgr	47.87	302	⇓P		P		20 25 10.5	+2.1
	baz=48,SNR=13									
MLAC	Mammoth, Mammo	47.95	305	⇑P		P		20 25 11.1	+1.9
	baz=48									
RCTC	Rector, Farmer	48.06	303	⇓P		P		20 25 11.5	+1.7
	baz=48,SNR=5.6									
BSC	Santa Cruz Isl	48.10	300	⇑P		P		20 25 11.7	+1.5
	baz=48									
SBC	Santa Barbara	48.22	300	⇑P		P		20 25 12.7	+1.7
	baz=48									
BMO	Blue Mountains	48.50	314	*e*P		P		20 25 11.6	-1.6
BMO					pmax	pmax				
	comp=Z,47nm,1.6s									
BMO	Blue Mountains	48.50	314	*e*P		P		20 25 11.6	-1.6
	comp=Z,47nm,1.6s									
SMMC	Simmler	48.55	301	⇑P		P		20 25 15.5	+1.9
	baz=48									
WAKR	Walker	48.56	306	*e*P		P		20 25 15.5	+1.6
WVOR	Wild Horse Val	48.78	311	*e*P		P		20 25 16.3	+0.9
WVOR					pmax	pmax				
	comp=Z,51nm,1.3s									
WVOR	Wild Horse Val	48.78	311	*e*P		P		20 25 16.3	+0.9
	comp=Z,51nm,1.3s									
F10A	Beach Ranch, E	48.78	316	*e*P		P		20 25 15.4	+0.1
CMB	Columbia Colle	49.22	305	*e*P		P		20 25 19.4	+0.6
CMB					pmax	pmax				
	comp=Z,112nm,2.8s									
CMB	Columbia Colle	49.22	305	*e*P		P		20 25 19.4	+0.6
	comp=Z,112nm,2.8s									
EDM	Edmonton	49.29	326	*e*P		P		20 25 19.3	+0.3
EDM	Edmonton	49.29	326	*e*P		P		20 25 19.3	+0.3
NEW	Newport	49.47	319	*e*P		P		20 25 20.8	+0.3
NEW					pmax	pmax				
	comp=Z,38nm,0.9s									
NEW	Newport	49.47	319	⇓P		P		20 25 21.4	+1.0
	baz=49,SNR=41									
NEW	Newport	49.47	319	*e*P		P		20 25 20.8	+0.3
	comp=Z,38nm,0.9s									
E09A	Wood Farm, Sta	49.56	316	*e*P		P		20 25 21.6	+0.5
	comp=Z,21nm,1.0s									
G08A	Pilot Rock	49.74	315	*e*P		P		20 25 23.2	+0.5
	comp=Z,30nm,1.4s									
I07A	Izee	49.80	313	*e*P		P		20 25 23.5	+0.4
	comp=Z,20nm,1.0s									
MOD	Modoc Plateau	49.87	310	*e*P		P		20 25 21.6	-2.1
SAO	San Andreas Ge	49.88	303	*e*P		P		20 25 24.9	+1.1
SAO					pmax	pmax				
	comp=Z,6.0nm,1.1s									
SAO	San Andreas Ge	49.88	303	*e*P		P		20 25 24.9	+1.1
	comp=Z,5.6nm,1.1s									
D08A	Wollman Farm,	50.23	317	*e*P		P		20 25 26.6	+0.4
	comp=Z,35nm,1.7s									
OHCM	Honcut	50.27	306	*e*P		P		20 25 27.7	+1.1
HAWA	Hanford	50.44	316	*e*P		P		20 25 28.1	+0.3
	comp=Z,53nm,1.6s									
K05A	Summer Lake	50.47	311	*e*P		P		20 25 28.7	+0.4
SNIWA	Snively Ranch	50.54	316	P		P		20 25 29.3	+0.8
E07A	Sunnyside	50.70	316	*e*P		P		20 25 30.4	+0.6
	comp=Z,48nm,1.5s									
SAW	Saint Andrews	50.73	317	P		P		20 25 30.6	+0.5
G06A	Carlson Farm,	50.87	314	*e*P		P		20 25 31.4	+0.2
	comp=Z,29nm,1.4s									
M04C	Macdoel	50.97	309	⇓P		P		20 25 32.7	+0.7
	baz=51,SNR=6.2									
K04D	Chiloquin, OR	51.07	311	⇑P		P		20 25 34.0	+1.3
	baz=51,SNR=6.6									
TRW	Toppenish Ridg	51.08	315	P		P		20 25 33.9	+1.2
I05D	Terrebonne, OR	51.14	313	⇑P		P		20 25 34.6	+1.4
	baz=51,SNR=6.9									
WDC	Whiskeytown Da	51.28	308	*e*P		P		20 25 33.0	-1.1
WDC					pmax	pmax				
	comp=Z,19nm,1.4s									
WDC	Whiskeytown Da	51.28	308	*e*P		P		20 25 33.0	-1.1
	comp=Z,19nm,1.4s									
G05D	Wamic, OR	51.34	314	⇓P		P		20 25 35.9	+1.3
	baz=51,SNR=5.4									
TBM	Table Mountain	51.36	316	P		P		20 25 35.9	+1.2
LTY	Liberty	51.43	317	*e*P		P		20 25 35.4	+0.1
	comp=Z,79nm,1.7s									
J04D	Umpqua Nationa	51.45	311	⇑P		P		20 25 36.8	+1.1
	baz=51,SNR=9.1									
BPO	Bald Peter	51.46	313	P		P		20 25 37.9	+2.2
N02D	Trinity Center	51.46	308	⇑P		P		20 25 35.1	-0.5
	baz=51									
YBH	Yreka Blue Hor	51.60	309	*e*P		P		20 25 35.9	-0.8
YBH					pmax	pmax				
	comp=Z,12nm,1.0s									
YBH	Yreka Blue Hor	51.60	309	*e*P		P		20 25 35.9	-0.8
	comp=Z,12nm,1.0s									
M02C	Callahan	51.65	309	⇑P		P		20 25 36.9	-0.1
	baz=52,SNR=7.6									
I04A	Tendick Farm,	51.78	312	⇓P		P		20 25 38.3	+0.4
	baz=52,SNR=11									
H04A	Detroit Lake	51.81	313	P		P		20 25 38.7	+0.5
KIPM	Iron Peak	51.87	307	*e*P		P		20 25 39.1	+0.3
	comp=Z,70nm,1.7s									
HUMO	Hull Mountain	51.94	310	*e*P		P		20 25 38.5	-0.6
	comp=Z,20nm,1.4s									
LON	Longmire	52.05	316	*e*P		P		20 25 39.8	-0.1
LON					pmax	pmax				
	comp=Z,27nm,1.7s									
LON	Longmire	52.05	316	*e*P		P		20 25 39.8	-0.1
	comp=Z,27nm,1.7s									
KMRM	Mail Ridge	52.10	307	*e*P		P		20 25 40.5	+0.1
	comp=Z,99nm,2.0s								

PAB e*PP pP 20 26 51.5 0.0
PAB San Pablo 58.91 54 eP P **20 26 30.2 +0.9**
PAB epP pP 20 26 51.5 0.0
ESDC Sonseca Array 59.21 54 P P **20 26 32.8 +1.4**
comp=Z,6.3nm,0.6s,baz=271,slow=7.2,SNR=76
ESDC pP pP **20 26 52.4 -1.2**
comp=Z,5.4nm,0.7s,baz=270,slow=7.0,SNR=9.4
DLBC Dease Lake 59.92 328 P P **20 26 34.6 -1.3**
ROSF Rostrenen 60.27 44 eP P **20 26 39.4 +1.1**
ROSF Rostrenen 60.27 44 eP P **20 26 39.4 +1.1**
ROSF Rostrenen 60.27 44 eP P **20 26 39.4 +1.1**
QUIF Quistinic 60.30 45 eP P **20 26 39.6 +1.1**
QUIF Quistinic 60.30 45 eP P **20 26 39.6 +1.1**
QUIF Quistinic 60.30 45 eP P **20 26 39.6 +1.1**
SGMF Saint Gilles 60.74 44 eP P **20 26 42.5 +1.0**
SGMF epP pP 20 27 03.9 0.0
SGMF Saint Gilles 60.74 44 eP P **20 26 42.5 +1.0**
SGMF e*PP pP 20 27 03.9 0.0
SGMF Saint Gilles 60.74 44 eP P **20 26 42.5 +1.0**
SGMF epP pP 20 27 03.9 0.0
SJPF Ste Jean 61.36 50⇓*iP* P **20 26 47.4 +1.5**
comp=Z,15nm,0.6s
SJPF epP pP **20 27 08.7 +0.4**
SJPF Ste Jean 61.36 50⇓*iP* P **20 26 47.4 +1.5**
SJPF e*PP pP **20 27 08.7 +0.4**
SJPF pmax pmax
comp=Z,15nm,0.6s
SJPF Ste Jean 61.36 50⇓*iP* P **20 26 47.4 +1.5**
comp=Z,15nm,0.6s
SJPF epP pP **20 27 08.7 +0.4**
ETSF Etsaut 61.85 51⇓*iP* P **20 26 50.6 +1.4**
comp=Z,7.5nm,0.9s
ETSF Etsaut 61.85 51⇓*iP* P **20 26 50.6 +1.4**
ETSF pmax pmax
comp=Z,8.0nm,0.9s
ETSF Etsaut 61.85 51⇓*iP* P **20 26 50.6 +1.4**
comp=Z,7.5nm,0.9s
GRR Gorron 61.88 44 eP P **20 26 50.1 +0.9**
comp=Z,18nm,0.8s
GRR epP pP **20 27 11.5 -0.2**
GRR Gorron 61.88 44 eP P **20 26 50.1 +0.9**
GRR e*PP pP **20 27 11.5 -0.2**
GRR pmax pmax
comp=Z,18nm,0.8s
GRR Gorron 61.88 44 eP P **20 26 50.1 +0.9**
comp=Z,18nm,0.8s
GRR epP pP **20 27 11.5 -0.2**
FLN La Foliniere 62.16 44⇓*iP* P **20 26 52.1 +1.0**
comp=Z,8.5nm,0.5s
FLN epP pP **20 27 13.4 -0.1**
FLN La Foliniere 62.16 44⇓*iP* P **20 26 52.1 +1.0**
FLN e*PP pP **20 27 13.4 -0.1**
FLN pmax pmax
comp=Z,9.0nm,0.5s
FLN La Foliniere 62.16 44⇓*iP* P **20 26 52.1 +1.0**
comp=Z,8.5nm,0.5s
FLN epP pP **20 27 13.4 -0.1**
MFF Saint Martin d 62.26 46⇓*iP* P **20 26 53.0 +1.2**
comp=Z,20nm,0.3s
MFF Saint Martin d 62.26 46⇓*iP* P **20 26 53.0 +1.2**
MFF pmax pmax
comp=Z,20nm,0.3s
MFF Saint Martin d 62.26 46⇓*iP* P **20 26 53.0 +1.2**
comp=Z,20nm,0.3s
LDF La Druitiere 62.39 44⇓*iP* P **20 26 53.6 +1.0**
comp=Z,18nm,0.7s
LDF La Druitiere 62.39 44⇓*iP* P **20 26 53.6 +1.0**
LDF pmax pmax
comp=Z,18nm,0.7s
LDF La Druitiere 62.39 44⇓*iP* P **20 26 53.6 +1.0**
comp=Z,18nm,0.7s
EPF Esparros 62.51 50⇓*iP* P **20 26 55.2 +1.6**
comp=Z,23nm,0.7s
EPF epP pP **20 27 16.4 +0.3**
EPF Esparros 62.51 50⇓*iP* P **20 26 55.2 +1.6**
EPF e*PP pP **20 27 16.4 +0.3**
EPF pmax pmax
comp=Z,23nm,0.7s
EPF Esparros 62.51 50⇓*iP* P **20 26 55.2 +1.6**
comp=Z,23nm,0.7s
EPF epP pP **20 27 16.4 +0.3**
TIC Toumodi 62.79 92 eP P **20 26 57.3 +1.4**
comp=Z,40nm,1.0s
LFF La Frestale 62.83 48⇓*iP* P **20 26 56.6 +1.0**
comp=Z,14nm,0.7s
LFF La Frestale 62.83 48⇓*iP* P **20 26 56.6 +1.0**
LFF pmax pmax
comp=Z,14nm,0.7s
LFF La Frestale 62.83 48⇓*iP* P **20 26 56.6 +1.0**
comp=Z,14nm,0.7s
LIC Lamto 62.91 92 eP P **20 26 57.4 +0.8**
LIC epP pP **20 27 19.0 -0.1**
LIC Lamto 62.91 92 eP P **20 26 56.9 +0.3**
comp=Z,78nm,1.1s
LIC Lamto 62.91 92 eP P **20 26 57.4 +0.8**
LIC epP pP **20 27 19.0 -0.1**
DBIC Dimbokro 62.94 92 P P **20 26 58.0 +1.2**
comp=Z,1.0nm,0.3s,baz=272,slow=5.1,SNR=11
DBIC pP pP **20 27 18.4 -0.9**
comp=Z,20nm,0.8s,baz=274,slow=7.6,SNR=11
KIC Kosan Boka 63.14 92 eP P **20 26 59.3 +1.1**
comp=Z,93nm,1.1s
RJF Les Rejaudoux 63.38 48⇓*iP* P **20 27 00.0 +0.7**
comp=Z,14nm,0.7s
RJF Les Rejaudoux 63.38 48⇓*iP* P **20 27 00.0 +0.7**
RJF pmax pmax
comp=Z,14nm,0.7s
RJF Les Rejaudoux 63.38 48⇓*iP* P **20 27 00.0 +0.7**
comp=Z,14nm,0.7s
JMIC Jan Mayen 63.41 19 LR LR 20 50 08.2
comp=Z,581nm,21.5s,baz=40,slow=32
CAF Calviac 63.77 48⇓*iP* P **20 27 02.7 +0.9**
comp=Z,11nm,0.6s
CAF epP pP **20 27 24.2 -0.2**
CAF Calviac 63.77 48⇓*iP* P **20 27 02.7 +0.9**
CAF e*PP pP **20 27 24.2 -0.2**
CAF pmax pmax
comp=Z,11nm,0.6s
CAF Calviac 63.77 48⇓*iP* P **20 27 02.7 +0.9**
comp=Z,11nm,0.6s
CAF epP pP **20 27 24.2 -0.2**
DAG Danmarks Havn 63.79 11 *i* P P **20 27 01.5 +0.1**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 63.79 11 *i* P P **20 27 01.5 +0.1**
comp=Z,5.9nm,0.7s
TCF Toulx Ste Croi 63.88 47⇓*iP* P **20 27 03.2 +0.6**
comp=Z,15nm,0.8s
TCF epP pP **20 27 24.7 -0.4**
TCF Toulx Ste Croi 63.88 47⇓*iP* P **20 27 03.2 +0.6**
TCF e*PP pP **20 27 24.7 -0.4**
TCF pmax pmax
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 63.88 47⇓*iP* P **20 27 03.2 +0.6**
comp=Z,15nm,0.8s
TCF epP pP **20 27 24.7 -0.4**
MTLF Montolieu 63.88 50⇓*iP* P **20 27 03.6 +1.0**
comp=Z,16nm,0.8s
MTLF epP pP **20 27 24.9 -0.3**
MTLF Montolieu 63.88 50⇓*iP* P **20 27 03.6 +1.0**
MTLF e*PP pP **20 27 24.9 -0.3**
MTLF pmax pmax
comp=Z,16nm,0.8s
MTLF Montolieu 63.88 50⇓*iP* P **20 27 03.6 +1.0**
comp=Z,16nm,0.8s
MTLF epP pP **20 27 24.9 -0.3**
INK Inuvik 64.15 338 P P **20 27 03.0 -0.8**
INK pmax pmax
comp=Z,33nm,1.5s
INK Inuvik 64.15 338 P P **20 27 03.0 -0.8**
comp=Z,33nm,1.5s
HYF Humbligny 64.19 46 eP P **20 27 05.5 +1.0**
HYF Humbligny 64.19 46 eP P **20 27 05.5 +1.0**
BGF Bois d'Agland 64.32 47 eP P **20 27 06.0 +0.6**
comp=Z,11nm,0.7s
BGF epP pP **20 27 27.6 -0.4**
BGF Bois d'Agland 64.32 47 eP P **20 27 06.0 +0.6**
BGF e*PP pP **20 27 27.6 -0.4**
BGF pmax pmax
comp=Z,11nm,0.7s
BGF Bois d'Agland 64.32 47 eP P **20 27 06.0 +0.6**
comp=Z,11nm,0.7s
BGF epP pP **20 27 27.6 -0.4**
ALE Alert 64.51 1 P P **20 27 03.0 -3.1**
comp=Z,162nm,0.6s,SNR=9.0

AVF Avril sur Loir 64.67 46⇓*iP* P **20 27 08.1 +0.4**
comp=Z,26nm,1.2s
AVF epP pP **20 27 29.7 -0.6**
AVF Avril sur Loir 64.67 46⇓*iP* P **20 27 08.1 +0.4**
AVF e*PP pP **20 27 29.7 -0.6**
AVF pmax pmax
comp=Z,26nm,1.2s
AVF Avril sur Loir 64.67 46⇓*iP* P **20 27 08.1 +0.4**
comp=Z,26nm,1.2s
AVF epP pP **20 27 29.7 -0.6**
SSF Saint Saulge 64.78 46 eP P **20 27 08.7 +0.3**
comp=Z,5.7nm,0.4s
SSF Saint Saulge 64.78 46 eP P **20 27 08.7 +0.3**
SSF pmax pmax
comp=Z,6.0nm,0.4s
SSF Saint Saulge 64.78 46 eP P **20 27 08.7 +0.3**
comp=Z,5.7nm,0.4s
SMF Signal de Mont 65.01 46⇓*iP* P **20 27 10.5 +0.6**
comp=Z,13nm,0.8s
SMF epP pP **20 27 32.0 -0.5**
SMF Signal de Mont 65.01 46⇓*iP* P **20 27 10.5 +0.6**
SMF e*PP pP **20 27 32.0 -0.5**
SMF pmax pmax
comp=Z,13nm,0.8s
SMF Signal de Mont 65.01 46⇓*iP* P **20 27 10.5 +0.6**
comp=Z,13nm,0.8s
SMF epP pP **20 27 32.0 -0.5**
LOR Lormes 65.02 46⇓*iP* P **20 27 10.5 +0.5**
comp=Z,16nm,0.6s
LOR epP pP **20 27 31.9 -0.7**
LOR Lormes 65.02 46⇓*iP* P **20 27 10.5 +0.5**
LOR e*PP pP **20 27 31.9 -0.7**
LOR pmax pmax
comp=Z,16nm,0.6s
LOR Lormes 65.02 46⇓*iP* P **20 27 10.5 +0.5**
comp=Z,16nm,0.6s
LOR epP pP **20 27 31.9 -0.7**
LASF Ste Croix 65.06 49⇓*iP* P **20 27 11.6 +1.3**
comp=Z,13nm,0.9s
LASF Ste Croix 65.06 49⇓*iP* P **20 27 11.6 +1.3**
comp=Z,13nm,0.9s
SNF Seneffe 65.34 42 AP pP 20 27 34.5 0.0
UCC Uccle 65.39 42 AP pP 20 27 35.2 +0.4
DAWY Dawson 65.53 333 eP P **20 27 13.7 +0.7**
DOU Dourbes 65.53 43 P P **20 27 13.7 +0.6**
DOU AP pP **20 27 36.2 +0.4**
VIVF Saint-Julien-l 65.62 48⇓*iP* P **20 27 15.4 +1.5**
comp=Z,31nm,1.1s
VIVF epP pP **20 27 37.1 +0.5**
VIVF Saint-Julien-l 65.62 48⇓*iP* P **20 27 15.4 +1.5**
VIVF e*PP pP **20 27 37.1 +0.5**
VIVF pmax pmax
comp=Z,31nm,1.1s
VIVF Saint-Julien-l 65.62 48⇓*iP* P **20 27 15.4 +1.5**
comp=Z,31nm,1.1s
VIVF epP pP **20 27 37.1 +0.5**
GIVF Givet 65.67 43 eP P **20 27 14.8 +0.7**
GIVF epP pP **20 27 36.3 -0.5**
GIVF Givet 65.67 43 eP P **20 27 14.8 +0.7**
GIVF e*PP pP **20 27 36.3 -0.5**
GIVF Givet 65.67 43 eP P **20 27 14.8 +0.7**
GIVF epP pP **20 27 36.3 -0.5**
SFTF Sexfontaines 65.81 45⇓*iP* P **20 27 15.6 +0.6**
comp=Z,15nm,0.6s
SFTF epP pP **20 27 37.3 -0.4**
SFTF Sexfontaines 65.81 45⇓*iP* P **20 27 15.6 +0.6**
comp=Z,15nm,0.6s
SFTF epP pP **20 27 37.3 -0.4**
MEZF Maizieres J'vi 65.82 44⇓*iP* P **20 27 16.0 +0.9**
comp=Z,36nm,0.7s
MEZF Maizieres J'vi 65.82 44⇓*iP* P **20 27 16.0 +0.9**
comp=Z,36nm,0.6s
BCLA Clavier 65.99 42 P P **20 27 16.6 +0.6**
PAGF Fort de Pagny 66.27 44⇓*iP* P **20 27 18.7 +0.8**
comp=Z,3.5nm,0.6s
PAGF epP pP **20 27 40.3 -0.3**
PAGF Fort de Pagny 66.27 44⇓*iP* P **20 27 18.7 +0.8**
comp=Z,3.5nm,0.6s
PAGF epP pP **20 27 40.3 -0.3**
SMRF Simiane la Rot 66.30 49 eP P **20 27 19.0 +0.7**
SMRF Simiane la Rot 66.30 49 eP P **20 27 19.0 +0.7**
HGN Heimansgroeve 66.39 42 eP pP 20 27 41.3 0.0
comp=Z,39nm,1.4s
EGAK Eagle 66.39 333 eP P **20 27 19.8 +1.4**
comp=Z,21nm,0.9s
MEM Membach 66.44 42 P P **20 27 20.9 +1.9**
comp=Z,11nm,1.2s
MEM AP pP **20 27 41.8 +0.2**
MEM XP sP **20 27 51.8 +0.3**
MEM Membach 66.44 42 eP P **20 27 20.8 +1.9**
MEM e*PP pP **20 27 42.4 +0.7**
MEM pmax pmax
comp=Z,19nm,1.0s
MEM Membach 66.44 42 eP P **20 27 20.8 +1.9**
comp=Z,19nm,1.0s
MEM epP pP **20 27 42.4 +0.7**
ORIF Oris-en-Rattie 66.48 48 eP P **20 27 21.2 +1.7**
ORIF Oris-en-Rattie 66.48 48 eP P **20 27 21.2 +1.7**
ORIF Oris-en-Rattie 66.48 48 eP P **20 27 21.2 +1.7**
WLF Walferdange 66.53 43 P P **20 27 20.8 +1.2**
comp=Z,12nm,1.5s
WLF AP pP **20 27 42.6 +0.3**
WLF XP sP **20 27 52.4 +0.3**
CABF La Chapelle 66.56 46 eP P **20 27 20.4 +0.5**
CABF La Chapelle 66.56 46 eP P **20 27 20.4 +0.5**
CABF La Chapelle 66.56 46 eP P **20 27 20.4 +0.5**
HAU Haudompre 66.69 45 eP P **20 27 21.0 +0.3**
comp=Z,4.7nm,0.6s
HAU Haudompre 66.69 45 eP P **20 27 21.0 +0.3**
HAU pmax pmax
comp=Z,5.0nm,0.6s
HAU Haudompre 66.69 45 eP P **20 27 21.0 +0.3**
comp=Z,4.7nm,0.6s
WTSB Winterswijk 66.93 41 eP pP 20 27 44.5 -0.2
comp=Z,47nm,1.2s
LMR La Mourre 67.01 50 eP P **20 27 23.5 +0.7**
LMR La Mourre 67.01 50 eP P **20 27 23.5 +0.7**
LMR La Mourre 67.01 50 eP P **20 27 23.5 +0.7**
BNI Bardonecchia 67.03 48 eP P **20 27 24.7 +1.6**
BNI e*PP pP **20 27 47.9 +2.1**
BNI Bardonecchia 67.03 48 eP P **20 27 24.7 +1.6**
BNI epP pP **20 27 47.9 +2.1**
HINF Hinteralfeld 67.04 45⇓*iP* P **20 27 23.1 +0.2**
comp=Z,7.7nm,0.7s
HINF epP pP **20 27 44.7 -1.0**
HINF Hinteralfeld 67.04 45⇓*iP* P **20 27 23.1 +0.2**
HINF e*PP pP **20 27 44.7 -1.0**
HINF pmax pmax
comp=Z,8.0nm,0.7s
HINF Hinteralfeld 67.04 45⇓*iP* P **20 27 23.1 +0.2**
comp=Z,7.7nm,0.7s
HINF epP pP **20 27 44.7 -1.0**
LPL La Plagne 67.05 48⇓*iP* P **20 27 24.5 +1.2**
comp=Z,12nm,0.8s
LPL epP pP **20 27 46.1 +0.1**
LPL La Plagne 67.05 48⇓*iP* P **20 27 24.5 +1.2**
LPL e*PP pP **20 27 46.1 +0.1**
LPL pmax pmax
comp=Z,12nm,0.8s
LPL La Plagne 67.05 48⇓*iP* P **20 27 24.5 +1.2**
comp=Z,12nm,0.8s
LPL epP pP **20 27 46.1 +0.1**
LPG La Plagne 67.06 48⇓*iP* P **20 27 24.8 +1.4**
comp=Z,8.6nm,0.7s
LPG La Plagne 67.06 48⇓*iP* P **20 27 24.8 +1.4**
LPG pmax pmax
comp=Z,9.0nm,0.7s
LPG La Plagne 67.06 48⇓*iP* P **20 27 24.8 +1.4**
comp=Z,8.6nm,0.7s
FRF La Foret Royal 67.10 50 eP P **20 27 24.0 +0.7**
comp=Z,5.1nm,0.6s
FRF La Foret Royal 67.10 50 eP P **20 27 24.0 +0.7**
FRF pmax pmax
comp=Z,5.0nm,0.6s
FRF La Foret Royal 67.10 50 eP P **20 27 24.0 +0.7**
comp=Z,5.1nm,0.6s
MBDF Montbardon 67.12 48⇓*iP* P **20 27 25.0 +1.4**
comp=Z,9.1nm,0.9s
MBDF Montbardon 67.12 48⇓*iP* P **20 27 25.0 +1.4**
MBDF pmax pmax
comp=Z,9.0nm,0.9s
MBDF Montbardon 67.12 48⇓*iP* P **20 27 25.0 +1.4**
comp=Z,9.1nm,0.9s
ECH Echery 67.23 45 eP P **20 27 23.3 -0.8**

ECH e*PP pP **20 27 46.4 -0.5**
ECH Echery 67.23 45 eP P **20 27 23.3 -0.8**
ECH epP pP **20 27 46.4 -0.5**
CDF Champ du Feu 67.30 44⇓*iP* P **20 27 25.1 +0.5**
comp=Z,4.6nm,0.5s
CDF epP pP **20 27 46.7 -0.7**
CDF Champ du Feu 67.30 44⇓*iP* P **20 27 25.1 +0.5**
CDF e*PP pP **20 27 46.7 -0.7**
CDF pmax pmax
comp=Z,5.0nm,0.5s
CDF Champ du Feu 67.30 44⇓*iP* P **20 27 25.1 +0.5**
comp=Z,4.6nm,0.5s
CDF epP pP **20 27 46.7 -0.7**
SENIN Lac Senin/Sane 67.40 47 eP P **20 27 27.1 +1.6**
SENIN epP pP **20 27 49.3 +1.1**
TORD Torodi Ar. Bea 67.44 83 P P **20 27 25.9 -0.1**
comp=Z,2.4nm,0.7s,baz=284,slow=5.3,SNR=28
TORD pP pP **20 27 47.5 -1.3**
comp=Z,12nm,0.8s,baz=297,slow=7.0,SNR=18
DOT Dot Lake 67.53 332 eP P **20 27 27.2 +1.5**
SBF Sospel 67.65 49⇓*iP* P **20 27 27.6 +0.7**
comp=Z,16nm,0.6s
SBF Sospel 67.65 49⇓*iP* P **20 27 27.6 +0.7**
SBF pmax pmax
comp=Z,17nm,0.6s
SBF Sospel 67.65 49⇓*iP* P **20 27 27.6 +0.7**
comp=Z,16nm,0.6s
PAX Paxson 68.12 331 eP P **20 27 30.4 +0.9**
PAX pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 68.12 331 eP P **20 27 30.4 +0.9**
comp=Z,17nm,1.0s
ILAR Eielson Array 68.83 333 P P **20 27 33.8 0.0**
comp=Z,6.3nm,0.9s,baz=107,slow=4.6,SNR=44
TAM Tamanrasset 68.88 72 eP P **20 27 36.0 +1.0**
TAM e*PP pP **20 27 58.1 +0.2**
TAM pmax pmax
comp=Z,2.0nm,0.9s
TAM Tamanrasset 68.88 72 eP P **20 27 36.0 +1.0**
comp=Z,1.7nm,0.9s
TAM epP pP **20 27 58.1 +0.2**
PGF Pioggiola 68.90 51 eP P **20 27 35.2 +0.5**
comp=Z,15nm,0.8s
PGF Pioggiola 68.90 51 eP P **20 27 35.2 +0.5**
PGF pmax pmax
comp=Z,15nm,0.8s
PGF Pioggiola 68.90 51 eP P **20 27 35.2 +0.5**
comp=Z,15nm,0.8s
DAVA Damuels 69.11 46⇑*iP* P **20 27 37.5 +1.4**
comp=Z,14nm,1.0s
COLA College 69.25 333*d iP* P **20 27 36.6 +0.3**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 69.25 333 eP P **20 27 36.8 +0.5**
comp=Z,22nm,1.2s
NB2 NORSAR Subarra 69.37 31 P P **20 27 38.3 +1.1**
comp=Z,13nm,1.0s,baz=270,slow=6.5
NOA NORSAR Array B 69.37 31 P P **20 27 38.4 +1.2**
comp=Z,2.5nm,0.9s,baz=272,slow=6.5,SNR=4.7
NOA pP pP **20 27 59.6 -0.4**
comp=Z,8.2nm,1.0s,baz=271,slow=6.4,SNR=9.9
FUORN Ofenpass-Fuorn 69.43 46 eP P **20 27 39.5 +1.4**
comp=Z,17nm,1.0s
RETA Reutte 69.70 45 *i* P P **20 27 40.2 +0.6**
comp=Z,7.5nm,0.8s,SNR=9.2
MCK McKinley 69.70 332 eP P **20 27 40.0 +0.8**
MCK McKinley 69.70 332 eP P **20 27 40.0 +0.8**
FETA Feichten 69.71 46 *i* P P **20 27 41.2 +1.4**
comp=Z,19nm,1.1s,SNR=11
GRF Grafenberg Arr 69.82 43 eP P **20 27 41.4 +1.2**
comp=Z,14nm,1.1s
GRF epP pP **20 28 02.9 -0.2**
MOTA Moosalm 69.94 45⇓*iP* P **20 27 41.4 +0.3**
comp=Z,14nm,1.1s,SNR=8.0
KEST Kesra 69.98 58 P P **20 27 41.6 +0.1**
comp=Z,1.5nm,0.6s,baz=204,slow=2.3,SNR=9.4
KEST pP pP **20 28 03.9 -0.5**
comp=Z,6.2nm,0.9s,baz=204,slow=2.0,SNR=6.0
EFI East Falkland 70.07 173 P P **20 27 41.8 +0.4**
EFI pmax pmax
comp=Z,62nm,1.0s
COLD Coldfoot 70.25 336 eP P **20 27 43.8 +1.4**
TRF Thorofare Moun 70.31 332 eP P **20 27 43.7 +0.6**
comp=Z,39nm,1.0s
KTH Kantishna Hill 70.59 332 eP P **20 27 45.5 +0.8**
CLL Collm 70.82 41 eP P **20 27 47.0 +0.8**
CLL e*PP pP **20 28 09.0 -0.2**
CLL Collm 70.82 41 eP P **20 27 47.0 +0.8**
CLL epP pP **20 28 09.0 -0.2**
comp=Z,14nm,1.3s
ABTA Abfaltersbach 70.96 46 *i* P P **20 27 48.3 +1.0**
comp=Z,9.5nm,1.2s,SNR=5.6
CAST Castle Rocks 71.12 332 eP P **20 27 48.1 +0.3**
PPLA Purkeypile 71.19 331 eP P **20 27 48.9 +0.5**
KHC Kasperske Hory 71.41 43 eP P **20 27 51.0 +1.1**
KHC *PP pP **20 28 13.0 +0.2**
KHC Kasperske Hory 71.41 43 eP P **20 27 51.0 +1.1**
KHC epP pP **20 28 13.0 +0.2**
BRG Berggiesshubel 71.45 41 *i* P P **20 27 50.9 +0.9**
comp=Z,7.0nm,1.1s
BRG e 20 27 58.9
comp=Z,2.7nm,0.9s
BRG pP pP **20 28 13.4 +0.3**
comp=Z,14nm,1.2s
BRG Berggiesshubel 71.45 41 *i* P P **20 27 50.9 +0.9**
BRG *PP pP **20 28 13.4 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,14nm,1.2s
BRG Berggiesshubel 71.45 41 S sS 20 37 41.0 +0.2
KBA Koelnbreinsper 71.49 46⇓*iP* P **20 27 51.3 +0.7**
comp=Z,8.1nm,0.8s,SNR=7.5
GEC2 GERESS Array S 71.52 44 eP P **20 27 51.6 +1.0**
GEC2 e*PP pP **20 28 13.7 +0.1**
GEC2 GERESS Array S 71.52 44 eP P **20 27 51.6 +1.0**
GEC2 epP pP **20 28 13.7 +0.1**
GERES GERESS Array B 71.52 44 P P **20 27 50.2 -0.4**
comp=Z,1.9nm,0.8s,baz=262,slow=2.7,SNR=19
GERES pP pP **20 28 13.6 -0.1**
comp=Z,5.0nm,1.1s,baz=202,slow=5.6,SNR=9.5
IM04 Indian Mountai 71.71 335 eP P **20 27 51.5 +0.2**
KDAK Kodiak Island 71.74 326 *i* P P **20 27 52.9 +1.3**
PVCC Panska Ves 71.89 42 eP P **20 27 53.3 +0.6**
PVCC e*PP pP **20 28 16.1 +0.4**
PVCC Panska Ves 71.89 42 eP P **20 27 53.3 +0.6**
PVCC epP pP **20 28 16.1 +0.4**
PRU Pruhonice 71.93 42 eP P **20 27 54.0 +1.0**
PRU e*PP pP **20 28 15.2 -0.7**
PRU Pruhonice 71.93 42 eP P **20 27 54.0 +1.0**
PRU epP pP **20 28 15.2 -0.7**
TRI Trieste 71.95 47 eP P **20 27 53.3 +0.2**
TRI Trieste 71.95 47 eP P **20 27 53.3 +0.2**
MOA Molln 72.01 45⇑*iP* P **20 27 54.3 +0.8**
comp=Z,5.4nm,1.0s
GOPC GO Pecny, Ondr 72.10 42 eP P **20 27 56.2 +2.2**
GOPC epP pP **20 28 17.2 +0.2**
JAVS Javornik 72.13 47 *i* P P **20 27 55.4 +1.1**
JAVS *i* 20 28 17.8
TREC Trest 72.63 43 eP P **20 27 58.3 +1.1**
TREC e*PP pP **20 28 20.4 +0.2**
TREC *e* 20 28 30.0
TREC Trest 72.63 43 eP P **20 27 58.3 +1.1**
TREC epP pP **20 28 20.4 +0.2**
TREC esP sP **20 28 30.0 +0.1**
VISS Visnje 72.68 47 eP P **20 27 58.5 +1.0**
VISS *e* 20 28 20.7
SOKA Soboth 72.69 46⇑*iP* P **20 27 57.6 0.0**
comp=Z,4.9nm,1.2s
UPC Upice 72.81 42 eP P **20 27 59.4 +1.3**
UPC e*PP pP **20 28 21.5 +0.3**
UPC *e* 20 28 29.4
UPC Upice 72.81 42 eP P **20 27 59.4 +1.3**
UPC epP pP **20 28 21.5 +0.3**
UPC esP sP **20 28 29.4 -1.5**
KSP Ksiaz 72.94 41 eP P **20 28 01.8 +2.9**
KSP epP pP **20 28 22.6 +0.6**
BOJS Bojanci 73.01 47 eP P **20 28 01.8 +2.4**
BOJS *e* 20 28 14.2
DPC Dobruska-Polom 73.02 42 eP P **20 28 00.7 +1.2**
DPC e*PP pP **20 28 23.0 +0.5**
DPC pmax pmax

comp=Z,108nm,1.3s
DPC Dobruska-Polom 73.02 42 *e*P **P 20 27 59.3 -0.2**
DPC *e*pP **pP 20 28 23.0 +0.5**
DPC *es*P **sP 20 28 32.6 +0.3**
DPC *ex* x 20 36 42.4
DPC Dobruska-Polom 73.02 42 *e*P **P 20 28 00.7 +1.2**
comp=Z,108nm,1.3s
DPC *e*pP **pP 20 28 23.0 +0.5**
GROS Grobnik 73.04 46 *e*P **P 20 27 59.8 +0.1**
GROS *e* 20 28 23.9
CONA Conrad Observa 73.07 44⇑*i*P **P 20 27 59.8 0.0**
comp=Z,6.1nm,1.1s
VRAC Vranov 73.35 43⇑*i*P pP 20 28 24.9 +0.5
KRLC Kraliky 73.35 42 *e*P **P 20 28 02.7 +1.2**
KRLC *e**PP **pP 20 28 25.0 +0.5**
KRLC *e* 20 28 34.5
KRLC Kraliky 73.35 42 *e*P **P 20 28 02.7 +1.2**
KRLC *e*pP **pP 20 28 25.0 +0.5**
KRLC *es*P **sP 20 28 34.5 +0.3**
MORC Moravsky Berou 73.89 42 *e*P **P 20 28 04.5 -0.1**
MORC *e**PP **pP 20 28 27.3 -0.4**
MORC pmax pmax
comp=Z,14nm,1.5s
MORC Moravsky Berou 73.89 42⇓*i*P pP 20 28 28.7 +1.0
MORC Moravsky Berou 73.89 42 *e*P **P 20 28 04.5 -0.1**
comp=Z,14nm,1.5s
MORC *e*pP **pP 20 28 27.2 -0.4**
OKC Ostrava-Krasne 74.26 42 *e*P **P 20 28 08.1 +1.4**
OKC *e**PP **pP 20 28 30.5 +0.7**
OKC *e* 20 28 38.8
OKC Ostrava-Krasne 74.26 42 *e*P **P 20 28 08.1 +1.4**
OKC *e*pP **pP 20 28 30.5 +0.7**
OKC *es*P **sP 20 28 38.8 -0.7**
ARCES ARCESS Array B 74.60 21 P **P 20 28 07.7 -0.6**
comp=Z,1.9nm,0.6s,baz=272,slow=3.6,SNR=13
ARCES *e*pP **pP 20 28 31.3 -0.1**
comp=Z,8.9nm,0.9s,baz=289,slow=3.7,SNR=4.6
VYHS Vyhne 74.94 43 *e*P **P 20 28 12.0 +1.3**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 74.94 43 *e*P **P 20 28 12.0 +1.3**
VYHS *e*pP **pP 20 28 33.9 +0.1**
PKSM Moragy 75.22 46⇑P **P 20 28 13.8 +1.5**
PKSM Moragy 75.22 46⇑*i*P **P 20 28 13.8 +1.5**
OJC Ojcow 75.25 42 *e*P **P 20 28 14.1 +1.7**
OJC *e*pP **pP 20 28 35.4 -0.1**
NIE Niedzica 75.72 42 *e*P **P 20 28 17.5 +2.3**
NIE *e*pP **pP 20 28 39.9 +1.6**
PSZ Piszkesteto 75.74 44 *e*P **P 20 28 17.7 +2.4**
PSZ *e**PP **pP 20 28 39.5 +1.0**
PSZ Piszkesteto 75.74 44⇑*i*P pP 20 28 40.3 +1.8
PSZ Piszkesteto 75.74 44 *e*P **P 20 28 17.7 +2.4**
PSZ *e*pP **pP 20 28 39.5 +1.0**
STHS Stebnicka Huta 76.32 42 *e*P **P 20 28 20.5 +2.0**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 76.32 42 *e*P **P 20 28 20.5 +2.0**
STHS *e*pP **pP 20 28 43.6 +1.9**
KAF Kangasniemi 76.41 29 *e*P **P 20 28 19.2 +0.5**
KAF pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 76.45 30 P **P 20 28 19.6 +0.6**
comp=Z,1.8nm,0.4s,baz=267,slow=4.4,SNR=36
FINES pP **pP 20 28 42.1 -0.1**
comp=Z,13nm,1.0s,baz=298,slow=4.1,SNR=8.0
SUW Suwalki 76.54 37 *e*P **P 20 28 19.9 +0.3**
SUW *e**PP **pP 20 28 42.9 0.0**
SUW Suwalki 76.54 37 *e*P **P 20 28 19.9 +0.3**
SUW *e*pP **pP 20 28 42.8 -0.1**
KOLS Kolonicke sedl 77.08 43 *e*P **P 20 28 25.0 +2.2**
KOLS *e* 20 28 46.4
KOLS Kolonicke sedl 77.08 43 *e*P **P 20 28 25.0 +2.2**
KOLS *e*pP **pP 20 28 46.4 +0.3**
UZH Uzhgorod 77.16 43 *e*P **P 20 28 24.4 +1.2**
UZH *i **PP **pP 20 28 47.4 +0.9**
KWP Kalwaria Pacla 77.20 42 *e*P **P 20 28 26.0 +2.5**
KWP *e**PP **pP 20 28 48.4 +1.7**
KWP Kalwaria Pacla 77.20 42 *e*P **P 20 28 25.9 +2.5**
KWP *e*pP **pP 20 28 48.4 +1.7**
BZS Buzias 77.38 46⇑P **P 20 28 26.4 +1.9**
BZS Buzias 77.38 46⇑*i*P **P 20 28 26.4 +1.9**
TRPA Tarpa 77.43 43⇑*i*P pP 20 28 48.8 +0.8
VSU Vasula 77.47 32⇓*e*P **P 20 28 25.4 +0.7**
VSU pmax pmax
comp=Z,33nm,1.5s
IGT Igoumenitsa 77.84 52 *e*P **P 20 28 29.0 +1.8**
DRGR 77.85 45⇓P **P 20 28 28.4 +1.2**
DRGR 77.85 45⇓*i*P **P 20 28 28.4 +1.2**
BMR Baia Mare 78.17 44⇑*i*P pP 20 28 53.1 +1.0
NEST Nestorio 78.17 51 *e*P **P 20 28 30.9 +1.7**
FNA Florina 78.33 51 *e*P **P 20 28 31.1 +1.1**
JOF Joensuu 78.45 27 *e*P **P 20 28 28.9 -1.2**
JOF pmax pmax
comp=Z,2.0nm,0.5s
PDO Prodromos 78.71 53 *e*P **P 20 28 34.1 +2.1**
GRG Griva 79.04 50 *e*P **P 20 28 35.6 +1.8**
RLS Riolos of Patr 79.06 54 *e*P **PcP 20 28 44.7 +2.6**
THL Klokotos Trika 79.10 52 *e*P **P 20 28 35.1 +1.0**
EVR Evrytania 79.10 53 *e*P **P 20 28 36.3 +2.0**
VTS Vitosha 79.21 49⇑*i*P pP 20 28 59.3 +1.0
DRO Drossia 79.27 54 *e*P **P 20 28 36.0 +0.9**
BURAR Bucovina Array 79.31 43⇑P **P 20 28 37.3 +2.1**
BURAR Bucovina Array 79.31 43⇑*i*P **P 20 28 37.3 +2.1**
LIT Litokhoron 79.32 51 *e*P **P 20 28 36.9 +1.5**
MAKR Makrakomi, Fth 79.32 52 *e*P **P 20 28 38.3 +2.9**
KNT Kendrikon 79.35 50 *e*P **P 20 28 32.7 -2.8**
KALE Kalithea 79.48 53 *e*P **P 20 28 37.3 +0.9**
ARR Arges 79.50 46⇑*i*P **P 20 28 37.9 +1.6**
ITM Ithomi 79.63 54 *e*P **P 20 28 38.6 +1.5**
HORT Hortiatis 79.64 51 *e*P **P 20 28 39.3 +2.1**
VOIR 79.76 46⇑P **P 20 28 38.7 +1.0**
VOIR 79.76 46⇑*i*P **P 20 28 38.7 +1.0**
DESF Desfina 79.78 53 *e*P **P 20 28 38.2 +0.3**
AXAR Agios Charalam 79.78 53 *e*P **P 20 28 38.8 +0.9**
NVR Nevrokopi 80.00 50 *e*P **P 20 28 40.5 +1.4**
LKR Lokris 80.07 53 *e*P **P 20 28 40.9 +1.5**
LTK Loutraki 80.21 53 *e*P P 20 28 34.4 -5.8
MLR Muntele Rosu 80.36 45⇑P **P 20 28 43.5 +2.5**
MLR Muntele Rosu 80.36 45⇑*i*P **P 20 28 43.5 +2.5**
MRKA Markates 80.50 52 *e*P **P 20 28 40.6 -1.2**
KIEV Kiev 80.97 40⇓*i*P **P 20 28 44.5 +0.6**
AKASG Malin Array Be 80.97 40 P **P 20 28 44.1 +0.2**
comp=Z,0.7nm,0.4s,baz=278,slow=4.8,SNR=8.7
AKASG pP **pP 20 29 06.7 -0.7**
comp=Z,6.3nm,0.8s,baz=281,slow=4.2,SNR=6.1
KARN Karanos 81.65 56 *e*P P 20 28 51.2 +3.2
TLB Topalu 82.04 46⇑P **P 20 28 48.6 -1.1**
TLB Topalu 82.04 46⇑*i*P **P 20 28 48.6 -1.1**
SIVA Sivas 82.46 56 *e*P **P 20 28 55.1 +3.0**
LAST Lasithi 82.94 55 *e*P **P 20 28 55.5 +0.7**
OBN Obninsk 83.65 34 *d*/*i*P **P 20 28 58.7 +0.9**
OBN *i* 20 29 21.3
OBN pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 83.65 34 P **P 20 28 56.5 -1.3**
comp=Z,8.1nm,0.3s
OBN pP **pP 20 29 21.1 -0.3**
comp=Z,32nm,0.9s,baz=4.0,slow=4.3,SNR=4.0
OBN Obninsk 83.65 34 *e*P **P 20 28 58.0 +0.2**
OBN *e*pP **pP 20 29 20.7 -0.7**
PRGR Permogore 85.09 26 P **P 20 29 05.6 +0.6**
PRGR *e**PP **pP 20 29 24.8 -3.8**
PRGR pmax pmax
comp=Z,11nm,1.1s
BRTR Keskin Array B 87.58 49 P **P 20 29 17.2 -0.7**
comp=Z,1.6nm,0.6s,baz=273,slow=4.3,SNR=8.1
BRTR pP **pP 20 29 41.1 -0.5**
comp=Z,7.8nm,1.0s,baz=289,slow=3.8,SNR=11
TIXI Tiksi 89.69 355⇓*i*P **P 20 29 27.3 +0.4**
TIXI *e**PP **pP 20 29 51.1 +0.4**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 89.69 355 *e*P **P 20 29 27.1 +0.1**
comp=Z,2.1nm,0.8s
TIXI *e*pP **pP 20 29 50.1 -0.7**
MMAI Mount Meron Ar 91.42 55 P **P 20 29 36.3 +0.4**
comp=Z,0.4nm,0.5s,baz=0.0,slow=0.7,SNR=3.7
KIV Kislovodsk 91.99 42 *e*P **P 20 29 37.7 -0.7**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 92.23 42 P **P 20 29 39.8 +0.5**
comp=Z,3.8nm,1.0s,baz=332,slow=3.7,SNR=5.5
KBZ pP **pP 20 30 03.6 +0.5**
comp=Z,4.8nm,0.9s,baz=306,slow=4.6,SNR=6.7
SEY Seymchan 93.12 343 *i*P **P 20 29 44.8 +1.8**
ARU Arti 93.54 26 P **P 20 29 44.5 -0.6**
ARU 20 33 29.7
ARU S **SKSac 20 40 10.1 -1.3**
KSH Kashi 113.78 29 *e*PKP **PKiKP 20 35 08.4 +0.4**
KSH sPKP 20 35 45.8
KSH PP PP 20 36 10.5 +9.5
KSH PKS **PKSdf 20 38 44.1 -0.7**
KSH SKS **SKSdf 20 42 09.5 -3.0**
KSH SKKS **SKKSac 20 42 53.0 -2.7**
KSH LN
comp=Z,530nm,13.2s
KSH LE
comp=Z,260nm,9.8s
KSH LZ
comp=Z,400nm,14.6s
CN2 Changchun 117.09 349 *e*PKP **PKPdf 20 35 13.1 -1.0**
MJAR Matsushiro Arr 120.08 335 PKP **PKPdf 20 35 19.1 -1.0**
comp=Z,1.1nm,0.8s,baz=81,slow=1.3,SNR=7.2
HHC Hu-ho-hao-te 121.36 360 *e*PKP **PKPdf 20 35 20.4 -2.1**
HHC sPKP 20 36 01.6
HHC SKS **SKSdf 20 42 23.6 -3.2**
HHC SKKS SKKSac 20 43 36.8 -9.0
HHC PPMZ
comp=Z,130nm,6.2s
HHC LN
comp=Z,280nm,19.8s
HHC LE
comp=Z,250nm,16.1s
HHC LZ
comp=Z,350nm,19.2s
KSRS Korea Array 122.62 344 PKP **PKPdf 20 35 24.6 -0.3**
comp=Z,1.4nm,0.7s,baz=24,slow=3.1,SNR=5.4
KSAR Wonju Array Be 122.64 345 PKIKP **PKPdf 20 35 24.6 -0.4**
KSAR Wonju Array Be 122.64 345 PKP **PKPdf 20 35 24.6 -0.4**
LZH Lanzhou 125.63 8 *e*PKP **PKPdf 20 35 28.4 -2.5**
LZH sPKP 20 36 03.3
NJ2 Nanjing 129.64 352 *e*PKP **PKPdf 20 35 38.4 -0.1**
CD2 Chengdu 130.71 9 PKP **PKPdf 20 35 39.0 -1.6**
CD2 sPKP 20 36 13.4
CD2 PP **PP 20 37 58.8 +3.6**
CD2 PKS **PKSdf 20 39 14.6 -2.7**
CD2 SKS **SKSdf 20 42 40.6 -3.9**
CD2 SKKS **SKKSac 20 44 40.6 -4.6**
CD2 SS **SS 20 55 15.8 -0.8**
CD2 PPMZ
comp=Z,230nm,6.2s
GYA Guiyang 135.46 6 *e*Pdif **Pdif 20 32 51.0 -1.8**
GYA PKP **PKPdf 20 35 49.0 -0.8**
GYA sPKP 20 36 23.3
GYA PP **PP 20 38 29.6 +4.0**
GYA PKS **PKSdf 20 39 24.4 -2.0**
GYA SKKS 20 45 11.8
GYA SS **SS 20 56 13.3 -1.0**
GYA PPMZ
comp=Z,120nm,8.0s
GYA LN
comp=Z,130nm,22.8s
GYA LE
comp=Z,120nm,23.2s
GYA LZ
comp=Z,140nm,21.8s
COEN Coen 149.29 273 *e*PKPbc **PKPbc 20 36 18.6 -0.1**
STKA Stephens Creek 149.58 237 PKP **PKPdf 20 36 13.4 -0.8**
comp=Z,5.6nm,0.8s,baz=63,slow=3.8,SNR=6.8
STKA PKPbc **PKPbc 20 36 18.5 -0.4**
comp=Z,5.6nm,0.8s,baz=64,slow=3.3,SNR=16
WRA Warramunga Arr 158.32 261 PKP **PKPdf 20 36 25.8 -1.1**
comp=Z,2.4nm,0.9s,baz=68,slow=1.2,SNR=15
WRA PKPab **PKPab 20 37 00.1 -1.5**
comp=Z,1.5nm,0.7s,baz=86,slow=4.0,SNR=10.0
ASAR Alice Springs 158.35 251 PKP **PKPdf 20 36 26.2 -0.6**
comp=Z,1.3nm,0.8s,baz=121,slow=1.0,SNR=12
ASAR PKPab **PKPab 20 37 00.9 -0.8**
comp=Z,2.2nm,0.7s,baz=96,slow=4.1,SNR=15

IDC ***18*** *20:25:39.4±1.1,25.°84N×128.°50E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/26, mbtmp3.5/5, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=52.1km s-min=18.0km az=81.0*
JMA ***18*** *20:25:41.7±0.3, 25.°92N×128.°60E, h43km, M3.4*
ISC 18 20:25:40.1±1.5,**25.°87N**±0.°05×**128.°59E**±0.°04,**h12**km±9km, **n25**,σ1°**93**/**44**,**mb3.5**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.80**	**290**	P	**Pb**	**20 25 56.8**	**+0.8**
JJT2				S	**Sb**	**20 26 08.0**	**+1.2**
JNTH	**Nagotoyohara**	**0.82**	**322**	P	**Pg**	**20 25 56.3**	**+0.3**
JNTH				S	**Sg**	**20 26 07.5**	**+0.7**
JOW	**Kunigami**	**1.00**	**344**	P	**Pg**	**20 25 59.3**	**-0.1**
JOW				*e*S	**Sg**	**20 26 11.2**	**-1.2**
JOW	**Kunigami**	**1.00**	**344**	Pn	**Pg**	**20 25 59.2**	**-0.1**
JOW	baz=165,slow=14			Sn	**Sg**	**20 26 10.7**	**-1.7**
	16nm,0.3s,baz=168,slow=13,SNR=12						
JIH	**Iheya**	**1.29**	**334**	P	**Pn**	**20 26 03.7**	**-0.3**
JIH				S	**Sb**	**20 26 19.2**	**-1.6**
JAGN	**Aguni-jima**	**1.41**	**301**	P	**Pn**	**20 26 05.5**	**-0.1**
JOKE	**Okinoerabujima**	**1.48**	**359**	P	**Pn**	**20 26 06.4**	**-0.3**
JOKE				*e*S	**Sn**	**20 26 23.2**	**-2.8**
JKE	**Kume jima 2**	**1.68**	**286**	P	**Pn**	**20 26 08.9**	**-0.5**
JKE				S	**Sn**	**20 26 28.3**	**-2.6**
JTK	**Tokunoshima**	**1.93**	**10**	P	**Pn**	**20 26 12.6**	**-0.3**
JTK				S	**Sn**	**20 26 35.1**	**-2.0**
JMZ	**Minamidaito 2**	**2.37**	**91**	P	**Pn**	**20 26 18.0**	**-0.9**
JMZ				S	**Sn**	**20 26 43.9**	**-4.0**
JAMN	**Amaminishikomi**	**2.42**	**12**	P	**Pn**	**20 26 19.6**	**+0.1**
JAMN				*e*S	**Sn**	**20 26 46.9**	**-2.2**
JAM	**Amami Oshima**	**2.69**	**19**	P	**Pn**	**20 26 22.8**	**-0.4**
JAM				S	**Sn**	**20 26 53.7**	**-2.0**
JZK	**Kikaishima**	**2.73**	**27**	*e*S	**Sn**	**20 26 55.5**	**-1.2**
JOGS	**Gusukube**	**3.09**	**250**	P	**Pn**	**20 26 29.0**	**+0.3**
JOGS				*e*S	**Sn**	**20 27 04.1**	**-1.5**
JIKM	**Ikemajima**	**3.17**	**253**	P	**Pn**	**20 26 30.2**	**+0.4**
JIKM				S	**Sn**	**20 27 05.3**	**-2.2**
JIRB	**Irabujima**	**3.26**	**252**	P	**Pn**	**20 26 30.8**	**-0.3**
JIRB				S	**Sn**	**20 27 07.3**	**-2.6**
JTJ	**Tarama**	**3.73**	**252**	P	**Pn**	**20 26 36.8**	**-0.7**
JTJ				S	**Sn**	**20 27 17.5**	**-3.9**
JISG	**Ishigakijimahi**	**4.08**	**253**	P	**Pn**	**20 26 41.2**	**-1.2**
JISG				S	**Sn**	**20 27 27.3**	**-2.8**
JIJ	**Ishigaki jima**	**4.30**	**251**	P	**Pn**	**20 26 44.3**	**-1.1**
JIJ				S	**Sn**	**20 27 30.4**	**-5.2**
IRIF	**Iriomote-Funau**	**4.66**	**252**	P	**Pn**	**20 26 50.2**	**-0.2**
JNU	**Nakatsue**	**7.50**	**15**	Pn	**Pn**	**20 27 31.4**	**+2.0**
	0.5nm,0.3s,baz=196,slow=8.8,SNR=7.3						
JNU				Sn	**Sn**	**20 28 51.2**	**-3.1**
	0.2nm,0.3s,baz=185,slow=11,SNR=2.4						
JNU				LR	LR	20 30 45.4	
	comp=Z,48nm,18.2s,baz=244,slow=40						
SONM	**Songino Array**	**28.03**	**327**	P	**P**	**20 31 33.3**	**+2.0**
	1.5nm,0.5s,baz=141,slow=11,SNR=39						
WRA	**Warramunga Arr**	**45.88**	**172**	P	**P**	**20 34 03.1**	**+0.5**
	0.8nm,0.7s,baz=352,slow=8.1,SNR=5.4						
ASAR	**Alice Springs**	**49.51**	**174**	P	**P**	**20 34 31.9**	**+1.1**
	0.2nm,0.6s,baz=356,slow=6.9,SNR=3.6						
ASAR				ScP	**ScP**	**20 39 48.9**	**+0.9**
	0.8nm,0.7s,baz=346,slow=3.9,SNR=5.9						
YKA	**Yellowknife Ar**	**78.71**	**25**	P	**P**	**20 37 44.5**	**+2.4**
	0.1nm,0.6s,baz=302,slow=5.7,SNR=3.1						

ROM 18 20:26:43.7±0.1,**43.°48N**×**12.°42E**,**h10**km±1km,**Md1.2**/3, **Ml0.5**/3,**Error ellipse: s-maj=0.6km s-min=0.5km az=155.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.10**	**187**	Pg	Pg	20 26 46.7	+0.4
ATVO				Sg	Sg	20 26 48.7	+0.6
	15nm,0.3s						
PIEI	**Pieia**	**0.10**	**55**	Pg	Pg	20 26 46.6	+0.2
PIEI				Sg	Sg	20 26 48.9	+0.7
	14nm,0.1s						
BADI	**Badiali**	**0.13**	**284**	Pg	Pg	20 26 47.3	+0.5
BADI				Sg	Sg	20 26 49.9	+0.9
	10.0nm,0.1s						

BJI ***18*** *20:28:47.9, 35.°97N×67.°78E, h5km, mB5.5/53, mb5.4/76, Ms5.8/82, Ms7 5.5/72*
IDC ***18*** *20:28:48.1±0.4, 35.°67N×67.°75E, h0km, mb5.3/39, mb1 5.4/46, mb1mx5.4/46, mbtmp5.3/46, ML4.7/4, MS5.2/36, Ms1 5.2/36, ms1mx5.1/39, Error ellipse: s-maj=10.7km s-min=7.8km az=6.0*
SZGRF ***18*** *20:28:48.1, 34.°71N×67.°63E, h10km, mb5.3, MS5.0, Southeastern Afghanistan*
ISCJB ***18*** *20:28:49.4±0.1, 35.°69N±0.°01×67.°72E±0.°01, h16km, mb5.5/333, MS5.3/217, Error ellipse: s-maj=2.0km s-min=1.3km az=9.1*
GCMT ***18*** *20:28:49.8±0.1, 35.°83N×67.°49E, h17km, MW5.6/125, Moment Tensor Solution. s98,c190; s125,c305; Duration: 1§5 Moment tensor: Scale 10¹⁷Nm; Mrr0.34±.03; Mθθ0.44±.03; Mϕϕ-0.78±.03; Mrθ0.19±.08; Mθϕ-2.79±.03; Mϕr-0.04±.08; Best double couple: M☉2.86500×10¹⁷ NP1:ϕs84.00000°, δ88.00000°, λ176.00000°. NP2:ϕs174.00000°, δ86.00000°, λ2.00000°. Principal axes: T 2.6980, Plg4.0000°, Azm39.0000°; N 0.3320, Plg86.0000°, Azm239.0000°; P -3.0310, Plg2.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***18*** *20:28:50.3±0.1, 35.°63N×67.°66E, h13km, mb5.7/163, MS5.4/151, MW5.4 Error ellipse: s-maj=3.5km s-min=2.3km az=194.0, Moment Tensor Solution. s26 Moment tensor: Scale 10¹⁷Nm; Mrr0.17; Mθθ0.36; Mϕϕ-0.53; Mrθ-0.25; Mθϕ-1.55; Mϕr-0.48; Best double couple: M☉1.70000×10¹⁷ NP1:ϕs351.00000°, δ82.00000°, λ-14.00000°. NP2:ϕs83.00000°, δ77.00000°, λ-172.00000°. Principal axes: T 1.5300, Plg4.0000°, Azm37.0000°; N 0.3100, Plg74.0000°, Azm142.0000°; P -1.8400, Plg14.0000°, Azm306.0000°;*
NEIC Eleven people killed, more than 70 injured, 2,000 houses destroyed and dozens of livestock killed in Samangan. Landslides blocked roads in the area. Felt [IV] at Mazar-e Sharif and [II] at Kabul. Also felt at Baghlan, Bagrami, Bamyan, Baraki Barak, Gazab, Panjab, Shibirghan and Shahrak. Felt at Samarqand, Uzbekistan and [II] at Dushanbe, Tajikistan.
TEH ***18*** *20:28:50.0, 35.°70N×67.°65E, h10km, ML5.3*
MOS ***18*** *20:28:51.4±1.0, 35.°73N×67.°72E, h33km, mb5.7/128, MS5.2/85, Error ellipse: s-maj=4.3km s-min=3.0km az=124.9*
NNC ***18*** *20:28:51.7±1.9, 35.°73N×67.°60E, h36km±40km, mb6.0, mpv5.9, Error ellipse: s-maj=18.0km s-min=8.7km az=159.0*
ISC 18 20:28:50.5±0.3,**35.°72N**±0.°03×**67.°68E**±0.°02,**h14**km±1km, **h14**km:**pP-P,n1436,**σ1°**47**/1450,**mb5.5**/339,**MS5.3**/224, **112C-197D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.62**	**136**	*e*Pn	**Pn**	**20 29 19.4**	**+0.5**
KBL	**Kabul**	**1.62**	**136**	*e*Pn	**Pn**	**20 29 19.4**	**+0.5**
DZET	**Dzherino**	**3.22**	**16**	⇓Pn	**Pn**	**20 29 41.1**	**+0.4**
	854nm,0.3s						
DZET				⇑Pg	**Pg**	**20 29 50.4**	**-1.8**
	9μm,0.8s						
DZET				⇓Sn	**Sn**	**20 30 17.6**	**-1.3**
	13μm,0.5s						
DZET				⇓Lg	Lg	20 30 33.4	
	31μm,0.7s						
CEP	**Cherat**	**3.96**	**117**	P	**Pn**	**20 29 53.8**	**+2.8**
CEP				S	**Sg**	**20 30 56.0**	**-1.7**
THW	**Thamme Wali**	**4.45**	**130**	P	**Pn**	**20 29 59.7**	**+2.1**
CHCP	**Chirah Chowk**	**5.04**	**112**	P	**Pn**	**20 30 08.0**	**+2.3**
SARP	**Sargodha**	**5.62**	**131**	P	**Pn**	**20 30 14.8**	**+1.2**
IMYA	**Miami**	**6.17**	**278**	*e*Pn	**Pn**	**20 30 22.3**	**+0.9**
SFK	**Sufi-Kurgan**	**6.29**	**45**	⇑Pn	**Pn**	**20 30 23.4**	**+0.3**
	1μm,1.1s						
SFK				⇓Sn	**Sn**	**20 31 34.2**	**-0.7**
	2μm,0.7s						
SFK				⇑Lg	Lg	20 32 15.0	
	5μm,1.1s						
JMU	**Jammu**	**6.69**	**114**	*e*P	**Pg**	**20 30 56.0**	**-2.5**
JMU				*e*S	Sb	20 32 15.0	+8.7
IMOG	**Moghan**	**6.78**	**276**	*e*Pn	**Pn**	**20 30 30.8**	**+1.0**
IPAY	**Payeh**	**7.07**	**278**	*e*Pn	**Pn**	**20 30 32.9**	**-0.9**
IAKL	**Akhelmad**	**7.27**	**280**	*e*Pn	**Pn**	**20 30 35.5**	**-1.0**
IKRD	**Kardeh**	**7.48**	**281**	*e*Pn	Pn	20 30 28.0	-11
DLH	**Dalhousie**	**7.57**	**112**	*e*P	**Pn**	**20 30 43.0**	**+2.4**
DLH				*ex*	x	20 32 13.0	
KSH	**Kashi**	**7.60**	**58**	Pn	**Pn**	**20 30 38.8**	**-2.1**
KSH				Sn	Sn	20 31 57.8	-9.0
KSH				smax	smax		
	comp=N,11μm,1.2s						
KSH				smax	smax		
	comp=E,5μm,1.0s						
KK31	**Karatay Array**	**7.70**	**16**	Pn	**Pn**	**20 30 41.9**	**-0.2**
	comp=E,113nm,0.4s,baz=207,slow=16,SNR=2263						
KK31				Sn	**Sn**	**20 32 08.8**	**-0.3**
	comp=E,1μm,0.7s,baz=210,slow=23,SNR=8.9						
KK31				⇓Lg	Lg	20 32 53.0	
	comp=E,1μm,0.8s,baz=175,slow=9.4,SNR=6.1						
ASHT	**Ashkhabad**	**7.78**	**289**	⇑Pn	**Pn**	**20 30 41.7**	**-1.5**
	comp=E,2μm,1.5s						
ASHT				⇑Sn	**Sn**	**20 32 09.5**	**-1.6**
	comp=E,7μm,1.0s						
ASHT				⇑Lg	Lg	20 32 58.4	
	comp=E,25μm,1.4s						
ISFR	**Sfrayin**	**7.92**	**283**	*e*Pn	**Pn**	**20 30 44.9**	**-0.5**
AML	**Almayashu**	**7.94**	**34**	P	**Pn**	**20 30 47.1**	**+1.3**
	SNR=205						
AML	**Almayashu**	**7.94**	**34**	*i*P	**Pn**	**20 30 47.1**	**+1.3**
DHRM	**DHARAMSHALA**	**7.95**	**113**	*e*P	**Pn**	**20 30 47.4**	**+1.5**
GEYT	**Alibeck**	**7.98**	**289**	Pn	**Pn**	**20 30 44.6**	**-1.4**
	comp=E,76nm,0.3s,baz=134,slow=9.3,SNR=332						
GEYT				Sn	**Sn**	**20 32 13.7**	**-2.4**
	comp=E,72nm,0.3s,baz=133,slow=10.0,SNR=3.9						
GEYT				LR	LR	20 34 44.6	
	comp=E,28μm,21.4s,baz=110,slow=44						
ISHV	**Shirvan**	**8.22**	**286**	*e*Pn	**Pn**	**20 30 49.5**	**-0.1**
EKS2	**Erkin-Say**	**8.40**	**32**	P	**Pn**	**20 30 53.3**	**+1.5**
	SNR=65						
EKS2	**Erkin-Say**	**8.40**	**32**	*e*P	**Pn**	**20 30 52.0**	**+0.2**
EKS2	**Erkin-Say**	**8.40**	**32**	*e*Pn	**Pn**	**20 30 52.0**	**+0.2**
UCH	**Uchtor**	**8.40**	**37**	P	**Pn**	**20 30 53.7**	**+1.5**
	SNR=230						
UCH	**Uchtor**	**8.40**	**37**	*i*P	**Pn**	**20 30 53.7**	**+1.5**
BHK	**Bhakra**	**8.46**	**118**	*e*P	**Pn**	**20 30 53.8**	**+1.2**
BHK				*ex*	x	20 32 36.0	
KZA	**Kyzart**	**8.67**	**41**	P	**Pn**	**20 30 57.4**	**+1.5**
	SNR=156						
KZA	**Kyzart**	**8.67**	**41**	*i*P	**Pn**	**20 30 57.3**	**+1.5**
KZA	**Kyzart**	**8.67**	**41**	*i*P	**Pn**	**20 30 57.3**	**+1.5**
AAK	**Ala-Archa**	**8.70**	**35**	⇑Pn	**Pn**	**20 30 56.1**	**0.0**
	comp=E,544nm,0.7s						
AAK				⇓Sn	**Sn**	**20 32 35.5**	**+1.5**
	comp=E,1μm,0.7s						
AAK				⇑Lg	Lg	20 33 27.8	
	comp=E,1μm,1.1s						
AAK	**Ala-Archa**	**8.70**	**35**	P	**Pn**	**20 30 57.2**	**+1.1**
	SNR=97						
AAK	**Ala-Archa**	**8.70**	**35**	*e*/*i*P	**Pn**	**20 30 56.1**	**0.0**
AAK				MLR	MLR		
	comp=E,63μm,15.0s						
AAK	**Ala-Archa**	**8.70**	**35**	Pn	**Pn**	**20 30 56.0**	**0.0**
	comp=E,55nm,0.3s,baz=210,slow=8.1,SNR=423						
AAK				Sn	**Sn**	**20 32 37.0**	**+3.0**
	comp=E,75nm,0.3s,baz=319,slow=23,SNR=10						
AAK	**Ala-Archa**	**8.70**	**35**	Pn	**Pn**	**20 30 57.1**	**+1.0**
	SNR=60						
SDNR	**Sundarnagar**	**8.82**	**116**	*e*P	**Pn**	**20 30 57.0**	**-0.5**
SDNR				*ex*	x	20 32 58.5	
FRU	**Bishkek**	**8.91**	**35**⇑	*i*P	**Pn**	**20 30 59.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,3μm,2.2s						
KBK	**Karagaybulak**	**8.94**	**37**	P	**Pn**	**20 31 00.3**	**+1.0**
	SNR=255						
KBK	**Karagaybulak**	**8.94**	**37**	*i*P	**Pn**	**20 31 00.3**	**+1.0**
CHMS	**Chumysh**	**9.10**	**35**	P	**Pn**	**20 31 02.6**	**+1.1**
	SNR=38						
CHMS	**Chumysh**	**9.10**	**35**	*i*P	**Pn**	**20 31 02.5**	**+1.1**
SMLA	**Simla**	**9.15**

USP	Ospenovka	9.20	33	*i*	P	Pn	20 31 03.4	+0.7		
USP	Ospenovka	9.20	33	*i*	P	Pn	20 31 03.4	+0.7		
ULHL	Ulahol	9.32	43		P	Pn	20 31 06.0	+1.4		
	SNR=84									
ULHL	Ulahol	9.32	43	*i*	P	Pn	20 31 06.0	+1.4		
TKM2	Tokmak 2	9.45	38	⇑	Pn	Pn	20 31 05.6	-0.8		
	comp=Z,410nm,0.8s									
TKM2				⇓	Sn	Sn	20 32 54.1	+1.5		
	comp=Z,712nm,1.0s									
TKM2				⇓	Lg	Lg	20 33 53.4			
	comp=Z,2μm,1.9s									
TKM2	Tokmak 2	9.45	38		P	Pn	20 31 06.5	0.0		
	SNR=75									
TKM2	Tokmak 2	9.45	38	*i*	P	Pn	20 31 06.4	0.0		
TKM2	Tokmak 2	9.45	38	*e*	Pn	Pn	20 31 06.3	-0.1		
DDI	Dehra Dun	10.23	119	*e*	P	Pn	20 31 17.0	0.0		
DDI				*ex*		x	20 34 27.3			
KNDC	Almaty	10.37	41	⇓	Pn	Pn	20 31 19.9	+1.1		
	comp=Z,1μm,0.8s									
KNDC				⇓	Lg	Lg	20 34 21.9			
	comp=Z,4μm,1.9s									
AAA	Alma-Ata	10.40	41	*e*	P	Pn	20 31 19.0	-0.2		
AAA				*e*	S	Sn	20 33 15.5	0.0		
AAA					pmax	pmax				
	comp=Z,4μm,2.8s									
AAA					smax	smax				
	comp=E,8μm,3.1s									
AAA					MLR	MLR				
	comp=Z,37μm,14.0s									
NDI	New Delhi	10.69	128	*i*	P	Pn	20 31 22.0	-1.2		
NDI				*e*	S	Sn	20 33 22.0	-0.8		
IBAF	Bafgh	10.90	251	*e*	Pn	Pn	20 31 27.8	+1.6		
AJM	Ajmer	10.97	145	*ex*		Pn	20 31 26.0	-1.1		
IANJ	Anjilo	11.21	273	*e*	Pn	Pn	20 31 29.8	-0.8		
IGLO	Ghaloghah	11.23	278	*e*	Pn	Pn	20 31 30.8	0.0		
ICHK	Chekchek	11.55	256	*e*	Pn	Pn	20 31 37.8	+2.7		
ISHM	Shahmirzad	11.69	275	*e*	Pn	Pn	20 31 36.7	-0.4		
IMEH	Mehriz	11.72	252	*e*	Pn	Pn	20 31 39.7	+2.2		
PDGK	Podgornoye	11.86	47	⇓	Pn	Pn	20 31 38.4	-0.8		
	comp=Z,315nm,1.1s									
PDGK				⇓	Sn	Sn	20 33 49.9	-1.3		
	comp=Z,505nm,1.4s									
PDGK				⇓	Lg	Lg	20 35 09.4			
	comp=Z,1μm,1.6s									
ILAS	Lasjerd	12.00	273	*e*	Pn	Pn	20 31 40.8	-0.4		
IALA	Alasht	12.06	276	*e*	Pn	Pn	20 31 45.0	+2.7		
IFIR	Firoozkooh	12.14	274	*e*	Pn	Pn	20 31 43.3	+0.1		
PTH	Pithoragarh	12.22	117	*ex*		Pn	20 31 40.8	-3.5		
PTH				*ex*		Sn	20 33 54.9	-5.6		
ISAD	Sadrabad	12.24	256	*e*	Pn	Pn	20 31 46.3	+1.7		
LGTI	Lohaghat	12.30	117	*e*	P	Pn	20 31 43.4	-1.8		
LGTI				*ex*		Sn	20 34 01.3	-0.7		
IPRN	Peran	12.44	277	*e*	Pn	Pn	20 31 48.8	+1.6		
BHJ	Bhuj	12.54	172	*e*	P	Pn	20 31 45.2	-3.3		
IBND	Bandar-abas	12.56	232	*e*	Pn	Pn	20 31 51.1	+2.3		
IDMV	Damavand	12.73	274	*e*	Pn	Pn	20 31 50.8	-0.5		
OTUK	Ortayu	12.99	14	⇑	Pn	Pn	20 31 52.3	-2.2		
	comp=Z,361nm,0.9s									
OTUK				⇓	Sn	Sn	20 34 15.5	-3.3		
	comp=Z,474nm,0.8s									
OTUK				⇓	Lg	Lg	20 35 46.8			
	comp=Z,762nm,1.4s									
IZEF	Zefreh	13.00	262	*e*	Pn	Pn	20 31 56.0	+0.9		
IVRN	Varamin	13.04	271	*e*	Pn	Pn	20 31 54.3	-1.1		
IKLH	Kolahrood	13.49	264	*e*	Pn	Pn	20 32 02.7	+1.0		
BANOM	Banah	13.80	228		Pn	Pn	20 32 06.7	+0.9		
	SNR=37									
JHNI	Jhansi	13.84	135	*ex*		Pn	20 32 00.0	-6.3		
JHNI				*ex*		x	20 36 15.0			
IGZV	Ghazvin	14.14	278	*e*	Pn	Pn	20 32 10.6	0.0		
IRAZ	Razeghan	14.46	274	*e*	Pn	Pn	20 32 13.0	-1.9		
IKAZ	Kazeroun	14.58	251	*e*	Pn	Pn	20 32 18.3	+1.7		
AB31	Akbulak array	14.67	340	⇑	Pn	Pn	20 32 13.9	-3.6		
	comp=Z,55nm,0.5s,baz=154,slow=13,SNR=1450									
AB31				⇑	Sn	Sn	20 34 54.6	-5.2		
	comp=Z,152nm,0.8s,baz=151,slow=24,SNR=5.0									
AB31				⇑	Lg	Lg	20 36 37.6			
	comp=Z,2μm,1.9s,baz=151,slow=24,SNR=5.0									
ABKAR	Akbulak array	14.67	340	*e*	Pn	Pn	20 32 14.2	-3.4		
HATD	Hatta, Dubai	14.73	226	⇓	*i* P	Pn	20 32 18.8	+0.4		
	SNR=8.8									
HATD	Hatta, Dubai	14.73	226		Pn	Pn	20 32 17.4	-1.1		
	SNR=86									
HATD	Hatta, Dubai	14.73	226		P	Pn	20 32 17.2	-1.2		
	SNR=8.8									
ASHO	Ashiyiah	14.88	226		Pn	Pn	20 32 21.1	+0.6		
	SNR=420									
NAZ	Nazwa, Dubai	14.88	227	⇑	*i* P	Pn	20 32 21.1	+0.6		
	SNR=36									
NAZ	Nazwa, Dubai	14.88	227		Pn	Pn	20 32 21.4	+0.9		
	SNR=55									
NAZ	Nazwa, Dubai	14.88	227		P	Pn	20 32 21.2	+0.7		
	SNR=36									
BHPL	Bhopal	15.04	143	*ex*		Pn	20 32 19.7	-3.0		
BHPL					AMB	AMB	20 32 20.7			
	comp=Z,140nm,0.8s									
PYUN	Piuthan	15.05	116	*e*	P	Pn	20 32 19.6	-3.3		
	comp=Z,673nm,0.6s									
HOQ	Hoqain	15.07	219		Pn	Pn	20 32 20.8	-2.2		
	SNR=43									
HOQ	Hoqain	15.07	219		P	Pn	20 32 21.0	-2.0		
	SNR=7.9									
WBK	Wadi Bani Khal	15.10	212		Pn	Pn	20 32 25.4	+1.9		
	SNR=18									
FAQ	Al Faqa, Dubai	15.11	227	⇓	*i* P	Pn	20 32 23.8	+0.3		
	SNR=29									
SMDO	Samad	15.13	216		Pn	Pn	20 32 23.1	-0.9		
	SNR=29									
SMDO	Samad	15.13	216		P	Pn	20 32 22.9	-1.2		
	SNR=22									
ASUD	Al Ashush, Dub	15.35	227	⇓	*i* P	Pn	20 32 27.3	+0.6		
	SNR=14									
ASUD	Al Ashush, Dub	15.35	227		Pn	Pn	20 32 28.4	+1.6		
	SNR=14									
DANN	Dangsing	15.48	114	*e*	P	Pn	20 32 25.4	-3.3		
	comp=Z,2μm,1.2s									
MK31	Makanchi Array	15.57	40	⇑	Pn	Pn	20 32 26.1	-3.4		
	comp=Z,143nm,0.8s,baz=226,slow=13,SNR=523									
MK31				⇑	Lg	Lg	20 37 05.8			
	comp=Z,284nm,2.0s,baz=323,slow=41,SNR=11									
MKAR	Makanchi Array	15.57	40	*i*	P	Pn	20 32 26.7	-2.8		
MKAR					pmax	pmax				
	comp=Z,52nm,0.8s									
MKAR	Makanchi Array	15.57	40		Pn	Pn	20 32 26.8	-2.7		
	comp=Z,4.0nm,0.3s,baz=229,slow=13,SNR=126									
MKAR					LR	LR	20 39 09.4			
	comp=Z,10μm,18.4s,baz=233,slow=40									
MKAR	Makanchi Array	15.57	40	*e*	Pn	Pn	20 32 27.2	-2.3		
KOLN	Koldanda	15.68	116	*e*	P	Pn	20 32 28.0	-3.2		
	comp=Z,543nm,1.0s									
ARQ	Araqi	15.68	221		Pn	Pn	20 32 31.8	+0.7		
	SNR=48									
JMDO	Jabal Madar	15.70	215		Pn	Pn	20 32 31.2	-0.1		
	SNR=46									
BSY	Bisya	15.82	218		Pn	Pn	20 32 33.8	+0.9		
	SNR=98									
IBZA	Bozab	16.27	271	*e*	Pn	Pn	20 32 38.3	-0.6		
AKTO	Aktyubinsk	16.30	338	⇓	Pn	Pn	20 32 34.9	-3.9		
	comp=Z,126nm,0.7s									
AKTO				⇑	Sn	Sn	20 35 36.7	-2.6		
	comp=Z,336nm,1.1s									
AKTO				⇑	Lg	Lg	20 37 27.0			
	comp=Z,967nm,1.4s									
AKTO	Aktyubinsk	16.30	338		P	Pn	20 32 34.8	-4.0		
AKTO							20 35 30.6			
AKTO					pmax	pmax				
	comp=Z,5.0nm,0.3s									
AKTO					smax	smax				
	comp=N,3.0nm,0.3s									
AKTO					MLR	MLR				
	comp=Z,6μm,18.9s									
AKTO	Aktyubinsk	16.30	338		Pn	Pn	20 32 34.8	-4.0		
	comp=Z,4.5nm,0.3s,baz=153,slow=14,SNR=135									
AKTO					Sn	Sn	20 35 30.6	-8.7		
	comp=Z,3.1nm,0.3s,baz=209,slow=19,SNR=3.3									
AKTO					LR	LR	20 39 25.8			
	comp=Z,6μm,18.9s,baz=148,slow=39									
GKN	Gorkha	16.32	113	*e*	P	Pn	20 32 35.8	-3.6		
	comp=Z,3μm,1.0s									
IKOM	Komasi	16.61	271	*e*	Pn	Pn	20 32 42.3	-0.7		
IHRS	Heris	16.68	285	*e*	Pn	Pn	20 32 42.6	-1.4		
KURBB	Kurchatov Arra	16.84	24	⇑	Pn	Pn	20 32 40.9	-4.8		
	comp=Z,203nm,0.7s									
KURBB				⇓	Sn	Sn	20 35 52.7	+0.2		
KURBB				⇓	Lg	Lg	20 37 44.0			
	comp=Z,2μm,1.6s									
KURBB	Kurchatov Arra	16.84	24		Pn	Pn	20 32 42.4	-3.3		
	comp=Z,0.4nm,0.3s,baz=215,slow=12,SNR=100									
DMN	Daman	16.88	114	*e*	P	Pn	20 32 43.2	-3.4		
	comp=Z,1μm,1.0s									
KKN	Kakani	16.91	113	*e*	P	Pn	20 32 43.4	-3.6		
	comp=Z,895nm,0.8s									
KURK	Kurchatov	16.95	24	⇓	Pn	Pn	20 32 42.1	-5.0		
	comp=Z,92nm,0.8s									
KURK				⇓	Sn	Sn	20 35 51.3	-3.8		
KURK				⇑	Lg	Lg	20 37 46.4			
	comp=Z,506nm,1.6s									
KURK	Kurchatov	16.95	24	*e*	P	Pn	20 32 42.8	-4.3		
KURK					pmax	pmax				
	comp=Z,210nm,0.9s									
KURK	Kurchatov	16.95	24		Pn	Pn	20 32 42.3	-4.8		
	SNR=60									
KURK	Kurchatov	16.95	24	*e*	Pn	Pn	20 32 42.8	-4.3		
	comp=Z,210nm,0.9s									
PKIN	Phulchoki	17.11	113	*e*	P	Pn	20 32 46.1	-3.5		
	comp=Z,535nm,0.7s									
PKI	Pulchoki	17.13	113	*e*	P	Pn	20 32 46.2	-3.6		
	comp=Z,2μm,1.1s									
MAK	Makhachkala	17.18	301	*d*	*i* P	Pn	20 32 50.2	+0.2		
MAK				*e*	S	Sn	20 35 59.4	-1.3		
MAK					pmax	pmax				
	comp=Z,319nm,1.3s									
MAK					MLR	MLR				
	comp=Z,14μm,11.0s									
IFTB	Fath-abad	17.18	284	*e*	Pn	Pn	20 32 49.1	-1.3		
GUN	Gumba	17.30	112	*e*	P	Pn	20 32 48.5	-3.5		
	comp=Z,3μm,1.0s									
WMQ	Urumqi	17.36	56		P	Pn	20 32 50.9	-1.4		
WMQ					pP	P	20 32 54.5	+0.8		
WMQ					PP	PnPn	20 33 04.0	+1.6		
WMQ					S	Sn	20 36 03.3	-2.0		
WMQ					PMZ					
	comp=Z,220nm,1.0s									
WMQ					PMZ					
	comp=Z,2μm,3.5s									
WMQ					LN					
	comp=Z,22μm,22.0s									
WMQ					LE					
	comp=Z,15μm,23.1s									
WMQ					LZ					
	comp=Z,15μm,25.6s									
ITBZ	Tabriz	17.39	285	*e*	Pn	Pn	20 32 51.7	-1.1		
BVA0	Borovoye Array	17.41	5		Pn	Pn	20 32 49.2	-3.7		
	comp=Z,160nm,0.7s,baz=177,slow=12,SNR=1414									
BVA0				⇑	Sn	Sn	20 36 06.0	-0.4		
	comp=Z,518nm,1.4s,baz=196,slow=17,SNR=4.1									
BVA0				⇓	Lg	Lg	20 38 03.0			
	comp=Z,659nm,1.4s,baz=186,slow=21,SNR=3.6									
BVAR	Borovoye Array	17.41	5		P	Pn	20 32 49.4	-3.5		
BVAR							20 35 54.7			
BVAR					pmax	pmax				
	comp=Z,8.0nm,0.3s									
BVAR					smax	smax				
	comp=N,8.0nm,0.3s									
BVAR					MLR	MLR				
	comp=Z,6μm,22.0s									
BVAR	Borovoye Array	17.41	5		Pn	Pn	20 32 49.4	-3.5		
	comp=Z,7.6nm,0.3s,baz=170,slow=12,SNR=179									
BVAR					Sn	Sn	20 35 54.7	-12		
	comp=Z,7.6nm,0.3s,baz=187,slow=22,SNR=6.3									
BVAR					LR	LR	20 39 10.7			
	comp=Z,6μm,22.0s,baz=189,slow=36									
IDHR	Dehrash	17.43	273	*e*	Pn	Pn	20 32 52.5	-0.9		
BRVK	Borovoye	17.44	5	⇑	Pn	Pn	20 32 49.7	-3.4		
	comp=Z,792nm,1.4s									
BRVK				⇓	Sn	Sn	20 36 06.2	-0.8		
	comp=Z,515nm,1.1s									
BRVK				⇑	Lg	Lg	20 38 03.0			
	comp=Z,546nm,1.2s									
BRVK	Borovoye	17.44	5	*e*	P	Pn	20 32 50.4	-2.8		
BRVK					pmax	pmax				
	comp=Z,276nm,0.9s									
BRVK	Borovoye	17.44	5		Pn	Pn	20 32 49.8	-3.3		
	SNR=121									
BRVK	Borovoye	17.44	5	*e*	Pn	Pn	20 32 50.4	-2.8		
	comp=Z,276nm,0.9s									
NGP	Nagpur	17.60	143	*ex*		Pn	20 32 53.7	-1.7		
NGP				*ex*		x	20 33 08.2			
	comp=Z,238nm,1.6s									
NGP				*ex*		Sn	20 36 14.5	+3.2		
JIRN	Jiri	17.67	112	*e*	P	Pn	20 32 53.2	-3.3		
	comp=Z,1μm,1.0s									
IMRD	Marand	17.75	286	*e*	Pn	Pn	20 32 56.5	-0.8		
POO	Poona	17.97	161	*e*	P	Pn	20 32 58.5	-1.5		
DGRG	David-gareji	18.33	295		P	Pn	20 33 01.9	-2.4		
RAMN	Ramite	18.35	113	*e*	P	Pn	20 33 01.1	-3.8		
	comp=Z,563nm,0.7s									
GNI	Garni	18.61	291	*d*	*i* P	P	20 33 07.1	-0.5		
GNI					pmax	pmax				
	comp=Z,704nm,1.7s									
GNI					MLR	MLR				
	comp=Z,6μm,15.0s									
GNI	Garni	18.61	291		P	Pn	20 33 08.5	+0.7		
	comp=Z,1.8nm,0.3s,baz=182,slow=2.1,SNR=84									
GNI					LR	LR	20 42 21.9			
	comp=Z,6μm,18.6s,baz=100,slow=44									
GNI	Garni	18.61	291	⇓	*i* P	P	20 33 07.2	-0.4		
	SNR=171									
GNI	Garni	18.61	291		P	Pn	20 33 08.9	+1.1		
	SNR=153									
GNI	Garni	18.61	291		P	Pn	20 33 08.6	+0.7		
GNI				*e*	Pn	P	20 33 08.8	+1.2		
TBLG	Delisi	18.86	295	*e*	P	P	20 33 08.7	-1.4		
TBLG	Delisi	18.86	295		P	P	20 33 07.9	-2.2		
LATR	Latur	18.94	153	*e*	P	P	20 33 10.5	-0.6		
TAPN	Taplejung	18.98	110	*e*	P	P	20 33 09.8	-2.1		
	comp=Z,2μm,1.3s									
ODAN	Odare	18.99	112	*e*	P	P	20 33 10.5	-1.5		
	comp=Z,2μm,1.1s									
CLDR	Caldiran	19.16	287	*e*	P	Pn	20 33 15.5	+0.9		
HKR	Hakkari	19.29	283	*e*	P	Pn	20 33 16.8	+0.7		
HAKT	HAKKARI	19.32	283	*i*	P	Pn	20 33 16.7	+0.2		
DYDN	Diyadin	19.36	289	*i*	P	Pn	20 33 16.8	-0.3		
CUKT	Cukurca	19.41	282	*e*	P	Pn	20 33 17.5	+0.1		
EAK	Akyaka	19.54	292	*i*	P	P	20 33 17.6	-0.1		
TVAN	Van	19.55	285	*i*	P	P	20 33 18.5	+0.6		
DIGO	Kars	19.68	291	*i*	P	Pn	20 33 20.3	-0.5		
RPR	Rampur	19.68	146	*e*	P	Pn	20 33 20.3	-0.4		
RPR				*e*	pP	pP	20 33 22.1	-1.1		
RPR					IAmb	IAmb	20 33 28.3			
	comp=Z,109nm,1.0s									
RPR				*e*	S	Sn	20 37 02.0	+0.4		
RPR					IAMs_20	IAMs_20	20 41 00.1			
	comp=Z,11μm,12.2s									
AKH	Akhalkalaki	19.72	294	*e*	P	Pn	20 33 20.8	-0.4		
AKH	Akhalkalaki	19.72	294		P	Pn	20 33 20.8	-0.4		
BOK	Bokaro	19.74	122	*e*	P	P	20 33 19.6	-0.3		
GEVA	Gevas	19.82	285	*i*	P	P	20 33 21.4	+0.5		
SLGI	Shiliguri	19.86	111	*e*	P	Pn	20 33 22.7	0.0		
AGRB	Hanur-Agry	19.90	289	*e*	P	Pn	20 33 24.6	+1.1		
KARS	Kars	19.93	292	*e*	P	Pn	20 33 24.3	+0.6		
ONI	Oni	19.96	297		P	Pn	20 33 23.2	-0.7		
TUTA	Tutak	20.03	288	*i*	P	P	20 33 22.2	-1.1		
EATA	Eleskirt	20.31	289	*i*	P	Pn	20 33 28.2	-0.2		
SIRT	Sirnak	20.32	283	*e*	P	Pn	20 33 27.4	-0.9		
SIRN	S¨¨rnak	20.35	282	*i*	P	P	20 33 26.9	+0.4		
EKAR	Karacoban	20.61	288	*i*	P	Pn	20 33 32.1	+0.3		
KBZ	Khabaz	20.62	300		P	P	20 33 29.1	-0.2		
KBZ					S	Sn	20 37 22.2	-1.6		
KBZ					pmax	pmax				
	comp=Z,50nm,0.7s									
KBZ					smax	smax				
	comp=N,81nm,1.0s									
KBZ					MLR	MLR				
	comp=Z,8μm,18.6s									
KBZ	Khabaz	20.62	300		P	P	20 33 29.1	-0.2		
	comp=Z,50nm,0.7s,baz=56,slow=24,SNR=83									
KBZ					S	Sn	20 37 22.2	-1.6		
	comp=Z,80nm,1.0s,baz=233,slow=17,SNR=4.2									
KBZ					LR	LR	20 43 57.1			
	comp=Z,8μm,18.6s,baz=133,slow=44									
LSA	Lhasa	20.62	100		P	Pn	20 33 31.5	-0.8		
LSA					S	S	20 37 21.5	+1.1		
LSA					LN					
	comp=Z,10μm,17.8s									
LSA					LE					
	comp=Z,9μm,14.8s									
LSA					LZ					
	comp=Z,11μm,12.0s									
LSA	Lhasa	20.62	100	*e*	P	P	20 33 29.5	-0.4		
LSA					pmax	pmax				
	comp=Z,500nm,1.3s									
LSA					MLR	MLR				
	comp=Z,8μm,20.0s									
LSA	Lhasa	20.62	100	*e*	P	P	20 33 29.5	-0.4		
	comp=Z,500nm,1.3s									
LSA					LR	LR				
	comp=Z,8μm,20.0s									
HYBB	Hyderabad (bro	20.63	149	*e*	P	P	20 33 30.3	+0.7		
HYBB				*e*	pP	Pn	20 33 31.8	-0.1		
HYBB				*e*	sP	sP	20 33 34.3	-1.1		
HYBB					IAmb	IAmb	20 33 37.1			
	comp=Z,246nm,1.4s									
HYBB				*e*	Sn	Sn	20 37 23.7	-0.8		
HYBB					IAMs_20	IAMs_20	20 42 20.5			
	comp=Z,12μm,9.8s									
HYB	Hyderabad	20.63	149	*e*	P	P	20 33 29.0	-0.6		
HYB				*e*	S	Sn	20 37 24.0	-0.5		
HYB	Hyderabad	20.63	149	*i*	P	P	20 33 29.0	-0.6		
	comp=Z,100nm,1.0s									
HYB				*e*			20 33 48.0			
HYB				*e*	S	S	20 37 12.0	-7.9		
HYB					LR	LR	20 41 40.0			
	comp=Z,21nm,14.0s									
HYB	Hyderabad	20.63	149	*e*	P	P	20 33 29.3	-0.3		
HYB	Hyderabad	20.63	149	*e*	P	P	20 33 29.0	-0.6		
HYB				*e*	S	Sn	20 37 24.0	-0.5		
KIV	Kislovodsk	20.82	301	*e*	P	P	20 33 30.9	-0.8		
KIV				*e*	S	S	20 37 21.6	-2.0		
KIV					pmax	pmax				
	comp=Z,208nm,1.0s									
KIV					pmax	pmax				
	comp=Z,284nm,3.3s									
KIV					MLR	MLR				
	comp=Z,6μm,14.0s									
KIV	Kislovodsk	20.82	301	⇓	*i* P	P	20 33 30.8	-0.8		
	SNR=37									
KIV	Kislovodsk	20.82	301		P	P	20 33 32.3	+0.6		
	SNR=58									
KIV	Kislovodsk	20.82	301	*e*	P	P	20 33 31.1	-0.5		
	comp=Z,818nm,1.7s									
KIV					LR	LR				
	comp=Z,9μm,19.0s									
DAGI	Agillar	20.86	293	*i*	P	P	20 33 32.9	+0.9		
ARTV	Artvin	20.86	293	*i*	P	P	20 33 33.4	+1.3		
GOA	Goa	20.88	163	*e*	P	P	20 33 31.3	-1.0		
GOF	Gofitskoye	20.89	304	⇓	*i* P	P	20 33 32.8	+0.6		
GOF				*e*	S	S	20 37 21.5	-3.2		
GOF					pmax	pmax				
	comp=Z,410nm,1.3s									
DDEM	Demirkent	20.96	292	*i*	P	Pn	20 33 34.5	-1.3		
CHVG	Ch'k'valeri	20.98	297	*e*	P	Pn	20 33 35.8	0.0		
CHVG	Ch'k'valeri	20.98	297		P	Pn	20 33 36.3	+0.4		
BTMT	Batman	21.05	285	*e*	P	P	20 33 36.9	+2.8		
DBOC	Borcka	21.07	293	*i*	P	P	20 33 35.2	+0.9		
VRTB	Varto-Mus	21.08	287	*e*	P	P	20 33 37.4	+2.9		
BCA	Borcka	21.12	294	*e*	P	P	20 33 35.5	+0.7		
ERZM	Erzurum	21.18	289	*i*	P	P	20 33 37.7	+2.1		
EZM	Erzurum	21.18	289	*e*	P	P	20 33 39.0	+3.3		
BNGL	BINGOL	21.31	287	*i*	P	P	20 33 38.7	+1.6		
ARU	Arti	21.62	346	*d*	*i* P	P	20 33 39.2	-0.7		
ARU					PPP	PPP	20 34 09.2			
ARU					S	S	20 37 36.9	-2.1		
ARU					pmax	pmax				
	comp=Z,39nm,0.6s									
ARU					MLR	MLR				
	comp=Z,5μm,13.0s									
ARU	Arti	21.62	346	*e*	P	P	20 33 39.3	-0.7		
	comp=Z,217nm,0.9s									
ARU					LR	LR				
	comp=Z,5μm,19.0s									
SVE	Sverdlovsk	21.65	349	⇓	*i* P	P	20 33 40.0	-0.2		
SVE				*e*	S	S	20 37 36.5	-2.9		
SVE					pmax	pmax				
	comp=Z,345nm,1.2s									
SVE					MLR	MLR				
	comp=Z,9μm,11.0s									
MARD	Mardin	21.66	282	*i*	P	P	20 33 40.5	-0.2		
BNGB	Bing ¶ll	21.68	287	*e*	P	P	20 33 43.2	+2.3		
NJS	Nagarjunasagar	21.72	149	*e*	P	P	20 33 41.9	+0.6		
NJS				*e*	pP	pP	20 33 44.5	-0.8		
NJS					IAmb	IAmb	20 33 45.7			
	comp=Z,248nm,1.1s									
NJS				*e*	S	S	20 37 45.0	+3.7		
NJS					IAMs_20	IAMs_20	20 42 10.0			
	comp=Z,11μm,18.1s									
RBK	Rabkut	21.73	217		P	P	20 33 40.4	-

VRHR pmax pmax
comp=Z,100nm,0.6s
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,120nm,1.3s
VRHR smax smax
comp=E,3µm,9.2s
VRHR smax smax
comp=Z,1µm,9.7s
VRHR smax smax
comp=N,280nm,4.4s
VRHR MLR MLR
comp=Z,8µm,20.0s
VRHR MLR MLR
comp=N,4µm,12.0s
VRHR MLR MLR
comp=E,6µm,15.0s
HVS Khovu-Aksy 24.21 42 *c* iP **P 20 34 07.0 +0.4**
HVS pmax pmax
comp=Z,1µm,0.9s
RSDY Resadiye-TOKAT 24.29 290 *e*P **P 20 34 09.8 +2.4**
SKHT Srikalahasti 24.41 151 *e*P **P 20 34 09.7 +1.1**
SKHT *e*pP **pP 20 34 11.4 -1.6**
SKHT IAmb IAmb 20 34 11.7
comp=Z,120nm,0.8s
SKHT *e*S **S 20 38 28.4 +0.4**
SKHT IAMs_20 IAMs_20 20 44 03.7
comp=Z,11µm,17.6s
SVSK Karacayir 24.53 289 *e*P **P 20 34 12.0 +2.4**
KUZU Kuzuini 24.66 282 *i* P **P 20 34 12.6 +1.8**
ANN Anapa 24.68 301 ⇓ *i*P **P 20 34 10.9 0.0**
ANN *e* 20 34 42.4
ANN *e* 20 37 46.0
ANN *e*S **S 20 38 33.9 +1.9**
ANN pmax pmax
comp=N,132nm,1.6s
ANN pmax pmax
comp=Z,489nm,1.6s
ANN pmax pmax
comp=E,161nm,1.6s
ANN pmax pmax
comp=E,476nm,1.8s
ANN pmax pmax
comp=N,478nm,1.8s
ANN pmax pmax
comp=Z,2µm,1.7s
ANN smax smax
comp=E,943nm,3.8s
ANN smax smax
comp=N,1µm,3.7s
KMRS Kahramanmaras 24.72 283 *e*P **P 20 34 14.1 +2.7**
RABH Abou Rabah 24.93 276 *e*P **P 20 34 15.1 +1.8**
SOKR Solikamsk 24.93 347 *d* iP **P 20 34 13.5 +0.6**
SOKR pmax pmax
comp=Z,90nm,0.9s
SOKR MLR MLR
comp=Z,4µm,14.0s
TOKA Tokat 24.93 290 *i* P **P 20 34 14.5 +1.3**
KAMA Osmaniye 24.93 283 *i* P **P 20 34 14.2 +0.9**
PINB Pinarbasi 25.03 286 *i* P **P 20 34 16.2 +1.8**
IMP Imphal 25.09 108 *ex* **P 20 34 16.0 +1.2**
IMP *ex* x 20 38 52.0
KFRA Kufra 25.11 278 *e*P **P 20 34 18.9 +4.1**
ANDN Andirin 25.15 284 *i* P **P 20 34 17.2 +1.9**
ZALF Zalf 25.17 272 *e*P **P 20 34 17.0 +1.5**
MDRS Chennai 25.24 150 *e*P **P 20 34 15.3 -0.7**
MDRS AMB AMB 20 34 20.5
comp=Z,143nm,0.8s
BTCH Batrach 25.25 280 *e*P **P 20 34 18.1 +1.9**
KVT Kavak 25.28 292 *e*P **P 20 34 18.2 +1.8**
WRDH Warideh 25.37 279 *e*P **P 20 34 18.8 +1.5**
VORD Divnogorie 25.45 316 *e*P **P 20 34 17.1 -0.6**
VORD *e*S **S 20 38 38.9 -5.3**
VORD pmax pmax
comp=Z,250nm,1.9s
VORD pmax pmax
comp=N,100nm,0.9s
VORD pmax pmax
comp=E,130nm,0.9s
VORD smax smax
comp=E,1µm,7.6s
VORD smax smax
comp=Z,2µm,9.5s
VORD smax smax
comp=N,740nm,7.2s
VORD MLR MLR
comp=Z,9µm,20.0s
VORD MLR MLR
comp=N,4µm,12.0s
VORD MLR MLR
comp=E,5µm,14.0s
HAVZ Havza 25.53 292 *i* P **P 20 34 17.0 -1.6**
BIDA Albida 25.53 278 *e*P **P 20 34 20.4 +1.7**
HAWK Haweek 25.56 277 *e*P **P 20 34 20.6 +1.6**
KOZT Kozan 25.57 285 *e*P **P 20 34 21.0 +2.0**
MARH Ras Al Marh 25.60 275 *e*P **P 20 34 21.8 +2.2**
FKH Fakeheh 25.61 276 *e*P **P 20 34 21.2 +1.7**
VSR Storozhevoye 25.63 316 *e*P **P 20 34 19.1 -0.3**
VSR *e*S **S 20 38 42.3 -4.8**
VSR pmax pmax
comp=Z,90nm,0.6s
VSR pmax pmax
comp=N,50nm,0.8s
VSR pmax pmax
comp=E,140nm,0.8s
VSR smax smax
comp=E,1µm,7.2s
VSR smax smax
comp=Z,2µm,9.6s
VSR smax smax
comp=N,810nm,9.9s
VSR MLR MLR
comp=Z,5µm,16.0s
VSR MLR MLR
comp=N,5µm,12.0s
VSR MLR MLR
comp=E,3µm,13.0s
ARNB Al Arnab 25.66 280 *e*P **P 20 34 22.1 +2.1**
GTA Gaotai 25.67 72 ⇑ P **P 20 34 20.3 +0.3**
GTA pP **pP 20 34 24.1 -0.2**
GTA sP **sP 20 34 26.9 +0.8**
GTA S **S 20 38 50.6 +2.5**
GTA sS **sS 20 38 58.0 +2.8**
GTA PMZ
comp=E,90nm,0.8s
GTA PMZ
comp=E,710nm,4.1s
GTA LN
comp=E,20µm,17.6s
GTA LE
comp=E,7µm,14.2s
GTA LZ
comp=E,7µm,15.9s
CEYT Ceyhan 25.68 282 *e*P **P 20 34 22.5 +2.4**
SALA Sala 25.71 272 *e*P **P 20 34 21.3 +0.7**
ASF Jabal al Asfar 25.73 271 P **P 20 34 21.7 +1.2**
ASF pmax pmax
comp=Z,41nm,0.9s
ASF MLR MLR
comp=Z,6µm,19.2s
ASF Jabal al Asfar 25.73 271 P **P 20 34 21.7 +1.2**
comp=Z,41nm,0.9s,baz=39,slow=2.4,SNR=46
ASF LR LR 20 45 34.8
comp=Z,6µm,19.1s,baz=28,slow=39
TOTH TOTAH 25.80 274 *e*P **P 20 34 23.0 +1.9**
VOR Voronezh 25.84 317 P **P 20 34 20.0 -1.3**
VOR pmax pmax
comp=Z,500nm,1.8s
QASN Qassioun 25.88 274 *e*P **P 20 34 24.5 +2.5**
DIKM Dikmen 25.89 293 *e*P **P 20 34 23.6 +1.7**
HWQ Hawqa 25.98 276 *e*P **P 20 34 24.0 +1.1**
BOYT Boyabat 26.15 293 *i* P **P 20 34 25.6 +1.3**
KARA Karaisali 26.21 283 *e*P **P 20 34 26.8 +2.0**
CTKT Corum 26.22 291 *i* P **P 20 34 25.7 +0.6**
RCY Rachaya 26.24 274 *e*P **P 20 34 26.5 +1.2**
BHL Bhannes 26.30 275 *e*P **P 20 34 26.7 +1.0**
TCHB Talchebab 26.34 273 *e*P **P 20 34 27.0 +0.9**
CORM Corum 26.35 290 *e*P **P 20 34 27.2 +1.0**
DQRL Deir Qamar 26.41 275 *e*P **P 20 34 27.8 +1.1**
NIG Nigde 26.47 285 *e*P **P 20 34 30.4 +2.9**
CDAG Cicekdag 26.56 288 *i* P **P 20 34 24.1 -4.0**
KRAR Krasnoyarsk 26.57 32 ⇓ *e*P **P 20 34 28.7 +0.9**
KRAR pmax pmax
comp=Z,138nm,1.4s

MERS Mersin 26.68 282 *e*P **P 20 34 30.9 +1.8**
MMAI Mount Meron Ar 26.71 274 P **P 20 34 31.1 +1.6**
comp=Z,21nm,1.0s,baz=69,slow=12,SNR=28
MMAI PcP **PcP 20 37 51.7 -1.1**
comp=Z,0.4nm,0.3s,baz=60,slow=5.7,SNR=4.4
MMAI LR LR 20 45 15.7
comp=Z,5µm,21.0s,baz=65,slow=37
TOS Tosya 26.81 292 *e*P **P 20 34 32.6 +2.3**
BZK Bozkurt 26.84 294 *e*P **P 20 34 29.7 -0.7**
MMLI Mount Malkishu 26.85 272 P **P 20 34 31.9 +1.2**
KIZK Mersin 27.03 282 *i* P **P 20 34 33.2 +1.0**
SIM Simferopol' 27.03 300 *d* iP **P 20 34 32.7 +0.5**
SIM *e*S **S 20 39 11.0 +1.6**
SIM pmax pmax
comp=Z,180nm,1.5s
ILGA Ilgaz 27.04 292 *i* P **P 20 34 33.1 +0.6**
CANT Cankiri 27.11 291 *e*P **P 20 34 33.3 +0.3**
BRTR Keskin Array B 27.12 289 P **P 20 34 34.5 +1.3**
BRTR pmax pmax
comp=Z,117nm,0.9s
BRTR MLR MLR
comp=Z,4µm,18.9s
BRTR Keskin Array B 27.12 289 P **P 20 34 34.5 +1.3**
comp=Z,117nm,0.9s,baz=102,slow=7.7,SNR=151
BRTR LR LR 20 46 42.6
comp=Z,4µm,18.9s,baz=88,slow=40
EREN Erenkoy 27.17 280 *e*P **P 20 34 35.5 +2.1**
SULT Sultanhani-AKS 27.32 285 *e*P **P 20 34 37.3 +2.4**
BBAL Bala 27.53 288 *i* P **P 20 34 37.2 +0.4**
AFSR Af˙ar-Bala (A 27.58 288 *e*P **P 20 34 38.4 +1.2**
LFK Lefkose 27.72 279 *e*P **P 20 34 42.7 +4.2**
ANTO Ankara 27.77 289 *e*P **P 20 34 40.7 +1.8**
ANTO Ankara 27.77 289 *e*P **P 20 34 38.1 -0.8**
ANTO pmax pmax
comp=Z,738nm,2.3s
ANTO MLR MLR
comp=Z,3µm,19.0s
ANTO Ankara 27.77 289 ⇓ *i*P **P 20 34 41.0 +2.1**
ANTO Ankara 27.77 289 P **P 20 34 41.2 +2.3**
SNR=34
ANTO Ankara 27.77 289 *e*P **P 20 34 38.1 -0.8**
comp=Z,738nm,2.3s
ANTO LR LR
comp=Z,3µm,19.0s
LOD Lodumlu 27.79 289 *e*P **P 20 34 40.2 +1.1**
SAFT Safranbolu 27.82 292 *e*P **P 20 34 41.4 +2.1**
HRFI Mount Harif 27.91 268 *e*P **P 20 34 41.2 +1.0**
CSS Prodhromos 27.95 279 *e*P **P 20 34 42.8 +2.3**
CSS Prodhromos 27.95 279 *e*P **P 20 34 40.5 0.0**
comp=Z,22nm,1.2s
CSS LR LR
comp=Z,2µm,21.0s
ERMK Ermenek 27.99 282 *i* P **P 20 34 41.1 +0.1**
EIL Elat 28.11 267 P **P 20 34 43.0 +1.1**
KZIT Kziot 28.14 270 P P 20 34 47.4 +5.1
LADK Ladik-KONYA 28.23 286 *e*P **P 20 34 44.8 +1.7**
KONT Konya--Tatoy 28.26 285 *e*P **P 20 34 45.3 +2.1**
LEF Lefka 28.27 279 *e*P **P 20 34 44.2 +0.9**
TRD Trivandrum 28.38 160 *e*P **P 20 34 43.4 -1.0**
GAZI Gazipasa 28.53 282 *i* P **P 20 34 45.3 -0.4**
KIZT Kizilcal 28.54 287 *e*P **P 20 34 47.4 +1.6**
MOY Mondy 28.57 46 *e*P **P 20 34 47.3 +1.3**
MOY pmax pmax
comp=Z,112nm,1.8s
MOS Moscow 28.64 324 *e*P **P 20 34 45.9 -0.4**
MOS *e*PPP PPP 20 35 45.4
MOS *e*S **S 20 39 34.1 -0.2**
MOS *e*SS **SnSn 20 40 59.0 +4.7**
MOS pmax pmax
comp=Z,144nm,1.2s
MOS pmax pmax
comp=Z,900nm,3.0s
MOS smax smax
comp=N,900nm,3.9s
MOS smax smax
comp=E,2µm,4.4s
MOS MLR MLR
comp=Z,4µm,10.0s
SVRH Sivrihisar-ESK 28.77 288 *e*P **P 20 34 47.7 -0.1**
OBN Obninsk 28.84 322 ⇓ *e*P **P 20 34 47.5 -0.6**
OBN *i* 20 35 41.9
OBN *e* 20 37 57.3
OBN *i* S **S 20 39 36.6 -0.9**
OBN pmax pmax
comp=Z,176nm,1.7s
OBN MLR MLR
comp=Z,9µm,19.0s
OBN Obninsk 28.84 322 P **P 20 34 48.0 -0.1**
comp=Z,47nm,0.9s,baz=72,slow=2.9,SNR=20
OBN LR LR 20 48 24.3
comp=Z,8µm,19.8s,baz=122,slow=41
OBN Obninsk 28.84 322 *e*P **P 20 34 48.5 +0.4**
OBN LR LR
comp=Z,8µm,20.0s
MDUB Mudurnu 28.96 291 *e*P **P 20 34 50.3 +0.7**
BTAS Taskesti 29.11 291 *i* P P 20 34 47.2 -3.6
LZH Lanzhou 29.20 79 ⇑ P **P 20 34 52.4 +0.7**
LZH pP **pP 20 34 56.0 -0.1**
LZH sP **sP 20 34 59.1 +1.3**
LZH S **S 20 39 44.0 +0.1**
LZH sS **sS 20 39 49.1 -1.9**
LZH SS **SnSn 20 41 12.3 +3.7**
LZH PMZ
comp=Z,85nm,1.1s
LZH PMZ
comp=Z,480nm,4.6s
LZH LN
comp=Z,8µm,14.5s
LZH LE
comp=Z,9µm,14.2s
LZH LZ
comp=Z,8µm,15.4s
ESKT Eskisehir 29.29 289 *e*P **P 20 34 52.8 +0.3**
PRGR Permogore 29.45 339 ⇓ *i*P **P 20 34 53.4 0.0**
PRGR *PP **pP 20 35 02.6 +4.8**
PRGR 20 38 01.0
PRGR S **S 20 39 43.0 -3.9**
PRGR pmax pmax
comp=Z,93nm,1.2s
GULT Gulveren 29.49 290 *e*P **P 20 34 54.5 +0.3**
ZAK Zakamensk 29.54 49 ⇑ *i*PKIKP **P 20 34 55.4 +0.9**
ZAK *e* 20 41 59.0
ZAK pmax pmax
comp=Z,24nm,1.6s
ZAK Zakamensk 29.54 49 ⇑ *i*P **P 20 34 55.4 +0.9**
ZAK pmax pmax
comp=Z,24nm,1.6s
SHUT Suhut-Afyon 29.61 287 *e*P **P 20 34 56.7 +1.4**
SPNC Sapanca-Adapaz 29.63 291 *e*P **P 20 34 55.6 +0.2**
DAMY Dhamar 29.65 231 *e*P **P 20 34 55.9 -0.1**
BCK Bucak 29.71 284 *e*P **P 20 34 56.7 +0.5**
ISP Isparta 29.71 285 *e*P **P 20 34 57.3 +1.0**
ISP Isparta 29.71 285 *e*P **P 20 34 56.9 +0.6**
ISP pmax pmax
comp=Z,172nm,1.3s
ISP MLR MLR
comp=Z,5µm,21.0s
ISP Isparta 29.71 285 ⇑ *i*P P 20 34 59.7 +3.4
ISP Isparta 29.71 285 *e*P **P 20 34 56.9 +0.6**
comp=Z,172nm,1.3s
ISP LR LR
comp=Z,5µm,21.0s
ANTB Antalya 29.74 283 *e*P **P 20 34 59.2 +2.9**
ALT Altintas 29.90 288 *e*P **P 20 34 59.3 +1.4**
KORT Korkueli 29.97 284 *i* P **P 20 34 57.1 -1.4**
CAVI Cavuskoy 30.01 290 *e*P **P 20 34 59.2 +0.4**
ADVT Abdulvahap 30.08 291 *e*P **P 20 34 58.1 -1.2**
HRT Hereke 30.11 291 *e*P **P 20 34 59.2 -0.4**
TLY Talaya 30.13 47 *i* P **P 20 35 01.0 +1.3**
TLY *e*PPP PPP 20 36 05.1
TLY *e*S **S 20 40 02.0 +4.0**
TLY pmax pmax
comp=Z,45nm,1.5s
TLY MLR MLR
comp=Z,6µm,17.0s
TLY Talaya 30.13 47 P **P 20 35 01.6 +1.8**
SNR=7.4
TLY Talaya 30.13 47 *e*P **P 20 35 01.1 +1.4**
comp=Z,23nm,0.9s
TLY LR LR
comp=Z,4µm,19.0s
IZI Iznik 30.29 290 *e*P **P 20 35 01.4 +0.1**
TVSB Tavsanli 30.36 289 *e*P **P 20 35 02.5 +0.5**
CD2 Chengdu 30.42 89 P **P 20 35 03.3 +0.8**

CD2 pP **pP 20 35 07.8 +1.0**
CD2 sP **sP 20 35 10.4 +1.8**
CD2 PP **PnPn 20 36 02.8 +1.9**
CD2 PcP **PcP 20 38 03.3 +1.3**
CD2 S **S 20 40 04.4 +1.4**
CD2 sS **sS 20 40 09.6 -0.5**
CD2 SS **ScP 20 41 42.0 -2.0**
CD2 PMZ
comp=Z,140nm,1.0s
CD2 PMZ
comp=Z,360nm,4.0s
CD2 LN
comp=Z,6µm,16.2s
CD2 LE
comp=Z,7µm,15.7s
CD2 LZ
comp=Z,6µm,13.9s
GOLH Golhisar 30.55 284 *i* P **P 20 35 04.3 +0.6**
ISK Istanbul-Kandi 30.56 292 *e*P **P 20 35 03.6 0.0**
IRK Irkutsk 30.68 46 *e*P **P 20 35 04.7 +0.2**
IRK pmax pmax
comp=Z,127nm,1.6s
AKAS Kas 30.69 282 *i* P **P 20 35 03.1 -1.8**
PALK Pallekele 30.72 154 *e*P **P 20 35 06.0 +0.8**
PALK pmax pmax
comp=Z,418nm,2.9s
PALK Pallekele 30.72 154 ⇑ *i*P **P 20 35 06.3 +1.1**
SNR=11
PALK Pallekele 30.72 154 P **P 20 35 07.5 +2.3**
SNR=14
PALK Pallekele 30.72 154 *e*P **P 20 35 06.0 +0.8**
comp=Z,418nm,2.9s
ARMT Armutlu 30.74 291 *e*P **P 20 35 04.7 -0.5**
BGKT Bogazkoy 30.77 292 *e*P **P 20 35 04.7 -0.7**
DENT Denizli 30.89 285 *e*P **P 20 35 06.9 +0.3**
KIS Kishinev 30.97 303 *ke*P **P 20 35 06.5 -0.6**
KIS *e* 20 38 04.0
KIS *e*S **S 20 40 07.0 -4.1**
KIS pmax pmax
comp=Z,360nm,1.6s
KIS pmax pmax
comp=E,340nm,2.0s
KIS MLR MLR
comp=Z,10µm,18.0s
KIS MLR MLR
comp=E,7µm,18.0s
KIS MLR MLR
comp=Z,10µm,18.0s
KIS MLR MLR
comp=N,5µm,16.0s
KIS Kishinev 30.97 303 ⇓ *e*P **P 20 35 06.5 -0.6**
comp=N,400nm,1.6s
KIS Kishinev 30.97 303 *e*PP PP 20 35 50.0 -27
KIS Kishinev 30.97 303 *e*PcP **PcP 20 38 04.0 +1.0**
KIS *e*S **S 20 40 07.0 -4.1**
KIS *e*L L 20 43 30.0
KIS LRM MLR 20 49 50.0
comp=N,5µm,16.0s
DEMI Demirci 30.98 288 *i* P P 20 35 00.9 -6.5
SONM Songino Array 30.99 55 P **P 20 35 08.6 +1.1**
comp=N,52nm,0.9s,baz=255,slow=8.2,SNR=362
SONM LR LR 20 48 49.3
comp=N,19µm,21.2s,baz=266,slow=39
FETY Fethiye 31.03 283 *e*P **P 20 35 07.5 -0.3**
TIRR Tirgusor 31.04 298 *e*P **P 20 35 07.6 -0.1**
TIRR pmax pmax
comp=Z,18nm,0.9s
TIRR Tirgusor 31.04 298 *e*P **P 20 35 07.6 -0.1**
comp=Z,18nm,0.9s
KULA Kula-Manisa 31.08 287 *e*P **P 20 35 09.6 +1.2**
PSN Preselentsi 31.18 297 ⇑ *i*P **P 20 35 11.9 +2.9**
PSN Preselentsi 31.18 297 *e*P **P 20 35 09.1 +0.1**
CFR Carcaliu 31.27 300 ⇑ *i*P **P 20 35 11.0 +1.2**
DALY Dalyan (Mu˘la 31.34 284 *e*P **P 20 35 09.3 -1.1**
TURN Turunc 31.37 284 *i* P **P 20 35 12.1 +1.3**
AKASG Malin Array Be 31.37 311 P **P 20 35 10.7 +0.1**
AKASG pmax pmax
comp=Z,28nm,0.6s
AKASG MLR MLR
comp=Z,9µm,20.7s
AKASG Malin Array Be 31.37 311 P **P 20 35 10.7 +0.1**
comp=Z,14nm,0.6s,baz=90,slow=7.2,SNR=6.3
AKASG LR LR 20 49 58.0
comp=Z,9µm,20.7s,baz=105,slow=40
KIEV Kiev 31.38 311 *c* iP **P 20 35 10.4 -0.3**
KIEV Kiev 31.38 311 *e*P **P 20 35 11.1 +0.4**
comp=Z,46nm,0.9s
KIEV LR LR
comp=Z,8µm,20.0s
ULN Ulaanbaatar 31.43 55 P **P 20 35 12.1 +0.8**
SNR=38
ULN Ulaanbaatar 31.43 55 *e*P **P 20 35 11.2 -0.2**
comp=Z,48nm,0.9s
ULN LR LR
comp=Z,19µm,21.0s
MSAB Monastry St. A 31.45 298 ⇑ *i*P **P 20 35 13.9 +2.6**
YER Yerkesik 31.58 284 *e*P **P 20 35 14.8 +2.1**
AKHS Akhisar 31.70 288 *i* P **P 20 35 14.0 +0.3**
CMAI Chiengmai2 31.71 111 P **P 20 35 13.9 -0.2**
comp=Z,51nm,2.0s
PRD Provadia 31.74 296 *e*P **P 20 35 13.4 -0.5**
AYDN Tasoluk 31.81 285 *i* P **P 20 35 14.6 -0.2**
ARG Arkhangelos 31.86 283 P **P 20 35 14.7 -0.4**
ARG Arkhangelos 31.86 283 P **P 20 35 14.7 -0.4**
ARG Arkhangelos 31.86 283 *e*P **P 20 35 15.7 +0.6**
ARG Arkhangelos 31.86 283 P **P 20 35 14.7 -0.4**
DGPR DIGLIPÜR 31.95 128 *e*P **P 20 35 15.5 -0.5**
IZM Izmir 32.19 287 *e*P **P 20 35 19.3 +1.3**
DAT Datca 32.20 284 *e*P **P 20 35 18.7 +0.5**
BDRM Kayabasi 32.25 284 *i* P **P 20 35 17.9 -0.6**
EDRB Edirne 32.26 293 *e*P **P 20 35 17.8 -0.7**
VRI Vrincioaia 32.30 301 ⇑ *i*P **P 20 35 21.2 +2.3**
CHTO Chiang Mai 32.31 113 PFAKE 20 35 30.0 +11
CHTO LR LR
comp=Z,2µm,19.0s
CMMT Chiang Mai 32.31 113 P **P 20 35 19.4 +0.2**
comp=Z,36nm,1.5s,comp=Z,936nm
BODT Bodrum 32.36 285 *e*P **P 20 35 20.3 +0.8**
JMB Yambol 32.36 295 ⇑ *i*P **P 20 35 16.9 -2.5**
JMB Yambol 32.36 295 *e*P **P 20 35 16.8 -2.6**
PLOR Plostina 32.36 301 ⇑ *i*P **P 20 35 21.8 +2.4**
BLCB Balcova 32.36 287 *e*P **P 20 35 19.9 +0.4**
ISR Istrita 32.40 300 ⇑ *i*P **P 20 35 22.7 +2.9**
TESR Tescani 32.40 302 ⇑ *i*P **P 20 35 21.3 +1.5**
ERIK Erikli-Kesan 32.51 291 *e*P **P 20 35 21.4 +0.7**
CMAR Chiang Mai Arr 32.53 114 P **P 20 35 21.4 +0.3**
comp=Z,49nm,1.1s,baz=304,slow=8.2,SNR=112
CMAR LR LR 20 49 08.0
comp=Z,2µm,19.4s,baz=312,slow=38
CRAI Chiangrai 32.55 109 P P 20 35 18.1 -3.2
comp=Z,212nm,0.8s
GELI Tayfur-Gelibol 32.56 291 *e*P **P 20 35 20.5 -0.7**
SMG Samos 32.62 286 *e*P **P 20 35 22.3 +0.5**
EZN Ezine 32.73 290 *e*P **P 20 35 23.6 +0.9**
KARP Karpathos 32.77 282 P **P 20 35 23.4 +0.3**
KARP Karpathos 32.77 282 *e*P **P 20 35 24.1 +1.0**
KARP Karpathos 32.77 282 P **P 20 35 23.4 +0.3**
SZH Strazhica 32.81 296 *e*P **P 20 35 23.9 +0.5**
MLR Muntele Rosu 32.83 300 P **P 20 35 25.9 +2.2**
MLR pmax pmax
comp=Z,53nm,0.8s
MLR Muntele Rosu 32.83 300 ⇑ *i*P **P 20 35 25.6 +1.9**
MLR Muntele Rosu 32.83 300 P **P 20 35 25.9 +2.2**
comp=Z,52nm,0.8s,baz=70,slow=4.1,SNR=86
PRK Paraskevi 32.84 289 *e*P **P 20 35 25.3 +1.6**
ALN Alexandroupoli 32.85 292 *e*P **P 20 35 25.7 +2.0**
PBA Port Blair 32.99 130 *e*P P 20 35 24.8 -0.3
LAMP Lampang 33.00 113 P **P 20 35 26.0 +0.8**
comp=Z,14nm,0.9s,comp=Z,137nm
CHOS Chios island 33.13 287 *e*P **P 20 35 27.6 +1.3**
DIM Dimitrovgrad 33.15 294 *e*P **P 20 35 27.0 +0.7**
SIGR SIGRI 33.17 289 *e*P **P 20 35 27.1 +0.6**
MICM Minsk 33.20 317 ⇑ *e*P **P 20 35 25.0 -1.6**
RDO Rodhopi 33.21 292 P **P 20 35 28.1 +1.3**
RDO Rodhopi 33.21 292 *e*P **P 20 35 24.3 -2.5**
RDO Rodhopi 33.21 292 P **P 20 35 28.1 +1.3**
MNK Minsk 33.23 317 *ce*P **P 20 35 25.0 -1.8**
DOPR Dopca 33.24 301 ⇓ *i*P **P 20 35 28.5 +1.4**
KDZ Kurdzhali 33.27 293 ⇓ *i*P P 20 35 31.6 +4.2
BTO Baotou 33.41 69 *e*P **P 20 35 28.3 -0.5**
BTO LN
comp=Z,5µm,18.2s
BTO LE
comp=Z,1µm,11.4s

VOIR 33.46 300⇑ *i*P P 20 35 30.3 +1.2
BURAR Bucovina Array 33.47 304⇑ *i*P P 20 35 31.0 +1.8
LIA Limnos Island 33.60 290 *e*P P 20 35 32.8 +2.5
ZKR Zakros 33.62 281 *e*P P 20 35 31.3 +0.8
TMCR Tamitsa 33.66 337 *e*P P 20 35 30.9 +0.4
TMCR *e* 20 36 43.0
TMCR *e* 20 38 12.4
TMCR pmax pmax
comp=Z,92nm,1.0s
XAN Xi'an 33.70 81 P P 20 35 30.4 -0.9
XAN pP pP 20 35 34.4 -1.2
XAN sP sP 20 35 37.4 0.0
XAN PP PnPn 20 36 44.3 +1.0
XAN S S 20 40 54.1 0.0
XAN sS sS 20 41 01.4 +0.1
XAN SS SnSn 20 43 01.4 +3.3
XAN PMZ
comp=Z,35nm,0.9s
XAN PMZ
comp=Z,40nm,4.0s
XAN LN
comp=Z,8µm,19.5s
XAN LE
comp=Z,3µm,15.6s
XAN LZ
comp=Z,1µm,15.1s
ARR Arges 33.75 300⇓ *i*P P 20 35 33.4 +1.8
APE Apeiranthos 33.76 285 P P 20 35 30.9 -0.8
APE Apeiranthos 33.76 285⇑ *i*P P 20 35 32.0 +0.3
APE pmax pmax
comp=Z,319nm,0.9s
APE MLR MLR
comp=Z,3µm,16.0s
APE Apeiranthos 33.76 285 *e*P P 20 35 32.7 +1.0
APE Apeiranthos 33.76 285⇓ *i*P P 20 35 35.7 +4.0
APE Apeiranthos 33.76 285 P P 20 35 30.9 -0.8
PLD Plovdiv 33.77 294 *e*P P 20 35 31.6 -0.1
RZN Rozhen 33.79 293 *e*P P 20 35 31.8 -0.3
SANT Santorini 33.95 284 *e*P P 20 35 33.6 +0.2
SANT Santorini 33.95 284 *e*P P 20 35 33.6 +0.2
comp=Z,547nm,1.2s
SANT LR LR
comp=Z,2µm,19.0s
KAVA Kavala 33.99 292 P P 20 35 34.4 +0.7
KAVA Kavala 33.99 292 P P 20 35 34.4 +0.7
THR6 Thira Island, 34.00 284 P P 20 35 33.2 -0.6
THR6 Thira Island, 34.00 284 P P 20 35 33.2 -0.6
THR5 Thira Island, 34.02 284 P P 20 35 34.2 +0.2
PUL Pulkovo 34.05 327*c* *i*P P 20 35 34.9 +1.0
PUL pmax pmax
comp=Z,132nm,0.6s
NPS Neapolis 34.06 282 P P 20 35 34.9 +0.5
NPS Neapolis 34.06 282 P P 20 35 34.9 +0.5
NPS Neapolis 34.06 282 *e*P P 20 35 34.6 +0.2
NPS Neapolis 34.06 282 P P 20 35 34.9 +0.5
PGB Panagyurishte 34.14 295 *e*P P 20 35 36.2 +1.2
UTTA Uttaradit 34.17 113 P P 20 35 35.7 +0.3
comp=Z,19nm,1.5s,comp=Z,198nm
LAST Lasithi 34.19 282 *e*P P 20 35 36.4 +0.8
LOT Lotru 34.36 300⇑ *i*P P 20 35 38.5 +1.5
IIGN Ignalina 34.37 318 *e*P P 20 35 37.1 +0.3
MPEP Malo Peshtene 34.41 296 *e*P P 20 35 39.0 +1.7
NVR Nevrokopi 34.45 293 P P 20 35 38.1 +0.4
NVR Nevrokopi 34.45 293 *e*P P 20 35 38.8 +1.1
NVR Nevrokopi 34.45 293 P P 20 35 38.1 +0.4
GYA Guiyang 34.45 94⇑ *i*P P 20 35 37.5 -0.5
GYA PP PP 20 36 55.0 -1.0
GYA PcP PcP 20 38 14.3 +1.1
GYA S S 20 41 05.6 -0.4
GYA ScP ScP 20 41 58.8 +0.9
GYA SS SnSn 20 43 16.0 -0.6
GYA PMZ
comp=Z,130nm,0.9s
GYA PMZ
comp=Z,210nm,4.9s
GYA LN
comp=Z,10µm,19.8s
GYA LE
comp=Z,5µm,20.9s
GYA LZ
comp=Z,3µm,13.9s
OUR Ouranopolis 34.47 291 *e*P P 20 35 34.2 -3.6
ISAL Salakas 34.49 318 *e*P P 20 35 38.2 +0.4
LVV L'vov 34.49 308 *i* P P 20 35 39.1 +1.2
LVV *e* 20 37 00.9
LVV *e* 20 37 16.7
LVV *e*S S 20 41 05.5 -0.4
CJR Cluj-Napoca 34.52 302⇓ *i*P P 20 35 40.5 +2.3
MMB Musomiste 34.53 293⇑ *i*P P 20 35 39.8 +1.4
MMB Musomiste 34.53 293 *e*P P 20 35 37.8 -0.6
HHC Hu-ho-hao-te 34.55 68 *e*P P 20 35 37.1 -1.6
HHC S S 20 41 04.6 -2.7
HHC pmax pmax
comp=Z,420nm,1.7s
HHC LR LR
comp=N,4µm,12.2s
HHC LR LR
comp=E,6µm,15.1s
HHC Hu-ho-hao-te 34.55 68 *e*P P 20 35 38.6 -0.1
HHC sP sP 20 35 44.6 -0.2
HHC PP PnPn 20 36 54.6 +0.7
HHC S S 20 41 03.9 -3.4
HHC sS sS 20 41 11.3 -3.1
HHC SS SnSn 20 43 14.6 -4.1
HHC PMZ
comp=E,20nm,1.2s
HHC PMZ
comp=E,400nm,4.0s
HHC LN
comp=E,4µm,13.7s
HHC LE
comp=E,6µm,17.7s
HHC LZ
comp=E,9µm,16.8s
IDI Anoyia 34.63 282 P P 20 35 39.5 +0.1
comp=E,209nm,0.9s,baz=54,slow=8.4,SNR=41
BMR Baia Mare 34.64 304⇓ *i*P P 20 35 41.9 +2.7
SRS Serrai 34.68 292 P P 20 35 39.5 -0.1
SRS Serrai 34.68 292 P P 20 35 39.5 -0.1
SRS Serrai 34.68 292 *e*P P 20 35 40.7 +1.1
SRS Serrai 34.68 292 P P 20 35 39.5 -0.1
AOS Alonnisos 34.70 289 *e*P P 20 35 40.3 +0.5
PAIG Paliouri 34.74 290 P P 20 35 41.3 +1.1
PAIG Paliouri 34.74 290 P P 20 35 41.3 +1.1
PAIG Paliouri 34.74 290 *e*P P 20 35 41.5 +1.3
PAIG Paliouri 34.74 290 P P 20 35 41.3 +1.1
SIVA Sivas 34.76 282 *e*P P 20 35 40.8 +0.4
VTS Vitosha 34.84 295⇑ *i*P P 20 35 43.0 +1.8
VTS Vitosha 34.84 295 *e*P P 20 35 40.5 -0.7
PLG Polygyros 34.87 291 *e*P P 20 35 42.6 +1.3
PTL Penteli 34.88 287 P P 20 35 43.2 +1.7
PTL Penteli 34.88 287 *e*P P 20 35 42.9 +1.4
PTL Penteli 34.88 287 P P 20 35 43.2 +1.7
SOH Sokhos 34.89 292 P P 20 35 42.4 +0.9
SOH Sokhos 34.89 292 P P 20 35 42.4 +0.9
SOH Sokhos 34.89 292 *e*P P 20 35 43.5 +2.0
SOH Sokhos 34.89 292 P P 20 35 42.4 +0.9
ATHU Athens Univers 34.96 287 P P 20 35 43.1 +1.0
ATHU Athens Univers 34.96 287 P P 20 35 43.1 +1.0
DEV Deva 34.97 301⇑ *i*P P 20 35 44.3 +2.2
KKB Krupnik 34.99 294 *e*P P 20 35 41.4 -0.9
MRKA Markates 34.99 288 P P 20 35 42.9 +0.5
MRKA Markates 34.99 288 *e*P P 20 35 43.5 +1.1
ATH Athens Observa 35.01 287 *e*P P 20 35 43.9 +1.4
SKIA Skiathos 35.01 289 *e*P P 20 35 43.4 +0.9
HORT Hortiatis 35.10 292 *e*P P 20 35 44.2 +0.8
DRGR 35.13 302⇑ *i*P P 20 35 45.6 +2.1
VAM Vamos 35.16 283 P P 20 35 42.6 -1.2
VAM Vamos 35.16 283 P P 20 35 42.6 -1.2
VAM Vamos 35.16 283 *e*P P 20 35 42.6 -1.2
VAM Vamos 35.16 283 P P 20 35 42.6 -1.2
VSU Vasula 35.16 323*c* *i*P P 20 35 44.4 +0.9
VSU pmax pmax
comp=Z,307nm,0.7s
NEO Neokhori 35.18 289 P P 20 35 44.8 +0.8
NEO Neokhori 35.18 289 *e*P P 20 35 44.7 +0.8
NEO Neokhori 35.18 289 P P 20 35 44.8 +0.8
KNT Kendrikon 35.19 293 P P 20 35 44.6 +0.5
KNT Kendrikon 35.19 293 P P 20 35 44.6 +0.5
KNT Kendrikon 35.19 293 *e*P P 20 35 44.9 +0.8
KNT Kendrikon 35.19 293 P P 20 35 44.6 +0.5
XOR Xorichti 35.20 290 P P 20 35 45.1 +1.0
XOR Xorichti 35.20 290 *e*P P 20 35 44.5 +0.4
XOR Xorichti 35.20 290 P P 20 35 45.1 +1.0
THE Thessaloniki 35.20 292 *e*P P 20 35 44.6 +0.5
PBKT Sadao Pong 35.21 114 P P 20 35 44.9 +0.5
comp=Z,80nm,1.0s,comp=Z,1µm
JOF Joensuu 35.25 332 *e*P P 20 35 42.9 -1.3
JOF pmax pmax
comp=Z,101nm,0.6s
ENH Enshi 35.29 87 *e*P P 20 35 44.8 -0.2
comp=Z,79nm,0.9s
ENH LR LR
comp=Z,5µm,21.0s
TRPA Tarpa 35.31 305⇓ *e*P P 20 35 46.3 +1.4
SRDT SRDT 35.31 119 P P 20 35 46.0 +0.7
comp=Z,188nm,0.9s,comp=Z,8µm
KWP Kalwaria Pacla 35.32 307 P P 20 35 45.6 +0.5
KWP pmax pmax
comp=Z,139nm,1.0s
KWP MLR MLR
comp=Z,4µm,21.0s
KWP Kalwaria Pacla 35.32 307 *e*P P 20 35 46.2 +1.1
KWP LMZ LR 20 51 43.4
KWP Kalwaria Pacla 35.32 307⇓ *i*P P 20 35 47.3 +2.2
KWP Kalwaria Pacla 35.32 307 P P 20 35 45.6 +0.5
comp=Z,138nm,1.0s
KWP LR LR
comp=Z,4µm,21.0s
KARN Karanos 35.38 283 *e*P P 20 35 46.6 +0.8
LKR Lokris 35.45 288 P P 20 35 46.8 +0.5
LKR Lokris 35.45 288 *e*P P 20 35 46.8 +0.5
LKR Lokris 35.45 288 P P 20 35 46.8 +0.5
UZH Uzhgorod 35.51 306 *e*P P 20 35 45.8 -0.8
UZH *e* 20 36 02.2
UZH *e*S S 20 41 18.3 -3.2
UZH *e*SS SnSn 20 43 44.6 +3.2
UZH MLR MLR
comp=N,3µm,18.0s
UZH MLR MLR
comp=E,4µm,18.0s
UZH MLR MLR
comp=Z,1µm,18.0s
KOLS Kolonicke sedl 35.54 306 *e*P P 20 35 48.4 +1.4
KOLS pmax pmax
comp=Z,25nm,1.0s
KOLS Kolonicke sedl 35.54 306 *e*P P 20 35 48.4 +1.4
LTK Loutraki 35.59 287 *e*P P 20 35 47.0 -0.5
GRG Griva 35.59 292 P P 20 35 51.3 +3.8
GRG Griva 35.59 292 P P 20 35 51.3 +3.8
GRG Griva 35.59 292 P P 20 35 51.3 +3.8
LIT Litokhoron 35.63 291 P P 20 35 49.0 +1.2
LIT Litokhoron 35.63 291 P P 20 35 49.0 +1.2
LIT Litokhoron 35.63 291 *e*P P 20 35 49.1 +1.2
LIT Litokhoron 35.63 291 P P 20 35 49.0 +1.2
TIY Taiyuan 35.68 73 *e*P P 20 35 42.4 -6.0
TIY PP PP 20 37 10.8 +1.5
TIY S S 20 41 23.8 -0.8
TIY SS SnSn 20 43 47.5 +1.5
TIY pmax pmax
comp=Z,260nm,4.1s
TIY LR LR
comp=N,3µm,10.8s
TIY LR LR
comp=E,5µm,15.3s
TIY LR LR
comp=Z,5µm,14.8s
AXAR Agios Charalam 35.70 289 P P 20 35 49.0 +0.6
AXAR Agios Charalam 35.70 289 *e*P P 20 35 49.4 +1.0
AXAR Agios Charalam 35.70 289 P P 20 35 49.0 +0.6
SUW Suwalki 35.73 315 *e*P P 20 35 48.8 +0.3
SUW pmax pmax
comp=Z,46nm,0.9s
SUW Suwalki 35.73 315 *e*P P 20 35 48.9 +0.3
SUW LMZ LR 20 52 20.6
SUW Suwalki 35.73 315 *e*P P 20 35 48.8 +0.3
comp=Z,46nm,0.9s
ANKY Antikythira Is 35.76 284 P P 20 35 50.7 +1.7
ANKY Antikythira Is 35.76 284 *e*P P 20 35 51.5 +2.5
ANKY Antikythira Is 35.76 284 P P 20 35 50.7 +1.7
DESF Desfina 35.85 288 *e*P P 20 35 48.6 -1.3
VLI Veliai 35.86 285 P P 20 35 48.8 -1.1
VLI Veliai 35.86 285 *e*P P 20 35 49.9 0.0
VLI Veliai 35.86 285 P P 20 35 48.8 -1.1
BZS Buzias 35.87 300 *e*P P 20 35 51.3 +1.5
BZS Buzias 35.87 300⇑ *i*P P 20 35 51.8 +1.9
KYTH Kithira 35.88 284 *e*P P 20 35 51.6 +1.6
AGG Agios Georgios 35.91 289 P P 20 35 49.9 -0.4
AGG Agios Georgios 35.91 289 P P 20 35 49.9 -0.4
AGG Agios Georgios 35.91 289 *e*P P 20 35 51.2 +0.9
AGG Agios Georgios 35.91 289 P P 20 35 49.9 -0.4
MAKR Makrakomi, Fth 36.06 289 P P 20 35 51.9 +0.3
MAKR Makrakomi, Fth 36.06 289 *e*P P 20 35 52.2 +0.6
MAKR Makrakomi, Fth 36.06 289 P P 20 35 51.9 +0.3
THL Klokotos Trika 36.07 290 P P 20 35 50.2 -1.4
THL Klokotos Trika 36.07 290 *e*P P 20 35 51.9 +0.3
CRVS Cervenica-Dubn 36.08 306 *e*P P 20 35 52.6 +1.0
CRVS pmax pmax
comp=Z,82nm,1.8s
CRVS Cervenica-Dubn 36.08 306 *e*P P 20 35 52.6 +1.0
GUR Goura 36.09 287 *e*P P 20 35 51.5 -0.4
KZN Kozani 36.15 291 P P 20 35 52.6 +0.2
KZN Kozani 36.15 291 P P 20 35 52.6 +0.2
KZN Kozani 36.15 291 *e*P P 20 35 54.5 +2.1
KZN Kozani 36.15 291 P P 20 35 52.6 +0.2
KALE Kalithea 36.16 288 *e*P P 20 35 51.3 -1.2
VLX Vlachokerasia 36.17 286 P P 20 35 54.2 +1.6
VLX Vlachokerasia 36.17 286 *e*P P 20 35 51.9 -0.7
VLX Vlachokerasia 36.17 286 P P 20 35 54.2 +1.6
CIT Chita 36.19 49 *e*P P 20 35 52.6 0.0
CIT *e* 20 37 14.9
KLV Kalavryta, Ach 36.22 288 *e*P P 20 35 52.0 -1.0
STHS Stebnicka Huta 36.26 307 *e*P P 20 35 54.1 +1.0
STHS Stebnicka Huta 36.26 307 *e*P P 20 35 54.1 +1.0
EVR Evrytania 36.33 289 P P 20 35 53.8 -0.1
EVR Evrytania 36.33 289 *e*P P 20 35 54.5 +0.6
EVR Evrytania 36.33 289 P P 20 35 53.8 -0.1
EFP Efpalio 36.34 288 P P 20 35 56.8 +2.9
EFP Efpalio 36.34 288 *e*P P 20 35 54.6 +0.7
FNA Florina 36.38 292 P P 20 35 54.8 +0.5
FNA Florina 36.38 292 P P 20 35 54.8 +0.5
FNA Florina 36.38 292 *e*P P 20 35 55.4 +1.1
FNA Florina 36.38 292 P P 20 35 54.8 +0.5
ITM Ithomi 36.56 286 P P 20 35 54.4 -1.4
ITM Ithomi 36.56 286 *e*P P 20 35 53.9 -1.9
ITM Ithomi 36.56 286 P P 20 35 54.4 -1.4
DRO Drossia 36.58 287 P P 20 35 56.7 +0.7
DRO Drossia 36.58 287 *e*P P 20 35 57.4 +1.4
AMT Artemida-Makis 36.66 287 *e*P P 20 35 56.1 -0.6
FINES FINESS Array B 36.67 328 *i* P P 20 35 56.2 -0.2
FINES pmax pmax
comp=Z,70nm,0.6s
FINES FINESS Array B 36.67 328 P P 20 35 56.3 -0.2
comp=Z,69nm,0.6s,baz=124,slow=10.0,SNR=204
FINES LR LR 20 52 41.9
comp=Z,6µm,18.5s,baz=109,slow=39
NEST Nestorio 36.68 292 P P 20 35 57.4 +0.5
NEST Nestorio 36.68 292 *e*P P 20 35 58.1 +1.2
KHON Khomkaen 36.74 112 P P 20 35 57.8 +0.3
comp=Z,41nm,0.7s
PYL PYLOS 36.76 286 P P 20 35 55.9 -1.7
PYL PYLOS 36.76 286 *e*P P 20 35 53.3 -4.3
PYL PYLOS 36.76 286 P P 20 35 55.9 -1.7
BEL Belsk 36.79 311 *e*P P 20 35 59.0 +1.4
BEL MLR MLR
comp=Z,8µm,19.2s
BEL Belsk 36.79 311 *e*P P 20 35 58.9 +1.4
BEL LMZ LR 20 53 02.7
DSL Palaion Diasel 36.84 290 P P 20 35 58.4 +0.2
DSL Palaion Diasel 36.84 290 *e*P P 20 35 58.8 +0.6
DSL Palaion Diasel 36.84 290 P P 20 35 58.4 +0.2
NIE Niedzica 36.86 307 *e*P P 20 35 59.5 +1.2
NIE MLR MLR
comp=Z,8µm,19.9s
NIE Niedzica 36.86 307 *e*P P 20 35 59.7 +1.4
NIE *e*S S 20 41 50.7 +8.4
NIE LMZ LR 20 53 53.0
KAF Kangasniemi 36.86 329 *e*P P 20 35 56.8 -1.3
KAF pmax pmax
comp=Z,93nm,0.7s
PDO Prodromos 36.86 289 P P 20 35 57.6 -0.8
PDO Prodromos 36.86 289 *e*P P 20 35 58.3 -0.1
JAN Janina 36.94 290 P P 20 35 59.7 +0.6
JAN Janina 36.94 290 P P 20 35 59.7 +0.6
JAN Janina 36.94 290 *e*P P 20 36 00.1 +1.0
JAN Janina 36.94 290 P P 20 36 00.1 +1.0
PSZ Piszkesteto 37.07 304 *e*P P 20 36 01.6 +1.5
PSZ pmax pmax
comp=Z,486nm,2.2s
PSZ MLR MLR
comp=Z,4µm,19.0s
PSZ Piszkesteto 37.07 304⇑ *i*P P 20 36 02.1 +1.9
PSZ Piszkesteto 37.07 304 *e*P P 20 36 01.6 +1.5
comp=Z,486nm,2.2s
PSZ LR LR
comp=Z,4µm,19.0s
PSZ Piszkesteto 37.07 304⇓ *e*P P 20 36 01.4 +1.2
PKSN Nyarlorinc 37.08 303⇑ *e*P P 20 36 02.7 +2.6
LVZ Lovozero 37.24 340⇑ *e*P P 20 36 01.0 -0.2
LVZ pmax pmax
comp=Z,166nm,1.7s
LVZ Lovozero 37.24 340 *e*P P 20 36 01.9 +0.6
comp=Z,69nm,0.7s
OJC Ojcow 37.25 308 *e*P P 20 36 02.1 +0.5
OJC *e*S S 20 41 52.1 +4.0
OJC MLR MLR
comp=Z,8µm,21.5s
OJC Ojcow 37.25 308 *e*P P 20 36 02.0 +0.5
OJC *e*S S 20 42 01.0 +13
OJC LMZ LR 20 50 35.1
KFL Anninata 37.26 288 P P 20 36 01.4 -0.4
PKS6 Bocsa 37.29 302⇑ *e*P P 20 36 04.3 +2.4
IGT Igoumenitsa 37.36 290 P P 20 36 02.0 -0.6
IGT Igoumenitsa 37.36 290 P P 20 36 02.0 -0.6
IGT Igoumenitsa 37.36 290 *e*P P 20 36 03.0 +0.4
IGT Igoumenitsa 37.36 290 P P 20 36 02.0 -0.6
APA Apatity 37.37 339⇓ *i*P P 20 36 03.2 +0.9
APA *i* 20 37 28.0
APA *i* S S 20 41 50.0 +0.5
APA pmax pmax
comp=Z,96nm,1.0s
APA MLR MLR
comp=Z,6µm,18.0s
VLS Valsamata 37.40 288 P P 20 36 00.7 -2.3
VLS Valsamata 37.40 288 P P 20 36 00.7 -2.3
VLS Valsamata 37.40 288 *e*P P 20 36 02.3 -0.7
VLS Valsamata 37.40 288 P P 20 36 00.7 -2.3
PKS2 Kecel 37.54 302⇓ *e*P P 20 36 06.8 +2.8
PKS7 Kunszentmiklos 37.56 303⇓ *e*P P 20 36 05.6 +1.4
BOD Bodaibo 37.66 39 *i* P P 20 36 05.0 +0.1
BOD pmax pmax
comp=Z,64nm,1.2s
BUD Budapest 37.66 304⇑ *e*P P 20 36 07.4 +2.4
KEK Kerkira 37.73 291 P P 20 36 04.9 -0.9
KEK Kerkira 37.73 291 *e*P P 20 36 05.7 -0.1
KEK Kerkira 37.73 291 P P 20 36 04.9 -0.9
VYHS Vyhne 37.80 305 *e*P P 20 36 07.6 +1.4
VYHS pmax pmax
comp=Z,47nm,1.8s
VYHS Vyhne 37.80 305 *e*P P 20 36 07.6 +1.4
PKSM Moragy 37.94 301⇓ *i*P P 20 36 09.0 +1.6
PKSM Moragy 37.94 301⇓ *e*P P 20 36 08.4 +1.0
PKSG 38.09 303⇑ *e*P P 20 36 10.3 +1.7
BJT Baijiatuau 38.15 69 PFAKE 20 36 20.0 +11
BJT LR LR
comp=Z,10µm,19.0s
BJI Beijing 38.15 69 P P 20 36 08.9 -0.3
BJI PP PP 20 37 36.5 +0.1
BJI S S 20 42 01.8 -0.2
BJI PMZ
comp=Z,27nm,1.0s
BJI PMZ
comp=Z,270nm,4.5s
BJI LN
comp=Z,14µm,18.6s
BJI LE
comp=Z,3µm,14.9s
BJI LZ
comp=Z,7µm,24.4s
CSKK Cs˙‡kako 38.18 303⇑ *e*P P 20 36 11.0 +1.6
PKS9 Tamasi 38.18 302⇓ *e*P P 20 36 10.8 +1.4
RAC Raciborz 38.27 308 *e*P P 20 36 10.4 +0.3
RAC *e*S S 20 42 05.2 +1.6
RAC MLR MLR
comp=Z,3µm,22.5s
OKC Ostrava-Krasne 38.29 307 *e*P P 20 36 12.0 +1.7
OKC *e*S S 20 42 02.6 -1.3
OKC MLR MLR
comp=Z,2µm,14.9s
OKC Ostrava-Krasne 38.29 307 *e*P P 20 36 12.0 +1.7
OKC *e*pP pP 20 36 16.9 +2.2
OKC *e*S S 20 42 02.6 -1.3
OKC AMS AMS 20 57 00.0
comp=Z,2µm,14.9s
PKST T˜'s 38.33 303⇓ *e*P P 20 36 10.9 +0.2
MORC Moravsky Berou 38.68 307 *e*P P 20 36 14.1 +0.4
MORC pmax pmax
comp=Z,75nm,1.2s
MORC Moravsky Berou 38.68 307⇑ *i*P P 20 36 15.9 +2.2
MORC Moravsky Berou 38.68 307 *e*P P 20 36 14.1 +0.4
comp=Z,75nm,1.2s
CHBT CHBT 38.69 117 P P 20 36 14.3 +0.3
comp=Z,42nm,0.7s
SMOL Smolenice 38.73 305 *e*P P 20 36 16.0 +1.9
SMOL Smolenice 38.73 305 *e*P P 20 36 16.0 +1.9
SURT Suratani 38.90 126 P P 20 36 16.5 +0.7
comp=Z,17nm,1.0s,comp=Z,240nm
GKP Gorka Klasztor 39.11 313 *e*P P 20 36 17.8 +0.7
GKP *e*S S 20 42 11.6 -4.5
GKP MLR MLR
comp=Z,5µm,23.7s
GKP Gorka Klasztor 39.11 313 *e*P P 20 36 17.8 +0.7
GKP *e*S S 20 42 11.6 -4.5
GKP LMZ LR 20 54 04.0
WHN Wuhan 39.14 84 ⇑P P 20 36 17.4 -0.3
WHN PP PnPn 20 37 54.8 +4.9
WHN S S 20 42 17.3 +0.2
WHN PMZ
comp=Z,200nm,0.8s
WHN LN
comp=Z,18µm,16.7s
WHN LE
comp=Z,12µm,17.2s
WHN LZ
comp=Z,10µm,18.0s
KRLC Kraliky 39.18 308 *e*P P 20 36 19.0 +1.1
KRLC *e* 20 36 24.5
KRLC Kraliky 39.18 308 *e*P P 20 36 19.0 +1.1
KRLC *e*pP pP 20 36 24.5 +2.3
BEHE Becsehely 39.22 302⇑ *e*P P 20 36 20.2 +2.0
VRAC Vranov 39.29 306 P P 20 36 20.5 +1.8
VRAC pmax pmax
comp=Z,21nm,0.9s
VRAC Vranov 39.29 306⇑ *i*P P 20 36 20.5 +1.8
VRAC Vranov 39.29 306 P P 20 36 20.5 +1.8
comp=Z,20nm,0.9s,baz=89,slow=8.6,SNR=40
SOP Sopron 39.32 304⇓ *e*P P 20 36 19.9 +0.9
UBPT Khong Chiam 39.39 111 P P 20 36 19.4 -0.5
comp=Z,46nm,0.7s,comp=Z,1µm
PKDT Phuket 39.40 127 P P 20 36 28.9 +9.0
DPC Dobruska-Polom 39.48 308 *e*P P 20 36 21.8 +1.4
DPC *e* 20 36 27.2
DPC *e* 20 37 54.2
DPC *e*S S 20 42 16.1 -5.9
DPC Dobruska-Polom 39.48 308 *e*P P 20 36 21.8 +1.4
DPC *e*pP pP 20 36 27.2 +2.4
DPC *e*PP PnPn 20 37 54.2 +0.4
DPC *ex* x 20 42 16.1
DPC AMS AMS 20 55 30.0
DPC Dobruska-Polom 39.48 308 *e*P P 20 36 21.3 +0.9
comp=Z,193nm,0.8s
KSP Ksiaz 39.52 309⇑ *e*P P 20 36 22.2 +1.6
KSP *e* 20 37 50.2
KSP *e*S S 20 42 21.0 -1.4
KSP MLR MLR
comp=Z,13µm,27.9s
KSP Ksiaz 39.52 309 *e*P P 20 36 21.7 +1.1
KSP *e*S S 20 42 30.1 +7.7
KSP LMZ LR 20 51 57.0
TIA Tai'an 39.67 74 ⇓P P 20 36 22.6 +0.5
TIA PP PnPn 20 37 59.8 +3.6
TIA S S 20 42 25.8 +0.8
TIA PMZ
comp=Z,80nm,0.9s
TIA PMZ
comp=Z,340nm,4.0s
TIA LN

comp=Z,7µm,16.1s
TIA LE
comp=Z,7µm,18.4s
TIA LZ
comp=Z,4µm,15.5s
UPC Upice 39.69 308 *e*P **P 20 36 23.4 +1.4**
UPC *e* 20 36 28.5
UPC Upice 39.69 308 *e*P **P 20 36 23.4 +1.4**
UPC *e*pP **pP 20 36 28.5 +2.1**
CONA Conrad Observa 39.79 304⇑ *i*pP **P 20 36 24.5 +1.5**
comp=Z,78nm,1.4s,SNR=49
HIA Hailar 39.93 54 PFAKE 20 36 40.0 +16
HIA LR LR
comp=Z,12µm,22.0s
TREC Trest 40.01 306 *e*P **P 20 36 26.0 +1.2**
TREC *e* 20 36 31.3
TREC *e* 20 37 57.4
TREC *e*S **S 20 42 28.2 -1.7**
TREC MLR MLR
comp=Z,4µm,15.0s
TREC Trest 40.01 306 *e*P **P 20 36 26.0 +1.2**
TREC *e*pP **pP 20 36 31.3 +2.2**
TREC *e*PP **PP 20 37 57.4 +0.8**
TREC *e*S **S 20 42 28.2 -1.7**
TREC AMS AMS 20 56 30.0
comp=Z,4µm,15.0s
ARSA Arzberg 40.04 303⇑ *i*pP **P 20 36 26.3 +1.3**
comp=Z,40nm,1.4s,SNR=12
GROS Grobnik 40.10 302 *e*P **P 20 36 25.7 +0.1**
GROS *e*S **S 20 42 35.0 +3.7**
TIP Timpagrande 40.15 291 *e*P **P 20 36 26.2 +0.2**
comp=Z,19nm,1.1s
TIP LR LR
comp=Z,2µm,21.0s
BOJS Bojanci 40.34 301 *e*P **P 20 36 28.0 +0.5**
BOJS *e*S **S 20 42 38.4 +3.5**
SOKA Soboth 40.41 302⇑ *i*P **P 20 36 29.2 +1.1**
comp=Z,73nm,1.5s,SNR=61
GOPC GO Pecny, Ondr 40.47 307 *e*P **P 20 36 30.1 +1.6**
GOPC *e*pP **pP 20 36 34.9 +2.0**
GOPC *e*PP **PP 20 38 03.4 +1.8**
GOPC *e*S **S 20 42 36.4 -0.2**
GOPC AMS AMS 20 56 10.0
comp=Z,3µm,12.7s
KEV Kevo 40.56 340 *e*P **P 20 36 28.7 -0.3**
KEV pmax pmax
comp=Z,25nm,0.6s
KEV Kevo 40.56 340 *e*P **P 20 36 29.7 +0.7**
comp=Z,418nm,2.3s
KEV LR LR
comp=Z,3µm,20.0s
PVCC Panska Ves 40.61 308 *e*P **P 20 36 30.8 +1.2**
PVCC *e* 20 38 02.6
PVCC *e*S **S 20 42 38.3 -0.4**
PVCC MLR MLR
comp=Z,3µm,12.9s
PVCC Panska Ves 40.61 308 *e*P **P 20 36 30.8 +1.2**
PVCC *e*pP **pP 20 36 35.4 +1.4**
PVCC *e*PP **PP 20 38 02.6 -0.5**
PVCC *e*S **S 20 42 38.3 -0.4**
PVCC AMS AMS 20 58 10.0
comp=Z,3µm,12.9s
VISS Visnje 40.61 301 *e*P **P 20 36 30.5 +0.8**
VISS *e*S **S 20 42 41.0 +2.2**
PRU Pruhonice 40.62 308 *e*P **P 20 36 31.1 +1.3**
PRU *e* 20 38 03.7
PRU *e*S **S 20 42 38.3 -0.6**
PRU MLR MLR
comp=Z,4µm,12.0s
PRU Pruhonice 40.62 308 *e*P **P 20 36 31.1 +1.3**
PRU *e*pP **pP 20 36 35.5 +1.3**
PRU *e*PP **PP 20 38 03.7 +0.5**
PRU *e*S **S 20 42 38.3 -0.6**
PRU AMS AMS 20 56 10.0
comp=Z,4µm,12.0s
QIZ Qiongzhong 40.63 103 P **P 20 36 29.6 -0.5**
QIZ PP **PP 20 38 04.4 +0.6**
QIZ S **S 20 42 39.6 0.0**
QIZ sS **sS 20 42 46.0 -0.8**
QIZ SS SS 20 45 32.0 -7.8
QIZ PMZ
comp=Z,33nm,1.1s
QIZ LN
comp=Z,4µm,17.5s
QIZ LE
comp=Z,2µm,17.3s
QIZ LZ
comp=Z,2µm,19.1s
QIZ Qiongzhong 40.63 103 *e*P **P 20 36 30.8 +0.6**
comp=Z,196nm,1.6s
QIZ LR LR
comp=Z,2µm,19.0s
BSD Bornholm Skovb 40.66 315⇓ *i*P **P 20 36 29.0 -1.0**
BSD pmax pmax
comp=Z,36nm,0.9s
BSD MLR MLR
comp=Z,3µm,12.0s
BSD Bornholm Skovb 40.66 315⇓ *i*P **P 20 36 29.0 -1.0**
comp=Z,36nm,0.9s
comp=Z,3µm,12.0s
PRA Prague 40.69 308 *e*P **P 20 36 32.4 +2.1**
PRA *e* 20 38 05.9
PRA *e*S **S 20 42 40.3 +0.4**
PRA MLR MLR
comp=Z,3µm,12.1s
PRA Prague 40.69 308 *e*P **P 20 36 32.4 +2.1**
PRA *e*pP **pP 20 36 37.1 +2.4**
PRA *e*PP **PP 20 38 05.9 +1.9**
PRA *e*S **S 20 42 40.3 +0.4**
PRA AMS AMS 20 56 10.0
comp=Z,3µm,12.1s
CUC Castrocucco 40.70 292 *e*P **P 20 36 31.2 +0.6**
comp=Z,413nm,1.9s
CUC LR LR
comp=Z,3µm,19.0s
OBKA Obir 40.75 302 *i*pP **P 20 36 32.5 +1.5**
comp=Z,28nm,0.8s,SNR=15
LJU Ljubljana 40.80 301 *e*P **P 20 36 32.5 +1.1**
MOA Molln 40.86 304⇑ *i*P **P 20 36 33.0 +1.2**
comp=Z,45nm,1.1s,SNR=29
ARCES ARCESS Array B 40.87 339 P **P 20 36 31.8 +0.2**
ARCES pmax pmax
comp=Z,71nm,0.7s
ARCES MLR MLR
comp=Z,4µm,18.5s
ARCES ARCESS Array B 40.87 339 P **P 20 36 31.8 +0.2**
comp=Z,71nm,0.7s,baz=126,slow=6.1,SNR=136
ARCES LR LR 20 53 11.0
comp=Z,4µm,18.5s,baz=125,slow=36
CEL Celeste 41.00 289 *e*P **P 20 36 33.7 +0.6**
comp=Z,89nm,0.9s
CEL LR LR
comp=Z,2µm,22.0s
BRG Berggiesshubel 41.01 309 *i*PP PP 20 38 08.4 +1.0
comp=Z,36nm,1.6s
BRG *i* 20 38 34.3
comp=Z,73nm,1.6s
BRG SS **S 20 42 45.0 +0.4**
BRG *e*PKPPKP P'P'df 21 08 42.8 -12
comp=N,2µm,12.9s
comp=E,3µm,21.2s
comp=Z,3µm,25.1s
BRG Berggiesshubel 41.01 309 *e*P **P 20 36 34.4 +1.5**
comp=Z,36nm,1.0s
BRG Berggiesshubel 41.01 309 *i*P **P 20 36 34.7 +1.8**
BRG *i* 20 38 08.4
BRG *i* 20 38 34.3
BRG SS **S 20 42 45.0 +0.4**
BRG pmax pmax
comp=Z,36nm,1.0s
BRG pmax pmax
comp=Z,36nm,1.6s
BRG MLR MLR
comp=N,2µm,12.9s
BRG MLR MLR
comp=E,3µm,21.2s
BRG MLR MLR
comp=Z,3µm,25.1s
BRG Berggiesshubel 41.01 309 *i*P **P 20 36 34.7 +1.8**
comp=Z,36nm,1.0s
JAVS Javornik 41.14 301 *e*P **P 20 36 34.6 +0.3**
JAVS *e*S **S 20 42 51.5 +4.6**
RUE Ruedersdorf 41.14 311 *e*P **P 20 36 34.3 +0.3**
comp=Z,50nm,0.9s
GEC2 GERESS Array S 41.20 306 *e*P **P 20 36 35.6 +1.0**
comp=Z,42nm,1.3s
GEC2 GERESS Array S 41.20 306 *e*P **P 20 36 34.6 -0.1**
GEC2 GERESS Array S 41.20 306 *e*P **P 20 36 34.6 -0.1**
GERES GERESS Array B 41.20 306 P **P 20 36 35.7 +1.1**
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 41.20 306 P **P 20 36 35.7 +1.1**
comp=Z,9.3nm,0.8s,baz=92,slow=8.0,SNR=94
KHC Kasperske Hory 41.27 306 *e*P **P 20 36 36.0 +0.8**
KHC Kasperske Hory 41.27 306 *e*P **P 20 36 36.0 +0.8**
KTK1 Kautokeino 41.28 338 *e*P **P 20 36 35.0 0.0**
TRI Trieste 41.37 301 *e*P **P 20 36 36.6 +0.7**
TRI pmax pmax
comp=Z,59nm,1.3s
TRI Trieste 41.37 301 *e*P **P 20 36 36.6 +0.7**
comp=Z,59nm,1.3s
MYKA Terra Mystica 41.37 302 *i* P **P 20 36 36.9 +0.9**
comp=Z,30nm,1.2s,SNR=15
GZH Guangzhou 41.38 95 P **P 20 36 36.5 +0.2**
GZH S **S 20 42 51.9 +1.1**
GZH LN
comp=Z,6µm,13.5s
GZH LE
comp=Z,7µm,13.9s
RGN Rugen 41.53 314 P **P 20 36 36.6 -0.5**
comp=Z,74nm,0.8s
KBA Koelnbreinsper 41.53 303 *i*pP **P 20 36 38.6 +1.1**
comp=Z,51nm,1.4s,SNR=32
CLL Collm 41.60 310 *e*P **P 20 36 38.7 +0.9**
comp=Z,24nm,1.0s
CLL Collm 41.60 310 *e*P **P 20 36 38.0 +0.2**
CLL *e* 20 38 12.0
CLL *e*S **S 20 42 56.0 +2.6**
CLL pmax pmax
comp=Z,24nm,1.0s
CLL MLR MLR
comp=Z,3µm,21.7s
CLL Collm 41.60 310 *e*P **P 20 36 38.0 +0.2**
comp=Z,24nm,1.0s
CLL *e*PP **PP 20 38 12.0 -1.8**
CLL *i*pPP 20 38 18.5
CLL *i*sPP 20 38 22.6
CLL *i* 20 38 27.6
CLL *e*PcP **PcP 20 38 33.0 -1.7**
CLL *e*PPP PPP 20 38 42.0
CLL *e*PPPP 20 38 50.0
CLL *e*S **S 20 42 56.0 +2.6**
CLL *e* 20 43 50.0
CLL *e*SS **SnSn 20 46 06.0 -2.3**
CLL LmV 20 55 00.0
comp=Z,3µm,21.7s
CLL Collm 41.60 310 *e*P **P 20 36 38.4 +0.6**
comp=Z,24nm,0.9s
WET Wettzell 41.73 306 *e*P **P 20 36 39.7 +0.8**
comp=Z,65nm,2.1s
MSEY Mahe Island 41.78 198 *e*P **P 20 36 39.5 -0.1**
MSEY MLR MLR
comp=Z,3µm,19.0s
MSEY Mahe Island 41.78 198⇑ *i*P **P 20 36 39.8 +0.2**
SNR=8.0
MSEY Mahe Island 41.78 198 *e*P **P 20 36 39.5 -0.1**
MSEY LR LR
comp=Z,3µm,19.0s
RJOB Jochberg 41.86 304 *e*P **P 20 36 41.0 +0.9**
comp=Z,169nm,2.2s
HFS Hagfors 42.04 323 P **P 20 36 41.5 +0.2**
HFS pmax pmax
comp=Z,49nm,0.6s
HFS Hagfors 42.04 323 P **P 20 36 41.5 +0.2**
comp=Z,49nm,0.6s,baz=91,slow=7.4,SNR=112
AQU L'Aquila 42.07 296 *e*P **P 20 36 42.8 +0.9**
AQU pmax pmax
comp=Z,71nm,1.0s
AQU MLR MLR
comp=Z,2µm,19.0s
AQU L'Aquila 42.07 296 *e*P **P 20 36 42.8 +0.9**
comp=Z,72nm,1.0s
AQU LR LR
comp=Z,2µm,19.0s
COP Copenhagen 42.12 316 *i*P **P 20 36 43.1 +1.1**
COP pmax pmax
comp=Z,20nm,0.9s
COP MLR MLR
comp=Z,2µm,17.0s
COP Copenhagen 42.12 316 *i*P **P 20 36 43.1 +1.1**
comp=Z,20nm,0.9s
comp=Z,2µm,17.0s
ABTA Abfaltersbach 42.13 303 *i*P **P 20 36 43.0 +0.7**
comp=Z,17nm,1.0s,SNR=13
ROTZ Rotzenmuhle 42.14 307 *e*P **P 20 36 44.3 +2.1**
comp=Z,70nm,1.3s
LLD Lille Linde 42.22 316 *i*P **P 20 36 42.0 -0.8**
LLD Lille Linde 42.22 316 *i*P **P 20 36 42.0 -0.8**
NJ2 Nanjing 42.26 80 *e*P **P 20 36 43.8 +0.4**
NJ2 pP **pP 20 36 47.9 +0.1**
NJ2 sP **sP 20 36 49.9 +0.4**
NJ2 S **S 20 43 08.0 +4.5**
NJ2 PMZ
comp=Z,220nm,1.1s
NJ2 PMZ
comp=Z,670nm,8.6s
NJ2 LN
comp=Z,11µm,16.0s
NJ2 LE
comp=Z,6µm,16.5s
NJ2 LZ
comp=Z,6µm,15.6s
KCSI Kotacane, Aceh 42.42 132 P **P 20 36 46.5 +1.6**
comp=Z,32nm,1.0s
HKC Hong Kong Obse 42.43 95 P **P 20 36 44.0 -0.9**
MOX Moxa 42.49 309 *e*P **P 20 36 46.6 +1.5**
comp=Z,209nm,2.1s
DL2 Dalian 42.51 69 *e*P **P 20 36 46.4 +1.0**
DL2 S **S 20 43 09.3 +2.2**
DL2 PMZ
comp=Z,70nm,0.9s
DL2 PMZ
comp=Z,170nm,3.7s
DL2 LN
comp=Z,3µm,14.7s
DL2 LZ
comp=Z,3µm,14.9s
WDD Wield Dalam 42.66 286 PFAKE 20 37 00.0 +13
WDD LR LR
comp=Z,1µm,20.0s
WTTA Wattenberg 42.68 304⇑ *i*P **P 20 36 47.3 +0.3**
comp=Z,52nm,1.5s,SNR=20
WATA Walderalm 42.72 304⇑ *i*P **P 20 36 47.1 0.0**
comp=Z,68nm,1.7s,SNR=9.5
GRF Grafenberg Arr 42.78 307 *e*P **P 20 36 49.6 +2.1**
comp=Z,94nm,1.0s
GRF *e*L L 20 56 07.4
comp=Z,2µm,22.0s
GRFO Grafenberg 42.78 307 *e*P **P 20 36 49.3 +1.8**
GRFO pmax pmax
comp=Z,539nm,2.2s
GRFO Grafenberg 42.78 307 *e*P **P 20 36 49.2 +1.8**
comp=Z,538nm,2.2s
FUR Furstenfeldbru 42.84 305 *e*P **P 20 36 49.2 +1.2**
comp=Z,83nm,1.4s
KULM Kulim 42.86 127 ⇓P **P 20 36 49.1 +0.7**
KULM Kulim 42.86 127 *e*P **P 20 36 48.6 +0.2**
comp=Z,53nm,1.2s
KULM LR LR
comp=Z,3µm,20.0s
TSI Tuntungan 42.92 131 P **P 20 36 50.2 +1.3**
comp=Z,77nm,1.0s
TRO Tromso 42.92 337 *e*P **P 20 36 48.3 0.0**
MOTA Moosalm 43.03 304 *i*P **P 20 36 49.5 -0.2**
comp=Z,26nm,0.7s,SNR=36
DGAR Diego Garcia 43.13 173 PFAKE 20 37 00.0 +9.5
DGAR LR LR
comp=Z,3µm,20.0s
CLTB Caltabellotta 43.22 289 *e*P **P 20 36 51.6 +0.3**
comp=Z,49nm,1.2s
CLTB LR LR
comp=Z,2µm,19.0s
CLZ Clausthal 43.24 310 *e*P **P 20 36 52.5 +1.3**
comp=Z,210nm,2.1s
RETA Reutte 43.25 304⇑ *i*P **P 20 36 51.0 -0.4**
comp=Z,18nm,1.0s,SNR=12
BSEG Bad Segeberg 43.26 313 *e*P **P 20 36 52.7 +1.5**
comp=Z,50nm,1.1s
CLNS Chul'man 43.31 42 *e*P **P 20 36 52.1 +0.4**
CLNS *e**PP pP 20 37 02.3 +6.2
CLNS *e* 20 38 37.7
CLNS *e*S **S 20 43 19.9 +1.4**
CLNS pmax pmax
comp=Z,40nm,1.1s
CLNS pmax pmax
comp=N,16nm,1.3s
CLNS pmax pmax
comp=E,33nm,1.1s
CLNS smax smax
comp=N,165nm,11.1s
CLNS smax smax
comp=E,224nm,14.4s
CLNS MLR MLR
comp=Z,10µm,15.0s
CLNS MLR MLR
comp=E,9µm,15.0s
CLNS MLR MLR
comp=N,4µm,14.0s
FETA Feichten 43.32 303 *i*P **P 20 36 52.2 +0.1**
comp=N,33nm,1.0s,SNR=22
NRDL Niedersach Rie 43.39 311 *e*P **P 20 36 53.7 +1.5**
comp=Z,66nm,1.5s
NB2 NORSAR Subarra 43.41 324 P **P 20 36 51.5 -0.9**
comp=Z,32nm,0.7s,baz=101,slow=8.6
NB2 NORSAR Subarra 43.41 324 P **P 20 36 51.5 -0.9**
baz=101,slow=8.6
NOA NORSAR Array B 43.41 324 P **P 20 36 51.8 -0.6**
NOA pmax pmax
comp=Z,19nm,0.6s
NOA MLR MLR
comp=Z,4µm,18.5s
NOA NORSAR Array B 43.41 324 P **P 20 36 51.8 -0.6**
comp=Z,19nm,0.6s,baz=101,slow=8.1,SNR=85
NOA LR LR 20 58 00.2
comp=Z,4µm,18.5s,baz=105,slow=40
STEI Steigen 43.48 334 *e*P **P 20 36 53.1 +0.3**
OSL Oslo 43.48 322 *e*P **P 20 36 50.9 -2.1**
FLOS Flostrand 43.67 332 *e*P P 20 36 57.7 +3.3
FUORN Ofenpass-Fuorn 43.69 303 *e*P **P 20 36 55.6 +0.5**
comp=Z,192nm,2.0s
PSI Prapat 43.69 131 P **P 20 36 54.7 -0.6**
PSI pmax pmax
comp=Z,32nm,0.6s
PSI Prapat 43.69 131 P **P 20 36 54.7 -0.6**
comp=Z,32nm,0.6s,baz=299,slow=6.8,SNR=34
IPM Ipoh 43.71 128⇑⇑P **P 20 36 55.7 +0.3**
IPM Ipoh 43.71 128 *e*P **P 20 36 55.1 -0.2**
comp=Z,58nm,0.9s
KONS Konsvik 43.81 332 *e*P **P 20 36 55.4 -0.1**
DAVA Damuels 43.87 304 *i*P **P 20 36 57.0 +0.5**
comp=Z,58nm,1.1s,SNR=33
DAVOX Davos/Dischmat 43.93 303 P **P 20 36 57.3 +0.3**
DAVOX pmax pmax
comp=Z,24nm,0.9s
DAVOX Davos/Dischmat 43.93 303 P **P 20 36 57.3 +0.3**
comp=Z,24nm,0.9s,baz=80,slow=2.2,SNR=21
VLC Villacollemand 43.95 299 *e*P **P 20 36 57.2 +0.2**
comp=Z,123nm,1.4s
VLC LR LR
comp=Z,3µm,21.0s
MUD Monsted U'grnd 43.99 317 *i*P **P 20 36 59.0 +1.9**
MUD pmax pmax
comp=Z,18nm,0.9s
MUD MLR MLR
comp=Z,5µm,21.0s
MUD Monsted U'grnd 43.99 317 *i*P **P 20 36 59.0 +1.9**
comp=Z,18nm,0.9s
comp=Z,5µm,21.0s
KONO Kongsberg 44.01 322 *e*P **P 20 36 57.5 +0.2**
KONO pmax pmax
comp=Z,37nm,0.9s
KONO MLR MLR
comp=Z,9µm,20.0s
KONO Kongsberg 44.01 322 *e*P **P 20 36 57.4 +0.2**
KONO *i* 20 38 43.3
KONO Kongsberg 44.01 322 *e*P **P 20 36 57.5 +0.2**
comp=Z,37nm,0.9s
KONO LR LR
comp=Z,9µm,20.0s
LOF Lofoten 44.15 334 *e*P P 20 37 03.3 +5.1
STU Stuttgart 44.17 306 *e*P **P 20 37 00.0 +1.3**
comp=Z,178nm,1.6s
STU Stuttgart 44.17 306 *e*P **P 20 36 59.3 +0.6**
STU pmax pmax
comp=Z,173nm,1.6s
STU Stuttgart 44.17 306 *e*P **P 20 36 59.3 +0.6**
comp=Z,173nm,1.6s
TUE Stuetta 44.33 303 *e*P **P 20 36 59.8 -0.5**
comp=Z,424nm,0.5s
TUE LR LR
comp=Z,4µm,19.0s
CN2 Changchun 44.35 61⇓ *i*P **P 20 37 00.3 +0.1**
CN2 *e*sP **sP 20 37 06.0 -0.3**
CN2 *e*S **S 20 43 32.6 -1.4**
CN2 PMZ
comp=Z,30nm,0.8s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,6µm,20.0s
CN2 LE
comp=Z,8µm,20.0s
CN2 LZ
comp=Z,7µm,20.0s
SSE Sheshan 44.45 80 P **P 20 37 00.9 -0.2**
SSE sP **sP 20 37 05.1 -2.2**
SSE PP **PcP 20 38 44.4 -0.2**
SSE S **S 20 43 36.9 +1.2**
SSE PMZ
comp=Z,53nm,1.2s
SSE PMZ
comp=Z,210nm,3.9s
SSE LN
comp=Z,9µm,18.7s
SSE LE
comp=Z,5µm,19.0s
SSE LZ
comp=Z,3µm,15.2s
KTGM Kuala Trenggan 44.47 124⇓P **P 20 37 01.7 +0.3**
TNS Taunus Mts 44.53 308 *e*P **P 20 37 03.1 +1.5**
comp=Z,35nm,1.4s
BFO Black Forest 44.79 305 *e*P **P 20 37 04.3 +0.6**
comp=Z,89nm,2.0s
BFO Black Forest 44.79 305 *e*P **P 20 37 04.3 +0.6**
BFO pmax pmax
comp=Z,46nm,1.5s
BFO MLR MLR
comp=Z,3µm,20.0s
BFO Black Forest 44.79 305 *e*P **P 20 37 04.3 +0.6**
comp=Z,46nm,1.5s
BFO LR LR
comp=Z,3µm,20.0s
QZH Quanzhou 44.80 89⇓P **P 20 37 05.0 +1.0**
QZH S **S 20 43 41.3 +0.3**
QZH LN
comp=Z,16µm,19.3s
QZH LE
comp=Z,6µm,18.2s
QZH LZ
comp=Z,6µm,16.8s
IBBN Ibbenburen 44.83 311 *e*P **P 20 37 05.2 +1.3**
comp=Z,73nm,0.9s
FRIM Kepong 45.04 128⇑⇑P **P 20 37 06.4 +0.5**
HOPEN Hopen 45.14 347 *i* **SS 20 47 07.7 +1.2**
SNART Snartemo 45.14 320 *e*P **P 20 37 06.7 +0.4**
BUG Bochum--Univer 45.19 310 *e*P **P 20 37 08.0 +1.3**
comp=Z,56nm,1.3s
PGF Pioggiola 45.24 297⇓ *i*P **P 20 37 06.8 -0.6**
comp=Z,239nm,1.3s
PGF Pioggiola 45.24 297⇓ *i*P **P 20 37 06.8 -0.6**
PGF pmax pmax
comp=Z,239nm,1.3s
PGF Pioggiola 45.24 297⇓ *i*P **P 20 37 06.8 -0.6**
comp=Z,239nm,1.3s
WTSB Winterswijk 45.44 311 *e*P **P 20 37 10.3 +1.6**
comp=Z,79nm,1.2s
CDF Champ du Feu 45.48 306⇓ *i*P **P 20 37 08.9 -0.3**
comp=Z,50nm,1.4s
CDF Champ du Feu 45.48 306⇓ *i*P **P 20 37 08.9 -0.3**
CDF pmax pmax
comp=Z,50nm,1.4s
CDF Champ du Feu 45.48 306⇓ *i*P **P 20 37 08.9 -0.3**
comp=Z,50nm,1.4s
ODD1 Odda 45.53 322 *e*P **P 20 37 11.0 +1.6**
AKN Aaknes 45.56 325 *e*P **P 20 37 07.8 -1.7**
ECH Echery 45.58 305 P **P 20 37 08.1 -1.9**
ECH pmax pmax
comp=Z,72nm,1.7s

ECH MLR MLR
comp=Z,3µm,20.0s
ECH Echery 45.58 305 P **P** **20 37 08.1 -1.9**
comp=Z,72nm,1.7s
ECH LR LR
comp=Z,3µm,20.0s
BLS5 Blasjo 45.59 321 *e*P **P** **20 37 11.2 +1.4**
VSL Villasalto 45.65 293 *e*P **P** **20 37 10.9 +0.3**
comp=Z,27nm,1.1s
VSL LR LR
comp=Z,2µm,19.0s
MNSI Mandailing Nat 45.67 132 P **P** **20 37 11.0 +0.1**
comp=Z,119nm,0.7s,comp=Z,1µm
SENIN Lac Senin/Sane 45.75 303 *e*P **P** **20 37 11.4 -0.1**
HINF Hinteralfeld 45.84 305⇓*i*P **P** **20 37 11.6 -0.4**
comp=Z,185nm,1.7s
HINF Hinteralfeld 45.84 305⇓*i*P **P** **20 37 11.6 -0.4**
HINF pmax pmax
comp=Z,185nm,1.7s
HINF Hinteralfeld 45.84 305⇓*i*P **P** **20 37 11.6 -0.4**
comp=Z,185nm,1.7s
HYA Hoyanger 45.84 324 *e*P **P** **20 37 11.2 -0.5**
MEM Membach 46.05 309 P **P** **20 37 15.1 +1.5**
comp=Z,22nm,1.5s
MEM Membach 46.05 309 *e*P **P** **20 37 14.1 +0.5**
MEM pmax pmax
comp=Z,37nm,1.0s
MEM Membach 46.05 309 *e*P **P** **20 37 14.1 +0.5**
comp=Z,37nm,1.0s
WLF Walferdange 46.06 308 P **P** **20 37 15.9 +2.2**
comp=Z,46nm,1.4s
WLF Walferdange 46.06 308 *e*P **P** **20 37 15.6 +1.9**
comp=Z,89nm,1.2s
WLF Walferdange 46.06 308 *e*P **P** **20 37 14.1 +0.4**
WLF pmax pmax
comp=Z,61nm,1.0s
WLF MLR MLR
comp=Z,4µm,21.0s
WLF Walferdange 46.06 308 *e*P **P** **20 37 14.1 +0.4**
comp=Z,61nm,1.0s
WLF LR LR
comp=Z,4µm,21.0s
HGN Heimansgroeve 46.09 309 *e*S S 20 44 06.0 +7.2
HGN Heimansgroeve 46.09 309 *e*P **P** **20 37 14.8 +1.0**
comp=Z,32nm,1.3s
SBF Sospel 46.09 299 *e*P **P** **20 37 13.9 -0.2**
comp=Z,170nm,1.1s
SBF Sospel 46.09 299 *e*P **P** **20 37 13.9 -0.2**
SBF pmax pmax
comp=Z,170nm,1.1s
SBF Sospel 46.09 299 *e*P **P** **20 37 13.9 -0.2**
comp=Z,170nm,1.1s
HAU Haudompre 46.15 305⇓*i*P **P** **20 37 14.3 -0.1**
comp=Z,92nm,1.1s
HAU *e*R
comp=Z,3µm,19.0s
HAU Haudompre 46.15 305⇓*i*P **P** **20 37 14.3 -0.1**
HAU pmax pmax
comp=Z,92nm,1.1s
HAU Haudompre 46.15 305⇓*i*P **P** **20 37 14.3 -0.1**
comp=Z,92nm,1.1s
YAK Yakutsk 46.16 35*c i*P **P** **20 37 13.7 -0.6**
YAK *e* 20 39 02.6
YAK *e*S **S** **20 44 00.3 +0.7**
YAK *e**SS **sS** **20 44 07.3 +0.4**
YAK pmax pmax
comp=Z,60nm,0.9s
YAK pmax pmax
comp=E,25nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK smax smax
comp=E,231nm,2.2s
YAK smax smax
comp=N,112nm,2.0s
YAK MLR MLR
comp=Z,7µm,16.0s
YAK MLR MLR
comp=N,3µm,17.0s
YAK MLR MLR
comp=E,6µm,17.0s
YAK Yakutsk 46.16 35 *e*P **P** **20 37 14.0 -0.2**
comp=E,99nm,0.9s
YAK LR LR
comp=Z,9µm,19.0s
RUND Rundenannen 46.19 322 *e*P **P** **20 37 12.4 -2.2**
BER Bergen 46.21 322 *e*P **P** **20 37 15.3 +0.6**
BEBN Eben Emael 46.24 309 P **P** **20 37 16.4 +1.3**
LPG La Plagne 46.27 302⇓*i*P **P** **20 37 15.8 +0.1**
comp=Z,330nm,1.6s
LPG La Plagne 46.27 302⇓*i*P **P** **20 37 15.8 +0.1**
LPG pmax pmax
comp=Z,330nm,1.6s
LPG La Plagne 46.27 302⇓*i*P **P** **20 37 15.8 +0.1**
comp=Z,330nm,1.6s
LPL La Plagne 46.28 302⇓*i*P **P** **20 37 15.8 +0.1**
comp=Z,241nm,1.3s
LPL La Plagne 46.28 302⇓*i*P **P** **20 37 15.8 +0.1**
LPL pmax pmax
comp=Z,241nm,1.3s
LPL La Plagne 46.28 302⇓*i*P **P** **20 37 15.8 +0.1**
comp=Z,241nm,1.3s
ASK Askoy 46.28 323 *e*P **P** **20 37 15.8 +0.5**
KMBO Kilima Mbogo 46.35 224 P **P** **20 37 16.3 -0.3**
KMBO 20 39 02.8
KMBO pmax pmax
comp=Z,4.0nm,0.5s
KMBO pmax pmax
comp=Z,14nm,1.2s
KMBO MLR MLR
comp=Z,2µm,18.1s
KMBO Kilima Mbogo 46.35 224 P **P** **20 37 16.3 -0.3**
comp=Z,4.0nm,0.5s,baz=41,slow=11,SNR=14
KMBO PP **PP** **20 39 02.8 -2.8**
comp=Z,14nm,1.2s,baz=40,slow=13,SNR=3.9
KMBO LR LR 20 59 16.2
comp=Z,2µm,18.1s,baz=30,slow=39
MBDF Montbardon 46.40 301⇓*i*P **P** **20 37 16.1 -0.5**
comp=Z,107nm,1.1s
MBDF Montbardon 46.40 301⇓*i*P **P** **20 37 16.1 -0.5**
MBDF pmax pmax
comp=Z,107nm,1.1s
MBDF Montbardon 46.40 301⇓*i*P **P** **20 37 16.1 -0.5**
comp=Z,107nm,1.1s
BNI Bardonecchia 46.40 301 *e*P **P** **20 37 16.3 -0.3**
BNI pmax pmax
comp=Z,250nm,2.0s
BNI MLR MLR
comp=Z,2µm,19.0s
BNI Bardonecchia 46.40 301 *e*P **P** **20 37 16.3 -0.3**
comp=Z,250nm,2.0s
BNI LR LR
comp=Z,2µm,19.0s
PAGF Fort de Pagny 46.48 306⇓*i*P **P** **20 37 17.7 +0.7**
comp=Z,66nm,1.4s
PAGF Fort de Pagny 46.48 306⇓*i*P **P** **20 37 17.7 +0.7**
comp=Z,66nm,1.4s
BCLA Clavier 46.52 309 P **P** **20 37 18.7 +1.4**
CABF La Chapelle 46.53 303⇓*i*P **P** **20 37 17.8 +0.2**
comp=Z,190nm,1.1s
CABF La Chapelle 46.53 303⇓*i*P **P** **20 37 17.8 +0.2**
CABF pmax pmax
comp=Z,190nm,1.1s
CABF La Chapelle 46.53 303⇓*i*P **P** **20 37 17.8 +0.2**
comp=Z,190nm,1.1s
INCN Inchon 46.69 70 PFAKE 20 37 30.0 +11
INCN LR LR
comp=Z,4µm,21.0s
FRF La Foret Royal 46.72 299⇓*i*P **P** **20 37 18.4 -0.5**
comp=Z,186nm,1.5s
FRF La Foret Royal 46.72 299⇓*i*P **P** **20 37 18.4 -0.5**
FRF pmax pmax
comp=Z,186nm,1.5s
FRF La Foret Royal 46.72 299⇓*i*P **P** **20 37 18.4 -0.5**
comp=Z,186nm,1.5s
KEST Kesra 46.73 288 P **P** **20 37 21.1 +2.0**
comp=Z,55nm,1.0s,baz=319,slow=3.3,SNR=52
KEST LR LR 21 02 47.7
comp=Z,542nm,18.3s,baz=24,slow=44
KEST Kesra 46.73 288 *e*P **P** **20 37 21.0 +1.8**
LMR La Mourre 46.86 299⇓*i*P **P** **20 37 19.2 -0.9**
comp=Z,206nm,1.9s
LMR La Mourre 46.86 299⇓*i*P **P** **20 37 19.2 -0.9**
LMR pmax pmax
comp=Z,207nm,1.9s
LMR La Mourre 46.86 299⇓*i*P **P** **20 37 19.2 -0.9**
comp=Z,206nm,1.9s

GIVF Givet 46.86 308 *e*P **P** **20 37 20.8 +0.8**
comp=Z,311nm,1.7s
GIVF Givet 46.86 308 *e*P **P** **20 37 20.8 +0.8**
GIVF pmax pmax
comp=Z,311nm,1.7s
GIVF Givet 46.86 308 *e*P **P** **20 37 20.8 +0.8**
comp=Z,311nm,1.7s
BKNI Bangkinang 46.92 131 P **P** **20 37 22.9 +2.1**
comp=Z,226nm,1.0s,comp=Z,2µm
BKNI Bangkinang 46.92 131 *e*P **P** **20 37 19.7 -1.1**
comp=Z,80nm,0.5s
MEZF Maizieres J'vi 46.93 306⇓*i*P **P** **20 37 21.1 +0.6**
comp=Z,171nm,1.1s
MEZF Maizieres J'vi 46.93 306⇓*i*P **P** **20 37 21.1 +0.6**
comp=Z,171nm,1.1s
ORIF Oris-en-Rattie 46.98 301 *e*P **P** **20 37 20.5 -0.6**
comp=Z,55nm,1.2s
ORIF *e*R
comp=Z,3µm,20.2s
ORIF Oris-en-Rattie 46.98 301 *e*P **P** **20 37 20.5 -0.6**
ORIF pmax pmax
comp=Z,55nm,1.3s
ORIF Oris-en-Rattie 46.98 301 *e*P **P** **20 37 20.5 -0.6**
comp=Z,55nm,1.3s
SFTF Sexfontaines 46.99 306⇓*i*P **P** **20 37 21.2 +0.2**
comp=Z,270nm,1.4s
SFTF Sexfontaines 46.99 306⇓*i*P **P** **20 37 21.2 +0.2**
comp=Z,270nm,1.4s
DOU Dourbes 47.01 308 P **P** **20 37 20.9 -0.3**
comp=Z,49nm,2.1s
KGM Kluang 47.06 127 ⇑P **P** **20 37 22.3 +0.4**
MDJ Mudanjiang 47.12 59 P **P** **20 37 21.5 -0.6**
MDJ pP **pP** **20 37 24.0 -2.5**
MDJ sP **sP** **20 37 25.4 -2.9**
MDJ PcP **PcP** **20 38 58.8 +5.1**
MDJ PP **PP** **20 39 12.3 -0.4**
MDJ S **S** **20 44 09.8 -4.1**
MDJ PMZ
comp=Z,11nm,0.7s
MDJ PMZ
comp=Z,150nm,5.9s
MDJ LN
comp=Z,10µm,22.2s
MDJ LE
comp=Z,2µm,14.5s
MDJ LZ
comp=Z,9µm,18.8s
MDJ Mudanjiang 47.12 59 *e*P **P** **20 37 21.8 -0.3**
comp=Z,50nm,1.4s
MDJ LR LR
comp=Z,9µm,19.0s
TATO Taipei 47.15 88 PFAKE 20 37 30.0 +7.5
TATO LR LR
comp=Z,2µm,22.0s
SNF Seneffe 47.16 309 P **P** **20 37 23.0 +0.8**
YHNB Yeheng 47.19 88 *e*P **P** **20 37 22.4 -0.5**
comp=Z,47nm,0.9s
YHNB LR LR
comp=Z,4µm,19.0s
HSP Hornsund 47.22 346 *e*P **P** **20 37 24.0 +1.6**
HSPB Hornsund (broa 47.22 346 *e*P **P** **20 37 22.6 +0.2**
SSLB Suanglung 47.25 89 *e*P **P** **20 37 23.4 +0.1**
comp=Z,92nm,1.0s
BAIF Baives 47.26 308⇓*i*P **P** **20 37 24.1 +1.0**
comp=Z,160nm,1.1s
BAIF Baives 47.26 308⇓*i*P **P** **20 37 24.1 +1.0**
BAIF pmax pmax
comp=Z,161nm,1.1s
BAIF Baives 47.26 308⇓*i*P **P** **20 37 24.1 +1.0**
comp=Z,160nm,1.1s
SMRF Simiane la Rot 47.39 300⇓*i*P **P** **20 37 24.1 -0.1**
comp=Z,174nm,1.7s
SMRF Simiane la Rot 47.39 300⇓*i*P **P** **20 37 24.1 -0.1**
comp=Z,174nm,1.7s
TIXI Tiksi 47.51 22*c i*P **P** **20 37 24.5 -0.2**
TIXI pmax pmax
comp=Z,61nm,0.8s
TIXI Tiksi 47.51 22 *e*P **P** **20 37 24.3 -0.4**
comp=Z,87nm,1.0s
TIXI LR LR
comp=Z,5µm,19.0s
TJN Taejon 47.57 71 *i*P **P** **20 37 24.9 -0.8**
MYKOM Kota Tinggi 47.57 127 ⇓P **P** **20 37 26.3 +0.4**
MYKOM Kota Tinggi 47.57 127 *e*P **P** **20 37 26.4 +0.5**
comp=Z,37nm,1.0s
NACB Ninganchiao 47.59 89 *e*P **P** **20 37 24.6 -1.4**
KSAR Wonju Array Be 47.65 69 P **P** **20 37 25.7 -0.6**
KSAR Wonju Array Be 47.65 69 P **P** **20 37 25.7 -0.6**
SPA0 Spitsbergen Ar 47.66 347 *e*P **P** **20 37 24.8 -1.0**
SPA0 *e* 20 48 07.0
SPITS Spitsbergen Ar 47.66 347 P **P** **20 37 26.5 +0.7**
SPITS pmax pmax
comp=Z,37nm,0.7s
SPITS Spitsbergen Ar 47.66 347 P **P** **20 37 26.4 +0.7**
comp=Z,37nm,0.7s,baz=111,slow=12,SNR=33
KSRS Korea Array 47.68 69 P **P** **20 37 25.7 -0.7**
KSRS pmax pmax
comp=Z,28nm,1.0s
KSRS MLR MLR
comp=Z,4µm,19.1s
KSRS Korea Array 47.68 69 P **P** **20 37 25.7 -0.7**
comp=Z,28nm,1.0s,baz=287,slow=6.3,SNR=51
KSRS LR LR 20 59 00.2
comp=Z,4µm,19.1s,baz=291,slow=38
YULB Yu-li 47.71 90 *e*P **P** **20 37 27.0 +0.1**
comp=Z,59nm,0.9s
KLR Kul'dur 47.77 53 *e*P P 20 37 23.0 -4.0
KLR *e* 20 39 16.5
KLR *e*S S 20 44 16.0 -7.0
KLR pmax pmax
comp=E,80nm,2.0s
KLR pmax pmax
comp=Z,100nm,2.0s
KLR MLR MLR
comp=Z,21µm,12.0s
TWG Pinlang 47.79 90 *e*P **P** **20 37 27.7 +0.1**
comp=Z,454nm,0.9s
VIVF Saint-Julien-l 47.84 301⇓*i*P **P** **20 37 27.8 +0.1**
comp=Z,448nm,1.4s
VIVF Saint-Julien-l 47.84 301⇓*i*P **P** **20 37 27.8 +0.1**
VIVF pmax pmax
comp=Z,448nm,1.4s
VIVF Saint-Julien-l 47.84 301⇓*i*P **P** **20 37 27.8 +0.1**
comp=Z,448nm,1.4s
SSB Saint Sauveur 47.84 302 P **P** **20 37 27.4 -0.3**
SSB pmax pmax
comp=Z,181nm,1.5s
SSB MLR MLR
comp=Z,3µm,20.0s
SSB Saint Sauveur 47.84 302 P **P** **20 37 27.4 -0.3**
comp=Z,181nm,1.5s
SSB LR LR
comp=Z,3µm,20.0s
LOR Lormes 47.93 305⇓*i*P **P** **20 37 28.0 -0.3**
comp=Z,71nm,1.4s
LOR *e*R
comp=Z,4µm,21.8s
LOR Lormes 47.93 305⇓*i*P **P** **20 37 28.0 -0.3**
LOR pmax pmax
comp=Z,71nm,1.4s
LOR Lormes 47.93 305⇓*i*P **P** **20 37 28.0 -0.3**
comp=Z,71nm,1.4s
CMAH Djebel Manchou 47.93 290 P **P** **20 37 29.6 +1.0**
ABSA Djebel Ababsia 48.00 289 P **P** **20 37 31.0 +1.9**
SMF Signal de Mont 48.05 304⇓*i*P **P** **20 37 29.3 0.0**
comp=Z,443nm,1.4s
SMF Signal de Mont 48.05 304⇓*i*P **P** **20 37 29.3 0.0**
SMF pmax pmax
comp=Z,443nm,1.4s
SMF Signal de Mont 48.05 304⇓*i*P **P** **20 37 29.3 0.0**
comp=Z,443nm,1.4s
SSF Saint Saulge 48.20 304⇓*i*P **P** **20 37 30.4 0.0**
comp=Z,149nm,1.5s
SSF Saint Saulge 48.20 304⇓*i*P **P** **20 37 30.4 0.0**
SSF pmax pmax
comp=Z,149nm,1.5s
SSF Saint Saulge 48.20 304⇓*i*P **P** **20 37 30.4 0.0**
comp=Z,149nm,1.5s
CAEH 'Ain El Ouahch 48.32 290 P **P** **20 37 34.0 +2.5**
AVF Avril sur Loir 48.35 304⇓*i*P **P** **20 37 31.6 0.0**
comp=Z,378nm,1.6s
AVF Avril sur Loir 48.35 304⇓*i*P **P** **20 37 31.6 0.0**
AVF pmax pmax
comp=Z,378nm,1.6s
AVF Avril sur Loir 48.35 304⇓*i*P **P** **20 37 31.6 0.0**
comp=Z,378nm,1.6s

CKFL Kef-Lekhel 48.54 290 P **P** **20 37 33.0 -0.3**
LASF Ste Croix 48.58 300⇓*i*P **P** **20 37 33.5 +0.1**
comp=Z,436nm,1.7s
LASF Ste Croix 48.58 300⇓*i*P **P** **20 37 33.5 +0.1**
comp=Z,436nm,1.7s
TPRI Tanjung Pinang 48.67 127 P **P** **20 37 34.7 +0.3**
comp=Z,82nm,1.1s,comp=Z,4µm
BGF Bois d'Agland 48.74 304⇓*i*P **P** **20 37 34.6 0.0**
comp=Z,94nm,1.4s
BGF Bois d'Agland 48.74 304⇓*i*P **P** **20 37 34.6 0.0**
BGF pmax pmax
comp=Z,94nm,1.4s
BGF Bois d'Agland 48.74 304⇓*i*P **P** **20 37 34.6 0.0**
comp=Z,94nm,1.4s
HYF Humbligny 48.74 305 *e*P **P** **20 37 35.0 +0.4**
HYF Humbligny 48.74 305 *e*P **P** **20 37 35.0 +0.4**
CASM Ain Smara 48.76 290 P **P** **20 37 35.5 +0.6**
KBS Kingsbay 48.79 348 *e*P **P** **20 37 35.1 +0.6**
KBS pmax pmax
comp=Z,22nm,0.8s
KBS MLR MLR
comp=Z,3µm,19.0s
KBS Kingsbay 48.79 348 *e*P **P** **20 37 36.2 +1.6**
KBS Kingsbay 48.79 348 *e*P **P** **20 37 35.1 +0.6**
comp=Z,22nm,0.8s
KBS LR LR
comp=Z,3µm,19.0s
USRK Ussuriysk Ar. 48.89 59 P **P** **20 37 35.1 -0.6**
comp=Z,13nm,0.7s,baz=276,slow=6.9,SNR=47
USRK LR LR 21 00 36.5
comp=Z,8µm,19.4s,baz=270,slow=39
VLA Vladivostok 49.07 61⇑*i*P **P** **20 37 36.8 -0.4**
VLA *e* 20 38 59.4
VLA *e* 20 39 29.1
VLA *e*S **S** **20 44 38.3 -3.2**
VLA pmax pmax
comp=Z,106nm,0.9s
VLA MLR MLR
comp=E,41µm,14.0s
DFRA Djebel Bou Aff 49.14 290 P **P** **20 37 38.8 +0.9**
TCF Toulx Ste Croi 49.23 304⇓*i*P **P** **20 37 38.7 +0.3**
comp=E,246nm,1.3s
TCF Toulx Ste Croi 49.23 304⇓*i*P **P** **20 37 38.7 +0.3**
TCF pmax pmax
comp=Z,246nm,1.3s
TCF Toulx Ste Croi 49.23 304⇓*i*P **P** **20 37 38.7 +0.3**
comp=Z,246nm,1.3s
SET Setif 49.61 290 P **P** **20 37 42.0 +0.5**
CAF Calviac 49.63 302⇓*i*P **P** **20 37 41.9 +0.4**
comp=Z,175nm,1.2s
CAF Calviac 49.63 302⇓*i*P **P** **20 37 41.9 +0.4**
CAF pmax pmax
comp=Z,175nm,1.2s
CAF Calviac 49.63 302⇓*i*P **P** **20 37 41.9 +0.4**
comp=Z,175nm,1.2s
MTLF Montolieu 49.91 300⇓*i*P **P** **20 37 43.5 0.0**
comp=Z,136nm,1.5s
MTLF Montolieu 49.91 300⇓*i*P **P** **20 37 43.5 0.0**
MTLF pmax pmax
comp=Z,136nm,1.5s
MTLF Montolieu 49.91 300⇓*i*P **P** **20 37 43.5 0.0**
comp=Z,136nm,1.5s
RJF Les Rejaudoux 49.92 302⇓*i*P **P** **20 37 44.2 +0.6**
comp=Z,266nm,1.5s
RJF *e*R
comp=Z,2µm,21.8s
RJF Les Rejaudoux 49.92 302⇓*i*P **P** **20 37 44.2 +0.6**
RJF pmax pmax
comp=Z,266nm,1.5s
RJF Les Rejaudoux 49.92 302⇓*i*P **P** **20 37 44.2 +0.6**
comp=Z,266nm,1.5s
HABR Khabarovsk 50.05 53*de*P **P** **20 37 42.6 -1.9**
HABR *e**PP **pP** **20 37 52.5 +3.5**
HABR *e**SP sP 20 37 56.7 +6.0
HABR *e* 20 39 02.3
HABR *e*S **S** **20 44 51.6 -3.4**
HABR *e**SS sS 20 45 08.3 +6.0
HABR *e* 20 47 31.2
HABR *e*SS **SS** **20 48 26.3 -1.4**
HABR *e*SSS SSS 20 49 50.5
HABR pmax pmax
comp=Z,60nm,1.9s
HABR pmax pmax
comp=N,15nm,2.6s
HABR pmax pmax
comp=E,35nm,1.9s
HABR MLR MLR
comp=N,4µm,15.0s
HABR MLR MLR
comp=E,8µm,19.0s
HABR MLR MLR
comp=Z,8µm,19.0s
LDF La Druitiere 50.30 307⇓*i*P **P** **20 37 46.2 -0.3**
comp=Z,73nm,0.9s
LDF La Druitiere 50.30 307⇓*i*P **P** **20 37 46.2 -0.3**
LDF pmax pmax
comp=Z,73nm,0.9s
LDF La Druitiere 50.30 307⇓*i*P **P** **20 37 46.2 -0.3**
comp=Z,73nm,0.9s
FLN La Foliniere 50.50 307⇓*i*P **P** **20 37 47.7 -0.2**
comp=Z,78nm,0.9s
FLN *e*R
comp=Z,5µm,20.2s
FLN La Foliniere 50.50 307⇓*i*P **P** **20 37 47.7 -0.2**
FLN pmax pmax
comp=Z,78nm,0.9s
FLN La Foliniere 50.50 307⇓*i*P **P** **20 37 47.7 -0.2**
comp=Z,78nm,0.9s
LFF La Frestale 50.54 302⇓*i*P **P** **20 37 48.6 +0.3**
comp=Z,88nm,0.8s
LFF La Frestale 50.54 302⇓*i*P **P** **20 37 48.6 +0.3**
LFF pmax pmax
comp=Z,88nm,0.8s
LFF La Frestale 50.54 302⇓*i*P **P** **20 37 48.6 +0.3**
comp=Z,88nm,0.8s
MFF Saint Martin d 50.75 304 *e*P **P** **20 37 49.5 -0.4**
comp=Z,237nm,1.7s
MFF Saint Martin d 50.75 304 *e*P **P** **20 37 49.5 -0.4**
MFF pmax pmax
comp=Z,237nm,1.7s
MFF Saint Martin d 50.75 304 *e*P **P** **20 37 49.5 -0.4**
comp=Z,237nm,1.7s
GRR Gorron 50.82 307⇓*i*P **P** **20 37 50.1 -0.3**
comp=Z,150nm,1.0s
GRR Gorron 50.82 307⇓*i*P **P** **20 37 50.1 -0.3**
GRR pmax pmax
comp=Z,150nm,1.0s
GRR Gorron 50.82 307⇓*i*P **P** **20 37 50.1 -0.3**
comp=Z,150nm,1.0s
EKA Eskdalemuir Ar 50.98 316 P **P** **20 37 51.4 0.0**
EKA pmax pmax
comp=Z,23nm,0.8s
EKA Eskdalemuir Ar 50.98 316 P **P** **20 37 51.4 0.0**
comp=Z,22nm,0.8s,baz=93,slow=8.1,SNR=55
ESK Eskdalemuir 51.01 316 *e*P **P** **20 37 51.6 -0.1**
ESK pmax pmax
comp=Z,60nm,1.1s
ESK MLR MLR
comp=Z,3µm,20.0s
ESK Eskdalemuir 51.01 316 *e*P **P** **20 37 51.6 -0.1**
comp=Z,60nm,1.1s
ESK LR LR
comp=Z,3µm,20.0s
ADJB Djebel Djouab 51.12 291 P **P** **20 37 53.7 +0.7**
EPF Esparros 51.31 300 *e*P **P** **20 37 53.3 -0.9**
comp=Z,39nm,1.1s
EPF Esparros 51.31 300 *e*P **P** **20 37 53.3 -0.9**
EPF pmax pmax
comp=Z,39nm,1.1s
EPF Esparros 51.31 300 *e*P **P** **20 37 53.3 -0.9**
comp=Z,39nm,1.1s
JNU Nakatsue 51.39 73 *e*P **P** **20 37 54.3 -0.6**
comp=Z,31nm,1.0s
LHSI Lahat 51.71 132 P **P** **20 37 59.2 +1.8**
comp=Z,44nm,1.0s
SGMF Saint Gilles 51.96 307⇓*i*P **P** **20 37 59.0 +0.1**
comp=Z,254nm,1.4s
SGMF Saint Gilles 51.96 307⇓*i*P **P** **20 37 59.0 +0.1**
SGMF pmax pmax
comp=Z,254nm,1.4s
SGMF Saint Gilles 51.96 307⇓*i*P **P** **20 37 59.0 +0.1**
comp=Z,254nm,1.4s
ETSF Etsaut 51.98 300 *e*P **P** **20 37 59.3 0.0**
comp=Z,105nm,1.0s
ETSF Etsaut 51.98 300 *e*P **P** **20 37 59.3 0.0**
ETSF pmax pmax

ETSF **Etsaut** 51.98 300 *e*P P 20 37 59.3 0.0
comp=Z,105nm,1.0s
KSM **Kuching** 52.17 121 ⇑P P 20 38 01.2 +0.4
KSM **Kuching** 52.17 121 *e*P P 20 38 01.2 +0.4
comp=Z,32nm,1.0s
KSM LR LR
comp=Z,1µm,20.0s
JMIC **Jan Mayen** 52.21 336 *i* 20 45 30.9
SJPF **Ste Jean** 52.39 300⇓*i*P P 20 38 01.9 -0.3
comp=Z,50nm,1.2s
SJPF **Ste Jean** 52.39 300⇓*i*P P 20 38 01.9 -0.3
SJPF pmax pmax
comp=Z,50nm,1.2s
SJPF **Ste Jean** 52.39 300⇓*i*P P 20 38 01.9 -0.3
comp=Z,50nm,1.2s
ROSF **Rostrenen** 52.40 307⇓*i*P P 20 38 02.1 -0.1
comp=Z,70nm,0.8s
ROSF **Rostrenen** 52.40 307⇓*i*P P 20 38 02.1 -0.1
ROSF pmax pmax
comp=Z,70nm,0.8s
ROSF **Rostrenen** 52.40 307⇓*i*P P 20 38 02.1 -0.1
comp=Z,70nm,0.8s
QUIF **Quistinic** 52.44 307⇓*i*P P 20 38 02.3 -0.1
comp=Z,215nm,1.3s
QUIF **Quistinic** 52.44 307⇓*i*P P 20 38 02.3 -0.1
QUIF pmax pmax
comp=Z,215nm,1.3s
QUIF **Quistinic** 52.44 307⇓*i*P P 20 38 02.3 -0.1
comp=Z,215nm,1.3s
EBNR **Beni Rached** 52.53 291 P P 20 38 04.0 +0.6
MDSI **Maura Dua** 52.62 132 P P 20 38 01.8 -2.4
comp=Z,13nm,0.9s
ECHA **Ech Chlef** 52.70 291 P P 20 38 05.5 +0.9
SBUM **Sibu** 52.83 118 ⇑P P 20 38 07.0 +1.2
SBUM **Sibu** 52.83 118 *e*P P 20 38 06.6 +0.8
comp=Z,290nm,2.4s
LWLI **Liwa** 52.97 132 P P 20 38 12.4 +5.5
EANR **'Ain N'Sour** 52.98 291 P P 20 38 07.5 +0.8
ETRT **Tiaret** 53.02 290 P P 20 38 09.0 +1.9
DSB **Dublin** 53.21 314 *e*P P 20 38 08.1 0.0
comp=Z,117nm,2.1s
KDM **Kudat** 53.28 110 ⇑P P 20 38 09.9 +0.8
KKM **Kota Kinabalu** 53.37 112 *e*P P 20 38 11.7 +1.8
comp=Z,178nm,1.4s
KKM LR LR
comp=Z,2µm,19.0s
TPI **Tanjungpandan** 53.48 127 P P 20 38 10.8 +0.3
comp=Z,43nm,0.9s
STKI **Sintang** 53.98 121 P P 20 38 15.6 +1.4
comp=Z,50nm,1.5s
ODJA **Bouhanifia** 54.15 291 P P 20 38 20.0 +4.7
SDKM **Sandakan** 54.37 111 ⇓P P 20 38 18.6 +1.4
DAG **Danmarks Havn** 54.72 344⇓*i*P P 20 38 19.5 +0.7
DAG pmax pmax
comp=Z,22nm,0.8s
DAG **Danmarks Havn** 54.72 344⇓*i*P P 20 38 19.5 +0.7
comp=Z,29nm,0.8s
TAM **Tamanrasset** 54.93 274 *e*P P 20 38 20.2 -1.1
TAM pmax pmax
comp=Z,602nm,2.2s
TAM MLR MLR
comp=Z,2µm,20.0s
TAM **Tamanrasset** 54.93 274 *e*P P 20 38 20.2 -1.1
comp=Z,602nm,2.2s
TAM LR LR
comp=Z,2µm,20.0s
COCO **West Island** 55.05 144 PFAKE 20 38 30.0 +8.2
COCO LR LR
comp=Z,4µm,21.0s
ESDC **Sonseca Array** 55.43 297 P P 20 38 24.8 +0.2
comp=Z,15nm,0.7s,baz=61,slow=7.7,SNR=51
ESDC LR LR 21 09 09.1
comp=Z,686nm,18.4s,baz=25,slow=44
YSS **Yuzh-Sakhalins** 55.46 53⇑*e*P P 20 38 23.0 -1.6
YSS *e* 20 39 25.0
YSS *e*S S 20 46 06.0 -3.0
YSS *e*PS PnS 20 46 15.0 -4.0
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,4µm,18.0s
YSS MLR MLR
comp=E,4µm,17.0s
YSS **Yuzh-Sakhalins** 55.46 53 *e*P P 20 38 24.4 -0.1
comp=E,127nm,1.3s
YSS LR LR
comp=Z,2µm,21.0s
MAJO **Matsushiro** 55.74 67⇓*i*P P 20 38 25.4 -1.4
MAJO pmax pmax
comp=Z,347nm,1.1s
MAJO **Matsushiro** 55.74 67 *e*P P 20 38 25.6 -1.1
comp=Z,36nm,0.8s
MAJO LR LR
comp=Z,3µm,19.0s
MAT **Matsushiro** 55.74 67 P P 20 38 25.0 -1.8
MAT S S 20 46 14.4 +1.4
MJAR **Matsushiro Arr** 55.74 67 P P 20 38 26.0 -0.8
MJAR pmax pmax
comp=Z,22nm,1.0s
MJAR MLR MLR
comp=Z,2µm,20.6s
MJAR **Matsushiro Arr** 55.74 67 P P 20 38 26.0 -0.8
comp=Z,22nm,0.9s,baz=289,slow=9.5,SNR=81
MJAR LR LR 21 04 35.8
comp=Z,2µm,20.6s,baz=295,slow=38
PAB **San Pablo** 55.76 297 *e*P P 20 38 27.5 +0.5
PAB pmax pmax
comp=Z,70nm,1.2s
PAB MLR MLR
comp=Z,1µm,20.0s
PAB **San Pablo** 55.76 297 *e*P P 20 38 27.4 +0.5
comp=Z,70nm,1.2s
PAB LR LR
comp=Z,1µm,20.0s
VAL **Valentia** 55.82 313 *e*P P 20 38 28.0 +1.0
PBKI **Pangkalan Bun** 56.11 123 P P 20 38 32.6 +3.0
comp=Z,132nm,0.8s
ASAJ **Asahikawa** 56.24 57 P P 20 38 28.3 -2.0
ASAJ pmax pmax
comp=Z,9.0nm,0.9s
ASAJ MLR MLR
comp=Z,7µm,20.0s
ASAJ **Asahikawa** 56.24 57 P P 20 38 28.2 -2.0
comp=Z,8.6nm,0.9s,baz=279,slow=7.3,SNR=5.1
ASAJ LR LR 21 04 40.8
comp=Z,7µm,20.0s,baz=288,slow=38
ASAJ **Asahikawa** 56.24 57 *e*P P 20 38 31.9 +1.7
SEY **Seymchan** 56.55 33 *i*P P 20 38 31.6 -0.5
PBRG **Braganca** 56.67 300 *e*P P 20 38 34.2 +0.8
comp=Z,70nm,1.9s
MVO **Moncorvo** 57.10 300 *e*P P 20 38 37.5 +1.0
comp=Z,97nm,2.2s
MVO *e*S S 20 46 35.0 +3.9
MVO **Moncorvo** 57.10 300 *e*LR LR 20 56 57.8
comp=Z,2µm,20.0s
ERM **Erimo** 57.34 59 PFAKE 20 38 50.0 +12
ERM LR LR
comp=Z,6µm,19.0s
PVRL **Vila Real** 57.55 300 *e*P P 20 38 40.4 +0.8
comp=Z,84nm,2.0s
POLO **Lamas de Olo** 57.57 300 *e*P P 20 38 40.9 +1.1
comp=Z,30nm,1.4s
PCAB **Cabril** 57.61 301 *e*P P 20 38 41.3 +1.3
comp=Z,163nm,1.7s
RER **Riviere de l'E** 57.68 193 PFAKE 20 38 50.0 +9.4
RER LR LR
comp=Z,1µm,21.0s
PGAV **Gavieira, Arco** 57.69 301 *e*P P 20 38 41.5 +0.9
comp=Z,182nm,2.1s
PGAV **Gavieira, Arco** 57.69 301 *e*PcP PcP 20 39 35.1 +1.5
PGAV *e*S S 20 46 42.0 +3.2
PGAV **Gavieira, Arco** 57.69 301 *e*LR LR 20 57 38.2
comp=Z,1µm,20.0s
MTE **Manteigas** 57.74 299 *e*P P 20 38 42.1 +1.1
comp=Z,170nm,1.9s
MTE *e*S S 20 46 42.1 +2.6
MTE **Manteigas** 57.74 299 *e*LR LR 20 57 22.0
comp=Z,2µm,18.0s
MTE **Manteigas** 57.74 299 *e*P P 20 38 40.5 -0.5
comp=Z,78nm,1.0s
MTE LR LR
comp=Z,2µm,19.0s
ABPO **Ambohimpanom** 57.78 203 *e*P P 20 38 40.4 -1.1
ABPO pmax pmax
comp=Z,25nm,1.0s
ABPO MLR MLR
comp=Z,2µm,19.0s
ABPO **Ambohimpanom** 57.78 203 *e*P P 20 38 40.4 -1.1
comp=Z,25nm,1.0s
ABPO LR LR
comp=Z,2µm,19.0s
PVIS **Viseu** 57.88 300 *e*P P 20 38 43.2 +1.3
comp=Z,130nm,1.9s
PCBR **Castelo Branco** 57.90 299 *e*P P 20 38 43.5 +1.5
comp=Z,111nm,1.9s
BORG **Borgarnes** 57.92 330 PFAKE 20 38 50.0 +8.2
BORG LR LR
comp=Z,2µm,21.0s
PMRV **Marv??o** 57.99 298 *e*P P 20 38 43.8 +1.1
comp=Z,102nm,1.8s
PMRV *e*S S 20 46 45.8 +3.0
PMRV **Marv??o** 57.99 298 *e*LR LR 20 57 21.0
comp=Z,910nm,22.0s
PBAR **Barrancos** 58.21 297 *e*P P 20 38 44.8 +0.6
comp=Z,197nm,1.7s
PESTR **Estremoz** 58.35 298 *e*P P 20 38 46.8 +1.6
comp=Z,120nm,1.5s
UWJI **Ujung Watu** 58.38 127 P P 20 38 49.6 +4.0
comp=Z,257nm,1.1s,comp=Z,3µm
YUK **Yuzh-Kuril'sk** 58.48 56 P P 20 38 48.7 +2.7
YUK *i*S S 20 46 51.7 +2.8
YUK MLR MLR
comp=N,3µm,20.0s
YUK MLR MLR
comp=E,5µm,20.0s
YUK MLR MLR
comp=Z,3µm,20.0s
PCAS **Casmilo, Conde** 58.55 299 *e*P P 20 38 48.4 +1.8
comp=Z,86nm,2.0s
PMTG **Montargil** 58.73 298 *e*P P 20 38 48.7 +0.9
comp=Z,90nm,1.5s
EVO **Evora** 58.78 297 *e*P P 20 38 48.9 +0.7
comp=Z,192nm,1.3s
EVO *e*R
comp=Z,2µm,19.8s
EVO **Evora** 58.78 297 *e*P P 20 38 49.3 +1.1
comp=Z,131nm,1.7s
BBKI **Banjar Baru** 58.84 121 P P 20 38 50.0 +1.1
comp=Z,78nm,1.0s
EVOP **Sao Brissos** 58.86 297 *e*P P 20 38 48.9 +0.1
EVOP pmax pmax
comp=Z,192nm,1.3s
EVOP **Sao Brissos** 58.86 297 *e*P P 20 38 48.9 +0.1
comp=Z,192nm,1.3s
PVAQ **Vaqueiros** 59.01 296 *e*P P 20 38 50.8 +1.0
comp=Z,84nm,1.8s
PVAQ *e*S S 20 46 58.8 +2.8
PVAQ **Vaqueiros** 59.01 296 *e*LR LR 20 58 36.0
comp=Z,1µm,18.0s
PCVE **Castro Verde** 59.15 296 *e*P P 20 38 53.1 +2.3
comp=Z,19nm,1.9s
MESJ **Messejana** 59.20 297 *e*P P 20 38 51.3 +0.1
MESJ AMb AMB 20 38 57.9
comp=Z,59nm,1.7s
MESJ *e*S S 20 46 59.5 +1.1
MESJ **Messejana** 59.20 297 *e*P P 20 38 53.6 +2.5
comp=Z,60nm,1.6s
MESJ **Messejana** 59.20 297 *e*PcP PcP 20 39 39.9 +0.4
MESJ **Messejana** 59.20 297 *e*P P 20 38 51.2 +0.1
MESJ *e*S S 20 46 59.5 +1.1
PBDV **Barranco-do-Ve** 59.23 296 *e*P P 20 38 52.6 +1.2
comp=Z,177nm,1.7s
PACT **Alcochete** 59.28 298 *e*P P 20 38 55.9 +4.3
comp=Z,367nm,1.5s
PNCL **Nicolau / Gran** 59.32 297 *e*P P 20 38 54.7 +2.8
comp=Z,85nm,1.5s
ALE **Alert** 59.51 353 P P 20 38 53.9 +1.3
comp=Z,55nm,0.8s,SNR=5.3
LIS **Lisbon** 59.53 298 *e*P P 20 38 53.5 +0.1
LIS AMb AMB 20 39 04.8
comp=Z,139nm,1.0s
LIS **Lisbon** 59.53 298 *e*P P 20 38 53.5 +0.1
PMST **Lisbon--Monsan** 59.55 298 *e*P P 20 38 57.0 +3.5
comp=Z,221nm,1.5s
KBKI **Kotabaru** 59.65 120 P P 20 38 55.6 +1.1
comp=Z,75nm,1.1s,comp=Z,941nm
PTEO **Sao Teotonio** 59.69 297 *e*P P 20 38 55.5 +1.0
comp=Z,172nm,1.7s
MORF **Marmelete** 59.73 296 *e*P P 20 38 54.8 -0.1
MORF AMb AMB 20 39 08.6
comp=Z,101nm,1.5s
MORF *e*S S 20 47 06.5 +1.0
MORF **Marmelete** 59.73 296 *e*P P 20 38 54.7 -0.1
MORF *e*S S 20 47 06.4 +1.0
RTC **Rabat Centre** 59.76 292 PFAKE 20 39 10.0 +15
RTC LR LR
comp=Z,744nm,20.0s
MPSI **Mapaga** 59.87 114 P P 20 38 57.0 +1.0
comp=Z,86nm,1.1s,comp=Z,1µm
PCI **Palu** 60.66 115 P P 20 39 02.1 +0.7
comp=Z,140nm,1.2s,comp=Z,2µm
SUMG **Summit** 60.92 341 *e*P P 20 39 03.6 +0.8
SUMG pmax pmax
comp=Z,618nm,2.8s
SUMG **Summit** 60.92 341 *e*P P 20 39 03.6 +0.8
comp=Z,618nm,2.8s
SUMG **Summit** 60.92 341 *i*P P 20 39 04.3 +1.4
comp=Z,22nm,0.8s
comp=Z,2µm,17.0s
BLJI **Banyuglugur** 61.10 126 P P 20 39 08.3 +3.9
comp=Z,56nm,1.3s
MRSI **Marisa** 61.31 112 P P 20 39 06.2 +0.4
comp=Z,311nm,1.1s,comp=Z,3µm
APSI **Ampana** 62.00 114 P P 20 39 10.8 +0.3
comp=Z,446nm,1.2s,comp=Z,4µm
TTSI **Tana Toraja** 62.09 117 P P 20 39 12.0 +0.9
comp=Z,73nm,1.0s,comp=Z,906nm
PETK **Petropavlovsk-** 62.39 43 P P 20 39 11.4 -1.2
PETK pmax pmax
comp=Z,19nm,1.1s
PETK MLR MLR
comp=Z,2µm,18.1s
PETK **Petropavlovsk-** 62.39 43 P P 20 39 11.4 -1.2
comp=Z,19nm,1.1s,baz=224,slow=4.1,SNR=13
PETK LR LR 21 07 51.9
comp=Z,2µm,18.1s,baz=303,slow=38
SPSI **Sidrap Palu** 62.68 118 P P 20 39 16.1 +1.1
comp=Z,35nm,0.9s,comp=Z,462nm
KMSI **Cibinong** 62.79 111 P P 20 39 17.0 +1.2
comp=Z,474nm,1.0s,comp=Z,5µm
JCJ **Chichijima** 62.80 75 LR LR 21 08 38.1
comp=Z,2µm,21.2s,baz=330,slow=38
PET **Petropavlovsk** 62.95 43 *e*P P 20 39 18.0 +1.7
PET *e*S S 20 47 42.8 -2.9
PET pmax pmax
comp=Z,56nm,1.1s
PET MLR MLR
comp=Z,2µm,17.0s
PET **Petropavlovsk** 62.95 43 PFAKE 20 39 30.0 +14
PET LR LR
comp=Z,2µm,19.0s
TORD **Torodi Ar. Bea** 63.00 267 P P 20 39 15.8 -1.5
comp=Z,143nm,0.9s,baz=55,slow=5.0,SNR=469
TORD PKP2bc 21 08 25.0
comp=Z,1.1nm,1.1s,baz=283,slow=1.0,SNR=3.8
TORD LR LR 21 10 35.1
comp=Z,3µm,18.5s,baz=50,slow=40
LSZ **Lusaka** 63.00 224 *e*P P 20 39 16.1 -1.1
LSZ pmax pmax
comp=Z,20nm,1.3s
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ **Lusaka** 63.00 224 *e*P P 20 39 16.1 -1.1
comp=Z,20nm,1.3s
LSZ LR LR
comp=Z,2µm,20.0s
BNSI **Bone** 63.23 118 P P 20 39 18.6 0.0
comp=Z,47nm,1.3s,comp=Z,752nm
KAPI **Kappang** 63.40 118 *e*P P 20 39 19.1 -0.7
comp=Z,15nm,1.1s
KAPI LR LR
comp=Z,922nm,22.0s
BKSI **Bulukumba** 63.87 118 P P 20 39 23.5 +0.6
comp=Z,64nm,1.1s,comp=Z,837nm
KULLO **Kullorsuaq** 64.19 346⇓*i*P P 20 39 25.0 +0.9
KULLO pmax pmax
comp=Z,27nm,0.9s
KULLO MLR MLR
comp=Z,1µm,19.0s
KULLO **Kullorsuaq** 64.19 346⇓*i*P P 20 39 25.0 +0.9
comp=Z,27nm,0.8s
comp=Z,1µm,19.0s
TNTI **Ternate** 65.26 108 P P 20 39 34.2 +2.1
comp=Z,438nm,1.2s,comp=Z,5µm
TNTI **Ternate** 65.26 108 *e*P P 20 39 33.9 +1.8
comp=Z,383nm,1.0s
SANI **Sanana** 66.01 111 P P 20 39 36.6 -0.3
comp=Z,152nm,0.9s,comp=Z,2µm
ILULI **Ilulissat** 66.23 340 *i*P P 20 39 38.6 +1.1
ILULI pmax pmax
comp=Z,35nm,0.8s
ILULI **Ilulissat** 66.23 340 *i*P P 20 39 38.6 +1.1
comp=Z,35nm,0.7s
LBMI **Labuha** 66.26 109 P P 20 39 39.9 +1.4
comp=Z,188nm,1.0s,comp=Z,3µm
WSI **Waingapu** 67.04 122 P P 20 39 42.3 -1.1
comp=Z,179nm,0.9s,comp=Z,3µm
SFJD **Kangerlussuaq** 67.49 338 *i*P P 20 39 45.9 +0.4
SFJD pmax pmax
comp=Z,13nm,0.9s
SFJD MLR MLR
comp=Z,1µm,17.0s
SFJD **Kangerlussuaq** 67.49 338 *e*P P 20 39 46.1 +0.6
comp=Z,53nm,1.3s
SFJD LR LR
comp=Z,1µm,20.0s
SFJD **Kangerlussuaq** 67.49 338 *i*P P 20 39 45.9 +0.4
comp=Z,13nm,0.8s
comp=Z,1µm,16.0s
BASI **Baing, Sumba** 67.62 122 P P 20 39 48.6 +1.5
comp=Z,232nm,1.1s,comp=Z,2µm
NLAI **Namlea** 67.62 112 P P 20 39 49.5 +2.4
comp=Z,92nm,1.0s,comp=Z,879nm
MSNA **Messina** 67.86 218 P P 20 39 47.4 -1.1
comp=Z,24nm,3.0s
MSAI **Masohi** 69.08 110 P P 20 39 57.7 +1.4
comp=Z,24nm,0.9s,comp=Z,212nm
RES **Resolute Bay** 69.27 355 *e*P P 20 39 56.5 -0.1
RES pmax pmax
comp=Z,76nm,0.6s
RES **Resolute Bay** 69.27 355 *e*P P 20 39 56.5 -0.1
comp=Z,76nm,0.6s
BATI **Baumata** 69.77 120 P P 20 40 00.5 0.0
comp=Z,115nm,0.9s,comp=Z,1µm
BATI **Baumata** 69.77 120 LR LR 21 14 07.5
comp=Z,1µm,21.4s,slow=39
SOEI **Soe** 69.89 119 P P 20 40 03.8 +2.4
comp=Z,169nm,1.1s,comp=Z,2µm
SOEI **Soe** 69.89 119 *e*P P 20 40 00.5 -0.9
comp=Z,156nm,1.0s
TNA **Tin City** 70.29 21 *e*P P 20 40 03.7 +0.7
comp=Z,79nm,1.5s
GAMB **Gambell** 70.33 24 *e*P P 20 40 07.7 +4.4
comp=Z,36nm,1.2s
SLR **Silverton** 71.56 217 P P 20 40 10.4 -1.0
SLR **Silverton** 71.56 217 P P 20 40 10.4 -1.0
comp=Z,39nm,3.2s
GUMO **Guam** 71.87 86 PFAKE 20 40 30.0 +17
GUMO LR LR
comp=Z,101nm,22.0s
DBIC **Dimbokro** 71.96 265 P P 20 40 12.8 -1.1
DBIC pmax pmax
comp=Z,89nm,0.9s
DBIC MLR MLR
comp=Z,3µm,18.4s
DBIC **Dimbokro** 71.96 265 P P 20 40 12.8 -1.1
comp=Z,89nm,0.9s,baz=35,slow=7.3,SNR=72
DBIC LR LR 21 15 22.9
comp=Z,3µm,18.4s,baz=34,slow=39
DBIC **Dimbokro** 71.96 265 *e*P P 20 40 13.1 -0.8
KIC **Kosan Boka** 72.05 265⇑*i*P P 20 40 13.6 -0.8
comp=Z,324nm,1.0s
ERPM **east rand prop** 72.09 217 P P 20 40 12.7 -1.9
comp=Z,18nm,1.5s
TIC **Toumodi** 72.11 265⇑*i*P P 20 40 13.8 -1.0
comp=Z,152nm,0.9s
LBTB **Lobatse** 72.33 220 P P 20 40 14.6 -1.3
LBTB pmax pmax
comp=Z,37nm,1.0s
LBTB **Lobatse** 72.33 220 P P 20 40 14.6 -1.3
comp=Z,37nm,1.0s
TSUM **Tsumeb** 72.34 230 *e*P P 20 40 14.8 -1.4
comp=Z,51nm,1.5s
TSUM LR LR
comp=Z,2µm,19.0s
KSR **Koster** 72.35 218 P P 20 40 13.9 -2.2
comp=Z,18nm,3.8s
LIC **Lamto** 72.36 265 *e*P P 20 40 15.0 -1.3
comp=Z,226nm,1.1s,baz=56
LIC *e*R
comp=Z,4µm,17.8s
LIC **Lamto** 72.36 265⇑*i*P P 20 40 15.3 -1.0
comp=Z,272nm,1.1s
LIC **Lamto** 72.36 265 *e*P P 20 40 15.0 -1.3
comp=Z,226nm,1.1s
KLOF **Kloof** 72.41 217 P P 20 40 15.2 -1.2
comp=Z,21nm,1.1s
PRYS **Parys** 73.01 217 P P 20 40 17.6 -2.4
comp=Z,14nm,3.6s
COLD **Coldfoot** 73.42 14 *e*P P 20 40 22.4 +0.6
comp=Z,94nm,1.1s
IM04 **Indian Mountai** 73.71 16 *e*P P 20 40 23.3 -0.2
SEK **Senekal** 74.05 216 P P 20 40 24.6 -1.5
comp=Z,25nm,1.1s
INK **Inuvik** 75.08 8 P P 20 40 32.1 +0.7
INK pmax pmax
comp=Z,65nm,1.0s
INK **Inuvik** 75.08 8 P P 20 40 32.0 +0.7
comp=Z,65nm,1.0s,baz=360,slow=7.8,SNR=95
INK **Inuvik** 75.08 8 *e*P P 20 40 31.9 +0.5
comp=Z,138nm,1.2s
SMPI **Sarmi** 75.86 103 P P 20 40 39.1 +2.4
comp=Z,103nm,0.9s,comp=Z,4µm
COLA **College** 75.95 15⇑*i*P P 20 40 36.8 +0.3
COLA pmax pmax
comp=Z,419nm,0.9s
COLA **College** 75.95 15 *e*P P 20 40 36.7 +0.3
comp=Z,134nm,1.1s
COLA LR LR
comp=Z,3µm,21.0s
ILAR **Eielson Array** 76.24 14 P P 20 40 37.7 -0.4
ILAR pmax pmax
comp=Z,38nm,1.0s
ILAR MLR MLR
comp=Z,2µm,18.9s
ILAR **Eielson Array** 76.24 14 P P 20 40 37.6 -0.4
comp=Z,38nm,1.0s,baz=323,slow=4.1,SNR=89
ILAR LR LR 21 18 29.0
comp=Z,2µm,18.9s,baz=334,slow=39
ADK **Adak** 76.24 35 PFAKE 20 40 50.0 +12
ADK LR LR
comp=Z,2µm,20.0s
CAST **Castle Rocks** 76.25 17 *e*P P 20 40 39.0 +0.7
comp=Z,124nm,1.1s
KTH **Kantishna Hill** 76.42 17 *e*P P 20 40 39.4 +0.2
comp=Z,115nm,1.2s
TRF **Thorofare Moun** 76.65 17 *e*P P 20 40 41.9 +1.2
comp=Z,24nm,1.0s
PPLA **Purkeypile** 76.67 18 *e*P P 20 40 41.4 +0.6
comp=Z,723nm,2.8s
MCK **McKinley** 76.71 16 *e*P P 20 40 41.2 +0.3
MCK pmax pmax
comp=Z,64nm,1.3s
MCK **McKinley** 76.71 16 *e*P P 20 40 41.2 +0.3
comp=Z,64nm,1.3s
SVW2 **Sparrevohn** 77.29 20 *e*P P 20 40 48.1 +4.0
comp=Z,60nm,1.4s
UPI **Upington** 77.31 221 P P 20 40 43.5 -1.1
comp=Z,30nm,2.0s
EGAK **Eagle** 77.31 12 *e*P P 20 40 44.9 +0.8
comp=Z,70nm,1.1s
EGAK LR LR
comp=Z,2µm,21.0s
GENI **Genyem** 77.38 103 P P 20 40 46.2 +0.9
comp=Z,100nm,1.0s,comp=Z,2µm
DOT **Dot Lake** 77.81 14 *e*P P 20 40 47.5 +0.5
comp=Z,52nm,1.1s
PAX **Paxson** 78.13 15 *e*P P 20 40 49.2 +0.3
PAX pmax pmax
comp=Z,79nm,1.2s
PAX **Paxson** 78.13 15 *e*P P 20 40 49.2 +0.3
comp=Z,79nm,1.2s
DAWY **Dawson** 78.27 12 *e*P P 20 40 50.1 +0.5
PMR **Palmer** 78.53 17 *e*P P 20 40 51.0 +0.1
PMR pmax pmax
comp=Z,62nm,1.0s
PMR **Palmer** 78.53 17 *e*P P 20 40 51.0 +0.1
comp=Z,62nm,1.0s
RSO **Redoubt South** 78.59 19 *e*P P 20 40 55.8 +4.2

SOE	**Somerset East**	**78.68**	**215**	P		**P**		**20 40 51.3**	**-0.8**	
	comp=Z,55nm,4.5s									
RC01	**Rabbit Creek A**	**78.82**	**18**	*e*P		**P**		**20 40 53.1**	**+0.5**	
	comp=Z,72nm,1.2s									
DIV	**Divide**	**79.71**	**16**	*e*P		**P**		**20 40 58.7**	**+1.1**	
	comp=Z,150nm,1.6s									
BMRM	**Bremner River**	**80.11**	**15**	*e*P		**P**		**20 41 01.1**	**+1.4**	
	comp=Z,83nm,1.0s									
SUR	**Sutherland**	**80.73**	**219**	*e*P		**P**		**20 41 03.1**	**-0.3**	
	comp=Z,4.6nm,0.8s									
SUR				LR		LR				
	comp=Z,2μm,20.0s									
KDAK	**Kodiak Island**	**80.90**	**21**	*i* P		**P**		**20 41 05.3**	**+1.4**	
KDAK	**Kodiak Island**	**80.90**	**21**	*e*P		P		20 41 08.1	+4.2	
	comp=Z,212nm,1.3s									
OHAK	**Old Harbor**	**81.17**	**21**	*e*P		P		20 41 09.6	+4.2	
	comp=Z,303nm,1.7s									
SCHQ	**Schefferville**	**81.72**	**335**	P		**P**		**20 41 08.4**	**+0.1**	
	comp=Z,19nm,0.8s,baz=24,slow=3.4,SNR=18									
SCHQ				LR		LR		21 20 18.4		
	comp=Z,1μm,18.3s,baz=42,slow=38									
YKA	**Yellowknife Ar**	**82.11**	**1**	P		**P**		**20 41 10.3**	**+0.1**	
	comp=Z,29nm,0.8s,baz=350,slow=5.4,SNR=160									
YKA				PKKPbc		**PKKPbc**		**20 59 39.1**	**0.0**	
	comp=Z,0.6nm,0.9s,baz=180,slow=2.6,SNR=9.0									
CER	**Ceres**	**82.29**	**219**	P		**P**		**20 41 11.2**	**-0.3**	
	comp=Z,50nm,3.7s									
DRLN	**Deer Lake**	**82.42**	**327**	*e*P		P		20 41 16.6	+4.5	
	comp=Z,807nm,2.8s									
SACV	**Santiago Islan**	**82.44**	**283**	PFAKE				20 41 20.0	+7.2	
SACV				LR		LR				
	comp=Z,978nm,19.0s									
SKAG	**Skagway**	**83.27**	**12**	*e*P		**P**		**20 41 18.0**	**+1.7**	
WRA	**Warramunga Arr**	**83.90**	**120**	P		**P**		**20 41 19.3**	**-0.8**	
WRA				pmax		pmax				
	comp=Z,14nm,0.7s									
WRA				MLR		MLR				
	comp=Z,581nm,19.7s									
WRA	**Warramunga Arr**	**83.90**	**120**	P		**P**		**20 41 19.3**	**-0.8**	
	comp=Z,13nm,0.7s,baz=324,slow=4.8,SNR=84									
WRA				PKKPbc		**PKKPbc**		**20 59 36.1**	**+0.9**	
	comp=Z,0.6nm,0.8s,baz=120,slow=2.4,SNR=6.2									
WRA				LR		LR		21 24 30.8		
	comp=Z,581nm,19.7s,baz=280,slow=40									
WRAB	**Tennant Creek**	**83.90**	**120**	*c i*P		**P**		**20 41 19.3**	**-0.8**	
WRAB				pmax		pmax				
	comp=Z,153nm,1.2s									
WRAB	**Tennant Creek**	**83.90**	**120**	*e*P		**P**		**20 41 19.6**	**-0.5**	
	comp=Z,145nm,1.7s									
WRAB				LR		LR				
	comp=Z,820nm,20.0s									
WB2	**Warramunga Arr**	**83.91**	**120**	*e*P		**P**		**20 41 19.6**	**-0.5**	
FCC	**Fort Churchill**	**84.65**	**351**	*e*P		**P**		**20 41 24.3**	**+0.9**	
FCC	**Fort Churchill**	**84.65**	**351**	*e*P		**P**		**20 41 24.3**	**+0.9**	
PAF	**Port-aux-Franc**	**84.72**	**178**	S		S		20 51 40.0	-10	
PAF				SS		SS		20 57 11.0	-12	
PAF				L		L		21 04 00.0		
PAF				R				21 11 00.0		
DLBC	**Dease Lake**	**85.04**	**9**	P		**P**		**20 41 25.9**	**+0.4**	
	comp=Z,69nm,1.1s									
AS31	**Alice Springs**	**86.05**	**123**	*e*P		**P**		**20 41 30.6**	**-0.4**	
ASAR	**Alice Springs**	**86.05**	**123**	P		**P**		**20 41 30.4**	**-0.5**	
	comp=Z,17nm,0.8s,baz=317,slow=5.2,SNR=112									
ASAR				PKKPbc		**PKKPbc**		**20 59 31.7**	**+1.5**	
	comp=Z,0.6nm,0.9s,baz=132,slow=2.8,SNR=3.7									
ASAR				LR		LR		21 24 19.7		
	comp=Z,533nm,20.7s,baz=294,slow=39									
SHEL	**Horse Pasture**	**86.30**	**248**	PFAKE				20 41 40.0	+7.7	
SHEL				LR		LR				
	comp=Z,2μm,22.0s									
COEN	**Coen**	**86.64**	**110**	*e*P		P		20 41 38.3	+4.4	
	comp=Z,32nm,1.1s									
WRAK	**Wrangell Islan**	**86.66**	**11**	PFAKE				20 41 50.0	+17	
WRAK				LR		LR				
	comp=Z,2μm,19.0s									
PMG	**Port Moresby**	**87.01**	**104**	PFAKE				20 41 50.0	+14	
PMG				LR		LR				
	comp=Z,481nm,20.0s									
FORT	**Forrest**	**87.12**	**131**	*e*P		**P**		**20 41 35.8**	**-0.1**	
ASCN	**Ascension**	**88.17**	**259**	PFAKE				20 41 50.0	+8.7	
ASCN				LR		LR				
	comp=Z,781nm,22.0s									
FFC	**Flin Flon**	**89.48**	**354**	*e*P		**P**		**20 41 47.6**	**+0.7**	
FFC				pmax		pmax				
	comp=Z,94nm,1.2s									
FFC				MLR		MLR				
	comp=Z,2μm,22.0s									
FFC	**Flin Flon**	**89.48**	**354**	*e*P		**P**		**20 41 47.5**	**+0.7**	
	comp=Z,94nm,1.2s									
FFC				LR		LR				
	comp=Z,2μm,22.0s									
EDM	**Edmonton**	**91.42**	**1**	*e*P		**P**		**20 41 56.6**	**+0.5**	
EDM				pmax		pmax				
	comp=Z,90nm,0.9s									
EDM	**Edmonton**	**91.42**	**1**	*e*P		**P**		**20 41 56.6**	**+0.5**	
	comp=Z,90nm,0.9s									
LBNH	**Lisbon**	**92.37**	**332**	PFAKE				20 42 10.0	+9.4	
LBNH				LR		LR				
	comp=Z,2μm,22.0s									
CTAO	**Charters Tower**	**92.69**	**113**	PFAKE				20 42 10.0	+7.7	
CTAO				LR		LR				
	comp=Z,1μm,21.0s									
LONY	**Lake Ozonia**	**93.02**	**334**	PFAKE				20 42 10.0	+6.4	
LONY				LR		LR				
	comp=Z,1μm,20.0s									
ULM	**Lac du Bonnet**	**93.18**	**350**	P		**P**		**20 42 04.1**	**0.0**	
ULM				pmax		pmax				
	comp=Z,22nm,0.9s									
ULM				MLR		MLR				
	comp=Z,2μm,18.6s									
ULM	**Lac du Bonnet**	**93.18**	**350**	P		**P**		**20 42 04.1**	**0.0**	
	comp=Z,22nm,0.9s,baz=15,slow=5.7,SNR=17									
ULM				LR		LR		21 28 48.3		
	comp=Z,2μm,18.6s,baz=14,slow=39									
PTN	**Potsdam (NY)**	**93.21**	**334**	*e*P		P		20 42 08.8	+4.4	
PTN				pmax		pmax				
	comp=Z,120nm,1.6s									
PTN	**Potsdam (NY)**	**93.21**	**334**	*e*P		P		20 42 08.8	+4.4	
	comp=Z,120nm,1.6s									
ACCN	**Adirondack Com**	**93.76**	**333**	*e*P		P		20 42 11.5	+4.6	
	comp=Z,34nm,1.3s									
EYMN	**Ely**	**94.65**	**346**	*e*P		**P**		**20 42 12.4**	**+1.4**	
	comp=Z,44nm,1.4s									
EYMN				LR		LR				
	comp=Z,2μm,20.0s									
A30A	**Hoffart Farm,**	**94.80**	**351**	⇓P		**P**		**20 42 11.5**	**-0.2**	
	baz=94,SNR=6.1									
A29A	**Manning Farm,**	**94.93**	**351**	⇑P		**P**		**20 42 13.4**	**+1.2**	
	baz=95,SNR=5.9									
AGMN	**Agassiz Nation**	**95.08**	**349**	⇓P		**P**		**20 42 14.1**	**+1.2**	
	baz=95,SNR=5.3									
AGMN	**Agassiz Nation**	**95.08**	**349**	*e*P		**P**		**20 42 14.3**	**+1.4**	
	comp=Z,56nm,1.3s									
AGMN				LR		LR				
	comp=Z,1μm,20.0s									
A26A	**Wade Farm, Ken**	**95.26**	**353**	⇓P		**P**		**20 42 14.2**	**+0.4**	
	baz=95									
B30A	**Myrvik Farm, E**	**95.28**	**351**	⇓P		**P**		**20 42 15.0**	**+1.1**	
	baz=95,SNR=5.1									
A25A	**Svangstu Ranch**	**95.32**	**354**	⇑P		**P**		**20 42 14.9**	**+0.9**	
	baz=95									
B29A	**Wagenman Farm,**	**95.40**	**351**	⇓P		**P**		**20 42 16.0**	**+1.7**	
	baz=95									
A24A	**Westby**	**95.41**	**354**	⇓P		**P**		**20 42 16.3**	**+1.8**	
	baz=95,SNR=6.1									
A22A	**Carney Farms,**	**95.47**	**356**	⇓P		**P**		**20 42 14.8**	**0.0**	
	baz=95									
WALA	**Waterton Lakes**	**95.59**	**1**	*e*P		**P**		**20 42 15.8**	**+0.4**	
	comp=Z,20nm,1.0s									
BINY	**Binghamton**	**95.63**	**334**	PFAKE				20 42 30.0	+14	
BINY				LR		LR				
	comp=Z,2μm,21.0s									
A19A	**Klindworth Far**	**95.67**	**358**	⇓P		**P**		**20 42 17.4**	**+1.8**	
	baz=95,SNR=6.9									
A20A	**Cobblestone Ra**	**95.69**	**357**	⇓P		**P**		**20 42 17.6**	**+1.9**	
	baz=95,SNR=5.7									
B06A	**Marblemount**	**95.74**	**6**	*e*P		P		20 42 20.2	+4.3	
	comp=Z,13nm,0.8s									
B26A	**Jensen Ranch,**	**95.80**	**353**	⇓P		**P**		**20 42 16.6**	**+0.4**	
	baz=96									
DGMT	**Dagmar**	**95.88**	**355**	⇑P		**P**		**20 42 19.2**	**+2.6**	
	baz=96									
DGMT	**Dagmar**	**95.88**	**355**	PFAKE				20 42 30.0	+13	
DGMT				LR		LR				
	comp=Z,2μm,22.0s									
COWI	**Conover**	**95.92**	**344**	PFAKE				20 42 30.0	+13	
COWI				LR		LR				
	comp=Z,2μm,21.0s									
B23A	**Brockton**	**95.94**	**355**	⇑P		**P**		**20 42 19.3**	**+2.4**	
	baz=96									
MDND	**Maddock**	**96.03**	**351**	⇓P		**P**		**20 42 16.7**	**-0.6**	
	baz=96									
B08A	**Colville Reser**	**96.07**	**5**	*e*P		**P**		**20 42 18.4**	**+1.0**	
B19A	**Brinkman Farms**	**96.15**	**358**	⇑P		**P**		**20 42 17.9**	**0.0**	
	baz=96									
NEW	**Newport**	**96.28**	**3**	*e*P		**P**		**20 42 19.8**	**+1.3**	
NEW				pmax		pmax				
	comp=Z,17nm,1.0s									
NEW				MLR		MLR				
	comp=Z,2μm,21.0s									
NEW	**Newport**	**96.28**	**3**	⇑P		**P**		**20 42 19.7**	**+1.3**	
	baz=96									
NEW	**Newport**	**96.28**	**3**	*e*P		**P**		**20 42 19.8**	**+1.3**	
	comp=Z,17nm,1.0s									
NEW				LR		LR				
	comp=Z,2μm,21.0s									
C26A	**Wahner Farm, P**	**96.33**	**353**	⇑P		**P**		**20 42 19.1**	**+0.5**	
	baz=96									
STKA	**Stephens Creek**	**96.53**	**125**	P		**P**		**20 42 20.8**	**+1.2**	
STKA								20 46 10.3		
STKA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
STKA				pmax		pmax				
	comp=Z,1.0nm,0.7s									
STKA				MLR		MLR				
	comp=Z,2μm,21.6s									
STKA	**Stephens Creek**	**96.53**	**125**	P		**P**		**20 42 20.8**	**+1.2**	
	comp=Z,1.7nm,0.6s,baz=313,slow=8.0,SNR=5.6									
STKA				PP		**PP**		**20 46 10.3**	**-4.0**	
	comp=Z,1.1nm,0.7s,baz=272,slow=3.8,SNR=3.1									
STKA				LR		LR		21 28 55.3		
	comp=Z,2μm,21.6s,baz=281,slow=37									
EGMT	**Eagleton**	**96.60**	**358**	PFAKE				20 42 30.0	+10	
EGMT				LR		LR				
	comp=Z,1μm,19.0s									
C23A	**Lambert**	**96.61**	**355**	⇑P		**P**		**20 42 21.2**	**+1.2**	
	baz=96,SNR=5.9									
NLWA	**Neilton Lookou**	**96.62**	**8**	PFAKE				20 42 30.0	+10	
NLWA				LR		LR				
	comp=Z,2μm,21.0s									
BLMT	**Blacktail Moun**	**96.63**	**1**	*e*P		P		20 42 24.5	+4.3	
C21A	**Desert Coulee**	**96.70**	**356**	⇑P		**P**		**20 42 22.2**	**+1.8**	
	baz=96,SNR=7.4									
C22A	**Vida**	**96.71**	**356**	⇓P		**P**		**20 42 21.7**	**+1.3**	
	baz=96,SNR=13									
BSMT	**Bassoo Peak**	**96.78**	**2**	*e*P		**P**		**20 42 22.5**	**+1.6**	
C20A	**Veseth Ranch,**	**96.86**	**357**	⇓P		**P**		**20 42 19.9**	**-1.2**	
	baz=97,SNR=5.8									
JTMT	**Jette**	**96.89**	**1**	*e*P		**P**		**20 42 24.2**	**+2.8**	
D05A	**Enumclaw**	**97.02**	**7**	*e*P		Pdif		20 42 27.1	+5.2	
	comp=Z,19nm,1.0s									
LTY	**Liberty**	**97.06**	**6**	*e*P		Pdif		20 42 23.8	+1.7	
	comp=Z,89nm,2.6s									
ERPA	**Erie**	**97.08**	**336**	PFAKE				20 42 30.0	+7.8	
ERPA				LR		LR				
	comp=Z,1μm,21.0s									
SWMT	**Swartz Lake**	**97.14**	**1**	*e*P		Pdif		20 42 25.7	+3.2	
D26A	**Manning**	**97.15**	**353**	⇑P		**P**		**20 42 22.0**	**-0.4**	
	baz=97									
HNR	**Honiara**	**97.26**	**96**	LR		LR		21 27 42.8		
	comp=Z,233nm,20.2s,baz=300,slow=36									
D22A	**Cohagen**	**97.33**	**356**	⇓P		**P**		**20 42 22.3**	**-0.9**	
	baz=97,SNR=5.2									
D08A	**Wollman Farm,**	**97.39**	**5**	*e*P		Pdif		20 42 25.4	+1.9	
	comp=Z,20nm,1.4s									
SLMT	**Seeley Lake**	**97.41**	**1**	*e*P		Pdif		20 42 24.7	+0.9	
D19A	**Cripps Ranch,**	**97.44**	**358**	⇓P		Pdif		20 42 25.3	+1.5	
	baz=97									
LON	**Longmire**	**97.47**	**7**	*e*P		Pdif		20 42 25.3	+1.4	
LON	**Longmire**	**97.47**	**7**	*e*P		Pdif		20 42 25.3	+1.4	
D20A	**Manuel Ranch,**	**97.48**	**357**	⇑P		Pdif		20 42 25.8	+1.8	
	baz=97									
E27A	**Carson**	**97.66**	**353**	⇓P		Pdif		20 42 27.0	+2.2	
	baz=97									
E26A	**Carlson Angus**	**97.71**	**353**	⇓P		Pdif		20 42 27.3	+2.3	
	baz=97									
CHMT	**Chamberlain Mo**	**97.74**	**1**	*e*P		Pdif		20 42 26.2	+0.8	
E25A	**Miller Ranch,**	**97.77**	**354**	⇓P		Pdif		20 42 28.2	+3.0	
	baz=98									
LAO	**LASA Array**	**97.79**	**356**	PFAKE				20 42 40.0	+15	
LAO				LR		LR				
	comp=Z,2μm,20.0s									
MSO	**Missoula**	**97.82**	**1**	*e*P		Pdif		20 42 29.3	+3.8	
	comp=Z,10nm,1.2s									
HRY	**Holter Researc**	**97.95**	**360**	*e*P		Pdif		20 42 27.5	+1.3	
HAWA	**Hanford**	**98.01**	**5**	PFAKE				20 42 40.0	+14	
HAWA				LR		LR				
	comp=Z,1μm,20.0s									
E22A	**Miles City**	**98.02**	**356**	⇑P		Pdif		20 42 26.6	+0.2	
	baz=98									
AAM	**Ann Arbor**	**98.05**	**339**	PFAKE				20 42 40.0	+13	
AAM				LR		LR				
	comp=Z,2μm,19.0s									
E20A	**Meyer Farm, Mu**	**98.07**	**357**	⇑P		**P**		**20 42 26.0**	**-0.6**	
	baz=98									
E19A	**Rath Farm, Rou**	**98.14**	**358**	⇑P		Pdif		20 42 27.9	+0.9	
	baz=98									
F27A	**Lemmon**	**98.26**	**353**	⇓P		Pdif		20 42 28.0	+0.5	
	baz=98,SNR=6.5									
F24A	**Ekalaka**	**98.50**	**354**	⇓P		Pdif		20 42 29.0	+0.4	
	baz=98									
F23A	**Volborg**	**98.70**	**355**	⇑P		Pdif		20 42 31.2	+1.8	
	baz=98									
F19A	**Roth Farm, Mol**	**98.75**	**358**	⇑P		Pdif		20 42 31.6	+1.9	
	baz=98									
LRM	**Limekiln Ridge**	**98.84**	**0**	*e*P		Pdif		20 42 33.2	+2.9	
BBSR	**BB Station**	**98.89**	**321**	PFAKE				20 42 40.0	+10	
BBSR				LR		LR				
	comp=Z,767nm,19.0s									
G26A	**Maurine**	**98.89**	**353**	⇑P		Pdif		20 42 31.5	+1.3	
	baz=99									
BOZ	**Bozeman (W)**	**99.01**	**360**	PFAKE				20 42 40.0	+9.0	
BOZ				LR		LR				
	comp=Z,1μm,19.0s									
JFWS	**Jewell Farm**	**99.19**	**344**	PFAKE				20 42 40.0	+8.4	
JFWS				LR		LR				
	comp=Z,1μm,20.0s									
G23A	**Biddle**	**99.21**	**355**	⇓P		**Pdif**		**20 42 31.4**	**-0.4**	
	baz=99									
G20A	**Bridger**	**99.35**	**357**	⇑P		**Pdif**		**20 42 33.0**	**+0.5**	
	baz=99									
RLMT	**Red Lodge**	**99.49**	**358**	PFAKE				20 42 40.0	+6.8	
RLMT				LR		LR				
	comp=Z,2μm,20.0s									
H24A	**Dirks Ranch, A**	**99.60**	**354**	⇓P		**Pdif**		**20 42 34.0**	**+0.5**	
	baz=99									
ECSD	**EROS Data Cent**	**99.64**	**349**	⇓P		**Pdif**		**20 42 35.0**	**+1.4**	
	baz=99									
ECSD	**EROS Data Cent**	**99.64**	**349**	PFAKE				20 42 50.0	+16	
ECSD				LR		LR				
	comp=Z,2μm,19.0s									
CBN	**Corbin Frederi**	**99.64**	**333**	PFAKE				20 42 50.0	+16	
CBN				LR		LR				
	comp=Z,2μm,19.0s									
BMO	**Blue Mountains**	**99.68**	**4**	PFAKE				20 42 50.0	+16	
BMO				LR		LR				
	comp=Z,1μm,21.0s									
ACSO	**Alum Creek Sta**	**99.74**	**338**	PFAKE				20 42 50.0	+16	
ACSO				LR		LR				
	comp=Z,1μm,20.0s									
H18A	**Shoshone NF, C**	**99.95**	**358**	⇑P		**Pdif**		**20 42 35.0**	**-0.3**	
	baz=100									
LKWY	**Lake**	**100.08**	**359**	PFAKE				20 42 50.0	+14	
LKWY				LR		LR				
	comp=Z,3μm,19.0s									
H20A	**Greybull**	**100.08**	**357**	⇑P		**Pdif**		**20 42 33.4**	**-2.3**	
	baz=100									
SCIA	**State Center**	**100.79**	**346**	PFAKE				20 42 50.0	+11	
SCIA				LR		LR				
	comp=Z,2μm,19.0s									
HLID	**Hailey**	**101.07**	**2**	PFAKE				20 42 50.0	+10	
HLID				LR		LR				
	comp=Z,2μm,22.0s									
J21A	**Lysite**	**101.19**	**356**	⇓P		**Pdif**		**20 42 44.7**	**+4.0**	
	baz=101									
J19A	**Crowheart**	**101.34**	**358**	⇓P		**Pdif**		**20 42 43.8**	**+2.4**	
	baz=101									
TARA	**Tarawa**	**101.55**	**80**	PFAKE				20 42 50.0	+7.4	
TARA				LR		LR				
	comp=Z,5μm,20.0s									
BLA	**Blacksburg**	**101.63**	**334**	PFAKE				20 42 50.0	+7.4	
BLA				LR		LR				
	comp=Z,2μm,20.0s									
BW06	**Boulder Array**	**101.85**	**358**	PFAKE				20 43 00.0	+16	
BW06				LR		LR				
	comp=Z,2μm,21.0s									
PDAR	**Pinedale Array**	**101.85**	**358**	P		**Pdif**		**20 42 44.4**	**+0.6**	
	comp=Z,0.7nm,0.9s,baz=52,slow=44,SNR=2.4									
PDAR				PP		**PP**		**20 46 56.6**	**+3.2**	
	comp=Z,2.3nm,1.1s,baz=9.5,slow=4.5,SNR=5.9									
AHID	**Auburn Hatcher**	**101.89**	**359**	PFAKE				20 43 00.0	+16	
AHID				LR		LR				
	comp=Z,942nm,20.0s									
WVOR	**Wild Horse Val**	**102.01**	**5**	PFAKE				20 43 00.0	+16	
WVOR				LR		LR				
	comp=Z,1μm,19.0s									
CNNC	**Cliffs of the**	**102.45**	**332**	PFAKE				20 43 00.0	+14	
CNNC				LR		LR				
	comp=Z,2μm,20.0s									
HWUT	**Hardware Ranch**	**103.05**	**359**	PFAKE				20 43 00.0	+11	
HWUT				LR		LR				
	comp=Z,1μm,21.0s									
OGNE	**Ogallala**	**103.13**	**352**	PFAKE				20 43 00.0	+11	
OGNE				LR		LR				
	comp=Z,2μm,21.0s									
CAN	**Canberra**	**103.54**	**124**	PFAKE				20 43 00.0	+9.1	
CAN				LR		LR				
	comp=Z,1μm,20.0s									
KSU1	**Kansas State U**	**104.15**	**347**	PFAKE				20 43 10.0	+16	
KSU1				LR		LR				
	comp=Z,2μm,19.0s									
RCBR	**Riachuelo**	**104.40**	**273**	PFAKE				20 43 10.0	+15	
RCBR				LR		LR				
	comp=Z,1μm,22.0s									
DUG	**Dugway, Tooele**	**104.46**	**0**	PFAKE				20 43 10.0	+15	
DUG				LR		LR				
	comp=Z,1μm,19.0s									
ISCO	**Idaho Springs**	**104.60**	**355**	PFAKE				20 43 10.0	+14	
ISCO				LR		LR				
	comp=Z,2μm,20.0s									
NHSC	**New Hope**	**105.21**	**332**	PFAKE				20 47 20.0		
NHSC				LR		LR				
	comp=Z,2μm,20.0s									
NVAR	**Mina Array Bea**	**106.02**	**5**	Pdiff		**Pdif**		**20 43 05.6**	**+3.3**	
	comp=Z,0.2nm,0.6s,baz=7.6,slow=2.7,SNR=5.3									
NVAR				PP		**PP**		**20 47 20.2**	**-4.2**	
	comp=Z,0.5nm,0.8s,baz=343,slow=4.6,SNR=3.7									
NVAR				PKKPbc		**PKKPbc**		**20 58 36.9**	**+0.5**	
	comp=Z,0.4nm,0.7s,baz=184,slow=2.3,SNR=3.9									
GOGA	**Godfrey**	**106.12**	**335**	PFAKE				20 47 30.0		
GOGA				LR		LR				
	comp=Z,1μm,19.0s									
TAU	**Tasmania Unive**	**106.67**	**131**	PFAKE				20 47 30.0		
TAU				LR		LR				
	comp=Z,794nm,20.0s									
CASY	**Casey**	**106.87**	**163**	PFAKE				20 47 30.0		
CASY				LR		LR				
	comp=Z,1μm,22.0s									
MVCO	**Mesa Verde**	**107.36**	**357**	PFAKE				20 47 30.0		
MVCO				LR		LR				
	comp=Z,1μm,21.0s									
MIAR	**Mount Ida**	**107.94**	**344**	PFAKE				20 47 30.0		
MIAR				LR		LR				
	comp=Z,2μm,22.0s									
ANWB	**Willy Bob**	**108.53**	**309**	PFAKE				20 47 30.0		
ANWB				LR		LR				
	comp=Z,697nm,20.0s									
WMOK	**Wichita Mounta**	**108.78**	**348**	PFAKE				20 47 30.0		
WMOK				LR		LR				
	comp=Z,1μm,20.0s									
WUAZ	**Wupatki**	**109.13**	**359**	PFAKE				20 47 30.0		
WUAZ				LR		LR				
	comp=Z,1μm,21.0s									
DZM	**Mont Dzumac**	**109.40**	**104**	*e*LR		LR		21 19 33.9		
	comp=Z,690nm,23.3s									
ANMO	**Albuquerque**	**109.49**	**355**	PFAKE				20 47 30.0		
ANMO				LR		LR				
	comp=Z,1μm,20.0s									
BRAL	**Brewton**	**109.51**	**337**	PFAKE				20 47 30.0		
BRAL				LR		LR				
	comp=Z,2μm,19.0s									
FDF	**Fort de France**	**110.29**	**307**	PFAKE				20 47 30.0		
FDF				LR		LR				
	comp=Z,647nm,19.0s									
SJG	**San Juan**	**110.88**	**313**	PFAKE				20 47 40.0		
SJG				LR		LR				
	comp=Z,451nm,22.0s									
PFO	**Pinyon Flats O**	**110.93**	**4**	PFAKE				20 47 40.0		
PFO				LR		LR				
	comp=Z,1μm,20.0s									
GRTK	**Grand Turk**	**111.00**	**319**	PFAKE				20 47 40.0		
GRTK				LR		LR				
	comp=Z,1μm,21.0s									
TUC	**Tucson**	**112.31**	**359**	PFAKE				20 47 40.0		
TUC				LR		LR				
	comp=Z,1μm,20.0s									
GRGR	**Grenville**	**112.52**	**305**	PFAKE				20 47 40.0		
GRGR				LR		LR				
	comp=Z,413nm,19.0s									
MNTX	**Cornudas Mount**	**112.62**	**354**	PFAKE

comp=Z,0.1nm,0.4s,baz=66,slow=10,SNR=2.9
LPAZ La Paz 136.25 285 PKIKP **PKPdf 20 48 12.8 0.0**
LPAZ 20 50 55.7
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ La Paz 136.25 285 PKP **PKPdf 20 48 12.8 0.0**
comp=Z,3.6nm,0.8s,baz=98,slow=3.0,SNR=11
LPAZ PP **PP 20 50 55.7 +2.5**
comp=Z,2.6nm,1.0s,baz=59,slow=9.5,SNR=5.0
RAR Rarotonga 136.26 84 PFAKE 20 48 20.0 +8.1
RAR LR LR
comp=Z,2.0nm,20.0s
TRQA Tornquist 140.06 251 PFAKE 20 48 30.0 +12
TRQA LR LR
comp=Z,1μm,21.0s
NNA Nana 140.21 297 PFAKE 20 48 30.0 +11
NNA LR LR
comp=Z,1μm,22.0s
LVC Limon Verde 140.21 277 PFAKE 20 48 30.0 +11
LVC LR LR
comp=Z,858nm,19.0s
PPT2 Papeete2 142.41 71 *e*LR LR 21 34 51.9
comp=Z,665nm,22.0s
LCO Las Campanas 144.41 269 PFAKE 20 48 40.0 +13
LCO LR LR
comp=Z,1μm,19.0s
TBI Tubuai 145.62 79 eLR LR 21 36 20.2
comp=Z,1μm,23.2s
PLCA Paso Flores 147.03 248 PKP2 **PKPbc 20 48 32.7 0.0**
PLCA pmax pmax
comp=Z,15nm,0.9s
PLCA Paso Flores 147.03 248 PKPbc **PKPbc 20 48 32.7 0.0**
comp=Z,15nm,0.8s,baz=128,slow=3.7,SNR=19
RKT Rikitea 156.68 64 eLR LR 21 41 27.5
comp=Z,911nm,27.2s

GUC 18 20:52:59.9±0.5, 21°.06S×69°.04W, h117km±3km, ML3.5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.41**	**272**	*i* P		Pn	20 53 17.3	+0.2
PB01				*i* S		Sn	20 53 30.6	+0.6
PB01				AML	AML	AML	20 53 31.1	
	comp=N,2μm,0.2s							
PB09	**IPOC Station P**	**0.76**	**194**	*i* P		Pn	20 53 20.1	+0.4
PB09				*i* S		Sn	20 53 35.4	+0.9
PB09				AML	AML	AML	20 53 37.3	
	comp=N,2μm,0.2s							
PB07	**IPOC Station P**	**1.03**	**230**	*i* P		Pn	20 53 22.8	+0.7
PB07				*i* S		Sn	20 53 40.1	+1.1
PATCX	**Punta Patache**	**1.06**	**283**	*i* P		Pn	20 53 23.2	+0.8
PATCX				*i* S		Sn	20 53 40.4	+1.0
HMBC	**Humberstone**	**1.11**	**314**	*i* P		Pn	20 53 23.2	+0.3
HMBC				*i* S		Sn	20 53 41.1	+0.7
PB04	**IPOC Station P**	**1.27**	**199**	*i* P		Pn	20 53 29.6	+5.1
PB04				*i* S		Sn	20 53 52.0	+8.9

MEX 18 21:08:19.4±0.6, 14°.31N×92°.52W, h5km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.64**	**23**	*i* P		Pg	21 08 30.7	-1.1
THIG				*e*S		Sg	21 08 40.4	+0.3
PCIG		**1.54**	**334**	*e*P		Pn	21 08 44.0	-3.5
PCIG				*e*S		Sn	21 09 02.8	-5.1
CCIG	**Comitan**	**1.99**	**11**	*e*P		Pn	21 08 51.1	-3.0
CCIG				*i* S		Sn	21 09 14.5	-5.0

IDC 18 21:16:54.4±1.7, 9°.06S×125°.39E, h0km, mb3.3/1, mb1 3.2/4, mb1mx3.1/28, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=31.2km s-min=27.9km az=80.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.05**	**236**	Pn		Pn	21 17 29.8	-0.4
	3.0nm,0.3s,baz=54,slow=7.2,SNR=4.4							
BATI				Sn		Sn	21 17 57.1	+0.7
	3.8nm,0.3s,baz=70,slow=18,SNR=3.9							
WRA	**Warramunga Arr**	**13.86**	**142**	Pn		Pn	21 20 13.1	+0.9
	0.1nm,0.3s,baz=317,slow=14,SNR=8.7							
WRA				Sn		Sn	21 22 45.3	-1.7
	0.1nm,0.3s,baz=322,slow=25,SNR=5.1							
ASAR	**Alice Springs**	**16.66**	**152**	Pn		Pn	21 20 49.9	+0.4
	0.0nm,0.3s,baz=331,slow=13,SNR=3.3							
MKAR	**Makanchi Array**	**67.55**	**329**	P		P	21 27 52.7	0.0
	0.3nm,0.9s,baz=131,slow=7.9,SNR=2.4							

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*IDC **18** 21:19:00.0±4.0, 12°.60S×66°.04E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/34, mbtmp3.5/6, MS4.3/1, Ms1 4.2/1, ms1mx3.3/30, Error ellipse: s-maj=116.3km s-min=29.3km az=63.0*

ISC 18 21:19:02.1±4.1, 12°.6S±0°.4×66°.1E±0°.7, h10km, n16, σ1§02/6, mb3.6/6, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**7.82**	**38**	T		T	21 28 59.2	
	baz=219,slow=75,SNR=1081							
H08N1	**Diego Carcia H**	**7.84**	**39**	T		T	21 29 00.4	
	baz=219,slow=75,SNR=606							
H08N2	**Diego Garcia H**	**7.84**	**38**	T		T	21 29 00.7	
	baz=219,slow=75,SNR=800							
H08S1	**Diego Garcia H**	**7.93**	**53**	T		T	21 29 16.4	
	baz=234,slow=75,SNR=53							
H08S2	**Diego Garcia H**	**7.95**	**53**	T		T	21 29 15.1	
	baz=234,slow=75,SNR=60							
H08S3	**Diego Garcia H**	**7.95**	**53**	T		T	21 29 15.1	
	baz=234,slow=75,SNR=61							
CMAR	**Chiang Mai Arr**	**44.70**	**47**	P		**P**	**21 27 15.9**	**+0.2**
	0.6nm,0.8s,baz=235,slow=12,SNR=4.7							
H01W3	**Cape Leeuwin H**	**48.71**	**126**	T		T	22 20 09.2	
	baz=285,slow=75,SNR=7.3							
H01W2	**Cape Leeuwin H**	**48.71**	**126**	T		T	22 20 09.9	
	baz=285,slow=75,SNR=6.1							
H01W1	**Cape Leeuwin H**	**48.73**	**126**	T		T	22 20 13.2	
	baz=285,slow=75,SNR=5.6							
MAW	**Mawson**	**55.04**	**182**	LR		LR	21 45 48.3	
	comp=Z,287nm,21.6s,baz=52,slow=29							
MKAR	**Makanchi Array**	**60.83**	**13**	P		**P**	**21 29 14.2**	**-0.4**
	0.2nm,0.7s,baz=216,slow=7.1,SNR=2.5							
ASAR	**Alice Springs**	**64.87**	**110**	P		**P**	**21 29 43.1**	**+1.1**
	0.8nm,0.7s,baz=277,slow=6.0,SNR=8.0							
WRA	**Warramunga Arr**	**65.54**	**106**	P		**P**	**21 29 45.1**	**-1.3**
	0.4nm,0.8s,baz=272,slow=5.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**68.13**	**12**	P		**P**	**21 30 02.2**	**+0.1**
	0.3nm,0.6s,baz=203,slow=7.9,SNR=2.3							
SONM	**Songino Array**	**69.98**	**28**	P		**P**	**21 30 14.1**	**+0.1**
	0.4nm,0.8s,baz=220,slow=7.9,SNR=3.8							

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*ISCJB **18** 21:27:20.0±0.3, 32°.46N±0°.02×115°.51W±0°.02, h22km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=154.7*
*NEIC **18** 21:27:19.7, 32°.40N×115°.54W, h0km, ML3.3(PAS), After PAS.*
*MEX **18** 21:27:21.5±0.8, 32°.53N×115°.47W, h10km, MD3.7*
*ECX **18** 21:27:21.3±0.6, 32°.44N×115°.55W, h5km, MD3.2, ML3.4*
ISC 18 21:27:18.9±1.0, 32°.46N±0°.02×115°.55W±0°.02, h14km±8km, n54, σ0§82/72, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.21**	**101**	*e*P		**Pb**	**21 27 25.0**	**+0.5**
CPBX				*e*S		**Sb**	**21 27 28.3**	**0.0**
SGL	**Mount Signal**	**0.24**	**321**	⇓*i* P		**Pb**	**21 27 25.5**	**+0.3**
MBIG	**Mexicali**	**0.30**	**100**	*e*P		**Pb**	**21 27 27.0**	**+1.0**
MBIG				*e*S		**Sg**	**21 27 29.3**	**+0.1**
ERPC	**Ernies Place**	**0.30**	**341**	*e*Pg		**Pb**	**21 27 27.2**	**+1.1**
WESC	**Westside Schoo**	**0.34**	**332**	*e*Pg		Pg	21 27 22.9	-3.0
WESC				*e*Sg		**Sg**	**21 27 27.6**	**-2.9**
DREC	**Desert Rsrch C**	**0.36**	**13**	*e*Pg		**Pn**	**21 27 28.8**	**-0.9**
YUH	**Yuha Desert**	**0.37**	**301**	⇓*i* P		**Pb**	**21 27 27.7**	**+0.4**
YUH	**Yuha Desert**	**0.37**	**301**	*e*Pg		Pg	21 27 22.8	-3.7
YUH				*e*Sg		**Pb**	**21 27 27.7**	**+0.4**
COK	**Cook Ranch**	**0.42**	**339**	⇓*i* P		**Pb**	**21 27 29.3**	**+1.1**
RMX	**La Rumorosa**	**0.47**	**288**	*e*P		**Pb**	**21 27 29.5**	**+0.4**
RMX				*e*S		**Sb**	**21 27 36.4**	**+0.3**
SWSC	**Sam W. Stewart**	**0.53**	**336**	*e*Pg		**Pb**	**21 27 30.8**	**+0.8**
EMX	**El Mayor**	**0.53**	**151**	*e*P		**Pb**	**21 27 29.9**	**-0.2**
EMX				*e*S		**Sb**	**21 27 37.1**	**-0.5**
COA	**Coachella**	**0.54**	**41**	*e*Pg		**Pn**	**21 27 31.3**	**-0.9**
EMSC	**East Mesa**	**0.55**	**59**	*e*Pg		**Pn**	**21 27 31.5**	**-0.9**
CRR	**Carrizo Plain**	**0.56**	**320**	*e*Pg		**Pb**	**21 27 31.3**	**+0.8**
RDX	**Rancho Dawling**	**0.63**	**213**	*e*P		**Pb**	**21 27 31.9**	**+0.1**
RDX				*e*S		**Sg**	**21 27 40.2**	**+0.7**
RDX				⇑*e*			21 27 40.8	
RDX				AML	AML		21 27 40.8	
	comp=N,2μm,0.2s							
ERRC	**Elmore Ranch**	**0.70**	**340**	*e*Pg		**Pn**	**21 27 34.5**	**+0.1**
CBKC	**Canebrake**	**0.74**	**307**	*e*Pn		**Pn**	**21 27 35.0**	**0.0**
GLA	**Glamis**	**0.85**	**45**	*e*Pg		**Pb**	**21 27 35.6**	**+0.1**
GLA				*e*Sg		**Sg**	**21 27 47.6**	**+1.1**
FRK	**Frink**	**0.94**	**355**	*e*Pg		**Pg**	**21 27 37.4**	**+0.2**
CBX	**Cerro Bola**	**0.96**	**262**	*e*P		**Pn**	**21 27 38.2**	**+0.1**
CBX				*i* S		**Sg**	**21 27 50.9**	**+0.9**
CBX	**Cerro Bola**	**0.96**	**262**	*e*P		**Pn**	**21 27 38.2**	**+0.1**
CBX				*e*S		**Sn**	**21 27 51.1**	**-0.5**
CBX				⇓*e*			21 27 54.4	
CBX				AML	AML		21 27 54.4	
	comp=N,1μm,0.4s							
CBX	**Cerro Bola**	**0.96**	**262**	*e*P		**Pn**	**21 27 38.1**	**+0.1**
CBX				*e*S		**Sb**	**21 27 49.9**	**-0.1**
BAR	**Barrett**	**0.98**	**283**	*e*P		**Pn**	**21 27 38.3**	**+0.1**
BAR	**Barrett**	**0.98**	**283**	*e*Pg		**Pn**	**21 27 38.4**	**+0.1**
BAR				*e*Sn		**Sb**	**21 27 50.6**	**+0.1**
ECBX	**El Chinero**	**1.07**	**157**	*e*P		**Pb**	**21 27 38.5**	**-0.8**
ECBX				*e*S		**Sb**	**21 27 53.0**	**0.0**
LTC	**Little Chuckwa**	**1.10**	**21**	*e*Pn		**Pn**	**21 27 40.0**	**0.0**
ZAX	**El Zacaton**	**1.13**	**214**	*e*P		**Pg**	**21 27 40.9**	**+0.3**
ZAX				*e*S		**Sg**	**21 27 55.7**	**+0.3**
EML	**El Monte Cty P**	**1.18**	**292**	*e*Sn		**Sg**	**21 27 57.5**	**+0.5**
ECNX	**Esteban Cantu**	**1.20**	**229**	⇑*e*P		**Pg**	**21 27 42.3**	**+0.3**
ECNX				*e*S		**Sg**	**21 27 58.1**	**+0.4**
PBX	**Punta Banda**	**1.23**	**235**	*e*P		**Pg**	**21 27 42.5**	**-0.1**
PBX				*e*S		**Sg**	**21 27 58.7**	**+0.1**
DPP	**Dos Picos Cty**	**1.29**	**295**	*e*Sn		**Sg**	**21 28 01.4**	**+0.7**
HWB	**Hans Werner Br**	**1.32**	**296**	*e*Pn		**Pg**	**21 27 44.5**	**+0.2**
FRD	**Ford Ranch, An**	**1.36**	**320**	*e*Pn		**Pn**	**21 27 44.1**	**+0.4**
PFO	**Pinyon Flats O**	**1.38**	**327**	*e*Pn		**Pn**	**21 27 44.1**	**+0.1**
PFO				*e*Sn		**Sn**	**21 28 00.4**	**-1.7**
CPE	**Camp Elliot**	**1.38**	**288**	*e*Pn		**Pg**	**21 27 45.6**	**+0.1**
CPE				*e*Sn		**Sg**	**21 28 03.4**	**-0.2**
SPIG	**San Pedro Mart**	**1.41**	**177**	*e*P		**Pn**	**21 27 44.6**	**+0.1**
SPIG				*i* S		**Sn**	**21 28 03.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.41**	**177**	*e*P		**Pb**	**21 27 45.0**	**-0.3**
SPIG	**San Pedro Mart**	**1.41**	**177**	*e*P		**Pn**	**21 27 44.6**	**+0.1**
SPX	**San Pedro Mart**	**1.41**	**177**	*e*P		**Pb**	**21 27 45.0**	**-0.2**
SPX				*e*S		**Sg**	**21 28 04.7**	**+0.2**
SPX				⇑*e*			21 28 09.1	
SPX				AML	AML		21 28 09.1	
	comp=N,400nm,0.5s							
SNDA	**J Saunders Pla**	**1.41**	**321**	*e*Pn		**Pb**	**21 27 45.0**	**-0.2**
PLM	**Palomar**	**1.42**	**309**	*e*Pn		**Pb**	**21 27 45.2**	**-0.2**
DNR	**Dunn Ranch,Anz**	**1.43**	**321**	*e*Pn		**Pb**	**21 27 45.3**	**-0.2**
BACC	**Bachelor Mtn.**	**1.70**	**313**	*e*Pn		**Pn**	**21 27 48.8**	**+0.5**
DGR	**Domenigoni Val**	**1.71**	**314**	*e*Pn		**Pn**	**21 27 49.2**	**+0.8**
214A	**Organ Pipe Nat**	**2.37**	**101**	*e*Pn		**Pn**	**21 27 56.9**	**-0.6**
MWC	**Mount Wilson**	**2.74**	**311**	*e*Pn		**Pb**	**21 28 06.6**	**-1.3**
PASC	**Pasadena Art C**	**2.79**	**308**	Pn		**Pn**	**21 28 04.1**	**+0.8**
PASC				*e*Sn		**Sn**	**21 28 36.0**	**-0.9**
GSC	**Goldstone, Bar**	**3.02**	**340**	*e*Pn		**Pn**	**21 28 08.9**	**+2.4**
OSI	**Osito Audit: C**	**3.42**	**310**	*e*Pn		**Pn**	**21 28 09.0**	**-2.9**
TUC	**Tucson**	**4.03**	**91**	*e*Pn		**Pn**	**21 28 21.6**	**+1.3**
TPNV	**Topopah Spring**	**4.52**	**353**	*e*Pg		Pg	21 28 50.1	+4.6
CCUT	**Cedar City**	**5.39**	**19**	*e*Pn		**Pn**	**21 28 39.1**	**-0.1**
121A	**Cookes Peak, D**	**6.56**	**87**	*e*Pn		**Pn**	**21 28 56.1**	**+1.0**

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*ISCJB **18** 21:37:24.6±0.2, 35°.76N±0°.02×67°.72E±0°.02, h10km, mb4.2/52, MS3.7/4, Error ellipse: s-maj=3.2km s-min=2.5km az=17.9*
*BJI **18** 21:37:25.4, 35°.84N×67°.61E, h10km, mB4.6/4, mb4.2/13, Ms4.1/3, Ms7 3.7/2*
*IDC **18** 21:37:25.1±0.6, 35°.74N×67°.71E, h0km, mb4.0/25, mb1 4.2/30, mb1mx4.1/42, mbtmp4.0/30, ML4.1/4, MS3.7/6, Ms1 3.7/6, ms1mx3.3/39, Error ellipse: s-maj=14.6km s-min=10.2km az=178.0*
*NEIC **18** 21:37:26.9±3.1, 35°.81N×67°.68E, h10km±20km, mb4.6/15, Error ellipse: s-maj=8.3km s-min=5.5km az=189.0*
*MOS **18** 21:37:28.8±0.9, 35°.87N×67°.66E, h35km, mb4.8/14, Error ellipse: s-maj=6.1km s-min=4.8km az=94.2*
*TEH **18** 21:37:29.0, 35°.95N×67°.53E, h10km, ML4.3*
*NNC **18** 21:37:31.2±2.4, 35°.89N×67°.57E, h29km±15km, mb4.9, mpv4.9, Error ellipse: s-maj=20.2km s-min=11.9km az=157.0*
ISC 18 21:37:26.2±0.4, 35°.74N±0°.04×67°.72E±0°.04, h10km, n238, σ1§63/257, mb4.2/52, MS3.7/4, 21C-14D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.62**	**137**	*e*PN		**Pb**	**21 37 56.0**	**-0.4**
KBL	**Kabul**	**1.62**	**137**	*e*Pn		**Pb**	**21 37 56.0**	**-0.4**
KBL				*e*Sn		**Sn**	**21 38 16.7**	**+0.6**
DZET	**Dzherino**	**3.18**	**16**	⇓Pn		**Pn**	**21 38 18.2**	**+1.7**
	126nm,0.9s							
DZET				⇑Pg		**Pg**	**21 38 27.8**	**+0.6**
	443nm,0.7s							
DZET				⇑Lg		Lg	21 39 10.9	
	1μm,0.7s							
CEP	**Cherat**	**3.95**	**118**	P		Pn	21 38 30.9	+3.9
CHCP	**Chirah Chowk**	**5.02**	**113**	P		**Pn**	**21 38 43.9**	**+2.2**
IMYA	**Miami**	**6.20**	**278**	*e*P		**Pn**	**21 38 58.6**	**+0.7**
SFK	**Sufi-Kurgan**	**6.25**	**45**	⇑Pn		Pn	21 39 03.0	+4.2
	57nm,0.5s							
SFK				⇓Sn		**Sn**	**21 40 15.9**	**+5.5**
	115nm,0.5s							
SFK				⇑Lg		Lg	21 40 51.2	
	196nm,0.9s							
ISRO	**Mashad**	**6.71**	**277**	*e*P		**Pn**	**21 39 04.1**	**-0.8**
IMOG	**Moghan**	**6.81**	**276**	*e*P		**Pn**	**21 39 07.3**	**+0.9**
IPAY	**Payeh**	**7.09**	**278**	*e*P		**Pn**	**21 39 09.6**	**-0.8**
IKRD	**Kardeh**	**7.50**	**281**	*e*P		Pn	21 39 04.2	-12
KSH	**Kashi**	**7.56**	**58**	Pn		**Pn**	**21 39 15.0**	**-1.6**
KSH				Sn		Sn	21 40 34.8	-7.6
KK31	**Karatay Array**	**7.66**	**16**	⇓Pn		**Pn**	**21 39 19.4**	**+1.5**
	16nm,0.2s,baz=205,slow=13,SNR=449							
KK31				⇑Sn		**Sn**	**21 40 43.7**	**-1.1**
	49nm,0.4s							
KK31				⇑Lg		Lg	21 41 27.7	
	63nm,0.6s,baz=198,slow=27,SNR=2.8							
KKAR	**Karatay Array**	**7.66**	**16**	*e*P		**Pn**	**21 39 18.9**	**+1.0**
KKAR				*e*			21 40 42.3	
KKAR	**Karatay Array**	**7.66**	**16**	*e*Pn		**Pn**	**21 39 18.9**	**+1.0**
KKAR				*e*Sn		**Sn**	**21 40 42.3**	**-2.5**
MNAS	**Manas**	**7.69**	**27**	⇑Pn		**Pn**	**21 39 20.2**	**+1.7**
	36nm,0.8s							
MNAS				⇑Sn		**Sn**	**21 40 45.0**	**-0.8**
	34nm,0.5s							
MNAS				⇓Lg		Lg	21 41 34.4	
	68nm,0.8s							
ASHT	**Ashkhabad**	**7.80**	**289**	⇑Pn		**Pn**	**21 39 22.7**	**+2.9**
	54nm,0.7s							
ASHT				⇑Sn		**Sn**	**21 40 51.8**	**+3.7**
	193nm,0.8s							
ASHT				⇓Lg		Lg	21 41 38.6	
	492nm,1.0s							
AML	**Almayashu**	**7.90**	**34**	P		**Pn**	**21 39 24.0**	**+2.5**
	SNR=68							
AML	**Almayashu**	**7.90**	**34**	*i* P		**Pn**	**21 39 24.0**	**+2.5**
DHRM	**DHARAMSHALA**	**7.93**	**114**	*e*P		**Pn**	**21 39 23.8**	**+2.0**
DHRM				*e*S		**Sn**	**21 40 56.1**	**+4.3**
DHRM				AML	AML		21 41 51.8	
	comp=E,297nm,0.7s							
DHRM				AML	AML		21 41 52.6	
	comp=N,314nm,0.2s							
GEYT	**Alibeck**	**8.00**	**289**	Pn		**Pn**	**21 39 20.9**	**-1.7**
	comp=N,6.6nm,0.3s,baz=118,slow=11,SNR=59							
GEYT				Sn		**Sn**	**21 40 51.2**	**-2.0**
	comp=N,3.0nm,0.3s,baz=88,slow=4.5,SNR=3.6							
GEYT				LR	LR		21 42 32.1	
	comp=N,266nm,18.9s,baz=55,slow=38							
EKS2	**Erkin-Say**	**8.36**	**32**	P		**Pn**	**21 39 30.7**	**+3.1**
	SNR=18							
EKS2	**Erkin-Say**	**8.36**	**32**	*e*P		**Pn**	**21 39 30.6**	**+3.1**
EKS2				*e*			21 40 57.7	
EKS2	**Erkin-Say**	**8.36**	**32**	*e*Pn		**Pn**	**21 39 30.6**	**+3.1**
EKS2				*e*Sn		**Sn**	**21 40 57.7**	**-4.3**
UCH	**Uchtor**	**8.36**	**37**	P		**Pn**	**21 39 30.8**	**+2.9**
	SNR=88							
UCH	**Uchtor**	**8.36**	**37**	*i* P		**Pn**	**21 39 30.8**	**+2.9**
BHK	**Bhakra**	**8.44**	**118**	*ex*		**Pg**	**21 40 06.5**	**-1.4**
KZA	**Kyzart**	**8.63**	**41**	P		**Pn**	**21 39 34.0**	**+2.5**
	SNR=97							
KZA	**Kyzart**	**8.63**	**41**	*i* P		**Pn**	**21 39 34.0**	**+2.5**
AAK	**Ala-Archa**	**8.66**	**35**	⇓Pn		**Pn**	**21 39 33.8**	**+2.1**
	comp=N,58nm,0.5s							
AAK				⇓Sn		**Sn**	**21 41 12.3**	**+2.8**
	comp=N,65nm,0.7s							
AAK	**Ala-Archa**	**8.66**	**35**	P		**Pn**	**21 39 33.8**	**+2.1**
	SNR=74							
AAK	**Ala-Archa**	**8.66**	**35**	*e*P		**Pn**	**21 39 33.0**	**+1.2**
AAK							21 41 10.4	
AAK	**Ala-Archa**	**8.66**	**35**	Pn		**Pn**	**21 39 33.6**	**+1.9**
	comp=N,32nm,0.3s,baz=204,slow=5.9,SNR=329							
AAK				Sn		**Sn**	**21 41 10.4**	**+0.9**
	comp=N,2.4nm,0.3s,baz=335,slow=19,SNR=2.9							
AAK				LR	LR		21 43 31.9	
	comp=N,326nm,20.0s,baz=330,slow=42							
AAK	**Ala-Archa**	**8.66**	**35**	*e*Pn		**Pn**	**21 39 33.0**	**+1.2**
AAK				Sn		**Sn**	**21 41 10.4**	**+0.9**
SDNR	**Sundarnagar**	**8.80**	**116**	*e*P		Pn	21 39 37.0	+3.4
FRU	**Bishkek**	**8.87**	**35**	*e*P		Pn	21 39 38.0	+3.5
FRU				*e*S		**Sn**	**21 41 17.0**	**+2.5**
FRU				smax	smax			
	comp=E,3μm,1.6s							
KBK	**Karagaybulak**	**8.89**	**37**	P		**Pn**	**21 39 37.3**	**+2.3**
	SNR=89							
KBK	**Karagaybulak**	**8.89**	**37**	*i* P		**Pn**	**21 39 37.3**	**+2.3**
CHMS	**Chumysh**	**9.06**	**35**	P		**Pn**	**21 39 39.1**	**+1.9**
	SNR=46							
CHMS	**Chumysh**	**9.06**	**35**	*i* P		**Pn**	**21 39 39.0**	**+1.9**
SMLA	**Simla**	**9.14**	**118**	*e*P		**Pn**	**21 39 39.6**	**+1.5**
SMLA				*e*S		**Sn**	**21 41 21.1**	**+0.1**
USP	**Ospenovka**	**9.16**	**33**	P		**Pn**	**21 39 40.0**	**+1.6**
	SNR=14							
USP	**Ospenovka**	**9.16**	**33**	*i* P		**Pn**	**21 39 40.0**	**+1.6**
ULHL	**Ulahol**	**9.28**	**43**	P		**Pn**	**21 39 42.9**	**+2.5**
	SNR=27							
ULHL	**Ulahol**	**9.28**	**43**	*i* P		**Pn**	**21 39 42.8**	**+2.5**
TKM2	**Tokmak 2**	**9.41**	**38**	⇓Pn		**Pn**	**21 39 43.1**	**+1.0**
	comp=E,30nm,0.5s							
TKM2				⇓Sn		**Sn**	**21 41 30.3**	**+2.3**
	comp=E,43nm,0.8s							
TKM2	**Tokmak 2**	**9.41**	**38**	P		Pn	21 39 45.4	+3.4
	SNR=21							
TKM2	**Tokmak 2**	**9.41**	**38**	*e*P		**Pn**	**21 39 42.6**	**+0.5**
TKM2				*e*			21 41 27.8	
TKM2	**Tokmak 2**	**9.41**	**38**	*e*Pn		**Pn**	**21 39 42.6**	**+0.5**
TKM2				*e*Sn		**Sn**	**21 41 27.8**	**-0.3**
DDI	**Dehra Dun**	**10.22**	**119**	*e*P		**Pn**	**21 39 53.9**	**+0.8**
DDI				AMB	AMB	AMB	21 39 55.4	
	comp=Z,20nm,0.5s							
KHET	**Khetri**	**10.28**	**136**	*e*P		**Pn**	**21 39 54.3**	**+0.5**
KHET				AMB	AMB	AMB	21 39 57.3	
	comp=Z,14nm,0.8s							
KHET				*ex*		**Sn**	**21 41 46.5**	**-2.6**
KNDC	**Almaty**	**10.33**	**41**	⇓Pn		Pn	21 39 57.8	+3.2
	comp=Z,82nm,0.6s							
NDI	**New Delhi**	**10.69**	**129**	*e*P		**Pn**	**21 40 01.0**	**+1.6**
NDI				*ex*		**Sn**	**21 41 56.0**	**-3.1**
SONA	**Sohna**	**10.90**	**131**	*e*P		**Pn**	**21 40 03.5**	**+1.1**
SONA				*ex*		**Sn**	**21 42 02.2**	**-2.5**
IGLD	**Ghaloghah**	**11.26**	**278**	*e*P		**Pn**	**21 40 08.4**	**+1.0**
PDGK	**Podgornoye**	**11.82**	**47**	⇑Pn		**Pn**	**21 40 15.9**	**+1.1**
	comp=Z,19nm,0.8s							
PDGK				⇑Sn		**Sn**	**21 42 27.2**	**+0.5**
	comp=Z,21nm,1.1s							
OTUK	**Ortayu**	**12.95**	**14**	⇑Pn		**Pn**	**21 40 29.1**	**-1.2**
	comp=Z,16nm,0.6s							
OTUK				⇓Sn		Sn	21 43 01.2	+6.8
	comp=Z,13nm,0.7s							
AB31	**Akbulak array**	**14.66**	**340**	⇑Pn		**Pn**	**21 40 50.4**	**-3.2**
	comp=Z,5.0nm,0.5s,baz=156,slow=13,SNR=60							
AB31				⇑Sn		Sn	21 43 28.9	-7.1
	comp=Z,5.5nm,0.6s,baz=163,slow=22,SNR=3.7							
ABKAR	**Akbulak array**	**14.66**	**340**	*e*Pn		**Pn**	**21 40 51.0**	**-2.6**
PYUN	**Piuthan**	**15.03**	**116**	*e*P		**Pn**	**21 40 56.4**	**-2.6**
	comp=Z,84nm,0.5s							
PYUN				*e*S		**Sn**	**21 43 39.0**	**-6.6**
BHPL	**Bhopal**	**15.04**	**143**	*ex*		**Pn**	**21 40 57.0**	**-2.0**
BHPL				AMB	AMB	AMB	21 40 58.7	
	comp=Z,8.9nm,0.9s							
DANN	**Dangsing**	**15.46**	**114**	*e*P		**Pn**	**21 41 03.7**	**-1.0**
	comp=Z,27nm,0.7s							
MK31	**Makanchi Array**	**15.53**	**40**	Pn		**Pn**	**21 41 03.6**	**-1.6**
	comp=Z,5.3nm,0.6s,baz=230,slow=11,SNR

LSA pmax pmax
comp=Z,10.0nm,1.1s
LSA Lhasa 20.59 100 *e*Pn Pn 21 42 08.6 +0.2
comp=Z,9.7nm,1.1s
KBZ Khabaz 20.63 300 P P **21 42 05.1 -0.6**
comp=Z,2.7nm,0.8s,baz=56,slow=24,SNR=6.0
KIV Kislovodsk 20.84 301 *e*P P **21 42 07.9 -0.2**
KIV *e*S S **21 45 59.9 -0.6**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,119nm,14.0s
KIV Kislovodsk 20.84 301 *e*P P **21 42 08.3 +0.2**
comp=Z,9.3nm,0.8s
ARU Arti 21.61 346*c i*P P **21 42 16.0 -0.1**
ARU 21 42 34.5
ARU S S **21 46 12.9 -2.4**
ARU pmax pmax
comp=Z,12nm,2.5s
ARU Arti 21.61 346 *e*P P **21 42 16.3 +0.2**
comp=Z,6.9nm,0.7s
SVE Sverdlovsk 21.63 349 *e*P P **21 42 19.9 +3.6**
SVE *e*S S **21 46 13.8 -1.9**
SVE pmax pmax
comp=Z,15nm,1.2s
ZALV Zalesovo Beam 21.77 28 P P **21 42 18.1 +0.1**
comp=Z,12nm,0.5s,baz=220,slow=10,SNR=54
NVS Novosibirsk 21.91 25 *e*P P **21 42 19.9 +0.6**
NVS *e*S S 21 46 08.0 -13
NVS pmax pmax
comp=Z,24nm,1.0s
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS smax smax
comp=E,19nm,2.0s
RAYN Ar Rayn 22.77 244 *e*P P **21 42 30.1 +1.2**
comp=E,8.2nm,1.7s
SHL Shillong 23.08 109 *e*P P **21 42 32.9 +0.6**
SHL AMB AMB 21 42 34.8
comp=Z,6.8nm,0.9s
VRHR Novokhopersk 24.21 317 *e*P P **21 42 47.0 +4.1**
VRHR pmax pmax
comp=Z,4.0nm,0.9s
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,4.0nm,0.6s
VORD Divnogorie 25.45 316 *e*P P **21 42 55.4 +1.3**
VORD pmax pmax
comp=Z,2.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
GTA Gaotai 25.63 72 *e*P P **21 42 57.8 +1.8**
GTA pP pP 21 43 06.8 +7.7
GTA sP sP 21 43 11.4 +11
GTA PMZ
comp=E,4.0nm,1.0s
VSR Storozhevoye 25.64 316 *e*P P **21 42 54.9 -0.9**
VSR pmax pmax
comp=Z,3.0nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,7.0nm,1.0s
ASF Jabal al Asfar 25.76 271 P P **21 42 58.7 +1.5**
comp=E,0.7nm,0.5s,baz=117,slow=4.5,SNR=2.4
MMAI Mount Meron Ar 26.74 274 P P **21 43 07.4 +1.3**
comp=E,0.1nm,0.3s,baz=56,slow=5.9,SNR=2.6
BRTR Keskin Array B 27.14 289 P P **21 43 11.0 +1.2**
BRTR Keskin Array B 27.14 289 P P **21 43 10.9 +1.2**
comp=E,3.1nm,0.9s,baz=98,slow=8.9,SNR=16
OBN Obninsk 28.84 322 *e*P P **21 43 26.7 +2.2**
OBN *e* 21 44 14.4
OBN pmax pmax
comp=Z,36nm,2.0s
OBN Obninsk 28.84 322 P P **21 43 26.2 +1.8**
comp=Z,4.3nm,0.4s,baz=310,slow=16,SNR=3.2
ZAK Zakamensk 29.49 49 *e*P P **21 43 31.6 +1.1**
ZAK pmax pmax
comp=Z,1.0nm,1.2s
SONM Songino Array 30.95 55 P P **21 43 45.3 +1.8**
comp=Z,2.1nm,0.8s,baz=265,slow=9.0,SNR=20
SONM LR LR 21 57 47.9
comp=Z,306nm,21.1s,baz=324,slow=40
AKASG Malin Array Be 31.38 311 P P **21 43 47.0 0.0**
comp=Z,1.3nm,0.6s,baz=92,slow=7.1,SNR=17
ULN Ulaanbaatar 31.39 55 *i* P P **21 43 48.6 +1.2**
ULN Ulaanbaatar 31.39 55 *e*P P **21 43 49.0 +1.6**
comp=Z,2.4nm,0.9s
CMAR Chiang Mai Arr 32.51 114 P P **21 43 59.0 +1.7**
CMAR Chiang Mai Arr 32.51 114 P P **21 43 59.0 +1.7**
comp=Z,0.5nm,0.5s,baz=308,slow=7.7,SNR=6.5
MLR Muntele Rosu 32.84 300 P P **21 44 01.9 +1.7**
comp=Z,2.2nm,0.8s,baz=100,slow=5.0,SNR=15
HHC Hu-ho-hao-te 34.52 68 *e*P P 21 44 18.8 +4.1
HHC PMZ
comp=Z,11nm,0.7s
JOF Joensuu 35.24 332 *e*P P **21 44 21.2 +0.7**
JOF pmax pmax
comp=Z,4.0nm,0.7s
KWP Kalwaria Pacla 35.33 307 *e*P P **21 44 22.2 +0.6**
KWP pmax pmax
comp=Z,123nm,2.5s
KWP Kalwaria Pacla 35.33 307 *e*P P **21 44 22.2 +0.6**
comp=Z,123nm,2.5s
UZH Uzhgorod 35.52 306 *e*P P **21 44 22.2 -0.9**
FINES FINESS Array B 36.66 328 P P **21 44 32.1 -0.7**
comp=Z,2.8nm,0.6s,baz=124,slow=10,SNR=11
KAF Kangasniemi 36.86 329 *e*P P **21 44 33.9 -0.5**
KAF pmax pmax
comp=Z,4.0nm,0.6s
PSZ Piszkesteto 37.08 304 *e*P P **21 44 35.3 -1.3**
PSZ pmax pmax
comp=Z,53nm,2.7s
PSZ Piszkesteto 37.08 304 *e*P P **21 44 35.3 -1.3**
comp=Z,53nm,2.7s
BOD Bodaibo 37.62 39 *e*P P **21 44 38.1 -2.8**
BOD pmax pmax
comp=Z,3.0nm,1.3s
BJT Baijiatuau 38.11 69 *e*P P **21 44 43.4 -1.9**
BJT pmax pmax
comp=Z,33nm,0.4s
BJT Baijiatuau 38.11 69 *e*P P **21 44 43.4 -1.9**
comp=Z,33nm,0.4s
ARCES ARCESS Array B 40.86 339 P P **21 45 07.0 -0.9**
comp=Z,2.8nm,0.7s,baz=123,slow=8.8,SNR=10
GERES GERESS Array B 41.20 306 P P **21 45 11.2 +0.1**
comp=Z,0.5nm,0.8s,baz=70,slow=4.4,SNR=5.6
CLL Collm 41.61 310 *e*P P **21 45 13.0 -1.3**
CLL Collm 41.61 310 *e*P P **21 45 13.0 -1.3**
CLL *e*PP **PP 21 46 50.0 -0.2**
NB2 NORSAR Subarra 43.40 324 P P **21 45 28.5 -0.2**
comp=Z,1.8nm,0.7s,baz=101,slow=8.6
NOA NORSAR Array B 43.40 324 P P **21 45 28.6 -0.2**
comp=Z,1.0nm,0.6s,baz=100,slow=8.1,SNR=6.4
NOA LR LR 22 06 24.8
comp=Z,60nm,18.8s,baz=100,slow=40
TUE Stuetta 44.34 303 *e*P P 21 45 32.5 -4.3
comp=Z,391nm,0.6s
PGF Pioggiola 45.25 297 *e*P P **21 45 42.5 -1.4**
comp=Z,11nm,0.9s
PGF Pioggiola 45.25 297 *e*P P **21 45 42.5 -1.4**
PGF pmax pmax
comp=Z,11nm,0.9s
PGF Pioggiola 45.25 297 *e*P P **21 45 42.5 -1.4**
comp=Z,11nm,0.9s
CDF Champ du Feu 45.49 306 *e*P P **21 45 45.9 +0.2**
CDF Champ du Feu 45.49 306 *e*P P **21 45 45.9 +0.2**
CDF Champ du Feu 45.49 306 *e*P P **21 45 45.9 +0.2**
HINF Hinteralfeld 45.85 305 *e*P P **21 45 48.3 -0.2**
HINF Hinteralfeld 45.85 305 *e*P P **21 45 48.3 -0.2**
HINF Hinteralfeld 45.85 305 *e*P P **21 45 48.3 -0.2**
LPG La Plagne 46.28 302 *e*P P **21 45 52.4 +0.2**
LPG La Plagne 46.28 302 *e*P P **21 45 52.4 +0.2**
LPG La Plagne 46.28 302 *e*P P **21 45 52.4 +0.2**
LPL La Plagne 46.29 302 *e*P P **21 45 52.4 +0.2**
LPL La Plagne 46.29 302 *e*P P **21 45 52.4 +0.2**
LPL La Plagne 46.29 302 *e*P P **21 45 52.4 +0.2**
CABF La Chapelle 46.55 303 *e*P P **21 45 54.5 +0.4**
comp=Z,9.9nm,1.1s
CABF La Chapelle 46.55 303 *e*P P **21 45 54.5 +0.4**
CABF pmax pmax
comp=Z,10.0nm,1.1s
CABF La Chapelle 46.55 303 *e*P P **21 45 54.5 +0.4**
comp=Z,9.9nm,1.1s
FRF La Foret Royal 46.73 299 *e*P P **21 45 55.0 -0.4**
FRF La Foret Royal 46.73 299 *e*P P **21 45 55.0 -0.4**
FRF La Foret Royal 46.73 299 *e*P P **21 45 55.0 -0.4**
KEST Kesra 46.75 288 P P **21 45 57.1 +1.3**
comp=Z,0.7nm,0.8s,baz=291,slow=12,SNR=3.8
LMR La Mourre 46.88 299 *e*P P **21 45 55.8 -0.8**
comp=Z,33nm,1.4s
LMR La Mourre 46.88 299 *e*P P **21 45 55.8 -0.8**
LMR pmax pmax
comp=Z,33nm,1.4s
LMR La Mourre 46.88 299 *e*P P **21 45 55.8 -0.8**
comp=Z,33nm,1.4s
MEZF Maizieres J'vi 46.94 306 *e*P P **21 45 57.7 +0.7**
MEZF Maizieres J'vi 46.94 306 *e*P P **21 45 57.7 +0.7**
BAIF Baives 47.27 308 *e*P P **21 46 00.6 +1.1**
BAIF Baives 47.27 308 *e*P P **21 46 00.6 +1.1**
BAIF Baives 47.27 308 *e*P P **21 46 00.6 +1.1**
TIXI Tiksi 47.47 22*ce*P P **21 46 02.0 +1.2**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
TIXI Tiksi 47.47 22 *e*P P **21 46 01.6 +0.8**
comp=Z,7.9nm,0.8s
KSAR Wonju Array Be 47.61 69 P P **21 46 02.3 -0.1**
KSAR Wonju Array Be 47.61 69 P P **21 46 02.3 -0.1**
KSRS Korea Array 47.64 69 P P **21 46 02.3 -0.3**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 47.64 69 P P **21 46 02.3 -0.3**
comp=Z,0.5nm,0.3s,baz=288,slow=4.6,SNR=4.0
VIVF Saint-Julien-l 47.85 301 *e*P P **21 46 04.4 +0.2**
comp=Z,7.8nm,1.1s
VIVF Saint-Julien-l 47.85 301 *e*P P **21 46 04.4 +0.2**
VIVF pmax pmax
comp=Z,8.0nm,1.1s
VIVF Saint-Julien-l 47.85 301 *e*P P **21 46 04.4 +0.2**
comp=Z,7.8nm,1.1s
LOR Lormes 47.94 305 *e*P P **21 46 04.6 -0.2**
LOR Lormes 47.94 305 *e*P P **21 46 04.6 -0.2**
LOR Lormes 47.94 305 *e*P P **21 46 04.6 -0.2**
SMF Signal de Mont 48.06 304 *e*P P **21 46 06.1 +0.3**
comp=Z,13nm,1.0s
SMF Signal de Mont 48.06 304 *e*P P **21 46 06.1 +0.3**
SMF pmax pmax
comp=Z,13nm,1.0s
SMF Signal de Mont 48.06 304 *e*P P **21 46 06.1 +0.3**
comp=Z,13nm,1.0s
AVF Avril sur Loir 48.37 304 *e*P P **21 46 08.3 +0.2**
comp=Z,8.6nm,1.1s
AVF Avril sur Loir 48.37 304 *e*P P **21 46 08.3 +0.2**
AVF pmax pmax
comp=Z,9.0nm,1.1s
AVF Avril sur Loir 48.37 304 *e*P P **21 46 08.3 +0.2**
comp=Z,8.6nm,1.1s
LASF Ste Croix 48.59 300 *e*P P **21 46 10.2 +0.3**
comp=Z,18nm,1.4s
LASF Ste Croix 48.59 300 *e*P P **21 46 10.2 +0.3**
comp=Z,18nm,1.4s
BGF Bois d'Agland 48.75 304 *e*P P **21 46 11.3 +0.2**
BGF Bois d'Agland 48.75 304 *e*P P **21 46 11.3 +0.2**
BGF Bois d'Agland 48.75 304 *e*P P **21 46 11.3 +0.2**
USRK Ussuriysk Ar. 48.85 59 P P **21 46 10.3 -1.5**
comp=Z,1.2nm,0.7s,baz=295,slow=8.0,SNR=5.4
TCF Toulx Ste Croi 49.24 304 *e*P P **21 46 15.3 +0.4**
comp=Z,14nm,1.2s
TCF Toulx Ste Croi 49.24 304 *e*P P **21 46 15.3 +0.4**
TCF pmax pmax
comp=Z,14nm,1.2s
TCF Toulx Ste Croi 49.24 304 *e*P P **21 46 15.3 +0.4**
comp=Z,14nm,1.2s
MTLF Montolieu 49.92 300 *e*P P **21 46 20.2 +0.1**
MTLF Montolieu 49.92 300 *e*P P **21 46 20.2 +0.1**
MTLF Montolieu 49.92 300 *e*P P **21 46 20.2 +0.1**
RJF Les Rejaudoux 49.93 302 *e*P P **21 46 20.9 +0.8**
RJF Les Rejaudoux 49.93 302 *e*P P **21 46 20.9 +0.8**
RJF Les Rejaudoux 49.93 302 *e*P P **21 46 20.9 +0.8**
LDF La Druitiere 50.31 307 *e*P P **21 46 22.7 -0.2**
comp=Z,3.0nm,0.7s
LDF La Druitiere 50.31 307 *e*P P **21 46 22.7 -0.2**
LDF pmax pmax
comp=Z,3.0nm,0.6s
LDF La Druitiere 50.31 307 *e*P P **21 46 22.7 -0.2**
comp=Z,3.0nm,0.6s
FLN La Foliniere 50.51 307 *e*P P **21 46 24.3 -0.1**
FLN La Foliniere 50.51 307 *e*P P **21 46 24.3 -0.1**
FLN La Foliniere 50.51 307 *e*P P **21 46 24.3 -0.1**
LFF La Frestale 50.55 302 *e*P P **21 46 25.3 +0.5**
LFF La Frestale 50.55 302 *e*P P **21 46 25.3 +0.5**
LFF La Frestale 50.55 302 *e*P P **21 46 25.3 +0.5**
MFF Saint Martin d 50.76 304 *e*P P **21 46 26.2 -0.1**
MFF Saint Martin d 50.76 304 *e*P P **21 46 26.2 -0.1**
MFF Saint Martin d 50.76 304 *e*P P **21 46 26.2 -0.1**
GRR Gorron 50.83 307 *e*P P **21 46 26.8 -0.1**
GRR Gorron 50.83 307 *e*P P **21 46 26.8 -0.1**
GRR Gorron 50.83 307 *e*P P **21 46 26.8 -0.1**
ETSF Etsaut 52.00 300 *e*P P **21 46 36.0 +0.2**
comp=Z,3.6nm,0.8s
ETSF Etsaut 52.00 300 *e*P P **21 46 36.0 +0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.8s
ETSF Etsaut 52.00 300 *e*P P **21 46 36.0 +0.2**
comp=Z,3.6nm,0.8s
ROSF Rostrenen 52.41 307 *e*P P **21 46 38.8 +0.1**
ROSF Rostrenen 52.41 307 *e*P P **21 46 38.8 +0.1**
ROSF Rostrenen 52.41 307 *e*P P **21 46 38.8 +0.1**
ESDC Sonseca Array 55.45 297 P P **21 47 01.0 -0.1**
comp=Z,0.5nm,0.6s,baz=64,slow=7.6,SNR=5.6
MJAR Matsushiro Arr 55.70 67 P P **21 47 02.2 -0.7**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 55.70 67 P P **21 47 02.2 -0.7**
comp=Z,0.8nm,0.6s,baz=279,slow=10,SNR=5.4
ASAJ Asahikawa 56.20 57 LR LR 22 13 37.4
comp=Z,121nm,18.6s,baz=334,slow=39
TORD Torodi Ar. Bea 63.03 267 P P **21 47 52.6 -1.3**
comp=Z,2.7nm,0.8s,baz=42,slow=5.9,SNR=13
ILAR Eielson Array 76.20 15 P P **21 49 14.6 +0.2**
comp=Z,2.0nm,0.9s,baz=322,slow=4.9,SNR=15
YKA Yellowknife Ar 82.09 1 P P **21 49 47.2 +0.7**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 82.09 1 P P **21 49 47.2 +0.7**
comp=Z,2.6nm,0.8s,baz=352,slow=5.4,SNR=26
WRA Warramunga Arr 83.89 120 P P **21 49 56.6 +0.1**
comp=Z,1.6nm,1.1s,baz=324,slow=5.0,SNR=9.5
ASAR Alice Springs 86.04 123 P P **21 50 08.5 +1.2**
comp=Z,1.5nm,0.9s,baz=312,slow=4.8,SNR=10
ULM Lac du Bonnet 93.16 350 P P **21 50 40.5 +0.1**
comp=Z,1.3nm,0.8s,baz=16,slow=6.3,SNR=3.1

IDC ***18*** *22:16:26.0±0.7,31°.47S×179°.71E,h425km±6km, mb3.8/17, mb1 4.0/17,mb1mx3.8/22,mbtmp4.5/17, Error ellipse: s-maj=13.3km s-min=10.4km az=123.0*
NEIC ***18*** *22:16:26.2±0.6,31°.55S×179°.77E,h432km±6km, mb4.8/7, Error ellipse: s-maj=10.4km s-min=7.5km az=108.0*
ISCJB ***18*** *22:16:27.0±0.4,31°.77S±0°.03×179°.63E±0°.07,h450km, mb4.1/21, Error ellipse: s-maj=8.6km s-min=3.4km az=0.3*
ISC 18 22:16:27.3±0.5,31°.69S±0°.06×179°.81E±0°.08,h450km,
n162,σ1°60/182,mb4.1/19,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.12**	**40**	P	P	22 17 31.7	-3.7
	389nm,0.3s,baz=112,slow=8.0,SNR=16						
RAO				S	S	22 18 24.1	-6.5
	528nm,0.3s,baz=84,slow=22,SNR=13						
RAO	**Raoul Island**	**3.12**	**40**	P	P	22 17 31.7	-3.7
RAO				*e*Pn	P	22 17 31.9	-3.5
RAO				S	S	22 18 24.1	-6.5
RAO				*e*Sn	**S**	**22 18 25.8**	**-4.8**
MXZ	**Matakaoa Point**	**5.99**	**192**	PN	**P**	**22 18 01.0**	**-0.4**
MXZ				SN	S	22 19 08.6	-10
KUZ	**Kuaotunu**	**6.08**	**213**	PN	P	22 18 05.4	+3.1
WIZ	**White Island**	**6.21**	**200**	PN	**P**	**22 18 05.8**	**+2.2**
WMGZ	**Waiomatatini S**	**6.22**	**190**	PN	**P**	**22 18 03.7**	**-0.1**
WMGZ				SN	**S**	**22 19 21.1**	**-1.6**
OUZ	**Omahuta**	**6.27**	**234**	*e*Pn	**P**	**22 18 07.2**	**+2.9**
HAZ	**Te Kaha**	**6.28**	**195**	PN	**P**	**22 18 03.7**	**-0.6**
PUZ	**Puketiti**	**6.50**	**191**	PN	**P**	**22 18 06.1**	**-0.5**
PUZ				SN	S	22 19 21.2	-6.7
MKAZ	**Moumakai**	**6.63**	**214**	PN	P	22 18 11.4	+3.3
TWGZ	**Tauwhareparae**	**6.64**	**193**	*e*PN	**P**	**22 18 08.0**	**-0.2**
OPRZ	**Ohinepanea**	**6.70**	**203**	PN	**P**	**22 18 11.8**	**+3.0**
MARZ	**Manawahe**	**6.79**	**201**	PN	**P**	**22 18 12.3**	**+2.5**
WTAZ	**Waiatarua**	**6.79**	**218**	PN	P	22 18 13.0	+3.3
MWZ	**Matawai**	**6.89**	**195**	PN	**P**	**22 18 10.2**	**-0.6**
CNGZ	**Carnagh Statio**	**6.91**	**191**	*e*PN	**P**	**22 18 11.1**	**+0.1**
URZ	**Urewera**	**6.92**	**198**	P	**P**	**22 18 12.5**	**+1.4**
	586nm,0.3s,baz=357,slow=4.2,SNR=164						
URZ				S	**S**	**22 19 34.9**	**-1.1**
	162nm,0.3s,baz=90,slow=23,SNR=13						
URZ	**Urewera**	**6.92**	**198**	PN	**P**	**22 18 10.1**	**-0.9**
URZ	**Urewera**	**6.92**	**198**	*e*Pn	**P**	**22 18 11.7**	**+0.6**
URZ				*e*S	**S**	**22 19 37.5**	**+1.4**
TKGZ	**Te Karaka**	**6.92**	**193**	PN	**P**	**22 18 10.9**	**-0.2**
KARZ	**Kaharoa**	**6.96**	**204**	PN	**P**	**22 18 12.9**	**+1.3**
TOZ	**Tahuroa Road**	**6.99**	**209**	PN	P	22 18 15.0	+3.1
OMRZ	**Omania**	**7.00**	**203**	PN	**P**	**22 18 13.4**	**+1.5**
RAGZ	**Rawiri**	**7.07**	**195**	PN	**P**	**22 18 12.2**	**-0.5**
TARZ	**Mount Tarawera**	**7.07**	**202**	PN	**P**	**22 18 15.3**	**+2.6**
RRRZ	**Republican Roa**	**7.17**	**201**	PN	**P**	**22 18 15.7**	**+2.0**
RIGZ	**Rimuhau**	**7.20**	**193**	*e*PN	**P**	**22 18 14.1**	**0.0**
HRRZ	**Handcock Road**	**7.29**	**202**	PN	**P**	**22 18 15.8**	**+0.9**
PRRZ	**Plateau Road**	**7.35**	**201**	PN	**P**	**22 18 15.5**	**-0.1**
SNGZ	**Shannon Statio**	**7.36**	**195**	PN	**P**	**22 18 15.0**	**-0.7**
PRGZ	**Paritu Road**	**7.39**	**192**	PN	**P**	**22 18 17.8**	**+1.7**
ALRZ	**Allen Road**	**7.42**	**202**	PN	**P**	**22 18 16.5**	**-0.1**
KNZ	**Kokohu**	**7.52**	**193**	*e*PN	**P**	**22 18 17.5**	**+0.1**
RAHZ	**Arahi**	**7.55**	**196**	PN	**P**	**22 18 17.2**	**-0.6**
MHGZ	**Mahia Peninsul**	**7.61**	**191**	PN	**P**	**22 18 20.5**	**+2.1**
WHHZ	**Waihua**	**7.67**	**195**	PN	**P**	**22 18 20.0**	**+1.0**
NMHZ	**Naumai**	**7.79**	**197**	PN	**P**	**22 18 19.7**	**-0.7**
ARHZ	**Aropaoanui**	**7.90**	**196**	*e*PN	**P**	**22 18 21.4**	**-0.1**
HIZ	**Hauiti**	**7.93**	**209**	PN	**P**	**22 18 24.2**	**+2.4**
BKZ	**Black Stump Fm**	**7.94**	**199**	PN	**P**	**22 18 20.3**	**-1.7**
BKZ				SN	**S**	**22 19 52.4**	**-3.7**
BKZ	**Black Stump Fm**	**7.94**	**199**	*e*Pn	**P**	**22 18 20.7**	**-1.3**
MCHZ	**McNeill Hill**	**8.14**	**197**	PN	**P**	**22 18 23.4**	**-0.8**
OTVZ	**Oturere**	**8.19**	**203**	PN	**P**	**22 18 24.1**	**-0.7**
NGZ	**Ngauruhoe**	**8.22**	**204**	PN	**P**	**22 18 25.1**	**0.0**
CKHZ	**Cape Kidnapper**	**8.26**	**195**	PN	**P**	**22 18 24.6**	**-0.7**
COVZ	**Chateau Observ**	**8.26**	**204**	PN	**P**	**22 18 25.3**	**-0.2**
TUVZ	**Tukino**	**8.29**	**203**	PN	**P**	**22 18 24.7**	**-1.2**
FWVZ	**Far West T-bar**	**8.31**	**203**	PN	**P**	**22 18 25.7**	**-0.5**
WHVZ	**Whangaehu Hut**	**8.32**	**203**	PN	**P**	**22 18 26.0**	**-0.3**
TRVZ	**Turoa**	**8.35**	**203**	PN	**P**	**22 18 25.5**	**-1.2**
BHHZ	**Black Hill Sta**	**8.36**	**200**	PN	**P**	**22 18 24.4**	**-2.2**
WNVZ	**Wahianoa**	**8.36**	**203**	PN	**P**	**22 18 25.6**	**-1.0**
MOVZ	**Moawhango**	**8.38**	**202**	PN	**P**	**22 18 25.0**	**-1.8**
PKVZ	**Pokaka**	**8.41**	**204**	PN	**P**	**22 18 26.3**	**-0.8**
KRHZ	**Kereru**	**8.42**	**198**	PN	**P**	**22 18 25.1**	**-2.0**
KRHZ				SN	**S**	**22 20 00.6**	**-4.9**
KAHZ	**Kahuranaki**	**8.43**	**196**	PN	**P**	**22 18 26.7**	**-0.6**
KAHZ				*e*SN	**S**	**22 20 02.1**	**-3.8**
MTVZ	**Mangateitei**	**8.45**	**203**	PN	**P**	**22 18 27.4**	**-0.2**
PXZ	**Pawanui**	**8.66**	**195**	*e*PN	**P**	**22 18 27.9**	**-1.8**
PXZ				SN	**S**	**22 20 06.9**	**-3.4**
PNHZ	**Pukenui**	**8.71**	**199**	PN	**P**	**22 18 29.8**	**-0.5**
WPHZ	**Waipukurau**	**8.79**	**197**	PN	**P**	**22 18 30.9**	**-0.3**
WPHZ				SN	**S**	**22 20 11.8**	**-1.2**
WAZ	**Wanganui**	**8.95**	**205**	PN	**P**	**22 18 33.5**	**+0.6**
DVHZ	**Dannevirke**	**9.09**	**198**	PN	**P**	**22 18 33.2**	**-1.1**
DVHZ				SN	**S**	**22 20 17.3**	**-1.6**
ANWZ	**Angora Road**	**9.16**	**196**	PN	**P**	**22 18 34.8**	**-0.4**
ANWZ				SN	**S**	**22 20 16.1**	**-4.1**
BFZ	**Birch Farm**	**9.42**	**197**	*e*Pn	**P**	**22 18 38.3**	**+0.3**
MRZ	**Mangatainoka R**	**9.58**	**200**	*e*PN	**P**	**22 18 37.8**	**-1.9**
MRZ				SN	**S**	**22 20 24.0**	**-4.7**
TIWZ	**Tintock**	**9.61**	**198**	PN	**P**	**22 18 39.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**9.82**	**199**	PN	**P**	**22 18 40.7**	**-1.7**
OGWZ	**Otaki Gorge**	**9.85**	**201**	PN	**P**	**22 18 41.3**	**-1.3**
OGWZ				SN	**S**	**22 20 30.0**	**-4.0**
TMWZ	**Te Maipa**	**9.91**	**197**	PN	**P**	**22 18 43.6**	**+0.2**
KIW	**Kapiti Island**	**9.97**	**202**	PN	**P**	**22 18 43.0**	**-1.0**
MTW	**Mount Morrison**	**10.07**	**199**	PN	**P**	**22 18 44.0**	**-1.0**
CAW	**Cannon Point**	**10.14**	**201**	PN	**P**	**22 18 44.9**	**-0.9**
TRWZ	**Traveller**	**10.24**	**198**	PN	**P**	**22 18 47.6**	**+0.7**
PAWZ	**Paruwai Farm**	**10.29**	**199**	PN	**P**	**22 18 46.9**	**-0.6**
MSWZ	**Moikau Station**	**10.38**	**199**	*e*PN	**P**	**22 18 47.5**	**-0.9**
SNZO	**South Karori**	**10.44**	**202**	*e*P	**P**	**22 18 49.3**	**+0.3**
SNZO				*e*S	**S**	**22 20 44.1**	**-1.7**
TCW	**Tory Channel**	**10.49**	**204**	PN	**P**	**22 18 48.1**	**-1.6**
PLWZ	**Palliser**	**10.52**	**199**	PN	**P**	**22 18 49.0**	**-0.9**
NFK	**Norfolk Island**	**10.59**	**281**	P	P	22 18 44.5	-6.4
	baz=11,SNR=4.3						
NFK				S	S	22 21 04.0	+15
	baz=11,SNR=3.8						
TUWZ	**Tuamarina**	**10.80**	**204**	PN	**P**	**22 18 51.3**	**-1.7**
NNZ	**Nelson**	**10.82**	**207**	PN	**P**	**22 18 51.9**	**-1.4**
NNZ				SN	**S**	**22 20 49.4**	**-4.1**
QRZ	**Quartz Range**	**10.84**	**211**	*e*PN	**P**	**22 18 53.4**	**-0.1**
BSWZ	**Blackbird Sta**	**11.08**	**204**	*e*PN	**P**	**22 18 55.4**	**-0.6**
THZ	**Tophouse**	**11.47**	**207**	PN	**P**	**22 18 59.4**	**-1.0**
THZ				*e*SN	**S**	**22 21 01.6**	**-5.1**
KHZ	**Kahutara**	**11.82**	**203**	PN	**P**	**22 19 03.3**	**-0.7**
KHZ				SN	**S**	**22 21 09.8**	**-3.5**
KHZ	**Kahutara**	**11.82**	**203**	*e*P	**P**	**22 19 04.5**	**+0.5**
DSZ	**Denniston Nort**	**11.91**	**210**	PN	**P**	**22 19 04.4**	**-0.7**
LTZ	**Lake Taylor**	**12.59**	**206**	PN	**P**	**22 19 12.0**	**-0.5**
OXZ	**Oxford**	**13.14**	**206**	PN	**P**	**22 19 17.0**	**-1.4**
OXZ				*e*SN	**S**	**22 21 36.3**	**-3.3**
MQZ	**McQueen's Vall**	**13.26**	**203**	PN	**P**	**22 19 19.1**	**-0.5**
WVZ	**Waitaha Valley**	**13.45**	**210**	PN	**P**	**22 19 22.1**	**+0.4**
RPZ	**Rata Peaks**	**13.85**	**207**	P	**P**	**22 19 24.4**	**-1.6**
	5.1nm,0.3s,baz=12,slow=1.1,SNR=14						
RPZ	**Rata Peaks**	**13.85**	**207**	*e*P	**P**	**22 19 25.7**	**-0.3**
RPZ				*e*S	**S**	**22 21 52.5**	**-1.1**
MSVF	**Nonsavu**	**13.99**	**353**	*e*P	**P**	**22 19 25.8**	**-2.1**
FOZ	**Fox Glacier**	**14.30**	**211**	PN	**P**	**22 19 29.8**	**-1.0**
LBZ	**Lake Benmore**	**14.76**	**208**	PN	**P**	**22 19 35.8**	**+0.1**
JCZ	**Jackson Bay**	**15.11**	**212**	PN	**P**	**22 19 38.7**	**-1.0**
ODZ	**Otahua Downs**	**15.13**	**206**	PN	**P**	**22 19 39.9**	**+0.2**
DZM	**Mont Dzumac**	**15.28**	**306**	P	**P**	**22 19 41.9**	**+0.2**
	4.4nm,0.3s,baz=178,slow=17,SNR=31						
DZM	**Mont Dzumac**	**15.28**	**306**	*e*P	**P**	**22 19 41.6**	**-0.1**
	55nm,0.8s						
AFI	**Afiamalu**	**19.31**	**25**	*e*P	**P**	**22 20 19.1**	**-3.5**
	16nm,1.1s						
RMQ	**Roma**	**27.57**	**273**	P	**P**	**22 21 39.0**	**+2.4**
	baz=28,SNR=5.2						
CMSA	**Cobar Meteorol**	**28.99**	**261**	P	**P**	**22 21 50.7**	**+1.8**
	baz=29,SNR=22						
QLP	**Quilpie**	**31.40**	**270**	P	**P**	**22 22 10.3**	**+0.4**
	baz=31,SNR=7.4						

IDC 18 21:38:03.7±5.8,9°.11S×125°.45E,h44km±74km,mb3.4/1, mb1 3.4/4,mb1mx3.1/20,mbtmp3.3/4,ML3.1/3,Error ellipse: s-maj=63.3km s-min=20.8km az=12.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.07**	**238**	P	Pn	21 38 34.7	-1.4
	5.3nm,0.3s,baz=79,slow=5.2,SNR=7.9						
BATI				S	Sn	21 39 01.3	+0.6
	4.9nm,0.3s,baz=342,slow=20,SNR=5.9						
WRA	**Warramunga Arr**	**13.78**	**142**	P	Pn	21 41 17.0	+0.4
	0.1nm,0.3s,baz=320,slow=13,SNR=8.2						
WRA				S	Sn	21 43 46.2	-2.0
	0.1nm,0.3s,baz=321,slow=25,SNR=5.7						
ASAR	**Alice Springs**	**16.58**	**152**	P	P	21 41 54.7	-0.5
	0.1nm,0.3s,baz=318,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**67.62**	**329**	P	P	21 48 56.1	+0.1
	0.7nm,1.0s,baz=134,slow=6.2,SNR=2.1						

**MAN 18 21:39:14,12°.30N×123°.75E,h8km,mb4.5

CTA	**Charters Tower**	**32.20 283**	P		**P**	**22 22 16.4**	**-0.5**
	22nm,0.7s,baz=111,slow=11,SNR=19						
CTAO	**Charters Tower**	**32.20 283**	*eP*		**P**	**22 22 17.5**	**+0.7**
STKA	**Stephens Creek**	**32.37 259**	P		**P**	**22 22 19.8**	**+1.5**
	15nm,0.7s,baz=103,slow=11,SNR=67						
STKA	**Stephens Creek**	**32.37 259**	P		**P**	**22 22 19.8**	**+1.5**
	baz=32,SNR=43						
STKA	**Stephens Creek**	**32.37 259**	*eP*		**P**	**22 22 19.8**	**+1.5**
	4.2nm,0.9s						
BBOO	**Buckleboo**	**36.82 256**	P		**P**	**22 22 56.0**	**+0.3**
	baz=37,SNR=37						
BBOO	**Buckleboo**	**36.82 256**	*eP*		**P**	**22 22 56.3**	**+0.5**
	1.4nm,0.8s						
QIS	**Mount Isa**	**37.57 277**	P		**P**	**22 23 02.4**	**+0.4**
	baz=38,SNR=3.7						
COEN	**Coen**	**37.87 289**	P		**P**	**22 23 04.5**	**0.0**
	baz=38,SNR=6.7						
COEN	**Coen**	**37.87 289**	*eP*		**P**	**22 23 04.8**	**+0.2**
	14nm,0.9s						
AS31	**Alice Springs**	**41.19 269**	*eP*		**P**	**22 23 30.5**	**-0.9**
ASAR	**Alice Springs**	**41.19 269**	P		**P**	**22 23 31.1**	**-0.4**
	9.9nm,0.8s,baz=108,slow=7.5,SNR=94						
ASAR			PcP		**PcP**	**22 25 20.3**	**0.0**
	2.1nm,0.8s,baz=112,slow=6.7,SNR=4.4						
ASAR			ScP		**ScP**	**22 28 28.1**	**+1.4**
	2.9nm,0.8s,baz=120,slow=4.2,SNR=15						
WB2	**Warramunga Arr**	**42.29 275**	*eP*		**P**	**22 23 39.4**	**-0.7**
WRAB	**Tennant Creek**	**42.29 275**	*eP*		**P**	**22 23 39.4**	**-0.8**
	31nm,0.8s						
WRA	**Warramunga Arr**	**42.30 275**	P		**P**	**22 23 39.7**	**-0.6**
	16nm,0.4s,baz=111,slow=8.0,SNR=359						
WRA			PcP		**PcP**	**22 25 24.0**	**-0.1**
	3.0nm,0.8s,baz=122,slow=3.0,SNR=6.7						
WRA			ScP		**ScP**	**22 28 33.4**	**+2.2**
	2.0nm,0.8s,baz=115,slow=4.0,SNR=9.0						
FORT	**Forrest**	**43.91 257**	P		**P**	**22 23 52.6**	**-0.1**
	baz=44,SNR=27						
FORT	**Forrest**	**43.91 257**	*eP*		**P**	**22 23 52.0**	**-0.8**
	58nm,0.6s						
WRKA	**Warakurna**	**45.47 265**	P		**P**	**22 24 04.2**	**-0.8**
	baz=45,SNR=42						
WRKA			S		**S**	**22 30 10.3**	**-2.5**
	baz=45,SNR=3.6						
JAY	**Jayapura**	**46.87 300**	P		**P**	**22 24 13.8**	**-2.0**
	20nm,0.9s,baz=112,slow=3.9,SNR=3.6						
KDU	**Kakadu**	**47.32 283**	P		**P**	**22 24 18.1**	**-1.1**
	baz=47,SNR=6.1						
MTN	**Manton Dam**	**48.36 281**	P		**P**	**22 24 26.2**	**-0.8**
	baz=48,SNR=14						
KMBL	**Kambalda**	**48.85 254**	P		**P**	**22 24 30.6**	**0.0**
	baz=49,SNR=7.3						
KNRA	**Kununurra**	**48.95 277**	P		**P**	**22 24 31.2**	**-0.2**
	baz=49,SNR=8.1						
MEEK	**Meekatharra**	**53.08 259**	P		**P**	**22 25 01.0**	**-0.5**
	baz=53,SNR=11						
MORW	**Morawa**	**54.37 255**	P		**P**	**22 25 10.8**	**+0.1**
	baz=54,SNR=4.5						
GIRL	**Giralia**	**58.28 261**	P		**P**	**22 25 39.3**	**+1.4**
	baz=58,SNR=3.8						
QSPA	**South Pole Qui**	**58.42 180**	P		**P**	**22 25 41.3**	**+3.0**
	3.4nm,0.9s,baz=89,slow=0.7,SNR=11						
SNAA	**Sanae**	**76.91 179**	P		**P**	**22 27 33.4**	**+1.6**
	0.5nm,0.5s,baz=206,slow=5.4,SNR=13						
VNA3	**Neumayer Olymp**	**77.14 177**	P		**P**	**22 27 35.4**	**+2.5**
VNA2	**Neumayer--Watz**	**77.55 178**	P		**P**	**22 27 38.0**	**+2.9**
	baz=184,slow=5.0						
MJAR	**Matsushiro Arr**	**78.26 327**	P		**P**	**22 27 38.0**	**-1.5**
	0.5nm,0.4s,baz=161,slow=4.4,SNR=4.6						
ASAJ	**Asahikawa**	**82.74 334**	P		**P**	**22 28 04.3**	**+1.6**
	2.0nm,0.5s,baz=106,slow=7.4,SNR=3.9						
KSRS	**Korea Array**	**84.13 321**	P		**P**	**22 28 09.8**	**+0.1**
	1.6nm,0.5s,baz=143,slow=6.0,SNR=7.1						
KSAR	**Wonju Array Be**	**84.15 321**	P		**P**	**22 28 09.8**	**0.0**
PETK	**Petropavlovsk-**	**86.61 347**	P		**P**	**22 28 21.8**	**+0.4**
	2.3nm,0.6s,baz=135,slow=7.7,SNR=5.0						
USRK	**Ussuriysk Ar.**	**87.22 328**	P		**P**	**22 28 24.8**	**+0.3**
	0.9nm,0.5s,baz=134,slow=4.2,SNR=5.3						
NVAR	**Mina Array Bea**	**90.46 44**	P		**P**	**22 28 41.4**	**+1.2**
	2.0nm,0.8s,baz=220,slow=8.0,SNR=16						
CMAR	**Chiang Mai Arr**	**92.06 290**	P		**P**	**22 28 48.7**	**+1.0**
	0.8nm,0.4s,baz=146,slow=4.7,SNR=4.6						
TXAR	**Lajitas Array**	**94.67 58**	P		**P**	**22 29 01.1**	**+1.7**
	0.2nm,0.6s,baz=170,slow=8.4,SNR=3.6						
PDAR	**Pinedale Array**	**98.37 45**	P		Pdif	22 29 16.4	+0.4
	0.4nm,0.8s,baz=194,slow=4.4,SNR=4.0						
ILAR	**Eielson Array**	**99.61 14**	P		**Pdif**	**22 29 22.0**	**+1.4**
	0.7nm,1.0s,baz=209,slow=10,SNR=2.4						
YKA	**Yellowknife Ar**	**107.42 26**	PKKPbc		PKKPbc	22 45 18.5	-0.4
	0.2nm,0.7s,baz=38,slow=3.5,SNR=4.9						
MKAR	**Makanchi Array**	**117.16 310**	PKP		**PKPdf**	**22 34 19.6**	**-0.5**
	0.3nm,0.6s,baz=208,slow=0.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**117.74 318**	PKP		**PKPdf**	**22 34 21.1**	**+0.2**
	0.5nm,0.6s,baz=27,slow=1.4,SNR=3.4						
KMBO	**Kilima Mbogo**	**131.80 235**	SKPbc		**SKPab**	**22 37 34.6**	**+0.7**
	0.9nm,0.4s,baz=155,slow=2.6,SNR=5.3						
GEYT	**Alibeck**	**132.39 294**	PKP		**PKPdf**	**22 34 50.4**	**+0.8**
	0.9nm,0.6s,baz=85,slow=2.2,SNR=3.2						
GEYT			SKPbc		**SKPab**	**22 37 35.9**	**+0.4**
	4.3nm,0.8s,baz=236,slow=1.6,SNR=10						
ARCES	**ARCESS Array B**	**139.42 346**	PKhKP		PKPpre	22 34 54.8	
	1.9nm,0.8s,baz=48,slow=1.8,SNR=3.7						
ARCES			PKP		**PKiKP**	**22 35 03.3**	**-0.7**
	0.6nm,0.6s,baz=72,slow=1.5,SNR=4.4						
ARCES			SKPbc		**SKiKP**	**22 37 56.0**	**-0.7**
	1.9nm,0.7s,baz=10,slow=1.4,SNR=4.0						
GNI	**Garni**	**142.97 296**	PKP		**PKPdf**	**22 35 10.3**	**+1.3**
	1.1nm,0.4s,baz=204,slow=22,SNR=2.5						
KBZ	**Khabaz**	**144.23 302**	PKP		**PKPdf**	**22 35 10.9**	**+0.1**
	7.0nm,0.9s,baz=56,slow=24,SNR=10						
FINES	**FINESS Array B**	**145.67 338**	PKPbc		**PKPbc**	**22 35 14.1**	**0.0**
	6.8nm,0.5s,baz=63,slow=3.3,SNR=88						
NB2	**NORSAR Subarra**	**149.70 349**	PKP		**PKPbc**	**22 35 24.8**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.70 349**	PKPbc		**PKPbc**	**22 35 26.3**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=16,slow=4.2,SNR=4.5						
NOA			PKPab		**PKPab**	**22 35 31.7**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=23,slow=3.3,SNR=8.6						
AKASG	**Malin Array Be**	**151.12 320**	PKPbc		**PKPbc**	**22 35 28.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=61,slow=2.8,SNR=7.5						
AKASG			PKPab		**PKPab**	**22 35 37.5**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=54,slow=4.8,SNR=4.3						
BRTR	**Keskin Array B**	**151.51 296**	PKPbc		**PKPbc**	**22 35 29.9**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=138,slow=3.9,SNR=15						
BRTR			PKPab		**PKPab**	**22 35 40.0**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=106,slow=4.1,SNR=14						
EKA	**Eskdalemuir Ar**	**156.27 4**	PKPab		**PKPab**	**22 35 59.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=344,slow=2.8,SNR=3.6						
CLL	**Collm**	**158.11 337**	*e*PKPab		**PKPab**	**22 36 08.0**	**+0.1**
GERES	**GERESS Array B**	**159.91 333**	PKPab		**PKPab**	**22 36 13.8**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=35,slow=7.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**161.47 186**	PKPab		**PKPab**	**22 36 24.6**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=170,slow=3.8,SNR=12						

*IDC **18** 22:19:27.2±0.9, 36°.63S×72°.99W, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.9/19, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=27.5km s-min=15.7km az=83.0*
*ISCJB **18** 22:19:29.5±0.7, 36°.62S±0°.07×72°.9W±0°.1, h25km, mb4.0/7, Error ellipse: s-maj=17.0km s-min=9.2km az=19.7*
ISC 18 22:19:30.9±0.9, 36°.61S±0°.09×73.0W±0°.1, h25km, n14, σ0s83/15, mb3.9/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.55**	**155**	Pn	**Pn**	**22 20 38.3**	**+0.1**
	0.5nm,0.3s,baz=323,slow=10,SNR=4.8						
PLCA				Lg	Lg	22 21 52.0	
	2.1nm,0.3s,baz=243,slow=22,SNR=5.6						
CFAA	**Coronel Fontan**	**6.38**	**40**	Pn	**Pn**	**22 21 03.7**	**+0.4**
	0.4nm,0.3s,baz=206,slow=14,SNR=21						
CFAA				Sn	**Sn**	**22 22 15.8**	**+0.4**
	0.3nm,0.3s,baz=117,slow=18,SNR=2.6						
LVC	**Limon Verde**	**14.40**	**15**	Pn	**Pn**	**22 22 51.5**	**-1.9**
	7.4nm,0.3s,baz=194,slow=8.3,SNR=2.0						
CPUP	**Villa Florida**	**16.85**	**57**	Pn	**Pn**	**22 23 25.2**	**+0.3**
	0.0nm,0.3s,baz=222,slow=11,SNR=3.1						
LPAZ	**La Paz**	**20.71**	**13**	P	**P**	**22 24 11.0**	**+1.0**
	3.4nm,0.8s,baz=188,slow=5.7,SNR=14						
SIV	**San Ignacio**	**23.13**	**30**	P	**P**	**22 24 34.3**	**-0.9**
	2.3nm,0.6s,baz=288,slow=9.0,SNR=3.1						
PMSA	**Palmer Station**	**28.71**	**172**	P	**P**	**22 25 25.0**	**-0.6**
	14nm,0.5s,baz=268,slow=13,SNR=14						
TXAR	**Lajitas Array**	**71.63**	**332**	P	**P**	**22 30 50.9**	**+0.6**
	0.6nm,0.7s,baz=156,slow=8.8,SNR=9.0						
DBIC	**Dimbokro**	**76.78**	**71**	P	**P**	**22 31 20.0**	**-0.6**
	3.8nm,1.0s,baz=218,slow=12,SNR=2.7						
NVAR	**Mina Array Bea**	**85.58**	**326**	P	**P**	**22 32 07.6**	**+0.6**
	0.7nm,0.8s,baz=158,slow=5.9,SNR=4.2						
PDAR	**Pinedale Array**	**85.73**	**334**	P	**P**	**22 32 08.7**	**+0.9**
	0.4nm,0.8s,baz=152,slow=4.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**85.86**	**70**	P	**P**	**22 32 08.9**	**+0.2**
	0.3nm,0.7s,baz=252,slow=4.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**156.85**	**35**	PKPab	**PKPab**	**22 39 52.8**	**-0.4**
	0.8nm,0.6s,baz=297,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**159.03**	**53**	PKPab	**PKPab**	**22 40 03.0**	**0.0**
	0.6nm,0.7s,baz=298,slow=3.9,SNR=6.1						

*ISCJB **18** 22:37:24.1±0.6, 9°.47S±0°.07×118°.52E±0°.03, h48km, mb3.4/3, Error ellipse: s-maj=10.6km s-min=4.8km az=6.6*
*IDC **18** 22:37:26.3±9.4, 9°.29S×118°.57E, h62km±91km, mb3.0/4, mb1 3.0/4, mb1mx3.0/21, mbtmp3.3/4, Error ellipse: s-maj=75.1km s-min=38.9km az=63.0*
*DJA **18** 22:37:26.7±0.4, 9°.5S±4°×11°.8E±°, h80km±8km, M4.1/5, MLv4.1/5*
ISC 18 22:37:25.7±0.9, 9°.41S±0°.09×118°.48E±0°.04, h48km, n14, σ1s83/18, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**1.71**	**293**	P	**Pn**	**22 37 54.7**	**+1.6**
WSI	**Waingapu**	**1.81**	**98**	P	**Pn**	**22 37 56.6**	**+2.1**
WSI				S	**Sn**	**22 38 20.2**	**+3.8**
BASI	**Baing, Sumba**	**2.22**	**111**	P	Pn	22 38 14.9	+1.5
EDFI	**Ende, Flores**	**3.24**	**79**	P	**Pn**	**22 38 15.4**	**+1.2**
DNP	**Denpasar**	**3.31**	**282**	P	**Pn**	**22 38 16.8**	**+1.8**
DNP				S	**Sn**	**22 38 54.6**	**+1.5**
IGBI	**Denpasar**	**3.34**	**280**	P	**Pn**	**22 38 14.4**	**-1.1**
IGBI				S	**Sn**	**22 38 55.6**	**+1.7**
SRBI	**Singaraja**	**3.48**	**292**	P	**Pn**	**22 38 18.4**	**+1.0**
SRBI				S	**Sn**	**22 39 00.0**	**+2.5**
BKSI	**Bulukumba**	**4.38**	**22**	P	**Pn**	**22 38 30.2**	**+0.5**
BKSI				S	**Sn**	**22 39 21.2**	**+1.7**
BATI	**Baumata**	**5.17**	**99**	P	**Pn**	**22 38 40.2**	**-0.5**
	baz=225,slow=2.9						
BATI				S	**Sn**	**22 39 38.8**	**-0.3**
	2.2nm,0.3s,baz=292,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**18.56**	**126**	P	P	22 41 27.4	-11
	0.1nm,0.3s,baz=321,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**20.46**	**136**	P	**P**	**22 41 59.1**	**-0.3**
	0.4nm,0.7s,baz=316,slow=10,SNR=6.6						
SONM	**Songino Array**	**57.99**	**350**	P	**P**	**22 47 11.6**	**-2.0**
	0.3nm,0.6s,baz=159,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**64.59**	**333**	P	**P**	**22 47 56.7**	**-1.4**
	0.4nm,0.8s,baz=130,slow=7.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**69.11**	**334**	P	**P**	**22 48 25.6**	**-1.1**
	0.1nm,0.3s,baz=144,slow=5.4,SNR=3.2						

IDC 18 23:03:00.7±4.3, 10°.02S×124°.58E, h41km±55km, mb2.9/1, mb1 3.8/3, mb1mx3.3/19, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=66.9km s-min=20.4km az=18.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.92**	**258**	P	Pn	23 03 18.5	+1.2
	242nm,0.3s,baz=98,slow=4.4,SNR=196						
BATI				S	Sn	23 03 29.8	+0.5
	370nm,0.3s,baz=17,slow=19,SNR=66						
WRA	**Warramunga Arr**	**13.64**	**137**	P	Pn	23 06 10.7	-1.0
	0.3nm,0.3s,baz=318,slow=13,SNR=17						
WRA				S	Sn	23 08 33.6	-8.3
	1.1nm,0.3s,baz=320,slow=25,SNR=9.3						
ASAR	**Alice Springs**	**16.23**	**148**	P	Pn	23 06 45.8	-0.2
	0.3nm,0.3s,baz=328,slow=12,SNR=27						
ASAR				S	Sn	23 09 39.5	-5.6
	0.4nm,0.3s,baz=315,slow=21,SNR=7.4						
MKAR	**Makanchi Array**	**67.97**	**330**	P	P	23 13 55.4	-0.1
	0.1nm,0.5s,baz=144,slow=5.2,SNR=3.2						

*IDC **18** 23:15:36.8±2.9, 13°.89N×91°.72W, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.3/38, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=51.0km s-min=24.3km az=174.0*
*ISCJB **18** 23:15:43.1±1.0, 14°.18N±0°.08×91°.97W±0°.05, h35km, mb3.4/2, Error ellipse: s-maj=12.4km s-min=6.7km az=20.4*
*CASC **18** 23:15:45.8±1.1, 13°.77N×91°.71W, h12km±17km, MD3.9*
ISC 18 23:15:43.2±1.2, 14°.0N±0°.1×92°.05W±0°.07, h35km, n12, σ1s87/15, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.52**	**50**	*i*P	**Pn**	**23 15 56.3**	**+2.1**
NBG	**Las Nubes**	**1.76**	**70**	*e*P	**Pn**	**23 16 14.0**	**+2.6**
APG	**El Apazote**	**1.84**	**56**	Pn	Pn	23 16 07.5	-5.0
	10nm,0.3s,baz=222,slow=12,SNR=112						
APG				Sn	**Sn**	**23 16 31.0**	**-3.7**
	15nm,0.3s,baz=68,slow=16,SNR=5.7						
RBDL	**Robledal**	**2.29**	**86**	*e*P	**Pn**	**23 16 19.2**	**+0.5**
RBDL				*e*S	**Sn**	**23 16 45.0**	**-0.9**
SBLS	**San Blas**	**2.36**	**93**	*e*P	**Pn**	**23 16 19.8**	**+0.1**
SBLS				*e*S	**Sn**	**23 16 46.7**	**-0.8**
LFRS	**El Faro**	**2.92**	**97**	*e*P	**Pn**	**23 16 26.7**	**-0.6**
CMIG	**Matias Romero**	**4.13**	**319**	Pn	**Pn**	**23 16 43.2**	**-0.6**
	3.4nm,0.3s,baz=143,slow=11,SNR=14						
CMIG				Sn	Sn	23 17 39.5	+8.7
	6.2nm,0.3s,baz=19,slow=21,SNR=6.7						
TEIG	**Tepich**	**7.18**	**30**	Pn	**Pn**	**23 17 26.3**	**+0.6**
	4.6nm,0.3s,baz=230,slow=2.9,SNR=25						
TEIG				Sn	**Sn**	**23 18 44.4**	**-1.7**
	baz=176,slow=15,SNR=2.5						
TXAR	**Lajitas Array**	**18.69**	**327**	P	**Pn**	**23 19 59.6**	**+0.5**
	0.0nm,0.3s,baz=141,slow=13,SNR=5.8						
NVAR	**Mina Array Bea**	**33.66**	**321**	P	**P**	**23 22 23.7**	**+2.7**
	0.4nm,0.8s,baz=131,slow=14,SNR=3.4						
YKA	**Yellowknife Ar**	**51.03**	**347**	P	**P**	**23 24 39.7**	**-1.9**
	0.2nm,0.5s,baz=138,slow=9.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**145.99**	**341**	PKPbc	**PKPdf**	**23 35 19.2**	**-0.2**
	0.4nm,0.5s,baz=357,slow=1.8,SNR=4.3						

*IDC **18** 23:15:52.2±19.0, 2°.58S×101°.59E, h146km±185km, mb3.1/6, mb1 3.2/6, mb1mx3.0/30, mbtmp3.6/6, MS3.3/2, Ms1 3.4/2, ms1mx2.8/14, Error ellipse: s-maj=82.2km s-min=21.2km az=59.0*
*ISCJB **18** 23:15:53.8±0.6, 1°.80S±0°.08×102°.5E±0°.1, h150km, mb3.3/6, Error ellipse: s-maj=18.2km s-min=7.4km az=151.8*
*DJA **18** 23:15:57.5±0.6, 2°.5S±3°×10°.3E±°, h31km±8km, M3.5/6, MLv3.5/6*
ISC 18 23:15:54.7±0.9, 1°.82S±0°.07×102°.47E±0°.10, h150km, n17, σ1s65/14, mb3.4/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMBI	**JAMBI**	**1.19**	**81**	P	Pn	23 16 16.7	-4.4
SDSI	**Sungai Dareh**	**1.36**	**310**	P	**Pn**	**23 16 22.1**	**-0.8**
SDSI				S	**Sn**	**23 16 40.2**	**-4.2**
LHSI	**Lahat**	**2.25**	**152**	P	**Pn**	**23 16 31.6**	**-1.2**
DSRI	**Dabo**	**2.49**	**58**	P	**Pn**	**23 16 34.9**	**-0.8**
BKNI	**Bangkinang**	**2.57**	**326**	P	**Pn**	**23 16 38.6**	**+1.9**
MNAI	**Manna**	**2.57**	**169**	P	**Pn**	**23 16 36.9**	**+0.2**
MNAI				S	Sn	23 17 00.9	-8.3
MDSI	**Maura Dua**	**3.15**	**147**	P	**Pn**	**23 16 43.2**	**-0.8**
MDSI				S	**Sn**	**23 17 22.0**	**-0.2**
LWLI	**Liwa**	**3.55**	**154**	P	**Pn**	**23 16 50.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.45**	**350**	LR	LR	23 29 23.8	
	comp=Z,62nm,19.4s,baz=170,slow=38						
WRA	**Warramunga Arr**	**35.98**	**122**	P	**P**	**23 22 42.2**	**+0.8**
	0.2nm,0.7s,baz=302,slow=8.9,SNR=5.4						
ASAR	**Alice Springs**	**37.39**	**128**	P	**P**	**23 22 53.2**	**-0.1**
	0.3nm,0.4s,baz=297,slow=7.7,SNR=6.5						
JAY	**Jayapura**	**38.21**	**92**	LR	LR	23 42 56.1	
	comp=Z,51nm,18.9s,baz=172,slow=42						
SONM	**Songino Array**	**49.57**	**3**	P	P	23 24 34.8	+4.3
	0.5nm,0.7s,baz=186,slow=9.9,SNR=5.6						
MKAR	**Makanchi Array**	**51.56**	**342**	P	**P**	**23 24 46.7**	**+1.3**
	0.4nm,0.4s,baz=159,slow=9.0,SNR=16						
ZALV	**Zalesovo Beam**	**57.48**	**348**	P	**P**	**23 25 29.2**	**+1.3**
	0.4nm,0.3s,baz=151,slow=3.4,SNR=5.1						
BRTR	**Keskin Array B**	**75.03**	**312**	P	P	23 27 17.5	-2.7
	0.4nm,0.6s,baz=128,slow=9.3,SNR=4.1						
TXAR	**Lajitas Array**	**143.02**	**40**	PKP	**PKPdf**	**23 35 10.9**	**-0.6**
	0.2nm,0.5s,baz=273,slow=0.5,SNR=5.5						

*ISCJB **18** 23:19:55.5±0.7, 32°.09N±0°.03×115°.03W±0°.04, h8km±7km, Error ellipse: s-maj=5.5km s-min=4.6km az=161.7*
*NEIC **18** 23:19:58.0, 32°.13N×115°.07W, h10km, ML3.1(PAS), After PAS.*
*ECX **18** 23:19:58.1±0.5, 32°.06N×115°.09W, h7km, MD2.9, ML3.1*
*MEX **18** 23:19:59.3±0.8, 32°.18N×115°.10W, h15km, MD3.7*
ISC 18 23:19:56.4±1.2, 32°.08N±0°.03×115°.07W±0°.04, h17km±10km, n25, σ1s105/40, 2C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.34**	**342**	*e*P	**Pb**	**23 20 04.5**	**+0.5**
MBIG				*i* S	**Sg**	**23 20 07.1**	**-1.3**
CPBX	**Cerro Prieto**	**0.39**	**330**	*e*P	**Pb**	**23 20 05.0**	**+0.2**
CPBX				*e*S	**Sb**	**23 20 11.3**	**+0.9**
RDX	**Rancho Dawling**	**0.75**	**258**	*e*P	**Pb**	**23 20 11.4**	**+0.3**
RDX				*e*S	**Sb**	**23 20 21.8**	**+0.6**
RDX				⇓*e*		23 20 24.9	
RDX				AML	AML	23 20 24.9	
	comp=N,557nm,0.3s						
GLA	**Glamis**	**0.99**	**12**	*e*Pg	**Pb**	**23 20 14.4**	**-0.7**
GLA				*e*Sg	**Sg**	**23 20 27.4**	**-1.1**
RMX	**La Rumorosa**	**0.99**	**302**	*e*P	**Pb**	**23 20 15.3**	**+0.1**
RMX				*e*S	**Sb**	**23 20 29.0**	**+0.9**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pb**	**23 20 17.2**	**+0.3**
SPIG				*i* S	**Sg**	**23 20 31.6**	**-0.2**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pb**	**23 20 16.6**	**-0.3**
SPIG				*e*S	**Sb**	**23 20 31.0**	**+0.3**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pb**	**23 20 17.2**	**+0.3**
SPX	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pb**	**23 20 16.5**	**-0.4**
SPX				*e*S	**Sg**	**23 20 31.6**	**-0.2**
SPX				AML	AML	23 20 34.3	
	comp=E,239nm,0.5s						
SPX				⇑*e*		23 20 34.3	
SPX				*e*		23 20 34.3	
SPX				AML	AML	23 20 34.3	
	comp=N,303nm,0.1s						
ZAX	**El Zacaton**	**1.17**	**241**	*e*P	**Pb**	**23 20 17.7**	**-0.4**
ZAX				*e*S	**Sb**	**23 20 33.5**	**+0.5**
ECNX	**Esteban Cantu**	**1.36**	**252**	*e*P	**Pn**	**23 20 21.4**	**+0.7**
ECNX				*e*S	**Sb**	**23 20 39.1**	**+0.5**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P	**Pn**	**23 20 20.0**	**-0.7**
CBX				*e*S	**Sn**	**23 20 35.7**	**-2.8**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P	**Pb**	**23 20 21.7**	**+0.2**
CBX				*e*S	**Sb**	**23 20 39.9**	**+1.2**
CBX				⇑*e*		23 20 42.4	
CBX				AML	AML	23 20 42.4	
	comp=E,604nm,0.4s						
CBX	**Cerro Bola**	**1.37**	**280**	*e*P	**Pn**	**23 20 20.1**	**-0.7**
CBX				*e*S	**Sn**	**23 20 35.7**	**-2.8**
PBX	**Punta Banda**	**1.45**	**257**	*e*P	**Pn**	**23 20 22.4**	**+0.7**
PBX				*e*S	**Sb**	**23 20 41.9**	**+0.9**
BAR	**Barrett**	**1.48**	**294**	*e*P	**Pb**	**23 20 23.5**	**+0.2**
BAR	**Barrett**	**1.48**	**294**	*e*Pn	**Pn**	**23 20 21.8**	**-0.4**
BAR				*e*Sn	**Sn**	**23 20 41.9**	**+0.8**
PFO	**Pinyon Flats O**	**1.92**	**323**	*e*Pn	**Pn**	**23 20 26.8**	**-1.5**
PFO				*e*Sb	**Sg**	**23 20 57.0**	**-1.1**
214A	**Organ Pipe Nat**	**1.93**	**93**	*e*Pn	**Pn**	**23 20 27.6**	**-0.8**
MWC	**Mount Wilson**	**3.29**	**311**	*e*Pb	**Pb**	**23 20 55.0**	**+0.6**
PASC	**Pasadena Art C**	**3.34**	**309**	*e*Pn	**Pn**	**23 20 49.5**	**+1.7**
GSC	**Goldstone, Bar**	**3.52**	**336**	*e*Pg	**Pg**	**23 21 04.6**	**+0.8**
TUC	**Tucson**	**3.64**	**85**	*e*Pg	Pg	23 21 09.6	+3.4
WUAZ	**Wupatki**	**4.61**	**41**	*e*Pn	**Pn**	**23 21 07.2**	**+1.9**
121A	**Cookes Peak, D**

PSI Sn **Sb** **23 29 58.9 -1.3**
5.1nm,0.3s,baz=300,slow=20,SNR=4.9
PSI LR LR 23 30 16.0
comp=Z,242nm,18.9s,baz=300,slow=37
LHMI Lhok Sumawe 3.08 5 P **Pn** **23 29 36.3 +0.1**
LHMI S **Sn** **23 30 13.0 +0.9**
MNSI Mandailing Nat 3.22 115 P **Pn** **23 29 39.6 +1.5**
BSI Banda Aceh 3.59 338 P **Pn** **23 29 43.3 0.0**
CMAR Chiang Mai Arr 16.37 8 Pn **Pn** **23 32 35.5 -1.8**
0.6nm,0.3s,baz=197,slow=12,SNR=46
CMAR LR LR 23 39 30.8
comp=Z,94nm,18.7s,baz=224,slow=39
H08S2 Diego Garcia H 25.99 248 T T 00 01 10.7
baz=69,slow=75,SNR=470
H08S3 Diego Garcia H 25.99 248 T T 00 01 10.9
baz=69,slow=75,SNR=266
H08S1 Diego Carcia H 26.01 248 T T 00 01 09.1
baz=69,slow=75,SNR=402
ODAN Odare 26.13 341 *eP* **P** **23 34 22.5 +1.0**
19nm,0.6s
RAMN Ramite 26.48 340 *eP* **P** **23 34 25.6 +0.9**
17nm,0.8s
TAPN Taplejung 26.49 342 *eP* **P** **23 34 25.6 +0.8**
35nm,1.0s
JIRN Jiri 27.28 339 *eP* **P** **23 34 33.2 +1.2**
25nm,0.8s
PKI Pulchoki 27.48 338 *eP* **P** **23 34 34.9 +1.1**
5.2nm,0.5s
PKIN Phulchoki 27.49 338 *eP* **P** **23 34 34.5 +0.7**
3.2nm,0.4s
GUN Gumba 27.61 339 *eP* **P** **23 34 36.1 +1.1**
17nm,0.6s
KKN Kakani 27.73 338 *eP* **P** **23 34 37.4 +1.6**
12nm,0.9s
GKN Gorkha 28.16 337 *eP* **P** **23 34 40.6 +0.9**
15nm,0.9s
KOLN Koldanda 28.38 335 *eP* **P** **23 34 42.6 +1.0**
17nm,0.6s
DANN Dangsing 28.82 336 *eP* **P** **23 34 47.2 +1.5**
14nm,0.7s
H01W3 Cape Leeuwin H 40.32 158 T T 00 19 10.0
baz=333,slow=76,SNR=7.8
H01W2 Cape Leeuwin H 40.33 158 T T 00 19 10.9
baz=333,slow=76,SNR=8.2
H01W1 Cape Leeuwin H 40.34 158 T T 00 19 11.2
baz=333,slow=76,SNR=7.2
WRA Warramunga Arr 43.00 123 P **P** **23 36 45.3 -1.4**
1.5nm,0.7s,baz=300,slow=9.2,SNR=11
ASAR Alice Springs 44.40 128 P **P** **23 36 57.6 -0.4**
1.0nm,0.9s,baz=311,slow=7.7,SNR=8.4
KSRS Korea Array 45.39 35 P **P** **23 37 04.9 -0.7**
2.2nm,0.7s,baz=231,slow=9.3,SNR=6.9
MKAR Makanchi Array 46.20 346 P **P** **23 37 12.1 +0.2**
8.1nm,0.7s,baz=162,slow=7.9,SNR=91
MKAR LR LR 00 00 28.3
comp=Z,34nm,18.3s,baz=202,slow=41
SONM Songino Array 46.29 9 P **P** **23 37 12.8 +0.1**
3.6nm,0.8s,baz=188,slow=8.8,SNR=37
GEYT Alibeck 50.14 320 P **P** **23 37 42.9 +0.4**
1.1nm,0.5s,baz=152,slow=9.6,SNR=3.9
USRK Ussuriysk Ar. 52.25 32 P **P** **23 37 58.6 +0.5**
1.3nm,0.7s,baz=237,slow=4.0,SNR=3.7
ZALV Zalesovo Beam 52.55 351 P **P** **23 38 00.4 +0.3**
10nm,0.6s,baz=180,slow=7.1,SNR=61
AKTO Aktyubinsk 58.15 332 P **P** **23 38 39.8 -0.8**
1.9nm,0.9s,baz=137,slow=7.6
BRTR Keskin Array B 68.08 312 P **P** **23 39 46.8 -0.1**
0.3nm,0.5s,baz=111,slow=7.9,SNR=2.8
AKASG Malin Array Be 74.18 322 P **P** **23 40 22.5 -1.0**
0.2nm,0.4s,baz=88,slow=5.3,SNR=2.9
FINES FINESS Array B 78.91 332 P **P** **23 40 49.7 -0.3**
0.8nm,0.7s,baz=105,slow=2.2,SNR=5.0
ARCES ARCESS Array B 81.47 340 P **P** **23 41 03.4 -0.3**
4.8nm,1.1s,baz=86,slow=1.8,SNR=4.9
GERES GERESS Array B 83.75 319 P **P** **23 41 15.6 -0.6**
0.1nm,0.3s,baz=116,slow=4.6,SNR=4.3

*IDC **18** 23:35:07.1±1.5,9.°01S×125.°37E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.5/20,mbtmp3.5/6,ML3.2/3, Error ellipse: s-maj=34.7km s-min=25.2km az=104.0*
*ISCJB **18** 23:35:09.2±0.9,9.°10S±0.°07×125.°58E±0.°07,h33km, mb3.5/3,Error ellipse: s-maj=11.8km s-min=8.5km az=37.1*
ISC 18 23:35:11.4±1.0,9.°13S±0.°10×125.°50E±0.°09,h35km,n6, σ1s60/9,mb3.7/3,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.10**	**239**	Pn	**Pn**	**23 35 42.5**	**-1.6**
	5.4nm,0.3s,baz=93,slow=5.4,SNR=4.7						
BATI				Sn	**Sn**	**23 36 10.9**	**+1.8**
	9.0nm,0.3s,baz=68,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**13.73**	**142**	Pn	**Pn**	**23 38 25.5**	**+1.8**
	0.2nm,0.3s,baz=321,slow=12,SNR=8.9						
WRA				Sn	**Sn**	**23 40 53.9**	**-1.1**
	0.1nm,0.3s,baz=314,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**16.54**	**152**	Pn	**P**	**23 39 03.1**	**+0.1**
	0.1nm,0.3s,baz=321,slow=12,SNR=4.4						
ASAR				Sn	**Sn**	**23 42 01.6**	**-1.8**
	0.1nm,0.3s,baz=317,slow=21,SNR=4.3						
SONM	**Songino Array**	**59.19**	**345**	P	**P**	**23 45 08.0**	**-1.0**
	0.1nm,0.5s,baz=158,slow=8.5,SNR=1.8						
MKAR	**Makanchi Array**	**67.67**	**329**	P	**P**	**23 46 05.3**	**+0.3**
	0.6nm,0.8s,baz=131,slow=7.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**71.61**	**336**	P	**P**	**23 46 30.0**	**+0.9**
	0.6nm,0.7s,baz=138,slow=5.7,SNR=3.5						

IDC 18 23:44:13.1±3.5,49.°64S×122.°82E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/22,mbtmp3.7/3,MS3.3/1,Ms1 3.4/1, ms1mx2.7/20,Error ellipse: s-maj=112.4km s-min=63.9km az=114.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.06**	**333**	T	T	00 04 33.9	
	baz=158,slow=74,SNR=22						
H01W2	**Cape Leeuwin H**	**16.06**	**333**	T	T	00 04 32.6	
	baz=158,slow=74,SNR=15						
H01W3	**Cape Leeuwin H**	**16.07**	**333**	T	T	00 04 36.5	
	baz=158,slow=74,SNR=17						
STKA	**Stephens Creek**	**22.63**	**45**	P	P	23 49 15.5	-0.1
	1.4nm,0.7s,baz=197,slow=7.0,SNR=4.3						
ASAR	**Alice Springs**	**27.35**	**23**	P	P	23 49 59.8	-0.1
	2.0nm,0.9s,baz=193,slow=9.6,SNR=17						
WRA	**Warramunga Arr**	**31.03**	**21**	P	P	23 50 32.6	0.0
	0.6nm,1.0s,baz=194,slow=10,SNR=2.3						
VNDA	**Vanda**	**31.62**	**165**	LR	LR	00 01 47.1	
	comp=Z,59nm,21.8s,baz=305,slow=33						
YKA	**Yellowknife Ar**	**146.67**	**45**	PKPbc	PKPbc	00 03 54.7	-0.8
	0.8nm,1.0s,baz=274,slow=2.4,SNR=7.5						

*ISCJB **18** 23:44:33.1±0.5,29.°61N±0.°04×140.°7E±0.°1,h100km, mb3.3/7,Error ellipse: s-maj=17.5km s-min=3.5km az=164.0*
*JMA **18** 23:44:33.0,29.°67N×141.°22E,h150km,M3.7*
*IDC **18** 23:44:35.3±1.7,29.°55N×140.°60E,h104km±17km,mb3.1/7, mb1 3.4/9,mb1mx3.2/35,mbtmp3.5/9,Error ellipse: s-maj=23.9km s-min=13.4km az=75.0*
ISC 18 23:44:34.8±0.7,29.°60N±0.°06×140.°8E±0.°2,h100km,n23, σ1s19/27,mb3.3/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.79**	**153**	P	**Pn**	**23 45 16.8**	**-1.0**
CBIJ				S	**Sn**	**23 45 50.9**	**+0.1**
JCJ	**Chichijima**	**2.79**	**153**	P	**Pn**	**23 45 17.4**	**-0.4**
	75nm,0.3s,baz=3.9,slow=21,SNR=51						
JCJ				S	**Sn**	**23 45 53.0**	**+2.2**
	129nm,0.3s,baz=120,slow=23,SNR=6.9						
JHHJ	**Haha-jima-NKT**	**3.21**	**157**	P	**Pn**	**23 45 22.3**	**-1.1**
JHHJ				S	**Sn**	**23 46 00.3**	**-0.6**
JHJ2	**Mitsune**	**3.59**	**347**	P	**Pn**	**23 45 28.5**	**0.0**
BSO1	**Boso 1**	**5.04**	**2**	P	**Pn**	**23 45 46.8**	**-0.7**
BSO1				S	**Sn**	**23 46 44.1**	**-0.1**
BSO4	**Boso 4**	**5.38**	**356**	S	**Sn**	**23 46 53.7**	**+0.5**
JOD2	**Odawara 2**	**5.82**	**346**	P	**Pn**	**23 46 01.1**	**+2.5**
JHU	**Hanno**	**6.36**	**349**	P	**Pn**	**23 46 06.6**	**+0.7**
JHU				S	**Sn**	**23 47 17.1**	**+0.1**
JRY	**Ryogami san**	**6.59**	**347**	P	**Pn**	**23 46 09.5**	**+0.4**
JRY				S	**Sn**	**23 47 22.3**	**-0.4**
JAG	**Ashikaga**	**6.89**	**351**	P	**Pn**	**23 46 11.6**	**-1.6**
JAG				S	**Sn**	**23 47 28.3**	**-1.8**
JHO	**Hitachi**	**6.99**	**359**	P	**Pn**	**23 46 12.6**	**-1.9**
JHO				S	Sn	23 47 25.6	-6.9
MJAR	**Matsushiro Arr**	**7.25**	**343**	P	**Pn**	**23 46 19.0**	**+1.0**
	1.6nm,0.3s,baz=167,slow=12,SNR=13						
MAT	**Matsushiro**	**7.25**	**343**	P	**Pn**	**23 46 20.0**	**+2.0**
H11N2	**WAKE ISLAND Hy**	**25.64**	**107**	T	T	00 16 56.4	
	baz=296,slow=74,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**25.64**	**107**	T	T	00 16 60.0	
	baz=296,slow=74,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**25.66**	**107**	T	T	00 16 58.8	
	baz=296,slow=74,SNR=3.0						
SONM	**Songino Array**	**32.07**	**314**	P	**P**	**23 50 52.2**	**0.0**
	0.1nm,0.3s,baz=120,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**47.94**	**308**	P	**P**	**23 53 01.7**	**-1.4**
	0.3nm,0.7s,baz=103,slow=6.4,SNR=3.0						
WRA	**Warramunga Arr**	**49.65**	**188**	P	**P**	**23 53 16.0**	**-0.4**
	0.4nm,0.4s,baz=6.7,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**53.37**	**188**	P	**P**	**23 53 43.6**	**-0.5**
	0.1nm,0.3s,baz=7.8,slow=7.5,SNR=4.0						
ILAR	**Eielson Array**	**56.13**	**29**	P	**P**	**23 54 04.2**	**+0.7**
	0.3nm,0.8s,baz=277,slow=7.2,SNR=3.5						
YKA	**Yellowknife Ar**	**70.53**	**28**	P	**P**	**23 55 39.2**	**+0.7**
	0.3nm,0.6s,baz=297,slow=6.4,SNR=7.0						
NVAR	**Mina Array Bea**	**79.94**	**52**	P	**P**	**23 56 34.5**	**+1.2**
	0.6nm,0.7s,baz=304,slow=6.1,SNR=5.4						

*IDC **18** 23:59:56.8±1.8,2.°29N×96.°73E,h0km,mb3.9/5,mb1 4.0/6, mb1mx3.6/44,mbtmp3.9/6,ML3.3/2,MS3.6/4,Ms1 3.6/4, ms1mx2.9/36,Error ellipse: s-maj=53.0km s-min=19.8km az=55.0*
*ISCJB **18** 23:59:58.5±0.8,2.°02N±0.°06×96.°61E±0.°06,h28km, mb3.9/5,MS3.7/4,Error ellipse: s-maj=9.8km s-min=6.0km az=44.2*
*DJA **18** 23:59:58.8±0.5,2.°1N±4.°×97.°7E±.°,h15km±8km,M4.0/7, mb4.5/1,mB4.7/1,MLv3.8/7,Mw(mB)3.9/1*
ISC 18 23:59:60.0±1.0,2.°13N±0.°07×96.°65E±0.°06,h28km,n20, σ1s18/18,mb4.1/5,MS3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.43**	**310**	P	**Pn**	**00 00 09.8**	**-0.5**
SNSI				S	**Sn**	**00 00 16.4**	**-0.8**
TPTI		**1.24**	**25**	P	**Pn**	**00 00 20.7**	**-0.8**
TPTI				S	**Sb**	**00 00 39.7**	**+1.3**
KCSI	**Kotacane, Aceh**	**1.78**	**39**	P	**Pn**	**00 00 29.6**	**+0.7**
KCSI				S	**Sb**	**00 00 53.7**	**-0.1**
TSI	**Tuntungan**	**2.34**	**54**	P	**Pn**	**00 00 37.3**	**+0.6**
PSI	**Prapat**	**2.37**	**74**	Pn	**Pn**	**00 00 35.4**	**-1.7**
	1.5nm,0.3s,baz=290,slow=12,SNR=6.9						
LHMI	**Lhok Sumawe**	**3.09**	**5**	P	**Pn**	**00 00 47.7**	**+0.7**
LHMI				S	Sb	00 01 39.2	+7.6
MNSI	**Mandailing Nat**	**3.21**	**114**	P	**Pn**	**00 00 48.5**	**-0.1**
MNSI				S	**Sn**	**00 01 26.8**	**+0.8**
BSI	**Banda Aceh**	**3.61**	**338**	P	**Pn**	**00 00 55.7**	**+1.6**
CMAR	**Chiang Mai Arr**	**16.38**	**8**	Pn	**Pn**	**00 03 45.6**	**-2.5**
	0.1nm,0.3s,baz=196,slow=11,SNR=3.0						
H08S2	**Diego Garcia H**	**25.98**	**248**	T	T	00 32 25.3	
	baz=68,slow=75,SNR=263						
H08S3	**Diego Garcia H**	**25.99**	**248**	T	T	00 32 18.3	
	baz=68,slow=75,SNR=193						
H08S1	**Diego Carcia H**	**26.00**	**248**	T	T	00 32 19.4	
	baz=68,slow=75,SNR=211						
WRA	**Warramunga Arr**	**42.99**	**122**	P	**P**	**00 07 57.6**	**+0.3**
	0.5nm,0.8s,baz=301,slow=9.3,SNR=4.3						
ASAR	**Alice Springs**	**44.39**	**127**	P	**P**	**00 08 10.4**	**+1.9**
	0.2nm,0.4s,baz=306,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**46.21**	**346**	P	**P**	**00 08 22.6**	**0.0**
	2.7nm,0.6s,baz=160,slow=8.1,SNR=38						
MKAR				LR	LR	00 29 37.4	
	comp=Z,48nm,18.9s,baz=116,slow=39						
SONM	**Songino Array**	**46.30**	**9**	P	**P**	**00 08 23.1**	**-0.3**
	1.2nm,0.5s,baz=188,slow=9.4,SNR=18						
ZALV	**Zalesovo Beam**	**52.56**	**351**	P	**P**	**00 09 10.7**	**-0.2**
	3.5nm,0.5s,baz=176,slow=6.8,SNR=26						
FINES	**FINESS Array B**	**78.92**	**332**	LR	LR	00 50 27.0	
	comp=Z,51nm,18.1s,baz=46,slow=38						
ARCES	**ARCESS Array B**	**81.48**	**340**	LR	LR	00 52 53.0	
	comp=Z,18nm,18.6s,baz=264,slow=39						
NOA	**NORSAR Array B**	**85.93**	**331**	LR	LR	00 54 02.5	
	comp=Z,43nm,19.4s,baz=75,slow=38						

*IDC **19** 00:02:30.8±0.5,19.°61N×120.°47E,h0km,mb4.2/25, mb1 4.3/26,mb1mx4.3/44,mbtmp4.2/26,ML3.7/1,MS3.4/11, Ms1 3.4/11,ms1mx3.1/32,Error ellipse: s-maj=16.8km s-min=13.3km az=72.0*
*ISCJB **19** 00:02:32.7±0.2,19.°60N±0.°02×120.°39E±0.°04,h23km, mb4.5/72,MS3.4/10,Error ellipse: s-maj=4.8km s-min=3.1km az=174.8*
*MOS **19** 00:02:35.5±0.8,19.°81N×120.°30E,h33km,mb5.0/25,Error ellipse: s-maj=11.3km s-min=6.5km az=110.3*
*NEIC **19** 00:02:36.4±0.8,19.°57N×120.°43E,h39km±6km,mb5.0/23, Error ellipse: s-maj=7.1km s-min=6.1km az=67.0*
*BJI **19** 00:02:37.5,19.°90N×120.°17E,h33km,mB4.6/25,mb4.3/38, ML4.0/4,Ms4.1/26,Ms7 3.8/23*
*MAN **19** 00:02:40,16.°96N×121.°53E,h139km,mb4.6,ML3.5, MS3.4*
ISC 19 00:02:34.9±0.3,19.°55N±0.°03×120.°42E±0.°05,h23km, h23km:pP-P,n167,σ1s57/187,mb4.6/74,MS3.5/10,8C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.23**	**171**	*iP*	**Pn**	**00 02 55.2**	**-1.6**
PIP				*eS*	**Sn**	**00 03 11.6**	**-1.0**
SIPP	**Brgy, Tapao**	**1.61**	**179**	*iP*	**Pn**	**00 03 00.9**	**-1.1**
SIPP				*eS*	Sn	00 03 10.7	-11
APYP	**Conner**	**1.85**	**155**	*eP*	**Pn**	**00 03 05.6**	**+0.4**
APYP				*eS*	Sn	00 03 22.5	-5.4
ABRA	**Dolores**	**1.91**	**172**	*eP*	**Pn**	**00 03 05.1**	**-0.9**
SGCP	**Mt. Cagua**	**2.02**	**130**	*eP*	**Pn**	**00 03 08.6**	**+1.1**
CVP	**Callao Caves**	**2.27**	**144**	*eP*	**Pn**	**00 03 12.5**	**+1.5**
CVP				*i*	**Sb**	**00 03 42.6**	**-0.2**
TWG	**Pinlang**	**3.31**	**11**	*ePn*	**Pn**	**00 03 24.6**	**-0.8**
TWG				*eSn*	**Sn**	**00 04 01.9**	**-2.2**
TPUB	**Ta-pu**	**3.74**	**3**	*ePn*	**Pn**	**00 03 31.6**	**+0.3**
TPUB				*eSn*	**Sn**	**00 04 11.6**	**-3.1**
YULB	**Yu-li**	**3.91**	**12**	*ePn*	**Pn**	**00 03 33.8**	**+0.1**
YULB				*eSn*	**Sn**	**00 04 16.3**	**-2.6**
SSLB	**Suanglung**	**4.25**	**7**	*ePn*	**Pn**	**00 03 37.6**	**-0.7**
SSLB				*eSn*	**Sn**	**00 04 26.0**	**-1.2**
NACB	**Ninganchiao**	**4.73**	**13**	*ePn*	**Pn**	**00 03 45.6**	**+0.7**
NACB				*eSn*	**Sn**	**00 04 36.2**	**-2.9**
YHNB	**Yeheng**	**5.17**	**10**	*ePn*	**Pn**	**00 03 52.0**	**+1.0**
YHNB				*eSn*	**Sn**	**00 04 45.4**	**-4.7**
QZH	**Quanzhou**	**5.63**	**343**	Pn	Pn	00 03 51.8	-5.4
QZH				Sn	Sn	00 04 53.0	-8.2
QZH				SMN			
	100nm,0.6s						
QZH				SME			
	120nm,0.6s						
GZH	**Guangzhou**	**7.47**	**299**	Pn	Pn	00 04 17.3	-5.3
GZH				Sn	Sn	00 05 33.5	-13
GZH				SMN			
	88nm,0.7s						
GZH				SME			
	100nm,0.6s						
WHN	**Wuhan**	**12.25**	**335**	P	Pn	00 05 31.8	+3.8
WHN				S	Sn	00 07 36.8	-7.0
WHN				LN			
	860nm,11.2s						
WHN				LE			
	540nm,11.0s						
WHN				LZ			
	800nm,13.2s						
NJ2	**Nanjing**	**12.53**	**354**	*eP*	**Pn**	**00 05 32.4**	**+0.6**
NJ2				S	**Sn**	**00 07 50.5**	**-0.2**
NJ2				PMZ			
	30nm,0.7s						
NJ2				LN			
	450nm,11.2s						
NJ2				LE			
	650nm,13.7s						
NJ2				LZ			
	580nm,14.2s						
GYA	**Guiyang**	**14.40**	**301**	P	**Pn**	**00 05 56.8**	**-0.8**
GYA				pP	**P**	**00 06 04.8**	**+0.5**
GYA				S	**Sn**	**00 08 37.3**	**+0.6**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	110nm,4.8s						
GYA				LN			
	2μm,13.4s						
GYA				LE			
	1μm,14.0s						
GYA				LZ			
	2μm,13.6s						
JNU	**Nakatsue**	**16.44**	**33**	LR	LR	00 12 14.8	
	comp=Z,62nm,19.2s,baz=228,slow=36						
XAN	**Xi'an**	**17.69**	**327**	P	P	00 06 45.8	+5.2
XAN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,11nm,4.0s						
CD2	**Chengdu**	**18.82**	**310**	*eP*	**P**	**00 06 54.5**	**+1.4**
CD2				pP	**pP**	**00 07 03.1**	**+3.6**
CD2				sP	sP	00 07 08.3	+5.8
CD2				PP	**PnPn**	**00 07 11.1**	**+5.0**
CD2				S	**Sn**	**00 10 19.3**	**-4.5**
CD2				PMZ			
	comp=Z,30nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,4.0s						
CD2				LN			
	comp=Z,190nm,9.0s						
CD2				LE			
	comp=Z,210nm,6.8s						
CD2				LZ			
	comp=Z,330nm,11.2s						
KSAR	**Wonju Array Be**	**18.99**	**19**	P	**P**	**00 06 53.2**	**-1.6**
KSAR	**Wonju Array Be**	**18.99**	**19**	P	**P**	**00 06 53.1**	**-1.6**
KSRS	**Korea Array**	**19.01**	**19**	P	**P**	**00 06 53.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=202,slow=10,SNR=4.7						
KSRS				LR	LR	00 14 40.3	
	comp=Z,76nm,18.2s,baz=201,slow=39						
CMAR	**Chiang Mai Arr**	**20.33**	**270**	P	**P**	**00 07 09.8**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=80,slow=8.7,SNR=13						
CMAR				Pc	**PcP**	**00 11 22.3**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=144,slow=2.0,SNR=5.1						
CMAR				LR	LR	00 14 26.7	
	comp=Z,50nm,19.5s,baz=75,slow=35						
BJT	**Baijiatuan**	**20.73**	**351**	*eP*	**P**	**00 07 13.1**	**-0.7**
BJT				pmax	pmax		
	comp=Z,44nm,0.8s						
BJT	**Baijiatuan**	**20.73**	**351**	*eP*	**P**	**00 07 13.1**	**-0.7**
	comp=Z,44nm,0.8s						
LZH	**Lanzhou**	**22.00**	**322**	*eP*	**P**	**00 07 27.9**	**+0.2**
LZH				pP	**pP**	**00 07 38.0**	**+3.9**
LZH				sP	sP	00 07 44.5	+7.4
LZH				eS	S	00 11 19.6	-10
LZH				PMZ			
	comp=Z,19nm,1.0s						
LZH				PMZ			
	comp=Z,100nm,8.0s						
LZH				LN			
	comp=Z,290nm,8.3s						
LZH				LE			
	comp=Z,380nm,14.3s						
LZH				LZ			
	comp=Z,270nm,16.0s						
SNY	**Shenyang**	**22.37**	**6**	⇑P	**P**	**00 07 31.8**	**+0.4**
SNY				PMZ			
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**22.54**	**342**	*eP*	**P**	**00 07 33.6**	**+0.2**
HHC				pP	pP	00 07 45.3	+5.4
HHC				sP	sP	00 07 50.6	+7.8
HHC				S	S	00 11 32.5	-7.0
HHC				PMZ			
	comp=Z,9.0nm,0.6s						
HHC				PMZ			
	comp=Z,88nm,5.5s						
HHC				LN			
	comp=Z,230nm,10.5s						
HHC				LE			
	comp=Z,170nm,12.4s						
HHC				LZ			
	comp=Z,150nm,12.8s						
MJAR	**Matsushiro Arr**	**23.03**	**39**	P	**P**	**00 07 37.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=233,slow=7.5,SNR=3.9						
CN2	**Changchun**	**24.55**	**9**	*eP*	**P**	**00 07 51.3**	**-1.6**
MDJ	**Mudanjiang**	**26.14**	**15**	P	**P**	**00 08 07.0**	**-0.3**
MDJ				pP	**pP**	**00 08 15.8**	**+1.6**
MDJ				sP	**sP**	**00 08 19.6**	**+2.6**
MDJ				S	**S**	**00 12 37.4**	**-0.3**
MDJ				sS	**sS**	**00 12 52.3**	**+3.3**
MDJ				PMZ			
	comp=Z,16nm,1.1s						
MDJ				PMZ			
	comp=Z,41nm,4.2s						
USRK	**Ussuriysk Ar.**	**26.42**	**19**	P	**P**	**00 08 07.4**	**-2.4**
	comp=Z,4.0nm,0.8s,baz=100,slow=7.9,SNR=8.2						
GTA	**Gaotai**	**26.60**	**322**	*eP*	**P**	**00 08 11.3**	**-0.4**
GTA				pP	**pP**	**00 08 20.6**	**+2.1**
GTA				sP	**sP**	**00 08 24.4**	**+3.0**
GTA				S	**S**	**00 12 41.8**	**-3.5**
GTA				sS	**sS**	**00 12 56.8**	**+0.2**
GTA				PMZ			
	comp=Z,4.0nm,0.7s						
GTA				PMZ			
	comp=Z,82nm,4.0s						
GTA				LN			
	comp=Z,110nm,10.7s						
GTA				LE			
	comp=Z,130nm,10.4s						
GTA				LZ			
	comp=Z,170nm,11.9s						
LSA	**Lhasa**	**28.39**	**297**	*eP*	**P**	**00 08 28.4**	**+0.2**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	**Lhasa**	**28.39**	**297**	*eP*	**P**	**00 08 28.4**	**+0.2**
	comp=Z,8.4nm,0.8s						
JAY	**Jayapura**	**29.63**	**136**	LR	LR	00 18 26.2	
	comp=Z,57nm,21.4s,baz=192,slow=32						
HIA	**Hailar**	**29.66**	**359**	*eP*	**P**	**00 08 37.4**	**-1.3**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HIA	**Hailar**	**29.66**	**359**	*eP*	**P**	**00 08 37.4**	**-1.3**
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**30.26**	**342**	⇑*iP*	**P**	**00 08 44.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ULN	**Ulaanbaatar**	**30.26**	**342**	*eP*	**P**	**00 08 42.9**	**-1.4**
	comp=Z,4.9nm,1.3s						
SONM	**Songino Array**	**30.43**	**341**	P	**P**	**00 08 45.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=156,slow=10,SNR=8.5						
SONM				LR	LR	00 21 45.5	
	comp=Z,98nm,18.8s,baz=150,slow=38						
TAPN	**Taplejung**	**30.93**	**291**	*eP*	**P**	**00 08 49.6**	**-1.0**
	comp=Z,23nm,1.2s						
KLR	**Kul'dur**	**30.98**	**14**	*eP*	P	00 08 45.2	-5.2
ODAN	**Odare**	**31.15**	**290**	*eP*	**P**	**00 08 51.2**	**-1.3**
	comp=Z,14nm,0.6s						
RAMN	**Ramite**	**31.86**	**290**	*eP*	**P**	**00 08 58.5**	**-0.2**
	comp=Z,35nm,0.8s						
JIRN	**Jiri**	**32.30**	**291**	*eP*	**P**	**00 09 01.5**	**-1.3**
	comp=Z,16nm,0.6s						
GUN	**Gumba**	**32.61**	**291**	*eP*	**P**	**00 09 04.3**	**-1.1**
	comp=Z,28nm,0.9s						
YSS	**Yuzh-Sakhalins**	**32.88**	**29**	*eP*	**P**	**00 09 08.6**	**+1.6**
YSS				pmax	pmax		
	comp=Z,13nm,1.2s						
PKI	**Pulchoki**	**32.98**	**291**	*eP*	**P**	**00 09 07.0**	**-1.7**
	comp=Z,10nm,0.7s						
PKIN	**Phulchoki**	**32.99**	**291**	*eP*	**P**	**00 09 07.3**	**-1.4**
	comp=Z,4.7nm,0.4s						
KKN	**K

WMQ PMZ
comp=Z,140nm,4.4s
MKAR Makanchi Array 41.29 320 *e*P **P 00 10 17.9 -0.7**
MKAR 00 12 16.5
MKAR Makanchi Array 41.29 320 P **P 00 10 18.4 -0.2**
comp=Z,4.3nm,0.8s,baz=114,slow=10.0,SNR=26
MKAR PcP **PcP 00 12 16.5 -0.5**
comp=Z,1.0nm,0.6s,baz=107,slow=4.4,SNR=3.6
MKAR Makanchi Array 41.29 320 *e*P **P 00 10 17.9 -0.7**
MKAR PcP **PcP 00 12 16.5 -0.5**
WRAB Tennant Creek 41.54 160 *c*eP **P 00 10 20.1 -0.8**
WRAB pmax pmax
comp=Z,22nm,1.3s
WRA Warramunga Arr 41.55 160 P **P 00 10 20.1 -0.9**
comp=Z,3.8nm,1.0s,baz=339,slow=9.2,SNR=29
WRA PcP **PcP 00 12 17.9 -0.2**
comp=Z,1.2nm,0.7s,baz=346,slow=3.7,SNR=5.1
YAK Yakutsk 42.94 6 *e*P P 00 10 29.3 -2.4
YAK pmax pmax
comp=Z,44nm,0.5s
YAK Yakutsk 42.94 6 LR LR 00 28 36.9
comp=Z,41nm,18.4s,baz=296,slow=36
YAK Yakutsk 42.94 6 *e*P P 00 10 29.3 -2.4
comp=Z,44nm,0.5s
KSH Kashi 42.98 307 P **P 00 10 34.4 +1.8**
KSH pP **pP 00 10 44.3 +4.6**
KSH PP **PP 00 12 17.1 +4.6**
KSH PcS **PcS 00 16 16.0 +0.7**
KSH S **S 00 16 57.1 +0.3**
KSH sS **sS 00 17 13.5 +5.0**
KSH ScS **ScS 00 20 29.9 -2.4**
KSH PMZ
comp=Z,3.0nm,0.9s
KSH PMZ
comp=Z,40nm,3.4s
KSH LN
comp=Z,140nm,5.8s
KSH LE
comp=Z,92nm,5.7s
KSH LZ
comp=Z,190nm,5.7s
ZALV Zalesovo Beam 43.82 330 P **P 00 10 38.0 -0.9**
comp=Z,3.8nm,0.7s,baz=120,slow=7.8,SNR=15
ZALV LR LR 00 29 40.9
comp=Z,63nm,20.5s,baz=70,slow=37
PETK Petropavlovsk- 44.13 32 P **P 00 10 41.8 +0.3**
comp=Z,1.5nm,0.6s,baz=236,slow=10,SNR=4.4
PET Petropavlovsk 44.56 32 P **P 00 10 45.4 +0.5**
PET pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 44.88 311 P **P 00 10 48.2 +0.3**
comp=Z,1.3nm,0.8s,baz=112,slow=5.4,SNR=2.4
AAK LR LR 00 32 54.6
comp=Z,62nm,18.5s,baz=74,slow=41
ASAR Alice Springs 44.92 162 P **P 00 10 47.9 -0.2**
comp=Z,2.5nm,0.4s,baz=333,slow=7.1,SNR=39
NVS Novosibirsk 45.10 330 *e*P **P 00 10 48.0 -1.1**
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 45.28 323 *e*P **P 00 10 50.0 -0.7**
KURK pmax pmax
comp=Z,23nm,1.0s
KURK Kurchatov 45.28 323 *e*P **P 00 10 50.0 -0.7**
comp=Z,23nm,1.0s
KBL Kabul 47.65 299 *e*P **P 00 11 08.5 -1.3**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 47.65 299 *e*P **P 00 11 08.5 -1.3**
comp=Z,5.3nm,0.6s
SEY Seynchan 48.57 19 P **P 00 11 15.9 -0.2**
comp=Z,5.2nm,0.8s,baz=230,slow=5.4,SNR=19
FORT Forrest 50.57 171 *e*P **P 00 11 31.2 -0.6**
comp=Z,9.4nm,0.8s
BRVK Borovoye 50.95 323 *e*P **P 00 11 34.0 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 50.95 323 *e*P **P 00 11 34.0 -0.5**
comp=Z,5.2nm,0.7s
BBOO Buckleboo 54.17 164 *e*P **P 00 11 58.1 -0.4**
comp=Z,6.7nm,0.8s
STKA Stephens Creek 55.02 158 *e*P **P 00 12 04.8 +0.1**
STKA pmax pmax
comp=Z,1.0nm,1.1s
STKA Stephens Creek 55.02 158 P **P 00 12 05.0 +0.3**
comp=Z,2.3nm,0.7s,baz=342,slow=8.0,SNR=6.4
STKA Stephens Creek 55.02 158 *e*P **P 00 12 04.8 +0.1**
comp=Z,1.4nm,1.1s
ABKAR Akbulak array 56.24 317 *e*P **P 00 12 11.8 -1.5**
BILL Bilibino 56.27 19⇑*i*P **P 00 12 13.0 -0.3**
BILL *e* 00 13 09.5
BILL *e* 00 14 14.9
BILL pmax pmax
comp=Z,2.0nm,0.9s
GEYT Alibeck 56.62 303 P **P 00 12 16.5 +0.2**
comp=Z,3.8nm,1.1s,baz=102,slow=6.1,SNR=6.3
GEYT LR LR 00 40 20.6
comp=Z,56nm,18.1s,baz=105,slow=40
SVE Sverdlovsk 57.40 326⇓*e*P **P 00 12 21.3 -0.1**
SVE pmax pmax
comp=Z,12nm,1.0s
ARU Arti 58.42 325*d i*P **P 00 12 27.3 -1.3**
ARU 00 14 33.1
ARU S **S 00 20 29.3 -0.9**
ARU SS **SS 00 24 16.8 -5.6**
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 58.42 325 *e*P **P 00 12 27.1 -1.5**
comp=Z,4.8nm,0.6s
KBZ Khabaz 67.86 310 P **P 00 13 31.4 -0.1**
comp=Z,6.0nm,0.9s,baz=86,slow=5.9,SNR=11
KIV Kislovodsk 67.99 310 *e*P **P 00 13 32.1 -0.4**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,29nm,17.0s
KIV Kislovodsk 67.99 310 *e*P **P 00 13 32.0 -0.4**
comp=Z,14nm,0.8s
VRHR Novokhopersk 68.06 318 *e*P P 00 13 30.2 -2.4
VRHR pmax pmax
comp=Z,9.0nm,1.0s
VRHR pmax pmax
comp=N,30nm,1.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
RAYN Ar Rayn 69.07 288 *e*P **P 00 13 37.8 -1.6**
comp=E,4.0nm,0.9s
VORD Divnogorie 69.53 318 *e*P P 00 13 39.2 -2.6
VORD pmax pmax
comp=Z,4.0nm,1.1s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,30nm,0.5s
VSR Storozhevoye 69.59 318 *e*P P 00 13 39.8 -2.3
VSR pmax pmax
comp=Z,9.0nm,1.3s
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.1s
LVZ Lovozero 70.48 336⇓*e*P **P 00 13 46.8 -0.5**
LVZ pmax pmax
comp=Z,10.0nm,2.2s
IM04 Indian Mountai 70.63 26 *e*P **P 00 13 48.3 0.0**
OBN Obninsk 70.72 323⇓*e*P **P 00 13 48.5 -0.4**
OBN *e* 00 14 07.7
OBN pmax pmax
comp=Z,12nm,1.1s
PPLA Purkeypile 71.62 29 *e*P **P 00 13 54.0 -0.6**
comp=Z,53nm,1.7s
KTH Kantishna Hill 72.11 28 *e*P **P 00 13 56.6 -0.7**
comp=Z,102nm,2.3s
JOF Joensuu 72.39 331 *e*P **P 00 13 57.5 -1.4**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 72.39 331 *e*p **P 00 13 57.5 -1.4**
comp=Z,1.6nm,0.6s
MCK McKinley 72.96 28 *e*P **P 00 14 02.5 +0.2**
MCK pmax pmax
comp=Z,94nm,2.2s
MCK McKinley 72.96 28 *e*P **P 00 14 02.5 +0.2**
comp=Z,94nm,2.2s
COLA College 73.23 26⇓*e*P **P 00 14 04.2 +0.4**
COLA pmax pmax
comp=Z,15nm,1.0s
ARCES ARCESS Array B 73.56 339 P P 00 14 03.7 -2.1
comp=Z,2.5nm,0.9s,baz=74,slow=9.1,SNR=4.2
ILAR Eielson Array 73.65 26 P **P 00 14 05.0 -1.4**
ILAR Eielson Array 73.65 26 P **P 00 14 05.0 -1.4**
comp=Z,1.0nm,0.8s,baz=278,slow=5.8,SNR=9.8
ASF Jabal al Asfar 74.54 299 P **P 00 14 12.0 -0.3**
comp=Z,0.6nm,0.6s,baz=68,slow=5.4,SNR=2.3
KAF Kangasniemi 74.83 331 *e*P **P 00 14 11.3 -1.9**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 74.83 331 *ep* **P 00 14 11.3 -1.9**
comp=Z,2.3nm,0.6s
FINES FINESS Array B 75.08 330 P **P 00 14 14.0 -0.7**
comp=Z,5.1nm,0.8s,baz=59,slow=5.9,SNR=14
BRTR Keskin Array B 75.37 307 P **P 00 14 16.6 -0.5**
comp=Z,0.4nm,0.6s,baz=94,slow=5.0,SNR=4.5
BRTR LR LR 00 50 53.8
comp=Z,16nm,22.0s,baz=65,slow=38
VSU Vasula 75.46 327⇑*e*P **P 00 14 16.4 -0.5**
VSU pmax pmax
comp=Z,36nm,1.2s
KIP Kipapa 75.55 72⇓*e*P **P 00 14 18.2 +0.1**
KIP pmax pmax
comp=Z,29nm,1.4s
AKASG Malin Array Be 75.87 319 P **P 00 14 17.9 -1.6**
comp=Z,2.5nm,0.6s,baz=62,slow=5.5,SNR=11
KIEV Kiev 75.88 319⇓*e*P **P 00 14 18.0 -1.5**
NACGM Naroch 76.29 324 *e* P 00 14 19.0 -2.8
RAO Raoul Island 76.73 128 *e*P P 00 14 21.7 -2.9
RAO pmax pmax
comp=Z,638nm,1.3s
RAO Raoul Island 76.73 128 *e*P P 00 14 21.7 -2.9
comp=Z,638nm,1.3s
DAWY Dawson 76.98 26 *e*P **P 00 14 26.1 +0.5**
comp=Z,110nm,2.8s
INK Inuvik 77.78 21 *e*P **P 00 14 28.3 -1.6**
INK pmax pmax
comp=Z,73nm,2.8s
INK Inuvik 77.78 21 P **P 00 14 28.7 -1.1**
comp=Z,0.8nm,0.7s,baz=315,slow=9.2,SNR=6.2
INK Inuvik 77.78 21 *e*P **P 00 14 28.2 -1.6**
comp=Z,73nm,2.8s
SUW Suwalki 78.56 323 *e*P **P 00 14 34.0 -0.5**
SUW pmax pmax
comp=Z,28nm,1.1s
SUW Suwalki 78.56 323 *e*P **P 00 14 34.0 -0.5**
comp=Z,28nm,1.1s
KWP Kalwaria Pacla 80.19 319 *e*P **P 00 14 43.2 -0.3**
KWP pmax pmax
comp=Z,12nm,0.8s
KWP Kalwaria Pacla 80.19 319 *e*P **P 00 14 43.2 -0.3**
comp=Z,12nm,0.8s
OJC Ojcow 81.76 320 *e*P **P 00 14 50.8 -1.1**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 81.76 320 *e*P **P 00 14 50.8 -1.1**
comp=Z,7.2nm,0.9s
NB2 NORSAR Subarra 81.98 332 P **P 00 14 51.0 -1.8**
comp=Z,1.5nm,0.7s,baz=62,slow=5.3
NOA NORSAR Array B 81.98 332 P **P 00 14 51.5 -1.4**
comp=Z,3.3nm,0.8s,baz=65,slow=5.3,SNR=8.1
RES Resolute Bay 83.33 9 *e*P **P 00 14 59.0 -0.5**
RES pmax pmax
comp=Z,55nm,3.0s
RES Resolute Bay 83.33 9 *e*P **P 00 14 59.0 -0.5**
comp=Z,55nm,3.0s
KSP Ksiaz 83.61 322 *e*P **P 00 15 00.1 -1.4**
KRLC Kraliky 83.62 321 *e*P **P 00 15 01.1 -0.5**
KRLC Kraliky 83.62 321 *e*P **P 00 15 01.1 -0.5**
DPC Dobruska-Polom 83.79 321 *e*P **P 00 15 02.3 -0.1**
DPC Dobruska-Polom 83.79 321 *e*P **P 00 15 02.3 -0.1**
KMBO Kilima Mbogo 83.93 267 P **P 00 15 03.9 -0.1**
comp=Z,1.1nm,0.6s,baz=73,slow=9.5,SNR=3.0
TREC Trest 84.70 321 *e*P **P 00 15 06.2 -0.9**
TREC *e* 00 15 16.1
TREC Trest 84.70 321 *e*P **P 00 15 06.2 -0.9**
TREC *ep*P **pP 00 15 16.1 +1.5**
BRG Berggiesshubel 84.96 322 *e*PKP **P 00 15 07.8 -0.5**
comp=Z,5.5nm,1.0s
BRG Berggiesshubel 84.96 322 *e*P **P 00 15 07.8 -0.5**
BRG pmax pmax
comp=Z,6.0nm,1.0s
PRU Pruhonice 84.98 321 *e*P **P 00 15 07.7 -0.7**
PRU Pruhonice 84.98 321 *e*P **P 00 15 07.7 -0.7**
CLL Collm 85.31 323 *i*P **P 00 15 09.3 -0.7**
CLL *e* 00 15 19.0
CLL pmax pmax
comp=Z,8.0nm,1.4s
CLL Collm 85.31 323 *i*P **P 00 15 09.3 -0.7**
comp=Z,8.0nm,1.4s
CLL *ep*P **pP 00 15 19.0 +1.4**
GEC2 GERESS Array S 85.96 321 *e*P **P 00 15 12.7 -0.8**
GEC2 GERESS Array S 85.96 321 *e*P **P 00 15 12.7 -0.8**
GERES GERESS Array B 85.96 321 P **P 00 15 13.1 -0.3**
comp=Z,1.7nm,0.8s,baz=60,slow=5.4,SNR=17
GERES LR LR 00 59 06.1
comp=Z,17nm,18.0s,baz=48,slow=40
YKA Yellowknife Ar 87.50 22 P **P 00 15 19.9 -0.6**
comp=Z,2.0nm,0.8s,baz=316,slow=4.7,SNR=28
FETA Feichten 88.56 320⇑*i*PcP **P 00 15 24.9 -1.3**
comp=Z,1.4nm,0.9s
FUORN Ofenpass-Fuorn 89.03 320 *e*P **P 00 15 27.9 -0.6**
comp=Z,19nm,1.9s
CABF La Chapelle 91.54 321 *e*P **P 00 15 38.5 -1.5**
comp=Z,7.5nm,1.1s
LPG La Plagne 91.71 320 *e*P **P 00 15 39.8 -1.3**
comp=Z,7.3nm,0.8s
LPL La Plagne 91.71 320 *e*P **P 00 15 39.7 -1.3**
comp=Z,6.2nm,0.8s
PGF Pioggiola 91.74 317 *e*P **P 00 15 39.5 -1.5**
comp=Z,17nm,1.0s
MBDF Montbardon 92.08 319 *e*P **P 00 15 41.3 -1.3**
comp=Z,4.2nm,0.8s
SBF Sospel 92.10 318 *e*P P 00 15 40.7 -1.9
comp=Z,17nm,0.8s
SMF Signal de Mont 92.84 322 *e*P **P 00 15 44.8 -1.1**
comp=Z,2.9nm,0.8s
VIVF Saint-Julien-l 93.30 320 *e*P **P 00 15 46.3 -1.8**
comp=Z,3.3nm,0.8s
TXAR Lajitas Array 115.43 42 PKP **PKPdf 00 21 15.4 -0.2**
comp=Z,0.2nm,0.8s,baz=194,slow=3.5,SNR=4.5

*ISCJB **19** 00:03:02.3±0.9, 22°.3N±0°.1×143°.7E±0°.2, h118km, mb3.8/8, Error ellipse: s-maj=27.7km s-min=16.3km az=171.0*
*IDC **19** 00:03:04.4±1.1, 22°.40N×143°.64E, h120km±7km, mb3.4/8, mb1 3.6/10, mb1mx3.4/41, mbtmp3.9/10, MS3.4/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=25.8km s-min=20.8km az=93.0*

ISC 19 00:03:04.6±1.0, 22°.4N±0°.1×143°.6E±0°.2, h118km, n16, σ1s41/15, mb3.8/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.83**	**345**	P	**Pn**	**00 04 16.9**	**+1.7**
	26nm,0.3s,baz=231,slow=2.9,SNR=12						
JCJ				S	**Sn**	**00 05 07.4**	**-2.9**
	40nm,0.3s,baz=117,slow=23,SNR=13						
MJAR	**Matsushiro Arr**	**14.84**	**343**	P	**Pn**	**00 06 29.3**	**+0.9**
	0.6nm,0.3s,baz=164,slow=10,SNR=10						
MAT	**Matsushiro**	**14.84**	**343**	P	**P**	**00 06 32.5**	**+1.3**
KSRS	**Korea Array**	**20.18**	**321**	P	Pn	00 07 34.4	+1.6
	2.6nm,0.5s,baz=139,slow=9.1,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**21.98**	**96**	T	T	00 30 44.7	
	baz=287,slow=74						
H11S1	**WAKE ISLAND Hy**	**21.98**	**96**	T	T	00 30 36.7	
	baz=287,slow=74						
H11S2	**WAKE ISLAND Hy**	**21.99**	**96**	T	T	00 30 41.1	
	baz=287						
SONM	**Songino Array**	**39.04**	**320**	P	**P**	**00 10 18.4**	**-1.6**
	0.5nm,0.6s,baz=137,slow=7.7,SNR=4.5						
WRA	**Warramunga Arr**	**43.06**	**193**	P	**P**	**00 10 52.5**	**-0.4**
	1.1nm,0.5s,baz=17,slow=9.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**53.89**	**321**	P	**P**	**00 12 15.3**	**-0.2**
	0.7nm,0.6s,baz=102,slow=6.3,SNR=2.6						
STKA	**Stephens Creek**	**54.02**	**182**	LR	LR	00 35 21.0	
	comp=Z,34nm,19.6s,baz=26,slow=36						
MKAR	**Makanchi Array**	**54.50**	**312**	P	**P**	**00 12 20.7**	**+0.5**
	1.2nm,0.6s,baz=87,slow=8.8,SNR=5.5						
MKAR				pP	**pP**	**00 12 47.3**	**-0.9**
	0.9nm,0.6s,baz=90,slow=9.5,SNR=4.7						
ILAR	**Eielson Array**	**61.23**	**27**	P	**P**	**00 13 05.5**	**-1.3**
	0.9nm,0.9s,baz=264,slow=5.5,SNR=7.7						
INK	**Inuvik**	**66.76**	**24**	P	**P**	**00 13 43.0**	**+0.2**
	1.0nm,0.8s,baz=240,slow=6.2,SNR=4.1						
YKA	**Yellowknife Ar**	**75.64**	**28**	P	**P**	**00 14 36.4**	**0.0**
	0.6nm,0.8s,baz=294,slow=5.7,SNR=9.4						
YKA				pP	**pP**	**00 15 05.4**	**-0.7**
	0.2nm,0.7s,baz=295,slow=5.8,SNR=3.0						
FINES	**FINESS Array B**	**82.70**	**335**	P	**P**	**00 15 14.8**	**-0.1**
	1.4nm,0.9s,baz=72,slow=6.0,SNR=3.4						
FINES				pP	**pP**	**00 15 47.1**	**+2.1**
	0.7nm,0.6s,baz=73,slow=4.8,SNR=2.0						

*ISCJB **19** 00:15:04.6±0.5, 11°.29S±0°.05×166°.4E±0°.1, h150km, mb4.0/18, Error ellipse: s-maj=14.9km s-min=7.7km az=177.9*
*IDC **19** 00:15:06.1±0.9, 11°.31S×166°.52E, h150km±7km, mb3.9/16, mb1 4.1/17, mb1mx3.9/39, mbtmp4.3/17, MS2.9/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=16.4km s-min=10.9km az=91.0*
*NEIC **19** 00:15:09.7±2.0, 11°.37S×166°.40E, h182km±19km, mb4.4/2, Error ellipse: s-maj=13.6km s-min=10.4km az=162.0*

ISC 19 00:15:06.1±0.5, 11°.31S±0°.06×166°.5E±0°.1, h150km, n34, σ0s86/42, mb4.0/18, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.74**	**285**	LR	LR	00 19 08.4	
	comp=Z,109nm,20.0s,baz=82,slow=36						
DZM	**Mont Dzumac**	**10.71**	**180**	P	**Pn**	**00 17 36.9**	**+1.3**
	2.7nm,0.3s,baz=338,slow=12,SNR=18						
DZM				S	**Sn**	**00 19 33.1**	**-1.0**
	0.6nm,0.3s,baz=336,slow=19,SNR=5.3						
DZM	**Mont Dzumac**	**10.71**	**180**	*e*Pn	**Pn**	**00 17 36.6**	**+1.0**
DZM				S	**Sn**	**00 19 33.1**	**-1.0**
MSVF	**Nonsavu**	**12.85**	**121**	*e*P	**P**	**00 18 08.6**	**0.0**
URZ	**Urewera**	**28.46**	**162**	P	**P**	**00 20 47.1**	**+0.1**
	5.1nm,0.3s,baz=257,slow=3.8,SNR=17						
URZ	**Urewera**	**28.46**	**162**	*e*P	**P**	**00 20 46.8**	**-0.2**
STKA	**Stephens Creek**	**30.79**	**224**	P	**P**	**00 21 06.3**	**-1.4**
	2.1nm,0.8s,baz=52,slow=13,SNR=5.0						
WRAB	**Tennant Creek**	**32.11**	**251**	*e*P	**P**	**00 21 19.8**	**+0.4**
WRA	**Warramunga Arr**	**32.12**	**250**	P	**P**	**00 21 18.5**	**-1.0**
	3.2nm,0.8s,baz=82,slow=8.8,SNR=16						
WRA				pP	**pP**	**00 21 52.8**	**+1.3**
	4.0nm,1.1s,baz=79,slow=8.8,SNR=5.2						
WRA				PcP	**PcP**	**00 24 05.5**	**+0.2**
	1.7nm,0.8s,baz=82,slow=3.1,SNR=9.0						
RPZ	**Rata Peaks**	**32.53**	**174**	P	**P**	**00 21 22.2**	**-0.6**
	39nm,0.7s,baz=346,slow=1.2,SNR=17						
RPZ	**Rata Peaks**	**32.53**	**174**	*e*P	**P**	**00 21 22.6**	**-0.2**
	32nm,0.9s						
AS31	**Alice Springs**	**33.37**	**244**	*e*P	**P**	**00 21 29.9**	**-0.4**
ASAR	**Alice Springs**	**33.37**	**244**	P	**P**	**00 21 29.8**	**-0.6**
	5.8nm,0.4s,baz=74,slow=9.6,SNR=30						
ASAR				pP	**pP**	**00 22 03.6**	**+1.2**
	0.9nm,0.7s,baz=79,slow=9.2,SNR=3.3						
ASAR				PcP	**PcP**	**00 24 08.7**	**-0.1**
	1.8nm,0.8s,baz=73,slow=3.1,SNR=12						
ASAR				ScP	**ScP**	**00 27 40.4**	**+1.1**
	0.4nm,0.7s,baz=90,slow=2.8,SNR=4.3						
KSRS	**Korea Array**	**60.53**	**325**	P	**P**	**00 25 00.7**	**+0.2**
	0.5nm,0.3s,baz=141,slow=4.7,SNR=4.0						
KSAR	**Wonju Array Be**	**60.54**	**325**	P	**P**	**00 25 00.7**	**+0.1**
PETK	**Petropavlovsk-**	**64.60**	**354**	P	**P**	**00 25 26.7**	**-0.6**
	1.8nm,0.8s,baz=148,slow=8.5,SNR=3.1						
VNDA	**Vanda**	**66.25**	**181**	P	**P**	**00 25 38.0**	**+0.4**
	2.6nm,0.7s,baz=340,slow=6.6,SNR=15						
CMAR	**Chiang Mai Arr**	**72.92**	**293**	P	**P**	**00 26 20.6**	**+1.1**
	2.5nm,0.7s,baz=119,slow=4.5,SNR=16						
ULN	**Ulaanbaatar**	**78.96**	**324**	*e*P	**P**	**00 26 54.0**	**+0.6**
	1.4nm,0.6s						
SONM	**Songino Array**	**79.33**	**324**	P	**P**	**00 26 55.5**	**+0.2**
	0.9nm,0.6s,baz=140,slow=5.8,SNR=12						
ILAR	**Eielson Array**	**83.51**	**18**	P	**P**	**00 27 16.5**	**-0.3**
	1.1nm,0.8s,baz=227,slow=4.7,SNR=11						
ILAR				pP	**pP**	**00 27 52.9**	**-1.5**
	0.9nm,0.9s,baz=230,slow=6.0,SNR=3.2						
NVAR	**Mina Array Bea**	**85.60**	**50**	P	**P**	**00 27 29.2**	**+1.1**
	1.0nm,0.7s,baz=241,slow=7.1,SNR=6.9						
ZALV	**Zalesovo Beam**	**94.22**	**324**	P	**P**	**00 28 06.5**	**-1.5**
	1.0nm,0.6s,baz=87,slow=3.4,SNR=6.4						
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**00 28 08.0**	**-0.3**
	0.2nm,0.3s,baz=92,slow=6.4,SNR=5.2						
YKA	**Yellowknife Ar**	**94.85**	**27**	P	**P**	**00 28 09.8**	**-0.8**
	0.2nm,0.7s,baz=260,slow=4.7,SNR=4.7						
TXAR	**Lajitas Array**	**95.28**	**61**	P	**P**	**00 28 14.1**	**+0.5**
	0.2nm,0.6s,baz=184,slow=5.0,SNR=4.0						
KURK	**Kurchatov**	**97.33**	**320**	P	**P**	**00 28 20.9**	**-1.2**
KURBB	**Kurchatov Arra**	**97.37**	**320**	P	**P**	**00 28 20.9**	**-1.4**
	0.2nm,0.2s,baz=104,slow=3.9,SNR=3.0						
ARCES	**ARCESS Array B**	**116.78**	**346**	PKP	**PKPdf**	**00 33 31.6**	**-0.6**
	2.6nm,0.7s,baz=68,slow=2.1,SNR=19						
FINES	**FINESS Array B**	**122.29**	**339**	PKP	**PKPdf**	**00 33 42.4**	**-0.5**
	0.6nm,0.4s,baz=64,slow=3.2,SNR=9.5						
NOA	**NORSAR Array B**	**127.15**	**345**	PKP	**PKPdf**	**00 33 51.5**	**-0.9**
	0.5nm,0.8s,baz=19,slow=1.6,SNR=3.5						
GERES	**GERESS Array B**	**136.28**	**334**	PKP	**PKPdf**	**00 34 11.3**	**+1.3**
	0.6nm,0.8s,baz=56,slow=3.4,SNR=5.2						
KEST	**Kesra**	**148.08**	**323**	PKPbc	**PKPbc**	**00 34 35.0**	**+0.4**
	2.5nm,0.9s,baz=66,slow=2.4,SNR=7.9						
ESDC	**Sonseca Array**	**150.51**	**345**	PKPbc	**PKPbc**	**00 34 40.6**	**+0.1**
	0.4nm,0.5s,baz=6.6,slow=2.9,SNR=9.6						
ESDC				PKPab	**PKPab**	**00 34 48.2**	**+0.7**
	0.3nm,0.4s,baz=14,slow=3.6,SNR=5.9						

*ISCJB **19** 00:17:24.8±1.0, 31°.3N±0°.1×103°.9E±0°.3, h14km, mb3.2/4, MS2.6/1, Error ellipse: s-maj=32.9km s-min=14.4km az=179.0*
*IDC **19** 00:17:31.6±5.9, 31°.41N×103°.76E, h60km±61km, mb3.0/4, mb1 3.3/6, mb1mx3.1/43, mbtmp3.4/6, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/10, Error ellipse: s-maj=62.4km s-min=20.3km az=71.0*

ISC 19 00:17:26.2±1.1, 31°.5N±0°.1×104°.0E±0°.3, h14km, n7, σ0s88/6, mb3.3/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.71**	**201**	P	**Pn**	**00 20 40.1**	**-0.2**
	0.2nm,0.3s,baz=7.5,slow=9.5,SNR=2.9						
SONM	**Songino Array**	**16.47**	**6**	P	**P**	**00 21 20.2**	**+0.7**
	0.1nm,0.3s,baz=186,slow=10,SNR=5.4						
MKAR	**Makanchi Array**	**22.64**	**319**	P	**P**	**00 22 27.1**	**+0.4**
	0.6nm,0.9s,baz=112,slow=11,SNR=4.2						
JNU	**Nakatsue**	**22.80**	**79**	LR	LR	00 33 27.8	
	comp=Z,22nm,18.5s,baz=208,slow=42						
ZALV	**Zalesovo Beam**	**26.36**	**334**	P	**P**	**00 23 01.8**	**+0.1**
	0.3nm,0.3s,baz=128,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**58.83**	**146**	P	**P**	**00 27 25.0**	**+0.6**
	0.4nm,0.7s,baz=338,slow=7.7,SNR=11						
YKA	**Yellowknife Ar**	**81.40**	**17**	P	**P**	**00 29 41.1**	**-1.2**
	0.1nm,0.5s,baz=327,slow=5.8,SNR=3.6						

MEX 19 00:22:09.9±0.7, 17°.03N×99°.51W, h28km±58km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.37**	**244**	*i* P	Pn	00 22 19.5	+0.1
ACX				*i* S	Sn	00 22 25.8	+0.1
CAIG	**El Cayaco**	**0.73**	**271**	*e*P	Pb	00 22 20.9	-3.2
CAIG				*i* S	Sb	00 22 31.5	-2.1
MEIG	**Mezcala**	**0.90**	**353**	*e*P	Pn	00 22 23.7	-3.0
MEIG				*e*S	Sb	00 22 35.1	-3.5
TLIG	**Tlapa**	**1.04**	**59**	*e*P	Pn	00 22 27.0	-1.9
TLIG				*i* P	Pb	00 22 27.1	-2.5
PLIG	**Platanillo**	**1.35**	**0**	*e*P	Pn	00 22 30.9	-2.1
PLIG				*e*S	Sn	00 22 47.5	-2.7
PNIG	**Pinotepa**	**1.47**	**115**	*e*P	Pn	00 22 32.5	-2.0
PNIG				*i* S	Sn	00 22 49.8	-3.1
ARIG	**Puente Sto Nin**	**1.48**	**327**	*e*P	Pn	00 22 32.7	-1.9
ARIG				*i* S	Sn	00 22 50.4	-2.7
YAIG	**Yautepec**	**1.87**	**13**	*e*P	Pn	00 22 37.6	-2.6
YAIG				*e*S	Sn	00 23 00.2	-2.9
ZIIG	**Zihuatanejo**	**1.95**	**287**	*i* P	Pn	00 22 38.8	-2.3
ZIIG				*i* S	Sn	00 23 02.0	-2.8

IDC 19 00:22:25.6±1.6, 9°.57S×70°.17W, h54km±8km, mb4.0/2, mb1 4.2/2, mb1mx3.2/23, mbtmp4.2/2, Error ellipse: s-maj=67.0km s-min=34.7km az=117.0, Peru-Brazil border region

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

PLCA	**Paso Flores**	**31.04**	**181**	P	P	00 28 38.5	0.0
	2.7nm,0.4s,baz=355,slow=8.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**74.83**	**74**	P	P	00 34 01.1	0.0
	0.8nm,0.5s,baz=261,slow=5.3,SNR=24						
TORD				pP	pP	00 34 16.4	+0.2
	0.7nm,0.6s,baz=262,slow=5.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**131.42**	**19**	PKP	PKPdf	00 41 31.6	-0.4
	1.2nm,0.6s,baz=297,slow=3.7,SNR=7.7						
ZALV				pPKP	pPKPdf	00 41 47.0	-1.0
	1.2nm,0.6s,baz=329,slow=2.4,SNR=4.7						
MKAR	**Makanchi Array**	**136.13**	**27**	PKP	PKPdf	00 41 41.2	0.0
	0.5nm,0.7s,baz=316,slow=2.4,SNR=5.7						
MKAR				pPKP	pPKPdf	00 41 57.1	-0.1
	0.7nm,0.7s,baz=331,slow=2.5,SNR=8.5						

ISCJB ***19*** *00:24:44.0±0.6,23°.91S±0°.07×66°.57W±0°.08,h195km, mb3.6/6,Error ellipse: s-maj=11.3km s-min=8.2km az=139.1*

IDC ***19*** *00:24:45.3±0.9,23°.86S×66°.62W,h196km±8km, mb3.5/6, mb1 3.7/10,mb1mx3.4/26,mbtmp4.0/10,Error ellipse: s-maj=17.0km s-min=11.0km az=26.0*

ISC 19 00:24:44.8±0.6, 23°.95S±0°.07×66°.68W±0°.07, h195km, n17, σ1§43/20, mb3.9/6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.45**	**302**	P	**Pn**	**00 25 29.5**	**+1.4**
	4µm,0.3s,baz=127,slow=6.9,SNR=32						
LVC				S	**Sn**	**00 26 02.5**	**+0.8**
	2µm,0.3s,baz=242,slow=19,SNR=9.9						
LPAZ	**La Paz**	**7.75**	**350**	P	**Pn**	**00 26 35.4**	**0.0**
	2.4nm,0.3s,baz=164,slow=11,SNR=61						
LPAZ				S	**Sn**	**00 28 00.5**	**-2.6**
	0.1nm,0.3s,baz=270,slow=18,SNR=2.6						
CFAA	**Coronel Fontan**	**7.75**	**190**	P	**Pn**	**00 26 35.8**	**+1.0**
	0.2nm,0.3s,baz=16,slow=14,SNR=17						
CFAA				S	**Sn**	**00 27 58.0**	**-4.2**
	0.7nm,0.3s,baz=142,slow=16,SNR=10						
CPUP	**Villa Florida**	**8.79**	**108**	P	**Pn**	**00 26 48.8**	**+0.4**
	0.1nm,0.3s,baz=279,slow=11,SNR=10						
CPUP				S	**Sn**	**00 28 28.9**	**+1.9**
	0.0nm,0.3s,baz=306,slow=17,SNR=2.0						
SIV	**San Ignacio**	**9.51**	**35**	P	**Pn**	**00 26 56.8**	**-1.0**
	0.5nm,0.3s,baz=216,slow=14,SNR=13						
BDFB	**Brasilia**	**19.39**	**68**	P	**P**	**00 28 56.2**	**0.0**
	0.8nm,0.3s,baz=232,slow=12,SNR=24						
TXAR	**Lajitas Array**	**63.81**	**324**	P	**P**	**00 34 56.8**	**+0.3**
	0.4nm,0.6s,baz=148,slow=7.7,SNR=10						
DBIC	**Dimbokro**	**67.50**	**71**	P	**P**	**00 35 19.8**	**-0.5**
	1.1nm,0.5s,baz=202,slow=8.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.27**	**69**	P	**P**	**00 36 11.9**	**-0.5**
	1.5nm,0.6s,baz=257,slow=5.7,SNR=21						
PDAR	**Pinedale Array**	**77.26**	**329**	P	**P**	**00 36 18.2**	**+0.6**
	0.3nm,0.5s,baz=136,slow=8.6,SNR=4.0						
ULM	**Lac du Bonnet**	**78.28**	**341**	P	**P**	**00 36 22.9**	**+0.1**
	1.4nm,0.5s,baz=169,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**94.18**	**340**	P	**P**	**00 37 40.8**	**-0.1**
	0.5nm,0.6s,baz=137,slow=4.5,SNR=22						
ASAR	**Alice Springs**	**128.62**	**204**	PKP	**PKPdf**	**00 43 29.4**	**0.0**
	0.5nm,0.6s,baz=111,slow=2.1,SNR=4.9						
WRA	**Warramunga Arr**	**131.80**	**207**	PKP	**PKPdf**	**00 43 35.6**	**+0.1**
	0.4nm,0.5s,baz=156,slow=1.8,SNR=13						
ZALV	**Zalesovo Beam**	**143.21**	**28**	PKP	PKPbc	00 43 53.5	+0.7
	0.7nm,0.5s,baz=289,slow=4.5,SNR=4.6						
MKAR	**Makanchi Array**	**146.30**	**40**	PKPbc	**PKPbc**	**00 44 01.9**	**-0.5**
	1.2nm,0.5s,baz=311,slow=2.3,SNR=20						
SONM	**Songino Array**	**155.53**	**11**	PKPab	**PKPab**	**00 44 42.6**	**+0.7**
	0.2nm,0.3s,baz=323,slow=5.6,SNR=4.2						

IGQ ***19*** *00:33:06±0.9, 1°.11N×79°.57W,h4km±6km,Mb4.6,Error ellipse: s-maj=6.1km s-min=2.7km az=10.0*

NEIC ***19*** *00:33:07.0, 1°.13N×79°.49W,h12km,mb4.1/4,MD4.5(IGQ), After IGQ.*

NEIC Felt at Esmeraldas.

IDC ***19*** *00:33:07.9±0.7, 1°.24N×79°.57W,h24km±4km,mb3.8/14, mb1 4.0/19,mb1mx3.9/31,mbtmp4.0/19,ML3.7/4,MS3.5/8, Ms1 3.5/8,ms1mx3.2/21,Error ellipse: s-maj=24.9km s-min=11.1km az=58.0*

ISC 19 00:33:07.0±0.4, 1°.13N±0°.04×79°.65W±0°.05, h20km, n95, σ1§28/100, mb4.0/14, MS3.6/6, 10C-15D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.20**	**186**	P	**Pn**	**00 33 28.5**	**-0.1**
LITE	**Lita**	**1.33**	**104**	⇓P	**Pn**	**00 33 29.3**	**-1.2**
LITE	**Lita**	**1.33**	**104**	⇓S	**Sb**	**00 33 47.2**	**-0.8**
JAMA	**Jama**	**1.48**	**202**	P	**Pn**	**00 33 32.3**	**-0.3**
OTAV	**Otavalo**	**1.49**	**126**	⇓P	**Pn**	**00 33 32.3**	**-0.8**
OTAV	**Otavalo**	**1.49**	**126**	⇓S	**Sn**	**00 33 51.8**	**-0.4**
OTAV	**Otavalo**	**1.49**	**126**	*e*Pn	**Pn**	**00 33 32.1**	**-1.0**
OTAV				*e*S	**Sn**	**00 33 48.9**	**-3.3**
YANA	**Yana**	**1.64**	**139**	⇓P	**Pn**	**00 33 35.4**	**+0.2**
PINO	**Pino**	**1.65**	**141**	⇓P	**Pn**	**00 33 35.4**	**+0.1**
TERV	**Terraza Guagua**	**1.66**	**141**	⇑P	**Pn**	**00 33 36.0**	**+0.5**
GGP	**Refugio Guagua**	**1.67**	**141**	⇓P	**Pn**	**00 33 36.7**	**-0.7**
JUA2	**San Juan 2**	**1.69**	**142**	P	**Pn**	**00 33 36.1**	**+0.2**
ANGU	**Angureal**	**1.96**	**123**	P	**Pb**	**00 33 42.6**	**+0.1**
CAYA	**Cayambe**	**1.97**	**122**	⇓P	**Pb**	**00 33 41.5**	**-0.9**
CAYR	**Refugio Cayamb**	**1.98**	**124**	P	**Pb**	**00 33 41.3**	**-1.4**
ELAGU	**Cayambe Volc**	**2.02**	**124**	P	**Pb**	**00 33 42.1**	**-1.2**
PAST	**Pastocalle**	**2.07**	**151**	P	**Pn**	**00 33 42.2**	**+1.2**
NAS2	**Nasa**	**2.12**	**146**	P	**Pb**	**00 33 44.1**	**-0.9**
CAMI	**Rancho Maria**	**2.13**	**147**	P	**Pb**	**00 33 44.7**	**-0.4**
VC1	**Cotopaxi 1**	**2.16**	**145**	⇑P	**Pb**	**00 33 45.6**	**-0.1**
BREF	**Cotopaxi Volca**	**2.16**	**146**	⇓P	**Pb**	**00 33 44.4**	**-1.3**
BREF	**Cotopaxi Volca**	**2.16**	**146**	⇓S	**Sb**	**00 34 14.3**	**+2.0**
ANTI	**Antisana**	**2.16**	**136**	⇓P	**Pb**	**00 33 44.1**	**-1.7**
BVC2	**Cotopaxi Volca**	**2.16**	**145**	⇓S	**Sb**	**00 34 15.7**	**+3.2**
BVC2	**Cotopaxi Volca**	**2.16**	**145**	⇓P	**Pb**	**00 33 44.4**	**-1.5**
BTAM	**Cotopaxi Volca**	**2.19**	**145**	⇓P	**Pb**	**00 33 45.7**	**-0.5**
BTAM	**Cotopaxi Volca**	**2.19**	**145**	⇓S	**Sb**	**00 34 15.6**	**+2.5**
MOV1	**Cotopaxi Vol s**	**2.19**	**146**	P	**Pb**	**00 33 45.9**	**-0.4**
COV1	**Cotopaxi Volc**	**2.21**	**144**	P	**Pb**	**00 33 45.5**	**-1.1**
TAMB	**Tambo**	**2.22**	**145**	P	**Pb**	**00 33 45.4**	**-1.4**
CHAR	**Charly**	**2.32**	**121**	P	**Pb**	**00 33 47.3**	**-1.1**
CONE	**Cono NE Rev Vo**	**2.34**	**121**	P	**Pb**	**00 33 47.4**	**-1.3**
LAV4	**Lava4-Reventad**	**2.36**	**121**	P	**Pb**	**00 33 48.6**	**-0.4**
PISA	**Pisayambo**	**2.51**	**150**	P	**Pb**	**00 33 50.0**	**-1.8**
ISPT	**Isla de la Pla**	**2.76**	**211**	P	**Pn**	**00 33 51.0**	**+0.8**
IGUA	**Igualata**	**2.79**	**159**	P	**Pb**	**00 33 54.1**	**-2.5**
JUI6	**Juive**	**2.80**	**155**	P	**Pb**	**00 33 54.5**	**-2.0**
RUN5	**Runtun**	**2.81**	**154**	P	**Pb**	**00 33 55.9**	**-0.8**
BIL2	**Estacion Bilba**	**2.81**	**156**	S	**Sb**	**00 34 30.2**	**-0.6**
BIL2	**Estacion Bilba**	**2.81**	**156**	P	**Pb**	**00 33 56.0**	**-0.7**
BBIL	**Ulba Tungurahu**	**2.81**	**155**	⇑P	**Pb**	**00 33 55.6**	**-1.2**
BRUN	**Tungurahua Vol**	**2.82**	**154**	⇑P	**Pb**	**00 33 55.6**	**-1.3**
BRUN	**Tungurahua Vol**	**2.82**	**154**	⇑S	**Sb**	**00 34 30.4**	**-0.7**
RETU	**Refugio**	**2.83**	**155**	P	**Pb**	**00 33 55.0**	**-2.2**
BULB	**Ulba Tungurahu**	**2.83**	**154**	S	**Sb**	**00 34 30.3**	**-1.3**
BULB	**Ulba Tungurahu**	**2.83**	**154**	P	**Pb**	**00 33 55.6**	**-1.6**
ULBA	**Ulba**	**2.84**	**154**	S	**Sb**	**00 34 30.5**	**-1.5**
ULBA	**Ulba**	**2.84**	**154**	P	**Pb**	**00 33 55.8**	**-1.5**
BMAS	**Trigal station**	**2.86**	**156**	⇑S	**Sb**	**00 34 32.9**	**+0.4**
BMAS	**Trigal station**	**2.86**	**156**	⇑P	**Pb**	**00 33 55.2**	**-2.4**
ARRY	**Arrayan**	**2.88**	**155**	⇑P	**Pb**	**00 33 55.2**	**-2.7**
BPAT	**Tungurahua Vol**	**2.88**	**155**	⇑P	**Pb**	**00 33 56.7**	**-1.3**
BPAT	**Tungurahua Vol**	**2.88**	**155**	⇑S	**Sb**	**00 34 33.9**	**+0.8**
PAT1	**Patacocha**	**2.88**	**155**	P	**Pb**	**00 33 56.7**	**-1.4**
RIOE	**Riobamba**	**3.04**	**160**	S	**Sb**	**00 34 35.5**	**-1.9**
RIOE	**Riobamba**	**3.04**	**160**	P	**Pb**	**00 33 58.7**	**-1.9**
MACE	**Macas**	**3.66**	**157**	P	**Pb**	**00 34 08.1**	**-3.1**
ROSC	**El Rosal**	**6.48**	**55**	Pn	**Pn**	**00 34 42.0**	**+0.3**
	0.8nm,0.3s,baz=237,slow=6.8,SNR=2.5						
ROSC				LR	LR	00 37 09.1	
	comp=Z,149nm,18.7s,baz=196,slow=38						
BCIP	**Isla Barro Col**	**7.99**	**359**	*e*Pn	**Pn**	**00 35 01.7**	**-0.3**
ATAH	**Atahualpa**	**8.30**	**171**	Pn	**Pn**	**00 35 09.6**	**+2.9**
	2.0nm,0.3s,baz=1.7,slow=7.0,SNR=13						
ATAH				Sn	Sn	00 36 47.3	+7.2
	1.3nm,0.3s,baz=42,slow=21,SNR=6.2						
ATAH				LR	LR	00 38 15.4	
	comp=Z,261nm,18.4s,baz=337,slow=37						
JTS	**JuntasAbangare**	**10.52**	**330**	Pn	**Pn**	**00 35 37.4**	**+0.6**
	0.1nm,0.3s,baz=190,slow=20,SNR=1.6						
JTS				LR	LR	00 39 09.0	
	comp=Z,344nm,18.8s,baz=154,slow=34						
JTS	**JuntasAbangare**	**10.52**	**330**	*e*Pn	**Pn**	**00 35 37.2**	**+0.4**
SDV	**Santo Domingo**	**11.84**	**49**	*e*Pn	**Pn**	**00 35 54.7**	**-0.2**
NNA	**Nana**	**13.32**	**168**	Pn	**Pn**	**00 36 16.5**	**+1.3**
	0.7nm,0.3s,baz=352,slow=15,SNR=3.4						
NNA				Sn	**Sn**	**00 38 43.7**	**+0.9**
	0.9nm,0.3s,baz=306,slow=19,SNR=3.6						
NNA	**Nana**	**13.32**	**168**	Pn	**Pn**	**00 36 15.8**	**+0.6**
NNA				Sn	**Sn**	**00 38 43.7**	**+0.9**
SAML	**Samuel**	**19.22**	**122**	*e*P	**P**	**00 37 28.9**	**-1.2**
	12nm,1.0s						
PTGA	**Pitinga**	**19.77**	**95**	P	**P**	**00 37 36.2**	**+0.1**
	0.2nm,0.3s,baz=272,slow=10,SNR=14						
PTGA	**Pitinga**	**19.77**	**95**	*e*P	**Pn**	**00 37 36.5**	**-1.1**
	4.6nm,0.5s						
LPAZ	**La Paz**	**20.71**	**147**	P	Pn	00 37 48.0	-1.4
	6.8nm,0.7s,baz=346,slow=7.5,SNR=21						
LPAZ				LR	LR	00 47 15.2	
	comp=Z,281nm,18.5s,baz=328,slow=41						
LPAZ	**La Paz**	**20.71**	**147**	*e*P	**P**	**00 37 47.7**	**+0.8**
	9.2nm,0.8s						
CMIG	**Matias Romero**	**21.82**	**317**	P	**P**	**00 37 57.5**	**-0.7**
	0.5nm,0.3s,baz=349,slow=9.3,SNR=2.1						
SIV	**San Ignacio**	**25.02**	**134**	P	**P**	**00 38 29.3**	**-0.7**
	4.8nm,0.7s,baz=313,slow=8.7,SNR=15						
LVC	**Limon Verde**	**25.81**	**157**	P	**P**	**00 38 40.0**	**+2.6**
	12nm,0.8s,baz=18,slow=10.0,SNR=3.5						
CPUP	**Villa Florida**	**34.77**	**143**	P	**P**	**00 39 56.8**	**+0.5**
	0.2nm,0.7s,baz=320,slow=9.5,SNR=3.4						
CPUP				LR	LR	00 56 00.7	
	comp=Z,967nm,18.8s,baz=210,slow=39						
BDFB	**Brasilia**	**35.43**	**119**	P	**P**	**00 40 02.0**	**-0.2**
	2.7nm,0.8s,baz=272,slow=5.5,SNR=3.7						
BDFB				LR	LR	00 56 17.6	
	comp=Z,43nm,20.0s,baz=258,slow=39						
PLCA	**Paso Flores**	**42.48**	**170**	P	**P**	**00 41 01.9**	**+1.0**
	2.6nm,0.7s,baz=350,slow=11,SNR=3.5						
PLCA				LR	LR	00 55 38.4	
	comp=Z,64nm,20.0s,baz=80,slow=32						
PDAR	**Pinedale Array**	**49.35**	**331**	P	**P**	**00 41 54.6**	**-0.7**
	0.3nm,0.8s,baz=127,slow=10,SNR=3.2						
PDAR				pP	**pP**	**00 42 02.0**	**+0.4**
	0.5nm,0.6s,baz=150,slow=6.2,SNR=4.7						
ULM	**Lac du Bonnet**	**50.86**	**347**	P	**P**	**00 42 05.5**	**-0.8**
	1.4nm,0.5s,baz=148,slow=6.9,SNR=5.9						
ULM				pP	**pP**	**00 42 13.0**	**+0.3**
	3.1nm,0.8s,baz=156,slow=8.1,SNR=5.6						
NVAR	**Mina Array Bea**	**51.29**	**321**	P	**P**	**00 42 11.3**	**+1.2**
	2.0nm,0.9s,baz=131,slow=6.1,SNR=8.2						
YKA	**Yellowknife Ar**	**66.56**	**343**	P	**P**	**00 43 55.1**	**-0.3**
	0.8nm,0.7s,baz=138,slow=5.8,SNR=26						
YKA				pP	**pP**	**00 44 03.4**	**+1.5**
	2.0nm,0.9s,baz=132,slow=6.2,SNR=15						
DBIC	**Dimbokro**	**74.77**	**83**	LR	LR	01 15 46.3	
	comp=Z,41nm,20.3s,baz=210,slow=34						
ESDC	**Sonseca Array**	**78.28**	**50**	P	**P**	**00 45 06.3**	**+0.5**
	0.9nm,0.7s,baz=264,slow=6.2,SNR=11						
ILAR	**Eielson Array**	**79.43**	**336**	P	**P**	**00 45 11.4**	**-0.2**
	0.8nm,0.8s,baz=110,slow=4.4,SNR=8.0						
ILAR				pP	**PcP**	**00 45 19.4**	**-0.3**
	0.8nm,0.8s,baz=112,slow=4.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**81.32**	**77**	P	**P**	**00 45 21.8**	**-1.0**
	1.7nm,1.1s,baz=278,slow=4.9,SNR=10						
TORD				LR	LR	01 21 10.4	
	comp=Z,19nm,20.4s,baz=170,slow=36						
TAM	**Tamanrasset**	**85.12**	**67**	*e*P	**P**	**00 45 43.3**	**+0.8**
	5.2nm,1.4s						
ZALV	**Zalesovo Beam**	**123.62**	**11**	PKP	**PKPdf**	**00 52 02.8**	**-0.3**
	0.7nm,0.7s,baz=339,slow=3.7,SNR=4.3						
ZALV				pPKP	**pPKPdf**	**00 52 10.9**	**+0.9**
	0.6nm,0.6s,baz=352,slow=3.0,SNR=2.9						
MKAR	**Makanchi Array**	**129.71**	**16**	PKP	**PKPdf**	**00 52 14.3**	**-0.8**
	0.5nm,0.9s,baz=11,slow=1.2,SNR=4.0						
ASAR	**Alice Springs**	**140.51**	**233**	PKhKP	PKPpre	00 52 32.7	
	0.4nm,0.7s,baz=123,slow=3.4,SNR=4.7						
WRA	**Warramunga Arr**	**141.86**	**238**	PKhKP	PKPpre	00 52 32.7	
	0.4nm,0.7s,baz=109,slow=2.6,SNR=4.5						
WRA				PKP	**PKPdf**	**00 52 37.8**	**-0.5**
	0.8nm,0.7s,baz=109,slow=2.6,SNR=11						
PYUN	**Piuthan**	**146.50**	**29**	*e*P	**PKPdf**	**00 52 46.6**	**+0.1**
	15nm,0.7s						
DANN	**Dangsing**	**146.65**	**27**	*e*P	**PKPbc**	**00 52 48.1**	**-0.3**
	21nm,0.9s						
GUN	**Gumba**	**147.96**	**25**	*e*P	**PKPbc**	**00 52 52.2**	**0.0**
	22nm,0.9s						
PKI	**Pulchoki**	**148.06**	**26**	*e*P	**PKPbc**	**00 52 51.5**	**-0.9**
JIRN	**Jiri**	**148.31**	**24**	*e*P	**PKPdf**	**00 52 51.0**	**+1.2**
	14nm,0.8s						
CMAR	**Chiang Mai Arr**	**160.49**	**4**	PKPab	**PKPab**	**00 53 46.4**	**-0.9**
	0.3nm,0.3s,baz=349,slow=5.9,SNR=5.3						

IDC 19 00:35:13.7±3.1, 18°.36S×113°.36W,h0km, mb3.7/2, mb1 4.1/2,mb1mx3.6/18,mbtmp3.7/2,Error ellipse: s-maj=255.8km s-min=86.0km az=96.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**60.92**	**3**	P	P	00 45 28.2	-0.4
	0.8nm,0.7s,baz=168,slow=6.5,SNR=6.7						
YKA	**Yellowknife Ar**	**80.58**	**359**	P	P	00 47 28.1	+0.5
	0.4nm,0.8s,baz=177,slow=5.9,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**86.63**	**291**	T	T	02 23 41.6	
	baz=111,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**86.64**	**291**	T	T	02 23 40.3	
	baz=111,slow=75,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**86.65**	**291**	T	T	02 23 42.2	
	baz=111,slow=75,SNR=7.6						
BRTR	**Keskin Array B**	**144.44**	**46**	PKP	PKPbc	00 54 51.3	+0.3
	0.9nm,0.8s,baz=271,slow=2.9,SNR=5.0						
MKAR	**Makanchi Array**	**148.85**	**339**	PKPbc	PKPbc	00 55 02.8	-0.6
	0.6nm,0.7s,baz=42,slow=3.3,SNR=7.7						

IDC 19 01:03:32.2±4.5, 24°.56S×176°.02W,h0km, mb3.9/3, mb1 4.1/3,mb1mx3.7/21,mbtmp3.9/3,MS2.9/1,Ms1 2.9/1, ms1mx2.5/27,Error ellipse: s-maj=200.7km s-min=47.6km az=151.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**25.61**	**79**	LR	LR	01 17 32.4	
	comp=Z,23nm,19.2s,baz=280,slow=33						
ASAR	**Alice Springs**	**45.51**	**260**	P	P	01 11 53.8	0.0
	0.3nm,0.6s,baz=100,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**45.98**	**265**	P	P	01 11 57.1	-0.5
	0.9nm,0.5s,baz=103,slow=8.0,SNR=14						
SONM	**Songino Array**	**99.99**	**318**	P	Pdif	01 17 20.9	+1.6
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.0						
AKASG	**Malin Array Be**	**147.43**	**330**	PKPbc	PKPbc	01 23 16.7	-1.1
	0.1nm,0.3s,baz=40,slow=4.1,SNR=3.3						
BRTR	**Keskin Array B**	**150.85**	**308**	PKPbc	PKPbc	01 23 26.4	-0.7
	0.9nm,0.8s,baz=122,slow=3.7,SNR=5.3						

GUC 19 01:05:49.0±0.5, 35°.72S×72°.69W,h29km±7km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.41**	**191**	*i* P	Pb	01 05 57.3	-0.8
COCH				*i* S	Sb	01 06 03.5	-0.7
TALC	**Talca**	**0.92**	**70**	*i* P	Pn	01 06 05.2	-0.8
TALC				*i* S	Sn	01 06 17.1	-1.2
TALC				AML	AML	01 06 19.5	
	comp=N,5µm,0.1s						
CCSP	**San Pedro de C**	**1.17**	**197**	*i* P	Pn	01 06 08.4	-1.0
CCSP				*i* S	Sn	01 06 24.0	-0.3
CCSP				AML	AML	01 06 28.4	
	comp=E,2µm,0.4s						

IGQ 19 01:10:36±1.3, 1°.13N×79°.53W,h6km±67km, Mb4.2,1C-7D, Error ellipse: s-maj=7.0km s-min=2.5km az=10.0,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LITE	**Lita**	**1.21**	**105**	S	Sn	01 11 16.5	0.0
LITE	**Lita**	**1.21**	**105**	P	Pg	01 10 58.4	-1.0
MAG1	**Magdalena**	**1.21**	**192**	P	Pg	01 10 58.4	-1.0
MAG1	**Magdalena**	**1.21**	**192**	S	Sn	01 11 17.0	+0.6
OTAV	**Otavalo**	**1.39**	**129**	⇓P	Pn	01 11 02.6	0.0
JAMA	**Jama**	**1.53**	**206**	P	Pn	01 11 02.1	-2.0
JAMA	**Jama**	**1.53**	**206**	S	Sn	01 11 21.1	-3.3
YANA	**Yana**	**1.56**	**142**	⇓P	Pb	01 11 05.7	-0.3
PINO	**Pino**	**1.57**	**144**	P	Pn	01 11 05.8	+0.5
TERV	**Terraza Guagua**	**1.59**	**144**	P	Pn	01 11 05.2	-0.3
GGP	**Refugio Guagua**	**1.59**	**144**	⇓P	Pn	01 11 05.1	-0.4
JUA2	**San Juan 2**	**1.62**	**145**	P	Pb	01 11 06.5	-0.5
JUA2	**San Juan 2**	**1.62**	**145**	S	Sg	01 11 29.0	-0.2
CAYA	**Cayambe**	**1.86**	**124**	⇓P	Pb	01 11 11.7	+0.5
CAYR	**Refugio Cayamb**	**1.88**	**126**	P	Pb	01 11 11.4	-0.2
PAST	**Pastocalle**	**2.01**	**154**	P	Pb	01 11 12.7	-0.9
NAS2	**Nasa**	**2.05**	**149**	P	Pb	01 11 14.6	+0.1
ANTI	**Antisana**	**2.08**	**139**	P	Pb	01 11 14.5	-0.4
VC1	**Cotopaxi 1**	**2.08**	**147**	P	Pb	01 11 15.0	0.0
BREF	**Cotopaxi Volca**	**2.09**	**149**	⇑P	Pb	01 11 15.0	-0.2
BVC2	**Cotopaxi Volca**	**2.09**	**148**	⇓P	Pb	01 11 14.7	-0.5
BTAM	**Cotopaxi Volca**	**2.12**	**148**	S	Sb	01 11 43.3	+0.7
BTAM	**Cotopaxi Volca**	**2.12**	**148**	P	Pn	01 11 14.1	+1.4
COV1	**Cotopaxi Volc**	**2.13**	**146**	P	Pb	01 11 15.0	-1.0
TAMB	**Tambo**	**2.15**	**147**	P	Pb	01 11 15.1	-1.0
PISA	**Pisayambo**	**2.45**	**152**	P	Pb	01 11 20.8	-0.4
RUN5	**Runtun**	**2.75**	**156**	P	Pb	01 11 24.6	-1.6
BBIL	**Ulba Tungurahu**	**2.76**	**158**	P	Pb	01 11 24.2	-2.1
BULB	**Ulba Tungurahu**	**2.78**	**156**	P	Pb	01 11 24.4	-2.3
BULB	**Ulba Tungurahu**	**2.78**	**156**	S	Sb	01 12 00.8	-0.6
ULBA	**Ulba**	**2.79**	**156**	P	Pb	01 11 24.5	-2.4
BMAS	**Trigal station**	**2.81**	**158**	⇓P	Pb	01 11 25.9	-1.4
BMAS	**Trigal station**	**2.81**	**158**	⇓S	Sb	01 12 02.1	-0.2
ARRY	**Arrayan**	**2.83**	**158**	P	Pb	01 11 25.5	-1.9
ISPT	**Isla de la Pla**	**2.83**	**213**	P	Pn	01 11 23.6	+1.8
BPAT	**Tungurahua Vol**	**2.83**	**157**	P	Pb	01 11 25.2	-2.5
PAT1	**Patacocha**	**2.83**	**157**	P	Pb	01 11 25.2	-2.5
RIOE	**Riobamba**	**3.00**	**163**	P	Pb	01 11 27.9	-2.4
MACE	**Macas**	**3.61**	**158**	P	Pb	01 11 38.7	-1.8

MEX 19 01:20:11.2±0.4, 16°.15N×98°.39W, h4km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**46**	*i* P	Pg	01 20 17.6	-0.4
PNIG				*i* S	Sg	01 20 22.7	+0.1
VHO	**Vista Hermosa**	**1.83**	**60**	*e*P	Pn	01 20 40.7	-3.1
VHO				*i* S	Sn	01 21 03.6	-4.1
HUIG	**Huatulco**	**2.23**	**99**	*i* P	Pn	01 20 45.3	-3.7
HUIG				*i* S	Sn	01 21 11.9	-5.1

SZGRF ***19*** *01:26:43.6,35°.10N×70°.18E,h13km,mb4.4,MS3.7,Hindu Kush, Afghanistan, region*

IDC ***19*** *01:26:54.6±0.6,35°.61N×67°.66E,h0km,mb4.3/26, mb1 4.4/31,mb1mx4.3/42,mbtmp4.3/31,ML3.8/3,MS3.8/29, Ms1 3.8/29,ms1mx3.7/39,Error ellipse: s-maj=14.5km s-min=10.0km az=1.0*

ISCJB ***19*** *01:26:55.5±0.2,35°.74N±0°.02×67°.72E±0°.02,h13km, mb4.5/80,MS3.8/30,Error ellipse: s-maj=3.1km s-min=2.4km az=14.3*

NEIC ***19*** *01:26:56.5±2.5,35°.72N×67°.61E,h9km±15km,mb4.8/42, Error ellipse: s-maj=6.4km s-min=4.2km az=188.0*

BJI ***19*** *01:26:57.5,35°.98N×67°.73E,h9km,mB4.6/22,mb4.6/27, Ms4.3/24,Ms7 4.0/27*

NNC ***19*** *01:26:58.9±2.5,35°.99N×67°.54E,h0km,mb5.2,mpv5.1, Error ellipse: s-maj=25.5km s-min=13.

BHK Bhakra 8.50 118 *e*P Pn 01 29 08.6 +8.5
BHK *e*S Sn 01 30 45.0 +9.4
KZA Kyzart 8.64 41 P **Pn** **01 29 03.0 +0.5**
SNR=63
KZA Kyzart 8.64 41 *i* P **Pn** **01 29 02.9 +0.5**
AAK Ala-Archa 8.67 36 ⇑Pn **Pn** **01 29 03.8 +1.2**
comp=N,87nm,0.5s
AAK Sn **Sn** **01 30 43.8 +3.8**
comp=N,158nm,0.7s
AAK Ala-Archa 8.67 36 P **Pn** **01 29 03.5 +1.0**
SNR=109
AAK Ala-Archa 8.67 36 *e*P **Pn** **01 29 03.3 +0.7**
AAK *e*S **Sn** **01 30 42.8 +2.8**
AAK Ala-Archa 8.67 36 Pn **Pn** **01 29 03.6 +1.0**
comp=N,34nm,0.3s,baz=217,slow=12,SNR=236
AAK Sn **Sn** **01 30 43.0 +3.1**
comp=N,3.1nm,0.3s,baz=218,slow=19,SNR=4.6
AAK Ala-Archa 8.67 36 *e*Pn **Pn** **01 29 03.3 +0.7**
AAK *e*S **Sn** **01 30 42.8 +2.8**
SDNR Sundarnagar 8.86 116 *e*P **Pn** **01 29 05.6 +0.6**
SDNR *ex* Sn 01 30 51.0 +6.6
FRU Bishkek 8.88 35 *e*P **Pn** **01 29 06.0 +0.6**
FRU *e*S Sn 01 30 56.0 +11
FRU pmax pmax
comp=Z,190nm,1.8s
FRU smax smax
comp=N,304nm,1.8s
KBK Karagaybulak 8.91 37 P **Pn** **01 29 06.8 +0.9**
SNR=65
KBK Karagaybulak 8.91 37 *i* P **Pn** **01 29 06.8 +0.9**
CHMS Chumysh 9.07 35 P **Pn** **01 29 08.2 +0.2**
SNR=84
CHMS Chumysh 9.07 35 *i* P **Pn** **01 29 08.2 +0.2**
USP Ospenovka 9.17 33 P **Pn** **01 29 09.8 +0.5**
SNR=35
USP Ospenovka 9.17 33 *i* P **Pn** **01 29 09.7 +0.5**
SMLA Simla 9.19 117 *i* P **Pn** **01 29 09.3 -0.3**
SMLA *ex* x 01 30 44.0
SMLA AML AML 01 31 51.4
comp=N,251nm,1.7s
SMLA AML AML 01 31 58.4
comp=E,269nm,0.4s
ULHL Ulahol 9.30 43 P **Pn** **01 29 13.5 +2.3**
SNR=29
ULHL Ulahol 9.30 43 *i* P **Pn** **01 29 13.5 +2.3**
TKM2 Tokmak 2 9.43 38 ⇓Pn **Pn** **01 29 13.3 +0.3**
comp=E,81nm,0.6s
TKM2 ⇓Sn **Sn** **01 31 00.9 +2.3**
comp=E,122nm,0.7s
TKM2 Tokmak 2 9.43 38 P **Pn** **01 29 13.6 +0.7**
SNR=32
TKM2 Tokmak 2 9.43 38 *e*P **Pn** **01 29 13.3 +0.3**
TKM2 *e*S **Sn** **01 31 01.6 +3.0**
TKM2 Tokmak 2 9.43 38 *e*Pn **Pn** **01 29 13.2 +0.3**
TKM2 *e*S **Sn** **01 31 01.6 +3.0**
KNDC Almaty 10.35 41 ⇑Pn **Pn** **01 29 26.7 +1.2**
AAA Alma-Ata 10.37 41 *e*P **Pn** **01 29 26.5 +0.7**
AAA pmax pmax
comp=Z,300nm,0.8s
AAA MLR MLR
comp=Z,900nm,4.0s
NDI New Delhi 10.74 128 *e*P **Pn** **01 29 29.0 -1.8**
NDI *ex* x 01 31 41.0
AJM Ajmer 11.02 145 *e*P **Pn** **01 29 34.0 -0.7**
PDGK Podgornoye 11.84 47 ⇓Pn **Pn** **01 29 46.4 +0.6**
comp=Z,58nm,1.0s
PDGK ⇑Sn Sn 01 32 06.3 +8.9
comp=Z,43nm,1.2s
PDGK Podgornoye 11.84 47 P **Pn** **01 29 46.4 +0.6**
PDGK pmax pmax
comp=Z,58nm,1.0s
OTUK Ortayu 12.94 14 ⇓Pn **Pn** **01 29 59.0 -1.8**
comp=Z,41nm,0.8s
OTUK ⇑Sn **Sn** **01 32 21.6 -2.8**
comp=Z,63nm,1.0s
OTUK Ortayu 12.94 14 P **Pn** **01 29 58.6 -2.3**
OTUK pmax pmax
comp=Z,41nm,0.8s
AB31 Akbulak array 14.62 340 ⇑Pn Pn 01 30 20.1 -3.6
comp=Z,7.7nm,0.5s,baz=151,slow=12,SNR=134
AB31 ⇑Sn Sn 01 32 57.6 -7.7
comp=Z,17nm,0.7s
AB31 Akbulak array 14.62 340 P Pn 01 30 20.1 -3.6
AB31 01 32 56.7
AB31 pmax pmax
comp=Z,11nm,0.5s
AB31 smax smax
comp=N,41nm,0.9s
ABKAR Akbulak array 14.62 340 *e*Pn Pn 01 30 20.0 -3.7
PYUN Piuthan 15.09 116 *e*P **Pn** **01 30 26.5 -3.9**
comp=N,115nm,0.5s
BHPL Bhopal 15.09 143 *e*P **Pn** **01 30 29.4 -0.9**
BHPL AMB AMB 01 30 33.7
comp=Z,11nm,0.6s
DANN Dangsing 15.52 114 *e*P **Pn** **01 30 32.7 -3.4**
comp=Z,92nm,0.7s
MK31 Makanchi Array 15.54 40 ⇑Pn **Pn** **01 30 33.8 -2.4**
comp=Z,26nm,0.8s
MK31 Makanchi Array 15.54 40 P **Pn** **01 30 33.7 -2.4**
MK31 pmax pmax
comp=Z,28nm,0.8s
MKAR Makanchi Array 15.54 40 *i* P **Pn** **01 30 33.9 -2.2**
MKAR pmax pmax
comp=Z,12nm,0.7s
MKAR Makanchi Array 15.54 40 Pn **Pn** **01 30 33.8 -2.2**
comp=Z,1.0nm,0.3s,baz=229,slow=13,SNR=79
MKAR LR LR 01 37 26.3
comp=Z,334nm,18.4s,baz=236,slow=40
MKAR Makanchi Array 15.54 40 *e*Pn **Pn** **01 30 34.3 -1.8**
KOLN Koldanda 15.72 116 *e*P **Pn** **01 30 35.1 -3.5**
comp=Z,39nm,0.6s
AKTO Aktyubinsk 16.24 337 ⇓Pn **Pn** **01 30 42.3 -2.7**
comp=Z,23nm,1.1s
AKTO ⇑Sn **Sn** **01 33 43.5 -1.2**
comp=Z,38nm,0.9s
AKTO Aktyubinsk 16.24 337 Pn **Pn** **01 30 42.9 -2.1**
comp=Z,0.3nm,0.3s,baz=161,slow=13,SNR=17
AKTO Sn **Sn** **01 33 42.9 -1.8**
comp=Z,1.0nm,0.3s,baz=108,slow=20,SNR=6.0
AKTO LR LR 01 37 31.8
comp=Z,170nm,18.9s,baz=148,slow=39
GKN Gorkha 16.36 113 *e*P **Pn** **01 30 43.6 -3.2**
comp=Z,69nm,0.5s
KURBB Kurchatov Arra 16.81 25 ⇑Pn **Pn** **01 30 53.3 +1.2**
comp=Z,30nm,0.8s,baz=208,slow=10
KURBB Kurchatov Arra 16.81 25 Pn **Pn** **01 30 49.4 -2.7**
comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=18
KURK Kurchatov 16.91 25 ⇓Pn **Pn** **01 30 54.9 +1.4**
comp=Z,20nm,1.0s
KURK Kurchatov 16.91 25 P **Pn** **01 30 49.4 -4.1**
KURK Kurchatov 16.91 25 *e*Pn **Pn** **01 30 50.5 -3.0**
comp=Z,30nm,0.9s
KURK *e*S S 01 34 35.3 +24
DMN Daman 16.92 114 *e*P **Pn** **01 30 50.1 -3.9**
comp=Z,68nm,0.7s
KKN Kakani 16.95 113 *e*P **Pn** **01 30 51.4 -3.0**
comp=Z,71nm,0.6s
MAK Makhachkala 17.14 301 *e*P Pn 01 30 49.7 -6.6
MAK MLR MLR
comp=Z,681nm,14.0s
PKIN Phulchoki 17.15 113 *e*P **Pn** **01 30 53.1 -3.9**
comp=Z,53nm,0.6s
PKI Pulchoki 17.16 113 *e*P **Pn** **01 30 53.6 -3.6**
comp=Z,102nm,0.7s
GUN Gumba 17.34 112 *e*P **Pn** **01 30 57.5 -1.9**
comp=Z,251nm,0.9s
WMQ Urumqi 17.35 56 *e*P **Pn** **01 30 57.3 -1.8**
WMQ pP **pP** **01 31 04.3 -1.0**
WMQ PP **PnPn** **01 31 11.3 +2.1**
WMQ PMZ
comp=Z,32nm,0.9s
WMQ PMZ
comp=Z,140nm,5.0s
WMQ LN
comp=Z,450nm,15.8s
WMQ LE
comp=Z,280nm,11.4s
WMQ LZ
comp=Z,460nm,14.5s
BVA0 Borovoye Array 17.36 6 Pn **Pn** **01 30 56.1 -3.0**
comp=Z,16nm,0.7s,baz=180,slow=12,SNR=74
BVA0 Borovoye Array 17.36 6 *i* P **Pn** **01 30 56.1 -3.0**
BVA0 01 34 01.8
BVA0 pmax pmax
comp=Z,11nm,0.6s
BVA0 smax smax
comp=N,11nm,0.6s
BVAR Borovoye Array 17.36 6 P **Pn** **01 30 56.3 -2.8**
comp=N,1.5nm,0.3s,baz=173,slow=13,SNR=30
BVAR S Sn 01 34 01.7 -10
comp=N,0.9nm,0.3s,baz=176,slow=21,SNR=3.9
BRVK Borovoye 17.39 5 ⇑Pn **Pn** **01 30 56.4 -3.1**
comp=N,35nm,0.7s
BRVK Borovoye 17.39 5 *e*P **Pn** **01 30 56.2 -3.3**
BRVK *e*S Sn 01 34 00.6 -12
BRVK pmax pmax
comp=Z,26nm,0.7s
BRVK Borovoye 17.39 5 *e*Pn **Pn** **01 30 56.2 -3.3**
comp=Z,26nm,0.7s
BRVK *e*S Sn 01 34 00.6 -12
JIRN Jiri 17.70 112 *e*P **Pn** **01 31 01.4 -2.5**
comp=Z,84nm,0.5s
RAMN Ramite 18.39 113 *e*P **P** **01 31 09.9 -2.3**
comp=Z,76nm,0.7s
GNI Garni 18.58 290 ⇓*i*P **Pn** **01 31 15.9 +1.6**
GNI pmax pmax
comp=Z,22nm,1.0s
GNI Garni 18.58 290 P **Pn** **01 31 15.0 +0.7**
comp=Z,0.5nm,0.3s,baz=90,slow=2.5,SNR=8.6
GNI LR LR 01 40 27.1
comp=Z,153nm,18.3s,baz=98,slow=44
GNI Garni 18.58 290 *e*Pn **Pn** **01 31 14.1 -0.2**
comp=Z,39nm,1.2s
TAPN Taplejung 19.02 111 *e*P **P** **01 31 18.3 -0.8**
comp=Z,53nm,0.7s
ODAN Odare 19.03 112 *e*P **P** **01 31 18.9 -0.3**
comp=Z,108nm,0.8s
RPR Rampur 19.73 146 *e*P **P** **01 31 26.7 0.0**
RPR *e*S **Sn** **01 35 10.4 +0.8**
KBZ Khabaz 20.58 300 LR LR 01 42 02.4
comp=Z,232nm,18.1s,baz=210,slow=44
LSA Lhasa 20.65 100 P Pn 01 31 39.0 -0.6
LSA Lhasa 20.65 100 *e*P Pn 01 31 39.5 -0.1
LSA pmax pmax
comp=Z,24nm,0.8s
LSA Lhasa 20.65 100 *e*P Pn 01 31 39.5 -0.1
comp=Z,24nm,0.8s
HYBB Hyderabad (bro 20.68 149 *e*P **P** **01 31 36.9 -0.1**
HYBB *e*S **S** **01 35 29.0 +1.5**
HYBB IAMs_20 IAMs_20 01 40 26.9
comp=Z,439nm,8.5s
HYB Hyderabad 20.68 149 *i* P Pn 01 31 41.0 +1.6
KIV Kislovodsk 20.78 301 *e*P **P** **01 31 37.8 -0.2**
KIV *e*S **S** **01 35 28.0 -1.3**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,166nm,14.0s
KIV Kislovodsk 20.78 301 *e*P **P** **01 31 37.5 -0.6**
comp=Z,15nm,0.7s
KIV *e*S S 01 35 02.9 -26
GOF Gofitskoye 20.84 304 *e*P **P** **01 31 39.6 +1.0**
ARU Arti 21.57 346 *e i*P **P** **01 31 46.2 -0.1**
ARU 01 32 06.6
ARU S **S** **01 35 44.6 +0.1**
ARU SS **SnSn** **01 36 10.1 +1.7**
ARU pmax pmax
comp=Z,2.0nm,0.7s
ARU Arti 21.57 346 *e*P **P** **01 31 46.0 -0.3**
comp=Z,17nm,0.7s
ARU *e*S **S** **01 35 42.8 -1.7**
SVE Sverdlovsk 21.59 349 *e*P P 01 31 52.7 +6.2
SVE *e*S **S** **01 35 42.4 -2.6**
SVE pmax pmax
comp=Z,19nm,1.2s
NJS Nagarjunasagar 21.77 149 *e*P **P** **01 31 49.4 +0.7**
NJS *e*S **S** **01 35 49.9 +1.0**
NJS IAMs_20 IAMs_20 01 40 17.2
comp=Z,339nm,12.7s
ZALV Zalesovo Beam 21.77 28 P **P** **01 31 48.1 -0.4**
comp=Z,40nm,0.7s,baz=222,slow=10,SNR=244
ZALV LR LR 01 41 12.4
comp=Z,237nm,20.3s,baz=250,slow=39
NVS Novosibirsk 21.91 25 ⇑*i*P **P** **01 31 49.4 -0.5**
NVS *e*S **S** **01 35 46.8 -4.2**
NVS pmax pmax
comp=Z,46nm,0.7s
NVS pmax pmax
comp=N,34nm,0.7s
NVS smax smax
comp=N,28nm,2.1s
URV Uravakonda 22.45 155 *e*P **P** **01 31 55.2 -0.8**
RAYN Ar Rayn 22.73 244 *e*P **P** **01 31 58.7 -0.3**
comp=N,4.0nm,0.8s
SOC Sochi 22.80 299 *e*P **P** **01 31 59.6 0.0**
SOC *e*S **S** **01 36 07.8 0.0**
SOC *e*SS **SnSn** **01 36 37.7 -1.0**
SOC pmax pmax
comp=Z,10.0nm,0.5s
SOC MLR MLR
comp=Z,141nm,15.0s
SHL Shillong 23.13 109 *e*P **P** **01 32 02.0 -1.4**
VRHR Novokhopersk 24.16 317 *e*P P 01 32 19.3 +6.5
VRHR pmax pmax
comp=Z,10.0nm,1.6s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
SKHT Srikalahasti 24.47 151 *e*P **P** **01 32 16.6 +0.7**
ANN Anapa 24.64 301 *e*P **P** **01 32 17.3 0.0**
ANN *e**PP pP 01 32 27.3 +4.7
ANN *e* 01 32 50.3
ANN *e* 01 35 52.9
ANN *e*S **S** **01 36 37.6 -0.2**
ANN pmax pmax
comp=Z,60nm,1.4s
RABH Abou Rabah 24.90 276 *e*P **P** **01 32 21.9 +2.1**
IMP Imphal 25.12 109 *ex* **P** **01 32 25.0 +3.0**
BTCH Batrach 25.22 280 *e*P **P** **01 32 25.4 +2.6**
VORD Divnogorie 25.40 316 *e*P **P** **01 32 24.7 +0.6**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,90nm,1.3s
VORD pmax pmax
comp=E,210nm,1.9s
BIDA Albida 25.50 278 *e*P **P** **01 32 23.9 -1.4**
HAWK Haweek 25.53 276 *e*P **P** **01 32 25.8 +0.2**
MARH Ras Al Marh 25.57 275 *e*P **P** **01 32 26.6 +0.3**
VSR Storozhevoye 25.58 316 *e*P **P** **01 32 25.5 -0.3**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.0s
GTA Gaotai 25.67 72 *e*P **P** **01 32 27.4 +0.5**
GTA pP **pP** **01 32 31.6 -0.6**
GTA sP **sP** **01 32 34.8 +0.4**
GTA PMZ
comp=E,5.0nm,0.8s
GTA PMZ
comp=E,94nm,6.6s
GTA LN
comp=E,510nm,17.8s
GTA LE
comp=E,230nm,12.8s
GTA LZ
comp=E,210nm,14.3s
ASF Jabal al Asfar 25.70 271 P **P** **01 32 25.7 -1.5**
comp=E,0.8nm,0.4s,baz=67,slow=2.1,SNR=1.8
BRBR Barbar 26.15 274 *e*P **P** **01 32 33.4 +2.0**
MMAI Mount Meron Ar 26.69 274 LR LR 01 43 20.8
comp=E,143nm,21.3s,baz=60,slow=37
SIM Simferopol' 26.99 300 *e*P **P** **01 32 41.1 +2.5**
SIM pmax pmax
comp=Z,14nm,1.2s
BRTR Keskin Array B 27.09 289 P **P** **01 32 40.7 +1.0**
comp=Z,4.1nm,1.0s,baz=95,slow=7.9,SNR=19
BRTR LR LR 01 44 47.6
comp=Z,102nm,18.6s,baz=87,slow=40
MOY Mondy 28.55 46 *e*P **P** **01 32 54.2 +1.6**
OBN Obninsk 28.79 322 ⇑*e*P P 01 32 58.0 +3.5
OBN *e* 01 33 45.6
OBN pmax pmax
comp=Z,19nm,1.9s
OBN MLR MLR
comp=Z,218nm,18.0s
OBN Obninsk 28.79 322 LR LR 01 46 30.2
comp=Z,216nm,19.5s,baz=98,slow=41
PRGR Permogore 29.39 339 P **P** **01 33 02.4 +2.6**
PRGR pmax pmax
comp=Z,15nm,1.3s
ZAK Zakamensk 29.52 49 ⇑*i*P **P** **01 33 02.3 +1.1**
ZAK *e* 01 34 11.6
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 30.11 47 *e*P P 01 33 00.3 -6.1
TLY *e* 01 40 06.4
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY MLR MLR
comp=Z,185nm,18.0s
TLY Talaya 30.11 47 P **P** **01 33 06.5 +0.2**
comp=Z,2.4nm,0.6s,baz=242,slow=9.0,SNR=6.9
TLY Talaya 30.11 47 *e*P **P** **01 33 08.0 +1.6**
SONM Songino Array 30.98 55 P **P** **01 33 15.5 +1.3**
comp=Z,7.5nm,0.9s,baz=262,slow=10,SNR=48
SONM LR LR 01 46 56.3
comp=Z,592nm,21.4s,baz=265,slow=39
CFR Carcaliu 31.23 300 ⇑P **P** **01 33 17.4 +1.2**
CFR Carcaliu 31.23 300 ⇑*i*P **P** **01 33 17.4 +1.2**
AKASG Malin Array Be 31.33 311 P **P** **01 33 17.4 +0.4**
comp=Z,0.7nm,0.4s,baz=92,slow=7.1,SNR=11
AKASG LR LR 01 48 03.8
comp=Z,237nm,20.7s,baz=90,slow=40
ULN Ulaanbaatar 31.42 55 ⇑*e*P **P** **01 33 19.1 +1.0**
ULN pmax pmax
comp=Z,11nm,1.4s
ULN Ulaanbaatar 31.42 55 *e*P **P** **01 33 17.5 -0.6**
comp=Z,6.9nm,1.0s
VRI Vrincioaia 32.26 301 ⇑P **P** **01 33 27.5 +2.1**
VRI Vrincioaia 32.26 301 ⇑*i*P **P** **01 33 27.5 +2.1**
PLOR Plostina 32.31 301 ⇓P **P** **01 33 26.9 +1.1**
PLOR Plostina 32.31 301 ⇓*i*P **P** **01 33 26.9 +1.1**
TESR Tescani 32.36 302 ⇑*i*P **P** **01 33 28.3 +2.1**
CMAR Chiang Mai Arr 32.56 114 P **P** **01 33 26.8 -1.4**
comp=Z,1.1nm,0.3s,baz=308,slow=8.1,SNR=5.5
CMAR LR LR 01 50 27.4
comp=Z,65nm,18.4s,baz=310,slow=44
MLR Muntele Rosu 32.79 300 ⇓P P 01 33 33.9 +3.8
MLR Muntele Rosu 32.79 300 ⇓*i*P P 01 33 33.9 +3.8
VOIR 33.42 300 ⇑*i*P **P** **01 33 37.0 +1.5**
BURAR Bucovina Array 33.43 304 ⇑P P 01 33 41.1 +5.4
BURAR Bucovina Array 33.43 304 ⇑*i*P P 01 33 41.0 +5.4
ARR Arges 33.71 300 ⇑*i*P **P** **01 33 39.1 +1.0**
HHC Hu-ho-hao-te 34.55 68 *e*P **P** **01 33 48.5 +3.0**
HHC sP sP 01 33 58.4 +5.3
HHC S **S** **01 39 11.6 -2.2**
HHC sS sS 01 39 27.3 +4.7
HHC SS **SnSn** **01 41 24.3 -1.1**
HHC PMZ
comp=Z,28nm,0.8s
HHC PMZ
comp=Z,130nm,4.2s
HHC LN
comp=Z,280nm,12.4s
HHC LE
comp=Z,150nm,12.2s
HHC LZ
comp=Z,210nm,11.6s
VTS Vitosha 34.80 295 ⇓P **P** **01 33 49.2 +1.5**
VTS Vitosha 34.80 295 ⇓*i*P **P** **01 33 49.2 +1.5**
DRGR 35.08 302 ⇑P **P** **01 33 51.4 +1.4**
DRGR 35.08 302 ⇑*i*P **P** **01 33 51.4 +1.4**
JOF Joensuu 35.20 332 *e*P **P** **01 33 50.9 +0.3**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 35.20 332 *ep* **P** **01 33 50.9 +0.3**
comp=Z,4.2nm,0.6s
KWP Kalwaria Pacla 35.28 307 *e*P **P** **01 33 52.0 +0.5**
KWP pmax pmax
comp=Z,10.0nm,0.9s
KWP Kalwaria Pacla 35.28 307 *e*P **P** **01 33 53.2 +1.7**
KWP Kalwaria Pacla 35.28 307 *e*P **P** **01 33 52.0 +0.5**
comp=Z,10nm,0.9s
UZH Uzhgorod 35.46 306 *e*P **P** **01 33 53.6 +0.5**
KOLS Kolonicke sedl 35.50 306 *e*P P 01 33 57.7 +4.3
KOLS Kolonicke sedl 35.50 306 *ep*P **P** **01 33 57.7 +4.3**
FINES FINESS Array B 36.62 328 *i* P **P** **01 34 03.7 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 36.62 328 P **P** **01 34 03.0 +0.2**
comp=Z,2.4nm,0.5s,baz=126,slow=9.3,SNR=11
FINES LR LR 01 50 56.9
comp=Z,149nm,18.1s,baz=104,slow=39
KAF Kangasniemi 36.81 329 *e*P **P** **01 34 03.7 -0.7**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 36.81 329 *ep* **P** **01 34 03.7 -0.7**
comp=Z,2.9nm,0.5s
NIE Niedzica 36.81 307 *e*P **P** **01 34 07.0 +2.3**
OJC Ojcow 37.20 308 *e*P **P** **01 34 08.9 +0.9**
BOD Bodaibo 37.63 39 *e*P **P** **01 34 11.3 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 37.75 305 *e*P **P** **01 34 14.0 +1.4**
VYHS Vyhne 37.75 305 *e*P **P** **01 34 14.0 +1.4**
PKSM Moragy 37.90 301 ⇑P **P** **01 34 15.3 +1.4**
PKSM Moragy 37.90 301 ⇑*i*P **P** **01 34 15.3 +1.4**
MORC Moravsky Berou 38.63 307 *e*P **P** **01 34 21.1 +1.0**
MORC pmax pmax
comp=Z,9.0nm,1.4s
MORC Moravsky Berou 38.63 307 *e*P **P** **01 34 21.1 +1.0**
comp=Z,9.1nm,1.4s
WHN Wuhan 39.15 84 P **P** **01 34 27.0 +2.4**
DPC Dobruska-Polom 39.44 308 *e*P **P** **01 34 28.1 +1.3**
DPC *e* 01 34 36.0
DPC *e* 01 34 44.0
DPC Dobruska-Polom 39.44 308 *e*P **P** **01 34 28.1 +1.3**
DPC *ep*P **pP** **01 34 31.7 -0.6**
DPC *ex* x 01 34 36.0
DPC *ex* x 01 34 44.0
TIA Tai'an 39.68 74 *e*P **P** **01 34 28.8 -0.1**
TIA LN
comp=Z,300nm,17.0s
TIA LE
comp=Z,300nm,24.0s
TIA LZ
comp=Z,230nm,15.0s
CONA Conrad Observa 39.74 304 ⇑*ip*P **P** **01 34 30.7 +1.3**
comp=Z,4.1nm,1.1s
HIA Hailar 39.91 54 *e*P **P** **01 34 32.1 +1.3**
HIA pmax pmax
comp=Z,6.0nm,0.5s
HIA Hailar 39.91 54 *e*P **P** **01 34 32.1 +1.3**
comp=Z,5.7nm,0.5s
SOKA Soboth 40.37 302 ⇑*ip*P **P** **01 34 35.7 +1.1**
comp=Z,5.0nm,1.2s
GOPC GO Pecny, Ondr 40.42 307 *e*P **P** **01 34 36.0 +1.1**
GOPC *ex* x 01 34 41.0
PRU Pruhonice 40.58 307 *e*P **P** **01 34 37.4 +1.2**
PRU Pruhonice 40.58 307 *e*P **P** **01 34 37.4 +1.2**
PRU *ep*P **pP** **01 34 42.1 +0.4**
PRA Prague 40.65 308 *e*P **P** **01 34 39.3 +2.5**
PRA Prague 40.65 308 *e*P **P** **01 34 39.3 +2.5**
CUC Castrocucco 40.66 292 *e*P P 01 34 41.7 +4.5
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 40.82 339 P **P** **01 34 38.9 +0.9**
comp=Z,5.6nm,0.7s,baz=119,slow=9.8,SNR=18
ARCES LR LR 01 52 04.6
comp=Z,98nm,20.6s,baz=126,slow=37
BRG Berggiesshubel 40.96 309 *e*P **P** **01 34 40.0 +0.7**
comp=Z,2.0nm,0.9s
BRG Berggiesshubel 40.96 309 *e*P **P** **01 34 40.0 +0.7**
BRG pmax pmax
comp=Z,2.0nm,0.9s
GEC2 GERESS Array S 41.15 306 *e*P **P** **01 34 42.8 +1.7**
GEC2 GERESS Array S 41.15 306 *e*P **P** **01 34 42.8 +1.7**
GERES GERESS Array B 41.15 306 P **P** **01 34 42.0 +0.9**
GERES GERESS Array B 41.15 306 P **P** **01 34 42.0 +0.9**
comp=Z,0.9nm,0.8s,baz=77,slow=7.1,SNR=12
GERES LR LR 01 54 08.2
comp=Z,124nm,20.7s,baz=84,slow=40
KHC Kasperske Hory 41.22 306 *e*P **P** **01 34 42.0 +0.4**
KHC Kasperske Hory 41.22 306 *e*P **P** **01 34 42.0 +0.4**
CLL Collm 41.55 309 *e*P P 01 34 48.0 +3.8
CLL Collm 41.55 309 *ep*P **P** **01 34 48.0 +3.8**
CLL *e*PcP **PcP** **01 36 41.0 -0.3**
CLL LmH 01 53 00.0
comp=Z,100nm,18.1s
GRF Grafenberg Arr 42.73 307 *e*P **P** **01 34 56.1 +2.2**
comp=Z,7.0nm,1.4s
GRF *ep*P **pP** **01 34 59.5 +0.1**

GRF				*e*L		L		01 54 48.5	
	comp=Z,92nm,18.7s								
NB2	**NORSAR Subarra**	**43.35**	**324**	P		**P**		**01 34 58.6**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=102,slow=8.6								
NOA	**NORSAR Array B**	**43.35**	**324**	P		**P**		**01 34 58.6**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=101,slow=8.1,SNR=9.2								
NOA				LR		LR		01 56 15.0	
	comp=Z,95nm,18.1s,baz=105,slow=40								
PSI	**Prapat**		**43.73**	**131**	P		**P**	**01 35 02.0**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=315,slow=11,SNR=7.0								
DAVA	**Damuels**		**43.82**	**304**	⇑ *i*P		**P**	**01 35 00.6**	**-2.3**
	comp=Z,6.5nm,1.0s								
PGF	**Pioggiola**		**45.20**	**297**	*e*P		**P**	**01 35 12.3**	**-1.6**
	comp=Z,16nm,0.9s								
PGF	**Pioggiola**		**45.20**	**297**	*e*P		**P**	**01 35 12.3**	**-1.6**
PGF					pmax		pmax		
	comp=Z,17nm,0.9s								
PGF	**Pioggiola**		**45.20**	**297**	*e*P		**P**	**01 35 12.3**	**-1.6**
	comp=Z,16nm,0.9s								
SENIN	**Lac Senin/Sane**		**45.70**	**303**	*e*P		**P**	**01 35 18.8**	**+0.7**
HINF	**Hinteralfeld**		**45.79**	**305**	*e*P		**P**	**01 35 18.1**	**-0.4**
HINF	**Hinteralfeld**		**45.79**	**305**	*e*P		**P**	**01 35 18.1**	**-0.4**
HINF	**Hinteralfeld**		**45.79**	**305**	*e*P		**P**	**01 35 18.1**	**-0.4**
HAU	**Haudompre**		**46.10**	**305**	*e*P		**P**	**01 35 20.7**	**-0.2**
	comp=Z,11nm,1.1s								
HAU					*e*R				
	comp=Z,78nm,18.2s								
HAU	**Haudompre**		**46.10**	**305**	*e*P		**P**	**01 35 20.7**	**-0.2**
HAU					pmax		pmax		
	comp=Z,11nm,1.1s								
HAU	**Haudompre**		**46.10**	**305**	*e*P		**P**	**01 35 20.7**	**-0.2**
	comp=Z,11nm,1.1s								
YAK	**Yakutsk**		**46.13**	**35**	*e*P		**P**	**01 35 19.9**	**-0.9**
YAK					pmax		pmax		
	comp=Z,15nm,1.0s								
YAK					pmax		pmax		
	comp=E,5.0nm,1.0s								
YAK					MLR		MLR		
	comp=Z,282nm,18.0s								
YAK					MLR		MLR		
	comp=E,133nm,15.0s								
LPG	**La Plagne**		**46.23**	**302**	*e*P		**P**	**01 35 22.2**	**0.0**
	comp=E,6.2nm,0.9s								
LPG	**La Plagne**		**46.23**	**302**	*e*P		**P**	**01 35 22.2**	**0.0**
LPG					pmax		pmax		
	comp=Z,6.0nm,0.9s								
LPG	**La Plagne**		**46.23**	**302**	*e*P		**P**	**01 35 22.2**	**0.0**
	comp=Z,6.2nm,0.9s								
LPL	**La Plagne**		**46.24**	**302**	*e*P		**P**	**01 35 22.1**	**-0.1**
	comp=Z,4.8nm,0.7s								
LPL	**La Plagne**		**46.24**	**302**	*e*P		**P**	**01 35 22.1**	**-0.1**
LPL					pmax		pmax		
	comp=Z,5.0nm,0.7s								
LPL	**La Plagne**		**46.24**	**302**	*e*P		**P**	**01 35 22.1**	**-0.1**
	comp=Z,4.8nm,0.7s								
MBDF	**Montbardon**		**46.35**	**301**	*e*P		**P**	**01 35 22.3**	**-0.8**
	comp=Z,12nm,1.1s								
MBDF	**Montbardon**		**46.35**	**301**	*e*P		**P**	**01 35 22.3**	**-0.8**
MBDF					pmax		pmax		
	comp=Z,12nm,1.1s								
MBDF	**Montbardon**		**46.35**	**301**	*e*P		**P**	**01 35 22.3**	**-0.8**
	comp=Z,12nm,1.1s								
KMBO	**Kilima Mbogo**		**46.37**	**224**	LR		LR	01 55 49.0	
	comp=Z,62nm,18.5s,baz=66,slow=38								
PAGF	**Fort de Pagny**		**46.44**	**306**	*e*P		**P**	**01 35 24.2**	**+0.7**
	comp=Z,7.9nm,1.4s								
PAGF	**Fort de Pagny**		**46.44**	**306**	*e*P		**P**	**01 35 24.2**	**+0.7**
	comp=Z,7.9nm,1.4s								
CABF	**La Chapelle**		**46.49**	**303**	*e*P		**P**	**01 35 24.1**	**+0.1**
	comp=Z,12nm,0.9s								
CABF	**La Chapelle**		**46.49**	**303**	*e*P		**P**	**01 35 24.1**	**+0.1**
CABF					pmax		pmax		
	comp=Z,12nm,0.9s								
CABF	**La Chapelle**		**46.49**	**303**	*e*P		**P**	**01 35 24.1**	**+0.1**
	comp=Z,12nm,0.9s								
KEST	**Kesra**		**46.69**	**288**	P		**P**	**01 35 26.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=340,slow=7.8,SNR=4.4								
KEST					LR		LR	01 59 38.1	
	comp=Z,22nm,18.1s,baz=330,slow=42								
SFTF	**Sexfontaines**		**46.94**	**306**	*e*P		**P**	**01 35 27.4**	**0.0**
	comp=Z,13nm,1.1s								
SFTF	**Sexfontaines**		**46.94**	**306**	*e*P		**P**	**01 35 27.4**	**0.0**
	comp=Z,13nm,1.1s								
MDJ	**Mudanjiang**		**47.12**	**59**	P		**P**	**01 35 26.4**	**-2.4**
MDJ					PMZ				
	comp=Z,9.0nm,1.4s								
BAIF	**Baives**		**47.22**	**308**	*e*P		**P**	**01 35 30.4**	**+0.9**
	comp=Z,24nm,1.3s								
BAIF	**Baives**		**47.22**	**308**	*e*P		**P**	**01 35 30.4**	**+0.9**
BAIF					pmax		pmax		
	comp=Z,24nm,1.3s								
BAIF	**Baives**		**47.22**	**308**	*e*P		**P**	**01 35 30.4**	**+0.9**
	comp=Z,24nm,1.3s								
TIXI	**Tiksi**		**47.47**	**22**	⇓ *i*P		**P**	**01 35 32.0**	**+0.8**
TIXI					pmax		pmax		
	comp=Z,20nm,0.9s								
TIXI	**Tiksi**		**47.47**	**22**	*e*P		**P**	**01 35 31.5**	**+0.3**
	comp=Z,16nm,0.7s								
SPITS	**Spitsbergen Ar**		**47.60**	**347**	P		**P**	**01 35 33.1**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=106,slow=5.2,SNR=6.2								
KSAR	**Wonju Array Be**		**47.65**	**69**	P		**P**	**01 35 32.9**	**-0.2**
KSAR	**Wonju Array Be**		**47.65**	**69**	P		**P**	**01 35 32.9**	**-0.2**
KSRS	**Korea Array**		**47.68**	**69**	P		**P**	**01 35 32.9**	**-0.4**
KSRS					pmax		pmax		
	comp=Z,2.0nm,0.6s								
KSRS					MLR		MLR		
	comp=Z,119nm,19.0s								
KSRS	**Korea Array**		**47.68**	**69**	P		**P**	**01 35 32.9**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=276,slow=6.6,SNR=7.9								
KSRS					LR		LR	01 57 06.7	
	comp=Z,118nm,19.0s,baz=282,slow=38								
KLR	**Kul'dur**		**47.75**	**53**	*e*P		P	01 35 30.7	-3.0
VIVF	**Saint-Julien-l**		**47.79**	**301**	*e*P		**P**	**01 35 34.2**	**0.0**
	comp=Z,16nm,1.1s								
VIVF	**Saint-Julien-l**		**47.79**	**301**	*e*P		**P**	**01 35 34.2**	**0.0**
VIVF					pmax		pmax		
	comp=Z,16nm,1.1s								
VIVF	**Saint-Julien-l**		**47.79**	**301**	*e*P		**P**	**01 35 34.2**	**0.0**
	comp=Z,16nm,1.1s								
SMF	**Signal de Mont**		**48.01**	**304**	*e*P		**P**	**01 35 35.8**	**0.0**
	comp=Z,10nm,0.8s								
SMF	**Signal de Mont**		**48.01**	**304**	*e*P		**P**	**01 35 35.8**	**0.0**
SMF					pmax		pmax		
	comp=Z,10.0nm,0.8s								
SMF	**Signal de Mont**		**48.01**	**304**	*e*P		**P**	**01 35 35.8**	**0.0**
	comp=Z,10nm,0.8s								
AVF	**Avril sur Loir**		**48.31**	**304**	*e*P		**P**	**01 35 38.0**	**-0.1**
	comp=Z,11nm,0.9s								
AVF	**Avril sur Loir**		**48.31**	**304**	*e*P		**P**	**01 35 38.0**	**-0.1**
AVF					pmax		pmax		
	comp=Z,11nm,0.9s								
AVF	**Avril sur Loir**		**48.31**	**304**	*e*P		**P**	**01 35 38.0**	**-0.1**
	comp=Z,11nm,0.9s								
BGF	**Bois d'Agland**		**48.70**	**304**	*e*P		**P**	**01 35 40.8**	**-0.3**
BGF	**Bois d'Agland**		**48.70**	**304**	*e*P		**P**	**01 35 40.8**	**-0.3**
BGF	**Bois d'Agland**		**48.70**	**304**	*e*P		**P**	**01 35 40.8**	**-0.3**
USRK	**Ussuriysk Ar.**		**48.88**	**59**	P		**P**	**01 35 41.8**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=278,slow=7.4,SNR=8.8								
USRK					LR		LR	01 58 43.9	
	comp=Z,223nm,19.2s,baz=275,slow=39								
TCF	**Toulx Ste Croi**		**49.18**	**304**	*e*P		**P**	**01 35 45.1**	**+0.3**
	comp=Z,19nm,1.3s								
TCF	**Toulx Ste Croi**		**49.18**	**304**	*e*P		**P**	**01 35 45.1**	**+0.3**
TCF					pmax		pmax		
	comp=Z,19nm,1.3s								
TCF	**Toulx Ste Croi**		**49.18**	**304**	*e*P		**P**	**01 35 45.1**	**+0.3**
	comp=Z,19nm,1.3s								
CAF	**Calviac**		**49.59**	**302**	*e*P		**P**	**01 35 48.2**	**+0.3**
	comp=Z,15nm,1.4s								
CAF	**Calviac**		**49.59**	**302**	*e*P		**P**	**01 35 48.2**	**+0.3**
CAF					pmax		pmax		
	comp=Z,15nm,1.4s								
CAF	**Calviac**		**49.59**	**302**	*e*P		**P**	**01 35 48.2**	**+0.3**
	comp=Z,15nm,1.4s								
RJF	**Les Rejaudoux**		**49.88**	**302**	*e*P		**P**	**01 35 50.5**	**+0.4**
RJF					*e*R				
	comp=Z,70nm,21.8s								
RJF	**Les Rejaudoux**		**49.88**	**302**	*e*P		**P**	**01 35 50.5**	**+0.4**
RJF	**Les Rejaudoux**		**49.88**	**302**	*e*P		**P**	**01 35 50.5**	**+0.4**
LDF	**La Druitiere**		**50.26**	**307**	*e*P		**P**	**01 35 52.5**	**-0.4**
	comp=Z,13nm,0.9s								
LDF	**La Druitiere**		**50.26**	**307**	*e*P		**P**	**01 35 52.5**	**-0.4**
LDF					pmax		pmax		
	comp=Z,13nm,0.9s								
LDF	**La Druitiere**		**50.26**	**307**	*e*P		**P**	**01 35 52.5**	**-0.4**
	comp=Z,13nm,0.9s								
FLN	**La Foliniere**		**50.45**	**307**	*e*P		**P**	**01 35 54.1**	**-0.3**
	comp=Z,16nm,0.9s								
FLN					*e*R				
	comp=Z,139nm,20.2s								
FLN	**La Foliniere**		**50.45**	**307**	*e*P		**P**	**01 35 54.1**	**-0.3**
FLN					pmax		pmax		
	comp=Z,16nm,0.9s								
FLN	**La Foliniere**		**50.45**	**307**	*e*P		**P**	**01 35 54.1**	**-0.3**
	comp=Z,16nm,0.9s								
LFF	**La Frestale**		**50.50**	**302**	*e*P		**P**	**01 35 55.1**	**+0.3**
LFF	**La Frestale**		**50.50**	**302**	*e*P		**P**	**01 35 55.1**	**+0.3**
LFF	**La Frestale**		**50.50**	**302**	*e*P		**P**	**01 35 55.1**	**+0.3**
GRR	**Gorron**		**50.78**	**307**	*e*P		**P**	**01 35 56.5**	**-0.3**
	comp=Z,14nm,0.9s								
GRR	**Gorron**		**50.78**	**307**	*e*P		**P**	**01 35 56.5**	**-0.3**
GRR					pmax		pmax		
	comp=Z,14nm,0.9s								
GRR	**Gorron**		**50.78**	**307**	*e*P		**P**	**01 35 56.5**	**-0.3**
	comp=Z,14nm,0.9s								
JNU	**Nakatsue**		**51.40**	**73**	LR		LR	01 59 37.7	
	comp=Z,95nm,18.6s,slow=38								
SGMF	**Saint Gilles**		**51.91**	**307**	*e*P		**P**	**01 36 05.4**	**0.0**
	comp=Z,47nm,1.5s								
SGMF	**Saint Gilles**		**51.91**	**307**	*e*P		**P**	**01 36 05.4**	**0.0**
SGMF					pmax		pmax		
	comp=Z,47nm,1.5s								
SGMF	**Saint Gilles**		**51.91**	**307**	*e*P		**P**	**01 36 05.4**	**0.0**
	comp=Z,47nm,1.5s								
ETSF	**Etsaut**		**51.94**	**300**	*e*P		**P**	**01 36 05.6**	**-0.2**
	comp=Z,6.2nm,0.7s								
ETSF	**Etsaut**		**51.94**	**300**	*e*P		**P**	**01 36 05.6**	**-0.2**
ETSF					pmax		pmax		
	comp=Z,6.0nm,0.7s								
ETSF	**Etsaut**		**51.94**	**300**	*e*P		**P**	**01 36 05.6**	**-0.2**
	comp=Z,6.2nm,0.7s								
SJPF	**Ste Jean**		**52.35**	**300**	*e*P		**P**	**01 36 07.7**	**-1.0**
SJPF	**Ste Jean**		**52.35**	**300**	*e*P		**P**	**01 36 07.7**	**-1.0**
SJPF	**Ste Jean**		**52.35**	**300**	*e*P		**P**	**01 36 07.7**	**-1.0**
ROSF	**Rostrenen**		**52.36**	**307**	*e*P		**P**	**01 36 08.0**	**-0.7**
	comp=Z,14nm,1.0s								
ROSF	**Rostrenen**		**52.36**	**307**	*e*P		**P**	**01 36 08.0**	**-0.7**
ROSF					pmax		pmax		
	comp=Z,14nm,1.0s								
ROSF	**Rostrenen**		**52.36**	**307**	*e*P		**P**	**01 36 08.0**	**-0.7**
	comp=Z,14nm,1.0s								
QUIF	**Quistinic**		**52.39**	**307**	*e*P		**P**	**01 36 08.6**	**-0.3**
	comp=Z,36nm,1.5s								
QUIF	**Quistinic**		**52.39**	**307**	*e*P		**P**	**01 36 08.6**	**-0.3**
QUIF					pmax		pmax		
	comp=Z,36nm,1.5s								
QUIF	**Quistinic**		**52.39**	**307**	*e*P		**P**	**01 36 08.6**	**-0.3**
	comp=Z,36nm,1.5s								
TAM	**Tamanrasset**		**54.90**	**274**	*e*P		**P**	**01 36 28.7**	**+0.8**
TAM					pmax		pmax		
	comp=Z,2.0nm,1.0s								
TAM	**Tamanrasset**		**54.90**	**274**	*e*P		**P**	**01 36 28.7**	**+0.8**
	comp=Z,2.4nm,1.0s								
ESDC	**Sonseca Array**		**55.39**	**297**	P		**P**	**01 36 31.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=63,slow=7.7,SNR=15								
YSS	**Yuzh-Sakhalins**		**55.45**	**53**	⇑ *e*P		**P**	**01 36 32.0**	**+0.7**
MJAR	**Matsushiro Arr**		**55.74**	**67**	P		**P**	**01 36 33.6**	**0.0**
	comp=Z,3.3nm,0.9s,baz=289,slow=9.7,SNR=9.2								
MJAR					LR		LR	02 02 42.2	
	comp=Z,60nm,19.5s,baz=300,slow=38								
ASAJ	**Asahikawa**		**56.23**	**57**	LR		LR	02 02 48.1	
	comp=Z,217nm,20.4s,slow=38								
SEY	**Seymchan**		**56.52**	**33**	*i* P		**P**	**01 36 39.8**	**+1.1**
YUK	**Yuzh-Kuril'sk**		**58.47**	**56**	P		**P**	**01 36 53.9**	**+1.2**
BILL	**Bilibino**		**60.44**	**25**	⇓ *i*P		**P**	**01 37 07.0**	**+1.0**
BILL					*e*			01 37 51.0	
BILL					*e*			01 39 16.6	
BILL					*e*S		S	01 45 44.9	+25
BILL					pmax		pmax		
	comp=Z,9.0nm,1.7s								
BILL					MLR		MLR		
	comp=Z,101nm,17.0s								
PETK	**Petropavlovsk-**		**62.36**	**43**	LR		LR	02 06 56.7	
	comp=Z,49nm,20.7s,baz=306,slow=38								
TORD	**Torodi Ar. Bea**		**62.98**	**267**	P		**P**	**01 37 22.4**	**-1.4**
	comp=Z,8.1nm,0.9s,baz=50,slow=5.2,SNR=21								
TORD					LR		LR	02 08 48.1	
	comp=Z,62nm,18.4s,baz=65,slow=40								
DBIC	**Dimbokro**		**71.94**	**265**	P		**P**	**01 38 19.3**	**-1.3**
DBIC					pmax		pmax		
	comp=Z,3.0nm,0.8s								
DBIC					MLR		MLR		
	comp=Z,78nm,18.3s								
DBIC	**Dimbokro**		**71.94**	**265**	P		**P**	**01 38 19.3**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=33,slow=6.5,SNR=4.2								
DBIC					LR		LR	02 13 06.7	
	comp=Z,78nm,18.3s,baz=35,slow=38								
DBIC	**Dimbokro**		**71.94**	**265**	*e*P		**P**	**01 38 19.7**	**-0.9**
	comp=Z,0.4nm,0.4s								
LIC	**Lamto**		**72.34**	**265**	*e*P		**P**	**01 38 21.3**	**-1.7**
	comp=Z,10nm,0.8s								
LIC	**Lamto**		**72.34**	**265**	*e*P		**P**	**01 38 21.3**	**-1.7**
	comp=Z,10nm,0.8s								
LBTB	**Lobatse**		**72.35**	**220**	*e*P		**P**	**01 38 22.1**	**-0.8**
LBTB	**Lobatse**		**72.35**	**220**	*e*P		**P**	**01 38 22.1**	**-0.8**
COLD	**Coldfoot**		**73.38**	**14**	*e*P		**P**	**01 38 28.9**	**+0.6**
	comp=Z,11nm,0.8s								
INK	**Inuvik**		**75.03**	**8**	*e*P		**P**	**01 38 38.5**	**+0.6**
INK					pmax		pmax		
	comp=Z,10.0nm,0.8s								
INK	**Inuvik**		**75.03**	**8**	P		**P**	**01 38 39.0**	**+1.2**
	comp=Z,8.8nm,0.8s,baz=360,slow=7.7,SNR=44								
INK	**Inuvik**		**75.03**	**8**	*e*P		**P**	**01 38 38.5**	**+0.6**
	comp=Z,9.7nm,0.8s								
COLA	**College**		**75.91**	**15**	*e*P		**P**	**01 38 42.9**	**0.0**
COLA					pmax		pmax		
	comp=Z,15nm,0.8s								
COLA	**College**		**75.91**	**15**	*e*P		**P**	**01 38 42.9**	**0.0**
	comp=Z,15nm,0.8s								
ILAR	**Eielson Array**		**76.19**	**14**	P		**P**	**01 38 44.7**	**0.0**
	comp=Z,4.3nm,0.9s,baz=326,slow=4.2,SNR=25								
ILAR					LR		LR	02 16 35.5	
	comp=Z,75nm,18.3s,baz=298,slow=39								
JAY	**Jayapura**		**77.79**	**102**	LR		LR	02 16 37.3	
	comp=Z,27nm,18.2s,baz=172,slow=38								
YKA	**Yellowknife Ar**		**82.06**	**1**	P		**P**	**01 39 17.1**	**+0.4**
YKA					pmax		pmax		
	comp=Z,5.0nm,0.8s								
YKA	**Yellowknife Ar**		**82.06**	**1**	P		**P**	**01 39 17.1**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=351,slow=5.4,SNR=56								
WRA	**Warramunga Arr**		**83.94**	**120**	P		**P**	**01 39 26.5**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=326,slow=4.8,SNR=31								
WRAB	**Tennant Creek**		**83.94**	**120**	*e*P		**P**	**01 39 27.4**	**+0.3**
WRAB					pmax		pmax		
	comp=Z,3.0nm,0.7s								
WRAB	**Tennant Creek**		**83.94**	**120**	*e*P		**P**	**01 39 27.4**	**+0.3**
	comp=Z,2.8nm,0.7s								
ASAR	**Alice Springs**		**86.10**	**123**	P		**P**	**01 39 37.8**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=311,slow=5.0,SNR=36								
FFC	**Flin Flon**		**89.43**	**354**	*e*P		**P**	**01 39 54.2**	**+0.8**
FFC					pmax		pmax		
	comp=Z,9.0nm,1.3s								
FFC	**Flin Flon**		**89.43**	**354**	*e*P		**P**	**01 39 54.2**	**+0.8**
	comp=Z,8.8nm,1.3s								
EDM	**Edmonton**		**91.38**	**1**	*e*P		**P**	**01 40 03.9**	**+1.3**
EDM	**Edmonton**		**91.38**	**1**	*e*P		**P**	**01 40 03.9**	**+1.3**
ULM	**Lac du Bonnet**		**93.13**	**349**	P		**P**	**01 40 10.2**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=19,slow=2.8,SNR=6.5								
ULM					LR		LR	02 29 20.5	
	comp=Z,48nm,19.0s,baz=44,slow=40								

IDC 19 01:27:19.0±11.0, 25°13'S×179°27'W, h358km±103km, mb3.2/2, mb1 3.5/3, mb1mx3.1/30, mbtmp4.1/3, Error ellipse: s-maj=65.3km s-min=31.4km az=53.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**13.44**	**192**	P	P		01 30 16.2	+0.2
	2.2nm,0.3s,baz=0.0,slow=4.0,SNR=10							
URZ				S	S		01 32 41.2	-1.5
	1.2nm,0.3s,baz=242,slow=23,SNR=7.4							
ASAR	**Alice Springs**	**42.51**	**262**	P	P		01 34 40.9	+0.1
	0.9nm,0.5s,baz=92,slow=7.3,SNR=26							
WRA	**Warramunga Arr**	**43.00**	**267**	P	P		01 34 44.3	-0.4
	0.8nm,0.4s,baz=100,slow=7.7,SNR=37							
AKASG	**Malin Array Be**	**146.36**	**327**	PKPbc	PKPbc		01 46 17.2	-0.7
	0.2nm,0.3s,baz=46,slow=3.4,SNR=4.0							
BRTR	**Keskin Array B**	**148.84**	**306**	PKPbc	PKPbc		01 46 24.5	-0.5
	0.8nm,0.9s,baz=90,slow=2.1,SNR=3.8							
TORD	**Torodi Ar. Bea**	**168.04**	**185**	PKPab	PKPab		01 47 52.7	-0.6
	0.2nm,0.6s,baz=162,slow=3.0,SNR=4.7							

IDC 19 01:34:26.7±12.0, 19°76'S×175°06'W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, Error ellipse: s-maj=395.3km s-min=63.6km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ASAR	**Alice Springs**	**47.38**	**256**	P	P		01 43 01.8	-1.3
	0.3nm,0.4s,baz=98,slow=7.4,SNR=4.3							
WRA	**Warramunga Arr**	**47.44**	**261**	P	P		01 43 04.3	+0.7
	0.6nm,0.3s,baz=96,slow=8.3,SNR=28							
SONM	**Songino Array**	**97.02**	**318**	P	P		01 48 00.4	-0.2
	0.2nm,0.5s,baz=96,slow=2.9,SNR=5.4							

*HLW **19** 01:35:35.9, 37°.75N×23°.76E, h33km±42km, Ml3.1*
*ISCJB **19** 01:35:37.3±0.3, 37°.62N±0°.02×23°.40E±0°.04, h146km±4km, Error ellipse: s-maj=5.2km s-min=2.9km az=151.5*
*CSEM **19** 01:35:37.4±0.2, 37°.61N×23°.39E, h149km±2km, ML3.2, Error ellipse: s-maj=5.5km s-min=3.0km az=58.0*
*ATH **19** 01:35:38.7, 37°.65N×23°.48E, h123km±1km, ML3.2*
*THE **19** 01:35:40.4, 37°.70N×23°.47E, h119km±1km, ML3.3/5, Error ellipse: s-maj=1.7km s-min=0.9km az=220.0*
*SKO **19** 01:35:44.9, 38°.18N×23°.02E, h9km*

ISC 19 01:35:38.2±0.9, 37°65N±0°.03×23°51E±0°.03, h129km±5km, n206, σ1°13/243, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NAIG	**Nisos Aigina**	**0.11**	**350**	*e*P	**Pn**		**01 35 56.5**	**+0.7**
NAIG	**Nisos Aigina**	**0.11**	**350**	*e*P	**Pn**		**01 35 56.5**	**+0.7**
ATH	**Athens Observa**	**0.36**	**27**	P	**Pn**		**01 35 57.6**	**+1.1**
ATH				S	**Sn**		**01 36 09.9**	**-0.4**
ATH	**Athens Observa**	**0.36**	**27**	*e*P	**Pn**		**01 35 57.4**	**+0.9**
ATH				*e*S	**Sn**		**01 36 09.2**	**-1.1**
ATH	**Athens Observa**	**0.36**	**27**	*e*P	**Pn**		**01 35 57.4**	**+0.9**
ATH				S	**Sn**		**01 36 09.9**	**-0.4**
PTL	**Penteli**	**0.48**	**35**	P	**Pn**		**01 35 58.4**	**+1.3**
PTL	**Penteli**	**0.48**	**35**	*e*P	**Pn**		**01 35 57.8**	**+0.7**
PTL				*e*S	**Sn**		**01 36 10.3**	**-1.2**
PTL	**Penteli**	**0.48**	**35**	*e*P	**Pn**		**01 35 57.8**	**+0.7**
PTL				*e*S	**Sn**		**01 36 10.3**	**-1.2**
LTK	**Loutraki**	**0.57**	**311**	P	**Pn**		**01 35 58.1**	**+0.5**
LTK				S	**Sn**		**01 36 11.4**	**-0.9**
LTK	**Loutraki**	**0.57**	**311**	*e*P	**Pn**		**01 35 58.2**	**+0.6**
LTK				*e*S	**Sn**		**01 36 11.4**	**-0.9**
LTK	**Loutraki**	**0.57**	**311**	P	**Pn**		**01 35 58.1**	**+0.5**
LTK				*e*S	**Sn**		**01 36 11.4**	**-0.9**
VLX	**Vlachokerasia**	**0.94**	**253**	P	**Pn**		**01 36 01.4**	**+0.8**
VLX				S	**Sn**		**01 36 17.8**	**+0.2**
VLX	**Vlachokerasia**	**0.94**	**253**	*e*P	**Pn**		**01 36 01.3**	**+0.7**
VLX	**Vlachokerasia**	**0.94**	**253**	*e*P	**Pn**		**01 36 01.3**	**+0.7**
VLX				S	**Sn**		**01 36 17.8**	**+0.2**
GUR	**Goura**	**0.97**	**287**	P	**Pn**		**01 36 01.3**	**+0.4**
GUR				S	**Sn**		**01 36 17.5**	**-0.5**
GUR	**Goura**	**0.97**	**287**	*e*P	**Pn**		**01 36 01.2**	**+0.4**
GUR				*e*S	**Sn**		**01 36 17.6**	**-0.5**
GUR	**Goura**	**0.97**	**287**	P	**Pn**		**01 36 01.3**	**+0.4**
GUR				*e*S	**Sn**		**01 36 17.6**	**-0.5**
VLI	**Veliai**	**1.04**	**206**	P	**Pn**		**01 36 02.0**	**+0.5**
VLI	**Veliai**	**1.04**	**206**	*e*P	**Pn**		**01 36 01.9**	**+0.5**
VLI				*e*S	**Sn**		**01 36 17.8**	**-1.2**
VLI	**Veliai**	**1.04**	**206**	P	**Pn**		**01 36 02.0**	**+0.5**
VLI				*e*S	**Sn**		**01 36 17.8**	**-1.2**
MRKA	**Markates**	**1.05**	**3**	P	**Pn**		**01 36 02.6**	**+1.0**
MRKA	**Markates**	**1.05**	**3**	*e*P	**Pn**		**01 36 02.4**	**+0.8**
MRKA	**Markates**	**1.05**	**3**	P	**Pn**		**01 36 02.6**	**+1.0**
LKR	**Lokris**	**1.08**	**338**	P	**Pn**		**01 36 02.4**	**+0.6**
**L

THR2	Thira island,	1.95	127	P		Pn	01 36 14.1	+2.6
THR6	Thira Island,	1.99	130	P		Pn	01 36 14.4	+2.4
THR6	Thira Island,	1.99	130	P		Pn	01 36 14.4	+2.4
SANT	Santorini	2.01	129	eP		Pn	01 36 14.6	+2.2
SANT	Santorini	2.01	129	eP		Pn	01 36 14.6	+2.2
PDO	Prodromos	2.07	298	P		Pn	01 36 14.3	+1.4
PDO	Prodromos	2.07	298	eP		Pn	01 36 14.3	+1.4
PDO				eS		Sn	01 36 40.3	+0.8
PDO	Prodromos	2.07	298	eP		Pn	01 36 14.3	+1.4
PDO				eS		Sn	01 36 40.3	+0.8
KFL	Anninata	2.21	283	P		Pn	01 36 16.0	+1.4
KFL	Anninata	2.21	283	P		Pn	01 36 16.0	+1.4
THL	Klokotos Trika	2.24	329	P		Pn	01 36 15.7	+0.6
THL	Klokotos Trika	2.24	329	eP		Pn	01 36 15.5	+0.4
THL	Klokotos Trika	2.24	329	P		Pn	01 36 15.7	+0.6
KARN	Karanos	2.27	172	eP		Pn	01 36 16.7	+1.2
KARN				eS		Sn	01 36 44.8	+0.7
KARN	Karanos	2.27	172	eP		Pn	01 36 16.7	+1.2
KARN				eS		Sn	01 36 44.8	+0.7
PAIG	Paliouri	2.28	3	eP		Pn	01 36 16.3	+0.8
PAIG	Paliouri	2.28	3	eP		Pn	01 36 16.3	+0.8
VLS	Valsamata	2.37	284	eP		Pn	01 36 17.0	+0.3
VLS				eS		Sn	01 36 45.2	-1.1
VLS	Valsamata	2.37	284	eP		Pn	01 36 17.0	+0.3
VLS				eS		Sn	01 36 45.2	-1.1
DSL	Palaion Diasel	2.41	309	P		Pn	01 36 18.5	+1.3
DSL	Palaion Diasel	2.41	309	eP		Pn	01 36 18.6	+1.3
DSL	Palaion Diasel	2.41	309	P		Pn	01 36 18.5	+1.3
LIT	Litokhoron	2.57	342	P		Pn	01 36 20.2	+0.9
LIT	Litokhoron	2.57	342	eP		Pn	01 36 19.9	+0.6
LIT	Litokhoron	2.57	342	P		Pn	01 36 20.2	+0.9
OUR	Ouranopolis	2.71	8	eP		Pn	01 36 22.3	+1.1
OUR	Ouranopolis	2.71	8	eP		Pn	01 36 22.3	+1.4
OUR	Ouranopolis	2.71	8	eP		Pn	01 36 22.3	+1.4
PLG	Polygyros	2.72	359	eP		Pn	01 36 21.9	+0.7
PLG	Polygyros	2.72	359	eP		Pn	01 36 21.9	+0.7
SIVA	Sivas	2.83	158	eP		Pn	01 36 24.2	+1.6
SIVA	Sivas	2.83	158	eP		Pn	01 36 24.2	+1.6
JAN	Janina	2.89	315	P		Pn	01 36 24.6	+1.2
JAN	Janina	2.89	315	eP		Pn	01 36 24.7	+1.3
JAN	Janina	2.89	315	P		Pn	01 36 24.6	+1.2
NPS	Neapolis	2.92	144	eP		Pn	01 36 24.5	+0.7
NPS				eS		Sn	01 36 58.9	-0.1
NPS	Neapolis	2.92	144	eP		Pn	01 36 24.5	+0.7
LAST	Lasithi	2.95	147	eP		Pn	01 36 24.9	+0.7
LAST	Lasithi	2.95	147	eP		Pn	01 36 24.9	+0.7
HORT	Hortiatis	2.96	354	P		Pn	01 36 25.7	+1.4
HORT	Hortiatis	2.96	354	eP		Pn	01 36 25.6	+1.3
HORT	Hortiatis	2.96	354	eP		Pn	01 36 25.6	+1.3
HORT	Hortiatis	2.96	354	eP		Pn	01 36 25.6	+1.3
KZN	Kozani	2.98	333	eP		Pn	01 36 25.5	+0.9
KZN				eS		Sn	01 37 00.0	-0.4
KZN	Kozani	2.98	333	eP		Pn	01 36 25.5	+0.9
KZN				eS		Sn	01 37 00.0	-0.4
THE	Thessaloniki	3.01	352	eP		Pn	01 36 25.5	+0.7
THE	Thessaloniki	3.01	352	eP		Pn	01 36 25.5	+0.7
IGT	Igoumenitsa	3.12	308	eP		Pn	01 36 26.7	+0.3
IGT	Igoumenitsa	3.12	308	eP		Pn	01 36 26.3	-0.1
IGT	Igoumenitsa	3.12	308	eP		Pn	01 36 26.3	-0.1
SOH	Sokhos	3.17	358	P		Pn	01 36 28.6	+1.6
SOH	Sokhos	3.17	358	eP		Pn	01 36 28.6	+1.6
SOH	Sokhos	3.17	358	eP		Pn	01 36 28.6	+1.6
ZKR	Zakros	3.34	138	eP		Pn	01 36 30.6	+1.3
ZKR	Zakros	3.34	138	eP		Pn	01 36 30.6	+1.3
NEST	Nestorio	3.36	326	P		Pn	01 36 30.6	+1.0
NEST	Nestorio	3.36	326	eP		Pn	01 36 30.4	+0.8
NEST	Nestorio	3.36	326	eP		Pn	01 36 30.4	+0.8
DAT	Datca	3.37	105	eP		Pn	01 36 33.6	+3.8
DAT	Datca	3.37	105	eP		Pn	01 36 33.6	+3.8
SRS	Serrai	3.46	1	P		Pn	01 36 32.3	+1.5
SRS	Serrai	3.46	1	eP		Pn	01 36 32.0	+1.2
SRS	Serrai	3.46	1	eP		Pn	01 36 32.0	+1.2
AYDB	Zeytinkoy-Aydi	3.48	84	eP		Pn	01 36 34.8	+3.6
AYDB	Zeytinkoy-Aydi	3.48	84	eP		Pn	01 36 34.8	+3.6
FNA	Florina	3.54	333	eP		Pn	01 36 32.0	+0.2
FNA	Florina	3.54	333	eP		Pn	01 36 32.1	+0.2
FNA	Florina	3.54	333	eP		Pn	01 36 32.1	+0.2
KEK	Kerkira	3.56	306	eP		Pn	01 36 32.2	+0.1
KEK	Kerkira	3.56	306	eP		Pn	01 36 32.2	+0.1
KARP	Karpathos	3.61	124	eP		Pn	01 36 34.6	+1.8
KARP	Karpathos	3.61	124	eP		Pn	01 36 34.6	+1.8
NVR	Nevrokopi	3.70	4	eP		Pn	01 36 35.2	+1.2
NVR	Nevrokopi	3.70	4	eP		Pn	01 36 35.2	+1.2
MMB	Musomiste	3.94	2	eP		Pn	01 36 38.0	+0.9
MMB	Musomiste	3.94	2	eP		Pn	01 36 38.0	+0.9
ARG	Arkhangelos	3.96	110	eP		Pn	01 36 40.9	+3.5
ARG	Arkhangelos	3.96	110	eP		Pn	01 36 40.9	+3.5
RZN	Rozhen	4.14	13	eP		Pn	01 36 42.0	+2.1
RZN	Rozhen	4.14	13	eP		Pn	01 36 42.0	+2.1
KKB	Krupnik	4.22	356	eP		Pn	01 36 41.0	+0.1
KKB	Krupnik	4.22	356	eP		Pn	01 36 41.0	+0.1
VTS	Vitosha	4.94	357	eP		Pn	01 36 51.0	+0.4
VTS	Vitosha	4.94	357	eP		Pn	01 36 51.0	+0.4
PE1	Pezze di Greco	5.68	306	ePn		Pn	01 36 59.2	-1.2
SG1	Sgolgore (BA)	6.19	303	ePn		Pn	01 37 06.4	-0.8
BAI	Bari	6.19	306	ePn		Pn	01 37 06.0	-1.2
SLUM		6.30	167	P		Pn	01 37 07.5	-1.3
	baz=168							
SLUM				AMP			01 38 00.0	
	comp=E,20μm,0.2s,logA/T=4.9,baz=168							
SLUM				S		Sn	01 38 12.7	-6.9
	baz=168							
SLUM		6.30	167	P		Pn	01 37 07.5	-1.3
SLUM				S		Sn	01 38 12.6	-6.9
IVAS	Ivanjica	6.45	338	ePn		Pn	01 37 09.3	-1.4
CDT	Castel del Mon	6.57	304	ePn		Pn	01 37 11.4	-1.0
GRUS	Gruza	6.58	342	ePn		Pn	01 37 11.9	-0.6
STON	Ston	6.85	321	ePn		Pn	01 37 13.1	-3.0
STON						Sn	01 38 23.6	-9.0
MS1	Monte Sant'Ang	7.11	307	ePn		Pn	01 37 18.1	-1.5
HMAT	Matruh	7.18	155	P		Pn	01 37 18.9	-1.7
	baz=156							
HMAT				AMP			01 37 00.0	
	comp=E,10μm,0.1s,logA/T=4.8,baz=156							
HMAT				S		Sn	01 38 32.7	-8.0
	baz=156							
HMAT	Matruh	7.18	155	P		Pn	01 37 18.9	-1.7
HMAT				S		Sn	01 38 32.7	-8.0
TEKS	Tekeris	7.52	338	ePn		Pn	01 37 23.4	-1.7
SWA2		8.54	168	P		Pn	01 37 37.0	-2.0
	baz=170							
SWA2				S		Sn	01 39 06.0	-7.7
	baz=170							
SWA2		8.54	168	P		Pn	01 37 37.0	-2.0
SWA2				S		Sn	01 39 05.9	-7.7
AWBH		10.34	153	P		Pn	01 38 00.8	-2.4
	baz=154							
AWBH		10.34	153	P		Pn	01 38 00.8	-2.4
GLL	Jalalah	10.55	137	P		Pn	01 38 04.1	-2.0
	baz=138							
GLL	Jalalah	10.55	137	P		Pn	01 38 04.1	-2.0
AMAG	Maghara	10.64	128	P		Pn	01 38 04.7	-2.5
	baz=129							
AMAG	Maghara	10.64	128	P		Pn	01 38 04.7	-2.5
RSH		10.76	125	P		Pn	01 38 06.8	-1.9
	baz=126							
RSH		10.76	125	P		Pn	01 38 06.8	-1.9
HFRF	Wahat Farafira	11.23	157	P		Pn	01 38 13.3	-1.7
	baz=158							
HFRF	Wahat Farafira	11.23	157	P		Pn	01 38 13.3	-1.7
TR2		12.59	134	P		Pn	01 38 31.2	-1.6
	baz=135							
TR2		12.59	134	P		Pn	01 38 31.2	-1.6
HKAT	Jabal Katrina	12.64	133	P		Pn	01 38 32.3	-1.4
	baz=134							
HKAT	Jabal Katrina	12.64	133	P		Pn	01 38 32.3	-1.4
TR1		13.01	135	P		Pn	01 38 36.9	-1.4
	baz=135							
TR1		13.01	135	P		Pn	01 38 36.9	-1.4
HDK1	Dakhla	13.07	156	P		Pn	01 38 38.5	-0.5
	baz=157							
HDK1	Dakhla	13.07	156	P		Pn	01 38 38.6	-0.5
AKRG	Al Kharijah	13.49	152	P		Pn	01 38 44.8	+0.4
	baz=153							

GUC 19 01:49:10.5±0.4, 34°99S×72°38W, h43km±3km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.94	91	*i* P	Pn	01 49 27.2	-0.1
NICH				*i* S	Sn	01 49 40.0	+0.3
COCH	Cobquecura	1.19	196	*i* P	Pn	01 49 30.6	0.0
COCH				*i* S	Sn	01 49 46.0	+0.4
SJCH	San Jose de Ma	2.15	52	*i* P	Pn	01 49 44.2	+0.2
SJCH				*i* S	Sn	01 50 10.0	+0.5
SJCH				AML	AML	01 50 13.0	
	comp=N,775nm,0.5s						
CLCH	Cerro Calan	2.20	44	*i* P	Pn	01 49 45.0	+0.3
CLCH				*i* S	Sn	01 50 11.5	+0.7
CLCH				AML	AML	01 50 18.7	
	comp=E,1μm,0.3s						
PEL	Peldehue	2.32	38	*i* P	Pn	01 49 46.7	+0.5
PEL				*i* S	Sn	01 50 14.3	+0.8
PEL				AML	AML	01 50 19.9	
	comp=N,1μm,0.5s						

*NEIC **19** 01:52:41.7, 32°.24N×115°.41W, h10km, ML3.7(PAS), After PAS.*
*ECX **19** 01:52:42.6±0.6, 32°.35N×115°.37W, h6km, MD3.6, ML3.8*
*MEX **19** 01:52:43.8±0.4, 32°.42N×115°.28W, h20km±5km, MD4.0*
ISC 19 01:52:41.0±1.1, 32°.26N±0°.02×115°.39W±0°.02, h3km±9km, n42, σ1s40/82, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.17	24	eP	Pg	01 52 41.0	-3.3
CPBX				eS	Sg	01 52 42.8	-3.8
MBIG	Mexicali	0.21	48	eP	Pg	01 52 46.6	+1.5
MBIG				*i* S	Sg	01 52 48.8	+0.8
EMX	El Mayor	0.30	156	eP	Pg	01 52 46.8	0.0
EMX				eS	Sg	01 52 51.9	+1.3
SGL	Mount Signal	0.48	323	⇑*i*P	Pg	01 52 50.5	+0.3
RDX	Rancho Dawling	0.58	235	eP	Pb	01 52 53.5	-0.4
RDX				eS	Sb	01 53 02.7	+0.2
RDX				AML	AML	01 53 05.5	
	comp=N,3μm,0.4s						
RDX				⇓*e*		01 53 05.5	
YUH	Yuha Desert	0.59	310	⇑*i*P	Pg	01 52 52.4	0.0
RMX	La Rumorosa	0.68	300	eP	Pg	01 52 54.0	0.0
RMX				eS	Sg	01 52 58.2	0.0
ECBX	El Chinero	0.84	160	eP	Pg	01 52 56.1	-0.9
ECBX				eS	Sg	01 53 08.5	+0.6
GLA	Glamis	0.92	31	ePg	Sg	01 53 09.9	-0.6
GLA				eS	Sg	01 52 57.7	-0.8
ZAX	El Zacaton	1.06	226	eP	Pn	01 53 02.4	-0.5
ZAX				eS	Sn	01 53 17.9	-0.3
ZAX				AML	AML	01 53 20.1	
	comp=N,2μm,0.4s						
ZAX				⇑*e*		01 53 20.1	
ZAX				⇓*e*		01 53 23.1	
ZAX				AML	AML	01 53 23.1	
	comp=E,2μm,0.5s						
CBX	Cerro Bola	1.08	273	eP	Pg	01 53 02.0	+0.2
CBX				*i* S	Sg	01 53 16.9	+0.1
CBX	Cerro Bola	1.08	273	eP	Pg	01 53 02.0	+0.2
CBX				eS	Sg	01 53 16.3	+0.5
CBX				AML	AML	01 53 21.4	
	comp=E,3μm,0.5s						
CBX				⇓*e*		01 53 21.4	
CBX	Cerro Bola	1.08	273	eP	Pg	01 53 01.5	-0.3
CBX				eS	Sg	01 53 14.0	-1.8
BAR	Barrett	1.17	291	ePn	Pb	01 53 03.0	-0.8
BAR				eS	Sb	01 53 16.5	-2.8
ECNX	Esteban Cantu	1.20	240	eP	Pg	01 53 04.3	+0.4
ECNX				eS	Sn	01 53 21.4	-0.1
SPIG	San Pedro Mart	1.22	183	eP	Pb	01 53 04.8	0.0
SPIG				eS	Sn	01 53 21.4	-0.8
SPIG	San Pedro Mart	1.22	183	eP	Pb	01 53 04.8	0.0
SPIG				eS	Sn	01 53 22.6	+0.3
SPIG	San Pedro Mart	1.22	183	eP	Pb	01 53 04.8	0.0
SPIG				eS	Sn	01 53 21.4	-0.8
SPX	San Pedro Mart	1.22	183	eP	Pb	01 53 04.8	0.0
SPX				eS	Sn	01 53 22.7	+0.4
SPX				AML	AML	01 53 24.7	
	comp=E,1μm,0.9s						
SPX				⇑*e*		01 53 24.7	
SPX	San Pedro Mart	1.22	183	eP	Pb	01 53 04.8	0.0
PBX	Punta Banda	1.25	246	eP	Pg	01 53 05.3	+0.3
PBX				eS	Sn	01 53 22.3	-0.5
PFO	Pinyon Flats O	1.62	326	ePn	Pn	01 53 08.3	-2.2
PFO				eS	Sn	01 53 28.6	-3.3
214A	Organ Pipe Nat	2.21	97	ePn	Pn	01 53 16.8	-1.7
214A				ePg	Pb	01 53 22.6	+1.1
214A				eS	Sg	01 53 52.0	+0.2
MWC	Mount Wilson	2.97	312	ePn	Pn	01 53 29.3	0.0
MWC				eS	Sn	01 54 07.2	+1.7
PASC	Pasadena Art C	3.02	310	ePn	Pn	01 53 29.2	-0.5
PASC				eS	Sb	01 54 11.5	-1.2
GSC	Goldstone, Bar	3.25	339	ePn	Pn	01 53 33.7	+0.7
GSC				eS	Sg	01 54 25.9	+0.4
OSI	Osito Audit: C	3.65	311	ePn	Pn	01 53 38.3	-0.1
OSI				ePg	Pb	01 53 45.7	-0.4
OSI				eS	Sn	01 54 22.0	+0.1
TUC	Tucson	3.90	88	ePn	Pn	01 53 40.5	-1.3
TUC				ePg	Pg	01 53 56.3	+0.6
TUC				eS	Sg	01 54 43.6	-2.5
SHPR	Sheep Range	4.24	2	ePn	Pn	01 53 46.0	-0.6
SHPR				ePg	Pg	01 54 00.6	-1.5
SHPR				eS	Sg	01 54 56.0	-1.1
ISA	Isabella, Lake	4.25	324	ePn	Pn	01 53 46.6	-0.1
ISA				ePg	Pb	01 53 59.4	+3.0
ISA				eS	Sb	01 54 52.3	+4.0
DAC	Darwin (Calif)	4.40	336	ePn	Pn	01 53 48.3	-0.6
DAC				ePg	Pg	01 54 05.8	+0.5
DAC				eS	Sb	01 54 56.3	+3.7
WUAZ	Wupatki	4.65	45	ePn	Pn	01 53 53.3	+1.0
WUAZ				eS	Sb	01 55 00.9	+1.0
W18A	Petrified Fore	5.50	57	ePn	Pn	01 54 05.1	+1.1
	comp=E,9.8nm,0.3s						
W18A				eS	Sg	01 55 35.6	-2.2
CCUT	Cedar City	5.53	17	ePn	Pn	01 54 05.3	+0.8
	comp=E,5.1nm,0.6s						
CCUT				ePg	Pg	01 54 27.6	+0.7
CCUT				eS	Sg	01 55 33.8	-4.9
R11A	Troy Canyon, C	6.08	359	ePn	Pn	01 54 11.0	-0.8
	comp=E,3.0nm,0.5s						
R11A				ePg	Pg	01 54 36.6	-0.8
R11A				eS	Sg	01 55 54.9	-1.2
121A	Cookes Peak, D	6.43	86	ePn	Pn	01 54 16.4	-0.4
	comp=E,10nm,0.4s						
121A				eS	Sn	01 55 29.4	-1.5
MVU	Marysvale	6.74	22	ePn	Pn	01 54 23.1	+2.1
	comp=E,3.6nm,0.4s						
MVU				ePg	Pg	01 54 47.0	-3.2
MVU				eS	Sg	01 56 13.9	-3.6
LAZ	Ladron	7.22	71	ePn	Pn	01 54 29.1	+1.4
	comp=E,0.8nm,0.5s						
LAZ				eS	Sg	01 56 41.4	+8.4
LENM	Lemitar	7.30	73	ePn	Pn	01 54 29.6	+0.9
	comp=E,4.0nm,0.3s						
MVCO	Mesa Verde	7.51	47	ePn	Pn	01 54 34.0	+2.3
	comp=E,6.6nm,0.7s						
MVCO				eS	Sg	01 56 42.2	-0.1
PV01	Paradox Valley	8.09	42	ePn	Pn	01 54 42.9	+3.4
MNTX	Cornudas Mount	8.52	91	ePn	Pn	01 54 45.1	-0.1
	comp=E,1.1nm,0.6s						

IDC 19 02:06:17.5±1.5, 8°01S×75°13W, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.4/22, mbtmp3.3/6, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/6, Error ellipse: s-maj=51.1km s-min=22.4km az=22.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.35	285	Pn	Pn	02 07 12.4	+0.9
	8.4nm,0.3s,baz=103,slow=12,SNR=35						
ATAH					Sn	02 07 54.0	+1.8
	2.1nm,0.3s,baz=106,slow=20,SNR=3.2						
LPAZ	La Paz	10.70	141	Pn	Pn	02 08 52.2	-0.6
	0.1nm,0.3s,baz=301,slow=10.0,SNR=5.4						
TXAR	Lajitas Array	46.19	325	P	P	02 14 43.9	-0.5
	0.1nm,0.6s,baz=160,slow=8.5,SNR=2.5						
PMSA	Palmer Station	57.21	174	LR	LR	02 40 32.2	
	comp=Z,51nm,18.1s,baz=226,slow=36						
YKA	Yellowknife Ar	76.56	342	P	P	02 18 09.1	-0.3
	0.2nm,0.9s,baz=140,slow=5.9,SNR=3.4						
TORD	Torodi Ar. Bea	79.13	75	P	P	02 18 25.2	+0.4
	0.5nm,0.6s,baz=250,slow=5.0,SNR=7.2						
ESDC	Sonseca Array	80.87	48	P	P	02 18 34.0	+0.3
	0.1nm,0.5s,baz=252,slow=6.6,SNR=2.8						
WRA	Warramunga Arr	139.84	226	PKP	PKPdf	02 25 46.9	-1.8
	0.4nm,0.5s,baz=116,slow=2.2,SNR=9.7						

*NEIC **19** 02:07:38.1, 32°.30N×115°.33W, h10km, ML3.6(PAS), After PAS.*
*ECX **19** 02:07:39.2±0.6, 32°.36N×115°.32W, h5km, MD3.5, ML3.7*
*MEX **19** 02:07:40.1±0.8, 32°.42N×115°.20W, h15km±6km, MD4.0*
ISC 19 02:07:37.7±0.9, 32°.31N±0°.02×115°.33W±0°.02, h11km±6km, n37, σ1s71/74, 5C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.11	10	eP	Pg	02 07 40.3	-0.3
MBIG	Mexicali	0.15	49	eP	Pg	02 07 41.4	+0.2
MBIG				*i* S	Sg	02 07 43.6	+0.1
MBIG				⇑*i*PN		02 08 36.6	
EMX	El Mayor	0.33	167	eP	Pb	02 07 45.7	+0.1
EMX				eS	Sb	02 07 50.8	-0.1
SGL	Mount Signal	0.48	315	⇓*i*P	Pg	02 07 47.1	+0.1
COA	Coachella	0.58	17	⇑*i*P	Pg	02 07 48.9	-0.1
YUH	Yuha Desert	0.61	304	⇓*i*P	Pg	02 07 49.4	-0.2
RDX	Rancho Dawling	0.65	234	⇓eP	Pb	02 07 51.3	+0.1
RDX				eS	Sb	02 08 01.0	+0.7
RMX	La Rumorosa	0.70	295	eP	Pg	02 07 51.3	0.0
RMX				eS	Sg	02 08 00.7	+0.1
GLA	Glamis	0.85	30	ePg	Sg	02 07 52.8	-1.4
GLA				eS	Sg	02 08 03.9	-1.4
ECBX	El Chinero	0.87	164	eP	Pb	02 07 55.1	+0.3
ECBX				eS	Sb	02 08 07.8	+1.3
ZAX	El Zacaton	1.13	226	eP	Pb	02 07 59.5	+0.2
ZAX				eS	Sn	02 08 15.8	+0.6
CBX	Cerro Bola	1.13	270	eP	Pb	02 07 59.8	+0.4
CBX				eS	Sb	02 08 13.8	-0.4
CBX	Cerro Bola	1.13	270	eP	Pb	02 07 59.2	-0.2
CBX				eS	Sb	02 08 14.3	+0.1
CBX				⇑*e*		02 08 19.3	
CBX				AML	AML	02 08 19.3	
	comp=N,2μm,0.4s						
CBX	Cerro Bola	1.13	270	eP	Pb	02 07 59.8	+0.4
CBX				eS	Sb	02 08 11.5	-2.7
BAR	Barrett	1.20	288	eP	Pb	02 08 00.1	-0.4
BAR	Barrett	1.20	288	ePn	Pb	02 08 00.1	-0.4
BAR				eS	Sb	02 08 15.0	-0.9
ECNX	Esteban Cantu	1.26	239	eP	Pn	02 08 01.6	+0.2
ECNX				eS	Sb	02 08 18.6	+0.7
SPIG	San Pedro Mart	1.27	185	eP	Pn	02 08 01.3	-0.4
SPIG				*i* S	Sg	02 08 19.2	+0.6
SPIG	San Pedro Mart	1.27	185	eP	Pn	02 08 01.6	-0.1
SPIG				eS	Sn	02 08 19.6	+0.8
SPIG	San Pedro Mart	1.27	185	eP	Pn	02 08 01.3	-0.4
SPX	San Pedro Mart	1.27	185	eP	Pn	02 08 01.6	-0.1
SPX				eS	Sn	02 08 19.9	+0.9
SPX				⇑*e*		02 08 22.4	
SPX				AML	AML	02 08 22.4	
	comp=E,876nm,0.6s						
SPX	San Pedro Mart	1.27	185	eP	Pn	02 08 01.4	-0.3
SPX				eS	Sb	02 08 18.0	-0.3
PBX	Punta Banda	1.32	245	eP	Pn	02 08 02.4	+0.2
PBX				eS	Sg	02 08 20.7	+0.6
PFO	Pinyon Flats O	1.60	324	ePn	Pn	02 08 03.9	-2.3
PFO				eS	Sn	02 08 23.7	-3.3
214A	Organ Pipe Nat	2.16	99	ePn	Pn	02 08 11.9	-1.9
214A				ePg	Pg	02 08 18.9	-0.3
214A				eS	Sb	02 08 45.4	+1.5
LDFC	Landfair	2.77	4	ePn	Pn	02 08 22.0	-0.2
LDFC				eS	Sn	02 08 58.7	+3.1
GSC	Goldstone, Bar	3.23	338	ePn	Pn	02 08 30.4	+2.0
GSC				ePg	Pg	02 08 38.1	-1.5
GSC				eS	Sg	02 09 27.0	+5.6
OSI	Osito Audit: C	3.65	310	ePn	Pn	02 08 35.1	+0.8
OSI				ePg	Pg	02 08 45.7	-2.1
OSI				eS	Sg	02 09 33.7	-1.3
TUC	Tucson	3.85	89	ePn	Pn	02 08 38.6	+1.6
TUC				ePg	Pg	02 08 50.9	-0.5
SHPR	Sheep Range	4.19	2	ePn	Pn	02 08 41.7	-0.1
SHPR				ePg	Pg	02 08 58.6	+0.6
SHPR				eS	Sb	02 09 45.9	+3.7
DAC	Darwin (Calif)	4.38	335	ePn	Pn	02 08 44.4	0.0
DAC				ePg	Pg	02 08 59.9	-1.8
DAC				eS	Sb	02 09 53.0	+5.2
WUAZ	Wupatki	4.59	45	ePn	Pn	02 08 47.9	+0.6
WUAZ				ePg	Pg	02 09 04.2	-1.4
WUAZ				eS	Sg	02 10 03.4	-1.7
W18A	Petrified Fore	5.44	57	ePn	Pn	02 08 59.8	+0.8
	comp=E,19nm,0.8s						
W18A				eS	Sg	02 10 31.9	-0.5
CCUT	Cedar City	5.47	17	ePn	Pn	02 09 03.9	+4.5
	comp=E,10nm,0.8s						
CCUT				ePg	Pg	02 09 20.9	-1.7
CCUT				eS	Sb	02 10 26.2	+7.0
R11A	Troy Canyon, C	6.03	358	ePn	Pn	02 09 09.3	+2.2
	comp=E,3.7nm,0.6s						
R11A				ePg	Pg	02 09 31.6	-1.6
R11A				eS	Sg	02 10 46.4	-4.9
121A	Cookes Peak, D	6.38	86	ePn	Pn	02 09 11.8	-0.1
	comp=E,5.6nm,0.5s						
121A				eS

CPBX					AML	AML	02 18 24.0	
	comp=E,19µm,0.3s							
MBIG	**Mexicali**	**0.16**	**57**	*e*P	**Pb**		**02 18 19.9**	**+0.5**
MBIG				*e*S	**Sg**		**02 18 21.4**	**+0.4**
EMX	**El Mayor**	**0.34**	**163**	*e*P	**Pg**		**02 18 21.7**	**+0.2**
EMX				*e*S	**Sg**		**02 18 26.7**	**+0.5**
SGL	**Mount Signal**	**0.45**	**317**	⇓*i*P	**Pb**		**02 18 24.2**	**-0.1**
YUH	**Yuha Desert**	**0.58**	**305**	⇓*i*P	**Pg**		**02 18 26.2**	**+0.4**
RDX	**Rancho Dawling**	**0.63**	**232**	*e*P	**Pg**		**02 18 27.1**	**+0.3**
RDX				*e*S	**Sg**		**02 18 35.5**	**+0.3**
RDX				AML	AML		02 18 37.7	
	comp=N,545nm,0.4s							
RDX				⇓*e*			02 18 37.7	
RMX	**La Rumorosa**	**0.67**	**295**	*e*P	**Pg**		**02 18 27.8**	**+0.2**
RMX				*e*S	**Sg**		**02 18 36.8**	**+0.3**
RMX				AML	AML		02 18 37.4	
	comp=N,666nm,0.1s							
RMX				*e*			02 18 37.4	
YMD	**Yuma Desert**	**0.73**	**71**	⇓*i*P	**Pb**		**02 18 29.0**	**-0.1**
ECBX	**El Chinero**	**0.88**	**163**	*e*P	**Pb**		**02 18 31.6**	**-0.1**
ECBX				*e*S	**Sb**		**02 18 43.4**	**0.0**
CBX	**Cerro Bola**	**1.10**	**270**	*e*P	**Pb**		**02 18 35.4**	**-0.2**
CBX				*i* S	**Sb**		**02 18 49.8**	**0.0**
CBX	**Cerro Bola**	**1.10**	**270**	*e*P	**Pb**		**02 18 35.3**	**-0.2**
CBX				*e*S	**Sb**		**02 18 49.9**	**0.0**
CBX				AML	AML		02 18 56.0	
	comp=E,647nm,0.5s							
CBX				⇑*e*			02 18 56.0	
ZAX	**El Zacaton**	**1.12**	**224**	*e*P	**Pb**		**02 18 35.4**	**-0.3**
ZAX				*e*S	**Sb**		**02 18 50.4**	**+0.2**
ZAX				AML	AML		02 18 53.1	
	comp=N,428nm,0.6s							
ZAX				⇓*e*			02 18 53.1	
BAR	**Barrett**	**1.17**	**288**	*e*P	**Pn**		**02 18 36.0**	**-0.6**
ECNX	**Esteban Cantu**	**1.24**	**238**	*e*P	**Pn**		**02 18 37.7**	**0.0**
ECNX				*e*S	**Sn**		**02 18 54.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.27**	**184**	*i* P	**Pn**		**02 18 37.7**	**-0.5**
SPIG				*i* S	**Sb**		**02 18 54.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.27**	**184**	*e*P	**Pn**		**02 18 37.8**	**-0.5**
SPX	**San Pedro Mart**	**1.27**	**184**	*e*P	**Pn**		**02 18 37.8**	**-0.5**
SPX				*e*S	**Sg**		**02 18 55.7**	**+0.1**
PBX	**Punta Banda**	**1.29**	**244**	*e*P	**Pn**		**02 18 38.5**	**+0.2**
PBX				*e*S	**Sb**		**02 18 55.3**	**+0.1**

NEIC ***19*** *02:26:44.8, 32°.26N×115°.32W, h0km, ML3.3(PAS), After PAS.*
ISCJB ***19*** *02:26:45.6±0.4, 32°.36N±0°.02×115°.31W±0°.03, h11km±3km, Error ellipse: s-maj=4.0km s-min=3.3km az=26.5*
ECX ***19*** *02:26:46.9±0.6, 32°.35N×115°.31W, h5km, MD3.3, ML3.5*
MEX ***19*** *02:26:46.7±0.8, 32°.46N×115°.12W, h15km±2km, MD3.6*

ISC 19 02:26:45.6±0.9, 32°.32N±0°.02×115°.34W±0°.02, h9km±6km, n34, σ1°26/60, 1C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**15**	*e*P	**Pg**	**02 26 47.9**	**-0.3**
CPBX				*e*S	**Sg**	**02 26 50.1**	**0.0**
CPBX				AML	AML	02 26 51.6	
	comp=E,109µm,0.5s						
CPBX				⇓*e*		02 26 51.6	
CPBX				⇓*e*		02 26 52.3	
CPBX	**Cerro Prieto**	**0.10**	**15**	*i* P	**Pg**	**02 26 48.2**	**0.0**
MBIG	**Mexicali**	**0.15**	**52**	*e*P	**Pg**	**02 26 49.1**	**+0.2**
MBIG				*e*S	**Sg**	**02 26 51.4**	**+0.4**
EMX	**El Mayor**	**0.34**	**166**	*e*P	**Pg**	**02 26 53.0**	**+0.7**
EMX				*e*S	**Sb**	**02 26 58.4**	**-0.8**
SGL	**Mount Signal**	**0.47**	**315**	⇓*i*P	**Pg**	**02 26 54.8**	**+0.1**
COA	**Coachella**	**0.57**	**18**	*e*P	**Pg**	**02 26 56.6**	**-0.2**
RDX	**Rancho Dawling**	**0.64**	**233**	*e*P	**Pb**	**02 26 59.0**	**-0.2**
RDX				*e*S	**Sb**	**02 27 08.3**	**0.0**
RDX				AML	AML	02 27 10.3	
	comp=N,2µm,0.2s						
RDX				*e*		02 27 10.3	
RMX	**La Rumorosa**	**0.69**	**295**	*e*P	**Pg**	**02 26 58.9**	**-0.1**
RMX				*e*S	**Sg**	**02 27 08.6**	**+0.6**
RMX				⇓*e*		02 27 09.3	
RMX				AML	AML	02 27 09.3	
	comp=N,2µm,0.1s						
GLA	**Glamis**	**0.85**	**30**	*e*Pg	**Pg**	**02 27 00.5**	**-1.5**
GLA				*e*S	**Sg**	**02 27 12.0**	**-1.1**
ECBX	**El Chinero**	**0.88**	**164**	*e*P	**Pb**	**02 27 02.9**	**0.0**
ECBX				*e*S	**Sb**	**02 27 15.3**	**+0.5**
CBX	**Cerro Bola**	**1.12**	**270**	*e*P	**Pg**	**02 27 07.1**	**-0.1**
CBX				*e*S	**Sg**	**02 27 22.0**	**+0.1**
CBX	**Cerro Bola**	**1.12**	**270**	*e*P	**Pg**	**02 27 07.2**	**0.0**
CBX				*e*S	**Sb**	**02 27 22.4**	**+0.3**
CBX				AML	AML	02 27 25.6	
	comp=E,2µm,0.6s						
CBX				⇓*e*		02 27 25.6	
CBX	**Cerro Bola**	**1.12**	**270**	*e*P	**Pg**	**02 27 07.1**	**-0.1**
CBX				*e*S	**Sg**	**02 27 22.0**	**+0.1**
ZAX	**El Zacaton**	**1.13**	**225**	*e*P	**Pg**	**02 27 07.4**	**+0.1**
ZAX				*e*S	**Sn**	**02 27 23.0**	**-0.4**
ZAX				AML	AML	02 27 25.7	
	comp=E,732nm,0.2s						
ZAX				⇑*e*		02 27 25.7	
BAR	**Barrett**	**1.19**	**288**	*e*P	**Pb**	**02 27 07.7**	**-0.6**
BAR	**Barrett**	**1.19**	**288**	*e*Pn	**Pb**	**02 27 07.8**	**-0.5**
BAR				*e*S	**Sb**	**02 27 23.3**	**-0.5**
ECNX	**Esteban Cantu**	**1.26**	**239**	*e*P	**Pn**	**02 27 09.5**	**0.0**
ECNX				*e*S	**Sn**	**02 27 27.0**	**+0.4**
SPIG	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**02 27 09.3**	**-0.6**
SPIG				*i* S	**Sb**	**02 27 26.1**	**-0.5**
SPIG	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**02 27 09.5**	**-0.4**
SPIG	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**02 27 09.3**	**-0.6**
SPIG				*e*S	**Sb**	**02 27 26.5**	**0.0**
SPX	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**02 27 09.4**	**-0.5**
SPX				⇓*e*		02 27 29.2	
SPX				AML	AML	02 27 29.2	
	comp=N,612nm,0.2s						
SPX	**San Pedro Mart**	**1.27**	**185**	*e*P	**Sg**	**02 27 26.1**	**-0.5**
PBX	**Punta Banda**	**1.31**	**244**	*e*P	**Pn**	**02 27 10.2**	**0.0**
PBX				*e*S	**Sg**	**02 27 28.3**	**+0.5**
PFO	**Pinyon Flats O**	**1.60**	**324**	*e*Pn	**Pn**	**02 27 11.9**	**-2.2**
214A	**Organ Pipe Nat**	**2.17**	**99**	*e*Pn	**Pn**	**02 27 19.9**	**-2.1**
214A				*e*S	**Sn**	**02 27 49.5**	**+0.5**
LDFC	**Landfair**	**2.76**	**4**	*e*Pn	**Pn**	**02 27 29.7**	**-0.5**
LDFC				*e*Pg	**Pg**	**02 27 39.1**	**+0.5**
LDFC				*e*S	**Sn**	**02 28 06.1**	**+2.3**
MWC	**Mount Wilson**	**2.97**	**311**	*e*Pn	**Pb**	**02 27 37.5**	**-1.4**
MWC				*e*S	**Sb**	**02 28 17.4**	**+2.1**
PASC	**Pasadena Art C**	**3.02**	**309**	*e*Pn	**Pn**	**02 27 35.9**	**+2.2**
PASC				*e*S	**Sb**	**02 28 18.3**	**+1.7**
GSC	**Goldstone, Bar**	**3.22**	**338**	*e*Pn	**Pn**	**02 27 36.5**	**0.0**
TUC	**Tucson**	**3.85**	**89**	*e*Pn	**Pn**	**02 27 46.7**	**+1.5**
TUC				*e*S	**Sb**	**02 28 42.6**	**+2.0**
SHPR	**Sheep Range**	**4.18**	**2**	*e*Pn	**Pn**	**02 27 50.2**	**+0.4**
SHPR				*e*S	**Sb**	**02 28 54.1**	**+3.9**
WUAZ	**Wupatki**	**4.59**	**45**	*e*Pn	**Pn**	**02 27 55.8**	**+0.5**
WUAZ				*e*S	**Sg**	**02 29 12.7**	**-0.3**
R11A	**Troy Canyon, C**	**6.02**	**358**	*e*Pn	**Pn**	**02 28 14.8**	**-0.3**
	comp=N,3.0nm,0.8s						
R11A				*e*Pg	**Pg**	**02 28 38.1**	**-2.8**
R11A				*e*S	**Sg**	**02 29 54.9**	**-4.1**
MVCO	**Mesa Verde**	**7.45**	**47**	*e*Pn	**Pn**	**02 28 36.7**	**+2.0**
	comp=N,10nm,0.8s						

CSEM ***19*** *02:29:57.4±0.1, 40°.18N×21°.68E, h2km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0*
ATH ***19*** *02:29:57.7, 40°.20N×21°.66E, h11km±2km, MD3.1/19*
THE ***19*** *02:29:57.7, 40°.16N×21°.67E, h4km±1km, ML2.0/6, Error ellipse: s-maj=1.4km s-min=0.4km az=24.0*
SKO ***19*** *02:29:58.3, 40°.24N×21°.66E, h2km, M1.7, ML2.0*

ISC 19 02:29:58.0±1.0, 40°.18N±0°.02×21°.67E±0°.02, h5km±9km, n51, σ0°71/73, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.15**	**31**	P	**Pg**	**02 30 00.6**	**-0.4**
KZN				S	**Sg**	**02 30 03.8**	**+0.7**
KZN	**Kozani**	**0.15**	**31**	*e*PG	**Pg**	**02 30 00.6**	**-0.4**
KZN				*e*SG	**Sg**	**02 30 03.8**	**+0.7**
KZN	**Kozani**	**0.15**	**31**	P	**Pg**	**02 30 00.6**	**-0.4**
KZN				S	**Sg**	**02 30 03.8**	**+0.7**
MEV	**Metsovon**	**0.52**	**221**	P	**Pg**	**02 30 07.6**	**-0.5**
MEV	**Metsovon**	**0.52**	**221**	P	**Pg**	**02 30 07.6**	**-0.5**
NEST	**Nestorio**	**0.53**	**296**	P	**Pg**	**02 30 07.6**	**-0.7**
NEST				S	**Sg**	**02 30 15.6**	**+0.4**
NEST	**Nestorio**	**0.53**	**296**	*e*PB	**Pg**	**02 30 07.6**	**-0.7**
NEST	**Nestorio**	**0.53**	**296**	P	**Pg**	**02 30 07.6**	**-0.7**
NEST				S	**Sg**	**02 30 15.6**	**+0.4**
LIT	**Litokhoron**	**0.63**	**97**	P	**Pg**	**02 30 09.2**	**-0.9**
LIT				S	**Sg**	**02 30 18.9**	**+0.6**
LIT	**Litokhoron**	**0.63**	**97**	*e*PB	**Pg**	**02 30 09.5**	**-0.6**
LIT				*e*SB	**Sg**	**02 30 19.0**	**+0.6**
LIT	**Litokhoron**	**0.63**	**97**	P	**Pg**	**02 30 09.2**	**-0.9**
LIT	**Litokhoron**	**0.63**	**97**	*e*Pb	**Pg**	**02 30 09.5**	**-0.6**
LIT				S	**Sg**	**02 30 18.9**	**+0.6**
FNA	**Florina**	**0.64**	**340**	P	**Pg**	**02 30 09.7**	**-0.7**
FNA				S	**Sb**	**02 30 20.0**	**-1.1**
FNA	**Florina**	**0.64**	**340**	*e*PB	**Pg**	**02 30 09.6**	**-0.8**
FNA	**Florina**	**0.64**	**340**	P	**Pg**	**02 30 09.7**	**-0.7**
FNA				S	**Sb**	**02 30 20.0**	**-1.1**
THL	**Klokotos Trika**	**0.67**	**157**	P	**Pg**	**02 30 09.6**	**-1.2**
THL				S	**Sg**	**02 30 19.5**	**0.0**
THL	**Klokotos Trika**	**0.67**	**157**	P	**Pg**	**02 30 09.6**	**-1.2**
THL				S	**Sg**	**02 30 19.5**	**0.0**
DSL	**Palaion Diasel**	**1.14**	**203**	*e*PB	**Pg**	**02 30 19.3**	**-0.5**
DSL	**Palaion Diasel**	**1.14**	**203**	*e*Pb	**Pg**	**02 30 19.3**	**-0.5**
HORT	**Hortiatis**	**1.17**	**69**	*e*PB	**Pg**	**02 30 19.8**	**-0.6**
HORT				*e*SB	**Sb**	**02 30 36.3**	**+0.2**
HORT	**Hortiatis**	**1.17**	**69**	*e*Pb	**Pg**	**02 30 19.8**	**-0.6**
HORT				*e*Sb	**Sb**	**02 30 36.3**	**+0.2**
IGT	**Igoumenitsa**	**1.22**	**238**	*e*PB	**Pg**	**02 30 20.8**	**-0.6**
IGT	**Igoumenitsa**	**1.22**	**238**	*e*Pb	**Pg**	**02 30 20.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.22**	**163**	P	**Pg**	**02 30 20.2**	**-1.2**
MAKR				S	**Sg**	**02 30 37.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.22**	**163**	*e*PN	**Pg**	**02 30 20.1**	**-1.3**
MAKR	**Makrakomi, Fth**	**1.22**	**163**	P	**Pg**	**02 30 20.2**	**-1.2**
MAKR				S	**Sg**	**02 30 37.5**	**+0.4**
AGG	**Agios Georgios**	**1.26**	**156**	P	**Pg**	**02 30 21.0**	**-1.2**
AGG				S	**Sb**	**02 30 39.5**	**+0.7**
AGG	**Agios Georgios**	**1.26**	**156**	*e*PN	**Pg**	**02 30 21.3**	**-0.9**
AGG	**Agios Georgios**	**1.26**	**156**	P	**Pg**	**02 30 21.0**	**-1.2**
AGG	**Agios Georgios**	**1.26**	**156**	*e*Pn	**Pg**	**02 30 21.3**	**-0.9**
AGG				S	**Sb**	**02 30 39.5**	**+0.7**
EVR	**Evrytania**	**1.27**	**175**	P	**Pg**	**02 30 21.2**	**-1.1**
EVR				S	**Sb**	**02 30 39.8**	**+0.8**
EVR	**Evrytania**	**1.27**	**175**	*e*PN	**Pg**	**02 30 21.2**	**-1.1**
EVR				*e*SN	**Sn**	**02 30 40.1**	**+0.3**
EVR	**Evrytania**	**1.27**	**175**	P	**Pg**	**02 30 21.2**	**-1.1**
EVR				S	**Sb**	**02 30 39.8**	**+0.8**
EVR				*e*Sn	**Sn**	**02 30 40.1**	**+0.3**
KNT	**Kendrikon**	**1.35**	**43**	*e*PB	**Pg**	**02 30 23.5**	**-0.5**
KNT	**Kendrikon**	**1.35**	**43**	*e*Pb	**Pg**	**02 30 23.5**	**-0.5**
PLG	**Polygyros**	**1.37**	**81**	*e*PG	**Pn**	**02 30 23.6**	**-0.2**
PLG	**Polygyros**	**1.37**	**81**	*e*Pg	**Pn**	**02 30 23.6**	**-0.2**
XOR	**Xorichti**	**1.43**	**124**	*e*PB	**Pn**	**02 30 24.8**	**+0.3**
XOR	**Xorichti**	**1.43**	**124**	*e*Pb	**Pn**	**02 30 24.8**	**+0.3**
SOH	**Sokhos**	**1.43**	**63**	*e*PB	**Pg**	**02 30 25.1**	**-0.4**
SOH	**Sokhos**	**1.43**	**63**	*e*Pb	**Pg**	**02 30 25.1**	**-0.4**
NEO	**Neokhori**	**1.48**	**126**	*e*PG	**Pn**	**02 30 25.4**	**+0.1**
NEO	**Neokhori**	**1.48**	**126**	*e*Pg	**Pn**	**02 30 25.4**	**+0.1**
AXAR	**Agios Charalam**	**1.60**	**151**	*e*PG	**Pb**	**02 30 28.0**	**-0.1**
AXAR	**Agios Charalam**	**1.60**	**151**	*e*Pg	**Pb**	**02 30 28.0**	**-0.1**
PDO	**Prodromos**	**1.62**	**194**	*e*PB	**Pb**	**02 30 28.8**	**+0.4**
PDO	**Prodromos**	**1.62**	**194**	*e*Pb	**Pb**	**02 30 28.8**	**+0.4**
EFP	**Efpalio**	**1.76**	**174**	*e*PN	**Pb**	**02 30 30.1**	**-0.6**
EFP	**Efpalio**	**1.76**	**174**	*e*Pn	**Pb**	**02 30 30.1**	**-0.6**
KALE	**Kalithea**	**1.82**	**168**	*e*PN	**Pn**	**02 30 30.8**	**+0.8**
KALE	**Kalithea**	**1.82**	**168**	*e*Pn	**Pn**	**02 30 30.8**	**+0.8**

ISCJB ***19*** *02:36:50.7±1.2, 53°.52N±0°.09×163°.55W±0°.09, h44km±9km, mb3.5/8, Error ellipse: s-maj=16.0km s-min=6.1km az=153.1*
IDC ***19*** *02:36:50.5±1.4, 54°.27N×163°.95W, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/39, mbtmp3.5/9, ML3.3/1, Error ellipse: s-maj=43.8km s-min=19.0km az=11.0*
NEIC ***19*** *02:36:51.8, 53°.49N×163°.56W, h29km, ML3.1(AEIC), After AEIC.*

ISC 19 02:36:52.3±2.1, 53°.6N±0°.1×163°.58W±0°.07, h41km±17km, n31, σ1°24/30, mb3.7/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.09**	**327**	P	**Pn**	**02 37 10.6**	**-0.6**
SSLW	**Shishaldin Wes**	**1.25**	**345**	P	**Pn**	**02 37 13.2**	**-0.1**
SSLW				S	**Sn**	**02 37 29.4**	**+0.4**
SSLN	**Shishaldin Nor**	**1.28**	**349**	P	**Pn**	**02 37 14.1**	**+0.4**
ISNN	**Isanotski Nort**	**1.28**	**355**	P	**Pn**	**02 37 14.4**	**+0.7**
FALS	**False Pass**	**1.30**	**4**	*e*Pn	**Pn**	**02 37 13.9**	**0.0**
FALS				*e*S	**Sn**	**02 37 28.3**	**-1.8**
AKSA	**Akutan Strait**	**1.38**	**295**	P	**Pn**	**02 37 13.9**	**-1.1**
ZRO	**Akutan Zero**	**1.52**	**291**	P	**Pn**	**02 37 16.8**	**-0.2**
AKGG	**Akutan Green G**	**1.57**	**295**	P	**Pn**	**02 37 16.8**	**-0.8**
AKGG				S	**Sn**	**02 37 36.6**	**-0.1**
DT1	**Dutton Round H**	**1.72**	**26**	P	**Pn**	**02 37 19.3**	**-0.4**
DT1				S	**Sn**	**02 37 41.3**	**+0.8**
UNV	**Unalaska Valle**	**1.76**	**280**	*e*Pn	**Pn**	**02 37 18.5**	**-1.7**
UNV				*e*S	**Sn**	**02 37 46.0**	**+4.6**
MTBL	**Makushin Table**	**1.89**	**284**	P	**Pn**	**02 37 21.7**	**-0.3**
MREP	**Makushin Rep't**	**1.90**	**279**	P	**Pn**	**02 37 21.3**	**-1.0**
MSW	**Makushin Switc**	**1.94**	**282**	P	**Pn**	**02 37 21.7**	**-1.0**
MSW				S	**Sn**	**02 37 45.7**	**-0.1**
MCIR	**Makushin Cirqu**	**2.01**	**283**	P	**Pn**	**02 37 23.6**	**-0.1**
MSOM	**Makushin Julie**	**2.02**	**279**	P	**Pn**	**02 37 22.7**	**-1.1**
MSOM				S	**Sn**	**02 37 49.4**	**+1.6**
SDPT	**Sand Point**	**2.54**	**44**	*e*Pn	**Pn**	**02 37 31.0**	**0.0**
INK	**Inuvik**	**20.44**	**32**	P	**P**	**02 41 24.9**	**-0.8**
	0.1nm,0.3s,baz=242,slow=11,SNR=3.1						
PETK	**Petropavlovsk-**	**22.94**	**285**	P	**P**	**02 41 52.1**	**-0.5**
	1.0nm,0.5s,baz=111,slow=7.9,SNR=2.6						
YKA	**Yellowknife Ar**	**26.79**	**51**	P	**P**	**02 42 28.8**	**+0.9**
	0.4nm,0.8s,baz=272,slow=9.4,SNR=9.6						
NVAR	**Mina Array Bea**	**34.26**	**98**	P	P	02 43 41.9	+7.6
	0.1nm,0.3s,baz=312,slow=7.2,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**40.69**	**225**	T	T	03 28 09.4	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**40.69**	**225**	T	T	03 28 10.0	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**40.70**	**225**	T	T	03 28 06.6	
	baz=23						
H11S1	**WAKE ISLAND Hy**	**41.86**	**225**	T	T	03 29 32.0	
	baz=21						
H11S2	**WAKE ISLAND Hy**	**41.87**	**225**	T	T	03 29 39.6	
	baz=21						
H11S3	**WAKE ISLAND Hy**	**41.87**	**225**	T	T	03 29 37.4	
	baz=21						
TXAR	**Lajitas Array**	**49.28**	**95**	P	P	02 45 42.3	+5.4
	0.2nm,0.8s,baz=304,slow=6.4,SNR=2.3						
SONM	**Songino Array**	**53.64**	**303**	P	**P**	**02 46 09.0**	**-0.4**
	0.9nm,0.9s,baz=44,slow=6.2,SNR=5.9						
BVAR	**Borovoye Array**	**64.68**	**327**	P	**P**	**02 47 25.9**	**+0.4**
	0.8nm,0.6s,baz=38,slow=7.5,SNR=4.3						
AKASG	**Malin Array Be**	**75.55**	**352**	P	**P**	**02 48 31.3**	**-0.7**
	0.7nm,0.6s,baz=11,slow=5.5,SNR=4.1						
BRTR	**Keskin Array B**	**85.90**	**347**	P	**P**	**02 49 28.6**	**+0.9**
	0.7nm,0.9s,baz=358,slow=4.9,SNR=2.8						

IDC 19 03:09:11.4±11.0, 19°.88N×107°.25W, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.4/30, mbtmp3.3/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/10, Error ellipse: s-maj=251.3km s-min=129.5km az=29.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**3.64**	**253**	T	T	03 12 06.1	
	SNR=36						
H06N1	**SOCORRO T-PHAS**	**3.67**	**255**	T	T	03 11 58.7	
	SNR=6.2						
H06S1	**SOCORRO T**	**3.68**	**253**	T	T	03 12 04.1	
	SNR=4.1						
TEIG	**Tepich**	**17.83**	**86**	LR	LR	03 20 49.3	
	comp=Z,86nm,18.7s,baz=108,slow=39						
NVAR	**Mina Array Bea**	**20.82**	**335**	P	P	03 13 54.7	-0.2
	0.6nm,0.8s,baz=157,slow=9.8,SNR=3.7						
YKA	**Yellowknife Ar**	**42.88**	**355**	P	P	03 17 11.8	+0.5
	0.2nm,0.8s,baz=172,slow=7.3,SNR=4.9						
INK	**Inuvik**	**51.13**	**348**	P	P	03 18 14.6	-1.1
	1.8nm,1.1s,baz=166,slow=4.3,SNR=2.8						
ILAR	**Eielson Array**	**51.97**	**340**	P	P	03 18 22.7	+0.6
	0.1nm,0.6s,baz=143,slow=6.9,SNR=4.9						

IDC 19 03:15:41.1±2.1, 9°.03S×125°.39E, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.2/29, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=42.8km s-min=34.3km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.06**	**235**	Pn	Pn	03 16 16.6	-0.4
	4.7nm,0.3s,baz=56,slow=3.6,SNR=2.0						
WRA	**Warramunga Arr**	**13.88**	**142**	Pn	Pn	03 18 59.0	-0.3
	0.1nm,0.3s,baz=320,slow=13,SNR=6.7						
WRA				Sn	Sn	03 21 29.2	-5.0
	0.1nm,0.3s,baz=324,slow=27,SNR=2.0						
ASAR	**Alice Springs**	**16.68**	**152**	Pn	Pn	03 19 36.9	+0.5
	baz=330,slow=13,SNR=1.7						
MKAR	**Makanchi Array**	**67.53**	**329**	P	P	03 26 39.4	+0.1
	0.1nm,0.5s,baz=147,slow=8.2,SNR=1.8						

GUC 19 03:22:55.0±0.5, 34°.27S×72°.17W, h38km±2km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.06**	**134**	*i* P	Pn	03 23 13.4	0.0
NICH				*i* S	Sn	03 23 27.6	+0.6
CHCH	**Chadas Angostu**	**1.30**	**76**	*i* P	Pn	03 23 16.9	+0.3
CACH	**El Canelo**	**1.31**	**84**	*i* P	Pn	03 23 17.7	+0.8
CLCH	**Cerro Calan**	**1.61**	**58**	*i* P	Pn	03 23 21.9	+0.9
CLCH				*i* S	Sn	03 23 42.3	+1.8
CLCH				AML	AML	03 23 50.5	
	comp=N,3µm,0.6s						
SJCH	**San Jose de Ma**	**1.63**	**68**	*i* P	Pn	03 23 21.6	+0.4
SJCH				*i* S	Sn	03 23 42.4	+1.3
LNCH	**Linares**	**1.64**	**164**	*i* P	Pn	03 23 22.0	+0.7
LNCH				*i* S	Sn	03 23 42.5	+1.3
PEL	**Peldehue**	**1.67**	**48**	*i* P	Pn	03 23 22.8	+1.0
PEL				*i* S	Sn	03 23 43.4	+1.5
PEL				AML	AML	03 23 51.6	
	comp=E,3µm,0.5s						
YECH	**El Yeso**	**1.83**	**71**	*i* P	Pn	03 23 25.3	+1.0
COCH	**Cobquecura**	**1.93**	**195**	*i* P	Pn	03 23 25.9	+0.7
COCH				*i* S	Sn	03 23 49.6	+1.3

IDC ***19*** *03:31:13.0±0.6, 37°.50N×56°.65E, h0km, mb4.2/29, mb1 4.3/34, mb1mx4.2/40, mbtmp4.2/34, ML4.1/4, MS3.7/28, Ms1 3.7/28, ms1mx3.6/41, Error ellipse: s-maj=15.0km s-min=7.5km az=177.0*
ISCJB ***19*** *03:31:12.9±0.1, 37°.62N±0°.02×56°.76E±0°.02, h10km, mb4.4/84, MS3.8/27, Error ellipse: s-maj=2.9km s-min=2.1km az=178.7*
BJI ***19*** *03:31:13.2, 37°.48N×56°.80E, h7km, mB4.8/16, mb4.6/19, Ms4.5/11, Ms7 4.2/11*
CSEM ***19*** *03:31:13.0±0.1, 37°.62N×56°.76E, h2km, mb4.4/48, Ms3.3, Error ellipse: s-maj=3.5km s-min=2.9km az=175.0*
TEH ***19*** *03:31:14.8, 37°.56N×56°.76E, h5km, ML4.8*
NEIC ***19*** *03:31:14.0, 37°.56N×56°.76E, h5km, mb4.6/47, ML4.4(THR), MN4.8(TEH), After TEH.*
THR ***19*** *03:31:15.3±0.7, 37°.38N×56°.70E, h15km, ML4.3*
MOS ***19*** *03:31:16.5±1.2, 37°.63N×56°.75E, h36km, mb4.8/45, Error ellipse: s-maj=6.2km s-min=4.4km az=44.9*
NNC ***19*** *03:31:18.6±3.5, 38°.34N×56°.84E, h0km, mb4.8, Error ellipse: s-maj=31.5km s-min=12.3km az=52.0*

ISC 19 03:31:14.4±0.3, 37°.63N±0°.04×56°.77E±0°.03, h10km, n583, σ1°51/592, mb4.4/82, MS3.7/28, 42C-18D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHV	**Shirvan**	**0.75**	**97**	*e*Pg	**Pg**	**03 31 28.5**	**-0.4**
ISHV				*e*		03 31 49.0	
	comp=Z,95µm,0.3s						
ISHV	**Shirvan**	**0.75**	**97**	*e*Pg	**Pg**	**03 31 28.5**	**-0.4**
ISHV	**Shirvan**	**0.75**	**97**	Pg	**Pg**	**03 31 28.5**	**-0.4**
GEYT	**Alibeck**	**1.11**	**74**	Pg	**Pn**	**03 31 36.5**	**+0.5**
	comp=Z,942nm,0.3s,baz=264,slow=13,SNR=516						
GEYT				Lg	Lg	03 31 53.6	
	comp=Z,818nm,0.3s,baz=258

DAMV **Damavand** 4.34 244 Pn **Pn** **03 32 21.0 +0.3**
DAMV **Damavand** 4.34 244 Pn **Pn** **03 32 21.0 +0.3**
CHTH **Charan** 4.84 251 *e*Pn **Pn** **03 32 28.3 +0.7**
CHTH **Charan** 4.84 251 Pn **Pn** **03 32 28.0 +0.4**
CHTH **Charan** 4.84 251 Pn **Pn** **03 32 28.0 +0.4**
IVRN **Varamin** 4.85 239 *e*Pn **Pn** **03 32 27.2 -0.2**
IVRN *e* 03 32 48.8
comp=Z,4µm,0.3s
IVRN Varamin 4.85 239 *e*Pn **Pn** **03 32 27.2 -0.2**
IVRN Varamin 4.85 239 Pn **Pn** **03 32 27.2 -0.2**
SHRT Shahrakht 4.90 143 *e*Pn **Pn** **03 32 28.0 -0.2**
SHRT Shahrakht 4.90 143 *e*Pn **Pn** **03 32 28.0 -0.2**
ITEG **Tejag** 4.99 160 *e*Pn **Pn** **03 32 29.4 -0.2**
ITEG *e* 03 32 42.7
comp=Z,3µm,0.2s
ITEG Tejag 4.99 160 *e*Pn **Pn** **03 32 29.4 -0.2**
ITEG Tejag 4.99 160 Pn **Pn** **03 32 29.3 -0.2**
IGZV **Ghazvin** 5.39 259 *e*Pn **Pn** **03 32 35.2 +0.1**
IGZV *e* 03 34 36.7
comp=Z,4µm,0.4s
IGZV Ghazvin 5.39 259 Pn **Pn** **03 32 35.1 +0.1**
IGZV Ghazvin 5.39 259 Pn **Pn** **03 32 35.1 +0.1**
GHVR **GHOM** 5.43 236 *e*Pn **Pn** **03 32 36.0 +0.4**
GHVR AML AML 03 34 34.6
comp=E,195nm,0.8s
GHVR GHOM 5.43 236 Pn **Pn** **03 32 35.0 -0.5**
GHVR GHOM 5.43 236 Pn **Pn** **03 32 35.0 -0.5**
IDAH **Dahanechah** 5.50 152 *e*Pn **Pn** **03 32 36.3 -0.4**
IDAH *e* 03 32 44.1
comp=Z,2µm,0.2s
IDAH Dahanechah 5.50 152 *e*Pn **Pn** **03 32 36.3 -0.4**
IDAH Dahanechah 5.50 152 Pn **Pn** **03 32 36.2 -0.4**
IKOO **Kooshah** 5.51 160 *e*Pn **Pn** **03 32 36.0 -0.7**
IKOO *e* 03 34 18.8
comp=Z,4µm,0.5s
IKOO Kooshah 5.51 160 *e*Pn **Pn** **03 32 36.0 -0.7**
IKOO Kooshah 5.51 160 Pn **Pn** **03 32 36.0 -0.7**
ICHK **Chekchek** 5.71 201 *e*Pn **Pn** **03 32 38.4 -1.2**
ICHK *e* 03 32 44.6
comp=Z,2µm,0.2s
ICHK Chekchek 5.71 201 Pn **Pn** **03 32 38.3 -1.2**
ICHK Chekchek 5.71 201 Pn **Pn** **03 32 38.3 -1.2**
NASN Na'in 5.81 215 *e*Pn **Pn** **03 32 39.4 -1.5**
NASN Na'in 5.81 215 Pn **Pn** **03 32 39.0 -1.9**
NASN Na'in 5.81 215 Pn **Pn** **03 32 39.0 -1.9**
IRAZ **Razeghan** 5.94 250 *e*Pn **Pn** **03 32 41.6 -1.0**
IRAZ *e* 03 34 55.2
comp=Z,3µm,0.6s
IRAZ Razeghan 5.94 250 *e*Pn **Pn** **03 32 41.6 -1.0**
IRAZ Razeghan 5.94 250 Pn **Pn** **03 32 41.6 -1.0**
IKLH **Kolahrood** 6.04 226 *e*Pn **Pn** **03 32 43.1 -0.8**
IKLH *e* 03 33 13.3
comp=Z,2µm,0.5s
IKLH Kolahrood 6.04 226 *e*Pn **Pn** **03 32 43.1 -0.8**
IKLH Kolahrood 6.04 226 Pn **Pn** **03 32 43.1 -0.8**
IBAF **Bafgh** 6.11 190 *e*Pn **Pn** **03 32 43.9 -0.9**
IBAF *e* 03 34 33.1
comp=Z,2µm,0.6s
IBAF Bafgh 6.11 190 *e*Pn **Pn** **03 32 43.9 -0.9**
IBAF Bafgh 6.11 190 Pn **Pn** **03 32 43.9 -0.9**
ISAD **Sadrabad** 6.24 205 *e*Pn **Pn** **03 32 45.4 -1.5**
ISAD *e* 03 34 37.7
comp=Z,2µm,0.4s
ISAD Sadrabad 6.24 205 Pn **Pn** **03 32 45.3 -1.5**
ISAD Sadrabad 6.24 205 Pn **Pn** **03 32 45.3 -1.5**
IMEH **Mehriz** 6.47 197 *e*Pn **Pn** **03 32 48.7 -1.3**
IMEH *e* 03 35 03.1
comp=Z,3µm,0.7s
IMEH Mehriz 6.47 197 *e*Pn **Pn** **03 32 48.7 -1.3**
IMEH Mehriz 6.47 197 Pn **Pn** **03 32 48.7 -1.3**
KHMZ Khomeyn 6.76 237 *e*Pn **Pn** **03 32 53.7 -0.3**
KHMZ Khomeyn 6.76 237 *e*Pn **Pn** **03 32 53.7 -0.3**
IHRS **Heris** 7.71 278 *e* x 03 33 18.1
comp=Z,1µm,0.1s
IHRS *e*Pn **Pn** **03 33 05.7 -1.3**
SNGE Sanandaj 8.01 254 *e*P **Pn** **03 33 12.2 +1.2**
SNGE Sanandaj 8.01 254 P **Pn** **03 33 12.0 +1.0**
SNGE Sanandaj 8.01 254 P **Pn** **03 33 12.0 +1.0**
IMRD **Marand** 8.78 280 *e*Pn **Pn** **03 33 21.1 -0.4**
IMRD *e* 03 33 46.4
comp=Z,1µm,0.2s
IMRD Marand 8.78 280 *e*Pn **Pn** **03 33 21.1 -0.4**
IMRD Marand 8.78 280 Pn **Pn** **03 33 21.1 -0.4**
MAK Makhachkala 8.85 310 *e*P Pn 03 33 18.6 -3.7
MAK *e*S **Sn** **03 35 01.3 -0.8**
MAK pmax pmax
comp=Z,101nm,0.9s
MAK MLR MLR
comp=Z,639nm,16.0s
IDHR Dehrash 8.89 254 *e*Pn **Pn** **03 33 24.9 +1.8**
IDHR *e* 03 36 48.4
comp=Z,787nm,0.6s
IDHR Dehrash 8.89 254 *e*Pn **Pn** **03 33 24.9 +1.8**
IDHR Dehrash 8.89 254 Pn **Pn** **03 33 24.9 +1.8**
DZET Dzherino 9.56 79 ⇓Pn **Pn** **03 33 32.4 +0.2**
comp=Z,5.5nm,0.4s
DZET ⇑Sn **Sn** **03 35 19.3 -0.5**
comp=Z,95nm,0.7s
DGRG David-gareji 9.59 297 P **Pn** **03 33 33.4 +0.9**
GNI Garni 9.71 289 ⇓*e*P Pn 03 33 37.7 +3.5
GNI pmax pmax
comp=Z,35nm,1.0s
GNI Garni 9.71 289 Pn **Pn** **03 33 35.5 +1.3**
comp=Z,1.9nm,0.3s,baz=54,slow=4.1,SNR=12
GNI Sn **Sn** **03 35 24.4 +1.1**
comp=Z,2.1nm,0.3s,baz=233,slow=20,SNR=2.3
GNI LR LR 03 38 42.5
comp=Z,488nm,18.7s,baz=102,slow=46
GNI Garni 9.71 289 *e*Pn **Pn** **03 33 35.9 +1.7**
GNI *e*S Sn 03 35 32.5 +9.1
GNI Garni 9.71 289 P Pn 03 33 39.5 +5.3
SNR=9.0
GNI Garni 9.71 289 *e*Pn **Pn** **03 33 35.9 +1.7**
GNI *e*S Sn 03 35 32.5 +9.1
GHIR Ghir-Karzin 9.85 200 *e*Pn **Pn** **03 33 35.0 -1.1**
GHIR Ghir-Karzin 9.85 200 *e*Pn **Pn** **03 33 35.0 -1.1**
GHIR Ghir-Karzin 9.85 200 Pn **Pn** **03 33 34.0 -2.1**
IBDR **Badra** 9.93 246 *e*PN x 03 33 15.1
IBDR *e*SN x 03 34 48.5
TBLG Delisi 10.13 298 P **Pn** **03 33 39.4 -0.5**
BNDS Bandar-Abbas 10.21 183 *e*Pn **Pn** **03 33 40.4 -0.8**
BNDS Bandar-Abbas 10.21 183 Pn **Pn** **03 33 40.0 -1.2**
BNDS Bandar-Abbas 10.21 183 Pn **Pn** **03 33 40.0 -1.2**
IKRK **Kirkuk** 10.25 261 *e*PN x 03 32 58.0
IKRK *e*SN x 03 34 18.1
KBL Kabul 10.40 104 *e*P **Pn** **03 33 45.0 +1.2**
KBL Kabul 10.40 104 *e*P **Pn** **03 33 45.0 +1.2**
KBL Kabul 10.40 104 *e*Pn **Pn** **03 33 45.0 +1.2**
AKH Akhalkalaki 10.93 294 P **Pn** **03 33 52.6 +1.7**
NSR Nassriya 10.99 236 *e*PN x 03 33 42.7
NSR *e*SN x 03 35 34.8
BHD Baghdad 11.00 250 *e*PN x 03 33 20.8
BHD *e*SN x 03 35 01.2
ONI Oni 11.33 300 P **Pn** **03 33 55.8 -0.5**
KK31 Karatay Array 11.82 58 ⇓Pn **Pn** **03 34 01.5 -1.5**
comp=Z,14nm,0.6s,baz=244,slow=12,SNR=128
KK31 ⇑Sn **Sn** **03 36 11.6 -3.3**
comp=Z,9.3nm,0.5s,baz=248,slow=30,SNR=5.5
KK31 Karatay Array 11.82 58 *e*P **Pn** **03 34 01.0 -2.0**
KK31 03 36 10.8
KK31 pmax pmax
comp=Z,9.0nm,0.4s
KK31 smax smax
comp=N,10.0nm,0.5s
KK31 smax smax
comp=N,58nm,1.0s
KK31 Karatay Array 11.82 58 *e*P **Pn** **03 34 01.0 -2.0**
comp=N,9.0nm,0.4s
KK31 Karatay Array 11.82 58 Pn **Pn** **03 34 01.5 -1.5**
comp=N,14nm,0.6s,SNR=128
KK31 Sn **Sn** **03 36 11.6 -3.3**
comp=N,9.3nm,0.5s,SNR=5.5
KKAR Karatay Array 11.82 58 *e*P **Pn** **03 34 01.5 -1.5**
KKAR *e*S **Sn** **03 36 12.0 -2.9**
KKAR Karatay Array 11.82 58 *e*P **Pn** **03 34 01.5 -1.5**
KKAR *e*S **Sn** **03 36 12.0 -2.9**
KKAR Karatay Array 11.82 58 *e*Pn **Pn** **03 34 01.5 -1.5**
KKAR *e*S **Sn** **03 36 12.0 -2.9**
AB31 Akbulak array 11.85 10 ⇑Pn **Pn** **03 34 01.8 -1.5**
comp=N,7.1nm,0.5s,baz=215,slow=14,SNR=127
AB31 ⇑Sn **Sn** **03 36 10.4 -5.0**
comp=N,32nm,0.8s,baz=202,slow=23,SNR=4.6
AB31 Akbulak array 11.85 10 *e*P **Pn** **03 34 01.7 -1.5**
AB31 03 36 10.3
AB31 pmax pmax
comp=Z,6.0nm,0.3s
AB31 smax smax
comp=N,11nm,0.4s
AB31 Akbulak array 11.85 10 Pn **Pn** **03 34 01.8 -1.5**
comp=N,7.1nm,0.5s,SNR=127
ABKAR Akbulak array 11.85 10 *e*Pn **Pn** **03 34 02.1 -1.2**
comp=N,14nm,0.5s
ABKAR *e*S **Sn** **03 36 15.4 0.0**
ABKAR Akbulak array 11.85 10 *e*Pn **Pn** **03 34 02.1 -1.2**
comp=N,14nm,0.5s
ABKAR *e*S **Sn** **03 36 15.4 0.0**
KBZ Khabaz 12.16 304 Pn **Pn** **03 34 04.8 -2.7**
comp=N,1.3nm,0.3s,baz=236,slow=24,SNR=26
KBZ Sn Sn 03 36 16.4 -6.6
comp=N,1.0nm,0.3s,baz=53,slow=20,SNR=3.6
KBZ LR LR 03 39 44.5
comp=N,148nm,20.5s,baz=157,slow=42
CHVG Ch'k'valeri 12.32 299 P **Pn** **03 34 12.9 +3.0**
KIV Kislovodsk 12.39 305 *e*P **Pn** **03 34 09.2 -1.7**
KIV *e*S **Sn** **03 36 27.3 -1.8**
KIV pmax pmax
comp=Z,42nm,0.9s
KIV MLR MLR
comp=Z,81nm,12.0s
KIV Kislovodsk 12.39 305 Pn **Pn** **03 34 08.5 -2.4**
SNR=9.2
KIV Kislovodsk 12.39 305 *e*P **Pn** **03 34 09.2 -1.7**
comp=Z,42nm,0.9s
KIV *e*S Sn 03 36 16.7 -12
KIV Kislovodsk 12.39 305 P **Pn** **03 34 08.5 -2.4**
SNR=9.2
KIV Kislovodsk 12.39 305 *e*Pn **Pn** **03 34 08.0 -2.9**
KIV *e*S Sn 03 36 16.7 -12
GOF Gofitskoye 12.69 310 *e*P **Pn** **03 34 12.3 -2.6**
GOF *e*S Sn 03 36 30.2 -6.0
GOF Gofitskoye 12.69 310 *e*P **Pn** **03 34 12.3 -2.6**
AKTK Aktyubinsk 12.83 4 P **Pn** **03 34 16.0 -0.8**
AKTO Aktyubinsk 12.83 4 ⇑Pn **Pn** **03 34 15.9 -0.8**
comp=Z,38nm,0.8s
AKTO ⇑Sn **Sn** **03 36 34.6 -5.0**
comp=Z,30nm,0.7s
AKTO Aktyubinsk 12.83 4 Pn **Pn** **03 34 16.0 -0.8**
comp=Z,2.8nm,0.3s,baz=180,slow=14,SNR=139
AKTO Sn **Sn** **03 36 35.1 -4.4**
comp=Z,2.4nm,0.3s,baz=86,slow=19,SNR=4.8
AKTO LR LR 03 40 26.5
comp=Z,721nm,18.7s,baz=174,slow=43
MNAS Manas 12.99 63 ⇑Pn **Pn** **03 34 18.9 -0.2**
comp=Z,7.7nm,0.6s
MNAS ⇓Sn **Sn** **03 36 39.6 -4.2**
comp=Z,36nm,0.8s
MNAS Manas 12.99 63 P **Pn** **03 34 17.9 -1.2**
MNAS pmax pmax
comp=Z,21nm,1.4s
MNAS Manas 12.99 63 P **Pn** **03 34 17.9 -1.2**
comp=Z,21nm,1.4s
SFK Sufi-Kurgan 13.27 75 ⇓Pn **Pn** **03 34 23.2 +0.2**
comp=Z,9.7nm,0.5s
SFK ⇓Sn **Sn** **03 36 51.9 +1.3**
comp=Z,25nm,0.6s
SFK Sufi-Kurgan 13.27 75 P **Pn** **03 34 22.9 -0.1**
SFK pmax pmax
comp=Z,11nm,0.5s
SFK Sufi-Kurgan 13.27 75 P **Pn** **03 34 22.9 -0.1**
comp=Z,11nm,0.5s
SFK Sufi-Kurgan 13.27 75 Pn **Pn** **03 34 23.2 +0.2**
comp=Z,9.7nm,0.5s
SFK Sn **Sn** **03 36 51.9 +1.3**
comp=Z,25nm,0.6s
EKS2 Erkin-Say 13.94 64 *e*P **Pn** **03 34 31.7 -0.4**
EKS2 *e*S **Sn** **03 37 02.2 -4.8**
EKS2 Erkin-Say 13.94 64 *e*P **Pn** **03 34 31.7 -0.4**
EKS2 *e*S **Sn** **03 37 02.2 -4.8**
EKS2 Erkin-Say 13.94 64 *e*Pn **Pn** **03 34 31.7 -0.4**
EKS2 *e*S **Sn** **03 37 02.2 -4.8**
RTB Rutbah 14.20 256 *e*PN x 03 33 54.4
RTB *e*SN x 03 35 55.9
SOC Sochi 14.24 300 *e*P Pn 03 34 31.9 -4.2
SOC *e*SS **Sn** **03 37 18.6 +4.5**
SOC MLR MLR
comp=Z,165nm,12.0s
AAK Ala-Archa 14.45 64 ⇓Pn **Pn** **03 34 37.6 -1.4**
comp=Z,12nm,0.7s
AAK ⇑Sn **Sn** **03 37 17.3 -2.0**
comp=Z,20nm,1.0s
AAK Ala-Archa 14.45 64 *e*P **Pn** **03 34 37.2 -1.9**
AAK *e*S **Sn** **03 37 19.7 +0.4**
AAK Ala-Archa 14.45 64 Pn **Pn** **03 34 37.4 -1.6**
comp=Z,1.0nm,0.3s,baz=239,slow=2.7,SNR=13
AAK Sn **Sn** **03 37 18.3 -1.0**
comp=Z,0.4nm,0.3s,baz=195,slow=20,SNR=2.1
AAK LR LR 03 40 37.9
comp=Z,512nm,18.8s,baz=255,slow=39
AAK Ala-Archa 14.45 64 Pn **Pn** **03 34 37.6 -1.4**
comp=Z,12nm,0.7s
AAK *e*S **Sn** **03 37 19.6 +0.3**
AAK Ala-Archa 14.45 64 *e*Pn **Pn** **03 34 37.1 -1.9**
AAK *e*S **Sn** **03 37 19.6 +0.3**
KSH Kashi 15.14 77 P Pn 03 34 41.6 -6.8
KSH sP sP 03 34 48.5 -9.2
KSH PP **P** **03 34 53.4 -0.2**
KSH S Sn 03 37 23.4 -13
KSH PMZ
comp=Z,14nm,0.6s
KSH PMZ
comp=Z,47nm,4.1s
KSH LE
comp=Z,300nm,3.1s
KSH LZ
comp=Z,500nm,9.9s
TKM2 Tokmak 2 15.30 64 ⇓Pn **Pn** **03 34 48.6 -2.1**
comp=Z,11nm,0.8s
TKM2 ⇑Sn **Sn** **03 37 42.5 +2.3**
comp=Z,12nm,0.9s
TKM2 Tokmak 2 15.30 64 *e*P **Pn** **03 34 49.7 -0.9**
TKM2 pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 15.30 64 *e*Pn **Pn** **03 34 49.7 -0.9**
comp=Z,12nm,0.8s
TKM2 *e*S **S** **03 37 58.2 +1.3**
TKM2 Tokmak 2 15.30 64 *e*Pn **Pn** **03 34 49.7 -0.9**
comp=Z,12nm,0.8s
TKM2 *e*S **S** **03 37 58.2 +1.3**
OTUK Ortayu 15.54 42 ⇓Pn **Pn** **03 34 50.8 -2.7**
comp=Z,21nm,0.7s
OTUK ⇓Sn **Sn** **03 37 40.9 -4.8**
comp=Z,30nm,0.7s
OTUK Ortayu 15.54 42 P **Pn** **03 34 50.8 -2.7**
OTUK pmax pmax
comp=Z,34nm,0.8s
ANN Anapa 16.20 302 *e*P **Pn** **03 34 59.7 -2.2**
ANN *e*S **Sn** **03 37 58.9 -2.6**
ANN pmax pmax
comp=Z,25nm,1.1s
BTCH Batrach 16.34 271 *e*P **P** **03 35 06.5 -0.4**
AAA Alma-Ata 16.35 64 *e*P **P** **03 35 05.9 -1.0**
AAA pmax pmax
comp=Z,100nm,0.5s
AAA MLR MLR
comp=Z,900nm,10.0s
AAA Alma-Ata 16.35 64 *e*P **P** **03 35 05.9 -1.0**
comp=Z,900nm,10.0s
ZALF Zalf 16.55 259 *e*P **Pn** **03 35 05.0 -1.5**
BIDA Albida 16.68 267 *e*P **P** **03 35 09.4 -1.2**
HAWK Haweek 16.75 265 *e*P **Pn** **03 35 09.6 +0.5**
ARNB Al Arnab 16.76 270 *e*P **P** **03 35 13.4 +1.8**
MARH Ras Al Marh 16.84 264 *e*P **Pn** **03 35 10.5 0.0**
RAYN Ar Rayn 17.06 218 *e*Pn **Pn** **03 35 10.1 -3.0**
comp=Z,32nm,1.0s
RAYN Ar Rayn 17.06 218 *e*Pn **Pn** **03 35 10.1 -3.0**
comp=Z,32nm,1.0s
SALA Sala 17.09 259 *e*P **Pn** **03 35 14.3 +0.7**
ASF Jabal al Asfar 17.18 257 P **P** **03 35 16.0 -0.2**
ASF Jabal al Asfar 17.18 257 P **P** **03 35 16.0 -0.2**
comp=Z,0.2nm,0.3s,baz=36,slow=4.2,SNR=17
VRHR Novokhopersk 17.23 326 *e*P **P** **03 35 16.3 -0.2**
VRHR pmax pmax
comp=Z,8.0nm,0.5s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR Novokhopersk 17.23 326 *e*P **P** **03 35 16.3 -0.2**
comp=E,8.0nm,0.5s
BRBR Barbar 17.45 262 *e*P **Pn** **03 35 17.7 -0.4**
MMAI Mount Meron Ar 18.02 262 P **Pn** **03 35 23.0 -2.0**
comp=E,0.8nm,0.3s,baz=65,slow=12,SNR=2.5
MMAI LR LR 03 43 06.4
comp=E,109nm,20.5s,baz=40,slow=40
BRVK Borovoye 18.07 27 ⇓Pn **Pn** **03 35 25.4 0.0**
comp=E,32nm,0.7s
BRVK ⇑Sn Sn 03 38 35.4 -11
comp=E,9.4nm,0.5s
BRVK Borovoye 18.07 27 *e*P **Pn** **03 35 24.7 -0.6**
BRVK *e*S **Sn** **03 38 40.4 -6.4**
BRVK pmax pmax
comp=Z,39nm,0.9s
BRVK Borovoye 18.07 27 *e*P **Pn** **03 35 24.7 -0.6**
comp=Z,39nm,0.9s
BRVK *e*S **Sn** **03 38 40.4 -6.4**
BRVK Borovoye 18.07 27 P **P** **03 35 26.0 +0.3**
SNR=9.5
BRVK Borovoye 18.07 27 *e*Pn **Pn** **03 35 24.7 -0.6**
comp=Z,39nm,0.9s
BRVK *e*S **Sn** **03 38 40.4 -6.4**
BVA0 Borovoye Array 18.08 27 Pn **Pn** **03 35 24.1 -1.4**
comp=Z,25nm,0.7s,baz=207,slow=14,SNR=151
BVA0 ⇓Sn Sn 03 38 35.2 -12
comp=Z,22nm,0.9s
BVA0 Borovoye Array 18.08 27 *i* P **Pn** **03 35 24.1 -1.4**
BVA0 pmax pmax
comp=Z,44nm,1.0s
BVA0 Borovoye Array 18.08 27 Pn **Pn** **03 35 24.1 -1.4**
comp=Z,25nm,0.7s,SNR=151
BVAR Borovoye Array 18.08 27 P **Pn** **03 35 24.3 -1.2**
comp=Z,4.0nm,0.3s,baz=206,slow=6.6,SNR=60
BVAR S Sn 03 38 39.8 -7.3
comp=Z,0.3nm,0.3s,baz=212,slow=20,SNR=2.5
BVAR LR LR 03 43 24.5
comp=Z,524nm,18.4s,baz=217,slow=40
PDGK Podgornoye 18.17 65 ⇑Pn P 03 35 32.6 +5.7
comp=Z,8.5nm,0.8s
PDGK Podgornoye 18.17 65 P P 03 35 32.6 +5.7
PDGK pmax pmax
comp=Z,17nm,1.3s
BRTR Keskin Array B 18.17 284 P **P** **03 35 27.6 +0.4**
comp=Z,0.1nm,0.3s,baz=106,slow=12,SNR=23
VSR Storozhevoye 18.44 323 *e*P **Pn** **03 35 30.4 +0.5**
VSR pmax pmax
comp=N,30nm,1.4s
VSR pmax pmax
comp=Z,30nm,1.4s
VSR pmax pmax
comp=E,20nm,1.3s
VSR Storozhevoye 18.44 323 *e*P **Pn** **03 35 30.4 +0.5**
SIM Simferopol' 18.49 300 *e*P **P** **03 35 30.5 0.0**
SIM pmax pmax
comp=Z,21nm,1.1s
SIM MLR MLR
comp=N,130nm,18.2s
SIM Simferopol' 18.49 300 *e*P **P** **03 35 30.5 0.0**
comp=N,130nm,18.2s
VOR Voronezh 18.76 324 P **P** **03 35 33.0 -0.4**
VOR pmax pmax
comp=Z,250nm,1.0s
VOR Voronezh 18.76 324 P **P** **03 35 33.0 -0.4**
comp=Z,250nm,1.0s
ANTO Ankara 18.82 284 *e*P **Pn** **03 35 36.9 +2.2**
ANTO pmax pmax
comp=Z,10.0nm,1.0s
ANTO Ankara 18.82 284 *e*Pn **Pn** **03 35 36.9 +2.2**
comp=Z,10.0nm,1.0s
ANTO Ankara 18.82 284 *e*Pn **Pn** **03 35 36.9 +2.2**
comp=Z,10.0nm,1.0s
ARU Arti 18.84 3*c i*P **Pn** **03 35 34.9 +0.1**
ARU S **S** **03 39 08.4 0.0**
ARU pmax pmax
comp=Z,39nm,0.7s
ARU Arti 18.84 3 *e*Pn **P** **03 35 34.6 +0.3**
comp=Z,35nm,0.7s
ARU Arti 18.84 3 *i* P **Pn** **03 35 34.9 +0.1**
comp=Z,39nm,0.7s
ARU Arti 18.84 3 *e*Pn **P** **03 35 34.6 +0.3**
comp=Z,35nm,0.7s
ARU *e*S Sn 03 38 53.4 -12
CSS Prodhromos 19.07 269 *e*P **P** **03 35 36.8 -0.2**
comp=Z,3.5nm,1.0s
CSS Prodhromos 19.07 269 *e*P **P** **03 35 36.8 -0.2**
comp=Z,3.5nm,1.0s
SVE Sverdlovsk 19.38 6⇑*i*P **Pn** **03 35 42.3 +1.1**
SVE *e*S **Sn** **03 39 12.0 -6.4**
SVE pmax pmax
comp=Z,35nm,1.0s
SVE MLR MLR
comp=Z,702nm,14.0s
RBK Rabkut 20.18 187 P **P** **03 35 47.9 -1.3**
SNR=10.0
RBK Rabkut 20.18 187 P **P** **03 35 47.9 -1.3**
SNR=10.0
KURBB Kurchatov Arra 20.22 43 P Pn 03 35 51.2 0.0
comp=Z,9.9nm,1.0s,baz=245,slow=12,SNR=22
KURK Kurchatov 20.32 43 P **P** **03 35 51.2 +0.8**
KURK Kurchatov 20.32 43 P **P** **03 35 51.2 +0.8**
KURK Kurchatov 20.32 43 P Pn 03 35 53.7 +1.3
SNR=12
KURK Kurchatov 20.32 43 P **P** **03 35 51.2 +0.8**
ABTO Aybut 20.43 190 P **P** **03 35 51.8 -0.1**
SNR=9.6
ABTO Aybut 20.43 190 P **P** **03 35 51.8 -0.1**
SNR=9.6
ISP Isparta 20.74 279 *e*P **P** **03 35 55.6 +0.3**
ISP pmax pmax
comp=Z,21nm,1.0s
ISP Isparta 20.74 279 *e*P **P** **03 35 55.5 +0.3**
comp=Z,21nm,1.0s
ISP Isparta 20.74 279 *e*P **P** **03 35 55.5 +0.3**
comp=Z,21nm,1.0s
MK31 Makanchi Array 20.93 56 ⇑P **P** **03 35 58.5 +1.4**
comp=Z,11nm,0.6s,baz=245,slow=9.8,SNR=132
MK31 Makanchi Array 20.93 56 *i* P **P** **03 35 58.1 +1.0**
MK31 pmax pmax
comp=Z,10.0nm,0.5s
MK31 Makanchi Array 20.93 56 *i* P **P** **03 35 58.1 +1.0**
comp=Z,10.0nm,0.5s
MKAR Makanchi Array 20.93 56 *i* P **P** **03 35 58.5 +1.4**
MKAR pmax pmax
comp=Z,12nm,0.7s
MKAR Makanchi Array 20.93 56 P **P** **03 35 58.5 +1.4**
comp=Z,11nm,0.7s,baz=244,slow=9.5,SNR=51
MKAR LR LR 03 44 41.0
comp=Z,209nm,18.0s,baz=252,slow=38
MKAR Makanchi Array 20.93 56 *e*Pn **P** **03 35 58.7 +1.6**
MKAR Makanchi Array 20.93 56 P **P** **03 35 58.5 +1.4**
MKAR *e*Pn Pn 03 35 58.7 -0.9
SOKR Solikamsk 21.98 0*c i*P P 03 36 14.1 +5.9
SOKR pmax pmax
comp=Z,40nm,0.9s
SOKR MLR MLR
comp=Z,430nm,20.0s
TLCR 22.21 299 ⇑*i*P **P** **03 36 12.7 +1.9**
OBN Obninsk 22.22 328 ⇓*e*P **P** **03 36 12.1 +1.2**
OBN *e* 03 36 33.3
OBN pmax pmax
comp=Z,28nm,1.2s
OBN MLR MLR
comp=Z,251nm,17.0s
OBN Obninsk 22.22 328 P **P** **03 36 11.5 +0.7**
comp=Z,13nm,0.4s,baz=125,slow=13,SNR=5.3
OBN LR LR 03 45 00.8
comp=Z,77nm,20.0s,baz=92,slow=37
OBN Obninsk 22.22 328 *e*P **P** **03 36 12.0 +1.2**
comp=Z,50nm,1.2s
OBN Obninsk 22.22 328 *e*P **P** **03 36 12.0 +1.1**
comp=Z,50nm,1.2s
MOS Moscow 22.24 331 *e*P **P** **03 36 13.1 +2.1**
MOS *e* 03 36 37.7
MOS *e*SS SS 03 40 55.3
MOS Moscow 22.24 331 *e*P **P** **03 36 13.1 +2.1**
TLB Topalu 22.66 297 ⇓*i*P **P** **03 36 16.9 +1.3**
CFR Carcaliu 22.68 298 ⇑*i*P **P** **03 36 18.1 +2.3**
MSAB Monastry St. A 22.75 296 ⇓*i*P **P** **03 36 18.7 +2.1**
ARG Arkhangelos 22.91 275 *e*P **P** **03 36 18.0 -0.3**
AKASG **Malin Array Be** 23.52 313 P **P** **03 36 24.0 -0.5**
comp=Z,19nm,0.8s,baz=113,slow=8.5,SNR=60
AKASG S **S** **03 40 40.2 +2.0**
comp=Z,0.3nm,0.3s,baz=117,slow=20,SNR=5.3
AKASG LR LR 03 47 44.5
comp=Z,176nm,18.8s,baz=90,slow=42
KIEV Kiev 23.53 313 *e*P **P** **03 36 23.7 -0.8**
KIEV pmax pmax

KIEV Kiev 23.53 313 *e*P P **03 36 23.7 -0.8**
comp=Z,31nm,0.6s
KIEV Kiev 23.53 313 *e*P P **03 36 23.7 -0.8**
comp=Z,31nm,0.6s
VRI Vrincioaia 23.77 300⇑*i*P P **03 36 27.8 +0.9**
ISR Istrita 23.78 298⇑*i*P P **03 36 29.9 +2.8**
PLOR Plostina 23.82 300⇑*i*P P **03 36 29.4 +2.0**
KARP Karpathos 23.82 274 *e*P P **03 36 27.2 -0.4**
PYUN Piuthan 23.92 106 *e*P P **03 36 27.8 -1.0**
comp=Z,80nm,0.7s
TESR Tescani 23.94 301⇓*i*P P **03 36 31.1 +2.6**
WMQ Urumqi 24.15 65 P P **03 36 34.3 +3.7**
WMQ S S **03 40 41.9 -6.6**
WMQ PMZ
comp=Z,14nm,1.0s
WMQ PMZ
comp=Z,140nm,4.7s
WMQ LN
comp=Z,310nm,8.5s
WMQ LE
comp=Z,360nm,11.4s
WMQ LZ
comp=Z,320nm,10.0s
MLR Muntele Rosu 24.25 299⇑*i*P P **03 36 34.3 +2.7**
MLR Muntele Rosu 24.25 299 P P **03 36 33.2 +1.6**
comp=Z,1.3nm,0.7s,baz=5.5,slow=7.5,SNR=13
MLR LR LR 03 48 01.7
comp=Z,40nm,18.6s,baz=70,slow=42
RDO Rodhopi 24.32 288 *e*P P **03 36 32.7 +0.6**
DANN Dangsing 24.39 104 *e*P P **03 36 33.1 -0.1**
comp=Z,41nm,0.8s
KOLN Koldanda 24.55 106 *e*P P **03 36 33.7 -0.9**
comp=Z,17nm,0.7s
ZKR Zakros 24.68 273 *e*P P **03 36 36.5 +1.1**
DOPR Dopca 24.71 300⇑*i*P P **03 36 37.1 +1.5**
VOIR 24.87 298⇓*i*P P **03 36 39.0 +1.8**
NVS Novosibirsk 24.90 38 *e*P P **03 36 40.2 +3.0**
NVS *e* 03 37 26.6
NVS pmax pmax
comp=Z,13nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.0s
SANT Santorini 24.98 277 *e*P P **03 36 39.1 +0.9**
SANT Santorini 24.98 277 *e*P P **03 36 38.3 +0.1**
comp=E,6.9nm,0.5s
SANT Santorini 24.98 277 *e*P P **03 36 38.3 +0.1**
comp=E,6.9nm,0.5s
PRGR Permogore 25.02 347 P P **03 36 37.4 -0.8**
PRGR pmax pmax
comp=Z,19nm,1.2s
PRGR Permogore 25.02 347 P P **03 36 37.4 -0.8**
comp=Z,19nm,1.2s
BURAR Bucovina Array 25.11 303⇑*i*P P **03 36 41.3 +1.9**
NPS Neapolis 25.12 274 *e*P P **03 36 40.1 +0.7**
ARR Arges 25.15 298⇑*i*P P **03 36 41.3 +1.6**
ZALV Zalesovo Beam 25.23 41 P P **03 36 41.4 +1.2**
comp=Z,4.4nm,0.5s,baz=252,slow=11,SNR=12
ZALV LR LR 03 47 59.4
comp=Z,288nm,21.1s,baz=250,slow=40
GKN Gorkha 25.23 104 *e*P P **03 36 40.9 +0.2**
comp=Z,32nm,0.6s
LAST Lasithi 25.25 274 *e*P P **03 36 39.7 -1.0**
DAMY Dhamar 25.46 209 *e*P P **03 36 43.8 +0.9**
comp=Z,18nm,0.7s
DAMY Dhamar 25.46 209 *e*P P **03 36 43.8 +0.9**
comp=Z,18nm,0.7s
NVR Nevrokopi 25.58 289 *e*P P **03 36 41.6 -2.0**
IDI Anoyia 25.68 275 P P **03 36 44.0 -0.6**
comp=Z,15nm,0.6s,baz=68,slow=8.8,SNR=19
LOT Lotru 25.77 298⇑*i*P P **03 36 46.4 +1.1**
DMN Daman 25.79 104 *e*P P **03 36 46.2 +0.3**
comp=Z,43nm,0.9s
SRS Serrai 25.79 288 *e*P P **03 36 46.1 +0.6**
SIVA Sivas 25.82 274 *e*P P **03 36 46.9 +1.2**
KKN Kakani 25.84 104 *e*P P **03 36 47.7 +1.5**
comp=Z,33nm,0.8s
PLG Polygyros 25.95 286 *e*P P **03 36 47.7 +0.7**
SOH Sokhos 25.99 288 *e*P P **03 36 48.3 +1.0**
PKIN Phulchoki 26.03 104 *e*P P **03 36 50.2 +2.2**
comp=Z,37nm,0.8s
VTS Vitosha 26.03 292⇑*i*P P **03 36 49.7 +1.9**
PKI Pulchoki 26.04 104 *e*P P **03 36 50.0 +1.8**
comp=Z,66nm,1.0s
VAM Vamos 26.20 275 *e*P P **03 36 46.3 -2.9**
HORT Hortiatis 26.20 287 *e*P P **03 36 49.5 +0.2**
GUN Gumba 26.24 103 *e*P P **03 36 51.3 +1.3**
comp=Z,94nm,0.9s
KNT Kendrikon 26.31 288 *e*P P **03 36 50.7 +0.5**
LVV L'vov 26.39 308 *e*P P **03 36 52.3 +1.5**
LVV L'vov 26.39 308 *e*P P **03 36 52.3 +1.5**
GZR Gura Zlata 26.46 298⇑*i*P P **03 36 54.9 +3.4**
JIRN Jiri 26.60 103 *e*P P **03 36 55.1 +1.8**
comp=Z,40nm,0.8s
DRGR 26.66 301⇑*i*P P **03 36 55.2 +1.9**
VLI Veliai 26.89 278 *e*P P **03 36 56.3 +0.9**
KYTH Kithira 26.91 278 *e*P P **03 36 54.1 -1.5**
TRPA Tarpa 26.98 304⇑*i*P P **03 36 59.8 +3.7**
KWP Kalwaria Pacla 27.18 307 *e*P P **03 36 59.8 +1.9**
KWP pmax pmax
comp=Z,18nm,1.0s
KWP Kalwaria Pacla 27.18 307 *e*P P **03 37 00.2 +2.3**
KWP Kalwaria Pacla 27.18 307⇑*i*P P **03 36 59.1 +1.2**
KWP Kalwaria Pacla 27.18 307 *e*P P **03 36 59.8 +1.9**
comp=Z,18nm,1.0s
KWP Kalwaria Pacla 27.18 307 *e*P P **03 36 59.8 +1.9**
comp=Z,18nm,1.0s
UZH Uzhgorod 27.23 305 *e*P P **03 37 01.4 +3.0**
UZH *e* 03 37 07.0
RAMN Ramite 27.27 104 *e*P P **03 37 01.1 +1.9**
comp=Z,29nm,0.7s
BZS Buzias 27.29 298⇑*i*P P **03 37 00.2 +1.3**
KOLS Kolonicke sedl 27.31 306 *e*P P **03 37 01.0 +1.9**
KOLS Kolonicke sedl 27.31 306 *e*P P **03 37 01.0 +1.9**
KOLS Kolonicke sedl 27.31 306 *e*P P **03 37 01.0 +1.9**
SIRR Siria 27.32 300⇑*i*P P **03 36 57.3 -1.9**
CRVS Cervenica-Dubn 27.82 305 *e*P P 03 37 08.6 +4.9
CRVS pmax pmax
comp=Z,7.0nm,1.3s
CRVS Cervenica-Dubn 27.82 305 *e*P P 03 37 08.6 +4.9
DSL Palaion Diasel 27.89 284 *e*P P **03 37 03.0 -1.5**
PDO Prodromos 27.91 283 *e*P P **03 37 04.2 -0.4**
ODAN Odare 27.92 104 *e*P P **03 37 08.2 +3.1**
TAPN Taplejung 27.93 102 *e*P P **03 37 08.4 +3.2**
IGT Igoumenitsa 28.43 285 *e*P P **03 37 08.4 -0.8**
NIE Niedzica 28.66 306 *e*P P **03 37 13.2 +2.0**
PKSM Moragy 29.40 299⇑*i*P P 03 37 12.1 -5.6
VYHS Vyhne 29.48 304 *e*P P **03 37 19.9 +1.5**
VYHS Vyhne 29.48 304 *e*P P **03 37 19.9 +1.5**
JOF Joensuu 29.69 337 *e*P P **03 37 22.0 +1.9**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 29.69 337 *e*p P **03 37 22.0 +1.9**
comp=Z,1.8nm,0.6s
FINES FINESS Array B 30.54 331 P P **03 37 28.1 +0.5**
comp=Z,1.1nm,0.5s,baz=141,slow=11,SNR=12
FINES LR LR 03 52 11.4
comp=Z,122nm,20.4s,baz=126,slow=41
KAF Kangasniemi 30.86 332 *e*P P **03 37 31.3 +0.8**
KAF pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 30.86 332 *e*p P **03 37 31.3 +0.8**
comp=Z,2.2nm,0.8s
DPC Dobruska-Polom 31.36 307 *e*P P **03 37 36.5 +1.4**
DPC *e* 03 37 54.2
DPC Dobruska-Polom 31.36 307 *e*P P **03 37 36.5 +1.4**
DPC *ex* x 03 37 54.2
DPC Dobruska-Polom 31.36 307 P P **03 37 36.5 +1.4**
UPC Upice 31.58 307 *e*P P **03 37 37.8 +0.9**
UPC Upice 31.58 307 *e*P P **03 37 37.8 +0.9**
UPC Upice 31.58 307 P P **03 37 37.8 +0.9**
ARSA Arzberg 31.59 301⇑*i*pP pP 03 37 38.8 -1.4
comp=Z,5.6nm,1.0s
ARSA Arzberg 31.59 301 P pP 03 37 38.8 -1.4
comp=Z,5.6nm,1.0s
SOKA Soboth 31.91 300⇑*i*pP P **03 37 41.4 +1.4**
comp=Z,4.9nm,1.0s
SOKA Soboth 31.91 300 P P **03 37 41.4 +1.4**
comp=Z,4.9nm,1.0s
PVCC Panska Ves 32.49 307 AMS AMS 03 52 50.0
comp=Z,300nm,18.9s
GERES GERESS Array B 32.90 304 P P **03 37 49.3 +0.6**
comp=Z,0.8nm,0.7s,baz=97,slow=8.5,SNR=7.8
GERES LR LR 03 53 04.9
comp=Z,80nm,18.0s,baz=74,slow=40

BRG Berggiesshubel 32.93 308 *e*P P **03 37 49.4 +0.6**
comp=Z,6.1nm,0.9s
BRG *e* 03 38 08.4
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 32.93 308 *e*P P **03 37 49.4 +0.6**
BRG *e* 03 38 08.4
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.1s
KHC Kasperske Hory 33.00 304 *e*P P 03 38 02.5 +13
KHC Kasperske Hory 33.00 304 *ex* x 03 38 02.5
KBA Koelnbreinsper 33.08 301⇑*i*pP pP 03 37 52.5 -0.9
comp=Z,5.4nm,0.9s
KBA Koelnbreinsper 33.08 301 P pP 03 37 52.5 -0.9
comp=Z,5.4nm,0.9s
GTA Gaotai 33.49 73 *e*P P 03 37 57.8 +3.8
GTA pP pP 03 38 03.3 +6.2
GTA sP sP 03 38 06.3 +8.0
GTA PMZ
comp=Z,2.0nm,0.8s
CLL Collm 33.57 308 *e*P P **03 37 56.0 +1.6**
CLL *e* 03 38 15.0
CLL Collm 33.57 308 *e*P P **03 37 56.0 +1.6**
CLL *e* 03 38 15.0
CLL *e*PP PP **03 39 10.0 -0.2**
CLL *e* 03 40 45.0
CLL *e*S S 03 43 26.0 +10
CLL Lm MLR 03 51 00.0
comp=Z,100nm,21.4s
MOY Mondy 33.90 51 *e*P P 03 38 02.1 +4.7
FETA Feichten 34.87 301⇓*i*P P **03 38 05.8 0.0**
comp=Z,7.5nm,1.4s
FETA Feichten 34.87 301 P P **03 38 05.8 0.0**
comp=Z,7.5nm,1.4s
FUORN Ofenpass-Fuorn 35.20 300 *e*P P **03 38 10.9 +2.1**
comp=Z,38nm,2.2s
FUORN Ofenpass-Fuorn 35.20 300 *e*P P **03 38 10.9 +2.1**
comp=Z,38nm,2.2s
ZAK Zakamensk 35.23 54 *e*P P 03 38 12.6 +3.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s
HFS Hagfors 35.25 324 P P **03 38 10.9 +2.1**
comp=Z,2.7nm,0.6s,baz=137,slow=7.4,SNR=9.0
HFS LR LR 03 53 48.1
comp=Z,178nm,20.5s,baz=96,slow=38
DAVA Damuels 35.44 301⇑*i*P P **03 38 10.7 -0.1**
comp=Z,7.2nm,1.0s
DAVA Damuels 35.44 301 P P **03 38 10.7 -0.1**
comp=Z,7.2nm,1.0s
DAVOX Davos/Dischmat 35.46 300 P P **03 38 09.1 -1.9**
DAVOX pmax pmax
comp=Z,1.0nm,0.4s
DAVOX Davos/Dischmat 35.46 300 P P **03 38 09.1 -1.9**
comp=Z,1.0nm,0.4s,baz=156,slow=10.0,SNR=3.5
ARCES ARCESS Array B 36.11 342 P P **03 38 17.3 +1.2**
comp=Z,2.5nm,0.6s,baz=141,slow=8.2,SNR=19
ARCES LR LR 03 55 03.3
comp=Z,117nm,19.2s,baz=135,slow=40
PGF Pioggiola 36.49 293 *e*P P **03 38 17.7 -2.1**
comp=Z,28nm,1.0s
PGF Pioggiola 36.49 293 *e*P P **03 38 17.7 -2.1**
PGF pmax pmax
comp=Z,28nm,1.0s
PGF Pioggiola 36.49 293 *e*P P **03 38 17.7 -2.1**
comp=Z,14nm,1.0s
PGF Pioggiola 36.49 293 *e*P P **03 38 17.7 -2.1**
comp=Z,28nm,1.0s
NB2 NORSAR Subarra 36.71 324 P P **03 38 22.2 +0.9**
comp=Z,2.2nm,0.7s,baz=111,slow=8.6
NB2 NORSAR Subarra 36.71 324 P P **03 38 22.2 +0.9**
comp=Z,2.2nm,0.7s,SNR=7.7
NOA NORSAR A-ring B 36.71 324 P P **03 38 20.1 -1.2**
comp=Z,1.6nm,0.9s,baz=110,slow=8.2,SNR=7.5
NOA LR LR 03 54 42.5
comp=Z,168nm,19.2s,baz=125,slow=38
CDF Champ du Feu 37.16 303 *e*P P **03 38 25.4 0.0**
comp=Z,8.6nm,0.9s
CDF Champ du Feu 37.16 303 *e*P P **03 38 25.4 0.0**
CDF pmax pmax
comp=Z,9.0nm,0.9s
CDF Champ du Feu 37.16 303 *e*P P **03 38 25.4 0.0**
comp=Z,4.3nm,0.9s
CDF Champ du Feu 37.16 303 *e*P P **03 38 25.4 0.0**
comp=Z,8.6nm,0.9s
ECH Echery 37.24 303 *e*P P **03 38 25.9 -0.1**
ECH pmax pmax
comp=Z,7.0nm,1.0s
ECH Echery 37.24 303 *e*P P **03 38 25.9 -0.1**
comp=Z,6.6nm,1.0s
ECH Echery 37.24 303 *e*P P **03 38 25.9 -0.1**
comp=Z,6.6nm,1.0s
SENIN Lac Senin/Sane 37.26 300 *e*P P **03 38 26.8 +0.4**
SENIN Lac Senin/Sane 37.26 300 *e*P P **03 38 26.8 +0.4**
SONM Songino Array 37.27 58 P P **03 38 29.0 +2.6**
SONM Songino Array 37.27 58 P P **03 38 29.0 +2.6**
comp=Z,1.1nm,0.7s,baz=270,slow=9.5,SNR=11
SONM LR LR 03 56 08.8
comp=Z,82nm,18.4s,baz=271,slow=40
SONM Songino Array 37.27 58 P P **03 38 29.0 +2.6**
SBF Sospel 37.43 295 *e*P P **03 38 27.3 -0.4**
SBF Sospel 37.43 295 *e*P P **03 38 27.3 -0.4**
SBF Sospel 37.43 295 *e*P P **03 38 27.3 -0.4**
SBF Sospel 37.43 295 *e*P P **03 38 27.3 -0.4**
HINF Hinteralfeld 37.47 302 *e*P P **03 38 27.9 0.0**
HINF Hinteralfeld 37.47 302 *e*P P **03 38 27.9 0.0**
HINF Hinteralfeld 37.47 302 *e*P P **03 38 27.9 0.0**
HINF Hinteralfeld 37.47 302 *e*P P **03 38 27.9 0.0**
ULN Ulaanbaatar 37.71 58⇑*e*P P **03 38 31.9 +1.7**
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 37.71 58 *e*P P **03 38 32.3 +2.1**
comp=Z,9.2nm,0.9s
ULN Ulaanbaatar 37.71 58 *e*P P **03 38 32.3 +2.1**
comp=Z,9.3nm,0.9s
LPG La Plagne 37.72 298 *e*P P **03 38 29.9 -0.5**
comp=Z,8.7nm,0.8s
LPG La Plagne 37.72 298 *e*P P **03 38 29.9 -0.5**
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 37.72 298 *e*P P **03 38 29.9 -0.5**
comp=Z,4.3nm,0.8s
LPG La Plagne 37.72 298 *e*P P **03 38 29.9 -0.5**
comp=Z,8.7nm,0.8s
LPL La Plagne 37.73 298 *e*P P **03 38 30.0 -0.4**
comp=Z,5.7nm,0.7s
LPL La Plagne 37.73 298 *e*P P **03 38 30.0 -0.4**
LPL pmax pmax
comp=Z,6.0nm,0.7s
LPL La Plagne 37.73 298 *e*P P **03 38 30.0 -0.4**
comp=Z,2.8nm,0.7s
LPL La Plagne 37.73 298 *e*P P **03 38 30.0 -0.4**
comp=Z,5.7nm,0.7s
KEST Kesra 37.76 282 P P **03 38 30.8 +0.1**
comp=Z,2.7nm,0.9s,baz=45,slow=2.9,SNR=5.6
KEST LR LR 03 55 58.5
comp=Z,26nm,20.1s,baz=310,slow=39
HAU Haudompre 37.79 302 *e*P P **03 38 30.8 +0.1**
comp=Z,10nm,0.8s
HAU *e*R
comp=Z,69nm,18.8s
HAU Haudompre 37.79 302 *e*P P **03 38 30.8 +0.1**
HAU pmax pmax
comp=Z,10.0nm,0.8s
HAU Haudompre 37.79 302 *e*P P **03 38 30.8 +0.1**
comp=Z,5.1nm,0.8s
HAU Haudompre 37.79 302 *e*P P **03 38 30.8 +0.1**
comp=Z,10nm,0.8s
MBDF Montbardon 37.79 297 *e*P P **03 38 29.9 -1.0**
comp=Z,13nm,0.7s
MBDF Montbardon 37.79 297 *e*P P **03 38 29.9 -1.0**
MBDF pmax pmax
comp=Z,13nm,0.7s
MBDF Montbardon 37.79 297 *e*P P **03 38 29.9 -1.0**
comp=Z,6.3nm,0.7s
MBDF Montbardon 37.79 297 *e*P P **03 38 29.9 -1.0**
comp=Z,13nm,0.7s
BNI Bardonecchia 37.82 298 *e*P P **03 38 31.8 +0.7**
BNI pmax pmax
comp=Z,8.0nm,1.2s
BNI Bardonecchia 37.82 298 *e*P P **03 38 31.8 +0.7**
comp=Z,8.0nm,1.2s
BNI Bardonecchia 37.82 298 *e*P P **03 38 31.8 +0.7**
comp=Z,8.0nm,1.2s
FRF La Foret Royal 38.04 295 *e*P P **03 38 31.9 -0.9**
comp=Z,16nm,0.8s

FRF La Foret Royal 38.04 295 *e*P P **03 38 31.9 -0.9**
FRF pmax pmax
comp=Z,16nm,0.8s
FRF La Foret Royal 38.04 295 *e*P P **03 38 31.9 -0.9**
comp=Z,7.8nm,0.8s
FRF La Foret Royal 38.04 295 *e*P P **03 38 31.9 -0.9**
comp=Z,16nm,0.8s
CABF La Chapelle 38.07 300 *e*P P **03 38 31.1 -2.0**
comp=Z,29nm,1.4s
CABF La Chapelle 38.07 300 *e*P P **03 38 31.1 -2.0**
CABF pmax pmax
comp=Z,29nm,1.4s
CABF La Chapelle 38.07 300 *e*P P **03 38 31.1 -2.0**
comp=Z,15nm,1.4s
CABF La Chapelle 38.07 300 *e*P P **03 38 31.1 -2.0**
comp=Z,29nm,1.4s
LMR La Mourre 38.18 295 *e*P P **03 38 33.6 -0.3**
LMR La Mourre 38.18 295 *e*P P **03 38 33.6 -0.3**
LMR La Mourre 38.18 295 *e*P P **03 38 33.6 -0.3**
LMR La Mourre 38.18 295 *e*P P **03 38 33.6 -0.3**
PAGF Fort de Pagny 38.18 303 *e*P P **03 38 34.6 +0.7**
comp=Z,3.6nm,0.6s
PAGF Fort de Pagny 38.18 303 *e*P P **03 38 34.6 +0.7**
comp=Z,1.8nm,0.6s
PAGF Fort de Pagny 38.18 303 *e*P P **03 38 34.6 +0.7**
comp=Z,3.6nm,0.6s
ORIF Oris-en-Rattie 38.40 297 *e*P P **03 38 35.2 -0.7**
ORIF *e*R
comp=Z,68nm,19.0s
ORIF Oris-en-Rattie 38.40 297 *e*P P **03 38 35.2 -0.7**
ORIF Oris-en-Rattie 38.40 297 *e*P P **03 38 35.2 -0.7**
ORIF Oris-en-Rattie 38.40 297 *e*P P **03 38 35.2 -0.7**
SFTF Sexfontaines 38.66 303 *e*P P **03 38 38.6 +0.6**
SFTF Sexfontaines 38.66 303 *e*P P **03 38 38.6 +0.6**
SFTF Sexfontaines 38.66 303 *e*P P **03 38 38.6 +0.6**
SMRF Simiane la Rot 38.75 296 *e*P P **03 38 37.8 -1.0**
comp=Z,15nm,1.1s
SMRF Simiane la Rot 38.75 296 *e*P P **03 38 37.8 -1.0**
comp=Z,7.5nm,1.1s
SMRF Simiane la Rot 38.75 296 *e*P P **03 38 37.8 -1.0**
comp=Z,15nm,1.1s
VIVF Saint-Julien-l 39.26 298 *e*P P **03 38 42.3 -0.8**
comp=Z,9.2nm,1.0s
VIVF Saint-Julien-l 39.26 298 *e*P P **03 38 42.3 -0.8**
VIVF pmax pmax
comp=Z,9.0nm,1.0s
VIVF Saint-Julien-l 39.26 298 *e*P P **03 38 42.3 -0.8**
comp=Z,4.6nm,1.0s
VIVF Saint-Julien-l 39.26 298 *e*P P **03 38 42.3 -0.8**
comp=Z,9.2nm,1.0s
SSB Saint Sauveur 39.29 298 *e*P P **03 38 43.7 +0.3**
SSB pmax pmax
comp=Z,8.0nm,1.0s
SSB Saint Sauveur 39.29 298 *e*P P **03 38 43.7 +0.3**
comp=Z,8.3nm,1.0s
SSB Saint Sauveur 39.29 298 *e*P P **03 38 43.7 +0.3**
comp=Z,8.3nm,1.0s
LOR Lormes 39.53 301 *e*P P **03 38 45.3 0.0**
comp=Z,8.7nm,1.0s
LOR *e*R
comp=Z,71nm,19.2s
LOR Lormes 39.53 301 *e*P P **03 38 45.3 0.0**
LOR pmax pmax
comp=Z,9.0nm,1.0s
LOR Lormes 39.53 301 *e*P P **03 38 45.3 0.0**
comp=Z,4.3nm,1.0s
LOR Lormes 39.53 301 *e*P P **03 38 45.3 0.0**
comp=Z,8.7nm,1.0s
SMF Signal de Mont 39.61 300 *e*P P **03 38 45.3 -0.6**
comp=Z,14nm,1.1s
SMF Signal de Mont 39.61 300 *e*P P **03 38 45.3 -0.6**
SMF pmax pmax
comp=Z,14nm,1.1s
SMF Signal de Mont 39.61 300 *e*P P **03 38 45.3 -0.6**
comp=Z,7.1nm,1.1s
SMF Signal de Mont 39.61 300 *e*P P **03 38 45.3 -0.6**
comp=Z,14nm,1.1s
SSF Saint Saulge 39.79 301 *e*P P **03 38 48.2 +0.8**
comp=Z,3.7nm,0.6s
SSF Saint Saulge 39.79 301 *e*P P **03 38 48.2 +0.8**
SSF pmax pmax
comp=Z,4.0nm,0.6s
SSF Saint Saulge 39.79 301 *e*P P **03 38 48.2 +0.8**
comp=Z,1.9nm,0.6s
SSF Saint Saulge 39.79 301 *e*P P **03 38 48.2 +0.8**
comp=Z,3.7nm,0.6s
AVF Avril sur Loir 39.92 301 *e*P P **03 38 47.4 -1.1**
comp=Z,13nm,1.0s
AVF Avril sur Loir 39.92 301 *e*P P **03 38 47.4 -1.1**
AVF pmax pmax
comp=Z,13nm,1.0s
AVF Avril sur Loir 39.92 301 *e*P P **03 38 47.4 -1.1**
comp=Z,6.7nm,1.0s
AVF Avril sur Loir 39.92 301 *e*P P **03 38 47.4 -1.1**
comp=Z,13nm,1.0s
LASF Ste Croix 39.95 296 *e*P P **03 38 47.7 -1.2**
LASF Ste Croix 39.95 296 *e*P P **03 38 47.7 -1.2**
LASF Ste Croix 39.95 296 *e*P P **03 38 47.7 -1.2**
BGF Bois d'Agland 40.30 300 *e*P P **03 38 51.6 -0.1**
comp=Z,4.9nm,0.7s
BGF Bois d'Agland 40.30 300 *e*P P **03 38 51.6 -0.1**
BGF pmax pmax
comp=Z,5.0nm,0.7s
BGF Bois d'Agland 40.30 300 *e*P P **03 38 51.6 -0.1**
comp=Z,2.5nm,0.7s
BGF Bois d'Agland 40.30 300 *e*P P **03 38 51.6 -0.1**
comp=Z,4.9nm,0.7s
TCF Toulx Ste Croi 40.77 300 *e*P P **03 38 55.2 -0.4**
TCF Toulx Ste Croi 40.77 300 *e*P P **03 38 55.2 -0.4**
TCF Toulx Ste Croi 40.77 300 *e*P P **03 38 55.2 -0.4**
TCF Toulx Ste Croi 40.77 300 *e*P P **03 38 55.2 -0.4**
CAF Calviac 41.08 298 *e*P P **03 38 57.8 -0.4**
comp=Z,13nm,1.1s
CAF Calviac 41.08 298 *e*P P **03 38 57.8 -0.4**
CAF pmax pmax
comp=Z,13nm,1.1s
CAF Calviac 41.08 298 *e*P P **03 38 57.8 -0.4**
comp=Z,6.6nm,1.1s
CAF Calviac 41.08 298 *e*P P **03 38 57.8 -0.4**
comp=Z,13nm,1.1s
MTLF Montolieu 41.26 296 *e*P P **03 38 58.7 -0.9**
comp=Z,17nm,1.2s
MTLF Montolieu 41.26 296 *e*P P **03 38 58.7 -0.9**
MTLF pmax pmax
comp=Z,17nm,1.2s
MTLF Montolieu 41.26 296 *e*P P **03 38 58.7 -0.9**
comp=Z,8.4nm,1.2s
MTLF Montolieu 41.26 296 *e*P P **03 38 58.7 -0.9**
comp=Z,17nm,1.2s
RJF Les Rejaudoux 41.40 299 *e*P P **03 39 00.2 -0.6**
RJF *e*R
comp=Z,62nm,18.5s
RJF Les Rejaudoux 41.40 299 *e*P P **03 39 00.2 -0.6**
RJF Les Rejaudoux 41.40 299 *e*P P **03 39 00.2 -0.6**
RJF Les Rejaudoux 41.40 299 *e*P P **03 39 00.2 -0.6**
CMAR Chiang Mai Arr 41.42 106 P P **03 39 00.8 -0.4**
comp=Z,1.0nm,0.3s,baz=300,slow=8.9,SNR=5.8
CMAR LR LR 04 00 45.6
comp=Z,77nm,19.4s,baz=317,slow=43
BOD Bodaibo 41.97 42 *e*P P **03 39 04.7 -0.5**
BOD pmax pmax
comp=Z,4.0nm,1.8s
HHC Hu-ho-hao-te 41.98 68 *e*P P **03 39 05.0 -0.7**
HHC sP **sP** **03 39 12.0 +1.9**
HHC PP PP **03 40 44.8 +2.1**
HHC S S **03 45 21.5 -3.0**
HHC SS SS 03 48 23.5 -7.6
HHC PMZ
comp=Z,13nm,1.1s
HHC PMZ
comp=Z,120nm,4.3s
HHC LN
comp=Z,230nm,12.7s
HHC LE
comp=Z,210nm,10.0s
HHC LZ
comp=Z,150nm,11.6s
LFF La Frestale 42.00 298 *e*P P **03 39 05.1 -0.6**
comp=Z,8.8nm,0.8s
LFF La Frestale 42.00 298 *e*P P **03 39 05.1 -0.6**
LFF pmax pmax
comp=Z,9.0nm,0.8s
LFF La Frestale 42.00 298 *e*P P **03 39 05.1 -0.6**
comp=Z,4.4nm,0.8s
LFF La Frestale 42.00 298 *e*P P **03 39 05.1 -0.6**
comp=Z,8.8nm,0.8s

LDF	**La Druitiere**	**42.05**	**304**	*eP*	**P**	**03 39 06.0**	**0.0**	
	comp=Z,4.5nm,0.6s							
LDF	**La Druitiere**	**42.05**	**304**	*eP*	**P**	**03 39 06.0**	**0.0**	
LDF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
LDF	**La Druitiere**	**42.05**	**304**	*eP*	**P**	**03 39 06.0**	**0.0**	
	comp=Z,2.2nm,0.6s							
LDF	**La Druitiere**	**42.05**	**304**	*eP*	**P**	**03 39 06.0**	**0.0**	
	comp=Z,4.5nm,0.6s							
FLN	**La Foliniere**	**42.26**	**304**	*eP*	**P**	**03 39 08.3**	**+0.6**	
	comp=Z,27nm,1.4s							
FLN				*eR*				
	comp=Z,88nm,19.5s							
FLN	**La Foliniere**	**42.26**	**304**	*eP*	**P**	**03 39 08.3**	**+0.6**	
FLN				pmax	pmax			
	comp=Z,27nm,1.4s							
FLN	**La Foliniere**	**42.26**	**304**	*eP*	**P**	**03 39 08.3**	**+0.6**	
	comp=Z,13nm,1.4s							
FLN	**La Foliniere**	**42.26**	**304**	*eP*	**P**	**03 39 08.3**	**+0.6**	
	comp=Z,27nm,1.4s							
MFF	**Saint Martin d**	**42.34**	**301**	*eP*	**P**	**03 39 07.8**	**-0.6**	
MFF	**Saint Martin d**	**42.34**	**301**	*eP*	**P**	**03 39 07.8**	**-0.6**	
MFF	**Saint Martin d**	**42.34**	**301**	*eP*	**P**	**03 39 07.8**	**-0.6**	
MFF	**Saint Martin d**	**42.34**	**301**	*eP*	**P**	**03 39 07.8**	**-0.6**	
GRR	**Gorron**	**42.56**	**304**	*eP*	**P**	**03 39 09.6**	**-0.5**	
	comp=Z,4.7nm,0.5s							
GRR	**Gorron**	**42.56**	**304**	*eP*	**P**	**03 39 09.6**	**-0.5**	
GRR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
GRR	**Gorron**	**42.56**	**304**	*eP*	**P**	**03 39 09.6**	**-0.5**	
	comp=Z,2.3nm,0.5s							
GRR	**Gorron**	**42.56**	**304**	*eP*	**P**	**03 39 09.6**	**-0.5**	
	comp=Z,4.7nm,0.5s							
EPF	**Esparros**	**42.66**	**296**	*eP*	**P**	**03 39 09.8**	**-1.4**	
EPF	**Esparros**	**42.66**	**296**	*eP*	**P**	**03 39 09.8**	**-1.4**	
EPF	**Esparros**	**42.66**	**296**	*eP*	**P**	**03 39 09.8**	**-1.4**	
EPF	**Esparros**	**42.66**	**296**	*eP*	**P**	**03 39 09.8**	**-1.4**	
ETSF	**Etsaut**	**43.34**	**296**	*eP*	**P**	**03 39 16.0**	**-0.6**	
	comp=Z,12nm,0.9s							
ETSF	**Etsaut**	**43.34**	**296**	*eP*	**P**	**03 39 16.0**	**-0.6**	
ETSF				pmax	pmax			
	comp=Z,12nm,0.9s							
ETSF	**Etsaut**	**43.34**	**296**	*eP*	**P**	**03 39 16.0**	**-0.6**	
	comp=Z,5.8nm,0.9s							
ETSF	**Etsaut**	**43.34**	**296**	*eP*	**P**	**03 39 16.0**	**-0.6**	
	comp=Z,12nm,0.9s							
SGMF	**Saint Gilles**	**43.70**	**304**	*eP*	**P**	**03 39 19.3**	**-0.1**	
	comp=Z,14nm,0.8s							
SGMF	**Saint Gilles**	**43.70**	**304**	*eP*	**P**	**03 39 19.3**	**-0.1**	
SGMF				pmax	pmax			
	comp=Z,14nm,0.8s							
SGMF	**Saint Gilles**	**43.70**	**304**	*eP*	**P**	**03 39 19.3**	**-0.1**	
	comp=Z,7.2nm,0.8s							
SGMF	**Saint Gilles**	**43.70**	**304**	*eP*	**P**	**03 39 19.3**	**-0.1**	
	comp=Z,14nm,0.8s							
SJPF	**Ste Jean**	**43.76**	**296**	*eP*	**P**	**03 39 19.4**	**-0.6**	
SJPF	**Ste Jean**	**43.76**	**296**	*eP*	**P**	**03 39 19.4**	**-0.6**	
SJPF	**Ste Jean**	**43.76**	**296**	*eP*	**P**	**03 39 19.4**	**-0.6**	
SJPF	**Ste Jean**	**43.76**	**296**	*eP*	**P**	**03 39 19.4**	**-0.6**	
SPITS	**Spitsbergen Ar**	**43.98**	**349**	P	**P**	**03 39 23.1**	**+1.8**	
	comp=Z,2.6nm,0.8s,baz=123,slow=10,SNR=5.2							
SPITS				LR	LR	04 01 18.6		
	comp=Z,2μm,20.5s,baz=330,slow=41							
QUIF	**Quistinic**	**44.16**	**303**	*eP*	**P**	**03 39 21.8**	**-1.2**	
	comp=Z,18nm,1.0s							
QUIF	**Quistinic**	**44.16**	**303**	*eP*	**P**	**03 39 21.8**	**-1.2**	
QUIF				pmax	pmax			
	comp=Z,18nm,1.0s							
QUIF	**Quistinic**	**44.16**	**303**	*eP*	**P**	**03 39 21.8**	**-1.2**	
	comp=Z,9.2nm,1.0s							
QUIF	**Quistinic**	**44.16**	**303**	*eP*	**P**	**03 39 21.8**	**-1.2**	
	comp=Z,18nm,1.0s							
ROSF	**Rostrenen**	**44.16**	**304**	*eP*	**P**	**03 39 23.3**	**+0.2**	
	comp=Z,14nm,0.8s							
ROSF	**Rostrenen**	**44.16**	**304**	*eP*	**P**	**03 39 23.3**	**+0.2**	
ROSF				pmax	pmax			
	comp=Z,14nm,0.8s							
ROSF	**Rostrenen**	**44.16**	**304**	*eP*	**P**	**03 39 23.3**	**+0.2**	
	comp=Z,6.9nm,0.8s							
ROSF	**Rostrenen**	**44.16**	**304**	*eP*	**P**	**03 39 23.3**	**+0.2**	
	comp=Z,14nm,0.8s							
ESDC	**Sonseca Array**	**46.67**	**292**	P	**P**	**03 39 42.3**	**-0.9**	
	comp=Z,2.7nm,0.8s,baz=61,slow=7.6,SNR=22							
TIXI	**Tiksi**	**49.16**	**23**⇑	*eP*	**P**	**03 40 02.7**	**+0.8**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TIXI	**Tiksi**	**49.16**	**23**	*eP*	**P**	**03 40 03.1**	**+1.2**	
	comp=Z,4.5nm,1.0s							
TIXI	**Tiksi**	**49.16**	**23**	*eP*	**P**	**03 40 03.1**	**+1.2**	
	comp=Z,4.5nm,1.0s							
YAK	**Yakutsk**	**49.75**	**36**	P	**P**	**03 40 07.8**	**+1.3**	
	comp=Z,28nm,0.5s,baz=0.3,slow=2.9,SNR=3.4							
EVO	**Evora**	**50.02**	**292**	*eP*	**P**	**03 40 07.8**	**-1.2**	
	comp=Z,40nm,1.4s							
EVO				*eR*				
	comp=Z,48nm,20.5s							
EVOP	**Sao Brissos**	**50.10**	**292**	*eP*	**P**	**03 40 07.8**	**-1.8**	
EVOP				pmax	pmax			
	comp=Z,40nm,1.4s							
EVOP	**Sao Brissos**	**50.10**	**292**	*eP*	**P**	**03 40 07.8**	**-1.8**	
	comp=Z,20nm,1.4s							
EVOP	**Sao Brissos**	**50.10**	**292**	*eP*	**P**	**03 40 07.8**	**-1.8**	
	comp=Z,40nm,1.4s							
NJ2	**Nanjing**	**50.45**	**77**	*eP*	**P**	**03 40 11.3**	**-1.0**	
NJ2				PMZ				
	comp=Z,30nm,0.8s							
KLR	**Kul'dur**	**53.56**	**52**	*eP*	**P**	**03 40 33.8**	**-1.4**	
KLR				MLR	MLR			
	comp=Z,1μm,12.0s							
TORD	**Torodi Ar. Bea**	**54.53**	**259**	P	**P**	**03 40 41.5**	**-1.3**	
	comp=Z,2.7nm,1.1s,baz=52,slow=6.3,SNR=9.6							
TORD				LR	LR	04 07 14.2		
	comp=Z,40nm,18.9s,baz=100,slow=40							
KSRS	**Korea Array**	**55.09**	**67**	LR	LR	04 05 13.6		
	comp=Z,117nm,18.2s,baz=293,slow=37							
USRK	**Ussuriysk Ar.**	**55.38**	**58**	P	**P**	**03 40 49.2**	**+0.7**	
	comp=Z,5.0nm,0.8s,baz=295,slow=6.4,SNR=13							
OPO	**Ambohidratompo**	**56.62**	**191**	P	**P**	**03 40 57.8**	**+0.1**	
	comp=Z,2.3nm,0.8s,baz=345,slow=12,SNR=3.0							
SEY	**Seymchan**	**59.66**	**32**	P	**P**	**03 41 20.1**	**+1.8**	
	comp=Z,2.5nm,0.9s,baz=286,slow=7.2,SNR=9.3							
YSS	**Yuzh-Sakhalins**	**61.25**	**51**	*eP*	**P**	**03 41 32.0**	**+2.5**	
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
BILL	**Bilibino**	**62.38**	**24**⇑	*eP*	**P**	**03 41 38.9**	**+2.1**	
BILL				*i*		03 42 17.3		
BILL				*i*		03 43 51.2		
BILL				pmax	pmax			
	comp=Z,11nm,2.0s							
BILL				MLR	MLR			
	comp=Z,136nm,21.0s							
MJAR	**Matsushiro Arr**	**62.90**	**63**	LR	LR	04 12 35.4		
	comp=Z,29nm,19.5s,baz=275,slow=39							
DBIC	**Dimbokro**	**63.58**	**257**	LR	LR	04 12 07.4		
	comp=Z,41nm,18.6s,baz=17,slow=39							
LIC	**Lamto**	**63.99**	**257**	*eP*	P	03 41 42.9	**-5.4**	
LIC	**Lamto**	**63.99**	**257**	*eP*	P	03 41 42.9	**-5.4**	
RES	**Resolute Bay**	**66.39**	**352**	LR	LR	04 13 55.4		
	comp=Z,99nm,20.9s,baz=12,slow=38							
PETK	**Petropavlovsk-**	**66.78**	**40**	LR	LR	04 12 53.8		
	comp=Z,83nm,18.6s,baz=298,slow=37							
LBTB	**Lobatse**	**68.86**	**210**	*eP*	**P**	**03 42 19.1**	**-0.1**	
LBTB				pmax	pmax			
	comp=Z,2.0nm,0.7s							
LBTB	**Lobatse**	**68.86**	**210**	*eP*	**P**	**03 42 19.1**	**-0.1**	
	comp=Z,1.7nm,0.7s							
LBTB	**Lobatse**	**68.86**	**210**	*eP*	**P**	**03 42 19.1**	**-0.1**	
	comp=Z,1.7nm,0.7s							
COLD	**Coldfoot**	**73.47**	**11**	*eP*	**P**	**03 42 48.1**	**+1.6**	
	comp=Z,6.9nm,0.8s							
COLD	**Coldfoot**	**73.47**	**11**	*eP*	**P**	**03 42 48.1**	**+1.6**	
	comp=Z,6.9nm,0.8s							
INK	**Inuvik**	**74.10**	**4**	*eP*	**P**	**03 42 51.4**	**+1.2**	
INK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
INK	**Inuvik**	**74.10**	**4**	P	**P**	**03 42 51.7**	**+1.5**	
	comp=Z,2.6nm,0.5s,baz=12,slow=4.7,SNR=26							
INK	**Inuvik**	**74.10**	**4**	*eP*	**P**	**03 42 51.4**	**+1.2**	
	comp=Z,2.9nm,0.6s							
INK	**Inuvik**	**74.10**	**4**	*eP*	**P**	**03 42 51.4**	**+1.2**	
	comp=Z,2.9nm,0.6s							
SCHQ	**Schefferville**	**76.01**	**330**	P	**P**	**03 43 01.7**	**+0.2**	
	comp=Z,2.4nm,0.8s,baz=40,slow=5.0,SNR=3.6							
ILAR	**Eielson Array**	**76.25**	**10**	P	**P**	**03 43 03.6**	**+0.9**	
	comp=Z,1.2nm,0.9s,baz=341,slow=4.3,SNR=11							
ILAR				LR	LR	04 20 23.1		
	comp=Z,58nm,19.2s,baz=328,slow=39							

YKA	**Yellowknife Ar**	**79.98**	**356**	P	**P**	**03 43 23.7**	**+0.4**	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**79.98**	**356**	P	**P**	**03 43 23.7**	**+0.4**	
	comp=Z,1.6nm,0.7s,baz=3.9,slow=5.6,SNR=43							
ULM	**Lac du Bonnet**	**89.23**	**343**	P	**P**	**03 44 10.2**	**-0.1**	
	comp=Z,1.3nm,0.6s,baz=43,slow=7.6,SNR=4.9							
ULM				LR	LR	04 28 00.0		
	comp=Z,40nm,18.6s,baz=30,slow=38							
WRA	**Warramunga Arr**	**92.60**	**113**	P	**P**	**03 44 26.8**	**+0.4**	
	comp=Z,0.3nm,0.5s,baz=324,slow=4.1,SNR=3.8							
ASAR	**Alice Springs**	**94.62**	**116**	P	**P**	**03 44 36.2**	**+0.5**	
	comp=Z,0.4nm,0.8s,baz=303,slow=5.2,SNR=4.2							
SLMT	**Seeley Lake**	**95.06**	**353**	*eP*	**P**	**03 44 38.7**	**+1.1**	
SLMT	**Seeley Lake**	**95.06**	**353**	*eP*	**P**	**03 44 38.7**	**+1.1**	
PDAR	**Pinedale Array**	**99.02**	**350**	LR	LR	04 34 42.0		
	comp=Z,39nm,19.6s,baz=25,slow=38							

IDC 19 04:05:31.4±3.5, 56.62S×25.19W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/16, mbtmp4.3/3, Error ellipse: s-maj=121.4km s-min=41.8km az=175.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**46.55**	**298**	P	P	04 14 00.9	-0.1
	7.4nm,0.3s,baz=123,slow=7.1,SNR=7.0						
LPAZ	**La Paz**	**51.62**	**303**	P	P	04 14 40.1	-0.2
	1.4nm,0.4s,baz=149,slow=5.9,SNR=26						
TORD	**Torodi Ar. Bea**	**73.02**	**27**	P	P	04 17 02.9	0.0
	0.5nm,0.8s,baz=194,slow=6.2,SNR=4.9						
YKA	**Yellowknife Ar**	**137.34**	**317**	PKP	PKPdf	04 24 56.5	+1.2
	0.1nm,0.4s,baz=115,slow=2.0,SNR=3.9						
ILAR	**Eielson Array**	**151.33**	**311**	PKPbc	PKPbc	04 25 24.4	-0.9
	0.2nm,0.7s,baz=116,slow=2.1,SNR=3.5						

IDC 19 04:15:53.6±4.4, 43.24N×145.50E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.3/30, mbtmp3.3/6, ML2.7/1, Error ellipse: s-maj=113.1km s-min=22.2km az=175.0
ISCJB 19 04:16:24.2±0.6, 44.5N±0.1×145.0E±0.1, h237km±7km, mb3.0/5, Error ellipse: s-maj=17.6km s-min=13.7km az=162.1
JMA 19 04:16:25.0±0.5, 44.59N×144.91E, h230km±5km, M3.0
ISC 19 04:16:25.0±0.9, 44.6N±0.1×144.92E±0.0, h229km±9km, n19, σ0.88/25, mb2.9/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**0.63**	**166**	P	**Pn**	**04 16 56.5**	**+0.6**
JTKR	**Abashiri--Toko**	**0.93**	**232**	P	**Pn**	**04 16 57.8**	**+0.5**
JTKR				*eS*	**S**	**04 17 22.9**	**+0.4**
JNK	**Nakash**	**0.97**	**188**	P	**Pn**	**04 16 58.4**	**+0.7**
JMP	**Maruseppu**	**1.24**	**245**	P	**Pn**	**04 16 59.5**	**+0.1**
NEM2	**Nemuro 2**	**1.33**	**153**	P	**Pn**	**04 16 59.8**	**-0.2**
NEM2				*eS*	**S**	**04 17 26.0**	**-1.2**
JAR	**Ashorobuto**	**1.50**	**214**	P	**Pn**	**04 17 02.4**	**+1.1**
JAK	**Akkeshi**	**1.56**	**186**	P	**Pn**	**04 17 02.1**	**+0.3**
JAK				*eS*	**S**	**04 17 30.1**	**-0.4**
JKK2	**Kamakawa 2**	**1.70**	**247**	P	**Pn**	**04 17 03.5**	**+0.5**
JSE	**Soyaes**	**1.71**	**285**	P	**Pn**	**04 17 02.3**	**-0.7**
ASAJ	**Asahikawa**	**1.72**	**256**	P	**Pn**	**04 17 03.6**	**+0.5**
ASAJ	**Asahikawa**	**1.72**	**256**	Sn	**Pn**	**04 17 02.2**	**-0.9**
	4.7nm,0.3s,baz=113,slow=18,SNR=18						
JOB	**Onbets**	**1.82**	**206**	P	**Pn**	**04 17 04.9**	**+0.8**
JOB				*eS*	**S**	**04 17 35.3**	**+0.8**
JCH	**Churui**	**2.24**	**211**	P	**Pn**	**04 17 08.2**	**+0.1**
JCH				*eS*	**S**	**04 17 40.5**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.76**	**216**	P	**Pn**	**04 17 13.5**	**-0.1**
JNBK				*eS*	**S**	**04 17 49.9**	**-1.7**
SONM	**Songino Array**	**26.68**	**291**	P	**P**	**04 21 42.8**	**-0.2**
	0.4nm,0.6s,baz=84,slow=8.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**39.23**	**306**	P	**P**	**04 23 33.1**	**+2.1**
	0.5nm,0.6s,baz=96,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**41.80**	**37**	P	**P**	**04 23 51.5**	**-0.3**
	0.3nm,0.9s,baz=280,slow=5.2,SNR=3.0						
MKAR	**Makanchi Array**	**42.79**	**296**	P	**P**	**04 24 00.2**	**+0.2**
	0.4nm,1.0s,baz=66,slow=8.3,SNR=2.7						
YKA	**Yellowknife Ar**	**56.03**	**33**	P	**P**	**04 25 38.9**	**-0.7**
	0.2nm,0.6s,baz=299,slow=6.8,SNR=4.8						

ISCJB 19 04:26:06.9±0.3, 32.71N±0.01×115.80W±0.02, h8km±2km, Error ellipse: s-maj=2.5km s-min=2.2km az=36.8
MEX 19 04:26:07.8±1.2, 32.92N×115.83W, h16km±25km, MD4.0
NEIC 19 04:26:08.5, 32.69N×115.86W, h10km, MD4.5(MEX), ML4.2(PAS), After PAS.
NEIC Felt [III] at Brawley, Campo, El Centro and Imperial; [II] at Palm Desert. Felt in Imperial, Orange, Riverside and San Diego Counties. Felt [III] at Mexicali, Baja California. Also felt at Tecate.
ECX 19 04:26:08.8±0.6, 32.70N×115.86W, h3km, MD4.1, ML4.3
ISC 19 04:26:08.2±0.8, 32.68N±0.02×115.86W±0.02, h13km±5km, n79, σ1.977/134, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**236**⇑	*iP*	**Pg**	**04 26 10.5**	**-0.4**
SGL	**Mount Signal**	**0.12**	**105**⇑	*iP*	**Pg**	**04 26 10.9**	**-0.6**
IBP	**Imperial Bould**	**0.19**	**264**	P	**Pg**	**04 26 12.7**	**+0.1**
	baz=0.2						
IBP				S	**Sg**	**04 26 15.9**	**+0.2**
	baz=0.2						
RMX	**La Rumorosa**	**0.20**	**247**⇑	*eP*	**Pg**	**04 26 12.8**	**0.0**
RMX				*eS*	**Sg**	**04 26 16.1**	**+0.2**
COK	**Cook Ranch**	**0.20**	**34**⇓	*iP*	**Pg**	**04 26 12.6**	**-0.2**
CRR	**Carrizo Plain**	**0.22**	**337**⇓	*iP*	**Pg**	**04 26 12.8**	**-0.3**
SWSC	**Sam W. Stewart**	**0.27**	**12**	P	**Pg**	**04 26 13.0**	**-0.8**
	baz=0.3						
MONP	**Monument Peak,**	**0.51**	**294**	P	**Pg**	**04 26 18.0**	**-0.4**
	baz=0.5						
MONP				S	**Sg**	**04 26 25.1**	**-0.1**
	baz=0.5						
CPBX	**Cerro Prieto**	**0.54**	**119**	*eP*	**Pg**	**04 26 17.5**	**-1.3**
CPBX				*eS*	**Sg**	**04 26 25.3**	**-0.7**
CPBX				AML	AML	04 26 29.4	
	comp=E,69μm,0.7s						
CPBX				*e*		04 26 29.4	
CPBX	**Cerro Prieto**	**0.54**	**119**	*eP*	**Pg**	**04 26 18.6**	**-0.2**
CPBX				*i S*	**Sb**	**04 26 28.1**	**+1.0**
MBIG	**Mexicali**	**0.62**	**116**	*eP*	**Pg**	**04 26 20.2**	**-0.2**
MBIG				*i S*	**Sg**	**04 26 29.2**	**+0.5**
BAR	**Barrett**	**0.68**	**270**⇑	*eP*	**Pg**	**04 26 21.3**	**-0.3**
BAR	**Barrett**	**0.68**	**270**	*eP*	**Pg**	**04 26 21.2**	**-0.3**
BAR				*eS*	**Sg**	**04 26 30.4**	**-0.1**
RDX	**Rancho Dawling**	**0.75**	**185**⇓	*eP*	**Pg**	**04 26 22.1**	**-0.7**
RDX				*eS*	**Sg**	**04 26 32.9**	**+0.1**
RDX				AML	AML	04 26 33.5	
	comp=N,4μm,0.3s						
RDX				⇓*e*		04 26 33.5	
CBX	**Cerro Bola**	**0.77**	**242**	*i P*	**Pg**	**04 26 22.8**	**-0.4**
CBX				*i S*	**Sg**	**04 26 32.8**	**-0.5**
CBX	**Cerro Bola**	**0.77**	**242**⇑	*eP*	**Pg**	**04 26 23.0**	**-0.2**
CBX				*eS*	**Sg**	**04 26 33.4**	**+0.1**
CBX				AML	AML	04 26 37.2	
	comp=E,18μm,0.7s						
CBX				⇓*e*		04 26 37.2	
CBX	**Cerro Bola**	**0.77**	**242**	*i P*	**Pg**	**04 26 22.8**	**-0.4**
CBX				*i S*	**Sg**	**04 26 32.8**	**-0.5**
EMX	**El Mayor**	**0.87**	**143**	*eP*	**Pg**	**04 26 22.8**	**-2.2**
EMX				*eS*	**Sg**	**04 26 34.8**	**-1.6**
GLA	**Glamis**	**0.95**	**67**	P	**Pb**	**04 26 24.4**	**-2.1**
	baz=0.9						
GLA				S	**Sg**	**04 26 36.6**	**-2.3**
	baz=0.9						
GLA	**Glamis**	**0.95**	**67**	*ePg*	**Pb**	**04 26 24.5**	**-2.0**
GLA				*eS*	**Sg**	**04 26 36.9**	**-2.1**
BC3	**Big Chuckawall**	**1.03**	**19**	P	**Pb**	**04 26 25.9**	**-2.0**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.05**	**332**	P	**Pb**	**04 26 26.5**	**-1.8**
	baz=1.1						
PFO				S	**Sb**	**04 26 40.2**	**-1.8**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.05**	**332**	*ePg*	**Pb**	**04 26 27.7**	**-0.6**
PFO				*eS*	**Sb**	**04 26 41.6**	**-0.4**
109C	**Camp Elliot, M**	**1.07**	**282**	P	**Pb**	**04 26 27.4**	**-1.1**
	baz=1.1						
109C				S	**Sb**	**04 26 41.3**	**-1.0**
	baz=1.1						
PBX	**Punta Banda**	**1.19**	**218**	*eP*	**Pn**	**04 26 30.2**	**-0.3**
PBX				*eS*	**Sb**	**04 26 45.8**	**0.0**
ECNX	**Esteban Cantu**	**1.20**	**212**	*eP*	**Pn**	**04 26 30.2**	**-0.5**
ECNX				*eS*	**Sb**	**04 26 46.4**	**+0.2**
ZAX	**El Zacaton**	**1.22**	**197**⇓	*eP*	**Pn**	**04 26 30.6**	**-0.3**
ZAX				*eS*	**Sb**	**04 26 46.8**	**+0.1**
ZAX				AML	AML	04 26 51.1	
	comp=N,4μm,0.6s						
ZAX				*e*		04 26 51.1	
ZAX				*e*		04 26 51.5	
ZAX				AML	AML	04 26 51.5	
	comp=E,6μm,0.7s						
BELC	**Belle Mtn. Jos**	**1.32**	**355**	P	**Pn**	**04 26 30.4**	**-2.1**
	baz=1.3						
ECBX	**El Chinero**	**1.39**	**150**	*eP*	**Pn**	**04 26 30.6**	**-2.6**
ECBX				*eS*	**Sn**	**04 26 50.2**	**-1.2**
ECBX				AML	AML	04 26 52.6	
	comp=N,4μm,0.2s						
ECBX				⇑*e*		04 26 52.6	
MURC	**Murrieta**	**1.45**	**310**	P	**Pn**	**04 26 32.4**	**-1.7**
	baz=1.4						
MURC				S	**Sn**	**04 26 52.7**	**-0.2**
	baz=1.4						
Y12C	**Blythe**	**1.55**	**46**	P	**Pn**	**04 26 33.5**	**-2.0**
	baz=1.5						
IRM	**Iron Mountain**	**1.59**	**22**	P	**Pn**	**04 26 34.2**	**-1.8**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.67**	**168**	*eP*	**Pn**	**04 26 36.4**	**-1.0**
SPIG				*i S*	**Sn**	**04 26 58.9**	**+0.2**
SPIG	**San Pedro Mart**	**1.67**	**168**	*eP*	**Pn**	**04 26 36.4**	**-1.0**
SPIG				*i S*	**Sn**	**04 26 58.9**	**+0.2**
SPX	**San Pedro Mart**	**1.67**	**168**	*eS*	**Sb**	**04 27 01.1**	**+1.2**
SPX	**San Pedro Mart**	**1.67**	**168**	*eP*	**Pb**	**04 26 38.8**	**-0.1**
BBRC	**Big Bear Solar**	**1.81**	**331**	P	**Pn**	**04 26 38.2**	**-1.0**
	baz=1.8						
GMRC	**Granite Mounta**	**2.10**	**5**	P	**Pn**	**04 26 41.5**	**-1.7**
	baz=2.1						
BFSC	**Mount Baldy Ra**	**2.16**	**316**	Sb	**Sb**	**04 27 14.3**	**+0.3**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.18**	**350**	P	**Pn**	**04 26 42.7**	**-1.5**
	baz=2.2						
SCI	**San Clemente I**	**2.28**	**278**	P	**Pn**	**04 26 45.7**	**+0.2**
	baz=2.3						
FMP	**Fort Macarthur**	**2.28**	**297**	Pb	**Pb**	**04 26 48.6**	**-0.6**
	baz=2.3						
FMP				Sb	**Sb**	**04 27 17.8**	**+0.5**
	baz=2.3						
RRX	**Edison Barstow**	**2.39**	**337**	Pg	**Pb**	**04 26 51.7**	**+0.6**
	baz=2.4						
MWC	**Mount Wilson**	**2.39**	**311**	*ePn*	**Pn**	**04 26 47.9**	**+0.7**
MWC				*eS*	**Sb**	**04 27 21.7**	**+0.9**
PASC	**Pasadena Art C**	**2.44**	**308**	*ePn*	**Pn**	**04 26 48.4**	**+0.6**
PASC				*eS*	**Sb**	**04 27 22.6**	**+0.6**
LDFC	**Landfair**	**2.47**	**14**	*ePn*	**Pn**	**04 26 47.7**	**-0.6**
LDFC				*ePg*	**Pg**	**04 26 54.7**	**-0.9**
LDFC				*eS*	**Sn**	**04 27 18.4**	**+0.1**
DECC	**Green Verdugo**	**2.59**	**308**	Pb	**Pb**	**04 26 53.7**	**-0.8**
	baz=2.6						
DECC				Sb	**Sb**	**04 27 27.5**	**+1.3**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.68**	**105**	P	**Pn**	**04 26 48.7**	**-2.4**
	baz=2.7						
214A	**Organ Pipe Nat**	**2.68**	**105**	*ePn*	**Pn**	**04 26 48.5**	**-2.6**
214A				*ePg*	**Pg**	**04 26 59.0**	**-0.6**
214A				*eS*	**Sg**	**04 27 38.1**	**+3.6**
GSC	**Goldstone, Bar**	**2.73**	**344**	Pg	**Pb**	**04 26 58.1**	**+1.2**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.73**	**344**	*ePn*	**Pn**	**04 26 50.8**	**-1.0**
GSC				*ePg*	**Pb**	**04 26 57.4**	**+0.5**
GSC				*eS*	**Sg**	**04 27 34.5**	**-1.4**
EDW2	**Edwards Air Fo**	**2.82**	**322**	Sb	**Sb**	**04 27 34.1**	**+1.2**
	baz=2.8						
OSI	**Osito Audit: C**	**3.07**	**310**	Sb	**Sb**	**04 27 41.5**	**+1.5**
	baz=3.1						
OSI	**Osito Audit: C**	**3.07**	**310**	*ePn*	**Pn**	**04 26 56.6**	**+0.2**
OSI				*eS*	**Sb**	**04 27 38.3**	**-1.7**
ARVC	**Arvin**	**3.47**	**315**	P	**Pn**	**04 27 01.3**	**-0.5**
	baz=3.5						
ARVC				Sb	**Sb**	**04 27 53.8**	**+2.3**
	baz=3.5						
MPMC	**Manual Prospec**	**3.63**	**339**	P	**Pn**	**04 27 03.3**	**-0.9**
	baz=3.6						
ISA	**Isabella, Lake**	**3.68**	**325**	*ePn*	**Pn**	**04

CCSP					AML	AML	04 48 30.6	
	comp=E,7μm,0.4s							
TALC	**Talca**	**1.47**	**75**	*i* P	Pn		04 48 16.6	-1.0
TALC				*i* S	Sn		04 48 35.5	-0.6
TALC				AML	AML		04 48 42.7	
	comp=N,4μm,0.5s							
NICH	**Los Niches**	**1.92**	**66**	*i* P	Pn		04 48 24.1	+0.3
NICH				*i* S	Sn		04 48 48.0	+0.7
NICH				AML	AML		04 48 54.2	
	comp=E,3μm,0.5s							
PEL	**Peldehue**	**3.45**	**41**	AML	AML		04 49 51.7	
	comp=N,548nm,0.6s							

CASC 19 05:01:27.7±3.8, 9°55'N×84°19'W, h27km±8km, MD3.5, 2C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
QCR	**Quepos**	**0.13**	**171**	*eP*	Pb	05 01 32.8	-0.1
QCR				*eS*	Sb	05 01 37.2	+0.9
SJS	**Escuela Geolog**	**0.41**	**19**↑	*eP*	Pb	05 01 36.9	+0.2
BUS	**Buena Vista**	**0.42**	**90**↓	*iP*	Pb	05 01 36.9	-0.4
BUS				*eS*	Sn	05 01 45.1	-0.8
URSC	**Urasca**	**0.49**	**55**↓	*iP*	Pb	05 01 38.1	0.0
CGA2	**Cerro Gallo 2**	**0.54**	**329**↑	*iP*	Pb	05 01 38.9	+0.1
CGA2				*eS*	Sn	05 01 47.8	-0.4
JCR	**Jicaral**	**0.96**	**288**↓	*eP*	Pn	05 01 44.0	-1.5
JCR				*eS*	Sb	05 01 58.2	0.0
JTS	**JuntasAbangare**	**1.05**	**314**	*eP*	Pn	05 01 46.7	-0.1
JTS				*eS*	Sb	05 02 02.2	+1.3
ACR	**Cerro Adams**	**1.34**	**132**	*eP*	Pn	05 01 48.9	-1.9
ACR				*eS*	Sn	05 02 06.0	-1.8
BRU2	**Volcan**	**1.66**	**117**	*eP*	Pn	05 01 54.4	-0.8
BRU2				*eS*	Sn	05 02 16.6	+0.8
TBS2		**1.69**	**116**	*eP*	Pn	05 01 56.1	+0.4
TBS2				*eS*	Sn	05 02 16.9	+0.3
BRU	**Baru**	**1.77**	**115**	*eP*	Pn	05 01 56.3	-0.8
BRU				*eS*	Sn	05 02 20.6	+1.5

*ISCJB **19** 05:02:49.9±0.4, 39°.86N±0°.02×26°.12E±0°.03, h8km±3km, Error ellipse: s-maj=3.7km s-min=3.0km az=168.1*
*ATH **19** 05:02:49.6, 39°.84N×26°.15E, h27km, MD3.0/6*
*DDA **19** 05:02:49.2, 39°.80N×26°.20E, h7km, MD3.0*
*ISK **19** 05:02:50.3, 39°.93N×26°.25E, h5km, MD2.9*
*CSEM **19** 05:02:50.5±0.2, 39°.87N×26°.10E, h10km, MD2.9, Error ellipse: s-maj=5.4km s-min=4.1km az=71.0*
*THE **19** 05:02:50.8, 39°.81N×26°.13E, h20km±3km, ML2.5/6, Error ellipse: s-maj=3.4km s-min=0.9km az=248.0*

ISC 19 05:02:49.9±0.8, 39°.84N±0°.02×26°.15E±0°.02, h10km±6km, n86, σ0°.97/117, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.07**	**270**	*iP*	**Pg**	**05 02 52.4**	**+0.2**
BOZC				*iS*	**Sg**	**05 02 54.3**	**+0.3**
EZN	**Ezine**	**0.14**	**97**	*ePG*	**Pg**	**05 02 52.4**	**-0.7**
EZN	**Ezine**	**0.14**	**97**	*ePG*	**Pg**	**05 02 52.4**	**-0.7**
PRK	**Paraskevi**	**0.60**	**171**	P	**Pg**	**05 03 01.8**	**+0.2**
PRK				S	**Sb**	**05 03 10.7**	**-0.3**
PRK	**Paraskevi**	**0.60**	**171**	*ePN*	**Pg**	**05 03 01.8**	**+0.2**
PRK				*eSN*	**Sb**	**05 03 10.8**	**-0.3**
PRK	**Paraskevi**	**0.60**	**171**	P	**Pg**	**05 03 01.8**	**+0.2**
PRK				S	**Sb**	**05 03 10.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.61**	**24**	*ePG*	**Pg**	**05 03 01.2**	**-0.5**
GELI				*eSG*	**Sg**	**05 03 09.8**	**0.0**
GELI	**Tayfur-Gelibol**	**0.61**	**24**	*ePg*	**Pg**	**05 03 01.2**	**-0.5**
GELI				*eSg*	**Sg**	**05 03 09.8**	**0.0**
LPK	**Lapseki**	**0.71**	**41**	*ePG*	**Pg**	**05 03 03.2**	**-0.4**
LPK	**Lapseki**	**0.71**	**41**	*ePg*	**Pg**	**05 03 03.2**	**-0.4**
LIA	**Limnos Island**	**0.75**	**275**	P	**Pg**	**05 03 04.8**	**+0.5**
LIA				S	**Sb**	**05 03 15.3**	**+0.1**
LIA	**Limnos Island**	**0.75**	**275**	*ePN*	**Pg**	**05 03 04.8**	**+0.5**
LIA				*eSN*	**Sb**	**05 03 15.2**	**+0.1**
LIA	**Limnos Island**	**0.75**	**275**	*ePn*	**Pg**	**05 03 04.8**	**+0.5**
LIA				*eSn*	**Sb**	**05 03 15.2**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**323**	P	**Pg**	**05 03 05.2**	**+0.1**
SMTH				S	**Sb**	**05 03 16.5**	**+0.1**
SMTH	**Samothraki Isl**	**0.79**	**323**	*ePN*	**Pg**	**05 03 05.2**	**+0.1**
SMTH				*eSN*	**Sg**	**05 03 16.0**	**+0.6**
SMTH	**Samothraki Isl**	**0.79**	**323**	P	**Pg**	**05 03 05.2**	**+0.1**
SMTH				*eSn*	**Sg**	**05 03 16.0**	**+0.6**
SMTH				S	**Sb**	**05 03 16.5**	**+0.1**
ERIK	**Erikli-Kesan**	**0.87**	**18**	*ePG*	**Pg**	**05 03 06.0**	**-0.7**
ERIK				*eSG*	**Sg**	**05 03 17.7**	**-0.5**
ERIK	**Erikli-Kesan**	**0.87**	**18**	*ePg*	**Pg**	**05 03 06.0**	**-0.7**
ERIK				*eSg*	**Sg**	**05 03 17.7**	**-0.5**
ENEZ	**Enez**	**0.89**	**0**	*ePG*	**Pg**	**05 03 07.1**	**0.0**
ENEZ	**Enez**	**0.89**	**0**	*ePg*	**Pg**	**05 03 07.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.04**	**58**	*ePG*	**Pg**	**05 03 09.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.04**	**58**	*ePg*	**Pg**	**05 03 09.3**	**-0.6**
ALN	**Alexandroupoli**	**1.06**	**356**	P	**Pg**	**05 03 09.7**	**-0.6**
ALN				S	**Sg**	**05 03 24.3**	**+0.3**
ALN	**Alexandroupoli**	**1.06**	**356**	*ePN*	**Pg**	**05 03 09.6**	**-0.7**
ALN				*eSN*	**Sb**	**05 03 24.6**	**+0.5**
ALN	**Alexandroupoli**	**1.06**	**356**	P	**Pg**	**05 03 09.7**	**-0.6**
ALN				S	**Sg**	**05 03 24.3**	**+0.3**
ALN				*eSn*	**Sb**	**05 03 24.6**	**+0.5**
BALY	**Balya**	**1.14**	**95**	*iP*	**Pb**	**05 03 11.5**	**-0.1**
BALY				*iS*	**Sb**	**05 03 25.6**	**-0.9**
BALY	**Balya**	**1.14**	**95**	*iP*	**Pb**	**05 03 11.5**	**-0.1**
BALY				*iS*	**Sb**	**05 03 25.6**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.15**	**43**	*ePG*	**Pb**	**05 03 11.5**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.15**	**43**	*ePg*	**Pb**	**05 03 11.5**	**-0.5**
SART	**Tekirdag**	**1.16**	**43**	*iP*	**Pb**	**05 03 11.0**	**-1.0**
SART				*iS*	**Sb**	**05 03 27.5**	**+0.4**
SART	**Tekirdag**	**1.16**	**43**	*iP*	**Pb**	**05 03 11.0**	**-1.0**
SART				*iS*	**Sb**	**05 03 27.5**	**+0.4**
MRMT	**Marmara Adasi**	**1.34**	**55**	*ePN*	**Pn**	**05 03 14.0**	**-0.7**
MRMT	**Marmara Adasi**	**1.34**	**55**	*ePn*	**Pn**	**05 03 14.0**	**-0.7**
BALB	**Balikesir**	**1.35**	**98**	*ePN*	**Pg**	**05 03 16.4**	**+0.6**
BALB	**Balikesir**	**1.35**	**98**	*ePn*	**Pg**	**05 03 16.4**	**+0.6**
RDO	**Rodhopi**	**1.38**	**340**	P	**Pn**	**05 03 15.0**	**-0.2**
RDO				S	**Sb**	**05 03 33.1**	**-0.4**
RDO	**Rodhopi**	**1.38**	**340**	*ePN*	**Pn**	**05 03 15.4**	**+0.2**
RDO				*eSN*	**Sb**	**05 03 33.9**	**+0.4**
RDO	**Rodhopi**	**1.38**	**340**	P	**Pn**	**05 03 15.0**	**-0.2**
RDO	**Rodhopi**	**1.38**	**340**	*ePn*	**Pn**	**05 03 15.4**	**+0.2**
RDO				S	**Sb**	**05 03 33.1**	**-0.4**
RDO				*eSn*	**Sb**	**05 03 33.9**	**+0.4**
EDC	**Edincik**	**1.41**	**68**	*ePN*	**Pb**	**05 03 16.7**	**+0.4**
EDC	**Edincik**	**1.41**	**68**	*ePn*	**Pb**	**05 03 16.7**	**+0.4**
BNT	**Bandirma**	**1.45**	**69**	*ePN*	**Pn**	**05 03 16.8**	**+0.6**
BNT	**Bandirma**	**1.45**	**69**	*ePn*	**Pn**	**05 03 16.8**	**+0.6**
CHOS	**Chios island**	**1.46**	**183**	P	**Pn**	**05 03 15.8**	**-0.5**
CHOS				S	**Sn**	**05 03 32.4**	**-3.0**
CHOS	**Chios island**	**1.46**	**183**	*ePN*	**Pn**	**05 03 16.0**	**-0.3**
CHOS				*eSN*	**Sn**	**05 03 35.2**	**-0.2**
CHOS	**Chios island**	**1.46**	**183**	*ePn*	**Pn**	**05 03 16.0**	**-0.3**
CHOS				S	**Sn**	**05 03 32.4**	**-3.0**
CHOS				*eSn*	**Sn**	**05 03 35.2**	**-0.2**
URLA	**Izmir**	**1.52**	**167**	*iP*	**Pn**	**05 03 16.6**	**-0.5**
URLA				*iS*	**Sn**	**05 03 36.7**	**-0.2**
URLA	**Izmir**	**1.52**	**167**	*iP*	**Pn**	**05 03 16.6**	**-0.5**
URLA				*iS*	**Sn**	**05 03 36.7**	**-0.2**
TKR	**Tekirdag**	**1.56**	**42**	*ePN*	**Pb**	**05 03 19.0**	**+0.1**
TKR	**Tekirdag**	**1.56**	**42**	*ePn*	**Pb**	**05 03 19.0**	**+0.1**
AKS	**Akhisar**	**1.61**	**126**	*ePN*	**Pb**	**05 03 20.3**	**+0.6**
AKS	**Akhisar**	**1.61**	**126**	*ePn*	**Pb**	**05 03 20.3**	**+0.6**
BLCB	**Balcova**	**1.61**	**154**	*ePN*	**Pg**	**05 03 21.9**	**+1.1**
BLCB	**Balcova**	**1.61**	**154**	*ePn*	**Pg**	**05 03 21.9**	**+1.1**
KCTX	**Karacabey (Bur**	**1.75**	**75**	*ePN*	**Pb**	**05 03 21.6**	**-0.4**
KCTX	**Karacabey (Bur**	**1.75**	**75**	*ePn*	**Pb**	**05 03 21.6**	**-0.4**
EDRB	**Edirne**	**2.05**	**12**	*ePN*	**Pn**	**05 03 26.2**	**+1.7**
EDRB	**Edirne**	**2.05**	**12**	*ePn*	**Pn**	**05 03 26.2**	**+1.7**
PHSR	**Pinarhisar**	**2.07**	**30**	*ePN*	**Pn**	**05 03 26.5**	**+1.8**
PHSR	**Pinarhisar**	**2.07**	**30**	*ePn*	**Pn**	**05 03 26.5**	**+1.8**
SLVT	**Silivri**	**2.10**	**48**	*ePN*	**Pn**	**05 03 26.7**	**+1.7**
SLVT	**Silivri**	**2.10**	**48**	*ePn*	**Pn**	**05 03 26.7**	**+1.7**
MDNY	**Mudanya-Bursa**	**2.16**	**75**	*ePN*	**Pn**	**05 03 27.7**	**+1.8**
MDNY	**Mudanya-Bursa**	**2.16**	**75**	*ePn*	**Pn**	**05 03 27.7**	**+1.8**
ARMT	**Armutlu**	**2.20**	**70**	*ePN*	**Pn**	**05 03 28.3**	**+1.8**
ARMT	**Armutlu**	**2.20**	**70**	*ePn*	**Pn**	**05 03 28.3**	**+1.8**
CTKS	**Kestanelik-??a**	**2.27**	**51**	*ePN*	**Pn**	**05 03 29.1**	**+1.6**
CTKS	**Kestanelik-??a**	**2.27**	**51**	*ePn*	**Pn**	**05 03 29.1**	**+1.6**
CTYL	**Yal??k??y-??at**	**2.31**	**44**	*ePN*	**Pn**	**05 03 29.9**	**+2.0**
CTYL	**Yal??k??y-??at**	**2.31**	**44**	*ePn*	**Pn**	**05 03 29.9**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**2.33**	**144**	*ePN*	**Pb**	**05 03 32.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.33**	**144**	*ePn*	**Pb**	**05 03 32.1**	**+0.1**
KULA	**Kula-Manisa**	**2.36**	**123**	*ePN*	**Pb**	**05 03 32.0**	**-0.4**
KULA	**Kula-Manisa**	**2.36**	**123**	*ePn*	**Pb**	**05 03 32.1**	**-0.4**
BGKT	**Bogazkoy**	**2.41**	**55**	*ePN*	**Pn**	**05 03 30.9**	**+1.6**
BGKT	**Bogazkoy**	**2.41**	**55**	*ePn*	**Pn**	**05 03 30.9**	**+1.6**
ISK	**Istanbul-Kandi**	**2.54**	**60**	*ePN*	**Pn**	**05 03 32.8**	**+1.8**
ISK	**Istanbul-Kandi**	**2.54**	**60**	*ePn*	**Pn**	**05 03 32.8**	**+1.8**
TVSB	**Tavsanli**	**2.59**	**98**	*ePN*	**Pn**	**05 03 33.3**	**+1.4**
TVSB	**Tavsanli**	**2.59**	**98**	*ePn*	**Pn**	**05 03 33.3**	**+1.4**
KLYT	**Kilyos**	**2.62**	**56**	*ePN*	**Pn**	**05 03 34.0**	**+1.8**
KLYT	**Kilyos**	**2.62**	**56**	*ePn*	**Pn**	**05 03 34.0**	**+1.8**
VAY	**Valandovo**	**3.10**	**300**	*i* Pg	Pg	05 03 58.4	+9.1
VAY				*i* Sg	Sn	05 04 05.4	-11
VAY				*eLg*	Lg	05 04 05.5	
	comp=E,12nm,0.5s						
VAY				*eLg*	Lg	05 04 05.8	
	comp=N,17nm,0.7s						
VAY	**Valandovo**	**3.10**	**300**	*eLg*	Lg	05 04 05.8	
	comp=N,17nm,0.7s						
SKO	**Skopje**	**4.16**	**302**	*i* Pg	**Pg**	**05 04 08.9**	**-0.6**
SKO				*i* Sg	Sn	05 04 23.1	-19
SKO				*eLg*	Lg	05 04 26.3	
	comp=E,6.0nm,0.5s						
SKO				*eLg*	Lg	05 04 26.5	
	comp=N,10nm,0.5s						
SKO	**Skopje**	**4.16**	**302**	*i* Pg	**Pg**	**05 04 08.9**	**-0.6**
SKO				*eLg*	Lg	05 04 26.5	
	comp=N,10nm,0.5s						

NNC 19 05:04:42.2±3.7, 36°.92N×71°.06E, h0km, mb3.6, mpv3.2, 4C-5D, Error ellipse: s-maj=29.6km s-min=12.3km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.58**	**318**	↓Pn	Pn	05 05 24.9	-0.5
	6.3nm,0.4s						
DZET				↑Sn	Sn	05 05 59.2	+1.6
	12nm,0.3s						
SFK	**Sufi-Kurgan**	**3.63**	**31**	↑Pn	Pn	05 05 41.0	+1.0
SFK				↓Sn	Sn	05 06 26.5	+2.6
	5.6nm,0.3s						
MNAS	**Manas**	**5.67**	**11**	↓Pn	Pn	05 06 07.2	-0.7
	1.1nm,0.5s						
MNAS				↑Sn	Sn	05 07 12.8	-1.1
	2.3nm,0.7s						
KK31	**Karatay Array**	**6.19**	**356**	Pn	Pn	05 06 13.8	-1.1
	1.3nm,0.3s,baz=182,slow=13,SNR=18						
KK31				↑Sn	Sn	05 07 24.9	-1.5
	1.2nm,0.5s,baz=184,slow=24,SNR=6.2						
AAK	**Ala-Archa**	**6.29**	**24**	↓Pn	Pn	05 06 14.7	-1.7
	0.5nm,0.4s						
AAK				↓Sn	Sn	05 07 30.3	+1.1
	5.1nm,1.0s						

GUC 19 05:08:43.3±0.6, 34°.34S×72°.07W, h24km±8km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**134**	*i* P	Pb	05 08 59.7	-1.5
NICH				*i* S	Sb	05 09 12.3	-1.2
NICH				AML	AML	05 09 14.5	
	comp=N,3μm,0.7s						
TALC	**Talca**	**1.11**	**161**	*i* P	Pn	05 09 02.1	-1.3
TALC				*i* S	Sb	05 09 16.9	-1.1
TALC				AML	AML	05 09 17.9	
	comp=E,4μm,0.1s						
LNCH	**Linares**	**1.55**	**166**	*i* P	Pn	05 09 09.2	-0.2
LNCH				*i* S	Sn	05 09 28.5	-0.3
LNCH				AML	AML	05 09 33.5	
	comp=E,1μm,0.8s						
CLCH	**Cerro Calan**	**1.59**	**54**	*i* P	Pn	05 09 09.6	-0.4
CLCH				*i* S	Sn	05 09 30.3	+0.4
SJCH	**San Jose de Ma**	**1.59**	**64**	*i* P	Pn	05 09 09.3	-0.8
SJCH				*i* S	Sn	05 09 29.9	-0.1
PEL	**Peldehue**	**1.66**	**44**	*i* P	Pn	05 09 11.2	+0.2
PEL				*i* S	Sn	05 09 31.8	+0.1

*ATH **19** 05:13:04.6, 38°.29N×20°.37E, h10km±1km*
*THE **19** 05:13:05.7, 38°.30N×20°.45E, h0km±4km, ML2.9/3, Error ellipse: s-maj=4.5km s-min=0.9km az=262.0*
*CSEM **19** 05:13:05.3±0.4, 38°.31N×20°.46E, h2km, ML2.9, Error ellipse: s-maj=8.2km s-min=4.5km az=70.0*

ISC 19 05:13:05.5±1.2, 38°.31N±0°.02×20°.44E±0°.05, h5km±9km, n79, σ0°.72/100, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**138**	P	**Pg**	**05 13 08.7**	**-0.4**
VLS				S	**Sg**	**05 13 12.2**	**+0.7**
VLS	**Valsamata**	**0.18**	**138**	*ePG*	**Pg**	**05 13 08.7**	**-0.4**
VLS				*eSG*	**Sg**	**05 13 12.1**	**+0.6**
VLS	**Valsamata**	**0.18**	**138**	P	**Pg**	**05 13 08.7**	**-0.4**
VLS				S	**Sg**	**05 13 12.2**	**+0.7**
KFL	**Anninata**	**0.34**	**126**	P	**Pg**	**05 13 11.5**	**-0.7**
KFL				S	**Sg**	**05 13 16.7**	**+0.1**
KFL	**Anninata**	**0.34**	**126**	P	**Pg**	**05 13 11.5**	**-0.7**
KFL				S	**Sg**	**05 13 16.7**	**+0.1**
PDO	**Prodromos**	**0.65**	**64**	P	**Pg**	**05 13 17.4**	**-0.7**
PDO				S	**Sg**	**05 13 27.4**	**+0.8**
PDO	**Prodromos**	**0.65**	**64**	*ePB*	**Pg**	**05 13 17.6**	**-0.5**
PDO				*eSB*	**Sb**	**05 13 28.2**	**-0.6**
PDO	**Prodromos**	**0.65**	**64**	*ePb*	**Pg**	**05 13 17.4**	**-0.5**
PDO				S	**Sg**	**05 13 27.4**	**+0.8**
PDO				*eSb*	**Sb**	**05 13 28.2**	**-0.6**
RLS	**Riolos of Patr**	**0.85**	**107**	P	**Pg**	**05 13 21.8**	**-0.1**
RLS	**Riolos of Patr**	**0.85**	**107**	*ePB*	**Pg**	**05 13 21.7**	**-0.1**
RLS				*eSB*	**Sb**	**05 13 34.4**	**-0.1**
RLS	**Riolos of Patr**	**0.85**	**107**	P	**Pg**	**05 13 21.8**	**-0.1**
RLS				*eSb*	**Sb**	**05 13 34.4**	**-0.1**
DSL	**Palaion Diasel**	**0.97**	**32**	P	**Pg**	**05 13 24.0**	**-0.2**
DSL				S	**Sb**	**05 13 39.0**	**+1.0**
DSL	**Palaion Diasel**	**0.97**	**32**	*ePB*	**Pg**	**05 13 23.8**	**-0.4**
DSL				*eSB*	**Sb**	**05 13 38.0**	**0.0**
DSL	**Palaion Diasel**	**0.97**	**32**	P	**Pg**	**05 13 24.0**	**-0.2**
DSL				*eSb*	**Sb**	**05 13 38.0**	**0.0**
DSL				S	**Sb**	**05 13 39.0**	**+1.0**
DRO	**Drossia**	**1.07**	**109**	P	**Pg**	**05 13 24.8**	**-1.2**
DRO				S	**Sb**	**05 13 40.3**	**-0.4**
DRO	**Drossia**	**1.07**	**109**	*ePN*	**Pg**	**05 13 25.7**	**-0.3**
DRO				*eSB*	**Sb**	**05 13 40.5**	**-0.2**
DRO	**Drossia**	**1.07**	**109**	P	**Pg**	**05 13 24.8**	**-1.2**
DRO	**Drossia**	**1.07**	**109**	*ePn*	**Pg**	**05 13 25.7**	**-0.3**
DRO				*eSb*	**Sb**	**05 13 40.5**	**-0.2**
EFP	**Efpalio**	**1.16**	**84**	P	**Pg**	**05 13 26.7**	**-1.1**
EFP				S	**Sn**	**05 13 44.4**	**-0.2**
EFP	**Efpalio**	**1.16**	**84**	*ePB*	**Pb**	**05 13 27.9**	**-0.2**
EFP				*eSB*	**Sn**	**05 13 44.3**	**-0.3**
EFP	**Efpalio**	**1.16**	**84**	P	**Pg**	**05 13 26.7**	**-1.1**
EFP	**Efpalio**	**1.16**	**84**	*ePb*	**Pb**	**05 13 27.9**	**-0.2**
EFP				*eSb*	**Sn**	**05 13 44.3**	**-0.3**
IGT	**Igoumenitsa**	**1.22**	**356**	*ePB*	**Pg**	**05 13 28.3**	**-0.7**
IGT	**Igoumenitsa**	**1.22**	**356**	*ePb*	**Pg**	**05 13 28.3**	**-0.7**
EVR	**Evrytania**	**1.23**	**60**	*ePG*	**Pg**	**05 13 28.5**	**-0.7**
EVR	**Evrytania**	**1.23**	**60**	*ePg*	**Pg**	**05 13 28.5**	**-0.7**
AMT	**Artemida-Makis**	**1.27**	**127**	*ePB*	**Pb**	**05 13 29.7**	**-0.3**
AMT	**Artemida-Makis**	**1.27**	**127**	*ePb*	**Pb**	**05 13 29.7**	**-0.3**
KALE	**Kalithea**	**1.34**	**86**	P	**Pg**	**05 13 30.8**	**-0.5**
KALE	**Kalithea**	**1.34**	**86**	*ePB*	**Pg**	**05 13 30.8**	**-0.5**
KALE	**Kalithea**	**1.34**	**86**	P	**Pg**	**05 13 30.8**	**-0.5**
KLV	**Kalavryta, Ach**	**1.38**	**101**	*ePB*	**Pg**	**05 13 31.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.38**	**101**	*ePb*	**Pg**	**05 13 31.6**	**-0.3**
JAN	**Janina**	**1.38**	**13**	*ePB*	**Pn**	**05 13 31.6**	**+0.1**
JAN	**Janina**	**1.38**	**13**	*ePb*	**Pn**	**05 13 31.6**	**+0.1**
KEK	**Kerkira**	**1.49**	**341**	*ePG*	**Pn**	**05 13 32.5**	**-0.4**
KEK	**Kerkira**	**1.49**	**341**	*ePg*	**Pn**	**05 13 32.5**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.50**	**62**	P	**Pn**	**05 13 32.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.50**	**62**	*ePB*	**Pg**	**05 13 34.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.50**	**62**	P	**Pn**	**05 13 32.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.50**	**62**	*ePb*	**Pg**	**05 13 34.4**	**+0.1**
GUR	**Goura**	**1.55**	**103**	P	**Pn**	**05 13 34.1**	**+0.2**
GUR	**Goura**	**1.55**	**103**	*ePG*	**Pb**	**05 13 34.4**	**-0.4**
GUR	**Goura**	**1.55**	**103**	P	**Pn**	**05 13 34.1**	**+0.2**
GUR	**Goura**	**1.55**	**103**	*ePg*	**Pb**	**05 13 34.4**	**-0.4**
ITM	**Ithomi**	**1.63**	**133**	*ePB*	**Pb**	**05 13 35.9**	**-0.2**
ITM	**Ithomi**	**1.63**	**133**	*ePb*	**Pb**	**05 13 35.9**	**-0.2**
AGG	**Agios Georgios**	**1.64**	**64**	*ePG*	**Pb**	**05 13 35.9**	**-0.4**
AGG	**Agios Georgios**	**1.64**	**64**	*ePg*	**Pb**	**05 13 35.9**	**-0.4**
PYL	**PYLOS**	**1.75**	**143**	*ePG*	**Pg**	**05 13 38.4**	**-0.7**
PYL	**PYLOS**	**1.75**	**143**	*ePg*	**Pg**	**05 13 38.4**	**-0.7**
THL	**Klokotos Trika**	**1.76**	**44**	P	**Pn**	**05 13 36.5**	**-0.1**
THL	**Klokotos Trika**	**1.76**	**44**	*ePG*	**Pb**	**05 13 38.4**	**+0.2**
THL	**Klokotos Trika**	**1.76**	**44**	P	**Pn**	**05 13 36.5**	**-0.1**
THL	**Klokotos Trika**	**1.76**	**44**	*ePg*	**Pb**	**05 13 38.4**	**+0.2**
AXAR	**Agios Charalam**	**1.80**	**75**	*ePN*	**Pb**	**05 13 38.4**	**-0.6**
AXAR	**Agios Charalam**	**1.80**	**75**	*ePn*	**Pb**	**05 13 38.4**	**-0.6**
VLX	**Vlachokerasia**	**1.80**	**121**	*ePG*	**Pb**	**05 13 38.7**	**-0.4**
VLX	**Vlachokerasia**	**1.80**	**121**	*ePg*	**Pb**	**05 13 38.7**	**-0.4**
LKR	**Lokris**	**2.04**	**80**	*ePB*	**Pn**	**05 13 40.7**	**+0.2**
LKR	**Lokris**	**2.04**	**80**	*ePb*	**Pn**	**05 13 40.7**	**+0.2**
NEST	**Nestorio**	**2.15**	**13**	*ePN*	**Pn**	**05 13 42.7**	**+0.5**
NEST	**Nestorio**	**2.15**	**13**	*ePn*	**Pn**	**05 13 42.7**	**+0.5**
SMIA	**Simia**	**2.25**	**74**	*ePN*	**Pb**	**05 13 45.0**	**-1.6**
SMIA	**Simia**	**2.25**	**74**	*ePn*	**Pb**	**05 13 45.0**	**-1.6**
NEO	**Neokhori**	**2.39**	**65**	*ePB*	**Pn**	**05 13 46.4**	**+1.0**
NEO	**Neokhori**	**2.39**	**65**	*ePb*	**Pn**	**05 13 46.4**	**+1.0**
XOR	**Xorichti**	**2.40**	**63**	*ePB*	**Pn**	**05 13 46.3**	**+0.8**
XOR	**Xorichti**	**2.40**	**63**	*ePb*	**Pn**	**05 13 46.3**	**+0.8**
LIT	**Litokhoron**	**2.40**	**41**	*ePN*	**Pn**	**05 13 47.2**	**+1.7**
LIT	**Litokhoron**	**2.40**	**41**	*ePn*	**Pn**	**05 13 47.2**	**+1.7**
VLI	**Veliai**	**2.54**	**128**	*ePN*	**Pn**	**05 13 48.9**	**+1.4**
VLI	**Veliai**	**2.54**	**128**	*ePn*	**Pn**	**05 13 48.9**	**+1.4**
FNA	**Florina**	**2.58**	**16**	*ePN*	**Pn**	**05 13 49.3**	**+1.4**
FNA	**Florina**	**2.58**	**16**	*ePn*	**Pn**	**05 13 49.3**	**+1.4**
KYTH	**Kithira**	**2.90**	**134**	*ePN*	**Pn**	**05 13 53.4**	**+1.1**
KYTH	**Kithira**	**2.90**	**134**	*ePn*	**Pn**	**05 13 53.4**	**+1.1**
KNT	**Kendrikon**	**3.42**	**33**	*ePN*	**Pn**	**05 14 00.9**	**+1.4**
KNT	**Kendrikon**	**3.42**	**33**	*ePn*	**Pn**	**05 14 00.9**	**+1.4**

*ISCJB **19** 05:13:40.9±0.7, 38°.21N±0°.03×20°.11E±0°.03, h1km±4km, mb3.6/10, MS2.6/2, Error ellipse: s-maj=5.1km s-min=3.2km az=33.1*
*IDC **19** 05:13:41.8±1.1, 38°.39N×20°.25E, h0km, mb3.6/10, mb1 3.6/13, mb1mx3.5/34, mbtmp3.5/13, ML4.0/3, MS2.5/3, Ms1 2.5/3, ms1mx2.2/36, Error ellipse: s-maj=22.3km s-min=18.9km az=134.0*
*CSEM **19** 05:13:42.6±0.3, 38°.22N×20°.17E, h2km, ML3.6, Error ellipse: s-maj=7.8km s-min=3.6km az=46.0*
*SKO **19** 05:13:42.6, 38°.24N×20°.23E, h0km, M1.9, ML2.2*
*ATH **19** 05:13:43.5, 38°.23N×20°.20E, h19km±1km, MD3.8/30, ML3.6*
*THE **19** 05:13:45.7, 38°.24N×20°.37E, h0km±1km, ML3.6/4, Error ellipse: s-maj=2.3km s-min=0.8km az=232.0*

ISC 19 05:13:41.8±1.3, 38°.18N±0°.03×20°.15E±0°.04, h4km±8km, n171, σ1°.07/205, mb3.6/10, 14C-3D, Greece

| Code | Station Name | Δ° | AZ° | Phase ID Op |

LIT				S		Sn	05 14 58.6	+1.0
NEO	**Neokhori**	**2.65**	**64**	P		Pn	05 14 27.1	+1.8
NEO	**Neokhori**	**2.65**	**64**	*e*PN		Pn	05 14 26.5	+1.2
NEO	**Neokhori**	**2.65**	**64**	*e*Pn		Pn	05 14 26.5	+1.2
NEO	**Neokhori**	**2.65**	**64**	P		Pn	05 14 27.1	+1.8
XOR	**Xorichti**	**2.65**	**63**	*e*PB		Pb	05 14 29.0	-0.9
XOR	**Xorichti**	**2.65**	**63**	*e*Pb		Pb	05 14 29.0	-0.9
NAIG	**Nisos Aigina**	**2.67**	**98**	*e*PB		Pb	05 14 29.6	-0.6
NAIG	**Nisos Aigina**	**2.67**	**98**	*e*Pb		Pb	05 14 29.6	-0.6
MRKA	**Markates**	**2.75**	**78**	*e*PN		Pn	05 14 27.6	+1.0
MRKA	**Markates**	**2.75**	**78**	*e*Pn		Pn	05 14 27.6	+1.0
FNA	**Florina**	**2.77**	**20**	P		Pn	05 14 29.2	+2.3
FNA	**Florina**	**2.77**	**20**	*e*PN		Pn	05 14 28.1	+1.2
FNA	**Florina**	**2.77**	**20**	*e*Pn		Pn	05 14 28.1	+1.2
FNA	**Florina**	**2.77**	**20**	P		Pn	05 14 29.2	+2.3
SKIA	**Skiathos**	**2.77**	**68**	*e*PN		Pn	05 14 27.5	+0.5
SKIA	**Skiathos**	**2.77**	**68**	*e*Pn		Pn	05 14 27.5	+0.5
ATH	**Athens Observa**	**2.82**	**93**	*e*PN		Pn	05 14 29.2	+1.6
ATH	**Athens Observa**	**2.82**	**93**	*e*Pn		Pn	05 14 29.2	+1.6
OHR	**Ohrid**	**2.97**	**9**	*i* Pn		Pn	05 14 30.6	+0.9
OHR	**Ohrid**	**2.97**	**9**	*i* Pn		Pn	05 14 30.5	+0.8
KYTH	**Kithira**	**2.98**	**129**	*e*PN		Pn	05 14 32.2	+2.3
KYTH	**Kithira**	**2.98**	**129**	*e*Pn		Pn	05 14 32.2	+2.3
AOS	**Alonnisos**	**3.08**	**70**	*e*PN		Pn	05 14 31.6	+0.4
AOS	**Alonnisos**	**3.08**	**70**	*e*Pn		Pn	05 14 31.6	+0.4
PAIG	**Paliouri**	**3.25**	**57**	*e*PN		Pn	05 14 34.7	+1.2
PAIG	**Paliouri**	**3.25**	**57**	*e*Pn		Pn	05 14 34.7	+1.2
GRG	**Griva**	**3.27**	**31**	*e*PN		Pn	05 14 36.5	+2.6
GRG	**Griva**	**3.27**	**31**	*e*Pn		Pn	05 14 36.5	+2.6
THE	**Thessaloniki**	**3.28**	**41**	*e*PN		Pn	05 14 34.5	+0.6
THE	**Thessaloniki**	**3.28**	**41**	*e*Pn		Pn	05 14 34.5	+0.6
PLG	**Polygyros**	**3.36**	**48**	*e*PN		Pn	05 14 35.6	+0.5
PLG	**Polygyros**	**3.36**	**48**	*e*Pn		Pn	05 14 35.6	+0.5
ANKY	**Antikythira Is**	**3.42**	**132**	*e*PB		Pb	05 14 40.3	-2.6
ANKY	**Antikythira Is**	**3.42**	**132**	*e*Pb		Pb	05 14 40.3	-2.6
SOH	**Sokhos**	**3.62**	**42**	*e*PN		Pn	05 14 39.3	+0.7
SOH	**Sokhos**	**3.62**	**42**	*e*Pn		Pn	05 14 39.3	+0.7
VAY	**Valandovo**	**3.65**	**30**	*i* Pn		Pn	05 14 39.5	+0.5
VAY	**Valandovo**	**3.65**	**30**	*i* Pn		Pn	05 14 39.5	+0.5
KNT	**Kendrikon**	**3.65**	**35**	*e*PN		Pn	05 14 39.5	+0.4
KNT	**Kendrikon**	**3.65**	**35**	*e*Pn		Pn	05 14 39.5	+0.4
OUR	**Ouranopolis**	**3.67**	**53**	*e*PN		Pn	05 14 40.2	+1.0
OUR	**Ouranopolis**	**3.67**	**53**	*e*Pn		Pn	05 14 40.2	+1.0
SKO	**Skopje**	**3.91**	**14**	*i* Pn		Pn	05 14 42.7	+0.1
SKO	**Skopje**	**3.91**	**14**	*i* Pn		Pn	05 14 42.7	+0.1
SRS	**Serrai**	**3.95**	**41**	*e*PN		Pn	05 14 43.2	0.0
SRS	**Serrai**	**3.95**	**41**	*e*Pn		Pn	05 14 43.2	0.0
KKB	**Krupnik**	**4.31**	**31**	P		Pg	05 15 02.2	-2.3
MMB	**Musomiste**	**4.38**	**38**	⇑*i*P		Pn	05 14 49.5	+0.5
MMB	**Musomiste**	**4.38**	**38**	P		Pn	05 14 48.5	-0.5
MMB	**Musomiste**	**4.38**	**38**	P		Pn	05 14 48.5	-0.5
APE	**Apeiranthos**	**4.41**	**103**	⇑*i*P		Pb	05 14 59.0	-0.9
CHOS	**Chios island**	**4.65**	**86**	*e*PN		Pn	05 14 54.4	+1.6
CHOS	**Chios island**	**4.65**	**86**	*e*Pn		Pn	05 14 54.4	+1.6
IDI	**Anoyia**	**4.78**	**126**	Pn		Pb	05 15 02.5	-3.6
	0.5nm,0.3s,baz=314,slow=17,SNR=5.0							
IDI						Sn	05 15 51.1	+0.7
	1.1nm,0.3s,baz=163,slow=19,SNR=4.0							
BARS	**Barje**	**4.80**	**15**	*e*Pn		Pn	05 14 54.7	-0.1
VTS	**Vitosha**	**4.98**	**27**	⇑*i*P		Pn	05 14 58.3	+0.8
VTS	**Vitosha**	**4.98**	**27**	⇑*i*P		Pn	05 14 58.3	+0.8
STON	**Ston**	**5.04**	**339**	*e*Pn		Pn	05 14 58.3	+0.2
STON				Sn		Sn	05 15 50.5	-6.3
STON	**Ston**	**5.04**	**339**	*e*Pn		Pn	05 14 58.3	+0.2
SJES	**Sjenica**	**5.08**	**359**	*e*PN		Pn	05 14 58.4	-0.3
RDO	**Rodhopi**	**5.10**	**53**	*e*PN		Pn	05 14 59.2	+0.2
RDO	**Rodhopi**	**5.10**	**53**	*e*Pn		Pn	05 14 59.2	+0.2
KDZ	**Kurdzhali**	**5.33**	**48**	⇑*i*P		Pn	05 15 01.8	-0.3
KDZ	**Kurdzhali**	**5.33**	**48**	⇑*i*P		Pn	05 15 01.8	-0.3
IVAS	**Ivanjica**	**5.39**	**360**	*e*Pn		Pn	05 15 02.9	-0.1
BBLS	**Lazići**	**5.71**	**355**	*e*Pn		Pn	05 15 06.5	-0.8
GRUS	**Gruza**	**5.72**	**4**	*e*Pn		Pn	05 15 07.6	+0.2
MPEP	**Malo Peshtene**	**5.84**	**27**	P		Pn	05 15 15.0	+5.9
DIVS	**Divibare**	**5.91**	**359**	*e*Pn		Pn	05 15 10.3	+0.1
TEKS	**Tekeris**	**6.38**	**356**	*e*Pn		Pn	05 15 15.1	-1.4
PKSM	**Moragy**	**8.10**	**353**	⇓*i*P		Pn	05 15 40.2	+0.1
PKSM	**Moragy**	**8.10**	**353**	⇓*i*P		Pn	05 15 40.2	+0.1
VOIR		**8.12**	**25**	⇑*i*P		Pn	05 15 41.0	+0.6
VOIR		**8.12**	**25**	⇑*i*P		Pn	05 15 41.0	+0.6
MLR	**Muntele Rosu**	**8.48**	**29**	⇑*i*P		Pn	05 15 45.7	+0.2
MLR	**Muntele Rosu**	**8.48**	**29**	Pn		Pn	05 15 48.6	+3.1
	baz=252,slow=13							
MLR					LR	LR	05 19 32.5	
	comp=Z,11nm,18.2s,baz=210,slow=42							
MLR	**Muntele Rosu**	**8.48**	**29**	⇑*i*P		Pn	05 15 45.7	+0.2
PLOR	**Plostina**	**9.06**	**30**	⇑*i*P		Pn	05 15 56.4	+3.1
PLOR	**Plostina**	**9.06**	**30**	⇑*i*P		Pn	05 15 56.4	+3.1
VRI	**Vrincioaia**	**9.10**	**30**	⇑*i*P		Pn	05 15 54.5	+0.6
VRI	**Vrincioaia**	**9.10**	**30**	⇑*i*P		Pn	05 15 54.5	+0.6
MOA	**Molln**	**10.57**	**338**	⇓*i*Pn		Pn	05 16 15.9	+1.8
GERES	**GERESS Array B**	**11.64**	**338**	Pn		Pn	05 16 26.3	-2.4
	0.1nm,0.3s,baz=156,slow=15,SNR=2.7							
AKASG	**Malin Array Be**	**14.08**	**24**	Pn		Pn	05 16 59.4	-2.4
	0.3nm,0.3s,baz=211,slow=11,SNR=4.0							
ESDC	**Sonseca Array**	**18.81**	**282**	P		Pn	05 18 03.8	+1.0
	0.3nm,0.3s,baz=64,slow=9.6,SNR=3.1							
OBN	**Obninsk**	**20.25**	**28**	LR		LR	05 27 14.2	
	comp=Z,24nm,21.7s,baz=267,slow=40							
MDT	**Midelt**	**20.84**	**263**	LR		LR	05 26 49.4	
	comp=Z,25nm,18.5s,baz=151,slow=38							
HFS	**Hagfors**	**22.35**	**351**	P		P	05 18 39.8	-0.7
	1.9nm,0.6s,baz=148,slow=12,SNR=8.9							
EKA	**Eskdalemuir Ar**	**23.26**	**325**	P		P	05 18 50.7	+0.6
	1.2nm,0.8s,baz=131,slow=9.7,SNR=3.1							
NB2	**NORSAR Subarra**	**23.56**	**349**	P		P	05 18 53.1	+0.1
	comp=Z,0.3nm,0.5s,baz=153,slow=10							
NB2	**NORSAR Subarra**	**23.56**	**349**	P		P	05 18 53.1	+0.1
	comp=Z,0.3nm,0.5s,SNR=3.8							
NOA	**NORSAR Array B**	**23.56**	**349**	P		P	05 18 53.1	+0.1
	comp=Z,1.2nm,0.9s,baz=160,slow=11,SNR=3.8							
FINES	**FINESS Array B**	**23.58**	**7**	P		P	05 18 51.4	-1.8
	comp=Z,1.3nm,0.7s,baz=181,slow=15,SNR=7.4							
TORD	**Torodi Ar. Bea**	**29.85**	**218**	P		P	05 19 52.8	+2.5
	comp=Z,1.4nm,0.8s,baz=33,slow=8.7,SNR=11							
MKAR	**Makanchi Array**	**45.55**	**58**	P		P	05 22 01.1	-1.4
	comp=Z,0.4nm,0.6s,baz=279,slow=6.8,SNR=4.5							
ZALV	**Zalesovo Beam**	**45.90**	**48**	P		P	05 22 03.5	-1.7
	comp=Z,1.5nm,0.5s,baz=276,slow=8.7,SNR=7.0							
SONM	**Songino Array**	**60.68**	**50**	P		P	05 23 54.0	-0.2
	comp=Z,0.1nm,0.6s,baz=270,slow=1.4,SNR=2.7							
YKA	**Yellowknife Ar**	**73.29**	**340**	P		P	05 25 14.5	+0.6
	comp=Z,0.1nm,0.5s,baz=37,slow=5.6,SNR=3.5							
ULM	**Lac du Bonnet**	**75.52**	**323**	P		P	05 25 25.7	-1.5
	comp=Z,0.9nm,0.8s,baz=36,slow=8.7,SNR=2.0							

CSEM ***19*** *05:19:44.4±0.2, 43.72N×21.23E, h2km, ML2.0, Error ellipse: s-maj=4.0km s-min=1.9km az=39.0*
SKO ***19*** *05:19:44.3, 43.76N×21.32E, h49km, M1.7, ML2.0*
BEO 19 05:19:45.2±0.3, 43.73N×21.24E, h0km, ML2.0/7, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRUS	**Gruza**	**0.41**	**293**	*e*Pg	Pg	05 19 51.9	-1.2
GRUS				*e*Sg	Sg	05 19 57.8	-0.7
GRUS	**Gruza**	**0.41**	**293**	*e*Pg	Pg	05 19 51.9	-1.2
GRUS				*e*Sg	Sg	05 19 57.8	-0.7
SELS	**Selova**	**0.52**	**190**	*e*Pg	Pg	05 19 54.1	-1.1
SELS				*e*Sg	Sg	05 20 01.4	-0.6
TRUS	**Trudelj**	**0.78**	**310**	*e*Pg	Pg	05 19 59.8	-0.4
TRUS				*e*Sg	Sg	05 20 09.2	-1.1
TRUS	**Trudelj**	**0.78**	**310**	*e*Pg	Pg	05 19 59.8	-0.4
TRUS				*e*Sg	Sg	05 20 09.2	-1.1
DIVS	**Divibare**	**0.97**	**293**	*e*Pg	Pg	05 20 02.8	-1.2
DIVS				*e*Sg	Sg	05 20 16.8	0.0
DIVS	**Divibare**	**0.97**	**293**	*e*Pg	Pg	05 20 02.8	-1.2
DIVS				*e*Sg	Sg	05 20 16.8	0.0
BARS	**Barje**	**1.00**	**155**	*e*Pg	Pg	05 20 03.7	-0.8
BARS				*e*Sg	Sg	05 20 17.2	-0.4
BARS	**Barje**	**1.00**	**155**	*e*Pg	Pg	05 20 03.7	-0.8
BARS				*e*Sg	Sg	05 20 17.2	-0.4
SJES	**Sjenica**	**1.03**	**243**	*e*Pg	Pg	05 20 03.9	-1.3
SJES				*e*Sg	Sg	05 20 17.9	-0.8
ZAPS	**Zavoj**	**1.11**	**114**	*e*Pg	Pg	05 20 05.1	-1.5
ZAPS				*e*Sg	Sg	05 20 20.2	-0.9
BBLS	**Lazići**	**1.34**	**276**	*e*Pg	Pg	05 20 09.6	-1.3
BBLS				*e*Sg	Sg	05 20 27.7	-0.7
BBLS	**Lazići**	**1.34**	**276**	*e*Pg	Pg	05 20 09.6	-1.3
BBLS				*e*Sg	Sg	05 20 27.7	-0.7
SKO	**Skopje**	**1.76**	**175**	*e*Pn	Pn	05 20 16.3	-0.7
SKO				*i* Sg	Sg	05 20 42.1	+0.2
SKO				*e*Lg	Lg	05 20 43.3	
	comp=N,13nm,0.3s						
SKO				*e*Lg	Lg	05 20 44.8	
	comp=E,7.9nm,0.3s						
SKO	**Skopje**	**1.76**	**175**	*e*Pn	Pn	05 20 16.2	-0.8
SKO				*i* Sg	Sg	05 20 42.0	+0.1
SKO				*e*Lg	Lg	05 20 44.7	
	comp=E,7.9nm,0.3s						

MEX 19 05:46:01.5±0.7, 17.37N×94.84W, h214km±24km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.83**	**261**	*e*P	Pn	05 46 38.7	-1.0
VHO				*e*S	S	05 47 07.1	-1.9
HUIG	**Huatulco**	**2.00**	**217**	*e*P	Pn	05 46 39.4	-1.7
HUIG				*e*S	S	05 47 10.5	-1.2
TPIG	**Tehuac#an**	**2.62**	**294**	*e*P	Pn	05 46 46.3	-1.4
TPIG				*i* S	S	05 47 20.8	-2.8
PNIG	**Pinotepa**	**3.29**	**253**	*i* P	Pn	05 46 54.4	-1.0
PNIG				*i* S	S	05 47 35.4	-1.7
TLIG	**Tlapa**	**3.56**	**274**	*e*P	Pn	05 46 58.4	-0.3
TLIG				*i* S	S	05 47 40.5	-2.6

MEX 19 05:58:04.5±1.0, 16.75N×95.41W, h162km±15km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.19**	**214**	*e*P	Pn	05 58 30.0	-2.1
HUIG				*e*S	Sn	05 58 51.5	-1.7
VHO	**Vista Hermosa**	**1.30**	**284**	*e*P	Pn	05 58 32.6	-0.7
VHO				*e*S	Sn	05 58 53.0	-2.5
TPIG	**Tehuac#an**	**2.49**	**312**	*i* P	Pn	05 58 44.4	-1.9
TPIG				*i* S	Sn	05 59 15.7	-3.1
PNIG	**Pinotepa**	**2.63**	**263**	*i* P	Pn	05 58 46.6	-1.2
PNIG				*i* S	Sn	05 59 19.5	-1.8
TLIG	**Tlapa**	**3.12**	**285**	*e*P	Pn	05 58 52.9	-1.2
TLIG				*i* S	Sn	05 59 30.2	-2.3

MEX 19 06:03:50.2±0.4, 17.60N×102.17W, h15km±7km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.67**	**89**	*i* P	Pg	06 04 01.0	-2.2
ZIIG				*i* S	Sg	06 04 09.5	-2.6
MMIG	**Aquila**	**1.31**	**301**	*i* P	Pn	06 04 10.5	-3.6
MMIG				*e*S	Sb	06 04 25.8	-5.6
ARIG	**Puente Sto Nin**	**1.86**	**68**	*e*P	Pn	06 04 18.0	-3.5
ARIG				*e*S	Sn	06 04 40.5	-4.3
CAIG	**El Cayaco**	**1.89**	**107**	*e*P	Pn	06 04 19.4	-2.6
CAIG				*i* S	Sn	06 04 40.9	-4.7
PLIG	**Platanillo**	**2.65**	**72**	*i* P	Pn	06 04 29.7	-2.9
PLIG				*i* S	Sn	06 05 01.1	-3.6
TLIG	**Tlapa**	**3.43**	**90**	*i* P	Pn	06 04 41.4	-1.9
TLIG				*i* S	Sn	06 05 20.5	-3.5

IDC 19 06:08:54.9±1.3, 28.17S×177.52W, h249km±9km, mb3.0/3, mb1 3.3/4, mb1mx3.1/25, mbtmpg3.7/4, Error ellipse: s-maj=34.7km s-min=24.4km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.13**	**198**	P	Pn	06 09 29.8	-0.7
	581nm,0.3s,baz=15,slow=22,SNR=40						
RAO				S	S	06 09 59.0	+0.3
	274nm,0.3s,baz=77,slow=22,SNR=11						
URZ	**Urewera**	**11.02**	**203**	P	Pn	06 11 25.1	-1.0
	0.1nm,0.3s,baz=36,slow=19,SNR=3.1						
URZ				S	S	06 13 29.9	+0.5
	2.0nm,0.3s,baz=236,slow=23,SNR=14						
ASAR	**Alice Springs**	**43.70**	**264**	P	P	06 16 37.1	+1.4
	0.2nm,0.4s,baz=99,slow=7.6,SNR=5.6						
WRA	**Warramunga Arr**	**44.48**	**270**	P	P	06 16 41.0	-1.0
	0.5nm,0.4s,baz=108,slow=6.3,SNR=16						
NVAR	**Mina Array Bea**	**86.32**	**43**	P	P	06 21 09.2	+0.2
	0.6nm,0.7s,baz=222,slow=8.0,SNR=5.8						

DJA 19 06:20:52.0±0.5, 0.5S±3.3×12.2E±0.4, h10km, M3.6/4, MLv3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**0.63**	**210**	P	Pg	06 20 54.9	-9.4
APSI				S	Sb	06 21 13.4	-0.7
MRSI	**Marisa**	**0.83**	**358**	P	Pg	06 21 07.2	-0.9
MRSI				S	Sg	06 21 19.3	+0.4
MPSI	**Mapaga**	**2.19**	**288**	P	Pn	06 21 29.2	+0.8
KMSI	**Cibinong**	**2.21**	**65**	P	Pn	06 21 28.8	0.0

IDC ***19*** *07:00:52.0±2.4, 1.32N×96.42E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=58.9km s-min=31.4km az=44.0*
DJA ***19*** *07:00:53.3±1.8, 3.7N±11.9×96.6E±2.4, h193km±14km, M3.3/4, MLv3.3/4*
ISC 19 07:00:57.8±1.8, 1.76N±0.09×96.8E±0.2, h28km, n11, σ1s39/7, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.54**	**14**	P	Pn	**07 01 22.7**	**-0.6**
TPTI				S	Sb	**07 01 46.2**	**+1.6**
KCSI	**Kotacane, Aceh**	**2.00**	**29**	P	Pn	**07 01 28.4**	**-1.3**
PSI	**Prapat**	**2.36**	**64**	Pn	Pb	**07 01 39.5**	**-0.2**
	4.0nm,0.3s,baz=240,slow=6.7,SNR=22						
MNSI	**Mandailing Nat**	**2.94**	**109**	P	Pb	**07 01 50.7**	**+1.2**
BKNI	**Bangkinang**	**4.47**	**109**	P	Pb	07 02 09.9	-5.7
H08S2	**Diego Garcia H**	**25.98**	**249**	T	T	07 33 47.7	
	baz=69,slow=75,SNR=173						
H08S3	**Diego Garcia H**	**25.99**	**249**	T	T	07 33 39.7	
	baz=69,slow=75,SNR=161						
H08S1	**Diego Carcia H**	**26.00**	**249**	T	T	07 33 40.8	
	baz=69,slow=75,SNR=178						
WRA	**Warramunga Arr**	**42.67**	**122**	P	P	**07 08 51.4**	**-1.0**
	0.2nm,0.4s,baz=302,slow=9.1,SNR=2.3						
MKAR	**Makanchi Array**	**46.60**	**346**	P	P	07 09 24.9	+1.5
	0.3nm,0.6s,baz=149,slow=8.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**52.94**	**351**	P	P	**07 10 12.3**	**+0.8**
	1.6nm,0.7s,baz=165,slow=6.0,SNR=6.2						

IDC ***19*** *07:02:55.3±0.6, 38.35N×20.26E, h0km, mb3.9/19, mb1 4.0/27, mb1mx3.9/41, mbtmpg3.8/27, ML3.7/6, MS2.9/5, Ms1 2.9/5, ms1mx2.5/48, Error ellipse: s-maj=12.8km s-min=12.4km az=175.0*
ISCJB ***19*** *07:02:55.8±0.5, 38.26N±0.02×20.19E±0.02, h11km±3km, mb3.9/24, MS3.4/2, Error ellipse: s-maj=3.3km s-min=2.0km az=36.2*
CSEM ***19*** *07:02:56.8±0.1, 38.27N×20.26E, h2km, ML3.8, Ms3.5, Error ellipse: s-maj=3.2km s-min=1.7km az=37.0*
ATH ***19*** *07:02:57.4, 38.26N×20.35E, h17km±1km, MD3.6/43, ML3.8*
SKO ***19*** *07:02:57.8, 38.20N×20.17E, h22km, M1.0, ML1.5*
PDG ***19*** *07:02:58.4±1.0, 38.37N×20.34E, h8km±2km, ML4.0/8, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0*
THE ***19*** *07:02:58.8, 38.28N×20.41E, h0km±1km, ML3.8/8, Error ellipse: s-maj=1.7km s-min=0.6km az=257.0*
ISC 19 07:02:57.3±0.9, 38.26N±0.02×20.30E±0.03, h13km±5km, n276, σ1s20/348, mb4.0/24, 26C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.24**	**110**	P	**Pg**	**07 03 02.2**	**-0.3**
VLS				S	**Sg**	**07 03 05.6**	**-0.4**
VLS	**Valsamata**	**0.24**	**110**	*e*PB	**Pg**	**07 03 02.5**	**0.0**
VLS				*e*SB	**Sg**	**07 03 06.0**	**0.0**
VLS	**Valsamata**	**0.24**	**110**	P	**Pg**	**07 03 02.2**	**-0.3**
VLS	**Valsamata**	**0.24**	**110**	*e*Pb	**Pg**	**07 03 02.5**	**0.0**
VLS				S	**Sg**	**07 03 05.6**	**-0.4**
VLS				*e*Sb	**Sg**	**07 03 06.0**	**0.0**
KFL	**Anninata**	**0.41**	**111**	P	**Pg**	**07 03 05.4**	**-0.1**
PDO	**Prodromos**	**0.77**	**64**	P	**Pg**	**07 03 11.5**	**-0.7**
PDO	**Prodromos**	**0.77**	**64**	*e*PN	**Pg**	**07 03 11.6**	**-0.7**
PDO				*e*SN	**Sg**	**07 03 21.7**	**-0.7**
PDO	**Prodromos**	**0.77**	**64**	P	**Pg**	**07 03 11.5**	**-0.7**
PDO				*e*Sn	**Sg**	**07 03 21.7**	**-0.7**
PDO				S	**Sb**	**07 03 22.1**	**-0.9**
VTN	**Vitineika**	**0.78**	**116**	P	**Pg**	**07 03 12.1**	**-0.3**
VTN	**Vitineika**	**0.78**	**116**	P	**Pg**	**07 03 12.1**	**-0.3**
VTN				S	**Sb**	**07 03 23.3**	**+0.2**
RLS	**Riolos of Patr**	**0.94**	**102**	P	**Pg**	**07 03 15.1**	**-0.4**
RLS				S	**Sg**	**07 03 27.5**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**102**	*e*PN	**Pg**	**07 03 14.5**	**-1.0**
RLS				*e*SN	**Sg**	**07 03 27.6**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**102**	*e*Pn	**Pg**	**07 03 14.5**	**-1.0**
RLS	**Riolos of Patr**	**0.94**	**102**	P	**Pg**	**07 03 15.1**	**-0.4**
RLS				S	**Sg**	**07 03 27.5**	**-0.3**
PVO	**Paravola**	**1.02**	**69**	P	**Pb**	**07 03 16.6**	**-0.3**
PVO	**Paravola**	**1.02**	**69**	P	**Pb**	**07 03 16.6**	**-0.3**
PVO				S	**Sg**	**07 03 30.7**	**+0.2**
DSL	**Palaion Diasel**	**1.07**	**35**	P	**Pb**	**07 03 17.8**	**0.0**
DSL				S	**Sn**	**07 03 33.2**	**+0.4**
DSL	**Palaion Diasel**	**1.07**	**35**	*e*PN	**Pb**	**07 03 17.7**	**0.0**
DSL				*e*SB	**Sg**	**07 03 32.1**	**+0.1**
DSL	**Palaion Diasel**	**1.07**	**35**	P	**Pb**	**07 03 17.8**	**0.0**
DSL				*e*Sb	**Sg**	**07 03 32.1**	**+0.1**
DSL				S	**Sn**	**07 03 32.7**	**-0.1**
DRO	**Drossia**	**1.15**	**105**	P	**Pb**	**07 03 18.7**	**-0.4**
DRO				S	**Sb**	**07 03 34.5**	**+0.5**
DRO	**Drossia**	**1.15**	**105**	P	**Pb**	**07 03 18.7**	**-0.4**
DRO				S	**Sb**	**07 03 34.5**	**+0.5**
SFD	**Strofades**	**1.16**	**150**	*e*PN	**Pn**	**07 03 19.5**	**+0.3**
SFD				*e*SN	**Sb**	**07 03 34.4**	**+0.4**
SFD	**Strofades**	**1.16**	**150**	*e*Pn	**Pn**	**07 03 19.5**	**+0.3**
SFD				*e*Sn	**Sb**	**07 03 34.4**	**+0.4**
IGT	**Igoumenitsa**	**1.27**	**1**	P	**Pg**	**07 03 21.9**	**+0.1**
IGT	**Igoumenitsa**	**1.27**	**1**	*e*PN	**Pg**	**07 03 21.4**	**-0.4**
IGT				*e*SN	**Sg**	**07 03 39.2**	**+0.9**
IGT	**Igoumenitsa**	**1.27**	**1**	P	**Pb**	**07 03 21.2**	**+0.1**
IGT				*e*Sn	**Sg**	**07 03 39.2**	**+0.9**
EFP	**Efpalio**	**1.27**	**82**	P	**Pn**	**07 03 20.0**	**-0.8**
EFP				S	**Sg**	**07 03 38.8**	**+0.4**
EFP	**Efpalio**	**1.27**	**82**	*e*PB	**Pn**	**07 03 19.9**	**-0.8**
EFP				*e*SN	**Sg**	**07 03 38.6**	**+0.2**
EFP	**Efpalio**	**1.27**	**82**	P	**Pn**	**07 03 20.0**	**-0.8**
EFP				S	**Sg**	**07 03 38.8**	**+0.4**
AMT	**Artemida-Makis**	**1.33**	**123**	P	**Pg**	**07 03 22.9**	**0.0**
AMT				S	**Sg**	**07 03 41.1**	**+0.9**
AMT	**Artemida-Makis**	**1.33**	**123**	*e*PN	**Pb**	**07 03 22.7**	**+0.6**
AMT	**Artemida-Makis**	**1.33**	**123**	P	**Pg**	**07 03 22.9**	**0.0**
AMT				S	**Sg**	**07 03 41.1**	**+0.9**
EVR	**Evrytania**	**1.35**	**61**	P	**Pg**	**07 03 23.2**	**-0.1**
EVR				S	**Sg**	**07 03 41.1**	**+0.2**
EVR	**Evrytania**	**1.35**	**61**	*e*PN	**Pn**	**07 03 22.3**	**+0.3**
EVR				*e*SN	**Sn**	**07 03 40.2**	**+0.4**
EVR	**Evrytania**	**1.35**	**61**	*e*Pn	**Pn**	**07 03 22.3**	**+0.3**
EVR	**Evrytania**	**1.35**	**61**	P	**Pg**	**07 03 23.2**	**-0.1**
EVR				*e*Sn	**Sn**	**07 03 40.2**	**+0.4**
EVR				S	**Sg**	**07 03 41.1**	**+0.2**
KALE	**Kalithea**	**1.45**	**84**	P	**Pn**	**07

comp=N,696nm,1.7s
OHR Ohrid 2.87 8 *i* Pn **Pn 07 03 43.7 +0.8**
OHR *e*Sg **Sg 07 04 32.1 +2.5**
OHR *e*Lg Lg 07 04 42.1
comp=N,696nm,1.7s
AOS Alonnisos 2.94 71 *e*PN **Pn 07 03 44.7 +0.9**
AOS Alonnisos 2.94 71 *e*Pn **Pn 07 03 44.7 +0.9**
KYTH Kithira 2.94 131 *e*PB **Pn 07 03 46.9 +3.1**
KYTH Kithira 2.94 131 *e*Pb **Pn 07 03 46.9 +3.1**
PAIG Paliouri 3.11 57 *e*PN **Pn 07 03 46.5 +0.4**
PAIG Paliouri 3.11 57 *e*Pn **Pn 07 03 46.5 +0.4**
THE Thessaloniki 3.14 40 *e*PN **Pn 07 03 47.8 +1.4**
THE Thessaloniki 3.14 40 *e*Pn **Pn 07 03 47.8 +1.4**
HORT Hortiatis 3.19 42 P **Pn 07 03 48.2 +1.1**
HORT Hortiatis 3.19 42 *e*PN **Pn 07 03 48.3 +1.1**
HORT Hortiatis 3.19 42 *e*Pn **Pn 07 03 48.3 +1.1**
PLG Polygyros 3.23 48 *e*PN **Pn 07 03 48.6 +0.9**
PLG Polygyros 3.23 48 *e*Pn **Pn 07 03 48.6 +0.9**
PE1 Pezze di Greco 3.38 320 *e*Pn **Pn 07 03 50.6 +0.9**
ANKY Antikythira Is 3.39 134 *e*PN **Pn 07 03 52.4 +2.6**
ANKY Antikythira Is 3.39 134 *e*Pn **Pn 07 03 52.4 +2.6**
SOH Sokhos 3.48 42 P **Pn 07 03 52.7 +1.5**
SOH Sokhos 3.48 42 *e*PN **Pn 07 03 52.8 +1.5**
SOH Sokhos 3.48 42 P **Pn 07 03 52.7 +1.5**
VAY Valandovo 3.52 29 *i* Pn **Pn 07 03 52.4 +0.7**
VAY *e*Sg **Sb 07 04 42.0 0.0**
VAY *e*Lg Lg 07 04 56.9
comp=N,260nm,1.3s
VAY *e*Lg Lg 07 04 58.0
comp=E,120nm,0.9s
VAY Valandovo 3.52 29 *i* Pn **Pn 07 03 52.4 +0.7**
VAY *e*Lg Lg 07 04 57.9
comp=E,120nm,0.9s
KNT Kendrikon 3.52 34 *e*PN **Pn 07 03 52.6 +0.9**
KNT Kendrikon 3.52 34 *e*Pn **Pn 07 03 52.6 +0.9**
SG1 Sgolgore (BA) 3.80 314 *e*Pn **Pn 07 03 57.0 +1.4**
SKO Skopje 3.81 13 *e*Pn **Pn 07 03 56.5 +0.8**
SKO *e*Sg **Sb 07 04 51.5 +1.1**
SKO *e*Lg Lg 07 04 52.3
comp=N,62nm,0.5s
SKO *e*Lg Lg 07 04 54.3
comp=E,111nm,0.9s
SKO Skopje 3.81 13 *e*Pn **Pn 07 03 56.4 +0.7**
SKO *e*Lg Lg 07 04 54.3
comp=E,111nm,0.9s
SRS Serrai 3.82 41 *e*PN **Pn 07 03 56.4 +0.6**
SRS Serrai 3.82 41 *e*Pn **Pn 07 03 56.4 +0.6**
BAI Bari 3.88 318 *e*Pn **Pn 07 03 57.6 +1.0**
KARN Karanos 4.07 133 *e*PN **Pn 07 04 00.6 +1.3**
KARN Karanos 4.07 133 *e*Pn **Pn 07 04 00.6 +1.3**
NVR Nevrokopi 4.13 41 P **Pn 07 04 01.6 +1.5**
NVR Nevrokopi 4.13 41 P **Pn 07 04 01.6 +1.5**
BUM Brajici-Budva 4.18 346 ⇓*i*Pn **Pn 07 04 00.9 +0.1**
BUM *e*Sn **Sn 07 04 49.7 +0.2**
BUM Brajici-Budva 4.18 346 ⇓*i*Pn **Pn 07 04 00.9 +0.1**
BUM *e*Sn **Sn 07 04 49.7 +0.2**
CDT Castel del Mon 4.19 313 *e*Pn **Pn 07 04 02.2 +1.2**
PDG Podgorica 4.24 349 ⇑*i*Pn **Pn 07 04 02.3 +0.7**
PDG *e*Sn **Sn 07 04 51.4 +0.5**
TTG Podgorica 4.24 349 ⇑*i*Pn **Pn 07 04 02.3 +0.7**
TTG *e*Sn **Sn 07 04 51.4 +0.5**
MMB Musomiste 4.24 37 ⇑*i*P **Pn 07 04 02.8 +1.2**
MMB Musomiste 4.24 37 ⇑*i*P **Pn 07 04 02.8 +1.2**
APE Apeiranthos 4.32 104 *e*PN **Pn 07 04 04.0 +1.3**
APE Apeiranthos 4.32 104 ⇑*i*P **Pb 07 04 15.1 +2.0**
APE Apeiranthos 4.32 104 *e*Pn **Pn 07 04 04.0 +1.3**
PVY Plav 4.34 357 ⇓*i*Pn **Pn 07 04 04.3 +1.3**
PVY *e*Sn **Sn 07 04 55.0 +1.5**
PVY Plav 4.34 357 ⇓*i*Pn **Pn 07 04 04.3 +1.3**
PVY *e*Sn **Sn 07 04 55.0 +1.5**
HCY Herceg Novi 4.40 342 ⇓*i*Pn **Pn 07 04 02.9 -0.9**
HCY *e*Sn **Sn 07 04 55.3 +0.3**
HCY Herceg Novi 4.40 342 ⇓*i*Pn **Pn 07 04 02.9 -0.9**
HCY *e*Sn **Sn 07 04 55.3 +0.3**
CHOS Chios island 4.53 87 *e*PN **Pn 07 04 07.4 +1.8**
CHOS Chios island 4.53 87 *e*Pn **Pn 07 04 07.4 +1.8**
SMTH Samothraki Isl 4.62 60 *e*PN **Pn 07 04 07.5 +0.8**
SMTH Samothraki Isl 4.62 60 *e*Pn **Pn 07 04 07.5 +0.8**
BEY Berane 4.62 356 ⇓*i*Pn **Pn 07 04 08.1 +1.3**
BEY *e*Sn **Sn 07 05 02.3 +2.0**
IVA Berane 4.62 356 ⇓*i*Pn **Pn 07 04 08.1 +1.3**
IVA *e*Sn **Sn 07 05 02.3 +2.0**
NKME Niksic 4.62 348 ⇑*i*Pn **Pn 07 04 06.8 0.0**
NKME *e*Sn **Sn 07 05 00.6 +0.3**
NKME Niksic 4.62 348 ⇑*i*Pn **Pn 07 04 06.8 0.0**
NKME *e*Sn **Sn 07 05 00.6 +0.3**
NKY Niksic 4.66 348 ⇑*i*Pn **Pn 07 04 07.8 +0.4**
NKY *e*Sn **Sn 07 05 02.0 +0.7**
NKY Niksic 4.66 348 ⇑*i*Pn **Pn 07 04 07.8 +0.4**
NKY *e*Sn **Sn 07 05 02.0 +0.7**
IDI Anoyia 4.73 127 Pn **Pn 07 04 09.3 +0.9**
comp=E,0.2nm,0.3s,baz=292,slow=4.3,SNR=3.0
IDI Sn **Sn 07 05 04.0 +0.9**
comp=E,4.7nm,0.3s,baz=133,slow=24,SNR=11
MS1 Monte Sant'Ang 4.80 317 *e*Pn **Pn 07 04 10.7 +1.4**
VTS Vitosha 4.86 26 ⇑*i*P **Pn 07 04 12.1 +1.8**
VTS Vitosha 4.86 26 ⇑*i*P **Pn 07 04 12.1 +1.8**
RDO Rodhopi 4.96 53 *e*PN **Pn 07 04 12.5 +1.0**
RDO Rodhopi 4.96 53 *e*Pn **Pn 07 04 12.5 +1.0**
STON Ston 5.01 338 *e*Pn **Pn 07 04 11.3 -0.9**
STON Sn **Sn 07 05 04.3 -5.6**
STON Ston 5.01 338 *e*Pn **Pn 07 04 11.3 -0.9**
PLE Pljevlja 5.11 353 ⇓*i*Pn **Pn 07 04 15.3 +1.6**
PLE *e*Sn **Sn 07 05 13.3 +0.7**
PLE Pljevlja 5.11 353 ⇓*i*Pn **Pn 07 04 15.3 +1.6**
PLE *e*Sn **Sn 07 05 13.3 +0.7**
ALN Alexandroupoli 5.16 58 *e*PN **Pn 07 04 15.1 +0.9**
ALN Alexandroupoli 5.16 58 *e*Pn **Pn 07 04 15.1 +0.9**
KDZ Kurdzhali 5.19 48 ⇑*i*P **Pn 07 04 15.9 +1.3**
KDZ Kurdzhali 5.19 48 ⇑*i*P **Pn 07 04 15.9 +1.3**
SMG Samos 5.19 94 *e*PN **Pn 07 04 16.5 +1.8**
SMG Samos 5.19 94 *e*Pn **Pn 07 04 16.5 +1.8**
GZR Gura Zlata 7.36 14 ⇑*i*P **Pn 07 04 44.1 -0.4**
GZR Gura Zlata 7.36 14 ⇑*i*P **Pn 07 04 44.1 -0.4**
BZS Buzias 7.42 7 ⇓*i*P **Pn 07 04 46.0 +0.8**
BZS Buzias 7.42 7 ⇓*i*P **Pn 07 04 46.0 +0.8**
VOIR 8.00 25 ⇑*i*P **Pn 07 04 54.8 +1.6**
VOIR 8.00 25 ⇑*i*P **Pn 07 04 54.8 +1.6**
PKSM Moragy 8.04 352 ⇑*i*P **Pn 07 04 52.6 -1.1**
PKSM Moragy 8.04 352 ⇑*i*P **Pn 07 04 52.6 -1.1**
BOJS Bojanci 8.16 334 *i* Pn **Pn 07 04 55.5 +0.2**
BOJS Bojanci 8.16 334 *i* Pn **Pn 07 04 55.5 +0.2**
GBRS Gornja Briga 8.34 332 *e*Pn **Pn 07 04 58.4 +0.6**
MLR Muntele Rosu 8.36 28 ⇑*i*P **Pn 07 05 00.3 +2.0**
MLR Muntele Rosu 8.36 28 Pn **Pn 07 05 00.3 +2.0**
comp=E,0.1nm,0.3s,baz=162,slon=5.6,SNR=6.4
MLR LR LR 07 09 36.0
comp=E,16nm,18.5s,baz=200,slow=48
VRI Vrincioaia 8.97 30 ⇑*i*P **Pn 07 05 08.6 +2.0**
VRI Vrincioaia 8.97 30 ⇑*i*P **Pn 07 05 08.6 +2.0**
VOJS Vojsko 9.11 331 *i* Pn **Pn 07 05 08.3 -0.2**
VOJS Vojsko 9.11 331 *i* Pn **Pn 07 05 08.3 -0.2**
KEST Kesra 9.12 257 Pn **Pn 07 05 11.0 +2.3**
comp=E,0.2nm,0.3s,baz=332,slow=3.2,SNR=6.5
KEST Sn **Sn 07 06 52.4 +1.2**
comp=E,0.1nm,0.3s,baz=60,slow=20,SNR=2.9
SOKA Soboth 9.27 337 *i* Pn **Pn 07 05 09.9 -0.7**
SNR=9.4
SOKA ⇓*i*Sn **Sn 07 06 51.5 -3.2**
SOKA Soboth 9.27 337 Pn **Pn 07 05 09.9 -0.7**
SNR=9.4
PGF Pioggiola 9.62 300 *e*P **Pn 07 05 17.0 +1.4**
PGF Pioggiola 9.62 300 *e*P **Pn 07 05 17.0 +1.4**
MYKA Terra Mystica 9.70 332 ⇓*i*Pn **Pn 07 05 16.3 -0.3**
MYKA Terra Mystica 9.70 332 ⇓*i*Pn **Pn 07 05 16.3 -0.3**
KBA Koelnbreinsper 10.19 332 ⇑*i*Pn **Pn 07 05 23.0 -0.3**
SNR=5.6
KBA Koelnbreinsper 10.19 332 Pn **Pn 07 05 23.0 -0.3**
SNR=5.6
BRTR Keskin Array B 10.49 78 Pn Pn 07 05 31.0 +3.5
comp=E,0.1nm,0.3s,baz=286,slow=12,SNR=3.0
MOA Molln 10.55 337 ⇑*i*Pn **Pn 07 05 28.1 0.0**
SNR=14
MOA ⇑*i*Sn **Sn 07 07 23.2 -2.9**
MOA Molln 10.55 337 Pn **Pn 07 05 28.1 0.0**
SNR=14
WTTA Wattenberg 11.02 328 ⇑*i*Pn **Pn 07 05 35.0 +0.3**
WTTA ⇓*i*Sn **Sn 07 07 34.6 -3.2**
WTTA Wattenberg 11.02 328 Pn **Pn 07 05 35.0 +0.3**
MOTA Moosalm 11.31 326 ⇓*i*Pn **Pn 07 05 38.1 -0.6**
SNR=4.8
MOTA Moosalm 11.31 326 Pn **Pn 07 05 38.1 -0.6**
SNR=4.8
VRAC Vranov 11.36 348 LR LR 07 11 00.1
comp=E,23nm,18.0s,baz=168,slow=43
DAVOX Davos/Dischmat 11.46 321 Pn **Pn 07 05 42.1 +1.3**
comp=E,0.6nm,0.3s,baz=144,slow=19,SNR=4.5
DAVOX Sn **Sn 07 07 46.7 -2.0**
comp=E,0.6nm,0.3s,baz=0.0,slow=20,SNR=2.8
GERES GERESS Array B 11.61 338 Pn **Pn 07 05 41.0 -1.6**
comp=E,0.8nm,0.3s,baz=157,slow=14,SNR=9.5
GERES Sn **Sn 07 07 46.2 -5.9**
comp=E,0.6nm,0.3s,baz=150,slow=20,SNR=4.2
KHC Kasperske Hory 11.90 338 *e*P **Pn 07 05 47.0 +0.4**
MBDF Montbardon 12.02 307 *e*P **Pn 07 05 50.5 +2.1**
comp=E,18nm,1.0s
MBDF Montbardon 12.02 307 *e*P **Pn 07 05 50.5 +2.1**
comp=E,18nm,1.0s
LPG La Plagne 12.41 310 *e*P **Pn 07 05 54.9 +1.1**
comp=E,4.3nm,0.5s
LPG La Plagne 12.41 310 *e*P **Pn 07 05 54.9 +1.1**
comp=E,4.0nm,0.5s
LPL La Plagne 12.43 310 *e*P **Pn 07 05 55.1 +1.0**
comp=E,4.1nm,0.5s
LPL La Plagne 12.43 310 *e*P **Pn 07 05 55.1 +1.0**
comp=E,4.0nm,0.5s
CABF La Chapelle 13.39 313 *e*P **Pn 07 06 06.3 -0.8**
comp=E,3.9nm,0.4s
CABF La Chapelle 13.39 313 *e*P **Pn 07 06 06.3 -0.8**
comp=E,3.0nm,0.4s
HINF Hinteralfeld 13.69 319 *e*P **Pn 07 06 11.7 +0.6**
comp=E,3.7nm,0.3s
HINF Hinteralfeld 13.69 319 *e*P **Pn 07 06 11.7 +0.6**
comp=E,3.0nm,0.3s
CDF Champ du Feu 13.86 321 *e*P **Pn 07 06 14.8 +1.3**
comp=E,2.3nm,0.3s
CDF Champ du Feu 13.86 321 *e*P **Pn 07 06 14.8 +1.3**
comp=E,2.0nm,0.3s
AKASG Malin Array Be 13.96 24 Pn **Pn 07 06 13.1 -1.5**
comp=E,0.6nm,0.3s,baz=212,slow=11,SNR=5.0
CLL Collm 14.03 341 *e*PP **P 07 06 23.0 -0.5**
HAU Haudompre 14.07 318 *e*P **Pn 07 06 15.8 -0.5**
comp=E,6.9nm,0.3s
HAU Haudompre 14.07 318 *e*P **Pn 07 06 15.8 -0.5**
comp=E,6.0nm,0.3s
KBZ Khabaz 17.89 65 P **P 07 07 06.9 +0.6**
comp=E,0.1nm,0.3s,baz=236,slow=24,SNR=5.9
ESDC Sonseca Array 18.91 282 P **Pn 07 07 18.5 +0.2**
comp=E,0.2nm,0.3s,baz=73,slow=10,SNR=3.8
GNI Garni 19.02 77 P **Pn 07 07 20.3 +0.5**
comp=E,1.0nm,0.3s,baz=354,slow=10,SNR=2.6
GNI LR LR 07 16 09.9
comp=E,39nm,18.5s,baz=268,slow=42
MDT Midelt 20.96 263 P **P 07 07 39.5 -0.7**
comp=E,1.3nm,0.9s,baz=62,slow=17,SNR=3.1
HFS Hagfors 22.29 351 P **P 07 07 53.4 -0.7**
comp=E,1.1nm,0.5s,baz=152,slow=9.6,SNR=20
EKA Eskdalemuir Ar 23.26 325 P **P 07 08 04.4 +0.1**
comp=E,2.8nm,0.8s,baz=125,slow=10,SNR=7.4
FINES FINESS Array B 23.48 7 P **P 07 08 04.8 -1.7**
comp=E,2.6nm,0.5s,baz=171,slow=11,SNR=17
FINES LR LR 07 19 39.0
comp=E,44nm,18.9s,baz=204,slow=43
NB2 NORSAR Subarra 23.50 349 P **P 07 08 05.6 -1.1**
comp=Z,1.6nm,0.6s,baz=154,slow=11
NOA NORSAR Array B 23.50 349 P **P 07 08 05.9 -0.8**
comp=Z,2.1nm,0.8s,baz=162,slow=11,SNR=6.0
KAF Kangasniemi 24.16 7 *ep* **P 07 08 10.6 -2.3**
comp=Z,3.1nm,0.7s
JOF Joensuu 25.58 12 *ep* **P 07 08 23.6 -2.2**
comp=Z,1.8nm,0.7s
AKTO Aktyubinsk 29.27 53 P **P 07 08 57.9 -1.2**
comp=Z,0.5nm,0.5s,baz=249,slow=14,SNR=2.9
GEYT Alibeck 29.63 79 P P 07 09 06.3 +4.0
comp=Z,1.8nm,0.5s,baz=292,slow=9.2,SNR=3.6
TORD Torodi Ar. Bea 29.99 218 P **P 07 09 06.0 +0.3**
comp=Z,3.0nm,0.8s,baz=30,slow=9.1,SNR=25
ARCES ARCESS Array B 31.46 4 P **P 07 09 17.1 -1.1**
comp=Z,1.4nm,0.7s,baz=191,slow=12,SNR=14
KEV Kevo 31.76 4 *ep* **P 07 09 19.0 -1.7**
comp=Z,0.4nm,0.3s
DBIC Dimbokro 38.84 222 P **P 07 10 22.3 +0.1**
comp=Z,3.3nm,0.8s,baz=356,slow=7.5,SNR=4.9
LIC Lamto 39.30 222 *eP* **P 07 10 26.4 +0.3**
comp=Z,3.6nm,0.4s
MKAR Makanchi Array 45.41 58 P **P 07 11 14.2 -1.4**
comp=Z,0.6nm,0.4s,baz=274,slow=7.4,SNR=18
ZALV Zalesovo Beam 45.77 48 P **P 07 11 17.1 -1.1**
comp=Z,2.3nm,0.4s,baz=269,slow=8.6,SNR=6.7
SCHQ Schefferville 58.28 317 P **P 07 12 52.2 +0.8**
comp=Z,1.0nm,0.6s,baz=58,slow=9.4,SNR=3.9
SONM Songino Array 60.54 51 P **P 07 13 06.5 -0.8**
comp=Z,0.3nm,0.5s,baz=298,slow=9.6,SNR=2.6
CMAR Chiang Mai Arr 70.05 82 P **P 07 14 10.6 +1.4**
comp=Z,0.8nm,0.3s,baz=302,slow=8.0,SNR=5.3
YKA Yellowknife Ar 73.25 340 P **P 07 14 28.2 +0.4**
comp=Z,0.1nm,0.4s,baz=32,slow=5.5,SNR=8.4
ILAR Eielson Array 76.81 354 P **P 07 14 47.4 -0.9**
comp=Z,0.2nm,0.8s,baz=9.9,slow=2.1,SNR=3.2
USRK Ussuriysk Ar. 77.34 43 P **P 07 14 51.5 -0.2**
comp=Z,2.5nm,0.7s,baz=299,slow=3.0,SNR=3.7
KSRS Korea Array 79.41 50 P P 07 15 07.9 +4.8
comp=Z,8nm,0.6s,baz=301,slow=4.5,SNR=2.8
MJAR Matsushiro Arr 86.05 46 P **P 07 15 39.3 +1.5**
comp=Z,0.7nm,0.4s,baz=316,slow=3.4,SNR=3.0
ANMO Albuquerque 92.03 319 LR LR 07 58 18.8
comp=Z,34nm,19.4s,baz=320,slow=36
NVAR Mina Array Bea 94.71 329 P **P 07 16 17.4 -1.3**
comp=Z,0.1nm,0.6s,baz=351,slow=3.9,SNR=2.3
WRA Warramunga Arr 120.72 92 PKP **PKPdf 07 21 48.6 -0.7**
comp=Z,0.3nm,1.0s,baz=312,slow=1.7,SNR=7.5
ASAR Alice Springs 122.35 96 PKP **PKPdf 07 21 51.5 -0.9**
comp=Z,0.1nm,0.4s,baz=250,slow=1.9,SNR=4.1

*ISCJB **19** 07:13:01.8±0.4,34.°91S±0.°06×15.°19W±0.°07,h10km, mb4.1/23,MS3.9/7,Error ellipse: s-maj=10.2km s-min=7.5km az=41.6*
*IDC **19** 07:13:02.4±0.6,34.°78S×15.°32W,h0km,mb4.1/19, mb1 4.2/19,mb1mx4.1/26,mbtmp4.1/19,MS4.0/6, Ms1 4.0/6,ms1mx3.6/31,Error ellipse: s-maj=18.9km s-min=14.3km az=159.0*
*NEIC **19** 07:13:03.6±0.4,34.°87S×15.°27W,h10km,mb4.5/6,Error ellipse: s-maj=11.9km s-min=10.2km az=184.0*

ISC 19 07:13:03.6±0.4,34.°89S±0.°09×15.°25W±0.°08,h10km,n50, σ1s30/41,mb4.1/23,MS4.0/7,Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.23**	**133**	Pn		**Pn**	**07 13 51.6**	**-2.6**
	SNR=165							
H09N1				T		T	07 17 05.5	
	SNR=93							
TRIS	**Tristan da Cun**	**3.23**	**133**	*e*Pn		Pn	07 13 50.8	-3.4
I49GB	**TRISTAN DA CUN**	**3.23**	**134**	Pn		**Pn**	**07 13 51.5**	**-2.9**
H09W1	**TRISTAN DA CUN**	**3.23**	**134**	Pn		**Pn**	**07 13 51.2**	**-3.2**
H09W1				T		T	07 17 23.0	
	SNR=3057							
H10S2	**ASCENSION HYDR**	**25.81**	**1**	T		T	07 45 10.6	
	baz=181,slow=75,SNR=259							
H10S3	**ASCENSION HYDR**	**25.82**	**1**	T		T	07 45 11.0	
	baz=181,slow=75,SNR=289							
H10S1	**ASCENSION HYDR**	**25.83**	**1**	T		T	07 45 12.0	
	baz=181,slow=75,SNR=301							
H10N1	**ASCENSION HYDR**	**26.92**	**2**	T		T	07 46 40.4	
	baz=188,slow=77,SNR=18							
H10N3	**ASCENSION HYDR**	**26.92**	**2**	T		T	07 46 35.0	
	baz=188,slow=77,SNR=156							
H10N2	**ASCENSION HYDR**	**26.94**	**2**	T		T	07 46 36.1	
	baz=188,slow=77,SNR=32							
BDFB	**Brasilia**	**35.06**	**295**	P		**P**	**07 19 56.5**	**-0.5**
	5.4nm,1.1s,baz=100,slow=6.9,SNR=7.0							
BDFB				LR		LR	07 31 41.9	
	comp=Z,336nm,20.2s,baz=98,slow=32							
VNA2	**Neumayer--Watz**	**36.35**	**176**	P		**P**	**07 20 08.0**	**+0.7**
	baz=343,slow=11							
LBTB	**Lobatse**	**36.52**	**86**	P		**P**	**07 20 11.8**	**+2.3**
	3.4nm,1.0s,baz=243,slow=6.8,SNR=2.9							
VNA3	**Neumayer Olymp**	**36.54**	**177**	P		**P**	**07 20 09.6**	**+0.6**
CPUP	**Villa Florida**	**36.99**	**272**	P		**P**	**07 20 13.3**	**0.0**
	1.8nm,1.2s,baz=80,slow=11,SNR=2.6							
CPUP	**Villa Florida**	**36.99**	**272**	*e*P		**P**	**07 20 13.1**	**-0.2**
	0.1nm,1.1s							
SNAA	**Sanae**	**37.43**	**174**	P		**P**	**07 20 18.0**	**+1.4**
	0.8nm,0.9s,baz=265,slow=10,SNR=4.1							
SNAA				LR		LR	07 31 44.6	
	comp=Z,17nm,20.6s,baz=16,slow=30							
DBIC	**Dimbokro**	**42.48**	**15**	P		**P**	**07 20 58.0**	**-1.0**
	3.8nm,0.9s,baz=166,slow=6.7,SNR=3.0							
DBIC				LR		LR	07 34 20.7	
	comp=Z,52nm,18.2s,baz=148,slow=30							
DBIC	**Dimbokro**	**42.48**	**15**	*e*P		**P**	**07 20 58.7**	**-0.3**
MSKU	**Masuku**	**42.60**	**45**	P		**P**	**07 21 00.4**	**+0.2**
	6.3nm,0.5s,baz=221,slow=13,SNR=3.8							
PLCA	**Paso Flores**	**43.47**	**245**	P		**P**	**07 21 07.9**	**+0.8**
	4.0nm,0.7s,baz=106,slow=4.9,SNR=4.9							
PLCA	**Paso Flores**	**43.47**	**245**	*e*P		**P**	**07 21 07.8**	**+0.8**
	22nm,1.6s							
LSZ	**Lusaka**	**43.51**	**75**	P		**P**	**07 21 07.7**	**+0.1**
	1.1nm,0.5s,baz=209,slow=16,SNR=3.5							
CFAA	**Coronel Fontan**	**44.01**	**259**	P		**P**	**07 21 10.5**	**-0.9**
	0.9nm,1.0s,baz=87,slow=7.9,SNR=6.2							
SIV	**San Ignacio**	**45.02**	**283**	P		**P**	**07 21 20.6**	**+1.0**
	7.1nm,1.0s,baz=170,slow=6.1,SNR=8.9							
TORD	**Torodi Ar. Bea**	**50.40**	**22**	P		**P**	**07 22 00.1**	**-1.1**
	8.4nm,0.9s,baz=198,slow=7.6,SNR=44							
TORD				LR		LR	07 39 15.5	
	comp=Z,93nm,19.2s,baz=200,slow=31							
LPAZ	**La Paz**	**50.57**	**277**	P		**P**	**07 22 01.9**	**-1.5**
	2.0nm,1.0s,baz=89,slow=10.0,SNR=5.3							
LPAZ	**La Paz**	**50.57**	**277**	*e*P		**P**	**07 22 01.7**	**-1.7**
	3.0nm,1.1s							
SAML	**Samuel**	**50.79**	**289**	*e*P		**P**	**07 22 04.5**	**+0.2**
	5.8nm,1.2s							
MAW	**Mawson**	**53.79**	**152**	P		**P**	**07 22 27.5**	**+1.7**
	3.6nm,0.8s,baz=262,slow=7.2,SNR=5.3							
MAW				LR		LR	07 40 11.7	
	comp=Z,151nm,21.7s,baz=242,slow=30							
KMBO	**Kilima Mbogo**	**59.24**	**67**	LR		LR	07 46 46.2	
	comp=Z,307nm,19.1s,baz=150,slow=34							
TAM	**Tamanrasset**	**60.66**	**22**	*e*P		**P**	**07 23 15.3**	**+0.2**
	3.4nm,0.9s							
ATAH	**Atahualpa**	**63.97**	**280**	P		**P**	**07 23 39.4**	**+1.5**
	3.6nm,0.7s,baz=107,slow=11,SNR=3.5							
SBA	**Scott Base**	**67.52**	**180**	*e*P		**P**	**07 24 00.5**	**+1.2**
	2.1nm,0.8s							
VNDA	**Vanda**	**67.85**	**179**	P		**P**	**07 24 01.7**	**+0.3**
	0.5nm,0.7s,baz=255,slow=6.3,SNR=2.6							
VNDA	**Vanda**	**67.85**	**179**	*e*P		**P**	**07 24 02.8**	**+1.4**
OTAV	**Otavalo**	**68.39**	**286**	*e*P		**P**	**07 24 04.8**	**-1.6**
	6.5nm,1.1s							
KEST	**Kesra**	**73.91**	**21**	P		**P**	**07 24 39.8**	**+1.1**
	1.3nm,0.9s,baz=220,slow=16,SNR=2.7							
ESDC	**Sonseca Array**	**74.92**	**9**	P		**P**	**07 24 44.8**	**+0.3**
	0.3nm,0.3s,baz=184,slow=5.8,SNR=5.0							
BRTR	**Keskin Array B**	**86.88**	**36**	P		**P**	**07 25 49.2**	**+0.7**
	0.8nm,0.9s,baz=215,slow=7.0,SNR=3.8							
AKASG	**Malin Array Be**	**93.80**	**27**	P		**P**	**07 26 20.7**	**+0.3**
	0.1nm,0.3s,baz=216,slow=5.4,SNR=3.4							
GEYT	**Alibeck**	**99.35**	**50**	LR		LR	08 10 21.4	
	comp=Z,110nm,20.6s,baz=255,slow=35							
MKAR	**Makanchi Array**	**119.19**	**51**	PKP		**PKPdf**	**07 31 52.0**	**-0.6**
	0.2nm,0.8s,baz=264,slow=7.2,SNR=2.5							
YKA	**Yellowknife Ar**	**124.49**	**326**	PKP		**PKPdf**	**07 32 00.3**	**-1.8**
	0.5nm,0.8s,baz=103,slow=2.2,SNR=7.2							
INK	**Inuvik**	**132.32**	**334**	PKP		**PKPdf**	**07 32 15.8**	**-1.1**
	1.1nm,0.9s,baz=21,slow=5.6,SNR=5.1							
SONM	**Songino Array**	**135.34**	**55**	PKP		**PKPdf**	**07 32 24.0**	**+0.6**
	0.6nm,0.8s,baz=242,slow=3.2,SNR=5.1							
ILAR	**Eielson Array**	**138.46**	**331**	PKP		**PKPdf**	**07 32 27.5**	**-1.0**
	0.9nm,0.9s,baz=350,slow=0.9,SNR=8.3							
YAK	**Yakutsk**	**145.02**	**28**	PKP		**PKPbc**	**07 32 39.2**	**-0.4**
	2.0nm,0.4s,baz=24,slow=4.3,SNR=2.1							
KSAR	**Wonju Array Be**	**150.25**	**74**	PKPbc		**PKPbc**	**07 32 54.4**	**-0.4**
KSRS	**Korea Array**	**150.28**	**74**	PKPbc		**PKPbc**	**07 32 54.4**	**-0.5**
	3.2nm,0.9s,baz=290,slow=2.4,SNR=7.6							

IDC 19 07:20:58.0±2.7,53.°42N×87.°32E,h0km,mb1 2.6/2, mb1mx2.5/30,mbtmp2.6/2,ML2.3/2,Error ellipse: s-maj=25.1km s-min=14.6km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**291**	*i*			07 31 50.0	
	baz=108,slow=332,SNR=7.0							
ZALV	**Zalesovo Beam**	**1.58**	**291**	Pg		Pn	07 21 25.4	-1.8
	0.6nm,0.3s,baz=110,slow=16,SNR=11							
ZALV				Lg		Lg	07 21 48.2	
	0.8nm,0.3s,baz=112,slow=30,SNR=6.6							
KURBB	**Kurchatov Arra**	**6.10**	**246**	Pn		Pn	07 22 30.9	+1.5
	0.0nm,0.3s,baz=59,slow=13,SNR=2.6							
KURBB				Lg		Lg	07 24 10.7	
	0.0nm,0.3s,baz=62,slow=34,SNR=2.6							
MKAR	**Makanchi Array**	**7.38**	**208**	Pn		Pn	07 22 47.9	+1.1
	0.1nm,0.3s,baz=30,slow=14,SNR=8.6							
MKAR				Lg		Lg	07 24 52.7	
	0.0nm,0.3s,baz=24,slow=30,SNR=3.8							

*IDC **19** 07:21:26.8±1.0,35.°68S×72.°66W,h0km,mb3.9/6, mb1 3.9/10,mb1mx3.8/24,mbtmp3.7/10,ML3.7/4,MS3.7/5, Ms1 3.7/5,ms1mx3.2/35,Error ellipse: s-maj=26.4km s-min=15.8km az=97.0*
*ISCJB **19** 07:21:28.8±0.5,35.°67S±0.°04×72.°55W±0.°09,h20km, mb4.1/18,MS3.7/3,Error ellipse: s-maj=10.2km s-min=6.4km az=1.8*
*NEIC **19** 07:21:31.0,35.°72S×72.°39W,h14km,mb4.4/11, ML4.8(GUC),After GUC.*
NEIC Felt [V] at Cauquenes, Chanco and Pelluhue; [IV] at Linares, Parral, Retiro and San Javier; [III] at Concepcion, La Laja, San Rosendo and Talca.

ISC 19 07:21:30.6±0.6,35.°67S±0.°06×72.°6W±0.°1,h20km,n35, σ1s14/33,mb4.2/18,MS3.9/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**5.30**	**163**	Pn		**Pn**	**07 22 49.5**	**+0.8**
	3.8nm,0.3s,baz=334,slow=12,SNR=80							
PLCA				Lg		Lg	07 24 14.8	
	3.6nm,0.3s,baz=252,slow=17,SNR=4.5							
PLCA				LR		LR	07 24 56.3	
	comp=Z,297nm,21.7s,baz=336,slow=40

10nm,1.5s
LBTB Lobatse 82.02 115 *e*P P 07 33 48.2 -1.4
10.0nm,1.2s
RPZ Rata Peaks 82.09 221 LR LR 08 02 17.3
comp=Z,72nm,20.8s,baz=337,slow=30
SRU San Rafael Swe 82.25 331 *e*P P 07 33 50.7 +0.3
0.7nm,0.5s
TPH Tonopah 84.22 326 *e*P P 07 34 00.0 -0.6
0.3nm,0.3s
TORD Torodi Ar. Bea 85.20 70 P P 07 34 04.2 -1.6
0.9nm,0.9s,baz=244,slow=5.2,SNR=4.8
HVU Hansel Valley 85.42 331 *e*P P 07 34 07.1 +0.6
0.9nm,0.7s
ULM Lac du Bonnet 87.99 345 P P 07 34 18.4 -0.2
1.0nm,0.7s,baz=187,slow=4.4,SNR=3.9
BRVK Borovoye 148.73 45 *e*PKPbc **PKPbc 07 41 15.4 -0.5**
BVAR Borovoye Array 148.80 45 PKPbc **PKPbc 07 41 15.7 -0.3**
0.5nm,0.6s,baz=300,slow=3.2,SNR=4.4

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*GUC **19** 07:32:41.2±0.7, 37.50S×74.61W, h21km±4km, ML5.4*
*IDC **19** 07:32:44.3±0.5, 37.54S×73.85W, h0km, mb4.6/16, mb1 4.7/21, mb1mx4.7/23, mbtmp4.6/21, ML4.0/4, MS4.6/15, Ms1 4.6/15, ms1mx4.4/25, Error ellipse: s-maj=16.8km s-min=10.8km az=87.0*
*ISCJB **19** 07:32:46.4±1.5, 37.50S±0.03×73.79W±0.07, h20km±10km, mb4.9/76, MS4.7/17, Error ellipse: s-maj=9.2km s-min=4.4km az=173.8*
*NEIC **19** 07:32:48.9±0.2, 37.52S×73.68W, mb5.0/60, ML5.4(GUC), Error ellipse: s-maj=7.3km s-min=4.7km az=70.0*
NEIC Felt [III] at Chillan and [II] at La Laja and San Rosendo. Also felt at Angol, Cauquenes, Canete, Concepcion, Penco, Santiago and Tome.
*BJI **19** 07:32:48.9, 37.32S×73.20W, h35km, mB5.2/14, Ms5.4/10, Ms7 4.9/10*
*GCMT **19** 07:32:48.9±0.2, 37.69S×74.24W, h18km±1km, MW5.2/85, Moment Tensor Solution. s48,c60; s85,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mr 4.42±.21; Mθθ -0.05±.11; Mφφ -4.37±.15; Mrθ 0.96±.26; Mrφ 0.65±.09; Mθφ -5.32±.39; Best double couple: Mw6.99 700×10^16 NP1: φs 353.00000°, δ 20.00000°, λ 93.00000°. NP2: φs 170.00000°, δ 70.00000°, λ 89.00000°. Principal axes: T 6.9750, Plg65.0000°, Azm79.0000°; N 0.0400, Plg1.0000°, Azm171.0000°; P -7.0190, Plg25.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **19** 07:32:48.8±1.1, 37.50S×73.72W, h33km, mb5.2/25 Error ellipse: s-maj=17.6km s-min=8.1km az=101.3*

ISC 19 07:32:49.1±0.4, 37.47S±0.04×73.69W±0.05, h28km±2km, h28km:pP-P, n563, σ0.97/624, mb4.9/76, MS4.7/17, 135C-143D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.78**	**37**	*e*P		**Pn**	**07 33 04.8**	**+0.6**
CCSP				*i* S		Sn	07 33 22.2	+7.2
CCSP				AML		AML	07 33 26.4	
	comp=N,71μm,0.7s							
LNCH	**Linares**	**2.33**	**47**	⇑*i*P		**Pn**	**07 33 27.6**	**+1.9**
VLCH	**Valdivia**	**2.36**	**172**	⇑*i*P		Pn	07 33 22.1	-3.8
VLCH				*i* S		**Sn**	**07 33 53.4**	**-0.5**
VLCH				AML		AML	07 34 13.1	
	comp=E,35μm,0.6s							
TALC	**Talca**	**2.65**	**39**	⇑*i*P		**Pn**	**07 33 31.4**	**+1.4**
TALC				*i* S		**Sb**	**07 34 08.9**	**+0.9**
NICH	**Los Niches**	**3.17**	**40**	*e*P		**Pn**	**07 33 38.3**	**+1.2**
PLCA	**Paso Flores**	**4.07**	**144**	*e*P		**Pn**	**07 33 49.2**	**-0.4**
PLCA							07 34 40.5	
PLCA	**Paso Flores**	**4.07**	**144**	Pn		**Pn**	**07 33 49.8**	**+0.2**
	comp=E,2.9nm,0.3s,baz=322,slow=9.8,SNR=110							
PLCA				Sn		**Sn**	**07 34 40.5**	**+4.1**
	comp=E,21nm,0.3s,baz=308,slow=15,SNR=5.3							
PLCA				Lg		Lg	07 34 53.8	
	comp=E,37nm,0.3s,baz=30,slow=22,SNR=7.6							
PLCA	**Paso Flores**	**4.07**	**144**	*e*P		**Pn**	**07 33 49.3**	**-0.4**
PLCA	**Paso Flores**	**4.07**	**144**	*e*Pn		**Pn**	**07 33 49.2**	**-0.4**
PLCA				Sn		**Sn**	**07 34 40.5**	**+4.1**
PLCA				Lg		Lg	07 34 53.8	
ROCH	**El Roble**	**5.00**	**27**	*e*P		**Pn**	**07 34 02.5**	**+0.1**
CFAA	**Coronel Fontan**	**7.38**	**39**	Pn		**Pn**	**07 34 35.2**	**+0.2**
	comp=E,1.5nm,0.3s,baz=212,slow=12,SNR=118							
CFAA				Lg		Lg	07 36 43.8	
	comp=E,0.7nm,0.3s,baz=282,slow=14,SNR=5.3							
CFAA				LR		LR	07 37 11.9	
	comp=E,206nm,20.0s,baz=224,slow=36							
CFAA	**Coronel Fontan**	**7.38**	**39**	Pn		**Pn**	**07 34 35.2**	**+0.2**
CFAA				Lg		Lg	07 36 43.8	
TLL	**Tololo Astrono**	**7.67**	**19**	*e*P		**Pn**	**07 34 40.4**	**+1.2**
LCO	**Las Campanas**	**8.80**	**17**	*e*P		**Pn**	**07 34 54.3**	**-0.4**
LCO	**Las Campanas**	**8.80**	**17**	*e*Pn		**Pn**	**07 34 53.1**	**-1.6**
LCO				*e*Sn		**Sn**	**07 36 36.8**	**+3.7**
TRQA	**Tornquist**	**9.30**	**97**	*e*P		**Pn**	**07 35 03.3**	**+2.0**
TRQA	**Tornquist**	**9.30**	**97**	*e*Pn		**Pn**	**07 35 01.9**	**+0.6**
TRQA				*e*Sn		**Sn**	**07 36 39.4**	**-5.5**
CHRN	**Cochrane**	**9.70**	**176**	*e*P		**Pn**	**07 35 06.5**	**-0.1**
PB10	**IPOC Station P**	**14.17**	**12**	*e*P		**P**	**07 36 17.4**	**+2.3**
PB06	**IPOC Station P**	**15.14**	**15**	*e*P		**Pn**	**07 36 21.1**	**-0.1**
LVC	**Limon Verde**	**15.37**		Pn		**Pn**	**07 36 24.5**	**+0.1**
	comp=E,27nm,0.3s,baz=194,slow=7.3,SNR=10							
LVC	**Limon Verde**	**15.37**	**17**	*e*Pn		**Pn**	**07 36 24.4**	**+0.1**
	comp=E,100nm,1.3s							
LVC				*e*Sn		**Sn**	**07 39 13.1**	**-0.8**
PB04	**IPOC Station P**	**15.58**	**15**	*e*P		**P**	**07 36 30.8**	**0.0**
PB07	**IPOC Station P**	**16.03**	**13**	*e*P		**P**	**07 36 37.8**	**+1.8**
PATCX	**Punta Patache**	**16.87**	**11**	*e*P		**P**	**07 36 47.8**	**+2.6**
USHA	**Ushuaia**	**17.74**	**170**	P		**Pn**	**07 36 52.8**	**-0.9**
	comp=E,0.4nm,0.3s,baz=327,slow=11,SNR=12							
USHA				LR		LR	07 43 31.4	
	comp=E,2μm,19.5s,baz=318,slow=37							
USHA	**Ushuaia**	**17.74**	**170**	P		**Pn**	**07 36 52.8**	**-0.9**
CPUP	**Villa Florida**	**17.76**	**56**	*e*P		**P**	**07 36 54.8**	**-0.1**
CPUP	**Villa Florida**	**17.76**	**56**	P		**Pn**	**07 36 53.5**	**-0.8**
	comp=E,0.1nm,0.3s,baz=222,slow=10,SNR=18							
CPUP				Lg		Lg	07 42 11.0	
	comp=E,0.0nm,0.3s,baz=300,slow=20,SNR=2.3							
CPUP				LR		LR	07 44 18.0	
	comp=E,10μm,21.9s,baz=218,slow=39							
CPUP	**Villa Florida**	**17.76**	**56**	*e*P		**P**	**07 36 54.8**	**-0.1**
CPUP				Lg		Lg	07 42 11.0	
EFI	**East Falkland**	**17.99**	**147**	Pn		**P**	**07 36 57.2**	**-0.1**
	comp=E,903nm,1.0s,SNR=11							
EFI	**East Falkland**	**17.99**	**147**	*e*P		**P**	**07 36 57.8**	**+0.5**
EFI				pmax		pmax		
	comp=Z,204nm,1.1s							
EFI	**East Falkland**	**17.99**	**147**	*e*P		**P**	**07 36 57.8**	**+0.5**
	comp=Z,204nm,1.1s							
LPAZ	**La Paz**	**21.66**	**15**	*e*P		**P**	**07 37 40.1**	**+1.9**
LPAZ				pmax		pmax		
	comp=Z,106nm,1.1s							
LPAZ	**La Paz**	**21.66**	**15**	P		**P**	**07 37 40.0**	**+1.9**
	comp=Z,32nm,0.9s,baz=179,slow=4.9,SNR=48							
LPAZ	**La Paz**	**21.66**	**15**	*e*P		**P**	**07 37 40.1**	**+1.9**
	comp=Z,106nm,1.1s							
SIV	**San Ignacio**	**24.13**	**31**	P		**P**	**07 38 03.7**	**+1.0**
	comp=Z,16nm,0.8s,baz=225,slow=10,SNR=43							
SIV				LR		LR	07 49 27.5	
	comp=Z,2μm,19.6s,baz=220,slow=41							
SIV	**San Ignacio**	**24.13**	**31**	P		**P**	**07 38 03.7**	**+1.0**
NNA	**Nana**	**25.53**	**353**	P		**P**	**07 38 15.7**	**+0.2**
	comp=Z,12nm,0.7s,baz=220,slow=8.4,SNR=4.0							
NNA	**Nana**	**25.53**	**353**	P		**P**	**07 38 15.7**	**+0.2**
PMSA	**Palmer Station**	**27.94**	**171**	LR		LR	07 50 28.1	
	comp=Z,1μm,18.1s,baz=338,slow=38							
SAML	**Samuel**	**29.94**	**21**	*e*P		**P**	**07 38 55.3**	**+0.4**
	comp=Z,16nm,1.3s							
ATAH	**Atahualpa**	**30.50**	**351**	P		**P**	**07 39 03.3**	**+3.0**
	comp=Z,5.0nm,0.7s,baz=142,slow=4.4,SNR=4.9							
ATAH	**Atahualpa**	**30.50**	**351**	P		**P**	**07 39 03.3**	**+3.0**
BDFB	**Brasilia**	**31.44**	**53**	P		**P**	**07 39 08.0**	**-0.3**
	comp=Z,13nm,0.9s,baz=216,slow=8.1,SNR=22							
BDFB				LR		LR	07 53 35.6	
	comp=Z,2μm,19.2s,baz=224,slow=40							
BDFB	**Brasilia**	**31.44**	**53**	P		**P**	**07 39 08.0**	**-0.3**
RPN	**Rapa Nui**	**31.68**	**279**	LR		LR	07 48 13.8	
	comp=Z,750nm,20.6s,baz=120,slow=29							
OTAV	**Otavalo**	**37.78**	**352**	*e*P		**P**	**07 40 04.2**	**+0.8**
	comp=Z,50nm,1.4s							
PTGA	**Pitinga**	**38.69**	**22**	P		**P**	**07 40 10.4**	**-0.2**
	comp=Z,11nm,1.0s,baz=197,slow=9.5,SNR=23							
ROSC	**El Rosal**	**42.11**	**359**	P		**P**	**07 40 41.9**	**+2.6**
	comp=Z,6.5nm,0.8s,baz=144,slow=5.1,SNR=6.6							
ROSC	**El Rosal**	**42.11**	**359**	*e*P		P	07 40 42.6	+3.2
SDV	**Santo Domingo**	**46.20**	**4**	*e*P		**P**	**07 41 11.8**	**-0.1**
	comp=Z,11nm,0.9s							
RCBR	**Riachuelo**	**46.63**	**57**	*e*P		**P**	**07 41 16.7**	**+1.5**
	comp=Z,56nm,1.2s							
VNA3	**Neumayer Olymp**	**46.69**	**156**	P		**P**	**07 41 15.0**	**0.0**
VNA1	**Neumayer--Stat**	**47.05**	**156**	P		**P**	**07 41 18.2**	**+0.5**
VNA2	**Neumayer--Watz**	**47.37**	**156**	P		**P**	**07 41 20.3**	**+0.1**
	baz=271,slow=7.0							
JTS	**JuntasAbangare**	**48.67**	**345**	*e*P		**P**	**07 41 32.5**	**+1.7**
JTS				pmax		pmax		
	comp=Z,66nm,2.0s							
JTS	**JuntasAbangare**	**48.67**	**345**	P		**P**	**07 41 31.7**	**+0.9**
	comp=Z,4.3nm,1.0s,baz=197,slow=4.4,SNR=3.2							
JTS	**JuntasAbangare**	**48.67**	**345**	*e*P		**P**	**07 41 32.5**	**+1.7**
	comp=Z,66nm,2.0s							
SNAA	**Sanae**	**48.91**	**157**	P		**P**	**07 41 31.7**	**-0.5**
	comp=Z,19nm,1.1s,baz=280,slow=6.4,SNR=43							
SNAA	**Sanae**	**48.91**	**157**	P		**P**	**07 41 31.7**	**-0.5**
QSPA	**South Pole Qui**	**52.77**	**180**	P		**P**	**07 42 00.8**	**-0.6**
	comp=Z,30nm,1.0s,baz=143,slow=3.6,SNR=42							
QSPA	**South Pole Qui**	**52.77**	**180**	*e*P		**P**	**07 42 00.7**	**-0.7**
	comp=Z,45nm,1.1s							
NVL	**N'lazarevskaya**	**53.69**	**156**	⇓*i*P		**P**	**07 42 06.9**	**-1.0**
NVL				pmax		pmax		
	comp=Z,26nm,0.9s							
SJG	**San Juan**	**55.74**	**9**	*e*P		**P**	**07 42 21.9**	**-1.3**
SJG				pmax		pmax		
	comp=Z,19nm,1.2s							
SJG	**San Juan**	**55.74**	**9**	*e*P		**P**	**07 42 21.9**	**-1.3**
	comp=Z,19nm,1.2s							
LRS	**Lares**	**55.84**	**8**	*e*P		**P**	**07 42 22.9**	**-1.1**
TEIG	**Tepich**	**59.01**	**344**	*e*P		**P**	**07 42 46.5**	**+0.2**
	comp=Z,15nm,0.8s							
TEIG				*e*pP		**pP**	**07 42 54.8**	**-0.1**
SBA	**Scott Base**	**59.41**	**192**	*e*P		**P**	**07 42 49.3**	**+0.8**
SBA				*e**PP		**pP**	**07 42 56.5**	**-0.7**
SBA				pmax		pmax		
	comp=Z,59nm,1.8s							
SBA	**Scott Base**	**59.41**	**192**	*e*P		**P**	**07 42 49.3**	**+0.8**
	comp=Z,59nm,1.8s							
SBA				*e*pP		**pP**	**07 42 56.5**	**-0.7**
VNDA	**Vanda**	**60.44**	**192**	*e*P		**P**	**07 42 56.2**	**+0.6**
VNDA				pmax		pmax		
	comp=Z,20nm,1.4s							
VNDA	**Vanda**	**60.44**	**192**	P		**P**	**07 42 55.3**	**-0.2**
	comp=Z,2.3nm,1.1s,baz=164,slow=5.4,SNR=6.1							
VNDA				LR		LR	08 07 00.5	
	comp=Z,319nm,18.1s,baz=124,slow=34							
VNDA	**Vanda**	**60.44**	**192**	*e*P		**P**	**07 42 56.2**	**+0.6**
	comp=Z,20nm,1.4s							
TBI	**Tubuai**	**65.26**	**259**	*e*S		**S**	**07 52 10.8**	**+0.5**
	comp=Z,656nm,27.2s							
TBI	**Tubuai**	**65.26**	**259**	*e*LR		LR	08 03 05.1	
	comp=Z,772nm,26.5s,baz=121							
MEH	**Mehetia**	**67.11**	**265**	*e*T		T	08 56 37.2	
	comp=Z,11nm,0.3s							
035A	**Encino**	**68.05**	**337**	⇑P		**P**	**07 43 46.9**	**+1.0**
	baz=68							
TVO	**Taravao**	**68.10**	**264**	*e*T		T	08 57 42.5	
	comp=Z,0.7nm,0.3s							
034A	**Hebbronville**	**68.35**	**336**	⇑P		**P**	**07 43 48.7**	**+0.9**
	baz=69							
PPT2	**Papeete2**	**68.47**	**264**	*e*S		**S**	**07 52 50.0**	**+0.7**
	comp=Z,314nm,23.5s							
PPT2	**Papeete2**	**68.47**	**264**	*e*LR		LR	08 04 32.9	
	comp=Z,692nm,26.0s							
934A	**Benavides**	**68.80**	**336**	⇓P		**P**	**07 43 51.4**	**+0.8**
	baz=69							
933A	**Laredo**	**69.05**	**336**	⇓P		**P**	**07 43 52.9**	**+0.7**
	baz=69							
834A	**Tilden**	**69.29**	**337**	⇑P		**P**	**07 43 54.7**	**+1.0**
	baz=70							
735A	**Kenedy**	**69.75**	**338**	⇓P		**P**	**07 43 57.5**	**+1.1**
	baz=70							
833A	**Chaparral WMA,**	**69.75**	**336**	⇑P		**P**	**07 43 57.5**	**+1.0**
	baz=70							
832A	**Faith Ranch, C**	**69.90**	**335**	⇑P		**P**	**07 43 58.3**	**+0.9**
	baz=70							
636A	**Smothers Creek**	**70.11**	**338**	⇓P		**P**	**07 43 59.4**	**+0.7**
	baz=70							
HKT	**Hockley**	**70.20**	**340**	*e*P		**P**	**07 44 00.4**	**+1.3**
HKT				pmax		pmax		
	comp=Z,33nm,2.0s							
HKT	**Hockley**	**70.20**	**340**	*e*P		**P**	**07 44 00.4**	**+1.3**
	comp=Z,33nm,2.0s							
MAW	**Mawson**	**70.24**	**164**	P		**P**	**07 43 58.2**	**-0.9**
	comp=Z,10nm,1.1s,baz=222,slow=7.5,SNR=7.9							
MAW				LR		LR	08 16 30.1	
	comp=Z,625nm,18.1s,baz=233,slow=37							
MAW	**Mawson**	**70.24**	**164**	P		**P**	**07 43 58.2**	**-0.9**
732A	**Laxson Ranch,**	**70.31**	**336**	⇓P		**P**	**07 43 60.0**	**0.0**
	baz=71,SNR=5.7							
537A	**Green Hill Far**	**70.46**	**339**	⇓P		**P**	**07 44 01.0**	**+0.2**
	baz=71							
633A	**Saathoff Ranch**	**70.73**	**337**	⇓P		**P**	**07 44 02.9**	**+0.4**
	baz=71							
535A	**Dale**	**70.77**	**338**	⇑P		**P**	**07 44 03.2**	**+0.5**
	baz=71							
632A	**Uvalde**	**70.97**	**336**	⇑P		**P**	**07 44 04.2**	**+0.3**
	baz=71							
534A	**Blanco**	**71.04**	**337**	⇑P		**P**	**07 44 04.3**	**-0.1**
	baz=71							
GOGA	**Godfrey**	**71.10**	**351**	*e*P		**P**	**07 44 04.5**	**-0.2**
GOGA				*e**PP		**pP**	**07 44 12.7**	**-0.8**
GOGA				pmax		pmax		
	comp=Z,11nm,0.9s							
GOGA	**Godfrey**	**71.10**	**351**	*e*P		**P**	**07 44 04.5**	**-0.2**
	comp=Z,11nm,0.9s							
GOGA				*e*pP		**pP**	**07 44 12.7**	**-0.8**
339A	**Huntington**	**71.17**	**341**	⇑P		**P**	**07 44 05.5**	**+0.4**
	baz=72							
LRAL	**Lakeview Retre**	**71.23**	**348**	*e*P		**P**	**07 44 05.5**	**+0.1**
	comp=Z,11nm,0.9s							
LRAL				*e*pP		**pP**	**07 44 13.9**	**-0.4**
533A	**Kerrville**	**71.26**	**337**	⇑P		**P**	**07 44 05.6**	**-0.1**
	baz=72							
338A	**Crockett**	**71.39**	**341**	⇓P		**P**	**07 44 06.7**	**+0.3**
	baz=72							
337A	**Centerville**	**71.50**	**340**	⇑P		**P**	**07 44 06.9**	**-0.2**
	baz=72							
532A	**Rocksprings**	**71.58**	**336**	⇓P		**P**	**07 44 07.9**	**+0.2**
	baz=72,SNR=8.5							
434A	**Burnet**	**71.71**	**338**	⇑P		**P**	**07 44 08.4**	**-0.1**
	baz=72,SNR=8.2							
239A	**Gary**	**71.80**	**342**	⇓P		**P**	**07 44 08.8**	**-0.1**
	baz=72							
531A	**Rocksprings**	**71.83**	**336**	⇑P		**P**	**07 44 09.5**	**+0.3**
	baz=72,SNR=5.7							
336A	**Riesel**	**71.84**	**339**	⇓P		**P**	**07 44 08.9**	**-0.2**
	baz=72							
JCT	**Junction City**	**71.88**	**336**	*e*P		**P**	**07 44 09.5**	**+0.1**
JCT				*e**PP		**pP**	**07 44 18.2**	**-0.1**
JCT				pmax		pmax		
	comp=Z,21nm,1.2s							
JCT	**Junction City**	**71.88**	**336**	⇑P		**P**	**07 44 09.6**	**+0.1**
	baz=72,SNR=6.8							
JCT	**Junction City**	**71.88**	**336**	*e*P		**P**	**07 44 09.5**	**+0.1**
	comp=Z,21nm,1.2s							
JCT				*e*pP		**pP**	**07 44 18.2**	**-0.1**
335A	**Moody**	**71.91**	**339**	⇓P		**P**	**07 44 09.8**	**+0.2**
	baz=72							
433A	**Art**	**71.91**	**337**	⇑P		**P**	**07 44 09.7**	**0.0**
	baz=72							
238A	**Jacksonville**	**71.95**	**341**	⇑P		**P**	**07 44 10.2**	**+0.4**
	baz=72							
530A	**J-C Ranch, Com**	**72.07**	**335**	⇑P		**P**	**07 44 11.1**	**+0.5**
	baz=72,SNR=8.7							
237A	**Washetta, Mont**	**72.13**	**340**	⇑P		**P**	**07 44 10.9**	**0.0**
	baz=72							
TXAR	**Lajitas Array**	**72.15**	**333**	P		**P**	**07 44 10.2**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=156,slow=8.2,SNR=15							
TXAR				LR		LR	08 11 00.1	
	comp=Z,179nm,18.8s,baz=0.0,slow=32							
TXAR	**Lajitas Array**	**72.15**	**333**	P		**P**	**07 44 10.2**	**-0.9**
334A	**Lometa**	**72.19**	**338**	⇓P		**P**	**07 44 11.2**	**-0.1**
	baz=73,SNR=10.0							
432A	**Menard**	**72.24**	**337**	⇓P		**P**	**07 44 11.9**	**+0.2**
	baz=73							
431A	**Sonora**	**72.32**	**336**	⇑P		**P**	**07 44 12.2**	**+0.1**
	baz=73							
529A	**Stev Forest Ra**	**72.35**	**334**	⇑P		**P**	**07 44 12.4**	**+0.1**
	baz=73,SNR=8.2							
333A	**Richland Sprin**	**72.41**	**337**	⇓P		**P**	**07 44 12.6**	**0.0**
	baz=73,SNR=5.6							
138A	**Matatall Enter**	**72.57**	**341**	⇓P		**P**	**07 44 13.4**	**-0.1**
	baz=73							
WHTX	**Lake Whitney,**	**72.58**	**339**	⇑P		**P**	**07 44 13.4**	**-0.1**
	baz=73							
KMSC	**Kings Mountain**	**72.59**	**353**	⇓P		**P**	**07 44 13.4**	**-0.1**
	baz=73							
KMSC	**Kings Mountain**	**72.59**	**353**	*e*P		**P**	**07 44 13.5**	**-0.1**
	comp=Z,9.9nm,0.8s							
430A	**Baggett Ranch,**	**72.63**	**335**	⇑P		**P**	**07 44 14.0**	**+0.1**
	baz=73,SNR=9.6							
137A	**Heron Place, G**	**72.68**	**341**	⇓P		**P**	**07 44 13.9**	**-0.2**
	baz=73							
332A	**Millersview**	**72.69**	**337**	⇑P		**P**	**07 44 14.0**	**-0.3**
	baz=73,SNR=8.4							
429A	**Davenport Ranc**	**72.70**	**335**	⇑P		**P**	**07 44 14.5**	**+0.1**
	baz=73,SNR=8.0							
234A	**Clairette**	**72.79**	**338**	⇑P		**P**	**07 44 14.5**	**-0.3**
	baz=73							
331A	**San Angelo**	**72.84**	**336**	⇓P		**P**	**07 44 14.8**	**-0.4**
	baz=73,SNR=8.1							
233A	**Rising Star**	**73.03**	**338**	⇑P		**P**	**07 44 15.6**	**-0.7**
	baz=73							
OXF	**Oxford**	**73.09**	**346**	*e*P		**P**	**07 44 15.9**	**-0.6**
OXF				pmax		pmax		
	comp=Z,24nm,1.0s							
OXF	**Oxford**	**73.09**	**346**	*e*P		**P**	**07 44 15.9**	**-0.6**
	comp=Z,24nm,1.0s							
135A	**Vickery Place,**	**73.10**	**339**	⇑P		**P**	**07 44 15.8**	**-0.9**
	baz=74							
232A	**Coleman**	**73.14**	**337**	⇑P		**P**	**07 44 16.3**	**-0.6**
	baz=74,SNR=5.6							
330A	**Mertzon**	**73.18**	**336**	⇓P		**P**	**07 44 16.6**	**-0.6**
	baz=74							
SWET	**Sewanee**	**73.21**	**350**	*e*P		**P**	**07 44 17.5**	**+0.3**
	comp=Z,42nm,0.7s							
SWET				*e*pP		**pP**	**07 44 25.9**	**-0.3**
TKL	**Tuckaleechee C**	**73.36**	**351**	*e*P		**P**	**07 44 18.2**	**+0.1**
TKL	**Tuckaleechee C**	**73.36**	**351**	*e*P		**P**	**07 44 18.1**	**+0.1**
231A	**Bronte**	**73.39**	**337**	⇓P		**P**	**07 44 17.7**	**-0.7**
	baz=74,SNR=5.3							
329A	**Wagon Wheel Ra**	**73.52**	**335**	⇑P		**P**	**07 44 18.4**	**-0.8**
	baz=74							
133A	**Hamilton Ranch**	**73.58**	**338**	⇓P		**P**	**07 44 18.8**	**-0.7**
	baz=74							
230A	**Sterling City**	**73.60**	**336**	⇓P		**P**	**07 44 19.0**	**-0.6**
	baz=74							
Z35A	**Perchaven, San**	**73.78**	**340**	⇓P		**P**	**07 44 20.0**	**-0.6**
	baz=74							
ABTX	**Abilene, Hawle**	**73.82**	**337**	⇑P		**P**	**07 44 20.6**	**-0.3**
	baz=74,SNR=7.4							
ABTX	**Abilene, Hawle**	**73.82**	**337**	*e*P		**P**	**07 44 20.5**	**-0.4**
	comp=Z,14nm,0.8s							
ABTX				*e*pP		**pP**	**07 44 29.5**	**-0.3**
229A	**Bryant Ranch,**	**73.90**	**335**	⇑P		**P**	**07 44 21.1**	**-0.4**
	baz=74							
MIAR	**Mount Ida**	**74.00**	**343**	*e*P		**P**	**07 44 21.9**	**0.0**
MIAR				*e**PP		**pP**	**07 44 28.8**	**-1.9**
MIAR				pmax		pmax		
	comp=Z,9.0nm,1.1s							
MIAR	**Mount Ida**	**74.00**	**343**	*e*P		**P**	**07 44 21.9**	**0.0**
	comp=Z,8.7nm,1.1s							
MIAR				*e*pP		**pP**	**07 44 28.8**	**-1.9**
Z34A	**Collier Ranch,**	**74.00**	**339**	⇑P		**P**	**07 44 21.7**	**-0.3**
	baz=74							
131A	**Roby**	**74.09**	**337**	⇓P		**P**	**07 44 22.1**	**-0.5**
	baz=74							
Z33A	**Whitaker Ranch**	**74.17**	**338**	⇓P		**P**	**07 44 22.7**	**-0.3**
	baz=75							
130A	**Snyder**	**74.20**	**336**	⇑P		**P**	**07 44 22.8**	**-0.4**
	baz=75							
228A	**UT Block 9, Go**	**74.30**	**335**	⇓P		**P**	**07 44 23.4**	**-0.4**
	baz=75							
WVT	**Waverly**	**74.39**	**348**	*e*P		**P**	**07 44 23.7**	**-0.4**
WVT				pmax		pmax		
	comp=Z,17nm,1.1s							
WVT	**Waverly**	**74.39**	**348**	*e*P		**P**	**07 44 23.7**	**-0.4**
	comp=Z,17nm,1.1s							
Z32A	**Haskell**	**74.40**	**338**	⇓P		**P**	**07 44 23.6**	**-0.7**
	baz=75,SNR=7.9							
Y34A	**Reagan Ranch,**	**74.51**	**339**	⇓P		**P**	**07 44 24.8**	**-0.1**
	baz=75							
129A	**Stewart Farms,**	**74.53**	**336**	⇓P		**P**	**07 44 25.0**	**-0.2**
	baz=75							
Z31A	**Sharp Cattle R**	**74.61**	**337**	⇓P		**P**	**07 44 25.4**	**-0.2**
	baz=75,SNR=5.9							
128A	**Castleberry Fa**	**74.73**	**335**	⇑P		**P**	**07 44 25.4**	**-0.9**
	baz=75							
Y33A	**Hilltop Ranch,**	**74.81**	**339**	⇑P		**P**	**07 44 25.8**	**-0.8**
	baz=75							
JSRW	**J. Sargeant Re**	**74.89**	**357**	*e*P		**P**	**07 44 27.5**	**+0.5**
JSRW				*e*pP		**pP**	**07 44 35.6**	**-0.2**
Z30A	**

U34A	Anderson Ranch	76.78	340	⇑P		P	07 44 38.1	+0.3	
	baz=77								
U34A	Anderson Ranch	76.78	340	*eP*		P	07 44 38.4	+0.6	
	comp=Z,10nm,0.8s								
V31A	Spring Creek L	76.81	338	⇑P		P	07 44 38.6	+0.6	
	baz=77								
LIC	Lamto	77.14	72	*eP*		P	07 44 41.0	+0.6	
	comp=Z,78nm,0.8s								
TIC	Toumodi	77.42	71	*eP*		P	07 44 42.7	+0.7	
	comp=Z,43nm,0.9s								
KIC	Kosan Boka	77.45	72	*eP*		P	07 44 42.9	+0.8	
	comp=Z,113nm,1.0s								
S36A	Lake Cedric, C	77.51	342	⇑P		P	07 44 42.2	+0.3	
	baz=78								
V28A	Channing	77.51	337	⇓P		P	07 44 42.2	+0.1	
	baz=78								
DBIC	Dimbokro	77.56	72	*eP*		P	07 44 44.1	+1.3	
DBIC				*e*			07 44 50.7		
DBIC					pmax	pmax			
	comp=Z,35nm,0.8s								
DBIC	Dimbokro	77.56	72	P		P	07 44 43.6	+0.9	
	comp=Z,28nm,0.9s,baz=209,slow=5.8,SNR=18								
DBIC					LR	LR	08 16 49.0		
	comp=Z,365nm,18.6s,baz=221,slow=34								
DBIC	Dimbokro	77.56	72	*eP*		P	07 44 44.1	+1.3	
	comp=Z,35nm,0.8s								
DBIC				*e*PcP		pP	07 44 50.7	-0.9	
TUC	Tucson	77.57	328	*eP*		P	07 44 43.2	+0.7	
TUC				*e*			07 44 52.1		
TUC					pmax	pmax			
	comp=Z,5.0nm,1.0s								
TUC	Tucson	77.57	328	*eP*		P	07 44 43.2	+0.7	
	comp=Z,4.7nm,1.0s								
TUC				*e*PcP		PcP	07 44 52.1	-0.5	
T33A	Patterson Ranc	77.58	340	⇑P		P	07 44 42.8	+0.5	
	baz=78								
S35A	Otter Creek Ra	77.65	342	⇓P		P	07 44 42.7	+0.1	
	baz=78								
V27A	Dan Oppiter Fa	77.71	336	⇓P		P	07 44 43.5	+0.3	
	baz=78								
U30A	WK&E Inc. Balk	77.75	338	⇑P		P	07 44 43.5	+0.2	
	baz=78								
ACSO	Alum Creek Sta	77.79	353	*eP*		P	07 44 43.2	-0.2	
	comp=Z,14nm,0.8s								
T32A	Huddler Ranch,	77.86	340	⇓P		P	07 44 44.1	+0.2	
	baz=78								
U29A	Oasis Ranch, S	77.86	338	⇓P		P	07 44 44.0	0.0	
	baz=78								
S34A	Willow Spring	77.86	341	⇑P		P	07 44 44.0	+0.2	
	baz=78								
LAZ	Ladron	77.98	332	*eP*		P	07 44 45.1	+0.2	
	comp=Z,6.1nm,1.4s								
T31A	Randall Ranch,	77.99	339	⇑P		P	07 44 44.7	+0.1	
	baz=78								
S33A	Kaszmaul Farm,	78.00	340	⇑P		P	07 44 44.6	0.0	
	baz=78								
R36A	Gordon, Harris	78.06	343	⇓P		P	07 44 44.9	-0.1	
	baz=78								
V26A	Tequesquite Ra	78.06	335	⇓P		P	07 44 44.8	-0.3	
	baz=78								
U28A	Mallet	78.09	337	⇓P		P	07 44 45.4	+0.1	
	baz=78								
214A	Organ Pipe Nat	78.13	327	⇓P		P	07 44 45.2	-0.3	
	baz=78								
ANMO	Albuquerque	78.22	333	*c iP*		P	07 44 43.2	-2.9	
ANMO					pmax	pmax			
	comp=Z,20nm,1.2s								
ANMO	Albuquerque	78.22	333	*eP*		P	07 44 47.0	+0.9	
	comp=Z,6.0nm,0.9s								
ANMO				*e*PcP		PcP	07 44 55.6	+0.1	
U27A	Thompson Grove	78.32	336	⇑P		P	07 44 46.8	+0.2	
	baz=79								
T29A	Hugoton	78.52	338	⇑P		P	07 44 47.5	-0.1	
	baz=79								
U26A	Atchley Ranch,	78.59	336	⇑P		P	07 44 48.0	-0.2	
	baz=79								
R33A	Olander Ranch,	78.66	341	⇑P		P	07 44 48.3	0.0	
	baz=79								
S30A	Montezuma	78.72	339	⇓P		P	07 44 48.9	+0.2	
	baz=79								
T28A	Walsh	78.74	337	⇓P		P	07 44 48.7	-0.2	
	baz=79,SNR=6.2								
T27A	Campo	78.87	337	⇑P		P	07 44 49.6	-0.1	
	baz=79								
S29A	Ulysses	78.90	338	⇑P		P	07 44 49.8	+0.1	
	baz=79								
R31A	Burdett	79.06	340	⇑P		P	07 44 50.9	+0.3	
	baz=80								
S28A	Manter	79.10	338	⇓P		P	07 44 50.8	0.0	
	baz=80								
T26A	Comanche Natio	79.25	336	⇓P		P	07 44 52.1	+0.3	
	baz=80								
R30A	Dighton	79.27	339	⇑P		P	07 44 51.7	+0.1	
	baz=80								
Q33A	Connelly Farm,	79.27	341	⇑P		P	07 44 51.6	0.0	
	baz=80								
Q32A	Meitler Ranch,	79.46	341	⇓P		P	07 44 52.8	+0.1	
	baz=80								
T25A	Trinidad	79.49	335	⇓P		P	07 44 53.5	+0.4	
	baz=80								
T25A	Trinidad	79.49	335	*eP*		P	07 44 54.4	+1.3	
	comp=Z,15nm,0.9s								
TSUM	Tsumeb	79.56	106	LR		LR	08 16 00.7		
	comp=Z,360nm,19.8s,baz=217,slow=33								
TSUM	Tsumeb	79.56	106	*eP*		P	07 44 55.1	+1.2	
	comp=Z,18nm,1.3s								
S26A	Kim	79.62	336	⇓P		P	07 44 53.8	0.0	
	baz=80,SNR=7.9								
X16A	Lo Mia Camp, P	79.67	329	⇑P		P	07 44 54.2	+0.1	
	baz=80								
Q31A	Ellis	79.69	340	⇑P		P	07 44 54.3	+0.3	
	baz=80								
R28A	Tribune	79.77	338	⇑P		P	07 44 54.3	-0.1	
	baz=80,SNR=5.3								
TRY	Troy	79.82	0	*eP*		P	07 44 56.1	+1.7	
	comp=Z,66nm,1.7s								
R27A	Eads	80.02	337	⇓P		P	07 44 55.5	-0.3	
	baz=80,SNR=5.8								
Q29A	Oakley	80.03	339	⇑P		P	07 44 56.0	+0.2	
	baz=80								
P32A	Huiting Farm,	80.06	341	⇓P		P	07 44 56.1	+0.3	
	baz=80								
P31A	Stockton	80.17	340	⇑P		P	07 44 56.7	+0.2	
	baz=81								
R26A	Arlington	80.24	337	⇑P		P	07 44 57.2	+0.2	
	baz=81								
R25A	Fountain Ranch	80.36	336	⇑P		P	07 44 58.0	+0.3	
	baz=81								
SDCO	Great Sand Dun	80.40	335	⇓P		P	07 44 58.5	+0.4	
	baz=81								
SDCO	Great Sand Dun	80.40	335	*eP*		P	07 44 59.3	+1.2	
	comp=Z,4.1nm,0.9s								
P30A	Selden	80.43	339	⇑P		P	07 44 58.5	+0.6	
	baz=81								
Q28A	Sharon Springs	80.44	338	⇑P		P	07 44 58.3	+0.2	
	baz=81								
ACCN	Adirondack Com	80.48	0	*eP*		P	07 44 58.6	+0.7	
	comp=Z,162nm,2.6s								
O32A	Brockman Farm,	80.58	341	⇓P		P	07 44 59.4	+0.7	
	baz=81								
WUAZ	Wupatki	80.60	330	⇓P		P	07 44 59.9	+0.8	
	baz=81								
WUAZ	Wupatki	80.60	330	*eP*		P	07 44 59.9	+0.8	
	comp=Z,11nm,1.3s								
WUAZ				*e*pP		pP	07 45 08.5	+0.4	
P29A	Atwood	80.68	339	⇓P		P	07 45 00.1	+0.8	
	baz=81								
R24A	Sanders Place,	80.71	335	⇓P		P	07 45 00.3	+0.7	
	baz=81								
O31A	Wooden Ranch,	80.75	340	⇓P		P	07 45 00.7	+1.1	
	baz=81								
Q26A	Hugo	80.83	337	⇓P		P	07 45 01.0	+0.8	
	baz=81								
S22A	4UR Ranch, Cre	80.86	334	⇓P		P	07 45 01.1	+0.5	
	baz=81								
R23A	Moffat	80.91	335	⇓P		P	07 45 01.3	+0.4	
	baz=81								
O30A	MW Ranch, Wils	80.97	340	⇓P		P	07 45 01.8	+0.9	
	baz=81								
MVCO	Mesa Verde	80.98	333	⇓P		P	07 45 01.6	+0.4	
	baz=81								
MVCO	Mesa Verde	80.98	333	*eP*		P	07 45 02.6	+1.4	
	comp=Z,20nm,1.5s								
Q25A	Bedland, Calha	81.05	336	⇓P		P	07 45 02.0	+0.5	
	baz=81								
PFO	Pinyon Flats O	81.16	325	⇑P		P	07 45 02.5	+0.4	
	baz=82								
W13A	Hualapai Mount	81.28	328	⇓P		P	07 45 02.6	-0.2	
	baz=82								
P26A	Davis Ranch, A	81.36	337	⇓P		P	07 45 03.1	+0.1	
	baz=82								
Q24A	Divide	81.39	336	⇓P		P	07 45 03.4	0.0	
	baz=82								
Q24A	Divide	81.39	336	*eP*		P	07 44 58.8	-4.6	
O28A	Krutsinger Ran	81.41	339	⇑P		P	07 45 03.7	+0.5	
	baz=82								
JFWS	Jewell Farm	81.41	348	*eP*		P	07 45 02.9	-0.1	
JFWS					pmax	pmax			
	comp=Z,17nm,1.3s								
JFWS	Jewell Farm	81.41	348	*eP*		P	07 45 02.9	-0.1	
	comp=Z,17nm,1.3s								
MURC	Murrieta	81.49	324	⇑P		P	07 45 04.2	+0.5	
	baz=82								
P25A	Willow Gulch B	81.57	337	⇑P		P	07 45 03.4	-0.8	
	baz=82,SNR=5.4								
BGNE	Belgrade	81.62	342	⇓P		P	07 45 04.1	-0.1	
	baz=82								
LONY	Lake Ozonia	81.72	359	*eP*		P	07 45 04.9	+0.3	
	comp=Z,34nm,1.6s								
N29A	Votaw Ranch, W	81.72	340	⇓P		P	07 45 05.6	+0.8	
	baz=82								
U15A	North Rim	81.76	329	⇑P		P	07 45 05.7	+0.3	
	baz=82								
M31A	Lambtecht Ranc	81.78	341	⇓P		P	07 45 06.0	+1.0	
	baz=82								
GMRC	Granite Mounta	81.78	326	⇑P		P	07 45 05.8	+0.4	
	baz=82								
PV01	Paradox Valley	81.82	333	*eP*		P	07 45 06.9	+1.3	
	comp=Z,330nm,0.8s								
PV01				*e*pP		pP	07 45 15.3	+0.7	
LBTB	Lobatse	82.06	115	*eP*		P	07 45 07.5	+0.3	
LBTB				*e**PP		PcP	07 45 14.3	+1.6	
LBTB	Lobatse	82.06	115	LR		LR	08 20 05.4		
	comp=Z,311nm,18.6s,baz=250,slow=35								
LBTB	Lobatse	82.06	115	*eP*		P	07 45 07.5	+0.3	
LBTB				*e*pP		PcP	07 45 14.3	+1.6	
O25A	Wiggins	82.10	337	⇑P		P	07 45 07.7	+0.8	
	baz=82								
SMCO	Snowmass	82.19	334	*eP*		P	07 45 08.9	+1.1	
N27A	Anderson Farm,	82.26	338	⇑P		P	07 45 08.6	+1.0	
	baz=83								
ISCO	Idaho Springs	82.30	336	*eP*		P	07 45 08.8	+0.7	
ISCO				*e**PP		pP	07 45 17.5	+0.4	
ISCO					pmax	pmax			
	comp=Z,3.0nm,0.9s								
ISCO	Idaho Springs	82.30	336	⇓P		P	07 45 08.9	+0.7	
	baz=83								
ISCO	Idaho Springs	82.30	336	*eP*		P	07 45 08.8	+0.7	
	comp=Z,3.4nm,0.9s								
ISCO				*e*pP		pP	07 45 17.5	+0.4	
P22A	Eagle	82.49	335	⇓P		P	07 45 09.3	+0.2	
	baz=83								
L31A	Butterfield Fa	82.52	341	⇑P		P	07 45 09.5	+0.6	
	baz=83								
L30A	Spencer Herefo	82.53	341	⇓P		P	07 45 09.5	+0.4	
	baz=83								
O23A	Lake Granby, G	82.77	336	⇑P		P	07 45 10.6	0.0	
	baz=83								
L29A	Maesberg Ranch	82.84	340	⇑P		P	07 45 11.2	+0.5	
	baz=83								
EDW2	Edwards Air Fo	82.92	325	⇓P		P	07 45 11.6	+0.5	
	baz=83								
O22A	Kremmling	82.93	335	⇓P		P	07 45 11.7	+0.3	
	baz=83								
BSC	Santa Cruz Isl	82.96	323	⇓P		P	07 45 12.1	+0.7	
	baz=83								
SHPR	Sheep Range	83.02	327	*eP*		P	07 45 12.6	+0.8	
CCUT	Cedar City	83.16	329	*eP*		P	07 45 14.9	+2.3	
K30A	Basset	83.19	341	⇑P		P	07 45 12.6	+0.2	
	baz=84								
M25A	Palm-Egli Farm	83.29	338	⇑P		P	07 45 13.6	+0.5	
	baz=84								
N23A	Red Feather La	83.39	336	⇑P		P	07 45 14.0	+0.2	
	baz=84								
SRU	San Rafael Swe	83.40	332	*eP*		P	07 45 15.5	+1.7	
SRU				*e**PP		pP	07 45 22.8	+0.1	
SRU					pmax	pmax			
	comp=Z,4.0nm,0.8s								
SRU	San Rafael Swe	83.40	332	*eP*		P	07 45 15.5	+1.7	
	comp=Z,4.2nm,0.8s								
SRU				*e*pP		pP	07 45 22.8	+0.1	
K29A	Lazy Trails An	83.45	341	⇓P		P	07 45 14.4	+0.7	
	baz=84								
ECSD	EROS Data Cent	83.46	343	⇓P		P	07 45 14.2	+0.5	
	baz=84								
ECSD	EROS Data Cent	83.46	343	*eP*		P	07 45 13.6	-0.1	
	comp=Z,16nm,0.8s								
ECSD				*e*pP		pP	07 45 22.2	-0.5	
N22A	Wattenberg Ran	83.48	336	⇑P		P	07 45 14.9	+0.7	
	baz=84								
O20A	White River Ci	83.48	334	⇑P		P	07 45 14.5	+0.4	
	baz=84								
MVU	Marysvale	83.52	331	*eP*		P	07 45 16.2	+1.7	
M24A	Cheyenne	83.56	337	⇑P		P	07 45 15.0	+0.6	
	baz=84								
PHWY	Pilot Hill	83.61	336	*eP*		P	07 45 15.8	+0.9	
MPMC	Manual Prospec	83.67	326	⇑P		P	07 45 15.5	+0.3	
	baz=84								
J30A	Dallas	83.76	341	⇑P		P	07 45 15.5	+0.2	
	baz=84								
ISA	Isabella, Lake	83.78	325	*eP*		P	07 45 21.7	+6.1	
ISA	Isabella, Lake	83.78	325	⇑P		P	07 45 15.9	+0.3	
	baz=84								
ISA	Isabella, Lake	83.78	325	*eP*		P	07 45 21.7	+6.1	
TPNV	Topopah Spring	83.86	327	⇓P		P	07 45 16.6	+0.5	
	baz=84								
DAC	Darwin (Calif)	83.89	326	*eP*		P	07 45 17.5	+1.2	
DAC	Darwin (Calif)	83.89	326	*eP*		P	07 45 17.5	+1.2	
K27A	Flueckinger Fa	83.92	339	⇑P		P	07 45 16.3	+0.1	
	baz=84								
J29A	Okreek	84.06	341	⇑P		P	07 45 16.7	-0.1	
	baz=84,SNR=6.9								
M22A	Cedar Creek Ra	84.06	336	⇓P		P	07 45 17.1	-0.1	
	baz=84								
SPMN	Marine on St.	84.10	347	⇓P		P	07 45 17.5	+0.6	
	baz=84								
SPMN	Marine on St.	84.10	347	*eP*		P	07 45 16.4	-0.6	
	comp=Z,5.8nm,0.6s								
SPMN				*e*pP		pP	07 45 24.2	-1.7	
N20A	Spence Gulch,	84.11	334	⇓P		P	07 45 17.5	+0.1	
	baz=84								
K26A	Motz Farm, Whi	84.19	339	⇑P		P	07 45 18.4	+0.8	
	baz=85								
VES	Vestal, Richgr	84.21	324	⇓P		P	07 45 18.4	+0.7	
	baz=85								
J28A	Allard Ranch,	84.31	340	⇓P		P	07 45 18.8	+0.6	
	baz=85								
J27A	Elkhorn Farm,	84.36	340	⇑P		P	07 45 18.7	+0.2	
	baz=85,SNR=7.4								
GRAC	Grapevine Rang	84.39	326	⇑P		P	07 45 19.0	+0.3	
	baz=85								
L23A	Garrett	84.42	337	⇓P		P	07 45 19.2	+0.2	
	baz=85								
MPU	Maple Canyon	84.61	332	*eP*		P	07 45 20.9	+1.0	
	comp=Z,9.9nm,1.2s								
I29A	Vivian Onida	84.62	341	⇑P		P	07 45 19.7	+0.1	
	baz=85								
BRSD	Miller	84.68	342	⇑P		P	07 45 20.5	+0.6	
	baz=85								
K24A	Anderson Ranch	84.69	338	⇑P		P	07 45 20.6	+0.3	
	baz=85								
J26A	Sides Ranch, S	84.72	339	⇓P		P	07 45 20.7	+0.5	
	baz=85								
R11A	Troy Canyon, C	84.75	328	⇓P		P	07 45 21.1	+0.5	
	baz=85								
DAU	Daniels Canyon	84.81	332	*eP*		P	07 45 22.6	+1.6	
DAU	Daniels Canyon	84.81	332	*eP*		P	07 45 22.6	+1.6	
I28A	Midland	84.83	340	⇑P		P	07 45 20.4	-0.3	
	baz=85,SNR=7.6								
K23A	Bowen Ranch, D	84.97	337	⇑P		P	07 45 21.7	+0.1	
	baz=85								
JLU	Jordanelle	85.05	332	*eP*		P	07 45 22.7	+0.5	
	comp=Z,1.2nm,0.6s								
JLU				*e*pP		pP	07 45 30.9	-0.3	
I27A	Quinn	85.13	340	⇑P		P	07 45 22.1	-0.1	
	baz=86								
K22A	Casper	85.16	336	⇑P		P	07 45 22.6	+0.1	
	baz=86								
K22A	Casper	85.16	336	*eP*		P	07 45 22.8	+0.2	
	comp=Z,18nm,1.3s								
K22A				*e*pP		pP	07 45 31.5	-0.1	
H29A	Onida	85.17	341	⇑P		P	07 45 22.7	+0.3	
	baz=86								
J24A	Dixon Ranch, L	85.20	338	⇓P		P	07 45 23.2	+0.5	
	baz=86								
DUG	Dugway, Tooele	85.22	331	*eP*		P	07 45 23.6	+0.7	
DUG					pmax	pmax			
	comp=Z,17nm,1.5s								
DUG	Dugway, Tooele	85.22	331	⇓P		P	07 45 23.2	+0.3	
	baz=86								
DUG	Dugway, Tooele	85.22	331	*eP*		P	07 45 23.6	+0.7	
	comp=Z,17nm,1.5s								
TPH	Tonopah	85.22	327	*eP*		P	07 45 24.1	+1.1	
TPH					pmax	pmax			
	comp=Z,6.0nm,1.3s								
TPH	Tonopah	85.22	327	*eP*		P	07 45 24.1	+1.1	
	comp=Z,6.3nm,1.3s								
I26A	New Underwood	85.32	339	⇓P		P	07 45 23.8	+0.6	
	baz=86								
G30A	Faulkton	85.37	342	⇑P		P	07 45 23.7	+0.3	
	baz=86								
K21A	Alcova	85.38	336	⇑P		P	07 45 23.8	+0.1	
	baz=86								
I25A	Rochford	85.56	339	⇓P		P	07 45 24.4	-0.2	
	baz=86								
MLAC	Mammoth, Mammo	85.57	326	⇓P		P	07 45 24.4	-0.4	
	baz=86								
H27A	Howes	85.66	340	⇓P		P	07 45 24.2	-0.6	
	baz=86								
I24A	Kuemmerle Ranc	85.67	338	⇑P		P	07 45 24.5	-0.5	
	baz=86								
RSSD	Black Hills	85.74	339	*eP*		P	07 45 25.6	+0.1	
RSSD				*e**PP		pP	07 45 34.1	-0.4	
RSSD					pmax	pmax			
	comp=Z,3.0nm,0.9s								
RSSD	Black Hills	85.74	339	*eP*		P	07 45 25.6	+0.1	
	comp=Z,3.5nm,0.9s								
RSSD				*e*pP		pP	07 45 34.1	-0.4	
G28A	Parade	85.76	341	⇑P		P	07 45 25.1	-0.2	
	baz=86								
J22A	Midwest	85.83	337	⇓P		P	07 45 25.0	-0.9	
	baz=86								
BGU	Big Grassy Mou	85.93	331	*eP*		P	07 45 28.1	+1.7	
HWUT	Hardware Ranch	85.97	333	*e*pP		pP	07 45 35.6	-0.1	
NVAR	Mina Array Bea	85.99	326	P		P	07 45 26.6	-0.3	
	comp=Z,0.6nm,0.8s,baz=156,slow=6.1,SNR=5.1								
NVAR	Mina Array Bea	85.99	326	P		P	07 45 26.6	-0.3	
F30A	Leola	86.01	343	⇓P		P	07 45 26.2	-0.3	
	baz=86								
H25A	Fruitdale	86.07	339	⇑P		P	07 45 26.5	-0.4	
	baz=86,SNR=6.2								
J21A	Lysite	86.08	336	⇑P		P	07 45 27.0	-0.1	
	baz=86								
F29A	Eureka	86.20	342	⇓P		P	07 45 27.4	-0.1	
	baz=87								
I22A	9 Mile Ranch,	86.27	337	⇓P		P	07 45 28.1	+0.1	
	baz=87								
PDAR	Pinedale Array	86.27	334	P		P	07 45 28.1	0.0	
	comp=Z,4.4nm,1.1s,baz=141,slow=5.0,SNR=16								
PDAR	Pinedale Array	86.27	334	P		P	07 45 28.1	0.0	
J20A	Shoshoni	86.30	336	⇓P		P	07 45 28.1	-0.1	
	baz=87								
G27A	Dupree	86.31	340	⇑P		P	07 45 27.8	-0.2	
	baz=87								
G26A	Maurine	86.41	340	⇑P		P	07 45 27.8	-0.8	
	baz=87,SNR=7.6								
I21A	Big Trails, Te	86.45	336	⇓P		P	07 45 28.7	-0.2	
	baz=87								
F28A	McLaughlin	86.45	341	⇓P		P	07 45 28.4	-0.3	
	baz=87,SNR=5.4								
H24A	Dirks Ranch, A	86.46	339	⇑P		P	07 45 28.7	-0.2	
	baz=87								
J19A	Crowheart	86.54	335	⇓P		P	07 45 29.4	0.0	
	baz=87								
G25A	Newell	86.55	339	⇑P		P	07 45 29.6	+0.3	
	baz=87								
WAKR	Walker	86.56	326	*eP*		P	07 45 31.3	+1.7	
HVU	Hansel Valley	86.57	332	*eP*		P	07 45 29.9	+0.3	
HVU	Hansel Valley	86.57	332	*eP*		P	07 45 29.9	+0.3	
TORD	Torodi Ar. Bea	86.64	71	P		P	07 45 30.2	-0.1	
	comp=Z,12nm,1.0s,baz=231,slow=4.3,SNR=40								
TORD					PP	PP	07 48 52.2	-0.6	
	comp=Z,2.7nm,1.1s,baz=227,slow=6.9,SNR=3.7								
TORD					LR	LR	08 23 50.8		
	comp=Z,236nm,18.4s,baz=210,slow=35								
TORD	Torodi Ar. Bea	86.64	71	P		P	07 45 30.2	-0.1	
TORD					PP	PP	07 48 52.2	-0.6	
F27A	Lemmon	86.79	341	⇑P		P	07 45 29.9	-0.5	
	baz=87,SNR=8.5								
I20A	Worland	86.84	336	⇓P		P	07 45 30.6	-0.2	
	baz=87								
MSKU	Masuku	86.86	90	LR		LR	08 19 07.1		
	comp=Z,278nm,20.8s,baz=244,slow=32								
F26A	Lodgepole	86.95	340	⇓P		P	07 45 31.0	-0.1	
	baz=87								
G24A	Alzada	86.95	339	⇑P		P	07 45 31.2	-0.1	
	baz=87								
E28A	Huff	87.11	342	⇓P		P	07 45 32.2	+0.3	
	baz=88								
D30A	Buchanan	87.14	343	⇓P		P	07 45 31.6	-0.4	
	baz=88,SNR=6.2								
E27A	Carson	87.19	341	⇑P		P	07 45 31.9	-0.4	
	baz=88								
I19A	Meeteetse	87.21	335	⇑P		P	07 45 32.4	-0.3	
	baz=88								
F25A	Bowman	87.23	340	⇓P		P	07 45 32.5	0.0	
	baz=88								
H20A	Greybull	87.28	336	⇑P		P	07 45 32.9	0.0	
	baz=88								
F24A	Ekalaka	87.43	339	⇓P		P	07 45 33.7	+0.1	
	baz=88								
E26A	Carlson Angus	87.46	341	⇑P		P	07 45 33.9	+0.2	
	baz=88								
F23A	Volborg	87.60	338	⇓P		P	07 45 34.5	+0.2	
	baz=88								
C30A	Mose, Pekin	87.64	344	⇓P		P	07 45 34.2	-0.2	
	baz=88,SNR=7.8								
I17A	Pilgrim Ck.	87.64	334	⇓P		P	07 45 34.7	-0.1	
	baz=88								
AGMN	Agassiz Nation	87.64	345	⇑P		P	07

baz=90
A25A Svangstu Ranch 89.91 341 ⇓P P 07 45 45.2 +0.1
baz=90
LSZ Lusaka 89.97 109 eP P 07 45 48.2 +1.7
LSZ pmax pmax
comp=Z,9.0nm,1.1s
LSZ Lusaka 89.97 109 eP P 07 45 48.2 +1.7
comp=Z,9.3nm,1.1s
M04C Macdoel 90.29 326 ⇑P P 07 45 46.7 -0.4
baz=91
YBH Yreka Blue Hor 90.64 326 LR LR 08 20 30.0
comp=Z,86nm,18.1s,baz=138,slow=32
A22A Carney Farms, 90.71 339 ⇓P P 07 45 49.3 +0.4
baz=91
MSO Missoula 91.34 334 ⇑P P 07 45 51.7 -0.3
baz=92
A19A Klindworth Far 91.48 338 ⇑P P 07 45 52.4 0.0
baz=92
TAM Tamanrasset 95.51 66 eP P 07 46 12.8 +1.1
TAM e*PP pP 07 46 20.3 -0.5
TAM pmax pmax
comp=Z,8.0nm,1.0s
TAM Tamanrasset 95.51 66 eP P 07 46 12.8 +1.1
comp=Z,8.0nm,1.0s
TAM epP pP 07 46 20.3 -0.5
DZM Mont Dzumac 98.12 234 eLR LR 08 18 18.8
comp=Z,403nm,23.8s
ESDC Sonseca Array 99.93 47 P Pdif 07 46 32.2 +1.1
comp=Z,0.2nm,0.3s,baz=248,slow=3.3,SNR=4.1
ESDC PP PP 07 50 36.0 -0.8
comp=Z,0.1nm,0.2s,baz=230,slow=5.8,SNR=3.4
ESDC Sonseca Array 99.93 47 P Pdif 07 46 32.2 +1.1
ESDC PP PP 07 50 36.0 -0.8
ASAR Alice Springs 113.87 208 PKKPbc PKKPbc 08 02 07.0 +0.2
comp=Z,0.3nm,0.4s,baz=339,slow=2.9,SNR=5.6
ASAR PKKPab PKKPab 08 02 14.5 -2.8
comp=Z,1.0nm,0.9s,baz=345,slow=3.4,SNR=5.6
ASAR Alice Springs 113.87 208 PKKPbc PKKPbc 08 02 07.0 +0.2
ASAR PKKPab PKKPab 08 02 14.5 -2.8
GERES GERESS Array B 115.52 47 PKIKP PKPdf 07 51 27.0 -1.0
GERES GERESS Array B 115.52 47 PKP PKPdf 07 51 26.9 -1.0
comp=Z,1.0nm,0.6s,baz=248,slow=1.4,SNR=10.0
GERES GERESS Array B 115.52 47 PKP PKPdf 07 51 26.9 -1.0
PRU Pruhonice 116.54 46 AMS AMS 08 42 10.0
comp=Z,300nm,22.3s
BRG Berggiesshubel 116.61 45 e(P) PKKPab 08 02 03.0 +3.6
BRG e 08 03 52.0
GOPC GO Pecny, Ondr 116.65 46 AMS AMS 08 42 40.0
comp=Z,300nm,15.4s
ILAR Eielson Array 116.66 333 PKKPab PKKPab 08 02 02.2 +3.8
comp=Z,0.5nm,0.9s,baz=255,slow=5.5,SNR=4.8
ILAR Eielson Array 116.66 333 PKKPab PKKPab 08 02 02.2 +3.8
TREC Trest 116.77 47 AMS AMS 08 42 30.0
PVCC Panska Ves 116.80 46 AMS AMS 08 39 10.0
comp=Z,300nm,16.6s
WRA Warramunga Arr 117.08 210 PKP PKPdf 07 51 38.9 +7.0
comp=Z,0.6nm,0.9s,baz=167,slow=1.5,SNR=4.8
WRA Warramunga Arr 117.08 210 PKP PKPdf 07 51 38.9 +7.0
VYHS Vyhne 118.40 49 ePKIKP PKPdf 07 51 33.1 -0.3
VYHS Vyhne 118.40 49 ePKP PKPdf 07 51 33.1 -0.3
NOA NORSAR Array B 119.66 34 PKIKP PKPdf 07 51 34.0 -1.5
NOA NORSAR Array B 119.66 34 PKP PKPdf 07 51 34.0 -1.5
comp=Z,0.9nm,0.9s,baz=221,slow=1.4,SNR=2.6
NOA NORSAR Array B 119.66 34 PKP PKPdf 07 51 34.0 -1.5
BRTR Keskin Array B 124.64 63 PKP PKPdf 07 51 45.8 -0.1
comp=Z,3.5nm,0.8s,baz=197,slow=3.4,SNR=15
BRTR Keskin Array B 124.64 63 PKP PKPdf 07 51 45.8 -0.1
KIEV Kiev 125.48 50 i PKIKP PKPdf 07 51 44.9 -2.0
AKASG Malin Array Be 125.49 50 PKP PKPdf 07 51 46.1 -0.8
comp=Z,1.7nm,0.8s,baz=272,slow=2.5,SNR=9.6
AKASG PP PP 07 53 35.6 -3.3
comp=Z,0.2nm,0.3s,baz=254,slow=6.6,SNR=10
AKASG Malin Array Be 125.49 50 PKP PKPdf 07 51 46.1 -0.8
AKASG PP PP 07 53 35.6 -3.3
FINES FINESS Array B 126.59 36 PKP PKPdf 07 51 48.3 -0.4
comp=Z,1.7nm,0.9s,baz=258,slow=7.0,SNR=4.2
FINES FINESS Array B 126.59 36 PKP PKPdf 07 51 48.3 -0.4
RAYN Ar Rayn 126.63 87 ePKPdf PKPdf 07 51 50.6 +0.5
RAYN epPKPdf pPKPdf 07 51 57.8 -1.5
OBN Obninsk 130.85 45 d iPKIKP PKPdf 07 51 57.1 +0.1
OBN e 07 54 16.8
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,222nm,20.0s
GNI Garni 132.80 67 i PKIKP PKPdf 07 52 02.2 +0.8
BILL Bilibino 135.32 332 ⇑ePKIKP PKPdf 07 52 05.5 +0.4
BILL pmax pmax
comp=Z,11nm,1.9s
PETK Petropavlovsk- 141.50 311 PKP PKPdf 07 52 17.1 +0.3
comp=Z,2.1nm,0.7s,baz=78,slow=14,SNR=4.5
PETK Petropavlovsk- 141.50 311 PKP PKPdf 07 52 17.1 +0.3
GEYT Alibeck 142.21 74 PKhKP PKPpre 07 52 13.8
comp=Z,3.1nm,0.7s,baz=265,slow=10,SNR=5.4
ARU Arti 143.22 43 PKIKP PKPbc 07 52 16.6 -0.3
ARU Arti 143.22 43 ePKPdf PKPbc 07 52 16.5 -0.3
AKTO Aktyubinsk 143.54 53 PKP PKPbc 07 52 18.1 +0.2
comp=Z,14nm,1.1s,baz=280,slow=3.3,SNR=23
AKTO Aktyubinsk 143.54 53 PKP PKPbc 07 52 18.1 +0.2
TIXI Tiksi 143.83 348 d iPKIKP PKPab 07 52 16.8 -0.7
TIXI Tiksi 143.83 348 ePKPdf PKPab 07 52 16.6 -1.0
AB31 Akbulak array 144.82 55 i PKIKP PKPab 07 52 21.8 -0.1
AB31 pmax pmax
comp=Z,50nm,0.8s
ABKAR Akbulak array 144.82 55 ePKPdf PKPab 07 52 21.5 -0.4
ABKAR epPKPdf pPKPdf 07 52 30.3 -1.8
POO Poona 145.93 115 eP PKPdf 07 52 25.0 -0.7
IPM Ipoh 146.81 170 ⇓P PKPdf 07 52 26.7 -0.7
IPM Ipoh 146.81 170 ePKPbc PKPdf 07 52 27.3 -0.1
KULM Kulim 147.56 169 ePKPbc PKPdf 07 52 29.8 +1.2
KULM ePKPab PKiKP 07 52 33.5 +0.2
KULM epPKPdf pPKPdf 07 52 38.0 +0.1
KBL Kabul 149.84 84 ePKPdf PKPdf 07 52 31.4 -0.6
KBL ePKPbc PKPbc 07 52 37.0 +0.2
KBL ePKPab PKPab 07 52 41.9 -0.5
BRVK Borovoye 150.62 46 ePKIKP PKPdf 07 52 32.7 +0.4
BRVK e 07 52 38.0
BRVK Borovoye 150.62 46 ePKPdf PKPdf 07 52 32.7 +0.4
BRVK ePKPbc PKPbc 07 52 38.0 +0.2
BVA0 Borovoye Array 150.69 46 i PKIKP PKPbc 07 52 37.8 -0.1
BVA0 pmax pmax
comp=Z,49nm,1.5s
YAK Yakutsk 151.47 337 ePKIKP PKPbc 07 52 37.9 -1.5
YAK e 07 52 45.3
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=N,45nm,0.9s
YAK pmax pmax
comp=E,19nm,0.8s
YAK Yakutsk 151.47 337 PKPbc PKPbc 07 52 38.5 -0.9
comp=E,46nm,0.9s,baz=218,slow=0.5,SNR=7.0
YAK PKPab PKPab 07 52 46.6 -1.3
comp=E,24nm,0.6s,baz=94,slow=0.6,SNR=5.5
YAK Yakutsk 151.47 337 ePKPbc PKPbc 07 52 39.0 -0.4
YAK PKPab PKPab 07 52 46.6 -1.3
YAK PKiKP PKiKP 07 52 47.6 +7.8
YSS Yuzh-Sakhalins 151.61 301 ePKIKP PKPbc 07 52 38.3 -1.9
KK31 Karatay Array 152.26 67 PKIKP PKPbc 07 52 41.6 -0.3
KK31 pmax pmax
comp=Z,1.0nm,0.2s
KKAR Karatay Array 152.26 67 ePKIKP PKPdf 07 52 35.4 +0.2
KKAR e 07 52 41.9
KKAR Karatay Array 152.26 67 ePKPdf PKPdf 07 52 35.4 +0.2
KKAR ePKPbc PKPbc 07 52 41.9 -0.1
MJAR Matsushiro Arr 154.57 278 PKPab PKPab 07 53 00.8 -1.0
comp=Z,0.6nm,0.3s,baz=148,slow=2.7,SNR=4.5
MJAR Matsushiro Arr 154.57 278 PKPab PKPab 07 53 00.8 -1.0
EKS2 Erkin-Say 154.67 68 ePKIKP PKPdf 07 52 39.4 +0.7
EKS2 e 07 52 47.3
EKS2 Erkin-Say 154.67 68 ePKPdf PKPdf 07 52 39.4 +0.7
EKS2 ePKPbc PKPbc 07 52 47.2 0.0
AAK Ala-Archa 155.20 68 ePKIKP PKPdf 07 52 39.7 +0.2
AAK 07 52 48.5
AAK e 07 52 48.8
AAK 07 53 04.7
AAK Ala-Archa 155.20 68 PKP PKPdf 07 52 39.8 +0.2
comp=Z,2.1nm,0.8s,baz=140,slow=2.1,SNR=7.3
AAK PKPbc PKPbc 07 52 48.5
comp=Z,8.4nm,0.8s,baz=214,slow=2.6,SNR=20
AAK PKPab PKPab 07 53 04.7 +0.1
comp=Z,14nm,0.8s,baz=206,slow=4.1,SNR=14
AAK Ala-Archa 155.20 68 ePKPdf PKPdf 07 52 39.7 +0.2
AAK PKPbc PKPbc 07 52 48.5
AAK ePKPbc PKPbc 07 52 48.8
AAK PKPab PKPab 07 53 04.7 +0.1
AAK ePKPab PKPab 07 53 05.5 +0.9
TKM2 Tokmak 2 156.00 67 ePKIKP PKPdf 07 52 40.1 -0.5
TKM2 e 07 52 48.4
TKM2 e 07 53 08.4
TKM2 Tokmak 2 156.00 67 ePKPdf PKPdf 07 52 40.1 -0.5
TKM2 ePKPbc PKPbc 07 52 48.4
TKM2 ePKPab PKPab 07 53 08.4 +0.4
KSH Kashi 156.22 76 ePKP PKPdf 07 52 41.4 +0.4
KSH pPKP pPKPdf 07 52 52.3 +2.0
KSH PKS PKSdf 07 56 14.3 -0.7
KSH PPMZ
comp=Z,79nm,4.1s
KSH LN
comp=Z,100nm,6.1s
KSH LE
comp=Z,140nm,5.1s
KSH LZ
comp=Z,160nm,6.0s
NVS Novosibirsk 156.57 35 ePKIKP PKPdf 07 52 39.3 -1.4
NVS e 07 56 56.6
NVS pmax pmax
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 157.85 35 PKP PKPdf 07 52 41.4 -0.9
comp=Z,2.6nm,0.8s,baz=279,slow=2.9,SNR=18
ZALV PKPab PKPab 07 53 16.4 +1.1
comp=Z,17nm,0.9s,baz=323,slow=2.9,SNR=4.1
ZALV Zalesovo Beam 157.85 35 PKP PKPdf 07 52 41.4 -0.9
ZALV PKPab PKPab 07 53 16.4 +1.1
PYUN Piuthan 158.33 109 eP PKPab 07 53 17.6 -0.9
comp=Z,93nm,1.0s
KOLN Koldanda 158.61 110 eP PKPab 07 53 18.0 -1.7
comp=Z,38nm,1.3s
BOD Bodaibo 159.02 348 ePKIKP PKPdf 07 52 37.9 -5.7
BOD e 07 53 18.7
BOD pmax pmax
comp=Z,7.0nm,1.3s
DANN Dangsing 159.04 109 eP PKPab 07 53 20.7 -1.0
comp=Z,101nm,1.1s
GKN Gorkha 159.51 111 eP PKPab 07 53 22.6 -1.0
comp=Z,75nm,1.4s
DMN Daman 159.64 113 eP PKPab 07 53 23.2 -1.1
PKIN Phulchoki 159.84 113 eP PKPab 07 53 24.3 -0.8
PKI Pulchoki 159.84 113 eP PKPab 07 53 24.1 -1.1
comp=Z,47nm,1.0s
KKN Kakani 159.87 113 eP PKPab 07 53 24.2 -1.0
comp=Z,40nm,1.0s
MK31 Makanchi Array 159.96 55 PKIKP PKPdf 07 52 44.6 -0.5
MK31 pmax pmax
comp=Z,8.0nm,1.2s
MKAR Makanchi Array 159.96 55 PKP PKPdf 07 52 44.9 -0.3
comp=Z,4.9nm,1.1s,baz=325,slow=1.5,SNR=21
MKAR PKPab PKPab 07 53 24.9 +0.1
comp=Z,2.9nm,0.7s,baz=294,slow=4.3,SNR=11
MKAR Makanchi Array 159.96 55 PKP PKPdf 07 52 44.9 -0.3
MKAR PKPab PKPab 07 53 24.9 +0.1
CMAR Chiang Mai Arr 159.99 159 PKP PKPdf 07 52 45.8 -0.2
comp=Z,0.6nm,0.3s,baz=319,slow=4.0,SNR=2.4
CMAR PKPab PKPab 07 53 23.0 -2.4
comp=Z,0.8nm,0.5s,baz=226,slow=4.7,SNR=2.8
CMAR Chiang Mai Arr 159.99 159 PKP PKPdf 07 52 45.8 -0.2
CMAR PKPab PKPab 07 53 23.0 -2.4
RAMN Ramite 160.34 117 eP PKPab 07 53 26.3 -1.0
comp=Z,31nm,0.7s
GUN Gumba 160.38 113 eP PKPab 07 53 26.7 -0.9
comp=Z,45nm,1.1s
JIRN Jiri 160.46 114 eP PKPab 07 53 26.7 -1.3
comp=Z,22nm,0.7s
ODAN Odare 160.84 118 eP PKPab 07 53 28.6 -0.9
MDJ Mudanjiang 161.08 299 PKP PKPdf 07 52 47.5 +1.1
TAPN Taplejung 161.37 117 eP PKPab 07 53 30.9 -0.9
CN2 Changchun 164.17 300 ePKP PKPdf 07 52 50.3 +0.8
WMQ Urumqi 164.53 60 ePKP PKPdf 07 52 50.0 +0.1
WMQ pPKP pPKPdf 07 53 01.0 +1.8
WMQ sPKP 07 53 05.3
WMQ PKPab PKPab 07 53 45.9 +0.9
WMQ PP PP 07 57 32.6 +1.0
WMQ PPMZ
comp=Z,120nm,5.0s
WMQ LN
comp=Z,150nm,19.2s
WMQ LE
comp=Z,110nm,21.0s
WMQ LZ
comp=Z,150nm,21.0s
ZAK Zakamensk 166.91 9 ePKP2 PKPab 07 53 52.9 -2.3
ZAK pmax pmax
comp=Z,4.0nm,1.4s
NJ2 Nanjing 168.35 246 ePKP PKPdf 07 52 54.1 +1.0
GYA Guiyang 169.02 182 PKP PKPdf 07 52 54.0 +0.1
GYA sPKP 07 53 09.4
GYA PKPab PKPab 07 54 07.3 +2.2
GYA PKS PKSdf 07 56 25.8 -0.8
GYA PP PP 07 57 57.0 +3.5
GYA PPMZ
comp=Z,120nm,7.8s
SONM Songino Array 169.64 360 PKP PKPdf 07 52 51.2 -2.4
comp=Z,0.5nm,0.8s,baz=343,slow=1.5,SNR=5.9
SONM PKPab PKPab 07 54 08.0 +0.7
comp=Z,3.1nm,1.1s,baz=338,slow=2.9,SNR=11
SONM Songino Array 169.64 360 PKP PKPdf 07 52 51.2 -2.4
SONM PKPab PKPab 07 54 08.0 +0.7
CD2 Chengdu 173.13 161 PKP PKPdf 07 52 55.0 -0.8
CD2 pPKP pPKPdf 07 53 06.6 +1.5
CD2 sPKP 07 53 10.4
CD2 PKS PKSdf 07 56 26.1 -2.0
CD2 PP PP 07 58 17.4 +3.4
CD2 SKS SKSdf 07 59 53.0 -4.1
CD2 SKKS SKKSac 08 04 59.0 -0.4
CD2 SS SS 08 19 25.8 -0.3
CD2 PPMZ
comp=Z,120nm,5.4s
GTA Gaotai 174.55 67 ePKP PKPdf 07 52 55.9 -0.2
GTA pPKP pPKPdf 07 53 06.3 +0.8
GTA sPKP 07 53 10.0
HHC Hu-ho-hao-te 174.70 311 ePKP PKPdf 07 52 56.0 -0.1
HHC pPKP pPKPdf 07 53 06.9 +1.5
HHC sPKP 07 53 10.6
HHC PP PP 07 58 25.0 +2.4
HHC SKS SKSdf 07 59 53.6 -3.6
HHC SS SS 08 19 40.8 -2.1
HHC PPMZ
comp=Z,81nm,5.4s
HHC LN
comp=Z,150nm,20.4s
HHC LE
comp=Z,200nm,20.6s
HHC LZ
comp=Z,140nm,20.6s
LZH Lanzhou 177.59 124 ePKP PKPdf 07 52 56.1 -0.9
LZH pPKP pPKPdf 07 53 05.8 -0.5
LZH sPKP 07 53 10.0

*ISCJB **19** 07:34:24.5±0.4, 6°.68S×0°.05×147°.28E±0°.08, h63km, mb4.2/19, Error ellipse: s-maj=11.1km s-min=6.1km az=13.8*
*IDC **19** 07:34:28.0±3.0, 6°.75S×147°.55E, h86km±26km, mb3.9/15, mb1 4.0/18, mb1mx4.0/23, mbtmp4.2/18, MS3.1/3, Ms1 3.1/3, ms1mx2.8/20, Error ellipse: s-maj=25.4km s-min=10.7km az=103.0*
*NEIC **19** 07:34:30.8±1.5, 6°.77S×147°.36E, h110km±13km, mb4.2/6, Error ellipse: s-maj=16.6km s-min=7.0km az=81.0*
ISC 19 07:34:26.3±0.6, 6°.66S±0°.07×147°.27E±0°.10, h63km, n48, σ1s04°/50, mb4.2/18, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**7.73**	**302**	P	Pn	07 36 23.1	+6.9
	1.1nm,0.3s,baz=151,slow=19,SNR=3.8						
JAY				LR	LR	07 40 09.3	
	comp=Z,85nm,19.2s,baz=174,slow=43						
COEN	**Coen**	**8.29**	**209**	P	**Pn**	**07 36 23.8**	**-0.2**
	baz=6.7,SNR=74						
CTA Charters Tower 13.39 184 P Pn 07 37 35.3 +1.8
1.5nm,0.3s,baz=359,slow=14,SNR=10
CTAO Charters Tower 13.39 184 ePn Pn 07 37 35.4 +1.9
QIS Mount Isa 15.69 208 P Pn 07 38 04.9 +1.4
baz=14,SNR=6.1
KDU Kakadu 15.76 247 P Pn 07 38 05.0 +0.5
baz=15,SNR=5.1
KDU S Sn 07 40 55.9 -2.5
baz=15,SNR=3.7
MTN Manton Dam 17.04 248 S S 07 41 35.0 -1.0
baz=16,SNR=4.9
WRAB Tennant Creek 18.20 222 eP Pn 07 38 35.4 +0.6
11nm,0.9s
WRAB eS Sn 07 41 57.8 +0.3
WB2 Warramunga Arr 18.21 222 eP P 07 38 34.2 -0.2
WRA Warramunga Arr 18.22 222 P P 07 38 34.5 +0.1
0.7nm,0.3s,baz=48,slow=10,SNR=41
QLP Quilpie 20.02 188 P P 07 38 54.1 0.0
baz=18,SNR=23
KNRA Kununurra 20.23 242 P P 07 38 56.5 +0.1
baz=19,SNR=6.1
ASAR Alice Springs 21.23 216 P P 07 39 07.2 -0.1
4.3nm,0.5s,baz=55,slow=9.2,SNR=35
ASAR S S 07 43 01.4 +1.4
1.3nm,0.9s,baz=36,slow=17,SNR=5.0
ASAR LR LR 07 48 12.0
comp=Z,61nm,21.3s,baz=80,slow=39
ARMA Armidale 23.99 171 P P 07 39 34.6 -0.7
baz=23,SNR=6.9
ARMA Armidale 23.99 171 eP P 07 39 34.5 -0.8
30nm,1.4s
CMSA Cobar Meteorol 24.80 183 P P 07 39 41.6 -0.9
baz=23,SNR=5.6
STKA Stephens Creek 25.64 191 P P 07 39 48.8 -1.4
2.5nm,0.3s,baz=4.5,slow=9.3,SNR=18
STKA LR LR 07 49 50.3
comp=Z,74nm,19.5s,baz=29,slow=36
STKA Stephens Creek 25.64 191 P P 07 39 49.2 -1.0
baz=24,SNR=14
WRKA Warakurna 25.76 223 P P 07 39 50.6 -0.8
baz=24,SNR=42
BBOO Buckleboo 28.03 200 P P 07 40 10.6 -1.1
baz=26,SNR=7.9
MEEK Meekatharra 33.74 231 P P 07 41 02.0 -0.1
baz=32,SNR=6.3
YULB Yu-li 39.19 320 eP P 07 41 49.8 +1.4
12nm,0.4s
MJAR Matsushiro Arr 43.80 349 P P 07 42 25.7 -0.3
0.9nm,0.4s,baz=178,slow=8.6,SNR=5.0
KSRS Korea Array 47.46 339 P P 07 42 55.5 +0.7
7.1nm,0.8s,baz=152,slow=8.7,SNR=18
KSAR Wonju Array Be 47.46 339 P P 07 42 55.5 +0.6
USRK Ussuriysk Ar. 52.47 346 P P 07 43 33.3 +0.6
3.3nm,0.8s,baz=130,slow=5.8,SNR=8.7
CMAR Chiang Mai Arr 53.79 299 P P 07 43 45.2 +2.3
3.1nm,0.5s,baz=125,slow=5.6,SNR=9.8
PETK Petropavlovsk- 60.19 7 P P 07 44 27.8 +0.2
0.9nm,0.5s,baz=172,slow=7.7,SNR=6.8
SONM Songino Array 65.10 331 P P 07 45 00.8 +0.2
0.4nm,0.4s,baz=135,slow=4.6,SNR=5.9
GUN Gumba 68.45 303 eP P 07 45 21.6 -0.9
8.7nm,0.5s
PKI Pulchoki 68.72 303 eP P 07 45 25.4 +1.2
DMN Daman 68.99 303 eP P 07 45 26.9 +1.1
GKN Gorkha 69.51 303 eP P 07 45 28.8 -0.1
KOLN Koldanda 70.30 302 eP P 07 45 34.3 +0.5
16nm,0.7s
DANN Dangsing 70.36 303 eP P 07 45 32.2 -2.0
10nm,0.7s
PYUN Piuthan 70.92 303 eP P 07 45 36.5 -1.1
24nm,0.6s
VNDA Vanda 71.24 177 eP P 07 45 38.4 0.0
1.5nm,0.6s
MKAR Makanchi Array 78.17 320 P P 07 46 19.2 +0.3
1.3nm,0.7s,baz=98,slow=8.8,SNR=16
ZALV Zalesovo Beam 79.71 328 P P 07 46 26.4 -0.8
4.5nm,0.6s,baz=114,slow=5.5,SNR=19
KURK Kurchatov 81.89 323 eP P 07 46 39.2 +0.3
KURBB Kurchatov Arra 81.91 323 P P 07 46 38.9 -0.2
0.9nm,0.7s,baz=110,slow=4.1,SNR=6.3
QSPA South Pole Qui 83.31 180 P P 07 46 45.5 -0.7
3.0nm,0.8s,baz=174,slow=1.4,SNR=11
QSPA South Pole Qui 83.31 180 eP P 07 46 45.2 -1.1
3.1nm,0.8s
ILAR Eielson Array 85.98 23 P P 07 46 57.5 -1.9
1.3nm,0.7s,baz=251,slow=4.1,SNR=15
BVAR Borovoye Array 87.45 324 P P 07 47 06.2 -0.7
1.5nm,0.6s,baz=105,slow=6.6,SNR=10.0
ABKAR Akbulak array 93.25 319 eP P 07 47 32.7 -1.3
0.3nm,0.4s
YKA Yellowknife Ar 99.63 28 P Pdif 07 48 02.7 +0.1
0.3nm,1.0s,baz=274,slow=5.4,SNR=4.3
TORD Torodi Ar. Bea 145.50 283 PKPbc PKPab 07 53 59.1 +0.3
3.7nm,0.5s,baz=71,slow=3.8,SNR=56

*ISCJB **19** 07:49:39.7±0.5, 31°.98N±0°.02×114°.85W±0°.02, h1km±4km, mb3.6/1, Error ellipse: s-maj=3.7km s-min=2.9km az=156.6*
*MEX **19** 07:49:41.2±0.9, 32°.07N×114°.50W, h15km±41km, MD3.9*
*NEIC **19** 07:49:41.5, 31°.92N×114°.90W, h6km, ML3.4(PAS), After PAS.*
*ECX **19** 07:49:42.7±0.7, 31°.98N×114°.94W, h12km, MD3.4, ML3.7*
*IDC **19** 07:49:44.2±2.5, 32°.38N×114°.59W, h0km, mb3.7/1, mb1 3.5/7, mb1mx3.3/30, mbtmp3.2/7, ML3.1/6, Error ellipse: s-maj=54.4km s-min=11.9km az=39.0*
ISC 19 07:49:40.7±1.2, 31°.92N±0°.03×114°.91W±0°.02, h4km±9km, n47, σ1s36°/71, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.29**	**283**	eP	**Pg**	**07 49 46.6**	**+0.3**
EMX				eS	**Sg**	**07 49 50.7**	**+0.5**
ECBX	**El Chinero**	**0.47**	**195**	eP	**Pb**	**07 49 51.3**	**-0.2**
ECBX				eS	**Sb**	**07 49 58.7**	**0.0**
MBIG	**Mexicali**	**0.54**	**333**	eP	**Pg**	**07 49 51.9**	**+0.7**
MBIG				i S	**Sb**	**07 50 01.7**	**+0.8**
CPBX	**Cerro Prieto**	**0.60**	**326**	eP	**Pg**	**07 49 52.7**	**+0.5**
CPBX	**Cerro Prieto**	**0.60**	**326**	eP	**Pg**	**07 49 52.8**	**+0.6**
CPBX				i S	**Sg**	**07 49 59.7**	**-0.2**
YMD	**Yuma Desert**	**0.70**	**26**	⇓iP	**Pg**	**07 49 54.2**	**0.0**
RDX	**Rancho Dawling**	**0.88**	**271**	eP	**Pg**	**07 49 58.1**	**+0.5**
RDX				eS	**Sg**	**07 50 10.1**	**+1.0**
RDX				AML	AML	07 50 18.9	
	comp=N,2μm,0.4s						
RDX				⇑e		07 50 18.9	
SPIG	**San Pedro Mart**	**1.00**	**209**	eP	**Pn**	**07 50 01.1**	**-0.6**
SPX	**San Pedro Mart**	**1.00**	**209**	eP	**Pn**	**07 50 00.9**	**-0.9**
SPX				AML	AML	07 50 25.7	
	comp=E,1μm,0.8s						
SPX				⇑e		07 50 25.7	
SPX	**San Pedro Mart**	**1.00**	**209**	eP	**Pn**	**07 50 01.1**	**-0.7**
SPX				eS	**Sn**	**07 50 17.1**	**+0.7**
SGL	**Mount Signal**	**1.00**	**316**	eP	**Pg**	**07 49 59.5**	**-0.5**
YUH	**Yuha Desert**	**1.12**	**310**	eP	**Pb**	**07 50 00.6**	**-2.1**
GLA	**Glamis**	**1.13**	**3**	Pg	Pb	07 49 58.5	-4.4
GLA				eSg	**Sb**	**07 50 17.1**	**-0.8**
RMX	**La Rumorosa**	**1.20**	**305**	eP	**Pn**	**07 50 02.7**	**-1.8**
ZAX	**El Zacaton**	**1.23**	**251**	eP	**Pn**	**07 50 03.9**	**-0.9**
ZAX				eS	**Sb**	**07 50 20.4**	**-0.5**
ECNX	**Esteban Cantu**	**1.46**	**260**	eP	**Pn**	**07 50 07.7**	**-0.3**
CBX	**Cerro Bola**	**1.54**	**285**	eP	**Pb**	**07 50 09.1**	**-0.8**
CBX				eS	**Sg**	**07 50 30.9**	**+0.6**
CBX	**Cerro Bola**	**1.54**	**285**	eP	**Pn**	**07 50 07.6**	**-1.5**
CBX				eS	**Sn**	**07 50 28.2**	**-1.4**
CBX				AML	AML	07 50 42.7	
	comp=E,2μm,0.5s						
CBX				⇑e		07 50 42.7	
CBX	**Cerro Bola**	**1.54**	**285**	eP	**Pb**	**07 50 09.1**	**-0.8**
CBX				eS	**Sg**	**07 50 30.9**	**+0.6**
PBX	**Punta Banda**	**1.56**	**264**	eP	**Pn**	**07 50 08.4**	**-0.8**
214A	**Organ Pipe Nat**	**1.78**	**88**	ePn	**Pn**	**07 50 10.5**	**-1.8**
214A				eSn	**Sb**	**07 50 36.1**	**-0.6**
PFO	**Pinyon Flats O**	**2.13**	**323**	Pn	**Pb**	**07 50 18.3**	**-1.6**
PFO				eSn	**Sn**	**07 50 44.9**	**+0.8**
LDFC	**Landfair**	**3.15**	**357**	Pn	**Pn**	**07 50 30.7**	**-0.6**
LDFC				eSn	**Sn**	**07 51 10.1**	**+0.7**
MWC	**Mount Wilson**	**3.50**	**312**	ePn	**Pn**	**07 50 35.4**	**-0.7**
MWC				eSg	**Sg**	**07 51 33.5**	**+0.3**
TUC	**Tucson**	**3.52**	**83**	ePn	**Pn**	**07 50 35.7**	**-0.5**
TUC				eSg	**Sg**	**07 51 33.6**	**-0.2**
PASC	**Pasadena Art C**	**3.55**	**310**	ePn	**Pn**	**07 50 36.2**	**-0.5**
PASC				eSn	**Sn**	**07 51 20.1**	**+1.0**
SHPR	**Sheep Range**	**4.58**	**357**	ePn	**Pn**	**07 50 50.5**	**-0.4**

SHPR				*e*Pn		**Pn**	07 50 50.7	-0.2
SHPR				*e*Sn		**Sn**	07 51 46.8	+2.2
WUAZ	**Wupatki**	**4.64**	**38**	*e*Pn		**Pn**	07 50 52.1	+0.4
WUAZ				*e*Sg		**Sg**	07 52 12.1	+2.4
DAC	**Darwin (Calif)**	**4.88**	**334**	*e*Pn		Pn	07 50 58.2	+3.1
W18A	**Petrified Fore** comp=E,12nm,0.6s	**5.37**	**52**	*e*Pn		**Pn**	07 51 02.4	+0.6
W18A				*e*Sn		**Sn**	07 52 04.2	+0.1
CCUT	**Cedar City** comp=E,6.6nm,0.8s	**5.76**	**12**	*e*Pn		**Pn**	07 51 07.1	-0.1
CCUT				*e*Sn		**Sn**	07 52 17.0	+3.2
ARUT	**Antelope Range** comp=E,0.2nm,0.8s	**5.97**	**11**	*e*Pn		**Pn**	07 51 10.8	+0.7
ARUT				*e*Sn		**Sn**	07 52 15.8	-3.3
121A	**Cookes Peak, D** comp=E,8.5nm,0.4s	**6.07**	**82**	*e*Pn		**Pn**	07 51 11.0	-0.4
TPH	**Tonopah** comp=E,8.2nm,0.9s	**6.42**	**343**	*e*Pn		**Pn**	07 51 15.8	-0.5
R11A	**Troy Canyon, C** comp=E,4.3nm,0.8s	**6.44**	**355**	*e*Pn		**Pn**	07 51 17.1	+0.6
R11A				*e*Sg		**Sg**	07 53 07.9	+0.5
MVU	**Marysvale** comp=E,2.0nm,0.9s	**6.93**	**18**	*e*Pn		**Pn**	07 51 22.2	-1.0
LAZ	**Ladron** comp=E,4.1nm,1.0s	**6.97**	**67**	*e*Pn		**Pn**	07 51 24.7	+0.9
LAZ				*e*Sn		**Sn**	07 52 43.7	+0.2
NVAR	**Mina Array Bea** comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=2.4	**7.06**	**338**	Pn		**Pn**	07 51 24.2	-0.8
MVCO	**Mesa Verde** comp=E,29nm,1.1s	**7.47**	**43**	*e*Pn		**Pn**	07 51 31.7	+1.1
MVCO				*e*Sn		**Sn**	07 52 50.1	-5.8
ANMO	**Albuquerque** comp=E,0.1nm,0.3s,baz=252,slow=14,SNR=2.0	**7.68**	**65**	Pn		**Pn**	07 51 31.5	-2.0
ANMO				Lg		Lg	07 53 39.5	
SRU	**San Rafael Swe** comp=E,1.7nm,0.7s	**8.01**	**25**	*e*Pn		**Pn**	07 51 36.1	-2.0
SRU				*e*Sn		**Sn**	07 53 11.5	+2.3
PV01	**Paradox Valley** comp=E,2μm,1.1s	**8.09**	**38**	Pn		**Pn**	07 51 40.1	+1.0
PV01				*e*Sg		**Sg**	07 53 59.9	-0.5
ELK	**Elko** comp=E,0.1nm,0.3s,baz=182,slow=18,SNR=3.0	**8.81**	**358**	Pn		**Pn**	07 51 48.9	-0.1
ELK				Lg		Lg	07 54 16.4	
TXAR	**Lajitas Array** baz=107,slow=19,SNR=4.3	**10.02**	**102**	Pn		Pn	07 52 08.3	+2.8
TXAR				Lg		Lg	07 55 06.7	
YBH	**Yreka Blue Hor** comp=E,0.0nm,0.3s,baz=143,slow=10,SNR=5.4	**11.61**	**330**	Pn		Pn	07 52 30.3	+3.1
NEW	**Newport** comp=E,0.1nm,0.3s,baz=145,slow=13,SNR=2.6	**16.41**	**355**	Pn		**Pn**	07 53 30.7	-1.1
ILAR	**Eielson Array** comp=E,1.1nm,0.9s,baz=151,slow=6.3,SNR=9.9	**38.32**	**339**	P		**P**	07 57 04.4	+2.2

CSEM ***19*** *07:50:02.0,38.41N×21.98E,h6km,MD2.6*
THE ***19*** *07:50:10.7,40.05N×21.71E,h2km±59km,ML2.1/2,Error ellipse: s-maj=59.9km s-min=1.6km az=4.0*

ATH 19 07:50:02.0,38.41N×21.98E,h6km±2km,MD2.6/4,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**286**	*e*Pg	Pg	07 50 03.5	-0.1
EFP				*e*SG	Sg	07 50 04.9	+0.2
EFP	**Efpalio**	**0.06**	**286**	*e*Pg	Pg	07 50 03.5	-0.1
EFP				*e*Sg	Sg	07 50 04.9	+0.2
KALE	**Kalithea**	**0.13**	**98**	*e*PG	Pg	07 50 04.6	-0.2
KALE				*e*SG	Sg	07 50 07.1	+0.5
KALE	**Kalithea**	**0.13**	**98**	*e*Pg	Pg	07 50 04.6	-0.2
KALE				*e*Sg	Sg	07 50 07.1	+0.5
KLV	**Kalavryta, Ach**	**0.39**	**160**	*e*PG	Pg	07 50 09.2	-0.5
KLV				*e*SB	Sg	07 50 16.2	+1.3
KLV	**Kalavryta, Ach**	**0.39**	**160**	*e*Pg	Pg	07 50 09.2	-0.5
KLV				*e*Sb	Sg	07 50 16.2	+1.3
DRO	**Drossia**	**0.50**	**205**	*e*PG	Pg	07 50 11.6	-0.2
DRO	**Drossia**	**0.50**	**205**	*e*Pg	Pg	07 50 11.6	-0.2
EVR	**Evrytania**	**0.52**	**345**	*e*PB	Pg	07 50 11.4	-0.9
EVR				*e*SB	Sg	07 50 20.0	+0.8
EVR	**Evrytania**	**0.52**	**345**	*e*Pb	Pg	07 50 11.4	-0.9
EVR				*e*Sb	Sg	07 50 20.0	+0.8
MAKR	**Makrakomi, Fth**	**0.61**	**11**	*e*PG	Pg	07 50 13.4	-0.5
MAKR				*e*SB	Sb	07 50 23.2	-1.0
MAKR	**Makrakomi, Fth**	**0.61**	**11**	*e*Pg	Pg	07 50 13.4	-0.5
MAKR				*e*Sb	Sb	07 50 23.2	-1.0
AXAR	**Agios Charalam**	**0.64**	**56**	*e*PB	Pg	07 50 13.5	-0.9
AXAR				*e*SB	Sg	07 50 23.4	+0.6
AXAR	**Agios Charalam**	**0.64**	**56**	*e*Pb	Pg	07 50 13.5	-0.9
AXAR				*e*Sb	Sg	07 50 23.4	+0.6
PDO	**Prodromos**	**0.65**	**287**	*e*PB	Pg	07 50 14.7	+0.1
PDO	**Prodromos**	**0.65**	**287**	*e*Pb	Pg	07 50 14.7	+0.1

SKO ***19*** *07:50:10.3,40.24N×21.78E,h29km,M1.6,ML1.9*
CSEM ***19*** *07:50:12.1,40.40N×21.86E,h9km,ML1.7/4*

THE 19 07:50:12.1,40.40N×21.86E,h9km±7km,ML1.7/4,Error ellipse: s-maj=8.6km s-min=1.4km az=210.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.11**	**217**	P	Pg	07 50 14.4	-0.5
KZN				S	Sg	07 50 19.2	+2.3
KZN	**Kozani**	**0.11**	**217**	P	Pg	07 50 14.1	-0.8
KZN				S	Sg	07 50 16.9	0.0
KZN	**Kozani**	**0.11**	**217**	P	Pg	07 50 14.1	-0.8
KZN				S	Sg	07 50 16.9	0.0
FNA	**Florina**	**0.53**	**316**	P	Pg	07 50 21.2	-1.4
FNA				S	Sg	07 50 29.7	0.0
FNA	**Florina**	**0.53**	**316**	P	Pg	07 50 21.2	-1.4
FNA				S	Sg	07 50 29.7	0.0
LIT	**Litokhoron**	**0.56**	**121**	P	Pg	07 50 22.7	-0.4
LIT				S	Sb	07 50 31.6	-0.8
LIT	**Litokhoron**	**0.56**	**121**	P	Pg	07 50 22.7	-0.4
LIT				S	Sg	07 50 31.3	+0.7
LIT	**Litokhoron**	**0.56**	**121**	P	Pg	07 50 22.7	-0.4
LIT				S	Sg	07 50 31.3	+0.7
NEST	**Nestorio**	**0.62**	**272**	P	Pg	07 50 23.4	-0.9
NEST	**Nestorio**	**0.62**	**272**	P	Pg	07 50 23.4	-0.9
NEST				S	Sb	07 50 34.3	+0.1
NEST	**Nestorio**	**0.62**	**272**	P	Pg	07 50 23.4	-0.9
NEST				S	Sb	07 50 34.3	+0.1
THL	**Klokotos Trika**	**0.84**	**172**	P	Pg	07 50 20.8	-7.5
THL				S	Sg	07 50 28.3	-11

ISCJB ***19*** *07:54:42.9±0.5,32.10N±0.02×115.01W±0.02,h9km±3km, Error ellipse: s-maj=3.7km s-min=3.0km az=146.9*
ECX ***19*** *07:54:45.6±0.6,32.08N×115.07W,h7km,MD3.4,ML3.6*
NEIC ***19*** *07:54:45.4,32.09N×115.05W,h10km,ML3.3(PAS),After PAS.*

ISC 19 07:54:42.7±1.1,32.11N±0.02×115.02W±0.02,h7km±9km, n34,σ0°76/56,15C-14D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.22**	**238**	*e*P	**Pg**	07 54 47.0	-0.2
EMX				*e*S	**Sg**	07 54 49.7	-0.4
CPBX	**Cerro Prieto**	**0.39**	**322**	*e*P	**Pg**	07 54 49.3	-1.1
CPBX				*e*S	**Sg**	07 54 55.0	-0.6
YMD	**Yuma Desert**	**0.60**	**42**	⇑*i*P	**Pn**	07 54 57.1	-0.6
ECBX	**El Chinero**	**0.64**	**183**	*e*P	**Pg**	07 54 54.7	-0.2
ECBX				*e*S	**Sg**	07 55 03.2	0.0
COA	**Coachella**	**0.76**	**353**	⇑*i*P	**Pn**	07 54 59.4	-0.5
RDX	**Rancho Dawling**	**0.81**	**257**	*e*P	**Pb**	07 54 59.4	+0.2
RDX				*e*S	**Sg**	07 55 09.4	+0.7
RDX	comp=N,2μm,0.5s			AML	AML	07 55 11.4	
RDX				⇓*e*		07 55 11.4	
SGL	**Mount Signal**	**0.81**	**312**	⇓*i*P	**Pb**	07 54 59.8	+0.7
YUH	**Yuha Desert**	**0.94**	**305**	⇓*i*P	**Pb**	07 55 01.4	+0.1
GLA	**Glamis** baz=1.0,SNR=55	**0.95**	**10**	⇑P	**Pb**	07 55 02.2	+0.5
GLA				⇑S	**Sg**	07 55 14.1	+0.6
GLA	**Glamis** baz=1.0	**0.95**	**10**	*e*Pg	**Pb**	07 55 01.9	+0.3
GLA				*e*Sg	**Sb**	07 55 15.7	+1.2
RMX	**La Rumorosa**	**1.02**	**299**	*e*P	**Pg**	07 55 02.7	+0.3
RMX				*e*P	**Pb**	07 55 03.2	+0.3
RMX				*e*S	**Sb**	07 55 17.3	+0.7
RMX				*e*		07 55 17.8	
	comp=N,970nm,0.1s			AML	AML	07 55 17.8	
SWSC	**Sam W. Stewart** baz=1.1	**1.06**	**322**	⇑P	**Pn**	07 55 04.2	+0.3
SWSC				⇑S	**Sg**	07 55 16.5	-0.3
IBP	**Imperial Bould** baz=1.0	**1.06**	**302**	⇑S	**Sb**	07 55 18.2	+0.5
SPIG	**San Pedro Mart**	**1.13**	**200**	*e*P	**Pg**	07 55 04.6	+0.3
SPX	**San Pedro Mart**	**1.13**	**200**	*e*P	**Pg**	07 55 04.6	+0.2
SPX				⇑*e*		07 55 21.2	
SPX	comp=N,877nm,0.3s			AML	AML	07 55 21.2	
ZAX	**El Zacaton**	**1.22**	**241**	*e*P	**Pb**	07 55 05.9	-0.3
ZAX				*e*S	**Sb**	07 55 21.6	-0.6
113A	**Mohawk Valley,** baz=1.3	**1.25**	**58**	⇑P	**Pb**	07 55 07.0	+0.4
113A				⇓S	**Sb**	07 55 22.9	0.0
CBX	**Cerro Bola**	**1.41**	**279**	*e*P	**Pn**	07 55 08.8	-0.2
CBX				*e*S	**Sn**	07 55 27.9	+0.1
CBX				⇑*e*		07 55 29.3	
CBX	comp=E,2μm,0.3s			AML	AML	07 55 29.3	
ECNX	**Esteban Cantu**	**1.42**	**252**	*e*P	**Pn**	07 55 09.0	0.0
ECNX				*e*S	**Sb**	07 55 27.6	-0.2
MONP	**Monument Peak,** baz=1.4,SNR=10	**1.42**	**304**	⇓P	**Pn**	07 55 09.1	0.0
MONP				⇓S	**Sn**	07 55 27.8	-0.4
PBX	**Punta Banda**	**1.50**	**256**	*e*P	**Pn**	07 55 10.1	+0.1
PBX				*e*S	**Sn**	07 55 29.5	-0.3
BAR	**Barrett**	**1.51**	**293**	*e*P	**Pb**	07 55 10.9	-0.3
BAR	**Barrett**	**1.51**	**293**	*e*Pn	**Pn**	07 55 09.7	-0.6
BAR				*e*Sn	**Sb**	07 55 31.0	+0.5
BC3	**Big Chuckawall** baz=1.6,SNR=6.3	**1.59**	**347**	⇓P	**Pn**	07 55 11.2	-0.2
BC3				⇓S	**Sn**	07 55 30.9	-1.3
214A	**Organ Pipe Nat** baz=1.9	**1.88**	**94**	⇓P	**Pn**	07 55 15.4	+0.1
214A				⇓S	**Sn**	07 55 38.4	-1.0
PFO	**Pinyon Flats O** baz=1.9	**1.92**	**321**	⇑P	**Pn**	07 55 15.7	-0.4
PFO				⇓S	**Sn**	07 55 38.9	-1.7
109C	**Camp Elliot, M** baz=1.9,SNR=11	**1.93**	**294**	⇑P	**Pn**	07 55 16.2	+0.2
Z14A	**Wintersburg** baz=2.2	**2.15**	**54**	⇓P	**Pn**	07 55 19.9	+0.9
Z14A				⇓S	**Sn**	07 55 45.3	-0.7
MURC	**Murrieta** baz=2.4,SNR=9.9	**2.36**	**310**	⇑P	**Pn**	07 55 21.8	-0.2
MURC				⇑S	**Sn**	07 55 50.7	-0.5
GMRC	**Granite Mounta** baz=2.7	**2.72**	**349**	⇓S	**Sn**	07 55 58.3	-1.9
MWC	**Mount Wilson**	**3.31**	**310**	*e*Pn	**Pn**	07 55 37.7	+2.5
MWC				*e*Sn	**Sn**	07 56 15.8	+1.0
X16A	**Lo Mia Camp, P** baz=3.8	**3.78**	**51**	⇑S	**Sn**	07 56 26.1	-0.4
CCUT	**Cedar City** comp=E,25nm,1.1s	**5.60**	**14**	*e*Pn	Pn	07 56 10.9	+4.3
CCUT				*e*Sn	**Sn**	07 57 09.7	-1.6
ARUT	**Antelope Range**	**5.81**	**12**	*e*Pn	Pn	07 56 13.1	+3.6
ARUT				*e*Sg	**Sg**	07 57 50.1	+0.7

IDC 19 07:55:50.8±24.0,18.98S×173.13W,h0km,mb4.1/5, mb1 4.3/5,mb1mx3.8/23,mbtmp4.2/5,Error ellipse: s-maj=447.4km s-min=56.5km az=67.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 8.3nm,1.0s,baz=32,slow=13,SNR=3.4	**21.01**	**202**	P	P	08 00 35.4	-0.4
CTA	**Charters Tower** 3.8nm,0.5s,baz=106,slow=11,SNR=6.4	**38.23**	**261**	P	P	08 03 13.3	+0.5
STKA	**Stephens Creek** 0.8nm,0.6s,baz=68,slow=9.7,SNR=4.1	**42.57**	**243**	P	P	08 03 48.8	+0.2
ASAR	**Alice Springs** 2.6nm,0.6s,baz=95,slow=7.6,SNR=49	**49.34**	**255**	P	P	08 04 42.0	-0.3
WRA	**Warramunga Arr** 1.7nm,0.6s,baz=95,slow=7.7,SNR=68	**49.37**	**260**	P	P	08 04 42.0	-0.5

MEX 19 07:58:05.0±0.9,19.06N×101.68W,h6km±11km,MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOIG	**Morelia**	**0.78**	**37**	*e*P	Pg	07 58 18.1	-2.1
MOIG				*i* S	Sg	07 58 29.3	-1.3
ZIIG	**Zihuatanejo**	**1.46**	**172**	*e*P	Pn	07 58 27.6	-4.3
ZIIG				*e*S	Sn	07 58 46.2	-5.1
ARIG	**Puente Sto Nin**	**1.48**	**121**	*e*P	Pn	07 58 29.4	-3.0
ARIG				*i* S	Sn	07 58 48.0	-4.1
IGIG	**Irapuato, Guan**	**1.72**	**11**	*i* P	Pn	07 58 32.9	-3.0
IGIG				*i* S	Sn	07 58 52.8	-5.6
MMIG	**Aquila**	**1.75**	**244**	*i* P	Pn	07 58 33.0	-2.9
MMIG				*i* S	Sn	07 58 53.9	-4.7
CAIG	**El Cayaco**	**2.41**	**146**	*e*P	Pn	07 58 42.9	-2.2
CAIG				*i* S	Sn	07 59 10.5	-4.4
ACX	**Acapulco**	**2.78**	**141**	*e*P	Pn	07 58 52.3	+2.1
ACX				*i* S	Sn	07 59 24.5	+0.3
TLIG	**Tlapa**	**3.31**	**116**	*i* P	Pn	07 58 54.3	-3.4
TLIG				*i* S	Sn	07 59 33.4	-4.1

JMA ***19*** *08:50:20.9±0.4,34.80N×142.29E,h44km,M3.2*
ISCJB ***19*** *08:50:21.1±1.2,34.83N±0.06×142.23E±0.09, h79km±11km,mb3.2/4,Error ellipse: s-maj=12.8km s-min=10.2km az=179.4*
IDC ***19*** *08:50:31.6±3.8,35.04N×141.32E,h108km±33km,mb2.9/4, mb1 3.1/5,mb1mx2.9/37,mbtmp3.2/5,Error ellipse: s-maj=36.2km s-min=25.8km az=80.0*

ISC 19 08:50:21.9±2.2,34.81N±0.08×142.3E±0.1,h74km±15km, n24,σ1°15/26,mb3.3/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.06**	**262**	P	**Pn**	08 50 39.9	-0.8
BSO1				S	**Sn**	08 50 54.2	-0.7
BSO3	**Boso 3**	**1.43**	**270**	P	**Pn**	08 50 45.8	0.0
BSO3				S	**Sn**	08 51 05.0	+1.1
CHOJ	**Chosi**	**1.45**	**309**	P	**Pn**	08 50 46.4	+0.1
CHOJ				S	**Sn**	08 51 03.8	-0.8
BSO4	**Boso 4**	**1.58**	**277**	P	**Pn**	08 50 48.6	+0.7
BSO4				S	**Sn**	08 51 09.4	+1.8
JIM2	**Oshima 3**	**2.32**	**269**	P	**Pn**	08 50 57.4	-0.6
JOD2	**Odawara 2**	**2.63**	**281**	P	**Pn**	08 51 02.0	-0.2
JOD2				S	**Sn**	08 51 31.3	-1.8
JHJ2	**Mitsune**	**2.63**	**231**	P	**Pn**	08 51 02.1	-0.1
JAG	**Ashikaga**	**2.79**	**306**	P	**Pn**	08 51 04.7	+0.4
JAG				S	**Sn**	08 51 37.6	+0.7
JRY	**Ryogami san**	**2.99**	**295**	P	**Pn**	08 51 07.7	+0.7
JRY				S	**Sn**	08 51 43.0	+1.2
JYN	**Shimob**	**3.11**	**284**	P	**Pn**	08 51 09.4	+0.7
JYN				S	**Sn**	08 51 45.5	+0.7
JFT	**Otama**	**3.12**	**331**	P	**Pn**	08 51 09.4	+0.7
JFT				S	**Sn**	08 51 43.1	-1.8
MJAR	**Matsushiro Arr** 1.0nm,0.3s,baz=118,slow=12,SNR=7.5	**3.72**	**299**	P	**Pn**	08 51 16.4	-0.5
MAT	**Matsushiro**	**3.72**	**299**	P	**Pn**	08 51 17.9	+1.0
MAT				S	**Sn**	08 51 57.0	-2.5
ASAJ	**Asahikawa** 1.0nm,0.3s,baz=245,slow=5.8,SNR=6.8	**9.30**	**2**	P	**Pn**	08 52 34.5	+1.4
H11N2	**WAKE ISLAND Hy** baz=292	**26.46**	**118**	T	T	09 23 58.1	
H11N1	**WAKE ISLAND Hy** baz=292	**26.47**	**118**	T	T	09 23 56.6	
H11N3	**WAKE ISLAND Hy** baz=292,SNR=3.3	**26.48**	**118**	T	T	09 23 52.3	
H11S3	**WAKE ISLAND Hy** baz=312,slow=74,SNR=4.4	**27.11**	**121**	T	T	09 24 40.6	
H11S1	**WAKE ISLAND Hy** baz=312,slow=74,SNR=4.5	**27.11**	**120**	T	T	09 24 36.1	
H11S2	**WAKE ISLAND Hy** baz=312	**27.13**	**121**	T	T	09 24 46.2	
SONM	**Songino Array** 0.2nm,0.6s,baz=96,slow=8.8,SNR=3.1	**29.63**	**307**	P	**P**	08 56 19.1	-1.2
MKAR	**Makanchi Array**	**45.90**	**304**	P	**P**	08 58 37.8	+0.8
	0.3nm,0.8s,baz=75,slow=6.7,SNR=2.7						
ILAR	**Eielson Array** 0.2nm,0.6s,baz=268,slow=6.5,SNR=4.3	**51.02**	**31**	P	P	08 59 23.6	+7.5
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=6.6,slow=7.6,SNR=3.9	**54.96**	**189**	P	P	08 59 52.2	+6.7

ISCJB ***19*** *08:51:13.0±0.7,32.39S±0.04×71.86W±0.09,h16km, mb4.0/6,MS3.4/1,Error ellipse: s-maj=11.4km s-min=4.3km az=153.8*
GUC ***19*** *08:51:16.5±0.4,32.48S×71.71W,h43km±3km,ML3.7*
IDC ***19*** *08:51:18.2±4.5,32.39S×71.45W,h43km±40km,mb3.9/2, mb1 3.8/4,mb1mx3.5/17,mbtmp3.9/4,ML3.4/2,MS3.6/2, Ms1 3.6/2,ms1mx3.0/20,Error ellipse: s-maj=77.8km s-min=36.5km az=105.0*
NEIC ***19*** *08:51:18.1±1.1,32.38S×71.61W,h50km±9km,mb4.0/4, Error ellipse: s-maj=19.7km s-min=8.3km az=82.0*

ISC 19 08:51:14.0±0.7,32.40S±0.06×71.77W±0.09,h16km,n24, σ1°10/34,mb4.1/6,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**1.17**	**129**	⇑*i*P	**Pn**	08 51 36.1	+0.3
PEL				*i* S	**Sb**	08 51 50.9	0.0
PEL	comp=E,7μm,0.2s			AML	AML	08 51 52.5	
SAN	**Santiago**	**1.40**	**139**	*e*P	**Pn**	08 51 39.5	+0.6
SAN				*e*S	**Sn**	08 51 57.1	0.0
CLCH	**Cerro Calan**	**1.43**	**134**	*e*P	**Pn**	08 51 40.1	+0.7
CLCH				*e*S	**Sn**	08 51 58.1	+0.2
CLCH	comp=N,1μm,0.5s			AML	AML	08 52 04.7	
LNV	**Longovilo**	**1.58**	**169**	*e*P	**Pn**	08 51 42.0	+0.7
YECH	**El Yeso**	**1.89**	**132**	*e*P	**Pn**	08 51 47.5	+1.6
YECH				*e*S	**Sn**	08 52 10.6	+1.0
LCO	**Las Campanas**	**3.50**	**15**	*e*Pn	**Pn**	08 52 09.5	+1.4
LCO				*e*Sn	**Sn**	08 52 51.0	+1.6
PLCA	**Paso Flores** comp=N,0.1nm,0.3s,baz=342,slow=16,SNR=3.7	**8.37**	**174**	P	**Pn**	08 53 16.7	+2.0
TRQA	**Tornquist**	**9.79**	**128**	*e*Pn	**Pn**	08 53 35.3	+1.2
LVC	**Limon Verde**	**10.07**	**15**	*e*Pn	**Pn**	08 53 40.2	+1.9
LVC				*e*Sn	**Sn**	08 55 30.4	-0.8
CPUP	**Villa Florida** comp=N,387nm,18.3s,baz=201,slow=43	**13.96**	**68**	LR	LR	09 01 01.9	
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=201,slow=12,SNR=3.8	**16.38**	**12**	P	**Pn**	08 55 04.7	+0.8
LPAZ	**La Paz**	**16.38**	**12**	*e*Pn	**Pn**	08 55 05.0	+1.1
BDFB	**Brasilia** comp=N,1.9nm,0.7s,baz=228,slow=9.7,SNR=4.1	**27.27**	**58**	P	**P**	08 56 56.7	-1.1
OTAV	**Otavalo** comp=N,1.9nm,1.0s	**33.07**	**348**	*e*P	**P**	08 57 47.8	-1.8
RCBR	**Riachuelo** comp=N,47nm,18.6s,baz=258,slow=36	**42.62**	**59**	LR	LR	09 16 39.7	
ECSD	**EROS Data Cent** comp=N,1.8nm,0.8s	**79.10**	**342**	*e*P	**P**	09 03 17.7	+0.3
SRU	**San Rafael Swe** comp=N,0.6nm,0.4s	**79.74**	**330**	*e*P	**P**	09 03 22.4	+1.2
HVU	**Hansel Valley** comp=N,0.5nm,0.2s	**82.91**	**330**	*e*P	**P**	09 03 37.9	-0.1
TORD	**Torodi Ar. Bea** comp=N,1.3nm,0.8s,baz=238,slow=5.7,SNR=7.3	**83.45**	**70**	P	**P**	09 03 40.1	-1.1
KKAR	**Karatay Array**	**148.56**	**59**	*e*PKPdf	**PKPdf**	09 10 54.4	-1.9
KKAR				*e*PKPbc	**PKPbc**	09 10 59.6	-0.4
KKAR				*e*PKPab	**PKiKP**	09 11 02.3	+0.8
EKS2	**Erkin-Say**	**151.00**	**59**	*e*PKPdf	**PKPdf**	09 10 59.2	-1.2
EKS2				*e*PKPbc	**PKPbc**	09 11 05.1	+0.0
EKS2				*e*PKPab	**PKPab**	09 11 13.0	-0.7
AAK	**Ala-Archa**	**151.52**	**59**	*e*PKPdf	**PKPdf**	09 11 00.0	-1.1
AAK				*e*PKPbc	**PKPbc**	09 11 08.1	+0.7
KURK	**Kurchatov**	**151.54**	**41**	*e*PKPdf	**PKPdf**	09 11 00.4	-0.3
KURK				*e*PKPbc	**PKPbc**	09 11 07.0	+0.2
ZALV	**Zalesovo Beam** comp=N,1.3nm,0.6s,baz=285,slow=3.3,SNR=7.2	**152.75**	**31**	PKPbc	**PKPbc**	09 11 09.4	-0.1

MAN 19 08:59:48,17.61N×120.73E,h100km,mb4.1,ML2.9, MS2.6,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.04**	**339**	*e*P	Pn	09 00 02.8	+0.9
ABRA				*e*S	Sn	09 00 09.7	-2.5
SIPP	**Brgy, Tapao**	**0.41**	**321**	⇓*i*P	Pn	09 00 08.8	+5.7
APYP	**Conner**	**0.55**	**63**	*e*P	Pn	09 00 08.2	+4.1
APYP				*e*S	Sn	09 00 19.8	+3.6
BCPH	**Baguio City Da**	**1.23**	**187**	⇑*i*P	Pn	09 00 08.6	-2.7
BCPH				*i* S	Sn	09 00 19.7	-9.1
BOLP	**Bolinao**	**1.45**	**213**	*e*P	Pn	09 00 15.4	+1.8
BALP	**Baler**	**2.03**	**156**	*e*P	Pn	09 00 21.6	+0.6

MEX 19 09:09:13.2±0.3,16.13N×94.40W,h64km±15km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.21**	**110**	*e*P	Pn	09 09 32.5	-1.6
PCIG				*e*S	Sn	09 09 48.1	-1.7
HUIG	**Huatulco**	**1.68**	**258**	*e*P	Pn	09 09 39.0	-1.4
HUIG				*i* S	Sn	09 09 59.2	-1.8
CCIG	**Comitan**	**2.18**	**86**	*e*P	Pn	09 09 46.2	-1.2
CCIG				*i* S	Sn	09 10 11.2	-2.4
THIG		**2.39**	**120**	*e*P	Pn	09 09 48.8	-1.2
THIG				*e*S	Sn	09 10 16.7	-1.5
VHO	**Vista Hermosa**	**2.42**	**293**	*i* P	Pn	09 09 50.0	-0.7
VHO				*i* S	Sn	09 10 17.7	-1.9

ISCJB ***19*** *09:14:35.5±0.9,32.3N±0.1×85.0E±0.2,h16km,mb3.2/6, Error ellipse: s-maj=30.1km s-min=13.5km az=155.9*
IDC ***19*** *09:14:41.4±5.0,32.40N×85.06E,h47km±47km,mb3.1/6, mb1 3.3/9,mb1mx3.1/54,mbtmp3.3/9,ML3.4/2,Error ellipse: s-maj=38.0km s-min=21.1km az=60.0*

ISC 19 09:14:37.0±1.1,32.5N±0.1×85.0E±0.2,h16km,n9,σ1°58/9, mb3.4/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

baz=108,slow=37
FIA0 FINESS Array S 1.62 294 Pg **Pn** **09 17 47.3 -0.5**
baz=111,slow=18
FIA0 Lg Lg 09 18 07.9
baz=104,slow=37
FIA0 Rg Rg 09 18 15.6
baz=108,slow=37
FIA0 FINESS Array S 1.62 294 PG **Pn** **09 17 47.3 -0.5**
FIA0 FINESS Array S 1.62 294 Pg **Pn** **09 17 47.3 -0.5**
FIA0 Lg Lg 09 18 07.9
baz=104,slow=28
FINES FINESS Array B 1.62 294 Pg **Pn** **09 17 47.4 -0.5**
1.9nm,0.3s,baz=116,slow=16,SNR=40
FINES Lg Lg 09 18 08.0
3.0nm,0.3s,baz=107,slow=30,SNR=21
PVF Pernaja 1.65 261 PG **Pn** **09 17 48.7 +0.4**
PVF SN **Sg** **09 18 11.4 +0.4**
PVF MSG 09 18 11.4
comp=Z,1.0nm,0.2s
PVF Pernaja 1.65 261 Pg **Pn** **09 17 48.6 +0.4**
PVF Sn **Sg** **09 18 11.3 +0.4**
KAF Kangasniemi 1.88 314 PG **Pn** **09 17 52.4 +0.9**
KAF SN **Sn** **09 18 14.5 -1.3**
KAF MSG 09 18 14.5
comp=Z,3.3nm,0.2s
KAF Kangasniemi 1.88 314 Pg **Pn** **09 17 52.3 +0.9**
JOF Joensuu 2.33 25 PG **Pb** **09 18 00.0 -0.9**
JOF SG **Sn** **09 18 28.1 +1.1**
JOF MSG 09 18 28.1
comp=Z,1.1nm,0.2s
JOF Joensuu 2.33 25 Pg **Pb** **09 18 00.0 -0.9**
JOF Sg **Sn** **09 18 28.0 +1.1**
SUF Sumiainen 2.37 324 PG **Pb** **09 18 00.3 -1.3**
baz=139
SUF SG **Sn** **09 18 29.6 +1.6**
SUF MSG 09 18 29.6
comp=Z,2.9nm,0.2s
SUF Sumiainen 2.37 324 Pg **Pb** **09 18 00.3 -1.3**
SUF Sg **Sn** **09 18 29.6 +1.6**
MEF Metsahovi 2.43 257 PG **Pb** **09 18 02.7 0.0**
MEF SG **Sb** **09 18 32.4 -0.7**
MEF MSG 09 18 32.4
comp=Z,2.1nm,0.2s
KEF Keuruu 2.46 305 PG **Pn** **09 18 01.3 +1.9**
baz=123
KEF SG **Sn** **09 18 31.4 +1.4**
KEF MSG 09 18 31.4
comp=Z,1.3nm,0.2s
KEF Keuruu 2.46 305 Pg **Pn** **09 18 01.2 +1.9**
KEF Sg **Sn** **09 18 31.4 +1.4**
RAF Rauma 3.61 276 SB **Sn** **09 19 00.7 +2.2**
VAF Ylistaro 3.78 309 PG **Pb** **09 18 27.3 +1.7**
VAF Ylistaro 3.78 309 Pg **Pb** **09 18 27.3 +1.7**
AAL Aland 4.58 266 SG **Sg** **09 19 41.4 -3.5**
HFS Hagfors 7.67 272 Pn **Pn** **09 19 11.9 +1.0**
baz=80,slow=12
HFS Sn **Sn** **09 20 35.9 -2.5**
baz=90,slow=37
HFS Lg Lg 09 21 13.3
baz=82,slow=37
HFS Hagfors 7.67 272 Pn **Pn** **09 19 11.9 +1.0**
baz=80,slow=12
HFS Sn **Sn** **09 20 35.9 -2.5**
baz=90,slow=37
HFS Lg Lg 09 21 13.3
baz=82,slow=37
HFS Hagfors 7.67 272 Pn **Pn** **09 19 11.6 +0.7**
comp=Z,0.1nm,0.3s,baz=80,slow=17,SNR=3.8
HFS Sn **Sn** **09 20 33.9 -4.5**
comp=Z,0.1nm,0.3s,baz=81,slow=28,SNR=3.0
HFS Lg Lg 09 21 16.8
comp=Z,0.4nm,0.3s,baz=82,slow=32,SNR=6.9
HFS Hagfors 7.67 272 Pn **Pn** **09 19 11.9 +1.0**
baz=80,slow=12,SNR=2.8
HFS Sn **Sn** **09 20 35.9 -2.5**
baz=90,slow=33,SNR=50
HFS Lg Lg 09 21 13.3
NB2 NORSAR Subarra 8.74 279 Pn **Pn** **09 19 25.5 -0.1**
NB2 NORSAR Subarra 8.74 279 Pn **Pn** **09 19 25.5 -0.1**
NB2 NORSAR Subarra 8.74 279 Pn **Pn** **09 19 25.5 -0.1**
NOA NORSAR Array B 8.74 279 Pn **Pn** **09 19 25.4 -0.1**
comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.6
NOA Lg Lg 09 21 52.4
comp=Z,0.2nm,0.3s,baz=53,slow=23,SNR=3.9
ARA0 ARCESS Array S 8.87 352 Pn **Pn** **09 19 27.9 +0.6**
baz=169,slow=14
ARA0 ARCESS Array S 8.87 352 Pn **Pn** **09 19 27.9 +0.6**
baz=169,slow=14
ARCES ARCESS Array B 8.87 352 Pn **Pn** **09 19 27.9 +0.5**
comp=Z,0.2nm,0.3s,baz=171,slow=12,SNR=13
ARCES Sn **Sn** **09 21 03.8 -4.1**
comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=2.9
ARCES Lg Lg 09 21 53.6
comp=Z,0.2nm,0.3s,baz=174,slow=33,SNR=3.4
EKA Eskdalemuir Ar 17.82 266 Pn **P** **09 21 28.8 +0.8**
baz=62,slow=17,SNR=7.0

IDC 19 09:21:32.0±1.8,**3°49N**×**124°32E,h0**km,**mb3.5**/4,
mb1 3.6/4,**mb1mx3.3**/36,**mbtmp3.5**/4,**MS3.3**/1,**Ms1 3.3**/1,
ms1mx2.5/23,**Error ellipse: s-maj=197.2km**
s-min=25.5km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.28**	**157**	P	P	09 27 00.5	+0.1
	0.7nm,0.8s,baz=335,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**28.56**	**161**	P	P	09 27 30.8	+0.9
	0.2nm,0.5s,baz=344,slow=7.3,SNR=6.6						
ASAR				LR	LR	09 38 51.0	
	comp=Z,58nm,19.0s,baz=32,slow=36						
STKA	**Stephens Creek**	**38.82**	**156**	P	P	09 28 57.7	-1.2
	1.1nm,0.6s,baz=316,slow=8.2,SNR=6.1						
MKAR	**Makanchi Array**	**56.40**	**326**	P	P	09 31 15.4	0.0
	0.1nm,0.4s,baz=115,slow=6.3,SNR=5.0						

*KRSC **19** 09:26:45.4±1.5,54°.95N×159°.01E,h263km±15km,ML4.1*
*MOS **19** 09:26:46.7±0.6,54°.87N×159°.01E,h248km,mb4.2/1,Error*
ellipse: s-maj=42.8km s-min=22.0km az=78.0
*ISCJB **19** 09:26:47.2±1.4,54°.92N±0°.06×159°.1E±0°.1,h255km±14km,*
Error ellipse: s-maj=13.7km s-min=6.7km az=33.0
ISC 19 09:26:46.6±2.5,**54°.91N**±0°.06×**159°.01E**±0°.08,
h258km±17km,**n31**,σ**0°.91**/42,**Near east coast of**
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.75**	**60**	*i* P	**Pn**	**09 27 22.8**	**+1.4**
KZV	**Kizimen**	**0.77**	**74**	*i* P	**Pn**	**09 27 22.6**	**+1.1**
ESO	**Esso**	**1.03**	**350**	PN	**Pn**	**09 27 22.2**	**-0.4**
ESO	**Esso**	**1.03**	**350**	*e*P	**Pn**	**09 27 22.1**	**-0.5**
KMNR	**Kamenistaya**	**1.10**	**39**	*i* P	**Pn**	**09 27 23.9**	**+0.8**
KOZ	**Kozyrevsk**	**1.25**	**23**	*e*P	**Pn**	**09 27 24.2**	**+0.3**
KOZR	**Kozyr**	**1.26**	**23**	PN	**Pn**	**09 27 24.2**	**+0.2**
GNL	**Ganaly**	**1.37**	**208**	*e*P	**Pn**	**09 27 25.8**	**+0.9**
SRDR	**Sredinnyy**	**1.46**	**16**	*e*P	**Pn**	**09 27 25.0**	**-0.4**
KRX	**Arik**	**1.57**	**188**	P	**Pn**	**09 27 27.3**	**+0.9**
MKZ	**Mys Kozlova**	**1.62**	**102**	PN	**Pn**	**09 27 26.0**	**-0.5**
MKZ				S	**S**	**09 27 57.9**	**-0.1**
MKZ	**Mys Kozlova**	**1.62**	**102**	P	**Pn**	**09 27 26.0**	**-0.5**
MKZ				*e*S	**S**	**09 27 57.9**	**-0.1**
KRER	**Koryakskii**	**1.62**	**186**	P	**Pn**	**09 27 28.3**	**+1.4**
KOK	**Koryaka**	**1.64**	**188**	P	**Pn**	**09 27 27.9**	**+1.0**
SDLR	**Sedlovina**	**1.64**	**183**	P	**Pn**	**09 27 27.7**	**+0.8**
SMAR	**Somma**	**1.66**	**184**	P	**Pn**	**09 27 28.6**	**+1.4**
AVH	**Avacha**	**1.66**	**186**	*i* P	**Pn**	**09 27 28.6**	**+1.6**
KLY	**Klyuchi**	**1.69**	**33**	PN	**Pn**	**09 27 28.2**	**+1.2**
KLY	**Klyuchi**	**1.69**	**33**	P	**Pn**	**09 27 28.2**	**+1.2**
UGLR	**Uglovaya**	**1.71**	**184**	P	**Pn**	**09 27 28.5**	**+1.0**
SPN	**Mys Shipunski**	**1.92**	**161**	PN	**Pn**	**09 27 28.9**	**-0.1**
SPN				S	**S**	**09 28 01.6**	**-0.9**
SPN	**Mys Shipunski**	**1.92**	**161**	P	**Pn**	**09 27 28.9**	**-0.1**
SPN				*e*S	**S**	**09 28 01.6**	**-0.9**
APC	**Apacha**	**2.27**	**210**	*i* P	**Pn**	**09 27 32.7**	**+0.5**
MTVR	**Mutnovka**	**2.48**	**192**	P	**Pn**	**09 27 35.3**	**+0.8**
MTVR				S	**S**	**09 28 13.5**	**+1.2**
RUS	**Russkaya**	**2.50**	**187**	PN	**Pn**	**09 27 33.6**	**-0.8**
RUS				S	**S**	**09 28 11.1**	**-1.2**
RUS	**Russkaya**	**2.50**	**187**	*e*P	**Pn**	**09 27 33.6**	**-0.8**
RUS				*e*S	**S**	**09 28 11.1**	**-1.2**
KBTR	**Krutoberegovo**	**2.52**	**58**	PN	**Pn**	**09 27 34.2**	**-0.3**
KBTR				S	**S**	**09 28 11.5**	**-1.1**
KBTR	**Krutoberegovo**	**2.52**	**58**	*i* P	**Pn**	**09 27 34.2**	**-0.3**
KBTR				*e*S	**S**	**09 28 11.5**	**-1.1**
ASAK	**Asacha**	**2.62**	**195**	*e*P	**Pn**	**09 27 35.8**	**+0.1**
BKI	**Bering**	**4.02**	**83**	PN	**Pn**	**09 27 51.6**	**+0.8**
BKI				S	**S**	**09 28 42.3**	**+0.4**
BKI	**Bering**	**4.02**	**83**	*i* P	**Pn**	**09 27 51.6**	**+0.8**
BKI				*e*S	**S**	**09 28 42.3**	**+0.4**

*CSEM **19** 09:30:41.5,37°.29N×20°.08E,h5km,MD3.5*
ATH 19 09:30:41.5,37°.29N×20°.08E,h5km±3km,**MD3.5**/10,
Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.97**	**24**	*e*PG	Pg	09 30 59.8	-0.5
VLS				*e*SB	Sb	09 31 14.4	+0.3
VLS	**Valsamata**	**0.97**	**24**	*e*Pg	Pg	09 30 59.8	-0.5
VLS				*e*Sb	Sb	09 31 14.4	+0.3
RLS	**Riolos of Patr**	**1.34**	**55**	*e*PB	Pg	09 31 07.2	0.0
RLS	**Riolos of Patr**	**1.34**	**55**	*e*Pb	Pg	09 31 07.2	0.0
DRO	**Drossia**	**1.45**	**62**	*e*PB	Pg	09 31 09.3	-0.1
DRO	**Drossia**	**1.45**	**62**	*e*Pb	Pg	09 31 09.3	-0.1
ITM	**Ithomi**	**1.48**	**94**	*e*PB	Pb	09 31 09.6	+0.1
ITM	**Ithomi**	**1.48**	**94**	*e*Pb	Pb	09 31 09.6	+0.1
PDO	**Prodromos**	**1.57**	**33**	*e*PB	Pg	09 31 12.0	+0.3
PDO	**Prodromos**	**1.57**	**33**	*e*Pb	Pg	09 31 12.0	+0.3
KLV	**Kalavryta, Ach**	**1.81**	**65**	*e*PG	Pb	09 31 15.2	0.0
KLV	**Kalavryta, Ach**	**1.81**	**65**	*e*Pg	Pb	09 31 15.2	0.0
EFP	**Efpalio**	**1.84**	**51**	*e*PG	Pb	09 31 15.4	-0.2
EFP	**Efpalio**	**1.84**	**51**	*e*Pg	Pb	09 31 15.4	-0.2
GUR	**Goura**	**1.91**	**70**	*e*PN	Pg	09 31 17.8	-0.5
GUR	**Goura**	**1.91**	**70**	*e*Pn	Pg	09 31 17.8	-0.5
KALE	**Kalithea**	**1.97**	**55**	*e*PG	Pb	09 31 17.7	-0.2
KALE	**Kalithea**	**1.97**	**55**	*e*Pg	Pb	09 31 17.7	-0.2
DSL	**Palaion Diasel**	**2.01**	**23**	*e*PN	Pb	09 31 19.2	+0.6
DSL				*e*SN	Sg	09 31 46.3	+0.1
DSL	**Palaion Diasel**	**2.01**	**23**	*e*Pn	Pb	09 31 19.2	+0.6
DSL				*e*Sn	Sg	09 31 46.3	+0.1
EVR	**Evrytania**	**2.12**	**39**	*e*PN	Pb	09 31 20.2	-0.4
EVR	**Evrytania**	**2.12**	**39**	*e*Pn	Pb	09 31 20.2	-0.4
MAKR	**Makrakomi, Fth**	**2.36**	**43**	*e*PN	Pb	09 31 23.6	-1.0
MAKR	**Makrakomi, Fth**	**2.36**	**43**	*e*Pn	Pb	09 31 23.6	-1.0
KYTH	**Kithira**	**2.58**	**112**	*e*PN	Pb	09 31 27.0	-1.3
KYTH	**Kithira**	**2.58**	**112**	*e*Pn	Pb	09 31 27.0	-1.3

IDC 19 09:33:14.1±2.5,**6°.74S**×**147°.52E,h0**km,**mb3.4**/3,
mb1 3.5/4,**mb1mx3.3**/24,**mbtmp3.4**/4,**ML3.2**/1,**MS3.5**/2,
Ms1 3.5/2,**ms1mx2.8**/15,**Error ellipse: s-maj=74.1km**
s-min=29.1km az=98.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.33**	**223**	P	P	09 37 28.5	-1.4
	0.1nm,0.3s,baz=49,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**21.32**	**216**	P	P	09 38 02.3	-0.4
	0.6nm,0.5s,baz=51,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**25.61**	**192**	P	P	09 38 46.0	+0.7
	1.6nm,1.1s,baz=0.0,slow=10,SNR=3.0						
LEM	**Lembang**	**39.61**	**267**	LR	LR	09 59 05.2	
	comp=Z,323nm,18.4s,baz=245,slow=39						
ASAJ	**Asahikawa**	**50.81**	**355**	LR	LR	10 07 20.1	
	comp=Z,10nm,18.2s,slow=40						
MKAR	**Makanchi Array**	**78.39**	**320**	P	P	09 45 16.8	+0.2
	0.3nm,0.8s,baz=106,slow=5.3,SNR=2.8						

*IDC **19** 09:42:24.8±1.8,2°.09N×96°.70E,h0km,mb4.1/9,*
mb1 4.2/10,mb1mx3.9/36,mbtmp4.2/10,ML4.4/1,Error
ellipse: s-maj=46.9km s-min=24.5km az=53.0
*ISCJB **19** 09:42:26.5±0.8,1°.94N±0°.07×96°.71E±0°.06,h28km,*
mb4.1/10,Error ellipse: s-maj=9.6km s-min=8.1km
az=13.7
*DJA **19** 09:42:27.5±0.9,2°.N±6°×9°.6E±°,h77km±5km,M4.4/9,*
mb4.5/3,mB5.0/2,MLv4.3/9,Mw(mB)4.3/2
*NEIC **19** 09:42:31.2±2.4,2°.11N×96°.78E,h45km±15km,mb4.2/1,*
Error ellipse: s-maj=25.6km s-min=10.8km az=222.0
ISC 19 09:42:28.9±0.9,**2°.08N**±0°.08×**96°.75E**±0°.06,**h28**km,**n28,**
σ**0°.96**/24,**mb4.2**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.53**	**308**	P	**Pb**	**09 42 38.8**	**-1.0**
SNSI				S	**Sn**	**09 42 48.0**	**-0.7**
TPTI		**1.25**	**20**	P	**Pn**	**09 42 49.9**	**-0.6**
TPTI				S	**Sb**	**09 43 06.8**	**-0.7**
KCSI	**Kotacane, Aceh**	**1.76**	**35**	P	**Pn**	**09 42 58.1**	**+0.6**
KCSI				S	**Sb**	**09 43 22.1**	**-0.1**
TSI	**Tuntungan**	**2.30**	**52**	P	**Pn**	**09 43 06.8**	**+1.9**
MNSI	**Mandailing Nat**	**3.10**	**114**	P	**Pb**	**09 43 21.4**	**-2.0**
LHMI	**Lhok Sumawe**	**3.13**	**4**	P	Pn	09 43 11.1	-5.3
LHMI	**Lhok Sumawe**	**3.13**	**4**	*e*Pn	**Pn**	**09 43 18.1**	**+1.7**
IPM	**Ipoh**	**4.89**	**61**	*e*Pn	**Pn**	**09 43 42.1**	**+1.5**
KULM	**Kulim**	**5.03**	**51**	*e*Pn	**Pn**	**09 43 43.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.42**	**7**	Pn	**P**	**09 46 18.7**	**-1.3**
	0.5nm,0.3s,baz=197,slow=11,SNR=28						
H08S2	**Diego Garcia H**	**26.05**	**248**	T	T	10 14 49.7	
	baz=68,slow=75,SNR=187						
H08S3	**Diego Garcia H**	**26.06**	**248**	T	T	10 14 50.0	
	baz=68,slow=75,SNR=201						
H08S1	**Diego Garcia H**	**26.07**	**248**	T	T	10 14 53.6	
	baz=68,slow=75,SNR=63						
H01W3	**Cape Leeuwin H**	**40.23**	**158**	T	T	10 32 50.4	
	baz=333						
H01W2	**Cape Leeuwin H**	**40.24**	**158**	T	T	10 32 52.4	
	baz=333,slow=74						
H01W1	**Cape Leeuwin H**	**40.24**	**158**	T	T	10 32 53.5	
	baz=333,slow=74						
ASAR	**Alice Springs**	**44.28**	**128**	P	**P**	**09 50 37.1**	**+0.6**
	1.2nm,0.9s,baz=303,slow=8.2,SNR=8.1						
AAK	**Ala-Archa**	**45.02**	**337**	P	**P**	**09 50 42.8**	**+0.5**
	1.1nm,0.8s,baz=128,slow=12,SNR=3.8						
KSAR	**Wonju Array Be**	**45.36**	**35**	P	**P**	**09 50 44.5**	**-0.2**
KSRS	**Korea Array**	**45.39**	**35**	P	**P**	**09 50 44.5**	**-0.5**
	1.4nm,0.5s,baz=217,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**46.28**	**346**	P	**P**	**09 50 51.8**	**-0.2**
	6.1nm,0.7s,baz=160,slow=8.1,SNR=78						
SONM	**Songino Array**	**46.34**	**9**	P	**P**	**09 50 52.6**	**+0.1**
	2.9nm,0.7s,baz=188,slow=8.6,SNR=20						
MJAR	**Matsushiro Arr**	**51.35**	**43**	P	**P**	**09 51 31.5**	**+0.4**
	1.2nm,0.9s,baz=208,slow=5.2,SNR=3.7						
USRK	**Ussuriysk Ar.**	**52.26**	**32**	P	**P**	**09 51 38.1**	**+0.5**
	1.4nm,0.8s,baz=232,slow=7.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	**P**	**09 51 40.0**	**-0.2**
	7.5nm,0.6s,baz=178,slow=7.3,SNR=33						
ABKAR	**Akbulak array**	**56.53**	**332**	*e*P	**P**	**09 52 08.3**	**-0.3**
	1.6nm,0.7s						
ARCES	**ARCESS Array B**	**81.56**	**340**	P	**P**	**09 54 43.8**	**+0.1**
	2.4nm,0.9s,baz=90,slow=4.9,SNR=4.1						
SDPT	**Sand Point**	**95.54**	**34**	*e*P	**P**	**09 55 52.0**	**+0.6**

*IDC **19** 09:47:09.6±1.3,2°.12N×96°.75E,h0km,mb4.2/11,*
mb1 4.3/12,mb1mx4.0/36,mbtmp4.2/12,ML4.8/1,MS3.7/12,
Ms1 3.8/12,ms1mx3.5/34,Error ellipse: s-maj=42.8km
s-min=18.7km az=55.0
*ISCJB **19** 09:47:11.0±0.6,1°.96N±0°.06×96°.69E±0°.06,h28km,*
mb4.1/14,MS3.8/10,Error ellipse: s-maj=9.1km
s-min=8.5km az=31.1
*DJA **19** 09:47:12.7±0.8,2°.N±4°×9°.6E±°,h77km±5km,M4.4/8,*
mb4.5/3,mB4.9/3,MLv4.3/8,Mw(mB)4.2/3
*NEIC **19** 09:47:14.5±2.7,2°.09N×96°.71E,h37km±20km,mb4.3/2,*
Error ellipse: s-maj=28.7km s-min=9.9km az=47.0
ISC 19 09:47:13.3±0.8,**2°.09N**±0°.08×**96°.71E**±0°.06,**h28**km,**n40,**
σ**0°.90**/28,**mb4.2**/14,**MS3.8**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.49**	**310**	P	**Pn**	**09 47 25.2**	**+0.6**
SNSI				S	**Sn**	**09 47 33.5**	**+1.3**
TPTI		**1.25**	**22**	P	**Pn**	**09 47 34.6**	**-0.4**
TPTI				S	**Sb**	**09 47 52.1**	**0.0**
KCSI	**Kotacane, Aceh**	**1.77**	**37**	P	**Pn**	**09 47 43.0**	**+0.8**
KCSI				S	**Sb**	**09 48 06.5**	**-0.6**
PSI	**Prapat**	**2.32**	**72**	LR	LR	09 48 41.0	
	comp=Z,863nm,20.4s,baz=306,slow=41						
LHMI	**Lhok Sumawe**	**3.12**	**4**	P	Pn	09 47 55.1	-5.7
LHMI	**Lhok Sumawe**	**3.12**	**4**	*e*Pn	**Pn**	**09 48 01.2**	**+0.5**
MNSI	**Mandailing Nat**	**3.15**	**114**	P	**Pb**	**09 48 08.3**	**-0.3**
MNSI				S	Sb	09 48 53.0	+6.5
IPM	**Ipoh**	**4.92**	**61**	*e*Pn	**Pn**	**09 48 26.9**	**+1.4**
KULM	**Kulim**	**5.05**	**51**	*e*Pn	**Pn**	**09 48 28.1**	**+0.7**
KSM	**Kuching**	**13.61**	**92**	*e*Pn	**Pn**	**09 50 24.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.41**	**8**	Pn	**Pn**	**09 51 01.8**	**-0.1**
	1.3nm,0.3s,baz=197,slow=12,SNR=37						
CMAR				LR	LR	09 57 34.6	
	comp=Z,336nm,18.9s,baz=204,slow=38						
KKM	**Kota Kinabalu**	**19.84**	**78**	P	**P**	**09 51 42.4**	**0.0**
H08S2	**Diego Garcia H**	**26.02**	**248**	T	T	10 19 35.4	
	baz=68,slow=75,SNR=62						
H08S3	**Diego Garcia H**	**26.02**	**248**	T	T	10 19 31.2	
	baz=68,slow=75,SNR=60						
H08S1	**Diego Garcia H**	**26.04**	**248**	T	T	10 19 38.6	
	baz=68,slow=75,SNR=72						
BATI	**Baumata**	**29.48**	**115**	LR	LR	10 06 52.9	
	comp=Z,417nm,20.6s,baz=240,slow=40						
H01W3	**Cape Leeuwin H**	**40.25**	**158**	T	T	10 37 34.2	
	baz=331,slow=74						
H01W2	**Cape Leeuwin H**	**40.26**	**158**	T	T	10 37 37.5	
	baz=331						
H01W1	**Cape Leeuwin H**	**40.27**	**158**	T	T	10 37 36.8	
	baz=331,slow=74						
WRA	**Warramunga Arr**	**42.92**	**122**	P	**P**	**09 55 10.3**	**+0.2**
	1.9nm,0.8s,baz=300,slow=9.3,SNR=9.7						
ASAR	**Alice Springs**	**44.32**	**128**	P	**P**	**09 55 21.9**	**+0.5**
	1.1nm,0.7s,baz=305,slow=8.0,SNR=8.9						
AAK	**Ala-Archa**	**44.99**	**337**	P	**P**	**09 55 28.5**	**+2.0**
	1.1nm,0.5s,baz=125,slow=7.6,SNR=5.1						
KSAR	**Wonju Array Be**	**45.37**	**35**	P	**P**	**09 55 29.4**	**0.0**
KSRS	**Korea Array**	**45.40**	**35**	P	**P**	**09 55 29.4**	**-0.2**
	2.4nm,0.8s,baz=234,slow=8.3,SNR=9.0						
KSRS				LR	LR	10 15 37.9	
	comp=Z,122nm,19.0s,baz=216,slow=38						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**09 55 36.7**	**+0.3**
	8.7nm,0.8s,baz=161,slow=7.9,SNR=56						
MKAR				LR	LR	10 18 53.9	
	comp=Z,82nm,19.8s,baz=164,slow=41						
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**09 55 37.3**	**+0.3**
	4.3nm,0.8s,baz=189,slow=8.5,SNR=29						
USRK	**Ussuriysk Ar.**	**52.27**	**32**	P	**P**	**09 56 21.9**	**-0.3**
	1.0nm,0.6s,baz=236,slow=5.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**52.61**	**351**	P	**P**	**09 56 24.7**	**+0.2**
	8.4nm,0.6s,baz=180,slow=7.1,SNR=37						
ZALV				LR	LR	10 24 14.9	
	comp=Z,42nm,18.5s,baz=250,slow=42						
STKA	**Stephens Creek**	**54.31**	**132**	LR	LR	10 21 23.7	
	comp=Z,90nm,20.5s,baz=319,slow=38						
ABKAR	**Akbulak array**	**56.50**	**332**	*e*P	**P**	**09 56 52.9**	**0.0**
	6.2nm,1.1s						
BRTR	**Keskin Array B**	**68.15**	**312**	LR	LR	10 28 58.6	
	comp=Z,31nm,21.7s,baz=92,slow=37						
PETK	**Petropavlovsk-**	**71.27**	**34**	LR	LR	10 33 52.0	
	comp=Z,43nm,18.3s,baz=201,slow=39						
TIXI	**Tiksi**	**72.40**	**10**	*e*P	**P**	**09 58 35.5**	**-1.0**
	1.4nm,0.6s						
FINES	**FINESS Array B**	**78.99**	**332**	P	**P**	**09 59 14.3**	**-0.1**
	1.7nm,0.7s,baz=211,slow=3.3,SNR=5.1						
ARCES	**ARCESS Array B**	**81.54**	**340**	P	**P**	**09 59 28.3**	**+0.2**
	3.4nm,1.0s,baz=95,slow=6.1,SNR=7.7						
GERES	**GERESS Array B**	**83.82**	**319**	P	**P**	**09 59 37.7**	**-2.8**
	0.2nm,0.2s,baz=103,slow=3.1,SNR=2.4						
NOA	**NORSAR Array B**	**85.99**	**331**	P	**P**	**09 59 51.9**	**+0.8**
	0.2nm,0.6s,baz=90,slow=9.7,SNR=3.3						
NOA				LR	LR	10 42 54.2	
	comp=Z,35nm,18.4s,baz=15,slow=39						
ESDC	**Sonseca Array**	**96.88**	**310**	LR	LR	10 49 07.6	
	comp=Z,17nm,18.9s,baz=280,slow=38						
ILAR	**Eielson Array**	**99.07**	**23**	LR	LR	10 51 05.3	
	comp=Z,68nm,18.4s,baz=272,slow=39						
H09N1	**TRISTAN DA CUN**	**106.40**	**232**	T	T	12 00 44.7	
	SNR=14						

IDC 19 10:03:32.5±2.8,**12°.49S**×**166°.13E,h0**km,**mb3.7**/4,
mb1 3.8/4,**mb1mx3.5**/26,**mbtmp3.6**/4,**Error ellipse:**
s-maj=101.2km s-min=37.5km az=128.0,Santa Cruz
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.67**	**226**	P	P	10 09 40.6	+0.5
	1.7nm,1.1s,baz=78,slow=9.3,SNR=2.4						
WRA	**Warramunga Arr**	**31.37**	**252**	P	P	10 09 55.7	+0.5
	0.5nm,0.9s,baz=81,slow=7.7,SNR=2.7						
ASAR	**Alice Springs**	**32.51**	**245**	P	P	10 10 04.2	-1.1
	0.4nm,0.8s,baz=74,slow=9.7,SNR=8.0						
MKAR	**Makanchi Array**	**94.83**	**317**	P	P	10 16 56.4	0.0
	0.2nm,0.5s,baz=86,slow=4.9,SNR=3.4						
ARCES	**ARCESS Array B**	**117.82**	**345**	PKP	PKPdf	10 22 20.1	-0.3
	5.0nm,1.0s,baz=48,slow=1.3,SNR=5.0						

*ISCJB **19** 10:03:40.9±0.4,43°.88N±0°.05×146°.28E±0°.05,*
h117km±3km,mb3.5/13,Error ellipse: s-maj=8.3km
s-min=5.1km az=153.6
*MOS **19** 10:03:41.3±1.3,43°.96N×146°.14E,h124km,mb4.0/3,Error*
ellipse: s-maj=16.9km s-min=10.5km az=71.6
*SKHL **19** 10:03:41.9±0.2,43°.85N×146°.25E,h111km±1km,mb5.3/4,*
msh4.2/1
*JMA **19** 10:03:42.3±0.2,43°.87N×146°.28E,h104km±2km,M3.4*
*IDC **19** 10:03:44.3±1.8,43°.91N×146°.07E,h134km±16km,*
mb3.3/13,mb1 3.4/17,mb1mx3.3/36,mbtmp3.6/17,Error
ellipse: s-maj=18.3km s-min=14.2km az=122.0
ISC 19 10:03:41.8±0.7,**43°.91N**±0°.05×**146°.25E**±0°.04,**h110**km±5km,
n46,σ**0°.99**/56,**mb3.5**/13,**2C-1D,Kuril Islands**

	comp=E,440nm,4.1s						
JAR	**Ashorobuto**	**1.90**	**252**	P	**Pn**	**10 04 14.6**	**+1.0**
JOB	**Onbets**	**2.03**	**241**	P	**Pn**	**10 04 15.8**	**+0.7**
JOB				*e*S	**Sn**	**10 04 41.3**	**+0.8**
JMP	**Maruseppu**	**2.09**	**274**	P	**Pn**	**10 04 16.5**	**+0.6**
JMP				*e*S	**Sn**	**10 04 42.8**	**+0.8**
JCH	**Churui**	**2.47**	**239**	P	**Pn**	**10 04 21.2**	**+0.3**
JCH				*e*S	**Sn**	**10 04 50.6**	**-0.2**
JKK2	**Kamakawa 2**	**2.53**	**270**	P	**Pn**	**10 04 22.4**	**+0.8**
JKK2				*e*S	**Sn**	**10 04 54.2**	**+2.0**
ASAJ	**Asahikawa**	**2.64**	**276**	PN	**Pn**	**10 04 24.4**	**+1.3**
ASAJ				S	**Sn**	**10 04 56.9**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,20nm,0.3s						
ASAJ				smax	smax		
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**2.64**	**276**	P	**Pn**	**10 04 24.4**	**+1.3**
	comp=N,20nm,0.3s,baz=80,slow=18,SNR=189						
ASAJ				S	**Sn**	**10 04 56.9**	**+2.1**
	comp=N,4.2nm,0.3s,baz=123,slow=20,SNR=6.2						
ERM	**Erimo**	**2.96**	**231**	*c i* PN	**Pn**	**10 04 28.7**	**+1.5**
YSS	**Yuzh-Sakhalins**	**3.92**	**322**	*e*PN	**Pn**	**10 04 39.9**	**0.0**
YSS				*e*S	**Sn**	**10 05 22.1**	**-2.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**3.92**	**322**	*e*P	**Pn**	**10 04 41.1**	**+1.2**
YSS				AMB	AMB	10 04 50.2	
	comp=Z,185nm,0.7s						
YSS				*e*S	**Sn**	**10 05 25.7**	**+0.7**
YSS				A	A	10 05 30.8	
	comp=Z,3µm,0.5s						
MAJO	**Matsushiro**	**9.58**	**223**	*e*PN	**Pn**	**10 05 58.2**	**+1.4**
MJAR	**Matsushiro Arr**	**9.58**	**223**	P	**Pn**	**10 05 55.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=36,slow=14,SNR=5.7						
USRK	**Ussuriysk Ar.**	**10.27**	**277**	P	**Pn**	**10 06 05.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=4.0						
SEY	**Seymchan**	**19.39**	**8**	P	**Pn**	**10 08 01.0**	**0.0**
	comp=Z,0.0nm,0.3s,baz=174,slow=6.7,SNR=5.8						
SONM	**Songino Array**	**27.81**	**292**	P	**P**	**10 09 20.3**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**27.81**	**292**	P	**P**	**10 09 20.3**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=86,slow=8.3,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**29.65**	**138**	T	T	10 40 40.9	
	baz=329,slow=75,SNR=86						
H11N1	**WAKE ISLAND Hy**	**29.66**	**138**	T	T	10 40 45.8	
	baz=329,slow=75,SNR=83						
H11N3	**WAKE ISLAND Hy**	**29.67**	**138**	T	T	10 40 46.4	
	baz=329,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**30.61**	**139**	T	T	10 41 39.2	
	baz=330,slow=76,SNR=101						
H11S3	**WAKE ISLAND Hy**	**30.61**	**139**	T	T	10 41 39.2	
	baz=330,slow=76,SNR=101						
H11S2	**WAKE ISLAND Hy**	**30.62**	**139**	T	T	10 41 51.1	
	baz=330,slow=76,SNR=65						
ILAR	**Eielson Array**	**41.75**	**36**	P	**P**	**10 11 19.5**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=257,slow=6.8,SNR=6.5						
MKAR	**Makanchi Array**	**43.93**	**297**	P	**P**	**10 11 36.7**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**43.93**	**297**	P	**P**	**10 11 36.7**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=83,slow=8.4,SNR=16						
INK	**Inuvik**	**46.60**	**30**	P	**P**	**10 11 57.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=293,slow=5.0,SNR=6.1						
YKA	**Yellowknife Ar**	**56.03**	**34**	P	**P**	**10 13 09.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=304,slow=7.1,SNR=5.8						
FINES	**FINESS Array B**	**64.44**	**333**	P	**P**	**10 14 04.3**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.44**	**333**	P	**P**	**10 14 04.3**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=72,slow=6.2,SNR=6.1						
WRA	**Warramunga Arr**	**64.47**	**192**	P	**P**	**10 14 06.0**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=10,slow=6.9,SNR=2.9						
NVAR	**Mina Array Bea**	**68.05**	**57**	P	**P**	**10 14 30.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=287,slow=6.7,SNR=3.7						
ASAR	**Alice Springs**	**68.19**	**192**	P	**P**	**10 14 30.5**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=9.8,slow=6.7,SNR=2.9						
NOA	**NORSAR Array B**	**69.22**	**338**	P	**P**	**10 14 34.8**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=37,slow=5.9,SNR=4.1						
PDAR	**Pinedale Array**	**70.30**	**49**	P	**P**	**10 14 44.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=315,slow=0.4,SNR=3.7						
AKASG	**Malin Array Be**	**71.06**	**323**	P	**P**	**10 14 47.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=38,slow=6.0,SNR=3.4						
TXAR	**Lajitas Array**	**83.10**	**56**	P	**P**	**10 15 56.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=283,slow=3.9,SNR=5.6						

*CSEM **19** 10:18:54.8±1.0,50.22N×19.18E,h2km,ML2.6/4, Error ellipse: s-maj=18.4km s-min=6.9km az=35.0*
*ISCJB **19** 10:18:57.2±0.6,50.04N±0.03×18.95E±0.04,h0km, Error ellipse: s-maj=4.7km s-min=3.2km az=33.8*
*PRU **19** 10:18:57.2,50.14N×19.09E,h0km*
ISC 19 10:18:57.3±0.9,50.06N±0.04×19.07E±0.03,h0km,n21, σ0s66/37,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.24**	**348**	*e*Pg	**Pg**	**10 19 02.3**	**+0.3**
CHZP				*e*Sg	**Sg**	**10 19 05.7**	**+0.6**
OKC	**Ostrava-Krasne**	**0.63**	**250**	*e*PG	**Pg**	**10 19 09.9**	**+0.4**
OKC				*e*SG	**Sb**	**10 19 20.1**	**-0.6**
	comp=Z,17nm,0.4s						
OKC	**Ostrava-Krasne**	**0.63**	**250**	Pg	**Pg**	**10 19 09.9**	**+0.4**
OKC				Sg	**Sb**	**10 19 20.1**	**-0.6**
	17nm,0.4s						
LANS	**Liptovska Anna**	**0.94**	**164**	*e*Pg	**Pg**	**10 19 16.3**	**+0.9**
LANS				*e*Sg	**Sb**	**10 19 30.3**	**+0.7**
MORC	**Moravsky Berou**	**1.02**	**255**	*e*Pg	**Pn**	**10 19 18.1**	**+0.1**
MORC				*e*Sg	**Sb**	**10 19 32.9**	**+0.9**
KRLC	**Kraliky**	**1.47**	**272**	*e*PG	**Pn**	**10 19 24.2**	**-1.0**
KRLC				*e*SG	**Sn**	**10 19 45.1**	**-0.1**
KRLC	**Kraliky**	**1.47**	**272**	Pg	**Pn**	**10 19 24.2**	**-1.0**
KRLC				Sg	**Sn**	**10 19 45.1**	**-0.1**
VYHS	**Vyhne**	**1.57**	**186**	*e*Pg	**Pn**	**10 19 26.4**	**-0.1**
VYHS				*e*Sg	**Sn**	**10 19 47.1**	**-0.4**
VYHS	**Vyhne**	**1.57**	**186**	*e*PG	**Pn**	**10 19 26.4**	**-0.1**
VYHS				*e*SG	**Sn**	**10 19 47.1**	**-0.4**
VRAC	**Vranov**	**1.77**	**246**	*e*Pn	**Pb**	**10 19 30.5**	**-0.2**
VRAC				*e*Sg	**Sg**	**10 19 55.5**	**+1.2**
DPC	**Dobruska-Polom**	**1.79**	**281**	*e*PG	**Pn**	**10 19 29.4**	**-0.1**
DPC				*e*SG	**Sg**	**10 19 54.6**	**-0.2**
DPC	**Dobruska-Polom**	**1.79**	**281**	Pg	**Pn**	**10 19 29.4**	**-0.1**
DPC				Sg	**Sg**	**10 19 54.6**	**-0.2**
KSP	**Ksiaz**	**1.94**	**295**	*e*Pg	Pg	10 19 39.3	+4.8
KSP				*e*Sg	**Sg**	**10 20 00.0**	**+0.3**
CRVS	**Cervenica-Dubn**	**1.94**	**126**	*e*Pn	**Pb**	**10 19 33.1**	**-0.5**
CRVS				*e*Sn	**Sb**	**10 19 58.4**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.94**	**126**	*e*PN	**Pb**	**10 19 33.1**	**-0.5**
CRVS				*e*SN	**Sb**	**10 19 58.3**	**0.0**
UPC	**Upice**	**2.01**	**284**	*e*SG	**Sg**	**10 20 01.4**	**-0.5**
	comp=Z,3.8nm,0.4s						
UPC	**Upice**	**2.01**	**284**	Sg	**Sg**	**10 20 01.4**	**-0.5**
	3.8nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.77**	**269**	*e*PG	**Pb**	**10 19 48.8**	**+1.1**
GOPC				*e*SG	**Sg**	**10 20 25.1**	**-1.1**
	comp=Z,4.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.77**	**269**	Pg	**Pb**	**10 19 48.8**	**+1.1**
GOPC				Sg	**Sg**	**10 20 25.1**	**-1.1**
	4.7nm,0.3s						
PRU	**Pruhonice**	**2.92**	**270**	*e*SG	**Sg**	**10 20 30.4**	**-0.7**
	comp=Z,4.3nm,0.5s						
PRU	**Pruhonice**	**2.92**	**270**	Sg	**Sg**	**10 20 30.4**	**-0.7**
	4.3nm,0.5s						

*ATH **19** 10:19:43.4,37.31N×20.09E,h9km±5km,MD3.5/5*
*CSEM **19** 10:19:45.2±0.8,37.37N×20.20E,h2km,ML2.9, Error ellipse: s-maj=14.1km s-min=9.8km az=70.0*
*THE **19** 10:19:47.2,37.47N×20.22E,h3km,ML2.9/3, Error ellipse: s-maj=1.4km s-min=1.0km az=75.0*
ISC 19 10:19:43.0±3.0,37.32N±0.09×20.1E±0.1,h7km±11km,n35, σ0s71/50,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.95**	**25**	P	**Pg**	**10 20 01.5**	**+0.2**
VLS				S	**Sg**	**10 20 12.6**	**-1.1**
VLS	**Valsamata**	**0.95**	**25**	*e*PG	**Pg**	**10 20 01.2**	**-0.1**
VLS				*e*SB	**Sg**	**10 20 13.8**	**+0.1**
VLS	**Valsamata**	**0.95**	**25**	*e*Pg	**Pg**	**10 20 01.2**	**-0.1**
VLS	**Valsamata**	**0.95**	**25**	P	**Pg**	**10 20 01.5**	**+0.2**
VLS				S	**Sg**	**10 20 12.6**	**-1.1**
KFL	**Anninata**	**0.97**	**36**	P	**Pg**	**10 20 01.9**	**+0.2**
KFL				S	**Sg**	**10 20 13.7**	**-0.7**
AMT	**Artemida-Makis**	**1.32**	**80**	*e*PB	**Pb**	**10 20 08.1**	**-0.1**
AMT	**Artemida-Makis**	**1.32**	**80**	*e*Pb	**Pb**	**10 20 08.1**	**-0.1**
RLS	**Riolos of Patr**	**1.33**	**56**	P	**Pb**	**10 20 08.3**	**0.0**
RLS				S	**Sb**	**10 20 25.1**	**-0.5**
RLS	**Riolos of Patr**	**1.33**	**56**	*e*PB	**Pg**	**10 20 08.9**	**+0.3**
RLS	**Riolos of Patr**	**1.33**	**56**	P	**Pb**	**10 20 08.3**	**0.0**
RLS	**Riolos of Patr**	**1.33**	**56**	*e*Pb	**Pg**	**10 20 08.9**	**+0.3**
RLS				S	**Sb**	**10 20 25.1**	**-0.5**
DRO	**Drossia**	**1.45**	**64**	P	**Pg**	**10 20 10.9**	**+0.1**
DRO				S	**Sg**	**10 20 30.0**	**+0.4**
DRO	**Drossia**	**1.45**	**64**	*e*PG	**Pn**	**10 20 09.9**	**+0.2**
DRO	**Drossia**	**1.45**	**64**	*e*Pg	**Pn**	**10 20 09.9**	**+0.2**
DRO	**Drossia**	**1.45**	**64**	P	**Pg**	**10 20 10.9**	**+0.1**
DRO				S	**Sg**	**10 20 30.0**	**+0.4**
PDO	**Prodromos**	**1.55**	**34**	P	**Pb**	**10 20 12.7**	**+0.6**
PDO				S	**Sn**	**10 20 31.5**	**0.0**
PDO	**Prodromos**	**1.55**	**34**	*e*PB	**Pg**	**10 20 13.3**	**+0.5**
PDO				*e*SB	**Sg**	**10 20 34.5**	**+1.6**
PDO	**Prodromos**	**1.55**	**34**	P	**Pb**	**10 20 12.7**	**+0.6**
PDO	**Prodromos**	**1.55**	**34**	*e*Pb	**Pg**	**10 20 13.3**	**+0.5**
PDO				S	**Sn**	**10 20 31.5**	**0.0**
PDO				*e*Sb	**Sg**	**10 20 34.5**	**+1.6**
KLV	**Kalavryta, Ach**	**1.80**	**66**	P	**Pb**	**10 20 15.8**	**-0.6**
KLV	**Kalavryta, Ach**	**1.80**	**66**	*e*PN	**Pb**	**10 20 15.8**	**-0.6**
KLV	**Kalavryta, Ach**	**1.80**	**66**	P	**Pb**	**10 20 15.8**	**-0.6**
EFP	**Efpalio**	**1.83**	**52**	P	**Pb**	**10 20 16.4**	**-0.4**
EFP				S	**Sn**	**10 20 38.8**	**+0.5**
EFP	**Efpalio**	**1.83**	**52**	*e*PG	**Pb**	**10 20 17.1**	**+0.3**
EFP	**Efpalio**	**1.83**	**52**	P	**Pb**	**10 20 16.4**	**-0.4**
EFP	**Efpalio**	**1.83**	**52**	*e*Pg	**Pb**	**10 20 17.1**	**+0.3**
EFP				S	**Sn**	**10 20 38.8**	**+0.5**
KALE	**Kalithea**	**1.96**	**56**	P	**Pb**	**10 20 18.1**	**-1.0**
KALE	**Kalithea**	**1.96**	**56**	P	**Pb**	**10 20 18.1**	**-1.0**
EVR	**Evrytania**	**2.10**	**40**	*e*PG	**Pb**	**10 20 21.8**	**+0.2**
EVR	**Evrytania**	**2.10**	**40**	*e*Pg	**Pb**	**10 20 21.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.35**	**43**	*e*PN	**Pb**	**10 20 24.9**	**-0.8**
MAKR	**Makrakomi, Fth**	**2.35**	**43**	*e*Pn	**Pb**	**10 20 24.9**	**-0.8**
AGG	**Agios Georgios**	**2.46**	**46**	*e*PN	**Pb**	**10 20 25.8**	**-1.9**
AGG	**Agios Georgios**	**2.46**	**46**	*e*Pn	**Pb**	**10 20 25.8**	**-1.9**

*IDC **19** 10:31:29.4±0.6,1.45N×126.41E,h0km,mb4.3/15, mb1 4.4/15,mb1mx4.2/30,mbtmp4.3/15,MS3.4/10, Ms1 3.4/10,ms1mx3.2/29, Error ellipse: s-maj=32.9km s-min=10.2km az=80.0*
*DJA **19** 10:31:33.6±1.1,2.1N±3.1×12.6E±7.1,h16km±14km,M4.4/12, mb4.7/10,mB5.0/4,MLv4.3/12,Mw(mB)4.4/4*
*ISCJB **19** 10:31:34.3±0.3,1.47N±0.03×126.39E±0.04,h47km, mb4.3/22,MS3.4/10, Error ellipse: s-maj=5.3km s-min=4.3km az=152.5*
*NEIC **19** 10:31:35.6±1.1,1.44N×126.46E,h44km±10km,mb4.5/4, Error ellipse: s-maj=11.7km s-min=7.5km az=82.0*
ISC 19 10:31:36.1±0.5,1.50N±0.05×126.41E±0.06,h47km,n63, σ1s15/62,mb4.3/22,MS3.4/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.20**	**127**	P	**Pn**	**10 31 54.0**	**-2.5**
TNTI				S	**Sn**	**10 32 11.4**	**-0.3**
TNTI	**Ternate**	**1.20**	**127**	*e*Pn	**Pn**	**10 31 53.7**	**-2.9**
SGSI	**Sangihe**	**2.34**	**338**	P	**Pn**	**10 32 10.8**	**-1.3**
SGSI				S	**Sn**	**10 32 39.3**	**-0.4**
LBMI	**Labuha**	**2.39**	**153**	P	**Pn**	**10 32 12.0**	**-0.9**
KMSI	**Cibinong**	**2.60**	**249**	P	**Pn**	**10 32 14.0**	**-1.7**
KMSI				S	**Sn**	**10 32 46.3**	**+0.3**
SANI	**Sanana**	**3.56**	**187**	P	**Pn**	**10 32 28.2**	**-0.6**
MRSI	**Marisa**	**4.58**	**257**	P	**Pn**	**10 32 42.2**	**-0.7**
APSI	**Ampana**	**5.33**	**243**	P	**Pn**	**10 32 53.1**	**-0.1**
	303nm,0.8s,2µm1.0nm						
MSAI	**Masohi**	**5.44**	**152**	P	**Pn**	**10 32 54.4**	**-0.3**
	16nm,0.8s,613nm0.1nm						
MPSI	**Mapaga**	**6.61**	**260**	P	**Pn**	**10 33 10.7**	**-0.1**
	29nm,0.9s,0.1nm						
FAKI	**Fak Fak**	**7.31**	**127**	P	**Pn**	**10 33 22.2**	**+1.9**
	baz=7.3,SNR=3.7						
FAKI	**Fak Fak**	**7.31**	**127**	*e*Pn	**Pn**	**10 33 20.3**	**-0.1**
	46nm,1.0s						
TTSI	**Tana Toraja**	**7.99**	**236**	P	**Pn**	**10 33 29.6**	**-0.1**
	53nm,1.0s,742nm						
SPSI	**Sidrap Palu**	**8.58**	**231**	P	**Pn**	**10 33 37.9**	**+0.1**
	38nm,0.7s						
BNSI	**Bone**	**8.61**	**227**	P	**Pn**	**10 33 38.2**	**0.0**
	45nm,1.1s						
BKSI	**Bulukumba**	**9.24**	**223**	P	**Pn**	**10 33 47.6**	**+0.7**
	30nm,1.3s						
KAPI	**Kappang**	**9.28**	**226**	Pn	**Pn**	**10 33 48.0**	**+0.6**
SOEI	**Soe**	**11.39**	**191**	P	**Pn**	**10 34 16.4**	**0.0**
SOEI	**Soe**	**11.39**	**191**	P	Pn	10 34 25.2	+8.9
	baz=12,SNR=4.3						
SOEI	**Soe**	**11.39**	**191**	*e*Pn	**Pn**	**10 34 14.2**	**-2.2**
	44nm,0.8s						
KDU	**Kakadu**	**15.33**	**157**	P	**P**	**10 35 14.1**	**+0.6**
	baz=15,SNR=5.4						
KNRA	**Kununurra**	**17.23**	**172**	P	**Pn**	**10 35 32.9**	**-0.6**
	baz=17,SNR=6.8						
LEM	**Lembang**	**20.50**	**246**	LR	LR	10 45 49.9	
	comp=Z,146nm,20.7s,baz=136,slow=42						
COEN	**Coen**	**22.63**	**133**	P	**P**	**10 36 33.6**	**+0.3**
	baz=23,SNR=4.2						
WRAB	**Tennant Creek**	**22.68**	**160**	*e*P	**P**	**10 36 32.1**	**-1.7**
	24nm,0.8s						
WRA	**Warramunga Arr**	**22.69**	**160**	P	**P**	**10 36 31.9**	**-2.0**
	17nm,0.6s,baz=339,slow=11,SNR=143						
WRA				S	**S**	**10 40 41.8**	**+2.7**
	0.7nm,0.8s,baz=318,slow=21,SNR=3.6						
WB2	**Warramunga Arr**	**22.69**	**160**	*e*P	**P**	**10 36 32.0**	**-1.9**
QIS	**Mount Isa**	**25.45**	**150**	P	**P**	**10 37 00.3**	**+0.4**
	baz=26,SNR=8.3						
AS31	**Alice Springs**	**26.06**	**164**	*e*P	**P**	**10 37 04.4**	**-1.0**
ASAR	**Alice Springs**	**26.06**	**164**	P	**P**	**10 37 04.5**	**-0.8**
	2.6nm,0.4s,baz=344,slow=8.3,SNR=57						
ASAR				PcP	**PcP**	**10 40 31.9**	**-0.5**
	0.3nm,0.3s,baz=3.8,slow=2.2,SNR=4.8						
ASAR				S	S	10 41 42.7	+9.3
	0.9nm,1.0s,baz=340,slow=19,SNR=4.9						
WRKA	**Warakurna**	**26.45**	**176**	P	**P**	**10 37 09.3**	**+0.4**
	baz=27,SNR=22						
PSI	**Prapat**	**27.50**	**273**	LR	LR	10 49 40.3	
	comp=Z,78nm,18.6s,baz=96,slow=40						
MEEK	**Meekatharra**	**28.97**	**195**	P	**P**	**10 37 30.5**	**-0.9**
	baz=29,SNR=5.2						
CMAR	**Chiang Mai Arr**	**31.77**	**304**	P	P	10 38 01.8	+5.5
	0.7nm,0.4s,baz=111,slow=10.0,SNR=4.4						
CMAR				LR	LR	10 52 07.3	
	comp=Z,21nm,18.5s,baz=100,slow=39						
MORW	**Morawa**	**31.98**	**197**	P	**P**	**10 37 57.6**	**-0.4**
	baz=32,SNR=4.5						
BLDU	**Ballidu**	**33.25**	**195**	P	**P**	**10 38 08.7**	**-0.3**
	baz=33,SNR=5.7						
NWAO	**Narrogin (SRO)**	**35.33**	**193**	P	**P**	**10 38 26.9**	**0.0**
	8.9nm,0.8s,baz=17,slow=6.8,SNR=7.2						
NWAO	**Narrogin (SRO)**	**35.33**	**193**	P	**P**	**10 38 27.0**	**0.0**
	baz=36,SNR=5.1						
BBOO	**Buckleboo**	**35.33**	**166**	P	**P**	**10 38 26.8**	**-0.2**
	baz=36,SNR=12						
BBOO	**Buckleboo**	**35.33**	**166**	*e*P	**P**	**10 38 25.6**	**-1.4**
	27nm,1.4s						
KSAR	**Wonju Array Be**	**35.79**	**2**	P	**P**	**10 38 33.4**	**+2.6**
KSRS	**Korea Array**	**35.80**	**2**	P	**P**	**10 38 33.4**	**+2.5**
	0.6nm,0.4s,baz=173,slow=8.6,SNR=4.0						
STKA	**Stephens Creek**	**36.19**	**158**	P	**P**	**10 38 33.5**	**-0.9**
	4.9nm,0.7s,baz=332,slow=8.6,SNR=15						
STKA	**Stephens Creek**	**36.19**	**158**	P	**P**	**10 38 33.8**	**-0.6**
	baz=36,SNR=6.2						
MJAR	**Matsushiro Arr**	**36.53**	**16**	P	**P**	**10 38 36.6**	**-0.7**
	2.6nm,0.7s,baz=190,slow=10,SNR=9.2						
MJAR				LR	LR	10 53 21.0	
	comp=Z,31nm,20.3s,baz=175,slow=36						
RKGY	**Rocky Gully**	**37.00**	**193**	P	**P**	**10 38 42.7**	**+1.5**
	baz=37,SNR=7.3						
USRK	**Ussuriysk Ar.**	**42.80**	**6**	P	**P**	**10 39 30.4**	**+1.1**
	2.8nm,0.8s,baz=192,slow=9.7,SNR=8.5						
ASAJ	**Asahikawa**	**44.80**	**17**	P	**P**	**10 39 45.5**	**+0.2**
	5.6nm,0.8s,baz=278,slow=10,SNR=4.5						
ULN	**Ulaanbaatar**	**49.13**	**343**	*e*P	**P**	**10 40 19.1**	**-0.2**
	2.5nm,0.8s						
SONM	**Songino Array**	**49.30**	**342**	P	**P**	**10 40 21.3**	**+0.7**
	1.1nm,0.6s,baz=156,slow=8.3,SNR=9.2						
SONM				LR	LR	11 02 57.5	
	comp=Z,49nm,19.1s,baz=158,slow=38						
PETK	**Petropavlovsk-**	**57.60**	**22**	P	**P**	**10 41 22.2**	**+1.0**
	2.4nm,0.5s,baz=177,slow=5.0,SNR=12						
MKAR	**Makanchi Array**	**59.20**	**326**	P	**P**	**10 41 31.5**	**-1.0**
	2.1nm,0.4s,baz=128,slow=8.3,SNR=23						
MKAR				LR	LR	11 08 06.4	
	comp=Z,51nm,20.5s,baz=88,slow=37						
ZALV	**Zalesovo Beam**	**62.42**	**334**	P	**P**	**10 41 54.5**	**+0.3**
	1.3nm,0.6s,baz=130,slow=8.0,SNR=3.9						
KURK	**Kurchatov**	**63.44**	**328**	*e*P	**P**	**10 42 00.1**	**-0.9**
	9.2nm,0.6s						
ABKAR	**Abkulak array**	**73.67**	**321**	*e*P	**P**	**10 43 04.4**	**-0.5**
	1.3nm,0.6s						
VNDA	**Vanda**	**81.27**	**173**	P	**P**	**10 43 46.6**	**-0.2**
	1.5nm,0.6s,baz=318,slow=5.9,SNR=13						
VNDA				LR	LR	11 22 09.9	
	comp=Z,35nm,18.1s,baz=304,slow=37						
MAW	**Mawson**	**81.57**	**200**	P	**P**	**10 43 49.8**	**+1.2**
	3.8nm,1.0s,baz=9.5,slow=6.1,SNR=4.5						
MAW				LR	LR	11 18 42.6	
	comp=Z,31nm,21.0s,baz=70,slow=35						
ILAR	**Eielson Array**	**87.24**	**25**	P	**P**	**10 44 17.2**	**-0.2**
	0.4nm,0.9s,baz=239,slow=5.7,SNR=3.8						
BRTR	**Keskin Array B**	**91.18**	**310**	LR	LR	11 28 26.1	
	comp=Z,9.9nm,21.7s,baz=78,slow=38						
ARCES	**ARCESS Array B**	**92.41**	**340**	P	**P**	**10 44 41.0**	**-0.5**
	2.9nm,0.8s,baz=69,slow=6.6,SNR=5.6						
FINES	**FINESS Array B**	**93.63**	**332**	LR	LR	11 30 00.5	
	comp=Z,2.3nm,19.8s,baz=190,slow=38						
TXAR	**Lajitas Array**	**123.19**	**53**	PKP	**PKPdf**	**10 50 29.1**	**+0.5**
	0.2nm,0.7s,baz=205,slow=4.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**123.28**	**287**	PKP	**PKPdf**	**10 50 28.7**	**-0.3**
	1.1nm,0.9s,baz=73,slow=1.4,SNR=4.5						

*PDG **19** 10:34:33.8±0.2,42.34N×19.85E,h8km,ML2.0/11, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*CSEM **19** 10:34:34.3±0.2,42.38N×19.80E,h2km,ML2.0, Error ellipse: s-maj=3.3km s-min=2.8km az=19.0*
*TIR **19** 10:34:35.1,42.39N×19.82E,h6km,ML2.9*
*SKO **19** 10:34:35.7,42.41N×19.80E,h3km*
ISC 19 10:34:34.6±1.0,42.38N±0.02×19.81E±0.02,h3km±9km, n36,σ1s08/65,6C-14D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.19**	**94**	*i* PG	**Pg**	**10 34 37.5**	**-0.9**
BCI				*i* SG	**Sg**	**10 34 40.6**	**-0.3**
BCI	**Bajram Curri**	**0.19**	**94**	*i* Pg	**Pg**	**10 34 37.5**	**-0.9**
BCI				*i* Sg	**Sg**	**10 34 40.6**	**-0.3**
PVY	**Plav**	**0.24**	**27**	⇑*i* PG	**Pg**	**10 34 38.8**	**-0.5**
PVY				*e*Sg	**Sg**	**10 34 43.8**	**+1.3**
PVY	**Plav**	**0.24**	**27**	⇑*i* Pg	**Pg**	**10 34 38.8**	**-0.5**
PVY				*e*Sg	**Sg**	**10 34 43.8**	**+1.3**
PUK	**Puka**	**0.34**	**169**	*i* PG	**Pg**	**10 34 40.4**	**-0.8**
PUK				*i* SG	**Sg**	**10 34 46.1**	**+0.4**
PUK	**Puka**	**0.34**	**169**	*i* Pg	**Pg**	**10 34 40.4**	**-0.8**
PUK				*i* Sg	**Sg**	**10 34 46.1**	**+0.4**
PDG	**Podgorica**	**0.41**	**277**	⇑*i* PG	**Pg**	**10 34 41.5**	**-1.1**
PDG				*e*Sg	**Sg**	**10 34 48.8**	**+0.9**
TTG	**Podgorica**	**0.41**	**277**	⇑*i* Pg	**Pg**	**10 34 41.5**	**-1.1**
TTG				*e*Sg	**Sg**	**10 34 48.8**	**+0.9**
BEY	**Berane**	**0.50**	**7**	⇓*i* PG	**Pg**	**10 34 43.9**	**-0.3**
BEY				*e*Sg	**Sb**	**10 34 52.4**	**-1.3**
IVA	**Berane**	**0.50**	**7**	⇓*i* Pg	**Pg**	**10 34 43.9**	**-0.3**
IVA				*e*Sg	**Sb**	**10 34 52.4**	**-1.3**
DRME	**Dracevica, Mon**	**0.50**	**248**

TMWZ	**Te Maipa**	**0.77**	**220**	P*		Pn	11 03 48.2	-0.2
HOWZ	**Holdsworth Sta**	**0.87**	**244**	⇑P*		Pb	11 03 49.3	-0.1
KRHZ	**Kereru**	**0.88**	**351**	P*		Pb	11 03 48.8	-0.8
KRHZ				S*		Sb	11 04 01.2	+0.2
MTW	**Mount Morrison**	**1.02**	**231**	⇑P*		Pn	11 03 51.1	-0.6
MTW				AML	AML	AML	11 04 13.3	
MTW				AML	AML	AML	11 04 15.3	
MCHZ	**McNeill Hill**	**1.08**	**6**	⇓PN		Pn	11 03 52.1	-0.4
OGWZ	**Otaki Gorge**	**1.09**	**253**	P*		Pn	11 03 52.3	-0.4
BHHZ	**Black Hill Sta**	**1.09**	**340**	⇓PN		Pn	11 03 52.2	-0.6
MOVZ	**Moawhango**	**1.26**	**331**	PN		Pn	11 03 55.4	+0.3
MOVZ				AML	AML	AML	11 04 13.1	
MOVZ				AML	AML	AML	11 04 16.2	
CAW	**Cannon Point**	**1.27**	**242**	⇑P*		Pn	11 03 54.5	-0.7
CAW				AML	AML	AML	11 04 18.9	
CAW				AML	AML	AML	11 04 21.8	
KIW	**Kapiti Island**	**1.29**	**254**	⇑P*		Pn	11 03 55.2	-0.3
KIW				AML	AML	AML	11 04 15.3	
KIW				AML	AML	AML	11 04 15.5	
ARHZ	**Aropaoanui**	**1.30**	**16**	⇑PN		Pn	11 03 55.0	-0.6
WNVZ	**Wahianoa**	**1.39**	**328**	PN		Pb	11 03 57.9	-0.5
MTVZ	**Mangateitei**	**1.40**	**323**	PN		Pb	11 03 58.0	-0.4
MTVZ				AML	AML	AML	11 04 18.3	
MTVZ				AML	AML	AML	11 04 19.7	
WAZ	**Wanganui**	**1.42**	**302**	PN		Pb	11 03 58.4	-0.3
WAZ				AML	AML	AML	11 04 19.0	
WAZ				AML	AML	AML	11 04 20.6	
TUVZ	**Tukino**	**1.42**	**331**	PN		Pn	11 03 58.1	+0.6
TUVZ				AML	AML	AML	11 04 22.9	
TUVZ				AML	AML	AML	11 04 23.2	
NMHZ	**Naumai**	**1.43**	**8**	⇑PN		Pn	11 03 57.3	-0.1
WHVZ	**Whangaehu Hut**	**1.44**	**329**	PN		Pn	11 03 58.3	+0.5
TRVZ	**Turoa**	**1.44**	**327**	PN		Pn	11 03 58.3	+0.5
TRVZ				AML	AML	AML	11 04 20.9	
TRVZ				AML	AML	AML	11 04 22.8	
PLWZ	**Palliser**	**1.44**	**222**	PN		Pn	11 03 56.4	-1.1
DRZ	**Dome Shelter**	**1.45**	**328**	AML	AML	AML	11 04 27.5	
DRZ				AML	AML	AML	11 04 29.0	
FWVZ	**Far West T-bar**	**1.47**	**328**	AML	AML	AML	11 04 21.2	
FWVZ				AML	AML	AML	11 04 21.3	
WPVZ	**Whakapapa**	**1.52**	**329**	PN		Pn	11 03 58.7	-0.1
WPVZ				AML	AML	AML	11 04 24.5	
WPVZ				AML	AML	AML	11 04 30.2	
NGZ	**Ngauruhoe**	**1.52**	**331**	AML	AML	AML	11 04 24.2	
NGZ				AML	AML	AML	11 04 26.3	
COVZ	**Chateau Observ**	**1.52**	**329**	PN		Pn	11 03 59.1	+0.3
PKVZ	**Pokaka**	**1.53**	**323**	AML	AML	AML	11 04 27.8	
PKVZ				AML	AML	AML	11 04 34.8	
WHHZ	**Waihua**	**1.53**	**20**	PN		Pn	11 03 57.9	-0.9
BHW	**Baring Head**	**1.55**	**234**	PN		Pn	11 03 57.9	-1.1
BHW				AML	AML	AML	11 04 18.0	
BHW				AML	AML	AML	11 04 18.9	
WEL	**Wellington**	**1.55**	**240**	PN		Pn	11 03 58.3	-0.8
WEL				AML	AML	AML	11 04 18.7	
WEL				AML	AML	AML	11 04 19.3	
KRVZ	**Karewarewa**	**1.58**	**334**	PN		Pn	11 03 59.9	+0.3
KRVZ				AML	AML	AML	11 04 30.3	
KRVZ				AML	AML	AML	11 04 39.6	
RAHZ	**Arahi**	**1.65**	**15**	⇑PN		Pn	11 03 59.8	-0.6
HATZ	**Hinemaiaia**	**1.66**	**348**	PN		Pn	11 04 00.4	-0.1
HATZ				AML	AML	AML	11 04 36.2	
HATZ				AML	AML	AML	11 04 42.5	
TWVZ	**Taurewa**	**1.68**	**329**	PN		Pn	11 04 01.1	+0.2
TWVZ				AML	AML	AML	11 04 28.0	
TWVZ				AML	AML	AML	11 04 41.4	
KNZ	**Kokohu**	**1.73**	**31**	PN		Pn	11 04 00.1	-1.3
TCW	**Tory Channel**	**1.86**	**247**	PN		Pn	11 04 02.5	-0.8
TCW				AML	AML	AML	11 04 25.5	
TCW				AML	AML	AML	11 04 31.1	
LREZ	**Lake Rotokare**	**1.96**	**302**	PN		Pn	11 04 03.8	-0.8
VRZ	**Vera Road**	**1.96**	**315**	AML	AML	AML	11 04 42.4	
VRZ				AML	AML	AML	11 04 53.0	
DUWZ	**D'Urville Isla**	**2.02**	**261**	PN		Pn	11 04 04.4	-1.1
DUWZ				AML	AML	AML	11 04 40.5	
DUWZ				AML	AML	AML	11 04 46.4	
TUWZ	**Tuamarina**	**2.17**	**244**	PN		Pn	11 04 06.3	-1.2
TUWZ				AML	AML	AML	11 04 44.8	
TUWZ				AML	AML	AML	11 04 46.8	
BSWZ	**Blackbirch Sta**	**2.35**	**238**	PN		Pn	11 04 08.6	-1.3
BSWZ				AML	AML	AML	11 04 38.9	
BSWZ				AML	AML	AML	11 04 55.5	
KHZ	**Kahutara**	**2.95**	**229**	PN		Pn	11 04 16.2	-2.1
THZ	**Tophouse**	**3.02**	**244**	PN		Pn	11 04 17.6	-1.8
THZ				AML	AML	AML	11 05 15.2	
THZ				AML	AML	AML	11 05 17.5	
DSZ	**Denniston Nort**	**3.79**	**250**	PN		Pn	11 04 28.3	-1.6
LTZ	**Lake Taylor**	**3.92**	**233**	AML	AML	AML	11 05 16.0	

IDC 19 11:06:51.8±33.0, 30°56S×176°95W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=614.0km s-min=175.3km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.32**	**257**	P		11 13 48.5	-0.3
	0.4nm,0.3s,baz=86,slow=9.9,SNR=4.2						
ASAR	**Alice Springs**	**44.00**	**267**	P		11 15 01.0	-0.3
	1.2nm,0.6s,baz=105,slow=7.4,SNR=27						
WRA	**Warramunga Arr**	**45.01**	**272**	P		11 15 09.5	+0.2
	1.1nm,0.4s,baz=111,slow=8.1,SNR=32						

*NERS **19** 11:09:20.8, 61°.72N×145°.88E, h6km*
*YARS **19** 11:09:21.3±1.6, 61°.72N±0°.05×146°.0E±0°.1, h10km, MSV3.5*

ISC 19 11:09:17.2±0.9, 61°.74N±0°.04×145°.67E±0°.03, h10km, n15, σ1§60/22, 1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCHR	**Omchak**	**1.05**	**93**	*e*Pg		**Pn**	**11 09 39.7**	**+1.7**
OCHR				Pgmax			11 09 40.7	
	270nm,0.2s							
OCHR				*e*Sg		**Sb**	**11 09 52.4**	**+1.1**
SUUS	**Susuman**	**1.56**	**47**	*e*Pg		**Pg**	**11 09 49.8**	**+2.6**
SUUS				⇓ *i*			11 09 50.1	
SUUS				Pgmax			11 09 50.6	
	330nm,0.2s							
SUUS				*e*Sg		**Sg**	**11 10 08.4**	**+0.9**
SUUS				Sgmax			11 10 11.0	
	500nm,0.2s							
ATKR	**Artyk**	**2.46**	**355**	*e*P		**Pb**	**11 10 00.0**	**-1.5**
ATKR				*e*P		**Pg**	**11 10 04.7**	**+0.4**
ATKR				Pm			11 10 04.7	
	comp=Z,295nm,0.2s							
ATKR				*e*S		**Sg**	**11 10 37.0**	**+0.8**
ATKR				Sm			11 10 37.0	
	comp=N,166nm,0.3s							
MGD	**Magadan 1**	**3.00**	**122**	*e*P		**Pb**	**11 10 09.4**	**-1.3**
MGD				*e*			11 10 14.1	
MGD				Pgmax			11 10 14.7	
	comp=N,10.0nm,0.2s							
MGD				*e*Sg		**Sg**	**11 10 52.7**	**-0.8**
MGD				Sgmax			11 10 54.7	
	comp=N,270nm,0.3s							
MGD				Sgmax			11 10 54.7	
	comp=N,170nm,0.3s							
TLAR	**Talaya**	**3.29**	**98**	*e*P		Pn	11 10 12.5	+3.7
TLAR				*e*Pg		**Pg**	**11 10 20.1**	**-0.1**
TLAR				Pgmax			11 10 22.4	
	comp=N,50nm,0.4s							
TLAR				*e*Sg		**Sg**	**11 11 01.0**	**-1.8**
TLAR				Sgmax			11 11 03.3	
	comp=N,300nm,0.3s							
SEY	**Seymchan**	**3.35**	**66**	*e*P		**Pb**	**11 10 13.9**	**-2.8**
SEY				*e*Pg		**Pg**	**11 10 22.2**	**+0.8**
SEY				Pgmax			11 10 24.0	
	comp=N,60nm,0.3s							
SEY				*e*Sg		**Sg**	**11 11 05.1**	**+0.4**
SEY				Sgmax			11 11 07.5	
	comp=N,220nm,0.3s							
MOMR	**Moma**	**4.87**	**348**	*e*P		Pn	11 10 35.4	+5.1
MOMR				*e*P		**Pg**	**11 10 51.4**	**+1.1**
MOMR				*e*S		**Sg**	**11 11 54.8**	**+1.6**
MOMR				Sm			11 11 54.8	
	comp=N,99nm,0.4s							
USMR	**Ust'-Maya**	**5.56**	**261**	*e*P		Pn	11 10 45.4	+5.5
USMR				*e*S		**Sg**	**11 12 18.3**	**+2.7**
USMR				Sm			11 12 18.3	
	comp=E,59nm,0.0s							

NBS	**Nizhniy Bestya**	**7.47**	**278**	*e*P		Pg	11 11 37.0	-3.1
NBS				*e*S		**Sg**	**11 13 17.5**	**+0.8**
YAK	**Yakutsk**	**7.56**	**279**	*e*S		**Sg**	**11 13 18.4**	**-1.1**
YAK				Sm			11 13 18.4	
	comp=N,101nm,0.2s							
BTGS	**Batagay**	**7.57**	**326**	*e*S		**Sg**	**11 13 17.9**	**-2.0**
BTGS				Sm			11 13 17.9	
	comp=E,63nm,0.0s							
DEPR	**Deputatskiy**	**8.04**	**345**	*e*S		**Sg**	**11 13 33.2**	**-1.7**
DEPR				Sm			11 13 33.2	
	comp=E,38nm,0.0s							
CGD	**Chagda**	**8.06**	**255**	*e*S		**Sg**	**11 13 35.3**	**-0.4**
CGD				Sm			11 13 35.3	
	comp=N,97nm,0.2s							
CLNS	**Chul'man**	**11.68**	**254**	*e*S			11 15 26.3	
IENR	**Iengra**	**12.04**	**252**	*e*S			11 15 38.4	
IENR				Sm			11 15 38.4	
	comp=N,77nm,0.5s							

*SKO **19** 11:22:36.9, 40°.24N×21°.73E, h26km, M2.1, ML2.5*
*ISCJB **19** 11:22:37.2±0.9, 40°.23N±0°.07×21°.79E±0°.08, h23km±7km, Error ellipse: s-maj=12.5km s-min=8.6km az=38.2*
*CSEM **19** 11:22:37.1±0.3, 40°.25N×21°.81E, h22km±2km, MD3.0, Error ellipse: s-maj=8.5km s-min=6.7km az=30.0*
*ATH **19** 11:22:37.9, 40°.26N×21°.85E, h18km±7km, MD3.0/4*

ISC 19 11:22:37.7±1.2, 40°.23N±0°.05×21°.77E±0°.04, h24km±8km, n16, σ1§08/22, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.07**	**4**	*e*PB		**Pb**	**11 22 41.5**	**-0.7**
KZN	**Kozani**	**0.07**	**4**	*e*Pb		**Pb**	**11 22 41.5**	**-0.7**
NEST	**Nestorio**	**0.58**	**289**	*e*PN		**Pn**	**11 22 50.8**	**+0.3**
NEST	**Nestorio**	**0.58**	**289**	*e*Pn		**Pn**	**11 22 50.8**	**+0.3**
FNA	**Florina**	**0.62**	**332**	*e*PB		**Pb**	**11 22 49.3**	**-0.7**
FNA				*e*SN		**Sn**	**11 22 59.3**	**-1.1**
FNA	**Florina**	**0.62**	**332**	*e*Pb		**Pb**	**11 22 49.3**	**-0.7**
FNA				*e*Sn		**Sn**	**11 22 59.3**	**-1.1**
THL	**Klokotos Trika**	**0.69**	**164**	*e*PN		**Pn**	**11 22 51.5**	**-0.5**
THL	**Klokotos Trika**	**0.69**	**164**	*e*Pn		**Pn**	**11 22 51.5**	**-0.5**
HORT	**Hortiatis**	**1.08**	**70**	*e*PN		**Pb**	**11 22 57.6**	**-0.2**
HORT	**Hortiatis**	**1.08**	**70**	*e*Pn		**Pb**	**11 22 57.6**	**-0.2**
OHR	**Ohrid**	**1.14**	**320**	*i* Pg		**Pn**	**11 22 57.5**	**-0.7**
OHR				*i* Sg		**Sn**	**11 23 14.1**	**+0.9**
OHR				*e*Lg		Lg	11 23 18.2	
	comp=N,34nm,0.7s							
OHR				*e*Lg		Lg	11 23 25.5	
	comp=E,312nm,2.8s							
OHR	**Ohrid**	**1.14**	**320**	*i* Pg		**Pn**	**11 22 57.5**	**-0.7**
OHR				*i* Sg		**Sn**	**11 23 14.0**	**+0.8**
OHR				*e*Lg		Lg	11 23 18.2	
	comp=E,34nm,0.7s							
VAY	**Valandovo**	**1.25**	**29**	*i* Pg		**Pn**	**11 22 58.5**	**-1.1**
VAY				*i* Sg		**Sb**	**11 23 18.5**	**+2.3**
VAY				*e*Lg		Lg	11 23 24.8	
	comp=N,49nm,1.1s							
VAY				*e*Lg		Lg	11 23 24.9	
	comp=E,18nm,0.7s							
VAY	**Valandovo**	**1.25**	**29**	*i* Pg		**Pn**	**11 22 58.4**	**-1.2**
VAY				*i* Sg		**Sb**	**11 23 18.4**	**+2.2**
VAY				*e*Lg		Lg	11 23 24.8	
	comp=E,18nm,0.7s							
KNT	**Kendrikon**	**1.27**	**43**	*e*PB		**Pn**	**11 22 59.3**	**-0.6**
KNT	**Kendrikon**	**1.27**	**43**	*e*Pb		**Pn**	**11 22 59.3**	**-0.6**

IDC 19 11:29:37.6±16.0, 8°.71S×118°.98E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=324.0km s-min=172.6km az=11.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.58**	**129**	P		P	11 33 55.6	-0.9
	0.1nm,0.3s,baz=304,slow=12,SNR=8.6							
ASAR	**Alice Springs**	**20.62**	**138**	P		Pn	11 34 20.0	-1.0
	0.4nm,0.5s,baz=312,slow=8.9,SNR=26							
STKA	**Stephens Creek**	**31.18**	**141**	P		P	11 35 58.0	-0.6
	0.5nm,0.3s,baz=302,slow=9.7,SNR=3.8							

NNC 19 11:33:37.9±7.2, 37°.97N×71°.77E, h0km, mb3.6, mpv3.2, 1C-6D, Error ellipse: s-maj=81.3km s-min=31.1km az=150.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.45**	**33**	⇓Pn		Pn	11 34 18.2	-1.2
	8.6nm,0.4s							
SFK				⇓Sn		Sb	11 34 53.6	-0.5
	9.3nm,0.2s							
DZET	**Dzherino**	**2.46**	**291**	⇓Pn		Pn	11 34 20.4	+1.0
	6.7nm,0.3s							
AAK	**Ala-Archa**	**5.10**	**23**	⇓Pn		Pn	11 34 52.2	-3.7
	2.9nm,0.6s							
AAK				⇓Sn		Sn	11 35 53.4	-2.2
	2.0nm,0.5s							
KK31	**Karatay Array**	**5.21**	**350**	⇓Pn		Pn	11 34 55.8	-1.4
	0.2nm,0.3s,baz=160,slow=13,SNR=3.0							
KK31				⇑Sn		Sn	11 35 57.7	-0.3
	1.2nm,0.2s,baz=162,slow=23,SNR=4.5							

*CSEM **19** 11:36:44.7±0.4, 42°.58N×24°.14E, h1km, ML1.3, Error ellipse: s-maj=10.2km s-min=5.4km az=36.0, Mining explosion.*
*SKO **19** 11:36:44.5, 42°.65N×24°.20E, h0km, M2.2, ML2.6*

BEO 19 11:36:46.3±0.4, 42°.40N×24°.05E, h0km, ML1.3/3, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.57**	**121**	*e*Pg		Pg	11 36 57.0	-0.2
PLD	**Plovdiv**	**0.57**	**121**	*e*Pg		Pg	11 36 57.0	-0.2
VTS	**Vitosha**	**0.65**	**287**	*e*Pg		Pg	11 36 57.6	-1.4
VTS				*e*Sg		Sg	11 37 07.1	-0.6
VTS	**Vitosha**	**0.65**	**287**	*e*Pg		Pg	11 36 57.6	-1.4
VTS				*e*Sg		Sg	11 37 07.1	-0.6
ZAPS	**Zavoj**	**1.36**	**310**	*e*Pg		Pg	11 37 10.6	-1.9
ZAPS				*e*Sg		Sg	11 37 29.3	-0.9
VAY	**Valandovo**	**1.54**	**226**	*i* Pg		Pg	11 37 17.3	+1.4
VAY				*i* Sg		Sg	11 37 42.0	+6.1
VAY				*e*Lg		Lg	11 37 42.8	
	comp=N,48nm,1.8s							
VAY				*e*Lg		Lg	11 37 44.5	
	comp=E,7.8nm,0.7s							
VAY	**Valandovo**	**1.54**	**226**	*i* Pg		Pg	11 37 17.2	+1.3
VAY				*i* Sg		Sg	11 37 42.0	+6.1
VAY				*e*Lg		Lg	11 37 42.7	
	comp=E,48nm,1.8s							
BARS	**Barje**	**1.70**	**285**	*e*Pg		Pn	11 37 17.5	+0.2
BARS				*e*Sg		Sn	11 37 39.8	0.0

*ISCJB **19** 12:01:24.3±0.7, 7°.49S±0°.05×128°.76E±0°.05, h151km, Error ellipse: s-maj=7.7km s-min=6.2km az=152.7*
*DJA **19** 12:01:25.0±0.5, 7°.5S±0°.12×12°.9E±°, h153km±42km, M4.3/5, mb4.6/4, mB5.2/3, MLv4.2/5, Mw(mB)4.6/3*

ISC 19 12:01:25.2±1.0, 7°.48S±0°.08×128°.73E±0°.06, h151km, n9, σ1§23/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.96**	**243**	P		**Pn**	**12 02 38.6**	**+0.4**
SOEI				S		**Sn**	**12 03 35.6**	**+0.4**
SOEI	**Soe**	**4.96**	**243**	P		**Pn**	**12 02 39.5**	**+1.3**
	baz=5.2,SNR=15							
BATI	**Baumata**	**5.69**	**241**	P		**Pn**	**12 02 48.3**	**+0.4**
	68nm,0.5s,1μm0.3nm							
BATI				S		**Sn**	**12 03 52.7**	**+0.2**
	68nm,0.5s,1μm0.3nm							
FAKI	**Fak Fak**	**5.73**	**38**	P		**Pn**	**12 02 48.3**	**0.0**
	24nm,1.3s,0.1nm							
FAKI				S		**Sn**	**12 03 52.4**	**-0.9**
	24nm,1.3s,0.1nm							
FAKI	**Fak Fak**	**5.73**	**38**	P		**Pn**	**12 02 49.2**	**+0.9**
	baz=5.6,SNR=7.4							
MTN	**Manton Dam**	**5.83**	**156**	P		**Pn**	**12 02 50.9**	**+1.2**
	baz=5.7,SNR=56							
MTN				S		**Sn**	**12 03 54.8**	**-1.0**
	baz=5.7,SNR=6.1							
KDU	**Kakadu**	**6.35**	**145**	P		**Pn**	**12 02 57.9**	**+1.3**
	baz=6.2,SNR=36							
KDU				S		**Sn**	**12 04 06.5**	**-1.8**
	baz=6.2,SNR=6.3							
KNRA	**Kununurra**	**8.15**	**180**	P		**Pn**	**12 03 20.6**	**+0.1**
	baz=8.2,SNR=71							
KNRA				S		Sn	12 04 45.0	-6.3
	baz=8.2,SNR=5.7							
WSI	**Waingapu**	**8.62**	**255**	P		**Pn**	**12 03 24.5**	**-2.4**

IDC 19 12:06:40.3±3.9, 5°.52S×149°.92E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/18, mbtmp3.5/2, Error ellipse: s-maj=142.9km s-min=49.1km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.86**	**225**	P		P	12 11 23.5	-0.6
	0.9nm,0.4s,baz=50,slow=9.4,SNR=18							
ASAR	**Alice Springs**	**23.74**	**219**	P		P	12 11 54.6	+0.2
	0.5nm,0.5s,baz=51,slow=8.3,SNR=9.1							
TORD	**Torodi Ar. Bea**	**147.78**	**286**	PKPbc		PKPbc	12 26 27.6	-0.6
	0.4nm,1.0s,baz=87,slow=2.7,SNR=4.2							

*IDC **19** 12:15:33.5±1.3, 34°.72S×73°.70W, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.6/23, mbtmp3.5/7, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=33.8km s-min=21.6km az=93.0*
*ISCJB **19** 12:15:36.5±1.0, 34°.77S±0°.09×73°.6W±0°.1, h33km, mb3.5/4, Error ellipse: s-maj=18.7km s-min=11.2km az=28.6*

ISC 19 12:15:38.4±1.2, 34.7S±0°.1×73.7W±0°.2, h35km, n7, σ0§94/8, mb3.6/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.51**	**57**	Pn		**Pn**	**12 16 56.9**	**-1.2**
	0.4nm,0.3s,baz=228,slow=2.5,SNR=17							
CFAA				Sn		**Sn**	**12 18 01.5**	**+1.2**
	0.3nm,0.3s,baz=324,slow=19,SNR=3.6							
PLCA	**Paso Flores**	**6.47**	**159**	Pn		**Pn**	**12 17 11.0**	**-0.3**
	0.6nm,0.3s,baz=334,slow=13,SNR=7.4							
PLCA				LR		LR	12 19 41.7	
	comp=Z,138nm,21.3s,baz=338,slow=38							
LPAZ	**La Paz**	**19.03**	**16**	P		**Pn**	**12 19 59.2**	**+0.2**
	0.1nm,0.3s,baz=186,slow=11,SNR=4.9							
SIV	**San Ignacio**	**21.82**	**34**	P		**P**	**12 20 27.1**	**-0.7**
	1.4nm,0.6s,baz=241,slow=12,SNR=3.3							
SNAA	**Sanae**	**51.41**	**158**	P		**P**	**12 24 39.8**	**+0.2**
	0.9nm,1.1s,baz=278,slow=8.5,SNR=11							
TXAR	**Lajitas Array**	**69.74**	**332**	P		**P**	**12 26 45.0**	**0.0**
	0.2nm,0.6s,baz=150,slow=9.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**85.72**	**71**	P		**P**	**12 28 15.1**	**+1.0**
	0.5nm,0.9s,baz=283,slow=4.4,SNR=2.6							

*ISCJB **19** 12:26:40.2±0.8, 35°.15N±0°.05×23°.07E±0°.05, h35km, mb3.7/8, Error ellipse: s-maj=8.7km s-min=4.9km az=34.2*
*ATH **19** 12:26:41.0, 35°.25N×23°.20E, h62km±4km*
*IDC **19** 12:26:43.0±2.5, 35°.34N×23°.21E, h65km±26km, mb3.5/8, mb1 3.5/9, mb1mx3.3/29, mbtmp3.7/9, ML2.8/1, Error ellipse: s-maj=29.3km s-min=22.9km az=132.0*
*THE **19** 12:26:43.2, 35°.26N×23°.26E, h29km±19km, ML3.4/1, Error ellipse: s-maj=21.4km s-min=2.1km az=213.0*
*CSEM **19** 12:26:43.5±0.5, 35°.29N×23°.29E, h44km±7km, ML3.4, Error ellipse: s-maj=13.8km s-min=4.7km az=37.0*

ISC 19 12:26:40.5±0.9, 35°.22N±0°.06×23°.18E±0°.06, h35km, n68, σ2§02/72, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**0.63**	**73**	*e*P		**Pn**	**12 26 54.8**	**+1.8**
KARN				*e*S		**Sn**	**12 27 05.2**	**+3.4**
KARN	**Karanos**	**0.63**	**73**	*e*P		**Pn**	**12 26 54.8**	**+1.8**
KARN				*e*S		**Sn**	**12 27 05.2**	**+3.4**
ANKY	**Antikythira Is**	**0.66**	**9**	P		**Pn**	**12 26 54.4**	**+1.1**
ANKY				S		**Sn**	**12 27 05.1**	**+2.7**
ANKY	**Antikythira Is**	**0.66**	**9**	*e*P		**Pn**	**12 26 54.4**	**+1.1**
ANKY				*e*S		**Sn**	**12 27 05.7**	**+3.3**
ANKY	**Antikythira Is**	**0.66**	**9**	*e*P		**Pn**	**12 26 54.4**	**+1.1**
ANKY				S		**Sn**	**12 27 05.1**	**+2.7**
GVD	**Gavdhos**	**0.84**	**117**	*e*P		**Pn**	**12 26 57.7**	**+2.0**
GVD	**Gavdhos**	**0.84**	**117**	*e*P		**Pn**	**12 26 57.7**	**+2.0**
VAM	**Vamos**	**0.86**	**77**	P		**Pn**	**12 26 56.4**	**+0.4**
VAM				S		**Sn**	**12 27 09.5**	**+2.2**
VAM	**Vamos**	**0.86**	**77**	P		**Pn**	**12 26 56.4**	**+0.4**
VAM				S		**Sn**	**12 27 09.5**	**+2.2**
KYTH	**Kithira**	**1.07**	**354**	P		**Pn**	**12 27 00.8**	**+1.8**
KYTH	**Kithira**	**1.07**	**354**	*e*P		**Pn**	**12 27 00.9**	**+1.9**
KYTH	**Kithira**	**1.07**	**354**	*e*P		**Pn**	**12 27 00.9**	**+1.9**
SIVA	**Sivas**	**1.35**	**98**	*e*P		**Pn**	**12 27 04.8**	**+2.0**
SIVA	**Sivas**	**1.35**	**98**	*e*P		**Pn**	**12 27 04.8**	**+2.0**
IDI	**Anoyia**	**1.40**	**87**	P		**Pn**	**12 27 06.0**	**+2.4**
	6.7nm,0.3s,baz=261,slow=7.8,SNR=32							
IDI				S		Sn	12 27 28.5	+7.6
	15nm,0.3s,baz=99,slow=16,SNR=6.0							
VLI	**Veliai**	**1.51**	**353**	P		Pn	12 27 08.1	+3.1
VLI	**Veliai**	**1.51**	**353**	*e*P		**Pn**	**12 27 07.0**	**+2.0**
VLI	**Veliai**	**1.51**	**353**	*e*P		**Pn**	**12 27 07.0**	**+2.0**
LAST	**Lasithi**	**1.89**	**91**	*e*P		**Pn**	**12 27 12.9**	**+2.7**
LAST	**Lasithi**	**1.89**	**91**	*e*P		**Pn**	**12 27 12.9**	**+2.7**
NPS	**Neapolis**	**1.99**	**88**	P		**Pn**	**12 27 14.8**	**+3.1**
NPS	**Neapolis**	**1.99**	**88**	P		**Pn**	**12 27 14.8**	**+3.1**
THR5	**Thira Island,**	**2.13**	**55**	P		**Pn**	**12 27 15.0**	**+1.4**
**TH

IDC 19 12:28:30.3±12.0, 6°15S×129°25E, h90km±120km, mb3.3/2, mb1 3.2/4, mb1mx3.0/28, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=145.5km s-min=37.8km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.58**	**161**	P	Pn	12 31 51.2	-1.1
	0.1nm,0.3s,baz=342,slow=12,SNR=11						
WRA				S	Sn	12 34 24.2	-8.7
	0.2nm,0.3s,baz=335,slow=20,SNR=8.8						
ASAR	**Alice Springs**	**17.99**	**166**	P	Pn	12 32 34.5	-0.2
	0.1nm,0.3s,baz=348,slow=10,SNR=19						
ASAR				S	Sn	12 35 46.2	-9.1
	0.0nm,0.3s,baz=4.7,slow=26,SNR=3.8						
STKA	**Stephens Creek**	**28.08**	**157**	P	P	12 34 13.6	0.0
	0.3nm,0.3s,baz=343,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**67.11**	**327**	P	P	12 39 14.4	0.0
	0.3nm,0.5s,baz=116,slow=7.9,SNR=4.2						

*IDC **19** 12:42:37.0±1.0, 16°.96N×147°.47E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/44, mbtmp3.8/10, Error ellipse: s-maj=31.3km s-min=19.4km az=90.0*
*ISCJB **19** 12:42:41.4±0.9, 17°.0N±0°.1×147°.3E±0°.2, h41km, mb3.8/10, Error ellipse: s-maj=28.1km s-min=16.9km az=0.1*

ISC 19 12:42:43.0±1.0, 17°.0N±0°.2×147°.4E±0°.2, h41km, n10, σ0.72/10, mb3.8/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**21.14**	**339**	P	**P**	**12 47 24.1**	**-0.4**
	2.1nm,0.7s,baz=168,slow=9.3,SNR=8.8						
WRA	**Warramunga Arr**	**38.86**	**200**	P	**P**	**12 50 04.1**	**-0.4**
	1.4nm,0.7s,baz=23,slow=9.1,SNR=24						
ASAR	**Alice Springs**	**42.48**	**198**	P	**P**	**12 50 33.9**	**-0.6**
	0.3nm,0.7s,baz=9.1,slow=10,SNR=8.8						
SONM	**Songino Array**	**45.51**	**322**	P	**P**	**12 50 58.5**	**-0.1**
	0.6nm,0.6s,baz=137,slow=7.9,SNR=6.7						
CMAR	**Chiang Mai Arr**	**46.09**	**279**	P	**P**	**12 51 04.7**	**+1.2**
	2.1nm,0.7s,baz=72,slow=6.4,SNR=13						
ZALV	**Zalesovo Beam**	**60.38**	**323**	P	**P**	**12 52 47.1**	**-0.8**
	2.2nm,0.8s,baz=98,slow=7.6,SNR=8.3						
MKAR	**Makanchi Array**	**60.84**	**314**	P	**P**	**12 52 51.2**	**-0.1**
	0.6nm,0.5s,baz=91,slow=7.3,SNR=7.9						
YKA	**Yellowknife Ar**	**78.75**	**28**	P	**P**	**12 54 40.9**	**-0.1**
	0.3nm,0.6s,baz=288,slow=5.5,SNR=4.1						
NVAR	**Mina Array Bea**	**82.92**	**52**	P	**P**	**12 55 05.0**	**+0.9**
	0.4nm,0.6s,baz=264,slow=4.6,SNR=5.1						
FINES	**FINESS Array B**	**89.13**	**336**	P	**P**	**12 55 33.6**	**-0.4**
	1.2nm,0.6s,baz=93,slow=3.8,SNR=5.5						

MEX 19 12:46:39.1±0.6, 15°.98N×97°.72W, h16km±9km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**317**	*e*P	Pg	12 46 48.5	-1.9
PNIG				*e*S	Sg	12 46 55.5	-2.5
VHO	**Vista Hermosa**	**1.45**	**41**	*e*P	Pn	12 47 01.4	-3.5
VHO				*i* S	Sn	12 47 18.1	-5.6
HUIG	**Huatulco**	**1.57**	**97**	*e*P	Pn	12 47 03.4	-2.9
HUIG				*e*S	Sn	12 47 20.8	-5.5
TLIG	**Tlapa**	**1.77**	**333**	*e*P	Pn	12 47 05.5	-3.8
TLIG				*i* S	Sn	12 47 27.4	-4.3

*ISCJB **19** 13:06:00.8±0.5, 34°.69N±0°.05×138°.69E±0°.08, h223km±3km, mb3.3/7, Error ellipse: s-maj=10.1km s-min=8.1km az=1.9*
*JMA **19** 13:06:01.6±0.1, 34°.68N×138°.64E, h217km±2km, M3.1*
*IDC **19** 13:06:02.1±1.1, 34°.71N×138°.76E, h221km±10km, mb3.1/7, mb1 3.1/10, mb1mx3.0/41, mbtmp3.7/10, Error ellipse: s-maj=33.9km s-min=14.6km az=67.0*

ISC 19 13:06:02.1±0.8, 34°.71N±0°.06×138°.65E±0°.08, h218km±6km, n26, σ0.74/36, mb3.5/7, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZS	**Izushimoda**	**0.18**	**86**	P	**Pn**	**13 06 30.3**	**-0.2**
JIZS				S	**S**	**13 06 52.3**	**-0.3**
JSG	**Sagara**	**0.39**	**265**	S	**S**	**13 06 53.3**	**0.0**
KTJJ	**Kamata 2**	**0.40**	**57**	P	**Pn**	**13 06 31.0**	**+0.1**
JOD2	**Odawara 2**	**0.66**	**33**	P	**Pn**	**13 06 31.9**	**0.0**
JOD2				S	**S**	**13 06 55.1**	**-0.1**
JYN	**Shimob**	**0.80**	**354**	P	**Pn**	**13 06 32.6**	**0.0**
JYN				S	**S**	**13 06 56.8**	**+0.3**
TK02	**Tokai 2**	**1.06**	**225**	P	**Pn**	**13 06 33.7**	**-0.1**
TK02				S	**S**	**13 06 58.8**	**+0.3**
JRY	**Ryogami san**	**1.32**	**9**	P	**Pn**	**13 06 36.5**	**+0.6**
JRY				S	**S**	**13 07 02.3**	**-0.1**
JIE	**Ise**	**1.64**	**259**	P	**Pn**	**13 06 37.6**	**-0.9**
JAG	**Ashikaga**	**1.83**	**21**	P	**Pn**	**13 06 39.9**	**-0.4**
JAG				S	**S**	**13 07 08.7**	**-1.4**
JHJ2	**Mitsune**	**1.86**	**148**	P	**Pn**	**13 06 40.5**	**-0.1**
MJAR	**Matsushiro Arr**	**1.87**	**349**	P	**Pn**	**13 06 40.3**	**-0.4**
	4.1nm,0.3s,baz=172,slow=12,SNR=44						
MJAR				S	**S**	**13 07 11.9**	**+1.2**
	0.1nm,0.3s,baz=130,slow=15,SNR=3.0						
MAT	**Matsushiro**	**1.87**	**349**	P	**Pn**	**13 06 40.4**	**-0.2**
MAT				S	**S**	**13 07 10.2**	**-0.5**
MAT	**Matsushiro**	**1.87**	**349**	P	**Pn**	**13 06 40.5**	**-0.2**
MAT				S	**S**	**13 07 11.9**	**+1.2**
TTO1	**TONANKAI O.B.S**	**1.89**	**236**	P	**Pn**	**13 06 40.2**	**-0.4**
BSO1	**Boso 1**	**1.92**	**91**	P	**Pn**	**13 06 40.3**	**-0.2**
BSO1				S	**S**	**13 07 11.2**	**+0.9**
JKG	**Kaga**	**2.46**	**310**	P	**Pn**	**13 06 46.3**	**-0.3**
KSRS	**Korea Array**	**9.11**	**291**	P	**Pn**	**13 08 10.5**	**+1.0**
	0.2nm,0.3s,baz=108,slow=12,SNR=5.8						
ASAJ	**Asahikawa**	**9.88**	**17**	P	**Pn**	**13 08 17.9**	**-1.4**
	0.3nm,0.3s,baz=187,slow=16,SNR=4.1						
USRK	**Ussuriysk Ar.**	**10.79**	**334**	P	**Pn**	**13 08 31.0**	**0.0**
	0.1nm,0.3s,baz=156,slow=14,SNR=4.6						
SONM	**Songino Array**	**27.35**	**308**	P	**P**	**13 11 28.0**	**+1.0**
	0.7nm,0.6s,baz=106,slow=8.4,SNR=7.2						
ZALV	**Zalesovo Beam**	**41.88**	**314**	P	**P**	**13 13 30.7**	**-0.1**
	0.6nm,0.3s,baz=104,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	**43.50**	**304**	P	**P**	**13 13 44.2**	**+0.2**
	1.0nm,0.6s,baz=89,slow=9.7,SNR=16						
AAK	**Ala-Archa**	**49.65**	**299**	P	**P**	**13 14 30.5**	**-1.3**
	0.5nm,0.4s,baz=96,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**54.50**	**185**	P	**P**	**13 15 05.9**	**-1.5**
	0.4nm,0.7s,baz=0.1,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**58.23**	**185**	P	**P**	**13 15 34.9**	**+1.2**
	0.2nm,0.8s,baz=4.5,slow=6.5,SNR=2.8						
FINES	**FINESS Array B**	**69.81**	**332**	P	**P**	**13 16 48.9**	**+0.4**
	1.6nm,0.9s,baz=88,slow=6.3,SNR=5.3						

MEX 19 13:45:52.0±0.5, 15°.88N×94°.85W, h27km±31km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.22**	**265**	*e*P	Pn	13 46 10.5	-2.9
HUIG				*e*S	Sn	13 46 25.6	-3.4
CCIG	**Comitan**	**2.63**	**81**	*e*P	Pn	13 46 30.8	-2.2
CCIG				*i* S	Sn	13 47 02.0	-2.3
PNIG	**Pinotepa**	**3.19**	**280**	*e*P	Pn	13 46 39.3	-1.2
PNIG				*i* S	Sn	13 47 14.8	-3.1

*MOS **19** 13:54:04.9±1.1, 10°.96N×93°.66E, h153km, mb4.7/18, Error ellipse: s-maj=12.4km s-min=6.3km az=118.3*
*ISCJB **19** 13:54:06.8±0.3, 10°.97N±0°.02×93°.63E±0°.02, h167km±3km, mb4.5/69, Error ellipse: s-maj=4.5km s-min=2.7km az=42.9*
*IDC **19** 13:54:06.5±0.4, 10°.94N×93°.66E, h152km±3km, mb3.8/22, mb1 4.0/24, mb1mx3.9/32, mbtmp4.3/24, MS3.5/4, Ms1 3.5/4, ms1mx2.8/38, Error ellipse: s-maj=13.8km s-min=7.4km az=57.0*
*BJI **19** 13:54:06.5, 10.82N×93°.78E, h178km, mB4.6/19, mb4.5/25*
*NEIC **19** 13:54:06.4±0.2, 10°.97N×93°.64E, mb4.8/24, Error ellipse: s-maj=7.6km s-min=3.7km az=51.0*
*BKK **19** 13:54:07.0±0.4, 11°.1N±3°×9°4E±°, h10km, M4.5/22, mB5.0/17, mb4.8/22, MLv4.7/11, Mw(mB)4.3/17*
*KLM **19** 13:54:07.4, 11°.11N×93°.73E, h148km, mb5.0, MS5.6*
*DJA **19** 13:54:09.5±0.5, 11°.1N±3°×9°4E±°, h157km±4km, M4.7/50, mb5.0/50, mB5.3/31, MLv5.1/2, Mw(mB)4.7/31*

ISC 19 13:54:06.9±0.3, 10°.97N±0°.04×93°.63E±0°.04, h157km±2km, h156km:pP-P, n281, σ1.50/353, mb4.6/69, 15C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.11**	**308**	*e*P	Pn	13 54 34.5	+1.2
PBA				*e*S	Sn	13 54 54.6	+1.2
PBA				AML	AML	13 54 56.7	
	comp=E,13μm,0.6s						
PBA				AML	AML	13 54 57.2	
	comp=N,10μm,0.7s						
DGPR	**DIGLIPUR**	**2.30**	**343**	*e*P	**Pn**	**13 54 45.8**	**-0.2**
DGPR				*e*S	**Sn**	**13 55 14.3**	**-1.8**
DGPR				AML	AML	13 55 15.3	
	comp=E,3μm,0.7s						
DGPR				AML	AML	13 55 18.2	
	comp=N,2μm,0.6s						
CMBY	**CAMPBELL BAY**	**3.94**	**176**	*e*P	**Pn**	**13 55 06.3**	**-0.3**
CMBY				*e*S	**Sn**	**13 55 50.8**	**-2.3**
SURT	**Suratani**	**5.46**	**111**	P	**Pn**	**13 55 28.6**	**+2.0**
	comp=N,52nm,0.7s,comp=N,470nmcomp=N,0.2nm						
PKDT	**Phuket**	**5.56**	**123**	P	**Pn**	**13 55 29.9**	**+2.1**
	comp=N,68nm,0.6s,comp=N,0.3nm						
KHLT	**Khaolaem Dam**	**6.15**	**51**	P	**Pn**	**13 55 35.3**	**-0.4**
	comp=N,60nm,0.8s,comp=N,534nmcomp=N,0.2nm						
LHMI	**Lhok Sumawe**	**6.58**	**150**	P	**Pn**	**13 55 44.5**	**+3.1**
	comp=N,582nm,0.7s,comp=N,4μmcomp=N,2.1nm						
LHMI	**Lhok Sumawe**	**6.58**	**150**	*e*P	**Pn**	**13 55 44.2**	**+2.8**
	comp=N,355nm,0.6s						
MHMT	**Maesarieng**	**8.29**	**30**	P	**Pn**	**13 56 04.8**	**+0.7**
	comp=N,47nm,0.9s,comp=N,471nmcomp=N,0.1nm						
TPTI		**8.43**	**155**	P	**Pn**	**13 56 03.9**	**-2.2**
	comp=N,33nm,0.6s,comp=N,18μm						
TPTI				S	**Sn**	**13 57 35.5**	**-4.5**
	comp=N,33nm,0.6s,comp=N,18μm						
KCSI	**Kotacane, Aceh**	**8.46**	**151**	P	**Pn**	**13 56 06.2**	**-0.3**
	comp=N,110nm,1.2s,comp=N,1μm						
KCSI				S	**Sn**	**13 57 39.2**	**-1.6**
	comp=N,110nm,1.2s,comp=N,1μm						
CHBT	**CHBT**	**8.70**	**77**	P	**Pn**	**13 56 10.7**	**+1.1**
	comp=N,64nm,1.1s,comp=N,846nmcomp=N,0.3nm						
SUKH	**Sukhothai**	**8.70**	**41**	P	**Pn**	**13 56 10.0**	**+0.3**
	comp=N,22nm,1.0s,comp=N,183nmcomp=N,0.1nm						
TSI	**Tuntungan**	**8.89**	**146**	P	**Pn**	**13 56 13.9**	**+1.8**
	comp=N,284nm,1.1s						
KULM	**Kulim**	**8.95**	**129**	⇑P	**Pn**	**13 56 13.8**	**+0.8**
KULM	**Kulim**	**8.95**	**129**	*e*P	**Pn**	**13 56 14.5**	**+1.5**
	comp=N,42nm,0.8s						
CMAR	**Chiang Mai Arr**	**9.05**	**34**	P	**Pn**	**13 56 14.6**	**+0.3**
	comp=N,0.8nm,0.3s,baz=221,slow=14,SNR=186						
CMAR				S	**Sn**	**13 57 51.9**	**-3.0**
	baz=222,slow=26,SNR=2.0						
PBKT	**Sadao Pong**	**9.05**	**51**	P	**Pn**	**13 56 14.4**	**+0.2**
	comp=N,157nm,1.3s,comp=N,1μmcomp=N,0.6nm						
CMMT	**Chiang Mai**	**9.34**	**33**	P	**Pn**	**13 56 18.2**	**+0.1**
	comp=N,66nm,1.2s,comp=N,588nm						
LAMP	**Lampang**	**9.49**	**37**	P	**Pn**	**13 56 20.7**	**+0.6**
	comp=N,14nm,0.9s,comp=N,117nm						
UTTA	**Uttaradit**	**9.51**	**44**	P	**Pn**	**13 56 20.7**	**+0.4**
	comp=N,16nm,0.8s,comp=N,147nm						
PSI	**Prapat**	**9.66**	**147**	P	**Pn**	**13 56 23.5**	**+0.9**
	comp=N,3.6nm,0.3s,baz=335,slow=12,SNR=42						
PSI				S	**Sn**	**13 58 10.8**	**+0.9**
	comp=N,1.6nm,0.3s,baz=332,slow=16,SNR=2.2						
IPM	**Ipoh**	**9.76**	**131**	⇑P	**Pn**	**13 56 22.9**	**-0.8**
IPM	**Ipoh**	**9.76**	**131**	*e*P	**Pn**	**13 56 22.8**	**-1.0**
	comp=N,69nm,1.0s						
CMAI	**Chiengmai2**	**10.33**	**30**	P	**Pn**	**13 56 32.8**	**+1.5**
	comp=N,38nm,1.2s,comp=N,2μm						
KHON	**Khomkaen**	**10.41**	**58**	P	**Pn**	**13 56 33.9**	**+1.7**
	comp=N,28nm,0.9s,comp=N,808nm						
KTGM	**Kuala Trenggan**	**10.95**	**120**	⇓P	**Pn**	**13 56 39.9**	**+0.6**
FRIM	**Kepong**	**11.04**	**134**	⇑P	**Pn**	**13 56 42.1**	**+1.6**
CRAI	**Chiangrai**	**11.27**	**34**	P	**Pn**	**13 56 41.3**	**-2.2**
	comp=N,28nm,0.7s,comp=N,1μm						
MNSI	**Mandailing Nat**	**11.71**	**149**	P	**Pn**	**13 56 46.2**	**-3.1**
	comp=N,30nm,0.6s,comp=N,1μm						
CHLP	**Challavanipeta**	**11.91**	**310**	*e*Pn	**Pn**	**13 56 54.3**	**+2.4**
CHLP				*e*Sn	Sn	13 58 56.2	-7.5
CHLP				IAMs_20	IAMs_20	13 58 58.4	
	comp=Z,204nm,7.6s						
BWNR	**Bhubaneshwar**	**11.95**	**322**	*ex*	P	13 56 55.0	-3.8
BWNR				*ex*	**Sn**	**13 59 00.0**	**-4.6**
VIS	**Vishakhapatnam**	**12.03**	**305**	*i* P	**Pn**	**13 56 54.2**	**+0.9**
VIS				*e*S	Sn	13 58 59.7	-6.8
VIS				*ex*	x	13 59 03.4	
	comp=N,270nm,1.5s						
VIS				*ex*	x	13 59 03.5	
	comp=E,347nm,1.4s						
UBPT	**Khong Chiam**	**12.30**	**68**	P	**Pn**	**13 56 59.3**	**+2.3**
	comp=E,25nm,1.1s						
BKNI	**Bangkinang**	**12.88**	**145**	P	**Pn**	**13 57 04.9**	**+0.4**
	comp=E,145nm,1.1s,comp=E,1μm						
BKNI	**Bangkinang**	**12.88**	**145**	*e*P	**Pn**	**13 57 04.7**	**+0.2**
	comp=E,53nm,0.6s						
KGM	**Kluang**	**13.10**	**132**	⇑P	**P**	**13 57 09.9**	**-1.8**
PALK	**Pallekele**	**13.28**	**255**	Pn	**P**	**13 57 14.2**	**+0.5**
	comp=E,350nm,1.0s,SNR=11						
PALK	**Pallekele**	**13.28**	**255**	*e*P	**P**	**13 57 14.2**	**+0.5**
PALK				*e*		13 59 26.8	
PALK				pmax	pmax		
	comp=Z,35nm,0.6s						
PALK	**Pallekele**	**13.28**	**255**	*e*Pn	**P**	**13 57 14.2**	**+0.5**
	comp=Z,34nm,0.6s						
PALK				*e*P	Pn	13 57 16.9	+7.3
PALK				*e*Sn	Sn	13 59 26.8	-10
MYKOM	**Kota Tinggi**	**13.64**	**131**	⇑P	**P**	**13 57 17.7**	**0.0**
IMP	**Imphal**	**13.74**	**1**	*ex*	**Pn**	**13 57 16.0**	**+0.6**
IMP				*ex*	Sn	13 59 41.0	-6.9
SKHT	**Srikalahasti**	**13.88**	**283**	*e*Pn	**P**	**13 57 20.3**	**0.0**
SKHT				*e*S	Sn	13 59 44.9	-6.1
SKHT				IAMs_20	IAMs_20	13 59 59.8	
	comp=Z,107nm,8.5s						
SDSI	**Sungai Dareh**	**14.14**	**146**	P	**Pn**	**13 57 19.7**	**-0.7**
	comp=Z,37nm,0.6s,comp=Z,32μm						
SHL	**Shillong**	**14.62**	**354**	*e*P	**Pn**	**13 57 27.0**	**+0.5**
SHL				*ex*	x	13 58 01.0	
TPRI	**Tanjung Pinang**	**14.72**	**132**	P	**P**	**13 57 30.0**	**+0.3**
	comp=Z,213nm,0.7s,comp=Z,26μm						
NJS	**Nagarjunasagar**	**14.98**	**293**	*e*P	**P**	**13 57 32.1**	**-0.4**
NJS				*e*		13 57 36.0	
NJS				*e*S	**Sn**	**14 00 12.4**	**-5.1**
DSRI	**Dabo**	**15.74**	**136**	P	**P**	**13 57 42.5**	**+1.5**
	comp=Z,555nm,0.9s,comp=Z,6μm						
RPR	**Rampur**	**15.91**	**301**	*e*Pn	**P**	**13 57 44.2**	**+1.3**
RPR				Sn	S	14 00 32.2	-7.5
RPR				IAMs_20	IAMs_20	14 01 07.7	
	comp=Z,142nm,7.6s						
HYB	**Hyderabad**	**15.96**	**295**	*e*P	**P**	**13 57 44.0**	**+0.6**
HYB				*e*S	**Sn**	**14 00 43.0**	**+2.0**
HYB	**Hyderabad**	**15.96**	**295**	*i* P	**P**	**13 57 44.0**	**+0.6**
	comp=Z,40nm,1.0s						
HYB				*e*		13 58 16.0	
HYB				*e*		14 00 31.0	
HYB				*e*S	**Sn**	**14 00 46.0**	**+5.0**
HYB	**Hyderabad**	**15.96**	**295**	*e*P	**P**	**13 57 44.0**	**+0.6**
HYB				*e*		14 00 30.0	
HYB				*e*S	**Sn**	**14 00 43.0**	**+2.0**
HYBB	**Hyderabad (bro**	**15.96**	**295**	*e*Pn	**Pn**	**13 57 43.2**	**+0.2**
HYBB				Sn	**S**	**14 00 34.7**	**-5.9**
HYBB				IAMs_20	IAMs_20	14 01 35.5	
	comp=Z,185nm,7.2s						
URV	**Uravakonda**	**16.44**	**286**	*e*P	**Pn**	**13 57 50.8**	**+2.0**
URV				Sn	**S**	**14 00 44.4**	**-6.8**
ODAN	**Odare**	**16.87**	**340**	*e*P	**Pn**	**13 57 56.2**	**+2.1**
	comp=Z,161nm,0.3s						
TAPN	**Taplejung**	**17.22**	**342**	*e*P	**Pn**	**13 57 59.6**	**+1.1**
RAMN	**Ramite**	**17.22**	**338**	*e*P	**Pn**	**13 57 59.9**	**+1.5**
	comp=Z,132nm,0.5s						
QIZ	**Qiongzhong**	**17.58**	**61**	P	**P**	**13 57 59.8**	**-1.5**
QIZ				S	**S**	**14 01 12.8**	**-3.4**
QIZ				LZ			
	comp=Z,180nm,16.7s						
LHSI	**Lahat**	**17.69**	**146**	P	**P**	**13 58 01.4**	**-1.1**
	comp=Z,39nm,0.7s,comp=Z,1μm						
MNAI	**Manna**	**17.83**	**148**	*e*P	**P**	**13 58 04.0**	**-0.1**
PKI	**Pulchoki**	**18.24**	**336**	*e*P	**Pn**	**13 58 10.6**	**+0.1**
	comp=Z,170nm,0.7s						
PKIN	**Phulchoki**	**18.25**	**336**	*e*P	**Pn**	**13 58 10.7**	**+0.1**
GUN	**Gumba**	**18.36**	**338**	*e*P	**Pn**	**13 58 11.8**	**-0.2**
	comp=Z,128nm,0.7s						
DMN	**Daman**	**18.39**	**335**	*e*P	**Pn**	**13 58 11.8**	**-0.5**
	comp=Z,167nm,0.7s						
KKN	**Kakani**	**18.48**	**336**	*e*P	**Pn**	**13 58 12.7**	**-0.6**
MDSI	**Maura Dua**	**18.60**	**145**	P	**P**	**13 58 10.3**	**-2.1**
	comp=Z,22nm,0.8s						
LSA	**Lhasa**	**18.78**	**353**	P	**P**	**13 58 15.0**	**+0.2**
LSA	**Lhasa**	**18.78**	**353**	*e*P	**P**	**13 58 15.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,23nm,0.6s						
LSA	**Lhasa**	**18.78**	**353**	*e*P	**P**	**13 58 15.4**	**+0.6**
	comp=Z,23nm,0.6s						
LWLI	**Liwa**	**18.97**	**146**	P	**Pn**	**13 58 22.5**	**+3.5**
KSM	**Kuching**	**19.06**	**119**	⇑P	**Pn**	**13 58 19.0**	**-0.9**
KSM	**Kuching**	**19.06**	**119**	*e*P	**P**	**13 58 18.2**	**+0.8**
	comp=Z,59nm,0.8s						
TPI	**Tanjungpandan**	**19.51**	**134**	P	**P**	**13 58 23.6**	**+1.3**
	comp=Z,105nm,1.1s,comp=Z,1μm						
DANN	**Dangsing**	**19.61**	**333**	*e*P	**P**	**13 58 24.9**	**+1.3**
	comp=Z,155nm,0.9s						
BHPL	**Bhopal**	**19.69**	**310**	*e*P	**Pn**	**13 58 26.3**	**-1.0**
BHPL				*e*S	**S**	**14 02 00.6**	**+2.6**
GYA	**Guiyang**	**19.72**	**37**	⇑*i*P	**P**	**13 58 25.6**	**+1.1**
GYA				PP	**pP**	**13 58 52.8**	**+1.1**
GYA				sP	sP	13 59 18.4	+6.9
GYA				S	**S**	**14 01 52.0**	**-6.5**
GYA				PcP	**PcP**	**14 02 34.6**	**-2.2**
GYA				ScP	**ScP**	**14 05 55.3**	**-3.1**
GYA				PcS	**PcS**	**14 06 13.8**	**-0.6**
GYA				PMZ			
	comp=Z,60nm,1.0s						
GYA				PMZ			
	comp=Z,130nm,4.8s						
SBUM	**Sibu**	**20.29**	**113**	⇑P	**P**	**13 58 32.1**	**+1.4**
POO	**Poona**	**20.54**	**294**	*e*P	**P**	**13 58 34.8**	**+1.4**
POO				*ex*	x	14 02 21.7	
BTM	**Bintulu**	**20.78**	**110**	⇑P	**P**	**13 58 37.4**	**+1.5**
STKI	**Sintang**	**20.78**	**120**	P	**P**	**13 58 37.6**	**+1.7**
	comp=Z,76nm,1.0s						
CGJI	**Cibinong**	**21.19**	**145**	P	**P**	**13 58 37.8**	**-2.5**
	comp=Z,30nm,2.0s,comp=Z,1μm						
CD2	**Chengdu**	**21.96**	**24**	⇑P	**P**	**13 58 48.0**	**-0.3**
CD2				PP	pP	13 59 23.5	+7.3
CD2				sP	sP	13 59 43.4	+7.6
CD2				S	**S**	**14 02 33.6**	**-6.3**
CD2				SS	**SnSn**	**14 03 29.1**	**+4.9**
CD2				PMZ			
	comp=Z,50nm,0.5s						
CD2				PMZ			
	comp=Z,130nm,5.8s						
PBKI	**Pangkalan Bun**	**22.51**	**126**	P	**P**	**13 58 56.1**	**+2.4**
	comp=Z,158nm,1.0s,comp=Z,2μm						
KKM	**Kota Kinabalu**	**22.86**	**101**	⇑P	**P**	**13 58 56.4**	**-0.7**
KDM	**Kudat**	**23.27**	**98**	⇑P	**P**	**13 59 00.8**	**+0.1**
SDKM	**Sandakan**	**23.90**	**101**	⇑P	**P**	**13 59 07.1**	**+0.5**
UWJI	**Ujung Watu**	**24.40**	**134**	P	**P**	**13 59 12.2**	**+1.2**
	comp=Z,133nm,0.9s						
SMRI	**Semarang**	**24.50**	**136**	P	**P**	**13 59 14.3**	**+2.4**
	comp=Z,166nm,0.9s						
TSM	**Tawau**	**24.91**	**104**	⇑P	**P**	**13 59 16.2**	**+0.5**
SMLA	**Simla**	**25.20**	**325**	*e*P	**P**	**13 59 18.4**	**+0.3**
BBKI	**Banjar Baru**	**25.52**	**123**	P	**P**	**13 59 23.1**	**+1.9**
	comp=Z,120nm,1.2s,comp=Z,5μm						
DHRM	**DHARAMSHALA**	**26.53**	**326**	*e*P	**P**	**13 59 31.4**	**+1.0**
BLJI	**Banyuglugur**	**27.21**	**132**	P	**P**	**13 59 40.4**	**+4.1**
	comp=Z,38nm,1.1s						
MPSI	**Mapaga**	**28.16**	**110**	P	**P**	**13 59 45.9**	**+1.1**
	comp=Z,24nm,1.0s						
PCI	**Palu**	**28.60**	**113**	P	**P**	**13 59 49.8**	**+1.0**
	comp=Z,48nm,0.8s						
SRBI	**Singaraja**	**28.63**	**131**	P	**P**	**13 59 49.4**	**+0.5**
	comp=Z,90nm,0.9s						
GTA	**Gaotai**	**28.86**	**10**	*e*P	**P**	**13 59 52.1**	**+1.3**
GTA				pP	**pP**	**14 00 28.8**	**+5.1**
GTA				sP	sP	14 00 48.3	+6.5
GTA				PcP	**PcP**	**14 02 57.3**	**+0.8**
GTA				S	**S**	**14 04 29.6**	**+0.1**
GTA				sS	sS	14 05 33.6	+6.1
GTA				SS	**SnSn**	**14 06 14.8**	**+3.9**
GTA				ScP	**ScP**	**14 06 23.8**	**+0.4**
GTA				PMZ			
	comp=Z,2.0nm,0.8s						
GTA				PMZ			
	comp=Z,61nm,6.2s						
GTA				LN			
	comp=Z,80nm,19.0s						
GTA				LE			
	comp=Z,140nm,22.3s						
GTA				LZ			
	comp=Z,67nm,12.1s						
TTSI	**Tana Toraja**	**29.55**	**117**	P	**P**	**13 59 59.1**	**+2.0**
	comp=Z,59nm,1.1s,comp=Z,687nm						
MRSI	**Marisa**	**30.00**	**108**	P	**P**	**14 00 01.9**	**+0.8**
	comp=Z,69nm,0.8s,comp=Z,548nm						
BNSI	**Bone**	**30.46**	**119**	P	**P**	**14 00 06.3**	**+1.2**
	comp=Z,68nm,0.8s						
KAPI	**Kappang**

TLY pP **pP** **14 02 11.3 -0.8**
comp=Z,2.5nm,0.4s,baz=192,slow=8.0,SNR=3.2
TLY LR LR 14 21 03.7
comp=Z,426nm,20.9s,baz=316,slow=39
KURBB Kurchatov Arra 41.44 345 P **P** **14 01 38.6 +0.6**
comp=Z,1.1nm,0.6s,baz=164,slow=7.5,SNR=7.9
KURBB pP **pP** **14 02 12.1 -0.3**
comp=Z,2.0nm,0.7s,baz=166,slow=7.7,SNR=3.6
KURBB PcP **PcP** **14 03 33.1 +0.3**
comp=Z,2.2nm,0.6s,baz=158,slow=2.4,SNR=13
KURK Kurchatov 41.51 346 P **P** **14 01 38.6 +0.1**
KURK *PP **pP** **14 02 12.1 -0.8**
KURK 14 03 33.2
KURK Kurchatov 41.51 346 P **P** **14 01 38.6 +0.1**
KURK pP **pP** **14 02 12.1 -0.8**
KURK PcP **PcP** **14 03 33.1 +0.1**
GEYT Alibeck 41.60 316 P **P** **14 01 41.3 +1.7**
comp=Z,8.3nm,0.5s,baz=142,slow=7.2,SNR=16
GEYT pP **pP** **14 02 14.2 +0.2**
comp=Z,5.9nm,0.6s,baz=134,slow=6.4,SNR=3.2
GEYT LR LR 14 19 23.0
comp=Z,34nm,20.9s,baz=140,slow=36
CN2 Changchun 42.73 34 *eP* **P** **14 01 47.8 -0.8**
ZALV Zalesovo Beam 43.44 352 P **P** **14 01 54.9 +0.8**
comp=Z,2.2nm,0.3s,baz=176,slow=8.3,SNR=23
ZALV pP **pP** **14 02 27.4 -1.3**
comp=Z,8.5nm,0.8s,baz=174,slow=8.9,SNR=12
ZALV ScP **ScP** **14 07 14.5 -1.8**
comp=Z,0.6nm,0.6s,baz=193,slow=5.9,SNR=3.4
MDJ Mudanjiang 45.58 36 P **P** **14 02 10.8 -0.4**
MDJ PMZ
comp=Z,4.0nm,0.9s
MDJ PMZ
comp=Z,57nm,4.1s
BVAR Borovoye Array 45.92 341 PcP **PcP** **14 03 49.1 +1.0**
comp=Z,2.7nm,0.7s,baz=171,slow=3.8,SNR=6.4
BRVK Borovoye 45.98 341 *eP* **P** **14 02 14.0 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
ABKAR Akbulak array 47.30 330 *eP* **P** **14 02 25.1 +0.5**
comp=Z,2.7nm,0.7s
RAYN Ar Rayn 47.42 292 *eP* **P** **14 02 27.9 +2.0**
comp=Z,1.4nm,0.6s
MJAR Matsushiro Arr 47.52 50 P **P** **14 02 27.2 +0.7**
comp=Z,0.6nm,0.5s,baz=239,slow=7.3,SNR=3.5
MJAR ScP **ScP** **14 07 32.2 -1.6**
comp=Z,1.9nm,0.9s,baz=241,slow=4.3,SNR=5.0
AKTO Aktyubinsk 49.02 330 P **P** **14 02 37.9 +0.2**
comp=Z,0.9nm,0.4s,baz=129,slow=1.9,SNR=6.2
AKTO pP **pP** **14 03 12.3 -0.8**
comp=Z,2.7nm,0.6s,baz=137,slow=6.1,SNR=5.6
AKTO PcP **PcP** **14 04 00.2 +1.0**
comp=Z,3.5nm,0.9s,baz=104,slow=4.2,SNR=4.0
NWAO Narrogin (SRO) 49.12 154 P **P** **14 02 38.7 0.0**
comp=Z,34nm,0.7s,baz=326,slow=6.4,SNR=33
BOD Bodaibo 49.28 14 *eP* **P** **14 02 39.2 -0.4**
BOD *e* 14 03 10.4
BOD pmax pmax
comp=Z,5.0nm,1.2s
WRA Warramunga Arr 50.49 127 P **P** **14 02 49.0 -0.3**
comp=Z,19nm,0.6s,baz=306,slow=8.5,SNR=275
WRA ScP **ScP** **14 07 44.5 -2.1**
comp=Z,0.7nm,0.8s,baz=321,slow=4.5,SNR=3.9
WRAB Tennant Creek 50.49 127 P **P** **14 02 49.0 -0.4**
comp=Z,296nm,0.5s,SNR=38
WRAB Tennant Creek 50.49 127 *c iP* **P** **14 02 49.2 -0.2**
WRAB pmax pmax
comp=Z,36nm,0.8s
WRAB Tennant Creek 50.49 127 *eP* **P** **14 02 49.1 -0.2**
comp=Z,22nm,0.6s
WB2 Warramunga Arr 50.50 127 *eP* **P** **14 02 49.1 -0.3**
GNI Garni 51.95 313 *d iP* **P** **14 03 00.9 +0.7**
GNI pmax pmax
comp=Z,12nm,1.2s
ASAR Alice Springs 52.30 131 P **P** **14 03 02.3 -0.5**
comp=Z,5.3nm,0.7s,baz=307,slow=6.6,SNR=126
ASAR pP **pP** **14 03 38.1 -0.4**
comp=Z,1.5nm,0.6s,baz=306,slow=6.1,SNR=2.6
ASAR ScP **ScP** **14 07 51.9 -2.5**
comp=Z,1.1nm,0.9s,baz=306,slow=4.4,SNR=5.2
AS31 Alice Springs 52.30 131 *eP* **P** **14 03 02.0 -0.7**
FORT Forrest 53.07 143 *eP* **P** **14 03 08.5 +0.2**
comp=Z,26nm,0.8s
OPO Ambohidratompo 54.41 238 P **P** **14 03 19.0 +0.7**
comp=Z,4.4nm,0.6s,baz=49,slow=7.0,SNR=5.2
OPO PcP **PcP** **14 04 20.4 +0.2**
comp=Z,5.2nm,0.3s,baz=267,slow=0.5,SNR=7.2
ABPO Ambohimpanom 54.59 237 *eP* **P** **14 03 21.4 +1.7**
ABPO pmax pmax
comp=Z,10.0nm,0.8s
ABPO Ambohimpanom 54.59 237 *eP* **P** **14 03 21.4 +1.7**
comp=Z,10nm,0.8s
KIV Kislovodsk 54.72 317 *eP* **P** **14 03 20.4 +0.2**
KIV *e*PP **pP** **14 03 55.4 -0.9**
KIV *eS* **S** **14 10 49.3 +0.8**
KIV pmax pmax
comp=Z,13nm,1.0s
VRHR Novokhopersk 58.14 324 *eP* **P** **14 03 42.7 -1.4**
VRHR pmax pmax
comp=Z,9.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
BBOO Buckleboo 59.44 139 *eP* **P** **14 03 52.5 -0.8**
comp=E,6.7nm,0.6s
VORD Divnogorie 59.44 323 *eP* **P** **14 03 51.8 -1.3**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=N,9.0nm,1.1s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 59.61 324 *eP* **P** **14 03 52.5 -1.7**
VSR pmax pmax
comp=Z,5.0nm,1.0s
VSR pmax pmax
comp=N,640nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.4s
BRTR Keskin Array B 60.06 310 P **P** **14 03 57.2 -0.6**
comp=E,3.1nm,0.8s,baz=121,slow=8.1,SNR=14
BRTR pP **pP** **14 04 33.2 -1.3**
comp=E,1.5nm,0.7s,baz=128,slow=6.2,SNR=3.8
OBN Obninsk 62.52 327⇓ *eP* **P** **14 04 15.0 +1.3**
OBN *e*PP **pP** **14 04 49.1 -1.6**
OBN *e* 14 06 36.8
OBN *eS* S 14 12 47.0 +18
OBN pmax pmax
comp=Z,8.0nm,0.4s
STKA Stephens Creek 62.61 135 P **P** **14 04 14.6 -0.1**
comp=Z,3.6nm,0.7s,baz=314,slow=7.7,SNR=12
TIXI Tiksi 64.32 12 *eP* **P** **14 04 24.1 -1.2**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
TIXI Tiksi 64.32 12 *eP* **P** **14 04 24.3 -1.0**
comp=Z,6.6nm,0.8s
AKASG Malin Array Be 65.44 321 P **P** **14 04 31.8 -1.1**
comp=Z,0.2nm,0.3s,baz=84,slow=5.4,SNR=6.6
AKASG PcP **PcP** **14 05 03.5 -0.1**
comp=Z,0.5nm,0.6s,baz=85,slow=4.4,SNR=5.1
KWP Kalwaria Pacla 69.37 319 P **P** **14 04 55.9 -1.8**
KWP Kalwaria Pacla 69.37 319 P **P** **14 04 55.9 -1.8**
FINES FINESS Array B 69.76 332 P **P** **14 04 59.7 -0.1**
comp=Z,2.0nm,0.5s,baz=115,slow=8.6,SNR=11
FINES pP **pP** **14 05 35.5 -2.0**
comp=Z,1.3nm,0.5s,baz=106,slow=6.2,SNR=3.4
CRVS Cervenica-Dubn 70.10 318 *eP* **P** **14 05 03.1 +0.9**
CRVS Cervenica-Dubn 70.10 318 *eP* **P** **14 05 03.1 +0.9**
VYHS Vyhne 71.79 317 *eP* **P** **14 05 12.4 0.0**
VYHS Vyhne 71.79 317 *eP* **P** **14 05 12.4 0.0**
ARCES ARCESS Array B 72.20 340 P **P** **14 05 15.2 +0.7**
comp=Z,2.3nm,0.5s,baz=102,slow=7.2,SNR=32
ARCES pP **pP** **14 05 51.6 -0.8**
comp=Z,4.2nm,0.8s,baz=103,slow=7.8,SNR=3.3
ARCES LR LR 14 42 48.2
comp=Z,16nm,18.4s,baz=158,slow=40
KRLC Kraliky 73.23 319 *eP* **P** **14 05 21.8 +0.9**
KRLC Kraliky 73.23 319 *eP* **P** **14 05 21.8 +0.9**
DPC Dobruska-Polom 73.54 319 *eP* **P** **14 05 23.7 +1.0**
DPC Dobruska-Polom 73.54 319 *eP* **P** **14 05 23.7 +1.0**
GERES GERESS Array B 75.21 318 P **P** **14 05 32.9 +0.4**
comp=Z,2.8nm,0.8s,baz=94,slow=5.6,SNR=15
GERES pP **pP** **14 06 09.2 -1.6**
comp=Z,2.7nm,0.7s,baz=94,slow=5.4,SNR=4.8
LBTB Lobatse 75.30 240 *eP* **P** **14 05 34.5 +1.1**
LBTB pmax pmax
comp=Z,11nm,0.9s
LBTB Lobatse 75.30 240 *eP* **P** **14 05 34.5 +1.1**
comp=Z,11nm,0.9s
CLL Collm 75.67 320 *eP* **P** **14 05 35.0 +0.1**
NB2 NORSAR Subarra 76.81 330 P **P** **14 05 40.3 -0.9**
comp=Z,0.9nm,0.7s,baz=96,slow=5.3
NOA NORSAR Array B 76.81 330 P **P** **14 05 40.2 -1.0**
comp=Z,1.1nm,0.7s,baz=122,slow=3.1,SNR=5.0
NOA pP **pP** **14 06 18.1 -1.5**
comp=Z,1.9nm,0.8s,baz=90,slow=5.8,SNR=5.1
KEST Kesra 79.08 304 P **P** **14 05 54.6 +0.3**
comp=Z,2.7nm,0.8s,baz=9.1,slow=2.2,SNR=6.6
KEST pP **pP** **14 06 30.7 -2.3**
comp=Z,3.2nm,0.9s,baz=78,slow=2.3,SNR=5.1
LPG La Plagne 80.10 315 *eP* **P** **14 06 00.1 +0.2**
comp=Z,16nm,0.9s
LPG *e*pP **pP** **14 06 40.3 +1.7**
LPG La Plagne 80.10 315 *eP* **P** **14 06 00.1 +0.2**
LPG *e*PP **pP** **14 06 40.3 +1.7**
LPG pmax pmax
comp=Z,16nm,0.9s
LPG La Plagne 80.10 315 *eP* **P** **14 06 00.1 +0.2**
comp=Z,16nm,0.9s
LPG *e*pP **pP** **14 06 40.3 +1.7**
LPL La Plagne 80.11 315 *eP* **P** **14 06 00.1 +0.2**
comp=Z,24nm,0.9s
LPL *e*pP **pP** **14 06 40.3 +1.7**
LPL La Plagne 80.11 315 *eP* **P** **14 06 00.1 +0.2**
LPL *e*PP **pP** **14 06 40.3 +1.7**
LPL pmax pmax
comp=Z,24nm,0.9s
LPL La Plagne 80.11 315 *eP* **P** **14 06 00.1 +0.2**
comp=Z,24nm,0.9s
LPL *e*pP **pP** **14 06 40.3 +1.7**
FRF La Foret Royal 80.37 313 *eP* **P** **14 06 01.2 +0.2**
comp=Z,28nm,1.0s
FRF La Foret Royal 80.37 313 *eP* **P** **14 06 01.2 +0.2**
FRF pmax pmax
comp=Z,28nm,1.0s
FRF La Foret Royal 80.37 313 *eP* **P** **14 06 01.2 +0.2**
comp=Z,28nm,1.0s
CABF La Chapelle 80.45 316 *eP* **P** **14 06 01.6 +0.1**
comp=Z,11nm,1.1s
CABF La Chapelle 80.45 316 *eP* **P** **14 06 01.6 +0.1**
CABF pmax pmax
comp=Z,11nm,1.1s
CABF La Chapelle 80.45 316 *eP* **P** **14 06 01.6 +0.1**
comp=Z,11nm,1.1s
SMRF Simiane la Rot 81.09 313 *eP* **P** **14 06 05.3 +0.4**
SMRF Simiane la Rot 81.09 313 *eP* **P** **14 06 05.3 +0.4**
BAIF Baives 81.32 319 *eP* **P** **14 06 06.1 +0.2**
BAIF Baives 81.32 319 *eP* **P** **14 06 06.1 +0.2**
BAIF Baives 81.32 319 *eP* **P** **14 06 06.1 +0.2**
VIVF Saint-Julien-l 81.63 314 *eP* **P** **14 06 07.7 0.0**
VIVF Saint-Julien-l 81.63 314 *eP* **P** **14 06 07.7 0.0**
VIVF Saint-Julien-l 81.63 314 *eP* **P** **14 06 07.7 0.0**
SUR Sutherland 81.68 235 P **P** **14 06 10.7 +2.4**
comp=Z,158nm,0.8s,SNR=6.0
LOR Lormes 81.89 317 *eP* **P** **14 06 08.7 -0.3**
comp=Z,15nm,1.0s
LOR Lormes 81.89 317 *eP* **P** **14 06 08.7 -0.3**
LOR pmax pmax
comp=Z,15nm,1.0s
LOR Lormes 81.89 317 *eP* **P** **14 06 08.7 -0.3**
comp=Z,15nm,1.0s
SMF Signal de Mont 81.98 316 *eP* **P** **14 06 09.2 -0.3**
comp=Z,10nm,0.8s
SMF Signal de Mont 81.98 316 *eP* **P** **14 06 09.2 -0.3**
SMF pmax pmax
comp=Z,10.0nm,0.8s
SMF Signal de Mont 81.98 316 *eP* **P** **14 06 09.2 -0.3**
comp=Z,10nm,0.8s
SSF Saint Saulge 82.16 316 *eP* **P** **14 06 10.2 -0.2**
SSF Saint Saulge 82.16 316 *eP* **P** **14 06 10.2 -0.2**
SSF Saint Saulge 82.16 316 *eP* **P** **14 06 10.2 -0.2**
AVF Avril sur Loir 82.30 316 *eP* **P** **14 06 10.8 -0.3**
AVF Avril sur Loir 82.30 316 *eP* **P** **14 06 10.8 -0.3**
AVF Avril sur Loir 82.30 316 *eP* **P** **14 06 10.8 -0.3**
CAF Calviac 83.46 314 *eP* **P** **14 06 17.4 +0.2**
CAF Calviac 83.46 314 *eP* **P** **14 06 17.4 +0.2**
CAF Calviac 83.46 314 *eP* **P** **14 06 17.4 +0.2**
RJF Les Rejaudoux 83.78 315 *eP* **P** **14 06 19.2 +0.4**
RJF Les Rejaudoux 83.78 315 *eP* **P** **14 06 19.2 +0.4**
RJF Les Rejaudoux 83.78 315 *eP* **P** **14 06 19.2 +0.4**
MFF Saint Martin d 84.70 316 *eP* **P** **14 06 23.3 -0.1**
comp=Z,6.9nm,0.8s
MFF Saint Martin d 84.70 316 *eP* **P** **14 06 23.3 -0.1**
MFF pmax pmax
comp=Z,7.0nm,0.8s
MFF Saint Martin d 84.70 316 *eP* **P** **14 06 23.3 -0.1**
comp=Z,6.9nm,0.8s
ETSF Etsaut 85.67 313 *eP* **P** **14 06 29.7 +1.3**
comp=Z,5.9nm,0.8s
ETSF Etsaut 85.67 313 *eP* **P** **14 06 29.7 +1.3**
ETSF pmax pmax
comp=Z,6.0nm,0.8s
ETSF Etsaut 85.67 313 *eP* **P** **14 06 29.7 +1.3**
comp=Z,5.9nm,0.8s
ESDC Sonseca Array 88.85 310 P **P** **14 06 44.0 +0.3**
comp=Z,0.4nm,0.4s,baz=59,slow=4.7,SNR=6.4
TORD Torodi Ar. Bea 89.40 283 P **P** **14 06 46.9 +0.2**
comp=Z,2.0nm,0.8s,baz=84,slow=4.5,SNR=14
TORD pP **pP** **14 07 25.8 -0.3**
comp=Z,1.9nm,1.0s,baz=76,slow=3.7,SNR=6.3
VNDA Vanda 96.04 168 P **P** **14 07 15.2 -0.6**
comp=Z,1.8nm,0.7s,baz=291,slow=6.1,SNR=9.6
YKA Yellowknife Ar 103.55 13 PKKPbc PKKPbc 14 23 41.5 -3.0
comp=Z,0.5nm,0.7s,baz=154,slow=2.6,SNR=10.0
A20A Cobblestone Ra 117.45 16 P **PKPdf** **14 12 34.3 +0.1**
baz=117
EGMT Eagleton 117.71 18 P **PKPdf** **14 12 35.0 +0.2**
baz=118
A22A Carney Farms, 117.86 14 P **PKPdf** **14 12 35.2 +0.1**
baz=118
C19A Slack Wire Ran 118.17 17 P **PKPdf** **14 12 36.1 +0.4**
baz=118
ULM Lac du Bonnet 118.48 7 PKP **PKPdf** **14 12 35.4 -0.6**
comp=Z,3.1nm,0.7s,baz=330,slow=3.7,SNR=7.8
C20A Veseth Ranch, 118.49 16 P **PKPdf** **14 12 36.4 +0.1**
baz=118
C23A Lambert 119.14 14 P **PKPdf** **14 12 38.1 +0.6**
baz=119
D22A Cohagen 119.50 15 P **PKPdf** **14 12 39.1 +0.9**
baz=119
G20A Bridger 120.69 18 P **PKPdf** **14 12 41.2 +0.5**
baz=120
EYMN Ely 121.17 4 *e*PKPdf **PKPdf** **14 12 41.0 -0.4**
F25A Bowman 121.32 14 P **PKPdf** **14 12 42.4 +0.7**
baz=121
F27A Lemmon 121.69 13 P **PKPdf** **14 12 42.8 +0.3**
baz=121
G26A Maurine 122.11 13 P **PKPdf** **14 12 43.3 0.0**
baz=122
H24A Dirks Ranch, A 122.15 15 P **PKPdf** **14 12 43.4 -0.1**
baz=122
G27A Dupree 122.18 13 P **PKPdf** **14 12 43.9 +0.4**
baz=122
I21A Big Trails, Te 122.25 18 P **PKPdf** **14 12 43.9 +0.1**
baz=122
J20A Shoshoni 122.42 19 P **PKPdf** **14 12 44.5 +0.4**
baz=122
PDAR Pinedale Array 122.47 20 PKP **PKPdf** **14 12 44.2 -0.1**
comp=Z,2.3nm,0.8s,baz=51,slow=1.3,SNR=18
PDAR pPKP **pPKPdf** **14 13 24.2 -1.5**
comp=Z,0.6nm,0.7s,baz=302,slow=2.0,SNR=2.9
PDAR PKKPbc **PKKPbc** **14 22 38.5 -2.4**
comp=Z,0.5nm,0.5s,baz=147,slow=7.4,SNR=5.7
NVAR Mina Array Bea 122.52 30 PKP **PKPdf** **14 12 45.3 +0.8**
comp=Z,1.0nm,0.7s,baz=322,slow=2.5,SNR=10.0
NVAR pPKP **pPKPdf** **14 13 25.2 -0.7**
comp=Z,0.7nm,0.8s,baz=281,slow=1.5,SNR=3.2
NVAR SKP 14 16 05.8
comp=Z,0.4nm,0.8s,baz=343,slow=2.7,SNR=3.7
NVAR PKKPbc **PKKPbc** **14 22 40.2 -0.2**
comp=Z,0.6nm,0.8s,baz=140,slow=5.3,SNR=5.6
J22A Midwest 122.86 17 P **PKPdf** **14 12 44.6 -0.3**
baz=123
K21A Alcova 123.33 18 P **PKPdf** **14 12 45.9 0.0**
baz=123
DUG Dugway, Tooele 123.50 24 P **PKPdf** **14 12 46.9 +0.7**
baz=123
R11A Troy Canyon, C 123.85 28 P **PKPdf** **14 12 47.6 +0.5**
baz=124
I30A Oacoma 124.10 11 P **PKPdf** **14 12 48.0 +0.9**
baz=124
L23A Garrett 124.27 17 P **PKPdf** **14 12 47.3 -0.4**
baz=124
N20A Spence Gulch, 124.63 20 P **PKPdf** **14 12 48.5 0.0**
baz=124
ECSD EROS Data Cent 124.77 9 P **PKPdf** **14 12 48.4 0.0**
baz=124
MPMC Manual Prospec 124.78 31 P **PKPdf** **14 12 49.6 +0.7**
baz=125
MVU Marysvale 125.19 25 *e*PKPdf **PKPdf** **14 12 50.9 +1.3**
O20A White River Ci 125.26 20 P **PKPdf** **14 12 49.6 -0.1**
baz=125
M26A McRoberts Ranc 125.58 15 P **PKPdf** **14 12 50.2 0.0**
baz=125
O22A Kremmling 125.80 19 P **PKPdf** **14 12 50.8 0.0**
baz=126
O23A Lake Granby, G 125.95 18 P **PKPdf** **14 12 51.5 +0.4**
baz=126
BFSC Mount Baldy Ra 126.11 32 P **PKPdf** **14 12 51.5 +0.1**
baz=126
P22A Eagle 126.24 19 P **PKPdf** **14 12 52.5 +0.9**
baz=126
SDCO Great Sand Dun 128.33 19 P **PKPdf** **14 12 56.1 +0.3**
baz=128
P31A Stockton 128.33 13 P **PKPdf** **14 12 56.2 +0.9**
baz=128
ANMO Albuquerque 130.53 22 *i* PKIKP **PKPdf** **14 13 01.2 +1.3**
ANMO pmax pmax
comp=Z,28nm,2.5s
Z29A Hungry Hill Ra 133.65 18 P **PKPdf** **14 13 06.4 +0.7**
baz=133
MNTX Cornudas Mount 133.83 23 P **PKPdf** **14 13 06.6 +0.6**
baz=134
429A Davenport Ranc 136.04 19 P **PKPdf** **14 13 10.7 +0.5**
baz=136
333A Richland Sprin 136.24 16 P **PKPdf** **14 13 10.7 +0.2**
baz=136
TXAR Lajitas Array 136.60 22 PKP **PKPdf** **14 13 12.0 +0.7**
comp=Z,0.9nm,0.8s,baz=5.7,slow=1.3,SNR=6.9
TXAR SKP 14 16 28.9
comp=Z,3.1nm,0.9s,baz=264,slow=2.3,SNR=17
530A J-C Ranch, Com 136.66 19 P **PKPdf** **14 13 11.7 +0.4**
baz=136
JCT Junction City 136.81 17 *e*PKIKP **PKPdf** **14 13 13.5 +1.9**
JCT Junction City 136.81 17 P **PKPdf** **14 13 11.9 +0.3**
baz=137
JCT Junction City 136.81 17 *e*PKPdf **PKPdf** **14 13 13.5 +1.9**
BDFB Brasilia 142.42 259 PKhKP PKPpre 14 13 18.6
comp=Z,3.1nm,0.5s,baz=59,slow=2.2,SNR=5.4
CELP Cerrillos 145.15 326 *e*PKP **PKPdf** **14 13 27.1 +0.3**
TRQA Tornquist 145.29 215 *e*PKPdf **PKPdf** **14 13 26.3 -0.1**
PLCA Paso Flores 147.23 203 PKPbc **PKPab** **14 13 33.5 -0.7**
comp=Z,9.2nm,0.7s,baz=153,slow=0.3,SNR=10
CLCH Cerro Calan 153.37 211 *eP* PKPdf 14 13 30.9 -8.7
CLCH *eP* PKPdf 14 13 31.5 -8.0
CLCH *eS* **PKPbc** **14 13 46.5 -0.8**
CLCH *eS* **PKPbc** **14 13 47.4 +0.2**
CLCH AML AML 14 13 47.9
comp=E,359nm,0.5s
RCDM Rinconada Maip 153.43 210 *eP* PKPdf 14 13 32.5 -7.1
RCDM *eS* **PKPbc** **14 13 49.8 +2.5**
RCDM AML AML 14 13 50.9
comp=E,998nm,0.1s
PEL Peldehue 153.64 211 *eP* PKPdf 14 13 31.4 -8.5
PEL *eS* **PKPbc** **14 13 47.6 -0.2**
PEL AML AML 14 13 48.7
comp=E,386nm,0.3s
LPAZ La Paz 161.51 251 PKP **PKPdf** **14 13 51.8 +1.0**
comp=E,1.8nm,0.7s,baz=28,slow=1.3,SNR=8.1
LPAZ PKPab **PKPab** **14 14 36.4 +0.3**
comp=E,2.7nm,0.8s,baz=105,slow=6.2,SNR=8.4

IDC 19 14:03:50.4±1.8, 1.15N×124.96E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=182.0km s-min=24.4km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.89**	**157**	P	P	14 08 54.7	-1.2
	1.1nm,0.4s,baz=335,slow=10,SNR=22						
ASAR	**Alice Springs**	**26.16**	**161**	P	P	14 09 27.5	+0.9
	0.4nm,0.3s,baz=340,slow=8.8,SNR=16						
STKA	**Stephens Creek**	**36.44**	**156**	P	P	14 10 56.9	-0.2
	1.2nm,0.7s,baz=318,slow=9.7,SNR=3.9						
MKAR	**Makanchi Array**	**58.70**	**327**	P	P	14 13 49.8	0.0
	0.2nm,0.5s,baz=125,slow=6.0,SNR=5.1						

VIE 19 14:03:58.0±0.2, 49.11N×16.87E, h0km, mb1.1/1, ML1.9/3, 1C-1D, Error ellipse: s-maj=2.5km s-min=1.5km az=131.0 19 km SE of Brno Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**1.36**	**210**	⇑ *i* Pg	Pg	14 04 24.2	0.0
CONA				⇓ *i* Sg	Sn	14 04 43.0	-0.2
	4.8nm,0.3s						

*IDC **19** 14:12:35.9±1.7, 5.98S×130.85E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=52.5km s-min=26.2km az=69.0*

ISC 19 14:12:37.6±1.6, 6.1S±0.1×130.9E±0.2, h10km, n12, σ1§16/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.43**	**23**	P	Pg	14 13 46.4	+3.0
	baz=3.9,SNR=7.2						
FAKI				S	Sg	14 14 30.8	+3.0
	baz=3.9,SNR=6.7						
MTN	**Manton Dam**	**6.72**	**178**	P	Pn	14 14 22.2	+5.8
	baz=6.4,SNR=17						
MTN				S	**Sn**	**14 15 31.1**	**-2.0**
	baz=6.4,SNR=11						
KDU	**Kakadu**	**6.74**	**167**	P	Pn	14 14 22.9	+6.1
	baz=6.5,SNR=70						
KDU				S	**Sn**	**14 15 33.7**	**0.0**
	baz=6.5,SNR=9.8						
BATI	**Baumata**	**8.24**	**240**	Pn	**Pn**	**14 14 38.0**	**+0.7**
	1.3nm,0.3s,baz=107,slow=19,SNR=5.6						
BATI				Sn	Sn	14 16 02.2	-8.4
	1.6nm,0.3s,baz=99,slow=19,SNR=3.7						
KNRA	**Kununurra**	**9.76**	**192**	P	**Pn**	**14 14 58.8**	**+0.6**
	baz=9.4,SNR=14						
KNRA				S	Sn	14 16 34.6	-13
	baz=9.4,SNR=7.9						
WRA	**Warramunga Arr**	**14.18**	**167**	Pn	**Pn**	**14 15 59.6**	**+0.9**
	0.4nm,0.3s,baz=348,slow=14,SNR=35						
WRA				Sn	Sn	14 18 26.6	-10
	1.6nm,0.3s,baz=331,slow=24,SNR=18						
COEN	**Coen**	**14.40**	**124**	P	P	14 16 12.7	+3.9
	baz=14,SNR=8.9						
ASAR	**Alice Springs**	**17.72**	**171**	P	**P**	**14 16 45.1**	**-0.5**
	0.4nm,0.3s,baz=347,slow=13,SNR=49						
ASAR				S	Sn	14 19 48.7	-14
	0.2nm,0.3s,baz=347,slow=27,SNR=7.9						
WRKA	**Warakurna**	**19.01**	**187**	P	**P**	**14 16 59.3**	**-0.4**
	baz=19,SNR=5.8						
STKA	**Stephens Creek**	**27.55**	**160**	P	**P**	**14 18 25.7**	**+0.9**
	0.5nm,0.3s,baz=323,slow=10,SNR=2.9						
JNU	**Nakatsue**	**38.99**	**360**	LR	LR	14 34 47.5	
	comp=Z,25nm,21.2s,baz=239,slow=34						
MKAR	**Makanchi Array**	**67.95**	**326**	P	**P**	**14 23 35.9**	**-0.9**
	0.5nm,0.6s,baz=128,slow=7.1,SNR=6.9						

IDC 19 14:19:20.2±16.0, 2.47N×123.79E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/35, mbtmp3.6/3, Error ellipse: s-maj=308.4km s-min=264.0km az=76.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.57**	**156**	P	P	14 24 41.2	-0.9
	0.8nm,0.4s,baz=335,slow=9.6,SNR=7.8						
ASAR	**Alice Springs**	**27.78**	**160**	P	P	14 25 11.1	0.0
	0.5nm,0.6s,baz=334,slow=9.0,SNR=16						
STKA	**Stephens Creek**	**38.12**	**155**	P	P	14 26 42.0	+0.9
	0.4nm,0.6s,baz=315,slow=10.0,SNR=3.0						

*ISCJB **19** 14:39:11.8±0.5, 32.15N±0.02×115.15W±0.03, h13km±3km, Error ellipse: s-maj=4.4km s-min=3.5km az=18.6*

*NEIC **19** 14:39:12.3, 32°.08N×115°.18W, h10km, ML3.2(PAS), After PAS.*
*ECX **19** 14:39:13.9±0.5, 32°.13N×115°.20W, h8km, MD3.1, ML3.3*
*MEX **19** 14:39:14.4±0.5, 32°.20N×115°.14W, h10km, MD3.9*

ISC 19 14:39:11.9±0.9, 32°.14N±0°.02×115°.18W±0°.03, h13km±6km, n30, σ0966/45, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.16**	**199**	⇓*eP*	**Pg**	**14 39 15.7**	**0.0**
EMX				*eS*	**Sg**	**14 39 18.4**	**+0.1**
MBIG	**Mexicali**	**0.27**	**357**	*eP*	**Pb**	**14 39 18.9**	**+0.3**
MBIG				*i* S	**Sg**	**14 39 21.6**	**+0.1**
CPBX	**Cerro Prieto**	**0.30**	**340**	*eP*	**Pg**	**14 39 18.4**	**+0.2**
CPBX				*eS*	**Sg**	**14 39 22.7**	**+0.4**
CPBX				AML	AML	14 39 25.0	
	comp=E,14μm,0.2s						
CPBX				*e*		14 39 25.0	
CPBX	**Cerro Prieto**	**0.30**	**340**	*eP*	**Pb**	**14 39 19.2**	**+0.1**
CPBX				*i* S	**Sg**	**14 39 21.0**	**-1.3**
ECBX	**El Chinero**	**0.67**	**170**	*eP*	**Pg**	**14 39 25.0**	**0.0**
ECBX				*eS*	**Sg**	**14 39 33.9**	**0.0**
RDX	**Rancho Dawling**	**0.68**	**252**	⇑*eP*	**Pb**	**14 39 26.0**	**+0.3**
RDX				*eS*	**Sg**	**14 39 34.8**	**+0.7**
RDX				AML	AML	14 39 36.7	
	comp=N,1μm,0.5s						
RDX				⇑*e*		14 39 36.7	
YMD	**Yuma Desert**	**0.68**	**52**	⇓*iP*	**Pb**	**14 39 25.8**	**+0.1**
SGL	**Mount Signal**	**0.69**	**318**	⇓*iP*	**Pg**	**14 39 25.5**	**+0.2**
YUH	**Yuha Desert**	**0.81**	**309**	⇑*iP*	**Pb**	**14 39 27.8**	**0.0**
RMX	**La Rumorosa**	**0.89**	**302**	⇑*eP*	**Pg**	**14 39 29.3**	**+0.1**
RMX				*eS*	**Sb**	**14 39 41.6**	**+0.5**
RMX				⇓*e*		14 39 42.4	
RMX				AML	AML	14 39 42.4	
	comp=N,882nm,0.1s						
GLA	**Glamis**	**0.96**	**18**	*eP*	**Pb**	**14 39 29.3**	**-1.2**
GLA				*eS*	**Sb**	**14 39 42.9**	**-0.2**
SPIG	**San Pedro Mart**	**1.11**	**193**	*eP*	**Pb**	**14 39 33.0**	**-0.2**
SPIG				*i* S	**Sg**	**14 39 48.7**	**+0.7**
SPIG	**San Pedro Mart**	**1.11**	**193**	*eP*	**Pb**	**14 39 33.0**	**-0.2**
SPIG	**San Pedro Mart**	**1.11**	**193**	*eP*	**Pb**	**14 39 33.0**	**-0.2**
SPX	**San Pedro Mart**	**1.11**	**192**	*eP*	**Pb**	**14 39 33.0**	**-0.2**
ZAX	**El Zacaton**	**1.12**	**237**	*eP*	**Pn**	**14 39 33.3**	**0.0**
ZAX				*eS*	**Sg**	**14 39 48.1**	**+0.1**
CBX	**Cerro Bola**	**1.27**	**278**	*eP*	**Pn**	**14 39 35.0**	**-0.4**
CBX				*i* S	**Sb**	**14 39 50.9**	**-1.1**
CBX	**Cerro Bola**	**1.27**	**278**	*eP*	**Pb**	**14 39 35.8**	**+0.1**
CBX				*eS*	**Sn**	**14 39 52.4**	**+0.1**
CBX				*e*		14 39 53.8	
CBX				AML	AML	14 39 53.8	
	comp=E,843nm,0.2s						
CBX				⇑*e*		14 39 54.0	
CBX				AML	AML	14 39 54.0	
	comp=N,583nm,0.5s						
CBX	**Cerro Bola**	**1.27**	**278**	*eP*	**Pn**	**14 39 35.0**	**-0.4**
ECNX	**Esteban Cantu**	**1.29**	**249**	*eP*	**Pb**	**14 39 36.3**	**+0.2**
ECNX				*eS*	**Sn**	**14 39 53.2**	**+0.3**
PBX	**Punta Banda**	**1.37**	**254**	*eP*	**Pb**	**14 39 37.1**	**-0.3**
PBX				*eS*	**Sb**	**14 39 55.1**	**+0.3**
BAR	**Barrett**	**1.37**	**294**	*eP*	**Pn**	**14 39 36.2**	**-0.5**
BAR				*e*		14 39 37.7	
BAR				*eSn*	**Sn**	**14 39 53.8**	**-1.0**
PFO	**Pinyon Flats O**	**1.82**	**324**	*ePn*	**Pn**	**14 39 41.7**	**-1.2**
214A	**Organ Pipe Nat**	**2.02**	**94**	*ePn*	**Pn**	**14 39 44.2**	**-1.5**
LDFC	**Landfair**	**2.94**	**1**	*ePn*	**Pn**	**14 39 58.5**	**+0.1**
GSC	**Goldstone, Bar**	**3.44**	**337**	Pn	**Pn**	**14 40 05.6**	**+0.5**
TUC	**Tucson**	**3.73**	**86**	*ePn*	**Pn**	**14 40 10.4**	**+1.1**
SHPR	**Sheep Range**	**4.36**	**0**	*ePn*	**Pn**	**14 40 19.2**	**+1.3**
WUAZ	**Wupatki**	**4.63**	**42**	*ePn*	**Pn**	**14 40 23.4**	**+1.7**
121A	**Cookes Peak, D**	**6.27**	**84**	*ePn*	**Pn**	**14 40 44.0**	**-0.3**
	comp=N,3.1nm,0.3s						

*IDC **19** 14:42:08.3±1.8, 36°.21N×24°.10E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/26, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=51.5km s-min=25.8km az=127.0*
*CSEM **19** 14:42:19.1±0.4, 37°.36N×20°.15E, h2km, MD3.7, Error ellipse: s-maj=8.5km s-min=4.0km az=57.0*
*THE **19** 14:42:19.6, 37°.38N×20°.18E, h0km±3km, ML3.3/4, Error ellipse: s-maj=4.8km s-min=1.8km az=249.0*
*ATH **19** 14:42:21.5, 37°.43N×20°.35E, h20km±2km, MD3.7/32*

ISC 19 14:42:19.2±1.6, 37°.37N±0°.04×20°.19E±0°.05, h1km±11km, n122, σ0973/134, mb3.4/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.67**	**100**	P	**Pb**	**14 42 33.1**	**-0.5**
SFD				S	**Sg**	**14 42 41.5**	**+0.9**
SFD	**Strofades**	**0.67**	**100**	*ePN*	**Pb**	**14 42 33.3**	**-0.3**
SFD	**Strofades**	**0.67**	**100**	P	**Pb**	**14 42 33.1**	**-0.5**
SFD				S	**Sg**	**14 42 41.5**	**+0.9**
VLS	**Valsamata**	**0.87**	**21**	P	**Pg**	**14 42 35.1**	**-0.8**
VLS				S	**Sg**	**14 42 47.4**	**+0.2**
VLS	**Valsamata**	**0.87**	**21**	*ePB*	**Pg**	**14 42 35.8**	**-0.1**
VLS	**Valsamata**	**0.87**	**21**	P	**Pg**	**14 42 35.1**	**-0.8**
VLS	**Valsamata**	**0.87**	**21**	*ePb*	**Pg**	**14 42 35.8**	**-0.1**
VLS				S	**Sg**	**14 42 47.4**	**+0.2**
KFL	**Anninata**	**0.88**	**32**	P	**Pg**	**14 42 35.2**	**-0.9**
KFL				S	**Sg**	**14 42 48.3**	**+0.8**
KFL	**Anninata**	**0.88**	**32**	P	**Pg**	**14 42 35.2**	**-0.9**
KFL				S	**Sg**	**14 42 48.3**	**+0.8**
AMT	**Artemida-Makis**	**1.22**	**82**	P	**Pg**	**14 42 42.7**	**+0.1**
AMT	**Artemida-Makis**	**1.22**	**82**	*ePN*	**Pg**	**14 42 42.0**	**-0.6**
AMT	**Artemida-Makis**	**1.22**	**82**	*ePn*	**Pg**	**14 42 42.0**	**-0.6**
AMT	**Artemida-Makis**	**1.22**	**82**	P	**Pg**	**14 42 42.7**	**+0.1**
RLS	**Riolos of Patr**	**1.22**	**55**	P	**Pg**	**14 42 42.4**	**-0.3**
RLS				S	**Sn**	**14 43 01.4**	**+0.8**
RLS	**Riolos of Patr**	**1.22**	**55**	*ePN*	**Pg**	**14 42 42.6**	**-0.1**
RLS	**Riolos of Patr**	**1.22**	**55**	P	**Pg**	**14 42 42.4**	**-0.3**
RLS				S	**Sn**	**14 43 01.4**	**+0.8**
PYL	**PYLOS**	**1.32**	**110**	P	**Pg**	**14 42 44.0**	**-0.6**
PYL	**PYLOS**	**1.32**	**110**	*ePN*	**Pg**	**14 42 44.6**	**0.0**
PYL	**PYLOS**	**1.32**	**110**	P	**Pg**	**14 42 44.0**	**-0.6**
PYL	**PYLOS**	**1.32**	**110**	*ePn*	**Pg**	**14 42 44.6**	**0.0**
DRO	**Drossia**	**1.34**	**64**	P	**Pg**	**14 42 44.3**	**-0.6**
DRO				S	**Sn**	**14 43 03.6**	**+0.1**
DRO	**Drossia**	**1.34**	**64**	*ePN*	**Pg**	**14 42 44.6**	**-0.3**
DRO	**Drossia**	**1.34**	**64**	P	**Pg**	**14 42 44.3**	**-0.6**
DRO	**Drossia**	**1.34**	**64**	*ePn*	**Pg**	**14 42 44.3**	**-0.3**
DRO				S	**Sn**	**14 43 03.6**	**+0.1**
ITM	**Ithomi**	**1.40**	**97**	P	**Pn**	**14 42 45.2**	**-0.6**
ITM	**Ithomi**	**1.40**	**97**	*ePN*	**Pn**	**14 42 45.4**	**-0.4**
ITM	**Ithomi**	**1.40**	**97**	P	**Pn**	**14 42 45.2**	**-0.6**
PDO	**Prodromos**	**1.46**	**32**	P	**Pn**	**14 42 46.8**	**+0.1**
PDO	**Prodromos**	**1.46**	**32**	*ePN*	**Pg**	**14 42 47.3**	**+0.1**
PDO	**Prodromos**	**1.46**	**32**	P	**Pn**	**14 42 46.8**	**+0.1**
PDO	**Prodromos**	**1.46**	**32**	*ePn*	**Pg**	**14 42 47.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.69**	**66**	P	**Pn**	**14 42 49.7**	**-0.2**
KLV				S	**Sg**	**14 43 14.3**	**+0.7**
KLV	**Kalavryta, Ach**	**1.69**	**66**	*ePN*	**Pn**	**14 42 49.8**	**-0.2**
KLV	**Kalavryta, Ach**	**1.69**	**66**	*ePn*	**Pn**	**14 42 49.8**	**-0.2**
KLV				S	**Sg**	**14 43 14.3**	**+0.7**
EFP	**Efpalio**	**1.72**	**51**	P	**Pn**	**14 42 50.9**	**+0.6**
EFP				S	**Sg**	**14 43 15.7**	**+1.2**
EFP	**Efpalio**	**1.72**	**51**	*ePN*	**Pn**	**14 42 50.9**	**+0.6**
EFP	**Efpalio**	**1.72**	**51**	P	**Pn**	**14 42 50.9**	**+0.6**
VLX	**Vlachokerasia**	**1.74**	**89**	*ePN*	**Pn**	**14 42 50.6**	**-0.1**
VLX	**Vlachokerasia**	**1.74**	**89**	*ePn*	**Pn**	**14 42 50.6**	**-0.1**
GUR	**Goura**	**1.80**	**71**	P	**Pn**	**14 42 51.7**	**+0.2**
GUR	**Goura**	**1.80**	**71**	*ePN*	**Pn**	**14 42 51.7**	**+0.2**
GUR	**Goura**	**1.80**	**71**	P	**Pn**	**14 42 51.7**	**+0.2**
KALE	**Kalithea**	**1.85**	**56**	*ePN*	**Pn**	**14 42 52.8**	**+0.7**
KALE	**Kalithea**	**1.85**	**56**	*ePn*	**Pn**	**14 42 52.8**	**+0.7**
DSL	**Palaion Diasel**	**1.90**	**22**	P	**Pn**	**14 42 53.1**	**+0.3**
DSL	**Palaion Diasel**	**1.90**	**22**	*ePN*	**Pn**	**14 42 53.2**	**+0.4**
DSL	**Palaion Diasel**	**1.90**	**22**	P	**Pn**	**14 42 53.1**	**+0.3**
EVR	**Evrytania**	**2.00**	**39**	P	**Pn**	**14 42 55.2**	**+0.9**
EVR	**Evrytania**	**2.00**	**39**	*ePN*	**Pb**	**14 42 55.8**	**-0.7**
EVR	**Evrytania**	**2.00**	**39**	P	**Pn**	**14 42 55.2**	**+0.9**
EVR	**Evrytania**	**2.00**	**39**	*ePn*	**Pb**	**14 42 55.8**	**-0.7**
DSF	**Desfina**	**2.12**	**60**	P	**Pn**	**14 42 56.0**	**+0.1**
DSF	**Desfina**	**2.12**	**60**	*ePN*	**Pn**	**14 42 56.3**	**+0.4**
DSF	**Desfina**	**2.12**	**60**	P	**Pn**	**14 42 56.0**	**+0.1**
DSF	**Desfina**	**2.12**	**60**	*ePn*	**Pn**	**14 42 56.3**	**+0.4**
IGT	**Igoumenitsa**	**2.17**	**3**	*ePN*	**Pg**	**14 43 01.4**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.25**	**42**	*ePN*	**Pn**	**14 42 58.9**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.25**	**42**	*ePn*	**Pn**	**14 42 58.9**	**+1.4**
LTK	**Loutraki**	**2.30**	**73**	P	**Pn**	**14 42 57.7**	**-0.5**
LTK	**Loutraki**	**2.30**	**73**	*ePb*	**Pn**	**14 42 58.4**	**+0.2**
JAN	**Janina**	**2.34**	**13**	*ePB*	**Pb**	**14 43 02.0**	**-0.3**
JAN	**Janina**	**2.34**	**13**	*ePb*	**Pb**	**14 43 02.0**	**-0.3**
AGG	**Agios Georgios**	**2.36**	**45**	P	**Pn**	**14 42 59.8**	**+0.6**
AGG	**Agios Georgios**	**2.36**	**45**	*ePN*	**Pn**	**14 42 59.7**	**+0.6**
AGG	**Agios Georgios**	**2.36**	**45**	*ePn*	**Pn**	**14 42 59.7**	**+0.6**
KEK	**Kerkira**	**2.36**	**353**	*ePB*	**Pb**	**14 43 01.5**	**-1.1**
KEK	**Kerkira**	**2.36**	**353**	*ePb*	**Pb**	**14 43 01.5**	**-1.1**
AXAR	**Agios Charalam**	**2.40**	**54**	*ePN*	**Pn**	**14 43 01.1**	**+1.5**
AXAR	**Agios Charalam**	**2.40**	**54**	*ePn*	**Pn**	**14 43 01.1**	**+1.5**
KYTH	**Kithira**	**2.52**	**115**	P	**Pn**	**14 43 01.7**	**+0.3**
KYTH	**Kithira**	**2.52**	**115**	*ePN*	**Pn**	**14 43 02.6**	**+1.2**
KYTH	**Kithira**	**2.52**	**115**	P	**Pn**	**14 43 01.7**	**+0.3**
KYTH	**Kithira**	**2.52**	**115**	*ePn*	**Pn**	**14 43 02.6**	**+1.2**
LKR	**Lokris**	**2.56**	**59**	P	**Pn**	**14 43 01.4**	**-0.4**
LKR	**Lokris**	**2.56**	**59**	*ePB*	**Pn**	**14 43 02.9**	**+1.1**
LKR	**Lokris**	**2.56**	**59**	P	**Pn**	**14 43 01.4**	**-0.4**
LKR	**Lokris**	**2.56**	**59**	*ePb*	**Pn**	**14 43 02.9**	**+1.1**
THL	**Klokotos Trika**	**2.62**	**33**	P	**Pn**	**14 43 03.1**	**+0.5**
THL	**Klokotos Trika**	**2.62**	**33**	P	**Pn**	**14 43 03.1**	**+0.5**
SMIA	**Simia**	**2.82**	**57**	*ePN*	**Pn**	**14 43 06.1**	**+0.7**
SMIA	**Simia**	**2.82**	**57**	*ePn*	**Pn**	**14 43 06.1**	**+0.7**
MRKA	**Markates**	**3.00**	**62**	*ePN*	**Pn**	**14 43 08.6**	**+0.8**
MRKA	**Markates**	**3.00**	**62**	*ePn*	**Pn**	**14 43 08.6**	**+0.8**
NEO	**Neokhori**	**3.07**	**50**	*ePN*	**Pn**	**14 43 09.8**	**+0.9**
NEO	**Neokhori**	**3.07**	**50**	*ePn*	**Pn**	**14 43 09.8**	**+0.9**
XOR	**Xorichti**	**3.09**	**49**	*ePN*	**Pn**	**14 43 09.8**	**+0.7**
XOR	**Xorichti**	**3.09**	**49**	*ePn*	**Pn**	**14 43 09.8**	**+0.7**
NEST	**Nestorio**	**3.12**	**12**	*ePN*	**Pn**	**14 43 11.2**	**+1.6**
NEST	**Nestorio**	**3.12**	**12**	*ePn*	**Pn**	**14 43 11.2**	**+1.6**
KZN	**Kozani**	**3.19**	**22**	*ePB*	**Pn**	**14 43 13.0**	**+2.5**
KZN	**Kozani**	**3.19**	**22**	*ePb*	**Pn**	**14 43 13.0**	**+2.5**
LIT	**Litokhoron**	**3.27**	**33**	P	**Pn**	**14 43 11.4**	**-0.1**
LIT	**Litokhoron**	**3.27**	**33**	*ePN*	**Pn**	**14 43 11.5**	**-0.1**
LIT	**Litokhoron**	**3.27**	**33**	*ePn*	**Pn**	**14 43 11.5**	**-0.1**
FNA	**Florina**	**3.54**	**15**	*ePN*	**Pn**	**14 43 15.7**	**+0.4**
FNA	**Florina**	**3.54**	**15**	*ePn*	**Pn**	**14 43 15.7**	**+0.4**
OHR	**Ohrid**	**3.77**	**7**	*i* Pn	**Pn**	**14 43 19.1**	**+0.6**
OHR	**Ohrid**	**3.77**	**7**	*i* Pn	**Pn**	**14 43 19.1**	**+0.6**
PLG	**Polygyros**	**3.93**	**39**	*ePN*	**Pn**	**14 43 21.6**	**+0.9**
PLG	**Polygyros**	**3.93**	**39**	*ePn*	**Pn**	**14 43 21.6**	**+0.9**
HORT	**Hortiatis**	**3.94**	**34**	*ePN*	**Pn**	**14 43 20.5**	**-0.4**
HORT	**Hortiatis**	**3.94**	**34**	*ePn*	**Pn**	**14 43 20.5**	**-0.4**
GRG	**Griva**	**3.98**	**25**	*ePN*	**Pn**	**14 43 20.9**	**-0.4**
GRG	**Griva**	**3.98**	**25**	*ePn*	**Pn**	**14 43 20.9**	**-0.4**
SOH	**Sokhos**	**4.24**	**34**	*ePN*	**Pn**	**14 43 25.3**	**+0.4**
SOH	**Sokhos**	**4.24**	**34**	*ePn*	**Pn**	**14 43 25.3**	**+0.4**
KNT	**Kendrikon**	**4.33**	**28**	P	**Pn**	**14 43 26.2**	**0.0**
KNT	**Kendrikon**	**4.33**	**28**	*ePN*	**Pn**	**14 43 26.1**	**-0.1**
KNT	**Kendrikon**	**4.33**	**28**	P	**Pn**	**14 43 26.2**	**0.0**
VAY	**Valandovo**	**4.36**	**24**	*i* Pn	**Pn**	**14 43 26.2**	**-0.4**
VAY	**Valandovo**	**4.36**	**24**	*i* Pn	**Pn**	**14 43 26.1**	**-0.4**
SRS	**Serrai**	**4.58**	**34**	*ePN*	**Pn**	**14 43 29.2**	**-0.4**
SRS	**Serrai**	**4.58**	**34**	*ePn*	**Pn**	**14 43 29.2**	**-0.4**
SKO	**Skopje**	**4.70**	**11**	*i* Pn	**Pn**	**14 43 31.1**	**-0.2**
SKO	**Skopje**	**4.70**	**11**	*i* Pn	**Pn**	**14 43 31.0**	**-0.2**
NVR	**Nevrokopi**	**4.89**	**34**	*ePN*	**Pn**	**14 43 33.3**	**-0.6**
NVR	**Nevrokopi**	**4.89**	**34**	*ePn*	**Pn**	**14 43 33.3**	**-0.6**
NOA	**NORSAR Array B**	**24.36**	**349**	P	P	14 47 43.6	+5.1
	0.2nm,0.5s,baz=162,slow=8.9,SNR=3.0						
FINES	**FINESS Array B**	**24.38**	**7**	P	**P**	**14 47 36.8**	**-1.9**
	0.3nm,0.3s,baz=180,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**29.24**	**219**	P	**P**	**14 48 23.5**	**+0.8**
	0.8nm,0.6s,baz=32,slow=9.0,SNR=9.6						

*ISK **19** 14:43:46.4, 37°.24N×28°.19E, h6km, MD2.6*
*ISCJB **19** 14:43:47.2±0.5, 37°.21N±0°.04×28°.19E±0°.04, h6km±8km, Error ellipse: s-maj=7.3km s-min=4.0km az=28.6*
*CSEM **19** 14:43:47.1±0.2, 37°.22N×28°.20E, h10km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.3km az=36.0*
*DDA **19** 14:43:47.7, 37°.21N×28°.19E, h27km, MD2.6*

ISC 19 14:43:46.9±0.9, 37°.23N±0°.03×28°.20E±0°.03, h8km±8km, n23, σ0962/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.11**	**144**	*ePG*	**Pg**	**14 43 49.3**	**-0.1**
YER				*eSG*	**Sg**	**14 43 51.4**	**+0.2**
YER	**Yerkesik**	**0.11**	**144**	*ePg*	**Pg**	**14 43 49.3**	**-0.1**
YER				*eSg*	**Sg**	**14 43 51.4**	**+0.2**
TURN	**Turunc**	**0.48**	**137**	*i* P	**Pg**	**14 43 55.4**	**-0.7**
TURN				*i* S	**Sb**	**14 44 03.7**	**-1.0**
TURN	**Turunc**	**0.48**	**137**	*i* P	**Pg**	**14 43 55.4**	**-0.7**
TURN				*i* S	**Sb**	**14 44 03.6**	**-1.0**
AYDN	**Tasoluk**	**0.51**	**330**	*i* P	**Pb**	**14 43 58.0**	**-0.1**
AYDN				*i* S	**Sb**	**14 44 05.5**	**-0.1**
AYDN	**Tasoluk**	**0.51**	**330**	*i* P	**Pb**	**14 43 58.0**	**-0.1**
AYDN				*i* S	**Sb**	**14 44 05.5**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.54**	**138**	*ePG*	**Pb**	**14 43 58.2**	**-0.5**
DALY				*eSG*	**Sb**	**14 44 06.1**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.54**	**138**	*ePg*	**Pb**	**14 43 58.2**	**-0.5**
DALY				*eSg*	**Sb**	**14 44 06.1**	**-0.5**
BDRM	**Kayabasi**	**0.63**	**255**	*i* P	**Pg**	**14 43 59.0**	**+0.1**
BDRM				*i* S	**Sb**	**14 44 08.3**	**-0.7**
BDRM	**Kayabasi**	**0.63**	**255**	*i* P	**Pg**	**14 43 59.0**	**+0.1**
BDRM				*i* S	**Sb**	**14 44 08.3**	**-0.7**
DAT	**Datca**	**0.70**	**225**	*ePG*	**Pg**	**14 44 00.7**	**+0.2**
DAT	**Datca**	**0.70**	**225**	*ePg*	**Pg**	**14 44 00.6**	**+0.2**
BODT	**Bodrum**	**0.73**	**257**	*ePG*	**Pg**	**14 44 00.8**	**-0.1**
BODT				*eSG*	**Sb**	**14 44 11.6**	**-0.4**
BODT	**Bodrum**	**0.73**	**257**	*ePg*	**Pg**	**14 44 00.8**	**-0.1**
BODT				*eSg*	**Sb**	**14 44 11.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	*ePG*	**Pg**	**14 44 01.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	*ePg*	**Pg**	**14 44 01.1**	**-0.4**
FETY	**Fethiye**	**0.92**	**130**	*ePG*	**Pg**	**14 44 05.0**	**+0.5**
FETY	**Fethiye**	**0.92**	**130**	*ePg*	**Pg**	**14 44 05.0**	**+0.5**
GOLH	**Golhisar**	**1.08**	**89**	*i* P	**Pn**	**14 44 10.8**	**+2.3**
KULA	**Kula-Manisa**	**1.34**	**16**	*ePN*	**Pn**	**14 44 12.1**	**+0.1**
KULA	**Kula-Manisa**	**1.34**	**16**	*ePn*	**Pn**	**14 44 12.1**	**+0.1**
ELL	**Elmali**	**1.45**	**109**	*ePN*	**Pn**	**14 44 13.9**	**+0.4**
ELL	**Elmali**	**1.45**	**109**	*ePn*	**Pn**	**14 44 13.9**	**+0.4**

NNC 19 14:54:42.6±2.7, 38°.82N×68°.71E, h0km, mb3.9, mpv3.5, 7C-6D, Error ellipse: s-maj=23.0km s-min=9.7km az=39.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**0.10**	**100**	⇑P	Pg	14 54 44.5	-0.1
DZET				⇑S	Sg	14 54 46.1	0.0
SFK	**Sufi-Kurgan**	**3.90**	**71**	⇓Pn	Pn	14 55 42.7	-1.5
	8.5nm,0.7s						
SFK				⇓Lg	Lg	14 56 45.1	
	23nm,0.5s						
KK31	**Karatay Array**	**4.49**	**17**	Pn	Pn	14 55 52.8	+0.8
	2.2nm,0.5s,baz=195,slow=13,SNR=20						
KK31				Lg	Lg	14 57 03.4	
	12nm,0.6s,baz=195,slow=29,SNR=7.8						
MNAS	**Manas**	**4.66**	**37**	⇑Pn	Pn	14 55 55.0	+0.5
	4.3nm,0.5s						
MNAS				⇑Sn	Sn	14 56 50.1	+0.6
	15nm,0.8s						
AAK	**Ala-Archa**	**5.81**	**47**	⇓Pn	Pn	14 56 12.0	+1.6
	3.6nm,0.6s						
AAK				⇑Sn	Sn	14 57 22.2	+4.2
	10.0nm,0.6s						
TKM2	**Tokmak 2**	**6.63**	**50**	⇑Pn	Pn	14 56 19.8	-1.9
	1.4nm,0.5s						
TKM2				⇑Sn	Sn	14 57 35.9	-2.3
	2.2nm,0.6s						
AB31	**Akbulak array**	**12.18**	**332**	Pn	Pn	14 57 34.9	-2.4
	0.4nm,0.3s,baz=163,slow=10.0,SNR=28						
AB31				⇓Sn	Sn	14 59 49.2	-4.5
	1.0nm,0.6s,baz=167,slow=21,SNR=2.9						
AKTO	**Aktyubinsk**	**13.86**	**330**	⇓P	Pn	14 58 00.2	-0.2
	2.5nm,0.7s						
BVA0	**Borovoye Array**	**14.25**	**4**	P	P	14 58 12.3	-0.9
	baz=179,slow=7.8,SNR=5.6						
BRVK	**Borovoye**	**14.28**	**4**	⇓P	P	14 58 10.3	-3.2
	2.6nm,0.5s						

*CSEM **19** 15:07:45.7±0.2, 39°.33N×20°.50E, h2km, MD3.3, Error ellipse: s-maj=5.4km s-min=3.3km az=57.0*
*ATH **19** 15:07:45.8, 39°.36N×20°.52E, h5km, MD3.3/20*
*THE **19** 15:07:46.3, 39°.36N×20°.54E, h0km±3km, ML2.5/7, Error ellipse: s-maj=3.1km s-min=1.0km az=248.0*
*SKO **19** 15:07:47.5, 39°.39N×20°.41E, h11km, M1.7, ML2.0*

ISC 19 15:07:46.2±1.0, 39°.36N±0°.02×20°.51E±0°.02, h6km±9km, n80, σ1909/115, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.22**	**320**	P	**Pg**	**15 07 50.6**	**0.0**
IGT				S	**Sg**	**15 07 54.5**	**+1.0**
IGT	**Igoumenitsa**	**0.22**	**320**	*ePG*	**Pg**	**15 07 50.6**	**0.0**
IGT	**Igoumenitsa**	**0.22**	**320**	P	**Pg**	**15 07 50.6**	**0.0**
IGT				S	**Sg**	**15 07 54.5**	**+1.0**
JAN	**Janina**	**0.39**	**42**	P	**Pg**	**15 07 52.8**	**-1.1**
JAN				S	**Sg**	**15 07 58.8**	**-0.2**
JAN	**Janina**	**0.39**	**42**	*ePG*	**Pg**	**15 07 52.8**	**-1.1**
JAN				*eSB*	**Sg**	**15 07 59.0**	**0.0**
JAN	**Janina**	**0.39**	**42**	P	**Pg**	**15 07 52.8**	**-1.1**
JAN				*eSb*	**Sg**	**15 07 59.0**	**0.0**
DSL	**Palaion Diasel**	**0.51**	**117**	P	**Pg**	**15 07 54.8**	**-1.2**
DSL				S	**Sg**	**15 08 02.6**	**0.0**
DSL	**Palaion Diasel**	**0.51**	**117**	*ePB*	**Pg**	**15 07 55.1**	**-0.9**
DSL	**Palaion Diasel**	**0.51**	**117**	P	**Pg**	**15 07 54.8**	**-1.2**
DSL	**Palaion Diasel**	**0.51**	**117**	*ePb*	**Pg**	**15 07 55.1**	**-0.9**
DSL				S	**Sg**	**15 08 02.6**	**0.0**
SRN	**Sarande**	**0.65**	**323**	P	**Pg**	**15 07 58.2**	**-0.6**
SRN				S	**Sb**	**15 08 10.4**	**+1.0**
SRN	**Sarande**	**0.65**	**323**	P	**Pg**	**15 07 58.2**	**-0.6**
SRN				S	**Sb**	**15 08 10.4**	**+1.0**
KEK	**Kerkira**	**0.65**	**303**	P	**Pb**	**15 07 59.9**	**-0.2**
KEK	**Kerkira**	**0.65**	**303**	*ePB*	**Pg**	**15 07 58.5**	**-0.3**
KEK	**Kerkira**	**0.65**	**303**	*ePb*	**Pg**	**15 07 58.5**	**-0.3**
KEK	**Kerkira**	**0.65**	**303**	P	**Pb**	**15 07 59.9**	**-0.2**
MEV	**Metsovon**	**0.69**	**52**	P	**Pg**	**15 07 58.5**	**-1.1**
MEV	**Metsovon**	**0.69**	**52**	P	**Pg**	**15 07 58.5**	**-1.1**
PDO	**Prodromos**	**0.93**	**145**	P	**Pg**	**15 08 02.6**	**-1.4**
PDO				S	**Sb**	**15 08 18.1**	**+0.8**
PDO	**Prodromos**	**0.93**	**145**	*ePG*	**Pg**	**15 08 02.6**	**-1.4**
PDO	**Prodromos**	**0.93**	**145**	P	**Pg**	**15 08 02.6**	**-1.4**
PDO				S	**Sb**	**15 08 18.1**	**+0.8**
PVO	**Paravola**	**1.08**	**133**	P	**Pg**	**15 08 06.7**	**-0.4**
PVO	**Paravola**	**1.08**	**133**	P	**Pg**	**15 08 06.7**	**-0.4**
EVR	**Evrytania**	**

	123nm,0.2s						
YUK				*e*S	**Sg**	**15 09 27.8**	**-0.4**
YUK				A	A	15 09 32.1	
	390nm,0.5s						
YUK				A	A	15 09 32.1	
	135nm,0.5s						
SHO	**Shikotan**	**1.57**	**168**	*e*P	**Pn**	**15 09 10.5**	**-0.1**
SHO				*e*S	**Sn**	**15 09 30.4**	**-0.6**
SHO				A	A	15 09 31.6	
	556nm,0.5s						
JRA	**Rausu**	**1.71**	**212**	*e*S	**Sb**	**15 09 35.1**	**-0.7**
NEM2	**Nemuro 2**	**2.09**	**192**	P	**Pn**	**15 09 18.4**	**+0.7**
JNK	**Nakash**	**2.17**	**213**	P	**Pb**	**15 09 20.7**	**-1.3**
JTKR	**Abashiri--Toko**	**2.26**	**232**	P	**Pn**	**15 09 21.3**	**+1.2**
JAR	**Ashorobuto**	**2.81**	**222**	P	**Pn**	**15 09 29.5**	**+1.8**
YSS	**Yuzh-Sakhalins**	**2.95**	**303**	*e*P	**Pn**	**15 09 29.6**	**+0.1**
YSS				AMB	AMB	15 09 38.1	
	146nm,0.4s						
YSS				*e*S	**Sn**	**15 10 03.8**	**-1.1**
YSS				A	A	15 10 04.7	
	342nm,0.4s						
YSS				A	A	15 10 04.7	
	373nm,0.4s						
FINES	**FINESS Array B**	**63.15**	**332**	P	P	15 19 37.2	+27
	0.9nm,0.9s,baz=35,slow=5.1,SNR=3.4						
WRA	**Warramunga Arr**	**65.95**	**192**	P	**P**	**15 19 29.5**	**+0.6**
	0.4nm,0.6s,baz=8.5,slow=6.7,SNR=7.4						
ASAR	**Alice Springs**	**69.67**	**192**	P	**P**	**15 19 53.9**	**+1.6**
	0.2nm,0.8s,baz=5.8,slow=6.2,SNR=4.5						

*MEX **19** 15:20:44.9±0.7, 32°.45N×115°.45W, h15km, MD3.8*
*ISCJB **19** 15:20:45.1±0.5, 32°.31N±0°.02×115°.33W±0°.04, h15km±4km, Error ellipse: s-maj=5.3km s-min=3.3km az=10.8*
*NEIC **19** 15:20:45.0, 32°.22N×115°.37W, h6km, ML3.0(PAS), After PAS.*
*ECX **19** 15:20:46.5±0.5, 32°.29N×115°.37W, h7km, MD3.0, ML3.2*

ISC 19 15:20:44.6±0.9, **32°.29N**±0°.02×**115°.37W**±0°.02, **h13**km±7km, **n28**, σ1**s19**/41, **4C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**25**	*e*P	**Pg**	**15 20 48.0**	**-0.2**
CPBX				*e*S	**Sg**	**15 20 50.1**	**-0.6**
CPBX				AML	AML	15 20 53.4	
	comp=N,26μm,0.2s						
CPBX				*e*		15 20 53.4	
CPBX	**Cerro Prieto**	**0.14**	**25**	*e*P	**Pb**	**15 20 49.0**	**-0.1**
MBIG	**Mexicali**	**0.19**	**51**	*e*P	**Pb**	**15 20 49.9**	**0.0**
MBIG				*e*S	**Sg**	**15 20 52.3**	**+0.4**
EMX	**El Mayor**	**0.32**	**159⇑**	*e*P	**Pg**	**15 20 51.5**	**+0.4**
EMX				*e*S	**Sg**	**15 20 56.1**	**+0.6**
SGL	**Mount Signal**	**0.47**	**321⇑**	*i*P	**Pb**	**15 20 54.8**	**+0.1**
YUH	**Yuha Desert**	**0.59**	**308⇑**	*i*P	**Pb**	**15 20 56.7**	**0.0**
RDX	**Rancho Dawling**	**0.60**	**233**	*e*P	**Pb**	**15 20 57.5**	**+0.5**
RDX				*e*S	**Sb**	**15 21 05.8**	**+0.3**
RDX				⇓*e*		15 21 07.3	
RDX				AML	AML	15 21 07.3	
	comp=N,1μm,0.3s						
COA	**Coachella**	**0.61**	**20**	*e*P	**Pb**	**15 20 57.3**	**+0.2**
RMX	**La Rumorosa**	**0.67**	**298**	*e*P	**Pb**	**15 20 58.4**	**+0.1**
RMX				*e*S	**Sb**	**15 21 07.7**	**+0.2**
RMX				⇓*e*		15 21 09.2	
RMX				AML	AML	15 21 09.2	
	comp=N,2μm,0.1s						
YMD	**Yuma Desert**	**0.75**	**69**	*e*P	**Pg**	**15 20 59.2**	**+0.1**
ECBX	**El Chinero**	**0.86**	**161**	*e*P	**Pb**	**15 21 01.3**	**0.0**
ECBX				*e*S	**Sb**	**15 21 12.9**	**+0.2**
GLA	**Glamis**	**0.89**	**31**	*e*S	**Sg**	**15 21 11.8**	**-1.7**
ZAX	**El Zacaton**	**1.09**	**225**	*e*P	**Pb**	**15 21 05.4**	**+0.1**
ZAX				*e*S	**Sn**	**15 21 20.6**	**+0.1**
ZAX				⇑*e*		15 21 23.3	
ZAX				AML	AML	15 21 23.3	
	comp=N,582nm,0.3s						
ZAX				⇓*e*		15 21 23.9	
ZAX				AML	AML	15 21 23.9	
	comp=E,584nm,0.5s						
CBX	**Cerro Bola**	**1.09**	**272**	*i*P	Pb	15 21 00.6	-4.8
CBX				*i*S	**Sb**	**15 21 14.2**	**-5.4**
CBX	**Cerro Bola**	**1.09**	**272**	*e*P	**Pg**	**15 21 05.9**	**+0.2**
CBX				*e*S	**Sg**	**15 21 20.3**	**+0.4**
CBX				AML	AML	15 21 22.6	
	comp=E,564nm,0.3s						
CBX				⇓*e*		15 21 22.6	
CBX	**Cerro Bola**	**1.09**	**272**	*e*P	Pb	15 20 58.7	-6.7
BAR	**Barrett**	**1.17**	**290**	*e*P	**Pg**	**15 21 06.9**	**-0.2**
ECNX	**Esteban Cantu**	**1.22**	**239**	*e*P	**Pb**	**15 21 07.8**	**+0.3**
ECNX				*e*S	**Sg**	**15 21 24.2**	**+0.3**
SPIG	**San Pedro Mart**	**1.24**	**184**	*e*P	**Pn**	**15 21 07.2**	**-0.7**
SPIG				*i*S	**Sb**	**15 21 23.1**	**-1.0**
SPIG	**San Pedro Mart**	**1.24**	**184**	*e*P	**Pn**	**15 21 07.7**	**-0.2**
SPIG	**San Pedro Mart**	**1.24**	**184**	*e*P	**Pn**	**15 21 07.5**	**-0.4**
SPX	**San Pedro Mart**	**1.24**	**184**	*e*P	**Pn**	**15 21 07.7**	**-0.2**
SPX				*e*S	**Sg**	**15 21 25.4**	**+0.7**
SPX				⇓*e*		15 21 27.8	
SPX				AML	AML	15 21 27.8	
	comp=E,194nm,0.1s						
PBX	**Punta Banda**	**1.27**	**245**	*e*P	**Pg**	**15 21 08.8**	**-0.2**
PBX				*e*S	**Sg**	**15 21 26.1**	**+0.5**
PFO	**Pinyon Flats O**	**1.60**	**326**	*e*Pn	**Pn**	**15 21 11.8**	**-0.8**
PFO				*e*Sn	**Sn**	**15 21 32.7**	**-0.6**
214A	**Organ Pipe Nat**	**2.20**	**98**	*e*Pg	**Pb**	**15 21 24.5**	**+0.3**
LDFC	**Landfair**	**2.79**	**4**	*e*Pg	**Pg**	**15 21 40.3**	**+2.2**
MWC	**Mount Wilson**	**2.96**	**311**	*e*Pg	**Pb**	**15 21 38.0**	**+0.7**
MWC				*e*Sg	**Sb**	**15 22 15.9**	**+2.4**
OSI	**Osito Audit: C**	**3.64**	**311**	Pg	**Pb**	**15 21 50.5**	**+1.7**

*IDC **19** 15:31:46.5±0.8, 34°.74S×73°.53W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/28, mbtmp3.8/10, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=29.8km s-min=16.8km az=95.0*
*ISCJB **19** 15:31:49.9±0.7, 34°.78S±0°.08×73°.4W±0°.1, h33km, mb3.8/7, Error ellipse: s-maj=16.1km s-min=9.2km az=29.0*
*NEIC **19** 15:31:49.8±5.0, 34°.72S×73°.52W, h22km±35km, mb4.4/1, Error ellipse: s-maj=31.2km s-min=10.7km az=92.0*

ISC 19 15:31:51.7±0.8, **34°.75S**±0°.09×**73°.5W**±0°.1, **h35**km, **n15**, σ0**s55**/16, **mb3.8/7, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.41**	**56**	Pn	**Pn**	**15 33 09.8**	**-0.1**
	0.8nm,0.3s,baz=212,slow=15,SNR=23						
CFAA				Sn	**Sn**	**15 34 11.5**	**+0.5**
	0.2nm,0.3s,baz=349,slow=18,SNR=2.1						
LCO	**Las Campanas**	**6.20**	**23**	Pn	Pn	15 33 17.7	-3.2
PLCA	**Paso Flores**	**6.41**	**160**	Pn	**Pn**	**15 33 23.4**	**-0.2**
	1.1nm,0.3s,baz=358,slow=23,SNR=18						
PLCA				LR	LR	15 36 02.6	
	comp=Z,156nm,18.8s,baz=132,slow=40						
PLCA	**Paso Flores**	**6.41**	**160**	*e*Pn	**Pn**	**15 33 23.6**	**0.0**
LPAZ	**La Paz**	**19.01**	**16**	P	**Pn**	**15 36 12.1**	**+0.1**
	0.1nm,0.3s,baz=167,slow=7.9,SNR=5.9						
LPAZ	**La Paz**	**19.01**	**16**	*e*P	**Pn**	**15 36 12.2**	**+0.1**
	2.7nm,0.9s						
SIV	**San Ignacio**	**21.76**	**34**	P	**P**	**15 36 40.5**	**+0.2**
	1.0nm,0.4s,baz=226,slow=11,SNR=5.7						
SNAA	**Sanae**	**51.35**	**158**	P	**P**	**15 40 52.9**	**+0.6**
	1.1nm,0.6s,baz=284,slow=8.5,SNR=21						
QSPA	**South Pole Qui**	**55.48**	**180**	P	**P**	**15 41 23.3**	**+0.6**
	2.9nm,0.7s,baz=159,slow=0.8,SNR=23						
QSPA	**South Pole Qui**	**55.48**	**180**	*e*P	**P**	**15 41 22.9**	**+0.1**
	2.0nm,0.5s						
TXAR	**Lajitas Array**	**69.82**	**332**	P	**P**	**15 42 59.1**	**+0.5**
	0.3nm,0.5s,baz=156,slow=7.2,SNR=5.0						
MAW	**Mawson**	**72.80**	**164**	P	**P**	**15 43 15.9**	**-0.2**
	3.1nm,0.8s,baz=231,slow=13,SNR=3.6						
NVAR	**Mina Array Bea**	**83.82**	**326**	P	**P**	**15 44 17.6**	**0.0**
	0.1nm,0.4s,baz=108,slow=2.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**85.60**	**71**	P	**P**	**15 44 26.5**	**-0.3**
	0.7nm,1.0s,baz=251,slow=4.4,SNR=3.2						
MKAR	**Makanchi Array**	**158.17**	**49**	PKP	**PKPdf**	**15 51 43.5**	**-1.1**
	0.3nm,0.9s,baz=277,slow=1.2,SNR=2.2						
MKAR				PKPab	**PKPab**	**15 52 17.5**	**-1.1**
	0.3nm,0.9s,baz=304,slow=3.0,SNR=2.5						

*ISCJB **19** 15:47:54.9±0.4, 40°.00N±0°.02×23°.28E±0°.04, h21km±5km, Error ellipse: s-maj=4.8km s-min=3.4km az=174.3*
*ATH **19** 15:47:54.6, 40°.03N×23°.30E, h23km±1km, MD2.9/7*
*CSEM **19** 15:47:54.7±0.2, 40°.02N×23°.29E, h15km, MD2.9, Error ellipse: s-maj=4.0km s-min=2.8km az=94.0*
*THE **19** 15:47:55.4, 40°.04N×23°.28E, h2km±30km, ML2.1/6, Error ellipse: s-maj=30.8km s-min=0.5km az=155.0*
*SKO **19** 15:47:55.2, 40°.03N×23°.31E, h3km, M2.2, ML2.4*

ISC 19 15:47:55.0±0.9, **40°.03N**±0°.02×**23°.30E**±0°.02, **h13**km±9km, **n41**, σ0**s44**/72, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.31**	**108**	P	**Pg**	**15 48 01.2**	**-0.1**
PAIG				S	**Sg**	**15 48 05.9**	**+0.2**
PAIG	**Paliouri**	**0.31**	**108**	*e*PB	**Pg**	**15 48 01.3**	**-0.1**
PAIG	**Paliouri**	**0.31**	**108**	*e*Pb	**Pg**	**15 48 01.3**	**-0.1**
PAIG				S	**Sg**	**15 48 05.9**	**+0.2**
PLG	**Polygyros**	**0.37**	**18**	P	**Pg**	**15 48 02.2**	**-0.2**
PLG				S	**Sg**	**15 48 07.8**	**+0.4**
PLG	**Polygyros**	**0.37**	**18**	*e*PB	**Pg**	**15 48 02.3**	**-0.2**
PLG	**Polygyros**	**0.37**	**18**	*e*Pb	**Pg**	**15 48 02.3**	**-0.2**
PLG				S	**Sg**	**15 48 07.8**	**+0.4**
HORT	**Hortiatis**	**0.59**	**345**	P	**Pg**	**15 48 06.1**	**-0.5**
HORT				S	**Sg**	**15 48 14.7**	**+0.3**
HORT	**Hortiatis**	**0.59**	**345**	*e*PN	**Pg**	**15 48 06.1**	**-0.5**
HORT				*e*SN	**Sg**	**15 48 14.8**	**+0.3**
HORT	**Hortiatis**	**0.59**	**345**	P	**Pg**	**15 48 06.1**	**-0.5**
HORT				S	**Sg**	**15 48 14.7**	**+0.3**
OUR	**Ouranopolis**	**0.61**	**59**	P	**Pg**	**15 48 07.0**	**+0.1**
OUR				S	**Sb**	**15 48 16.2**	**+0.2**
OUR	**Ouranopolis**	**0.61**	**59**	*e*PN	**Pg**	**15 48 07.1**	**+0.1**
OUR	**Ouranopolis**	**0.61**	**59**	*e*Pn	**Pg**	**15 48 07.1**	**+0.1**
OUR				S	**Sb**	**15 48 16.2**	**+0.2**
LIT	**Litokhoron**	**0.62**	**277**	P	**Pg**	**15 48 06.9**	**-0.3**
LIT				S	**Sg**	**15 48 15.8**	**+0.4**
LIT	**Litokhoron**	**0.62**	**277**	*e*PN	**Pg**	**15 48 06.8**	**-0.4**
LIT				*e*SN	**Sb**	**15 48 16.4**	**0.0**
LIT	**Litokhoron**	**0.62**	**277**	P	**Pg**	**15 48 06.9**	**-0.3**
LIT				S	**Sg**	**15 48 15.8**	**+0.4**
LIT				*e*Sn	**Sb**	**15 48 16.4**	**0.0**
THE	**Thessaloniki**	**0.66**	**337**	*e*PN	**Pg**	**15 48 07.3**	**-0.5**
THE	**Thessaloniki**	**0.66**	**337**	*e*Pn	**Pg**	**15 48 07.3**	**-0.5**
XOR	**Xorichti**	**0.66**	**187**	P	**Pg**	**15 48 08.2**	**+0.3**
XOR				S	**Sb**	**15 48 18.5**	**+0.9**
XOR	**Xorichti**	**0.66**	**187**	*e*PN	**Pb**	**15 48 08.6**	**+0.1**
XOR				*e*SN	**Sg**	**15 48 17.2**	**+0.5**
XOR	**Xorichti**	**0.66**	**187**	*e*Pn	**Pb**	**15 48 08.6**	**+0.1**
XOR				*e*Sn	**Sg**	**15 48 17.2**	**+0.5**
XOR				S	**Sb**	**15 48 18.5**	**+0.9**
NEO	**Neokhori**	**0.72**	**184**	P	**Pg**	**15 48 08.8**	**-0.2**
NEO				S	**Sb**	**15 48 19.2**	**0.0**
NEO	**Neokhori**	**0.72**	**184**	*e*PN	**Pg**	**15 48 09.2**	**+0.2**
NEO				*e*SN	**Sb**	**15 48 19.2**	**0.0**
NEO	**Neokhori**	**0.72**	**184**	*e*Pn	**Pg**	**15 48 09.2**	**+0.2**
NEO				S	**Sb**	**15 48 19.2**	**0.0**
SOH	**Sokhos**	**0.80**	**3**	P	**Pg**	**15 48 10.3**	**-0.2**
SOH				S	**Sb**	**15 48 21.3**	**-0.2**
SOH	**Sokhos**	**0.80**	**3**	*e*PN	**Pg**	**15 48 10.3**	**-0.2**
SOH	**Sokhos**	**0.80**	**3**	P	**Pg**	**15 48 10.3**	**-0.2**
SOH				S	**Sb**	**15 48 21.3**	**-0.2**
AOS	**Alonnisos**	**0.97**	**152**	*e*PN	**Pb**	**15 48 12.7**	**-0.9**
AOS				*e*SN	**Sg**	**15 48 26.8**	**+0.5**
AOS	**Alonnisos**	**0.97**	**152**	*e*Pn	**Pb**	**15 48 12.7**	**-0.9**
AOS				*e*Sn	**Sg**	**15 48 26.8**	**+0.5**
SRS	**Serrai**	**1.11**	**12**	P	**Pn**	**15 48 16.4**	**+0.1**
SRS	**Serrai**	**1.11**	**12**	P	**Pn**	**15 48 16.4**	**+0.1**
KNT	**Kendrikon**	**1.17**	**345**	P	**Pn**	**15 48 17.1**	**-0.1**
KNT				S	**Sg**	**15 48 33.3**	**+0.4**
KNT	**Kendrikon**	**1.17**	**345**	*e*PN	**Pb**	**15 48 17.2**	**0.0**
KNT				*e*SN	**Sg**	**15 48 33.5**	**+0.6**
KNT	**Kendrikon**	**1.17**	**345**	P	**Pn**	**15 48 17.1**	**-0.1**
KNT				*e*Sn	**Sg**	**15 48 33.5**	**+0.6**
AGG	**Agios Georgios**	**1.25**	**217**	*e*PN	**Pn**	**15 48 17.6**	**-0.6**
AGG	**Agios Georgios**	**1.25**	**217**	*e*Pn	**Pn**	**15 48 17.6**	**-0.6**
KAVA	**Kavala**	**1.34**	**43**	*e*PN	**Pb**	**15 48 19.7**	**-0.3**
KAVA				*e*SN	**Sg**	**15 48 38.8**	**+0.5**
KAVA	**Kavala**	**1.34**	**43**	*e*Pn	**Pb**	**15 48 19.7**	**-0.3**
KAVA				*e*Sn	**Sg**	**15 48 38.8**	**+0.5**
NVR	**Nevrokopi**	**1.39**	**18**	*e*PB	**Pn**	**15 48 19.7**	**-0.5**
NVR	**Nevrokopi**	**1.39**	**18**	*e*Pb	**Pn**	**15 48 19.7**	**-0.5**
VAY	**Valandovo**	**1.41**	**337**	*i*Pn	**Pg**	**15 48 22.8**	**+0.8**
VAY				*i*Sn	**Sg**	**15 48 41.4**	**+1.0**
VAY				*e*Lg	Lg	15 48 43.2	
	comp=N,8.9nm,0.5s						
VAY				*e*Lg	Lg	15 48 46.9	
	comp=E,13nm,0.7s						
VAY	**Valandovo**	**1.41**	**337**	*i*Pn	**Pg**	**15 48 22.8**	**+0.7**
VAY				*i*Sn	**Sg**	**15 48 41.3**	**+1.0**
VAY				*e*Lg	Lg	15 48 46.9	
	comp=E,13nm,0.7s						

*ISCJB **19** 15:57:46.9±0.8, 5°.5S±0°.1×154°.8E±0°.1, h118km, mb3.8/11, Error ellipse: s-maj=21.9km s-min=11.2km az=136.9*
*IDC **19** 15:57:55.7±3.7, 5°.56S×154°.26E, h170km±33km, mb3.6/12, mb1 3.8/13, mb1mx3.6/30, mbtmp4.1/13, Error ellipse: s-maj=21.2km s-min=15.9km az=72.0*

ISC 19 15:57:48.6±0.9, **5°.5S**±0°.1×**154°.8E**±0°.1, **h118**km, **n14**, σ1**s33**/14, **mb3.9**/11, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.51**	**242**	P	**Pn**	**15 59 49.9**	**+0.9**
PMG				S	**Sn**	**16 01 24.4**	**+1.0**
DZM	**Mont Dzumac**	**19.99**	**147**	P	Pn	16 02 17.8	+3.0
	13nm,0.5s,baz=277,slow=8.3,SNR=30						
WRA	**Warramunga Arr**	**24.54**	**232**	P	**P**	**16 02 55.5**	**-2.0**
	3.5nm,0.7s,baz=57,slow=9.9,SNR=47						
ASAR	**Alice Springs**	**27.05**	**226**	P	**P**	**16 03 17.9**	**-2.2**
	0.8nm,0.5s,baz=54,slow=9.2,SNR=48						
ASAR				PcP	**PcP**	**16 06 38.8**	**+0.2**
	0.3nm,0.6s,baz=64,slow=2.6,SNR=5.2						
STKA	**Stephens Creek**	**29.03**	**204**	P	**P**	**16 03 36.8**	**-0.7**
	1.6nm,0.5s,baz=32,slow=13,SNR=12						
CMAR	**Chiang Mai Arr**	**59.95**	**295**	P	**P**	**16 07 42.7**	**-0.2**
	1.3nm,0.8s,baz=117,slow=5.1,SNR=7.9						
SONM	**Songino Array**	**67.95**	**327**	P	**P**	**16 08 35.7**	**+0.8**
	0.7nm,0.5s,baz=143,slow=4.9,SNR=8.2						
VNDA	**Vanda**	**72.10**	**178**	P	**P**	**16 09 01.2**	**+1.6**
	2.2nm,0.7s,baz=336,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**82.04**	**22**	P	**P**	**16 09 56.3**	**+0.9**
	0.3nm,0.5s,baz=241,slow=5.1,SNR=5.7						
MKAR	**Makanchi Array**	**82.13**	**319**	P	**P**	**16 09 55.9**	**-0.4**
	0.5nm,0.6s,baz=111,slow=5.7,SNR=8.6						
ZALV	**Zalesovo Beam**	**82.81**	**326**	P	**P**	**16 09 58.6**	**-0.9**
	0.5nm,0.4s,baz=128,slow=6.3,SNR=3.9						
MAW	**Mawson**	**85.71**	**203**	P	**P**	**16 10 14.2**	**+0.2**
	3.3nm,0.6s,baz=103,slow=7.1,SNR=4.5						
NVAR	**Mina Array Bea**	**90.95**	**52**	P	P	16 10 44.2	+4.5
	0.3nm,0.6s,baz=269,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.39**	**288**	PKPbc	**PKPbc**	**16 17 30.1**	**-1.8**
	0.3nm,0.5s,baz=60,slow=2.1,SNR=3.2						

CASC 19 16:03:56.2±2.0, **13°.90N**×**91°.79W**, **h0**km±16km, **MD3.7, 1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.44**	**19**	*e*P	Pb	16 04 06.7	-0.2
IXG	**Ixpaco**	**1.32**	**78**	*e*P	Pg	16 04 20.7	-1.1
IXG				*e*S	Sn	16 04 41.4	+0.8
RBDL	**Robledal**	**2.05**	**84**	*e*P	Pn	16 04 32.1	-0.1
RTR	**El Retiro**	**2.08**	**90**	*e*P	Pn	16 04 32.2	-0.3
SBLS	**San Blas**	**2.10**	**91**	*e*P	Pn	16 04 32.9	-0.1
SBLS				*e*S	Sb	16 05 01.8	-0.6

*TIR **19** 16:10:19.1±0.7, 41°.34N×21°.14E, h0km*
*SKO **19** 16:10:20.8, 40°.08N×21°.59E, h6km, ML2.0*
*THE **19** 16:10:22.5, 40°.18N×21°.72E, h0km±2km, ML2.9/9, Error ellipse: s-maj=2.4km s-min=0.9km az=276.0*
*ATH **19** 16:10:22.1, 40°.21N×21°.73E, h13km±1km, MD3.1/15*
*CSEM **19** 16:10:22.3±0.1, 40°.20N×21°.71E, h2km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.6km az=63.0*
*SOF **19** 16:10:25.4, 40°.37N×21°.82E, h2km, MD2.7*

ISC 19 16:10:22.6±0.9, **40°.20N**±0°.01×**21°.69E**±0°.01, **h6**km±7km, **n129**, σ0**s89**/191, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**28**	P	**Pg**	**16 10 25.1**	**-0.3**
KZN				S	**Sg**	**16 10 28.1**	**+0.9**
KZN	**Kozani**	**0.13**	**28**	*e*PG	**Pg**	**16 10 25.1**	**-0.3**
KZN				*e*SG	**Sg**	**16 10 27.8**	**+0.6**
KZN	**Kozani**	**0.13**	**28**	P	**Pg**	**16 10 25.1**	**-0.3**
KZN				*e*Sg	**Sg**	**16 10 27.8**	**+0.6**
KZN				S	**Sg**	**16 10 28.1**	**+0.9**
NEST	**Nestorio**	**0.54**	**294**	P	**Pg**	**16 10 32.0**	**-1.0**
NEST				S	**Sb**	**16 10 43.0**	**+0.5**
NEST	**Nestorio**	**0.54**	**294**	*e*PB	**Pg**	**16 10 32.0**	**-1.0**
NEST				*e*SB	**Sg**	**16 10 40.9**	**+0.8**
NEST	**Nestorio**	**0.54**	**294**	P	**Pg**	**16 10 32.0**	**-1.0**
NEST				*e*Sb	**Sg**	**16 10 40.9**	**+0.8**
NEST				S	**Sb**	**16 10 43.0**	**+0.5**
MEV	**Metsovon**	**0.54**	**221**	P	**Pg**	**16 10 32.1**	**-1.0**
MEV	**Metsovon**	**0.54**	**221**	P	**Pg**	**16 10 32.1**	**-1.0**
LIT	**Litokhoron**	**0.62**	**98**	P	**Pg**	**16 10 33.3**	**-1.2**
LIT				S	**Sg**	**16 10 43.4**	**+0.8**
LIT	**Litokhoron**	**0.62**	**98**	*e*PG	**Pg**	**16 10 33.4**	**-1.1**
LIT	**Litokhoron**	**0.62**	**98**	*e*Pg	**Pg**	**16 10 33.4**	**-1.1**
LIT				S	**Sg**	**16 10 43.4**	**+0.8**
FNA	**Florina**	**0.64**	**338**	*i*PG	**Pg**	**16 10 33.7**	**-1.2**
FNA				*i*SG	**Sg**	**16 10 43.6**	**+0.4**
FNA	**Florina**	**0.64**	**338**	P	**Pg**	**16 10 34.1**	**-0.8**
FNA				S	**Sg**	**16 10 43.1**	**-0.1**
FNA	**Florina**	**0.64**	**338**	*e*PG	**Pg**	**16 10 34.1**	**-0.8**
FNA				*e*SG	**Sg**	**16 10 42.1**	**-1.1**
FNA	**Florina**	**0.64**	**338**	*e*PG	**Pg**	**16 10 34.1**	**-0.8**
FNA				*e*SB	**Sg**	**16 10 43.3**	**+0.1**
FNA	**Florina**	**0.64**	**338**	P	**Pg**	**16 10 34.1**	**-0.8**
FNA				S	**Sg**	**16 10 43.1**	**-0.1**
FNA				*i*Sg	**Sg**	**16 10 43.6**	**+0.4**
	SNR=91						
THL	**Klokotos Trika**	**0.68**	**158**	P	**Pg**	**16 10 33.8**	**-1.8**
THL				S	**Sg**	**16 10 44.6**	**+0.2**
THL	**Klokotos Trika**	**0.68**	**158**	P	**Pg**	**16 10 33.8**	**-1.8**
THL				S	**Sg**	**16 10 44.6**	**+0.2**
KBN	**Korca**	**0.81**	**302**	*i*PG	**Pg**	**16 10 37.3**	**-0.9**
KBN				*i*SG	**Sb**	**16 10 51.7**	**+1.3**
KBN	**Korca**	**0.81**	**302**	P	**Pg**	**16 10 37.3**	**-0.9**
KBN				S	**Sb**	**16 10 50.7**	**+0.3**
KBN	**Korca**	**0.81**	**302**	P	**Pg**	**16 10 37.3**	**-0.9**
KBN				S	**Sb**	**16 10 50.7**	**+0.3**
KBN				*i*Sg	**Sb**	**16 10 51.7**	**+1.3**
	SNR=91						
JAN	**Janina**	**0.84**	**231**	*e*PB	**Pg**	**16 10 39.0**	**+0.2**
JAN	**Janina**	**0.84**	**231**	*e*Pb	**Pg**	**16 10 39.0**	**+0.2**
THE	**Thessaloniki**	**1.07**	**65**	*e*PN	**Pg**	**16 10 42.4**	**-0.7**
THE	**Thessaloniki**	**1.07**	**65**	*e*Pn	**Pg**	**16 10 42.4**	**-0.7**
OHR	**Ohrid**	**1.14**	**324**	*i*Pg	**Pg**	**16 10 42.5**	**-2.0**
OHR				*i*Sg	**Sg**	**16 10 58.6**	**-0.7**
OHR				*e*Lg	Lg	16 11 02.6	
	comp=N,281nm,1.1s						
OHR				*e*Lg	Lg	16 11 03.6	
	comp=E,380nm,0.9s						
OHR	**Ohrid**	**1.14**	**324**	*i*Pg	**Pg**	**16 10 42.5**	**-2.0**
OHR				*i*Sg	**Sg**	**16 10 58.6**	**-0.7**
OHR				*e*Lg	Lg	16 11 03.6	
	comp=E,380nm,0.9s						
HORT	**Hortiatis**	**1.15**	**69**	P	**Pg**	**16 10 44.3**	**-0.4**
HORT				S	**Sn**	**16 11 01.9**	**+0.6**
HORT	**Hortiatis**	**1.15**	**69**	*e*PN	**Pg**	**16 10 44.1**	**-0.6**
HORT				*e*SN	**Sn**	**16 11 01.6**	**+0.3**
HORT	**Hortiatis**	**1.15**	**69**	*e*PB	**Pg**	**16 10 44.3**	**-0.4**
HORT	**Hortiatis**	**1.15**	**69**	P	**Pg**	**16 10 44.3**	**-0.4**
HORT				*e*Sn	**Sn**	**16 11 01.6**	**+0.3**
HORT				S	**Sn**	**16 11 01.9**	**+0.6**
DSL	**Palaion Diasel**	**1.16**	**204**	P	**Pg**	**16 10 45.2**	**+0.4**
DSL	**Palaion Diasel**	**1.16**	**204**	*e*PB	**Pg**	**16 10 45.1**	**+0.3**
DSL	**Palaion Diasel**	**1.16**	**204**	P	**Pg**	**16 10 45.2**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.23**	**164**	*e*PN	**Pb**	**16 10 44.6**	**-1.6**
MAKR	**Makrakomi, Fth**	**1.23**	**164**	*e*Pn	**Pb**	**16 10 44.6**	**-1.6**
IGT	**Igoumenitsa**	**1.24**	**238**	*e*PN

EFP				*e*Sn		**Sb**	**16 11 18.6**	**+0.6**
SKO	**Skopje**	**1.79**	**354**	*i* Pg		**Pb**	**16 10 54.9**	**-0.8**
SKO				*i* Sg		**Sg**	**16 11 21.5**	**+1.5**
SKO				*e*Lg	Lg		16 11 22.6	
	comp=E,56nm,0.9s							
SKO				*e*Lg	Lg		16 11 27.0	
	comp=N,63nm,1.1s							
SKO	**Skopje**	**1.79**	**354**	*i* Pg		**Pb**	**16 10 54.9**	**-0.8**
SKO				*i* Sg		**Sg**	**16 11 21.5**	**+1.5**
SKO				*e*Lg	Lg		16 11 26.9	
	comp=N,63nm,1.1s							
KALE	**Kalithea**	**1.83**	**169**	*e*PN		**Pn**	**16 10 55.2**	**+0.5**
KALE				*e*SN		**Sb**	**16 11 20.5**	**+0.7**
KALE	**Kalithea**	**1.83**	**169**	*e*Pn		**Pn**	**16 10 55.2**	**+0.5**
KALE				*e*Sn		**Sb**	**16 11 20.5**	**+0.7**
LKR	**Lokris**	**1.84**	**146**	*e*PB		**Pn**	**16 10 54.4**	**-0.4**
DSF	**Desfina**	**1.90**	**160**	P		**Pn**	**16 10 54.5**	**-1.0**
DSF	**Desfina**	**1.90**	**160**	*e*PN		**Pn**	**16 10 56.2**	**+0.7**
DSF	**Desfina**	**1.90**	**160**	P		**Pn**	**16 10 54.5**	**-1.0**
DSF	**Desfina**	**1.90**	**160**	*e*Pn		**Pn**	**16 10 56.2**	**+0.7**
AOS	**Alonnisos**	**1.97**	**121**	*e*PN		**Pn**	**16 10 57.1**	**+0.5**
AOS	**Alonnisos**	**1.97**	**121**	*e*PB		**Pn**	**16 10 56.0**	**-0.5**
AOS	**Alonnisos**	**1.97**	**121**	*e*Pn		**Pn**	**16 10 57.1**	**+0.5**
KKB	**Krupnik**	**1.97**	**32**	P		**Pb**	**16 10 57.8**	**-1.1**
KKB	**Krupnik**	**1.97**	**32**	P		**Pb**	**16 10 57.8**	**-1.1**
NVR	**Nevrokopi**	**2.01**	**54**	*e*PN		**Pn**	**16 10 57.5**	**+0.4**
NVR	**Nevrokopi**	**2.01**	**54**	*e*Pn		**Pn**	**16 10 57.5**	**+0.4**
MMB	**Musomiste**	**2.08**	**47**	P		**Pn**	**16 10 58.9**	**+0.9**
MMB	**Musomiste**	**2.08**	**47**	P		**Pn**	**16 10 58.9**	**+0.9**
MRKA	**Markates**	**2.09**	**135**	*e*PN		**Pn**	**16 10 58.6**	**+0.5**
MRKA	**Markates**	**2.09**	**135**	*e*Pn		**Pn**	**16 10 58.6**	**+0.5**
KLV	**Kalavryta, Ach**	**2.18**	**170**	*e*PN		**Pn**	**16 11 00.4**	**+1.0**
KLV	**Kalavryta, Ach**	**2.18**	**170**	*e*Pn		**Pn**	**16 11 00.4**	**+1.0**
VLS	**Valsamata**	**2.19**	**203**	*e*PN		**Pb**	**16 11 01.5**	**-1.1**
VLS	**Valsamata**	**2.19**	**203**	*e*Pn		**Pb**	**16 11 01.5**	**-1.1**
DRO	**Drossia**	**2.24**	**180**	*e*PN		**Pb**	**16 11 02.1**	**-1.4**
DRO	**Drossia**	**2.24**	**180**	*e*Pn		**Pb**	**16 11 02.1**	**-1.4**
LTK	**Loutraki**	**2.38**	**155**	*e*PB		**Pn**	**16 11 02.8**	**+0.6**
LTK				*e*SN		**Sn**	**16 11 32.9**	**+1.2**
VTS	**Vitosha**	**2.65**	**25**	P		**Pn**	**16 11 07.0**	**+1.0**
VTS	**Vitosha**	**2.65**	**25**	P		**Pn**	**16 11 07.0**	**+1.0**
ALN	**Alexandroupoli**	**3.39**	**77**	*e*PN		**Pn**	**16 11 17.7**	**+1.7**
ALN	**Alexandroupoli**	**3.39**	**77**	*e*Pn		**Pn**	**16 11 17.7**	**+1.7**
GELI	**Tayfur-Gelibol**	**3.66**	**85**	*e*PN		**Pn**	**16 11 21.7**	**+1.9**
GELI	**Tayfur-Gelibol**	**3.66**	**85**	*e*Pn		**Pn**	**16 11 21.7**	**+1.9**
GRUS	**Gruza**	**3.76**	**349**	*e*Pn		**Pn**	**16 11 20.3**	**-0.8**
DIVS	**Divibare**	**4.10**	**343**	*e*Pn		**Pn**	**16 11 26.6**	**+0.7**
TRUS	**Trudelj**	**4.14**	**347**	*e*Pn		**Pn**	**16 11 26.0**	**-0.3**
TEKS	**Tekeris**	**4.64**	**340**	*e*Pn		**Pn**	**16 11 31.8**	**-1.4**

MEX 19 16:14:40.4±0.7, 32°46'N×115°58'W, h15km, MD3.7, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.33**	**99**	*e*P	Pg	16 14 46.8	-0.3
MBIG				*e*S	Sg	16 14 51.4	-0.4
CBX	**Cerro Bola**	**0.93**	**261**	*e*P	Pb	16 14 55.5	-2.9
CBX				*e*S	Sb	16 15 06.0	-4.7

IDC 19 16:16:30.7±2.1, 5°30'S×75°98'W, h0km, mb3.3/1, mb1 3.6/2, mb1mx3.3/34, mbtmp3.3/2, ML3.2/1, Error ellipse: s-maj=227.9km s-min=42.4km az=63.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**13.36**	**145**	Pn	Pn	16 19 42.1	-0.4
	0.1nm,0.3s,baz=302,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**73.74**	**342**	P	P	16 28 06.4	0.0
	0.2nm,0.6s,baz=137,slow=6.3,SNR=5.2						
ASAR	**Alice Springs**	**139.02**	**224**	PKP	PKPdf	16 35 59.1	-1.2
	0.3nm,0.7s,baz=114,slow=2.0,SNR=4.6						
WRA	**Warramunga Arr**	**141.04**	**229**	PKP	PKPdf	16 36 04.4	+0.4
	0.2nm,0.5s,baz=119,slow=2.0,SNR=6.8						

IDC 19 16:37:56.2±2.4, 7°05'S×152°61'E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.2/31, mbtmp3.3/3, Error ellipse: s-maj=169.8km s-min=28.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.88**	**232**	P	P	16 42 52.6	+1.7
	0.4nm,0.8s,baz=58,slow=9.0,SNR=6.2						
ASAR	**Alice Springs**	**24.41**	**225**	P	P	16 43 15.6	-1.0
	0.1nm,0.3s,baz=56,slow=9.3,SNR=12						
ILAR	**Eielson Array**	**84.30**	**22**	P	P	16 50 29.6	-0.1
	0.7nm,0.5s,baz=241,slow=5.0,SNR=9.6						

IDC 19 16:37:58.5±5.0, 11°91S×166°80E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/32, mbtmp3.5/4, Error ellipse: s-maj=135.6km s-min=50.0km az=115.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.55**	**225**	P	P	16 44 13.8	-0.2
	0.3nm,0.3s,baz=51,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**32.18**	**251**	P	P	16 44 28.3	-0.1
	0.4nm,0.9s,baz=81,slow=8.7,SNR=2.7						
ASAR	**Alice Springs**	**33.35**	**245**	P	P	16 44 38.8	+0.1
	0.1nm,0.4s,baz=73,slow=9.9,SNR=6.3						
MKAR	**Makanchi Array**	**94.86**	**317**	P	P	16 51 22.4	-0.1
	0.3nm,0.6s,baz=108,slow=4.0,SNR=4.5						

WEL 19 16:42:44.5±0.2, 37°01S×176°14E, h253km±3km, ML3.7/12, 7C-3D, Error ellipse: s-maj=6.3km s-min=5.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.47**	**149**	⇑PN	Pn	16 43 23.1	+0.2
URZ				SN	S	16 43 53.0	-0.1
HAZ	**Te Kaha**	**1.51**	**120**	⇑PN	Pn	16 43 23.3	+0.2
HAZ				SN	S	16 43 52.8	-0.8
MWZ	**Matawai**	**1.72**	**141**	PN	Pn	16 43 24.8	-0.1
MWZ				SN	S	16 43 56.8	0.0
RAGZ	**Rawiri**	**1.79**	**146**	PN	Pn	16 43 25.8	+0.2
RAGZ				SN	S	16 43 57.0	-1.0
MXZ	**Matakaoa Point**	**1.81**	**108**	PN	Pn	16 43 26.1	+0.5
TWGZ	**Tauwhareparae**	**1.87**	**129**	⇑PN	Pn	16 43 26.6	+0.4
TWGZ				SN	S	16 43 58.9	-0.1
TKGZ	**Te Karaka**	**1.97**	**137**	PN	Pn	16 43 26.9	-0.1
WMGZ	**Waiomatatini S**	**1.98**	**115**	PN	Pn	16 43 27.3	+0.2
PUZ	**Puketiti**	**1.99**	**123**	PN	Pn	16 43 26.8	-0.3
SNGZ	**Shannon Statio**	**2.01**	**152**	⇑PN	Pn	16 43 27.2	-0.1
RAHZ	**Arahi**	**2.05**	**159**	PN	Pn	16 43 27.7	+0.1
RIGZ	**Rimuhau**	**2.12**	**143**	PN	Pn	16 43 28.0	-0.4
NMHZ	**Naumai**	**2.15**	**166**	PN	Pn	16 43 29.0	+0.3
BKZ	**Black Stump Fm**	**2.17**	**173**	⇑PN	Pn	16 43 28.5	-0.4
CNGZ	**Carnagh Statio**	**2.20**	**133**	PN	Pn	16 43 28.8	-0.2
WHHZ	**Waihua**	**2.24**	**158**	PN	Pn	16 43 28.9	-0.5
TUVZ	**Tukino**	**2.29**	**189**	PN	Pn	16 43 30.4	+0.3
FWVZ	**Far West T-bar**	**2.29**	**191**	⇓PN	Pn	16 43 30.8	+0.6
TRVZ	**Turoa**	**2.33**	**191**	⇓PN	Pn	16 43 31.0	+0.4
KNZ	**Kokohu**	**2.34**	**149**	PN	Pn	16 43 29.3	-1.1
ARHZ	**Aropaoanui**	**2.35**	**164**	PN	Pn	16 43 30.0	-0.4
WNVZ	**Wahianoa**	**2.35**	**190**	PN	Pn	16 43 30.9	+0.1
PRGZ	**Paritu Road**	**2.36**	**145**	PN	Pn	16 43 30.0	-0.5
MOVZ	**Moawhango**	**2.41**	**187**	PN	Pn	16 43 30.8	-0.4
MTVZ	**Mangateitei**	**2.43**	**192**	PN	Pn	16 43 31.7	+0.3
MCHZ	**McNeill Hill**	**2.47**	**170**	PN	Pn	16 43 31.2	-0.5
BHHZ	**Black Hill Sta**	**2.48**	**181**	⇑PN	Pn	16 43 31.2	-0.6
KRHZ	**Kereru**	**2.64**	**176**	PN	Pn	16 43 32.3	-1.1
KAHZ	**Kahuranaki**	**2.84**	**168**	PN	Pn	16 43 34.1	-1.4
WAZ	**Wanganui**	**2.89**	**198**	PN	Pn	16 43 35.8	-0.1
PNHZ	**Pukenui**	**2.90**	**179**	PN	Pn	16 43 34.5	-1.6
WPHZ	**Waipukurau**	**3.06**	**176**	PN	Pn	16 43 36.1	-1.7
PXZ	**Pawanui**	**3.07**	**170**	PN	Pn	16 43 35.9	-2.0
DVHZ	**Dannevirke**	**3.29**	**180**	PN	Pn	16 43 38.2	-2.1
ANWZ	**Angora Road**	**3.46**	**176**	⇓PN	Pn	16 43 39.9	-2.2
BFZ	**Birch Farm**	**3.67**	**179**	PN	Pn	16 43 41.5	-3.0
MRZ	**Mangatainoka R**	**3.67**	**187**	⇑PN	Pn	16 43 41.7	-2.9
OGWZ	**Otaki Gorge**	**3.88**	**191**	PN	Pn	16 43 44.5	-2.5
HOWZ	**Holdsworth Sta**	**3.91**	**187**	PN	Pn	16 43 44.3	-3.1
KIW	**Kapiti Island**	**3.96**	**194**	PN	Pn	16 43 45.3	-2.7
MTW	**Mount Morrison**	**4.17**	**187**	PN	Pn	16 43 46.7	-3.7
CAW	**Cannon Point**	**4.18**	**191**	PN	Pn	16 43 47.3	-3.2
WEL	**Wellington**	**4.40**	**194**	PN	Pn	16 43 49.9	-3.2
TCW	**Tory Channel**	**4.44**	**198**	PN	Pn	16 43 50.8	-2.7
NNZ	**Nelson**	**4.72**	**206**	PN	Pn	16 43 54.2	-2.7
TUWZ	**Tuamarina**	**4.73**	**200**	PN	Pn	16 43 54.0	-3.0
QRZ	**Quartz Range**	**4.74**	**215**	PN	Pn	16 43 54.9	-2.3
THZ	**Tophouse**	**5.37**	**207**	PN	Pn	16 44 01.6	-3.3
KHZ	**Kahutara**	**5.76**	**200**	PN	Pn	16 44 06.0	-3.6

*IDC **19** 16:44:04.8±1.8, 0.2°9S×125.0°8E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/32, mbtmp3.0/3, Error ellipse: s-maj=184.7km s-min=25.6km az=64.0*
*DJA **19** 16:44:09.3±0.3, 0.1°S±4'×12.5°E±°, h10km, M3.5/8, MLv3.5/8*
*ISCJB **19** 16:44:10.2±0.6, 0.2°9S±0.0°6×125.1°4E±0.0°4, h52km, mb3.0/3, Error ellipse: s-maj=9.2km s-min=6.0km az=19.3*

ISC 19 16:44:11.7±1.0, 0.2°22S±0.0°6×125.1°7E±0.0°5, h52km, n10, σ1§63/14, mb3.0/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.43**	**303**	P	**Pn**	**16 44 34.7**	**-0.6**
KMSI				S	**Sn**	**16 44 53.0**	**0.0**
SANI	**Sanana**	**1.99**	**156**	P	**Pn**	**16 44 40.8**	**-2.2**
SANI				S	**Sn**	**16 45 10.4**	**+3.6**
LBMI	**Labuha**	**2.36**	**100**	P	**Pn**	**16 44 47.8**	**-0.3**
LBMI				S	**Sn**	**16 45 16.2**	**+0.2**
TNTI	**Ternate**	**2.40**	**66**	P	**Pn**	**16 44 48.6**	**-0.1**
TNTI				S	**Sn**	**16 45 19.1**	**+2.2**
NLAI	**Namlea**	**3.56**	**147**	P	**Pn**	**16 45 03.8**	**-0.8**
APSI	**Ampana**	**3.59**	**259**	P	**Pn**	**16 45 05.9**	**+1.0**
SGSI	**Sangihe**	**3.90**	**5**	P	**Pn**	**16 45 08.3**	**-0.8**
WRA	**Warramunga Arr**	**21.56**	**156**	P	**P**	**16 48 55.1**	**-1.9**
	0.4nm,0.6s,baz=334,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**24.80**	**161**	P	**P**	**16 49 28.9**	**-0.1**
	0.2nm,0.5s,baz=344,slow=13,SNR=6.5						
MKAR	**Makanchi Array**	**59.96**	**327**	P	**P**	**16 54 13.0**	**+0.2**
	0.1nm,0.6s,baz=119,slow=8.5,SNR=3.0						

*ISCJB **19** 16:54:30.1±2.0, 19.°61N±0.°04×120.°27E±0.°05, h15km±15km, mb4.3/37, MS3.3/7, Error ellipse: s-maj=9.0km s-min=5.7km az=155.5*
*MAN **19** 16:54:32, 19.°51N×120.°23E, h35km, mb4.8, ML3.8, MS3.8*
*IDC **19** 16:54:33.8±0.5, 19.°56N×120.°32E, h28km±2km, mb4.0/22, mb1 4.1/23, mb1mx4.0/39, mbtmp4.2/23, ML3.5/1, MS3.2/8, Ms1 3.3/8, ms1mx2.9/38, Error ellipse: s-maj=15.9km s-min=9.8km az=68.0*
*NEIC **19** 16:54:33.7±0.2, 19.°57N×120.°34E, mb4.6/13, Error ellipse: s-maj=8.3km s-min=5.1km az=77.0*

ISC 19 16:54:33.3±0.4, 19.°53N±0.°05×120.°31E±0.°07, h27km±3km, h27km:pP-P, n80, σ0§96/102, mb4.3/37, MS3.2/7, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.88**	**152**	*e*P	**Pn**	**16 55 04.0**	**+0.3**
APYP				*e*S	**Sb**	**16 55 28.8**	**-1.4**
ABRA	**Dolores**	**1.91**	**168**	*e*P	**Pn**	**16 55 03.6**	**-0.6**
SGCP	**Mt. Cagua**	**2.09**	**128**	*e*P	**Pn**	**16 55 06.3**	**-0.2**
CVP	**Callao Caves**	**2.32**	**141⇑**	*e*P	**Pn**	**16 55 10.8**	**+1.1**
CVP				*i* S	**Sb**	**16 55 41.5**	**-1.3**
BCPH	**Baguio City Da**	**3.14**	**175⇑**	*i* P	**Pn**	**16 55 21.6**	**+0.3**
BCPH				*i* S	**Sn**	**16 55 56.6**	**-1.4**
BOLP	**Bolinao**	**3.16**	**187**	*e*P	**Pn**	**16 55 20.7**	**-0.6**
SCZP	**Santa Cruz**	**3.75**	**186**	*e*P	**Pn**	**16 55 29.7**	**+0.2**
BALP	**Baler**	**3.96**	**162**	*e*P	**Pn**	**16 55 35.0**	**+2.7**
KSAR	**Wonju Array Be**	**19.03**	**19**	P	**P**	**16 58 52.1**	**-1.2**
KSRS	**Korea Array**	**19.06**	**19**	P	**P**	**16 58 52.1**	**-1.4**
	0.2nm,0.3s,baz=205,slow=11,SNR=6.4						
KSRS				LR	LR	17 05 29.4	
	comp=Z,19nm,21.7s,baz=227,slow=34						
CMAR	**Chiang Mai Arr**	**20.23**	**271**	P	**P**	**16 59 07.7**	**+1.1**
	2.1nm,0.7s,baz=81,slow=8.6,SNR=13						
CMAR				LR	LR	17 06 12.1	
	comp=Z,46nm,19.4s,baz=134,slow=34						
BJT	**Baijiatuao**	**20.73**	**351**	*e*P	**P**	**16 59 11.6**	**-0.1**
	24nm,0.7s						
MJAR	**Matsushiro Arr**	**23.10**	**39**	P	**P**	**16 59 37.6**	**+0.4**
	2.5nm,0.9s,baz=234,slow=8.6,SNR=6.9						
MDJ	**Mudanjiang**	**26.18**	**15**	*e*P	**P**	**17 00 05.3**	**-0.3**
	22nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.46**	**19**	P	**P**	**17 00 08.5**	**+0.4**
	2.7nm,0.8s,baz=220,slow=6.9,SNR=8.5						
LSA	**Lhasa**	**28.30**	**297**	*e*P	**P**	**17 00 26.5**	**+1.2**
	13nm,1.0s						
BATI	**Baumata**	**29.73**	**173**	pP	pP	17 00 46.5	+0.9
	16nm,0.6s,baz=243,slow=4.4,SNR=2.9						
ULN	**Ulaanbaatar**	**30.25**	**342**	*e*P	**P**	**17 00 42.0**	**0.0**
	1.6nm,0.8s						
SONM	**Songino Array**	**30.41**	**341**	P	**P**	**17 00 43.3**	**-0.2**
	1.1nm,0.8s,baz=162,slow=9.7,SNR=9.8						
SONM				pP	pP	**17 00 51.7**	**+0.3**
	1.2nm,0.7s,baz=159,slow=9.5,SNR=6.2						
SONM				LR	LR	17 13 12.5	
	comp=Z,56nm,19.7s,baz=152,slow=37						
ASAJ	**Asahikawa**	**30.79**	**32**	P	**P**	**17 00 48.0**	**+1.4**
	2.2nm,0.7s,baz=220,slow=11,SNR=4.6						
TAPN	**Taplejung**	**30.83**	**291**	*e*P	**P**	**17 00 48.3**	**+0.7**
	14nm,1.1s						
ODAN	**Odare**	**31.06**	**290**	*e*P	**P**	**17 00 49.5**	**0.0**
RAMN	**Ramite**	**31.77**	**290**	*e*P	**P**	**17 00 56.1**	**+0.3**
	22nm,0.7s						
JIRN	**Jiri**	**32.21**	**291**	*e*P	**P**	**17 00 59.5**	**-0.3**
	17nm,0.9s						
GUN	**Gumba**	**32.52**	**291**	*e*P	**P**	**17 01 02.6**	**+0.1**
	24nm,0.8s						
PKI	**Pulchoki**	**32.89**	**291**	*e*P	**P**	**17 01 05.1**	**-0.6**
	9.5nm,0.7s						
PKIN	**Phulchoki**	**32.90**	**291**	*e*P	**P**	**17 01 05.9**	**+0.1**
	5.7nm,0.7s						
KKN	**Kakani**	**33.03**	**291**	*e*P	**P**	**17 01 06.6**	**-0.2**
	17nm,1.0s						
DMN	**Daman**	**33.16**	**291**	*e*P	**P**	**17 01 07.8**	**-0.2**
	23nm,1.0s						
GKN	**Gorkha**	**33.62**	**291**	*e*P	**P**	**17 01 10.8**	**-1.1**
DANN	**Dangsing**	**34.43**	**292**	*e*P	**P**	**17 01 18.7**	**-0.4**
	41nm,1.3s						
MKAR	**Makanchi Array**	**41.23**	**320**	P	**P**	**17 02 16.4**	**+0.4**
	4.2nm,0.8s,baz=116,slow=9.8,SNR=46						
MKAR				pP	pP	**17 02 25.3**	**+1.1**
	4.1nm,0.9s,baz=109,slow=9.7,SNR=14						
MKAR				PcP	PcP	**17 04 14.3**	**-0.3**
	0.5nm,0.7s,baz=125,slow=3.9,SNR=3.3						
MKAR				LR	LR	17 21 07.9	
	comp=Z,30nm,18.3s,baz=106,slow=39						
WRAB	**Tennant Creek**	**41.57**	**160**	*e*P	**P**	**17 02 18.6**	**-0.4**
	7.6nm,0.9s						
WRA	**Warramunga Arr**	**41.57**	**160**	P	**P**	**17 02 18.4**	**-0.6**
	1.4nm,0.5s,baz=334,slow=10,SNR=12						
WRA				pP	pP	**17 02 26.9**	**-0.3**
	4.4nm,0.6s,baz=342,slow=9.0,SNR=13						
WRA				PcP	PcP	**17 04 16.5**	**+0.5**
	1.1nm,0.9s,baz=347,slow=3.7,SNR=4.6						
WRA				pPcP		17 04 24.9	
	1.8nm,0.8s,baz=343,slow=3.8,SNR=6.6						
WB2	**Warramunga Arr**	**41.58**	**160**	*e*P	**P**	**17 02 18.9**	**-0.1**
YAK	**Yakutsk**	**42.96**	**6**	P	**P**	**17 02 29.1**	**-0.7**
	2.7nm,0.6s,baz=64,slow=2.0,SNR=5.6						
YAK				pP	pP	**17 02 38.1**	**+0.2**
	4.4nm,0.6s,baz=112,slow=0.5,SNR=4.1						
YAK	**Yakutsk**	**42.96**	**6**	*e*P	**P**	**17 02 28.4**	**-1.4**
	4.5nm,0.8s						
YAK				pP	pP	**17 02 38.1**	**+0.2**
YAK				*e*pP	pP	**17 02 38.7**	**+0.7**
ZALV	**Zalesovo Beam**	**43.78**	**330**	P	**P**	**17 02 35.7**	**-0.8**
	7.2nm,1.0s,baz=116,slow=6.9,SNR=23						
ZALV				pP	pP	**17 02 44.4**	**-0.4**
	3.3nm,0.8s,baz=114,slow=8.3,SNR=8.0						
PETK	**Petropavlovsk-**	**44.20**	**32**	P	**P**	**17 02 40.4**	**+0.4**
	1.7nm,0.8s,baz=296,slow=4.6,SNR=3.0						
PETK				LR	LR	17 20 05.0	
	comp=Z,15nm,19.8s,baz=176,slow=35						
AS31	**Alice Springs**	**44.94**	**162**	*e*P	**P**	**17 02 46.4**	**+0.2**
AS31				*e*pP	pP	**17 02 54.5**	**+0.1**
ASAR	**Alice Springs**	**44.94**	**162**	P	**P**	**17 02 46.5**	**+0.4**
	1.7nm,0.4s,baz=340,slow=7.0,SNR=35						
ASAR				pP	pP	**17 02 54.7**	**+0.3**
	7.2nm,0.8s,baz=331,slow=7.2,SNR=19						
KURK	**Kurchatov**	**45.23**	**323**	*e*P	**P**	**17 02 47.9**	**-0.2**
	20nm,1.0s						
KURK				*e*pP	pP	**17 02 56.9**	**+0.6**
KURK				pP	pP	**17 02 57.4**	**+1.0**
KURBB	**Kurchatov Arra**	**45.23**	**323**	P	**P**	**17 02 48.4**	**+0.2**
	11nm,0.9s,baz=122,slow=8.0,SNR=62						
KURBB				pP	pP	**17 02 57.4**	**+1.0**
	8.0nm,0.7s,baz=125,slow=7.8,SNR=16						
HNR	**Honiara**	**48.51**	**123**	LR	LR	17 21 43.1	
	comp=Z,48nm,19.0s,baz=177,slow=34						
BVAR	**Borovoye Array**	**50.83**	**323**	P	**P**	**17 03 31.7**	**+0.3**
	1.3nm,0.7s,baz=120,slow=10,SNR=9.7						
BVAR				pP	pP	**17 03 40.5**	**+0.7**
	1.1nm,0.7s,baz=122,slow=11,SNR=4.3						
BVAR				PcP	PcP	**17 04 47.8**	**-0.2**
	1.3nm,0.7s,baz=136,slow=5.1,SNR=5.1						
BVAR				pPcP		17 04 56.5	
	1.6nm,0.6s,baz=96,slow=4.5,SNR=6.3						
TIXI	**Tiksi**	**52.36**	**3**	*e*P	**P**	**17 03 41.2**	**-1.4**
	2.0nm,0.8s						
BBOO	**Buckleboo**	**54.18**	**164**	*e*P	**P**	**17 03 56.9**	**+0.5**
	17nm,0.9s						
STKA	**Stephens Creek**	**55.04**	**158**	P	**P**	**17 04 04.0**	**+1.3**
	1.2nm,0.6s,baz=333,slow=9.4,SNR=4.7						
STKA				pP	pP	**17 04 12.7**	**+1.6**
	2.3nm,0.5s,baz=324,slow=6.9,SNR=4.7						
ABKAR	**Akbulak array**	**56.17**	**317**	*e*P	**P**	**17 04 09.9**	**-0.8**
	1.0nm,0.6s						
BILL	**Bilibino**	**56.32**	**19**	*e*P	**P**	**17 04 11.3**	**-0.2**
	4.7nm,1.0s						
GEYT	**Ailbeck**	**56.54**	**303**	P	**P**	**17 04 14.5**	**+1.0**
	4.3nm,1.0s,baz=316,slow=4.1,SNR=7.5						
GEYT				pP	pP	**17 04 23.1**	**+1.2**
	2.0nm,0.7s,baz=108,slow=1.9,SNR=3.2						
ONI	**Oni**	**67.51**	**309**	P	**P**	**17 05 29.8**	**+2.5**
ONI				S	pP	**17 05 31.4**	**-4.4**
KBZ	**Khabaz**	**67.79**	**310**	P	**P**	**17 05 29.8**	**+1.0**
	5.1nm,0.9s,baz=56,slow=24,SNR=15						
KIV	**Kislovodsk**	**67.92**	**310**	*e*P	**P**	**17 05 30.6**	**+0.7**
	7.9nm,0.6s						
JOF	**Joensuu**	**72.36**	**331**	*e*p	**P**	**17 05 54.0**	**-2.5**
	2.4nm,0.8s						
ILAR	**Eielson Array**	**73.71**	**26**	P	**P**	**17 06 04.8**	**+0.3**
	0.8nm,0.7s,baz=279,slow=6.4,SNR=4.6						
ILAR				pP	pP	**17 06 14.1**	**+0.9**
	0.8nm,0.8s,baz=286,slow=6.0,SNR=5.7						
KAF	**Kangasniemi**	**74.79**	**331**	*e*p	**P**	**17 06 08.8**	**-2.0**
	3.0nm,0.8s						
FINES	**FINESS Array B**	**75.05**	**330**	P	**P**	**17 06 12.2**	**-0.2**
	4.9nm,0.8s,baz=83,slow=6.0,SNR=14						
FINES				LR	LR	17 42 34.5	
	comp=Z,33nm,19.3s,baz=74,slow=38						
AKASG	**Malin Array Be**	**75.81**	**319**	P	**P**	**17 06 16.0**	**-0.9**
	0.9nm,0.4s,baz=62,slow=6.2,SNR=15						
NIE	**Niedzica**	**81.67**	**319**	*e*P	**P**	**17 06 50.2**	**+0.9**
OJC	**Ojcow**	**81.71**	**320**	*e*P	**P**	**17 06 49.6**	**+0.2**
NB2	**NORSAR Subarra**	**81.94**	**332**	P	**P**	**17 06 49.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**81.94**	**332**	P	**P**	**17 06 49.8**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=65,slow=5.4,SNR=8.0						
NOA				pP	pP	**17 06 58.2**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=65,slow=5.3,SNR=5.1						
NOA				LR	LR	17 46 00.8	
	comp=Z,32nm,19.7s,baz=15,slow=38						
KSP	**Ksiaz**	**83.56**	**322**	*e*P	**P**	**17 06 58.5**	**-0.5**
KRLC	**Kraliky**	**83.57**	**321**	*e*P	**P**	**17 07 00.0**	**+0.9**
DPC	**Dobruska-Polom**	**83.73**	**321**	*e*P	**P**	**17 07 00.6**	**+0.6**
TREC	**Trest**	**84.65**	**321**	*e*P	**P**	**17 07 05.2**	**+0.6**
GOPC	**GO Pecny, Ondr**	**84.81**	**321**	*e*P	**P**	**17 07 05.5**	**+0.1**
BRG	**Berggiesshubel**

FNA	**Florina**	**0.64**	**340**	*e*PB	**Pg**	**16 59 51.8**	**-0.7**
FNA	**Florina**	**0.64**	**340**	P	**Pg**	**16 59 51.8**	**-0.7**
FNA				S	**Sb**	**17 00 02.8**	**-0.6**
THL	**Klokotos Trika**	**0.67**	**157**	P	**Pg**	**16 59 51.5**	**-1.7**
THL				S	**Sg**	**17 00 02.5**	**+0.6**
THL	**Klokotos Trika**	**0.67**	**157**	P	**Pg**	**16 59 51.5**	**-1.7**
THL				S	**Sg**	**17 00 02.5**	**+0.6**
KBN	**Korca**	**0.80**	**303**	P	**Pb**	**16 59 56.6**	**-0.3**
KBN				S	**Sb**	**17 00 08.6**	**+0.5**
KBN	**Korca**	**0.80**	**303**	P	**Pb**	**16 59 56.6**	**-0.3**
KBN				S	**Sb**	**17 00 08.6**	**+0.5**
DSL	**Palaion Diasel**	**1.14**	**203**	*e*PB	**Pb**	**17 00 02.8**	**+0.3**
DSL				*e*SB	**Sb**	**17 00 17.8**	**+0.1**
DSL	**Palaion Diasel**	**1.14**	**203**	*e*Pb	**Pb**	**17 00 02.8**	**+0.3**
DSL				*e*Sb	**Sb**	**17 00 17.8**	**+0.1**
OHR	**Ohrid**	**1.14**	**325**	*i* Pg	**Pg**	**17 00 00.3**	**-1.8**
OHR				*i* Sg	**Sb**	**17 00 17.7**	**0.0**
OHR				*e*Lg	Lg	17 00 21.4	
	comp=E,67nm,0.9s						
HORT	**Hortiatis**	**1.17**	**69**	*e*PB	**Pg**	**17 00 02.7**	**+0.1**
HORT	**Hortiatis**	**1.17**	**69**	*e*Pb	**Pg**	**17 00 02.7**	**+0.1**
IGT	**Igoumenitsa**	**1.22**	**238**	*e*PB	**Pg**	**17 00 03.4**	**-0.2**
IGT	**Igoumenitsa**	**1.22**	**238**	*e*Pb	**Pg**	**17 00 03.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.22**	**163**	*e*PB	**Pn**	**17 00 04.2**	**0.0**
MAKR	**Makrakomi, Fth**	**1.22**	**163**	*e*Pb	**Pn**	**17 00 04.2**	**0.0**
AGG	**Agios Georgios**	**1.27**	**156**	P	**Pg**	**17 00 03.4**	**-1.1**
AGG				S	**Sn**	**17 00 22.3**	**0.0**
AGG	**Agios Georgios**	**1.27**	**156**	*e*PB	**Pg**	**17 00 04.6**	**+0.1**
AGG				*e*SB	**Sn**	**17 00 22.9**	**+0.6**
AGG	**Agios Georgios**	**1.27**	**156**	P	**Pg**	**17 00 03.4**	**-1.1**
AGG	**Agios Georgios**	**1.27**	**156**	*e*Pb	**Pg**	**17 00 04.6**	**+0.1**
AGG				S	**Sn**	**17 00 22.3**	**0.0**
AGG				*e*Sb	**Sn**	**17 00 22.9**	**+0.6**
EVR	**Evrytania**	**1.27**	**175**	P	**Pg**	**17 00 03.1**	**-1.5**
EVR				S	**Sn**	**17 00 22.8**	**+0.3**
EVR	**Evrytania**	**1.27**	**175**	*e*PG	**Pg**	**17 00 04.6**	**0.0**
EVR	**Evrytania**	**1.27**	**175**	P	**Pg**	**17 00 03.1**	**-1.5**
EVR	**Evrytania**	**1.27**	**175**	*e*Pg	**Pg**	**17 00 04.6**	**0.0**
EVR				S	**Sn**	**17 00 22.8**	**+0.3**
VAY	**Valandovo**	**1.33**	**31**	*i* Pn	**Pb**	**17 00 06.5**	**+0.8**
VAY				*i* Sg	**Sn**	**17 00 25.1**	**+1.3**
VAY				*e*Lg	Lg	17 00 30.5	
	comp=N,22nm,1.1s						
VAY				*e*Lg	Lg	17 00 31.1	
	comp=E,9.3nm,0.5s						
VAY	**Valandovo**	**1.33**	**31**	*i* Pn	**Pb**	**17 00 06.5**	**+0.8**
VAY				*i* Sg	**Sn**	**17 00 25.0**	**+1.3**
VAY				*e*Lg	Lg	17 00 31.1	
	comp=E,9.3nm,0.5s						
KNT	**Kendrikon**	**1.35**	**43**	*e*PB	**Pb**	**17 00 06.0**	**-0.2**
KNT	**Kendrikon**	**1.35**	**43**	*e*Pb	**Pb**	**17 00 06.0**	**-0.2**
PLG	**Polygyros**	**1.37**	**81**	*e*PB	**Pn**	**17 00 05.5**	**-0.8**
PLG				*e*SB	**Sg**	**17 00 24.2**	**-0.1**
PLG	**Polygyros**	**1.37**	**81**	*e*Pb	**Pn**	**17 00 05.5**	**-0.8**
PLG				*e*Sb	**Sg**	**17 00 24.2**	**-0.1**
XOR	**Xorichti**	**1.43**	**124**	*e*PN	**Pn**	**17 00 06.6**	**-0.4**
XOR				*e*SB	**Sn**	**17 00 26.5**	**+0.2**
XOR	**Xorichti**	**1.43**	**124**	*e*Pn	**Pn**	**17 00 06.6**	**-0.4**
XOR				*e*Sb	**Sn**	**17 00 26.5**	**+0.2**
SOH	**Sokhos**	**1.43**	**63**	*e*PG	**Pn**	**17 00 06.7**	**-0.4**
SOH	**Sokhos**	**1.43**	**63**	*e*Pg	**Pn**	**17 00 06.7**	**-0.4**
NEO	**Neokhori**	**1.48**	**126**	*e*PN	**Pn**	**17 00 07.6**	**-0.2**
NEO				*e*SB	**Sg**	**17 00 29.6**	**+1.7**
NEO	**Neokhori**	**1.48**	**126**	*e*Pn	**Pn**	**17 00 07.6**	**-0.2**
NEO				*e*Sb	**Sg**	**17 00 29.6**	**+1.7**
PDO	**Prodromos**	**1.63**	**194**	*e*PG	**Pb**	**17 00 11.0**	**+0.2**
PDO				*e*SB	**Sg**	**17 00 34.2**	**+1.7**
PDO	**Prodromos**	**1.63**	**194**	*e*Pg	**Pb**	**17 00 11.0**	**+0.2**
PDO				*e*Sb	**Sg**	**17 00 34.2**	**+1.7**
EFP	**Efpalio**	**1.76**	**174**	*e*PG	**Pg**	**17 00 13.9**	**-0.1**
EFP				*e*SN	**Sg**	**17 00 37.8**	**+0.9**
EFP	**Efpalio**	**1.76**	**174**	*e*Pg	**Pg**	**17 00 13.9**	**-0.1**
DSF	**Desfina**	**1.89**	**159**	*e*PN	**Pb**	**17 00 15.2**	**-0.2**
DSF	**Desfina**	**1.89**	**159**	*e*Pn	**Pb**	**17 00 15.2**	**-0.2**
GUR	**Goura**	**2.31**	**167**	*e*PN	**Pb**	**17 00 21.1**	**-1.4**
GUR				*e*SN	**Sb**	**17 00 50.7**	**-0.7**
GUR	**Goura**	**2.31**	**167**	*e*Pn	**Pb**	**17 00 21.1**	**-1.4**
GUR				*e*Sn	**Sb**	**17 00 50.7**	**-0.7**

CSEM ***19*** *17:06:11.9, 42.01N×13.77E, h20km, ML1.0/2*
ROM 19 17:06:11.9±0.4, 42.01N×13.77E, h20km±3km, MI1.0/2, 2C-2D, Error ellipse: s-maj=4.2km s-min=1.9km az=149.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INTR	**Introdacqua**	**0.10**	**87**	⇓*i* Pg	Pb	17 06 16.1	-0.5
INTR				Sg	Sb	17 06 19.2	-0.7
INTR	**Introdacqua**	**0.10**	**87**	⇓*i* Pg	Pb	17 06 16.1	-0.5
INTR				Sg	Sb	17 06 19.2	-0.7
VVLD	**Villa Vallelon**	**0.17**	**219**	⇑*i* Pg	Pb	17 06 16.8	-0.3
VVLD				Sg	Sb	17 06 20.2	-0.4
	11nm,0.2s						
VVLD	**Villa Vallelon**	**0.17**	**219**	⇑*i* Pg	Pb	17 06 16.8	-0.3
VVLD				Sg	Sb	17 06 20.2	-0.4
	11nm,0.2s						
SDI	**San Donato**	**0.30**	**174**	Pg	Pb	17 06 19.4	+0.7
SDI				Sg	Sb	17 06 23.5	+0.3
	7.0nm,0.2s						
SDI	**San Donato**	**0.30**	**174**	Pg	Pb	17 06 19.4	+0.7
SDI				Sg	Sb	17 06 23.5	+0.3
	7.0nm,0.2s						
LPEL	**Lama dei Pelig**	**0.31**	**82**	Pg	Pb	17 06 18.8	-0.1
LPEL				Sg	Sb	17 06 23.9	+0.3
	21nm,0.1s						
LPEL	**Lama dei Pelig**	**0.31**	**82**	Pg	Pb	17 06 18.8	-0.1
LPEL				Sg	Sb	17 06 23.9	+0.3
	21nm,0.1s						

IDC 19 17:25:23.1±5.7, 8.93S×160.41E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.7/4, Error ellipse: s-maj=163.4km s-min=34.4km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.47**	**244**	P	P	17 31 11.7	+0.4
	1.3nm,0.3s,baz=71,slow=9.1,SNR=38						
ASAR	**Alice Springs**	**29.28**	**237**	P	P	17 31 26.9	-0.4
	0.3nm,0.5s,baz=62,slow=9.2,SNR=15						
SONM	**Songino Array**	**73.91**	**325**	P	P	17 37 02.2	+2.0
	0.4nm,0.5s,baz=139,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**88.42**	**318**	P	P	17 38 15.3	-1.9
	0.2nm,0.5s,baz=92,slow=7.0,SNR=3.1						

IDC ***19*** *17:32:12.9±0.8, 11.78N×146.51E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/35, mbtmp4.0/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=29.0km s-min=20.4km az=127.0*
NEIC ***19*** *17:32:14.4±0.5, 11.68N×146.52E, h10km, mb4.6/6, Error ellipse: s-maj=14.7km s-min=11.7km az=82.0*
ISCJB ***19*** *17:32:16.2±0.7, 11.64N±0.09×146.5E±0.1, h33km, mb4.2/17, Error ellipse: s-maj=17.7km s-min=12.9km az=175.4*
ISC 19 17:32:18.2±0.8, 11.7N±0.1×146.5E±0.1, h35km, n27, σ1s11/19, mb4.1/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.48**	**321**	*e*Pn	**Pn**	**17 32 54.6**	**-1.5**
JAY	**Jayapura**	**15.21**	**203**	LR	LR	17 40 16.9	
	comp=Z,89nm,19.1s,baz=168,slow=32						
H11S3	**WAKE ISLAND Hy 20.65**		**68**	T	T	17 57 53.1	
	baz=253,slow=75,SNR=172						
H11S1	**WAKE ISLAND Hy 20.66**		**68**	T	T	17 57 49.7	
	baz=253,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy 20.66**		**68**	T	T	17 57 54.3	
	baz=253,slow=75,SNR=137						
H11N1	**WAKE ISLAND Hy 21.20**		**65**	T	T	17 58 29.9	
	baz=250,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy 21.21**		**65**	T	T	17 58 30.0	
	baz=250,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 21.22**		**65**	T	T	17 58 36.9	
	baz=250,slow=75,SNR=30						
YULB	**Yu-li**	**26.64**	**299**	*e*P	**P**	**17 37 54.3**	**+0.5**
	13nm,0.7s						
SSLB	**Suanglung**	**27.08**	**300**	*e*P	**P**	**17 37 56.9**	**-0.9**
	23nm,0.8s						
KSRS	**Korea Array**	**30.60**	**330**	P	**P**	**17 38 30.8**	**+1.8**
	1.1nm,0.7s,baz=142,slow=10.0,SNR=2.8						
KSAR	**Wonju Array Be**	**30.61**	**330**	P	**P**	**17 38 30.8**	**+1.7**
BATI	**Baumata**	**31.41**	**227**	P	**P**	**17 38 35.1**	**-1.2**
	15nm,0.6s,baz=349,slow=1.0,SNR=5.0						
WRAB	**Tennant Creek**	**33.60**	**201**	*e*P	**P**	**17 38 55.0**	**-0.4**
	3.7nm,0.6s						
ASAR	**Alice Springs**	**37.21**	**199**	P	**P**	**17 39 27.4**	**+1.0**
	0.4nm,0.6s,baz=27,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**46.29**	**284**	P	**P**	**17 40 41.6**	**+0.7**
	0.9nm,0.7s,baz=82,slow=6.3,SNR=7.4						
SONM	**Songino Array**	**49.20**	**325**	P	P	17 41 07.4	+4.2
	0.3nm,0.5s,baz=153,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**63.96**	**316**	P	**P**	**17 42 48.2**	**+0.2**
	1.0nm,0.7s,baz=96,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**64.09**	**325**	P	**P**	**17 42 48.0**	**-0.6**
	0.4nm,0.5s,baz=129,slow=11,SNR=2.9						
KURK	**Kurchatov**	**67.06**	**320**	*e*P	**P**	**17 43 07.5**	**-0.5**
	11nm,0.9s						
ILAR	**Eielson Array**	**69.63**	**25**	P	**P**	**17 43 22.1**	**-1.7**
	1.8nm,0.5s,baz=252,slow=6.0,SNR=23						
BRVK	**Borovoye**	**72.47**	**322**	*e*P	**P**	**17 43 40.8**	**-0.4**
	2.9nm,0.9s						
INK	**Inuvik**	**75.53**	**22**	P	**P**	**17 43 58.7**	**-0.1**
	1.6nm,0.8s,baz=259,slow=8.5,SNR=5.4						
ABKAR	**Akbulak array**	**79.02**	**318**	P	**P**	**17 44 20.3**	**+1.6**
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**83.83**	**27**	P	**P**	**17 44 43.2**	**-0.7**
	1.1nm,0.7s,baz=286,slow=5.3,SNR=13						
NVAR	**Mina Array Bea**	**86.88**	**52**	P	**P**	**17 45 00.6**	**+0.6**
	1.7nm,0.7s,baz=268,slow=5.6,SNR=14						
LPAZ	**La Paz**	**146.13**	**102**	PKPbc	**PKPab**	**17 51 57.1**	**0.0**
	1.3nm,0.6s,baz=278,slow=2.8,SNR=5.1						

IDC ***19*** *17:32:28.9±2.3, 11.87N×146.54E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.1/38, mbtmp4.2/12, Error ellipse: s-maj=67.8km s-min=25.3km az=177.0*
ISC 19 17:32:34.1±2.2, 11.8N±0.4×146.5E±0.2, h35km, n12, σ0s92/11, mb4.1/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**30.50**	**330**	P	**P**	**17 38 43.6**	**-0.2**
	0.9nm,0.5s,baz=139,slow=9.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**46.31**	**284**	P	**P**	**17 40 56.6**	**-0.3**
	3.1nm,0.5s,baz=84,slow=6.3,SNR=15						
SONM	**Songino Array**	**49.11**	**325**	P	**P**	**17 41 19.9**	**+1.6**
	1.2nm,0.6s,baz=132,slow=6.4,SNR=3.7						
MKAR	**Makanchi Array**	**63.89**	**316**	P	**P**	**17 43 03.4**	**0.0**
	2.7nm,0.8s,baz=96,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**64.00**	**325**	P	**P**	**17 43 03.0**	**-1.0**
	0.7nm,0.6s,baz=107,slow=7.9,SNR=4.4						
ILAR	**Eielson Array**	**69.47**	**25**	P	**P**	**17 43 37.6**	**-1.0**
	1.6nm,0.6s,baz=250,slow=5.7,SNR=8.5						
INK	**Inuvik**	**75.38**	**22**	P	**P**	**17 44 14.3**	**+0.6**
	1.2nm,0.5s,baz=302,slow=8.0,SNR=7.4						
GEYT	**Alibeck**	**81.61**	**307**	P	**P**	**17 44 49.0**	**+0.2**
	1.4nm,0.7s,baz=45,slow=4.4,SNR=3.8						
YKA	**Yellowknife Ar**	**83.67**	**27**	P	**P**	**17 44 58.9**	**0.0**
	0.5nm,0.5s,baz=285,slow=5.3,SNR=6.7						
NVAR	**Mina Array Bea**	**86.74**	**52**	P	**P**	**17 45 15.9**	**+0.7**
	1.1nm,0.8s,baz=249,slow=5.4,SNR=4.5						
ARCES	**ARCESS Array B**	**89.25**	**342**	P	**P**	**17 45 25.1**	**-1.1**
	4.6nm,1.0s,baz=82,slow=6.5,SNR=3.6						
ULM	**Lac du Bonnet**	**97.76**	**35**	P	Pdif	17 46 07.1	+1.4
	0.9nm,0.4s,baz=270,slow=6.1,SNR=2.1						

IDC ***19*** *17:33:11.3±2.1, 6.27S×130.23E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.4/31, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=59.2km s-min=30.2km az=77.0*
ISCJB ***19*** *17:33:25.3±0.7, 6.95S±0.04×129.74E±0.06, h139km, mb3.1/1, Error ellipse: s-maj=8.1km s-min=6.1km az=8.2*
ISC 19 17:33:26.0±0.9, 7.02S±0.06×129.70E±0.07, h139km, n9, σ2s60/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.80**	**32**	P	**Pn**	**17 34 36.8**	**+0.1**
	baz=4.7,SNR=19						
FAKI				S	**Sn**	**17 35 29.2**	**-2.5**
	baz=4.7,SNR=10.0						
MTN	**Manton Dam**	**5.95**	**166**	P	**Pn**	**17 34 54.7**	**+2.7**
	baz=6.1,SNR=77						
MTN				S	**Sn**	**17 35 59.6**	**+0.3**
	baz=6.1,SNR=6.6						
SOEI	**Soe**	**6.02**	**243**	P	**Pn**	**17 34 54.5**	**+1.4**
	baz=6.1,SNR=5.0						
SOEI				S	**Sn**	**17 36 03.2**	**+2.1**
	baz=6.1,SNR=3.3						
KDU	**Kakadu**	**6.25**	**154**	P	**Pn**	**17 34 59.0**	**+2.9**
	baz=6.4,SNR=62						
KDU				S	**Sn**	**17 36 07.5**	**+1.0**
	baz=6.4,SNR=6.9						
BATI	**Baumata**	**6.76**	**242**	Pn	**Pn**	**17 35 03.6**	**+0.8**
	2.8nm,0.3s,baz=11,slow=6.3,SNR=6.3						
BATI				Sn	**Sn**	**17 36 14.9**	**-3.7**
	4.9nm,0.3s,baz=165,slow=8.9,SNR=8.6						
KNRA	**Kununurra**	**8.65**	**186**	P	**Pn**	**17 35 29.0**	**+0.8**
	baz=8.8,SNR=70						
KNRA				S	**Sn**	**17 37 01.1**	**-3.2**
	baz=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**13.61**	**161**	Pn	**Pn**	**17 36 33.0**	**-0.5**
	0.7nm,0.3s,baz=340,slow=15,SNR=29						
WRA				Sn	Sn	17 38 56.8	-7.3
	0.8nm,0.3s,baz=333,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**17.03**	**167**	P	**Pn**	**17 37 19.0**	**+3.0**
	0.3nm,0.3s,baz=337,slow=8.8,SNR=57						
ASAR				S	**S**	**17 40 21.2**	**-5.0**
	0.2nm,0.3s,baz=346,slow=26,SNR=6.8						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**17 44 10.8**	**0.0**
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.3						

ISCJB ***19*** *17:38:01.1±0.9, 21.67S±0.07×66.6W±0.1, h219km, mb3.2/1, Error ellipse: s-maj=14.5km s-min=9.3km az=20.5*
IDC ***19*** *17:38:01.5±1.3, 21.63S×66.61W, h206km±21km, mb3.1/1, mb1 2.9/5, mb1mx2.8/20, mbtmp3.4/5, Error ellipse: s-maj=34.5km s-min=13.5km az=106.0*
ISC 19 17:38:02.0±1.0, 21.63S±0.08×66.7W±0.1, h219km, n6, σ0s78/8, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.31**	**244**	P	**Pn**	**17 38 45.6**	**+0.3**
	84nm,0.3s,baz=59,slow=6.3,SNR=14						
LVC				S	**S**	**17 39 17.9**	**-1.1**
	141nm,0.3s,baz=240,slow=21,SNR=30						
LPAZ	**La Paz**	**5.49**	**345**	P	**Pn**	**17 39 23.7**	**-0.1**
	1.0nm,0.3s,baz=145,slow=8.8,SNR=20						
LPAZ				S	**S**	**17 40 28.2**	**-0.1**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.9						
SIV	**San Ignacio**	**7.71**	**44**	P	**Pn**	**17 39 50.6**	**-0.9**
	0.7nm,0.3s,baz=198,slow=11,SNR=6.8						
CFAA	**Coronel Fontan**	**10.04**	**188**	P	**Pn**	**17 40 21.8**	**+0.4**
	0.1nm,0.3s,baz=80,slow=6.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**75.43**	**69**	P	**P**	**17 49 22.6**	**+0.3**
	0.3nm,0.5s,baz=255,slow=5.1,SNR=6.3						
MKAR	**Makanchi Array**	**144.48**	**38**	PKP	**PKPdf**	**17 57 13.0**	**+0.8**
	0.3nm,0.6s,baz=334,slow=3.2,SNR=4.2						

DJA 19 17:48:02.2±0.4, 4.5S±5.3×13.8E±1, h77km±61km, M4.0/5, MLv4.0/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**2.39**	**6**	P	Pn	17 48 39.7	+0.4
SMPI				S	Sn	17 49 09.4	+1.8
GENI	**Genyem**	**2.47**	**44**	P	Pn	17 48 40.3	0.0
GENI				S	Sn	17 49 10.5	+0.9
JAY	**Jayapura**	**2.92**	**51**	P	Pn	17 48 46.5	+0.1
JAY				S	Sn	17 49 21.8	+1.3
SRPI	**Serui, Papua**	**3.33**	**318**	P	Pn	17 48 51.8	-0.2
SRPI				S	Sn	17 49 32.1	+1.6
MMPI	**Merauke**	**4.49**	**155**	P	Pn	17 49 08.3	+0.5
MMPI				S	Sn	17 50 02.4	+3.5

MAN 19 17:53:09.9±84N×122.31E, h27km, mb4.7, ML3.6, MS3.6, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.83**	**19**	*e*P	Pb	17 53 24.3	-0.6
GUIM				*e*S	Sn	17 53 37.3	+1.0
CUYO	**Cuyo Island**	**1.62**	**308**	*e*P	Pn	17 53 36.3	+0.5
CUYO				*e*S	Sn	17 53 56.1	+0.2
PAGZ	**Pagadian**	**2.24**	**152**	*e*P	Pn	17 53 45.2	+0.8
PAGZ				*e*S	Sn	17 54 05.9	-5.3
MSLP	**Maasin**	**2.53**	**83**	*e*P	Pn	17 53 48.7	+0.4

IDC ***19*** *18:03:08.2±1.6, 38.18S×73.75W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.6/24, mbtmp3.4/5, ML3.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/18, Error ellipse: s-maj=48.2km s-min=19.1km az=57.0*
ISCJB ***19*** *18:03:10.7±1.5, 38.1S±0.1×73.6W±0.3, h22km, mb3.5/3, MS4.1/1, Error ellipse: s-maj=33.7km s-min=16.1km az=164.2*
ISC 19 18:03:11.9±1.5, 38.2S±0.1×73.7W±0.2, h22km, n9, σ1s17/8, mb3.5/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.56**	**137**	Pn	**Pn**	**18 04 06.0**	**+0.1**
	0.7nm,0.3s,baz=287,slow=8.4,SNR=9.4						
PLCA				Lg	Lg	18 05 00.4	
	12nm,0.3s,baz=237,slow=12,SNR=7.2						
CFAA	**Coronel Fontan**	**7.93**	**36**	Pn	**Pn**	**18 05 05.8**	**0.0**
	0.0nm,0.3s,baz=209,slow=12,SNR=2.0						
CFAA				LR	LR	18 08 21.4	
	comp=Z,14nm,20.1s,baz=218,slow=39						
LPAZ	**La Paz**	**22.32**	**14**	P	**P**	**18 08 09.1**	**+0.4**
	3.5nm,1.0s,baz=141,slow=8.2,SNR=7.6						
TXAR	**Lajitas Array**	**72.74**	**333**	P	**P**	**18 14 38.5**	**+0.2**
	0.3nm,0.7s,baz=157,slow=9.8,SNR=2.6						
URZ	**Urewera**	**79.89**	**229**	LR	LR	18 42 40.6	
	comp=Z,97nm,21.3s,baz=198,slow=30						
TORD	**Torodi Ar. Bea**	**86.88**	**71**	P	**P**	**18 15 55.0**	**-0.1**
	0.3nm,0.9s,baz=235,slow=5.0,SNR=3.2						
BVAR	**Borovoye Array**	**151.17**	**47**	PKPbc	**PKPbc**	**18 23 03.3**	**+0.6**
	0.6nm,0.8s,baz=316,slow=4.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**158.41**	**36**	PKPab	**PKPab**	**18 23 39.0**	**-2.4**
	0.6nm,0.7s,baz=331,slow=5.6,SNR=3.0						
MKAR	**Makanchi Array**	**160.36**	**56**	PKPab	**PKPab**	**18 23 50.9**	**+0.7**
	0.5nm,1.0s,baz=285,slow=1.2,SNR=4.1						

IDC ***19*** *18:17:06.8±5.7, 8.79S×124.46E, h88km±67km, mb2.9/1, mb1 2.9/3, mb1mx2.7/28, mbtmp3.0/3, ML2.8/2, Error ellipse: s-maj=68.9km s-min=28.3km az=31.0*
DJA ***19*** *18:17:06.3±1.7, 9.3S±10.1×124.4E±1, h111km±25km, M3.3/6, MLv3.3/6*
ISC 19 18:17:07.9±1.5, 8.9S±0.1×124.4E±0.1, h100km, n9, σ2s49/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.91**	**188**	P	**Pn**	**18 17 28.5**	**+1.0**
SOEI				S	**Sn**	**18 17 47.7**	**+5.5**
BATI	**Baumata**	**1.53**	**208**	P	**Pn**	**18 17 32.8**	**-1.8**
BATI				S	**Sn**	**18 17 55.4**	**+0.6**
BATI	**Baumata**	**1.53**	**208**	P	**Pn**	**18 17 33.4**	**-1.2**
	6.9nm,0.3s,baz=210,slow=0.4,SNR=16						
BATI				S	**Sn**	**18 17 54.7**	**-0.1**
	5.5nm,0.3s,baz=43,slow=5.5,SNR=4.8						
EDFI	**Ende, Flores**	**2.68**	**272**	P	Pn	18 17 40.6	-8.8
WSI	**Waingapu**	**4.13**	**258**	P	Pn	18 18 01.8	-7.0
WSI				S	Sn	18 18 41.5	-15
KDI	**Kendari**	**5.17**	**340**	P	Pn	18 18 17.2	-5.8
WRA	**Warramunga Arr**	**14.63**	**140**	P	**Pn**	**18 20 29.9**	**-0.1**
	0.1nm,0.3s,baz=318,slow=14,SNR=5.9						
WRA				S	**Sn**	**18 23 08.8**	**-2.6**
	0.1nm,0.3s,baz=313,slow=24,SNR=5.8						
ASAR	**Alice Springs**	**17.32**	**149**	P	**Pn**	**18 21 03.8**	**+0.3**
	0.0nm,0.3s,baz=324,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**66.88**	**330**	P	**P**	**18 27 49.4**	**+0.1**
	0.3nm,0.9s,baz=142,slow=7.2,SNR=2.8						

MEX 19 18:30:53.8±0.5, 32.44N×115.14W, h15km±2km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.06**	**240**	*e*P	Pg	18 30 55.8	-0.9
MBIG				*i* S	Sg	18 30 57.9	-0.6
CBX	**Cerro Bola**	**1.30**	**265**	*i* P	Pn	18 31 13.9	-3.6
CBX				*i* S	Sb	18 31 28.9	-5.8
SPIG	**San Pedro Mart**	**1.42**	**191**	*e*P	Pn	18 31 16.7	-2.8
SPIG				*i* S	Sn	18 31 32.3	-5.8

IDC ***19*** *18:32:42.1±1.3, 13.30S×166.73E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/29, mbtmp3.9/9, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=43.5km s-min=23.9km az=120.0*
ISCJB ***19*** *18:32:46.5±0.9, 13.49S±0.07

RDX				AML	AML	18 41 23.4		
	comp=N,722nm,0.6s							
ECBX	**El Chinero**	**0.72**	**170**	*e*P	**Pb**	**18 41 12.9**	**-0.2**
ECBX				*e*S	**Sg**	**18 41 23.2**	**+0.4**
RMX	**La Rumorosa**	**0.86**	**299**	*e*P	**Pb**	**18 41 15.2**	**-0.4**
RMX				*e*S	**Sb**	**18 41 26.3**	**-0.5**
RMX				⇑*e*		18 41 27.5		
RMX				AML	AML	18 41 27.5		
	comp=N,644nm,0.1s							
ZAX	**El Zacaton**	**1.14**	**234**	*e*P	**Pn**	**18 41 20.0**	**-0.2**
ZAX				*e*S	**Sb**	**18 41 35.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pn**	**18 41 19.8**	**-0.9**
SPIG				*i* S	**Sb**	**18 41 34.9**	**-0.7**
SPIG	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pn**	**18 41 20.2**	**-0.5**
SPX	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pn**	**18 41 20.2**	**-0.5**
CBX	**Cerro Bola**	**1.25**	**276**	*e*P	**Pn**	**18 41 21.4**	**-0.5**
CBX				*e*S	**Sb**	**18 41 38.3**	**+0.1**
CBX				AML	AML	18 41 41.2		
	comp=N,294nm,0.5s							
CBX				⇓*e*		18 41 41.2		
ECNX	**Esteban Cantu**	**1.31**	**247**	*e*P	**Pb**	**18 41 23.2**	**0.0**
ECNX				*e*S	**Sb**	**18 41 39.9**	**+0.3**

IDC ***19*** *18:50:34.8±3.3, 8°.42S×119°.62E, h170km±24km, mb2.7/3, mb1 2.7/5, mb1mx2.7/31, mbtmp3.2/5, Error ellipse: s-maj=67.8km s-min=12.4km az=49.0*
ISCJB ***19*** *18:50:38.2±1.0, 8°.31S±0°.07×119°.8E±0°.1, h170km, mb3.2/2, Error ellipse: s-maj=18.2km s-min=7.2km az=157.4*
DJA ***19*** *18:50:38.5±0.6, 8°S±4°×12°0E±°, h170km±7km, M3.4/9, MLv3.4/9*
ISC 19 18:50:36.6±1.0**, 8°30S**±0°.07×**119°.8E**±0°.1**, h170km, n12,** σ1§**87/14, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.44**	**161**	P	**Pn**	**18 51 09.1**	**+1.9**
WSI				S	**Sn**	**18 51 32.7**	**+1.9**
EDFI	**Ende, Flores**	**1.90**	**104**	P	**Pn**	**18 51 14.1**	**+2.0**
BASI	**Baing, Sumba**	**2.05**	**159**	P	**Pn**	**18 51 15.5**	**+2.0**
BSSI	**Bau Bau, Buton**	**2.25**	**17**	P	**Pn**	**18 51 17.6**	**+1.7**
BKSI	**Bulukumba**	**2.98**	**6**	P	**Pn**	**18 51 26.6**	**+2.0**
BNSI	**Bone**	**3.89**	**4**	P	Pn	18 51 40.5	+4.5
BATI	**Baumata**	**4.24**	**117**	P	**Pn**	**18 51 39.5**	**-1.1**
	1.8nm,0.3s,baz=161,slow=20,SNR=4.4						
BATI				S	**Sn**	**18 52 32.3**	**+1.7**
	2.9nm,0.3s,baz=274,slow=19,SNR=4.0						
SPSI	**Sidrap Palu**	**4.31**	**359**	P	**Pn**	**18 51 43.4**	**+1.9**
WRA	**Warramunga Arr**	**18.21**	**131**	P	**P**	**18 54 36.7**	**-0.2**
	0.1nm,0.3s,baz=304,slow=12,SNR=9.1						
WRA				S	**S**	**18 57 56.6**	**0.0**
	0.1nm,0.3s,baz=312,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**20.38**	**140**	P	**P**	**18 54 59.0**	**-1.4**
	0.2nm,0.4s,baz=314,slow=9.0,SNR=6.3						
SONM	**Songino Array**	**57.14**	**349**	P	**P**	**19 00 04.7**	**-0.9**
	0.1nm,0.4s,baz=167,slow=6.7,SNR=3.4						
MKAR	**Makanchi Array**	**64.21**	**332**	P	**P**	**19 00 51.0**	**-2.3**
	0.3nm,0.5s,baz=150,slow=7.8,SNR=10.0						

IDC ***19*** *18:59:01.2±2.5, 0°.12S×132°.81E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=148.7km s-min=23.4km az=75.0*
ISCJB ***19*** *18:59:07.9±0.9, 0°.59S±0°.07×131°.46E±0°.07, h33km, mb3.4/3, Error ellipse: s-maj=11.0km s-min=9.5km az=42.8*
DJA ***19*** *18:59:09.0±0.4, 1°S±4°×13°1E±°, h10km, M3.8/8, MLv3.8/8*
ISC 19 18:59:08.9±1.2**, 0°.59S**±0°.10×**131°.6E**±0°.1**, h35**km**, n8,** σ0§**92/9, mb3.4/3, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.41**	**163**	P	**Pn**	**18 59 46.0**	**+0.1**
FAKI				S	**Sn**	**19 00 14.6**	**+0.4**
RKPI	**Ransiki, Papua**	**2.77**	**109**	P	Pn	18 59 54.6	+3.7
RKPI				S	Sn	19 00 31.8	+8.7
MSAI	**Masohi**	**3.79**	**224**	P	**Pn**	**19 00 04.6**	**-0.3**
MSAI				S	**Sn**	**19 00 48.4**	**0.0**
LBMI	**Labuha**	**4.06**	**269**	P	**Pn**	**19 00 09.0**	**+0.4**
WRA	**Warramunga Arr**	**19.42**	**172**	P	**Pn**	**19 03 32.5**	**-1.2**
	0.1nm,0.3s,baz=355,slow=11,SNR=10						
WRA				S	S	19 06 57.9	-12
	0.1nm,0.3s,baz=352,slow=24,SNR=4.3						
ASAR	**Alice Springs**	**23.05**	**175**	P	**P**	**19 04 12.8**	**+1.4**
	0.4nm,0.5s,baz=350,slow=11,SNR=8.6						
MKAR	**Makanchi Array**	**63.84**	**325**	P	**P**	**19 09 38.5**	**+0.5**
	0.5nm,0.7s,baz=109,slow=8.2,SNR=5.9						
BVAR	**Borovoye Array**	**73.56**	**327**	P	**P**	**19 10 37.4**	**-0.9**
	0.3nm,0.6s,baz=108,slow=9.3,SNR=3.0						

IDC 19 19:01:09.9±2.7**, 6°.85N×91°.71E, h0**km**, mb3.3/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.4/4, ML4.0/1, Error ellipse: s-maj=89.7km s-min=27.5km az=64.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.52**	**31**	Pn	Pn	19 04 21.8	-1.3
	0.3nm,0.3s,baz=231,slow=14,SNR=10						
H08S3	**Diego Garcia H**	**23.97**	**233**	T	T	19 32 29.5	
	baz=52,slow=74,SNR=22						
H08S2	**Diego Garcia H**	**23.97**	**233**	T	T	19 32 27.2	
	baz=52,slow=74,SNR=17						
H08S1	**Diego Garcia H**	**23.99**	**233**	T	T	19 32 45.2	
	baz=52,slow=74,SNR=19						
MKAR	**Makanchi Array**	**40.61**	**350**	P	P	19 08 52.0	+0.5
	0.2nm,0.5s,baz=163,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**49.67**	**123**	P	P	19 10 03.7	-0.2
	0.5nm,0.6s,baz=309,slow=8.4,SNR=6.6						
ASAR	**Alice Springs**	**51.15**	**128**	P	P	19 10 14.9	-0.3
	0.3nm,0.8s,baz=298,slow=8.1,SNR=3.1						

NNC ***19*** *19:10:54.5±1.4, 42°.29N×71°.67E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=14.6km s-min=6.2km az=12.0*
KRNET ***19*** *19:10:54.8±0.1, 42°.18N×71°.75E, h11km, mb3.5*
ISC 19 19:10:52.5±1.5**, 42°.24N**±0°.03×**71°.64E**±0°.04**, h2**km±14km**, n30,** σ1§**03/42, 17C-9D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.50**	**151**	*e*P	**Pg**	**19 11 03.1**	**+1.1**
	baz=157						
ARK				*e*S	**Sb**	**19 11 10.2**	**-1.6**
	baz=157						
MNAS	**Manas**	**0.69**	**68**	⇑P	**Pg**	**19 11 06.1**	**+0.4**
	16nm,0.2s						
MNAS				⇑S	**Sg**	**19 11 15.4**	**+0.9**
	26nm,0.2s						
KK31	**Karatay Array**	**1.20**	**317**	⇓P	**Pn**	**19 11 16.2**	**-0.2**
	28nm,0.2s,baz=132,slow=16,SNR=527						
KK31				⇑S	**Sb**	**19 11 33.3**	**+1.2**
	22nm,0.2s,baz=142,slow=30,SNR=16						
AML	**Almayashu**	**1.53**	**93**	P	**Pn**	**19 11 20.8**	**-0.4**
	SNR=108						
AML	**Almayashu**	**1.53**	**93**	⇑*i*P	**Pn**	**19 11 20.5**	**-0.7**
	baz=91						
AML				⇑*i*S	**Sb**	**19 11 41.0**	**-0.7**
	baz=91						
EKS2	**Erkin-Say**	**1.64**	**74**	P	**Pn**	**19 11 22.9**	**+0.4**
	SNR=82						
EKS2	**Erkin-Say**	**1.64**	**74**	⇑*i*P	**Pn**	**19 11 23.0**	**+0.6**
	baz=72						
EKS2				⇑*i*S	**Sb**	**19 11 44.9**	**+0.3**
	baz=72						
EKS	**Erkin-Say**	**1.64**	**74**	*i* P	**Pb**	**19 11 23.7**	**+0.1**
	baz=71						
EKS				*e*S	**Sg**	**19 11 45.7**	**+0.4**
	baz=71						
ARLS	**Aral**	**2.03**	**100**	*i* P	**Pb**	**19 11 29.8**	**-0.4**
	baz=99						
SALK	**Salom-Alik**	**2.12**	**129**	*e*P	**Pn**	**19 11 29.9**	**+0.8**
	baz=130						
SALK				*e*S	**Sb**	**19 11 56.2**	**-2.4**
	baz=130						
UCH	**Uchtor**	**2.13**	**89**	P	**Pb**	**19 11 31.9**	**-0.2**
	SNR=46						
CHVK	**Chauvay**	**2.14**	**168**	*e*P	**Pn**	**19 11 31.0**	**+1.6**
	baz=170						
CHVK				*e*S	**Sb**	**19 11 58.0**	**-1.2**
	baz=170						
AAK	**Ala-Archa**	**2.15**	**78**	⇑Pn	**Pb**	**19 11 32.6**	**+0.5**
	87nm,0.4s						
AAK				⇑Sn	**Sg**	**19 12 01.6**	**+0.1**
	60nm,0.5s						
AAK	**Ala-Archa**	**2.15**	**78**	⇑*i*P	**Pb**	**19 11 32.5**	**+0.3**
	SNR=211						
AAK	**Ala-Archa**	**2.15**	**78**	⇑*i*S	**Sg**	**19 12 00.6**	**-0.9**
	baz=77						
BTK	**Batken**	**2.26**	**196**	*e*P	**Pb**	**19 11 34.0**	**-0.1**
	baz=199						
BTK				*e*S	**Sb**	**19 12 03.3**	**+0.8**
	baz=199						
FRU	**Bishkek**	**2.28**	**74**	*e*P	**Pb**	**19 11 34.0**	**-0.3**
	baz=72						
USP	**Ospenovka**	**2.34**	**63**	P	**Pb**	**19 11 34.9**	**-0.5**
	SNR=25						
CHMS	**Chumysh**	**2.42**	**71**	P	**Pb**	**19 11 36.2**	**-0.5**
	SNR=37						
KBK	**Karagaybulak**	**2.48**	**79**	P	**Pb**	**19 11 38.1**	**+0.2**
	SNR=30						
SFK	**Sufi-Kurgan**	**2.63**	**147**	⇑Pn	**Pn**	**19 11 37.5**	**+1.4**
	1.6nm,0.5s						
SFK				⇓Pg	**Pb**	**19 11 40.8**	**+0.5**
	13nm,0.5s						
SFK				⇑Lg	Lg	19 12 15.9	
	11nm,0.2s						
KZA	**Kyzart**	**2.69**	**92**	P	**Pb**	**19 11 40.6**	**-0.9**
	SNR=63						
TKM2	**Tokmak 2**	**3.00**	**75**	⇑Pn	**Pb**	**19 11 45.6**	**-1.1**
	6.2nm,0.3s						
TKM2				⇓Sn	**Sb**	**19 12 25.9**	**+2.0**
	108nm,0.5s						
TKM2	**Tokmak 2**	**3.00**	**75**	P	**Pb**	**19 11 45.8**	**-0.9**
	SNR=16						
ULHL	**Ulahol**	**3.42**	**88**	P	**Pb**	**19 11 54.7**	**+0.9**
	SNR=15						
DZET	**Dzherino**	**4.04**	**213**	⇓Pn	**Pb**	**19 12 03.1**	**-1.4**
	3.7nm,0.4s						
DZET				⇓Lg	Lg	19 13 00.0	
	47nm,0.6s						
KNDC	**Almaty**	**4.04**	**74**	⇑Pg	**Pg**	**19 12 09.2**	**-0.7**
	42nm,0.5s						
KNDC				⇓Lg	Lg	19 12 58.7	
	17nm,0.5s						
PDGK	**Podgornoye**	**5.87**	**77**	⇓Pg	**Pg**	**19 12 43.0**	**-1.9**
	12nm,0.6s						
PDGK				⇓Lg	Lg	19 13 56.8	
	12nm,0.7s						
OTUK	**Ortayu**	**6.03**	**4**	⇑Pg	Pg	19 12 46.2	-1.8
	1.5nm,0.6s						
OTUK				⇑Lg	Lg	19 14 08.0	
	59nm,0.8s						
MK31	**Makanchi Array**	**8.87**	**55**	Pn	**Pn**	**19 13 03.2**	**+1.6**
	0.3nm,0.4s,baz=236,slow=14,SNR=28						
MK31				⇓Lg	Lg	19 15 33.8	
	1.9nm,0.6s,baz=259,slow=30						

IDC ***19*** *19:12:50.3±3.5, 36°.10N×71°.24E, h47km±30km, mb3.6/8, mb1 3.7/10, mb1mx3.3/51, mbtmp3.8/10, ML3.8/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/35, Error ellipse: s-maj=27.2km s-min=21.5km az=162.0*
ISCJB ***19*** *19:12:54.6±0.6, 36°.18N±0°.08×71°.0E±0°.1, h100km, mb3.7/7, Error ellipse: s-maj=15.9km s-min=7.2km az=144.2*
ISC 19 19:12:55.5±0.7**, 36°.26N**±0°.08×**70°.97E**±0°.07**, h100**km**, n14,** σ2§**76/17, mb3.9/7, 1C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.55**	**130**	*e*P	**Pn**	**19 14 17.0**	**+1.0**
DLH				*e*S	**Sn**	**19 15 16.0**	**-2.6**
KK31	**Karatay Array**	**6.84**	**357**	⇑P	Px	19 15 35.3	
	3.1nm,0.2s,baz=128,slow=17,SNR=12						
KK31				⇓S	**Sn**	**19 15 52.5**	**+3.0**
	4.3nm,0.2s,baz=131,slow=30,SNR=8.8						
AAK	**Ala-Archa**	**6.92**	**22**	P	**Pn**	**19 14 32.2**	**-2.3**
	4.2nm,0.3s,baz=186,slow=5.0,SNR=4.1						
AAK				S	**Sn**	**19 15 48.6**	**-3.1**
	6.0nm,0.3s,baz=228,slow=3.1,SNR=7.2						
AAK				LR	LR	19 17 09.3	
	comp=Z,21nm,18.8s,baz=36,slow=37						
GEYT	**Alibeck**	**10.40**	**283**	P	**Pn**	**19 15 20.0**	**-1.6**
	0.3nm,0.3s,baz=65,slow=6.8,SNR=4.9						
GEYT				S	**Sn**	**19 17 10.8**	**-5.4**
	1.5nm,0.3s,baz=64,slow=13,SNR=10						
AKTO	**Aktyubinsk**	**16.98**	**331**	P	**Pn**	**19 16 46.6**	**0.0**
	0.3nm,0.3s,baz=80,slow=6.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**20.14**	**24**	P	**P**	**19 17 19.0**	**-2.5**
	2.7nm,0.5s,baz=229,slow=9.8,SNR=13						
FINES	**FINESS Array B**	**37.67**	**326**	P	**P**	**19 20 02.7**	**+2.1**
	0.5nm,0.3s,baz=117,slow=11,SNR=5.9						
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**19 20 34.3**	**+3.1**
	2.3nm,0.7s,baz=119,slow=7.5,SNR=9.7						
HFS	**Hagfors**	**43.24**	**322**	P	**P**	**19 20 48.7**	**+2.1**
	1.7nm,0.3s,baz=99,slow=9.6,SNR=21						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**19 20 59.7**	**+2.6**
	comp=Z,0.9nm,0.4s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**19 21 00.1**	**+2.9**
	comp=Z,1.1nm,0.4s,baz=97,slow=7.7,SNR=7.2						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**19 23 30.7**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=52,slow=6.6,SNR=13						
YKA	**Yellowknife Ar**	**81.48**	**3**	P	**P**	**19 25 02.3**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=348,slow=5.3,SNR=3.5						
WRA	**Warramunga Arr**	**81.89**	**122**	P	**P**	**19 25 04.1**	**0.0**
	comp=Z,0.4nm,1.0s,baz=326,slow=5.1,SNR=2.7						

IDC ***19*** *19:21:28.8±1.4, 34°.55S×73°.92W, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.8/21, mbtmp3.6/6, ML3.7/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/26, Error ellipse: s-maj=32.7km s-min=29.7km az=101.0*
ISCJB ***19*** *19:21:31.5±1.1, 34°.61S±0°.10×73°.8W±0°.1, h33km, mb3.7/3, MS3.2/3, Error ellipse: s-maj=17.6km s-min=12.1km az=34.9*
ISC 19 19:21:33.7±1.2**, 34°.6S**±0°.1×**73°.9W**±0°.1**, h35**km**, n11,** σ0§**46/8, mb3.9/3, MS3.1/3, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**5.57**	**59**	Pn	**Pn**	**19 22 53.8**	**-0.4**
	0.4nm,0.3s,baz=231,slow=14,SNR=16						
CFAA				Sn	**Sn**	**19 23 57.3**	**+0.3**
	0.8nm,0.3s,baz=108,slow=18,SNR=12						
PLCA	**Paso Flores**	**6.67**	**158**	Pn	**Pn**	**19 23 09.0**	**-0.2**
	0.9nm,0.3s,baz=326,slow=12,SNR=13						
PLCA				LR	LR	19 25 45.2	
	comp=Z,276nm,20.9s,baz=292,slow=38						
LVC	**Limon Verde**	**12.70**	**21**	LR	LR	19 28 39.8	
	comp=Z,219nm,18.5s,baz=222,slow=34						
CPUP	**Villa Florida**	**16.44**	**64**	LR	LR	19 31 45.5	
	comp=Z,348nm,19.2s,baz=192,slow=37						
LPAZ	**La Paz**	**18.94**	**17**	P	**P**	**19 25 52.2**	**-0.1**
	0.1nm,0.3s,baz=174,slow=8.5,SNR=4.8						
LPAZ				LR	LR	19 32 32.0	
	comp=Z,22nm,19.2s,baz=226,slow=35						
SIV	**San Ignacio**	**21.79**	**35**	P	**P**	**19 26 22.7**	**0.0**
	0.8nm,0.5s,baz=239,slow=12,SNR=5.7						
NNA	**Nana**	**22.67**	**352**	LR	LR	19 32 42.5	
	comp=Z,65nm,21.9s,baz=168,slow=30						
ATAH	**Atahualpa**	**27.64**	**350**	LR	LR	19 36 04.8	
	comp=Z,44nm,18.0s,baz=223,slow=32						
TXAR	**Lajitas Array**	**69.54**	**332**	P	**P**	**19 32 38.7**	**-0.3**
	0.5nm,0.4s,baz=159,slow=9.0,SNR=10						
TXAR				LR	LR	19 56 52.5	
	comp=Z,38nm,21.5s,baz=0.0,slow=31						
TORD	**Torodi Ar. Bea**	**85.82**	**71**	P	**P**	**19 34 10.2**	**+0.3**
	0.9nm,1.0s,baz=276,slow=2.8,SNR=3.5						
BVAR	**Borovoye Array**	**148.73**	**43**	PKPbc	**PKPbc**	**19 41 17.6**	**+0.8**
	0.8nm,0.4s,baz=307,slow=1.8,SNR=9.5						

IDC 19 19:32:02.6±5.7**, 7°.39S×127°.84E, h273**km±67km**, mb2.5/2, mb1 2.7/5, mb1mx2.6/30, mbtmp3.3/5, Error ellipse: s-maj=73.0km s-min=20.5km az=49.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.99**	**236**	P	Pn	19 33 18.2	-0.8
	4.0nm,0.3s,baz=126,slow=3.3,SNR=11						
BATI				S	S	19 34 21.1	+0.8
	2.7nm,0.3s,baz=30,slow=22,SNR=8.6						
WRA	**Warramunga Arr**	**13.98**	**154**	P	Pn	19 35 08.3	-1.6
	0.1nm,0.3s,baz=330,slow=12,SNR=6.0						
WRA				S	S	19 37 36.4	-8.0
	0.1nm,0.3s,baz=329,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**17.20**	**161**	P	P	19 35 45.9	+0.5
	0.1nm,0.3s,baz=341,slow=11,SNR=20						
SONM	**Songino Array**	**58.16**	**343**	P	P	19 41 28.0	-0.4
	0.2nm,0.8s,baz=141,slow=4.8,SNR=2.0						
MKAR	**Makanchi Array**	**67.40**	**328**	P	P	19 42 29.4	+0.4
	0.1nm,0.5s,baz=117,slow=7.2,SNR=2.2						

IDC ***19*** *19:33:01.9±1.5, 15°.66N×119°.86E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.3/43, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx2.4/30, Error ellipse: s-maj=144.0km s-min=24.3km az=76.0*
ISCJB ***19*** *19:33:04.6±0.9, 15°.65N±0°.07×119°.32E±0°.08, h31km, mb3.4/4, MS3.4/1, Error ellipse: s-maj=11.9km s-min=9.8km az=40.3*
MAN ***19*** *19:33:05, 15°.72N×119°.40E, h11km, mb4.7, ML3.6, MS3.6*
ISC 19 19:33:05.9±1.0**, 15°.66N**±0°.06×**119°.50E**±0°.08**, h31**km**, n13,** σ1§**58/17, mb3.5/4, 2C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.41**	**74**	*e*P	**Pb**	**19 33 14.8**	**-0.2**
SCZP				*e*S	**Sb**	**19 33 19.6**	**-1.7**
BOLP	**Bolinao**	**0.82**	**29**	*e*P	**Pn**	**19 33 21.0**	**-0.3**
BOLP				*e*S	**Sb**	**19 33 28.4**	**-4.0**
BCPH	**Baguio City Da**	**1.26**	**55**	⇑*i*P	**Pb**	**19 33 28.3**	**-1.0**
BCPH				*i* S	**Sb**	**19 33 45.9**	**+0.7**
PCPH	**Palayan**	**1.54**	**93**	⇑*e*P	**Pn**	**19 33 31.7**	**+0.4**
BALP	**Baler**	**2.00**	**87**	*e*P	**Pb**	**19 33 40.5**	**-1.2**
BALP				*e*S	**Sb**	**19 34 07.5**	**+1.4**
LUBP	**Lubang**	**2.05**	**159**	*e*P	**Pb**	**19 33 41.3**	**-1.2**
ABRA	**Dolores**	**2.29**	**30**	*e*P	**Pn**	**19 33 43.5**	**+1.9**
APYP	**Conner**	**2.75**	**37**	*e*P	**Pn**	**19 33 49.6**	**+1.7**
BATI	**Baumata**	**26.03**	**171**	LR	LR	19 48 57.9	
	comp=Z,110nm,18.4s,baz=218,slow=37						
SONM	**Songino Array**	**33.86**	**344**	P	**P**	**19 39 46.5**	**+0.8**
	0.2nm,0.6s,baz=164,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**38.27**	**157**	P	**P**	**19 40 22.2**	**-1.4**
	0.7nm,0.6s,baz=339,slow=9.2,SNR=10.0						
WRA				PcP	**PcP**	**19 42 38.0**	**+0.5**
	0.2nm,0.4s,baz=343,slow=3.1,SNR=5.0						
ASAR	**Alice Springs**	**41.55**	**160**	P	**P**	**19 40 50.7**	**-0.1**
	0.8nm,0.7s,baz=339,slow=6.7,SNR=20						
YKA	**Yellowknife Ar**	**91.41**	**22**	P	**P**	**19 46 09.7**	**+0.9**
	0.1nm,0.6s,baz=314,slow=5.1,SNR=4.4						

NNC ***19*** *19:33:21.6±0.9, 42°.26N×71°.67E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.8km s-min=3.2km az=11.0*
ISCJB ***19*** *19:33:22.7±0.5, 42°.25N±0°.03×71°.68E±0°.04, h10km, Error ellipse: s-maj=4.5km s-min=3.8km az=30.8*
KRNET ***19*** *19:33:23.5±0.1, 42°.20N×71°.69E, h20km, mb3.8*
ISC 19 19:33:22.0±0.9**, 42°.26N**±0°.03×**71°.66E**±0°.04**, h10**km**, n37,** σ1§**45/54, 34C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.52**	**154**	*e*P	**Pg**	**19 33 31.2**	**-0.9**
	baz=152						
ARK				*e*S	**Sg**	**19 33 37.9**	**-1.0**
	baz=152						
MNAS	**Manas**	**0.67**	**70**	⇑P	**Pg**	**19 33 33.8**	**-1.1**
	30nm,0.4s						
MNAS				⇑S	**Sg**	**19 33 43.3**	**-0.4**
	52nm,0.3s						
KK31	**Karatay Array**	**1.19**	**315**	⇑P	**Pn**	**19 33 44.2**	**-0.5**
	16nm,0.2s,baz=132,slow=17,SNR=285						
KK31				⇑S	**Sb**	**19 34 00.8**	**+0.7**
	32nm,0.3s,baz=142,slow=30,SNR=15						
AML	**Almayashu**	**1.52**	**94**	P	**Pn**	**19 33 48.5**	**-1.1**
	SNR=63						
AML	**Almayashu**	**1.52**	**94**	⇑*i*P	**Pn**	**19 33 48.2**	**-1.4**
	baz=92						
AML				⇑*i*S	**Sn**	**19 34 08.4**	**-1.2**
	baz=92						
EKS2	**Erkin-Say**	**1.62**	**75**	P	**Pn**	**19 33 50.9**	**+0.2**
	SNR=87						
EKS2	**Erkin-Say**	**1.62**	**75**	⇑*i*P	**Pn**	**19 33 50.8**	**+0.1**
	baz=73						
EKS2				⇑*i*S	**Sn**	**19 34 11.8**	**+0.1**
	baz=73						
EKS	**Erkin-Say**	**1.63**	**75**	*i* P	**Pn**	**19 33 51.4**	**+0.6**
	baz=72						
EKS				*e*S	**Sb**	**19 34 13.4**	**+0.6**
	baz=72						
ARLS	**Aral**	**2.03**	**101**	*i* P	**Pn**	**19 33 57.6**	**+1.3**
	baz=99						
UCH	**Uchtor**	**2.12**	**90**	P	**Pn**	**19 33 59.6**	**+1.7**
	SNR=39						
UCH	**Uchtor**	**2.12**	**90**	⇑*i*P	**Pn**	**19 33 59.3**	**+1.4**
	baz=88						
UCH				⇑*i*S	**Sb**	**19 34 27.5**	**+0.2**
	baz=88						
SALK	**Salom-Alik**	**2.13**	**130**	*e*P	**Pn**	**19 33 57.8**	**0.0**
	baz=129						
SALK				*e*S	**Sn**	**19 34 23.9**	**-0.5**
	baz=129						
AAK	**Ala-Archa**	**2.13**	**79**	Pn	**Pb**	**19 34 00.5**	**-0.4**
	89nm,0.4s						
AAK				⇑Sn	**Sb**	**19 34 29.3**	**+1.9**
	59nm,0.5s						
AAK	**Ala-Archa**	**2.13**	**79**	P	**Pb**	**19 34 00.2**	**-0.6**
	SNR=188						
AAK	**Ala-Archa**	**2.13**	**79**	⇑*i*P	**Pb**	**19 34 00.4**	**-0.4**
	baz=77						
AAK				⇑*i*S	**Sb**	**19 34 28.7**	**+1.3**
	baz=77						
CHVK	**Chauvay**	**2.17**	**169**	*e*P	**Pn**	**19 33 58.5**	**+0.2**
	baz=169						
CHVK				*e*S	**Sn**	**19 34 25.6**	**+0.3**
	baz=169						
FRU	**Bishkek**	**2.26**	**74**	*e*P	**Pb**	**19 34 02.0**	**-0.9**
	baz=73						
BTK	**

OTUK	**Ortayu**	**6.00**	**4**	⇑Pg	**Pg**	**19 35 15.2**	**-1.6**
	0.6nm,0.4s						
OTUK				⇑Lg	Lg	19 36 37.0	
	7.4nm,0.5s						
MK31	**Makanchi Array**	**8.84**	**56**	Pn	**Pn**	**19 35 30.9**	**+1.1**
	0.4nm,0.5s,baz=241,slow=14,SNR=24						
MK31				Sn	**Sn**	**19 37 13.4**	**+3.9**
	0.5nm,0.5s,baz=243,slow=23,SNR=4.2						
MK31				⇑Lg	Lg	19 38 02.6	
	1.2nm,0.5s,baz=252,slow=29,SNR=3.7						
KURBB	**Kurchatov Arra**	**9.61**	**27**	⇑Pn	**Pn**	**19 35 39.2**	**-1.0**
	0.3nm,0.3s						
KURBB				⇑Sn	**Sn**	**19 37 30.8**	**+2.6**
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	19 38 24.0	
	5.3nm,0.6s						
KURK	**Kurchatov**	**9.72**	**27**	⇑Pn	Pn	19 35 39.2	-2.5
	0.4nm,0.7s						
KURK				⇑Sn	**Sn**	**19 37 30.8**	**-0.1**
	0.5nm,0.7s						
KURK				⇓Lg	Lg	19 38 27.3	
	2.6nm,0.7s						

*NNC **19** 19:55:30.8±1.8, 42°.27N×71°.65E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=18.1km s-min=6.7km az=7.0
*KRNET **19** 19:55:31.3±0.1, 42°.21N×71°.65E, h17km, mb3.4*
ISC 19 19:55:29.9±1.4, **42°.24N**±0°.03×**71°.65E**±0°.04, **h5**km±11km,
n28,σ1⇕**14**/**40**, **15C-7D**, **Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.50**	**152**	*eP*	**Pg**	**19 55 39.5**	**-0.1**
	baz=150						
ARK				*eS*	**Sg**	**19 55 46.6**	**+0.5**
	baz=150						
MNAS	**Manas**	**0.68**	**69**	⇑P	**Pg**	**19 55 42.8**	**-0.2**
	13nm,0.2s						
MNAS				⇓S	**Sg**	**19 55 52.9**	**+1.1**
	29nm,0.4s						
KK31	**Karatay Array**	**1.20**	**316**	⇑P	**Pn**	**19 55 53.0**	**-0.5**
	16nm,0.2s,baz=130,slow=17,SNR=269						
KK31				S	**Sb**	**19 56 09.7**	**+0.6**
	40nm,0.4s,baz=141,slow=30,SNR=14						
AML	**Almayashu**	**1.52**	**93**	P	**Pn**	**19 55 57.2**	**-1.1**
	SNR=34						
AML	**Almayashu**	**1.52**	**93**	⇑*iP*	**Pn**	**19 55 57.3**	**-0.9**
	baz=92						
AML				⇑*iS*	**Sn**	**19 56 17.5**	**-1.2**
	baz=92						
EKS2	**Erkin-Say**	**1.63**	**74**	P	**Pn**	**19 55 59.9**	**+0.5**
	SNR=66						
EKS2	**Erkin-Say**	**1.63**	**74**	⇑*iP*	**Pn**	**19 55 59.6**	**+0.1**
	baz=73						
EKS2				⇑*iS*	**Sn**	**19 56 21.0**	**+0.1**
	baz=73						
EKS	**Erkin-Say**	**1.64**	**74**	*iP*	**Pn**	**19 56 00.3**	**+0.8**
	baz=73						
ARLS	**Aral**	**2.03**	**100**	*iP*	**Pb**	**19 56 06.5**	**-0.9**
	baz=99						
SALK	**Salom-Alik**	**2.12**	**129**	*eP*	**Pn**	**19 56 06.9**	**+0.6**
	baz=129						
SALK				*eS*	**Sn**	**19 56 33.0**	**-0.1**
	baz=129						
UCH	**Uchtor**	**2.13**	**89**	P	**Pb**	**19 56 08.4**	**-0.9**
	SNR=34						
UCH	**Uchtor**	**2.13**	**89**	⇑*iP*	**Pb**	**19 56 08.3**	**-0.9**
	baz=89						
UCH				⇑*iS*	**Sb**	**19 56 37.5**	**+1.4**
	baz=89						
AAK	**Ala-Archa**	**2.14**	**79**	Pn	**Pb**	**19 56 09.3**	**-0.1**
	63nm,0.3s						
AAK				⇑Sn	**Sb**	**19 56 38.1**	**+1.7**
	26nm,0.4s						
AAK	**Ala-Archa**	**2.14**	**79**	P	**Pb**	**19 56 08.9**	**-0.5**
	SNR=174						
AAK	**Ala-Archa**	**2.14**	**79**	⇑*iP*	**Pb**	**19 56 09.1**	**-0.2**
	baz=78						
AAK				⇑*iS*	**Sb**	**19 56 38.0**	**+1.7**
	baz=78						
CHVK	**Chauvay**	**2.15**	**168**	*eP*	**Pn**	**19 56 06.9**	**+0.3**
	baz=168						
CHVK				*eS*	**Sb**	**19 56 34.1**	**-2.4**
	baz=168						
BTK	**Batken**	**2.27**	**196**	*eP*	**Pb**	**19 56 10.0**	**-1.4**
	baz=197						
BTK				*eS*	**Sb**	**19 56 40.1**	**+0.2**
	baz=197						
USP	**Ospenovka**	**2.34**	**63**	P	**Pb**	**19 56 11.6**	**-1.0**
	SNR=18						
CHMS	**Chumysh**	**2.41**	**71**	P	**Pb**	**19 56 12.8**	**-1.0**
	SNR=25						
CHMS	**Chumysh**	**2.41**	**71**	⇑*iP*	**Pb**	**19 56 12.6**	**-1.2**
	baz=70						
CHMS				⇑*iS*	**Sb**	**19 56 45.3**	**+1.4**
	baz=70						
KBK	**Karagaybulak**	**2.48**	**79**	P	**Pb**	**19 56 14.8**	**-0.2**
	SNR=49						
SFK	**Sufi-Kurgan**	**2.63**	**147**	⇓Pn	**Pn**	**19 56 14.3**	**+1.0**
	4.7nm,0.3s						
SFK				⇓Lg	Lg	19 56 52.7	
	15nm,0.4s						
KZA	**Kyzart**	**2.68**	**92**	P	**Pb**	**19 56 18.2**	**-0.4**
	SNR=46						
TKM2	**Tokmak 2**	**2.99**	**76**	⇑Pn	**Pb**	**19 56 22.7**	**-1.2**
	5.5nm,0.3s						
TKM2				⇓Sn	**Sb**	**19 57 03.2**	**+2.3**
	32nm,0.5s						
TKM2	**Tokmak 2**	**2.99**	**76**	P	**Pb**	**19 56 22.5**	**-1.4**
	SNR=7.1						
ULHL	**Ulahol**	**3.41**	**88**	P	Pn	19 56 27.2	+3.2
	SNR=14						
KNDC	**Almaty**	**4.04**	**74**	⇓Pg	**Pg**	**19 56 45.9**	**-1.3**
	33nm,0.5s						
KNDC				⇑Lg	Lg	19 57 38.5	
	13nm,0.5s						
DZET	**Dzherino**	**4.05**	**213**	⇓Pg	**Pb**	**19 56 43.8**	**+2.0**
	3.3nm,0.4s						
DZET				⇓Lg	Lg	19 57 38.1	
	20nm,0.5s						

*JMA **19** 20:20:06.6±0.2, 43°.59N×146°.77E, h47km±3km, M3.1*
*ISCJB **19** 20:20:07.1±1.1, 43°.64N±0°.06×146°.73E±0°.09,*
h41km±12km, Error ellipse: s-maj=12.6km s-min=8.1km
az=38.9
*SKHL **19** 20:20:07.0±0.1, 43°.58N×146°.76E, h36km±1km, mb4.8/3*
ISC 19 20:20:06.8±1.9, **43°.60N**±0°.08×**146°.83E**±0°.07, **h36**km±14km,
n14,σ1⇕**22**/**19**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.27**	**0**	*eP*	Pn	20 20 14.6	-0.2
SHO				AMB	AMB	20 20 14.7	
	830nm,0.2s						
SHO				*eS*	**Sn**	**20 20 20.2**	**-1.5**
SHO				A	A	20 20 20.4	
	1μm,0.2s						
SHO				A	A	20 20 20.4	
	2μm,0.2s						
NEM2	**Nemuro 2**	**0.82**	**254**	P	**Pn**	**20 20 21.5**	**-0.3**
NEM2				*eS*	**Sn**	**20 20 32.1**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**0.82**	**302**	*eP*	Pn	20 20 20.9	-0.9
YUK				AMB	AMB	20 20 21.3	
	400nm,0.3s						
YUK				*eS*	**Sn**	**20 20 31.4**	**-1.4**
YUK				A	A	20 20 33.3	
	412nm,0.4s						
YUK				A	A	20 20 33.3	
	760nm,0.4s						
JRA	**Rausu**	**1.28**	**286**	P	**Pn**	**20 20 28.0**	**-0.1**
JRA				*eS*	**Sn**	**20 20 43.6**	**-0.4**
JNK	**Nakash**	**1.53**	**270**	P	**Pn**	**20 20 31.3**	**-0.2**
JAK	**Akkeshi**	**1.67**	**250**	P	**Pn**	**20 20 33.2**	**-0.2**
JAK				*eS*	**Sn**	**20 20 52.7**	**-0.8**
KUR	**Kuril'sk**	**1.79**	**24**	*eP*	**Pn**	**20 20 36.3**	**+1.2**
KUR				AMB	AMB	20 20 37.2	
	200nm,0.2s						
KUR				*eS*	**Sn**	**20 20 53.5**	**-3.2**
KUR				A	A	20 20 55.7	
	560nm,3.6s						
KUR				A	A	20 20 55.7	
	390nm,3.6s						
KUR				A	A	20 20 56.7	
	99nm,0.2s						
KUR				A	A	20 20 56.7	
	371nm,0.2s						

JTKR	**Abashiri--Toko**	**2.15**	**281**	P	**Pn**	**20 20 40.5**	**+0.5**
JAR	**Ashorobuto**	**2.25**	**263**	P	**Pn**	**20 20 42.0**	**+0.6**
JOB	**Onbets**	**2.29**	**253**	P	**Pn**	**20 20 42.5**	**+0.5**
JMP	**Maruseppu**	**2.54**	**280**	P	**Pn**	**20 20 46.1**	**+0.6**
JCH	**Churui**	**2.72**	**250**	P	**Pn**	**20 20 48.6**	**+0.7**
JKK2	**Kamakawa 2**	**2.97**	**277**	P	**Pn**	**20 20 52.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.42**	**321**	*eP*	**Pn**	**20 21 12.5**	**+1.3**
YSS				*eS*	**Sn**	**20 22 01.5**	**+0.2**
YSS				A	A	20 22 03.3	
	123nm,0.2s						

IDC 19 20:23:19.9±6.2, **5°.14S×154°.95E, h128**km±50km, **mb3.4**/8,
mb1 3.7/10, **mb1mx3.5**/27, **mbtmp3.9**/10, **MS2.7**/1,
Ms1 2.7/1, **ms1mx2.4**/16, **Error ellipse: s-maj=43.7km**
s-min=24.1km az=93.0, Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.54**	**131**	LR	LR	20 27 54.6	
	comp=Z,66nm,20.7s,baz=305,slow=42						
HNR	**Honiara**	**6.54**	**131**	*eP*	Pn	20 24 48.0	-5.7
HNR				*eS*	Sn	20 26 03.0	-4.0
PMG	**Port Moresby**	**8.81**	**241**	P	Pn	20 25 23.1	-1.4
PMG				S	Sn	20 27 04.5	+2.3
CTA	**Charters Tower**	**17.10**	**209**	P	Pn	20 27 12.1	+0.7
	0.2nm,0.3s,baz=46,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**24.88**	**232**	P	P	20 28 31.0	0.0
	1.3nm,0.5s,baz=56,slow=10,SNR=41						
ASAR	**Alice Springs**	**27.40**	**226**	P	P	20 28 53.6	-0.1
	0.3nm,0.3s,baz=58,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**29.40**	**204**	P	P	20 29 11.1	-0.2
	0.7nm,0.4s,baz=25,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**59.97**	**295**	P	P	20 33 13.8	+0.4
	2.5nm,0.8s,baz=119,slow=5.3,SNR=18						
SONM	**Songino Array**	**67.77**	**327**	P	P	20 34 04.4	+0.3
	0.2nm,0.6s,baz=143,slow=4.8,SNR=3.9						
MKAR	**Makanchi Array**	**82.00**	**319**	P	P	20 35 26.5	+0.7
	0.5nm,0.7s,baz=106,slow=4.8,SNR=7.5						
ZALV	**Zalesovo Beam**	**82.63**	**326**	P	P	20 35 27.2	-1.7
	0.2nm,0.3s,baz=111,slow=7.9,SNR=2.5						
YKA	**Yellowknife Ar**	**94.73**	**28**	P	P	20 36 27.7	+1.1
	0.1nm,0.4s,baz=59,slow=8.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.45**	**289**	PKPbc	PKPbc	20 43 01.3	-0.9
	0.2nm,0.3s,baz=95,slow=1.5,SNR=5.6						

*SKO **19** 20:28:33.1, 40°.03N×21°.58E, h0km*
*ATH **19** 20:28:34.7, 40°.21N×21°.72E, h14km±1km, MD3.2/35*
*CSEM **19** 20:28:34.5±0.1, 40°.19N×21°.72E, h0km, MD3.2, Error*
ellipse: s-maj=2.8km s-min=2.4km az=96.0
*THE **19** 20:28:35.1, 40°.16N×21°.69E, h0km±4km, ML2.4/7, Error*
ellipse: s-maj=4.0km s-min=0.8km az=259.0
ISC 19 20:28:34.9±1.0, **40°.19N**±0°.01×**21°.73E**±0°.01, **h2**km±9km,
n112,σ0⇕**79**/**182**, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**16**	P	**Pg**	**20 28 37.5**	**+0.1**
KZN				S	**Sg**	**20 28 40.7**	**+1.6**
KZN	**Kozani**	**0.13**	**16**	*ePG*	**Pg**	**20 28 37.7**	**+0.3**
KZN				*eSG*	**Sg**	**20 28 40.9**	**+1.8**
KZN	**Kozani**	**0.13**	**16**	P	**Pg**	**20 28 37.5**	**+0.1**
KZN				S	**Sg**	**20 28 40.7**	**+1.6**
MEV	**Metsovon**	**0.55**	**224**	P	**Pg**	**20 28 45.1**	**-0.5**
MEV	**Metsovon**	**0.55**	**224**	P	**Pg**	**20 28 45.1**	**-0.5**
NEST	**Nestorio**	**0.57**	**294**	*i* PG	**Pg**	**20 28 45.0**	**-0.8**
NEST				*i* SG	**Sg**	**20 28 54.4**	**+1.2**
NEST	**Nestorio**	**0.57**	**294**	P	**Pg**	**20 28 44.8**	**-1.0**
NEST	**Nestorio**	**0.57**	**294**	*ePB*	**Pg**	**20 28 44.9**	**-0.9**
NEST				*eSB*	**Sg**	**20 28 53.5**	**+0.3**
NEST	**Nestorio**	**0.57**	**294**	*i* Pg	**Pg**	**20 28 45.0**	**-0.8**
NEST				*eSb*	**Sg**	**20 28 53.4**	**+0.3**
NEST				*i* Sg	**Sg**	**20 28 54.4**	**+1.2**
LIT	**Litokhoron**	**0.59**	**98**	P	**Pg**	**20 28 46.2**	**0.0**
LIT				S	**Sb**	**20 28 56.0**	**-0.8**
LIT	**Litokhoron**	**0.59**	**98**	*ePB*	**Pg**	**20 28 46.3**	**0.0**
LIT	**Litokhoron**	**0.59**	**98**	P	**Pg**	**20 28 46.1**	**0.0**
LIT				S	**Sb**	**20 28 56.0**	**-0.8**
FNA	**Florina**	**0.66**	**336**	*i* PG	**Pg**	**20 28 46.7**	**-0.8**
FNA				*i* SG	**Sg**	**20 28 56.0**	**0.0**
FNA	**Florina**	**0.66**	**336**	P	**Pg**	**20 28 46.6**	**-0.9**
FNA				S	**Sb**	**20 28 57.7**	**-1.0**
FNA	**Florina**	**0.66**	**336**	*ePG*	**Pg**	**20 28 46.9**	**-0.6**
FNA	**Florina**	**0.66**	**336**	*ePB*	**Pg**	**20 28 46.7**	**-0.8**
FNA				*eSB*	**Sg**	**20 28 55.7**	**-0.3**
FNA	**Florina**	**0.66**	**336**	*ePb*	**Pg**	**20 28 46.7**	**-0.8**
FNA				*eSb*	**Sg**	**20 28 55.7**	**-0.3**
FNA				*i* Sg	**Sg**	**20 28 56.0**	**0.0**
FNA				S	**Sb**	**20 28 57.7**	**-1.0**
THL	**Klokotos Trika**	**0.66**	**160**	P	**Pg**	**20 28 46.4**	**-1.2**
THL				S	**Sb**	**20 28 58.0**	**-0.7**
THL	**Klokotos Trika**	**0.66**	**160**	*ePB*	**Pg**	**20 28 46.8**	**-0.8**
THL				*eSB*	**Sg**	**20 28 57.5**	**+1.4**
THL	**Klokotos Trika**	**0.66**	**160**	P	**Pg**	**20 28 46.4**	**-1.2**
THL	**Klokotos Trika**	**0.66**	**160**	*ePb*	**Pg**	**20 28 46.8**	**-0.8**
THL				*eSb*	**Sg**	**20 28 57.5**	**+1.4**
THL				S	**Sb**	**20 28 58.0**	**-0.7**
KBN	**Korca**	**0.84**	**302**	*i* PG	**Pg**	**20 28 50.8**	**-0.3**
KBN				*i* SG	**Sb**	**20 29 03.9**	**-0.1**
KBN	**Korca**	**0.84**	**302**	P	**Pg**	**20 28 50.6**	**-0.5**
KBN				S	**Sb**	**20 29 03.7**	**-0.3**
KBN	**Korca**	**0.84**	**302**	P	**Pg**	**20 28 50.6**	**-0.5**
KBN				S	**Sb**	**20 29 03.7**	**-0.3**
JAN	**Janina**	**0.86**	**232**	*ePB*	**Pg**	**20 28 50.2**	**-1.1**
JAN	**Janina**	**0.86**	**232**	*ePb*	**Pg**	**20 28 50.2**	**-1.1**
GRG	**Griva**	**0.93**	**34**	P	**Pg**	**20 28 52.7**	**0.0**
GRG				S	**Sn**	**20 29 08.6**	**-0.3**
GRG	**Griva**	**0.93**	**34**	*ePG*	**Pg**	**20 28 52.9**	**+0.2**
GRG				*eSG*	**Sg**	**20 29 04.5**	**-0.2**
GRG	**Griva**	**0.93**	**34**	*ePB*	**Pg**	**20 28 52.4**	**-0.3**
GRG	**Griva**	**0.93**	**34**	*ePb*	**Pg**	**20 28 52.4**	**-0.3**
GRG	**Griva**	**0.93**	**34**	P	**Pg**	**20 28 52.7**	**0.0**
GRG	**Griva**	**0.93**	**34**	*ePg*	**Pg**	**20 28 52.9**	**+0.2**
GRG				*eSg*	**Sg**	**20 29 04.5**	**-0.2**
GRG				S	**Sn**	**20 29 08.6**	**-0.3**
THE	**Thessaloniki**	**1.05**	**64**	*ePN*	**Pb**	**20 28 55.9**	**+0.2**
THE	**Thessaloniki**	**1.05**	**64**	*ePn*	**Pb**	**20 28 55.9**	**+0.2**
HORT	**Hortiatis**	**1.13**	**68**	*ePN*	**Pg**	**20 28 56.4**	**-0.1**
HORT				*eSN*	**Sb**	**20 29 12.4**	**+0.1**
HORT	**Hortiatis**	**1.13**	**68**	*ePB*	**Pb**	**20 28 57.2**	**0.0**
HORT				*eSB*	**Sb**	**20 29 12.4**	**+0.1**
HORT	**Hortiatis**	**1.13**	**68**	*ePn*	**Pg**	**20 28 56.4**	**-0.1**
HORT	**Hortiatis**	**1.13**	**68**	*ePb*	**Pb**	**20 28 57.2**	**0.0**
HORT				*eSb*	**Sb**	**20 29 12.4**	**+0.1**
DSL	**Palaion Diasel**	**1.16**	**205**	*ePB*	**Pg**	**20 28 56.9**	**-0.2**
DSL				*eSB*	**Sb**	**20 29 13.0**	**-0.1**
DSL	**Palaion Diasel**	**1.16**	**205**	*ePb*	**Pg**	**20 28 56.9**	**-0.2**
DSL				*eSb*	**Sb**	**20 29 13.0**	**-0.1**
OHR	**Ohrid**	**1.16**	**323**	*i* Pg	**Pg**	**20 28 55.2**	**-2.0**
OHR				*i* Sg	**Sb**	**20 29 13.3**	**0.0**
OHR				*eLg*	Lg	20 29 16.3	
	comp=N,154nm,1.2s						
OHR				*eLg*	Lg	20 29 16.4	
	comp=E,231nm,1.0s						
OHR	**Ohrid**	**1.16**	**323**	*i* Pg	**Pg**	**20 28 55.2**	**-2.1**
OHR				*i* Sg	**Sb**	**20 29 13.3**	**0.0**
OHR				*eLg*	Lg	20 29 16.3	
	comp=E,154nm,1.2s						
MAKR	**Makrakomi, Fth**	**1.21**	**165**	*ePN*	**Pg**	**20 28 57.4**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.21**	**165**	*ePn*	**Pg**	**20 28 57.4**	**-0.8**
AGG	**Agios Georgios**	**1.25**	**158**	P	**Pg**	**20 28 58.3**	**-0.7**
AGG				S	**Sn**	**20 29 17.6**	**+0.7**
AGG	**Agios Georgios**	**1.25**	**158**	*ePN*	**Pg**	**20 28 58.2**	**-0.7**
AGG	**Agios Georgios**	**1.25**	**158**	*ePG*	**Pg**	**20 28 58.4**	**-0.5**
AGG				*eSB*	**Sb**	**20 29 16.1**	**+0.3**
AGG	**Agios Georgios**	**1.25**	**158**	*ePg*	**Pg**	**20 28 58.4**	**-0.5**
AGG				*eSb*	**Sb**	**20 29 16.1**	**+0.3**
AGG				S	**Sn**	**20 29 17.6**	**+0.7**
IGT	**Igoumenitsa**	**1.26**	**239**	*ePB*	**Pg**	**20 28 58.4**	**-0.6**
IGT				*eSB*	**Sb**	**20 29 15.8**	**-0.1**
IGT	**Igoumenitsa**	**1.26**	**239**	*ePb*	**Pg**	**20 28 58.4**	**-0.6**
IGT				*eSb*	**Sb**	**20 29 15.8**	**-0.1**
EVR	**Evrytania**	**1.27**	**177**	P	**Pg**	**20 28 58.1**	**-1.2**
EVR				S	**Sn**	**20 29 17.7**	**+0.3**
EVR	**Evrytania**	**1.27**	**177**	*ePN*	**Pg**	**20 28 58.5**	**-0.8**
EVR				*eSB*	**Sn**	**20 29 17.5**	**+0.1**
EVR	**Evrytania**	**1.27**	**177**	P	**Pg**	**20 28 58.1**	**-1.2**
EVR	**Evrytania**	**1.27**	**177**	*ePn*	**Pg**	**20 28 58.5**	**-0.8**
EVR				*eSb*	**Sn**	**20 29 17.5**	**+0.1**
VAY	**Valandovo**	**1.30**	**29**	*i* Pn	**Pn**	**20 29 00.8**	**+0.7**
VAY				*i* Sn	**Sn**	**20 29 21.6**	**+3.5**
VAY				*eLg*	Lg	20 29 25.5	
	comp=N,150nm,2.1s						
VAY				*eLg*	Lg	20 29 33.7	
	comp=E,32nm,0.7s						
VAY	**Valandovo**	**1.30**	**29**	*i* Pn	**Pn**	**20 29 00.7**	**+0.6**
VAY				*i* Sn	**Sn**	**20 29 21.5**	**+3.4**
VAY				*eLg*	Lg	20 29 25.5	
	comp=E,150nm,2.1s						
KNT	**Kendrikon**	**1.32**	**42**	P	**Pb**	**20 29 00.3**	**-0.1**
KNT	**Kendrikon**	**1.32**	**42**	*ePN*	**Pg**	**20 28 59.3**	**-1.0**
KNT	**Kendrikon**	**1.32**	**42**	*ePB*	**Pg**	**20 29 00.1**	**-0.2**
KNT				*eSB*	**Sn**	**20 29 18.5**	**-0.1**
KNT	**Kendrikon**	**1.32**	**42**	*ePn*	**Pg**	**20 28 59.3**	**-1.0**
KNT	**Kendrikon**	**1.32**	**42**	*ePb*	**Pg**	**20 29 00.1**	**-0.2**
KNT	**Kendrikon**	**1.32**	**42**	P	**Pb**	**20 29 00.3**	**-0.1**
KNT				*eSb*	**Sn**	**20 29 18.5**	**-0.1**
PLG	**Polygyros**	**1.33**	**81**	*ePG*	**Pb**	**20 29 00.7**	**+0.1**
PLG				*eSB*	**Sg**	**20 29 17.0**	**-0.6**
PLG	**Polygyros**	**1.33**	**81**	*ePg*	**Pb**	**20 29 00.7**	**+0.1**
PLG				*eSb*	**Sg**	**20 29 17.0**	**-0.6**
SOH	**Sokhos**	**1.39**	**62**	*ePN*	**Pn**	**20 28 59.6**	**-1.8**
SOH				*eSB*	**Sg**	**20 29 19.0**	**-0.7**
SOH	**Sokhos**	**1.39**	**62**	*ePn*	**Pn**	**20 28 59.6**	**-1.8**
SOH				*eSb*	**Sg**	**20 29 19.0**	**-0.7**
XOR	**Xorichti**	**1.40**	**125**	*ePG*	**Pn**	**20 29 01.0**	**-0.4**
XOR				*eSB*	**Sn**	**20 29 20.6**	**+0.2**
XOR	**Xorichti**	**1.40**	**125**	*ePg*	**Pn**	**20 29 01.0**	**-0.4**
XOR				*eSb*	**Sn**	**20 29 20.6**	**+0.2**
NEO	**Neokhori**	**1.45**	**127**	*ePG*	**Pn**	**20 29 01.6**	**-0.6**
NEO	**Neokhori**	**1.45**	**127**	*ePg*	**Pn**	**20 29 01.6**	**-0.6**
PAIG	**Paliouri**	**1.52**	**99**	*ePG*	**Pn**	**20 29 02.9**	**-0.2**
PAIG	**Paliouri**	**1.52**	**99**	*ePg*	**Pn**	**20 29 02.9**	**-0.2**
KEK	**Kerkira**	**1.56**	**253**	*ePB*	**Pg**	**20 29 05.0**	**+0.3**
KEK				*eSB*	**Sg**	**20 29 25.8**	**+0.9**
KEK	**Kerkira**	**1.56**	**253**	*ePb*	**Pg**	**20 29 05.0**	**+0.3**
KEK				*eSb*	**Sg**	**20 29 25.8**	**+0.9**
AXAR	**Agios Charalam**	**1.59**	**153**	*ePG*	**Pn**	**20 29 03.8**	**-0.3**
PDO	**Prodromos**	**1.64**	**195**	*ePB*	**Pn**	**20 29 05.4**	**+0.7**
PDO				*eSB*	**Sg**	**20 29 29.0**	**+1.4**
PDO	**Prodromos**	**1.64**	**195**	*ePb*	**Pn**	**20 29 05.4**	**+0.7**
PDO				*eSb*	**Sg**	**20 29 29.0**	**+1.4**
SKIA	**Skiathos**	**1.69**	**127**	*ePB*	**Pn**	**20 29 05.9**	**+0.5**
SKIA				*eSB*	**Sg**	**20 29 29.2**	**+0.1**
SKIA	**Skiathos**	**1.69**	**127**	*ePb*	**Pn**	**20 29 05.9**	**+0.5**
SKIA				*eSb*	**Sg**	**20 29 29.2**	**+0.1**
OUR	**Ouranopolis**	**1.73**	**84**	*ePN*	**Pn**	**20 29 05.2**	**-0.8**
OUR	**Ouranopolis**	**1.73**	**84**	*ePN*	**Pn**	**20 29 06.4**	**+0.4**
OUR	**Ouranopolis**	**1.73**	**84**	*ePn*	**Pn**	**20 29 06.4**	**+0.4**
SMIA	**Simia**	**1.74**	**138**	*ePG*	**Pg**	**20 29 08.1**	**-0.1**
SMIA	**Simia**	**1.74**	**138**	*ePg*	**Pg**	**20 29 08.1**	**-0.1**
EFP	**Efpalio**	**1.76**	**175**	P	**Pn**	**20 29 06.8**	**+0.4**
EFP	**Efpalio**	**1.76**	**175**	*ePN*	**Pn**	**20 29 07.2**	**+0.8**
EFP				*eSN*	**Sb**	**20 29 30.6**	**+0.1**
EFP	**Efpalio**	**1.76**	**175**	P	**Pn**	**20 29 06.8**	**+0.4**
EFP	**Efpalio**	**1.76**	**175**	*ePn*	**Pn**	**20 29 07.2**	**+0.8**
EFP				*eSn*	**Sb**	**20 29 30.6**	**+0.1**
KALE	**Kalithea**	**1.82**	**170**	*ePN*	**Pn**	**20 29 07.9**	**+0.6**
KALE				*eSN*	**Sb**	**20 29 32.1**	**-0.1**
KALE	**Kalithea**	**1.82**	**170**	*ePn*	**Pn**	**20 29 07.9**	**+0.6**
KALE				*eSn*	**Sb**	**20 29 32.1**	**-0.1**
LKR	**Lokris**	**1.82**	**147**	*ePB*	**Pn**	**20 29 06.8**	**-0.5**
DSF	**Desfina**	**1.88**	**160**	P	**Pn**	**20 29 07.2**	**-0.8**
DSF	**Desfina**	**1.88**	**160**	*ePB*	**Pn**	**20 29 07.3**	**-0.8**
DSF				*eSN*	**Sb**	**20 29 34.2**	**+0.3**
DSF	**Desfina**	**1.88**	**160**	P	**Pn**	**20 29 07.2**	**-0.8**
DSF				*eSn*	**Sb**	**20 29 34.2**	**+0.3**
AOS	**Alonnisos**	**1.95**	**121**	*ePN*	**Pn**	**20 29 09.8**	**+0.8**
AOS	**Alonnisos**	**1.95**	**121**	*ePn*	**Pn**	**20 29 09.8**	**+0.8**
NVR	**Nevrokopi**	**2.00**	**54**	*ePN*	**Pn**	**20 29 09.8**	**+0.1**
NVR				*eSN*	**Sn**	**20 29 35.1**	**-0.1**
NVR	**Nevrokopi**	**2.00**	**54**	*ePn*	**Pn**	**20 29 09.8**	**+0.1**
NVR				*eSn*	**Sn**	**20 29 35.1**	**-0.1**
MRKA	**Markates**	**2.06**	**135**	*ePN*	**Pb**	**20 29 12.1**	**-1.0**
MRKA				*eSN*	**Sn**	**20 29 37.6**	**+0.7**
MRKA	**Markates**	**2.06**	**135**	*ePn*	**Pb**	**20 29 12.1**	**-

VAY				*e*Sn	**Sn**	**20 31 36.9**	**+1.8**
VAY				*i* Lg	Lg	20 31 38.3	
	comp=N,9.5nm,0.5s						
VAY				*i* Lg	Lg	20 31 40.6	
	comp=E,8.1nm,0.6s						
VAY	**Valandovo**	**1.33**	**30**	*i* Pn	**Pg**	**20 31 17.8**	**+0.7**
VAY				*i* Lg	Lg	20 31 38.2	
	comp=E,9.5nm,0.5s						
KNT	**Kendrikon**	**1.35**	**42**	*e*PN	**Pn**	**20 31 16.9**	**-0.4**
KNT	**Kendrikon**	**1.35**	**42**	*e*PG	**Pn**	**20 31 15.8**	**-1.5**
KNT	**Kendrikon**	**1.35**	**42**	*e*Pg	**Pn**	**20 31 15.8**	**-1.5**
KNT	**Kendrikon**	**1.35**	**42**	*e*Pn	**Pn**	**20 31 16.9**	**-0.4**
PLG	**Polygyros**	**1.36**	**81**	*e*PG	**Pn**	**20 31 17.0**	**-0.4**
PLG				*e*SB	**Sn**	**20 31 35.5**	**-0.3**
PLG	**Polygyros**	**1.36**	**81**	*e*Pg	**Pn**	**20 31 17.0**	**-0.4**
PLG				*e*Sb	**Sn**	**20 31 35.5**	**-0.3**
XOR	**Xorichti**	**1.41**	**124**	*e*PG	**Pn**	**20 31 17.5**	**-0.6**
XOR	**Xorichti**	**1.41**	**124**	*e*Pg	**Pn**	**20 31 17.5**	**-0.6**
SOH	**Sokhos**	**1.42**	**62**	*e*PB	**Pn**	**20 31 18.2**	**-0.1**
SOH	**Sokhos**	**1.42**	**62**	*e*Pb	**Pn**	**20 31 18.2**	**-0.1**
PAIG	**Paliouri**	**1.54**	**98**	*e*PG	**Pn**	**20 31 19.4**	**-0.5**
PAIG	**Paliouri**	**1.54**	**98**	*e*Pg	**Pn**	**20 31 19.4**	**-0.5**
AXAR	**Agios Charalam**	**1.59**	**152**	*e*PG	**Pn**	**20 31 20.5**	**-0.1**
AXAR				*e*SB	**Sg**	**20 31 43.4**	**+0.7**
AXAR	**Agios Charalam**	**1.59**	**152**	*e*Pg	**Pn**	**20 31 20.5**	**-0.1**
AXAR				*e*Sb	**Sg**	**20 31 43.4**	**+0.7**
PDO	**Prodromos**	**1.62**	**194**	*e*PB	**Pg**	**20 31 22.4**	**-0.3**
PDO				*e*SB	**Sg**	**20 31 45.6**	**+1.9**
PDO	**Prodromos**	**1.62**	**194**	*e*Pb	**Pg**	**20 31 22.4**	**-0.3**
SRS	**Serrai**	**1.73**	**56**	*e*PG	**Pn**	**20 31 23.0**	**+0.5**
SRS	**Serrai**	**1.73**	**56**	*e*Pg	**Pn**	**20 31 23.0**	**+0.5**
SMIA	**Simia**	**1.74**	**137**	*e*PN	**Pn**	**20 31 22.9**	**+0.2**
SMIA	**Simia**	**1.74**	**137**	*e*Pn	**Pn**	**20 31 22.9**	**+0.2**
EFP	**Efpalio**	**1.75**	**175**	*e*PN	**Pb**	**20 31 23.7**	**-0.6**
EFP				*e*SN	**Sb**	**20 31 46.8**	**+0.2**
EFP	**Efpalio**	**1.75**	**175**	*e*Pn	**Pb**	**20 31 23.7**	**-0.6**
EFP				*e*Sn	**Sb**	**20 31 46.8**	**+0.2**
OUR	**Ouranopolis**	**1.76**	**84**	*e*PN	**Pn**	**20 31 22.8**	**-0.1**
OUR	**Ouranopolis**	**1.76**	**84**	*e*PN	**Pn**	**20 31 23.1**	**+0.2**
OUR	**Ouranopolis**	**1.76**	**84**	*e*Pn	**Pn**	**20 31 23.1**	**+0.2**
SKO	**Skopje**	**1.81**	**354**	*i* Pn	**Pb**	**20 31 25.3**	**0.0**
SKO				*e*Sn	**Sg**	**20 31 54.1**	**+4.2**
SKO				*i* Lg	Lg	20 31 55.9	
	comp=E,8.7nm,0.2s						
SKO				*i* Lg	Lg	20 31 56.5	
	comp=N,13nm,0.3s						
SKO	**Skopje**	**1.81**	**354**	*i* Pn	**Pb**	**20 31 25.3**	**0.0**
SKO				*i* Lg	Lg	20 31 55.8	
	comp=N,8.7nm,0.2s						
KALE	**Kalithea**	**1.81**	**169**	*e*PN	**Pn**	**20 31 23.9**	**+0.2**
KALE				*e*SN	**Sb**	**20 31 48.8**	**+0.4**
KALE	**Kalithea**	**1.81**	**169**	*e*Pn	**Pn**	**20 31 23.9**	**+0.2**
KALE				*e*Sn	**Sb**	**20 31 48.8**	**+0.4**
LKR	**Lokris**	**1.82**	**146**	*e*PB	**Pn**	**20 31 23.7**	**-0.1**
LKR	**Lokris**	**1.82**	**146**	*e*Pb	**Pn**	**20 31 23.7**	**-0.1**
DSF	**Desfina**	**1.87**	**160**	*e*PB	**Pn**	**20 31 24.0**	**-0.5**
DSF	**Desfina**	**1.87**	**160**	*e*Pb	**Pn**	**20 31 24.0**	**-0.5**
NVR	**Nevrokopi**	**2.02**	**54**	*e*PG	**Pb**	**20 31 28.1**	**-0.9**
MRKA	**Markates**	**2.07**	**134**	*e*PB	**Pn**	**20 31 27.4**	**+0.2**
MRKA	**Markates**	**2.07**	**134**	*e*Pb	**Pn**	**20 31 27.4**	**+0.2**
KLV	**Kalavryta, Ach**	**2.15**	**170**	*e*PN	**Pn**	**20 31 29.7**	**+1.3**
KLV	**Kalavryta, Ach**	**2.15**	**170**	*e*Pn	**Pn**	**20 31 29.7**	**+1.3**
DRO	**Drossia**	**2.21**	**180**	*e*PN	**Pb**	**20 31 31.4**	**-0.9**
DRO	**Drossia**	**2.21**	**180**	*e*Pn	**Pb**	**20 31 31.4**	**-0.9**
GUR	**Goura**	**2.29**	**167**	*e*PN	**Pb**	**20 31 32.1**	**-1.4**
GUR	**Goura**	**2.29**	**167**	*e*Pn	**Pb**	**20 31 32.1**	**-1.4**
LTK	**Loutraki**	**2.36**	**155**	*e*PB	**Pn**	**20 31 32.1**	**+0.9**
LTK	**Loutraki**	**2.36**	**155**	*e*Pb	**Pn**	**20 31 32.1**	**+0.9**

DJA 19 20:39:27.5±0.6,**8°S**±4′×**10°6E**±′,**h10**km,**M3.4**/11, **MLv3.4**/11,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.96**	**43**	P	Pg	20 39 44.1	-2.0
SKJI				S	Sg	20 39 58.5	-0.1
SKJI	**Sukabumi**	**0.96**	**43**	P	Pg	20 39 44.0	-2.1
SKJI				S	Sg	20 39 58.5	-0.1
CGJI	**Cibinong**	**1.12**	**349**	P	Pb	20 39 46.1	-2.9
CGJI				S	Sn	20 40 04.3	-0.4
CGJI	**Cibinong**	**1.12**	**349**	P	Pn	20 39 45.9	-3.4
CGJI				S	Sn	20 40 04.4	-0.3
CNJI	**Cibinong**	**1.29**	**72**	P	Pn	20 39 48.4	-3.1
CNJI				S	Sb	20 40 07.7	-0.7
CNJI	**Cibinong**	**1.29**	**72**	P	Pn	20 39 48.4	-3.1
CNJI				S	Sb	20 40 07.8	-0.6
CBJI	**Citeko**	**1.60**	**36**	P	Pn	20 39 50.5	-5.3
CBJI				S	Sn	20 40 12.7	-3.9
CISI	**Cisompet, Garu**	**1.91**	**85**	P	Pn	20 40 00.5	+0.3
CISI				S	Sb	20 40 25.6	-0.8
CISI	**Cisompet, Garu**	**1.91**	**85**	P	Pn	20 39 58.1	-2.1
CISI				S	Sn	20 40 24.9	+0.6
LEM	**Lembang**	**1.92**	**63**	P	Pn	20 40 00.8	+0.3
LEM				S	Sn	20 40 12.5	-12
LEM	**Lembang**	**1.92**	**63**	P	Pn	20 40 00.7	+0.2
CMJI	**Cimerak**	**2.53**	**92**	P	Pn	20 40 09.1	+0.5
CMJI				S	Sn	20 40 40.5	+1.0
CMJI	**Cimerak**	**2.53**	**92**	P	Pn	20 40 09.1	+0.5
CMJI				S	Sn	20 40 40.9	+1.4
KASI	**Kota Agung**	**2.59**	**327**	P	Pn	20 40 09.5	0.0
KASI	**Kota Agung**	**2.59**	**327**	P	Pn	20 40 09.2	-0.3
KPJI	**Karang Pucung**	**3.03**	**83**	P	Pn	20 40 16.1	+0.6
KPJI	**Karang Pucung**	**3.03**	**83**	P	Pn	20 40 16.2	+0.7
KLSI		**3.23**	**339**	P	Pn	20 40 18.3	0.0
KLSI		**3.23**	**339**	P	Pn	20 40 18.6	+0.3
LWLI	**Liwa**	**3.25**	**326**	P	Pn	20 40 18.6	-0.1
MDSI	**Maura Dua**	**3.64**	**332**	P	Pn	20 40 24.1	+0.1
MDSI	**Maura Dua**	**3.64**	**332**	P	Pn	20 40 24.3	+0.3
UGM	**Wanagama**	**4.58**	**93**	P	Pn	20 40 36.7	-0.3
PCJI	**Pacitan**	**5.25**	**96**	P	Pn	20 40 46.6	+0.5

MEX 19 20:40:14.9±0.4,**32°19N**×**115°19W**,**h5**km,**MD3.5, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.21**	**357**	*e*P	Pg	20 40 18.6	-0.5
MBIG				*e*S	Sg	20 40 21.9	-0.1
SPIG	**San Pedro Mart**	**1.17**	**192**	*i* P	Pg	20 40 34.3	-3.5
SPIG				*i* S	Sg	20 40 49.3	-4.0
CBX	**Cerro Bola**	**1.26**	**276**	*e*P	Pg	20 40 35.1	-4.2
CBX				*i* S	Sg	20 40 52.0	-3.8

*IDC **19** 20:43:15.7±1.2, 18′.05N×147′.65E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/31, mbtmp3.5/7, Error ellipse: s-maj=46.9km s-min=21.8km az=90.0*
*ISCJB **19** 20:43:21.5±1.2, 18′.0N±0′.1×147′.5E±0′.3, h53km, mb3.5/7, Error ellipse: s-maj=47.3km s-min=19.5km az=178.5*
ISC 19 20:43:23.0±1.3,**18′.0N**±0′.2×**147′.6E**±0′.4,**h53**km,**n7, σ0s62/7,mb3.5/7,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.90**	**200**	P	**P**	**20 50 51.6**	**-0.4**
	1.0nm,0.9s,baz=17,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**43.52**	**198**	P	**P**	**20 51 22.0**	**+0.3**
	0.2nm,0.5s,baz=24,slow=7.1,SNR=3.4						
SONM	**Songino Array**	**44.80**	**321**	P	**P**	**20 51 31.9**	**+0.2**
	0.1nm,0.4s,baz=128,slow=9.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**59.65**	**322**	P	**P**	**20 53 20.8**	**-0.9**
	0.7nm,0.5s,baz=110,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**60.23**	**314**	P	**P**	**20 53 25.8**	**0.0**
	0.2nm,0.5s,baz=89,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**77.75**	**28**	P	**P**	**20 55 14.0**	**-0.2**
	0.3nm,0.8s,baz=284,slow=5.4,SNR=3.3						
FINES	**FINESS Array B**	**88.25**	**336**	P	**P**	**20 56 09.1**	**+0.7**
	0.9nm,0.8s,baz=11,slow=3.9,SNR=4.1						

*SKO **19** 20:51:12.0, 39′.13N×20′.58E, h26km*
*ATH **19** 20:51:14.8, 39′.52N×20′.91E, h7km±2km, MD3.2/16*
*CSEM **19** 20:51:14.7±0.2, 39′.51N×20′.88E, h2km, MD3.2, Error ellipse: s-maj=5.8km s-min=3.9km az=74.0*
ISC 19 20:51:14.6±1.1,**39′.51N**±0′.02×**20′.89E**±0′.02,**h3**km±9km, **n50, σ0s86/68,Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.15**	**350**	*e*PG	**Pg**	**20 51 17.2**	**-0.4**
JAN				*e*SG	**Sg**	**20 51 20.0**	**+0.3**
JAN	**Janina**	**0.15**	**350**	*e*Pg	**Pg**	**20 51 17.2**	**-0.4**
JAN				*e*Sg	**Sg**	**20 51 20.0**	**+0.3**
DSL	**Palaion Diasel**	**0.41**	**156**	*e*PG	**Pg**	**20 51 21.6**	**-0.8**
DSL				*e*SB	**Sg**	**20 51 28.7**	**+1.0**
DSL	**Palaion Diasel**	**0.41**	**156**	*e*Pg	**Pg**	**20 51 21.6**	**-0.8**
DSL				*e*Sb	**Sg**	**20 51 28.7**	**+1.0**
IGT	**Igoumenitsa**	**0.43**	**274**	*e*PG	**Pg**	**20 51 22.2**	**-0.7**
IGT				*e*SB	**Sb**	**20 51 30.0**	**-1.7**
IGT	**Igoumenitsa**	**0.43**	**274**	*e*Pg	**Pg**	**20 51 22.2**	**-0.7**
KEK	**Kerkira**	**0.86**	**284**	*e*PG	**Pg**	**20 51 31.4**	**+0.2**
KEK				*e*SB	**Sb**	**20 51 44.7**	**+0.5**
KEK	**Kerkira**	**0.86**	**284**	*e*Pg	**Pg**	**20 51 31.4**	**+0.2**
THL	**Klokotos Trika**	**0.88**	**86**	*e*PB	**Pg**	**20 51 31.5**	**+0.1**
THL	**Klokotos Trika**	**0.88**	**86**	*e*Pb	**Pg**	**20 51 31.5**	**+0.1**
NEST	**Nestorio**	**0.92**	**8**	*e*PG	**Pg**	**20 51 31.8**	**-0.4**
NEST	**Nestorio**	**0.92**	**8**	*e*Pg	**Pg**	**20 51 31.8**	**-0.4**
EVR	**Evrytania**	**0.93**	**129**	*e*PB	**Pg**	**20 51 32.2**	**-0.2**
EVR	**Evrytania**	**0.93**	**129**	*e*Pb	**Pg**	**20 51 32.2**	**-0.2**
PDO	**Prodromos**	**0.94**	**166**	*e*PG	**Pg**	**20 51 32.0**	**-0.5**
PDO				*e*SB	**Sb**	**20 51 45.5**	**-0.7**
PDO	**Prodromos**	**0.94**	**166**	*e*Pg	**Pg**	**20 51 32.0**	**-0.5**
PDO				*e*Sb	**Sb**	**20 51 45.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.08**	**117**	*e*PN	**Pg**	**20 51 35.3**	**-0.1**
MAKR				*e*SB	**Sg**	**20 51 48.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.08**	**117**	*e*Pn	**Pg**	**20 51 35.3**	**-0.1**
MAKR				*e*Sb	**Sg**	**20 51 48.8**	**-0.7**
AGG	**Agios Georgios**	**1.22**	**113**	*e*PB	**Pb**	**20 51 37.5**	**-0.8**
AGG				*e*SB	**Sn**	**20 51 55.0**	**-0.6**
AGG	**Agios Georgios**	**1.22**	**113**	*e*Pb	**Pb**	**20 51 37.5**	**-0.8**
AGG				*e*Sb	**Sn**	**20 51 55.0**	**-0.6**
FNA	**Florina**	**1.33**	**16**	*e*PB	**Pn**	**20 51 39.5**	**-0.6**
FNA				*e*SB	**Sn**	**20 51 57.9**	**-0.4**
FNA	**Florina**	**1.33**	**16**	*e*Pb	**Pn**	**20 51 39.5**	**-0.6**
FNA				*e*Sb	**Sn**	**20 51 57.9**	**-0.4**
EFP	**Efpalio**	**1.34**	**143**	*e*PB	**Pg**	**20 51 41.2**	**+0.9**
EFP	**Efpalio**	**1.34**	**143**	*e*Pb	**Pg**	**20 51 41.2**	**+0.9**
VLS	**Valsamata**	**1.35**	**190**	*e*PG	**Pb**	**20 51 40.2**	**-0.3**
VLS				*e*SB	**Sn**	**20 51 59.7**	**+1.1**
VLS	**Valsamata**	**1.35**	**190**	*e*Pg	**Pb**	**20 51 40.2**	**-0.3**
VLS				*e*Sb	**Sn**	**20 51 59.7**	**+1.1**
LIT	**Litokhoron**	**1.37**	**64**	*e*PB	**Pg**	**20 51 41.3**	**+0.4**
LIT	**Litokhoron**	**1.37**	**64**	*e*Pb	**Pg**	**20 51 41.3**	**+0.4**
KALE	**Kalithea**	**1.48**	**138**	*e*PB	**Pg**	**20 51 43.6**	**+0.6**
KALE	**Kalithea**	**1.48**	**138**	*e*Pb	**Pg**	**20 51 43.6**	**+0.6**
AXAR	**Agios Charalam**	**1.56**	**118**	*e*PB	**Pg**	**20 51 44.9**	**+0.3**
AXAR	**Agios Charalam**	**1.56**	**118**	*e*Pb	**Pg**	**20 51 44.9**	**+0.3**
OHR	**Ohrid**	**1.60**	**358**	*i* Pn	**Pb**	**20 51 44.4**	**-0.5**
OHR				*i* Sn	**Sg**	**20 52 09.0**	**+2.8**
OHR				*e*Lg	Lg	20 52 11.7	
	comp=E,36nm,0.7s						
OHR				*e*Lg	Lg	20 52 15.9	
	comp=N,158nm,2.3s						
OHR	**Ohrid**	**1.60**	**358**	*i* Pn	**Pb**	**20 51 44.3**	**-0.6**
OHR				*i* Sn	**Sg**	**20 52 09.0**	**+2.8**
OHR				*e*Lg	Lg	20 52 11.6	
	comp=N,36nm,0.7s						
DRO	**Drossia**	**1.68**	**157**	*e*PB	**Pg**	**20 51 46.6**	**-0.2**
DRO	**Drossia**	**1.68**	**157**	*e*Pb	**Pg**	**20 51 46.6**	**-0.2**
DSF	**Desfina**	**1.68**	**130**	*e*PB	**Pg**	**20 51 47.0**	**+0.1**
DSF	**Desfina**	**1.68**	**130**	*e*Pb	**Pg**	**20 51 47.0**	**+0.1**
KLV	**Kalavryta, Ach**	**1.76**	**146**	*e*PN	**Pg**	**20 51 48.6**	**+0.2**
KLV	**Kalavryta, Ach**	**1.76**	**146**	*e*Pn	**Pg**	**20 51 48.6**	**+0.2**
GUR	**Goura**	**1.94**	**144**	*e*PN	**Pb**	**20 51 50.1**	**-0.5**
GUR	**Goura**	**1.94**	**144**	*e*Pn	**Pb**	**20 51 50.1**	**-0.5**
HORT	**Hortiatis**	**2.02**	**57**	*e*PN	**Pb**	**20 51 51.3**	**-0.7**
HORT	**Hortiatis**	**2.02**	**57**	*e*Pn	**Pb**	**20 51 51.3**	**-0.7**
PLG	**Polygyros**	**2.15**	**65**	*e*PN	**Pn**	**20 51 52.4**	**+1.0**
PLG	**Polygyros**	**2.15**	**65**	*e*Pn	**Pn**	**20 51 52.4**	**+1.0**
KNT	**Kendrikon**	**2.26**	**42**	*e*PN	**Pb**	**20 51 54.4**	**-1.6**
KNT	**Kendrikon**	**2.26**	**42**	*e*Pn	**Pb**	**20 51 54.4**	**-1.6**
SOH	**Sokhos**	**2.30**	**54**	*e*PN	**Pn**	**20 51 54.7**	**+1.2**
SOH	**Sokhos**	**2.30**	**54**	*e*Pn	**Pn**	**20 51 54.7**	**+1.2**

SKHL 19 20:55:53.0±0.9,**44°98N**×**151°22E**,**h70**km±6km,**mb4.8/1, msh4.2/1,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.39**	**277**	*e*P	Pn	20 56 29.1	-0.7
KUR				AMB	AMB	20 56 29.7	
	140nm,0.3s						
KUR				AMB	AMB	20 56 31.2	
	378nm,3.8s						
KUR				*e*S	Sn	20 56 56.8	-1.2
KUR				A	A	20 56 58.3	
	258nm,0.2s						
KUR				A	A	20 56 58.3	
	110nm,0.2s						
KUR				A	A	20 57 00.3	
	590nm,3.8s						
KUR				A	A	20 57 00.3	
	790nm,3.8s						
SHO	**Shikotan**	**3.33**	**252**	*e*P	Pn	20 56 43.0	+0.3
SHO				*e*S	Sn	20 57 21.0	-0.1
SHO				A	A	20 57 28.8	
	110nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.22**	**291**	*e*P	Pn	20 57 23.2	+1.1
YSS				AMB	AMB	20 57 25.4	
	103nm,0.3s						
YSS				*e*S	Sn	20 58 30.4	-1.4
YSS				A	A	20 58 33.4	
	196nm,0.5s						

*NIED **19** 21:04:00, 46′.40N×153′.00E, h8km, Mw3.9 Best double couple: M○7.05000×10^14 NP1:φs347.00000°, δ53.00000°, λ46.00000°. NP2:φs225.00000°, δ55.00000°, λ133.00000°.*
*JMA **19** 21:04:10.1±2.8, 46′.38N×153′.04E, h30km, M4.2*
*ISCJB **19** 21:04:12.5±0.6, 45′.99N±0′.10×152′.75E±0′.09, h31km, mb3.8/14, MS3.4/4, Error ellipse: s-maj=15.9km s-min=4.6km az=147.8*
*MOS **19** 21:04:13.7±1.6, 46′.00N×152′.93E, h45km, mb4.1/12, Error ellipse: s-maj=15.2km s-min=10.0km az=48.4*
*IDC **19** 21:04:15.1±2.8, 46′.14N×152′.86E, h42km±25km, mb3.5/14, mb1 3.8/18, mb1mx3.6/45, mbtmp3.7/18, ML3.1/3, MS3.2/6, Ms1 3.2/6, ms1mx2.7/40, Error ellipse: s-maj=22.8km s-min=15.0km az=127.0*
*SKHL **19** 21:04:15.7±0.5, 46′.06N×152′.76E, h60km±5km, mb5.0/1, msh4.3/1*
ISC 19 21:04:13.8±0.8,**46′.0N**±0′.1×**152′.83E**±0′.0**9,h31**km,**n70,** σ1s**61**/66,**mb3.9**/14,**MS3.4**/4,**4C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.57**	**259**	*i*PN	**Pn**	**21 05 08.8**	**+1.8**
KUR				*e*		21 05 48.8	
KUR				pmax	pmax		
	comp=Z,125nm,0.6s						
KUR				pmax	pmax		
	comp=N,25nm,0.3s						
KUR				pmax	pmax		
	comp=E,19nm,0.3s						
KUR				pmax	pmax		
	comp=Z,333nm,3.9s						
KUR				pmax	pmax		
	comp=N,277nm,2.3s						
KUR				pmax	pmax		
	comp=E,244nm,2.3s						
KUR				pmax	pmax		
	comp=E,65nm,0.4s						
KUR				pmax	pmax		
	comp=N,172nm,0.8s						
KUR	**Kuril'sk**	**3.57**	**259**	*e*P	**Pn**	**21 05 08.8**	**+1.8**
KUR				AMB	AMB	21 05 09.7	
KUR	comp=N,125nm,0.6s			AMB	AMB	21 05 11.9	
	comp=N,333nm,3.9s						
KUR				*e*S	**Sn**	**21 05 48.2**	**+0.1**
KUR				A	A	21 05 51.2	
	comp=N,300nm,2.3s						
KUR				A	A	21 05 51.2	
	comp=N,240nm,2.3s						
KUR				A	A	21 06 00.7	
	comp=N,97nm,0.3s						
KUR				A	A	21 06 00.7	
	comp=N,22nm,0.3s						
SHO	**Shikotan**	**4.77**	**245**	*e*P	**Pn**	**21 05 24.4**	**+0.9**
SHO				*e*S	**Sn**	**21 06 16.3**	**-1.4**
SKR	**Severo-Kuril's**	**5.16**	**24**	*e*PN	Pn	21 05 20.5	-8.3
YUK	**Yuzh-Kuril'sk**	**5.32**	**251**	*e*PN	Pn	21 05 34.6	+3.5
NEM2	**Nemuro 2**	**5.71**	**245**	P	**Pn**	**21 05 35.9**	**-0.4**
NEM2				*e*S	**Sn**	**21 06 39.5**	**-1.2**
JRA	**Rausu**	**5.85**	**252**	P	**Pn**	**21 05 40.3**	**+2.0**
JNK	**Nakash**	**6.26**	**250**	P	**Pn**	**21 05 45.4**	**+1.4**
JAK	**Akkeshi**	**6.55**	**245**	P	**Pn**	**21 05 47.4**	**-0.6**
JAK				*e*S	**Sn**	**21 06 59.3**	**-2.3**
JTKR	**Abashiri--Toko**	**6.65**	**255**	P	**Pn**	**21 05 51.2**	**+1.9**
JAR	**Ashorobuto**	**7.01**	**250**	P	**Pn**	**21 05 55.7**	**+1.4**
JAR				*e*S	**Sn**	**21 07 13.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**7.02**	**281**	*e*PN	Pn	21 05 59.0	+4.6
JOB	**Onbets**	**7.15**	**247**	*e*S	**Sn**	**21 07 15.1**	**-1.2**
JKK2	**Kamakawa 2**	**7.47**	**257**	P	**Pn**	**21 06 03.2**	**+2.6**
ASAJ	**Asahikawa**	**7.49**	**259**	PN	**Pn**	**21 06 02.7**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,86nm,19.3s						
ASAJ	**Asahikawa**	**7.49**	**259**	P	**Pn**	**21 06 03.4**	**+2.5**
ASAJ	**Asahikawa**	**7.49**	**259**	P	**Pn**	**21 06 02.7**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=97,slow=28,SNR=11						
ASAJ				LR	LR	21 08 53.2	
	comp=Z,86nm,19.3s,baz=344,slow=37						
JCH	**Churui**	**7.59**	**247**	P	**Pn**	**21 06 02.6**	**+0.3**
PETK	**Petropavlovsk-**	**7.77**	**22**	PN	**Pn**	**21 06 02.8**	**-1.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**7.77**	**22**	P	**Pn**	**21 06 02.8**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=184,slow=14,SNR=6.2						
JFR	**Furan**	**7.84**	**252**	P	Pn	21 06 09.7	+4.0
JEM	**Erimo**	**8.04**	**244**	*e*S	**Sn**	**21 07 37.0**	**-1.1**
ERM	**Erimo**	**8.04**	**244**	*e*PN	**Pn**	**21 06 10.5**	**+2.2**
ERM	**Erimo**	**8.04**	**244**	*e*P	**Pn**	**21 06 10.5**	**+2.2**
JNBK	**Urakawa-nobuka**	**8.15**	**246**	P	**Pn**	**21 06 09.3**	**-0.6**
JNBK				*e*S	**Sn**	**21 07 39.3**	**-1.6**
JBT2	**Biratori 2**	**8.16**	**250**	P	**Pn**	**21 06 10.5**	**+0.4**
JNB	**Noboribetsu**	**9.18**	**251**	P	**Pn**	**21 06 25.4**	**+1.4**
JKB	**Kayabe**	**9.46**	**248**	P	**Pn**	**21 06 27.2**	**-0.6**
JKB				*e*S	**Sn**	**21 08 07.9**	**-5.0**
JANG	**Nango**	**10.00**	**240**	*e*S	Sn	21 08 17.6	-8.7
MJA0	**Matsu Arr-Jizo**	**14.46**	**234**	*e*P	**Pn**	**21 07 38.3**	**+2.0**
MJAR	**Matsushiro Arr**	**14.48**	**234**	P	**Pn**	**21 07 36.4**	**-0.2**
	baz=37,slow=13,SNR=4.1						
MJAR	**Matsushiro Arr**	**14.48**	**234**	*e*P	**Pn**	**21 07 38.3**	**+1.7**
USRK	**Ussuriysk Ar.**	**14.83**	**270**	P	**Pn**	**21 07 43.1**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=8.6						
USRK				LR	LR	21 12 46.8	
	comp=Z,42nm,19.3s,baz=329,slow=34						
KSRS	**Korea Array**	**20.40**	**254**	*e*P	Pn	21 08 51.9	+1.7
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSRS	**Korea Array**	**20.40**	**254**	P	Pn	21 08 50.3	+0.1
	comp=Z,1.6nm,0.8s,baz=52,slow=13,SNR=5.6						
KSRS	**Korea Array**	**20.40**	**254**	*e*P	Pn	21 08 51.9	+1.7
SONM	**Songino Array**	**31.40**	**290**	LR	LR	21 24 18.4	
	comp=Z,44nm,18.7s,baz=81,slow=38						
ILAR	**Eielson Array**	**37.25**	**38**	*e*P	**P**	**21 11 24.3**	**+2.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR	**Eielson Array**	**37.25**	**38**	P	**P**	**21 11 22.2**	**0.0**
	comp=Z,0.6nm,1.0s,baz=269,slow=9.5,SNR=4.6						
ILAR	**Eielson Array**	**37.25**	**38**	*e*P	**P**	**21 11 24.3**	**+2.1**
ZALV	**Zalesovo Beam**	**42.89**	**306**	LR	LR	21 31 13.6	
	comp=Z,67nm,18.1s,baz=64,slow=38						
MKAR	**Makanchi Array**	**47.11**	**298**	*ce*P	P	21 12 48.7	+5.9
MKAR	**Makanchi Array**	**47.11**	**298**	P	**P**	**21 12 41.2**	**-1.6**
	comp=Z,1.9nm,1.1s,baz=67,slow=5.3,SNR=6.6						
MKAR				LR	LR	21 33 28.5	
	comp=Z,44nm,18.6s,baz=62,slow=37						
YKA	**Yellowknife Ar**	**51.63**	**36**	P	**P**	**21 13 16.0**	**-1.0**
YKA	**Yellowknife Ar**	**51.63**	**36**	P	**P**	**21 13 16.0**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=299,slow=7.3,SNR=5.

JRY	**Ryogami san**	**2.46**	**76**	P	**Pn**	**21 06 37.4**	**+0.7**
JRY				S	**S**	**21 07 21.3**	**+1.4**
JOD2	**Odawara 2**	**2.57**	**93**	P	**Pn**	**21 06 38.4**	**+0.9**
JAG	**Ashikaga**	**3.00**	**70**	P	**Pn**	**21 06 41.1**	**-0.2**
JAG				S	**S**	**21 07 26.0**	**-2.3**
JNU	**Nakatsue**	**4.80**	**243**	P	**Pn**	**21 07 00.1**	**+0.3**
	1.5nm,0.3s,baz=144,slow=0.4,SNR=11						
KSRS	**Korea Array**	**6.78**	**290**	P	**Pn**	**21 07 23.6**	**+1.3**
	0.1nm,0.3s,baz=109,slow=13,SNR=5.5						
USRK	**Ussuriysk Ar.**	**9.26**	**342**	P	**Pn**	**21 07 52.8**	**+1.1**
	1.1nm,0.3s,baz=155,slow=11,SNR=35						
ASAJ	**Asahikawa**	**10.05**	**28**	P	**Pn**	**21 08 00.6**	**-0.6**
	0.6nm,0.3s,baz=217,slow=10,SNR=5.1						
SONM	**Songino Array**	**25.16**	**309**	P	**P**	**21 10 37.7**	**-0.5**
	0.8nm,0.8s,baz=124,slow=11,SNR=7.2						
ILAR	**Eielson Array**	**53.17**	**31**	P	**P**	**21 14 26.1**	**-0.3**
	0.3nm,0.5s,baz=271,slow=6.0,SNR=4.3						
WRA	**Warramunga Arr**	**55.10**	**182**	P	**P**	**21 14 41.0**	**+0.2**
	0.1nm,0.3s,baz=0.3,slow=7.7,SNR=7.1						
INK	**Inuvik**	**57.78**	**26**	P	**P**	**21 14 59.2**	**+0.4**
	0.6nm,0.5s,baz=18,slow=3.2,SNR=3.3						
ARCES	**ARCESS Array B**	**63.89**	**338**	P	**P**	**21 15 39.4**	**-0.3**
	2.4nm,0.8s,baz=55,slow=7.8,SNR=3.2						

IDC 19 21:15:44.6±54.0, 17°.24S×176°.20W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/40, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=1000.0km s-min=165.3km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**25.40**	**95**	LR	LR	21 29 28.3	
	comp=Z,52nm,18.4s,baz=352,slow=32						
STKA	**Stephens Creek**	**40.80**	**241**	P	P	21 23 28.2	+0.3
	0.4nm,0.4s,baz=108,slow=9.6,SNR=2.6						
WRA	**Warramunga Arr**	**46.83**	**259**	P	P	21 24 16.2	-0.5
	0.3nm,0.7s,baz=96,slow=8.1,SNR=6.8						
ASAR	**Alice Springs**	**47.00**	**254**	P	P	21 24 17.8	-0.2
	1.5nm,0.6s,baz=88,slow=8.4,SNR=30						

IDC 19 21:18:03.9±3.0, 22°.31S×68°.65W, h89km±27km, mb3.8/10, mb1 3.9/11, mb1mx3.6/42, mbtmp4.2/11, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=27.5km s-min=18.5km az=15.0
ISCJB 19 21:18:04.2±0.4, 22°.38S±0°.05×68°.63W±0°.07, h115km, mb4.0/9, Error ellipse: s-maj=9.2km s-min=6.4km az=6.1
NEIC 19 21:18:04.7±0.8, 22°.25S×68°.67W, h95km±8km, mb4.1/1, Error ellipse: s-maj=19.2km s-min=12.1km az=97.0
GUC 19 21:18:12.0, 22°.13S×69°.23W, h65km
ISC 19 21:18:05.7±0.6, 22°.38S±0°.06×68°.65W±0°.09, h115km, n31, σ1s70/31, mb4.1/9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.34**	**226**	P	**Pn**	**21 18 23.9**	**+1.4**
LVC				S	**Sn**	**21 18 36.6**	**+1.4**
	81μm,0.3s,baz=180,slow=20,SNR=219						
PB04	**IPOC Station P**	**0.79**	**278**	*e*P	Pn	21 18 30.4	+5.1
PB09	**IPOC Station P**	**0.80**	**316**	*e*P	**Pn**	**21 18 25.1**	**-0.6**
PB06	**IPOC Station P**	**0.91**	**249**	*e*P	**Pn**	**21 18 26.6**	**-0.1**
PB07	**IPOC Station P**	**1.32**	**299**	*e*P	**Pn**	**21 18 29.2**	**-1.8**
PB01	**IPOC Station P**	**1.54**	**329**	*e*P	**Pn**	**21 18 31.6**	**-1.9**
PB10	**IPOC Station P**	**2.09**	**237**	*e*P	**Pn**	**21 18 41.8**	**+1.7**
PATCX	**Punta Patache**	**2.09**	**318**	*e*P	**Pn**	**21 18 37.9**	**-2.3**
HMBC	**Humberstone**	**2.39**	**331**	*e*P	**Pn**	**21 18 41.4**	**-2.7**
PB11	**IPOC Station P**	**2.77**	**340**	*e*P	**Pn**	**21 18 48.4**	**-0.7**
PSGC	**Pisagua**	**3.09**	**333**	*e*P	Pn	21 19 03.4	+10
MNMC	**Minimini**	**3.35**	**344**	*e*P	**Pn**	**21 18 56.0**	**-0.8**
LPAZ	**La Paz**	**6.08**	**5**	P	**Pn**	**21 19 34.9**	**+1.1**
	0.4nm,0.3s,baz=172,slow=3.1,SNR=14						
LPAZ	**La Paz**	**6.08**	**5**	*e*Pn	**Pn**	**21 19 31.1**	**-2.7**
	3.2nm,0.6s						
LCO	**Las Campanas**	**6.86**	**195**	*e*Pn	**Pn**	**21 19 42.2**	**-1.7**
	29nm,0.6s						
LCO				*e*Sn	**Sn**	**21 20 58.5**	**-2.2**
CFAA	**Coronel Fontan**	**9.20**	**178**	P	**Pn**	**21 20 14.3**	**-1.1**
	0.1nm,0.3s,baz=351,slow=8.8,SNR=4.6						
CFAA				S	**Sn**	**21 21 53.6**	**-3.5**
	0.1nm,0.3s,baz=216,slow=17,SNR=2.1						
SIV	**San Ignacio**	**9.57**	**50**	P	**Pn**	**21 20 18.6**	**-2.0**
	4.2nm,0.3s,baz=253,slow=9.9,SNR=34						
SIV				S	Sn	21 21 58.6	-7.8
	1.5nm,0.3s,baz=314,slow=22,SNR=10						
SIV				LR	LR	21 24 24.8	
	comp=Z,44nm,20.8s,baz=122,slow=40						
TRQA	**Tornquist**	**16.64**	**161**	*e*P	**P**	**21 21 56.0**	**+3.5**
	15nm,1.2s						
BDFB	**Brasilia**	**20.62**	**75**	P	**P**	**21 22 36.7**	**+0.5**
	6.6nm,0.5s,baz=245,slow=11,SNR=12						
PTGA	**Pitinga**	**23.12**	**23**	P	**P**	**21 23 01.3**	**-0.6**
	3.7nm,0.5s,baz=203,slow=8.2,SNR=13						
SDV	**Santo Domingo**	**31.13**	**356**	*e*P	**P**	**21 24 12.9**	**-1.0**
RCBR	**Riachuelo**	**35.64**	**67**	P	**P**	**21 24 54.1**	**+1.1**
	14nm,1.0s,baz=185,slow=12,SNR=5.6						
TEIG	**Tepich**	**46.48**	**334**	P	**P**	**21 26 20.9**	**-0.6**
	2.5nm,0.5s,baz=164,slow=7.4,SNR=4.1						
TXAR	**Lajitas Array**	**61.49**	**325**	P	**P**	**21 28 10.8**	**+0.2**
	0.2nm,0.6s,baz=158,slow=7.6,SNR=2.1						
ANMO	**Albuquerque**	**67.36**	**327**	P	**P**	**21 28 50.4**	**+1.6**
	1.1nm,0.6s,baz=79,slow=5.2,SNR=3.3						
DBIC	**Dimbokro**	**68.75**	**73**	P	**P**	**21 28 57.6**	**-0.2**
	2.3nm,0.7s,baz=166,slow=8.3,SNR=3.1						
PDAR	**Pinedale Array**	**74.99**	**330**	P	**P**	**21 29 35.5**	**+0.8**
	0.3nm,0.7s,baz=135,slow=9.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.42**	**70**	P	**P**	**21 29 49.6**	**+0.9**
	3.5nm,0.5s,baz=253,slow=5.2,SNR=83						
YKA	**Yellowknife Ar**	**92.09**	**340**	P	**P**	**21 31 02.0**	**+0.6**
	0.2nm,0.4s,baz=134,slow=4.2,SNR=5.8						
MKAR	**Makanchi Array**	**146.19**	**37**	PKPbc	**PKPab**	**21 37 33.5**	**-0.1**
	1.1nm,0.8s,baz=296,slow=3.5,SNR=15						
SONM	**Songino Array**	**154.29**	**8**	pPKPbc	pPKPbc	21 38 17.4	-6.2
	0.3nm,0.4s,baz=324,slow=1.8,SNR=8.9						

OTT 19 21:27:52.2±0.2, 74°.83N×89°.43W, h18km, MN3.4/17, 159km east from Resolute, Nu Eastern Arctic Background Seismic Zone.
IDC 19 21:27:57.2±1.7, 74°.88N×90°.81W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.4/44, mbtmp3.7/5, ML3.7/3, MS3.1/3, Ms1 3.1/3, ms1mx2.5/40, Error ellipse: s-maj=36.2km s-min=17.6km az=169.0
ISC 19 21:27:50.7±0.9, 74°.62N±0°.07×89°.50W±0°.06, h10km, n31, σ2s24/37, MS2.9/3, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**1.44**	**275**	PN	**Pg**	**21 28 19.2**	**+0.8**
RES				SN	**Sg**	**21 28 37.0**	**+0.1**
RES				Trac		21 28 49.8	
	comp=Z,446nm,0.3s						
RES	**Resolute Bay**	**1.44**	**275**	Pg	**Pg**	**21 28 19.1**	**+0.8**
	5.8nm,0.3s,baz=75,slow=10,SNR=247						
RES				Lg	Lg	21 28 36.8	
	62nm,0.3s,baz=330,slow=20,SNR=45						
GIFN	**Gifford Fjord,**	**5.23**	**149**	PN	**Pn**	**21 29 11.7**	**+2.9**
GIFN				SN	**Sn**	**21 30 10.0**	**+1.0**
GIFN				Trac		21 30 13.8	
	comp=Z,5.9nm,0.1s						
AP3N	**Apex site 3 Nu**	**5.42**	**161**	PN	Pn	21 29 14.9	+3.4
AP3N				SN	**Sn**	**21 30 13.1**	**-0.7**
AP3N				SN	**Sn**	**21 30 14.9**	**+1.1**
AP3N				Trac		21 30 58.5	
	comp=Z,74nm,0.8s						
EUNU	**Eureka**	**5.50**	**6**	PN	**Pn**	**21 29 09.8**	**-2.8**
EUNU				SN	Sn	21 30 06.5	-9.4
EUNU				Trac		21 30 10.3	
	comp=Z,10nm,0.5s						
ILON	**Igloolik, Nuna**	**5.78**	**152**	PN	**Pn**	**21 29 19.5**	**+3.1**
ILON				SN	**Sn**	**21 30 22.7**	**0.0**
ILON				Trac		21 31 15.0	
	comp=Z,27nm,0.4s						
LAIN	**Lailor River,**	**5.84**	**159**	PN	Pn	21 29 20.5	+3.2
LAIN				SN	**Sn**	**21 30 23.9**	**-0.3**
LAIN				Trac		21 31 09.9	
	comp=Z,22nm,0.3s						
STLN	**Stellar Camp,**	**7.43**	**190**	PN	**Pn**	**21 29 41.5**	**+2.4**
STLN				SN	**Sn**	**21 31 01.7**	**-1.6**
STLN				Trac		21 31 46.0	
	comp=Z,16nm,0.5s						
QILN	**Qililugaq Expl**	**8.08**	**171**	PN	Pn	21 29 51.7	+3.8
QILN				SN	**Sn**	**21 31 17.6**	**-1.4**
QILN				Trac		21 32 23.9	
	comp=Z,26nm,0.5s						
BULN	**Bullion Camp,**	**8.35**	**190**	PN	**Pn**	**21 29 54.3**	**+2.6**
BULN				SN	**Sn**	**21 31 25.6**	**-0.3**
BULN				Trac		21 32 29.6	
	comp=Z,18nm,0.5s						
KULLO	**Kullorsuaq**	**8.52**	**75**	PN	**Pn**	**21 29 53.0**	**-0.9**
KULLO				SN	Sn	21 31 20.7	-9.2
KULLO				Trac		21 31 37.6	
	comp=Z,3.1nm,0.3s						
WAGN	**Wager Bay**	**8.79**	**180**	PN	**Pn**	**21 29 59.7**	**+2.1**
WAGN				SN	**Sn**	**21 31 33.0**	**-3.5**
WAGN				LG	Lg	21 32 35.4	
WAGN				Trac		21 32 44.2	
	comp=Z,32nm,0.7s						
NUNN	**Nunuq Camp, NU**	**9.47**	**184**	PN	**Pn**	**21 30 09.5**	**+2.5**
NUNN				SN	**Sn**	**21 31 50.7**	**-2.6**
NUNN				Trac		21 32 50.5	
	comp=Z,49nm,1.0s						
NUNN				LG	Lg	21 32 56.0	
SEDN	**First Sedna Si**	**11.44**	**184**	PN	**Pn**	**21 30 35.4**	**+1.5**
SEDN				SN	**Sn**	**21 32 37.8**	**-3.8**
SEDN				Trac		21 33 59.7	
	comp=Z,33nm,1.2s						
SEDN				LG	Lg	21 34 01.4	
JOSN	**Second Sedna S**	**11.54**	**185**	PN	**Pn**	**21 30 38.2**	**+3.0**
JOSN				SN	**Sn**	**21 32 40.0**	**-3.9**
JOSN				Trac		21 33 45.8	
	comp=Z,79nm,1.8s						
JOSN				LG	Lg	21 34 00.5	
CMBN	**Cumberland Cam**	**12.22**	**124**	PN	**Pn**	**21 30 44.4**	**-0.1**
CMBN				SN	Sn	21 32 52.0	-8.5
CMBN				LG	Lg	21 34 21.9	
CMBN				Trac		21 34 40.8	
	comp=Z,48nm,1.3s						
DHRN	**Dharma Camp**	**12.28**	**247**	PN	**Pn**	**21 30 46.4**	**+1.0**
DHRN				SN	Sn	21 32 54.1	-7.9
DHRN				Trac		21 32 57.4	
	comp=Z,20nm,0.8s						
DHRN				LG	Lg	21 34 21.0	
FRB	**Frobisher Bay**	**13.09**	**135**	SN	Sn	21 33 11.8	-10
FRB				SN	Sn	21 33 13.1	-8.7
FRB				Trac		21 34 44.9	
	comp=Z,58nm,1.8s						
FRB				LG	Lg	21 34 48.9	
FRB	**Frobisher Bay**	**13.09**	**135**	Pn	**P**	**21 31 05.6**	**-1.1**
	0.5nm,0.3s,baz=278,slow=15,SNR=3.8						
FRB				Lg	Lg	21 34 44.9	
	0.1nm,0.3s,baz=68,slow=19,SNR=2.4						
SNLN	**Sandy Lake, NW**	**13.44**	**218**	PN	**Pn**	**21 31 02.5**	**+1.4**
SNLN				SN	**Sn**	**21 33 24.6**	**-5.7**
SNLN				Trac		21 34 13.1	
	comp=Z,1.8nm,0.1s						
SNLN				LG	Lg	21 35 03.0	
CTLN	**Castor Lake**	**13.62**	**235**	PN	**Pn**	**21 31 04.4**	**+0.7**
CTLN				SN	Sn	21 33 26.2	-8.6
CTLN				LG	Lg	21 35 02.4	
CTLN				Trac		21 35 11.8	
	comp=Z,372nm,4.1s						
ROMN	**Roman Lake**	**14.16**	**238**	PN	**Pn**	**21 31 11.0**	**-0.1**
ROMN				SN	Sn	21 33 39.0	-9.0
ROMN				Trac		21 33 46.0	
	comp=Z,14nm,0.2s						
GALN	**Gameti Lake**	**14.18**	**237**	PN	**Pn**	**21 31 11.6**	**+0.3**
GALN				SN	Sn	21 33 40.6	-7.7
GALN				Trac		21 35 11.1	
	comp=Z,504nm,4.7s						
YKW3	**Yellowknife Ar**	**14.98**	**230**	PN	**Pn**	**21 31 21.6**	**-0.5**
YKW3				SN	Sn	21 33 58.0	-10
YKW3				SN	Sn	21 33 59.0	-8.7
YKW3				Trac		21 35 48.6	
	comp=Z,5.0nm,0.5s						
INK	**Inuvik**	**14.98**	**268**	PN	Pn	21 31 15.7	-6.4
INK				SN	Sn	21 33 56.8	-11
INK	**Inuvik**	**14.98**	**268**	Pn	**Pn**	**21 31 21.4**	**-0.8**
	0.5nm,0.3s,baz=39,slow=14,SNR=13						
INK				Sn	Sn	21 33 53.8	-14
	0.2nm,0.3s,baz=330,slow=8.1,SNR=2.8						
YKA	**Yellowknife Ar**	**15.04**	**229**	Pn	**Pn**	**21 31 21.3**	**-1.6**
	0.2nm,0.3s,baz=18,slow=11,SNR=8.2						
YKA				Sn	Sn	21 33 56.6	-13
	0.5nm,0.3s,baz=23,slow=22,SNR=11						
YKA				Lg	Lg	21 35 40.2	
	0.3nm,0.3s,baz=148,slow=24,SNR=5.5						
ILAR	**Eielson Array**	**21.19**	**273**	P	**P**	**21 32 39.0**	**+3.1**
	2.8nm,0.8s,baz=37,slow=9.8,SNR=31						
ILAR				LR	LR	21 43 22.7	
	comp=Z,29nm,19.5s,baz=210,slow=44						
FINES	**FINESS Array B**	**37.83**	**45**	P	P	21 35 15.3	+8.6
	0.7nm,0.8s,baz=347,slow=11,SNR=3.3						
LPIG	**La Paz**	**51.73**	**204**	LR	LR	22 00 42.0	
	comp=Z,45nm,20.5s,baz=120,slow=38						
TLY	**Talaya**	**53.67**	**350**	LR	LR	22 01 04.4	
	comp=Z,10nm,18.0s,baz=1.0,slow=37						

MEX 19 21:51:01.8±0.7, 18°.36N×102°.69W, h4km±10km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.62**	**263**	*e*P	Pg	21 51 13.1	-0.7
MMIG				*e*S	Sg	21 51 22.6	+0.7
ZIIG	**Zihuatanejo**	**1.39**	**123**	*e*P	Pn	21 51 23.9	-4.0
ZIIG				*i*S	Sb	21 51 41.4	-5.0
EZ5V		**1.41**	**322**	*i*P	Pn	21 51 24.7	-3.9
EZ5V				*e*S	Sb	21 51 42.6	-4.9
R15V		**1.46**	**303**	*e*P	Pn	21 51 25.0	-4.0
R15V				*e*S	Sb	21 51 43.3	-5.4
ARIG	**Puente Sto Nin**	**2.23**	**92**	*e*P	Pn	21 51 37.1	-2.5
ARIG				*i*S	Sn	21 52 03.0	-4.6

IDC 19 22:15:10.1±1.3, 3°.87S×130°.01E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/26, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=89.3km s-min=19.9km az=67.0
ISCJB 19 22:15:23.4±0.4, 4°.30S±0°.04×129°.53E±0°.05, h150km, mb3.5/4, Error ellipse: s-maj=6.7km s-min=5.3km az=150.7
DJA 19 22:15:26.4±0.8, 4°.5±7°×13°.0E±°, h113km±6km, M4.1/9, mb4.5/2, MLv4.0/9
ISC 19 22:15:26.6±0.8, 4°.13S±0°.09×129°.47E±0°.05, h150km, n19, σ2s25/21, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.58**	**132**	P	Pn	22 15 44.7	-3.6
MSAI	**Masohi**	**0.95**	**325**	P	**Pn**	**22 15 48.2**	**-2.7**
MSAI				S	**Sn**	**22 16 05.2**	**-4.3**
NLAI	**Namlea**	**2.53**	**290**	P	**Pn**	**22 16 07.6**	**-0.4**
NLAI				S	**Sn**	**22 16 38.4**	**-1.6**
FAKI	**Fak Fak**	**3.02**	**67**	P	**Pn**	**22 16 13.5**	**-0.7**
FAKI				S	**Sn**	**22 16 47.7**	**-3.4**
FAKI	**Fak Fak**	**3.02**	**67**	P	**Pn**	**22 16 13.5**	**-0.7**
	baz=3.1,SNR=29						
FAKI				S	**Sn**	**22 16 47.1**	**-4.0**
	baz=3.1,SNR=23						
LBMI	**Labuha**	**3.99**	**330**	P	**Pn**	**22 16 26.5**	**-0.2**
LBMI				S	**Sn**	**22 17 10.7**	**-2.8**
SANI	**Sanana**	**4.05**	**301**	P	**Pn**	**22 16 25.5**	**-1.9**
SANI				S	Sn	22 17 08.6	-6.1
TNTI	**Ternate**	**5.30**	**337**	P	**Pn**	**22 16 44.4**	**+0.4**
	78nm,0.9s,0.3nm						
RKPI	**Ransiki, Papua**	**5.37**	**61**	P	**Pn**	**22 16 46.7**	**+1.8**
RKPI				S	**Sn**	**22 17 43.7**	**-2.5**
MTN	**Manton Dam**	**8.81**	**169**	P	Pn	22 17 26.8	-4.0
	baz=8.5,SNR=5.9						
MTN				S	Sn	22 19 00.1	-8.7
	baz=8.5,SNR=4.0						
KDU	**Kakadu**	**9.01**	**161**	P	Pn	22 17 27.9	-5.5
	baz=8.7,SNR=83						
KDU				S	Sn	22 19 04.1	-9.3
	baz=8.7,SNR=4.9						
KNRA	**Kununurra**	**11.50**	**183**	P	Pn	22 18 01.4	-4.9
	baz=11,SNR=8.5						
WRA	**Warramunga Arr**	**16.42**	**164**	Pn	Pn	22 19 03.5	-5.0
	0.3nm,0.3s,baz=342,slow=13,SNR=58						
WRA				Sn	S	22 21 56.2	-15
	0.2nm,0.3s,baz=351,slow=22,SNR=3.6						
QIS	**Mount Isa**	**19.08**	**150**	P	**P**	**22 19 37.1**	**-0.6**
	baz=19,SNR=9.8						
ASAR	**Alice Springs**	**19.89**	**168**	P	**P**	**22 19 45.2**	**-1.2**
	10nm,0.5s,baz=349,slow=11,SNR=160						
STKA	**Stephens Creek**	**29.86**	**159**	P	**P**	**22 21 19.7**	**-0.2**
	0.5nm,0.3s,baz=316,slow=14,SNR=3.2						
CMAR	**Chiang Mai Arr**	**37.53**	**308**	P	**P**	**22 22 28.4**	**+2.0**
	0.5nm,0.3s,baz=136,slow=7.2,SNR=5.3						
SONM	**Songino Array**	**55.57**	**341**	P	**P**	**22 24 47.7**	**+1.2**
	0.1nm,0.3s,baz=137,slow=7.2,SNR=2.9						
SONM				PcP	**PcP**	**22 25 45.9**	**+1.4**
	0.1nm,0.3s,baz=134,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**65.56**	**326**	P	**P**	**22 25 56.2**	**+2.1**
	0.4nm,0.5s,baz=113,slow=8.2,SNR=12						

IDC 19 22:15:25.1±0.8, 32°.33S×71°.71W, h0km, mb4.3/7, mb1 4.3/10, mb1mx4.0/33, mbtmp4.2/10, ML3.7/3, MS3.2/4, Ms1 3.3/4, ms1mx2.9/26, Error ellipse: s-maj=27.2km s-min=19.7km az=108.0
NEIC 19 22:15:30.0, 32°.47S×71°.69W, h32km, mb4.0/2, ML4.2(GUC), After GUC.
NEIC Felt [IV] at Zapallar; [III] at La Ligua, Papudo and Quillota; [II] at San Felipe.
GUC 19 22:15:30.6±0.7, 32°.47S×71°.69W, h32km±3km, ML4.2
ISC 19 22:15:28.7±1.4, 32°.41S±0°.03×71°.73W±0°.07, h25km±9km, n46, σ0s85/56, mb4.3/8, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.62**	**173**	↓*i*P	**Pn**	**22 15 41.7**	**-0.3**
IHA				*i*S	**Sb**	**22 15 50.0**	**+0.7**
PEL	**Peldehue**	**1.15**	**130**	↑*i*P	**Pb**	**22 15 49.7**	**-0.2**
PEL				*i*S	**Sb**	**22 16 04.6**	**+0.2**
PEL				AML	AML	22 16 06.1	
	comp=E,28μm,0.3s						
RCDM	**Rinconada Maip**	**1.33**	**145**	↑*i*P	**Pb**	**22 15 53.6**	**+0.6**
RCDM				*i*S	**Sb**	**22 16 11.1**	**+1.4**
SAN	**Santiago**	**1.38**	**140**	↑*i*P	**Pb**	**22 15 53.4**	**-0.4**
SAN				*i*S	**Sb**	**22 16 11.1**	**+0.1**
CLCH	**Cerro Calan**	**1.41**	**135**	↑*i*P	**Pb**	**22 15 53.9**	**-0.5**
CLCH				*i*S	**Sb**	**22 16 12.1**	**+0.1**
CLCH				AML	AML	22 16 18.3	
	comp=N,6μm,0.6s						
CLCH				AML	AML	22 16 18.9	
	comp=N,7μm,0.5s						
TACH	**Talagante**	**1.41**	**152**	↑*i*P	**Pb**	**22 15 54.3**	**-0.1**
TACH				*e*S	**Sb**	**22 16 11.7**	**-0.2**
FCH	**Farellones**	**1.52**	**128**	↓*i*P	**Pn**	**22 15 54.2**	**-0.5**
FCH				*i*S	**Sn**	**22 16 13.1**	**-0.8**
FCH				AML	AML	22 16 13.9	
	comp=N,6μm,0.3s						
PCH	**Pirque**	**1.58**	**140**	*i*P	**Pb**	**22 15 57.3**	**-0.1**
PCH				*i*S	**Sb**	**22 16 16.6**	**-0.4**
CHCH	**Chadas Angostu**	**1.77**	**150**	↓*i*P	**Pb**	**22 15 59.6**	**-0.9**
CHCH				*e*S	**Sb**	**22 16 21.5**	**-0.9**
YECH	**El Yeso**	**1.87**	**133**	↓*i*P	**Pb**	**22 16 01.3**	**-1.0**
YECH				*i*S	**Sb**	**22 16 25.2**	**-0.1**
YECH				AML	AML	22 16 37.6	
	comp=N,3μm,0.7s						
CACH	**El Canelo**	**1.95**	**151**	*e*P	**Pb**	**22 16 02.7**	**-0.9**
CACH				*i*S	**Sb**	**22 16 27.3**	**-0.3**
LSCH	**La Serena**	**2.52**	**10**	*e*P	**Pb**	**22 16 12.7**	**-0.7**
LSCH				*e*S	**Sb**	**22 16 44.2**	**+0.3**
CFAA	**Coronel Fontan**	**3.07**	**76**	Pn	Pn	22 16 19.2	+3.5
	comp=N,7.1nm,0.3s,baz=234,slow=14,SNR=169						
CFAA				Lg	Lg	22 16 57.6	
	comp=N,7.4nm,0.3s,baz=29,slow=13,SNR=6.0						
CFAA				LR	LR	22 17 45.2	
	comp=N,61nm,20.2s,baz=188,slow=46						
LCO	**Las Campanas**	**3.50**	**15**	*e*Pn	**Pn**	**22 16 22.9**	**+1.1**
LCO				*e*Sn	**Sn**	**22 17 04.5**	**+2.0**
PLCA	**Paso Flores**	**8.36**	**174**	Pn	**Pn**	**22 17 29.6**	**+1.1**
	comp=N,0.3nm,0.3s,baz=342,slow=12,SNR=5.7						
PLCA				Lg	Lg	22 19 45.8	
	comp=N,0.1nm,0.3s,baz=299,slow=19,SNR=2.9						
PLCA				LR	LR	22 20 45.9	
	comp=N,148nm,19.2s,baz=313,slow=38						
PLCA	**Paso Flores**	**8.36**	**174**	*e*Pn	**Pn**	**22 17 28.6**	**+0.2**
PLCA				Lg	Lg	22 19 45.8	
TRQA	**Tornquist**	**9.76**	**128**	*e*Pn	**Pn**	**22 17 48.5**	**+1.0**
	comp=N,37nm,1.2s						
LVC	**Limon Verde**	**10.07**	**15**	Pn	**Pn**	**22 17 52.1**	**+0.1**
	comp=N,13nm,0.3s,baz=162,slow=6.4,SNR=2.9						
LVC				Sn	**Sn**	**22 19 43.0**	**-1.4**
	comp=N,24nm,0.3s,baz=225,slow=16,SNR=2.5						
LVC	**Limon Verde**	**10.07**	**15**	*e*Pn	**Pn**	**22 17 52.8**	**+0.7**
LVC				Sn	**Sn**	**22 19 43.0**	**-1.4**
CPUP	**Villa Florida**	**13.94**	**68**	Pn	**Pn**	**22 18 43.9**	**-0.8**
	comp=N,0.1nm,0.3s,baz=230,slow=16,SNR=2.2						
CPUP				Sn	**Sn**	**22 21 20.6**	**+2.1**
	comp=N,0.1nm,0.3s,baz=229,slow=15,SNR=2.8						
CPUP				LR	LR	22 24 26.7	
	comp=N,669nm,20.6s,baz=234,slow=39						
LPAZ	**La Paz**	**16.38**	**12**	Pn	**Pn**	**22 19 18.6**	**+1.0**
	comp=N,0.2nm,0.3s,baz=191,slow=10,SNR=6.5						
LPAZ	**La Paz**	**16.38**	**12**	*e*Pn	**Pn**	**22 19 18.8**	**+1.2**
SIV	**San Ignacio**	**18.99**	**33**	P	**P**	**22 19 48.9**	**+0.3**
	comp=N,0.2nm,0.3s,baz=221,slow=9.3,SNR=5.4						
SIV				LR	LR	22 28 27.0	
	comp=N,110nm,21.4s,baz=124,slow=41

ISC 19 22:34:08.5±1.1, 37°27'N±0°06'×141°36'E±0°08, h79km±7km, n36, σ1§05/40, mb3.6/11, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.40**	**284**	⇓P	**Pn**	**22 34 21.5**	**+0.1**
JFK				S	**Sn**	**22 34 30.2**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.48**	**250**	⇓P	**Pn**	**22 34 22.2**	**+0.1**
ONAJ				S	**Sn**	**22 34 31.6**	**-0.5**
JMM	**Marumori**	**0.75**	**323**	⇓P	**Pn**	**22 34 24.7**	**+0.1**
JMM				S	**Sn**	**22 34 36.2**	**-0.4**
JFT	**Otama**	**0.85**	**287**	⇓P	**Pn**	**22 34 25.6**	**-0.2**
JFT				S	**Sn**	**22 34 37.5**	**-1.2**
JIO	**Ouri**	**1.19**	**359**	⇑P	**Pn**	**22 34 30.4**	**+0.6**
JIO				S	**Sn**	**22 34 45.5**	**-0.2**
JOU	**Okura**	**1.23**	**333**	P	**Pn**	**22 34 30.3**	**0.0**
JOU				S	**Sn**	**22 34 46.6**	**-0.1**
JFY	**Yanaizu**	**1.33**	**277**	⇑P	**Pn**	**22 34 30.9**	**-0.7**
JFY				S	**Sn**	**22 34 47.2**	**-1.8**
JYS	**Shirataka**	**1.40**	**313**	P	**Pn**	**22 34 32.4**	**-0.1**
JYS				S	**Sn**	**22 34 49.6**	**-1.0**
JMK	**Ichinoseki**	**1.69**	**356**	P	**Pn**	**22 34 36.6**	**+0.4**
JNS	**Sasagawa**	**1.72**	**289**	P	**Pn**	**22 34 36.6**	**0.0**
JAG	**Ashikaga**	**1.75**	**242**	⇑P	**Pn**	**22 34 36.8**	**-0.2**
JAG				S	**Sn**	**22 34 56.9**	**-1.8**
JKT	**Katashina**	**1.76**	**254**	P	**Pn**	**22 34 37.7**	**+0.4**
MJAR	**Matsushiro Arr** 19nm,0.3s,baz=90,slow=16,SNR=141	**2.63**	**255**	P	**Pn**	**22 34 48.7**	**-0.1**
MJAR				S	Sn	22 35 09.3	-11
MAT	**Matsushiro** 21nm,0.3s,baz=69,slow=14,SNR=25	**2.63**	**255**	P	**Pn**	**22 34 49.1**	**+0.2**
MAT				S	**Sn**	**22 35 19.6**	**-0.2**
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=216,slow=11,SNR=8.8	**6.91**	**7**	P	**Pn**	**22 35 45.9**	**-1.2**
ASAJ				S	**Sn**	**22 37 00.6**	**-3.4**
USRK	**Ussuriysk Ar.** 0.4nm,0.3s,baz=30,slow=20,SNR=3.2	**9.92**	**317**	P	**Pn**	**22 36 29.8**	**+1.6**
KSRS	**Korea Array** 0.2nm,0.3s,baz=126,slow=11,SNR=4.1	**10.70**	**275**	P	**Pn**	**22 36 40.2**	**+1.5**
SONM	**Songino Array** 0.2nm,0.3s,baz=83,slow=14,SNR=8.0	**27.62**	**304**	P	**P**	**22 39 48.5**	**-0.1**
H11N2	**WAKE ISLAND Hy** 0.9nm,0.7s,baz=102,slow=8.2,SNR=8.2	**28.30**	**121**	T	T	23 10 18.1	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=97	**28.31**	**121**	T	T	23 10 23.6	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=50	**28.32**	**121**	T	T	23 10 23.7	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=53	**29.02**	**123**	T	T	23 11 17.2	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=41	**29.02**	**123**	T	T	23 11 24.4	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=33	**29.04**	**123**	T	T	23 11 07.2	
ZALV	**Zalesovo Beam** baz=316,slow=76,SNR=34	**41.73**	**312**	P	**P**	**22 41 52.1**	**+2.6**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=93,slow=8.7,SNR=2.9	**43.96**	**302**	P	**P**	**22 42 07.5**	**-0.1**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=83,slow=12,SNR=4.6	**49.32**	**32**	P	**P**	**22 42 50.5**	**+1.3**
INK	**Inuvik** 0.5nm,0.8s,baz=243,slow=5.9,SNR=5.3	**54.20**	**27**	P	**P**	**22 43 25.9**	**+0.6**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=323,slow=5.1,SNR=2.9	**57.29**	**188**	P	**P**	**22 43 48.1**	**+0.1**
AKTO	**Aktyubinsk** 0.6nm,0.6s,baz=5.4,slow=7.3,SNR=14	**58.49**	**312**	LR	LR	23 09 32.1	
YKA	**Yellowknife Ar** comp=Z,20nm,18.4s,slow=36	**63.63**	**30**	P	**P**	**22 44 30.0**	**-0.7**
FINES	**FINESS Array B** 0.1nm,0.5s,baz=309,slow=7.6,SNR=3.6	**68.59**	**332**	P	**P**	**22 45 02.3**	**-0.3**
NOA	**NORSAR Array B** 0.6nm,0.6s,baz=22,slow=5.2,SNR=3.7	**75.95**	**337**	P	**P**	**22 45 34.9**	**-0.1**
AKASG	**Malin Array Be** 0.9nm,0.8s,baz=52,slow=7.3,SNR=2.8	**74.09**	**322**	P	**P**	**22 45 35.5**	**-0.3**
GERES	**GERESS Array B** 0.4nm,0.4s,baz=29,slow=0.2,SNR=3.8	**82.49**	**328**	P	**P**	**22 46 21.3**	**-1.1**
LPAZ	**La Paz** 0.3nm,0.3s,baz=30,slow=6.8,SNR=5.2	**146.61**	**59**	PKPbc	**PKPbc**	**22 53 42.5**	**+0.3**
	0.8nm,0.6s,baz=158,slow=0.3,SNR=4.8						

*ISCJB **19** 22:43:11.5±0.6, 17°96S±0°06×69°40W±0°08, h126km, mb3.9/9, Error ellipse: s-maj=10.2km s-min=8.7km az=15.3*

*IDC **19** 22:43:13.1±1.4, 18°02S×69°45W, h126km±13km, mb3.7/10, mb1 4.0/14, mb1mx3.8/36, mbtmp4.2/14, Error ellipse: s-maj=17.8km s-min=12.3km az=95.0*

ISC 19 22:43:13.2±0.6, 18°01S±0°08×69°40W±0°09, h126km, n17, σ1§22/19, mb3.8/9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 35nm,0.3s,baz=231,slow=3.0,SNR=800	**2.10**	**36**	P	**Pn**	**22 43 51.0**	**+2.2**
LVC	**Limon Verde** 309nm,0.3s,baz=340,slow=12,SNR=48	**4.61**	**174**	P	**Pn**	**22 44 22.0**	**+0.8**
LVC				S	**Sn**	**22 45 12.7**	**-1.3**
SIV	**San Ignacio** 585nm,0.3s,baz=176,slow=19,SNR=11	**8.22**	**77**	P	**Pn**	**22 45 10.0**	**+0.3**
SIV	11nm,0.3s,baz=325,slow=11,SNR=75			S	**Sn**	**22 46 39.7**	**-1.2**
PTGA	**Pitinga** 0.6nm,0.3s,baz=355,slow=17,SNR=2.6	**19.51**	**29**	P	**P**	**22 47 30.0**	**-0.8**
BDFB	**Brasilia** 5.1nm,0.3s,baz=339,slow=23,SNR=37	**20.61**	**87**	P	**P**	**22 47 43.2**	**+0.5**
TXAR	**Lajitas Array** 4.4nm,0.5s,baz=264,slow=9.5,SNR=9.9	**57.52**	**324**	P	**P**	**22 52 48.1**	**-1.5**
DBIC	**Dimbokro** 0.7nm,0.7s,baz=152,slow=8.3,SNR=7.9	**68.23**	**75**	P	**P**	**22 54 00.8**	**0.0**
PDAR	**Pinedale Array** 3.4nm,0.5s,baz=216,slow=5.7,SNR=12	**70.87**	**330**	P	**P**	**22 54 16.4**	**-0.3**
ULM	**Lac du Bonnet** 0.3nm,0.5s,baz=118,slow=9.3,SNR=2.9	**71.86**	**342**	P	**P**	**22 54 20.8**	**-1.4**
QSPA	**South Pole Qui** 1.6nm,0.3s,baz=141,slow=6.7,SNR=5.2	**72.17**	**180**	P	**P**	**22 54 25.6**	**+1.5**
NVAR	**Mina Array Bea** 0.8nm,0.6s,baz=285,slow=7.0,SNR=7.2	**72.47**	**322**	P	**P**	**22 54 27.2**	**+0.8**
TORD	**Torodi Ar. Bea** 0.8nm,0.8s,baz=170,slow=6.0,SNR=3.3	**76.65**	**71**	P	**P**	**22 54 50.6**	**-0.1**
ESDC	**Sonseca Array** 2.2nm,0.4s,baz=249,slow=5.3,SNR=27	**83.69**	**45**	P	**P**	**22 55 28.2**	**+0.1**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=259,slow=5.2,SNR=4.6	**87.75**	**341**	P	**P**	**22 55 47.2**	**-0.2**
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=134,slow=4.8,SNR=30	**135.67**	**213**	PKP	**PKPdf**	**23 02 17.9**	**-1.7**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=318,slow=4.1,SNR=3.1	**138.97**	**23**	PKP	**PKPdf**	**23 02 26.4**	**+1.8**
SONM	**Songino Array** 0.5nm,0.7s,baz=295,slow=1.6,SNR=7.5	**150.05**	**6**	PKPbc	**PKPbc**	**23 02 49.8**	**+0.6**

*IDC **19** 22:43:51.8±2.7, 6°29S×147°91E, h85km±22km, mb3.7/2, mb1 3.8/5, mb1mx3.3/31, mbtmp3.9/5, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=39.3km s-min=24.1km az=96.0*

ISC 19 22:43:48.9±2.4, 6°3S±0°1×148°1E±0°3, h51km, n7, σ2§24/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.20**	**197**	P	**Pn**	**22 44 38.8**	**+2.1**
JAY	**Jayapura** 0.8nm,0.3s,baz=148,slow=15,SNR=3.1	**8.29**	**297**	P	**Pn**	**22 45 47.6**	**+1.1**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=50,slow=10,SNR=18	**19.02**	**223**	P	**P**	**22 48 05.2**	**-1.5**
WRA				S	Sn	22 51 17.9	-23
ASAR	**Alice Springs** 1.5nm,0.4s,baz=50,slow=9.2,SNR=25	**21.99**	**217**	P	**P**	**22 48 38.6**	**-0.3**
ASAR				S	**S**	**22 52 36.3**	**-2.6**
STKA	**Stephens Creek** 4.0nm,0.8s,baz=5.7,slow=7.9,SNR=9.5	**26.14**	**193**	P	**P**	**22 49 18.8**	**+0.4**
KSRS	**Korea Array** comp=Z,5.4nm,18.4s,baz=55,slow=36	**47.45**	**338**	LR	LR	23 12 05.6	
TORD	**Torodi Ar. Bea** 0.4nm,1.0s,baz=88,slow=3.3,SNR=5.1	**146.23**	**284**	PKPbc	**PKPdf**	**23 03 21.4**	**-2.3**

IDC 19 23:03:39.1±1.5, 1°93S×137°66E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/32, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=37.0km s-min=27.0km az=71.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 1.7nm,0.3s,baz=251,slow=11,SNR=8.2	**3.10**	**101**	Pn	Pn	23 04 28.6	-0.7
JAY				Sn	Sn	23 04 58.8	-8.2
WRA	**Warramunga Arr** 3.8nm,0.3s,baz=256,slow=8.1,SNR=4.9	**18.20**	**190**	P	Pn	23 07 53.2	-0.1
WRA	0.2nm,0.3s,baz=11,slow=12,SNR=14			S	Sn	23 11 00.3	-17
ASAR	**Alice Springs** 0.1nm,0.3s,baz=7.3,slow=23,SNR=6.2	**21.91**	**189**	P	P	23 08 33.9	-0.3
ASAR	0.6nm,0.4s,baz=24,slow=12,SNR=11			S	S	23 12 31.3	-6.0
MKAR	**Makanchi Array** 0.9nm,0.8s,baz=10,slow=22,SNR=5.0	**68.54**	**323**	P	P	23 14 43.9	+0.3
	0.2nm,0.5s,baz=105,slow=7.2,SNR=3.8						

*IDC **19** 23:06:28.0±4.3, 36°29N×70°98E, h167km±37km, mb3.1/10, mb1 3.2/14, mb1mx3.0/47, mbtmp3.6/14, Error ellipse: s-maj=30.7km s-min=18.2km az=29.0*

*ISCJB **19** 23:06:29.8±0.7, 36°57N±0°06×70°93E±0°09, h188km, mb3.3/9, Error ellipse: s-maj=10.7km s-min=7.9km az=38.7*

*NNC **19** 23:06:34.1±6.5, 36°92N×71°04E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=53.6km s-min=22.7km az=172.0*

ISC 19 23:06:31.2±1.0, 36°63N±0°09×70°95E±0°08, h188km, n25, σ1§34/31, mb3.3/9, 6C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 7.6nm,0.3s	**2.75**	**323**	⇑P	**Pn**	**23 07 17.0**	**-0.2**
DZET				⇓S	**Sn**	**23 07 51.8**	**-1.6**
SFK	**Sufi-Kurgan** 54nm,0.4s	**3.93**	**30**	⇑P	**Pn**	**23 07 32.4**	**+0.5**
SFK				⇑S	**Sn**	**23 08 19.7**	**+0.3**
AML	**Almayashu** 8.1nm,0.3s SNR=67	**5.89**	**20**	P	**Pn**	**23 07 57.0**	**-0.2**
MNAS	**Manas** 4.0nm,0.4s	**5.97**	**11**	⇓P	**Pn**	**23 07 58.4**	**+0.5**
MNAS				⇓S	**Sn**	**23 09 05.1**	**-1.4**
UCH	**Uchtor** 7.6nm,0.5s SNR=6.6	**6.24**	**25**	P	**Pn**	**23 08 01.8**	**+0.1**
EKS2	**Erkin-Say** 3.4nm,0.4s SNR=20	**6.41**	**19**	P	**Pn**	**23 08 04.1**	**+0.4**
KK31	**Karatay Array** 2.9nm,0.4s,baz=177,slow=12,SNR=84	**6.48**	**357**	P	**Pn**	**23 08 04.4**	**0.0**
KK31				⇑S	**Sn**	**23 09 13.9**	**-4.3**
AAK	**Ala-Archa** 2.2nm,0.3s,baz=183,slow=21,SNR=3.8	**6.59**	**23**	⇑P	**Pn**	**23 08 06.1**	**0.0**
AAK	3.2nm,0.5s			⇑S	**Sn**	**23 09 20.4**	**-0.7**
AAK	**Ala-Archa** 3.4nm,0.5s SNR=8.0	**6.59**	**23**	P	**Pn**	**23 08 06.1**	**0.0**
AAK	**Ala-Archa** 1.4nm,0.3s,baz=190,slow=7.5,SNR=26	**6.59**	**23**	P	**Pn**	**23 08 06.0**	**-0.1**
AAK				S	**Sn**	**23 09 19.1**	**-2.0**
CHMS	**Chumysh** 0.5nm,0.3s,baz=327,slow=22,SNR=9.1 SNR=7.2	**7.00**	**24**	P	**Pn**	**23 08 11.6**	**+0.3**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=216,slow=12,SNR=6.0	**13.21**	**36**	P	**P**	**23 09 33.7**	**-1.2**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=156,slow=13,SNR=4.5	**16.40**	**359**	P	**Pn**	**23 10 12.4**	**+1.7**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=137,slow=14,SNR=4.6	**16.65**	**330**	P	**Pn**	**23 10 14.7**	**+1.0**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=228,slow=11,SNR=8.2	**19.82**	**25**	P	**P**	**23 10 48.1**	**+1.0**
AKASG	**Malin Array Be** 0.6nm,0.5s,baz=107,slow=8.0,SNR=4.1	**32.83**	**309**	P	**P**	**23 12 47.6**	**+0.9**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=135,slow=16,SNR=4.2	**37.35**	**326**	P	**P**	**23 13 26.7**	**+1.5**
ARCES	**ARCESS Array B** 3.6nm,0.9s,baz=119,slow=8.4,SNR=7.3	**41.01**	**338**	P	**P**	**23 13 57.0**	**+1.6**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=94,slow=7.9	**44.25**	**323**	P	**P**	**23 14 22.5**	**+0.9**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,baz=96,slow=7.9,SNR=5.0	**44.25**	**323**	P	**P**	**23 14 22.6**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.9s,baz=53,slow=5.9,SNR=5.3	**65.68**	**269**	P	**P**	**23 16 54.2**	**-1.4**
INK	**Inuvik** comp=Z,0.3nm,0.5s,baz=27,slow=6.8,SNR=3.2	**73.79**	**9**	P	**P**	**23 17 44.1**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=352,slow=5.3,SNR=5.0	**81.12**	**3**	P	**P**	**23 18 26.1**	**+1.1**
WRA	**Warramunga Arr** comp=Z,0.1nm,0.3s,baz=324,slow=4.9,SNR=4.9	**82.09**	**122**	P	**P**	**23 18 29.4**	**-1.3**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=316,slow=5.2,SNR=3.4	**84.36**	**125**	P	**P**	**23 18 40.5**	**-1.8**

NNC 19 23:13:51.9±4.5, 37°31N×71°04E, h0km, mb3.7, mpv3.3, 5C-3D, Error ellipse: s-maj=39.8km s-min=13.8km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 18nm,0.4s	**2.29**	**311**	⇓Pn	Pn	23 14 30.5	-0.6
DZET				⇑Sn	Sb	23 15 01.9	-1.5
SFK	**Sufi-Kurgan** 77nm,0.4s	**3.31**	**35**	⇑Pn	Pn	23 14 45.1	-0.3
SFK	2.1nm,0.3s			⇓Sn	Sn	23 15 28.3	+2.5
KK31	**Karatay Array** 4.0nm,0.3s	**5.80**	**356**	⇑Pn	Pn	23 15 18.3	-0.8
KK31	1.0nm,0.4s,baz=177,slow=13,SNR=37			⇑Sn	Sn	23 16 23.2	-3.2
AAK	**Ala-Archa** 1.2nm,0.3s	**5.94**	**25**	⇑Pn	Pn	23 15 20.1	-1.2
AAK	1.2nm,0.5s,baz=178,slow=22,SNR=5.4			⇓Sn	Sn	23 16 31.0	+0.8
	1.5nm,0.7s						

*IDC **19** 23:14:42.5±9.2, 40°65N×140°81E, h0km, mb3.4/3, mb1 3.3/4, mb1mx3.2/45, mbtmp3.3/4, ML2.9/1, MS1.9/1, Ms1 1.9/1, ms1mx1.8/22, Error ellipse: s-maj=190.1km s-min=40.2km az=86.0*

*ISCJB **19** 23:14:47.1±0.9, 40°05N±0°04×141°4E±0°1, h99km±5km, mb3.2/3, Error ellipse: s-maj=19.1km s-min=6.4km az=6.2*

*JMA **19** 23:14:48.7, 40°07N×141°33E, h88km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕ±39.00000°, δ87.00000°, λ-112.00000°. NP2: ϕ±301.00000°, δ23.00000°, λ-8.00000°. Principal axes: T Plg38.0000°, Azm149.0000°; N Plg22.0000°, Azm40.0000°; P Plg44.0000°, Azm287.0000°;*

ISC 19 23:14:48.0±1.2, 40°06N±0°04×141°4E±0°1, h93km±8km, n15, σ0§77/22, mb3.2/3, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKZ	**Kuzumaki**	**0.09**	**207**	⇓P	**Pn**	**23 15 01.4**	**+0.3**
JKZ				S	**Sn**	**23 15 10.7**	**-0.1**
JANG	**Nango**	**0.33**	**18**	⇑P	**Pn**	**23 15 02.2**	**+0.3**
JANG				S	**Sn**	**23 15 12.1**	**-0.1**
JAH	**Hinai**	**0.59**	**283**	⇑P	**Pn**	**23 15 03.5**	**-0.2**
JOM	**Ohasama**	**0.59**	**187**	⇓P	**Pn**	**23 15 04.0**	**+0.2**
JOM				S	**Sn**	**23 15 15.4**	**-0.1**
JTM	**Tenmabayashi**	**0.76**	**342**	⇑P	**Pn**	**23 15 05.5**	**+0.2**
JTM				S	**Sn**	**23 15 18.7**	**+0.4**
JRG	**Rokugo**	**0.88**	**221**	P	**Pn**	**23 15 07.0**	**+0.5**
JRG				*e*S	**Sn**	**23 15 20.9**	**+0.5**
JMK	**Ichinoseki**	**1.12**	**187**	⇓P	**Pn**	**23 15 09.6**	**+0.4**
JMK				S	**Sn**	**23 15 25.2**	**+0.1**
JIW	**Iwasaki**	**1.18**	**297**	P	**Pn**	**23 15 10.1**	**+0.2**
JOT	**Ohata**	**1.34**	**349**	P	**Pn**	**23 15 12.5**	**+0.6**
JOT				*e*S	**Sn**	**23 15 31.4**	**+1.5**
JYK	**Kaneyama**	**1.39**	**215**	P	**Pn**	**23 15 12.9**	**+0.4**
JYK				S	**Sn**	**23 15 30.4**	**-0.6**
ASAJ	**Asahikawa** comp=Z,16nm,20.1s,baz=148,slow=48	**4.15**	**12**	LR	LR	23 17 40.0	
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=19,slow=15,SNR=5.2	**4.31**	**216**	Pn	**Pn**	**23 15 53.1**	**+1.8**
SONM	**Songino Array** 0.2nm,0.4s,baz=106,slow=11,SNR=2.5	**26.18**	**299**	P	**P**	**23 20 14.3**	**+0.4**
ZALV	**Zalesovo Beam** 1.0nm,0.6s,baz=76,slow=6.1,SNR=4.9	**39.91**	**310**	P	**P**	**23 22 11.7**	**-0.9**
MKAR	**Makanchi Array**	**42.55**	**299**	P	**P**	**23 22 33.0**	**-1.4**
	0.2nm,0.6s,baz=85,slow=10,SNR=4.3						

*JMA **19** 23:28:58.9±0.1, 37°00N×142°32E, h24km±3km, M3.5*

ISC 19 23:28:59.4±3.9, 37°06N±0°08×142°2E±0°1, h9km±17km, n8, σ1§06/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.07**	**287**	P	**Pn**	**23 29 20.5**	**0.0**
JFK				*e*S	**Sn**	**23 29 35.9**	**+0.4**
ONAJ	**Iwakimizuishiy**	**1.09**	**273**	P	**Pn**	**23 29 20.6**	**-0.2**
ONAJ				*e*S	**Sn**	**23 29 36.3**	**+0.3**
JHO	**Hitachi**	**1.35**	**251**	P	**Pn**	**23 29 24.1**	**-0.3**
JHO				*e*S	**Sb**	**23 29 42.4**	**+0.2**
JMM	**Marumori**	**1.35**	**307**	P	**Pb**	**23 29 24.5**	**-0.3**
JMM				*e*S	**Sg**	**23 29 43.0**	**+0.1**
JFT	**Otama**	**1.52**	**288**	P	**Pb**	**23 29 27.8**	**0.0**
JFT				*e*S	**Sg**	**23 29 48.8**	**+0.4**
JIO	**Ouri**	**1.53**	**336**	P	**Pn**	**23 29 26.7**	**-0.2**
JIO				*e*S	**Sn**	**23 29 47.0**	**+0.1**
JOU	**Okura**	**1.76**	**318**	P	**Pb**	**23 29 31.3**	**-0.6**
JOU				*e*S	**Sb**	**23 29 54.8**	**+0.7**
MAT	**Matsushiro**	**3.21**	**262**	P	**Pn**	**23 29 52.0**	**+2.0**
MAT				*e*S	**Sb**	**23 30 33.0**	**-2.8**

*ISCJB **19** 23:56:16.8±0.5, 16°50N±0°08×46°71W±0°09, h13km, mb4.0/22, MS3.5/19, Error ellipse: s-maj=13.9km s-min=9.7km az=45.0*

*IDC **19** 23:56:16.9±0.6, 16°49N×46°62W, h0km, mb3.9/17, mb1 4.2/18, mb1mx4.0/39, mbtmp4.0/18, ML3.9/1, MS3.5/19, Ms1 3.5/19, ms1mx3.3/36, Error ellipse: s-maj=19.4km s-min=13.9km az=134.0*

*NEIC **19** 23:56:18.1±0.4, 16°46N×46°69W, h10km, mb4.2/7, Error ellipse: s-maj=11.2km s-min=8.0km az=147.0*

ISC 19 23:56:18.7±0.6, 16°5N±0°1×46°7W±0°1, h13km, n44, σ0§71/27, mb4.1/22, MS3.4/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar** SNR=36	**13.81**	**263**	T	T	00 13 49.8	
PCRV	**Puerto La Cruz** 0.4nm,0.3s,baz=135,slow=7.1,SNR=1.9	**18.57**	**253**	P	**P**	**00 00 35.5**	**-0.1**
PTGA	**Pitinga** 5.5nm,0.7s,baz=26,slow=12,SNR=12	**21.56**	**219**	P	**P**	**00 01 08.5**	**+0.4**
ROSC	**El Rosal** comp=Z,58nm,19.2s,baz=102,slow=40	**29.49**	**250**	LR	LR	00 16 10.4	
SAML	**Samuel** 4.5nm,1.2s	**30.09**	**214**	*e*P	**P**	**00 02 27.7**	**-0.4**
BDFB	**Brasilia** comp=Z,65nm,18.2s,baz=86,slow=36	**31.95**	**182**	LR	LR	00 15 11.1	
LPAZ	**La Paz** 2.5nm,0.9s,baz=13,slow=8.9,SNR=10	**38.84**	**214**	P	**P**	**00 03 45.0**	**+0.5**
LPAZ				LR	LR	00 18 59.5	
LPAZ	**La Paz** 2.1nm,0.8s comp=Z,52nm,20.9s,baz=68,slow=35	**38.84**	**214**	*e*P	**P**	**00 03 43.6**	**-0.9**
ATAH	**Atahualpa** comp=Z,72nm,19.3s,baz=70,slow=37	**39.19**	**236**	LR	LR	00 20 25.7	
H10N3	**ASCENSION HYDR** baz=307,slow=75,SNR=139	**39.96**	**125**	T	T	00 45 60.0	
H10N2	**ASCENSION HYDR** baz=307,slow=75,SNR=146	**39.97**	**125**	T	T	00 46 02.2	
H10N1	**ASCENSION HYDR** baz=307,slow=75,SNR=192	**39.98**	**125**	T	T	00 46 01.3	
H10S3	**ASCENSION HYDR** baz=308,slow=75,SNR=158	**40.52**	**126**	T	T	00 46 41.9	
H10S1	**ASCENSION HYDR** baz=308,slow=75,SNR=177	**40.52**	**126**	T	T	00 46 42.2	
H10S2	**ASCENSION HYDR** baz=308,slow=75,SNR=197	**40.53**	**126**	T	T	00 46 45.3	
NNA	**Nana** comp=Z,58nm,21.2s,baz=25,slow=35	**41.11**	**228**	LR	LR	00 20 12.2	
SCHQ	**Schefferville** comp=Z,53nm,20.9s,baz=93,slow=31	**41.32**	**342**	LR	LR	00 17 47.1	
DBIC	**Dimbokro** comp=Z,109nm,20.7s,baz=264,slow=31	**42.03**	**98**	LR	LR	00 18 08.1	
ESDC	**Sonseca Array** 0.2nm,0.6s,baz=241,slow=7.9,SNR=3.6	**43.66**	**49**	P	**P**	**00 04 23.6**	**+0.3**
ESDC				LR	LR	00 19 46.4	
CPUP	**Villa Florida** 3.5nm,1.0s,baz=1.4,slow=8.0,SNR=12	**43.80**	**194**	P	**P**	**00 04 24.2**	**-0.1**
CPUP	**Villa Florida** 0.5nm,1.1s	**43.80**	**194**	*e*P	**P**	**00 04 24.1**	**-0.3**
LVC	**Limon Verde** comp=Z,117nm,21.6s,baz=18,slow=36	**44.54**	**210**	LR	LR	00 23 13.8	
TORD	**Torodi Ar. Bea** 2.2nm,1.0s,baz=276,slow=4.2,SNR=11	**46.79**	**87**	P	**P**	**00 04 48.1**	**-0.3**
TORD				LR	LR	00 21 59.4	
ULM	**Lac du Bonnet** 4.2nm,0.7s,baz=113,slow=5.2,SNR=8.8	**51.79**	**322**	P	**P**	**00 05 26.2**	**+0.1**
ULM				LR	LR	00 24 03.5	
CFAA	**Coronel Fontan** comp=Z,27nm,20.1s,baz=268,slow=36	**52.10**	**203**	LR	LR	00 27 15.3	
KEST	**Kesra** comp=Z,24nm,20.8s,baz=228,slow=33	**53.11**	**58**	LR	LR	00 25 27.8	
TXAR	**Lajitas Array** 0.9nm,0.9s,baz=99,slow=7.7,SNR=11	**53.58**	**294**	P	**P**	**00 05 41.2**	**+1.3**
TXAR				PcP	**PcP**	**00 06 47.2**	**+0.7**
	0.7nm,1.0s,baz=106,slow=6.7,SNR=4.1						
TXAR	comp=Z,31nm,19.2s,baz=0.0,slow=37			LR	LR	00 29 04.6	
MNTX	**Cornudas Mount** 4.0nm,1.0s	**55.10**	**297**	*e*P	**P**	**00 05 49.5**	**-1.4**
FFC	**Flin Flon** 9.2nm,1.3s	**56.88**	**325**	*e*P	**P**	**00 06 02.9**	**-0.3**
FFC				*e*PcP	**PcP**	**00 06 59.6**	**+0.9**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=248,slow=9.3,SNR=4.2	**58.33**	**42**	P	**P**	**00 06 12.9**	**-0.7**
PDAR	**Pinedale Array** 2.1nm,1.1s,baz=98,slow=6.3,SNR=10	**59.15**	**310**	P	**P**	**00 06 20.1**	**+0.4**
PDAR				LR	LR	00 29 04.2	
TUC	**Tucson** 1.0nm,0.7s	**59.69**	**298**	*e*P	**P**	**00 06 22.1**	**-1.2**
NOA	**NORSAR Array B** comp=Z,16nm,18.3s,baz=260,slow=32	**60.36**	**28**	LR	LR	00 28 32.4	
HWUT	**Hardware Ranch** 2.6nm,0.8s	**60.54**	**309**	*e*P	**P**	**00 06 28.5**	**-0.7**
PLCA	**Paso Flores** 1.9nm,0.7s,baz=45,slow=7.1,SNR=2.9	**61.09**	**201**	P	**P**	**00 06 32.9**	**+0.2**
H09W1	**TRISTAN DA CUN** SNR=10	**62.35**	**149**	T	T	01 14 04.6	
NEW	**Newport** comp=Z,82nm,18.3s,baz=100,slow=34	**64.90**	**316**	LR	LR	00 32 42.0	
YKA	**Yellowknife Ar**

ISC 19 23:58:17.7±1.3, 45°.8N±0°.2×152°.9E±0°.1, h35km, n32, σ2§31/32, mb3.4/7, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.55**	**263**	*i* PN	**Pn**	**23 59 11.6**	**+1.4**
KUR				*i*		23 59 51.0	
KUR				pmax	pmax		
	comp=N,48nm,0.1s						
KUR				pmax	pmax		
	comp=E,41nm,0.1s						
KUR				pmax	pmax		
	comp=Z,45nm,0.1s						
KUR				pmax	pmax		
	comp=Z,273nm,4.4s						
KUR				pmax	pmax		
	comp=N,314nm,3.0s						
KUR				pmax	pmax		
	comp=E,382nm,3.0s						
KUR	**Kuril'sk**	**3.55**	**263**	*e*P	**Pn**	**23 59 11.6**	**+1.4**
KUR				AMB	AMB	23 59 15.0	
	comp=E,280nm,4.4s						
KUR				AMB	AMB	23 59 18.7	
	comp=E,48nm,0.1s						
KUR				*e*S	**Sn**	**23 59 50.8**	**-0.1**
KUR				A	A	23 59 52.5	
	comp=E,314nm,3.0s						
KUR				A	A	23 59 52.5	
	comp=E,380nm,3.0s						
KUR				A	A	23 59 59.3	
	comp=E,72nm,0.3s						
KUR				A	A	23 59 59.3	
	comp=E,263nm,0.3s						
SHO	**Shikotan**	**4.68**	**249**	*e*P	**Pn**	**23 59 27.3**	**+1.5**
SHO				*e*S	**Sn**	**00 00 19.3**	**+0.5**
SHO				A	A	00 00 35.1	
	comp=E,142nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.26**	**253**	*e*PN	Pn	23 59 37.2	+3.5
YUK				pmax	pmax		
	comp=N,81nm,0.3s						
YUK				pmax	pmax		
	comp=E,94nm,0.3s						
YUK				pmax	pmax		
	comp=Z,161nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.26**	**253**	*e*P	Pn	23 59 37.2	+3.5
YUK				AMB	AMB	23 59 48.3	
	comp=Z,160nm,0.3s						
YUK				*e*S	**Sn**	**00 00 35.9**	**+2.9**
YUK				A	A	00 00 43.3	
	comp=Z,97nm,0.8s						
YUK				A	A	00 00 43.3	
	comp=Z,190nm,0.8s						
SKR	**Severo-Kuril's**	**5.40**	**23**	*e*PN	Pn	23 59 26.5	-9.2
NEM2	**Nemuro 2**	**5.61**	**247**	P	**Pn**	**23 59 40.0**	**+1.4**
NEM2				*e*S	**Sn**	**00 00 40.0**	**-1.8**
JRA	**Rausu**	**5.79**	**255**	P	Pn	23 59 44.4	+3.4
JNK	**Nakash**	**6.19**	**252**	P	**Pn**	**23 59 49.0**	**+2.4**
JAK	**Akkeshi**	**6.46**	**248**	P	**Pn**	**23 59 51.5**	**+1.2**
JAK				*e*S	**Sn**	**00 00 59.7**	**-3.0**
JTKR	**Abashiri--Toko**	**6.60**	**258**	P	**Pn**	**23 59 54.5**	**+2.3**
JAR	**Ashorobuto**	**6.94**	**253**	P	**Pn**	**23 59 59.3**	**+2.4**
JAR				*e*S	**Sn**	**00 01 15.3**	**+0.8**
JMP	**Maruseppu**	**6.97**	**259**	P	**Pn**	**00 00 00.2**	**+3.0**
JOB	**Onbets**	**7.07**	**249**	*e*S	**Sn**	**00 01 15.3**	**-2.3**
JKK2	**Kamakawa 2**	**7.43**	**259**	P	**Pn**	**00 00 06.7**	**+3.1**
JCH	**Churui**	**7.51**	**249**	P	**Pn**	**00 00 06.6**	**+2.0**
JCH				*e*S	**Sn**	**00 01 26.2**	**-2.3**
MYR	**Moyori**	**7.71**	**247**	*e*P	**Pn**	**00 00 09.3**	**+1.8**
MYR				*e*S	**Sn**	**00 01 30.1**	**-3.4**
PETK	**Petropavlovsk-**	**8.02**	**21**	P	**Pn**	**00 00 10.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=3.3						
PETK				LR	LR	00 03 16.4	
	comp=Z,40nm,20.4s,baz=248,slow=39						
JNBK	**Urakawa-nobuka**	**8.06**	**248**	*e*S	**Sn**	**00 01 39.8**	**-2.3**
JBT2	**Biratori 2**	**8.09**	**252**	P	**Pn**	**00 00 15.5**	**+2.8**
JKB	**Kayabe**	**9.38**	**250**	P	**Pn**	**00 00 31.5**	**+1.3**
JKB				*e*S	**Sn**	**00 02 09.1**	**-5.2**
JANG	**Nango**	**9.88**	**241**	*e*S	Sn	00 02 20.5	-6.3
SONM	**Songino Array**	**31.51**	**291**	LR	LR	00 17 17.1	
	comp=Z,36nm,20.9s,baz=128,slow=36						
ILAR	**Eielson Array**	**37.45**	**38**	P	**P**	**00 05 26.4**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=241,slow=6.9,SNR=4.4						
INK	**Inuvik**	**42.60**	**32**	LR	LR	00 23 18.9	
	comp=Z,20nm,19.7s,baz=221,slow=36						
MKAR	**Makanchi Array**	**47.25**	**298**	P	**P**	**00 06 47.7**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=73,slow=9.8,SNR=3.2						
WRA	**Warramunga Arr**	**67.50**	**199**	P	P	00 09 18.8	+8.6
	comp=Z,0.3nm,0.9s,baz=0.0,slow=4.8,SNR=7.8						
NOA	**NORSAR Array B**	**69.12**	**341**	P	**P**	**00 09 18.0**	**-1.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**69.12**	**341**	P	**P**	**00 09 18.0**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=354,slow=4.8,SNR=3.5						
ASAR	**Alice Springs**	**71.20**	**198**	P	P	00 09 38.7	+5.8
	comp=Z,0.2nm,0.6s,baz=354,slow=5.6,SNR=3.4						
TXAR	**Lajitas Array**	**78.14**	**60**	P	**P**	**00 10 15.9**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=298,slow=4.8,SNR=7.1						
BRTR	**Keskin Array B**	**79.00**	**317**	P	**P**	**00 10 18.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=28,slow=7.2,SNR=3.1						

*CSEM **19** 23:59:21.8±0.2, 40°.15N×21°.71E, h2km, MD3.0, Error ellipse: s-maj=4.6km s-min=3.8km az=45.0*
*ISCJB **19** 23:59:22.0±0.5, 40°.18N±0°.02×21°.72E±0°.03, h4km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=157.1*
*ATH **19** 23:59:22.0, 40°.20N×21°.73E, h16km±1km, MD3.0/13*
*THE **19** 23:59:22.2, 40°.19N×21°.70E, h14km±2km, ML1.9/5, Error ellipse: s-maj=2.8km s-min=0.6km az=40.0*
*SKO **19** 23:59:23.5, 40°.18N×21°.71E, h0km*

ISC 19 23:59:22.3±0.9, 40°.17N±0°.02×21°.72E±0°.02, h7km±7km, n53, σ1§16/83, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.14**	**16**	P	**Pg**	**23 59 25.5**	**+0.2**
KZN				S	**Sg**	**23 59 28.2**	**+0.9**
KZN	**Kozani**	**0.14**	**16**	*e*PB	**Pg**	**23 59 25.5**	**+0.2**
KZN				*e*SB	**Sg**	**23 59 28.3**	**+0.9**
KZN	**Kozani**	**0.14**	**16**	P	**Pg**	**23 59 25.5**	**+0.2**
KZN				S	**Sg**	**23 59 28.2**	**+0.9**
NEST	**Nestorio**	**0.57**	**295**	P	**Pg**	**23 59 32.6**	**-0.8**
NEST				S	**Sg**	**23 59 41.0**	**+0.2**
NEST	**Nestorio**	**0.57**	**295**	*e*PN	**Pg**	**23 59 32.5**	**-0.8**
NEST				*e*SN	**Sg**	**23 59 41.2**	**+0.4**
NEST	**Nestorio**	**0.57**	**295**	P	**Pg**	**23 59 32.6**	**-0.8**
NEST				S	**Sg**	**23 59 41.0**	**+0.2**
LIT	**Litokhoron**	**0.59**	**97**	P	**Sb**	**23 59 43.0**	**-0.7**
LIT				S	**Sb**	**23 59 43.0**	**-0.7**
LIT	**Litokhoron**	**0.59**	**97**	*e*PN	**Pg**	**23 59 33.0**	**-0.8**
LIT				*e*SN	**Sg**	**23 59 41.4**	**-0.2**
LIT	**Litokhoron**	**0.59**	**97**	*e*Pn	**Pg**	**23 59 33.0**	**-0.8**
LIT	**Litokhoron**	**0.59**	**97**	P	**Pg**	**23 59 33.9**	**+0.1**
LIT				*e*Sn	**Sg**	**23 59 41.4**	**-0.2**
LIT				S	**Sb**	**23 59 43.0**	**-0.7**
THL	**Klokotos Trika**	**0.65**	**160**	P	**Pg**	**23 59 34.1**	**-0.7**
THL				S	**Sb**	**23 59 45.2**	**0.0**
THL	**Klokotos Trika**	**0.65**	**160**	*e*PB	**Pg**	**23 59 34.3**	**-0.5**
THL				*e*SN	**Sb**	**23 59 44.8**	**-0.4**
THL	**Klokotos Trika**	**0.65**	**160**	*e*Pb	**Pg**	**23 59 34.3**	**-0.5**
THL				*e*Sn	**Sb**	**23 59 44.8**	**-0.4**
THL				S	**Sb**	**23 59 45.2**	**0.0**
FNA	**Florina**	**0.66**	**337**	P	**Pg**	**23 59 34.4**	**-0.7**
FNA				S	**Sg**	**23 59 43.7**	**-0.1**
FNA	**Florina**	**0.66**	**337**	*e*PN	**Pg**	**23 59 34.5**	**-0.7**
FNA				*e*SN	**Sg**	**23 59 43.5**	**-0.3**
FNA	**Florina**	**0.66**	**337**	*e*Pn	**Pg**	**23 59 34.5**	**-0.7**
FNA				S	**Sg**	**23 59 43.7**	**-0.1**
KBN	**Korca**	**0.84**	**302**	P	**Pg**	**23 59 38.4**	**-0.1**
KBN				S	**Sb**	**23 59 49.6**	**-1.3**
KBN	**Korca**	**0.84**	**302**	P	**Pg**	**23 59 38.4**	**-0.1**
KBN				S	**Sb**	**23 59 49.6**	**-1.3**
JAN	**Janina**	**0.85**	**233**	*e*PN	**Pg**	**23 59 38.3**	**-0.3**
JAN	**Janina**	**0.85**	**233**	*e*Pn	**Pg**	**23 59 38.3**	**-0.3**
HORT	**Hortiatis**	**1.14**	**68**	*e*PB	**Pb**	**23 59 42.3**	**-2.0**
HORT	**Hortiatis**	**1.14**	**68**	*e*Pb	**Pb**	**23 59 42.3**	**-2.0**
DSL	**Palaion Diasel**	**1.15**	**205**	*e*PN	**Pg**	**23 59 44.9**	**+0.6**
DSL	**Palaion Diasel**	**1.15**	**205**	*e*Pn	**Pg**	**23 59 44.9**	**+0.6**
OHR	**Ohrid**	**1.17**	**323**	*i* Pn	**Pg**	**23 59 46.3**	**+1.5**
OHR				*i* Sn	**Sn**	**00 00 03.0**	**+1.5**
OHR				*i* Lg	Lg	00 00 04.5	
	comp=E,45nm,0.6s						
OHR				*i* Lg	Lg	00 00 05.8	
	comp=N,57nm,1.0s						
OHR	**Ohrid**	**1.17**	**323**	*i* Pn	**Pg**	**23 59 46.3**	**+1.5**
OHR				*i* Sn	**Sn**	**00 00 02.9**	**+1.5**
OHR				*i* Lg	Lg	00 00 04.5	
	comp=N,45nm,0.6s						
MAKR	**Makrakomi, Fth**	**1.20**	**165**	*e*PN	**Pg**	**23 59 45.8**	**+0.4**
MAKR				*e*SN	**Sn**	**00 00 01.4**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.20**	**165**	*e*Pn	**Pg**	**23 59 45.8**	**+0.4**
AGG	**Agios Georgios**	**1.24**	**158**	*e*PN	**Pb**	**23 59 45.8**	**-0.3**
AGG				*e*SN	**Sg**	**00 00 04.3**	**+2.0**
AGG	**Agios Georgios**	**1.24**	**158**	*e*Pn	**Pb**	**23 59 45.8**	**-0.3**
IGT	**Igoumenitsa**	**1.25**	**239**	*e*PN	**Pg**	**23 59 46.5**	**+0.3**
IGT				*e*SN	**Sg**	**00 00 04.3**	**+1.9**
IGT	**Igoumenitsa**	**1.25**	**239**	*e*Pn	**Pg**	**23 59 46.5**	**+0.3**
EVR	**Evrytania**	**1.26**	**177**	*e*PB	**Pn**	**23 59 45.3**	**-1.1**
EVR				*e*SN	**Sg**	**00 00 05.0**	**+2.2**
EVR	**Evrytania**	**1.26**	**177**	*e*Pb	**Pn**	**23 59 45.3**	**-1.1**
VAY	**Valandovo**	**1.31**	**29**	*i* Pn	**Pg**	**23 59 48.7**	**+1.1**
VAY				*i* Sn	**Sg**	**00 00 09.7**	**+5.0**
VAY				*i* Lg	Lg	00 00 12.2	
	comp=E,8.3nm,0.7s						
VAY				*i* Lg	Lg	00 00 12.9	
	comp=N,44nm,1.7s						
VAY	**Valandovo**	**1.31**	**29**	*i* Pn	**Pg**	**23 59 48.7**	**+1.1**
VAY				*i* Sn	**Sg**	**00 00 09.6**	**+5.0**
VAY				*i* Lg	Lg	00 00 12.1	
	comp=N,8.3nm,0.7s						
KNT	**Kendrikon**	**1.33**	**42**	*e*PN	**Pg**	**23 59 47.4**	**-0.5**
KNT				*e*SN	**Sg**	**00 00 05.9**	**+0.7**
KNT	**Kendrikon**	**1.33**	**42**	*e*Pn	**Pg**	**23 59 47.4**	**-0.5**
PLG	**Polygyros**	**1.33**	**81**	*e*PN	**Pn**	**23 59 46.3**	**-1.1**
PLG	**Polygyros**	**1.33**	**81**	*e*Pn	**Pn**	**23 59 46.3**	**-1.1**
XOR	**Xorichti**	**1.39**	**125**	*e*PN	**Pb**	**23 59 48.1**	**-0.6**
XOR	**Xorichti**	**1.39**	**125**	*e*Pn	**Pb**	**23 59 48.1**	**-0.6**
SOH	**Sokhos**	**1.40**	**62**	*e*PN	**Pg**	**23 59 49.2**	**-0.1**
SOH	**Sokhos**	**1.40**	**62**	*e*Pn	**Pg**	**23 59 49.2**	**-0.1**
AXAR	**Agios Charalam**	**1.58**	**152**	*e*PN	**Pb**	**23 59 51.2**	**-0.7**
AXAR	**Agios Charalam**	**1.58**	**152**	*e*Pn	**Pb**	**23 59 51.2**	**-0.7**
PDO	**Prodromos**	**1.63**	**195**	*e*PN	**Pb**	**23 59 52.3**	**-0.4**
PDO				*e*SN	**Sg**	**00 00 15.1**	**+0.5**
PDO	**Prodromos**	**1.63**	**195**	*e*Pn	**Pb**	**23 59 52.3**	**-0.4**
SRS	**Serrai**	**1.71**	**56**	*e*PN	**Pb**	**23 59 53.7**	**-0.4**
SRS	**Serrai**	**1.71**	**56**	*e*Pn	**Pb**	**23 59 53.7**	**-0.4**
EFP	**Efpalio**	**1.75**	**175**	*e*PB	**Pn**	**23 59 53.3**	**+0.2**
EFP				*e*SN	**Sb**	**00 00 17.7**	**+0.8**
EFP	**Efpalio**	**1.75**	**175**	*e*Pb	**Pn**	**23 59 53.3**	**+0.2**
LKR	**Lokris**	**1.81**	**147**	*e*PB	**Pn**	**23 59 53.9**	**-0.1**

*IDC **20** 00:08:40.5±4.4, 37°.90N×74°.59E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.3/40, mbtmp3.5/5, ML2.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=79.0km s-min=33.2km az=175.0*
*NNC **20** 00:08:43.9±4.3, 37°.74N×74°.32E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=34.6km s-min=27.0km az=146.0*

ISC 20 00:08:43.5±1.6, 38°.1N±0°.1×74°.62E±0°.09, h10km, n11, σ1§41/10, mb3.7/3, 8C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.12**	**336**	⇑Pn	**Pg**	**00 09 25.8**	**+1.7**
	10nm,0.3s						
SFK				⇓Lg	Lg	00 10 03.4	
	111nm,0.6s						
AAK	**Ala-Archa**	**4.55**	**359**	⇑Pn	**Pb**	**00 10 02.0**	**-1.6**
	15nm,1.1s						
AAK				⇑Lg	Lg	00 11 21.3	
	14nm,1.1s						
DZET	**Dzherino**	**4.61**	**281**	⇑Pn	**Pn**	**00 09 52.6**	**-0.7**
	7.3nm,0.4s						
DZET				⇑Sn	**Sn**	**00 10 48.1**	**+1.1**
	19nm,0.6s						
DZET				⇓Lg	Lg	00 11 04.4	
	31nm,0.9s						
MNAS	**Manas**	**4.70**	**340**	⇑Pn	Pb	00 09 59.9	-6.0
	2.0nm,0.4s						
MNAS				⇓Sn	**Sb**	**00 11 01.6**	**-1.0**
	7.1nm,0.7s						
KK31	**Karatay Array**	**5.92**	**329**	⇑Pn	Pn	00 10 15.0	+3.8
	0.9nm,0.3s,baz=137,slow=12,SNR=37						
KK31				Sn	Sb	00 11 29.4	-8.3
	2.7nm,0.4s,baz=135,slow=19,SNR=7.2						
PDGK	**Podgornoye**	**6.41**	**34**	⇓Pn	Pn	00 10 23.4	+5.4
	1.4nm,0.5s						
PDGK				⇑Lg	Lg	00 12 12.1	
	10nm,0.9s						
MKAR	**Makanchi Array**	**10.39**	**31**	Pn	**Pn**	**00 11 14.3**	**+1.8**
	0.1nm,0.3s,baz=208,slow=12,SNR=2.7						
ZALV	**Zalesovo Beam**	**17.35**	**21**	P	**P**	**00 12 45.8**	**-1.1**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.9						
SONM	**Songino Array**	**25.06**	**57**	P	**P**	**00 14 07.7**	**-0.3**
	0.4nm,0.6s,baz=241,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**37.85**	**324**	P	**P**	**00 15 59.1**	**-0.9**
	1.2nm,0.9s,baz=27,slow=16,SNR=3.4						
FINES				LR	LR	00 31 59.6	
	comp=Z,27nm,19.0s,baz=328,slow=37						
ARCES	**ARCESS Array B**	**40.84**	**336**	P	**P**	**00 16 25.5**	**+0.6**
	1.2nm,0.7s,baz=109,slow=8.1,SNR=3.8						

*BJI **20** 00:17:05.2, 30°.91S×121°.92E, h6km, mB5.0/29, mb4.9/41, Ms5.0/18, Ms7 4.5/16*
*MOS **20** 00:17:07.8±1.2, 30°.65S×121°.98E, h10km, mb5.1/15, Error ellipse: s-maj=12.5km s-min=8.7km az=79.2*
*ISCJB **20** 00:17:07.8±0.2, 30°.67S±0°.04×121°.73E±0°.04, h10km, mb4.9/45, MS3.5/3, Error ellipse: s-maj=5.3km s-min=4.6km az=28.3*
*IDC **20** 00:17:07.8±0.4, 30°.72S×121°.48E, h0km, mb4.6/20, mb1 4.6/21, mb1mx4.6/22, mbtmp4.6/21, ML2.2/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/23, Error ellipse: s-maj=17.8km s-min=13.5km az=80.0*
*NEIC **20** 00:17:08.0, 30°.79S×121°.41E, h0km, mb5.2/18, ML5.0(AUST), After AUST.*
NEIC Three people injured and buildings and roads damaged at Kalgoorlie-Boulder. Felt [II] at Perth. Also felt at Carnarvon.
*AUST **20** 00:17:24.2±32.0, 30°.04S×123°.02E, h32km±3km, Error ellipse: s-maj=7.0km s-min=1.3km az=249.0*

ISC 20 00:17:09.5±0.3, 30°.75S±0°.04×121°.77E±0°.05, h10km, n365, σ1§48/380, mb4.9/46, MS3.5/3, 81C-87D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBL	**Kambalda**	**0.63**	**171**	P	**Pg**	**00 17 21.6**	**-0.1**
	baz=0.7,SNR=947						
BLDU	**Ballidu**	**4.36**	**270**	P	Pn	00 18 10.2	-5.7
	baz=4.0,SNR=86						
BLDU				S	Sn	00 18 56.8	-10
	baz=4.0,SNR=4.5						
NWAO	**Narrogin (SRO)**	**4.43**	**239**	Pn	Pn	00 18 11.7	-5.2
	6.5nm,0.3s,baz=58,slow=12,SNR=30						
NWAO				Lg	Lg	00 19 10.2	
	177nm,0.3s,baz=144,slow=16,SNR=12						
NWAO				LR	LR	00 19 29.0	
	comp=Z,21nm,20.5s,baz=268,slow=33						
NWAO	**Narrogin (SRO)**	**4.43**	**239**	P	Pn	00 18 11.7	-5.2
	baz=4.1,SNR=31						
NWAO				S	**Sn**	**00 19 11.0**	**+2.5**
	baz=4.1,SNR=14						
MEEK	**Meekatharra**	**4.94**	**325**	P	Pn	00 18 20.6	-3.3
	baz=4.8,SNR=118						
MORW	**Morawa**	**5.25**	**287**	P	Pn	00 18 22.4	-5.7
	baz=5.0,SNR=64						
MORW				S	Sn	00 19 19.1	-10
	baz=5.0,SNR=5.2						
FORT	**Forrest**	**5.41**	**92**	P	**Pn**	**00 18 32.8**	**+2.5**
	baz=5.7,SNR=212						
FORT				S	Sn	00 19 40.0	+7.2
	baz=5.7,SNR=4.9						
FORT	**Forrest**	**5.41**	**92**	*e*Pn	**Pn**	**00 18 32.6**	**+2.2**
FORT				*e*Sn	**Sn**	**00 19 34.3**	**+1.6**
RKGY	**Rocky Gully**	**5.58**	**225**	P	Pn	00 18 28.3	-4.3
	baz=5.3,SNR=69						
RKGY				S	Sn	00 19 30.2	-6.6
	baz=5.3,SNR=5.3						
WRKA	**Warakurna**	**8.10**	**47**	P	**Pn**	**00 19 09.0**	**+1.7**
	baz=8.4,SNR=179						
GIRL	**Giralia**	**10.51**	**318**	P	**Pn**	**00 19 39.8**	**-0.5**
	baz=10,SNR=3.3						
GIRL				S	Sn	00 21 26.6	-12
	baz=10,SNR=5.3						
BBOO	**Buckleboo**	**12.33**	**103**	P	**Pn**	**00 20 04.9**	**-0.3**
	baz=13,SNR=237						
BBOO	**Buckleboo**	**12.33**	**103**	*e*Pn	**Pn**	**00 20 05.1**	**-0.1**
BBOO				*e*Sn	**Sn**	**00 22 19.1**	**-3.6**
ASAR	**Alice Springs**	**12.89**	**60**	Pn	**Pn**	**00 20 10.6**	**-2.4**
	5.7nm,0.3s,baz=238,slow=11,SNR=158						
ASAR				Sn	Sn	00 22 28.8	-7.8
	6.1nm,0.3s,baz=239,slow=23,SNR=14						
ASAR				Lg	Lg	00 23 51.8	
	4.6nm,0.3s,baz=249,slow=23,SNR=3.9						
ASAR				LR	LR	00 25 58.1	
	comp=Z,148nm,20.0s,baz=234,slow=40						
AS31	**Alice Springs**	**12.89**	**60**	*e*Pn	**Pn**	**00 20 10.7**	**-2.3**
AS31				*e*Sn	Sn	00 22 28.8	-7.7
WRA	**Warramunga Arr**	**15.63**	**49**	Pn	**Pn**	**00 20 45.7**	**-4.4**
	4.0nm,0.3s,baz=226,slow=13,SNR=153						
WRA				Sn	Sn	00 23 31.6	-12
	3.5nm,0.3s,baz=220,slow=21,SNR=11						
WRA				Lg	Lg	00 25 20.9	
	2.3nm,0.3s,baz=223,slow=27,SNR=7.5						
WB2	**Warramunga Arr**	**15.64**	**49**	*e*Pn	**Pn**	**00 20 45.8**	**-4.4**
WRAB	**Tennant Creek**	**15.64**	**49**	Pn	**Pn**	**00 20 46.6**	**-3.6**
	151nm,0.5s,SNR=63						
WRAB	**Tennant Creek**	**15.64**	**49**	*c* P	**Pn**	**00 20 45.5**	**-4.7**
WRAB				pmax	pmax		
	comp=Z,74nm,1.2s						
WRAB	**Tennant Creek**	**15.64**	**49**	*e*Pn	**Pn**	**00 20 46.4**	**-3.9**
	comp=Z,28nm,1.0s						
KNRA	**Kununurra**	**16.31**	**25**	P	**Pn**	**00 20 54.7**	**-4.0**
	baz=16,SNR=31						
KNRA				S	Sn	00 23 48.8	-11
	baz=16,SNR=4.3						
STKA	**Stephens Creek**	**16.98**	**99**	*e*P	**Pn**	**00 21 05.4**	**-1.9**
STKA				S	Sn	00 24 07.7	-8.4
STKA	**Stephens Creek**	**16.98**	**99**	P	**Pn**	**00 21 04.8**	**-2.5**
	comp=Z,5.3nm,0.3s,baz=279,slow=11,SNR=97						
STKA				S	Sn	00 24 07.7	-8.4
	comp=Z,4.6nm,0.3s,baz=259,slow=10,SNR=4.9						
STKA				Lg	Lg	00 26 01.4	
	comp=Z,4.1nm,0.3s,baz=155,slow=13,SNR=2.9						
STKA				LR	LR	00 27 52.8	
	comp=Z,382nm,20.0s,baz=217,slow=37						
STKA	**Stephens Creek**	**16.98**	**99**	P	**Pn**	**00 21 05.3**	**-1.9**
	baz=17,SNR=61						
STKA	**Stephens Creek**	**16.98**	**99**	*e*Pn	**Pn**	**00 21 05.4**	**-1.9**
STKA				S	Sn	00 24 07.7	-8.4
STKA				Lg	Lg	00 26 01.4	
QIS	**Mount Isa**	**18.99**	**62**	P	**P**	**00 21 30.1**	**-1.2**
	baz=19,SNR=40						
MTN	**Manton Dam**	**19.80**	**28**	P	**P**	**00 21 40.8**	**+0.5**
	baz=20,SNR=9.6						
QLP	**Quilpie**	**20.14**	**84**	P	Pn	00 21 46.8	+1.1
	baz=20,SNR=22						
BATI	**Baumata**	**20.51**	**5**	P	**P**	**00 21 46.0**	**-2.0**
	comp=Z,36nm,0.9s						
BATI	**Baumata**	**20.51**	**5**	P	**P**	**00 21 46.3**	**-1.7**
	comp=Z,5.6nm,0.3s,baz=146,slow=3.6,SNR=2.0						
BATI				LR	LR	00 30 20.8	
	comp=Z,132nm,18.5s,baz=202,slow=39						
KDU	**Kakadu**	**20.51**	**31**	P	**P**	**00 21 48.1**	**+0.2**
	baz=21,SNR=13						
TOO	**Toolangi**	**20.75**	**116**	P	Pn	00 21 54.3	+1.5
	baz=21,SNR=6.5						
SOEI	**Soe**	**21.01**	**7**	P	P	00 22 02.0	+8.4
	baz=21,SNR=3.4						
SOEI	**Soe**	**21.01**	**7**	*e*P	**P**	**00 21 49.8**	**-3.7**
	comp=Z,42nm,1.0s						
CAN	**Canberra**	**23.25**	**109**	*e*P	**P**	**00 22 20.0**	**+2.8**
CAN				pmax	pmax		
	comp=Z,75nm,1.4s						
CAN	**Canberra**	**23.25**	**109**	*e*P	**P**	**00 22 19.9**	**+2.8**
	comp=Z,75nm,1.4s						
MOO	**Moorlands**	**23.42**	**127**	P	**P**	**00 22 22.5**	**+3.8**
	baz=24,SNR=5.6						
TAU	**Tasmania Unive**	**23.68**	**128**	*e*P	**P**	**00 22 23.6**	**+2.3**
TAU	**Tasmania Unive**	**23.68**	**128**	*e*P	**P**	**00 22 23.6**	**+2.3**
CTA	**Charters Tower**	**24.48**	**70**	P	**P**	**00 22 30.6**	**+1.7**
	comp=Z,7.7nm,0.7s,baz=256,slow=12,SNR=7.9						
CTAO	**Charters Tower**	**24.48**	**70**	*e*P	**P**	**00 22 31.3**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,3μm,1.8s						
CTAO	**Charters Tower**	**24.48**	**70**	*e*P	**P**	**00 22 31.3**	**+2.3**
	comp=Z,3μm,1.8s						
ARMA	**Armidale**	**25.68**	**97**	P	**P**	**00 22 44.1**	**+4.2**
	baz=26,SNR=6.1						
ARMA	**Armidale**	**25.68**	**97**	*e*P	**P**	**00 22 38.2**	**-1.7**
	comp=Z,53nm,1.5s						
COEN	**Coen**	**25.82**	**54**	P	**P**	**00 22 42.9**	**+1.7**
	baz=26,SNR=64						
COEN	**Coen**	**25.82**	**54**	*e*P	**P**	**00 22 43.1**	**+1.9**
	comp=Z,8.5nm,0.6s						
EIDS	**Eidsvold**	**26.37**	**86**	P	**P**	**00 22 48.7**	**+2.6**
	baz=27,SNR=11						
EIDS	**Eidsvold**	**26.37**	**86**	*e*P	**P**	**00 22 48.8**	**+2.6**
	comp=Z,22nm,0.6s						
LEM	**Lembang**	**27.25**	**328**	P	**P**	**00 22 51.8**	**-2.4**
	comp=Z,14nm,0.3s,baz=163,slow=19,SNR=3.9						
LEM				LR	LR	00 33 15.7	
	comp=Z,136nm,

GYA LE
comp=Z,530nm,21.2s
GYA LZ
comp=Z,640nm,20.4s
QSPA South Pole Qui 59.36 180 P **P 00 27 11.8 0.0**
comp=Z,20nm,0.7s,baz=318,slow=1.0,SNR=90
QSPA PcP **PcP 00 27 59.8 +0.2**
comp=Z,5.9nm,0.8s,baz=334,slow=4.4,SNR=4.1
NJ2 Nanjing 62.52 357 *e*P P 00 27 28.8 -4.5
NJ2 PMZ
comp=Z,30nm,0.5s
SHL Shillong 62.88 330 *ex* **P 00 27 38.0 +1.9**
AFI Afiamalu 62.90 91 *e*P **P 00 27 35.0 -1.4**
AFI pmax pmax
comp=Z,43nm,1.1s
AFI Afiamalu 62.90 91 *e*P **P 00 27 35.0 -1.4**
comp=Z,43nm,1.1s
CD2 Chengdu 63.66 343 ⇓P **P 00 27 41.8 +0.8**
CD2 pP **pP 00 27 46.5 +2.3**
CD2 sP **sP 00 27 48.8 +3.4**
CD2 PcP **PcP 00 28 17.8 +0.6**
CD2 PP **PP 00 30 03.8 +2.5**
CD2 PcS 00 32 19.9
CD2 S **S 00 36 15.0 -0.2**
CD2 sS **sS 00 36 22.3 +1.7**
CD2 SKS **SKSac 00 37 32.8 -1.8**
CD2 SS **SS 00 40 24.3 +0.8**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,180nm,5.5s
XAN Xi'an 65.57 348 P **P 00 27 53.3 -0.1**
XAN PMZ
comp=Z,6.0nm,0.8s
XAN PMZ
comp=Z,11nm,4.8s
ODAN Odare 66.04 326 *e*P **P 00 27 56.0 -0.8**
TAPN Taplejung 66.30 327 *e*P **P 00 27 58.4 -0.2**
comp=Z,90nm,0.9s
RAMN Ramite 66.49 326 *e*P **P 00 27 59.2 -0.5**
comp=Z,71nm,0.9s
LSA Lhasa 66.80 331 P **P 00 28 02.5 +0.6**
LSA Lhasa 66.80 331 *e*P **P 00 28 01.7 -0.3**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 66.80 331 *e*P **P 00 28 01.7 -0.3**
comp=Z,26nm,0.8s
JIRN Jiri 67.28 326 *e*P **P 00 28 04.2 -0.7**
comp=Z,48nm,0.8s
PKI Pulchoki 67.59 325 *e*P **P 00 28 05.7 -1.1**
comp=Z,38nm,0.8s
PKIN Phulchoki 67.60 325 *e*P **P 00 28 05.8 -1.0**
comp=Z,22nm,0.5s
GUN Gumba 67.64 326 *e*P **P 00 28 06.6 -0.6**
comp=Z,59nm,0.8s
DMN Daman 67.77 325 *e*P **P 00 28 06.9 -1.0**
comp=Z,49nm,0.9s
OPO Ambohidratompo 67.78 261 P **P 00 28 07.4 -0.8**
comp=Z,2.7nm,0.6s,baz=65,slow=5.7,SNR=4.4
KKN Kakani 67.83 325 *e*P **P 00 28 07.3 -0.9**
comp=Z,35nm,0.9s
KSAR Wonju Array Be 68.07 5 P **P 00 28 09.6 +0.4**
KSAR Wonju Array Be 68.07 5 P **P 00 28 09.6 +0.4**
KSRS Korea Array 68.09 5 P **P 00 28 09.6 +0.3**
comp=Z,1.7nm,0.8s,baz=170,slow=5.8,SNR=5.1
KNTN Kanton 68.46 80 *e*P **P 00 28 11.0 -1.2**
comp=Z,879nm,2.5s
LZH Lanzhou 68.58 344 *e*P **P 00 28 13.8 +1.2**
LZH pP **pP 00 28 17.5 +1.6**
LZH sP **sP 00 28 19.4 +2.3**
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,140nm,4.0s
MAJO Matsushiro 68.69 14 *e*P **P 00 28 12.9 -0.2**
MAJO pmax pmax
comp=Z,38nm,1.4s
MJAR Matsushiro Arr 68.69 14 P **P 00 28 12.8 -0.4**
comp=Z,0.4nm,0.3s,baz=195,slow=7.1,SNR=4.9
DANN Dangsing 69.05 324 *e*P **P 00 28 14.9 -1.0**
comp=Z,95nm,1.0s
SNAA Sanae 70.86 196 P **P 00 28 25.8 -0.5**
SNAA Sanae 70.86 196 *e*P **P 00 28 25.1 -1.2**
SNAA pmax pmax
comp=Z,22nm,1.2s
SNAA Sanae 70.86 196 *e*P **P 00 28 25.9 -0.3**
comp=Z,22nm,1.1s
HHC Hu-ho-hao-te 71.86 352 *e*P **P 00 28 32.1 -0.5**
HHC pP **pP 00 28 37.4 +1.6**
HHC PP **PP 00 31 16.3 +3.7**
HHC S **S 00 37 52.4 -0.9**
HHC sS **sS 00 37 59.9 +1.2**
HHC SKS **SKSac 00 38 31.8 -4.6**
HHC SS **SS 00 42 26.8 -3.5**
HHC PMZ
comp=Z,10.0nm,1.2s
HHC PMZ
comp=Z,96nm,7.9s
HHC LN
comp=Z,130nm,18.0s
HHC LE
comp=Z,310nm,17.9s
HHC LZ
comp=Z,57nm,17.5s
VNA2 Neumayer--Watz 72.44 196 P **P 00 28 35.0 -0.7**
baz=132,slow=5.6
VNA3 Neumayer Olymp 72.72 195 P **P 00 28 36.8 -0.6**
GTA Gaotai 72.72 342 *e*P **P 00 28 39.0 +1.2**
GTA pP **pP 00 28 45.3 +4.2**
GTA sP sP 00 28 48.4 +6.1
GTA S **S 00 38 06.0 +2.7**
GTA sS **SKiKP 00 38 15.5 +3.4**
GTA SS **SS 00 42 48.9 +5.2**
GTA PMZ
comp=Z,11nm,1.0s
GTA PMZ
comp=Z,40nm,6.4s
GTA LN
comp=Z,150nm,17.1s
GTA LE
comp=Z,180nm,15.0s
GTA LZ
comp=Z,68nm,13.5s
CN2 Changchun 74.26 3 *e*P **P 00 28 47.3 +0.7**
CN2 PMZ
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 75.17 8 P **P 00 28 51.6 -0.2**
comp=Z,3.7nm,0.9s,baz=188,slow=5.2,SNR=5.2
MDJ Mudanjiang 75.34 6 P **P 00 28 52.9 +0.1**
MDJ PMZ
comp=Z,8.0nm,0.9s
MDJ PMZ
comp=Z,56nm,4.4s
ULN Ulaanbaatar 79.36 350 *e*P **P 00 29 14.7 -0.8**
ULN pmax pmax
comp=Z,10.0nm,1.2s
SONM Songino Array 79.43 350 P **P 00 29 16.0 +0.1**
SONM Songino Array 79.43 350 P **P 00 29 16.0 +0.1**
comp=Z,5.3nm,1.1s,baz=170,slow=6.4,SNR=26
YSS Yuzh-Sakhalins 79.62 14 *e*P **P 00 29 15.7 -1.0**
YSS pmax pmax
comp=Z,19nm,1.3s
HIA Hailar 79.67 359 *e*P **P 00 29 16.6 -0.4**
HIA pmax pmax
comp=Z,6.0nm,1.1s
WMQ Urumqi 80.49 336 P **P 00 29 21.1 -0.5**
WMQ pP **pP 00 29 24.5 -0.4**
WMQ PMZ
comp=Z,15nm,0.9s
WMQ PMZ
comp=Z,96nm,4.0s
WMQ LZ
comp=Z,93nm,21.0s
KBL Kabul 81.76 318 *e*P **P 00 29 27.9 -0.9**
KBL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 81.76 318 P **P 00 29 27.9 -0.9**
baz=82,SNR=6.6
KBL Kabul 81.76 318 *e*P **P 00 29 27.9 -0.9**
comp=Z,23nm,1.0s
KSH Kashi 81.84 326 P **P 00 29 28.3 -0.7**
KSH PP **PP 00 32 37.6 +0.9**
KSH S **S 00 39 39.8 -2.6**
KSH sS **sS 00 39 47.6 -0.3**
KSH SS **SS 00 45 00.4 -1.0**
KSH PMZ
comp=Z,6.0nm,0.6s
KSH PMZ
comp=Z,100nm,4.7s
KSH LN
comp=Z,320nm,11.2s
KSH LE
comp=Z,140nm,6.2s
KSH LZ
comp=Z,150nm,5.6s
ZAK Zakamensk 82.42 348 *e*P **P 00 29 30.7 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
LBTB Lobatse 82.53 245 *e*P **P 00 29 32.2 -0.9**
LBTB Lobatse 82.53 245 *e*P **P 00 29 32.2 -0.9**
TLY Talaya 83.61 349 *e*P **P 00 29 36.6 -1.1**
TLY pmax pmax
comp=Z,3.0nm,1.0s
MOY Mondy 84.07 347 *e*P **P 00 29 41.3 +1.1**
KZA Kyzart 84.18 327 P **P 00 29 41.6 +0.2**
SNR=7.2
KZA Kyzart 84.18 327 *i*P **P 00 29 41.6 +0.2**
UCH Uchtor 84.64 327 *i*P **P 00 29 44.0 +0.3**
SNR=8.4
UCH Uchtor 84.64 327 *i*P **P 00 29 44.0 +0.3**
KMBO Kilima Mbogo 84.71 272 *ce*P **P 00 29 44.7 +0.1**
KMBO pmax pmax
comp=Z,3.0nm,0.5s
KMBO Kilima Mbogo 84.71 272 P **P 00 29 43.9 -0.7**
comp=Z,2.7nm,0.5s,baz=101,slow=5.3,SNR=9.9
KBK Karagaybulak 84.77 327 P **P 00 29 44.1 0.0**
SNR=6.9
KBK Karagaybulak 84.77 327 *i*P **P 00 29 44.1 0.0**
AML Almayashu 84.96 326 P **P 00 29 45.5 +0.2**
SNR=9.4
AML Almayashu 84.96 326 *i*P **P 00 29 45.5 +0.2**
AAK Ala-Archa 84.96 327 P **P 00 29 44.8 -0.3**
comp=Z,48nm,1.0s,SNR=7.5
AAK Ala-Archa 84.96 327 P **P 00 29 45.4 +0.4**
SNR=7.8
AAK Ala-Archa 84.96 327 *e*P **P 00 29 44.7 -0.3**
AAK Ala-Archa 84.96 327 *e*P **P 00 29 44.7 -0.3**
MKAR Makanchi Array 85.01 334 *ce*P **P 00 29 44.4 -0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 85.01 334 P **P 00 29 43.5 -1.5**
comp=Z,1.6nm,0.4s,baz=142,slow=7.2,SNR=20
EKS2 Erkin-Say 85.32 327 P **P 00 29 47.0 +0.2**
SNR=6.7
EKS2 Erkin-Say 85.32 327 *i*P **P 00 29 47.0 +0.2**
EKS2 Erkin-Say 85.32 327 *e*P **P 00 29 46.2 -0.6**
IMYA Miami 88.29 315 *e*P **P 00 29 59.3 -2.2**
BOD Bodaibo 88.46 356 *e*P **P 00 29 59.7 -1.8**
BOD pmax pmax
comp=Z,7.0nm,1.1s
ISRO Mashad 88.66 314 *e*P **P 00 30 00.9 -2.3**
PETK Petropavlovsk- 89.17 21 P **P 00 30 05.6 +0.6**
comp=Z,3.1nm,0.6s,baz=203,slow=4.8,SNR=6.8
IKRD Kardeh 89.55 314 *e*P P 00 30 03.7 -3.8
KURK Kurchatov 89.62 334 P **P 00 30 06.3 -0.8**
comp=Z,20nm,1.2s,SNR=5.3
ZALV Zalesovo Beam 90.21 339 P **P 00 30 07.8 -1.9**
comp=Z,0.8nm,0.4s,baz=166,slow=4.7,SNR=4.5
GEYT Alibeck 90.53 315 P **P 00 30 11.4 -0.3**
comp=Z,5.0nm,0.8s,baz=202,slow=3.2,SNR=12
RAYN Ar Rayn 90.82 297 P **P 00 30 12.5 -0.9**
comp=Z,71nm,0.9s,SNR=11
RAYN Ar Rayn 90.82 297 *e*P **P 00 30 12.6 -0.9**
comp=Z,14nm,1.0s
BRVK Borovoye 94.70 332 *e*P **P 00 30 29.8 -0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.7s
SEY Seymchan 96.51 14 P **P 00 30 39.0 +0.4**
comp=Z,1.7nm,0.5s,baz=223,slow=4.3,SNR=7.6
JOF Joensuu 117.09 329 *e*PKIKP **PKPdf 00 35 53.4 -0.6**
JOF Joensuu 117.09 329 *e*pkp **PKPdf 00 35 53.4 -0.6**
ILAR Eielson Array 117.92 29 PKP **PKPdf 00 35 55.7 +0.1**
comp=Z,0.3nm,0.5s,baz=250,slow=2.5,SNR=4.8
FINES FINESS Array B 119.15 327 PKP **PKPdf 00 35 57.4 -0.6**
comp=Z,1.2nm,0.5s,baz=131,slow=3.4,SNR=17
KAF Kangasniemi 119.18 328 *e*PKIKP **PKPdf 00 35 56.1 -1.9**
KAF Kangasniemi 119.18 328 *e*pkp **PKPdf 00 35 56.1 -1.9**
KEV Kevo 120.12 336 *e*PKIKP PKPpre 00 35 48.8
KEV Kevo 120.12 336 *e*pkp PKPpre 00 35 48.8
ARCES ARCESS Array B 120.61 336 PKP **PKPdf 00 36 00.1 -0.6**
comp=Z,2.5nm,0.8s,baz=141,slow=1.9,SNR=15
TORD Torodi Ar. Bea 122.36 266 PKP **PKPdf 00 36 04.2 -1.4**
comp=Z,1.1nm,0.4s,baz=94,slow=1.3,SNR=60
INK Inuvik 123.61 26 *e*PKIKP **PKPdf 00 36 06.3 -0.1**
INK Inuvik 123.61 26 *e*PKPdf **PKPdf 00 36 06.3 -0.1**
GERES GERESS Array B 123.94 311 PKP **PKPdf 00 36 06.4 -1.4**
comp=Z,0.6nm,0.8s,baz=48,slow=1.5,SNR=6.4
DBIC Dimbokro 124.67 256 PKP **PKPdf 00 36 08.8 -1.3**
comp=Z,5.4nm,1.1s,baz=162,slow=9.6,SNR=4.6
M02C Callahan 127.78 59 ⇑P **PKPdf 00 36 17.2 +1.8**
baz=128
I03D Drain, OR 127.80 56 ⇓P **PKPdf 00 36 17.4 +2.3**
baz=128
N02D Trinity Center 127.82 60 ⇑P **PKPdf 00 36 17.5 +2.1**
baz=128
G03D McMinnville, O 128.07 54 ⇓P **PKPdf 00 36 17.7 +2.1**
baz=128
SNCC San Nicolas Is 128.62 70 ⇓P **PKPdf 00 36 18.5 +1.4**
baz=129
NVAR Mina Array Bea 130.71 64 PKP **PKPdf 00 36 22.9 +1.7**
comp=Z,1.3nm,0.6s,baz=219,slow=2.3,SNR=7.0
MPMC Manual Prospec 130.90 67 ⇑P **PKPdf 00 36 23.6 +2.0**
baz=131
GSC Goldstone, Bar 131.28 68 ⇓P **PKPdf 00 36 24.5 +2.3**
baz=132
TPNV Topopah Spring 132.05 66 ⇑P **PKPdf 00 36 25.7 +2.0**
baz=132
GMRC Granite Mounta 132.09 69 ⇑P **PKPdf 00 36 25.8 +1.9**
baz=132
YKA Yellowknife Ar 132.21 31 PKP **PKPdf 00 36 23.2 +0.2**
comp=Z,1.1nm,0.6s,baz=289,slow=2.1,SNR=23
R11A Troy Canyon, C 132.80 64 ⇑P **PKPdf 00 36 26.4 +1.3**
baz=133
113A Mohawk Valley, 133.19 72 ⇓P **PKPdf 00 36 27.7 +1.9**
baz=134
W13A Hualapai Mount 133.59 69 ⇑P **PKPdf 00 36 27.9 +1.2**
baz=134
HLID Hailey 134.24 57 ⇑P **PKPdf 00 36 29.6 +2.0**
baz=135
SWMT Swartz Lake 134.61 52 *e*PKPdf **PKPdf 00 36 28.0 -0.1**
MSO Missoula 134.66 53 ⇑P **PKPdf 00 36 30.4 +2.1**
baz=135
U15A North Rim 135.09 68 ⇑P **PKPdf 00 36 31.6 +2.0**
baz=136
DUG Dugway, Tooele 135.17 62 ⇑P **PKPdf 00 36 31.0 +1.5**
baz=136
ESDC Sonseca Array 135.36 297 PKP **PKPdf 00 36 29.4 -0.3**
comp=Z,0.8nm,0.8s,baz=72,slow=1.7,SNR=6.9
WUAZ Wupatki 135.68 69 ⇑P **PKPdf 00 36 32.6 +2.1**
baz=136
I17A Pilgrim Ck. 137.03 57 ⇑P **PKPdf 00 36 34.2 +1.3**
baz=137
EGMT Eagleton 137.44 51 ⇓P **PKPdf 00 36 34.3 +1.0**
baz=138
H18A Shoshone NF, C 137.68 56 ⇑P **PKPdf 00 36 35.0 +0.9**
baz=138
PDAR Pinedale Array 137.76 59 PKhKP PKPpre 00 36 23.8
comp=Z,0.3nm,0.5s,baz=170,slow=2.4,SNR=4.5
PDAR PKP **PKPdf 00 36 34.4 +0.1**
comp=Z,1.1nm,0.8s,baz=185,slow=1.7,SNR=8.8
C19A Slack Wire Ran 137.94 51 ⇓P **PKPdf 00 36 36.5 +2.2**
baz=138
B19A Brinkman Farms 137.94 50 ⇑P **PKPdf 00 36 36.6 +2.4**
baz=138
A19A Klindworth Far 138.03 50 ⇓P **PKPdf 00 36 36.5 +2.1**
baz=138
J19A Crowheart 138.13 58 ⇓P **PKPdf 00 36 37.2 +2.3**
baz=138
F19A Roth Farm, Mol 138.14 54 ⇑P **PKPdf 00 36 37.2 +2.5**
baz=138
H19A Powell 138.16 56 ⇓P **PKPdf 00 36 37.0 +2.2**
baz=138
E19A Rath Farm, Rou 138.22 53 ⇓P **PKPdf 00 36 36.6 +1.8**
baz=139
C20A Veteto Ranch, 138.65 51 ⇓P **PKPdf 00 36 37.1 +1.6**
baz=139
O20A White River Ci 138.66 63 ⇑P **PKPdf 00 36 37.3 +1.3**
baz=139
N20A Spence Gulch, 138.67 62 ⇓P **PKPdf 00 36 37.6 +1.6**
baz=139
G20A Bridger 138.69 55 ⇑P **PKPdf 00 36 37.8 +2.1**
baz=139
I20A Worland 138.80 57 ⇑P **PKPdf 00 36 37.9 +1.9**
baz=139
J20A Shoshoni 138.84 58 ⇓P **PKPdf 00 36 38.0 +1.9**
baz=139
K21A Alcova 139.46 59 ⇑P **PKPdf 00 36 39.6 +2.2**
baz=140
S22A 4UR Ranch, Cre 139.59 67 ⇑P **PKPdf 00 36 40.0 +2.1**
baz=140
P22A Eagle 139.77 64 ⇓P **PKPdf 00 36 40.4 +2.4**
baz=140
M22A Cedar Creek Ra 139.95 61 ⇓P **PKPdf 00 36 41.0 +2.6**
baz=140
J22A Midwest 140.01 58 ⇑P **PKPdf 00 36 40.2 +1.9**
baz=140
N22A Wattenberg Ran 140.04 62 ⇑P **PKPdf 00 36 40.9 +2.3**
baz=140
L22A Ellis Ranch, M 140.07 60 ⇓P **PKPdf 00 36 40.8 +2.3**
baz=140
N23A Red Feather La 140.43 62 ⇑P **PKPdf 00 36 41.4 +2.1**
baz=141
O23A Lake Granby, G 140.44 63 ⇓P **PKPdf 00 36 41.4 +2.0**
baz=141
ISCO Idaho Springs 140.66 63 ⇑P **PKPdf 00 36 41.2 +1.4**
baz=141
H23A Clabaugh Cattl 140.72 56 ⇓P **PKPdf 00 36 41.9 +2.4**
baz=141
TXAR Lajitas Array 140.84 80 PKhKP PKPpre 00 36 33.5
comp=Z,1.3nm,0.7s,baz=209,slow=6.0,SNR=14
OTAV Otavalo 144.09 144 PKPdf PKPbc 00 36 45.5 +0.7
Q29A Oakley 144.24 65 ⇑P **PKPdf 00 36 45.8 -0.1**
baz=145
833A Chaparral WMA, 144.24 83 ⇑P **PKPdf 00 36 45.4 -0.7**
baz=145,SNR=5.5
P29A Atwood 144.27 64 ⇓P **PKPdf 00 36 45.9 0.0**
baz=145
O29A 4D Ranch, Culb 144.36 63 ⇓P **PKPdf 00 36 46.1 +0.1**
baz=145
JCT Junction City 144.37 80 ⇑P **PKPdf 00 36 45.9 -0.5**
baz=145
H29A Onida 144.40 55 ⇑P PKPbc 00 36 45.1 +0.7
baz=145
I29A Vivian Onida 144.42 56 ⇑P **PKPdf 00 36 45.5 -0.4**
baz=145
432A Menard 144.45 79 ⇓P **PKPdf 00 36 45.9 -0.6**
baz=145
J29A Okreek 144.48 57 ⇓P **PKPdf 00 36 45.6 -0.5**
baz=145
Y31A Rekieta Farm, 144.53 74 ⇓P **PKPdf 00 36 46.0 -0.4**
baz=145
034A Hebbronville 144.53 86 ⇓P **PKPdf 00 36 46.3 -0.3**
baz=145,SNR=6.1
Z31A Sharp Cattle R 144.54 75 ⇓P **PKPdf 00 36 46.1 -0.4**
baz=145,SNR=6.5
T30A Plains 144.55 68 ⇑P **PKPdf 00 36 46.4 -0.1**
baz=145
332A Millersview 144.59 78 ⇓P PKPbc 00 36 45.7 +0.3
baz=145,SNR=12
S30A Montezuma 144.62 67 ⇓P **PKPdf 00 36 46.4 -0.2**
baz=145,SNR=5.7
633A Saathoff Ranch 144.69 81 ⇑P **PKPdf 00 36 46.5 -0.3**
baz=145,SNR=11
232A Coleman 144.75 77 ⇑P **PKPdf 00 36 46.6 -0.3**
baz=145,SNR=18
A30A Hoffart Farm, 144.77 47 ⇓P **PKPdf 00 36 46.0 -0.4**
baz=145
R30A Dighton 144.78 66 ⇓P **PKPdf 00 36 47.2 +0.4**
baz=145,SNR=13
P30A Selden 144.80 64 ⇑P **PKPdf 00 36 47.2 +0.4**
baz=145,SNR=5.8
934A Benavides 144.81 85 ⇓P **PKPdf 00 36 47.0 -0.1**
baz=145,SNR=5.3
X31A McDonald Ranch 144.83 72 ⇓P **PKPdf 00 36 46.8 -0.2**
baz=145
Q30A Quinter 144.83 65 ⇓P **PKPdf 00 36 47.1 +0.3**
baz=145,SNR=13
ABTX Abilene, Hawle 144.87 76 ⇓P **PKPdf 00 36 46.8 -0.3**
baz=145,SNR=6.6
ABTX Abilene, Hawle 144.87 76 *e*PKPbc PKPbc 00 36 46.6 +0.4
B30A Myrvik Farm, E 144.89 48 ⇓P PKPbc 00 36 46.1 +0.3
baz=145
W31A Holland Ranch, 144.91 71 ⇓P **PKPdf 00 36 47.2 0.0**
baz=145,SNR=6.3
834A Tilden 144.91 84 ⇑P **PKPdf 00 36 48.1 +0.9**
baz=145
O30A MW Ranch, Wils 144.93 63 ⇓P **PKPdf 00 36 47.0 0.0**
baz=145
D30A Buchanan 144.94 51 ⇑P **PKPdf 00 36 46.7 -0.1**
baz=145
533A Kerrville 144.94 80 ⇑P PKPbc 00 36 46.6 +0.1
baz=145,SNR=5.7
E30A Jud 144.97 52 ⇑P **PKPdf 00 36 46.6 -0.2**
baz=145
C30A Mose, Pekin 144.98 50 ⇓P **PKPdf 00 36 47.0 +0.2**
baz=145
035A Encino 144.99 86 ⇓P **PKPdf 00 36 47.7 +0.3**
baz=145,SNR=5.3
433A Art 145.02 79 ⇓P **PKPdf 00 36 47.2 -0.2**
baz=145,SNR=18
V31A Spring Creek L 145.03 70 ⇑P **PKPdf 00 36 48.1 +0.7**
baz=145,SNR=13
U31A Nine Bar Ranch 145.06 69 ⇓P **PKPdf 00 36 48.1 +0.8**
baz=145
K30A Basset 145.08 58 ⇓P **PKPdf 00 36 47.9 +0.7**
baz=145
734A La Parita Cree 145.08 83 ⇓P **PKPdf 00 36 48.4 +0.9**
baz=145
J30A Dallas 145.09 57 ⇑P **PKPdf 00 36 47.6 +0.4**
baz=146
Z32A Haskell 145.09 75 ⇑P **PKPdf 00 36 47.2 -0.2**
baz=146,SNR=15
Y32A R-V Farms, Ver 145.21 74 ⇓P **PKPdf 00 36 47.7 +0.1**
baz=146,SNR=10
333A Richland Sprin 145.21 78 ⇑P **PKPab 00 36 47.5 0.0**
baz=146,SNR=19
T31A Randall Ranch, 145.24 68 ⇑P **PKPdf 00 36 48.2 +0.6**
baz=146,SNR=8.4
BRSD Miller 145.32 55 ⇓P **PKPdf 00 36 48.0 +0.5**
baz=146
BRSD Miller 145.32 55 *e*PKPdf **PKPdf 00 36 47.7 +0.2**
R31A Burdett 145.38 66 ⇓P **PKPab 00 36 48.7 +0.8**
baz=146
634A China Grove, S 145.38 82 ⇑P **PKPab 00 36 48.6 +0.5**
baz=146
X32A Elmer 145.38 73 ⇑P **PKPab 00 36 48.0 0.0**
baz=146,SNR=12
233A Rising Star 145.40 77 ⇓P **PKPab 00 36 48.4 +0.2**
baz=146,SNR=8.6
S31A Mullinville 145.40 67 ⇑P **PKPab 00 36 48.9 +0.8**
baz=146
534A Blanco 145.41 81 ⇓P **PKPab 00 36 48.2 0.0**
baz=146,SNR=17
133A Hamilton Ranch 145.47 76 ⇓P **PKPab 00 36 49.1 +0.7**
baz=146
Q31A Ellis 145.47 65 ⇓P **PKPab 00 36 49.4 +1.1**
baz=146
W32A Sentinel 145.47 72 ⇑P **PKPab 00 36 49.1 +0.8**
baz=146,SNR=24
P31A Stockton 145.47 64 ⇓P **PKPab 00 36 49.2 +1.0**
baz=146
835A Beeville 145.57 84 ⇓P **PKPab 00 36 50.4 +1.5**
baz=146
M31A Lambtecht Ranc 145.68 61 ⇑P **PKPab 00 36 49.4 +0.5**
baz=146
V32A Arapaho 145.68 71 ⇓P **PKPab 00 36 50.3 +1.2**
baz=146,SNR=11
Z33A Whitaker Ranch 145.69 75 ⇑P **PKPab 00 36 50.0 +0.8**
baz=146,SNR=19
L31A Butterfield Fa 145.70 59 ⇑P **PKPab 00 36 49.4 +0.4**
baz=146
735A Kenedy 145.72 83 ⇓P **PKPab 00 36 50.3 +0.9**
baz=146
434A Burnet 145.73 79 ⇓P **PKPab 00 36 49.7 +0.3**
baz=146,SNR=42
U32A Winter Ranch, 145.75 69 ⇓P **PKPab 00 36 50.2 +0.9**
baz=146,SNR=11
WMOK Wichita Mounta 145.82 72 *e*PKIKP **PKPdf 00 36 48.8 +0.1**
WMOK Wichita Mounta 145.82 72 *e*PKPdf **PKPdf 00 36 48.8 +0.1**
S32A Newby Ranch, P 145.84 67 ⇓P **PKPab 00 36 50.3 +0.7**
baz=146
T32A Huddler Ranch, 145.84 68 ⇓P **PKPab 00 36 50.6 +1.0**
baz=146
334A Lometa 145.84 78 ⇑P **PKPab 00 36 50.2 +0.4**
baz=146,SNR=36
ULM Lac du Bonnet 145.86 44 PKPbc **PKPbc 00 36 48.8 0.0**
comp=Z,6.2nm,0.7s,baz=308,slow=1.9,SNR=17
Y33A Hilltop Ranch, 145.88 74 ⇓P **PKPab 00 36 49.9 +0.1**
baz=146,SNR=13
R32A Long Quarter, 146.02 66 ⇓P **PKPab 00 36 50.3 0.0**

	baz=146,SNR=6.5								
X33A	**Lawton**	**146.03**	**73**	⇑P		**PKPab**	**00 36 50.4**	**0.0**	
	baz=146,SNR=13								
234A	**Clairette**	**146.04**	**77**	⇑P		**PKPbc**	**00 36 50.2**	**+0.2**	
	baz=146,SNR=9.2								
P32A	**Huiting Farm,**	**146.07**	**64**	⇑P		**PKPab**	**00 36 50.9**	**+0.4**	
	baz=146								
W33A	**Caddo, Fort Co**	**146.11**	**72**	⇓P		**PKPab**	**00 36 51.2**	**+0.5**	
	baz=146								
Q32A	**Meitler Ranch,**	**146.12**	**65**	⇓P		**PKPab**	**00 36 50.4**	**-0.2**	
	baz=146,SNR=5.1								
134A	**White-Moore Ra**	**146.16**	**76**	⇓P		**PKPab**	**00 36 50.8**	**-0.2**	
	baz=146,SNR=8.4								
535A	**Dale**	**146.17**	**81**	⇑P		**PKPab**	**00 36 51.3**	**+0.2**	
	baz=146								
N32A	**Stulken Farm,**	**146.24**	**62**	⇓P		**PKPab**	**00 36 51.4**	**+0.3**	
	baz=147								
O32A	**Brockman Farm,**	**146.29**	**63**	⇓P		**PKPab**	**00 36 51.5**	**+0.2**	
	baz=147								
BGNE	**Belgrade**	**146.29**	**60**	⇑P		**PKPab**	**00 36 51.6**	**+0.4**	
	baz=147								
V33A	**Lossen Ranch,**	**146.30**	**70**	⇓P		**PKPab**	**00 36 51.7**	**+0.3**	
	baz=147								
435B	**Jarrell**	**146.30**	**80**	⇓P		**PKPab**	**00 36 51.7**	**+0.2**	
	baz=147								
736A	**Circle Diamond**	**146.38**	**83**	⇓P		**PKPab**	**00 36 52.7**	**+0.9**	
	baz=147								
T33A	**Patterson Ranc**	**146.38**	**68**	⇑P		**PKPab**	**00 36 51.6**	**-0.1**	
	baz=147,SNR=7.7								
Z34A	**Collier Ranch,**	**146.40**	**75**	⇓P		**PKPab**	**00 36 51.5**	**-0.3**	
	baz=147								
U33A	**Lingo Farm, Me**	**146.47**	**69**	⇓P		**PKPab**	**00 36 52.0**	**0.0**	
	baz=147								
636A	**Smothers Creek**	**146.50**	**82**	⇑P		**PKPab**	**00 36 52.3**	**0.0**	
	baz=147								
AGMN	**Agassiz Nation**	**146.51**	**48**	⇓P		**PKPbc**	**00 36 51.0**	**+0.2**	
	baz=147								
AGMN	**Agassiz Nation**	**146.51**	**48**	*e*PKPdf		**PKPdf**	**00 36 49.7**	**+0.3**	
335A	**Moody**	**146.52**	**79**	⇑P		**PKPbc**	**00 36 51.7**	**+0.3**	
	baz=147,SNR=7.3								
S33A	**Kaszmaul Farm,**	**146.58**	**67**	⇑P		**PKPab**	**00 36 52.2**	**-0.2**	
	baz=147,SNR=5.9								
R33A	**Olander Ranch,**	**146.59**	**66**	⇓P		**PKPab**	**00 36 52.5**	**0.0**	
	baz=147								
X34A	**Smith Ranch, M**	**146.59**	**73**	⇓P		**PKPab**	**00 36 52.2**	**-0.3**	
	baz=147,SNR=12								
Y34A	**Reagan Ranch,**	**146.59**	**74**	⇓P		**PKPab**	**00 36 52.3**	**-0.2**	
	baz=147,SNR=6.5								
WHTX	**Lake Whitney,**	**146.61**	**78**	⇑P		**PKPbc**	**00 36 52.1**	**+0.5**	
	baz=147,SNR=5.1								
WHTX	**Lake Whitney,**	**146.61**	**78**	*e*PKPdf		**PKPbc**	**00 36 51.0**	**-0.6**	
536A	**Bastrop**	**146.61**	**81**	⇓P		**PKPab**	**00 36 53.0**	**+0.2**	
	baz=147								
W34A	**Bridge Creek,**	**146.68**	**72**	⇑P		**PKPab**	**00 36 52.5**	**-0.4**	
	baz=147								
Q33A	**Connelly Farm,**	**146.69**	**65**	⇓P		**PKPab**	**00 36 52.5**	**-0.3**	
	baz=147,SNR=7.1								
135A	**Vickery Place,**	**146.72**	**76**	⇑P		**PKPab**	**00 36 52.8**	**-0.3**	
	baz=147								
P33A	**Williams Farm,**	**146.78**	**64**	⇑P		**PKPab**	**00 36 52.8**	**-0.4**	
	baz=147								
V34A	**Guthrie**	**146.93**	**71**	⇑P		**PKPab**	**00 36 53.4**	**-0.4**	
	baz=147								
U34A	**Anderson Ranch**	**146.93**	**69**	⇑P		**PKPab**	**00 36 53.2**	**-0.7**	
	baz=147,SNR=9.9								
U34A	**Anderson Ranch**	**146.93**	**69**	*e*PKPdf		**PKPdf**	**00 36 51.4**	**+1.0**	
U34A				*e*PKPbc		**PKPab**	**00 36 53.6**	**-0.2**	
Z35A	**Perchaven, San**	**146.95**	**75**	⇑P		**PKPab**	**00 36 53.4**	**-0.6**	
	baz=147,SNR=6.3								
ECSD	**EROS Data Cent**	**147.10**	**56**	⇑P		**PKPbc**	**00 36 52.8**	**+0.1**	
	baz=148								
ECSD	**EROS Data Cent**	**147.10**	**56**	*e*PKPdf		**PKPbc**	**00 36 51.8**	**-0.9**	
537A	**Green Hill Far**	**147.25**	**81**	⇓P		**PKPab**	**00 36 54.7**	**-0.6**	
	baz=148								
S34A	**Willow Spring**	**147.29**	**67**	⇓P		**PKPab**	**00 36 54.7**	**-0.5**	
	baz=148								
W35A	**Tecumseh**	**147.41**	**72**	⇑P		**PKPbc**	**00 36 54.4**	**+0.6**	
	baz=148,SNR=8.7								
V35A	**Meyer Ranch, C**	**147.47**	**71**	⇑P		**PKPbc**	**00 36 54.9**	**+1.0**	
	baz=148								
KSU1	**Kansas State U**	**147.64**	**64**	⇓P		**PKPab**	**00 36 55.4**	**-1.1**	
	baz=148								
KSU1	**Kansas State U**	**147.64**	**64**	*e*PKPdf		**PKPdf**	**00 36 52.7**	**+1.1**	
337A	**Centerville**	**147.83**	**79**	⇓P		**PKPbc**	**00 36 56.0**	**+1.0**	
	baz=148								
S35A	**Otter Creek Ra**	**147.91**	**67**	⇓P		**PKPbc**	**00 36 56.2**	**+1.2**	
	baz=148								
W36A	**Wetumka**	**147.94**	**72**	⇑P		**PKPbc**	**00 36 56.3**	**+1.1**	
	baz=148								
438A	**Sam Houston St**	**148.09**	**80**	⇓P		**PKPab**	**00 36 57.6**	**-0.9**	
	baz=148								
137A	**Heron Place, G**	**148.11**	**77**	⇓P		**PKPab**	**00 36 57.7**	**-0.9**	
	baz=148								
TUL1	**Leonard**	**148.33**	**70**	⇑P		**PKPbc**	**00 36 57.3**	**+1.1**	
	baz=149								
S36A	**Lake Cedric, C**	**148.49**	**67**	⇑P		**PKPbc**	**00 36 57.5**	**+1.0**	
	baz=149								
R36A	**Gordon, Harris**	**148.54**	**66**	⇑P		**PKPbc**	**00 36 57.6**	**+0.9**	
	baz=149								
238A	**Jacksonville**	**148.57**	**78**	⇑P		**PKPbc**	**00 36 58.3**	**+1.3**	
	baz=149								
138A	**Matatall Enter**	**148.68**	**77**	⇓P		**PKPbc**	**00 36 58.2**	**+1.0**	
	baz=149								
339A	**Huntington**	**148.96**	**79**	⇓P		**PKPbc**	**00 36 59.4**	**+1.5**	
	baz=149								
239A	**Gary**	**149.12**	**78**	⇑P		**PKPbc**	**00 36 59.4**	**+1.1**	
	baz=150								
Q37A	**Longview Farm,**	**149.33**	**65**	⇑P		**PKPbc**	**00 36 59.5**	**+0.8**	
	baz=150								
EYMN	**Ely**	**149.38**	**46**	*e*PKPdf		**PKPdf**	**00 36 55.3**	**+1.2**	
SPMN	**Marine on St.**	**149.42**	**52**	⇓P		**PKPbc**	**00 36 59.5**	**+0.8**	
	baz=150								
SPMN	**Marine on St.**	**149.42**	**52**	*e*PKPbc		**PKPbc**	**00 36 58.0**	**-0.7**	
MIAR	**Mount Ida**	**150.09**	**73**	*e*PKP2		**PKPbc**	**00 37 00.9**	**+0.2**	
MIAR	**Mount Ida**	**150.09**	**73**	*e*PKPbc		**PKPbc**	**00 37 00.9**	**+0.2**	
ROSC	**El Rosal**	**150.12**	**146**	PKPbc		**PKPbc**	**00 37 02.0**	**+0.2**	
	comp=Z,13nm,0.9s,baz=270,slow=20,SNR=8.6								
COWI	**Conover**	**151.56**	**49**	*e*PKPbc		**PKPbc**	**00 37 03.2**	**-0.6**	

GUC 20 00:24:17.9±0.5, 34°06'S×72°47'W, h36km±2km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.24**	**34**	*e*P	Pn	00 24 39.0	+0.3
NICH	**Los Niches**	**1.39**	**133**	*e*P	Pn	00 24 41.2	+0.5
NICH				*e*S	Sn	00 24 58.9	+1.2
RCDM	**Rinconada Maip**	**1.50**	**68**	*e*P	Pn	00 24 43.6	+1.4
RCDM				*e*S	Sn	00 25 01.7	+1.1
TALC	**Talca**	**1.50**	**153**	*e*P	Pn	00 24 42.9	+0.7
TALC				*e*S	Sn	00 25 02.2	+1.7
SAN	**Santiago**	**1.62**	**68**	*e*P	Pn	00 24 43.7	-0.2
SAN				*e*S	Sn	00 25 04.3	+0.6
CLCH	**Cerro Calan**	**1.74**	**68**	*e*P	Pn	00 24 46.3	+0.7
CLCH				*e*S	Sn	00 25 08.6	+1.9
CLCH				AML	AML	00 25 20.7	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**1.75**	**59**	*e*P	Pn	00 24 46.9	+1.1
PEL				*e*S	Sn	00 25 08.2	+1.4
PEL				AML	AML	00 25 17.2	
	comp=N,3μm,0.5s						
YECH	**El Yeso**	**2.02**	**79**	*e*P	Pn	00 24 50.1	+0.3
YECH				*e*S	Sn	00 25 14.7	+0.5

*KRNET **20** 00:26:11.4±0.1, 41°36N×75°12E, h11km, mb3.6*
*KNET **20** 00:26:13.4±0.9, 41°48N×75°17E, h0km, ml2.2, Error ellipse: s-maj=6.0km s-min=3.5km az=4.0*
*NNC **20** 00:26:16.7±3.1, 41°53N×75°00E, h0km, mb3.1, mpv3.2, Error ellipse: s-maj=34.5km s-min=15.9km az=91.0*

ISC 20 00:26:11.5±1.2, 41°36N±0°04×75°14E±0°03, h14km±10km, n26, σ0°80/39, 21C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.65**	**83**	⇓*i*P	**Pg**	**00 26 24.6**	**+0.3**
	baz=85						
KZA	**Kyzart**	**0.72**	**6**	P	**Pg**	**00 26 26.0**	**+0.4**
	22nm,0.1s,SNR=271						
KZA				⇑S	**Sg**	**00 26 35.3**	**+0.1**
	55nm,0.1s						
KZA	**Kyzart**	**0.72**	**6**	⇓*i*P	**Pg**	**00 26 26.0**	**+0.4**
	baz=8.0						
KZA				⇓*i*S	**Sg**	**00 26 35.0**	**-0.2**
	baz=8.0						
ARLS	**Aral**	**0.79**	**309**	⇓*i*P	**Pg**	**00 26 26.4**	**-0.5**
	baz=309						
UCH	**Uchtor**	**0.98**	**332**	⇓P	**Pg**	**00 26 30.9**	**+0.2**
	27nm,0.1s,SNR=110						
UCH				⇓S	**Sg**	**00 26 44.1**	**+0.5**
	22nm,0.1s						
UCH	**Uchtor**	**0.98**	**332**	⇑*i*P	**Pg**	**00 26 30.8**	**+0.2**
	baz=332						
UCH				⇑*i*S	**Sg**	**00 26 43.6**	**0.0**
	baz=332						
SALK	**Salom-Alik**	**1.11**	**245**	*e*P	**Pb**	**00 26 31.8**	**-0.8**
	baz=244						
SALK				*e*S	**Sb**	**00 26 47.0**	**0.0**
	baz=244						
ULHL	**Ulahol**	**1.21**	**43**	⇑P	**Pn**	**00 26 34.6**	**+0.4**
	24nm,0.2s,SNR=163						
ULHL				⇑S	**Sb**	**00 26 49.9**	**0.0**
	25nm,0.1s						
ULHL	**Ulahol**	**1.21**	**43**	⇓*i*P	**Pn**	**00 26 34.6**	**+0.4**
	baz=43						
ULHL				⇓*i*S	**Sb**	**00 26 49.7**	**-0.2**
	baz=43						
BOOM	**Boomskoye usch**	**1.27**	**28**	⇓*i*P	**Pb**	**00 26 35.8**	**+0.3**
	baz=28						
BOOM				⇓*e*S	**Sb**	**00 26 51.7**	**-0.1**
	baz=28						
KBK	**Karagaybulak**	**1.30**	**354**	⇑P	**Pg**	**00 26 36.7**	**+0.1**
	35nm,0.1s,SNR=12						
KBK	**Karagaybulak**	**1.30**	**354**	⇑*i*P	**Pg**	**00 26 36.7**	**+0.1**
	baz=354						
KBK				⇑*i*S	**Sn**	**00 26 53.5**	**+0.6**
	baz=354						
AML	**Almayashu**	**1.33**	**306**	⇓P	**Pb**	**00 26 37.0**	**+0.4**
	13nm,0.1s,SNR=19						
AML	**Almayashu**	**1.33**	**306**	⇑*i*P	**Pb**	**00 26 36.8**	**+0.3**
	baz=306						
AML				⇑*i*S	**Sb**	**00 26 53.8**	**+0.2**
	baz=306						
AAK	**Ala-Archa**	**1.36**	**339**	⇑P	**Pg**	**00 26 37.7**	**0.0**
	2.2nm,0.2s						
AAK				⇑S	**Sn**	**00 26 54.9**	**+0.6**
	14nm,0.3s						
AAK	**Ala-Archa**	**1.36**	**339**	⇑P	**Pg**	**00 26 37.9**	**+0.2**
	9.9nm,0.1s,SNR=52						
AAK	**Ala-Archa**	**1.36**	**339**	⇑*i*P	**Pg**	**00 26 37.6**	**-0.1**
	baz=340						
AAK				⇑*i*S	**Sb**	**00 26 54.5**	**+0.2**
	baz=340						
EKS2	**Erkin-Say**	**1.65**	**322**	P	**Pg**	**00 26 43.5**	**+0.2**
	5.8nm,0.1s,SNR=15						
EKS	**Erkin-Say**	**1.65**	**323**	⇓*i*P	**Pg**	**00 26 43.5**	**+0.2**
	baz=323						
CHMS	**Chumysh**	**1.66**	**350**	⇑P	**Pg**	**00 26 43.0**	**-0.4**
	12nm,0.2s,SNR=22						
KDJ	**Kajisay**	**1.71**	**63**	*e*P	**Pb**	**00 26 43.1**	**+0.2**
	baz=63						
KDJ				*e*S	**Sg**	**00 27 06.3**	**-0.2**
	baz=63						
SFK	**Sufi-Kurgan**	**1.83**	**223**	⇑Pn	**Pg**	**00 26 48.2**	**+1.4**
	22nm,0.1s						
SFK				⇑Lg	Lg	00 27 14.5	
	36nm,0.3s						
USP	**Ospenovka**	**1.96**	**346**	⇓P	**Pg**	**00 26 49.0**	**-0.2**
	37nm,0.3s,SNR=11						
MNAS	**Manas**	**2.27**	**301**	⇓Pn	**Pg**	**00 26 54.0**	**-1.0**
	5.4nm,0.5s						
MNAS				⇑Lg	Lg	00 27 24.8	
	18nm,0.7s						
PDGK	**Podgornoye**	**3.77**	**57**	⇑Pn	**Pg**	**00 27 21.2**	**-2.5**
	1.8nm,0.4s						
PDGK				⇓Lg	Lg	00 28 09.2	
	5.3nm,0.6s						
KK31	**Karatay Array**	**3.85**	**298**	⇑Pn	**Pg**	**00 27 22.3**	**-3.1**
	1.1nm,0.5s,baz=107,slow=16,SNR=34						
KK31				Lg	Lg	00 28 11.8	
	3.2nm,0.5s,baz=113,slow=28,SNR=8.4						

IDC 20 00:50:14.3±2.9, 33°52N×96°20E, h0km, mb3.0/2, mb1 3.4/5, mb1mx3.2/29, mbtmp3.3/5, ML3.5/3, Error ellipse: s-maj=74.2km s-min=37.9km az=74.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.20**	**170**	Pn	Pn	00 53 50.5	+0.2
	0.1nm,0.3s,baz=345,slow=10,SNR=6.0						
SONM	**Songino Array**	**16.23**	**25**	Pn	Pn	00 54 04.2	+0.3
	0.2nm,0.3s,baz=208,slow=14,SNR=5.6						
MKAR	**Makanchi Array**	**16.96**	**326**	Pn	Pn	00 54 12.1	-0.9
	0.1nm,0.3s,baz=140,slow=15,SNR=7.1						
KURBB	**Kurchatov Arra**	**21.45**	**328**	P	P	00 55 03.5	-0.6
	0.6nm,0.6s,baz=135,slow=11,SNR=7.6						
ZALV	**Zalesovo Beam**	**21.96**	**342**	P	P	00 55 09.2	-0.3
	0.2nm,0.3s,baz=178,slow=10,SNR=2.2						

*ISK **20** 00:53:11.8, 38°69N×32°97E, h8km, ML3.5*
*CSEM **20** 00:53:12.4±0.1, 38°71N×32°97E, h2km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.3km az=142.0*
*DDA **20** 00:53:12.8, 38°75N×32°90E, h10km, ML3.8*

ISC 20 00:53:12.8±1.1, 38°70N±0°02×32°97E±0°02, h4km±11km, n118, σ0°90/137, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SULT	**Sultanhani-AKS**	**0.66**	**139**	*e*PG	**Pg**	**00 53 24.9**	**-0.6**
SULT	**Sultanhani-AKS**	**0.66**	**139**	*e*Pg	**Pg**	**00 53 24.9**	**-0.6**
LADK	**Ladik-KONYA**	**0.69**	**224**	*e*PG	**Pg**	**00 53 25.0**	**-1.1**
LADK				*e*SG	**Sg**	**00 53 35.3**	**+0.3**
LADK	**Ladik-KONYA**	**0.69**	**224**	*e*Pg	**Pg**	**00 53 25.0**	**-1.1**
LADK				*e*Sg	**Sg**	**00 53 35.3**	**+0.3**
KDHN	**Kadinhani**	**0.69**	**255**	*i*P	**Pg**	**00 53 25.0**	**-1.1**
KDHN				*i*S	**Sg**	**00 53 35.9**	**+0.8**
KDHN	**Kadinhani**	**0.69**	**255**	*i*P	**Pg**	**00 53 25.0**	**-1.1**
KDHN				*i*S	**Sg**	**00 53 35.9**	**+0.8**
AFSR	**Afˇar-Bala (A**	**0.75**	**6**	*e*PG	**Pg**	**00 53 26.1**	**-1.2**
AFSR				*e*SG	**Sg**	**00 53 37.9**	**+0.9**
AFSR	**Afˇar-Bala (A**	**0.75**	**6**	*e*Pg	**Pg**	**00 53 26.1**	**-1.2**
AFSR				*e*Sg	**Sg**	**00 53 37.9**	**+0.9**
BBAL	**Bala**	**0.85**	**8**	*i*P	**Pg**	**00 53 27.9**	**-1.3**
BBAL				*i*S	**Sb**	**00 53 41.5**	**-0.6**
BBAL	**Bala**	**0.85**	**8**	*i*P	**Sb**	**00 53 27.9**	**-1.3**
BBAL				*i*S	**Sb**	**00 53 41.5**	**-0.6**
KIZT	**Kizilcal**	**0.87**	**282**	*e*PG	**Pg**	**00 53 29.1**	**-0.5**
KIZT	**Kizilcal**	**0.87**	**282**	*e*Pg	**Pg**	**00 53 29.1**	**-0.5**
KONT	**Konya--Tatoy**	**0.89**	**213**	*e*PG	**Pg**	**00 53 29.1**	**-0.9**
KONT	**Konya--Tatoy**	**0.89**	**213**	*e*Pg	**Pg**	**00 53 29.1**	**-0.9**
BSTP	**Nigde**	**1.17**	**129**	*i*P	**Pg**	**00 53 35.0**	**-0.3**
ANTO	**Ankara**	**1.18**	**353**	*e*PN	**Pg**	**00 53 34.8**	**-0.6**
ANTO	**Ankara**	**1.18**	**353**	*e*Pn	**Pg**	**00 53 34.8**	**-0.6**
LOD	**Lodumlu**	**1.20**	**352**	*e*PN	**Pg**	**00 53 35.4**	**-0.4**
LOD	**Lodumlu**	**1.20**	**352**	*e*Pn	**Pg**	**00 53 35.4**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.35**	**304**	*e*PN	**Pn**	**00 53 37.1**	**-1.5**
SVRH	**Sivrihisar-ESK**	**1.35**	**304**	*e*Pn	**Pn**	**00 53 37.1**	**-1.5**
NIG	**Nigde**	**1.42**	**114**	*e*PN	**Pn**	**00 53 38.4**	**-1.3**
NIG	**Nigde**	**1.42**	**114**	*e*Pn	**Pn**	**00 53 38.4**	**-1.3**
CDAG	**Cicekdag**	**1.43**	**49**	*i*P	**Pn**	**00 53 38.1**	**-1.6**
CDAG				*i*S	**Sn**	**00 53 58.5**	**-0.5**
CDAG	**Cicekdag**	**1.43**	**49**	*i*P	**Pn**	**00 53 38.1**	**-1.6**
CDAG				*i*S	**Sn**	**00 53 58.5**	**-0.5**
BOLV	**Bolvadin**	**1.58**	**271**	*i*P	**Pb**	**00 53 42.8**	**+0.1**
BOLV				*i*S	**Sg**	**00 54 06.5**	**+2.9**
BOLV	**Bolvadin**	**1.58**	**271**	*i*P	**Pb**	**00 53 42.8**	**+0.1**
BOLV				*i*S	**Sg**	**00 54 06.5**	**+2.9**
ELDT	**Eldivan**	**1.82**	**11**	*i*P	**Pn**	**00 53 43.8**	**-1.4**
ELDT				*i*S	**Sg**	**00 54 12.9**	**+1.5**
ELDT	**Eldivan**	**1.82**	**11**	*i*P	**Pn**	**00 53 43.8**	**-1.4**
ELDT				*i*S	**Sg**	**00 54 12.9**	**+1.5**
ESKT	**Eskisehir**	**1.84**	**297**	*e*PN	**Pn**	**00 53 44.5**	**-0.9**
ESKT	**Eskisehir**	**1.84**	**297**	*e*Pn	**Pn**	**00 53 44.5**	**-0.9**
SEYT	**Eskypehyr**	**1.84**	**297**	*i*P	**Pn**	**00 53 45.4**	**0.0**
SEYT	**Eskypehyr**	**1.84**	**297**	*i*P	**Pn**	**00 53 45.4**	**0.0**
SEYT				*i*S	**Sg**	**00 54 14.2**	**+2.2**
SHUT	**Suhut-Afyon**	**1.90**	**266**	*e*PN	**Pn**	**00 53 45.1**	**-1.1**
SHUT	**Suhut-Afyon**	**1.90**	**266**	*e*Pn	**Pn**	**00 53 45.1**	**-1.1**
CORM	**Corum**	**1.96**	**41**	*e*PN	**Pn**	**00 53 46.2**	**-0.8**
CORM	**Corum**	**1.96**	**41**	*e*Pn	**Pn**	**00 53 46.2**	**-0.8**
CANT	**Cankiri**	**1.97**	**15**	*e*PN	**Pn**	**00 53 46.5**	**-0.6**
YOZ	**Yozgat**	**2.05**	**62**	*e*PN	**Pn**	**00 53 47.9**	**-0.4**
YOZ	**Yozgat**	**2.05**	**62**	*e*Pn	**Pn**	**00 53 47.9**	**-0.4**
ERMK	**Ermenek**	**2.06**	**181**	*i*P	**Pn**	**00 53 48.8**	**+0.4**
ERMK	**Ermenek**	**2.06**	**181**	*i*P	**Pn**	**00 53 48.8**	**+0.4**
ERMK				*i*S	**Sg**	**00 54 20.7**	**+1.8**
ISP	**Isparta**	**2.12**	**246**	*e*PN	**Pn**	**00 53 48.6**	**-0.5**
ISP	**Isparta**	**2.12**	**246**	*e*Pn	**Pn**	**00 53 48.6**	**-0.5**
KARA	**Karaisali**	**2.19**	**130**	*e*PN	**Pn**	**00 53 49.2**	**-0.8**
KARA	**Karaisali**	**2.19**	**130**	*e*Pn	**Pn**	**00 53 49.2**	**-0.8**
MERS	**Mersin**	**2.20**	**146**	*e*PN	**Pn**	**00 53 49.5**	**-0.8**
MERS	**Mersin**	**2.20**	**146**	*e*Pn	**Pn**	**00 53 49.5**	**-0.8**
MDUB	**Mudurnu**	**2.24**	**323**	*e*PN	**Pn**	**00 53 50.1**	**-0.7**
MDUB	**Mudurnu**	**2.24**	**323**	*e*Pn	**Pn**	**00 53 50.1**	**-0.7**
BCK	**Bucak**	**2.25**	**237**	*e*PN	**Pn**	**00 53 50.4**	**-0.5**
BCK	**Bucak**	**2.25**	**237**	*e*Pn	**Pn**	**00 53 50.4**	**-0.5**
BNN	**Bunyan**	**2.25**	**85**	*e*PN	**Pn**	**00 53 50.4**	**-0.6**
BNN	**Bunyan**	**2.25**	**85**	*e*Pn	**Pn**	**00 53 50.4**	**-0.6**
ALT	**Altintas**	**2.26**	**280**	*e*PN	**Pn**	**00 53 50.7**	**-0.4**
ALT	**Altintas**	**2.26**	**280**	*e*Pn	**Pn**	**00 53 50.7**	**-0.4**
BORA	**Eskisehir**	**2.28**	**302**	*i*P	**Pn**	**00 53 50.8**	**-0.6**
BORA				*i*S	**Sn**	**00 54 21.1**	**+1.1**
BORA	**Eskisehir**	**2.28**	**302**	*i*P	**Pn**	**00 53 50.8**	**-0.6**
BORA				*i*S	**Sn**	**00 54 21.1**	**+1.1**
CTKT	**Corum**	**2.38**	**36**	*i*P	**Pn**	**00 53 53.8**	**+1.0**
CTKT	**Corum**	**2.38**	**36**	*i*P	**Pn**	**00 53 53.8**	**+1.0**
ILGA	**Ilgaz**	**2.42**	**13**	*i*P	**Pb**	**00 53 56.9**	**-0.2**
ILGA	**Ilgaz**	**2.42**	**13**	*i*P	**Pb**	**00 53 56.9**	**-0.2**
GAZI	**Gazipasa**	**2.52**	**192**	*i*P	**Pn**	**00 53 55.9**	**+1.4**
GAZI	**Gazipasa**	**2.52**	**192**	*i*P	**Pn**	**00 53 56.0**	**+1.4**
SAFT	**Safranbolu**	**2.55**	**355**	*e*PN	**Pn**	**00 53 54.9**	**-0.1**
SAFT	**Safranbolu**	**2.55**	**355**	*e*Pn	**Pn**	**00 53 54.9**	**-0.1**
KOZT	**Kozan**	**2.56**	**117**	*e*PN	**Pn**	**00 53 54.6**	**-0.6**
KOZT	**Kozan**	**2.56**	**117**	*e*Pn	**Pn**	**00 53 54.6**	**-0.6**
ANTB	**Antalya**	**2.57**	**226**	*e*PN	**Pn**	**00 53 54.6**	**-0.6**
ANTB	**Antalya**	**2.57**	**226**	*e*Pn	**Pn**	**00 53 54.6**	**-0.6**
GULT	**Gulveren**	**2.57**	**313**	*e*PN	**Pn**	**00 53 55.1**	**-0.2**
GULT	**Gulveren**	**2.57**	**313**	*e*Pn	**Pn**	**00 53 55.1**	**-0.2**
TVSB	**Tavsanli**	**2.83**	**286**	*e*PN	**Pn**	**00 53 58.8**	**-0.2**
TVSB	**Tavsanli**	**2.83**	**286**	*e*Pn	**Pn**	**00 53 58.8**	**-0.2**
ANDN	**Andirin**	**2.89**	**112**	*i*P	**Pb**	**00 54 05.8**	**+0.9**
GOLH	**Golhisar**	**3.06**	**243**	*i*P	**Pb**	**00 54 05.4**	**-2.6**
GOLH	**Golhisar**	**3.06**	**243**	*i*P	**Pb**	**00 54 05.4**	**-2.6**
ELL	**Elmali**	**3.11**	**232**	*e*PN	**Pn**	**00 54 02.7**	**-0.2**
ELL	**Elmali**	**3.11**	**232**	*e*Pn	**Pn**	**00 54 02.7**	**-0.2**
IZI	**Iznik**	**3.16**	**302**	*e*PN	**Pn**	**00 54 03.7**	**+0.2**
IZI	**Iznik**	**3.16**	**302**	*e*Pn	**Pn**	**00 54 03.7**	**+0.2**
HAVZ	**Havza**	**3.18**	**41**	*i*P	**Pb**	**00 54 10.4**	**+0.6**
HAVZ				*i*S	**Sg**	**00 54 54.9**	**0.0**
EREN	**Erenkoy**	**3.31**	**163**	*e*PN	**Pn**	**00 54 05.2**	**-0.1**
EREN	**Erenkoy**	**3.31**	**163**	*e*Pn	**Pn**	**00 54 05.3**	**-0.1**
KMRS	**Kahramanmaras**	**3.32**	**110**	*e*PN	**Pn**	**00 54 05.4**	**-0.3**
KMRS	**Kahramanmaras**	**3.32**	**110**	*e*Pn	**Pn**	**00 54 05.4**	**-0.3**
BZK	**Bozkurt**	**3.35**	**13**	*e*PN	**Pn**	**00 54 06.2**	**+0.2**
BZK	**Bozkurt**	**3.35**	**13**	*e*Pn	**Pn**	**00 54 06.2**	**+0.2**
SVSK	**Karacayir**	**3.35**	**67**	*e*PN	**Pn**	**00 54 06.2**	**+0.2**
SVSK	**Karacayir**	**3.35**	**67**	*e*Pn	**Pn**	**00 54 06.2**	**+0.2**
KVT	**Kavak**	**3.35**	**44**	*e*PN	**Pn**	**00 54 06.3**	**+0.2**
**KV

VNA3	Neumayer Olymp	17.26	161	P		P		01 04 44.1	+2.0
VNA2	Neumayer--Watz	17.45	158	P		ScP		01 12 55.9	+0.2
	baz=323,slow=6.3								
VNA2	Neumayer--Watz	17.45	158	P		P		01 04 45.6	+1.4
	baz=316,slow=13								
EFI	East Falkland	18.70	270	*e*P		P		01 04 57.9	-0.1
EFI				pmax	pmax				
	comp=Z,67nm,1.0s								
EFI	East Falkland	18.70	270	*e*Pn		P		01 04 57.9	-0.1
	comp=Z,67nm,1.0s								
SNAA	Sanae	19.00	156	P		Pn		01 05 01.7	-0.3
SNAA	Sanae	19.00	156	*e*P		P		01 05 01.3	+0.1
SNAA				pmax	pmax				
	comp=Z,28nm,0.8s								
SNAA	Sanae	19.00	156	P		P		01 05 01.3	+0.1
	comp=Z,0.4nm,0.3s,baz=324,slow=10,SNR=28								
SNAA				LR	LR			01 10 47.9	
	comp=Z,621nm,21.4s,baz=320,slow=32								
SNAA				ScP		ScP		01 12 58.8	-0.3
	comp=Z,0.1nm,0.3s,baz=287,slow=1.7,SNR=13								
SNAA	Sanae	19.00	156	*e*P		P		01 05 01.3	+0.1
	comp=Z,28nm,0.8s								
SNAA				ScP		ScP		01 12 58.8	-0.3
PMSA	Palmer Station	20.15	228	P		Pn		01 05 16.0	+0.3
	comp=Z,62nm,0.8s,baz=60,slow=8.3,SNR=12								
PMSA	Palmer Station	20.15	228	*e*P		P		01 05 14.3	+0.5
	comp=Z,141nm,1.3s								
NVL	N'lazarevskaya	22.48	147	*e*P		P		01 05 44.4	+5.6
NVL				*e*S		S		01 09 39.1	-4.7
NVL				pmax	pmax				
	comp=Z,9.0nm,0.7s								
USHA	Ushuaia	23.33	255	P		P		01 05 47.3	-0.4
	comp=Z,24nm,0.8s,baz=81,slow=12,SNR=12								
USHA				LR	LR			01 12 59.3	
	comp=Z,2µm,18.5s,baz=81,slow=32								
TRQA	Tornquist	29.27	292	*e*P		P		01 06 42.1	+0.4
	comp=Z,41nm,0.8s								
PLCA	Paso Flores	32.02	279	*e*P		P		01 07 03.8	-2.2
PLCA								01 09 55.3	
PLCA				pmax	pmax				
	comp=Z,157nm,2.5s								
PLCA	Paso Flores	32.02	279	P		P		01 07 05.0	-1.0
	comp=Z,7.8nm,1.1s,baz=137,slow=5.1,SNR=5.3								
PLCA				PcP		PcP		01 09 55.3	0.0
	comp=Z,1.8nm,0.7s,baz=184,slow=8.2,SNR=3.0								
PLCA				LR	LR			01 20 52.6	
	comp=Z,736nm,18.1s,baz=130,slow=38								
PLCA	Paso Flores	32.02	279	*e*P		P		01 07 03.8	-2.2
	comp=Z,157nm,2.5s								
PLCA				PcP		PcP		01 09 55.3	0.0
QSPA	South Pole Qui	34.51	180	P		P		01 07 27.9	+0.3
	comp=Z,25nm,0.6s,baz=194,slow=2.1,SNR=42								
QSPA				ScP		ScP		01 13 43.1	-2.1
	comp=Z,3.9nm,0.6s,baz=254,slow=0.5,SNR=7.0								
CPUP	Villa Florida	36.66	311	*e*P		P		01 07 45.7	-0.5
CPUP								01 10 08.5	
CPUP				pmax	pmax				
	comp=Z,2.0nm,1.0s								
CPUP	Villa Florida	36.66	311	P		P		01 07 45.9	-0.3
	comp=Z,13nm,0.9s,baz=134,slow=7.4,SNR=51								
CPUP				PcP		PcP		01 10 08.5	-0.1
	comp=Z,0.4nm,0.5s,baz=206,slow=2.0,SNR=5.0								
CPUP				LR	LR			01 20 48.2	
	comp=Z,6µm,21.6s,baz=154,slow=33								
CPUP	Villa Florida	36.66	311	*e*P		P		01 07 45.7	-0.5
	comp=Z,2.3nm,1.0s								
CPUP				PcP		PcP		01 10 08.5	-0.1
CFAA	Coronel Fontan	37.50	293	LR		LR		01 23 17.5	
	comp=Z,92nm,20.7s,baz=135,slow=36								
MAW	Mawson	40.36	144	*e*P		P		01 08 18.0	+1.2
MAW	Mawson	40.36	144	P		P		01 08 17.4	+0.6
	comp=Z,8.3nm,0.7s,baz=226,slow=7.6,SNR=18								
MAW				LR	LR			01 22 47.8	
	comp=Z,898nm,21.3s,baz=253,slow=33								
MAW	Mawson	40.36	144	*e*P		P		01 08 18.0	+1.2
SUR	Sutherland	40.49	75	P		P		01 08 19.7	+1.1
	comp=Z,4.2nm,0.8s,baz=205,slow=16,SNR=3.4								
SUR	Sutherland	40.49	75	*e*P		P		01 08 20.4	+1.8
LCO	Las Campanas	40.85	292	*e*P		P		01 08 21.7	0.0
	comp=Z,62nm,1.2s								
BDFB	Brasilia	43.13	330	P		P		01 08 40.6	+0.5
	comp=Z,6.5nm,0.8s,baz=160,slow=5.5,SNR=8.8								
BDFB				LR	LR			01 24 18.3	
	comp=Z,1µm,20.2s,baz=165,slow=33								
LVC	Limon Verde	45.20	300	ScP		ScP		01 14 25.9	-1.5
	comp=Z,9.0nm,0.7s,baz=105,slow=19,SNR=2.9								
LVC				LR	LR			01 26 18.9	
	comp=Z,1µm,19.9s,baz=126,slow=34								
LVC	Limon Verde	45.20	300	*e*P		P		01 08 57.6	+0.7
	comp=Z,54nm,0.6s								
LVC				ScP		ScP		01 14 25.9	-1.5
SBA	Scott Base	46.39	184	*e*P		P		01 09 06.3	+1.0
SBA				pmax	pmax				
	comp=Z,85nm,1.8s								
SBA	Scott Base	46.39	184	*e*P		P		01 09 06.3	+1.0
	comp=Z,85nm,1.8s								
VNDA	Vanda	46.88	183	*e*P		P		01 09 09.9	+0.7
VNDA				pmax	pmax				
	comp=Z,21nm,0.6s								
VNDA	Vanda	46.88	183	P		P		01 09 10.3	+1.1
	comp=Z,20nm,0.6s,baz=184,slow=6.7,SNR=129								
VNDA				ScP		ScP		01 14 32.0	-1.2
	comp=Z,1.1nm,0.8s,baz=210,slow=5.3,SNR=3.7								
VNDA	Vanda	46.88	183	*e*P		P		01 09 09.9	+0.7
	comp=Z,21nm,0.6s								
VNDA				ScP		ScP		01 14 32.0	-1.2
SIV	San Ignacio	47.41	313	P		P		01 09 13.6	-0.5
	comp=Z,12nm,0.7s,baz=163,slow=8.3,SNR=30								
H10S2	ASCENSION HYDR	47.68	17	T		T		02 00 41.6	
	baz=189,slow=75,SNR=141								
H10S3	ASCENSION HYDR	47.69	17	T		T		02 00 41.8	
	baz=189,slow=75,SNR=127								
H10S1	ASCENSION HYDR	47.70	17	T		T		02 00 42.9	
	baz=189,slow=75,SNR=153								
CRZF	Crozet Islands	47.88	114	S		S		01 16 08.0	-4.7
CRZF				R				01 22 00.0	
ASCN	Ascension	48.74	17	*e*P		P		01 09 24.9	+0.7
	comp=Z,954nm,2.5s								
H10N1	ASCENSION HYDR	48.80	17	T		T		02 02 01.8	
	baz=188,slow=75,SNR=25								
H10N3	ASCENSION HYDR	48.80	17	T		T		02 02 01.8	
	baz=188,slow=75,SNR=60								
H10N2	ASCENSION HYDR	48.82	17	T		T		02 02 04.1	
	baz=188,slow=75,SNR=59								
LBTB	Lobatse	48.85	73	*e*P		P		01 09 24.5	-0.7
LBTB				pmax	pmax				
	comp=Z,48nm,1.6s								
LBTB	Lobatse	48.85	73	*e*P		P		01 09 24.5	-0.7
	comp=Z,48nm,1.6s								
TSUM	Tsumeb	49.47	61	*e*P		P		01 09 29.5	-0.5
	comp=Z,20nm,1.4s								
LPAZ	La Paz	50.25	305	*e*P		P		01 09 37.0	+0.4
LPAZ				pmax	pmax				
	comp=Z,64nm,1.0s								
LPAZ	La Paz	50.25	305	P		P		01 09 37.1	+0.6
	comp=Z,38nm,1.0s,baz=155,slow=6.1,SNR=140								
LPAZ				LR	LR			01 30 15.4	
	comp=Z,415nm,21.7s,baz=158,slow=35								
LPAZ	La Paz	50.25	305	*e*P		P		01 09 37.0	+0.4
	comp=Z,64nm,1.0s								
CASY	Casey	54.18	160	*e*P		P		01 10 05.9	+1.5
	comp=Z,11nm,0.8s								
SAML	Samuel	54.63	314	*e*P		P		01 10 07.7	-0.6
	comp=Z,35nm,1.3s								
PAF	Port-aux-Franc	54.76	127	S		S		01 17 39.0	-8.4
PAF				L		L		01 22 00.0	
PAF				R				01 25 00.0	
DRV	Dumont d'Urvil	57.53	174	S		S		01 18 24.0	+0.2
DRV				L		L		01 25 00.0	
DRV				R				01 29 00.0	
NNA	Nana	58.16	298	P		P		01 10 33.4	-0.1
	comp=Z,13nm,0.8s,baz=213,slow=12,SNR=4.4								
LSZ	Lusaka	58.20	69	*e*P		P		01 10 33.0	-0.9
LSZ				pmax	pmax				
	comp=Z,27nm,1.6s								
LSZ	Lusaka	58.20	69	*e*P		P		01 10 33.0	-0.9
	comp=Z,27nm,1.6s								
PTGA	Pitinga	60.97	322	P		P		01 10 51.8	-0.9
	comp=Z,12nm,0.7s,baz=162,slow=7.8,SNR=28								
PTGA	Pitinga	60.97	322	*e*P		P		01 10 52.3	-0.5
	comp=Z,12nm,0.7s								
ATAH	Atahualpa	63.10	300	P		P		01 11 07.8	+0.2
	comp=Z,9.4nm,0.6s,baz=147,slow=6.8,SNR=7.5								
LIC	Lamto	64.39	24	*e*PKP2		P		01 11 15.2	-0.3
	comp=Z,46nm,1.2s								
KIC	Kosan Boka	64.58	25	*e*PKP2		P		01 11 16.4	-0.4
	comp=Z,57nm,1.3s								
TIC	Toumodi	64.79	24	*e*PKP2		P		01 11 16.4	-1.8
	comp=Z,18nm,0.6s								
DBIC	Dimbokro	64.86	25	*e*P		P		01 11 17.8	-0.7
DBIC				pmax	pmax				
	comp=Z,50nm,1.6s								
DBIC	Dimbokro	64.86	25	P		P		01 11 19.6	+1.0
	comp=Z,13nm,1.2s,baz=164,slow=6.8,SNR=5.8								
DBIC				LR	LR			01 32 47.9	
	comp=Z,442nm,21.7s,baz=184,slow=30								
DBIC	Dimbokro	64.86	25	*e*P		P		01 11 17.8	-0.7
	comp=Z,50nm,1.6s								
OTAV	Otavalo	69.54	303	*e*P		P		01 11 50.0	+1.1
	comp=Z,22nm,1.0s								
ROSC	El Rosal	71.76	310	P		P		01 12 03.1	+0.8
	comp=Z,5.5nm,0.4s,baz=213,slow=2.4,SNR=9.8								
ROSC				LR	LR			01 45 02.7	
	comp=Z,216nm,19.6s,baz=178,slow=37								
ROSC	El Rosal	71.76	310	*e*P		P		01 12 03.4	+1.1
PCRV	Puerto La Cruz	72.75	321	P		P		01 12 08.7	+0.9
	comp=Z,41nm,0.5s,baz=167,slow=3.1,SNR=40								
TORD	Torodi Ar. Bea	72.75	29	P		P		01 12 07.6	0.0
	comp=Z,4.5nm,0.5s,baz=198,slow=6.3,SNR=73								
TORD				LR	LR			01 37 28.7	
	comp=Z,262nm,21.3s,baz=215,slow=30								
SDV	Santo Domingo	73.84	315	*e*P		P		01 12 14.0	-0.3
	comp=Z,36nm,0.9s								
KMBO	Kilima Mbogo	74.86	69	LR		LR		01 42 35.8	
	comp=Z,527nm,20.9s,baz=184,slow=34								
STVI	Saint Thomas	80.46	324	*e*P		P		01 12 50.9	-0.3
	comp=Z,82nm,1.3s								
RKT	Rikitea	80.68	243	*e*LR		LR		01 38 04.5	
	comp=Z,310nm,22.2s								
RKT	Rikitea	80.68	243	*e*T		T		02 41 32.4	
	comp=Z,0.9nm,0.3s								
JTS	JuntasAbangare	81.40	303	*e*P		P		01 12 56.6	+0.3
JTS				pmax	pmax				
	comp=Z,15nm,1.0s								
JTS	JuntasAbangare	81.40	303	P		P		01 12 54.9	-1.5
	comp=Z,15nm,1.0s,baz=222,slow=12,SNR=7.6								
JTS	JuntasAbangare	81.40	303	*e*P		P		01 12 56.6	+0.3
	comp=Z,15nm,1.0s								
TAU	Tasmania Unive	81.60	176	*e*P		P		01 12 56.6	-0.5
TAU				pmax	pmax				
	comp=Z,17nm,0.7s								
TAU	Tasmania Unive	81.60	176	*e*P		P		01 12 56.6	-0.5
	comp=Z,17nm,0.7s								
TAM	Tamanrasset	82.99	30	*e*P		P		01 13 05.7	+1.1
TAM				pmax	pmax				
	comp=Z,5.0nm,1.1s								
TAM	Tamanrasset	82.99	30	*e*P		P		01 13 05.7	+1.1
	comp=Z,4.6nm,1.1s								
SDDR	Presa de Saban	83.29	318	*e*P		P		01 13 06.1	0.0
	comp=Z,15nm,0.9s								
URZ	Urewera	84.12	199	P		P		01 13 11.1	+0.8
	comp=Z,8.7nm,0.8s,baz=212,slow=9.5,SNR=4.5								
TBI	Tubuai	87.33	231	*e*S		S		01 24 10.6	+5.5
	comp=Z,161nm,25.2s								
TBI	Tubuai	87.33	231	*e*LR		LR		01 41 08.3	
	comp=Z,418nm,28.0s								
H08N3	Diego Garcia H	89.33	100	T		T		02 52 54.8	
	baz=216,slow=75,SNR=6.3								
H08N1	Diego Garcia H	89.34	100	T		T		02 52 55.3	
	baz=216,slow=75,SNR=6.6								
H08N2	Diego Garcia H	89.35	100	T		T		02 52 54.2	
	baz=216,slow=75,SNR=6.2								
MDT	Mitchell	90.27	19	P		P		01 13 41.2	+1.3
	comp=Z,3.2nm,1.0s,baz=233,slow=1.9,SNR=4.5								
TEIG	Tepich	91.59	305	*e*P		P		01 13 46.6	+0.4
	comp=Z,21nm,0.8s								
STKA	Stephens Creek	92.19	170	P		P		01 13 49.4	+0.2
	comp=Z,1.3nm,0.3s,baz=106,slow=6.3,SNR=5.3								
STKA				LR	LR			01 53 56.6	
	comp=Z,423nm,19.7s,baz=199,slow=35								
PPT2	Papeete2	92.42	234	*e*PS		PS		01 26 05.0	-0.7
	comp=Z,200nm,31.2s								
PPT2	Papeete2	92.42	234	*e*LR		LR		01 43 36.2	
	comp=Z,550nm,32.0s								
KEST	Kesra	96.27	29	LR		LR		01 53 07.6	
	comp=Z,131nm,20.4s,baz=242,slow=33								
ESDC	Sonseca Array	97.06	18	P		Pdif		01 14 11.5	+0.4
	comp=Z,0.1nm,0.4s,baz=232,slow=8.0,SNR=3.0								
ESDC				LR	LR			01 55 05.6	
	comp=Z,144nm,19.5s,baz=225,slow=34								
ASAR	Alice Springs	99.26	162	P		Pdif		01 14 20.4	-1.0
	comp=Z,2.3nm,0.7s,baz=186,slow=4.0,SNR=20								
ASAR				PP		PP		01 18 21.6	-1.8
	comp=Z,0.6nm,0.7s,baz=189,slow=5.9,SNR=5.2								
ASAR				PKKPbc		PKKPbc		01 30 43.6	+0.7
	comp=Z,0.5nm,0.6s,baz=22,slow=2.0,SNR=6.7								
ASAR				LR	LR			01 58 06.1	
	comp=Z,166nm,19.6s,baz=191,slow=35								
AS31	Alice Springs	99.27	162	*e*P		Pdif		01 14 21.8	+0.4
DZM	Mont Dzumac	101.65	193	*e*LR		LR		01 47 50.4	
	comp=Z,528nm,23.3s								
WRA	Warramunga Arr	102.98	162	Pdiff		Pdif		01 14 36.3	-1.7
	comp=Z,0.7nm,0.8s,baz=196,slow=3.8,SNR=3.2								
WRA				PKKPbc		PKKPbc		01 30 33.8	+1.4
	comp=Z,0.2nm,0.4s,baz=356,slow=2.8,SNR=4.8								
TREC	Trest	110.53	28	AMS		AMS		02 05 50.0	
	comp=Z,200nm,18.4s								
PRU	Pruhonice	110.92	27	*e*SS		SS		01 35 28.5	+8.6
PRU				AMS		AMS		02 02 00.0	
	comp=Z,300nm,21.1s								
PRA	Prague	110.96	27	AMS		AMS		02 01 30.0	
	comp=Z,400nm,18.4s								
PVCC	Panska Ves	111.42	27	AMS		AMS		02 02 10.0	
	comp=Z,400nm,20.2s								
DPC	Dobruska-Polom	111.72	28	AMS		AMS		02 05 00.0	
CLL	Collm	111.74	26	*e*P		Pdif		01 15 18.0	+2.1
CLL	Collm	111.74	26	*e*Pdif		Pdif		01 15 18.0	+2.1
CLL				*e*(PKiKP)				01 19 17.0	
CLL				*e*PP		PP		01 20 01.0	+4.5
CLL				*e*PS		PS		01 29 29.0	+0.9
CLL				*e*PPS		PPS		01 30 42.0	
CLL				*e*SS		SS		01 35 35.0	+4.2
CLL				*e*SSS		SSS		01 40 00.0	
CLL				*e*SSSS				01 43 12.0	
CLL				Lm		MLR		02 01 00.0	
	comp=Z,100nm,20.0s								
SCHQ	Schefferville	114.91	336	PKP		PKPdf		01 19 18.3	-0.7
	comp=Z,4.6nm,0.9s,baz=236,slow=3.6,SNR=3.8								
KIV	Kislovodsk	115.41	49	*i* PKIKP		PKPdf		01 19 20.4	0.0
KIV				*e*PS		PS		01 30 04.7	+2.5
KIV				*e*SS		SS		01 36 23.8	+3.9
KIV				*e*SSS		SSS		01 40 35.1	
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,144nm,20.0s								
AKASG	Malin Array Be	115.91	36	*i* PKIKP		PKPdf		01 19 21.2	+0.2
MAK	Makhachkala	116.72	52	*i* P		Pdif		01 15 39.8	+1.6
MAK				*e*				01 20 31.9	
MAK				*e*				01 26 11.2	
MAK				*e*SP		SP		01 30 16.9	+5.8
MAK				*e*SS		SS		01 36 45.0	+8.3
H24A	Dirks Ranch, A	119.43	307	P		PKPdf		01 19 26.7	-1.4
	baz=120								
DUG	Dugway, Tooele	119.87	298	*e*PKIKP		PKPdf		01 19 29.4	+0.2
DUG	Dugway, Tooele	119.87	298	*e*PKPdf		PKPdf		01 19 29.4	+0.2
HFS	Hagfors	119.98	22	PKP		PKPdf		01 19 26.2	-2.4
	comp=Z,1.3nm,0.7s,baz=227,slow=7.7,SNR=4.0								
ULM	Lac du Bonnet	120.07	316	PKP		PKPdf		01 19 27.6	-1.4
	comp=Z,1.8nm,0.7s,baz=90,slow=2.0,SNR=5.2								
PDAR	Pinedale Array	120.23	302	PKP		PKPdf		01 19 28.0	-2.0
	comp=Z,0.7nm,0.7s,baz=142,slow=5.1,SNR=4.5								
NB2	NORSAR Subarra	120.29	20	PKPdf		PKPdf		01 19 28.1	-1.1
	comp=Z,7.4nm,1.4s,baz=202,slow=1.9								
NOA	NORSAR Array B	120.29	20	PKP		PKPdf		01 19 28.6	-0.6
	comp=Z,1.5nm,0.8s,baz=196,slow=1.9,SNR=5.4								
HWUT	Hardware Ranch	120.33	300	*e*PKPdf		PKPdf		01 19 29.7	-0.4
NVAR	Mina Array Bea	121.34	293	PKP		PKPdf		01 19 32.5	+0.3
	comp=Z,0.4nm,0.6s,baz=212,slow=30,SNR=3.8								
OBN	Obninsk	122.06	37	*i* PKIKP		PKPdf		01 19 32.2	-0.5
OBN				pmax	pmax				
	comp=Z,32nm,2.0s								
D20A	Manuel Ranch,	122.83	307	P		PKPdf		01 19 34.5	-0.1
	baz=123								
HLID	Hailey	123.18	300	P		PKPdf		01 19 35.5	-0.1
	baz=123								
C20A	Veseth Ranch,	123.24	307	P		PKPdf		01 19 35.0	-0.3
	baz=124								
A20A	Cobblestone Ra	124.07	308	P		PKPdf		01 19 37.0	+0.1
	baz=124								
FINES	FINESS Array B	124.08	28	PKIKP		PKPdf		01 19 36.0	-0.4
FINES	FINESS Array B	124.08	28	PKP		PKPdf		01 19 36.0	-0.4
	comp=Z,4.7nm,0.7s,baz=168,slow=2.9,SNR=27								
B19A	Brinkman Farms	124.21	307	P		PKPdf		01 19 36.6	-0.6
	baz=124								
WVOR	Wild Horse Val	124.47	296	*e*PKIKP		PKPdf		01 19 38.9	+0.9
WVOR	Wild Horse Val	124.47	296	*e*PKPdf		PKPdf		01 19 38.9	+0.9
A19A	Klindworth Far	124.47	308	P		PKPdf		01 19 36.9	-0.8
	baz=125								
KAF	Kangasniemi	124.70	27	*e*PKIKP		PKPdf		01 19 36.3	-1.3
KAF	Kangasniemi	124.70	27	*e*pkp		PKPdf		01 19 36.3	-1.3
CHMT	Chamberlain Mo	125.07	303	*e*PKPdf		PKPdf		01 19 39.2	+0.1
CMAR	Chiang Mai Arr	125.11	110	PKP		PKPdf		01 19 39.7	-0.1
	comp=Z,5.6nm,0.8s,baz=236,slow=3.8,SNR=18								
MSO	Missoula	125.34	303	P		PKPdf		01 19 39.5	+0.1
	baz=126								
BMO	Blue Mountains	125.55	299	*e*PKIKP		PKPdf		01 19 39.7	-0.2
BMO	Blue Mountains	125.55	299	*e*PKPdf		PKPdf		01 19 39.6	-0.2
SWMT	Swartz Lake	125.86	303	*e*PKPdf		PKPdf		01 19 39.7	-0.7
ILULI	Ilulissat	125.88	350	*i* P		PKPdf		01 19 39.1	-0.5
	comp=Z,8.5nm,0.7s								
YBMT	Yellow Bay	126.12	304	*e*PKPdf		PKPdf		01 19 40.9	-0.1
JTMT	Jette	126.16	303	*e*PKPdf		PKPdf		01 19 39.9	-1.1
BSMT	Bassoo Peak	126.47	303	*e*PKPdf		PKPdf		01 19 41.3	-0.4
JOF	Joensuu	126.70	29	*e*PKIKP		PKPdf		01 19 39.8	-1.6
JOF	Joensuu	126.70	29	*e*pkp		PKPdf		01 19 39.8	-1.6
AKTO	Aktyubinsk	127.09	53	PKIKP		PKPdf		01 19 42.0	-0.6
AKTO	Aktyubinsk	127.09	53	PKP		PKPdf		01 19 42.0	-0.6
	comp=Z,4.6nm,0.9s,baz=198,slow=2.2,SNR=11								
ABKAR	Akbulak array	127.14	55	*e*PKPdf		PKPdf		01 19 42.2	-0.4
I05D	Terrebonne, OR	127.20	296	P		PKPdf		01 19 43.5	+0.4
	baz=127								
KKAR	Karatay Array	128.04	67	*e*PKIKP		PKPdf		01 19 44.5	-0.1
KKAR	Karatay Array	128.04	67	*e*PKPdf		PKPdf		01 19 44.5	-0.1
SUMG	Summit	128.27	356	*e*PKIKP		PKPdf		01 19 44.4	-0.3
SUMG	Summit	128.27	356	*e*PKPdf		PKPdf		01 19 44.4	-0.3
SUMG	Summit	128.27	356	*i* P		PKPdf		01 19 44.0	-0.7
	comp=Z,5.6nm,0.8s								
KSH	Kashi	128.42	74	PKP		PKPdf		01 19 45.6	0.0
KSH				sPKP				01 20 00.0	
KSH				PKS		PKSdf		01 23 20.8	-1.4
KSH				PPMZ					
	comp=Z,53nm,4.6s								
KSH				LN					
	comp=Z,370nm,11.7s								
KSH				LE					
	comp=Z,180nm,7.2s								
KSH				LZ					
	comp=Z,130nm,10.7s								
AML	Almayashu	129.03	70	P		PKPdf		01 19 47.3	+0.2
	SNR=10								
EKS2	Erkin-Say	129.45	70	P		PKPdf		01 19 48.5	+1.1
	SNR=6.6								
EKS2	Erkin-Say	129.45	70	*e*PKIKP		PKPdf		01 19 47.9	+0.4
EKS2	Erkin-Say	129.45	70	*e*PKPdf		PKPdf		01 19 47.9	+0.4
UCH	Uchtor	129.54	71	P		PKPdf		01 19 48.9	+0.8
	SNR=7.4								
AAK	Ala-Archa	129.81	70	P		PKPdf		01 19 48.5	+0.2
	SNR=6.1								
AAK	Ala-Archa	129.81	70	*e*PKIKP		PKPdf		01 19 48.4	+0.2
AAK	Ala-Archa	129.81	70	PKP		PKPdf		01 19 48.6	+0.4
	comp=Z,3.5nm,0.7s,baz=192,slow=4.0,SNR=9.9								
AAK	Ala-Archa	129.81	70	*e*PKPdf		PKPdf		01 19 48.4	+0.2
AAK				PKP		PKPdf		01 19 48.6	+0.4
KZA	Kyzart	129.83	71	P		PKPdf		01 19 48.9	+0.3
	SNR=6.9								
PRGR	Permogore	130.11	37	*e*PKIKP		PKPdf		01 19 47.6	-0.3
PRGR				pmax	pmax				
	comp=Z,27nm,1.0s								
ARCES	ARCESS Array B	130.63	22	PKP		PKPdf		01 19 47.8	-0.9
	comp=Z,7.1nm,0.8s,baz=207,slow=1.0,SNR=23								
APA	Apatity	130.89	26	*i* PKIKP		PKPdf		01 19 50.0	+0.8
APA				MLR	MLR				
	comp=Z,1µm,24.0s								
KEV	Kevo	131.12	22	*e*PKIKP		PKPdf		01

HVS	Khovu-Aksy	145.36	72	ePKP2	PKPab	01 20 16.5	0.0		
INK	Inuvik	145.60	321	ePKP2	PKPdf	01 20 15.9	-0.1		
INK	Inuvik	145.60	321	PKPbc	PKPdf	01 20 16.0	-0.1		
	comp=E,26nm,0.5s,baz=79,slow=3.4,SNR=205								
INK	Inuvik	145.60	321	ePKPdf	PKPdf	01 20 15.9	-0.1		
INK				PKPbc	PKPdf	01 20 16.0	-0.1		
NJ2	Nanjing	146.44	121	ePKPbc	PKPdf	01 20 19.3	+0.6		
DAWY	Dawson	146.63	312	ePKPdf	PKPdf	01 20 18.7	+0.6		
DAWY				ePKPbc	PKPbc	01 20 19.4	-0.3		
EGAK	Eagle	147.57	313	ePKPbc	PKPbc	01 20 21.8	-0.5		
EGAK				ePKPab	PKPab	01 20 25.1	+0.6		
BMRM	Bremner River	147.94	305	ePKPbc	PKPbc	01 20 23.9	+0.5		
DOT	Dot Lake	148.50	310	ePKPdf	PKPdf	01 20 20.2	-0.9		
DOT				ePKPbc	PKPbc	01 20 24.7	-0.1		
DOT				ePKPab	PKPab	01 20 28.5	+0.2		
DIV	Divide	148.53	305	ePKPbc	PKPbc	01 20 24.6	-0.4		
DIV				ePKPab	PKPab	01 20 28.9	+0.3		
PAX	Paxson	148.93	309	ePKP2	PKPbc	01 20 25.5	-0.5		
PAX	Paxson	148.93	309	ePKPbc	PKPbc	01 20 25.5	-0.5		
HHC	Hu-ho-hao-te	149.24	101	ePKPbc	PKPdf	01 20 22.3	-0.9		
HHC				pPKP	pPKPdf	01 20 31.4	-0.2		
HHC				sPKP		01 20 37.6			
HHC				SKS	SKSdf	01 27 20.8	-8.6		
HHC				SKKS	SKKSac	01 30 45.3	-3.5		
HHC				PPMZ					
	comp=E,64nm,9.4s								
HHC				LN					
	comp=E,130nm,21.9s								
HHC				LE					
	comp=E,150nm,21.1s								
HHC				LZ					
	comp=E,140nm,21.2s								
MOY	Mondy	149.59	76	ePKP2	PKPbc	01 20 28.8	+0.8		
MOY				pmax	pmax				
	comp=Z,56nm,2.1s								
SEW	Seward	149.94	302	ePKPdf	PKPdf	01 20 22.7	-0.8		
SEW				ePKPbc	PKiKP	01 20 29.1	-0.2		
ILAR	Eielson Array	149.96	312	PKP2	PKPbc	01 20 28.0	-0.4		
ILAR	Eielson Array	149.96	312	PKPbc	PKPbc	01 20 27.9	-0.4		
	comp=Z,26nm,0.8s,baz=131,slow=1.7,SNR=156								
ZAK	Zakamensk	150.22	79	ePKIKP	PKPdf	01 20 23.8	-0.6		
ZAK				pmax	pmax				
	comp=Z,14nm,1.6s								
RC01	Rabbit Creek A	150.36	304	ePKPbc	PKPbc	01 20 28.9	-0.5		
COLA	College	150.38	312	ePKIKP	PKPbc	01 20 28.4	-0.9		
COLA				*e*		01 20 36.3			
COLA	College	150.38	312	ePKPbc	PKPbc	01 20 28.4	-0.9		
COLA				ePKPab	PKPab	01 20 36.3	+0.4		
MCK	McKinley	150.63	310	ePKIKP	PKPbc	01 20 29.7	-0.3		
MCK	McKinley	150.63	310	ePKPbc	PKPbc	01 20 29.6	-0.3		
SONM	Songino Array	150.64	86	PKP	PKPdf	01 20 25.1	-0.1		
	comp=Z,1.6nm,0.9s,baz=224,slow=1.2,SNR=13								
SONM				PKPbc	PKPbc	01 20 30.3	-0.4		
	comp=Z,15nm,0.7s,baz=219,slow=2.7,SNR=76								
OHAK	Old Harbor	150.91	296	ePKPbc	PKPbc	01 20 30.3	-0.5		
ULN	Ulaanbaatar	151.03	86	ePKIKP	PKPbc	01 20 31.1	-0.5		
ULN	Ulaanbaatar	151.03	86	ePKPbc	PKPbc	01 20 31.1	-0.5		
TLY	Talaya	151.05	77	ePKIKP	PKPbc	01 20 32.0	+0.6		
TLY				pmax	pmax				
	comp=Z,26nm,1.4s								
TLY	Talaya	151.05	77	ePKPbc	PKPbc	01 20 31.2	-0.2		
TRF	Thorofare Moun	151.16	309	ePKPbc	PKPbc	01 20 31.1	-0.3		
BJI	Beijing	151.20	108	PKPbc	PKPdf	01 20 26.6	+0.5		
BJI				LN					
	comp=Z,83nm,22.0s								
BJI				LE					
	comp=Z,81nm,28.8s								
BJI				LZ					
	comp=Z,96nm,23.2s								
KTH	Kantishna Hill	151.46	309	ePKPbc	PKPbc	01 20 31.7	-0.3		
COLD	Coldfoot	151.64	317	ePKPbc	PKPbc	01 20 32.3	+0.1		
PPLA	Purkeypile	151.90	307	ePKPdf	PKPdf	01 20 26.9	+0.2		
PPLA				ePKPbc	PKPbc	01 20 32.8	-0.4		
KSAR	Wonju Array Be	155.10	127	PKIKP	PKPdf	01 20 31.0	-0.9		
KSAR						01 20 55.0			
KSAR	Wonju Array Be	155.10	127	PKP	PKPdf	01 20 31.0	-0.9		
KSAR				PKPab	PKPab	01 20 55.0	-1.6		
KSRS	Korea Array	155.13	127	PKP	PKPdf	01 20 31.0	-0.9		
	comp=Z,0.7nm,0.5s,baz=336,slow=0.5,SNR=4.0								
KSRS				PKPab	PKPab	01 20 55.0	-1.7		
	comp=Z,0.9nm,0.5s,baz=233,slow=1.8,SNR=2.7								
BOD	Bodaibo	158.77	68	ePKIKP	PKPdf	01 20 36.3	+0.5		
MDJ	Mudanjiang	161.46	117	PKP	PKPdf	01 20 40.8	+1.5		
MDJ				pPKP	pPKPdf	01 20 47.5	-0.2		
MDJ				sPKP		01 20 49.8			
MDJ				PKS	PKSdf	01 24 14.4	+2.0		
MDJ				PP	PP	01 25 09.9	+2.1		
MDJ				PPMZ					
	comp=Z,62nm,4.7s								
MDJ				LN					
	comp=Z,34nm,3.7s								
MDJ				LE					
	comp=Z,89nm,4.3s								
MDJ				LZ					
	comp=Z,140nm,6.4s								
USRK	Ussuriysk Ar.	162.34	122	PKPab	PKPab	01 21 26.9	-0.9		
	comp=Z,1.5nm,0.8s,baz=278,slow=5.6,SNR=4.2								
BILL	Bilibino	166.20	339	ePKP2	PKPab	01 21 44.5	+0.4		
BILL				pmax	pmax				
	comp=Z,9.0nm,1.4s								

IDC 20 01:12:59.3±1.9, 16°.89S×177°.75W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.8/38, mbtmp3.6/6, Error ellipse: s-maj=127.1km s-min=22.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.44	258	P		01 21 20.6	+0.2
	0.4nm,0.4s,baz=96,slow=6.9,SNR=9.2						
ASAR	Alice Springs	45.67	253	P		01 21 21.9	-0.4
	0.6nm,0.4s,baz=94,slow=7.9,SNR=11						
NVAR	Mina Array Bea	78.26	44	P		01 25 02.2	+0.7
	0.3nm,0.6s,baz=222,slow=5.3,SNR=3.6						
ILAR	Eielson Array	84.76	13	P		01 25 34.8	-0.2
	0.1nm,0.4s,baz=203,slow=6.6,SNR=4.6						
TXAR	Lajitas Array	84.92	57	P		01 25 36.8	0.0
	0.6nm,0.7s,baz=223,slow=5.8,SNR=9.7						
PDAR	Pinedale Array	86.19	43	P		01 25 42.2	-0.7
	0.2nm,0.7s,baz=178,slow=4.2,SNR=3.1						

MEX 20 01:17:48.4±0.5, 16°.14N×98°.32W, h13km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.32	37	*e*P	Pg	01 17 54.3	-0.6
PNIG				*e*S	Sg	01 17 59.3	0.0
TLIG	Tlapa	1.44	351	*e*P	Pn	01 18 10.4	-3.9
TLIG				*e*S	Sn	01 18 27.8	-5.4
ACX	Acapulco	1.64	297	*e*P	Pn	01 18 14.9	-2.1
ACX				*i* S	Sn	01 18 34.6	-3.5
CAIG	El Cayaco	2.07	296	*e*P	Pn	01 18 20.2	-2.7
CAIG				*i* S	Sn	01 18 44.2	-4.5
HUIG	Huatulco	2.16	99	*i* P	Pn	01 18 20.1	-4.1
HUIG				*i* S	Sn	01 18 46.3	-4.5
MEIG	Mezcala	2.17	325	*e*P	Pn	01 18 21.8	-2.5
MEIG				*i* S	Sn	01 18 46.9	-4.3

MAN 20 01:40:59, 8°.67N×126°.37E, h38km, mb4.7, ML3.6, MS3.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	0.80	292	*e*P	Pn	01 41 14.1	+0.3
BUTP				*e*S	Sn	01 41 26.4	+2.0
BUKP	Musuan	1.52	239	*e*P	Pn	01 41 25.1	+1.4
MATI	Mati	1.72	184	*e*P	Pn	01 41 27.4	+1.0

ISCJB ***20*** *01:41:50.2±0.6, 3°.15S±0°.06×139°.10E±0°.08, h46km, mb3.8/6, Error ellipse: s-maj=11.3km s-min=8.6km az=13.9*

IDC ***20*** *01:41:54.7±2.8, 3°.29S×139°.34E, h88km±32km, mb3.6/6, mb1 3.9/7, mb1mx3.6/17, mbtmp4.0/7, Error ellipse: s-maj=50.4km s-min=13.4km az=97.0*

ISC 20 01:41:52.4±0.6, 3°.20S±0°.08×139°.12E±0°.06, h46km, n19, σ2s33/22, mb3.8/5, Irian Jaya

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

JAY	Jayapura	1.72	67	P		Pn	01 42 20.7	+0.7	
	15nm,0.3s,baz=233,slow=12,SNR=24								
JAY				S		Sn	01 42 45.3	+4.5	
	34nm,0.3s,baz=294,slow=20,SNR=10								
FAKI	Fak Fak	6.87	272	P		Pn	01 43 31.8	+1.1	
	baz=6.6,SNR=3.9								
FAKI				S		Sn	01 44 51.9	+4.3	
	baz=6.6,SNR=3.2								
COEN	Coen	11.41	160	P		Pn	01 44 34.4	+1.5	
	baz=10,SNR=5.2								
KDU	Kakadu	11.49	215	P		Pn	01 44 32.6	-1.4	
	baz=9.8,SNR=27								
MTN	Manton Dam	12.42	219	P		Pn	01 44 45.3	-1.4	
	baz=11,SNR=8.1								
KNRA	Kununurra	16.05	219	P		Pn	01 45 35.5	+0.3	
	baz=14,SNR=6.6								
SOEI	Soe	16.12	245	P		P	01 45 42.1	+3.2	
	baz=15,SNR=3.0								
QIS	Mount Isa	17.26	178	P		P	01 45 52.7	+1.5	
	baz=16,SNR=3.6								
WRA	Warramunga Arr	17.28	195	P		Pn	01 45 48.9	-1.7	
	1.3nm,0.3s,baz=17,slow=12,SNR=38								
WRA				S		Sn	01 48 50.9	-11	
	0.4nm,0.3s,baz=14,slow=22,SNR=4.5								
WSI	Waingapu	19.77	250	P		Pn	01 46 30.0	+9.3	
	baz=19,SNR=4.1								
WSI				S		Sn	01 50 17.1	+15	
	baz=19,SNR=5.8								
FITZ	Fitzroy Crossi	19.84	221	P		P	01 46 20.8	+1.1	
	baz=18,SNR=15								
ASAR	Alice Springs	20.96	193	P		P	01 46 31.9	+0.1	
	6.8nm,0.7s,baz=22,slow=8.9,SNR=69								
ASAR				S		S	01 50 18.8	-4.1	
	0.9nm,0.9s,baz=12,slow=27,SNR=3.8								
WRKA	Warakurna	24.08	205	P		P	01 47 05.1	+1.3	
	baz=22,SNR=6.5								
KSRS	Korea Array	41.77	347	P		P	01 49 37.0	-0.3	
	0.6nm,0.3s,baz=151,slow=7.4,SNR=3.5								
SONM	Songino Array	58.34	335	P		P	01 51 41.6	-1.5	
	0.4nm,0.8s,baz=132,slow=8.0,SNR=3.1								
MKAR	Makanchi Array	70.43	322	P		P	01 53 00.9	-1.1	
	1.1nm,0.6s,baz=99,slow=9.2,SNR=15								
ZALV	Zalesovo Beam	72.57	330	P		P	01 53 12.2	-2.5	
	0.5nm,0.4s,baz=106,slow=9.4,SNR=4.2								
ILAR	Eielson Array	86.11	24	P		P	01 54 25.6	-2.7	
	0.7nm,0.7s,baz=269,slow=4.5,SNR=7.3								
ILAR				pP		pP	01 54 43.4	+1.5	
	0.9nm,0.8s,baz=263,slow=5.5,SNR=8.0								
TORD	Torodi Ar. Bea	136.79	286	PKP		PKPdf	02 01 09.6	-1.5	
	0.5nm,0.8s,baz=84,slow=2.0,SNR=5.2								

MEX 20 01:55:34.3±0.7, 32°.32N×115°.27W, h10km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	Mexicali	0.10	34	*e*P	Pg	01 55 36.9	0.0
MBIG				*i* S	Sg	01 55 39.0	+0.2
CBX	Cerro Bola	1.18	270	*e*P	Pb	01 55 52.9	-4.2
CBX				*i* S	Sb	01 56 08.0	-4.5
SPIG	San Pedro Mart	1.28	188	*e*P	Pn	01 55 54.8	-4.0
SPIG				*i* S	Sb	01 56 11.1	-4.8

ISCJB ***20*** *01:56:54.4±0.8, 49°.9S±0°.2×115°.6W±0°.3, h10km, mb4.0/7, MS4.1/16, Error ellipse: s-maj=31.9km s-min=16.9km az=139.1*

IDC ***20*** *01:56:54.8±0.8, 49°.76S×115°.71W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, MS4.1/16, Ms1 4.1/16, ms1mx4.0/35, Error ellipse: s-maj=63.4km s-min=23.2km az=161.0*

NEIC ***20*** *01:56:56.0±0.5, 49°.80S×115°.67W, h10km, mb4.4/1, Error ellipse: s-maj=31.3km s-min=16.1km az=152.0*

GCMT ***20*** *01:56:56.0±0.3, 49°.68S×115°.61W, h15km±1km, MW4.9/60, Moment Tensor Solution. s27,c28; s60,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.23±.14; $M_{\theta\theta}$0.96±.17; $M_{\phi\phi}$-1.18±.15; $M_{r\theta}$1.11±.48; $M_{r\phi}$2.42±.10; $M_{\theta\phi}$0.87±.43; Best double couple: $M_0$2.98100×10^{16} NP1:φ9.00000°,δ74.00000°,λ160.00000°. NP2: φ105.00000°,δ70.00000°,λ17.00000°. Principal axes: T 3.1990, Plg25.0000°, Azm326.0000°; N -0.4350, Plg64.0000°, Azm153.0000°; P -2.7630, Plg3.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 01:56:56.1±0.7, 49°.8S×115°.7W±0°.2, h10km, n44, σ1s20/19, mb4.1/7, MS4.2/16, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USHA	Ushuaia	28.86	118	LR	LR	02 11 52.5	
	comp=Z,519nm,18.3s,baz=241,slow=31						
PMSA	Palmer Station	30.62	139	LR	LR	02 12 01.2	
	comp=Z,652nm,20.3s,baz=262,slow=30						
RKT	Rikitea	30.64	323	*e*T	T	02 34 49.0	
	1.0nm,0.2s						
PLCA	Paso Flores	32.59	91	LR	LR	02 13 27.9	
	comp=Z,227nm,19.3s,baz=239,slow=30						
TBI	Tubuai	37.33	303	*e*LR	LR	02 14 17.7	
	580nm,25.0s,baz=145						
SBA	Scott Base	39.30	199	P	P	02 04 24.1	-0.3
	6.5nm,0.8s						
CFAA	Coronel Fontan	39.54	81	LR	LR	02 16 40.4	
	comp=Z,36nm,21.9s,baz=236,slow=30						
VNDA	Vanda	40.37	199	LR	LR	02 17 48.0	
	comp=Z,231nm,19.3s,baz=102,slow=31						
QSPA	South Pole Qui	40.40	180	LR	LR	02 19 27.5	
	comp=Z,250nm,19.8s,baz=90,slow=33						
PPT2	Papeete2	42.12	308	*e*LR	LR	02 16 15.5	
	896nm,26.0s,baz=155						
PPT	Papeete	42.14	308	LR	LR	02 17 41.2	
	comp=Z,308nm,18.5s,baz=176,slow=30						
SNAA	Sanae	49.99	158	LR	LR	02 24 18.9	
	comp=Z,134nm,21.8s,baz=255,slow=33						
CPUP	Villa Florida	50.12	85	P	P	02 05 51.5	+0.1
	0.5nm,0.9s,baz=229,slow=18,SNR=2.1						
LPAZ	La Paz	50.77	66	P	P	02 05 57.8	+0.7
	2.4nm,1.1s,baz=232,slow=5.3,SNR=5.7						
LPAZ				LR	LR	02 22 19.7	
	comp=Z,176nm,19.4s,baz=236,slow=30						
ATAH	Atahualpa	52.72	49	LR	LR	02 23 20.5	
	comp=Z,309nm,18.8s,baz=200,slow=30						
SIV	San Ignacio	55.28	73	P	P	02 06 28.7	-1.0
	2.4nm,0.9s,baz=238,slow=8.4,SNR=3.8						
SYO	Syowa Base	60.10	170	*e*P	P	02 07 03.0	+0.1
MAW	Mawson	62.92	179	LR	LR	02 33 26.4	
	comp=Z,228nm,19.2s,baz=210,slow=35						
BDFB	Brasilia	63.81	83	LR	LR	02 33 04.9	
	comp=Z,160nm,18.0s,baz=194,slow=34						
DZM	Mont Dzumac	65.75	264	*e*LR	LR	02 27 34.1	
	284nm,24.1s						
DZM	Mont Dzumac	65.75	264	LR	LR	02 30 19.8	
	comp=Z,160nm,20.9s,baz=204,slow=30						
STKA	Stephens Creek	73.81	240	LR	LR	02 37 18.0	
	comp=Z,73nm,18.1s,baz=186,slow=33						
TXAR	Lajitas Array	79.50	11	P	P	02 09 02.4	-0.2
	0.3nm,0.9s,baz=180,slow=2.7,SNR=3.0						
ASAR	Alice Springs	84.45	240	P	P	02 09 28.9	-0.1
	2.4nm,0.9s,baz=146,slow=4.9,SNR=17						
ASAR				LR	LR	02 41 25.6	
	comp=Z,152nm,21.5s,baz=171,slow=32						
H01W1	Cape Leeuwin H	84.83	219	T	T	03 44 20.2	
	baz=151						
H01W2	Cape Leeuwin H	84.83	219	T	T	03 44 20.5	
	baz=151						
H01W3	Cape Leeuwin H	84.85	219	T	T	03 44 21.4	
	baz=151						
WRA	Warramunga Arr	87.14	242	P	P	02 09 41.7	-0.7
	1.4nm,1.1s,baz=144,slow=4.8,SNR=3.2						
WRA				LR	LR	02 43 30.3	
	comp=Z,78nm,19.7s,baz=250,slow=32						
H11S2	WAKE ISLAND Hy	96.22	291	T	T	03 57 16.3	
	baz=145						
H11S3	WAKE ISLAND Hy	96.23	291	T	T	03 57 17.5	
	baz=145						
H11S1	WAKE ISLAND Hy	96.23	291	T	T	03 57 16.9	
	baz=145						
H11N3	WAKE ISLAND Hy	97.03	292	T	T	03 58 19.4	
	baz=140						
H11N1	WAKE ISLAND Hy	97.04	292	T	T	03 58 19.8	
	baz=140						
H11N2	WAKE ISLAND Hy	97.05	292	T	T	03 58 19.3	
	baz=140						
TIXI	Tiksi	144.16	331	P	PKPdf	02 16 30.0	-0.4
GERES	GERESS Array B	147.49	72	PKP	PKPdf	02 16 35.0	-2.0
	0.1nm,0.3s,baz=248,slow=4.1,SNR=2.4						
GERES				PKPbc	PKPbc	02 16 39.9	+0.3
	0.6nm,0.8s,baz=245,slow=1.6,SNR=6.7						
BRG	Berggiesshubel	148.32	68	*e*P	PKPab	02 16 43.2	-1.6
	1.9nm,0.9s						
TREC	Trest	148.75	72	*e*P	PKPab	02 16 46.6	-0.1
TREC				*ex*	x	02 16 57.3	
UPC	Upice	149.47	70	*e*P	PKPab	02 16 48.7	-0.8
DPC	Dobruska-Polom	149.60	70	*e*P	PKPab	02 16 48.9	-1.2
DPC				*ex*	x	02 16 57.2	
DPC				*ex*	x	02 17 00.0	
OKC	Ostrava-Krasne	150.57	72	*e*P	PKPbc	02 16 49.9	+2.7
SONM	Songino Array	152.49	282	PKPbc	PKPbc	02 16 53.3	+1.4
	0.7nm,0.8s,baz=126,slow=2.0,SNR=4.7						
BRTR	Keskin Array B	156.15	103	PKPab	PKPab	02 17 19.6	+1.5
	0.5nm,0.6s,baz=242,slow=3.1,SNR=3.1						
MKAR	Makanchi Array	167.67	263	PKPab	PKPab	02 18 08.9	+0.7
	0.8nm,1.0s,baz=108,slow=4.7,SNR=3.8						

GUC 20 01:59:22.8±0.3, 34°.01S×72°.95W, h23km±6km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	1.47	48	*e*P	Pn	01 59 47.3	-0.6
NICH	Los Niches	1.73	125	*e*P	Pb	01 59 53.5	-0.4
NICH				*e*S	Sn	02 00 13.3	+0.4
PEL	Peldehue	2.08	66	*e*P	Pn	01 59 57.1	+0.7
PEL				*e*S	Sn	02 00 23.1	+1.5
PEL				AML	AML	02 00 30.3	
	comp=N,4μm,0.5s						
CLCH	Cerro Calan	2.10	74	*e*P	Pn	01 59 57.5	+0.8
CLCH				*e*S	Sn	02 00 23.6	+1.3
CLCH				AML	AML	02 00 27.7	
	comp=N,780nm,0.5s						
YECH	El Yeso	2.41	83	*e*P	Pn	02 00 02.0	+0.8
YECH				*e*S	Sn	02 00 32.1	+1.7

IDC 20 02:03:17.3±10.0, 30°.37S×60°.52E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.2/38, mbtmp3.6/2, Error ellipse: s-maj=637.8km s-min=53.4km az=33.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	64.70	104	P	P	02 13 57.7	+0.1
	0.5nm,0.7s,baz=244,slow=6.4,SNR=5.5						
WRA	Warramunga Arr	66.60	100	P	P	02 14 09.8	-0.1
	0.6nm,0.7s,baz=243,slow=6.2,SNR=5.8						
YKA	Yellowknife Ar	147.72	356	PKPbc	PKPbc	02 23 02.4	-0.7
	0.3nm,0.7s,baz=357,slow=3.5,SNR=6.9						

MEX 20 02:04:32.3±0.6, 16°.20N×98°.42W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.34	55	*e*P	Pg	02 04 38.1	-0.8
PNIG				*e*S	Sg	02 04 43.3	-0.1
TLIG	Tlapa	1.36	354	*e*P	Pn	02 04 54.0	-4.2
TLIG				*e*S	Sb	02 05 11.8	-4.6
ACX	Acapulco	1.54	296	*e*P	Pn	02 04 57.8	-2.6
ACX				*i* S	Sn	02 05 17.1	-3.7
VHO	Vista Hermosa	1.83	61	*e*P	Pn	02 05 01.8	-3.0
VHO				*i* S	Sn	02 05 24.4	-4.1
OXX	Oaxaca	1.84	61	*e*P	Pn	02 05 03.0	-1.9
MEIG	Mezcala	2.07	326	*i* P	Pn	02 05 04.1	-3.7
MEIG				*e*S	Sn	02 05 30.2	-4.0
HUIG	Huatulco	2.26	101	*i* P	Pn	02 05 07.4	-3.0
HUIG				*i* S	Sn	02 05 34.6	-4.0

ISCJB ***20*** *02:05:42.3±1.2, 54°.8S±0°.2×28°.7W±0°.5, h10km, mb3.8/4, Error ellipse: s-maj=41.6km s-min=26.2km az=160.3*

IDC ***20*** *02:05:43.0±1.0, 54°.77S×28°.72W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, Error ellipse: s-maj=39.5km s-min=28.5km az=65.0*

ISC 20 02:05:44.3±1.0, 54°.8S±0°.2×28°.8W±0°.3, h10km, n7, σ0s86/7, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	Villa Florida	35.28	312	P	P	02 12 38.2	-1.0
	1.0nm,1.0s,baz=172,slow=10,SNR=3.7						
VNDA	Vanda	47.80	183	P	P	02 14 20.9	-0.2
	0.5nm,0.6s,baz=225,slow=4.3,SNR=4.0						
LPAZ	La Paz	48.89	306	P	P	02 14 32.0	+1.1
	2.3nm,0.7s,baz=143,slow=5.1,SNR=16						
TORD	Torodi Ar. Bea	72.41	31	P	P	02 17 10.3	-0.2
	0.5nm,0.6s,baz=210,slow=6.2,SNR=7.0						
YKA	Yellowknife Ar	134.61	319	PKP	PKPdf	02 25 01.0	-0.4
	0.3nm,0.7s,baz=138,slow=2.3,SNR=5.5						
ILAR	Eielson Array	148.58	314	PKPbc	PKPbc	02 25 30.2	+0.3
	1.8nm,0.8s,baz=115,slow=1.4,SNR=14						
SONM	Songino Array	151.55	85	PKPbc	PKPbc	02 25 38.6	+0.7
	0.5nm,0.6s,baz=220,slow=2.8,SNR=4.7						

IDC ***20*** *02:06:21.6±1.3, 33°.45N×97°.37E, h0km, mb3.6/3, mb1 3.6/6, mb1mx3.3/28, mbtmp3.4/6, ML3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/34, Error ellipse: s-maj=58.9km s-min=27.9km az=59.0*

ISCJB ***20*** *02:06:24.8±0.9, 33°.5N±0°.1×97°.4E±0°.2, h33km, mb3.6/3, MS3.6/1, Error ellipse: s-maj=28.4km s-min=13.9km az=167.4*

ISC 20 02:06:26.2±1.1, 33°.6N±0°.1×97°.6E±0°.2, h35km, n7, σ0s63/6, mb3.6/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.15	175	Pn	Pn	02 09 57.0	-0.7
	0.4nm,0.3s,baz=338,slow=14,SNR=3.6						
SONM	Songino Array	15.68	22	Pn	P	02 10 08.0	-0.3
	0.1nm,0.3s,baz=188,slow=7.3,SNR=2.

0.9nm,0.8s,baz=318,slow=10,SNR=6.6
BDFB Brasilia 23.84 109 P **P** 02 30 32.3 +0.9
2.8nm,0.5s,baz=282,slow=13,SNR=8.0
PLCA Paso Flores 31.70 179 P **P** 02 31 39.6 0.0
1.9nm,0.6s,baz=34,slow=10.0,SNR=3.6
TXAR Lajitas Array 49.09 322 P **P** 02 33 59.1 +0.7
1.6nm,0.9s,baz=160,slow=8.8,SNR=6.3
ULM Lac du Bonnet 62.64 343 P **P** 02 35 30.9 -0.7
4.1nm,0.3s,baz=158,slow=6.7,SNR=16
TORD Torodi Ar. Bea 75.86 74 P **P** 02 36 51.3 -0.2
0.3nm,0.3s,baz=268,slow=5.7,SNR=29
TORD pP **pP** 02 38 49.1 +2.0
1.1nm,0.7s,baz=259,slow=4.8,SNR=6.0
YKA Yellowknife Ar 78.56 341 P **P** 02 37 05.3 +0.2
1.6nm,0.7s,baz=135,slow=6.0,SNR=41
QSPA South Pole Qui 81.21 180 P **P** 02 37 19.2 +0.1
1.5nm,0.8s,baz=277,slow=1.4,SNR=9.5
DLBC Dease Lake 81.95 333 P **P** 02 37 23.6 +0.6
1.6nm,0.6s,baz=180,slow=20,SNR=4.5
INK Inuvik 88.33 341 P **P** 02 37 54.2 +0.7
1.9nm,0.6s,baz=88,slow=2.9,SNR=19
ILAR Eielson Array 91.87 335 P **P** 02 38 09.0 -1.0
0.2nm,0.7s,baz=100,slow=3.7,SNR=4.3
ZALV Zalesovo Beam 131.21 18 PKP **PKPdf** 02 44 10.5 +0.2
0.5nm,0.5s,baz=327,slow=4.1,SNR=3.5
ZALV SKPbc **SKPbc** 02 46 41.1 -3.1
0.5nm,0.6s,baz=305,slow=5.1,SNR=2.7
MKAR Makanchi Array 136.10 26 PKP **PKPdf** 02 44 19.6 -0.2
0.4nm,0.6s,baz=299,slow=2.5,SNR=3.7
MKAR SKPbc **SKPbc** 02 46 59.0 -1.4
0.4nm,0.8s,baz=1.9,slow=3.6,SNR=4.3
ASAR Alice Springs 139.23 217 PKP **PKPdf** 02 44 25.6 -0.6
0.3nm,0.3s,baz=164,slow=1.8,SNR=5.6
SONM Songino Array 141.16 2 PKhKP PKPpre 02 44 25.2
0.2nm,0.3s,baz=323,slow=2.2,SNR=2.7
WRA Warramunga Arr 141.71 221 PKhKP PKPpre 02 44 25.9
0.5nm,0.6s,baz=135,slow=2.7,SNR=22
WRA SKPbc **SKPbc** 02 47 14.4 -2.1
0.4nm,0.8s,baz=132,slow=2.7,SNR=8.9
KSRS Korea Array 146.62 331 PKPbc **PKPbc** 02 44 41.6 +0.4
2.1nm,0.6s,baz=29,slow=2.7,SNR=8.6

*IDC **20** 02:25:55.2±0.5, 1°.52N×125°.89E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.3/24, mbtmp4.3/15, MS3.7/2, Ms1 3.7/2, ms1mx2.9/38, Error ellipse: s-maj=46.8km s-min=12.6km az=73.0*
*NEIC **20** 02:25:56.9±4.0, 1°.60N×126°.06E, h11km±25km, mb4.5/9, Error ellipse: s-maj=14.2km s-min=6.8km az=66.0*
*ISCJB **20** 02:26:00.2±0.3, 1°.86N±0°.04×126°.67E±0°.05, h47km, mb4.4/22, MS3.8/2, Error ellipse: s-maj=8.0km s-min=4.3km az=155.5*
*DJA **20** 02:26:00.8±1.2, 2°.N±4°×12°.7E±°, h24km±15km, M4.5/11, mb4.7/8, mB5.1/4, MLv4.5/11, Mw(mB)4.4/4*
ISC 20 02:26:01.8±0.5, 1°.87N±0°.05×126°.68E±0°.07, h47km, n58, σ1s20/63, mb4.3/22, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.29**	**148**	P	**Pn**	**02 26 23.5**	**+0.1**
TNTI				S	**Sn**	**02 26 40.3**	**+0.8**
TNTI	**Ternate**	**1.29**	**148**	*e*Pn	**Pn**	**02 26 23.3**	**-0.1**
TNTI				*e*S	**Sn**	**02 26 39.4**	**-0.1**
SGSI	**Sangihe**	**2.14**	**328**	P	**Pn**	**02 26 34.7**	**-0.4**
SGSI				S	**Sn**	**02 27 01.4**	**+0.9**
LBMI	**Labuha**	**2.62**	**162**	P	**Pn**	**02 26 42.1**	**+0.4**
LBMI				S	**Sn**	**02 27 15.9**	**+3.6**
KMSI	**Cibinong**	**2.99**	**245**	P	**Pn**	**02 26 46.1**	**-0.6**
SANI	**Sanana**	**3.95**	**190**	P	**Pn**	**02 26 59.3**	**-0.7**
MRSI	**Marisa**	**4.94**	**254**	P	**Pn**	**02 27 14.0**	**+0.5**
NLAI	**Namlea**	**5.09**	**175**	P	**Pn**	**02 27 15.9**	**+0.3**
	38nm,0.9s,0.3nm						
APSI	**Ampana**	**5.74**	**241**	P	**Pn**	**02 27 26.1**	**+1.6**
	148nm,1.1s,2μm0.5nm						
MPSI	**Mapaga**	**6.95**	**257**	P	**Pn**	**02 27 43.2**	**+2.1**
	33nm,0.9s,0.1nm						
BNDI	**Bandanaira**	**7.12**	**153**	P	**Pn**	**02 27 43.1**	**-0.4**
	327nm,1.2s,1.4nm						
TTSI	**Tana Toraja**	**8.42**	**235**	P	**Pn**	**02 28 02.4**	**+1.1**
	28nm,0.6s,1μm						
SPSI	**Sidrap Palu**	**9.01**	**230**	P	**Pn**	**02 28 10.5**	**+1.0**
	25nm,0.7s,1μm						
BNSI	**Bone**	**9.05**	**227**	P	**Pn**	**02 28 09.6**	**-0.4**
MTN	**Manton Dam**	**15.27**	**163**	P	**Pn**	**02 29 35.4**	**+0.9**
	baz=15,SNR=5.9						
KDU	**Kakadu**	**15.56**	**158**	P	**P**	**02 29 42.8**	**+1.0**
	baz=16,SNR=5.6						
KSM	**Kuching**	**16.37**	**269**	*e*Pn	Pn	02 29 37.8	-11
KNRA	**Kununurra**	**17.55**	**173**	P	**Pn**	**02 30 02.6**	**-0.6**
	baz=18,SNR=5.4						
FITZ	**Fitzroy Crossi**	**19.87**	**183**	P	**P**	**02 30 28.4**	**-0.9**
	baz=20,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.87**	**183**	*e*P	**P**	**02 30 26.3**	**-3.0**
	3.5nm,0.8s						
WRAB	**Tennant Creek**	**22.93**	**161**	*e*P	**P**	**02 31 01.2**	**-1.0**
	14nm,0.6s						
WRA	**Warramunga Arr**	**22.94**	**161**	P	**P**	**02 31 00.5**	**-1.8**
	10nm,0.5s,baz=339,slow=11,SNR=49						
WRA				S	**S**	**02 35 08.9**	**-0.1**
	1.8nm,1.0s,baz=349,slow=16,SNR=4.9						
WB2	**Warramunga Arr**	**22.95**	**161**	*e*P	**P**	**02 31 01.1**	**-1.2**
YHNB	**Yeheng**	**23.24**	**348**	*e*P	**P**	**02 31 05.4**	**+0.2**
	7.3nm,0.9s						
QIS	**Mount Isa**	**25.64**	**151**	P	**P**	**02 31 28.3**	**+1.0**
	baz=26,SNR=8.6						
AS31	**Alice Springs**	**26.34**	**165**	*e*P	**P**	**02 31 32.8**	**-0.7**
ASAR	**Alice Springs**	**26.34**	**165**	P	**P**	**02 31 33.0**	**-0.6**
	3.2nm,0.3s,baz=345,slow=11,SNR=32						
ASAR				PcP	**PcP**	**02 34 59.1**	**+0.3**
	1.3nm,0.4s,baz=351,slow=2.3,SNR=9.0						
ASAR				S	**S**	**02 36 02.2**	**-1.3**
	0.7nm,0.9s,baz=350,slow=22,SNR=4.9						
WRKA	**Warakurna**	**26.79**	**177**	P	**P**	**02 31 37.8**	**+0.1**
	baz=27,SNR=10						
MEEK	**Meekatharra**	**29.39**	**195**	P	**P**	**02 32 02.3**	**+1.5**
	baz=29,SNR=4.8						
JNU	**Nakatsue**	**31.34**	**7**	P	P	02 32 22.9	+4.9
	7.0nm,0.8s,baz=112,slow=5.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**31.80**	**303**	PcP	**PcP**	**02 35 13.6**	**+0.8**
	1.2nm,0.5s,baz=129,slow=0.6,SNR=4.4						
KSAR	**Wonju Array Be**	**35.42**	**2**	P	**P**	**02 32 55.9**	**+2.5**
KSRS	**Korea Array**	**35.43**	**2**	P	**P**	**02 32 55.9**	**+2.4**
	1.2nm,0.6s,baz=172,slow=9.4,SNR=4.7						
BBOO	**Buckleboo**	**35.61**	**166**	P	**P**	**02 32 56.4**	**+1.3**
	baz=36,SNR=11						
STKA	**Stephens Creek**	**36.42**	**158**	P	**P**	**02 33 00.8**	**-1.3**
	1.3nm,0.3s,baz=327,slow=8.5,SNR=14						
STKA				PcP	**PcP**	**02 35 25.9**	**+0.3**
	1.6nm,0.6s,baz=333,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**36.42**	**158**	P	**P**	**02 33 02.1**	**0.0**
	baz=36,SNR=9.3						
USRK	**Ussuriysk Ar.**	**42.41**	**6**	P	P	02 33 56.1	+4.2
	2.2nm,0.8s,baz=167,slow=9.4,SNR=4.5						
ULN	**Ulaanbaatar**	**48.87**	**343**	*e*P	**P**	**02 34 43.2**	**+0.2**
	4.0nm,0.9s						
SONM	**Songino Array**	**49.04**	**342**	P	**P**	**02 34 44.4**	**+0.1**
	1.3nm,0.5s,baz=156,slow=9.0,SNR=8.7						
SONM				PcP	**PcP**	**02 36 08.5**	**+0.9**
	0.5nm,0.7s,baz=158,slow=4.2,SNR=2.8						
PETK	**Petropavlovsk-**	**57.16**	**22**	LR	LR	02 58 58.1	
	comp=Z,79nm,21.9s,baz=117,slow=34						
MKAR	**Makanchi Array**	**59.05**	**326**	P	**P**	**02 35 56.8**	**-0.4**
	2.9nm,0.4s,baz=120,slow=7.9,SNR=70						
MKAR				PcP	**PcP**	**02 36 45.8**	**+0.1**
	1.4nm,0.9s,baz=132,slow=4.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**62.22**	**334**	P	**P**	**02 36 16.4**	**-2.1**
	0.6nm,0.3s,baz=134,slow=7.4,SNR=5.4						
KURK	**Kurchatov**	**63.28**	**328**	*e*P	**P**	**02 36 25.1**	**-0.6**
	11nm,0.4s						
BVAR	**Borovoye Array**	**68.85**	**327**	P	**P**	**02 37 01.2**	**-0.2**
	1.3nm,0.4s,baz=120,slow=7.4,SNR=11						
BRVK	**Borovoye**	**68.92**	**327**	*e*P	**P**	**02 37 01.4**	**-0.4**
	2.2nm,0.3s						
ABKAR	**Akbulak array**	**73.56**	**321**	*e*P	**P**	**02 37 29.4**	**-0.6**
	1.2nm,0.6s						
RAYN	**Ar Rayn**	**81.17**	**293**	*e*P	**P**	**02 38 10.5**	**-2.7**
	3.4nm,0.9s						
VNDA	**Vanda**	**81.60**	**173**	P	**P**	**02 38 13.6**	**-0.6**
	1.6nm,0.5s,baz=317,slow=5.9,SNR=8.6						
VNDA	**Vanda**	**81.60**	**173**	*e*P	**P**	**02 38 13.4**	**-0.9**
	4.2nm,1.2s						
BRTR	**Keskin Array B**	**91.16**	**310**	P	**P**	**02 39 01.6**	**-0.7**
	0.3nm,0.5s,baz=134,slow=8.3,SNR=3.0						
QSPA	**South Pole Qui**	**91.79**	**180**	P	**P**	**02 39 03.5**	**-1.0**
	1.3nm,0.7s,baz=5.8,slow=0.2,SNR=7.2						
ARCES	**ARCESS Array B**	**92.17**	**340**	P	**P**	**02 39 06.1**	**0.0**
	3.2nm,0.9s,baz=80,slow=5.1,SNR=5.7						
FINES	**FINESS Array B**	**93.44**	**332**	P	**P**	**02 39 10.1**	**-1.9**
	0.9nm,0.7s,baz=354,slow=8.9,SNR=4.3						
HFS	**Hagfors**	**99.63**	**332**	LR	LR	03 28 52.0	
	comp=Z,32nm,18.9s,baz=288,slow=38						
SCHQ	**Schefferville**	**122.40**	**9**	PKP	**PKPdf**	**02 44 52.5**	**+0.6**
	2.9nm,0.9s,baz=297,slow=6.8,SNR=4.2						
TXAR	**Lajitas Array**	**122.76**	**53**	PKP	**PKPdf**	**02 44 54.0**	**+0.5**
	0.3nm,0.8s,baz=185,slow=1.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.43**	**287**	PKP	**PKPdf**	**02 44 54.4**	**-0.6**
	0.5nm,0.6s,baz=70,slow=1.3,SNR=6.6						
CFAA	**Coronel Fontan**	**147.24**	**156**	PKPbc	**PKPdf**	**02 45 39.2**	**+0.7**
	0.3nm,0.4s,baz=193,slow=6.4,SNR=4.2						

*IDC **20** 02:28:52.8±0.5, 16°.27N×98°.26W, h0km, mb4.5/26, mb1 4.7/30, mb1mx4.6/33, mbtmp4.5/30, ML3.9/4, MS4.0/17, Ms1 4.0/17, ms1mx3.8/37, Error ellipse: s-maj=17.5km s-min=10.4km az=53.0*
*MEX **20** 02:28:54.8±0.6, 16°.08N×98°.37W, h5km±5km, MD5.0*
*NEIC **20** 02:28:56.7±0.7, 16°.30N×98°.23W, h21km±4km, mb5.0/165, MD5.0(MEX), Error ellipse: s-maj=5.0km s-min=2.8km az=214.0*
NEIC Felt [II] at Mexico and Oaxaca. Also felt at Acahualco, Acatlan, Huajuapan, Matamoros, Mitla and Puerto Escondido.
*GCMT **20** 02:28:56.7±0.3, 16°.28N×98°.40W, h23km, MW5.0/85, Moment Tensor Solution. s42,c53; s85,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.33±.15; Mθθ=-0.91±.10; Mφφ=2.42±.12; Mre=1.78±.14; Mθφ=-1.04±.08; Mθr=0.60±.15; Best double couple: Mo=3.53700×10^16 NP1:φs=187.00000°, δ46.00000°, λ58.00000°. Principal axes: T 4.1100, Plg67.0000°, Azm22.0000°; N -1.1430, Plg22.0000°, Azm211.0000°; P -2.9650, Plg3.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **20** 02:28:57.2±0.8, 16°.39N×98°.20W, h33km, mb5.2/58 Error ellipse: s-maj=7.9km s-min=4.0km az=95.0*
*ISCJB **20** 02:28:57.9±0.2, 16°.52N±0°.02×98°.11W±0°.02, h33km, mb4.9/185, MS4.0/17, Error ellipse: s-maj=4.2km s-min=2.4km az=43.1*
*BJI **20** 02:29:00.0, 16°.40N×98°.20W, h40km, mB5.2/4, Ms5.1/1, Ms7 4.7/5*
ISC 20 02:28:57.0±0.8, 16°.21N±0°.04×98°.31W±0°.03, h31km±5km, n868, σ1s16/912, mb4.9/188, MS4.0/18, 246C-192D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**43**	*e*P	**Pb**	**02 29 01.9**	**-2.1**
PNIG				*e*S	**Sb**	**02 29 07.4**	**-1.2**
PNIG	**Pinotepa**	**0.25**	**43**	*e*P	**Pb**	**02 29 01.9**	**-2.1**
PNIG				*e*S	**Sb**	**02 29 07.4**	**-1.2**
TLIG	**Tlapa**	**1.37**	**350**	*e*P	**Pn**	**02 29 18.1**	**-2.0**
TLIG				*i* S	**Sn**	**02 29 36.4**	**-0.9**
ACX	**Acapulco**	**1.63**	**294**	*e*P	Pn	02 29 19.8	-3.7
ACX				*e*S	**Sn**	**02 29 41.3**	**-2.2**
ACX	**Acapulco**	**1.63**	**294**	*e*P	Pn	02 29 19.8	-3.7
ACX				*e*S	**Sn**	**02 29 41.3**	**-2.2**
VHO	**Vista Hermosa**	**1.73**	**60**	*e*P	**Pn**	**02 29 24.9**	**-0.3**
VHO				*i* S	**Sn**	**02 29 45.9**	**-0.5**
VHO	**Vista Hermosa**	**1.73**	**60**	*e*P	**Pn**	**02 29 24.9**	**-0.3**
VHO				*i* S	**Sn**	**02 29 45.9**	**-0.5**
PANG	**Puerto Angel**	**1.84**	**107**	*i* P	**Pn**	**02 29 25.7**	**-0.8**
PANG				*i* S	**Sn**	**02 29 47.3**	**-1.5**
HUIG	**Huatulco**	**2.16**	**101**	*e*P	**Pn**	**02 29 29.4**	**-1.4**
HUIG				*i* S	**Sn**	**02 29 54.7**	**-1.9**
HUIG	**Huatulco**	**2.16**	**101**	*e*P	**Pn**	**02 29 29.4**	**-1.4**
HUIG				*i* S	**Sn**	**02 29 54.7**	**-1.9**
TPIG	**Tehuac#an**	**2.38**	**22**	*e*P	**Pn**	**02 29 33.7**	**-0.3**
TPIG				*i* S	**Sn**	**02 30 03.6**	**+1.4**
TPIG	**Tehuac#an**	**2.38**	**22**	*e*P	**Pn**	**02 29 33.7**	**-0.3**
TPIG				*i* S	**Sn**	**02 30 03.6**	**+1.4**
PLIG	**Platanillo**	**2.45**	**332**	*i* P	**Pn**	**02 29 33.6**	**-1.4**
PLIG				*i* S	**Sn**	**02 30 05.0**	**+1.0**
PLIG	**Platanillo**	**2.45**	**332**	*i* P	**Pn**	**02 29 33.6**	**-1.4**
PLIG				*i* S	**Sn**	**02 30 05.0**	**+1.0**
YAIG	**Yautepec**	**2.74**	**345**	*e*P	**Pn**	**02 29 39.0**	**+0.1**
YAIG				*i* S	**Sn**	**02 30 12.1**	**+1.0**
YAIG	**Yautepec**	**2.74**	**345**	*e*P	**Pn**	**02 29 39.0**	**+0.1**
YAIG				*i* S	**Sn**	**02 30 12.1**	**+1.0**
ARIG	**Puente Sto Nin**	**2.84**	**317**	*e*P	**Pn**	**02 29 39.1**	**-1.1**
ARIG				*i* S	**Sn**	**02 30 13.5**	**+0.1**
PPM	**Popocatepetl**	**2.86**	**354**	*e*P	**Pn**	**02 29 40.1**	**-0.9**
PPM				*e*S	**Sn**	**02 30 16.5**	**+1.9**
PPM	**Popocatepetl**	**2.86**	**354**	*e*P	**Pn**	**02 29 40.0**	**-0.9**
PPM				*e*S	**Sn**	**02 30 16.4**	**+1.9**
PPM	**Popocatepetl**	**2.86**	**354**	*e*P	**Pn**	**02 29 40.0**	**-0.9**
PPM				*e*S	**Sn**	**02 30 16.4**	**+1.9**
MAVM	**Malinalco, Edo**	**2.96**	**338**	*e*P	**Pn**	**02 29 41.9**	**-0.2**
MAVM				*i* S	**Sn**	**02 30 17.5**	**+0.8**
UNM	**Universidad Na**	**3.21**	**345**	*e*P	**Pn**	**02 29 45.6**	**0.0**
UNM				*i* S	**Sn**	**02 30 24.0**	**+1.0**
UNM	**Universidad Na**	**3.21**	**345**	*e*P	**Pn**	**02 29 45.6**	**0.0**
UNM				*i* S	**Sn**	**02 30 24.0**	**+1.0**
UNM	**Universidad Na**	**3.21**	**345**	*e*P	**Pn**	**02 29 45.6**	**0.0**
UNM				*i* S	**Sn**	**02 30 24.0**	**+1.0**
ZIIG	**Zihuatanejo**	**3.33**	**295**	*e*P	**Pn**	**02 29 44.6**	**-2.3**
ZIIG				*i* S	**Sn**	**02 30 24.6**	**-0.9**
ZIIG	**Zihuatanejo**	**3.33**	**295**	*e*P	**Pn**	**02 29 44.6**	**-2.3**
ZIIG				*i* S	**Sn**	**02 30 24.6**	**-0.9**
CMIG	**Matias Romero**	**3.40**	**75**	Pn	**Pn**	**02 29 47.1**	**-0.7**
	10nm,0.3s,baz=262,slow=11,SNR=35						
CMIG				Pg	**Pb**	**02 29 55.4**	**-1.1**
	35nm,0.3s,baz=256,slow=16,SNR=27						
CMIG				Sn	**Sn**	**02 30 28.4**	**+1.3**
	172nm,0.3s,baz=244,slow=16,SNR=6.0						
CMIG				Lg	Lg	02 30 42.7	
	369nm,0.3s,baz=175,slow=19,SNR=6.8						
TEIG	**Tepich**	**10.33**	**66**	Pn	**Pn**	**02 31 22.2**	**-0.9**
	3.0nm,0.3s,baz=262,slow=21,SNR=16						
TEIG				Sn	**Sn**	**02 33 12.4**	**-5.6**
	6.3nm,0.3s,baz=330,slow=21,SNR=3.6						
TEIG	**Tepich**	**10.33**	**66**	*e*Pn	**Pn**	**02 31 23.1**	**0.0**
TEIG				Sn	**Sn**	**02 33 12.4**	**-5.6**
TEIG				*e*S	**Sn**	**02 33 22.3**	**+4.3**
833A	**Chaparral WMA,**	**12.10**	**355**	⇑P	**Pn**	**02 31 47.6**	**+0.3**
	baz=12,SNR=27						
832A	**Faith Ranch, C**	**12.12**	**353**	⇓P	**Pn**	**02 31 47.5**	**-0.1**
	baz=12,SNR=12						
H06E1	**SOCORRO T-PHAS**	**12.31**	**284**	T	T	02 43 60.0	
	SNR=94						
733A	**Divot King Ran**	**12.48**	**356**	⇓P	**Pn**	**02 31 52.3**	**-0.3**
	baz=12,SNR=10						
732A	**Laxson Ranch,**	**12.55**	**353**	⇓P	**Pn**	**02 31 53.2**	**-0.3**
	baz=12,SNR=12						
633A	**Saathoff Ranch**	**13.21**	**357**	⇑P	**Pn**	**02 32 01.0**	**-1.6**
	baz=13,SNR=6.9						
631A	**Perdido Creek**	**13.31**	**351**	⇓P	**Pn**	**02 32 02.6**	**-1.2**
	baz=13,SNR=12						
632A	**Uvalde**	**13.31**	**354**	⇑P	**Pn**	**02 32 02.6**	**-1.2**
	baz=13,SNR=7.5						
533A	**Kerrville**	**13.81**	**357**	⇑P	**Pn**	**02 32 08.5**	**-2.3**
	baz=14,SNR=10.0						
HKT	**Hockley**	**13.86**	**9**	*e*P	**Pn**	**02 32 10.7**	**-0.6**
HKT	**Hockley**	**13.86**	**9**	*e*Pn	**Pn**	**02 32 10.7**	**-0.6**
532A	**Rocksprings**	**13.93**	**354**	⇑P	**Pn**	**02 32 11.3**	**-1.1**
	baz=14,SNR=12						
TXAR	**Lajitas Array**	**13.96**	**340**	Pn	**Pn**	**02 32 13.3**	**+0.5**
	0.0nm,0.3s,baz=161,slow=16,SNR=17						
TXAR				Lg	Lg	02 36 12.9	
	0.0nm,0.3s,baz=158,slow=20,SNR=3.7						
531A	**Rocksprings**	**14.04**	**352**	⇑P	**Pn**	**02 32 12.5**	**-1.4**
	baz=14,SNR=11						
539A	**Cross D Ranch,**	**14.22**	**13**	⇑P	**Pn**	**02 32 15.1**	**-1.1**
	baz=14,SNR=7.0						
JTS	**JuntasAbangare**	**14.26**	**113**	*e*P	**Pn**	**02 32 18.8**	**+1.8**
JTS	**JuntasAbangare**	**14.26**	**113**	Pn	**P**	**02 32 22.6**	**-1.2**
	1.3nm,0.3s,baz=252,slow=2.0,SNR=8.7						
JTS	**JuntasAbangare**	**14.26**	**113**	*e*Pn	**Pn**	**02 32 18.8**	**+1.8**
JCT	**Junction City**	**14.27**	**355**	*e*P	**Pn**	**02 32 16.7**	**-0.4**
JCT				*e*S	**Sn**	**02 34 55.0**	**+0.7**
JCT	**Junction City**	**14.27**	**355**	*e*Pn	**Pn**	**02 32 16.6**	**-0.4**
JCT				*e*S	**Sn**	**02 34 55.0**	**+0.7**
529A	**Stev Forest Ra**	**14.31**	**346**	⇓P	**Pn**	**02 32 17.5**	**0.0**
	baz=14,SNR=21						
433A	**Art**	**14.50**	**357**	⇓P	**Pn**	**02 32 18.9**	**-1.2**
	baz=14,SNR=25						
434A	**Burnet**	**14.54**	**0**	⇓P	**Pn**	**02 32 18.8**	**-1.9**
	baz=14,SNR=10						
431A	**Sonora**	**14.56**	**352**	⇑P	**Pn**	**02 32 20.3**	**-0.6**
	baz=14,SNR=13						
432A	**Menard**	**14.66**	**355**	⇑P	**Pn**	**02 32 20.6**	**-1.7**
	baz=15,SNR=8.1						
438A	**Sam Houston St**	**14.70**	**10**	⇑P	**Pn**	**02 32 22.1**	**-0.8**
	baz=15						
429A	**Davenport Ranc**	**14.72**	**348**	⇓P	**Pn**	**02 32 22.5**	**-0.7**
	baz=15,SNR=15						
430A	**Baggett Ranch,**	**14.76**	**350**	⇓P	**Pn**	**02 32 22.8**	**-0.8**
	baz=15,SNR=16						
439A	**Center Grove,**	**14.87**	**12**	⇑P	**Pn**	**02 32 22.8**	**-2.3**
	baz=15,SNR=7.3						
335A	**Moody**	**15.03**	**3**	⇑P	**Pn**	**02 32 25.1**	**-2.1**
	baz=15						
334A	**Lometa**	**15.06**	**0**	⇑P	**Pn**	**02 32 25.1**	**-2.5**
	baz=15,SNR=5.8						
333A	**Richland Sprin**	**15.06**	**358**	⇓P	**Pn**	**02 32 25.5**	**-2.2**
	baz=15,SNR=8.8						
331A	**San Angelo**	**15.15**	**353**	⇑P	**Pn**	**02 32 27.5**	**-1.5**
	baz=15,SNR=35						
332A	**Millersview**	**15.16**	**355**	⇑P	**Pn**	**02 32 26.8**	**-2.3**
	baz=15,SNR=13						
336A	**Riesel**	**15.17**	**5**	⇓P	**Pn**	**02 32 26.5**	**-2.5**
	baz=15,SNR=8.4						
337A	**Centerville**	**15.20**	**8**	⇑P	**Pn**	**02 32 27.1**	**-2.4**
	baz=15,SNR=7.5						
338A	**Crockett**	**15.32**	**10**	⇑P	**Pn**	**02 32 29.1**	**-2.1**
	baz=15,SNR=15						
330A	**Mertzon**	**15.35**	**351**	⇑P	**Pn**	**02 32 30.2**	**-1.4**
	baz=15,SNR=31						
339A	**Huntington**	**15.44**	**12**	⇑P	**Pn**	**02 32 30.2**	**-2.4**
	baz=15,SNR=6.1						
URSC	**Urasca**	**15.50**	**112**	*e*P	**P**	**02 32 38.9**	**+1.1**
329A	**Wagon Wheel Ra**	**15.57**	**348**	⇓P	**Pn**	**02 32 33.5**	**-0.9**
	baz=16						
BUS	**Buena Vista**	**15.64**	**113**	*e*P	**Pn**	**02 32 37.8**	**+2.1**
232A	**Coleman**	**15.66**	**356**	⇑P	**Pn**	**02 32 33.3**	**-2.2**
	baz=16,SNR=22						
340A	**Bronson**	**15.66**	**14**	⇓P	**Pn**	**02 32 33.8**	**-1.8**
	baz=16						
234A	**Clairette**	**15.73**	**1**	⇑P	**Pn**	**02 32 33.9**	**-2.4**
	baz=16,SNR=40						
WHTX	**Lake Whitney,**	**15.73**	**3**	⇓P	**Pn**	**02 32 34.7**	**-1.7**
	baz=16,SNR=10						
WHTX	**Lake Whitney,**	**15.73**	**3**	Pn	**Pn**	**02 32 34.7**	**-1.7**
	138nm,1.0s						
WHTX				*e*P	**P**	**02 32 39.7**	**-0.3**
233A	**Rising Star**	**15.75**	**358**	⇓P	**Pn**	**02 32 34.5**	**-2.1**
	baz=16,SNR=32						
231A	**Bronte**	**15.76**	**354**	⇑P	**Pn**	**02 32 35.0**	**-1.8**
	baz=16,SNR=59						
230A	**Sterling City**	**15.82**	**351**	⇓P	**Pn**	**02 32 35.7**	**-1.9**
	baz=16,SNR=20						
NATX	**Nacogdoches**	**15.83**	**11**	*e*Pn	**Pn**	**02 32 37.9**	**+0.2**
	134nm,1.0s						
237A	**Washetta, Mont**	**15.88**	**8**	⇑P	**Pn**	**02 32 35.5**	**-2.8**
	baz=16,SNR=16						
238A	**Jacksonville**	**15.99**	**10**	⇓P	**Pn**	**02 32 37.1**	**-2.6**
	baz=16,SNR=20						
229A	**Bryant Ranch,**	**16.01**	**349**	⇓P	**Pn**	**02 32 38.6**	**-1.4**
	baz=16,SNR=5.3						
239A	**Gary**	**16.12**	**12**	⇑P	**Pn**	**02 32 38.8**	**-2.5**
	baz=16,SNR=7.0						
134A	**White-Moore Ra**	**16.29**	**1**	⇓P	**Pn**	**02 32 41.5**	**-2.1**
	baz=16,SNR=28						
135A	**Vickery Place,**	**16.30**	**3**	⇑P	**Pn**	**02 32 41.2**	**-2.4**
	baz=16,SNR=7.2						
228A	**UT Block 9, Go**	**16.31**	**347**	⇑P	**Pn**	**02 32 42.1**	**-1.8**
	baz=16						
133A	**Hamilton Ranch**	**16.34**	**358**	⇓P	**Pn**	**02 32 41.7**	**-2.4**
	baz=16,SNR=54						
ABTX	**Abilene, Hawle**	**16.39**	**356**	⇑P	**Pn**	**02 32 42.7**	**-2.1**
	baz=16,SNR=90						
ABTX	**Abilene, Hawle**	**16.39**	**356**	*e*Pn	**Pn**	**02 32 43.0**	**-1.8**
	192nm,1.0s						
137A	**Heron Place, G**	**16.48**	**8**	⇓P	**Pn**	**02 32 43.9**	**-2.0**
	baz=16,SNR=6.8						
130A	**Snyder**	**16.49**	**352**	⇑P	**Pn**	**02 32 44.4**	**-1.7**
	baz=16,SNR=13						
131A	**Roby**	**16.50

baz=19,SNR=18
W34A Bridge Creek, 18.95 1 ⇓P P 02 33 14.1 -1.5
baz=19,SNR=6.5
W34A Bridge Creek, 18.95 1 eP P 02 33 14.9 -0.7
comp=Z,45nn,0.9s
W31A Holland Ranch, 18.96 356 ⇑P P 02 33 14.7 -1.0
baz=19,SNR=11
W30A Crocket Farms 19.00 354 ⇓P P 02 33 15.5 -0.8
baz=19
W29A Amarillo 19.07 352 ⇓P P 02 33 16.3 -0.7
baz=19,SNR=5.9
UALR University of 19.25 15 eP P 02 33 18.0 -0.8
comp=Z,54nm,1.0s
W28A Vega 19.29 350 ⇓P P 02 33 18.4 -1.1
baz=19
BCIP Isla Barro Col 19.32 109 eP Pn 02 33 23.9 +2.9
comp=Z,66nm,1.4s
Y22D IRIS PASSCAL I 19.41 338 ⇓P P 02 33 20.7 -0.1
baz=19
V32A Arapaho 19.44 358 ⇓P P 02 33 20.1 -1.0
baz=19,SNR=6.7
LENM Lemitar 19.51 338 eP Pn 02 33 24.4 +1.0
V35A Meyer Ranch, C 19.52 4 ⇑P P 02 33 20.4 -1.4
baz=20,SNR=16
LPM Los Pinos Moun 19.52 339 eP Pn 02 33 23.8 +0.3
V33A Lossen Ranch, 19.53 0 ⇑P P 02 33 20.8 -1.2
baz=20,SNR=12
V31A Spring Creek L 19.53 356 ⇓P P 02 33 21.8 -0.3
baz=20,SNR=15
V34A Guthrie 19.56 2 ⇑P P 02 33 21.1 -1.1
baz=20,SNR=28
V34A Guthrie 19.56 2 eP P 02 33 21.2 -1.1
comp=Z,74nm,0.9s
V30A Spur Ranch, Mi 19.59 354 ⇑P P 02 33 21.9 -0.8
baz=20,SNR=8.3
TUC Tucson 19.63 327 eP Pn 02 33 24.2 -0.5
TUC pmax pmax
comp=Z,38nm,1.5s
TUC Tucson 19.63 327 eP Pn 02 33 24.2 -0.5
comp=Z,38nm,1.5s
LRAL Lakeview Retre 19.63 29 eP P 02 33 21.9 -1.2
comp=Z,28nm,1.0s
TUL1 Leonard 19.75 6 ⇓P P 02 33 23.0 -1.4
baz=20,SNR=19
TUL1 Leonard 19.75 6 eP P 02 33 22.9 -1.5
comp=Z,69nm,0.7s
V28A Channing 19.77 351 ⇑P P 02 33 24.4 -0.3
baz=20,SNR=9.4
LAZ Ladron 19.78 338 eP Pn 02 33 27.4 +0.8
comp=Z,19nm,1.3s
V29A Stinnett 19.79 352 ⇓P P 02 33 24.1 -0.8
baz=20
V27A Dan Oppiter Fa 19.88 349 ⇓P P 02 33 25.4 -0.5
baz=20
OXF Oxford 19.90 22 eP P 02 33 24.8 -1.2
OXF eS S 02 37 06.0 -2.4
OXF pmax pmax
comp=Z,75nm,1.0s
OXF Oxford 19.90 22 eP P 02 33 24.8 -1.2
comp=Z,75nm,1.0s
OXF eS S 02 37 06.0 -2.4
MTDJ Mount Denham 19.94 81 eP Pn 02 33 27.8 -0.7
comp=Z,92nn,1.3s
ANMO Albuquerque 20.04 340 eP P 02 33 28.0 +0.3
ANMO pmax pmax
comp=Z,128nm,1.3s
ANMO Albuquerque 20.04 340 P P 02 33 28.2 +0.5
comp=Z,0.7nm,0.3s,baz=154,slow=12,SNR=68
ANMO Lg Lg 02 39 23.5
comp=Z,0.0nm,0.3s,baz=233,slow=20,SNR=2.7
ANMO LR LR 02 42 12.2
comp=Z,522nm,18.5s,baz=160,slow=40
ANMO Albuquerque 20.04 340 eP P 02 33 28.2 +0.5
comp=Z,39nn,1.0s
ANMO Lg Lg 02 39 23.5
U32A Winter Ranch, 20.10 358 ⇑P P 02 33 27.5 -0.7
baz=20,SNR=27
V26A Tequesquite Ra 20.11 347 ⇑P P 02 33 27.9 -0.6
baz=20,SNR=80
U31A Nine Bar Ranch 20.13 356 ⇑P P 02 33 27.9 -0.7
baz=20
U33A Lingo Farm, Me 20.14 0 ⇑P P 02 33 27.3 -1.3
baz=20,SNR=6.4
U34A Anderson Ranch 20.16 2 ⇑P P 02 33 28.4 -0.4
baz=20,SNR=17
U34A Anderson Ranch 20.16 2 eP P 02 33 27.2 -1.6
comp=Z,192nn,1.0s
TIGA Tifton 20.24 39 ⇑P P 02 33 28.6 -1.1
baz=20
TIGA Tifton 20.24 39 eP Pn 02 33 34.7 +2.9
comp=Z,66nm,1.0s
U29A Oasis Ranch, S 20.33 353 ⇑P P 02 33 30.1 -0.7
baz=20
U30A WK&E Inc. Balk 20.35 355 ⇓P P 02 33 30.3 -0.6
baz=20
U28A Mallet 20.39 351 ⇑P P 02 33 30.9 -0.6
baz=20,SNR=46
214A Organ Pipe Nat 20.48 323 ⇓P P 02 33 33.3 +0.9
baz=20,SNR=12
214A Organ Pipe Nat 20.48 323 eP P 02 33 33.5 +1.0
comp=Z,38nm,1.4s
U27A Thompson Grove 20.53 350 ⇓P P 02 33 32.6 -0.4
baz=20,SNR=33
T33A Patterson Ranc 20.79 0 ⇑P P 02 33 34.0 -1.7
baz=21,SNR=22
T31A Randall Ranch, 20.84 357 ⇓P P 02 33 35.3 -1.0
baz=21,SNR=12
T30A Plains 20.86 355 ⇑P P 02 33 36.1 -0.3
baz=21,SNR=22
T32A Huddler Ranch, 20.89 359 ⇓P P 02 33 35.4 -1.4
baz=21,SNR=17
GNAR Gosnell 21.02 19 eP P 02 33 39.5 +1.4
X18A Snowflake 21.03 332 ⇑P P 02 33 39.6 +1.1
baz=21,SNR=36
T29A Hugoton 21.03 353 ⇑P P 02 33 37.5 -0.8
baz=21,SNR=9.1
T28A Walsh 21.10 352 ⇑P P 02 33 38.5 -0.7
baz=21,SNR=39
T27A Campo 21.14 350 ⇑P P 02 33 39.1 -0.4
baz=21,SNR=13
HALT Halls 21.19 20 eP P 02 33 41.2 +1.3
S33A Kaszmaul Farm, 21.30 1 ⇓P P 02 33 39.5 -1.7
baz=21
S31A Mullinville 21.35 357 ⇑P P 02 33 40.4 -1.4
baz=21,SNR=13
T26A Comanche Natio 21.40 348 ⇑P P 02 33 42.1 -0.4
baz=21,SNR=26
S32A Newby Ranch, P 21.41 359 ⇓P P 02 33 40.8 -1.6
baz=21
W18A Petrified Fore 21.43 334 ⇓P P 02 33 43.7 +1.0
baz=21,SNR=12
W18A Petrified Fore 21.43 334 eP P 02 33 44.0 +1.2
comp=Z,41nm,1.1s
S30A Montezuma 21.43 355 ⇑P P 02 33 41.7 -1.0
baz=21,SNR=11
S34A Willow Spring 21.43 3 ⇑P P 02 33 40.5 -2.1
baz=21,SNR=6.7
S35A Otter Creek Ra 21.46 4 ⇓P P 02 33 40.8 -2.1
baz=21,SNR=31
S29A Ulysses 21.47 354 ⇑P P 02 33 42.1 -0.9
baz=21,SNR=21
GLAT Glass 21.53 20 eP P 02 33 45.4 +1.8
S28A Manter 21.53 352 ⇑P P 02 33 43.0 -0.8
baz=22,SNR=33
T25A Trinidad 21.54 347 ⇑P P 02 33 44.2 +0.3
baz=22,SNR=61
T25A Trinidad 21.54 347 eP P 02 33 44.7 +0.8
comp=Z,220nm,1.4s
S36A Lake Cedric, C 21.57 6 ⇑P P 02 33 42.2 -1.8
baz=22,SNR=34
Z14A Wintersburg 21.60 325 ⇓P P 02 33 45.4 +1.0
baz=22,SNR=7.4
113A Mohawk Valley, 21.63 322 ⇑P P 02 33 45.9 +1.2
baz=22,SNR=7.4
X16A Lo Mia Camp, P 21.63 329 ⇑P P 02 33 45.8 +0.9
baz=22,SNR=62
PBMO Poplar Bluff 21.65 17 eP P 02 33 43.2 -1.7
comp=Z,110nm,0.8s
UTMT University of 21.74 21 eP P 02 33 47.7 +1.8
comp=Z,375nm,1.0s
PARMO Parma 21.74 19 eP P 02 33 48.9 +3.1
GOGA Godfrey 21.74 35 eP P 02 33 45.0 -0.9
GOGA pmax pmax
comp=Z,36nm,0.8s
GOGA Godfrey 21.74 35 eP P 02 33 45.0 -0.9
comp=Z,36nm,0.8s
S27A Las Animas 21.77 350 ⇓P P 02 33 45.9 -0.5
baz=22
S26A Kim 21.81 349 ⇑P P 02 33 46.2 -0.6
baz=22,SNR=60
WVT Waverly 21.92 23 eP P 02 33 46.0 -1.8
WVT pmax pmax
comp=Z,110nm,1.0s
WVT Waverly 21.92 23 eP P 02 33 46.0 -1.8
comp=Z,110nm,1.0s
WVT eS Sn 02 38 10.1 +11
SWET Sewanee 21.93 28 eP P 02 33 46.4 -1.5
comp=Z,52nn,0.8s
R33A Olander Ranch, 22.02 1 ⇓P P 02 33 47.2 -1.7
baz=22,SNR=21
R31A Burdett 22.02 357 ⇓P P 02 33 47.3 -1.6
baz=22,SNR=8.4
R30A Dighton 22.06 356 ⇑P P 02 33 48.0 -1.3
baz=22,SNR=23
Y14A Wickenburg 22.06 326 ⇑P P 02 33 49.9 +0.5
baz=22,SNR=12
R32A Long Quarter, 22.13 359 ⇑P P 02 33 48.5 -1.6
baz=22,SNR=8.2
R36A Gordon, Harris 22.17 6 ⇓P P 02 33 48.4 -2.0
baz=22,SNR=26
R28A Tribune 22.26 353 ⇑P P 02 33 50.4 -1.2
baz=22,SNR=8.4
R29A Marienthal 22.27 354 ⇓P P 02 33 50.2 -1.4
baz=22
R27A Eads 22.34 351 ⇑P P 02 33 52.0 -0.5
baz=22,SNR=60
SDCO Great Sand Dun 22.37 345 ⇓P P 02 33 52.8 -0.2
baz=22,SNR=24
SDCO Great Sand Dun 22.37 345 eP P 02 33 52.8 -0.2
comp=Z,21nm,1.1s
GLA Glamis 22.46 321 eP P 02 33 54.9 +1.2
GLA pmax pmax
comp=Z,33nm,1.1s
GLA Glamis 22.46 321 ⇑P P 02 33 54.3 +0.6
baz=22,SNR=7.2
GLA Glamis 22.46 321 eP P 02 33 54.9 +1.2
comp=Z,33nn,1.1s
S23A Nye Farm, Mont 22.47 344 ⇑P P 02 33 53.7 -0.2
baz=22
R26A Arlington 22.47 349 ⇑P P 02 33 53.8 0.0
baz=22,SNR=157
R25A Fountain Ranch 22.48 348 ⇓P P 02 33 53.7 -0.2
baz=22,SNR=65
WUAZ Wupatki 22.50 331 ⇓P P 02 33 55.1 +0.9
baz=22,SNR=38
WUAZ Wupatki 22.50 331 eP P 02 33 55.4 +1.2
comp=Z,60nm,1.0s
Q32A Meitler Ranch, 22.70 359 ⇑P P 02 33 54.8 -1.3
baz=23,SNR=5.2
Q33A Connelly Farm, 22.71 1 ⇓P P 02 33 54.8 -1.4
baz=23,SNR=6.3
Q29A Oakley 22.72 355 ⇓P P 02 33 54.9 -1.5
baz=23,SNR=17
Q31A Ellis 22.73 358 ⇑P P 02 33 55.2 -1.3
baz=23,SNR=10
S22A 4UR Ranch, Cre 22.73 342 ⇓P P 02 33 57.0 +0.1
baz=23,SNR=50
S22A 4UR Ranch, Cre 22.73 342 eP P 02 33 57.0 +0.1
comp=Z,29nn,0.9s
R24A Sanders Place, 22.74 346 ⇑P P 02 33 56.7 -0.1
baz=23,SNR=27
Q30A Quinter 22.75 356 ⇓P P 02 33 56.4 -0.2
baz=23
Y12C Blythe 22.77 323 ⇑P P 02 33 57.5 +0.5
baz=23,SNR=5.3
MVCO Mesa Verde 22.78 339 ⇑P P 02 33 57.2 -0.1
baz=23,SNR=38
MVCO Mesa Verde 22.78 339 eP P 02 33 57.1 -0.1
comp=Z,124nm,1.4s
Q37A Longview Farm, 22.83 8 ⇓P P 02 33 56.8 -0.7
baz=23,SNR=7.1
KSU1 Kansas State U 22.86 3 ⇑P P 02 33 57.2 -0.6
baz=23
KSU1 Kansas State U 22.86 3 eP P 02 33 56.7 -1.1
comp=Z,33nn,0.8s
R23A Moffat 22.88 345 ⇓P P 02 33 57.8 -0.5
baz=23
PDMCI Parker Dam,Lak 22.96 325 ⇓P P 02 33 59.4 +0.5
baz=23,SNR=18
SWSC Sam W. Stewart 22.98 320 ⇑P P 02 33 59.6 +0.5
baz=23
Q28A Sharon Springs 22.98 353 ⇓P P 02 33 58.1 -1.0
baz=23,SNR=20
KSCO Kaye Shedlock' 23.03 351 ⇑P P 02 33 59.0 -0.7
baz=23,SNR=12
KSCO Kaye Shedlock' 23.03 351 eP P 02 33 59.8 0.0
comp=Z,92nn,1.0s
Q26A Hugo 23.09 350 ⇓P P 02 34 00.1 -0.2
baz=23,SNR=46
P33A Williams Farm, 23.15 1 ⇑P P 02 33 59.2 -1.6
baz=23
Q25A Bedland, Calha 23.21 348 ⇑P P 02 34 01.9 +0.2
baz=23,SNR=22
P31A Stockton 23.25 358 ⇓P P 02 34 00.1 -1.7
baz=23,SNR=24
BC3 Big Chuckawall 23.25 321 ⇓P P 02 34 02.2 +0.2
baz=23,SNR=13
P30A Selden 23.31 356 ⇓P P 02 34 00.9 -1.5
baz=23,SNR=5.2
TKL Tuckaleechee C 23.31 31 eP P 02 34 01.8 -0.7
TKL Tuckaleechee C 23.31 31 P P 02 34 01.2 -1.3
comp=Z,19nm,1.0s,baz=198,slow=11,SNR=11
TKL S Sn 02 38 29.7 -2.8
comp=Z,3.3nn,0.8s,baz=283,slow=19,SNR=2.5
TKL LR LR 02 45 50.0
comp=Z,130nm,18.9s,baz=156,slow=44
TKL Tuckaleechee C 23.31 31 eP P 02 34 01.8 -0.7
TKL S Sn 02 38 29.7 -2.8
P32A Huiting Farm, 23.33 359 ⇓P P 02 34 01.0 -1.6
baz=23,SNR=6.2
MONP Monument Peak, 23.33 319 ⇑P P 02 34 02.7 -0.2
baz=23
W13A Hualapai Mount 23.42 326 ⇑P P 02 34 04.6 +0.9
baz=23,SNR=18
P29A Atwood 23.42 355 ⇑P P 02 34 02.1 -1.4
baz=23,SNR=7.3
IRM Iron Mountain 23.43 323 ⇑P P 02 34 04.6 +0.9
baz=23,SNR=16
SLM Saint Louis 23.44 16 eP P 02 34 03.8 +0.2
SLM pmax pmax
comp=Z,62nn,1.0s
SLM Saint Louis 23.44 16 eP P 02 34 03.8 +0.2
comp=Z,62nn,1.0s
Q24A Divide 23.45 346 ⇑P P 02 34 04.0 0.0
baz=23,SNR=16
Q24A Divide 23.45 346 eP P 02 34 04.1 0.0
comp=Z,40nn,1.1s
CSU Charleston Sou 23.47 41 eP P 02 34 05.3 +1.3
P28A Saint Francis 23.47 353 ⇑P P 02 34 03.3 -0.7
baz=23,SNR=12
NHSC New Hope 23.48 41 eP P 02 34 04.7 +0.6
comp=Z,321nm,1.1s
Q23A Hartsel 23.55 345 ⇓P P 02 34 05.0 -0.1
baz=24
P27A Ficken Ranch, 23.56 352 ⇑P P 02 34 04.6 -0.3
baz=24,SNR=9.6
NEE2 Needles Airpor 23.57 325 ⇓P P 02 34 05.7 +0.8
baz=24
USIN University of 23.61 21 eP P 02 34 05.1 -0.3
comp=Z,313nm,1.3s
JSC Jenkinsville 23.63 37 eP P 02 34 05.3 -0.2
JSC pmax pmax
comp=Z,24nm,1.0s
JSC Jenkinsville 23.63 37 eP P 02 34 05.3 -0.2
comp=Z,24nm,1.0s
PV01 Paradox Valley 23.64 339 eP P 02 34 06.2 +0.4
comp=Z,4µm,1.2s
U15A North Rim 23.67 331 ⇑P P 02 34 07.3 +1.1
baz=24,SNR=36
P26A Davis Ranch, A 23.68 350 ⇑P P 02 34 06.5 +0.4
baz=24,SNR=25
109C Camp Elliot, M 23.77 318 ⇑P P 02 34 07.3 +0.4
baz=24
P25A Willow Gulch B 23.78 349 ⇑P P 02 34 06.7 -0.4
baz=24
BELC Belle Mtn. Jos 23.82 321 ⇑P P 02 34 07.3 -0.2
baz=24,SNR=9.6
PFO Pinyon Flats O 23.83 320 eP P 02 34 08.9 +1.3
PFO pmax pmax
comp=Z,38nn,1.6s
PFO Pinyon Flats O 23.83 320 ⇓P P 02 34 08.2 +0.6
baz=24
PFO Pinyon Flats O 23.83 320 eP P 02 34 08.8 +1.3
comp=Z,38nn,1.6s
O31A Woolen Ranch, 23.87 358 ⇓P P 02 34 07.0 -0.8
baz=24
P24A Kohler Place, 23.93 347 ⇓P P 02 34 08.7 +0.2
baz=24,SNR=6.7
O29A 4D Ranch, Culb 23.93 355 ⇓P P 02 34 07.3 -1.1
baz=24,SNR=7.8
O30A MW Ranch, Wils 23.93 357 ⇑P P 02 34 07.5 -0.8
baz=24
O32A Brockman Farm, 23.96 0 ⇓P P 02 34 07.5 -1.2
baz=24
P23A Jefferson 24.00 346 ⇑P P 02 34 09.8 +0.4
baz=24,SNR=30
O28A Krutsinger Ran 24.02 353 ⇑P P 02 34 09.1 -0.2
baz=24,SNR=12
LDFC Landfair 24.07 324 eP P 02 34 11.9 +2.1
comp=Z,45nn,1.1s
SMCO Snowmass 24.11 343 eP P 02 34 11.8 +1.4
comp=Z,74nm,1.1s
OLIL Olney 24.16 20 eP P 02 34 09.9 -0.6
GMRC Granite Mounta 24.17 323 ⇓P P 02 34 11.9 +1.2
baz=24,SNR=14
O27A Beecher Island 24.17 352 ⇑P P 02 34 10.9 +0.3
baz=24,SNR=14
KMSC Kings Mountain 24.21 36 ⇓P P 02 34 10.6 -0.4
baz=24,SNR=10
KMSC Kings Mountain 24.21 36 eP P 02 34 11.0 0.0
comp=Z,106nn,1.6s
MURC Murrieta 24.29 319 ⇓P P 02 34 12.7 +1.0
baz=24
O26A Horse Wrangler 24.34 351 ⇓P P 02 34 12.5 +0.3
baz=24,SNR=14
O25A Wiggins 24.35 349 ⇑P P 02 34 12.8 +0.4
baz=24,SNR=8.8
WCI Wyandotte Cave 24.35 23 eP P 02 34 12.3 +0.1
WCI pmax pmax
comp=Z,134nm,1.1s
WCI Wyandotte Cave 24.35 23 eP P 02 34 12.3 +0.1
comp=Z,134nm,1.1s
ISCO Idaho Springs 24.35 346 eP P 02 34 13.2 +0.6
ISCO pmax pmax
comp=Z,51nn,0.9s
ISCO Idaho Springs 24.35 346 ⇑P P 02 34 13.1 +0.6
baz=24,SNR=76
ISCO Idaho Springs 24.35 346 eP P 02 34 13.2 +0.6
comp=Z,51nn,0.9s
P22A Eagle 24.44 344 ⇑P P 02 34 14.0 +0.7
baz=24,SNR=68
N32A Stulken Farm, 24.47 0 ⇓P P 02 34 12.9 -0.4
baz=24
N31A Bailey Ranch, 24.53 359 ⇓P P 02 34 13.6 -0.3
baz=24
O24A Longmont 24.55 347 ⇓P P 02 34 14.4 +0.2
baz=24,SNR=19
N30A Hueftle Ranch, 24.55 357 ⇑P P 02 34 13.5 -0.5
baz=24
N28A Pribbeno Ranch 24.55 354 ⇑P P 02 34 14.1 0.0
baz=24,SNR=5.4
BBRC Big Bear Solar 24.56 320 ⇓P P 02 34 15.4 +1.0
baz=25
HEC Hector,Ludlow 24.59 322 ⇑P P 02 34 15.4 +0.9
baz=25,SNR=8.9
N29A Votaw Ranch, W 24.61 356 ⇓P P 02 34 14.5 -0.1
baz=25
SCI San Clemente I 24.77 316 ⇑P P 02 34 17.4 +1.3
baz=25
N27A Anderson Farm, 24.78 352 ⇓P P 02 34 16.7 +0.4
baz=25,SNR=12
TUQ Turquoise Moun 24.79 324 ⇓P P 02 34 16.9 +0.5
baz=25,SNR=24
O23A Lake Granby, G 24.82 346 ⇑P P 02 34 17.1 +0.4
baz=25,SNR=81
OGNE Ogallala 24.86 353 ⇑P P 02 34 17.0 +0.1
baz=25,SNR=10
OGNE Ogallala 24.86 353 eP P 02 34 17.9 +1.0
comp=Z,207nm,1.1s
N26A Koester Ranch, 24.90 351 ⇑P P 02 34 17.8 +0.4
baz=25,SNR=14
O22A Kremmling 24.92 345 ⇓P P 02 34 17.9 +0.1
baz=25,SNR=69
BFSC Mount Baldy Ra 25.00 319 ⇓P P 02 34 19.3 +1.0
baz=25,SNR=5.3
N25A Grover 25.02 350 ⇑P P 02 34 18.8 +0.3
baz=25
M31A Lambtecht Ranc 25.05 359 ⇓P P 02 34 18.6 0.0
baz=25,SNR=14
CCUT Cedar City 25.08 331 eP P 02 34 20.5 +1.4
comp=Z,8.6nm,1.0s
BLO Bloomington 25.09 22 eP P 02 34 18.9 -0.1
BLO pmax pmax
comp=Z,298nn,2.0s
BLO Bloomington 25.09 22 eP P 02 34 18.9 -0.1
comp=Z,298nm,2.0s
BGNE Belgrade 25.11 0 ⇓P P 02 34 19.1 0.0
baz=25
BGNE Belgrade 25.11 0 eP P 02 34 19.2 +0.1
comp=Z,46nn,0.9s
SHPR Sheep Range 25.16 327 eP P 02 34 20.5 +0.8
N24A Carr 25.18 348 ⇓P P 02 34 20.7 +0.7
baz=25,SNR=13
GSC Goldstone, Bar 25.20 322 eP P 02 34 21.4 +1.3
GSC pmax pmax
comp=Z,23nn,1.3s
GSC Goldstone, Bar 25.20 322 ⇓P P 02 34 21.2 +1.1
baz=25,SNR=10.0
GSC Goldstone, Bar 25.20 322 eP P 02 34 21.4 +1.3
comp=Z,23nn,1.3s
SRU San Rafael Swe 25.20 337 eP P 02 34 20.5 +0.4
SRU pmax pmax
comp=Z,35nn,1.1s
SRU San Rafael Swe 25.20 337 eP P 02 34 20.5 +0.4
comp=Z,35nn,1.1s
OTAV Otavalo 25.21 127 eP P 02 34 24.3 +3.6
comp=Z,39nn,1.5s
M29A Burnside Ranch 25.23 356 ⇑P P 02 34 20.5 +0.3
baz=25,SNR=5.9
M28A Bar X Bar Ranc 25.24 355 ⇑P P 02 34 21.0 +0.7
baz=25
MWC Mount Wilson 25.24 319 eP P 02 34 29.5 +9.0
MWC pmax pmax
comp=Z,23nn,1.3s
MWC Mount Wilson 25.24 319 eP P 02 34 29.5 +9.0
comp=Z,23nn,1.3s
M30A Dale-Ortello V 25.28 357 ⇓P P 02 34 20.2 -0.5
baz=25
ARUT Antelope Range 25.30 331 eP P 02 34 22.5 +1.4
ARUT pmax pmax
comp=Z,3.0nm,1.0s
ARUT Antelope Range 25.30 331 eP P 02 34 22.5 +1.4
comp=Z,3.5nm,1.0s
SHOC Shoshone, Teco 25.32 324 ⇓P P 02 34 21.8 +0.8
baz=25
MVU Marysvale 25.35 334 eP P 02 34 22.9 +1.4
comp=Z,34nm,1.1s
O20A White River Ci 25.36 342 ⇑P P 02 34 22.8 +1.2
baz=25,SNR=25
O20A White River Ci 25.36 342 eP P 02 34 22.6 +1.1
comp=Z,60nm,1.1s
N23A Red Feather La 25.47 346 ⇓P P 02 34 23.0 +0.3
baz=26,SNR=39
N23A Red Feather La 25.47 346 eP P 02 34 23.5 +0.8
comp=Z,49nn,0.9s
M27A Reverse DX Ran 25.48 353 ⇓P P 02 34 22.7 +0.2
baz=26
N22A Wattenberg Ran 25.50 346 ⇓P P 02 34 23.1 +0.2
baz=26,SNR=20
M26A McRoberts Ranc 25.51 352 ⇑P P 02 34 23.4 +0.6
baz=26
TMUT Trail Mountain 25.62 336 eP P 02 34 25.1 +1.0
comp=Z,69nm,1.5s
M25A Palm-Egli Farm 25.62 350 ⇑P P 02 34 24.4 +0.5
baz=26,SNR=14
EDW2 Edwards Air Fo 25.62 320 ⇓P P 02 34 25.0 +1.1
baz=26,SNR=8.1
L30A Spencer Herefo 25.68 358 ⇓P P 02 34 24.4 +0.2
baz=26,SNR=5.6
PHWY Pilot Hill 25.76 348 eP P 02 34 26.2 +0.9
comp=Z,29nn,1.0s
M24A Cheyenne 25.79 349 ⇑P P 02 34 26.4 +1.0
baz=26,SNR=23
L29A Maesberg Ranch 25.83 356 ⇓P P 02 34 25.8 0.0
baz=26
L31A Butterfield Fa 25.88 359 ⇑P P 02 34 25.7 -0.4
baz=26,SNR=9.7
SDDR Presa de Saban 25.89 80 eP P 02 34 28.8 +2.3
comp=Z,40nn,1.0s
OSI Osito Audit: C 25.91 319 ⇑P P 02 34 27.5 +1.0
baz=26
M23A Laramie 25.97 347 ⇑P P 02 34 27.9 +0.7
baz=26,SNR=12
SFIN Lafayette 25.98 20 ⇑P P 02 34 26.7 -0.2

baz=26,SNR=14
SFIN **Lafayette** 25.98 20 *e*P P 02 34 26.5 -0.4
comp=Z,43nm,0.9s
SCIA **State Center** 25.98 9 *e*P P 02 34 26.7 -0.3
comp=Z,169nm,0.8s
N20A **Spence Gulch,** 26.01 343 ⇑P P 02 34 28.3 +0.8
baz=26,SNR=38
L27A **T5 Ranch, Ells** 26.02 353 ⇑P P 02 34 27.5 +0.1
baz=26
FURC **Furnace Creek,** 26.06 324 ⇑P P 02 34 28.9 +1.2
baz=26
L26A **Underwood Farm** 26.07 352 ⇓P P 02 34 28.2 +0.3
baz=26
TPNV **Topopah Spring** 26.07 326 *e*P P 02 34 29.8 +1.8
TPNV pmax pmax
comp=Z,44nm,1.3s
TPNV **Topopah Spring** 26.07 326 ⇑P P 02 34 29.7 +1.7
baz=26,SNR=13
TPNV **Topopah Spring** 26.07 326 *e*P P 02 34 29.8 +1.8
comp=Z,44nm,1.3s
ROSC **El Rosal** 26.09 113 P P 02 34 28.5 -0.2
comp=Z,5.1nm,0.3s,baz=270,slow=20,SNR=7.9
M22A **Cedar Creek Ra** 26.11 346 ⇓P P 02 34 29.1 +0.7
baz=26,SNR=18
MPMC **Manual Prospec** 26.13 323 ⇓P P 02 34 29.4 +0.8
baz=26,SNR=12
BLA **Blacksburg** 26.23 34 *e*P P 02 34 29.0 -0.3
BLA pmax pmax
comp=Z,43nm,1.1s
BLA **Blacksburg** 26.23 34 *e*P P 02 34 29.0 -0.3
comp=Z,43nm,1.1s
ARVC **Arvin** 26.31 320 ⇑P P 02 34 31.2 +1.2
baz=26
L25A **Engebretsen Ra** 26.31 350 ⇑P P 02 34 31.1 +1.0
baz=26,SNR=19
DAC **Darwin (Calif)** 26.34 323 *e*P P 02 34 31.7 +1.2
DAC pmax pmax
comp=Z,15nm,1.2s
DAC **Darwin (Calif)** 26.34 323 *e*P P 02 34 31.7 +1.2
comp=Z,15nm,1.2s
L24A **Wheatland** 26.37 349 ⇑P P 02 34 31.4 +0.8
baz=26
K30A **Basset** 26.40 358 ⇓P P 02 34 31.0 +0.2
baz=26,SNR=8.9
MPU **Maple Canyon** 26.41 337 *e*P P 02 34 31.7 +0.6
comp=Z,17nm,0.9s
ISA **Isabella, Lake** 26.44 321 *e*P P 02 34 32.4 +1.1
ISA pmax pmax
comp=Z,31nm,1.7s
ISA **Isabella, Lake** 26.44 321 ⇓P P 02 34 32.7 +1.4
baz=26
ISA **Isabella, Lake** 26.44 321 *e*P P 02 34 32.4 +1.1
comp=Z,31nm,1.7s
VWCC **Virginia Weste** 26.50 34 *e*P P 02 34 31.5 -0.2
K29A **Lazy Trails An** 26.52 357 ⇑P P 02 34 32.4 +0.6
baz=26
NLU **North Lily Min** 26.53 336 *e*P P 02 34 33.3 +1.1
comp=Z,20nm,1.0s
K28A **Ten Mile Ranch** 26.55 355 ⇓P P 02 34 33.1 +0.9
baz=26
L23A **Garrett** 26.59 348 ⇑P P 02 34 33.0 +0.3
baz=27,SNR=22
DAU **Daniels Canyon** 26.61 338 *e*P P 02 34 33.9 +0.8
DAU **Daniels Canyon** 26.61 338 *e*P P 02 34 33.9 +0.8
K27A **Flueckinger Fa** 26.62 354 ⇑P P 02 34 33.2 +0.3
baz=27,SNR=9.8
L22A **Ellis Ranch, M** 26.67 346 ⇓P P 02 34 34.6 +1.2
baz=27,SNR=8.0
GRAC **Grapevine Rang** 26.72 324 ⇑P P 02 34 35.1 +1.3
baz=27
K26A **Motz Farm, Whi** 26.73 352 ⇑P P 02 34 34.6 +0.7
baz=27
K25A **Mack Ranch, Ha** 26.74 351 ⇑P P 02 34 35.0 +1.0
baz=27,SNR=18
R11A **Troy Canyon, C** 26.78 329 ⇓P P 02 34 35.7 +1.2
baz=27,SNR=8.8
R11A **Troy Canyon, C** 26.78 329 *e*P P 02 34 35.5 +1.1
comp=Z,14nm,1.4s
JLU **Jordanelle** 26.85 337 *e*P P 02 34 36.1 +1.0
comp=Z,36nm,1.7s
VES **Vestal, Richgr** 26.93 320 ⇑P P 02 34 38.3 +2.7
baz=27,SNR=8.0
K24A **Anderson Ranch** 27.01 349 ⇑P P 02 34 37.1 +0.7
baz=27
DUG **Dugway, Tooele** 27.03 335 *e*P P 02 34 38.0 +1.4
DUG pmax pmax
comp=Z,19nm,0.9s
DUG **Dugway, Tooele** 27.03 335 ⇓P P 02 34 37.8 +1.2
baz=27,SNR=23
DUG **Dugway, Tooele** 27.03 335 *e*P P 02 34 38.0 +1.4
comp=Z,18nm,0.9s
J30A **Dallas** 27.05 358 ⇑P P 02 34 36.5 -0.1
baz=27
J27A **Elkhorn Farm,** 27.14 354 ⇓P P 02 34 38.2 +0.7
baz=27,SNR=5.8
SMMC **Simmler** 27.16 319 ⇓P P 02 34 39.1 +1.4
baz=27
J29A **Okreek** 27.16 357 ⇓P P 02 34 37.7 +0.1
baz=27
K23A **Bowen Ranch, D** 27.19 348 ⇑P P 02 34 38.4 +0.4
baz=27,SNR=8.6
J28A **Allard Ranch,** 27.24 355 ⇑P P 02 34 38.6 +0.2
baz=27
K22A **Casper** 27.28 347 ⇑P P 02 34 39.4 +0.5
baz=27,SNR=10
K22A **Casper** 27.28 347 *e*P P 02 34 39.3 +0.5
comp=Z,70nm,1.4s
TCUT **Toone Canyon** 27.29 338 *e*P P 02 34 40.3 +1.3
comp=Z,59nm,1.2s
J26A **Sides Ranch, S** 27.32 352 ⇑P P 02 34 39.9 +0.8
baz=27,SNR=7.3
RCTC **Rector, Farmer** 27.33 321 ⇑P P 02 34 40.1 +0.9
baz=27
ACSO **Alum Creek Sta** 27.39 26 *e*P P 02 34 39.0 -0.7
comp=Z,127nm,1.8s
TPH **Tonopah** 27.42 326 *e*P P 02 34 41.6 +1.4
TPH pmax pmax
comp=Z,10.0nm,1.1s
TPH **Tonopah** 27.42 326 *e*P P 02 34 41.6 +1.4
comp=Z,10nm,1.1s
K21A **Alcova** 27.43 346 ⇑P P 02 34 40.6 +0.4
baz=27
ECSD **EROS Data Cent** 27.47 3 ⇓P P 02 34 41.1 +0.7
baz=27,SNR=12
ECSD **EROS Data Cent** 27.47 3 *e*P P 02 34 39.4 -1.0
comp=Z,15nm,1.0s
J25A **Sunshine Ranch** 27.49 351 ⇑P P 02 34 41.1 +0.4
baz=28,SNR=7.7
JFWS **Jewell Farm** 27.49 13 *e*P P 02 34 40.2 -0.4
JFWS pmax pmax
comp=Z,51nm,0.9s
JFWS **Jewell Farm** 27.49 13 *e*P P 02 34 40.2 -0.4
comp=Z,51nm,0.9s
J24A **Dixon Ranch, L** 27.57 350 ⇑P P 02 34 42.1 +0.7
baz=28,SNR=16
I30A **Oacoma** 27.63 358 ⇓P P 02 34 41.3 -0.5
baz=28
BGU **Big Grassy Mou** 27.73 336 *e*P P 02 34 43.8 +0.9
HWUT **Hardware Ranch** 27.77 338 *e*P P 02 34 43.9 +0.5
comp=Z,10nm,1.0s
HWUT *e*PcP PcP 02 37 59.5 +0.1
I29A **Vivian Onida** 27.77 357 ⇓P P 02 34 43.0 -0.1
baz=28,SNR=6.0
J23A **Dilts Ranch, B** 27.80 349 ⇓P P 02 34 44.2 +0.7
baz=28
I28A **Midland** 27.81 356 ⇑P P 02 34 43.7 +0.3
baz=28
SDV **Santo Domingo** 27.95 102 *e*P P 02 34 41.0 -4.2
comp=Z,15nm,0.9s
I27A **Quinn** 27.95 354 ⇑P P 02 34 45.2 +0.5
baz=28
J22A **Midwest** 28.00 347 ⇓P P 02 34 45.4 +0.2
baz=28,SNR=9.6
I26A **New Underwood** 28.00 353 ⇓P P 02 34 45.7 +0.5
baz=28
I24A **Kuemmerle Ranc** 28.08 350 ⇑P P 02 34 46.6 +0.7
baz=28,SNR=6.6
I25A **Rochford** 28.10 352 ⇓P P 02 34 46.6 +0.4
baz=28
J21A **Lysite** 28.15 346 ⇑P P 02 34 47.1 +0.4
baz=28,SNR=10
BW06 **Boulder Array** 28.17 342 *e*P P 02 34 47.0 +0.1
comp=Z,21nm,1.2s
PDAR **Pinedale Array** 28.17 342 P P 02 34 47.2 +0.4
comp=Z,10nm,1.1s,baz=141,slow=9.6,SNR=48
PDAR PcP PcP 02 38 00.9 +0.5
comp=Z,1.3nm,0.9s,baz=141,slow=5.8,SNR=3.3
PDAR LR LR 02 47 14.6

comp=Z,723nm,21.5s,baz=168,slow=39
RSSD **Black Hills** 28.24 351 *e*P P 02 34 47.6 +0.1
RSSD pmax pmax
comp=Z,22nm,1.3s
RSSD **Black Hills** 28.24 351 *e*P P 02 34 47.6 +0.1
comp=Z,22nm,1.3s
NVAR **Mina Array Bea** 28.26 325 P P 02 34 49.3 +1.6
comp=Z,9.2nm,1.0s,baz=149,slow=9.1,SNR=45
NVAR PcP PcP 02 38 00.6 -0.1
comp=Z,1.1nm,0.7s,baz=159,slow=2.8,SNR=3.9
J20A **Shoshoni** 28.31 345 ⇓P P 02 34 48.3 +0.3
baz=28,SNR=13
HVU **Hansel Valley** 28.37 337 *e*P P 02 34 49.4 +0.8
HVU **Hansel Valley** 28.37 337 *e*P P 02 34 49.4 +0.8
H29A **Onida** 28.37 357 ⇓P P 02 34 48.2 -0.2
baz=28
I22A **9 Mile Ranch,** 28.45 348 ⇑P P 02 34 49.6 +0.3
baz=28,SNR=5.1
H28A **Mission Ridge** 28.47 356 ⇑P P 02 34 49.3 0.0
baz=28
J19A **Crowheart** 28.48 343 ⇓P P 02 34 49.8 +0.1
baz=28,SNR=13
H27A **Howes** 28.51 354 ⇑P P 02 34 50.0 +0.3
baz=28,SNR=11
ELK **Elko** 28.52 332 *e*P P 02 34 51.7 +1.7
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK **Elko** 28.52 332 P P 02 34 51.1 +1.1
comp=Z,3.9nm,1.0s,baz=205,slow=5.5,SNR=12
ELK **Elko** 28.52 332 *e*P P 02 34 51.7 +1.7
comp=Z,8.7nm,1.1s
I21A **Big Trails, Te** 28.55 346 ⇑P P 02 34 50.7 +0.5
baz=28,SNR=20
H26A **Fairpoint** 28.57 353 ⇑P P 02 34 50.5 +0.3
baz=28
AHID **Auburn Hatcher** 28.64 340 *e*P P 02 34 51.8 +0.7
comp=Z,18nm,1.0s
H25A **Fruitdale** 28.67 352 ⇓P P 02 34 51.6 +0.4
baz=29,SNR=13
G30A **Faulkton** 28.84 359 ⇓P P 02 34 51.8 -0.8
baz=29
G28A **Parade** 28.86 356 ⇑P P 02 34 52.8 0.0
baz=29,SNR=6.9
G29A **Hoven** 28.93 358 ⇓P P 02 34 52.7 -0.6
baz=29
H24A **Dirks Ranch, A** 28.93 351 ⇑P P 02 34 53.5 -0.1
baz=29,SNR=24
WAKR **Walker** 28.94 324 *e*P P 02 34 54.8 +1.0
REDW **Red Top Meadow** 29.10 341 *e*P P 02 34 56.2 +1.1
comp=Z,85nm,1.8s
H22A **Clearmont** 29.10 348 ⇑P P 02 34 55.5 +0.5
baz=29,SNR=8.0
CMB **Columbia Colle** 29.16 322 *e*P P 02 34 56.7 +1.1
CMB pmax pmax
comp=Z,6.0nm,1.1s
CMB **Columbia Colle** 29.16 322 *e*P P 02 34 56.7 +1.1
comp=Z,5.9nm,1.1s
I19A **Meeteetse** 29.18 344 ⇓P P 02 34 56.2 +0.3
baz=29,SNR=10
G26A **Maurine** 29.22 354 ⇓P P 02 34 55.9 -0.1
baz=29,SNR=9.6
G27A **Dupree** 29.24 355 ⇓P P 02 34 56.0 -0.2
baz=29
TPAW **Teton Pass** 29.25 341 *e*P P 02 34 57.6 +1.1
comp=Z,31nm,1.3s
LOHW **Long Hollow** 29.25 342 *e*P P 02 34 57.2 +0.7
comp=Z,17nm,0.9s
H21A **Big Horn, Sher** 29.28 347 ⇓P P 02 34 57.0 +0.4
baz=29,SNR=5.2
SPMN **Marine on St.** 29.29 8 ⇓P P 02 34 55.4 -1.2
baz=29,SNR=14
SPMN **Marine on St.** 29.29 8 *e*P P 02 34 56.0 -0.6
comp=Z,36nm,0.8s
H20A **Greybull** 29.36 346 ⇓P P 02 34 57.8 +0.5
baz=29
FXWY **Fox Creek** 29.40 341 *e*P P 02 34 58.9 +1.0
comp=Z,10nm,1.0s
G24A **Alzada** 29.48 351 ⇑P P 02 34 58.9 +0.6
baz=30
G23A **Biddle** 29.51 350 ⇑P P 02 34 59.0 +0.4
baz=30
I17A **Pilgrim Ck.** 29.52 342 ⇓P P 02 34 59.4 +0.5
baz=30,SNR=17
F30A **Lela** 29.54 359 ⇓P P 02 34 58.3 -0.5
baz=30
F29A **Eureka** 29.56 358 ⇓P P 02 34 58.6 -0.4
baz=30
IMW **Indian Meadow** 29.61 341 *e*P P 02 35 00.3 +0.5
comp=Z,10nm,1.1s
IMW *e*PcP PcP 02 38 05.6 +1.5
F28A **McLaughlin** 29.62 356 ⇑P P 02 34 59.2 -0.3
baz=30,SNR=5.1
G22A **Birney** 29.69 349 ⇓P P 02 35 00.1 -0.1
baz=30,SNR=11
FLWY **Flagg Ranch** 29.71 342 *e*P P 02 35 01.8 +1.2
comp=Z,22nm,1.1s
F27A **Lemmon** 29.74 355 ⇓P P 02 35 00.4 -0.2
baz=30,SNR=12
H19A **Powell** 29.77 345 ⇓P P 02 35 01.7 +0.7
baz=30,SNR=13
F26A **Lodgepole** 29.78 354 ⇓P P 02 35 01.0 +0.1
baz=30,SNR=8.0
G21A **Lodge Grass** 29.88 347 ⇑P P 02 35 02.1 +0.1
baz=30
F25A **Bowman** 29.94 353 ⇓P P 02 35 02.4 +0.1
baz=30
H17A **Grant Village** 29.95 342 ⇑P P 02 35 02.2 -0.5
baz=30
H17A **Grant Village** 29.95 342 *e*P P 02 35 06.4 +3.6
comp=Z,14nm,1.4s
H18A **Shoshone NF, C** 29.96 344 ⇑P P 02 35 02.9 +0.2
baz=30,SNR=10
F24A **Ekalaka** 29.99 351 ⇓P P 02 35 03.1 +0.2
baz=30,SNR=8.2
F23A **Volborg** 30.02 350 ⇓P P 02 35 03.2 +0.1
baz=30
LKWY **Lake** 30.06 343 *e*P P 02 35 05.7 +2.0
LKWY pmax pmax
comp=Z,16nm,1.4s
LKWY **Lake** 30.06 343 *e*P P 02 35 05.7 +2.0
comp=Z,16nm,1.4s
G20A **Bridger** 30.10 346 ⇑P P 02 35 03.9 0.0
baz=30
E30A **Jud** 30.21 359 ⇓P P 02 35 04.1 -0.6
baz=30
F22A **Rosebud** 30.23 349 ⇑P P 02 35 04.8 -0.1
baz=30
E27A **Carson** 30.25 356 ⇑P P 02 35 05.3 +0.2
baz=30
RLMT **Red Lodge** 30.27 345 *e*P P 02 35 06.0 +0.5
comp=Z,47nm,1.5s
E29A **Napoleon** 30.29 358 ⇓P P 02 35 05.2 -0.3
baz=30,SNR=7.8
YMR **Madison River** 30.32 342 *e*P P 02 35 06.9 +1.0
comp=Z,17nm,1.1s
E28A **Huff** 30.34 357 ⇑P P 02 35 06.2 +0.3
baz=30
E26A **Carlson Angus** 30.37 354 ⇑P P 02 35 06.2 +0.1
baz=30,SNR=5.5
F21A **Absaloka Mine,** 30.43 348 ⇓P P 02 35 06.9 +0.2
baz=30
E25A **Miller Ranch,** 30.50 353 ⇑P P 02 35 07.8 +0.4
baz=30
HLID **Hailey** 30.52 337 ⇓P P 02 35 07.9 +0.3
baz=30,SNR=13
HLID **Hailey** 30.52 337 *e*P P 02 35 08.2 +0.6
comp=Z,6.0nm,0.9s
QLMT **Earthquake Lak** 30.61 341 *e*P P 02 35 09.9 +1.4
QLMT *e*PcP PcP 02 38 08.4 +1.9
F20A **Billings** 30.63 346 ⇑P P 02 35 09.1 +0.5
baz=31
E24A **Baker** 30.67 352 ⇓P P 02 35 08.8 0.0
baz=31
OHCM **Honcut** 30.67 323 *e*P P 02 35 10.7 +1.9
E23A **Ismay** 30.76 351 ⇑P P 02 35 09.4 -0.2
baz=31
COWI **Conover** 30.77 13 *e*P P 02 35 08.8 -0.9
comp=Z,16nm,0.8s
D29A **Pettibone, Tap** 30.78 358 ⇓P P 02 35 09.3 -0.5
baz=31,SNR=5.2
E22A **Miles City** 30.81 350 ⇑P P 02 35 09.7 -0.3
baz=31,SNR=5.4
D30A **Buchanan** 30.81 359 ⇓P P 02 35 09.3 -0.8
baz=31
F19A **Roth Farm, Mol** 30.87 345 ⇓P P 02 35 10.7 +0.1
baz=31,SNR=6.9
D26A **Manning** 30.92 354 ⇓P P 02 35 11.2 +0.2
baz=31,SNR=8.2

D27A **Center** 30.93 356 ⇓P P 02 35 11.1 0.0
baz=31
D28A **Regan** 30.95 357 ⇑P P 02 35 11.2 -0.1
baz=31,SNR=17
MFID **Camas Ranch** 30.95 335 *e*P P 02 35 12.4 +0.9
comp=Z,23nm,1.3s
GCMT **Greycliff** 30.99 344 *e*P P 02 35 12.4 +0.6
comp=Z,22nm,1.6s
LAO **LASA Array** 31.10 349 *e*P P 02 35 12.4 -0.2
comp=Z,56nm,1.5s
E21A **Keefer Ranch,** 31.11 348 ⇓P P 02 35 12.8 +0.1
baz=31,SNR=8.4
D25A **Fairfield** 31.13 353 ⇓P P 02 35 13.4 +0.6
baz=31,SNR=7.3
D24A **Glendive** 31.22 352 ⇓P P 02 35 13.8 +0.1
baz=31,SNR=11
E20A **Meyer Farm, Mu** 31.30 347 ⇓P P 02 35 14.3 -0.1
baz=31,SNR=7.6
D23A **Lindsay** 31.40 351 ⇑P P 02 35 15.4 +0.1
baz=31
E19A **Rath Farm, Rou** 31.40 346 ⇓P P 02 35 15.8 +0.4
baz=31,SNR=16
BOZ **Bozeman (W)** 31.40 342 *e*P P 02 35 16.2 +0.8
BOZ pmax pmax
comp=Z,41nm,1.7s
BOZ **Bozeman (W)** 31.40 342 *e*P P 02 35 16.2 +0.8
comp=Z,41nm,1.7s
C30A **Mose, Pekin** 31.41 360 ⇑P P 02 35 14.7 -0.5
baz=31,SNR=11
WVOR **Wild Horse Val** 31.41 330 *e*P P 02 35 15.8 +0.3
WVOR *e* 02 38 10.6
WVOR pmax pmax
comp=Z,28nm,1.3s
WVOR **Wild Horse Val** 31.41 330 *e*P P 02 35 15.8 +0.3
comp=Z,28nm,1.3s
WVOR *e*PcP PcP 02 38 10.6 +2.0
DLMT **Dillon** 31.45 341 *e*P P 02 35 17.4 +1.6
comp=Z,42nm,1.1s
C28A **Hausauer Farms** 31.46 357 ⇑P P 02 35 15.8 0.0
baz=31,SNR=5.7
C27A **Sayler Ranch,** 31.53 356 ⇑P P 02 35 16.1 -0.2
baz=32,SNR=7.2
D22A **Cohagen** 31.54 350 ⇓P P 02 35 16.6 +0.2
baz=32,SNR=12
MDND **Maddock** 31.57 358 ⇓P P 02 35 16.7 0.0
baz=32,SNR=35
MDND **Maddock** 31.57 358 *e*P P 02 35 16.7 0.0
comp=Z,775nm,1.1s
D21A **La Casta Ranch** 31.60 349 ⇑P P 02 35 17.7 +0.7
baz=32,SNR=7.9
C24A **Savage** 31.64 352 ⇑P P 02 35 18.1 +0.7
baz=32,SNR=9.4
MMNY **Mt. Morris Dam** 31.67 29 *e*P P 02 35 17.6 -0.1
comp=Z,66nm,1.4s
C25A **Freed Ranch, W** 31.68 354 ⇑P P 02 35 18.3 +0.6
baz=32
C26A **Wahner Farm, P** 31.68 355 ⇑P P 02 35 17.6 -0.1
baz=32,SNR=19
LRM **Limekiln Ridge** 31.81 341 *e*P P 02 35 20.0 +0.9
MOD **Modoc Plateau** 31.83 328 *e*P P 02 35 20.3 +1.1
comp=Z,15nm,1.0s
D20A **Manuel Ranch,** 31.86 347 ⇓P P 02 35 19.6 +0.3
baz=32,SNR=7.1
C23A **Lambert** 32.01 351 ⇑P P 02 35 21.1 +0.5
baz=32,SNR=24
AGMN **Agassiz Nation** 32.06 3 ⇓P P 02 35 20.2 -0.8
baz=32,SNR=32
AGMN **Agassiz Nation** 32.06 3 *e*P P 02 35 20.4 -0.6
comp=Z,46nm,1.0s
C22A **Vida** 32.06 350 ⇓P P 02 35 21.3 +0.3
baz=32,SNR=17
D19A **Cripps Ranch,** 32.09 346 ⇑P P 02 35 21.9 +0.6
baz=32
EYMN **Ely** 32.14 9 *e*P P 02 35 20.6 -1.1
comp=Z,20nm,1.1s
B30A **Myrvik Farm, E** 32.15 360 ⇑P P 02 35 21.4 -0.4
baz=32,SNR=16
B29A **Wagenman Farm,** 32.18 359 ⇑P P 02 35 22.3 +0.3
baz=32,SNR=43
B28A **Dugan Ranch, T** 32.20 357 ⇓P P 02 35 22.4 +0.3
baz=32,SNR=14
B27A **Peters Farms,** 32.20 356 ⇓P P 02 35 22.4 +0.2
baz=32
B25A **Knox Farm, Ray** 32.22 354 ⇑P P 02 35 23.0 +0.6
baz=32,SNR=6.2
B26A **Jensen Ranch,** 32.24 355 ⇓P P 02 35 22.8 +0.2
baz=32
C21A **Desert Coulee** 32.35 349 ⇑P P 02 35 24.1 +0.5
baz=32,SNR=6.0
C20A **Veseth Ranch,** 32.42 348 ⇓P P 02 35 24.8 +0.6
baz=32,SNR=11
HRY **Holter Researc** 32.43 343 *e*P P 02 35 24.9 +0.6
DGMT **Dagmar** 32.53 353 ⇑P P 02 35 25.3 +0.1
baz=32,SNR=7.5
DGMT **Dagmar** 32.53 353 *e*P P 02 35 25.0 -0.2
comp=Z,53nm,1.1s
M04C **Macdoel** 32.55 326 ⇓P P 02 35 26.4 +0.9
baz=33
B22A **Reddig Ranch S** 32.62 350 ⇑P P 02 35 26.1 +0.1
baz=33
B23A **Brockton** 32.63 352 ⇓P P 02 35 26.9 +0.9
baz=33,SNR=13
A29A **Manning Farm,** 32.63 359 ⇓P P 02 35 25.9 -0.1
baz=33,SNR=60
A30A **Hoffart Farm,** 32.64 0 ⇑P P 02 35 25.8 -0.3
baz=33,SNR=31
A28A **Rude Farm, Bot** 32.65 358 ⇑P P 02 35 26.2 0.0
baz=33,SNR=26
C19A **Slack Wire Ran** 32.66 347 ⇑P P 02 35 26.9 +0.6
baz=33,SNR=20
BMO **Blue Mountains** 32.74 335 *e*P P 02 35 26.8 -0.3
comp=Z,44nm,1.6s
A26A **Wade Farm, Ken** 32.74 355 ⇓P P 02 35 27.0 +0.1
baz=33,SNR=19
A27A **Ledoux Ranch,** 32.74 356 ⇑P P 02 35 27.1 +0.2
baz=33
A25A **Svangstu Ranch** 32.88 354 ⇑P P 02 35 28.5 +0.3
baz=33,SNR=7.0
B21A **Ellsworth Farm** 32.92 349 ⇓P P 02 35 29.1 +0.5
baz=33
A24A **Westby** 32.96 353 ⇓P P 02 35 29.3 +0.5
baz=33,SNR=10
CHMT **Chamberlain Mo** 33.04 341 *e*P P 02 35 30.1 +0.2
I07A **Izee** 33.09 331 *e*P P 02 35 30.9 +0.7
comp=Z,13nm,1.1s
EGMT **Eagleton** 33.10 346 ⇑P P 02 35 30.5 +0.3
baz=33,SNR=11
EGMT **Eagleton** 33.10 346 *e*P P 02 35 30.7 +0.6
comp=Z,40nm,1.3s
K04D **Chiloquin, OR** 33.10 327 ⇑P P 02 35 31.3 +1.0
baz=33
A23A **Redstone** 33.10 352 ⇑P P 02 35 30.6 +0.5
baz=33,SNR=7.4
B20A **Solberg Farm,** 33.12 348 ⇓P P 02 35 30.9 +0.7
baz=33
MSO **Missoula** 33.18 340 ⇓P P 02 35 31.7 +0.8
baz=33
MSO **Missoula** 33.18 340 *e*P P 02 35 31.9 +0.9
comp=Z,11nm,1.1s
A22A **Carney Farms,** 33.28 351 ⇑P P 02 35 32.5 +0.7
baz=33,SNR=16
B19A **Brinkman Farms** 33.32 347 ⇓P P 02 35 32.6 +0.6
baz=33,SNR=12
SLMT **Seeley Lake** 33.40 341 *e*P P 02 35 33.6 +0.6
A21A **Bergtoll Ranch** 33.45 350 ⇓P P 02 35 34.0 +0.9
baz=33
A20A **Cobblestone Ra** 33.52 348 ⇑P P 02 35 34.2 +0.4
baz=34,SNR=10
F10A **Beach Ranch, E** 33.63 336 *e*P P 02 35 35.2 +0.3
J04D **Umpqua Nationa** 33.72 328 ⇑P P 02 35 36.4 +0.5
baz=34
A19A **Klindworth Far** 33.73 348 ⇓P P 02 35 36.3 +0.6
baz=34,SNR=19
L02D **Cave Junction,** 33.76 325 ⇑P P 02 35 36.9 +0.9
baz=34
G08A **Pilot Rock** 33.79 333 *e*P P 02 35 35.2 -1.1
SWMT **Swartz Lake** 33.80 341 *e*P P 02 35 36.9 +0.5
SWMT *e*PcP PcP 02 38 15.8 +0.8
ULM **Lac du Bonnet** 34.01 3 P P 02 35 37.2 -0.8
ULM pmax pmax
comp=Z,18nm,1.0s
ULM **Lac du Bonnet** 34.01 3 P P 02 35 37.1 -0.8
comp=Z,16nm,1.0s,baz=190,slow=9.2,SNR=20
ULM LR LR 02 50 06.9
comp=Z,146nm,18.5s,baz=210,slow=38
ULM **Lac du Bonnet** 34.01 3 P P 02 35 37.1 -0.8
comp=Z,18nm,1.0s
JTMT **Jette** 34.10 341 *e*P P 02 35 39.6 +0.7

JTMT ePcP PcP 02 38 17.0 +1.0
YBMT Yellow Bay 34.12 341 eP P 02 35 39.8 +0.6
YBMT ePcP PcP 02 38 16.4 +0.4
I05D Terrebonne, OR 34.14 330 ⇑P P 02 35 40.0 +0.8
baz=34
BSMT Bassoo Peak 34.35 340 eP P 02 35 41.3 +0.1
comp=Z,15nm,1.8s
BLMT Blacktail Moun 34.36 341 eP P 02 35 42.3 +1.0
E09A Wood Farm, Sta 34.44 336 eP P 02 35 41.5 -0.2
PTN Potsdam (NY) 34.45 30 eP P 02 35 42.4 +0.5
PTN pmax pmax
comp=Z,143nm,2.0s
PTN Potsdam (NY) 34.45 30 eP P 02 35 42.4 +0.5
comp=Z,143nm,2.0s
H04A Detroit Lake 34.80 330 eP P 02 35 45.8 +0.8
comp=Z,34nm,1.1s
WALA Waterton Lakes 35.15 342 eP P 02 35 48.6 +0.6
E07A Sunnyside 35.17 334 eP P 02 35 48.4 +0.2
comp=Z,9.4nm,0.9s
NEW Newport 35.51 338 eP P 02 35 51.6 +0.6
NEW 02 38 20.1
NEW pmax pmax
comp=Z,12nm,1.2s
NEW Newport 35.51 338 P P 02 35 51.1 +0.1
comp=Z,4.6nm,1.0s,baz=134,slow=9.4,SNR=5.1
NEW PcP PcP 02 38 20.1 +0.2
comp=Z,2.2nm,0.8s,baz=108,slow=3.2,SNR=4.3
NEW Newport 35.51 338 ⇑P P 02 35 51.7 +0.7
baz=36
NEW Newport 35.51 338 eP P 02 35 51.6 +0.6
comp=Z,12nm,1.2s
NEW PcP PcP 02 38 20.1 +0.2
C09A Chrisman Ranch 35.54 337 eP P 02 35 52.1 +0.8
comp=Z,18nm,0.9s
G03D McMinnville, O 35.72 329 ⇓P P 02 35 53.6 +0.9
baz=36
LTY Liberty 36.07 334 eP P 02 35 57.0 +1.2
comp=Z,49nm,1.5s
LON Longmire 36.17 332 eP P 02 35 57.6 +0.9
LON e 02 38 21.0
LON pmax pmax
comp=Z,12nm,1.1s
LON Longmire 36.17 332 eP P 02 35 57.6 +0.9
comp=Z,12nm,1.1s
LON ePcP PcP 02 38 21.0 -0.9
B08A Colville Reser 36.41 336 eP P 02 35 59.4 +0.7
comp=Z,16nm,1.3s
D05A Enumclaw 36.59 333 eP P 02 36 02.1 +2.0
comp=Z,30nm,1.0s
FFC Flin Flon 38.54 357 P P 02 36 16.0 -0.6
comp=Z,227nm,1.0s,SNR=17
FFC Flin Flon 38.54 357 eP P 02 36 16.5 -0.1
FFC pmax pmax
comp=Z,40nm,1.0s
FFC Flin Flon 38.54 357 eP P 02 36 16.5 -0.1
comp=Z,40nm,1.0s
EDM Edmonton 38.78 346 eP P 02 36 18.5 -0.2
EDM Edmonton 38.78 346 eP P 02 36 18.5 -0.2
PTGA Pitinga 41.41 110 eP P 02 36 42.6 +1.7
FCC Fort Churchill 42.60 3 eP P 02 36 49.7 -0.3
FCC pmax pmax
comp=Z,12nm,0.6s
FCC Fort Churchill 42.60 3 eP P 02 36 49.7 -0.3
comp=Z,12nm,0.6s
SAML Samuel 42.82 123 eP P 02 36 52.2 -0.2
LPAZ La Paz 43.92 136 eP P 02 37 03.6 +1.6
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 43.92 136 P P 02 37 02.4 +0.4
comp=Z,2.1nm,0.7s,baz=346,slow=6.0,SNR=10
LPAZ LR LR 02 54 14.3
comp=Z,187nm,18.6s,baz=323,slow=35
LPAZ La Paz 43.92 136 eP P 02 37 03.6 +1.6
comp=Z,2.6nm,0.8s
SCHQ Schefferville 45.54 25 P P 02 37 13.4 -0.3
comp=Z,27nm,0.9s,baz=232,slow=6.1,SNR=18
SCHQ LR LR 02 58 10.6
comp=Z,125nm,20.1s,baz=274,slow=39
SCHQ Schefferville 45.54 25 eP P 02 37 13.9 +0.2
comp=Z,32nm,0.9s
YKA Yellowknife Ar 47.63 350 P P 02 37 29.4 -0.6
comp=Z,6.2nm,0.9s,baz=158,slow=7.5,SNR=58
DLBC Dease Lake 48.26 338 P P 02 37 35.0 0.0
comp=Z,7.0nm,1.0s,baz=172,slow=6.6,SNR=9.0
TAOE Nuku Hiva Isla 48.33 242 eT T 03 28 59.0
comp=Z,142nm,0.3s
HYT Haines Junctio 52.65 337 eP P 02 38 09.9 +1.7
comp=Z,28nm,1.2s
HYT ePcP PcP 02 39 18.9 +1.0
RKT Rikitea 53.05 223 eT T 03 34 59.9
comp=Z,13nm,0.3s
DAWY Dawson 55.42 339 eP P 02 38 29.2 +0.9
CFAA Coronel Fontan 55.61 149 P P 02 38 31.3 +1.2
comp=Z,0.4nm,0.8s,baz=357,slow=11,SNR=3.7
EGAK Eagle 56.46 340 eP P 02 38 35.8 +0.1
comp=Z,16nm,1.0s
INK Inuvik 56.68 345 eP P 02 38 37.1 0.0
INK pmax pmax
comp=Z,22nm,1.1s
INK Inuvik 56.68 345 P P 02 38 37.4 +0.3
comp=Z,18nm,1.0s,baz=131,slow=7.7,SNR=52
INK Inuvik 56.68 345 eP P 02 38 37.1 0.0
comp=Z,22nm,1.1s
DOT Dot Lake 56.81 338 eP P 02 38 39.5 +1.3
comp=Z,24nm,1.1s
PAX Paxson 56.96 336 eP P 02 38 40.2 +0.8
PAX pmax pmax
comp=Z,11nm,0.9s
PAX Paxson 56.96 336 eP P 02 38 40.1 +0.8
comp=Z,11nm,0.9s
PMR Palmer 57.73 334 eP P 02 38 45.6 +0.9
PMR pmax pmax
comp=Z,10.0nm,0.9s
PMR Palmer 57.73 334 eP P 02 38 45.6 +0.9
comp=Z,9.6nm,0.9s
PMOR Pomariorio Ree 57.96 240 eT T 03 41 01.3
comp=Z,3.5nm,0.2s
CPUP Villa Florida 58.09 136 P P 02 38 48.2 +0.5
comp=Z,1.5nm,1.0s,baz=320,slow=6.9,SNR=6.7
CPUP LR LR 03 02 51.9
comp=Z,525nm,19.5s,baz=51,slow=35
ILAR Eielson Array 58.46 338 P P 02 38 50.2 +0.5
comp=Z,8.4nm,1.0s,baz=139,slow=4.9,SNR=59
ILAR LR LR 03 04 51.5
comp=Z,146nm,19.2s,baz=140,slow=37
MCK McKinley 58.69 336 eP P 02 38 52.2 +0.8
MCK McKinley 58.69 336 eP P 02 38 52.2 +0.8
BDFB Brasilia 58.87 120 P P 02 38 54.9 +1.5
comp=Z,5.9nm,0.6s,baz=284,slow=8.3,SNR=11
BDFB LR LR 03 03 21.6
comp=Z,95nm,18.6s,baz=253,slow=35
COLA College 58.87 338 eP P 02 38 53.2 +0.7
COLA e 02 39 42.3
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 58.87 338 eP P 02 38 53.2 +0.7
comp=Z,12nm,0.9s
COLA ePcP PcP 02 39 42.3 +0.6
TRF Thorofare Moun 59.09 336 eP P 02 38 54.8 +0.5
comp=Z,36nm,1.0s
SFJD Kangerlussuaq 59.38 20 *i* P P 02 38 55.8 -0.3
SFJD Kangerlussuaq 59.38 20 eP P 02 38 56.2 +0.1
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 59.38 20 *i* P P 02 38 55.8 -0.3
comp=Z,11nm,1.0s
KTH Kantishna Hill 59.39 336 eP P 02 38 56.4 +0.1
comp=Z,14nm,0.9s
PPLA Purkeypile 59.60 335 eP P 02 38 58.5 +0.6
comp=Z,45nm,1.3s
CAST Castle Rocks 59.79 335 eP P 02 38 59.5 +0.5
SVW2 Sparrevohn 60.34 332 eP P 02 39 02.6 -0.2
PPT Papeete 60.65 239 LR LR 02 59 08.7
comp=Z,107nm,19.1s,baz=354,slow=30
PPT2 Papeete2 60.66 239 eLR LR 02 56 56.1
comp=Z,122nm,27.2s
COLD Coldfoot 60.90 339 eP P 02 39 08.1 +1.6
PLCA Paso Flores 62.24 156 eP P 02 39 18.0 +2.1
PLCA pmax pmax
comp=Z,12nm,1.4s
PLCA Paso Flores 62.24 156 P P 02 39 17.6 +1.6
comp=Z,4.8nm,0.8s,baz=338,slow=5.1,SNR=6.1
PLCA LR LR 03 00 51.3
comp=Z,187nm,18.4s,baz=314,slow=31
PLCA Paso Flores 62.24 156 eP P 02 39 18.0 +2.1
comp=Z,12nm,1.4s
KULLO Kullorsuaq 62.55 11 ⇑*i*P P 02 39 17.4 0.0
comp=Z,10nm,1.0s
TBI Tubuai 63.61 233 eLR LR 02 58 34.2
comp=Z,139nm,29.2s
TBI Tubuai 63.61 233 *e*T T 03 48 07.6
comp=Z,20nm,0.2s
SUMG Summit 65.80 17 ⇑*i*P P 02 39 40.0 +0.7
SUMG Summit 65.80 17 eP P 02 39 39.4 0.0
comp=Z,21nm,1.0s
SUMG Summit 65.80 17 ⇑*i*P P 02 39 40.0 +0.7
comp=Z,17nm,0.9s
ALE Alert 67.84 5 P P 02 39 50.8 -0.9
comp=Z,55nm,1.1s,SNR=6.4
DAG Danmarks Havn 71.96 14 ⇑eP P 02 40 16.7 -0.4
DAG Danmarks Havn 71.96 14 ⇑*i*P P 02 40 16.7 -0.4
comp=Z,9.7nm,0.9s
SPITS Spitsbergen Ar 79.12 11 P P 02 40 59.0 +0.8
SPITS Spitsbergen Ar 79.12 11 P P 02 40 59.0 +0.8
comp=Z,7.1nm,0.9s,baz=251,slow=5.0,SNR=4.8
PMST Lisbon--Monsan 79.37 53 eP P 02 41 01.8 +1.6
comp=Z,48nm,1.3s
PCAS Casmilo, Conde 79.61 51 eP P 02 41 02.9 +1.4
comp=Z,33nm,1.8s
PACT Alcochete 79.64 53 eP P 02 41 04.1 +2.5
comp=Z,96nm,2.3s
POLO Lamas de Olo 79.85 50 eP P 02 41 04.1 +1.2
comp=Z,5.6nm,1.9s
PNCL Nicolau / Gran 80.01 53 eP P 02 41 04.3 +0.6
comp=Z,19nm,1.6s
PMTG Montargil 80.03 52 eP P 02 41 04.4 +0.6
comp=Z,11nm,1.2s
EVOP Sao Brissos 80.23 53 ⇑*i*P P 02 41 05.3 +0.4
EVOP pmax pmax
comp=Z,50nm,1.4s
EVOP Sao Brissos 80.23 53 ⇑*i*P P 02 41 05.3 +0.4
comp=Z,50nm,1.4s
MTE Manteigas 80.25 51 eP P 02 41 05.5 +0.4
comp=Z,13nm,1.4s
EVO Evora 80.31 53 ⇑*i*P P 02 41 05.3 0.0
comp=Z,50nm,1.4s
EVO Evora 80.31 53 eP P 02 41 06.2 +0.9
comp=Z,15nm,1.9s
PCBR Castelo Branco 80.42 51 eP P 02 41 04.9 -1.0
comp=Z,17nm,1.4s
MVO Moncorvo 80.46 50 eP P 02 41 06.9 +0.7
comp=Z,18nm,1.5s
PBRG Braganca 80.52 49 eP P 02 41 09.5 +3.0
comp=Z,11nm,1.8s
PESTR Estremoz 80.56 52 eP P 02 41 07.1 +0.4
comp=Z,15nm,1.7s
PMRV Marv??o 80.58 52 eP P 02 41 07.5 +0.7
comp=Z,17nm,1.5s
ROSF Rostrenen 81.35 42 eP P 02 41 11.3 +0.6
comp=Z,11nm,1.0s
ROSF Rostrenen 81.35 42 eP P 02 41 11.3 +0.6
ROSF pmax pmax
comp=Z,11nm,1.0s
ROSF Rostrenen 81.35 42 eP P 02 41 11.3 +0.6
comp=Z,11nm,1.0s
QUIF Quistinic 81.53 43 eP P 02 41 12.1 +0.5
QUIF Quistinic 81.53 43 eP P 02 41 12.1 +0.5
QUIF Quistinic 81.53 43 eP P 02 41 12.1 +0.5
PAB San Pablo 82.84 51 eP P 02 41 19.0 +0.2
PAB pmax pmax
comp=Z,11nm,1.4s
PAB San Pablo 82.84 51 eP P 02 41 19.0 +0.2
comp=Z,11nm,1.4s
GRR Gorron 82.89 42 ⇑*i*P P 02 41 19.4 +0.7
comp=Z,36nm,1.2s
GRR Gorron 82.89 42 ⇑*i*P P 02 41 19.4 +0.7
GRR pmax pmax
comp=Z,36nm,1.2s
GRR Gorron 82.89 42 ⇑*i*P P 02 41 19.4 +0.7
comp=Z,36nm,1.2s
FLN La Foliniere 83.02 41 ⇑*i*P P 02 41 20.2 +0.8
comp=Z,34nm,1.1s
FLN La Foliniere 83.02 41 ⇑*i*P P 02 41 20.2 +0.8
FLN pmax pmax
comp=Z,34nm,1.1s
FLN La Foliniere 83.02 41 ⇑*i*P P 02 41 20.2 +0.8
comp=Z,34nm,1.1s
ESDC Sonseca Array 83.09 51 P P 02 41 19.9 -0.1
comp=Z,2.8nm,1.0s,baz=301,slow=4.9,SNR=14
ESDC LR LR 03 17 49.9
comp=Z,54nm,18.1s,baz=265,slow=35
LDF La Druitiere 83.30 41 eP P 02 41 21.5 +0.6
comp=Z,14nm,1.0s
LDF La Druitiere 83.30 41 eP P 02 41 21.5 +0.6
LDF pmax pmax
comp=Z,14nm,1.0s
LDF La Druitiere 83.30 41 eP P 02 41 21.5 +0.6
comp=Z,14nm,1.0s
MFF Saint Martin d 83.86 43 eP P 02 41 24.5 +0.7
MFF Saint Martin d 83.86 43 eP P 02 41 24.5 +0.7
MFF Saint Martin d 83.86 43 eP P 02 41 24.5 +0.7
SJPF Ste Jean 84.13 47 eP P 02 41 26.1 +0.8
SJPF Ste Jean 84.13 47 eP P 02 41 26.1 +0.8
SJPF Ste Jean 84.13 47 eP P 02 41 26.1 +0.8
SEY Seymchan 84.18 334 P P 02 41 25.8 +0.7
comp=Z,3.4nm,0.6s,baz=78,slow=4.8,SNR=12
ETSF Etsaut 84.66 47 eP P 02 41 28.9 +0.8
comp=Z,14nm,1.1s
ETSF Etsaut 84.66 47 eP P 02 41 28.9 +0.8
ETSF pmax pmax
comp=Z,14nm,1.1s
ETSF Etsaut 84.66 47 eP P 02 41 28.9 +0.8
comp=Z,14nm,1.1s
PET Petropavlovsk 84.83 324 *i* P P 02 41 27.5 -1.0
PET pmax pmax
comp=Z,19nm,1.6s
LFF La Frestale 84.95 45 eP P 02 41 29.9 +0.6
comp=Z,12nm,0.8s
LFF La Frestale 84.95 45 eP P 02 41 29.9 +0.6
LFF pmax pmax
comp=Z,12nm,0.8s
LFF La Frestale 84.95 45 eP P 02 41 29.9 +0.6
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 85.06 27 P P 02 41 30.9 +1.3
comp=Z,1.6nm,0.7s,baz=299,slow=5.1
NOA NORSAR Array B 85.06 27 P P 02 41 30.9 +1.3
comp=Z,2.6nm,0.8s,baz=298,slow=4.9,SNR=8.5
NOA LR LR 03 18 58.9
comp=Z,36nm,22.0s,baz=290,slow=35
EPF Esparros 85.25 47 eP P 02 41 32.0 +1.0
comp=Z,36nm,1.3s
EPF Esparros 85.25 47 eP P 02 41 32.0 +1.0
EPF pmax pmax
comp=Z,36nm,1.3s
EPF Esparros 85.25 47 eP P 02 41 32.0 +1.0
comp=Z,36nm,1.3s
PETK Petropavlovsk- 85.34 324 P P 02 41 32.1 +0.9
comp=Z,4.1nm,0.8s,baz=89,slow=8.1,SNR=7.1
RJF Les Rejaudoux 85.36 44 ⇑*i*P P 02 41 32.0 +0.6
comp=Z,28nm,1.2s
RJF Les Rejaudoux 85.36 44 ⇑*i*P P 02 41 32.0 +0.6
RJF pmax pmax
comp=Z,28nm,1.2s
RJF Les Rejaudoux 85.36 44 ⇑*i*P P 02 41 32.0 +0.6
comp=Z,28nm,1.2s
HYF Humbligny 85.47 42 eP P 02 41 32.6 +0.7
HYF Humbligny 85.47 42 eP P 02 41 32.6 +0.7
TCF Toulx Ste Croi 85.51 43 ⇑*i*P P 02 41 32.6 +0.4
comp=Z,38nm,1.2s
TCF Toulx Ste Croi 85.51 43 ⇑*i*P P 02 41 32.6 +0.4
TCF pmax pmax
comp=Z,38nm,1.2s
TCF Toulx Ste Croi 85.51 43 ⇑*i*P P 02 41 32.6 +0.4
comp=Z,38nm,1.2s
BAIF Baives 85.53 39 eP P 02 41 32.9 +0.8
comp=Z,35nm,1.4s
BAIF Baives 85.53 39 eP P 02 41 32.9 +0.8
BAIF pmax pmax
comp=Z,35nm,1.4s
BAIF Baives 85.53 39 eP P 02 41 32.9 +0.8
comp=Z,35nm,1.4s
BGF Bois d'Agland 85.84 43 ⇑*i*P P 02 41 34.1 +0.3
comp=Z,30nm,1.1s
BGF Bois d'Agland 85.84 43 ⇑*i*P P 02 41 34.1 +0.3
BGF pmax pmax
comp=Z,30nm,1.1s
BGF Bois d'Agland 85.84 43 ⇑*i*P P 02 41 34.1 +0.3
comp=Z,30nm,1.1s
CAF Calviac 85.85 44 eP P 02 41 34.4 +0.5
CAF Calviac 85.85 44 eP P 02 41 34.4 +0.5
CAF Calviac 85.85 44 eP P 02 41 34.4 +0.5
GIVF Givet 85.89 39 eP P 02 41 34.8 +0.9
GIVF Givet 85.89 39 eP P 02 41 34.8 +0.9
GIVF Givet 85.89 39 eP P 02 41 34.8 +0.9
ARCES ARCESS Array B 85.89 17 P P 02 41 33.3 -0.2
comp=Z,6.7nm,0.8s,baz=298,slow=5.1,SNR=8.1
ARCES LR LR 03 23 21.9
comp=Z,38nm,18.1s,baz=7.5,slow=38
AVF Avril sur Loir 86.09 42 eP P 02 41 35.0 0.0
comp=Z,19nm,1.2s
AVF Avril sur Loir 86.09 42 eP P 02 41 35.0 0.0
AVF pmax pmax
comp=Z,19nm,1.2s
AVF Avril sur Loir 86.09 42 eP P 02 41 35.0 0.0
comp=Z,19nm,1.2s
SSF Saint Saulge 86.10 42 ⇑*i*P P 02 41 35.3 +0.3
comp=Z,33nm,1.3s
SSF Saint Saulge 86.10 42 ⇑*i*P P 02 41 35.3 +0.3
SSF pmax pmax
comp=Z,33nm,1.3s
SSF Saint Saulge 86.10 42 ⇑*i*P P 02 41 35.3 +0.3
comp=Z,33nm,1.3s
LOR Lormes 86.26 42 ⇑*i*P P 02 41 36.3 +0.5
comp=Z,53nm,1.3s
LOR Lormes 86.26 42 ⇑*i*P P 02 41 36.3 +0.5
LOR pmax pmax
comp=Z,53nm,1.3s
LOR Lormes 86.26 42 ⇑*i*P P 02 41 36.3 +0.5
comp=Z,53nm,1.3s
SMF Signal de Mont 86.46 42 eP P 02 41 36.8 0.0
comp=Z,27nm,1.4s
SMF Signal de Mont 86.46 42 eP P 02 41 36.8 0.0
SMF pmax pmax
comp=Z,27nm,1.4s
SMF Signal de Mont 86.46 42 eP P 02 41 36.8 0.0
comp=Z,27nm,1.4s
MTLF Montolieu 86.46 46 ⇑*i*P P 02 41 37.5 +0.6
comp=Z,33nm,1.3s
MTLF Montolieu 86.46 46 ⇑*i*P P 02 41 37.5 +0.6
MTLF pmax pmax
comp=Z,33nm,1.3s
MTLF Montolieu 86.46 46 ⇑*i*P P 02 41 37.5 +0.6
comp=Z,33nm,1.3s
MEZF Maizieres J'vi 86.59 40 eP P 02 41 38.2 +0.8
MEZF Maizieres J'vi 86.59 40 eP P 02 41 38.2 +0.8
SFTF Sexfontaines 86.68 41 eP P 02 41 38.4 +0.5
comp=Z,46nm,1.4s
SFTF Sexfontaines 86.68 41 eP P 02 41 38.4 +0.5
comp=Z,46nm,1.4s
TIXI Tiksi 86.78 347 *c* *i*P P 02 41 37.6 -0.2
TIXI pmax pmax
comp=Z,11nm,1.4s
TIXI Tiksi 86.78 347 eP P 02 41 37.7 -0.2
comp=Z,22nm,1.4s
PAGF Fort de Pagny 86.98 40 eP P 02 41 40.3 +0.9
PAGF Fort de Pagny 86.98 40 eP P 02 41 40.3 +0.9
LASF Ste Croix 87.34 45 eP P 02 41 42.3 +1.1
comp=Z,39nm,1.4s
LASF Ste Croix 87.34 45 eP P 02 41 42.3 +1.1
comp=Z,39nm,1.4s
HAU Haudompre 87.57 41 eP P 02 41 42.9 +0.7
comp=Z,5.3nm,0.7s
HAU Haudompre 87.57 41 eP P 02 41 42.9 +0.7
HAU pmax pmax
comp=Z,5.0nm,0.7s
HAU Haudompre 87.57 41 eP P 02 41 42.9 +0.7
comp=Z,5.3nm,0.7s
VIVF Saint-Julien-l 87.62 44 eP P 02 41 43.4 +0.9
VIVF Saint-Julien-l 87.62 44 eP P 02 41 43.4 +0.9
VIVF Saint-Julien-l 87.62 44 eP P 02 41 43.4 +0.9
CABF La Chapelle 87.92 42 eP P 02 41 44.7 +0.7
CABF La Chapelle 87.92 42 eP P 02 41 44.7 +0.7
CABF La Chapelle 87.92 42 eP P 02 41 44.7 +0.7
HINF Hinteralfeld 87.96 41 eP P 02 41 44.7 +0.6
HINF Hinteralfeld 87.96 41 eP P 02 41 44.7 +0.6
HINF Hinteralfeld 87.96 41 eP P 02 41 44.7 +0.6
CDF Champ du Feu 88.00 40 eP P 02 41 44.3 0.0
CDF Champ du Feu 88.00 40 eP P 02 41 44.3 0.0
CDF Champ du Feu 88.00 40 eP P 02 41 44.3 0.0
ORIF Oris-en-Rattie 88.40 44 eP P 02 41 46.7 +0.4
ORIF Oris-en-Rattie 88.40 44 eP P 02 41 46.7 +0.4
ORIF Oris-en-Rattie 88.40 44 eP P 02 41 46.7 +0.4
LPG La Plagne 88.76 43 eP P 02 41 49.1 +0.8
LPG La Plagne 88.76 43 eP P 02 41 49.1 +0.8
LPG La Plagne 88.76 43 eP P 02 41 49.1 +0.8
DAVA Damuels 90.05 40 ⇓*i*PcP P 02 41 55.2 +1.1
comp=Z,9.0nm,1.2s
CLL Collm 90.18 36 eP P 02 41 54.0 -0.4
CLL pmax pmax
comp=Z,6.0nm,1.5s
CLL Collm 90.18 36 eP P 02 41 54.0 -0.4
comp=Z,6.0nm,1.5s
CLL ePP PP 02 45 29.0 +1.3
CLL eSSS SSS 03 02 30.0
KAF Kangasniemi 90.67 23 eP P 02 41 54.7 -1.7
KAF Kangasniemi 90.67 23 epkp P 02 41 54.7 -1.7
FETA Feichten 90.69 40 ⇓*i*PcP P 02 41 58.1 +1.0
comp=Z,4.9nm,1.5s
BRG Berggiesshubel 90.91 36 eP P 02 41 57.0 -0.8
comp=Z,4.3nm,1.2s
BRG Berggiesshubel 90.91 36 eP P 02 41 57.0 -0.8
BRG pmax pmax
comp=Z,4.0nm,1.2s
FINES FINESS Array B 91.00 23 P P 02 41 57.6 -0.4
comp=Z,3.1nm,0.9s,baz=246,slow=3.8,SNR=6.1
LIC Lamto 91.42 83 eP P 02 41 59.9 -1.0
LIC Lamto 91.42 83 eP P 02 41 59.9 -1.0
DBIC Dimbokro 91.46 83 LR LR 03 18 10.4
comp=Z,42nm,20.8s,baz=296,slow=32
GERES GERESS Array B 91.69 38 P P 02 42 01.8 +0.2
comp=Z,0.1nm,0.4s,baz=282,slow=2.6,SNR=4.4
GERES LR LR 03 25 10.1
comp=Z,107nm,18.6s,baz=302,slow=37
UPC Upice 92.24 36 eP P 02 42 05.5 +1.5
UPC Upice 92.24 36 eP P 02 42 05.5 +1.5
DPC Dobruska-Polom 92.49 36 eP P 02 42 05.6 +0.4
DPC Dobruska-Polom 92.49 36 eP P 02 42 05.6 +0.4
DPC ex x 02 42 37.6
TREC Trest 92.52 37 AMS AMS 03 29 20.0
comp=Z,200nm,15.1s
YAK Yakutsk 93.35 339 eP P 02 42 08.3 -0.5
YAK pmax pmax
comp=Z,12nm,0.9s
CONA Conrad Observa 93.39 38 ⇑*i*PcP P 02 42 10.8 +1.3
comp=Z,5.9nm,1.5s
KEST Kesra 94.34 51 P P 02 42 12.8 -1.3
comp=Z,1.0nm,0.8s,baz=232,slow=19,SNR=2.3
TORD Torodi Ar. Bea 95.73 75 P P 02 42 20.0 -0.7
comp=Z,0.9nm,0.8s,baz=283,slow=4.5,SNR=4.4
TORD LR LR 03 22 07.5
comp=Z,107nm,20.9s,baz=250,slow=33
PRGR Permogore 97.30 16 eP P 02 42 25.1 -1.8
PRGR pmax pmax
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 116.82 335 ePKP PKPdf 02 47 38.1 -0.8
HHC sPKP 02 47 52.9
HHC PP PP 02 48 49.0 +2.5
HHC SKKS 02 55 38.0
HHC SS SS 03 04 47.3 -3.7
HHC PPMZ
comp=Z,61nm,9.3s
HHC LZ
comp=Z,130nm,20.0s
MKAR Makanchi Array 117.29 360 PKP PKPdf 02 47 39.1 -0.5
comp=Z,0.4nm,0.7s,baz=46,slow=3.5,SNR=4.4
WMQ Urumqi 120.01 355 ePKP PKPdf 02 47 47.8 +2.9
WMQ LN
comp=Z,230nm,21.2s
WMQ LE
comp=Z,170nm,25.6s
WMQ LZ
comp=Z,140nm,22.8s
NJ2 Nanjing 120.24 324 ePKP PKPdf 02 47 44.6 -1.0
STKA Stephens Creek 123.76 242 PKP PKPdf 02 47 52.8 +0.5
comp=Z,2.8nm,0.7s,baz=11,slow=3.5,SNR=9.1
LZH Lanzhou 123.92 338 ePKP PKPdf 02 47 55.8 +3.0
LZH sPKP 02 48 13.6
KSH Kashi 124.31 5 ePKP PKPdf 02 47 53.4 0.0
KSH sPKP 02 48 07.9
KSH PKS PKSdf 02 51 28.8 -1.4
KSH SKS SKSdf 02 55 00.1 -3.4
KSH PPMZ
comp=Z,64nm,6.0s
KSH LZ
comp=Z,150nm,5.9s
CD2 Chengdu 128.57 336 PKP PKPdf 02 48 02.0 +0.3
CD2 sPKP 02 48 23.3
CD2 PP PP 02 50 10.4 +4.5
CD2 PKS PKSdf 02 51 38.0 -0.4

CD2				SKS	**SKSdf**	**02 55 07.8**	**-3.7**
CD2				SKKS	**SKKSac**	**02 56 56.6**	**-6.0**
CD2				SS	**SS**	**03 07 17.1**	**-3.0**
CD2				PPMZ			
	comp=Z,120nm,5.6s						
WRA	**Warramunga Arr**	**129.98**	**257**	PKP	**PKPdf**	**02 48 04.6**	**+0.1**
	comp=Z,4.8nm,1.1s,baz=79,slow=1.4,SNR=17						
ASAR	**Alice Springs**	**130.58**	**253**	PKP	**PKPdf**	**02 48 05.8**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=113,slow=1.2,SNR=12						
CMAR	**Chiang Mai Arr**	**141.59**	**333**	PKP	**PKPdf**	**02 48 27.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=48,slow=2.1,SNR=6.2						
HYB	**Hyderabad**	**146.44**	**5**	*i* PKP	**PKPdf**	**02 48 35.0**	**+0.3**
KSM	**Kuching**	**146.72**	**299**	*e*PKPdf	**PKPbc**	**02 48 37.1**	**+0.2**
ABPO	**Ambohimpanom**	**147.06**	**100**	*e*PKP2	**PKPab**	**02 48 39.7**	**+0.2**
ABPO	**Ambohimpanom**	**147.06**	**100**	*e*PKPbc	**PKPab**	**02 48 39.7**	**+0.2**

GUC 20 02:32:06.5±0.4, 33°.67S×70°.30W, h107km±2km, ML3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJCH	**San Jose de Ma**	**0.05**	**302**	*e*P	Pn	02 32 21.3	0.0
SJCH				*e*S	Sn	02 32 32.9	+0.4
CLCH	**Cerro Calan**	**0.34**	**324**	*e*P	Pn	02 32 22.4	+0.2
CLCH				*e*S	Sn	02 32 34.5	+0.6
CLCH				AML	AML	02 32 35.6	
	comp=E,3μm,0.3s						
CACH	**El Canelo**	**0.51**	**209**	*e*P	Pn	02 32 23.9	+0.6
CACH				*e*S	Sn	02 32 37.0	+1.1
LNV	**Longovilo**	**0.97**	**253**	*e*P	Pn	02 32 27.3	+0.2
LNV				*e*S	Sn	02 32 42.9	+0.3

*SKO **20** 03:05:19.8,41°.21N×23°.35E,h0km,M2.3,ML2.9*
*CSEM **20** 03:05:19.3,41°.20N×23°.35E,h2km,ML0.9/4*
THE 20 03:05:19.3,41°.20N×23°.35E,h2km±16km,ML0.9/4, Error ellipse: s-maj=16.6km s-min=0.4km az=0.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRS	**Serrai**	**0.20**	**113**	P	Pg	03 05 23.4	+0.2
SRS				S	Sg	03 05 26.4	+0.5
SRS	**Serrai**	**0.20**	**113**	P	Pg	03 05 23.4	+0.2
SRS				S	Sg	03 05 26.4	+0.5
KNT	**Kendrikon**	**0.34**	**265**	P	Pg	03 05 25.9	0.0
KNT				S	Sg	03 05 30.7	+0.3
KNT	**Kendrikon**	**0.34**	**265**	P	Pg	03 05 25.9	0.0
KNT				S	Sg	03 05 30.7	+0.3
SOH	**Sokhos**	**0.37**	**179**	P	Pg	03 05 26.6	0.0
SOH				S	Sg	03 05 31.8	+0.3
SOH	**Sokhos**	**0.37**	**179**	P	Pg	03 05 26.6	0.0
SOH				S	Sg	03 05 31.8	+0.3
NVR	**Nevrokopi**	**0.42**	**68**	P	Pg	03 05 27.4	0.0
NVR				S	Sg	03 05 33.3	+0.4
NVR	**Nevrokopi**	**0.42**	**68**	P	Pg	03 05 27.4	0.0
NVR				S	Sg	03 05 33.3	+0.4

*NIED **20** 03:05:00,34°.90N×141°.10E,h17km,Mw4.4 Best double couple: M₀3.92000×10¹⁵ NP1:φ₈29.00000°,δ88.00000°, λ-1.00000°. NP2:φ₈119.00000°,δ89.00000°, λ-178.00000°.*
*IDC **20** 03:05:37.3±0.5,34°.87N×141°.02E,h0km,mb4.1/27, mb1 4.3/33,mb1mx4.2/38,mbtmp4.1/33,ML3.6/3,MS3.4/5, Ms1 3.4/5,ms1mx3.1/33,Error ellipse: s-maj=13.9km s-min=12.5km az=74.0*
*NEIC **20** 03:05:38.5±1.9,34°.92N×140°.97E,h5km±11km,mb4.6/14, MW4.3(NIED),Error ellipse: s-maj=5.8km s-min=4.4km az=101.0*
*JMA **20** 03:05:39.5±0.2,34°.90N×141°.15E,h39km±2km,M4.1*
JMA Felt I J1.
*ISCJB **20** 03:05:40.7±0.6,34°.86N±0°.03×141°.00E±0°.04,h33km±4km, mb4.2/53,MS3.6/4,Error ellipse: s-maj=6.2km s-min=4.7km az=143.8*
*BJI **20** 03:05:40.1,35°.00N×140°.90E,h35km,mB4.8/11,mb4.5/19, Ms4.1/6,Ms7 3.7/6*
*MOS **20** 03:05:41.4±1.1,35°.09N×140°.95E,h33km,mb4.6/22,Error ellipse: s-maj=11.2km s-min=6.2km az=113.2*
ISC 20 03:05:41.0±0.8, 34°.92N±0°.04×141°.05E±0°.05, h24km±5km, n123, σ1§29/136, mb4.2/53, MS3.6/4, 3C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.27**	**193**	⇓P	**Pb**	**03 05 47.2**	**+0.2**
BSO3	**Boso 3**	**0.46**	**256**	⇓P	**Pn**	**03 05 50.7**	**-1.2**
BSO4	**Boso 4**	**0.59**	**277**	⇓P	**Pn**	**03 05 52.9**	**-0.9**
BSO4				S	**Sn**	**03 06 02.3**	**-0.4**
KTR	**Katsuura**	**0.65**	**291**	P	**Pn**	**03 05 53.5**	**-1.2**
KTR				S	**Sn**	**03 06 02.8**	**-1.4**
I30JP	**ISUMI INFRASON**	**0.72**	**303**	Pn	**Pn**	**03 05 55.2**	**-0.4**
I30JP				Sn	**Sn**	**03 06 06.0**	**0.0**
CHOJ	**Chosi**	**0.80**	**349**	P	**Pb**	**03 05 55.0**	**-1.2**
CHOJ				S	**Sb**	**03 06 05.1**	**-1.6**
JCN	**Nagara**	**0.86**	**306**	P	**Pn**	**03 05 57.2**	**-0.4**
JCN				S	**Sn**	**03 06 09.3**	**-0.1**
JIM2	**Oshima 3**	**1.35**	**262**	⇓P	**Pn**	**03 06 02.5**	**-1.9**
JIM2				S	**Sn**	**03 06 18.1**	**-3.5**
JHJ2	**Mitsune**	**2.07**	**210**	*e*Pn	**Pn**	**03 06 13.6**	**-0.7**
JHJ2				*e*S	**Sn**	**03 06 36.4**	**-3.0**
MJAR	**Matsushiro Arr**	**2.83**	**306**	Pn	**Pn**	**03 06 24.0**	**-0.7**
	9.2nm,0.3s,baz=101,slow=14,SNR=39						
MJAR				Sn	**Sn**	**03 06 59.4**	**+1.4**
	14nm,0.3s,baz=148,slow=14,SNR=8.3						
MAJO	**Matsushiro**	**2.83**	**306**	*e*P	**Pn**	**03 06 24.2**	**-0.5**
MAJO	**Matsushiro**	**2.83**	**306**	*e*Pn	**Pn**	**03 06 24.6**	**-0.2**
MAT	**Matsushiro**	**2.83**	**306**	P	**Pn**	**03 06 23.8**	**-0.9**
MAT				S	**Sn**	**03 06 57.1**	**-0.9**
ERM	**Erimo**	**7.28**	**12**	*e*P	**Pn**	**03 07 24.6**	**-1.2**
ERM				*e*S	**Sn**	**03 08 47.1**	**-0.5**
ERM	**Erimo**	**7.28**	**12**	*e*Pn	**Pn**	**03 07 24.6**	**-1.2**
ERM				*e*S	**Sn**	**03 08 47.1**	**-0.5**
CBIJ	**Chichi jima**	**7.86**	**173**	Pn	**Pn**	**03 07 34.2**	**+0.4**
JCJ	**Chichijima**	**7.86**	**173**	Pn	**Pn**	**03 07 32.3**	**-1.5**
	17nm,0.3s,baz=110,slow=23,SNR=8.0						
JNU	**Nakatsue**	**8.63**	**261**	Pn	**Pn**	**03 07 43.2**	**-1.2**
	0.2nm,0.3s,baz=65,slow=17,SNR=2.9						
JNU				LR	LR	03 11 30.0	
	comp=Z,202nm,18.8s,baz=48,slow=41						
ASAJ	**Asahikawa**	**9.27**	**7**	P	**Pn**	**03 07 51.2**	**-1.8**
ASAJ						03 09 33.4	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.27**	**7**	Pn	**Pn**	**03 07 51.2**	**-1.8**
	comp=N,2.3nm,0.3s,baz=234,slow=12,SNR=10						
ASAJ				Sn	**Sn**	**03 09 33.4**	**-3.1**
	comp=N,0.6nm,0.3s,baz=114,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**9.27**	**7**	*e*Pn	**Pn**	**03 07 51.8**	**-1.3**
ASAJ				Sn	**Sn**	**03 09 33.4**	**-3.1**
KSRS	**Korea Array**	**10.91**	**287**	Pn	**Pn**	**03 08 15.6**	**0.0**
	baz=103,slow=14,SNR=1.4						
KSRS				LR	LR	03 12 03.9	
	comp=N,176nm,21.9s,baz=95,slow=35						
KSAR	**Wonju Array Be**	**10.94**	**287**	P	**Pn**	**03 08 15.6**	**-0.4**
KSAR	**Wonju Array Be**	**10.94**	**287**	Pn	**Pn**	**03 08 15.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**11.61**	**326**	Pn	**Pn**	**03 08 26.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=136,slow=12,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**12.09**	**6**	*e*P	**Pn**	**03 08 30.0**	**-1.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.09**	**6**	*e*Pn	**Pn**	**03 08 30.1**	**-1.7**
HABR	**Khabarovsk**	**14.26**	**344**	*e*P	**Pn**	**03 08 58.5**	**-2.8**
HABR				pmax	pmax		
	comp=Z,23nm,0.8s						
HABR				MLR	MLR		
	comp=Z,126nm,16.0s						
WHN	**Wuhan**	**22.86**	**267**	P	P	03 10 34.4	-8.2
WHN				S	**S**	**03 14 48.5**	**-2.2**
WHN				LR	LR		
	comp=Z,380nm,19.9s						
HHC	**Hu-ho-hao-te**	**23.95**	**293**	*e*P	**P**	**03 10 51.6**	**-1.9**
HHC				PP	**PnPn**	**03 11 25.8**	**+3.6**
HHC				PcP	**PcP**	**03 14 32.9**	**-2.5**
HHC				S	**S**	**03 15 06.0**	**-2.8**
HHC				PMZ			
	comp=Z,17nm,0.8s						
HHC				PMZ			
	comp=Z,82nm,4.7s						
HHC				LN			
	comp=Z,140nm,11.7s						
HHC				LE			
	comp=Z,150nm,12.1s						
HHC				LZ			
	comp=Z,120nm,11.5s						
H11N2	**WAKE ISLAND Hy**	**27.39**	**117**	T	T	03 40 38.2	
	baz=309,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy**	**27.39**	**117**	T	T	03 40 36.6	
	baz=309,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**27.40**	**117**	T	T	03 40 36.6	
	baz=309,slow=75,SNR=75						
H11S3	**WAKE ISLAND Hy**	**28.02**	**119**	T	T	03 41 08.1	
	baz=312,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.02**	**119**	T	T	03 41 20.6	
	baz=312,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	03 41 16.8	
	baz=312,slow=75,SNR=27						
ULN	**Ulaanbaatar**	**28.36**	**308**	*e*P	**P**	**03 11 33.7**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**28.78**	**307**	P	**P**	**03 11 36.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=104,slow=8.9,SNR=8.3						
SEY	**Seymchan**	**28.92**	**11**	P	**P**	**03 11 38.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=203,slow=6.3,SNR=6.0						
BOD	**Bodaibo**	**29.19**	**330**	*e*P	**P**	**03 11 39.6**	**-0.7**
ZAK	**Zakamensk**	**31.40**	**311**	*e*P	P	03 11 56.8	-3.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
TLY	**Talaya**	**31.54**	**314**	P	**P**	**03 12 00.8**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=54,slow=8.7,SNR=3.2						
TIXI	**Tiksi**	**37.35**	**354**	*e*P	**P**	**03 12 50.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**37.35**	**354**	*e*P	**P**	**03 12 51.2**	**0.0**
	comp=Z,2.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.71**	**257**	P	**P**	**03 13 19.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=46,slow=7.2,SNR=5.2						
CMAR				LR	LR	03 31 32.9	
	comp=Z,35nm,18.4s,baz=145,slow=38						
WMQ	**Urumqi**	**41.57**	**299**	*e*P	**P**	**03 13 27.0**	**+0.2**
WMQ				pP	**pP**	**03 13 36.3**	**+2.2**
WMQ				PMZ			
	comp=Z,8.0nm,0.6s						
ZALV	**Zalesovo Beam**	**43.15**	**314**	P	**P**	**03 13 39.6**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=90,slow=7.2,SNR=13						
ZALV				PcP	**PcP**	**03 15 28.6**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=99,slow=2.3,SNR=4.4						
NVS	**Novosibirsk**	**44.11**	**315**	*e*P	**P**	**03 13 45.8**	**-1.4**
NVS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
MKAR	**Makanchi Array**	**45.02**	**304**	*ce*P	**P**	**03 13 55.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**45.02**	**304**	P	**P**	**03 13 54.8**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=87,slow=8.9,SNR=22						
MKAR				PcP	**PcP**	**03 15 35.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=66,slow=3.5,SNR=2.4						
KURK	**Kurchatov**	**47.03**	**310**	*e*P	**P**	**03 14 09.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**47.03**	**310**	*e*P	**P**	**03 14 09.6**	**-0.7**
	comp=Z,6.5nm,0.9s						
AAK	**Ala-Archa**	**51.26**	**300**	*e*P	**P**	**03 14 42.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**51.26**	**300**	*e*P	**P**	**03 14 42.7**	**-0.3**
	comp=Z,2.6nm,0.9s						
ILAR	**Eielson Array**	**51.44**	**31**	P	**P**	**03 14 44.6**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**51.44**	**31**	P	**P**	**03 14 44.6**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=263,slow=5.8,SNR=33						
BRVK	**Borovoye**	**51.85**	**314**	*e*P	**P**	**03 14 47.6**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KKAR	**Karatay Array**	**53.95**	**301**	*e*P	**P**	**03 15 03.4**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KKAR	**Karatay Array**	**53.95**	**301**	*e*P	**P**	**03 15 03.4**	**+0.6**
	comp=Z,7.3nm,1.1s						
WRAB	**Tennant Creek**	**54.92**	**188**	*e*P	**P**	**03 15 08.6**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,18nm,1.3s						
WRAB	**Tennant Creek**	**54.92**	**188**	*e*P	**P**	**03 15 09.8**	**-0.1**
	comp=Z,4.3nm,0.8s						
CTA	**Charters Tower**	**54.92**	**174**	P	**P**	**03 15 10.5**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=337,slow=7.7,SNR=1.9						
WRA	**Warramunga Arr**	**54.93**	**188**	P	**P**	**03 15 09.2**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=4.1,slow=7.4,SNR=43						
INK	**Inuvik**	**56.41**	**26**	P	**P**	**03 15 20.6**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**56.41**	**26**	P	**P**	**03 15 20.6**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=313,slow=6.4,SNR=9.4						
INK	**Inuvik**	**56.41**	**26**	*e*P	**P**	**03 15 20.9**	**+0.8**
ARU	**Arti**	**57.76**	**319**	*c i*P	**P**	**03 15 29.8**	**0.0**
ARU						03 17 35.2	
ARU				S	**S**	**03 23 30.0**	**+2.8**
ARU				SS	**SS**	**03 27 20.6**	**+3.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**57.76**	**319**	*e*P	**P**	**03 15 30.0**	**+0.1**
	comp=Z,6.9nm,0.9s						
ASAR	**Alice Springs**	**58.66**	**188**	P	**P**	**03 15 36.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=12,slow=8.9,SNR=14						
GEYT	**Alibeck**	**64.61**	**300**	P	**P**	**03 16 17.7**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=57,slow=5.3,SNR=3.4						
RES	**Resolute Bay**	**64.72**	**14**	*e*P	**P**	**03 16 17.2**	**+0.6**
RES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RES	**Resolute Bay**	**64.72**	**14**	*e*P	**P**	**03 16 17.2**	**+0.6**
	comp=Z,5.4nm,0.8s						
YKA	**Yellowknife Ar**	**65.79**	**30**	P	**P**	**03 16 24.2**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=299,slow=6.3,SNR=24						
ARCES	**ARCESS Array B**	**65.87**	**340**	P	**P**	**03 16 24.3**	**0.0**
	comp=Z,3.2nm,0.9s,baz=59,slow=5.8,SNR=6.0						
STKA	**Stephens Creek**	**66.44**	**179**	P	**P**	**03 16 28.0**	**-0.2**
STKA	**Stephens Creek**	**66.44**	**179**	P	**P**	**03 16 27.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=8.1,slow=7.1,SNR=2.7						
FORT	**Forrest**	**66.48**	**192**	*e*P	**P**	**03 16 28.5**	**+0.1**
	comp=Z,15nm,0.9s						
JOF	**Joensuu**	**67.69**	**332**	*e*P	**P**	**03 16 33.3**	**-2.6**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu**	**67.69**	**332**	*ep*	**P**	**03 16 33.3**	**-2.6**
	comp=Z,1.4nm,0.6s						
DAG	**Danmarks Havn**	**67.85**	**355**	*i* P	**P**	**03 16 36.9**	**+0.2**
DAG	**Danmarks Havn**	**67.85**	**355**	*i* P	**P**	**03 16 36.9**	**+0.2**
	comp=Z,1.3nm,0.8s						
OBN	**Obninsk**	**69.62**	**324**	⇓*i*P	**P**	**03 16 49.3**	**+1.3**
OBN				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KAF	**Kangasniemi**	**70.05**	**333**	*e*P	**P**	**03 16 49.1**	**-1.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KAF	**Kangasniemi**	**70.05**	**333**	*ep*	**P**	**03 16 49.1**	**-1.5**
	comp=Z,2.1nm,0.6s						
FINES	**FINESS Array B**	**70.55**	**332**	*ce*P	**P**	**03 16 53.7**	**0.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**70.55**	**332**	P	**P**	**03 16 53.6**	**0.0**
	comp=Z,4.1nm,0.9s,baz=49,slow=8.6,SNR=9.9						
KBZ	**Khabaz**		**72.06**	**311**	P	**P**	**03 17 03.7**	**+0.6**
	comp=Z,5.1nm,0.9s,baz=53,slow=20,SNR=12						
KIV	**Kislovodsk**	**72.08**	**311**	*e*P	**P**	**03 17 03.4**	**+0.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSU	**Vasula**	**72.13**	**330**	*e*P	**P**	**03 17 02.7**	**-0.5**
VSU				pmax	pmax		
	comp=Z,16nm,1.0s						
GNI	**Garni**	**72.74**	**307**	*e*P	**P**	**03 17 08.5**	**+1.1**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SUMG	**Summit**	**72.80**	**360**	*e*P	**P**	**03 17 08.4**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,12nm,1.3s						
SUMG	**Summit**	**72.80**	**360**	*e*P	**P**	**03 17 08.4**	**+0.9**
	comp=Z,12nm,1.3s						
SUMG	**Summit**	**72.80**	**360**	*i* P	**P**	**03 17 08.8**	**+1.3**
	comp=Z,4.2nm,0.9s						
JTMT	**Jette**	**73.74**	**43**	*e*P	**P**	**03 17 14.9**	**+1.8**
SLMT	**Seeley Lake**	**74.46**	**43**	*e*P	**P**	**03 17 18.5**	**+1.1**
FFC	**Flin Flon**	**75.64**	**32**	*e*P	**P**	**03 17 24.8**	**+0.9**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FFC	**Flin Flon**	**75.64**	**32**	*e*P	**P**	**03 17 24.8**	**+0.9**
	comp=Z,3.9nm,0.8s						
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**03 17 24.6**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=45,slow=6.2,SNR=8.4						
LRM	**Limekiln Ridge**	**75.87**	**44**	*e*P	**P**	**03 17 27.5**	**+1.8**
NB2	**NORSAR Subarra**	**76.02**	**337**	P	**P**	**03 17 26.1**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**76.02**	**337**	P	**P**	**03 17 26.2**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=40,slow=5.7,SNR=8.7						
NVAR	**Mina Array Bea**	**76.50**	**53**	P	**P**	**03 17 30.3**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=279,slow=5.9,SNR=9.3						
H17A	**Grant Village**	**77.78**	**44**	*e*P	**P**	**03 17 39.5**	**+3.0**
	comp=Z,5.6nm,1.2s						
PDAR	**Pinedale Array**	**79.36**	**45**	P	**P**	**03 17 45.8**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=262,slow=2.7,SNR=9.9						
BRTR	**Keskin Array B**	**80.03**	**312**	P	**P**	**03 17 48.1**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=108,slow=3.4,SNR=10						
CCUT	**Cedar City**	**80.19**	**51**	*e*P	**P**	**03 17 51.6**	**+1.8**
	comp=Z,28nm,2.5s						
SRU	**San Rafael Swe**	**81.03**	**48**	*e*P	**P**	**03 17 55.7**	**+1.5**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael Swe**	**81.03**	**48**	*e*P	**P**	**03 17 55.7**	**+1.5**
	comp=Z,2.6nm,0.8s						
ULM	**Lac du Bonnet**	**81.43**	**33**	P	**P**	**03 17 55.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=310,slow=6.2,SNR=6.3						
ASF	**Jabal al Asfar**	**82.44**	**304**	P	**P**	**03 18 01.7**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=42,slow=4.7,SNR=4.0						
WUAZ	**Wupatki**	**82.70**	**52**	*e*P	**P**	**03 18 04.5**	**+1.5**
	comp=Z,4.1nm,1.0s						
BRG	**Berggiesshubel**	**82.72**	**329**	*e*P	P	03 18 08.4	+5.8
	comp=Z,2.1nm,0.7s						
BRG	**Berggiesshubel**	**82.72**	**329**	*e*P	P	03 18 08.4	+5.8
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CLL	**Collm**	**82.78**	**330**	*e*P	**P**	**03 18 03.0**	**+0.1**
CLL				*e*PP	**pP**	**03 18 11.0**	**+0.3**
CLL				pmax	pmax		
	comp=Z,13nm,1.6s						
CLL	**Collm**	**82.78**	**330**	*e*P	**P**	**03 18 03.0**	**+0.1**
	comp=Z,13nm,1.6s						
CLL				*e*		03 18 11.0	
MMAI	**Mount Meron Ar**	**82.95**	**305**	P	**P**	**03 18 04.6**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=42,slow=6.7,SNR=8.8						
KHC	**Kasperske Hory**	**84.19**	**328**	*e*P	**P**	**03 18 11.5**	**+1.2**
KHC	**Kasperske Hory**	**84.19**	**328**	*e*P	**P**	**03 18 11.5**	**+1.2**
GERES	**GERESS Array B**	**84.35**	**328**	P	**P**	**03 18 11.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=42,slow=6.1,SNR=5.7						
GERES				LR	LR	03 57 19.4	
	comp=Z,46nm,21.0s,baz=33,slow=37						
TXAR	**Lajitas Array**	**91.64**	**52**	P	**P**	**03 18 47.4**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=4.2						
TXAR				LR	LR	03 56 54.3	
	comp=Z,11nm,20.3s,baz=0.0,slow=34						
TORD	**Torodi Ar. Bea**	**118.60**	**314**	PKP	**PKPdf**	**03 24 26.4**	**-1.0**
	comp=Z,3.4nm,1.4s,baz=26,slow=1.9,SNR=8.4						
SAML	**Samuel**	**145.94**	**46**	*e*PKPdf	**PKPbc**	**03 25 19.1**	**-0.1**
LPAZ	**La Paz**	**147.98**	**62**	PKPbc	**PKPbc**	**03 25 25.4**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=333,slow=2.3,SNR=9.6						

*ISCJB **20** 03:09:43.8±0.6,32°.35N±0°.02×115°.29W±0°.03,h12km±5km, Error ellipse: s-maj=4.2km s-min=3.6km az=19.0*
*MEX **20** 03:09:45.9±0.8,32°.42N×115°.19W,h15km±4km,MD3.5*
*ECX **20** 03:09:45.3±0.6,32°.33N×115°.32W,h6km,MD3.3,ML3.5*
*NEIC **20** 03:09:45.1,32°.32N×115°.33W,h1km,MD3.0(ECX), ML3.2(PAS),After ECX.*
ISC 20 03:09:43.8±1.0, 32°.28N±0°.03×115°.32W±0°.02, h6km±8km, n35, σ1§76/59, 5C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**		⇓*e*P	**Pg**	**03 09 46.8**	**+0.1**
CPBX				⇓*e*P	**Pg**	**03 09 46.8**	**+0.1**
CPBX				*e*S	**Sg**	**03 09 49.3**	**+0.7**
CPBX				AML	AML	03 09 53.2	
	comp=E,97μm,0.4s						
CPBX				⇑*e*		03 09 53.2	
CPBX	**Cerro Prieto**	**0.14**	**6**	*e*P	**Pg**	**03 09 46.8**	**+0.1**
CPBX				*i* S	**Sg**	**03 09 48.4**	**-0.2**
MBIG	**Mexicali**	**0.17**	**39**	*e*P	**Pg**	**03 09 47.6**	**+0.5**
MBIG				*i* S	**Sg**	**03 09 49.7**	**+0.3**
EMX	**El Mayor**	**0.30**	**167**	⇓*e*P	**Pb**	**03 09 51.4**	**-0.1**
EMX				*e*S	**Sb**	**03 09 56.7**	**0.0**
SGL	**Mount Signal**	**0.50**	**317**	⇓*i*P	**Pg**	**03 09 53.5**	**0.0**
COA	**Coachella**	**0.61**

ML4.2
NEIC ***20*** *03:19:37.4,37.°47N×20.°52E,h19km, mb4.0/17, ML4.1(THE), ML4.2(ATH), After ATH,*
ISCJB ***20*** *03:19:38.2±0.3,37.°49N±0.°01×20.°50E±0.°01, h23km±2km, mb4.1/31, MS3.4/2, Error ellipse: s-maj=2.4km s-min=1.8km az=21.7*
PDG ***20*** *03:19:38.7±0.6, 37.°56N×20.°57E, h11km±1km, ML4.1/11, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0*
HLW ***20*** *03:19:38.2, 37.°77N×20.°99E, h33km±35km, Ml3.4*
CSEM ***20*** *03:19:38.0±0.1, 37.°44N×20.°47E, h15km, mb4.2/10, Error ellipse: s-maj=3.2km s-min=2.3km az=29.0*
MOS ***20*** *03:19:40.4±1.0, 37.°73N×20.°78E, h30km, mb4.4/10, Error ellipse: s-maj=6.1km s-min=4.0km az=115.7*
THE ***20*** *03:19:40.0, 37.°53N×20.°64E, h2km, ML4.1/10, Error ellipse: s-maj=0.6km s-min=0.3km az=235.0*

ISC 20 03:19:39.6±0.8, 37°51N±0.°02×20°58E±0.°02, h23km±6km, n623, σ1s52/777, mb4.2/31, 38C-32D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.44**	**127**	P		**Pb**		**03 19 48.1**	**-0.6**
SFD				S		**Sb**		**03 19 53.8**	**-1.0**
SFD	**Strofades**	**0.44**	**127**	*e*PB		**Pb**		**03 19 48.2**	**-0.5**
SFD				*e*SB		**Sb**		**03 19 54.0**	**-0.8**
SFD	**Strofades**	**0.44**	**127**	*e*Pb		**Pb**		**03 19 48.2**	**-0.5**
SFD				*e*Sb		**Sb**		**03 19 54.0**	**-0.8**
KFL	**Anninata**	**0.62**	**16**	P		**Pb**		**03 19 50.9**	**-0.9**
KFL				S		**Sb**		**03 20 00.2**	**+0.1**
KFL	**Anninata**	**0.62**	**16**	P		**Pb**		**03 19 50.9**	**-0.9**
KFL				S		**Sb**		**03 20 00.2**	**+0.1**
VTN	**Vitineika**	**0.63**	**50**	P		**Pb**		**03 19 51.0**	**-0.9**
VTN				S		**Sb**		**03 19 59.6**	**-0.7**
VTN	**Vitineika**	**0.63**	**50**	P		**Pb**		**03 19 51.0**	**-0.9**
VTN				S		**Sb**		**03 19 59.6**	**-0.7**
VLS	**Valsamata**	**0.66**	**1**	P		**Pb**		**03 19 51.8**	**-0.7**
VLS				S		**Sb**		**03 20 02.1**	**+0.7**
VLS	**Valsamata**	**0.66**	**1**	P		**Pb**		**03 19 51.8**	**-0.7**
VLS	**Valsamata**	**0.66**	**1**	*e*PN		**Pb**		**03 19 52.0**	**-0.5**
VLS				*e*SN		**Sn**		**03 20 02.4**	**-0.9**
VLS	**Valsamata**	**0.66**	**1**	P		**Pb**		**03 19 51.8**	**-0.7**
VLS				S		**Sb**		**03 20 02.1**	**+0.7**
VLS				*e*Sn		**Sn**		**03 20 02.4**	**-0.9**
VLS	**Valsamata**	**0.66**	**1**	P		**Pb**		**03 19 51.8**	**-0.7**
RLS	**Riolos of Patr**	**0.89**	**52**	P		**Pb**		**03 19 54.9**	**-1.4**
RLS				S		**Sn**		**03 20 08.5**	**-0.3**
RLS	**Riolos of Patr**	**0.89**	**52**	*e*PB		**Pb**		**03 19 55.0**	**-1.4**
RLS				*e*SN		**Sn**		**03 20 08.6**	**-0.3**
RLS	**Riolos of Patr**	**0.89**	**52**	P		**Pb**		**03 19 54.9**	**-1.4**
RLS				S		**Sn**		**03 20 08.5**	**-0.3**
RLS	**Riolos of Patr**	**0.89**	**52**	P		**Pb**		**03 19 54.9**	**-1.4**
AMT	**Artemida-Makis**	**0.90**	**88**	P		**Pb**		**03 19 55.7**	**-0.8**
AMT				S		**Sb**		**03 20 08.2**	**+0.1**
AMT	**Artemida-Makis**	**0.90**	**88**	*e*PN		**Pb**		**03 19 55.2**	**-1.3**
AMT				*e*SN		**Sn**		**03 20 09.2**	**+0.1**
AMT	**Artemida-Makis**	**0.90**	**88**	*e*Pn		**Pb**		**03 19 55.2**	**-1.3**
AMT	**Artemida-Makis**	**0.90**	**88**	P		**Pb**		**03 19 55.7**	**-0.8**
AMT				S		**Sb**		**03 20 08.2**	**+0.1**
AMT				*e*Sn		**Sn**		**03 20 09.2**	**+0.1**
DRO	**Drossia**	**1.00**	**64**	P		**Pb**		**03 19 57.4**	**-0.8**
DRO				S		**Sn**		**03 20 11.7**	**+0.1**
DRO	**Drossia**	**1.00**	**64**	*e*PB		**Pb**		**03 19 57.0**	**-1.2**
DRO				*e*SN		**Sn**		**03 20 11.9**	**+0.3**
DRO	**Drossia**	**1.00**	**64**	*e*Pb		**Pb**		**03 19 57.0**	**-1.2**
DRO	**Drossia**	**1.00**	**64**	P		**Pb**		**03 19 57.4**	**-0.8**
DRO				S		**Sn**		**03 20 11.7**	**+0.1**
PYL	**PYLOS**	**1.11**	**123**	P		**Pb**		**03 20 00.1**	**-0.1**
PYL				S		**Sn**		**03 20 15.6**	**+1.2**
PYL	**PYLOS**	**1.11**	**123**	*e*PN		**Pn**		**03 19 58.9**	**-0.9**
PYL				*e*SN		**Sn**		**03 20 15.0**	**+0.6**
PYL	**PYLOS**	**1.11**	**123**	*e*Pn		**Pn**		**03 19 58.9**	**-0.9**
PYL	**PYLOS**	**1.11**	**123**	P		**Pb**		**03 20 00.1**	**-0.1**
PYL				S		**Sn**		**03 20 14.8**	**+0.4**
PYL	**PYLOS**	**1.11**	**123**	P		**Pb**		**03 20 00.1**	**-0.1**
PYL				S		**Sn**		**03 20 15.6**	**+1.2**
ITM	**Ithomi**	**1.12**	**107**	P		**Pn**		**03 20 00.0**	**+0.1**
ITM				S		**Sn**		**03 20 15.9**	**+1.2**
ITM	**Ithomi**	**1.12**	**107**	*e*PN		**Pn**		**03 19 59.0**	**-0.9**
ITM				*e*SN		**Sn**		**03 20 16.0**	**+1.2**
ITM	**Ithomi**	**1.12**	**107**	*e*Pn		**Pn**		**03 19 59.0**	**-0.9**
ITM	**Ithomi**	**1.12**	**107**	P		**Pn**		**03 20 00.0**	**+0.1**
ITM				S		**Sn**		**03 20 15.9**	**+1.2**
ITM	**Ithomi**	**1.12**	**107**	P		**Pn**		**03 20 00.0**	**+0.1**
ITM				S		**Sn**		**03 20 15.9**	**+1.2**
PDO	**Prodromos**	**1.18**	**24**	P		**Pb**		**03 20 01.6**	**+0.2**
PDO				S		**Sb**		**03 20 18.1**	**+1.8**
PDO	**Prodromos**	**1.18**	**24**	*e*PN		**Pn**		**03 20 00.7**	**-0.1**
PDO				*e*SN		**Sb**		**03 20 18.4**	**+2.1**
PDO	**Prodromos**	**1.18**	**24**	*e*Pn		**Pn**		**03 20 00.7**	**-0.1**
PDO	**Prodromos**	**1.18**	**24**	P		**Pb**		**03 20 01.6**	**+0.2**
PDO				S		**Sb**		**03 20 18.1**	**+1.8**
PDO				*e*Sn		**Sb**		**03 20 18.4**	**+2.1**
UPR	**University Cam**	**1.23**	**51**	P		**Pb**		**03 20 02.1**	**0.0**
UPR				S		**Sb**		**03 20 19.3**	**+1.8**
UPR	**University Cam**	**1.23**	**51**	P		**Pb**		**03 20 02.1**	**0.0**
UPR				S		**Sb**		**03 20 19.3**	**+1.8**
PVO	**Paravola**	**1.33**	**34**	P		**Pb**		**03 20 03.6**	**-0.3**
PVO				S		**Sb**		**03 20 22.8**	**+2.3**
PVO	**Paravola**	**1.33**	**34**	P		**Pb**		**03 20 03.6**	**-0.3**
PVO				S		**Sb**		**03 20 22.6**	**+1.5**
KLV	**Kalavryta, Ach**	**1.35**	**66**	P		**Pb**		**03 20 04.2**	**-0.1**
KLV				S		**Sb**		**03 20 22.9**	**+1.7**
KLV	**Kalavryta, Ach**	**1.35**	**66**	*e*PB		**Pn**		**03 20 02.9**	**-0.2**
KLV				*e*SN		**Sb**		**03 20 24.1**	**+2.9**
KLV	**Kalavryta, Ach**	**1.35**	**66**	*e*Pb		**Pn**		**03 20 02.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.35**	**66**	P		**Pb**		**03 20 04.2**	**-0.1**
KLV				S		**Sb**		**03 20 22.9**	**+1.7**
KLV				*e*Sn		**Sb**		**03 20 24.1**	**+2.9**
KLV	**Kalavryta, Ach**	**1.35**	**66**	P		**Pb**		**03 20 04.2**	**-0.1**
EFP	**Efpalio**	**1.39**	**49**	P		**Pb**		**03 20 04.5**	**-0.4**
EFP				S		**Sb**		**03 20 24.2**	**+2.0**
EFP	**Efpalio**	**1.39**	**49**	*e*PB		**Pn**		**03 20 03.5**	**-0.1**
EFP				*e*SN		**Sb**		**03 20 25.6**	**+3.4**
EFP	**Efpalio**	**1.39**	**49**	*e*Pb		**Pn**		**03 20 03.5**	**-0.1**
EFP	**Efpalio**	**1.39**	**49**	P		**Pb**		**03 20 04.5**	**-0.4**
EFP				S		**Sb**		**03 20 24.2**	**+2.0**
EFP				*e*Sn		**Sb**		**03 20 25.6**	**+3.4**
VLX	**Vlachokerasia**	**1.44**	**95**	P		**Pb**		**03 20 05.6**	**-0.2**
VLX				S		**Sb**		**03 20 25.4**	**+1.6**
VLX	**Vlachokerasia**	**1.44**	**95**	*e*PN		**Pn**		**03 20 04.4**	**0.0**
VLX				*e*SN		**Sb**		**03 20 25.0**	**+1.2**
VLX	**Vlachokerasia**	**1.44**	**95**	*e*Pn		**Pn**		**03 20 04.4**	**0.0**
VLX	**Vlachokerasia**	**1.44**	**95**	P		**Pb**		**03 20 05.6**	**-0.2**
VLX				*e*Sn		**Sb**		**03 20 25.0**	**+1.2**
VLX				S		**Sb**		**03 20 25.4**	**+1.6**
VLX	**Vlachokerasia**	**1.44**	**95**	P		**Pb**		**03 20 05.6**	**-0.2**
VLX				S		**Sb**		**03 20 25.4**	**+1.6**
GUR	**Goura**	**1.46**	**73**	P		**Pb**		**03 20 05.5**	**-0.7**
GUR				S		**Sb**		**03 20 25.9**	**+1.5**
GUR	**Goura**	**1.46**	**73**	*e*PB		**Pn**		**03 20 04.5**	**-0.2**
GUR				*e*SN		**Sb**		**03 20 26.9**	**+2.5**
GUR	**Goura**	**1.46**	**73**	*e*Pb		**Pn**		**03 20 04.5**	**-0.2**
GUR	**Goura**	**1.46**	**73**	P		**Pb**		**03 20 05.5**	**-0.7**
GUR				S		**Sb**		**03 20 25.9**	**+1.5**
GUR				*e*Sn		**Sb**		**03 20 26.9**	**+2.5**
GUR	**Goura**	**1.46**	**73**	P		**Pb**		**03 20 05.5**	**-0.7**
GUR				S		**Sb**		**03 20 25.9**	**+1.5**
KALE	**Kalithea**	**1.51**	**54**	*e*PB		**Pn**		**03 20 05.7**	**+0.4**
KALE				*e*SN		**Sb**		**03 20 26.9**	**+1.1**
KALE	**Kalithea**	**1.51**	**54**	P		**Pn**		**03 20 05.4**	**+0.1**
KALE	**Kalithea**	**1.51**	**54**	*e*Pb		**Pn**		**03 20 05.7**	**+0.4**
KALE				S		**Sb**		**03 20 27.1**	**+1.3**
DSL	**Palaion Diasel**	**1.67**	**14**	P		**Pb**		**03 20 09.0**	**-0.6**
DSL				S		**Sb**		**03 20 31.4**	**+1.1**
DSL	**Palaion Diasel**	**1.67**	**14**	*e*PN		**Pb**		**03 20 09.1**	**-0.6**
DSL	**Palaion Diasel**	**1.67**	**14**	P		**Pb**		**03 20 08.8**	**-0.9**
DSL	**Palaion Diasel**	**1.67**	**14**	*e*Pn		**Pb**		**03 20 09.1**	**-0.6**
DSL				S		**Sb**		**03 20 31.4**	**+1.1**
DSL	**Palaion Diasel**	**1.67**	**14**	P		**Pb**		**03 20 09.0**	**-0.6**
DSL				S		**Sb**		**03 20 31.4**	**+1.1**
EVR	**Evrytania**	**1.70**	**34**	P		**Pb**		**03 20 09.5**	**-0.8**
EVR				S		**Sb**		**03 20 32.2**	**+0.9**
EVR	**Evrytania**	**1.70**	**34**	*e*PN		**Pb**		**03 20 09.1**	**-1.2**
EVR	**Evrytania**	**1.70**	**34**	*e*Pn		**Pb**		**03 20 09.1**	**-1.2**
EVR				S		**Sb**		**03 20 32.2**	**+0.9**
EVR	**Evrytania**	**1.70**	**34**	P		**Pb**		**03 20 09.5**	**-0.8**
EVR				S		**Sb**		**03 20 32.2**	**+0.9**
DSF	**Desfina**	**1.78**	**59**	P		**Pb**		**03 20 10.5**	**-1.1**
DSF				S		**Sb**		**03 20 34.1**	**+0.6**
DSF	**Desfina**	**1.78**	**59**	*e*PN		**Pn**		**03 20 10.1**	**+1.1**
DSF				*e*SN		**Sb**		**03 20 35.2**	**+1.7**
DSF	**Desfina**	**1.78**	**59**	*e*Pn		**Pn**		**03 20 10.1**	**+1.1**
DSF	**Desfina**	**1.78**	**59**	P		**Pb**		**03 20 10.5**	**-1.1**
DSF				S		**Sb**		**03 20 34.1**	**+0.6**
DSF				*e*Sn		**Sb**		**03 20 35.2**	**+1.7**
DSF	**Desfina**	**1.78**	**59**	P		**Pb**		**03 20 10.5**	**-1.1**
DSF				S		**Sb**		**03 20 34.1**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.93**	**39**	*e*PN		**Pb**		**03 20 13.9**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.93**	**39**	*e*Pn		**Pb**		**03 20 13.9**	**-0.3**
LTK	**Loutraki**	**1.96**	**74**	P		**Pn**		**03 20 12.8**	**+1.4**
LTK				S		**Sb**		**03 20 38.1**	**-0.5**
LTK	**Loutraki**	**1.96**	**74**	*e*PN		**Pn**		**03 20 12.8**	**+1.4**
LTK				*e*SN		**Sb**		**03 20 38.1**	**-0.5**
LTK	**Loutraki**	**1.96**	**74**	P		**Pn**		**03 20 12.8**	**+1.4**
LTK				S		**Sb**		**03 20 38.1**	**-0.5**
LTK	**Loutraki**	**1.96**	**74**	P		**Pn**		**03 20 12.8**	**+1.4**
LTK				S		**Sb**		**03 20 38.1**	**-0.5**
IGT	**Igoumenitsa**	**2.02**	**355**	P		**Pb**		**03 20 14.2**	**-1.5**
IGT				S		**Sb**		**03 20 41.3**	**+0.8**
IGT	**Igoumenitsa**	**2.02**	**355**	P		**Pb**		**03 20 14.2**	**-1.5**
IGT				S		**Sb**		**03 20 41.3**	**+0.8**
IGT	**Igoumenitsa**	**2.02**	**355**	*e*PN		**Pn**		**03 20 13.8**	**+1.5**
IGT	**Igoumenitsa**	**2.02**	**355**	*e*Pn		**Pn**		**03 20 13.8**	**+1.5**
IGT	**Igoumenitsa**	**2.02**	**355**	P		**Pb**		**03 20 14.2**	**-1.5**
IGT				S		**Sb**		**03 20 41.3**	**+0.8**
IGT	**Igoumenitsa**	**2.02**	**355**	P		**Pb**		**03 20 14.2**	**-1.5**
IGT				S		**Sb**		**03 20 41.3**	**+0.8**
AGG	**Agios Georgios**	**2.04**	**42**	P		**Pb**		**03 20 15.3**	**-0.8**
AGG				S		**Sb**		**03 20 39.4**	**-1.6**
AGG	**Agios Georgios**	**2.04**	**42**	*e*PN		**Pb**		**03 20 15.3**	**-1.9**
AGG	**Agios Georgios**	**2.04**	**42**	P		**Pb**		**03 20 15.3**	**-0.8**
AGG				S		**Sb**		**03 20 39.4**	**-1.6**
AGG	**Agios Georgios**	**2.04**	**42**	*e*PN		**Pb**		**03 20 15.2**	**-0.8**
AGG				*e*SN		**Sb**		**03 20 41.7**	**+0.7**
AGG	**Agios Georgios**	**2.04**	**42**	*e*Pn		**Pb**		**03 20 15.2**	**-0.8**
AGG				S		**Sb**		**03 20 39.4**	**-1.6**
AGG				*e*Sn		**Sb**		**03 20 41.7**	**+0.7**
AGG	**Agios Georgios**	**2.04**	**42**	P		**Pb**		**03 20 15.3**	**-0.8**
AGG				S		**Sb**		**03 20 39.4**	**-1.6**
VLI	**Veliai**	**2.05**	**112**	*e*PN		**Pb**		**03 20 14.4**	**-1.7**
VLI	**Veliai**	**2.05**	**112**	P		**Pb**		**03 20 14.3**	**-1.8**
AXAR	**Agios Charalam**	**2.06**	**52**	*e*PN		**Pb**		**03 20 15.2**	**-1.2**
AXAR				*e*SN		**Sb**		**03 20 42.2**	**+0.6**
AXAR	**Agios Charalam**	**2.06**	**52**	*e*Pn		**Pb**		**03 20 15.2**	**-1.2**
AXAR				*e*Sn		**Sb**		**03 20 42.2**	**+0.6**
JAN	**Janina**	**2.15**	**6**	P		**Pb**		**03 20 16.2**	**-1.7**
JAN				S		**Sb**		**03 20 43.7**	**-0.4**
JAN	**Janina**	**2.15**	**6**	P		**Pb**		**03 20 16.2**	**-1.7**
JAN				S		**Sb**		**03 20 43.7**	**-0.4**
JAN	**Janina**	**2.15**	**6**	*e*PN		**Pb**		**03 20 16.2**	**-1.7**
JAN	**Janina**	**2.15**	**6**	P		**Pb**		**03 20 16.2**	**-1.7**
JAN				S		**Sb**		**03 20 43.7**	**-0.4**
JAN	**Janina**	**2.15**	**6**	P		**Pb**		**03 20 16.2**	**-1.7**
JAN				S		**Sb**		**03 20 43.7**	**-0.4**
LKR	**Lokris**	**2.22**	**59**	P		**Pn**		**03 20 16.6**	**+1.6**
LKR				S		**Sb**		**03 20 44.9**	**-1.2**
LKR	**Lokris**	**2.22**	**59**	*e*PN		**Pn**		**03 20 16.6**	**+1.6**
LKR				*e*SN		**Sb**		**03 20 45.2**	**-0.9**
LKR	**Lokris**	**2.22**	**59**	P		**Pn**		**03 20 16.6**	**+1.6**
LKR				S		**Sb**		**03 20 44.9**	**-1.2**
LKR				*e*Sn		**Sb**		**03 20 45.2**	**-0.9**
LKR	**Lokris**	**2.22**	**59**	P		**Pn**		**03 20 16.6**	**+1.6**
LKR				S		**Sb**		**03 20 44.9**	**-1.2**
KEK	**Kerkira**	**2.28**	**345**	P		**Pb**		**03 20 18.1**	**-2.0**
KEK				S		**Sb**		**03 20 47.9**	**+0.1**
KEK	**Kerkira**	**2.28**	**345**	*e*PB		**Pb**		**03 20 16.9**	**+1.1**
KEK	**Kerkira**	**2.28**	**345**	*e*Pb		**Pb**		**03 20 16.9**	**+1.1**
KEK	**Kerkira**	**2.28**	**345**	P		**Pb**		**03 20 18.1**	**-2.0**
KEK				S		**Sb**		**03 20 47.9**	**+0.1**
KEK	**Kerkira**	**2.28**	**345**	P		**Pb**		**03 20 18.1**	**-2.0**
KEK				S		**Sb**		**03 20 47.9**	**+0.1**
KYTH	**Kithira**	**2.32**	**121**	*e*PB		**Pb**		**03 20 19.2**	**-1.6**
KYTH	**Kithira**	**2.32**	**121**	*e*Pb		**Pb**		**03 20 19.2**	**-1.6**
NAIG	**Nisos Aigina**	**2.32**	**83**	*e*PN		**Pn**		**03 20 17.1**	**+0.7**
NAIG	**Nisos Aigina**	**2.32**	**83**	*e*Pn		**Pn**		**03 20 17.1**	**+0.7**
MEV	**Metsovon**	**2.33**	**12**	P		**Pb**		**03 20 19.6**	**-1.3**
MEV	**Metsovon**	**2.33**	**12**	P		**Pb**		**03 20 19.6**	**-1.3**
MEV	**Metsovon**	**2.33**	**12**	P		**Pb**		**03 20 19.6**	**-1.3**
THL	**Klokotos Trika**	**2.34**	**28**	P		**Pb**		**03 20 18.9**	**-2.1**
THL				S		**Sn**		**03 20 42.6**	**-2.0**
THL	**Klokotos Trika**	**2.34**	**28**	*e*PB		**Pb**		**03 20 19.1**	**-1.9**
THL	**Klokotos Trika**	**2.34**	**28**	*e*Pb		**Pb**		**03 20 19.1**	**-1.9**
THL				S		**Sn**		**03 20 42.6**	**-2.0**
SMIA	**Simia**	**2.48**	**56**	*e*PN		**Pn**		**03 20 20.2**	**+1.6**
SMIA				*e*SN		**Sb**		**03 20 52.0**	**-1.6**
SMIA	**Simia**	**2.48**	**56**	*e*Pn		**Pn**		**03 20 20.2**	**+1.6**
SMIA				*e*Sn		**Sb**		**03 20 52.0**	**-1.6**
ATH	**Athens Observa**	**2.53**	**79**	*e*PN		**Pn**		**03 20 20.0**	**+0.8**
ATH				*e*SN		**Sb**		**03 20 52.7**	**-2.3**
ATH	**Athens Observa**	**2.53**	**79**	*e*Pn		**Pn**		**03 20 20.0**	**+0.8**
ATH				*e*Sn		**Sb**		**03 20 52.7**	**-2.3**
MRKA	**Markates**	**2.66**	**62**	*e*PN		**Pn**		**03 20 22.3**	**+1.3**
MRKA				*e*SN		**Sb**		**03 20 55.6**	**-3.0**
MRKA	**Markates**	**2.66**	**62**	*e*Pn		**Pn**		**03 20 22.3**	**+1.3**
MRKA				*e*Sn		**Sb**		**03 20 55.6**	**-3.0**
PTL	**Penteli**	**2.66**	**77**	*e*PN		**Pn**		**03 20 21.9**	**+0.9**
PTL				*e*SN		**Sn**		**03 20 54.9**	**+2.3**
PTL	**Penteli**	**2.66**	**77**	*e*Pn		**Pn**		**03 20 21.9**	**+0.9**
PTL				*e*Sn		**Sn**		**03 20 54.9**	**+2.3**
ANKY	**Antikythira Is**	**2.74**	**126**	*e*PB		**Pn**		**03 20 24.2**	**+2.1**
ANKY	**Antikythira Is**	**2.74**	**126**	*e*Pb		**Pn**		**03 20 24.2**	**+2.1**
NEO	**Neokhori**	**2.74**	**48**	*e*PN		**Pn**		**03 20 23.5**	**+1.3**
NEO	**Neokhori**	**2.74**	**48**	*e*Pn		**Pn**		**03 20 23.5**	**+1.3**
XOR	**Xorichti**	**2.76**	**47**	*e*PN		**Pn**		**03 20 23.6**	**+1.1**
XOR	**Xorichti**	**2.76**	**47**	*e*Pn		**Pn**		**03 20 23.6**	**+1.1**
SKIA	**Skiathos**	**2.81**	**53**	*e*PN		**Pn**		**03 20 24.5**	**+1.4**
SKIA	**Skiathos**	**2.81**	**53**	*e*Pn		**Pn**		**03 20 24.5**	**+1.4**
NEST	**Nestorio**	**2.92**	**7**	*e*PB		**Pb**		**03 20 28.1**	**-2.9**
NEST	**Nestorio**	**2.92**	**7**	*e*Pb		**Pb**		**03 20 28.1**	**-2.9**
KZN	**Kozani**	**2.94**	**18**	*e*PB		**Pn**		**03 20 27.7**	**+2.7**
KZN	**Kozani**	**2.94**	**18**	*e*Pb		**Pn**		**03 20 27.7**	**+2.7**
LIT	**Litokhoron**	**2.98**	**29**	*e*PN		**Pn**		**03 20 27.2**	**+1.7**
LIT	**Litokhoron**	**2.98**	**29**	*e*Pn		**Pn**		**03 20 27.2**	**+1.7**
AOS	**Alonnisos**	**3.08**	**56**	*e*PN		**Pn**		**03 20 27.7**	**+0.9**
AOS				*e*SN		**Sn**		**03 21 06.5**	**+3.6**
AOS	**Alonnisos**	**3.08**	**56**	*e*Pn		**Pn**		**03 20 27.7**	**+0.9**
AOS				*e*Sn		**Sn**		**03 21 06.5**	**+3.6**
FNA	**Florina**	**3.32**	**11**	*e*PN		**Pn**		**03 20 32.4**	**+2.2**
FNA	**Florina**	**3.32**	**11**	*e*Pn		**Pn**		**03 20 32.4**	**+2.2**
PAIG	**Paliouri**	**3.42**	**44**	*e*PN		**Pn**		**03 20 32.3**	**+0.8**
PAIG	**Paliouri**	**3.42**	**44**	*e*Pn		**Pn**		**03 20 32.3**	**+0.8**
TIP	**Timpagrande**	**3.43**	**300**	*e*PN		**Pn**		**03 20 33.0**	**+1.3**
TIP				*e*SN		**Sn**		**03 21 13.3**	**+1.6**
TIP	**Timpagrande**	**3.43**	**300**	*e*Pn		**Pn**		**03 20 33.0**	**+1.3**
TIP				*e*Sn		**Sn**		**03 21 13.3**	**+1.6**
VAM	**Vamos**	**3.60**	**125**	*e*PN		**Pn**		**03 20 33.8**	**-0.1**
VAM	**Vamos**	**3.60**	**125**	*e*Pn		**Pn**		**03 20 33.8**	**-0.1**
THE	**Thessaloniki**	**3.63**	**30**	*e*PN		**Pn**		**03 20 35.7**	**+1.4**
THE				*e*SN		**Sn**		**03 21 17.9**	**+1.6**
THE	**Thessaloniki**	**3.63**	**30**	*e*Pn		**Pn**		**03 20 35.7**	**+1.4**
THE				*e*Sn		**Sn**		**03 21 17.9**	**+1.6**
PLG	**Polygyros**	**3.63**	**37**	*e*PN		**Pn**		**03 20 35.3**	**+0.9**
PLG				*e*SN		**Sn**		**03 21 18.2**	**+1.7**
PLG	**Polygyros**	**3.63**	**37**	*e*Pn		**Pn**		**03 20 35.3**	**+0.9**
PLG				*e*Sn		**Sn**		**03 21 18.2**	**+1.7**
HORT	**Hortiatis**	**3.65**	**32**	*e*PN		**Pn**		**03 20 36.3**	**+1.5**
HORT	**Hortiatis**	**3.65**	**32**	*e*PN		**Pn**		**03 20 35.8**	**+1.0**
HORT	**Hortiatis**	**3.65**	**32**	*e*Pn		**Pn**		**03 20 35.8**	**+1.0**
HORT				*e*Sn		**Sn**		**03 21 17.9**	**+0.8**
CEL	**Celeste**	**3.78**	**283**	*e*PN		**Pn**		**03 20 36.9**	**+0.4**
CEL				*e*SN		**Sn**		**03 21 22.9**	**+2.6**
CEL	**Celeste**	**3.78**	**283**	*e*Pn		**Pn**		**03 20 36.9**	**+0.4**
CEL				*e*Sn		**Sn**		**03 21 22.9**	**+2.6**
OUR	**Ouranopolis**	**3.87**	**42**	*e*PN		**Pn**		**03 20 39.1**	**+1.4**
OUR	**Ouranopolis**	**3.87**	**42**	*e*PN		**Pn**		**03 20 38.8**	**+1.1**
OUR	**Ouranopolis**	**3.87**	**42**	*e*Pn		**Pn**		**03 20 38.8**	**+1.1**
SOH	**Sokhos**	**3.95**	**32**	*e*PN		**Pn**		**03 20 40.6**	**+1.8**
SOH				*e*SN		**Sn**		**03 21 26.4**	**+2.1**
SOH	**Sokhos**	**3.95**	**32**	*e*Pn		**Pn**		**03 20 40.6**	**+1.8**
SOH				*e*Sn		**Sn**		**03 21 26.4**	**+2.1**
APE	**Apeiranthos**	**3.97**	**95**	*e*PN		**Pn**		**03 20 40.6**	**+1.5**
APE	**Apeiranthos**	**3.97**	**95**	*e*P		**Pn**		**03 20 38.5**	**-0.6**
APE	**Apeiranthos**	**3.97**	**95**	*e*PN		**Pn**		**03 20 38.8**	**-0.3**
APE	**Apeiranthos**	**3.97**	**95**	⇑*i*P		**Pn**		**03 20 39.2**	**+0.1**
APE	**Apeiranthos**	**3.97**	**95**	S		**Sn**		**03 21 27.9**	**+2.9**
APE	**Apeiranthos**	**3.97**	**95**	*e*P		**Pn**		**03 20 38.5**	**-0.6**
APE	**Apeiranthos**	**3.97**	**95**	*e*Pn		**Pn**		**03 20 38.8**	**-0.3**
KNT	**Kendrikon**	**4.06**	**26**	*e*PN		**Pn**		**03 20 41.7**	**+1.4**
KNT	**Kendrikon**	**4.06**	**26**	*e*PN		**Pn**		**03 20 42.1**	**+1.8**
KNT				*e*SN		**Sn**		**03 21 29.4**	**+2.2**
KNT	**Kendrikon**	**4.06**	**26**	*e*Pn		**Pn**		**03 20 42.1**	**+1.8**
KNT				*e*Sn		**Sn**		**03 21 29.4**	**+2.2**
IDI	**Anoyia** 1.6nm,0.3s,baz=293,slow=13,SNR=17	**4.13**	**121**	Pn		**Pn**		**03 20 40.4**	**-0.8**
IDI	9.7nm,0.3s,baz=315,slow=21,SNR=7.0			Sn		**Sn**		**03 21 29.3**	**+0.4**
SRS	**Serrai**	**4.29**	**32**	*e*PN		**Pn**		**03 20 45.1**	**+1.6**
SRS				*e*SN		**Sn**		**03 21 34.6**	**+1.8**
SRS	**Serrai**	**4.29**	**32**	*e*Pn		**Pn**		**03 20 45.1**	**+1.6**
SRS				*e*Sn		**Sn**		**03 21 34.6**	**+1.8**
LIA	**Limnos Island**	**4.32**	**55**	*e*PN		**Pn**		**03 20 44.6**	**+0.8**
LIA	**Limnos Island**	**4.32**	**55**	*e*Pn		**Pn**		**03 20 44.6**	**+0.8**
CHOS	**Chios island**	**4.42**	**77**	*e*PN		**Pn**		**03 20 47.2**	**+2.0**
CHOS	**Chios island**	**4.42

GZR **Gura Zlata** 8.04 11⇑*i*P Pn 03 21 35.6 +0.6
GZR **Gura Zlata** 8.04 11⇑*i*P Pn 03 21 35.6 +0.6
BZS **Buzias** 8.13 5⇓*i*P Pn 03 21 35.6 -0.6
BZS **Buzias** 8.13 5⇓*i*P Pn 03 21 35.6 -0.6
GULT **Gulveren** 8.27 66 *e*PN Pn 03 21 40.3 +2.1
GULT **Gulveren** 8.27 66 *e*Pn Pn 03 21 40.3 +2.1
LOT **Lotru** 8.28 16⇑*i*P Pn 03 21 39.2 +0.9
LOT **Lotru** 8.28 16⇑*i*P Pn 03 21 39.2 +0.9
HMAT **Matruh** 8.37 138 P Pn 03 21 36.4 -3.1
baz=141
HMAT S Sn 03 23 02.2 -11
baz=141
ARR **Arges** 8.42 20⇓*i*P Pn 03 21 41.4 +1.3
ARR **Arges** 8.42 20⇓*i*P Pn 03 21 41.4 +1.3
PSN **Preselentsi** 8.45 41⇑*i*P Pn 03 21 41.1 +0.6
PSN **Preselentsi** 8.45 41⇑*i*P Pn 03 21 41.1 +0.6
VOIR 8.60 22⇑*i*P Pn 03 21 44.4 +1.8
VOIR 8.60 22⇑*i*P Pn 03 21 44.4 +1.8
MDUB **Mudurnu** 8.78 67 *e*PN Pn 03 21 46.9 +1.7
MDUB **Mudurnu** 8.78 67 *e*Pn Pn 03 21 46.9 +1.7
PKSM **Moragy** 8.81 351⇑*i*P Pn 03 21 45.2 -0.3
PKSM **Moragy** 8.81 351⇑*i*P Pn 03 21 45.2 -0.3
ISR **Istrita** 8.82 29⇓*i*P Pn 03 21 47.5 +1.8
ISR **Istrita** 8.82 29⇓*i*P Pn 03 21 47.5 +1.8
BOJS **Bojanci** 8.93 335 *i* Pn Pn 03 21 47.5 +0.4
BOJS *i* Sn Sn 03 23 24.0 -2.8
BOJS **Bojanci** 8.93 335 *i* Pn Pn 03 21 47.5 +0.5
BOJS *i* Sn Sn 03 23 24.0 -2.8
MLR **Muntele Rosu** 8.93 25⇓*i*P Pn 03 21 49.6 +2.4
MLR **Muntele Rosu** 8.93 25 Pn Pn 03 21 47.0 -0.2
0.3nm,0.3s,baz=286,slow=8.1,SNR=19
MLR LR LR 03 25 44.6
comp=Z,34nm,20.9s,baz=176,slow=42
VSL **Villasalto** 9.00 286 *e*Pn Pn 03 21 46.4 -1.7
VSL **Villasalto** 9.00 286 *e*Pn Pn 03 21 46.4 -1.7
TLB **Topalu** 9.04 36⇑*i*P Pn 03 21 49.8 +1.3
TLB **Topalu** 9.04 36⇑*i*P Pn 03 21 49.8 +1.3
TIRR **Tirgusor** 9.12 38 *e*P Pn 03 21 49.7 0.0
TIRR **Tirgusor** 9.12 38 *e*P Pn 03 21 49.7 0.0
TIRR **Tirgusor** 9.12 38 *e*Pn Pn 03 21 49.7 0.0
DOPR **Dopca** 9.18 22⇓*i*P Pn 03 21 52.1 +1.6
DOPR **Dopca** 9.18 22⇓*i*P Pn 03 21 52.1 +1.6
SWA2 9.20 152 P Pn 03 21 49.4 -1.4
baz=155
SWA2 S Sn 03 23 25.2 -8.5
baz=155
SWA2 9.20 152 P Pn 03 21 49.4 -1.4
KEST **Kesra** 9.20 262 Pn Pn 03 21 52.8 +1.8
0.3nm,0.3s,baz=69,slow=11,SNR=14
KEST Sn Sn 03 23 34.4 +0.6
0.1nm,0.3s,baz=22,slow=19,SNR=2.9
KEST **Kesra** 9.20 262 *e*Pn Pn 03 21 50.8 -0.2
KEST Sn Sn 03 23 34.4 +0.6
KEST **Kesra** 9.20 262 *e*Pn Pn 03 21 50.8 -0.2
KEST Sn Sn 03 23 34.4 +0.6
VISS **Visnje** 9.33 334 *i* Pn Pn 03 21 54.4 +1.8
VISS *i* Sn Sn 03 23 33.6 -3.1
VISS **Visnje** 9.33 334 *i* Pn Pn 03 21 54.4 +1.8
VISS *i* Sn Sn 03 23 33.6 -3.1
DRGR 9.41 9⇑*i*P Pn 03 21 54.1 +0.4
DRGR 9.41 9⇑*i*P Pn 03 21 54.1 +0.4
PLOR **Plostina** 9.48 27⇓*i*P Pn 03 21 56.0 +1.2
PLOR **Plostina** 9.48 27⇓*i*P Pn 03 21 56.0 +1.2
VRI **Vrincioaia** 9.53 27⇓*i*P Pn 03 21 57.8 +2.5
VRI **Vrincioaia** 9.53 27⇓*i*P Pn 03 21 57.8 +2.5
TRI **Trieste** 9.64 330 *e*P Pn 03 21 56.0 -0.9
TRI **Trieste** 9.64 330 *e*P Pn 03 21 56.0 -0.9
TRI **Trieste** 9.64 330 *e*Pn Pn 03 21 56.0 -0.9
JAVS **Javornik** 9.68 332 *e*Pn Pn 03 21 58.4 +0.9
JAVS *e*Sn Sn 03 23 41.2 -4.4
JAVS **Javornik** 9.68 332 *e*Pn Pn 03 21 58.4 +0.9
JAVS *e*Sn Sn 03 23 41.2 -4.4
PERS **Pernice** 9.98 338 *i* Pn Pn 03 22 01.1 -0.4
PERS *e*Sn Sn 03 23 46.3 -6.3
PERS **Pernice** 9.98 338 *i* Pn Pn 03 22 01.0 -0.5
PERS *e*Sn Sn 03 23 46.3 -6.4
SOKA **Soboth** 10.04 338⇑*i*Pn Pn 03 22 01.6 -0.8
SOKA ⇓*i*Sn Sn 03 23 47.3 -7.0
SOKA **Soboth** 10.04 338 Pn Pn 03 22 01.6 -0.8
OBKA **Obir** 10.04 335⇑*i*Pn Pn 03 22 02.2 -0.2
OBKA ⇓*i*Sn Sn 03 23 50.1 -4.3
OBKA **Obir** 10.04 335 Pn Pn 03 22 02.2 -0.2
TESR **Tescani** 10.06 25⇑*i*P Pn 03 22 04.4 +1.8
TESR **Tescani** 10.06 25⇑*i*P Pn 03 22 04.4 +1.8
PGF **Pioggiola** 10.20 303 *e*P Pn 03 22 07.5 +2.9
PGF **Pioggiola** 10.20 303 *e*P Pn 03 22 07.5 +2.9
PGF **Pioggiola** 10.20 303 *e*P Pn 03 22 07.5 +2.9
PSZ **Piszkesteto** 10.41 357 *e*P Pn 03 22 06.6 -0.9
PSZ pmax pmax
comp=Z,8.0nm,0.8s
PSZ **Piszkesteto** 10.41 357⇓*i*P Pn 03 22 08.5 +1.0
PSZ **Piszkesteto** 10.41 357 *e*P Pn 03 22 06.6 -0.9
comp=Z,8.0nm,0.8s
PSZ **Piszkesteto** 10.41 357 *e*Pn Pn 03 22 06.6 -0.9
comp=Z,8.3nm,0.8s
ARSA **Arzberg** 10.42 341⇑*i*Pn Pn 03 22 07.5 -0.1
ARSA **Arzberg** 10.42 341 Pn Pn 03 22 07.5 -0.1
BRTR **Keskin Array B** 10.46 74 Pn Pn 03 22 09.8 +1.6
comp=Z,0.2nm,0.3s,baz=261,slow=12,SNR=4.5
BURAR **Bucovina Array** 10.66 17⇓*i*P Pn 03 22 13.0 +2.2
BURAR **Bucovina Array** 10.66 17⇓*i*P Pn 03 22 13.0 +2.2
KBA **Koelnbreinsper** 10.95 333⇓*i*Pn Pn 03 22 14.7 -0.2
KBA ⇑*i*Sn Sn 03 24 12.7 -4.0
KBA **Koelnbreinsper** 10.95 333 Pn Pn 03 22 14.7 -0.2
UZH **Uzhgorod** 11.18 6 *e*P Pn 03 22 21.7 +3.8
UZH *e*S Sn 03 24 26.5 +4.4
MOA **Molln** 11.32 338⇑*i*Pn Pn 03 22 20.4 +0.5
MOA ⇓*i*Sn Sn 03 24 20.5 -5.1
MOA **Molln** 11.32 338 Pn Pn 03 22 20.4 +0.5
AWBH 11.52 140 P Pn 03 22 20.9 -1.8
baz=142
AWBH 11.52 140 P Pn 03 22 20.9 -1.8
SBF **Sospel** 11.82 307 *e*P Pn 03 22 28.3 +1.6
SBF **Sospel** 11.82 307 *e*P Pn 03 22 28.3 +1.6
SBF **Sospel** 11.82 307 *e*P Pn 03 22 28.3 +1.6
DAVOX **Davos/Dischmat** 12.19 323 P Pn 03 22 32.1 +0.2
DAVOX 03 24 44.1
DAVOX smax smax
comp=N,1.0nm,0.3s
DAVOX **Davos/Dischmat** 12.19 323 Pn Pn 03 22 32.1 +0.2
comp=N,0.1nm,0.3s,baz=156,slow=20,SNR=1.6
DAVOX Sn Sn 03 24 44.1 -2.9
comp=N,0.5nm,0.3s,baz=310,slow=19,SNR=5.0
LMR **La Mourre** 12.19 303 *e*P Pn 03 22 34.6 +2.9
LMR **La Mourre** 12.19 303 *e*P Pn 03 22 34.6 +2.9
LMR **La Mourre** 12.19 303 *e*P Pn 03 22 34.6 +2.9
FRF **La Foret Royal** 12.19 304 *e*P Pn 03 22 33.6 +1.8
FRF **La Foret Royal** 12.19 304 *e*P Pn 03 22 33.6 +1.8
FRF **La Foret Royal** 12.19 304 *e*P Pn 03 22 33.6 +1.8
HFRF **Wahat Farafira** 12.22 146 P Pn 03 22 29.5 -2.7
baz=147
HFRF **Wahat Farafira** 12.22 146 P Pn 03 22 29.5 -2.7
GERES **GERESS Array B** 12.38 338 Pn Pn 03 22 34.1 -0.3
comp=N,0.2nm,0.3s,baz=156,slow=13,SNR=12
GERES Sn Sn 03 24 47.1 -4.5
comp=N,0.3nm,0.3s,baz=155,slow=24,SNR=5.0
OKC **Ostrava-Krasne** 12.44 353 *e*P P 03 22 45.1 -1.8
OKC **Ostrava-Krasne** 12.44 353 *e*P P 03 22 45.1 -1.8
AMAG **Maghara** 12.51 120 P Pn 03 22 32.2 -3.9
baz=121
MBDF **Montbardon** 12.65 309 *e*P Pn 03 22 39.9 +1.7
comp=N,7.8nm,0.7s
MBDF **Montbardon** 12.65 309 *e*P Pn 03 22 39.9 +1.7
MBDF pmax pmax
comp=Z,8.0nm,0.7s
MBDF **Montbardon** 12.65 309 *e*P Pn 03 22 39.9 +1.7
comp=Z,7.8nm,0.7s
KHC **Kasperske Hory** 12.67 339 *e*P P 03 22 53.0 +3.5
KHC *e*S Sn 03 24 59.0 +0.3
KHC **Kasperske Hory** 12.67 339 *e*P P 03 22 53.0 +3.5
KHC *ex* x 03 23 23.0
KHC *e*S Sn 03 24 59.0 +0.3
KHC **Kasperske Hory** 12.67 339 S Sn 03 24 59.0 +0.3
RSH 12.68 117 P Pn 03 22 34.1 -4.4
baz=119
MMAI **Mount Meron Ar** 12.92 106 Pn Pn 03 22 38.6 -3.2
comp=Z,0.5nm,0.3s,baz=307,slow=12,SNR=3.3
MMAI Sn Sn 03 24 55.2 -10
comp=Z,1.1nm,0.3s,baz=306,slow=24,SNR=4.5
MMAI LR LR 03 30 13.6
comp=Z,44nm,18.5s,baz=270,slow=50
LPG **La Plagne** 13.06 312 *e*P Pn 03 22 45.7 +1.7
LPG **La Plagne** 13.06 312 *e*P Pn 03 22 45.7 +1.7
SMRF **Simiane la Rot** 13.07 304 *e*P P 03 22 49.0 -4.9
SMRF **Simiane la Rot** 13.07 304 *e*P P 03 22 49.0 -4.9
GOPC **GO Pecny, Ondr** 13.08 343 *e*P P 03 22 54.4 +0.5
GOPC AMS AMS 03 29 00.0
comp=Z,200nm,8.5s
LPL **La Plagne** 13.09 312 *e*P Pn 03 22 46.6 +2.4
LPL **La Plagne** 13.09 312 *e*P Pn 03 22 46.6 +2.4
LPL **La Plagne** 13.09 312 *e*P Pn 03 22 46.6 +2.4
DPC **Dobruska-Polom** 13.19 348 *e*P P 03 22 55.0 -0.2
DPC **Dobruska-Polom** 13.19 348 *e*P P 03 22 55.0 -0.2
DPC *ex* x 03 22 57.7
DPC *ex* x 03 23 05.8
PRU **Pruhonice** 13.21 343 *e*P P 03 22 54.9 -0.4
PRU **Pruhonice** 13.21 343 *e*P P 03 22 54.9 -0.4
ORIF **Oris-en-Rattie** 13.30 308 *e*P Pn 03 22 48.7 +1.7
ORIF **Oris-en-Rattie** 13.30 308 *e*P Pn 03 22 48.7 +1.7
ORIF **Oris-en-Rattie** 13.30 308 *e*P Pn 03 22 48.7 +1.7
UPC **Upice** 13.39 347 *e*P P 03 22 59.3 +1.9
UPC **Upice** 13.39 347 *e*P P 03 22 59.3 +1.9
HNKL **Nakhl** 13.47 120 P Pn 03 22 46.0 -3.3
baz=122
GRA1 **Grafenberg Arr** 13.92 334 *e*P P 03 23 06.0 +2.7
comp=Z,8.0nm,0.9s
GRF **Grafenberg Arr** 13.92 334 *e*P P 03 23 06.0 +2.7
comp=Z,8.0nm,0.9s
CABF **La Chapelle** 14.07 315 *e*P Pn 03 22 59.2 +1.7
comp=Z,4.6nm,0.7s
CABF **La Chapelle** 14.07 315 *e*P Pn 03 22 59.2 +1.7
CABF pmax pmax
comp=Z,5.0nm,0.7s
CABF **La Chapelle** 14.07 315 *e*P Pn 03 22 59.2 +1.7
comp=Z,4.6nm,0.7s
HDK1 **Dakhla** 14.10 145 P Pn 03 22 55.9 -2.0
baz=147
BRG **Berggiesshubel** 14.17 343 *e*P P 03 23 08.9 +2.9
comp=Z,2.8nm,0.5s
comp=N,304nm,12.0s
comp=E,101nm,18.6s
comp=E,163nm,12.6s
BRG **Berggiesshubel** 14.17 343 *e*P P 03 23 08.9 +2.9
BRG pmax pmax
comp=Z,3.0nm,0.5s
BRG MLR MLR
comp=N,304nm,12.0s
BRG MLR MLR
comp=E,101nm,18.6s
BRG MLR MLR
comp=Z,163nm,12.6s
TR2 14.29 126 P Pn 03 22 57.8 -2.7
baz=127
HINF **Hinteralfeld** 14.40 320 *e*P Pn 03 23 02.6 +0.7
comp=Z,4.3nm,0.4s
HINF **Hinteralfeld** 14.40 320 *e*P Pn 03 23 02.6 +0.7
HINF pmax pmax
comp=Z,4.0nm,0.4s
HINF **Hinteralfeld** 14.40 320 *e*P Pn 03 23 02.6 +0.7
comp=Z,4.3nm,0.4s
ASF **Jabal al Asfar** 14.42 107 Pn Pn 03 23 05.4 +3.1
comp=Z,0.2nm,0.3s,baz=259,slow=13,SNR=2.0
ECH **Echery** 14.51 322 P Pn 03 23 01.7 -1.7
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH **Echery** 14.51 322 Pn Pn 03 23 01.7 -1.7
comp=Z,5.2nm,0.9s
ECH *e*S Sn 03 25 34.3 -9.2
ECH **Echery** 14.51 322 Pn Pn 03 23 01.7 -1.7
comp=Z,5.2nm,0.9s
ECH *e*S Sn 03 25 34.3 -9.2
KIEV **Kiev** 14.55 22 *e*P Pn 03 23 02.2 -1.7
KIEV **Kiev** 14.55 22 *e*Pn Pn 03 23 03.8 0.0
comp=Z,5.1nm,0.5s
KIEV **Kiev** 14.55 22 *e*Pn Pn 03 23 03.9 0.0
comp=Z,5.1nm,0.5s
AKASG **Malin Array Be** 14.56 22 Pn Pn 03 23 01.4 -2.6
comp=Z,0.8nm,0.3s,baz=222,slow=13,SNR=7.6
CDF **Champ du Feu** 14.59 323 *e*P Pn 03 23 06.5 +2.0
comp=Z,12nm,0.8s
CDF **Champ du Feu** 14.59 323 *e*P Pn 03 23 06.5 +2.0
CDF pmax pmax
comp=Z,12nm,0.8s
CDF **Champ du Feu** 14.59 323 *e*P Pn 03 23 06.5 +2.0
comp=Z,12nm,0.8s
ANN **Anapa** 14.62 55 *e*P Pn 03 22 59.9 -5.0
ANN pmax pmax
comp=Z,36nm,1.6s
HAU **Haudompre** 14.78 320 *e*P Pn 03 23 09.2 +2.1
comp=Z,8.0nm,0.7s
HAU **Haudompre** 14.78 320 *e*P Pn 03 23 09.2 +2.1
HAU pmax pmax
comp=Z,8.0nm,0.6s
HAU **Haudompre** 14.78 320 *e*P Pn 03 23 09.2 +2.1
comp=Z,8.0nm,0.6s
CLL **Collm** 14.80 341 *e*P Pn 03 23 09.0 +1.7
CLL **Collm** 14.80 341 *ep*P Pn 03 23 09.0 +1.7
CLL *i* PP PnPn 03 23 15.7 +0.4
comp=Z,17nm,1.4s
CLL LmV 03 30 00.0
comp=Z,100nm,18.4s
SMF **Signal de Mont** 15.39 312 *e*P Pn 03 23 17.4 +2.2
comp=Z,3.8nm,0.6s
SMF **Signal de Mont** 15.39 312 *e*P Pn 03 23 17.4 +2.2
SMF pmax pmax
comp=Z,4.0nm,0.6s
SMF **Signal de Mont** 15.39 312 *e*P Pn 03 23 17.4 +2.2
comp=Z,1.9nm,0.6s
SMF **Signal de Mont** 15.39 312 *e*P Pn 03 23 17.4 +2.2
comp=Z,3.8nm,0.6s
SFTF **Sexfontaines** 15.59 318 *e*P P 03 23 20.0 -1.8
SFTF **Sexfontaines** 15.59 318 *e*P P 03 23 20.0 -1.8
SFTF **Sexfontaines** 15.59 318 *e*P P 03 23 20.0 -1.8
LOR **Lormes** 15.71 314 *e*P P 03 23 21.7 -1.4
LOR **Lormes** 15.71 314 *e*P P 03 23 21.7 -1.4
LOR **Lormes** 15.71 314 *e*P P 03 23 21.7 -1.4
LOR **Lormes** 15.71 314 *e*P P 03 23 21.7 -1.4
RUE **Ruedersdorf** 15.71 344 *e*Pn Pn 03 23 18.3 -0.9
RUE **Ruedersdorf** 15.71 344 *e*Pn Pn 03 23 18.3 -0.9
AVF **Avril sur Loir** 15.76 311 *e*P P 03 23 22.2 -1.5
AVF **Avril sur Loir** 15.76 311 *e*P P 03 23 22.2 -1.5
AVF **Avril sur Loir** 15.76 311 *e*P P 03 23 22.2 -1.5
AVF **Avril sur Loir** 15.76 311 *e*P P 03 23 22.2 -1.5
CAF **Calviac** 15.76 304 *e*P Pn 03 23 21.3 +1.3
CAF **Calviac** 15.76 304 *e*P Pn 03 23 21.3 +1.3
CAF **Calviac** 15.76 304 *e*P Pn 03 23 21.3 +1.3
CAF **Calviac** 15.76 304 *e*P Pn 03 23 21.3 +1.3
MEZF **Maizieres J'vi** 15.77 319 *e*P P 03 23 23.8 0.0
MEZF **Maizieres J'vi** 15.77 319 *e*P P 03 23 23.8 0.0
MEZF **Maizieres J'vi** 15.77 319 *e*P P 03 23 23.8 0.0
SSF **Saint Saulge** 15.80 313 *e*P P 03 23 22.9 -1.3
comp=Z,4.6nm,0.8s
SSF **Saint Saulge** 15.80 313 *e*P P 03 23 22.9 -1.3
SSF pmax pmax
comp=Z,5.0nm,0.8s
SSF **Saint Saulge** 15.80 313 *e*P P 03 23 22.9 -1.3
comp=Z,2.3nm,0.8s
SSF **Saint Saulge** 15.80 313 *e*P P 03 23 22.9 -1.3
comp=Z,4.6nm,0.8s
BGF **Bois d'Agland** 15.95 310 *e*P P 03 23 24.5 -1.3
BGF **Bois d'Agland** 15.95 310 *e*P P 03 23 24.5 -1.3
BGF **Bois d'Agland** 15.95 310 *e*P P 03 23 24.5 -1.3
BGF **Bois d'Agland** 15.95 310 *e*P P 03 23 24.5 -1.3
TCF **Toulx Ste Croi** 16.22 309 *e*P P 03 23 28.4 -0.4
comp=Z,6.1nm,1.0s
TCF **Toulx Ste Croi** 16.22 309 *e*P P 03 23 28.4 -0.4
TCF pmax pmax
comp=Z,6.0nm,1.0s
TCF **Toulx Ste Croi** 16.22 309 *e*P P 03 23 28.4 -0.4
comp=Z,3.0nm,1.0s
TCF **Toulx Ste Croi** 16.22 309 *e*P P 03 23 28.4 -0.4
comp=Z,6.1nm,1.0s
SUW **Suwalki** 16.60 5 *e*P Pn 03 23 29.7 -0.9
SUW pmax pmax
comp=Z,117nm,1.1s
SUW **Suwalki** 16.60 5 *e*Pn Pn 03 23 29.7 -0.9
comp=Z,117nm,1.1s
SUW **Suwalki** 16.60 5 *e*Pn Pn 03 23 29.7 -0.9
comp=Z,117nm,1.1s
LFF **La Frestale** 16.64 303 *e*P P 03 23 33.6 +0.1
LFF **La Frestale** 16.64 303 *e*P P 03 23 33.6 +0.1
LFF **La Frestale** 16.64 303 *e*P P 03 23 33.6 +0.1
LFF **La Frestale** 16.64 303 *e*P P 03 23 33.6 +0.1
MEM **Membach** 16.72 326 P P 03 23 38.7 +4.4
ETSF **Etsaut** 17.00 295 *e*P P 03 23 37.5 -0.1
comp=Z,13nm,1.0s
ETSF **Etsaut** 17.00 295 *e*P P 03 23 37.5 -0.1
ETSF pmax pmax
comp=Z,13nm,1.0s
ETSF **Etsaut** 17.00 295 *e*P P 03 23 37.5 -0.1
comp=Z,6.5nm,1.0s
ETSF **Etsaut** 17.00 295 *e*P P 03 23 37.5 -0.1
comp=Z,13nm,1.0s
DOU **Dourbes** 17.02 323 P P 03 23 40.4 +2.7
ASHG **Umm Shaghir** 17.10 143 P Pn 03 23 37.3 +0.2
baz=145
ASHG **Umm Shaghir** 17.10 143 P Pn 03 23 37.3 +0.2
BAIF **Baives** 17.18 322 *e*P P 03 23 41.9 +2.4
comp=Z,10nm,0.9s
BAIF **Baives** 17.18 322 *e*P P 03 23 41.9 +2.4
BAIF pmax pmax
comp=Z,10.0nm,0.9s
BAIF **Baives** 17.18 322 *e*P P 03 23 41.9 +2.4
comp=Z,10nm,0.9s
SJPF **Ste Jean** 17.53 295 *e*P P 03 23 43.9 +0.6
comp=Z,14nm,1.1s
SJPF **Ste Jean** 17.53 295 *e*P P 03 23 43.9 +0.6
SJPF pmax pmax
comp=Z,15nm,1.1s
SJPF **Ste Jean** 17.53 295 *e*P P 03 23 43.9 +0.6
comp=Z,7.2nm,1.1s
SJPF **Ste Jean** 17.53 295 *e*P P 03 23 43.9 +0.6
comp=Z,14nm,1.1s
MFF **Saint Martin d** 17.83 307 *e*P P 03 23 49.4 +2.8
comp=Z,17nm,1.2s
MFF **Saint Martin d** 17.83 307 *e*P P 03 23 49.4 +2.8
MFF pmax pmax
comp=Z,17nm,1.2s
MFF **Saint Martin d** 17.83 307 *e*P P 03 23 49.4 +2.8
comp=Z,17nm,1.2s
KIV **Kislovodsk** 17.92 62 *e*P Pn 03 23 47.4 +0.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV **Kislovodsk** 17.92 62 *e*P Pn 03 23 47.4 +0.1
comp=Z,6.0nm,1.0s
AADN **Adndan** 18.02 145 P P 03 23 50.1 +1.2
baz=147
KBZ **Khabaz** 18.02 63 P Pn 03 23 46.2 -2.2
comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=2.1
LDF **La Druitiere** 18.68 313 *e*P Pn 03 23 57.8 +1.3
comp=Z,5.4nm,0.5s
LDF **La Druitiere** 18.68 313 *e*P Pn 03 23 57.8 +1.3
LDF pmax pmax
comp=Z,5.0nm,0.5s
LDF **La Druitiere** 18.68 313 *e*P Pn 03 23 57.8 +1.3
comp=Z,5.4nm,0.5s
FLN **La Foliniere** 18.98 313 *e*P Pn 03 24 02.4 +2.4
FLN **La Foliniere** 18.98 313 *e*P Pn 03 24 02.4 +2.4
FLN **La Foliniere** 18.98 313 *e*P Pn 03 24 02.4 +2.4
GNI **Garni** 19.00 75 *e*P Pn 03 24 00.3 -0.2
GNI **Garni** 19.00 75 *e*P Pn 03 24 00.3 -0.2
VSR **Storozhevoye** 19.01 38 *e*P P 03 23 59.2 -0.4
VSR pmax pmax
comp=N,350nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR **Storozhevoye** 19.01 38 *e*P P 03 23 59.2 -0.4
GRR **Gorron** 19.02 312 *e*P Pn 03 24 02.8 +2.3
comp=Z,4.4nm,0.4s
GRR **Gorron** 19.02 312 *e*P Pn 03 24 02.8 +2.3
GRR pmax pmax
comp=Z,4.0nm,0.4s
GRR **Gorron** 19.02 312 *e*P Pn 03 24 02.8 +2.3
comp=Z,4.4nm,0.4s
ESDC **Sonseca Array** 19.29 284 P Pn 03 24 05.0 +1.0
comp=Z,0.4nm,0.3s,baz=81,slow=10,SNR=12
ESDC **Sonseca Array** 19.29 284 P Pn 03 24 05.0 +1.0
TAM **Tamanrasset** 19.58 226 P P 03 24 04.2 -1.9
TAM pmax pmax
comp=Z,2.0nm,0.8s
TAM **Tamanrasset** 19.58 226 P P 03 24 04.2 -1.9
comp=Z,2.0nm,0.8s
TAM **Tamanrasset** 19.58 226 P P 03 24 04.2 -1.9
comp=Z,2.0nm,0.8s
SGMF **Saint Gilles** 19.99 310 *e*P Pn 03 24 13.7 +1.6
comp=Z,9.4nm,0.8s
SGMF **Saint Gilles** 19.99 310 *e*P Pn 03 24 13.7 +1.6
SGMF pmax pmax
comp=Z,9.0nm,0.8s
SGMF **Saint Gilles** 19.99 310 *e*P Pn 03 24 13.7 +1.6
comp=Z,9.4nm,0.8s
VRHR **Novokhopersk** 20.18 41 *e*P Pn 03 24 14.2 -0.1
VRHR pmax pmax
comp=N,20nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,1.1s
VRHR pmax pmax
comp=Z,20nm,1.1s
VRHR **Novokhopersk** 20.18 41 *e*P Pn 03 24 14.2 -0.1
QUIF **Quistinic** 20.23 308 *e*P Pn 03 24 16.8 +1.9
comp=Z,8.9nm,0.7s
QUIF **Quistinic** 20.23 308 *e*P Pn 03 24 16.8 +1.9
QUIF pmax pmax
comp=Z,9.0nm,0.7s
QUIF **Quistinic** 20.23 308 *e*P Pn 03 24 16.8 +1.9
comp=Z,9.9nm,0.7s
ROSF **Rostrenen** 20.46 309 *e*P Pn 03 24 18.1 +0.5
comp=Z,23nm,1.0s
ROSF **Rostrenen** 20.46 309 *e*P Pn 03 24 18.1 +0.5
ROSF pmax pmax
comp=Z,23nm,1.0s
ROSF **Rostrenen** 20.46 309 *e*P Pn 03 24 18.1 +0.5
comp=Z,23nm,1.0s
OBN **Obninsk** 20.69 27 *e*P P 03 24 16.0 -1.8
OBN pmax pmax
comp=Z,45nm,1.6s
OBN MLR MLR
comp=Z,96nm,14.0s
OBN **Obninsk** 20.69 27 P P 03 24 16.5 -1.4
comp=Z,13nm,0.4s,baz=110,slow=8.8,SNR=5.4
IHRS **Heris** 20.88 80 *e*P P 03 24 19.6 -0.7
IHRS **Heris** 20.88 80 *e*P P 03 24 19.6 -0.7
IDHR **Dehrash** 21.02 90 *e*P P 03 24 20.6 -1.2
IDHR **Dehrash** 21.02 90 *e*P P 03 24 20.6 -1.2
MDT **Midelt** 21.10 265 P P 03 24 24.4 +1.8
comp=Z,4.3nm,0.8s,baz=87,slow=10.0,SNR=10
IGHG **Ghaleghazi** 21.27 91 *e*P P 03 24 22.7 -1.8
IGHG **Ghaleghazi** 21.27 91 *e*P P 03 24 22.7 -1.8
VSU **Vasula** 21.34 9 *e*P P 03 24 23.4 -1.4
VSU pmax pmax
comp=Z,112nm,0.9s
VSU **Vasula** 21.34 9 *e*P P 03 24 23.4 -1.4
comp=Z,112nm,0.9s
IKOM **Komasi** 22.06 91 *e*P P 03 24 32.4 -0.5
IKOM **Komasi** 22.06 91 *e*P P 03 24 32.4 -0.5
IBZA **Bozab** 22.25 90 *e*P P 03 24 33.0 -2.1
HFS **Hagfors** 23.06 351 P P 03 24 42.3 -0.8
comp=Z,5.8nm,0.6s,baz=161,slow=10,SNR=40
EKA **Eskdalemuir Ar** 24.00 326 P P 03 24 53.1 +0.8
comp=Z,6.2nm,0.7s,baz=119,slow=8.7,SNR=13
FINES **FINESS Array B** 24.20 6 P P 03 24 53.4 -0.7
comp=Z,4.1nm,0.4s,baz=185,slow=9.2,SNR=44
FINES PcP PcP 03 28 35.0 +1.0
comp=Z,1.8nm,1.1s,baz=150,slow=3.1,SNR=4.1
FINES **FINESS Array B** 24.20 6 PcP PcP 03 28 35.0 +1.0
NB2 **NORSAR Subarra** 24.28 349 P P 03 24 55.0 +0.1
comp=Z,2.7nm,0.8s,baz=156,slow=9.3
NB2 **NORSAR Subarra** 24.28 349 P P 03 24 55.0 +0.1
comp=Z,2.7nm,0.8s,SNR=7.0
NOA **NORSAR Array B** 24.28 349 P P 03 24 54.8 0.0
comp=Z,3.2nm,0.7s,baz=161,slow=8.7,SNR=19
KAF **Kangasniemi** 24.88 6 *e*P P 03 24 58.8 -1.5
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF **Kangasniemi** 24.88 6 *ep* P 03 24 58.8 -1.5
comp=Z,6.6nm,0.6s
KAF **Kangasniemi** 24.88 6 *e*P P 03 24 58.8 -1.5
comp=Z,7.0nm,0.6s
IKLH **Kolahrood** 25.55 90 *e*P P 03 25 08.6 +1.7
IKLH **Kolahrood** 25.55 90 *e*P P 03 25 08.6 +1.7
JOF **Joensuu** 26.27 11 *e*P P 03 25 11.8 -1.0
JOF pmax pmax
comp=Z,2.0nm,0.5s
JOF **Joensuu** 26.27 11 *ep* P 03 25 11.8 -1.0
comp=Z,1.7nm,0.5s
JOF **Joensuu** 26.27 11 *e*P P 03 25 11.8 -1.0
comp=Z,2.0nm,0.5s
IZEF **Zefreh** 26.28 91 *e*P P 03 25 13.4 -0.2
IZEF **Zefreh** 26.28 91 *e*P P 03 25 13.4 -0.2
TORD **Torodi Ar. Bea** 29.55 220 P P 03 25 44.4 +1.9

comp=Z,1.4nm,0.6s,baz=30,slow=9.2,SNR=28
AKTK Aktyubinsk 29.55 52 P P 03 25 41.2 -1.1
AKTO Aktyubinsk 29.55 52 P P 03 25 41.2 -1.1
comp=Z,1.1nm,0.3s,baz=250,slow=9.1,SNR=8.3
GEYT Alibeck 29.57 78 P P 03 25 41.5 -1.2
comp=Z,2.8nm,0.5s,baz=278,slow=10,SNR=5.3
ABKAR Akbulak array 30.58 55 *eP* **P 03 25 50.6 -0.8**
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 30.58 55 *eP* **P 03 25 50.6 -0.8**
comp=Z,1.0nm,0.4s
ARU Arti 31.53 41 P P **03 25 57.7 -2.0**
ARCES ARCESS Array B 32.19 3 P P **03 26 05.0 -0.4**
comp=Z,2.4nm,0.7s,baz=188,slow=11,SNR=17
ARCES PcP **PcP 03 28 53.9 +0.4**
comp=Z,1.5nm,1.0s,baz=153,slow=0.8,SNR=3.4
ARCES ARCESS Array B 32.19 3 P P **03 26 05.0 -0.4**
KEV Kevo 32.49 4 *eP* **P 03 26 07.6 -0.3**
KEV Kevo 32.49 4 *ep* **P 03 26 07.6 -0.3**
comp=Z,0.4nm,0.4s
KEV Kevo 32.49 4 *eP* **P 03 26 07.6 -0.3**
BRVK Borovoye 37.45 49 *eP* **P 03 26 49.5 -1.5**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 37.45 49 *eP* **P 03 26 49.5 -1.5**
comp=Z,2.0nm,0.9s
KKAR Karatay Array 38.03 65 *eP* **P 03 26 55.0 -1.0**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 38.03 65 *eP* **P 03 26 55.0 -1.0**
comp=Z,1.5nm,0.5s
KKAR Karatay Array 38.03 65 *eP* **P 03 26 55.0 -1.0**
comp=Z,1.5nm,0.5s
DBIC Dimbokro 38.44 223 P P **03 27 01.4 +1.7**
comp=Z,3.4nm,0.9s,baz=360,slow=9.5,SNR=5.0
LIC Lamto 38.90 223 *eP* **P 03 27 04.7 +1.2**
comp=Z,13nm,0.9s
LIC Lamto 38.90 223 *eP* **P 03 27 04.7 +1.2**
comp=Z,13nm,0.9s
BBTS Babate 39.98 245 PcP **PcP 03 29 19.3 +1.8**
comp=Z,30nm,1.0s,baz=47,slow=3.5,SNR=3.6
SPITS Spitsbergen Ar 40.81 359 P P **03 27 18.2 -0.6**
comp=Z,0.4nm,0.3s,baz=153,slow=11,SNR=4.3
NVS Novosibirsk 45.10 47 *eP* **P 03 27 53.4 -0.3**
NVS Novosibirsk 45.10 47 *eP* **P 03 27 53.4 -0.3**
MKAR Makanchi Array 45.61 58 P P **03 27 56.7 -1.3**
comp=Z,1.5nm,0.4s,baz=270,slow=7.7,SNR=26
MKAR PcP **PcP 03 29 36.8 +0.8**
comp=Z,1.0nm,0.7s,baz=285,slow=2.3,SNR=3.2
ZALV Zalesovo Beam 46.10 48 P P **03 28 00.5 -1.1**
comp=Z,2.6nm,0.4s,baz=273,slow=8.8,SNR=12
WMQ Urumqi 50.04 60 *eP* **P 03 28 33.3 +0.9**
WMQ pP **pP 03 28 41.0 +1.4**
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,120nm,5.0s
SCHQ Schefferville 58.98 318 P P **03 29 37.9 +0.9**
comp=Z,1.4nm,0.5s,baz=63,slow=8.8,SNR=5.6
TIXI Tiksi 60.26 20 *eP* **P 03 29 44.9 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 60.26 20 *eP* **P 03 29 44.9 -0.6**
comp=Z,2.0nm,0.9s
SONM Songino Array 60.84 50 P P **03 29 49.5 -0.6**
comp=Z,1.1nm,0.8s,baz=280,slow=7.0,SNR=7.1
BOD Bodaibo 60.87 38 *eP* **P 03 29 47.3 -2.6**
ULN Ulaanbaatar 61.23 50 *eP* **P 03 29 51.8 -1.0**
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 61.23 50 *eP* **P 03 29 51.8 -1.0**
comp=Z,2.0nm,0.9s
CD2 Chengdu 66.98 68 *eP* **P 03 30 30.0 -0.6**
HHC Hu-ho-hao-te 67.37 55 *eP* **P 03 30 30.6 -2.5**
HHC PMZ
comp=Z,21nm,1.2s
HHC PMZ
comp=Z,59nm,7.8s
CMAR Chiang Mai Arr 69.94 82 P P **03 30 48.9 -0.3**
comp=Z,2.0nm,0.6s,baz=304,slow=7.8,SNR=11
INK Inuvik 72.72 350 P P **03 31 05.7 +0.4**
comp=Z,0.5nm,0.5s,baz=20,slow=6.5,SNR=7.7
YKA Yellowknife Ar 74.03 340 P P **03 31 13.5 +0.5**
comp=Z,0.9nm,0.5s,baz=35,slow=5.4,SNR=25
ILAR Eielson Array 77.57 355 P P **03 31 33.5 +0.2**
comp=Z,0.5nm,0.9s,baz=352,slow=4.6,SNR=6.4
USRK Ussuriysk Ar. 77.73 43 P P **03 31 34.2 -0.3**
comp=Z,2.0nm,0.6s,baz=292,slow=5.8,SNR=5.2
KSAR Wonju Array Be 79.70 51 P P **03 31 45.4 0.0**
KSAR Wonju Array Be 79.70 51 P P **03 31 45.4 0.0**
KSAR Wonju Array Be 79.70 51 P P **03 31 45.4 0.0**
KSRS Korea Array 79.72 51 P P **03 31 45.4 -0.1**
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS Korea Array 79.72 51 P P **03 31 45.4 -0.1**
comp=Z,2.8nm,0.7s,baz=314,slow=4.1,SNR=6.4
PETK Petropavlovsk- 82.39 24 LR LR 04 12 40.6
comp=Z,21nm,18.7s,baz=59,slow=39
WRA Warramunga Arr 120.47 93 PKP **PKPdf 03 38 29.8 +0.3**
comp=Z,0.3nm,0.5s,baz=316,slow=1.8,SNR=10
ASAR Alice Springs 122.05 97 PKP **PKPdf 03 38 33.0 +0.5**
comp=Z,0.5nm,0.5s,baz=320,slow=1.5,SNR=10

MEX 20 03:30:49.3±0.7, 32°.29N×115°.25W, h10km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.13**	**22**	*i* P	Pg	03 30 51.3	-1.0
MBIG				*i* S	Sg	03 30 54.7	+0.4
CBX	**Cerro Bola**	**1.19**	**271**	*eP*	Pb	03 31 08.2	-4.1
CBX				*eS*	Sb	03 31 23.2	-4.6

MEX 20 03:38:08.7±0.6, 32°.47N×114°.85W, h10km, MD3.7, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.30**	**258**	*eP*	Pg	03 38 15.1	+0.4
MBIG				*i* S	Sg	03 38 19.3	+0.6
SPIG	**San Pedro Mart**	**1.51**	**200**	*i* P	Pn	03 38 32.6	-3.6
SPIG				*i* S	Sn	03 38 50.9	-5.2

IDC ***20*** *03:39:59.2±0.6, 37°.64N×95°.80E, h0km, mb4.1/20, mb1 4.3/26, mb1mx4.1/48, mbtmp4.1/26, ML3.9/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/37, Error ellipse: s-maj=18.8km s-min=11.9km az=43.0*
ISCJB ***20*** *03:39:59.6±0.2, 37°.71N±0°.04×95°.75E±0°.03, h10km, mb4.4/52, Error ellipse: s-maj=5.6km s-min=3.3km az=22.8*
BJI ***20*** *03:40:00.5, 37°.69N×95°.74E, h10km, mB4.7/15, mb4.6/19, ML4.0/14, Ms4.0/12, Ms7 3.8/13*
NEIC ***20*** *03:40:01.0±0.2, 37°.61N×95°.70E, h10km, mb4.9/23, Error ellipse: s-maj=5.2km s-min=3.8km az=18.0*
MOS ***20*** *03:40:02.3±0.8, 37°.66N×95°.76E, h31km, mb4.8/28, Error ellipse: s-maj=8.4km s-min=4.9km az=119.5*
SZGRF ***20*** *03:40:27.1, 39°.20N×92°.54E, h33km, mb4.5, Southern Xinjiang, China*

ISC 20 03:40:02.4±0.4, 37°.82N±0°.05×95°.67E±0°.03, h10km, n220, σ1°.22/233, mb4.5/56, 10C-3D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.61**	**63**	Pn	**Pn**	**03 41 00.8**	**+2.2**
GTA				Pg	**Pb**	**03 41 07.3**	**+0.9**
GTA				Sn	**Sn**	**03 41 39.3**	**-2.0**
GTA				Sg	**Sb**	**03 41 47.9**	**-2.5**
GTA				SMN			
	160nm,1.3s						
GTA				SME			
	86nm,1.1s						
LZH	**Lanzhou**	**6.77**	**102**	*e*Pn	Pn	03 41 39.8	-2.1
LZH				Pg	**Pb**	**03 42 01.8**	**+1.6**
LZH				Sn	**Sn**	**03 42 56.6**	**-2.5**
LZH				Sg	Sb	03 43 28.8	+7.7
LZH				SMN			
	400nm,1.7s						
LZH				SME			
	200nm,1.1s						
LZH				LN			
	930nm,7.4s						
LZH				LE			
	490nm,5.9s						
LZH				LZ			
	580nm,8.3s						
WMQ	**Urumqi**	**8.52**	**317**	P	**Pn**	**03 42 07.3**	**+1.5**
WMQ				pP	pP	03 42 11.0	
WMQ				sP		03 42 14.0	
WMQ				PP	**PnPn**	**03 42 18.4**	**+5.0**
WMQ				S	**Sn**	**03 43 47.0**	**+5.0**
WMQ				PMZ			
	38nm,0.6s						
WMQ				PMZ			
	140nm,5.2s						
WMQ				SMN			
	85nm,0.8s						
WMQ				SME			
	120nm,0.8s						
LSA	**Lhasa**	**8.93**	**206**	*e*P	**Pn**	**03 42 12.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**8.93**	**206**	*e*Pn	**Pn**	**03 42 12.6**	**+0.7**
	comp=Z,8.3nm,0.6s						
CD2	**Chengdu**	**9.59**	**134**	*e*P	**Pn**	**03 42 21.4**	**+0.8**
CD2				pP		03 42 24.1	
CD2				sP		03 42 26.9	
CD2				PP	**PnPn**	**03 42 28.8**	**+0.6**
CD2				S	**Sn**	**03 44 09.1**	**+0.6**
CD2				sS		03 44 13.8	
CD2				SS	**SnSn**	**03 44 22.3**	**+2.2**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,100nm,5.2s						
CD2				LN			
	comp=Z,660nm,7.0s						
CD2				LE			
	comp=Z,320nm,10.8s						
CD2				LZ			
	comp=Z,370nm,11.7s						
XAN	**Xi'an**	**11.38**	**105**	P	Pn	03 42 40.5	-4.6
XAN				LN			
	comp=Z,160nm,9.4s						
XAN				LE			
	comp=Z,79nm,8.8s						
HHC	**Hu-ho-hao-te**	**12.67**	**71**	*e*P	**Pn**	**03 43 03.1**	**+0.4**
HHC				pP		03 43 06.1	
HHC				PP	**PnPn**	**03 43 13.4**	**+3.0**
HHC				S	**Sn**	**03 45 27.8**	**+3.9**
HHC				sS		03 45 30.5	
HHC				SS	**SnSn**	**03 45 36.5**	**+0.6**
HHC				PMZ			
	comp=Z,13nm,0.5s						
HHC				PMZ			
	comp=Z,110nm,4.1s						
HHC				LN			
	comp=Z,190nm,9.1s						
HHC				LE			
	comp=Z,170nm,9.7s						
SONM	**Songino Array**	**12.72**	**35**	Pn	**Pn**	**03 43 03.8**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=219,slow=15,SNR=21						
SONM				Lg	Lg	03 46 51.9	
	comp=Z,0.1nm,0.3s,baz=217,slow=31,SNR=3.1						
SONM				LR	LR	03 48 42.1	
	comp=Z,43nm,20.8s,baz=195,slow=41						
ULN	**Ulaanbaatar**	**13.04**	**36**	*e*P	**Pn**	**03 43 07.0**	**-0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**13.04**	**36**	*e*Pn	**Pn**	**03 43 10.1**	**+2.2**
MKAR	**Makanchi Array**	**13.35**	**316**	*e*P	**Pn**	**03 43 11.2**	**-0.7**
MKAR	**Makanchi Array**	**13.35**	**316**	Pn	**Pn**	**03 43 10.5**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=126,slow=14,SNR=114						
MKAR				Sn	Sn	03 45 33.4	-6.9
	comp=Z,0.2nm,0.3s,baz=122,slow=24,SNR=3.1						
MKAR	**Makanchi Array**	**13.35**	**316**	*e*Pn	**Pn**	**03 43 11.2**	**-0.7**
MKAR				Sn	Sn	03 45 33.4	-6.9
ZAK	**Zakamensk**	**13.69**	**21**	*e*P	Pn	03 43 20.2	+3.6
ZAK				*e*		03 45 47.7	
ZAK				pmax	pmax		
	comp=Z,17nm,1.3s						
ENH	**Enshi**	**13.70**	**119**	*e*Pn	Pn	03 43 13.4	-3.3
	comp=Z,5.8nm,0.6s						
TLY	**Talaya**	**14.96**	**20**	*e*P	**Pn**	**03 43 35.9**	**+2.1**
TLY	**Talaya**	**14.96**	**20**	Pn	**Pn**	**03 43 36.3**	**+2.4**
	comp=Z,0.0nm,0.3s,baz=255,slow=12,SNR=4.3						
TLY				LR	LR	03 49 24.6	
	comp=Z,75nm,20.7s,baz=212,slow=38						
TLY	**Talaya**	**14.96**	**20**	*e*Pn	**Pn**	**03 43 35.9**	**+2.1**
KSH	**Kashi**	**15.48**	**282**	P	**Pn**	**03 43 42.6**	**+1.6**
KSH				sP	**sP**	**03 43 49.5**	**-0.1**
KSH				S	**Sn**	**03 46 35.8**	**+3.2**
KSH				PMZ			
	comp=Z,120nm,4.6s						
KSH				LN			
	comp=Z,130nm,5.1s						
KSH				LE			
	comp=Z,160nm,5.1s						
KSH				LZ			
	comp=Z,170nm,6.2s						
BJI	**Beijing**	**16.11**	**76**	P	**Pn**	**03 43 48.1**	**-0.8**
BJI				PMZ			
	comp=Z,41nm,0.5s						
TKM2	**Tokmak 2**	**16.12**	**295**	*e*P	**Pn**	**03 43 50.3**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,20nm,0.8s						
TKM2	**Tokmak 2**	**16.12**	**295**	*e*Pn	**Pn**	**03 43 50.3**	**+1.1**
	comp=Z,20nm,0.8s						
AAK	**Ala-Archa**	**16.86**	**293**	⇑ *i*P	**Pn**	**03 43 59.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,26nm,0.8s						
AAK	**Ala-Archa**	**16.86**	**293**	Pn	**Pn**	**03 43 58.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=107,slow=7.3,SNR=13						
AAK	**Ala-Archa**	**16.86**	**293**	*e*Pn	**Pn**	**03 43 59.0**	**+0.3**
	comp=Z,9.5nm,0.8s						
EKS2	**Erkin-Say**	**17.39**	**293**	*e*P	**Pn**	**03 44 06.3**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
EKS2	**Erkin-Say**	**17.39**	**293**	*e*Pn	**Pn**	**03 44 06.2**	**+1.0**
	comp=Z,4.8nm,1.0s						
KURBB	**Kurchatov Arra**	**17.69**	**322**	P	**Pn**	**03 44 07.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=136,slow=12,SNR=19						
KURBB				S	**Sn**	**03 47 21.6**	**-4.1**
	comp=Z,0.0nm,0.3s,baz=118,slow=28,SNR=4.5						
KURK	**Kurchatov**	**17.70**	**322**	*e*P	**Pn**	**03 44 08.1**	**-0.8**
KURK				S	**Sn**	**03 47 21.6**	**-4.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KURK	**Kurchatov**	**17.70**	**322**	*e*Pn	**Pn**	**03 44 08.1**	**-0.8**
	comp=Z,9.7nm,0.9s						
KURK				S	**Sn**	**03 47 21.6**	**-4.5**
ZALV	**Zalesovo Beam**	**17.78**	**339**	P	**Pn**	**03 44 10.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=153,slow=10.0,SNR=26						
NVS	**Novosibirsk**	**19.02**	**338**	⇓ *i*P	**P**	**03 44 25.0**	**+0.8**
NVS				*e*S	**Sn**	**03 47 56.2**	**-1.6**
NVS				pmax	pmax		
	comp=N,11nm,1.2s						
NVS				pmax	pmax		
	comp=Z,15nm,1.2s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**19.50**	**171**	P	P	03 44 26.5	-3.2
	comp=E,0.7nm,0.3s,baz=342,slow=10,SNR=38						
KKAR	**Karatay Array**	**19.83**	**293**	*e*P	**P**	**03 44 33.4**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**19.83**	**293**	*e*P	**P**	**03 44 33.4**	**+0.2**
	comp=Z,1.2nm,0.5s						
HIA	**Hailar**	**20.77**	**49**	*e*P	**P**	**03 44 43.6**	**+0.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KBL	**Kabul**	**21.72**	**269**	*e*P	**P**	**03 44 53.3**	**-0.7**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KBL	**Kabul**	**21.72**	**269**	*e*P	**P**	**03 44 53.3**	**-0.7**
	comp=Z,10nm,0.7s						
QIZ	**Qiongzhong**	**22.44**	**143**	P	**P**	**03 44 59.8**	**-1.7**
QIZ				S	**S**	**03 49 05.9**	**-2.0**
QIZ				PMZ			
	comp=Z,19nm,1.4s						
BVAR	**Borovoye Array**	**23.20**	**319**	P	**P**	**03 45 09.7**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=122,slow=9.9,SNR=12						
BRVK	**Borovoye**	**23.27**	**319**	*c iP*	**P**	**03 45 10.0**	**0.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	**Borovoye**	**23.27**	**319**	*e*P	**P**	**03 45 10.4**	**+0.5**
	comp=Z,3.9nm,0.8s						
BOD	**Bodaibo**	**23.35**	**25**	*e*P	**P**	**03 45 11.5**	**+0.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KSAR	**Wonju Array Be**	**25.45**	**81**	P	**P**	**03 45 28.6**	**-1.8**
KSAR	**Wonju Array Be**	**25.45**	**81**	P	**P**	**03 45 28.6**	**-1.8**
KSRS	**Korea Array**	**25.48**	**81**	P	**P**	**03 45 28.6**	**-2.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS	**Korea Array**	**25.48**	**81**	P	**P**	**03 45 28.6**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=273,slow=9.3,SNR=5.2						
AKTO	**Aktyubinsk**	**29.50**	**307**	P	**P**	**03 46 07.2**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=96,slow=9.8,SNR=21						
ARU	**Arti**	**30.85**	**319**	*d iP*	**P**	**03 46 19.0**	**+0.6**
ARU				S	**S**	**03 51 20.6**	**-1.3**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**30.85**	**319**	*e*P	**P**	**03 46 18.3**	**-0.2**
	comp=Z,7.4nm,0.7s						
TIXI	**Tiksi**	**37.90**	**16**	*e*P	**P**	**03 47 18.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**39.84**	**296**	P	**P**	**03 47 35.9**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**39.84**	**296**	P	**P**	**03 47 35.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=233,slow=20,SNR=5.2						
VRHR	**Novokhopersk**	**39.91**	**307**	*e*P	**P**	**03 47 35.2**	**-1.2**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=N,5.0nm,0.6s						
VRHR				pmax	pmax		
	comp=E,9.0nm,0.8s						
KIV	**Kislovodsk**	**39.95**	**296**	*e*P	**P**	**03 47 37.9**	**+1.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VORD	**Divnogorie**	**41.39**	**307**	*e*P	**P**	**03 47 48.7**	**+0.2**
VORD				pmax	pmax		
	comp=N,7.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR	**Storozhevoye**	**41.45**	**308**	*e*P	**P**	**03 47 49.3**	**+0.2**
VSR				pmax	pmax		
	comp=N,190nm,0.6s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SEY	**Seymchan**	**42.12**	**35**	P	**P**	**03 47 54.0**	**-0.4**
SEY	**Seymchan**	**42.12**	**35**	P	**P**	**03 47 53.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=233,slow=10,SNR=3.5						
OBN	**Obninsk**	**42.83**	**314**	*e*P	**P**	**03 48 00.7**	**+0.4**
OBN				pmax	pmax		
	comp=Z,24nm,0.6s						
GTOI	**Gorontalo**	**44.75**	**139**	P	P	03 48 13.9	-2.2
JOF	**Joensuu**	**45.60**	**325**	*e*P	**P**	**03 48 22.1**	**-0.2**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JOF	**Joensuu**	**45.60**	**325**	*e*p	**P**	**03 48 22.1**	**-0.2**
	comp=Z,2.2nm,0.6s						
BRTR	**Keskin Array B**	**47.54**	**293**	*ce*P	**P**	**03 48 38.5**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**47.54**	**293**	P	**P**	**03 48 38.0**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=98,slow=7.3,SNR=24						
AKASG	**Malin Array Be**	**47.74**	**308**	*ce*P	**P**	**03 48 39.2**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**47.74**	**308**	P	**P**	**03 48 39.0**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=68,slow=7.4,SNR=9.2						
KIEV	**Kiev**	**47.76**	**308**	*eP*	**P**	**03 48 39.4**	**0.0**
FINES	**FINESS Array B**	**48.08**	**323**	*ce*P	**P**	**03 48 42.2**	**+0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**48.08**	**323**	P	**P**	**03 48 41.5**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=91,slow=8.3,SNR=6.4						
ARCES	**ARCESS Array B**	**48.24**	**334**	P	**P**	**03 48 42.7**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=88,slow=8.6,SNR=4.9						
ARCES				PcP	**PcP**	**03 50 08.4**	**-1.4**
	comp=Z,4.0nm,1.1s,baz=98,slow=3.7,SNR=6.9						
BILL	**Bilibino**	**48.34**	**28**	*eP*	**P**	**03 48 45.1**	**+1.4**
BILL				pmax	pmax		
	comp=Z,19nm,1.9s						
KWP	**Kalwaria Pacla**	**52.07**	**308**	*eP*	**P**	**03 49 12.8**	**+0.5**
KWP				pmax	pmax		
	comp=Z,17nm,0.9s						
KWP	**Kalwaria Pacla**	**52.07**	**308**	*eP*	**P**	**03 49 12.8**	**+0.5**
	comp=Z,17nm,0.9s						
KOLS	**Kolonicke sedl**	**52.54**	**307**	*eP*	**P**	**03 49 15.6**	**-0.2**
KOLS	**Kolonicke sedl**	**52.54**	**307**	*eP*	**P**	**03 49 15.6**	**-0.2**
STHS	**Stebnicka Huta**	**53.04**	**308**	*eP*	**P**	**03 49 19.0**	**-0.6**
STHS	**Stebnicka Huta**	**53.04**	**308**	*eP*	**P**	**03 49 18.9**	**-0.6**
VYHS	**Vyhne**	**54.84**	**308**	*eP*	**P**	**03 49 33.8**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.2s						
VYHS	**Vyhne**	**54.84**	**308**	*eP*	**P**	**03 49 33.8**	**+1.1**
NB2	**NORSAR Subarra**	**55.21**	**324**	P	**P**	**03 49 34.8**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=72,slow=7.4						
NOA	**NORSAR Array B**	**55.21**	**324**	P	**P**	**03 49 34.7**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=74,slow=7.3,SNR=8.6						
DPC	**Dobruska-Polom**	**55.77**	**310**	*eP*	**P**	**03 49 40.2**	**+0.9**
DPC				*e*		03 49 49.0	
DPC	**Dobruska-Polom**	**55.77**	**310**	*eP*	**P**	**03 49 40.2**	**+0.9**
DPC				*e*pP	**pP**	**03 49 42.8**	**+0.3**
DPC				*ex*	x	03 49 49.0	
UPC	**Upice**	**55.90**	**311**	*eP*	**P**	**03 49 39.8**	**-0.4**
UPC	**Upice**	**55.90**	**311**	*eP*	**P**	**03 49 39.8**	**-0.4**
UPC				*e*pP	**pP**	**03 49 43.4**	**0.0**
TREC	**Trest**	**56.64**	**309**	*eP*	**P**	**03 49 48.6**	**+3.0**
TREC	**Trest**	**56.64**	**309**	*eP*	**P**	**03 49 48.6**	**+3.0**
CONA	**Conrad Observa**	**56.90**	**308**	⇑ *i*pP	**P**	**03 49 48.9**	**+1.4**
	comp=Z,3.2nm,0.7s						
PRU	**Pruhonice**	**56.97**	**310**	*eP*	**P**	**03 49 47.1**	**-0.7**
PRU				*e*		03 49 55.3	
PRU	**Pruhonice**	**56.97**	**310**	*eP*	**P**	**03 49 47.1**	**-0.7**
PRU				*ex*	x	03 49 55.3	
BRG	**Berggiesshubel**	**57.01**	**312**	*e*(P)	**P**	**03 49 51.1**	**+3.1**
	comp=Z,3.1nm,0.8s						
BRG	**Berggiesshubel**	**57.01**	**312**	*eP*	**P**	**03 49 51.2**	**+3.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**57.40**	**312**	*eP*	**P**	**03 49 51.0**	**+0.1**
SOKA	**Soboth**	**57.90**	**307**	⇑ *i*pP	**P**	**03 49 54.7**	**+0.1**
	comp=Z,3.9nm,1.0s						
GERES	**GERESS Array B**	**57.90**	**309**	P	**P**	**03 49 54.1**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=51,slow=5.4,SNR=3.7						
GRF	**Grafenberg Arr**	**59.07**	**311**	*eP*	**P**	**03 50 03.5**	**+0.9**
	comp=Z,4.0nm,0.8s						
MOTA	**Moosalm**	**60.09**	**309**	⇓ *i*pP	**P**	**03 50 10.0**	**+0.1**
	comp=Z,6.3nm,1.0s						
FETA	**Feichten**	**60.46**	**308**	⇑ *i*pP	**P**	**03 50 12.9**	**+0.5**
	comp=Z,4.6nm,1.3s						
BFO	**Black Forest**	**61.37**	**311**	*ce*P	**P**	**03 50 19.5**	**+1.1**
CDF	**Champ du Feu**	**61.96**	**311**	*eP*	**P**	**03 50 22.1**	**-0.4**
CDF	**Champ du Feu**	**61.96**	**311**	*eP*	**P**	**03 50 22.1**	**-0.4**
CDF	**Champ du Feu**	**61.96**	**311**	*eP*	**P**	**03 50 22.1**	**-0.4**
HINF	**Hinteralfeld**	**62.48**	**311**	*eP*	**P**	**03 50 25.5**	**-0.4**
HINF	**Hinteralfeld**	**62.48**	**311**	*eP*	**P**	**03 50 25.5**	**-0.4**
HINF	**Hinteralfeld**	**62.48**	**311**	*eP*	**P**	**03 50 25.5**	**-0.4**
GIVF	**Givet**	**62.64**	**314**	*eP*	**P**	**03 50 26.9**	**0.0**
GIVF	**Givet**	**62.64**	**314**	*eP*	**P**	**03 50 26.9**	**0.0**
GIVF	**Givet**	**62.64**	**314**	*eP*	**P**	**03 50 26.9**	**0.0**
HAU	**Haudompre**	**62.70**	**311**	*

LPL	**La Plagne**	**63.61**	**308**	*eP*		**P**	**03 50 33.9**	**+0.2**
	comp=Z,6.7nm,0.9s								
SBF	**Sospel**	**63.95**	**306**	*eP*		**P**	**03 50 35.3**	**-0.4**
	comp=Z,26nm,0.9s								
SBF	**Sospel**	**63.95**	**306**	*eP*		**P**	**03 50 35.3**	**-0.4**
SBF					pmax	pmax			
	comp=Z,26nm,0.9s								
SBF	**Sospel**	**63.95**	**306**	*eP*		**P**	**03 50 35.3**	**-0.4**
	comp=Z,26nm,0.9s								
MBDF	**Montbardon**	**63.96**	**308**	*eP*		**P**	**03 50 35.4**	**-0.5**
MBDF	**Montbardon**	**63.96**	**308**	*eP*		**P**	**03 50 35.4**	**-0.5**
MBDF	**Montbardon**	**63.96**	**308**	*eP*		**P**	**03 50 35.4**	**-0.5**
COLD	**Coldfoot**	**64.13**	**23**	*eP*		**P**	**03 50 36.8**	**+0.4**
	comp=Z,5.6nm,0.9s								
ORIF	**Oris-en-Rattie**	**64.42**	**308**	*eP*		**P**	**03 50 38.3**	**-0.6**
	comp=Z,8.9nm,0.8s								
ORIF	**Oris-en-Rattie**	**64.42**	**308**	*eP*		**P**	**03 50 38.3**	**-0.6**
ORIF					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ORIF	**Oris-en-Rattie**	**64.42**	**308**	*eP*		**P**	**03 50 38.3**	**-0.6**
	comp=Z,8.9nm,0.8s								
LOR	**Lormes**	**64.53**	**311**	*eP*		**P**	**03 50 38.6**	**-0.8**
LOR	**Lormes**	**64.53**	**311**	*eP*		**P**	**03 50 38.6**	**-0.8**
LOR	**Lormes**	**64.53**	**311**	*eP*		**P**	**03 50 38.6**	**-0.8**
LMR	**La Mourre**	**64.79**	**306**	*eP*		**P**	**03 50 40.0**	**-1.1**
LMR	**La Mourre**	**64.79**	**306**	*eP*		**P**	**03 50 40.0**	**-1.1**
LMR	**La Mourre**	**64.79**	**306**	*eP*		**P**	**03 50 40.0**	**-1.1**
SSF	**Saint Saulge**	**64.84**	**311**	*eP*		**P**	**03 50 40.4**	**-1.0**
SSF	**Saint Saulge**	**64.84**	**311**	*eP*		**P**	**03 50 40.4**	**-1.0**
SSF	**Saint Saulge**	**64.84**	**311**	*eP*		**P**	**03 50 40.4**	**-1.0**
SMF	**Signal de Mont**	**64.84**	**310**	*eP*		**P**	**03 50 40.9**	**-0.6**
	comp=Z,13nm,0.9s								
SMF	**Signal de Mont**	**64.84**	**310**	*eP*		**P**	**03 50 40.9**	**-0.6**
SMF					pmax	pmax			
	comp=Z,13nm,0.9s								
SMF	**Signal de Mont**	**64.84**	**310**	*eP*		**P**	**03 50 40.9**	**-0.6**
	comp=Z,13nm,0.9s								
AVF	**Avril sur Loir**	**65.07**	**311**	*eP*		**P**	**03 50 42.3**	**-0.6**
	comp=Z,6.4nm,1.0s								
AVF	**Avril sur Loir**	**65.07**	**311**	*eP*		**P**	**03 50 42.3**	**-0.6**
AVF					pmax	pmax			
	comp=Z,6.0nm,1.0s								
AVF	**Avril sur Loir**	**65.07**	**311**	*eP*		**P**	**03 50 42.3**	**-0.6**
	comp=Z,6.4nm,1.0s								
VIVF	**Saint-Julien-l**	**65.21**	**308**	*eP*		**P**	**03 50 43.5**	**-0.4**
VIVF	**Saint-Julien-l**	**65.21**	**308**	*eP*		**P**	**03 50 43.5**	**-0.4**
VIVF	**Saint-Julien-l**	**65.21**	**308**	*eP*		**P**	**03 50 43.5**	**-0.4**
BGF	**Bois d'Agland**	**65.48**	**311**	*eP*		**P**	**03 50 45.1**	**-0.5**
BGF	**Bois d'Agland**	**65.48**	**311**	*eP*		**P**	**03 50 45.1**	**-0.5**
BGF	**Bois d'Agland**	**65.48**	**311**	*eP*		**P**	**03 50 45.1**	**-0.5**
TCF	**Toulx Ste Croi**	**66.00**	**311**	*eP*		**P**	**03 50 48.7**	**-0.3**
	comp=Z,26nm,1.5s								
TCF	**Toulx Ste Croi**	**66.00**	**311**	*eP*		**P**	**03 50 48.7**	**-0.3**
TCF					pmax	pmax			
	comp=Z,26nm,1.5s								
TCF	**Toulx Ste Croi**	**66.00**	**311**	*eP*		**P**	**03 50 48.7**	**-0.3**
	comp=Z,26nm,1.5s								
LASF	**Ste Croix**	**66.10**	**308**	*eP*		**P**	**03 50 48.8**	**-0.9**
	comp=Z,66nm,1.7s								
LASF	**Ste Croix**	**66.10**	**308**	*eP*		**P**	**03 50 48.8**	**-0.9**
	comp=Z,66nm,1.7s								
KTH	**Kantishna Hill**	**66.10**	**27**	*eP*		**P**	**03 50 50.4**	**+1.0**
	comp=Z,9.9nm,1.2s								
LDF	**La Druitiere**	**66.20**	**314**	*eP*		**P**	**03 50 49.5**	**-0.7**
	comp=Z,6.9nm,0.7s								
LDF	**La Druitiere**	**66.20**	**314**	*eP*		**P**	**03 50 49.5**	**-0.7**
LDF					pmax	pmax			
	comp=Z,7.0nm,0.7s								
LDF	**La Druitiere**	**66.20**	**314**	*eP*		**P**	**03 50 49.5**	**-0.7**
	comp=Z,6.9nm,0.7s								
KMBO	**Kilima Mbogo**	**66.25**	**249**	*ceP*		P	03 50 55.7	+4.4
KMBO					pmax	pmax			
	comp=Z,1.0nm,0.5s								
FLN	**La Foliniere**	**66.32**	**314**	*eP*		**P**	**03 50 50.3**	**-0.7**
	comp=Z,15nm,1.1s								
FLN	**La Foliniere**	**66.32**	**314**	*eP*		**P**	**03 50 50.3**	**-0.7**
FLN					pmax	pmax			
	comp=Z,15nm,1.1s								
FLN	**La Foliniere**	**66.32**	**314**	*eP*		**P**	**03 50 50.3**	**-0.7**
	comp=Z,15nm,1.1s								
COLA	**College**	**66.33**	**25**	*eP*		**P**	**03 50 51.2**	**+0.5**
COLA					pmax	pmax			
	comp=Z,5.0nm,0.8s								
COLA	**College**	**66.33**	**25**	*eP*		**P**	**03 50 51.2**	**+0.5**
	comp=Z,4.7nm,0.8s								
ILAR	**Eielson Array**	**66.72**	**24**	P		**P**	**03 50 52.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=294,slow=5.7,SNR=23								
GRR	**Gorron**	**66.73**	**314**	*eP*		**P**	**03 50 53.1**	**-0.5**
	comp=Z,12nm,0.8s								
GRR	**Gorron**	**66.73**	**314**	*eP*		**P**	**03 50 53.1**	**-0.5**
GRR					pmax	pmax			
	comp=Z,12nm,0.8s								
GRR	**Gorron**	**66.73**	**314**	*eP*		**P**	**03 50 53.1**	**-0.5**
	comp=Z,12nm,0.8s								
CAF	**Calviac**	**66.78**	**310**	*eP*		**P**	**03 50 54.1**	**+0.1**
CAF	**Calviac**	**66.78**	**310**	*eP*		**P**	**03 50 54.1**	**+0.1**
CAF	**Calviac**	**66.78**	**310**	*eP*		**P**	**03 50 54.1**	**+0.1**
MFF	**Saint Martin d**	**67.24**	**312**	*eP*		**P**	**03 50 56.4**	**-0.5**
MFF	**Saint Martin d**	**67.24**	**312**	*eP*		**P**	**03 50 56.4**	**-0.5**
MFF	**Saint Martin d**	**67.24**	**312**	*eP*		**P**	**03 50 56.4**	**-0.5**
MTLF	**Montolieu**	**67.50**	**308**	*eP*		**P**	**03 50 58.2**	**-0.4**
MTLF	**Montolieu**	**67.50**	**308**	*eP*		**P**	**03 50 58.2**	**-0.4**
MTLF	**Montolieu**	**67.50**	**308**	*eP*		**P**	**03 50 58.2**	**-0.4**
RES	**Resolute Bay**	**67.56**	**3**	P		**P**	**03 50 57.9**	**-0.5**
RES					pmax	pmax			
	comp=Z,1.0nm,0.8s								
RES	**Resolute Bay**	**67.56**	**3**	P		**P**	**03 50 57.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=358,slow=8.2,SNR=4.8								
RES	**Resolute Bay**	**67.56**		*eP*		**P**	**03 50 59.8**	**+1.4**
LFF	**La Frestale**	**67.58**	**310**	*eP*		**P**	**03 50 58.4**	**-0.6**
LFF	**La Frestale**	**67.58**	**310**	*eP*		**P**	**03 50 58.4**	**-0.6**
LFF	**La Frestale**	**67.58**	**310**	*eP*		**P**	**03 50 58.4**	**-0.6**
SGMF	**Saint Gilles**	**67.76**	**314**	*eP*		**P**	**03 50 59.1**	**-1.0**
	comp=Z,28nm,1.1s								
SGMF	**Saint Gilles**	**67.76**	**314**	*eP*		**P**	**03 50 59.1**	**-1.0**
SGMF					pmax	pmax			
	comp=Z,29nm,1.1s								
SGMF	**Saint Gilles**	**67.76**	**314**	*eP*		**P**	**03 50 59.1**	**-1.0**
	comp=Z,28nm,1.1s								
WRA	**Warramunga Arr**	**67.99**	**141**	P		P	03 50 59.0	-2.8
	comp=Z,2.5nm,0.9s,baz=338,slow=6.6,SNR=12								
INK	**Inuvik**	**68.01**	**18**	P		**P**	**03 51 00.6**	**-0.7**
INK					pmax	pmax			
	comp=Z,2.0nm,0.7s								
INK	**Inuvik**	**68.01**	**18**	P		**P**	**03 51 00.6**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=350,slow=6.5,SNR=13								
INK	**Inuvik**	**68.01**	**18**	*eP*		**P**	**03 51 01.1**	**-0.3**
	comp=Z,3.6nm,1.0s								
ROSF	**Rostrenen**	**68.12**	**315**	*eP*		**P**	**03 51 01.4**	**-1.0**
ROSF	**Rostrenen**	**68.12**	**315**	*eP*		**P**	**03 51 01.4**	**-1.0**
ROSF	**Rostrenen**	**68.12**	**315**	*eP*		**P**	**03 51 01.4**	**-1.0**
QUIF	**Quistinic**	**68.29**	**314**	*eP*		**P**	**03 51 03.2**	**-0.2**
	comp=Z,51nm,1.2s								
QUIF	**Quistinic**	**68.29**	**314**	*eP*		**P**	**03 51 03.2**	**-0.2**
QUIF					pmax	pmax			
	comp=Z,51nm,1.2s								
QUIF	**Quistinic**	**68.29**	**314**	*eP*		**P**	**03 51 03.2**	**-0.2**
	comp=Z,51nm,1.2s								
EPF	**Esparros**	**68.83**	**308**	*eP*		**P**	**03 51 06.0**	**-1.0**
EPF	**Esparros**	**68.83**	**308**	*eP*		**P**	**03 51 06.0**	**-1.0**
EPF	**Esparros**	**68.83**	**308**	*eP*		**P**	**03 51 06.0**	**-1.0**
ETSF	**Etsaut**	**69.46**	**309**	*eP*		**P**	**03 51 10.2**	**-0.7**
ETSF	**Etsaut**	**69.46**	**309**	*eP*		**P**	**03 51 10.2**	**-0.7**
ETSF	**Etsaut**	**69.46**	**309**	*eP*		**P**	**03 51 10.2**	**-0.7**
ASAR	**Alice Springs**	**70.93**	**143**	P		P	03 51 17.2	-2.8
ASAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**70.93**	**143**	P		P	03 51 17.2	-2.8
	comp=Z,1.5nm,0.7s,baz=331,slow=6.3,SNR=21								
ESDC	**Sonseca Array**	**73.39**	**307**	P		**P**	**03 51 34.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=50,slow=5.9,SNR=14								
YKA	**Yellowknife Ar**	**77.10**	**14**	P		**P**	**03 51 54.6**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=337,slow=5.5,SNR=9.0								
STKA	**Stephens Creek**	**81.50**	**142**	P		P	03 52 17.0	-2.8
	comp=Z,2.3nm,0.8s,baz=338,slow=5.9,SNR=8.3								
TORD	**Torodi Ar. Bea**	**85.16**	**283**	P		**P**	**03 52 38.1**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=34,slow=4.8,SNR=8.7								
VNA2	**Neumayer--Watz**	**129.46**	**205**	P		**PKPdf**	**03 59 09.2**	**-0.9**
	baz=38,slow=3.1								
VNA3	**Neumayer Olymp**	**130.21**	**204**	P		**PKPdf**	**03 59 10.7**	**-0.9**
SAML	**Samuel**	**145.50**	**321**	*e*PKPdf		**PKPbc**	**03 59 40.5**	**-0.8**

*IDC **20** 03:40:14.3±0.9, 56°.62S×25°.18W, h0km, mb3.7/4,*

mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, ML2.6/1, Error ellipse: s-maj=38.9km s-min=24.0km az=64.0

*ISCJB **20** 03:40:18.0±1.0, 56°.7S×0°.2×25°.1W±0°.5, h40km, mb3.7/4, Error ellipse: s-maj=40.2km s-min=16.7km az=153.2*

ISC 20 03:40:19.7±0.9, 56.7S±0.2×25.2W±0.3, h40km, n9, σ0.97/9, mb3.5/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**17.71**	**157**	P		**P**	**03 44 22.1**	**-1.3**
	0.0nm,0.3s,baz=329,slow=16,SNR=3.4							
CPUP	**Villa Florida**	**38.07**	**309**	P		**P**	**03 47 34.0**	**-0.2**
	0.4nm,0.7s,baz=148,slow=9.5,SNR=4.4							
VNDA	**Vanda**	**45.98**	**182**	P		**P**	**03 48 39.2**	**+1.1**
	0.6nm,1.0s,baz=176,slow=6.0,SNR=2.5							
LPAZ	**La Paz**	**51.65**	**303**	P		**P**	**03 49 23.0**	**0.0**
	3.5nm,0.5s,baz=168,slow=4.8,SNR=31							
TORD	**Torodi Ar. Bea**	**73.09**	**27**	P		**P**	**03 51 45.9**	**+0.4**
	0.7nm,1.1s,baz=192,slow=6.9,SNR=3.4							
YKA	**Yellowknife Ar**	**137.39**	**317**	PKP		**PKPdf**	**03 59 37.1**	**-0.2**
	0.3nm,0.6s,baz=129,slow=2.4,SNR=4.7							
INK	**Inuvik**	**147.00**	**320**	PKPbc		**PKPab**	**03 59 56.5**	**-1.4**
	0.7nm,0.6s,baz=56,slow=3.6,SNR=6.1							
SONM	**Songino Array**	**149.67**	**86**	PKPbc		**PKPbc**	**04 00 04.4**	**+0.4**
	0.3nm,0.4s,baz=241,slow=4.3,SNR=4.1							
ILAR	**Eielson Array**	**151.37**	**310**	PKPbc		**PKPbc**	**04 00 08.0**	**+0.6**
	0.8nm,0.8s,baz=141,slow=2.4,SNR=9.1							

GUC 20 03:42:48.1±0.4, 34°.33S×72°.62W, h77km±15km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**1.32**	**121**	*i* P		Pn	03 43 10.7	-0.3
NICH				*i* S		Sn	03 43 27.9	-0.4
TALC	**Talca**	**1.34**	**143**	*i* P		Pn	03 43 10.8	-0.4
TALC					AML	AML	03 43 30.1	
	comp=E,733nm,0.2s							
TACH	**Talagante**	**1.55**	**65**	*i* P		Pn	03 43 13.5	-0.5
LNCH	**Linares**	**1.73**	**151**	*i* P		Pn	03 43 15.9	-0.4
LNCH				*i* S		Sn	03 43 37.3	-0.3
COCH	**Cobquecura**	**1.80**	**184**	*i* P		Pn	03 43 17.1	-0.2
COCH				*i* S		Sn	03 43 39.1	-0.3
PCH	**Pirque**	**1.89**	**69**	*i* P		Pn	03 43 18.4	-0.1
PEL	**Peldehue**	**2.00**	**54**	*i* P		Pn	03 43 20.1	+0.1
PEL				*i* S		Sn	03 43 44.0	-0.2
SJCH	**San Jose de Ma**	**2.00**	**71**	*i* P		Pn	03 43 19.8	-0.3
SJCH				*i* S		Sn	03 43 44.3	-0.1
SJCH					AML	AML	03 43 54.0	
	comp=N,482nm,0.5s							
YECH	**El Yeso**	**2.21**	**73**	*i* P		Pn	03 43 23.1	+0.1
YECH				*i* S		Sn	03 43 50.0	+0.2
YECH					AML	AML	03 44 06.2	
	comp=N,560nm,0.5s							

*LJU **20** 04:21:46.3, 46°.39N×15°.07E, h0km Rockburst*

CSEM 20 04:21:46.3±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISCJB **20** 04:22:16.6±0.4, 53°.57N±0°.07×169°.41W±0°.08, h200km, mb3.5/10, Error ellipse: s-maj=10.3km s-min=4.9km az=154.4*

*NEIC **20** 04:22:18.0, 53°.28N×169°.14W, h204km, mb4.2/4, After AEIC.*

*IDC **20** 04:22:22.2±7.1, 54°.06N×169°.70W, h233km±69km, mb3.3/10, mb1 3.5/11, mb1mx3.2/32, mbtmp3.9/11, Error ellipse: s-maj=34.1km s-min=13.1km az=5.0*

ISC 20 04:22:18.3±0.7, 53°.5N±0°.1×169°.39W±0°.07, h200km, n43, σ1s48/44, mb3.6/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.64**	**150**	P		**Pn**	**04 22 44.3**	**-1.7**
NIKH				S		**Sn**	**04 23 04.7**	**-2.7**
OKFG	**Magazine Ridge**	**0.89**	**97**	P		**Pn**	**04 22 45.7**	**-1.6**
OKFG				S		**Sn**	**04 23 08.2**	**-1.5**
MCIR	**Makushin Cirqu**	**1.54**	**73**	P		**Pn**	**04 22 50.8**	**-1.6**
MSW	**Makushin Switc**	**1.60**	**75**	P		**Pn**	**04 22 51.1**	**-1.7**
MREP	**Makushin Rep't**	**1.60**	**79**	P		**Pn**	**04 22 51.9**	**-0.9**
UNV	**Unalaska Valle**	**1.75**	**78**	*e*Pn		**Pn**	**04 22 52.8**	**-1.4**
UNV				*e*S		**Sn**	**04 23 20.1**	**-2.0**
ZRO	**Akutan Zero**	**2.10**	**73**	P		**Pn**	**04 22 56.6**	**-1.2**
AKGG	**Akutan Green G**	**2.12**	**70**	P		**Pn**	**04 22 56.6**	**-1.4**
AKUT	**Akutan**	**2.23**	**73**	*e*Pn		**Pn**	**04 22 58.5**	**-0.6**
AKUT				*e*S		**Sn**	**04 23 29.7**	**-1.2**
WESE	**West Dahl East**	**2.99**	**70**	P		**Pn**	**04 23 06.9**	**-0.9**
KOFP	**Korovin Flat P**	**3.12**	**248**	P		**Pn**	**04 23 09.7**	**+0.4**
FALS	**False Pass**	**3.75**	**67**	*e*Pn		**Pn**	**04 23 16.0**	**-0.9**
DT1	**Dutton Round H**	**4.45**	**66**	P		**Pn**	**04 23 24.4**	**-1.2**
DTNA	**Dutton South F**	**4.48**	**66**	P		**Pn**	**04 23 25.0**	**-1.0**
ADK	**Adak**	**4.73**	**253**	*e*Pn		**Pn**	**04 23 28.4**	**-0.8**
ADK				*e*S		**Sn**	**04 24 21.7**	**-3.2**
SDPT	**Sand Point**	**5.51**	**67**	*e*Pn		**Pn**	**04 23 37.1**	**-1.9**
PLK4	**Peulik 4**	**8.45**	**56**	P		**Pn**	**04 24 18.0**	**+0.8**
KELA	**Mount Kelaz**	**9.09**	**52**	P		**Pn**	**04 24 24.7**	**-0.9**
KCE	**Katmai Mt Cerb**	**9.27**	**54**	P		**Pn**	**04 24 27.8**	**-0.1**
KABR	**Katmai Barrier**	**9.33**	**55**	P		**Pn**	**04 24 27.2**	**-1.5**
KAKN	**Katmai Knife C**	**9.35**	**54**	P		**Pn**	**04 24 28.0**	**-1.0**
OHAK	**Old Harbor**	**9.88**	**62**	*e*Pn		Pn	04 24 31.5	-4.2
PPLA	**Purkeypile**	**13.01**	**37**	*e*Pn		**Pn**	**04 25 16.4**	**+0.7**
KTH	**Kantishna Hill**	**13.86**	**36**	*e*Pn		**Pn**	**04 25 26.0**	**-0.3**
	8.3nm,0.8s							
TRF	**Thorofare Moun**	**14.03**	**37**	*e*Pn		**Pn**	**04 25 28.9**	**+0.4**
	4.6nm,0.4s							
MCK	**McKinley**	**14.69**	**38**	*e*Pn		**Pn**	**04 25 35.3**	**-1.0**
	4.7nm,0.6s							
ILAR	**Eielson Array**	**16.01**	**36**	P		**P**	**04 25 48.6**	**-3.3**
	0.8nm,0.3s,baz=239,slow=11,SNR=49							
ILAR				S		S	04 28 42.5	-6.9
	0.0nm,0.3s,baz=230,slow=18,SNR=3.1							
DOT	**Dot Lake**	**16.52**	**42**	*e*Pn		**P**	**04 25 56.2**	**-1.4**
EGAK	**Eagle**	**18.15**	**41**	*e*P		**P**	**04 26 14.5**	**-0.9**
	6.5nm,0.6s							
DAWY	**Dawson**	**18.58**	**44**	P		**P**	**04 26 19.4**	**-0.7**
HYT	**Haines Junctio**	**18.61**	**54**	*e*P		**P**	**04 26 19.9**	**-0.6**
PETK	**Petropavlovsk-**	**19.57**	**282**	P		**P**	**04 26 33.2**	**+2.4**
	0.3nm,0.3s,baz=103,slow=11,SNR=4.3							
SEY	**Seychan**	**21.89**	**311**	P		P	04 26 51.9	-3.1
	2.3nm,0.7s,baz=108,slow=9.3,SNR=15							
DLBC	**Dease Lake**	**22.32**	**61**	P		**P**	**04 26 60.0**	**+0.8**
	1.9nm,1.0s,baz=278,slow=7.1,SNR=5.0							
INK	**Inuvik**	**22.39**	**35**	P		**P**	**04 26 57.6**	**-2.0**
	2.2nm,0.5s,baz=253,slow=8.8,SNR=27							
NVAR	**Mina Array Bea**	**37.71**	**92**	P		P	04 29 17.4	+2.7
	1.3nm,0.7s,baz=294,slow=7.2,SNR=8.5							
PDAR	**Pinedale Array**	**40.21**	**80**	P		**P**	**04 29 36.7**	**+1.4**
	1.2nm,0.7s,baz=302,slow=4.7,SNR=10							
ULM	**Lac du Bonnet**	**43.63**	**63**	P		**P**	**04 30 02.6**	**+0.1**
	1.7nm,0.5s,baz=304,slow=4.1,SNR=6.0							
TXAR	**Lajitas Array**	**52.75**	**90**	P		**P**	**04 31 14.4**	**+1.8**
	0.4nm,0.4s,baz=304,slow=5.9,SNR=10							
MKAR	**Makanchi Array**	**63.00**	**313**	P		P	04 32 20.6	-2.9
	0.1nm,0.3s,baz=43,slow=6.5,SNR=2.3							
WRA	**Warramunga Arr**	**87.72**	**232**	P		**P**	**04 34 44.8**	**+0.7**
	0.7nm,0.7s,baz=40,slow=6.6,SNR=5.5							
ASAR	**Alice Springs**	**91.13**	**230**	P		**P**	**04 35 00.6**	**+0.5**
	0.8nm,0.8s,baz=37,slow=5.2,SNR=6.1							
MAW	**Mawson**	**151.76**	**220**	PKPbc		**PKPbc**	**04 41 48.4**	**+1.0**
	2.3nm,0.8s,baz=63,slow=4.5,SNR=5.2							

*ECX **20** 04:25:43.7±0.5, 32°.13N×115°.15W, h7km, MD3.0, ML3.2*
*MEX **20** 04:25:44.4±0.8, 32°.19N×115°.09W, h15km, MD3.6*

ISC 20 04:25:40.6±1.1, 32°.13N±0°.03×115°.13W±0°.04, h6km±9km, n18, σ0s59/31, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMX	**El Mayor**	**0.17**	**215**	*e*P		**Pg**	**04 25 43.6**	**-0.3**
EMX				*e*S		**Sg**	**04 25 46.3**	**+0.1**
MBIG	**Mexicali**	**0.29**	**348**	*e*P		**Pb**	**04 25 49.0**	**+0.9**
MBIG				*i* S		**Sb**	**04 25 52.0**	**-1.1**
CPBX	**Cerro Prieto**	**0.33**	**333**	*e*P		**Pg**	**04 25 46.5**	**-0.5**
CPBX				*e*S		**Sg**	**04 25 51.0**	**-0.3**
CPBX				*e*			04 25 57.8	
CPBX					AML	AML	04 25 57.8	
	comp=E,9μm,0.3s							
YMD	**Yuma Desert**	**0.65**	**49**	*i*P		**Pb**	**04 25 55.1**	**+0.8**
ECBX	**El Chinero**	**0.66**	**174**	*e*P		**Pg**	**04 25 52.8**	**-0.4**
ECBX				*e*S		**Sg**	**04 26 01.8**	**+0.1**
RDX	**Rancho Dawling**	**0.72**	**254**	*e*P		**Pb**	**04 25 56.2**	**+0.6**
RDX				*e*S		**Sb**	**04 26 06.0**	**+0.2**
RDX					AML	AML	04 26 07.5	
	comp=N,908nm,0.4s							
RDX				*e*			04 26 07.5	
SGL	**Mount Signal**	**0.73**	**316**	*i*P		**Pb**	**04 25 56.1**	**+0.5**
COA	**Coachella**	**0.74**	**0**	*i*P		**Pb**	**04 25 56.3**	**+0.5**
YUH	**Yuha Desert**	**0.85**	**308**	*i*P		**Pb**	**04 25 58.3**	**+0.6**
RMX	**La Rumorosa**	**0.93**	**301**	*e*P		**Pb**	**04 25 59.7**	**+0.4**
RMX				*e*S		**Sb**	**04 26 11.9**	**0.0**
RMX				*e*			04 26 14.1	
RMX					AML	AML	04 26 14.1	
	comp=N,432nm,0.1s							
SPIG	**San Pedro Mart**	**1.11**	**195**	*e*P		**Pn**	**04 26 03.0**	**0.0**
SPIG				*i* S		**Sg**	**04 26 16.9**	**+0.4**
SPIG	**San Pedro Mart**	**1.11**	**195**	*e*P		**Pn**	**04 26 02.9**	**0.0**
SPX	**San Pedro Mart**	**1.11**	**195**	*e*P		**Pn**	**04 26 02.9**	**-0.1**
SPX				*e*S		**Sn**	**04 26 18.6**	**-0.2**
SPX					AML	AML	04 26 19.6	
	comp=E,317nm,0.3s							
SPX				*e*			04 26 19.6	
ZAX	**El Zacaton**	**1.15**	**238**	*e*P		**Pn**	**04 26 03.2**	**0.0**
ZAX				*e*S		**Sn**	**04 26 19.1**	**-0.2**
CBX	**Cerro Bola**	**1.31**	**279**	*e*P		**Pn**	**04 26 05.6**	**+0.1**
CBX				*e*S		**Sb**	**04 26 21.0**	**-1.9**
CBX	**Cerro Bola**	**1.31**	**279**	*e*P		**Pg**	**04 26 06.2**	**+0.4**
CBX				*e*S		**Sn**	**04 26 23.6**	**+0.1**
CBX					AML	AML	04 26 24.9	
	comp=N,672nm,0.4s							
CBX				*e*			04 26 24.9	
ECNX	**Esteban Cantu**	**1.33**	**250**	*e*P		**Pg**	**04 26 06.3**	**+0.1**
ECNX				*e*S		**Sn**	**04 26 23.9**	**0.0**
PBX	**Punta Banda**	**1.41**	**255**	*e*P		**Pb**	**04 26 07.1**	**-0.2**
PBX				*e*S		**Sg**	**04 26 26.7**	**+0.8**

*ISCJB **20** 04:34:48.0±0.4, 31°.95N±0°.03×72°.01E±0°.04, h35km, mb3.8/22, Error ellipse: s-maj=6.5km s-min=3.4km az=139.9*

*NDI **20** 04:34:48.4±2.0, 31°.76N×71°.76E, h10km, ML3.8*

*IDC **20** 04:34:50.8±0.7, 31°.95N×71°.94E, h41km±5km, mb3.5/16, mb1 3.8/19, mb1mx3.6/32, mbtmp3.8/19, ML3.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/33, Error ellipse: s-maj=16.1km s-min=14.3km az=40.0*

*NNC **20** 04:34:58.1±4.8, 33°.01N×71°.74E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=37.6km s-min=31.1km az=12.0*

ISC 20 04:34:50.2±0.5, 31°.91N±0°.05×71°.90E±0°.05, h35km, n70, σ1s72/83, mb3.8/19, 12C-7D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SARP	**Sargodha**	**0.66**	**89**	P		**Pn**	**04 35 05.0**	**+2.0**
SARP				S		**Sn**	**04 35 14.0**	**+1.9**
THW	**Thamme Wali**	**0.89**	**351**	P		**Pn**	**04 35 07.9**	**+1.6**
THW				S		**Sn**	**04 35 19.0**	**+0.9**
CEP	**Cherat**	**1.91**	**0**	P		**Pn**	**04 35 22.2**	**+1.8**
CHCP	**Chirah Chowk**	**2.09**	**33**	P		**Pn**	**04 35 24.4**	**+1.6**
DLH	**Dalhousie**	**3.50**	**79**	*e*P		**Pn**	**04 35 44.

MKAR			S	Sn	04 41 44.3	-5.6	
	comp=N,0.1nm,0.3s,baz=197,slow=24,SNR=3.9						
MKAR			LR	LR	04 45 54.0		
	comp=N,44nm,20.1s,baz=189,slow=39						
KURBB	**Kurchatov Arra**	**19.33**	**13**	P	**P**	**04 39 11.1**	**-1.2**
	comp=N,0.1nm,0.3s,baz=206,slow=11,SNR=18						
KURBB			pP	pP	04 39 22.7	+1.1	
	comp=N,0.2nm,0.3s,baz=207,slow=10,SNR=4.8						
KURK	**Kurchatov**	**19.44**	**13**	⇓Pn	**P**	**04 39 12.0**	**-1.5**
	comp=N,4.4nm,0.9s						
AB31	**Akbulak array**	**19.52**	**336**	Pn	**Pn**	**04 39 15.9**	**0.0**
	comp=N,0.9nm,0.5s,baz=156,slow=11,SNR=12						
AB31				⇑Sn	S	04 42 39.9	-13
	comp=N,0.6nm,0.6s						
BVAR	**Borovoye Array**	**21.13**	**357**	P	**P**	**04 39 30.9**	**-1.0**
	comp=N,2.8nm,0.7s,baz=172,slow=12,SNR=15						
AKTO	**Aktyubinsk**	**21.19**	**335**	⇑Pn	**P**	**04 39 35.2**	**+2.7**
	comp=N,2.4nm,0.6s						
AKTO	**Aktyubinsk**	**21.19**	**335**	P	**P**	**04 39 31.5**	**-1.0**
	comp=N,1.1nm,0.5s,baz=156,slow=16,SNR=4.1						
ZALV	**Zalesovo Beam**	**23.90**	**19**	P	**P**	**04 39 59.8**	**-0.7**
	comp=N,1.8nm,0.5s,baz=212,slow=10,SNR=9.4						
ZALV			pP	pP	04 40 11.1	+0.8	
	comp=N,7.5nm,0.6s,baz=215,slow=9.5,SNR=9.8						
CMAR	**Chiang Mai Arr**	**27.80**	**112**	P	**P**	**04 40 35.5**	**-0.7**
	comp=N,0.9nm,0.4s,baz=294,slow=10,SNR=8.1						
SONM	**Songino Array**	**30.57**	**49**	P	**P**	**04 41 01.6**	**+1.0**
	comp=N,0.3nm,0.6s,baz=263,slow=7.3,SNR=3.0						
BRTR	**Keskin Array B**	**31.80**	**295**	P	**P**	**04 41 11.3**	**-0.3**
	comp=N,0.5nm,0.8s,baz=104,slow=12,SNR=3.0						
AKASG	**Malin Array Be**	**36.53**	**314**	P	**P**	**04 41 51.9**	**-0.3**
	comp=N,0.2nm,0.3s,baz=96,slow=7.5,SNR=5.0						
JOF	**Joensuu**	**40.24**	**333**	*ep*	pP	04 42 35.1	+1.6
	comp=N,1.6nm,0.5s						
FINES	**FINESS Array B**	**41.75**	**329**	P	**P**	**04 42 36.5**	**+0.8**
	comp=N,0.7nm,0.6s,baz=97,slow=8.8,SNR=3.3						
FINES			pP	pP	04 42 48.0	+2.1	
	comp=N,4.1nm,0.7s,baz=121,slow=7.0,SNR=7.9						
KAF	**Kangasniemi**	**41.92**	**330**	*ep*	pP	04 42 48.7	+1.4
	comp=N,2.7nm,0.6s						
KEV	**Kevo**	**45.34**	**340**	*ep*	pP	04 43 14.8	0.0
	comp=N,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**45.68**	**339**	P	**P**	**04 43 07.6**	**+0.4**
	comp=N,1.5nm,0.8s,baz=98,slow=6.6,SNR=3.7						
ARCES			pP	pP	04 43 19.1	+1.6	
	comp=N,2.1nm,0.6s,baz=108,slow=7.8,SNR=2.9						
NB2	**NORSAR Subarra**	**48.53**	**326**	P	**P**	**04 43 29.7**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=102,slow=7.9						
NOA	**NORSAR Array B**	**48.53**	**326**	P	**P**	**04 43 29.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=102,slow=7.8,SNR=2.9						
NOA			pP	pP	04 43 41.0	+1.0	
	comp=Z,0.7nm,0.5s,baz=102,slow=7.8,SNR=3.6						
LPG	**La Plagne**	**51.30**	**305**	*eP*	**P**	**04 43 51.8**	**+0.7**
	comp=Z,6.9nm,0.9s						
LPL	**La Plagne**	**51.31**	**305**	*eP*	**P**	**04 43 50.9**	**-0.2**
	comp=Z,3.7nm,0.6s						
SMF	**Signal de Mont**	**53.12**	**307**	*eP*	**P**	**04 44 04.9**	**+0.6**
TCF	**Toulx Ste Croi**	**54.29**	**307**	*eP*	**P**	**04 44 13.1**	**+0.2**
ESDC	**Sonseca Array**	**60.34**	**301**	P	**P**	**04 44 55.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=64,slow=7.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**66.46**	**271**	P	**P**	**04 45 36.2**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=58,slow=5.6,SNR=35						
TORD			pP	pP	04 45 48.4	+1.2	
	comp=Z,1.3nm,0.7s,baz=52,slow=5.0,SNR=6.9						
TORD			sP	sP	04 45 54.2	+2.9	
	comp=Z,0.8nm,0.6s,baz=50,slow=5.6,SNR=3.3						
LIC	**Lamto**	**75.65**	**268**	*eP*	P	04 46 28.9	-3.3
	comp=Z,19nm,1.1s						
INK	**Inuvik**	**78.30**	**9**	pP	pP	04 46 58.0	+0.9
	comp=Z,0.8nm,0.7s,baz=345,slow=5.0,SNR=3.5						
WRA	**Warramunga Arr**	**78.94**	**122**	P	**P**	**04 46 50.7**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=322,slow=5.5,SNR=13						
ILAR	**Eielson Array**	**78.98**	**16**	P	**P**	**04 46 50.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=305,slow=4.1,SNR=3.2						
ASAR	**Alice Springs**	**81.02**	**125**	P	**P**	**04 47 01.9**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=310,slow=5.3,SNR=20						
YKA	**Yellowknife Ar**	**85.78**	**3**	P	**P**	**04 47 24.2**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=350,slow=5.1,SNR=3.5						
YKA			pP	pP	04 47 36.1	-0.5	
	comp=Z,0.5nm,0.5s,baz=350,slow=4.9,SNR=9.0						

ISCJB ***20*** *04:46:31.2±1.6, 13°.3N±0°.1×125°.30E±0°.10, h33km, mb3.3/3, Error ellipse: s-maj=17.0km s-min=11.3km az=39.1*
IDC ***20*** *04:46:32.2±4.7, 12°.92N×125°.62E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=365.4km s-min=30.2km az=65.0*

ISC 20 04:46:32.7±2.0, 13°.3N±0°.1×125°.2E±0°.1, h33km, n5, σ1§08/5, mb3.4/3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.93**	**214**	*eP*	Pb	Pb	04 46 54.5	+4.2
CNP				*eS*	**Sn**	**Sn**	**04 47 01.4**	**-0.2**
PVCP	**Virac**	**1.05**	**287**	⇑*iP*	**Pn**	**Pn**	**04 46 50.7**	**-0.4**
PVCP				*i* S	**Sb**	**Sb**	**04 47 06.4**	**+0.5**
WRA	**Warramunga Arr**	**34.23**	**165**	P	**P**	**P**	**04 53 14.8**	**-0.8**
	0.4nm,0.7s,baz=344,slow=9.3,SNR=3.8							
ASAR	**Alice Springs**	**37.70**	**167**	P	**P**	**P**	**04 53 46.5**	**+1.2**
	0.3nm,0.4s,baz=356,slow=8.0,SNR=6.7							
MKAR	**Makanchi Array**	**49.01**	**322**	P		P	04 55 24.9	+8.5
	0.1nm,0.5s,baz=119,slow=8.9,SNR=2.4							

ISCJB ***20*** *04:51:03.0±0.5, 6°.93S±0°.04×129°.65E±0°.05, h150km, mb3.6/8, Error ellipse: s-maj=6.9km s-min=4.9km az=11.3*
IDC ***20*** *04:51:05.9±3.0, 6°.95S×129°.69E, h167km±24km, mb3.5/8, mb1 3.7/11, mb1mx3.6/21, mbtmp4.1/11, Error ellipse: s-maj=42.2km s-min=13.9km az=66.0*
DJA ***20*** *04:51:07.8±0.6, 7°.5±4°.1×13°.0E°, h146km±28km, M5.0/7, mb5.2/4, mB5.1/2, MLv4.9/7, Mw(mB)4.5/2*

ISC 20 04:51:04.3±0.6, 6°.99S±0°.05×129°.64E±0°.06, h150km, n24, σ1§89/31, mb3.7/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**3.69**	**349**	P	Pn	Pn	04 52 05.5	+4.9
FAKI	**Fak Fak**	**4.80**	**33**	P	**Sn**	**Sn**	**04 53 09.8**	**-0.7**
FAKI				S	Sn	Sn	04 53 09.8	-0.7
FAKI	**Fak Fak**	**4.80**	**33**	P	Pn	Pn	04 52 18.8	+3.6
	baz=4.6,SNR=18							
FAKI				S	**Sn**	**Sn**	**04 53 08.3**	**-2.2**
	baz=4.6,SNR=6.4							
SOEI	**Soe**	**5.99**	**242**	P	**Pn**	**Pn**	**04 52 33.3**	**+2.3**
	95nm,0.8s,1μm0.6nm							
SOEI				S	**Sn**	**Sn**	**04 53 38.0**	**-0.8**
	95nm,0.8s,1μm0.6nm							
SOEI	**Soe**	**5.99**	**242**	P	**Pn**	**Pn**	**04 52 33.3**	**+2.3**
	baz=6.3,SNR=13							
SOEI				S	**Sn**	**Sn**	**04 53 40.7**	**+1.9**
	baz=6.3,SNR=3.5							
MTN	**Manton Dam**	**6.00**	**166**	P	**Pn**	**Pn**	**04 52 33.7**	**+2.7**
	baz=6.0,SNR=24							
MTN				S	**Sn**	**Sn**	**04 53 39.0**	**+0.1**
	baz=6.0,SNR=6.5							
KDU	**Kakadu**	**6.31**	**154**	P	**Pn**	**Pn**	**04 52 37.8**	**+2.6**
	baz=6.2,SNR=40							
KDU				S	**Sn**	**Sn**	**04 53 46.6**	**+0.3**
	baz=6.2,SNR=4.4							
BATI	**Baumata**	**6.72**	**241**	P	**Pn**	**Pn**	**04 52 42.5**	**+1.7**
	21nm,0.3s,baz=31,slow=2.1,SNR=14							
BATI				S	**Sn**	**Sn**	**04 53 53.7**	**-2.6**
	19nm,0.3s,baz=43,slow=23,SNR=11							
RKPI	**Ransiki, Papua**	**7.08**	**40**	P	Pn	Pn	04 52 49.4	+4.0
	872nm,0.5s,5.0nm							
RKPI				S	**Sn**	**Sn**	**04 54 03.4**	**-1.3**
	872nm,0.5s,5.0nm							
KNRA	**Kununurra**	**8.68**	**186**	P	**Pn**	**Pn**	**04 53 07.6**	**+0.8**
	baz=8.8,SNR=47							
KNRA				S	Sn	Sn	04 54 38.1	-5.1
	baz=8.8,SNR=7.4							
FITZ	**Fitzroy Crossi**	**11.71**	**199**	P	**Pn**	**Pn**	**04 53 46.4**	**-0.5**
	baz=12,SNR=12							
WRA	**Warramunga Arr**	**13.66**	**161**	P	**Pn**	**Pn**	**04 54 11.3**	**-0.7**
	1.4nm,0.3s,baz=339,slow=13,SNR=43							
WRA				S	Sn	Sn	04 56 34.8	-8.6
	1.5nm,0.3s,baz=333,slow=24,SNR=6.0							
ASAR	**Alice Springs**	**17.08**	**167**	P	**P**	**P**	**04 54 55.5**	**+2.0**
	1.0nm,0.3s,baz=347,slow=10.0,SNR=69							
ASAR				S	**S**	**S**	**04 58 00.1**	**-4.0**
	0.4nm,0.3s,baz=353,slow=26,SNR=5.5							
ASAR				ScP	**ScP**	**ScP**	**05 02 48.4**	**-3.1**
	0.1nm,0.3s,baz=333,slow=2.2,SNR=5.0							
WRKA	**Warakurna**	**17.99**	**184**	P	**P**	**P**	**04 55 05.7**	**+2.1**
	baz=18,SNR=25							
QLP	**Quilpie**	**23.93**	**146**	P	**P**	**P**	**04 56 01.9**	**-2.7**
	baz=24,SNR=3.8							
STKA	**Stephens Creek**	**27.16**	**157**	P	**P**	**P**	**04 56 34.8**	**+1.1**
	2.2nm,0.6s,baz=347,slow=9.3,SNR=8.2							
CMAR	**Chiang Mai Arr**	**39.45**	**310**	P	**P**	**P**	**04 58 21.4**	**+1.2**
	0.6nm,0.3s,baz=148,slow=7.1,SNR=4.8							
SONM	**Songino Array**	**58.32**	**342**	P	**P**	**P**	**05 00 42.9**	**-0.7**
	0.2nm,0.5s,baz=170,slow=6.8,SNR=2.1							
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**P**	**05 01 47.5**	**0.0**
	0.7nm,0.4s,baz=122,slow=7.3,SNR=5.9							
ZALV	**Zalesovo Beam**	**71.42**	**334**	P	**P**	**P**	**05 02 06.8**	**-1.2**
	0.5nm,0.5s,baz=131,slow=5.9,SNR=2.7							
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	**P**	**P**	**05 02 13.3**	**-0.2**
	0.3nm,0.2s,baz=120,slow=5.5,SNR=3.4							
VNDA	**Vanda**	**72.50**	**173**	P	**P**	**P**	**05 02 14.1**	**-0.1**
	0.6nm,0.5s,baz=275,slow=13,SNR=12							
MAW	**Mawson**	**74.83**	**201**	P	**P**	**P**	**05 02 28.0**	**+0.2**
	1.6nm,0.5s,baz=51,slow=6.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**128.46**	**281**	PKP	**PKPdf**	**PKPdf**	**05 09 52.7**	**-1.6**
	0.5nm,1.0s,baz=98,slow=2.2,SNR=2.8							

NIED ***20*** *04:57:00, 27°.90N×141°.50E, h5km, Mw4.3 Best double couple: M0 3.67000×10^15 NP1:φs338.00000°, δ7.00000°, λ-69.00000°. NP2:φs137.00000°, δ84.00000°, λ-92.00000°.*
IDC ***20*** *04:57:08.5±0.6, 28°.25N×142°.87E, h0km, mb4.1/22, mb1 4.2/25, mb1mx4.2/33, mbtmp4.1/25, ML3.4/3, MS2.6/2, Ms1 2.6/2, ms1mx2.4/34, Error ellipse: s-maj=18.3km s-min=12.7km az=108.0*
ISCJB ***20*** *04:57:12.0±0.4, 28°.35N±0°.03×142°.78E±0°.08, h34km, mb4.2/26, Error ellipse: s-maj=10.6km s-min=4.3km az=2.2*
JMA ***20*** *04:57:12.8, 27°.92N×141°.53E, h121km, M3.9*
NEIC ***20*** *04:57:13.7±0.3, 28°.25N×142°.85E, h35km, mb4.6/5, MW4.3(NIED), Error ellipse: s-maj=8.2km s-min=5.7km az=92.0*

ISC 20 04:57:13.8±0.6, 28°.27N±0°.05×142°.8E±0°.1, h34km, n50, σ1§28/53, mb4.2/26, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.28**	**204**	P	**Pn**	**Pn**	**04 57 35.1**	**-0.1**
CBIJ				S	**Sn**	**Sn**	**04 57 52.0**	**+0.8**
CBIJ	**Chichi jima**	**1.28**	**204**	*ePn*	**Pn**	**Pn**	**04 57 34.9**	**-0.4**
CBIJ				Sn	**Sn**	**Sn**	**04 57 51.5**	**+0.3**
JCJ	**Chichijima**	**1.28**	**204**	Pn	**Pn**	**Pn**	**04 57 34.8**	**-0.5**
	baz=30,slon=20							
JCJ				Sn	**Sn**	**Sn**	**04 57 51.5**	**+0.2**
	baz=90,slow=20							
JHHJ	**Haha-jima-NKT**	**1.72**	**198**	P	**Pn**	**Pn**	**04 57 39.5**	**-1.8**
BSO3	**Boso 3**	**6.79**	**344**	P	**Pn**	**Pn**	**04 58 50.0**	**-0.7**
BSO4	**Boso 4**	**7.01**	**343**	S	**Sn**	**Sn**	**05 00 16.2**	**+3.9**
JOD2	**Odawara 2**	**7.64**	**337**	P	**Pn**	**Pn**	**04 59 03.1**	**+0.5**
JHU	**Hanno**	**8.11**	**340**	P	**Pn**	**Pn**	**04 59 08.1**	**-1.0**
JRY	**Ryogami san**	**8.38**	**338**	P	**Pn**	**Pn**	**04 59 12.4**	**-0.5**
JRY				S	**Sn**	**Sn**	**05 00 44.7**	**-1.6**
MJAR	**Matsushiro Arr**	**9.10**	**336**	Pn	**Pn**	**Pn**	**04 59 21.4**	**-1.2**
	1.5nm,0.3s,baz=156,slow=11,SNR=17							
MJAR				Sn	**Sn**	**Sn**	**05 01 00.2**	**-3.6**
	0.8nm,0.3s,baz=119,slow=14,SNR=3.2							
MAJO	**Matsushiro**	**9.10**	**336**	*ePn*	**Pn**	**Pn**	**04 59 21.7**	**-0.9**
	13nm,0.6s							
MAJO				*eS*	**Sn**	**Sn**	**05 01 01.1**	**-2.8**
MAT	**Matsushiro**	**9.10**	**336**	P	**Pn**	**Pn**	**04 59 21.3**	**-1.4**
MAT				S	**Sn**	**Sn**	**05 01 00.2**	**-3.7**
JNU	**Nakatsue**	**11.31**	**298**	LR	LR	LR	05 03 35.3	
	comp=Z,91nm,21.9s,baz=120,slow=34							
JOW	**Kunigami**	**12.93**	**267**	LR	LR	LR	05 04 41.9	
	comp=Z,9.4nm,21.6s,baz=245,slow=35							
KSRS	**Korea Array**	**15.45**	**310**	Pn	**Pn**	**Pn**	**05 00 50.4**	**+1.2**
	0.3nm,0.3s,baz=106,slow=13,SNR=2.8							
KSAR	**Wonju Array Be**	**15.47**	**310**	Pn	**Pn**	**Pn**	**05 00 50.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**18.09**	**334**	P	**Pn**	**Pn**	**05 01 20.4**	**-1.8**
	0.2nm,0.3s,baz=152,slow=12,SNR=7.7							
SSLB	**Suanglung**	**20.09**	**262**	*eP*	Pn	Pn	05 01 46.2	-0.3
	16nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**23.60**	**106**	T	T	T	05 27 06.5	
	baz=305,slow=74,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**23.60**	**106**	T	T	T	05 27 05.3	
	baz=305							
H11N3	**WAKE ISLAND Hy**	**23.62**	**106**	T	T	T	05 27 07.7	
	baz=305,slow=74							
SONM	**Songino Array**	**34.23**	**315**	P	**P**	**P**	**05 03 56.8**	**+0.4**
	3.2nm,0.8s,baz=118,slow=8.7,SNR=22							
SEY	**Seymchan**	**35.23**	**8**	P	**P**	**P**	**05 04 04.8**	**+0.2**
	0.7nm,0.4s,baz=174,slow=5.7,SNR=5.7							
CMAR	**Chiang Mai Arr**	**41.20**	**266**	P	**P**	**P**	**05 04 55.9**	**+0.4**
	1.4nm,0.3s,baz=60,slow=7.5,SNR=7.8							
WRAB	**Tennant Creek**	**48.61**	**191**	*eP*	**P**	**P**	**05 05 53.5**	**-0.7**
	14nm,1.4s							
WB2	**Warramunga Arr**	**48.62**	**191**	*eP*	**P**	**P**	**05 05 52.8**	**-1.5**
WRA	**Warramunga Arr**	**48.62**	**191**	P	**P**	**P**	**05 05 54.1**	**-0.2**
	3.4nm,0.7s,baz=12,slow=8.5,SNR=26							
PSI	**Prapat**	**48.83**	**247**	P	**P**	**P**	**05 05 57.0**	**+0.7**
	3.1nm,0.4s,baz=326,slow=3.3,SNR=5.9							
ZALV	**Zalesovo Beam**	**48.94**	**318**	P	**P**	**P**	**05 05 57.0**	**+0.5**
	1.7nm,0.6s,baz=98,slow=8.6,SNR=6.3							
ZALV				PcP	**PcP**	**PcP**	**05 07 19.4**	**-0.9**
	0.9nm,0.5s,baz=98,slow=2.9,SNR=4.1							
MKAR	**Makanchi Array**	**50.13**	**309**	P	**P**	**P**	**05 06 05.9**	**+0.1**
	0.8nm,0.6s,baz=88,slow=9.3,SNR=10.0							
MKAR				PcP	**PcP**	**PcP**	**05 07 25.8**	**+0.9**
	1.2nm,0.9s,baz=93,slow=4.9,SNR=4.4							
ASAR	**Alice Springs**	**52.34**	**190**	P	**P**	**P**	**05 06 21.8**	**-0.6**
	0.4nm,0.8s,baz=8.1,slow=6.9,SNR=3.7							
KURK	**Kurchatov**	**52.53**	**314**	P	**P**	**P**	**05 06 24.3**	**+0.7**
KURBB	**Kurchatov Arra**	**52.59**	**314**	P	**P**	**P**	**05 06 24.3**	**+0.3**
	14nm,1.1s,baz=91,slow=7.2,SNR=25							
ILAR	**Eielson Array**	**56.44**	**29**	P	**P**	**P**	**05 06 50.9**	**-0.9**
	0.6nm,0.8s,baz=260,slow=5.7,SNR=6.6							
BVAR	**Borovoye Array**	**57.53**	**317**	P	**P**	**P**	**05 07 00.4**	**+0.7**
	4.6nm,0.8s,baz=94,slow=7.9,SNR=20							
KKAR	**Karatay Array**	**58.82**	**305**	*eP*	**P**	**P**	**05 07 09.7**	**+0.8**
	1.3nm,0.6s							
INK	**Inuvik**	**61.75**	**25**	P	**P**	**P**	**05 07 28.4**	**-0.1**
	1.4nm,1.1s,baz=304,slow=5.9,SNR=5.8							
ABKAR	**Akbulak array**	**64.64**	**314**	*eP*	**P**	**P**	**05 07 48.7**	**+0.7**
	2.6nm							
AKTO	**Aktyubinsk**	**65.55**	**316**	P	**P**	**P**	**05 07 54.1**	**+0.3**
	2.6nm,0.7s,baz=77,slow=10.0,SNR=8.1							
GEYT	**Alibeck**	**69.30**	**303**	P	**P**	**P**	**05 08 18.4**	**+0.5**
	1.7nm,0.4s,baz=15,slow=6.0,SNR=3.8							
YKA	**Yellowknife Ar**	**70.87**	**29**	P	**P**	**P**	**05 08 26.6**	**-0.3**
	0.6nm,0.7s,baz=292,slow=6.4,SNR=5.7							
ARCES	**ARCESS Array B**	**72.60**	**341**	P	**P**	**P**	**05 08 38.1**	**+0.8**
	4.2nm,0.8s,baz=55,slow=9.1,SNR=4.5							
FINES	**FINESS Array B**	**77.12**	**334**	P	**P**	**P**	**05 09 03.7**	**+0.2**
	1.0nm,0.8s,baz=65,slow=6.6,SNR=2.8							
KBZ	**Khabaz**	**77.58**	**313**	P	**P**	**P**	**05 09 06.8**	**+0.4**
	4.6nm,0.9s,baz=233,slow=20							
NVAR	**Mina Array Bea**	**79.39**	**52**	P	**P**	**P**	**05 09 16.1**	**-0.8**
	0.6nm,0.8s,baz=292,slow=4.8,SNR=3.7							
PDAR	**Pinedale Array**	**83.02**	**45**	P	**P**	**P**	**05 09 36.2**	**+0.2**
	0.4nm,0.9s,baz=302,slow=5.2,SNR=3.1							
RAYN	**Ar Rayn**	**85.14**	**294**	*eP*	**P**	**P**	**05 09 48.2**	**+1.3**
	12nm,0.9s							
BRTR	**Keskin Array B**	**85.58**	**313**	P	**P**	**P**	**05 09 49.5**	**+0.5**
	1.1nm,0.7s,baz=116,slow=3.4,SNR=6.2							
TXAR	**Lajitas Array**	**94.49**	**53**	P	**P**	**P**	**05 10 31.1**	**+0.1**
	0.5nm,1.0s,baz=293,slow=2.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**124.18**	**312**	PKP	**PKPdf**	**PKPdf**	**05 16 10.1**	**+0.5**
	0.4nm,0.9s,baz=33,slow=3.4,SNR=2.3							

NNC 20 04:58:25.5±4.7, 38°.61N×71°.07E, h0km, mb3.8, mpv3.5, 6C-5D, Error ellipse: s-maj=45.7km s-min=21.5km az=155.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.76**	**277**	⇓Pg	Pn	Pn	04 58 57.5	+0.1
	119nm,0.4s							
DZET				⇑Lg	Lg	Lg	04 59 26.2	
	96nm,0.5s							
SFK	**Sufi-Kurgan**	**2.35**	**53**	⇑Pn	Pn	Pn	04 59 03.6	-2.2
	22nm,0.5s							
SFK				⇑Lg	Lg	Lg	04 59 39.6	
	21nm,0.4s							
MNAS	**Manas**	**4.02**	**15**	⇑Pn	Pn	Pn	04 59 32.3	+3.8
MNAS				⇑Sn	Sn	Sn	05 00 19.7	+3.1
	3.7nm,0.4s							
KK31	**Karatay Array**	**4.50**	**355**	Pn	Pn	Pn	04 59 35.4	+0.3
	0.8nm,0.3s,baz=182,slow=14,SNR=27							
KK31				⇓Sn	Sn	Sn	05 00 31.9	+3.8
	1.6nm,0.3s							
KK31				⇓Lg	Lg	Lg	05 00 51.5	
	4.1nm,0.6s,baz=157,slow=26,SNR=4.3							
AAK	**Ala-Archa**	**4.79**	**32**	⇑Pn	Pn	Pn	04 59 41.0	+1.9
	1.2nm,0.5s							
AAK				⇓Sn	Sb	Sb	05 00 43.1	-5.8
	4.2nm,0.9s							
AB31	**Akbulak array**	**13.30**	**327**	Pn	Pn	Pn	05 01 32.1	-3.4
	0.5nm,0.6s,baz=141,slow=14,SNR=8.4							
AB31				⇓Sn	Sn	Sn	05 04 04.6	+0.5
	0.7nm,0.6s							

LDG ***20*** *05:08:20.4±0.3, 16°.59S×69°.67W, h90km, Mb4.7/22, Ms2.9/1, Error ellipse: s-maj=15.8km s-min=8.5km az=50.0*
IDC ***20*** *05:08:25.9±1.1, 17°.09S×69°.53W, h139km±9km, mb4.3/16, mb1 4.5/22, mb1mx4.4/25, mbtmp4.8/22, Error ellipse: s-maj=12.1km s-min=9.6km az=79.0*
NEIC ***20*** *05:08:26.2±0.4, 17°.04S×69°.52W, h140km±4km, mb4.6/43, Error ellipse: s-maj=4.8km s-min=3.6km az=52.0*
ISCJB ***20*** *05:08:28.4±0.2, 17°.02S±0°.05×69°.57W±0°.04, h173km, mb4.5/75, Error ellipse: s-maj=7.3km s-min=4.4km az=26.9*
BJI ***20*** *05:08:31.1, 17°.10S×69°.30W, h180km, mB4.7/1*

ISC 20 05:08:29.1±0.5, 17°.19S±0°.05×69°.40W±0°.07, h168km±3km, h168km:pP-P, n448, σ0§96/470, mb4.5/75, 146C-146D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.51**	**54**	P	**Pn**	**Pn**	**05 09 01.9**	**+1.0**
	1μm,0.3s,baz=264,slow=5.5							
LPAZ				S	**Sn**	**Sn**	**05 09 26.5**	**+1.2**
	134nm,0.3s,baz=133,slow=21,SNR=7.3							
LVC	**Limon Verde**	**5.42**	**175**	P	**Pn**	**Pn**	**05 09 47.6**	**-0.9**
	1μm,0.3s,baz=5.1,slow=6.8,SNR=469							
LVC				S	**Sn**	**Sn**	**05 10 46.8**	**-4.1**
	2μm,0.3s,baz=163,slow=19,SNR=46							
SIV	**San Ignacio**	**8.07**	**83**	P	**Pn**	**Pn**	**05 10 22.6**	**-0.9**
	27nm,0.3s,baz=270,slow=9.5,SNR=107							
SIV				S	**Sn**	**Sn**	**05 11 52.6**	**-1.3**
	8.3nm,0.3s,baz=184,slow=23,SNR=7.2							
NNA	**Nana**	**8.86**	**305**	P	Pn	Pn	05 10 27.9	-6.1
	38nm,0.3s,baz=132,slow=11,SNR=86							
NNA				S	Sn	Sn	05 12 00.1	-13
	15nm,0.3s,baz=233,slow=20,SNR=4.6							
NNA	**Nana**	**8.86**	**305**	*ePn*	Pn	Pn	05 10 28.2	-5.8
NNA				S	Sn	Sn	05 12 00.1	-13
SAML	**Samuel**	**10.18**	**37**	*ePn*	**Pn**	**Pn**	**05 10 49.6**	**-1.8**
LCO	**Las Campanas**	**11.83**	**186**	*ePn*	**Pn**	**Pn**	**05 11 13.6**	**+0.6**
ATAH	**Atahualpa**	**13.30**	**318**	P	Pn	Pn	05 11 27.4	-4.5
	0.9nm,0.3s,baz=78,slow=3.5,SNR=4.8							
CFAA	**Coronel Fontan**	**14.39**	**176**	P	**Pn**	**Pn**	**05 11 44.2**	**-1.0**
	0.2nm,0.3s,baz=350,slow=11,SNR=9.2							
CFAA				S	Sn	Sn	05 14 14.3	-11
	0.1nm,0.3s,baz=211,slow=19,SNR=7.9							

231A	Bronte baz=57	57.13	329	⇓P	P	05 17 56.6	-1.7
330A	Mertzon baz=57	57.14	328	⇓P	P	05 17 56.9	-1.5
Z34A	Collier Ranch, baz=57	57.17	332	⇑P	P	05 17 57.6	-0.9
PBMO	Poplar Bluff 6.2nm,0.9s	57.23	340	*e*P	P	05 17 56.7	-2.1
ABTX	Abilene, Hawle baz=57,SNR=7.9	57.37	330	⇑P	P	05 17 58.6	-1.2
ABTX	Abilene, Hawle	57.37	330	*e*P	P	05 17 58.8	-1.1
Z33A	Whitaker Ranch baz=58,SNR=11	57.49	331	⇑P	P	05 17 59.9	-0.8
230A	Sterling City baz=58	57.50	328	⇑P	P	05 17 59.9	-1.0
Y34A	Reagan Ranch, baz=58	57.59	332	⇓P	P	05 18 01.0	-0.5
329A	Wagon Wheel Ra baz=58,SNR=7.1	57.62	327	⇓P	P	05 18 00.4	-1.4
SIUC	Southern Illin 18nm,0.8s	57.70	341	*e*P	P	05 18 00.7	-1.4
SIUC				*e*pP	pP	05 18 43.8	+2.8
131A	Roby baz=58,SNR=10	57.77	329	⇑P	P	05 18 01.6	-1.2
Z32A	Haskell baz=58,SNR=5.0	57.85	330	⇓P	P	05 18 02.0	-1.2
229A	Bryant Ranch, baz=58	57.91	327	⇑P	P	05 18 02.5	-1.3
W36A	Wetumka baz=58,SNR=8.5	57.94	334	⇓P	P	05 18 02.4	-1.4
130A	Snyder baz=58,SNR=5.7	57.99	329	⇑P	P	05 18 03.0	-1.3
Y33A	Hilltop Ranch, baz=58	58.03	331	⇓P	P	05 18 03.3	-1.2
X34A	Smith Ranch, M baz=58,SNR=7.9	58.17	332	⇑P	P	05 18 04.4	-1.0
Z31A	Sharp Cattle R baz=58,SNR=16	58.17	330	⇑P	P	05 18 04.4	-1.1
W35A	Tecumseh baz=58	58.22	334	⇑P	P	05 18 03.9	-1.9
Y32A	R-V Farms, Ver baz=58,SNR=9.0	58.40	331	⇑P	P	05 18 06.0	-1.1
X33A	Lawton baz=58,SNR=8.4	58.42	332	⇑P	P	05 18 06.1	-1.0
TUL1	Leonard baz=58	58.42	335	⇓P	P	05 18 05.6	-1.5
228A	UT Block 9, Go baz=58	58.44	327	⇑P	P	05 18 06.2	-1.3
129A	Stewart Farms, baz=58,SNR=9.6	58.47	328	⇓P	P	05 18 06.3	-1.4
Z30A	Sanderson Ranc baz=59,SNR=11	58.63	329	⇓P	P	05 18 07.3	-1.4
X32A	Elmer baz=59	58.68	331	⇓P	P	05 18 07.7	-1.2
W34A	Bridge Creek, baz=59	58.68	333	⇓P	P	05 18 08.4	-0.6
WMOK	Wichita Mounta 2.4nm,0.8s	58.71	332	*e*P	P	05 18 07.6	-1.6
V35A	Meyer Ranch, C baz=59	58.73	334	⇓P	P	05 18 08.5	-0.8
Y31A	Rekieta Farm, baz=59,SNR=14	58.76	330	⇓P	P	05 18 08.5	-1.1
128A	Castleberry Fa baz=59	58.78	327	⇓P	P	05 18 08.2	-1.6
Z29A	Hungry Hill Ra baz=59	58.89	328	⇑P	P	05 18 08.7	-1.9
W33A	Caddo, Fort Co baz=59,SNR=10.0	58.91	332	⇓P	P	05 18 09.8	-0.8
Y30A	Stafford Cattl baz=59	58.99	330	⇓P	P	05 18 10.1	-1.1
V34A	Guthrie baz=59,SNR=5.1	59.08	333	⇑P	P	05 18 10.3	-1.4
V34A	Guthrie	59.08	333	*e*P	P	05 18 10.5	-1.2
X31A	McDonald Ranch baz=59,SNR=21	59.17	331	⇓P	P	05 18 11.1	-1.3
W32A	Sentinel baz=59,SNR=19	59.24	332	⇓P	P	05 18 11.7	-1.2
Z28A	Tucker Farm, M baz=59	59.26	328	⇑P	P	05 18 11.5	-1.6
Y29A	Porterfield Fa baz=59	59.36	329	⇓P	P	05 18 12.5	-1.2
V33A	Lossen Ranch, baz=60	59.40	333	⇑P	P	05 18 12.8	-1.1
X30A	Coker Ranch, T baz=60,SNR=7.7	59.44	330	⇑P	P	05 18 12.6	-1.6
U34A	Anderson Ranch baz=60,SNR=7.8	59.60	334	⇑P	P	05 18 14.0	-1.2
U34A	Anderson Ranch 21nm,0.9s	59.60	334	*e*P	P	05 18 13.8	-1.4
MNTX	Cornudas Mount baz=60,SNR=5.4	59.62	325	⇑P	P	05 18 13.7	-1.8
MNTX	Cornudas Mount 5.1nm,1.0s	59.62	325	*e*P	P	05 18 13.5	-1.9
MNTX				*e*pP	pP	05 18 55.2	+0.5
V32A	Arapaho baz=60	59.65	332	⇑P	P	05 18 14.8	-0.9
Y28A	McKinney Farm, baz=60	59.68	328	⇑P	P	05 18 14.2	-1.7
U33A	Lingo Farm, Me baz=60	59.84	333	⇓P	P	05 18 15.5	-1.4
X29A	Tulia baz=60	59.84	329	⇓P	P	05 18 15.5	-1.6
S36A	Lake Cedric, C baz=60	59.92	336	⇓P	P	05 18 16.2	-1.2
MSTX	Muleshoe baz=60,SNR=6.3	59.99	328	⇑P	P	05 18 16.5	-1.6
MSTX	Muleshoe	59.99	328	*e*P	P	05 18 16.8	-1.3
MSTX				*e*pP	pP	05 18 58.8	+1.5
V31A	Spring Creek L baz=60,SNR=5.3	60.05	332	⇓P	P	05 18 17.7	-0.7
S35A	Otter Creek Ra baz=60,SNR=9.8	60.17	336	⇑P	P	05 18 18.0	-1.1
U32A	Winter Ranch, baz=60	60.18	333	⇓P	P	05 18 18.4	-0.9
AMTX	Amarillo baz=60	60.19	330	⇑P	P	05 18 18.8	-0.6
R36A	Gordon, Harris baz=60	60.41	337	⇑P	P	05 18 19.5	-1.2
S34A	Willow Spring baz=61	60.50	335	⇑P	P	05 18 20.3	-1.0
T32A	Huddler Ranch, baz=61	60.82	333	⇓P	P	05 18 23.3	-0.2
T31A	Randall Ranch, baz=61	61.08	333	⇓P	P	05 18 24.6	-0.7
V28A	Channing baz=61	61.15	330	⇓P	P	05 18 25.4	-0.5
S32A	Newby Ranch, P baz=61	61.26	334	⇓P	P	05 18 26.0	-0.5
S31A	Mullinville baz=62	61.43	333	⇓P	P	05 18 26.9	-0.7
V27A	Dan Oppiter Fa baz=62	61.45	329	⇓P	P	05 18 27.3	-0.7
KSU1	Kansas State U baz=62	61.51	336	⇓P	P	05 18 26.9	-1.2
121A	Cookes Peak, D baz=62	61.59	323	⇑P	P	05 18 28.8	-0.3
U28A	Mallet baz=62	61.65	330	⇓P	P	05 18 28.4	-0.9
R32A	Long Quarter, baz=62	61.77	334	⇑P	P	05 18 28.8	-1.2
T29A	Hugoton baz=62	61.85	331	⇑P	P	05 18 30.0	-0.6
Q33A	Connelly Farm, baz=62	61.90	335	⇑P	P	05 18 30.1	-0.7
V26A	Tequesquite Ra baz=62,SNR=7.0	61.95	329	⇑P	P	05 18 30.0	-1.3
U27A	Thompson Grove baz=62	61.97	330	⇑P	P	05 18 30.9	-0.5
R31A	Burdett baz=62	62.01	333	⇑P	P	05 18 30.5	-1.0
S29A	Ulysses baz=62	62.15	332	⇑P	P	05 18 31.7	-0.8
Q32A	Meitler Ranch, baz=62,SNR=5.2	62.19	335	⇓P	P	05 18 31.6	-1.1
T28A	Walsh baz=62	62.20	331	⇑P	P	05 18 31.8	-1.1
R30A	Dighton baz=62	62.33	333	⇑P	P	05 18 32.9	-0.8
T27A	Campo baz=62,SNR=8.5	62.44	330	⇑P	P	05 18 33.3	-1.3
S28A	Manter baz=62,SNR=6.7	62.48	331	⇓P	P	05 18 33.6	-1.2
Q31A	Ellis baz=63	62.55	334	⇑P	P	05 18 34.4	-0.7
P32A	Huiting Farm, baz=63	62.75	335	⇓P	P	05 18 35.2	-1.2
Q30A	Quinter baz=63,SNR=5.4	62.88	333	⇑P	P	05 18 36.6	-0.7
T26A	Comanche Natio baz=63	62.95	330	⇓P	P	05 18 36.7	-1.2
P31A	Stockton baz=63,SNR=5.2	62.98	334	⇓P	P	05 18 37.0	-1.0
R28A	Tribune baz=63	63.05	332	⇓P	P	05 18 37.5	-1.1
Q29A	Oakley baz=63	63.13	333	⇑P	P	05 18 38.3	-0.8
O32A	Brockman Farm, baz=63	63.16	336	⇑P	P	05 18 38.4	-0.7
S26A	Kim baz=63,SNR=12	63.24	330	⇑P	P	05 18 39.4	-0.5
T25A	Trinidad baz=63	63.31	329	⇓P	P	05 18 40.0	-0.4
T25A	Trinidad	63.31	329	*e*P	P	05 18 40.2	-0.2
P30A	Selden baz=63	63.36	334	⇑P	P	05 18 40.1	-0.4
R27A	Eads baz=64	63.46	331	⇓P	P	05 18 40.1	-1.1
O31A	Woolen Ranch, baz=64	63.49	335	⇑P	P	05 18 40.7	-0.6
R26A	Arlington baz=64,SNR=5.3	63.77	331	⇓P	P	05 18 42.4	-0.9
O30A	MW Ranch, Wils baz=64	63.81	334	⇑P	P	05 18 43.6	+0.1
KSCO	Kaye Shedlock' baz=64	63.97	332	⇓P	P	05 18 44.3	-0.3
O29A	4D Ranch, Culb baz=64	64.08	334	⇑P	P	05 18 45.2	0.0
Q26A	Hugo baz=64	64.31	331	⇓P	P	05 18 46.4	-0.4
SDCO	Great Sand Dun baz=64,SNR=11	64.33	329	⇓P	P	05 18 46.7	-0.4
SDCO	Great Sand Dun 6.3nm,0.9s	64.33	329	*e*P	P	05 18 47.0	-0.1
M31A	Lambtecht Ranc baz=64	64.36	336	⇓P	P	05 18 46.8	-0.2
O28A	Krutsinger Ran baz=65	64.50	333	⇓P	P	05 18 47.9	-0.1
R24A	Sanders Place, baz=65	64.51	329	⇑P	P	05 18 47.9	-0.3
N29A	Votaw Ranch, W baz=65	64.59	334	⇑P	P	05 18 48.0	-0.5
P26A	Davis Ranch, A baz=65	64.74	331	⇓P	P	05 18 49.3	-0.3
R23A	Moffat baz=65	64.83	329	⇑P	P	05 18 49.8	-0.6
O27A	Beecher Island baz=65	64.86	332	⇑P	P	05 18 50.1	-0.2
N28A	Pribbeno Ranch baz=65	64.86	333	⇑P	P	05 18 50.2	-0.1
S22A	4UR Ranch, Cre baz=65	64.99	328	⇓P	P	05 18 51.0	-0.4
L31A	Butterfield Fa baz=65,SNR=14	65.02	336	⇑P	P	05 18 50.5	-0.7
P25A	Willow Gulch B baz=65	65.08	331	⇑P	P	05 18 51.6	-0.2
Q24A	Divide baz=65	65.11	330	⇓P	P	05 18 51.8	-0.4
OGNE	Ogallala baz=65	65.29	333	⇑P	P	05 18 53.0	-0.1
M28A	Bar X Bar Ranc baz=66	65.38	334	⇓P	P	05 18 53.5	-0.1
MVCO	Mesa Verde baz=66	65.45	326	⇑P	P	05 18 54.1	-0.3
ECSD	EROS Data Cent baz=66,SNR=9.4	65.55	339	⇓P	P	05 18 53.1	-1.4
ECSD	EROS Data Cent 8.6nm,0.9s	65.55	339	*e*P	P	05 18 53.3	-1.3
SPMN	Marine on St. baz=66	65.66	342	⇓P	P	05 18 54.0	-1.1
SPMN	Marine on St.	65.66	342	*e*P	P	05 18 53.7	-1.5
K30A	Basset baz=66,SNR=9.6	65.74	336	⇑P	P	05 18 55.2	-0.7
P23A	Jefferson baz=66	65.76	330	⇑P	P	05 18 56.5	0.0
ISCO	Idaho Springs baz=66,SNR=5.2	65.99	330	⇑P	P	05 18 57.4	-0.4
ISCO	Idaho Springs	65.99	330	*e*P	P	05 18 57.6	-0.3
K29A	Lazy Trails An baz=66,SNR=8.5	66.09	336	⇓P	P	05 18 57.6	-0.5
SMCO	Snowmass	66.17	329	*e*P	P	05 18 58.8	-0.3
PV01	Paradox Valley 938nm,1.3s	66.18	327	*e*P	P	05 18 58.7	-0.3
J30A	Dallas baz=66,SNR=7.2	66.25	336	⇓P	P	05 18 58.0	-1.0
P22A	Eagle baz=66	66.38	329	⇑P	P	05 19 00.3	0.0
O23A	Lake Granby, G baz=66,SNR=7.6	66.46	330	⇓P	P	05 19 00.3	-0.5
N24A	Carr baz=66	66.46	331	⇓P	P	05 19 00.7	0.0
K28A	Ten Mile Ranch baz=67	66.47	335	⇓P	P	05 19 00.9	+0.3
J29A	Okreek baz=67,SNR=11	66.64	336	⇑P	P	05 19 00.8	-0.7
O22A	Kremmling baz=67,SNR=7.7	66.72	330	⇑P	P	05 19 01.8	-0.6
I30A	Oacoma baz=67	66.72	337	⇓P	P	05 19 02.0	0.0
K27A	Flueckinger Fa baz=67	66.82	334	⇑P	P	05 19 03.0	+0.2
M24A	Cheyenne baz=67	66.94	332	⇑P	P	05 19 03.8	+0.1
BRSD	Miller baz=67	67.00	337	⇓P	P	05 19 03.3	-0.5
N23A	Red Feather La baz=67	67.00	331	⇓P	P	05 19 04.0	-0.2
J28A	Allard Ranch, baz=67,SNR=12	67.01	335	⇑P	P	05 19 03.4	-0.5
BAR	Barrett	67.10	318	*e*P	P	05 19 03.4	-1.3
I29A	Vivian Onida baz=67	67.15	336	⇓P	P	05 19 03.9	-0.8
N22A	Wattenberg Ran baz=67	67.17	330	⇑P	P	05 19 04.8	-0.5
J27A	Elkhorn Farm, baz=67,SNR=7.1	67.18	335	⇓P	P	05 19 05.0	0.0
M23A	Laramie baz=67	67.35	331	⇑P	P	05 19 06.2	-0.2
L24A	Wheatland baz=68,SNR=5.5	67.45	332	⇓P	P	05 19 07.5	+0.7
I28A	Midland baz=68	67.47	336	⇑P	P	05 19 05.9	-0.8
O20A	White River Ci baz=68	67.53	329	⇑P	P	05 19 07.2	-0.2
H29A	Onida baz=68	67.63	337	⇑P	P	05 19 06.8	-0.9
G30A	Faulkton baz=68,SNR=6.6	67.66	338	⇑P	P	05 19 07.2	-0.7
J26A	Sides Ranch, S baz=68	67.67	334	⇓P	P	05 19 07.9	-0.2
LIC	Lamto 23nm,0.4s,baz=251	67.70	76	⇑*i*P	P	05 19 09.2	+0.4
LIC	Lamto 42nm,0.4s	67.70	76	*e*P	P	05 19 09.0	+0.2
LIC	Lamto 23nm,0.4s	67.70	76	⇑*i*P	P	05 19 09.2	+0.4
M22A	Cedar Creek Ra baz=68	67.71	331	⇑P	P	05 19 08.5	-0.1
EYMN	Ely	67.79	344	*e*P	P	05 19 06.8	-1.8
GMRC	Granite Mounta baz=68	67.84	320	⇑P	P	05 19 09.4	0.0
L23A	Garrett baz=68	67.85	332	⇑P	P	05 19 09.4	0.0
TIC	Toumodi 15nm,0.2s	67.86	75	*e*P	P	05 19 10.1	+0.3
I27A	Quinn baz=68	67.88	335	⇓P	P	05 19 09.5	+0.1
H28A	Mission Ridge baz=68	67.98	336	⇓P	P	05 19 09.8	-0.1
KIC	Kosan Boka 81nm,0.4s	68.02	76	*e*P	P	05 19 11.3	+0.5
DBIC	Dimbokro 29nm,0.5s,baz=229,slow=6.1,SNR=107	68.02	75	P	P	05 19 11.4	+0.6
N20A	Spence Gulch, baz=68,SNR=5.6	68.07	329	⇑P	P	05 19 10.3	-0.5
I26A	New Underwood baz=68	68.17	335	⇓P	P	05 19 10.9	-0.3
F30A	Leola baz=68	68.23	338	⇑P	P	05 19 11.1	-0.3
G28A	Parade baz=68	68.27	337	⇑P	P	05 19 11.6	-0.2
K23A	Bowen Ranch, D baz=68	68.33	332	⇑P	P	05 19 12.1	-0.2
H27A	Howes baz=68,SNR=5.7	68.36	335	⇑P	P	05 19 11.5	-0.8
J24A	Dixon Ranch, L baz=68	68.36	333	⇑P	P	05 19 12.6	+0.1
MVU	Marysvale	68.40	325	*e*P	P	05 19 13.5	+0.5
F29A	Eureka baz=69,SNR=5.1	68.51	338	⇓P	P	05 19 12.2	-1.0
I25A	Rochford baz=69,SNR=14	68.53	334	⇑P	P	05 19 13.6	0.0
K22A	Casper baz=69	68.65	331	⇓P	P	05 19 14.1	-0.2
E30A	Jud baz=69	68.76	339	⇑P	P	05 19 14.3	-0.4
I24A	Kuemmerle Ranc baz=69	68.77	333	⇓P	P	05 19 15.2	+0.2
F28A	McLaughlin baz=69	68.88	337	⇑P	P	05 19 15.6	+0.1
G27A	Dupree baz=69,SNR=5.4	68.92	336	⇓P	P	05 19 15.1	-0.7
H25A	Fruitdale baz=69	68.96	335	⇓P	P	05 19 15.8	-0.3
K21A	Alcova baz=69,SNR=9.2	68.97	331	⇓P	P	05 19 16.0	-0.4
G26A	Maurine baz=69,SNR=7.6	69.11	336	⇑P	P	05 19 16.0	-1.0
J22A	Midwest baz=69	69.23	332	⇑P	P	05 19 17.1	-0.8
D30A	Buchanan baz=69	69.23	339	⇓P	P	05 19 17.0	-0.6
AGMN	Agassiz Nation baz=69,SNR=7.1	69.34	341	⇓P	P	05 19 16.8	-1.4
AGMN	Agassiz Nation	69.34	341	*e*P	P	05 19 16.9	-1.4
F27A	Lemmon baz=69,SNR=6.1	69.37	336	⇓P	P	05 19 17.8	-0.7
E28A	Huff baz=70	69.46	338	⇓P	P	05 19 18.7	-0.3
H24A	Dirks Ranch, A baz=70	69.46	334	⇑P	P	05 19 19.0	-0.2
D29A	Pettibone, Tap baz=70	69.48	338	⇑P	P	05 19 18.6	-0.5
JLU	Jordanelle	69.51	327	*e*P	P	05 19 20.0	+0.2
F26A	Lodgepole baz=70	69.60	336	⇑P	P	05 19 19.6	-0.4
I22A	9 Mile Ranch, baz=70,SNR=7.5	69.61	332	⇑P	P	05 19 19.4	-0.8
TPNV	Topopah Spring baz=70	69.64	321	⇓P	P	05 19 20.6	+0.1
C30A	Mose, Pekin baz=70	69.65	340	⇑P	P	05 19 19.8	-0.4
E27A	Carson baz=70	69.66	337	⇓P	P	05 19 20.6	+0.3
FURC	Furnace Creek, baz=70	69.69	321	⇓P	P	05 19 21.1	+0.5
MPMC	Manual Prospec baz=70	69.80	320	⇑P	P	05 19 21.6	0.0
G24A	Alzada baz=70	69.87	334	⇓P	P	05 19 21.1	-0.6
I21A	Big Trails, Te baz=70,SNR=6.8	69.91	332	⇓P	P	05 19 21.1	-0.9
J20A	Shoshoni baz=70	69.92	331	⇑P	P	05 19 22.2	+0.2
DUG	Dugway, Tooele baz=70	69.93	326	⇓P	P	05 19 22.8	+0.5
F25A	Bowman baz=70	69.97	335	⇓P	P	05 19 22.2	0.0
E26A	Carlson Angus baz=70	70.03	336	⇑P	P	05 19 22.6	0.0
ISA	Isabella, Lake baz=70	70.16	319	⇓P	P	05 19 24.0	+0.4
ISA	Isabella, Lake	70.16	319	*e*P	P	05 19 24.4	+0.8
MDND	Maddock baz=70,SNR=12	70.16	339	⇑P	P	05 19 22.6	-0.7
MDND	Maddock 34nm,0.9s	70.16	339	*e*P	P	05 19 22.0	-1.2
PDAR	Pinedale Array 1.5nm,0.7s,baz=128,slow=8.4,SNR=13	70.17	330	P	P	05 19 22.3	-1.4
G23A	Biddle baz=70,SNR=5.5	70.18	334	⇓P	P	05 19 22.9	-0.6
B30A	Myrvik Farm, E baz=70,SNR=5.7	70.25	340	⇓P	P	05 19 22.7	-1.2
HWUT	Hardware Ranch 6.4nm,1.1s	70.30	328	*e*P	P	05 19 23.5	-1.0
J19A	Crowheart baz=70,SNR=8.7	70.30	330	⇓P	P	05 19 23.8	-0.6
F24A	Ekalaka baz=70,SNR=11	70.30	335	⇑P	P	05 19 23.7	-0.6
I20A	Worland baz=70	70.40	331	⇓P	P	05 19 24.7	-0.3
E25A	Miller Ranch, baz=70	70.42	336	⇑P	P	05 19 24.8	-0.1
H21A	Big Horn, Sher baz=70	70.44	332	⇓P	P	05 19 24.8	-0.4
D26A	Manning baz=71	70.49	337	⇓P	P	05 19 25.2	-0.1
BGU	Big Grassy Mou	70.57	326	*e*P	P	05 19 26.0	-0.1
G22A	Birney baz=71	70.58	333	⇓P	P	05 19 25.3	-0.7
F23A	Volborg baz=71,SNR=11	70.60	334	⇓P	P	05 19 25.4	-0.7
B29A	Wagenman Farm, baz=71,SNR=7.3	70.61	339	⇑P	P	05 19 25.2	-0.8
VES	Vestal, Richgr baz=71	70.65	319	⇓P	P	05 19 26.6	+0.1
A30A	Hoffart Farm, baz=71,SNR=5.5	70.67	340	⇑P	P	05 19 25.2	-1.2
C27A	Sayler Ranch, baz=71	70.72	338	⇓P	P	05 19 26.4	-0.3
H20A	Greybull baz=71	70.75	332	⇓P	P	05 19 26.3	-0.7
E24A	Baker baz=71	70.83	335	⇑P	P	05 19 27.4	0.0
I19A	Meeteetse baz=71	70.86	331	⇑P	P	05 19 27.8	0.0
SMMC	Simmler baz=71	70.90	318	⇑P	P	05 19 28.5	+0.5
D25A	Fairfield baz=71	70.93	336	⇓P	P	05 19 28.4	+0.4
B28A	Dugan Ranch, T baz=71,SNR=5.1	70.94	339	⇑P	P	05 19 27.4	-0.6
A29A	Manning Farm, baz=71,SNR=9.2	70.96	340	⇑P	P	05 19 27.0	-1.1
G21A	Lodge Grass baz=71	70.98	333	⇓P	P	05 19 28.6	+0.2
F22A	Rosebud baz=71	71.00	334	⇑P	P	05 19 28.2	-0.3
C26A	Wahner Farm, P baz=71	71.03	337	⇓P	P	05 19 28.4	-0.2
RCTC	Rector, Farmer baz=71	71.05	319	⇑P	P	05 19 28.5	-0.4
HVU	Hansel Valley	71.05	327	*e*P	P	05 19 28.6	-0.3
ULM	Lac du Bonnet 13nm,0.5s,baz=150,slow=6.5,SNR=38	71.09	342	P	P	05 19 27.1	-1.7
E23A	Ismay baz=71	71.18	335	⇑P	P	05 19 29.0	-0.5
D24A	Glendive baz=71	71.29	336	⇑P	P	05 19 30.3	+0.1
A28A	Rude Farm, Bot baz=71	71.30	339	⇓P	P	05 19 29.7	-0.4
H19A	Powell baz=71	71.34	331	⇓P	P	05 19 30.3	-0.3
E22A	Miles City baz=72	71.40	334	⇓P	P	05 19 30.2	-0.6
G20A	Bridger baz=72	71.42	332	⇑P	P	05 19 30.8	-0.3
I17A	Pilgrim Ck. baz=72,SNR=5.8	71.52	330	⇑P	P	05 19 32.1	+0.2
H18A	Shoshone NF, C baz=72,SNR=11	71.66	331	⇓P	P	05 19 32.1	-0.6
D23A	Lindsay baz=72	71.69	335	⇑P	P	05 19 33.0	+0.4
B25A	Knox Farm, Ray baz=72	71.80	337	⇑P	P	05 19 33.8	+0.6
RLMT	Red Lodge 1.7nm,0.5s	71.82	331	*e*P	P	05 19 32.9	-0.7
NVAR	Mina Array Bea 2.1nm,0.7s,baz=148,slow=5.0,SNR=13	71.84	321	P	P	05 19 33.6	-0.2
F20A	Billings baz=72	71.84	333	⇓P	P	05 19 33.4	-0.1
H17A	Grant Village baz=72	71.88	330	⇓P	P	05 19 34.6	+0.6
H17A	Grant Village 1.1nm,0.6s	71.88	330	*e*P	P	05 19 34.2	+0.2
A26A	Wade Farm, Ken baz=72	71.91	338	⇓P	P	05 19 34.0	+0.2
LKWY	Lake 7.2nm,0.9s	71.92	330	*e*P	P	05 19 34.3	0.0
E21A	Keefer Ranch, baz=72,SNR=5.3	71.96	334	⇓P	P	05 19 33.9	-0.3
F19A	Roth Farm, Mol baz=72,SNR=5.4	72.23	332	⇑P	P	05 19 35.5	-0.4
A25A	Swangstu Ranch baz=72	72.33	337	⇑P	P	05 19 36.5	+0.2

DGMT	**Dagmar** baz=72	72.35	337	⇑P		P	05 19 36.6	+0.1	
E20A	**Meyer Farm, Mu** baz=72,SNR=7.5	72.38	333	⇑P		P	05 19 36.5	-0.2	
C22A	**Vida** baz=72	72.42	335	⇓P		P	05 19 36.5	-0.4	
E19A	**Rath Farm, Rou** baz=73,SNR=16	72.63	333	⇑P		P	05 19 38.1	-0.1	
A24A	**Westby** baz=73	72.65	337	⇑P		P	05 19 38.5	+0.3	
B23A	**Brockton** baz=73	72.65	336	⇑P		P	05 19 38.5	+0.2	
D20A	**Manuel Ranch,** baz=73	72.84	333	⇓P		P	05 19 39.2	-0.2	
C21A	**Desert Coulee** baz=73	72.98	334	⇑P		P	05 19 40.7	+0.6	
HLID	**Hailey** baz=73,SNR=6.9	73.17	328	⇑P		P	05 19 41.7	+0.1	
D19A	**Cripps Ranch,** baz=73	73.22	333	⇓P		P	05 19 41.9	+0.2	
C20A	**Veseth Ranch,** baz=73	73.27	334	⇑P		P	05 19 41.7	-0.2	
MCMT	**McKenzie Canyo** 1.9nm,0.8s	73.29	329	*e*P		P	05 19 42.3	0.0	
BOZ	**Bozeman (W)** 3.9nm,1.2s	73.31	331	*e*P		P	05 19 41.6	-0.7	
A22A	**Carney Farms,** baz=74	73.44	336	⇓P		P	05 19 42.8	0.0	
C19A	**Slack Wire Ran** baz=74,SNR=5.8	73.73	333	⇑P		P	05 19 44.4	-0.2	
MFID	**Camas Ranch** 8.5nm,1.0s	73.80	327	*e*P		P	05 19 45.2	0.0	
A21A	**Bergtoll Ranch** baz=74	73.84	335	⇓P		P	05 19 45.1	0.0	
B20A	**Solberg Farm,** baz=74	73.84	334	⇑P		P	05 19 45.2	-0.1	
A20A	**Cobblestone Ra** baz=74	74.15	335	⇓P		P	05 19 47.0	-0.1	
HRY	**Holter Researc** 3.0nm,0.6s	74.19	331	*e*P		P	05 19 47.3	-0.1	
B19A	**Brinkman Farms** baz=74,SNR=7.2	74.24	334	⇑P		P	05 19 47.2	-0.3	
EGMT	**Eagleton** baz=74,SNR=6.3	74.26	333	⇑P		P	05 19 47.1	-0.5	
A19A	**Klindworth Far** baz=75	74.53	334	⇑P		P	05 19 49.5	+0.3	
MSO	**Missoula** baz=75	75.27	330	⇑P		P	05 19 53.8	+0.3	
SLMT	**Seeley Lake** 4.2nm,1.1s	75.36	331	*e*P		P	05 19 53.8	-0.3	
BMO	**Blue Mountains** 5.6nm,1.1s	75.56	327	*e*P		P	05 19 54.5	-0.8	
SWMT	**Swartz Lake** 1.6nm,0.7s	75.79	331	*e*P		P	05 19 56.1	-0.4	
M04C	**Macdoel** baz=76	76.06	322	⇑P		P	05 19 58.1	-0.1	
N02D	**Trinity Center** baz=76	76.07	321	⇑P		P	05 19 58.3	+0.1	
TORD	**Torodi Ar. Bea** 48nm,0.7s,baz=260,slow=5.0,SNR=566	76.39	71	P		P	05 20 00.8	+0.3	
TORD					*e*P	pP	05 20 40.8	-0.7	
BSMT	**Bassoo Peak** 5.1nm,1.0s,baz=249,slow=6.2,SNR=3.8	76.40	330	*e*P		P	05 19 59.0	-1.1	
M02C	**Callahan** baz=76	76.42	322	⇑P		P	05 20 00.0	-0.1	
J04D	**Umpqua Nationa** baz=77	77.13	323	⇑P		P	05 20 04.0	-0.3	
I05D	**Terrebonne, OR** baz=77	77.39	325	⇓P		P	05 20 06.0	+0.5	
G05D	**Wamic, OR** baz=78	77.95	325	⇓P		P	05 20 09.9	+1.3	
PFVI	**Vila Bisbo**	78.53	45	*e*pP		pP	05 20 55.1	+2.0	
MORF	**Marmelete** 24nm,1.6s	78.75	45	*e*P		P	05 20 14.9	+1.8	
MORF					*e*pP	pP	05 20 55.6	+1.3	
PBDV	**Barranco-do-Ve** 44nm,1.5s	79.20	46	A		A	05 20 22.9		
PBDV					*e*pP	pP	05 20 58.8	+2.0	
PNCL	**Nicolau / Gran** 13nm,1.5s	79.25	45	*e*P		P	05 20 12.9	-2.9	
PNCL					*e*pP	pP	05 21 00.4	+3.4	
MESJ	**Messejana** 14nm,1.7s	79.32	45	*e*P		P	05 20 17.1	+1.0	
MESJ					*e*pP	pP	05 21 00.8	+3.4	
PCVE	**Castro Verde** 6.8nm,1.8s	79.33	45	*e*P		P	05 20 17.6	+1.4	
MDT	**Midelt** 5.4nm,0.8s,baz=242,slow=4.4,SNR=15	79.37	51	P		P	05 20 17.3	+0.6	
PVAQ	**Vaqueiros** 25nm,1.5s	79.43	45	A		A	05 20 42.5		
PVAQ					*e*pP	pP	05 20 59.4	+1.3	
EDM	**Edmonton**	79.68	335	*e*P		P	05 20 16.5	-1.3	
EVOP	**Sao Brissos** 13nm,0.9s	79.74	44	*e*P		P	05 20 19.1	+0.7	
EVO	**Evora** 13nm,0.9s	79.82	44	*e*P		P	05 20 19.1	+0.3	
EVO	**Evora** 11nm,1.4s	79.82	44	*e*P		P	05 20 19.1	+0.3	
EVO	**Evora**	79.82	44	*e*PcP		PcP	05 20 25.9	0.0	
PMTG	**Montargil** 12nm,1.9s	79.96	44	*e*P		P	05 20 18.5	-1.1	
PMTG					*e*pP	pP	05 21 01.3	+0.4	
PESTR	**Estremoz** 9.0nm,1.8s	80.27	44	*e*P		P	05 20 22.7	+1.4	
PESTR					*e*pP	pP	05 21 01.8	-0.9	
PBAR	**Barrancos** 23nm,1.5s	80.29	45	*e*P		P	05 20 17.8	-3.5	
PMRV	**Marv??o** 9.1nm,1.5s	80.70	44	*e*P		P	05 20 22.7	-0.8	
PMRV					*e*pP	pP	05 21 06.2	+1.2	
PCBR	**Castelo Branco** 13nm,1.8s	80.85	43	*e*P		P	05 20 24.7	+0.4	
VNDA	**Vanda** 2.7nm,0.8s,baz=131,slow=5.0,SNR=14	81.00	190	P		P	05 20 25.9	+1.4	
MTE	**Manteigas** 16nm,1.5s	81.10	43	*e*P		P	05 20 26.7	+1.0	
POLO	**Lamas de Olo** 7.1nm,1.6s	81.45	42	*e*P		P	05 20 27.1	-0.5	
MVO	**Moncorvo** 9.2nm,0.8s	81.83	43	*e*P		P	05 20 30.3	+0.8	
MVO					*e*pP	pP	05 21 11.4	+0.3	
PBRG	**Braganca** 11nm,2.0s	82.35	42	*e*P		P	05 20 33.0	+0.8	
PAB	**San Pablo** 7.8nm,0.7s	82.79	45	*e*P		P	05 20 34.3	-0.3	
ESDC	**Sonseca Array** 1.6nm,0.5s,baz=251,slow=5.2,SNR=16	83.11	45	P		P	05 20 36.3	+0.1	
TAM	**Tamanrasset** 1.7nm,0.6s	83.32	64	*e*P		P	05 20 38.3	+0.5	
SJPF	**Ste Jean** 5.7nm,0.7s	86.55	43	*e*P		P	05 20 54.2	+1.0	
SJPF	**Ste Jean** 5.7nm,0.7s	86.55	43	*e*P		P	05 20 54.2	+1.0	
ETSF	**Etsaut** 8.0nm,0.7s	86.89	43	*e*P		P	05 20 55.8	+0.8	
ETSF	**Etsaut** 8.0nm,0.7s	86.89	43	*e*P		P	05 20 55.8	+0.8	
YKA	**Yellowknife Ar** 6.3nm,0.6s,baz=133,slow=4.9,SNR=94	86.98	341	P		P	05 20 54.2	-0.7	
YKA					*e*pP	pP	05 21 36.1	-0.7	
EPF	**Esparros** 7.1nm,0.8s	87.53	44	*e*P		P	05 20 58.1	+0.1	
EPF	**Esparros** 7.1nm,0.8s	87.53	44	*e*P		P	05 20 58.1	+0.1	
MAW	**Mawson** 4.1nm,0.6s,baz=209,slow=3.4,SNR=12	88.57	164	P		P	05 21 04.1	+1.7	
LFF	**La Frestale** 8.3nm,0.6s	88.63	42	*e*P		P	05 21 03.2	+0.1	
LFF	**La Frestale** 8.3nm,0.6s	88.63	42	*e*P		P	05 21 03.2	+0.1	
MFF	**Saint Martin d** 6.7nm,0.8s	88.81	40	*e*P		P	05 21 03.8	-0.1	
MFF	**Saint Martin d** 6.7nm,0.8s	88.81	40	*e*P		P	05 21 03.8	-0.1	
MTLF	**Montolieu** 5.3nm,0.7s	88.91	44	*e*P		P	05 21 04.6	+0.2	
MTLF	**Montolieu** 5.3nm,0.6s	88.91	44	*e*P		P	05 21 04.6	+0.2	
GRR	**Gorron** 13nm,0.7s	89.19	38	*e*P		P	05 21 05.0	-0.6	
GRR	**Gorron** 13nm,0.7s	89.19	38	*e*P		P	05 21 05.0	-0.6	
RJF	**Les Rejaudoux**	89.29	42	*e*P		P	05 21 06.0	-0.2	
RJF	**Les Rejaudoux**	89.29	42	*e*P		P	05 21 06.0	-0.2	
CAF	**Calviac** 9.1nm,0.9s	89.48	42	*e*P		P	05 21 07.2	+0.1	
CAF	**Calviac**	89.48	42	*e*P		P	05 21 07.2	+0.1	
LDF	**La Druitiere** 7.6nm,0.7s	89.72	38	*e*P		P	05 21 07.6	-0.5	
LDF	**La Druitiere** 7.6nm,0.7s	89.72	38	*e*P		P	05 21 07.6	-0.5	
TCF	**Toulx Ste Croi** 2.5nm,0.7s	90.14	41	*e*P		P	05 21 09.8	-0.4	
TCF	**Toulx Ste Croi** 2.5nm,0.7s	90.14	41	*e*P		P	05 21 09.8	-0.4	
LASF	**Ste Croix** 15nm,1.1s	90.29	44	*e*P		P	05 21 11.3	+0.4	
LASF	**Ste Croix** 15nm,1.1s	90.29	44	*e*P		P	05 21 11.3	+0.4	
BGF	**Bois d'Agland** 11nm,0.7s	90.66	41	*e*P		P	05 21 12.4	-0.1	
BGF	**Bois d'Agland** 11nm,0.7s	90.66	41	*e*P		P	05 21 12.4	-0.1	
AVF	**Avril sur Loir**	91.07	41	*e*P		P	05 21 14.5	+0.1	
AVF	**Avril sur Loir**	91.07	41	*e*P		P	05 21 14.5	+0.1	
KEST	**Kesra** 0.7nm,0.5s,baz=250,slow=4.9,SNR=7.2	91.09	53	P		P	05 21 15.6	+0.7	
VIVF	**Saint-Julien-l**	91.14	43	*e*P		P	05 21 15.5	+0.7	
VIVF	**Saint-Julien-l**	91.14	43	*e*P		P	05 21 15.5	+0.7	
SSF	**Saint Saulge** 4.0nm,0.6s	91.28	41	*e*P		P	05 21 14.6	-0.8	
SSF	**Saint Saulge** 4.0nm,0.6s	91.28	41	*e*P		P	05 21 14.6	-0.8	
SMF	**Signal de Mont** 10nm,0.9s	91.32	41	*e*P		P	05 21 15.3	-0.3	
SMF	**Signal de Mont** 10nm,0.9s	91.32	41	*e*P		P	05 21 15.3	-0.3	
SMRF	**Simiane la Rot** 22nm,1.0s	91.39	44	*e*P		P	05 21 16.9	+0.9	
SMRF	**Simiane la Rot** 22nm,1.0s	91.39	44	*e*P		P	05 21 16.9	+0.9	
LOR	**Lormes** 4.0nm,0.7s	91.58	41	*e*P		P	05 21 17.3	+0.5	
LOR	**Lormes** 4.0nm,0.6s	91.58	41	*e*P		P	05 21 17.3	+0.5	
LMR	**La Mourre**	91.78	45	*e*P		P	05 21 18.1	+0.3	
LMR	**La Mourre**	91.78	45	*e*P		P	05 21 18.1	+0.3	
ORIF	**Oris-en-Rattie** 20nm,0.9s	91.96	43	*e*P		P	05 21 19.5	+0.8	
ORIF	**Oris-en-Rattie** 20nm,0.9s	91.96	43	*e*P		P	05 21 19.5	+0.8	
MBDF	**Montbardon**	92.47	44	*e*P		P	05 21 22.9	+1.7	
MBDF	**Montbardon**	92.47	44	*e*P		P	05 21 22.9	+1.7	
LPL	**La Plagne** 6.9nm,0.8s	92.74	43	*e*P		P	05 21 23.2	+0.7	
LPL	**La Plagne** 6.9nm,0.8s	92.74	43	*e*P		P	05 21 23.2	+0.7	
LPG	**La Plagne** 4.4nm,0.7s	92.74	43	*e*P		P	05 21 23.5	+0.9	
LPG	**La Plagne** 4.4nm,0.7s	92.74	43	*e*P		P	05 21 23.5	+0.9	
GERES	**GERESS Array B** 0.2nm,0.4s,baz=234,slow=4.7,SNR=3.9	98.32	42	P		P	05 21 47.8	+0.2	
STKA	**Stephens Creek** 1.9nm,0.6s,baz=80,slow=2.0,SNR=7.5	122.87	211	PKP		PKPdf	05 27 06.0	+0.3	
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=2.9,slow=2.9,SNR=4.1	132.46	32	SKPbc		SKPab	05 30 37.2	+1.2	
ASAR	**Alice Springs** 1.8nm,0.6s,baz=135,slow=1.8,SNR=23	133.45	210	PKP		PKPdf	05 27 26.2	0.0	
ASAR				SKPbc		SKPbc	05 30 39.3	+0.3	
WRA	**Warramunga Arr** 2.8nm,0.5s,baz=137,slow=1.6,SNR=31	136.35	213	PKP		PKPdf	05 27 31.9	+0.2	
WRA				SKPbc		SKPbc	05 30 49.0	+0.7	
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=308,slow=3.3,SNR=9.1	138.22	23	PKP		PKPdf	05 27 34.8	+0.8	
ZALV				pPKP		pPKPdf	05 28 19.6	+1.4	
ZALV	2.8nm,0.8s,baz=298,slow=3.2,SNR=7.1			SKPbc		SKPbc	05 30 54.7	+2.2	
MKAR	**Makanchi Array** 3.2nm,0.8s,baz=310,slow=3.3,SNR=12	142.34	32	PKhKP		PKPpre	05 27 37.6		
MKAR	0.2nm,0.3s,baz=336,slow=2.7,SNR=5.1			SKPbc		SKiKP	05 31 05.4	+0.3	
KSH	**Kashi** 0.8nm,0.7s,baz=340,slow=2.2,SNR=7.1	142.62	46	*e*PKP		PKPdf	05 27 43.3	+0.7	
KSH				pPKP		pPKPdf	05 28 25.0	-1.8	
KSH				PP		PP	05 30 56.0	+3.8	
KSH				PKS		PKSdf	05 31 17.8	-0.6	
KSH				SKS		SKSdf	05 34 35.4	-1.4	
KSH				SKKS		SKKSac	05 37 28.6	-0.3	
KSH	37nm,4.5s			PPMZ					
KSH	29nm,3.5s			LN					
KSH	44nm,5.8s			LE					
KSH	150nm,4.7s			LZ					
WMQ	**Urumqi**	147.14	31	*e*PKPbc		PKPdf	05 27 51.3	+1.1	
USRK	**Ussuriysk Ar.** 6.1nm,0.7s,baz=42,slow=2.5,SNR=22	147.59	331	PKPbc		PKPbc	05 27 52.9	-0.8	
USRK				pPKPbc		pPKPbc	05 28 38.3	+0.8	
MJAR	**Matsushiro Ar** 3.3nm,0.6s,baz=98,slow=0.9,SNR=10	148.90	314	PKPbc		PKPbc	05 27 57.2	-0.2	
MJAR				pPKPbc		pPKPbc	05 28 41.6	+0.4	
SONM	**Songino Array** 2.4nm,0.3s,baz=336,slow=1.7,SNR=26	149.24	6	PKPbc		PKPbc	05 27 58.6	+0.6	
SONM				pPKPbc		pPKPbc	05 28 38.8	-3.1	
HHC	1.9nm,0.6s,baz=340,slow=2.0,SNR=7.5 **Hu-ho-hao-te**	156.41	358	*e*PKP		PKPdf	05 28 00.9	-3.3	

MEX 20 05:09:24.1±0.7, 16°.19N×98°.36W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	0.30	47	*e*P		Pg	05 09 29.2	-0.8
PNIG				*e*S		Sg	05 09 33.9	-0.1
ACX	**Acapulco**	1.59	295	*e*P		Pn	05 09 46.7	-6.4
ACX				*e*S		Sn	05 10 07.3	-6.7
VHO	**Vista Hermosa**	1.79	60	*e*P		Pn	05 09 52.7	-3.2
VHO				*i* S		Sn	05 10 14.5	-4.7
OXX	**Oaxaca**	1.80	60	*i* P		Pn	05 09 52.1	-4.0
OXX				*i* S		Sn	05 10 14.1	-5.5
CAIG	**El Cayaco**	2.02	295	*e*P		Pn	05 09 54.9	-4.0
CAIG				*e*S		Sn	05 10 19.7	-4.8
MEIG	**Mezcala**	2.11	325	*e*P		Pn	05 09 56.9	-3.3
MEIG				*e*S		Sn	05 10 23.1	-3.8
ARIG	**Puente Sto Nin**	2.82	318	*e*P		Pn	05 10 06.7	-3.2
ARIG				*e*S		Sn	05 10 40.5	-3.9
ZIIG	**Zihuatanejo**	3.29	296	*e*P		Pn	05 10 12.2	-4.2

*IDC **20** 05:11:44.4±1.1, 60°.51S×25°.51W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, MS3.8/3, Ms1 3.7/3, ms1mx3.1/22, Error ellipse: s-maj=46.4km s-min=29.9km az=61.0*

ISC 20 05:11:46.9±0.9, 60°.7S±0°.2×25°.0W±0°.3, h19km, n15, σ1ŝ53/9, mb3.7/4, MS3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	12.04	153	P		Pn	05 14 36.6	-0.6
VNA3	**Neumayer Olymp**	12.20	156	P		Pn	05 14 38.2	-1.2
VNA2	**Neumayer--Watz** baz=312,slow=16	12.44	153	P		Pn	05 14 40.7	-1.9
USHA	**Ushuaia** comp=Z,307nm,21.8s,baz=200,slow=31	23.54	265	LR		LR	05 23 48.4	
CPUP	**Villa Florida** 0.1nm,0.4s,baz=135,slow=13,SNR=5.4	40.82	313	P		P	05 19 23.8	-3.1
CPUP	comp=Z,105nm,19.9s,baz=188,slow=35			LR		LR	05 35 37.8	
VNDA	**Vanda** 0.6nm,0.7s,baz=184,slow=5.3,SNR=3.8	41.94	182	P		P	05 19 37.7	+2.2
H10S2	**ASCENSION HYDR** baz=187,slow=74,SNR=6.6	52.24	13	T		T	06 17 43.4	
H10S3	**ASCENSION HYDR** baz=187,slow=74,SNR=6.1	52.24	13	T		T	06 17 42.8	
H10S1	**ASCENSION HYDR** baz=187,slow=74,SNR=7.0	52.26	13	T		T	06 17 41.0	
LPAZ	**La Paz** 1.8nm,1.0s,baz=113,slow=7.7,SNR=7.5	54.05	306	P		P	05 21 08.9	-1.7
DBIC	**Dimbokro** comp=Z,44nm,18.6s,baz=206,slow=32	69.03	21	LR		LR	05 47 58.1	
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=195,slow=5.8,SNR=3.4	76.65	27	P		P	05 23 36.7	+0.6
YKA	**Yellowknife Ar**	140.34	313	PKP		PKPdf	05 31 13.5	+0.8
SONM	**Songino Array** 0.9nm,0.7s,baz=221,slow=2.8,SNR=5.2	149.59	93	PKPbc		PKPbc	05 31 34.4	+0.4
ILAR	**Eielson Array** 0.6nm,0.9s,baz=116,slow=2.1,SNR=6.2	153.92	304	PKPbc		PKPbc	05 31 43.1	-0.1

*ISCJB **20** 05:13:50.9±0.9, 17°.5S±0°.3×178°.7W±0°.2, h539km, mb3.7/11, Error ellipse: s-maj=49.7km s-min=11.2km az=147.6*

*IDC **20** 05:13:58.5±5.0, 17°.59S×178°.83W, h623km±67km, mb3.2/11, mb1 3.5/12, mb1mx3.3/22, mbtmp4.1/12, Error ellipse: s-maj=64.1km s-min=23.5km az=157.0*

ISC 20 05:13:51.6±1.2, 17°.5S±0°.4×178°.6W±0°.2, h539km, n21, σ1ŝ27/20, mb3.5/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=94,slow=16,SNR=3.6	14.84	250	P		P	05 17 02.0	+2.3
CTA	**Charters Tower** 2.6nm,0.4s,baz=90,slow=11,SNR=5.0	33.38	260	P		P	05 19 46.2	+0.5
CMSA	**Cobar Meteorol** baz=32,SNR=5.9	35.25	240	P		P	05 20 00.4	-0.8
QLP	**Quilpie** baz=32,SNR=6.5	35.56	249	P		P	05 20 03.4	-0.4
COEN	**Coen** baz=34,SNR=9.6	36.95	270	P		P	05 20 17.6	+2.1
STKA	**Stephens Creek** 3.3nm,0.7s,baz=84,slow=8.0,SNR=12	38.72	241	P		P	05 20 28.6	-1.1
STKA	**Stephens Creek** baz=35,SNR=8.1	38.72	241	P		P	05 20 29.2	-0.5
BBOO	**Buckleboo** baz=40,SNR=10	43.50	241	P		P	05 21 06.3	-1.3
WRA	**Warramunga Arr** 2.2nm,0.5s,baz=96,slow=7.1,SNR=89	44.57	259	P		P	05 21 15.2	-0.9
ASAR	**Alice Springs** 11nm,0.5s,baz=87,slow=8.7,SNR=150	44.77	254	P		P	05 21 16.7	-1.0
WRKA	**Warakurna** baz=46,SNR=36	49.84	252	P		P	05 21 54.8	-0.9
NWAO	**Narrogin (SRO)** baz=56,SNR=4.8	59.29	242	P		P	05 23 08.4	+6.5
YBH	**Yreka Blue Hor** 1.1nm,0.6s,baz=157,slow=4.9,SNR=3.4	78.27	39	P		P	05 24 57.7	+1.6
NVAR	**Mina Array Bea** 1.0nm,0.7s,baz=234,slow=6.7,SNR=5.2	79.20	44	P		P	05 25 01.9	+0.7
ILAR	**Eielson Array** 0.4nm,0.4s,baz=224,slow=5.5,SNR=14	85.48	13	P		P	05 25 32.0	0.0
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=216,slow=6.5,SNR=15	85.88	58	P		P	05 25 36.0	+1.0
PDAR	**Pinedale Array** 0.5nm,0.6s,baz=210,slow=4.7,SNR=6.2	87.12	44	P		P	05 25 41.0	+0.4
SONM	**Songino Array** 0.2nm,0.4s,baz=92,slow=4.3,SNR=3.6	93.11	319	P		P	05 26 06.5	-1.7
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=221,slow=4.8,SNR=4.8	93.98	25	P		P	05 26 11.5	0.0
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=117,slow=5.0,SNR=3.6	144.36	315	PKP		PKPdf	05 32 25.5	-1.4
GERES	**GERESS Array B** 0.9nm,0.5s,baz=323,slow=2.0,SNR=7.6	147.13	345	PKPbc		PKPbc	05 32 32.8	-1.5

*ISCJB **20** 05:15:43.4±0.4, 32°.23N±0°.02×115°.24W±0°.03, h15km±3km, Error ellipse: s-maj=4.7km s-min=3.5km az=176.1*

*NEIC **20** 05:15:44.0, 32°.21N×115°.28W, h0km, ML3.3(PAS), ML3.5(ECX), After ECX.*

*ECX **20** 05:15:44.8±0.5, 32°.21N×115°.28W, h10km, MD3.3, ML3.5*

*MEX **20** 05:15:46.1±0.7, 32°.28N×115°.23W, h15km, MD3.6*

ISC 20 05:15:43.5±0.9, 32°.21N±0°.02×115°.26W±0°.03, h18km±4km, n28, σ0ŝ94/47, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	0.20	14	*e*P		Pg	05 15 49.0	+0.5
MBIG				*i* S		Sg	05 15 51.1	-0.7
CPBX	**Cerro Prieto**	0.21	349	*e*P		Pg	05 15 48.7	+0.1
CPBX				*e*P		Pg	05 15 48.7	+0.1
CPBX				*e*S		Sg	05 15 52.3	+0.3
CPBX				*e*S		Sg	05 15 52.7	+0.7
CPBX	**Cerro Prieto**	0.21	349	*e*P		Pg	05 15 48.7	+0.1
EMX	**El Mayor**	0.22	177	*e*P		Pg	05 15 48.5	-0.3
EMX				*e*S		Sg	05 15 52.1	-0.2
EMX	comp=N,5μm,0.5s			⇑*e*			05 15 52.7	
SGL	**Mount Signal**	0.59	318	⇓*i*P		Pb	05 15 55.1	-0.1
RDX	**Rancho Dawling**	0.65	244	⇑*e*P		Pg	05 15 56.3	-0.1
RDX				*e*S		Sg	05 16 04.9	-0.2
RDX				⇓*e*			05 16 07.3	
RDX				AML		AML	05 16 07.3	
COA	comp=N,2μm,0.4s **Coachella**	0.66	10	⇑*i*P		Pb	05 15 56.5	0.0
YMD	**Yuma Desert**	0.69	60	⇑*i*P		Pg	05 15 57.0	-0.1
YUH	**Yuha Desert**	0.71	308	*e*P		Pg	05 15 57.0	-0.5
EBX	**El Chinero**	0.76	167	*e*P		Pg	05 15 57.8	-0.6
ECBX				*e*S		Sg	05 16 08.4	-0.1
RMX	**La Rumorosa**	0.80	299	*e*P		Pg	05 15 58.6	-0.5
RMX				*e*S		Sg	05 16 09.1	-0.7
RMX				⇓*e*			05 16 10.7	
RMX	comp=N,1μm,0.1s			AML		AML	05 16 10.7	
GLA	**Glamis**	0.91	23	*e*Pg		Pg	05 15 59.8	-1.5
GLA				*e*Sg		Sg	05 16 10.9	-2.5
ZAX	**El Zacaton**	1.11	231	*e*P		Pb	05 16 04.1	-0.2
ZAX				*e*S		Sg	05 16 18.9	-0.8
SPIG	**San Pedro Mart**	1.18	189	*e*P		Pb	05 16 05.2	-0.4
SPIG				*i* S		Sb	05 16 21.3	+0.8
SPIG	**San Pedro Mart**	1.18	189	*e*P		Pb	05 16 05.1	-0.4
SPIG				*e*S		Sb	05 16 20.3	-0.2
SPIG	**San Pedro Mart**	1.18	189	*e*P		Pb	05 16 05.2	-0.4
SPX	**San Pedro Mart**	1.18	189	*e*P		Pb	05 16 05.2	-0.3
SPX				*e*S		Sb	05 16 20.9	+0.3
SPX				*e*			05 16 24.6	
SPX	comp=N,590nm,0.3s			AML		AML	05 16 24.6	
CBX	**Cerro Bola**	1.20	275	*e*P		Pb	05 16 05.2	-0.6
CBX				*e*S		Sb	05 16 19.4	-1.5
CBX	**Cerro Bola**	1.20	275	*e*P		Pb	05 16 05.2	-0.6
CBX				*e*S		Sb	05 16 21.2	+0.2
CBX				⇓*e*			05 16 24.4	
CBX	comp=E,2μm,0.4s			AML		AML	05 16 24.4	
CBX	**Cerro Bola**	1.20	275	*e*P		Pb	05 16 05.2	-0.6
CBX				*e*S		Sb	05 16 19.4	-1.5
ECNX	**Esteban Cantu**	1.27	244	*e*P		Pn	05 16 06.6	+0.2
ECNX				*e*S		Sb	05 16 23.0	+0.1
BAR	**Barrett**	1.29	292	*e*Pn		Pn	05 16 06.9	+0.3
BAR				*e*Sn		Sb	05 16 23.6	+0.2
PBX	**Punta Banda**	1.33	250	*e*P		Pn	05 16 07.5	+0.2
PBX				*e*S		Sb	05 16 25.3	+0.5
PFO	**Pinyon Flats O**	1.72	324	*e*Pn		Pn	05 16 11.6	-1.1
214A	**Organ Pipe Nat**	2.09	96	*e*Pn		Pn	05 16 16.7	-1.0
MWC	**Mount Wilson**	3.09	311	*e*Pn		Pn	05 16 30.9	-0.7
MWC				*e*Sn		Sn	05 17 11.6	+3.5
TUC	**Tucson**	3.79	87	*e*Pn		Pn	05 16 44.8	+3.7
WUAZ	**Wupatki**	4.61	43	*e*Pn		Pn	05 16 54.6	+2.1

**IDC 20 05:18:09.5±50.0, 25°.17S×175°.67W, h0km, mb3.5/3, mb1 3

0.5nm,1.1s,baz=98,slow=6.9,SNR=5.7
TXAR Lajitas Array 85.61 57 P P 05 34 23.5 0.0
0.2nm,0.7s,baz=224,slow=7.0,SNR=4.8

MEX 20 05:33:37.8±0.6, 16°21'N×98°39'W, h10km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**54**	*i* P	Pg	05 33 43.4	-0.6
PNIG				*i* S	Sg	05 33 48.6	+0.4
TLIG	**Tlapa**	**1.35**	**353**	*i* P	Pn	05 33 59.0	-4.0
TLIG				*i* S	Sb	05 34 15.9	-5.2
VHO	**Vista Hermosa**	**1.80**	**61**	*eP*	Pn	05 34 06.1	-3.2
VHO				*i* S	Sn	05 34 28.1	-4.4
CAIG	**El Cayaco**	**1.98**	**295**	*eP*	Pn	05 34 08.9	-2.6
CAIG				*i* S	Sn	05 34 32.8	-3.7
HUIG	**Huatulco**	**2.24**	**101**	*i* P	Pn	05 34 13.1	-1.8
HUIG				*i* S	Sn	05 34 37.8	-4.9
PLIG	**Platanillo**	**2.42**	**334**	*i* P	Pn	05 34 15.1	-2.5
PLIG				*i* S	Sn	05 34 42.5	-4.9
ARIG	**Puente Sto Nin**	**2.78**	**318**	*i* P	Pn	05 34 19.9	-2.6
ARIG				*i* S	Sn	05 34 52.6	-3.7

MEX 20 05:34:37.2±0.4, 15°85'N×94°47'W, h78km±13km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.22**	**97**	*eP*	Pn	05 34 57.3	-1.4
PCIG				*eS*	Sn	05 35 13.3	-1.6
HUIG	**Huatulco**	**1.58**	**267**	*i* P	Pn	05 35 02.2	-1.2
HUIG				*i* S	Sn	05 35 21.3	-2.0
CCIG	**Comitan**	**2.29**	**79**	*eP*	Pn	05 35 11.2	-1.9
CCIG				*i* S	Sn	05 35 37.9	-2.7
VHO	**Vista Hermosa**	**2.49**	**300**	*i* P	Pn	05 35 15.2	-0.7
VHO				*i* S	Sn	05 35 44.0	-1.4

IDC 20 06:05:27.6±1.4, 16°87'S×69°10'W, h197km±9km, mb3.4/2, mb1 3.7/3, mb1mx3.1/23, mbtmp4.0/3, Error ellipse: s-maj=46.0km s-min=14.1km az=102.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.09**	**58**	P	Pn	06 05 59.1	+0.6
LPAZ	26nm,0.3s,baz=289,slow=6.1,SNR=1106			S	Sn	06 06 22.4	0.0
LVC	**Limon Verde**	**5.72**	**178**	P	Pn	06 06 52.9	+1.4
LVC	3.4nm,0.3s,baz=156,slow=20,SNR=16 84nm,0.3s,baz=0.6,slow=12,SNR=45			S	Sn	06 07 56.6	-1.2
TORD	**Torodi Ar. Bea**	**76.01**	**71**	P	P	06 16 53.6	0.0
	128nm,0.3s,baz=294,slow=19,SNR=19 0.4nm,0.5s,baz=258,slow=6.9,SNR=6.0						
YKA	**Yellowknife Ar**	**86.78**	**341**	P	P	06 17 48.0	-1.0
	0.2nm,0.4s,baz=139,slow=5.7,SNR=7.4						
SONM	**Songino Array**	**148.90**	**6**	PKPbc	PKPbc	06 24 52.3	+0.2
	0.5nm,0.5s,baz=349,slow=2.6,SNR=7.4						

*ISCJB **20** 06:33:38.6±0.9, 50°3S±0°4×115°1W±0°4, h10km, mb4.0/5, MS3.6/6, Error ellipse: s-maj=66.6km s-min=22.1km az=152.3*
*IDC **20** 06:33:38.2±1.0, 50°38S×115°10W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/19, Error ellipse: s-maj=82.3km s-min=26.1km az=153.0*
ISC 20 06:33:39.7±1.1, 50°4S±0°5×115°0W±0°3, h10km, n18, σ0°34/7, mb3.9/5, MS3.7/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.40**	**323**	*e*LR	LR	06 47 48.8	
RKT	255nm,28.8s **Rikitea**	**31.40**	**323**	*e*T	T	07 11 39.6	
CFAA	0.8nm,0.3s **Coronel Fontan**	**39.23**	**79**	LR	LR	06 53 08.5	
PPT2	comp=Z,11nm,18.7s,baz=240,slow=30 **Papeete2**	**42.84**	**307**	*e*LR	LR	06 52 59.5	
PPT	181nm,25.2s **Papeete**	**42.86**	**307**	LR	LR	06 54 44.2	
LVC	comp=Z,94nm,20.0s,baz=133,slow=30 **Limon Verde**	**45.28**	**70**	P	**P**	**06 41 57.7**	**-0.1**
CPUP	12nm,0.6s,baz=215,slow=6.8,SNR=4.8 **Villa Florida**	**49.76**	**83**	LR	LR	07 00 00.8	
LPAZ	comp=Z,421nm,21.8s,baz=194,slow=32 **La Paz**	**50.65**	**65**	P	**P**	**06 42 40.2**	**+0.5**
LPAZ	0.9nm,0.7s,baz=222,slow=6.8,SNR=5.2			LR	LR	06 59 00.8	
MAW	comp=Z,29nm,18.9s,baz=225,slow=30 **Mawson**	**62.27**	**179**	LR	LR	07 10 27.7	
ROSC	comp=Z,52nm,18.2s,baz=232,slow=35 **El Rosal**	**65.26**	**46**	LR	LR	07 08 37.7	
TXAR	comp=Z,41nm,19.7s,baz=266,slow=32 **Lajitas Array**	**80.05**	**10**	P	**P**	**06 45 49.2**	**-0.1**
ASAR	0.3nm,0.9s,baz=179,slow=8.7,SNR=2.4 **Alice Springs**	**84.49**	**239**	P	**P**	**06 46 13.0**	**+0.1**
WRA	1.3nm,0.8s,baz=144,slow=5.0,SNR=12 **Warramunga Arr**	**87.22**	**242**	P	**P**	**06 46 26.5**	**+0.1**
H11S2	0.6nm,0.9s,baz=140,slow=5.2,SNR=4.6 **WAKE ISLAND Hy**	**96.84**	**291**	T	T	08 34 08.2	
H11S3	baz=140 **WAKE ISLAND Hy**	**96.85**	**291**	T	T	08 34 08.2	
H11S1	baz=140 **WAKE ISLAND Hy**	**96.86**	**291**	T	T	08 34 07.6	
GERES	baz=140 **GERESS Array B**	**147.29**	**73**	PKPbc	**PKPbc**	**06 53 22.2**	**-0.5**
SONM	0.3nm,0.3s,baz=214,slow=4.5,SNR=3.8 **Songino Array**	**153.03**	**281**	PKPbc	**PKPbc**	**06 53 36.6**	**-0.1**
	0.4nm,0.7s,baz=110,slow=3.4,SNR=3.6						

GUC 20 06:49:39.8±0.4, 33°81S×72°65W, h43km±4km, ML3.5, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.04**	**98**	*i* P	Pn	06 49 58.6	+0.7
TACH	**Talagante**	**1.43**	**84**	*i* P	Pn	06 50 04.0	+0.6
SAN	**Santiago**	**1.69**	**78**	*i* P	Pn	06 50 07.9	+0.9
SAN				*i* S	Sn	06 50 29.1	+1.6
CACH	**El Canelo**	**1.73**	**101**	*i* P	Pn	06 50 09.2	+1.7
PEL	**Peldehue**	**1.77**	**68**	*i* P	Pn	06 50 09.0	+0.9
PEL				⇑*i* S	Sn	06 50 31.1	+1.7
PEL				AML	AML	06 50 39.4	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**1.81**	**77**	*i* P	Pn	06 50 09.6	+1.0
CLCH				*i* S	Sn	06 50 31.9	+1.5
CLCH				AML	AML	06 50 44.0	
	comp=E,760nm,0.8s						
SJCH	**San Jose de Ma**	**1.92**	**86**	*i* P	Pn	06 50 10.7	+0.6
SJCH				*i* S	Sn	06 50 34.8	+1.6
SJCH				AML	AML	06 50 48.7	
	comp=N,376nm,0.6s						

IDC 20 06:53:43.6±4.7, 55°60N×85°97E, h0km, mb1 3.1/2, mb1mx3.0/30, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=43.5km s-min=25.0km az=22.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**202**	*i*		07 04 10.0	
ZALV	baz=23,slow=332,SNR=3.1 **Zalesovo Beam**	**1.79**	**202**	Pn	Pn	06 54 15.5	-0.2
ZALV	2.4nm,0.3s,baz=20,slow=15,SNR=31			Sn	Sb	06 54 40.3	+0.2
KURBB	1.3nm,0.3s,baz=20,slow=28,SNR=8.1 **Kurchatov Arra**	**6.70**	**225**	Pn	Pn	06 55 22.9	-0.2
KURBB	0.1nm,0.3s,baz=41,slow=14,SNR=4.2			Lg	Lg	06 57 16.1	
MKAR	0.1nm,0.3s,baz=40,slow=33,SNR=3.1 **Makanchi Array**	**9.12**	**196**	Pn	Pn	06 55 56.3	0.0
MKAR	0.1nm,0.3s,baz=27,slow=14,SNR=2.9			Lg	Lg	06 58 33.4	
	0.1nm,0.3s,baz=24,slow=27,SNR=5.2						

*IDC **20** 07:10:15.3±2.0, 1°76S×98°85E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/30, mbtmp3.6/8, ML3.1/1, Error ellipse:*
s-maj=81.0km s-min=17.5km az=62.0
*ISCJB **20** 07:10:18.1±0.9, 1°54S±0°09×99°14E±0°08, h25km, mb3.7/6, Error ellipse: s-maj=12.8km s-min=10.7km az=30.9*
*DJA **20** 07:10:19.6±0.9, 1°S±7°×9°9E±°, h10km, M3.9/5, MLv3.9/5*
ISC 20 07:10:20.2±1.0, 1°5S±0°1×99°21E±0°10, h25km, n19, σ0°77/14, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.38**	**65**	P	**Pn**	**07 10 42.4**	**-1.5**
PDSI				S	**Sn**	**07 11 01.5**	**+0.1**
SDSI	**Sungai Dareh**	**2.29**	**76**	P	**Pn**	**07 10 57.1**	**+0.7**
MNSI	**Mandailing Nat**	**2.31**	**9**	P	**Pn**	**07 10 56.2**	**-0.4**
PSI	**Prapat**	**4.28**	**356**	Pn	**Pn**	**07 11 23.5**	**-0.4**
	1.0nm,0.3s,baz=180,slow=8.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**19.83**	**359**	P	**Pn**	**07 14 51.4**	**+0.5**
	0.8nm,0.6s,baz=184,slow=12,SNR=4.2						
H08S2	**Diego Garcia H**	**27.31**	**256**	T	T	07 44 04.3	
	baz=78,slow=75,SNR=208						
H08S3	**Diego Garcia H**	**27.31**	**256**	T	T	07 43 59.8	
	baz=78,slow=75,SNR=227						
H08S1	**Diego Garcia H**	**27.33**	**256**	T	T	07 44 00.8	
	baz=78,slow=75,SNR=132						
H01W3	**Cape Leeuwin H**	**36.02**	**159**	T	T	07 55 19.7	
	baz=335,slow=76,SNR=35						
H01W2	**Cape Leeuwin H**	**36.03**	**159**	T	T	07 55 20.9	
	baz=335,slow=76,SNR=37						
H01W1	**Cape Leeuwin H**	**36.03**	**159**	T	T	07 55 21.0	
	baz=335,slow=76,SNR=36						
WRA	**Warramunga Arr**	**38.93**	**121**	P	**P**	**07 17 44.2**	**-0.2**
	0.6nm,0.6s,baz=305,slow=8.9,SNR=9.3						
ASAR	**Alice Springs**	**40.19**	**126**	P	**P**	**07 17 54.0**	**-0.8**
	0.2nm,0.3s,baz=306,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**07 19 10.0**	**+1.0**
	0.2nm,0.3s,baz=184,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**50.07**	**132**	P	**P**	**07 19 14.1**	**+0.8**
	0.8nm,0.7s,baz=318,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**50.34**	**345**	P	**P**	**07 19 15.1**	**+0.1**
	0.4nm,0.5s,baz=157,slow=8.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**56.53**	**350**	P	**P**	**07 20 00.0**	**-0.3**
	1.1nm,0.4s,baz=157,slow=5.9,SNR=5.8						
CPUP	**Villa Florida**	**144.24**	**218**	PKP	**PKPab**	**07 29 51.9**	**-0.7**
	0.6nm,0.9s,baz=135,slow=1.4,SNR=3.4						
TXAR	**Lajitas Array**	**144.77**	**36**	PKPbc	**PKPdf**	**07 29 55.4**	**-0.4**
	0.3nm,0.4s,baz=316,slow=0.4,SNR=8.8						

*ISCJB **20** 07:23:41.4±1.2, 16°41N±0°06×99°37W±0°03, h7km±7km, mb4.2/28, MS3.4/3, Error ellipse: s-maj=10.7km s-min=4.5km az=16.9*
*IDC **20** 07:23:41.6±1.1, 16°40N×99°37W, h0km, mb4.0/12, mb1 4.1/16, mb1mx3.9/48, mbtmp3.9/16, ML3.1/4, MS3.4/5, Ms1 3.4/5, ms1mx2.9/43, Error ellipse: s-maj=28.4km s-min=20.1km az=48.0*
*MEX **20** 07:23:45.6±0.7, 16°41N×99°34W, h4km±10km, MD4.2*
*NEIC **20** 07:23:45.4, 16°40N×99°34W, h4km, mb4.2/23, MD4.2(MEX), After MEX.*
ISC 20 07:23:42.1±1.5, 16°44N±0°07×99°36W±0°03, h2km±8km, n63, σ1°01/70, mb4.2/28, MS3.4/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.65**	**312**	*e*P	**Pg**	**07 23 53.8**	**-0.7**
ACX				*i* S	**Sg**	**07 24 02.8**	**-0.1**
ACX	**Acapulco**	**0.65**	**312**	*e*P	**Pg**	**07 23 53.8**	**-0.7**
ACX				*i* S	**Sg**	**07 24 02.8**	**-0.1**
PNIG	**Pinotepa**	**1.18**	**92**	*e*P	**Pg**	**07 24 04.6**	**-0.2**
PNIG				*i* S	**Sg**	**07 24 18.9**	**-1.1**
PNIG	**Pinotepa**	**1.18**	**92**	*e*P	**Pg**	**07 24 04.6**	**-0.2**
PNIG				*i* S	**Sg**	**07 24 18.9**	**-1.1**
TLIG	**Tlapa**	**1.35**	**34**	*e*P	**Pg**	**07 24 07.7**	**-0.4**
TLIG				*i* S	**Sg**	**07 24 25.6**	**+0.1**
ARIG	**Puente Sto Nin**	**2.06**	**333**	*e*P	**Pn**	**07 24 18.5**	**+0.6**
ARIG				*e*S	**Sn**	**07 24 43.9**	**-0.3**
ZIIG	**Zihuatanejo**	**2.33**	**300**	*e*P	**Pn**	**07 24 21.8**	**+0.3**
ZIIG				*i* S	**Sn**	**07 24 50.2**	**-0.5**
ZIIG	**Zihuatanejo**	**2.33**	**300**	*e*P	**Pn**	**07 24 21.8**	**+0.3**
ZIIG				*i* S	**Sn**	**07 24 50.2**	**-0.5**
VHO	**Vista Hermosa**	**2.59**	**76**	*e*P	**Pn**	**07 24 25.8**	**+0.5**
VHO				*i* S	**Sn**	**07 24 56.9**	**-0.5**
VHO	**Vista Hermosa**	**2.59**	**76**	*e*P	**Pn**	**07 24 25.8**	**+0.5**
VHO				*i* S	**Sn**	**07 24 56.9**	**-0.5**
OXX	**Oaxaca**	**2.60**	**75**	*e*P	**Pn**	**07 24 27.1**	**+1.6**
OXX	**Oaxaca**	**2.60**	**75**	*e*P	**Pn**	**07 24 27.1**	**+1.6**
CMIG	**Matias Romero**	**4.33**	**81**	Pn	**Pn**	**07 24 48.8**	**-0.2**
	1.8nm,0.3s,baz=257,slow=9.9,SNR=21						
CMIG				Sn	**Sn**	**07 25 40.5**	**+0.3**
	2.2nm,0.3s,baz=286,slow=19,SNR=2.6						
CMIG				Lg	Lg	07 26 02.2	
	4.3nm,0.3s,baz=354,slow=15,SNR=16						
TEIG	**Tepich**	**11.17**	**69**	Pn	Pn	07 26 19.4	-3.6
	0.3nm,0.3s,baz=225,slow=19,SNR=2.7						
TEIG				Sn	**Sn**	**07 28 26.1**	**-2.5**
	0.2nm,0.3s,baz=109,slow=18,SNR=2.3						
TEIG	**Tepich**	**11.17**	**69**	*e*Pn	**Pn**	**07 26 22.5**	**-0.5**
TEIG				Sn	**Sn**	**07 28 26.1**	**-2.5**
H06E1	**SOCORRO T-PHAS**	**11.28**	**284**	T	T	07 37 39.5	
	SNR=436						
H06S1	**SOCORRO T**	**11.30**	**283**	T	T	07 37 48.1	
	SNR=22						
H06N1	**SOCORRO T-PHAS**	**11.35**	**284**	T	T	07 37 45.1	
	SNR=6.4						
TXAR	**Lajitas Array**	**13.43**	**344**	Pn	**Pn**	**07 26 55.4**	**+1.4**
	0.0nm,0.3s,baz=161,slow=16,SNR=6.3						
TXAR				Lg	Lg	07 30 52.4	
	0.0nm,0.3s,baz=158,slow=24,SNR=6.7						
TXAR				LR	LR	07 32 30.1	
	comp=Z,104nm,18.5s,baz=0.0,slow=39						
JTS	**JuntasAbangare**	**15.28**	**112**	Pn	**Pn**	**07 27 20.0**	**+0.9**
	0.1nm,0.3s,baz=343,slow=19,SNR=2.3						
JTS	**JuntasAbangare**	**15.28**	**112**	*e*P	**P**	**07 27 24.4**	**+0.3**
	16nm,1.3s						
WHTX	**Lake Whitney,**	**15.58**	**6**	*e*P	**P**	**07 27 28.1**	**+0.8**
	25nm,1.0s						
ABTX	**Abilene, Hawle**	**16.12**	**359**	*e*P	**Pn**	**07 27 31.4**	**+1.5**
	14nm,1.2s						
MSTX	**Muleshoe**	**17.73**	**351**	*e*P	**P**	**07 27 51.4**	**+0.2**
	6.7nm,1.0s						
WMOK	**Wichita Mounta**	**18.23**	**2**	*e*P	**Pn**	**07 27 55.8**	**-0.7**
	4.6nm,1.1s						
AMTX	**Amarillo**	**18.49**	**354**	*e*P	**P**	**07 27 58.5**	**-1.1**
	6.7nm,0.8s						
MIAR	**Mount Ida**	**18.76**	**15**	*e*P	**Pn**	**07 28 04.2**	**+1.3**
	7.5nm,1.1s						
ANMO	**Albuquerque**	**19.50**	**342**	P	**P**	**07 28 11.4**	**+0.6**
	0.1nm,0.3s,baz=147,slow=14,SNR=4.4						
ANMO				LR	LR	07 35 43.2	
	comp=Z,99nm,18.7s,baz=154,slow=37						
ANMO	**Albuquerque**	**19.50**	**342**	*e*P	**Pn**	**07 28 11.6**	**-0.4**
	1.6nm,0.8s						
TUL1	**Leonard**	**19.65**	**9**	*e*P	**P**	**07 28 11.4**	**-0.9**
	10nm,0.8s						
WUAZ	**Wupatki**	**21.82**	**333**	*e*P	**P**	**07 28 38.8**	**+2.8**
	11nm,1.0s						
WVT	**Waverly**	**22.13**	**25**	*e*P	**P**	**07 28 37.3**	**-1.8**
	5.4nm,0.7s						
MVCO	**Mesa Verde**	**22.22**	**340**	*e*P	**P**	**07 28 40.7**	**+0.4**
	7.2nm,1.1s						
SWET	**Sewanee**	**22.22**	**30**	*e*P	**P**	**07 28 40.6**	**+0.4**
	7.1nm,0.8s						
SIUC	**Southern Illin**	**23.00**	**21**	*e*P	**P**	**07 28 47.8**	**-0.6**
	24nm,0.9s						
PV01	**Paradox Valley**	**23.09**	**341**	*e*P	**P**	**07 28 50.5**	**+1.0**
PV10	**Paradox Valley**	**23.45**	**341**	*e*P	**P**	**07 28 52.0**	**-1.2**
	51nm,0.9s						
TKL	**Tuckaleechee C**	**23.65**	**33**	P	**P**	**07 28 55.2**	**+0.2**
	4.0nm,1.1s,baz=212,slow=9.5,SNR=2.7						
WCI	**Wyandotte Cave**	**24.56**	**25**	*e*P	**P**	**07 29 03.7**	**+0.3**
	16nm,1.1s						
O20A	**White River Ci**	**24.84**	**344**	*e*P	**P**	**07 29 07.6**	**+1.4**
	6.1nm,1.1s						
SFIN	**Lafayette**	**26.12**	**22**	*e*P	**P**	**07 29 17.1**	**-0.4**
	8.7nm,1.0s						
HWUT	**Hardware Ranch**	**27.20**	**340**	*e*P	**P**	**07 29 28.2**	**+0.7**
	5.6nm,1.0s						
NVAR	**Mina Array Bea**	**27.51**	**326**	P	**P**	**07 29 32.0**	**+1.7**
	1.7nm,0.8s,baz=173,slow=8.2,SNR=7.6						
PDAR	**Pinedale Array**	**27.65**	**344**	P	**P**	**07 29 32.0**	**+0.4**
	4.8nm,1.1s,baz=151,slow=10,SNR=10						
PDAR				LR	LR	07 41 09.5	
	comp=Z,111nm,18.2s,baz=188,slow=38						
ELK	**Elko**	**27.86**	**334**	LR	LR	07 41 14.2	
	comp=Z,98nm,18.3s,baz=182,slow=38						
AAM	**Ann Arbor**	**29.08**	**24**	*e*P	**P**	**07 29 44.1**	**+0.1**
	21nm,1.0s						
MCMT	**McKenzie Canyo**	**30.50**	**341**	*e*P	**P**	**07 29 58.8**	**+1.8**
	0.5nm,0.7s						
LRM	**Limekiln Ridge**	**31.28**	**342**	*e*P	**P**	**07 30 04.8**	**+1.0**
	36nm,0.9s						
SADO	**Sadowa**	**32.98**	**27**	P	**P**	**07 30 19.7**	**+1.3**
	3.9nm,0.7s,baz=248,slow=7.7,SNR=6.2						
SWMT	**Swartz Lake**	**33.26**	**342**	*e*P	**P**	**07 30 21.6**	**+0.6**
	3.9nm,1.0s						
ULM	**Lac du Bonnet**	**33.84**	**4**	P	**P**	**07 30 25.1**	**-0.8**
	4.4nm,0.8s,baz=192,slow=5.5,SNR=3.4						
FFC	**Flin Flon**	**38.26**	**358**	*e*P	**P**	**07 31 04.2**	**+0.5**
	4.8nm,0.8s						
FCC	**Fort Churchill**	**42.44**	**4**	*e*P	**P**	**07 31 38.0**	**-0.1**
	9.5nm,1.5s						
SCHQ	**Schefferville**	**45.77**	**26**	LR	LR	07 52 41.4	
	comp=Z,44nm,19.2s,baz=280,slow=38						
YKA	**Yellowknife Ar**	**47.24**	**350**	P	**P**	**07 32 14.8**	**-1.6**
	1.1nm,0.8s,baz=159,slow=7.4,SNR=10						
FRB	**Frobisher Bay**	**51.80**	**17**	P	**P**	**07 32 50.9**	**-0.2**
	1.7nm,0.9s,baz=230,slow=17,SNR=3.4						
INK	**Inuvik**	**56.20**	**345**	P	**P**	**07 33 22.9**	**-0.4**
	2.9nm,0.9s,baz=135,slow=4.5,SNR=3.9						
ILAR	**Eielson Array**	**57.87**	**338**	P	**P**	**07 33 35.8**	**+0.6**
	1.0nm,1.0s,baz=131,slow=5.1,SNR=5.9						
RES	**Resolute Bay**	**58.31**	**1**	P	**P**	**07 33 37.9**	**-0.2**
	0.5nm,0.6s,baz=174,slow=9.2,SNR=2.4						
BDFB	**Brasilia**	**59.85**	**120**	P	**P**	**07 33 49.9**	**0.0**
	1.5nm,0.7s,baz=290,slow=15,SNR=3.3						
SEY	**Seymchan**	**83.54**	**334**	P	**P**	**07 36 11.5**	**0.0**
	0.4nm,0.3s,baz=46,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**129.04**	**257**	PKP	**PKPdf**	**07 42 51.6**	**-1.1**
	0.6nm,0.9s,baz=58,slow=0.4,SNR=4.3						
ASAR	**Alice Springs**	**129.69**	**253**	PKP	**PKPdf**	**07 42 53.0**	**-0.8**
	0.4nm,0.8s,baz=126,slow=2.4,SNR=2.9						

*ISCJB **20** 07:30:23.7±0.4, 32°24N±0°02×115°20W±0°03, h12km±3km, Error ellipse: s-maj=3.7km s-min=3.3km az=20.4*
*NEIC **20** 07:30:25.1, 32°21N×115°26W, h13km, ML3.2(PAS), After PAS.*
*ECX **20** 07:30:26.0±0.5, 32°22N×115°26W, h8km, MD3.2, ML3.4*
*MEX **20** 07:30:26.4±0.4, 32°30N×115°13W, h21km±9km, MD3.8*
ISC 20 07:30:24.7±0.9, 32°17N±0°02×115°26W±0°02, h12km±6km, n36, σ1°14/61, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.18**	**176**	*e*P	**Pg**	**07 30 28.9**	**+0.2**
EMX				*e*S	**Sg**	**07 30 32.4**	**+1.0**
MBIG	**Mexicali**	**0.25**	**12**	*e*P	**Pg**	**07 30 29.7**	**-0.2**
MBIG				*e*S	**Sg**	**07 30 32.4**	**-0.9**
CPBX	**Cerro Prieto**	**0.26**	**351**	*e*P	**Pg**	**07 30 29.6**	**-0.4**
CPBX				*e*S	**Sg**	**07 30 33.2**	**-0.4**
CPBX				AML	AML	07 30 37.5	
	comp=N,35μm,0.2s						
CPBX				⇑*e*		07 30 37.5	
CPBX	**Cerro Prieto**	**0.26**	**351**	*e*P	**Pg**	**07 30 29.6**	**-0.4**
RDX	**Rancho Dawling**	**0.63**	**248**	*e*P	**Pb**	**07 30 37.4**	**-0.2**
RDX				*e*S	**Sb**	**07 30 46.6**	**+0.1**
RDX				⇓*e*		07 30 48.2	
RDX				AML	AML	07 30 48.2	
	comp=N,1μm,0.3s						
COA	**Coachella**	**0.71**	**9**	⇓*iP*	**Pg**	**07 30 37.4**	**-1.0**
ECBX	**El Chinero**	**0.71**	**166**	*e*P	**Pg**	**07 30 38.4**	**-0.1**
ECBX				*e*S	**Sb**	**07 30 49.2**	**+0.5**
YMD	**Yuma Desert**	**0.72**	**57**	⇑*iP*	**Pg**	**07 30 38.0**	**-0.6**
YUH	**Yuha Desert**	**0.74**	**311**	⇑*iP*	**Pg**	**07 30 37.1**	**-1.1**
COK	**Cook Ranch**	**0.79**	**330**	⇑*iP*	**Pg**	**07 30 39.0**	**-0.9**
RMX	**La Rumorosa**	**0.82**	**302**	*e*P	**Pg**	**07 30 39.5**	**-1.1**
RMX				*e*S	**Sg**	**07 30 51.0**	**-0.3**
GLA	**Glamis**	**0.96**	**22**	*e*Pg	**Pg**	**07 30 41.2**	**-2.0**
GLA				*e*Sg	**Sg**	**07 30 52.6**	**-3.1**
ZAX	**El Zacaton**	**1.08**	**233**	*e*P	**Pb**	**07 30 45.4**	**+0.1**
ZAX				*e*S	**Sn**	**07 31 00.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.13**	**189**	*e*P	**Pb**	**07 30 46.1**	**-0.2**
SPX	**San Pedro Mart**	**1.13**	**189**	*e*P	**Pb**	**07 30 46.4**	**+0.1**
SPX				*e*S	**Sn**	**07 31 03.1**	**+0.9**
SPX				AML	AML	07 31 07.7	
	comp=E,287nm,0.3s						
SPX				⇓*e*		07 31 07.7	
SPX	**San Pedro Mart**	**1.13**	**189**	*e*P	**Pb**	**07 30 46.1**	**-0.2**
SPX				*e*S	**Sb**	**07 31 01.4**	**+0.3**
CBX	**Cerro Bola**	**1.20**	**277**	*e*P	**Pn**	**07 30 46.5**	**-0.8**
CBX				*i* S	**Sb**	**07 31 01.7**	**-1.2**
CBX	**Cerro Bola**	**1.20**	**277**	*e*P	**Pn**	**07 30 46.5**	**-0.8**
CBX				*e*S	**Sb**	**07 31 03.0**	**+0.1**
CBX				AML	AML	07 31 03.8	
	comp=E,735nm,0.3s						
CBX				⇓*e*		07 31 03.8	
CBX	**Cerro Bola**	**1.20**	**277**	*e*P	**Pn**	**07 30 46.5**	**-0.8**
ECNX	**Esteban Cantu**	**1.25**	**246**	*e*P	**Pb**	**07 30 48.3**	**+0.1**
ECNX				*e*S	**Sn**	**07 31 05.1**	**+0.3**
BAR	**Barrett**	**1.30**	**294**	*e*P	**Pn**	**07 30 47.6**	**-1.1**
PBX	**Punta Banda**	**1.32**	**252**	*e*P	**Pn**	**07 30 48.7**	**-0.2**
PBX				*e*S	**Sg**	**07 31 07.1**	**0.0**
PFO	**Pinyon Flats O**	**1.76**	**325**	*e*Pn	Pn	07 30 51.3	-3.8
PFO				*e*Sg	**Sb**	**07 31 19.3**	**+0.3**
214A	**Organ Pipe

baz=22,SNR=4.4
KDU Kakadu 22.47 248 P **P** **07 35 35.0 -2.9**
baz=22,SNR=58
MTN Manton Dam 23.76 249 P **P** **07 35 49.1 -1.7**
baz=24,SNR=14
WRAB Tennant Creek 24.16 230 *eP* **P** **07 35 53.0 -1.4**
13nm,0.6s
WB2 Warramunga Arr 24.17 230 *eP* **P** **07 35 53.0 -1.6**
WRA Warramunga Arr 24.18 230 P **P** **07 35 52.6 -2.0**
6.2nm,0.7s,baz=54,slow=10,SNR=74
WRA PcP **PcP** **07 39 34.5 -0.1**
2.4nm,0.8s,baz=51,slow=2.4,SNR=6.2
WRA ScP **ScP** **07 43 07.7 -1.4**
1.3nm,1.1s,baz=53,slow=3.1,SNR=4.3
ARMA Armidale 25.51 184 P **P** **07 36 08.5 +1.8**
baz=25,SNR=7.4
ARMA Armidale 25.51 184 *eP* **P** **07 36 07.6 +0.9**
17nm,0.9s
H11S3 WAKE ISLAND Hy 26.44 28 T T 08 04 39.1
baz=208,slow=76,SNR=5.5
H11S2 WAKE ISLAND Hy 26.45 28 T T 08 04 46.6
baz=208,slow=76,SNR=6.7
H11S1 WAKE ISLAND Hy 26.46 28 T T 08 04 46.5
baz=208,slow=76,SNR=3.9
ASAR Alice Springs 26.80 224 P **P** **07 36 16.8 -1.6**
1.6nm,0.6s,baz=59,slow=9.0,SNR=29
ASAR PcP **PcP** **07 39 40.5 0.0**
1.8nm,0.7s,baz=53,slow=2.3,SNR=9.2
ASAR ScP **ScP** **07 43 15.7 -1.0**
0.4nm,0.5s,baz=46,slow=2.7,SNR=5.0
ASAR LR LR 07 47 10.3
comp=Z,68nm,18.5s,baz=337,slow=37
KNRA Kununurra 26.86 245 P **P** **07 36 20.2 +1.3**
baz=27,SNR=6.3
STKA Stephens Creek 29.23 202 P **P** **07 36 38.5 -1.4**
1.7nm,0.6s,baz=11,slow=13,SNR=6.9
STKA ScP **ScP** **07 43 23.0 -0.9**
2.0nm,1.0s,baz=90,slow=1.0,SNR=3.8
STKA LR LR 07 48 31.0
comp=Z,70nm,18.6s,baz=215,slow=37
STKA Stephens Creek 29.23 202 P P 07 36 33.0 -6.9
baz=29,SNR=4.6
FITZ Fitzroy Crossi 30.53 242 P **P** **07 36 49.1 -2.4**
baz=30,SNR=10
FITZ Fitzroy Crossi 30.53 242 *eP* **P** **07 36 49.1 -2.4**
7.6nm,0.7s
WRKA Warakurna 31.67 228 P **P** **07 36 59.1 -2.5**
baz=31,SNR=15
WRKA S S 07 42 31.9 +24
baz=31,SNR=3.6
WSI Waingapu 33.58 260 S S 07 42 29.4 -8.3
baz=33,SNR=4.6
FORT Forrest 35.40 220 P **P** **07 37 32.5 -1.4**
baz=35,SNR=19
FORT Forrest 35.40 220 *eP* **P** **07 37 32.2 -1.7**
21nm,0.6s
MEEK Meekatharra 39.98 233 P **P** **07 38 11.6 -1.2**
baz=40,SNR=12
JNU Nakatsue 43.58 332 LR LR 07 53 02.0
comp=Z,23nm,21.5s,slow=31
MJAR Matsushiro Arr 43.69 342 LR LR 07 56 36.9
comp=Z,14nm,19.1s,baz=215,slow=36
KSRS Korea Array 48.51 322 sP sP 07 39 39.5 -0.6
2.6nm,0.7s,baz=146,slow=8.3,SNR=3.5
KSAR Wonju Array Be 48.52 332 sP sP 07 39 39.5 -0.7
USRK Ussuriysk Ar. 52.63 340 sP sP 07 40 11.0 -0.1
2.7nm,0.7s,baz=175,slow=7.9,SNR=7.2
PETK Petropavlovsk- 57.84 3 LR LR 08 02 42.1
comp=Z,8.8nm,20.0s,baz=151,slow=33
CMAR Chiang Mai Arr 58.82 295 P **P** **07 40 36.5 -0.1**
0.9nm,0.4s,baz=110,slow=4.1,SNR=8.0
SONM Songino Array 66.91 327 P **P** **07 41 30.4 +0.4**
0.5nm,0.4s,baz=152,slow=5.4,SNR=4.9
SONM sP **sP** **07 41 49.6 -0.2**
0.9nm,0.5s,baz=138,slow=5.8,SNR=5.8
VNDA Vanda 72.74 178 P **P** **07 42 05.8 +0.7**
8.8nm,0.8s,baz=327,slow=6.1,SNR=54
VNDA Vanda 72.74 178 *eP* **P** **07 42 05.7 +0.5**
11nm,1.0s
SBA Scott Base 73.27 177 *eP* **P** **07 42 10.1 +1.8**
7.2nm,1.0s
MKAR Makanchi Array 81.03 319 P **P** **07 42 52.5 +0.1**
0.7nm,0.6s,baz=101,slow=6.0,SNR=9.2
MKAR pP **pP** **07 43 05.9 -1.0**
1.3nm,0.6s,baz=102,slow=8.0,SNR=8.3
ZALV Zalesovo Beam 81.76 326 P **P** **07 42 55.0 -1.0**
0.9nm,0.5s,baz=98,slow=4.5,SNR=4.8
ILAR Eielson Array 81.83 22 P **P** **07 42 55.0 -1.2**
0.7nm,0.8s,baz=242,slow=5.3,SNR=12
ILAR sP **sP** **07 43 17.6 +1.4**
2.5nm,0.7s,baz=240,slow=5.8,SNR=16
MENT Mentasta 82.19 24 *eP* **P** **07 42 58.7 +0.5**
KURK Kurchatov 84.44 322 *eP* **P** **07 43 09.2 -0.7**
1.8nm,0.8s
KURBB Kurchatov Arra 84.47 322 P **P** **07 43 09.3 -0.8**
1.6nm,1.0s,baz=106,slow=4.1,SNR=11
KURBB pP **pP** **07 43 23.3 -1.4**
1.0nm,0.8s,baz=109,slow=4.2,SNR=5.0
QSPA South Pole Qui 85.11 180 *eP* **P** **07 43 13.2 0.0**
29nm,1.2s
MAW Mawson 85.91 203 P **P** **07 43 16.4 -0.6**
2.0nm,0.6s,baz=58,slow=5.9,SNR=11
MAW Mawson 85.91 203 P **P** **07 43 17.0 0.0**
baz=86,SNR=8.3
BVAR Borovoye Array 89.89 323 P **P** **07 43 35.2 -1.1**
1.8nm,0.7s,baz=96,slow=6.6,SNR=9.6
BVAR pP **pP** **07 43 49.4 -1.6**
3.0nm,0.7s,baz=109,slow=5.4,SNR=11
YKA Yellowknife Ar 95.00 28 P **P** **07 44 00.5 +0.8**
0.2nm,0.8s,baz=271,slow=5.1,SNR=5.3
TORD Torodi Ar. Bea 151.29 289 PKPbc **PKPbc** **07 50 30.8 -1.0**
6.5nm,0.8s,baz=67,slow=2.2,SNR=36

MEX 20 07:30:58.6±0.5, 16°14N×99°65W, h10km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.75**	**344**		*eP*		Pg	07 31 11.1	-2.0
ACX					*i*	S	Sg	07 31 20.9	-2.1
PNIG	**Pinotepa**	**1.48**	**80**		*eP*		Pn	07 31 22.0	-3.3
PNIG					*i*	S	Sn	07 31 38.9	-5.9
TLIG	**Tlapa**	**1.75**	**36**		*eP*		Pn	07 31 25.6	-3.6
TLIG					*eS*		Sn	07 31 46.4	-5.4
MEIG	**Mezcala**	**1.77**	**1**		*eP*		Pn	07 31 26.5	-3.0
MEIG					*eS*		Sn	07 31 48.1	-4.1
ARIG	**Puente Sto Nin**	**2.23**	**343**		*i* P		Pn	07 31 32.2	-3.4
ARIG					*i* S		Sn	07 31 58.5	-4.8

CASC 20 07:33:31.4±3.3, 8°43N×82°88W, h0km±9km, MD3.7, 1C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.36**	**308**	⇓	*eP*		Pb	07 33 39.9	-0.9
ACR				⇑	*i* P		Pg	07 33 40.0	+1.6
ACR					*eS*		Sg	07 33 44.8	+1.5
ACR					*eS*		Sb	07 33 47.0	-0.2
BRU2	**Volcan**	**0.41**	**27**	⇓	*i* P		Pb	07 33 41.4	-0.3
BRU2					*eS*		Sb	07 33 49.0	+0.3
TBS2		**0.42**	**31**		*eP*		Pb	07 33 42.9	+0.8
TBS2					*eS*		Sb	07 33 51.2	+2.0
BRU	**Baru**	**0.49**	**40**	⇓	*i* P		Pg	07 33 42.4	+0.9
CNI	**Changuinola**	**1.05**	**20**		*eP*		Pg	07 33 51.4	-0.1
BUS	**Buena Vista**	**1.42**	**322**		*eP*		Pn	07 33 57.3	-1.7
BUS					*eS*		Sg	07 34 17.8	-0.2
URSC	**Urasca**	**1.66**	**328**	⇓	*eP*		Pn	07 34 01.5	-0.5
URSC					*eS*		Sg	07 34 25.8	+0.7
SJS	**Escuela Geolog**	**1.90**	**322**		*eS*		Sg	07 34 32.8	0.0
CGA2	**Cerro Gallo 2**	**2.22**	**315**		*eP*		Pb	07 34 11.3	-1.4
CGA2					*eP*		Pn	07 34 11.5	+1.7
CGA2					*eS*		Sb	07 34 40.6	-0.3
CGA2					*eS*		Sg	07 34 41.8	-1.5
JTS	**JuntasAbangare**	**2.76**	**312**		*eP*		Pn	07 34 18.4	+1.4
BCIP	**Isla Barro Col**	**3.10**	**76**		*eP*		Pb	07 34 24.6	-2.8
BCIP					*eS*		Sb	07 35 06.6	+0.9

*LDG **20** 07:40:37.6±0.3, 34°72N×73°17E, h10km, Mb4.3/10, Error ellipse: s-maj=15.1km s-min=8.8km az=23.0*
*IDC **20** 07:40:38.8±0.5, 34°87N×73°07E, h0km, mb4.3/23, mb1 4.4/29, mb1mx4.3/45, mbtmp4.3/29, ML4.2/6, MS3.1/10, Ms1 3.1/10, ms1mx2.8/45, Error ellipse: s-maj=13.9km s-min=11.5km az=24.0*
*ISCJB **20** 07:40:41.3±0.2, 34°90N±0°02×73°08E±0°03, h24km, mb4.3/49, MS3.0/10, Error ellipse: s-maj=3.8km s-min=2.3km az=157.9*
*MOS **20** 07:40:42.7±1.1, 34°87N×73°08E, h33km, mb4.7/27, Error ellipse: s-maj=7.5km s-min=4.4km az=95.1*
*NDI **20** 07:40:44.6±2.2, 34°70N×72°96E, h10km, ML4.4, mb4.5(NEIC)*
*NNC **20** 07:40:44.6±6.1, 35°22N×72°87E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=50.1km s-min=35.3km az=18.0*
*NEIC **20** 07:40:46.2±0.8, 34°90N×73°09E, h53km±7km, mb4.5/16, Error ellipse: s-maj=6.7km s-min=5.7km az=196.0*
NEIC Felt at Islamabad and Mingaora.
*BJI **20** 07:40:51.4, 35°13N×73°89E, h60km, mB4.3/12, mb4.6/23, ML3.9/4, Ms3.9/7, Ms7 3.6/6*

ISC 20 07:40:42.9±0.3, 34°84N±0°03×73°10E±0°03, h24km, n224, σ1§60/240, mb4.5/49, MS3.1/10, 21C-9D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.19**	**173**	⇓	*P*		**Pn**	**07 41 03.8**	**-0.3**
CHCP						S	**Sb**	**07 41 23.0**	**+3.2**
CEP	**Cherat**	**1.42**	**224**		P		**Pb**	**07 41 09.2**	**+0.5**
THW	**Thamme Wali**	**2.33**	**209**		P		**Pb**	**07 41 22.0**	**-2.3**
JMU	**Jammu**	**2.60**	**144**		*eP*		**Pb**	**07 41 27.0**	**-1.8**
JMU					*eS*		**Sn**	**07 41 56.5**	**+2.3**
DLH	**Dalhousie**	**3.32**	**133**		*eP*		**Pn**	**07 41 36.0**	**+2.5**
DLH					*ex*		**Sn**	**07 42 17.0**	**+4.8**
KBL	**Kabul**	**3.35**	**266**		*eP*		**Pn**	**07 41 36.5**	**+2.5**
KBL	**Kabul**	**3.35**	**266**		*eP*	*n*	**Pn**	**07 41 36.5**	**+2.5**
KBL					*eS*	*n*	**Sb**	**07 42 25.5**	**+3.2**
DHRM	**DHARAMSHALA**	**3.72**	**133**		*eP*		Pn	07 41 43.2	+4.1
DHRM					*eS*		**Sn**	**07 42 22.2**	**0.0**
DHRM					AML		AML	07 42 43.7	
	comp=E,2μm,0.5s								
DHRM					AML		AML	07 42 46.5	
	comp=N,2μm,0.1s								
BHK	**Bhakra**	**4.41**	**140**		*eP*		**Pn**	**07 41 50.2**	**+1.9**
BHK					*ex*		Sn	07 42 46.8	+7.9
SDNR	**Sundarnagar**	**4.65**	**135**		*eP*		**Pn**	**07 41 53.6**	**+1.9**
SDNR					*eS*		**Sn**	**07 42 46.6**	**+1.6**
SMLA	**Simla**	**5.04**	**136**		*i P*		**Pn**	**07 41 59.4**	**+2.4**
SMLA					*eS*		**Sn**	**07 42 56.2**	**+1.8**
SMLA					AML		AML	07 43 23.0	
	comp=N,738nm,0.3s								
SMLA					AML		AML	07 43 24.7	
	comp=E,936nm,0.4s								
SFK	**Sufi-Kurgan**	**5.17**	**3**	⇑	Pn		Pn	07 42 04.1	+5.1
	comp=E,9.3nm,0.3s								
SFK				⇑	Sn		Sn	07 43 03.9	+5.9
	comp=E,50nm,0.3s								
KSH	**Kashi**	**5.20**	**25**		P		**Pn**	**07 41 58.0**	**-1.2**
KSH					S		Sn	07 42 50.3	-8.2
KSH					SMN				
	comp=E,560nm,0.4s								
KSH					SME				
	comp=E,500nm,0.2s								
DZET	**Dzherino**	**5.23**	**320**	⇑	Pn		**Pn**	**07 42 01.1**	**+1.4**
	comp=E,46nm,0.5s								
DZET				⇑	Sn		**Sn**	**07 43 02.3**	**+3.0**
	comp=E,240nm,0.9s								
DZET	**Dzherino**	**5.23**	**320**		P		**Pn**	**07 42 01.1**	**+1.4**
DZET								07 43 02.3	
DZET					pmax		pmax		
	comp=Z,46nm,0.5s								
DZET					smax		smax		
	comp=N,240nm,0.9s								
NDI	**New Delhi**	**7.07**	**149**		*eP*		**Pn**	**07 42 27.0**	**+2.1**
NDI					*ex*		**Sn**	**07 43 44.0**	**-0.5**
AML	**Almayashu**	**7.29**	**3**		P		**Pn**	**07 42 30.7**	**+2.5**
	SNR=19								
AML	**Almayashu**	**7.29**	**3**		*i* P		**Pn**	**07 42 30.7**	**+2.5**
KZA	**Kyzart**	**7.42**	**13**		P		**Pn**	**07 42 32.3**	**+2.3**
	SNR=25								
KZA	**Kyzart**	**7.42**	**13**		*i* P		**Pn**	**07 42 32.3**	**+2.3**
UCH	**Uchtor**	**7.46**	**8**		P		**Pn**	**07 42 32.7**	**+2.2**
	SNR=41								
UCH	**Uchtor**	**7.46**	**8**		*i* P		**Pn**	**07 42 32.7**	**+2.2**
MNAS	**Manas**	**7.64**	**357**	⇓	Pn		**Pn**	**07 42 35.1**	**+2.2**
	comp=N,20nm,0.8s								
MNAS				⇑	Sn		**Sn**	**07 43 59.4**	**+0.6**
	comp=N,43nm,0.9s								
ULHL	**Ulahol**	**7.79**	**17**		P		Pn	07 42 38.1	+3.2
	SNR=8.2								
ULHL	**Ulahol**	**7.79**	**17**		*i* P		Pn	07 42 38.1	+3.2
EKS2	**Erkin-Say**	**7.82**	**4**		P		Pn	07 42 38.4	+3.0
	SNR=9.0								
EKS2	**Erkin-Say**	**7.82**	**4**		*i* P		Pn	07 42 38.3	+3.0
EKS2	**Erkin-Say**	**7.82**	**4**		*eP*	*n*	Pn	07 42 38.5	+3.2
EKS2					*eS*	*n*	**Sn**	**07 44 05.5**	**+2.3**
AAK	**Ala-Archa**	**7.85**	**8**	⇓	Pn		Pn	07 42 39.1	+3.4
	comp=N,3.8nm,0.4s								
AAK				⇓	Sn		**Sn**	**07 44 03.1**	**-0.8**
	comp=N,28nm,0.8s								
AAK	**Ala-Archa**	**7.85**	**8**		P		**Pn**	**07 42 38.5**	**+2.7**
	SNR=12								
AAK	**Ala-Archa**	**7.85**	**8**		*eP*		**Pn**	**07 42 38.3**	**+2.6**
AAK					*e*			07 44 05.1	
AAK	**Ala-Archa**	**7.85**	**8**		Pn		**Pn**	**07 42 38.3**	**+2.6**
	comp=N,3.0nm,0.3s,baz=171,slow=5.5,SNR=24								
AAK					Sn		**Sn**	**07 44 03.2**	**-0.8**
	comp=N,1.1nm,0.3s,baz=268,slow=22,SNR=6.5								
AAK					LR		LR	07 45 53.0	
	comp=N,160nm,20.9s,baz=211,slow=40								
AAK	**Ala-Archa**	**7.85**	**8**		*eP*	*n*	**Pn**	**07 42 38.3**	**+2.6**
AAK					Sn		**Sn**	**07 44 03.2**	**-0.8**
AAK					*eS*	*n*	**Sn**	**07 44 05.1**	**+1.2**
KBK	**Karagaybulak**	**7.93**	**10**		P		**Pn**	**07 42 39.5**	**+2.7**
	SNR=6.7								
KBK	**Karagaybulak**	**7.93**	**10**		*i* P		**Pn**	**07 42 39.5**	**+2.7**
LGTI	**Lohaghat**	**8.10**	**130**		*eP*		**Pn**	**07 42 41.7**	**+2.7**
LGTI					*ex*		**Sn**	**07 44 07.1**	**-2.7**
TKM2	**Tokmak 2**	**8.30**	**13**	⇑	Pn		Pn	07 42 45.2	+3.4
	comp=N,13nm,0.9s								
TKM2				⇑	Sn		**Sn**	**07 44 15.3**	**+0.4**
	comp=N,16nm,0.6s								
TKM2	**Tokmak 2**	**8.30**	**13**		*eP*		Pn	07 42 45.4	+3.6
TKM2	**Tokmak 2**	**8.30**	**13**		*eP*	*n*	Pn	07 42 45.4	+3.6
AJM	**Ajmer**	**8.44**	**171**		*ex*		**Pn**	**07 42 44.0**	**+0.2**
AJM					*ex*		**Sn**	**07 44 16.0**	**-2.4**
KK31	**Karatay Array**	**8.49**	**347**	⇑	Pn		**Pn**	**07 42 44.8**	**+0.5**
	comp=N,9.8nm,0.3s								
KK31				⇓	Sn		**Sn**	**07 44 18.3**	**-1.0**
	comp=N,20nm,0.5s								
KK31	**Karatay Array**	**8.49**	**347**		P		**Pn**	**07 42 44.8**	**+0.5**
KK31								07 44 18.3	
KK31					pmax		pmax		
	comp=Z,23nm,0.3s								
KK31					smax		smax		
	comp=N,25nm,0.4s								
KKAR	**Karatay Array**	**8.49**	**347**		*eP*		**Pn**	**07 42 44.9**	**+0.6**
KKAR					*e*			07 44 18.7	
KKAR	**Karatay Array**	**8.49**	**347**		*eP*	*n*	**Pn**	**07 42 44.9**	**+0.6**
KKAR					*eS*	*n*	**Sn**	**07 44 18.7**	**-0.6**
PDGK	**Podgornoye**	**9.81**	**28**	⇑	Pn		**Pn**	**07 43 03.6**	**+1.1**
	comp=N,25nm,0.8s								
PDGK				⇓	Sn		**Sn**	**07 44 51.3**	**-0.4**
	comp=N,28nm,1.4s								
PDGK	**Podgornoye**	**9.81**	**28**		P		**Pn**	**07 43 03.5**	**+1.1**
PDGK					pmax		pmax		
	comp=Z,25nm,0.8s								
IMYA	**Miami**	**10.69**	**282**		*eP*		**Pn**	**07 43 15.6**	**+0.9**
DANN	**Dangsing**	**11.15**	**123**		*eP*		**Pn**	**07 43 19.6**	**-1.6**
	comp=Z,55nm,0.4s								
ISRO	**Mashad**	**11.20**	**281**		*eP*		**Pn**	**07 43 21.3**	**-0.2**
IAKL	**Akhelmad**	**11.79**	**283**		*eP*		**Pn**	**07 43 27.5**	**-2.3**
IAKL					*e*			07 46 08.7	
	comp=N,176nm,0.1s								
BHJ	**Bhuj**	**11.93**	**195**		*eP*		**Pn**	**07 43 31.6**	**+0.1**
BHJ					*ex*		x	07 45 37.6	
BHJ					AML		AML	07 46 00.7	
	comp=N,43nm,0.2s								
BHJ					AML		AML	07 46 01.6	
	comp=E,47nm,0.3s								
BHPL	**Bhopal**	**12.16**	**161**		*eP*		**Pn**	**07 43 34.6**	**-0.1**
BHPL					*ex*		Sn	07 45 43.4	-6.2
BHPL					AML		AML	07 45 50.9	
	comp=E,64nm,0.6s								
BHPL					AML		AML	07 45 51.1	
	comp=N,70nm,0.4s								
GEYT	**Alibeck**	**12.46**	**289**		Pn		**Pn**	**07 43 37.2**	**-1.5**
	comp=N,1.2nm,0.3s,baz=120,slow=8.5,SNR=3.7								
GEYT					Sn		**Sn**	**07 45 52.2**	**-4.5**
	comp=N,0.4nm,0.3s,baz=95,slow=31,SNR=2.2								
DMN	**Daman**	**12.55**	**122**		*eP*		**Pn**	**07 43 38.1**	**-2.1**
	comp=N,60nm,0.5s								
KKN	**Kakani**	**12.56**	**121**		*eP*		**Pn**	**07 43 38.6**	**-1.7**
	comp=N,51nm,0.4s								
PKIN	**Phulchoki**	**12.77**	**121**		*eP*		**Pn**	**07 43 40.5**	**-2.7**
	comp=N,29nm,0.3s								
PKI	**Pulchoki**	**12.78**	**121**		*eP*		**Pn**	**07 43 41.5**	**-2.0**
	comp=N,54nm,0.6s								
GUN	**Gumba**	**12.92**	**119**		*eP*		Pn	07 43 42.2	-3.1
	comp=N,66nm,0.6s								
JIRN	**Jiri**	**13.29**	**119**		*eP*		**Pn**	**07 43 47.8**	**-2.5**
	comp=N,73nm,0.4s								
OTUK	**Otaytu**	**13.40**	**358**		P		Pn	07 43 47.9	-3.6
OTUK					pmax		pmax		
	comp=Z,3.0nm,0.7s								
MK31	**Makanchi Array**	**13.80**	**27**	⇑	Pn		**Pn**	**07 43 57.8**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=205,slow=12,SNR=9.7								
MK31	**Makanchi Array**	**13.80**	**27**		*i* P		**Pn**	**07 43 58.3**	**+1.3**
MK31					pmax		pmax		
	comp=Z,1.0nm,0.2s								
MKAR	**Makanchi Array**	**13.80**	**27**		Pn		**Pn**	**07 43 56.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=201,slow=15,SNR=15								
MKAR					LR		LR	07 49 40.6	
	comp=Z,96nm,20.6s,baz=190,slow=39								
RAMN	**Ramite**	**14.00**	**121**		*eP*		Pn	07 43 56.4	-3.6
	comp=Z,53nm,0.5s								
WMQ	**Urumqi**	**14.40**	**47**		*eP*		**Pn**	**07 44 07.3**	**+2.0**
WMQ					pP		pP	07 44 17.6	
WMQ					PMZ				
	comp=Z,17nm,0.6s								
WMQ					PMZ				
	comp=Z,100nm,4.9s								
ODAN	**Odare**	**14.62**	**119**		*eP*		Pn	07 44 04.3	-4.1
	comp=Z,41nm,0.4s								
LSA	**Lhasa**	**16.10**	**104**		*eP*		**P**	**07 44 30.5**	**-0.8**
LSA					pmax		pmax		
	comp=Z,7.0nm,0.5s								
LSA	**Lhasa**	**16.10**	**104**		*eP*		**P**	**07 44 30.4**	**-0.8**
	comp=Z,7.5nm,0.5s								
KURBB	**Kurchatov Arra**	**16.26**	**12**	⇑	Pn		**Pn**	**07 44 29.9**	**+0.4**
	comp=Z,7.1nm,0.8s								
KURBB	**Kurchatov Arra**	**16.26**	**12**		Pn		**Pn**	**07 44 26.7**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=199,slow=12,SNR=9.0								
KURBB					Sn		**Sn**	**07 47 33.4**	**+4.4**
	baz=201,slow=20,SNR=2.5								
KURBB					PcP		**PcP**	**07 49 23.2**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=213,slow=1.7,SNR=4.4								
KURK	**Kurchatov**	**16.36**	**13**	⇑	Pn		**Pn**	**07 44 30.4**	**-0.5**
	comp=Z,5.9nm,1.3s								
KURK	**Kurchatov**	**16.36**	**13**		P		**Pn**	**07 44 26.7**	**-4.2**
KURK								07 47 33.4	
KURK	**Kurchatov**	**16.36**	**13**		*eP*		**Pn**	**07 44 31.7**	**+0.9**
	comp=Z,6.9nm,0.8s								
KURK					Sn		**Sn**	**07 47 33.4**	**+1.8**
KURK					PcP		**PcP**	**07 49 23.2**	**+0.3**
RPR	**Rampur**	**16.85**	**159**		*eP*	*n*	**P**	**07 44 38.6**	**-0.6**
AB31	**Akbulak array**	**17.36**	**330**	⇑	Pn		**Pn**	**07 44 42.0**	**-1.4**
	comp=Z,10nm,0.8s,baz=138,slow=13,SNR=112								
AB31				⇑	Sn		Sn	07 47 48.2	-7.7
	comp=Z,4.8nm,0.7s								
AB31	**Akbulak array**	**17.36**	**330**		P		**Pn**	**07 44 42.0**	**-1.4**
AB31					pmax		pmax		
	comp=Z,2.0nm,0.3s								
ABKAR	**Akbulak array**	**17.36**	**330**		*eP*		**Pn**	**07 44 41.6**	**-1.8**
HYBB	**Hyderabad (bro**	**18.02**	**163**		*eP*		**P**	**07 44 52.6**	**+0.4**
HYB	**Hyderabad**	**18.03**	**163**		*eP*		**Pn**	**07 44 52.0**	**+0.1**
HYB					*eS*		**S**	**07 48 19.0**	**+1.1**
HYB	**Hyderabad**	**18.03**	**163**		*i* P		**Pn**	**07 44 52.0**	**+0.1**
HYB					*e*			07 47 57.0	
HYB					*eS*		**Sn**	**07 48 10.0**	**-2.4**
HYB	**Hyderabad**	**18.03**	**163**		*eP*		**Pn**	**07 44 52.0**	**+0.1**
HYB					*eS*		**S**	**07 48 19.0**	**+1.1**
BVAR	**Borovoye Array**	**18.28**	**355**		P		**Pn**	**07 44 51.8**	**-2.9**
	comp=Z,3.3nm,0.3s,baz=161,slow=10.0,SNR=48								
BRVK	**Borovoye**	**18.32**	**355**		*eP*		**P**	**07 44 53.5**	**-1.6**
BRVK					pmax		pmax		
	comp=Z,13nm,0.7s								
BRVK					pmax		pmax		
	comp=Z,24nm,0.8s								
BRVK	**Borovoye**	**18.32**	**355**		*eP*		**P**	**07 44 54.3**	**-0.9**
	comp=Z,14nm,0.8s								
NJS	**Nagarjunasagar**	**19.05**	**161**		*eP*		**Pn**	**07 45 04.3**	**+0.1**
NJS					*eS*		**S**	**07 48 37.5**	**-0.5**
AKTO	**Aktyubinsk**	**19.07**	**329**	⇑	Pn		**P**	**07 45 03.4**	**-0.1**
	comp=Z,25nm,0.7s								
AKTO				⇑	Sn		**Sn**	**07 48 30.7**	**-6.4**
	comp=Z,10nm,1.2s								
AKTO	**Aktyubinsk**	**19.07**	**329**		P		**P**	**07 45 03.1**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=128,slow=14,SNR=83								
URV	**Uravakonda**	**20.16**	**168**		*eP*		**P**	**07 45 16.4**	**+0.8**
ZALV	**Zalesovo Beam**	**20.80**	**20**		P		**P**	**07 45 21.2**	**-1.0**
	comp=Z,34nm,0.6s,baz=216,slow=11,SNR=92								
ZALV					S		**S**	**07 49 08.7**	**-4.4**
	comp=Z,1.1nm,0.6s,baz=200,slow=16,SNR=3.1								
ZALV					LR		LR	07 54 38.0	
	comp=Z,19nm,21.4s,baz=70,slow=40								
NVS	**Novosibirsk**	**21.20**	**16**	⇑	*i* P		**P**	**07 45 24.9**	**-1.6**
NVS					*e*			07 45 55.2	
NVS					*eS*		S	07 49 12.9	-8.1
NVS					pmax		pmax		
	comp=N,21nm,1.2s								
NVS					pmax		pmax		
	comp=Z,23nm,1.2s								
NVS					pmax		pmax		
	comp=E,4.0nm,0.7s								
NVS					smax		smax		
	comp=N,10.0nm,1.7s								
NVS					smax		smax		
	comp=E,8.0nm,1.7s								
GTA	**Gaotai**	**21.75**	**70**		*eP*		**P**	**07 45 33.0**	**+0.3**
GTA					pP		pP	07 45 47.1	+7.7
GTA					sP		sP	07 45 54.3	+12
GTA					PMZ				
	comp=E,7.0nm,0.8s								
SKHT	**Srikalahasti**	**21.84**	**163**		*eP*

HHC pP pP 07 47 10.3 +6.5
HHC sP sP 07 47 19.0 +12
HHC PP **PnPn** **07 47 58.5 +1.6**
HHC S **S** **07 51 53.6 -5.0**
HHC sS sS 07 52 16.9 +6.4
HHC PMZ
comp=Z,26nm,0.8s
HHC PMZ
comp=Z,54nm,5.0s
HHC LN
comp=Z,82nm,12.1s
HHC LE
comp=Z,93nm,12.4s
HHC LZ
comp=Z,52nm,12.4s
BRTR Keskin Array B 31.59 291 *ce*P **P 07 47 06.1 +2.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 31.59 291 P **P 07 47 03.6 -0.2**
comp=Z,1.0nm,0.6s,baz=100,slow=9.5,SNR=5.4
PRGR Permogore 31.98 335 P **P 07 47 04.9 -1.9**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 32.30 320 *e*P **P 07 47 09.3 -0.3**
OBN pmax pmax
comp=Z,5.0nm,0.8s
BJI Beijing 34.34 68 P **P 07 47 27.3 -0.3**
BJI PMZ
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 35.31 310 *ce*P **P 07 47 34.7 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 35.31 310 P **P 07 47 34.1 -1.8**
comp=Z,2.3nm,0.5s,baz=80,slow=7.1,SNR=7.2
KIEV Kiev 35.32 310 *e*P **P 07 47 37.5 +1.5**
BOD Bodaibo 35.60 37 *e*P **P 07 47 37.8 -0.4**
QIZ Qiongzhong 36.12 106 P **P 07 47 42.8 -0.3**
QIZ S **S** **07 53 18.5 -2.9**
MLR Muntele Rosu 37.09 301 S **S** **07 53 41.2 +5.1**
MLR Muntele Rosu 37.09 301 LR LR 08 05 33.9
comp=Z,7.2nm,21.8s,baz=141,slow=40
JOF Joensuu 38.15 330 *e*P **P 07 47 59.4 -0.5**
JOF pmax pmax
comp=Z,22nm,0.5s
JOF Joensuu 38.15 330 *ep* **P 07 47 59.4 -0.5**
comp=Z,22nm,0.5s
FINES FINESS Array B 39.80 327 P **P 07 48 13.3 -0.5**
comp=Z,6.9nm,0.7s,baz=119,slow=10,SNR=25
FINES LR LR 08 05 48.8
comp=Z,42nm,21.9s,baz=60,slow=38
PSI Prapat 39.91 137 P **P 07 48 15.5 +0.3**
comp=Z,4.5nm,0.5s,baz=259,slow=6.4,SNR=4.6
KAF Kangasniemi 39.94 328 *e*P **P 07 48 13.2 -1.6**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 39.94 328 *ep* **P 07 48 13.2 -1.6**
comp=Z,3.8nm,0.6s
KEV Kevo 42.97 338 *e*P **P 07 48 38.5 -1.1**
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 42.97 338 *ep* **P 07 48 38.5 -1.1**
comp=Z,5.0nm,0.6s
ARE0 ARCESS Array S 43.32 338 *e*P **P 07 48 42.4 -0.1**
ARCES ARCESS Array B 43.32 338 P **P 07 48 42.3 -0.2**
comp=Z,8.1nm,0.4s,baz=115,slow=8.2,SNR=131
ARCES LR LR 08 08 04.1
comp=Z,86nm,18.2s,baz=144,slow=38
VRAC Vranov 43.36 307 LR LR 08 09 27.1
comp=Z,31nm,18.2s,baz=69,slow=40
DPC Dobruska-Polom 43.49 309 *e*P **P 07 48 43.9 -0.3**
DPC Dobruska-Polom 43.49 309 *ep* **P 07 48 43.9 -0.3**
KSAR Wonju Array Be 43.80 70 P **P 07 48 46.6 -0.1**
KSAR Wonju Array Be 43.80 70 P **P 07 48 46.6 -0.1**
KTK1 Kautokeino 43.81 337 *e*P **P 07 48 46.1 -0.3**
KSRS Korea Array 43.82 70 P **P 07 48 46.6 -0.3**
KSRS pmax pmax
comp=Z,3.0nm,0.6s
KSRS Korea Array 43.82 70 P **P 07 48 46.6 -0.3**
comp=Z,2.7nm,0.6s,baz=280,slow=7.2,SNR=7.2
GERES GERESS Array B 45.28 307 LR LR 08 12 12.1
comp=Z,27nm,19.1s,baz=350,slow=42
TRO Tromso 45.47 337 *e*P **P 07 49 01.3 +1.7**
MOR8 Moi Rana 46.09 331 *e*P **P 07 49 03.7 -0.9**
STEI Steigen 46.21 334 *e*P **P 07 49 05.7 +0.1**
KONS Konsvik 46.68 331 *e*P **P 07 49 09.1 -0.1**
TIXI Tiksi 46.68 21 *jiP* **P 07 49 08.9 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI MLR MLR
comp=Z,45nm,19.0s
TIXI Tiksi 46.68 21 *eP* **P 07 49 08.4 -0.8**
comp=Z,2.7nm,0.4s
NB2 NORSAR Subarra 46.72 324 P **P 07 49 08.7 -1.0**
comp=Z,2.1nm,0.5s,baz=93,slow=7.9
NB2 NORSAR Subarra 46.72 324 P **P 07 49 08.7 -1.0**
baz=93,slow=7.9
NOA NORSAR Array B 46.72 324 P **P 07 49 08.8 -1.0**
comp=Z,1.5nm,0.7s,baz=103,slow=7.2,SNR=18
NOA LR LR 08 11 45.0
comp=Z,18nm,21.4s,baz=345,slow=40
NSS Namsos 46.80 329 *e*P **P 07 49 10.0 -0.1**
LOF Lofoten 46.88 334 *e*P **P 07 49 10.0 -0.7**
KONO Kongsberg 47.44 322 *e*P **P 07 49 14.9 -0.3**
KMBO Kilima Mbogo 49.04 231 *ce*P **P 07 49 30.2 +1.8**
KMBO pmax pmax
comp=Z,4.0nm,0.6s
KMBO Kilima Mbogo 49.04 231 P **P 07 49 29.9 +1.4**
comp=Z,3.5nm,0.6s,baz=43,slow=11,SNR=9.6
KMBO Kilima Mbogo 49.04 231 *e*P **P 07 49 30.4 +2.0**
comp=Z,13nm,0.6s
HSPB Hornsund (broa 49.17 345 *e*P **P 07 49 28.8 +0.5**
SPA0 Spitsbergen Ar 49.49 347 *e* P 07 49 41.5 +11
PGF Pioggiola 49.56 299 *e*P **P 07 49 32.7 +0.8**
PGF Pioggiola 49.56 299 *e*P **P 07 49 32.7 +0.8**
PGF Pioggiola 49.56 299 *e*P **P 07 49 32.7 +0.8**
LPG La Plagne 50.48 303 *e*P **P 07 49 38.4 -0.7**
LPG La Plagne 50.48 303 *e*P **P 07 49 38.4 -0.7**
LPG La Plagne 50.48 303 *e*P **P 07 49 38.4 -0.7**
LPL La Plagne 50.48 303 *e*P **P 07 49 38.5 -0.6**
LPL La Plagne 50.48 303 *e*P **P 07 49 38.5 -0.6**
LPL La Plagne 50.48 303 *e*P **P 07 49 38.5 -0.6**
KBS Kingsbay 50.60 347 *e*P **P 07 49 39.7 +0.6**
MBDF Montbardon 50.63 302 *e*P **P 07 49 40.1 0.0**
comp=Z,2.1nm,0.4s
MBDF Montbardon 50.63 302 *e*P **P 07 49 40.1 0.0**
MBDF pmax pmax
comp=Z,2.0nm,0.4s
MBDF Montbardon 50.63 302 *e*P **P 07 49 40.1 0.0**
comp=Z,2.1nm,0.4s
CABF La Chapelle 50.69 305 *e*P **P 07 49 40.7 +0.2**
comp=Z,3.5nm,0.6s
CABF La Chapelle 50.69 305 *e*P **P 07 49 40.7 +0.2**
CABF pmax pmax
comp=Z,4.0nm,0.6s
CABF La Chapelle 50.69 305 *e*P **P 07 49 40.7 +0.2**
comp=Z,3.5nm,0.6s
MAJO Matsushiro 51.98 68 *e*P **P 07 49 49.7 -0.5**
MAJO pmax pmax
comp=Z,11nm,0.6s
MAJO Matsushiro 51.98 68 *e*P **P 07 49 49.6 -0.5**
comp=Z,11nm,0.6s
MAT Matsushiro 51.98 68 P **P 07 49 49.8 -0.4**
MJAR Matsushiro Arr 51.98 68 P **P 07 49 49.7 -0.5**
comp=Z,6.0nm,0.7s,baz=288,slow=9.9,SNR=14
SMF Signal de Mont 52.20 305 *e*P **P 07 49 52.3 +0.7**
comp=Z,6.4nm,0.6s
SMF Signal de Mont 52.20 305 *e*P **P 07 49 52.3 +0.7**
SMF pmax pmax
comp=Z,6.0nm,0.6s
SMF Signal de Mont 52.20 305 *e*P **P 07 49 52.3 +0.7**
comp=Z,6.4nm,0.6s
AVF Avril sur Loir 52.49 306 *e*P **P 07 49 54.2 +0.4**
comp=Z,6.6nm,0.8s
AVF Avril sur Loir 52.49 306 *e*P **P 07 49 54.2 +0.4**
AVF pmax pmax
comp=Z,7.0nm,0.8s
AVF Avril sur Loir 52.49 306 *e*P **P 07 49 54.2 +0.4**
comp=Z,6.6nm,0.8s
TCF Toulx Ste Croi 53.38 305 *e*P **P 07 50 00.7 +0.3**
comp=Z,3.7nm,0.6s
TCF Toulx Ste Croi 53.38 305 *e*P **P 07 50 00.7 +0.3**
TCF pmax pmax
comp=Z,4.0nm,0.6s
TCF Toulx Ste Croi 53.38 305 *e*P **P 07 50 00.7 +0.3**
comp=Z,3.7nm,0.6s
SEY Seymchan 54.85 33 P **P 07 50 11.6 +0.8**
comp=Z,2.1nm,0.9s,baz=270,slow=12,SNR=4.6
ETSF Etsaut 56.23 302 *e*P **P 07 50 20.6 -0.6**
comp=Z,2.6nm,0.5s
ETSF Etsaut 56.23 302 *e*P **P 07 50 20.6 -0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.5s
ETSF Etsaut 56.23 302 *e*P **P 07 50 20.6 -0.6**
comp=Z,2.6nm,0.5s
SJPF Ste Jean 56.63 302 *e*P **P 07 50 24.3 +0.4**
SJPF Ste Jean 56.63 302 *e*P **P 07 50 24.3 +0.4**
SJPF Ste Jean 56.63 302 *e*P **P 07 50 24.3 +0.4**
BILL Bilibino 59.34 26 *e*P **P 07 50 43.6 +1.1**
BILL pmax pmax
comp=Z,3.0nm,1.2s
SUMG Summit 63.17 342 *e*P **P 07 51 09.0 +0.1**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 63.17 342 *e*P **P 07 51 09.0 +0.1**
comp=Z,9.5nm,0.6s
TORD Torodi Ar. Bea 67.42 271 P **P 07 51 35.6 -1.1**
comp=Z,3.2nm,0.5s,baz=45,slow=5.6,SNR=12
LBTB Lobatse 74.64 224 *e*P **P 07 52 20.8 +0.4**
LBTB pmax pmax
comp=Z,11nm,1.2s
LBTB Lobatse 74.64 224 *e*P **P 07 52 20.8 +0.4**
comp=Z,10nm,1.2s
INK Inuvik 75.25 10 *e*P **P 07 52 23.3 +0.1**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 75.25 10 *e*P **P 07 52 23.3 +0.1**
comp=Z,7.1nm,1.0s
COLA College 75.58 17 *e*P **P 07 52 25.6 +0.5**
COLA pmax pmax
comp=Z,6.0nm,1.1s
COLA College 75.58 17 *e*P **P 07 52 25.6 +0.5**
comp=Z,5.6nm,1.1s
ILAR Eielson Array 75.89 16 P **P 07 52 26.0 -1.0**
ILAR Eielson Array 75.89 16 P **P 07 52 25.9 -1.0**
comp=Z,0.6nm,0.4s,baz=297,slow=5.0,SNR=9.2
DBIC Dimbokro 76.34 269 *e*P **P 07 52 30.1 -0.2**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 76.34 269 P **P 07 52 29.9 -0.4**
comp=Z,4.5nm,0.8s,baz=44,slow=4.1,SNR=3.8
DBIC Dimbokro 76.34 269 *e*P **P 07 52 30.1 -0.2**
comp=Z,5.7nm,0.8s
FRB Frobisher Bay 77.14 344 P **P 07 52 33.1 -0.8**
comp=Z,1.1nm,0.5s,baz=27,slow=4.4,SNR=6.0
WRA Warramunga Arr 79.66 123 P **P 07 52 48.5 -0.1**
comp=Z,2.1nm,0.5s,baz=323,slow=5.0,SNR=96
WRAB Tennant Creek 79.66 123 *d iP* **P 07 52 48.8 +0.2**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRAB Tennant Creek 79.66 123 *e*P **P 07 52 48.6 0.0**
comp=Z,3.4nm,0.4s
HYT Haines Junctio 81.44 15 *e*P **P 07 52 58.0 +0.3**
comp=Z,5.6nm,1.0s
ASAR Alice Springs 81.91 126 P **P 07 53 00.3 -0.3**
comp=Z,1.5nm,0.6s,baz=312,slow=5.2,SNR=20
YKA Yellowknife Ar 82.80 4 P **P 07 53 04.3 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 82.80 4 P **P 07 53 04.3 -0.3**
comp=Z,1.5nm,0.6s,baz=346,slow=5.5,SNR=30
SCHQ Schefferville 84.28 338 P **P 07 53 11.8 -0.6**
comp=Z,1.4nm,0.6s,baz=32,slow=7.9,SNR=5.4
TXAR Lajitas Array 116.09 357 PKP **PKPdf 07 59 24.1 -0.3**
comp=Z,0.2nm,0.8s,baz=11,slow=0.9,SNR=2.7
ROSC El Rosal 130.00 316 PKP **PKPdf 07 59 51.3 -0.4**
comp=Z,4.2nm,0.5s,baz=108,slow=5.4,SNR=5.0
TRQA Tornquist 143.99 251 *e*PKPdf PKPbc 08 00 14.3 +0.1
LVC Limon Verde 144.73 280 PKP **PKPab 08 00 16.5 -0.6**
comp=Z,7.8nm,0.4s,baz=57,slow=5.0,SNR=3.9
PLCA Paso Flores 150.82 248 PKPbc **PKPbc 08 00 32.0 -1.2**
comp=Z,1.8nm,0.7s,baz=45,slow=1.4,SNR=3.0
PLCA PKPab **PKPab 08 00 40.3 -0.2**
comp=Z,3.3nm,0.9s,baz=146,slow=3.6,SNR=4.5

*ISCJB **20** 07:41:17.7±0.4, 33.°99S±0.°03×71.°31W±0.°06, h62km±4km, mb4.5/57, Error ellipse: s-maj=8.7km s-min=4.3km az=15.0*
*NEIC **20** 07:41:17.0, 33.°98S×71.°36W, h46km, mb4.6/45, After GUC.*
NEIC Felt [IV] at Rancagua and San Vicente; [III] at San Fernando; [II] at Cartagena, El Tabo, Navidad, Paredones, Pichilemu, San Antonio, Santa Cruz, Santiago and Valparaiso. Also felt at Puente Alto, Rengo and Talagante.
*IDC **20** 07:41:17.5±0.5, 33.°94S×71.°31W, h48km±5km, mb4.1/16, mb1 4.2/21,mb1mx4.1/34,mbtmp4.4/21,MS3.5/7, Ms1 3.6/7,ms1mx3.2/24,Error ellipse: s-maj=18.5km s-min=11.0km az=86.0*
*BJI **20** 07:41:18.1,34.°00S×71.°50W, h35km, mB4.8/4, Ms5.1/4, Ms7 4.9/4*
*GUC **20** 07:41:18.1±0.6, 33.°98S×71.°42W, h41km±3km, ML4.3*
ISC 20 07:41:17.5±0.6, **33.°98S**±0.°04×**71.°38W**±0.°06, **h46**km±5km, **h46**km:**pP-P, n122,**σ1§**19**/138, **mb4.5**/57, **MS3.2**/5, **7C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAN	**Santiago**	**0.80**	**49**	*i*P		**Pn**	**07 41 32.9**	**+0.5**
SAN				*i* S		**Sn**	**07 41 44.1**	**+0.8**
PCH	**Pirque**	**0.81**	**64**	⇑*i*P		**Pn**	**07 41 33.0**	**+0.4**
FSR	**Penalolen**	**0.87**	**55**	⇑*i*P		**Pn**	**07 41 34.8**	**+1.3**
FSR				*e*S		**Sn**	**07 41 46.7**	**+1.6**
FSR				*i* S		**Sn**	**07 41 46.7**	**+1.6**
CLCH	**Cerro Calan**	**0.91**	**50**	⇓*i*P		**Pn**	**07 41 34.6**	**+0.6**
CLCH				*i* S		**Sn**	**07 41 46.0**	**-0.1**
CLCH				AML	AML		07 41 53.0	
	comp=N,19μm,0.6s							
CLCH				AML	AML		07 41 53.3	
	comp=N,23μm,0.6s							
SJCH	**San Jose de Ma**	**0.92**	**68**	⇓*i*P		**Pn**	**07 41 33.7**	**-0.4**
SJCH				*i* S		**Sn**	**07 41 46.8**	**+0.5**
IHA	**Instituto Hidr**	**0.98**	**347**	⇑*i*P		**Pn**	**07 41 35.2**	**+0.4**
PEL	**Peldehue**	**1.02**	**35**	⇑*i*P		**Pn**	**07 41 36.2**	**+0.8**
PEL				*i* S		**Sn**	**07 41 49.9**	**+1.3**
PEL				AML	AML		07 41 53.8	
	comp=E,21μm,0.6s							
NICH	**Los Niches**	**1.02**	**173**	⇓*i*P		**Pn**	**07 41 36.0**	**+0.5**
NICH				*i* S		**Sn**	**07 41 50.0**	**+1.3**
YECH	**El Yeso**	**1.12**	**74**	⇓*i*P		**Pn**	**07 41 37.8**	**+0.7**
YECH				*i* S		**Sn**	**07 41 53.2**	**+1.7**
YECH				AML	AML		07 42 03.5	
	comp=N,7μm,0.3s							
TALC	**Talca**	**1.43**	**188**	⇑*i*P		**Pn**	**07 41 42.2**	**+1.3**
TALC				*i* S		**Sn**	**07 42 00.1**	**+1.6**
LNCH	**Linares**	**1.87**	**186**	⇑*i*P		**Pn**	**07 41 47.7**	**+0.7**
CFAA	**Coronel Fontan**	**3.55**	**49**	P		**Pn**	**07 42 10.9**	**+0.7**
	comp=N,17nm,0.3s,baz=209,slow=11,SNR=53							
CFAA				S		**Sn**	**07 42 55.5**	**+4.6**
	comp=N,4.7nm,0.3s,baz=213,slow=7.2,SNR=3.8							
CFAA				LR	LR		07 43 51.3	
	comp=N,65nm,20.8s,baz=233,slow=44							
LCO	**Las Campanas**	**4.99**	**7**	*e*Pn		**Pn**	**07 42 30.1**	**0.0**
LCO				*e*Sn		Sn	07 43 40.1	+13
PLCA	**Paso Flores**	**6.77**	**175**	P		**Pn**	**07 42 56.2**	**+1.9**
	comp=N,2.6nm,0.3s,baz=343,slow=12,SNR=40							
PLCA				LR	LR		07 45 35.1	
	comp=N,319nm,19.3s,baz=308,slow=38							
TRQA	**Tornquist**	**8.63**	**121**	*e*Pn		**Pn**	**07 43 21.7**	**+2.0**
LVC	**Limon Verde**	**11.53**	**11**	P		**Pn**	**07 43 59.0**	**-0.7**
	comp=N,47nm,0.3s,baz=183,slow=11,SNR=7.9							
LVC				S		**Sn**	**07 46 11.2**	**+3.8**
	comp=N,21nm,0.3s,baz=198,slow=13,SNR=2.3							
CPUP	**Villa Florida**	**14.34**	**62**	P		**Pn**	**07 44 35.8**	**-1.9**
	comp=N,0.1nm,0.3s,baz=231,slow=13,SNR=5.2							
CPUP				S		**Sn**	**07 47 15.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=2.3							
CPUP				LR	LR		07 50 41.1	
	comp=N,1μm,18.3s,baz=190,slow=40							
CPUP	**Villa Florida**	**14.34**	**62**	*e*Pn		**Pn**	**07 44 37.2**	**-0.5**
CPUP				S		**Sn**	**07 47 15.8**	**+0.5**
LPAZ	**La Paz**	**17.86**	**10**	P		**Pn**	**07 45 23.1**	**0.0**
	comp=N,0.7nm,0.3s,baz=167,slow=5.8,SNR=26							
LPAZ	**La Paz**	**17.86**	**10**	*e*P		**P**	**07 45 24.0**	**+0.6**
	comp=N,34nm,1.4s							
SIV	**San Ignacio**	**20.18**	**30**	P		**P**	**07 45 47.3**	**-0.9**
	comp=N,11nm,0.5s,baz=204,slow=9.7,SNR=38							
SIV				LR	LR		07 54 53.6	
	comp=N,104nm,20.8s,baz=288,slow=41							
USHA Ushuaia 20.95 175 P **P 07 45 57.4 +1.2**
comp=N,35nm,1.1s,baz=350,slow=10,SNR=6.3
SAML Samuel 26.03 19 *e*P **P 07 46 48.4 +2.0**
comp=N,5.3nm,0.6s
BDFB Brasilia 27.87 55 P **P 07 47 01.8 -1.2**
comp=N,5.4nm,0.6s,baz=222,slow=9.5,SNR=12
RPN Rapa Nui 33.25 271 LR LR 07 57 29.1
comp=N,132nm,18.8s,baz=130,slow=29
PTGA Pitinga 34.77 20 *e*P **P 07 48 02.7 -0.8**
comp=N,13nm,0.9s
ROSC El Rosal 38.73 355 P **P 07 48 40.6 +3.0**
comp=N,6.3nm,0.8s,baz=118,slow=3.7,SNR=6.1
ROSC El Rosal 38.73 355 *e*P P 07 48 41.1 +3.5
PCRV Puerto La Cruz 44.38 10 LR LR 08 11 15.6
comp=N,116nm,21.3s,baz=182,slow=41
VNA3 Neumayer Olymp 49.17 158 P **P 07 50 01.1 +0.8**
VNA2 Neumayer--Watz 49.81 157 P **P 07 50 05.6 +0.4**
baz=288,slow=8.2
SNAA Sanae 51.39 158 P **P 07 50 17.3 +0.1**
SNAA Sanae 51.39 158 P **P 07 50 17.0 -0.2**
comp=N,3.1nm,0.8s,baz=296,slow=7.2,SNR=18
SNAA LR LR 08 09 36.8
comp=N,12nm,19.1s,baz=346,slow=33
SNAA Sanae 51.39 158 *e*P **P 07 50 17.3 +0.1**
comp=N,9.9nm,0.9s
SDDR Presa de Saban 52.67 0 *e*P **P 07 50 28.7 +1.5**
comp=N,4.0nm,0.5s
QSPA South Pole Qui 56.25 180 P **P 07 50 53.6 +0.7**
comp=N,4.1nm,0.8s,baz=173,slow=1.4,SNR=17
QSPA pP **pP 07 51 06.5 +0.6**
comp=N,16nm,0.8s,baz=174,slow=1.0,SNR=24
TEIG Tepich 56.26 341 P **P 07 50 53.0 -0.2**
comp=N,12nm,0.7s,baz=155,slow=2.7,SNR=12
TEIG Tepich 56.26 341 *eP* **P 07 50 52.8 -0.4**
comp=N,16nm,0.8s
TEIG *e* 07 51 05.3
TBI Tubuai 67.85 256 *e*LR LR 08 12 50.1
comp=N,157nm,33.5s
MEH Mehetia 69.39 262 *eT* T 09 07 34.0
comp=N,27nm,0.3s
JCT Junction City 69.51 334 *e*P **P 07 52 20.9 -0.2**
comp=N,6.5nm,0.8s
JCT *e* 07 52 34.4
TXAR Lajitas Array 69.99 330 P **P 07 52 24.6 +0.4**
comp=N,1.2nm,0.5s,baz=158,slow=9.0,SNR=49
TXAR pP **pP 07 52 37.5 -0.1**
comp=N,2.3nm,0.5s,baz=156,slow=9.0,SNR=22
OXF Oxford 70.20 344 *e*P **P 07 52 24.9 -0.4**
comp=N,18nm,1.1s
OXF *e* 07 52 37.4
PPT2 Papeete2 70.78 261 *e*LR LR 08 14 06.6
comp=N,63nm,25.8s
MIAR Mount Ida 71.28 341 *e*P **P 07 52 33.2 +1.4**
comp=N,7.5nm,1.2s
MIAR *e* 07 52 45.2
ABTX Abilene, Hawle 71.39 335 *e*P **P 07 52 32.2 -0.4**
comp=N,6.9nm,0.8s
ABTX *e* 07 52 45.5
WVT Waverly 71.42 346 *e*P **P 07 52 31.9 -0.8**
comp=N,17nm,0.6s
WVT *e* 07 52 45.3
JSRW J. Sargeant Re 71.57 355 *e*P **P 07 52 34.0 +0.5**
PBMO Poplar Bluff 72.61 344 *e*P **P 07 52 39.4 -0.3**
comp=N,5.4nm,0.6s
MNTX Cornudas Mount 72.77 330 *e*P **P 07 52 40.1 -0.8**
comp=N,5.4nm,0.6s
MNTX *e* 07 52 53.1
WMOK Wichita Mounta 73.03 337 *e*P **P 07 52 41.7 -0.6**
comp=N,3.0nm,1.2s
WMOK *e* 07 52 54.2
MAW Mawson 73.04 163 P **P 07 52 42.1 +0.1**
comp=N,4.6nm,0.8s,baz=208,slow=3.5,SNR=7.1
MSTX Muleshoe 73.74 333 *e*P **P 07 52 46.6 -0.1**
comp=N,5.3nm,1.0s
MSTX *e* 07 52 59.4
SUR Sutherland 74.36 119 LR LR 08 20 49.1
comp=N,14nm,20.6s,baz=43,slow=32
121A Cookes Peak, D 74.51 329 *e*P **P 07 52 52.0 +0.8**
comp=N,7.7nm,0.8s
121A *e* 07 53 04.9
ACSO Alum Creek Sta 74.62 351 *e*P **P 07 52 50.3 -1.2**
comp=N,8.2nm,0.8s
ACSO *e* 07 53 03.8
DBIC Dimbokro 74.66 71 P **P 07 52 51.5 -0.8**
comp=N,4.3nm,0.8s,baz=221,slow=7.8,SNR=4.3
TUC Tucson 75.66 326 *e*P **P 07 52 57.5 -0.3**
comp=N,3.4nm,1.4s
ANMO Albuquerque 76.03 331 *e*P **P 07 53 00.6 +0.6**
comp=N,3.0nm,0.9s
ANMO *e* 07 53 13.7
T25A Trinidad 77.16 333 *e*P **P 07 53 07.6 +1.3**
comp=N,11nm,0.8s
SDCO Great Sand Dun 78.10 333 *e*P **P 07 53 12.1 +0.4**
comp=N,2.7nm,0.8s
S22A 4UR Ranch, Cre 78.61 332 *e*P **P 07 53 15.3 +0.8**
comp=N,7.5nm,1.6s
MVCO Mesa Verde 78.82 331 *e*P **P 07 53 16.3 +0.8**
comp=N,38nm,2.3s
MVCO *e* 07 53 29.2
Q24A Divide 79.04 334 *e*P **P 07 53 17.6 +0.7**
comp=N,8.0nm,0.6s
SMCO Snowmass 79.91 333 *e*P **P 07 53 22.9 +1.2**
ECSD EROS Data Cent 80.70 342 *e*P **P 07 53 24.9 -0.5**
comp=N,7.6nm,0.8s
ECSD *e* 07 53 37.9
SHPR Sheep Range 81.15 326 *e*P **P 07 53 29.2 +1.1**
comp=N,9.4nm,1.4s
SHPR *e* 07 53 42.3
SPMN Marine on St. 81.20 345 *e*P **P 07 53 26.4 -1.5**
comp=N,3.5nm,0.6s
SPMN *e* 07 53 40.0
PHWY Pilot Hill 81.22 335 *e*P **P 07 53 29.4 +0.9**
comp=N,3.2nm,0.6s
SRU San Rafael Swe 81.27 330 *e*P **P 07 53 29.2 +0.5**
comp=N,4.0nm,0.7s
SRU *e* 07 53 42.1
LBTB Lobatse 81.81 115 *e*P **P 07 53 31.4 -0.6**
comp=N,8.7nm,0.6s
R11A Troy Canyon, C 82.84 326 *e*P **P 07 53 37.9 +0.9**
comp=N,5.5nm,1.1s
R11A *e* 07 53 51.0
JLU Jordanelle 82.91 330 *e*P **P 07 53 37.5 +0.2**
comp=N,3.1nm,0.9s
JLU *e* 07 53 50.9
DUG Dugway, Tooele 83.14 329 *e*P **P 07 53 38.8 +0.4**
comp=N,3.5nm,1.0s
DUG *e* 07 53 52.3
TPH Tonopah 83.39 325 *e*P **P 07 53 40.3 +0.5**
comp=N,6.5nm,1.4s
TPH *e* 07 53 53.8
TORD Torodi Ar. Bea 83.69 70 P **P 07 53 40.9 -0.7**
comp=N,6.5nm,0.7s,baz=264,slow=4.4,SNR=22
HWUT Hardware Ranch 83.80 331 *e*P **P 07 53 41.5 -0.3**
comp=N,3.1nm,0.5s
HWUT *e* 07 53 54.9
BW06 Boulder Array 84.00 333 *e*P **P 07 53 43.1 +0.2**
comp=N,2.8nm,1.2s
BW06 *e* 07 53 56.0
PDAR Pinedale Array 84.00 333 P **P 07 53 42.8 -0.1**
comp=N,0.2nm,0.4s,baz=149,slow=6.3,SNR=4.3
NVAR Mina Array Bea 84.19 325 P **P 07 53 44.8 +0.9**
comp=N,0.5nm,0.5s,baz=160,slow=4.6,SNR=5.1
NVAR pP **pP 07 53 58.0 +0.4**
comp=N,2.7nm,0.8s,baz=152,slow=6.1,SNR=12
HVU Hansel Valley 84.44 330 *e*P **P 07 53 44.0 -1.0**
comp=N,2.0nm,0.8s
HVU *e* 07 53 58.4
ELK Elko 84.64 328 P **P 07 53 46.4 +0.3**
comp=N,1.1nm,0.7s,baz=118,slow=2.1,SNR=7.4
ELK pP **pP 07 53 59.8 -0.1**
comp=N,2.9nm,0.8s,baz=190,slow=3.2,SNR=9.8
AGMN Agassiz Nation 84.79 344 *e*P **P 07 53 46.0 -0.4**
comp=N,20nm,1.7s
AGMN *e* 07 53 58.4
MDND Maddock 85.30 341 *e*P **P 07 53 48.6 -0.4**
comp=N,7.8nm,0.6s
MDND *e* 07 54 01.6
IMW Indian Meadow 85.49 332 *e*P **P 07 53 50.6 +0.2**
comp=N,4.0nm,1.1s
FLWY Flagg Ranch 85.55 333 *e*P **P 07 53 51.0 +0.4**
RLMT Red Lodge 85.91 334 *e*P **P 07 53 52.4 0.0**
comp=N,3.7nm,0.6s
RLMT *e* 07 54 05.7
YMR Madison River 86.15 333 *e*P **P 07 53 54.6 +1.0**
comp=N,7.3nm,0.7s
YMR *e* 07 54 07.1

HLID	**Hailey**	**86.59**	**330**	*e*P		**P**		**07 53 55.8**	**+0.1**
	comp=N,2.3nm,1.0s								
HLID				*e*				07 54 09.5	
ULM	**Lac du Bonnet**	**86.63**	**345**	P		**P**		**07 53 54.5**	**-0.9**
	comp=N,1.7nm,0.7s,baz=169,slow=8.1,SNR=6.5								
MCMT	**McKenzie Canyo**	**87.01**	**332**	*e*P		**P**		**07 53 58.3**	**+0.5**
	comp=N,1.4nm,0.9s								
MCMT				*e*				07 54 11.3	
DGMT	**Dagmar**	**87.17**	**339**	*e*P		**P**		**07 53 58.6**	**+0.4**
	comp=N,6.7nm,0.6s								
DGMT				*e*				07 54 11.8	
SCHQ	**Schefferville**	**88.54**	**3**	P		**P**		**07 54 03.2**	**-1.4**
	comp=N,2.2nm,0.8s,baz=227,slow=18,SNR=3.6								
YBH	**Yreka Blue Hor**	**88.88**	**324**	P		**P**		**07 54 06.2**	**-0.3**
	comp=N,3.8nm,1.1s,baz=26,slow=4.8,SNR=4.8								
YKA	**Yellowknife Ar**	**102.22**	**341**	P		**Pdif**		**07 55 05.5**	**-1.2**
	comp=N,0.3nm,0.7s,baz=144,slow=4.3,SNR=5.9								
YKA				pP				07 55 19.2	
	comp=N,0.3nm,0.6s,baz=145,slow=4.5,SNR=4.6								
ASAR	**Alice Springs**	**117.83**	**206**	PKP		**PKPdf**		**07 59 57.4**	**-1.9**
	comp=N,0.4nm,0.7s,baz=98,slow=1.9,SNR=4.5								
ASAR				PKKPbc		**PKKPbc**		**08 10 18.4**	**-1.0**
	comp=N,0.4nm,0.8s,baz=340,slow=3.2,SNR=5.6								
WRA	**Warramunga Arr**	**121.04**	**208**	PKP		**PKPdf**		**08 00 04.1**	**-1.4**
	comp=N,0.6nm,0.5s,baz=158,slow=1.7,SNR=14								
WRAB	**Tennant Creek**	**121.04**	**208**	*e*PKPdf		**PKPdf**		**08 00 04.7**	**-0.8**
AKASG	**Malin Array Be**	**121.78**	**47**	PKP		**PKPdf**		**08 00 03.9**	**-1.9**
	comp=N,0.1nm,0.3s,baz=268,slow=1.6,SNR=4.1								
ARCES	**ARCESS Array B**	**123.77**	**25**	PKP		**PKPdf**		**08 00 08.2**	**-0.9**
	comp=N,0.9nm,0.6s,baz=247,slow=2.5,SNR=7.9								
H11S2	**WAKE ISLAND Hyl**	**126.32**	**269**	T		T		10 19 19.0	
	baz=118,slow=74,SNR=14								
H11S1	**WAKE ISLAND Hyl**	**126.33**	**269**	T		T		10 19 19.8	
	baz=118,slow=74,SNR=12								
H11S3	**WAKE ISLAND Hyl**	**126.34**	**269**	T		T		10 19 22.8	
	baz=118,slow=74,SNR=7.6								
AKTO	**Aktyubinsk**	**139.91**	**50**	PKP		**PKPdf**		**08 00 40.8**	**+0.7**
	comp=N,1.1nm,0.7s,baz=8.2,slow=16,SNR=4.3								
SEY	**Seymchan**	**140.29**	**330**	PKP		**PKPdf**		**08 00 40.7**	**+0.4**
	comp=N,1.3nm,0.5s,baz=113,slow=4.9,SNR=8.5								
BRVK	**Borovoye**	**146.82**	**43**	*e*PKPbc		**PKPbc**		**08 00 53.9**	**-0.1**
BVAR	**Borovoye Array**	**146.89**	**43**	PKPbc		**PKPbc**		**08 00 54.4**	**+0.2**
	comp=N,3.0nm,0.4s,baz=285,slow=3.1,SNR=18								
PSI	**Prapat**	**147.68**	**162**	PKPbc		**PKPbc**		**08 00 56.5**	**-1.2**
	comp=N,9.3nm,0.8s,baz=135,slow=1.0,SNR=6.7								
KKAR	**Karatay Array**	**149.06**	**62**	*e*PKPbc		**PKPbc**		**08 00 59.8**	**-0.5**
EKS2	**Erkin-Say**	**151.49**	**62**	*e*PKPbc		**PKPbc**		**08 01 06.2**	**-0.1**
AAK	**Ala-Archa**	**152.01**	**62**	PKPbc		**PKPbc**		**08 01 07.7**	**+0.2**
	comp=N,5.5nm,0.7s,baz=210,slow=3.6,SNR=18								
AAK	**Ala-Archa**	**152.01**	**62**	*e*PKPbc		**PKPbc**		**08 01 07.6**	**0.0**
KURBB	**Kurchatov Arra**	**152.48**	**44**	PKPbc		**PKPbc**		**08 01 07.7**	**-0.4**
	comp=N,2.8nm,0.6s,baz=298,slow=2.8,SNR=18								
KURBB				PKPab		**PKPab**		**08 01 18.5**	**0.0**
	comp=N,2.7nm,0.8s,baz=297,slow=2.9,SNR=9.3								
KURK	**Kurchatov**	**152.49**	**43**	PKPbc		**PKPbc**		**08 01 07.7**	**-0.4**
KURK				PKPab		**PKPab**		**08 01 18.5**	**-0.1**
KSH	**Kashi**	**153.35**	**69**	*e*PKPbc		**PKPbc**		**08 01 10.1**	**-0.5**
KSH				PKS		PKSdf		08 04 42.8	+5.4
KSH				SKS		**SKSdf**		**08 08 10.5**	**+4.3**
KSH				PPMZ					
	comp=N,65nm,7.3s								
KSH				LN					
	comp=N,75nm,6.6s								
KSH				LE					
	comp=N,45nm,6.9s								
KSH				LZ					
	comp=N,71nm,8.9s								
ZALV	**Zalesovo Beam**	**153.92**	**33**	PKP		**PKPdf**		**08 01 02.1**	**-1.0**
	comp=N,0.5nm,0.5s,baz=27,slow=0.7,SNR=4.2								
ZALV				PKPbc		**PKPbc**		**08 01 10.8**	**-0.3**
	comp=N,5.5nm,0.6s,baz=300,slow=3.3,SNR=30								
ZALV				PKPab		**PKPab**		**08 01 24.3**	**-0.2**
	comp=N,7.8nm,0.8s,baz=294,slow=3.8,SNR=17								
MKAR	**Makanchi Array**	**156.34**	**49**	PKP		**PKPdf**		**08 01 06.2**	**-0.5**
	comp=N,0.3nm,0.6s,baz=250,slow=6.3,SNR=4.0								
MKAR				PKPab		**PKPab**		**08 01 34.3**	**-0.9**
	comp=N,0.7nm,0.7s,baz=289,slow=3.7,SNR=5.2								
WMQ	**Urumqi**	**161.03**	**53**	*e*PKP		**PKPdf**		**08 01 11.6**	**-0.8**
WMQ				pPKP		**pPKPdf**		**08 01 22.0**	**-4.8**
SONM	**Songino Array**	**166.06**	**6**	PKPab		**PKPab**		**08 02 17.6**	**0.0**
	comp=N,0.5nm,0.8s,baz=343,slow=4.5,SNR=3.7								
NJ2	**Nanjing**	**171.19**	**260**	*e*PKP		**PKPdf**		**08 01 20.3**	**-0.4**
HHC	**Hu-ho-hao-te**	**172.76**	**342**	*e*PKP		**PKPdf**		**08 01 21.6**	**+0.2**
HHC				PP		**PP**		**08 06 41.6**	**+3.3**
HHC				SS		SS		08 27 49.1	+2.1
HHC				PPMZ					
	comp=N,33nm,9.9s								
HHC				LN					
	comp=N,76nm,22.6s								
HHC				LE					
	comp=N,88nm,22.3s								
HHC				LZ					
	comp=N,50nm,22.1s								
CD2	**Chengdu**	**174.87**	**125**	PKP		**PKPdf**		**08 01 22.0**	**-0.3**

*ISCJB **20** 07:55:42.0±0.6, 12.°05S±0.°07×76.°96W±0.°09, h72km±5km, mb3.9/15, Error ellipse: s-maj=15.3km s-min=9.3km az=152.8*

*IDC **20** 07:55:42.3±0.7, 12.°00S×76.°96W, h60km±6km, mb3.5/10, mb1 3.8/11, mb1mx3.6/40, mbtmp3.8/11, MS3.0/2, Ms1 3.0/2, ms1mx2.8/17, Error ellipse: s-maj=22.4km s-min=13.2km az=50.0*

*NEIC **20** 07:55:43.3±1.2, 12.°09S×76.°97W, h65km±10km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=13.0km az=61.0*

NEIC Felt [IV] at Chilca; [III] at Barranca, Chosica, Lima and Mala; [II] at Callao. Also felt at Huacho, Matucana, Ricardo Palma and San Vicente de Canete.

ISC 20 07:55:42.6±0.6, 12.°04S±0.°07×76.°8W±0.°1, h64km±5km, n39, σ1§44/33, mb3.9/15, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.08**	**313**	P	P	**Pn**	**07 55 52.3**	**+0.1**
	4µm,0.3s,baz=224,slow=3.5							
NNA				S		**Sn**	**07 55 59.7**	**+0.6**
	baz=162,slow=19							
ATAH	**Atahualpa**	**5.13**	**342**	P	P	**Pn**	**07 56 59.0**	**+1.8**
	6.9nm,0.3s,baz=156,slow=4.2,SNR=22							
ATAH				S		Sn	07 58 02.4	+7.0
	9.1nm,0.3s,baz=300,slow=22,SNR=8.4							
LPAZ	**La Paz**	**9.39**	**118**	P		Pn	07 58 00.4	+4.6
	0.7nm,0.3s,baz=297,slow=8.1,SNR=26							
LPAZ				LR		LR	08 02 28.0	
	comp=Z,85nm,21.8s,baz=28,slow=42							
LPAZ	**La Paz**	**9.39**	**118**	*e*Pn		Pn	07 58 00.1	+4.3
	4.9nm,0.7s							
OTAV	**Otavalo**	**12.31**	**352**	*e*Pn		**Pn**	**07 58 38.5**	**+2.9**
	4.5nm,0.9s							
LVC	**Limon Verde**	**12.92**	**146**	P		**Pn**	**07 58 45.6**	**+2.0**
	7.2nm,0.3s,baz=324,slow=19,SNR=3.1							
LVC				S		**Sn**	**08 01 02.8**	**-3.1**
	20nm,0.3s,baz=125,slow=18,SNR=3.4							
SAML	**Samuel**	**13.72**	**78**	*e*Pn		**Pn**	**07 58 54.9**	**+0.6**
	12nm,0.7s							
ROSC	**El Rosal**	**16.96**	**8**	LR		LR	08 07 27.1	
	comp=Z,48nm,19.2s,baz=339,slow=42							
PTGA	**Pitinga**	**20.12**	**57**	P		Pn	08 00 13.7	-0.1
	3.5nm,0.5s,baz=240,slow=17,SNR=9.4							
PTGA				S		**S**	**08 03 52.4**	**-1.7**
	1.8nm,0.5s,baz=329,slow=19,SNR=2.5							
PTGA	**Pitinga**	**20.12**	**57**	*e*P		Pn	08 00 15.5	+1.8
	3.4nm,0.6s							
CFAA	**Coronel Fontan**	**21.01**	**159**	P		**P**	**08 00 22.8**	**+1.8**
	1.5nm,0.6s,baz=13,slow=3.7,SNR=23							
SDV	**Santo Domingo**	**21.67**	**17**	*e*P		**P**	**08 00 30.4**	**+2.1**
	4.1nm,0.6s							
PLCA	**Paso Flores**	**29.10**	**170**	P		**P**	**08 01 37.4**	**+0.1**
	1.1nm,0.6s,baz=354,slow=14,SNR=3.8							
PLCA	**Paso Flores**	**29.10**	**170**	*e*P		**P**	**08 01 37.4**	**+0.1**
	6.8nm,1.3s							
TXAR	**Lajitas Array**	**48.63**	**328**	P		**P**	**08 04 19.8**	**-0.5**
	0.4nm,0.7s,baz=150,slow=8.8,SNR=6.5							
TXAR				pP		**pP**	**08 04 36.0**	**-0.7**
	0.2nm,0.5s,baz=151,slow=8.6,SNR=4.1							
MIAR	**Mount Ida**	**49.00**	**342**	*e*P		**P**	**08 04 23.1**	**+0.2**
	2.7nm,0.6s							
TUL1	**Leonard**	**50.96**	**340**	*e*P		**P**	**08 04 37.6**	**-0.1**
	5.9nm,0.8s							
PV01	**Paradox Valley**	**58.11**	**331**	*e*P		**P**	**08 05 30.0**	**+0.2**
PDAR	**Pinedale Array**	**62.26**	**333**	P		**P**	**08 05 57.5**	**-0.7**
	0.3nm,0.5s,baz=130,slow=8.5,SNR=3.7							
HWUT	**Hardware Ranch**	**62.26**	**331**	*e*P		**P**	**08 05 57.4**	**-0.7**
	2.7nm,0.8s							
NVAR	**Mina Array Bea**	**63.45**	**324**	P		**P**	**08 06 06.2**	**+0.1**
	0.8nm,0.7s,baz=130,slow=7.9,SNR=5.8							
ULM	**Lac du Bonnet**	**64.24**	**347**	P		**P**	**08 06 09.6**	**-1.1**
	2.1nm,0.7s,baz=169,slow=8.5,SNR=5.4							
SNAA	**Sanae**	**73.61**	**162**	P		**P**	**08 07 09.6**	**+0.8**
	0.4nm,0.5s,baz=287,slow=11,SNR=5.9							
QSPA	**South Pole Qui**	**78.09**	**180**	*e*P		**P**	**08 07 35.9**	**+1.4**
	1.6nm,1.0s							
YKA	**Yellowknife Ar**	**79.91**	**343**	P		**P**	**08 07 43.5**	**-0.6**
	0.9nm,0.7s,baz=142,slow=5.9,SNR=14							
YKA				pP		**pP**	**08 08 00.2**	**-1.6**
	0.2nm,0.4s,baz=143,slow=5.6,SNR=4.5							
SUMG	**Summit**	**88.08**	**11**	*e*P		**P**	**08 08 26.6**	**+0.6**
	2.1nm,0.6s							
ILAR	**Eielson Array**	**92.55**	**336**	P		**P**	**08 08 45.6**	**-0.9**
	0.3nm,0.8s,baz=132,slow=1.3,SNR=4.3							
ILAR				pP		**pP**	**08 09 02.6**	**-1.9**
	0.4nm,0.7s,baz=165,slow=3.7,SNR=3.4							
H11N3	**WAKE ISLAND Hyl**	**158.55**	**286**	T		T	10 23 26.9	
	baz=93,slow=76							
H11N2	**WAKE ISLAND Hyl**	**158.56**	**286**	T		T	10 23 18.7	
	baz=93,slow=76							
H11N1	**WAKE ISLAND Hyl**	**158.57**	**286**	T		T	10 23 21.6	
	baz=93,slow=76							
H11S2	**WAKE ISLAND Hyl**	**158.67**	**285**	T		T	10 23 46.2	
	baz=94,slow=74,SNR=32							
H11S1	**WAKE ISLAND Hyl**	**158.67**	**285**	T		T	10 23 41.4	
	baz=94,slow=74,SNR=38							
H11S3	**WAKE ISLAND Hyl**	**158.69**	**285**	T		T	10 23 42.2	
	baz=94,slow=74,SNR=36							
ASAR	**Alice Springs**	**133.52**	**220**	PKP		**PKPdf**	**08 14 52.0**	**-0.6**
	0.4nm,0.4s,baz=122,slow=2.2,SNR=11							
ZALV	**Zalesovo Beam**	**135.72**	**15**	PKP		**PKPdf**	**08 14 55.8**	**+0.1**
	0.6nm,0.7s,baz=0.0,slow=1.4,SNR=3.2							
WRA	**Warramunga Arr**	**135.86**	**224**	PKP		**PKPdf**	**08 14 56.4**	**-0.7**
	1.2nm,0.7s,baz=130,slow=2.1,SNR=13							
KSH	**Kashi**	**143.53**	**37**	*e*PKP	PKPab		08 15 05.3	-1.7
KSH				sPKP			08 15 42.8	
KSH				PP	**PP**		**08 18 19.8**	**-2.5**
KSH				PKS	PKSdf		08 18 39.6	-6.7
KSH				SKS	SKSdf		08 22 03.4	-12
KSH				SKKS	SKKSac		08 24 59.0	-11
KSH				AMB	AMB			
	comp=Z,140nm,5.6s							
KSH				LR	LR			
	comp=N,67nm,5.9s							
KSH				LR	LR			
	comp=E,43nm,6.6s							
KSH				LR	LR			
	comp=Z,160nm,5.9s							
SONM	**Songino Array**	**144.22**	**356**	PKP	PKPbc		08 15 10.1	+0.3
	comp=Z,0.7nm,0.5s,baz=323,slow=2.5,SNR=7.0							
HHC	**Hu-ho-hao-te**	**150.38**	**347**	*e*PKPbc		**PKPdf**	**08 15 20.4**	**-1.5**

IDC 20 08:02:42.6±2.9, 0.°78S×15.°75W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.2/51, mbtmp3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=108.7km s-min=61.6km az=133.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.12**	**170**	T	T		08 12 06.5	
	baz=347,slow=74,SNR=18							
H10N3	**ASCENSION HYDR**	**7.12**	**170**	T	T		08 12 05.9	
	baz=347,slow=74,SNR=23							
H10N1	**ASCENSION HYDR**	**7.13**	**170**	T	T		08 12 08.0	
	baz=347,slow=74,SNR=21							
H10S1	**ASCENSION HYDR**	**8.18**	**172**	T	T		08 13 24.9	
	baz=351,slow=74,SNR=17							
H10S3	**ASCENSION HYDR**	**8.19**	**172**	T	T		08 13 26.6	
	baz=351,slow=74,SNR=23							
H10S2	**ASCENSION HYDR**	**8.20**	**172**	T	T		08 13 24.6	
	baz=351,slow=74,SNR=16							
TORD	**Torodi Ar. Bea**	**22.15**	**51**	P	P		08 07 40.2	0.0
	1.8nm,0.8s,baz=234,slow=11,SNR=9.0							
MSKU	**Masuku**	**29.36**	**92**	LR	LR		08 18 08.9	
	comp=Z,49nm,19.0s,baz=254,slow=32							
FINES	**FINESS Array B**	**69.74**	**20**	P	P		08 13 54.2	0.0
	0.5nm,0.6s,baz=221,slow=5.5,SNR=4.0							
ASAR	**Alice Springs**	**141.79**	**131**	PKP	PKPdf		08 22 17.6	+0.4
	0.3nm,0.8s,baz=251,slow=2.8,SNR=3.9							
WRA	**Warramunga Arr**	**144.17**	**127**	PKP	PKPbc		08 22 20.5	+1.0
	0.4nm,1.1s,baz=237,slow=2.7,SNR=5.7							

*IDC **20** 08:08:17.4±1.0, 0.°24S×18.°17W, h0km, mb3.8/11, mb1 4.1/13, mb1mx3.8/54, mbtmp4.0/13, ML5.0/2, MS3.8/23, Ms1 3.7/23, ms1mx3.7/29, Error ellipse: s-maj=39.1km s-min=16.0km az=145.0*

*ISCJB **20** 08:08:20.0±0.6, 0.°1S±0.°1×18.°17W±0.°07, h23km, mb4.1/16, MS3.8/21, Error ellipse: s-maj=17.5km s-min=8.2km az=157.2*

*GCMT **20** 08:08:19.5±0.2, 0.°04N×18.°41W, h20km±1km, MW4.9/89, Moment Tensor Solution. s45,c58; s89,c115; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.13±.11; Mθθ0.99±.10; Mϕϕ-1.12±.10; Mrθ0.49±.19; Mrϕ-2.92±.09; Mθϕ-0.01±.18; Best double couple: Mw3.1 4300×10^16^ NP1:ϕ80.0000°, δ81.0000°, λ.20000°. NP2: ϕ170.00000°, δ81.00000°, λ171.00000°. Principal axes: T 3.0940, Plg8.0000°, Azm35.0000°; N 0.0990, Plg81.0000°, Azm246.0000°; P -3.1920, Plg5.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 08:08:19.5±0.6, 0.°16S×18.°13W, h10km, mb4.5/7 Error ellipse: s-maj=18.5km s-min=10.5km az=148.0*

ISC 20 08:08:21.9±0.6, 0.°1S±0.°1×18.°22W±0.°09, h23km, n50, σ1§64/27, mb4.0/16, MS3.8/21, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.54**	**154**	T	T		08 19 26.3	
	baz=333,slow=74,SNR=48							
H10N3	**ASCENSION HYDR**	**8.55**	**154**	T	T		08 19 24.2	
	baz=333,slow=74,SNR=167							
H10N1	**ASCENSION HYDR**	**8.56**	**154**	T	T		08 19 17.7	
	baz=333,slow=74,SNR=139							
H10S1	**ASCENSION HYDR**	**9.49**	**158**	T	T		08 20 29.8	
	baz=338,slow=74,SNR=57							
H10S3	**ASCENSION HYDR**	**9.50**	**158**	T	T		08 20 43.1	
	baz=338,slow=74,SNR=60							
H10S2	**ASCENSION HYDR**	**9.51**	**158**	T	T		08 20 36.2	
	baz=338,slow=74,SNR=59							
LIC	**Lamto**	**14.58**	**64**	*e*P		**Pn**	**08 11 47.7**	**+0.7**
	6.5nm,0.2s							
BBTS	**Babate**	**14.75**	**6**	Pn		**Pn**	**08 11 47.7**	**-1.5**
	5.6nm,0.3s,baz=352,slow=1.9,SNR=4.4							
BBTS				Sn		Sn	08 14 17.0	-15
	3.8nm,0.3s,baz=158,slow=19,SNR=3.5							
BBTS				LR		LR	08 16 21.3	
	comp=Z,475nm,20.4s,baz=212,slow=32							
TIC	**Toumodi**	**14.77**	**63**	*e*P		**Pn**	**08 11 48.8**	**-0.8**
	3.3nm,0.2s							
KIC	**Kosan Boka**	**14.90**	**64**	*e*P		**Pn**	**08 11 50.2**	**-1.1**
	0.6nm,0.2s							
DBIC	**Dimbokro**	**14.93**	**63**	Pn		**Pn**	**08 11 50.4**	**-1.3**
	7.1nm,0.3s,baz=235,slow=14,SNR=63							
DBIC				Sn		Sn	08 14 25.3	-11
	3.5nm,0.3s,baz=143,slow=18,SNR=7.0							
DBIC	**Dimbokro**	**14.93**	**63**	*e*P		**Pn**	**08 11 50.0**	**-1.6**
	16nm,0.4s							
DBIC				Sn		Sn	08 14 25.3	-11
RCBR	**Riachuelo**	**18.55**	**252**	P		P	08 12 31.5	-5.7
	0.9nm,0.3s,baz=57,slow=17,SNR=9.2							
RCBR				S		Sn	08 15 38.5	-26
	0.3nm,0.3s,baz=207,slow=18,SNR=4.3							
RCBR				LR		LR	08 17 32.4	
	comp=Z,171nm,20.6s,baz=69,slow=30							
RCBR	**Riachuelo**	**18.55**	**252**	*e*P		**P**	**08 12 37.0**	**-0.3**
	21nm,1.3s							
RCBR				S		Sn	08 15 38.5	-26
TORD	**Torodi Ar. Bea**	**23.72**	**56**	P		**P**	**08 13 31.4**	**-1.0**
	7.0nm,0.6s,baz=244,slow=11,SNR=41							
TORD				S		**S**	**08 17 51.8**	**+5.3**
	5.3nm,1.1s,baz=231,slow=22,SNR=5.9							
BDFB	**Brasilia**	**33.23**	**241**	P		**P**	**08 14 57.8**	**+0.2**
	2.5nm,0.7s,baz=125,slow=6.9,SNR=5.0							
BDFB				LR		LR	08 26 53.1	
	comp=Z,168nm,18.4s,baz=64,slow=34							
MDT	**Midelt**	**35.15**	**20**	P		**P**	**08 15 15.9**	**+1.8**
	1.2nm,0.8s,baz=342,slow=20,SNR=4.7							
PAB	**San Pablo**	**41.43**	**16**	*e*P		**P**	**08 16 08.6**	**+1.7**
	4.7nm,1.0s							
ESDC	**Sonseca Array**	**41.66**	**17**	P		**P**	**08 16 10.2**	**+1.5**
	0.2nm,0.3s,baz=218,slow=8.1,SNR=5.9							
PTGA	**Pitinga**	**41.75**	**269**	P		**P**	**08 16 09.9**	**+0.1**
	1.0nm,0.5s,baz=52,slow=12,SNR=2.4							
KEST	**Kesra**	**43.91**	**33**	LR		LR	08 36 06.3	
	comp=Z,179nm,19.8s,baz=176,slow=38							
FDF	**Fort de France**	**44.92**	**291**	*e*P		**P**	**08 16 38.0**	**+2.6**
	57nm,1.1s							
SIV	**San Ignacio**	**45.13**	**247**	LR		LR	08 33 53.4	
	comp=Z,116nm,21.3s,baz=110,slow=34							
CPUP	**Villa Florida**	**45.81**	**232**	LR		LR	08 34 19.6	
	comp=Z,696nm,19.1s,baz=60,slow=34							
LBTB	**Lobatse**	**49.06**	**124**	*e*P		**P**	**08 17 08.2**	**+0.5**
	62nm,1.9s							
LPAZ	**La Paz**	**51.76**	**249**	P		**P**	**08 17 26.8**	**-2.1**
	0.9nm,0.8s,baz=66,slow=4.4,SNR=2.6							
LPAZ	**La Paz**	**51.76**	**249**	*e*P		**P**	**08 17 29.9**	**+1.0**
	1.9nm,1.0s							
GERES	**GERESS Array B**	**55.97**	**25**	LR		LR	08 43 13.9	
	comp=Z,62nm,18.3s,baz=262,slow=37							
ROSC	**El Rosal**	**56.25**	**276**	LR		LR	08 40 16.6	
	comp=Z,62nm,19.1s,baz=92,slow=34							
CFAA	**Coronel Fontan**	**56.70**	**231**	LR		LR	08 40 48.9	
	comp=Z,14nm,19.6s,slow=34							
NNA	**Nana**	**59.35**	**256**	LR		LR	08 42 13.6	
	comp=Z,126nm,20.7s,baz=72,slow=34							
MLR	**Mumele Rosu**	**59.77**	**35**	P		**P**	**08 18 23.7**	**-1.6**
	0.3nm,0.4s,baz=196,slow=7.4,SNR=3.2							
BRTR	**Keskin Array B**	**61.62**	**44**	P		**P**	**08 18 37.4**	**-0.7**
	0.8nm,0.7s,baz=255,slow=4.7,SNR=3.6							
BRTR				LR		LR	08 48 06.8	
	comp=Z,54nm,18.9s,baz=224,slow=39							
PLCA	**Paso Flores**	**62.27**	**223**	LR		LR	08 42 08.3	
	comp=Z,62nm,21.7s,baz=110,slow=33							
AKASG	**Malin Array Be**	**64.60**	**31**	P		**P**	**08 18 57.2**	**-0.2**
	0.3nm,0.3s,baz=233,slow=6.7,SNR=8.2							
AKASG				LR		LR	08 49 00.6	
	comp=Z,42nm,18.4s,baz=270,slow=38							
NOA	**NORSAR Array B**	**65.00**	**15**	LR		LR	08 48 57.8	
	comp=Z,42nm,19.5s,baz=200,slow=38							
KBZ	**Khabaz**	**69.57**	**43**	LR		LR	08 52 08.4	
	comp=Z,33nm,20.4s,baz=220,slow=38							
FINES	**FINESS Array B**	**69.96**	**21**	LR		LR	08 52 13.2	
	comp=Z,95nm,18.5s,baz=204,slow=38							
ARCES	**ARCESS Array B**	**75.36**	**15**	LR		LR	08 53 12.2	
	comp=Z,51nm,20.4s,baz=232,slow=36							
GEYT	**Alibeck**	**79.29**	**51**	LR		LR	08 58 26.9	
	comp=Z,36nm,18.2s,baz=280,slow=38							
ULM	**Lac du Bonnet**	**82.17**	**321**	LR		LR	08 52 14.5	
	comp=Z,63nm,18.1s,baz=350,slow=32							
ABKAR	**Akbulak array**	**82.34**	**40**	*e*P		**P**	**08 20 41.4**	**-0.5**
	7.7nm,1.4s							
MSTX	**Muleshoe**	**85.52**	**304**	*e*P		**P**	**08 20 59.0**	**+0.4**
	2.8nm,0.8s							
TXAR	**Lajitas Array**	**86.06**	**299**	P		**P**	**08 21 00.3**	**-1.1**
	0.4nm,0.8s,baz=116,slow=5.8,SNR=5.0							
TXAR				LR		LR	08 56 42.8	
	comp=Z,28nm,19.8s,baz=0.0,slow=34							
MAW	**Mawson**	**86.52**	**158**	LR		LR	08 50 34.4	
	comp=Z,63nm,21.0s,baz=241,slow=29							
PDAR	**Pinedale Array**	**91.04**	**313**	LR		LR	08 56 02.0	
	comp=Z,52nm,21.8s,baz=114,slow=31							
YKA	**Yellowknife Ar**	**93.03**	**332**	P		**P**	**08 21 32.1**	**-1.3**
	0.4nm,0.7s,baz=81,slow=5.3,SNR=3.7							
MKAR	**Makanchi Array**	**97.26**	**43**	LR		LR	09 12 18.8	
	comp=Z,30nm,18.8s,baz=336,slow=40							
ASAR	**Alice Springs**	**144.09**	**133**	PKP		**PKPab**	**08 27 53.8**	**-0.4**
	1.0nm,0.9s,baz=230,slow=3.0,SNR=7.7							
WRA	**Warramunga Arr**	**146.56**	**128**	PKPbc		**PKPdf**	**08 28 01.5**	**+0.5**
	1.0nm,1.1s,baz=245,slow=2.2,SNR=3.7							

**IDC 20 08:37:44.6±10.0, 4.°74S×153.°63E, h166km±89km, mb3.1/3, mb1 3.5/4, mb1mx3.2/25, mbtmp3.8/4, Error ellipse: s-maj=89.7km s-min=28.1km az=115.0

DRK	**Karamyk**	**0.35**	**278**	*i* P		**Pb**	**08 42 44.0**	**-0.5**
	baz=291								
DRK				*e*S		**Sb**	**08 42 50.7**	**+0.4**
	baz=356								
CHVK	**Chauvay**	**0.70**	**358**	⇓*i*P		**Pn**	**08 42 51.0**	**-1.1**
	baz=356								
CHVK				⇓*e*S		**Sn**	**08 43 02.8**	**-0.3**
	baz=356								
SFK	**Sufi-Kurgan**	**1.12**	**59**	⇑P		**Pn**	**08 42 58.3**	**+0.3**
	72nm,0.4s								
SFK				⇓S		**Sn**	**08 43 14.0**	**+0.3**
	389nm,0.4s								
BTK	**Batken**	**1.27**	**300**	*e*P		**Pg**	**08 43 00.4**	**+0.1**
	baz=303								
BTK				*e*S		**Sn**	**08 43 18.9**	**+1.9**
	baz=303								
SALK	**Salom-Alik**	**1.88**	**39**	*i* P		**Pg**	**08 43 12.0**	**0.0**
	baz=37								
SALK				*e*S		**Sg**	**08 43 39.1**	**+2.7**
	baz=37								
DZET	**Dzherino**	**2.74**	**258**	⇑Pn		**Pb**	**08 43 24.0**	**-1.1**
	90nm,0.3s								
DZET				⇑Lg		Lg	08 44 03.7		
	281nm,0.5s								
DZET	**Dzherino**	**2.74**	**258**	PN		**Pb**	**08 43 24.0**	**-1.1**
DZET				S		**Sg**	**08 44 03.6**	**-0.3**
DZET				pmax	pmax				
	comp=Z,148nm,0.5s								
DZET				smax	smax				
	comp=N,336nm,0.5s								
KSH	**Kashi**	**2.88**	**87**	Pn		**Pn**	**08 43 22.5**	**+0.4**
KSH				Sn		**Sn**	**08 43 57.6**	**+0.8**
KSH				SMN					
	comp=N,1μm,0.8s								
KSH				SME					
	comp=N,1μm,0.9s								
AML	**Almayashu**	**2.91**	**22**	P		**Pb**	**08 43 28.6**	**+0.4**
	SNR=730								
AML	**Almayashu**	**2.91**	**22**	*i* PN		**Pb**	**08 43 28.6**	**+0.4**
MNAS	**Manas**	**3.06**	**3**	⇑Pn		**Pb**	**08 43 30.6**	**0.0**
	comp=N,41nm,0.4s								
MNAS				⇑Lg		Lg	08 44 10.3		
	comp=N,86nm,0.4s								
UCH	**Uchtor**	**3.27**	**31**	P		**Pb**	**08 43 33.9**	**-0.5**
	SNR=43								
UCH	**Uchtor**	**3.27**	**31**	*i* PN		**Pb**	**08 43 33.9**	**-0.5**
EKS2	**Erkin-Say**	**3.42**	**19**	P		**Pb**	**08 43 36.5**	**-0.3**
	SNR=53								
EKS2	**Erkin-Say**	**3.42**	**19**	*e*PN		**Pb**	**08 43 35.9**	**-0.9**
EKS2				*e*			08 44 20.1		
EKS2	**Erkin-Say**	**3.42**	**19**	*e*Pn		**Pb**	**08 43 35.9**	**-0.9**
EKS2				*e*Sn		**Sb**	**08 44 20.1**	**+1.6**
KZA	**Kyzart**	**3.49**	**40**	P		**Pb**	**08 43 36.0**	**-2.1**
	SNR=73								
KZA	**Kyzart**	**3.49**	**40**	*i* PN		**Pb**	**08 43 35.9**	**-2.1**
AAK	**Ala-Archa**	**3.62**	**27**	⇑Pn		**Pb**	**08 43 38.6**	**-1.5**
	comp=N,41nm,0.6s								
AAK				⇓Lg		Lg	08 44 26.3		
	comp=N,128nm,0.8s								
AAK	**Ala-Archa**	**3.62**	**27**	P		**Pb**	**08 43 38.7**	**-1.4**
	SNR=64								
AAK	**Ala-Archa**	**3.62**	**27**	*c i*PN		**Pb**	**08 43 38.4**	**-1.7**
AAK	**Ala-Archa**	**3.62**	**27**	Pn		**Pb**	**08 43 38.6**	**-1.5**
	comp=N,16nm,0.3s,baz=175,slow=6.0,SNR=102								
AAK				Sn		**Sb**	**08 44 24.8**	**+0.7**
	comp=N,13nm,0.3s,baz=324,slow=18,SNR=3.4								
AAK				LR		LR	08 45 19.6		
	comp=N,124nm,20.7s,baz=204,slow=43								
AAK	**Ala-Archa**	**3.62**	**27**	*e*Pn		**Pb**	**08 43 38.5**	**-1.5**
AAK				*e*Sn		**Sg**	**08 44 32.6**	**+0.5**
KBK	**Karagaybulak**	**3.81**	**31**	P		**Pb**	**08 43 41.5**	**-1.9**
	SNR=16								
KBK	**Karagaybulak**	**3.81**	**31**	*i* PN		**Pb**	**08 43 41.5**	**-1.9**
KK31	**Karatay Array**	**3.89**	**341**	⇑Pn		**Pb**	**08 43 41.6**	**-3.1**
	comp=N,12nm,0.3s,baz=147,slow=11,SNR=405								
KK31				⇑Sn		**Sb**	**08 44 30.4**	**-1.5**
	comp=N,35nm,0.3s,baz=158,slow=22,SNR=5.8								
KK31				⇓Lg		Lg	08 44 43.2		
	comp=N,85nm,0.7s,baz=158,slow=29,SNR=4.4								
KK31	**Karatay Array**	**3.89**	**341**	PN		Pb	08 43 41.4	-3.3	
KK31				S		**Sb**	**08 44 29.9**	**-2.0**	
KK31				pmax	pmax				
	comp=Z,25nm,0.2s								
KK31				smax	smax				
	comp=N,60nm,0.3s								
KKAR	**Karatay Array**	**3.89**	**341**	*e*PN		**Pb**	**08 43 41.6**	**-3.1**	
KKAR				*e*			08 44 30.5		
KKAR	**Karatay Array**	**3.89**	**341**	*e*Pn		**Pb**	**08 43 41.6**	**-3.1**	
KKAR				*e*Sn		**Sb**	**08 44 30.5**	**-1.4**	
CHMS	**Chumysh**	**4.03**	**27**	P		**Pb**	**08 43 44.3**	**-2.7**	
	SNR=36								
CHMS	**Chumysh**	**4.03**	**27**	*i* PN		**Pb**	**08 43 44.3**	**-2.7**	
ULHL	**Ulahol**	**4.13**	**46**	P		Pb	08 43 44.8	-4.1	
	SNR=16								
ULHL	**Ulahol**	**4.13**	**46**	*i* PN		Pb	08 43 44.7	-4.1	
USP	**Ospenovka**	**4.19**	**23**	*i* PN		Pb	08 43 46.1	-3.6	
TKM2	**Tokmak 2**	**4.30**	**35**	⇓Pn		Pb	08 43 47.5	-4.3	
	comp=N,16nm,0.4s								
TKM2				⇑Lg		Lg	08 44 54.9		
	comp=N,35nm,0.5s								
TKM2	**Tokmak 2**	**4.30**	**35**	P		Pb	08 43 47.8	-4.0	
	SNR=9.2								
TKM2	**Tokmak 2**	**4.30**	**35**	*e*PN		Pb	08 43 47.3	-4.5	
TKM2	**Tokmak 2**	**4.30**	**35**	*e*Pn		Pb	08 43 47.3	-4.5	
KBL	**Kabul**	**5.52**	**209**	*e*PN		Pn	08 44 04.4	+6.0	
KBL				pmax	pmax				
	comp=Z,27nm,0.9s								
KBL	**Kabul**	**5.52**	**209**	*e*Pn		Pn	08 44 04.4	+6.0	
	comp=Z,27nm,0.9s								
PDGK	**Podgornoye**	**6.69**	**52**	⇓Pn		Pn	08 44 18.6	+4.4	
	comp=Z,6.4nm,0.6s								
PDGK				⇓Lg		Lg	08 46 08.6		
	comp=Z,23nm,0.8s								
PDGK	**Podgornoye**	**6.69**	**52**	PN		Pn	08 44 18.5	+4.4	
PDGK				S		**Sg**	**08 46 08.5**	**-2.0**	
PDGK				pmax	pmax				
	comp=Z,6.0nm,0.6s								
PDGK				smax	smax				
	comp=N,25nm,0.8s								
DLH	**Dalhousie**	**7.51**	**155**	*e*P		**Sn**	**08 45 49.0**	**-2.0**	
IMYA	**Miami**	**10.09**	**256**	*e*P		**Pn**	**08 44 59.8**	**-1.3**	
MK31	**Makanchi Array**	**10.38**	**42**	⇑Pn		Pn	08 45 10.2	+5.3	
	comp=N,1.1nm,0.5s,baz=218,slow=13,SNR=26								
MK31				Lg		Lg	08 48 06.8		
MK31	**Makanchi Array**	**10.38**	**42**	*i* P		Pn	08 45 09.6	+4.7	
MK31				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**10.38**	**42**	Pn		Pn	08 45 10.2	+5.3	
	comp=Z,0.3nm,0.3s,baz=223,slow=13,SNR=27								
MKAR				Lg		Lg	08 48 00.8		
	comp=Z,0.1nm,0.3s,baz=234,slow=22,SNR=2.7								
MKAR				LR		LR	08 49 06.2		
	comp=Z,18nm,21.3s,baz=190,slow=37								
IMOG	**Moghan**	**10.75**	**256**	*e*P		**Pn**	**08 45 09.9**	**-0.3**	
IAKL	**Akhelmad**	**11.02**	**259**	*e*P		**Pn**	**08 45 14.2**	**+0.3**	
IAKL				*e*			08 47 34.5		
	comp=N,225nm,0.2s								
IKRD	**Kardeh**	**11.14**	**261**	*e*P		Pn	08 45 06.1	-10	
GEYT	**Alibeck**	**11.15**	**267**	Pn		**Pn**	**08 45 15.9**	**+0.5**	
	comp=N,0.5nm,0.3s,baz=93,slow=6.3,SNR=2.5								
GEYT				Sn		**Sn**	**08 47 22.1**	**+1.8**	
	comp=N,0.9nm,0.3s,baz=78,slow=14,SNR=3.1								
KURBB	**Kurchatov Arra**	**12.03**	**20**	⇑Pn		**Pn**	**08 45 30.0**	**+2.6**	
	comp=N,4.0nm,0.7s								
KURBB				⇑Lg		Lg	08 48 58.6		
	comp=N,17nm,0.7s								
KURBB	**Kurchatov Arra**	**12.03**	**20**	Pn		**Pn**	**08 45 29.9**	**+2.6**	
	comp=N,0.1nm,0.3s,baz=214,slow=13,SNR=17								
KURBB				Lg		Lg	08 48 56.5		
	comp=N,0.1nm,0.3s,baz=211,slow=30,SNR=5.9								
KURK	**Kurchatov**	**12.14**	**20**	⇓Pn		**Pn**	**08 45 26.6**	**-2.3**	
	comp=N,2.0nm,1.0s								
KURK				⇓Lg		Lg	08 49 00.9		
	comp=N,7.2nm,0.9s								
KURK	**Kurchatov**	**12.14**	**20**	P		**Pn**	**08 45 30.0**	**+1.1**	
KURK	**Kurchatov**	**12.14**	**20**	Pn		**Pn**	**08 45 29.9**	**+1.1**	
KURK				Lg		Lg	08 48 56.5		
WMQ	**Urumqi**	**12.36**	**64**	*e*P		**Pn**	**08 45 29.1**	**-2.8**	
WMQ				pP			08 45 39.0		
WMQ				pmax	pmax				
	comp=Z,10.0nm,0.8s								
AB31	**Akbulak array**	**13.17**	**322**	Pn		**Pn**	**08 45 43.5**	**+0.5**	
	comp=Z,2.8nm,0.5s,baz=129,slow=14,SNR=62								
AB31				⇓Sn		**Sn**	**08 48 05.9**	**-3.6**	
	comp=Z,3.6nm,0.5s,baz=126,slow=25,SNR=7.7								
AB31	**Akbulak array**	**13.17**	**322**	P		**Pn**	**08 45 43.5**	**+0.5**	
AB31				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ABKAR	**Akbulak array**	**13.17**	**322**	*e*Pn		**Pn**	**08 45 43.5**	**+0.5**	
	comp=Z,4.7nm,0.4s								
ABKAR				*e*Sn		**Sn**	**08 48 08.5**	**-1.0**	
BVAR	**Borovoye Array**	**13.65**	**355**	Pn		**Pn**	**08 45 51.3**	**+1.8**	
	comp=Z,0.3nm,0.3s,baz=159,slow=9.3,SNR=5.8								
BRVK	**Borovoye**	**13.69**	**355**	*e*P		**P**	**08 45 57.7**	**-1.2**	
BRVK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
AKTO	**Aktyubinsk**	**14.89**	**322**	⇓Pn		**Pn**	**08 46 08.2**	**+1.7**	
	comp=Z,6.9nm,0.7s								
AKTO				⇑Sn		**Sn**	**08 48 46.3**	**-5.0**	
	comp=Z,4.5nm,0.6s								
AKTO	**Aktyubinsk**	**14.89**	**322**	Pn		**Pn**	**08 46 08.1**	**+1.7**	
	comp=Z,0.3nm,0.3s,baz=120,slow=17,SNR=6.4								
AKTO				Sn		**Sn**	**08 48 46.4**	**-5.0**	
	comp=Z,0.2nm,0.3s,baz=277,slow=19,SNR=4.0								
ZALV	**Zalesovo Beam**	**16.84**	**26**	P		**P**	**08 46 33.7**	**-0.1**	
	comp=Z,1.2nm,0.3s,baz=221,slow=13,SNR=13								
NVS	**Novosibirsk**	**17.09**	**22**	*e*P		**P**	**08 46 36.4**	**-0.1**	
NVS				*e*			08 49 47.9		
ARU	**Arti**	**19.26**	**337**	*d i*P		**Pn**	**08 47 03.2**	**+1.9**	
ARU				S		S	08 50 44.9	+6.6	
ARU				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GNI	**Garni**	**21.12**	**281**	*e*P		**P**	**08 47 21.3**	**+0.3**	
GNI				pmax	pmax				
	comp=Z,8.0nm,1.2s								
GNI	**Garni**	**21.12**	**281**	P		**P**	**08 47 21.6**	**+0.6**	
	comp=Z,9.2nm,0.4s,baz=18,slow=3.2,SNR=4.4								
GNI	**Garni**	**21.12**	**281**	*e*P		**P**	**08 47 21.6**	**+0.6**	
	comp=Z,12nm,0.6s								
ZEI	**Tsey**	**21.58**	**288**	*e*P		**P**	**08 47 29.3**	**+3.4**	
ZEI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**22.47**	**291**	*e*P		**P**	**08 47 34.3**	**-1.1**	
KIV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
ZAK	**Zakamensk**	**24.38**	**53**	*e*P		**P**	**08 47 54.6**	**+0.3**	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.8s								
SONM	**Songino Array**	**25.93**	**60**	P		**P**	**08 48 09.9**	**+1.5**	
	comp=Z,1.0nm,1.0s,baz=243,slow=9.5,SNR=5.2								
ULN	**Ulaanbaatar**	**26.37**	**60**	*e*P		**P**	**08 48 14.1**	**+1.7**	
ULN				pmax	pmax				
	comp=Z,1.0nm,1.4s								
OBN	**Obninsk**	**28.45**	**315**	*e*P		P	08 48 35.4	+4.6	
OBN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ASF	**Jabal al Asfar**	**29.44**	**267**	P		**P**	**08 48 41.1**	**+1.2**	
	comp=Z,0.6nm,0.3s,baz=15,slow=16,SNR=2.1								
BRTR	**Keskin Array B**	**29.61**	**283**	P		**P**	**08 48 44.1**	**+2.7**	
	comp=Z,1.1nm,0.8s,baz=120,slow=5.2,SNR=2.3								
HHC	**Hu-ho-hao-te**	**29.92**	**75**	*e*P		**P**	**08 48 45.0**	**+0.9**	
HHC				S		**S**	**08 53 42.4**	**+0.9**	
FINES	**FINESS Array B**	**35.66**	**324**	P		**P**	**08 49 35.2**	**+1.4**	
	comp=Z,0.8nm,0.5s,baz=119,slow=14,SNR=4.8								
QIZ	**Qiongzhong**	**38.23**	**111**	P		**P**	**08 49 54.3**	**-1.9**	
QIZ				S		**S**	**08 55 46.5**	**-3.5**	
ARCES	**ARCESS Array B**	**38.84**	**336**	P		**P**	**08 50 02.5**	**+1.7**	
	comp=Z,3.4nm,0.9s,baz=111,slow=9.7,SNR=10								
NOA	**NORSAR Array B**	**42.68**	**321**	P		**P**	**08 50 33.8**	**+1.2**	
	comp=Z,1.1nm,0.9s,baz=93,slow=8.2,SNR=2.4								
SUMG	**Summit**	**58.62**	**341**	*e*P		**P**	**08 52 35.7**	**+2.6**	
SUMG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SUMG	**Summit**	**58.62**	**341**	*e*P		**P**	**08 52 35.7**	**+2.6**	
	comp=Z,2.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**66.79**	**268**	P		**P**	**08 53 27.6**	**-0.4**	
	comp=Z,0.3nm,0.4s,baz=51,slow=5.9,SNR=9.5								
INK	**Inuvik**	**70.85**	**10**	*e*P		**P**	**08 53 53.7**	**+1.3**	
INK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**70.85**	**10**	*e*P		**P**	**08 53 53.7**	**+1.3**	
	comp=Z,2.4nm,0.8s								
ILAR	**Eielson Array**	**71.69**	**17**	P		**P**	**08 53 58.1**	**+0.6**	
	comp=Z,0.4nm,0.8s,baz=316,slow=3.8,SNR=4.3								
YKA	**Yellowknife Ar**	**78.27**	**3**	P		**P**	**08 54 36.4**	**+0.8**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**78.27**	**3**	P		**P**	**08 54 36.4**	**+0.8**	
	comp=Z,0.5nm,0.7s,baz=349,slow=5.9,SNR=8.8								
WRA	**Warramunga Arr**	**82.73**	**123**	P		**P**	**08 54 59.2**	**-1.0**	
	comp=Z,0.4nm,0.5s,baz=328,slow=5.0,SNR=4.1								
WRAB	**Tennant Creek**	**82.73**	**123**	*e*P		**P**	**08 54 59.6**	**-0.6**	
WRAB				pmax	pmax				
	comp=Z,7.0nm,1.3s								
WRAB	**Tennant Creek**	**82.73**	**123**	*e*P		**P**	**08 54 59.6**	**-0.6**	
	comp=Z,6.5nm,1.3s								
ASAR	**Alice Springs**	**85.14**	**126**	P		**P**	**08 55 11.6**	**-0.9**	
	comp=Z,0.4nm,0.8s,baz=330,slow=6.4,SNR=4.2								

IDC 20 08:54:40.0±1.7, 16°53S×178°20W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/27, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=106.0km s-min=25.2km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.48**	**240**	P		P	09 02 12.2	-0.1
	0.4nm,0.3s,baz=75,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**45.09**	**258**	P		P	09 02 58.3	0.0
	0.3nm,0.5s,baz=92,slow=7.5,SNR=8.8							
ASAR	**Alice Springs**	**45.37**	**253**	P		P	09 03 00.2	-0.3
	1.5nm,0.6s,baz=88,slow=8.8,SNR=23							
ASAR				LR		LR	09 20 14.9	
	comp=Z,61nm,20.9s,baz=243,slow=34							
ILAR	**Eielson Array**	**84.51**	**13**	P		P	09 07 14.6	+0.2
	0.2nm,0.5s,baz=227,slow=5.4,SNR=5.7							
TXAR	**Lajitas Array**	**85.10**	**58**	P		P	09 07 18.2	-0.2
	0.2nm,0.8s,baz=246,slow=6.8,SNR=3.4							

SKHL 20 09:08:24.3±0.6, 44°50N×148°76E, h90km, mb5.1/2, msh5.1/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**0.97**	**319**	*e*P		Pn	09 08 42.9	-0.7
KUR				AMB		AMB	09 08 43.9	
	446nm,0.3s							
KUR				*e*S		Sn	09 08 57.4	-0.7
KUR				A		A	09 09 00.2	
	836nm,0.6s							
KUR				A		A	09 09 00.2	
	250nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.13**	**258**	*e*P		Pn	09 08 58.2	0.0
YUK				AMB		AMB	09 09 00.6	
	130nm,0.1s							
YUK				*e*S		Sn	09 09 23.3	-0.8
YUK				A		A	09 09 26.4	
	131nm,0.3s							
YUK				A		A	09 09 26.4	
	157nm,0.3s							
MYR	**Moyori**	**4.56**	**243**	*e*P		Pn	09 09 31.3	+0.4
MYR				*e*S		Sn	09 10 21.4	-1.2

*IDC **20** 09:13:41.8±1.0, 3°55S×139°56E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/28, mbtmp3.9/7, ML4.4/1, Error ellipse: s-maj=29.5km s-min=19.0km az=114.0*

*ISCJB **20** 09:13:45.0±0.5, 3°71S±0°05×139°62E±0°06, h33km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=5.6km az=34.7*

*DJA **20** 09:13:45.2±1.4, 4°S±5°×14°0E±°, h57km±16km, M4.1/4, MLv4.1/4*

ISC 20 09:13:45.9±0.7, 3°78S±0°06×139°69E±0°06, h35km, n21, σ2s07/23, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WAMI	**Wamena**	**0.98**	**264**	P		**Pn**	**09 14 02.5**	**-0.7**
WAMI				S		**Sn**	**09 14 14.8**	**-1.1**
GENI	**Genyem**	**1.27**	**22**	P		**Pn**	**09 14 06.6**	**-0.6**
GENI				S		**Sn**	**09 14 22.3**	**-0.8**
JAY	**Jayapura**	**1.61**	**39**	P		**Pn**	**09 14 11.2**	**-0.8**
JAY	**Jayapura**	**1.61**	**39**	Pg		**Pn**	**09 14 10.6**	**-1.5**
	17nm,0.3s,baz=224,slow=11,SNR=98							
JAY				Lg		Lg	09 14 30.9	
	32nm,0.3s,baz=41,slow=9.8,SNR=7.0							
JAY				LR		LR	09 14 36.5	
	comp=Z,50nm,20.2s,baz=120,slow=36							
SMPI	**Sarmi**	**2.03**	**331**	P		**Pn**	**09 14 16.0**	**-1.6**
SMPI				S		**Sn**	**09 14 44.1**	**+2.4**
COEN	**Coen**	**10.68**	**161**	P		Pn	09 16 22.3	+5.7
	baz=9.3,SNR=4.1							
KDU	**Kakadu**	**11.37**	**218**	P		**Pn**	**09 16 26.9**	**+0.9**
	baz=9.4,SNR=58							
MTN	**Manton Dam**	**12.36**	**223**	P		Pn	**09 16 39.5**	**+0.1**
	baz=10,SNR=7.5							
KNRA	**Kununurra**	**15.98**	**222**	P		**Pn**	**09 17 29.0**	**+0.8**
	baz=14,SNR=5.7							
QIS	**Mount Isa**	**16.68**	**180**	P		**P**	**09 17 43.4**	**+4.2**
	baz=15,SNR=3.7							
WRA	**Warramunga Arr**	**16.89**	**198**	P		**Pn**	**09 17 40.5**	**+0.7**
	1.3nm,0.3s,baz=17,slow=13,SNR=38							
WRA				S		**Sn**	**09 20 42.1**	**-4.5**
	0.1nm,0.3s,baz=1.5,slow=23,SNR=2.8							
FITZ	**Fitzroy Crossi**	**19.80**	**223**	P		**Pn**	**09 18 15.4**	**+0.2**
	baz=18,SNR=5.7							
ASAR	**Alice Springs**	**20.55**	**195**	P		Pn	09 18 25.1	+1.1
	5.4nm,0.6s,baz=26,slow=9.8,SNR=97							
WRKA	**Warakurna**	**23.81**	**206**	P		**P**	**09 18 57.6**	**+1.8**
	baz=22,SNR=9.4							
STKA	**Stephens Creek**	**28.01**	**177**	S		**S**	**09 24 11.5**	**-4.3**
	baz=26,SNR=4.9							
CISI	**Cisompet, Garu**	**31.93**	**262**	S		**S**	**09 25 18.2**	**+0.2**
	baz=31,SNR=4.7							
KSRS	**Korea Array**	**42.46**	**346**	P		**P**	**09 21 36.5**	**-1.0**
	0.6nm,0.6s,baz=158,slow=7.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**45.81**	**300**	P		**P**	**09 22 03.8**	**-1.0**
	1.0nm,0.4s,baz=143,slow=6.5,SNR=5.2							
MKAR	**Makanchi Array**	**71.22**	**322**	P		**P**	**09 25 02.1**	**+0.5**
	0.2nm,0.4s,baz=99,slow=9.0,SNR=3.4							
QSPA	**South Pole Qui**	**86.17**	**180**	P		**P**	**09 26 26.2**	**+2.7**
	1.7nm,0.9s,baz=318,slow=1.4,SNR=7.1							
ILAR	**Eielson Array**	**86.40**	**24**	P		**P**	**09 26 23.7**	**-0.7**
	0.4nm,0.7s,baz=262,slow=4.6,SNR=8.9							

MEX 20 09:15:21.4±0.6, 16°15N×97°56W, h15km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.59**	**294**	*i* P		Pg	09 15 30.9	-2.2
PNIG				*i* S		Sg	09 15 39.5	-1.6
VHO	**Vista Hermosa**	**1.22**	**41**	*e*P		Pn	09 15 39.8	-4.4
VHO				*i* S		Sb	09 15 55.5	-4.6
HUIG	**Huatulco**	**1.45**	**105**	*e*P		Pn	09 15 43.7	-3.4
HUIG				*i* S		Sn	09 16 01.5	-4.4
TLIG	**Tlapa**	**1.70**	**326**	*e*P		Pn	09 15 47.8	-3.0
TLIG				*i* S		Sn	09 16 07.6	-4.9

IDC 20 09:16:33.4±27.0, 23°20S×173°87W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/29, mbtmp4.2/4, Error ellipse: s-maj=504.1km s-min=144.7km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**37.11**	**267**	P		P	09 23 46.6	+0.7
	4.1nm,0.3s,baz=86,slow=11,SNR=7.4							
STKA	**Stephens Creek**	**40.19**	**248**	P		P	09 24 10.6	-1.1
	0.8nm,0.4s,baz=107,slow=10,SNR=5.7							
ASAR	**Alice Springs**	**47.69**	**259**	P		P	09 25 11.8	-0.3
	0.6nm,0.4s,baz=95,slow=8.5,SNR=6.1							
WRA	**Warramunga Arr**	**48.07**	**264**	P		P	09 25 15.1	0.0
	2.6nm,0.5s,baz=100,slow=8.3,SNR=20							

*ISCJB **20** 09:17:13.5±0.9, 32°08N±0°03×115°01W±0°06, h2km±6km, Error ellipse: s-maj=8.6km s-min=4.3km az=170.4*

*MEX **20** 09:17:16.2±0.6, 32°15N×115°07W, h10km, MD3.6*

*ECX **20** 09:17:16.2±0.6, 32°12N×115°06W, h8km, MD2.7, ML2.9*

ISC 20 09:17:13.2±1.4, 32°09N±0°03×115°02W±0°06, h11km±8km, n14, σ0s99/25, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMX	**El Mayor**	**0.21**	**244**	*e*P		**Pg**	**09 17 17.6**	**-0.2**
EMX				*e*S		**Sg**	**09 17 20.4**	**-0.5**
MBIG	**Mexicali**	**0.36**	**334**	*e*P		**Pb**	**09 17 22.1**	**+0.5**
MBIG				*i* S		**Sg**	**09 17 25.3**	**+0.1**
CPBX	**Cerro Prieto**	**0.41**	**324**	*e*P		**Pb**	**09 17 22.5**	**0.0**
CPBX				*e*S		**Sg**	**09 17 28.0**	**+1.1**
CPBX				⇓*e*			09 17 32.3	
CPBX				AML		AML	09 17 32.3	
	comp=N,5μm,0.4s							
ECBX	**El Chinero**	**0.61**	**183**	*e*P		**Pg**	**09 17 24.1**	**-1.0**
ECBX				*e*S		**Sg**	**09 17 33.1**	**-0.1

LRAL				*e*Sg	**Sg**	09 30 18.0	+0.1		
BLO	**Bloomington**	**3.94**	**331**	*e*Pn	**Pn**	09 29 20.7	-0.3		
BLO				*e*Sg	**Sg**	09 30 25.6	-1.5		
RGRS	**Roger Stewart**	**4.26**	**131**	*e*Pn	**Pn**	09 29 25.0	-0.3		
OLIL	**Olney**	**4.40**	**314**	*e*Pn	**Pn**	09 29 28.6	+1.3		
OLIL				*e*Sg	**Sg**	09 30 39.8	-2.0		
ACSO	**Alum Creek Sta**	**4.54**	**10**	*e*Pn	**Pn**	09 29 28.5	-0.7		
ACSO				*e*Sn	**Sn**	09 30 25.2	+3.0		
SFIN	**Lafayette**	**5.21**	**333**	*e*Pn	**Pn**	09 29 37.9	-0.5		
	12nm,0.3s								
SFIN				*e*Sg	**Sg**	09 31 02.5	-5.2		
SADO	**Sadowa**	**9.74**	**21**	Sn	Sn	09 32 21.1	-9.0		
	0.2nm,0.3s,baz=108,slow=20,SNR=2.0								
SADO				Lg	Lg	09 33 16.1			
	0.7nm,0.3s,baz=306,slow=19,SNR=4.8								
TEIG	**Tepich**	**15.91**	**195**	Sn	Sn	09 34 53.2	-7.9		
	0.2nm,0.3s,baz=164,slow=18,SNR=2.7								
TXAR	**Lajitas Array**	**17.74**	**254**	P	**P**	**09 32 29.0**	**+0.6**		
	0.1nm,0.3s,baz=63,slow=11,SNR=7.6								
PDAR	**Pinedale Array**	**20.92**	**297**	P	Pn	09 33 05.2	-0.8		
	0.3nm,0.6s,baz=101,slow=12,SNR=3.8								
ILAR	**Eielson Array**	**46.79**	**328**	P	**P**	**09 36 51.8**	**+2.0**		
	0.2nm,0.7s,baz=93,slow=6.6,SNR=5.1								

ISCJB ***20*** *09:30:09.5±0.4, 59.°69N×0.°02×24.°12E±0.°05, h0km, Error ellipse: s-maj=3.7km s-min=3.5km az=159.5*
CSEM ***20*** *09:30:10.6±0.2, 59.°67N×24.°17E, h2km, ML2.4, Error ellipse: s-maj=5.3km s-min=4.8km az=156.0, Mining explosion.*
UPP ***20*** *09:30:10.3, 59.°80N×24.°33E, h0km, ML2.1, Suspected Mining explosion.*
HEL ***20*** *09:30:11.0±0.0, 59.°67N×24.°11E, h0km, ML2.4, ML2.1(UPP), Explosion*
NAO ***20*** *09:30:11.3±1.0, 59.°70N×24.°05E, ML2.3*
BER ***20*** *09:30:12.4±3.7, 59.°67N×23.°97E, h0km, ML2.3(NAO), Suspected explosion*
IDC ***20*** *09:30:12.4±1.0, 59.°78N×24.°04E, h0km, mb1 3.3/4, mb1mx3.0/53, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=12.1km s-min=8.1km az=152.0*

ISC 20 09:30:10.0±0.6, **59.°68N**±0.°02×**24.°06E**±0.°02, **h0**km, **n59,** σ**1**f**16/84, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.27**	**143**	*e*P	**Pg**		**09 30 15.4**	**+0.2**
SRPE				*e*S	**Sg**		**09 30 18.6**	**-0.1**
SRPE	**Suurupi**	**0.27**	**143**	P	**Pg**		**09 30 15.4**	**+0.2**
SRPE				S	**Sg**		**09 30 18.6**	**-0.1**
MEF	**Metsahovi**	**0.56**	**17**	*e*P	**Pg**		**09 30 21.1**	**+0.3**
MEF				*e*S	**Sg**		**09 30 28.6**	**+0.5**
MEF	**Metsahovi**	**0.56**	**17**	P	**Pg**		**09 30 21.0**	**+0.3**
MEF				S	**Sg**		**09 30 28.5**	**+0.5**
MTSE	**Matsula**	**0.98**	**187**	*e*P	**Pg**		**09 30 28.5**	**-0.2**
MTSE	**Matsula**	**0.98**	**187**	P	**Pg**		**09 30 28.5**	**-0.2**
PVF	**Pernaja**	**1.25**	**45**	*e*P	**Pg**		**09 30 33.4**	**-0.5**
PVF	**Pernaja**	**1.25**	**45**	P	**Pg**		**09 30 33.4**	**-0.5**
RAF	**Rauma**	**1.76**	**321**	*e*SN	**Sb**		**09 31 06.4**	**+0.5**
RAF	**Rauma**	**1.76**	**321**	Sn	**Sb**		**09 31 06.3**	**+0.5**
VSU	**Vasula**	**1.85**	**130**	Pn	**Pn**		**09 30 43.8**	**+0.9**
VSU				Sn	**Sn**		**09 31 07.1**	**+0.2**
VSU				Lg	Lg		09 31 09.7	
VSU	**Vasula**	**1.85**	**130**	Pn	**Pn**		**09 30 43.8**	**+0.9**
VSU				Sn	**Sn**		**09 31 07.1**	**+0.2**
VSU				Lg	Lg		09 31 09.7	
VSU	**Vasula**	**1.85**	**130**	*e*PG	**Pn**		**09 30 43.5**	**+0.6**
VSU	**Vasula**	**1.85**	**130**	Pg	**Pn**		**09 30 43.5**	**+0.6**
VSU	**Vasula**	**1.85**	**130**	Pn	**Pn**		**09 30 43.8**	**+0.9**
	SNR=50							
VSU				Sn	**Sn**		**09 31 07.1**	**+0.2**
	SNR=50							
VSU				Lg	Lg		09 31 09.7	
	SNR=35							
VJF	**Virojoki**	**1.95**	**62**	*e*P	**Pn**		**09 30 44.7**	**+0.4**
VJF				*e*SG	**Sb**		**09 31 11.3**	**0.0**
VJF				MSG			09 31 13.9	
	comp=Z,49nm,0.2s							
VJF	**Virojoki**	**1.95**	**62**	P	**Pn**		**09 30 44.7**	**+0.4**
VJF				Sg	**Sb**		**09 31 11.2**	**0.0**
FIA0	**FINESS Array S**	**2.03**	**29**	Pn	**Pb**		**09 30 47.5**	**-0.2**
	baz=213,slow=16							
FIA0				Sn	**Sb**		**09 31 13.2**	**-0.3**
	baz=214,slow=37							
FIA0				Lg	Lg		09 31 14.5	
	baz=207,slow=28							
FIA0	**FINESS Array S**	**2.03**	**29**	Pn	**Pb**		**09 30 47.5**	**-0.2**
	baz=213,slow=16							
FIA0				Sn	**Sb**		**09 31 13.2**	**-0.3**
	baz=214,slow=37							
FIA0				Lg	Lg		09 31 14.5	
	baz=207,slow=28							
FIA0	**FINESS Array S**	**2.03**	**29**	*e*PB	**Pn**		**09 30 46.9**	**+1.5**
FIA0				*e*SG	**Sb**		**09 31 14.7**	**+1.2**
FIA0				MSG			09 31 16.4	
	comp=Z,16nm,0.2s							
FIA0	**FINESS Array S**	**2.03**	**29**	Pb	**Pn**		**09 30 46.9**	**+1.5**
FIA0	**FINESS Array S**	**2.03**	**29**	Pn	**Pb**		**09 30 47.5**	**-0.2**
	SNR=50							
FIA0				Sn	**Sb**		**09 31 13.2**	**-0.3**
	SNR=50							
FIA0				Lg	Lg		09 31 14.5	
	SNR=35							
FIA0				Sg	**Sb**		**09 31 14.6**	**+1.2**
FINES	**FINESS Array B**	**2.03**	**29**	Pn	**Pn**		**09 30 46.9**	**+1.5**
	comp=Z,6.1nm,0.3s,baz=213,slow=15,SNR=142							
FINES				Sn	**Sb**		**09 31 13.3**	**-0.2**
	comp=Z,5.4nm,0.3s,baz=210,slow=26,SNR=16							
AAL	**Aland**	**2.11**	**285**	*e*PB	**Pb**		**09 30 48.6**	**-0.4**
AAL				*e*S	**Sn**		**09 31 14.4**	**+1.1**
AAL				*e*SG	**Sb**		**09 31 16.7**	**+1.0**
AAL	**Aland**	**2.11**	**285**	P	**Pb**		**09 30 48.6**	**-0.4**
AAL				S	**Sn**		**09 31 14.4**	**+1.1**
AAL	**Aland**	**2.11**	**285**	P	**Pb**		**09 30 48.6**	**-0.4**
AAL				S	**Sb**		**09 31 17.0**	**+1.3**
KEF	**Keuruu**	**2.52**	**9**	*e*SB	**Sb**		**09 31 27.5**	**-0.2**
KEF				MSG			09 31 29.2	
	comp=Z,16nm,0.2s							
KAF	**Kangasniemi**	**2.67**	**23**	*e*SG	**Sb**		**09 31 33.2**	**+1.1**
KAF				MSG			09 31 34.8	
	comp=Z,12nm,0.2s							
NRTU	**Norrtaelje**	**2.75**	**272**	*e*P	**Pn**		**09 30 57.8**	**+2.5**
NRTU	**Norrtaelje**	**2.75**	**272**	P	**Pn**		**09 30 57.8**	**+2.5**
NRTU	**Norrtaelje**	**2.75**	**272**	P	**Pn**		**09 30 57.8**	**+2.5**
GRAU	**Graesoe**	**2.85**	**286**	*e*P	**Pn**		**09 30 57.3**	**+0.7**
GRAU	**Graesoe**	**2.85**	**286**	P	**Pn**		**09 30 57.3**	**+0.7**
GRAU	**Graesoe**	**2.85**	**286**	P	**Pn**		**09 30 57.3**	**+0.7**
FORU	**Forsmark**	**3.03**	**286**	*e*P	**Pn**		**09 31 02.3**	**+3.1**
FORU	**Forsmark**	**3.03**	**286**	P	**Pn**		**09 31 02.3**	**+3.1**
FORU	**Forsmark**	**3.03**	**286**	P	**Pn**		**09 31 02.3**	**+3.1**
FLYU	**Flymyra**	**3.14**	**281**	*e*P	**Pn**		**09 31 01.7**	**+1.0**
FLYU	**Flymyra**	**3.14**	**281**	P	**Pn**		**09 31 01.7**	**+1.0**
FLYU	**Flymyra**	**3.14**	**281**	P	**Pn**		**09 31 01.7**	**+1.0**
IGGU	**Iggoen**	**3.56**	**292**	*e*P	**Pn**		**09 31 07.8**	**+1.3**
IGGU	**Iggoen**	**3.56**	**292**	P	**Pn**		**09 31 07.8**	**+1.3**
IGGU	**Iggoen**	**3.56**	**292**	P	**Pn**		**09 31 07.8**	**+1.3**
HFS	**Hagfors**	**5.24**	**279**	Pn	**Pn**		**09 31 30.5**	**+1.0**
	baz=102,slow=14							
HFS				Sn	**Sn**		**09 32 29.7**	**-0.7**
	baz=99,slow=28							
HFS				Lg	Lg		09 32 48.7	
	baz=94,slow=37							
HFS	**Hagfors**	**5.24**	**279**	Pn	**Pn**		**09 31 30.5**	**+1.0**
	baz=102,slow=14							
HFS				Sn	**Sn**		**09 32 29.7**	**-0.7**
	baz=99,slow=28							
HFS				Lg	Lg		09 32 48.7	
	baz=94,slow=37							
HFS	**Hagfors**	**5.24**	**279**	Pn	**Pn**		**09 31 29.3**	**-0.1**
	comp=Z,4.0nm,0.3s,baz=95,slow=15,SNR=25							
HFS				Pg	**Pb**		**09 31 42.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=83,slow=19,SNR=7.3							
HFS				Sn	**Sn**		**09 32 29.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=102,slow=28,SNR=8.8							
HFS				Lg	Lg		09 32 50.1	
	comp=Z,1.3nm,0.3s,baz=95,slow=28,SNR=8.8							
HFS	**Hagfors**	**5.24**	**279**	Pn	**Pn**		**09 31 30.5**	**+1.0**
	SNR=50							
HFS				Sn	**Sn**		**09 32 29.7**	**-0.7**
	SNR=50							
HFS				Lg	Lg		09 32 48.7	
	SNR=33							
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**		**09 31 47.0**	**-0.1**
	baz=97,slow=14							
NB2				Lg	Lg		09 33 33.3	
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**		**09 31 47.0**	**-0.1**
	baz=97,slow=14							
NB2				Lg	Lg		09 33 33.3	
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**		**09 31 47.0**	**-0.1**
	SNR=50							
NB2				Lg	Lg		09 33 33.3	
NOA	**NORSAR Array B**	**6.52**	**288**	Pn	**Pn**		**09 31 46.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=93,slow=13,SNR=22							
NOA				Sn	**Sn**		**09 32 57.6**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=100,slow=19,SNR=3.0							
NOA				Lg	Lg		09 33 31.3	
	comp=Z,0.6nm,0.3s,baz=135,slow=23,SNR=2.9							
APA0	**Apatity Array**	**8.88**	**23**	Pn	**Pn**		**09 32 19.8**	**+0.4**
	baz=220,slow=12							
APA0	**Apatity Array**	**8.88**	**23**	Pn	**Pn**		**09 32 19.8**	**+0.4**
	baz=220,slow=12							
APA0	**Apatity Array**	**8.88**	**23**	Pn	**Pn**		**09 32 19.8**	**+0.4**
	SNR=50							
AKASG	**Malin Array Be**	**9.47**	**160**	Pn	**Pn**		**09 32 26.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=343,slow=13,SNR=4.1							
ARA0	**ARCESS Array S**	**9.91**	**3**	Pn	**Pn**		**09 32 33.0**	**-0.5**
	baz=174,slow=14							
ARA0	**ARCESS Array S**	**9.91**	**3**	Pn	**Pn**		**09 32 33.0**	**-0.5**
	baz=174,slow=14							
ARA0	**ARCESS Array S**	**9.91**	**3**	Pn	**Pn**		**09 32 33.0**	**-0.5**
	SNR=50							
ARCES	**ARCESS Array B**	**9.91**	**3**	Pn	**Pn**		**09 32 33.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=179,slow=13,SNR=32							
ARCES				Sn	Sn		09 34 19.3	-6.1
	comp=Z,0.1nm,0.3s,baz=188,slow=23,SNR=3.1							

MEX 20 09:40:58.2±0.5, **15.°87N**×**93.°93W, h46**km±21km**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**0.71**	**103**	*i* P	Pn		09 41 10.0	-1.8
PCIG				*e*S	Sn		09 41 19.9	-1.8
CCIG	**Comitan**	**1.78**	**76**	*e*P	Pn		09 41 25.2	-1.5
CCIG				*e*S	Sn		09 41 46.7	-1.6
THIG		**1.87**	**120**	*i* P	Pn		09 41 28.1	+0.4
THIG				*e*S	Sn		09 41 48.0	-2.1
HUIG	**Huatulco**	**2.10**	**268**	*i* P	Pn		09 41 30.0	-0.9
HUIG				*e*S	Sn		09 41 54.5	-1.2
VHO	**Vista Hermosa**	**2.94**	**294**	*i* P	Pn		09 41 40.4	-2.3
VHO				*e*S	Sn		09 42 14.6	-2.5

IDC 20 09:41:32.8±2.9, **54.°16N**×**87.°06E, h0**km**, mb1 3.1/3, mb1mx3.0/47, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=28.5km s-min=14.6km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**262**	*i*			09 50 30.0	
	baz=78,slow=328,SNR=0.9							
ZALV	**Zalesovo Beam**	**1.34**	**262**	Pg	Pg		09 41 56.2	-2.3
	1.3nm,0.3s,baz=80,slow=19,SNR=12							
ZALV				Lg	Lg		09 42 14.8	
	0.8nm,0.3s,baz=82,slow=30,SNR=4.0							
KURBB	**Kurchatov Arra**	**6.31**	**239**	Pn	Pn		09 43 08.2	+1.1
	0.1nm,0.3s,baz=56,slow=14,SNR=5.0							
MKAR	**Makanchi Array**	**7.97**	**204**	Pn	Pn		09 43 30.7	+0.8
	0.1nm,0.3s,baz=25,slow=12,SNR=6.3							
MKAR				Sn	Sn		09 45 00.4	-0.4
	0.1nm,0.3s,baz=26,slow=27,SNR=3.2							
MKAR				Lg	Lg		09 45 53.6	
	0.1nm,0.3s,baz=32,slow=30,SNR=2.5							
BVAR	**Borovoye Array**	**9.98**	**270**	Pn	Pn		09 43 56.9	-0.4
	0.3nm,0.3s,baz=66,slow=18,SNR=3.1							

ISCJB ***20*** *09:47:37.8±0.3, 50.°30N±0.°03×18.°70E±0.°02, h0km, mb3.6/1, Error ellipse: s-maj=4.0km s-min=1.8km az=9.0*
CSEM ***20*** *09:47:38.9±0.2, 50.°32N×18.°75E, h2km, ML3.4/10, Error ellipse: s-maj=5.7km s-min=2.2km az=11.0*
IPEC ***20*** *09:47:39.4±0.2, 50.°29N×18.°84E, h3km±2km, ML2.9/3, Error ellipse: s-maj=2.6km s-min=1.1km az=168.0*
BGR ***20*** *09:47:39.1±0.4, 50.°23N×18.°82E, h1km, ML3.0/10, Error ellipse: s-maj=8.9km s-min=3.3km az=0.0*
PRU ***20*** *09:47:40.2, 50.°31N×18.°74E, h0km*
VIE ***20*** *09:47:41.7±0.6, 49.°67N×18.°90E, h0km, mb2.5/2, ML2.9/4, Error ellipse: s-maj=3.4km s-min=2.8km az=78.0 50 km ESE of Ostrava Suspected Mining induced.*
IDC ***20*** *09:47:41.4±0.9, 50.°30N×18.°49E, h0km, mb3.5/1, mb1 3.4/7, mb1mx3.2/42, mbtmp3.3/7, ML3.1/6, Error ellipse: s-maj=17.5km s-min=8.1km az=135.0*

ISC 20 09:47:39.0±0.6, **50.°28N**±0.°02×**18.°80E**±0.°01, **h0**km, **n91,** σ**1**f**23/140, 17C-13D, Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12**	**86**	*e*Pg	**Pg**		**09 47 42.3**	**+0.9**
CHZP				*e*Sg	**Sg**		**09 47 44.2**	**+1.2**
RAC	**Raciborz**	**0.44**	**243**	*e*Pg	**Pg**		**09 47 49.2**	**-0.3**
RAC				*e*Sg	**Sb**		**09 47 56.1**	**-0.5**
OKC	**Ostrava-Krasne**	**0.61**	**223**	*e*Pg	**Pg**		**09 47 52.1**	**+1.4**
OKC	**Ostrava-Krasne**	**0.61**	**223**	*e*PG	**Pg**		**09 47 51.7**	**+1.0**
OKC				*e*SG	**Sg**		**09 47 59.9**	**+1.3**
	comp=Z,95nm,0.4s							
OKC	**Ostrava-Krasne**	**0.61**	**223**	Pg	**Pg**		**09 47 52.1**	**+1.4**
OKC				Sg	**Sg**		**09 47 59.9**	**+1.3**
	95nm,0.4s							
OJC	**Ojcow**	**0.65**	**95**	*e*Pg	**Pg**		**09 47 51.7**	**+0.4**
OJC				*e*Sg	**Sg**		**09 47 59.6**	**-0.1**
OJC	**Ojcow**	**0.65**	**95**	*i* Pg	**Pg**		**09 47 51.8**	**+0.4**
OJC				*e*Sg	**Sg**		**09 48 00.4**	**+0.7**
OJC	**Ojcow**	**0.65**	**95**	Pg	**Pg**		**09 47 51.7**	**+0.4**
OJC				Sg	**Sg**		**09 47 59.6**	**-0.1**
MORC	**Moravsky Berou**	**0.95**	**238**	*e*Pn	**Pg**		**09 47 58.0**	**+0.8**
MORC				*e*Sg	**Sg**		**09 48 11.2**	**+1.6**
MORC	**Moravsky Berou**	**0.95**	**238**	*i*P	**Pg**		**09 47 58.1**	**+0.8**
MORC	**Moravsky Berou**	**0.95**	**238**	*e*Pg	**Pg**		**09 47 58.0**	**+0.8**
	baz=58							
MORC				*e*Sg	**Sg**		**09 48 10.2**	**+0.6**
	154nm,0.5s,baz=58							
MORC				S	**Sb**		**09 48 11.4**	**-0.2**
LANS	**Liptovska Anna**	**1.21**	**159**	*e*Pg	**Pg**		**09 48 02.9**	**+0.7**
LANS				*e*Sg	**Sb**		**09 48 19.7**	**+0.6**
NIE	**Niedzica**	**1.31**	**131**	*e*Pg	**Pg**		**09 48 04.1**	**+0.1**
NIE				*e*Sg	**Sn**		**09 48 22.5**	**-0.2**
NIE	**Niedzica**	**1.31**	**131**	*e*Pg	**Pg**		**09 48 04.1**	**+0.1**
NIE				*e*Sg	**Sn**		**09 48 22.5**	**-0.2**
KRLC	**Kraliky**	**1.31**	**262**	*e*PG	**Pg**		**09 48 03.7**	**-0.4**
KRLC				*e*SG	**Sg**		**09 48 21.7**	**+0.6**
KRLC	**Kraliky**	**1.31**	**262**	Pg	**Pg**		**09 48 03.7**	**-0.4**
KRLC				Sg	**Sg**		**09 48 21.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.59**	**273**	*e*Sg	**Sn**		**09 48 30.3**	**+0.6**
DPC	**Dobruska-Polom**	**1.59**	**273**	*e*PG	**Pn**		**09 48 08.6**	**+0.2**
DPC				*e*SG	**Sb**		**09 48 30.4**	**+0.6**
DPC	**Dobruska-Polom**	**1.59**	**273**	Pg	**Pn**		**09 48 08.6**	**+0.2**
DPC				Sg	**Sn**		**09 48 30.3**	**+0.6**
KSP	**Ksiaz**	**1.69**	**290**	*e*Pn	**Pn**		**09 48 10.1**	**+0.3**
KSP				*e*Sg	**Sg**		**09 48 35.3**	**+2.0**
KSP	**Ksiaz**	**1.69**	**290**	*e*Pn	**Pn**		**09 48 10.0**	**+0.2**
KSP				*i* Pg	**Pg**		**09 48 12.3**	**+0.9**
KSP				*e*Sg	**Sg**		**09 48 35.1**	**+1.8**
KSP	**Ksiaz**	**1.69**	**290**	Pn	**Pn**		**09 48 10.1**	**+0.3**
VRAC	**Vranov**	**1.73**	**237**	*i*P	**Pn**		**09 48 10.9**	**+0.6**
VRAC	**Vranov**	**1.73**	**237**	S	**Sb**		**09 48 34.7**	**+0.8**
VRAC	**Vranov**	**1.73**	**237**	Pg	**Pn**		**09 48 10.6**	**+0.3**
	17nm,0.3s,baz=51,slow=14,SNR=30							
VRAC				Lg	Lg		09 48 34.5	
	15nm,0.3s,baz=95,slow=18,SNR=3.5							
VRAC	**Vranov**	**1.73**	**237**	*i*P	**Pn**		**09 48 10.9**	**+0.6**
VRAC				*e*Sg	**Sb**		**09 48 34.5**	**+0.6**
	126nm,0.6s,baz=55							
VYHS	**Vyhne**	**1.79**	**179**	*e*Pn	**Pn**		**09 48 10.9**	**-0.2**
VYHS				*e*Sn	**Sn**		**09 48 32.2**	**-2.4**
VYHS	**Vyhne**	**1.79**	**179**	*e*PN	**Pn**		**09 48 10.9**	**-0.2**
VYHS				*e*SN	**Sn**		**09 48 32.2**	**-2.4**
UPC	**Upice**	**1.80**	**278**	*e*PG	**Pn**		**09 48 11.8**	**+0.6**
UPC				*e*SG	**Sb**		**09 48 36.4**	**+0.6**
	comp=Z,22nm,0.5s							
UPC	**Upice**	**1.80**	**278**	Pg	**Pn**		**09 48 11.8**	**+0.6**
UPC				Sg	**Sb**		**09 48 36.4**	**+0.6**
	22nm,0.5s							
STHS	**Stebnicka Huta**	**1.81**	**118**	*e*Pn	**Pn**		**09 48 11.6**	**+0.3**
STHS				*e*SN	**Sn**		**09 48 35.3**	**+0.4**
KRUC	**Moravsky**	**1.98**	**233**	*e*Pn	**Pn**		**09 48 13.9**	**+0.1**
	baz=51							
KRUC				*e*Sg	**Sb**		**09 48 41.9**	**+0.8**
	52nm,0.5s,baz=51							
KECS	**Kecovo**	**2.11**	**148**	*e*Pn	**Pn**		**09 48 15.1**	**-0.4**
KECS				*e*Sn	**Sn**		**09 48 40.6**	**-1.9**
KECS	**Kecovo**	**2.11**	**148**	*e*PN	**Pn**		**09 48 15.1**	**-0.4**
KECS				*e*SN	**Sn**		**09 48 40.6**	**-1.9**
CRVS	**Cervenica-Dubn**	**2.22**	**128**	*e*Pn	**Pb**		**09 48 20.1**	**+0.2**
CRVS	**Cervenica-Dubn**	**2.22**	**128**	*e*PN	**Pb**		**09 48 20.1**	**+0.2**
TREC	**Trest**	**2.36**	**247**	*i*P	**Pn**		**09 48 18.1**	**-0.9**
TREC				*e*PG	**Pb**		**09 48 22.2**	**-0.2**
TREC				*e*SG	**Sb**		**09 48 52.9**	**+0.8**
	comp=Z,22nm,0.2s							
TREC	**Trest**	**2.36**	**247**	Pn	**Pn**		**09 48 18.1**	**-0.9**
PSZ	**Piszkesteto**	**2.47**	**163**	*i*P	**Pn**		**09 48 22.1**	**+1.5**
PSZ	**Piszkesteto**	**2.47**	**163**	*i*P	**Pn**		**09 48 22.1**	**+1.5**
PSZ				S	**Sb**		**09 48 57.1**	**+1.8**
PSZ	**Piszkesteto**	**2.47**	**163**	*e*	**Pg**		**09 48 27.0**	**+0.6**
PSZ				*e*S	**Sg**		**09 48 59.1**	**+0.7**
KWP	**Kalwaria Pacla**	**2.61**	**103**	*i*P	**Pn**		**09 48 22.5**	**+0.1**
KWP	**Kalwaria Pacla**	**2.61**	**103**	*i*P	**Pn**		**09 48 22.5**	**+0.1**
KWP				S	**Sb**		**09 48 57.7**	**-1.4**
GOPC	**GO Pecny, Ondr**	**2.61**	**263**	*e*PN	**Pn**		**09 48 22.0**	**-0.4**
GOPC				*e*PG	**Pb**		**09 48 26.5**	**-0.1**
GOPC				*e*SN	**Sn**		**09 48 53.5**	**-1.3**
GOPC				*e*SG	**Sb**		**09 49 00.7**	**+1.5**
	comp=Z,38nm,0.5s							
GOPC	**GO Pecny, Ondr**	**2.61**	**263**	Pn	**Pn**		**09 48 22.0**	**-0.4**
KOLS	**Kolonicke sedl**	**2.63**	**120**	*e*Pn	**Pn**		**09 48 24.2**	**+1.5**
KOLS	**Kolonicke sedl**	**2.63**	**120**	*e*PN	**Pn**		**09 48 24.2**	**+1.5**
PVCC	**Panska Ves**	**2.72**	**277**	*i*ePN	**Pn**		**09 48 23.9**	**+0.1**
PVCC				*e*PG	**Pb**		**09 48 29.8**	**+1.4**
PVCC				*e*SG	**Sg**		**09 49 05.4**	**-0.8**
	comp=Z,41nm,0.3s							
PVCC	**Panska Ves**	**2.72**	**277**	Pn	**Pn**		**09 48 23.9**	**+0.1**
PRU	**Pruhonice**	**2.75**	**265**	*i*ePN	**Pn**		**09 48 23.8**	**-0.6**
PRU				*e*PG	**Pb**		**09 48 30.7**	**+1.7**
PRU				*e*SN	**Sn**		**09 48 57.3**	**-1.0**
PRU				*e*SG	**Sb**		**09 49 05.2**	**+1.9**
	comp=Z,16nm,0.5s							
PRU	**Pruhonice**	**2.75**	**265**	Pn	**Pn**		**09 48 23.8**	**-0.6**
PRA	**Prague**	**2.81**	**267**	*i*ePG	**Pb**		**09 48 31.7**	**+1.6**
PRA				*e*SG	**Sg**		**09 49 08.6**	**-0.7**
	comp=Z,41nm,0.6s							
PRA	**Prague**	**2.81**	**267**	Pg	**Pb**		**09 48 31.7**	**+1.6**
PRA				Sg	**Sg**		**09 49 08.6**	**-0.7**
	41nm,0.6s							
PKSG		**2.91**	**185**	*i*eS	**Pg**		**09 48 35.6**	**+1.0**
CSKK	**Cs˘‡kako**	**2.94**	**187**	*e*S	**Pg**		**09 48 33.7**	**-1.7**
CSKK				*e*S	Sg		09 49 23.1	+10
CONA	**Conrad Observa**	**3.04**	**220**	*i*Pn	Pn		09 48 25.4	-3.1
CONA				*i*Sg	**Sn**		**09 49 09.0**	**+3.4**
	14nm,0.5s							
CONA	**Conrad Observa**	**3.04**	**220**	Pn	Pn		09 48 25.4	-3.1
PKST	**T˜˜s**	**3.07**	**190**	*e*S	**Pg**		**09 48 38.6**	**+0.9**
BRG	**Berggiesshubel**	**3.15**	**283**	*e*Sg	**Sg**		**09 49 19.7**	**-0.4**
BRG	**Berggiesshubel**	**3.15**	**283**	Sg	**Sg**		**09 49 19.7**	**-0.4**
TRPA	**Tarpa**	**3.27**	**130**	*i*P	**Pn**		**09 48 32.5**	**+1.1**
TRPA	**Tarpa**	**3.27**	**130**	*i*P	**Pn**		**09 48 32.5**	**+1.1**
KHC	**Kasperske Hory**	**3.58**	**253**	*e*PN	**Pn**		**09 48 36.0**	**+0.3**
KHC				*e*PG	**Pb**		**09 48 44.0**	**+0.9**
KHC				*e*SG	**Sg**		**09 49 33.5**	**-0.4**
KHC	**Kasperske Hory**	**3.58**	**253**	Pn	**Pn**		**09 48 36.0**	**+0.3**
GEC2	**GERESS Array S**	**3.62**	**248**	*e*Sg	**Sb**		**09 49 32.3**	**+4.1**
GERES	**G

	comp=Z,450nm,0.2s								
PDGK					smax	smax			
	comp=N,3μm,0.6s								
KDJ	**Kajisay**	**1.79**	**198**	*i* P		**Pb**	**10 19 23.8**	**-0.3**	
	baz=197								
KDJ				*e*S		**Sg**	**10 19 47.2**	**-1.8**	
	baz=197								
TKM2	**Tokmak 2**	**1.93**	**243**	⇓Pn		**Pb**	**10 19 26.4**	**-0.1**	
	comp=N,1μm,0.4s								
TKM2				⇑Lg		Lg	10 19 53.4		
	comp=N,3μm,0.5s								
TKM2	**Tokmak 2**	**1.93**	**243**	P		**Pb**	**10 19 26.2**	**-0.3**	
	SNR=295								
TKM2	**Tokmak 2**	**1.93**	**243**	*e*PN		**Pb**	**10 19 26.0**	**-0.5**	
TKM2	**Tokmak 2**	**1.93**	**243**	⇑*i*P		**Pb**	**10 19 26.1**	**-0.5**	
	baz=244								
TKM2				⇑*i*S		**Sg**	**10 19 54.1**	**+0.6**	
	baz=244								
TKM2	**Tokmak 2**	**1.93**	**243**	*e*Pn		**Pb**	**10 19 26.0**	**-0.5**	
BOOM	**Boomskoye usch**	**1.98**	**228**	⇓*i*P		**Pb**	**10 19 27.2**	**-0.2**	
	baz=229								
BOOM				⇓*e*S		**Sg**	**10 19 53.4**	**-1.7**	
	baz=229								
ULHL	**Ulahol**	**2.01**	**218**	P		**Pg**	**10 19 28.6**	**-1.5**	
	SNR=1393								
ULHL	**Ulahol**	**2.01**	**218**	*i* PN		**Pg**	**10 19 28.5**	**-1.5**	
ULHL	**Ulahol**	**2.01**	**218**	⇑*i*P		**Pb**	**10 19 28.3**	**+0.4**	
	baz=219								
ULHL				⇑*i*S		**Sg**	**10 19 55.4**	**-0.7**	
	baz=219								
ULHL	**Ulahol**	**2.01**	**218**	*i* P		**Pg**	**10 19 28.6**	**-1.5**	
CHMS	**Chumysh**	**2.46**	**251**	P		**Pn**	**10 19 33.3**	**+2.0**	
	SNR=80								
CHMS	**Chumysh**	**2.46**	**251**	*i* PN		**Pn**	**10 19 33.2**	**+2.0**	
CHMS	**Chumysh**	**2.46**	**251**	⇑*i*P		**Pn**	**10 19 33.2**	**+2.0**	
	baz=253								
CHMS				⇑*i*S		**Sg**	**10 20 09.2**	**-1.3**	
	baz=253								
KBK	**Karagaybulak**	**2.47**	**243**	P		**Pb**	**10 19 34.5**	**-1.3**	
	SNR=96								
KBK	**Karagaybulak**	**2.47**	**243**	*i* PN		**Pb**	**10 19 34.5**	**-1.3**	
KBK	**Karagaybulak**	**2.47**	**243**	⇑*i*P		**Pb**	**10 19 34.3**	**-1.5**	
	baz=244								
KBK				⇑*i*S		**Sg**	**10 20 10.0**	**-1.0**	
	baz=244								
KBK	**Karagaybulak**	**2.47**	**243**	*i* P		**Pb**	**10 19 34.5**	**-1.3**	
USP	**Ospenovka**	**2.55**	**258**	P		**Pn**	**10 19 34.4**	**+1.8**	
	SNR=35								
USP	**Ospenovka**	**2.55**	**258**	*i* PN		**Pn**	**10 19 34.3**	**+1.8**	
USP	**Ospenovka**	**2.55**	**258**	⇑*i*P		**Pn**	**10 19 34.7**	**+2.2**	
	baz=260								
USP				⇑*i*S		**Sg**	**10 20 12.3**	**-1.2**	
	baz=260								
USP	**Ospenovka**	**2.55**	**258**	*i* P		**Pn**	**10 19 34.3**	**+1.8**	
FRU	**Bishkek**	**2.61**	**249**	⇓*e*PN		**Pb**	**10 19 36.0**	**-2.1**	
FRU				*i*			10 19 40.0		
FRU				*i* S		**Sg**	**10 20 13.0**	**-2.4**	
FRU				pmax	pmax				
	comp=Z,740nm,1.6s								
FRU				smax	smax				
	comp=N,2μm,1.7s								
FRU	**Bishkek**	**2.61**	**249**	*e*P		**Pb**	**10 19 36.0**	**-2.1**	
	baz=250								
FRU				*e*S		**Sg**	**10 20 13.0**	**-2.4**	
	baz=250								
KZA	**Kyzart**	**2.63**	**229**	P		**Pb**	**10 19 37.6**	**-1.2**	
	SNR=328								
KZA	**Kyzart**	**2.63**	**229**	*i* PN		**Pb**	**10 19 37.5**	**-1.2**	
KZA	**Kyzart**	**2.63**	**229**	⇑*i*P		**Pb**	**10 19 37.5**	**-1.2**	
	baz=230								
KZA				⇑*i*S		**Sg**	**10 20 15.9**	**-0.2**	
	baz=230								
KZA	**Kyzart**	**2.63**	**229**	*i* P		**Pb**	**10 19 37.6**	**-1.2**	
AAK	**Ala-Archa**	**2.78**	**246**	⇓Pn		**Pn**	**10 19 38.3**	**+2.6**	
	comp=N,164nm,0.4s								
AAK				⇑Lg		Lg	10 20 18.6		
	comp=N,792nm,0.6s								
AAK	**Ala-Archa**	**2.78**	**246**	P		**Pn**	**10 19 38.3**	**+2.6**	
	SNR=145								
AAK	**Ala-Archa**	**2.78**	**246**	PN		**Pn**	**10 19 38.0**	**+2.3**	
AAK				pmax	pmax				
	comp=Z,12nm,0.3s								
AAK				pmax	pmax				
	comp=Z,155nm,0.3s								
AAK				MLR	MLR				
	comp=Z,64nm,19.1s								
AAK	**Ala-Archa**	**2.78**	**246**	Pn		**Pn**	**10 19 38.0**	**+2.3**	
	comp=Z,12nm,0.3s,baz=84,slow=7.4,SNR=102								
AAK				Pg		**Pb**	**10 19 41.5**	**+0.5**	
	comp=Z,155nm,0.3s,baz=88,slow=10,SNR=149								
AAK				LR		LR	10 20 08.3		
	comp=Z,64nm,19.1s,baz=60,slow=28								
AAK				Lg		Lg	10 20 18.8		
	comp=Z,198nm,0.3s,baz=207,slow=22,SNR=26								
AAK	**Ala-Archa**	**2.78**	**246**	⇓*i*P		**Pb**	**10 19 38.7**	**-2.3**	
	baz=247								
AAK				⇓*i*S		**Sg**	**10 20 18.3**	**-2.5**	
	baz=247								
NRN	**Naryn**	**2.79**	**211**	⇓*i*P		**Pb**	**10 19 40.9**	**-0.4**	
	baz=211								
UCH	**Uchtor**	**2.97**	**238**	P		**Pb**	**10 19 42.1**	**-2.4**	
	SNR=81								
UCH	**Uchtor**	**2.97**	**238**	*i* PN		**Pb**	**10 19 42.1**	**-2.4**	
EKS	**Erkin-Say**	**3.24**	**250**	⇓*i*P		**Pn**	**10 19 44.7**	**+2.7**	
	baz=251								
EKS2	**Erkin-Say**	**3.25**	**250**	P		**Pn**	**10 19 44.8**	**+2.6**	
	SNR=76								
EKS2	**Erkin-Say**	**3.25**	**250**	*e*PN		**Pn**	**10 19 44.8**	**+2.6**	
EKS2	**Erkin-Say**	**3.25**	**250**	*e*Pn		**Pn**	**10 19 44.8**	**+2.6**	
ARLS	**Aral**	**3.30**	**235**	⇓*i*P		**Pb**	**10 19 46.8**	**-3.1**	
	baz=235								
AML	**Almayashu**	**3.54**	**243**	P		Pn	10 19 49.8	+3.4	
	SNR=198								
AML	**Almayashu**	**3.54**	**243**	*i* PN		Pn	10 19 49.8	+3.4	
MNAS	**Manas**	**4.19**	**253**	⇑Pg		**Pg**	**10 20 09.4**	**-2.3**	
	comp=Z,304nm,0.9s								
MNAS				⇑Lg		Lg	10 21 03.6		
	comp=Z,500nm,0.7s								
MKAR	**Makanchi Array**	**4.27**	**45**	Pn		**Pn**	**10 19 56.6**	**+0.5**	
	comp=Z,26nm,0.3s,baz=216,slow=16,SNR=620								
MKAR				Pg		**Pb**	**10 20 06.8**	**+0.5**	
	comp=Z,31nm,0.3s,baz=222,slow=15,SNR=28								
MKAR				Sn		**Sn**	**10 20 45.2**	**-0.5**	
	comp=Z,60nm,0.3s,baz=223,slow=26,SNR=9.3								
MKAR				Lg		Lg	10 21 01.2		
	comp=Z,118nm,0.3s,baz=214,slow=28,SNR=8.4								
MK31	**Makanchi Array**	**4.27**	**45**	⇑Pn		**Pn**	**10 19 56.6**	**+0.5**	
	comp=Z,8.8nm,0.2s,baz=221,slow=15,SNR=19								
MK31				⇓Sn		**Sn**	**10 20 45.4**	**-0.4**	
	comp=Z,78nm,0.4s,baz=223,slow=25,SNR=4.5								
MK31				⇓Lg		Lg	10 21 02.9		
	comp=Z,342nm,0.6s,baz=227,slow=28,SNR=3.7								
MK31	**Makanchi Array**	**4.27**	**45**	PN		**Pn**	**10 19 56.4**	**+0.3**	
MK31							10 20 45.4		
MK31				pmax	pmax				
	comp=Z,51nm,0.2s								
MK31				smax	smax				
	comp=N,117nm,0.2s								
KSH	**Kashi**	**4.55**	**199**	Pn		**Pb**	**10 20 10.4**	**-0.8**	
KSH				Sn		**Sb**	**10 21 04.8**	**-1.2**	
KSH				SMN					
	comp=N,320nm,0.7s								
KSH				SME					
	comp=N,370nm,1.0s								
SFK	**Sufi-Kurgan**	**5.04**	**222**	⇑Pg		**Pg**	**10 20 27.9**	**-0.2**	
	comp=N,156nm,0.7s								
SFK				⇑Lg		Lg	10 21 32.6		
	comp=N,648nm,0.9s								
SFK	**Sufi-Kurgan**	**5.04**	**222**	PN		Pb	10 20 22.8	+3.1	
SFK							10 21 32.4		
SFK				pmax	pmax				
	comp=Z,125nm,0.8s								
SFK				smax	smax				
	comp=N,648nm,0.9s								
KK31	**Karatay Array**	**5.45**	**265**	⇑Pn		**Pb**	**10 20 26.0**	**-0.3**	
	comp=N,9.1nm,0.4s,baz=75,slow=16,SNR=44								
KK31				⇑Pg		**Pg**	**10 20 33.3**	**-2.5**	
	comp=N,129nm,0.6s,baz=76,slow=15,SNR=77								
KK31				⇓Lg		Lg	10 21 40.7		
	comp=N,285nm,0.7s,baz=78,slow=30,SNR=4.0								
KK31	**Karatay Array**	**5.45**	**265**	*e*PN		**Pn**	**10 20 14.7**	**+2.5**	
KK31							10 21 40.0		
KK31				pmax	pmax				
	comp=Z,96nm,0.4s								
KK31				smax	smax				
	comp=N,334nm,0.5s								
KKAR	**Karatay Array**	**5.45**	**265**	*e*PN		**Pn**	**10 20 14.2**	**+1.9**	
KKAR	**Karatay Array**	**5.45**	**265**	*e*Pn		**Pn**	**10 20 14.2**	**+1.9**	
OTUK	**Ortayu**	**5.88**	**321**	⇓Pn		**Pn**	**10 20 19.2**	**+1.0**	
	comp=N,28nm,0.5s								
OTUK				⇓Lg		Lg	10 21 53.4		
	comp=N,409nm,0.7s								
OTUK	**Ortayu**	**5.88**	**321**	PN		**Pn**	**10 20 19.0**	**+0.8**	
OTUK				pmax	pmax				
	comp=Z,25nm,0.5s								
KURBB	**Kurchatov Arra**	**6.81**	**3**	⇑Pn		**Pn**	**10 20 31.4**	**+0.5**	
	comp=Z,12nm,0.3s								
KURBB				⇓Lg		Lg	10 22 25.3		
	comp=Z,861nm,0.7s								
KURBB	**Kurchatov Arra**	**6.81**	**3**	Pn		**Pn**	**10 20 30.7**	**-0.2**	
	comp=Z,3.6nm,0.3s,baz=189,slow=11,SNR=62								
KURBB				Lg		Lg	10 22 23.0		
	comp=Z,9.1nm,0.3s,baz=180,slow=29,SNR=12								
KURK	**Kurchatov**	**6.90**	**4**	⇑Pn		**Pn**	**10 20 31.5**	**-0.7**	
	comp=Z,7.7nm,0.4s								
KURK				⇑Lg		Lg	10 22 25.8		
	comp=Z,211nm,0.7s								
KURK	**Kurchatov**	**6.90**	**4**	*e*PN		**Pn**	**10 20 31.7**	**-0.5**	
KURK	**Kurchatov**	**6.90**	**4**	*e*Pn		**Pn**	**10 20 31.7**	**-0.5**	
KURK				Lg		Lg	10 22 23.0		
WMQ	**Urumqi**	**7.07**	**87**	Pn		**Pn**	**10 20 33.9**	**-0.6**	
WMQ				Sn		**Sn**	**10 21 53.0**	**-1.7**	
WMQ				SMN					
	comp=Z,250nm,0.6s								
WMQ				SME					
	comp=Z,260nm,1.0s								
DZET	**Dzherino**	**8.49**	**237**	⇓Pg		Pg	10 21 25.7	-8.2	
	comp=Z,14nm,0.5s								
DZET				⇓Lg		Lg	10 23 28.7		
	comp=Z,55nm,0.8s								
BVAR	**Borovoye Array**	**10.47**	**334**	Pn		**Pn**	**10 21 20.8**	**-0.3**	
	comp=Z,2.8nm,0.3s,baz=139,slow=14,SNR=22								
BVAR				Sn		**Sn**	**10 23 14.5**	**-3.5**	
	comp=Z,2.7nm,0.3s,baz=130,slow=19,SNR=3.9								
BVAR				Lg		Lg	10 24 15.9		
	comp=Z,4.2nm,0.3s,baz=146,slow=26,SNR=3.2								
BRVK	**Borovoye**	**10.53**	**334**	⇓Pn		**Pn**	**10 21 21.6**	**-0.3**	
	comp=Z,21nm,0.6s								
BRVK				⇑Sn		**Sn**	**10 23 18.8**	**-0.7**	
	comp=Z,48nm,0.6s								
BRVK				⇑Lg		Lg	10 24 22.8		
	comp=Z,231nm,0.8s								
BRVK	**Borovoye**	**10.53**	**334**	*e*P		**Pn**	**10 21 21.6**	**-0.3**	
BRVK	**Borovoye**	**10.53**	**334**	*e*Pn		**Pn**	**10 21 21.6**	**-0.3**	
ZALV	**Zalesovo Beam**	**11.09**	**22**	Pn		Pn	10 21 28.1	-1.4	
	comp=Z,4.4nm,0.3s,baz=208,slow=16,SNR=41								
ZALV				Sn		Sn	10 23 27.5	-5.7	
	comp=Z,5.9nm,0.3s,baz=200,slow=23,SNR=6.2								
ZALV				Lg		Lg	10 24 34.4		
	comp=Z,1.3nm,0.3s,baz=204,slow=24,SNR=3.6								
ZALV				LR		LR	10 25 52.7		
	comp=Z,143nm,19.2s,baz=250,slow=38								
NVS	**Novosibirsk**	**11.54**	**16**	*e*P		Pn	10 21 33.1	-2.6	
NVS				*e*			10 23 38.2		
AB31	**Akbulak array**	**13.50**	**300**	⇓Pn		**Pn**	**10 22 02.0**	**-0.5**	
	comp=Z,2.1nm,0.5s,baz=114,slow=12,SNR=12								
AB31				⇑Lg		Lg	10 25 59.3		
	comp=Z,28nm,0.8s								
ABKAR	**Akbulak array**	**13.50**	**300**	*e*Pn		**Pn**	**10 22 01.2**	**-1.3**	
AKTO	**Aktyubinsk**	**15.05**	**303**	⇑Pn		**Pn**	**10 22 22.6**	**-1.0**	
	comp=Z,8.0nm,1.2s								
AKTO				⇑Lg		Lg	10 26 50.3		
	comp=Z,35nm,0.9s								
AKTO	**Aktyubinsk**	**15.05**	**303**	Pn		**Pn**	**10 22 22.4**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=96,slow=12,SNR=7.0								
AKTO				Sn		Sn	10 25 02.7	-7.3	
	comp=Z,0.1nm,0.3s,baz=242,slow=18,SNR=1.8								
AKTO				Lg		Lg	10 26 43.2		
	comp=Z,0.7nm,0.3s,baz=41,slow=16,SNR=4.1								
AKTO				LR		LR	10 28 22.6		
	comp=Z,119nm,20.8s,baz=119,slow=38								
IMYA	**Miami**	**15.54**	**247**	*e*P		**Pn**	**10 22 28.0**	**-2.4**	
ISRO	**Mashad**	**15.98**	**248**	*e*P		**P**	**10 22 38.0**	**-1.4**	
GEYT	**Alibeck**	**16.09**	**255**	Pn		**Pn**	**10 22 38.8**	**+1.6**	
	comp=Z,0.3nm,0.3s,baz=64,slow=6.6,SNR=2.6								
GEYT				LR		LR	10 30 18.2		
	comp=Z,95nm,18.7s,baz=240,slow=43								
IKRD	**Kardeh**	**16.38**	**251**	*e*P		Pn	10 22 33.1	-8.1	
IKRD				*e*			10 22 41.7		
	comp=N,152nm,0.2s								
GTA	**Gaotai**	**16.94**	**98**	*e*P		**Pn**	**10 22 50.0**	**+1.8**	
GTA				pP		**pP**	**10 22 57.5**	**+3.5**	
GTA				sP		sP	10 23 02.1	+6.3	
GTA				S		**Sn**	**10 25 53.3**	**-2.9**	
GTA				sS		**S**	**10 26 05.8**	**-0.6**	
GTA				SS		**SnSn**	**10 26 16.0**	**+6.8**	
GTA				PMZ					
	comp=N,19nm,1.3s								
GTA				PMZ					
	comp=N,87nm,5.2s								
GTA				LN					
	comp=N,110nm,14.0s								
GTA				LE					
	comp=N,170nm,12.3s								
GTA				LZ					
	comp=N,88nm,12.1s								
MOY	**Mondy**	**17.33**	**55**	*e*P		**Pn**	**10 22 55.1**	**+2.2**	
ARU	**Arti**	**17.61**	**322**	*d* iP		**Pn**	**10 22 55.6**	**-0.7**	
ARU				S		**Sn**	**10 26 10.7**	**-1.3**	
ARU				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ARU	**Arti**	**17.61**	**322**	*e*Pn		**Pn**	**10 22 55.5**	**-0.7**	
	comp=Z,6.5nm,0.8s								
ZAK	**Zakamensk**	**18.41**	**60**	*e*P		**P**	**10 23 04.7**	**-1.5**	
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
TLY	**Talaya**	**18.92**	**56**	P		**P**	**10 23 10.9**	**-0.8**	
	comp=Z,0.0nm,0.3s,baz=233,slow=16,SNR=4.2								
TLY				Lg		Lg	10 28 38.4		
	comp=Z,0.0nm,0.3s,baz=90,slow=16,SNR=2.3								
TLY				LR		LR	10 30 25.8		
	comp=Z,82nm,18.9s,baz=250,slow=37								
SONM	**Songino Array**	**20.18**	**69**	P		**P**	**10 23 25.2**	**-0.5**	
	comp=Z,11nm,0.6s,baz=269,slow=11,SNR=39								
SONM				Lg		Lg	10 29 24.0		
	comp=Z,1.2nm,0.9s,baz=264,slow=28,SNR=4.8								
SONM				LR		LR	10 32 25.5		
	comp=Z,83nm,18.9s,baz=256,slow=40								
ULN	**Ulaanbaatar**	**20.63**	**68**	*e*P		**P**	**10 23 32.8**	**+2.3**	
ULN	**Ulaanbaatar**	**20.63**	**68**	*e*P		**P**	**10 23 32.8**	**+2.3**	
LZH	**Lanzhou**	**21.26**	**102**	*e*P		**P**	**10 23 41.0**	**+3.6**	
LZH				pP		pP	10 23 50.5	+9.1	
LZH				PMZ					
	comp=Z,19nm,1.0s								
GNI	**Garni**	**24.84**	**273**	*d* iP		**P**	**10 24 17.0**	**+3.5**	
GNI				pmax	pmax				
	comp=Z,23nm,1.2s								
GNI	**Garni**	**24.84**	**273**	P		**P**	**10 24 15.7**	**+2.1**	
	comp=Z,1.6nm,0.3s,baz=30,slow=20,SNR=3.2								
GNI	**Garni**	**24.84**	**273**	*e*P		**P**	**10 24 15.7**	**+2.1**	
	comp=Z,24nm,1.1s								
KBZ	**Khabaz**	**25.18**	**282**	P		**P**	**10 24 18.2**	**+1.9**	
	comp=Z,2.0nm,0.7s,baz=56,slow=24,SNR=5.0								
KBZ				LR		LR	10 36 07.7		
	comp=Z,59nm,18.0s,baz=146,slow=41								
KIV	**Kislovodsk**	**25.28**	**283**	*e*P		**P**	**10 24 16.5**	**-0.9**	
KIV				pmax	pmax				
	comp=Z,5.0nm,0.8s								
KIV				MLR	MLR				
	comp=Z,56nm,15.0s								
BOD	**Bodaibo**	**26.36**	**45**	*e*P		**P**	**10 24 26.4**	**-0.5**	
BOD				pmax	pmax				
	comp=Z,7.0nm,0.8s								
BJI	**Beijing**	**28.53**	**84**	P		**P**	**10 24 47.5**	**+1.0**	
BJI				S		**S**	**10 29 33.9**	**0.0**	
BJI				PMZ					
	comp=Z,9.0nm,0.5s								
BJI				PMZ					
	comp=Z,50nm,4.2s								
BJI				LN					
	comp=Z,100nm,18.7s								
BJI				LE					
	comp=Z,160nm,19.0s								
OBN	**Obninsk**	**28.72**	**308**	LR		LR	10 36 22.1		
	comp=Z,59nm,21.3s,baz=264,slow=36								
CMAR	**Chiang Mai Arr**	**30.86**	**138**	P		**P**	**10 25 06.5**	**-0.9**	
	comp=Z,1.0nm,0.4s,baz=326,slow=9.1,SNR=10.0								
CMAR				LR		LR	10 39 01.6		
	comp=Z,14nm,21.4s,baz=70,slow=40								
JOF	**Joensuu**	**32.74**	**322**	*e*P		**P**	**10 25 25.1**	**+1.7**	
JOF				pmax	pmax				
	comp=Z,1.0nm,0.4s								
JOF	**Joensuu**	**32.74**	**322**	*e*p		**P**	**10 25 25.1**	**+1.7**	
	comp=Z,0.8nm,0.4s								
BRTR	**Keskin Array B**	**32.98**	**278**	P		P	10 25 29.4	+3.3	
	comp=Z,2.7nm,0.9s,baz=90,slow=8.6,SNR=7.7								
RAYN	**Ar Rayn**	**33.43**	**243**	*e*P		**P**	**10 25 30.4**	**+0.5**	
	comp=Z,3.7nm,1.1s								
FINES	**FINESS Array B**	**34.91**	**319**	P		**P**	**10 25 43.3**	**+1.0**	
	comp=Z,1.1nm,0.5s,baz=72,slow=8.9,SNR=8.7								
YAK	**Yakutsk**	**34.93**	**40**	*e*P		**P**	**10 25 41.3**	**-1.2**	
YAK				pmax	pmax				
	comp=Z,20nm,0.9s								
YAK	**Yakutsk**	**34.93**	**40**	P		**P**	**10 25 42.3**	**-0.2**	
KEV	**Kevo**	**36.31**	**333**	*e*P		**P**	**10 25 53.9**	**-0.3**	
KEV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KEV	**Kevo**	**36.31**	**333**	*e*p		**P**	**10 25 53.9**	**-0.3**	
	comp=Z,0.5nm,0.4s								
ARCES	**ARCESS Array B**	**36.75**	**332**	P		**P**	**10 25 58.4**	**+0.4**	
	comp=Z,4.9nm,0.9s,baz=98,slow=9.1,SNR=17								
TIXI	**Tiksi**	**36.96**	**24**	*c*e P		**P**	**10 26 00.0**	**+0.3**	
TIXI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
TIXI	**Tiksi**	**36.96**	**24**	*e*P		**P**	**10 25 59.4**	**-0.3**	
	comp=Z,3.3nm,0.6s								
KSRS	**Korea Array**	**37.99**	**82**	LR		LR	10 42 49.5		
	comp=Z,28nm,19.4s,baz=200,slow=38								
SPITS	**Spitsbergen Ar**	**41.72**	**344**	P		**P**	**10 26 40.0**	**+0.6**	
	comp=Z,1.2nm,0.6s,baz=142,slow=16,SNR=3.4								
NOA	**NORSAR Array B**	**42.09**	**318**	P		P	10 26 46.3	+3.6	
	comp=Z,0.8nm,0.7s,baz=83,slow=8.2,SNR=2.6								
SEY	**Seymchan**	**45.38**	**38**	P		**P**	**10 27 08.7**	**-0.3**	
	comp=Z,1.5nm,0.6s,baz=277,slow=16,SNR=4.6								
MJAR	**Matsushiro Arr**	**45.73**	**78**	LR		LR	10 47 10.7		
	comp=Z,40nm,18.4s,baz=40,slow=37								
PETK	**Petropavlovsk-**	**51.09**	**50**	LR		LR	10 50 19.6		
	comp=Z,28nm,21.9s,baz=336,slow=37								
INK	**Inuvik**	**65.72**	**12**	*e*P		**P**	**10 29 35.1**	**0.0**	
INK				*e*			10 29 39.2		
INK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
INK	**Inuvik**	**65.72**	**12**	P		**P**	**10 29 35.1**	**0.0**	
	comp=Z,3.5nm,0.6s,baz=352,slow=6.1,SNR=7.0								
INK	**Inuvik**	**65.72**	**12**	*e*P		**P**	**10 29 35.1**	**0.0**	
	comp=Z,3.6nm,0.6s								
INK				*e*			10 29 39.2		
ILAR	**Eielson Array**	**66.20**	**19**	P		**P**	**10 29 37.1**	**-1.2**	
	comp=Z,1.0nm,0.7s,baz=316,slow=4.8,SNR=8.9								
TORD	**Torodi Ar. Bea**	**71.11**	**270**	P		**P**	**10 30 08.9**	**-0.7**	
	comp=Z,0.7nm,0.5s,baz=39,slow=4.9,SNR=13								
YKA	**Yellowknife Ar**	**73.55**	**6**	P		**P**	**10 30 23.1**	**-0.4**	
	comp=Z,3.2nm,0.7s,baz=348,slow=6.0,SNR=17								
WRAB	**Tennant Creek**	**81.80**	**128**	*e*P		**P**	**10 31 12.9**	**+2.9**	
WRAB				pmax	pmax				
	comp=Z,2.0nm,0.9s								
WRAB	**Tennant Creek**	**81.80**	**128**	*e*P		**P**	**10 31 12.9**	**+2.9**	
	comp=Z,2.3nm,0.9s								
WRA	**Warramunga Arr**	**81.80**	**128**	P		**P**	**10 31 08.3**	**-1.7**	
	comp=Z,0.6nm,0.9s,baz=324,slow=4.8,SNR=3.7								
ASAR	**Alice Springs**	**84.50**	**130**	P		**P**	**10 31 22.6**	**-1.4**	
	comp=Z,0.2nm,0.5s,baz=353,slow=6.5,SNR=3.6								
HNR	**Honiara**	**90.76**	**102**	LR		LR	11 11 33.2		
	comp=Z,71nm,21.4s,baz=8.0,slow=35								
PDAR	**Pinedale Array**	**93.52**	**6**	P		**P**	**10 32 06.3**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=331,slow=5.4,SNR=2.4								

FIA0 20 10:34:05.9, 60.97N×28.08E, h0km, ML0.9, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**1.08**	**297**	PG		Pg	10 34 25.2	-1.4
	comp=Z,0.4nm,0.1s							
FIA0				LG		Lg	10 34 40.0	
	comp=Z,1.6nm,0.1s							
FIA0				S		Sn	10 34 44.4	+0.5
	comp=Z,8.9nm,0.8s							

MEX 20 10:53:25.4±0.5, 32.36N×115.77W, h16km±18km, MD3.9, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.49**	**84**	*e*P		Pg	10 53 33.4	-1.7
MBIG				*i* S		Sg	10 53 39.1	-2.7
CBX	**Cerro Bola**	**0.76**	**267**	*e*P		Pg	10 53 37.3	-3.0
CBX				*i* S		Sg	10 53 47.1	-3.4
SPIG	**San Pedro Mart**	**1.34**	**169**	*i* P		Pn

	comp=N,19nm,0.4s								
KK31					⇑Lg		Lg	11 01 03.0	
	comp=N,83nm,0.5s								
KK31	**Karatay Array**	**5.09**	**353**		PN		**Pn**	**10 59 45.8**	**+0.3**
KK31								11 01 03.0	
KK31					pmax		pmax		
	comp=Z,16nm,0.2s								
KK31					smax		smax		
	comp=N,111nm,0.5s								
KKAR	**Karatay Array**	**5.09**	**353**	*e*	Sn		**Sn**	**11 00 43.8**	**-0.6**
KKAR				*e*	Sn		**Sn**	**11 00 43.8**	**-0.6**
AAK	**Ala-Archa**	**5.15**	**26**	⇑	Pn		**Pn**	**10 59 49.0**	**+2.6**
	comp=N,68nm,0.7s								
AAK					⇑Lg		Lg	11 01 04.7	
	comp=N,46nm,0.8s								
AAK	**Ala-Archa**	**5.15**	**26**		P		**Pn**	**10 59 48.2**	**+1.8**
	SNR=33								
AAK	**Ala-Archa**	**5.15**	**26**		PN		**Pn**	**10 59 48.2**	**+1.8**
AAK								11 00 44.8	
AAK					pmax		pmax		
	comp=Z,4.0nm,0.3s								
AAK					smax		smax		
	comp=N,5.0nm,0.3s								
AAK					MLR		MLR		
	comp=Z,201nm,19.0s								
AAK	**Ala-Archa**	**5.15**	**26**		Pn		**Pn**	**10 59 48.2**	**+1.8**
	comp=Z,4.3nm,0.3s,baz=187,slow=5.3,SNR=34								
AAK					Sn		**Sn**	**11 00 44.8**	**-1.1**
	comp=Z,5.0nm,0.3s,baz=199,slow=18,SNR=2.8								
AAK					LR		LR	11 01 55.5	
	comp=Z,201nm,18.9s,baz=239,slow=41								
THW	**Thamme Wali**	**5.26**	**177**		P		Pb	10 59 55.2	-6.0
KBK	**Karagaybulak**	**5.33**	**29**		P		**Pn**	**10 59 50.9**	**+1.9**
	SNR=13								
KBK	**Karagaybulak**	**5.33**	**29**	*i*	PN		**Pn**	**10 59 50.9**	**+1.9**
FRU	**Bishkek**	**5.36**	**26**	*e*	PN		Pn	10 59 54.0	+4.7
FRU				*i*				11 00 10.0	
FRU				*i*				11 00 56.0	
FRU					pmax		pmax		
	comp=Z,180nm,1.6s								
FRU					smax		smax		
	comp=E,760nm,1.8s								
CHMS	**Chumysh**	**5.56**	**26**		P		**Pn**	**10 59 53.2**	**+1.2**
	SNR=25								
CHMS	**Chumysh**	**5.56**	**26**	*i*	PN		**Pn**	**10 59 53.2**	**+1.2**
ULHL	**Ulahol**	**5.59**	**40**		P		**Pn**	**10 59 54.0**	**+1.3**
	SNR=8.6								
ULHL	**Ulahol**	**5.59**	**40**	*i*	PN		**Pn**	**10 59 53.9**	**+1.3**
TKM2	**Tokmak 2**	**5.81**	**32**	⇑	Pn		**Pn**	**10 59 58.7**	**+3.0**
	comp=E,73nm,1.1s								
TKM2					⇑Lg		Lg	11 01 29.0	
	comp=E,105nm,1.6s								
TKM2	**Tokmak 2**	**5.81**	**32**		P		**Pn**	**10 59 58.6**	**+3.0**
	SNR=23								
TKM2	**Tokmak 2**	**5.81**	**32**	*e*	PN		**Pn**	**10 59 56.6**	**+0.9**
TKM2				*e*				11 01 02.1	
TKM2	**Tokmak 2**	**5.81**	**32**	*e*	Pn		**Pn**	**10 59 56.6**	**+0.9**
TKM2				*e*	Sn		**Sn**	**11 01 02.1**	**-0.5**
DLH	**Dalhousie**	**6.64**	**145**	*ex*			Pn	11 00 12.0	+4.9
DLH				*eS*			Sn	11 01 33.0	+10
PONG	**Pong**	**7.14**	**147**	*ex*			**Sg**	**11 02 15.0**	**-3.2**
SDNR	**Sundarnagar**	**7.98**	**143**	*eP*			Pn	11 00 30.0	+4.7
SDNR				*ex*			x	11 02 03.6	
PDGK	**Podgornoye**	**8.09**	**47**	⇓	Pn		**Pn**	**11 00 27.8**	**+1.2**
	comp=E,23nm,0.8s								
PDGK				⇓	Lg		Lg	11 02 44.4	
	comp=E,30nm,1.0s								
PDGK	**Podgornoye**	**8.09**	**47**		P		**Pn**	**11 00 27.8**	**+1.2**
PDGK					pmax		pmax		
	comp=Z,23nm,0.8s								
SMLA	**Simla**	**8.38**	**144**	*i*	P		Pn	11 00 35.3	+4.6
SMLA				*i*	S		**Sn**	**11 02 04.8**	**-0.6**
SMLA				*i*	S		**Sn**	**11 02 06.3**	**+0.9**
SMLA					AML		AML	11 02 13.2	
	comp=E,106nm,0.3s								
SMLA					AML		AML	11 02 14.7	
	comp=N,82nm,0.7s								
IMYA	**Miami**	**9.18**	**263**	*eP*			**Pn**	**11 00 40.9**	**-1.0**
ISRO	**Mashad**	**9.69**	**263**	*eP*			Pn	11 00 45.0	-3.7
IMOG	**Moghan**	**9.84**	**262**	*eP*			**Pn**	**11 00 49.8**	**-1.2**
IAKL	**Akhelmad**	**10.18**	**266**	*eP*			**Pn**	**11 00 54.8**	**-0.9**
IAKL				*e*				11 02 51.2	
	comp=E,2μm,0.4s								
IAKL				*e*				11 02 52.4	
	comp=N,2μm,0.3s								
IKRD	**Kardeh**	**10.34**	**267**	*eP*			Pn	11 00 45.8	-12
GEYT	**Alibeck**	**10.49**	**273**		Pn		**Pn**	**11 01 00.2**	**+0.5**
	comp=N,3.7nm,0.3s,baz=95,slow=9.1,SNR=14								
GEYT					Sn		Sn	11 02 50.8	-6.5
	comp=N,2.2nm,0.3s,baz=138,slow=18,SNR=5.5								
GEYT					LR		LR	11 06 08.9	
	comp=N,151nm,18.0s,baz=105,slow=44								
NDI	**New Delhi**	**10.53**	**151**	*eP*			Pn	11 01 06.0	+5.8
NDI				*eS*			**Sn**	**11 03 03.0**	**+4.8**
ISFR	**Sfrayin**	**10.69**	**269**	*eP*			**Pn**	**11 01 03.2**	**+0.5**
MK31	**Makanchi Array**	**11.86**	**39**		Pn		**Pn**	**11 01 18.6**	**+0.2**
	comp=N,16nm,0.8s,baz=223,slow=12,SNR=172								
MK31	**Makanchi Array**	**11.86**	**39**	*i*	P		**Pn**	**11 01 18.6**	**+0.2**
MK31					pmax		pmax		
	comp=Z,35nn,1.1s								
MKAR	**Makanchi Array**	**11.86**	**39**		Pn		**Pn**	**11 01 19.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=229,slow=11,SNR=74								
MKAR					LR		LR	11 06 19.7	
	comp=Z,67nm,19.8s,baz=204,slow=40								
KURBB	**Kurchatov Arra**	**13.55**	**20**		Pn		Pn	11 01 37.2	-4.2
	comp=Z,0.1nm,0.3s,baz=211,slow=13,SNR=9.7								
KURBB					Sn		**Sn**	**11 04 12.3**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=205,slow=26,SNR=2.8								
KURBB					Lg		Lg	11 05 32.5	
	comp=Z,0.1nm,0.3s,baz=216,slow=26,SNR=5.0								
KURK	**Kurchatov**	**13.66**	**20**		P		Pn	11 01 37.2	-5.6
KURK								11 04 12.3	
KURK	**Kurchatov**	**13.66**	**20**	*e*	Pn		**P**	**11 01 51.9**	**+0.2**
KURK					Sn		**Sn**	**11 04 12.3**	**-2.2**
KURK					Lg		Lg	11 05 32.5	
AB31	**Akbulak array**	**13.92**	**327**		Pn		Pn	11 01 42.5	-3.9
	comp=Z,4.5nm,0.5s,baz=142,slow=12,SNR=106								
AB31				⇑	Sn		Sn	11 04 14.4	-6.4
	comp=Z,8.0nm,0.6s,baz=142,slow=25,SNR=4.7								
AB31	**Akbulak array**	**13.92**	**327**		P		Pn	11 01 42.5	-3.9
AB31					S		Sn	11 04 11.5	-9.4
AB31					pmax		pmax		
	comp=Z,6.0nm,0.5s								
AB31					smax		smax		
	comp=N,3.0nm,0.3s								
ABKAR	**Akbulak array**	**13.92**	**327**	*e*	Pn		Pn	11 01 42.6	-3.7
ABKAR				*e*	Sn		Sn	11 04 11.4	-9.5
IGLO	**Ghaloghah**	**14.09**	**269**	*eP*			**Pn**	**11 01 47.3**	**-1.7**
DANN	**Dangsing**	**14.15**	**130**	*eP*			**Pn**	**11 01 49.4**	**-0.6**
	comp=N,43nm,0.8s								
BVAR	**Borovoye Array**	**14.99**	**358**		Pn		Pn	11 01 58.0	-3.0
	comp=N,1.0nm,0.3s,baz=158,slow=11,SNR=15								
BVAR					Lg		Lg	11 06 18.6	
	comp=N,0.2nm,0.3s,baz=186,slow=24,SNR=2.7								
BRVK	**Borovoye**	**15.03**	**357**	⇓	Pn		**P**	**11 02 05.4**	**-1.5**
	comp=N,14nm,0.9s								
BRVK	**Borovoye**	**15.03**	**357**	*i*	P		**Pn**	**11 01 59.0**	**-2.5**
BRVK	**Borovoye**	**15.03**	**357**	*e*	Pn		**Pn**	**11 02 01.1**	**-0.3**
	comp=N,8.2nm,0.7s								
KKN	**Kakani**	**15.49**	**127**	*eP*			Pn	11 02 02.7	-5.3
	comp=N,21nm,0.5s								
DMN	**Daman**	**15.51**	**128**	*eP*			Pn	11 02 02.9	-5.3
	comp=N,24nm,0.6s								
AKTO	**Aktyubinsk**	**15.63**	**327**	⇑	Pn		**P**	**11 02 12.8**	**-0.8**
	comp=N,19nm,0.8s								
AKTO				⇓	Sn		**Sn**	**11 05 00.8**	**-1.8**
	comp=N,8.9nm,0.8s								
AKTO	**Aktyubinsk**	**15.63**	**327**		Pn		**Pn**	**11 02 06.5**	**-2.9**
	comp=N,0.8nm,0.3s,baz=127,slow=12,SNR=4.3								
AKTO					Sn		Sn	11 04 55.4	-7.2
	comp=N,0.3nm,0.3s,baz=295,slow=19,SNR=3.6								
GUN	**Gumba**	**15.79**	**126**	*eP*			**Pn**	**11 02 08.0**	**-3.9**
	comp=N,59nm,0.8s								
JIRN	**Jiri**	**16.16**	**126**	*eP*			**Pn**	**11 02 12.8**	**-4.0**
	comp=N,28nm,0.4s								
RAMN	**Ramite**	**16.91**	**126**	*eP*			**Pn**	**11 02 23.9**	**-2.3**
	comp=N,30nm,0.6s								
TAPN	**Taplejung**	**17.36**	**123**	*eP*			**Pn**	**11 02 31.2**	**-0.7**
	comp=N,28nm,0.8s								
ODAN	**Odare**	**17.48**	**125**	*eP*			**Pn**	**11 02 31.4**	**-1.9**
	comp=N,42nm,0.7s								
ZALV	**Zalesovo Beam**	**18.37**	**26**		P		**Pn**	**11 02 40.5**	**-3.4**
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**18.37**	**26**		P		**Pn**	**11 02 40.5**	**-3.4**
	comp=Z,1.3nm,0.3s,baz=218,slow=12,SNR=31								
NVS	**Novosibirsk**	**18.62**	**22**	*eP*			**Pn**	**11 02 47.9**	**+1.0**
NVS				*eS*			**Sn**	**11 06 14.8**	**-0.1**
NVS					pmax		pmax		
	comp=Z,6.0nm,0.8s								
NVS					pmax		pmax		
	comp=N,4.0nm,0.7s								
NVS					smax		smax		
	comp=N,11nm,1.8s								
SVE	**Sverdlovsk**	**20.10**	**343**	*eP*			Pn	11 03 06.1	+1.5
SVE					pmax		pmax		
	comp=Z,16nm,0.8s								
DGRG	**David-gareji**	**20.28**	**288**		P		**P**	**11 03 02.4**	**-2.5**
ARU	**Arti**	**20.28**	**339**	*eP*			**P**	**11 03 04.3**	**-0.5**
ARU					pmax		pmax		
	comp=Z,1.0nm,0.5s								
ARU	**Arti**	**20.28**	**339**	*eP*			**P**	**11 03 04.3**	**-0.5**
	comp=Z,1.4nm,0.5s								
GNI	**Garni**	**20.78**	**284**	*ceP*			Pn	11 03 13.7	+0.7
GNI					pmax		pmax		
	comp=Z,20nm,1.2s								
GNI	**Garni**	**20.78**	**284**		P		**P**	**11 03 09.6**	**-0.9**
	comp=Z,3.7nm,0.5s,baz=58,slow=13,SNR=2.0								
GNI					LR		LR	11 12 55.0	
	comp=Z,44nm,20.0s,baz=86,slow=42								
GNI	**Garni**	**20.78**	**284**	*eP*			**P**	**11 03 09.4**	**-1.1**
	comp=Z,16nm,0.8s								
ONI	**Oni**	**21.74**	**291**		P		**P**	**11 03 23.4**	**+2.6**
GTA	**Gaotai**	**22.17**	**78**	*eP*			**P**	**11 03 26.5**	**+1.1**
GTA					pP		**pP**	**11 03 31.0**	**+2.7**
GTA					sP		**sP**	**11 03 34.3**	**+4.7**
GTA					PMZ				
	comp=Z,9.0nm,1.2s								
KIV	**Kislovodsk**	**22.40**	**294**	*eP*			**P**	**11 03 28.0**	**+0.2**
KIV					pmax		pmax		
	comp=Z,20nm,1.0s								
KIV					MLR		MLR		
	comp=Z,59nm,14.0s								
VRHR	**Novokhopersk**	**24.71**	**311**	*eP*			P	11 03 57.1	+6.8
VRHR					pmax		pmax		
	comp=N,7.0nm,0.6s								
VRHR					pmax		pmax		
	comp=E,9.0nm,0.6s								
VRHR					pmax		pmax		
	comp=Z,10.0nm,0.6s								
ZAK	**Zakamensk**	**25.74**	**51**	*eP*			**P**	**11 03 58.3**	**-1.6**
ZAK					pmax		pmax		
	comp=Z,5.0nm,1.1s								
VORD	**Divnogorie**	**26.06**	**310**	*eP*			**P**	**11 04 03.3**	**+0.7**
VORD					pmax		pmax		
	comp=N,5.0nm,0.7s								
VORD					pmax		pmax		
	comp=E,10.0nm,0.7s								
VORD					pmax		pmax		
	comp=Z,7.0nm,0.7s								
VSR	**Storozhevoye**	**26.21**	**311**	*eP*			**P**	**11 04 03.1**	**-0.9**
VSR					pmax		pmax		
	comp=N,390nm,1.0s								
VSR					pmax		pmax		
	comp=E,10.0nm,1.0s								
VSR					pmax		pmax		
	comp=Z,20nm,1.0s								
RAYN	**Ar Rayn**	**26.44**	**244**	*eP*			**P**	**11 04 07.5**	**+1.2**
	comp=Z,1.9nm,0.7s								
SONM	**Songino Array**	**27.21**	**58**		P		**P**	**11 04 12.1**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=255,slow=9.7,SNR=9.1								
SONM					LR		LR	11 16 18.0	
	comp=Z,37nm,21.4s,baz=240,slow=40								
ULN	**Ulaanbaatar**	**27.65**	**58**	*eP*			**P**	**11 04 18.6**	**+1.4**
ULN					pmax		pmax		
	comp=Z,5.0nm,1.7s								
OBN	**Obninsk**	**28.99**	**317**	*eP*			**P**	**11 04 27.8**	**-1.0**
OBN					pmax		pmax		
	comp=Z,6.0nm,1.0s								
BRTR	**Keskin Array B**	**29.30**	**285**	*ceP*			P	11 04 36.5	+4.5
BRTR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**29.30**	**285**		P		**P**	**11 04 33.8**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=92,slow=8.9,SNR=5.3								
BRTR					LR		LR	11 19 34.4	
	comp=Z,22nm,19.5s,baz=93,slow=43								
HHC	**Hu-ho-hao-te**	**30.95**	**72**	*eP*			P	11 04 49.9	+3.5
HHC					S		**S**	**11 09 53.3**	**+2.4**
HHC					PMZ				
	comp=Z,15nm,0.8s								
HHC					PMZ				
	comp=Z,78nm,4.5s								
CMAR	**Chiang Mai Arr**	**30.95**	**121**		LR		LR	11 19 19.6	
	comp=Z,39nn,18.0s,baz=230,slow=41								
AKASG	**Malin Array Be**	**32.25**	**307**		P		**P**	**11 04 57.6**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=114,slow=7.9,SNR=5.3								
AKASG					LR		LR	11 20 09.6	
	comp=Z,48nn,18.6s,baz=50,slow=40								
KIEV	**Kiev**	**32.26**	**307**	*eP*			P	11 05 01.0	+3.3
BOD	**Bodaibo**	**33.95**	**40**	*eP*			**P**	**11 05 09.8**	**-2.6**
MLR	**Muntele Rosu**	**34.33**	**297**		P		**P**	**11 05 17.8**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=86,slow=16,SNR=4.0								
MLR					LR		LR	11 22 09.0	
	comp=Z,11nm,19.0s,baz=58,slow=41								
JOF	**Joensuu**	**34.70**	**329**	*eP*			**P**	**11 05 18.1**	**-0.7**
JOF					pmax		pmax		
	comp=Z,4.0nm,0.6s								
JOF	**Joensuu**	**34.70**	**329**	*ep*			**P**	**11 05 18.1**	**-0.7**
	comp=Z,3.9nm,0.6s								
FINES	**FINESS Array B**	**36.39**	**325**		P		**P**	**11 05 33.0**	**-0.3**
	comp=Z,2.4nm,0.4s,baz=124,slow=8.2,SNR=12								
FINES					LR		LR	11 20 24.3	
	comp=Z,45nn,19.2s,baz=200,slow=36								
KAF	**Kangasniemi**	**36.51**	**326**	*eP*			**P**	**11 05 33.9**	**-0.5**
KAF					pmax		pmax		
	comp=Z,4.0nm,0.5s								
KAF	**Kangasniemi**	**36.51**	**326**	*ep*			**P**	**11 05 33.9**	**-0.5**
	comp=Z,4.4nm,0.5s								
KEV	**Kevo**	**39.49**	**337**	*eP*			**P**	**11 05 58.4**	**-1.0**
KEV					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KEV	**Kevo**	**39.49**	**337**	*ep*			**P**	**11 05 58.4**	**-1.0**
	comp=Z,4.2nm,0.8s								
ARCES	**ARCESS Array B**	**39.84**	**337**		P		**P**	**11 06 02.0**	**-0.4**
ARCES	**ARCESS Array B**	**39.84**	**337**		P		**P**	**11 06 02.0**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=110,slow=7.7,SNR=30								
ARCES					LR		LR	11 23 15.5	
	comp=Z,82nm,20.3s,baz=132,slow=37								
VRAC	**Vranov**	**40.37**	**304**		LR		LR	11 24 51.2	
	comp=Z,34nn,19.9s,baz=90,slow=39								
HFS	**Hagfors**	**42.06**	**321**		P		**P**	**11 06 20.9**	**+0.2**
	comp=Z,7.9nm,0.5s,baz=98,slow=11,SNR=57								
HFS					LR		LR	11 24 38.0	
	comp=Z,67nn,19.4s,baz=104,slow=37								
GERES	**GERESS Array B**	**42.31**	**304**		LR		LR	11 25 03.8	
	comp=Z,38nn,18.6s,baz=292,slow=38								
CLL	**Collm**	**42.48**	**308**	*eP*			**P**	**11 06 26.0**	**+1.7**
NB2	**NORSAR Subarra**	**43.35**	**322**		P		**P**	**11 06 30.7**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=95,slow=8.6								
NOA	**NORSAR Array B**	**43.35**	**322**		P		**P**	**11 06 30.4**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=94,slow=8.0,SNR=8.2								
NOA					LR		LR	11 25 35.1	
	comp=Z,47nn,18.1s,baz=60,slow=38								
GSI	**Gunungsitoli**	**43.76**	**140**	*eP*			**P**	**11 06 36.9**	**+1.8**
	comp=Z,15nn,0.6s								
KSAR	**Wonju Array Be**	**44.06**	**73**		P		**P**	**11 06 37.0**	**-0.2**
KSAR	**Wonju Array Be**	**44.06**	**73**		P		**P**	**11 06 37.0**	**-0.2**
KSRS	**Korea Array**	**44.09**	**73**		P		**P**	**11 06 37.0**	**-0.4**
KSRS					pmax		pmax		
	comp=Z,2.0nm,0.7s								
KSRS	**Korea Array**	**44.09**	**73**		P		**P**	**11 06 37.0**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=294,slow=7.0,SNR=6.8								
TIXI	**Tiksi**	**44.21**	**23**	*ceP*			**P**	**11 06 36.5**	**-1.5**
TIXI					pmax		pmax		
	comp=Z,9.0nm,1.2s								
TIXI	**Tiksi**	**44.21**	**23**	*eP*			**P**	**11 06 36.7**	**-1.3**
	comp=Z,4.3nm,0.8s								
DAVOX	**Davos/Dischmat**	**45.21**	**302**		P		**P**	**11 06 46.7**	**+0.2**
DAVOX					pmax		pmax		
	comp=Z,2.0nm,0.5s								
DAVOX					MLR		MLR		
	comp=Z,39nn,18.0s								
DAVOX	**Davos/Dischmat**	**45.21**	**302**		P		**P**	**11 06 46.7**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=135,slow=8.6,SNR=3.4								
DAVOX					LR		LR	11 28 20.1	
	comp=Z,39nn,18.0s,baz=257,slow=40								
TUE	**Stuetta**	**45.63**	**301**	*eP*			P	11 06 45.8	-4.1
SPITS	**Spitsbergen Ar**	**46.06**	**346**		LR		LR	11 28 20.0	
	comp=Z,33nn,18.7s,baz=40,slow=39								
EKA	**Eskdalemuir Ar**	**51.41**	**315**		P		**P**	**11 07 34.2**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=100,slow=6.6,SNR=3.2								
MJAR	**Matsushiro Arr**	**52.10**	**70**		P		**P**	**11 07 38.1**	**-1.4**
	comp=Z,3.1nm,0.9s,baz=284,slow=8.7,SNR=5.7								
DAG	**Danmarks Havn**	**53.33**	**343**	⇑	*i*P		**P**	**11 07 50.5**	**+2.5**
DAG	**Danmarks Havn**	**53.33**	**343**	⇑	*i*P		**P**	**11 07 50.5**	**+2.5**
	comp=Z,4.3nm,0.7s								
DAG					*i* S		x	11 08 23.6	
ESDC	**Sonseca Array**	**57.03**	**297**		P		**P**	**11 08 16.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=67,slow=8.1,SNR=5.2								
BILL	**Bilibino**	**57.07**	**27**	*i*	P		**P**	**11 08 17.5**	**+2.4**
BILL					pmax		pmax		
	comp=Z,2.0nm,1.4s								
SUMG	**Summit**	**59.70**	**341**	⇑	*i*P		**P**	**11 08 37.0**	**+3.1**
SUMG	**Summit**	**59.70**	**341**	*eP*			**P**	**11 08 35.3**	**+1.4**
	comp=Z,8.6nm,0.9s								
SUMG	**Summit**	**59.70**	**341**	⇑	*i*P		**P**	**11 08 37.0**	**+3.1**
	comp=Z,7.3nm,1.0s								
MDT	**Midelt**	**60.55**	**290**		P		**P**	**11 08 40.1**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=25,slow=14,SNR=2.1								
TORD	**Torodi Ar. Bea**	**66.09**	**268**		P		**P**	**11 09 16.6**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=46,slow=5.7,SNR=32								
INK	**Inuvik**	**72.32**	**9**	*eP*			**P**	**11 09 54.1**	**-0.4**
INK					pmax		pmax		
	comp=Z,2.0nm,0.8s								
INK	**Inuvik**	**72.32**	**9**	*eP*			**P**	**11 09 54.1**	**-0.4**
	comp=Z,2.1nm,0.8s								
ILAR	**Eielson Array**	**73.20**	**16**		P		**P**	**11 09 58.4**	**-1.4**
ILAR					pmax		pmax		
	comp=Z,1.0nm,1.0s								
ILAR	**Eielson Array**	**73.20**	**16**		P		**P**	**11 09 58.4**	**-1.4**
	comp=Z,1.0nm,1.0s,baz=300,slow=5.4,SNR=7.6								
YKA	**Yellowknife Ar**	**79.68**	**3**		P		**P**	**11 10 35.8**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=351,slow=5.3,SNR=14								
SCHQ	**Schefferville**	**80.80**	**337**		P		**P**	**11 10 44.4**	**+1.6**
	comp=Z,2.0nm,0.9s,baz=74,slow=7.4,SNR=2.7								
WRA	**Warramunga Arr**	**82.54**	**122**		P		**P**	**11 10 51.2**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=325,slow=5.0,SNR=23								
WRAB	**Tennant Creek**	**82.54**	**122**	*eP*			**P**	**11 10 51.6**	**-0.8**
WRAB					pmax		pmax		
	comp=Z,2.0nm,0.2s								
WRAB	**Tennant Creek**	**82.54**	**122**	*eP*			**P**	**11 10 51.6**	**-0.8**
	comp=Z,1.8nm,0.2s								
ASAR	**Alice Springs**	**84.88**	**125**		P		**P**	**11 11 03.4**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=313,slow=4.8,SNR=7.0								
PLCA	**Paso Flores**	**150.63**	**253**		PKPbc		**PKPbc**	**11 18 23.4**	**+2.1**
	comp=Z,5.0nm,1.0s,baz=117,slow=4.0,SNR=4.4								

*ISCJB **20** 11:10:12.2±0.8, 22.5°S±0.1°×177.5°W±0.1°, h280km, mb3.2/7, Error ellipse: s-maj=20.4km s-min=11.7km az=26.3*
*IDC **20** 11:10:20.7±7.5, 22.56°S×177.62°W, h356km±80km, mb2.9/7, mb1 3.3/9, mb1mx3.1/33, mbtmp3.8/9, Error ellipse: s-maj=52.7km s-min=24.3km az=170.0*
ISC 20 11:10:12.8±0.8, 22.6°S±0.1°×177.3°W±0.1°, h280km, n11, σ1s50/12, mb3.3/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.03**	**269**	P		**Pn**	**11 13 34.2**	**+1.8**
	0.6nm,0.3s,baz=91,slow=17,SNR=6.8							
URZ	**Urewera**	**16.30**	**196**	P		**Pn**	**11 13 47.5**	**+0.5**
	0.8nm,0.3s,baz=333,slow=2.4,SNR=21							
URZ				S		**S**	**11 16 40.5**	**-0.8**
	1.3nm,0.3s,baz=17,slow=22,SNR=12							
STKA	**Stephens Creek**	**37.48**	**247**	P		**P**	**11 17 00.4**	**+0.3**
	1.0nm,0.8s,baz=99,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**44.68**	**259**	P		**P**	**11 17 58.1**	**-0.6**
	0.4nm,0.4s,baz=90,slow=8.1,SNR=12							
WRA	**Warramunga Arr**	**44.96**	**264**	P		**P**	**11 17 59.2**	**-1.7**
	0.2nm,0.3s,baz=96,slow=8.1,SNR=14							
NVAR	**Mina Array Bea**	**82.14**	**43**	P		**P**	**11 22 03.0**	**+0.2**
	0.4nm,0.6s,baz=220,slow=8.2,SNR=3.7							
TXAR	**Lajitas Array**	**87.68**	**57**	P		**P**	**11 22 32.6**	**+2.3**
	0.2nm,0.7s,baz=213,slow=9.0,SNR=4.5							
PDAR	**Pinedale Array**	**90.08**	**43**	P		**P**	**11 22 42.0**	**+0.7**
	0.5nm,0.8s,baz=221

	comp=Z,0.8nm,0.2s							
JOF	**Joensuu**	**1.78**	**124**	Pg	Pn	11 19 26.0	+0.2	
JOF				Sg	Sn	11 19 49.0	-0.1	
KAF	**Kangasniemi**	**2.01**	**205**	PG	Pn	11 19 30.0	+1.1	
	baz=23							
KAF				SG	Sb	11 19 57.3	+0.8	
KAF				MSG		11 19 57.3		
	comp=Z,1.4nm,0.2s							
KAF	**Kangasniemi**	**2.01**	**205**	Pg	Pn	11 19 29.9	+1.0	
KAF				Sg	Sb	11 19 57.3	+0.7	
MSF	**Maaselka**	**2.02**	**11**	PG	Pn	11 19 29.8	+0.6	
MSF	**Maaselka**	**2.02**	**11**	Pg	Pn	11 19 29.7	+0.6	
KU6	**Riekki**	**2.23**	**19**	PB	Pn	11 19 32.5	+0.5	
KU6				SN	Sn	11 19 56.0	-4.2	
KU6	**Riekki**	**2.23**	**19**	Pb	Pn	11 19 32.4	+0.4	
KU6				Sn	Sn	11 19 55.9	-4.3	
KEF	**Keuruu**	**2.30**	**221**	PG	Pb	11 19 36.3	+0.1	
KEF				SG	Sb	11 20 05.0	-0.1	
KEF				MSG		11 20 05.0		
	comp=Z,0.9nm,0.2s							
KEF	**Keuruu**	**2.30**	**221**	Pg	Pb	11 19 36.2	0.0	
KEF				Sg	Sb	11 20 05.0	-0.1	
VAF	**Ylistaro**	**2.59**	**252**	PG	Pb	11 19 39.4	-1.6	
	baz=69							
VAF				SG	Sb	11 20 12.8	-0.4	
VAF				MSG		11 20 12.8		
	comp=Z,0.5nm,0.2s							
VAF	**Ylistaro**	**2.59**	**252**	Pg	Pb	11 19 39.3	-1.7	
VAF				Sg	Sb	11 20 12.8	-0.5	
FIA0	**FINESS Array S**	**2.67**	**201**	SG	Sb	11 20 15.4	-0.3	
FIA0				MSG		11 20 15.4		
	comp=Z,1.1nm,0.3s							
FIA0	**FINESS Array S**	**2.67**	**201**	Sg	Sb	11 20 15.4	-0.3	
UMAU	**Umeaa**	**3.27**	**272**	SN	Sn	11 20 24.8	-0.9	
UMAU	**Umeaa**	**3.27**	**272**	Sn	Sn	11 20 24.8	-0.9	
ERTU	**Ertsjaerv**	**3.61**	**319**	PN	Pn	11 19 52.4	+1.6	
ERTU	**Ertsjaerv**	**3.61**	**319**	Pn	Pn	11 19 52.4	+1.5	

ISCJB ***20*** *11:19:04.0±0.6,58°.83N±0°.04×18°.85E±0°.06,h0km, Error ellipse: s-maj=5.9km s-min=4.2km az=16.5*
UPP ***20*** *11:19:05.0,58°.83N×18°.70E,h0km,ML2.2, Mining explosion.*
HEL ***20*** *11:19:05.3±0.1,58°.80N×18°.72E,h0km,ML2.2, ML2.2(UPP), Explosion*
CSEM ***20*** *11:19:05.1±0.4,58°.86N×18°.77E,h2km,ML2.2, Error ellipse: s-maj=8.2km s-min=5.4km az=7.0, Mining explosion.*
BER ***20*** *11:19:08.6±4.0,59°.01N×18°.63E,h0km,ML2.5(NAO), Suspected explosion*
IDC ***20*** *11:19:08.4±1.7,59°.07N×18°.47E,h0km,mb1 3.2/4, mb1mx2.9/40,mbtmp3.1/4,ML2.9/4, Error ellipse: s-maj=21.1km s-min=7.6km az=178.0*
NAO ***20*** *11:19:08.4±1.9,59°.04N×18°.59E,ML2.5*

ISC 20 11:19:04.1±0.8, 58°.79N±0°.03×18°.64E±0°.02, h0km, n61, σ1s14/82, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.89**	**360**	*i* P	**Pg**	**11 19 21.0**	**-0.1**
NRTU				*i* S	**Sg**	**11 19 32.4**	**-0.2**
NRTU	**Norrtaelje**	**0.89**	**360**	P	**Pg**	**11 19 21.0**	**-0.1**
NRTU				S	**Sg**	**11 19 32.3**	**-0.2**
NRTU	**Norrtaelje**	**0.89**	**360**	P	**Pg**	**11 19 21.0**	**-0.1**
NRTU				S	**Sg**	**11 19 32.4**	**-0.2**
UPP	**Uppsala**	**1.19**	**334**	*e*P	**Pg**	**11 19 26.9**	**0.0**
UPP	**Uppsala**	**1.19**	**334**	P	**Pg**	**11 19 26.9**	**0.0**
UPP	**Uppsala**	**1.19**	**334**	P	**Pg**	**11 19 26.9**	**0.0**
ESKU	**Eskilstuna**	**1.24**	**292**	*e*P	**Pg**	**11 19 28.0**	**0.0**
ESKU	**Eskilstuna**	**1.24**	**292**	P	**Pg**	**11 19 28.0**	**0.0**
ESKU	**Eskilstuna**	**1.24**	**292**	P	**Pg**	**11 19 28.0**	**0.0**
BACU	**Backbrunna**	**1.32**	**324**	*e*P	**Pg**	**11 19 29.4**	**0.0**
BACU	**Backbrunna**	**1.32**	**324**	P	**Pg**	**11 19 29.4**	**0.0**
BACU	**Backbrunna**	**1.32**	**324**	P	**Pg**	**11 19 29.4**	**0.0**
FLYU	**Flymyra**	**1.39**	**344**	*e*P	**Pg**	**11 19 30.4**	**-0.4**
FLYU	**Flymyra**	**1.39**	**344**	P	**Pg**	**11 19 30.4**	**-0.4**
FLYU	**Flymyra**	**1.39**	**344**	P	**Pg**	**11 19 30.4**	**-0.4**
GRAU	**Graesoe**	**1.55**	**358**	*e*P	**Pn**	**11 19 32.9**	**0.0**
GRAU	**Graesoe**	**1.55**	**358**	P	**Pn**	**11 19 32.9**	**0.0**
GRAU	**Graesoe**	**1.55**	**358**	P	**Pn**	**11 19 32.9**	**0.0**
AAL	**Aland**	**1.55**	**26**	*e*P	**Pn**	**11 19 32.6**	**-0.3**
AAL				*e*S	**Sn**	**11 19 52.2**	**-1.6**
AAL	**Aland**	**1.55**	**26**	P	**Pn**	**11 19 32.6**	**-0.3**
AAL				S	**Sn**	**11 19 52.1**	**-1.6**
AAL	**Aland**	**1.55**	**26**	P	**Pn**	**11 19 32.8**	**-0.2**
FORU	**Forsmark**	**1.61**	**352**	*e*P	**Pb**	**11 19 34.5**	**-0.3**
FORU	**Forsmark**	**1.61**	**352**	P	**Pb**	**11 19 34.5**	**-0.3**
FORU	**Forsmark**	**1.61**	**352**	P	**Pb**	**11 19 34.5**	**-0.3**
OSTU	**Oestervaala**	**1.63**	**333**	*e*P	**Pb**	**11 19 34.6**	**-0.4**
OSTU	**Oestervaala**	**1.63**	**333**	P	**Pb**	**11 19 34.7**	**-0.4**
OSTU	**Oestervaala**	**1.63**	**333**	P	**Pb**	**11 19 34.6**	**-0.4**
NRAU	**Nora**	**2.01**	**294**	*e*P	**Pb**	**11 19 41.3**	**-0.3**
NRAU				*e*S	**Sb**	**11 20 07.6**	**+0.5**
NRAU	**Nora**	**2.01**	**294**	P	**Pb**	**11 19 41.2**	**-0.3**
NRAU				S	**Sb**	**11 20 07.5**	**+0.5**
NRAU	**Nora**	**2.01**	**294**	P	**Pb**	**11 19 41.3**	**-0.3**
NRAU				S	**Sb**	**11 20 07.6**	**+0.5**
IGGU	**Iggoen**	**2.19**	**343**	*e*P	**Pn**	**11 19 42.4**	**+0.6**
IGGU	**Iggoen**	**2.19**	**343**	P	**Pn**	**11 19 42.3**	**+0.6**
IGGU	**Iggoen**	**2.19**	**343**	P	**Pn**	**11 19 42.4**	**+0.6**
SLIT	**Slitere, Latvi**	**2.26**	**120**	*e*P	**Pn**	**11 19 43.1**	**+0.5**
SLIT				*e*SG	**Sg**	**11 20 15.5**	**-1.1**
SLIT	**Slitere, Latvi**	**2.26**	**120**	P	**Pn**	**11 19 43.1**	**+0.5**
SLIT				Sg	**Sg**	**11 20 15.5**	**-1.1**
RAF	**Rauma**	**2.73**	**34**	*e*P	**Pn**	**11 19 49.1**	**-0.1**
RAF				*e*SG	**Sb**	**11 20 28.9**	**+1.1**
RAF				MSG		11 20 30.2	
	comp=Z,5.6nm,0.1s						
RAF	**Rauma**	**2.73**	**34**	P	**Pn**	**11 19 49.0**	**-0.1**
RAF				Sg	**Sb**	**11 20 28.9**	**+1.1**
HFS	**Hagfors**	**2.86**	**300**	Pn	**Pn**	**11 19 53.2**	**+2.2**
	baz=131,slow=16						
HFS				Lg	Lg	11 20 32.4	
	baz=115,slow=28						
HFS	**Hagfors**	**2.86**	**300**	Pn	**Pn**	**11 19 53.2**	**+2.2**
	baz=131,slow=16						
HFS				Lg	Lg	11 20 32.4	
	baz=115,slow=28						
HFS	**Hagfors**	**2.86**	**300**	Pn	**Pn**	**11 19 52.8**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=110,slow=12,SNR=28						
HFS				Lg	Lg	11 20 28.8	
	comp=Z,5.7nm,0.3s,baz=114,slow=27,SNR=12						
HFS	**Hagfors**	**2.86**	**300**	Pn	**Pn**	**11 19 53.2**	**+2.2**
	SNR=50						
HFS				Lg	Lg	11 20 32.4	
	SNR=3.5						
SRPE	**Suurupi**	**3.03**	**75**	*e*SG	**Sb**	**11 20 37.0**	**+0.6**
SRPE	**Suurupi**	**3.03**	**75**	Sg	**Sb**	**11 20 37.0**	**+0.6**
MEF	**Metsahovi**	**3.26**	**62**	PB	**Pb**	**11 20 03.0**	**+0.2**
MEF				SN	**Sb**	**11 20 45.4**	**+2.4**
MEF	**Metsahovi**	**3.26**	**62**	*e*PB	**Pb**	**11 20 01.3**	**-1.6**
MEF				*e*SG	**Sb**	**11 20 45.6**	**+2.6**
MEF				MSG		11 20 48.6	
	comp=Z,9.3nm,0.3s						
MEF	**Metsahovi**	**3.26**	**62**	Pb	**Pb**	**11 20 01.2**	**-1.6**
MEF				Sg	**Sb**	**11 20 45.6**	**+2.6**
MEF	**Metsahovi**	**3.26**	**62**	Pb	**Pb**	**11 20 03.0**	**+0.2**
MEF				Sn	**Sb**	**11 20 45.4**	**+2.4**
BSD	**Bornholm Skovb**	**4.22**	**211**	*e*S	**Sn**	**11 20 58.1**	**-1.3**
BSD	**Bornholm Skovb**	**4.22**	**211**	S	**Sn**	**11 20 58.1**	**-1.3**
NB2	**NORSAR Subarra**	**4.36**	**304**	Pn	**Pn**	**11 20 13.0**	**+1.3**
	baz=125,slow=12						
NB2				Lg	Lg	11 21 20.8	
NB2	**NORSAR Subarra**	**4.36**	**304**	Pn	**Pn**	**11 20 13.0**	**+1.3**
	baz=125,slow=12						
NB2				Lg	Lg	11 21 20.8	
NB2	**NORSAR Subarra**	**4.36**	**304**	Pn	**Pn**	**11 20 13.0**	**+1.3**
	SNR=50						
NB2				Lg	Lg	11 21 20.8	
NOA	**NORSAR Array B**	**4.36**	**304**	Pn	**Pn**	**11 20 12.3**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=122,slow=14,SNR=32						
NOA				Lg	Lg	11 21 18.7	
	comp=Z,3.1nm,0.3s,baz=117,slow=21,SNR=12						
FIA0	**FINESS Array S**	**4.57**	**51**	Pn	**Pn**	**11 20 16.6**	**+2.2**
	baz=240,slow=12						
FIA0				Pg	**Pb**	**11 20 26.2**	**+1.1**
	baz=236,slow=16						
FIA0				Sn	**Sn**	**11 21 07.5**	**-0.6**
	baz=256,slow=22						
FIA0				Lg	Lg	11 21 24.6	
	baz=239,slow=28						
FIA0	**FINESS Array S**	**4.57**	**51**	Pn	**Pn**	**11 20 16.6**	**+2.2**
	SNR=50						
FIA0				Sn	**Sn**	**11 21 07.5**	**-0.6**
	SNR=50						
FIA0				Lg	Lg	11 21 24.5	
	SNR=33						
FINES	**FINESS Array B**	**4.57**	**51**	Pn	**Pn**	**11 20 16.2**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=235,slow=12,SNR=12						
FINES				Sn	**Sn**	**11 21 07.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=247,slow=21,SNR=6.8						
FINES				Lg	Lg	11 21 24.2	
	comp=Z,2.5nm,0.3s,baz=245,slow=26,SNR=14						
ARA0	**ARCESS Array S**	**11.18**	**13**	Pn	**Pn**	**11 21 43.1**	**-1.9**
	baz=194,slow=14						
ARA0				Sn	Sn	11 23 40.8	-10
	baz=196,slow=28						
ARA0	**ARCESS Array S**	**11.18**	**13**	Pn	**Pn**	**11 21 43.1**	**-1.9**
	baz=194,slow=14						
ARA0				Sn	Sn	11 23 40.8	-10
	baz=196,slow=28						
ARA0	**ARCESS Array S**	**11.18**	**13**	Pn	**Pn**	**11 21 43.1**	**-1.9**
	SNR=50						
ARCES	**ARCESS Array B**	**11.18**	**13**	Pn	Pn	11 21 41.5	-3.4
	comp=Z,0.4nm,0.3s,baz=196,slow=13,SNR=14						
ARCES				Sn	Sn	11 23 40.4	-10
	comp=Z,0.2nm,0.3s,baz=196,slow=23,SNR=3.5						

ISCJB ***20*** *11:29:55.9±0.5,58°.77N±0°.03×18°.64E±0°.06,h0km, Error ellipse: s-maj=4.6km s-min=4.3km az=27.3*
UPP ***20*** *11:29:57.8,58°.84N×18°.62E,h0km,ML2.4, Mining explosion.*
CSEM ***20*** *11:29:57.5±0.2,58°.83N×18°.59E,h2km,ML2.4, Error ellipse: s-maj=5.4km s-min=4.6km az=15.0, Mining explosion.*
HEL ***20*** *11:29:57.9±0.1,58°.80N×18°.64E,h0km,ML2.3, ML2.4(UPP), Explosion*
NAO ***20*** *11:29:59.2±1.9,58°.93N×18°.54E,ML2.2*
BER ***20*** *11:30:00.1±4.2,58°.93N×18°.60E,h0km,ML2.2(NAO), Suspected explosion*
IDC ***20*** *11:30:00.1±1.9,58°.93N×18°.54E,h0km,mb1 3.1/4, mb1mx2.9/35,mbtmp3.0/4,ML2.7/4, Error ellipse: s-maj=23.9km s-min=8.8km az=176.0*

ISC 20 11:29:56.4±0.8, 58°.80N±0°.03×18°.62E±0°.03, h0km, n65, σ1s26/83, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.88**	**0**	*i* P	**Pg**	**11 30 13.4**	**+0.2**
NRTU				*i* S	**Sg**	**11 30 24.6**	**+0.1**
NRTU	**Norrtaelje**	**0.88**	**0**	P	**Pg**	**11 30 13.4**	**+0.2**
NRTU				S	**Sg**	**11 30 24.6**	**+0.1**
NRTU	**Norrtaelje**	**0.88**	**0**	P	**Pg**	**11 30 13.4**	**+0.2**
NRTU				S	**Sg**	**11 30 24.6**	**+0.1**
UPP	**Uppsala**	**1.17**	**335**	*e*P	**Pg**	**11 30 19.1**	**+0.2**
UPP	**Uppsala**	**1.17**	**335**	P	**Pg**	**11 30 19.1**	**+0.2**
UPP	**Uppsala**	**1.17**	**335**	P	**Pg**	**11 30 19.1**	**+0.2**
ESKU	**Eskilstuna**	**1.23**	**291**	*e*P	**Pg**	**11 30 19.9**	**0.0**
ESKU	**Eskilstuna**	**1.23**	**291**	P	**Pg**	**11 30 19.9**	**0.0**
ESKU	**Eskilstuna**	**1.23**	**291**	P	**Pg**	**11 30 19.9**	**0.0**
BACU	**Backbrunna**	**1.31**	**324**	*e*P	**Pg**	**11 30 21.4**	**-0.1**
BACU	**Backbrunna**	**1.31**	**324**	P	**Pg**	**11 30 21.3**	**-0.1**
BACU	**Backbrunna**	**1.31**	**324**	P	**Pg**	**11 30 21.4**	**-0.1**
FLYU	**Flymyra**	**1.38**	**345**	*e*P	**Pg**	**11 30 22.7**	**-0.1**
FLYU	**Flymyra**	**1.38**	**345**	P	**Pg**	**11 30 22.7**	**-0.1**
FLYU	**Flymyra**	**1.38**	**345**	P	**Pg**	**11 30 22.7**	**-0.1**
GRAU	**Graesoe**	**1.54**	**359**	*e*P	**Pn**	**11 30 25.4**	**+0.3**
GRAU	**Graesoe**	**1.54**	**359**	P	**Pn**	**11 30 25.3**	**+0.3**
GRAU	**Graesoe**	**1.54**	**359**	P	**Pn**	**11 30 25.4**	**+0.3**
AAL	**Aland**	**1.55**	**26**	*e*P	**Pn**	**11 30 25.5**	**+0.3**
AAL				*e*SN	**Sg**	**11 30 48.7**	**+2.6**
AAL	**Aland**	**1.55**	**26**	P	**Pn**	**11 30 25.5**	**+0.3**
AAL				Sn	**Sg**	**11 30 48.7**	**+2.6**
AAL	**Aland**	**1.55**	**26**	P	**Pn**	**11 30 25.4**	**+0.2**
FORU	**Forsmark**	**1.60**	**352**	*e*P	**Pn**	**11 30 26.1**	**+0.1**
FORU	**Forsmark**	**1.60**	**352**	P	**Pn**	**11 30 26.1**	**+0.1**
FORU	**Forsmark**	**1.60**	**352**	P	**Pn**	**11 30 26.1**	**+0.1**
OSTU	**Oestervaala**	**1.62**	**333**	*e*P	**Pn**	**11 30 26.9**	**+0.7**
OSTU	**Oestervaala**	**1.62**	**333**	P	**Pn**	**11 30 26.8**	**+0.7**
OSTU	**Oestervaala**	**1.62**	**333**	P	**Pn**	**11 30 26.9**	**+0.7**
NRAU	**Nora**	**2.00**	**294**	*e*P	**Pb**	**11 30 33.4**	**-0.2**
NRAU	**Nora**	**2.00**	**294**	P	**Pb**	**11 30 33.3**	**-0.2**
NRAU	**Nora**	**2.00**	**294**	P	**Pb**	**11 30 33.4**	**-0.2**
IGGU	**Iggoen**	**2.18**	**343**	*e*P	**Pn**	**11 30 35.6**	**+1.8**
IGGU	**Iggoen**	**2.18**	**343**	P	**Pn**	**11 30 35.6**	**+1.8**
IGGU	**Iggoen**	**2.18**	**343**	P	**Pn**	**11 30 35.6**	**+1.8**
SLIT	**Slitere, Latvi**	**2.27**	**120**	*e*P	**Pn**	**11 30 36.6**	**+1.4**
SLIT				*e*SG	**Sg**	**11 31 09.3**	**0.0**
SLIT	**Slitere, Latvi**	**2.27**	**120**	P	**Pn**	**11 30 36.5**	**+1.4**
SLIT				Sg	**Sg**	**11 31 09.3**	**0.0**
RAF	**Rauma**	**2.73**	**34**	*e*P	**Pn**	**11 30 41.9**	**+0.4**
RAF				*e*S	**Sn**	**11 31 15.9**	**+0.8**
RAF				MSG		11 31 22.5	
	comp=Z,11nm,0.2s						
RAF	**Rauma**	**2.73**	**34**	P	**Pn**	**11 30 41.8**	**+0.4**
RAF				S	**Sn**	**11 31 15.9**	**+0.8**
HFS	**Hagfors**	**2.84**	**300**	Pn	**Pn**	**11 30 44.7**	**+1.7**
	baz=113,slow=16						
HFS				Sn	**Sn**	**11 31 18.2**	**+0.3**
	baz=104,slow=28						
HFS				Lg	Lg	11 31 23.1	
	baz=119,slow=37						
HFS	**Hagfors**	**2.84**	**300**	Pn	**Pn**	**11 30 44.7**	**+1.7**
	baz=113,slow=16						
HFS				Sn	**Sn**	**11 31 18.2**	**+0.3**
	baz=104,slow=28						
HFS				Lg	Lg	11 31 23.1	
	baz=119,slow=37						
HFS	**Hagfors**	**2.84**	**300**	Pn	**Pn**	**11 30 44.9**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=115,slow=13,SNR=30						
HFS				Lg	Lg	11 31 20.3	
	comp=Z,3.4nm,0.3s,baz=115,slow=32,SNR=12						
HFS	**Hagfors**	**2.84**	**300**	Pn	**Pn**	**11 30 44.7**	**+1.7**
	baz=113,slow=15,SNR=50						
HFS				Sn	**Sn**	**11 31 18.2**	**+0.3**
	baz=104,slow=24,SNR=50						
HFS				Lg	Lg	11 31 23.1	
	SNR=7.7						
SRPE	**Suurupi**	**3.04**	**75**	*e*P	**Pn**	**11 30 46.7**	**+0.9**
SRPE	**Suurupi**	**3.04**	**75**	P	**Pn**	**11 30 46.6**	**+0.9**
MEF	**Metsahovi**	**3.27**	**62**	*e*P	**Pn**	**11 30 51.8**	**+3.0**
MEF	**Metsahovi**	**3.27**	**62**	P	**Pn**	**11 30 51.8**	**+3.0**
BSD	**Bornholm Skovb**	**4.22**	**210**	*e*P	**Pn**	**11 31 02.6**	**+0.8**
BSD				*e*S	**Sn**	**11 31 51.6**	**-0.2**
BSD	**Bornholm Skovb**	**4.22**	**210**	*i* P	**Pn**	**11 31 02.4**	**+0.6**
BSD				*i* S	**Sn**	**11 31 52.4**	**+0.7**
	SNR=103						
BSD	**Bornholm Skovb**	**4.22**	**210**	*i* P	**Pn**	**11 31 02.4**	**+0.6**
BSD				*i* S	**Sn**	**11 31 52.4**	**+0.7**
NB2	**NORSAR Subarra**	**4.35**	**304**	Pn	**Pn**	**11 31 05.1**	**+1.4**
	baz=122,slow=14						
NB2				Lg	Lg	11 32 12.7	
	baz=118,slow=37						
NB2	**NORSAR Subarra**	**4.35**	**304**	Pn	**Pn**	**11 31 05.1**	**+1.4**
	baz=122,slow=14						
NB2				Lg	Lg	11 32 12.7	
	baz=118,slow=37						
NB2	**NORSAR Subarra**	**4.35**	**304**	Pn	**Pn**	**11 31 05.1**	**+1.4**
	baz=122,slow=13,SNR=50						
NB2				Lg	Lg	11 32 12.7	
	SNR=3.3						
NOA	**NORSAR Array B**	**4.35**	**304**	Pn	**Pn**	**11 31 05.3**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=123,slow=12,SNR=20						
NOA				Sn	**Sn**	**11 31 53.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=58,slow=20,SNR=2.6						
NOA				Lg	Lg	11 32 09.2	
	comp=Z,1.8nm,0.3s,baz=152,slow=18,SNR=6.8						
FIA0	**FINESS Array S**	**4.58**	**51**	Pn	**Pn**	**11 31 08.3**	**+1.6**
	baz=235,slow=14						
FIA0				Pg	**Pb**	**11 31 15.9**	**-1.6**
	baz=237,slow=16						
FIA0				Sn	**Sn**	**11 32 01.5**	**+1.0**
	baz=247,slow=22						
FIA0				Lg	Lg	11 32 19.2	
	baz=238,slow=28						
FIA0	**FINESS Array S**	**4.58**	**51**	*e*SG	**Sg**	**11 32 19.0**	**-4.2**
FIA0				MSG		11 32 30.4	
	comp=Z,4.9nm,0.2s						
FIA0	**FINESS Array S**	**4.58**	**51**	Pn	**Pn**	**11 31 08.4**	**+1.6**
	baz=235,slow=13,SNR=50						
FIA0				Sn	**Sn**	**11 32 01.5**	**+1.0**
	baz=247,slow=21,SNR=50						
FIA0				Lg	Lg	11 32 19.2	
	SNR=50						
FINES	**FINESS Array B**	**4.58**	**51**	Pn	**Pn**	**11 31 08.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=243,slow=13,SNR=13						
FINES				Sn	**Sn**	**11 32 01.4**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=237,slow=19,SNR=4.2						
ISAL	**Salakas**	**5.21**	**125**	*e*P	Pn	11 31 12.5	-3.0
ISAL				AML	AML	11 32 51.3	
	comp=Z,4.4nm,0.4s						
ISAL	**Salakas**	**5.21**	**125**	*e*P	Pn	11 31 12.5	-3.0
IIGN	**Ignalina**	**5.40**	**127**	*e*P	Pn	11 31 14.0	-4.1
IIGN				AML	AML	11 32 59.6	
	comp=Z,7.2nm,0.4s						
IDID	**Didziasalis**	**5.64**	**125**	*e*P	Pn	11 31 14.6	-6.8
ARA0	**ARCESS Array S**	**11.17**	**13**	Pn	**Pn**	**11 32 35.3**	**-1.9**
	baz=195,slow=14						
ARA0				Sn	Sn	11 34 34.7	-7.9
	baz=190,slow=28						
ARA0	**ARCESS Array S**	**11.17**	**13**	Pn	**Pn**	**11 32 35.3**	**-1.9**
	baz=195,slow=14						
ARA0				Sn	Sn	11 34 34.7	-7.9
	baz=190,slow=28						
ARA0	**ARCESS Array S**	**11.17**	**13**	Pn	**Pn**	**11 32 35.3**	**-1.9**
	baz=195,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**11.17**	**13**	Pn	**Pn**	**11 32 35.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=193,slow=14,SNR=43						
ARCES				Sn	Sn	11 34 34.5	-8.1
	comp=Z,0.1nm,0.3s,baz=192,slow=21,SNR=3.6						

ISCJB ***20*** *12:08:39.3±0.4,58°.71N±0°.04×18°.59E±0°.05,h0km, Error ellipse: s-maj=5.2km s-min=3.9km az=20.4*
UPP ***20*** *12:08:40.1,58°.73N×18°.61E,h0km,ML2.0, Mining explosion.*
CSEM ***20*** *12:08:40.3±0.3,58°.74N×18°.54E,h2km,ML2.0, Error ellipse: s-maj=6.4km s-min=5.9km az=76.0, Mining explosion.*
HEL ***20*** *12:08:40.9±0.0,58°.73N×18°.59E,h0km,ML2.1, ML2.0(UPP), Explosion*
NAO ***20*** *12:08:43.1±2.0,58°.88N×18°.49E,ML2.4*
BER ***20*** *12:08:44.7±3.7,58°.92N×18°.50E,h0km,ML2.4(NAO), Suspected explosion*
IDC ***20*** *12:08:45.4±2.0,59°.13N×18°.42E,h0km,mb1 2.9/4, mb1mx2.8/29,mbtmp2.8/4,ML2.4/4, Error ellipse: s-maj=25.9km s-min=7.8km az=179.0*

ISC 20 12:08:40.6±0.6, 58°.72N±0°.03×18°.54E±0°.03, h0km, n61, σ0s99/66, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.40**	**316**	*i* P	**Pg**	**12 08 48.1**	**-0.2**
NYNU				*i* S	**Sg**	**12 08 53.3**	**-0.2**
NYNU	**Nynaeshamn**	**0.40**	**316**	P	**Pg**	**12 08 48.1**	**-0.2**
NYNU				S	**Sg**	**12 08 53.2**	**-0.2**
NYNU	**Nynaeshamn**	**0.40**	**316**	P	**Pg**	**12 08 48.1**	**-0.2**
NYNU				S	**Sg**	**12 08 53.3**	**-0.2**
NRTU	**Norrtaelje**	**0.96**	**3**	*e*P	**Pg**	**12 08 57.8**	**-1.3**
NRTU	**Norrtaelje**	**0.96**	**3**	P	**Pg**	**12 08 57.8**	**-1.3**
NRTU	**Norrtaelje**	**0.96**	**3**	P	**Pg**	**12 08 57.8**	**-1.3**
VIKU	**Vikbolandet**	**0.99**	**258**	*e*P	**Pg**	**12 08 59.3**	**-0.2**
VIKU	**Vikbolandet**	**0.99**	**258**	P	**Pg**	**12 08 59.3**	**-0.2**
VIKU	**Vikbolandet**	**0.99**	**258**	P	**Pg**	**12 08 59.3**	**-0.2**
GOTU	**Gotland**	**1.03**	**179**	*e*P	**Pg**	**12 08 59.8**	**-0.6**
GOTU	**Gotland**	**1.03**	**179**	P	**Pg**	**12 08 59.8**	**-0.6**
GOTU	**Gotland**	**1.03**	**179**	P	**Pg**	**12 08 59.8**	**-0.6**
ESKU	**Eskilstuna**	**1.23**	**296**	*e*P	**Pg**	**12 09 03.1**	**-0.9**
ESKU	**Eskilstuna**	**1.23**	**296**	P	**Pg**	**12 09 03.1**	**-0.9**
ESKU	**Eskilstuna**	**1.23**	**296**	P	**Pg**	**12 09 03.1**	**-0.9**
UPP	**Uppsala**	**1.24**	**338**	*e*P	**Pg**	**12 09 03.2**	**-1.1**
UPP	**Uppsala**	**1.24**	**338**	P	**Pg**	**12 09 03.2**	**-1.1**
UPP	**Uppsala**	**1.24**	**338**	P	**Pg**	**12 09 03.2**	**-1.1**
BACU	**Backbrunna**	**1.36**	**328**	*e*P	**Pg**	**12 09 05.5**	**-1.1**
BACU	**Backbrunna**	**1.36**	**328**	P	**Pg**	**12 09 05.5**	**-1.1**
BACU	**Backbrunna**	**1.36**	**328**	P	**Pg**	**12 09 05.5**	**-1.1**
FLYU	**Flymyra**	**1.46**	**347**	*e*P	**Pn**	**12 09 06.8**	**-1.3**
FLYU	**Flymyra**	**1.46**	**347**	P	**Pn**	**12 09 06.8**	**-1.3**
FLYU	**Flymyra**	**1.46**	**347**	P	**Pn**	**12 09 06.8**	**-1.3**
VSTU	**Vaestervik**	**1.50**	**226**	*e*P	**Pn**	**12 09 08.2**	**-0.6**
VSTU	**Vaestervik**	**1.50**	**226**	P	**Pn**	**12 09 08.1**	**-0.6**
VSTU	**Vaestervik**	**1.50**	**226**	P	**Pn**	**12 09 08.2**	**-0.6**
GRAU	**Graesoe**	**1.62**	**0**	*e*P	**Pn**	**12 09 09.5**	**-

	SNR=50							
FIA0					Lg	Lg	12 11 03.5	
	SNR=90							
FINES	**FINESS Array B**	**4.66**	**51**		Pn	**Pn**	**12 09 53.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=236,slow=13,SNR=7.6							
FINES					Lg	Lg	12 11 02.8	
	comp=Z,1.9nm,0.3s,baz=239,slow=29,SNR=11							
IIGN	**Ignalina**	**5.38**	**126**	*e*P		Pn	12 10 06.2	+4.2
IIGN				*e*S		**Sb**	**12 11 21.2**	**+0.7**
IDID	**Didziasalis**	**5.63**	**124**	*e*P		**Pn**	**12 10 04.3**	**-1.1**
IDID				*e*S		Sn	12 11 19.3	+8.6
IDID	**Didziasalis**	**5.63**	**124**	*e*P		**Pn**	**12 10 04.3**	**-1.1**
ARA0	**ARCESS Array S**	**11.27**	**13**		Pn	Pn	12 11 19.3	-3.3
	baz=195,slow=16							
ARA0					Sn	Sn	12 13 19.4	-10
	baz=201,slow=22							
ARA0	**ARCESS Array S**	**11.27**	**13**		Pn	Pn	12 11 19.3	-3.3
	baz=195,slow=16							
ARA0					Sn	Sn	12 13 19.4	-10
	baz=201,slow=22							
ARA0	**ARCESS Array S**	**11.27**	**13**		Pn	Pn	12 11 19.3	-3.3
	SNR=50							
ARCES	**ARCESS Array B**	**11.27**	**13**		Pn	Pn	12 11 19.2	-3.5
	comp=Z,0.2nm,0.3s,baz=194,slow=14,SNR=20							

IDC ***20*** *12:11:49.1±2.4, 24.°84S×176.°55W, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/19, mbtmp4.0/6, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/29, Error ellipse: s-maj=65.9km s-min=33.7km az=126.0*

NEIC ***20*** *12:11:51.2±0.9, 24.°92S×176.°63W, h10km, mb4.2/4, Error ellipse: s-maj=21.6km s-min=12.0km az=77.0*

ISCJB ***20*** *12:11:53.4±1.0, 24.°90S±0.°07×176.°8W±0.°2, h33km, mb4.0/9, MS3.5/2, Error ellipse: s-maj=21.7km s-min=9.5km az=177.0*

ISC 20 12:11:54.4±0.9, 24.°91S±0.°08×176.°6W±0.°2, h35km, n21, σ1°38/18, mb4.0/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.49**	**195**	*e*Pn		**Pn**	**12 12 58.0**	**-2.0**
MSVF	**Nonsavu**	**8.73**	**324**	*e*Pn		**Pn**	**12 13 58.1**	**-0.2**
	29nm,0.9s							
URZ	**Urewera**	**14.35**	**200**	Pn		**Pn**	**12 15 13.1**	**-2.0**
	0.1nm,0.3s,baz=32,slow=5.4,SNR=3.0							
URZ				Sn		**Sn**	**12 17 54.5**	**+1.5**
	0.7nm,0.3s,baz=306,slow=19,SNR=8.1							
DZM	**Mont Dzumac**	**15.84**	**277**	*e*LR		LR	12 19 17.4	
	139nm,25.2s							
TBI	**Tubuai**	**24.77**	**92**	*e*LR		LR	12 22 19.5	
	153nm,29.8s							
PPT2	**Papeete2**	**26.16**	**79**	*e*LR		LR	12 23 06.4	
	192nm,26.8s							
HNR	**Honiara**	**27.14**	**300**	LR		LR	12 26 50.5	
	comp=Z,68nm,18.0s,baz=164,slow=33							
STKA	**Stephens Creek**	**37.28**	**250**	P		**P**	**12 19 04.5**	**+1.3**
	0.5nm,0.5s,baz=100,slow=12,SNR=2.5							
RKT	**Rikitea**	**37.93**	**96**	*e*LR		LR	12 28 22.1	
	170nm,34.0s							
AS31	**Alice Springs**	**44.96**	**261**	*e*P		**P**	**12 20 06.8**	**+0.3**
ASAR	**Alice Springs**	**44.96**	**261**	P		**P**	**12 20 06.6**	**+0.1**
	0.9nm,0.4s,baz=94,slow=7.5,SNR=33							
ASAR				LR		LR	12 39 30.0	
	comp=Z,77nm,18.1s,baz=215,slow=37							
WB2	**Warramunga Arr**	**45.45**	**266**	*e*P		**P**	**12 20 09.4**	**-1.0**
WRAB	**Tennant Creek**	**45.45**	**266**	*e*P		**P**	**12 20 09.6**	**-0.8**
	1.4nm,0.6s							
WRA	**Warramunga Arr**	**45.46**	**266**	P		**P**	**12 20 09.6**	**-0.9**
	1.2nm,0.6s,baz=103,slow=8.0,SNR=24							
SBA	**Scott Base**	**53.59**	**184**	*e*P		**P**	**12 21 13.8**	**+2.3**
	6.0nm,1.4s							
VNDA	**Vanda**	**53.66**	**186**	P		P	12 21 16.1	+4.0
	0.7nm,0.9s,baz=21,slow=5.0,SNR=4.5							
VNDA	**Vanda**	**53.66**	**186**	*e*P		**P**	**12 21 12.2**	**+0.1**
	1.2nm,1.2s							
QSPA	**South Pole Qui**	**65.18**	**180**	*e*P		**P**	**12 22 34.4**	**+2.5**
	3.8nm,1.0s							
ILAR	**Eielson Array**	**92.31**	**12**	P		**P**	**12 25 00.5**	**0.0**
	0.2nm,0.6s,baz=234,slow=6.5,SNR=4.6							
CMAR	**Chiang Mai Arr**	**92.81**	**289**	P		**P**	**12 25 04.0**	**+0.1**
	1.4nm,0.8s,baz=119,slow=3.5,SNR=11							
SACV	**Santiago Islan**	**152.77**	**106**	*e*PKPdf		**PKPdf**	**12 31 40.7**	**-0.6**
SACV				*e*PKPbc		**PKPbc**	**12 31 47.0**	**-1.5**
SACV				*e*PKPab		**PKPab**	**12 31 58.9**	**-0.5**

MEX 20 12:14:47.4±0.5, 32.°47N×115.°77W, h16km±11km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.48**	**97**	*e*P		Pg	12 14 55.9	-1.2
MBIG				*i* S		Sg	12 15 01.2	-2.4
CBX	**Cerro Bola**	**0.78**	**259**	*e*P		Pb	12 14 59.3	-3.4
CBX				*i* S		Sg	12 15 09.5	-3.6
SPIG	**San Pedro Mart**	**1.44**	**170**	*e*P		Pn	12 15 08.9	-4.4
SPIG				*i* S		Sn	12 15 26.7	-5.4

ISCJB ***20*** *12:24:20.5±0.4, 58.°75N±0.°03×18.°56E±0.°06, h0km, Error ellipse: s-maj=4.5km s-min=4.1km az=42.5*

NAO ***20*** *12:24:21.8±2.1, 58.°65N×18.°73E, ML2.7*

CSEM ***20*** *12:24:21.5±0.1, 58.°76N×18.°49E, h2km, ML2.7, Mb2.7, ML2.2(UPP), Explosion*

BER ***20*** *12:24:23.4±3.0, 58.°70N×18.°75E, h0km, ML2.7(NAO), Suspected explosion*

IDC ***20*** *12:24:26.4±1.1, 59.°16N×18.°40E, h0km, mb1 3.3/5, mb1mx3.1/30, mbtmp3.2/5, ML3.3/4, Error ellipse: s-maj=13.8km s-min=7.4km az=179.0*

ISC 20 12:24:20.9±0.8, 58.°75N±0.°02×18.°50E±0.°03, h0km, n75, σ1°05/84, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRTU	**Norrtaelje**	**0.93**	**4**	*e*P		**Pg**	**12 24 38.4**	**-0.2**
NRTU				*e*S		**Sg**	**12 24 50.4**	**-0.3**
NRTU	**Norrtaelje**	**0.93**	**4**	P		**Pg**	**12 24 38.4**	**-0.2**
NRTU				S		**Sg**	**12 24 50.4**	**-0.3**
NRTU	**Norrtaelje**	**0.93**	**4**	P		**Pg**	**12 24 38.4**	**-0.2**
NRTU				S		**Sg**	**12 24 50.4**	**-0.3**
VIKU	**Vikbolandet**	**0.97**	**256**	*e*P		**Pg**	**12 24 40.2**	**+0.7**
VIKU	**Vikbolandet**	**0.97**	**256**	P		**Pg**	**12 24 40.2**	**+0.7**
VIKU	**Vikbolandet**	**0.97**	**256**	P		**Pg**	**12 24 40.2**	**+0.7**
GOTU	**Gotland**	**1.07**	**178**	*e*P		**Pg**	**12 24 40.8**	**-0.6**
GOTU	**Gotland**	**1.07**	**178**	P		**Pg**	**12 24 40.8**	**-0.6**
GOTU	**Gotland**	**1.07**	**178**	P		**Pg**	**12 24 40.8**	**-0.6**
ESKU	**Eskilstuna**	**1.19**	**295**	*e*P		**Pg**	**12 24 44.0**	**+0.4**
ESKU	**Eskilstuna**	**1.19**	**295**	P		**Pg**	**12 24 44.0**	**+0.4**
ESKU	**Eskilstuna**	**1.19**	**295**	P		**Pg**	**12 24 44.0**	**+0.4**
UPP	**Uppsala**	**1.20**	**338**	*e*P		**Pg**	**12 24 43.8**	**+0.1**
UPP				*e*S		**Sg**	**12 24 59.5**	**+0.3**
UPP	**Uppsala**	**1.20**	**338**	P		**Pg**	**12 24 43.8**	**+0.1**
UPP				S		**Sg**	**12 24 59.5**	**+0.3**
UPP	**Uppsala**	**1.20**	**338**	P		**Pg**	**12 24 43.8**	**+0.1**
UPP				S		**Sg**	**12 24 59.5**	**+0.3**
BACU	**Backbrunna**	**1.31**	**328**	*e*P		**Pg**	**12 24 46.1**	**+0.1**
BACU	**Backbrunna**	**1.31**	**328**	P		**Pg**	**12 24 46.1**	**+0.1**
BACU	**Backbrunna**	**1.31**	**328**	P		**Pg**	**12 24 46.1**	**+0.1**
FLYU	**Flymyra**	**1.41**	**347**	*e*P		**Pn**	**12 24 47.5**	**-0.3**
FLYU	**Flymyra**	**1.41**	**347**	P		**Pn**	**12 24 47.5**	**-0.3**
FLYU	**Flymyra**	**1.41**	**347**	P		**Pn**	**12 24 47.5**	**-0.3**
VSTU	**Vaestervik**	**1.51**	**224**	*e*P		**Pn**	**12 24 49.2**	**+0.1**
VSTU	**Vaestervik**	**1.51**	**224**	P		**Pn**	**12 24 49.2**	**+0.1**
VSTU	**Vaestervik**	**1.51**	**224**	P		**Pn**	**12 24 49.2**	**+0.1**
GRAU	**Graesoe**	**1.59**	**1**	*e*P		**Pn**	**12 24 50.2**	**0.0**
GRAU	**Graesoe**	**1.59**	**1**	P		**Pn**	**12 24 50.2**	**0.0**
GRAU	**Graesoe**	**1.59**	**1**	P		**Pn**	**12 24 50.2**	**0.0**
AAL	**Aland**	**1.62**	**27**	*e*P		**Pn**	**12 24 50.2**	**-0.4**
AAL	**Aland**	**1.62**	**27**	P		**Pn**	**12 24 50.2**	**-0.4**
AAL	**Aland**	**1.62**	**27**	P		**Pn**	**12 24 50.2**	**-0.4**
OSTU	**Oestervaala**	**1.64**	**335**	*e*P		**Pn**	**12 24 51.6**	**+0.7**
OSTU	**Oestervaala**	**1.64**	**335**	P		**Pn**	**12 24 51.5**	**+0.7**
OSTU	**Oestervaala**	**1.64**	**335**	P		**Pn**	**12 24 51.6**	**+0.7**
FORU	**Forsmark**	**1.65**	**354**	*e*P		**Pn**	**12 24 51.7**	**+0.7**
FORU	**Forsmark**	**1.65**	**354**	P		**Pn**	**12 24 51.6**	**+0.7**
FORU	**Forsmark**	**1.65**	**354**	P		**Pn**	**12 24 51.7**	**+0.7**
SLIT	**Slitere, Latvi**	**2.30**	**118**	*e*P		**Pn**	**12 25 00.8**	**+0.7**
SLIT				*e*SG		**Sb**	**12 25 31.6**	**-0.6**
SLIT	**Slitere, Latvi**	**2.30**	**118**	P		**Pn**	**12 25 00.7**	**+0.7**
MTSE	**Matsula**	**2.77**	**89**	*e*P		**Pn**	**12 25 06.5**	**0.0**
MTSE	**Matsula**	**2.77**	**89**	P		**Pn**	**12 25 06.4**	**0.0**
RAF	**Rauma**	**2.81**	**34**	*e*P		**Pn**	**12 25 07.2**	**+0.3**
RAF	**Rauma**	**2.81**	**34**	P		**Pn**	**12 25 07.2**	**+0.3**
HFS	**Hagfors**	**2.82**	**301**	Pn		**Pn**	**12 25 08.8**	**+1.7**
	baz=125,slow=14							
HFS				Sn		**Sb**	**12 25 45.2**	**-1.8**
	baz=113,slow=37							
HFS	**Hagfors**	**2.82**	**301**	Pn		**Pn**	**12 25 08.8**	**+1.7**
	baz=125,slow=14							
HFS				Sn		**Sb**	**12 25 45.2**	**-1.8**
	baz=113,slow=37							
HFS	**Hagfors**	**2.82**	**301**	Pn		**Pn**	**12 25 08.8**	**+1.7**
	1.2nm,0.3s,baz=110,slow=16,SNR=25							
HFS				Lg		Lg	12 25 45.7	
	4.8nm,0.3s,baz=113,slow=30,SNR=11							
HFS	**Hagfors**	**2.82**	**301**	Pn		**Pn**	**12 25 08.8**	**+1.7**
	SNR=50							
HFS				Sn		**Sb**	**12 25 45.2**	**-1.8**
	SNR=50							
SRPE	**Suurupi**	**3.12**	**74**	*e*P		**Pn**	**12 25 11.7**	**+0.6**
SRPE				*e*SB		**Sb**	**12 25 54.0**	**-1.6**
SRPE	**Suurupi**	**3.12**	**74**	P		**Pn**	**12 25 11.7**	**+0.6**
MEF	**Metsahovi**	**3.35**	**61**	*e*P		**Pn**	**12 25 15.2**	**+0.8**
MEF				*e*SG		**Sb**	**12 26 02.8**	**+0.6**
MEF				MSG			12 26 04.2	
	comp=Z,21nm,0.4s							
MEF	**Metsahovi**	**3.35**	**61**	P		**Pn**	**12 25 15.1**	**+0.8**
BSD	**Bornholm Skovb**	**4.14**	**210**	*e*S		**Sn**	**12 26 14.7**	**+0.3**
BSD	**Bornholm Skovb**	**4.14**	**210**	*i* S		**Sn**	**12 26 15.1**	**+0.7**
	SNR=49							
PVF	**Pernaja**	**4.14**	**61**	*e*P		**Pn**	**12 25 26.6**	**+1.3**
PVF	**Pernaja**	**4.14**	**61**	P		**Pn**	**12 25 26.6**	**+1.3**
VSU	**Vasula**	**4.32**	**90**	Pn		**Pn**	**12 25 28.0**	**+0.3**
VSU				Lg		Lg	12 26 32.2	
VSU	**Vasula**	**4.32**	**90**	Pn		**Pn**	**12 25 28.0**	**+0.3**
VSU				Lg		Lg	12 26 32.2	
VSU	**Vasula**	**4.32**	**90**	Pn		**Pn**	**12 25 28.0**	**+0.3**
	SNR=50							
VSU				Lg		Lg	12 26 32.2	
	SNR=50							
NB2	**NORSAR Subarra**	**4.33**	**305**	Pn		**Pn**	**12 25 28.4**	**+0.6**
NB2	**NORSAR Subarra**	**4.33**	**305**	Pn		**Pn**	**12 25 28.4**	**+0.6**
NB2	**NORSAR Subarra**	**4.33**	**305**	Pn		**Pn**	**12 25 28.4**	**+0.6**
	SNR=50							
NOA	**NORSAR Array B**	**4.33**	**305**	Pn		**Pn**	**12 25 29.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=109,slow=15,SNR=18							
NOA				Lg		Lg	12 26 33.4	
	comp=Z,3.0nm,0.3s,baz=319,slow=24,SNR=8.7							
FIA0	**FINESS Array S**	**4.65**	**51**	Pn		**Pn**	**12 25 33.6**	**+1.3**
	baz=225,slow=12							
FIA0				Lg		Lg	12 26 43.9	
	baz=230,slow=28							
FIA0	**FINESS Array S**	**4.65**	**51**	Pn		**Pn**	**12 25 33.6**	**+1.3**
	baz=225,slow=12							
FIA0				Lg		Lg	12 26 43.9	
	baz=230,slow=28							
FIA0	**FINESS Array S**	**4.65**	**51**	*e*SG		**Sb**	**12 26 44.0**	**+4.2**
FIA0				MSG			12 26 51.4	
	comp=Z,12nm,0.4s							
FIA0	**FINESS Array S**	**4.65**	**51**	Pn		**Pn**	**12 25 33.6**	**+1.3**
	SNR=50							
FIA0				Lg		Lg	12 26 43.9	
	SNR=90							
FINES	**FINESS Array B**	**4.65**	**51**	Pn		**Pn**	**12 25 33.9**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=243,slow=14,SNR=19							
FINES				Lg		Lg	12 26 44.3	
	comp=Z,3.6nm,0.3s,baz=238,slow=28,SNR=11							
ISAL	**Salakas**	**5.23**	**124**	*e*P		Pn	12 25 45.0	+4.7
ISAL				AML		AML	12 27 26.5	
	comp=Z,9.0nm,0.4s							
ISAL	**Salakas**	**5.23**	**124**	*e*P		Pn	12 25 45.0	+4.7
IIGN	**Ignalina**	**5.42**	**126**	*e*P		**Pn**	**12 25 44.5**	**+1.6**
IIGN				AML		AML	12 27 27.9	
	comp=Z,13nm,0.4s							
IIGN	**Ignalina**	**5.42**	**126**	*e*P		**Pn**	**12 25 44.5**	**+1.6**
GERES	**GERESS Array B**	**10.32**	**198**	Pn		Pn	12 26 58.9	+8.7
	comp=Z,0.3nm,0.3s,baz=22,slow=13,SNR=2.2							
ARA0	**ARCESS Array S**	**11.24**	**13**	Pn		**Pn**	**12 27 00.5**	**-2.0**
	baz=197,slow=14							
ARA0	**ARCESS Array S**	**11.24**	**13**	P		Pn	**12 27 00.5**	**-2.0**
	baz=197,slow=14							
ARA0	**ARCESS Array S**	**11.24**	**13**	P		**Pn**	**12 27 00.4**	**-2.0**
	SNR=47							
ARCES	**ARCESS Array B**	**11.24**	**13**	Pn		**Pn**	**12 27 00.1**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=199,slow=14,SNR=26							

IDC ***20*** *12:30:54.3±1.0, 46.°89N×155.°71E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/29, mbtmp3.5/6, ML2.4/1, Error ellipse: s-maj=40.5km s-min=21.7km az=113.0*

ISCJB ***20*** *12:30:55.1±0.9, 46.°96N±0.°10×155.°7E±0.°3, h18km, mb3.4/5, Error ellipse: s-maj=34.7km s-min=11.3km az=14.8*

ISC 20 12:30:57.1±1.1, 46.°9N±0.°1×155.°7E±0.°2, h18km, n6, σ1°18/7, mb3.5/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.32**	**11**	Pn		**Pn**	**12 32 27.7**	**-1.6**
	0.5nm,0.3s,baz=182,slow=15,SNR=19							
PETK				Sn		**Sn**	**12 33 41.9**	**+0.9**
	0.1nm,0.3s,baz=167,slow=19,SNR=2.3							
INK	**Inuvik**	**40.55**	**33**	P		**P**	**12 38 35.1**	**+0.4**
	0.4nm,0.5s,baz=266,slow=3.7,SNR=5.3							
KURBB	**Kurchatov Arra**	**48.83**	**304**	P		**P**	**12 39 41.7**	**+0.6**
	0.5nm,0.7s,baz=66,slow=8.5,SNR=4.8							
WRA	**Warramunga Arr**	**69.30**	**201**	P		**P**	**12 42 02.1**	**-1.0**
	0.4nm,0.8s,baz=20,slow=6.3,SNR=3.7							
ASAR	**Alice Springs**	**72.97**	**201**	P		**P**	**12 42 25.7**	**+0.3**
	0.3nm,0.7s,baz=16,slow=5.5,SNR=5.2							
TXAR	**Lajitas Array**	**75.85**	**62**	P		**P**	**12 42 43.0**	**+0.6**
	0.2nm,0.5s,baz=305,slow=4.9,SNR=6.2							

KRNET ***20*** *12:41:38.9±0.1, 39.°66N×77.°26E, h2km, mb3.5*

IDC ***20*** *12:41:39.2±1.7, 39.°76N×77.°22E, h0km, mb3.4/4, mb1 3.4/8, mb1mx3.3/30, mbtmp3.3/8, ML2.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.0/31, Error ellipse: s-maj=24.9km s-min=23.2km az=16.0*

NNC ***20*** *12:41:43.1±2.0, 39.°95N×77.°30E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=21.7km s-min=11.6km az=156.0*

ISC 20 12:41:40.5±2.4, 39.°86N±0.°07×77.°01E±0.°07, h3km±13km, n36, σ1°19/37, mb3.5/4, 12C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.75**	**334**	*i* P		**Pb**	**12 42 14.6**	**+1.1**
	baz=332							
KDJ	**Kajisay**	**2.28**	**3**	⇓*i* P		**Pb**	**12 42 21.5**	**-0.8**
	baz=359							
KDJ				⇓*e*S		**Sb**	**12 42 52.0**	**+1.1**
	baz=359							
ULHL	**Ulahol**	**2.46**	**347**	P		**Pb**	**12 42 26.5**	**+1.1**
	SNR=13							
ULHL	**Ulahol**	**2.46**	**347**	⇑*i* P		**Pb**	**12 42 25.6**	**+0.2**
	baz=344							
ULHL				⇑*i* S		**Sb**	**12 42 58.9**	**+2.7**
	baz=344							
KZA	**Kyzart**	**2.59**	**330**	P		Pb	**12 42 29.2**	**+1.4**
	SNR=49							
KZA	**Kyzart**	**2.59**	**330**	⇑*i* P		**Pb**	**12 42 28.4**	**+0.6**
	baz=328							
KZA				⇑*i* S		**Sg**	**12 43 05.3**	**+1.6**
	baz=328							
SALK	**Salom-Alik**	**2.64**	**294**	*e*P		**Pb**	**12 42 29.1**	**+0.6**
	baz=296							
SALK				*e*S		**Sg**	**12 43 06.6**	**+1.2**
	baz=296							
SFK	**Sufi-Kurgan**	**2.70**	**274**	⇑Pn		**Pb**	**12 42 30.7**	**+1.1**
	14nm,0.4s							
SFK				⇑Lg		Lg	12 43 13.5	
	31nm,0.4s							
BOOM	**Boomskoye usch**	**2.75**	**343**	*e*P		**Pb**	**12 42 30.0**	**-0.4**
	baz=341							
BOOM				*e*S		**Sg**	**12 43 09.0**	**+0.1**
	baz=341							
ARLS	**Aral**	**2.86**	**315**	*i* P		Pb	**12 42 32.0**	**-0.2**
	baz=315							
UCH	**Uchtor**	**3.03**	**322**	P		**Pb**	**12 42 36.1**	**+0.8**
	SNR=14							
KBK	**Karagaybulak**	**3.20**	**332**	P		**Pg**	**12 42 41.1**	**-0.7**
	SNR=13							
KBK	**Karagaybulak**	**3.20**	**332**	*e*P		**Pn**	**12 42 30.5**	**-1.3**
	baz=17							
KBK				*e*S		**Sn**	**12 43 09.5**	**-1.1**
	baz=17							
TKM2	**Tokmak 2**	**3.24**	**341**	⇓Pn		**Pb**	**12 42 36.8**	**-2.0**
	1.4nm,0.2s							
TKM2				⇑Lg		Lg	12 43 24.3	
	27nm,0.5s							
TKM2	**Tokmak 2**	**3.24**	**341**	P		**Pb**	**12 42 37.8**	**-1.0**
	SNR=9.8							
AAK	**Ala-Archa**	**3.36**	**326**	⇑Pn		**Pb**	**12 42 39.7**	**-1.1**
	26nm,1.1s							
AAK				⇓Lg		Lg	12 43 30.4	
	69nm,0.8s							
AAK	**Ala-Archa**	**3.36**	**326**	P		**Pb**	**12 42 40.4**	**-0.4**
	SNR=7.6							
AAK	**Ala-Archa**	**3.36**	**326**	Pn		**Pb**	**12 42 39.8**	**-1.1**
	1.8nm,0.3s,baz=120,slow=7.2,SNR=17							
AAK				Lg		Lg	12 43 30.1	
	9.3nm,0.3s,baz=328,slow=19,SNR=16							
AML	**Almayashu**	**3.38**	**313**	P		**Pb**	**12 42 40.9**	**-0.5**
	SNR=133							
FRU	**Bishkek**	**3.48**	**330**	*e*P		Pb	12 42 40.0	-2.7
	baz=329							
EKS2	**Erkin-Say**	**3.71**	**320**	P		**Pb**	**12 42 45.6**	**-1.1**
	SNR=30							
USP	**Ospenovka**	**3.89**	**332**	P		**Sg**	**12 43 45.9**	**+0.3**
	SNR=6.2							
PDGK	**Podgornoye**	**3.94**	**27**	⇑Pn		**Pn**	**12 42 43.3**	**+1.6**
	20nm,0.8s							
PDGK				⇓Lg		Lg	12 43 38.1	
	87nm,0.8s							
MNAS	**Manas**	**4.30**	**309**	⇑Pn		Pb	12 42 52.8	-4.0
	9.3nm,1.0s							
MNAS				⇑Lg		Lg	12 44 01.7	
	33nm,1.1s							
KK31	**Karatay Array**	**5.86**	**306**	Pg		**Pg**	**12 43 31.0**	**-1.7**
	0.9nm,0.5s,baz=112,slow=16,SNR=7.4							
KK31				⇓Lg		Lg	12 44 50.3	
	2.6nm,0.5s,baz=121,slow=28,SNR=4.6							
DZET	**Dzherino**	**6.43**	**263**	⇑Pn		Pn	12 43 20.2	+4.0
	10nm,0.5s							
DZET				⇓Lg		Lg	12 45 13.7	
	7.7nm,0.4s							
MK31	**Makanchi Array**	**7.93**	**27**	Pn		**Pn**	**12 43 38.5**	**+1.9**
	0.7nm,0.7s,baz=199,slow=14,SNR=8.9							
MK31				⇓Lg		Lg	12 45 47.2	
	1.2nm,0.7s,baz=190,slow=17,SNR=2.6							
MKAR	**Makanchi Array**	**7.93**	**27**	Pn		**Pn**	**12 43 35.5**	**-1.2**
	0.2nm,0.3s,baz=206,slow=15,SNR=8.2							
MKAR				Lg		Lg	12 45 45.6	
	0.2nm,0.3s,baz=214,slow=28,SNR=3.9							
KURBB	**Kurchatov Arra**	**10.82**	**5**	Pn		**Pn**	**12 44 16.6**	**+0.4**
	0.0nm,0.3s,baz=189,slow=11,SNR=3.7							
KURBB				Lg		Lg	12 47 18.9	
	0.1nm,0.3s,baz=189,slow=32,SNR=5.5							
BVAR	**Borovoye Array**	**13.93**	**343**	Lg		Lg	12 49 02.6	
	0.2nm,0.3s,baz=146,slow=24,SNR=5.7							
GEYT	**Alibeck**	**14.84**	**269**	LR		LR	12 51 25.8	
	comp=Z,35nm,18.8s,baz=210,slow=39							
ZALV	**Zalesovo Beam**	**15.06**	**18**	Pn		**Pn**	**12 45 14.8**	**+0.8**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.2							
SONM	**Songino Array**	**22.54**	**60**	P		**P**	**12 46 41.7**	**+0.1**
	0.1nm,0.3s,baz=256,slow=13,SNR=2.7							
ARCES	**ARCESS Array B**	**40.00**	**335**	P		**P**	**12 49 16.6**	**+0.5**
	1.0nm,0.8s,baz=96,slow=6.6,SNR=2.7							
TORD	**Torodi Ar. Bea**	**70.47**	**271**	P		**P**	**12 52 56.6**	**+0.1**
	0.7nm,0.7s,baz=46,slow=6.2,SNR=6.5							
YKA	**Yellowknife Ar**	**77.57**	**5**	P		**P**	**12 53 35.8**	**-1.6**
	0.2nm,0.5s,baz=346,slow=5.4,SNR=3.2							

IDC ***20*** *12:49:25.3±5.5, 37.°89S×74.°71W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.5/18, mbtmp3.5/3, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/11, Error ellipse: s-maj=129.4km s-min=23.6km az=60.0*

ISCJB ***20*** *12:49:34.5±4.3, 34.°71S±0.°07×72.°3W±0.°1, h12km±28km, n10, σ0°26/12, Near coast of central Chile*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.86**	**143**	*i* P		**Pb**	**12 49 51.5**	**+0.1**
TALC				*i* S		**Sb**	**12 50 03.4**	**+0.5**
NICH	**Los Niches**	**0.91**	**109**	*i* P		**Pb**	**12 49 51.8**	**-0.3**
NICH				*i* S		**Sb**	**12 50 04.0**	**-0.2**
COCH	**Cobquecura**	**1.48**	**196**	*i* P		**Pn**	**12 50 00.8**	**-0.1**
COCH				*i* S		**Sn**	**12 50 20.1**	**-0.1**
SJCH	**San Jose de Ma**	**1.92**	**57**	*i* P		**Pn**	**12 50 07.2**	**+0.1**
SJCH				*i* S		**Sn**	**

AYDB					*e*SG		**Sg**	**13 01 06.6**	**+1.1**	
AYDB	**Zeytinkoy-Aydi**	**0.32**	**89**	*e*Pg			**Pg**	**13 01 01.1**	**-0.1**	
AYDB					*e*Sg		**Sg**	**13 01 06.6**	**+1.1**	
AYDN	**Tasoluk**	**0.42**	**132**	*i* P			**Pb**	**13 01 04.8**	**0.0**	
AYDN					*i* S		**Sb**	**13 01 10.6**	**-0.9**	
AYDN	**Tasoluk**	**0.42**	**132**	*i* P			**Pb**	**13 01 04.8**	**0.0**	
AYDN					*i* S		**Sb**	**13 01 10.6**	**-0.9**	
IZM	**Izmir**	**0.49**	**339**	*e*PG			**Pg**	**13 01 04.0**	**-0.3**	
IZM	**Izmir**	**0.49**	**339**	*e*Pg			**Pg**	**13 01 04.0**	**-0.3**	
BLCB	**Balcova**	**0.56**	**322**	*e*PG			**Pg**	**13 01 05.6**	**-0.2**	
BLCB	**Balcova**	**0.56**	**322**	*e*Pg			**Pg**	**13 01 05.6**	**-0.2**	
SMG	**Samos**	**0.56**	**246**	P			**Pg**	**13 01 05.8**	**0.0**	
SMG					S		**Sb**	**13 01 14.2**	**-1.3**	
SMG	**Samos**	**0.56**	**246**	*e*PB			**Pg**	**13 01 05.9**	**+0.1**	
SMG					*e*SN		**Sb**	**13 01 14.7**	**-0.8**	
SMG	**Samos**	**0.56**	**246**	P			**Pg**	**13 01 05.8**	**0.0**	
SMG					S		**Sb**	**13 01 14.2**	**-1.3**	
SMG					*e*Sn		**Sb**	**13 01 14.7**	**-0.8**	
URLA	**Izmir**	**0.82**	**301**	*i* P			**Pb**	**13 01 11.7**	**+0.1**	
URLA					*i* S		**Sg**	**13 01 21.3**	**+0.1**	
URLA	**Izmir**	**0.82**	**301**	*i* P			**Pb**	**13 01 11.7**	**+0.1**	
URLA					*i* S		**Sg**	**13 01 21.3**	**+0.1**	
ZEY	**¨zmir**	**0.83**	**291**	*i* P			**Pg**	**13 01 10.8**	**-0.1**	
ZEY					*i* S		**Sg**	**13 01 21.5**	**-0.1**	
BDRM	**Kayabasi**	**0.88**	**182**	*i* P			**Pg**	**13 01 11.6**	**-0.1**	
BDRM					*i* S		**Sb**	**13 01 24.8**	**+0.3**	
BDRM	**Kayabasi**	**0.88**	**182**	*i* P			**Pg**	**13 01 11.6**	**-0.1**	
BDRM					*i* S		**Sb**	**13 01 24.8**	**+0.3**	
BODT	**Bodrum**	**0.89**	**189**	*e*PG			**Pg**	**13 01 11.8**	**-0.2**	
BODT	**Bodrum**	**0.89**	**189**	*e*Pg			**Pg**	**13 01 11.8**	**-0.2**	
AKHS	**Akhisar**	**0.97**	**15**	*i* P			**Pg**	**13 01 12.7**	**-0.8**	
AKHS					*i* S		**Sg**	**13 01 26.1**	**-0.1**	
AKHS	**Akhisar**	**0.97**	**15**	*i* P			**Pg**	**13 01 12.7**	**-0.8**	
AKHS					*i* S		**Sg**	**13 01 26.1**	**-0.1**	
AKS	**Akhisar**	**0.97**	**15**	*e*PG			**Pg**	**13 01 12.9**	**-0.6**	
AKS	**Akhisar**	**0.97**	**15**	*e*Pg			**Pg**	**13 01 12.9**	**-0.6**	
YER	**Yerkesik**	**1.03**	**142**	*e*PG			**Pn**	**13 01 15.6**	**-0.3**	
YER	**Yerkesik**	**1.03**	**142**	*e*Pg			**Pn**	**13 01 15.6**	**-0.3**	
KULA	**Kula-Manisa**	**1.09**	**58**	*e*PN			**Pg**	**13 01 15.7**	**-0.1**	
KULA	**Kula-Manisa**	**1.09**	**58**	*e*Pn			**Pg**	**13 01 15.7**	**-0.1**	
CHOS	**Chios island**	**1.21**	**292**	P			**Pg**	**13 01 18.1**	**-0.1**	
CHOS					S		**Sb**	**13 01 34.0**	**-0.3**	
CHOS	**Chios island**	**1.21**	**292**	*e*PN			**Pg**	**13 01 17.9**	**-0.2**	
CHOS	**Chios island**	**1.21**	**292**	*e*PN			**Pb**	**13 01 18.2**	**-0.1**	
CHOS					*e*SN		**Sn**	**13 01 35.7**	**+0.4**	
CHOS	**Chios island**	**1.21**	**292**	P			**Pg**	**13 01 18.1**	**-0.1**	
CHOS					S		**Sb**	**13 01 34.0**	**-0.3**	
CHOS					*e*Sn		**Sn**	**13 01 35.7**	**+0.4**	
DAT	**Datca**	**1.21**	**176**	*e*PN			**Pn**	**13 01 18.8**	**+0.2**	
DAT	**Datca**	**1.21**	**176**	*e*Pn			**Pn**	**13 01 18.8**	**+0.2**	
DALY	**Dalyan (Mu¨la**	**1.46**	**140**	*e*PN			**Pb**	**13 01 22.6**	**+0.1**	
DALY	**Dalyan (Mu¨la**	**1.46**	**140**	*e*Pn			**Pb**	**13 01 22.6**	**+0.1**	
DEMI	**Demirci**	**1.46**	**41**	*i* P			**Pn**	**13 01 21.6**	**-0.4**	
DEMI					*i* S		**Sb**	**13 01 40.9**	**-0.6**	
DEMI	**Demirci**	**1.46**	**41**	*i* P			**Pn**	**13 01 21.6**	**-0.4**	
DEMI					*i* S		**Sb**	**13 01 40.9**	**-0.6**	
AYVA	**Ayvalik**	**1.50**	**336**	*i* P			**Pn**	**13 01 22.6**	**+0.2**	
AYVA					*i* S		**Sb**	**13 01 42.6**	**+0.1**	
AYVA	**Ayvalik**	**1.50**	**336**	*i* P			**Pn**	**13 01 22.6**	**+0.2**	
AYVA					*i* S		**Sb**	**13 01 42.6**	**+0.1**	
PRK	**Paraskevi**	**1.61**	**324**	P			**Pb**	**13 01 24.6**	**-0.5**	
PRK					S		**Sn**	**13 01 44.9**	**-0.1**	
PRK	**Paraskevi**	**1.61**	**324**	*e*PN			**Pn**	**13 01 24.3**	**+0.4**	
PRK					*e*SN		**Sg**	**13 01 46.8**	**+0.1**	
PRK	**Paraskevi**	**1.61**	**324**	*e*Pn			**Pn**	**13 01 24.3**	**+0.4**	
PRK	**Paraskevi**	**1.61**	**324**	P			**Pb**	**13 01 24.6**	**-0.5**	
PRK					S		**Sn**	**13 01 44.9**	**-0.1**	
PRK					*e*Sn		**Sg**	**13 01 46.8**	**+0.1**	
BALB	**Balikesir**	**1.72**	**10**	*e*PN			**Pb**	**13 01 26.5**	**-0.5**	
BALB	**Balikesir**	**1.72**	**10**	*e*Pn			**Pb**	**13 01 26.5**	**-0.5**	
APE	**Apeiranthos**	**1.78**	**241**	*e*PN			**Pn**	**13 01 27.0**	**+0.7**	
APE	**Apeiranthos**	**1.78**	**241**	*e*PN			**Pb**	**13 01 27.5**	**-0.5**	
APE	**Apeiranthos**	**1.78**	**241**	*e*Pn			**Pn**	**13 01 27.0**	**+0.7**	
SIGR	**SIGRI**	**1.80**	**315**	P			**Pb**	**13 01 27.9**	**-0.4**	
SIGR					S		**Sb**	**13 01 50.9**	**-0.2**	
SIGR	**SIGRI**	**1.80**	**315**	*e*PN			**Pb**	**13 01 27.7**	**-0.6**	
SIGR	**SIGRI**	**1.80**	**315**	*e*PN			**Pb**	**13 01 28.3**	**0.0**	
SIGR					*e*SN		**Sg**	**13 01 51.8**	**-0.9**	
SIGR	**SIGRI**	**1.80**	**315**	*e*Pn			**Pb**	**13 01 27.7**	**-0.6**	
SIGR					S		**Sb**	**13 01 50.9**	**-0.2**	
SIGR					*e*Sn		**Sg**	**13 01 51.8**	**-0.9**	
FETY	**Fethiye**	**1.82**	**135**	*e*PN			**Pb**	**13 01 27.9**	**-0.8**	
FETY	**Fethiye**	**1.82**	**135**	*e*Pn			**Pb**	**13 01 27.9**	**-0.8**	
DST	**Dursunbey**	**1.88**	**28**	*e*PN			**Pn**	**13 01 27.7**	**0.0**	
DST	**Dursunbey**	**1.88**	**28**	*e*Pn			**Pn**	**13 01 27.7**	**0.0**	
EZN	**Ezine**	**2.09**	**335**	*e*PN			**Pn**	**13 01 30.7**	**+0.3**	
EZN	**Ezine**	**2.09**	**335**	*e*Pn			**Pn**	**13 01 30.7**	**+0.3**	
TVSB	**Tavsanli**	**2.16**	**45**	*e*PN			**Pn**	**13 01 32.5**	**+0.9**	
TVSB	**Tavsanli**	**2.16**	**45**	*e*Pn			**Pn**	**13 01 32.5**	**+0.9**	
KCTX	**Karacabey (Bur**	**2.42**	**16**	*e*PN			**Pn**	**13 01 36.5**	**+1.5**	
KCTX	**Karacabey (Bur**	**2.42**	**16**	*e*Pn			**Pn**	**13 01 36.5**	**+1.5**	
KRBG	**Karabiga-Canak**	**2.45**	**357**	*e*PN			**Pn**	**13 01 36.5**	**+1.0**	
KRBG	**Karabiga-Canak**	**2.45**	**357**	*e*Pn			**Pn**	**13 01 36.5**	**+1.0**	
LPK	**Lapseki**	**2.49**	**347**	*e*PN			**Pn**	**13 01 36.4**	**+0.4**	
LPK	**Lapseki**	**2.49**	**347**	*e*Pn			**Pn**	**13 01 36.4**	**+0.4**	
GELI	**Tayfur-Gelibol**	**2.58**	**343**	*e*PN			**Pn**	**13 01 37.6**	**+0.4**	
GELI	**Tayfur-Gelibol**	**2.58**	**343**	*e*Pn			**Pn**	**13 01 37.6**	**+0.4**	
LIA	**Limnos Island**	**2.65**	**318**	*e*PB			**Pn**	**13 01 40.1**	**+1.9**	
LIA	**Limnos Island**	**2.65**	**318**	*e*Pb			**Pn**	**13 01 40.1**	**+1.9**	
MRMT	**Marmara Adasi**	**2.66**	**2**	*e*PN			**Pn**	**13 01 39.5**	**+1.1**	
MRMT	**Marmara Adasi**	**2.66**	**2**	*e*Pn			**Pn**	**13 01 39.5**	**+1.1**	
ERIK	**Erikli-Kesan**	**2.83**	**345**	*e*PN			**Pn**	**13 01 41.8**	**+1.2**	
ERIK	**Erikli-Kesan**	**2.83**	**345**	*e*Pn			**Pn**	**13 01 41.8**	**+1.2**	
ARMT	**Armutlu**	**2.83**	**22**	*e*PN			**Pn**	**13 01 42.1**	**+1.4**	
ARMT	**Armutlu**	**2.83**	**22**	*e*Pn			**Pn**	**13 01 42.1**	**+1.4**	
CAVI	**Cavuskoy**	**2.91**	**38**	*e*PN			**Pn**	**13 01 43.1**	**+1.3**	
CAVI	**Cavuskoy**	**2.91**	**38**	*e*Pn			**Pn**	**13 01 43.1**	**+1.3**	
ENEZ	**Enez**	**2.98**	**340**	*e*PN			**Pn**	**13 01 43.6**	**+1.0**	
ENEZ	**Enez**	**2.98**	**340**	*e*Pn			**Pn**	**13 01 43.6**	**+1.0**	
ALN	**Alexandroupoli**	**3.15**	**340**	*e*PN			**Pn**	**13 01 46.6**	**+1.5**	
ALN	**Alexandroupoli**	**3.15**	**340**	*e*Pn			**Pn**	**13 01 46.7**	**+1.5**	

*NEIC **20** 13:02:52.0±0.3, 18°.89N×121°.21E, h35km, mb4.4/6, Error ellipse: s-maj=9.5km s-min=7.1km az=92.0*
NEIC Felt [II PIVS] at Pasuquin.
*MAN **20** 13:02:53, 19°.13N×121°.19E, h48km, mb5.3, ML4.2, MS4.4*
MAN INTENSITY II - PASUQUIN ILOCOS NORTE.
*ISCJB **20** 13:02:54.6±0.6, 19°.02N±0°.05×121°.21E±0°.05, h74km±6km, mb3.9/18, Error ellipse: s-maj=8.5km s-min=7.6km az=10.1*
*IDC **20** 13:02:54.1±3.5, 18°.96N×121°.38E, h51km±32km, mb3.6/13, mb1 3.8/14, mb1mx3.7/27, mbtmp3.9/14, ML3.8/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/46, Error ellipse: s-maj=21.4km s-min=14.3km az=74.0*
ISC 20 13:02:55.1±1.0, 19°.03N±0°.06×121°.18E±0°.05, h57km±10km, n54, σ1§67/51, mb3.9/18, MS3.5/13, 5C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.88**	**217⇑**	*i* P	**Pn**	**13 03 08.8**	**-2.7**
PIP				*e*S	**Sn**	**13 03 22.1**	**-1.5**
SGCP	**Mt. Cagua**	**1.13**	**134**	*e*P	**Pn**	**13 03 14.3**	**-0.5**
SGCP				*e*S	**Sn**	**13 03 30.6**	**+1.2**
APYP	**Conner**	**1.16**	**177**	*e*P	**Pn**	**13 03 14.7**	**-0.5**
APYP				*e*S	**Sn**	**13 03 31.8**	**+1.7**
SIPP	**Brgy, Tapao**	**1.30**	**212⇑**	*i*P	**Pn**	**13 03 18.2**	**+1.2**
SIPP				*i* S	**Sn**	**13 03 36.6**	**+3.3**
ABRA	**Dolores**	**1.44**	**198**	*e*P	**Pn**	**13 03 18.2**	**-0.7**
ABRA				*e*S	**Sn**	**13 03 37.8**	**+0.9**
CVP	**Callao Caves**	**1.45**	**155⇓**	*i*P	**Pn**	**13 03 19.2**	**+0.2**
CVP				*i* S	**Sn**	**13 03 39.2**	**+2.1**
BCPH	**Baguio City Da**	**2.69**	**192⇑**	*i*P	**Pn**	**13 03 36.3**	**+0.1**
BCPH				*i* S	**Sn**	**13 04 04.1**	**-3.6**
BOLP	**Bolinao**	**2.90**	**205**	*e*P	**Pn**	**13 03 38.8**	**0.0**
BALP	**Baler**	**3.29**	**173**	*e*P	**Pn**	**13 03 45.0**	**+0.9**
PCPH	**Palayan**	**3.45**	**181⇑**	*e*P	**Pn**	**13 03 48.2**	**+1.9**
GQP	**Guinayangan**	**5.24**	**166⇓**	*e*P	**Pn**	**13 04 12.5**	**+1.6**
GQP				*e*S	**Sn**	**13 05 13.3**	**+3.3**
AUQP	**San Andres**	**5.85**	**166**	*e*P	Px	13 04 58.0	
PVCP	**Virac**	**6.11**	**152⇑**	*i*P	**Pn**	**13 04 23.9**	**+1.1**
PVCP				*i* S	**Sn**	**13 05 26.9**	**-4.5**
MSLP	**Maasin**	**9.53**	**158**	*e*P	Px	13 05 30.7	
JOW	**Kunigami** baz=237,slow=17	**10.15**	**39**	P	**Pn**	**13 05 18.0**	**-0.1**
QIZ	**Qiongzhong** 27nm,0.6s	**10.72**	**272**	*e*P	Pn	13 05 22.3	-3.8

JNU	**Nakatsue**	**16.50**	**30**	P			**P**	**13 06 45.8**	**+1.1**	
	0.2nm,0.3s,baz=212,slow=14,SNR=4.5									
KSAR	**Wonju Array Be**	**19.26**	**16**	P			**P**	**13 07 14.4**	**-0.5**	
KSRS	**Korea Array**	**19.28**	**16**	P			**P**	**13 07 14.4**	**-0.7**	
	0.3nm,0.3s,baz=198,slow=11,SNR=8.6									
KSRS						LR	LR	13 15 33.1		
	comp=Z,83nm,19.7s,baz=198,slow=39									
KSM	**Kuching**	**20.44**	**213**	P			**P**	**13 07 27.3**	**-0.7**	
	9.1nm,0.8s									
CMAR	**Chiang Mai Arr**	**21.07**	**272**	P			**P**	**13 07 37.2**	**+2.5**	
	1.1nm,0.8s,baz=78,slow=9.4,SNR=5.9									
CMAR						PcP	**PcP**	**13 11 41.5**	**+1.8**	
	0.6nm,0.3s,baz=71,slow=1.3,SNR=6.7									
CMAR						LR	LR	13 15 30.8		
	comp=Z,80nm,18.1s,baz=158,slow=36									
MJAR	**Matsushiro Arr**	**22.99**	**37**	P			**P**	**13 07 54.9**	**-0.1**	
	0.9nm,0.6s,baz=233,slow=12,SNR=3.3									
PSI	**Prapat**	**27.10**	**236**	LR			LR	13 19 34.5		
	comp=Z,102nm,20.4s,baz=128,slow=37									
JAY	**Jayapura**	**28.76**	**136**	LR			LR	13 18 40.3		
	comp=Z,68nm,20.9s,baz=344,slow=33									
LEM	**Lembang**	**28.96**	**209**	LR			LR	13 20 30.1		
	comp=Z,59nm,18.5s,baz=338,slow=36									
SONM	**Songino Array**	**31.16**	**341**	P			**P**	**13 09 09.4**	**+0.8**	
	1.2nm,0.8s,baz=154,slow=9.5,SNR=10									
SONM						LR	LR	13 22 59.6		
	comp=Z,89nm,18.6s,baz=162,slow=38									
WRAB	**Tennant Creek**	**40.82**	**161**	*e*P			**P**	**13 10 28.6**	**-2.7**	
	3.6nm,1.0s									
WRA	**Warramunga Arr**	**40.82**	**161**	P			**P**	**13 10 28.7**	**-2.6**	
	1.1nm,0.7s,baz=341,slow=8.9,SNR=18									
WRA						PcP	**PcP**	**13 12 31.4**	**-0.1**	
	1.0nm,0.6s,baz=344,slow=3.4,SNR=7.6									
WB2	**Warramunga Arr**	**40.83**	**161**	*e*P			**P**	**13 10 28.7**	**-2.6**	
MKAR	**Makanchi Array**	**42.15**	**320**	P			**P**	**13 10 43.2**	**+1.2**	
	1.6nm,0.8s,baz=116,slow=9.5,SNR=13									
MKAR						PcP	**PcP**	**13 12 36.0**	**+0.5**	
	1.2nm,0.6s,baz=103,slow=6.0,SNR=6.2									
MKAR						LR	LR	13 30 17.9		
	comp=Z,43nm,18.7s,baz=146,slow=39									
H11S3	**WAKE ISLAND Hy**	**43.00**	**83**	T			T	13 56 36.4		
	baz=279,slow=75,SNR=26									
H11S1	**WAKE ISLAND Hy**	**43.01**	**83**	T			T	13 56 36.6		
	baz=279,slow=75,SNR=13									
H11S2	**WAKE ISLAND Hy**	**43.02**	**83**	T			T	13 56 40.6		
	baz=279,slow=75,SNR=20									
H11N1	**WAKE ISLAND Hy**	**43.03**	**81**	T			T	13 56 49.1		
	baz=277,slow=75,SNR=55									
H11N2	**WAKE ISLAND Hy**	**43.03**	**81**	T			T	13 56 49.9		
	baz=277,slow=75,SNR=60									
H11N3	**WAKE ISLAND Hy**	**43.04**	**81**	T			T	13 56 35.3		
	baz=277,slow=75,SNR=54									
PETK	**Petropavlovsk-**	**44.20**	**31**	P			**P**	**13 10 57.5**	**-0.9**	
	1.3nm,0.7s,baz=212,slow=8.9,SNR=4.0									
AS31	**Alice Springs**	**44.21**	**163**	*e*P			**P**	**13 10 57.2**	**-1.6**	
ASAR	**Alice Springs**	**44.21**	**163**	P			**P**	**13 10 57.0**	**-1.8**	
	1.2nm,0.5s,baz=343,slow=6.7,SNR=50									
ASAR						PcP	**PP**	**13 12 43.0**	**0.0**	
	0.5nm,0.7s,baz=347,slow=3.8,SNR=4.0									
ZALV	**Zalesovo Beam**	**44.62**	**330**	P			**P**	**13 11 02.5**	**+0.8**	
	1.1nm,0.7s,baz=111,slow=8.6,SNR=7.0									
ZALV						LR	LR	13 30 47.4		
	comp=Z,52nm,20.3s,baz=72,slow=37									
AAK	**Ala-Archa**	**45.76**	**311**	LR			LR	13 31 34.7		
	comp=Z,67nm,18.4s,baz=98,slow=37									
KURK	**Kurchatov**	**46.12**	**323**	*e*P			**P**	**13 11 14.3**	**+0.7**	
	3.7nm,0.6s									
TIXI	**Tiksi**	**52.82**	**3**	*e*P			**P**	**13 12 03.6**	**-0.7**	
	12nm,1.0s									
ABKAR	**Akbulak array**	**57.11**	**317**	*e*P			**P**	**13 12 36.3**	**+0.6**	
	7.9nm,0.6s									
GEYT	**Alibeck**	**57.50**	**303**	LR			LR	13 41 21.1		
	comp=Z,58nm,19.4s,baz=75,slow=40									
AKTO	**Aktyubinsk**	**58.52**	**318**	P			**P**	**13 12 46.0**	**+0.5**	
	1.3nm,0.8s,baz=113,slow=7.7,SNR=3.8									
RAYN	**Ar Rayn**	**69.92**	**289**	*e*P			**P**	**13 14 00.7**	**-0.1**	
	1.4nm,0.6s									
ILAR	**Eielson Array**	**73.79**	**26**	P			**P**	**13 14 22.4**	**-0.8**	
	0.6nm,0.8s,baz=281,slow=5.7,SNR=8.5									
ARCES	**ARCESS Array B**	**74.31**	**339**	P			**P**	**13 14 25.4**	**-0.7**	
	1.0nm,0.5s,baz=71,slow=9.1,SNR=8.9									
ARCES						LR	LR	13 50 58.0		
	comp=Z,31nm,19.6s,baz=113,slow=39									
SPITS	**Spitsbergen Ar**	**74.50**	**348**	LR			LR	13 51 17.2		
	comp=Z,26nm,19.2s,baz=155,slow=39									
FINES	**FINESS Array B**	**75.89**	**330**	P			**P**	**13 14 34.8**	**-0.5**	
	1.2nm,0.8s,baz=91,slow=8.6,SNR=4.2									
FINES						LR	LR	13 50 50.5		
	comp=Z,28nm,18.7s,baz=48,slow=38									
NOA	**NORSAR Array B**	**82.77**	**333**	LR			LR	13 55 40.2		
	comp=Z,43nm,18.6s,baz=85,slow=38									
YKA	**Yellowknife Ar**	**87.70**	**23**	P			**P**	**13 15 37.6**	**+0.2**	
	2.6nm,0.8s,baz=311,slow=4.3,SNR=33									
TXAR	**Lajitas Array**	**115.32**	**43**	PKP			**PKPdf**	**13 21 31.4**	**+0.3**	
	0.3nm,0.8s,baz=333,slow=0.4,SNR=4.2									

*ISCJB **20** 13:35:36.6±0.4, 58°.73N±0°.03×18°.55E±0°.05, h0km, Error ellipse: s-maj=4.8km s-min=3.9km az=15.6*
*UPP **20** 13:35:37.4, 58°.78N×18°.60E, h0km, ML2.2, Mining explosion.*
*CSEM **20** 13:35:37.6±0.2, 58°.78N×18°.54E, h2km, ML2.4, Error ellipse: s-maj=4.4km s-min=4.1km az=72.0, Mining explosion.*
*NAO **20** 13:35:38.7±2.3, 58°.73N×18°.46E, ML2.6*
*HEL **20** 13:35:38.5±0.1, 58°.78N×18°.55E, h0km, ML2.4, ML2.2(UPP), Explosion*
*BER **20** 13:35:41.3±4.9, 58°.87N×18°.39E, h0km, ML2.6(NAO), Suspected explosion*
*IDC **20** 13:35:41.7±1.9, 59°.04N×18°.43E, h0km, mb1 3.4/5, mb1mx3.1/30, mbtmp3.4/5, ML3.1/5, Error ellipse: s-maj=24.7km s-min=7.6km az=179.0*
ISC 20 13:35:37.6±0.7, 58°.76N±0°.02×18°.54E±0°.03, h0km, n69, σ1§40/80, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.37**	**312**	*i* P	**Pg**	**13 35 44.9**	**+0.1**
NYNU				*i* S	**Sg**	**13 35 49.6**	**+0.1**
NYNU	**Nynaeshamn**	**0.37**	**312**	P	**Pg**	**13 35 44.8**	**+0.1**
NYNU				S	**Sg**	**13 35 49.6**	**+0.1**
NYNU	**Nynaeshamn**	**0.37**	**312**	P	**Pg**	**13 35 44.9**	**+0.1**
NYNU				S	**Sg**	**13 35 49.6**	**+0.1**
NRTU	**Norrtaelje**	**0.92**	**3**	*e*P	**Pg**	**13 35 54.4**	**-1.0**
NRTU	**Norrtaelje**	**0.92**	**3**	P	**Pg**	**13 35 54.3**	**-1.0**
NRTU	**Norrtaelje**	**0.92**	**3**	P	**Pg**	**13 35 54.4**	**-1.0**
VIKU	**Vikbolandet**	**0.99**	**256**	*e*P	**Pg**	**13 35 56.7**	**0.0**
VIKU	**Vikbolandet**	**0.99**	**256**	P	**Pg**	**13 35 56.7**	**0.0**
VIKU	**Vikbolandet**	**0.99**	**256**	P	**Pg**	**13 35 56.7**	**0.0**
GOTU	**Gotland**	**1.07**	**179**	*e*P	**Pg**	**13 35 57.7**	**-0.5**
GOTU	**Gotland**	**1.07**	**179**	P	**Pg**	**13 35 57.7**	**-0.5**
GOTU	**Gotland**	**1.07**	**179**	P	**Pg**	**13 35 57.7**	**-0.5**
UPP	**Uppsala**	**1.20**	**337**	*e*P	**Pg**	**13 35 59.9**	**-0.7**
UPP	**Uppsala**	**1.20**	**337**	P	**Pg**	**13 35 59.9**	**-0.7**
UPP	**Uppsala**	**1.20**	**337**	P	**Pg**	**13 35 59.9**	**-0.7**
ESKU	**Eskilstuna**	**1.21**	**294**	*e*P	**Pg**	**13 36 00.0**	**-0.7**
ESKU	**Eskilstuna**	**1.21**	**294**	P	**Pg**	**13 36 00.0**	**-0.7**
ESKU	**Eskilstuna**	**1.21**	**294**	P	**Pg**	**13 36 00.0**	**-0.7**
BACU	**Backbrunna**	**1.32**	**327**	*e*P	**Pg**	**13 36 02.1**	**-0.9**
BACU	**Backbrunna**	**1.32**	**327**	P	**Pg**	**13 36 02.1**	**-0.9**
BACU	**Backbrunna**	**1.32**	**327**	P	**Pg**	**13 36 02.1**	**-0.9**
FLYU	**Flymyra**	**1.42**	**347**	*e*P	**Pn**	**13 36 03.5**	**-1.1**
FLYU	**Flymyra**	**1.42**	**347**	P	**Pn**	**13 36 03.5**	**-1.1**
FLYU	**Flymyra**	**1.42**	**347**	P	**Pn**	**13 36 03.5**	**-1.1**
GRAU	**Graesoe**	**1.58**	**0**	*e*P	**Pn**	**13 36 06.2**	**-0.7**
GRAU	**Graesoe**	**1.58**	**0**	P	**Pn**	**13 36 06.1**	**-0.7**
GRAU	**Graesoe**	**1.58**	**0**	P	**Pn**	**13 36 06.2**	**-0.7**
AAL	**Aland**	**1.61**	**27**	*e*P	**Pn**	**13 36 06.3**	**-0.9**
AAL	**Aland**	**1.61**	**27**	P	**Pn**	**13 36 06.3**	**-0.9**
AAL	**Aland**	**1.61**	**27**	P	**Pn**	**13 36 06.4**	**-0.9**
OSTU	**Oestervaala**	**1.64**	**335**	*e*P	**Pn**	**13 36 07.6**	**-0.2**
OSTU	**Oestervaala**	**1.64**	**335**	P	**Pn**	**13 36 07.5**	**-0.2**
OSTU	**Oestervaala**	**1.64**	**335**	P	**Pn**	**13 36 07.6**	**-0.2**
SLIT	**Slitere, Latvi**	**2.29**	**118**	*e*P	**Pn**	**13 36 17.5**	**+1.0**
SLIT				*e*SG	**Sb**	**13 36 49.5**	**+1.0**
SLIT	**Slitere, Latvi**	**2.29**	**118**	P	**Pn**	**13 36 17.5**	**+1.0**
SLIT				Sg	**Sb**	**13 36 49.5**	**+1.0**
RAF	**Rauma**	**2.79**	**34**	*e*P	**Pn**	**13 36 23.9**	**+0.3**
RAF				*e*SG	**Sb**	**13 37 03.3**	**+0.2**
RAF				MSG		13 37 11.5	
	comp=Z,7.9nm,0.1s						
RAF	**Rauma**	**2.79**	**34**	P	**Pn**	**13 36 23.8**	**+0.3**
HFS	**Hagfors**	**2.83**	**301**	Pn	**Pn**	**13 36 24.6**	**+0.5**
	baz=123,slow=16						
HFS	**Hagfors**	**2.83**	**301**	Pn	**Pn**	**13 36 25.3**	**+1.2**
	baz=123,slow=16						
HFS	**Hagfors**	**2.83**	**301**	Pn	**Pn**	**13 36 25.3**	**+1.2**
	comp=Z,2.3nm,0.3s,baz=116,slow=14,SNR=39						
HFS				Lg	Lg	13 37 03.5	
	comp=Z,11nm,0.3s,baz=115,slow=30,SNR=13						
HFS	**Hagfors**	**2.83**	**301**	Pn	**Pn**	**13 36 24.5**	**+0.5**
	baz=123,slow=14,SNR=50						
SRPE	**Suurupi**	**3.10**	**74**	*e*P	**Pn**	**13 36 29.4**	**+1.8**
SRPE				*e*SB	**Sb**	**13 37 11.7**	**0.0**
MEF	**Metsahovi**	**3.33**	**61**	*e*PB	**Pb**	**13 36 34.9**	**-2.5**
BSD	**Bornholm Skovb**	**4.16**	**210**	*e*P	**Pn**	**13 36 41.6**	**-0.6**
BSD	**Bornholm Skovb**	**4.16**	**210**	*e*P	**Pn**	**13 36 41.9**	**-0.3**
	SNR=49						
BSD				*e*S	**Sn**	**13 37 32.2**	**+0.7**
BSD	**Bornholm Skovb**	**4.16**	**210**	*i* P	**Pn**	**13 36 41.9**	**-0.3**
BSD				*e*S	**Sn**	**13 37 32.2**	**+0.7**
VSU	**Vasula**	**4.30**	**90**	*e*PB	**Pb**	**13 36 53.0**	**-1.0**
NB2	**NORSAR Subarra**	**4.34**	**305**	Pn	**Pn**	**13 36 45.8**	**+1.0**
	baz=128,slow=14						
NB2				Lg	Lg	13 37 53.0	
	baz=121,slow=28						
NB2	**NORSAR Subarra**	**4.34**	**305**	Pn	**Pn**	**13 36 45.8**	**+1.0**
	baz=128,slow=14						
NB2				Lg	Lg	13 37 53.0	
	baz=121,sl

OSTU	**Oestervaala**	**1.66**	**335**	*e*P		**Pb**	**13 51 21.7**	**-0.5**
OSTU	**Oestervaala**	**1.66**	**335**	P		**Pb**	**13 51 21.7**	**-0.5**
OSTU	**Oestervaala**	**1.66**	**335**	P		**Pb**	**13 51 21.7**	**-0.5**
FORU	**Forsmark**	**1.66**	**354**	*e*P		**Pn**	**13 51 21.6**	**+0.4**
FORU	**Forsmark**	**1.66**	**354**	P		**Pn**	**13 51 21.5**	**+0.4**
FORU	**Forsmark**	**1.66**	**354**	P		**Pn**	**13 51 21.6**	**+0.4**
SLIT	**Slitere, Latvi**	**2.28**	**118**	*e*P		**Pn**	**13 51 30.0**	**+0.4**
SLIT				*e*SG		**Sg**	**13 52 03.6**	**-0.4**
SLIT	**Slitere, Latvi**	**2.28**	**118**	P		**Pn**	**13 51 30.0**	**+0.4**
SLIT				Sg		**Sg**	**13 52 03.5**	**-0.4**
RAF	**Rauma**	**2.81**	**34**	*e*P		**Pn**	**13 51 37.9**	**+1.0**
RAF				*e*SB		**Sb**	**13 52 17.6**	**+0.8**
RAF				MSG			13 52 32.7	
	comp=Z,8.2nm,0.2s							
RAF	**Rauma**	**2.81**	**34**	P		**Pn**	**13 51 37.9**	**+1.0**
RAF				Sb		**Sb**	**13 52 17.5**	**+0.8**
HFS	**Hagfors**	**2.84**	**302**	Pn		**Pn**	**13 51 38.5**	**+1.1**
	baz=124,slow=14							
HFS				Sn		**Sn**	**13 52 12.5**	**+0.2**
	baz=115,slow=28							
HFS				Lg		Lg	13 52 18.2	
	baz=115,slow=28							
HFS	**Hagfors**	**2.84**	**302**	Pn		**Pn**	**13 51 38.5**	**+1.1**
	baz=124,slow=14							
HFS				Sn		**Sn**	**13 52 12.5**	**+0.2**
	baz=115,slow=28							
HFS				Lg		Lg	13 52 18.2	
	baz=115,slow=28							
HFS	**Hagfors**	**2.84**	**302**	Pn		**Pn**	**13 51 38.8**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=114,slow=15,SNR=48							
HFS				Lg		Lg	13 52 15.5	
	comp=Z,4.7nm,0.3s,baz=111,slow=29,SNR=13							
HFS	**Hagfors**	**2.84**	**302**	Pn		**Pn**	**13 51 38.5**	**+1.1**
	baz=124,slow=14,SNR=50							
HFS				Sn		**Sn**	**13 52 12.5**	**+0.2**
	baz=115,slow=28,SNR=50							
HFS				Lg		Lg	13 52 18.2	
	SNR=50							
SRPE	**Suurupi**	**3.10**	**74**	*e*PB		**Pb**	**13 51 45.9**	**-0.9**
SRPE				*e*SB		**Sb**	**13 52 25.9**	**+0.7**
SRPE	**Suurupi**	**3.10**	**74**	Pb		**Pb**	**13 51 45.9**	**-0.9**
SRPE				Sb		**Sb**	**13 52 25.8**	**+0.7**
MEF	**Metsahovi**	**3.34**	**61**	*e*P		**Pn**	**13 51 46.6**	**+2.4**
MEF				*e*SG		**Sb**	**13 52 34.5**	**+2.5**
MEF				MSG			13 52 48.2	
	comp=Z,12nm,0.2s							
MEF	**Metsahovi**	**3.34**	**61**	P		**Pn**	**13 51 46.5**	**+2.4**
MEF				Sg		**Sb**	**13 52 34.4**	**+2.5**
BSD	**Bornholm Skovb**	**4.14**	**210**	*e*P		**Pn**	**13 51 55.7**	**+0.5**
BSD	**Bornholm Skovb**	**4.14**	**210**	P		**Pn**	**13 51 55.7**	**+0.5**
BSD				*i* S		**Sn**	**13 52 44.7**	**+0.4**
	SNR=71							
BSD	**Bornholm Skovb**	**4.14**	**210**	*i* P		**Pn**	**13 51 56.2**	**+1.0**
BSD				*i* S		**Sn**	**13 52 44.6**	**+0.3**
VSU	**Vasula**	**4.30**	**90**	*e*SG		**Sg**	**13 53 06.7**	**-2.2**
VSU	**Vasula**	**4.30**	**90**	Sg		**Sg**	**13 53 06.6**	**-2.2**
NB2	**NORSAR Subarra**	**4.35**	**305**	Pn		**Pn**	**13 51 59.4**	**+1.2**
	baz=126,slow=14							
NB2				Lg		Lg	13 53 06.0	
	baz=120,slow=37							
NB2	**NORSAR Subarra**	**4.35**	**305**	Pn		**Pn**	**13 51 59.4**	**+1.2**
	baz=126,slow=14							
NB2				Lg		Lg	13 53 06.0	
	baz=120,slow=37							
NB2	**NORSAR Subarra**	**4.35**	**305**	Pn		**Pn**	**13 51 59.4**	**+1.2**
	baz=126,slow=13,SNR=50							
NOA	**NORSAR Array B**	**4.35**	**305**	Pn		**Pn**	**13 51 58.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=133,slow=13,SNR=8.5							
NOA				Lg		Lg	13 53 01.5	
	comp=Z,2.2nm,0.3s,baz=158,slow=19,SNR=12							
FIA0	**FINESS Array S**	**4.65**	**51**	Pn		**Pn**	**13 52 04.5**	**+2.3**
	baz=225,slow=14							
FIA0				Lg		Lg	13 53 15.5	
	baz=243,slow=28							
FIA0	**FINESS Array S**	**4.65**	**51**	Pn		**Pn**	**13 52 04.5**	**+2.3**
	baz=225,slow=14							
FIA0				Lg		Lg	13 53 15.5	
	baz=243,slow=28							
FIA0	**FINESS Array S**	**4.65**	**51**	*e*P		**Pn**	**13 52 04.7**	**+2.5**
FIA0	**FINESS Array S**	**4.65**	**51**	Pn		**Pn**	**13 52 04.5**	**+2.3**
	baz=225,slow=13,SNR=50							
FIA0				Lg		Lg	13 53 15.5	
	SNR=50							
FINES	**FINESS Array B**	**4.65**	**51**	Pn		**Pn**	**13 52 04.6**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=239,slow=13,SNR=12							
FINES				Lg		Lg	13 53 14.7	
	comp=Z,2.4nm,0.3s,baz=245,slow=29,SNR=12							
ARA0	**ARCESS Array S**	**11.25**	**13**	Pn		**Pn**	**13 53 30.7**	**-1.9**
	baz=189,slow=18							
ARA0	**ARCESS Array S**	**11.25**	**13**	Pn		**Pn**	**13 53 30.7**	**-1.9**
	baz=189,slow=18							
ARA0	**ARCESS Array S**	**11.25**	**13**	Pn		**Pn**	**13 53 30.7**	**-1.9**
	baz=189,slow=18,SNR=50							
ARCES	**ARCESS Array B**	**11.25**	**13**	Pn		**Pn**	**13 53 30.2**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=16							

*ISCJB **20** 13:53:40.8±0.7, 31°.49N±0°.06×141°.1E±0°.2, h57km, mb3.8/9, Error ellipse: s-maj=20.1km s-min=6.2km az=159.9*
*JMA **20** 13:53:41.6±0.2, 31°.89N×141°.16E, h0km, M4.1*
*IDC **20** 13:53:41.4±2.4, 31°.16N×140°.95E, h52km±26km, mb3.5/9, mb1 3.6/11, mb1mx3.4/30, mbtmp3.8/11, ML3.5/2, MS2.7/4, Ms1 2.7/4, ms1mx2.5/23, Error ellipse: s-maj=34.6km s-min=14.4km az=71.0*

ISC 20 13:53:42.0±0.9, 31°.46N±0°.08×141°.2E±0°.1, h57km, n31, σ1§82/28, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.98**	**325**	*e*S		**Sn**	**13 54 33.5**	**-3.3**
JHJ2	**Mitsune**	**2.00**	**326**	P		**Pn**	**13 54 12.3**	**-1.1**
JHJ2				S		**Sn**	**13 54 35.0**	**-2.4**
BSO3	**Boso 3**	**3.38**	**351**	S		**Sn**	**13 55 08.3**	**-2.4**
JIM2	**Oshima 3**	**3.56**	**336**	P		**Pn**	**13 54 34.2**	**-0.5**
JIM2				*e*S		**Sn**	**13 55 14.5**	**-1.1**
JIZS	**Izushimoda**	**3.77**	**330**	P		**Pn**	**13 54 38.2**	**+0.6**
KTJJ	**Kamata 2**	**3.88**	**334**	P		**Pn**	**13 54 39.2**	**+0.1**
KTJJ				S		**Sn**	**13 55 20.8**	**-2.6**
JOD2	**Odawara 2**	**4.17**	**336**	P		**Pn**	**13 54 43.0**	**-0.1**
JCJ	**Chichijima**	**4.44**	**168**	P		**Pn**	**13 54 44.7**	**-2.1**
	4.1nm,0.3s,baz=315,slow=20,SNR=3.2							
JCJ				S		Sn	13 55 30.4	-6.7
	baz=254,slow=20							
JCJ				LR		LR	13 56 06.8	
	comp=Z,757nm,19.6s,baz=144,slow=35							
JHU	**Hanno**	**4.65**	**341**	P		**Pn**	**13 54 49.2**	**-0.5**
JHU				S		**Sn**	**13 55 39.3**	**-3.1**
JHO	**Hitachi**	**5.16**	**355**	P		**Pn**	**13 54 56.3**	**-0.4**
MJAR	**Matsushiro Arr**	**5.63**	**335**	P		**Pn**	**13 55 04.8**	**+1.7**
	1.1nm,0.3s,baz=166,slow=14,SNR=15							
MJAR				S		**Sn**	**13 56 06.6**	**+0.2**
	0.1nm,0.3s,baz=309,slow=22,SNR=2.7							
MAT	**Matsushiro**	**5.63**	**335**	P		**Pn**	**13 55 05.0**	**+1.9**
MAT				S		**Sn**	**13 56 07.1**	**+0.6**
JFK	**Kawauchi**	**5.90**	**358**	S		**Sn**	**13 56 09.1**	**-3.9**
JNU	**Nakatsue**	**8.86**	**283**	LR		LR	13 58 46.5	
	comp=Z,44nm,21.7s,baz=212,slow=35							
KSRS	**Korea Array**	**12.45**	**302**	LR		LR	14 01 37.8	
	comp=Z,12nm,19.4s,baz=125,slow=38							
USRK	**Ussuriysk Ar.**	**14.63**	**333**	LR		LR	14 01 38.1	
	comp=Z,19nm,20.8s,baz=319,slow=32							
H11N2	**WAKE ISLAND Hy**	**25.91**	**111**	T		T	14 26 20.8	
	baz=300,slow=74							
H11N1	**WAKE ISLAND Hy**	**25.92**	**111**	T		T	14 26 13.7	
	baz=300							
H11N3	**WAKE ISLAND Hy**	**25.93**	**111**	T		T	14 26 13.4	
	baz=300,slow=74							
H11S3	**WAKE ISLAND Hy**	**26.42**	**113**	T		T	14 26 50.7	
	baz=304,slow=75,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**26.42**	**113**	T		T	14 26 39.3	
	baz=304,slow=75,SNR=7.4							
H11S2	**WAKE ISLAND Hy**	**26.43**	**113**	T		T	14 26 45.6	
	baz=304,slow=75,SNR=6.2							
SONM	**Songino Array**	**31.05**	**312**	P		**P**	**13 59 55.6**	**+1.1**
	1.1nm,0.8s,baz=105,slow=8.8,SNR=8.8							
MKAR	**Makanchi Array**	**47.09**	**307**	P		**P**	**14 02 08.2**	**+0.1**
	0.7nm,0.5s,baz=96,slow=8.7,SNR=4.7							
KURBB	**Kurchatov Arra**	**49.41**	**312**	P		**P**	**14 02 25.8**	**-0.1**
	1.2nm,0.8s,baz=91,slow=7.5,SNR=13							
WRA	**Warramunga Arr**	**51.52**	**188**	P		**P**	**14 02 40.0**	**-2.1**
	0.2nm,0.4s,baz=5.3,slow=7.6,SNR=9.7							
BVAR	**Borovoye Array**	**54.28**	**315**	P		**P**	**14 03 02.5**	**+0.4**
	1.1nm,0.5s,baz=97,slow=6.9,SNR=6.7							
ILAR	**Eielson Array**	**54.36**	**30**	P		**P**	**14 03 04.9**	**+2.4**
	0.5nm,1.0s,baz=236,slow=7.3,SNR=3.2							
AKTO	**Aktyubinsk**	**62.32**	**314**	P		**P**	**14 03 58.1**	**-0.2**
	0.9nm,0.5s,baz=71,slow=13,SNR=4.4							
FINES	**FINESS Array B**	**73.66**	**333**	P		**P**	**14 05 10.6**	**+1.4**
	0.4nm,0.4s,baz=92,slow=8.3,SNR=6.4							
AKASG	**Malin Array Be**	**78.59**	**323**	P		**P**	**14 05 38.0**	**+0.6**
	0.5nm,0.4s,baz=47,slow=7.0,SNR=4.1							

*IDC **20** 14:20:49.5±1.8, 42°.57S×75°.10W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.6/1, MS2.6/1, Ms1 2.5/1, ms1mx2.2/18, Error ellipse: s-maj=66.4km s-min=26.1km az=163.0*

ISC 20 14:20:55.6±2.0, 42°.4S±0°.4×75°.0W±0°.2, h35km, n6, σ1§18/6, mb3.5/4, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**3.74**	**65**	Pn		**Pn**	**14 21 51.9**	**+1.0**
	1.0nm,0.3s,baz=243,slow=12,SNR=29							
PLCA				Lg		Lg	14 22 53.7	
	0.4nm,0.3s,baz=155,slow=19,SNR=2.9							
PLCA				LR		LR	14 23 33.7	
	comp=Z,68nm,18.4s,baz=257,slow=42							
CPUP	**Villa Florida**	**21.62**	**48**	P		**P**	**14 25 41.0**	**-1.6**
	0.6nm,0.6s,baz=210,slow=11,SNR=7.5							
TXAR	**Lajitas Array**	**76.13**	**334**	P		**P**	**14 32 40.3**	**+0.5**
	0.1nm,0.4s,baz=179,slow=7.8,SNR=3.7							
DBIC	**Dimbokro**	**80.08**	**72**	P		**P**	**14 33 01.8**	**-0.1**
	2.6nm,1.0s,baz=204,slow=9.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**89.20**	**71**	P		**P**	**14 33 47.3**	**-0.6**
	0.4nm,0.7s,baz=225,slow=5.9,SNR=3.2							
MKAR	**Makanchi Array**	**163.27**	**67**	PKPab		**PKPab**	**14 41 45.0**	**+0.4**
	0.3nm,0.5s,baz=266,slow=4.3,SNR=7.0							

MEX 20 14:33:13.3±0.4, 17°.21N×101°.12W, h13km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.52**	**320**	*i* P		Pg	14 33 22.3	-1.2
ZIIG				*i* S		Sg	14 33 29.5	-1.0
CAIG	**El Cayaco**	**0.83**	**101**	*e*P		Pg	14 33 26.7	-2.7
CAIG				*i* S		Sg	14 33 37.5	-2.8
ACX	**Acapulco**	**1.25**	**105**	*i* P		Pn	14 33 28.9	-7.6
ACX				*i* S		Sb	14 33 43.5	-9.4
ARIG	**Puente Sto Nin**	**1.30**	**34**	*i* P		Pn	14 33 33.5	-3.8
ARIG				*i* S		Sb	14 33 49.1	-5.2
MEIG	**Mezcala**	**1.60**	**63**	*i* P		Pn	14 33 38.5	-3.0
MEIG				*i* S		Sn	14 33 58.0	-4.1
TLIG	**Tlapa**	**2.46**	**81**	*i* P		Pn	14 34 51.1	-2.2
TLIG				*i* S		Sn	14 34 18.7	-4.8
YAIG	**Yautepec**	**2.55**	**50**	*i* P		Pn	14 33 51.9	-2.8
YAIG				*i* S		Sn	14 34 22.3	-3.5

*ISCJB **20** 14:34:55.2±0.6, 25°.36S±0°.08×179°.8E±0°.1, h493km, mb3.7/11, Error ellipse: s-maj=16.5km s-min=10.3km az=12.4*
*IDC **20** 14:34:56.6±2.3, 25°.32S×179°.76E, h501km±23km, mb3.3/11, mb1 3.6/13, mb1mx3.5/19, mbtmp4.2/13, Error ellipse: s-maj=25.4km s-min=18.1km az=155.0*

ISC 20 14:34:55.7±0.7, 25°.4S±0°.1×179°.9E±0°.1, h493km, n24, σ1§01/23, mb3.7/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.74**	**282**	P		**P**	**14 37 43.6**	**+1.3**
	1.3nm,0.3s,baz=127,slow=20,SNR=9.9							
URZ	**Urewera**	**13.01**	**190**	P		**P**	**14 37 45.2**	**+0.4**
	3.1nm,0.3s,baz=250,slow=4.8,SNR=17							
URZ				S		**S**	**14 40 03.3**	**-0.9**
	0.6nm,0.3s,baz=180,slow=17,SNR=5.0							
STKA	**Stephens Creek**	**34.07**	**250**	P		**P**	**14 40 59.4**	**+1.2**
	1.1nm,0.4s,baz=97,slow=9.6,SNR=7.9							
ASAR	**Alice Springs**	**41.69**	**262**	P		**P**	**14 42 00.3**	**-0.4**
	0.8nm,0.4s,baz=91,slow=6.5,SNR=34							
WRA	**Warramunga Arr**	**42.21**	**268**	P		**P**	**14 42 03.8**	**-1.1**
	2.2nm,0.6s,baz=104,slow=7.9,SNR=29							
MJAR	**Matsushiro Arr**	**73.08**	**326**	P		**P**	**14 45 33.9**	**-1.3**
	1.2nm,0.7s,baz=152,slow=5.5,SNR=3.1							
KSRS	**Korea Array**	**79.34**	**320**	P		**P**	**14 46 09.8**	**+0.2**
	1.0nm,0.7s,baz=138,slow=6.2,SNR=5.2							
PETK	**Petropavlovsk-**	**80.55**	**347**	P		**P**	**14 46 15.3**	**-0.3**
	2.3nm,0.6s,baz=142,slow=7.4,SNR=5.6							
USRK	**Ussuriysk Ar.**	**81.98**	**327**	P		**P**	**14 46 22.6**	**-0.6**
	1.0nm,0.6s,baz=150,slow=6.0,SNR=3.6							
NVAR	**Mina Array Bea**	**85.93**	**44**	P		**P**	**14 46 44.1**	**+0.9**
	2.1nm,0.7s,baz=220,slow=8.5,SNR=9.8							
TXAR	**Lajitas Array**	**91.33**	**58**	P		**P**	**14 47 10.4**	**+1.9**
	1.6nm,0.8s,baz=217,slow=5.9,SNR=13							
ILAR	**Eielson Array**	**93.53**	**14**	P		**P**	**14 47 16.6**	**-1.0**
	0.5nm,0.6s,baz=224,slow=6.2,SNR=2.5							
PDAR	**Pinedale Array**	**93.86**	**44**	P		**P**	**14 47 20.1**	**+0.1**
	0.4nm,0.9s,baz=217,slow=4.1,SNR=3.7							
KURBB	**Kurchatov Arra**	**116.26**	**316**	PKP		**PKPdf**	**14 52 40.9**	**-1.3**
	0.7nm,0.8s,baz=75,slow=2.4,SNR=9.0							
AKTO	**Aktyubinsk**	**129.30**	**315**	PKP		**PKPdf**	**14 53 05.8**	**-1.5**
	0.6nm,0.6s,baz=76,slow=4.2,SNR=3.8							
ARCES	**ARCESS Array B**	**133.35**	**348**	PKhKP		PKPpre	14 53 05.6	
	5.3nm,1.1s,baz=11,slow=0.9,SNR=4.1							
ARCES				PKP		**PKPdf**	**14 53 14.7**	**+0.3**
	1.2nm,0.6s,baz=46,slow=2.6,SNR=7.9							
ARCES				SKPbc		**SKPbc**	**14 55 55.3**	**-0.9**
	1.1nm,0.7s,baz=25,slow=5.0,SNR=4.3							
FINES	**FINESS Array B**	**139.84**	**341**	PKhKP		PKPpre	14 53 18.2	
	0.7nm,0.5s,baz=62,slow=3.6,SNR=7.5							
FINES				PKP		**PKPdf**	**14 53 27.5**	**+0.9**
	0.5nm,0.4s,baz=49,slow=2.6,SNR=6.1							
NB2	**NORSAR Subarra**	**143.56**	**351**	PKP		PKPab	14 53 30.3	-1.4
	comp=Z,6.0nm,0.7s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**143.56**	**351**	PKP		PKPab	14 53 30.7	-1.0
	comp=Z,5.6nm,0.8s,baz=16,slow=5.0,SNR=22							
HFS	**Hagfors**	**144.01**	**348**	PKP		PKPbc	14 53 32.1	-1.1
	comp=Z,13nm,0.6s,baz=45,slow=2.7,SNR=49							
AKASG	**Malin Array Be**	**146.17**	**326**	PKPbc		**PKPdf**	**14 53 38.3**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=43,slow=4.4,SNR=12							
MMAI	**Mount Meron Ar**	**148.19**	**292**	PKPbc		**PKPbc**	**14 53 46.5**	**+0.4**
	comp=Z,2.6nm,0.4s,baz=74,slow=5.1,SNR=11							
BRTR	**Keskin Array B**	**148.38**	**305**	PKPbc		**PKPbc**	**14 53 45.3**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=66,slow=1.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**167.67**	**188**	PKPab		**PKPab**	**14 55 14.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=160,slow=4.4,SNR=5.0							

*MOS **20** 14:46:09.3±1.3, 49°.05N×150°.91E, h545km, mb4.4/1, Error ellipse: s-maj=99.9km s-min=13.7km az=55.9*

KRSC 20 14:46:16.7±2.4, 49°.49N×152°.25E, h556km±29km, ML4.5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**3.52**	**54**	P		P	14 47 35.5	+0.1
PAU	**Pauzhetka**	**3.52**	**54**	P		P	14 47 35.5	+0.1
ASAK	**Asacha**	**4.59**	**49**	P		P	14 47 45.1	+1.6
MTVR	**Mutnovka**	**4.79**	**49**	S		S	14 48 58.2	+0.5
RUS	**Russkaya**	**4.93**	**51**	P		P	14 47 47.5	+1.4
RUS				S		S	14 48 58.6	-0.7
RUS	**Russkaya**	**4.93**	**51**	P		P	14 47 47.5	+1.4
RUS				*e*S		S	14 48 58.6	-0.7
GNL	**Ganaly**	**5.50**	**38**	P		P	14 47 49.8	-1.3
GNL	**Ganaly**	**5.50**	**38**	P		P	14 47 49.8	-1.3
KOK	**Koryaka**	**5.51**	**44**	P		P	14 47 52.3	+1.1
KOK	**Koryaka**	**5.51**	**44**	P		P	14 47 52.3	+1.1
AVH	**Avacha**	**5.54**	**45**	P		P	14 47 53.6	+2.2
AVH	**Avacha**	**5.54**	**45**	P		P	14 47 53.6	+2.2
UGLR	**Uglovaya**	**5.55**	**45**	P		P	14 47 52.3	+0.8
KRX	**Arik**	**5.56**	**44**	P		P	14 47 52.6	+0.9
SMAR	**Somma**	**5.57**	**45**	P		P	14 47 52.9	+1.0
SMAR	**Somma**	**5.57**	**45**	P		P	14 47 52.9	+1.0
KRER	**Koryakskii**	**5.58**	**44**	P		P	14 47 53.6	+1.7
SDLR	**Sedlovina**	**5.62**	**45**	P		P	14 47 55.3	+3.1
SDLR	**Sedlovina**	**5.62**	**45**	P		P	14 47 55.3	+3.1
SPN	**Mys Shipunski**	**6.06**	**51**	P		P	14 47 57.1	+1.2
SPN				S		S	14 49 15.4	-2.0
SPN	**Mys Shipunski**	**6.06**	**51**	P		P	14 47 57.1	+1.2
SPN				*e*S		S	14 49 15.4	-2.0
TUMR	**Tumrok**	**7.54**	**37**	P		P	14 48 13.7	+3.7
TUMR	**Tumrok**	**7.54**	**37**	P		P	14 48 13.7	+3.7
MKZ	**Mys Kozlova**	**7.73**	**45**	P		P	14 48 14.2	+2.5
MKZ				S		S	14 49 44.3	-1.9
MKZ	**Mys Kozlova**	**7.73**	**45**	P		P	14 48 14.2	+2.5
MKZ				*e*S		S	14 49 44.3	-1.9
KBTR	**Krutoberegovo**	**9.27**	**39**	P		P	14 48 28.9	+1.9
KBTR	**Krutoberegovo**	**9.27**	**39**	P		P	14 48 28.9	+1.9

IDC 20 14:48:10.5±1.8, 37°.83S×74°.08W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.5/4, ML3.3/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/14, Error ellipse: s-maj=63.7km s-min=20.7km az=55.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**3.98**	**138**	Pn		Pn	14 49 13.9	+1.0
	0.5nm,0.3s,baz=313,slow=14,SNR=8.1							
PLCA				Lg		Lg	14 50 15.9	
	2.1nm,0.3s,baz=278,slow=11,SNR=3.3							
CPUP	**Villa Florida**	**18.21**	**56**	LR		LR	15 00 22.3	
	comp=Z,371nm,18.3s,baz=204,slow=40							
LPAZ	**La Paz**	**22.09**	**15**	P		P	14 53 08.0	-0.1
	2.0nm,0.8s,baz=208,slow=9.2,SNR=8.0							
ROSC	**El Rosal**	**42.47**	**360**	LR		LR	15 13 52.4	
	comp=Z,14nm,19.6s,baz=252,slow=36							
TXAR	**Lajitas Array**	**72.33**	**333**	P		P	14 59 37.7	-0.4
	0.4nm,0.7s,baz=155,slow=6.7,SNR=4.0							
NVAR	**Mina Array Bea**	**86.13**	**327**	P		P	15 00 53.7	+0.3
	0.3nm,0.7s,baz=152,slow=5.8,SNR=3.1							

IDC 20 14:58:39.4±1.8, 28°.50S×62°.64E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/26, mbtmp3.8/3, Error ellipse: s-maj=51.1km s-min=40.1km az=111.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MAW	**Mawson**	**39.13**	**180**	P		P	15 06 08.1	-0.1
	1.2nm,0.7s,baz=342,slow=6.4,SNR=3.2							
ASAR	**Alice Springs**	**63.34**	**104**	P		P	15 09 10.7	0.0
	0.7nm,0.7s,baz=244,slow=6.3,SNR=12							
WRA	**Warramunga Arr**	**65.11**	**100**	P		P	15 09 22.3	0.0
	0.4nm,0.6s,baz=248,slow=5.5,SNR=5.2							
YKA	**Yellowknife Ar**	**145.95**	**358**	PKPbc		PKPdf	15 18 19.3	-0.2
	0.5nm,0.6s,baz=348,slow=3.8,SNR=9.9							

*ISCJB **20** 15:00:27.5±0.4, 32°.70N±0°.02×115°.70W±0°.03, h12km±3km, Error ellipse: s-maj=3.9km s-min=3.5km az=153.3*
*NEIC **20** 15:00:28.8, 32°.63N×115°.73W, h12km, ML3.7(PAS), After PAS.*
*ECX **20** 15:00:29.5±0.6, 32°.65N×115°.75W, h3km, MD3.5, ML3.7*
*MEX **20** 15:00:30.7±0.8, 32°.47N×115°.58W, h16km±17km, MD3.7*

ISC 20 15:00:28.0±0.8, 32°.63N±0°.02×115°.71W±0°.02, h14km±6km, n34, σ1§25/54, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SGL	**Mount Signal**	**0.03**	**332**	⇓*i* P		**Pg**	**15 00 30.4**	**-0.2**
YUH	**Yuha Desert**	**0.18**	**277**	⇑*i* P		**Pg**	**15 00 32.4**	**+0.1**
COK	**Cook Ranch**	**0.22**	**356**	*e*P		**Pg**	**15 00 33.4**	**+0.5**
RMX	**La Rumorosa**	**0.31**	**266**	*e*P		**Pg**	**15 00 34.7**	**+0.2**
RMX				*e*S		**Sg**	**15 00 39.2**	**+0.2**
CRR	**Carrizo Plain**	**0.34**	**320**	⇓*i* P		**Pg**	**15 00 35.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.40**	**121**	*e*P		**Pb**	**15 00 37.4**	**+0.6**
CPBX				*e*P		**Pb**	**15 00 37.4**	**+0.6**
CPBX				*e*S		**Sb**	**15 00 44.2**	**+1.4**
CPBX				*e*S		**Sn**	**15 00 44.4**	**-2.1**
CPBX				AML		AML	15 00 49.1	
	comp=E,14μm,0.3s							
CPBX				⇑*e*			15 00 49.1	
CPBX				⇓*e*			15 00 51.9	
CPBX				AML		AML	15 00 51.9	
	comp=N,14μm,

BUC 20 15:11:04.5±1.0, 44°33N×28°37E, h15km, MD1.9/3, 6C-2D, Error ellipse: s-maj=8.4km s-min=1.2km az=110.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVD	Cernavoda	0.25	266	⇑iP	Pb	15 11 10.4	-0.2
CVD				*i* S	Sb	15 11 14.7	-0.1
CVD	Cernavoda	0.25	266	⇑iP	Pb	15 11 10.4	-0.2
CVD				S	Sb	15 11 14.7	-0.1
TLB	Topalu	0.35	317	⇑iP	Pg	15 11 12.0	+0.4
TLB	Topalu	0.35	317	⇑iP	Pg	15 11 12.0	+0.4
HARR	Harsova	0.48	319	⇑iP	Pg	15 11 14.1	+0.1
HARR	Harsova	0.48	319	⇑iP	Pg	15 11 14.1	+0.1
CFR	Carcaliu	0.86	349	⇓iP	Pb	15 11 21.2	0.0
CFR	Carcaliu	0.86	349	⇓iP	Pb	15 11 21.2	0.0

IDC 20 15:12:36.5±523.0, 48°62N×44°64E, h0km, Error ellipse: s-maj=187.1km s-min=159.3km az=26.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	8.90	73	*i*		16 07 07.7	
	baz=264,slow=324,SNR=3.5						
I43RU	DUBNA INFRASON	9.28	334	*i*		16 10 50.0	
	baz=149,slow=323,SNR=0.3						
I46RU	ZALESOVO INFRA	25.43	63	*i*		17 48 50.0	
	baz=275,slow=323,SNR=1.9						

IDC 20 15:18:34.1±3.5, 5°90S×151°17E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/27, mbtmp3.3/2, Error ellipse: s-maj=135.0km s-min=48.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.51	228	P	P	15 23 25.0	+0.1
	0.5nm,0.4s,baz=54,slow=11,SNR=10						
ASAR	Alice Springs	24.25	221	P	P	15 23 53.5	+0.3
	0.6nm,0.7s,baz=59,slow=9.5,SNR=13						
TORD	Torodi Ar. Bea	149.07	286	PKPbc	PKPbc	15 38 24.6	-0.9
	0.7nm,0.6s,baz=67,slow=2.9,SNR=5.8						

*IDC **20** 15:28:50.8±1.1, 14°65N×120°49E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/37, mbtmp3.6/6, MS3.0/3, Ms1 3.0/3, ms1mx2.6/30, Error ellipse: s-maj=56.4km s-min=17.8km az=62.0*
*MAN **20** 15:28:54, 14°68N×119°90E, h31km, mb4.8, ML3.7, MS3.8*
*ISCJB **20** 15:28:55.5±0.7, 14°70N±0°03×119°99E±0°08, h33km±12km, mb3.6/5, MS2.8/3, Error ellipse: s-maj=12.8km s-min=4.9km az=171.6*

ISC 20 15:28:55.0±2.3, 14°68N±0°04×119°96E±0°08, h31km±19km, n23, σ1°67/24, mb3.8/5, MS2.9/3, 2C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.98	163	*e*P	Pn	15 29 12.2	-0.6
LUBP				*e*S	Sb	15 29 25.4	-0.7
SCZP	Santa Cruz	1.09	358	*e*P	Pn	15 29 13.3	-1.0
SCZP				*e*S	Sn	15 29 25.7	-2.6
TGY	Tagaytay City	1.11	121	⇑iP	Pn	15 29 15.5	+1.0
TGY				*i* S	Sn	15 29 29.6	+0.8
PCPH	Palayan	1.41	51	⇓iP	Pn	15 29 18.2	-0.3
PCPH				*e*S	Sn	15 29 34.3	-1.8
PGP	Puerto Galera	1.52	140	⇓*e*P	Pn	15 29 20.6	+0.5
BOLP	Bolinao	1.69	359	*e*P	Pn	15 29 22.7	+0.2
BOLP				*e*S	Sn	15 29 42.8	-0.4
BCPH	Baguio City Da	1.80	19	⇑*i*P	Pn	15 29 24.6	+0.5
BALP	Baler	1.89	56	*e*P	Pn	15 29 25.8	+0.6
SJMP	San Jose	2.48	153	*e*P	Pn	15 29 35.4	+2.1
SJMP				*e*S	Sn	15 29 59.5	-3.0
BUSP	Coron	2.67	175	*e*P	Pn	15 29 37.5	+1.5
ABRA	Dolores	3.04	14	*e*P	Pn	15 29 42.7	+1.7
OTRP	Odiongan	3.05	139	*e*P	Pn	15 29 42.5	+1.2
APYP	Conner	3.40	21	*e*P	Pn	15 29 48.6	+2.6
PIP	Pasuquin	3.68	10	⇓*i*P	Pn	15 29 53.3	+3.4
CUYO	Cuyo Island	3.94	165	*e*P	Pn	15 29 54.3	+0.8
CMAR	Chiang Mai Arr	20.49	283	P	Pn	15 33 36.4	+3.5
	1.6nm,0.9s,baz=91,slow=9.4,SNR=13						
JNU	Nakatsue	20.87	26	LR	LR	15 42 42.6	
	comp=Z,47nm,19.0s,baz=210,slow=40						
KSRS	Korea Array	23.76	16	LR	LR	15 43 02.8	
	comp=Z,17nm,20.4s,baz=15,slow=36						
SONM	Songino Array	34.92	344	P	P	15 35 47.0	+2.8
	0.4nm,0.6s,baz=163,slow=9.5,SNR=5.7						
WRA	Warramunga Arr	37.20	157	P	**P**	15 36 01.7	**-2.0**
	0.6nm,0.4s,baz=335,slow=9.4,SNR=18						
ASAR	Alice Springs	40.48	160	P	**P**	15 36 30.0	**-1.2**
	0.7nm,0.4s,baz=335,slow=7.2,SNR=30						
MKAR	Makanchi Array	44.82	323	P	**P**	15 37 08.9	**+2.6**
	0.4nm,0.8s,baz=117,slow=9.7,SNR=5.4						
ZALV	Zalesovo Beam	47.86	333	P	**P**	15 37 31.4	**+1.4**
	0.3nm,0.3s,baz=140,slow=7.6,SNR=3.1						
ZALV				LR	LR	16 00 29.2	
	comp=Z,21nm,19.3s,baz=72,slow=39						

*ATH **20** 15:30:25.8, 40°88N×27°34E, h23km±2km, MD3.5/8*
*ISK **20** 15:30:25.7, 40°76N×27°35E, h4km, ML3.1*
*CSEM **20** 15:30:26.5±0.1, 40°76N×27°34E, h5km, ML3.4, Error ellipse: s-maj=3.3km s-min=2.5km az=167.0*
*DDA **20** 15:30:26.6, 40°75N×27°34E, h9km, ML3.4*
*SOF **20** 15:30:32.0, 40°98N×27°09E, h2km, MD2.7*
*SKO **20** 15:30:44.7, 41°06N×26°61E, h22km*

ISC 20 15:30:26.2±0.9, 40°81N±0°01×27°34E±0°01, h7km±7km, n145, σ0°94/178, 5C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	Tekirdag	0.17	225	*i* P	Pg	15 30 29.4	-0.3
SART				*i* S	Sg	15 30 32.2	+0.1
SART	Tekirdag	0.17	225	*i* P	Pg	15 30 29.4	-0.3
SART				*i* S	Sg	15 30 32.2	+0.1
RKY	Sarkoy-Tekirda	0.17	225	PG	Pg	15 30 29.4	-0.4
RKY				*e*SG	Sg	15 30 32.0	-0.2
RKY	Sarkoy-Tekirda	0.17	225	*i* Pg	Pg	15 30 29.4	-0.4
RKY				*e*Sg	Sg	15 30 32.0	-0.2
TKR	Tekirdag	0.23	40	*e*PG	Pg	15 30 31.9	+1.1
TKR	Tekirdag	0.23	40	*e*Pg	Pg	15 30 31.9	+1.1
MRMT	Marmara Adasi	0.28	137	PG	Pg	15 30 31.1	-0.7
MRMT				*e*SG	Sg	15 30 35.1	-0.5
MRMT	Marmara Adasi	0.28	137	*i* Pg	Pg	15 30 31.1	-0.7
MRMT				*e*Sg	Sg	15 30 35.1	-0.5
KRBG	Karabiga-Canak	0.42	184	*e*PG	Pg	15 30 33.5	-0.8
KRBG	Karabiga-Canak	0.42	184	*e*Pg	Pg	15 30 33.5	-0.8
CRLT	Corlu	0.44	43	*e*PG	Pb	15 30 35.5	-0.8
CRLT	Corlu	0.44	43	*e*Pg	Pb	15 30 35.5	-0.8
EDC	Edincik	0.61	139	*e*PG	Pg	15 30 37.3	-0.7
EDC	Edincik	0.61	139	*e*Pg	Pg	15 30 37.3	-0.7
LPK	Lapseki	0.62	225	*e*PG	Pg	15 30 37.7	-0.5
LPK	Lapseki	0.62	225	*e*Pg	Pg	15 30 37.7	-0.5
ERIK	Erikli-Kesan	0.64	258	*e*PG	Pg	15 30 38.7	+0.1
ERIK				*e*SG	Sb	15 30 48.4	-0.6
ERIK	Erikli-Kesan	0.64	258	*e*Pg	Pg	15 30 38.7	+0.1
ERIK				*e*Sg	Sb	15 30 48.4	-0.6
GELI	Tayfur-Gelibol	0.78	238	*e*PG	Pg	15 30 40.8	-0.4
GELI	Tayfur-Gelibol	0.78	238	*e*Pg	Pg	15 30 40.8	-0.4
SLVT	Silivri	0.78	57	*e*PG	Pb	15 30 42.0	-0.1
SLVT	Silivri	0.78	57	*e*Pg	Pb	15 30 42.0	-0.1
SLVT	Silivri	0.78	57	*i* P	Pb	15 30 42.2	+0.1
SLVT				*i* S	Sg	15 30 50.0	-1.3
PHSR	Pinarhisar	0.83	10	*e*PG	Pb	15 30 43.1	+0.2
PHSR	Pinarhisar	0.83	10	*e*Pg	Pb	15 30 43.2	+0.2
ELBA	Catalca	0.89	68	*i* P	Pn	15 30 45.9	+0.7
ELBA				*i* S	Sn	15 30 57.9	-0.5
ELBA	Catalca	0.89	68	*i* P	Pn	15 30 45.9	+0.7
ELBA				*i* S	Sn	15 30 57.9	-0.5
ENEZ	Enez	0.91	266	*e*PG	Pg	15 30 43.7	+0.1
ENEZ	Enez	0.91	266	*e*Pg	Pg	15 30 43.7	+0.1
KCTX	Karacabey (Bur	0.95	125	*e*PG	Pg	15 30 43.7	-0.7
KCTX	Karacabey (Bur	0.95	125	*e*Pg	Pg	15 30 43.7	-0.7
CTYL	Yal??k??y-??at	0.98	47	*e*PG	Pg	15 30 44.7	-0.2
CTYL	Yal??k??y-??at	0.98	47	*e*Pg	Pg	15 30 44.7	-0.2
CTKS	Kestanelik-??a	0.98	64	*e*PG	Pb	15 30 45.5	0.0
CTKS	Kestanelik-??a	0.98	64	*e*Pg	Pb	15 30 45.5	0.0
ALN	Alexandroupoli	0.98	275	*e*Pn	Pg	15 30 45.1	0.0
ALN	Alexandroupoli	0.98	275	*e*Pn	Pg	15 30 44.7	-0.4
ALN				*e*Sn	Sb	15 30 58.5	-0.3
ALN	Alexandroupoli	0.98	275	*e*Pn	Pg	15 30 44.7	-0.4
ALN	Alexandroupoli	0.98	275	*e*Pg	Pg	15 30 45.1	0.0
ALN				*e*Sn	Sb	15 30 58.5	-0.3
EDRB	Edirne	1.13	337	*e*PN	Pn	15 30 48.9	+0.5
EDRB	Edirne	1.13	337	*e*Pn	Pn	15 30 48.9	+0.5
BGKT	Bogazkoy	1.15	71	*e*PN	Pn	15 30 48.5	-0.2
BGKT	Bogazkoy	1.15	71	*e*Pn	Pn	15 30 48.5	-0.2
ARMT	Armutlu	1.18	102	*e*PN	Pg	15 30 48.6	-0.3
ARMT	Armutlu	1.18	102	*e*Pn	Pg	15 30 48.6	-0.3
BALB	Balikesir	1.24	160	*e*PN	Pb	15 30 49.3	-0.6
BALB	Balikesir	1.24	160	*e*Pn	Pb	15 30 49.3	-0.6
EZN	Ezine	1.25	219	*e*PN	Pn	15 30 49.4	-0.7
EZN	Ezine	1.25	219	*e*Pn	Pn	15 30 49.4	-0.7
MDNY	Mudanya-Bursa	1.26	110	*e*PN	Pn	15 30 49.8	-0.4
MDNY	Mudanya-Bursa	1.26	110	*e*Pn	Pn	15 30 49.8	-0.4
ISK	Istanbul-Kandi	1.33	78	*e*PN	Pg	15 30 51.7	+0.1
ISK	Istanbul-Kandi	1.33	78	*e*Pn	Pg	15 30 51.7	+0.1
BUY	Buyukada	1.35	88	*i* P	Pn	15 30 50.5	-1.0
BUY				*i* S	Sn	15 31 09.8	+0.2
BUY	Buyukada	1.35	88	*i* P	Pn	15 30 50.5	-1.0
BUY				*i* S	Sn	15 31 09.8	+0.2
KLYT	Kilyos	1.36	71	*e*PN	Pg	15 30 52.1	-0.2
KLYT	Kilyos	1.36	71	*e*Pn	Pg	15 30 52.1	-0.2
BOZC	Bozcaada	1.38	226	*i* P	Pn	15 30 51.7	-0.2
BOZC				*i* S	Sg	15 31 11.2	+0.6
RDO	Rodhopi	1.41	284	*e*PN	Pn	15 30 52.3	+0.1
RDO				*e*SN	Sb	15 31 10.6	-0.3
RDO	Rodhopi	1.41	284	*e*Pn	Pn	15 30 52.3	+0.1
RDO				*e*Sn	Sb	15 31 10.6	-0.3
SMTH	Samothraki Isl	1.42	257	*e*PN	Pn	15 30 51.7	-0.7
SMTH				*e*SN	Sb	15 31 10.9	-0.4
SMTH	Samothraki Isl	1.42	257	*e*Pn	Pn	15 30 51.7	-0.7
SMTH				*e*Sn	Sb	15 31 10.9	-0.4
GEMT	Gemlik	1.46	104	*e*PN	Pn	15 30 53.1	+0.2
GEMT	Gemlik	1.46	104	*e*Pn	Pn	15 30 53.2	+0.2
ULDT	Uludag	1.52	115	*i* P	Pb	15 30 55.3	+0.4
ULDT				*i* S	Sb	15 31 15.0	+0.5
ULDT	Uludag	1.52	115	*i* P	Pb	15 30 55.3	+0.4
ULDT				*i* S	Sb	15 31 15.0	+0.5
AYVA	Ayvalik	1.58	199	*i* P	Pn	15 30 55.2	+0.5
AYVA				*i* S	Sg	15 31 16.8	-0.2
AYVA	Ayvalik	1.58	199	*i* P	Pn	15 30 55.2	+0.5
AYVA				*i* S	Sg	15 31 16.8	-0.2
KDZ	Kurdzhali	1.68	301	⇑*i*P	Pg	15 30 58.6	+0.3
KDZ	Kurdzhali	1.68	301	⇑*i*P	Pg	15 30 58.6	+0.3
KDZ				S	Sn	15 31 18.0	+0.3
IZI	Iznik	1.69	106	*e*PN	Pn	15 30 56.6	+0.3
IZI	Iznik	1.69	106	*e*Pn	Pn	15 30 56.6	+0.3
JMB	Yambol	1.75	341	⇓*i*P	Pg	15 30 59.2	-0.5
JMB	Yambol	1.75	341	P	Pg	15 31 10.4	+0.7
JMB	Yambol	1.75	341	⇓*i*P	Pg	15 30 59.2	-0.5
JMB				S	Sg	15 31 22.9	+0.5
PRK	Paraskevi	1.77	208	*e*PB	Pn	15 30 57.3	+0.1
PRK				*e*SN	Sb	15 31 21.4	+0.2
PRK	Paraskevi	1.77	208	*e*Pb	Pn	15 30 57.3	+0.1
PRK				*e*Sn	Sb	15 31 21.4	+0.2
HRT	Hereke	1.77	89	*e*PN	Pn	15 30 57.9	+0.6
HRT	Hereke	1.77	89	*e*Pn	Pn	15 30 57.9	+0.6
SILT	Sile	1.78	78	*e*PN	Pn	15 30 57.9	+0.6
SILT	Sile	1.78	78	*e*Pn	Pn	15 30 57.9	+0.6
DIM	Dimitrovgrad	1.84	313	P	Pg	15 31 00.8	-0.6
DIM	Dimitrovgrad	1.84	313	P	Pg	15 31 00.8	-0.6
ADVT	Abdulvahap	1.86	101	*e*PN	Pn	15 30 59.0	+0.5
ADVT	Abdulvahap	1.86	101	*e*Pn	Pn	15 30 59.0	+0.5
LIA	Limnos Island	1.88	242	*e*PB	Pn	15 30 58.9	+0.1
LIA	Limnos Island	1.88	242	*e*Pb	Pn	15 30 58.9	+0.1
SIGR	SIGRI	1.96	216	*e*PN	Pn	15 31 01.5	+1.1
SIGR	SIGRI	1.96	216	*e*PN	Pn	15 31 00.5	+0.6
SIGR				*e*SN	Sb	15 31 26.8	-0.1
SIGR	SIGRI	1.96	216	*e*Pn	Pn	15 31 00.5	+0.6
SIGR				*e*Sn	Sb	15 31 26.8	-0.1
AKS	Akhisar	1.96	169	*e*PN	Pn	15 31 00.2	+0.2
AKS	Akhisar	1.96	169	*e*Pn	Pn	15 31 00.2	+0.2
DEMI	Demirci	2.06	149	*i* S	Sn	15 31 27.1	-0.2
DEMI	Demirci	2.06	149	*i* P	Pg	15 31 05.3	-0.4
DEMI				*i* S	Sn	15 31 27.1	-0.2
TVSB	Tavsanli	2.12	129	*e*PN	Pn	15 31 02.4	+0.2
TVSB	Tavsanli	2.12	129	*e*Pn	Pn	15 31 02.4	+0.2
KAVA	Kavala	2.15	276	*e*PB	Pn	15 31 02.9	+0.4
KAVA	Kavala	2.15	276	*e*Pb	Pn	15 31 02.9	+0.4
RZN	Rozhen	2.16	295	*i* P	Pb	15 31 06.4	+0.6
RZN	Rozhen	2.16	295	*i* P	Pb	15 31 06.4	+0.6
GDZ	Gediz	2.38	136	*i* P	Pb	15 31 10.8	+1.3
GDZ				*i* S	Sb	15 31 41.3	+2.2
PRD	Provadia	2.39	1	*i* P	Pg	15 31 10.6	-1.3
PRD	Provadia	2.39	1	*i* P	Pg	15 31 10.6	-1.3
IZM	Izmir	2.41	181	*e*PN	Pn	15 31 06.7	+0.6
IZM	Izmir	2.41	181	*e*Pn	Pn	15 31 06.7	+0.6
BLCB	Balcova	2.44	186	*e*PN	Pn	15 31 06.7	+0.3
BLCB	Balcova	2.44	186	*e*Pn	Pn	15 31 06.7	+0.3
GULT	Gulveren	2.45	98	*e*PN	Pn	15 31 07.3	+0.7
GULT	Gulveren	2.45	98	*e*Pn	Pn	15 31 07.3	+0.7
MANT	Manisa	2.50	158	*i* S	Sn	15 31 38.5	+0.1
MANT	Manisa	2.50	158	*i* P	Pg	15 31 14.2	+0.1
MANT				*i* S	Sn	15 31 38.5	+0.1
KULA	Kula-Manisa	2.51	156	*e*PN	Pn	15 31 07.5	0.0
KULA	Kula-Manisa	2.51	156	*e*Pn	Pn	15 31 07.5	0.0
OUR	Ouranopolis	2.60	261	*e*PN	Pn	15 31 10.4	+1.8
OUR	Ouranopolis	2.60	261	*e*Pn	Pn	15 31 10.4	+1.8
CHOS	Chios island	2.62	203	*e*PN	Pn	15 31 09.8	+0.8
CHOS	Chios island	2.62	203	*e*Pn	Pn	15 31 09.8	+0.8
NVR	Nevrokopi	2.68	283	*e*PB	Pn	15 31 11.1	+1.3
NVR	Nevrokopi	2.68	283	*e*Pb	Pn	15 31 11.1	+1.3
ALT	Altintas	2.76	129	*e*PN	Pn	15 31 11.5	+0.5
ALT	Altintas	2.76	129	*e*Pn	Pn	15 31 11.5	+0.5
MMB	Musomiste	2.83	287	⇓*i*P	Pb	15 31 16.9	-0.2
MMB	Musomiste	2.83	287	*i* P	Pb	15 31 18.4	+1.3
MMB	Musomiste	2.83	287	⇓*i*P	Pb	15 31 16.9	-0.2
MMB				S	Sn	15 31 45.8	-0.5
AYDB	Zeytinkoy-Aydi	2.89	171	*e*PN	Pn	15 31 13.5	+0.7
AYDB	Zeytinkoy-Aydi	2.89	171	*e*Pn	Pn	15 31 13.5	+0.7
PSN	Preselentsi	2.94	12	S	Sg	15 32 01.7	+1.2
MSAB	Monastry St. A	3.30	6	⇓*i*P	Pg	15 31 29.4	+0.1
MSAB	Monastry St. A	3.30	6	S	Sb	15 32 08.2	+2.9
KKB	Krupnik	3.37	290	*i* P	Pb	15 31 28.1	+1.8
VTS	Vitosha	3.57	301	⇑*i*P	Pb	15 31 27.8	-1.9
VTS	Vitosha	3.57	301	S	Sn	15 32 04.5	-0.1
VTS	Vitosha	3.57	301	*i* P	Pb	15 31 30.3	+0.6
VTS	Vitosha	3.57	301	S	Sn	15 32 04.5	-0.1
VAV	Valandovo	3.64	280	*i* Pn	Pb	15 31 31.8	+2.2
VAV				*i* Sg	Sg	15 32 22.7	-0.4
VAY				*e*Lg	Lg	15 32 28.7	
	comp=E,17nm,0.8s						
VAY				*e*Lg	Lg	15 32 30.5	
	comp=N,90nm,1.7s						
VAV	Valandovo	3.64	280	*i* Pn	Pb	15 31 33.1	+2.2
VAY				*e*Lg	Lg	15 32 30.5	
	comp=N,90nm,1.7s						
VAV	Valandovo	3.64	280	*i* Sg	Sg	15 32 22.7	-0.4
TLB	Topalu	3.81	8	⇑*i*P	Pg	15 31 36.9	-2.2
TLB	Topalu	3.81	8	S	Sb	15 32 22.9	+2.9
ISR	Istrita	4.34	353	⇑*i*P	Pg	15 31 46.7	-2.7
ISR	Istrita	4.34	353	S	Sb	15 32 35.8	+0.3
MLR	Muntele Rosu	4.79	348	⇓*i*P	Pn	15 31 42.4	+3.6
MLR	Muntele Rosu	4.79	348	S	Sb	15 32 44.1	-4.2
MLR	Muntele Rosu	4.79	348	⇓*i*P	Pn	15 31 42.4	+3.6
VOIR		4.92	341	S	Sb	15 32 46.5	-5.5

*ISCJB **20** 15:30:34.5±0.5, 37°84N±0°03×22°07E±0°04, h11km±5km, Error ellipse: s-maj=4.7km s-min=4.3km az=22.8*
*ATH **20** 15:30:34.7, 37°83N×22°09E, h10km±2km, MD3.0/11*
*CSEM **20** 15:30:34.3±0.1, 37°84N×22°09E, h11km±1km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.2km az=97.0*
*THE **20** 15:30:35.0, 37°83N×22°07E, h2km±25km, ML2.2/3, Error ellipse: s-maj=25.8km s-min=0.5km az=77.0*

ISC 20 15:30:34.7±0.9, 37°84N±0°02×22°08E±0°02, h12km±8km, n31, σ0°39/51, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	Kalavryta, Ach	0.21	15	P	Pg	15 30 39.2	-0.2
KLV				S	Sg	15 30 42.8	+0.2
KLV	Kalavryta, Ach	0.21	15	*e*PG	Pg	15 30 39.2	-0.2
KLV				*e*SG	Sg	15 30 42.8	+0.2
KLV	Kalavryta, Ach	0.21	15	P	Pg	15 30 39.2	-0.2
KLV				S	Sg	15 30 42.8	+0.2
GUR	Goura	0.23	64	P	Pg	15 30 39.5	-0.1
GUR				S	Sg	15 30 42.7	-0.3
GUR	Goura	0.23	64	*e*PG	Pg	15 30 39.5	-0.1
GUR				*e*SG	Sg	15 30 42.7	-0.3
GUR	Goura	0.23	64	P	Pg	15 30 39.5	-0.1
GUR				S	Sg	15 30 42.7	-0.3
DRO	Drossia	0.32	292	P	Pg	15 30 40.8	-0.3
DRO				S	Sg	15 30 46.0	+0.6
DRO	Drossia	0.32	292	*e*PG	Pg	15 30 40.8	-0.3
DRO				*e*SB	Sg	15 30 46.1	+0.6
DRO	Drossia	0.32	292	P	Pg	15 30 40.8	-0.3
DRO				S	Sg	15 30 46.0	+0.6
AMT	Artemida-Makis	0.42	224	P	Pg	15 30 43.0	0.0
AMT				S	Sg	15 30 48.9	+0.2
AMT	Artemida-Makis	0.42	224	*e*PB	Pg	15 30 43.1	0.0
AMT	Artemida-Makis	0.42	224	P	Pg	15 30 43.0	0.0
AMT				S	Sg	15 30 48.9	+0.2
RLS	Riolos of Patr	0.53	295	P	Pg	15 30 44.3	-0.8
RLS				S	Sg	15 30 52.5	+0.3
RLS	Riolos of Patr	0.53	295	*e*PB	Pg	15 30 44.3	-0.8
RLS				*e*SB	Sg	15 30 52.6	+0.3
RLS	Riolos of Patr	0.53	295	P	Pg	15 30 44.3	-0.8
RLS				S	Sg	15 30 52.5	+0.3
KALE	Kalithea	0.56	5	P	Pg	15 30 45.6	0.0
KALE				S	Sb	15 30 54.0	-0.4
KALE	Kalithea	0.56	5	P	Pg	15 30 45.6	0.0
KALE				S	Sb	15 30 54.0	-0.4
EFP	Efpalio	0.61	347	P	Pg	15 30 46.4	0.0
EFP				S	Sg	15 30 55.2	+0.7
EFP	Efpalio	0.61	347	*e*PB	Pg	15 30 46.5	0.0
EFP	Efpalio	0.61	347	*e*Pb	Pg	15 30 46.5	0.0
EFP				S	Sg	15 30 55.2	+0.7
ITM	Ithomi	0.67	191	P	Pg	15 30 47.4	-0.2
ITM				S	Sb	15 30 57.6	+0.1
ITM	Ithomi	0.67	191	*e*PB	Pg	15 30 47.4	-0.2
ITM	Ithomi	0.67	191	P	Pg	15 30 47.4	-0.2
ITM				S	Sb	15 30 57.6	+0.1
DSF	Desfina	0.67	31	*e*PB	Pg	15 30 47.8	0.0
DSF	Desfina	0.67	31	*e*Pb	Pg	15 30 47.8	0.0
PYL	PYLOS	0.98	196	*e*PB	Pg	15 30 53.1	-0.4
PYL	PYLOS	0.98	196	*e*Pb	Pg	15 30 53.1	-0.4
PDO	Prodromos	1.04	317	*e*PG	Pg	15 30 54.1	-0.6
PDO	Prodromos	1.04	317	*e*Pg	Pg	15 30 54.1	-0.6
VLI	Veliai	1.31	148	*e*PB	Pb	15 30 59.4	+0.2
VLI	Veliai	1.31	148	*e*Pb	Pb	15 30 59.4	+0.2

SJA 20 16:09:37.7±1.0, 34°89S×68°47W, h70km±12km, ML3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	Agrelo	1.83	350	*i* P	Pn	16 10 09.0	+1.8
AAGR				*i* P	Pn	16 10 09.0	+1.8
AAGR				*i* S	Sn	16 10 32.2	+2.6
ARCO	CERRO ARCO	2.08	349	*i* P	Pn	16 10 12.3	+1.6
ARCO				*i* S	Sn	16 10 37.5	+1.7
ARCO				AML	AML	16 10 38.9	
	comp=Z,312nm,0.3s						
ASAL	Salagasta	2.31	352	*i* P	Pn	16 10 16.2	+2.5
ASAL				*i* S	Sn	16 10 43.3	+2.1
AUSP	Uspallata	2.77	344	*i* P	Pn	16 10 21.9	+1.7
AUSP				*i* S	Sn	16 10 56.2	+3.4
RTLS	Leoncito	3.16	347	*i* P	Pn	16 10 28.0	+2.5
RTLS				*i* S	Sn	16 11 05.2	+3.0

*ISCJB **20** 16:20:02.1±0.2, 17°93S±0°07×178°56W±0°05, h579km, mb4.4/68, Error ellipse: s-maj=10.0km s-min=4.4km az=150.2*
*IDC **20** 16:20:03.0±1.8, 17°91S×178°55W, h575km±20km, mb3.7/15, mb1 4.0/16, mb1mx3.9/28, mbtmp4.6/16, Error ellipse: s-maj=17.9km s-min=10.8km az=139.0*
*BJI **20** 16:20:03.0, 18°06S×178°52W, h606km, mB4.7/8, mb4.5/15*
*NEIC **20** 16:20:04.4±0.6, 17°84S×178°62W, h594km±7km, mb4.5/48, Error ellipse: s-maj=11.5km s-min=5.3km az=148.0*

**ISC 20 16:20:03.0±0.5, 17°89S±0°09×178°50W±0°08, h579km, n139, σ1°04/143

	baz=56,SNR=11								
SOEI	**Soe**	**55.98**	**270**	*e*P		**P**	**16 28 48.8**	**+0.8**
	68nm,0.6s								
TNTI	**Ternate**	**56.37**	**283**	*e*P		**P**	**16 28 50.9**	**+0.3**
	76nm,0.9s								
MEEK	**Meekatharra**	**58.36**	**249**	P		**P**	**16 29 03.0**	**-1.0**
	baz=59,SNR=13								
NWAO	**Narrogin (SRO)**	**59.14**	**242**	P		**P**	**16 29 08.6**	**-0.5**
	baz=59,SNR=8.3								
BLDU	**Ballidu**	**59.71**	**245**	P		**P**	**16 29 11.9**	**-1.0**
	baz=60,SNR=22								
LUWI	**Luwuk**	**60.02**	**279**	P		**P**	**16 29 15.8**	**+0.7**
	baz=60,SNR=4.5								
MORW	**Morawa**	**60.41**	**246**	P		**P**	**16 29 16.7**	**-0.8**
	baz=61,SNR=12								
SBA	**Scott Base**	**60.43**	**184**	*e*P		**P**	**16 29 17.9**	**+1.2**
VNDA	**Vanda**	**60.46**	**185**	P		**P**	**16 29 17.2**	**+0.3**
	0.6nm,0.6s,baz=351,slow=6.9,SNR=8.3								
GIRL	**Giralia**	**62.82**	**253**	P		**P**	**16 29 34.0**	**+0.7**
	baz=63,SNR=7.8								
MJAR	**Matsushiro Arr**	**67.84**	**323**	P		**P**	**16 30 04.3**	**-0.1**
	2.4nm,0.5s,baz=153,slow=5.7,SNR=9.6								
MAT	**Matsushiro**	**67.84**	**323**	P		**P**	**16 30 04.3**	**0.0**
UGM	**Wanagama**	**69.56**	**268**	P		**P**	**16 30 15.0**	**-0.2**
	baz=70,SNR=29								
SSLB	**Suanglung**	**72.15**	**303**	*e*P		**P**	**16 30 28.6**	**-1.6**
	11nm,0.4s								
QSPA	**South Pole Qui**	**72.17**	**180**	*e*P		**P**	**16 30 29.1**	**-0.5**
	12nm,1.2s								
KSM	**Kuching**	**72.59**	**277**	P		**P**	**16 30 33.7**	**+0.7**
	baz=73,SNR=56								
KSM	**Kuching**	**72.59**	**277**	*e*P		**P**	**16 30 33.1**	**+0.2**
	42nm,0.8s								
PETK	**Petropavlovsk-**	**73.64**	**345**	P		**P**	**16 30 38.3**	**+0.3**
	5.0nm,0.6s,baz=126,slow=7.9,SNR=26								
KSRS	**Korea Array**	**74.63**	**318**	P		**P**	**16 30 45.0**	**+1.1**
	1.1nm,0.7s,baz=128,slow=6.5,SNR=5.1								
USRK	**Ussuriysk Ar.**	**76.55**	**326**	P		**P**	**16 30 56.0**	**+1.6**
	0.8nm,0.6s,baz=159,slow=6.2,SNR=3.9								
KIPM	**Iron Peak**	**76.95**	**40**	P		**P**	**16 30 58.1**	**+1.3**
MWC	**Mount Wilson**	**77.39**	**48**	*e*P		**P**	**16 30 59.9**	**+0.4**
	4.3nm,0.6s								
NJ2	**Nanjing**	**77.86**	**310**	*e*P		**P**	**16 31 00.1**	**-1.7**
NJ2					PMZ				
	20nm,1.0s								
CMB	**Columbia Colle**	**77.89**	**43**	*e*P		**P**	**16 31 02.3**	**+0.5**
	12nm,0.9s								
YBH	**Yreka Blue Hor**	**78.56**	**39**	*e*P		**P**	**16 31 06.4**	**+0.9**
	18nm,1.2s								
WAKR	**Walker**	**78.77**	**43**	*e*P		**P**	**16 31 07.2**	**+0.5**
	20nm,1.1s								
HUMO	**Hull Mountain**	**78.94**	**38**	*e*P		**P**	**16 31 08.0**	**+0.7**
	18nm,1.1s								
QIZ	**Qiongzhong**	**79.36**	**294**	P		P	16 31 06.3	-3.8
QIZ				S		**S**	**16 40 22.6**	**-1.8**
QIZ					PMZ				
	14nm,1.5s								
NVAR	**Mina Array Bea**	**79.47**	**44**	P		**P**	**16 31 11.2**	**+0.7**
	9.0nm,0.8s,baz=224,slow=8.7,SNR=59								
LDFC	**Landfair**	**79.91**	**48**	*e*P		**P**	**16 31 13.8**	**+1.1**
TPH	**Tonopah**	**80.00**	**45**	*e*P		**P**	**16 31 13.5**	**+0.3**
	14nm,1.2s								
MOD	**Modoc Plateau**	**80.13**	**40**	*e*P		**P**	**16 31 14.3**	**+0.5**
	12nm,0.6s								
SHPR	**Sheep Range**	**80.59**	**47**	*e*P		**P**	**16 31 16.9**	**+0.5**
	4.1nm,0.8s								
BKNI	**Bangkinang**	**81.02**	**273**	P		P	16 31 24.0	+5.2
	baz=81,SNR=3.9								
R11A	**Troy Canyon, C**	**81.24**	**45**	*e*P		**P**	**16 31 19.7**	**+0.1**
	4.0nm,1.0s								
LVP	**Lakeview Peak**	**81.33**	**36**	P		**P**	**16 31 20.4**	**+0.6**
WVOR	**Wild Horse Val**	**81.45**	**40**	*e*P		**P**	**16 31 21.1**	**+0.6**
	15nm,0.9s								
ERK	**Elk Rock**	**81.51**	**36**	P		**P**	**16 31 21.8**	**+1.1**
TDL	**Tradedollar La**	**81.61**	**36**	P		**P**	**16 31 22.1**	**+0.8**
TUC	**Tucson**	**81.76**	**52**	*e*P		**P**	**16 31 23.0**	**+0.7**
	13nm,1.1s								
WUAZ	**Wupatki**	**82.80**	**49**	P		**P**	**16 31 28.1**	**+0.5**
	12nm,1.0s								
RSW	**Rattlesnake Hi**	**83.11**	**37**	P		**P**	**16 31 29.7**	**+0.9**
BMRM	**Bremner River**	**83.16**	**16**	*e*P		**P**	**16 31 28.1**	**-0.5**
	26nm,1.2s								
ETW	**Entiat**	**83.39**	**35**	P		**P**	**16 31 30.5**	**+0.3**
SKLT	**Songkhla**	**83.57**	**280**	P		**P**	**16 31 33.1**	**+1.4**
	26nm,0.9s								
TNA	**Tin City**	**83.58**	**4**	*e*P		**P**	**16 31 30.1**	**-0.4**
	23nm,1.6s								
WTV	**Waterville**	**83.65**	**35**	P		**P**	**16 31 31.8**	**+0.4**
MFID	**Camas Ranch**	**83.72**	**41**	*e*P		**P**	**16 31 32.4**	**+0.5**
	15nm,1.2s								
MAW	**Mawson**	**83.85**	**200**	P		**P**	**16 31 31.5**	**-0.4**
	3.1nm,0.7s,baz=198,slow=3.5,SNR=9.7								
TRF	**Thorofare Moun**	**84.01**	**12**	*e*P		**P**	**16 31 31.5**	**-1.4**
	22nm,0.7s								
121A	**Cookes Peak, D**	**84.13**	**53**	*e*P		**P**	**16 31 34.9**	**+0.7**
	5.0nm,0.8s								
MCK	**McKinley**	**84.54**	**13**	*e*P		**P**	**16 31 34.3**	**-1.0**
	12nm,0.9s								
GSI	**Gunungsitoli**	**84.61**	**273**	*e*P		**P**	**16 31 37.4**	**+0.6**
	24nm,0.8s								
PAX	**Paxson**	**84.65**	**14**	*e*P		**P**	**16 31 35.0**	**-1.0**
	3.4nm,0.7s								
HLID	**Hailey**	**84.67**	**41**	*e*P		**P**	**16 31 37.1**	**+0.4**
	6.3nm,0.8s								
SRU	**San Rafael Swe**	**85.07**	**46**	*e*P		**P**	**16 31 38.7**	**0.0**
	5.9nm,0.7s								
DOT	**Dot Lake**	**85.57**	**15**	*e*P		**P**	**16 31 39.8**	**-0.5**
	4.7nm,0.8s								
MNTX	**Cornudas Mount**	**85.64**	**55**	*e*P		**P**	**16 31 42.1**	**+0.7**
	9.1nm,1.3s								
COLA	**College**	**85.77**	**13**	*e*P		**P**	**16 31 40.0**	**-1.2**
	5.7nm,0.6s								
SURT	**Suratani**	**85.86**	**281**	P		**P**	**16 31 45.1**	**+2.3**
	4.4nm,1.2s								
ILAR	**Eielson Array**	**85.89**	**13**	P		**P**	**16 31 40.6**	**-1.1**
	3.1nm,0.4s,baz=222,slow=5.0,SNR=52								
TXAR	**Lajitas Array**	**86.06**	**58**	P		**P**	**16 31 44.9**	**+1.4**
	9.4nm,0.8s,baz=224,slow=5.2,SNR=80								
ANMO	**Albuquerque**	**86.15**	**52**	*e*P		**P**	**16 31 44.0**	**0.0**
	5.1nm,1.0s								
XAN	**Xi'an**	**86.18**	**307**	P		**P**	**16 31 44.8**	**+0.9**
XAN					PMZ				
	3.0nm,1.0s								
XAN					PMZ				
	9.0nm,4.1s								
MCMT	**McKenzie Canyo**	**86.28**	**41**	*e*P		**P**	**16 31 45.0**	**+0.6**
	8.8nm,1.1s								
PBKT	**Sadao Pong**	**86.35**	**289**	P		P	16 31 48.3	+3.3
	5.6nm,1.1s								
LRM	**Limekiln Ridge**	**87.01**	**40**	*e*P		**P**	**16 31 47.9**	**0.0**
	22nm,0.8s								
CHMT	**Chamberlain Mo**	**87.07**	**39**	*e*P		**P**	**16 31 47.6**	**-0.4**
	4.0nm,0.9s								
QLMT	**Earthquake Lak**	**87.16**	**41**	*e*P		**P**	**16 31 50.0**	**+1.5**
	2.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**87.20**	**314**	*e*P		**P**	**16 31 48.3**	**-0.3**
HHC				S		**S**	**16 41 36.4**	**-4.2**
HHC					PMZ				
	16nm,1.2s								
BW06	**Boulder Array**	**87.40**	**43**	*e*P		**P**	**16 31 49.6**	**-0.1**
	4.1nm,0.7s								
PDAR	**Pinedale Array**	**87.40**	**43**	P		**P**	**16 31 49.6**	**0.0**
	6.1nm,0.6s,baz=216,slow=3.1,SNR=58								
H17A	**Grant Village**	**87.50**	**42**	*e*P		**P**	**16 31 51.4**	**+1.3**
	12nm,0.9s								
HRY	**Holter Researc**	**87.82**	**39**	*e*P		**P**	**16 31 52.4**	**+0.9**
	3.5nm,0.6s								
LAMP	**Lampang**	**88.20**	**290**	P		**P**	**16 31 55.5**	**+1.8**
	3.8nm,0.9s								
MSTX	**Muleshoe**	**88.55**	**54**	*e*P		**P**	**16 31 54.9**	**-0.3**
	11nm,0.9s								
RLMT	**Red Lodge**	**88.66**	**41**	*e*P		**P**	**16 31 55.8**	**+0.3**
	6.1nm,0.9s								
CMAR	**Chiang Mai Arr**	**88.80**	**290**	P		**P**	**16 31 57.6**	**+1.1**
	4.1nm,0.9s,baz=113,slow=2.9,SNR=29								
CMMT	**Chiang Mai**	**88.91**	**290**	P		**P**	**16 31 57.8**	**+0.8**
CD2	**Chengdu**	**88.98**	**303**	*e*P		**P**	**16 31 57.0**	**-0.1**
CD2					PMZ				
	10.0nm,0.5s								
CD2					PMZ				
	100nm,5.2s								
ABTX	**Abilene, Hawle**	**90.49**	**56**	*e*P		**P**	**16 32 04.0**	**-0.1**
	12nm,1.0s								
SNAA	**Sanae**	**90.62**	**179**	P		**P**	**16 32 02.8**	**-1.2**
VNA3	**Neumayer Olymp**	**90.77**	**176**	P		**P**	**16 32 03.7**	**-0.9**
VNA2	**Neumayer--Watz**	**91.20**	**177**	P		**P**	**16 32 06.3**	**-0.3**
	baz=190,slow=4.3								

RSSD	**Black Hills**	**91.61**	**44**	*e*P		**P**	**16 32 08.8**	**-0.4**
	6.0nm,1.0s								
SONM	**Songino Array**	**93.48**	**319**	P		**P**	**16 32 17.7**	**+0.1**
	0.3nm,0.5s,baz=130,slow=4.3,SNR=3.7								
YKA	**Yellowknife Ar**	**94.35**	**25**	P		**P**	**16 32 20.5**	**-0.4**
	1.6nm,0.7s,baz=239,slow=4.6,SNR=20								
KSH	**Kashi**	**113.00**	**306**	*e*PKP		**PKiKP**	**16 37 32.1**	**-3.3**
KSH				sPKP			16 40 48.5		
KSH				SKS		**SKSdf**	**16 43 48.3**	**-4.9**
KSH				PPMZ					
	100nm,5.9s								
ARCES	**ARCESS Array B**	**126.28**	**350**	PKP		**PKPdf**	**16 37 59.4**	**-0.4**
	2.3nm,0.8s,baz=351,slow=5.4,SNR=3.6								
BRTR	**Keskin Array B**	**144.71**	**315**	PKP		**PKPdf**	**16 38 35.0**	**+0.2**
	2.1nm,0.5s,baz=117,slow=3.8,SNR=12								
STHS	**Stebnicka Huta**	**144.74**	**338**	*e*PKP		**PKPab**	**16 38 36.8**	**+1.1**
KOLS	**Kolonicke sedl**	**144.75**	**336**	*e*PKP		**PKPab**	**16 38 35.8**	**0.0**
CLL	**Collm**	**145.42**	**347**	*i* PKPbc		**PKPbc**	**16 38 36.8**	**0.0**
	comp=Z,5.0nm,0.7s								
OKC	**Ostrava-Krasne**	**145.43**	**341**	*e*PKP		**PKPab**	**16 38 39.0**	**+0.7**
DPC	**Dobruska-Polom**	**145.50**	**343**	*e*PKP		**PKPbc**	**16 38 37.4**	**+0.2**
DPC				*ex*		x	16 38 40.0		
BRG	**Berggiesshubel**	**145.62**	**346**	*e*P		**PKPbc**	**16 38 37.6**	**+0.2**
	comp=Z,2.9nm,0.6s								
PRU	**Pruhonice**	**146.30**	**345**	*e*PKP		**PKPbc**	**16 38 39.5**	**+0.1**
PRU				*ex*		x	16 38 42.3		
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc		**PKPbc**	**16 38 43.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=349,slow=2.7,SNR=6.9								
VISS	**Visnje**	**150.03**	**341**	*e*PKPbc		**PKPab**	**16 38 57.1**	**-0.1**
JAVS	**Javornik**	**150.18**	**342**	*i* PKPbc		**PKPab**	**16 38 56.7**	**-1.3**
ESDC	**Sonseca Array**	**157.78**	**11**	PKPab		**PKPab**	**16 39 30.2**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=338,slow=5.0,SNR=5.3								

KRNET ***20*** *16:21:38.4±0.1, 39.16N×71.59E, h33km, mb3.2*
NNC ***20*** *16:21:42.3±1.4, 39.34N×71.31E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.7km s-min=10.3km az=153.0*
ISCJB ***20*** *16:21:45.0±1.2, 39.29N±0.10×71.35E±0.07, h34km, Error ellipse: s-maj=13.9km s-min=8.2km az=173.3*

ISC 20 16:21:39.4±1.8, 39.23N±0.09×71.60E±0.05, h34km, n16, σ1.9 71/18, 5C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.29**	**31**	*e*P		**Pb**	**16 21 47.2**	**-0.3**
	baz=27							
DRK				*e*S		**Sb**	**16 21 53.4**	**+0.4**
	baz=27							
CHVK	**Chauvay**	**1.02**	**28**	*e*P		**Pb**	**16 21 58.4**	**-0.3**
	baz=26							
CHVK				*e*S		**Sb**	**16 22 13.1**	**+1.2**
	baz=26							
BTK	**Batken**	**1.02**	**324**	*e*P		**Pb**	**16 21 58.0**	**-0.8**
	baz=326							
BTK				*e*S		**Sb**	**16 22 12.6**	**+0.6**
	baz=326							
SFK	**Sufi-Kurgan**	**1.66**	**61**	⇑Pn		Pb	16 22 14.6	+5.0
	3.2nm,0.2s							
SFK				⇓Lg		Lg	16 22 42.6	
	54nm,0.4s							
DZET	**Dzherino**	**2.20**	**260**	⇑Pn		**Pb**	**16 22 17.6**	**-1.1**
	7.9nm,0.3s							
DZET				⇑Lg		Lg	16 22 47.0	
	45nm,0.4s							
SALK	**Salom-Alik**	**2.37**	**45**	*e*P		**Pb**	**16 22 21.0**	**-0.5**
	baz=44							
SALK				*e*S		**Sb**	**16 22 53.0**	**+2.6**
	baz=44							
AML	**Almayashu**	**3.30**	**28**	P		**Pb**	**16 22 36.7**	**-0.9**
	SNR=6.3							
MNAS	**Manas**	**3.32**	**12**	⇓Pn		**Pb**	**16 22 36.2**	**-1.6**
	6.4nm,0.4s							
MNAS				⇓Lg		Lg	16 23 20.7	
	7.0nm,0.5s							
UCH	**Uchtor**	**3.72**	**36**	P		**Pb**	**16 22 42.6**	**-2.1**
	SNR=11							
EKS2	**Erkin-Say**	**3.80**	**25**	P		**Pb**	**16 22 44.6**	**-1.2**
	SNR=5.8							
KK31	**Karatay Array**	**3.96**	**348**	⇑Pn		Pb	16 22 43.5	-4.9
	1.1nm,0.3s,baz=178,slow=13,SNR=25							
KK31				⇓Sn		**Sb**	**16 23 35.6**	**-0.3**
	1.3nm,0.3s,baz=177,slow=21,SNR=4.0							
KZA	**Kyzart**	**3.97**	**43**	P		**Pb**	**16 22 46.6**	**-2.4**
	SNR=16							
AAK	**Ala-Archa**	**4.04**	**32**	⇓Pn		**Pb**	**16 22 47.0**	**-3.0**
	3.2nm,0.4s							
AAK				⇓Lg		Lg	16 23 48.8	
	4.3nm,0.6s							
AAK	**Ala-Archa**	**4.04**	**32**	P		**Pb**	**16 22 47.4**	**-2.6**
	SNR=9.9							
CHMS	**Chumysh**	**4.45**	**31**	P		Pb	16 22 52.3	-4.6
	SNR=5.3							
AB31	**Akbulak array**	**13.03**	**324**	⇑Pn		**Pn**	**16 24 43.3**	**+1.2**
	0.4nm,0.5s,baz=137,slow=12,SNR=8.2							

IDC 20 16:24:19.7±1.7, 37.22S×75.20W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/21, mbtmp3.8/3, ML3.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/22, Error ellipse: s-maj=41.5km s-min=27.8km az=45.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.04**	**136**	Pn		Pn	16 25 36.5	-0.2
	0.3nm,0.3s,baz=306,slow=11,SNR=7.6							
PLCA				Sn		Sn	16 26 37.1	+1.3
	0.6nm,0.3s,baz=34,slow=23,SNR=3.3							
PLCA				LR		LR	16 27 38.6	
	comp=Z,206nm,19.5s,baz=273,slow=39							
CFAA	**Coronel Fontan**	**8.02**	**48**	Pn		Pn	16 26 18.8	+1.1
	0.1nm,0.3s,baz=225,slow=14,SNR=3.6							
CFAA				Sn		Sn	16 27 47.9	-1.2
	0.1nm,0.3s,baz=128,slow=22,SNR=1.4							
LPAZ	**La Paz**	**21.77**	**19**	P		P	16 29 18.4	+4.6
	1.3nm,0.7s,baz=182,slow=8.8,SNR=7.2							
PMSA	**Palmer Station**	**28.38**	**170**	LR		LR	16 40 03.7	
	comp=Z,56nm,18.4s,baz=262,slow=33							
TXAR	**Lajitas Array**	**71.39**	**334**	P		P	16 35 41.7	+0.1
	1.8nm,0.9s,baz=147,slow=8.2,SNR=10.0							
PDAR	**Pinedale Array**	**85.54**	**335**	P		P	16 36 59.4	-0.2
	0.7nm,0.8s,baz=158,slow=5.5,SNR=4.5							

ISCJB ***20*** *17:02:16.9±0.3, 67.07N±0.02×21.04E±0.06, h0km, Error ellipse: s-maj=3.6km s-min=2.9km az=14.4*
UPP ***20*** *17:02:17.5, 67.06N×20.95E, h0km, ML1.8, Mining explosion.*
CSEM ***20*** *17:02:18.0±0.2, 67.07N×20.99E, h2km, ML1.8, Error ellipse: s-maj=4.4km s-min=3.4km az=93.0, Mining explosion.*
IDC ***20*** *17:02:18.5±1.1, 67.12N×21.39E, h0km, mb1 2.7/4, mb1mx2.7/41, mbtmp2.7/4, ML2.1/4, Error ellipse: s-maj=19.0km s-min=8.0km az=108.0*
HEL ***20*** *17:02:18.3±0.1, 67.06N×20.94E, h0km, ML2.1, ML1.8(UPP), Explosion*
NAO ***20*** *17:02:19.0±2.1, 67.10N×21.58E, ML2.0*
BER ***20*** *17:02:21.9±3.6, 67.15N×21.40E, h0km, ML1.7, ML2.0(NAO), Suspected explosion*

ISC 20 17:02:17.3±0.7, 67.07N±0.02×20.91E±0.02, h0km, n68, σ0.8 84/96, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58**	**47**	*i* P		**Pg**	**17 02 28.4**	**+0.1**
MASU	**Masugnsbyn**	**0.58**	**47**	P		**Pg**	**17 02 28.4**	**+0.1**
MASU	**Masugnsbyn**	**0.58**	**47**	P		**Pg**	**17 02 28.4**	**+0.1**
ERTU	**Ertsjaerv**	**0.72**	**135**	*e*P		**Pg**	**17 02 30.7**	**-0.3**
ERTU				*e*S		**Sg**	**17 02 40.3**	**-0.2**
ERTU	**Ertsjaerv**	**0.72**	**135**	P		**Pg**	**17 02 30.8**	**-0.3**
ERTU				S		**Sg**	**17 02 40.2**	**-0.2**
ERTU	**Ertsjaerv**	**0.72**	**135**	P		**Pg**	**17 02 30.8**	**-0.3**
PAJU	**Pajala**	**0.87**	**92**	*i* P		**Pg**	**17 02 33.3**	**-0.5**
PAJU				*i* S		**Sg**	**17 02 45.1**	**0.0**
PAJU	**Pajala**	**0.87**	**92**	P		**Pg**	**17 02 33.3**	**-0.5**
PAJU				S		**Sg**	**17 02 45.0**	**0.0**
PAJU	**Pajala**	**0.87**	**92**	P		**Pg**	**17 02 33.3**	**-0.5**
PAJU				S		**Sg**	**17 02 45.1**	**0.0**
HARU	**Harads**	**0.91**	**178**	*e*P		**Pg**	**17 02 34.4**	**-0.2**
HARU	**Harads**	**0.91**	**178**	P		**Pg**	**17 02 34.4**	**-0.2**
HARU	**Harads**	**0.91**	**178**	P		**Pg**	**17 02 34.4**	**-0.2**
KUA	**Kurravaara**	**0.92**	**347**	*e*P		**Pg**	**17 02 34.6**	**-0.2**
KUA	**Kurravaara**	**0.92**	**347**	P		**Pg**	**17 02 34.6**	**-0.2**
KUA	**Kurravaara**	**0.92**	**347**	P		**Pg**	**17 02 34.6**	**-0.2**

SALU	**Saltoluokta**	**0.99**	**290**	*e*P		**Pg**	**17 02 36.5**	**+0.4**
SALU	**Saltoluokta**	**0.99**	**290**	P		**Pg**	**17 02 36.5**	**+0.4**
SALU	**Saltoluokta**	**0.99**	**290**	P		**Pg**	**17 02 36.5**	**+0.4**
LANU	**Lannavaara**	**1.07**	**22**	*e*P		**Pg**	**17 02 37.1**	**-0.7**
LANU	**Lannavaara**	**1.07**	**22**	P		**Pg**	**17 02 37.1**	**-0.7**
LANU	**Lannavaara**	**1.07**	**22**	P		**Pg**	**17 02 37.1**	**-0.7**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P		**Pg**	**17 02 37.9**	**0.0**
NIKU	**Nikkaluokta**	**1.08**	**319**	P		**Pg**	**17 02 37.9**	**0.0**
NIKU	**Nikkaluokta**	**1.08**	**319**	P		**Pg**	**17 02 37.9**	**0.0**
	baz=129								
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P		**Pn**	**17 02 46.6**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**169**	P		**Pn**	**17 02 46.6**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**169**	P		**Pn**	**17 02 46.6**	**0.0**
HEF	**Hetta**	**1.71**	**37**	*e*P		**Pn**	**17 02 48.3**	**0.0**
HEF				*e*S		**Sn**	**17 03 10.7**	**-0.1**
HEF	**Hetta**	**1.71**	**37**	P		**Pn**	**17 02 48.2**	**0.0**
HEF				S		**Sn**	**17 03 10.7**	**-0.1**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P		**Pn**	**17 02 50.6**	**+0.6**
LILU	**Lilltraesk**	**1.84**	**194**	P		**Pn**	**17 02 50.5**	**+0.6**
LILU	**Lilltraesk**	**1.84**	**194**	P		**Pn**	**17 02 50.6**	**+0.6**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P		**Pb**	**17 02 53.4**	**-0.2**
KIF				*e*SG		**Sg**	**17 03 20.1**	**+0.4**
KIF				MSG			17 03 24.1	
	comp=Z,23nm,0.2s								
KIF	**Kilpisjarvi**	**1.95**	**359**	P		**Pb**	**17 02 53.3**	**-0.2**
KIF				Sg		**Sg**	**17 03 20.1**	**+0.4**
RNF	**Rovaniemi**	**2.07**	**100**	*e*P		**Pn**	**17 02 54.2**	**+1.0**
RNF				*e*SG		**Sb**	**17 03 22.4**	**+0.5**
RNF	**Rovaniemi**	**2.07**	**100**	P		**Pn**	**17 02 54.2**	**+1.0**
RNF				Sg		**Sb**	**17 03 22.4**	**+0.5**
KTK1	**Kautokeino**	**2.14**	**23**	*e*P		**Pb**	**17 02 56.6**	**-0.3**
KTK1	**Kautokeino**	**2.14**	**23**	*e*P		**Pb**	**17 02 56.6**	**-0.3**
	SNR=50								
SGF	**Sodankyl**	**2.22**	**78**	*e*P		**Pn**	**17 02 56.5**	**+1.2**
SGF				*e*SG		**Sb**	**17 03 26.3**	**+0.2**
SGF	**Sodankyl**	**2.22**	**78**	P		**Pn**	**17 02 56.4**	**+1.2**
SGF				Sg		**Sb**	**17 03 26.3**	**+0.2**
BURU	**Burvik**	**2.50**	**175**	*e*P		**Pn**	**17 03 00.4**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P		**Pn**	**17 03 00.3**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P		**Pn**	**17 03 00.4**	**+1.3**
SVAU	**Svanoeiden**	**2.64**	**193**	*e*P		**Pn**	**17 03 02.3**	**+1.2**
SVAU	**Svanoeiden**	**2.64**	**193**	P		**Pn**	**17 03 02.2**	**+1.2**
SVAU	**Svanoeiden**	**2.64**	**193**	P		**Pn**	**17 03 02.3**	**+1.2**
MOR8	**Moi Rana**	**2.73**	**254**	*e*P		**Pn**	**17 03 03.3**	**+1.0**
MOR8				*e*S		**Sb**	**17 03 39.8**	**-1.1**
MOR8				IAML			17 03 43.0		
	comp=Z,6.9nm,0.2s								
MOR8	**Moi Rana**	**2.73**	**254**	*e*P		**Pn**	**17 03 03.3**	**+1.0**
	SNR=50								
MOR8				*e*S		**Sb**	**17 03 39.8**	**-1.1**
	SNR=50								
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**17 03 06.5**	**+0.4**
	baz=216,slow=16								
ARA0				Sn		**Sn**	**17 03 41.5**	**-1.4**
	baz=221,slow=28								
ARA0				Lg		Lg	17 03 47.5		
	baz=208,slow=28								
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**17 03 06.5**	**+0.4**
	baz=216,slow=16								
ARA0				Sn		**Sn**	**17 03 41.5**	**-1.4**
	baz=221,slow=28								
ARA0				Lg		Lg	17 03 47.5		
	baz=208,slow=28								
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**17 03 06.5**	**+0.4**
	SNR=50								
ARA0				Sn		**Sn**	**17 03 41.5**	**-1.4**
	SNR=50								
ARA0				Lg		Lg	17 03 47.5		
ARA0				Lg		Lg	17 03 47.5		
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn		**Pn**	**17 03 06.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=218,slow=14,SNR=2.1								
ARCES				Sn		**Sn**	**17 03 41.1**	**-1.8**
	comp=Z,

0.2nm,0.4s,baz=70,slow=1.2,SNR=3.9

MAN 20 17:25:13,10.63N×122.36E,h62km,mb4.1,ML2.9,MS2.6, Panay

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
GUIM	**Jordan**	**0.23**	**91**	*eP*		Pn	17 25 26.4	+3.5
GUIM				*eS*		Sn	17 25 33.4	+3.5
CUYO	**Cuyo Island**	**1.33**	**279**	*eP*		Pn	17 25 37.2	+1.7
CUYO				*eS*		Sn	17 25 54.8	+2.3
ENPP	**El Nido**	**2.94**	**281**	*eP*		Pn	17 25 59.2	+1.9

*ISCJB **20** 17:33:21.0±1.3,27.88N±0.05×127.80E±0.06, h18km±10km,mb3.3/5,Error ellipse: s-maj=10.2km s-min=6.6km az=35.7*
*JMA **20** 17:33:21.2±0.1,27.86N×127.84E,h11km±2km,M3.0*
*IDC **20** 17:33:21.2±1.7,27.63N×127.23E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.3/41,mbtmp3.5/5,ML3.0/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/28,Error ellipse: s-maj=53.2km s-min=28.7km az=72.0*

ISC 20 17:33:20.8±2.0,27.86N±0.06×127.83E±0.07,h8km±12km, n16,σ0.35/21,mb3.5/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
JOKE	**Okinoerabujima**	**0.82**	**127**	P		**Pg**	**17 33 36.6**	**0.0**
JOKE				*eS*		**Sg**	**17 33 47.5**	**+0.2**
JIH	**Iheya**	**0.83**	**172**	P		**Pg**	**17 33 36.8**	**0.0**
JIH				S		**Sg**	**17 33 47.9**	**+0.4**
JTK	**Tokunoshima**	**0.99**	**94**	P		**Pg**	**17 33 39.9**	**0.0**
JTK				*eS*		**Sg**	**17 33 52.6**	**-0.2**
JOW	**Kunigami**	**1.09**	**159**	P		**Pg**	**17 33 41.7**	**-0.2**
JOW				*eS*		**Sb**	**17 33 56.4**	**0.0**
JOW	**Kunigami**	**1.09**	**159**	Pn		**Pg**	**17 33 41.7**	**-0.2**
JOW				Sn		**Sb**	**17 33 56.9**	**+0.5**
JAMN	**Amaminishikomi**	**1.25**	**72**	P		**Pn**	**17 33 44.1**	**-0.4**
JNTH	**Nagotoyohara**	**1.34**	**173**	P		**Pn**	**17 33 45.6**	**-0.3**
JNTH				*eS*		**Sb**	**17 34 02.9**	**-0.7**
JAGN	**Aguni-jima**	**1.37**	**203**	P		**Pn**	**17 33 46.0**	**-0.2**
JAM	**Amami Oshima**	**1.66**	**70**	P		**Pn**	**17 33 50.1**	**-0.1**
JAM				*eS*		**Sn**	**17 34 11.9**	**+0.2**
JNU	**Nakatsue**	**5.87**	**26**	Pn		Pn	17 34 55.8	+7.6
	0.3nm,0.3s,baz=198,slow=16,SNR=2.1							
KSRS	**Korea Array**	**9.57**	**0**	LR		LR	17 39 13.6	
	comp=Z,53nm,18.1s,baz=172,slow=36							
SONM	**Songino Array**	**26.00**	**326**	P		**P**	**17 38 54.6**	**+0.3**
	1.9nm,0.9s,baz=138,slow=6.5,SNR=13							
MKAR	**Makanchi Array**	**40.20**	**311**	P		**P**	**17 40 57.3**	**-0.4**
	0.3nm,0.8s,baz=104,slow=10,SNR=3.6							
ZALV	**Zalesovo Beam**	**40.75**	**322**	P		**P**	**17 41 02.6**	**+0.5**
	0.5nm,0.5s,baz=128,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**51.56**	**173**	P		**P**	**17 42 27.8**	**+0.3**
	0.3nm,1.0s,baz=6.7,slow=8.7,SNR=2.0							
YKA	**Yellowknife Ar**	**77.20**	**25**	P		**P**	**17 45 14.8**	**-0.2**
	0.4nm,0.9s,baz=298,slow=4.7,SNR=3.7							

*NIED **20** 17:40:00,29.30N×130.80E,h5km,Mw4.1 Best double couple: M0=1.70000×10^15 NP1:φs=78.00000°,δ=12.00000°, λ=-148.00000°. NP2:φs=317.00000°,δ=84.00000°, λ=-80.00000°.*

JMA 20 17:40:11.4±0.1,29.27N×130.78E,h27km,M3.5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
JNN	**Nakanoshima**	**0.97**	**306**	P		Pn	17 40 28.7	-0.6
JNN				S		Sb	17 40 42.0	-0.1
JYAK	**Yakushimahirau**	**0.99**	**346**	P		Pn	17 40 29.5	-0.1
JYAK				S		Sn	17 40 43.2	+0.5
JZK	**Kikaishima**	**1.19**	**217**	P		Pb	17 40 32.8	-0.5
JKC	**Kuchinoerabu**	**1.29**	**337**	P		Pn	17 40 34.3	+0.6
JKC				S		Sn	17 40 50.6	+0.5
JAM	**Amami Oshima**	**1.34**	**231**	P		Pn	17 40 34.7	+0.4
JTAJ	**Takarajima**	**1.38**	**266**	P		Pb	17 40 36.1	-0.5
JTN	**Tanegashima 3**	**1.39**	**7**	P		Pn	17 40 35.8	+0.7
JTN				S		Sb	17 40 53.7	-0.4
JAMN	**Amaminishikomi**	**1.74**	**234**	P		Pn	17 40 40.3	+0.5
JAMN				S		Sn	17 41 02.1	+0.9
JTSR	**Tashiro 2**	**1.89**	**4**	P		Pn	17 40 43.0	+1.0
JTSR				S		Sn	17 41 06.3	+1.2
JTK	**Tokunoshima**	**2.19**	**228**	P		Pn	17 40 46.7	+0.7
JSU	**Suzuyama**	**2.25**	**353**	P		Pn	17 40 46.8	-0.1
JNAR	**Kushima--Naru**	**2.29**	**11**	P		Pn	17 40 49.0	+1.6
JSJ	**Shimokoshiki**	**2.57**	**339**	P		Pn	17 40 50.3	-1.0
JOKE	**Okinoerabujima**	**2.72**	**226**	P		Pn	17 40 53.8	+0.4

IDC 20 17:53:11.6±326.0,56.75N×32.76E,h0km,Error ellipse: s-maj=136.1km s-min=54.2km az=93.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
I43RU	**DUBNA INFRASON**	**2.46**	**89**	*i*			18 09 20.0	
	baz=271,slow=320,SNR=4.2							
I31KZ	**AKTYUBINSK INF**	**16.24**	**102**	*i*			19 31 40.0	
	baz=307,slow=323,SNR=1.6							
I48TN	**KESRA INFRASON**	**26.24**	**227**	*i*			20 34 20.0	
	baz=24,slow=325,SNR=0.4							
I46RU	**ZALESOVO INFRA**	**29.13**	**73**	*i*			20 50 30.0	
	baz=300,slow=329,SNR=0.7							

MAN 20 18:10:25,8.84N×124.34E,h0km,mb4.6,ML3.4,MS3.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BUKP	**Musuan**	**1.20**	**143**	*eP*		Pb	18 10 48.5	-0.1
BUKP				*eS*		Sn	18 11 06.6	+0.4
BUTP	**Butuan**	**1.27**	**84**	*eP*		Pg	18 10 48.8	-0.7
BUTP				*eS*		Sg	18 11 01.2	-4.8
PAGZ	**Pagadian**	**1.37**	**224**	*eP*		Pg	18 10 51.0	-0.3

*TIF **20** 18:16:41.8,41.80N×49.26E,h18km±5km*
*MOS **20** 18:16:42.5±1.8,41.91N×49.37E,h21km,mb4.1/4,Error ellipse: s-maj=9.4km s-min=5.5km az=25.0*
MOS Felt (II-III) at Derbent, Kasumkent.
*IDC **20** 18:16:44.1±2.1,41.81N×49.01E,h45km±23km,mb3.3/8, mb1 3.6/14,mb1mx3.4/34,mbtmp3.7/14,ML3.9/5,MS2.5/2, Ms1 2.5/2,ms1mx2.1/28,Error ellipse: s-maj=25.8km s-min=12.1km az=10.0*
*ISCJB **20** 18:16:45.5±0.3,41.82N±0.03×49.16E±0.04,h87km±4km, mb3.4/10,Error ellipse: s-maj=5.3km s-min=3.4km az=140.3*
*AZER **20** 18:16:45.5±0.0,41.94N×48.99E,h58km,Error ellipse: s-maj=1.5km s-min=0.8km az=12.0*
*CSEM **20** 18:16:46.0±0.1,41.87N×49.20E,h73km±3km,mb3.8/4, Error ellipse: s-maj=5.1km s-min=3.1km az=46.0*
*TEH **20** 18:16:47.2,41.95N×49.01E,h60km,ML4.0*
*NNC **20** 18:16:51.6±12.0,42.31N×50.49E,h0km,mb3.9,Error ellipse: s-maj=106.9km s-min=76.1km az=33.0*

ISC 20 18:16:47.2±0.5,41.80N±0.03×49.04E±0.03,h80km±6km, n150,σ1.54/183,mb3.5/10,20C-31D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
QUBA	**Quba, Azerbaij**	**0.60**	**223**	⇑P		**Pn**	**18 17 01.0**	**-1.0**
	SNR=150							
QUBA				⇓S		**Sn**	**18 17 12.7**	**-0.2**
QUBA	**Quba, Azerbaij**	**0.60**	**223**	P		**Pn**	**18 17 01.0**	**-1.0**
	SNR=150							
QUBA				S		**Sn**	**18 17 12.7**	**-0.2**
SIZA	**Siyzn**	**0.73**	**189**	⇓P		**Pn**	**18 17 03.1**	**-0.2**
	SNR=63							
SIZA				⇓S		**Sn**	**18 17 16.4**	**+1.2**
SIZA	**Siyzn**	**0.73**	**189**	P		**Pn**	**18 17 03.1**	**-0.2**
	SNR=63							
SIZA				S		**Sn**	**18 17 16.4**	**+1.2**
ATGJ	**Altiaghaj**	**0.94**	**185**	⇓P		**Pn**	**18 17 06.1**	**+0.4**
	SNR=117							
ATGJ				⇑S		**Sn**	**18 17 21.0**	**+1.6**
ATGJ	**Altiaghaj**	**0.94**	**185**	P		**Pn**	**18 17 06.1**	**+0.4**
	SNR=117							
ATGJ				S		**Sn**	**18 17 21.0**	**+1.6**
AKT	**Akhty**	**1.03**	**253**	*e*PG		**Pn**	**18 17 06.5**	**-0.3**
AKT				*e*S		**Sn**	**18 17 22.8**	**+1.4**
AKT	**Akhty**	**1.03**	**253**	*e*Pg		**Pn**	**18 17 06.5**	**-0.3**
AKT				*e*Sg		**Sn**	**18 17 22.8**	**+1.4**
PQL	**Pirkuli**	**1.06**	**199**	⇓P		**Pn**	**18 17 07.7**	**+0.5**
	SNR=85							
PQL				⇑S		**Sn**	**18 17 23.3**	**+1.2**
PQL	**Pirkuli**	**1.06**	**199**	P		**Pn**	**18 17 07.7**	**+0.5**
	SNR=85							
PQL				S		**Sn**	**18 17 23.3**	**+1.2**
URKR	**Urkarakh**	**1.11**	**290**	⇓*i*PG		**Pn**	**18 17 06.5**	**-1.3**
URKR				*e*S		**Sn**	**18 17 23.0**	**-0.1**
URKR				pmax		pmax		
	comp=Z,1μm,0.1s							
URKR	**Urkarakh**	**1.11**	**290**	*i* Pg		**Pn**	**18 17 06.5**	**-1.3**
	comp=Z,1μm,0.1s							
URKR				*e*Sg		**Sn**	**18 17 23.0**	**-0.1**
IML	**Ismayilli**	**1.20**	**213**	⇓P		**Pn**	**18 17 08.8**	**+0.1**
	SNR=33							
IML				⇑S		**Sn**	**18 17 26.7**	**+1.9**
IML	**Ismayilli**	**1.20**	**213**	P		**Pn**	**18 17 08.8**	**+0.1**
	SNR=33							
IML				S		**Sn**	**18 17 26.7**	**+1.9**
SGKR	**Sergokala**	**1.22**	**303**	*i* PG		**Pn**	**18 17 08.0**	**-1.0**
SGKR				*e*S		**Sn**	**18 17 26.0**	**+0.6**
SGKR				pmax		pmax		
	comp=Z,149nm,0.2s							
SGKR	**Sergokala**	**1.22**	**303**	*i* Pg		**Pn**	**18 17 08.0**	**-1.0**
	comp=Z,149nm,0.2s							
SGKR				*e*Sg		**Sn**	**18 17 26.0**	**+0.6**
NDR	**Nardaran**	**1.41**	**149**	⇓Pn		**Pn**	**18 17 12.0**	**+0.7**
	SNR=4.1							
NDR				⇑Sn		**Sn**	**18 17 33.2**	**+3.7**
NDR	**Nardaran**	**1.41**	**149**	Pn		**Pn**	**18 17 12.0**	**+0.7**
	SNR=4.1							
KMKR	**Kumukh**	**1.49**	**284**	⇑*i*PN		**Pn**	**18 17 13.5**	**+0.9**
KMKR				*e*S		**Sn**	**18 17 36.0**	**+4.3**
KMKR				pmax		pmax		
	comp=Z,488nm,0.2s							
KMKR	**Kumukh**	**1.49**	**284**	*i* Pn		**Pn**	**18 17 13.5**	**+0.9**
	comp=Z,488nm,0.2s							
KMKR				*e*Sg		**Sn**	**18 17 36.0**	**+4.3**
GOBA	**Gobu**	**1.49**	**159**	⇑Pn		**Pn**	**18 17 13.8**	**+1.4**
	SNR=11							
GOBA				⇓Sn		**Sn**	**18 17 35.6**	**+4.2**
SEKA	**Sheki**	**1.50**	**248**	⇓Pn		**Pn**	**18 17 12.6**	**-0.1**
	SNR=186							
SEKA				⇓Sn		**Sn**	**18 17 32.9**	**+1.0**
SEKA	**Sheki**	**1.50**	**248**	Pn		**Pn**	**18 17 12.6**	**-0.1**
	SNR=186							
SEKA				Sn		**Sn**	**18 17 32.9**	**+1.0**
KDMR	**Kurdemir**	**1.56**	**205**	⇑Pn		**Pn**	**18 17 13.0**	**-0.3**
	SNR=4.3							
KDMR				⇑Sn		**Sn**	**18 17 34.6**	**+1.6**
KDMR	**Kurdemir**	**1.56**	**205**	Pn		**Pn**	**18 17 13.0**	**-0.3**
	SNR=4.3							
KDMR				Sn		**Sn**	**18 17 34.6**	**+1.6**
GALA	**Gala**	**1.62**	**148**	⇑Pn		**Pn**	**18 17 15.8**	**+1.7**
GALA				⇓Sn		**Sn**	**18 17 36.9**	**+2.5**
MAK	**Makhachkala**	**1.63**	**316**	*e*PN		**Pn**	**18 17 13.7**	**-0.5**
MAK				pmax		pmax		
	comp=Z,263nm,0.4s							
MAK	**Makhachkala**	**1.63**	**316**	*e*Pn		**Pn**	**18 17 13.7**	**-0.5**
	comp=Z,263nm,0.4s							
GNBR	**Gunib**	**1.66**	**292**	⇑*i*PN		**Pn**	**18 17 15.4**	**+0.8**
GNBR	**Gunib**	**1.66**	**292**	*i* Pn		**Pn**	**18 17 15.4**	**+0.8**
ARKR	**Arakani**	**1.72**	**299**	*e*PN		**Pn**	**18 17 16.0**	**+0.5**
ARKR				pmax		pmax		
	comp=Z,54nm,0.2s							
ARKR	**Arakani**	**1.72**	**299**	*e*Pn		**Pn**	**18 17 16.0**	**+0.5**
	comp=Z,54nm,0.2s							
BUJR	**Buynaksk**	**1.77**	**306**	*e*PN		**Pn**	**18 17 16.5**	**+0.5**
BUJR				*e*S		**Sn**	**18 17 41.8**	**+4.0**
BUJR				pmax		pmax		
	comp=Z,67nm,0.2s							
BUJR	**Buynaksk**	**1.77**	**306**	*e*Pn		**Pn**	**18 17 16.5**	**+0.5**
	comp=Z,67nm,0.2s							
BUJR				*e*Sg		**Sn**	**18 17 41.8**	**+4.0**
MNGR	**Mingechevir, A**	**1.80**	**236**	⇑Pn		**Pn**	**18 17 16.8**	**+0.4**
	SNR=8.4							
MNGR				⇓Sn		**Sn**	**18 17 40.7**	**+2.2**
MNGR	**Mingechevir, A**	**1.80**	**236**	Pn		**Pn**	**18 17 16.8**	**+0.4**
	SNR=8.4							
MNGR				Sn		**Sn**	**18 17 40.7**	**+2.2**
ZKTA	**Zakatala**	**1.82**	**266**	⇓Pn		**Pn**	**18 17 17.5**	**+0.8**
	SNR=143							
ZKTA				⇑Sn		**Sn**	**18 17 39.1**	**0.0**
ALIB	**Äli-Bayra**	**1.84**	**181**	⇓Pn		**Pn**	**18 17 18.7**	**+1.8**
	SNR=4.3							
ALIB				⇓Sn		**Sn**	**18 17 44.3**	**+4.8**
ALIB	**Äli-Bayra**	**1.84**	**181**	Pn		**Pn**	**18 17 18.7**	**+1.8**
	SNR=4.3							
KRNR	**Karanay**	**1.89**	**304**	*e*PN		**Pn**	**18 17 18.0**	**+0.3**
KRNR				pmax		pmax		
	comp=Z,114nm,0.2s							
KRNR	**Karanay**	**1.89**	**304**	*e*Pn		**Pn**	**18 17 18.0**	**+0.3**
	comp=Z,114nm,0.2s							
XNZR	**Khunzakh**	**1.89**	**294**	*e*PN		**Pn**	**18 17 19.0**	**+1.2**
XNZR				*e*S		Sn	18 17 46.0	+5.0
XNZR				pmax		pmax		
	comp=Z,165nm,0.2s							
XNZR	**Khunzakh**	**1.89**	**294**	*e*Pn		**Pn**	**18 17 19.0**	**+1.2**
	comp=Z,165nm,0.2s							
XNZR				*e*Sb		Sn	18 17 46.0	+5.0
UNCR	**Uncukul**	**1.90**	**300**	*e*PN		**Pn**	**18 17 18.0**	**+0.1**
UNCR				*e*S		**Sn**	**18 17 45.0**	**+3.8**
UNCR				pmax		pmax		
	comp=Z,135nm,0.2s							
UNCR	**Uncukul**	**1.90**	**300**	*e*Pn		**Pn**	**18 17 18.0**	**+0.1**
	comp=Z,135nm,0.2s							
UNCR				*e*Sb		**Sn**	**18 17 45.0**	**+3.8**
SAAT	**Saatly**	**1.99**	**194**	⇓Pn		**Pn**	**18 17 18.7**	**-0.2**
SAAT				⇓Sn		**Sn**	**18 17 42.8**	**-0.3**
SAAT	**Saatly**	**1.99**	**194**	Pn		**Pn**	**18 17 18.7**	**-0.2**
SAAT				Sn		**Sn**	**18 17 42.8**	**-0.3**
BRDA	**Brd**	**2.08**	**223**	⇓Pn		**Pn**	**18 17 20.2**	**0.0**
	SNR=7.6							
BRDA				⇓Sn		**Sn**	**18 17 47.6**	**+2.3**
BRDA	**Brd**	**2.08**	**223**	Pn		**Pn**	**18 17 20.2**	**0.0**
	SNR=7.6							
BRDA				Sn		**Sn**	**18 17 47.6**	**+2.3**
DLMR	**Dylym**	**2.19**	**306**	*e*PN		**Pn**	**18 17 22.5**	**+0.8**
DLMR				*e*S		**Sn**	**18 17 52.0**	**+4.0**
DLMR				pmax		pmax		
	comp=Z,197nm,0.3s							
DLMR	**Dylym**	**2.19**	**306**	*e*Pn		**Pn**	**18 17 22.5**	**+0.8**
	comp=Z,197nm,0.3s							
DLMR				*e*Sn		**Sn**	**18 17 52.0**	**+4.0**
BTLR	**Botlikh**	**2.27**	**293**	*i* PN		**Pn**	**18 17 24.0**	**+1.3**
BTLR				*e*S		Sn	18 17 57.0	+7.1
BTLR				pmax		pmax		
	comp=Z,70nm,0.4s							
BTLR	**Botlikh**	**2.27**	**293**	*i* Pn		**Pn**	**18 17 24.0**	**+1.3**
	comp=Z,70nm,0.4s							
GANJ	**Ganja**	**2.35**	**242**	⇑Pn		**Pn**	**18 17 22.8**	**-1.0**
	SNR=55							
GANJ				⇓Sn		**Sn**	**18 17 50.5**	**-1.4**
GANJ	**Ganja**	**2.35**	**242**	Pn		**Pn**	**18 17 22.8**	**-1.0**
	SNR=55							
GLBA	**Clilabad**	**2.60**	**191**	⇑Pn		**Pn**	**18 17 26.8**	**-0.3**
	SNR=9.3							
GLBA	**Clilabad**	**2.60**	**191**	Pn		**Pn**	**18 17 26.8**	**-0.3**
	SNR=9.3							
DGRG	**David-gareji**	**2.77**	**264**	*e*PN		**Pn**	**18 17 29.8**	**+0.3**
DGRG	**David-gareji**	**2.77**	**264**	P		**Pn**	**18 17 29.9**	**+0.3**
DGRG				S		Sn	18 18 14.4	+12
DGRG	**David-gareji**	**2.77**	**264**	*e*Pn		**Pn**	**18 17 29.8**	**+0.3**
QZX	**Qazax, Azerbai**	**2.86**	**256**	⇓Pn		**Pn**	**18 17 29.8**	**-0.8**
	SNR=28							
QZX				⇓Sn		**Sn**	**18 18 03.8**	**-0.3**
QZX	**Qazax, Azerbai**	**2.86**	**256**	Pn		**Pn**	**18 17 29.8**	**-0.8**
	SNR=28							
QZX				Sn		**Sn**	**18 18 03.8**	**-0.3**
LKRN	**Lenkeran, Azer**	**3.09**	**184**	⇑Pn		**Pn**	**18 17 32.7**	**-1.1**
	SNR=4.5							
LKRN	**Lenkeran, Azer**	**3.09**	**184**	Pn		**Pn**	**18 17 32.7**	**-1.1**
	SNR=4.5							
SEAG	**Tbilisi Sea**	**3.17**	**271**	P		**Pn**	**18 17 33.6**	**-1.3**
TBLG	**Delisi**	**3.22**	**270**	*e*PN		**Pn**	**18 17 35.0**	**-0.5**
TBLG	**Delisi**	**3.22**	**270**	P		**Pn**	**18 17 35.1**	**-0.5**
TBLG				S		Sn	18 18 19.0	+6.1
TBLG	**Delisi**	**3.22**	**270**	P		**Pn**	**18 17 35.1**	**-0.5**
TBLG				S		Sn	18 18 19.0	+6.1
GNI	**Garni**	**3.65**	**245**	PN		**Pn**	**18 17 41.8**	**+0.3**
GNI				S		Sn	18 18 34.2	+11
GNI				pmax		pmax		
	comp=Z,7.0nm,0.3s							
GNI				smax		smax		
	comp=N,4.0nm,0.3s							
GNI				MLR		MLR		
	comp=Z,41nm,19.4s							
GNI	**Garni**	**3.65**	**245**	P		**Pn**	**18 17 41.8**	**+0.3**
	comp=Z,6.5nm,0.3s,baz=237,slow=1.7,SNR=15							
GNI				S		Sn	18 18 34.2	+11
	comp=Z,4.4nm,0.3s,baz=246,slow=5.4,SNR=4.5							
GNI				LR		LR	18 19 34.8	
	comp=Z,41nm,19.4s,baz=90,slow=47							
NAX	**Nakhchivan**	**3.77**	**227**	⇓Pn		**Pn**	**18 17 43.1**	**+0.1**
NAX				⇓S		**Sn**	**18 18 27.8**	**+1.6**
NAX	**Nakhchivan**	**3.77**	**227**	Pn		**Pn**	**18 17 43.1**	**+0.1**
NAX				S		**Sn**	**18 18 27.8**	**+1.6**
IHRS	**Heris**	**3.80**	**204**	*e*P		**Pn**	**18 17 43.6**	**0.0**
IHRS	**Heris**	**3.80**	**204**	*e*P		**Pn**	**18 17 43.6**	**0.0**
ZEI	**Tsey**	**3.94**	**286**	*e*PN		Pn	18 17 50.9	+5.4
ZEI				pmax		pmax		
	comp=Z,12nm,0.6s							
IMRD	**Marand**	**4.00**	**221**	*e*P		**Pn**	**18 17 46.6**	**+0.3**
IMRD	**Marand**	**4.00**	**221**	*e*P		**Pn**	**18 17 46.6**	**+0.3**
ISRB	**Sarab**	**4.11**	**195**	*e*P		**Pn**	**18 17 47.8**	**0.0**
ISRB	**Sarab**	**4.11**	**195**	*e*P		**Pn**	**18 17 47.8**	**0.0**
ONI	**Oni**	**4.23**	**283**	P		Pn	18 17 56.0	+6.7
ONI				S		Sn	18 18 44.8	+7.3
NCK	**Nalchik**	**4.36**	**295**	*e*PN		**Pn**	**18 17 50.5**	**-0.5**
NCK	**Nalchik**	**4.36**	**295**	*e*Pn		**Pn**	**18 17 50.5**	**-0.5**
NEY	**Neytrino**	**4.89**	**289**	*e*PN		**Pn**	**18 17 58.2**	**-0.2**
NEY	**Neytrino**	**4.89**	**289**	*e*Pn		**Pn**	**18 17 58.2**	**-0.2**
KBZ	**Khabaz**	**4.92**	**295**	P		**Pn**	**18 17 56.4**	**-2.2**
	baz=53,slow=20							
KBZ				S		**Sn**	**18 18 51.1**	**-3.0**
	comp=Z,2.0nm,0.3s,baz=57,slow=23,SNR=2.6							
KIV	**Kislovodsk**	**5.14**	**297**	*e*PN		**Pn**	**18 18 00.3**	**-1.5**
KIV				pmax		pmax		
	comp=Z,14nm,0.7s							
KIV				MLR		MLR		
	comp=Z,4.0nm,6.0s							
KIV	**Kislovodsk**	**5.14**	**297**	*e*Pn		**Pn**	**18 18 00.3**	**-1.5**
	comp=Z,4.0nm,6.0s							
GOF	**Gofitskoye**	**5.45**	**309**	*e*P		Pn	18 18 16.4	+11
GOF				*e*S		**Sn**	**18 19 05.5**	**-1.7**
IGZV	**Ghazvin**	**5.48**	**170**	*e*P		**Pn**	**18 18 04.8**	**-1.7**
IGZV	**Ghazvin**	**5.48**	**170**	*e*P		**Pn**	**18 18 04.9**	**-1.7**
IPRN	**Peran**	**6.11**	**154**	*e*P		**Pn**	**18 18 12.7**	**-2.4**
IRAZ	**Razeghan**	**6.42**	**174**	*e*P		**Pn**	**18 18 18.4**	**-1.0**
IRAZ	**Razeghan**	**6.42**	**174**	*e*P		**Pn**	**18 18 18.4**	**-1.0**
IGLO	**Ghaloghah**	**6.46**	**143**	*e*P		**Pn**	**18 18 16.9**	**-3.0**
IDMV	**Damavand**	**6.64**	**158**	*e*P		**Pn**	**18 18 22.2**	**-0.2**
IDMV	**Damavand**	**6.64**	**158**	*e*P		**Pn**	**18 18 22.2**	**-0.2**
IFIR	**Firoozkooh**	**6.80**	**154**	*e*P		**Pn**	**18 18 23.4**	**-1.1**
IFIR	**Firoozkooh**	**6.80**	**154**	*e*P		**Pn**	**18 18 23.4**	**-1.1**
ISHM	**Shahmirzad**	**6.84**	**150**	*e*P		**Pn**	**18 18 24.3**	**-0.8**
ISHM	**Shahmirzad**	**6.84**	**150**	*e*P		**Pn**	**18 18 24.3**	**-0.8**
ILAS	**Lasjerd**	**7.10**	**153**	*e*P		**Pn**	**18 18 28.1**	**-0.6**
ILAS	**Lasjerd**	**7.10**	**153**	*e*P		**Pn**	**18 18 28.1**	**-0.6**
IVRN	**Varamin**	**7.11**	**162**	*e*P		**Pn**	**18 18 28.8**	**+0.2**
IVRN	**Varamin**	**7.11**	**162**	*e*P		**Pn**	**18 18 28.8**	**+0.2**
GEYT	**Alibeck**	**7.97**	**116**	P		**Pn**	**18 18 37.2**	**-3.1**
	comp=Z,2.0nm,0.3s,baz=311,slow=18,SNR=17							
GEYT				S		Sn	18 20 00.3	-8.7
	baz=286,slow=27,SNR=1.3							
ISFR	**Sfrayin**	**8.39**	**121**	*e*P		**Pn**	**18 18 43.8**	**-2.5**
ISFR	**Sfrayin**	**8.39**	**121**	*e*P		**Pn**	**18 18 43.8**	**-2.5**
IKRD	**Kardeh**	**8.89**	**121**	*e*P		Pn	18 18 58.5	+5.5
ANN	**Anapa**	**8.98**	**293**	*e*P		Pn	18 18 49.4	-4.6
ANN				pmax		pmax		
	comp=Z,38nm,1.5s							
IPAY	**Payeh**	**9.39**	**121**	*e*P		**Pn**	**18 18 57.7**	**-2.2**
IPAY	**Payeh**	**9.39**	**121**	*e*P		**Pn**	**18 18 57.7**	**-2.2**
AKTK	**Aktyubinsk**	**10.64**	**33**	P		Pn	18 19 12.7	-3.9
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**10.64**	**33**	⇑Pn		Pn	18 19 12.6	-4.1
	comp=Z,1.0nm,0.3s							
AKTO				⇓Sn		Sn	18 21 01.3	-13
	comp=Z,9.9nm,0.6s							
AKTO	**Aktyubinsk**	**10.64**	**33**	P		Pn	18 19 12.7	-3.9
	comp=Z,0.9nm,0.3s,baz=213,slow=9.4,SNR=21							
AKTO				S		Sn	18 21 00.6	-13
	comp=Z,1.5nm,0.3s,baz=358,slow=20,SNR=15							
AKTO	**Aktyubinsk**	**10.64**	**33**	Pn		Pn	18 19 12.6	-4.1
	comp=Z,1.0nm,0.3s							
AB31	**Akbulak array**	**10.67**	**42**	⇓Pn		Pn	18 19 13.2	-3.9
	comp=Z,0.4nm,0.2s,baz=234,slow=15,SNR=43							
AB31				⇓Sn		Sn	18 21 04.2	-10
	comp=Z,1.3nm,0.3s,baz=241,slow=28,SNR=5.2							
AB31	**Akbulak array**	**10.

Error ellipse: s-maj=13.8km s-min=5.8km az=140.3
*JMA **20** 18:20:36.5±0.2, 43.63N×147.24E, h32km±5km, M3.7*
*SKHL **20** 18:20:36.8±0.6, 43.71N×147.36E, h51km±6km, mb4.7/2*
ISC 20 18:20:35.3±2.2, 43.7N±0.1×147.4E±0.1, h45km, n14, σ1s27/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.19**	**287**	*e*P	**Pn**	**18 20 55.0**	**-0.5**
YUK	490nm,0.2s			AMB	AMB	18 20 55.3	
YUK	931nm,0.4s			*e*S	**Sn**	**18 21 08.8**	**-1.7**
YUK	1μm,0.4s			A	A	18 21 09.9	
NEM2	**Nemuro 2**	**1.28**	**256**	P	**Pn**	**18 20 56.4**	**-0.3**
NEM2	64nm,0.1s			*e*S	**Sn**	**18 21 11.2**	**-1.4**
KUR	**Kuril'sk**	**1.57**	**11**	*e*P	**Pn**	**18 21 00.8**	**+0.1**
KUR	66nm,0.3s			AMB	AMB	18 21 02.0	
KUR	275nm,0.1s			*e*S	**Sn**	**18 21 19.4**	**-0.4**
KUR				A	A	18 21 21.6	
JRA	**Rausu**	**1.69**	**279**	P	**Pn**	**18 21 02.7**	**+0.3**
JRA				*e*S	**Sn**	**18 21 22.2**	**-0.7**
JNK	**Nakash**	**1.98**	**268**	P	**Pn**	**18 21 06.4**	**+0.1**
JNK				*e*S	**Sn**	**18 21 28.6**	**-1.3**
JAK	**Akkeshi**	**2.12**	**252**	P	**Pn**	**18 21 08.4**	**+0.2**
JTKR	**Abashiri--Toko**	**2.57**	**277**	P	**Pn**	**18 21 15.4**	**+1.0**
JAR	**Ashorobuto**	**2.70**	**263**	P	**Pn**	**18 21 17.6**	**+1.4**
JAR				*e*S	**Sn**	**18 21 47.9**	**+0.3**
JOB	**Onbets**	**2.75**	**254**	P	**Pn**	**18 21 17.7**	**+0.8**
JOB				*e*S	**Sn**	**18 21 47.9**	**-0.9**
JMP	**Maruseppu**	**2.97**	**277**	P	**Pn**	**18 21 21.1**	**+1.2**
HRK	**Horoka**	**3.14**	**267**	*e*P	**Pn**	**18 21 24.1**	**+1.8**
HRK				*e*S	**Sn**	**18 22 00.6**	**+2.0**
JCH	**Churui**	**3.17**	**251**	P	**Pn**	**18 21 23.7**	**+1.0**
JCH				*e*S	**Sn**	**18 21 58.0**	**-1.3**
JFR	**Furan**	**3.57**	**263**	P	**Pn**	**18 21 30.3**	**+2.1**
JNBK	**Urakawa-nobuka**	**3.72**	**249**	P	**Pn**	**18 21 30.9**	**+0.7**
JNBK				*e*S	**Sn**	**18 22 10.3**	**-2.4**

*NEIC **20** 18:25:57.8±4.3, 14.60S×76.07W, h1km±28km, mb4.4/2, Error ellipse: s-maj=21.3km s-min=9.6km az=67.0*
*IDC **20** 18:25:58.2±1.4, 14.71S×76.20W, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, ML3.3/3, MS3.9/15, Ms1 3.9/15, ms1mx3.8/23, Error ellipse: s-maj=43.5km s-min=20.3km az=61.0*
*ISCJB **20** 18:25:60.0±0.8, 14.75S±0.07×76.2W±0.2, h29km, mb3.9/6, MS4.0/11, Error ellipse: s-maj=22.6km s-min=7.2km az=158.5*
ISC 20 18:26:01.4±0.9, 14.55S±0.08×76.1W±0.1, h29km, n42, σ1s89/21, mb4.1/6, MS3.9/11, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.63**	**345**	Pn	**Pn**	**18 26 44.1**	**+2.0**
NNA	18nm,0.3s,baz=158,slow=14,SNR=14			Sn	**Sb**	**18 27 18.3**	**-1.6**
NNA	69nm,0.3s,baz=239,slow=14,SNR=8.4			LR	LR	18 27 47.0	
NNA	comp=Z,657nm,19.2s,baz=38,slow=39 **Nana**	**2.63**	**345**	*e*Pn	**Pn**	**18 26 43.2**	**+1.2**
NNA				*e*Sn	**Sn**	**18 27 11.9**	**-1.1**
NNA				Sn	**Sb**	**18 27 18.3**	**-1.6**
ATAH	**Atahualpa**	**7.69**	**343**	Pn	**Pn**	**18 27 54.8**	**+2.9**
ATAH	0.6nm,0.3s,baz=127,slow=15,SNR=2.5			Sn	Sn	18 29 29.4	+11
ATAH	0.8nm,0.3s,baz=285,slow=12,SNR=1.9			LR	LR	18 30 40.4	
LPAZ	comp=Z,430nm,20.8s,baz=188,slow=36 **La Paz**	**7.92**	**104**	Pn	Pn	18 28 00.2	+5.0
LPAZ	1.5nm,0.3s,baz=295,slow=8.0,SNR=52			LR	LR	18 31 33.2	
LPAZ	comp=Z,831nm,20.7s,baz=289,slow=42 **La Paz**	**7.92**	**104**	*e*Pn	**Pn**	**18 27 54.9**	**-0.2**
LVC	**Limon Verde**	**10.55**	**141**	*e*Pn	**Pn**	**18 28 31.7**	**+0.8**
LVC	22nm,0.3s,baz=318,slow=12,SNR=4.9 **Limon Verde**	**10.55**	**141**	*e*Pn	**Pn**	**18 28 30.8**	**-0.2**
SAML	**Samuel**	**13.85**	**68**	*e*Pn	**Pn**	**18 29 12.9**	**-2.9**
OTAV	4.1nm,0.9s **Otavalo**	**14.87**	**351**	Pn	Pn	18 29 24.2	-5.9
LCO	**Las Campanas**	**15.25**	**162**	*e*Pn	**Pn**	**18 29 32.4**	**-2.6**
CFAA	**Coronel Fontan**	**18.46**	**158**	P	**P**	**18 30 13.3**	**-1.6**
CFAA	0.0nm,0.3s,baz=322,slow=19,SNR=1.6			LR	LR	18 36 02.5	
ROSC	comp=Z,22nm,21.6s,baz=330,slow=33 **El Rosal**	**19.36**	**5**	LR	LR	18 39 32.4	
PTGA	comp=Z,269nm,20.3s,baz=212,slow=42 **Pitinga**	**21.08**	**51**	P	**P**	**18 30 46.6**	**+3.1**
CPUP	3.8nm,0.7s,baz=240,slow=12,SNR=7.0 **Villa Florida**	**21.14**	**127**	LR	LR	18 40 08.9	
SDV	comp=Z,1μm,18.5s,baz=210,slow=40 **Santo Domingo**	**23.91**	**14**	*e*P	**P**	**18 31 14.3**	**+1.1**
JTS	6.1nm,0.8s **JuntasAbangare**	**26.18**	**340**	LR	LR	18 41 39.2	
PCRV	comp=Z,247nm,18.1s,baz=143,slow=36 **Puerto La Cruz**	**27.08**	**26**	LR	LR	18 43 36.5	
BDFB	comp=Z,390nm,18.1s,baz=199,slow=39 **Brasilia**	**27.17**	**96**	LR	LR	18 44 55.4	
MTDJ	comp=Z,141nm,18.7s,baz=268,slow=42 **Mount Denham**	**32.59**	**358**	P	**P**	**18 32 29.3**	**-1.4**
TEIG	**Tepich**	**36.56**	**341**	P	**P**	**18 33 02.8**	**-2.0**
TXAR	6.3nm,0.9s **Lajitas Array**	**51.08**	**329**	P	P	18 35 04.9	+3.3
TXAR	0.6nm,0.9s,baz=140,slow=8.0,SNR=5.0			LR	LR	18 54 40.5	
RKT	comp=Z,90nm,18.6s,baz=0.0,slow=34 **Rikitea**	**56.02**	**252**	*e*LR	LR	18 51 49.4	
RKT	305nm,32.8s **Rikitea**	**56.02**	**252**	*e*T	T	19 35 52.0	
PDAR	6.4nm,0.2s **Pinedale Array**	**64.76**	**333**	LR	LR	19 04 59.3	
TBI	comp=Z,37nm,19.8s,baz=172,slow=36 **Tubuai**	**69.28**	**250**	*e*LR	LR	18 58 09.8	
TIAR	171nm,30.2s **Tiarei**	**70.02**	**256**	*e*T	T	19 53 21.8	
PPT2	2.0nm,0.2s **Papeete2**	**70.23**	**256**	*e*LR	LR	18 58 27.1	
PPT	82nm,26.0s **Papeete**	**70.23**	**256**	LR	LR	19 00 05.9	
DBIC	comp=Z,76nm,20.1s,baz=183,slow=29 **Dimbokro**	**73.75**	**79**	LR	LR	19 08 23.1	
TORD	comp=Z,200nm,19.9s,baz=223,slow=34 **Torodi Ar. Bea**	**81.82**	**74**	P	**P**	**18 38 19.8**	**+1.4**
TORD	2.8nm,0.6s,baz=262,slow=3.3,SNR=19			LR	LR	19 12 15.5	
YKA	comp=Z,111nm,21.1s,baz=235,slow=34 **Yellowknife Ar**	**82.47**	**343**	P	**P**	**18 38 21.3**	**+0.6**
ESDC	0.2nm,0.7s,baz=145,slow=6.7,SNR=3.2 **Sonseca Array**	**85.98**	**47**	LR	LR	19 14 30.9	
MAW	comp=Z,80nm,19.6s,baz=245,slow=34 **Mawson**	**92.84**	**165**	LR	LR	19 20 51.0	
H11N3	comp=Z,27nm,18.2s,baz=247,slow=36 **WAKE ISLAND Hyl**	**19.81**	**285**	T	T	20 55 45.8	
H11N2	baz=96,slow=74,SNR=420 **WAKE ISLAND Hyl**	**19.82**	**285**	T	T	20 55 46.5	
H11N1	baz=96,slow=74,SNR=362 **WAKE ISLAND Hyl**	**19.83**	**285**	T	T	20 55 46.9	
H11S2	baz=96,slow=74,SNR=138 **WAKE ISLAND Hyl**	**19.87**	**283**	T	T	20 55 45.1	
H11S1	baz=97,slow=75,SNR=97 **WAKE ISLAND Hyl**	**19.88**	**283**	T	T	20 55 47.4	
H11S3	baz=97,slow=75,SNR=51 **WAKE ISLAND Hyl**	**19.89**	**283**	T	T	20 55 44.1	
ZALV	baz=97,slow=75,SNR=79 **Zalesovo Beam**	**137.94**	**17**	PKP	**PKPdf**	**18 45 24.6**	**+1.5**
MKAR	0.3nm,0.4s,baz=306,slow=2.7,SNR=2.2 **Makanchi Array**	**143.14**	**25**	PKP	**PKPdf**	**18 45 34.7**	**+1.9**
SONM	0.2nm,0.6s,baz=354,slow=4.3,SNR=1.8 **Songino Array**	**146.74**	**357**	PKPbc	**PKPab**	**18 45 42.1**	**+0.1**
	0.8nm,0.6s,baz=307,slow=0.8,SNR=4.1						

PRE 20 18:34:27.2±4.2, 22.19S×33.24E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**2.99**	**266**	*e*P	Pn	18 35 16.2	+0.9
MSNA				*e*S	Sn	18 35 49.8	-1.8
MSNA	comp=Z,245nm,0.5s			AML	AML	18 36 06.6	
PRYS	**Parys**	**7.14**	**227**	*e*P	Pn	18 36 13.3	+0.7
PRYS				*e*S	Sn	18 37 30.6	-3.6
PRYS	comp=Z,22nm,0.5s			AML	AML	18 38 37.4	
LBTB	**Lobatse**	**7.56**	**247**	*e*P	Pn	18 36 18.6	+0.3
LBTB				*e*S	Sn	18 37 45.1	+0.7
LBTB	comp=Z,28nm,0.6s			AML	AML	18 38 36.6	
UPI	**Upington**	**12.46**	**238**	*e*P	Pn	18 37 27.7	+2.2
UPI				*e*S	Sn	18 39 35.5	-9.4
UPI	comp=Z,16nm,0.6s			AML	AML	18 39 48.5	

*NNC **20** 18:57:54.3±2.5, 43.60N×76.90E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=15.7km s-min=9.3km az=35.0*
*KRNET **20** 18:57:54.7±0.1, 42.85N×77.14E, h6km, mb3.5*
ISC 20 18:57:55.0±1.3, 42.87N±0.03×77.12E±0.05, h6km±13km, n27, σ0s72/39, 16C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**0.37**	**342**	⇑P	**Pg**	**18 58 02.1**	**-0.2**
KNDC	28nm,0.3s			⇑S	**Sg**	**18 58 07.5**	**+0.5**
KDJ	72nm,0.2s **Kajisay**	**0.74**	**177**	*i* P	**Pg**	**18 58 09.0**	**-0.2**
KDJ	baz=177			*e*S	**Sg**	**18 58 19.0**	**+0.2**
ULHL	baz=177 **Ulahol**	**0.90**	**227**	P	**Pg**	**18 58 12.2**	**-0.1**
ULHL	SNR=54			*e*P	**Pg**	**18 58 12.3**	**-0.1**
ULHL	baz=228			*i* S	**Sb**	**18 58 24.9**	**-0.6**
BOOM	baz=228 **Boomskoye usch**	**0.95**	**247**	*e*P	**Pg**	**18 58 13.0**	**-0.3**
BOOM	baz=248			*e*S	**Sg**	**18 58 26.1**	**+0.5**
TKM2	**Tokmak 2**	**1.12**	**273**	⇑P	**Pb**	**18 58 16.0**	**-0.9**
TKM2	1.0nm,0.2s			⇑S	**Sb**	**18 58 31.6**	**-0.3**
TKM2	16nm,0.3s **Tokmak 2**	**1.12**	**273**	P	**Sb**	**18 58 31.4**	**-0.6**
KZA	SNR=9.2 **Kyzart**	**1.59**	**241**	P	**Pb**	**18 58 24.9**	**-0.2**
KZA	SNR=19 **Kyzart**	**1.59**	**241**	⇑*i*P	**Pb**	**18 58 24.7**	**-0.4**
KZA	baz=242			⇑*i*S	**Sg**	**18 58 46.9**	**+0.6**
NRN	baz=242 **Naryn**	**1.66**	**211**	*e*P	**Pb**	**18 58 26.1**	**-0.1**
NRN	baz=211			*e*S	**Sg**	**18 58 49.0**	**+0.6**
CHMS	**Chumysh**	**1.75**	**275**	P	**Pb**	**18 58 26.8**	**-0.7**
CHMS	SNR=15 **Chumysh**	**1.75**	**275**	⇑*i*P	**Pb**	**18 58 26.6**	**-0.9**
CHMS	baz=276			⇑*i*S	**Sb**	**18 58 49.8**	**+0.1**
PDGK	baz=276 **Podgornoye**	**1.79**	**74**	⇓Pn	**Pn**	**18 58 26.3**	**-0.1**
PDGK	3.6nm,0.4s			⇑Lg	Lg	18 58 48.8	
AAK	42nm,0.7s **Ala-Archa**	**1.95**	**264**	⇑P	**Pb**	**18 58 30.7**	**-0.3**
AAK	7.2nm,0.4s			⇑S	**Sb**	**18 58 56.7**	**+1.0**
AAK	15nm,0.5s **Ala-Archa**	**1.95**	**264**	P	**Pb**	**18 58 30.8**	**-0.3**
AAK	SNR=21 **Ala-Archa**	**1.95**	**264**	⇓*i*P	**Pb**	**18 58 30.6**	**-0.4**
AAK	baz=265			⇓*i*S	**Sb**	**18 58 56.7**	**+1.0**
USP	baz=265 **Ospenovka**	**1.96**	**283**	P	**Pb**	**18 58 30.9**	**-0.3**
USP	SNR=5.8 **Ospenovka**	**1.96**	**283**	⇓*i*P	**Pb**	**18 58 30.0**	**-1.2**
USP	baz=283			⇓*i*S	**Sb**	**18 58 56.5**	**+0.6**
UCH	baz=283 **Uchtor**	**2.03**	**253**	P	**Pb**	**18 58 32.3**	**-0.3**
UCH	SNR=9.0 **Uchtor**	**2.03**	**253**	⇑*i*P	**Pb**	**18 58 32.0**	**-0.6**
UCH	baz=253			⇑*i*S	**Sg**	**18 59 00.0**	**-0.3**
ARLS	baz=253 **Aral**	**2.31**	**245**	⇓*i*P	**Pb**	**18 58 36.6**	**-0.5**
ARLS	baz=245			⇓*i*S	**Sg**	**18 59 08.2**	**-0.9**
EKS	**Erkin-Say**	**2.46**	**266**	*i* P	**Pb**	**18 58 38.5**	**-1.3**
EKS2	baz=267 **Erkin-Say**	**2.47**	**266**	P	**Pb**	**18 58 38.8**	**-1.1**
AML	SNR=5.4 **Almayashu**	**2.64**	**255**	P	**Pb**	**18 58 43.5**	**+0.6**
MNAS	SNR=14 **Manas**	**3.43**	**265**	⇓Pn	**Pb**	**18 58 57.0**	**+0.8**
MNAS	0.5nm,0.4s			⇑Lg	Lg	18 59 42.6	
KK31	4.7nm,0.6s **Karatay Array**	**4.86**	**275**	⇑Pg	**Pb**	**18 59 22.5**	**+2.0**
KK31	0.6nm,0.6s,baz=82,slow=16,SNR=4.7			⇓Lg	Lg	19 00 26.0	
MK31	1.5nm,0.4s,baz=91,slow=30,SNR=9.6 **Makanchi Array**	**5.38**	**41**	⇑Lg	Lg	19 00 38.7	
	0.4nm,0.5s,baz=232,slow=25,SNR=4.5						

*MEX **20** 19:07:31.6±0.6, 32.90N×115.57W, h4km±18km, MD3.7*
*ISCJB **20** 19:07:35.2±0.3, 32.58N±0.02×115.64W±0.02, h18km±5km, Error ellipse: s-maj=3.7km s-min=3.4km az=29.9*
*NEIC **20** 19:07:35.9, 32.54N×115.64W, h14km, ML3.1(PAS), After PAS.*
*ECX **20** 19:07:36.5±0.7, 32.54N×115.66W, h4km, MD3.0, ML3.2*
ISC 20 19:07:35.0±0.9, 32.54N±0.02×115.64W±0.02, h11km±8km, n31, σ1s02/49, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.13**	**326**	⇓*i*P	**Pg**	**19 07 38.7**	**+0.5**
YUH	**Yuha Desert**	**0.26**	**294**	⇓*i*P	**Pg**	**19 07 40.9**	**+0.4**
CPBX	**Cerro Prieto**	**0.31**	**113**	*e*P	**Pb**	**19 07 42.3**	**-0.3**
CPBX				*e*S	**Sb**	**19 07 47.5**	**0.0**
CPBX				AML	AML	19 07 54.1	
CPBX	comp=E,11μm,0.4s			⇓*e*		19 07 54.1	
CPBX	**Cerro Prieto**	**0.31**	**113**	*i* P	**Pb**	**19 07 42.2**	**-0.3**
COK	**Cook Ranch**	**0.32**	**346**	⇓*i*P	**Pb**	**19 07 42.4**	**-0.2**
RMX	**La Rumorosa**	**0.38**	**279**	*e*P	**Pg**	**19 07 43.0**	**+0.4**
RMX				*e*S	**Sg**	**19 07 48.4**	**+0.7**
MBIG	**Mexicali**	**0.40**	**110**	*e*P	**Pb**	**19 07 43.5**	**-0.5**
MBIG				*i* S	**Sb**	**19 07 51.3**	**+1.3**
COA	**Coachella**	**0.54**	**53**	⇑*i*P	**Pb**	**19 07 46.2**	**-0.2**
EMX	**El Mayor**	**0.65**	**149**	⇓*e*P	**Pg**	**19 07 47.3**	**-0.3**
EMX				*e*S	**Sg**	**19 07 56.1**	**+0.1**
RDX	**Rancho Dawling**	**0.66**	**203**	⇑*e*P	**Pg**	**19 07 47.9**	**0.0**
RDX				*e*S	**Sg**	**19 07 57.0**	**+0.3**
GLA	**Glamis**	**0.85**	**53**	*e*Pg	**Pg**	**19 07 50.6**	**-0.9**
GLA				*e*Sg	**Sg**	**19 08 01.3**	**-1.4**
BAR	**Barrett**	**0.88**	**279**	*e*P	**Pg**	**19 07 52.1**	**0.0**
BAR	**Barrett**	**0.88**	**279**	*e*Pg	**Pg**	**19 07 51.8**	**-0.2**
BAR				*e*Sg	**Sg**	**19 08 02.6**	**-1.0**
CBX	**Cerro Bola**	**0.90**	**256**	*e*P	**Pg**	**19 07 50.5**	**-1.8**
CBX				*i* S	**Sg**	**19 08 04.1**	**0.0**
CBX	**Cerro Bola**	**0.90**	**256**	⇑*e*P	**Pg**	**19 07 52.3**	**0.0**
CBX				*e*S	**Sg**	**19 08 03.7**	**-0.3**
CBX	**Cerro Bola**	**0.90**	**256**	*e*P	**Pg**	**19 07 52.3**	**0.0**
CBX				*i* S	**Sg**	**19 08 04.1**	**0.0**
ZAX	**El Zacaton**	**1.16**	**208**	*e*P	**Pb**	**19 07 56.7**	**-0.4**
ZAX				*e*S	**Sb**	**19 08 11.5**	**-0.6**
ZAX				⇑*e*		19 08 14.2	
ZAX				AML	AML	19 08 14.2	
ECBX	comp=N,430nm,0.6s **El Chinero**	**1.18**	**155**	*e*P	**Pb**	**19 07 56.6**	**-0.7**
ECBX				*e*S	**Sb**	**19 08 12.0**	**-0.5**
ECBX				AML	AML	19 08 14.2	
ECBX	comp=N,536nm,0.4s			⇓*e*		19 08 14.2	
ECNX	**Esteban Cantu**	**1.20**	**223**	*e*P	**Pn**	**19 07 57.4**	**-0.4**
ECNX				*e*S	**Sb**	**19 08 13.3**	**0.0**
PBX	**Punta Banda**	**1.22**	**229**	*e*P	**Pn**	**19 07 57.8**	**-0.2**
PBX				*e*S	**Sb**	**19 08 13.6**	**-0.2**
PFO	**Pinyon Flats O**	**1.27**	**327**	*e*Pn	**Pn**	**19 07 56.6**	**-2.2**
PFO				*e*Sn	**Sb**	**19 08 12.3**	**-3.0**
SPIG	**San Pedro Mart**	**1.50**	**174**	*i* P	**Pn**	**19 08 01.0**	**-1.1**
SPIG				*i* S	**Sg**	**19 08 23.5**	**+0.2**
SPX	**San Pedro Mart**	**1.50**	**174**	*e*P	**Pn**	**19 08 02.8**	**+0.7**
SPX				*e*S	**Sb**	**19 08 22.9**	**+0.8**
SPX				⇑*e*		19 08 24.3	
SPX				AML	AML	19 08 24.3	
214A	comp=E,126nm,0.5s **Organ Pipe Nat**	**2.46**	**103**	*e*Pn	**Pn**	**19 08 13.0**	**-2.1**
LDFC	**Landfair**	**2.57**	**10**	*e*Pn	Pn	19 08 05.5	-11
MWC	**Mount Wilson**	**2.63**	**310**	*e*Pn	**Pn**	**19 08 17.8**	**+0.3**
MWC				*e*Sn	**Sn**	**19 08 52.1**	**+2.6**
GSC	**Goldstone, Bar**	**2.92**	**341**	Pn	**Pn**	**19 08 20.3**	**-1.1**
ISA	**Isabella, Lake**	**3.90**	**324**	Pn	**Pn**	**19 08 36.4**	**+1.4**
SHPR	**Sheep Range**	**3.97**	**6**	Pn	**Pn**	**19 08 36.0**	**0.0**
WUAZ	**Wupatki**	**4.62**	**49**	*e*Pn	**Pn**	**19 08 46.5**	**+1.6**
WUAZ				*e*Pg	**Pg**	**19 09 04.7**	**+1.1**
CCUT	**Cedar City**	**5.33**	**20**	*e*Pn	**Pn**	**19 08 55.5**	**+0.7**

*IDC **20** 19:07:42.2±0.6, 39.14N×72.55E, h0km, mb4.1/21, mb1 4.2/28, mb1mx4.1/43, mbtmp4.1/28, ML3.8/7, MS3.3/10, Ms1 3.3/10, ms1mx3.0/34, Error ellipse: s-maj=12.9km s-min=10.2km az=177.0*
*MOS **20** 19:07:43.8±1.1, 39.05N×72.35E, h27km, mb4.8/31, Error ellipse: s-maj=6.9km s-min=4.4km az=88.0*
*KRNET **20** 19:07:44.3±0.1, 39.44N×72.59E, h2km, mb4.8*
*NNC **20** 19:07:45.4±1.6, 39.45N×72.45E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=15.9km s-min=6.2km az=167.0*
*NEIC **20** 19:07:49.2±0.9, 39.33N×72.44E, h50km±7km, mb4.5/10, Error ellipse: s-maj=8.7km s-min=6.4km az=177.0*
*BJI **20** 19:07:52.8, 39.64N×72.69E, h83km, mB4.5/14, mb4.3/22, Ms3.9/6, Ms7 3.5/5*
ISC 20 19:07:45.7±0.9, 39.47N±0.03×72.59E±0.02, h16km±5km, n280, σ1s61/254, mb4.4/58, MS3.1/8, 22C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.61**	**271**	*i* P	**Pg**	**19 07 56.4**	**-1.4**
DRK	baz=274			*e*S	**Sg**	**19 08 05.6**	**-0.4**
CHVK	baz=274 **Chauvay**	**0.72**	**337**	⇓*i*P	**Pg**	**19 07 59.0**	**-0.8**
CHVK	baz=337			⇓*e*S	**Sb**	**19 08 10.6**	**+0.9**
SFK	**Sufi-Kurgan**	**0.89**	**52**	⇑P	**Pb**	**19 08 03.0**	**+0.1**
SFK	131nm,0.4s			⇑S	**Sn**	**19 08 18.8**	**+2.4**
BTK	598nm,0.4s **Batken**	**1.48**	**294**	⇓*i*P	**Pg**	**19 08 13.0**	**-1.3**
BTK	baz=295			⇓*e*S	**Sg**	**19 08 34.0**	**+0.4**
SALK	baz=295 **Salom-Alik**	**1.69**	**34**	*e*P	**Pb**	**19 08 16.9**	**+0.3**
SALK	baz=33			*e*S	**Sg**	**19 08 40.3**	**-0.1**
ARK	baz=33 **Arkit**	**2.37**	**349**	*e*P	**Pg**	**19 08 30.1**	**-1.1**
KSH	baz=349 **Kashi**	**2.62**	**88**	P	**Pn**	**19 08 27.8**	**+0.4**
KSH				S	**Sn**	**19 08 59.1**	**+0.1**
KSH	1μm,0.8s			SMN			
KSH	950nm,0.8s			SME			
ARLS	**Aral**	**2.73**	**28**	⇓*i*P	**Pb**	**19 08 33.5**	**-0.7**
AML	baz=28 **Almayashu**	**2.79**	**17**	P	**Pb**	**19 08 35.3**	**0.0**
AML	SNR=395 **Almayashu**	**2.79**	**17**	*i* PN	**Pb**	**19 08 35.3**	**0.0**
DZET	**Dzherino**	**3.00**	**258**	⇓Pn	**Pn**	**19 08 33.5**	**+0.9**
DZET	233nm,0.5s			⇓Lg	Lg	19 09 17.4	
DZET	956nm,0.4s **Dzherino**	**3.00**	**258**	PN	**Pn**	**19 08 33.5**	**+0.9**
DZET						19 09 17.6	
DZET	comp=Z,289nm,0.5s			pmax	pmax		
DZET	comp=N,1μm,0.5s			smax	smax		
MNAS	**Manas**	**3.01**	**359**	⇓Pn	**Pb**	**19 08 38.0**	**-1.0**
MNAS	comp=N,187nm,0.5s			⇑Lg	Lg	19 09 20.7	
UCH	comp=N,748nm,0.6s **Uchtor**	**3.12**	**27**	P	**Pb**	**19 08 40.0**	**-1.0**
UCH	SNR=26 **Uchtor**	**3.12**	**27**	*i* PN	**Pb**	**19 08 39.9**	**-1.0**
NRN	**Naryn**	**3.26**	**52**	*e*P	**Pb**	**19 08 40.4**	**-2.9**
KZA	baz=52 **Kyzart**	**3.30**	**37**	P	**Pb**	**19 08 42.7**	**-1.3**
KZA	SNR=33 **Kyzart**	**3.30**	**37**	*i* PN	**Pb**	**19 08 42.7**	**-1.3**
EKS2	**Erkin-Say**	**3.31**	**15**	P	**Pb**	**19 08 42.8**	**-1.3**
EKS2	SNR=58 **Erkin-Say**	**3.31**	**15**	*e*PN	**Pb**	**19 08 42.4**	**-1.7**
EKS2				*e*		19 09 24.9	
EKS2	**Erkin-Say**	**3.31**	**15**	*e*Pn	**Pb**	**19 08 42.4**	**-1.7**
EKS2				*e*Sn	**Sb**	**19 09 24.9**	**+0.7**
EKS	**Erkin-Say**	**3.32**	**15**	⇓*i*P	**Pb**	**19 08 43.5**	**-0.7**
AAK	baz=15 **Ala-Archa**	**3.47**	**24**	⇓Pn	**Pb**	**19 08 45.3**	**-1.5**
AAK	comp=N,86nm,0.6s			⇑Lg	Lg	19 09 32.4	
AAK	comp=N,199nm,0.6s **Ala-Archa**	**3.47**	**24**	P	**Pb**	**19 08 45.4**	**-1.5**
AAK	SNR=89 **Ala-Archa**	**3.47**	**24**	Pn	**Pb**	**19 08 45.3**	**-1.5**
AAK	comp=N,13nm,0.3s,baz=184,slow=6.3,SNR=206			Sn	**Sb**	**19 09 30.3**	**+1.4**
AAK	comp=N,15nm,0.3s,baz=335,slow=20,SNR=10			LR	LR	19 10 25.4	
AAK	comp=N,125nm,18.0s,baz=344,slow=43 **Ala-Archa**	**3.47**	**24**	*e*Pn	**Pb**	**19 08 45.1**	**-1.8**
AAK				*e*Sn	**Sb**	**19 09 26.8**	**-2.0**
AAK				Sn	**Sb**	**19 09 30.3**	**+1.4**
KBK	**Karagaybulak**	**3.65**	**29**	P	**Pb**	**19 08 48.0**	**-1.9**
KBK	SNR=22 **Karagaybulak**	**3.65**	**29**	*i* PN	**Pb**	**19 08 48.0**	**-1.9**
FRU	**Bishkek**	**3.69**	**24**	*e*PN	**Pb**	**19 08 48.0**	**-2.5**
FRU				*i*		19 09 39.0	
FRU				*i*		19 09 48.0	
FRU	comp=N,760nm,1.7s			pmax	pmax		
CHMS	**Chumysh**	**3.88**	**24**	P	Pb	19 08 50.6	-3.2
CHMS	SNR=58 **Chumysh**	**3.88**	**24**	*i* PN	Pb	19 08 50.6	-3.2
ULHL	**Ulahol**	**3.92**	**44**	P	Pb	19 08 51.2	-3.4
ULHL	SNR=26 **Ulahol**	**3.92**	**44**	*i* PN	Pb	19 08 51.1	-3.4
KK31	**Karatay Array**	**3.95**	**337**	⇑Pn	Pn	19 08 49.7	+4.1
KK31	comp=N,37nm,0.3s,baz=151,slow=12,SNR=1474			⇓Sn	**Sb**	**19 09 39.6**	**-2.8**
KK31	comp=N,305nm,0.8s,baz=145,slow=22,SNR=10.0 **Karatay Array**	**3.95**	**337**	PN	Pn	19 08 49.8	+4.2
KK31				*e*		19 09 39.6	
KK31	comp=Z,97nm,0.4s			pmax	pmax		
KK31	comp=N,99nm,0.3s			smax	smax		
KKAR	**Karatay Array**	**3.95**	**337**	*e*PN	Pn	19 08 49.2	+3.6
KKAR	**Karatay Array**	**3.95**	**337**	*e*Pn	Pn	19 08 49.2	+3.6
KKAR				*e*Sn	**Sn**	**19 09 33.0**	**+1.4**
USP	**Ospenovka**	**4.05**	**20**	P	Pb	19 08 52.6	-4.1
USP	SNR=26 **Ospenovka**	**4.05**	**20**	*i* PN	Pb	19 08 52.6	-4.1
TKM2	**Tokmak 2**	**4.13**	**32**	⇓Pn	Pb	19 08

AAA smax smax
comp=E,426nm,0.8s
CEP Cherat 5.66 186 P Pn 19 09 11.9 +2.6
KBL Kabul 5.68 211 *e*PN **Pn** **19 09 09.9 +0.3**
KBL *e*S **Sn** **19 10 18.7 +4.2**
KBL pmax pmax
comp=Z,44nm,0.6s
KBL Kabul 5.68 211 *e*Pn **Pn** **19 09 09.9 +0.3**
comp=Z,44nm,0.6s
KBL *e*S **Sn** **19 10 18.7 +4.2**
CHCP Chirah Chowk 5.83 174 ⇑P **Pn** **19 09 13.2 +1.7**
PDGK Podgornoye 6.46 51 ⇑Pn Pn 19 09 24.3 +4.2
comp=Z,12nm,0.6s
PDGK ⇓Lg Lg 19 11 14.5
comp=Z,118nm,1.0s
PDGK Podgornoye 6.46 51 PN Pn 19 09 24.2 +4.2
PDGK 19 11 14.4
PDGK pmax pmax
comp=Z,19nm,0.7s
PDGK smax smax
comp=N,222nm,1.5s
DHRM DHARAMSHALA 7.81 156 *e*P **Pn** **19 09 38.9 0.0**
DHRM *e*S **Sn** **19 11 07.3 +0.2**
DHRM AML AML 19 12 10.5
comp=N,36nm,0.6s
DHRM AML AML 19 12 11.6
comp=E,52nm,0.5s
BHK Bhakra 8.62 158 *ex* **Sn** **19 11 29.2 +2.5**
SDNR Sundarnagar 8.72 154 *e*P **Pn** **19 09 51.0 -0.1**
SDNR *e*S **Sn** **19 11 30.0 +0.9**
OTUK Ortayu 8.77 359 ⇓Pn **Pn** **19 09 53.9 +2.1**
comp=E,8.7nm,0.7s
OTUK ⇑Lg Lg 19 12 25.7
comp=E,32nm,1.0s
OTUK Ortayu 8.77 359 P **Pn** **19 09 54.3 +2.5**
OTUK pmax pmax
comp=Z,8.0nm,0.6s
SMLA Simla 9.13 154 *e*P **Pn** **19 09 57.2 +0.5**
SMLA *ex* x 19 11 35.3
SMLA AML AML 19 12 18.9
comp=N,42nm,0.6s
SMLA AML AML 19 12 21.0
comp=E,35nm,0.4s
MK31 Makanchi Array 10.18 41 Pn Pn 19 10 16.3 +5.1
comp=E,8.2nm,0.8s,baz=220,slow=14,SNR=122
MK31 ⇑Lg Lg 19 13 11.5
comp=E,7.0nm,0.8s,baz=230,slow=26,SNR=3.7
MK31 Makanchi Array 10.18 41 *e*P Pn 19 10 16.2 +5.1
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 10.18 41 Pn Pn 19 10 16.4 +5.3
comp=Z,0.8nm,0.3s,baz=220,slow=11,SNR=54
MKAR Lg Lg 19 13 09.8
comp=Z,0.2nm,0.3s,baz=235,slow=27,SNR=2.3
IMYA Miami 10.35 256 *e*P Pn 19 10 09.2 -4.3
ISRO Mashad 10.84 257 *e*P Pn 19 10 15.8 -4.4
IMOG Moghan 11.01 256 *e*P Pn 19 10 18.4 -4.3
IPAY Payeh 11.14 259 *e*P Pn 19 10 21.4 -3.2
GEYT Alibeck 11.41 267 Pn **Pn** **19 10 25.6 -2.4**
comp=Z,1.2nm,0.3s,baz=92,slow=11,SNR=14
GEYT Sn **Sn** **19 12 38.0 +2.9**
comp=Z,2.1nm,0.3s,baz=120,slow=17,SNR=3.9
GEYT LR LR 19 15 30.5
comp=Z,181nm,19.8s,baz=115,slow=41
NDI New Delhi 11.42 159 *e*P **Pn** **19 10 27.0 -1.1**
KHET Khetri 11.68 166 *e*P Pn 19 10 27.5 -4.2
KHET *e*S Sn 19 12 28.1 -14
KHET AML AML 19 12 41.3
comp=N,72nm,0.1s
KHET AML AML 19 12 41.3
comp=E,112nm,0.1s
ISFR Sfrayin 11.72 263 *e*P **Pn** **19 10 30.4 -2.0**
KUDL Kundal 11.75 163 *e*P Pn 19 10 29.3 -3.3
KUDL *e*S Sn 19 12 33.1 -10
KUDL AML AML 19 12 43.1
comp=E,9.6nm,0.6s
KUDL AML AML 19 12 50.2
comp=N,9.1nm,0.1s
SONA Sohna 11.80 160 *e*P **Pn** **19 10 31.0 -2.2**
SONA *e*S Sn 19 12 36.5 -8.1
SONA AML AML 19 12 48.4
comp=E,18nm,0.1s
SONA AML AML 19 12 48.7
comp=N,13nm,0.6s
KURBB Kurchatov Arra 11.91 19 ⇑Pn **Pn** **19 10 36.6 +1.9**
comp=N,3.7nm,0.6s
KURBB ⇑Lg Lg 19 14 07.1
comp=N,84nm,1.5s
KURBB Kurchatov Arra 11.91 19 Pn **Pn** **19 10 36.6 +1.9**
comp=N,0.1nm,0.3s,baz=215,slow=11,SNR=12
KURBB Lg Lg 19 14 00.3
comp=N,0.1nm,0.3s,baz=201,slow=28,SNR=3.5
KURK Kurchatov 12.02 19 ⇑Pn **Pn** **19 10 37.0 +0.8**
comp=N,2.4nm,1.0s
KURK ⇓Lg Lg 19 14 10.3
comp=N,36nm,1.4s
KURK Kurchatov 12.02 19 P **Pn** **19 10 37.0 +0.8**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 12.02 19 *e*Pn **Pn** **19 10 35.3 -0.9**
comp=Z,7.8nm,1.0s
KURK Lg Lg 19 14 00.3
WMQ Urumqi 12.11 64 *e*P **Pn** **19 10 37.1 -0.4**
WMQ pP 19 10 47.3
WMQ pmax pmax
comp=Z,9.0nm,0.7s
AGRA Agra 13.00 158 *e*S Sn 19 13 04.0 -10
AGRA AML AML 19 13 52.1
comp=N,90nm,0.5s
AGRA AML AML 19 13 57.5
comp=E,81nm,0.1s
AB31 Akbulak array 13.30 321 ⇑Pn **Pn** **19 10 52.7 -1.0**
comp=E,4.6nm,0.4s
AB31 Akbulak array 13.30 321 P **Pn** **19 10 52.7 -1.0**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
ABKAR Akbulak array 13.30 321 *e*Pn **Pn** **19 10 52.4 -1.4**
comp=Z,14nm,0.5s
ABKAR *e*Sn Sn 19 13 13.6 -7.6
BVAR Borovoye Array 13.64 354 Pn **Pn** **19 10 58.8 +0.5**
comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=19
BVAR Lg Lg 19 15 00.6
comp=Z,0.3nm,0.3s,baz=170,slow=26,SNR=2.8
BRVK Borovoye 13.68 354 ⇓Pn **Pn** **19 10 58.3 -0.5**
comp=Z,19nm,0.8s
BRVK ⇑Lg Lg 19 15 02.8
comp=Z,50nm,1.4s
BRVK Borovoye 13.68 354*c i*P **Pn** **19 10 59.4 +0.5**
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 13.68 354 *e*Pn **Pn** **19 10 59.1 +0.3**
comp=Z,14nm,0.8s
DANN Dangsing 14.45 137 *e*P Pn 19 11 03.9 -5.9
comp=Z,32nm,0.7s
AKTO Aktyubinsk 15.02 322 ⇓Pn **Pn** **19 11 15.5 -1.7**
comp=Z,42nm,0.9s
AKTO Aktyubinsk 15.02 322 Pn **Pn** **19 11 16.2 -0.9**
comp=Z,0.8nm,0.3s,baz=133,slow=13,SNR=38
AKTO Sn **Sn** **19 13 59.5 -3.6**
comp=Z,0.6nm,0.3s,baz=348,slow=21,SNR=6.1
AKTO LR LR 19 17 41.0
comp=Z,153nm,21.8s,baz=142,slow=39
IGLO Ghaloghah 15.09 265 *e*P **Pn** **19 11 15.7 -2.6**
KKN Kakani 15.71 134 *e*P Pn 19 11 20.3 -6.2
comp=Z,26nm,0.7s
DMN Daman 15.76 135 *e*P Pn 19 11 20.2 -7.0
comp=Z,24nm,0.8s
PKIN Phulchoki 15.94 134 *e*P Pn 19 11 23.4 -6.2
comp=Z,26nm,0.8s
PKI Pulchoki 15.95 134 *e*P Pn 19 11 23.7 -6.1
comp=Z,27nm,0.8s
GUN Gumba 15.96 132 *e*P Pn 19 11 24.3 -5.5
comp=Z,8.1nm,0.4s
JIRN Jiri 16.33 132 *e*P Pn 19 11 28.4 -6.2
comp=Z,18nm,0.5s
ZALV Zalesovo Beam 16.70 26 P **P** **19 11 41.0 0.0**
ZALV Zalesovo Beam 16.70 26 P **P** **19 11 41.0 0.0**
comp=Z,1.0nm,0.3s,baz=218,slow=11,SNR=36
ZALV S **Sn** **19 14 37.5 -6.2**
comp=Z,0.7nm,0.3s,baz=29,slow=24,SNR=7.4
ZALV Lg Lg 19 16 38.1
comp=Z,0.1nm,0.3s,baz=209,slow=23,SNR=2.1
NVS Novosibirsk 16.96 21 *e*P **P** **19 11 43.9 0.0**
NVS *e* 19 14 56.2
RAMN Ramite 17.10 133 *e*P Pn 19 11 37.6 -6.7
comp=Z,36nm,0.7s

IVRN Varamin 17.19 261 *e*P **P** **19 11 50.7 +3.9**
TAPN Taplejung 17.45 129 *e*P Pn 19 11 43.5 -5.2
comp=Z,12nm,0.8s
IZEF Zefreh 17.60 254 *e*P **P** **19 11 51.4 -0.1**
ODAN Odare 17.63 131 *e*P Pn 19 11 44.4 -6.4
comp=Z,18nm,0.6s
IGZV Ghazvin 17.91 267 *e*P **P** **19 11 57.5 +2.7**
LSA Lhasa 18.10 117 *e*P Pn 19 11 50.4 -6.5
LSA Lhasa 18.10 117 *e*Pn Pn 19 11 50.4 -6.5
SVE Sverdlovsk 19.06 340 ⇑P **Pn** **19 12 09.1 +1.3**
SVE pmax pmax
comp=Z,13nm,1.0s
ARU Arti 19.33 336*d i*P **Pn** **19 12 11.4 +0.3**
ARU S **Sn** **19 15 43.8 -3.4**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 19.33 336 *e*P **Pn** **19 12 11.8 +0.7**
comp=Z,9.8nm,0.6s
DGRG David-gareji 20.77 284 P Pn 19 12 29.1 +0.8
GTA Gaotai 21.00 81 *e*P **P** **19 12 30.8 +2.3**
GTA PMZ
comp=Z,23nm,1.1s
GTA PMZ
comp=Z,100nm,5.2s
GTA LN
comp=Z,140nm,10.9s
GTA LE
comp=Z,110nm,10.7s
GTA LZ
comp=Z,92nm,12.1s
GNI Garni 21.37 281*c i*P **P** **19 12 36.1 +3.6**
GNI Garni 21.37 281 P **P** **19 12 33.5 +1.0**
comp=Z,24nm,0.8s,baz=0.9,slow=4.9,SNR=16
GNI Garni 21.37 281 *e*P **P** **19 12 33.2 +0.7**
comp=Z,36nm,0.9s
ZEI Tsey 21.81 288 *e*P **P** **19 12 40.2 +2.9**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
NCK Nalchik 22.03 290 *e*P **P** **19 12 43.4 +4.0**
ONI Oni 22.15 288 P **P** **19 12 41.8 +1.1**
GOF Gofitskoye 22.49 294 *e*P P 19 12 49.9 +5.6
KBZ Khabaz 22.54 291 P **P** **19 12 45.9 +1.1**
comp=Z,3.8nm,0.8s,baz=236,slow=24,SNR=6.7
KIV Kislovodsk 22.70 291 *e*P P 19 12 51.4 +4.8
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,33nm,14.0s
KIV Kislovodsk 22.70 291 *e*P P 19 12 40.5 -6.1
comp=Z,15nm,0.7s
MOY Mondy 23.16 49 *e*P **P** **19 12 53.8 +2.4**
ZAK Zakamensk 24.15 53 ⇓*i*P **P** **19 13 02.6 +1.7**
ZAK pmax pmax
comp=Z,8.0nm,0.8s
VRHR Novokhopersk 24.50 309 *e*P **P** **19 13 08.2 +4.2**
VRHR pmax pmax
comp=Z,9.0nm,1.0s
VRHR pmax pmax
comp=N,8.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.0s
TLY Talaya 24.73 50 *e*P **P** **19 13 09.1 +3.0**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 24.73 50 P **P** **19 13 09.0 +2.9**
comp=Z,4.0nm,0.5s,baz=233,slow=8.5,SNR=12
TLY LR LR 19 24 18.2
comp=Z,29nm,18.1s,baz=185,slow=40
TLY Talaya 24.73 50 *e*P **P** **19 13 08.6 +2.5**
comp=Z,2.6nm,0.7s
LZH Lanzhou 24.87 88 *e*P **P** **19 13 09.9 +2.2**
LZH pP pP 19 13 23.8 +11
LZH PMZ
comp=Z,15nm,1.1s
SONM Songino Array 25.68 60 P **P** **19 13 16.7 +1.7**
comp=Z,7.5nm,0.9s,baz=266,slow=8.7,SNR=37
SONM LR LR 19 24 23.7
comp=Z,92nm,18.3s,baz=212,slow=39
VORD Divnogorie 25.89 307 *e*P **P** **19 13 19.3 +2.7**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 26.03 308 *e*P **P** **19 13 20.7 +2.9**
VSR pmax pmax
comp=N,170nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 26.13 60*c i*P **P** **19 13 20.5 +1.5**
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 26.13 60 *e*P **P** **19 13 20.2 +1.2**
comp=Z,7.2nm,0.9s
ANN Anapa 26.47 293 *e*P **P** **19 13 26.1 +4.2**
ANN pmax pmax
comp=Z,42nm,1.6s
PRGR Permogore 27.66 332 *e*P **P** **19 13 31.7 -0.6**
PRGR pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 27.89 243 *e*P **P** **19 13 33.0 -1.9**
comp=Z,1.6nm,0.6s
OBN Obninsk 28.61 315 *e*P **P** **19 13 42.2 +1.3**
OBN pmax pmax
comp=Z,20nm,1.7s
OBN Obninsk 28.61 315 LR LR 19 27 08.3
comp=Z,54nm,19.5s,baz=273,slow=40
HHC Hu-ho-hao-te 29.66 75 *e*P **P** **19 13 53.0 +2.5**
HHC sP sP 19 14 18.6 +21
HHC PP **PnPn** **19 14 50.4 +4.9**
HHC S S 19 18 39.4 -6.1
HHC sS sS 19 19 11.3 +18
HHC PMZ
comp=Z,16nm,0.9s
HHC PMZ
comp=Z,41nm,4.5s
HHC LN
comp=Z,87nm,10.7s
HHC LE
comp=Z,120nm,11.2s
HHC LZ
comp=Z,59nm,11.6s
BRTR Keskin Array B 29.85 283 *i*P **P** **19 13 53.5 +1.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 29.85 283 P **P** **19 13 53.2 +0.9**
comp=Z,1.5nm,0.8s,baz=88,slow=8.9,SNR=7.9
CMAR Chiang Mai Arr 30.95 125 P **P** **19 13 59.5 -2.6**
comp=Z,0.5nm,0.7s,baz=308,slow=7.2,SNR=6.5
CMAR LR LR 19 28 46.0
comp=Z,36nm,18.4s,baz=205,slow=41
AKASG Malin Array Be 32.17 305 PP PP 19 15 01.8 -23
comp=Z,2.4nm,0.7s,baz=85,slow=11,SNR=8.4
KIEV Kiev 32.18 305 *e*P P 19 14 16.1 +3.6
BOD Bodaibo 32.27 42 *e*P **P** **19 14 13.7 +0.4**
BOD pmax pmax
comp=Z,6.0nm,0.9s
JOF Joensuu 33.98 327 *e*P **P** **19 14 27.4 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 33.98 327 *ep* **P** **19 14 27.4 -0.7**
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 34.53 296 P **P** **19 14 35.1 +1.9**
comp=Z,0.8nm,0.8s,baz=110,slow=19,SNR=5.9
FINES FINESS Array B 35.78 323 P **P** **19 14 44.3 +0.6**
comp=Z,1.6nm,0.4s,baz=122,slow=10,SNR=19
FINES LR LR 19 30 22.7
comp=Z,88nm,19.3s,baz=298,slow=38
KAF Kangasniemi 35.87 325 *e*P **P** **19 14 43.6 -0.8**
KAF pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 35.87 325 *ep* **P** **19 14 43.6 -0.8**
comp=Z,1.2nm,0.6s
STHS Stebnicka Huta 37.32 303 *e*P P 19 15 03.6 +6.6
STHS Stebnicka Huta 37.32 303 *e* P 19 15 03.6 +6.6
QIZ Qiongzhong 38.00 112 P **P** **19 15 03.3 +0.3**
QIZ S **S** **19 20 51.4 -3.2**
QIZ PMZ
comp=Z,32nm,2.0s
ARCES ARCESS Array B 38.91 336 P **P** **19 15 11.1 +0.9**
comp=Z,2.1nm,0.5s,baz=112,slow=8.9,SNR=14
ARCES LR LR 19 30 26.9
comp=Z,27nm,18.8s,baz=144,slow=35

VYHS Vyhne 38.99 302 *e*P **P** **19 15 11.8 +0.7**
VYHS Vyhne 38.99 302 *e*P **P** **19 15 11.8 +0.7**
DPC Dobruska-Polom 40.40 305 *e*P **P** **19 15 24.9 +2.1**
DPC *e* 19 15 38.7
DPC Dobruska-Polom 40.40 305 *e*P **P** **19 15 24.9 +2.1**
DPC *ep*P pP 19 15 38.7 +11
YAK Yakutsk 40.83 37 *e*P **P** **19 15 25.8 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s
HFS Hagfors 41.56 320 P **P** **19 15 32.4 +0.3**
comp=Z,3.0nm,0.4s,baz=98,slow=11,SNR=46
GERES GERESS Array B 42.31 303 P **P** **19 15 38.5 0.0**
comp=Z,0.5nm,0.6s,baz=51,slow=8.9,SNR=5.8
CLL Collm 42.37 307 *e*P **P** **19 15 40.0 +1.2**
CLL Collm 42.37 307 *e*P **P** **19 15 40.0 +1.2**
CLL *es*P sP 19 16 00.0 +14
CLL *ep*PP 19 17 27.0
TIXI Tiksi 42.55 23*ce*P **P** **19 15 41.2 +1.1**
TIXI pmax pmax
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 42.81 321 P **P** **19 15 42.2 -0.2**
comp=Z,1.7nm,0.6s,baz=92,slow=8.6
NOA NORSAR Array B 42.81 321 P **P** **19 15 42.5 0.0**
comp=Z,2.2nm,0.8s,baz=92,slow=8.0,SNR=8.7
NOA LR LR 19 34 40.4
comp=Z,51nm,21.2s,baz=95,slow=38
SPITS Spitsbergen Ar 44.90 346 P **P** **19 16 00.4 +1.4**
comp=Z,1.7nm,0.5s,baz=130,slow=9.1,SNR=10.0
DAVOX Davos/Dischmat 45.26 301 P **P** **19 16 02.4 -0.1**
DAVOX pmax pmax
comp=Z,3.0nm,0.5s
DAVOX Davos/Dischmat 45.26 301 P **P** **19 16 02.4 -0.1**
comp=Z,3.4nm,0.5s,baz=140,slow=6.6,SNR=8.9
CDF Champ du Feu 46.56 304 *e*P **P** **19 16 10.4 -2.2**
CDF Champ du Feu 46.56 304 *e*P **P** **19 16 10.4 -2.2**
CDF Champ du Feu 46.56 304 *e*P **P** **19 16 10.4 -2.2**
HINF Hinteralfeld 46.99 303 *e*P **P** **19 16 15.1 -0.8**
HINF Hinteralfeld 46.99 303 *e*P **P** **19 16 15.1 -0.8**
HINF Hinteralfeld 46.99 303 *e*P **P** **19 16 15.1 -0.8**
PGF Pioggiola 47.08 295 *e*P **P** **19 16 15.4 -1.3**
PGF Pioggiola 47.08 295 *e*P **P** **19 16 15.4 -1.3**
PGF Pioggiola 47.08 295 *e*P **P** **19 16 15.4 -1.3**
LPG La Plagne 47.70 300 *e*P **P** **19 16 21.0 -0.8**
comp=Z,9.7nm,0.7s
LPG La Plagne 47.70 300 *e*P **P** **19 16 21.0 -0.8**
LPG pmax pmax
comp=Z,10.0nm,0.7s
LPG La Plagne 47.70 300 *e*P **P** **19 16 21.0 -0.8**
comp=Z,9.7nm,0.7s
LPL La Plagne 47.71 300 *e*P **P** **19 16 20.3 -1.4**
comp=Z,4.2nm,0.5s
LPL La Plagne 47.71 300 *e*P **P** **19 16 20.3 -1.4**
LPL pmax pmax
comp=Z,4.0nm,0.5s
LPL La Plagne 47.71 300 *e*P **P** **19 16 20.3 -1.4**
comp=Z,4.2nm,0.5s
SBF Sospel 47.74 298 *e*P **P** **19 16 21.2 -0.6**
SBF Sospel 47.74 298 *e*P **P** **19 16 21.2 -0.6**
SBF Sospel 47.74 298 *e*P **P** **19 16 21.2 -0.6**
MBDF Montbardon 47.92 299 *e*P **P** **19 16 22.0 -1.3**
comp=Z,6.5nm,0.7s
MBDF Montbardon 47.92 299 *e*P **P** **19 16 22.0 -1.3**
MBDF pmax pmax
comp=Z,7.0nm,0.7s
MBDF Montbardon 47.92 299 *e*P **P** **19 16 22.0 -1.3**
comp=Z,6.5nm,0.7s
MEZF Maizieres J'vi 47.97 304 *e*P **P** **19 16 21.7 -1.7**
MEZF Maizieres J'vi 47.97 304 *e*P **P** **19 16 21.7 -1.7**
BAIF Baives 48.09 306 *e*P **P** **19 16 22.9 -1.4**
BAIF Baives 48.09 306 *e*P **P** **19 16 22.9 -1.4**
BAIF Baives 48.09 306 *e*P **P** **19 16 22.9 -1.4**
FRF La Foret Royal 48.38 297 *e*P **P** **19 16 25.9 -0.8**
comp=Z,16nm,1.1s
FRF La Foret Royal 48.38 297 *e*P **P** **19 16 25.9 -0.8**
FRF pmax pmax
comp=Z,17nm,1.1s
FRF La Foret Royal 48.38 297 *e*P **P** **19 16 25.9 -0.8**
comp=Z,16nm,1.1s
ORIF Oris-en-Rattie 48.47 299 *e*P **P** **19 16 26.1 -1.3**
ORIF *e*R
comp=Z,53nm,20.5s
ORIF Oris-en-Rattie 48.47 299 *e*P **P** **19 16 26.1 -1.3**
ORIF Oris-en-Rattie 48.47 299 *e*P **P** **19 16 26.1 -1.3**
LMR La Mourre 48.55 297 *e*P **P** **19 16 26.4 -1.5**
LMR La Mourre 48.55 297 *e*P **P** **19 16 26.4 -1.5**
LMR La Mourre 48.55 297 *e*P **P** **19 16 26.4 -1.5**
SMRF Simiane la Rot 48.98 298 *e*P **P** **19 16 29.8 -1.5**
SMRF Simiane la Rot 48.98 298 *e*P **P** **19 16 29.8 -1.5**
LOR Lormes 49.09 303 *e*P **P** **19 16 30.8 -1.3**
LOR *e*R
comp=Z,37nm,17.0s
LOR Lormes 49.09 303 *e*P **P** **19 16 30.8 -1.3**
LOR Lormes 49.09 303 *e*P **P** **19 16 30.8 -1.3**
SMF Signal de Mont 49.29 302 *e*P **P** **19 16 32.6 -1.0**
SMF Signal de Mont 49.29 302 *e*P **P** **19 16 32.6 -1.0**
SMF Signal de Mont 49.29 302 *e*P **P** **19 16 32.6 -1.0**
VIVF Saint-Julien-l 49.30 300 *e*P **P** **19 16 33.2 -0.6**
comp=Z,5.3nm,0.6s
VIVF Saint-Julien-l 49.30 300 *e*P **P** **19 16 33.2 -0.6**
VIVF pmax pmax
comp=Z,5.0nm,0.6s
VIVF Saint-Julien-l 49.30 300 *e*P **P** **19 16 33.2 -0.6**
comp=Z,5.3nm,0.6s
SSF Saint Saulge 49.38 303 *e*P **P** **19 16 33.1 -1.2**
SSF Saint Saulge 49.38 303 *e*P **P** **19 16 33.1 -1.2**
SSF Saint Saulge 49.38 303 *e*P **P** **19 16 33.1 -1.2**
AVF Avril sur Loir 49.56 302 *e*P **P** **19 16 34.9 -0.8**
comp=Z,11nm,0.9s
AVF Avril sur Loir 49.56 302 *e*P **P** **19 16 34.9 -0.8**
AVF pmax pmax
comp=Z,11nm,0.9s
AVF Avril sur Loir 49.56 302 *e*P **P** **19 16 34.9 -0.8**
comp=Z,11nm,0.9s
BGF Bois d'Agland 49.97 302 *e*P **P** **19 16 38.0 -0.8**
BGF Bois d'Agland 49.97 302 *e*P **P** **19 16 38.0 -0.8**
BGF Bois d'Agland 49.97 302 *e*P **P** **19 16 38.0 -0.8**
LASF Ste Croix 50.11 299 *e*P **P** **19 16 39.7 -0.2**
comp=Z,7.6nm,0.8s
LASF Ste Croix 50.11 299 *e*P **P** **19 16 39.7 -0.2**
comp=Z,7.6nm,0.8s
TCF Toulx Ste Croi 50.47 302 *e*P **P** **19 16 42.1 -0.5**
comp=Z,8.9nm,1.0s
TCF Toulx Ste Croi 50.47 302 *e*P **P** **19 16 42.1 -0.5**
TCF pmax pmax
comp=Z,9.0nm,1.0s
TCF Toulx Ste Croi 50.47 302 *e*P **P** **19 16 42.1 -0.5**
comp=Z,8.9nm,1.0s
MJAR Matsushiro Arr 50.76 71 P **P** **19 16 43.7 -1.2**
comp=Z,1.9nm,0.9s,baz=294,slow=8.6,SNR=4.6
CAF Calviac 51.03 301 *e*P **P** **19 16 45.5 -1.3**
CAF Calviac 51.03 301 *e*P **P** **19 16 45.5 -1.3**
CAF Calviac 51.03 301 *e*P **P** **19 16 45.5 -1.3**
LDF La Druitiere 51.23 306 *e*P **P** **19 16 47.3 -0.9**
comp=Z,8.3nm,0.7s
LDF La Druitiere 51.23 306 *e*P **P** **19 16 47.3 -0.9**
LDF pmax pmax
comp=Z,8.0nm,0.7s
LDF La Druitiere 51.23 306 *e*P **P** **19 16 47.3 -0.9**
comp=Z,8.3nm,0.7s
RJF Les Rejaudoux 51.26 301 *e*P **P** **19 16 47.3 -1.2**
RJF *e*R
comp=Z,36nm,17.5s
RJF Les Rejaudoux 51.26 301 *e*P **P** **19 16 47.3 -1.2**
RJF Les Rejaudoux 51.26 301 *e*P **P** **19 16 47.3 -1.2**
FLN La Foliniere 51.40 306 *e*P **P** **19 16 48.5 -1.0**
FLN *e*R
comp=Z,61nm,19.5s
FLN La Foliniere 51.40 306 *e*P **P** **19 16 48.5 -1.0**
FLN La Foliniere 51.40 306 *e*P **P** **19 16 48.5 -1.0**
MTLF Montolieu 51.48 299 *e*P **P** **19 16 49.7 -0.5**
comp=Z,3.6nm,0.8s
MTLF Montolieu 51.48 299 *e*P **P** **19 16 49.7 -0.5**
MTLF pmax pmax
comp=Z,4.0nm,0.8s
MTLF Montolieu 51.48 299 *e*P **P** **19 16 49.7 -0.5**
comp=Z,3.6nm,0.8s
GRR Gorron 51.76 306 *e*P **P** **19 16 50.9 -1.3**
comp=Z,19nm,1.0s
GRR Gorron 51.76 306 *e*P **P** **19 16 50.9 -1.3**
GRR pmax pmax
comp=Z,19nm,1.0s
GRR Gorron 51.76 306 *e*P **P** **19 16 50.9 -1.3**
comp=Z,19nm,1.0s
MFF Saint Martin d 51.90 303 *e*P **P** **19 16 52.0 -1.3**

	comp=Z,4.5nm,0.8s							
MFF	**Saint Martin d**	**51.90**	**303**	*e*P		**P**	**19 16 52.0**	**-1.3**
MFF				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MFF	**Saint Martin d**	**51.90**	**303**	*e*P		**P**	**19 16 52.0**	**-1.3**
	comp=Z,4.5nm,0.8s							
SGMF	**Saint Gilles**	**52.87**	**306**	*e*P		**P**	**19 16 59.7**	**-0.7**
	comp=Z,6.2nm,0.5s							
SGMF	**Saint Gilles**	**52.87**	**306**	*e*P		**P**	**19 16 59.7**	**-0.7**
SGMF				pmax		pmax		
	comp=Z,6.0nm,0.5s							
SGMF	**Saint Gilles**	**52.87**	**306**	*e*P		**P**	**19 16 59.7**	**-0.7**
	comp=Z,6.2nm,0.5s							
EPF	**Esparros**	**52.87**	**299**	*e*P		**P**	**19 16 59.9**	**-0.7**
EPF	**Esparros**	**52.87**	**299**	*e*P		**P**	**19 16 59.9**	**-0.7**
EPF	**Esparros**	**52.87**	**299**	*e*P		**P**	**19 16 59.9**	**-0.7**
ROSF	**Rostrenen**	**53.29**	**306**	*e*P		**P**	**19 17 02.7**	**-0.8**
	comp=Z,4.0nm,0.5s							
ROSF	**Rostrenen**	**53.29**	**306**	*e*P		**P**	**19 17 02.7**	**-0.8**
ROSF				pmax		pmax		
	comp=Z,4.0nm,0.5s							
ROSF	**Rostrenen**	**53.29**	**306**	*e*P		**P**	**19 17 02.7**	**-0.8**
	comp=Z,4.0nm,0.5s							
QUIF	**Quistinic**	**53.37**	**306**	*e*P		**P**	**19 17 03.2**	**-0.9**
	comp=Z,5.6nm,0.6s							
QUIF	**Quistinic**	**53.37**	**306**	*e*P		**P**	**19 17 03.2**	**-0.9**
QUIF				pmax		pmax		
	comp=Z,6.0nm,0.6s							
QUIF	**Quistinic**	**53.37**	**306**	*e*P		**P**	**19 17 03.2**	**-0.9**
	comp=Z,5.6nm,0.6s							
BILL	**Bilibino**	**55.39**	**27**	*c*eP		**P**	**19 17 20.6**	**+2.0**
BILL				pmax		pmax		
	comp=Z,5.0nm,1.7s							
PETK	**Petropavlovsk-**	**56.98**	**46**	P		**P**	**19 17 30.6**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=339,slow=7.7,SNR=2.4							
ESDC	**Sonseca Array**	**57.21**	**297**	P		**P**	**19 17 31.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=51,slow=7.0,SNR=5.3							
SUMG	**Summit**	**58.67**	**341**	*e*P		**P**	**19 17 43.3**	**+1.2**
SUMG				pmax		pmax		
	comp=Z,6.0nm,0.9s							
SUMG	**Summit**	**58.67**	**341**	*e*P		**P**	**19 17 43.3**	**+1.2**
	comp=Z,6.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**67.05**	**268**	P		**P**	**19 18 36.8**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=50,slow=5.5,SNR=36							
INK	**Inuvik**	**70.77**	**10**	*e*P		**P**	**19 19 00.4**	**-0.2**
INK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
INK	**Inuvik**	**70.77**	**10**	*e*P		**P**	**19 19 00.4**	**-0.2**
	comp=Z,3.8nm,0.8s							
ILAR	**Eielson Array**	**71.58**	**17**	P		**P**	**19 19 05.6**	**0.0**
	comp=Z,5.6nm,0.3s,baz=318,slow=4.6,SNR=7.8							
DBIC	**Dimbokro**	**76.10**	**267**	P		P	19 19 29.5	-3.4
DBIC				pmax		pmax		
	comp=Z,35nm,1.4s							
DBIC	**Dimbokro**	**76.10**	**267**	P		P	19 19 29.5	-3.4
	comp=Z,35nm,1.4s							
LBTB	**Lobatse**	**77.72**	**223**	P		**P**	**19 19 39.4**	**-2.4**
LBTB				pmax		pmax		
	comp=Z,8.0nm,1.0s							
LBTB	**Lobatse**	**77.72**	**223**	P		**P**	**19 19 39.4**	**-2.4**
	comp=Z,7.8nm,1.0s							
YKA	**Yellowknife Ar**	**78.22**	**3**	P		**P**	**19 19 44.5**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=349,slow=5.7,SNR=22							
WRA	**Warramunga Arr**	**82.53**	**123**	P		**P**	**19 20 05.7**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=325,slow=5.0,SNR=16							
WB2	**Warramunga Arr**	**82.54**	**123**	*e*P		**P**	**19 20 05.8**	**-2.0**
ASAR	**Alice Springs**	**84.96**	**126**	P		**P**	**19 20 18.6**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=325,slow=3.8,SNR=5.6							
PLCA	**Paso Flores**	**151.90**	**255**	PKPbc		**PKPbc**	**19 27 39.4**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=47,slow=2.5,SNR=5.4							

ROM 20 19:12:08.7±0.1, 42°60N×13°16E, h10km, Md1.5/3, Ml0.9/2, Error ellipse: s-maj=1.8km s-min=0.3km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.09**	**271**	Pg	Pg	19 12 11.6	+0.2
LNSS				Sg	Sg	19 12 13.7	+0.4
	42nm,0.2s						
SMA1	**SAN MARTINO**	**0.13**	**77**	Pg	Pg	19 12 12.4	+0.4
SMA1				Sg	Sg	19 12 14.9	+0.6
	20nm,0.3s						
NRCA	**Norcia**	**0.23**	**352**	Pg	Pg	19 12 14.2	+0.5
NRCA				Sg	Sg	19 12 18.3	+1.2
	18nm,0.1s						

HEL 20 19:13:13.8±0.1, 67°59N×33°87E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.64**	**278**	PG	Pn	19 13 43.1	-0.7
	baz=93						
VRF				SG	Sn	19 14 03.9	-1.6
VRF				MSG		19 14 03.9	
	comp=Z,1.5nm,0.2s						
KU6	**Riekki**	**2.23**	**227**	PG	Pb	19 13 53.4	-1.4
	baz=48						
KU6				SG	Sb	19 14 22.3	-0.7
MSF	**Maaselka**	**2.55**	**231**	PG	Pb	19 13 59.5	-0.9
MSF				SG	Sb	19 14 32.3	-0.1
MSF				MSG		19 14 32.3	
	comp=Z,0.8nm,0.3s						
SGF	**Sodankyl**	**2.83**	**270**	SB	Sb	19 14 39.6	-0.6
SGF				MSG		19 14 39.6	
	comp=Z,2.0nm,0.3s						
RNF	**Rovaniemi**	**3.23**	**256**	PN	Pn	19 14 06.6	+1.0
	baz=68						
RNF				SB	Sn	19 14 46.5	+1.8
RNF				MSG		19 14 46.5	
	comp=Z,1.3nm,0.3s						
KEV	**Kevo**	**3.32**	**314**	PN	Pn	19 14 06.7	-0.2
KEV				SN	Sn	19 14 45.6	-1.3
KEV				MSG		19 14 45.6	
	comp=Z,0.5nm,0.2s						
ARE0	**ARCESS Array S**	**3.64**	**306**	PN	Pn	19 14 10.0	-1.3
	baz=128						
ARE0				SN	Sn	19 14 52.1	-2.8
ARE0				MSG		19 14 52.1	
	comp=Z,0.4nm,0.2s						
HEF	**Hetta**	**3.93**	**287**	SB	Sb	19 15 12.1	+0.1
HEF				MSG		19 15 12.1	
	comp=Z,1.1nm,0.2s						
LANU	**Lannavaara**	**4.53**	**281**	SN	Sn	19 15 16.4	-0.5

MEX 20 19:20:29.9±0.5, 32°27N×115°28W, h19km±43km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.15**	**25**	*e*P	Pb	19 20 33.5	+0.6
MBIG				*i* S	Sb	19 20 35.9	+1.1
CBX	**Cerro Bola**	**1.18**	**273**	*i* P	Pn	19 20 47.8	-3.8
CBX				*i* S	Sb	19 21 02.3	-4.6
SPIG	**San Pedro Mart**	**1.23**	**188**	*e*P	Pn	19 20 48.9	-3.7
SPIG				*i* S	Sb	19 21 04.0	-4.8

IDC 20 19:46:30.8±317.0, 57°86N×31°62E, h0km, Error ellipse: s-maj=142.7km s-min=58.6km az=113.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.25**	**108**	*i*		20 05 37.8	
	baz=293,slow=391,SNR=2.9						
I26DE	**FREYUNG INFRAS**	**13.95**	**237**	*i*		21 10 40.0	
	baz=44,slow=338,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**17.10**	**104**	*i*		21 29 40.0	
	baz=306,slow=325,SNR=0.6						
I48TN	**KESRA INFRASON**	**26.59**	**224**	*i*		22 30 20.0	
	baz=24,slow=321,SNR=0.4						
I46RU	**ZALESOVO INFRA**	**29.43**	**74**	*i*		22 49 10.0	
	baz=301,slow=330,SNR=0.6						

*IDC **20** 19:53:27.9±1.2, 4°53N×127°76E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.4/36, mbtmp3.5/8, Error ellipse: s-maj=83.6km s-min=16.1km az=65.0*
*ISCJB **20** 19:53:32.3±0.8, 4°03N±0°07×126°67E±0°08, h36km, mb3.5/8, Error ellipse: s-maj=12.1km s-min=9.0km az=146.0*

*DJA **20** 19:53:39.2±2.7, 4°N±19°×12°6E±1°5, h37km±66km, M3.8/3, MLv3.8/3*
ISC 20 19:53:34.1±1.0, 4°02N±0°10×126°66E±0°10, h36km, n10, σ1s45/11, mb3.5/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.18**	**253**	P	**Pn**	**19 53 55.4**	**+1.3**
SGSI				S	**Sn**	**19 54 07.2**	**-1.7**
TNTI	**Ternate**	**3.31**	**168**	P	**Pn**	**19 54 24.3**	**+0.9**
TNTI				S	**Sn**	**19 54 59.4**	**-2.1**
WRA	**Warramunga Arr**	**24.98**	**163**	P	**P**	**19 58 54.8**	**+0.2**
	0.3nm,0.3s,baz=341,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.41**	**166**	P	**P**	**19 59 25.7**	**+0.2**
	0.4nm,0.7s,baz=341,slow=6.5,SNR=8.4						
CMAR	**Chiang Mai Arr**	**30.66**	**300**	P	P	19 59 51.4	+5.8
	0.5nm,0.7s,baz=116,slow=6.5,SNR=4.9						
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**20 00 53.4**	**+0.9**
	3.1nm,0.8s,baz=328,slow=10,SNR=8.2						
SONM	**Songino Array**	**47.00**	**341**	P	**P**	**20 02 01.2**	**-0.7**
	0.1nm,0.4s,baz=152,slow=7.7,SNR=1.9						
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**20 03 18.8**	**+0.6**
	0.3nm,0.4s,baz=116,slow=7.6,SNR=8.9						
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	**P**	**20 03 36.9**	**-2.1**
	0.3nm,0.5s,baz=120,slow=5.8,SNR=1.8						
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	**P**	**20 03 47.9**	**+0.9**
	0.2nm,0.5s,baz=128,slow=7.1,SNR=5.6						

GUC 20 20:13:15.0±0.4, 36°82S×72°97W, h41km±2km, ML4.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.12**	**258**	*e*P	Pn	20 13 21.3	-0.4
CCSP				*e*S	Sn	20 13 26.1	-0.4
CCSP				AML	AML	20 13 27.3	
	comp=E,35μm,0.4s						
TALC	**Talca**	**1.78**	**38**	*e*P	Pn	20 13 43.7	+0.4
TALC				*e*S	Sn	20 14 05.5	+0.8
CLCH	**Cerro Calan**	**3.96**	**31**	AML	AML	20 15 20.5	
	comp=E,269nm,0.7s						
PEL	**Peldehue**	**4.12**	**28**	AML	AML	20 15 28.0	
	comp=E,246nm,0.7s						

*ISCJB **20** 20:19:56.0±0.7, 62°5S±0°1×160°0W±0°2, h10km, mb4.2/13, MS3.8/14, Error ellipse: s-maj=18.1km s-min=13.7km az=175.8*
*IDC **20** 20:19:56.2±0.6, 62°61S×159°99W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/25, mbtmp4.0/9, MS3.8/15, Ms1 3.8/15, ms1mx3.7/24, Error ellipse: s-maj=42.8km s-min=17.0km az=17.0*
*NEIC **20** 20:19:57.4±0.6, 62°39S×160°01W, h10km, mb4.2/5, Error ellipse: s-maj=21.4km s-min=15.4km az=191.0*
ISC 20 20:19:57.4±0.7, 62°5S±0°2×160°0W±0°1, h10km, n43, σ1s36/24, mb4.2/13, MS3.8/14, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**18.61**	**201**	*e*P	**Pn**	**20 24 15.5**	**+0.9**
	16nm,1.4s						
VNDA	**Vanda**	**19.30**	**204**	LR	LR	20 29 54.2	
	comp=Z,247nm,20.5s,baz=64,slow=31						
VNDA	**Vanda**	**19.30**	**204**	*e*P	**Pn**	**20 24 24.9**	**+1.9**
	6.0nm,1.2s						
RPZ	**Rata Peaks**	**25.21**	**305**	LR	LR	20 32 59.2	
	comp=Z,146nm,20.8s,baz=170,slow=31						
QSPA	**South Pole Qui**	**27.65**	**180**	P	**P**	**20 25 43.5**	**-1.4**
	2.0nm,0.8s,baz=45,slow=4.8,SNR=5.1						
QSPA				LR	LR	20 34 40.5	
	comp=Z,188nm,20.0s,baz=44,slow=32						
QSPA	**South Pole Qui**	**27.65**	**180**	P	**P**	**20 25 43.4**	**-1.6**
	5.8nm,1.1s						
URZ	**Urewera**	**27.98**	**319**	LR	LR	20 35 06.9	
	comp=Z,161nm,19.1s,baz=158,slow=32						
PMSA	**Palmer Station**	**38.80**	**137**	LR	LR	20 40 35.0	
	comp=Z,115nm,19.0s,baz=202,slow=32						
TBI	**Tubuai**	**39.75**	**15**	*e*LR	LR	20 38 21.4	
	243nm,26.8s,baz=190						
TBI	**Tubuai**	**39.75**	**15**	*e*T	T	21 09 31.3	
	41nm,0.2s						
RKT	**Rikitea**	**42.84**	**35**	*e*T	T	21 13 10.2	
	12nm,0.2s						
TVO	**Taravao**	**45.27**	**15**	*e*T	T	21 16 27.0	
	2.5nm,0.2s						
MEH	**Mehetia**	**45.33**	**16**	*e*T	T	21 16 30.6	
	42nm,0.2s						
PAE	**Paea**	**45.35**	**14**	*e*T	T	21 16 33.0	
	4.6nm,0.3s						
PPT2	**Papeete2**	**45.42**	**14**	*e*LR	LR	20 40 43.3	
	286nm,26.8s						
PPT	**Papeete**	**45.45**	**14**	LR	LR	20 41 11.4	
	comp=Z,102nm,21.2s,baz=184,slow=28						
TIAR	**Tiarei**	**45.48**	**14**	*e*T	T	21 16 42.6	
	2.4nm,0.3s						
DZM	**Mont Dzumac**	**46.36**	**315**	*e*LR	LR	20 41 50.4	
	158nm,22.8s						
MAW	**Mawson**	**46.57**	**201**	LR	LR	20 45 55.6	
	comp=Z,77nm,19.7s,baz=218,slow=34						
STKA	**Stephens Creek**	**47.73**	**282**	P	**P**	**20 28 35.9**	**+1.8**
	1.9nm,0.9s,baz=149,slow=12,SNR=2.8						
STKA				LR	LR	20 46 58.6	
	comp=Z,128nm,18.4s,baz=205,slow=34						
VAH	**Vaihoa**	**47.98**	**16**	*e*T	T	21 19 48.3	
	158nm,0.2s						
PMOR	**Pomariorio Nee**	**48.18**	**16**	*e*T	T	21 20 01.0	
	5.7nm,0.3s						
RPN	**Rapa Nui**	**48.40**	**67**	LR	LR	20 43 44.2	
	comp=Z,157nm,21.0s,baz=25,slow=30						
PLCA	**Paso Flores**	**54.64**	**111**	P	**P**	**20 29 26.0**	**0.0**
	2.5nm,0.8s,baz=213,slow=8.2,SNR=3.1						
PLCA				LR	LR	20 46 29.7	
	comp=Z,94nm,21.1s,baz=268,slow=29						
PLCA	**Paso Flores**	**54.64**	**111**	*e*P	**P**	**20 29 25.9**	**0.0**
	4.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**58.10**	**259**	P	**P**	**20 29 48.2**	**-2.4**
	0.1nm,0.6s						
ASAR	**Alice Springs**	**58.24**	**280**	P	**P**	**20 29 52.3**	**+0.5**
	1.5nm,1.0s,baz=147,slow=5.7,SNR=4.4						
ASAR				LR	LR	20 51 12.8	
	comp=Z,83nm,21.3s,baz=180,slow=32						
WRA	**Warramunga Arr**	**61.27**	**282**	P	**P**	**20 30 13.2**	**+0.5**
	0.9nm,1.0s,baz=140,slow=6.6,SNR=4.0						
WRAB	**Tennant Creek**	**61.28**	**282**	P	**P**	**20 30 09.8**	**-2.9**
	13nm,1.4s						
CFAA	**Coronel Fontan**	**63.30**	**107**	P	**P**	**20 30 25.2**	**-1.0**
	0.5nm,0.7s,baz=221,slow=7.1,SNR=4.7						
PMG	**Port Moresby**	**65.11**	**300**	*e*P	P	20 30 45.8	+7.8
	20nm,0.9s						
LVC	**Limon Verde**	**70.72**	**102**	P	**P**	**20 31 14.8**	**+1.1**
	20nm,0.2s,baz=128,slow=18,SNR=6.7						
CPUP	**Villa Florida**	**72.61**	**113**	P	**P**	**20 31 24.7**	**0.0**
	0.8nm,0.8s,baz=214,slow=3.4,SNR=5.0						
CPUP				LR	LR	20 58 02.2	
	comp=Z,256nm,21.0s,baz=193,slow=32						
BATI	**Baumata**	**74.68**	**277**	LR	LR	21 01 35.7	
	comp=Z,170nm,21.4s,baz=210,slow=34						
LPAZ	**La Paz**	**76.58**	**99**	P	**P**	**20 31 49.5**	**+0.9**
	3.9nm,1.1s,baz=180,slow=3.2,SNR=6.2						
LPAZ				LR	LR	20 57 45.9	
	comp=Z,24nm,18.6s,baz=155,slow=30						
BDFB	**Brasilia**	**86.02**	**116**	P	**P**	**20 32 38.6**	**+0.5**
	2.1nm,0.5s,baz=154,slow=22,SNR=3.2						
BDFB				LR	LR	21 07 20.3	
	comp=Z,66nm,20.6s,baz=196,slow=33						
ILAR	**Eielson Array**	**127.31**	**7**	PKP	**PKPdf**	**20 38 59.0**	**-1.3**
	0.9nm,1.0s,baz=211,slow=1.1,SNR=5.7						
MKAR	**Makanchi Array**	**142.34**	**275**	PKP	**PKPdf**	**20 39 31.0**	**+2.0**
	0.3nm,0.6s,baz=132,slow=1.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**146.20**	**286**	PKPbc	**PKPab**	**20 39 37.1**	**-0.1**
	0.8nm,0.6s,baz=140,slow=4.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**146.82**	**277**	PKPbc	**PKPbc**	**20 39 39.0**	**+0.6**
	1.4nm,0.8s,baz=138,slow=2.5,SNR=4.5						
KURK	**Kurchatov**	**146.84**	**277**	PKPbc	**PKPbc**	**20 39 39.0**	**+0.5**
BVAR	**Borovoye Array**	**152.19**	**274**	PKPbc	**PKPbc**	**20 39 51.9**	**+0.1**
	0.2nm,0.5s,baz=112,slow=1.6,SNR=4.3						
ESDC	**Sonseca Array**	**152.98**	**136**	PKPbc	**PKPbc**	**20 39 53.0**	**-1.1**
	0.2nm,0.5s,baz=256,slow=1.4,SNR=4.6						
ESDC				PKPab	**PKPab**	**20 40 06.5**	**+1.1**
	0.6nm,0.7s,baz=200,slow=3.6,SNR=4.4						

*ISCJB **20** 20:23:37.6±0.3, 33°01N±0°05×96°67E±0°05, h10km, mb3.7/13, MS3.6/2, Error ellipse: s-maj=7.3km s-min=5.1km az=152.9*

*IDC **20** 20:23:37.7±0.7, 33°10N×96°80E, h0km, mb3.7/12, mb1 3.8/16, mb1mx3.6/40, mbtmp3.7/16, ML3.7/4, MS3.3/3, Ms1 3.4/3, ms1mx2.7/42, Error ellipse: s-maj=31.0km s-min=14.1km az=55.0*
*BJI **20** 20:23:39.5, 33°08N×96°74E, h10km, mb4.0/6, ML3.5/10, Ms3.5/6, Ms7 3.3/9*
ISC 20 20:23:39.3±0.5, 33°11N±0°06×96°80E±0°05, h10km, n38, σ1s70/36, mb3.8/13, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.91**	**236**	Pn	Pn	20 25 10.3	+3.0
LSA				Sn	**Sn**	**20 26 19.4**	**+4.1**
LSA				SMN			
	20nm,0.8s						
LSA				SME			
	40nm,0.9s						
CD2	**Chengdu**	**6.30**	**108**	Pn	**Pn**	**20 25 14.5**	**+2.2**
CD2				Pg	Pg	20 25 36.4	-3.6
CD2				Sn	**Sn**	**20 26 22.3**	**-2.1**
CD2				Sg	**Sg**	**20 27 00.1**	**-1.5**
CD2				SMN			
	60nm,0.9s						
CD2				SME			
	50nm,1.3s						
CD2				LZ			
	400nm,5.3s						
LZH	**Lanzhou**	**6.52**	**61**	*e*Pn	Pn	20 25 19.8	+4.3
LZH				Pg	Pb	20 25 39.8	+6.8
LZH				Sn	**Sn**	**20 26 35.8**	**+5.8**
LZH				Sg	**Sg**	**20 27 05.8**	**-2.9**
LZH				SMN			
	170nm,1.9s						
LZH				SME			
	35nm,1.2s						
LZH				LN			
	330nm,5.5s						
LZH				LE			
	250nm,7.1s						
LZH				LZ			
	170nm,8.3s						
GTA	**Gaotai**	**6.74**	**20**	*e*Pn	Pn	20 25 22.3	+3.8
SHL	**Shillong**	**8.65**	**211**	*e*P	Pn	20 25 49.0	+4.2
SHL				*ex*	x	20 27 18.0	
TAPN	**Taplejung**	**9.73**	**236**	*e*P	**Pn**	**20 25 59.0**	**-0.7**
	9.1nm,0.4s						
XAN	**Xi'an**	**10.15**	**81**	P	Pn	20 26 09.9	+4.7
XAN				LN			
	200nm,11.4s						
XAN				LE			
	46nm,10.3s						
XAN				LZ			
	35nm,10.0s						
ODAN	**Odare**	**10.26**	**235**	*e*P	**Pn**	**20 26 06.7**	**-0.2**
	35nm,0.6s						
JIRN	**Jiri**	**10.65**	**242**	*e*P	**Pn**	**20 26 12.2**	**-0.1**
	16nm,0.7s						
GUN	**Gumba**	**10.75**	**244**	*e*P	**Pn**	**20 26 13.6**	**-0.1**
	24nm,0.5s						
RAMN	**Ramite**	**10.76**	**238**	*e*P	**Pn**	**20 26 12.8**	**-0.9**
	16nm,0.6s						
GYA	**Guiyang**	**10.82**	**125**	*e*P	**Pn**	**20 26 17.3**	**+2.8**
KKN	**Kakani**	**11.27**	**245**	*e*P	**Pn**	**20 26 19.3**	**-1.3**
	12nm,0.6s						
PKI	**Pulchoki**	**11.28**	**244**	*e*P	**Pn**	**20 26 19.6**	**-1.3**
	13nm,0.5s						
PKIN	**Phulchoki**	**11.29**	**244**	*e*P	**Pn**	**20 26 19.4**	**-1.6**
	12nm,0.5s						
DMN	**Daman**	**11.49**	**245**	*e*P	**Pn**	**20 26 22.9**	**-0.8**
	13nm,0.8s						
DANN	**Dangsing**	**12.18**	**251**	*e*P	**Pn**	**20 26 31.7**	**-1.5**
	31nm,1.0s						
CMAR	**Chiang Mai Arr**	**14.71**	**172**	Pn	**Pn**	**20 27 06.3**	**-1.3**
	0.2nm,0.3s,baz=344,slow=13,SNR=17						
SONM	**Songino Array**	**16.40**	**23**	Pn	**Pn**	**20 27 29.7**	**0.0**
	0.2nm,0.3s,baz=216,slow=12,SNR=14						
MKAR	**Makanchi Array**	**17.59**	**325**	P	**Pn**	**20 27 44.4**	**-0.1**
	0.1nm,0.3s,baz=137,slow=14,SNR=23						
MKAR				LR	LR	20 34 57.9	
	comp=Z,53nm,19.0s,baz=170,slow=39						
AAK	**Ala-Archa**	**19.97**	**305**	P	**Pn**	**20 28 13.3**	**-0.3**
	0.3nm,0.3s,baz=108,slow=7.4,SNR=12						
KURBB	**Kurchatov Arra**	**22.07**	**328**	P	**P**	**20 28 35.1**	**+0.9**
	2.5nm,1.0s,baz=142,slow=11,SNR=9.1						
ZALV	**Zalesovo Beam**	**22.51**	**341**	P	**P**	**20 28 40.0**	**+1.1**
	0.7nm,0.6s,baz=156,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**33.25**	**313**	P	**P**	**20 30 16.7**	**+0.1**
	0.9nm,0.6s,baz=90,slow=17,SNR=5.0						
BRTR	**Keskin Array B**	**50.34**	**297**	P	**P**	**20 32 36.3**	**-0.3**
	0.5nm,0.7s,baz=66,slow=3.5,SNR=2.9						
ARCES	**ARCESS Array B**	**52.88**	**335**	P	**P**	**20 32 54.4**	**-0.6**
	2.1nm,0.9s,baz=79,slow=11,SNR=2.1						
NOA	**NORSAR Array B**	**59.58**	**326**	P	**P**	**20 33 42.4**	**-0.5**
	0.4nm,0.8s,baz=102,slow=4.0,SNR=3.3						
GERES	**GERESS Array B**	**61.66**	**312**	LR	LR	21 01 32.4	
	comp=Z,24nm,19.7s,baz=296,slow=37						
WRA	**Warramunga Arr**	**63.78**	**140**	P	**P**	**20 34 12.0**	**+0.3**
	0.9nm,0.7s,baz=334,slow=6.9,SNR=9.9						
ASAR	**Alice Springs**	**66.62**	**143**	P	**P**	**20 34 30.6**	**+0.5**
	0.9nm,0.5s,baz=326,slow=6.5,SNR=24						
PAGF	**Fort de Pagny**	**66.68**	**314**	*e*P	**P**	**20 34 30.2**	**-0.1**
	1.6nm,0.7s						
TCF	**Toulx Ste Croi**	**69.81**	**313**	*e*P	**P**	**20 34 50.0**	**0.0**
ILAR	**Eielson Array**	**70.63**	**24**	P	**P**	**20 34 54.4**	**-0.3**
	0.2nm,0.6s,baz=293,slow=4.7,SNR=3.7						
ROSF	**Rostrenen**	**72.13**	**316**	*e*P	**P**	**20 35 03.5**	**-0.5**
STKA	**Stephens Creek**	**77.23**	**142**	P	**P**	**20 35 33.8**	**+0.2**
	0.7nm,0.7s,baz=48,slow=4.1,SNR=4.1						
YKA	**Yellowknife Ar**	**81.44**	**14**	P	**P**	**20 35 55.4**	**-0.8**
	0.1nm,0.4s,baz=346,slow=3.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.13**	**284**	P	**P**	**20 36 24.6**	**-1.4**
	0.6nm,0.8s,baz=72,slow=3.0,SNR=3.7						
DBIC	**Dimbokro**	**96.07**	**282**	LR	LR	21 23 14.5	
	comp=Z,30nm,19.4s,baz=126,slow=37						

*ISCJB **20** 20:26:05.1±0.3, 45°97N±0°04×136°50E±0°06, h450km, mb3.4/18, Error ellipse: s-maj=6.7km s-min=3.4km az=146.1*
*IDC **20** 20

JTH	**Tanohata**	**7.16**	145	P	**P**	**20**	**27**	**52.2**	**-0.3**
JTH				S	**S**	**20**	**29**	**15.8**	**-3.8**
JRG	**Rokugo**	**7.20**	**154**	P	**P**	**20**	**27**	**54.4**	**+1.5**
JRG				*e*S	**S**	**20**	**29**	**20.8**	**+0.4**
JOM	**Ohasama**	**7.35**	**150**	P	**P**	**20**	**27**	**56.0**	**+1.5**
JOM				S	**S**	**20**	**29**	**22.4**	**-0.9**
MIYJ	**Miyakonagasawa**	**7.45**	**147**	P	**P**	**20**	**27**	**57.8**	**+2.2**
MIYJ				S	**S**	**20**	**29**	**20.8**	**-4.5**
JYA	**Atsumi**	**7.71**	**161**	P	**P**	**20**	**27**	**57.2**	**-1.2**
JMK	**Ichinoseki**	**7.79**	**152**	P	**P**	**20**	**28**	**00.7**	**+1.4**
JMK				*e*S	**S**	**20**	**29**	**28.8**	**-3.2**
OFUJ	**Ofunato**	**7.83**	**149**	S	**S**	**20**	**29**	**34.3**	**+1.5**
JIO	**Ouri**	**8.28**	**153**	P	**P**	**20**	**28**	**05.2**	**+0.6**
JIO				S	**S**	**20**	**29**	**38.7**	**-3.1**
JMM	**Marumori**	**8.66**	**157**	P	**P**	**20**	**28**	**10.3**	**+1.6**
JMM				*e*S	**S**	**20**	**29**	**49.0**	**-0.4**
JHK	**Hiroka**	**8.88**	**167**	P	**P**	**20**	**28**	**13.5**	**+2.5**
JFK	**Kawauchi**	**9.15**	**158**	S	**S**	**20**	**29**	**57.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**9.38**	**159**	S	**S**	**20**	**30**	**03.3**	**-0.6**
MAT	**Matsushiro**	**9.47**	**172**	P	**P**	**20**	**28**	**20.3**	**+2.8**
MAT				*e*S	**S**	**20**	**30**	**03.6**	**-1.9**
MJAR	**Matsushiro Arr**	**9.47**	**172**	P	**P**	**20**	**28**	**20.6**	**+3.1**
	1.4nm,0.3s,baz=5.2,slow=10,SNR=17								
JGN	**Niukaw**	**9.72**	**176**	P	**P**	**20**	**28**	**22.1**	**+1.8**
JAG	**Ashikaga**	**9.75**	**166**	P	**P**	**20**	**28**	**22.0**	**+1.5**
JHO	**Hitachi**	**9.80**	**161**	P	**P**	**20**	**28**	**21.4**	**+0.4**
JHO				*e*S	**S**	**20**	**30**	**09.5**	**-2.6**
JRY	**Ryogami san**	**10.07**	**169**	P	**P**	**20**	**28**	**26.1**	**+2.1**
JHU	**Hanno**	**10.28**	**167**	*e*S	**S**	**20**	**30**	**20.6**	**-1.2**
KSRS	**Korea Array**	**10.63**	**220**	P	**P**	**20**	**28**	**31.4**	**+1.3**
	0.4nm,0.3s,baz=40,slow=11,SNR=10								
SONM	**Songino Array**	**20.63**	**286**	P	**P**	**20**	**30**	**11.3**	**-1.8**
	4.8nm,0.8s,baz=85,slow=8.8,SNR=32								
ZALV	**Zalesovo Beam**	**33.56**	**303**	P	**P**	**20**	**32**	**05.1**	**-1.6**
	2.0nm,0.5s,baz=90,slow=8.1,SNR=9.0								
MKAR	**Makanchi Array**	**36.81**	**291**	P	**P**	**20**	**32**	**33.4**	**-0.7**
	1.4nm,0.7s,baz=84,slow=9.6,SNR=17								
KURBB	**Kurchatov Arra**	**38.03**	**299**	P	**P**	**20**	**32**	**43.1**	**-1.0**
	3.1nm,0.6s,baz=73,slow=9.0,SNR=23								
BVAR	**Borovoye Array**	**42.16**	**305**	P	**P**	**20**	**33**	**16.7**	**-0.6**
	1.5nm,0.4s,baz=78,slow=9.1,SNR=17								
ILAR	**Eielson Array**	**44.23**	**37**	P	**P**	**20**	**33**	**54.5**	**+1.1**
	0.4nm,0.6s,baz=278,slow=7.5,SNR=7.7								
INK	**Inuvik**	**48.31**	**30**	P	**P**	**20**	**34**	**06.0**	**+1.6**
	1.1nm,0.3s,baz=288,slow=8.4,SNR=11								
AKTO	**Aktyubinsk**	**50.25**	**305**	P	**P**	**20**	**34**	**18.6**	**-0.6**
	0.4nm,0.3s,baz=57,slow=3.7,SNR=4.5								
ARCES	**ARCESS Array B**	**54.38**	**336**	P	**P**	**20**	**34**	**49.0**	**+0.3**
	1.4nm,0.8s,baz=20,slow=12,SNR=4.2								
GEYT	**Alibeck**	**56.69**	**292**	P	**P**	**20**	**35**	**06.0**	**+0.6**
	0.9nm,0.4s,baz=15,slow=6.0,SNR=3.0								
YKA	**Yellowknife Ar**	**58.02**	**31**	P	**P**	**20**	**35**	**15.5**	**+1.5**
	0.3nm,0.5s,baz=310,slow=6.5,SNR=9.2								
FINES	**FINESS Array B**	**59.27**	**328**	P	**P**	**20**	**35**	**22.1**	**-0.4**
	1.3nm,0.5s,baz=63,slow=8.0,SNR=16								
FINES				PcP	**PcP**	**20**	**36**	**05.5**	**+0.4**
	0.3nm,0.4s,baz=85,slow=2.3,SNR=5.2								
NB2	**NORSAR Subarra**	**64.58**	**334**	P	**P**	**20**	**35**	**57.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=37,slow=6.5								
NOA	**NORSAR Array B**	**64.58**	**334**	P	**P**	**20**	**35**	**57.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=210,slow=6.3,SNR=4.4								
AKASG	**Malin Array Be**	**65.12**	**318**	P	**P**	**20**	**35**	**59.9**	**-1.0**
	comp=Z,0.3nm,0.2s,baz=44,slow=7.0,SNR=5.0								
WRA	**Warramunga Arr**	**65.59**	**182**	P	P	20	36	07.5	+3.4
	comp=Z,0.7nm,0.4s,baz=359,slow=6.8,SNR=18								
ASAR	**Alice Springs**	**69.31**	**183**	P	P	20	36	30.6	+3.6
	comp=Z,1.0nm,0.5s,baz=360,slow=5.6,SNR=23								
GERES	**GERESS Array B**	**73.28**	**325**	P	**P**	**20**	**36**	**49.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=49,slow=7.9,SNR=4.0								
PDAR	**Pinedale Array**	**73.96**	**44**	P	**P**	**20**	**36**	**56.8**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=300,slow=2.9,SNR=3.5								
STKA	**Stephens Creek**	**77.58**	**176**	P	P	20	37	18.7	+4.4
	comp=Z,0.6nm,0.5s,baz=315,slow=4.6,SNR=4.6								

*KRNET **20** 20:51:08.6±0.1, 42.2°21N×76.4°44E, h17km, mb3.0*
*NNC **20** 20:51:11.0±1.6, 42.2°29N×76.3°35E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=10.8km s-min=5.9km az=162.0*
*KNET **20** 20:51:10.4±0.4, 42.2°21N×76.2°29E, h14km±1km, ml1.8, Error ellipse: s-maj=4.5km s-min=1.8km az=152.0*
ISC 20 20:51:09.5±0.9, **42.2°20N**±0.0°03×**76.4°40E**±0.0°03, **h15**km±6km, **n24,σ0°72/42, 29C-12D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.12**	**293**	⇑	P		**Pg**	**20 51 13.3**	**0.0**
	231nm,0.1s								
ULHL				⇓	S		**Sg**	**20 51 16.1**	**+0.3**
	154nm,0.2s								
ULHL	**Ulahol**	**0.12**	**293**	⇑	*i*P		**Pg**	**20 51 13.0**	**-0.3**
	baz=284								
ULHL				⇑	*i*S		**Sg**	**20 51 15.9**	**+0.1**
	baz=284								
BOOM	**Boomskoye usch**	**0.45**	**311**	*e*P			**Pg**	**20 51 18.0**	**-0.5**
	baz=307								
BOOM				*e*S			**Sg**	**20 51 24.5**	**-0.2**
	baz=307								
KDJ	**Kajisay**	**0.59**	**96**	*e*P			**Pg**	**20 51 20.0**	**-1.1**
	baz=98								
KDJ				*e*S			**Sg**	**20 51 27.2**	**-1.8**
	baz=98								
NRN	**Naryn**	**0.82**	**201**	⇓	*i*P		**Pg**	**20 51 25.4**	**-0.1**
	baz=203								
NRN				⇓	*e*S		**Sg**	**20 51 37.0**	**+0.7**
	baz=203								
KZA	**Kyzart**	**0.86**	**262**	⇑	P		**Pg**	**20 51 25.9**	**-0.5**
	11nm,0.2s,SNR=20								
KZA				⇑	S		**Sg**	**20 51 38.0**	**+0.3**
	23nm,0.2s								
KZA	**Kyzart**	**0.86**	**262**	⇑	*i*P		**Pg**	**20 51 25.7**	**-0.6**
	baz=262								
KZA				⇑	*i*S		**Sg**	**20 51 37.6**	**-0.1**
	baz=262								
TKM2	**Tokmak 2**	**0.93**	**321**	⇑	P		**Pb**	**20 51 27.5**	**-0.1**
	4.7nm,0.6s								
TKM2				⇑	S		**Sb**	**20 51 39.4**	**-0.6**
	8.6nm,0.2s								
TKM2	**Tokmak 2**	**0.93**	**321**	⇑	*i*P		**Pb**	**20 51 27.2**	**-0.4**
	baz=319								
TKM2				⇑	*i*S		**Sb**	**20 51 39.2**	**-0.7**
	baz=319								
KNDC	**Almaty**	**1.10**	**22**	⇑	P		**Pb**	**20 51 30.3**	**-0.1**
	6.7nm,0.2s								
KNDC				⇑	S		**Sb**	**20 51 45.3**	**+0.6**
	7.5nm,0.2s								
KBK	**Karagaybulak**	**1.17**	**294**	⇓	P		**Pb**	**20 51 31.3**	**-0.2**
	4.8nm,0.1s,SNR=13								
KBK				⇑	S		**Sg**	**20 51 47.4**	**+0.1**
	25nm,0.2s								
KBK	**Karagaybulak**	**1.17**	**294**	⇑	iP		**Pb**	**20 51 31.0**	**-0.6**
	baz=293								
KBK				⇑	*i*S		**Sg**	**20 51 47.1**	**-0.2**
	baz=293								
UCH	**Uchtor**	**1.40**	**272**	⇑	P		**Pn**	**20 51 35.1**	**+0.1**
	2.9nm,0.2s,SNR=6.5								
UCH				⇓	S		**Sb**	**20 51 54.2**	**+0.6**
	4.2nm,0.2s								
UCH	**Uchtor**	**1.40**	**272**	⇑	*i*P		**Pn**	**20 51 34.9**	**-0.1**
	baz=271								
UCH				⇑	*i*S		**Sn**	**20 51 53.5**	**0.0**
	baz=271								
CHMS	**Chumysh**	**1.46**	**304**	⇑	iP		**Pn**	**20 51 35.7**	**+0.3**
	baz=303								
CHMS				⇑	*i*S		**Sb**	**20 51 54.9**	**+0.2**
	baz=303								
AAK	**Ala-Archa**	**1.47**	**288**	⇑	P		**Pn**	**20 51 36.5**	**+0.6**
	0.7nm,0.2s								
AAK				⇓	S		**Sb**	**20 51 55.7**	**+0.2**
	5.4nm,0.5s								
AAK	**Ala-Archa**	**1.47**	**288**		P		**Pn**	**20 51 36.6**	**+0.8**
	3.4nm,0.2s,SNR=10								
AAK	**Ala-Archa**	**1.47**	**288**	⇓	*i*P		**Pn**	**20 51 36.4**	**+0.6**
	baz=287								
AAK				⇓	*i*S		**Sn**	**20 51 55.2**	**+0.3**
	baz=287								
ARLS	**Aral**	**1.58**	**258**	⇓	*i*P		**Pn**	**20 51 37.8**	**+0.6**
	baz=258								
ARLS				⇓	*i*S		**Sb**	**20 51 59.1**	**+0.6**
	baz=258								
AML	**Almayashu**	**2.01**	**269**	⇑	P		**Pb**	**20 51 46.4**	**+0.3**
	3.2nm,0.2s,SNR=13								
PDGK	**Podgornoye**	**2.54**	**63**	⇓	Pn		**Pn**	**20 51 52.6**	**+2.4**
	0.6nm,0.4s								
PDGK				⇑	Lg		Lg	20 52 27.7	
	5.8nm,0.6s								
MNAS	**Manas**	**2.90**	**277**	⇑	Pn		**Pg**	**20 52 03.8**	**-1.3**
	0.8nm,0.5s								
MNAS				⇑	Lg		Lg	20 52 41.0	
	2.9nm,0.9s								
SFK	**Sufi-Kurgan**	**3.09**	**226**	⇑	Pn		**Pb**	**20 52 03.4**	**-1.0**
	0.1nm,0.3s								
SFK				⇓	Lg		Lg	20 52 47.6	
KK31	**Karatay Array**	**4.43**	**284**	⇑	Pg		**Pg**	**20 52 33.8**	**-0.7**
	1.3nm,0.8s,baz=99,slow=14,SNR=3.5								
KK31				⇑	Lg		Lg	20 53 29.4	
	1.5nm,0.7s,baz=96,slow=25,SNR=7.7								

*IDC **20** 20:59:59.9±1.3, 5.°19N×127.°18E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.4/47, mbtmp3.6/6, Error ellipse: s-maj=58.7km s-min=26.2km az=69.0*
*ISCJB **20** 21:00:07.2±1.1, 5.°2N×127.°3E±0.°4, h76km, mb3.5/6, Error ellipse: s-maj=54.0km s-min=21.1km az=161.4*
ISC 20 21:00:09.2±1.3, **5.°2N**±0.°2×**127.°3E**±0.°4, **h76**km, **n6,σ0°41/6, mb3.6/6, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.91**	**165**	P		P	**Pb**	**21 05 34.5**	**0.0**
	0.3nm,0.5s,baz=344,slow=10,SNR=4.6								
SONM	**Songino Array**	**46.12**	**341**	P		P	**Pb**	**21 08 26.5**	**+0.4**
	0.2nm,0.4s,baz=157,slow=9.4,SNR=5.0								
PETK	**Petropavlovsk-**	**53.88**	**22**	P		P	**Pb**	**21 09 24.4**	**-0.1**
	2.0nm,0.8s,baz=196,slow=8.8,SNR=3.6								
MKAR	**Makanchi Array**	**56.70**	**324**	P		P	**Pb**	**21 09 44.8**	**-0.2**
	0.5nm,0.5s,baz=113,slow=7.2,SNR=12								
KURBB	**Kurchatov Arra**	**60.83**	**327**	P		P	**Pb**	**21 10 13.1**	**-0.5**
	0.6nm,0.7s,baz=125,slow=5.6,SNR=8.3								
BVAR	**Borovoye Array**	**66.42**	**326**	P		P	**Pb**	**21 10 50.5**	**+0.2**
	0.2nm,0.4s,baz=115,slow=6.8,SNR=2.8								

*NNC **20** 21:10:48.5±0.8, 43.°48N×78.°30E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=17.6km s-min=3.1km az=177.0*
*KRNET **20** 21:10:50.1±0.1, 43.°35N×78.°13E, h2km, mb3.6*
ISC 20 21:10:48.9±1.5, **43.°35N**±0.°07×**78.°21E**±0.°05, **h8**km±14km, **n26,σ1°05/27, 19C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.92**	**262**	⇑	P		**Pb**	**21 11 07.7**	**+0.5**
	44nm,0.3s								
KNDC				⇓	S		**Sn**	**21 11 21.3**	**-0.3**
	143nm,0.4s								
PDGK	**Podgornoye**	**0.93**	**91**	⇑	P		Pg	21 11 05.6	-1.3
	4.6nm,0.2s								
PDGK				⇑	S		**Sg**	**21 11 17.6**	**-1.4**
	133nm,0.3s								
KDJ	**Kajisay**	**1.44**	**212**	⇓	*i*P		**Pb**	**21 11 16.5**	**+0.5**
	baz=210								
KDJ				⇓	*e*S		**Sg**	**21 11 36.2**	**+1.1**
	baz=210								
ULHL	**Ulahol**	**1.82**	**233**		P		**Pb**	**21 11 23.3**	**+0.6**
	SNR=203								
ULHL	**Ulahol**	**1.82**	**233**	*e*P			**Pb**	**21 11 23.2**	**+0.6**
	baz=232								
ULHL				*i*	S		**Sg**	**21 11 48.1**	**+0.7**
	baz=232								
BOOM	**Boomskoye usch**	**1.87**	**243**	*i*	P		**Pb**	**21 11 24.0**	**+0.5**
	baz=242								
BOOM				*e*S			**Sg**	**21 11 49.0**	**-0.2**
	baz=242								
TKM2	**Tokmak 2**	**1.96**	**258**	⇑	Pn		**Pb**	**21 11 24.9**	**-0.1**
	13nm,0.2s								
TKM2				⇑	Lg		Lg	21 11 52.1	
	101nm,0.4s								
TKM2	**Tokmak 2**	**1.96**	**258**		P		**Pb**	**21 11 24.9**	**-0.1**
	SNR=12								
TKM2	**Tokmak 2**	**1.96**	**258**	⇑	*i*P		**Pb**	**21 11 24.6**	**-0.4**
	baz=258								
TKM2				⇑	*i*S		**Sg**	**21 11 51.2**	**-0.7**
	baz=258								
KBK	**Karagaybulak**	**2.49**	**255**		P		**Pb**	**21 11 34.5**	**+0.5**
	SNR=34								
KZA	**Kyzart**	**2.52**	**241**		P		**Pb**	**21 11 34.5**	**-0.3**
	SNR=56								
KZA	**Kyzart**	**2.52**	**241**	⇑	*i*P		**Pb**	**21 11 35.0**	**+0.3**
	baz=240								
KZA				⇑	*i*S		**Sg**	**21 12 09.7**	**-0.3**
	baz=240								
CHMS	**Chumysh**	**2.55**	**263**		P		Sn	21 12 08.2	+6.3
	SNR=11								
USP	**Ospenovka**	**2.71**	**269**		P		**Pb**	**21 11 36.9**	**-0.7**
	SNR=5.8								
AAK	**Ala-Archa**	**2.82**	**257**	⇑	Pn		**Pb**	**21 11 39.0**	**-0.6**
	3.2nm,0.3s								
AAK				⇓	Lg		Lg	21 12 18.0	
	25nm,0.5s								
AAK	**Ala-Archa**	**2.82**	**257**		P		**Pb**	**21 11 40.1**	**+0.6**
	SNR=8.9								
UCH	**Uchtor**	**2.94**	**249**		P		**Pb**	**21 11 42.3**	**+0.4**
	SNR=13								
EKS2	**Erkin-Say**	**3.32**	**260**		P		**Pg**	**21 11 52.3**	**-0.2**
	SNR=20								
AML	**Almayashu**	**3.54**	**251**		P		**Pb**	**21 11 53.7**	**+1.7**
	SNR=7.1								
MNAS	**Manas**	**4.28**	**260**	⇓	Pg		**Pb**	**21 12 06.7**	**+2.2**
	1.3nm,0.4s								
MNAS				⇑	Lg		Lg	21 13 02.6	
	6.7nm,0.5s								
MK31	**Makanchi Array**	**4.50**	**39**	⇑	Pn		**Pn**	**21 11 58.5**	**+1.2**
	0.3nm,0.2s,baz=216,slow=15,SNR=24								
MK31				⇑	Lg		Lg	21 13 04.4	
	2.8nm,0.5s,baz=218,slow=28,SNR=7.8								
SFK	**Sufi-Kurgan**	**4.85**	**228**	⇑	Pn		Pn	21 12 06.0	+3.6
	1.6nm,0.5s								
SFK				⇑	Sn		**Sb**	**21 13 09.9**	**-2.9**
	3.2nm,0.2s								
KK31	**Karatay Array**	**5.63**	**270**	⇓	Pg		Pb	21 12 31.8	+4.4
	0.3nm,0.3s,baz=80,slow=14,SNR=14								
KK31				⇑	Lg		Lg	21 13 45.5	
	3.9nm,0.4s,baz=88,slow=29,SNR=12								
OTUK	**Ortayu**	**6.38**	**322**	⇑	Pn		Pn	21 12 28.4	+5.1
	1.3nm,0.6s								
OTUK				⇓	Lg		Lg	21 14 09.0	
	6.5nm,0.6s								
KURBB	**Kurchatov Arra**	**7.28**	**2**	⇑	Lg		Lg	21 14 34.4	
	15nm,0.7s								
KURK	**Kurchatov**	**7.37**	**2**	⇑	Lg		Lg	21 14 38.5	
	1.9nm,0.6s								

*ISCJB **20** 22:10:24.3±0.2, 58.°72N±0.°03×153.°03W±0.°04, h81km±3km, mb3.8/14, Error ellipse: s-maj=4.8km s-min=3.1km az=149.5*
*IDC **20** 22:10:25.8±3.5, 58.°86N×153.°29W, h68km±30km, mb3.6/13, mb1 3.9/17, mb1mx3.7/40, mbtmp4.0/17, ML4.3/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/26, Error ellipse: s-maj=29.2km s-min=17.0km az=14.0*
*NEIC **20** 22:10:26.6, 58.°71N×153.°10W, h60km, mb4.3/2, ML4.1(AEIC), After AEIC.*
ISC 20 22:10:25.7±0.7, **58.°75N**±0.°05×**153.°06W**±0.°04, **h72**km±6km, **n123,σ0°96/132, mb3.9/14, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.62**	**342**	P		P	**Pn**	**22 10 39.8**	**0.0**
AUI				S		P	**Sn**	**22 10 50.0**	**-0.3**
AUP	**Augustine Pinn**	**0.64**	**343**	P		P	**Pn**	**22 10 40.4**	**+0.1**
AUH	**Augustine H**	**0.65**	**342**	P		P	**Pn**	**22 10 40.3**	**0.0**
MCNL	**McNeil River**	**0.79**	**304**	P		P	**Pn**	**22 10 41.4**	**-0.5**
MCNL				S		P	**Sn**	**22 10 52.0**	**-1.7**
OPT	**Oil Point**	**0.91**	**355**	P		P	**Pn**	**22 10 43.6**	**+0.4**
KDAK	**Kodiak Island**	**1.00**	**165**	P		P	**Pn**	**22 10 43.7**	**-0.6**
KDAK				S		S	**Sn**	**22 10 56.9**	**-1.2**
KAKN	**Katmai Knife C**	**1.14**	**248**	P		P	**Pn**	**22 10 45.2**	**-0.9**
KAKN				S		S	**Sn**	**22 11 00.4**	**-1.1**
HOM	**Homer**	**1.17**	**38**	P		P	**Pn**	**22 10 47.4**	**+1.1**
KABR	**Katmai Barrier**	**1.18**	**239**	P		P	**Pn**	**22 10 45.6**	**-1.0**
ILS	**Iliamna Low So**	**1.21**	**360**	P		P	**Pn**	**22 10 47.1**	**0.0**
CNPM	**China Poot**	**1.22**	**50**	P		P	**Pn**	**22 10 47.8**	**+0.6**
CNPM				S		S	**Sn**	**22 11 05.1**	**+2.0**
KCE	**Katmai Mt Cerb**	**1.23**	**246**	P		P	**Pn**	**22 10 46.7**	**-0.4**
KVTA	**Katmai Vly 10**	**1.23**	**254**	P		P	**Pn**	**22 10 46.5**	**-0.6**
KABU	**Katmai Buttres**	**1.26**	**249**	P		P	**Pn**	**22 10 47.3**	**-0.4**
KABU				S		S	**Sn**	**22 11 04.2**	**+0.1**
IVE	**Iliamna Volcan**	**1.27**	**1**	P		P	**Pn**	**22 10 48.1**	**+0.2**
ILW	**Iliamna West**	**1.32**	**358**	P		P	**Pn**	**22 10 48.7**	**+0.2**
KELA	**Mount Kelaz**	**1.44**	**259**	P		P	**Pn**	**22 10 49.2**	**-0.7**
BRLK	**Bradley Lake**	**1.51**	**47**	P		P	**Pn**	**22 10 51.1**	**+0.2**
OHAK	**Old Harbor**	**1.54**	**185**	P		P	**Pn**	**22 10 50.4**	**-0.8**
RSO	**Redoubt South**	**1.73**	**5**	*e*P			**Pn**	**22 10 54.8**	**+0.9**
RDWB	**Redoubt West**	**1.75**	**4**	P			**Pn**	**22 10 54.4**	**+0.3**
RDN	**Redoubt North**	**1.78**	**5**	P			**Pn**	**22 10 55.5**	**+1.0**
NCT	**North Crescent**	**1.82**	**2**	P			**Pn**	**22 10 55.6**	**+0.6**
DFR	**Drift River**	**1.86**	**6**	P			**Pn**	**22 10 56.1**	**+0.6**
PLK2	**Peulik 2**	**1.99**	**242**	P			**Pn**	**22 10 57.2**	**0.0**
PLK3	**Peulik 3**	**2.00**	**239**	P			**Pn**	**22 10 57.2**	**-0.2**
PLK4	**Peulik 4**	**2.08**	**239**	P			**Pn**	**22 10 58.3**	**-0.1**
PLK1	**Peulik 1**	**2.10**	**245**	P			**Pn**	**22 10 58.7**	**0.0**
SLKM	**Skilak Lake**	**2.28**	**38**	P			**Pn**	**22 11 01.4**	**+0.3**
SEW	**Seward**	**2.29**	**52**	P			**Pn**	**22 11 01.0**	**-0.3**
CKL	**Chakachamna La**	**2.48**	**8**	P			**Pn**	**22 11 05.0**	**+1.0**
CKN	**Chakachatna No**	**2.52**	**10**	P			**Pn**	**22 11 05.7**	**+1.3**
SPBG	**Spurr Blockage**	**2.54**	**8**	P			**Pn**	**22 11 05.8**	**+1.1**
BGL	**Barrier Glacie**	**2.55**	**7**	P			**Pn**	**22 11 06.2**	**+1.4**
SVW2	**Sparrevohn**	**2.68**	**333**	P			**Pn**	**22 11 06.5**	**0.0**
FIB	**Fire Island**	**2.83**	**30**	P			**Pn**	**22 11 10.6**	**+2.1**
STLK	**Strandline Lak**	**2.83**	**12**	P			**Pn**	**22 11 09.8**	**+1.2**
RC01	**Rabbit Creek A**	**2.88**	**34**	P			**Pn**	**22 11 10.1**	**+0.9**
SUA	**Susitna One**	**2.96**	**22**	P			**Pn**	**22 11 11.4**	**+1.0**
SKT	**Skwentna**	**3.33**	**13**	P			**Pn**	**22 11 16.1**	**+0.7**
PMR	**Palmer**	**3.46**	**33**	P			**Pn**	**22 11 17.4**	**+0.3**
GLI	**Glacier Island**	**3.69**	**52**	P			**Pn**	**22 11 19.3**	**-1.0**
JPK	**Jack Peak**	**3.99**	**52**	P			**Pn**	**22 11 24.0**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.13**	**61**	P			**Pn**	**22 11 25.8**	**-0.4**
VLZ	**Valdez**	**4.14**	**52**	P			**Pn**	**22 11 26.2**	**-0.1**
PPLA	**Purkeypile**	**4.18**	**5**	P			**Pn**	**22 11 28.5**	**+1.4**
SCM	**Sheep Creek Mo**	**4.21**	**40**	P			**Pn**	**22 11 27.8**	**+0.4**
DIV	**Divide**	**4.37**	**54**	P			**Pn**	**22 11 29.4**	**-0.3**
TT01	**Tatalina**	**4.42**	**342**	P			**Pn**	**22 11 30.9**	**+0.7**
KLU	**Klutina**	**4.51**	**49**	P			**Pn**	**22 11 31.4**	**0.0**
CAST	**Castle Rocks**	**4.71**	**5**	P			**Pn**	**22 11 34.0**	**+0.1**
BMRM	**Bremner River**	**4.81**	**59**	P			**Pn**	**22 11 35.0**	**+0.5**
NICHA	**Nichawak Mount**	**4.87**	**68**	P			**Pn**	**22 11 36.5**	**+0.2**
TRF	**Thorofare Moun**	**4.91**	**15**	P			**Pn**	**22 11 37.3**	**+0.3**
KTH	**Kantishna Hill**	**4.93**	**11**	P			**Pn**	**22 11 38.0**	**+0.8**
PS11	**TAPS Pump St11**	**5.03**	**45**	P			**Pn**	**22 11 39.7**	**+1.2**
BERG	**Berg Lake**	**5.04**	**67**	P			**Pn**	**22 11 38.5**	**-0.1**
RND	**Reindeer**	**5.10**	**22**	P			**Pn**	**22 11 39.8**	**+0.3**
DHY	**Denali Highway**	**5.15**	**30**	P			**Pn**	**22 11 40.9**	**+0.6**
GRIN	**Grindle Hills**	**5.19**	**69**	P			**Pn**	**22 11 41.1**	**+0.3**
KHIT	**Khitrov Hills**	**5.27**	**67**	P			**Pn**	**22 11 41.6**	**-0.2**
SDPT	**Sand Point**	**5.29**	**233**	P			**Pn**	**22 11 41.6**	**-0.5**
HARP	**HAARP**	**5.35**	**43**	P			**Pn**	**22 11 43.8**	**+0.8**
GLB	**Gilahina Butte**	**5.36**	**56**	P			**Pn**	**22 11 43.0**	**-0.1**
MCK	**McKinley**	**5.38**	**20**	P			**Pn**	**22 11 44.2**	**+0.8**
VRDI	**Verde Repeater**	**5.42**	**59**	P			**Pn**	**22 11 43.6**	**-0.5**
KULT	**Kultieth River**	**5.48**	**70**	P			**Pn**	**22 11 44.8**	**+0.1**
BARK	**Barkley Ridge**	**5.62**	**68**	P			**Pn**	**22 11 47.0**	**+0.3**
PAX	**Paxson**	**5.63**	**38**	P			**Pn**	**22 11 46.8**	**+0.1**
MCARA	**McCarthy VSAT**	**5.68**	**58**	P			**Pn**	**22 11 47.2**	**-0.1**
BWN	**Browne**	**5.71**	**16**	P			**Pn**	**22 11 48.5

SPIG	**San Pedro Mart**	**1.28**	**190**	*eP*	Pn	22 13 13.8	-4.2
SPIG				*i* S	Sb	22 13 30.1	-4.8

MEX 20 22:40:09.3±0.9, 32°45N×115°25W, h19km±10km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.06**	**136**	*eP*		Pg	22 40 12.2	-0.6
MBIG				*eS*		Sg	22 40 14.5	-0.6
CBX	**Cerro Bola**	**1.21**	**264**	*eP*		Pn	22 40 28.1	-3.3
CBX				*eS*		Sb	22 40 42.1	-5.0
SPIG	**San Pedro Mart**	**1.41**	**188**	*i* P		Pn	22 40 31.6	-2.9
SPIG				*i* S		Sn	22 40 48.0	-4.7

*NNC **20** 23:00:38.6±4.3, 49°.22N×91°.80E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=43.0km s-min=35.8km az=79.0*
*ISCJB **20** 23:00:40.6±0.7, 49°.37N±0°.05×91°.50E±0°.09, h10km, mb3.4/6, Error ellipse: s-maj=8.7km s-min=6.3km az=152.4*
*IDC **20** 23:00:40.3±1.0, 49°.38N×91°.69E, h0km, mb3.5/5, mb1 3.5/11, mb1mx3.3/43, mbtmp3.4/11, ML2.7/6, Error ellipse: s-maj=25.0km s-min=13.1km az=10.0*
*MOS **20** 23:00:47.9±2.2, 49°.29N×91°.00E, h34km, mb4.1/2, Error ellipse: s-maj=14.9km s-min=11.4km az=131.3*
*ASRS **20** 23:00:47.2±1.9, 49°.39N×91°.47E, h15km, Ms3.1/5*

ISC 20 23:00:41.9±0.8, 49°34N±0°.06×91°.55E±0°.05, h10km, n33, σ1s77/34, mb3.5/6, 7C-5D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HVS	**Khovu-Aksy**	**2.27**	**37**	*d* iPN		**Pg**	**23 01 24.2**	**-1.1**
AKAR	**Aktash**	**2.72**	**293**	*i* PN		**Pb**	**23 01 30.0**	**-0.8**
AKAR	**Aktash**	**2.72**	**293**	*i* Pn		**Pb**	**23 01 30.0**	**-0.8**
AKAR				*e*Sg		**Sg**	**23 02 09.0**	**-0.4**
CERR	**Cheremushki**	**3.52**	**359**	*e*PN		**Pg**	**23 01 51.5**	**+2.2**
CERR				*e*			23 02 33.1	
CERR	**Cheremushki**	**3.52**	**359**	*e*Pg		**Pg**	**23 01 51.5**	**+2.2**
CERR				*e*Sg		**Sg**	**23 02 33.1**	**-1.7**
TASR	**Tashtagol**	**4.13**	**327**	*e*PN		**Pg**	**23 02 00.7**	**-0.3**
TASR	**Tashtagol**	**4.13**	**327**	*e*Pg		**Pg**	**23 02 00.7**	**-0.3**
TASR				*e*Sg		**Sg**	**23 02 57.8**	**+3.4**
ELT	**Yel'tsovka**	**5.14**	**322**	*e*PN		Pn	23 02 03.2	+4.3
ELT	**Yel'tsovka**	**5.14**	**322**	*e*Pn		Pn	23 02 03.2	+4.3
ELT				*e*Pg		**Pg**	**23 02 18.6**	**-1.8**
ELT				*e*Sg		**Sg**	**23 03 25.4**	**-1.6**
ZALV	**Zalesovo Beam**	**6.23**	**320**	Pn		**Pn**	**23 02 15.4**	**+1.6**
	0.3nm,0.3s,baz=143,slow=13,SNR=6.0							
ZALV				Pg		Pb	23 02 34.5	+4.2
	0.5nm,0.3s,baz=141,slow=16,SNR=6.8							
ZALV				Lg		Lg	23 03 51.8	
	1.2nm,0.3s,baz=137,slow=16,SNR=5.2							
MK31	**Makanchi Array**	**6.71**	**251**	⇑Pn		**Pn**	**23 02 22.6**	**+2.1**
	0.2nm,0.3s,baz=78,slow=14,SNR=17							
MK31				Pg		Pg	23 02 46.0	-4.3
	4.0nm,0.5s,baz=76,slow=19,SNR=16							
MK31				⇑Lg		Lg	23 04 14.6	
	12nm,0.5s,baz=71,slow=34,SNR=6.3							
MKAR	**Makanchi Array**	**6.71**	**251**	Pn		**Pn**	**23 02 22.7**	**+2.2**
	0.5nm,0.3s,baz=62,slow=18,SNR=20							
MKAR				Pg		Pb	23 02 44.2	+5.6
	1.8nm,0.3s,baz=79,slow=20,SNR=15							
MKAR				Lg		Lg	23 04 08.7	
	1.6nm,0.3s,baz=71,slow=35,SNR=4.4							
NVS	**Novosibirsk**	**7.51**	**320**	*e*P		Pn	23 02 38.6	+7.2
NVS				*e*			23 03 57.6	
NVS	**Novosibirsk**	**7.51**	**320**	*e*Pn		Pn	23 02 38.6	+7.2
NVS				*e*Pg		**Pg**	**23 03 04.6**	**-1.1**
NVS				*e*Sn		**Sn**	**23 03 57.6**	**+1.0**
NVS				*e*Sg		**Sg**	**23 04 37.4**	**-5.5**
ZAK	**Zakamensk**	**7.66**	**78**	*e*P		Pb	23 02 46.8	-8.0
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.4s							
TLY	**Talaya**	**8.06**	**69**	Lg		Lg	23 04 51.9	
	comp=Z,0.0nm,0.3s,baz=129,slow=6.4,SNR=3.6							
KURK	**Kurchatov**	**8.44**	**284**	⇓Pn		**Pn**	**23 02 44.4**	**+0.3**
	comp=Z,0.9nm,0.7s							
KURK				⇓Lg		Lg	23 05 10.7	
	comp=Z,12nm,0.8s							
KURK	**Kurchatov**	**8.44**	**284**	P		**Pn**	**23 02 44.5**	**+0.4**
KURBB	**Kurchatov Arra**	**8.49**	**284**	⇑Pn		**Pn**	**23 02 45.3**	**+0.5**
	comp=Z,1.4nm,0.5s							
KURBB				⇓Lg		Lg	23 05 12.8	
	comp=Z,32nm,0.6s							
KURBB	**Kurchatov Arra**	**8.49**	**284**	Pn		**Pn**	**23 02 44.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=97,slow=15,SNR=17							
KURBB				Lg		Lg	23 05 09.9	
	comp=Z,0.2nm,0.3s,baz=303,slow=12,SNR=7.4							
SONM	**Songino Array**	**9.96**	**93**	Pn		**Pn**	**23 03 02.4**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=280,slow=16,SNR=2.4							
SONM				Pg			23 03 41.5	
	comp=Z,0.1nm,0.3s,baz=280,slow=16,SNR=5.1							
SONM				Lg		Lg	23 05 55.3	
	comp=Z,0.5nm,0.3s,baz=281,slow=30,SNR=12							
PDGK	**Podgornoye**	**10.28**	**239**	⇑Pn		**Pn**	**23 03 09.0**	**-0.4**
	comp=Z,1.9nm,0.9s							
PDGK				⇑Lg		Lg	23 06 00.7	
	comp=Z,14nm,1.1s							
ULN	**Ulaanbaatar**	**10.38**	**92**	⇑*e*P		**Pn**	**23 03 11.2**	**+0.3**
ULN				pmax		pmax		
	comp=Z,3.0nm,2.2s							
AAK	**Ala-Archa**	**13.61**	**247**	Pn		**Pn**	**23 03 57.6**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=54,slow=4.7,SNR=4.4							
AAK				Lg		Lg	23 07 50.3	
	comp=Z,0.0nm,0.3s,baz=232,slow=18,SNR=2.4							
BVAR	**Borovoye Array**	**13.76**	**294**	Pn		**Pn**	**23 03 55.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=111,slow=14,SNR=4.2							
BRVK	**Borovoye**	**13.83**	**294**	⇑*e*P		**Pn**	**23 03 58.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,4.0nm,2.3s							
AKTO	**Aktyubinsk**	**21.53**	**286**	P		**P**	**23 05 32.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=142,slow=11,SNR=3.7							
TIXI	**Tiksi**	**28.08**	**24**	*de*P		P	23 06 40.3	+7.1
TIXI				pmax		pmax		
	comp=Z,5.0nm,2.5s							
BRTR	**Keskin Array B**	**41.45**	**279**	P		**P**	**23 08 29.7**	**+0.9**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**41.45**	**279**	P		**P**	**23 08 29.7**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=86,slow=7.8,SNR=9.6							
ESDC	**Sonseca Array**	**64.37**	**302**	P		**P**	**23 11 18.8**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=34,slow=8.0,SNR=4.3							
WRA	**Warramunga Arr**	**78.75**	**139**	P		**P**	**23 12 43.9**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=343,slow=5.9,SNR=3.4							
TORD	**Torodi Ar. Bea**	**80.06**	**279**	P		**P**	**23 12 52.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=36,slow=5.0,SNR=5.0							

IDC 20 23:15:00.1±47.0, 15°60S×176°39W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.6/3, Error ellipse: s-maj=875.2km s-min=163.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**41.45**	**239**	P		P	23 22 47.3	-1.5
	0.6nm,0.4s,baz=85,slow=12,SNR=2.6							
WRA	**Warramunga Arr**	**47.00**	**257**	P		P	23 23 34.0	+0.5
	0.1nm,0.4s,baz=88,slow=8.0,SNR=6.4							
ASAR	**Alice Springs**	**47.31**	**252**	P		P	23 23 36.4	+0.5
	1.0nm,0.5s,baz=88,slow=8.3,SNR=14							

NNC 20 23:37:10.0±4.7, 37°98N×71°42E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=38.4km s-min=33.3km az=44.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SFK	**Sufi-Kurgan**	**2.60**	**38**	⇑Pn		Pn	23 37 54.3	+0.6
	2.6nm,0.4s							
SFK				⇑Lg		Lg	23 38 29.9	
	25nm,0.4s							
MNAS	**Manas**	**4.58**	**10**	⇓Pn		Pn	23 38 21.8	+1.1
	3.4nm,0.5s							
MNAS				⇓Sn		Sn	23 39 18.5	+3.8
	4.5nm,0.5s							
KK31	**Karatay Array**	**5.16**	**353**	Pn		Pn	23 38 30.8	+2.2
	1.6nm,0.4s,baz=156,slow=10,SNR=50							
KK31				⇑Sn		Sn	23 39 34.9	+6.0
	0.6nm,0.3s,baz=159,slow=19,SNR=9.4							
AAK	**Ala-Archa**	**5.21**	**26**	⇓Pn		Pn	23 38 27.9	-1.5
	2.8nm,0.6s							
AAK				⇑Sn		Sn	23 39 30.8	+0.5
	2.4nm,0.6s							

MEX 20 23:56:48.5±0.5, 16°18N×98°39W, h8km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.33**	**50**	*i* P		Pg	23 56 54.6	-0.5
PNIG				*i* S		Sg	23 56 59.5	0.0
TLIG	**Tlapa**	**1.39**	**353**	*i* P		Pn	23 57 10.3	-4.1
TLIG				*eS*		Sb	23 57 27.7	-5.2
ACX	**Acapulco**	**1.56**	**296**	*i* P		Pn	23 57 10.1	-6.5
ACX				*i* S		Sn	23 57 30.2	-7.0
VHO	**Vista Hermosa**	**1.82**	**61**	*eP*		Pn	23 57 16.3	-4.2
VHO				*i* S		Sn	23 57 39.0	-5.0
CAIG	**El Cayaco**	**1.99**	**296**	*i* P		Pn	23 57 19.1	-3.5
CAIG				*i* S		Sn	23 57 43.9	-3.8

*ISCJB **21** 00:01:38.4±0.7, 16°.08S±0°.10×71°.92W±0°.08, h114km, mb3.7/6, Error ellipse: s-maj=14.7km s-min=9.4km az=28.1*
*IDC **21** 00:01:38.6±2.5, 16°.06S×71°.93W, h96km±23km, mb3.6/6, mb1 3.9/9, mb1mx3.6/36, mbtmp4.1/9, Error ellipse: s-maj=27.6km s-min=18.4km az=61.0*

ISC 21 00:01:39.5±0.7, 16°18S±0°.09×72°.00W±0°.09, h114km, n15, σ2s08/16, mb3.8/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**3.72**	**92**	P		Pn	00 02 39.9	+4.1
	4.6nm,0.3s,baz=286,slow=8.7,SNR=134							
LPAZ				S		**Sn**	**00 03 16.0**	**-3.2**
	1.3nm,0.3s,baz=238,slow=7.5,SNR=3.8							
NNA	**Nana**	**6.28**	**311**	P		**Pn**	**00 03 09.2**	**-0.5**
	2.7nm,0.3s,baz=122,slow=13,SNR=4.7							
NNA				S		**Sn**	**00 04 16.1**	**-4.1**
	3.2nm,0.3s,baz=61,slow=19,SNR=3.8							
LVC	**Limon Verde**	**7.03**	**156**	P		**Pn**	**00 03 19.8**	**-0.3**
	161nm,0.3s,baz=334,slow=11,SNR=94							
LVC				S		**Sn**	**00 04 34.9**	**-3.8**
	616nm,0.3s,baz=98,slow=19,SNR=20							
PTGA	**Pitinga**	**19.40**	**39**	P		**P**	**00 05 56.7**	**-0.1**
	1.1nm,0.3s,baz=193,slow=15,SNR=7.0							
PLCA	**Paso Flores**	**24.50**	**177**	P		**P**	**00 06 50.4**	**+2.2**
	1.9nm,0.6s,baz=346,slow=11,SNR=5.8							
TXAR	**Lajitas Array**	**54.61**	**326**	P		**P**	**00 10 55.8**	**-0.7**
	0.2nm,0.6s,baz=158,slow=1.0,SNR=3.0							
ULM	**Lac du Bonnet**	**69.40**	**344**	P		**P**	**00 12 35.1**	**+0.1**
	1.9nm,0.4s,baz=132,slow=3.8,SNR=4.8							
TORD	**Torodi Ar. Bea**	**78.45**	**73**	P		**P**	**00 13 28.4**	**0.0**
	0.6nm,0.3s,baz=258,slow=4.6,SNR=39							
ESDC	**Sonseca Array**	**84.19**	**46**	P		**P**	**00 13 59.5**	**+1.2**
	0.3nm,0.7s,baz=252,slow=5.8,SNR=7.1							
YKA	**Yellowknife Ar**	**85.23**	**342**	P		**P**	**00 14 03.8**	**+1.0**
	0.8nm,0.6s,baz=135,slow=5.1,SNR=22							
WRA	**Warramunga Arr**	**135.74**	**217**	PKP		**PKPdf**	**00 20 48.5**	**+0.9**
	0.2nm,0.6s,baz=143,slow=2.2,SNR=2.8							
ZALV	**Zalesovo Beam**	**138.20**	**20**	PKP		**PKPdf**	**00 20 53.0**	**+2.0**
	0.7nm,0.6s,baz=217,slow=1.5,SNR=4.6							
MKAR	**Makanchi Array**	**142.75**	**30**	PKhKP		PKPpre	00 20 53.8	
	0.2nm,0.5s,baz=344,slow=3.6,SNR=2.5							
MJAR	**Matsushiro Arr**	**146.40**	**313**	PKPbc		**PKPab**	**00 21 09.1**	**+0.4**
	1.0nm,0.6s,baz=47,slow=2.0,SNR=4.2							
SONM	**Songino Array**	**148.41**	**2**	PKPbc		**PKPbc**	**00 21 14.2**	**+1.3**
	0.5nm,0.4s,baz=315,slow=1.8,SNR=4.7							

IDC 21 00:08:50.8±1.2, 55°34S×137°52W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.9/4, MS3.9/7, Ms1 3.9/7, ms1mx3.6/19, Error ellipse: s-maj=49.1km s-min=27.8km az=172.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RKT	**Rikitea**	**32.23**	**4**	*e*LR		LR	00 23 12.7	
	213nm,29.5s							
RKT	**Rikitea**	**32.23**	**4**	*e*T		T	00 47 52.6	
	3.4nm,0.2s							
TBI	**Tubuai**	**33.16**	**340**	*e*LR		LR	00 23 43.4	
	246nm,31.0s							
TBI	**Tubuai**	**33.16**	**340**	*e*T		T	00 49 45.5	
	25nm,0.3s							
QSPA	**South Pole Qui**	**34.83**	**180**	P		P	00 15 43.1	-0.1
	0.7nm,0.7s,baz=350,slow=8.6,SNR=5.2							
PMSA	**Palmer Station**	**35.79**	**135**	LR		LR	00 25 49.7	
	comp=Z,180nm,19.7s,baz=298,slow=28							
PPT	**Papeete**	**38.81**	**341**	LR		LR	00 27 25.2	
	comp=Z,152nm,21.0s,baz=186,slow=29							
VAH	**Vaihoa**	**40.77**	**345**	*e*T		T	00 59 12.1	
	20nm,0.2s							
PLCA	**Paso Flores**	**45.30**	**100**	LR		LR	00 30 48.4	
	comp=Z,69nm,19.2s,baz=196,slow=29							
CPUP	**Villa Florida**	**63.29**	**98**	LR		LR	00 41 26.2	
	comp=Z,441nm,21.0s,baz=200,slow=31							
LPAZ	**La Paz**	**65.05**	**83**	P		P	00 19 33.6	0.0
	0.8nm,0.4s,baz=214,slow=11,SNR=9.6							
LPAZ				LR		LR	00 39 49.4	
	comp=Z,42nm,21.4s,baz=181,slow=29							
ASAR	**Alice Springs**	**70.09**	**257**	P		P	00 20 04.3	-0.4
	1.3nm,0.9s,baz=134,slow=6.3,SNR=8.9							
ASAR				LR		LR	00 47 37.0	
	comp=Z,89nm,19.4s,baz=270,slow=33							
H01W1	**Cape Leeuwin H**	**71.36**	**235**	T		T	01 40 30.7	
	baz=144,slow=76,SNR=12							
H01W2	**Cape Leeuwin H**	**71.36**	**235**	T		T	01 40 20.1	
	baz=144,slow=76,SNR=11							
H01W3	**Cape Leeuwin H**	**71.37**	**235**	T		T	01 40 28.4	
	baz=144,slow=76,SNR=11							
WRA	**Warramunga Arr**	**72.80**	**260**	P		P	00 20 21.6	+0.5
	0.9nm,0.7s,baz=141,slow=5.3,SNR=8.1							
BDFB	**Brasilia**	**77.02**	**99**	LR		LR	00 52 07.2	
	comp=Z,47nm,18.0s,baz=274,slow=34							

IDC 21 00:19:38.0±6.3, 18°42N×145°28E, h446km±74km, mb3.0/11, mb1 3.2/11, mb1mx3.0/41, mbtmp3.8/11, Error ellipse: s-maj=30.3km s-min=15.5km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**39.61**	**196**	P		P	00 26 29.4	-0.2
	0.8nm,0.5s,baz=9.5,slow=8.5,SNR=20							
SONM	**Songino Array**	**43.11**	**322**	P		P	00 26 57.8	+0.4
	0.3nm,0.6s,baz=126,slow=6.6,SNR=2.5							
ASAR	**Alice Springs**	**43.28**	**195**	P		P	00 26 58.4	-0.5
	0.3nm,0.4s,baz=12,slow=7.3,SNR=6.3							
MKAR	**Makanchi Array**	**58.37**	**314**	P		P	00 28 49.6	+0.5
	0.2nm,0.4s,baz=84,slow=6.3,SNR=4.1							
ILAR	**Eielson Array**	**64.07**	**26**	P		P	00 29 25.8	-0.6
	0.8nm,0.4s,baz=246,slow=6.0,SNR=20							
INK	**Inuvik**	**69.78**	**23**	P		P	00 30 01.7	0.0
	0.7nm,0.6s,baz=358,slow=4.8,SNR=5.1							
YKA	**Yellowknife Ar**	**78.42**	**28**	P		P	00 30 51.3	+0.3
	0.4nm,0.4s,baz=287,slow=5.0,SNR=10.0							
RES	**Resolute Bay**	**79.78**	**14**	P		P	00 30 58.5	+0.4
	0.9nm,0.7s,baz=346,slow=5.4,SNR=6.6							
ARCES	**ARCESS Array B**	**82.63**	**342**	P		P	00 31 12.6	-0.4
	1.1nm,1.0s,baz=72,slow=5.1,SNR=5.0							
NVAR	**Mina Array Bea**	**83.62**	**52**	P		P	00 31 19.4	+0.6
	0.6nm,0.6s,baz=262,slow=5.5,SNR=3.6							
FINES	**FINESS Array B**	**86.97**	**335**	P		P	00 31 32.4	-1.9
	0.4nm,0.3s,baz=68,slow=3.3,SNR=6.3							
LPAZ	**La Paz**	**148.07**	**91**	PKPbc		PKPbc	00 38 34.1	+0.1
	1.2nm,0.5s,baz=6.0,slow=2.9,SNR=9.5							

MEX 21 00:28:41.9±0.6, 32°27N×115°22W, h10km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.14**	**7**	*e*P		Pg	00 28 44.8	-0.2
MBIG				*e*S		Sg	00 28 47.2	-0.1
CBX	**Cerro Bola**	**1.22**	**272**	*e*P		Pn	00 29 01.6	-3.7
CBX				*e*S		Sb	00 29 16.3	-5.0
SPIG	**San Pedro Mart**	**1.24**	**190**	*i* P		Pn	00 29 02.1	-3.6
SPIG				*i* S		Sb	00 29 17.2	-5.0

IDC 21 00:38:01.7±11.0, 8°67S×114°91E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/31, mbtmp3.6/3, Error ellipse: s-maj=182.1km s-min=141.4km az=163.0, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.89**	**123**	P		P	00 42 56.9	+0.4
	0.9nm,0.7s,baz=298,slow=12,SNR=5.9							
ASAR	**Alice Springs**	**23.52**	**132**	P		P	00 43 14.6	+0.9
	0.4nm,0.4s,baz=310,slow=9.4,SNR=7.0							
STKA	**Stephens Creek**	**33.88**	**137**	P		P	00 44 45.0	-1.3
	1.0nm,0.4s,baz=325,slow=7.3,SNR=3.8							

*SOF **21** 01:13:56.5, 43°.24N×26°.05E, h2km, MD2.5*
*CSEM **21** 01:13:56.5, 43°.24N×26°.05E, h2km, MD2.5*
*ISCJB **21** 01:13:57.8±0.7, 43°.23N±0°.02×26°.08E±0°.03, h2km±5km, Error ellipse: s-maj=3.4km s-min=2.5km az=1.9*

ISC 21 01:13:56.3±1.2, 43°22N±0°.02×26°07E±0°.02, h1km±10km, n101, σ1s27/100, 6C-17D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SZH	**Strazhica**	**0.11**	**296**	*i* Pg		**Pg**	**01 13 57.5**	**-1.0**
SZH	**Strazhica**	**0.11**	**296**	*i* Pg		**Pg**	**01 13 57.5**	**-1.0**
PVL	**Pavlikeni**	**0.54**	**270**	*i* P		**Pb**	**01 14 09.3**	**+0.8**
PVL	**Pavlikeni**	**0.54**	**270**	*i* P		**Pb**	**01 14 09.3**	**+0.8**
ZIMR		**0.67**	**311**	⇓*i* P		**Pg**	**01 14 09.5**	**+0.2**
ZIMR		**0.67**	**311**	S		**Sb**	**01 14 21.5**	**+0.8**
JMB	**Yambol**	**0.84**	**153**	⇓*i* P		**Pg**	**01 14 11.2**	**-1.3**
JMB	**Yambol**	**0.84**	**153**	*i* P		**Pg**	**01 14 11.5**	**-1.0**
JMB	**Yambol**	**0.84**	**153**	*i* P		**Pg**	**01 14 11.5**	**-1.0**
ROIA	**ROIAK**	**0.97**	**97**	P		**Pb**	**01 14 16.5**	**+0.6**
PRD	**Provadia**	**0.97**	**91**	*i* P		**Pb**	**01 14 16.0**	**0.0**
PRD	**Provadia**	**0.97**	**91**	*i* P		**Pb**	**01 14 16.0**	**0.0**
BUC1	**Bucharest**	**1.13**	**359**	S		**Sn**	**01 14 34.1**	**-1.3**
BAPR	**Bucharest-Chil**	**1.19**	**2**	S		**Sn**	**01 14 36.1**	**-0.8**
BTMR	**Bucharest-Geot**	**1.22**	**1**	S		**Sn**	**01 14 37.9**	**+0.3**
DIM	**Dimitrovgrad**	**1.23**	**199**	*i* P		**Pb**	**01 14 20.7**	**+0.3**
DIM	**Dimitrovgrad**	**1.23**	**199**	*i* P		**Pb**	**01 14 20.7**	**+0.3**
CIOR	**Ciorogarla**	**1.24**	**354**	S		**Sn**	**01 14 38.8**	**+0.7**
EDRB	**Edirne**	**1.46**	**160**	*e*PN		**Pb**	**01 14 24.7**	**+0.4**
EDRB				*e*SN		**Sb**	**01 14 43.5**	**+0.2**
SULR		**1.47**	**5**	⇓*i* P		**Pb**	**01 14 24.1**	**-0.3**
SULR		**1.47**	**5**	S		**Sn**	**01 14 45.6**	**+1.9**
PLD	**Plovdiv**	**1.50**	**223**	P		**Pn**	**01 14 24.5**	**+0.1**
PLD	**Plovdiv**	**1.50**	**223**	P		**Pn**	**01 14 24.5**	**+0.1**
HUMR	**Humele**	**1.53**	**329**	⇓*i* P		**Pg**	**01 14 25.8**	**+0.2**
MSAB	**Monastry St. A**	**1.54**	**55**	⇓*i* P		**Pn**	**01 14 25.4**	**+0.4**
MSAB	**Monastry St. A**	**1.54**	**55**	S		**Sb**	**01 14 45.9**	**+0.1**
PGB	**Panagyurishte**	**1.55**	**245**	*i* P		**Pg**	**01 14 27.1**	**+1.1**
PGB	**Panagyurishte**	**1.55**	**245**	*i* P		**Pg**	**01 14 27.1**	**+1.1**
PSN	**Preselentsi**	**1.61**	**73**	⇓*i* P		**Pn**	**01 14 25.2**	**-0.7**
PSN	**Preselentsi**	**1.61**	**73**	S		**Sn**	**01 14 47.0**	**-0.2**
KDZ	**Kurdzhali**	**1.64**	**197**	⇓*i* P		**Pn**	**01 14 27.0**	**+0.7**
KDZ	**Kurdzhali**	**1.64**	**197**	S		**Sg**	**01 14 49.5**	**+0.5**
KDZ	**Kurdzhali**	**1.64**	**197**	*i* P		**Pb**	**01 14 27.2**	**-0.2**
KDZ	**Kurdzhali**	**1.64**	**197**	*i* P		**Pb**	**01 14 27.2**	**-0.2**
AMRR	**Amara**	**1.67**	**33**	S		**Sg**	**01 14 51.3**	**+1.4**
MPEP	**Malo Peshtene**	**1.71**	**275**	*i* P		**Pb**	**01 14 27.8**	**-0.7**
CVD	**Cernavoda**	**1.80**	**52**	⇓*i* P		**Pn**	**01 14 28.8**	**+0.4**
CVD	**Cernavoda**	**1.80**	**52**	S		**Sb**	**01 14 53.0**	**0.0**
PGOR	**Pogoanele**	**1.81**	**21**	S		**Sg**	**01 14 55.8**	**+1.2**
SEER		**1.82**	**360**	S		**Sg**	**01 14 56.1**	**+3.4**
RZN	**Rozhen**	**1.83**	**214**	*i* P		**Pb**	**01 14 30.7**	**0.0**
RZN	**Rozhen**	**1.83**	**214**	*i* P		**Pb**	**01 14 30.7**	**0.0**
PHSR	**Pinarhisar**	**1.92**	**145**	*e*PN		**Pb**	**01 14 33.2**	**+1.1**
MANR	**Mangalia**	**1.93**	**71**	⇓*i* P		**Pn**	**01 14 29.7**	**-0.5**
MANR	**Mangalia**	**1.93**	**71**	S		**Sb**	**01 14 56.5**	**-0.3**
ISR	**Istrita**	**1.93**	**10**	⇓*i* P		**Pn**	**01 14 28.9**	**-1.5**
ISR	**Istrita**	**1.93**	**10**	S		**Sb**	**01 14 56.7**	**-0.3**
TLB	**Topalu**	**1.98**	**46**	⇑*i* P		**Pn**	**01 14 31.5**	**+0.6**
TLB	**Topalu**	**1.98**	**46**	S		**Sb**	**01 14 57.9**	**-0.3**
HARR	**Harsova**	**1.99**	**42**	⇑*i* P		**Pb**	**01 14 33.5**	**+0.1**
RDO	**Rodhopi**	**2.11**	**191**	*eP*		**

ASAR	**Alice Springs**	**21.64**	**193**	P		**P**	**01 33 48.7**	**-3.6**
	1.9nm,0.7s,baz=19,slow=10,SNR=14							
ASAR				S		**S**	**01 37 50.5**	**+1.9**
	1.2nm,0.8s,baz=15,slow=27,SNR=6.0							
ASAR				LR		LR	01 43 03.1	
	comp=Z,80nm,18.7s,baz=306,slow=39							
STKA	**Stephens Creek**	**29.31**	**176**	LR		LR	01 49 01.5	
	comp=Z,74nm,21.5s,baz=213,slow=41							
MKAR	**Makanchi Array**	**69.90**	**322**	P		**P**	**01 40 13.4**	**+1.9**
	0.5nm,0.4s,baz=96,slow=9.8,SNR=7.0							
VNDA	**Vanda**	**75.94**	**175**	P		**P**	**01 40 47.3**	**+0.8**
	0.9nm,0.8s,baz=332,slow=7.5,SNR=5.7							
GEYT	**Alibeck**	**84.47**	**308**	P		**P**	**01 41 31.6**	**-1.6**
	0.5nm,0.5s,baz=126,slow=7.3,SNR=2.8							
ILAR	**Eielson Array**	**85.46**	**24**	P		**P**	**01 41 37.5**	**-0.1**
	0.3nm,0.7s,baz=258,slow=4.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**136.63**	**286**	PKP		**PKPdf**	**01 48 25.3**	**+2.2**
	0.6nm,1.2s,baz=68,slow=3.5,SNR=3.0							

IDC 21 01:34:17.7±55.0, 17°16S×174°61W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/35, mbtmp4.1/3, Error ellipse: s-maj=1042.0km s-min=182.3km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.16**	**241**	P		01 42 12.1	-0.2
	0.8nm,0.3s,baz=85,slow=8.5,SNR=3.5						
WRA	**Warramunga Arr**	**48.33**	**258**	P		01 43 00.7	-0.7
	0.3nm,0.3s,baz=96,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**48.48**	**253**	P		01 43 03.0	+0.5
	3.4nm,0.4s,baz=89,slow=7.9,SNR=62						

*IDC **21** 01:54:41.5±1.8, 38°47N×15°29E, h0km, mb3.7/8, mb1 3.7/8, mb1mx3.5/38, mbtmp3.7/8, ML1.8/1, Error ellipse: s-maj=43.3km s-min=30.0km az=157.0*
*ISCJB **21** 01:54:51.6±0.3, 38°18N±0°05×14°86E±0°04, h127km±3km, mb3.6/8, Error ellipse: s-maj=8.4km s-min=4.6km az=158.2*
*CSEM **21** 01:54:52.3, 38°18N×14°85E, h120km, ML2.8/24*
*ROM **21** 01:54:52.3±0.3, 38°18N×14°85E, h120km±4km, Ml2.8/24, Error ellipse: s-maj=3.7km s-min=2.6km az=172.0*
ISC 21 01:54:52.2±0.8, 38°19N±0°05×14°86E±0°04, h117km±5km, n91, σ1°08/103, mb3.7/8, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VPL	**Vulcano Piano**	**0.21**	**28**	Pg	**Pn**	**01 55 08.9**	**+0.4**
VPL				Sg	**Sn**	**01 55 21.2**	**+0.3**
	280nm,0.3s						
VPL	**Vulcano Piano**	**0.21**	**28**	Pg	**Pn**	**01 55 08.9**	**+0.4**
VPL				Sg	**Sn**	**01 55 21.2**	**+0.3**
	280nm,0.3s						
MILZ	**Milazzo**	**0.31**	**75**	Pg	**Pn**	**01 55 08.8**	**0.0**
MILZ				Sg	**Sn**	**01 55 21.1**	**-0.2**
	415nm,0.4s						
MILZ	**Milazzo**	**0.31**	**75**	Pg	**Pn**	**01 55 08.8**	**0.0**
MILZ				Sg	**Sn**	**01 55 21.1**	**-0.2**
	415nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.41**	**129**	Pg	**Pn**	**01 55 10.3**	**+0.9**
MMME				Sg	**Sn**	**01 55 24.2**	**+1.9**
	356nm,0.8s						
MMME	**Mongiuffi-Meli**	**0.41**	**129**	Pg	**Pn**	**01 55 10.3**	**+0.9**
MMME				Sg	**Sn**	**01 55 24.2**	**+1.9**
	356nm,0.8s						
IACL	**Alicudi**	**0.52**	**311**	Pg	**Pn**	**01 55 10.3**	**+0.4**
	248nm,0.7s						
IACL	**Alicudi**	**0.52**	**311**	Pg	**Pn**	**01 55 10.3**	**+0.4**
	248nm,0.7s						
MSRU	**Castanea**	**0.52**	**82**	Pg	**Pn**	**01 55 09.8**	**-0.1**
MSRU	**Castanea**	**0.52**	**82**	Pg	**Pn**	**01 55 09.8**	**-0.1**
GALF	**Gagliano Caste**	**0.53**	**206**	Pg	**Pn**	**01 55 11.3**	**+1.2**
GALF	**Gagliano Caste**	**0.53**	**206**	Pg	**Pn**	**01 55 11.3**	**+1.2**
ECNV	**Catenanuova**	**0.61**	**191**	Pg	**Pn**	**01 55 12.2**	**+1.6**
	397nm,1.0s						
ECNV	**Catenanuova**	**0.61**	**191**	Pg	**Pn**	**01 55 12.2**	**+1.6**
	397nm,1.0s						
CSLB	**Castelbuono**	**0.68**	**248**	Pg	**Pn**	**01 55 11.2**	**+0.1**
CSLB				Sg	**Sn**	**01 55 25.7**	**+0.3**
	59nm,0.6s						
CSLB	**Castelbuono**	**0.68**	**248**	Pg	**Pn**	**01 55 11.2**	**+0.1**
CSLB				Sg	**Sn**	**01 55 25.7**	**+0.3**
	59nm,0.6s						
GIB	**Gibilmanna**	**0.68**	**253**	Pg	**Pn**	**01 55 11.4**	**+0.2**
	44nm,0.4s						
GIB	**Gibilmanna**	**0.68**	**253**	Pg	**Pn**	**01 55 11.4**	**+0.2**
	44nm,0.4s						
MTTG	**Motta San Giov**	**0.69**	**106**	Pg	**Pn**	**01 55 12.2**	**+1.0**
MTTG				Sg	**Sn**	**01 55 27.6**	**+2.1**
	445nm,1.0s						
MTTG	**Motta San Giov**	**0.69**	**106**	Pg	**Pn**	**01 55 12.2**	**+1.0**
MTTG				Sg	**Sn**	**01 55 27.6**	**+2.1**
	445nm,1.0s						
CEL	**Celeste**	**0.82**	**85**	Pg	**Pn**	**01 55 12.6**	**+0.3**
CEL				Sg	**Sn**	**01 55 27.8**	**+0.2**
	132nm,0.7s						
CEL	**Celeste**	**0.82**	**85**	Pg	**Pn**	**01 55 12.6**	**+0.3**
CEL				Sg	**Sn**	**01 55 27.8**	**+0.2**
	132nm,0.7s						
HCRL	**Carlentini**	**0.92**	**171**	Pg	**Pn**	**01 55 13.5**	**+0.3**
	226nm,0.3s						
HCRL	**Carlentini**	**0.92**	**171**	Pg	**Pn**	**01 55 13.5**	**+0.3**
	226nm,0.3s						
SOI	**Samo**	**0.95**	**97**	Pg	**Pn**	**01 55 14.1**	**+0.6**
SOI				Sg	**Sn**	**01 55 30.2**	**+0.6**
	143nm,0.7s						
SOI	**Samo**	**0.95**	**97**	Pg	**Pn**	**01 55 14.1**	**+0.6**
SOI				Sg	**Sn**	**01 55 30.2**	**+0.6**
	143nm,0.7s						
ALJA	**Alia**	**0.98**	**243**	Pg	**Pn**	**01 55 15.1**	**+1.3**
	184nm,0.5s						
ALJA	**Alia**	**0.98**	**243**	Pg	**Pn**	**01 55 15.1**	**+1.3**
	184nm,0.5s						
AGST	**Augusta-Monte**	**0.98**	**162**	Pg	**Pn**	**01 55 13.7**	**0.0**
	236nm,1.4s						
AGST	**Augusta-Monte**	**0.98**	**162**	Pg	**Pn**	**01 55 13.7**	**0.0**
	236nm,1.4s						
RAFF	**Raffo Rosso**	**1.04**	**202**	Pg	**Pn**	**01 55 15.3**	**+0.9**
RAFF	**Raffo Rosso**	**1.04**	**202**	Pg	**Pn**	**01 55 15.3**	**+0.9**
SSY	**Sortino**	**1.05**	**171**	Pg	**Pn**	**01 55 14.7**	**+0.2**
	95nm,0.4s						
SSY	**Sortino**	**1.05**	**171**	Pg	**Pn**	**01 55 14.7**	**+0.2**
	95nm,0.4s						
HMDC	**Modica**	**1.23**	**183**	Pg	**Pn**	**01 55 17.0**	**+0.5**
	129nm,0.3s						
HMDC	**Modica**	**1.23**	**183**	Pg	**Pn**	**01 55 17.0**	**+0.5**
	129nm,0.3s						
HAVL	**Avola**	**1.25**	**170**	Pg	**Pn**	**01 55 16.8**	**+0.2**
HAVL	**Avola**	**1.25**	**170**	Pg	**Pn**	**01 55 16.8**	**+0.2**
CORL	**Corleone**	**1.26**	**257**	Pg	**Pn**	**01 55 17.3**	**+0.6**
	142nm,0.8s						
CORL	**Corleone**	**1.26**	**257**	Pg	**Pn**	**01 55 17.3**	**+0.6**
	142nm,0.8s						
PLAC	**Placanica**	**1.27**	**78**	Pg	**Pn**	**01 55 17.7**	**+0.9**
	119nm,0.3s						
PLAC	**Placanica**	**1.27**	**78**	Pg	**Pn**	**01 55 17.7**	**+0.9**
	119nm,0.3s						
FAVR	**Favara**	**1.32**	**226**	Pg	**Pn**	**01 55 19.1**	**+1.7**
	104nm,0.1s						
FAVR	**Favara**	**1.32**	**226**	Pg	**Pn**	**01 55 19.1**	**+1.7**
	104nm,0.1s						
GRI	**Girifalco**	**1.38**	**62**	Pg	**Pn**	**01 55 18.7**	**+0.7**
	73nm,0.8s						
GRI	**Girifalco**	**1.38**	**62**	Pg	**Pn**	**01 55 18.7**	**+0.7**
	73nm,0.8s						
USI	**Ustica**	**1.41**	**292**	Pg	**Pn**	**01 55 18.9**	**+0.5**
	211nm,0.8s						
USI	**Ustica**	**1.41**	**292**	Pg	**Pn**	**01 55 18.9**	**+0.5**
	211nm,0.8s						
SERS	**Sersale**	**1.67**	**59**	Pg	**Pn**	**01 55 22.4**	**+0.9**
	24nm,0.3s						
SERS	**Sersale**	**1.67**	**59**	Pg	**Pn**	**01 55 22.4**	**+0.9**
	24nm,0.3s						
TIP	**Timpagrande**	**1.79**	**56**	Pg	**Pn**	**01 55 23.8**	**+0.9**
	18nm,0.6s						
TIP	**Timpagrande**	**1.79**	**56**	Pg	**Pn**	**01 55 23.8**	**+0.9**
	18nm,0.6s						
CUC	**Castrocucco**	**1.95**	**22**	Pg	**Pn**	**01 55 26.4**	**+1.5**
	50nm,1.1s						
CUC	**Castrocucco**	**1.95**	**22**	Pg	**Pn**	**01 55 26.4**	**+1.5**
	50nm,1.1s						
PIPA	**Pietrapaola**	**2.00**	**49**	Pg	**Pn**	**01 55 26.9**	**+1.4**
	52nm,0.8s						
PIPA	**Pietrapaola**	**2.00**	**49**	Pg	**Pn**	**01 55 26.9**	**+1.4**
	52nm,0.8s						
SALB	**San Lorenzo Be**	**2.04**	**34**	Pg	**Pn**	**01 55 27.6**	**+1.5**
	33nm,0.9s						
SALB	**San Lorenzo Be**	**2.04**	**34**	Pg	**Pn**	**01 55 27.6**	**+1.5**
	33nm,0.9s						
ORI	**Oriolo Calabro**	**2.24**	**33**	Pg	**Pn**	**01 55 30.6**	**+2.1**
	51nm,0.5s						
ORI	**Oriolo Calabro**	**2.24**	**33**	Pg	**Pn**	**01 55 30.6**	**+2.1**
	51nm,0.5s						
CRAC	**Craco**	**2.49**	**29**	Pg	**Pn**	**01 55 34.2**	**+2.5**
	88nm,0.5s						
CRAC	**Craco**	**2.49**	**29**	Pg	**Pn**	**01 55 34.2**	**+2.5**
	88nm,0.5s						
KEK	**Kerkira**	**4.14**	**67**	*e*PN	Pn	01 55 48.6	-4.9
IGT	**Igoumenitsa**	**4.48**	**71**	*e*PN	**Pn**	**01 55 57.2**	**-0.8**
VLS	**Valsamata**	**4.52**	**88**	*e*PN	**Pn**	**01 55 58.2**	**-0.4**
JAN	**Janina**	**4.90**	**71**	*e*PN	**Pn**	**01 56 04.6**	**+0.9**
DSL	**Palaion Diasel**	**4.97**	**77**	*e*PN	**Pn**	**01 56 05.6**	**+0.9**
PDO	**Prodromos**	**4.99**	**83**	*e*PN	**Pn**	**01 56 05.7**	**+0.8**
KEST	**Kesra**	**5.05**	**243**	Pn	**Pn**	**01 56 05.1**	**-0.7**
	0.0nm,0.3s,baz=31,slow=19,SNR=3.1						
KEST				Sn	**Sn**	**01 57 05.5**	**+2.4**
	0.0nm,0.3s,baz=264,slow=13,SNR=3.6						
NEST	**Nestorio**	**5.29**	**63**	*e*PN	**Pn**	**01 56 10.2**	**+1.2**
DRO	**Drossia**	**5.41**	**90**	*e*PN	**Pn**	**01 56 12.6**	**+2.0**
EVR	**Evrytania**	**5.50**	**80**	*e*PN	**Pn**	**01 56 13.1**	**+1.3**
EFP	**Efpalio**	**5.55**	**85**	*e*PN	**Pn**	**01 56 13.4**	**+1.0**
FNA	**Florina**	**5.67**	**61**	*e*PN	**Pn**	**01 56 14.1**	**0.0**
ITM	**Ithomi**	**5.70**	**98**	*e*PN	**Pn**	**01 56 15.6**	**+1.1**
KALE	**Kalithea**	**5.73**	**86**	*e*PN	**Pn**	**01 56 13.3**	**-1.7**
THL	**Klokotos Trika**	**5.75**	**74**	*e*PN	**Pn**	**01 56 16.1**	**+1.0**
KLV	**Kalavryta, Ach**	**5.75**	**89**	*e*PN	**Pn**	**01 56 15.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**5.76**	**80**	*e*PN	**Pn**	**01 56 16.9**	**+1.6**
KZN	**Kozani**	**5.77**	**66**	*e*PN	Pn	01 56 11.4	-4.0
AGG	**Agios Georgios**	**5.91**	**80**	*e*PN	**Pn**	**01 56 18.3**	**+0.9**
GUR	**Goura**	**5.91**	**90**	*e*PN	**Pn**	**01 56 18.4**	**+0.9**
SOH	**Sokhos**	**7.08**	**66**	*e*PN	Pn	01 56 29.0	-4.1
NOA	**NORSAR Array B**	**22.98**	**355**	P	**P**	**01 59 44.9**	**-1.5**
	0.3nm,0.6s,baz=175,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**24.30**	**13**	P	**P**	**01 59 57.4**	**-0.9**
	2.2nm,0.7s,baz=186,slow=8.1,SNR=11						
AKTO	**Aktyubinsk**	**32.76**	**54**	P	**P**	**02 01 13.9**	**+0.2**
	0.4nm,0.4s,baz=259,slow=7.3,SNR=4.4						
BVAR	**Borovoye Array**	**40.53**	**50**	P	**P**	**02 02 19.7**	**+0.2**
	0.7nm,0.5s,baz=266,slow=13,SNR=4.5						
KURBB	**Kurchatov Arra**	**45.79**	**53**	P	**P**	**02 03 01.0**	**-0.8**
	0.5nm,0.2s,baz=291,slow=7.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**48.99**	**47**	P	**P**	**02 03 25.1**	**-1.4**
	1.1nm,0.4s,baz=275,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**49.07**	**57**	P	**P**	**02 03 26.9**	**-0.4**
	0.7nm,0.5s,baz=284,slow=5.5,SNR=7.1						
SONM	**Songino Array**	**63.85**	**49**	P	**P**	**02 05 10.9**	**-1.2**
	0.4nm,0.6s,baz=281,slow=7.8,SNR=4.1						

*ISCJB **21** 01:59:48.6±0.3, 13°84N±0°05×120°64E±0°07, h119km±3km, mb4.0/19, Error ellipse: s-maj=11.8km s-min=6.8km az=158.7*
*MAN **21** 01:59:49, 13°85N×120°50E, h100km, mb4.6, ML3.4, MS3.4*
*IDC **21** 01:59:51.6±5.2, 13°79N×120°78E, h144km±49km, mb3.7/18, mb1 3.8/18, mb1mx3.7/39, mbtmp4.1/18, Error ellipse: s-maj=24.1km s-min=11.6km az=64.0*
ISC 21 01:59:49.1±0.7, 13°87N±0°05×120°61E±0°07, h115km±5km, n47, σ1°38/52, mb4.0/19, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.38**	**250**	*e*P	**Pn**	**02 00 05.8**	**0.0**
LUBP				*e*S	**Sn**	**02 00 17.1**	**-1.2**
TGY	**Tagaytay City**	**0.40**	**53**	↑*i*P	**Pn**	**02 00 07.0**	**+1.0**
TGY				*i* S	**Sn**	**02 00 20.0**	**+1.4**
PGP	**Puerto Galera**	**0.49**	**137**	↑*i*P	**Pn**	**02 00 06.7**	**+0.2**
PGP				*i* S	**Sn**	**02 00 18.6**	**-1.0**
SJMP	**San Jose**	**1.48**	**160**	*e*P	**Pn**	**02 00 16.6**	**+0.6**
SJMP				*e*S	**Sn**	**02 00 36.4**	**0.0**
SCZP	**Santa Cruz**	**2.02**	**341**	*e*P	**Pn**	**02 00 22.0**	**-0.5**
SCZP				*e*S	**Sn**	**02 00 45.9**	**-2.2**
OTRP	**Odiongan**	**2.03**	**137**	*e*P	**Pn**	**02 00 23.6**	**+0.8**
BALP	**Baler**	**2.09**	**27**	*e*P	**Pn**	**02 00 25.1**	**+1.7**
BOLP	**Bolinao**	**2.59**	**345**	*e*P	**Pn**	**02 00 30.6**	**+0.7**
ENPP	**El Nido**	**2.88**	**204**	*e*P	**Pn**	**02 00 34.0**	**+0.2**
GUIM	**Jordan**	**3.76**	**149**	*e*P	**Pn**	**02 00 46.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.30**	**285**	P	**P**	**02 04 28.6**	**+1.9**
	6.2nm,0.8s,baz=96,slow=7.4,SNR=27						
JNU	**Nakatsue**	**21.33**	**24**	P	**P**	**02 04 22.9**	**-4.1**
	2.1nm,0.2s,baz=216,slow=12,SNR=9.0						
SHL	**Shillong**	**29.37**	**298**	*ex*	**P**	**02 05 42.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**31.76**	**16**	P	**P**	**02 06 02.6**	**+0.3**
	1.0nm,0.7s,baz=190,slow=7.3,SNR=4.2						
TAPN	**Taplejung**	**33.47**	**299**	*e*P	**P**	**02 06 19.2**	**+1.4**
	12nm,0.5s						
ODAN	**Odare**	**33.61**	**298**	*e*P	**P**	**02 06 20.4**	**+1.5**
	61nm,0.8s						
RAMN	**Ramite**	**34.31**	**298**	*e*P	**P**	**02 06 26.5**	**+1.5**
	50nm,0.9s						
JIRN	**Jiri**	**34.85**	**299**	*e*P	**P**	**02 06 31.2**	**+1.3**
	48nm,0.7s						
GUN	**Gumba**	**35.19**	**299**	*e*P	**P**	**02 06 33.9**	**+1.2**
	37nm,0.5s						
PKI	**Pulchoki**	**35.50**	**298**	*e*P	**P**	**02 06 35.6**	**+0.3**
	45nm,0.9s						
PKIN	**Phulchoki**	**35.51**	**298**	*e*P	**P**	**02 06 35.7**	**+0.3**
	18nm,0.6s						
KKN	**Kakani**	**35.66**	**299**	*e*P	**P**	**02 06 37.3**	**+0.7**
DMN	**Daman**	**35.77**	**298**	*e*P	**P**	**02 06 38.4**	**+0.8**
	16nm,0.5s						
SONM	**Songino Array**	**35.88**	**344**	P	**P**	**02 06 38.7**	**+0.6**
	5.4nm,0.5s,baz=164,slow=10.0,SNR=47						
WRA	**Warramunga Arr**	**36.21**	**158**	P	**P**	**02 06 39.4**	**-1.7**
	1.4nm,0.6s,baz=337,slow=9.5,SNR=17						
DANN	**Dangsing**	**37.11**	**299**	*e*P	**P**	**02 06 49.3**	**+0.3**
	13nm,0.5s						
ASAR	**Alice Springs**	**39.50**	**161**	P	**P**	**02 07 07.5**	**-1.2**
	1.2nm,0.7s,baz=340,slow=6.8,SNR=16						
TLY	**Talaya**	**40.12**	**344**	P	**P**	**02 07 13.9**	**+0.4**
	2.7nm,0.3s,baz=9.5,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**45.85**	**324**	P	**P**	**02 08 01.1**	**+1.3**
	2.8nm,0.5s,baz=126,slow=8.9,SNR=24						
ULHL	**Ulahol**	**47.54**	**315**	P	**P**	**02 08 15.2**	**+1.9**
	SNR=17						
KZA	**Kyzart**	**48.16**	**315**	P	**P**	**02 08 20.5**	**+2.3**
	SNR=11						
KBK	**Karagaybulak**	**48.59**	**315**	P	**P**	**02 08 22.8**	**+1.5**
	SNR=6.4						
UCH	**Uchtor**	**48.72**	**315**	P	**P**	**02 08 24.9**	**+2.3**
	SNR=11						
ZALV	**Zalesovo Beam**	**48.87**	**333**	P	**P**	**02 08 23.1**	**+0.1**
	2.8nm,0.4s,baz=123,slow=6.8,SNR=13						
AAK	**Ala-Archa**	**48.89**	**315**	P	**P**	**02 08 24.9**	**+1.4**
	1.8nm,0.5s,baz=98,slow=8.0,SNR=8.8						
USP	**Ospenovka**	**49.12**	**316**	P	**P**	**02 08 26.7**	**+1.6**
	SNR=5.8						
AML	**Almayashu**	**49.26**	**314**	P	**P**	**02 08 28.7**	**+2.0**
	SNR=9.6						
EKS2	**Erkin-Say**	**49.39**	**315**	P	**P**	**02 08 29.3**	**+2.0**
	SNR=5.7						
KURBB	**Kurchatov Arra**	**50.00**	**326**	P	**P**	**02 08 32.6**	**+0.9**
	7.6nm,0.8s,baz=125,slow=7.9,SNR=54						
GEYT	**Alibeck**	**59.97**	**306**	P	**P**	**02 09 45.5**	**+1.9**
	3.7nm,0.7s,baz=102,slow=3.4,SNR=9.9						
ILAR	**Eielson Array**	**78.64**	**26**	P	**P**	**02 11 37.5**	**-0.6**
	0.3nm,0.9s,baz=306,slow=3.2,SNR=3.7						
ARCES	**ARCESS Array B**	**78.90**	**339**	P	**P**	**02 11 39.0**	**-0.4**
	1.4nm,0.7s,baz=72,slow=7.8,SNR=5.9						
BRTR	**Keskin Array B**	**79.98**	**308**	P	**P**	**02 11 40.5**	**-0.1**
	0.4nm,0.8s,baz=101,slow=3.9,SNR=3.8						
AKASG	**Malin Array Be**	**80.28**	**320**	P	**P**	**02 11 45.6**	**-1.7**
	0.5nm,0.5s,baz=65,slow=5.4,SNR=3.4						
NOA	**NORSAR Array B**	**87.07**	**333**	P	**P**	**02 12 21.5**	**-0.3**
	1.1nm,0.9s,baz=78,slow=4.4,SNR=3.1						
YKA	**Yellowknife Ar**	**92.66**	**22**	P	**P**	**02 12 47.3**	**-0.4**
	0.3nm,0.5s,baz=302,slow=3.7,SNR=3.7						
VNDA	**Vanda**	**94.22**	**172**	P	**P**	**02 12 53.8**	**-0.7**
	0.5nm,0.8s,baz=307,slow=6.7,SNR=4.4						

*IDC **21** 02:16:14.7±2.5, 3°38S×100°66E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/28, mbtmp3.8/6, Error ellipse: s-maj=90.6km s-min=24.7km az=59.0*
*ISCJB **21** 02:16:17.0±2.4, 3°3S±0°3×100°7E±0°5, h29km, mb3.8/7, Error ellipse: s-maj=83.3km s-min=21.4km az=148.9*
ISC 21 02:16:19.1±2.8, 3°4S±0°4×100°7E±0°6, h29km, n11, σ0°94/7, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.75**	**356**	P	**P**	**02 21 07.1**	**-1.3**
	0.9nm,0.3s,baz=182,slow=8.1,SNR=2.7						
H08S2	**Diego Garcia H**	**28.38**	**260**	T	T	02 51 36.4	
	baz=83,slow=75,SNR=576						
H08S3	**Diego Garcia H**	**28.39**	**260**	T	T	02 51 38.7	
	baz=83,slow=75,SNR=922						
H08S1	**Diego Garcia H**	**28.40**	**260**	T	T	02 51 38.4	
	baz=83,slow=75,SNR=641						
ASAR	**Alice Springs**	**37.90**	**125**	P	**P**	**02 23 33.9**	**-0.2**
	0.4nm,0.6s,baz=303,slow=7.6,SNR=3.0						
KSRS	**Korea Array**	**47.85**	**29**	P	P	02 25 01.9	+7.6
	0.7nm,0.4s,baz=218,slow=7.7,SNR=3.2						
SONM	**Songino Array**	**51.23**	**5**	P	**P**	**02 25 21.2**	**+1.1**
	1.0nm,0.6s,baz=190,slow=9.2,SNR=8.8						
MKAR	**Makanchi Array**	**52.52**	**344**	P	**P**	**02 25 30.2**	**+0.5**
	0.9nm,0.7s,baz=162,slow=7.5,SNR=8.5						
USRK	**Ussuriysk Ar.**	**55.03**	**27**	P	**P**	**02 25 48.3**	**+0.2**
	1.4nm,0.5s,baz=217,slow=4.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**58.63**	**349**	P	**P**	**02 26 12.8**	**-0.5**
	0.5nm,0.4s,baz=160,slow=4.7,SNR=6.4						
TXAR	**Lajitas Array**	**145.34**	**39**	PKPbc	**PKPbc**	**02 35 54.5**	**-0.3**
	0.7nm,0.4s,baz=253,slow=0.6,SNR=20						

*ISCJB **21** 02:27:42.4±2.1, 34°88S±0°04×72°89W±0°05, h6km±13km, mb4.2/18, MS3.6/6, Error ellipse: s-maj=7.5km s-min=5.8km az=35.5*
*IDC **21** 02:27:42.9±1.1, 34°96S×72°73W, h0km, mb4.1/5, mb1 4.0/9, mb1mx3.9/26, mbtmp3.9/9, ML3.7/4, MS3.7/8, Ms1 3.7/8, ms1mx3.4/27, Error ellipse: s-maj=31.6km s-min=25.5km az=103.0*
*GUC **21** 02:27:45.6±0.7, 34°89S×72°78W, h12km±5km, ML4.5*
*NEIC **21** 02:27:48.2±1.0, 34°88S×72°70W, h35km±9km, mb4.3/14, ML4.5(GUC), Error ellipse: s-maj=12.4km s-min=6.3km az=88.0*
NEIC Felt [III] at Constitucion and Pencahue.
ISC 21 02:27:46.3±0.7, 34°91S±0°05×72°76W±0°09, h20km±7km, n44, σ0°98/46, mb4.4/18, MS3.7/6, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.04**	**118**	↓*i*P	**Pb**	**02 28 04.6**	**-1.0**
TALC				*i* S	**Sb**	**02 28 18.9**	**+0.1**
NICH	**Los Niches**	**1.26**	**95**	↓*i*P	**Pn**	**02 28 08.1**	**-0.6**
NICH				*i* S	**Sb**	**02 28 25.3**	**+0.2**
LNCH	**Linares**	**1.33**	**135**	↓*i*P	**Pn**	**02 28 09.7**	**0.0**
LNCH				*i* S	**Sb**	**02 28 27.6**	**+0.4**
CCSP	**San Pedro de C**	**1.96**	**188**	*e*P	**Pn**	**02 28 19.1**	**+0.8**
CCSP				AML	AML	02 29 03.5	
	comp=N,2μm,0.7s						
CLCH	**Cerro Calan**	**2.38**	**51**	↑*i*P	**Pn**	**02 28 23.7**	**-0.5**
CLCH				*i* S	**Sn**	**02 28 54.6**	**+1.9**
CLCH				AML	AML	02 29 06.0	
	comp=N,4μm,0.7s						
CLCH				AML	AML	02 29 06.7	
	comp=N,5μm,0.6s						
PEL	**Peldehue**	**2.46**	**45**	AML	AML	02 29 09.7	
	comp=E,5μm,0.7s						
YECH	**El Yeso**	**2.54**	**62**	*e*P	**Pn**	**02 28 28.4**	**+1.9**
YECH				*i* S	**Sb**	**02 29 00.7**	**-1.4**
YECH				AML	AML	02 29 07.7	
	comp=N,3μm,0.5s						
CFAA	**Coronel Fontan**	**5.02**	**50**	Pn	**Pn**	**02 29 00.8**	**+0.4**
	comp=N,0.6nm,0.3s,baz=229,slow=4.9,SNR=94						
CFAA				Sn	Sb	02 30 07.1	-6.2
	comp=N,0.6nm,0.3s,baz=260,slow=19,SNR=4.9						
PLCA	**Paso Flores**	**6.07**	**164**	Pn	**Pn**	**02 29 15.2**	**+0.2**
	comp=N,0.9nm,0.3s,baz=340,slow=9.3,SNR=26						
PLCA				Lg	Lg	02 30 50.1	
	comp=N,1.1nm,0.3s,baz=77,slow=23,SNR=2.9						
PLCA				LR	LR	02 31 09.2	
	comp=N,41nm,21.8s,baz=316,slow=34						
PLCA	**Paso Flores**	**6.07**	**164**	*e*Pn	**Pn**	**02 29 15.5**	**+0.5**
	comp=N,0.6nm,0.8s						
PLCA				*e*Lg	Lg	02 30 48.9	
LCO	**Las Campanas**	**6.13**	**17**	*e*Pn	**Pn**	**02 29 15.2**	**-0.8**
	comp=N,32nm,0.9s						
TRQA	**Tornquist**	**9.23**	**113**	*e*Pn	**Pn**	**02 29 59.7**	**+1.5**
	comp=N,20nm,1.0s						
TRQA				*e*Lg	Lg	02 32 32.2	
LVC	**Limon Verde**	**12.70**	**16**	Pn	**Pn**	**02 30 48.1**	**+2.0**
	comp=N,8.5nm,0.3s,baz=79,slow=7.5,SNR=3.0						
LVC				LR	LR	02 36 05.7	
	comp=N,669nm,20.0s,baz=202,slow=40						
LVC	**Limon Verde**	**12.70

NEIC Felt [II] at Nueva Imperial and Temuco.
*ISCJB **21** 03:22:21.0±0.6, 38°.60S±0°.03×73°.1W±0°.1, h58km±6km, mb4.0/9, MS3.3/4, Error ellipse: s-maj=17.8km s-min=4.9km az=4.2*
*GUC **21** 03:22:20.8±0.4, 38°.60S×73°.29W, h65km±4km, ML4.1*

ISC 21 03:22:21.4±1.2, **38°.59S**±0°.04×**73°.2W**±0°.1, **h47**km±11km, **n29,** σ1**§08**/29, **mb4.0**/9, **MS3.3**/4, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
AGCH	**Angol**	**0.88**	**28**	*eP*		**Pn**	**03 22 37.6**	**+0.2**
AGCH				*eS*		**Sn**	**03 22 50.8**	**+1.7**
VLCH	**Valdivia**	**1.22**	**181**	*eP*		**Pn**	**03 22 41.8**	**-0.3**
VLCH				*eS*		**Sn**	**03 22 57.6**	**+0.3**
CCSP	**San Pedro de C**	**1.74**	**3**	*eP*		**Pn**	**03 22 49.3**	**+0.1**
CCSP				*eS*		**Sn**	**03 23 10.5**	**+0.4**
CCSP				AML		AML	03 23 19.5	
	comp=E,2μm,0.4s							
OSCH	**Osorno**	**1.99**	**178**	*eP*		**Pn**	**03 22 52.4**	**-0.2**
OSCH				*eS*		**Sn**	**03 23 16.1**	**-0.2**
COCH	**Cobquecura**	**2.47**	**8**	*eP*		**Pn**	**03 22 59.3**	**+0.1**
COCH				*eS*		**Sn**	**03 23 28.3**	**+0.1**
PLCA	**Paso Flores**	**2.97**	**137**	Pn		**Pn**	**03 23 06.8**	**+0.6**
	comp=E,4.1nm,0.3s,baz=308,slow=10,SNR=51							
PLCA				Sn		Sn	03 23 50.2	+10
	comp=E,8.3nm,0.3s,baz=309,slow=8.5,SNR=3.4							
PLCA				LR		LR	03 24 28.1	
	comp=E,276nm,19.8s,baz=322,slow=44							
PLCA	**Paso Flores**	**2.97**	**137**	*e*Pn		**Pn**	**03 23 07.6**	**+1.4**
PLCA				*eS*		Sn	03 23 50.9	+10
CFAA	**Coronel Fontan**	**8.07**	**32**	Pn		**Pn**	**03 24 15.6**	**-0.5**
	comp=E,0.1nm,0.3s,baz=351,slow=2.6,SNR=8.4							
CFAA				Sn		**Sn**	**03 25 43.6**	**-2.4**
	comp=E,0.1nm,0.3s,baz=346,slow=13,SNR=2.0							
CFAA				LR		LR	03 27 37.5	
	comp=E,18nm,21.4s,baz=210,slow=40							
TRQA	**Tornquist**	**8.85**	**90**	*e*Pn		**Pn**	**03 24 26.1**	**-0.6**
LVC	**Limon Verde**	**16.34**	**14**	LR		LR	03 32 04.6	
	comp=E,170nm,20.8s,baz=216,slow=36							
CPUP	**Villa Florida**	**18.11**	**52**	LR		LR	03 34 30.3	
	comp=E,479nm,20.1s,baz=195,slow=41							
LPAZ	**La Paz**	**22.66**	**13**	P		**P**	**03 27 19.9**	**+0.5**
	comp=E,3.6nm,0.8s,baz=154,slow=6.8,SNR=14							
LPAZ				LR		LR	03 38 04.8	
	comp=E,42nm,20.1s,baz=230,slow=42							
LPAZ	**La Paz**	**22.66**	**13**	P		**P**	**03 27 17.5**	**-1.8**
	comp=E,3.8nm,0.8s							
SIV	**San Ignacio**	**24.91**	**29**	P		**P**	**03 27 40.4**	**+0.3**
	comp=E,1.8nm,0.8s,baz=233,slow=9.9,SNR=6.0							
PMSA	**Palmer Station**	**26.78**	**171**	LR		LR	03 38 08.0	
	comp=E,83nm,18.3s,baz=248,slow=36							
BDFB	**Brasilia**	**31.83**	**51**	LR		LR	03 41 54.8	
	comp=E,58nm,18.7s,baz=245,slow=37							
PTGA	**Pitinga**	**39.59**	**21**	P		**P**	**03 29 47.2**	**-1.1**
	comp=E,2.1nm,0.6s,baz=191,slow=13,SNR=4.1							
RCBR	**Riachuelo**	**46.94**	**56**	LR		LR	03 51 55.1	
	comp=E,110nm,18.3s,baz=212,slow=38							
SNAA	**Sanae**	**47.74**	**156**	P		**P**	**03 30 54.5**	**+1.2**
	comp=E,1.1nm,0.9s,baz=284,slow=8.3,SNR=4.1							
SNAA	**Sanae**	**47.74**	**156**	*eP*		**P**	**03 30 53.2**	**-0.1**
QSPA	**South Pole Qui**	**51.66**	**180**	P		**P**	**03 31 25.3**	**+2.0**
	comp=E,2.2nm,0.8s,baz=134,slow=2.3,SNR=12							
QSPA	**South Pole Qui**	**51.66**	**180**	P		**P**	**03 31 21.8**	**-1.5**
	comp=E,2.5nm,0.8s							
TXAR	**Lajitas Array**	**73.31**	**332**	P		**P**	**03 33 49.8**	**+1.7**
	comp=E,0.3nm,0.8s,baz=165,slow=8.1,SNR=4.0							
WVT	**Waverly**	**75.56**	**348**	P		**P**	**03 34 01.2**	**+0.4**
	comp=E,3.0nm,0.8s							
ECSD	**EROS Data Cent**	**84.64**	**343**	*eP*		**P**	**03 34 48.8**	**-0.8**
	comp=E,3.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**86.66**	**70**	P		**P**	**03 34 59.6**	**-0.7**
	comp=E,0.9nm,0.8s,baz=203,slow=3.5,SNR=8.2							
WRA	**Warramunga Arr**	**116.30**	**209**	PKP		**PKPdf**	**03 41 00.5**	**+0.3**
	comp=E,1.5nm,1.3s,baz=158,slow=1.5,SNR=4.8							
TIXI	**Tiksi**	**145.00**	**348**	*e*PKPbc	PKPbc	PKPbc	03 41 51.0	-0.6
MKAR	**Makanchi Array**	**160.27**	**58**	PKPab		**PKPab**	**03 42 56.3**	**+0.2**
	comp=E,0.5nm,0.6s,baz=29,slow=2.8,SNR=3.9							

*ISCJB **21** 03:27:36.4±2.0, 2°.0N±0°.1×120°.78E±0°.07, h33km, Error ellipse: s-maj=18.7km s-min=10.0km az=2.7*
*DJA **21** 03:27:41.7±1.3, 2°.N±8°×12°.1E±°, h23km±5km, M4.0/6, MLv4.0/6*

ISC 21 03:27:38.6±1.4, 1°.**91N**±0°.09×**120°.77E**±0°.08, **h35**km, **n12,** σ1**§42/14, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MPSI	**Mapaga**	**1.78**	**209**		P	**Pn**	**03 28 06.4**	**-0.6**
MPSI					S	**Sn**	**03 28 26.7**	**-1.7**
MRSI	**Marisa**	**1.84**	**140**		P	**Pn**	**03 28 07.4**	**-0.4**
MRSI					S	**Sn**	**03 28 27.7**	**-2.2**
APSI	**Ampana**	**2.93**	**162**		P	**Pn**	**03 28 23.7**	**+0.9**
APSI					S	**Sn**	**03 28 59.6**	**+2.8**
PCI	**Palu**	**2.94**	**198**		P	**Pn**	**03 28 23.9**	**+0.9**
LUWI	**Luwuk**	**3.55**	**146**		P	Pn	03 28 34.6	+3.3
LUWI					S	**Sn**	**03 29 12.3**	**+0.3**
LUWI	**Luwuk**	**3.55**	**146**		P	Pn	03 28 42.0	+11
	baz=2.0,SNR=4.1							
LUWI					S	**Sn**	**03 29 13.5**	**+1.5**
	baz=2.0,SNR=4.0							
TTSI	**Tana Toraja**	**5.01**	**191**		P	**Pn**	**03 28 52.4**	**+1.1**
KKM	**Kota Kinabalu**	**6.12**	**312**		P	**Sn**	**03 30 16.1**	**+0.4**
	baz=8.8,SNR=3.5							
FAKI	**Fak Fak**	**12.44**	**113**		P	P	03 30 52.5	+7.8
	baz=12,SNR=6.7							
MTN	**Manton Dam**	**17.91**	**145**		P	**Pn**	**03 31 44.2**	**-0.8**
	baz=15,SNR=20							
KNRA	**Kununurra**	**19.18**	**156**		P	**P**	**03 31 59.1**	**-0.3**
	baz=16,SNR=3.6							
FITZ	**Fitzroy Crossi**	**20.45**	**167**		P	**P**	**03 32 12.7**	**-0.6**
	baz=17,SNR=3.0							

*ISCJB **21** 03:37:01.3±0.4, 33°.85N±0°.04×87°.72E±0°.09, h10km, mb3.5/9, MS3.5/5, Error ellipse: s-maj=11.3km s-min=5.8km az=1.3*
*IDC **21** 03:37:01.3±0.8, 33°.66N×87°.51E, h0km, mb3.5/10, mb1 3.7/13, mb1mx3.6/51, mbtmp3.6/13, ML3.7/3, MS3.5/5, Ms1 3.5/5, ms1mx2.9/34, Error ellipse: s-maj=32.6km s-min=16.3km az=52.0*
*BJI **21** 03:37:01.5, 33°.66N×87°.70E, h5km, mb3.9/1*

ISC 21 03:37:03.2±0.6, **33°.82N**±0°.08×**87°.70E**±0°.10, **h10**km, **n29,** σ1**§24/25, mb3.5**/9, **MS3.3**/5, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUN	**Gumba**	**6.09**	**195**	*eP*		**Pn**	**03 38 34.7**	**+1.0**
	46nm,0.9s							
JIRN	**Jiri**	**6.28**	**192**	*eP*		**Pn**	**03 38 37.0**	**+0.8**
	13nm,0.5s							
KKN	**Kakani**	**6.36**	**200**	*eP*		**Pn**	**03 38 37.9**	**+0.7**
	9.5nm,0.4s							
DANN	**Dangsing**	**6.41**	**213**	*eP*		**Pn**	**03 38 38.5**	**+0.5**
	13nm,0.4s							
TAPN	**Taplejung**	**6.45**	**180**	*eP*		**Pn**	**03 38 40.5**	**+2.0**
PKIN	**Phulchoki**	**6.53**	**198**	*eP*		**Pn**	**03 38 39.8**	**+0.2**
	11nm,0.5s							
PKI	**Pulchoki**	**6.53**	**198**	*eP*		**Pn**	**03 38 40.0**	**+0.3**
	9.2nm,0.4s							
DMN	**Daman**	**6.58**	**200**	*eP*		**Pn**	**03 38 41.4**	**+1.1**
	16nm,0.4s							
RAMN	**Ramite**	**6.91**	**188**	*eP*		**Pn**	**03 38 45.4**	**+0.6**
	31nm,0.8s							
ODAN	**Odare**	**6.94**	**182**	*eP*		**Pn**	**03 38 46.1**	**+0.9**
MKAR	**Makanchi Array**	**13.59**	**344**	Pn		**Pn**	**03 40 15.0**	**-1.0**
	0.1nm,0.3s,baz=154,slow=14,SNR=7.5							
CD2	**Chengdu**	**13.88**	**98**	*eP*		**Pn**	**03 40 20.0**	**-0.1**
KURBB	**Kurchatov Arra**	**18.08**	**341**	P		**Pn**	**03 41 13.4**	**-1.0**
	0.1nm,0.3s,baz=154,slow=11,SNR=11							
CMAR	**Chiang Mai Arr**	**18.31**	**144**	P		**Pn**	**03 41 15.7**	**-1.7**
	0.6nm,0.3s,baz=332,slow=11,SNR=3.4							
SONM	**Songino Array**	**19.83**	**40**	P		**Pn**	**03 41 35.9**	**+0.2**
	0.5nm,1.0s,baz=253,slow=9.1,SNR=3.2							
ZALV	**Zalesovo Beam**	**20.22**	**355**	P		**P**	**03 41 39.6**	**+1.5**
	0.7nm,0.6s,baz=179,slow=14,SNR=3.9							
BVAR	**Borovoye Array**	**22.83**	**332**	P		**P**	**03 42 08.9**	**+2.6**
	1.1nm,0.7s,baz=268,slow=3.9,SNR=6.3							
GEYT	**Ailbeck**	**24.27**	**288**	LR		LR	03 53 40.9	
	comp=Z,96nm,20.8s,baz=105,slow=41							
OBN	**Obninsk**	**41.09**	**317**	LR		LR	04 03 58.6	
	comp=Z,40nm,20.4s,baz=92,slow=39							
AKASG	**Malin Array Be**	**45.22**	**310**	P		**P**	**03 45 21.2**	**+0.9**
	0.4nm,0.4s,baz=81,slow=7.6,SNR=5.0							
ARCES	**ARCESS Array B**	**49.06**	**336**	P		**P**	**03 45 51.8**	**+1.7**
	1.3nm,0.8s,baz=97,slow=7.6,SNR=3.1							
NOA	**NORSAR Array B**	**54.64**	**325**	P		**P**	**03 46 29.9**	**-2.0**
	0.4nm,0.8s,baz=72,slow=9.2,SNR=2.5							
GERES	**GERESS Array B**	**55.42**	**310**	P		**P**	**03 46 37.3**	**-0.4**
	0.3nm,0.6s,baz=85,slow=3.3,SNR=3.1							
DAVOX	**Davos/Dischmat**	**58.45**	**308**	LR		LR	04 16 39.9	
	comp=Z,22nm,18.4s,baz=75,slow=41							
BORG	**Borgarnes**	**67.41**	**334**	LR		LR	04 17 44.3	
	comp=Z,62nm,20.6s,baz=296,slow=36							
WRA	**Warramunga Arr**	**69.52**	**133**	P		**P**	**03 48 12.2**	**-0.1**
	0.6nm,0.6s,baz=327,slow=6.7,SNR=9.8							
ESDC	**Sonseca Array**	**70.51**	**305**	P		**P**	**03 48 18.4**	**+0.1**
	0.1nm,0.3s,baz=61,slow=5.6,SNR=4.7							
ESDC						LR	LR	04 21 24.7
	comp=Z,40nm,20.2s,baz=130,slow=38							
ASAR	**Alice Springs**	**72.12**	**136**	P		**P**	**03 48 27.9**	**0.0**
	0.3nm,0.5s,baz=325,slow=6.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**79.53**	**279**	P		**P**	**03 49 08.9**	**-1.7**
	0.3nm,0.8s,baz=41,slow=5.6,SNR=4.9							

*MOS **21** 03:38:15.7±0.9, 14°.54N×91°.75W, h52km, mb4.9/25, Error ellipse: s-maj=9.9km s-min=5.3km az=96.8*
*SZGRF **21** 03:38:16.1, 15°.98N×93°.10W, h33km, mb4.6, Near coast of Chiapas, Mexico*
*ISCJB **21** 03:38:16.2±0.2, 14°.43N±0°.03×91°.94W±0°.03, h60km, mb4.7/159, Error ellipse: s-maj=5.1km s-min=2.7km az=45.0*
*MEX **21** 03:38:18.6±0.5, 14°.23N×92°.53W, h11km±18km, MD4.6*
*NEIC **21** 03:38:18.6±2.2, 14°.59N×91°.87W, h61km±4km, mb4.8/126, MD4.6(MEX), Error ellipse: s-maj=15.5km s-min=10.2km az=50.0*
NEIC Felt [III] at Quetzaltenango and [II] at Guatemala. Also felt at Coatepeque, La Esperanza, Mazatenango, Nahuala, Panajachel, San Lucas Toliman, San Marcos, San Rafael Pie de La Cuesta, San Vicente Pacaya, Santa Barbara and Santa Cruz La Laguna.
*BJI **21** 03:38:19.3, 14°.50N×92°.00W, h76km, mB4.9/5, Ms5.3/4, Ms7 5.0/5*
*IDC **21** 03:38:19.2±0.4, 14°.75N×91°.68W, h60km±2km, mb4.2/29, mb1 4.3/30, mb1mx4.3/40, mbtmp4.5/30, MS3.6/18, Ms1 3.6/18, ms1mx3.5/31, Error ellipse: s-maj=18.6km s-min=7.0km az=57.0*
*CASC **21** 03:38:24.1±2.0, 14°.39N×91°.89W, h58km±18km, MD4.7, ML4.7, mb4.8(NEIC)*

ISC 21 03:38:17.8±0.3, **14°.41N**±0°.04×**92°.25W**±0°.03, **h62**km±2km, **h61**km:**pP-P, n708,** σ1**§73**/779, **mb4.7**/159, **137C-137D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THIG		**0.49**	**359**	*eP*		**Pn**	**03 38 30.4**	**+0.5**
THIG				*i* S		**Sn**	**03 38 40.2**	**+1.6**
THIG		**0.49**	**359**	*e*Pn		**Pn**	**03 38 30.4**	**+0.5**
THIG				*e*Sn		**Sn**	**03 38 40.2**	**+1.6**
JAT	**Jato**	**0.61**	**99**	⇓*i*P		**Pn**	**03 38 33.7**	**+2.7**
PCIG		**1.59**	**324**	*i* P		**Pn**	**03 38 43.5**	**-0.1**
PCIG				*e*S		**Sn**	**03 39 02.7**	**-0.5**
PCIG		**1.59**	**324**	*e*Pn		**Pn**	**03 38 43.5**	**-0.1**
PCIG				*e*Sn		**Sn**	**03 39 02.7**	**-0.5**
PCG	**Pacaya**	**1.60**	**90**	*eP*		**Pn**	**03 38 46.5**	**+2.5**
IXG	**Ixpaco**	**1.76**	**97**	*eP*		**Pn**	**03 38 47.0**	**+0.8**
NBG	**Las Nubes**	**1.86**	**84**	*eP*		Pn	03 38 51.3	+3.8
CCIG	**Comitan**	**1.86**	**3**	*eP*		Pn	03 38 50.9	+3.3
CCIG				*e*S		**Sn**	**03 39 14.9**	**+4.7**
CCIG	**Comitan**	**1.86**	**3**	*e*Pn		Pn	03 38 50.9	+3.3
CCIG				*e*Sn		**Sn**	**03 39 14.9**	**+4.7**
TGIG		**2.50**	**341**	*eP*		**Pn**	**03 38 56.9**	**+0.8**
TGIG				*i* S		**Sn**	**03 39 27.8**	**+2.4**
TGIG		**2.50**	**341**	*e*Pn		**Pn**	**03 38 56.9**	**+0.8**
TGIG				*e*Sn		**Sn**	**03 39 27.8**	**+2.4**
RBDL	**Robledal**	**2.51**	**96**	*eP*		**Pn**	**03 38 57.5**	**+1.2**
MRL	**Marmol**	**2.56**	**75**	*eP*		**Pn**	**03 38 59.4**	**+2.3**
MRL				⇓*eP*		Pn	03 39 00.3	+3.2
SBLS	**San Blas**	**2.62**	**102**	*eP*		**Pn**	**03 38 59.7**	**+1.8**
SBLS				*e*S		**Sn**	**03 39 27.5**	**-1.1**
SNJE	**San Jose**	**2.63**	**102**	*eP*		**Pn**	**03 38 59.7**	**+1.7**
BOQS	**Boqueron**	**2.96**	**103**	*eP*		**Pn**	**03 39 04.4**	**+1.8**
SNET	**Serv Nac Est T**	**3.02**	**103**	*eP*		**Pn**	**03 39 04.9**	**+1.7**
SNET				*e*S		**Sn**	**03 39 37.2**	**-1.1**
SNET				AML		AML	03 39 56.2	
	comp=Z,6μm,0.3s							
LBRS	**Las Brisas**	**3.19**	**102**	*eP*		**Pn**	**03 39 07.0**	**+1.5**
LFRS	**El Faro**	**3.20**	**104**	⇓*eP*		**Pn**	**03 39 07.6**	**+1.9**
CMIG	**Matias Romero**	**3.67**	**317**	P		**Pn**	**03 39 12.5**	**+0.3**
	comp=Z,29nm,0.3s,baz=140,slow=12,SNR=425							
CMIG				S		**Sn**	**03 39 55.1**	**+0.8**
	comp=Z,221nm,0.3s,baz=49,slow=22,SNR=8.9							
CMIG				LR		LR	03 40 57.2	
	comp=Z,333nm,20.5s,baz=180,slow=41							
HUIG	**Huatulco**	**3.96**	**290**	*eP*		**Pn**	**03 39 15.0**	**-1.1**
HUIG				*i* S		**Sn**	**03 39 57.5**	**-3.7**
HUIG	**Huatulco**	**3.96**	**290**	*e*Pn		**Pn**	**03 39 15.0**	**-1.1**
HUIG				*e*Sn		**Sn**	**03 39 57.5**	**-3.7**
CAHU	**Cacacuatique**	**3.98**	**99**	*eP*		**Pn**	**03 39 12.2**	**+1.8**
VSM	**San Miguel**	**3.99**	**104**	*eP*		**Pn**	**03 39 18.0**	**+1.4**
TUIG	**Tuzandepetl**	**4.16**	**330**	*eP*		**Pn**	**03 39 19.7**	**+0.9**
TUIG				*e*S		**Sn**	**03 40 07.8**	**+1.6**
TUIG	**Tuzandepetl**	**4.16**	**330**	*e*Pn		**Pn**	**03 39 19.7**	**+0.9**
TUIG				*e*Sn		**Sn**	**03 40 07.8**	**+1.6**
CNCH	**Conchagua**	**4.44**	**104**	*eP*		**Pn**	**03 39 23.8**	**+1.1**
SCIG	**Sabancuy**	**4.64**	**13**	*eP*		**Pn**	**03 39 26.9**	**+1.5**
SCIG				*i* S		**Sn**	**03 40 17.1**	**-1.0**
SCIG	**Sabancuy**	**4.64**	**13**	*e*Pn		**Pn**	**03 39 26.9**	**+1.5**
SCIG				*e*Sn		**Sn**	**03 40 17.1**	**-1.0**
VHO	**Vista Hermosa**	**5.06**	**302**	*i* P		**Pn**	**03 39 30.8**	**-0.5**
VHO				*e*S		**Sn**	**03 40 27.0**	**-1.5**
VHO	**Vista Hermosa**	**5.06**	**302**	*e*Pn		**Pn**	**03 39 30.8**	**-0.5**
VHO				*e*Sn		**Sn**	**03 40 27.0**	**-1.5**
PNIG	**Pinotepa**	**6.00**	**290**	*eP*		**Pn**	**03 39 43.9**	**0.0**
PNIG				*i* S		**Sn**	**03 40 48.5**	**-2.8**
PNIG	**Pinotepa**	**6.00**	**290**	*e*Pn		**Pn**	**03 39 43.9**	**0.0**
PNIG				*e*Sn		**Sn**	**03 40 48.5**	**-2.8**
TEIG	**Tepich**	**6.92**	**33**	*eP*		**Pn**	**03 39 57.2**	**+0.7**
TEIG	**Tepich**	**6.92**	**33**	P		**Pn**	**03 39 58.3**	**+1.7**
	comp=Z,111nm,0.3s,baz=226,slow=2.5,SNR=445							
TEIG				S		**Sn**	**03 41 11.2**	**-2.7**
	comp=Z,165nm,0.3s,baz=40,slow=21,SNR=14							
TEIG	**Tepich**	**6.92**	**33**	*e*Pn		**Pn**	**03 39 57.5**	**+0.9**
TEIG				*e*Sn		**Sn**	**03 41 10.0**	**-3.8**
VCR	**Vista de Mar**	**7.75**	**123**	*eP*		Pn	03 40 11.4	+3.3
VCR				*e*S		**Sn**	**03 41 37.3**	**+2.8**
JTS	**JuntasAbangare**	**8.22**	**119**	P		Pn	03 40 18.6	+4.1
	comp=Z,4.7nm,0.3s,baz=308,slow=8.1,SNR=28							
JTS				S		**Sn**	**03 41 50.5**	**+4.5**
	comp=Z,2.3nm,0.3s,baz=142,slow=18,SNR=1.3							
JTS	**JuntasAbangare**	**8.22**	**119**	*eP*		**Pn**	**03 40 16.0**	**+1.5**
JTS	**JuntasAbangare**	**8.22**	**119**	*e*Pn		Pn	03 40 18.6	+4.1
JTS				*e*Sn		**Sn**	**03 41 47.7**	**+1.6**
JCR	**Jicaral**	**8.33**	**122**	*eP*		Pn	03 40 19.9	+4.0
CGA2	**Cerro Gallo 2**	**8.78**	**119**	*eP*		Pn	03 40 26.4	+4.2
URSC	**Urasca**	**9.45**	**118**	*eP*		**Pn**	**03 40 31.1**	**-0.4**
BUS	**Buena Vista**	**9.61**	**119**	⇓*eP*		Pn	03 40 37.2	+3.4
BUS				*e*S		**Sn**	**03 42 26.1**	**+5.5**
ACR	**Cerro Adams**	**10.58**	**122**	*eP*		Pn	03 40 51.5	+4.7
ACR				*e*S		Sn	03 42 51.3	+7.5
035Z	**Hargill**	**13.17**	**337**	⇑P		**Pn**	**03 41 23.6**	**+1.7**
	baz=13							
BCIP	**Isla Barro Col**	**13.22**	**112**	*e*Pn		**Pn**	**03 41 21.6**	**-1.2**
035A	**Encino**	**13.61**	**337**	⇑P		**Pn**	**03 41 29.7**	**+1.9**
	baz=14							
936A	**North Padre Is**	**13.78**	**341**	⇑P		**Pn**	**03 41 31.7**	**+1.6**
	baz=14							
034A	**Hebbronville**	**13.95**	**336**	⇓P		**Pn**	**03 41 34.3**	**+1.9**
	baz=14,SNR=9.8							
934A	**Benavides**	**14.36**	**337**	⇑P		**P**	**03 41 40.7**	**-2.5**
	baz=14							
MTDJ	**Mount Denham**	**14.63**	**73**	*e*Pn		**Pn**	**03 41 42.4**	**+0.9**
MTDJ				*e*Sn		Sn	03 44 11.8	-11
933A	**Laredo**	**14.67**	**335**	⇑P		**Pn**	**03 41 43.7**	**+1.8**
	baz=15,SNR=9.3							
738A	**Farr-Stevens R**	**14.70**	**348**	⇑P		**Pn**	**03 41 44.0**	**+1.7**
	baz=15							
835A	**Beeville**	**14.75**	**340**	⇓P		**Pn**	**03 41 44.8**	**+2.0**
	baz=15,SNR=9.0							
834A	**Tilden**	**14.85**	**338**	⇓P		**Pn**	**03 41 46.2**	**+2.0**
	baz=15,SNR=7.3							
736A	**Circle Diamond**	**15.14**	**344**	⇑P		**Pn**	**03 41 49.5**	**+1.5**
	baz=15							
735A	**Kenedy**	**15.27**	**341**	⇑P		**P**	**03 41 51.5**	**-1.7**
	baz=15							
833A	**Chaparral WMA,**	**15.35**	**336**	⇓P		**P**	**03 41 53.0**	**-1.2**
	baz=15,SNR=22							
734A	**La Parita Cree**	**15.51**	**339**	⇑P		**P**	**03 41 54.5**	**-1.5**
	baz=16							
832A	**Faith Ranch, C**	**15.56**	**334**	⇓P		**P**	**03 41 55.6**	**-0.8**
	baz=16,SNR=32							
636A	**Smothers Creek**	**15.64**	**344**	⇑P		**P**	**03 41 56.2**	**-1.2**
	baz=16							
733A	**Divot King Ran**	**15.66**	**337**	⇓P		**P**	**03 41 56.8**	**-0.8**
	baz=16,SNR=12							
635A	**Leesville**	**15.75**	**342**	⇑P		**P**	**03 41 57.8**	**-0.9**
	baz=16							
539A	**Cross D Ranch,**	**15.79**	**352**	⇓P		**P**	**03 41 57.8**	**-1.2**
	baz=16							
HKT	**Hockley**	**15.81**	**349**	*eP*		**P**	**03 41 57.9**	**-1.3**
HKT				pmax		pmax		
	comp=Z,31nm,1.2s							
HKT	**Hockley**	**15.81**	**349**	*e*Pn		**P**	**03 41 57.9**	**-1.3**
	comp=Z,31nm,1.2s							
732A	**Laxson Ranch,**	**15.94**	**335**	⇑P		**P**	**03 42 00.6**	**-0.2**
	baz=16,SNR=25							
537A	**Green Hill Far**	**16.04**	**347**	⇑P		**P**	**03 42 01.3**	**-0.5**
	baz=16,SNR=12							
536A	**Bastrop**	**16.21**	**345**	⇓P		**P**	**03 42 03.7**	**0.0**
	baz=16							
633A	**Saathoff Ranch**	**16.29**	**338**	⇑P		**P**	**03 42 04.8**	**+0.3**
	baz=16,SNR=10.0							
535A	**Dale**	**16.30**	**343**	⇓P		**P**	**03 42 04.4**	**-0.3**
	baz=16							
439A	**Center Grove,**	**16.47**	**352**	⇓P		**P**	**03 42 06.0**	**-0.6**
	baz=16,SNR=12							
438A	**Sam Houston St**	**16.53**	**350**	⇓P		**P**	**03 42 06.7**	**-0.5**
	baz=16,SNR=21							
632A	**Uvalde**	**16.56**	**336**	⇑P		**P**	**03 42 08.7**	**+1.1**
	baz=17,SNR=14							
534A	**Blanco**	**16.57**	**341**	⇑P		**P**	**03 42 07.8**	**+0.1**
	baz=17,SNR=14							
533A	**Kerrville**	**16.79**	**339**	⇑P		**P**	**03 42 11.0**	**+0.7**
	baz=17,SNR=18							
631A	**Perdido Creek**	**16.80**	**334**	⇓P		**P**	**03 42 11.0**	**+0.8**
	baz=17,SNR=25							
436A	**Wall Ranch, Ga**	**16.81**	**346**	⇑P		**P**	**03 42 11.1**	**+0.8**
	baz=17							
339A	**Huntington**	**16.98**	**353**	⇓P		**P**	**03 42 12.3**	**+0.2**
	baz=17,SNR=17							
340A	**Bronson**	**16.99**	**355**	⇓P		**P**	**03 42 12.2**	**-0.2**
	baz=17,SNR=29							
435B	**Jarrell**	**17.02**	**344**	⇓P		**P**	**03 42 13.8**	**+1.2**
	baz=17							
338A	**Crockett**	**17.10**	**351**	⇓P		**P**	**03 42 13.9**	**+0.4**
	baz=17,SNR=26							
337A	**Centerville**	**17.15**	**349**	⇓P		**P**	**03 42 16.0**	**+1.9**
	baz=17							
532A	**Rocksprings**	**17.16**	**337**	⇓P		**P**	**03 42 16.0**	**+1.7**
	baz=17,SNR=16							
BRAL	**Brewton**	**17.20**	**15**	*e*Pn		**P**	**03 42 18.5**	**+3.9**
	comp=Z,194nm,1.0s							
434A	**Burnet**	**17.24**	**342**	⇓P		**P**	**03 42 16.7**	**+1.6**
	baz=17,SNR=9.6							
GTBY	**Guantanamo Bay**	**17.27**	**69**	*e*Pn		**P**	**03 42 16.8**	**+1.2**
	comp=Z,85nm,0.9s							
336A	**Riesel**	**17.41**	**347**	⇓P		**P**	**03 42 18.4**	**+1.4**
	baz=17							
JCT	**Junction City**	**17.44**	**338**	*eP*		**P**	**03 42 19.4**	**+2.1**
JCT				*e*			03 45 19.3	
JCT	

comp=Z,78nm,0.8s
OTAV **Otavalo** 19.62 135 *e*P Pn 03 42 43.0 -0.7
comp=Z,13nm,1.1s
131A **Roby** 19.63 339 ⇑P Pn 03 42 43.2 -0.1
baz=20
Z33A **Whitaker Ranch** 19.70 344 ⇑P Pn 03 42 43.9 -0.2
baz=20,SNR=12
130A **Snyder** 19.77 338 ⇓P Pn 03 42 44.8 -0.1
baz=20
Z32A **Haskell** 19.92 342 ⇓P Pn 03 42 46.0 -0.7
baz=20,SNR=16
228A **UT Block 9, Go** 20.00 334 ⇓P Pn 03 42 46.8 -0.8
baz=20,SNR=16
ROSC **El Rosal** 20.04 117 P Pn 03 42 47.7 -1.0
comp=Z,1.1nm,0.3s,baz=37,slow=1.2,SNR=12
ROSC **El Rosal** 20.04 117 *e*P Pn 03 42 49.0 +0.3
MIAR **Mount Ida** 20.08 357 *e*P P 03 42 47.0 +0.8
MIAR pmax pmax
comp=Z,74nm,0.9s
MIAR **Mount Ida** 20.08 357 *e*P P 03 42 47.0 +0.8
comp=Z,74nm,0.9s
Y34A **Reagan Ranch,** 20.09 347 ⇓P P 03 42 47.2 +0.9
baz=20
Z31A **Sharp Cattle R** 20.14 341 ⇑P P 03 42 48.0 +1.0
baz=20,SNR=14
129A **Stewart Farms,** 20.14 336 ⇓P P 03 42 47.9 +0.9
baz=20,SNR=20
OXF **Oxford** 20.18 7 *e*P P 03 42 47.4 +0.2
OXF pmax pmax
comp=Z,77nm,0.9s
OXF **Oxford** 20.18 7 *e*P P 03 42 47.4 +0.2
comp=Z,77nm,0.9s
UALR **University of** 20.28 360 *e*P Pn 03 42 50.0 -0.8
comp=Z,60nm,0.8s
Y33A **Hilltop Ranch,** 20.35 345 ⇑P P 03 42 50.0 +0.9
baz=20,SNR=6.3
128A **Castleberry Fa** 20.39 335 ⇓P P 03 42 50.8 +1.1
baz=20,SNR=47
Z30A **Sanderson Ranc** 20.45 338 ⇓P P 03 42 51.1 +0.9
baz=20,SNR=7.9
GOGA **Godfrey** 20.53 21 *e*P P 03 42 51.3 +0.2
GOGA pmax pmax
comp=Z,120nm,0.9s
GOGA **Godfrey** 20.53 21 *e*P P 03 42 51.3 +0.2
comp=Z,120nm,0.9s
Y32A **R-V Farms, Ver** 20.56 343 ⇓P P 03 42 52.2 +0.7
baz=21,SNR=11
SDDR **Presa de Saban** 20.59 74 *e*P P 03 42 49.3 -2.6
comp=Z,114nm,1.6s
Z29A **Hungry Hill Ra** 20.64 337 ⇓P P 03 42 52.9 +0.5
baz=21,SNR=33
Y31A **Rekieta Farm,** 20.77 341 ⇑P P 03 42 54.1 +0.4
baz=21,SNR=25
X33A **Lawton** 20.82 345 ⇓P P 03 42 54.8 +0.6
baz=21,SNR=18
Y30A **Stafford Cattl** 20.90 339 ⇓P P 03 42 56.1 +0.9
baz=21
X32A **Elmer** 20.91 344 ⇑P P 03 42 55.8 +0.5
baz=21,SNR=38
Z28A **Tucker Farm, M** 20.93 336 ⇑P P 03 42 55.9 +0.4
baz=21,SNR=13
W36A **Wetumka** 20.95 351 ⇓P P 03 42 55.7 +0.2
baz=21,SNR=8.7
MNTX **Cornudas Mount** 20.99 327 ⇓P P 03 42 57.6 +1.5
baz=21,SNR=27
W35A **Tecumseh** 21.07 349 ⇓P P 03 42 56.5 -0.4
baz=21,SNR=16
WMOK **Wichita Mounta** 21.08 345 *e*P P 03 42 56.7 -0.3
WMOK *e*S S 03 46 41.8 -6.5
WMOK pmax pmax
comp=Z,18nm,0.8s
WMOK **Wichita Mounta** 21.08 345 *e*P P 03 42 56.7 -0.3
comp=Z,18nm,0.8s
WMOK *e*S S 03 46 41.8 -6.5
Y29A **Porterfield Fa** 21.16 338 ⇑P P 03 42 58.5 +0.5
baz=21,SNR=7.1
X31A **McDonald Ranch** 21.31 342 ⇑P P 03 42 59.8 +0.3
baz=21,SNR=15
W34A **Bridge Creek,** 21.32 347 ⇓P P 03 42 59.6 0.0
baz=21,SNR=8.0
W34A **Bridge Creek,** 21.32 347 *e*P P 03 42 59.2 -0.4
comp=Z,48nm,0.9s
W33A **Caddo, Fort Co** 21.40 346 ⇑P P 03 43 00.5 +0.1
baz=21,SNR=13
X30A **Coker Ranch, T** 21.41 340 ⇓P P 03 43 01.3 +0.7
baz=22,SNR=17
Y28A **McKinney Farm,** 21.42 337 ⇑P P 03 43 01.3 +0.5
baz=22,SNR=20
SWET **Sewanee** 21.48 14 *e*P P 03 43 01.1 -0.2
W32A **Sentinel** 21.56 344 ⇓P P 03 43 02.6 +0.4
baz=22,SNR=16
NHSC **New Hope** 21.61 28 *e*P P 03 43 03.5 +0.8
comp=Z,199nm,0.9s
TUL1 **Leonard** 21.64 352 ⇑P P 03 43 03.0 0.0
baz=22,SNR=13
TUL1 **Leonard** 21.64 352 *e*P P 03 43 03.6 +0.6
comp=Z,46nm,0.8s
V35A **Meyer Ranch, C** 21.66 350 ⇓P P 03 43 02.5 -0.6
baz=22
MSTX **Muleshoe** 21.68 336 ⇓P P 03 43 03.8 +0.3
baz=22,SNR=13
MSTX **Muleshoe** 21.68 336 *e*P P 03 43 04.3 +0.8
comp=Z,16nm,0.8s
X29A **Tulia** 21.70 338 ⇓P P 03 43 03.9 +0.2
baz=22,SNR=8.6
W31A **Holland Ranch,** 21.82 343 ⇑P P 03 43 05.7 +0.8
baz=22
V34A **Guthrie** 21.85 348 ⇑P P 03 43 04.8 -0.4
baz=22,SNR=10
V34A **Guthrie** 21.85 348 *e*P P 03 43 04.1 -1.1
comp=Z,42nm,0.8s
SDV **Santo Domingo** 21.87 102 *e*P P 03 43 05.8 0.0
comp=Z,78nm,0.7s
GLAT **Glass** 21.93 6 *e*P P 03 43 05.1 -0.9
X28A **Dimmitt** 21.94 338 ⇓P P 03 43 06.8 +0.5
baz=22
WVT **Waverly** 21.99 10 *e*P P 03 43 05.4 -1.3
WVT pmax pmax
comp=Z,18nm,0.9s
WVT **Waverly** 21.99 10 *e*P P 03 43 05.4 -1.3
comp=Z,18nm,0.9s
V33A **Lossen Ranch,** 22.00 347 ⇓P P 03 43 06.9 +0.1
baz=22,SNR=12
W30A **Crocket Farms** 22.00 342 ⇑P P 03 43 07.6 +0.7
baz=22
V32A **Arapaho** 22.08 345 ⇑P P 03 43 07.6 -0.1
baz=22
AMTX **Amarillo** 22.09 339 ⇓P P 03 43 08.0 +0.1
baz=22
AMTX **Amarillo** 22.09 339 *e*P P 03 43 08.7 +0.8
comp=Z,31nm,0.7s
W29A **Amarillo** 22.29 339 ⇓P P 03 43 10.4 +0.3
baz=22,SNR=6.0
PBMO **Poplar Bluff** 22.34 4 *e*P P 03 43 08.5 -1.9
comp=Z,22nm,0.8s
PBMO *e*Sn Sn 03 47 20.9 -6.9
V31A **Spring Creek L** 22.34 344 ⇑P P 03 43 10.8 +0.3
baz=22,SNR=10
U34A **Anderson Ranch** 22.44 349 ⇑P P 03 43 11.0 -0.5
baz=22
U34A **Anderson Ranch** 22.44 349 *e*P P 03 43 10.8 -0.7
comp=Z,33nm,0.8s
TKL **Tuckaleechee C** 22.49 18 P P 03 43 11.9 -0.1
comp=Z,16nm,0.8s,baz=192,slow=11,SNR=28
TKL **Tuckaleechee C** 22.49 18 *e*P P 03 43 12.0 -0.1
TKL **Tuckaleechee C** 22.49 18 *e*P P 03 43 12.0 -0.1
SMN1 **Samana, DR** 22.50 75 *e*P P 03 43 09.1 -3.3
U33A **Lingo Farm, Me** 22.55 348 ⇑P P 03 43 12.2 -0.5
baz=22,SNR=6.8
W28A **Vega** 22.61 338 ⇑P P 03 43 13.4 -0.1
baz=23
U32A **Winter Ranch,** 22.70 346 ⇓P P 03 43 13.9 -0.4
baz=23
KMSC **Kings Mountain** 22.87 24 ⇑P P 03 43 14.5 -1.5
baz=23,SNR=12
KMSC **Kings Mountain** 22.87 24 *e*P P 03 43 15.4 -0.7
comp=Z,55nm,1.1s
121A **Cookes Peak, D** 22.93 325 ⇑P P 03 43 18.1 +1.1
baz=23
319A **Douglas** 22.99 320 ⇑P P 03 43 18.8 +1.3
baz=23,SNR=8.1
V28A **Channing** 23.06 339 ⇑P P 03 43 18.3 +0.2
baz=23,SNR=12
U30A **WK&E Inc. Balk** 23.27 343 ⇑P P 03 43 19.9 -0.3
baz=23,SNR=18
V27A **Dan Oppiter Fa** 23.28 338 ⇓P P 03 43 20.4 +0.1
baz=23
SIUC **Southern Illin** 23.37 6 *e*P P 03 43 20.7 -0.2
comp=Z,84nm,0.8s
U29A **Oasis Ranch, S** 23.38 341 ⇑P P 03 43 21.6 +0.4
baz=23
S36A **Lake Cedric, C** 23.41 353 ⇓P P 03 43 20.3 -1.0
baz=23
T32A **Huddler Ranch,** 23.44 347 ⇑P P 03 43 21.0 -0.7
baz=23
S35A **Otter Creek Ra** 23.46 352 ⇓P P 03 43 21.0 -0.7
baz=23,SNR=7.0
T31A **Randall Ranch,** 23.54 345 ⇓P P 03 43 22.0 -0.6
baz=24
BNM **Barren Site** 23.57 329 *e*P P 03 43 25.7 +2.6
S34A **Willow Spring** 23.59 350 ⇓P P 03 43 22.2 -0.8
baz=24
U28A **Mallet** 23.63 340 ⇓P P 03 43 23.3 -0.2
baz=24
S33A **Kaszmaul Farm,** 23.65 349 ⇑P P 03 43 22.9 -0.6
baz=24
LPM **Los Pinos Moun** 23.70 329 *e*P P 03 43 26.7 +2.5
T30A **Plains** 23.73 343 ⇑P P 03 43 24.5 +0.2
baz=24
LENM **Lemitar** 23.75 328 *e*P P 03 43 26.9 +2.1
USIN **University of** 23.81 9 *e*P P 03 43 24.3 -0.6
comp=Z,138nm,1.1s
U27A **Thompson Grove** 23.87 339 ⇓P P 03 43 25.7 -0.1
baz=24,SNR=18
S32A **Newby Ranch, P** 23.94 347 ⇓P P 03 43 26.0 -0.3
baz=24
R36A **Gordon, Harris** 23.99 354 ⇓P P 03 43 26.1 -0.5
baz=24
S31A **Mullinville** 23.99 346 ⇑P P 03 43 26.7 0.0
baz=24
LAZ **Ladron** 24.02 329 *e*P P 03 43 29.3 +2.1
T29A **Hugoton** 24.04 342 ⇑P P 03 43 27.6 +0.4
baz=24,SNR=7.1
ANMO **Albuquerque** 24.12 330 P P 03 43 30.1 +1.9
comp=Z,9.5nm,0.6s,baz=144,slow=11,SNR=63
ANMO **Albuquerque** 24.12 330 *e*P P 03 43 29.8 +1.7
ANMO pmax pmax
comp=Z,83nm,1.2s
ANMO **Albuquerque** 24.12 330 *e*P P 03 43 30.0 +1.9
comp=Z,13nm,0.8s
SLM **Saint Louis** 24.20 4 *e*P P 03 43 27.1 -1.3
SLM pmax pmax
comp=Z,43nm,0.7s
SLM **Saint Louis** 24.20 4 *e*P P 03 43 27.1 -1.3
comp=Z,43nm,0.7s
S30A **Montezuma** 24.26 344 ⇑P P 03 43 29.5 +0.3
baz=24
T28A **Walsh** 24.26 341 ⇑P P 03 43 29.5 +0.3
baz=24,SNR=6.7
WCI **Wyandotte Cave** 24.30 11 *e*P P 03 43 28.8 -0.7
WCI pmax pmax
comp=Z,67nm,0.8s
WCI **Wyandotte Cave** 24.30 11 *e*P P 03 43 28.8 -0.7
comp=Z,67nm,0.8s
R33A **Older Ranch,** 24.34 349 ⇓P P 03 43 29.5 -0.3
baz=24
T27A **Campo** 24.41 339 ⇓P P 03 43 31.1 +0.4
baz=24,SNR=8.6
S29A **Ulysses** 24.42 343 ⇓P P 03 43 31.1 +0.5
baz=24,SNR=14
CNNC **Cliffs of the** 24.44 29 *e*P P 03 43 29.8 -0.9
comp=Z,30nm,0.6s
Q37A **Longview Farm,** 24.45 356 ⇓P P 03 43 30.4 -0.4
baz=24
OLIL **Olney** 24.50 8 *e*P P 03 43 30.8 -0.5
comp=Z,79nm,0.8s
TUC **Tucson** 24.56 320 *e*P P 03 43 35.4 +3.4
TUC pmax pmax
comp=Z,34nm,1.4s
TUC **Tucson** 24.56 320 *e*P P 03 43 35.4 +3.4
comp=Z,34nm,1.4s
R32A **Long Quarter,** 24.59 348 ⇓P P 03 43 32.1 0.0
baz=25,SNR=6.4
S28A **Manter** 24.63 341 ⇓P P 03 43 33.0 +0.5
baz=25,SNR=7.2
R31A **Burdett** 24.64 346 ⇓P P 03 43 33.3 +0.8
baz=25,SNR=7.6
R30A **Dighton** 24.82 345 ⇑P P 03 43 34.9 +0.7
baz=25,SNR=8.1
T26A **Comanche Natio** 24.82 338 ⇑P P 03 43 36.1 +1.6
baz=25
KSU1 **Kansas State U** 24.89 352 ⇑P P 03 43 35.0 +0.2
baz=25
KSU1 **Kansas State U** 24.89 352 *e*P P 03 43 34.0 -0.8
comp=Z,26nm,0.8s
Q33A **Connelly Farm,** 24.98 350 ⇓P P 03 43 36.4 +0.8
baz=25
BLA **Blacksburg** 25.04 23 *e*P P 03 43 35.0 -1.2
BLA pmax pmax
comp=Z,41nm,1.2s
BLA **Blacksburg** 25.04 23 *e*P P 03 43 35.0 -1.2
comp=Z,41nm,1.2s
T25A **Trinidad** 25.09 337 ⇓P P 03 43 38.4 +1.4
baz=25,SNR=16
T25A **Trinidad** 25.09 337 *e*P P 03 43 38.8 +1.9
comp=Z,18nm,0.7s
Q32A **Meitler Ranch,** 25.11 348 ⇑P P 03 43 37.0 +0.2
baz=25,SNR=10
S26A **Kim** 25.18 339 ⇓P P 03 43 39.1 +1.6
baz=25
BLO **Bloomington** 25.18 11 *e*P P 03 43 36.5 -0.9
BLO pmax pmax
comp=Z,24nm,0.8s
BLO **Bloomington** 25.18 11 *e*P P 03 43 36.5 -0.9
comp=Z,24nm,0.8s
R29A **Marienthal** 25.18 343 ⇑P P 03 43 38.0 +0.4
baz=25,SNR=14
VWCC **Virginia Weste** 25.23 23 *e*P P 03 43 37.5 -0.5
R28A **Tribune** 25.29 342 ⇑P P 03 43 39.3 +0.7
baz=25,SNR=9.5
Q31A **Ellis** 25.30 347 ⇓P P 03 43 39.5 +1.0
baz=25
P33A **Williams Farm,** 25.38 350 ⇓P P 03 43 40.7 +1.4
baz=25
ATAH **Atahualpa** 25.44 146 P P 03 43 42.6 +2.1
comp=Z,14nm,0.9s,baz=323,slow=7.7,SNR=7.1
ATAH LR LR 03 51 38.6
comp=Z,204nm,21.4s,baz=328,slow=31
R27A **Eads** 25.55 340 ⇑P P 03 43 42.0 +1.0
baz=26
Q29A **Olney** 25.57 344 ⇓P P 03 43 42.6 +1.6
baz=26
X18A **Snowflake** 25.62 325 ⇓P P 03 43 44.1 +2.3
baz=26
214A **Organ Pipe Nat** 25.65 316 ⇑P P 03 43 44.2 +2.4
baz=26
P32A **Huiting Farm,** 25.73 349 ⇑P P 03 43 43.6 +1.2
baz=26
R26A **Arlington** 25.78 339 ⇑P P 03 43 45.1 +2.0
baz=26,SNR=6.4
P31A **Stockton** 25.79 347 ⇑P P 03 43 44.6 +1.6
baz=26
R25A **Fountain Ranch** 25.93 338 ⇑P P 03 43 45.8 +1.3
baz=26
W18A **Petrified Fore** 25.94 326 ⇑P P 03 43 46.5 +1.9
baz=26
W18A **Petrified Fore** 25.94 326 *e*P P 03 43 46.5 +1.9
comp=Z,15nm,0.9s
Q28A **Sharon Springs** 25.97 343 ⇓P P 03 43 45.8 +1.1
baz=26
P30A **Selden** 26.00 346 ⇑P P 03 43 45.6 +0.6
baz=26
SDCO **Great Sand Dun** 26.05 336 ⇑P P 03 43 47.3 +1.6
baz=26,SNR=7.2
KSCO **Kaye Shedlock'** 26.16 341 ⇑P P 03 43 48.3 +1.8
baz=26
KSCO **Kaye Shedlock'** 26.16 341 *e*P P 03 43 44.8 -1.7
comp=Z,31nm,1.1s
S23A **Nye Farm, Mont** 26.22 335 ⇓P P 03 43 49.5 +2.3
baz=26
P29A **Atwood** 26.23 345 ⇓P P 03 43 48.9 +1.9
baz=26
SFIN **Lafayette** 26.26 9 ⇑P P 03 43 46.1 -1.1
baz=26
SFIN **Lafayette** 26.26 9 *e*P P 03 43 45.6 -1.6
comp=Z,26nm,0.8s
R24A **Sanders Place,** 26.32 337 ⇑P P 03 43 49.7 +1.7
baz=26
Q26A **Hugo** 26.36 340 ⇑P P 03 43 50.1 +1.7
baz=26
O31A **Woolen Ranch,** 26.38 348 ⇑P P 03 43 49.2 +0.8
baz=26
X16A **Lo Mia Camp, P** 26.40 322 ⇑P P 03 43 51.7 +2.9
baz=26
P28A **Saint Francis** 26.42 343 ⇓P P 03 43 50.3 +1.6
baz=26
JSRW **J. Sargeant Re** 26.47 26 *e*P P 03 43 48.2 -0.9
URVA **University of** 26.52 27 *e*P P 03 43 48.5 -1.1
R23A **Moffat** 26.56 336 ⇑P P 03 43 51.9 +1.6
baz=27,SNR=7.5
O30A **MW Ranch, Wils** 26.57 347 ⇓P P 03 43 51.8 +1.7
baz=27
S22A **4UR Ranch, Cre** 26.60 334 ⇑P P 03 43 52.0 +1.3
baz=27,SNR=18
S22A **4UR Ranch, Cre** 26.60 334 *e*P P 03 43 52.6 +1.9
comp=Z,10nm,1.0s
O29A **4D Ranch, Culb** 26.69 345 ⇑P P 03 43 52.8 +1.6
baz=27
MVCO **Mesa Verde** 26.92 330 ⇓P P 03 43 55.2 +1.7
baz=27,SNR=25
MVCO **Mesa Verde** 26.92 330 *e*P P 03 43 55.8 +2.3
comp=Z,30nm,0.9s
ACSO **Alum Creek Sta** 26.98 16 *e*P P 03 43 52.7 -0.9
comp=Z,43nm,1.3s
PCRV **Puerto La Cruz** 27.30 96 LR LR 03 56 50.1
comp=Z,74nm,19.0s,baz=286,slow=41
SCIA **State Center** 27.41 358 *e*P P 03 43 56.3 -1.2
comp=Z,16nm,0.9s
P23A **Jefferson** 27.59 337 ⇑P P 03 44 01.7 +2.1
baz=28
PV01 **Paradox Valley** 27.70 332 *e*P P 03 44 03.4 +2.9
OGNE **Ogallala** 27.78 344 ⇑P P 03 44 03.0 +2.0
baz=28
N27A **Anderson Farm,** 27.79 343 ⇑P P 03 44 03.1 +2.0
baz=28
SMCO **Snowmass** 27.87 335 *e*P P 03 44 03.5 +1.4
comp=Z,7.7nm,1.0s
ISCO **Idaho Springs** 27.88 338 ⇓P P 03 44 03.8 +1.6
baz=28
PV05 **Paradox Valley** 27.90 331 *e*P P 03 44 04.4 +2.1
M28A **Bar X Bar Ranc** 28.03 345 ⇑P P 03 44 05.1 +1.9
baz=28
PV10 **Paradox Valley** 28.11 331 *e*P P 03 44 05.8 +1.7
P22A **Eagle** 28.14 336 ⇓P P 03 44 06.2 +1.8
baz=28
YUH **Yuha Desert** 28.18 314 *e*P P 03 44 12.4 +7.8
YUH *e*pP pP 03 44 16.7 -3.0
YUH *e*sP sP 03 44 38.2 +11
YUH *e*S S 03 48 52.7 +6.9
YUH *e*SS ScP 03 50 52.6 -0.4
PV09 **Paradox Valley** 28.25 331 *e*P P 03 44 07.8 +2.3
JFWS **Jewell Farm** 28.46 3 *e*P P 03 44 06.4 -0.4
JFWS pmax pmax
comp=Z,13nm,0.8s
JFWS **Jewell Farm** 28.46 3 *e*P P 03 44 06.4 -0.4
comp=Z,12nm,0.8s
O22A **Kremmling** 28.54 337 ⇑P P 03 44 09.6 +1.6
baz=29
BORC **Borrego Spring** 28.88 315 *e*P P 03 44 18.5 +7.8
BORC *e*pP pP 03 44 30.1 +4.2
BORC *e*SS SS 03 51 01.4 +0.3
SSPA **Standing Stone** 28.98 23 *e*P P 03 44 10.5 -1.0
comp=Z,11nm,0.8s
KNB **Kanab** 29.03 325 *e*P P 03 44 14.3 +2.0
KNB pmax pmax
comp=Z,18nm,1.3s
KNB **Kanab** 29.03 325 *e*P P 03 44 14.3 +2.0
comp=Z,18nm,1.3s
MVL **Millersville** 29.05 26 *e*P P 03 44 11.1 -1.0
comp=Z,11nm,0.8s
O20A **White River Ci** 29.20 334 ⇓P P 03 44 15.6 +1.9
baz=29
K28A **Ten Mile Ranch** 29.28 346 ⇑P P 03 44 16.3 +2.1
baz=29
SRU **San Rafael Swe** 29.40 330 *e*P P 03 44 17.4 +1.9
SRU pmax pmax
comp=Z,10.0nm,1.2s
SRU **San Rafael Swe** 29.40 330 *e*P P 03 44 17.4 +1.9
comp=Z,10nm,1.2s
ECSD **EROS Data Cent** 29.46 354 *e*P P 03 44 15.8 0.0
comp=Z,7.1nm,0.9s
CCUT **Cedar City** 29.71 325 *e*P P 03 44 21.5 +3.2
comp=Z,7.8nm,1.1s
ROA **Roan Cliffs** 29.76 331 *e*S S 03 49 15.2 +4.1
MVU **Marysvale** 29.78 327 *e*P P 03 44 21.8 +2.8
comp=Z,4.7nm,0.9s
N20A **Spence Gulch,** 29.80 335 ⇑P P 03 44 20.1 +1.1
baz=30,SNR=10
TMUT **Trail Mountain** 29.88 330 *e*P P 03 44 22.1 +2.2
comp=Z,10nm,1.2s
DCM **Dugout Coal Mi** 29.89 331 *e*PP PP 03 45 33.2 +4.8
DCM *e*ScS ScS 03 54 55.3 +1.2
ARUT **Antelope Range** 29.93 325 *e*P P 03 44 22.8 +2.7
ARUT **Antelope Range** 29.93 325 *e*P P 03 44 22.8 +2.7
J27A **Elkhorn Farm,** 29.94 346 ⇑P P 03 44 21.7 +1.6
baz=30
LUPA **Lehigh Univers** 29.97 26 *e*P P 03 44 19.2 -1.1
comp=Z,2.6nm,0.8s
I30A **Oacoma** 30.04 350 ⇓P P 03 44 21.9 +1.0
baz=30
SHPR **Sheep Range** 30.05 321 *e*P P 03 44 24.7 +3.5
NNA **Nana** 30.35 149 LR LR 03 54 19.6
comp=Z,118nm,21.2s,baz=320,slow=32
BRSD **Miller** 30.47 351 *e*P P 03 44 24.2 -0.6
comp=Z,13nm,0.7s
MPU **Maple Canyon** 30.64 330 *e*P P 03 44 28.6 +2.1
comp=Z,8.6nm,0.9s
ODNJ **Ogdensburg** 30.70 27 *e*P P 03 44 25.7 -1.0
comp=Z,12nm,1.1s
K22A **Casper** 30.71 339 *e*P P 03 44 30.4 +3.3
comp=Z,23nm,0.9s
SPMN **Marine on St.** 30.72 359 *e*P P 03 44 27.3 +0.5
comp=Z,13nm,0.9s
DAU **Daniels Canyon** 30.77 331 *e*P P 03 44 28.1 +0.3
DAU **Daniels Canyon** 30.77 331 *e*P P 03 44 28.1 +0.3
MMNY **Mt. Morris Dam** 30.81 21 *e*P P 03 44 24.5 -3.2
comp=Z,98nm,0.6s
NLU **North Lily Min** 30.81 329 *e*P P 03 44 29.1 +1.0
comp=Z,5.8nm,1.1s
I26A **New Underwood** 30.88 345 ⇑P P 03 44 29.4 +1.0
baz=31
BINY **Binghamton** 31.06 24 *e*P P 03 44 28.8 -1.1
I25A **Rochford** 31.10 344 ⇑P P 03 44 31.2 +0.8
baz=31
G30A **Faulkton** 31.17 351 ⇓P P 03 44 30.9 0.0
baz=31,SNR=5.6
MPMC **Manual Prospec** 31.23 318 ⇑P P 03 44 33.7 +2.0
baz=31
H27A **Howes** 31.26 346 ⇑P P 03 44 32.9 +1.3
baz=31
DUG **Dugway, Tooele** 31.36 329 *e*P P 03 44 34.6 +1.9
DUG pmax pmax
comp=Z,6.0nm,1.1s
DUG **Dugway, Tooele** 31.36 329 ⇑P P 03 44 35.1 +2.3
baz=32
DUG **Dugway, Tooele** 31.36 329 *e*P P 03 44 34.6 +1.9
comp=Z,5.7nm,1.1s
R11A **Troy Canyon, C** 31.53 323 *e*P P 03 44 36.4 +2.1
comp=Z,5.0nm,1.1s
H25A **Fruitdale** 31.62 344 ⇓P P 03 44 34.9 +0.1
baz=32,SNR=6.4
WLHM **Little Horse** 31.82 318 *e*P P 03 44 34.8 -2.2
HWUT **Hardware Ranch** 31.86 332 *e*P P 03 44 38.5 +1.3
comp=Z,7.3nm,0.8s
BAKC **Calstate** 31.88 316 *e*P P 03 44 36.0 -1.2
BAKC *e*pP pP 03 44 58.7 +6.3
G27A **Dupree** 31.94 347 ⇑P P 03 44 40.0 +2.3
baz=32
PD31 **Pinedale Array** 31.95 336 *e*P P 03 44 38.6 +0.6
PD31 *e*PcP PcP 03 47 28.1 +1.1
PD31 *e*ScP ScP 03 51 09.7 +4.4
PDAR **Pinedale Array** 31.95 336 P P 03 44 38.6 +0.6
comp=Z,0.9nm,0.6s,baz=132,slow=8.2,SNR=7.3
PDAR PcP PcP 03 47 28.1 +1.1
comp=Z,1.6nm,0.6s,baz=136,slow=5.1,SNR=6.2
PDAR pPcP 03 47 45.6
comp=Z,3.7nm,0.9s,baz=149,slow=3.5,SNR=10
PDAR ScP ScP 03 51 09.7 +4.4
comp=Z,1.1nm,0.9s,baz=112,slow=6.6,SNR=4.7
PDAR LR LR 04 00 04.8
comp=Z,47nm,19.4s,baz=136,slow=41
H24A **Dirks Ranch, A** 31.99 343 ⇑P P 03 44 38.1 -0.1
baz=32
BGU **Big Grassy Mou** 32.02 330 *e*P P 03 44 39.8 +1.2
comp=Z,7.0nm,0.7s
H23A **Clabaugh Cattl** 32.07 342 ⇑P P 03 44 40.8 +1.9
baz=32
G25A **Newell** 32.11 345 ⇓P P 03 44 40.2 +1.0
baz=32
VES **Vestal, Richgr** 32.15 316 ⇓P P 03 44 41.7 +2.2
baz=32
J19A **Crowheart** 32.17 337 ⇓P P 03 44 41.1 +1.3
baz=32

F26A Lodgepole 32.55 346 ⇓P P 03 44 43.1 +0.1
baz=33
HVU Hansel Valley 32.55 331 *e*P P 03 44 44.5 +1.2
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 32.55 331 *e*P P 03 44 44.5 +1.2
comp=Z,11nm,0.8s
G23A Biddle 32.65 343 ⇑P P 03 44 44.4 +0.4
baz=33
F25A Bowman 32.80 346 ⇓P P 03 44 45.6 +0.4
baz=33
I19A Meeteetse 32.80 337 ⇓P P 03 44 46.2 +0.7
baz=33
H20A Greybull 32.84 339 ⇓P P 03 44 46.8 +1.2
baz=33
E27A Carson 32.86 348 ⇑P P 03 44 46.1 +0.4
baz=33
G22A Birney 32.93 342 ⇑P P 03 44 47.2 +0.8
baz=33
REDW Red Top Meadow 32.97 335 *e*P P 03 44 47.5 +0.6
comp=Z,20nm,0.9s
F24A Ekalaka 32.98 344 ⇑P P 03 44 47.3 +0.5
baz=33
SNOW Snow King Moun 33.01 335 *e*P P 03 44 48.6 +1.3
comp=Z,20nm,0.8s
ELK Elko 33.01 327 P P 03 44 50.4 +3.0
comp=Z,5.1nm,0.7s,baz=168,slow=4.4,SNR=22
ELK PcP PcP 03 47 32.7 +2.7
comp=Z,3.7nm,1.0s,baz=281,slow=1.2,SNR=4.9
ELK pPcP 03 47 48.0
comp=Z,1.2nm,0.3s,baz=169,slow=3.2,SNR=6.0
ELK Elko 33.01 327 *e*P P 03 44 49.6 +2.2
ELK *e* 03 47 32.5
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 33.01 327 *e*P P 03 44 49.6 +2.2
comp=Z,6.2nm,0.8s
ELK *e*PcP PcP 03 47 32.5 +2.4
LOHW Long Hollow 33.07 335 *e*P P 03 44 48.0 +0.2
comp=Z,5.8nm,0.8s
E26A Carlson Angus 33.09 347 ⇓P P 03 44 48.2 +0.4
baz=33
TPAW Teton Pass 33.11 335 *e*P P 03 44 48.0 -0.2
comp=Z,16nm,1.1s
F23A Volborg 33.13 343 ⇓P P 03 44 48.4 +0.3
baz=33
NV01 Mina Array Sit 33.20 321 *e*P P 03 44 51.9 +3.0
NV01 *ep*P *pP* 03 45 06.0 +1.7
NV01 *e*PcP PcP 03 47 32.9 +2.3
NV01 *e*ScP ScP 03 51 16.2 +6.4
NVAR Mina Array Bea 33.20 321 P P 03 44 51.9 +2.9
comp=Z,3.0nm,0.6s,baz=137,slow=8.4,SNR=15
NVAR pP *pP* 03 45 06.0 +1.7
comp=Z,10nm,0.8s,baz=132,slow=8.5,SNR=13
NVAR PcP PcP 03 47 32.9 +2.3
comp=Z,4.1nm,0.7s,baz=134,slow=3.0,SNR=8.4
NVAR pPcP 03 47 50.3
comp=Z,4.3nm,0.7s,baz=136,slow=3.5,SNR=8.7
NVAR ScP ScP 03 51 16.2 +6.4
comp=Z,1.1nm,0.7s,baz=129,slow=5.3,SNR=6.7
FXWY Fox Creek 33.27 335 *e*P P 03 44 50.3 +0.8
comp=Z,4.1nm,0.9s
I17A Pilgrim Ck. 33.32 336 ⇑P P 03 44 52.1 +2.1
baz=33
E25A Miller Ranch, 33.33 346 ⇑P P 03 44 50.2 +0.3
baz=33
H19A Powell 33.35 338 ⇓P P 03 44 51.8 +1.8
baz=33
IMW Indian Meadow 33.45 335 *e*P P 03 44 51.6 +0.5
comp=Z,3.7nm,0.8s
G20A Bridger 33.55 339 ⇑P P 03 44 52.7 +0.9
baz=34
H18A Shoshone NF, C 33.60 337 ⇑P P 03 44 53.2 +0.8
baz=34,SNR=13
E24A Baker 33.61 345 ⇓P P 03 44 53.0 +0.7
baz=34
D26A Manning 33.62 347 ⇑P P 03 44 52.6 +0.3
baz=34
LONY Lake Ozonia 33.65 23 *e*P P 03 44 50.8 -1.8
comp=Z,15nm,1.1s
E23A Ismay 33.81 344 ⇓P P 03 44 55.0 +1.1
baz=34
RLMT Red Lodge 33.84 338 *e*P P 03 44 54.7 +0.3
comp=Z,86nm,2.9s
YFT Old Faithful 33.86 336 *e*P P 03 44 55.8 +1.1
comp=Z,10nm,1.0s
AGMN Agassiz Nation 33.92 356 ⇑P P 03 44 55.0 +0.1
baz=34
AGMN Agassiz Nation 33.92 356 *e*P P 03 44 54.0 -0.9
comp=Z,7.1nm,1.0s
D25A Fairfield 33.92 346 ⇑P P 03 44 55.5 +0.6
baz=34
E22A Miles City 33.94 343 ⇓P P 03 44 55.4 +0.3
baz=34,SNR=6.1
C27A Sayler Ranch, 34.08 349 ⇑P P 03 44 55.9 -0.4
baz=34
D24A Glendive 34.13 345 ⇓P P 03 44 56.7 0.0
baz=34,SNR=5.6
CMB Columbia Colle 34.26 319 *e*P P 03 44 59.9 +1.9
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 34.26 319 *e*P P 03 44 59.9 +1.9
comp=Z,6.1nm,1.0s
C26A Wahner Farm, P 34.30 348 ⇑P P 03 44 58.0 -0.2
baz=34
F19A Roth Farm, Mol 34.36 339 ⇑P P 03 44 59.5 +0.7
baz=34
E21A Keefer Ranch, 34.36 342 ⇓P P 03 44 59.1 +0.4
baz=34
B28A Dugan Ranch, T 34.59 350 ⇑P P 03 45 01.2 +0.5
baz=35
D22A Cohagen 34.65 343 ⇓P P 03 45 01.3 +0.1
baz=35,SNR=20
E20A Meyer Farm, Mu 34.66 341 ⇑P P 03 45 02.1 +0.7
baz=35
HLID Hailey 34.70 331 ⇓P P 03 45 03.0 +1.1
baz=35,SNR=17
HLID Hailey 34.70 331 *e*P P 03 45 03.2 +1.4
comp=Z,8.4nm,0.8s
D21A La Casta Ranch 34.81 342 ⇓P P 03 45 03.4 +0.8
baz=35
E19A Rath Farm, Rou 34.83 340 ⇑P P 03 45 03.5 +0.6
baz=35
A29A Manning Farm, 34.89 352 ⇑P P 03 45 03.0 -0.2
baz=35
C23A Lambert 34.98 345 ⇑P P 03 45 04.1 0.0
baz=35
MCMT McKenzie Canyo 35.00 334 *e*P P 03 45 06.4 +1.9
A28A Rude Farm, Bot 35.03 351 ⇓P P 03 45 04.5 0.0
baz=35
C22A Vida 35.11 344 ⇓P P 03 45 05.4 +0.2
baz=35,SNR=7.4
BOZ Bozeman (W) 35.17 336 *e*P P 03 45 06.1 +0.2
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 35.17 336 *e*P P 03 45 06.1 +0.2
comp=Z,4.2nm,1.0s
D20A Manuel Ranch, 35.18 341 ⇓P P 03 45 07.0 +1.2
baz=35
MFID Camas Ranch 35.26 330 *e*P P 03 45 07.1 +0.4
comp=Z,14nm,1.1s
A26A Wade Farm, Ken 35.32 349 ⇑P P 03 45 06.3 -0.6
baz=35,SNR=9.1
PTGA Pitinga 35.32 113 P P 03 45 06.4 -1.0
comp=Z,11nm,0.8s,baz=299,slow=9.7,SNR=17
PTGA pP *pP* 03 45 21.6 -1.2
comp=Z,14nm,0.8s,baz=308,slow=7.8,SNR=11
PTGA Pitinga 35.32 113 *e*P P 03 45 05.8 -1.6
PTGA *ep*P *pP* 03 45 21.6 -1.2
DLMT Dillon 35.32 335 *e*P P 03 45 08.8 +1.6
comp=Z,14nm,1.3s
DGMT Dagmar 35.37 346 ⇑P P 03 45 07.8 +0.5
baz=35
DGMT Dagmar 35.37 346 *e*P P 03 45 06.9 -0.4
comp=Z,19nm,1.3s
D19A Cripps Ranch, 35.48 340 ⇓P P 03 45 09.3 +0.8
baz=36
C21A Desert Coulee 35.52 343 ⇓P P 03 45 09.4 +0.7
baz=36
B23A Brockton 35.55 345 ⇓P P 03 45 09.4 +0.5
baz=36
LRM Limekiln Ridge 35.64 336 *e*P P 03 45 11.5 +1.4
C20A Veseth Ranch, 35.69 342 ⇑P P 03 45 11.4 +1.2
baz=36,SNR=7.3
A24A Westby 35.75 347 ⇓P P 03 45 11.4 +0.8
baz=36
ULM Lac du Bonnet 35.86 356 P P 03 45 08.6 -3.0
comp=Z,1.5nm,0.5s,baz=185,slow=12,SNR=3.9
ULM pP *pP* 03 45 26.0 -0.9
comp=Z,5.1nm,0.8s,baz=191,slow=8.7,SNR=6.5
ULM PcP PcP 03 47 38.0 +0.3
comp=Z,6.5nm,0.8s,baz=170,slow=3.9,SNR=4.7
ULM ScP ScP 03 51 19.9 +1.2
comp=Z,5.4nm,1.0s,baz=28,slow=1.0,SNR=5.3
ULM LR LR 04 01 37.0
comp=Z,107nm,20.8s,baz=202,slow=39
ULM Lac du Bonnet 35.86 356 *e*P P 03 45 11.4 -0.1
ULM *e**PP *pP* 03 45 26.0 -0.9
ULM *e* 03 47 38.0
ULM Lac du Bonnet 35.86 356 *e*P P 03 45 11.4 -0.1
ULM *ep*P *pP* 03 45 26.0 -0.9
ULM *e*PcP PcP 03 47 38.0 +0.3
ULM *e*ScP ScP 03 51 19.9 +1.2
WVOR Wild Horse Val 36.02 326 *e*P P 03 45 14.6 +1.5
WVOR pmax pmax
comp=Z,9.0nm,1.0s
WVOR Wild Horse Val 36.02 326 *e*P P 03 45 14.6 +1.5
comp=Z,9.3nm,1.0s
C19A Slack Wire Ran 36.04 341 ⇑P P 03 45 14.9 +1.7
baz=36,SNR=6.7
A22A Carney Farms, 36.27 345 ⇑P P 03 45 16.2 +1.1
baz=36
EGMT Eagleton 36.52 340 ⇓P P 03 45 19.3 +1.9
baz=37
MOD Modoc Plateau 36.59 324 *e*P P 03 45 20.5 +2.4
comp=Z,11nm,1.3s
B19A Brinkman Farms 36.64 341 ⇓P P 03 45 20.2 +1.9
baz=37
A20A Cobblestone Ra 36.71 343 ⇓P P 03 45 20.1 +1.1
baz=37
A19A Klindworth Far 37.00 342 ⇑P P 03 45 22.9 +1.5
baz=37
SAML Samuel 37.02 127 *e*P P 03 45 21.2 -0.6
comp=Z,8.1nm,0.6s
MSO Missoula 37.06 335 ⇓P P 03 45 23.6 +1.7
baz=37
M04C Macdoel 37.41 323 ⇓P P 03 45 27.2 +2.2
baz=38
I07A Izee 37.60 327 *e*P P 03 45 27.9 +1.2
comp=Z,9.7nm,1.0s
I07A *ep*P *pP* 03 45 43.1 +1.0
F10A Beach Ranch, E 37.83 331 *e*P P 03 45 29.8 +1.3
comp=Z,37nm,0.8s
G08A Pilot Rock 38.17 329 *e*P P 03 45 32.7 +1.4
comp=Z,29nm,2.0s
E09A Wood Farm, Sta 38.66 331 *e*P P 03 45 36.0 +0.7
LPAZ La Paz 38.71 141 P P 03 45 37.6 +0.9
comp=Z,3.4nm,0.6s,baz=329,slow=7.9,SNR=24
LPAZ La Paz 38.71 141 *e*P P 03 45 37.0 +0.3
LPAZ pmax pmax
comp=Z,3.0nm,0.6s
LPAZ La Paz 38.71 141 *e*P P 03 45 37.0 +0.3
comp=Z,3.0nm,0.6s
WALA Waterton Lakes 38.86 337 *e*P P 03 45 35.7 -1.5
comp=Z,72nm,2.6s
HAWA Hanford 39.23 330 *e*P P 03 45 40.8 +0.7
comp=Z,54nm,2.3s
H04A Detroit Lake 39.44 326 *e*P P 03 45 42.6 +0.8
H04A *ep*P *pP* 03 45 58.0 +0.6
NEW Newport 39.52 334 P P 03 45 43.2 +0.6
comp=Z,3.2nm,0.8s,baz=159,slow=9.0,SNR=4.7
NEW PcP PcP 03 47 49.6 +0.5
comp=Z,3.2nm,0.8s,baz=64,slow=1.2,SNR=3.9
NEW pPcP 03 48 07.0
comp=Z,3.7nm,0.9s,baz=158,slow=2.6,SNR=4.2
NEW Newport 39.52 334 *e*P P 03 45 42.6 +0.1
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 39.52 334 *e*P P 03 45 42.6 +0.1
comp=Z,6.3nm,1.0s
C09A Chrisman Ranch 39.67 332 *e*P P 03 45 45.1 +1.4
comp=Z,15nm,0.8s
LTY Liberty 40.40 330 *e*P P 03 45 51.4 +1.5
B08A Colville Reser 40.56 332 *e*P P 03 45 52.1 +1.0
D05A Enumclaw 41.00 329 *e*P P 03 45 57.0 +2.3
comp=Z,20nm,0.9s
PIER Pier 30 Seattl 41.44 329 *e*P P 03 46 02.3 +4.0
B06A Marblemount 41.67 331 *e*P P 03 46 01.3 +1.1
comp=Z,25nm,1.0s
EDM Edmonton 42.17 341 *e*P P 03 46 04.0 -0.2
EDM Edmonton 42.17 341 *e*P P 03 46 04.0 -0.2
A05A Maple Falls 42.30 331 *e*P P 03 46 06.3 +1.1
comp=Z,25nm,1.1s
SIV San Ignacio 43.15 133 P P 03 46 13.3 +0.6
comp=Z,3.0nm,0.6s,baz=313,slow=8.9,SNR=11
SIV pP *pP* 03 46 28.3 0.0
comp=Z,5.8nm,0.7s,baz=332,slow=10,SNR=6.8
SIV PcP PcP 03 48 03.3 +1.8
comp=Z,2.4nm,0.6s,baz=331,slow=2.1,SNR=3.2
SIV pPcP 03 48 19.5
comp=Z,7.9nm,0.7s,baz=286,slow=1.8,SNR=7.7
SIV LR LR 04 03 44.1
comp=Z,108nm,18.6s,baz=306,slow=36
LVC Limon Verde 43.32 148 P P 03 46 15.6 +1.4
comp=Z,21nm,0.8s,baz=290,slow=6.1,SNR=6.6
SCHQ Schefferville 44.92 21 P P 03 46 24.2 -2.1
comp=Z,9.4nm,1.0s,baz=213,slow=6.1,SNR=7.5
SCHQ pP *pP* 03 46 40.3 -1.9
comp=Z,6.9nm,0.9s,baz=200,slow=5.3,SNR=4.7
SCHQ LR LR 04 06 31.0
comp=Z,193nm,19.9s,baz=224,slow=38
SCHQ Schefferville 44.92 21 *e*P P 03 46 24.1 -2.2
comp=Z,153nm,2.5s
SCHQ *ep*P *pP* 03 46 40.6 -1.6
YKA Yellowknife Ar 50.57 347 P P 03 47 09.5 -0.3
comp=Z,4.6nm,0.5s,baz=148,slow=8.1,SNR=17
YKA pP *pP* 03 47 24.3 -1.6
comp=Z,3.0nm,0.6s,baz=153,slow=7.2,SNR=6.3
YKA PcP PcP 03 48 27.2 +0.4
comp=Z,2.1nm,0.8s,baz=151,slow=3.5,SNR=5.2
YKA pPcP 03 48 44.8
comp=Z,5.2nm,0.8s,baz=149,slow=3.8,SNR=13
YKA ScP ScP 03 52 18.1 +0.4
comp=Z,2.1nm,0.9s,baz=142,slow=3.8,SNR=11
YKB5 Yellowknife Ar 50.57 347 *e*P P 03 47 09.6 -0.3
YKB5 *ep*P *pP* 03 47 24.3 -1.6
YKB5 *e*PcP PcP 03 48 27.2 +0.4
YKB5 *e*ScP ScP 03 52 18.1 +0.4
CFAA Coronel Fontan 51.23 154 P P 03 47 16.6 +1.2
comp=Z,0.5nm,0.6s,baz=329,slow=7.2,SNR=8.9
CFAA pP *pP* 03 47 33.6 +2.2
comp=Z,1.3nm,0.8s,baz=337,slow=6.2,SNR=8.2
DLBC Dease Lake 52.18 336 P P 03 47 24.6 +2.5
comp=Z,20nm,1.0s,baz=135,slow=5.9,SNR=29
DLBC pPcP 03 48 52.4
comp=Z,7.4nm,0.9s,baz=150,slow=2.9,SNR=4.1
DLBC Dease Lake 52.18 336 *e*P P 03 47 24.3 +2.2
TAOE Nuku Hiva Isla 52.83 247 *e*T T 04 44 05.6
comp=Z,203nm,0.3s
CPUP Villa Florida 52.85 140 P P 03 47 27.4 0.0
comp=Z,1.0nm,1.0s,baz=272,slow=5.8,SNR=3.5
CPUP pP *pP* 03 47 43.8 +0.3
comp=Z,1.7nm,1.0s,baz=324,slow=9.6,SNR=4.9
CPUP pPcP 03 48 54.4
comp=Z,0.2nm,0.5s,baz=316,slow=5.4,SNR=5.4
BDFB Brasilia 52.95 123 P P 03 47 28.2 -0.2
comp=Z,10.0nm,1.0s,baz=283,slow=11,SNR=12
BDFB pP *pP* 03 47 44.5 -0.1
comp=Z,9.4nm,0.7s,baz=297,slow=4.6,SNR=7.9
RKT Rikitea 56.03 229 *e*LR LR 04 04 13.2
comp=Z,320nm,26.8s,baz=47
RKT Rikitea 56.03 229 *e*T T 04 48 00.3
comp=Z,6.3nm,0.3s
PLCA Paso Flores 58.44 161 P P 03 48 09.1 +1.8
comp=Z,6.4nm,1.0s,baz=323,slow=6.5,SNR=11
PLCA pP *pP* 03 48 25.9 +2.2
comp=Z,4.2nm,1.0s,baz=0.0,slow=8.1,SNR=3.6
PLCA Paso Flores 58.44 161 *e*P P 03 48 08.7 +1.4
PLCA pmax pmax
comp=Z,15nm,1.2s
PLCA Paso Flores 58.44 161 *e*P P 03 48 08.7 +1.4
comp=Z,15nm,1.2s
DAWY Dawson 59.21 338 *e*P P 03 48 12.7 +0.4
RCBR Riachuelo 59.39 106 P P 03 48 13.2 -1.2
comp=Z,16nm,0.8s,baz=287,slow=5.1,SNR=7.9
RCBR pP *pP* 03 48 29.8 -1.0
comp=Z,9.3nm,0.9s,baz=280,slow=5.2,SNR=2.0
INK Inuvik 59.98 344 P P 03 48 18.1 +0.7
comp=Z,11nm,0.8s,baz=123,slow=7.4,SNR=34
INK pP *pP* 03 48 33.9 +0.1
comp=Z,3.8nm,0.6s,baz=118,slow=6.7,SNR=3.2
INK Inuvik 59.98 344 *e*P P 03 48 18.2 +0.7
INK *e**PP *pP* 03 48 34.3 +0.5
INK pmax pmax
comp=Z,14nm,0.9s
INK Inuvik 59.98 344 *e*P P 03 48 18.2 +0.7
comp=Z,14nm,0.9s
INK *ep*P *pP* 03 48 34.3 +0.5
RES Resolute Bay 60.29 359 *e*P P 03 48 17.9 -1.6
RES pmax pmax
comp=Z,67nm,2.8s
RES Resolute Bay 60.29 359 *e*P P 03 48 17.9 -1.6
comp=Z,67nm,2.8s
DOT Dot Lake 60.75 336 *e*P P 03 48 24.2 +1.4
comp=Z,15nm,0.9s
DOT *ep*P *pP* 03 48 40.5 +1.1
KDAK Kodiak Island 62.24 328 *ce*P P 03 48 35.8 +2.9
PMOR Pomariorio Ree 62.30 244 *e*T T 04 55 56.2
comp=Z,3.5nm,0.3s
ILAR Eielson Array 62.37 337 P P 03 48 34.6 +0.9
comp=Z,15nm,1.0s,baz=125,slow=4.9,SNR=84
ILAR pP *pP* 03 48 51.6 +1.4
comp=Z,6.4nm,1.1s,baz=122,slow=4.7,SNR=5.3
ILAR LR LR 04 20 13.3
comp=Z,80nm,18.1s,baz=136,slow=40
ILB Eielson Array 62.37 337 *e*P P 03 48 34.6 +0.9
ILB *ep*P *pP* 03 48 51.6 +1.4
MCK McKinley 62.72 335 *e*P P 03 48 37.3 +1.2
MCK *e**PP *pP* 03 48 54.5 +1.8
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 62.72 335 *e*P P 03 48 37.3 +1.2
comp=Z,10nm,0.9s
MCK *ep*P *pP* 03 48 54.5 +1.8
COLA College 62.78 337 *e*P P 03 48 36.7 +0.3
COLA pmax pmax
comp=Z,31nm,0.9s
COLA College 62.78 337 *e*P P 03 48 36.7 +0.3
comp=Z,31nm,0.9s
TRF Thorofare Moun 63.16 335 *e*P P 03 48 40.5 +1.2
comp=Z,42nm,1.2s
RSO Redoubt South 63.18 331 *e*P P 03 48 40.6 +1.2
KTH Kantishna Hill 63.47 335 *e*P P 03 48 41.4 +0.3
comp=Z,15nm,1.0s
KTH *ep*P *pP* 03 48 57.9 +0.2
PPLA Purkeypile 63.76 334 *e*P P 03 48 43.8 +0.6
comp=Z,35nm,1.3s
PPLA *ep*P *pP* 03 49 00.8 +1.1
CAST Castle Rocks 63.90 334 *e*P P 03 48 44.5 +0.6
comp=Z,8.6nm,0.8s
CAST *ep*P *pP* 03 49 01.7 +1.2
COLD Coldfoot 64.66 339 *e*P P 03 48 50.5 +1.8
comp=Z,15nm,1.1s
COLD *ep*P *pP* 03 49 07.1 +1.7
PPT Papeete 64.86 242 LR LR 04 09 33.5
comp=Z,150nm,21.1s,baz=92,slow=29
PPT2 Papeete2 64.87 242 *e*LR LR 04 08 06.2
comp=Z,257nm,27.8s
IM04 Indian Mountai 65.50 337 *e*P P 03 48 54.4 +0.2
SUMG Summit 65.91 15 *i* P pP 03 49 14.8 +0.9
SUMG Summit 65.91 15 *i* P pP 03 49 14.8 +0.9
comp=Z,3.3nm,0.8s
TBI Tubuai 67.36 237 *e*LR LR 04 09 29.4
comp=Z,235nm,29.0s
DAG Danmarks Havn 72.32 13 *i* P P 03 49 33.5 -2.9
DAG Danmarks Havn 72.32 13 *i* P P 03 49 33.5 -2.9
EVOP Sao Brissos 76.64 53 *e*P P 03 49 59.6 -2.6
EVOP Sao Brissos 76.64 53 *e*P P 03 49 59.6 -2.6
EVO Evora 76.72 53 *e*P P 03 49 59.6 -3.1
comp=Z,11nm,1.0s
EVO *e*R
comp=Z,54nm,18.8s
ESDC Sonseca Array 79.66 52 P P 03 50 16.6 -2.3
comp=Z,2.3nm,0.8s,baz=293,slow=5.7,SNR=16
ESDC pP *pP* 03 50 32.2 -3.9
comp=Z,1.5nm,0.9s,baz=287,slow=4.9,SNR=3.7
GRR Gorron 80.29 43 *e*P P 03 50 19.5 -2.6
comp=Z,30nm,1.1s
GRR Gorron 80.29 43 *e*P P 03 50 19.5 -2.6
GRR Gorron 80.29 43 *e*P P 03 50 19.5 -2.6
FLN La Foliniere 80.47 42 *e*P P 03 50 20.7 -2.3
comp=Z,10.0nm,0.8s
FLN *e*R
comp=Z,104nm,22.0s
FLN La Foliniere 80.47 42 *e*P P 03 50 20.7 -2.3
FLN La Foliniere 80.47 42 *e*P P 03 50 20.7 -2.3
LDF La Druitiere 80.73 42 *e*P P 03 50 22.0 -2.5
comp=Z,48nm,1.3s
LDF La Druitiere 80.73 42 *e*P P 03 50 22.0 -2.5
LDF La Druitiere 80.73 42 *e*P P 03 50 22.0 -2.5
BILL Bilibino 80.99 338 *c* /P P 03 50 26.4 +1.0
BILL *i* *PP *pP* 03 50 43.4 +0.8
BILL pmax pmax
comp=Z,32nm,1.2s
BILL Bilibino 80.99 338 *e*P P 03 50 26.3 +0.9
BILL *ep*P *pP* 03 50 43.8 +1.2
SJPF Ste Jean 81.04 48 *e*P P 03 50 23.9 -2.4
comp=Z,15nm,1.1s
SJPF Ste Jean 81.04 48 *e*P P 03 50 23.9 -2.4
SJPF Ste Jean 81.04 48 *e*P P 03 50 23.9 -2.4
MFF Saint Martin d 81.11 44 *e*P P 03 50 23.7 -2.8
comp=Z,9.1nm,0.9s
MFF Saint Martin d 81.11 44 *e*P P 03 50 23.7 -2.8
MFF Saint Martin d 81.11 44 *e*P P 03 50 23.7 -2.8
ETSF Etsaut 81.56 48 *e*P P 03 50 26.9 -2.2
comp=Z,21nm,1.4s
ETSF Etsaut 81.56 48 *e*P P 03 50 26.9 -2.2
ETSF Etsaut 81.56 48 *e*P P 03 50 26.9 -2.2
LFF La Frestale 82.06 46 *e*P P 03 50 29.1 -2.5
comp=Z,25nm,1.2s
LFF La Frestale 82.06 46 *e*P P 03 50 29.1 -2.5
LFF La Frestale 82.06 46 *e*P P 03 50 29.1 -2.5
EPF Esparros 82.18 48 *e*P P 03 50 30.1 -2.2
comp=Z,16nm,1.3s
EPF Esparros 82.18 48 *e*P P 03 50 30.1 -2.2
EPF Esparros 82.18 48 *e*P P 03 50 30.1 -2.2
TCF Toulx Ste Croi 82.77 44 *e*P P 03 50 32.4 -2.9
comp=Z,7.5nm,0.9s
TCF Toulx Ste Croi 82.77 44 *e*P P 03 50 32.4 -2.9
TCF Toulx Ste Croi 82.77 44 *e*P P 03 50 32.4 -2.9
HYF Humbligny 82.83 43 *e*P P 03 50 33.4 -2.2
HYF Humbligny 82.83 43 *e*P P 03 50 33.4 -2.2
CAF Calviac 82.98 46 *e*P P 03 50 33.8 -2.6
CAF Calviac 82.98 46 *e*P P 03 50 33.8 -2.6
CAF Calviac 82.98 46 *e*P P 03 50 33.8 -2.6
BGF Bois d'Agland 83.13 44 *e*P P 03 50 34.5 -2.6
comp=Z,11nm,1.0s
BGF Bois d'Agland 83.13 44 *e*P P 03 50 34.5 -2.6
BGF Bois d'Agland 83.13 44 *e*P P 03 50 34.5 -2.6
AVF Avril sur Loir 83.42 44 *e*P P 03 50 36.5 -2.1
comp=Z,4.9nm,0.9s
AVF Avril sur Loir 83.42 44 *e*P P 03 50 36.5 -2.1
AVF Avril sur Loir 83.42 44 *e*P P 03 50 36.5 -2.1
MTLF Montolieu 83.45 47 *e*P P 03 50 36.5 -2.4
comp=Z,11nm,1.1s
MTLF Montolieu 83.45 47 *e*P P 03 50 36.5 -2.4
MTLF Montolieu 83.45 47 *e*P P 03 50 36.5 -2.4
SSF Saint Saulge 83.45 43 *e*P P 03 50 35.9 -2.9
comp=Z,16nm,1.2s
SSF Saint Saulge 83.45 43 *e*P P 03 50 35.9 -2.9
SSF Saint Saulge 83.45 43 *e*P P 03 50 35.9 -2.9
GIVF Givet 83.55 40 *e*P P 03 50 36.9 -2.3
GIVF Givet 83.55 40 *e*P P 03 50 36.9 -2.3
GIVF Givet 83.55 40 *e*P P 03 50 36.9 -2.3
LOR Lormes 83.64 43 *e*P P 03 50 37.2 -2.5
comp=Z,30nm,1.2s
LOR *e*R
comp=Z,96nm,22.5s
LOR Lormes 83.64 43 *e*P P 03 50 37.2 -2.5
LOR Lormes 83.64 43 *e*P P 03 50 37.2 -2.5
SMF Signal de Mont 83.78 44 *e*P P 03 50 38.3 -2.2
comp=Z,22nm,1.2s
SMF Signal de Mont 83.78 44 *e*P P 03 50 38.3 -2.2
SMF Signal de Mont 83.78 44 *e*P P 03 50 38.3 -2.2
NB2 NORSAR Subarra 83.90 28 P P 03 50 39.5 -1.3
comp=Z,2.0nm,0.8s,baz=290,slow=5.3
NB200 NORSAR Array S 83.90 28 *e*P P 03 50 39.3 -1.6
NOA NORSAR Array B 83.90 28 P P 03 50 39.3 -1.6
comp=Z,1.2nm,0.8s,baz=291,slow=5.1,SNR=4.3
NOA LR LR 04 27 38.7
comp=Z,9.3nm,21.5s,baz=280,slow=36
MEZF Maizieres J'vi 84.10 42 *e*P P 03 50 40.0 -2.0
comp=Z,24nm,1.0s
MEZF Maizieres J'vi 84.10 42 *e*P P 03 50 40.0 -2.0
SFTF Sexfontaines 84.17 42 *e*P P 03 50 40.1 -2.3
comp=Z,30nm,1.2s
SFTF Sexfontaines 84.17 42 *e*P P 03 50 40.1 -2.3
LASF Ste Croix 84.43 46 *e*P P 03 50 41.0 -2.8
comp=Z,22nm,1.3s
LASF Ste Croix 84.43 46 *e*P P 03 50 41.0 -2.8

PAGF	**Fort de Pagny**	**84.52**	**41**	*eP*		**P**	**03 50 41.3**	**-2.9**
PAGF	**Fort de Pagny**	**84.52**	**41**	*eP*		**P**	**03 50 41.3**	**-2.9**
VIVF	**Saint-Julien-l**	**84.79**	**45**	*eP*		**P**	**03 50 43.1**	**-2.6**
	comp=Z,16nm,1.1s							
VIVF	**Saint-Julien-l**	**84.79**	**45**	*eP*		**P**	**03 50 43.1**	**-2.6**
VIVF	**Saint-Julien-l**	**84.79**	**45**	*eP*		**P**	**03 50 43.1**	**-2.6**
HAU	**Haudompre**	**85.07**	**42**	*eP*		**P**	**03 50 44.6**	**-2.4**
HAU				*eR*				
	comp=Z,43nm,19.8s							
HAU	**Haudompre**	**85.07**	**42**	*eP*		**P**	**03 50 44.6**	**-2.4**
HAU	**Haudompre**	**85.07**	**42**	*eP*		**P**	**03 50 44.6**	**-2.4**
HINF	**Hinteralfeld**	**85.45**	**42**	*eP*		**P**	**03 50 46.5**	**-2.4**
	comp=Z,3.7nm,0.6s							
HINF	**Hinteralfeld**	**85.45**	**42**	*eP*		**P**	**03 50 46.5**	**-2.4**
HINF	**Hinteralfeld**	**85.45**	**42**	*eP*		**P**	**03 50 46.5**	**-2.4**
CDF	**Champ du Feu**	**85.55**	**41**	*eP*		**P**	**03 50 47.1**	**-2.4**
	comp=Z,14nm,1.1s							
CDF	**Champ du Feu**	**85.55**	**41**	*eP*		**P**	**03 50 47.1**	**-2.4**
CDF	**Champ du Feu**	**85.55**	**41**	*eP*		**P**	**03 50 47.1**	**-2.4**
ORIF	**Oris-en-Rattie**	**85.61**	**45**	*eP*		**P**	**03 50 47.2**	**-2.6**
ORIF				*eR*				
	comp=Z,38nm,18.8s							
ORIF	**Oris-en-Rattie**	**85.61**	**45**	*eP*		**P**	**03 50 47.2**	**-2.6**
ORIF	**Oris-en-Rattie**	**85.61**	**45**	*eP*		**P**	**03 50 47.2**	**-2.6**
SMRF	**Simiane la Rot**	**85.65**	**46**	*eP*		**P**	**03 50 47.5**	**-2.5**
	comp=Z,15nm,1.2s							
SMRF	**Simiane la Rot**	**85.65**	**46**	*eP*		**P**	**03 50 47.5**	**-2.5**
ARA0	**ARCESS Array S**	**85.83**	**18**	*eP*		**P**	**03 50 49.1**	**-1.2**
ARA0				*epP*		**pP**	**03 51 06.0**	**-1.6**
ARCES	**ARCESS Array B**	**85.83**	**18**	P		**P**	**03 50 49.1**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=336,slow=2.7,SNR=9.7							
ARCES				pP		**pP**	**03 51 06.0**	**-1.6**
	comp=Z,2.1nm,0.7s,baz=317,slow=5.1,SNR=1.9							
ARCES				LR		LR	04 28 39.3	
	comp=Z,94nm,21.9s,baz=312,slow=35							
DBIC	**Dimbokro**	**85.86**	**84**	LR		LR	04 23 40.2	
	comp=Z,30nm,21.3s,baz=242,slow=32							
LPL	**La Plagne**	**86.02**	**44**	*eP*		**P**	**03 50 49.6**	**-2.4**
	comp=Z,9.0nm,1.0s							
LPL	**La Plagne**	**86.02**	**44**	*eP*		**P**	**03 50 49.6**	**-2.4**
LPL	**La Plagne**	**86.02**	**44**	*eP*		**P**	**03 50 49.6**	**-2.4**
LPG	**La Plagne**	**86.04**	**44**	*eP*		**P**	**03 50 49.7**	**-2.5**
	comp=Z,21nm,1.4s							
LPG	**La Plagne**	**86.04**	**44**	*eP*		**P**	**03 50 49.7**	**-2.5**
LPG	**La Plagne**	**86.04**	**44**	*eP*		**P**	**03 50 49.7**	**-2.5**
SENIN	**Lac Senin/Sane**	**86.16**	**43**	*eP*		**P**	**03 50 50.6**	**-2.1**
BFO	**Black Forest**	**86.25**	**41**	*ceP*		**P**	**03 50 51.7**	**-1.1**
MBDF	**Montbardon**	**86.27**	**45**	*eP*		**P**	**03 50 51.3**	**-1.9**
	comp=Z,12nm,1.1s							
MBDF	**Montbardon**	**86.27**	**45**	*eP*		**P**	**03 50 51.3**	**-1.9**
MBDF	**Montbardon**	**86.27**	**45**	*eP*		**P**	**03 50 51.3**	**-1.9**
LMR	**La Mourre**	**86.48**	**46**	*eP*		**P**	**03 50 51.9**	**-2.1**
	comp=Z,34nm,1.2s							
LMR	**La Mourre**	**86.48**	**46**	*eP*		**P**	**03 50 51.9**	**-2.1**
LMR	**La Mourre**	**86.48**	**46**	*eP*		**P**	**03 50 51.9**	**-2.1**
FRF	**La Foret Royal**	**86.51**	**46**	*eP*		**P**	**03 50 52.0**	**-2.2**
	comp=Z,25nm,1.1s							
FRF	**La Foret Royal**	**86.51**	**46**	*eP*		**P**	**03 50 52.0**	**-2.2**
FRF	**La Foret Royal**	**86.51**	**46**	*eP*		**P**	**03 50 52.0**	**-2.2**
SBF	**Sospel**	**86.97**	**46**	*eP*		**P**	**03 50 54.4**	**-2.1**
SBF	**Sospel**	**86.97**	**46**	*eP*		**P**	**03 50 54.4**	**-2.1**
SBF	**Sospel**	**86.97**	**46**	*eP*		**P**	**03 50 54.4**	**-2.1**
DAVA	**Damuels**	**87.56**	**42**	*i*↑*P*		**P**	**03 50 57.9**	**-1.5**
	comp=Z,5.4nm,0.9s							
GRF	**Grafenberg Arr**	**87.63**	**39**	*eP*		**P**	**03 50 57.4**	**-2.1**
	comp=Z,6.0nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**88.03**	**42**	*eP*		**P**	**03 51 00.6**	**-1.2**
	comp=Z,6.0nm,1.0s							
RETA	**Reutte**	**88.07**	**41**	*i*↓*P*		**P**	**03 51 00.0**	**-1.7**
	comp=Z,6.0nm,1.2s							
FETA	**Feichten**	**88.20**	**42**	*i*↓*P*		**P**	**03 51 01.1**	**-1.3**
	comp=Z,3.6nm,1.2s							
SEY	**Seymchan**	**88.28**	**336**	P		**P**	**03 51 02.5**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=68,slow=8.0,SNR=9.5							
SEY				pP		**pP**	**03 51 20.9**	**+1.3**
	comp=Z,6.8nm,0.8s,baz=88,slow=5.3,SNR=8.7							
PGF	**Pioggiola**	**88.46**	**46**	*eP*		**P**	**03 51 01.5**	**-2.2**
	comp=Z,18nm,0.7s							
PGF	**Pioggiola**	**88.46**	**46**	*eP*		**P**	**03 51 01.5**	**-2.2**
PGF	**Pioggiola**	**88.46**	**46**	*eP*		**P**	**03 51 01.5**	**-2.2**
GEC2	**GERESS Array S**	**89.44**	**39**	*eP*		**P**	**03 51 06.4**	**-1.8**
GEC2	**GERESS Array S**	**89.44**	**39**	*eP*		**P**	**03 51 06.4**	**-1.8**
GERES	**GERESS Array B**	**89.44**	**39**	P		**P**	**03 51 06.4**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=344,slow=1.9,SNR=6.8							
GERES				LR		LR	04 29 28.6	
	comp=Z,53nm,20.4s,baz=268,slow=35							
TIXI	**Tiksi**	**89.81**	**348**	*ceP*		**P**	**03 51 09.2**	**0.0**
TIXI				*i* *PP		**pP**	**03 51 26.6**	**0.0**
TIXI				pmax		pmax		
	comp=Z,8.0nm,1.2s							
TIXI	**Tiksi**	**89.81**	**348**	*eP*		**P**	**03 51 08.7**	**-0.5**
TIXI				*epP*		**pP**	**03 51 26.3**	**-0.3**
PEA2	**Petropavlovsk-**	**90.16**	**326**	*eP*		**P**	**03 51 13.0**	**+1.7**
PEA2				*epP*		**pP**	**03 51 29.2**	**+0.5**
PETK	**Petropavlovsk-**	**90.17**	**326**	P		**P**	**03 51 13.0**	**+1.7**
	comp=Z,4.3nm,1.0s,baz=99,slow=7.7,SNR=5.3							
PETK				pP		**pP**	**03 51 29.2**	**+0.5**
	comp=Z,6.5nm,0.9s,baz=96,slow=9.1,SNR=8.0							
FIA0	**FINESS Array S**	**90.23**	**25**	*eP*		**P**	**03 51 10.0**	**-1.4**
FIA0	**FINESS Array S**	**90.23**	**25**	*eP*		**P**	**03 51 10.0**	**-1.4**
FINES	**FINESS Array B**	**90.23**	**25**	P		**P**	**03 51 10.0**	**-1.4**
	comp=Z,3.9nm,1.1s,baz=316,slow=5.3,SNR=5.9							
FINES				LR		LR	04 30 57.3	
	comp=Z,41nm,20.1s,baz=278,slow=35							
DPC	**Dobruska-Polom**	**90.45**	**37**	*eP*		**P**	**03 51 11.7**	**-1.1**
DPC	**Dobruska-Polom**	**90.45**	**37**	*eP*		**P**	**03 51 11.7**	**-1.1**
TOA0	**Torodi Ar. Sit**	**90.52**	**76**	*eP*		**P**	**03 51 11.0**	**-2.7**
TOA0				*epP*		**pP**	**03 51 28.8**	**-2.3**
TORD	**Torodi Ar. Bea**	**90.52**	**76**	P		**P**	**03 51 11.0**	**-2.7**
	comp=Z,0.2nm,0.5s,baz=294,slow=6.1,SNR=6.3							
TORD				pP		**pP**	**03 51 28.8**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=297,slow=5.2,SNR=3.1							
KEST	**Kesra**	**90.84**	**53**	P		**P**	**03 51 13.7**	**-1.3**
	comp=Z,1.4nm,1.0s,baz=357,slow=2.0,SNR=4.6							
KEST	**Kesra**	**90.84**	**53**	*eP*		**P**	**03 51 13.3**	**-1.6**
CONA	**Conrad Observa**	**91.12**	**40**	*i*↑*PcP*		**P**	**03 51 15.4**	**-0.6**
	comp=Z,3.1nm,0.7s							
VYHS	**Vyhne**	**92.71**	**38**	*eP*		**P**	**03 51 21.6**	**-1.6**
VYHS	**Vyhne**	**92.71**	**38**	*eP*		**P**	**03 51 21.6**	**-1.6**
AKASG	**Malin Array Be**	**97.52**	**33**	LR		LR	04 37 17.2	
	comp=Z,18nm,18.2s,baz=20,slow=36							
OBN	**Obninsk**	**98.43**	**27**	*i* P		**P**	**03 51 48.3**	**-0.7**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,30nm,19.0s							
KURK	**Kurchatov**	**114.66**	**6**	*e*PKIKP		PKPdf	03 56 51.6	+0.4
KURK	**Kurchatov**	**114.66**	**6**	*e*PKiKP		PKPdf	03 56 51.6	+0.5
KURBB	**Kurchatov Arra**	**114.74**	**6**	PKP		PKPdf	03 56 51.6	+0.3
	comp=Z,0.8nm,0.5s,baz=346,slow=1.8,SNR=14							
KURBB				pPKP		pPKiKP	03 57 09.5	+0.1
	comp=Z,0.6nm,0.5s,baz=356,slow=2.0,SNR=4.2							
ULN	**Ulaanbaatar**	**115.65**	**346**	*i* PKIKP		**PKPdf**	**03 56 54.3**	**+0.9**
ULN				pmax		pmax		
	comp=Z,3.0nm,2.5s							
SONA0	**Songino Array**	**115.83**	**346**	*e*PKPdf		**PKPdf**	**03 56 54.5**	**+0.8**
SONA0				*epPKPdf*		**pPKiKP**	**03 57 12.1**	**+0.3**
SONM	**Songino Array**	**115.83**	**346**	PKP		**PKPdf**	**03 56 54.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=11,slow=2.1,SNR=4.2							
SONM				pPKP		**pPKiKP**	**03 57 12.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=347,slow=2.5,SNR=4.4							
KSRS	**Korea Array**	**116.06**	**325**	PKP		**PKPdf**	**03 56 56.3**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=20,slow=2.5,SNR=4.8							
KSRS				pPKP		pPKPdf	03 57 13.1	+0.8
	comp=Z,2.0nm,0.7s,baz=19,slow=1.7,SNR=4.7							
KS15	**Wonju Array Si**	**116.09**	**325**	*e*PKPdf		**PKPdf**	**03 56 56.3**	**+2.0**
KS15				*epPKPdf*		pPKPdf	03 57 13.1	+0.7
MK32	**Makanchi Array**	**118.88**	**4**	*e*PKPdf		**PKPdf**	**03 56 59.5**	**+0.1**
MK32				*epPKPdf*		**pPKPdf**	**03 57 17.3**	**-0.2**
MK32				*e*SKPdf		**SKiKP**	**04 00 32.3**	**+2.2**
MKAR	**Makanchi Array**	**118.88**	**4**	PKP		**PKPdf**	**03 56 59.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=329,slow=2.1,SNR=7.0							
MKAR				pPKP		**pPKPdf**	**03 57 17.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=13,slow=2.6,SNR=3.4							
MKAR				SKP			04 00 32.3	
	comp=Z,0.3nm,0.6s,baz=358,slow=2.9,SNR=4.2							
BJI	**Beijing**	**119.71**	**335**	PKP		**PKPdf**	**03 57 01.4**	**+0.2**
HHC	**Hu-ho-hao-te**	**120.75**	**339**	*e*PKP		**PKPdf**	**03 57 04.3**	**+1.0**
HHC				PP		PP	03 58 36.6	+5.8
HHC				PPMZ				
	comp=Z,25nm,3.9s							
HHC				LN				
	comp=Z,110nm,14.8s							
HHC				LE				
	comp=Z,77nm,16.0s							
HHC				LZ				
	comp=Z,75nm,16.0s							
WMQ	**Urumqi**	**122.05**	**0**	*e*PKP		**PKPdf**	**03 57 02.9**	**-2.8**
WMQ				LZ				
	comp=Z,150nm,26.4s							
KSH	**Kashi**	**125.24**	**11**	*e*PKP		**PKPdf**	**03 57 07.5**	**-4.5**
KSH				sPKP			03 57 44.9	
KSH				PPMZ				
	comp=Z,44nm,4.1s							
KSH				LN				
	comp=Z,120nm,7.8s							
KSH				LE				
	comp=Z,72nm,4.4s							
KSH				LZ				
	comp=Z,110nm,6.8s							
XAN	**Xi'an**	**127.77**	**338**	PKP		**PKPdf**	**03 57 18.3**	**+1.4**
STKA	**Stephens Creek**	**128.04**	**241**	PKP		**PKPdf**	**03 57 17.8**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=87,slow=3.3,SNR=10.0							
CD2	**Chengdu**	**132.38**	**341**	PKP		**PKPdf**	**03 57 25.4**	**-0.4**
CD2				sPKP			03 57 53.3	
CD2				PP		**PP**	**03 59 52.0**	**+4.3**
CD2				PKS		**PKSdf**	**04 01 00.3**	**-2.1**
CD2				SKS		**SKSdf**	**04 04 27.8**	**-4.4**
CD2				SKKS		**SKKSac**	**04 06 34.9**	**-5.1**
CD2				SS		**SS**	**04 17 21.1**	**-0.1**
CD2				PPMZ				
	comp=Z,100nm,5.2s							
WRA	**Warramunga Arr**	**135.25**	**256**	PKP		**PKPdf**	**03 57 32.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=89,slow=2.6,SNR=12							
ASAR	**Alice Springs**	**135.57**	**251**	PKP		**PKPdf**	**03 57 32.8**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=89,slow=1.9,SNR=11							
CMAR	**Chiang Mai Arr**	**145.53**	**341**	PKPbc		**PKPab**	**03 57 51.0**	**+0.7**
	comp=Z,14nm,0.8s,baz=342,slow=4.1,SNR=61							
CMAR				pPKPbc		pPKPbc	03 58 08.7	+0.7
	comp=Z,32nm,0.8s,baz=338,slow=3.4,SNR=18							
CHLP	**Challavanipeta**	**147.09**	**6**	*e*PKPdf		**PKPdf**	**03 57 50.9**	**-1.6**
CHLP				*e*PKPab		**PKPbc**	**03 57 54.3**	**-0.3**
HYBB	**Hyderabad (bro**	**147.10**	**16**	*e*PKPdf		**PKPdf**	**03 57 52.0**	**-0.6**
HYBB				*e*PKPab		**PKPbc**	**03 57 54.4**	**-0.4**
HYB	**Hyderabad**	**147.10**	**16**	*i* PKP		**PKPdf**	**03 57 53.0**	**+0.4**
NJS	**Nagarjunasagar**	**148.12**	**15**	*e*PKPbc		**PKPdf**	**03 57 55.5**	**+1.2**
URV	**Uravakonda**	**149.04**	**20**	*e*PKPbc		**PKPbc**	**03 57 59.1**	**-0.8**
SKHT	**Srikalahasti**	**150.92**	**16**	*e*PKPdf		**PKPdf**	**03 57 57.9**	**-0.9**
SKHT				*e*PKiKP		**PKPbc**	**03 58 04.0**	**-0.4**

*IDC **21** 03:51:57.0±0.6, 37.°31S×73.°59W, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.2/28, mbtmp4.2/16, ML3.5/3, MS4.1/3, Ms1 4.1/3, ms1mx3.5/18, Error ellipse: s-maj=25.9km s-min=13.6km az=100.0*

*ISCJB **21** 03:51:59.0±0.5, 37.°27S±0.°04×73.°61W±0.°09, h23km, mb4.2/17, MS4.0/2, Error ellipse: s-maj=10.5km s-min=5.6km az=0.8*

*NEIC **21** 03:52:02.3±0.4, 37.°32S×73.°59W, h35km, mb4.7/7, ML4.8(GUC), Error ellipse: s-maj=12.2km s-min=6.9km az=90.0*

NEIC Felt [II] at Concepcion.

*BJI **21** 03:52:02.5, 37.°40S×73.°60W, h35km, mB4.9/3, Ms5.2/3, Ms7 4.9/3*

ISC 21 03:52:00.3±0.5, 37.°26S±0.°05×73.°72W±0.°09, h23km, n49, σ1°58/61, mb4.3/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.25**	**146**	Pn	**Pn**		**03 53 04.6**	**+0.9**
	0.7nm,0.3s,baz=301,slow=11,SNR=22							
PLCA				Sn	**Sn**		**03 53 53.8**	**+1.1**
	4.4nm,0.3s,baz=290,slow=20,SNR=4.2							
PLCA	**Paso Flores**	**4.25**	**146**	*e*Pn	**Pn**		**03 53 04.1**	**+0.3**
PLCA				*e*S	**Sn**		**03 53 54.1**	**+1.4**
CFAA	**Coronel Fontan**	**7.24**	**40**	Pn	**Pn**		**03 53 44.0**	**-0.7**
	0.2nm,0.3s,baz=214,slow=12,SNR=13							
CFAA				Sn	**Sn**		**03 55 06.5**	**+0.4**
	0.3nm,0.3s,baz=45,slow=20,SNR=2.8							
CFAA				LR	LR		03 56 05.7	
	comp=Z,8.4nm,21.8s,baz=224,slow=34							
LCO	**Las Campanas**	**8.61**	**18**	*e*Pn	**Pn**		**03 54 06.6**	**+2.9**
LCO				*e*S	**Sn**		**03 55 37.7**	**-2.5**
TRQA	**Tornquist**	**9.35**	**98**	*e*Pn	**Pn**		**03 54 14.9**	**+1.3**
	14nm,0.8s							
LVC	**Limon Verde**	**15.18**	**17**	Pn	**Pn**		**03 55 32.1**	**-1.4**
	24nm,0.3s,baz=216,slow=7.5,SNR=11							
CPUP	**Villa Florida**	**17.66**	**57**	P		**P**	**03 56 04.6**	**-0.2**
	0.1nm,0.3s,baz=177,slow=13,SNR=4.6							
CPUP				LR	LR		04 03 24.9	
	comp=Z,1μm,21.9s,baz=222,slow=39							
CPUP	**Villa Florida**	**17.66**	**57**	*e*Pn	**P**		**03 56 05.3**	**-0.3**
	0.3nm,1.0s							
USHA	**Ushuaia**	**17.94**	**170**	P	**Pn**		**03 56 07.2**	**-0.8**
	0.2nm,0.3s,baz=342,slow=9.6,SNR=2.3							
EFI	**East Falkland**	**18.18**	**147**	*e*Pn	**Pn**		**03 56 08.4**	**-2.5**
LPAZ	**La Paz**	**21.47**	**15**	P		**P**	**03 56 49.7**	**+1.8**
	11nm,0.8s,baz=158,slow=9.5,SNR=14							
LPAZ	**La Paz**	**21.47**	**15**	*e*P		**P**	**03 56 49.6**	**+1.8**
	31nm,1.3s							
SIV	**San Ignacio**	**23.97**	**31**	P		**P**	**03 57 13.6**	**+0.5**
	2.1nm,0.6s,baz=228,slow=14,SNR=6.1							
SAML	**Samuel**	**29.76**	**21**	*e*P		**P**	**03 58 05.3**	**+0.2**
	4.9nm,1.1s							
BDFB	**Brasilia**	**31.34**	**53**	P		**P**	**03 58 18.6**	**-0.6**
	3.8nm,0.9s,baz=212,slow=10,SNR=4.7							
BDFB				LR	LR		04 10 47.4	
	comp=Z,143nm,18.2s,baz=240,slow=36							
PTGA	**Pitinga**	**38.51**	**22**	P		**P**	**03 59 20.4**	**-0.4**
	2.5nm,0.5s,baz=197,slow=7.7,SNR=5.5							
VNA3	**Neumayer Olymp**	**46.89**	**157**	P		**P**	**04 00 28.3**	**0.0**
VNA2	**Neumayer--Watz**	**47.57**	**156**	P		**P**	**04 00 33.1**	**-0.5**
	baz=290,slow=7.5							
SNAA	**Sanae**	**49.11**	**157**	P		**P**	**04 00 45.5**	**-0.1**
SNAA	**Sanae**	**49.11**	**157**	P		**P**	**04 00 45.9**	**+0.4**
	5.2nm,1.0s,baz=282,slow=9.0,SNR=14							
SNAA	**Sanae**	**49.11**	**157**	*e*P		**P**	**04 00 45.7**	**+0.2**
	16nm,1.0s							
QSPA	**South Pole Qui**	**52.98**	**180**	P		**P**	**04 01 14.7**	**-0.1**
	4.7nm,1.0s,baz=145,slow=5.0,SNR=8.0							
VNDA	**Vanda**	**60.64**	**192**	P		**P**	**04 02 09.3**	**+0.6**
	0.3nm,0.6s,baz=128,slow=6.9,SNR=3.8							
MAW	**Mawson**	**70.44**	**164**	P		**P**	**04 03 11.9**	**-0.3**
	3.3nm,0.9s,baz=250,slow=12,SNR=3.7							
TXAR	**Lajitas Array**	**71.95**	**333**	P		**P**	**04 03 22.5**	**+0.6**
	0.3nm,0.7s,baz=150,slow=8.4,SNR=6.2							
DBIC	**Dimbokro**	**77.52**	**72**	P		**P**	**04 03 54.8**	**+0.4**
	12nm,1.1s,baz=210,slow=9.2,SNR=3.5							
DBIC	**Dimbokro**	**77.52**	**72**	*e*P		**P**	**04 03 55.3**	**+0.9**
	12nm,0.9s							
LAZ	**Ladron**	**77.79**	**332**	*e*P		P	04 03 59.1	+3.4
	2.2nm,1.2s							
URZ	**Urewera**	**80.47**	**229**	LR		LR	04 32 07.2	
	comp=Z,167nm,18.8s,baz=54,slow=30							
LBTB	**Lobatse**	**82.17**	**115**	*e*P		**P**	**04 04 19.6**	**-0.1**
	17nm,1.2s							
ECSD	**EROS Data Cent**	**83.25**	**344**	*e*P		**P**	**04 04 24.8**	**+0.3**
	9.1nm,1.3s							
NVAR	**Mina Array Bea**	**85.81**	**326**	P		**P**	**04 04 39.5**	**+1.7**
	0.4nm,0.8s,baz=144,slow=4.6,SNR=2.5							
PDAR	**Pinedale Array**	**86.08**	**334**	P		**P**	**04 04 40.1**	**+1.0**
	0.4nm,0.8s,baz=141,slow=4.4,SNR=3.5							
TORD	**Torodi Ar. Bea**	**86.59**	**71**	P		**P**	**04 04 42.2**	**+0.2**
	2.2nm,0.9s,baz=218,slow=4.8,SNR=14							
BRTR	**Keskin Array B**	**124.57**	**63**	PKP		**PKPdf**	**04 10 56.9**	**-0.8**
	0.6nm,0.7s,baz=204,slow=2.7,SNR=3.9							
AKTO	**Aktyubinsk**	**143.43**	**53**	PKhKP		PKPpre	04 11 27.3	
	1.2nm,0.6s,baz=110,slow=3.1,SNR=5.9							
BRVK	**Borovoye**	**150.49**	**46**	*e*PKPdf		**PKPdf**	**04 11 44.5**	**+0.5**
BRVK				*e*PKPbc		**PKiKP**	**04 11 50.1**	**0.0**
BRVK				*e*PKPab		**PKPab**	**04 11 56.9**	**+0.9**
BVAR	**Borovoye Array**	**150.56**	**46**	PKPbc		**PKPbc**	**04 11 50.4**	**+0.8**
	2.4nm,0.7s,baz=298,slow=3.2,SNR=16							
BVAR				PKPab		**PKPab**	**04 11 56.7**	**+0.3**
	4.0nm,0.7s,baz=280,slow=4.4,SNR=16							
AAK	**Ala-Archa**	**155.14**	**68**	*e*PKPbc		PKPbc	04 11 59.6	
AAK				*e*PKPab		**PKPab**	**04 12 16.9**	**+0.6**
KURBB	**Kurchatov Arra**	**156.14**	**47**	PKP		**PKPdf**	**04 11 50.9**	**-1.3**
	0.2nm,0.2s,baz=326,slow=2.5,SNR=4.2							
KURBB				PKPbc		PKPbc	04 12 01.7	
	0.6nm,0.8s,baz=294,slow=2.4,SNR=6.3							
KURBB				PKPab		**PKPab**	**04 12 18.1**	**-1.9**
	0.8nm,0.8s,baz=285,slow=4.6,SNR=4.2							
KURK	**Kurchatov**	**156.15**	**47**	PKP		**PKPdf**	**04 11 50.9**	**-1.3**
KURK				PKPbc		PKPbc	04 12 01.7	
KURK				PKPab		**PKPab**	**04 12 18.1**	**-1.9**
KSH	**Kashi**	**156.19**	**75**	*e*PKP		**PKPdf**	**04 11 51.0**	**-1.8**
KSH				pPKP		**pPKPdf**	**04 12 01.9**	**+1.3**
KSH				PKS		**PKSdf**	**04 15 24.1**	**-2.7**
KSH				SKS		**SKSdf**	**04 18 52.8**	**-4.9**
KSH				PPMZ				
	40nm,3.7s							
KSH				LN				
	58nm,5.5s							
KSH				LE				
	68nm,4.4s							
KSH				LZ				
	78nm,8.9s							
ZALV	**Zalesovo Beam**	**157.70**	**35**	PKP		**PKPdf**	**04 11 53.1**	**-1.0**
	0.7nm,0.6s,baz=270,slow=3.0,SNR=4.3							
ZALV				PKPab		**PKPab**	**04 12 26.4**	**-0.1**
	1.6nm,0.8s,baz=316,slow=4.1,SNR=4.3							
MKAR	**Makanchi Array**	**159.86**	**54**	PKPab		**PKPab**	**04 12 36.1**	**-0.2**
	0.7nm,0.8s,baz=319,slow=3.5,SNR=5.2							
CMAR	**Chiang Mai Arr**	**160.19**	**159**	PKPab		**PKPab**	**04 12 37.6**	**-0.6**
	0.7nm,0.4s,baz=237,slow=5.0,SNR=5.1							
WMQ	**Urumqi**	**164.44**	**59**	*e*PKP		**PKPdf**	**04 12 01.8**	**+0.1**
WMQ				pPKP		**pPKPdf**	**04 12 15.8**	**+6.2**
SONM	**Songino Array**	**169.43**	**360**	PKPab		**PKPab**	**04 13 19.2**	**+0.9**
	0.6nm,1.0s,baz=336,slow=3.2,SNR=3.5							
CD2	**Chengdu**	**173.33**	**161**	PKP		**PKPdf**	**04 12 07.0**	**-0.8**
HHC	**Hu-ho-hao-te**	**174.55**	**313**	*e*PKP		**PKPdf**	**04 12 04.8**	**-3.2**
HHC				PP		**PP**	**04 17 34.1**	**+0.4**
HHC				PPMZ				
	39nm,4.3s							
HHC				LN				
	120nm,18.5s							
HHC				LE				
	98nm,17.3s							
HHC				LZ				
	79nm,18.5s							

*ISCJB **21** 03:56:54.5±0.6, 32.°26N±0.°03×115.°29W±0.°04, h11km±5km, Error ellipse: s-maj=6.6km s-min=4.6km az=161.7*

*ECX **21** 03:56:56.1±0.5, 32.°26N×115.°32W, h6km, MD2.8, ML3.0*

*MEX **21** 03:56:57.0±0.6, 32.°29N×115.°26W, h10km, MD3.6*

ISC 21 03:56:54.5±0.9, 32.°25N±0.°03×115.°30W±0.°04, h16km±7km, n17, σ0°52/29, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.17**	**360**	*e*P	**Pg**		**03 56 58.2**	**-0.6**
CPBX				*e*S	**Sg**		**03 57 00.9**	**-0.6**
MBIG	**Mexicali**	**0.18**	**29**	*i* P1	**Pg**		**03 56 59.9**	**+1.0**
MBIG				*e*S1	**Sg**		**03 57 01.8**	**-0.1**
EMX	**El Mayor**	**0.26**	**169**	*e*P	**Pg**		**03 57 00.2**	**0.0**
EMX				*e*S	**Sg**		**03 57 04.3**	**+0.2**
SGL	**Mount Signal**	**0.54**	**318**	*i*P	**Pg**		**

SPSI	**Sidrap Palu**	**3.17**	**198**	P		Pn	04 08 52.7	-0.4
SPSI				S		Sn	04 09 30.7	+1.1
BNSI	**Bone**	**3.50**	**191**	P		Pn	04 08 57.9	+0.2
BKSI	**Bulukumba**	**4.40**	**188**	P		Pn	04 09 09.0	-1.0

*ISCJB **21** 04:22:56.9±0.7,28°.01S±0°.08×177°.1W±0°.1, h49km, mb4.2/13, MS3.4/4, Error ellipse: s-maj=18.0km s-min=9.5km az=24.0*
*NEIC **21** 04:22:58.4±1.7,28°.02S×177°.11W, h50km±14km, mb4.5/3, Error ellipse: s-maj=12.4km s-min=11.9km az=213.0*
*IDC **21** 04:22:59.3±2.8,28°.05S×177°.12W, h57km±24km, mb3.8/11, mb1 4.0/11, mb1mx3.8/32, mbtmp4.1/11, MS3.5/5, Ms1 3.5/5, ms1mx3.2/21, Error ellipse: s-maj=22.3km s-min=19.8km az=71.0*

ISC 21 04:22:58.2±0.6, 28°.03S±0°.09×177°.1W±0°.1, h49km, n39, σ0s55/30, mb4.1/13, MS3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.42**	**211**	P	**Pn**	**04 23 21.5**	**-0.1**
	3µm,0.3s,baz=76,slow=8.6,SNR=90						
RAO				S	**Sn**	**04 23 39.8**	**+0.7**
	5µm,0.3s,baz=278,slow=23,SNR=20						
RAO	**Raoul Island**	**1.42**	**211**	*e*Pn	**Pn**	**04 23 21.5**	**-0.1**
RAO				*e*S	**Sn**	**04 23 38.5**	**-0.6**
OUZ	**Omahuta**	**10.69**	**226**	*e*Pn	Pn	04 25 35.0	+6.3
	25nn,0.6s						
URZ	**Urewera**	**11.30**	**204**	P	Pn	04 25 28.3	-8.6
	0.6nm,0.3s,baz=282,slow=2.7,SNR=10						
URZ				S	Sn	04 27 33.1	-8.6
	3.8nm,0.3s,baz=26,slow=21,SNR=9.4						
KHZ	**Kahutara**	**16.25**	**206**	*e*Pn	Pn	04 26 34.0	-9.1
RPZ	**Rata Peaks**	**18.33**	**208**	LR	LR	04 34 09.3	
	comp=Z,232nm,20.6s,baz=53,slow=37						
TBI	**Tubuai**	**25.31**	**86**	*e*LR	LR	04 34 18.7	
	121nm,26.5s						
TBI	**Tubuai**	**25.31**	**86**	*e*T	T	04 53 39.7	
	15nm,0.4s						
PAE	**Paea**	**27.31**	**74**	*e*T	T	04 56 17.8	
	6.1nm,0.3s						
PPT2	**Papeete2**	**27.35**	**74**	*e*LR	LR	04 35 21.3	
	199nm,26.0s						
PPT2	**Papeete2**	**27.35**	**74**	*e*T	T	04 56 21.9	
	5.7nm,0.3s						
PPT	**Papeete**	**27.36**	**74**	LR	LR	04 38 03.4	
	comp=Z,59nm,18.9s,baz=282,slow=33						
VAH	**Vaihoa**	**30.11**	**71**	*e*T	T	04 59 48.9	
	12nm,0.2s						
CTA	**Charters Tower**	**34.29**	**275**	P	**P**	**04 29 41.4**	**+1.3**
	2.7nm,0.5s,baz=90,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**35.85**	**254**	P	**P**	**04 29 52.8**	**-0.5**
	0.6nm,0.5s,baz=110,slow=17,SNR=2.5						
ASAR	**Alice Springs**	**44.09**	**264**	P	**P**	**04 31 01.4**	**-0.4**
	1.1nm,0.6s,baz=94,slow=7.0,SNR=14						
WB2	**Warramunga Arr**	**44.85**	**269**	*e*P	**P**	**04 31 07.9**	**0.0**
WRAB	**Tennant Creek**	**44.86**	**269**	*e*P	**P**	**04 31 07.8**	**-0.1**
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**44.86**	**269**	P	**P**	**04 31 07.9**	**-0.1**
	0.7nm,0.4s,baz=108,slow=7.9,SNR=29						
VNDA	**Vanda**	**50.52**	**186**	P	**P**	**04 31 51.0**	**-0.1**
	0.6nm,0.5s,baz=6.5,slow=6.6,SNR=6.2						
VNDA				LR	LR	04 49 12.8	
	comp=Z,27nm,21.6s,baz=6.0,slow=31						
CASY	**Casey**	**57.60**	**207**	*e*P	**P**	**04 32 42.5**	**-0.2**
	1.9nm,0.4s						
QSPA	**South Pole Qui**	**62.07**	**180**	P	**P**	**04 33 13.7**	**0.0**
	1.8nm,0.7s,baz=42,slow=0.2,SNR=16						
QSPA	**South Pole Qui**	**62.07**	**180**	*e*P	**P**	**04 33 14.7**	**+1.0**
	4.9nm,0.9s						
MAW	**Mawson**	**74.80**	**200**	LR	LR	05 06 04.7	
	comp=Z,40nm,19.1s,baz=63,slow=35						
MJAR	**Matsushiro Arr**	**76.77**	**324**	P	**P**	**04 34 44.7**	**+0.2**
	2.5nm,0.6s,baz=158,slow=4.8,SNR=5.6						
PETK	**Petropavlovsk-**	**83.73**	**345**	P	**P**	**04 35 21.9**	**+0.4**
	3.9nm,0.8s,baz=156,slow=8.9,SNR=7.7						
NVAR	**Mina Array Bea**	**85.96**	**42**	P	**P**	**04 35 34.3**	**+0.9**
	2.0nm,0.8s,baz=220,slow=8.0,SNR=10						
TXAR	**Lajitas Array**	**90.44**	**57**	LR	LR	05 12 08.7	
	comp=Z,22nm,18.2s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**93.87**	**43**	P	**P**	**04 36 10.8**	**+0.3**
	0.7nm,0.9s,baz=224,slow=4.1,SNR=5.3						
ILAR	**Eielson Array**	**95.45**	**13**	P	**P**	**04 36 16.4**	**-0.6**
	0.4nm,0.7s,baz=217,slow=5.4,SNR=7.5						
ARCES	**ARCESS Array B**	**136.44**	**349**	PKP	**PKPdf**	**04 42 12.7**	**-1.1**
	0.6nm,0.4s,baz=0.0,slow=1.6,SNR=8.4						
FINES	**FINESS Array B**	**143.18**	**342**	PKhKP	PKPpre	04 42 22.4	
	1.9nm,0.4s,baz=52,slow=4.2,SNR=20						
FINES				PKP	**PKPdf**	**04 42 26.1**	**-0.1**
	0.6nm,0.4s,baz=48,slow=2.8,SNR=3.4						
NB2	**NORSAR Subarra**	**146.52**	**353**	PKP	**PKPdf**	**04 42 32.7**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**146.52**	**353**	PKPbc	**PKPbc**	**04 42 33.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=43,slow=1.4,SNR=13						
AKASG	**Malin Array Be**	**149.84**	**326**	PKPbc	**PKPbc**	**04 42 42.1**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=42,slow=3.4,SNR=11						
AKASG				PKPab	**PKPab**	**04 42 48.0**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=44,slow=4.3,SNR=8.4						
BRTR	**Keskin Array B**	**152.08**	**303**	PKPbc	**PKPbc**	**04 42 48.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=146,slow=2.4,SNR=4.6						
BRTR				PKPab	**PKPab**	**04 42 57.7**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=90,slow=0.8,SNR=4.0						
CLL	**Collm**	**155.53**	**345**	*e*PKPab	**PKPab**	**04 43 12.0**	**0.0**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**157.61**	**341**	PKPab	**PKPab**	**04 43 20.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=68,slow=3.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**165.15**	**175**	PKPab	**PKPab**	**04 43 54.8**	**+0.1**
	comp=Z,0.8nm,1.0s,baz=182,slow=2.9,SNR=3.2						

*NEIC **21** 04:32:04.7, 15°.55N×93°.85W, h60km, MD4.0(MEX), After MEX.*

MEX 21 04:32:05.1±0.4, 15°.60N×93°.93W, h48km±10km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.69**	**81**	*i* P	Pn	04 32 17.0	-1.7
PCIG				*e*S	Sn	04 32 26.6	-1.9
PCIG		**0.69**	**81**	*i* P	Pn	04 32 16.9	-1.7
PCIG				*i* S	Sn	04 32 25.1	-3.3
TGIG		**1.41**	**33**	*e*P	Pn	04 32 26.6	-1.8
TGIG				*i* S	Sn	04 32 43.8	-2.1
TGIG		**1.41**	**33**	*e*P	Pn	04 32 26.6	-1.8
TGIG				*i* S	Sn	04 32 43.8	-2.1
THIG		**1.74**	**113**	*i* P	Pn	04 32 31.6	-1.3
THIG				*i* S	Sn	04 32 52.1	-1.8
THIG		**1.74**	**113**	*i* P	Pn	04 32 30.8	-2.2
THIG				*i* S	Sn	04 32 49.0	-5.0
CCIG	**Comitan**	**1.85**	**68**	*e*P	Pn	04 32 32.6	-2.1
CCIG				*i* S	Sn	04 32 55.5	-1.6
CCIG	**Comitan**	**1.85**	**68**	*e*P	Pn	04 32 32.6	-2.1
CCIG				*i* S	Sn	04 32 53.8	-3.2
VHO	**Vista Hermosa**	**3.07**	**299**	*i* P	Pn	04 32 50.9	-0.5
VHO				*i* S	Sn	04 33 25.5	-1.5
VHO	**Vista Hermosa**	**3.07**	**299**	*i* P	Pn	04 32 51.1	-0.3
VHO				*e*S	Sn	04 33 27.7	+0.6
PNIG	**Pinotepa**	**4.12**	**282**	*e*P	Pn	04 33 04.5	-1.1
PNIG				*i* S	Sn	04 33 51.0	-1.5
PNIG	**Pinotepa**	**4.12**	**282**	*e*P	Pn	04 33 04.5	-1.1
PNIG				*i* S	Sn	04 33 50.8	-1.7
TLIG	**Tlapa**	**4.86**	**294**	*i* P	Pn	04 33 16.3	+0.5
TEIG	**Tepich**	**7.08**	**49**	*e*Pn	Pn	04 33 42.0	-4.2
TEIG				*e*S	Sn	04 34 59.9	-5.4

*KRNET **21** 04:35:15.9±0.1, 40°.91N×72°.75E, h2km, mb3.6*
*NNC **21** 04:35:17.7±1.5, 40°.81N×72°.67E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=18.7km s-min=6.0km az=67.0*

ISC 21 04:35:16.6±1.1, 40°.90N±0°.03×72°.74E±0°.03, h5km±13km, n24, σ1s03/39, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.82**	**91**	*e*P	**Pg**	**04 35 31.0**	**-1.2**
	baz=92						
SALK				*e*S	**Sg**	**04 35 42.1**	**-0.7**
	baz=92						
CHVK	**Chauvay**	**0.86**	**208**	*e*P	**Pg**	**04 35 32.8**	**-0.3**
	baz=208						
CHVK				*e*S	**Sg**	**04 35 45.0**	**+0.8**
	baz=208						
SFK	**Sufi-Kurgan**	**1.05**	**146**	⇓P	**Pg**	**04 35 36.8**	**0.0**
	6.5nm,0.3s						
SFK				⇑S	**Sb**	**04 35 51.7**	**+0.1**
	37nm,0.2s						
ARK	**Arkit**	**1.08**	**327**	*e*P	**Pg**	**04 35 36.3**	**-0.9**
	baz=327						
ARK				*e*S	**Sg**	**04 35 50.9**	**-0.3**
	baz=327						
AML	**Almayashu**	**1.43**	**30**	P	**Pb**	**04 35 44.6**	**+0.7**
	SNR=54						
AML	**Almayashu**	**1.43**	**30**	⇑*i*P	**Pb**	**04 35 44.6**	**+0.7**
	baz=30						
AML				⇑*i*S	**Sn**	**04 36 03.8**	**+0.9**
	baz=30						
ARLS	**Aral**	**1.53**	**50**	⇓*i*P	**Pg**	**04 35 45.9**	**0.0**
	baz=51						
ARLS				⇓*i*S	**Sg**	**04 36 07.1**	**+1.3**
	baz=51						
DRK	**Karamyk**	**1.59**	**207**	⇓*i*P	**Pg**	**04 35 47.8**	**+0.8**
	baz=207						
MNAS	**Manas**	**1.60**	**354**	⇑P	**Pg**	**04 35 47.8**	**+0.5**
	14nm,0.4s						
MNAS				⇑S	**Sg**	**04 36 09.7**	**+1.7**
	48nm,0.5s						
BTK	**Batken**	**1.69**	**241**	*e*P	**Pg**	**04 35 48.9**	**-0.1**
	baz=241						
BTK				*e*S	**Sg**	**04 36 12.3**	**+1.4**
	baz=241						
UCH	**Uchtor**	**1.88**	**44**	P	**Pg**	**04 35 52.8**	**+0.2**
	SNR=163						
UCH	**Uchtor**	**1.88**	**44**	⇑*i*P	**Pg**	**04 35 52.6**	**0.0**
	baz=45						
UCH				⇑*i*S	**Sg**	**04 36 18.7**	**+1.7**
	baz=45						
EKS2	**Erkin-Say**	**1.93**	**23**	P	**Pg**	**04 35 53.9**	**+0.3**
	SNR=35						
EKS2	**Erkin-Say**	**1.93**	**23**	⇑*i*P	**Pg**	**04 35 53.6**	**+0.1**
	baz=23						
EKS2				⇑*i*S	**Sg**	**04 36 20.3**	**+1.8**
	baz=23						
EKS	**Erkin-Say**	**1.94**	**23**	*i* P	**Pg**	**04 35 53.8**	**+0.1**
	baz=24						
EKS				*e*S	**Sg**	**04 36 20.2**	**+1.4**
	baz=24						
AAK	**Ala-Archa**	**2.17**	**36**	⇑Pn	**Pg**	**04 35 57.6**	**-0.7**
	20nm,0.4s						
AAK				⇓Sn	**Sg**	**04 36 27.8**	**+1.3**
	31nm,0.5s						
AAK	**Ala-Archa**	**2.17**	**36**	P	**Pg**	**04 35 57.6**	**-0.7**
	SNR=32						
AAK	**Ala-Archa**	**2.17**	**36**	⇑*i*P	**Pg**	**04 35 57.5**	**-0.7**
	baz=37						
AAK				⇑*i*S	**Sg**	**04 36 26.4**	**-0.1**
	baz=37						
KZA	**Kyzart**	**2.22**	**57**	P	**Pg**	**04 35 58.3**	**-0.9**
	SNR=30						
KBK	**Karagaybulak**	**2.41**	**42**	P	**Pg**	**04 36 01.9**	**-0.9**
	SNR=14						
USP	**Ospenovka**	**2.71**	**28**	P	**Pb**	**04 36 04.5**	**-1.0**
	SNR=11						
KK31	**Karatay Array**	**2.76**	**324**	Pn	**Pb**	**04 36 04.0**	**-2.4**
	6.4nm,0.6s,baz=134,slow=16,SNR=83						
KK31				⇑Sn	**Sb**	**04 36 39.8**	**-0.8**
	13nm,0.3s,baz=137,slow=30						
TKM2	**Tokmak 2**	**2.94**	**46**	⇓Pn	**Pb**	**04 36 08.3**	**-1.3**
	6.4nm,0.3s						
TKM2				⇑Sn	**Sb**	**04 36 46.5**	**+0.6**
	38nm,0.8s						
ULHL	**Ulahol**	**2.95**	**62**	P	**Pg**	**04 36 12.0**	**-1.2**
	SNR=6.9						

*ISCJB **21** 04:38:08.6±0.9, 24°.23S±0°.07×66°.89W±0°.1, h169km, mb3.1/2, Error ellipse: s-maj=13.3km s-min=9.4km az=155.3*
*IDC **21** 04:38:10.0±1.4, 24°.17S×67°.06W, h180km±14km, mb3.0/2, mb1 3.3/5, mb1mx3.1/23, mbtmp3.6/5, MS2.0/1, Ms1 2.0/1, ms1mx1.9/6, Error ellipse: s-maj=21.3km s-min=18.6km az=84.0*

ISC 21 04:38:08.5±0.8, 24°.29S±0°.06×67°.0W±0°.1, h169km, n10, σ1s58/12, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.43**	**313**	P	**Pn**	**04 38 51.3**	**+1.3**
	1µm,0.3s,baz=117,slow=7.1,SNR=467						
LVC				S	**Sn**	**04 39 22.7**	**+0.5**
	2µm,0.3s,baz=310,slow=22,SNR=70						
CFAA	**Coronel Fontan**	**7.38**	**188**	P	**Pn**	**04 39 55.8**	**+2.2**
	0.1nm,0.3s,baz=35,slow=12,SNR=5.8						
CFAA				S	**Sn**	**04 41 13.6**	**-2.9**
	0.1nm,0.3s,baz=72,slow=20,SNR=3.6						
CFAA				LR	LR	04 43 23.9	
	comp=Z,11nm,19.9s,baz=228,slow=42						
LPAZ	**La Paz**	**8.03**	**352**	P	**Pn**	**04 40 03.1**	**+0.2**
	0.6nm,0.3s,baz=151,slow=5.9,SNR=25						
LPAZ				S	**Sn**	**04 41 31.6**	**-1.5**
	0.1nm,0.3s,baz=344,slow=20,SNR=4.2						
CPUP	**Villa Florida**	**8.97**	**105**	P	Pn	04 40 25.2	+11
	0.1nm,0.3s,baz=261,slow=15,SNR=7.3						
SIV	**San Ignacio**	**9.94**	**35**	P	**Pn**	**04 40 27.1**	**-0.5**
	0.3nm,0.3s,baz=223,slow=13,SNR=8.5						
BDFB	**Brasilia**	**19.78**	**68**	P	**P**	**04 42 27.2**	**+1.2**
	0.6nm,0.3s,baz=234,slow=13,SNR=7.4						
TXAR	**Lajitas Array**	**63.92**	**324**	P	**P**	**04 48 22.1**	**-1.5**
	0.3nm,0.9s,baz=163,slow=1.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**04 49 41.3**	**+0.2**
	0.3nm,0.5s,baz=298,slow=4.5,SNR=4.6						
WRA	**Warramunga Arr**	**131.38**	**207**	PKP	**PKPdf**	**04 57 01.2**	**-0.3**
	2.7nm,1.3s,baz=156,slow=1.7,SNR=5.4						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	**PKPbc**	**04 57 31.4**	**+1.0**
	0.4nm,0.6s,baz=327,slow=2.0,SNR=4.0						

*NEIC **21** 05:10:31.2, 15°.28N×61°.03W, h133km, MD4.0(TRN), After TRN.*

TRN 21 05:10:30.4, 15°.27N×61°.29W, h143km, MD3.6, M3.3(FDF), 16C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLPL	**La Plaine**	**0.07**	**34**	*e*P	Pn	05 10 50.1	+0.4
DLPL	**La Plaine**	**0.07**	**34**	*e*P	Pn	05 10 50.6	+0.9
DLPL				*e*S	Sn	05 11 04.0	-0.4
DLPL				*e*S	Sn	05 11 04.9	+0.6
BBL	**Barber's Block**	**0.31**	**325**	⇓*i*P	Pn	05 10 51.4	+1.2
SVN	**Savane Anatole**	**0.45**	**165**	⇓*e*P	Pn	05 10 52.0	+1.2
FDF	**Fort de France**	**0.55**	**166**	⇓*i*P	Pn	05 10 52.3	+0.9
FDF	**Fort de France**	**0.55**	**166**	⇓*e*P	Pn	05 10 52.7	+1.3
FDF				*e*S	Sn	05 11 08.1	+0.8
FDF				*e*S	Sn	05 11 08.7	+1.4
FDF	**Fort de France**	**0.55**	**166**	⇓*i*P	Pn	05 10 52.3	+0.9
FDF				*e*S	Sn	05 11 08.1	+0.9
BVM	**Bellevue**	**0.58**	**158**	*e*P	Pn	05 10 52.5	+0.9
MGG	**Marie-Galante**	**0.64**	**358**	*e*P	Pn	05 10 52.6	+0.9
TBG	**Guadaloupe-3**	**0.67**	**329**	*e*P	Pn	05 10 53.1	+1.1
ZAM	**Aeronautique**	**0.74**	**160**	*e*P	Pn	05 10 53.3	+0.8
TRMF	**Trois Ilets**	**0.77**	**163**	⇑*i*P	Pn	05 10 54.0	+1.3
BIM	**Bigot**	**0.78**	**164**	⇑*e*P	Pn	05 10 53.9	+1.1
BIM				*e*S	Sn	05 11 11.0	+1.1
HMG	**Houelmont**	**0.81**	**331**	⇑*i*P	Pn	05 10 54.4	+1.4
HMG				*e*S	Sn	05 11 11.3	+1.0
MVM	**Montagne Vaucl**	**0.81**	**152**	*e*P	Pn	05 10 53.9	+0.9
PHG	**Guadaloupe-2**	**0.81**	**335**	⇑*i*P	Pn	05 10 54.4	+1.2
DOG	**Dongo Capester**	**0.82**	**337**	*e*P	Pn	05 10 54.1	+1.0
ECG	**Echelle**	**0.84**	**335**	⇑*i*P	Pn	05 10 54.5	+1.1
SCG	**Saint Claude**	**0.84**	**333**	⇑*i*P	Pn	05 10 54.6	+1.3
SCG				*e*S	Sn	05 11 12.0	+1.2
LKG	**Breislack**	**0.84**	**335**	⇑*i*P	Pn	05 10 54.6	+1.1
LKG				*e*S	Sn	05 11 11.5	+0.5
TAG	**Tarade**	**0.84**	**335**	*e*P	Pn	05 10 54.8	+1.4
CRG	**Carmichael**	**0.85**	**335**	*e*P	Pn	05 10 55.2	+1.7
FNG	**Fond-Bernard**	**0.87**	**334**	*e*P	Pn	05 10 54.6	+1.1
MLG	**Mont-d'or**	**0.88**	**333**	⇑*i*P	Pn	05 10 55.0	+1.4
MLG				*e*S	Sn	05 11 12.6	+1.2
SSG	**Sans Toucher**	**0.89**	**335**	*e*P	Pn	05 10 54.9	+1.1
LZG	**Guadaloupe-1**	**0.98**	**331**	⇑*i*P	Pn	05 10 55.7	+1.4
SEG	**Port Louis**	**1.14**	**349**	⇑*i*P	Pn	05 10 56.9	+1.1
MCLT	**Moule a Chique**	**1.59**	**168**	*e*P	Pn	05 11 01.0	+0.5
MCLT	**Moule a Chique**	**1.59**	**168**	*e*P	Pn	05 11 01.7	+1.2
MCLT				*e*S	Sn	05 11 22.9	-0.6
MCLT				*e*S	Sn	05 11 23.6	+0.1
MCLT	**Moule a Chique**	**1.59**	**168**	*e*P	Pn	05 11 01.7	+1.2
MCLT				*e*S	Sn	05 11 23.6	+0.1
MBWH		**1.70**	**329**	⇑*i*P	Pn	05 11 02.7	+1.0
BPA	**Boggy Peak**	**1.84**	**343**	*e*P	Pn	05 11 04.8	+1.5
BPA				*e*S	Sn	05 11 28.5	-0.1
SVB	**Belmont**	**1.99**	**179**	*e*P	Pn	05 11 05.8	+0.7
SVB	**Belmont**	**1.99**	**179**	⇑*i*P	Pn	05 11 06.0	+0.9
SVB				*e*S	Sn	05 11 32.3	+0.6
SVB	**Belmont**	**1.99**	**179**	*e*P	Pn	05 11 05.8	+0.7
SVB				*e*S	Sn	05 11 32.3	+0.6
ANWB	**Willy Bob**	**2.43**	**349**	⇑*e*P	Pn	05 11 10.0	-0.2
ANWB	**Willy Bob**	**2.43**	**349**	*e*Pn	Pn	05 11 10.3	0.0
ANWB				*e*Sn	Sn	05 11 39.5	-1.5
BBGH	**Gun Hill**	**2.70**	**141**	⇑*i*P	Pn	05 11 15.2	+1.5
GRSS	**Sisters**	**2.98**	**186**	*e*P	Pn	05 11 18.7	+1.5
GRSS	**Sisters**	**2.98**	**186**	*e*P	Pn	05 11 18.7	+1.5
SABA	**Saba**	**2.99**	**321**	⇑*i*P	Pn	05 11 18.6	+1.2
GRW	**Mount Saint Ca**	**3.12**	**187**	*e*P	Pn	05 11 20.7	+1.5
GRW	**Mount Saint Ca**	**3.12**	**187**	*e*P	Pn	05 11 21.9	+2.8
GRGR	**Grenville**	**3.14**	**187**	*e*P	Pn	05 11 20.3	+0.9
GRGR	**Grenville**	**3.14**	**187**	*e*Pn	Pn	05 11 20.1	+0.7
GRGR				*e*Sn	Sn	05 11 59.8	+2.5
SMRT	**St. Maarten**	**3.25**	**328**	⇑*i*P	Pn	05 11 20.8	+0.1
TOSP	**Speyside**	**4.02**	**169**	*e*P	Pn	05 11 31.6	+0.9
TOSP	**Speyside**	**4.02**	**169**	*e*P	Pn	05 11 31.7	+1.0
TOSP				*e*S	Sn	05 12 15.7	-1.9
CBYP	**Canovanas**	**5.29**	**305**	*e*Pn	Pn	05 11 49.0	+1.3
CBYP				*e*Sn	Sn	05 12 52.0	+3.9
SJG	**San Juan**	**5.45**	**302**	*e*Pn	Pn	05 11 50.1	+0.5
CELP	**Cerrillos**	**5.79**	**300**	*e*Pn	Pn	05 11 58.0	+3.8

GUC 21 05:16:34.6±0.6, 34°.06S×72°.41W, h39km±3km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.35**	**135**	*i* P	Pn	05 16 57.5	+0.5
NICH				*i* S	Sn	05 17 15.0	+1.2
CHCH	**Chadas Angostu**	**1.46**	**86**	*i* P	Pn	05 16 59.1	+0.5
TALC	**Talca**	**1.48**	**155**	*i* P	Pn	05 16 59.3	+0.5
TALC				*i* S	Sn	05 17 17.9	+1.1
CLCH	**Cerro Calan**	**1.69**	**68**	*i* P	Pn	05 17 02.3	+0.5
CLCH				*i* P	Pn	05 17 02.4	+0.6
CLCH				*i* S	Sn	05 17 23.2	+1.0
CLCH				*i* S	Sn	05 17 23.3	+1.1
CLCH				AML	AML	05 17 43.4	
	comp=E,875nm,0.6s						
PEL	**Peldehue**	**1.70**	**58**	*i* P	Pn	05 17 02.7	+0.9
PEL				*i* S	Sn	05 17 23.7	+1.3
SJCH	**San Jose de Ma**	**1.76**	**77**	*i* P	Pn	05 17 03.1	+0.5
SJCH				*i* S	Sn	05 17 25.1	+1.2
SJCH				AML	AML	05 17 32.9	
	comp=N,620nm,0.4s						
YECH	**El Yeso**	**1.97**	**79**	*i* P	Pn	05 17 06.9	+1.1
YECH				*i* S	Sn	05 17 31.8	+2.2
YECH				AML	AML	05 17 43.1	
	comp=N,682nm,0.3s						
COCH	**Cobquecura**	**2.09**	**189**	*i* P	Pn	05 17 07.8	+0.7

*ISCJB **21** 05:25:01.8±0.3, 44°.49N±0°.03×104°.49E±0°.05, h10km, mb4.1/25, MS3.1/6, Error ellipse: s-maj=5.3km s-min=4.5km az=162.5*
*MOS **21** 05:25:04.6±1.4, 44°.55N×104°.52E, h29km, mb4.3/13, Error ellipse: s-maj=13.5km s-min=7.0km az=106.2*
*IDC **21** 05:25:06.0±6.7, 44°.44N×104°.47E, h28km±47km, mb3.9/16, mb1 4.0/22, mb1mx3.8/45, mbtmp4.0/22, ML3.1/5, MS3.2/8, Ms1 3.2/8, ms1mx2.9/37, Error ellipse: s-maj=16.8km s-min=12.9km az=45.0*
*BJI **21** 05:25:06.4, 44°.27N×104°.48E, h10km, mB4.1/3, mb4.0/5, ML4.4/12, Ms3.9/10, Ms7 3.7/8*

ISC 21 05:25:04.6±0.5, 44°.56N±0°.05×104°.49E±0°.06, h10km, n75, σ1s59/63, mb4.1/25, MS3.1/6, 3C-3D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**3.53**	**21**	Pn	**Pn**	**05 25 58.8**	**-0.8**
	62nm,0.3s,baz=202,slow=15,SNR=1091						
SONM				Sn	Sn	05 26 34.6	-6.9
	64nm,0.3s,baz=216,slow=17,SNR=5.4						
SONM				Lg	Lg	05 26 51.9	
	294nm,0.3s,baz=221,slow=27,SNR=22						
SONM				LR	LR	05 27 44.2	
	comp=Z,286nm,20.4s,baz=192,slow=43						
ULN	**Ulaanbaatar**	**3.75**	**27**	*d* P	**Pn**	**05 26 02.0**	**-0.7**
BTO	**Baotou**	**5.68**	**132**	*e*Pn	**Pn**	**05 26 28.4**	**-0.7**
BTO				Sg	Sb	05 28 00.5	+8.5
BTO				SMN			
	43nm,0.4s						
BTO				SME			
	47nm,0.5s						
ZAK	**Zakamensk**	**5.88**	**352**	*e*P	**Pn**	**05 26 30.6**	**-1.3**
ZAK				*e*S	**Sn**	**05 27

comp=Z,0.1nm,0.3s,baz=120,slow=9.8,SNR=5.7
ZALV Lg Lg 05 33 22.8
comp=Z,0.2nm,0.3s,baz=115,slow=27,SNR=5.5
ZALV LR LR 05 34 57.6
comp=Z,79nm,18.3s,baz=72,slow=37
ZALV Zalesovo Beam 15.86 313 *eP* **P 05 28 51.9 +0.4**
KURK Kurchatov 18.43 299 P **P 05 29 20.9 +0.9**
KURBB Kurchatov Arra 18.48 298 P **P 05 29 20.9 +0.4**
comp=Z,0.1nm,0.3s,baz=103,slow=12,SNR=28
KURBB Lg Lg 05 34 42.1
comp=Z,0.0nm,0.3s,baz=105,slow=32,SNR=5.4
KSRS Korea Array 19.02 104 P **P 05 29 26.8 +0.3**
comp=Z,0.2nm,0.3s,baz=296,slow=10,SNR=13
USRK Ussuriysk Ar. 19.63 81 P **P 05 29 33.0 -0.1**
comp=Z,0.2nm,0.3s,baz=273,slow=7.4,SNR=7.5
AAK Ala-Archa 21.76 275 P **P 05 29 54.8 -1.6**
comp=Z,3.7nm,0.8s,baz=111,slow=6.2,SNR=7.0
AAK Ala-Archa 21.76 275 *deP* **P 05 29 55.4 -1.0**
AAK pmax pmax
comp=Z,11nm,0.8s
TAPN Taplejung 21.83 224 *eP* **P 05 29 55.1 -2.3**
comp=Z,23nm,0.9s
GUN Gumba 22.31 228 *eP* **P 05 29 59.7 -2.9**
comp=Z,20nm,0.6s
JIRN Jiri 22.35 227 *eP* **P 05 30 01.2 -1.8**
RAMN Ramite 22.71 225 *eP* **P 05 30 04.6 -2.2**
comp=Z,40nm,0.9s
KKN Kakani 22.73 229 *eP* **P 05 30 04.6 -2.3**
comp=Z,26nm,0.7s
PKI Pulchoki 22.83 228 *eP* **P 05 30 05.3 -2.8**
comp=Z,13nm,0.7s
PKIN Phulchoki 22.83 228 *eP* **P 05 30 05.3 -2.8**
comp=Z,15nm,0.7s
DANN Dangsing 23.13 233 *eP* **P 05 30 09.2 -2.0**
comp=Z,22nm,0.5s
BVAR Borovoye Array 23.82 303 P **P 05 30 16.9 -0.6**
comp=Z,2.1nm,0.5s,baz=103,slow=9.5,SNR=11
BVAR Borovoye Array 23.82 303 P **P 05 30 16.9 -0.6**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 23.89 303 *ceP* **P 05 30 17.4 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 26.44 192 P **P 05 30 40.2 -1.4**
comp=Z,3.3nm,0.8s,baz=360,slow=8.6,SNR=25
CMAR LR LR 05 42 10.4
comp=Z,41nm,19.6s,baz=195,slow=39
TIXI Tiksi 29.60 15 *deP* **P 05 31 11.2 +1.9**
TIXI pmax pmax
comp=Z,7.0nm,2.6s
ARU Arti 30.95 309 *c iP* **P 05 31 22.4 +1.0**
ARU 05 32 17.6
ARU S **S 05 36 27.1 +1.5**
ARU pmax pmax
comp=Z,3.0nm,0.6s
PETK Petropavlovsk- 35.31 57 LR LR 05 48 17.2
comp=Z,32nm,18.1s,baz=270,slow=39
KLMR Klimovskoe 40.73 317 *eP* **P 05 32 45.3 +0.2**
KLMR pmax pmax
comp=Z,5.0nm,0.5s
VSR Storozhevoye 43.00 303 *eP* P 05 33 02.1 -1.7
VSR pmax pmax
comp=N,60nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
VORD Divnogorie 43.00 303 *eP* **P 05 33 02.4 -1.4**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 43.31 292 *eP* P 05 33 02.3 -4.3
KIV pmax pmax
comp=Z,8.0nm,0.8s
KIV MLR MLR
comp=Z,24nm,16.0s
JOF Joensuu 44.24 321 *ep* **P 05 33 15.3 +1.6**
comp=Z,2.2nm,0.5s
JOF Joensuu 44.24 321 *eP* **P 05 33 15.3 +1.6**
JOF pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 45.36 331 P **P 05 33 22.9 +0.4**
comp=Z,1.4nm,0.6s,baz=64,slow=8.4,SNR=8.8
ARCES ARCESS Array B 45.36 331 *eP* **P 05 33 22.2 -0.3**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 46.98 320 P P 05 33 33.4 -2.0
comp=Z,2.1nm,0.4s,baz=86,slow=7.1,SNR=11
FINES FINESS Array B 46.98 320 *eP* **P 05 33 36.3 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 49.06 305 P P 05 33 48.2 -3.3
comp=Z,0.4nm,0.4s,baz=54,slow=9.7,SNR=4.0
AKASG LR LR 05 54 35.1
comp=Z,29nm,18.6s,baz=215,slow=36
BRTR Keskin Array B 51.25 291 P **P 05 34 07.3 -1.2**
comp=Z,1.1nm,0.6s,baz=81,slow=6.1,SNR=7.4
BRTR LR LR 05 59 38.8
comp=Z,15nm,18.8s,baz=64,slow=40
BRTR Keskin Array B 51.25 291 *eP* **P 05 34 10.4 +1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 53.77 323 P **P 05 34 27.0 +0.2**
comp=Z,0.2nm,0.6s,baz=66,slow=7.4
NOA NORSAR Array B 53.77 323 P **P 05 34 26.7 -0.1**
comp=Z,1.7nm,0.7s,baz=61,slow=7.2,SNR=6.1
NOA LR LR 05 59 07.5
comp=Z,28nm,21.4s,baz=60,slow=38
NOA NORSAR Array B 53.77 323 *eP* **P 05 34 27.4 +0.6**
NOA pmax pmax
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 56.52 310 *eP* **P 05 34 45.3 -1.6**
DPC *epP* **pP 05 34 48.8 -1.3**
DPC Dobruska-Polom 56.52 310 *eP* **P 05 34 45.3 -1.6**
ILAR Eielson Array 57.73 29 P **P 05 34 53.7 -1.4**
comp=Z,1.1nm,0.8s,baz=285,slow=5.6,SNR=12
ILAR Eielson Array 57.73 29 *eP* **P 05 34 55.9 +0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 58.77 309 P **P 05 35 02.2 -0.6**
comp=Z,0.3nm,0.2s,baz=60,slow=6.3,SNR=3.2
INK Inuvik 59.44 21 P **P 05 35 07.5 +0.6**
comp=Z,1.1nm,0.9s,baz=320,slow=6.8,SNR=3.8
INK Inuvik 59.44 21 P **P 05 35 07.5 +0.6**
INK pmax pmax
comp=Z,1.0nm,0.9s
KDAK Kodiak Island 59.68 37 *i* P **P 05 35 10.3 +1.6**
YKA Yellowknife Ar 68.79 18 P **P 05 36 07.2 -1.2**
comp=Z,0.9nm,0.8s,baz=330,slow=5.7,SNR=7.2
YKA Yellowknife Ar 68.79 18 P **P 05 36 07.2 -1.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 69.75 150 P P 05 36 11.7 -3.1
comp=Z,2.0nm,0.7s,baz=344,slow=6.9,SNR=14
WRA Warramunga Arr 69.75 150 P P 05 36 11.7 -3.1
WRA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 73.03 152 P P 05 36 32.5 -2.1
comp=Z,2.4nm,0.6s,baz=344,slow=6.8,SNR=24
ASAR Alice Springs 73.03 152 P P 05 36 32.5 -2.1
ASAR pmax pmax
comp=Z,2.0nm,0.6s
FFC Flin Flon 78.56 15 *i* P **P 05 37 08.4 +2.5**
STKA Stephens Creek 83.25 149 P P 05 37 29.0 -2.0
comp=Z,1.9nm,0.5s,baz=321,slow=5.5,SNR=7.4
STKA Stephens Creek 83.25 149 *eP* P 05 37 29.4 -1.6
STKA pmax pmax
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 87.88 24 P **P 05 37 54.9 +0.4**
comp=Z,0.4nm,0.8s,baz=332,slow=4.2,SNR=3.1
TORD Torodi Ar. Bea 89.78 288 P P 05 38 01.8 -1.8
comp=Z,0.6nm,0.8s,baz=29,slow=3.3,SNR=3.0

*IDC **21** 05:26:40.9±9.1, 52.°74N×169.°33W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/47, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=166.8km s-min=47.0km az=85.0*
*ISCJB **21** 05:26:58.8±0.9, 53.°3N±0.°2×167.°1W±0.°2, h62km±10km, mb3.2/4, Error ellipse: s-maj=31.0km s-min=6.1km az=148.0*
*NEIC **21** 05:26:59.1, 53.°26N×167.°04W, h47km, ML3.4(AEIC), After AEIC.*

ISC 21 05:26:59.6±1.5, 53.°3N±0.°2×167.°1W±0.°1, h55km±17km, n25, σ0s93/26, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.50**	**286**	P	**Pn**	**05 27 11.2**	**0.0**
OKFG				S	**Sn**	**05 27 18.8**	**-0.8**
MREP	**Makushin Rep't**	**0.57**	**22**	P	**Pn**	**05 27 12.1**	**0.0**
MREP				S	**Sn**	**05 27 21.7**	**+0.6**
MSW	**Makushin Switc**	**0.67**	**17**	P	**Pn**	**05 27 12.8**	**-0.4**
MSW				S	**Sn**	**05 27 23.7**	**+0.7**
UNV	**Unalaska Valle**	**0.67**	**32**	P	**Pn**	**05 27 12.1**	**-1.1**
UNV				S	**Sn**	**05 27 22.2**	**-0.9**
MCIR	**Makushin Cirqu**	**0.69**	**10**	P	**Pn**	**05 27 13.9**	**+0.4**
AKRB	**Akutan Reef Bi**	**1.05**	**35**	P	**Pn**	**05 27 18.1**	**0.0**
AKRB				S	**Sn**	**05 27 33.1**	**+1.3**
ZRO	**Akutan Zero**	**1.05**	**39**	P	**Pn**	**05 27 17.8**	**-0.5**
LVA	**Lava Point**	**1.09**	**35**	P	**Pn**	**05 27 18.8**	**+0.1**
NIKH	**Nikolski High**	**1.10**	**255**	P	**Pn**	**05 27 18.9**	**+0.1**
NIKH				S	**Sn**	**05 27 33.9**	**+0.9**
AKGG	**Akutan Green G**	**1.13**	**35**	P	**Pn**	**05 27 19.2**	**0.0**
AKUT	**Akutan**	**1.17**	**42**	P	**Pn**	**05 27 19.0**	**-0.6**
AKUT				S	**Sn**	**05 27 34.4**	**-0.2**
WESE	**West Dahl East**	**1.91**	**50**	P	**Pn**	**05 27 29.7**	**-0.2**
SSLW	**Shishaldin Wes**	**2.31**	**48**	P	**Pn**	**05 27 35.3**	**+0.1**
SSLN	**Shishaldin Nor**	**2.39**	**49**	P	**Pn**	**05 27 37.6**	**+1.3**
ILAR	**Eielson Array**	**15.43**	**34**	Pn	**Pn**	**05 30 34.6**	**+1.1**
	0.0nm,0.3s,baz=224,slow=11,SNR=4.0						
DLBC	**Dease Lake**	**21.24**	**61**	P	**P**	**05 31 43.4**	**+2.6**
	0.7nm,0.6s,baz=273,slow=11,SNR=2.5						
INK	**Inuvik**	**21.83**	**34**	P	**P**	**05 31 45.9**	**-1.1**
	0.7nm,0.7s,baz=239,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**28.60**	**50**	P	**P**	**05 32 49.1**	**-1.2**
	0.2nm,0.5s,baz=271,slow=8.4,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**39.03**	**221**	T	T	06 15 39.3	
	baz=25,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**39.04**	**221**	T	T	06 15 39.7	
	baz=25,slow=76,SNR=31						
H11N1	**WAKE ISLAND Hy**	**39.05**	**221**	T	T	06 15 47.6	
	baz=25,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**40.22**	**220**	T	T	06 17 16.4	
	baz=24,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**40.23**	**220**	T	T	06 17 18.8	
	baz=24,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**40.23**	**220**	T	T	06 17 17.6	
	baz=24,slow=76,SNR=16						
TXAR	**Lajitas Array**	**51.38**	**91**	P	**P**	**05 35 58.2**	**-0.6**
	0.2nm,0.4s,baz=301,slow=5.3,SNR=6.5						

*IDC **21** 05:26:59.6±1.7, 34.°93S×72.°67W, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.6/24, mbtmp3.6/6, ML3.7/2, MS2.7/3, Ms1 2.7/3, ms1mx2.6/19, Error ellipse: s-maj=42.0km s-min=29.9km az=90.0*
*ISCJB **21** 05:27:00.4±1.2, 34.°95S±0.°10×72.°7W±0.°3, h18km, mb3.6/3, MS3.4/1, Error ellipse: s-maj=29.8km s-min=14.1km az=4.2*

ISC 21 05:27:02.9±1.2, 34.°9S±0.°1×72.°5W±0.°2, h18km, n7, σ1s47/7, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.82**	**48**	Pn	**Pn**	**05 28 16.6**	**+2.0**
	0.1nm,0.3s,baz=226,slow=12,SNR=5.6						
CFAA				Sn	**Sb**	**05 29 22.6**	**-1.9**
	0.2nm,0.3s,baz=249,slow=17,SNR=2.8						
CFAA				LR	LR	05 30 20.5	
	comp=Z,20nm,19.4s,baz=236,slow=40						
PLCA	**Paso Flores**	**6.01**	**166**	Pn	**Pn**	**05 28 30.6**	**-0.4**
	0.5nm,0.3s,baz=351,slow=9.1,SNR=6.2						
PLCA				Lg	Lg	05 30 06.3	
	0.9nm,0.3s,baz=259,slow=23,SNR=2.9						
PLCA				LR	LR	05 31 11.0	
	comp=Z,56nm,20.2s,baz=270,slow=42						
LPAZ	**La Paz**	**18.93**	**13**	P	**Pn**	**05 31 24.5**	**+0.3**
	0.1nm,0.3s,baz=192,slow=9.3,SNR=6.5						
SIV	**San Ignacio**	**21.42**	**31**	P	**P**	**05 31 49.6**	**-0.3**
	3.5nm,0.9s,baz=229,slow=10,SNR=7.7						
BDFB	**Brasilia**	**29.12**	**55**	LR	LR	05 45 53.8	
	comp=Z,76nm,18.2s,baz=232,slow=39						
TXAR	**Lajitas Array**	**70.36**	**331**	P	**P**	**05 38 14.9**	**-0.8**
	0.3nm,0.7s,baz=154,slow=8.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**84.83**	**70**	P	**P**	**05 39 37.0**	**+0.3**
	0.5nm,0.6s,baz=245,slow=5.3,SNR=4.8						

*IDC **21** 05:44:51.0±18.0, 36.°03N×71.°75E, h300km±248km, mb2.8/3, mb1 2.8/4, mb1mx2.5/29, mbtmp3.4/4, Error ellipse: s-maj=165.8km s-min=59.7km az=106.0*
*NNC **21** 05:44:51.7±1.7, 37.°04N×70.°82E, h202km±13km, mb2.4, mpv3.5, Error ellipse: s-maj=15.9km s-min=7.7km az=162.0*

ISC 21 05:44:51.4±2.2, 37.°0N±0.°2×70.°82E±0.°0, h200km, n10, σ0s57/15, 7C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.39**	**319**	⇑P	**Pn**	**05 45 34.0**	**-0.1**
	30nm,0.3s						
DZET				⇓S	**Sn**	**05 46 08.3**	**+0.7**
	318nm,0.6s						
SFK	**Sufi-Kurgan**	**3.67**	**34**	⇑P	**Pn**	**05 45 49.4**	**+0.1**
	1.4nm,0.2s						
SFK				⇑S	**Sn**	**05 46 34.7**	**0.0**
	6.0nm,0.2s						
MNAS	**Manas**	**5.63**	**13**	⇑P	**Pn**	**05 46 14.4**	**+0.5**
MNAS				⇓S	**Sn**	**05 47 19.5**	**+0.3**
	12nm,0.6s						
KK31	**Karatay Array**	**6.10**	**358**	⇓P	**Pn**	**05 46 20.2**	**+0.4**
	1.7nm,0.3s,baz=182,slow=12,SNR=67						
KK31				⇑S	**Sn**	**05 47 29.3**	**-0.6**
	3.7nm,0.3s,baz=181,slow=25,SNR=3.9						
AAK	**Ala-Archa**	**6.29**	**26**	⇑P	**Pn**	**05 46 22.0**	**-0.5**
	1.7nm,0.5s						
AAK				⇓S	**Sn**	**05 47 35.0**	**+0.3**
	4.1nm,0.6s						
MKAR	**Makanchi Array**	**12.97**	**38**	P	**Pn**	**05 47 49.5**	**+1.1**
	0.1nm,0.3s,baz=214,slow=11,SNR=4.5						
AB31	**Akbulak array**	**14.57**	**331**	⇑P	**Pn**	**05 48 08.4**	**+0.2**
	0.9nm,0.5s,baz=141,slow=12,SNR=25						
AB31				⇓S	**Sn**	**05 50 50.6**	**-0.5**
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**19.52**	**25**	P	**P**	**05 49 02.5**	**-0.8**
	0.8nm,0.5s,baz=219,slow=11,SNR=5.6						
ARCES	**ARCESS Array B**	**40.62**	**337**	P	**P**	**05 52 11.3**	**-0.1**
	0.9nm,0.8s,baz=119,slow=9.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.58**	**268**	P	P	05 55 08.1	-6.0
	0.1nm,0.4s,baz=48,slow=5.3,SNR=5.9						

IDC 21 05:56:30.9±2.0, 37.°88S×74.°23W, h0km, mb3.5/2, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.4/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/14, Error ellipse: s-maj=46.2km s-min=26.6km az=62.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.03**	**136**	Pn	Pn	05 57 33.1	-1.0
	1.0nm,0.3s,baz=311,slow=15,SNR=24						
PLCA				Sn	Sn	05 58 24.9	+2.8
	2.9nm,0.3s,baz=30,slow=16,SNR=4.6						
PLCA				LR	LR	05 59 17.3	
	comp=Z,148nm,19.5s,baz=314,slow=41						
CFAA	**Coronel Fontan**	**7.96**	**40**	Pn	Pn	05 58 29.2	+1.2
	0.1nm,0.3s,baz=209,slow=12,SNR=14						
CFAA				Sn	Sn	06 00 05.5	+6.6
	0.3nm,0.3s,baz=63,slow=19,SNR=8.2						
LVC	**Limon Verde**	**15.89**	**18**	Pn	Pn	06 00 15.1	-1.2
	6.0nm,0.3s,baz=252,slow=9.6,SNR=2.9						
LVC				LR	LR	06 05 35.5	
	comp=Z,170nm,19.7s,baz=206,slow=34						
CPUP	**Villa Florida**	**18.34**	**56**	LR	LR	06 08 11.7	
	comp=Z,473nm,19.9s,baz=212,slow=38						
LPAZ	**La Paz**	**22.17**	**16**	P	P	06 01 28.6	-0.7
	1.1nm,0.8s,baz=207,slow=9.1,SNR=5.0						
ATAH	**Atahualpa**	**30.84**	**352**	LR	LR	06 11 48.7	
	comp=Z,34nm,18.8s,baz=247,slow=30						
TXAR	**Lajitas Array**	**72.32**	**333**	P	P	06 07 58.8	+0.3
	0.5nm,0.7s,baz=149,slow=7.8,SNR=7.7						

*ISCJB **21** 05:59:31.6±0.8, 2.°21S±0.°06×140.°16E±0.°04, h25km, mb3.7/3, MS2.9/1, Error ellipse: s-maj=9.2km s-min=5.5km az=16.8*
*DJA **21** 05:59:32.3±0.6, 2.°S±4.°×14.°0E±.°, h12km±4km, M4.1/4, MLv4.1/4*

*IDC **21** 05:59:33.2±6.7, 2.°39S×140.°14E, h33km±59km, mb3.5/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.7/4, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/23, Error ellipse: s-maj=31.5km s-min=22.9km az=138.0*

ISC 21 05:59:32.4±1.0, 2.°29S±0.°07×140.°11E±0.°05, h25km, n10, σ0s97/14, mb3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.30**	**169**	P	**Pb**	**05 59 39.2**	**-0.3**
GENI				S	**Sb**	**05 59 44.6**	**+0.3**
JAY	**Jayapura**	**0.63**	**111**	P	**Pb**	**05 59 44.9**	**0.0**
JAY				S	**Sb**	**05 59 53.0**	**-0.4**
JAY	**Jayapura**	**0.63**	**111**	LR	LR	05 59 44.8	
	comp=Z,30nm,18.9s,baz=152,slow=20						
JAY				Pn	**Pb**	**05 59 44.8**	**-0.1**
	181nm,0.3s,baz=282,slow=13,SNR=1190						
JAY				Sn	**Sb**	**05 59 54.3**	**+0.9**
SMPI	**Sarmi**	**1.43**	**282**	P	**Pn**	**05 59 56.2**	**-0.6**
SMPI				S	**Sb**	**06 00 17.3**	**+1.1**
WAMI	**Wamena**	**2.11**	**221**	P	**Pn**	**06 00 07.9**	**+1.8**
WAMI				S	**Sb**	**06 00 35.3**	**-0.5**
WRA	**Warramunga Arr**	**18.43**	**197**	P	**P**	**06 03 44.6**	**-1.5**
	0.4nm,0.3s,baz=19,slow=12,SNR=20						
WRA				S	Sn	06 07 00.0	-12
	0.1nm,0.3s,baz=20,slow=22,SNR=3.6						
HNR	**Honiara**	**20.96**	**111**	LR	LR	06 11 57.8	
	comp=Z,44nm,18.1s,baz=248,slow=36						
ASAR	**Alice Springs**	**22.08**	**195**	P	**P**	**06 04 24.6**	**-1.3**
	1.1nm,0.5s,baz=26,slow=10,SNR=14						
MKAR	**Makanchi Array**	**70.32**	**322**	P			
	1.0nm,0.9s,baz=108,slow=7.8,SNR=6.1				**P**	**06 10 44.6**	**+0.6**
ZALV	**Zalesovo Beam**	**72.29**	**329**	P	**P**	**06 10 55.8**	**+0.2**
	0.5nm,0.5s,baz=116,slow=6.6,SNR=2.8						

*CSEM **21** 06:23:20.0, 42.°45N×13.°40E, h11km, ML2.4/13*

ROM 21 06:23:20.0±0.1, 42.°45N×13.°40E, h11km, MI2.4/13, 6C, Error ellipse: s-maj=1.2km s-min=0.8km az=92.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.09**	**6**	Pg	Pg	06 23 23.1	+0.3
CAMP				Sg	Sg	06 23 25.1	+0.3
CAMP	**Campotosto**	**0.09**	**6**	Pg	Pg	06 23 23.1	+0.3
CAMP				Sg	Sg	06 23 25.1	+0.3
AQU	**L'Aquila**	**0.10**	**178**	⇑*i*Pg	Pg	06 23 23.2	+0.4
AQU				Sg	Sg	06 23 25.3	+0.6
AQU	**L'Aquila**	**0.10**	**178**	⇑*i*Pg	Pg	06 23 23.2	+0.4
AQU				Sg	Sg	06 23 25.3	+0.6
T0104	**Madonna delle**	**0.10**	**206**	⇑*i*Pg	Pg	06 23 23.3	+0.5
T0104				Sg	Sg	06 23 25.5	+0.7
T0106	**Roio Piano**	**0.14**	**184**	⇑*i*Pg	Pg	06 23 24.0	+0.5
T0106				Sg	Sg	06 23 26.2	+0.2
	905nm,0.3s						
SMA1	**SAN MARTINO**	**0.19**	**346**	Pg	Pg	06 23 24.6	+0.4
SMA1				Sg	Sg	06 23 27.8	+0.7
	661nm,0.2s						
FAGN	**Fagnano**	**0.23**	**143**	Pg	Pg	06 23 25.6	+0.7
	983nm,0.4s						
FAGN	**Fagnano**	**0.23**	**143**	Pg	Pg	06 23 25.6	+0.7
	983nm,0.4s						
TERO	**Teramo**	**0.23**	**41**	⇑*i*Pg	Pg	06 23 25.1	+0.2
TERO				Sg	Sg	06 23 28.9	+0.6
	540nm,0.1s						
TERO	**Teramo**	**0.23**	**41**	⇑*i*Pg	Pg	06 23 25.1	+0.2
TERO				Sg	Sg	06 23 28.9	+0.6
	540nm,0.1s						
FIAM	**Fiamignano**	**0.28**	**229**	Pg	Pg	06 23 26.0	+0.2
	269nm,0.4s						
FIAM	**Fiamignano**	**0.28**	**229**	Pg	Pg	06 23 26.0	+0.2
	269nm,0.4s						
LNSS	**Leonessa**	**0.30**	**300**	Pg	Pg	06 23 26.5	+0.1
LNSS				Sg	Sg	06 23 31.7	+1.1
	489nm,0.2s						
LNSS	**Leonessa**	**0.30**	**300**	Pg	Pg	06 23 26.5	+0.1
LNSS				Sg	Sg	06 23 31.7	+1.1
	489nm,0.2s						
VCEL	**Villa Celiera**	**0.33**	**99**	Pg	Pg	06 23 27.5	+0.6
	553nm,0.3s						
VCEL	**Villa Celiera**	**0.33**	**99**	Pg	Pg	06 23 27.5	+0.6
	553nm,0.3s						
PTQR	**Pietraquaria**	**0.43**	**180**	Pg	Pg	06 23 28.7	+0.1
	23nm,0.2s						
PTQR	**Pietraquaria**	**0.43**	**180**	Pg	Pg	06 23 28.7	+0.1
	23nm,0.2s						
NRCA	**Norcia**	**0.44**	**332**	Pg	Pg	06 23 28.7	-0.1
NRCA				Sg	Sg	06 23 35.4	+0.7
	503nm,0.1s						
NRCA	**Norcia**	**0.44**	**332**	Pg	Pg	06 23 28.7	-0.1
NRCA				Sg	Sg	06 23 35.4	+0.7
	503nm,0.1s						
OFFI	**Offida**	**0.53**	**24**	Pg	Pb	06 23 31.4	0.0
	732nm,0.4s						
OFFI	**Offida**	**0.53**	**24**	Pg	Pb	06 23 31.4	0.0
	732nm,0.4s						
MNS	**Montasola**	**0.53**	**263**	Pg	Pg	06 23 30.4	-0.1
	68nm,0.3s						
MNS	**Montasola**	**0.53**	**263**	Pg	Pg	06 23 30.4	-0.1
	68nm,0.3s						
INTR	**Introdacqua**	**0.58**	**139**	Pg	Pg	06 23 31.3	-0.1
	119nm,0.5s						
INTR	**Introdacqua**	**0.58**	**139**	Pg	Pg	06 23 31.3	-0.1
	119nm,0.5s						
CERT	**Cerreto**	**0.59**	**212**	Pg	Pg	06 23 31.8	+0.2
	131nm,0.4s						
CERT	**Cerreto**	**0.59**	**212**	Pg	Pg	06 23 31.8	+0.2
	131nm,0.4s						
FDMO	**Fiordimonte**	**0.63**	**339**	Pg	Pg	06 23 32.1	-0.2
FDMO				Sg	Sb	06 23 41.8	-0.2
	77nm,0.2s						
FDMO	**Fiordimonte**	**0.63**	**339**	Pg	Pg	06 23 32.1	-0.2
FDMO				Sg	Sb	06 23 41.8	-0.2
	77nm,0.2s						

*CSEM **21** 06:23:37.9, 42.°46N×13.°40E, h10km, ML2.4/10*

ROM 21 06:23:37.9±0.1, 42.°46N×13.°40E, h10km, MI2.4/10, Error ellipse: s-maj=1.2km s-min=0.8km az=109.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.11**	**180**	Pg	Pg	06 23 41.0	+0.4
AQU				Sg	Sg	06 23 43.2	+0.7
AQU	**L'Aquila**	**0.11**	**180**	Pg	Pg	06 23 41.0	+0.4
AQU				Sg	Sg	06 23 43.2	+0.7
T0104	**Madonna delle**	**0.11**	**205**	Pg	Pg	06 23 41.2	+0.5
T0104				Sg	Sg	06 23 43.3	+0.7
T0106	**Roio Piano**	**0.15**	**185**	Pg	Pg	06 23 41.8	+0.3
T0106				Sg	Sg	06 23 44.2	+0.3
	905nm,0.3s						
SMA1	**SAN MARTINO**	**0.18**	**344**	Pg	Pg	06 23 42.3	+0.4
SMA1				Sg	Sg	06 23 45.6	+1.0
	661nm,0.2s						
TERO	**Teramo**	**0.22**	**42**	Pg	Pg	06 23 43.0	+0.4
TERO				Sg	Sg	06 23 46.8	+1.1
	540nm,0.1s						
TERO	**Teramo**	**0.22**	**42**	Pg	Pg	06 23 43.0	+0.4
TERO				Sg	Sg	06 23 46.8	+1.1
	540nm,0.1s						
FAGN	**Fagnano**	**0.24**	**145**	Pg	Pg	06 23 43.9	+1.1
	983nm,0.4s						
FAGN	**Fagnano**	**0.24**	**145**	Pg	Pg	06 23 43.9	+1.1
	983nm,0.4s						
FIAM	**Fiamignano**	**0.28**	**228**	Pg	Pg	06 23 44.2	+0.4
	269nm,0.4s						
FIAM	**Fiamignano**	**0.28**	**228**	Pg	Pg	06 23 44.2	+0.4
	269nm,0.4s						
LNSS	**Leonessa**	**0.30**	**298**	Pg	Pg	06 23 44.6	+0.4
LNSS				Sg

NRCA				Sg	Sg	06 23 53.3	+1.0
	503nm,0.1s							
INTR	**Introdacqua**	**0.58**	**140**	Pg	Pg	06 23 49.2	-0.1
	119nm,0.5s							
INTR	**Introdacqua**	**0.58**	**140**	Pg	Pg	06 23 49.2	-0.1
	119nm,0.5s							
FDMO	**Fiordimonte**	**0.62**	**338**	Pg	Pb	06 23 50.7	-0.3
FDMO				Sg	Sb	06 23 59.7	-0.1
	77nm,0.2s							
FDMO	**Fiordimonte**	**0.62**	**338**	Pg	Pb	06 23 50.7	-0.3
FDMO				Sg	Sb	06 23 59.7	-0.1
	77nm,0.2s							

*IDC **21** 06:25:22.9±2.4,54°.21N×86°.35E, h0km, mb1 3.4/2, mb1mx3.1/30, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=18.7km s-min=12.6km az=49.0*
*NNC **21** 06:25:32.4±3.2,53°.51N×85°.95E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=24.7km s-min=19.3km az=10.0*
ISC 21 06:25:28.5±4.8,**54°.2N**±0°.2×**86°.2E**±0°.2,**h35**km,**n7**,σ1§**44**/9,
4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**254**	*i*		06 31 50.0	
	baz=74,slow=317,SNR=12						
ZALV	**Zalesovo Beam**	**0.86**	**254**	Pg	Pn	06 25 39.2	-4.9
	8.3nm,0.3s,baz=74,slow=17,SNR=91						
ZALV				Lg	Lg	06 25 54.1	
	13nm,0.3s,baz=71,slow=29,SNR=48						
ZALV				Rg	Rg	06 26 00.1	
	7.3nm,0.3s,baz=74,slow=32,SNR=25						
KURK	**Kurchatov**	**5.81**	**236**	⇑Pn	**Pn**	**06 26 52.5**	**+0.5**
	0.5nm,0.5s						
KURK				⇓Sn	**Sn**	**06 27 54.8**	**-2.6**
	0.6nm,0.9s						
KURK				⇑Lg	Lg	06 28 22.4	
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**5.91**	**236**	⇑Pn	**Pn**	**06 26 54.0**	**+0.5**
	2.1nm,0.4s						
KURBB				⇓Sn	**Sn**	**06 27 59.4**	**-0.5**
	1.0nm,0.6s						
KURBB				⇓Lg	Lg	06 28 25.2	
	5.4nm,0.6s						
KURBB	**Kurchatov Arra**	**5.91**	**236**	Pn	**Pn**	**06 26 53.6**	**+0.2**
	0.4nm,0.3s,baz=52,slow=13,SNR=29						
KURBB				Sn	**Sn**	**06 28 01.7**	**+1.8**
	0.0nm,0.3s,baz=51,slow=23,SNR=3.6						
KURBB				Lg	Lg	06 28 33.9	
	0.1nm,0.3s,baz=56,slow=30,SNR=7.2						
MK31	**Makanchi Array**	**7.82**	**200**	⇓Pn	**Pn**	**06 27 19.0**	**-0.7**
	0.4nm,0.5s,baz=28,slow=14,SNR=25						
MK31				⇓Sn	Sn	06 28 40.0	-6.9
	0.2nm,0.3s						
MK31				⇑Lg	Lg	06 29 18.6	
	0.6nm,0.6s,baz=29,slow=32,SNR=4.0						
MKAR	**Makanchi Array**	**7.82**	**200**	Pn	**Pn**	**06 27 19.4**	**-0.3**
	0.6nm,0.3s,baz=24,slow=14,SNR=24						
MKAR				Sn	**Sn**	**06 28 48.0**	**+1.1**
	0.1nm,0.3s,baz=24,slow=29,SNR=4.2						
MKAR				Lg	Lg	06 29 31.1	
	0.0nm,0.3s,baz=16,slow=28,SNR=5.5						

*IDC **21** 06:30:01.6±1.1,0°.41N×121°.91E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/38, mbtmp3.7/5, Error ellipse: s-maj=141.7km s-min=19.1km az=64.0*
*ISCJB **21** 06:30:20.5±0.6,0°.27N±0°.09×121°.98E±0°.06, h200km, mb3.4/5, Error ellipse: s-maj=12.0km s-min=8.0km az=10.9*
*DJA **21** 06:30:23.2±0.7,0°N±5°×12°.2E±°, h165km±7km, M3.7/7, MLv3.7/7*
ISC 21 06:30:21.8±0.9,**0°.24N**±0°.10×**121°.98E**±0°.06,**h200**km,**n11**,
σ2§**06**/14,**mb3.6**/5,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.24**	**351**	P	Pn	06 30 45.9	-2.3
MRSI				S	**Sn**	**06 31 04.1**	**-4.6**
APSI	**Ampana**	**1.19**	**196**	P	**Pn**	**06 30 53.0**	**+0.1**
LUWI	**Luwuk**	**1.50**	**148**	P	**Pn**	**06 30 54.9**	**-0.6**
LUWI				S	**Sn**	**06 31 19.3**	**-2.4**
KMSI	**Cibinong**	**2.03**	**81**	P	**Pn**	**06 30 59.9**	**-0.7**
KMSI				S	**Sn**	**06 31 29.0**	**-1.8**
MPSI	**Mapaga**	**2.08**	**273**	P	**Pn**	**06 31 00.6**	**-0.5**
MPSI				S	**Sn**	**06 31 29.1**	**-2.6**
PCI	**Palu**	**2.42**	**242**	P	**Pn**	**06 31 04.4**	**-0.4**
WRA	**Warramunga Arr**	**23.43**	**150**	P	**P**	**06 35 14.3**	**+1.1**
	0.9nm,0.5s,baz=326,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.44**	**155**	P	**P**	**06 35 42.2**	**+1.9**
	0.2nm,0.5s,baz=344,slow=14,SNR=8.2						
SONM	**Songino Array**	**49.30**	**346**	P	**P**	**06 38 51.7**	**+1.1**
	1.5nm,0.6s,baz=164,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**57.88**	**329**	P	**P**	**06 39 54.2**	**+1.5**
	0.5nm,0.3s,baz=122,slow=8.9,SNR=10						
ZALV	**Zalesovo Beam**	**61.68**	**336**	P	**P**	**06 40 19.0**	**+0.6**
	0.3nm,0.3s,baz=125,slow=7.6,SNR=3.5						

*ISCJB **21** 06:39:35.0±0.3,37°.83N±0°.01×22°.07E±0°.02, h4km±2km, mb3.6/6, Error ellipse: s-maj=2.5km s-min=2.1km az=157.4*
*IDC **21** 06:39:35.0±1.1,37°.80N×22°.16E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.4/36, mbtmp3.5/9, ML3.1/2, MS2.6/1, Ms1 2.6/1, ms1mx1.9/35, Error ellipse: s-maj=22.4km s-min=19.4km az=30.0*
*ATH **21** 06:39:35.3,37°.85N×22°.08E, h14km, MD3.6/12, ML3.7*
*CSEM **21** 06:39:35.6±0.1,37°.84N×22°.06E, h5km, MD3.6, Error ellipse: s-maj=2.4km s-min=2.0km az=69.0*
*THE **21** 06:39:35.6,37°.83N×22°.09E, h3km±1km, ML3.4/9, Error ellipse: s-maj=1.3km s-min=0.5km az=288.0*
ISC 21 06:39:35.9±1.0,**37°.85N**±0°.01×**22°.08E**±0°.01,**h5**km±7km,
n153,σ0§**80**/217,**mb3.7**/6,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.20**	**16**	P	**Pg**	**06 39 40.0**	**0.0**
KLV	**Kalavryta, Ach**	**0.20**	**16**	*e*PG	**Pg**	**06 39 39.8**	**-0.2**
KLV	**Kalavryta, Ach**	**0.20**	**16**	P	**Pg**	**06 39 39.8**	**-0.2**
KLV				S	**Sg**	**06 39 42.8**	**+0.1**
GUR	**Goura**	**0.23**	**67**	P	**Pg**	**06 39 40.2**	**-0.2**
GUR				S	**Sg**	**06 39 43.4**	**0.0**
GUR	**Goura**	**0.23**	**67**	*e*PG	**Pg**	**06 39 40.3**	**-0.2**
GUR				*e*SG	**Sg**	**06 39 43.7**	**+0.3**
GUR	**Goura**	**0.23**	**67**	P	**Pg**	**06 39 40.2**	**-0.2**
GUR				S	**Sg**	**06 39 43.4**	**0.0**
GUR				*e*Sg	Sg	06 39 43.7	0.0
DRO	**Drossia**	**0.31**	**290**	P	**Pg**	**06 39 41.4**	**-0.5**
DRO	**Drossia**	**0.31**	**290**	*e*PB	**Pg**	**06 39 41.5**	**-0.5**
DRO	**Drossia**	**0.31**	**290**	P	**Pg**	**06 39 41.4**	**-0.5**
DRO				S	**Sg**	**06 39 46.6**	**+0.5**
AMT	**Artemida-Makis**	**0.43**	**223**	P	**Pg**	**06 39 43.8**	**-0.5**
AMT	**Artemida-Makis**	**0.43**	**223**	*e*PB	**Pg**	**06 39 43.7**	**-0.5**
AMT	**Artemida-Makis**	**0.43**	**223**	P	**Pg**	**06 39 43.7**	**-0.5**
AMT				S	**Sg**	**06 39 50.1**	**+0.2**
UPR	**University Cam**	**0.49**	**332**	P	**Pg**	**06 39 45.3**	**-0.1**
UPR	**University Cam**	**0.49**	**332**	P	**Pg**	**06 39 45.0**	**-0.4**
UPR				S	**Sg**	**06 39 51.2**	**-0.7**
RLS	**Riolos of Patr**	**0.53**	**294**	P	**Pg**	**06 39 44.9**	**-1.1**
RLS				S	**Sg**	**06 39 53.6**	**+0.6**
RLS	**Riolos of Patr**	**0.53**	**294**	*e*PB	**Pg**	**06 39 45.0**	**-1.1**
RLS				*e*SB	**Sg**	**06 39 53.3**	**+0.3**
RLS	**Riolos of Patr**	**0.53**	**294**	*e*Pb	**Pg**	**06 39 45.0**	**-1.1**
RLS				S	**Sg**	**06 39 51.9**	**-1.1**
RLS				*e*Sb	**Sg**	**06 39 53.3**	**+0.3**
VLX	**Vlachokerasia**	**0.53**	**153**	P	**Pg**	**06 39 45.6**	**-0.6**
VLX				S	**Sg**	**06 39 53.3**	**+0.2**
VLX	**Vlachokerasia**	**0.53**	**153**	*e*PB	**Pg**	**06 39 45.8**	**-0.4**
VLX				*e*SB	**Sg**	**06 39 53.5**	**+0.4**
VLX	**Vlachokerasia**	**0.53**	**153**	P	**Pg**	**06 39 45.4**	**-0.8**
VLX	**Vlachokerasia**	**0.53**	**153**	*e*Pb	**Pg**	**06 39 45.8**	**-0.4**
VLX				S	**Sg**	**06 39 53.3**	**+0.2**
KALE	**Kalithea**	**0.55**	**5**	P	**Pg**	**06 39 46.0**	**-0.4**
KALE				S	**Sg**	**06 39 54.8**	**+1.2**
KALE	**Kalithea**	**0.55**	**5**	*e*PB	**Pg**	**06 39 46.1**	**-0.4**
KALE				*e*SB	**Sg**	**06 39 53.4**	**-0.2**
KALE	**Kalithea**	**0.55**	**5**	P	**Pg**	**06 39 46.0**	**-0.4**
KALE				*e*Sb	**Sg**	**06 39 53.4**	**-0.2**
KALE				S	**Sb**	**06 39 54.0**	**-2.2**
EFP	**Efpalio**	**0.59**	**347**	P	**Pg**	**06 39 46.9**	**-0.5**
EFP	**Efpalio**	**0.59**	**347**	*e*PB	**Pg**	**06 39 47.0**	**-0.5**
EFP				*e*SB	**Sg**	**06 39 55.4**	**+0.3**
EFP	**Efpalio**	**0.59**	**347**	P	**Pg**	**06 39 46.9**	**-0.5**
EFP				*e*Sb	**Sg**	**06 39 55.4**	**+0.3**
EFP				S	**Sb**	**06 39 56.0**	**-1.6**
DSF	**Desfina**	**0.67**	**32**	P	**Pg**	**06 39 47.8**	**-0.9**
DSF				S	**Sg**	**06 39 57.2**	**-0.2**
DSF	**Desfina**	**0.67**	**32**	*e*PG	**Pg**	**06 39 48.0**	**-0.7**
DSF	**Desfina**	**0.67**	**32**	*e*Pg	**Pg**	**06 39 48.0**	**-0.7**
DSF				S	**Sg**	**06 39 57.1**	**-0.3**
ITM	**Ithomi**	**0.68**	**190**	P	**Pg**	**06 39 48.0**	**-0.9**
ITM				S	**Sg**	**06 39 58.2**	**+0.5**
ITM	**Ithomi**	**0.68**	**190**	*e*PB	**Pg**	**06 39 48.3**	**-0.6**
ITM	**Ithomi**	**0.68**	**190**	P	**Pg**	**06 39 48.0**	**-0.9**
ITM	**Ithomi**	**0.68**	**190**	*e*Pb	**Pg**	**06 39 48.3**	**-0.6**
ITM				S	**Sg**	**06 39 58.2**	**+0.5**
VTN	**Vitineika**	**0.71**	**276**	P	**Pg**	**06 39 49.4**	**-0.2**
VTN	**Vitineika**	**0.71**	**276**	P	**Pg**	**06 39 49.4**	**-0.2**
LTK	**Loutraki**	**0.72**	**76**	P	**Pg**	**06 39 49.2**	**-0.6**
LTK				S	**Sg**	**06 39 59.7**	**+0.5**
LTK	**Loutraki**	**0.72**	**76**	*e*PB	**Pg**	**06 39 49.2**	**-0.6**
LTK				*e*SB	**Sg**	**06 39 59.5**	**+0.3**
LTK	**Loutraki**	**0.72**	**76**	P	**Pg**	**06 39 49.2**	**-0.6**
LTK				*e*Sb	**Sg**	**06 39 59.5**	**+0.3**
PVO	**Paravola**	**0.88**	**331**	P	**Pg**	**06 39 52.3**	**-0.6**
PVO				S	**Sb**	**06 40 05.9**	**0.0**
PVO	**Paravola**	**0.88**	**331**	P	**Pg**	**06 39 52.3**	**-0.6**
PVO				S	**Sb**	**06 40 05.9**	**0.0**
PYL	**PYLOS**	**0.99**	**196**	P	**Pg**	**06 39 53.6**	**-1.3**
PYL	**PYLOS**	**0.99**	**196**	*e*PG	**Pg**	**06 39 53.8**	**-1.1**
PYL	**PYLOS**	**0.99**	**196**	*e*Pg	**Pg**	**06 39 53.8**	**-1.1**
AXAR	**Agios Charalam**	**1.02**	**26**	*e*PB	**Pg**	**06 39 55.0**	**-0.6**
AXAR	**Agios Charalam**	**1.02**	**26**	*e*Pb	**Pg**	**06 39 55.0**	**-0.6**
PDO	**Prodromos**	**1.03**	**317**	P	**Pg**	**06 39 54.5**	**-1.2**
PDO				S	**Sb**	**06 40 10.8**	**+0.7**
PDO	**Prodromos**	**1.03**	**317**	*e*PB	**Pg**	**06 39 54.7**	**-1.0**
PDO	**Prodromos**	**1.03**	**317**	*e*Pb	**Pg**	**06 39 54.7**	**-1.0**
PDO				S	**Sg**	**06 40 09.3**	**+0.2**
SFD	**Strofades**	**1.03**	**235**	*e*PN	**Pg**	**06 39 55.2**	**-0.5**
SFD	**Strofades**	**1.03**	**235**	*e*Pn	**Pg**	**06 39 55.2**	**-0.5**
KFL	**Anninata**	**1.05**	**285**	P	**Pg**	**06 39 55.1**	**-1.0**
KFL	**Anninata**	**1.05**	**285**	P	**Pg**	**06 39 55.1**	**-1.0**
LKR	**Lokris**	**1.08**	**42**	P	**Pg**	**06 39 55.2**	**-1.5**
LKR				S	**Sg**	**06 40 10.7**	**0.0**
LKR	**Lokris**	**1.08**	**42**	*e*PG	**Pg**	**06 39 55.1**	**-1.6**
LKR				*e*SB	**Sg**	**06 40 10.8**	**0.0**
LKR	**Lokris**	**1.08**	**42**	P	**Pg**	**06 39 55.2**	**-1.5**
LKR				S	**Sg**	**06 40 10.7**	**0.0**
EVR	**Evrytania**	**1.09**	**349**	P	**Pg**	**06 39 55.8**	**-1.0**
EVR				S	**Sn**	**06 40 13.3**	**-0.2**
EVR	**Evrytania**	**1.09**	**349**	*e*PB	**Pg**	**06 39 55.9**	**-0.9**
EVR				*e*SB	**Sg**	**06 40 11.2**	**+0.2**
EVR	**Evrytania**	**1.09**	**349**	P	**Pg**	**06 39 56.0**	**-0.9**
EVR				*e*Sb	**Sg**	**06 40 11.2**	**+0.2**
EVR				S	**Sn**	**06 40 13.3**	**-0.2**
NAIG	**Nisos Aigina**	**1.12**	**94**	*e*PB	**Pg**	**06 39 56.8**	**-0.6**
NAIG	**Nisos Aigina**	**1.12**	**94**	*e*Pb	**Pg**	**06 39 56.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.17**	**2**	P	**Pg**	**06 39 58.2**	**-0.1**
MAKR				S	**Sn**	**06 40 15.8**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.17**	**2**	*e*PB	**Pg**	**06 39 57.3**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.17**	**2**	*e*Pb	**Pg**	**06 39 57.3**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.17**	**2**	P	**Pg**	**06 39 58.2**	**-0.1**
MAKR				S	**Sn**	**06 40 15.8**	**+0.5**
AGG	**Agios Georgios**	**1.19**	**9**	P	**Pg**	**06 39 58.0**	**-0.8**
AGG	**Agios Georgios**	**1.19**	**9**	*e*PB	**Pg**	**06 39 58.2**	**-0.6**
AGG	**Agios Georgios**	**1.19**	**9**	*e*Pb	**Pg**	**06 39 58.2**	**-0.6**
VLS	**Valsamata**	**1.22**	**286**	*e*PN	**Pg**	**06 39 57.5**	**-1.9**
VLS	**Valsamata**	**1.22**	**286**	*e*Pn	**Pg**	**06 39 57.5**	**-1.9**
ATH	**Athens Observa**	**1.30**	**84**	P	**Pg**	**06 39 59.7**	**-1.2**
ATH				S	**Sg**	**06 40 17.5**	**-0.2**
ATH	**Athens Observa**	**1.30**	**84**	*e*PB	**Sg**	**06 40 00.0**	**-0.9**
ATH				*e*SB	**Sg**	**06 40 17.5**	**-0.2**
ATH	**Athens Observa**	**1.30**	**84**	P	**Pg**	**06 39 59.7**	**-1.2**
ATH	**Athens Observa**	**1.30**	**84**	*e*Pb	**Pg**	**06 40 00.0**	**-0.9**
ATH				S	**Sg**	**06 40 17.5**	**-0.2**
VLI	**Veliai**	**1.32**	**148**	P	**Pg**	**06 39 59.9**	**-1.3**
VLI				S	**Sb**	**06 40 18.5**	**+0.1**
VLI	**Veliai**	**1.32**	**148**	*e*PG	**Pg**	**06 40 00.1**	**-1.1**
VLI				*e*SB	**Sn**	**06 40 19.1**	**+0.1**
VLI	**Veliai**	**1.32**	**148**	P	**Pg**	**06 39 59.9**	**-1.3**
VLI				S	**Sb**	**06 40 18.5**	**+0.1**
VLI				*e*Sb	**Sn**	**06 40 19.1**	**+0.1**
ATHU	**Athens Univers**	**1.35**	**84**	P	**Pn**	**06 40 00.6**	**-0.9**
ATHU				S	**Sg**	**06 40 19.5**	**+0.1**
ATHU	**Athens Univers**	**1.35**	**84**	P	**Pn**	**06 40 00.6**	**-0.9**
ATHU				S	**Sg**	**06 40 19.5**	**+0.1**
SMIA	**Simia**	**1.36**	**40**	P	**Pn**	**06 40 00.9**	**-0.7**
SMIA	**Simia**	**1.36**	**40**	*e*PB	**Pn**	**06 40 01.8**	**+0.2**
SMIA	**Simia**	**1.36**	**40**	P	**Pn**	**06 40 00.9**	**-0.7**
SMIA	**Simia**	**1.36**	**40**	*e*Pb	**Pn**	**06 40 01.8**	**+0.2**
PTL	**Penteli**	**1.43**	**81**	P	**Pn**	**06 40 01.9**	**-0.6**
PTL				S	**Sb**	**06 40 20.9**	**-0.6**
PTL	**Penteli**	**1.43**	**81**	*e*PG	**Pn**	**06 40 02.1**	**-0.4**
PTL				*e*SB	**Sn**	**06 40 21.9**	**+0.2**
PTL	**Penteli**	**1.43**	**81**	P	**Pn**	**06 40 01.9**	**-0.6**
PTL				S	**Sb**	**06 40 20.9**	**-0.6**
PTL				*e*Sb	**Sn**	**06 40 21.9**	**+0.2**
MRKA	**Markates**	**1.46**	**54**	P	**Pn**	**06 40 02.6**	**-0.5**
MRKA				S	**Sg**	**06 40 23.7**	**+0.7**
MRKA	**Markates**	**1.46**	**54**	*e*PG	**Pn**	**06 40 02.6**	**-0.5**
MRKA				*e*SB	**Sb**	**06 40 22.9**	**+0.3**
MRKA	**Markates**	**1.46**	**54**	P	**Pn**	**06 40 02.6**	**-0.5**
MRKA				*e*Sb	**Sb**	**06 40 22.9**	**+0.3**
MRKA				S	**Sg**	**06 40 23.7**	**+0.7**
DSL	**Palaion Diasel**	**1.50**	**329**	P	**Pn**	**06 40 02.7**	**-0.8**
DSL	**Palaion Diasel**	**1.50**	**329**	*e*PB	**Pn**	**06 40 03.9**	**+0.4**
DSL	**Palaion Diasel**	**1.50**	**329**	P	**Pn**	**06 40 02.7**	**-0.8**
DSL	**Palaion Diasel**	**1.50**	**329**	*e*Pb	**Pn**	**06 40 03.9**	**+0.4**
SKIA	**Skiathos**	**1.71**	**39**	*e*PN	**Pn**	**06 40 06.4**	**0.0**
SKIA	**Skiathos**	**1.71**	**39**	*e*Pn	**Pn**	**06 40 06.4**	**0.0**
NEO	**Neokhori**	**1.71**	**31**	*e*PN	**Pn**	**06 40 06.0**	**-0.5**
NEO				*e*SN	**Sn**	**06 40 29.7**	**+1.0**
NEO	**Neokhori**	**1.71**	**31**	*e*Pn	**Pn**	**06 40 06.0**	**-0.5**
NEO				*e*Sn	**Sn**	**06 40 29.7**	**+1.0**
KYTH	**Kithira**	**1.74**	**154**	*e*PN	**Pn**	**06 40 07.4**	**+0.6**
KYTH	**Kithira**	**1.74**	**154**	*e*Pn	**Pn**	**06 40 07.4**	**+0.6**
XOR	**Xorichti**	**1.75**	**30**	*e*PN	**Pn**	**06 40 06.6**	**-0.4**
XOR				*e*SN	**Sn**	**06 40 30.2**	**+0.5**
XOR	**Xorichti**	**1.75**	**30**	*e*Pn	**Pn**	**06 40 06.6**	**-0.4**
XOR				*e*Sn	**Sn**	**06 40 30.2**	**+0.5**
AOS	**Alonnisos**	**1.93**	**46**	*e*PB	**Pn**	**06 40 07.1**	**-0.6**
JAN	**Janina**	**2.05**	**332**	*e*PN	**Pn**	**06 40 11.6**	**+0.5**
JAN	**Janina**	**2.05**	**332**	*e*Pn	**Pn**	**06 40 11.6**	**+0.5**
ANKY	**Antikythira Is**	**2.21**	**153**	*e*PN	**Pn**	**06 40 13.7**	**+0.5**
ANKY	**Antikythira Is**	**2.21**	**153**	*e*Pn	**Pn**	**06 40 13.7**	**+0.5**
PAIG	**Paliouri**	**2.42**	**31**	*e*PN	**Pn**	**06 40 16.8**	**+0.6**
PAIG	**Paliouri**	**2.42**	**31**	*e*Pn	**Pn**	**06 40 16.8**	**+0.6**
KZN	**Kozani**	**2.47**	**355**	*e*PN	**Pn**	**06 40 18.0**	**+1.1**
KZN	**Kozani**	**2.47**	**355**	*e*Pn	**Pn**	**06 40 18.0**	**+1.1**
KEK	**Kerkira**	**2.58**	**317**	*e*PN	**Pn**	**06 40 19.2**	**+0.8**
KEK	**Kerkira**	**2.58**	**317**	*e*Pn	**Pn**	**06 40 19.2**	**+0.8**
NEST	**Nestorio**	**2.69**	**343**	*e*PB	**Pn**	**06 40 20.7**	**+0.8**
PLG	**Polygyros**	**2.74**	**22**	*e*PB	**Pn**	**06 40 21.2**	**+0.6**
KARN	**Karanos**	**2.85**	**148**	*e*PB	**Pn**	**06 40 23.5**	**+1.4**
APE	**Apeiranthos**	**2.85**	**105**	*e*PN	**Pn**	**06 40 22.5**	**+0.3**
APE	**Apeiranthos**	**2.85**	**105**	*e*Pn	**Pn**	**06 40 22.5**	**+0.3**
HORT	**Hortiatis**	**2.86**	**16**	*e*PN	**Pn**	**06 40 22.7**	**+0.4**
HORT	**Hortiatis**	**2.86**	**16**	*e*Pn	**Pn**	**06 40 22.7**	**+0.4**
OUR	**Ouranopolis**	**2.89**	**30**	*e*PN	**Pn**	**06 40 23.4**	**+0.8**
OUR				*e*SN	**Sn**	**06 40 58.6**	**+0.8**
OUR	**Ouranopolis**	**2.89**	**30**	*e*Pn	**Pn**	**06 40 23.4**	**+0.8**
OUR				*e*Sn	**Sn**	**06 40 58.6**	**+0.8**
VAM	**Vamos**	**2.97**	**144**	*e*PN	**Pn**	**06 40 24.8**	**+1.0**
VAM	**Vamos**	**2.97**	**144**	*e*Pn	**Pn**	**06 40 24.8**	**+1.0**
FNA	**Florina**	**2.98**	**350**	*e*PB	**Pn**	**06 40 25.8**	**+1.8**
GRG	**Griva**	**3.12**	**4**	*e*PN	**Pn**	**06 40 26.6**	**+0.8**
GRG	**Griva**	**3.12**	**4**	*e*Pn	**Pn**	**06 40 26.6**	**+0.8**
SOH	**Sokhos**	**3.13**	**18**	*e*PN	**Pn**	**06 40 26.6**	**+0.6**
SOH	**Sokhos**	**3.13**	**18**	*e*Pn	**Pn**	**06 40 26.6**	**+0.6**
LIA	**Limnos Island**	**3.17**	**49**	*e*PB	**Pn**	**06 40 28.1**	**+1.6**
CHOS	**Chios island**	**3.18**	**79**	*e*PN	**Pn**	**06 40 26.9**	**+0.2**
CHOS	**Chios island**	**3.18**	**79**	*e*Pn	**Pn**	**06 40 26.9**	**+0.2**
KNT	**Kendrikon**	**3.37**	**11**	*e*PN	**Pn**	**06 40 31.0**	**+1.7**
KNT	**Kendrikon**	**3.37**	**11**	*e*Pn	**Pn**	**06 40 31.0**	**+1.7**
IDI	**Anoyia**	**3.41**	**138**	Pn	**Pn**	**06 40 30.4**	**+0.5**
	2.3nm,0.3s,baz=310,slow=13,SNR=4.0						
IDI				Sn	**Sn**	**06 41 10.5**	**-0.2**
	7.4nm,0.3s,baz=266,slow=21,SNR=5.2						
SRS	**Serrai**	**3.47**	**19**	*e*PN	**Pn**	**06 40 31.6**	**+1.0**
SRS	**Serrai**	**3.47**	**19**	*e*Pn	**Pn**	**06 40 31.6**	**+1.0**
NVR	**Nevrokopi**	**3.76**	**21**	*e*PN	**Pn**	**06 40 35.9**	**+1.3**
NVR	**Nevrokopi**	**3.76**	**21**	*e*Pn	**Pn**	**06 40 35.9**	**+1.3**
SMG	**Samos**	**3.77**	**91**	*e*PN	**Pn**	**06 40 35.8**	**+1.0**
SMG	**Samos**	**3.77**	**91**	*e*Pn	**Pn**	**06 40 35.8**	**+1.0**
LAST	**Lasithi**	**3.83**	**133**	*e*PN	**Pn**	**06 40 36.6**	**+0.9**
LAST	**Lasithi**	**3.83**	**133**	*e*Pn	**Pn**	**06 40 36.6**	**+0.9**
ZKR	**Zakros**	**4.31**	**128**	*e*PN	**Pn**	**06 40 43.7**	**+1.6**
ZKR	**Zakros**	**4.31**	**128**	*e*Pn	**Pn**	**06 40 43.7**	**+1.6**
BRTR	**Keskin Array B**	**9.22**	**75**	Pn	**Pn**	**06 41 51.6**	**+2.0**
	0.2nm,0.3s,baz=258,slow=13,SNR=6.0						
DAVOX	**Davos/Dischmat**	**12.68**	**319**	LR	LR	06 48 22.6	
	comp=Z,28nm,18.8s,baz=104,slow=41						
ESDC	**Sonseca Array**	**20.37**	**283**	P	**P**	**06 44 14.4**	**+0.9**
	0.3nm,0.3s,baz=80,slow=13,SNR=4.4						
HFS	**Hagfors**	**22.94**	**349**	P	**P**	**06 44 42.2**	**+1.5**
	1.3nm,0.6s,baz=148,slow=12,SNR=4.5						
NOA	**NORSAR Array B**	**24.20**	**347**	P	**P**	**06 44 53.3**	**+0.1**
	0.6nm,0.8s,baz=152,slow=8.8,SNR=3.1						
EKA	**Eskdalemuir Ar**	**24.41**	**324**	P	**P**	**06 44 56.4**	**+1.2**
	1.9nm,0.5s,baz=124,slow=9.7,SNR=7.6						
TORD	**Torodi Ar. Bea**	**30.58**	**222**	P	**P**	**06 45 49.8**	**-1.0**
	0.4nm,0.5s,baz=33,slow=9.1,SNR=6.2						
MKAR	**Makanchi Array**	**44.43**	**58**	P	**P**	**06 47 47.0**	**-0.7**
	0.5nm,0.4s,baz=277,slow=6.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**45.00**	**48**	P	**P**	**06 47 50.2**	**-1.8**
	1.0nm,0.4s,baz=270,slow=9.0,SNR=5.3						

*IDC **21** 06:39:40.9±1.6, 1°.95N×96°.47E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.7/43, mbtmp4.1/7, ML3.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/34, Error ellipse: s-maj=38.9km s-min=21.9km az=38.0*
*DJA **21** 06:39:45.5±0.5,2°.N±3°×9°.7E±°, h18km±11km, M4.0/10, mb4.3/4, mB6.3/1, MLv3.9/10, Mw(mB)6.0/1*
*NEIC **21** 06:39:46.6±0.5,2°.09N×96°.66E, h35km, mb4.3/2, Error ellipse: s-maj=10.5km s-min=6.5km az=46.0*
ISC 21 06:39:42.2±2.5,**2°.04N**±0°.06×**96°.58E**±0°.06,**h3**km±16km,
n30,σ1§**18**/27,**mb4.2**/8,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.45**	**325**	P	**Pn**	**06 39 55.0**	**-0.5**
SNSI				S	**Sb**	**06 40 04.3**	**+4.5**
GSI	**Gunungsitoli**	**1.23**	**126**	P	**Pn**	**06 40 06.5**	**+0.2**
GSI				S	**Sg**	**06 40 21.6**	**-0.2**
GSI	**Gunungsitoli**	**1.23**	**126**	*e*Pn	**Pn**	**06 40 06.4**	**+0.1**
TPTI		**1.35**	**26**	P	**

EFP	**Efpalio**	**0.60**	**348**	P	**Pg**	**06 42 20.4**	**-0.3**
EFP				S	**Sg**	**06 42 29.1**	**+0.4**
ITM	**Ithomi**	**0.67**	**189**	P	**Pg**	**06 42 21.4**	**-0.5**
ITM				S	**Sb**	**06 42 31.6**	**-0.3**
ITM	**Ithomi**	**0.67**	**189**	*e*PN	**Pg**	**06 42 21.5**	**-0.5**
ITM				*e*SN	**Sb**	**06 42 31.7**	**-0.2**
ITM	**Ithomi**	**0.67**	**189**	P	**Pg**	**06 42 21.5**	**-0.5**
ITM				S	**Sg**	**06 42 31.1**	**+0.4**
ITM				*e*Sn	**Sb**	**06 42 31.7**	**-0.2**
DSF	**Desfina**	**0.68**	**33**	P	**Pg**	**06 42 21.1**	**-1.2**
DSF	**Desfina**	**0.68**	**33**	*e*PB	**Pg**	**06 42 21.3**	**-1.0**
DSF	**Desfina**	**0.68**	**33**	P	**Pg**	**06 42 21.3**	**-1.0**
LTK	**Loutraki**	**0.74**	**75**	P	**Pg**	**06 42 22.5**	**-0.8**
LTK				S	**Sg**	**06 42 32.8**	**-0.3**
LTK	**Loutraki**	**0.74**	**75**	*e*PN	**Pg**	**06 42 22.6**	**-0.8**
LTK	**Loutraki**	**0.74**	**75**	P	**Pg**	**06 42 22.6**	**-0.8**
LTK				S	**Sg**	**06 42 32.8**	**-0.3**
PVO	**Paravola**	**0.88**	**332**	P	**Pg**	**06 42 25.9**	**-0.2**
PVO				S	**Sb**	**06 42 39.4**	**+1.2**
PYL	**PYLOS**	**0.97**	**195**	*e*PN	**Pg**	**06 42 27.1**	**-0.8**
PYL	**PYLOS**	**0.97**	**195**	P	**Pg**	**06 42 27.0**	**-0.8**
SFD	**Strofades**	**1.02**	**235**	*e*PN	**Pg**	**06 42 28.3**	**-0.3**
SFD	**Strofades**	**1.02**	**235**	*e*Pn	**Pg**	**06 42 28.3**	**-0.3**
PDO	**Prodromos**	**1.03**	**318**	P	**Pg**	**06 42 27.9**	**-0.9**
PDO				S	**Sb**	**06 42 42.6**	**+0.3**
PDO	**Prodromos**	**1.03**	**318**	*e*PN	**Pg**	**06 42 28.1**	**-0.7**
PDO	**Prodromos**	**1.03**	**318**	P	**Pg**	**06 42 27.9**	**-0.9**
PDO				S	**Sb**	**06 42 42.6**	**+0.3**
AXAR	**Agios Charalam**	**1.04**	**27**	P	**Pg**	**06 42 28.6**	**-0.5**
AXAR				S	**Sn**	**06 42 44.5**	**+0.4**
AXAR	**Agios Charalam**	**1.04**	**27**	*e*PN	**Pg**	**06 42 29.0**	**-0.1**
AXAR				*e*SN	**Sg**	**06 42 44.4**	**-0.2**
AXAR	**Agios Charalam**	**1.04**	**27**	P	**Pg**	**06 42 28.6**	**-0.5**
AXAR	**Agios Charalam**	**1.04**	**27**	*e*Pn	**Pg**	**06 42 29.0**	**-0.1**
AXAR				*e*Sn	**Sg**	**06 42 42.4**	**-0.2**
AXAR				S	**Sn**	**06 42 44.5**	**+0.4**
EVR	**Evrytania**	**1.09**	**350**	P	**Pg**	**06 42 29.1**	**-1.0**
EVR				S	**Sn**	**06 42 46.3**	**+0.7**
EVR	**Evrytania**	**1.09**	**350**	*e*PN	**Pg**	**06 42 29.4**	**-0.7**
EVR				*e*SN	**Sg**	**06 42 44.5**	**+0.1**
EVR	**Evrytania**	**1.09**	**350**	P	**Pg**	**06 42 29.1**	**-1.0**
EVR	**Evrytania**	**1.09**	**350**	*e*Pn	**Pg**	**06 42 29.4**	**-0.7**
EVR				*e*Sn	**Sg**	**06 42 44.5**	**+0.1**
EVR				S	**Sn**	**06 42 46.3**	**+0.7**
LKR	**Lokris**	**1.10**	**42**	P	**Pg**	**06 42 28.4**	**-1.8**
LKR				S	**Sg**	**06 42 43.6**	**-0.9**
LKR	**Lokris**	**1.10**	**42**	*e*PN	**Pg**	**06 42 30.0**	**-0.2**
LKR	**Lokris**	**1.10**	**42**	P	**Pg**	**06 42 28.4**	**-1.8**
LKR	**Lokris**	**1.10**	**42**	*e*Pn	**Pg**	**06 42 30.0**	**-0.2**
LKR				S	**Sg**	**06 42 43.6**	**-0.9**
NAIG	**Nisos Aigina**	**1.13**	**94**	*e*PN	**Pg**	**06 42 30.0**	**-0.9**
NAIG	**Nisos Aigina**	**1.13**	**94**	*e*Pn	**Pg**	**06 42 30.0**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.18**	**3**	*e*PN	**Pn**	**06 42 31.9**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.18**	**3**	*e*Pn	**Pn**	**06 42 31.9**	**+0.4**
AGG	**Agios Georgios**	**1.20**	**10**	*e*PN	**Pg**	**06 42 32.2**	**0.0**
AGG	**Agios Georgios**	**1.20**	**10**	*e*Pn	**Pg**	**06 42 32.2**	**0.0**
VLS	**Valsamata**	**1.21**	**287**	*e*PN	**Pb**	**06 42 31.0**	**-1.0**
VLS	**Valsamata**	**1.21**	**287**	*e*Pn	**Pb**	**06 42 31.0**	**-1.0**
ATH	**Athens Observa**	**1.32**	**84**	P	**Pn**	**06 42 33.5**	**+0.1**
ATH				S	**Sn**	**06 42 51.6**	**+0.7**
ATH	**Athens Observa**	**1.32**	**84**	*e*PN	**Pb**	**06 42 33.8**	**0.0**
ATH	**Athens Observa**	**1.32**	**84**	P	**Pn**	**06 42 33.5**	**+0.1**
ATH	**Athens Observa**	**1.32**	**84**	*e*Pn	**Pb**	**06 42 33.8**	**0.0**
ATH				S	**Sn**	**06 42 51.6**	**+0.7**
VLI	**Veliai**	**1.32**	**148**	P	**Pn**	**06 42 32.9**	**-0.5**
VLI				S	**Sb**	**06 42 50.5**	**-0.2**
VLI	**Veliai**	**1.32**	**148**	*e*PN	**Pb**	**06 42 33.7**	**-0.1**
VLI	**Veliai**	**1.32**	**148**	P	**Pn**	**06 42 32.9**	**-0.5**
VLI	**Veliai**	**1.32**	**148**	*e*Pn	**Pb**	**06 42 33.7**	**-0.1**
VLI				S	**Sb**	**06 42 50.5**	**-0.2**
ATHU	**Athens Univers**	**1.37**	**84**	P	**Pn**	**06 42 33.7**	**-0.4**
ATHU				S	**Sn**	**06 42 52.6**	**+0.3**
ATHU	**Athens Univers**	**1.37**	**84**	P	**Pn**	**06 42 33.7**	**-0.4**
ATHU				S	**Sn**	**06 42 52.6**	**+0.3**
SMIA	**Simia**	**1.38**	**41**	*e*PN	**Pg**	**06 42 35.5**	**0.0**
SMIA				*e*SN	**Sn**	**06 42 53.1**	**+0.6**
SMIA	**Simia**	**1.38**	**41**	*e*Pn	**Pg**	**06 42 35.5**	**0.0**
SMIA				*e*Sn	**Sn**	**06 42 53.1**	**+0.6**
PTL	**Penteli**	**1.44**	**81**	P	**Pn**	**06 42 34.6**	**-0.5**
PTL				S	**Sn**	**06 42 54.0**	**-0.1**
PTL	**Penteli**	**1.44**	**81**	*e*PN	**Pn**	**06 42 35.5**	**+0.4**
PTL				*e*SN	**Sn**	**06 42 54.2**	**+0.1**
PTL	**Penteli**	**1.44**	**81**	P	**Pn**	**06 42 34.6**	**-0.5**
PTL	**Penteli**	**1.44**	**81**	*e*Pn	**Pn**	**06 42 35.5**	**+0.4**
PTL				*e*Sn	**Sn**	**06 42 54.2**	**+0.1**
MRKA	**Markates**	**1.48**	**54**	*e*PN	**Pn**	**06 42 36.0**	**+0.3**
MRKA				*e*SN	**Sg**	**06 42 56.3**	**-0.4**
MRKA	**Markates**	**1.48**	**54**	*e*Pn	**Pn**	**06 42 36.0**	**+0.3**
MRKA				*e*Sn	**Sg**	**06 42 56.3**	**-0.4**
DSL	**Palaion Diasel**	**1.50**	**330**	*e*PN	**Pb**	**06 42 37.3**	**+0.4**
DSL	**Palaion Diasel**	**1.50**	**330**	*e*Pn	**Pb**	**06 42 37.3**	**+0.4**
THL	**Klokotos Trika**	**1.72**	**359**	*e*PN	**Pb**	**06 42 40.4**	**-0.3**
THL	**Klokotos Trika**	**1.72**	**359**	*e*Pn	**Pb**	**06 42 40.4**	**-0.3**
SKIA	**Skiathos**	**1.73**	**39**	*e*PN	**Pn**	**06 42 40.0**	**+1.0**
SKIA	**Skiathos**	**1.73**	**39**	*e*Pn	**Pn**	**06 42 40.0**	**+1.0**
NEO	**Neokhori**	**1.73**	**32**	*e*PN	**Pn**	**06 42 39.2**	**+0.1**
NEO	**Neokhori**	**1.73**	**32**	*e*Pn	**Pn**	**06 42 39.2**	**+0.1**
KYTH	**Kithira**	**1.74**	**153**	*e*PN	**Pb**	**06 42 41.0**	**0.0**
KYTH	**Kithira**	**1.74**	**153**	*e*Pn	**Pb**	**06 42 41.0**	**0.0**
XOR	**Xorichti**	**1.76**	**30**	*e*PN	**Pn**	**06 42 40.2**	**+0.6**
XOR	**Xorichti**	**1.76**	**30**	*e*Pn	**Pn**	**06 42 40.2**	**+0.6**
AOS	**Alonnisos**	**1.95**	**46**	*e*PN	**Pn**	**06 42 42.5**	**+0.4**
AOS	**Alonnisos**	**1.95**	**46**	*e*Pn	**Pn**	**06 42 42.5**	**+0.4**
JAN	**Janina**	**2.05**	**333**	*e*PN	**Pb**	**06 42 45.3**	**-1.0**
JAN	**Janina**	**2.05**	**333**	*e*Pn	**Pb**	**06 42 45.3**	**-1.0**
PAIG	**Paliouri**	**2.44**	**31**	*e*PN	**Pn**	**06 42 49.8**	**+1.0**
PAIG	**Paliouri**	**2.44**	**31**	*e*Pn	**Pn**	**06 42 49.8**	**+1.0**
KARN	**Karanos**	**2.85**	**148**	*e*PB	**Pn**	**06 42 57.1**	**+2.6**
OUR	**Ouranopolis**	**2.91**	**30**	*e*PN	**Pn**	**06 42 55.5**	**+0.3**
OUR	**Ouranopolis**	**2.91**	**30**	*e*Pn	**Pn**	**06 42 55.5**	**+0.3**
CHOS	**Chios island**	**3.20**	**79**	*e*PN	**Pn**	**06 43 00.3**	**+1.0**
CHOS	**Chios island**	**3.20**	**79**	*e*Pn	**Pn**	**06 43 00.3**	**+1.0**

IDC 21 06:42:46.3±3.2, 6.70S×147.76E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/24, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=106.1km s-min=31.6km az=108.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.52**	**223**	P	P	06 47 03.0	-1.4
	0.2nm,0.3s,baz=49,slow=11,SNR=10						
ASAR	**Alice Springs**	**21.49**	**217**	P	P	06 47 36.6	-0.3
	1.8nm,0.6s,baz=40,slow=11,SNR=12						
MKAR	**Makanchi Array**	**78.51**	**320**	P	P	06 54 49.4	-0.1
	0.1nm,0.4s,baz=112,slow=6.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**145.99**	**284**	PKPbc	PKPbc	07 02 29.1	0.0
	0.4nm,0.3s,baz=89,slow=3.4,SNR=10						

*IDC **21** 07:03:54.3±1.1,9.19S×154.28E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.7/18,mbtmp3.7/8,MS2.9/1,Ms1 2.9/1, ms1mx2.6/19,Error ellipse: s-maj=43.9km s-min=22.2km az=108.0*

*ISCJB **21** 07:03:58.2±1.1,9.2S±0.2×154.2E±0.3,h33km,mb3.6/8, Error ellipse: s-maj=38.5km s-min=18.1km az=20.9*

ISC 21 07:03:59.9±1.2, 9.2S±0.2×154.2E±0.3, h35km, n10, σ0§91/9, mb3.7/8, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.67**	**93**	LR	LR	07 07 20.3	
	comp=Z,99nm,18.8s,baz=291,slow=37						
WRA	**Warramunga Arr**	**21.96**	**239**	P	**P**	**07 08 50.5**	**-0.4**
	3.0nm,0.6s,baz=61,slow=9.9,SNR=31						
ASAR	**Alice Springs**	**24.15**	**231**	P	**P**	**07 09 13.1**	**+0.1**
	0.6nm,0.7s,baz=66,slow=9.7,SNR=7.6						
STKA	**Stephens Creek**	**25.41**	**206**	P	**P**	**07 09 24.3**	**0.0**
	0.8nm,0.8s,baz=48,slow=14,SNR=2.9						
SONM	**Songino Array**	**70.77**	**328**	P	**P**	**07 15 14.4**	**+1.5**
	0.1nm,0.3s,baz=131,slow=5.9,SNR=2.9						
QSPA	**South Pole Qui**	**80.78**	**180**	P	**P**	**07 16 10.2**	**+0.4**
	2.3nm,1.1s,baz=260,slow=1.8,SNR=6.8						
MKAR	**Makanchi Array**	**84.54**	**319**	P	**P**	**07 16 28.2**	**-1.4**
	0.6nm,0.8s,baz=117,slow=7.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**85.57**	**326**	P	**P**	**07 16 34.1**	**-0.3**
	0.8nm,0.6s,baz=118,slow=6.0,SNR=3.4						
ILAR	**Eielson Array**	**85.70**	**22**	P	**P**	**07 16 34.4**	**-0.6**
	0.5nm,1.1s,baz=241,slow=5.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**152.75**	**281**	PKPbc	**PKPbc**	**07 23 54.2**	**0.0**
	0.5nm,0.9s,baz=84,slow=4.3,SNR=2.8						

*BJI **21** 07:29:33.8, 36.03N×67.67E, h7km, mB4.5/13, mb4.4/19, Ms4.1/7, Ms7 3.8/8*

*IDC **21** 07:29:33.8±0.6, 35.67N×67.68E, h0km, mb4.2/22, mb1 4.3/28, mb1mx4.3/36, mbtmp4.2/28, ML3.8/3, MS3.4/19, Ms1 3.4/19, ms1mx3.3/36, Error ellipse: s-maj=13.9km s-min=10.0km az=9.0*

*ISCJB **21** 07:29:33.5±0.2, 35.76N±0.03×67.70E±0.02, h10km, mb4.2/42, MS3.4/17, Error ellipse: s-maj=3.6km s-min=2.9km az=173.9*

*NEIC **21** 07:29:35.7±0.4, 35.81N×67.66E, h10km, mb4.5/10, Error ellipse: s-maj=7.3km s-min=6.5km az=187.0*

*TEH **21** 07:29:37.5, 35.94N×67.66E, h10km, ML4.5*

*MOS **21** 07:29:38.2±1.0, 35.84N×67.78E, h36km, mb4.7/20, Error ellipse: s-maj=7.4km s-min=4.2km az=70.8*

*NNC **21** 07:29:41.3±2.7, 35.96N×67.39E, h146km±16km, mb4.1, mpv4.9, Error ellipse: s-maj=21.4km s-min=20.3km az=150.0*

ISC 21 07:29:35.3±0.4, 35.77N±0.04×67.70E±0.04, h10km, n179, σ1§87/185, mb4.3/42, MS3.5/17, 19C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.65**	**138**	*e*PN	**Pg**	**07 30 05.4**	**-1.5**
KBL	**Kabul**	**1.65**	**138**	*e*Pn	**Pg**	**07 30 05.4**	**-1.5**
DZET	**Dzherino**	**3.16**	**16**	⇓P	**Pb**	**07 30 28.6**	**-3.1**
DZET	145nm,0.5s						
				⇑S	**Sn**	**07 31 07.3**	**+4.1**
DZET	737nm,0.4s						
DZET	**Dzherino**	**3.16**	**16**	PN	**Pb**	**07 30 28.6**	**-3.1**
DZET						07 31 07.2	
DZET				pmax	pmax		
	comp=Z,327nm,0.4s						
DZET				smax	smax		
	comp=N,737nm,0.4s						
CEP	**Cherat**	**3.97**	**118**	P	Pb	07 30 39.9	-5.6
CEP				S	**Sg**	**07 31 45.0**	**+2.2**
THW	**Thamme Wali**	**4.47**	**130**	P	Pb	07 30 47.5	-6.5
SARP	**Sargodha**	**5.64**	**131**	P	Pn	07 31 03.7	+4.5
IMYA	**Miami**	**6.18**	**278**	*e*P	**Pn**	**07 31 07.7**	**+0.9**
SFK	**Sufi-Kurgan**	**6.25**	**46**	⇑P	Pn	07 31 11.1	+3.4
SFK	comp=N,44nm,0.4s						
				⇓S	**Sn**	**07 32 25.1**	**+5.8**
SFK	comp=N,198nm,0.4s						
SFK	**Sufi-Kurgan**	**6.25**	**46**	PN	Pn	07 31 10.8	+3.0
SFK						07 32 26.8	
SFK				pmax	pmax		
	comp=Z,44nm,0.4s						
SFK				smax	smax		
	comp=N,198nm,0.4s						
ISRO	**Mashad**	**6.69**	**277**	*e*P	**Pn**	**07 31 11.3**	**-2.4**
IMOG	**Moghan**	**6.79**	**275**	*e*P	**Pn**	**07 31 15.9**	**+0.6**
IPAY	**Payeh**	**7.08**	**278**	*e*P	**Pn**	**07 31 18.3**	**-0.9**
IAKL	**Akhelmad**	**7.28**	**279**	*e*P	**Pn**	**07 31 21.4**	**-0.6**
IKRD	**Kardeh**	**7.49**	**280**	*e*P	**Pn**	07 31 14.0	-11
KSH	**Kashi**	**7.55**	**58**	Pn	**Pn**	**07 31 23.4**	**-2.2**
KSH				Sn	Sn	07 32 37.4	-14
KSH				smax	smax		
	comp=N,330nm,0.6s						
KSH				smax	smax		
	comp=E,200nm,0.7s						
DLH	**Dalhousie**	**7.57**	**113**	*e*P	Pn	07 31 30.0	+4.1
DLH				*ex*	Sn	07 33 03.0	+11
KK31	**Karatay Array**	**7.64**	**16**	P	**Pn**	**07 31 28.1**	**+1.3**
	comp=E,22nm,0.2s,baz=205,slow=14,SNR=379						
KK31				⇑S	**Sn**	**07 32 52.6**	**-0.8**
	comp=E,73nm,0.5s,baz=204,slow=24,SNR=7.9						
KK31	**Karatay Array**	**7.64**	**16**	*e*P	**Pn**	**07 31 28.0**	**+1.3**
KK31						07 32 52.5	
KK31				pmax	pmax		
	comp=Z,22nm,0.3s						
KK31				smax	smax		
	comp=N,73nm,0.5s						
KKAR	**Karatay Array**	**7.64**	**16**	*e*P	**Pn**	**07 31 27.8**	**+1.1**
KKAR				pmax	pmax		
	comp=Z,30nm,0.3s						
KKAR	**Karatay Array**	**7.64**	**16**	*e*Pn	**Pn**	**07 31 27.8**	**+1.1**
	comp=Z,30nm,0.3s						
MNAS	**Manas**	**7.68**	**28**	⇑P	**Pn**	**07 31 28.8**	**+1.5**
MNAS	comp=Z,25nm,0.4s						
				⇓S	**Sn**	**07 32 57.6**	**+3.2**
MNAS	comp=Z,136nm,0.6s						
MNAS	**Manas**	**7.68**	**28**	P	**Pn**	**07 31 29.8**	**+2.5**
MNAS						07 32 59.7	
MNAS				pmax	pmax		
	comp=Z,32nm,0.5s						
MNAS				smax	smax		
	comp=N,107nm,0.5s						
AML	**Almayashu**	**7.88**	**34**	P	**Pn**	**07 31 32.2**	**+1.8**
	SNR=53						
AML	**Almayashu**	**7.88**	**34**	*i* P	**Pn**	**07 31 32.2**	**+1.8**
ISFR	**Sfrayin**	**7.92**	**282**	*e*P	**Pn**	**07 31 31.0**	**+0.1**
DHRM	**DHARAMSHALA**	**7.96**	**114**	*e*P	Pn	07 31 33.8	+2.6
DHRM				*e*S	**Sn**	**07 32 57.9**	**-3.5**
DHRM				AML	AML	07 34 01.9	
	comp=N,351nm,0.7s						
DHRM				AML	AML	07 34 03.3	
	comp=E,441nm,0.8s						
GEYT	**Alibeck**	**7.98**	**289**	Pn	**Pn**	**07 31 29.8**	**-1.5**
	comp=E,6.5nm,0.3s,baz=119,slow=9.2,SNR=22						
GEYT				Sn	**Sn**	**07 33 03.0**	**+1.3**
	comp=E,3.8nm,0.3s,baz=108,slow=24,SNR=3.4						
GEYT				Lg	Lg	07 33 50.6	
	comp=E,2.0nm,0.3s,baz=148,slow=40,SNR=2.5						
ISHV	**Shirvan**	**8.23**	**285**	*e*P	**Pn**	**07 31 34.2**	**-0.7**
EKS2	**Erkin-Say**	**8.34**	**33**	P	**Pn**	**07 31 38.7**	**+2.3**
	SNR=21						
EKS2	**Erkin-Say**	**8.34**	**33**	*e*P	**Pn**	**07 31 38.4**	**+1.9**
EKS2				pmax	pmax		
	comp=Z,30nm,0.6s						
EKS2	**Erkin-Say**	**8.34**	**33**	*e*Pn	**Pn**	**07 31 38.4**	**+1.9**
	comp=Z,30nm,0.6s						
UCH	**Uchtor**	**8.35**	**37**	P	**Pn**	**07 31 38.0**	**+1.1**
	SNR=161						
UCH	**Uchtor**	**8.35**	**37**	*i* P	**Pn**	**07 31 37.9**	**+1.1**
BHK	**Bhakra**	**8.47**	**118**	*e*P	**Pn**	**07 31 39.0**	**+0.9**
KZA	**Kyzart**	**8.62**	**41**	P	**Pn**	**07 31 41.6**	**+1.1**
	SNR=154						
KZA	**Kyzart**	**8.62**	**41**	*i* P	**Pn**	**07 31 41.6**	**+1.1**
AAK	**Ala-Archa**	**8.65**	**36**	⇓P	**Pn**	**07 31 42.6**	**+1.9**
AAK	comp=Z,44nm,0.7s						
				⇑S	**Sn**	**07 33 22.4**	**+4.1**
AAK	comp=Z,71nm,0.6s						
AAK	**Ala-Archa**	**8.65**	**36**	P	**Pn**	**07 31 41.7**	**+1.1**
	SNR=67						
AAK	**Ala-Archa**	**8.65**	**36**	Pn	**Pn**	**07 31 41.5**	**+0.9**
	comp=Z,14nm,0.3s,baz=202,slow=7.4,SNR=84						
AAK				Sn	**Sn**	**07 33 22.0**	**+3.7**
	comp=Z,12nm,0.3s,baz=331,slow=20,SNR=7.8						
AAK				Lg	Lg	07 34 12.1	
	baz=16,slow=18,SNR=1.5						
AAK				LR	LR	07 35 21.3	
	comp=Z,281nm,18.2s,baz=217,slow=40						
AAK	**Ala-Archa**	**8.65**	**36**	*ce*P	**Pn**	**07 31 42.3**	**+1.7**
AAK				pmax	pmax		
	comp=Z,80nm,0.6s						
AAK	**Ala-Archa**	**8.65**	**36**	*e*Pn	**Pn**	**07 31 41.7**	**+1.1**
	comp=Z,52nm,0.4s						
AAK				Sn	**Sn**	**07 33 22.0**	**+3.7**
AAK				Lg	Lg	07 34 12.1	
SDNR	**Sundarnagar**	**8.82**	**116**	*e*P	**Pn**	**07 31 44.0**	**+1.1**
FRU	**Bishkek**	**8.86**	**35**	*i* P	**Pn**	**07 31 44.0**	**+0.6**
FRU				*i* S	Sn	07 33 16.0	-7.3
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
FRU				MLR	MLR		
	comp=Z,1μm,4.0s						
KBK	**Karagaybulak**	**8.88**	**37**	P	**Pn**	**07 31 45.6**	**+1.7**
	SNR=52						
KBK	**Karagaybulak**	**8.88**	**37**	*i* P	**Pn**	**07 31 45.6**	**+1.7**
CHMS	**Chumysh**	**9.05**	**35**	P	**Pn**	**07 31 48.0**	**+2.0**
	SNR=6.4						
CHMS	**Chumysh**	**9.05**	**35**	*i* P	**Pn**	**07 31 48.0**	**+2.0**
USP	**Ospenovka**	**9.15**	**33**	P	**Pn**	**07 31 49.0**	**+1.6**
	SNR=17						
USP	**Ospenovka**	**9.15**	**33**	*i* P	**Pn**	**07 31 49.0**	**+1.6**
SMLA	**Simla**	**9.16**	**118**	*i* P	Pn	07 31 49.0	+1.4
SMLA				*e*S	**Sn**	**07 33 25.6**	**-5.1**
SMLA				AML	AML	07 34 37.8	
	comp=E,147nm,0.7s						
SMLA				AML	AML	07 34 39.4	
	comp=N,132nm,0.2s						
ULHL	**Ulahol**	**9.27**	**43**	P	**Pn**	**07 31 50.5**	**+1.3**
	SNR=26						
ULHL	**Ulahol**	**9.27**	**43**	*i* P	**Pn**	**07 31 50.5**	**+1.3**
TKM2	**Tokmak 2**	**9.40**	**38**	⇓P	**Pn**	**07 31 51.6**	**+0.5**
TKM2	comp=N,26nm,0.5s						
				⇑S	**Sn**	**07 33 39.2**	**+2.3**
TKM2	comp=N,72nm,0.7s						
TKM2	**Tokmak 2**	**9.40**	**38**	P	**Pn**	**07 31 52.0**	**+1.0**
	SNR=22						
TKM2	**Tokmak 2**	**9.40**	**38**	P	**Pn**	**07 31 51.5**	**+0.5**
TKM2						07 33 39.1	
TKM2				pmax	pmax		
	comp=Z,26nm,0.5s						
TKM2				smax	smax		
	comp=N,72nm,0.7s						
TKM2	**Tokmak 2**	**9.40**	**38**	*e*Pn	**Pn**	**07 31 51.7**	**+0.7**
	comp=N,40nm,0.5s						
DDI	**Dehra Dun**	**10.24**	**119**	*ex*	Sn	07 34 04.3	+6.8
DDI				AML	AML	07 35 14.7	
	comp=N,172nm,0.7s						
DDI				AML	AML	07 35 17.3	
	comp=E,137nm,0.6s						
AAA	**Alma-Ata**	**10.35**	**41**	*e*P	**Pn**	**07 32 06.1**	**+2.3**
AAA				*e*S	**Sn**	**07 34 04.1**	**+4.2**
AAA				pmax	pmax		
	comp=Z,100nm,0.2s						
AAA				smax	smax		
	comp=E,300nm,2.7s						
AAA				MLR	MLR		
	comp=Z,1μm,13.0s						
NDI	**New Delhi**	**10.71**	**129**	*e*P	**Pn**	**07 32 09.0**	**+0.2**
NDI				*ex*	**Sn**	**07 34 06.0**	**-2.8**
IGLO	**Ghaloghah**	**11.24**	**278**	*e*P	**Pn**	**07 32 16.4**	**+0.1**
PDGK	**Podgornoye**	**11.81**	**47**	⇑P	**Pn**	**07 32 23.6**	**-0.2**
PDGK	comp=Z,29nm,1.0s						
				⇑S	**Sn**	**07 34 36.6**	**+0.9**
PDGK	comp=Z,26nm,1.0s						
PDGK	**Podgornoye**	**11.81**	**47**	P	**Pn**	**07 32 23.9**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,29nm,1.0s						
OTUK	**Ortayu**	**12.93**	**14**	⇑P	**Pn**	**07 32 38.7**	**-0.5**
	comp=Z,13nm,0.6s						
OTUK				⇓S	**Sn**	**07 35 00.3**	**-2.8**
	comp=Z,22nm,0.6s						
AB31	**Akbulak array**	**14.63**	**340**	⇑P	**Pn**	**07 32 59.4**	**-2.9**
	comp=Z,4.4nm,0.5s						
AB31				⇓S	Sn	07 35 37.1	-7.3
	comp=Z,10nm,0.8s						
AB31	**Akbulak array**	**14.63**	**340**	P	**Pn**	**07 32 59.8**	**-2.5**
AB31						07 35 37.1	
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31				smax	smax		
	comp=N,10.0nm,0.8s						
ABKAR	**Akbulak array**	**14.63**	**340**	*e*Pn	**Pn**	**07 32 59.9**	**-2.4**
	comp=N,8.2nm,0.5s						
BHPL	**Bhopal**	**15.07**	**143**	*e*P	**Pn**	**07 33 08.3**	**-0.1**
BHPL				*ex*	**Sn**	**07 35 54.6**	**-0.9**
DANN	**Dangsing**	**15.48**	**114**	*e*P	**Pn**	**07 33 11.3**	**-2.8**
	comp=N,77nm,0.9s						
MK31	**Makanchi Array**	**15.52**	**40**	⇑P	**Pn**	**07 33 13.1**	**-1.1**
	comp=N,24nm,0.9s,baz=227,slow=13,SNR=54						
MK31				⇓S	**Sn**	**07 36 06.6**	**+0.5**
	comp=N,3.6nm,0.7s						
MK31	**Makanchi Array**	**15.52**	**40**	*i* P	**Pn**	**07 33 13.0**	**-1.1**
MK31				pmax	pmax		
	comp=Z,24nm,0.9s						
MKAR	**Makanchi Array**	**15.52**	**40**	Pn	**Pn**	**07 33 12.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=111,slow=9.2,SNR=7.2						
MKAR				LR	LR	07 39 34.7	
	comp=Z,132nm,18.0s,baz=178,slow=38						
AKTO	**Aktyubinsk**	**16.25**	**337**	⇓P	**Pn**	**07 33 21.5**	**-2.1**
	comp=Z,12nm,0.8s						
AKTO				⇓S	**Sn**	**07 36 17.3**	**-6.5**
	comp=Z,13nm,0.8s						
AKTO	**Aktyubinsk**	**16.25**	**337**	Pn	**Pn**	**07 33 21.7**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=143,slow=15,SNR=16						
AKTO				Sn	Sn	07 36 13.0	-11
	baz=270,slow=20,SNR=2.2						
AKTO				LR	LR	07 40 10.1	
	comp=Z,86nm,20.2s,baz=146,slow=

KIV *eS* Sn 07 38 11.4 -3.0
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,56nm,14.0s
ARU Arti 21.58 346 *d iP* **P 07 34 25.4 +0.5**
ARU 07 34 47.3
ARU S **S 07 38 23.4 -0.4**
ARU SS **SnSn 07 38 50.8 +3.3**
ARU pmax pmax
comp=Z,15nm,2.5s
ARU Arti 21.58 346 *eP* **P 07 34 24.9 0.0**
comp=Z,13nm,0.9s
SVE Sverdlovsk 21.60 349 *eP* **P 07 34 28.3 +3.2**
SVE *eS* **S 07 38 22.4 -1.8**
SVE pmax pmax
comp=Z,28nm,1.4s
ZALV Zalesovo Beam 21.75 28 P **P 07 34 26.8 0.0**
comp=Z,18nm,0.5s,baz=224,slow=10,SNR=66
NVS Novosibirsk 21.89 25⇑ *iP* **P 07 34 28.1 -0.1**
NVS *eS* **S 07 38 29.1 -0.8**
NVS pmax pmax
comp=Z,35nm,1.2s
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.4s
NVS smax smax
comp=E,15nm,1.7s
RAYN Ar Rayn 22.77 244 *eP* **P 07 34 38.4 +0.4**
comp=E,10nm,1.2s
SHL Shillong 23.10 109 *eP* **P 07 34 42.5 +0.9**
ANN Anapa 24.67 301 *eP* **P 07 34 57.3 +1.1**
ANN pmax pmax
comp=Z,18nm,0.8s
SOKR Solikamsk 24.88 347 *eP* **P 07 34 55.7 -2.2**
SOKR pmax pmax
comp=Z,7.0nm,0.7s
GTA Gaotai 25.63 72 *eP* **P 07 35 06.0 +0.8**
GTA pP **pP 07 35 10.3 +2.1**
GTA sP **sP 07 35 13.4 +3.9**
GTA PMZ
comp=Z,4.0nm,0.9s
MMAI Mount Meron Ar 26.73 274 LR LR 07 46 42.4
comp=Z,72nm,21.1s,baz=45,slow=38
BRTR Keskin Array B 27.12 289 P **P 07 35 19.6 +1.0**
comp=Z,2.3nm,0.9s,baz=94,slow=7.8,SNR=12
BRTR LR LR 07 47 37.1
comp=Z,48nm,20.7s,baz=79,slow=40
BRTR Keskin Array B 27.12 289 *ceP* **P 07 35 20.3 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 28.81 322 LR LR 07 48 58.4
comp=Z,125nm,21.8s,baz=88,slow=40
OBN Obninsk 28.81 322 *i* P P 07 35 35.9 +2.6
OBN *i* 07 36 27.6
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,120nm,20.0s
ZAK Zakamensk 29.49 49⇓ *iP* **P 07 35 40.7 +1.1**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
TLY Talaya 30.09 47⇓ *eP* P 07 35 47.2 +2.5
TLY pmax pmax
comp=Z,5.0nm,1.3s
KLMR Klimovskoe 30.87 333 *eP* **P 07 35 50.5 -1.0**
KLMR pmax pmax
comp=Z,20nm,1.7s
SONM Songino Array 30.95 55 P **P 07 35 54.2 +1.7**
comp=Z,3.7nm,0.9s,baz=256,slow=9.6,SNR=24
SONM LR LR 07 50 09.9
comp=Z,212nm,20.2s,baz=260,slow=40
AKASG Malin Array Be 31.35 311 P **P 07 35 55.9 0.0**
comp=Z,0.8nm,0.5s,baz=90,slow=7.4,SNR=13
AKASG LR LR 07 51 06.3
comp=Z,110nm,19.1s,baz=90,slow=41
ULN Ulaanbaatar 31.39 55⇓ *eP* **P 07 35 57.9 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.7s
ULN MLR MLR
comp=Z,190nm,24.0s
CMAR Chiang Mai Arr 32.53 114 P **P 07 36 06.6 0.0**
comp=Z,0.8nm,0.3s,baz=298,slow=8.9,SNR=9.9
CMAR LR LR 07 53 00.0
comp=Z,47nm,20.4s,baz=295,slow=43
XAN Xi'an 33.68 81 P **P 07 36 16.8 +0.3**
XAN pP pP 07 36 28.0 +8.4
XAN PMZ
comp=Z,2.0nm,0.7s
HHC Hu-ho-hao-te 34.52 68 *eP* P 07 36 25.9 +2.1
HHC PP **PP 07 37 40.0 -1.9**
HHC S **S 07 41 53.0 +0.4**
HHC PMZ
comp=Z,21nm,1.0s
HHC PMZ
comp=Z,92nm,4.6s
HHC LN
comp=Z,160nm,13.6s
HHC LE
comp=Z,46nm,14.8s
HHC LZ
comp=Z,120nm,11.1s
JOF Joensuu 35.21 332 *ep* **P 07 36 30.6 +1.2**
comp=Z,6.6nm,0.6s
JOF Joensuu 35.21 332 *eP* **P 07 36 30.6 +1.2**
JOF pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 36.63 328 P **P 07 36 42.5 +0.9**
comp=Z,4.8nm,0.6s,baz=125,slow=12,SNR=23
FINES LR LR 07 55 19.2
comp=Z,89nm,18.2s,baz=98,slow=42
KAF Kangasniemi 36.83 329 *ep* **P 07 36 44.1 +0.9**
comp=Z,5.0nm,0.5s
KAF Kangasniemi 36.83 329 *eP* **P 07 36 44.1 +0.9**
KAF pmax pmax
comp=Z,5.0nm,0.5s
BOD Bodaibo 37.61 39 *eP* **P 07 36 50.5 +0.6**
BOD pmax pmax
comp=Z,5.0nm,1.1s
DPC Dobruska-Polom 39.46 308 *eP* **P 07 37 07.6 +1.9**
DPC *ex* x 07 37 17.9
DPC Dobruska-Polom 39.46 308 *eP* **P 07 37 07.6 +1.9**
DPC *e* 07 37 17.9
KEV Kevo 40.52 340 *ep* **P 07 37 15.0 +0.9**
comp=Z,0.4nm,0.4s
KEV Kevo 40.52 340 *eP* **P 07 37 15.0 +0.9**
ARCES ARCESS Array B 40.83 339 P **P 07 37 17.7 +1.0**
comp=Z,3.5nm,0.7s,baz=121,slow=7.4,SNR=24
ARCES LR LR 07 55 04.5
comp=Z,49nm,19.3s,baz=147,slow=37
GERES GERESS Array B 41.18 306 P **P 07 37 20.6 +0.6**
comp=Z,0.4nm,0.2s,baz=93,slow=8.3,SNR=1.7
GERES LR LR 07 57 09.7
comp=Z,66nm,18.4s,baz=74,slow=40
NB2 NORSAR Subarra 43.37 324 P **P 07 37 37.5 -0.1**
comp=Z,1.3nm,0.5s,baz=100,slow=8.6
NOA NORSAR Array B 43.37 324 P **P 07 37 37.7 +0.1**
comp=Z,1.4nm,0.5s,baz=100,slow=8.1,SNR=9.7
NOA LR LR 07 57 41.4
comp=Z,50nm,20.2s,baz=105,slow=39
PSI Prapat 43.71 131 P **P 07 37 41.0 +0.1**
comp=Z,7.3nm,0.8s,baz=12,slow=20,SNR=2.1
PSI Prapat 43.71 131 P **P 07 37 41.0 +0.1**
LPG La Plagne 46.26 302 *eP* P 07 38 06.3 +5.2
MBDF Montbardon 46.38 301 *eP* P 07 38 06.6 +4.6
comp=Z,7.7nm,0.8s
MBDF Montbardon 46.38 301 *eP* P 07 38 06.6 +4.6
MBDF pmax pmax
comp=Z,8.0nm,0.8s
MBDF Montbardon 46.38 301 *eP* P 07 38 06.6 +4.6
comp=Z,7.7nm,0.8s
KMBO Kilima Mbogo 46.40 224 LR LR 07 57 42.9
comp=Z,60nm,21.1s,baz=106,slow=36
KEST Kesra 46.73 288 P **P 07 38 03.1 -1.5**
comp=Z,1.0nm,0.8s,baz=146,slow=6.9,SNR=2.3
KEST LR LR 08 01 31.0
comp=Z,19nm,18.8s,baz=300,slow=41
TIXI Tiksi 47.45 22⇑ *eP* **P 07 38 10.0 +0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 47.45 22 *eP* **P 07 38 09.0 -0.7**
comp=Z,5.5nm,0.8s
KSAR Wonju Array Be 47.62 69 P **P 07 38 11.1 -0.4**
KSAR Wonju Array Be 47.62 69 P **P 07 38 11.1 -0.4**
KSRS Korea Array 47.64 69 P **P 07 38 11.1 -0.5**
comp=Z,2.4nm,0.9s,baz=280,slow=6.4,SNR=5.6
KSRS LR LR 07 59 47.8
comp=Z,62nm,18.5s,baz=262,slow=38
KSRS Korea Array 47.64 69 P **P 07 38 11.1 -0.5**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,62nm,18.5s
SMF Signal de Mont 48.04 304 *eP* **P 07 38 15.3 +0.6**
comp=Z,12nm,0.8s
SMF Signal de Mont 48.04 304 *eP* **P 07 38 15.3 +0.6**
SMF pmax pmax
comp=Z,12nm,0.8s
SMF Signal de Mont 48.04 304 *eP* **P 07 38 15.3 +0.6**
comp=Z,12nm,0.8s
AVF Avril sur Loir 48.34 304 *eP* **P 07 38 17.4 +0.4**
comp=Z,9.1nm,1.0s
AVF Avril sur Loir 48.34 304 *eP* **P 07 38 17.4 +0.4**
AVF pmax pmax
comp=Z,9.0nm,1.0s
AVF Avril sur Loir 48.34 304 *eP* **P 07 38 17.4 +0.4**
comp=Z,9.1nm,1.0s
USRK Ussuriysk Ar. 48.85 59 P **P 07 38 19.7 -1.2**
comp=Z,1.6nm,0.8s,baz=274,slow=8.1,SNR=4.3
YSS Yuzh-Sakhalins 55.42 54⇓ *eP* **P 07 39 10.8 +1.1**
YSS pmax pmax
comp=Z,31nm,2.5s
MJAR Matsushiro Arr 55.70 67 P **P 07 39 11.9 -0.1**
comp=Z,1.3nm,0.5s,baz=300,slow=9.7,SNR=4.1
BILL Bilibino 60.42 25 *eP* **P 07 39 45.3 +0.8**
BILL pmax pmax
comp=Z,2.0nm,1.3s
TORD Torodi Ar. Bea 63.02 267 P **P 07 40 01.6 -1.2**
comp=Z,2.2nm,0.7s,baz=58,slow=4.5,SNR=9.1
TORD LR LR 08 10 45.6
comp=Z,35nm,19.1s,baz=125,slow=39
DBIC Dimbokro 71.98 265 P P 07 41 01.5 +2.0
comp=Z,2.9nm,0.9s,baz=117,slow=1.3,SNR=4.3
LIC Lamto 72.38 265 *eP* **P 07 41 02.3 +0.4**
LIC Lamto 72.38 265 *eP* **P 07 41 02.3 +0.4**
COLD Coldfoot 73.37 14 *eP* **P 07 41 06.3 -0.7**
INK Inuvik 75.03 8 *eP* **P 07 41 17.3 +0.8**
INK Inuvik 75.03 8 *eP* **P 07 41 17.3 +0.8**
ILAR Eielson Array 76.18 15 P **P 07 41 23.8 +0.5**
comp=Z,0.8nm,0.8s,baz=90,slow=7.1,SNR=3.3
SCHQ Schefferville 81.68 335 P **P 07 41 54.9 +1.2**
comp=Z,1.8nm,0.8s,baz=90,slow=7.1,SNR=3.3
YKA Yellowknife Ar 82.06 1 P **P 07 41 56.2 +0.8**
comp=Z,1.0nm,0.5s,baz=353,slow=5.0,SNR=15
YKA Yellowknife Ar 82.06 1 P **P 07 41 56.2 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 83.91 120 P **P 07 42 05.8 +0.1**
comp=Z,1.9nm,0.6s,baz=322,slow=4.8,SNR=20
ASAR Alice Springs 86.07 123 P **P 07 42 16.9 +0.5**
comp=Z,1.8nm,0.6s,baz=312,slow=5.2,SNR=29
ASAR Alice Springs 86.07 123 P **P 07 42 17.0 +0.5**

*KRNET **21** 07:37:57.3±0.1, 39.°93N×78.°01E, h2km, mb3.8*
*NNC **21** 07:38:00.1±3.6, 40.°09N×77.°90E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=35.0km s-min=12.5km az=143.0*
ISC 21 07:38:02.8±2.5, 40.°0N±0.°1×77.°8E±0.°1, h23km, n10, σ1§89/17, 6C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NRN	**Naryn**	**1.98**	**317**	*eP*	**Pb**	**07 38 36.5**	**-1.9**
	baz=315						
NRN				*eS*	**Sb**	**07 39 05.6**	**+2.9**
	baz=315						
KDJ	**Kajisay**	**2.17**	**348**	*eP*	**Pn**	**07 38 38.0**	**+0.2**
	baz=345						
KDJ				*eS*	**Sb**	**07 39 08.0**	**-0.2**
	baz=345						
BOOM	**Boomskoye usch**	**2.85**	**331**	*eP*	**Pn**	**07 38 48.6**	**+1.5**
	baz=329						
BOOM				*eS*	**Sb**	**07 39 26.4**	**-1.3**
	baz=329						
SALK	**Salom-Alik**	**3.17**	**287**	*eP*	**Pn**	**07 38 53.2**	**+1.8**
	baz=288						
SALK				*eS*	**Sb**	**07 39 34.6**	**-2.1**
	baz=288						
SFK	**Sufi-Kurgan**	**3.31**	**272**	⇓*Pn*	**Pn**	**07 38 54.5**	**+1.1**
	12nm,0.4s						
SFK				⇓*Sn*	**Sb**	**07 39 37.7**	**-3.1**
	7.9nm,0.3s						
TKM2	**Tokmak 2**	**3.35**	**331**	⇑*Pg*	**Pb**	**07 38 60.0**	**-1.7**
TKM2				⇑*Lg*	Lg	07 39 45.7	
PDGK	**Podgornoye**	**3.55**	**20**	⇓*Pn*	**Pn**	**07 38 54.8**	**-1.6**
	6.0nm,0.4s						
PDGK				⇓*Sn*	**Sn**	**07 39 38.7**	**+1.0**
	22nm,0.7s						
AAK	**Ala-Archa**	**3.62**	**318**	⇓*Pg*	**Pb**	**07 39 05.1**	**-1.1**
	4.6nm,0.5s						
AAK				⇑*Lg*	Lg	07 39 53.6	
KK31	**Karatay Array**	**6.29**	**302**	⇓*Pg*	**Pb**	**07 39 53.6**	**+2.1**
	2.9nm,0.8s,baz=123,slow=16,SNR=6.0						
KK31				⇑*Lg*	Lg	07 41 20.1	
	1.3nm,0.5s,baz=110,slow=28,SNR=4.3						
DZET	**Dzherino**	**7.06**	**263**	⇑*Pn*	**Pn**	**07 39 43.3**	**-1.5**
	9.3nm,0.5s						
DZET				⇑*Sn*	**Sn**	**07 41 05.6**	**+1.2**
	10.0nm,0.4s						

*ISCJB **21** 08:13:01.4±0.3, 5.°93N±0.°03×125.°37E±0.°06, h107km±4km, mb4.2/11, Error ellipse: s-maj=9.5km s-min=4.8km az=0.7*
*MAN **21** 08:13:01, 5.°75N×125.°27E, h32km, mb5.1, ML4.1, MS4.3*
*IDC **21** 08:13:02.7±3.7, 5.°99N×125.°16E, h112km±30km, mb4.0/9, mb1 4.1/9, mb1mx3.5/47, mbtmp4.3/9, MS3.6/2, Ms1 3.6/2, ms1mx2.8/32, Error ellipse: s-maj=47.7km s-min=14.9km az=91.0*
*NEIC **21** 08:13:02.7±0.7, 6.°00N×125.°15E, h115km±6km, mb4.3/2, Error ellipse: s-maj=21.6km s-min=7.2km az=96.0*
*DJA **21** 08:13:04.2±0.5, 6.°N±3.°×12.°5E±.°, h96km±8km, M4.8/12, mb4.8/12, mB5.2/7, MLv5.0/9, Mw(mB)4.6/7*
ISC 21 08:13:02.7±0.8, 5.°94N±0.°04×125.°32E±0.°07, h108km±7km, n48, σ1§36/55, mb4.3/11, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DAV	**Davao City (W)**	**1.16**	**13**	*eP*	**Pn**	**08 13 25.6**	**+0.2**
DAV				*eSn*	**Sn**	**08 13 44.3**	**+1.7**
MATI	**Mati**	**1.37**	**43**	*eP*	**Pn**	**08 13 26.8**	**-1.1**
MATI				*eS*	**Sn**	**08 13 45.0**	**-1.8**
CTBH	**Cotabato--PC H**	**1.67**	**320**	⇓*eP*	**Pn**	**08 13 30.2**	**-1.2**
CTBH				*i S*	**Sn**	**08 13 50.5**	**-2.7**
BUKP	**Musuan**	**1.95**	**352**	*eP*	**Pn**	**08 13 34.6**	**-0.4**
BUKP				*eS*	**Sn**	**08 14 00.7**	**+1.1**
SGSI	**Sangihe**	**2.24**	**175**	P	**Pn**	**08 13 38.4**	**-0.3**
SGSI				S	**Sn**	**08 14 05.2**	**-1.1**
CGP	**Cagayan de Oro**	**2.58**	**346**	*eP*	**Pn**	**08 13 41.5**	**-1.6**
PAGZ	**Pagadian**	**2.71**	**315**	*eP*	**Pn**	**08 13 44.2**	**-0.5**
TNTI	**Ternate**	**5.52**	**158**	P	**Pn**	**08 14 22.1**	**-0.5**
	251nm,0.5s,1.0nm						
MRSI	**Marisa**	**6.39**	**212**	P	**Pn**	**08 14 35.1**	**+0.8**
MRSI				S	**Sn**	**08 15 42.1**	**-3.7**
LBMI	**Labuha**	**6.88**	**161**	P	**Pn**	**08 14 40.9**	**-0.1**
	85nm,0.6s,1μm0.4nm						
LBMI				S	**Sn**	**08 15 55.6**	**-2.3**
	85nm,0.6s,1μm0.4nm						
LUWI	**Luwuk**	**7.38**	**200**	P	**Pn**	**08 14 49.2**	**+1.4**
	168nm,0.7s,5μm1.0nm						
LUWI				S	**Sn**	**08 16 12.6**	**+2.5**
	168nm,0.7s,5μm1.0nm						
LUWI	**Luwuk**	**7.38**	**200**	*ePn*	**Pn**	**08 14 48.2**	**+0.3**
	104nm,0.4s						
APSI	**Ampana**	**7.73**	**208**	S	**Sn**	**08 16 20.8**	**+2.4**
SANI	**Sanana**	**7.96**	**175**	P	**Pn**	**08 14 53.6**	**-2.1**
	38nm,0.6s,707nm0.2nm						
SANI				S	Sn	08 16 17.4	-6.7
	38nm,0.6s,707nm0.2nm						
SWI	**Sorong**	**8.99**	**139**	P	**Pn**	**08 15 09.2**	**-0.4**
	20nm,0.3s						
MSAI	**Masohi**	**9.90**	**159**	P	**Pn**	**08 15 22.0**	**0.0**
	12nm,0.6s,1μm						
AAI	**Ambon**	**9.98**	**163**	P	**Pn**	**08 15 21.0**	**-2.1**
	59nm,0.6s,2μm						
MTN	**Manton Dam**	**19.53**	**163**	P	**Pn**	**08 17 23.0**	**-1.1**
	baz=21,SNR=8.7						
KDU	**Kakadu**	**19.82**	**159**	P	**P**	**08 17 25.7**	**+0.8**
	baz=23,SNR=20						
KNRA	**Kununurra**	**21.74**	**171**	P	**P**	**08 17 47.0**	**+1.5**
	baz=23,SNR=6.4						
MANU	**Manus Island**	**23.40**	**109**	P	pP	08 18 23.3	-0.8
	baz=24,SNR=4.6						
FITZ	**Fitzroy Crossi**	**23.89**	**179**	P	**P**	**08 18 06.9**	**+0.4**
	baz=25,SNR=12						
FITZ	**Fitzroy Crossi**	**23.89**	**179**	*eP*	**P**	**08 18 06.5**	**0.0**
	6.2nm,0.5s						
WRAB	**Tennant Creek**	**27.20**	**161**	*eP*	**P**	**08 18 36.0**	**-0.4**
	15nm,1.7s						
WRA	**Warramunga Arr**	**27.20**	**161**	P	**P**	**08 18 36.0**	**-0.4**
	1.5nm,0.4s,baz=330,slow=11,SNR=19						
WRA				PcP	**PcP**	**08 21 54.5**	**+0.2**
	0.8nm,0.6s,baz=326,slow=2.8,SNR=5.1						
QIS	**Mount Isa**	**29.84**	**152**	P	**P**	**08 19 01.0**	**+1.2**
	baz=31,SNR=4.1						
AS31	**Alice Springs**	**30.59**	**164**	*eP*	**P**	**08 19 06.5**	**0.0**
ASAR	**Alice Springs**	**30.59**	**164**	P	**P**	**08 19 06.7**	**+0.2**
	2.1nm,0.7s,baz=343,slow=7.0,SNR=45						
ASAR				PcP	**PcP**	**08 22 02.6**	**-0.1**
	1.2nm,0.5s,baz=346,slow=1.4,SNR=10						
ASAR				ScP	**ScP**	**08 25 34.1**	**-1.5**
	0.7nm,0.8s,baz=342,slow=2.4,SNR=5.9						
WRKA	**Warakurna**	**30.92**	**175**	P	**P**	**08 19 09.7**	**+0.3**
	baz=32,SNR=6.8						
CTA	**Charters Tower**	**33.05**	**142**	P	**P**	**08 19 29.2**	**+1.1**
	4.1nm,0.8s,baz=307,slow=8.4						
ERM	**Erimo**	**39.27**	**21**	*eP*	P	08 20 09.3	-11
NWAO	**Narrogin (SRO)**	**39.40**	**191**	P	**P**	**08 20 22.2**	**+0.2**
	4.0nm,0.4s,baz=40,slow=5.3,SNR=7.1						
BBOO	**Buckleboo**	**39.86**	**166**	P	**P**	**08 20 26.6**	**+0.8**
	baz=41,SNR=68						
BBOO	**Buckleboo**	**39.86**	**166**	*eP*	**P**	**08 20 26.3**	**+0.5**
STKA	**Stephens Creek**	**40.68**	**159**	P	**P**	**08 20 33.5**	**+1.0**
	4.8nm,0.7s,baz=337,slow=8.5,SNR=14						
STKA				PcP	**PcP**	**08 22 32.5**	**+0.2**
	1.4nm,0.5s,baz=344,slow=5.2,SNR=3.8						
STKA	**Stephens Creek**	**40.68**	**159**	P	**P**	**08 20 33.6**	**+1.0**
	baz=42,SNR=7.7						
ASAJ	**Asahikawa**	**40.94**	**19**	P	**P**	**08 20 34.6**	**0.0**
	7.5nm,0.4s,baz=187,slow=14,SNR=12						
ARMA	**Armidale**	**44.07**	**147**	P	**P**	**08 21 02.0**	**+1.8**
	baz=45,SNR=5.0						
TOO	**Toolangi**	**47.19**	**158**	P	**P**	**08 21 27.1**	**+2.5**
	baz=48,SNR=4.0						
MKAR	**Makanchi Array**	**54.95**	**325**	LR	LR	08 46 46.1	
	comp=Z,29nm,19.4s,baz=181,slow=37						
ILAR	**Eielson Array**	**83.73**	**26**	P	**P**	**08 25 18.8**	**-0.6**
	1.2nm,0.7s,baz=245,slow=5.1,SNR=23						
MAW	**Mawson**	**85.33**	**200**	P	P	08 25 20.6	-6.6
	baz=86,SNR=10						
VNDA	**Vanda**	**85.78**	**173**	P	**P**	**08 25 29.5**	**+0.2**
	0.3nm,0.4s,baz=350,slow=5.3,SNR=5.7						
INK	**Inuvik**	**88.64**	**21**	P	**P**	**08 25 42.3**	**-1.0**
	1.1nm,1.0s,baz=195,slow=4.2,SNR=3.3						
FINES	**FINESS Array B**	**89.24**	**332**	LR	LR	09 07 58.3	
	comp=Z,46nm,19.5s,baz=217,slow=37						
PMSA	**Palmer Station**	**120.89**	**175**	*e*PKPdf	**PKPdf**	**08 31 40.1**	**-1.7**
TORD	**Torodi Ar. Bea**	**120.89**	**289**	PKP	**PKPdf**	**08 31 41.5**	**-1.9**
	0.4nm,0.7s,baz=70,slow=2.4,SNR=2.6						
CFAA	**Coronel Fontan**	**151.48**	**155**	PKPbc	**PKPbc**	**08 32 44.7**	**0.0**
	0.7nm,0.6s,baz=238,slow=3.3,SNR=12						

*IDC **21** 08:15:30.3±0.5, 4.°35N×82.°56W, h0km, mb4.3/19, mb1 4.6/24, mb1mx4.4/46, mbtmp4.4/24, ML3.9/4, MS3.7/18, Ms1 3.7/18, ms1mx3.6/27, Error ellipse: s-maj=22.0km s-min=10.8km az=61.0*
*NEIC **21** 08:15:32.1±0.2, 4.°21N×82.°62W, h10km, mb4.9/62, Error ellipse: s-maj=5.7km s-min=3.9km az=30.0*
*CASC **21** 08:15:33.8±2.6, 4.°67N×82.°69W, h0km±30km, MD4.4, mb4.8(NEIC)*
*BJI **21** 08:15:33.2, 4.°30N×82.°60W, h10km, mB5.3/3, Ms5.2/1, Ms7 4.9/3*
*ISCJB **21** 08:15:35.5±0.2, 4.°51N±0.°03×82.°55W±0.°02, h33km, mb4.6/78, MS3.8/15, Error ellipse: s-maj=4.1km s-min=3.5km az=15.0*
ISC 21 08:15:35.5±0.4, 4.°33N±0.°05×82.°66W±0.°06, h35km, n559, σ1§32/559, mb4.7/79, MS3.8/15, 168C-171D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AZU	**Azuero**	**4.18**	**35**	*eP*	**Pn**	**08 16 38.0**	**+1.2**
AZU				*eS*	**Sn**	**08 17 22.9**	**-1.6**
ACR	**Cerro Adams**	**4.32**	**353**	⇓*iP*	Pn	08 16 35.1	-3.8
ACR				*eS*	**Sn**	**08 17 26.2**	**-1.9**
BRU2	**Volcan**	**4.43**	**360**	*i P*	**Pn**	**08 16 37.8**	**-2.7**
BRU2				*eS*	**Sn**	**08 17 27.6**	**-3.4**
BRU	**Baru**	**4.45**	**1**	*eP*	**Pn**	**08 16 38.4**	**-2.5**
BUS	**Buena Vista**	**5.30**	**348**	⇓*iP*	**Pn**	**08 16 50.1**	**-2.6**
BUS				*eS*	**Sn**	**08 17 51.6**	**-1.3**
ZANG	**Zanguenga, Cho**	**5.37**	**31**	*eP*	**Pn**	**08 16 53.2**	**+0.1**
ZANG				*eS*	**Sn**	**08 17 53.3**	**-0.6**
BCIP	**Isla Barro Col**	**5.56**	**30**	*eP*	**Pn**	**08 16 55.6**	**-0.3**
BCIP				*eS*	**Sn**	**08 17 56.7**	**-1.9**
BCIP	**Isla Barro Col**	**5.56**	**30**	*ePn*	**Pn**	**08 16 55.7**	**-0.2**
UPA	**Univ. de Panam**	**5.57**	**34**	⇓*iP*	**Pn**	**08 16 55.7**	**-0.2**
UPA				*eS*	**Sn**	**08 17 54.8**	**-3.9**
URSC	**Urasca**	**5.58**	**349**	⇓*eP*	**Pn**	**08 16 53.8**	**-2.4**
URSC				*eS*	**Sn**	**08 17 58.1**	**-1.2**
SJS	**Escuela Geolog**	**5.74**	**346**	*eP*	**Pn**	**08 16 55.9**	**-2.6**
SJS				*eS*	**Sn**	**08 18 05.7**	**+2.5**
OTAV	**Otavalo**	**5.85**	**134**	*ePn*	Pn	08 16 56.8	-3.5
CGA2	**Cerro Gallo 2**	**5.92**	**343**	*eP*	**Pn**	**08 16 58.2**	**-2.8**
CGA2				*eS*	**Sn**	**08 18 04.8**	**-2.9**
JCR	**Jicaral**	**6.00**	**336**	⇓*iP*	**Pn**	**08 16 59.4**	**-2.5**
JTS	**JuntasAbangare**	**6.34**	**339**	Pn	**Pn**	**08 17 03.7**	**-2.9**
	64nm,0.3s,baz=103,slow=18,SNR=121						
JTS				Sn	**Sn**	**08 18 16.5**	**-1.3**
	16nm,0.3s,baz=38,slow=22,SNR=8.6						
VCR	**Vista de Mar**	**6.47**	**333**	*eP*	**Pn**	**08 17 06.3**	**-2.1**
VCR				*eS*	**Sn**	**08 18 18.8**	**-2.3**
ROSC	**El Rosal**	**8.32**	**86**	Pn	**Pn**	**08 17 34.7**	**+0.6**
	6.9nm,0.3s,baz=79,slow=1.2,SNR=14						
ATAH	**Atahualpa**	**12.16**	**159**	LR	LR	08 22 48.1	
	comp=Z,79nm,18.9s,baz=268,slow=36						
SDV	**Santo Domingo**	**12.77**	**69**	*ePn*	**Pn**	**08 18 35.3**	**+0.3**
TEIG	**Tepich**	**16.72**	**341**	Pn	**Pn**	**08 19 25.5**	**-1.7**
	0.3nm,0.3s,baz=118,slow=15,SNR=4.3						
TEIG	**Tepich**	**16.72**	**341**	*ePn*	**Pn**	**08 19 28.1**	**+0.9**
JAKH	**Jacmel**	**17.01**	**35**	*ePn*	**P**	**08 19 33.0**	**+0.5**
	107nm,1.5s						
NNA	**Nana**	**17.21**	**160**	P	**Pn**	**08 19 32.6**	**-0.9**
	0.7nm,0.3s,baz=316,slow=9.5,SNR=4.7						
NNA				LR	LR	08 25 40.6	
	comp=Z,145nm,18.3s,baz=316,slow=36						
WSYH	**La Gonave Hosp**	**17.30**	**33**	*ePn*	**P**	**08 19 36.8**	**+1.2**
PAPH	**Port-au-Prince**	**17.36**	**35**	*eP*	**P**	**08 19 37.2**	**+0.9**
CMIG	**Matias Romero**	**17.45**	**318**	P	**P**	**08 19 37.3**	**+0.1**
	0.1nm,0.3s,baz=132,slow=10.0,SNR=9.6						
CMIG				LR	LR	08 25 16.9	
	comp=Z,137nm,19.6s,baz=176,slow=34						
SDDR	**Presa de Saban**	**18.31**	**36**	*ePn*	**Pn**	**08 19 50.3**	**+3.3**
	70nm,1.5s						
PCRV	**Puerto La Cruz**	**18.79**	**71**	P	**P**	**08 19 52.0**	**-0.2**
	1.4nm,0.3s,baz=253,slow=5.2,SNR=8.9						
PCRV				LR	LR	08 28 36.8	
	comp=Z,281nm,18.9s,baz=266,slow=42						
SMN1	**Samana, DR**	**19.72**	**40**	*ePn*	**Pn**	**08 20 03.8**	**-0.1**
PCDR	**Punta Cana, DR**	**19.84**	**44**	*eP*	**P**	**08 20 03.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**20.40**	**47**	*eP*	**P**	**08 20 10.0**	**+0.3**
	42nm,1.0s						
LSP	**Las Mesas**	**20.53**	**47**	*eP*	Pn	08 20 12.4	-1.0
LRS	**Lares**	**20.78**	**47**	*eP*	**P**	**08 20 14.9**	**+1.1**
OBIP	**Obispado Ponce**	**20.80**	**48**	*eP*	**P**	**08 20 14.4**	**+0.5**
	63nm,1.1s						
CELP	**Cerrillos**	**20.84**	**48**	*eP*	**P**	**08 20 14.6**	**+0.2**
AOPR	**Arecibo Observ**	**20.88**	**47**	*eP*	Pn	08 20 16.2	-1.3
	149nm,0.8s						
SJG	**San Juan**	**21.18**	**48**	*eP*	**P**	**08 20 18.2**	**+0.2**
	16nm,0.9s						
HUMP	**Col San Antoni**	**21.42**	**49**	*eP*	**P**	**08 20 22.2**	**+1.6**
CBYP	**Canovanas**	**21.50**	**49**	*eP*	**P**	**08 20 21.4**	**-0.1**
	116nm,1.4s						
MTP	**Monte Pirata**	**21.62**	**49**	*eP*	**P**	**08 20 22.9**	**+0.2**
	70nm,1.3s						
PTGA	**Pitinga**	**23.23**	**102**	P	**P

LPAZ **La Paz** 25.02 145 P P 08 20 57.6 +0.4
10nm,1.0s,baz=349,slow=8.0,SNR=18
LPAZ LR LR 08 32 19.2
comp=Z,111nm,21.3s,baz=271,slow=40
LPAZ **La Paz** 25.02 145 eP P 08 20 58.0 +0.8
035Z **Hargill** 26.49 328 ⇓P P 08 21 11.7 +1.9
baz=27
035A **Encino** 26.89 328 ⇑P P 08 21 15.1 +1.8
baz=27,SNR=12
034A **Hebbronville** 27.30 328 ⇓P P 08 21 18.7 +1.7
baz=28,SNR=22
934A **Benavides** 27.64 328 ⇑P P 08 21 21.9 +1.8
baz=28,SNR=12
835A **Beeville** 27.85 330 ⇑P P 08 21 23.5 +1.5
baz=28
736A **Circle Diamond** 28.05 332 ⇑P P 08 21 25.0 +1.3
baz=28,SNR=10
933A **Laredo** 28.05 327 ⇑P P 08 21 25.1 +1.3
baz=28,SNR=9.2
834A **Tilden** 28.08 329 ⇑P P 08 21 25.4 +1.4
baz=28,SNR=7.0
735A **Kenedy** 28.31 331 ⇓P P 08 21 27.5 +1.4
baz=28
HKT **Hockley** 28.36 335 eP P 08 21 27.2 +0.8
36nm,1.9s
636A **Smothers Creek** 28.49 333 ⇓P P 08 21 29.2 +1.6
baz=29
734A **La Parita Cree** 28.68 330 ⇓P P 08 21 30.8 +1.5
baz=29
537A **Green Hill Far** 28.68 335 ⇑P P 08 21 30.3 +1.0
baz=29,SNR=9.1
833A **Chaparral WMA,** 28.68 328 ⇑P P 08 21 30.3 +1.0
baz=29,SNR=7.9
439A **Center Grove,** 28.69 338 ⇓P P 08 21 30.5 +1.2
baz=29
635A **Leesville** 28.74 332 ⇓P P 08 21 30.9 +1.1
baz=29
LRAL **Lakeview Retre** 28.84 352 eP P 08 21 31.0 +0.3
11nm,1.2s
340A **Bronson** 28.94 340 ⇑P P 08 21 32.7 +1.1
baz=29
733A **Divot King Ran** 28.95 329 ⇑P P 08 21 32.7 +1.0
baz=29
832A **Faith Ranch, C** 28.96 327 ⇑P P 08 21 32.7 +0.8
baz=29
339A **Huntington** 29.10 339 ⇑P P 08 21 33.3 +0.3
baz=29
535A **Dale** 29.19 333 ⇓P P 08 21 34.0 +0.2
baz=29
732A **Laxson Ranch,** 29.31 328 ⇓P P 08 21 35.8 +0.9
baz=30,SNR=6.1
SIV **San Ignacio** 29.39 134 LR LR 08 33 39.9
comp=Z,248nm,18.4s,baz=300,slow=37
338A **Crockett** 29.40 338 ⇓P P 08 21 36.7 +1.1
baz=30
534A **Blanco** 29.61 331 ⇑P P 08 21 39.0 +1.4
baz=30,SNR=5.1
239A **Gary** 29.69 339 ⇓P P 08 21 39.3 +1.1
baz=30
JSC **Jenkinsville** 29.83 2 eP P 08 21 40.3 +0.9
632A **Uvalde** 29.83 329 ⇓P P 08 21 40.7 +1.1
baz=30,SNR=6.3
238A **Jacksonville** 29.91 338 ⇓P P 08 21 41.1 +1.0
baz=30
533A **Kerrville** 29.92 331 ⇑P P 08 21 41.1 +0.8
baz=30
336A **Riesel** 30.04 335 ⇑P P 08 21 42.2 +0.9
baz=30
434A **Burnet** 30.17 333 ⇓P P 08 21 43.3 +0.7
baz=30
631A **Perdido Creek** 30.17 328 ⇓P P 08 21 43.5 +1.0
baz=30,SNR=12
532A **Rocksprings** 30.39 329 ⇓P P 08 21 45.7 +1.1
baz=31,SNR=11
433A **Art** 30.51 331 ⇑P P 08 21 46.2 +0.7
baz=31,SNR=15
334A **Lometa** 30.60 333 ⇑P P 08 21 47.3 +1.0
baz=31,SNR=8.3
JCT **Junction City** 30.63 330 ⇑P P 08 21 47.9 +1.2
baz=31,SNR=7.7
137A **Heron Place, G** 30.68 338 ⇓P P 08 21 47.9 +1.0
baz=31,SNR=5.8
KMSC **Kings Mountain** 30.68 2 ⇑P P 08 21 47.8 +0.8
baz=31
KMSC **Kings Mountain** 30.68 2 eP P 08 21 47.7 +0.7
7.3nm,0.9s
531A **Rocksprings** 30.75 329 ⇓P P 08 21 49.2 +1.4
baz=31,SNR=29
WHTX **Lake Whitney,** 30.82 335 ⇓P P 08 21 49.0 +0.8
baz=31
333A **Richland Sprin** 30.93 332 ⇓P P 08 21 50.0 +0.7
baz=31
432A **Menard** 30.95 330 ⇑P P 08 21 50.2 +0.7
baz=31,SNR=5.1
234A **Clairette** 31.12 334 ⇑P P 08 21 51.3 +0.4
baz=31,SNR=7.3
530A **J-C Ranch, Com** 31.16 328 ⇑P P 08 21 52.9 +1.6
baz=31,SNR=23
TKL **Tuckaleechee C** 31.19 358 P P 08 21 51.2 -0.3
3.0nm,0.7s,baz=167,slow=14,SNR=5.9
431A **Sonora** 31.20 329 ⇓P P 08 21 52.9 +1.2
baz=31,SNR=20
135A **Vickery Place,** 31.29 336 ⇑P P 08 21 53.1 +0.7
baz=32
332A **Millersview** 31.34 331 ⇑P P 08 21 53.5 +0.7
baz=32,SNR=10
233A **Rising Star** 31.48 333 ⇑P P 08 21 54.9 +0.8
baz=32
134A **White-Moore Ra** 31.59 335 ⇓P P 08 21 55.5 +0.5
baz=32
UALR **University of** 31.59 345 eP P 08 21 55.9 +0.9
430A **Baggett Ranch,** 31.61 328 ⇓P P 08 21 56.3 +1.1
baz=32,SNR=17
331A **San Angelo** 31.61 330 ⇑P P 08 21 56.2 +0.9
baz=32,SNR=11
529A **Stev Forest Ra** 31.62 326 ⇓P P 08 21 56.3 +0.9
baz=32
232A **Coleman** 31.71 332 ⇑P P 08 21 56.2 0.0
baz=32
MIAR **Mount Ida** 31.73 343 eP P 08 21 56.6 +0.4
20nm,1.1s
429A **Davenport Ranc** 31.83 327 ⇓P P 08 21 58.4 +1.2
baz=32,SNR=29
TXAR **Lajitas Array** 31.85 324 P P 08 21 58.8 +1.3
2.6nm,0.9s,baz=141,slow=10,SNR=28
TXAR PcP PcP 08 24 48.1 +0.2
0.8nm,0.9s,baz=134,slow=5.2,SNR=4.3
TXAR LR LR 08 34 59.6
comp=Z,32nm,19.7s,baz=0.0,slow=37
Z35A **Perchaven, San** 31.90 336 ⇓P P 08 21 58.5 +0.7
baz=32
133A **Hamilton Ranch** 31.98 334 ⇑P P 08 21 59.2 +0.7
baz=32
WVT **Waverly** 32.00 352 eP P 08 21 57.3 -1.2
330A **Mertzon** 32.07 329 ⇑P P 08 21 59.9 +0.6
baz=32,SNR=12
231A **Bronte** 32.07 331 ⇓P P 08 21 59.7 +0.4
baz=32
Z34A **Collier Ranch,** 32.21 336 ⇑P P 08 22 01.2 +0.8
baz=32
ABTX **Abilene, Hawle** 32.32 333 ⇑P P 08 22 02.4 +0.9
baz=33
230A **Sterling City** 32.42 330 ⇓P P 08 22 03.3 +0.8
baz=33
Z33A **Whitaker Ranch** 32.49 334 ⇑P P 08 22 04.1 +1.1
baz=33
329A **Wagon Wheel Ra** 32.55 328 ⇓P P 08 22 04.6 +1.0
baz=33,SNR=15
Y34A **Reagan Ranch,** 32.65 336 ⇑P P 08 22 04.7 +0.3
baz=33
131A **Roby** 32.71 332 ⇑P P 08 22 05.5 +0.5
baz=33
Z32A **Haskell** 32.82 333 ⇑P P 08 22 06.3 +0.5
baz=33,SNR=9.0
229A **Bryant Ranch,** 32.84 329 ⇓P P 08 22 07.2 +1.1
baz=33,SNR=8.0
130A **Snyder** 32.93 331 ⇑P P 08 22 07.3 +0.5
baz=33
Y33A **Hilltop Ranch,** 33.05 335 ⇓P P 08 22 08.4 +0.5
baz=33,SNR=5.9
W36A **Wetumka** 33.13 339 ⇑P P 08 22 09.1 +0.6
baz=33
Z31A **Sharp Cattle R** 33.13 333 ⇑P P 08 22 09.0 +0.4
baz=33
X34A **Smith Ranch, M** 33.25 337 ⇑P P 08 22 10.2 +0.7
baz=34,SNR=9.5
228A **UT Block 9, Go** 33.37 328 ⇓P P 08 22 11.1 +0.4
baz=34,SNR=11

W35A **Tecumseh** 33.37 339 ⇓P P 08 22 10.6 0.0
baz=34
Y32A **R-V Farms, Ver** 33.40 334 ⇓P P 08 22 11.1 +0.2
baz=34,SNR=5.8
129A **Stewart Farms,** 33.40 330 ⇑P P 08 22 11.5 +0.6
baz=34,SNR=13
X33A **Lawton** 33.46 336 ⇑P P 08 22 12.1 +0.7
baz=34
JSRW **J. Sargeant Re** 33.49 7 eP P 08 22 12.3 +0.8
Z30A **Sanderson Ranc** 33.57 331 ⇓P P 08 22 13.2 +0.7
baz=34,SNR=6.7
TUL1 **Leonard** 33.68 341 ⇑P P 08 22 13.3 0.0
baz=34,SNR=12
TUL1 **Leonard** 33.68 341 eP P 08 22 13.3 0.0
X32A **Elmer** 33.69 335 ⇓P P 08 22 14.0 +0.6
baz=34
128A **Castleberry Fa** 33.71 329 ⇓P P 08 22 14.5 +0.8
baz=34,SNR=8.0
Y31A **Rekieta Farm,** 33.73 333 ⇑P P 08 22 14.4 +0.7
baz=34,SNR=5.4
WMOK **Wichita Mounta** 33.75 336 eP P 08 22 14.0 +0.1
4.8nm,1.0s
W34A **Bridge Creek,** 33.78 337 ⇑P P 08 22 14.3 0.0
baz=34,SNR=6.6
W34A **Bridge Creek,** 33.78 337 eP P 08 22 14.4 +0.2
20nm,0.9s
Z29A **Hungry Hill Ra** 33.83 331 ⇑P P 08 22 15.5 +0.8
baz=34,SNR=11
WCI **Wyandotte Cave** 33.90 355 eP P 08 22 14.8 -0.4
8.7nm,1.0s
V35A **Meyer Ranch, C** 33.91 339 ⇑P P 08 22 14.8 -0.4
baz=34
Y30A **Stafford Cattl** 33.95 332 ⇓P P 08 22 16.8 +1.1
baz=34
W33A **Caddo, Fort Co** 33.98 336 ⇑P P 08 22 16.2 +0.3
baz=34,SNR=5.7
Z28A **Tucker Farm, M** 34.19 330 ⇓P P 08 22 17.4 -0.5
baz=34
V34A **Guthrie** 34.22 338 ⇑P P 08 22 17.4 -0.6
baz=34
V34A **Guthrie** 34.22 338 eP P 08 22 17.4 -0.6
W32A **Sentinel** 34.27 335 ⇓P P 08 22 18.7 +0.2
baz=34,SNR=7.0
Y29A **Porterfield Fa** 34.30 331 ⇑P P 08 22 19.4 +0.6
baz=34
GDL2 **Guadalupe Moun** 34.38 326 eP P 08 22 21.8 +2.2
X30A **Coker Ranch, T** 34.41 333 ⇑P P 08 22 20.1 +0.4
baz=35,SNR=7.8
V33A **Lossen Ranch,** 34.49 337 ⇑P P 08 22 20.5 +0.2
baz=35
MNTX **Cornudas Mount** 34.59 325 ⇑P P 08 22 21.6 +0.4
baz=35,SNR=43
MNTX **Cornudas Mount** 34.59 325 eP P 08 22 22.3 +1.1
28nm,1.0s
Y28A **McKinney Farm,** 34.62 331 ⇑P P 08 22 22.7 +1.2
baz=35
V32A **Arapaho** 34.70 336 ⇓P P 08 22 22.8 +0.6
baz=35
U34A **Anderson Ranch** 34.76 339 ⇓P P 08 22 22.7 +0.1
baz=35
U34A **Anderson Ranch** 34.76 339 eP P 08 22 22.6 -0.1
16nm,1.1s
X29A **Tulia** 34.79 332 ⇓P P 08 22 23.6 +0.6
baz=35
MSTX **Muleshoe** 34.92 330 ⇓P P 08 22 24.8 +0.5
baz=35,SNR=12
MSTX **Muleshoe** 34.92 330 eP P 08 22 25.3 +1.1
U33A **Lingo Farm, Me** 34.97 338 ⇑P P 08 22 24.1 -0.3
baz=35
V31A **Spring Creek L** 35.08 335 ⇓P P 08 22 25.9 +0.5
baz=35
X28A **Dimmitt** 35.09 331 ⇑P P 08 22 26.0 +0.4
baz=35,SNR=5.3
S36A **Lake Cedric, C** 35.28 342 ⇑P P 08 22 26.9 -0.2
baz=36,SNR=18
S35A **Otter Creek Ra** 35.47 341 ⇓P P 08 22 29.0 +0.3
baz=36,SNR=17
ACSO **Alum Creek Sta** 35.74 360 eP P 08 22 30.8 -0.2
10nm,0.8s
S34A **Willow Spring** 35.74 340 ⇓P P 08 22 31.4 +0.2
baz=36
R36A **Gordon, Harris** 35.80 343 ⇑P P 08 22 31.5 -0.1
baz=36,SNR=9.5
S33A **Kaszmaul Farm,** 35.96 339 ⇑P P 08 22 33.8 +0.8
baz=36
MVL **Millersville** 35.96 8 eP P 08 22 34.1 +1.2
U30A **WK&E Inc. Balk** 36.06 335 ⇑P P 08 22 34.7 +0.8
baz=36
V28A **Channing** 36.10 332 ⇓P P 08 22 35.7 +1.3
baz=36
T31A **Randall Ranch,** 36.15 337 ⇓P P 08 22 35.5 +0.9
baz=36
U29A **Oasis Ranch, S** 36.26 334 ⇑P P 08 22 36.3 +0.7
baz=36
S32A **Newby Ranch, P** 36.39 338 ⇓P P 08 22 37.9 +1.2
baz=37
V27A **Dan Oppiter Fa** 36.40 332 ⇑P P 08 22 37.4 +0.6
baz=37,SNR=6.4
T30A **Plains** 36.46 336 ⇑P P 08 22 38.5 +1.2
baz=37
S31A **Mullinville** 36.53 337 ⇑P P 08 22 38.9 +1.0
baz=37
R33A **Olander Ranch,** 36.59 340 ⇓P P 08 22 38.8 +0.5
baz=37,SNR=23
121A **Cookes Peak, D** 36.60 323 ⇓P P 08 22 41.4 +2.6
baz=37,SNR=29
121A **Cookes Peak, D** 36.60 323 eP P 08 22 41.3 +2.6
44nm,1.2s
319A **Douglas** 36.74 320 ⇓P P 08 22 41.6 +1.7
baz=37
KSU1 **Kansas State U** 36.85 342 ⇓P P 08 22 40.3 -0.2
baz=37,SNR=7.7
KSU1 **Kansas State U** 36.85 342 eP P 08 22 41.0 +0.4
42nm,0.8s
T29A **Hugoton** 36.87 335 ⇓P P 08 22 42.6 +1.8
baz=37
U27A **Thompson Grove** 36.93 332 ⇑P P 08 22 42.1 +0.7
baz=37,SNR=7.3
S30A **Montezuma** 36.94 336 ⇓P P 08 22 42.2 +0.8
baz=37
R32A **Long Quarter,** 36.95 339 ⇓P P 08 22 41.7 +0.3
baz=37,SNR=13
R31A **Burdett** 37.13 338 ⇓P P 08 22 43.8 +0.8
baz=37
Q33A **Connelly Farm,** 37.16 340 ⇑P P 08 22 43.6 +0.5
baz=37,SNR=18
S29A **Ulysses** 37.19 335 ⇑P P 08 22 44.3 +0.8
baz=37
T28A **Walsh** 37.19 334 ⇓P P 08 22 44.4 +0.9
baz=37
LPM **Los Pinos Moun** 37.22 326 eP P 08 22 46.5 +2.5
LENM **Lemitar** 37.30 326 eP P 08 22 47.5 +2.9
Q32A **Meitler Ranch,** 37.40 339 ⇑P P 08 22 46.3 +1.1
baz=38
T27A **Campo** 37.41 333 ⇑P P 08 22 45.8 +0.3
baz=38,SNR=8.0
R30A **Dighton** 37.42 337 ⇑P P 08 22 46.4 +1.0
baz=38,SNR=8.9
S28A **Manter** 37.49 335 ⇑P P 08 22 47.1 +1.0
baz=38,SNR=5.7
P33A **Williams Farm,** 37.51 341 ⇑P P 08 22 46.7 +0.6
baz=38,SNR=6.8
LAZ **Ladron** 37.57 326 eP P 08 22 49.0 +2.0
KSPA **Keystone Colle** 37.58 8 eP P 08 22 48.1 +1.5
17nm,1.0s
ANMO **Albuquerque** 37.60 327 eP P 08 22 48.9 +1.7
29nm,1.0s
Q31A **Ellis** 37.71 338 ⇑P P 08 22 48.9 +1.0
baz=38,SNR=8.8
T26A **Comanche Natio** 37.90 332 ⇓P P 08 22 50.4 +0.7
baz=38,SNR=7.9
P32A **Huiting Farm,** 37.98 340 ⇓P P 08 22 50.6 +0.5
baz=38,SNR=16
R28A **Tribune** 38.09 335 ⇓P P 08 22 51.9 +0.8
baz=38,SNR=12
P31A **Stockton** 38.16 339 ⇓P P 08 22 52.6 +0.9
baz=38,SNR=11
BINY **Binghamton** 38.17 8 P P 08 22 52.3 +0.6
6.5nm,0.8s
S26A **Kim** 38.21 333 ⇓P P 08 22 53.7 +1.4
baz=38,SNR=12
Q29A **Oakley** 38.22 337 ⇓P P 08 22 53.8 +1.6
baz=38
T25A **Trinidad** 38.26 331 ⇓P P 08 22 54.8 +2.0
baz=38,SNR=20
T25A **Trinidad** 38.26 331 eP P 08 22 55.4 +2.7
CFAA **Coronel Fontan** 38.29 160 P P 08 22 52.6 -0.2
0.5nm,0.8s,baz=337,slow=7.7,SNR=8.6

TUC **Tucson** 38.32 320 eP P 08 22 54.5 +1.4
3.6nm,1.0s
O32A **Brockman Farm,** 38.44 341 ⇓P P 08 22 54.5 +0.5
baz=39,SNR=7.7
R27A **Eads** 38.46 334 ⇓P P 08 22 55.4 +1.1
baz=39,SNR=12
MMNY **Mt. Morris Dam** 38.47 6 eP P 08 22 54.4 +0.2
28nm,1.1s
P30A **Selden** 38.50 338 ⇓P P 08 22 55.7 +1.1
baz=39,SNR=9.4
O31A **Woolen Ranch,** 38.70 339 ⇑P P 08 22 56.7 +0.4
baz=39,SNR=9.2
Q28A **Sharon Springs** 38.71 336 ⇑P P 08 22 57.4 +1.0
baz=39,SNR=6.9
R26A **Arlington** 38.76 334 ⇓P P 08 22 58.5 +1.7
baz=39,SNR=15
P29A **Atwood** 38.81 337 ⇑P P 08 22 58.3 +1.1
baz=39,SNR=8.9
O30A **MW Ranch, Wils** 38.99 339 ⇓P P 08 22 59.5 +0.9
baz=39,SNR=9.2
KSCO **Kaye Shedlock'** 38.99 335 ⇑P P 08 23 00.0 +1.2
baz=39
R25A **Fountain Ranch** 39.01 333 ⇓P P 08 23 00.9 +1.9
baz=39
P28A **Saint Francis** 39.11 336 ⇓P P 08 23 01.4 +1.7
baz=39
CPUP **Villa Florida** 39.13 143 P P 08 22 58.1 -1.7
0.7nm,0.9s,baz=329,slow=9.3,SNR=5.4
CPUP LR LR 08 40 34.7
comp=Z,390nm,19.5s,baz=10.0,slow=38
O29A **4D Ranch, Culb** 39.22 338 ⇓P P 08 23 02.8 +2.2
baz=40
SDCO **Great Sand Dun** 39.26 331 ⇑P P 08 23 03.6 +2.3
baz=40,SNR=92
SDCO **Great Sand Dun** 39.26 331 eP P 08 23 03.6 +2.3
45nm,1.1s
X18A **Snowflake** 39.29 323 ⇓P P 08 23 03.4 +2.0
baz=40,SNR=13
Q26A **Hugo** 39.30 334 ⇓P P 08 23 03.3 +1.9
baz=40
214A **Organ Pipe Nat** 39.42 318 ⇓P P 08 23 04.1 +1.8
baz=40
P27A **Ficken Ranch,** 39.43 336 ⇑P P 08 23 04.1 +1.6
baz=40,SNR=5.6
BGNE **Belgrade** 39.44 342 ⇓P P 08 23 02.6 +0.2
baz=40
R24A **Sanders Place,** 39.46 332 ⇑P P 08 23 05.0 +2.2
baz=40,SNR=8.9
S23A **Nye Farm, Mont** 39.48 330 ⇓P P 08 23 05.1 +2.1
baz=40,SNR=6.8
W18A **Petrified Fore** 39.57 324 ⇓P P 08 23 06.1 +2.4
baz=40,SNR=5.9
W18A **Petrified Fore** 39.57 324 eP P 08 23 07.1 +3.3
O28A **Krutsinger Ran** 39.59 337 ⇓P P 08 23 06.4 +2.7
baz=40
Q25A **Bedland, Calha** 39.62 333 ⇑P P 08 23 05.9 +1.8
baz=40,SNR=8.7
BDFB **Brasilia** 39.62 121 LR LR 08 40 36.0
comp=Z,104nm,18.6s,baz=276,slow=38
M31A **Lambtecht Ranc** 39.65 341 ⇑P P 08 23 04.9 +0.8
baz=40,SNR=7.4
ACCN **Adirondack Com** 39.70 10 eP P 08 23 05.1 +0.7
P26A **Davis Ranch, A** 39.76 335 ⇑P P 08 23 07.2 +2.1
baz=40
N29A **Votaw Ranch, W** 39.76 339 ⇓P P 08 23 07.3 +2.2
baz=40
R23A **Moffat** 39.77 331 ⇑P P 08 23 07.4 +1.9
baz=40,SNR=27
S22A **4UR Ranch, Cre** 39.92 330 ⇓P P 08 23 08.7 +1.9
baz=40,SNR=25
S22A **4UR Ranch, Cre** 39.92 330 eP P 08 23 08.8 +2.0
O27A **Beecher Island** 39.93 336 ⇓P P 08 23 07.9 +1.4
baz=40,SNR=7.3
N28A **Pribbeno Ranch** 39.98 337 ⇑P P 08 23 08.3 +1.3
baz=40,SNR=10
Q24A **Divide** 40.07 332 ⇑P P 08 23 09.9 +1.9
baz=40
Q24A **Divide** 40.07 332 eP P 08 23 10.4 +2.4
P25A **Willow Gulch B** 40.07 334 ⇑P P 08 23 09.5 +1.6
baz=40,SNR=11
X16A **Lo Mia Camp, P** 40.12 322 ⇓P P 08 23 10.2 +1.9
baz=40,SNR=8.2
HNH **Hanover** 40.27 12 eP P 08 23 10.2 +1.1
12nm,0.9s
O26A **Horse Wrangler** 40.31 335 ⇑P P 08 23 11.9 +2.1
baz=41
M29A **Burnside Ranch** 40.33 339 ⇓P P 08 23 11.1 +1.3
baz=41,SNR=8.3
Q23A **Hartsel** 40.34 332 ⇓P P 08 23 12.4 +2.2
baz=41
L31A **Butterfield Fa** 40.35 341 ⇓P P 08 23 10.4 +0.5
baz=41,SNR=15
MVCO **Mesa Verde** 40.38 328 ⇑P P 08 23 12.2 +1.7
baz=41,SNR=17
MVCO **Mesa Verde** 40.38 328 eP P 08 23 12.5 +2.0
43nm,1.2s
Z14A **Wintersburg** 40.38 319 ⇓P P 08 23 12.0 +1.7
baz=41
OGNE **Ogallala** 40.40 337 ⇓P P 08 23 12.1 +1.7
baz=41
OGNE **Ogallala** 40.40 337 eP P 08 23 11.7 +1.3
26nm,1.0s
P24A **Kohler Place,** 40.40 333 ⇓P P 08 23 12.2 +1.6
baz=41
L30A **Spencer Herefo** 40.44 340 ⇓P P 08 23 12.6 +1.9
baz=41
N27A **Anderson Farm,** 40.47 337 ⇓P P 08 23 12.6 +1.5
baz=41,SNR=11
M28A **Bar X Bar Ranc** 40.53 338 ⇓P P 08 23 13.6 +2.1
baz=41
O25A **Wiggins** 40.55 334 ⇓P P 08 23 13.9 +2.2
baz=41
113A **Mohawk Valley,** 40.56 318 ⇑P P 08 23 13.8 +2.1
baz=41
PTN **Potsdam (NY)** 40.64 8 eP P 08 23 12.2 0.0
25nm,0.9s
P23A **Jefferson** 40.72 332 ⇑P P 08 23 15.5 +2.2
baz=41,SNR=26
LONY **Lake Ozonia** 40.75 9 eP P 08 23 13.3 +0.2
12nm,1.0s
Y14A **Wickenburg** 40.79 320 ⇓P P 08 23 15.7 +2.0
baz=41
WUAZ **Wupatki** 40.81 323 ⇑P P 08 23 16.3 +2.3
baz=41,SNR=5.5
WUAZ **Wupatki** 40.81 323 eP P 08 23 16.6 +2.6
28nm,1.0s
ISCO **Idaho Springs** 40.95 333 ⇑P P 08 23 17.1 +1.9
baz=41,SNR=14
ISCO **Idaho Springs** 40.95 333 eP P 08 23 17.2 +1.9
8.2nm,0.8s
O24A **Longmont** 40.97 334 ⇓P P 08 23 16.4 +1.2
baz=41,SNR=5.7
M27A **Reverse DX Ran** 41.03 337 ⇓P P 08 23 17.3 +1.7
baz=41
K30A **Basset** 41.05 341 ⇑P P 08 23 16.2 +0.5
baz=41,SNR=14
SMCO **Snowmass** 41.10 331 eP P 08 23 18.8 +2.1
PV01 **Paradox Valley** 41.11 328 eP P 08 23 18.4 +1.9
701nm,1.1s
ECSD **EROS Data Cent** 41.13 345 ⇑P P 08 23 15.4 -0.9
baz=41,SNR=12
ECSD **EROS Data Cent** 41.13 345 eP P 08 23 15.6 -0.7
17nm,1.1s
P22A **Eagle** 41.33 331 ⇑P P 08 23 19.7 +1.4
baz=42,SNR=14
K29A **Lazy Trails An** 41.36 340 ⇓P P 08 23 19.1 +0.8
baz=42,SNR=5.8
O23A **Lake Granby, G** 41.42 333 ⇓P P 08 23 21.0 +1.9
baz=42,SNR=9.8
N24A **Carr** 41.46 334 ⇓P P 08 23 21.5 +2.2
baz=42
J30A **Dallas** 41.60 341 ⇓P P 08 23 20.3 +0.1
baz=42,SNR=22
O22A **Kremmling** 41.67 332 ⇑P P 08 23 22.4 +1.2
baz=42,SNR=6.9
K28A **Ten Mile Ranch** 41.68 339 ⇓P P 08 23 22.3 +1.4
baz=42,SNR=7.6
SPMN **Marine on St.** 41.69 349 ⇑P P 08 23 20.1 -0.7
baz=42
SPMN **Marine on St.** 41.69 349 eP P 08 23 19.8 -1.0
17nm,1.0s
J29A **Okreek** 41.94 341 ⇓P P 08 23 23.3 +0.3
baz=42,SNR=15
M24A **Cheyenne** 41.97 335 ⇓P P 08 23 25.2 +1.8
baz=42,SNR=6.3
U15A **North Rim** 41.98 323 ⇑P P 08 23 25.7 +2.0
baz=42,SNR=7.0
N23A **Red Feather La** 41.99 333 ⇑P P 08 23 25.2 +1.5

baz=42,SNR=9.8
N23A **Red Feather La** 41.99 333 *e*P P 08 23 25.6 +1.9
K27A **Flueckinger Fa** 41.99 338 ⇓P P 08 23 25.3 +1.8
baz=42
W13A **Hualapai Mount** 42.09 321 ⇑P P 08 23 26.5 +2.0
baz=42
PHWY **Pilot Hill** 42.10 334 *e*P P 08 23 27.9 +3.2
I30A **Oacoma** 42.11 342 ⇓P P 08 23 24.0 -0.4
baz=42,SNR=10
N22A **Wattenberg Ran** 42.14 333 ⇑P P 08 23 26.8 +1.9
baz=42,SNR=8.7
J28A **Allard Ranch,** 42.26 340 ⇓P P 08 23 26.3 +0.7
baz=42,SNR=8.1
M23A **Laramie** 42.35 334 ⇓P P 08 23 28.1 +1.5
baz=43,SNR=5.9
J27A **Elkhorn Farm,** 42.38 339 ⇑P P 08 23 28.0 +1.4
baz=43,SNR=6.3
BRSD **Miller** 42.44 343 ⇑P P 08 23 26.7 -0.3
baz=43
BRSD **Miller** 42.44 343 *e*P P 08 23 23.8 -3.3
O20A **White River Ci** 42.46 331 *e*P P 08 23 30.6 +3.1
I29A **Vivian Onida** 42.48 341 ⇑P P 08 23 27.4 0.0
baz=43,SNR=12
L24A **Wheatland** 42.49 335 ⇓P P 08 23 29.7 +2.1
baz=43
K25A **Mack Ranch, Ha** 42.53 337 ⇑P P 08 23 29.8 +1.9
baz=43,SNR=7.6
M22A **Cedar Creek Ra** 42.69 333 ⇑P P 08 23 30.5 +1.2
baz=43
I28A **Midland** 42.75 340 ⇑P P 08 23 30.1 +0.6
baz=43,SNR=9.7
J26A **Sides Ranch, S** 42.83 338 ⇓P P 08 23 31.8 +1.6
baz=43,SNR=8.6
SRU **San Rafael Swe** 42.86 328 *e*P P 08 23 32.6 +1.9
H29A **Onida** 42.99 342 ⇓P P 08 23 31.6 +0.1
baz=43
N20A **Spence Gulch,** 43.01 331 ⇓P P 08 23 33.1 +1.1
baz=43
I27A **Quinn** 43.11 340 ⇑P P 08 23 33.8 +1.3
baz=43,SNR=13
L22A **Ellis Ranch, M** 43.12 334 ⇓P P 08 23 34.7 +1.9
baz=43,SNR=8.8
G30A **Faulkton** 43.12 343 ⇑P P 08 23 32.1 -0.5
baz=43,SNR=9.7
J25A **Sunshine Ranch** 43.17 337 ⇑P P 08 23 34.5 +1.4
baz=43,SNR=5.6
MVU **Marysvale** 43.35 326 *e*P P 08 23 37.8 +3.0
TMUT **Trail Mountain** 43.36 327 *e*P P 08 23 30.4 -4.5
CCUT **Cedar City** 43.37 324 *e*P P 08 23 37.7 +2.8
I26A **New Underwood** 43.37 339 ⇑P P 08 23 36.1 +1.5
baz=44,SNR=5.6
K23A **Bowen Ranch, D** 43.37 335 ⇑P P 08 23 35.9 +1.2
baz=44,SNR=5.6
J24A **Dixon Ranch, L** 43.45 337 ⇓P P 08 23 36.9 +1.5
baz=44
ARUT **Antelope Range** 43.57 324 *e*P P 08 23 38.1 +1.7
3.1nm,1.4s
H27A **Howes** 43.61 340 ⇑P P 08 23 37.6 +1.1
baz=44,SNR=21
G28A **Parade** 43.62 341 ⇑P P 08 23 37.0 +0.5
baz=44
K22A **Casper** 43.66 334 ⇑P P 08 23 38.3 +1.2
baz=44,SNR=7.3
I25A **Rochford** 43.68 338 ⇑P P 08 23 39.0 +1.7
baz=44,SNR=17
SHPR **Sheep Range** 43.78 321 *e*P P 08 23 40.4 +2.2
H26A **Fairpoint** 43.84 339 ⇓P P 08 23 39.3 +0.9
baz=44,SNR=6.9
J23A **Dilts Ranch, B** 43.87 336 ⇑P P 08 23 40.4 +1.6
baz=44
RSSD **Black Hills** 43.88 338 *e*P P 08 23 40.8 +1.9
I24A **Kuemmerle Ranc** 43.88 337 ⇑P P 08 23 41.0 +2.2
baz=44
K21A **Alcova** 43.96 334 ⇑P P 08 23 41.0 +1.4
baz=44
F29A **Eureka** 43.97 343 ⇓P P 08 23 39.7 +0.4
baz=44,SNR=5.5
MPU **Maple Canyon** 44.11 328 *e*P P 08 23 42.7 +1.9
H25A **Fruitdale** 44.14 339 ⇓P P 08 23 42.0 +1.1
baz=44,SNR=20
G27A **Dupree** 44.22 341 ⇓P P 08 23 42.1 +0.7
baz=44,SNR=6.6
J22A **Midwest** 44.26 335 ⇓P P 08 23 43.2 +1.3
baz=44,SNR=14
F28A **McLaughlin** 44.27 342 ⇓P P 08 23 42.2 +0.4
baz=44
E30A **Jud** 44.31 344 ⇓P P 08 23 42.3 +0.2
baz=45
G26A **Maurine** 44.37 340 ⇓P P 08 23 43.1 +0.4
baz=45,SNR=8.1
JLU **Jordanelle** 44.44 328 *e*P P 08 23 45.3 +1.8
G25A **Newell** 44.57 339 ⇑P P 08 23 45.1 +0.9
baz=45,SNR=8.2
E29A **Napoleon** 44.58 343 ⇓P P 08 23 44.7 +0.5
baz=45
H24A **Dirks Ranch, A** 44.60 338 ⇓P P 08 23 45.5 +1.0
baz=45,SNR=13
J21A **Lysite** 44.62 334 ⇓P P 08 23 46.5 +1.6
baz=45
I22A **9 Mile Ranch,** 44.66 335 ⇓P P 08 23 45.9 +0.9
baz=45,SNR=8.5
CTU **Camp Tracy** 44.66 328 *e*P P 08 23 47.5 +2.4
F27A **Lemmon** 44.69 341 ⇓P P 08 23 46.2 +1.1
baz=45
TPNV **Topopah Spring** 44.73 321 ⇑P P 08 23 47.2 +1.4
baz=45
D30A **Buchanan** 44.83 344 ⇑P P 08 23 46.0 -0.2
baz=45,SNR=10
DUG **Dugway, Tooele** 44.87 327 ⇑P P 08 23 48.3 +1.5
baz=45
F26A **Lodgepole** 44.88 340 ⇓P P 08 23 47.3 +0.6
baz=45,SNR=9.5
E28A **Huff** 44.89 342 ⇓P P 08 23 47.6 +0.9
baz=45
J20A **Shoshoni** 44.91 334 ⇑P P 08 23 48.7 +1.7
baz=45
I21A **Big Trails, Te** 44.93 335 ⇑P P 08 23 48.6 +1.3
baz=45
MPMC **Manual Prospec** 44.99 319 ⇓P P 08 23 49.4 +1.5
baz=45
E27A **Carson** 45.03 342 ⇑P P 08 23 48.8 +1.0
baz=45,SNR=5.4
G24A **Alzada** 45.05 338 ⇑P P 08 23 49.9 +1.8
baz=45
PDAR **Pinedale Array** 45.12 332 P P 08 23 49.8 +1.0
2.1nm,0.9s,baz=127,slow=9.5,SNR=8.9
PDAR PcP PcP 08 25 29.6 +0.5
2.0nm,0.9s,baz=142,slow=5.1,SNR=6.4
H22A **Clearmont** 45.18 336 ⇓P P 08 23 50.4 +1.3
baz=45
R11A **Troy Canyon, C** 45.21 323 ⇑P P 08 23 51.0 +1.4
baz=45,SNR=8.7
R11A **Troy Canyon, C** 45.21 323 *e*P P 08 23 51.7 +2.1
F25A **Bowman** 45.22 340 ⇑P P 08 23 50.5 +1.2
baz=46
HWUT **Hardware Ranch** 45.23 329 *e*P P 08 23 50.4 +0.8
9.0nm,0.9s
AGMN **Agassiz Nation** 45.24 348 ⇓P P 08 23 49.2 -0.2
baz=46
AGMN **Agassiz Nation** 45.24 348 *e*P P 08 23 49.0 -0.4
12nm,1.1s
J19A **Crowheart** 45.27 333 ⇓P P 08 23 50.6 +0.6
baz=46
BSC **Santa Cruz Isl** 45.28 315 ⇑P P 08 23 52.6 +2.6
baz=46
C30A **Mose, Pekin** 45.30 345 ⇑P P 08 23 50.5 +0.6
baz=46
G23A **Biddle** 45.31 337 ⇑P P 08 23 51.0 +0.8
baz=46
E26A **Carlson Angus** 45.36 341 ⇑P P 08 23 50.8 +0.3
baz=46,SNR=7.6
I20A **Worland** 45.40 334 ⇑P P 08 23 51.9 +1.0
baz=46,SNR=8.6
D28A **Regan** 45.41 343 ⇑P P 08 23 52.4 +1.5
baz=46
H21A **Big Horn, Sher** 45.49 336 ⇓P P 08 23 52.7 +1.1
baz=46
F24A **Ekalaka** 45.50 339 ⇑P P 08 23 53.3 +1.6
baz=46
BGU **Big Grassy Mou** 45.50 328 *e*P P 08 23 53.6 +1.8
D27A **Center** 45.62 342 ⇑P P 08 23 53.7 +1.1
baz=46
G22A **Birney** 45.67 337 ⇑P P 08 23 53.5 +0.4
baz=46
E25A **Miller Ranch,** 45.70 340 ⇑P P 08 23 54.0 +0.8
baz=46,SNR=11
MDND **Maddock** 45.73 344 ⇑P P 08 23 54.0 +0.7
baz=46
MDND **Maddock** 45.73 344 *e*P P 08 23 54.6 +1.2
F23A **Volborg** 45.75 338 ⇑P P 08 23 54.6 +1.0
baz=46,SNR=17
H20A **Greybull** 45.78 335 ⇓P P 08 23 54.5 +0.6
baz=46,SNR=7.1
D26A **Manning** 45.84 341 ⇓P P 08 23 54.7 +0.5
baz=46,SNR=5.1
I19A **Meeteetse** 45.85 334 ⇓P P 08 23 55.7 +1.1
baz=46
B30A **Myrvik Farm, E** 45.96 346 ⇑P P 08 23 55.1 0.0
baz=46,SNR=5.8
HVU **Hansel Valley** 45.98 329 *e*P P 08 23 57.0 +1.4
TPH **Tonopah** 46.04 322 *e*P P 08 23 58.1 +1.9
G21A **Lodge Grass** 46.04 336 ⇑P P 08 23 56.9 +0.9
baz=46
E24A **Baker** 46.06 339 ⇓P P 08 23 57.3 +1.3
baz=46,SNR=6.3
F22A **Rosebud** 46.12 337 ⇓P P 08 23 57.0 +0.5
baz=46,SNR=9.7
C27A **Sayler Ranch,** 46.16 342 ⇑P P 08 23 57.9 +1.1
baz=46
REDW **Red Top Meadow** 46.19 331 *e*P P 08 23 58.7 +1.4
PLCA **Paso Flores** 46.20 167 P P 08 23 58.0 +0.8
4.6nm,0.9s,baz=6.7,slow=7.8,SNR=5.6
PLCA PcP PcP 08 25 32.1 -0.4
2.3nm,0.8s,baz=62,slow=6.2,SNR=2.9
B29A **Wagenman Farm,** 46.23 345 ⇑P P 08 23 57.6 +0.3
baz=46,SNR=6.0
D25A **Fairfield** 46.24 341 ⇓P P 08 23 58.6 +1.2
baz=46,SNR=8.2
LOHW **Long Hollow** 46.26 332 *e*P P 08 23 59.1 +1.3
TPAW **Teton Pass** 46.33 332 *e*P P 08 24 00.7 +2.2
H19A **Powell** 46.35 334 ⇑P P 08 23 59.5 +1.1
baz=47
A30A **Hoffart Farm,** 46.41 346 ⇓P P 08 23 58.5 -0.2
baz=47
C26A **Wahner Farm, P** 46.44 342 ⇑P P 08 23 59.9 +1.0
baz=47,SNR=5.0
G20A **Bridger** 46.46 335 ⇑P P 08 23 59.7 +0.5
baz=47,SNR=6.2
I17A **Pilgrim Ck.** 46.48 332 ⇓P P 08 24 00.5 +0.9
baz=47
B28A **Dugan Ranch, T** 46.49 344 ⇓P P 08 24 00.7 +1.4
baz=47
D24A **Glendive** 46.55 340 ⇓P P 08 24 01.3 +1.4
baz=47,SNR=25
E22A **Miles City** 46.56 338 ⇑P P 08 24 01.1 +1.1
baz=47
ELK **Elko** 46.59 326 *e*P P 08 24 02.2 +1.7
A29A **Manning Farm,** 46.62 345 ⇓P P 08 24 00.9 +0.6
baz=47
H18A **Shoshone NF, C** 46.65 334 ⇓P P 08 24 01.7 +0.8
baz=47
FLWY **Flagg Ranch** 46.66 332 *e*P P 08 24 02.6 +1.6
C25A **Freed Ranch, W** 46.71 341 ⇑P P 08 24 02.3 +1.2
baz=47,SNR=12
LKWY **Lake** 46.90 333 *e*P P 08 24 04.2 +1.4
2.6nm,0.8s
F20A **Billings** 46.90 336 ⇑P P 08 24 03.6 +0.9
baz=47,SNR=6.6
D23A **Lindsay** 46.91 339 ⇓P P 08 24 03.9 +1.3
baz=47,SNR=25
NVAR **Mina Array Bea** 46.93 321 P P 08 24 04.8 +1.6
4.2nm,0.7s,baz=136,slow=7.3,SNR=42
NVAR PcP PcP 08 25 35.5 0.0
1.4nm,0.8s,baz=148,slow=4.0,SNR=3.7
C24A **Savage** 46.94 340 ⇑P P 08 24 04.7 +1.8
baz=47
B26A **Jensen Ranch,** 46.97 342 ⇑P P 08 24 04.6 +1.5
baz=47
E21A **Keefer Ranch,** 47.07 337 ⇓P P 08 24 05.5 +1.5
baz=47
ULM **Lac du Bonnet** 47.10 348 P P 08 24 02.4 -1.6
8.5nm,1.0s,baz=161,slow=7.9,SNR=8.8
ULM PcP PcP 08 25 34.5 -1.0
2.6nm,0.6s,baz=157,slow=2.1,SNR=7.6
B25A **Knox Farm, Ray** 47.17 341 ⇓P P 08 24 06.0 +1.4
baz=47,SNR=8.8
A27A **Ledoux Ranch,** 47.20 343 ⇑P P 08 24 06.2 +1.4
baz=48
D22A **Cohagen** 47.24 338 ⇑P P 08 24 06.3 +1.0
baz=48,SNR=12
F19A **Roth Farm, Mol** 47.27 335 ⇓P P 08 24 06.6 +1.0
baz=48
A26A **Wade Farm, Ken** 47.38 343 ⇓P P 08 24 07.0 +0.8
baz=48,SNR=5.4
C23A **Lambert** 47.44 339 ⇑P P 08 24 07.9 +1.2
baz=48,SNR=21
E20A **Meyer Farm, Mu** 47.46 336 ⇑P P 08 24 08.1 +1.1
baz=48,SNR=12
D21A **La Casta Ranch** 47.48 338 ⇓P P 08 24 09.0 +1.9
baz=48
QLMT **Earthquake Lak** 47.57 332 *e*P P 08 24 10.5 +2.5
C22A **Vida** 47.64 339 ⇑P P 08 24 10.0 +1.7
baz=48
DGMT **Dagmar** 47.68 341 ⇓P P 08 24 10.2 +1.6
baz=48
DGMT **Dagmar** 47.68 341 *e*P P 08 24 10.4 +1.8
E19A **Rath Farm, Rou** 47.69 336 ⇓P P 08 24 10.0 +1.2
baz=48,SNR=7.2
A25A **Svangstu Ranch** 47.74 342 ⇓P P 08 24 10.3 +1.3
baz=48
B23A **Brockton** 47.94 340 ⇓P P 08 24 12.5 +1.8
baz=48,SNR=24
D20A **Manuel Ranch,** 47.94 337 ⇓P P 08 24 12.1 +1.4
baz=48,SNR=10
A24A **Westby** 48.01 341 ⇑P P 08 24 12.6 +1.5
baz=48,SNR=13
HLID **Hailey** 48.09 329 ⇑P P 08 24 13.0 +0.9
baz=48,SNR=6.4
HLID **Hailey** 48.09 329 *e*P P 08 24 13.4 +1.4
28nm,2.0s
B22A **Reddig Ranch S** 48.15 339 ⇓P P 08 24 13.7 +1.4
baz=48,SNR=5.1
C21A **Desert Coulee** 48.15 338 ⇓P P 08 24 13.4 +1.1
baz=48,SNR=17
MCMT **McKenzie Canyo** 48.24 331 *e*P P 08 24 14.4 +1.2
0.9nm,0.7s
BOZ **Bozeman (W)** 48.28 333 *e*P P 08 24 14.2 +0.7
7.3nm,1.3s
D19A **Cripps Ranch,** 48.30 336 ⇓P P 08 24 15.0 +1.6
baz=49,SNR=12
C20A **Veseth Ranch,** 48.40 337 ⇑P P 08 24 15.5 +1.3
baz=49
B21A **Ellsworth Farm** 48.62 339 ⇓P P 08 24 17.2 +1.3
baz=49,SNR=5.1
A22A **Carney Farms,** 48.71 340 ⇑P P 08 24 18.2 +1.7
baz=49,SNR=20
MFID **Camas Ranch** 48.73 328 *e*P P 08 24 18.5 +1.6
C19A **Slack Wire Ran** 48.83 337 ⇑P P 08 24 18.9 +1.3
baz=49,SNR=14
B20A **Solberg Farm,** 49.00 338 ⇓P P 08 24 20.6 +1.8
baz=49
A21A **Bergtoll Ranch** 49.06 339 ⇓P P 08 24 21.3 +2.0
baz=49
HRY **Holter Researc** 49.19 334 *e*P P 08 24 21.7 +1.3
A20A **Cobblestone Ra** 49.33 338 ⇑P P 08 24 23.1 +1.8
baz=50
EGMT **Eagleton** 49.34 336 ⇓P P 08 24 23.0 +1.6
baz=50
EGMT **Eagleton** 49.34 336 *e*P P 08 24 22.9 +1.4
B19A **Brinkman Farms** 49.37 337 ⇑P P 08 24 23.3 +1.6
baz=50
WVOR **Wild Horse Val** 49.62 325 *e*P P 08 24 25.0 +1.2
A19A **Klindworth Far** 49.68 338 ⇑P P 08 24 24.9 +0.9
baz=50,SNR=8.2
MSO **Missoula** 50.23 332 ⇑P P 08 24 29.2 +0.9
baz=50
MSO **Missoula** 50.23 332 *e*P P 08 24 29.1 +0.8
G08A **Pilot Rock** 51.65 328 *e*P P 08 24 40.8 +1.8
SCHQ **Schefferville** 51.96 12 P P 08 24 40.0 -1.0
12nm,1.0s,baz=194,slow=6.0,SNR=7.7
E09A **Wood Farm, Sta** 52.05 329 *e*P P 08 24 43.0 +1.2
FFC **Flin Flon** 52.63 346 *e*P P 08 24 46.2 +0.3
15nm,1.1s
NEW **Newport** 52.76 332 *e*P P 08 24 48.5 +1.4
EDM **Edmonton** 54.86 338 *e*P P 08 25 02.5 +0.2
YKA **Yellowknife Ar** 62.66 344 P P 08 25 56.8 +0.5
8.7nm,0.8s,baz=139,slow=6.5,SNR=111
YKA PcP PcP 08 26 35.1 +0.2
1.3nm,0.7s,baz=137,slow=4.4,SNR=6.1
PPT **Papeete** 69.48 250 LR LR 08 48 35.9
comp=Z,74nm,20.5s,baz=92,slow=28
DAWY **Dawson** 72.07 337 *e*P P 08 26 56.4 +0.4
INK **Inuvik** 72.32 342 P P 08 26 58.5 +1.2
15nm,1.0s,baz=117,slow=6.1,SNR=39
EGAK **Eagle** 73.08 338 *e*P P 08 27 02.5 +0.6
7.3nm,1.0s
SUMG **Summit** 73.33 13 *e*P P 08 27 03.2 -0.5
27nm,1.0s
SUMG **Summit** 73.33 13⇑*i*P P 08 27 03.4 -0.3
20nm,1.0s
DOT **Dot Lake** 73.73 336 *e*P P 08 27 06.5 +0.7
17nm,1.2s
PAX **Paxson** 74.04 335 *e*P P 08 27 08.0 +0.3
14nm,1.4s
ILAR **Eielson Array** 75.31 336 P P 08 27 15.2 +0.2
2.8nm,0.8s,baz=120,slow=4.3,SNR=35
ILAR LR LR 09 02 32.7
comp=Z,39nm,20.9s,baz=188,slow=38
TRF **Thorofare Moun** 76.26 335 *e*P P 08 27 20.8 +0.2
6.2nm,0.9s
KTH **Kantishna Hill** 76.56 335 *e*P P 08 27 22.6 +0.4
6.1nm,0.8s
PPLA **Purkeypile** 76.91 334 *e*P P 08 27 24.4 +0.2
31nm,1.5s
DBIC **Dimbokro** 77.41 84 LR LR 08 59 11.8
comp=Z,32nm,21.1s,baz=234,slow=34
COLD **Coldfoot** 77.44 338 *e*P P 08 27 28.4 +1.4
10nm,1.1s
MDT **Midelt** 77.62 58 P P 08 27 30.0 +1.2
2.8nm,0.8s,baz=310,slow=6.5,SNR=8.4
ESDC **Sonseca Array** 78.55 51 P P 08 27 33.9 +0.1
0.3nm,0.3s,baz=269,slow=6.1,SNR=9.4
ESDC LR LR 08 56 22.2
comp=Z,20nm,20.3s,baz=95,slow=31
QUIF **Quistinic** 79.76 42 *e*P P 08 27 40.0 -0.1
33nm,1.1s
QUIF **Quistinic** 79.76 42 *e*P P 08 27 40.0 -0.1
33nm,1.1s
DAG **Danmarks Havn** 80.00 12⇑*i*P P 08 27 39.7 -1.1
2.8nm,0.9s
SGMF **Saint Gilles** 80.19 42 *e*P P 08 27 43.9 +1.5
28nm,1.0s
SGMF **Saint Gilles** 80.19 42 *e*P P 08 27 43.9 +1.5
28nm,1.0s
EKA **Eskdalemuir Ar** 80.48 35 P P 08 27 43.7 -0.1
3.2nm,0.7s,baz=263,slow=4.1,SNR=5.2
SJPF **Ste Jean** 80.80 47 *e*P P 08 27 46.5 +0.6
7.6nm,0.7s
SJPF **Ste Jean** 80.80 47 *e*P P 08 27 46.5 +0.6
7.6nm,0.7s
CAF **Calviac** 83.23 45 *e*P P 08 27 59.4 +0.8
CAF **Calviac** 83.23 45 *e*P P 08 27 59.4 +0.8
MTLF **Montolieu** 83.32 47 *e*P P 08 27 59.9 +0.8
8.8nm,0.8s
MTLF **Montolieu** 83.32 47 *e*P P 08 27 59.9 +0.8
8.8nm,0.8s
TORD **Torodi Ar. Bea** 83.54 77 P P 08 27 59.9 -0.9
1.8nm,0.8s,baz=287,slow=6.4,SNR=9.8
TORD LR LR 09 02 47.9
comp=Z,52nm,21.3s,baz=155,slow=34
VIVF **Saint-Julien-I** 85.08 45 *e*P P 08 28 08.7 +0.7
VIVF **Saint-Julien-I** 85.08 45 *e*P P 08 28 08.7 +0.7
SMRF **Simiane la Rot** 85.75 46 *e*P P 08 28 11.8 +0.4
24nm,1.2s
SMRF **Simiane la Rot** 85.75 46 *e*P P 08 28 11.8 +0.4
24nm,1.2s
ORIF **Oris-en-Rattie** 85.94 45 *e*P P 08 28 13.0 +0.6
13nm,1.0s
ORIF *e*R
60nm,21.8s
ORIF **Oris-en-Rattie** 85.94 45 *e*P P 08 28 13.0 +0.6
13nm,1.0s
LMR **La Mourre** 86.45 47 *e*P P 08 28 14.8 0.0
11nm,0.9s
LMR **La Mourre** 86.45 47 *e*P P 08 28 14.8 0.0
11nm,0.9s
LPL **La Plagne** 86.52 45 *e*P P 08 28 15.8 +0.4
LPL **La Plagne** 86.52 45 *e*P P 08 28 15.8 +0.4
LPG **La Plagne** 86.53 45 *e*P P 08 28 16.1 +0.6
LPG **La Plagne** 86.53 45 *e*P P 08 28 16.1 +0.6
FRF **La Foret Royal** 86.54 47 *e*P P 08 28 15.2 -0.1
13nm,0.7s
FRF **La Foret Royal** 86.54 47 *e*P P 08 28 15.2 -0.1
13nm,0.7s
MBDF **Montbardon** 86.58 46 *e*P P 08 28 16.1 +0.5
8.3nm,0.9s
MBDF **Montbardon** 86.58 46 *e*P P 08 28 16.1 +0.5
8.3nm,0.9s
NOA **NORSAR Array B** 88.12 29 P P 08 28 23.2 +0.6
1.5nm,0.9s,baz=270,slow=4.6,SNR=3.6
NOA LR LR 09 03 49.0
comp=Z,27nm,21.0s,baz=45,slow=33
SNAA **Sanae** 90.88 162 P P 08 28 35.1 -0.1
1.2nm,0.9s,baz=276,slow=9.2,SNR=4.8
GERES **GERESS Array B** 90.95 41 LR LR 09 05 22.5
comp=Z,34nm,18.9s,baz=274,slow=33
ARCES **ARCESS Array B** 92.24 20 LR LR 09 04 40.3
comp=Z,39nm,21.4s,baz=310,slow=32
H11N3 **WAKE ISLAND Hyl** 107.62 292 T T 10 30 12.8
baz=79,slow=75,SNR=19
H11N2 **WAKE ISLAND Hyl** 107.63 292 T T 10 30 13.4
baz=79,slow=75,SNR=16
H11N1 **WAKE ISLAND Hyl** 107.64 292 T T 10 30 14.0
baz=79,slow=75,SNR=16
ZALV **Zalesovo Beam** 120.99 9 PKP PKPdf 08 34 23.9 -0.4
0.5nm,0.4s,baz=254,slow=1.1,SNR=4.9
KURK **Kurchatov** 122.85 14 PKP PKPdf 08 34 26.9 -1.1
KURBB **Kurchatov Arra** 122.92 14 PKP PKPdf 08 34 26.9 -1.2
1.6nm,0.9s,baz=336,slow=2.5,SNR=11
MKAR **Makanchi Array** 127.38 13 PKP PKPdf 08 34 36.3 -0.6
1.2nm,0.8s,baz=15,slow=1.4,SNR=6.1
SONM **Songino Array** 127.45 352 PKP PKPdf 08 34 37.1 -0.1
2.4nm,0.9s,baz=16,slow=0.1,SNR=15
STKA **Stephens Creek** 130.32 231 PKP PKPdf 08 34 42.5 -0.3
2.1nm,0.9s,baz=106,slow=2.6,SNR=5.2
WMQ **Urumqi** 131.29 9 *e*PKP PKPdf 08 34 41.4 -3.1
KSH **Kashi** 132.13 22 *e*PKP PKPdf 08 34 53.3 +7.0
KSH PPMZ
68nm,4.5s
KSH LZ
92nm,7.4s
HHC **Hu-ho-hao-te** 133.19 345 *e*PKP PKPdf 08 34 42.6 -5.6
HHC PP **PP** **08 37 12.1 -1.5**
HHC SKKS 08 43 59.8
HHC **Hu-ho-hao-te** 133.19 345 SS SS 08 54 50.3 -3.8
HHC AMB AMB
comp=Z,49nm,4.3s
HHC LR LR
comp=N,120nm,16.0s
HHC LR LR
comp=E,190nm,19.7s
HHC LR LR
comp=Z,79nm,18.5s
LZH **Lanzhou** 139.33 352 *e*PKP **PKPdf** **08 34 58.4 -1.4**
LZH sPKP 08 35 10.8
ASAR **Alice Springs** 139.84 238 PKhKP PKPpre 08 34 52.2
comp=Z,0.9nm,0.8s,baz=106,slow=3.1,SNR=7.6
ASAR PKP **PKPdf** **08 35 00.6 -0.3**
comp=Z,1.6nm,0.9s,baz=104,slow=1.8,SNR=9.9
WRA **Warramunga Arr** 140.77 244 PKhKP PKPpre 08 34 55.4
comp=Z,1.5nm,0.8s,baz=106,slow=2.7,SNR=19
WRA PKP **PKPdf** **08 35 01.8 -0.9**
comp=Z,3.1nm,0.9s,baz=98,slow=1.2,SNR=14
CD2 **Chengdu** 144.42 350 PKP PKPbc 08 35 08.0 +0.7
CD2 PP **PP** **08 38 26.9 +3.9**
CD2 PKS **PKSdf** **08 38 42.5 -2.2**
CD2 SKS **SKSdf** **08 42 14.9 -1.2**
CD2 SKKS **SKKSac** **08 45 14.6 -0.1**
CD2 SS **SS** **08 57 09.9 +3.6**
CD2 PPMZ
comp=Z,100nm,5.6s
DANN **Dangsing** 144.97 21 *e*P PKPbc 08 35 09.6 +0.1
comp=Z,81nm,0.8s
H01W1 **Cape Leeuwin H** 145.83 205 T T 11 18 45.5
baz=151,slow=76,SNR=7.3
H01W2 **Cape Leeuwin H** 145.83 205 T T 11 18 43.8
baz=151,slow=76,SNR=9.2
H01W3 **Cape Leeuwin H** 145.85 205 T T 11 18 45.5
baz=151,slow=76,SNR=8.4
KKN **Kakani** 146.01 19 *e*P **PKPdf** **08 35 11.7 -0.3**
comp=Z,24nm,0.7s
GUN **Gumba** 146.09 18 *e*P **PKPbc** **08 35 13.1 0.0**
comp=Z,100nm,1.0s
DMN **Daman** 146.12 20 *e*P **PKPbc** **08 35 12.8 -0.3**
comp=Z,22nm,0.8s
PKIN **Phulchoki** 146.25 19 *e*P **PKPdf** **08 35 12.9 +0.5**
comp=Z,7.9nm,0.6s
PKI **Pulchoki** 146.26 19 *e*P **PKPbc** **08 35 13.2 -0.4**
comp=Z,25nm,1.0s
JIRN **Jiri** 146.42 18 *e*P **PKPbc** **08 35 13.9 -0.2**
comp=Z,48nm,0.9s
RAMN **Ramite** 147.21 18 *e*P **PKPbc** **08 35 15.8 -0.5**

	comp=Z,29nm,1.1s								
ODAN	**Odare**	**147.53**	**17**	*e*P		**PKPbc**	**08 35 16.7**	**-0.4**	
	comp=Z,29nm,1.1s								
FITZ	**Fitzroy Crossi**	**149.12**	**241**	*e*PKPbc		**PKPbc**	**08 35 20.5**	**-0.7**	
QIZ	**Qiongzhong**	**153.72**	**332**	PKPbc		**PKPdf**	**08 35 23.5**	**-0.5**	
QIZ				PP		**PP**	**08 39 18.4**	**+1.0**	
QIZ				SS		SS	08 58 55.6	+4.5	
QIZ				LZ					
	comp=Z,190nm,17.0s								
CMAR	**Chiang Mai Arr**	**157.30**	**356**	PKP		**PKPdf**	**08 35 28.5**	**-0.4**	
	comp=Z,1.9nm,0.3s,baz=272,slow=3.0,SNR=7.4								
CMAR				PKPab		**PKPab**	**08 35 59.5**	**-0.2**	
	comp=Z,1.0nm,0.5s,baz=350,slow=4.6,SNR=7.4								

ISCJB ***21*** *08:18:47.9±0.6,35°.88N±0°.05×67°.51E±0°.05,h10km, mb3.6/6, Error ellipse: s-maj=7.1km s-min=5.6km az=164.0*

IDC ***21*** *08:18:47.2±1.1,35°.77N×67°.80E,h0km,mb3.5/6, mb1 3.7/11,mb1mx3.5/52,mbtmp3.6/11,ML3.5/5,MS2.5/3, Ms1 2.5/3,ms1mx2.3/41, Error ellipse: s-maj=22.9km s-min=17.3km az=161.0*

NNC ***21*** *08:18:51.0±2.9,35°.81N×67°.36E,h19km±13km,mb4.1, mpv4.0, Error ellipse: s-maj=23.1km s-min=21.0km az=138.0*

ISC 21 08:18:49.8±0.9,35°.83N±0°.07×67°.52E±0°.06,h10km,n31, σ1§60/38,mb3.7/6,8C-11D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.14**	**19**	⇑Pn	**Pn**	**08 19 42.3**	**+2.7**
	10nm,0.4s						
DZET				⇓Pg	**Pg**	**08 19 50.3**	**+0.2**
	48nm,0.4s						
DZET				⇓Sn	**Sn**	**08 20 20.6**	**+3.5**
	118nm,0.4s						
DZET				⇓Lg	Lg	08 20 31.5	
	251nm,0.5s						
CEP	**Cherat**	**4.13**	**118**	P	Pb	08 19 59.7	-3.0
CEP				S	**Sb**	**08 20 53.0**	**+0.2**
CHCP	**Chirah Chowk**	**5.20**	**113**	P	**Pn**	**08 20 09.4**	**+1.6**
SFK	**Sufi-Kurgan**	**6.31**	**47**	⇑Pn	**Pn**	**08 20 24.8**	**+1.7**
	6.0nm,0.4s						
SFK				⇑Sn	**Sn**	**08 21 38.9**	**+3.6**
	25nm,0.4s						
KK31	**Karatay Array**	**7.62**	**17**	⇓Pn	**Pn**	**08 20 41.4**	**+0.5**
	1.2nm,0.2s,baz=207,slow=14,SNR=51						
KK31				⇑Sn	**Sn**	**08 22 07.1**	**-0.2**
	9.9nm,0.6s,baz=200,slow=22,SNR=9.7						
MNAS	**Manas**	**7.69**	**29**	⇓Pn	**Pn**	**08 20 42.7**	**+0.7**
	3.1nm,0.4s						
MNAS				⇓Sn	**Sn**	**08 22 11.3**	**+2.1**
	20nm,0.6s						
GEYT	**Alibeck**	**7.82**	**288**	Pn	**Pn**	**08 20 44.8**	**+1.1**
	0.7nm,0.3s,baz=111,slow=11,SNR=3.3						
GEYT				Sn	**Sn**	**08 22 14.9**	**+2.7**
	0.3nm,0.3s,baz=103,slow=22,SNR=1.8						
GEYT				Lg	Lg	08 23 03.9	
	0.3nm,0.3s,baz=152,slow=34,SNR=2.3						
GEYT				LR	LR	08 24 51.7	
	comp=Z,47nm,19.2s,baz=65,slow=45						
AML	**Almayashu**	**7.91**	**36**	P	**Pn**	**08 20 45.4**	**+0.1**
	SNR=18						
UCH	**Uchtor**	**8.39**	**38**	P	**Pn**	**08 20 51.0**	**-0.8**
	SNR=23						
KZA	**Kyzart**	**8.66**	**42**	P	**Pn**	**08 20 55.7**	**+0.1**
	SNR=35						
AAK	**Ala-Archa**	**8.68**	**36**	⇓Pn	**Pn**	**08 20 55.6**	**0.0**
	8.4nm,0.7s						
AAK				⇓Sn	**Sn**	**08 22 34.3**	**+0.7**
	12nm,0.7s						
AAK	**Ala-Archa**	**8.68**	**36**	P	**Pn**	**08 20 55.8**	**+0.2**
	SNR=10						
AAK	**Ala-Archa**	**8.68**	**36**	Pn	**Pn**	**08 20 53.3**	**-2.3**
	2.4nm,0.3s,baz=196,slow=8.0,SNR=18						
AAK				Sn	**Sn**	**08 22 35.4**	**+1.8**
	1.0nm,0.3s,baz=322,slow=19,SNR=5.6						
AAK				LR	LR	08 24 09.4	
	comp=Z,17nm,21.2s,baz=214,slow=37						
KBK	**Karagaybulak**	**8.92**	**38**	P	**Pn**	**08 21 00.8**	**+2.0**
	SNR=7.7						
CHMS	**Chumysh**	**9.08**	**36**	P	**Pn**	**08 21 00.8**	**-0.1**
	SNR=5.8						
SMLA	**Simla**	**9.32**	**117**	*e*P	Pn	08 21 01.2	-3.1
SMLA				*e*S	Sn	08 22 42.4	-6.8
TKM2	**Tokmak 2**	**9.44**	**39**	⇓Pn	**Pn**	**08 21 06.2**	**+0.2**
	4.7nm,0.6s						
TKM2				⇑Sn	**Sn**	**08 22 52.9**	**+0.5**
	13nm,0.8s						
TKM2	**Tokmak 2**	**9.44**	**39**	P	**Pn**	**08 21 04.7**	**-1.4**
	SNR=6.8						
AB31	**Akbulak array**	**14.52**	**340**	⇑Pn	**Pn**	**08 22 13.5**	**-1.8**
	0.4nm,0.4s						
AB31				⇑Sn	**Sn**	**08 24 54.9**	**-1.2**
	1.9nm,0.8s						
MK31	**Makanchi Array**	**15.56**	**41**	⇓Pn	**Pn**	**08 22 30.0**	**+0.7**
	2.5nm,0.8s,baz=146,slow=6.2,SNR=7.8						
MKAR	**Makanchi Array**	**15.56**	**41**	Pn	Pn	08 22 23.2	-6.1
	0.1nm,0.3s,baz=234,slow=12,SNR=7.6						
AKTO	**Aktyubinsk**	**16.14**	**338**	⇑Pn	**Pn**	**08 22 36.0**	**-0.6**
	1.9nm,0.8s						
AKTO				⇓Sn	**Sn**	**08 25 33.3**	**-2.3**
	2.0nm,0.9s						
AKTO	**Aktyubinsk**	**16.14**	**338**	Pn	**P**	**08 22 39.0**	**-0.9**
	0.1nm,0.3s,baz=158,slow=10,SNR=6.9						
AKTO				LR	LR	08 29 51.3	
	comp=Z,22nm,18.6s,baz=123,slow=41						
KURBB	**Kurchatov Arra**	**16.79**	**25**	Pn	Pn	08 22 40.2	-4.7
	0.0nm,0.3s,baz=213,slow=10,SNR=3.0						
BVAR	**Borovoye Array**	**17.31**	**6**	P	**Pn**	**08 22 49.8**	**-1.6**
	0.4nm,0.3s,baz=161,slow=9.4,SNR=6.6						
ZALV	**Zalesovo Beam**	**21.77**	**28**	P	**P**	**08 23 40.0**	**-1.4**
	2.3nm,0.6s,baz=224,slow=11,SNR=9.0						
SONM	**Songino Array**	**31.03**	**55**	P	**P**	**08 25 06.6**	**-1.1**
	0.4nm,0.7s,baz=232,slow=7.3,SNR=3.5						
NOA	**NORSAR Array B**	**43.23**	**324**	P	**P**	**08 26 52.2**	**+1.2**
	0.5nm,0.7s,baz=100,slow=8.1,SNR=2.0						
TORD	**Torodi Ar. Bea**	**62.88**	**267**	P	**P**	**08 29 16.7**	**+0.3**
	0.6nm,0.8s,baz=61,slow=6.1,SNR=2.5						
WRA	**Warramunga Arr**	**84.07**	**120**	P	P	08 31 18.5	-2.5
	0.3nm,0.8s,baz=318,slow=4.6,SNR=3.2						
ASAR	**Alice Springs**	**86.23**	**123**	P	**P**	**08 31 29.8**	**-2.0**
	0.5nm,0.8s,baz=303,slow=5.3,SNR=4.9						

JMA 21 08:19:41.8±0.1,40°.67N×142°.40E,h42km±3km,M3.6,3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.74**	**247**	⇓P	Pn	08 19 56.0	+0.2
JANG				S	Sn	08 20 05.7	-0.2
JTH	**Tanohata**	**0.84**	**209**	P	Pn	08 19 57.1	-0.1
JTH				S	Sn	08 20 07.9	-0.4
JTM	**Tenmabayashi**	**1.02**	**277**	⇓P	Pn	08 19 59.6	0.0
JTM				*e*S	Sn	08 20 12.7	0.0
JKZ	**Kuzumaki**	**1.07**	**230**	⇓P	Pn	08 20 01.0	+0.6
JKZ				S	Sn	08 20 14.2	+0.1
JOT	**Ohata**	**1.25**	**305**	P	Pn	08 20 02.7	0.0
JOT				S	Sn	08 20 17.3	-1.0
JAH	**Hinai**	**1.43**	**251**	P	Pn	08 20 05.7	+0.4
JAH				S	Sn	08 20 23.2	+0.4
JOM	**Ohasama**	**1.47**	**216**	P	Pn	08 20 06.7	+0.9
JOM				S	Sn	08 20 24.6	+0.8
JKB	**Kayabe**	**1.59**	**320**	P	Pn	08 20 07.9	+0.4
JKB				S	Sn	08 20 26.9	0.0
JNBK	**Urakawa-nobuka**	**1.63**	**9**	P	Pn	08 20 09.5	+1.5
JSR	**Shiriuchi**	**1.73**	**300**	P	Pn	08 20 10.0	+0.7
JSR				*e*S	Sn	08 20 30.6	+0.5

ISCJB ***21*** *08:20:40.3±0.3,37°.83N±0°.01×22°.07E±0°.02,h10km±2km, mb3.7/9,MS3.9/3, Error ellipse: s-maj=2.5km s-min=2.4km az=178.6*

IDC ***21*** *08:20:40.1±1.0,37°.81N×22°.18E,h0km,mb3.7/10, mb1 3.7/14,mb1mx3.6/50,mbtmp3.7/14,ML3.3/4,MS2.9/6, Ms1 2.9/6,ms1mx2.5/48, Error ellipse: s-maj=19.3km s-min=16.2km az=17.0*

THE ***21*** *08:20:40.7,37°.83N×22°.08E,h1km±2km,ML3.6/10, Error ellipse: s-maj=2.0km s-min=0.7km az=238.0*

CSEM ***21*** *08:20:40.6±0.1,37°.84N×22°.08E,h5km,MD3.3, Error ellipse: s-maj=2.3km s-min=2.2km az=57.0*

ATH ***21*** *08:20:40.3,37°.85N×22°.08E,h17km±1km,MD3.3/32, ML3.8*

ISC 21 08:20:41.0±0.9,37°.84N±0°.01×22°.08E±0°.01,h7km±7km, n146,σ0§81/199,mb3.7/9,MS3.6/3,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.21**	**16**	P	**Pg**	**08 20 45.1**	**-0.2**
KLV				S	**Sg**	**08 20 48.4**	**+0.2**
KLV	**Kalavryta, Ach**	**0.21**	**16**	*e*PB	**Pg**	**08 20 45.1**	**-0.2**
KLV				*e*SB	**Sg**	**08 20 48.1**	**-0.2**
KLV	**Kalavryta, Ach**	**0.21**	**16**	P	**Pg**	**08 20 45.0**	**-0.2**
KLV				S	**Sg**	**08 20 48.0**	**-0.2**
GUR	**Goura**	**0.23**	**65**	P	**Pg**	**08 20 45.3**	**-0.3**
GUR				S	**Sg**	**08 20 49.4**	**+0.6**
GUR	**Goura**	**0.23**	**65**	*e*PB	**Pg**	**08 20 45.5**	**-0.1**
GUR				*e*SB	**Sg**	**08 20 48.5**	**-0.3**
GUR	**Goura**	**0.23**	**65**	P	**Pg**	**08 20 45.3**	**-0.3**
GUR				*e*Sb	**Sg**	**08 20 48.5**	**-0.3**
GUR				S	**Sg**	**08 20 49.2**	**+0.4**
DRO	**Drossia**	**0.31**	**292**	P	**Pg**	**08 20 46.7**	**-0.4**
DRO	**Drossia**	**0.31**	**292**	*e*PB	**Pg**	**08 20 46.7**	**-0.4**
DRO				*e*SB	**Sg**	**08 20 52.3**	**+1.1**
DRO	**Drossia**	**0.31**	**292**	P	**Pg**	**08 20 46.7**	**-0.4**
DRO				S	**Sg**	**08 20 51.3**	**+0.1**
DRO				*e*Sb	**Sg**	**08 20 52.3**	**+1.1**
AMT	**Artemida-Makis**	**0.42**	**224**	P	**Pg**	**08 20 48.9**	**-0.2**
AMT				S	**Sg**	**08 20 54.8**	**+0.2**
AMT	**Artemida-Makis**	**0.42**	**224**	*e*PB	**Pg**	**08 20 48.9**	**-0.2**
AMT				*e*SB	**Sg**	**08 20 55.5**	**+0.9**
AMT	**Artemida-Makis**	**0.42**	**224**	P	**Pg**	**08 20 48.8**	**-0.3**
AMT				S	**Sg**	**08 20 54.8**	**+0.2**
AMT				*e*Sb	**Sg**	**08 20 55.5**	**+0.9**
UPR	**University Cam**	**0.50**	**333**	P	**Pg**	**08 20 50.1**	**-0.6**
UPR	**University Cam**	**0.50**	**333**	P	**Pg**	**08 20 50.1**	**-0.6**
UPR				S	**Sg**	**08 20 56.8**	**-0.4**
VLX	**Vlachokerasia**	**0.52**	**152**	P	**Pg**	**08 20 50.7**	**-0.3**
VLX				S	**Sg**	**08 20 58.6**	**+0.6**
VLX	**Vlachokerasia**	**0.52**	**152**	*e*PN	**Pg**	**08 20 50.8**	**-0.3**
VLX				*e*SN	**Sg**	**08 20 58.4**	**+0.4**
VLX	**Vlachokerasia**	**0.52**	**152**	P	**Pg**	**08 20 50.6**	**-0.5**
VLX				S	**Sg**	**08 20 58.2**	**+0.2**
RLS	**Riolos of Patr**	**0.53**	**295**	P	**Pg**	**08 20 50.0**	**-1.1**
RLS				S	**Sg**	**08 20 57.6**	**-0.5**
RLS	**Riolos of Patr**	**0.53**	**295**	*e*PN	**Pg**	**08 20 50.1**	**-1.1**
RLS				*e*SN	**Sg**	**08 20 57.8**	**-0.3**
RLS	**Riolos of Patr**	**0.53**	**295**	*e*Pn	**Pg**	**08 20 50.1**	**-1.1**
RLS				*e*Sn	**Sg**	**08 20 57.8**	**-0.3**
KALE	**Kalithea**	**0.56**	**5**	P	**Pg**	**08 20 51.1**	**-0.6**
KALE				S	**Sg**	**08 20 59.8**	**+0.8**
KALE	**Kalithea**	**0.56**	**5**	*e*PN	**Pg**	**08 20 51.3**	**-0.4**
KALE				*e*SN	**Sg**	**08 20 58.7**	**-0.3**
KALE	**Kalithea**	**0.56**	**5**	*e*Pn	**Pg**	**08 20 51.3**	**-0.4**
KALE				*e*Sn	**Sg**	**08 20 58.7**	**-0.3**
KALE				S	**Sg**	**08 20 59.8**	**+0.8**
EFP	**Efpalio**	**0.60**	**347**	P	**Pg**	**08 20 52.1**	**-0.5**
EFP				S	**Sg**	**08 21 02.3**	**-0.3**
EFP	**Efpalio**	**0.60**	**347**	*e*PN	**Pg**	**08 20 52.2**	**-0.4**
EFP				*e*SN	**Sg**	**08 21 00.9**	**+0.4**
EFP	**Efpalio**	**0.60**	**347**	P	**Pg**	**08 20 52.1**	**-0.5**
EFP				S	**Sg**	**08 21 00.6**	**+0.1**
EFP				*e*Sn	**Sg**	**08 21 00.9**	**+0.4**
ITM	**Ithomi**	**0.67**	**190**	P	**Pg**	**08 20 53.1**	**-0.7**
ITM				S	**Sb**	**08 21 03.6**	**-0.8**
ITM	**Ithomi**	**0.67**	**190**	*e*PN	**Pg**	**08 20 53.2**	**-0.6**
ITM				*e*SN	**Sb**	**08 21 03.7**	**-0.7**
ITM	**Ithomi**	**0.67**	**190**	P	**Pg**	**08 20 53.2**	**-0.6**
ITM				S	**Sg**	**08 21 03.3**	**+0.8**
ITM				*e*Sn	**Sb**	**08 21 03.7**	**-0.7**
DSF	**Desfina**	**0.68**	**32**	P	**Pg**	**08 20 53.0**	**-1.0**
DSF				S	**Sg**	**08 21 02.7**	**-0.1**
DSF	**Desfina**	**0.68**	**32**	*e*PN	**Pg**	**08 20 53.0**	**-1.0**
DSF				*e*SN	**Sg**	**08 21 02.4**	**-0.4**
DSF	**Desfina**	**0.68**	**32**	P	**Pg**	**08 20 53.0**	**-1.0**
DSF				S	**Sg**	**08 21 02.9**	**-0.9**
DSF				*e*Sn	**Sg**	**08 21 02.4**	**-0.4**
VTN	**Vitineika**	**0.71**	**277**	P	**Pb**	**08 20 55.2**	**-0.4**
VTN	**Vitineika**	**0.71**	**277**	P	**Pb**	**08 20 55.2**	**-0.4**
LTK	**Loutraki**	**0.73**	**75**	P	**Pg**	**08 20 54.1**	**-0.9**
LTK				S	**Sg**	**08 21 05.2**	**+0.7**
LTK	**Loutraki**	**0.73**	**75**	*e*PN	**Pg**	**08 20 54.4**	**-0.6**
LTK	**Loutraki**	**0.73**	**75**	P	**Pg**	**08 20 54.3**	**-0.7**
LTK				S	**Sg**	**08 21 02.7**	**-1.8**
PVO	**Paravola**	**0.89**	**331**	P	**Pg**	**08 20 57.4**	**-0.7**
PVO				S	**Sg**	**08 21 10.1**	**+0.4**
PVO	**Paravola**	**0.89**	**331**	P	**Pg**	**08 20 57.6**	**-0.5**
PVO				S	**Sg**	**08 21 10.1**	**+0.4**
PYL	**PYLOS**	**0.98**	**196**	P	**Pg**	**08 20 58.6**	**-1.1**
PYL	**PYLOS**	**0.98**	**196**	*e*PB	**Pg**	**08 20 58.6**	**-1.1**
PYL	**PYLOS**	**0.98**	**196**	P	**Pg**	**08 20 58.6**	**-1.1**
PYL				S	**Sg**	**08 21 11.9**	**-0.5**
AXAR	**Agios Charalam**	**1.04**	**26**	P	**Pb**	**08 20 59.8**	**-0.9**
AXAR	**Agios Charalam**	**1.04**	**26**	*e*PN	**Pg**	**08 21 00.0**	**-0.9**
AXAR	**Agios Charalam**	**1.04**	**26**	*e*Pn	**Pg**	**08 21 00.0**	**-0.9**
PDO	**Prodromos**	**1.04**	**318**	P	**Pn**	**08 20 59.8**	**-1.0**
PDO				S	**Sn**	**08 21 16.5**	**-0.2**
PDO	**Prodromos**	**1.04**	**318**	*e*PN	**Pg**	**08 21 00.0**	**-0.8**
PDO	**Prodromos**	**1.04**	**318**	P	**Pg**	**08 20 59.8**	**-1.0**
PDO				S	**Sg**	**08 21 14.6**	**+0.3**
KFL	**Anninata**	**1.05**	**285**	P	**Pg**	**08 21 00.5**	**-0.7**
KFL	**Anninata**	**1.05**	**285**	P	**Pg**	**08 21 00.5**	**-0.7**
LKR	**Lokris**	**1.09**	**42**	P	**Pg**	**08 21 00.6**	**-1.3**
LKR				S	**Sb**	**08 21 16.9**	**+0.3**
LKR	**Lokris**	**1.09**	**42**	*e*PN	**Pg**	**08 21 00.6**	**-1.3**
LKR	**Lokris**	**1.09**	**42**	P	**Pg**	**08 21 00.6**	**-1.3**
LKR				S	**Sg**	**08 21 16.2**	**+0.1**
EVR	**Evrytania**	**1.10**	**349**	P	**Pg**	**08 21 01.0**	**-1.1**
EVR				S	**Sn**	**08 21 18.3**	**-0.1**
EVR	**Evrytania**	**1.10**	**349**	*e*PN	**Pg**	**08 21 01.2**	**-0.9**
EVR	**Evrytania**	**1.10**	**349**	*e*Pn	**Pg**	**08 21 01.2**	**-0.9**
EVR				S	**Sn**	**08 21 18.3**	**-0.1**
NAIG	**Nisos Aigina**	**1.12**	**94**	*e*PN	**Pg**	**08 21 01.9**	**-0.6**
NAIG	**Nisos Aigina**	**1.12**	**94**	*e*Pn	**Pg**	**08 21 01.9**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.18**	**2**	P	**Pg**	**08 21 02.1**	**-1.4**
MAKR				S	**Sn**	**08 21 20.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.18**	**2**	*e*PN	**Pg**	**08 21 02.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.18**	**2**	P	**Pg**	**08 21 02.1**	**-1.4**
MAKR	**Makrakomi, Fth**	**1.18**	**2**	*e*Pn	**Pg**	**08 21 02.8**	**-0.7**
MAKR				S	**Sn**	**08 21 20.4**	**+0.2**
AGG	**Agios Georgios**	**1.20**	**10**	P	**Pb**	**08 21 02.9**	**-1.1**
AGG	**Agios Georgios**	**1.20**	**10**	*e*PN	**Pb**	**08 21 03.0**	**-1.1**
AGG	**Agios Georgios**	**1.20**	**10**	P	**Pb**	**08 21 02.9**	**-1.1**
VLS	**Valsamata**	**1.22**	**287**	P	**Pb**	**08 21 02.6**	**-1.8**
VLS	**Valsamata**	**1.22**	**287**	*e*PN	**Pb**	**08 21 03.0**	**-1.4**
VLS	**Valsamata**	**1.22**	**287**	P	**Pb**	**08 21 02.6**	**-1.8**
VLS	**Valsamata**	**1.22**	**287**	*e*Pn	**Pb**	**08 21 03.0**	**-1.4**
ATH	**Athens Observa**	**1.30**	**84**	P	**Pn**	**08 21 04.9**	**-0.7**
ATH				S	**Sb**	**08 21 22.8**	**0.0**
ATH	**Athens Observa**	**1.30**	**84**	*e*PN	**Pn**	**08 21 05.0**	**-0.7**
ATH	**Athens Observa**	**1.30**	**84**	P	**Pn**	**08 21 04.9**	**-0.7**
ATH				S	**Sb**	**08 21 22.8**	**0.0**
VLI	**Veliai**	**1.31**	**148**	P	**Pn**	**08 21 05.1**	**-0.6**
VLI	**Veliai**	**1.31**	**148**	*e*PN	**Pn**	**08 21 05.3**	**-0.4**
VLI	**Veliai**	**1.31**	**148**	P	**Pn**	**08 21 05.1**	**-0.6**
ATHU	**Athens Univers**	**1.36**	**84**	P	**Pn**	**08 21 05.5**	**-0.8**
ATHU				S	**Sb**	**08 21 24.3**	**0.0**
ATHU	**Athens Univers**	**1.36**	**84**	P	**Pn**	**08 21 05.5**	**-0.8**
ATHU				S	**Sb**	**08 21 24.3**	**0.0**
SMIA	**Simia**	**1.37**	**40**	P	**Pg**	**08 21 07.4**	**+0.2**
SMIA	**Simia**	**1.37**	**40**	P	**Pg**	**08 21 07.4**	**+0.2**
PTL	**Penteli**	**1.43**	**81**	P	**Pn**	**08 21 06.8**	**-0.6**
PTL				S	**Sn**	**08 21 25.8**	**-0.6**
PTL	**Penteli**	**1.43**	**81**	*e*PN	**Pn**	**08 21 07.2**	**-0.2**
PTL	**Penteli**	**1.43**	**81**	P	**Pn**	**08 21 06.8**	**-0.6**
PTL	**Penteli**	**1.43**	**81**	*e*Pn	**Pn**	**08 21 07.2**	**-0.2**
PTL				S	**Sn**	**08 21 25.8**	**-0.6**
MRKA	**Markates**	**1.47**	**53**	P	**Pn**	**08 21 07.5**	**-0.4**
MRKA				S	**Sg**	**08 21 29.6**	**+1.3**
MRKA	**Markates**	**1.47**	**53**	*e*PN	**Pn**	**08 21 07.7**	**-0.2**
MRKA	**Markates**	**1.47**	**53**	P	**Pn**	**08 21 07.5**	**-0.4**
MRKA				S	**Sg**	**08 21 29.6**	**+1.3**
DSL	**Palaion Diasel**	**1.51**	**330**	P	**Pn**	**08 21 08.8**	**+0.4**
DSL				S	**Sb**	**08 21 28.8**	**+0.2**
DSL	**Palaion Diasel**	**1.51**	**330**	*e*PN	**Pb**	**08 21 09.2**	**-0.1**
DSL	**Palaion Diasel**	**1.51**	**330**	P	**Pn**	**08 21 08.8**	**+0.4**
DSL	**Palaion Diasel**	**1.51**	**330**	*e*Pn	**Pb**	**08 21 09.2**	**-0.1**
DSL				S	**Sb**	**08 21 28.8**	**+0.2**
SKIA	**Skiathos**	**1.72**	**39**	*e*PN	**Pn**	**08 21 11.4**	**+0.1**
SKIA	**Skiathos**	**1.72**	**39**	*e*Pn	**Pn**	**08 21 11.4**	**+0.1**
NEO	**Neokhori**	**1.72**	**31**	*e*PN	**Pn**	**08 21 11.0**	**-0.4**
NEO	**Neokhori**	**1.72**	**31**	*e*Pn	**Pn**	**08 21 11.0**	**-0.4**
THL	**Klokotos Trika**	**1.73**	**358**	P	**Pb**	**08 21 12.2**	**-0.8**
THL	**Klokotos Trika**	**1.73**	**358**	*e*PN	**Pb**	**08 21 12.4**	**-0.6**
THL	**Klokotos Trika**	**1.73**	**358**	P	**Pb**	**08 21 12.2**	**-0.8**
KYTH	**Kithira**	**1.73**	**153**	P	**Pn**	**08 21 12.1**	**+0.6**
KYTH	**Kithira**	**1.73**	**153**	*e*PN	**Pb**	**08 21 13.2**	**+0.1**
KYTH	**Kithira**	**1.73**	**153**	P	**Pn**	**08 21 12.1**	**+0.6**
KYTH	**Kithira**	**1.73**	**153**	*e*Pn	**Pb**	**08 21 13.2**	**+0.1**
XOR	**Xorichti**	**1.76**	**29**	*e*PN	**Pn**	**08 21 11.4**	**-0.5**
XOR	**Xorichti**	**1.76**	**29**	*e*Pn	**Pn**	**08 21 11.4**	**-0.5**
AOS	**Alonnisos**	**1.94**	**46**	*e*PN	**Pn**	**08 21 14.1**	**-0.3**
AOS	**Alonnisos**	**1.94**	**46**	*e*Pn	**Pn**	**08 21 14.1**	**-0.3**
PAIG	**Paliouri**	**2.43**	**30**	*e*PB	**Pn**	**08 21 20.2**	**-0.9**
KEK	**Kerkira**	**2.58**	**317**	*e*PB	**Pn**	**08 21 24.8**	**+1.6**
APE	**Apeiranthos**	**2.85**	**105**	*e*PN	**Pn**	**08 21 26.9**	**-0.1**
APE	**Apeiranthos**	**2.85**	**105**	*e*Pn	**Pn**	**08 21 26.9**	**-0.1**
HORT	**Hortiatis**	**2.87**	**16**	*e*PB	**Pn**	**08 21 28.5**	**+1.3**
OUR	**Ouranopolis**	**2.90**	**30**	*e*PN	**Pn**	**08 21 27.0**	**-0.5**
OUR	**Ouranopolis**	**2.90**	**30**	*e*Pn	**Pn**	**08 21 27.0**	**-0.5**
LIA	**Limnos Island**	**3.18**	**49**	*e*PN	**Pn**	**08 21 31.7**	**+0.3**
LIA	**Limnos Island**	**3.18**	**49**	*e*Pn	**Pn**	**08 21 31.7**	**+0.3**
CHOS	**Chios island**	**3.19**	**79**	*e*PN	**Pn**	**08 21 31.9**	**+0.3**
CHOS	**Chios island**	**3.19**	**79**	*e*Pn	**Pn**	**08 21 31.9**	**+0.3**
SIGR	**SIGRI**	**3.27**	**64**	*e*PN	**Pn**	**08 21 33.4**	**+0.8**
SIGR	**SIGRI**	**3.27**	**64**	*e*Pn	**Pn**	**08 21 33.4**	**+0.8**
IDI	**Anoyia**	**3.41**	**137**	Pn	**Pn**	**08 21 34.8**	**+0.2**
	2.3nm,0.3s,baz=278,slow=11,SNR=10						
IDI				Sn	**Sn**	**08 22 14.9**	**-0.4**
	6.2nm,0.3s,baz=38,slow=15,SNR=4.5						
IDI				LR	LR	08 23 24.8	
	comp=Z,50nm,18.9s,baz=76,slow=50						
OHR	**Ohrid**	**3.42**	**344**	*i* Pn	**Pn**	**08 21 36.9**	**+2.2**
OHR	**Ohrid**	**3.42**	**344**	*i* Pn	**Pn**	**08 21 36.8**	**+2.1**
VAY	**Valandovo**	**3.50**	**6**	*i* Pn	Pb	08 21 39.7	-3.5
VAY	**Valandovo**	**3.50**	**6**	*i* Pn	Pb	08 21 39.6	-3.6
SMG	**Samos**	**3.77**	**90**	*e*PN	**Pn**	**08 21 40.0**	**+0.4**
SMG	**Samos**	**3.77**	**90**	*e*Pn	**Pn**	**08 21 40.0**	**+0.4**
SKO	**Skopje**	**4.16**	**353**	*i* Pn	**Pn**	**08 21 47.9**	**+3.1**
SKO	**Skopje**	**4.16**	**353**	*i* Pn	**Pn**	**08 21 47.9**	**+3.0**
STON	**Ston**	**6.04**	**328**	*e*Pn	Pn	08 22 06.1	-4.5
STON				Sn	**Sn**	**08 23 18.0**	**-2.0**
MLR	**Muntele Rosu**	**8.18**	**19**	LR	LR	08 26 19.2	
	comp=Z,22nm,20.7s,baz=312,slow=42						
BRTR	**Keskin Array B**	**9.23**	**75**	Pn	**Pn**	**08 22 56.3**	**+1.8**
	0.2nm,0.3s,baz=262,slow=13,SNR=9.9						
KEST	**Kesra**	**10.42**	**262**	Pn	**Pn**	**08 23 12.1**	**+1.1**
	0.0nm,0.3s,baz=199,slow=20,SNR=3.5						
GERES	**GERESS Array B**	**12.57**	**334**	Pn	Pn	08 23 44.7	+4.5
	0.3nm,0.3s,baz=86,slow=6.2,SNR=4.5						
GERES				LR	LR	08 29 17.0	
	comp=Z,45nm,18.6s,baz=282,slow=41						
DAVOX	**Davos/Dischmat**	**12.69**	**319**	LR	LR	08 30 44.1	
	comp=Z,36nm,18.0s,baz=78,slow=47						
**

JIKM				S	Sn	08 49 18.9	-2.9	
JIRB	**Irabujima**	**3.33**	**251**	P	Pn	**08 48 43.7**	**-1.8**	
JIRB				S	Sn	**08 49 21.5**	**-2.7**	
JTJ	**Tarama**	**3.80**	**250**	P	Pn	**08 48 50.1**	**-1.9**	
JTJ				S	Sn	**08 49 31.0**	**-4.7**	
JISG	**Ishigakijimahi**	**4.15**	**251**	P	Pn	**08 48 54.5**	**-2.3**	
JISG				S	Sn	**08 49 40.2**	**-4.2**	
JIJ	**Ishigaki jima**	**4.37**	**249**	P	Pn	**08 48 57.4**	**-2.5**	
JIJ				S	Sn	**08 49 44.9**	**-5.1**	
JKRS	**Kuro-shima**	**4.53**	**248**	P	Pn	**08 49 00.6**	**-1.5**	
YOJ	**Yonaguni jima**	**5.31**	**255**	P	Pn	**08 49 10.6**	**-2.2**	
YHNB	**Yeheng** 37nm,0.8s	**6.69**	**260**	*e*Pn	Pn	**08 49 31.8**	**-0.1**	
YULB	**Yu-li** 10.0nm,0.6s	**7.15**	**250**	*e*Pn	Pn	08 49 34.2	-3.9	
SSLB	**Suanglung** 14nm,0.3s	**7.30**	**254**	*e*Pn	Pn	08 49 36.6	-3.6	
JNU	**Nakatsue** 6.6nm,0.3s,baz=306,slow=3.1,SNR=37	**7.38**	**15**	Pn	Pn	**08 49 41.4**	**+0.1**	
JNU				Sn	Sn	**08 51 02.0**	**-2.1**	
	0.9nm,0.3s,baz=294,slow=20,SNR=3.1							
JNU	**Nakatsue** 17nm,0.8s	**7.38**	**15**	*e*Pn	Pn	**08 49 40.8**	**-0.4**	
JNU				Sn	Sn	**08 51 02.0**	**-2.1**	
KSAR	**Wonju Array Be**	**11.45**	**357**	P	Pn	**08 50 37.4**	**+0.5**	
KSAR	**Wonju Array Be**	**11.45**	**357**	Pn	Pn	**08 50 37.4**	**+0.5**	
KSRS	**Korea Array** 0.6nm,0.3s,baz=178,slow=13,SNR=6.6	**11.46**	**357**	Pn	Pn	**08 50 37.4**	**+0.4**	
KSRS				LR	LR	08 55 20.1		
	comp=Z,134nm,18.6s,baz=173,slow=39							
KSRS	**Korea Array**	**11.46**	**357**	P	Pn	**08 50 37.4**	**+0.4**	
KSRS	comp=Z,1.0nm,0.3s			pmax	pmax			
KSRS				MLR	MLR			
	comp=Z,134nm,18.6s							
JCJ	**Chichijima** comp=Z,65nm,19.0s,baz=126,slow=32	**12.19**	**82**	LR	LR	08 54 18.9		
MAJO	**Matsushiro**	**13.33**	**36**	*e*P	Pn	08 51 07.1	+4.4	
MAJO	**Matsushiro**	**13.33**	**36**	*e*Pn	Pn	**08 51 03.8**	**+1.1**	
MJAR	**Matsushiro Arr** comp=Z,0.3nm,0.3s,baz=251,slow=12,SNR=3.9	**13.33**	**36**	Pn	Pn	**08 51 01.4**	**-1.3**	
ASAJ	**Asahikawa** comp=Z,8.2nm,0.7s,baz=208,slow=14,SNR=5.4	**21.35**	**29**	P	P	**08 52 41.0**	**+0.7**	
ASAJ	**Asahikawa**	**21.35**	**29**	P	P	**08 52 41.0**	**+0.7**	
ASAJ	comp=Z,8.0nm,0.7s			pmax	pmax			
HABR	**Khabarovsk**	**23.01**	**11**	*e*P	P	08 53 12.5	+15	
HABR				*e**SP	sP	08 53 21.5	+13	
HABR				*e*		08 53 25.8		
HABR				*e*		08 56 43.8		
HABR				*e*S	S	**08 57 03.5**	**-3.2**	
HABR				*e*SS	SnSn	**08 57 44.7**	**+4.7**	
HABR				*e*		09 04 01.3		
HABR	comp=Z,8.0nm,1.1s			pmax	pmax			
HABR				MLR	MLR			
	comp=Z,81nm,17.0s							
YSS	**Yuzh-Sakhalins**	**23.74**	**25**	*e*P	P	**08 53 05.3**	**+0.2**	
YSS	comp=Z,20nm,0.7s			pmax	pmax			
YSS	**Yuzh-Sakhalins** comp=Z,20nm,0.7s	**23.74**	**25**	*e*P	P	**08 53 05.3**	**+0.2**	
ULN	**Ulaanbaatar**	**27.66**	**328**	*e*P	P	**08 53 43.3**	**+2.4**	
ULN	comp=Z,6.0nm,1.7s			pmax	pmax			
SONM	**Songino Array** comp=Z,1.8nm,0.5s,baz=144,slow=11,SNR=12	**27.96**	**327**	P	P	**08 53 45.9**	**+2.4**	
SONM				LR	LR	09 06 47.0		
	comp=Z,83nm,18.4s,baz=143,slow=40							
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=50,slow=8.4,SNR=3.3	**28.44**	**261**	P	P	08 53 51.2	+3.2	
JAY	**Jayapura** comp=Z,35nm,18.6s,baz=290,slow=37	**30.64**	**156**	LR	LR	09 06 40.0		
PETK	**Petropavlovsk-** comp=Z,2.5nm,0.6s,baz=191,slow=7.2,SNR=3.9	**34.72**	**31**	P	P	**08 54 41.9**	**-0.9**	
YAK	**Yakutsk**	**36.05**	**1**	*e*P	P	**08 54 53.0**	**-1.1**	
YAK	comp=Z,20nm,0.8s			pmax	pmax			
YAK	comp=N,8.0nm,1.1s			pmax	pmax			
ODAN	**Odare** comp=N,21nm,0.5s	**36.83**	**281**	*e*P	P	**08 55 01.7**	**+0.2**	
RAMN	**Ramite** comp=N,15nm,0.6s	**37.51**	**281**	*e*P	P	**08 55 08.1**	**+0.8**	
JIRN	**Jiri** comp=N,5.3nm,0.4s	**37.78**	**282**	*e*P	P	**08 55 10.8**	**+1.1**	
GUN	**Gumba** comp=N,11nm,0.5s	**38.02**	**283**	*e*P	P	**08 55 13.0**	**+1.3**	
PKI	**Pulchoki** comp=N,10nm,0.4s	**38.48**	**282**	*e*P	P	**08 55 15.4**	**-0.2**	
PKIN	**Phulchoki** comp=N,8.7nm,0.4s	**38.49**	**282**	*e*P	P	**08 55 16.3**	**+0.7**	
KKN	**Kakani**	**38.56**	**283**	*e*P	P	**08 55 16.2**	**+0.1**	
DMN	**Daman** comp=N,6.6nm,0.5s	**38.74**	**282**	*e*P	P	**08 55 18.7**	**+1.0**	
GKN	**Gorkha**	**39.10**	**283**	*e*P	P	**08 55 21.9**	**+1.3**	
DANN	**Dangsing** comp=N,29nm,0.6s	**39.82**	**284**	*e*P	P	**08 55 27.6**	**+0.9**	
MKAR	**Makanchi Array** comp=N,1.2nm,0.6s,baz=98,slow=10,SNR=14	**41.97**	**312**	P	P	**08 55 44.5**	**+0.6**	
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.4s,baz=115,slow=9.7,SNR=2.6	**42.66**	**323**	P	P	**08 55 49.4**	**0.0**	
KURK	**Kurchatov**	**45.25**	**317**	P	P	**08 56 11.3**	**+1.1**	
KURK	**Kurchatov**	**45.25**	**317**	P	P	**08 56 11.2**	**+1.1**	
KURBB	**Kurchatov Arra** comp=N,0.7nm,0.5s,baz=106,slow=8.9,SNR=6.3	**45.28**	**317**	P	P	**08 56 11.2**	**+0.8**	
TIXI	**Tiksi**	**45.70**	**0**	*i*P	P	**08 56 13.7**	**+0.2**	
TIXI	comp=Z,2.0nm,1.0s			pmax	pmax			
WRA	**Warramunga Arr** comp=Z,1.2nm,0.6s,baz=354,slow=8.5,SNR=17	**45.98**	**173**	P	P	**08 56 15.8**	**-0.4**	
BILL	**Bilibino**	**47.80**	**18**	*e*P	P	**08 56 30.3**	**+0.4**	
BILL	comp=Z,3.0nm,1.0s			pmax	pmax			
ASAR	**Alice Springs** comp=Z,0.8nm,0.7s,baz=357,slow=7.4,SNR=11	**49.62**	**174**	P	P	**08 56 44.5**	**0.0**	
BRVK	**Borovoye**	**50.77**	**318**	*i*P	P	**08 56 55.3**	**+2.5**	
BRVK	comp=Z,4.0nm,1.7s			pmax	pmax			
ABKAR	**Akbulak array** comp=Z,1.3nm,0.5s	**57.08**	**313**	*e*P	P	**08 57 39.4**	**+0.4**	
ARU	**Arti**	**57.81**	**322**	*d i*P	P	**08 57 45.5**	**+1.5**	
ARU				*PP	pP	08 58 03.2	+11	
ARU						08 58 37.5		
ARU						08 59 51.1		
ARU				S	S	**09 05 41.6**	**+0.1**	
ARU	comp=Z,3.0nm,1.2s			pmax	pmax			
STKA	**Stephens Creek** comp=Z,0.5nm,0.6s,baz=312,slow=9.7,SNR=3.0	**58.85**	**167**	P	P	**08 57 51.4**	**-0.2**	
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=284,slow=7.1,SNR=6.0	**64.49**	**28**	P	P	**08 58 28.6**	**-0.6**	
INK	**Inuvik** comp=Z,0.7nm,0.6s,baz=304,slow=7.0,SNR=8.7	**68.98**	**23**	P	P	**08 58 58.0**	**+0.3**	
KBZ	**Khabaz** comp=Z,2.1nm,0.7s,baz=56,slow=24,SNR=4.8	**69.59**	**310**	P	P	**08 59 03.5**	**+1.5**	
KIV	**Kislovodsk**	**69.67**	**310**	*e*P	P	**08 59 01.1**	**-1.5**	
KIV	comp=Z,8.0nm,1.0s			pmax	pmax			
KIV	comp=Z,15nm,17.0s			MLR	MLR			
ARCES	**ARCESS Array B** comp=Z,2.7nm,1.0s,baz=63,slow=5.8,SNR=2.5	**70.37**	**339**	P	P	**08 59 08.0**	**+1.7**	
ARCES	**ARCESS Array B**	**70.37**	**339**	P	P	**08 59 08.0**	**+1.7**	
ARCES	**ARCESS Array B**	**70.37**	**339**	P	P	**08 59 08.0**	**+1.7**	
FINES	**FINESS Array B** comp=Z,0.6nm,0.4s,baz=83,slow=6.6,SNR=6.5	**73.25**	**331**	P	P	**08 59 23.7**	**0.0**	
AKASG	**Malin Array Be** comp=Z,0.8nm,0.5s,baz=58,slow=6.8,SNR=4.8	**75.95**	**320**	P	P	**08 59 39.5**	**-0.1**	
AKASG	comp=Z,33nm,18.4s,baz=35,slow=39			LR	LR	09 37 10.8		
AKASG	**Malin Array Be**	**75.95**	**320**	*ce*P	P	**08 59 42.2**	**+2.6**	
AKASG	comp=Z,1.0nm,0.5s			pmax	pmax			
KIEV	**Kiev**	**75.97**	**320**	*e*P	P	**08 59 39.0**	**-0.7**	
BRTR	**Keskin Array B** comp=Z,1.0nm,0.6s,baz=102,slow=5.2,SNR=6.4	**77.47**	**308**	P	P	**08 59 50.1**	**+1.4**	
BRTR	**Keskin Array B**	**77.47**	**308**	*ce*P	P	**08 59 50.0**	**+1.4**	
BRTR	comp=Z,2.0nm,1.0s			pmax	pmax			
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.6s,baz=299,slow=5.7,SNR=6.5	**78.60**	**25**	P	P	**08 59 54.1**	**-0.1**	
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.7s,baz=53,slow=5.9	**79.69**	**334**	P	P	**09 00 00.0**	**-0.3**	
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=53,slow=5.7,SNR=4.1	**79.69**	**334**	P	P	**08 59 60.0**	**-0.3**	
NOA	comp=Z,12nm,19.8s,baz=80,slow=38			LR	LR	09 38 25.0		
NOA	**NORSAR Array B**	**79.69**	**334**	P	P	**09 00 00.0**	**-0.3**	

IDC 21 08:59:35.1±2.0, 4°02S×150°82E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=171.1km s-min=28.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.55**	**224**	P	P	09 04 36.3	-0.7
	0.9nm,0.7s,baz=50,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**25.46**	**218**	P	P	09 05 05.7	+0.7
	0.3nm,0.6s,baz=54,slow=9.5,SNR=3.6						
ILAR	**Eielson Array**	**82.19**	**23**	P	P	09 11 57.6	-0.1
	0.5nm,0.7s,baz=237,slow=5.3,SNR=6.3						

IDC 21 09:00:07.5±2.4, 6°57S×128°75E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/31, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=181.2km s-min=32.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.36**	**158**	Pn	Pn	09 03 32.6	+0.3
	0.3nm,0.3s,baz=337,slow=13,SNR=14						
WRA				Sn	Sn	09 05 57.0	-15
	0.2nm,0.3s,baz=337,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**17.71**	**164**	P	Pn	09 04 15.6	-0.2
	0.1nm,0.3s,baz=342,slow=9.1,SNR=8.2						
MKAR	**Makanchi Array**	**67.19**	**327**	P	P	09 11 03.6	0.0
	0.2nm,0.4s,baz=118,slow=7.9,SNR=4.0						

IDC 21 09:09:04.5±640.0, 66°77N×39°51E, h0km, Error ellipse: s-maj=411.5km s-min=152.4km az=36.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**25.13**	**98**	*i*		11 43 10.0	
	baz=321,slow=331,SNR=1.1						
I18DK	**QAANAAQ INFRAS**	**29.78**	**335**	*i*		12 11 20.0	
	baz=50,slow=337,SNR=1.0						
I34MN	**SONGINO INFRAS**	**38.46**	**85**	*i*		13 03 40.0	
	baz=321,slow=330,SNR=0.5						

IDC 21 09:12:46.8±1.1, 48°86N×156°48E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/37, mbtmp3.4/8, ML2.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/30, Error ellipse: s-maj=32.0km s-min=20.6km az=132.0
ISCJB 21 09:12:51.0±0.8, 49°04N±0°08×156°5E±0°2, h34km, mb3.3/6, Error ellipse: s-maj=17.6km s-min=6.0km az=35.7
MOS 21 09:12:50.5±1.6, 49°04N×156°35E, h35km, mb4.1/1, Error ellipse: s-maj=25.0km s-min=6.0km az=77.5
KRSC 21 09:12:53.1±2.1, 49°17N×157°57E, h40km±27km, ML3.8
ISC 21 09:12:52.8±1.1, 49°18N±0°10×156°5E±0°1, h34km, n48, σ2s15/41, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.53**	**350**	*e*P	**Pb**	**09 13 20.7**	**+0.2**
SKR	**Severo-Kuril's**	**1.53**	**350**	*e*PN	Pn	09 13 12.0	-5.7
SKR	comp=N,80nm,0.5s			pmax	pmax		
SKR	comp=E,60nm,0.5s			pmax	pmax		
SKR	comp=Z,80nm,0.5s			pmax	pmax		
ASAK	**Asacha**	**3.32**	**15**	*e*P	**Pn**	**09 13 45.0**	**+2.6**
MTVR	**Mutnovka**	**3.47**	**17**	*e*P	**Pn**	**09 13 46.9**	**+2.4**
MTVR				*e*S	**Sn**	**09 14 26.0**	**+1.6**
RUS	**Russkaya**	**3.49**	**20**	*e*P	**Pn**	**09 13 46.5**	**+1.9**
RUS				*e*S	**Sn**	**09 14 25.2**	**+0.5**
RUS	**Russkaya**	**3.49**	**20**	PN	**Pn**	**09 13 46.5**	**+1.9**
APC	**Apacha**	**3.77**	**6**	*e*P	Pb	09 13 53.4	-5.2
APC	**Apacha**	**3.77**	**6**	PN	Pb	09 13 53.4	-5.2
PETK	**Petropavlovsk-** comp=Z,0.9nm,0.3s,baz=165,slow=14,SNR=36	**4.00**	**10**	Pn	**Pn**	**09 13 54.5**	**+2.8**
PETK	comp=Z,0.2nm,0.3s,baz=195,slow=27,SNR=2.8			Sn	**Sb**	**09 14 46.3**	**-4.1**
PETK	**Petropavlovsk-**	**4.00**	**10**	PN	**Pn**	**09 13 54.5**	**+2.8**
PETK						09 14 46.3	
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
PET	**Petropavlovsk**	**4.07**	**18**	P	**Pn**	**09 13 54.7**	**+2.0**
PET				S	**Sn**	**09 14 40.6**	**+1.5**
PET	**Petropavlovsk**	**4.07**	**18**	*e*PN	**Pn**	**09 13 54.3**	**+1.6**
UGLR	**Uglovaya**	**4.28**	**19**	*e*P	**Pn**	**09 13 58.3**	**+2.6**
AVH	**Avacha**	**4.32**	**18**	*e*P	Pn	09 13 59.8	+3.7
AVH	**Avacha**	**4.32**	**18**	PN	Pn	09 13 59.8	+3.7
KOK	**Koryaka**	**4.32**	**17**	*e*P	**Pn**	**09 13 59.2**	**+3.0**
KOK	**Koryaka**	**4.32**	**17**	PN	**Pn**	**09 13 59.2**	**+3.0**
SMAR	**Somma**	**4.33**	**18**	*e*P	**Pn**	**09 13 59.2**	**+2.8**
SMAR	**Somma**	**4.33**	**18**	PN	**Pn**	**09 13 59.2**	**+2.8**
KRER	**Koryakskii**	**4.36**	**18**	*e*P	**Pn**	**09 13 59.4**	**+2.6**
SDLR	**Sedlovina**	**4.36**	**19**	*e*P	**Pn**	**09 13 58.6**	**+1.9**
SDLR	**Sedlovina**	**4.36**	**19**	PN	**Pn**	**09 13 58.6**	**+1.9**
KRX	**Arik**	**4.39**	**17**	*e*P	**Pn**	**09 14 00.2**	**+3.0**
SPN	**Mys Shipunski**	**4.50**	**28**	P	**Pn**	**09 14 00.2**	**+1.7**
SPN				S	**Sn**	**09 14 49.7**	**+0.2**
SPN	**Mys Shipunski**	**4.50**	**28**	PN	**Pn**	**09 14 00.2**	**+1.7**
GNL	**Ganaly**	**4.61**	**11**	*e*P	Pn	09 14 03.4	+3.3
GNL	**Ganaly**	**4.61**	**11**	PN	Pn	09 14 03.4	+3.3
MKZ	**Mys Kozlova**	**6.27**	**29**	*e*P	**Pn**	**09 14 22.7**	**-0.1**
MKZ				S	**Sn**	**09 15 29.3**	**-3.9**
MKZ	**Mys Kozlova**	**6.27**	**29**	PN	**Pn**	**09 14 22.7**	**-0.1**
TUMR	**Tumrok**	**6.50**	**19**	*e*P	**Pn**	**09 14 28.7**	**+2.6**
TUMR	**Tumrok**	**6.50**	**19**	PN	**Pn**	**09 14 28.7**	**+2.6**
KBTR	**Krutoberegovo**	**8.01**	**26**	*e*P	**Pn**	**09 14 47.4**	**+0.8**
KBTR	**Krutoberegovo**	**8.01**	**26**	PN	**Pn**	**09 14 47.4**	**+0.8**
BKI	**Bering**	**8.36**	**40**	*e*S	Sn	09 16 17.5	-7.1
ASAJ	**Asahikawa** comp=Z,0.3nm,0.3s,baz=345,slow=20,SNR=2.6	**10.83**	**247**	Pn	**Pn**	**09 15 25.6**	**+0.3**
USRK	**Ussuriysk Ar.** comp=Z,0.1nm,0.3s,baz=58,slow=8.7,SNR=2.8	**17.52**	**263**	Pn	**P**	**09 16 53.5**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,27nm,21.3s,baz=25,slow=38	**18.38**	**233**	LR	LR	09 24 20.0	
H11S1	**WAKE ISLAND Hy** baz=347,slow=76,SNR=2.7	**31.68**	**161**	T	T	09 53 34.6	
H11S3	**WAKE ISLAND Hy** baz=347,slow=76,SNR=8.0	**31.69**	**161**	T	T	09 53 19.8	
H11S2	**WAKE ISLAND Hy** baz=347,slow=76,SNR=5.4	**31.70**	**161**	T	T	09 53 21.1	
ILAR	**Eielson Array** comp=Z,0.2nm,0.8s,baz=269,slow=7.2,SNR=3.3	**33.21**	**41**	P	**P**	**09 19 26.5**	**+0.4**
ZAK	**Zakamensk**	**33.79**	**293**	*e*P	**P**	**09 19 29.6**	**-1.8**
INK	**Inuvik** comp=Z,0.4nm,0.7s,baz=311,slow=8.4,SNR=2.5	**38.36**	**34**	P	**P**	**09 20 12.1**	**+2.0**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.7s,baz=70,slow=6.3,SNR=4.2	**47.88**	**297**	P	**P**	**09 21 26.4**	**-0.8**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.8s,baz=15,slow=6.3,SNR=2.8	**71.59**	**202**	P	P	09 24 08.0	-2.5
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=287,slow=4.5,SNR=4.7	**74.32**	**63**	P	**P**	**09 24 27.2**	**+0.3**
BRTR	**Keskin Array B** comp=Z,1.1nm,1.0s,baz=320,slow=5.4,SNR=3.9	**78.14**	**319**	P	**P**	**09 24 48.9**	**+0.4**
BRTR	**Keskin Array B**	**78.14**	**319**	P	**P**	**09 24 48.9**	**+0.4**
BRTR	comp=Z,1.0nm,1.0s			pmax	pmax		

IDC 21 09:13:48.3±51.0, 16°43S×177°75W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/34, mbtmp3.9/3, Error ellipse: s-maj=935.0km s-min=161.9km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.91**	**240**	P	P	09 21 23.9	-0.3
	1.4nm,0.8s,baz=79,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**45.54**	**258**	P	P	09 22 10.1	-0.1
	0.3nm,0.4s,baz=92,slow=7.5,SNR=22						
ASAR	**Alice Springs**	**45.82**	**253**	P	P	09 22 12.3	-0.1
	2.2nm,0.5s,baz=88,slow=8.5,SNR=38						

IDC 21 09:43:23.6±2.8, 36°28N×71°23E, h65km±25km, mb3.7/16, mb1 3.9/20, mb1mx3.7/40, mbtmp4.1/20, ML4.5/3, MS3.0/7, Ms1 3.0/7, ms1mx2.7/40, Error ellipse: s-maj=20.4km s-min=12.7km az=11.0
ISCJB 21 09:43:25.4±0.3, 36°44N±0°02×71°46E±0°04, h100km, mb3.9/26, Error ellipse: s-maj=4.4km s-min=2.6km az=160.7
MOS 21 09:43:26.5±1.1, 36°53N×71°34E, h96km, mb4.2/9, Error ellipse: s-maj=9.6km s-min=4.5km az=82.6
NEIC 21 09:43:27.2±1.0, 36°53N×71°24E, h95km±9km, mb4.0/6, Error ellipse: s-maj=10.6km s-min=9.0km az=146.0
NNC 21 09:43:29.8±1.4, 36°81N×70°90E, h150km±14km, mb3.5, mpv4.3, Error ellipse: s-maj=13.2km s-min=6.7km az=165.0
BJI 21 09:43:29.8, 36°84N×71°36E, h127km, mB4.7/5, mb4.6/8
ISC 21 09:43:27.2±0.5, 36°46N±0°04×71°35E±0°04, h100km, n134, σ2s15/136, mb4.0/26, 11C-20D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.67**	**170**	⇓P	**Pn**	**09 44 09.8**	**+1.1**
CEP				S	**Sn**	**09 44 43.0**	**+2.5**
KBL	**Kabul**	**2.68**	**225**	*e*PN	**Pn**	**09 44 09.5**	**+0.6**
KBL				*e*		09 44 40.3	
KBL	**Kabul**	**2.68**	**225**	*e*Pn	**Pn**	**09 44 09.5**	**+0.6**
KBL				*e*Sn	**Sn**	**09 44 40.3**	**-0.6**
DZET	**Dzherino** 59nm,0.5s	**3.08**	**320**	⇑P	**Pn**	**09 44 11.5**	**-2.7**
DZET	250nm,0.5s			⇓S	**Sn**	**09 44 45.2**	**-5.1**
DZET	**Dzherino**	**3.08**	**320**	PN	**Pn**	**09 44 11.8**	**-2.3**
CHCP	**Chirah Chowk**	**3.20**	**150**	⇓P	**Pn**	**09 44 17.6**	**+1.9**
THW	**Thamme Wali**	**3.67**	**175**	⇓P	**Pn**	**09 44 22.6**	**+0.6**
SFK	**Sufi-Kurgan** 14nm,0.4s	**3.94**	**25**	⇓P	**Pn**	**09 44 27.6**	**+1.9**
SFK	91nm,0.5s			⇑S	**Sn**	**09 45 14.2**	**+3.2**
SFK	**Sufi-Kurgan**	**3.94**	**25**	PN	**Pn**	**09 44 27.7**	**+2.0**
SFK						09 45 16.3	
SFK	comp=Z,14nm,0.6s			pmax	pmax		
SFK	comp=N,83nm,0.5s			smax	smax		
JMU	**Jammu**	**4.74**	**141**	*e*S	**Sn**	**09 45 27.5**	**-2.7**
KSH	**Kashi**	**4.76**	**49**	P	Pn	09 44 33.4	-3.4
KSH				S	Sn	09 45 21.6	-9.2
KSH	comp=N,450nm,0.6s			SMN			
KSH	comp=N,260nm,0.7s			SME			
DLH	**Dalhousie**	**5.46**	**134**	*e*P	**Pn**	**09 44 46.0**	**-0.3**
DLH				*e*S	**Sn**	**09 45 46.0**	**-2.0**
DHRM	**DHARAMSHALA**	**5.86**	**134**	*e*P	**Pn**	**09 44 52.4**	**+0.6**
DHRM				*e*S	**Sn**	**09 45 55.5**	**-2.3**
PONG	**Pong**	**5.89**	**138**	*e*S	**Sn**	**09 45 55.0**	**-3.1**
AML	**Almayashu** SNR=86	**5.95**	**17**	P	**Pn**	**09 44 53.1**	**0.0**
AML	**Almayashu**	**5.95**	**17**	*i* PN	**Pn**	**09 44 53.1**	**0.0**
MNAS	**Manas** comp=N,30nm,1.0s	**6.09**	**8**	⇓P	**Pn**	**09 44 54.6**	**-0.2**
MNAS	comp=N,38nm,0.6s			⇓S	**Sn**	**09 46 00.0**	**-3.0**
MNAS	**Manas**	**6.09**	**8**	PN	**Pn**	**09 44 54.6**	**-0.2**
MNAS	comp=Z,30nm,1.0s			pmax	pmax		
UCH	**Uchtor** SNR=21	**6.26**	**22**	P	**Pn**	**09 44 57.3**	**-0.2**
UCH	**Uchtor**	**6.26**	**22**	*i* PN	**Pn**	**09 44 57.2**	**-0.2**
KZA	**Kyzart** SNR=21	**6.38**	**27**	P	**Pn**	**09 44 59.2**	**+0.2**
KZA	**Kyzart**	**6.38**	**27**	*i* PN	**Pn**	**09 44 59.1**	**+0.2**
EKS2	**Erkin-Say** SNR=41	**6.47**	**16**	P	**Pn**	**09 45 00.3**	**+0.3**
EKS2	**Erkin-Say**	**6.47**	**16**	*e*PN	**Pn**	**09 45 00.3**	**+0.3**
EKS2	**Erkin-Say**	**6.47**	**16**	*e*Pn	**Pn**	**09 45 00.3**	**+0.3**
EKS2				*e*Sn	**Sn**	**09 46 11.1**	**-1.3**
BHK	**Bhakra**	**6.56**	**139**	*ex*	x	09 45 31.8	
BHK				*e*S	**Sn**	**09 46 13.0**	**-1.4**
AAK	**Ala-Archa** comp=Z,24nm,0.6s	**6.63**	**21**	⇓P	**Pn**	**09 45 02.8**	**+0.7**
AAK	comp=Z,37nm,0.8s			⇑S	**Sn**	**09 46 15.2**	**-1.1**
AAK	**Ala-Archa** SNR=41	**6.63**	**21**	P	**Pn**	**09 45 02.9**	**+0.7**
AAK	**Ala-Archa** comp=Z,6.6nm,0.3s,baz=192,slow=9.5,SNR=105	**6.63**	**21**	P	**Pn**	**09 45 02.8**	**+0.7**
AAK				S	**Sn**	**09 46 14.4**	**-1.8**
	comp=Z,2.9nm,0.3s,baz=338,slow=18,SNR=6.1						
AAK	**Ala-Archa**	**6.63**	**21**	*d i* PN	**Pn**	**09 45 02.6**	**+0.5**
KK31	**Karatay Array** comp=Z,17nm,0.6s,baz=189,slow=17,SNR=167	**6.67**	**355**	P	**Pn**	**09 45 01.3**	**-1.3**
KK31	comp=Z,13nm,0.5s,baz=182,slow=21,SNR=3.9			⇓S	**Sn**	**09 46 11.7**	**-5.3**
KK31	**Karatay Array**	**6.67**	**355**	*e*PN	**Pn**	**09 45 01.2**	**-1.3**
KK31	comp=Z,8.0nm,0.2s			pmax	pmax		
KKAR	**Karatay Array**	**6.67**	**355**	*e*PN	**Pn**	**09 45 01.1**	**-1.4**
KKAR	**Karatay Array**	**6.67**	**355**	*e*Pn	**Pn**	**09 45 01.1**	**-1.4**
KKAR				*e*Sn	**Sn**	**09 46 11.7**	**-5.3**
KBK	**Karagaybulak** SNR=8.4	**6.79**	**23**	P	**Pn**	**09 45 02.5**	**+1.0**
KBK	**Karagaybulak**	**6.79**	**23**	*i* PN	**Pn**	**09 45 05.3**	**+1.0**
SDNR	**Sundarnagar**	**6.80**	**135**	*e*P	**Pn**	**09 45 03.0**	**-1.4**
SDNR				*e*S	**Sn**	**09 46 15.0**	**-5.3**
FRU	**Bishkek** comp=Z,40nm,2.0s	**6.85**	**21**	*i* PN	**Pn**	**09 45 06.0**	**+1.0**
FRU				pmax	pmax		
CHMS	**Chumysh** SNR=12	**7.04**	**21**	P	**Pn**	**09 45 08.1**	**+0.5**
CHMS	**Chumysh**	**7.04**	**21**	*i* PN	**Pn**	**09 45 08.1**	**+0.5**
SMLA	**Simla**	**7.19**	**136**	*i* P	**Pn**	**09 45 09.0**	**-0.6**
SMLA				*i* S	**Sn**	**09 46 26.7**	**-3.0**
USP	**Ospenovka** SNR=18	**7.22**	**19**	P	**Pn**	**09 45 09.0**	**-1.0**
USP	**Ospenovka**	**7.22**

ISHV	Shirvan	10.97	280	*e*P		Pn	09 45 55.9	-5.3	
MK31	Makanchi Array	13.16	35	⇓P		Pn	09 46 29.7	-0.4	
	comp=E,1.4nm,0.6s,baz=219,slow=13,SNR=5.9								
MKAR	Makanchi Array	13.16	35	P		Pn	09 46 29.7	-0.4	
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=6.5								
MKAR				LR		LR	09 51 50.8		
	comp=E,45nm,19.2s,baz=180,slow=38								
DANN	Dangsing	13.23	124	*e*P		Pn	09 46 28.7	-2.7	
	comp=E,13nm,0.4s								
DMN	Daman	14.62	123	*e*P		Pn	09 46 45.8	-3.5	
KKN	Kakani	14.62	122	*e*P		Pn	09 46 46.0	-3.3	
PKIN	Phulchoki	14.83	123	*e*P		Pn	09 46 48.3	-3.8	
	comp=E,6.6nm,0.4s								
PKI	Pulchoki	14.84	123	*e*P		Pn	09 46 48.5	-3.8	
GUN	Gumba	14.95	121	*e*P		Pn	09 46 49.7	-4.0	
	comp=E,4.6nm,0.2s								
KURBB	Kurchatov Arra	15.07	18	⇑P		Pn	09 46 53.1	-1.6	
	comp=E,6.4nm,0.8s								
KURBB	Kurchatov Arra	15.07	18	P		Pn	09 46 50.4	-4.3	
	comp=E,0.0nm,0.3s,baz=209,slow=10,SNR=7.3								
KURK	Kurchatov	15.18	18	⇓P		Pn	09 46 54.3	-1.7	
	comp=E,3.1nm,0.9s								
KURK	Kurchatov	15.18	18	*e*P		Pn	09 46 56.0	0.0	
KURK				pmax		pmax			
	comp=E,6.0nm,0.8s								
KURK	Kurchatov	15.18	18	*e*Pn		Pn	09 46 56.0	0.0	
	comp=E,5.6nm,0.8s								
AB31	Akbulak array	15.26	331	P		Pn	09 46 53.0	-4.1	
	comp=E,5.6nm,0.6s,baz=144,slow=12,SNR=106								
AB31				⇓S		Sn	09 49 33.5	-12	
	comp=E,3.2nm,0.6s								
AB31	Akbulak array	15.26	331	*i* P		Pn	09 46 52.9	-4.1	
AB31				pmax		pmax			
	comp=E,2.0nm,0.4s								
ABKAR	Akbulak array	15.26	331	*e*Pn		Pn	09 46 53.0	-4.0	
	comp=E,3.6nm,0.4s								
ABKAR				*e*Sn		Sn	09 49 28.1	-17	
JIRN	Jiri	15.32	121	*e*P		Pn	09 46 53.4	-5.0	
	comp=E,25nm,0.5s								
RAMN	Ramite	16.05	122	*e*P		Pn	09 47 01.7	-5.7	
TAPN	Taplejung	16.58	119	*e*P		Pn	09 47 07.8	-6.1	
BVAR	Borovoye Array	16.58	358	P		Pn	09 47 11.3	-2.1	
	comp=E,0.7nm,0.3s,baz=167,slow=13,SNR=17								
BRVK	Borovoye	16.62	358	⇓P		Pn	09 47 11.4	-2.4	
	comp=E,11nm,1.0s								
BRVK				⇑S		Sn	09 50 11.4	-6.6	
	comp=E,3.1nm,0.7s								
BRVK	Borovoye	16.62	358	⇓*e*P		Pn	09 47 11.9	-1.9	
BRVK				pmax		pmax			
	comp=E,10.0nm,1.2s								
BRVK	Borovoye	16.62	358	*e*Pn		Pn	09 47 12.0	-1.9	
	comp=E,5.3nm,0.6s								
AKTO	Aktyubinsk	16.96	330	P		Pn	09 47 15.8	-2.3	
	comp=E,1.5nm,0.3s,baz=137,slow=12,SNR=30								
ZALV	Zalesovo Beam	19.84	24	P		P	09 47 49.8	-0.1	
	comp=E,13nm,0.7s,baz=229,slow=10,SNR=43								
ZALV				LR		LR	09 56 11.2		
	comp=E,51nm,19.5s,baz=248,slow=38								
NVS	Novosibirsk	20.12	20	*e*P		P	09 47 50.7	-2.2	
GNI	Garni	21.17	288	P		P	09 48 02.6	-2.0	
	comp=E,3.7nm,0.4s,baz=0.0,slow=20,SNR=1.6								
GNI	Garni	21.17	288	⇓*e*P		P	09 48 06.9	+2.3	
GNI				pmax		pmax			
	comp=E,13nm,1.1s								
GNI	Garni	21.17	288	P		P	09 48 02.6	-2.0	
	comp=E,1.5nm,1.4s								
ARU	Arti	21.77	341	*d* /P		P	09 48 11.0	+0.5	
ARU							09 48 45.7		
ARU				S		S	09 52 05.0	-0.2	
ARU				SS		SnSn	09 52 44.2	+5.0	
ARU				pmax		pmax			
	comp=Z,8.0nm,0.7s								
ARU	Arti	21.77	341	*e*P		P	09 48 10.1	-0.4	
	comp=Z,20nm,1.0s								
ZEI	Tsey	22.01	295	*e*P		P	09 48 15.6	+2.1	
ZEI				pmax		pmax			
	comp=Z,9.0nm,1.1s								
GTA	Gaotai	22.61	74	*e*P		P	09 48 21.3	+1.6	
GTA				PMZ					
	comp=Z,20nm,0.9s								
KBZ	Khabaz	22.87	297	P		P	09 48 22.0	0.0	
	comp=Z,2.8nm,0.8s,baz=53,slow=20,SNR=5.0								
NEY	Neytrino	22.93	296	⇓*e*P		P	09 48 25.6	+2.7	
NEY				pmax		pmax			
	comp=Z,3.0nm,1.8s								
KIV	Kislovodsk	23.06	298	*e*P		P	09 48 27.2	+3.2	
KIV				*e**PP		pP	09 48 50.0	+6.0	
KIV				*e*S		S	09 52 30.8	+3.7	
KIV				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,24nm,15.0s								
ZAK	Zakamensk	26.81	49	*e*P		P	09 48 58.7	+0.8	
ZAK				pmax		pmax			
	comp=Z,1.0nm,0.9s								
SONM	Songino Array	28.13	55	P		P	09 49 09.6	-0.2	
	comp=Z,0.3nm,0.4s,baz=250,slow=8.8,SNR=4.0								
BRTR	Keskin Array B	29.71	288	P		P	09 49 24.7	+0.7	
	comp=Z,0.5nm,0.6s,baz=99,slow=7.4,SNR=3.7								
BRTR	Keskin Array B	29.71	288	*ce*P		P	09 49 26.8	+2.8	
OBN	Obninsk	30.15	319	⇑*i*P		P	09 49 28.2	+0.8	
OBN				pmax		pmax			
	comp=Z,8.0nm,0.4s								
CMAR	Chiang Mai Arr	30.19	119	P		P	09 49 29.5	+1.4	
	comp=Z,0.5nm,0.4s,baz=313,slow=9.1,SNR=6.7								
HHC	Hu-ho-hao-te	31.52	70	*e*P		P	09 49 40.6	+0.8	
HHC				PP		PnPn	09 50 48.0	+1.1	
HHC				S		S	09 54 37.1	-3.7	
HHC				SS		SnSn	09 56 31.5	-4.8	
HHC				PMZ					
	comp=Z,26nm,0.8s								
HHC				PMZ					
	comp=Z,72nm,4.7s								
KLMR	Klimovskoe	31.66	331	*e*P		P	09 49 40.8	+0.2	
KLMR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
AKASG	Malin Array Be	33.19	309	P		P	09 49 54.9	+0.8	
	comp=Z,4.1nm,0.7s,baz=82,slow=7.1,SNR=13								
KIEV	Kiev	33.20	309	⇑*e*P		P	09 49 55.0	+0.8	
UZH	Uzhgorod	37.52	305	*e*P		P	09 50 33.3	+2.1	
UZH				*i*			09 50 52.1		
FINES	FINESS Array B	37.68	326	P		P	09 50 33.3	+0.9	
	comp=Z,1.7nm,0.4s,baz=126,slow=11,SNR=12								
FINES				LR		LR	10 06 55.0		
	comp=Z,25nm,19.5s,baz=226,slow=37								
FINES	FINESS Array B	37.68	326	*i* P		P	09 50 33.5	+1.1	
FINES				pmax		pmax			
	comp=Z,2.0nm,0.4s								
QIZ	Qiongzhong	37.94	107	P		P	09 50 34.8	-0.3	
QIZ				S		S	09 56 20.3	+0.7	
QIZ				PMZ					
	comp=Z,33nm,2.2s								
QIZ				LZ					
	comp=Z,170nm,14.8s								
ARCES	ARCESS Array B	41.29	338	P		P	09 51 03.6	+1.3	
	comp=Z,2.5nm,0.5s,baz=110,slow=8.6,SNR=32								
ARCES				LR		LR	10 09 05.1		
	comp=Z,37nm,19.8s,baz=150,slow=37								
NB2	NORSAR Subarra	44.58	323	P		P	09 51 29.1	+0.1	
	comp=Z,4.5nm,0.7s,baz=97,slow=7.9								
NOA	NORSAR Array B	44.58	323	P		P	09 51 29.5	+0.5	
	comp=Z,4.5nm,0.7s,baz=96,slow=7.8,SNR=15								
NOA				LR		LR	10 13 33.4		
	comp=Z,17nm,19.8s,baz=60,slow=40								
KSAR	Wonju Array Be	44.60	71	P		P	09 51 31.6	+2.2	
KSAR	Wonju Array Be	44.60	71	P		P	09 51 31.6	+2.2	
KSRS	Korea Array	44.63	71	P		P	09 51 31.6	+2.0	
	comp=Z,1.1nm,0.6s,baz=269,slow=6.9,SNR=4.4								
KSRS				LR		LR	10 11 55.4		
	comp=Z,31nm,19.7s,baz=222,slow=38								
KSRS	Korea Array	44.63	71	P		P	09 51 31.6	+2.0	
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KSRS				MLR		MLR			
	comp=Z,31nm,19.7s								
TIXI	Tiksi	45.71	22	⇓*e*P		P	09 51 37.9	+0.2	
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TIXI	Tiksi	45.71	22	*e*P		P	09 51 38.5	+0.8	
DAG	Danmarks Havn	54.85	344	*i* P		P	09 52 49.2	+2.7	
DAG	Danmarks Havn	54.85	344	*i* P		P	09 52 49.2	+2.7	
	comp=Z,5.6nm,0.7s								
SUMG	Summit	61.19	341	*i* P		P	09 53 34.3	+3.0	
SUMG	Summit	61.19	341	*i* P		P	09 53 34.3	+3.0	
	comp=Z,6.5nm,0.8s								
TORD	Torodi Ar. Bea	66.00	269	P		P	09 54 02.2	-1.0	
	comp=Z,1.4nm,0.6s,baz=48,slow=5.6,SNR=16								
TNA	Tin City	68.49	23	*e*P		P	09 54 14.4	-3.8	
	comp=Z,0.5nm,0.3s								
INK	Inuvik	73.90	9	P		P	09 54 52.4	+1.6	
	comp=Z,1.1nm,0.5s,baz=344,slow=6.6,SNR=15								
YKA	Yellowknife Ar	81.27	3	P		P	09 55 32.9	+1.0	
	comp=Z,0.7nm,0.5s,baz=348,slow=5.4,SNR=14								
WRA	Warramunga Arr	81.73	122	P		P	09 55 34.6	-0.3	
	comp=Z,0.4nm,0.5s,baz=324,slow=5.0,SNR=11								
ASAR	Alice Springs	84.00	125	P		P	09 55 46.2	-0.4	
	comp=Z,0.4nm,0.6s,baz=311,slow=5.2,SNR=6.6								

*ISCJB **21** 09:45:43.0±1.4, 0.0°S±0.2°×125.6°E±0.1°, h10km, mb3.3/4, Error ellipse: s-maj=31.0km s-min=13.7km az=31.8*
*IDC **21** 09:45:43.6±1.7, 0.2°N×125.6°E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/28, mbtmp3.4/4, Error ellipse: s-maj=169.6km s-min=23.6km az=63.0*
*DJA **21** 09:45:52.8±5.0, 1.1°N±18.1°×12.0°E±2.6, h316km±42km, M3.2/6, MLv3.2/6*

ISC 21 09:45:45.0±1.3, 0.0°N±0.2°×125.6°E±0.1, h10km, n8, σ0.9s97/7, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	2.99	250	P		P	Pg	09 46 45.8	+3.4
LUWI				S		S	Sb	09 47 15.7	+0.6
MRSI	Marisa	3.67	277	P		P	Pn	09 46 41.3	-0.5
APSI	Ampana	4.03	257	P		P	Pn	09 46 46.2	-0.6
TTSI	Tana Toraja	6.50	242	P		P	Pn	09 47 16.4	-4.4
WRA	Warramunga Arr	21.60	157	P		P	P	09 50 33.9	-1.3
	0.3nm,0.5s,baz=336,slow=11,SNR=9.8								
ASAR	Alice Springs	24.88	162	P		P	P	09 51 08.1	-0.1
	0.2nm,0.4s,baz=338,slow=8.7,SNR=5.2								
STKA	Stephens Creek	35.14	156	P		P	P	09 52 39.9	+0.9
	0.8nm,0.6s,baz=318,slow=9.0,SNR=5.7								
MKAR	Makanchi Array	59.99	327	P		P	P	09 55 52.1	+0.3
	0.3nm,0.4s,baz=123,slow=7.8,SNR=2.8								

*IDC **21** 10:01:34.4±1.7, 36.0°S×73.3°W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.5/21, mbtmp3.4/6, ML3.3/2, MS4.3/1, Ms1 4.3/1, ms1mx3.0/17, Error ellipse: s-maj=44.1km s-min=20.4km az=77.0*
*GUC **21** 10:01:37.4±0.4, 35.8°S×73.2°W, h14km±2km, ML4.3*
*ISCJB **21** 10:01:38.2±0.8, 35.8°S±0.0°×73.2°W±0.0°, h33km, mb3.5/3, Error ellipse: s-maj=9.2km s-min=6.5km az=14.5*

ISC 21 10:01:40.1±1.1, 35.9°S±0.0°×73.1°W±0.0°, h35km, n12, σ1.9s28/15, mb3.7/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.38	122	*e*P		P	Pn	10 01 47.4	-1.7
COCH				*e*S		S	Sn	10 01 54.5	-0.7
CCSP	San Pedro de C	0.91	176	*e*P		P	Pn	10 01 55.9	-0.5
CCSP				*e*S		S	Sn	10 02 10.4	+2.1
CCSP				AML		AML		10 02 14.3	
	comp=E,9μm,0.3s								
LNCH	Linares	1.29	87	*e*P		P	Pn	10 02 01.6	0.0
LNCH				*e*S		S	Sn	10 02 19.8	+2.2
TALC	Talca	1.37	67	*e*P		P	Pn	10 02 01.9	-0.8
TALC				*e*S		S	Sn	10 02 20.8	+1.1
CLCH	Cerro Calan	3.34	42	AML		AML		10 03 35.0	
	comp=E,1μm,0.7s								
PLCA	Paso Flores	5.22	157	Pn		Pn		10 02 55.1	-0.6
	comp=E,0.5nm,0.3s,baz=330,slow=11,SNR=12								
PLCA				Lg		Lg		10 04 19.4	
	comp=E,1.3nm,0.3s,baz=275,slow=13,SNR=5.0								
CFAA	Coronel Fontan	5.97	45	Pn		Pn		10 03 05.2	-0.8
	comp=E,0.2nm,0.3s,baz=218,slow=5.7,SNR=32								
CFAA				Sn		Sn		10 04 13.2	0.0
	comp=E,0.2nm,0.3s,baz=44,slow=7.5,SNR=3.2								
CFAA				Lg		Lg		10 04 36.0	
	comp=E,0.2nm,0.3s,baz=60,slow=23,SNR=3.7								
CFAA				LR		LR		10 05 38.1	
	comp=E,30nm,20.0s,baz=236,slow=40								
CPUP	Villa Florida	16.59	59	LR		LR		10 12 26.1	
	comp=E,992nm,18.5s,baz=200,slow=39								
LPAZ	La Paz	20.08	14	P		P		10 06 11.8	+0.5
	comp=E,1.1nm,0.9s,baz=191,slow=9.3,SNR=2.3								
SIV	San Ignacio	22.61	32	P		P		10 06 39.6	+1.7
	comp=E,3.0nm,0.8s,baz=211,slow=7.2,SNR=5.9								
TXAR	Lajitas Array	70.98	332	P		P		10 12 54.0	-0.2
	comp=E,0.2nm,0.7s,baz=155,slow=8.5,SNR=4.2								
TORD	Torodi Ar. Bea	85.75	71	P		P		10 14 15.1	-0.8
	comp=E,0.5nm,0.9s,baz=215,slow=1.8,SNR=3.1								

*IDC **21** 10:12:26.2±1.8, 37.3°S×73.8°W, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.6/21, mbtmp3.4/7, ML3.2/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/22, Error ellipse: s-maj=42.2km s-min=20.1km az=67.0*
*ISCJB **21** 10:12:27.6±1.4, 37.4°S±0.1°×73.7°W±0.2°, h23km, mb3.6/4, MS3.1/2, Error ellipse: s-maj=26.8km s-min=15.0km az=172.7*

ISC 21 10:12:29.6±1.5, 37.4°S±0.1°×73.6°W±0.2°, h23km, n9, σ1.9s32/8, mb3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.12	145	Pn		Pn		10 13 30.9	-0.3
	0.3nm,0.3s,baz=307,slow=8.6,SNR=15								
PLCA				Lg		Lg		10 14 43.5	
	3.4nm,0.3s,baz=234,slow=17,SNR=5.5								
CFAA	Coronel Fontan	7.28	39	Pn		Pn		10 14 14.0	-0.7
	0.1nm,0.3s,baz=210,slow=13,SNR=12								
CFAA				Lg		Lg		10 16 10.7	
	0.1nm,0.3s,baz=91,slow=22,SNR=3.4								
CFAA				LR		LR		10 17 23.6	
	comp=Z,42nm,18.6s,baz=226,slow=41								
CPUP	Villa Florida	17.67	56	P		Pn		10 16 34.5	+0.3
	0.0nm,0.3s,baz=234,slow=14,SNR=3.3								
CPUP				LR		LR		10 23 28.1	
	comp=Z,494nm,18.4s,baz=202,slow=37								
LPAZ	La Paz	21.57	15	P		P		10 17 18.8	+0.6
	2.0nm,0.9s,baz=162,slow=7.3,SNR=6.6								
SIV	San Ignacio	24.03	31	P		P		10 17 42.6	-0.4
	1.3nm,0.6s,baz=225,slow=5.9,SNR=3.6								
SIV				LR		LR		10 28 53.5	
	comp=Z,115nm,19.6s,baz=212,slow=41								
SNAA	Sanae	48.98	157	LR		LR		10 43 51.9	
	comp=Z,13nm,18.8s,baz=110,slow=38								
TXAR	Lajitas Array	72.09	133	P		P		10 23 51.3	-0.7
	0.4nm,0.9s,baz=162,slow=9.2,SNR=4.1								
TORD	Torodi Ar. Bea	86.57	71	P		P		10 25 10.9	-0.3
	0.5nm,0.7s,baz=240,slow=5.0,SNR=3.2								
MKAR	Makanchi Array	159.88	55	PKPab		PKPab		10 33 08.3	+2.6
	0.3nm,0.7s,baz=243,slow=0.6,SNR=2.6								

*IDC **21** 10:13:33.6±1.0, 2.0°N×126.5°E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.6/33, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=69.5km s-min=17.8km az=66.0*
*ISCJB **21** 10:13:40.1±0.8, 2.4°N±0.0°×127.4°E±0.0°, h63km, mb3.8/5, Error ellipse: s-maj=8.9km s-min=8.4km az=22.5*
*DJA **21** 10:13:44.9±0.9, 2.7°N±4.4°×12.7°E±1.4°, h18km±17km, M4.4/7, mb5.1/1, mB5.0/1, MLv4.1/7, Mw(mB)4.3/1*

ISC 21 10:13:41.4±0.8, 2.4°N±0.0°×127.4°E±0.0°, h63km, n13, σ1.8s85/16, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.62	182	P		P	Pn	10 14 13.0	+5.2
TNTI				S		S	Sn	10 14 35.3	+7.6
SGSI	Sangihe	2.28	304	P		P	Pn	10 14 17.3	+0.6
SGSI				S		S	Sn	10 14 42.9	-0.8
LBMI	Labuha	3.02	178	P		P	Pn	10 14 31.8	+4.9
KMSI	Cibinong	3.88	242	P		P	Pn	10 14 40.1	+1.4
KMSI				S		S	Sn	10 15 22.8	-0.3
SANI	Sanana	4.65	198	P		P	Pn	10 14 52.2	+3.1
SANI				S		S	Sn	10 15 36.8	-5.0
LUWI	Luwuk	5.77	234	S		S	Sn	10 16 09.9	+0.6
MRSI	Marisa	5.80	251	P		P	Pn	10 15 06.4	+1.5
MRSI				S		S	Sn	10 16 08.4	-1.7
JAY	Jayapura	14.15	110	Pn		P		10 17 05.1	+0.5
	0.9nm,0.3s,baz=284,slow=6.6,SNR=4.4								
WRA	Warramunga Arr	23.22	163	P		P		10 18 42.7	-0.6
	2.4nm,0.5s,baz=337,slow=11,SNR=35								
ASAR	Alice Springs	26.67	167	P		P		10 19 14.2	-0.5
	0.5nm,0.5s,baz=352,slow=7.6,SNR=15								
ASAR				PcP		PcP		10 22 36.7	-0.5
	0.2nm,0.6s,baz=356,slow=3.0,SNR=5.9								
STKA	Stephens Creek	36.65	160	P		P		10 20 42.0	-0.1
	2.1nm,0.6s,baz=340,slow=8.2,SNR=12								
SONM	Songino Array	48.77	341	P		P		10 22 20.2	+0.1
	0.2nm,0.5s,baz=148,slow=8.5,SNR=2.1								
MKAR	Makanchi Array	59.03	325	P		P		10 23 34.4	-0.5
	0.8nm,0.4s,baz=116,slow=7.7,SNR=14								

IDC 21 10:30:49.5±1.2, 54.1°S×133.6°W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/27, mbtmp3.5/3, Error ellipse: s-maj=408.7km s-min=28.9km az=168.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKT	Rikitea	31.00	358	*e*T		T		11 09 16.2	
	4.3nm,0.2s								
TBI	Tubuai	32.98	333	*e*LR		LR		10 45 50.4	
	249nm,29.8s								
TBI	Tubuai	32.98	333	*e*T		T		11 11 37.2	
	55nm,0.4s								
PPT2	Papeete2	38.52	335	*e*LR		LR		10 48 26.5	
	233nm,26.0s								
LPAZ	La Paz	62.63	80	P		P		10 41 16.4	0.0
	0.5nm,0.6s,baz=229,slow=2.4,SNR=2.9								
ASAR	Alice Springs	72.57	254	P		P		10 42 18.2	-0.3
	0.4nm,0.8s,baz=133,slow=5.6,SNR=5.5								
WRA	Warramunga Arr	75.26	256	P		P		10 42 34.6	+0.3
	0.5nm,0.9s,baz=143,slow=5.1,SNR=3.5								
H11S2	WAKE ISLAND Hy	88.45	305	T		T		12 21 23.3	
	baz=145,slow=74,SNR=9.6								
H11S3	WAKE ISLAND Hy	88.47	305	T		T		12 21 24.3	
	baz=145,slow=74,SNR=5.7								
H11S1	WAKE ISLAND Hy	88.47	305	T		T		12 21 35.3	
	baz=145								
H11N3	WAKE ISLAND Hy	89.41	306	T		T		12 22 36.1	
	baz=143,slow=74,SNR=3.9								
H11N1	WAKE ISLAND Hy	89.41	306	T		T		12 22 35.4	
	baz=143,slow=74,SNR=3.4								
H11N2	WAKE ISLAND Hy	89.42	306	T		T		12 22 36.0	
	baz=143								
MKAR	Makanchi Array	156.19	267	PKPab		PKPab		10 51 12.6	-0.4
	0.2nm,0.5s,baz=114,slow=1.7,SNR=2.6								

*IDC **21** 10:37:11.8±2.5, 32.3°N×115.7°W, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/39, mbtmp3.2/5, ML3.6/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/24, Error ellipse: s-maj=41.9km s-min=13.4km az=39.0*
*MEX **21** 10:37:14.1±1.3, 32.6°N×115.5°W, h5km, MD3.9*
*ECX **21** 10:37:15.4±0.6, 32.5°N×115.6°W, h6km, MD4.1, ML4.3*
*NEIC **21** 10:37:15.3, 32.5°N×115.6°W, h7km, ML4.2(PAS), ML4.3(ECX), After ECX.*
NEIC Felt [II] at Mexicali. Felt [IV] at El Centro; [III] at Calexico and Imperial; [II] at Brawley, El Cajon and San Diego, California. Felt in much of Imperial and San Diego Counties. Felt [II] at Yuma, Arizona.

ISC 21 10:37:13.7±1.0, 32.5°N±0.0°×115.5°W±0.0°, h10km±8km, n79, σ1.9s06/98, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	Mount Signal	0.19	324	⇑*i*P		P	Pg	10 37 18.0	+0.2
CPBX	Cerro Prieto	0.26	108	⇓*e*P		P	Pb	10 37 20.3	-0.1
CPBX				*e*S		S	Sb	10 37 24.7	-0.2
CPBX	Cerro Prieto	0.26	108	*i* P		P	Pb	10 37 20.4	-0.1
YUH	Yuha Desert	0.32	299	⇓*i*P		P	Pg	10 37 20.1	-0.1
MBIG	Mexicali	0.34	105	*i* P		P	Pb	10 37 22.2	+0.3
MBIG				*e*S		S	Sb	10 37 27.1	-0.2
COK	Cook Ranch	0.37	342	⇓*i*P		P	Pg	10 37 21.7	+0.6
RMX	La Rumorosa	0.42	285	*e*P		P	Pg	10 37 22.1	0.0
RMX				*e*S		S	Sg	10 37 28.3	+0.5
RMX				AML		AML		10 37 29.6	
	comp=N,12μm,0.4s								
RMX				⇑*e*				10 37 29.6	
IBP	Imperial Bould	0.45	291	P		P	Pg	10 37 22.7	0.0
	baz=0.4								
IBP				S		S	Sg	10 37 28.3	-0.3
	baz=0.4								
SWSC	Sam W. Stewart	0.48	339	P		P	Pg	10 37 23.1	+0.1
	baz=0.5								
CRR	Carrizo Plain	0.50	321	⇓*i*P		P	Pg	10 37 23.6	0.0
COA	Coachella	0.54	47	⇑*i*P		P	Pg	10 37 25.1	+0.9
RDX	Rancho Dawling	0.64	208	⇑*e*P		P	Pg	10 37 26.3	+0.1
RDX	Rancho Dawling	0.64	208	*e*P		P	Pg	10 37 26.3	+0.1
MONP	Monument Peak,	0.80	300	P		P	Pg	10 37 28.9	-0.3
	baz=0.8								
MONP				S		S	Sg	10 37 38.8	-1.0
	baz=0.8								
GLA	Glamis	0.85	49	P		P	Pg	10 37 29.5	-0.6
	baz=0.9								
GLA				S		S	Sg	10 37 40.5	-0.8
	baz=0.9								
GLA	Glamis	0.85	49	*e*Pg		P	Pg	10 37 29.3	-0.8
GLA				*e*Sg		S	Sg	10 37 40.4	-0.8
CBX	Cerro Bola	0.93	259	*e*P		P	Pg	10 37 31.3	-0.3
CBX				*i* S	

PASC					*e*Sg		**Sb**	**10 38 38.0**	**+1.6**
DECC	**Green Verdugo**	**2.88**	**308**		Sb		**Sb**	**10 38 41.6**	**+1.1**
	baz=2.9								
W13A	**Hualapai Mount**	**2.96**	**28**		P		**Pn**	**10 38 00.2**	**-0.8**
	baz=3.0								
GSC	**Goldstone, Bar**	**2.98**	**340**		*e*Pn		**Pn**	**10 37 59.9**	**-1.1**
EDW2	**Edwards Air Fo**	**3.11**	**321**		Sb		**Sb**	**10 38 48.9**	**+1.8**
	baz=3.1								
OSI	**Osito Audit: C**	**3.36**	**310**		*e*Pn		**Pn**	**10 38 05.7**	**-0.6**
ISA	**Isabella, Lake**	**3.96**	**324**		*e*Pn		**Pn**	**10 38 13.7**	**-0.9**
SHPR	**Sheep Range**	**4.02**	**5**		*e*Pn		**Pn**	**10 38 15.3**	**-0.1**
TUC	**Tucson**	**4.07**	**91**		*e*Pn		**Pn**	**10 38 14.5**	**-1.6**
DAC	**Darwin (Calif)**	**4.12**	**337**		*e*Pn		**Pn**	**10 38 16.0**	**-0.8**
WUAZ	**Wupatki**	**4.62**	**48**		Pn		**Pn**	**10 38 25.7**	**+2.0**
CCUT	**Cedar City**	**5.37**	**19**		*e*Pn		**Pn**	**10 38 35.0**	**+1.0**
	comp=N,9.4nm,0.6s								
W18A	**Petrified Fore**	**5.53**	**60**		*e*Pn		**Pn**	**10 38 38.1**	**+1.8**
	comp=N,24nm,0.5s								
ARUT	**Antelope Range**	**5.57**	**18**		*e*Pn		**Pn**	**10 38 37.6**	**+0.9**
	comp=N,2.6nm,0.6s								
TPH	**Tonopah**	**5.72**	**347**		*e*Pn		**Pn**	**10 38 39.4**	**+0.5**
R11A	**Troy Canyon, C**	**5.84**	**0**		Pn		**Pn**	**10 38 39.1**	**-1.4**
	comp=N,6.4nm,0.6s								
NVAR	**Mina Array Bea**	**6.32**	**340**		Pn		**Pn**	**10 38 47.4**	**+0.3**
	comp=N,0.3nm,0.3s,baz=166,slow=15,SNR=2.3								
NVAR					Pg		Pg	10 39 11.3	-3.5
	comp=N,0.9nm,0.3s,baz=167,slow=18,SNR=5.5								
121A	**Cookes Peak, D**	**6.59**	**88**		*e*Pn		**Pn**	**10 38 50.7**	**-0.1**
	comp=N,11nm,0.4s								
121A					*e*Sn		**Sn**	**10 40 04.7**	**-1.5**
LAZ	**Ladron**	**7.32**	**73**		*e*Pn		**Pn**	**10 39 01.9**	**+1.1**
	comp=N,1.1nm,0.3s								
LENM	**Lemitar**	**7.40**	**75**		*e*Pn		**Pn**	**10 39 03.0**	**+1.1**
	comp=N,7.6nm,0.4s								
MVCO	**Mesa Verde**	**7.49**	**49**		*e*Pn		**Pn**	**10 39 06.2**	**+3.0**
	comp=N,13nm,0.6s								
SRU	**San Rafael Swe**	**7.78**	**31**		*e*Pn		**Pn**	**10 39 06.2**	**-0.9**
	comp=N,9.8nm,0.7s								
ANMO	**Albuquerque**	**7.99**	**70**		Pn		**Pn**	**10 39 11.8**	**+1.8**
	comp=N,0.2nm,0.3s,baz=240,slow=12,SNR=4.5								
ANMO	**Albuquerque**	**7.99**	**70**		*e*Pn		**Pn**	**10 39 11.3**	**+1.3**
	comp=N,2.1nm,0.6s								
PV01	**Paradox Valley**	**8.03**	**44**		Pn		**Pn**	**10 39 11.0**	**+0.4**
	comp=N,819nm,0.7s								
ELK	**Elko**	**8.24**	**2**		LR		LR	10 42 18.1	
	comp=N,65nm,19.4s,baz=179,slow=36								
MNTX	**Cornudas Mount**	**8.70**	**93**		*e*Pn		**Pn**	**10 39 19.3**	**-0.3**
	comp=N,1.8nm,0.3s								
TXAR	**Lajitas Array**	**10.71**	**104**		Pn		**Pn**	**10 39 49.0**	**+1.6**
	comp=N,0.2nm,0.3s,baz=280,slow=14,SNR=14								
TXAR					Lg		Lg	10 42 55.1	
	comp=N,0.0nm,0.3s,baz=268,slow=30,SNR=5.8								
MSTX	**Muleshoe**	**10.84**	**79**		*e*Pn		Pn	10 39 53.4	+4.4
	comp=N,6.1nm,0.9s								
PDAR	**Pinedale Array**	**11.31**	**23**		Pn		Pn	10 40 01.2	+5.7
	comp=N,0.1nm,0.3s,baz=198,slow=11,SNR=3.3								
ULM	**Lac du Bonnet**	**22.98**	**34**		LR		LR	10 52 21.3	
	comp=N,40nm,20.5s,baz=41,slow=39								
CMIG	**Matias Romero**	**24.19**	**124**		LR		LR	10 50 46.7	
	comp=N,49nm,21.6s,baz=18,slow=34								
ILAR	**Eielson Array**	**37.58**	**339**		P		**P**	**10 44 29.4**	**+1.5**
	comp=N,0.5nm,0.6s,baz=150,slow=7.9,SNR=10								

IDC 21 10:43:44.2±7.1, 2°98N×127°06E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, Error ellipse: s-maj=177.6km s-min=111.7km az=75.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**163**	P	P	10 48 60.0	+0.3
	1.0nm,0.6s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.31**	**166**	P	P	10 49 30.3	-0.6
	0.2nm,0.5s,baz=355,slow=7.9,SNR=3.5						
STKA	**Stephens Creek**	**37.32**	**159**	P	P	10 50 58.6	+0.3
	1.3nm,0.8s,baz=356,slow=9.8,SNR=4.1						

*ISCJB **21** 10:53:47.3±0.5, 32°.36N±0°.03×115°.31W±0°.04, h19km±5km, Error ellipse: s-maj=5.7km s-min=4.7km az=28.2*
*ECX **21** 10:53:48.5±0.5, 32°.33N×115°.34W, h6km, MD3.0, ML3.2*
*NEIC **21** 10:53:48.5, 32°.33N×115°.33W, h6km, ML3.1(ECX), After ECX.*
*MEX **21** 10:53:49.2±0.5, 32°.33N×115°.28W, h5km, MD3.9*
ISC 21 10:53:46.4±0.8, 32°.36N±0°.03×115°.32W±0°.03, h12km±5km, n22, σ0°82/36, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.06**	**9**	*e*P	**Pg**	**10 53 46.9**	**-2.0**
CPBX				*e*S	**Sg**	**10 53 48.6**	**-2.2**
CPBX				⇓*e*		10 53 54.2	
	comp=E,35μm,0.2s						
CPBX	**Cerro Prieto**	**0.06**	**9**	*e*P	**Pg**	**10 53 50.5**	**+1.6**
CPBX				*e*S	**Sg**	**10 53 51.9**	**+1.1**
MBIG	**Mexicali**	**0.11**	**62**	*e*P	**Pb**	**10 53 51.3**	**+0.8**
MBIG				*i* S	**Sb**	**10 53 53.3**	**+1.6**
SGL	**Mount Signal**	**0.45**	**310**	⇓*i*P	**Pb**	**10 53 56.9**	**+0.6**
COA	**Coachella**	**0.53**	**18**	*e*P	**Pn**	**10 53 59.1**	**-0.7**
YUH	**Yuha Desert**	**0.59**	**300**	⇓*i*P	**Pb**	**10 53 58.9**	**+0.3**
COK	**Cook Ranch**	**0.60**	**325**	*e*P	**Pn**	**10 53 59.8**	**-0.9**
RDX	**Rancho Dawling**	**0.68**	**231**	⇑*e*P	**Pg**	**10 53 60.0**	**+0.3**
RDX				*e*S	**Sg**	**10 54 09.0**	**+0.4**
RDX				⇓*e*		10 54 10.9	
	comp=N,618nm,0.3s						
YMD	**Yuma Desert**	**0.68**	**73**	*e*P	**Pb**	**10 54 00.6**	**+0.4**
RMX	**La Rumorosa**	**0.69**	**291**	*e*P	**Pb**	**10 54 00.7**	**+0.3**
RMX				*e*S	**Sb**	**10 54 09.9**	**-0.1**
GLA	**Glamis**	**0.81**	**31**	*e*Pg	**Pb**	**10 54 02.7**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**268**	*e*P	**Pn**	**10 54 08.4**	**+0.2**
CBX				*e*S	**Sb**	**10 54 23.3**	**+0.4**
CBX	**Cerro Bola**	**1.14**	**268**	*e*P	**Pn**	**10 54 08.3**	**+0.2**
CBX				*e*S	**Sg**	**10 54 23.5**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**268**	*e*P	**Pn**	**10 54 08.4**	**+0.2**
ZAX	**El Zacaton**	**1.17**	**224**	*e*P	**Pn**	**10 54 08.3**	**-0.2**
ZAX				*e*S	**Sn**	**10 54 24.1**	**-0.3**
BAR	**Barrett**	**1.19**	**286**	*e*Pn	**Pb**	**10 54 08.9**	**+0.1**
BAR				*e*Sn	**Sb**	**10 54 24.5**	**+0.3**
ECNX	**Esteban Cantu**	**1.29**	**238**	*e*P	**Pb**	**10 54 10.6**	**-0.1**
ECNX				*e*S	**Sb**	**10 54 27.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.31**	**186**	*i* P	**Pn**	**10 54 10.1**	**-0.7**
SPIG				*e*S	**Sb**	**10 54 27.0**	**-1.0**
SPIG	**San Pedro Mart**	**1.31**	**186**	*e*P	**Pn**	**10 54 10.3**	**-0.5**
SPIG				*e*S	**Sb**	**10 54 27.9**	**-0.1**
SPX	**San Pedro Mart**	**1.31**	**186**	*e*P	**Pn**	**10 54 10.6**	**-0.1**
SPX				*e*S	**Sn**	**10 54 28.8**	**+0.4**
SPX				⇑*e*		10 54 29.2	
	comp=E,210nm,0.4s						
PBX	**Punta Banda**	**1.34**	**243**	*e*P	**Pb**	**10 54 11.2**	**-0.2**
PBX				*e*S	**Sb**	**10 54 29.2**	**+0.6**
PFO	**Pinyon Flats O**	**1.57**	**323**	*e*Pn	**Pn**	**10 54 13.7**	**-0.5**

IDC 21 11:10:10.1±7.6, 19°60S×68°17W, h213km±50km, mb3.2/2, mb1 3.3/3, mb1mx3.0/18, mbtmp3.6/3, Error ellipse: s-maj=94.8km s-min=47.2km az=25.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.29**	**1**	P	Pn	11 11 04.5	-0.2
	1.3nm,0.3s,baz=184,slow=4.9,SNR=34						
LPAZ				S	S	11 11 47.7	+0.6
	0.3nm,0.3s,baz=188,slow=7.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.07**	**70**	P	P	11 21 34.7	0.0
	0.6nm,0.6s,baz=256,slow=5.3,SNR=7.8						
YKA	**Yellowknife Ar**	**89.64**	**340**	P	P	11 22 43.1	-0.1
	0.1nm,0.3s,baz=131,slow=4.5,SNR=2.8						
MKAR	**Makanchi Array**	**143.69**	**35**	PKP	PKPdf	11 29 19.2	-0.4
	1.0nm,0.7s,baz=323,slow=3.8,SNR=8.3						

*ISCJB **21** 11:15:48.6±0.4, 32°.33N±0°.03×115°.30W±0°.04, h20km±4km, Error ellipse: s-maj=5.4km s-min=4.0km az=35.2*
*NEIC **21** 11:15:48.6, 32°.26N×115°.34W, h2km, ML3.0(PAS), After PAS.*
*MEX **21** 11:15:49.4±0.7, 32°.46N×115°.12W, h20km±4km, MD3.7*
*ECX **21** 11:15:49.8±0.6, 32°.30N×115°.32W, h6km, MD3.0, ML3.2*
ISC 21 11:15:48.1±0.9, 32°.32N±0°.03×115°.33W±0°.02, h17km±6km, n24, σ0°47/39, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**13**	*e*P	**Pb**	**11 15 51.7**	**0.0**
CPBX				*e*S	**Sg**	**11 15 54.5**	**+0.4**
CPBX				AML	AML	11 16 01.6	
	comp=E,33μm,0.4s						
CPBX				⇓*e*		11 16 01.6	
CPBX	**Cerro Prieto**	**0.10**	**13**	*e*P	**Pb**	**11 15 51.7**	**0.0**
MBIG	**Mexicali**	**0.14**	**52**	*e*P	**Pb**	**11 15 52.3**	**-0.1**
MBIG				*e*S	**Sg**	**11 15 54.7**	**-0.3**
SGL	**Mount Signal**	**0.47**	**315**	⇓*i*P	**Pb**	**11 15 58.2**	**+0.3**
COA	**Coachella**	**0.57**	**18**	*e*P	**Pb**	**11 16 00.4**	**+0.7**
COK	**Cook Ranch**	**0.63**	**328**	*e*P	**Pb**	**11 16 01.2**	**+0.6**
RDX	**Rancho Dawling**	**0.65**	**233**	⇑*e*P	**Pb**	**11 16 01.3**	**+0.3**
RDX				*e*S	**Sb**	**11 16 10.1**	**+0.2**
RDX				⇑*e*		11 16 12.4	
RDX				AML	AML	11 16 12.4	
	comp=N,879nm,0.4s						
RMX	**La Rumorosa**	**0.69**	**294**	*e*P	**Pg**	**11 16 02.0**	**+0.2**
RMX				AML	AML	11 16 13.5	
	comp=N,797nm,0.3s						
RMX				⇑*e*		11 16 13.5	
YMD	**Yuma Desert**	**0.71**	**70**	⇑*i*P	**Pg**	**11 16 02.1**	**+0.1**
GLA	**Glamis**	**0.85**	**30**	*e*Pg	**Pb**	**11 16 04.0**	**-0.4**
GLA				*e*Sg	**Sn**	**11 16 17.1**	**-0.3**
CBX	**Cerro Bola**	**1.13**	**270**	*e*P	**Pg**	**11 16 10.1**	**+0.1**
CBX				*i* S	**Sg**	**11 16 25.0**	**+0.2**
CBX	**Cerro Bola**	**1.13**	**270**	*e*P	**Pg**	**11 16 09.8**	**+0.2**
CBX				*e*S	**Sg**	**11 16 24.8**	**0.0**
CBX				⇑*e*		11 16 31.7	
CBX				AML	AML	11 16 31.7	
	comp=E,585nm,0.6s						
CBX	**Cerro Bola**	**1.13**	**270**	*e*P	**Pg**	**11 16 10.1**	**+0.1**
ZAX	**El Zacaton**	**1.13**	**225**	*e*P	**Pg**	**11 16 09.6**	**-0.4**
ZAX				*e*S	**Sn**	**11 16 24.3**	**-0.2**
ZAX				AML	AML	11 16 30.6	
	comp=E,306nm,0.3s						
ZAX				⇑*e*		11 16 30.6	
BAR	**Barrett**	**1.19**	**288**	⇓*e*P	**Pg**	**11 16 10.8**	**-0.3**
BAR	**Barrett**	**1.19**	**288**	*e*Pg	**Pb**	**11 16 10.6**	**+0.4**
BAR				*e*Sg	**Sn**	**11 16 26.1**	**+0.4**
ECNX	**Esteban Cantu**	**1.26**	**239**	*e*P	**Pg**	**11 16 12.0**	**-0.5**
ECNX				*e*S	**Sg**	**11 16 29.0**	**0.0**
SPIG	**San Pedro Mart**	**1.27**	**185**	*i* P	**Pn**	**11 16 11.5**	**+0.1**
SPIG				*i* S	**Sn**	**11 16 28.9**	**+0.6**
SPIG	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pb**	**11 16 11.7**	**-0.1**
SPIG				*e*S	**Sb**	**11 16 27.9**	**-0.1**
SPX	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pb**	**11 16 11.7**	**-0.1**
SPX				*e*S	**Sn**	**11 16 28.7**	**+0.5**
SPX				⇓*e*		11 16 31.3	
SPX				AML	AML	11 16 31.3	
	comp=E,290nm,0.3s						
SPX				AML	AML	11 16 32.5	
	comp=N,292nm,0.2s						
SPX				⇓*e*		11 16 32.5	
SPX	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pb**	**11 16 11.7**	**-0.1**
PBX	**Punta Banda**	**1.31**	**245**	*e*P	**Pb**	**11 16 12.8**	**+0.4**
PBX				*e*S	**Sg**	**11 16 30.4**	**-0.3**
PFO	**Pinyon Flats O**	**1.60**	**324**	*e*Pn	**Pn**	**11 16 15.1**	**-0.6**
PFO				*e*Sn	**Sn**	**11 16 35.6**	**-0.4**
214A	**Organ Pipe Nat**	**2.17**	**99**	*e*Pn	**Pn**	**11 16 22.6**	**-0.8**
214A				*e*Sg	**Sg**	**11 16 59.7**	**+1.8**

*ISCJB **21** 11:23:09.0±0.9, 10°.32S±0°.09×161°.6E±0°.1, h100km, mb3.4/6, Error ellipse: s-maj=17.7km s-min=7.7km az=142.8*
*IDC **21** 11:23:09.3±1.1, 10°.28S×161°.62E, h88km±6km, mb3.3/6, mb1 3.7/8, mb1mx3.5/28, mbtmp3.9/8, MS3.2/1, Ms1 3.2/1, ms1mx2.7/11, Error ellipse: s-maj=28.4km s-min=17.9km az=116.0*
ISC 21 11:23:09.7±0.9, 10°.29S±0°.09×161°.6E±0°.1, h100km, n16, σ1°69/16, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.83**	**297**	*i* P	**Pn**	**11 23 39.0**	**-1.2**
HNR				*i* S	**Sn**	**11 24 04.0**	**+0.6**
DZM	**Mont Dzumac**	**12.61**	**159**	P	**Pn**	**11 26 06.7**	**+1.1**
	2.4nm,0.3s,baz=306,slow=13,SNR=15						
DZM				S	**Sn**	**11 28 22.7**	**-1.6**
	0.4nm,0.3s,baz=131,slow=20,SNR=3.2						
CTA	**Charters Tower**	**17.71**	**235**	P	**Pn**	**11 27 12.2**	**+2.1**
	0.7nm,0.3s,baz=59,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**27.97**	**247**	P	**P**	**11 28 51.9**	**+0.7**
	1.3nm,0.7s,baz=76,slow=9.1,SNR=10						
WRA				pP	**pP**	**11 29 12.4**	**-1.1**
	1.9nm,0.5s,baz=76,slow=9.0,SNR=5.0						
STKA	**Stephens Creek**	**28.36**	**218**	P	**P**	**11 28 56.0**	**+1.5**
	0.7nm,0.8s,baz=55,slow=11,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**29.04**	**10**	T	T	11 59 17.3	
	baz=185,slow=74,SNR=2.9						
H11S3	**WAKE ISLAND Hy**	**29.04**	**10**	T	T	11 59 14.2	
	baz=185						
H11S1	**WAKE ISLAND Hy**	**29.05**	**10**	T	T	11 59 16.3	
	baz=185,slow=74,SNR=2.9						
ASAR	**Alice Springs**	**29.56**	**240**	P	**P**	**11 29 05.4**	**+0.1**
	0.5nm,0.8s,baz=71,slow=9.2,SNR=5.0						
ASAR				pP	**pP**	**11 29 26.8**	**-0.9**
	0.6nm,0.6s,baz=63,slow=9.9,SNR=4.1						
ASAR				sP	**sP**	**11 29 35.5**	**-3.9**
	0.4nm,0.4s,baz=64,slow=10,SNR=2.7						
ASAR				LR	LR	11 39 33.2	
	comp=Z,50nm,20.7s,baz=322,slow=33						
H11N1	**WAKE ISLAND Hy**	**30.26**	**10**	T	T	12 00 46.1	
	baz=192,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.27**	**10**	T	T	12 00 49.5	
	baz=192,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.28**	**10**	T	T	12 00 49.5	
	baz=192,slow=76,SNR=12						
SONM	**Songino Array**	**75.68**	**325**	P	**P**	**11 34 46.0**	**+1.7**
	0.7nm,0.7s,baz=146,slow=5.1,SNR=5.7						
ILAR	**Eielson Array**	**84.14**	**20**	P	**P**	**11 35 30.0**	**+0.7**
	0.1nm,0.4s,baz=257,slow=5.5,SNR=3.0						
ILAR				pP	**pP**	**11 35 53.5**	**-2.0**
	0.7nm,1.0s,baz=244,slow=5.2,SNR=3.3						
MKAR	**Makanchi Array**	**90.20**	**318**	P	**P**	**11 35 59.3**	**+0.2**
	0.2nm,0.4s,baz=108,slow=5.7,SNR=2.2						
MKAR				pP	**pP**	**11 36 24.7**	**-0.8**
	0.9nm,0.8s,baz=105,slow=7.6,SNR=3.5						
H06E1	**SOCORRO T-PHAS**	**90.90**	**71**	T	T	13 16 31.5	
	SNR=7.6						

*IDC **21** 11:33:00.2±1.1, 37°.47S×74°.16W, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.7/24, mbtmp3.6/9, ML3.4/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/16, Error ellipse: s-maj=26.7km s-min=17.3km az=84.0*
*ISCJB **21** 11:33:04.2±1.0, 37°.42S±0°.08×73°.8W±0°.2, h33km, mb3.6/5, MS3.2/3, Error ellipse: s-maj=21.4km s-min=11.0km az=10.0*
ISC 21 11:33:05.9±1.0, 37°.43S±0°.10×73°.9W±0°.2, h35km, n14, σ1°34/13, mb3.7/5, MS3.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.20**	**143**	Pn	**Pn**	**11 34 07.8**	**+0.3**
	0.8nm,0.3s,baz=314,slow=9.9,SNR=15						
PLCA				Lg	Lg	11 35 17.9	
	3.7nm,0.3s,baz=242,slow=23,SNR=5.5						
CFAA	**Coronel Fontan**	**7.45**	**40**	Pn	**Pn**	**11 34 51.1**	**-1.1**
	0.1nm,0.3s,baz=198,slow=7.9,SNR=5.0						
CFAA				Sn	**Sn**	**11 36 14.3**	**-1.1**
	0.1nm,0.3s,baz=215,slow=18,SNR=2.7						
CFAA				Lg	Lg	11 37 03.3	
	baz=116,slow=4.8,SNR=8.5						
CFAA				LR	LR	11 37 58.5	
	comp=Z,28nm,19.1s,baz=224,slow=39						
LVC	**Limon Verde**	**15.38**	**18**	Pn	**Pn**	**11 36 39.9**	**-0.6**
	6.0nm,0.3s,baz=205,slow=8.4,SNR=3.0						
CPUP	**Villa Florida**	**17.87**	**56**	P	**P**	**11 37 14.6**	**+2.5**
	0.1nm,0.3s,baz=220,slow=10,SNR=5.1						
CPUP				LR	LR	11 45 09.6	
	comp=Z,466nm,18.5s,baz=202,slow=40						
LPAZ	**La Paz**	**21.66**	**15**	P	**P**	**11 37 55.8**	**+1.6**
	0.6nm,0.5s,baz=195,slow=12,SNR=3.3						
SIV	**San Ignacio**	**24.18**	**31**	P	**P**	**11 38 19.5**	**+0.5**
	1.4nm,0.6s,baz=227,slow=8.4,SNR=2.8						
SIV				LR	LR	11 49 49.5	
	comp=Z,120nm,19.8s,baz=258,slow=42						
PMSA	**Palmer Station**	**28.00**	**171**	LR	LR	11 49 50.3	
	comp=Z,48nm,19.4s,baz=66,slow=36						
BDFB	**Brasilia**	**31.55**	**53**	LR	LR	11 53 08.8	
	comp=Z,42nm,18.5s,baz=60,slow=38						
QSPA	**South Pole Qui**	**52.81**	**180**	P	**P**	**11 42 16.7**	**-0.8**
	2.2nm,0.9s,baz=151,slow=3.2,SNR=3.8						
TXAR	**Lajitas Array**	**72.04**	**333**	P	**P**	**11 44 25.9**	**-0.4**
	0.3nm,0.9s,baz=140,slow=12,SNR=3.1						
TORD	**Torodi Ar. Bea**	**86.77**	**71**	P	**P**	**11 45 46.1**	**-0.7**
	0.5nm,0.8s,baz=216,slow=6.5,SNR=2.8						
BVAR	**Borovoye Array**	**150.78**	**46**	PKPbc	**PKPbc**	**11 52 55.4**	**+1.5**
	0.3nm,0.5s,baz=224,slow=4.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**157.91**	**35**	PKPab	**PKPab**	**11 53 31.8**	**+0.4**
	0.3nm,0.4s,baz=331,slow=5.6,SNR=2.4						
MKAR	**Makanchi Array**	**160.07**	**54**	PKPab	**PKPab**	**11 53 39.7**	**-1.4**
	0.5nm,0.9s,baz=214,slow=4.9,SNR=3.3						

BUC 21 11:39:41.0±0.7, 45°.28N×25°.35E, h5km±6km, MD2.5/2, 12C-4D, Error ellipse: s-maj=6.1km s-min=1.9km az=1.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.21**	**256**	⇓*i*P	Pg	11 39 46.6	+1.4
MTUR	**Matau**	**0.21**	**256**	⇓*i*P	Pg	11 39 46.6	+1.4
VOIR		**0.27**	**308**	⇑*i*P	Pg	11 39 47.0	+0.7
VOIR				*i* S	Sg	11 39 51.1	+1.1
VOIR		**0.27**	**308**	⇑*i*P	Pg	11 39 47.0	+0.7
MLR	**Muntele Rosu**	**0.47**	**63**	⇑*i*P	Pg	11 39 51.0	+0.7
MLR				*i* S	Sb	11 39 59.2	-0.3
MLR	**Muntele Rosu**	**0.47**	**63**	⇑*i*P	Pg	11 39 51.0	+0.7
ARR	**Arges**	**0.51**	**281**	⇑*i*P	Pb	11 39 52.0	-0.7
ARR				*i* S	Sb	11 39 59.5	-1.0
ARR	**Arges**	**0.51**	**281**	⇑*i*P	Pb	11 39 52.0	-0.7
DOPR	**Dopca**	**0.69**	**2**	⇑*i*P	Pg	11 39 54.8	+0.4
DOPR				*i* S	Sb	11 40 06.2	+0.6
DOPR	**Dopca**	**0.69**	**2**	⇑*i*P	Pg	11 39 54.8	+0.4
LOT	**Lotru**	**1.13**	**279**	⇑*i*P	Pn	11 40 03.8	+0.1
LOT	**Lotru**	**1.13**	**279**	⇑*i*P	Pn	11 40 03.8	+0.1
VRI	**Vrincioaia**	**1.14**	**58**	⇑*i*P	Pn	11 40 04.0	+0.4
VRI	**Vrincioaia**	**1.14**	**58**	⇑*i*P	Pn	11 40 04.0	+0.4
GZR	**Gura Zlata**	**1.82**	**275**	⇓*i*P	Pn	11 40 12.8	-0.3
GZR				*i* S	Sb	11 40 38.8	+0.7
GZR	**Gura Zlata**	**1.82**	**275**	⇓*i*P	Pn	11 40 12.8	-0.3

*ISCJB **21** 11:42:04.6±0.8, 37°.18N±0°.04×28°.34E±0°.05, h0km, Error ellipse: s-maj=6.3km s-min=5.6km az=40.5*
*ISK **21** 11:42:04.1, 37°.13N×28°.38E, h26km, MD2.8*
*CSEM **21** 11:42:04.8±0.5, 37°.18N×28°.39E, h1km, MD2.8, Error ellipse: s-maj=11.5km s-min=8.2km az=38.0, Mining explosion.*
*DDA **21** 11:42:06.8, 37°.23N×28°.18E, h7km, MD2.7*
ISC 21 11:42:04.6±1.1, 37°.21N±0°.03×28°.42E±0°.04, h0km, n18, σ1°66/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.13**	**238**	*e*PG	**Pg**	**11 42 09.4**	**+2.2**
YER				*e*SG	**Sg**	**11 42 12.1**	**+3.2**
YER	**Yerkesik**	**0.13**	**238**	*e*Pg	**Pg**	**11 42 09.4**	**+2.2**
YER				*e*Sg	**Sg**	**11 42 12.1**	**+3.2**
TURN	**Turunc**	**0.36**	**156**	*i* P	**Pn**	**11 42 15.8**	**-1.3**
TURN	**Turunc**	**0.36**	**156**	*i* P	**Pn**	**11 42 15.8**	**-1.3**
TURN				*i* S	**Sb**	**11 42 23.2**	**+3.0**
DALY	**Dalyan (Mu¨la**	**0.43**	**154**	*e*PG	**Pg**	**11 42 13.4**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.43**	**154**	*e*Pg	**Pg**	**11 42 13.4**	**+0.6**
AYDN	**Tasoluk**	**0.63**	**317**	*i* P	**Pg**	**11 42 17.8**	**+1.1**
AYDN				*i* S	**Sg**	**11 42 24.9**	**+0.1**
AYDN	**Tasoluk**	**0.63**	**317**	*i* P	**Pg**	**11 42 17.8**	**+1.1**
AYDN				*i* S	**Sg**	**11 42 24.9**	**+0.1**
FETY	**Fethiye**	**0.78**	**137**	*e*PG	**Pg**	**11 42 18.7**	**-0.8**
FETY	**Fethiye**	**0.78**	**137**	*e*Pg	**Pg**	**11 42 18.7**	**-0.8**
BDRM	**Kayabasi**	**0.79**	**260**	*i* P	**Pg**	**11 42 18.4**	**-1.5**
BDRM				*i* S	**Sg**	**11 42 27.5**	**-2.6**
BDRM	**Kayabasi**	**0.79**	**260**	*i* P	**Pg**	**11 42 18.4**	**-1.5**
BDRM				*i* S	**Sg**	**11 42 27.5**	**-2.6**
DAT	**Datca**	**0.83**	**235**	*e*PG	**Pg**	**11 42 19.4

*GUC **21** 12:07:59.3±0.4,36°.48S×73°.36W,h12km±2km,ML3.5*

ISC 21 12:07:59.4±1.4,36°.53S±0°.06×73°.3W±0°.1,h27km,n9, σ0873/12,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.35**	**157**	*e*P		**Pb**	**12 08 07.0**	**-0.3**
CCSP				*e*S		**Sb**	**12 08 12.5**	**-0.1**
CCSP				AML		AML	12 08 14.2	
	comp=E,8μm,0.6s							
COCH	**Cobquecura**	**0.56**	**45**	*e*P		**Pb**	**12 08 10.0**	**-0.7**
COCH				*e*S		**Sb**	**12 08 17.7**	**-0.6**
LNCH	**Linares**	**1.52**	**64**	*e*P		**Pn**	**12 08 25.4**	**+0.6**
LNCH				*e*S		**Sb**	**12 08 46.7**	**+1.0**
TALC	**Talca**	**1.75**	**50**	*e*P		**Pn**	**12 08 28.8**	**+0.9**
TALC				*e*S		**Sb**	**12 08 51.0**	**-1.2**
PLCA	**Paso Flores**	**4.71**	**154**	Pn		**Pn**	**12 09 08.8**	**0.0**
	comp=E,0.3nm,0.3s,baz=334,slow=10,SNR=5.1							
PLCA				Lg		Lg	12 10 25.0	
	comp=E,1.9nm,0.3s,baz=273,slow=16,SNR=5.0							
CFAA	**Coronel Fontan**	**6.45**	**42**	Pn		**Pn**	**12 09 32.8**	**+0.2**
	comp=E,0.1nm,0.3s,baz=209,slow=9.4,SNR=5.1							
CFAA				Sn		**Sn**	**12 10 45.8**	**+0.4**
	comp=E,0.2nm,0.3s,baz=225,slow=11,SNR=2.6							
LVC	**Limon Verde**	**14.37**	**16**	LR		LR	12 16 49.7	
	comp=E,73nm,18.0s,baz=214,slow=37							
LPAZ	**La Paz**	**20.67**	**14**	P		Pn	12 12 39.8	-0.5
	comp=E,0.7nm,0.7s,baz=180,slow=9.1,SNR=3.1							
TXAR	**Lajitas Array**	**71.47**	**332**	P		**P**	**12 19 18.0**	**+0.4**
	comp=E,0.3nm,0.6s,baz=151,slow=8.9,SNR=5.2							

DJA 21 12:11:18.8±0.6,1°.N±5°×12°.0E±°,h29km±7km,M3.7/5, MLv3.7/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.30**	**233**	P		Pn	12 11 27.2	-0.1
MPSI				S		Sn	12 11 34.1	+1.3
PCI	**Palu**	**1.45**	**192**	P		Pn	12 11 43.0	-0.1
PCI				S		Sn	12 12 01.4	+0.3
MRSI	**Marisa**	**1.80**	**91**	P		Pn	12 11 47.6	-0.3
MRSI				S		Sn	12 12 10.5	+0.7
APSI	**Ampana**	**2.07**	**133**	P		Pn	12 11 50.0	-1.7
APSI				S		Sb	12 12 19.1	-2.0
LUWI	**Luwuk**	**3.06**	**121**	P		Pn	12 12 06.3	+1.1
TTSI	**Tana Toraja**	**3.56**	**185**	P		Pn	12 12 13.4	+1.3

GUC 21 12:20:27.0±0.7,36°.54S×73°.23W,h15km±12km,ML3.9, 1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.32**	**162**	*i* P		Pg	12 20 33.5	-0.1
CCSP				*e*S		Sb	12 20 39.0	-0.4
CCSP				AML		AML	12 20 39.5	
	comp=N,23μm,0.1s							
LNCH	**Linares**	**1.49**	**63**	*i* P		Pn	12 20 52.9	-0.3
LNCH				*i* S		Sn	12 21 11.5	-0.9
TALC	**Talca**	**1.73**	**49**	*e*P		Pn	12 20 55.9	-0.6
TALC				*e*S		Sn	12 21 18.2	-0.1

*DDA **21** 12:46:48.3,37°.49N×42°.71E,h7km,MD2.6*

ISC 21 12:46:48.4±1.8,37°.3N±0°.1×42°.72E±0°.04,h4km±13km,n6, σ1837/12,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.30**	**312**	*e*PG		**Pg**	**12 46 53.6**	**-0.6**
SIRT				*e*SG		**Sg**	**12 46 59.0**	**+0.9**
SIRN	**S¨–rnak**	**0.31**	**309**	*i* P		**Pg**	**12 46 54.0**	**-0.5**
SIRN				*i* S		**Sg**	**12 46 59.4**	**+0.9**
HAKT	**HAKKARI**	**0.83**	**72**	*i* P		**Pg**	**12 47 03.5**	**-0.8**
HAKT				*i* S		**Sn**	**12 47 20.6**	**+0.8**
BEST	**Besiri**	**1.29**	**298**	*i* P		**Pn**	**12 47 14.5**	**+1.3**
BEST				*i* S		**Sb**	**12 47 27.8**	**-2.5**
MARD	**Mardin**	**1.54**	**271**	*i* P		**Pb**	**12 47 17.8**	**+0.2**
MARD				*i* S		**Sg**	**12 47 39.9**	**+1.9**
MAZI	**Mazidag**	**1.81**	**276**	*e*PG		**Pn**	**12 47 20.5**	**0.0**
MAZI				*e*SG		**Sg**	**12 47 46.0**	**-0.7**

KRSC 21 13:01:30.7±1.4,55°.52N×164°.50E,h40km±25km,ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.90**	**110**	*e*P		Pn	13 01 47.6	+0.8
BKI				*e*S		Sn	13 01 58.6	0.0
KBTR	**Krutoberegovo**	**1.17**	**307**	*e*P		Pn	13 01 51.0	+0.4
KBTR				*e*S		Sn	13 02 05.1	-0.3
MKZ	**Mys Kozlova**	**1.86**	**240**	*i* P		Pn	13 02 03.3	+3.3
MKZ				*e*S		Sn	13 02 25.2	+2.9
SMKR	**Semkarok**	**2.01**	**303**	*e*P		Pn	13 02 04.6	+2.4
SMKR				*e*S		Sn	13 02 27.9	+1.8
BDR	**Baidarnaya**	**2.13**	**301**	*e*P		Pn	13 02 06.7	+2.9
BDR				*e*S		Sn	13 02 31.9	+2.8
SRKR	**Sorokina**	**2.19**	**303**	*e*P		Pn	13 02 06.3	+1.7
SRKR				*e*S		Sn	13 02 31.4	+0.9
KLY	**Klyuchi**	**2.31**	**292**	*e*P		Pn	13 02 08.2	+2.0
KLY				*e*S		Sn	13 02 33.8	+0.5
KMNR	**Kamenistaya**	**2.43**	**277**	P		Pn	13 02 12.2	+4.2
KZV	**Kizimen**	**2.44**	**262**	*e*P		Pn	13 02 12.2	+4.0
TUMR	**Tumrok**	**2.49**	**266**	*e*P		Pn	13 02 13.6	+4.7
TUMR				S		Sn	13 02 43.3	+5.1
SRDR	**Sredinnyy**	**2.81**	**289**	P		Pn	13 02 17.0	+3.8
SRDR				S		Sn	13 02 49.7	+3.9
SPN	**Mys Shipunski**	**3.57**	**229**	*e*P		Pn	13 02 26.6	+3.1
SPN				S		Sn	13 03 05.5	+1.1
NLC	**Nalytchevo**	**3.82**	**234**	*e*P		Pn	13 02 30.4	+3.4
NLC				*e*S		Sn	13 03 12.4	+1.8
SDLR	**Sedlovina**	**3.97**	**238**	*e*P		Pn	13 02 34.1	+4.9
SDLR				S		Sn	13 03 17.7	+3.0
SMAR	**Somma**	**4.02**	**238**	*e*P		Pn	13 02 34.9	+4.9
KRER	**Koryakskii**	**4.03**	**239**	*e*P		Pn	13 02 35.3	+5.3
KRER				S		Sn	13 03 19.6	+3.5
KRX	**Arik**	**4.04**	**240**	*e*P		Pn	13 02 35.6	+5.4
UGLR	**Uglovaya**	**4.04**	**237**	*e*P		Pn	13 02 35.2	+5.0
AVH	**Avacha**	**4.05**	**239**	*e*P		Pn	13 02 35.9	+5.6
AVH				*e*S		Sn	13 03 21.0	+4.5
KOK	**Koryaka**	**4.09**	**239**	*e*P		Pn	13 02 36.0	+5.2
GNL	**Ganaly**	**4.23**	**247**	*e*P		Pn	13 02 38.1	+5.4
PET	**Petropavlovsk**	**4.24**	**236**	*e*P		Pn	13 02 37.6	+4.9
RUS	**Russkaya**	**4.69**	**231**	*e*P		Pn	13 02 43.1	+4.2
MTVR	**Mutnovka**	**4.81**	**233**	*e*P		Pn	13 02 45.7	+5.0
MTVR				*e*S		Sn	13 03 38.3	+3.1
ASAK	**Asacha**	**5.00**	**234**	*e*P		Pn	13 02 48.7	+5.4

MEX 21 13:03:42.9±0.8,15°.58N×93°.66W,h91km±9km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.44**	**74**	*e*P		Pn	13 03 56.0	-1.3
PCIG				*i* S		Sn	13 04 06.4	-1.6
TGIG		**1.30**	**24**	*e*P		Pn	13 04 05.6	-0.7
TGIG				*i* S		Sn	13 04 21.7	-2.1
CCIG	**Comitan**	**1.62**	**64**	*e*P		Pn	13 04 08.9	-1.6
CCIG				*e*S		Sn	13 04 29.6	-1.9
HUIG	**Huatulco**	**2.36**	**275**	*i* P		Pn	13 04 18.2	-1.7
HUIG				*i* S		Sn	13 04 46.5	-1.9

*IDC **21** 13:05:59.9±1.4,25°.07N×109°.62W,h0km,mb3.6/3, mb1 3.9/8,mb1mx3.7/44,mbtmp3.6/8,ML3.5/5,MS3.1/10, Ms1 3.1/10,ms1mx3.0/31,Error ellipse: s-maj=29.1km s-min=13.3km az=122.0*

ISC 21 13:06:02.4±0.9,25°.12N±0°.09×109°.7W±0°.1,h17km,n15, σ1818/11,mb3.5/3,MS3.2/5,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.14**	**207**	Pn		**Pb**	**13 06 23.7**	**0.0**
	32nm,0.3s,baz=204,slow=4.4,SNR=20							
LPIG				Sn		**Sg**	**13 06 38.9**	**-0.5**
	152nm,0.3s,baz=228,slow=16,SNR=21							
LPIG				LR		LR	13 06 40.6	
	comp=Z,175nm,19.8s,baz=216,slow=35							
TXAR	**Lajitas Array**	**6.84**	**51**	Pn		**Pn**	**13 07 41.8**	**-0.3**
	0.6nm,0.3s,baz=226,slow=12,SNR=10							
TXAR				Sn		**Sn**	**13 08 58.9**	**-0.8**
	2.4nm,0.3s,baz=236,slow=26,SNR=10							
TXAR				Lg		Lg	13 09 33.0	
	1.1nm,0.3s,baz=246,slow=27,SNR=4.0							
TXAR				LR		LR	13 09 34.7	
	comp=Z,22nm,21.2s,baz=0.0,slow=32							
ANMO	**Albuquerque**	**10.20**	**15**	Pn		**Pn**	**13 08 26.9**	**-1.3**
	0.1nm,0.3s,baz=292,slow=11,SNR=2.5							
ANMO				LR		LR	13 11 50.6	
	comp=Z,93nm,21.8s,baz=190,slow=34							
NVAR	**Mina Array Bea**	**15.12**	**333**	Pn		**P**	**13 09 39.0**	**-1.6**
	0.1nm,0.3s,baz=140,slow=12,SNR=4.3							
CMIG	**Matias Romero**	**15.99**	**117**	LR		LR	13 16 02.7	
	comp=Z,132nm,20.1s,baz=194,slow=38							
ELK	**Elko**	**16.24**	**345**	Pn		**P**	**13 09 53.4**	**+0.4**
	0.1nm,0.3s,baz=182,slow=8.3,SNR=3.6							
PDAR	**Pinedale Array**	**17.60**	**0**	Pn		**P**	**13 10 09.8**	**+1.7**
	0.1nm,0.3s,baz=180,slow=4.4,SNR=17							
PDAR				LR		LR	13 17 03.4	
	comp=Z,79nm,20.3s,baz=190,slow=38							
YBH	**Yreka Blue Hor**	**19.75**	**330**	LR		LR	13 16 46.8	
	comp=Z,43nm,21.9s,baz=217,slow=33							
NEW	**Newport**	**23.82**	**348**	P		**P**	**13 11 14.0**	**-0.5**
	2.5nm,0.7s,baz=140,slow=8.0,SNR=4.7							
NEW				LR		LR	13 21 34.4	
	comp=Z,97nm,19.7s,baz=184,slow=39							
TKL	**Tuckaleechee C**	**24.67**	**59**	LR		LR	13 21 14.4	
	comp=Z,75nm,20.1s,baz=286,slow=37							
JTS	**JuntasAbangare**	**27.77**	**118**	LR		LR	13 23 11.7	
	comp=Z,59nm,18.2s,baz=304,slow=37							
YKA	**Yellowknife Ar**	**37.51**	**356**	P		**P**	**13 13 15.7**	**+0.7**
	0.9nm,1.0s,baz=180,slow=8.0,SNR=3.9							
ROSC	**El Rosal**	**39.49**	**115**	LR		LR	13 32 31.3	
	comp=Z,34nm,19.0s,baz=102,slow=40							
ILAR	**Eielson Array**	**46.28**	**339**	P		**P**	**13 14 28.4**	**+1.6**
	0.4nm,0.8s,baz=148,slow=6.0,SNR=6.1							
NOA	**NORSAR Array B**	**81.84**	**25**	LR		LR	13 54 42.9	
	comp=Z,6.7nm,18.2s,baz=290,slow=36							

*IDC **21** 13:07:47.6±1.4,10°.28S×161°.28E,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.8/32,mbtmp3.8/8,ML3.9/1,MS3.4/2, Ms1 3.4/2,ms1mx2.9/22,Error ellipse: s-maj=57.1km s-min=21.9km az=133.0*

*ISCJB **21** 13:07:54.5±1.0,10°.5S±0°.1×161°.2E±0°.2,h62km,mb3.6/7, Error ellipse: s-maj=24.3km s-min=16.1km az=32.1*

ISC 21 13:07:55.9±1.1,10°.4S±0°.2×161°.3E±0°.2,h62km,n9, σ1837/9,mb3.6/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.59**	**306**	*e*P		**Pn**	**13 08 28.0**	**+0.2**
HNR				*e*S		Sn	13 08 51.0	+10
CTA	**Charters Tower**	**17.38**	**234**	P		**Pn**	**13 11 53.6**	**-0.8**
	0.3nm,0.3s,baz=63,slow=17,SNR=4.8							
WRA	**Warramunga Arr**	**27.62**	**247**	P		**P**	**13 13 36.0**	**-1.8**
	0.9nm,0.6s,baz=77,slow=9.7,SNR=9.9							
STKA	**Stephens Creek**	**28.08**	**217**	P		**P**	**13 13 42.6**	**+0.8**
	1.0nm,0.8s,baz=61,slow=13,SNR=2.9							
STKA				LR		LR	13 24 16.7	
	comp=Z,64nm,19.8s,baz=18,slow=35							
ASAR	**Alice Springs**	**29.22**	**240**	P		**P**	**13 13 52.2**	**+0.1**
	0.3nm,0.7s,baz=66,slow=10,SNR=5.1							
ASAR				LR		LR	13 24 20.8	
	comp=Z,104nm,21.6s,baz=325,slow=34							
SONM	**Songino Array**	**75.56**	**325**	P		**P**	**13 19 35.3**	**+1.3**
	0.6nm,0.6s,baz=145,slow=6.1,SNR=6.2							
ILAR	**Eielson Array**	**84.33**	**20**	P		**P**	**13 20 18.8**	**-2.1**
	0.4nm,1.0s,baz=231,slow=5.7,SNR=3.9							
NVAR	**Mina Array Bea**	**89.00**	**51**	P		**P**	**13 20 45.4**	**+0.9**
	0.4nm,0.7s,baz=262,slow=4.5,SNR=2.3							
MKAR	**Makanchi Array**	**90.03**	**318**	P		**P**	**13 20 49.1**	**+0.2**
	0.3nm,0.4s,baz=94,slow=6.9,SNR=7.1							

IDC 21 13:15:29.1±999.0,66°.35N×43°.03E,h0km,Error ellipse: s-maj=652.5km s-min=265.7km az=122.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**17.73**	**147**	*i*			15 08 30.0	
	baz=340,slow=326,SNR=0.8							
I46RU	**ZALESOVO INFRA**	**23.68**	**101**	*i*			15 40 40.0	
	baz=318,slow=329,SNR=0.8							
I34MN	**SONGINO INFRAS**	**37.09**	**88**	*i*			17 01 10.0	
	baz=322,slow=333,SNR=0.4							

*ISCJB **21** 13:19:06.0±0.6,33°.99S±0°.04×71°.49W±0°.08,h60km±6km, mb3.8/4,Error ellipse: s-maj=11.8km s-min=5.1km az=22.6*

*SJA **21** 13:19:05.3±0.6,34°.09S×71°.44W,h128km±19km,ML3.9, MW4.9*

*IDC **21** 13:19:05.8±0.8,33°.91S×71°.36W,h47km±7km,mb3.5/4, mb1 3.7/7,mb1mx3.5/26,mbtmp3.7/7,ML3.8/3,MS3.1/3, Ms1 3.1/3,ms1mx2.8/14,Error ellipse: s-maj=33.2km s-min=17.4km az=97.0*

*NEIC **21** 13:19:05.8±0.8,33°.89S×71°.46W,mb3.4/2,Error ellipse: s-maj=22.6km s-min=11.3km az=90.0*

NEIC Felt [IV] at Pichilemu and San Fernando; [III] at Navidad, Paredones, Rancagua and Santo Domingo; [II] at Santiago.

*GUC **21** 13:19:06.8±0.7,33°.99S×71°.34W,h39km±3km,ML3.8*

ISC 21 13:19:06.3±0.8,33°.98S±0°.04×71°.46W±0°.06,h47km±7km, n35,σ1893/45,mb3.8/4,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.04**	**55**	*i* P		**Pn**	**13 19 13.4**	**-0.2**
CHCH	**Chadas Angostu**	**0.67**	**86**	*e*P		**Pn**	**13 19 19.0**	**-0.6**
CACH	**El Canelo**	**0.72**	**101**	*i* P		**Pn**	**13 19 20.3**	**-0.1**
CLCH	**Cerro Calan**	**0.96**	**53**	*i* P		**Pn**	**13 19 23.2**	**-0.4**
CLCH				*i* S		**Sn**	**13 19 36.4**	**+0.2**
CLCH				AML		AML	13 19 41.1	
	comp=N,5μm,0.7s							
CLCH				AML		AML	13 19 41.7	
	comp=N,6μm,0.7s							
IHA	**Instituto Hidr**	**0.96**	**351**	*i* P		**Pn**	**13 19 23.9**	**+0.3**
IHA				*i* S		**Sn**	**13 19 37.1**	**+0.9**
NICH	**Los Niches**	**1.04**	**170**	*i* P		**Pn**	**13 19 24.7**	**+0.2**
NICH				*i* S		**Sn**	**13 19 38.7**	**+0.8**
PEL	**Peldehue**	**1.05**	**38**	*i* P		**Pn**	**13 19 24.9**	**+0.1**
PEL				*i* S		**Sn**	**13 19 38.9**	**+0.5**
PEL				AML		AML	13 19 43.1	
	comp=N,6μm,0.4s							
YECH	**El Yeso**	**1.18**	**75**	*i* P		**Pn**	**13 19 26.8**	**0.0**
YECH				*i* S		**Sn**	**13 19 42.4**	**+0.4**
TALC	**Talca**	**1.42**	**186**	*e*P		**Pn**	**13 19 31.6**	**+1.9**
TALC				*i* S		**Sn**	**13 19 50.1**	**+2.8**
LNCH	**Linares**	**1.87**	**184**	*e*P		**Pn**	**13 19 37.6**	**+1.8**
LNCH				*e*S		**Sn**	**13 20 01.6**	**+3.4**
AAGR	**Agrelo**	**2.37**	**69**	*e*P		**Pn**	**13 19 45.3**	**+2.4**
ARCO	**CERRO ARCO**	**2.40**	**62**	*e*P		**Pn**	**13 19 45.6**	**+2.4**
ARCO				AML		AML	13 19 49.6	
	comp=Z,489nm,0.6s							
AUSP	**Uspallata**	**2.47**	**45**	*e*P		**Pn**	**13 19 47.3**	**+3.0**
AUSP				*e*S		**Sn**	**13 20 19.0**	**+5.6**
ASAL	**Salagasta**	**2.59**	**58**	*e*P		**Pn**	**13 19 48.6**	**+2.7**
RTLS	**Leoncito**	**2.83**	**40**	*e*P		**Pn**	**13 19 52.5**	**+3.1**
RTCV	**Cerro Valdivia**	**3.24**	**50**	*e*P		**Pn**	**13 19 57.3**	**+2.6**
CFAA	**Coronel Fontan**	**3.60**	**50**	P		**Pn**	**13 19 59.3**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=219,slow=13,SNR=62							
CFAA				S		**Sn**	**13 20 45.0**	**+4.1**
	comp=Z,0.9nm,0.3s,baz=88,slow=17,SNR=5.7							
CFAA				LR		LR	13 21 40.2	
	comp=Z,11nm,21.0s,baz=239,slow=44							
RTLL	**Cerro Villicun**	**3.65**	**44**	*e*P		**Pn**	**13 20 02.3**	**+2.0**
RTLL				*e*S		**Sn**	**13 20 44.5**	**+2.3**
ACAN	**Cantantal**	**3.96**	**66**	*e*P		**Pn**	**13 20 06.1**	**+1.4**
LCO	**Las Campanas**	**5.00**	**8**	ePn		Pn	13 20 14.7	-4.4
PLCA	**Paso Flores**	**6.78**	**174**	P		**Pn**	**13 20 44.6**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=340,slow=12,SNR=41							
PLCA				LR		LR	13 23 32.9	
	comp=Z,83nm,19.9s,baz=318,slow=39							
PLCA	**Paso Flores**	**6.78**	**174**	*e*Pn		**Pn**	**13 20 44.4**	**+1.1**
	comp=Z,4.9nm,0.6s							
TRQA	**Tornquist**	**8.69**	**121**	*e*Pn		**Pn**	**13 21 09.2**	**-0.2**
LVC	**Limon Verde**	**11.54**	**12**	LR		LR	13 26 18.8	
	comp=Z,170nm,20.7s,baz=218,slow=38							
LPAZ	**La Paz**	**17.87**	**10**	P		**Pn**	**13 23 12.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=171,slow=7.7,SNR=4.8							
LPAZ	**La Paz**	**17.87**	**10**	*e*P		**P**	**13 23 11.6**	**-0.8**
	comp=Z,1.4nm,0.6s							
SIV	**San Ignacio**	**20.21**	**30**	P		**P**	**13 23 36.1**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=204,slow=10.0,SNR=7.4							
SAML	**Samuel**	**26.05**	**19**	*e*P		**P**	**13 24 36.3**	**+0.9**
	comp=Z,1.4nm,0.7s							
ATAH	**Atahualpa**	**27.48**	**345**	LR		LR	13 34 00.6	
	comp=Z,39nm,21.1s,baz=24,slow=33							
QSPA	**South Pole Qui**	**56.26**	**180**	P		**P**	**13 28 42.0**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=253,slow=0.7,SNR=8.5							
QSPA				pP		**pP**	**13 28 55.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=144,slow=0.9,SNR=5.6							
TXAR	**Lajitas Array**	**69.96**	**330**	P		**P**	**13 30 12.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=169,slow=9.8,SNR=3.5							
TXAR				pP		**pP**	**13 30 25.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=156,slow=8.9,SNR=4.3							
TORD	**Torodi Ar. Bea**	**83.75**	**70**	P		**P**	**13 31 28.1**	**-2.7**
	comp=Z,1.5nm,0.8s,baz=243,slow=4.9,SNR=7.0							
BVAR	**Borovoye Array**	**146.94**	**43**	PKPbc		**PKPbc**	**13 38 43.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=321,slow=2.1,SNR=3.9							
ZALV	**Zalesovo Beam**	**153.95**	**33**	PKPbc		**PKPbc**	**13 38 58.8**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=332,slow=2.8,SNR=4.3							
ZALV				pPKPbc		**PKPab**	**13 39 12.8**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=298,slow=3.2,SNR=2.4							
MKAR	**Makanchi Array**	**156.38**	**49**	PKPab		**PKPab**	**13 39 22.6**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=300,slow=4.0,SNR=3.3							

IDC 21 13:24:30.5±9.3,6°.94N×93°.82E,h0km,mb3.5/3,mb1 3.7/3, mb1mx3.2/33,mbtmp3.5/3,Error ellipse: s-maj=436.9km s-min=29.4km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.73**	**236**	T		T	13 56 52.2	
	baz=53,slow=75,SNR=11							
H08S2	**Diego Garcia H**	**25.73**	**236**	T		T	13 56 57.1	
	baz=53,slow=75,SNR=9.5							
H08S1	**Diego Garcia H**	**25.73**	**236**	T		T	13 56 47.3	
	baz=53,slow=75,SNR=9.5							
ZALV	**Zalesovo Beam**	**47.44**	**353**	P		P	13 33 06.5	-0.2
	0.4nm,0.3s,baz=162,slow=9.8,SNR=2.7							
WRA	**Warramunga Arr**	**47.99**	**125**	P		P	13 33 11.2	-0.3
	0.2nm,0.8s,baz=299,slow=11,SNR=3.5							
ASAR	**Alice Springs**	**49.57**	**129**	P		P	13 33 23.9	+0.2
	0.5nm,1.0s,baz=301,slow=7.6,SNR=4.5							

NSSC 21 13:26:35.1±1.4,33°.83N×36°.68E,h4km±4km,ML2.1, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.26**	**321**	*e*P		Pg	13 26 39.6	-0.9
MARH				*e*S		Sg	13 26 44.1	-0.1
MARH				AML		AML	13 26 56.0	
	comp=N,679nm,0.5s							
MARH				AML		AML	13 26 57.4	
	comp=E,643nm,0.6s							
QASN	**Qassioun**	**0.45**	**229**	*e*P		Pb	13 26 45.1	-0.6
QASN				*e*S		Sg	13 26 50.9	+1.1
QASN				AML		AML	13 26 54.9	
	comp=N,220nm,0.4s							
QASN				AML		AML	13 26 59.9	
	comp=E,292nm,0.6s							
ROOS	**tl_alroos**	**0.61**	**56**	*e*P		Pb	13 26 47.8	-0.7
ROOS				*e*S		Sb	13 26 56.4	-1.3
HAWK	**Haweek**	**0.73**	**342**	*e*P		Pg	13 26 49.9	+0.6
HAWK				*e*S		Sg	13 26 59.9	+1.1
HAWK				AML		AML	13 27 05.7	
	comp=E,42nm,0.5s							
HAWK				AML		AML	13 27 08.5	
	comp=N,62nm,0.5s							
BRBR	**Barbar**	**0.73**	**236**	*e*P		Pg	13 26 49.3	-0.2
BRBR				*e*S		Sg	13 27 00.1	+0.9
BRBR				AML		AML	13 27 07.7	
	comp=E,58nm,0.5s							
BRBR				AML		AML	13 27 10.9	
	comp=N,43nm,0.5s							
ZALF	**Zalf**	**1.06**	**148**	*e*P		Pg	13 26 55.6	+0.2
ZALF				*e*S		Sg	13 27 08.9	-0.3
ZALF				AML		AML	13 27 19.4	
	comp=E,31nm,0.6s							
ZALF				AML		AML	13 27 50.6	
	comp=N,13nm,0.7s							
BIDA	**Albida**	**1.22**	**346**	*e*P		Pg	13 26 58.7	0.0
BIDA				*e*S		Sb	13 27 15.2	0.0
BIDA				AML		AML	13 27 20.8	
	comp=E,91nm,0.5s							
BIDA				AML		AML	13 27 21.5	
	comp=N,56nm,0.4s							
TCHB	**Talchebab**	**1.30**	**207**	*e*P		Pg	13 26 58.9	-1.2
TCHB				*e*S		Sg	13 27 16.5	-0.4
TCHB				AML		AML	13 27 22.0	
	comp=E,55nm,0.4s							
TCHB				AML		AML	13 27 31.6	
	comp=N,47nm,0.7s							
WRDH	**Warideh**	**1.69**	**353**	*e*P		Pn	13 27 05.0	-0.6
WRDH				*e*S		Sn	13 27 26.9	-0.8
WRDH				AML		AML	13 27 32.2	
	comp=N,35nm,0.5s							
WRDH				AML		AML	13 27 38.8	
	comp=E,30nm,0.6s							

**ID

DBAD				*i* S	**Sb**	**13 27 52.7**	**+0.3**
DBAD	**Bademkaya**	**1.30**	**31**	*i* P	**Pn**	**13 27 34.3**	**-0.9**
DBAD				*i* S	**Sb**	**13 27 52.7**	**+0.3**
MACK	**Trabzon**	**1.31**	**323**	*i* P	**Pb**	**13 27 35.4**	**0.0**
MACK				*i* S	**Sg**	**13 27 50.2**	**-2.2**
MACK	**Trabzon**	**1.31**	**323**	*i* P	**Pb**	**13 27 35.4**	**0.0**
MACK				*i* S	**Sg**	**13 27 50.2**	**-2.2**
KTUT	**Trabzon**	**1.35**	**324**	*e*PN	**Pb**	**13 27 35.8**	**-0.1**
KTUT	**Trabzon**	**1.35**	**324**	*e*Pn	**Pb**	**13 27 35.8**	**-0.1**
DAGI	**Agillar**	**1.45**	**35**	*i* P	**Pn**	**13 27 36.5**	**-0.6**
DAGI				*i* S	**Sb**	**13 27 56.6**	**+0.2**
ARTV	**Artvin**	**1.54**	**33**	*i* P	**Pn**	**13 27 38.3**	**-0.2**
ARTV				*i* S	**Sg**	**13 28 00.3**	**+0.7**
ARTV	**Artvin**	**1.54**	**33**	*i* P	**Pn**	**13 27 38.3**	**-0.2**
ARTV				*i* S	**Sg**	**13 28 00.3**	**+0.7**
DBOC	**Borcka**	**1.58**	**24**	*i* P	**Pn**	**13 27 39.1**	**+0.2**
DBOC				*i* S	**Sg**	**13 28 01.0**	**0.0**
DBOC	**Borcka**	**1.58**	**24**	*i* P	**Pn**	**13 27 39.1**	**+0.2**
DBOC				*i* S	**Sg**	**13 28 01.0**	**0.0**
TUTA	**Tutak**	**1.62**	**107**	*i* P	**Pn**	**13 27 36.8**	**-2.9**
TUTA	**Tutak**	**1.62**	**107**	*i* P	**Pn**	**13 27 36.8**	**-2.9**
TUTA				*i* S	**Sn**	**13 27 60.0**	**-1.1**
AGRB	**Hanur-Agry**	**1.71**	**100**	*e*PN	**Pn**	**13 27 41.0**	**+0.2**
AGRB	**Hanur-Agry**	**1.71**	**100**	*e*Pn	**Pn**	**13 27 41.0**	**+0.2**
BTMT	**Batman**	**1.78**	**163**	*e*PN	**Pn**	**13 27 41.8**	**+0.1**
BTMT	**Batman**	**1.78**	**163**	*e*Pn	**Pn**	**13 27 41.8**	**+0.1**
ILIC	**ilic-Erzincan**	**1.79**	**256**	*e*PN	**Pn**	**13 27 41.6**	**-0.3**
ILIC	**ilic-Erzincan**	**1.79**	**256**	*e*Pn	**Pn**	**13 27 41.6**	**-0.3**
KEMA	**Kemaliye**	**1.90**	**251**	*i* P	**Pn**	**13 27 43.6**	**+0.2**
KEMA	**Kemaliye**	**1.90**	**251**	*i* P	**Pn**	**13 27 43.6**	**+0.2**
KEMA				*i* S	**Sg**	**13 28 13.4**	**+2.2**
SVRC	**Sivrice-ELAZID**	**1.92**	**218**	*e*PN	**Pn**	**13 27 43.4**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.92**	**218**	*e*Pn	**Pn**	**13 27 43.4**	**-0.3**
ELZG	**Elazig**	**2.00**	**226**	*i* P	**Pn**	**13 27 45.6**	**+0.8**
ELZG	**Elazig**	**2.00**	**226**	*i* P	**Pn**	**13 27 45.6**	**+0.8**
ELZG				*i* S	**Sg**	**13 28 15.0**	**+0.7**
DIGO	**Kars**	**2.03**	**74**	*i* P	**Pb**	**13 27 47.2**	**-0.5**
DIGO	**Kars**	**2.03**	**74**	*i* P	**Pb**	**13 27 47.2**	**-0.5**
DIGO				*i* S	**Sg**	**13 28 18.9**	**+3.6**
SUSE	**Susehri**	**2.03**	**280**	*i* P	**Pb**	**13 27 47.9**	**+0.3**
SUSE				*i* S	**Sn**	**13 28 07.8**	**-3.2**
SUSE	**Susehri**	**2.03**	**280**	*i* P	**Pb**	**13 27 47.9**	**+0.3**
SUSE				*i* S	**Sn**	**13 28 07.8**	**-3.2**
BEST	**Besiri**	**2.04**	**170**	*i* P	**Pb**	**13 27 47.4**	**-0.3**
BEST				*i* S	**Sg**	**13 28 16.0**	**+0.4**
GRSN	**GIRESUNGRSN**	**2.20**	**299**	*i* P	**Pb**	**13 27 50.5**	**+0.1**
GRSN				*i* S	**Sn**	**13 28 13.6**	**-1.4**
GRSN	**GIRESUNGRSN**	**2.20**	**299**	*i* P	**Pb**	**13 27 50.5**	**+0.1**
GRSN				*i* S	**Sn**	**13 28 13.6**	**-1.4**
GEVA	**Gevas**	**2.36**	**132**	*i* P	**Pb**	**13 27 52.1**	**-1.2**
GEVA	**Gevas**	**2.36**	**132**	*i* P	**Pb**	**13 27 52.1**	**-1.2**
CLDR	**Caldiran**	**2.52**	**106**	*e*PN	**Pn**	**13 27 52.3**	**+0.3**
CLDR	**Caldiran**	**2.52**	**106**	*e*Pn	**Pn**	**13 27 52.3**	**+0.3**
AKH	**Akhalkalaki**	**2.54**	**53**	*e*PN	**Pn**	**13 27 53.1**	**+1.0**
AKH	**Akhalkalaki**	**2.54**	**53**	*e*Pn	**Pn**	**13 27 53.2**	**+1.0**
MARD	**Mardin**	**2.58**	**181**	*i* P	**Pb**	**13 27 56.5**	**-0.6**
MARD				*i* S	**Sb**	**13 28 30.5**	**+1.3**
AKCD	**Akcadag**	**2.76**	**235**	*i* P	**Pn**	**13 27 56.6**	**+1.4**
AKCD	**Akcadag**	**2.76**	**235**	*i* P	**Pn**	**13 27 56.6**	**+1.4**
AKCD				*i* S	**Sg**	**13 28 41.1**	**+2.2**
CHVG	**Ch'k'valeri**	**2.97**	**18**	P	**Pb**	**13 28 04.1**	**+0.5**
KZR	**Kazreti**	**3.11**	**60**	P	**Pg**	**13 28 11.0**	**+1.2**
ONI	**Oni**	**3.34**	**36**	P	**Pb**	**13 28 10.3**	**+0.3**
ONI				S	Sn	13 28 25.5	-18
DGRG	**David-gareji**	**3.80**	**64**	P	**Pn**	**13 28 10.6**	**+1.2**
MSL	**Mosul**	**3.94**	**152**	*e*PG	x	13 29 02.2	
MSL				*e*SG	x	13 29 47.4	
RTB	**Rutbah**	**6.87**	**184**	*e*PN	**Pb**	**13 29 10.6**	**+0.5**
RTB				*e*SN	Sn	13 29 58.6	-12
IBDR	**Badra**	**7.93**	**147**	*e*PN	**Pg**	**13 29 41.8**	**-0.2**
IBDR				*e*SN	Sb	13 30 51.7	-11
NSR	**Nassriya**	**9.87**	**152**	*e*PN	x	13 30 04.9	
NSR				*e*SN	Sn	13 31 33.4	+9.4

*ISCJB **21** 13:33:45.8±0.4, 32°.27N±0°.02×115°.28W±0°.03, h14km, Error ellipse: s-maj=4.3km s-min=3.0km az=41.0*
*NEIC **21** 13:33:46.8, 32°.22N×115°.34W, h10km, ML3.1(PAS), After PAS.*
*ECX **21** 13:33:47.8±0.5, 32°.25N×115°.34W, h5km, MD3.2, ML3.4*
*MEX **21** 13:33:48.2±0.7, 32°.29N×115°.32W, h5km±11km, MD3.8*

ISC 21 13:33:45.4±0.8, 32°.27N±0°.03×115°.33W±0°.03, h14km, n26, σ0s78/40, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**7**	*e*P	**Pg**	**13 33 47.6**	**-1.6**
CPBX				*e*S	**Sg**	**13 33 50.6**	**-1.2**
CPBX	**Cerro Prieto**	**0.15**	**7**	*e*P	**Pb**	**13 33 50.1**	**0.0**
MBIG	**Mexicali**	**0.17**	**38**	*e*P	**Pb**	**13 33 51.1**	**+0.6**
MBIG				*i* S	**Sb**	**13 33 53.6**	**-0.2**
SGL	**Mount Signal**	**0.51**	**318**	⇓*i*P	**Pb**	**13 33 56.7**	**+0.6**
COA	**Coachella**	**0.62**	**16**	⇓*i*P	**Pb**	**13 33 58.9**	**+0.8**
RDX	**Rancho Dawling**	**0.62**	**237**	*e*P	**Pb**	**13 33 58.6**	**+0.4**
RDX				*e*S	**Sb**	**13 34 07.0**	**+0.1**
RDX				⇓*e*		13 34 07.7	
RDX				AML	AML	13 34 07.7	
	comp=N,1μm,0.4s						
YUH	**Yuha Desert**	**0.63**	**307**	⇑*i*P	**Pb**	**13 33 58.7**	**+0.4**
COK	**Cook Ranch**	**0.67**	**330**	⇑*i*P	**Pn**	**13 33 59.8**	**-0.7**
RMX	**La Rumorosa**	**0.72**	**298**	*e*P	**Pb**	**13 34 00.2**	**+0.4**
RMX				*e*S	**Sb**	**13 34 10.2**	**+0.5**
RMX				⇑*e*		13 34 12.4	
RMX				AML	AML	13 34 12.4	
	comp=N,2μm,0.1s						
GLA	**Glamis**	**0.89**	**28**	*e*Pg	**Pb**	**13 34 02.5**	**-0.2**
GLA				*e*Sg	**Sg**	**13 34 14.4**	**+0.1**
ZAX	**El Zacaton**	**1.10**	**227**	*e*P	**Pg**	**13 34 06.8**	**0.0**
ZAX				*e*S	**Sn**	**13 34 21.3**	**-0.3**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pg**	**13 34 07.3**	**0.0**
CBX				*i* S	**Sb**	**13 34 21.0**	**-0.6**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pg**	**13 34 07.3**	**0.0**
CBX				*e*S	**Sn**	**13 34 22.6**	**+0.1**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pg**	**13 34 07.7**	**+0.3**
BAR	**Barrett**	**1.21**	**290**	*e*P	**Pg**	**13 34 08.4**	**-0.3**
BAR	**Barrett**	**1.21**	**290**	*e*Pn	**Pb**	**13 34 08.2**	**0.0**
BAR				*e*S	**Sg**	**13 34 24.2**	**-0.3**
SPIG	**San Pedro Mart**	**1.23**	**186**	*e*P	**Pb**	**13 34 08.6**	**0.0**
SPIG				*i* S	**Sb**	**13 34 24.3**	**0.0**
SPIG	**San Pedro Mart**	**1.23**	**186**	*e*P	**Pb**	**13 34 08.6**	**0.0**
SPIG	**San Pedro Mart**	**1.23**	**186**	*e*P	**Pb**	**13 34 08.6**	**0.0**
SPX	**San Pedro Mart**	**1.23**	**186**	*e*P	**Pb**	**13 34 08.6**	**0.0**
ECNX	**Esteban Cantu**	**1.24**	**241**	*e*P	**Pg**	**13 34 08.9**	**-0.4**
ECNX				*e*S	**Sg**	**13 34 25.3**	**-0.3**
PBX	**Punta Banda**	**1.30**	**247**	*e*P	**Pg**	**13 34 09.9**	**-0.5**
PBX				*e*S	**Sg**	**13 34 27.0**	**-0.4**
PFO	**Pinyon Flats O**	**1.64**	**325**	*e*Pn	**Pn**	**13 34 13.6**	**-0.4**
PFO				*e*Sn	**Sb**	**13 34 35.8**	**-0.4**
214A	**Organ Pipe Nat**	**2.16**	**98**	*e*Pn	**Pn**	**13 34 20.7**	**-0.3**
214A				*e*Pg	**Pg**	**13 34 25.8**	**-1.0**
WUAZ	**Wupatki**	**4.61**	**44**	*e*Pn	**Pn**	**13 34 57.5**	**+2.6**
W18A	**Petrified Fore**	**5.46**	**57**	*e*Pn	**Pn**	**13 35 09.0**	**+2.4**

NNC 21 13:35:58.1±5.7, 36°.41N×68°.08E, h0km, mb3.6, mpv3.2, 2C-4D, Error ellipse: s-maj=42.5km s-min=35.4km az=48.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.47**	**14**	⇓Pg	Pb	13 36 43.7	+0.2
	13nm,0.6s						
DZET				⇑Lg	Lg	13 37 16.8	
	38nm,0.5s						
SFK	**Sufi-Kurgan**	**5.58**	**48**	⇑Pn	Pn	13 37 22.8	0.0
	1.6nm,0.4s						
SFK				⇓Sn	Sn	13 38 29.2	+1.3
	3.3nm,0.3s						
KK31	**Karatay Array**	**6.95**	**15**	⇓Pn	Pn	13 37 40.0	-1.2
	0.3nm,0.3s,baz=187,slow=11,SNR=7.4						
KK31				⇓Sn	Sn	13 39 00.7	-0.1
	0.7nm,0.5s,baz=197,slow=22,SNR=3.8						

IDC 21 13:45:14.6±2.8, 10°.69S×161°.43E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/21, mbtmp3.6/6, Error ellipse: s-maj=89.8km s-min=28.4km az=132.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.92**	**310**	LR	LR	13 46 40.1	
	comp=Z,265nm,18.5s,baz=238,slow=44						
HNR	**Honiara**	**1.92**	**310**	*e*P	Pb	13 45 50.0	-0.6
HNR				*e*S	Sg	13 46 19.0	+2.5
WRA	**Warramunga Arr**	**27.66**	**247**	P	P	13 51 05.1	+0.6
	0.6nm,0.6s,baz=76,slow=9.6,SNR=3.9						
ASAR	**Alice Springs**	**29.22**	**240**	P	P	13 51 17.9	-0.5
	0.3nm,0.8s,baz=66,slow=9.8,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**29.46**	**10**	T	T	14 22 13.4	
	baz=189,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**29.46**	**10**	T	T	14 22 06.6	
	baz=189,slow=76,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**29.48**	**10**	T	T	14 22 13.8	
	baz=189,slow=76,SNR=5.2						
CMAR	**Chiang Mai Arr**	**68.10**	**295**	P	P	13 56 16.8	0.0
	0.4nm,0.3s,baz=99,slow=4.7,SNR=3.6						
SONM	**Songino Array**	**75.92**	**325**	P	P	13 57 03.6	+0.3
	0.4nm,0.7s,baz=147,slow=5.8,SNR=3.9						
ILAR	**Eielson Array**	**84.57**	**20**	P	P	13 57 49.6	+0.1
	0.2nm,0.8s,baz=209,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**90.38**	**318**	P	P	13 58 17.4	-0.6
	0.2nm,0.5s,baz=99,slow=6.2,SNR=5.2						

IDC 21 14:13:13.7±44.0, 15°.32S×171°.75W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/42, mbtmp4.3/3, Error ellipse: s-maj=869.1km s-min=177.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.46**	**240**	P	P	14 21 35.0	+0.3
	1.4nm,0.5s,baz=91,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**51.41**	**257**	P	P	14 22 20.6	-0.3
	0.7nm,0.5s,baz=94,slow=6.9,SNR=29						
ASAR	**Alice Springs**	**51.65**	**252**	P	P	14 22 22.4	-0.2
	6.8nm,0.5s,baz=88,slow=8.2,SNR=200						

*DDA **21** 14:46:31.9, 39°.52N×27°.52E, h7km, MD2.5*
*ISCJB **21** 14:46:32.9±0.8, 39°.55N±0°.04×27°.53E±0°.05, h1km±9km, Error ellipse: s-maj=8.3km s-min=5.4km az=147.4*
*ISK **21** 14:46:33.1, 39°.62N×27°.61E, h5km, MD2.7*
*CSEM **21** 14:46:33.7±0.3, 39°.59N×27°.57E, h5km, MD2.7, Error ellipse: s-maj=8.3km s-min=7.2km az=163.0*

ISC 21 14:46:33.2±1.0, 39°.57N±0°.03×27°.53E±0°.03, h11km±8km, n22, σ0s46/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.19**	**21**	*i* P	**Pg**	**14 46 37.2**	**-0.1**
BALY				*i* S	**Sg**	**14 46 41.0**	**+0.9**
BALY	**Balya**	**0.19**	**21**	*i* P	**Pg**	**14 46 37.2**	**-0.1**
BALY				*i* S	**Sg**	**14 46 41.0**	**+0.9**
BALB	**Balikesir**	**0.28**	**75**	*e*PG	**Pg**	**14 46 38.3**	**-0.6**
BALB				*e*SG	**Sg**	**14 46 42.3**	**-0.4**
BALB	**Balikesir**	**0.28**	**75**	*e*Pg	**Pg**	**14 46 38.3**	**-0.6**
BALB				*e*Sg	**Sg**	**14 46 42.3**	**-0.4**
AYVA	**Ayvalik**	**0.70**	**249**	*i* P	**Pb**	**14 46 47.4**	**0.0**
AYVA				*i* S	**Sg**	**14 46 55.2**	**-0.7**
AYVA	**Ayvalik**	**0.70**	**249**	*i* P	**Pb**	**14 46 47.4**	**0.0**
AYVA				*i* S	**Sg**	**14 46 55.2**	**-0.7**
KRBG	**Karabiga-Canak**	**0.84**	**348**	*e*PG	**Pg**	**14 46 49.6**	**+0.1**
KRBG	**Karabiga-Canak**	**0.84**	**348**	*e*Pg	**Pg**	**14 46 49.6**	**+0.1**
MRMT	**Marmara Adasi**	**1.04**	**3**	*e*PG	**Pg**	**14 46 53.0**	**-0.2**
MRMT				*e*SG	**Sn**	**14 47 08.8**	**+0.5**
MRMT	**Marmara Adasi**	**1.04**	**3**	*e*Pg	**Pg**	**14 46 53.0**	**-0.2**
MRMT				*e*Sg	**Sn**	**14 47 08.8**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.15**	**347**	*e*PN	**Pn**	**14 46 55.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.15**	**347**	*e*Pn	**Pn**	**14 46 55.3**	**0.0**
ORLT	**Orhaneli**	**1.16**	**65**	*e*PN	**Pb**	**14 46 54.7**	**-0.5**
ORLT	**Orhaneli**	**1.16**	**65**	*e*Pn	**Pb**	**14 46 54.7**	**-0.5**
ARMT	**Armutlu**	**1.43**	**45**	*e*PN	**Pb**	**14 46 59.7**	**-0.1**
ARMT	**Armutlu**	**1.43**	**45**	*e*Pn	**Pb**	**14 46 59.7**	**-0.1**
TVSB	**Tavsanli**	**1.50**	**94**	*e*PN	**Pb**	**14 47 01.3**	**+0.2**
TVSB	**Tavsanli**	**1.50**	**94**	*e*Pn	**Pb**	**14 47 01.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**170**	*e*PN	**Pg**	**14 47 05.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**170**	*e*Pn	**Pg**	**14 47 05.1**	**+0.4**
ALN	**Alexandroupoli**	**1.75**	**320**	*e*PN	**Pg**	**14 47 06.3**	**-0.4**
ALN	**Alexandroupoli**	**1.75**	**320**	*e*Pn	**Pg**	**14 47 06.3**	**-0.4**

*IDC **21** 14:49:40.0±1.1, 12°.04N×143°.33E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/41, mbtmp3.7/8, Error ellipse: s-maj=47.7km s-min=20.0km az=91.0*
*ISCJB **21** 14:49:42.2±0.9, 12°.0N±0°.1×143°.2E±0°.3, h25km, mb3.7/8, Error ellipse: s-maj=40.6km s-min=17.5km az=0.9*

ISC 21 14:49:43.9±1.1, 12°.0N±0°.2×143°.3E±0°.3, h25km, n11, σ0s60/8, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**23.92**	**68**	T	T	15 19 49.6	
	baz=255,slow=75,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**23.93**	**68**	T	T	15 19 46.7	
	baz=255,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**23.94**	**68**	T	T	15 19 49.0	
	baz=255,slow=75,SNR=7.5						
WRA	**Warramunga Arr**	**32.97**	**196**	P	**P**	**14 56 16.9**	**-0.1**
	1.2nm,0.7s,baz=20,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**36.64**	**195**	P	**P**	**14 56 48.7**	**0.0**
	0.4nm,0.6s,baz=19,slow=12,SNR=13						
SONM	**Songino Array**	**47.15**	**327**	P	**P**	**14 58 14.9**	**+0.5**
	0.2nm,0.5s,baz=135,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**61.56**	**317**	P	**P**	**14 59 59.4**	**+0.2**
	0.2nm,0.6s,baz=124,slow=7.2,SNR=2.5						
ZALV	**Zalesovo Beam**	**62.01**	**325**	P	**P**	**15 00 01.1**	**-0.9**
	0.5nm,0.4s,baz=107,slow=9.5,SNR=4.0						
INK	**Inuvik**	**76.39**	**22**	P	**P**	**15 01 30.4**	**-0.4**
	0.4nm,0.5s,baz=12,slow=1.6,SNR=3.6						
YKA	**Yellowknife Ar**	**84.94**	**27**	P	**P**	**15 02 17.3**	**+0.6**
	0.4nm,0.4s,baz=288,slow=5.2,SNR=4.4						
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**15 02 31.9**	**-0.2**
	1.8nm,0.9s,baz=64,slow=8.2,SNR=4.9						

MEX 21 15:03:20.9±0.7, 16°.01N×92°.73W, h203km±8km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.56**	**237**	*i* P	Pn	15 03 47.3	-1.3
PCIG				*e*S	S	15 04 07.5	-2.5
CCIG	**Comitan**	**0.63**	**65**	*i* P	Pn	15 03 47.3	-1.8
CCIG				*e*P	Pn	15 03 48.0	-1.1
TGIG		**0.85**	**334**	*i* P	Pn	15 03 49.1	-1.0
TGIG				*i* S	S	15 04 10.4	-2.4
CMIG	**Matias Romero**	**2.33**	**298**	*i* P	Pn	15 04 02.7	-0.4
CMIG				*i* S	S	15 04 33.5	-1.9
HUIG	**Huatulco**	**3.26**	**266**	*i* P	Pn	15 04 12.2	-1.6
HUIG				*i* S	S	15 04 53.3	-1.2

*ISCJB **21** 15:32:12.4±1.4, 27°.67S±0°.06×179°.8W±0°.2, h400km, mb3.9/5, Error ellipse: s-maj=28.9km s-min=7.7km az=172.3*
*IDC **21** 15:32:14.3±5.1, 27°.79S×179°.75W, h413km±51km, mb3.6/5, mb1 3.7/6, mb1mx3.3/22, mbtmp4.4/6, Error ellipse: s-maj=35.1km s-min=24.8km az=40.0*

ISC 21 15:32:13.9±1.1, 27°.76S±0°.08×179°.8W±0°.2, h400km, n18, σ1s20/22, mb3.8/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**9.90**	**189**	*e*PN	**Pn**	**15 34 32.9**	**+2.3**
MXZ				SN	**S**	**15 36 21.2**	**-1.4**
HAZ	**Te Kaha**	**10.17**	**191**	*e*PN	**Pn**	**15 34 35.4**	**+1.7**
HAZ				SN	**S**	**15 36 29.0**	**+1.0**
PUZ	**Puketiti**	**10.41**	**188**	*e*PN	**Pn**	**15 34 36.7**	**+0.2**
PUZ				SN	**S**	**15 36 31.3**	**-1.7**
MWZ	**Matawai**	**10.77**	**191**	*e*PN	**Pn**	**15 34 41.0**	**+0.2**
MWZ				SN	**S**	**15 36 38.9**	**-1.6**
URZ	**Urewera**	**10.78**	**193**	P	**P**	**15 34 40.1**	**+0.1**
	4.4nm,0.3s,baz=333,slow=2.9,SNR=31						
URZ				S	**S**	**15 36 40.0**	**-0.5**
	1.3nm,0.3s,baz=232,slow=21,SNR=19						
URZ	**Urewera**	**10.78**	**193**	PN	**P**	**15 34 40.5**	**+0.5**
RIGZ	**Rimuhau**	**11.10**	**190**	*e*PN	**Pn**	**15 34 44.9**	**+0.4**
CTA	**Charters Tower**	**31.86**	**276**	P	**P**	**15 38 04.0**	**0.0**
	6.0nm,0.5s,baz=101,slow=11,SNR=12						
STKA	**Stephens Creek**	**33.61**	**253**	P	**P**	**15 38 19.4**	**+0.6**
	1.6nm,0.5s,baz=102,slow=12,SNR=9.2						
ASAR	**Alice Springs**	**41.71**	**265**	P	**P**	**15 39 25.5**	**-0.4**
	3.6nm,0.7s,baz=94,slow=6.9,SNR=133						
WRA	**Warramunga Arr**	**42.45**	**270**	P	**P**	**15 39 31.1**	**-0.7**
	3.8nm,0.5s,baz=107,slow=7.6,SNR=162						
PETK	**Petropavlovsk-**	**82.88**	**347**	P	**P**	**15 43 54.0**	**-0.5**
	1.0nm,0.6s,baz=129,slow=8.2,SNR=12						
ARCES	**ARCESS Array B**	**135.68**	**348**	PKP	**PKPdf**	**15 50 45.6**	**-1.0**
	2.6nm,1.0s,baz=60,slow=3.5,SNR=5.9						
FINES	**FINESS Array B**	**142.13**	**340**	PKhKP	PKPpre	15 50 52.4	
	0.4nm,0.3s,baz=48,slow=2.2,SNR=8.7						
NB2	**NORSAR Subarra**	**145.91**	**350**	PKP	**PKPdf**	**15 51 05.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**145.91**	**350**	PKPbc	**PKPdf**	**15 51 05.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=42,slow=1.2,SNR=5.5						
AKASG	**Malin Array Be**	**148.24**	**324**	PKPbc	**PKPdf**	**15 51 11.8**	**+2.4**
	comp=Z,1.1nm,0.4s,baz=45,slow=4.2,SNR=15						
TORD	**Torodi Ar. Bea**	**165.39**	**186**	PKPab	**PKPab**	**15 52 30.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=173,slow=3.7,SNR=3.1						

*IDC **21** 15:39:50.8±1.0, 37°.78N×22°.12E, h0km, mb3.7/9, mb1 3.7/12, mb1mx3.6/45, mbtmp3.7/12, ML3.2/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/42, Error ellipse: s-maj=20.0km s-min=19.0km az=122.0*
*ISCJB **21** 15:39:51.2±0.3, 37°.83N±0°.01×22°.08E±0°.02, h11km±2km, mb3.7/8, Error ellipse: s-maj=2.4km s-min=2.2km az=2.4*
*THE **21** 15:39:51.9, 37°.85N×22°.07E, h3km±1km, ML3.5/12, Error ellipse: s-maj=1.0km s-min=0.4km az=279.0*
*ATH **21** 15:39:51.4, 37°.85N×22°.07E, h17km±1km, MD3.3/39, ML3.7*
*CSEM **21** 15:39:51.7±0.1, 37°.84N×22°.09E, h8km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.6km az=46.0*

ISC 21 15:39:51.9±0.9, 37°.84N±0°.01×22°.08E±0°.01, h8km±6km, n186, σ0s93/261, mb3.8/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.21**	**16**	P	**Pg**	**15 39 55.8**	**-0.3**
KLV				S	**Sg**	**15 39 59.5**	**+0.5**
KLV	**Kalavryta, Ach**	**0.21**	**16**	*e*PB	**Pg**	**15 39 55.9**	**-0.2**
KLV				*e*SB	**Sg**	**15 39 59.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.21**	**16**	*e*Pb	**Pg**	**15 39 55.9**	**-0.2**
KLV				S	**Sg**	**15 39 59.1**	**+0.1**
GUR	**Goura**	**0.23**	**66**	P	**Pg**	**15 39 56.2**	**-0.3**
GUR				S	**Sg**	**15 39 59.6**	**-0.1**
GUR	**Goura**	**0.23**	**66**	*e*PB	**Pg**	**15 39 56.4**	**-0.1**
GUR				*e*SB	**Sg**	**15 39 59.7**	**0.0**
GUR	**Goura**	**0.23**	**66**	*e*Pb	**Pg**	**15 39 56.4**	**-0.1**
GUR				S	**Sg**	**15 39 59.6**	**-0.1**
DRO	**Drossia**	**0.31**	**291**	P	**Pg**	**15 39 57.5**	**-0.5**
DRO				S	**Sg**	**15 40 02.6**	**+0.4**
DRO	**Drossia**	**0.31**	**291**	*e*PB	**Pg**	**15 39 57.8**	**-0.2**
DRO				*e*SB	**Sg**	**15 40 03.5**	**+1.3**
DRO	**Drossia**	**0.31**	**291**	P	**Pg**	**15 39 57.5**	**-0.5**
DRO	**Drossia**	**0.31**	**291**	*e*Pb	**Pg**	**15 39 57.8**	**-0.2**
DRO				S	**Sg**	**15 40 02.6**	**+0.4**
DRO				*e*Sb	**Sg**	**15 40 03.5**	**+1.3**
AMT	**Artemida-Makis**	**0.43**	**223**	P	**Pg**	**15 39 59.8**	**-0.4**
AMT				S	**Sg**	**15 40 06.2**	**+0.4**
AMT	**Artemida-Makis**	**0.43**	**223**	*e*PB	**Pg**	**15 40 00.0**	**-0.2**
AMT				*e*SB	**Sg**	**15 40 05.9**	**+0.1**
AMT	**Artemida-Makis**	**0.43**	**223**	P	**Pg**	**15 39 59.8**	**-0.4**
AMT				S	**Sg**	**15 40 05.9**	**+0.1**
UPR	**University Cam**	**0.50**	**332**	P	**Pg**	**15 40 01.7**	**+0.2**
UPR	**University Cam**	**0.50**	**332**	P	**Pg**	**15 40 01.3**	**-0.2**
UPR				S	**Sg**	**15 40

MAKR	**Makrakomi, Fth**	**1.17**	**2**	P	**Pg**	**15 40 13.9**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.17**	**2**	*e*Pn	**Pg**	**15 40 14.3**	**0.0**
MAKR				S	**Sn**	**15 40 30.5**	**-0.3**
AGG	**Agios Georgios**	**1.19**	**9**	P	**Pb**	**15 40 13.6**	**-1.2**
AGG	**Agios Georgios**	**1.19**	**9**	*e*PN	**Pn**	**15 40 14.9**	**0.0**
AGG				*e*SN	**Sn**	**15 40 33.0**	**+1.6**
AGG	**Agios Georgios**	**1.19**	**9**	*e*PN	**Pb**	**15 40 13.6**	**-1.2**
AGG	**Agios Georgios**	**1.19**	**9**	P	**Pb**	**15 40 13.6**	**-1.2**
AGG				*e*SN	**Sn**	**15 40 33.0**	**+1.6**
VLS	**Valsamata**	**1.22**	**286**	P	**Pb**	**15 40 13.8**	**-1.5**
VLS	**Valsamata**	**1.22**	**286**	*e*PB	**Pb**	**15 40 13.7**	**-1.5**
VLS	**Valsamata**	**1.22**	**286**	P	**Pb**	**15 40 13.8**	**-1.5**
ATH	**Athens Observa**	**1.30**	**84**	P	**Pn**	**15 40 16.4**	**+0.1**
ATH				S	**Sn**	**15 40 34.9**	**+0.9**
ATH	**Athens Observa**	**1.30**	**84**	*e*PN	**Pn**	**15 40 16.5**	**+0.1**
ATH	**Athens Observa**	**1.30**	**84**	*e*Pn	**Pn**	**15 40 16.5**	**+0.1**
ATH				S	**Sn**	**15 40 34.9**	**+0.9**
VLI	**Veliai**	**1.32**	**148**	P	**Pn**	**15 40 16.5**	**-0.1**
VLI				S	**Sn**	**15 40 35.0**	**+0.7**
VLI	**Veliai**	**1.32**	**148**	*e*PN	**Pn**	**15 40 16.5**	**-0.1**
VLI	**Veliai**	**1.32**	**148**	P	**Pn**	**15 40 16.5**	**-0.1**
VLI				S	**Sn**	**15 40 35.0**	**+0.7**
SMIA	**Simia**	**1.36**	**40**	P	**Pn**	**15 40 17.4**	**+0.1**
SMIA	**Simia**	**1.36**	**40**	*e*PN	**Pb**	**15 40 17.6**	**-0.1**
SMIA	**Simia**	**1.36**	**40**	*e*Pn	**Pb**	**15 40 17.6**	**-0.1**
PTL	**Penteli**	**1.43**	**81**	P	**Pn**	**15 40 18.1**	**0.0**
PTL				S	**Sg**	**15 40 37.7**	**-0.1**
PTL	**Penteli**	**1.43**	**81**	*e*PN	**Pb**	**15 40 18.7**	**-0.1**
PTL	**Penteli**	**1.43**	**81**	P	**Pn**	**15 40 18.1**	**0.0**
PTL	**Penteli**	**1.43**	**81**	*e*Pn	**Pb**	**15 40 18.7**	**-0.1**
PTL				S	**Sg**	**15 40 37.7**	**-0.1**
MRKA	**Markates**	**1.47**	**54**	P	**Pn**	**15 40 18.8**	**+0.1**
MRKA				S	**Sg**	**15 40 39.4**	**+0.3**
MRKA	**Markates**	**1.47**	**54**	*e*PN	**Pn**	**15 40 18.7**	**+0.1**
MRKA	**Markates**	**1.47**	**54**	*e*Pn	**Pn**	**15 40 18.7**	**+0.1**
MRKA				S	**Sg**	**15 40 39.4**	**+0.3**
DSL	**Palaion Diasel**	**1.50**	**329**	P	**Pb**	**15 40 19.6**	**-0.4**
DSL				S	**Sb**	**15 40 39.4**	**+0.1**
DSL	**Palaion Diasel**	**1.50**	**329**	*e*PN	**Pb**	**15 40 20.0**	**0.0**
DSL	**Palaion Diasel**	**1.50**	**329**	P	**Pb**	**15 40 19.6**	**-0.4**
DSL	**Palaion Diasel**	**1.50**	**329**	*e*Pn	**Pb**	**15 40 20.0**	**0.0**
DSL				S	**Sb**	**15 40 39.4**	**+0.1**
SKIA	**Skiathos**	**1.71**	**39**	P	**Pn**	**15 40 22.4**	**+0.4**
SKIA	**Skiathos**	**1.71**	**39**	*e*Pn	**Pn**	**15 40 22.6**	**+0.6**
SKIA	**Skiathos**	**1.71**	**39**	P	**Pn**	**15 40 22.4**	**+0.4**
NEO	**Neokhori**	**1.71**	**31**	P	**Pn**	**15 40 21.9**	**-0.2**
NEO				S	**Sn**	**15 40 44.4**	**+0.2**
NEO	**Neokhori**	**1.71**	**31**	*e*PN	**Pn**	**15 40 22.1**	**0.0**
NEO	**Neokhori**	**1.71**	**31**	*e*Pn	**Pn**	**15 40 22.1**	**0.0**
NEO				S	**Sn**	**15 40 44.4**	**+0.2**
THL	**Klokotos Trika**	**1.72**	**358**	*e*PN	**Pb**	**15 40 23.5**	**-0.2**
THL	**Klokotos Trika**	**1.72**	**358**	*e*Pn	**Pb**	**15 40 23.5**	**-0.2**
KYTH	**Kithira**	**1.74**	**154**	*e*PN	**Pb**	**15 40 24.4**	**+0.3**
KYTH	**Kithira**	**1.74**	**154**	*e*Pn	**Pb**	**15 40 24.4**	**+0.3**
XOR	**Xorichti**	**1.75**	**30**	P	**Pn**	**15 40 22.4**	**-0.1**
XOR	**Xorichti**	**1.75**	**30**	*e*PN	**Pn**	**15 40 22.5**	**-0.1**
XOR	**Xorichti**	**1.75**	**30**	*e*Pn	**Pn**	**15 40 22.5**	**-0.1**
AOS	**Alonnisos**	**1.94**	**46**	P	**Pn**	**15 40 25.3**	**+0.1**
AOS	**Alonnisos**	**1.94**	**46**	*e*PN	**Pn**	**15 40 22.6**	**-2.5**
AOS	**Alonnisos**	**1.94**	**46**	*e*Pn	**Pn**	**15 40 25.2**	**+0.1**
AOS	**Alonnisos**	**1.94**	**46**	*e*Pn	**Pn**	**15 40 25.2**	**+0.1**
IGT	**Igoumenitsa**	**2.17**	**322**	*e*PN	**Pb**	**15 40 31.5**	**+0.1**
IGT	**Igoumenitsa**	**2.17**	**322**	*e*PN	**Pb**	**15 40 30.7**	**-0.7**
IGT	**Igoumenitsa**	**2.17**	**322**	*e*Pn	**Pb**	**15 40 30.7**	**-0.7**
PAIG	**Paliouri**	**2.43**	**31**	*e*PB	**Pn**	**15 40 31.3**	**-0.5**
KEK	**Kerkira**	**2.58**	**317**	*e*PB	**Pn**	**15 40 35.6**	**+1.6**
KARN	**Karanos**	**2.85**	**148**	*e*PB	**Pb**	**15 40 40.4**	**-2.6**
APE	**Apeiranthos**	**2.85**	**105**	P	**Pn**	**15 40 37.9**	**+0.1**
APE	**Apeiranthos**	**2.85**	**105**	*e*PN	**Pn**	**15 40 37.9**	**+0.1**
APE	**Apeiranthos**	**2.85**	**105**	P	**Pn**	**15 40 37.9**	**+0.1**
HORT	**Hortiatis**	**2.86**	**16**	*e*PN	**Pn**	**15 40 38.5**	**+0.6**
HORT	**Hortiatis**	**2.86**	**16**	*e*PN	**Pn**	**15 40 37.8**	**-0.1**
HORT	**Hortiatis**	**2.86**	**16**	*e*Pn	**Pn**	**15 40 37.8**	**-0.1**
OUR	**Ouranopolis**	**2.90**	**30**	*e*PN	**Pn**	**15 40 37.9**	**-0.3**
OUR	**Ouranopolis**	**2.90**	**30**	*e*PN	**Pn**	**15 40 38.0**	**-0.3**
OUR	**Ouranopolis**	**2.90**	**30**	*e*Pn	**Pn**	**15 40 38.0**	**-0.3**
VAM	**Vamos**	**2.97**	**144**	*e*PN	**Pn**	**15 40 38.9**	**-0.4**
VAM	**Vamos**	**2.97**	**144**	*e*Pn	**Pn**	**15 40 38.9**	**-0.4**
FNA	**Florina**	**2.99**	**350**	*e*PN	**Pn**	**15 40 41.5**	**+1.9**
FNA	**Florina**	**2.99**	**350**	*e*PB	**Pn**	**15 40 41.2**	**+1.6**
FNA	**Florina**	**2.99**	**350**	*e*Pn	**Pn**	**15 40 41.5**	**+1.9**
GRG	**Griva**	**3.12**	**5**	*e*PN	**Pn**	**15 40 43.3**	**+1.9**
GRG	**Griva**	**3.12**	**5**	*e*Pn	**Pn**	**15 40 43.3**	**+1.9**
CHOS	**Chios island**	**3.18**	**79**	*e*PN	**Pn**	**15 40 39.3**	**-3.0**
CHOS	**Chios island**	**3.18**	**79**	*e*PN	**Pn**	**15 40 42.8**	**+0.5**
CHOS	**Chios island**	**3.18**	**79**	*e*Pn	**Pn**	**15 40 42.8**	**+0.5**
SIGR	**SIGRI**	**3.26**	**64**	*e*PN	**Pn**	**15 40 41.0**	**-2.3**
SIGR	**SIGRI**	**3.26**	**64**	*e*Pn	**Pn**	**15 40 41.0**	**-2.3**
KNT	**Kendrikon**	**3.37**	**11**	*e*PN	**Pn**	**15 40 46.4**	**+1.5**
KNT	**Kendrikon**	**3.37**	**11**	*e*Pn	**Pn**	**15 40 46.4**	**+1.5**
IDI	**Anoyia**	**3.41**	**138**	Pn	**Pn**	**15 40 46.4**	**+1.0**
	4.1nm,0.3s,baz=275,slow=6.0,SNR=10						
IDI				Sn	**Sn**	**15 41 29.2**	**+3.1**
	9.1nm,0.3s,baz=285,slow=24,SNR=6.8						
IDI				LR	LR	15 42 35.8	
	comp=Z,55nm,18.7s,baz=324,slow=49						
SMTH	**Samothraki Isl**	**3.77**	**45**	*e*PN	**Pn**	**15 40 49.7**	**-0.4**
SMTH	**Samothraki Isl**	**3.77**	**45**	*e*Pn	**Pn**	**15 40 49.7**	**-0.4**
SMG	**Samos**	**3.77**	**91**	*e*PN	**Pn**	**15 40 50.8**	**+0.4**
SMG	**Samos**	**3.77**	**91**	*e*Pn	**Pn**	**15 40 50.8**	**+0.4**
LAST	**Lasithi**	**3.83**	**133**	*e*PN	**Pn**	**15 40 52.1**	**+0.9**
LAST	**Lasithi**	**3.83**	**133**	*e*Pn	**Pn**	**15 40 52.1**	**+0.9**
IZM	**Izmir**	**4.13**	**81**	*e*PN	**Pn**	**15 40 53.0**	**-2.3**
IZM	**Izmir**	**4.13**	**81**	*e*Pn	**Pn**	**15 40 53.0**	**-2.3**
BODT	**Bodrum**	**4.24**	**99**	*e*PN	**Pn**	**15 40 53.6**	**-3.1**
BODT	**Bodrum**	**4.24**	**99**	*e*Pn	**Pn**	**15 40 53.7**	**-3.1**
GELI	**Tayfur-Gelibol**	**4.26**	**52**	*e*PN	**Pn**	**15 40 56.1**	**-1.0**
GELI	**Tayfur-Gelibol**	**4.26**	**52**	*e*Pn	**Pn**	**15 40 56.1**	**-1.0**
ALN	**Alexandroupoli**	**4.33**	**44**	*e*PN	**Pn**	**15 40 57.8**	**-0.2**
ALN	**Alexandroupoli**	**4.33**	**44**	*e*Pn	**Pn**	**15 40 57.8**	**-0.2**
LPK	**Lapseki**	**4.43**	**54**	*e*PN	**Pn**	**15 40 58.3**	**-1.1**
LPK	**Lapseki**	**4.43**	**54**	*e*Pn	**Pn**	**15 40 58.3**	**-1.1**
ERIK	**Erikli-Kesan**	**4.45**	**49**	*e*PN	**Pn**	**15 40 58.9**	**-0.8**
ERIK	**Erikli-Kesan**	**4.45**	**49**	*e*Pn	**Pn**	**15 40 58.9**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**4.60**	**87**	*e*PN	**Pn**	**15 40 58.9**	**-2.9**
AYDB	**Zeytinkoy-Aydi**	**4.60**	**87**	*e*Pn	**Pn**	**15 40 58.9**	**-2.9**
KRBG	**Karabiga-Canak**	**4.79**	**56**	*e*PN	**Pn**	**15 41 03.1**	**-1.2**
KRBG	**Karabiga-Canak**	**4.79**	**56**	*e*Pn	**Pn**	**15 41 03.1**	**-1.2**
RKY	**Sarkoy-Tekirda**	**4.87**	**53**	*e*PN	**Pn**	**15 41 04.6**	**-0.9**
RKY	**Sarkoy-Tekirda**	**4.87**	**53**	*e*Pn	**Pn**	**15 41 04.6**	**-0.9**
EDRB	**Edirne**	**5.37**	**40**	*e*PN	**Pn**	**15 41 12.5**	**+0.2**
EDRB	**Edirne**	**5.37**	**40**	*e*Pn	**Pn**	**15 41 12.5**	**+0.2**
ARMT	**Armutlu**	**5.93**	**61**	*e*PN	**Pn**	**15 41 19.2**	**-0.8**
ARMT	**Armutlu**	**5.93**	**61**	*e*Pn	**Pn**	**15 41 19.2**	**-0.8**
TVSB	**Tavsanli**	**6.00**	**72**	*e*PN	**Pn**	**15 41 19.6**	**-1.4**
TVSB	**Tavsanli**	**6.00**	**72**	*e*Pn	**Pn**	**15 41 19.6**	**-1.4**
STON	**Ston**	**6.03**	**328**	*e*Pn	**Pn**	**15 41 21.2**	**-0.2**
STON				Sn	**Sn**	**15 42 28.7**	**-1.9**
STON	**Ston**	**6.03**	**328**	*e*Pn	**Pn**	**15 41 21.1**	**-0.2**
STON				Sn	**Sn**	**15 42 28.6**	**-1.9**
DIVS	**Divibare**	**6.44**	**346**	*e*Pn	**Pn**	**15 41 28.3**	**+1.2**
MLR	**Muntele Rosu**	**8.17**	**20**	Pn	Pn	15 41 54.8	+4.0
	0.1nm,0.3s,baz=297,slow=8.7,SNR=3.6						
BRTR	**Keskin Array B**	**9.22**	**75**	Pn	**Pn**	**15 42 07.8**	**+2.5**
	0.2nm,0.3s,baz=254,slow=13,SNR=7.2						
ESDC	**Sonseca Array**	**20.37**	**283**	P	**P**	**15 44 29.6**	**+0.6**
	0.3nm,0.4s,baz=74,slow=11,SNR=8.5						
HFS	**Hagfors**	**22.94**	**349**	P	**P**	**15 44 56.9**	**+0.7**
	1.4nm,0.6s,baz=152,slow=11,SNR=4.8						
FINES	**FINESS Array B**	**23.76**	**5**	P	**P**	**15 45 05.5**	**+1.1**
	0.2nm,0.3s,baz=169,slow=9.9,SNR=3.4						
NB2	**NORSAR Subarra**	**24.20**	**347**	P	**P**	**15 45 09.5**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=153,slow=10						
NB2	**NORSAR Subarra**	**24.20**	**347**	P	**P**	**15 45 09.5**	**+0.8**
	comp=Z,0.9nm,0.8s,SNR=3.9						
NOA	**NORSAR Array B**	**24.20**	**347**	P	**P**	**15 45 09.2**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=177,slow=7.3,SNR=4.1						
EKA	**Eskdalemuir Ar**	**24.42**	**324**	P	**P**	**15 45 10.7**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=126,slow=9.9,SNR=9.6						
TORD	**Torodi Ar. Bea**	**30.57**	**222**	P	**P**	**15 46 06.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=35,slow=9.1,SNR=7.5						
ARCES	**ARCESS Array B**	**31.80**	**2**	P	**P**	**15 46 18.1**	**+1.6**
	comp=Z,3.0nm,1.1s,baz=199,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**44.43**	**58**	P	**P**	**15 48 02.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=277,slow=6.6,SNR=14						
ZALV	**Zalesovo Beam**	**45.00**	**48**	P	**P**	**15 48 06.5**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=274,slow=8.9,SNR=9.8						
ASAR	**Alice Springs**	**120.91**	**97**	PKP	**PKPdf**	**15 58 45.0**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=296,slow=1.8,SNR=3.0						

MAN 21 15:43:10,9.83N×126.40E,h14km,mb4.7,ML3.6,MS3.6, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.90**	**267**	*e*P	Pb	15 43 27.3	-0.1
SCPH				*e*S	Sn	15 43 43.6	+2.4
BUTP	**Butuan**	**1.15**	**222**	*e*P	Pb	15 43 30.8	-0.9
BUTP				*e*S	Sn	15 43 48.0	+0.7
MSLP	**Maasin**	**1.55**	**281**	*e*P	Pn	15 43 36.5	-0.7
MSLP				*e*S	Sb	15 43 58.7	+0.7
BUKP	**Musuan**	**2.35**	**214**	*e*P	Pb	15 43 50.4	-1.8
BUKP				*e*S	Sn	15 44 16.8	-0.2

*IDC **21** 15:44:35.3±10.0,1°.81S×127°.86E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.4/33,mbtmp3.6/3,ML3.8/1,MS3.7/1, Ms1 3.7/1,ms1mx2.7/23,Error ellipse: s-maj=155.0km s-min=130.6km az=128.0*

*DJA **21** 15:44:46.0±0.4,3°.5±6°×12°.7E±°,h89km±8km,M3.3/7, MLv3.3/7*

ISC 21 15:44:46.1±1.0,2°.67S±0°.08×127°.43E±0°.06,h29km,n13, σ1s00/9,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.65**	**210**	P	**Pn**	**15 44 59.6**	**+0.2**
SANI	**Sanana**	**1.56**	**293**	P	**Pb**	**15 45 14.7**	**+0.3**
MSAI	**Masohi**	**1.64**	**114**	P	**Pb**	**15 45 17.2**	**+1.4**
LBMI	**Labuha**	**2.02**	**2**	P	Pb	15 45 28.2	+6.0
BNDI	**Bandanaira**	**3.08**	**127**	P	**Pn**	**15 45 31.3**	**-1.6**
TNTI	**Ternate**	**3.42**	**359**	P	**Pb**	**15 45 47.0**	**+0.9**
SWI	**Sorong**	**4.23**	**65**	P	Pb	15 45 54.8	-5.1
LUWI	**Luwuk**	**4.92**	**289**	P	**Pn**	**15 45 57.8**	**-0.4**
KDI	**Kendari**	**4.96**	**255**	P	Pn	15 45 52.1	-6.7
WRA	**Warramunga Arr**	**18.45**	**159**	P	**Pn**	**15 48 60.0**	**+0.1**
	0.3nm,0.3s,baz=340,slow=11,SNR=27						
ASAR	**Alice Springs**	**21.79**	**164**	P	**P**	**15 49 36.0**	**0.0**
	0.4nm,0.3s,baz=345,slow=11,SNR=17						
STKA	**Stephens Creek**	**31.97**	**157**	P	**P**	**15 51 09.2**	**-0.5**
	0.6nm,0.6s,baz=336,slow=10.0,SNR=2.8						
RPZ	**Rata Peaks**	**56.21**	**143**	LR	LR	16 18 44.5	
	comp=Z,65nm,18.4s,baz=178,slow=36						

CASC 21 16:06:32.3±2.2,8°.28N×82°.90W,h22km±9km,MD3.8, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.46**	**324**	*e*P	Pb	16 06 41.1	-0.7
ACR				*e*S	Sb	16 06 48.4	+0.1
BRU2	**Volcan**	**0.55**	**21**	*e*P	Pb	16 06 43.6	0.0
BRU2				*e*S	Sn	16 06 53.9	+0.1
BRU	**Baru**	**0.62**	**32**	*e*P	Pb	16 06 44.4	-0.8
BRU				*e*S	Sb	16 06 53.6	-0.3
BUS	**Buena Vista**	**1.53**	**326**	*e*P	Pb	16 06 58.7	-0.2
BUS				*e*S	Sn	16 07 19.2	+0.6
URSC	**Urasca**	**1.78**	**331**	*e*P	Pn	16 07 02.9	+0.9
URSC				*e*S	Sb	16 07 26.1	-0.4

*IDC **21** 16:08:27.2±1.1,6°.18S×76°.52W,h0km,mb3.7/3,mb1 4.1/7, mb1mx3.8/22,mbtmp3.9/7,ML3.9/4,MS3.4/11,Ms1 3.4/11, ms1mx3.1/37,Error ellipse: s-maj=21.2km s-min=17.6km az=134.0*

*ISCJB **21** 16:08:30.7±0.6,6°.22S±0°.06×76°.62W±0°.05,h35km, mb3.7/4,MS3.4/6,Error ellipse: s-maj=9.2km s-min=6.7km az=150.2*

*NEIC **21** 16:08:32.1±1.1,6°.26S×76°.51W,h36km±15km, ML4.3(ARE),Error ellipse: s-maj=15.2km s-min=12.5km az=202.0*

NEIC Felt [III] at Moyobamba and [II] at Rioja.

ISC 21 16:08:32.0±0.7,6°.20S±0°.07×76°.62W±0°.07,h35km,n23, σ2s06/17,mb3.8/4,MS3.3/6,Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.99**	**242**	Pn	**Pn**	**16 09 02.6**	**-0.9**
	66nm,0.3s,baz=33,slow=8.6,SNR=206						
ATAH				Sn	**Sn**	**16 09 25.2**	**-2.3**
	30nm,0.3s,baz=60,slow=20,SNR=13						
NNA	**Nana**	**5.75**	**182**	Pn	**Pn**	**16 09 54.5**	**-0.5**
	5.3nm,0.3s,baz=2.7,slow=13,SNR=12						
NNA				Sn	**Sn**	**16 11 03.1**	**+3.2**
	6.4nm,0.3s,baz=77,slow=19,SNR=3.7						
NNA				Lg	Lg	16 11 31.7	
	2.3nm,0.3s,baz=330,slow=20,SNR=2.6						
NNA				LR	LR	16 11 49.0	
	comp=Z,68nm,22.0s,baz=324,slow=35						
NNA	**Nana**	**5.75**	**182**	*e*P	**Pn**	**16 09 55.8**	**+0.8**
	93nm,0.9s						
NNA				Sn	**Sn**	**16 11 03.1**	**+3.2**
NNA				*e*S	Sn	16 11 05.8	+5.9
NNA				Lg	Lg	16 11 31.7	
OTAV	**Otavalo**	**6.65**	**344**	*e*Pn	**Pn**	**16 10 09.8**	**+2.0**
	5.4nm,0.6s						
ROSC	**El Rosal**	**11.22**	**12**	LR	LR	16 16 29.7	
	comp=Z,324nm,19.6s,baz=200,slow=43						
LPAZ	**La Paz**	**13.03**	**141**	Pn	Pn	16 11 38.2	+2.9
	0.0nm,0.3s,baz=352,slow=15,SNR=3.5						
SAML	**Samuel**	**13.60**	**102**	*e*Pn	**Pn**	**16 11 41.7**	**-0.9**
	0.1nm,0.4s						
PTGA	**Pitinga**	**17.49**	**73**	P	**Pn**	**16 12 31.2**	**-2.1**
	0.8nm,0.3s,baz=278,slow=17,SNR=4.1						
PTGA				S	**Sn**	**16 15 45.8**	**-1.4**
	1.0nm,0.3s,baz=166,slow=12,SNR=4.6						
PTGA				LR	LR	16 20 01.4	
	comp=Z,161nm,19.6s,baz=247,slow=40						
PTGA	**Pitinga**	**17.49**	**73**	*e*P	**Pn**	**16 12 30.8**	**-2.6**
PTGA				S	**Sn**	**16 15 45.8**	**-1.4**
LVC	**Limon Verde**	**17.93**	**156**	LR	LR	16 20 16.9	
	comp=Z,614nm,21.4s,baz=350,slow=40						
SIV	**San Ignacio**	**18.08**	**124**	P	**Pn**	**16 12 38.1**	**-2.6**
	0.2nm,0.3s,baz=297,slow=4.4,SNR=2.5						
JTS	**JuntasAbangare**	**18.36**	**333**	LR	LR	16 18 57.5	
	comp=Z,115nm,19.6s,baz=158,slow=34						
TEIG	**Tepich**	**28.65**	**337**	LR	LR	16 25 23.2	
	comp=Z,77nm,21.7s,baz=58,slow=35						
SADO	**Sadowa**	**50.79**	**358**	LR	LR	16 40 57.4	
	comp=Z,28nm,18.2s,baz=190,slow=38						
PDAR	**Pinedale Array**	**57.19**	**332**	LR	LR	16 44 38.7	
	comp=Z,26nm,19.9s,baz=109,slow=38						
NVAR	**Mina Array Bea**	**58.88**	**322**	P	**P**	**16 18 29.5**	**+1.7**
	0.9nm,0.7s,baz=138,slow=8.4,SNR=4.5						
DBIC	**Dimbokro**	**72.75**	**81**	LR	LR	16 50 41.1	
	comp=Z,37nm,18.7s,baz=168,slow=35						
YKA	**Yellowknife Ar**	**74.41**	**343**	P	**P**	**16 20 06.1**	**-0.1**
	0.3nm,0.7s,baz=142,slow=7.1,SNR=3.8						
SFJD	**Kangerlussuaq**	**75.37**	**10**	LR	LR	16 50 36.1	
	comp=Z,33nm,19.8s,baz=212,slow=34						
TORD	**Torodi Ar. Bea**	**80.11**	**76**	P	**P**	**16 20 40.4**	**+1.3**
	0.4nm,0.5s,baz=276,slow=5.4,SNR=3.3						
BORG	**Borgarnes**	**81.61**	**21**	LR	LR	16 57 15.1	
	comp=Z,13nm,18.6s,baz=205,slow=36						
INK	**Inuvik**	**84.13**	**342**	P	P	16 21 03.5	+4.5
	1.3nm,0.8s,baz=130,slow=7.9,SNR=3.1						
WRA	**Warramunga Arr**	**139.97**	**229**	PKP	**PKPdf**	**16 27 57.0**	**-0.7**
	0.3nm,0.5s,baz=121,slow=2.0,SNR=4.9						

*ISCJB **21** 16:11:14.0±0.7,10°.04S±0°.09×161°.5E±0°.1,h85km, mb3.7/7,Error ellipse: s-maj=17.9km s-min=8.0km az=140.6*

*IDC **21** 16:11:17.2±1.2,10°.21S×161°.28E,h107km±9km,mb3.5/7, mb1 3.7/8,mb1mx3.5/21,mbtmp3.9/8,MS3.5/1,Ms1 3.5/1, ms1mx2.8/21,Error ellipse: s-maj=28.1km s-min=19.5km az=110.0*

ISC 21 16:11:15.7±0.8,10°.1S±0°.1×161°.5E±0°.1,h85km,n10, σ1s81/12,mb3.7/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.64**	**292**	LR	LR	16 12 00.5	
	comp=Z,28nm,18.0s,baz=63,slow=28						
HNR	**Honiara**	**1.64**	**292**	*i* P	**Pn**	**16 11 42.5**	**-0.6**
HNR				*i* S	**Sn**	**16 12 03.5**	**-0.4**
DZM	**Mont Dzumac**	**12.87**	**159**	P	**Pn**	**16 14 16.5**	**+1.0**
	1.2nm,0.3s,baz=351,slow=16,SNR=72						
DZM				S	**Sn**	**16 16 35.6**	**-1.4**
	0.4nm,0.3s,baz=72,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**27.97**	**246**	P	**P**	**16 16 55.4**	**-3.2**
	1.2nm,0.8s,baz=76,slow=9.3,SNR=18						
WRA				pP	**pP**	**16 17 20.8**	**+2.6**
	1.7nm,0.6s,baz=75,slow=9.4,SNR=9.6						
ASAR	**Alice Springs**	**29.60**	**239**	P	P	16 17 09.0	-4.1
	0.4nm,0.6s,baz=64,slow=10,SNR=5.4						
ASAR				pP	pP	16 17 34.0	+1.4
	0.7nm,0.5s,baz=64,slow=9.8,SNR=6.9						
ASAR				LR	LR	16 29 10.8	
	comp=Z,80nm,18.6s,baz=341,slow=37						
ASAJ	**Asahikawa**	**56.57**	**344**	P	**P**	**16 20 50.0**	**+0.5**
	1.7nm,0.6s,baz=163,slow=11,SNR=2.8						
SONM	**Songino Array**	**75.43**	**325**	P	**P**	**16 22 49.9**	**-0.7**
	0.8nm,0.5s,baz=142,slow=6.5,SNR=9.7						
SONM				pP	**pP**	**16 23 15.5**	**+2.7**
	0.5nm,0.8s,baz=135,slow=5.8,SNR=3.2						
ILAR	**Eielson Array**	**83.94**	**20**	P	**P**	**16 23 35.8**	**-0.3**
	0.3nm,0.4s,baz=244,slow=4.8,SNR=5.8						
MKAR	**Makanchi Array**	**89.95**	**318**	P	**P**	**16 24 04.9**	**-0.7**
	0.2nm,0.5s,baz=85,slow=5.1,SNR=2.7						
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**16 24 32.6**	**-0.6**
	0.3nm,0.5s,baz=262,slow=4.7,SNR=4.5						

IDC 21 16:12:39.9±9.4,17°.42S×179°.37W,h684km±121km, mb3.1/8,mb1 3.3/8,mb1mx3.1/20,mbtmp4.2/8,Error ellipse: s-maj=51.5km s-min=22.2km az=73.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NFK	**Norfolk Island**	**16.41**	**223**	S	S	16 18 39.1	0.0
	baz=16,SNR=4.9						
CTA	**Charters Tower**	**32.63**	**260**	P	P	16 18 19.8	-0.3
	2.6nm,0.8s,baz=94,slow=13,SNR=3.4						
CNB	**Canberra Magne**	**33.01**	**231**	P	P	16 18 21.2	-1.9
	baz=32,SNR=8.7						
QLP	**Quilpie**	**34.86**	**248**	P	P	16 18 37.5	-0.8
	baz=34,SNR=9.0						
TOO	**Toolangi**	**36.78**	**230**	P	P	16 18 51.9	-2.0
	baz=36,SNR=11						
STKA	**Stephens Creek**	**38.07**	**240**	P	P	16 19 03.5	-0.8
	2.8nm,0.5s,baz=95,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**38.07**	**240**	P	P	16 19 03.8	-0.5
	baz=37,SNR=7.8						
BBOO	**Buckleboo**	**42.85**	**240**	P	P	16 19 41.0	-0.9
	baz=42,SNR=24						
WRA	**Warramunga Arr**	**43.82**	**259**	P	P	16 19 49.6	+0.1
	1.0nm,0.5s,baz=93,slow=7.0,SNR=25						
ASAR	**Alice Springs**	**44.05**	**254**	P	P	16 19 51.5	+0.2
	14nm,0.6s,baz=89,slow=8.2

CBIJ				S	**Sn**	**16 33 51.6**	**-0.8**	
JCJ	**Chichijima**	**3.50**	**177**	Pn	**Pn**	**16 33 10.7**	**-0.9**	
	2.7nm,0.3s,baz=9.0,slow=19,SNR=6.1							
JCJ				Sn	**Sn**	**16 33 50.1**	**-2.3**	
	10nm,0.3s,baz=299,slow=23,SNR=6.5							
BSO1	**Boso 1**	**4.12**	**348**	P	**Pn**	**16 33 19.8**	**+0.2**	
BSO1				S	**Sn**	**16 34 06.7**	**-0.1**	
BSO3	**Boso 3**	**4.36**	**344**	P	**Pn**	**16 33 22.7**	**-0.5**	
BSO4	**Boso 4**	**4.59**	**343**	P	**Pn**	**16 33 28.7**	**+2.3**	
JHU	**Hanno**	**5.70**	**337**	P	**Pn**	**16 33 42.1**	**+0.3**	
JHU				S	**Sn**	**16 34 45.7**	**-0.8**	
JYT	**Yasato**	**5.80**	**345**	P	**Pn**	**16 33 43.9**	**+0.8**	
JRY	**Ryogami san**	**5.98**	**335**	P	**Pn**	**16 33 46.2**	**+0.5**	
JRY				S	**Sn**	**16 34 53.4**	**-0.1**	
JHO	**Hitachi**	**6.10**	**349**	P	**Pn**	**16 33 45.8**	**-1.5**	
JAG	**Ashikaga**	**6.18**	**341**	P	**Pn**	**16 33 48.6**	**+0.3**	
JAG				S	**Sn**	**16 34 55.1**	**-3.1**	
MJAR	**Matsushiro Arr**	**6.71**	**333**	Pn	**Pn**	**16 33 56.1**	**+0.5**	
	1.0nm,0.3s,baz=159,slow=11,SNR=16							
MAT	**Matsushiro**	**6.71**	**333**	P	**Pn**	**16 33 56.4**	**+0.8**	
MAT				S	**Sn**	**16 35 11.3**	**-0.1**	
JFK	**Kawauchi**	**6.80**	**352**	P	**Pn**	**16 33 56.1**	**-0.9**	
JFK				S	Sn	16 35 06.0	-7.7	
SONM	**Songino Array**	**32.15**	**313**	P	**P**	**16 38 45.4**	**+1.0**	
	0.5nm,0.7s,baz=115,slow=8.9,SNR=5.2							
MKAR	**Makanchi Array**	**48.17**	**307**	P	**P**	**16 40 56.9**	**0.0**	
	0.7nm,0.6s,baz=88,slow=10,SNR=8.1							
WRA	**Warramunga Arr**	**50.80**	**189**	P	**P**	**16 41 15.9**	**-1.2**	
	1.6nm,0.5s,baz=6.4,slow=7.6,SNR=44							
WRA				pP	**pP**	**16 41 28.2**	**+3.8**	
	1.6nm,0.5s,baz=6.3,slow=7.6,SNR=11							
ASAR	**Alice Springs**	**54.52**	**189**	P	**P**	**16 41 43.5**	**-1.2**	
	0.4nm,0.5s,baz=359,slow=5.0,SNR=8.0							
ASAR				pP	**pP**	**16 41 55.7**	**+3.8**	
	0.2nm,0.3s,baz=0.7,slow=5.0,SNR=3.2							
BRTR	**Keskin Array B**	**83.51**	**313**	P	**P**	**16 44 44.1**	**-0.7**	
	0.8nm,0.9s,baz=66,slow=4.9,SNR=3.4							

*ATH **21** 16:32:56.5,41.35N×20.16E,h3km,MD3.4/5*
*SKO **21** 16:32:59.5,41.15N×20.19E,h5km*
*TIR **21** 16:32:59.4±4.4,41.17N×20.23E,h8km±52km,ML2.4*
CSEM 21 16:32:58.9±1.1, 41.30N×20.16E, h20km, ML2.4, Error ellipse: s-maj=26.7km s-min=10.6km az=67.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.44**	**28**	*i* Pg	Pb	16 33 09.0	+0.8
PHP				*i* Sg	Sb	16 33 15.9	+1.4
PHP	**Peshkopia**	**0.44**	**28**	*i* Pg	Pb	16 33 09.0	+0.8
	SNR=124						
PHP				*i* Sg	Sb	16 33 15.9	+1.4
	SNR=124						
OHR	**Ohrid**	**0.52**	**111**	*i* Pg	Pb	16 33 07.0	-2.4
OHR				*i* Sg	Sb	16 33 14.9	-1.6
OHR				*e*Lg	Lg	16 33 15.8	
	comp=N,179nm,0.5s						
OHR				*e*Lg	Lg	16 33 16.0	
	comp=E,218nm,0.6s						
PUK	**Puka**	**0.77**	**345**	*i* PG	Pb	16 33 12.8	-1.0
PUK	**Puka**	**0.77**	**345**	*i* Pg	Pb	16 33 12.8	-1.0
	SNR=102						
KBN	**Korca**	**0.82**	**145**	*i* PG	Pn	16 33 17.5	+2.0
KBN				*i* SG	Sb	16 33 24.6	-0.8
KBN	**Korca**	**0.82**	**145**	*i* Pg	Pn	16 33 17.5	+2.0
	SNR=104						
KBN				*i* Sg	Sb	16 33 24.6	-0.8
	SNR=104						
FNA	**Florina**	**1.05**	**119**	*i* PG	Pb	16 33 17.2	-1.3
FNA				*i* SG	Sb	16 33 31.7	-0.3
FNA	**Florina**	**1.05**	**119**	*e*PG	Pb	16 33 16.8	-1.7
FNA				*e*SG	Sb	16 33 31.7	-0.3
FNA	**Florina**	**1.05**	**119**	*e*PG	Pb	16 33 17.3	-1.2
FNA				*e*SG	Sb	16 33 31.3	-0.7
FNA	**Florina**	**1.05**	**119**	*e*Pg	Pb	16 33 17.3	-1.2
FNA				*e*Sg	Sb	16 33 31.3	-0.7
NEST	**Nestorio**	**1.11**	**142**	*e*PB	Pn	16 33 18.4	-1.1
NEST				*e*SB	Sn	16 33 34.0	-0.3
NEST	**Nestorio**	**1.11**	**142**	*e*Pb	Pn	16 33 18.4	-1.1
NEST				*e*Sb	Sn	16 33 34.0	-0.3
SKO	**Skopje**	**1.17**	**54**	*i* Pg	Pg	16 33 22.3	+0.6
SKO				*i* Sg	Sg	16 33 38.8	+1.7
SKO				*e*Lg	Lg	16 33 39.9	
	comp=N,67nm,0.3s						
SKO				*e*Lg	Lg	16 33 40.4	
	comp=E,71nm,0.8s						
KEK	**Kerkira**	**1.61**	**190**	*e*PG	Pb	16 33 27.5	-0.4
KEK	**Kerkira**	**1.61**	**190**	*e*Pg	Pb	16 33 27.5	-0.4
GRG	**Griva**	**1.73**	**101**	*e*PN	Pn	16 33 28.8	+0.9
GRG	**Griva**	**1.73**	**101**	*e*PB	Pb	16 33 29.9	-0.1
GRG	**Griva**	**1.73**	**101**	*e*Pb	Pb	16 33 29.9	-0.1
IGT	**Igoumenitsa**	**1.77**	**176**	*e*PN	Pb	16 33 30.8	+0.1
IGT	**Igoumenitsa**	**1.77**	**176**	*e*PG	Pb	16 33 30.3	-0.4
IGT				*e*SN	Sg	16 33 56.3	+0.3
IGT	**Igoumenitsa**	**1.77**	**176**	*e*Pg	Pb	16 33 30.3	-0.4
IGT				*e*Sn	Sg	16 33 56.3	+0.3
VAY	**Valandovo**	**1.81**	**88**	*i* Pg	Pb	16 33 32.1	+0.6
VAY				*i* Sg	Sg	16 33 56.8	-0.6
VAY				*e*Lg	Lg	16 34 01.5	
	comp=N,28nm,0.8s						
VAY				*e*Lg	Lg	16 34 03.0	
	comp=E,11nm,0.7s						
KNT	**Kendrikon**	**2.07**	**93**	*e*PN	Pn	16 33 33.8	+1.3
HORT	**Hortiatis**	**2.33**	**106**	*e*PN	Pn	16 33 37.6	+1.3
AGG	**Agios Georgios**	**2.81**	**143**	*e*PN	Pn	16 33 44.8	+1.9

HEL 21 16:45:14.6±0.6, 67.17N×20.58E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.89**	**134**	PB	Pg	16 45 31.0	-0.6
LANU	**Lannavaara**	**1.03**	**31**	PN	Pn	16 45 36.1	-0.3
	baz=224						
HEF	**Hetta**	**1.71**	**42**	PG	Pn	16 45 45.2	-0.4
	baz=223						
HEF				SN	Sb	16 46 08.6	-0.2
HEF				MSG		16 46 08.6	
	comp=Z,0.8nm,0.2s						
KIF	**Kilpisjarvi**	**1.84**	**2**	SG	Sg	16 46 14.3	+0.6
KIF				MSG		16 46 14.3	
	comp=Z,1.1nm,0.2s						
RNF	**Rovaniemi**	**2.22**	**102**	SG	Sb	16 46 23.5	0.0
RNF				MSG		16 46 23.5	
	comp=Z,0.7nm,0.2s						
ARE0	**ARCESS Array S**	**3.00**	**35**	PB	Pn	16 46 04.1	+0.8
	baz=211						
ARE0				SG	Sb	16 46 44.2	-1.7
ARE0				MSG		16 46 44.2	
	comp=Z,0.3nm,0.2s						

HEL 21 16:46:35.4±0.4, 67.76N×33.77E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.58**	**272**	SG	Pn	16 47 03.3	-1.4
VRF				MSG		16 47 03.3	
	comp=Z,0.6nm,0.2s						
VRF	**Varrio**	**1.58**	**272**	PG	Pn	16 47 03.7	-1.0
VRF				SG	Sn	16 47 23.0	-2.9
VRF				MSG		16 47 23.0	
	comp=Z,1.2nm,0.2s						
KU6	**Riekki**	**2.32**	**223**	SG	Pn	16 47 14.6	-0.1
KU6	**Riekki**	**2.32**	**223**	PN	Pn	16 47 14.6	-0.1
KU6				SN	Sn	16 47 44.0	+0.1
MSF	**Maaselka**	**2.63**	**227**	PB	Pn	16 47 20.3	+1.2
MSF				SB	Sn	16 47 53.8	+2.1
MSF				MSG		16 47 53.8	
	comp=Z,0.9nm,0.3s						
SGF	**Sodankyl**	**2.79**	**267**	PN	Pn	16 47 20.6	-0.7
SGF				SB	Sb	16 47 58.5	-2.4
SGF				MSG		16 47 58.5	
	comp=Z,2.1nm,0.3s						
KEV	**Kevo**	**3.18**	**312**	SN	Sn	16 48 04.6	-0.4
KEV				MSG		16 48 04.6	
	comp=Z,0.6nm,0.2s						
RNF	**Rovaniemi**	**3.23**	**253**	PN	Pn	16 47 26.6	-0.7
	baz=62						
RNF				SN	Sn	16 48 06.0	-0.5
RNF				MSG		16 48 06.0	
	comp=Z,1.4nm,0.3s						

ARE0	**ARCESS Array S**	**3.51**	**304**	PN	Pn	16 47 30.5	-0.7	
	baz=122							
ARE0				SN	Sn	16 48 11.6	-1.8	
ARE0				MSG		16 48 11.6		
	comp=Z,0.5nm,0.3s							
HEF	**Hetta**	**3.85**	**284**	SG	Sb	16 48 34.0	+2.8	
HEF				MSG		16 48 34.0		
	comp=Z,0.8nm,0.2s							
ERTU	**Ertsjaerv**	**4.67**	**260**	SN	Sn	16 48 39.3	-2.6	

MEX 21 16:46:38.2±0.8, 32.01N×115.26W, h16km±999km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.40**	**8**	*e*P	Pg	16 46 45.0	-1.3
MBIG				*e*S	Sg	16 46 50.1	-1.8
SPIG	**San Pedro Mart**	**0.98**	**190**	*e*P	Pb	16 46 53.9	-3.3
SPIG				*i* S	Sb	16 47 05.3	-4.8
CBX	**Cerro Bola**	**1.23**	**285**	*e*P	Pg	16 47 03.3	+1.2
CBX				*i* S	Sg	16 47 18.1	-0.1

GUC 21 16:51:58.4±0.5, 35.20S×69.95W, h145km±28km, ML3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.40**	**261**	*e*P	Pn	16 52 25.8	-0.7
TALC				*e*S	Sn	16 52 46.7	-1.2
RCDM	**Rinconada Maip**	**1.85**	**337**	*e*P	Pn	16 52 31.1	-0.4
RCDM				*e*S	Sn	16 52 55.7	-1.2
RCDM				AML	AML	16 52 56.8	
	comp=E,586nm,0.1s						
CLCH	**Cerro Calan**	**1.87**	**345**	*e*P	Pn	16 52 31.5	-0.3
CLCH				*e*P	Pn	16 52 32.6	+0.8
CLCH				*e*S	Sn	16 52 56.2	-1.2
CLCH				*e*S	Sn	16 52 58.1	+0.7
CLCH				AML	AML	16 53 02.8	
	comp=E,291nm,0.3s						
PEL	**Peldehue**	**2.14**	**343**	*e*P	Pn	16 52 34.8	-0.2
PEL				*e*S	Sn	16 53 01.9	-1.2

*IDC **21** 16:53:51.5±1.9,38.64N×70.54E,h0km,mb3.5/2,*
mb1 3.5/7,mb1mx3.2/31,mbtmp3.4/7,ML3.0/5,MS3.1/3,
Ms1 3.1/3,ms1mx2.4/33,Error ellipse: s-maj=33.3km
s-min=22.0km az=122.0
*ISCJB **21** 16:53:52.8±1.0,38.70N±0.07×70.00E±0.08,h27km,*
mb3.4/2,MS3.1/2,Error ellipse: s-maj=11.0km
s-min=9.1km az=154.0
*NNC **21** 16:53:54.4±1.4,38.65N×69.89E,h120km±11km,mb3.0,*
mpv3.8,Error ellipse: s-maj=12.7km s-min=7.9km
az=161.0
ISC 21 16:53:55.4±1.1, 38.74N±0.09×70.18E±0.05, h27km, n27, σ1°88/31, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.06**	**274**	⇑P	**Pb**	**16 54 15.3**	**+0.1**
	69nm,0.4s						
DZET				⇑S	**Sb**	**16 54 31.7**	**+2.9**
	185nm,0.4s						
SFK	**Sufi-Kurgan**	**2.87**	**63**	⇑P	**Pn**	**16 54 41.3**	**+1.7**
	14nm,0.4s						
SFK				⇓S	**Sb**	**16 55 21.1**	**+0.2**
	79nm,0.5s						
MNAS	**Manas**	**4.14**	**24**	⇑P	**Pn**	**16 54 58.1**	**+1.1**
	7.0nm,0.5s						
MNAS				⇑S	**Sn**	**16 55 47.8**	**+3.2**
	13nm,0.5s						
AML	**Almayashu**	**4.32**	**37**	P	**Pn**	**16 55 00.2**	**+0.5**
	SNR=25						
KK31	**Karatay Array**	**4.37**	**3**	P	**Pn**	**16 55 00.8**	**+0.8**
	2.7nm,0.4s,baz=184,slow=13,SNR=55						
KK31				⇓S	**Sn**	**16 55 52.0**	**+2.0**
	12nm,0.5s						
EKS2	**Erkin-Say**	**4.78**	**34**	P	**Pn**	**16 55 08.8**	**+3.1**
	SNR=9.3						
UCH	**Uchtor**	**4.80**	**42**	P	**Pn**	**16 55 04.2**	**-2.1**
	SNR=24						
AAK	**Ala-Archa**	**5.09**	**39**	P	**Pn**	**16 55 11.1**	**+1.1**
	SNR=11						
AAK	**Ala-Archa**	**5.09**	**39**	Pn	**Pn**	**16 55 10.9**	**+0.9**
	3.1nm,0.3s,baz=214,slow=3.6,SNR=34						
AAK				Sn	**Sn**	**16 56 09.1**	**+1.2**
	0.9nm,0.3s,baz=221,slow=9.3,SNR=1.8						
KZA	**Kyzart**	**5.11**	**48**	P	**Pn**	**16 55 11.6**	**+1.1**
	SNR=8.4						
KBK	**Karagaybulak**	**5.33**	**41**	P	**Pn**	**16 55 15.0**	**+1.7**
	SNR=38						
CHMS	**Chumysh**	**5.49**	**38**	P	**Pn**	**16 55 17.5**	**+2.1**
	SNR=7.1						
USP	**Ospenovka**	**5.58**	**34**	P	**Pn**	**16 55 16.9**	**+0.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**5.86**	**43**	⇓P	**Pn**	**16 55 21.6**	**+1.0**
	9.3nm,0.5s						
TKM2				⇑S	**Sn**	**16 56 30.9**	**+3.9**
	13nm,1.2s						
TKM2	**Tokmak 2**	**5.86**	**43**	P	**Pn**	**16 55 20.9**	**+0.2**
	SNR=32						
MKAR	**Makanchi Array**	**11.99**	**44**	Pn	**Pn**	**16 56 42.6**	**-1.8**
	0.0nm,0.3s,baz=237,slow=14,SNR=3.2						
AB31	**Akbulak array**	**12.83**	**328**	P	**Pn**	**16 56 54.7**	**-1.1**
	2.1nm,0.7s,baz=139,slow=13,SNR=29						
AB31				⇑S	Sn	16 59 11.9	-5.7
	3.1nm,0.6s,baz=150,slow=23,SNR=10.0						
KURBB	**Kurchatov Arra**	**13.27**	**24**	Pn	**Pn**	**16 57 00.1**	**-1.8**
	0.0nm,0.3s,baz=214,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**14.29**	**1**	Pn	**Pn**	**16 57 13.9**	**-2.0**
	0.1nm,0.3s,baz=165,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**14.53**	**328**	⇓P	**Pn**	**16 57 17.8**	**-1.3**
	4.2nm,0.9s						
AKTO				⇑S	Sn	16 59 53.7	-5.5
	2.3nm,0.8s						
AKTO	**Aktyubinsk**	**14.53**	**328**	Pn	**P**	**16 57 25.8**	**+0.4**
	0.4nm,0.3s,baz=132,slow=15,SNR=10						
AKTO				Sn	**Sn**	**16 59 56.3**	**-2.9**
	0.3nm,0.3s,baz=168,slow=19,SNR=3.4						
ZALV	**Zalesovo Beam**	**18.21**	**29**	P	**P**	**16 58 03.6**	**-2.4**
	0.2nm,0.3s,baz=230,slow=12,SNR=5.2						
GNI	**Garni**	**19.68**	**282**	LR	LR	17 06 29.9	
	comp=Z,26nm,18.9s,baz=159,slow=38						
SONM	**Songino Array**	**27.67**	**59**	LR	LR	17 11 41.6	
	comp=Z,50nm,18.8s,baz=194,slow=39						
FINES	**FINESS Array B**	**35.28**	**325**	LR	LR	17 15 00.3	
	comp=Z,34nm,18.0s,baz=334,slow=36						
ARCES	**ARCESS Array B**	**38.84**	**337**	P	**P**	**17 01 18.1**	**+0.5**
	1.0nm,0.9s,baz=114,slow=9.0,SNR=3.7						
WRA	**Warramunga Arr**	**83.72**	**122**	P	**P**	**17 06 21.2**	**-0.7**
	0.2nm,0.8s,baz=325,slow=4.6,SNR=3.6						

*IDC **21** 17:20:06.0±1.2,37.19S×73.75W,h0km,mb4.0/7,*
mb1 4.1/10,mb1mx4.0/28,mbtmp4.0/10,ML3.3/2,MS3.2/2,
Ms1 3.2/2,ms1mx3.1/29,Error ellipse: s-maj=28.8km
s-min=16.1km az=84.0
*ISCJB **21** 17:20:09.3±0.9,37.15S±0.05×73.7W±0.1,h33km,mb4.0/7,*
MS3.6/1,Error ellipse: s-maj=14.4km s-min=7.5km
az=177.7
*NEIC **21** 17:20:09.5±1.0,37.12S×73.84W,h25km,mb4.2/2,*
ML4.3(GUC),Error ellipse: s-maj=19.1km s-min=11.6km
az=86.0
NEIC Felt [III] at Concepcion and Tome; [II] at Angol, Penco and
Renaico.
ISC 21 17:20:10.9±1.1, 37.16S±0.07×73.8W±0.1, h35km, n14, σ1°15/16, mb4.0/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.38**	**146**	P	**Pn**	**17 21 14.2**	**-0.9**
	0.8nm,0.3s,baz=325,slow=12,SNR=11						
PLCA				Sn	**Sn**	**17 22 05.0**	**0.0**
	2.6nm,0.3s,baz=318,slow=15,SNR=3.7						
PLCA				Lg	Lg	17 22 22.1	
	1.9nm,0.3s,baz=329,slow=7.3,SNR=3.5						
CFAA	**Coronel Fontan**	**7.21**	**41**	Pn	**Pn**	**17 21 52.8**	**-1.1**
	0.1nm,0.3s,baz=226,slow=13,SNR=8.9						
CFAA				Sn	**Sn**	**17 23 15.1**	**+0.6**
	0.1nm,0.3s,baz=236,slow=18,SNR=3.2						
CFAA				Lg	Lg	17 23 38.3	
	0.1nm,0.3s,baz=270,slow=17,SNR=3.1						
CFAA				LR	LR	17 24 50.1	
	comp=Z,48nm,19.0s,baz=226,slow=40						
TRQA	**Tornquist**	**9.44**	**99**	*e*P	**Pn**	**17 22 25.0**	**+0.7**
	20nm,1.0s						
LVC	**Limon Verde**	**15.10**	**18**	Pn	**Pn**	**17 23 41.7**	**-0.2**
	9.1nm,0.3s,baz=185,slow=11,SNR=3.4						
LVC	**Limon Verde**	**15.10**	**18**	*e*P	**Pn**	**17 23 38.6**	**-3.3**
	6.2nm,0.7s						
CPUP	**Villa Florida**	**17.67**	**57**	P	**Pn**	**17 24 14.4**	**+0.2**
	baz=239,slow=14,SNR=3.2						
LPAZ	**La Paz**	**21.39**	**15**	P	**P**	**17 24 56.6**	**+0.4**
	7.9nm,1.0s,baz=187,slow=12,SNR=13						
LPAZ	**La Paz**	**21.39**	**15**	*e*P	**P**	**17 24 57.2**	**+1.0**
	13nm,1.1s						
SIV	**San Ignacio**	**23.92**	**32**	P	**P**	**17 25 20.7**	**-1.0**
	2.1nm,0.8s,baz=225,slow=10.0,SNR=5.6						
SIV				LR	LR	17 36 39.6	
	comp=Z,216nm,19.4s,baz=291,slow=42						
BDFB	**Brasilia**	**31.34**	**54**	P	**P**	**17 26 28.1**	**-0.1**
	2.0nm,0.7s,baz=203,slow=15,SNR=3.6						
QSPA	**South Pole Qui**	**53.09**	**180**	P	**P**	**17 29 24.6**	**0.0**
	2.0nm,0.9s,baz=124,slow=11,SNR=6.9						
TXAR	**Lajitas Array**	**71.83**	**333**	P	**P**	**17 31 30.7**	**+0.7**
	0.6nm,0.7s,baz=150,slow=9.8,SNR=5.3						
DBIC	**Dimbokro**	**77.56**	**72**	P	**P**	**17 32 04.5**	**+1.0**
	3.5nm,0.8s,baz=215,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**86.63**	**71**	P	**P**	**17 32 51.0**	**-0.1**
	0.4nm,0.5s,baz=234,slow=4.2,SNR=5.1						

*IDC **21** 17:20:23.5±0.4,15.34S×173.20W,h0km,mb5.2/25,*
mb1 5.4/25,mb1mx5.2/35,mbtmp5.2/25,MS5.6/38,
Ms1 5.6/38,ms1mx5.6/38,Error ellipse: s-maj=16.6km
s-min=10.4km az=115.0
*ISCJB **21** 17:20:27.7±0.1,15.27S±0.03×173.22W±0.02,h36km,*
mb5.7/244,MS5.8/232,Error ellipse: s-maj=4.4km
s-min=2.6km az=140.6
*NEIC **21** 17:20:28.0±0.0,15.32S×173.24W,h35km,Moment*
Tensor Solution. s45 Moment tensor: Scale 10¹⁸Nm;
Mrr-0.79; Mθθ 0.01; Mϕϕ 0.78; Mrθ-1.26; Mθϕ-0.51; Mrϕ 0.43;
Best double couple: M₀1.60000×10¹⁸ NP1:ϕs 120.00000°,
δ75.00000°,λ-112.00000°. NP2:ϕs 359.00000°,
δ27.00000°,λ-32.00000°. Principal axes: T 1.5300,
Plg26.0000°, Azm228.0000°; N 0.1800, Plg22.0000°,
Azm126.0000°; P -1.7100, Plg54.0000°, Azm2.0000°;
*MOS **21** 17:20:28.9±1.1,14.96S×173.14W,h33km,mb5.9/63,*
MS5.8/66 Error ellipse: s-maj=9.3km s-min=6.6km
az=63.7
*BJI **21** 17:20:29.5,14.75S×172.94W,h32km,mB5.9/67,*
mb5.4/50,Ms5.7/79,Ms7 5.5/71
*NEIC **21** 17:20:29.1±0.1,15.27S×173.22W,h35km,mb5.9/195,*
ME5.7,MS5.8/168,MW6.1,MW6.1,MW6.1,Error ellipse:
s-maj=6.3km s-min=3.4km az=141.0,Moment Tensor
Solution. s68 Moment tensor: Scale 10¹⁸Nm; Mrr-0.36;
Mθθ-0.58; Mϕϕ 0.94; Mrθ-0.85; Mθϕ-1.00; Mrϕ 0.26; Best
double couple: M₀1.60000×10¹⁸ NP1:ϕs 16.00000°,
δ53.00000°,λ-11.00000°. NP2:ϕs 113.00000°,δ81.00000°,
λ-142.00000°. Principal axes: T 1.6400, Plg18.0000°,
Azm239.0000°; N -0.1500, Plg51.0000°, Azm124.0000°;
P -1.4900, Plg32.0000°, Azm341.0000°; Depth from
synthetics of broadband displacement seismograms.
Energy computed from CMT mechanism.
NEIC Felt [III] at Apia, Samoa. Also felt at Pago Pago, Pava'ia'i
and Tafuna, American Samoa.
*GCMT **21** 17:20:29.1±0.1,15.21S×172.83W,h45km,MW6.1/133,*
Moment Tensor Solution. s133,c290; s132,c443;
Duration: 29.7 Moment tensor: Scale 10¹⁸Nm;
Mrr-0.97±.01; Mθθ 0.23±.01; Mϕϕ 0.74±.01; Mrθ-1.10±.01;
Mθϕ-0.72±.01; Mrϕ 0.40±.01; Best double couple:
M₀1.63200×10¹⁸ NP1:ϕs 120.00000°,δ70.00000°,
λ-112.00000°. NP2:ϕs 350.00000°,δ30.00000°,
λ-44.00000°. Principal axes: T 1.6390, Plg22.0000°,
Azm227.0000°; N -0.0120, Plg21.0000°, Azm128.0000°;
P -1.6260, Plg59.0000°, Azm359.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface/mantle
waves, cutoff=50s.
*NEIC **21** 17:20:52.5±0.0,14.56S×172.95W,h33km,Moment*
Tensor Solution. s91 Moment tensor: Scale 10¹⁸Nm;
Mrr-0.98; Mθθ 0.31; Mϕϕ 0.67; Mrθ-1.01; Mθϕ-0.57; Mrϕ 0.22;
Best double couple: M₀1.50000×10¹⁸ NP1:ϕs 345.00000°,
δ30.00000°,λ-46.00000°. NP2:ϕs 118.00000°,δ68.00000°,
λ-111.00000°. Principal axes: T 1.3800, Plg20.0000°,
Azm223.0000°; N 0.1500, Plg20.0000°, Azm125.0000°; P
-1.5300, Plg60.0000°, Azm355.0000°;
ISC 21 17:20:29.6±0.4, 15.32S±0.04×173.23W±0.04, h36km±2km, h36km: pP-P, n1509, σ1°34/1396, mb5.8/243, MS5.8/234, 283C-258D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.98**	**45**	*e*P	Pn	17 20 56.4	-4.3
AFI	**Afiamalu**	**1.98**	**45**	*e*Pn	Pn	17 20 56.4	-4.3
MSVF	**Nonsavu**	**8.70**	**253**	*e*P	Pn	17 22 42.1	+9.1
MSVF	**Nonsavu**	**8.70**	**253**	*e*Pn	Pn	17 22 42.1	+9.1
KNTN	**Kanton**	**12.55**	**7**	*e*Pn	**Pn**	**17 23 23.2**	**-2.5**
RAR	**Rarotonga**	**14.06**	**117**	*e*P	Pn	17 23 49.6	+3.3
RAR	**Rarotonga**	**14.06**	**117**	*e*P	Pn	17 23 49.6	+3.3
DZM	**Mont Dzumac**	**20.38**	**248**	*e*P	Pn	17 25 07.9	+2.2
	1μm,1.5s						
DZM				*e*LR	LR	17 29 54.5	
	88μm,26.2s						
DZM	**Mont Dzumac**	**20.38**	**248**	P	Pn	17 25 05.2	-0.5
	53nm,0.9s,baz=67,slow=19,SNR=16						
DZM				LR	LR	17 31 59.2	
	comp=Z,31μm,21.5s,baz=100,slow=34						
DZM	**Mont Dzumac**	**20.38**	**248**	*e*P	Pn	17 25 06.5	+0.8
NOUC	**Port Laguerre**	**20.52**	**248**	*e*P	**P**	**17 25 03.8**	**-1.0**
TARA	**Tarawa**	**21.49**	**319**	*e*P	**P**	**17 25 15.0**	**-0.3**
	466nm,1.2s						
TARA				LR	LR		
	comp=Z,16μm,22.0s						
NFK	**Norfolk Island**	**22.11**	**229**	P	**P**	**17 25 25.7**	**+3.8**
	baz=22,SNR=4.5						
PAE	**Paea**	**22.79**	**99**	*e*T	T	17 48 32.8	
	comp=Z,19nm,0.3s						
PPT	**Papeete**	**22.79**	**99**	LR	LR	17 31 55.6	
	comp=Z,7μm,20.8s,baz=266,slow=30						
**

MEH Mehetia 24.24 100 eT T 17 50 21.6
comp=Z,40nm,0.3s
MWZ Matawai 24.34 198 ePN P 17 25 42.8 -1.3
TKGZ Te Karaka 24.34 197 ePN P 17 25 43.1 -0.9
URZ Urewera 24.40 199 P P 17 25 42.3 -2.2
comp=Z,59nm,0.7s,baz=347,slow=4.7,SNR=56
URZ S S 17 30 05.4 +3.6
comp=Z,4.3nm,0.6s,baz=255,slow=12,SNR=2.7
URZ LR LR 17 32 47.4
comp=Z,7µm,20.8s,baz=26,slow=30
URZ Urewera 24.40 199 PN P 17 25 42.4 -2.2
URZ eSN S 17 30 01.9 +0.1
URZ Urewera 24.40 199 eP P 17 25 43.4 -1.1
comp=Z,170nm,0.8s
URZ S S 17 30 05.4 +3.6
PMOR Pomariorio Ree 24.45 93 eP P 17 25 44.4 -0.9
PMOR Pomariorio Ree 24.45 93 eT T 17 50 33.3
comp=Z,31nm,0.3s
RIGZ Rimuhau 24.61 197 PN P 17 25 47.8 +1.2
VAH Vaihoa 24.70 93 eP P 17 25 46.6 -0.9
VAH Vaihoa 24.70 93 eT T 17 50 51.3
comp=Z,37nm,0.3s
SNGZ Shannon Statio 24.81 198 PN P 17 25 48.8 +0.5
KNZ Kokohu 24.93 197 PN P 17 25 51.3 +1.9
HIZ Hauiti 25.39 202 ePN P 17 25 53.8 +0.3
BKZ Black Stump Fm 25.42 199 ePN P 17 25 52.2 -1.7
BKZ Black Stump Fm 25.42 199 eP P 17 25 53.8 -0.1
comp=Z,73nm,1.0s
PXZ Pawanui 26.10 197 PN P 17 25 59.4 -0.6
LREZ Lake Rotokare 26.39 202 ePN P 17 26 04.2 +1.6
ANWZ Angora Road 26.61 198 PN P 17 26 08.5 +3.9
HNR Honiara 26.83 279 LR LR 17 35 25.2
comp=Z,13µm,19.5s,baz=118,slow=34
BFZ Birch Farm 26.88 198 eP P 17 26 07.3 +0.2
comp=Z,136nm,0.9s
SNZO South Karori 27.93 200 PFAKE 17 26 30.0 +14
SNZO LR LR
comp=Z,24µm,19.0s
THZ Tophouse 28.95 202 PN P 17 26 24.8 -0.8
KHZ Kahutara 29.31 200 eP P 17 26 29.4 +0.7
comp=Z,91nm,1.0s
LTZ Lake Taylor 30.07 202 PN P 17 26 32.9 -2.6
RPZ Rata Peaks 31.32 202 P P 17 26 44.2 -2.3
comp=Z,22nm,0.6s,baz=32,slow=13,SNR=15
RPZ Rata Peaks 31.32 202 eP P 17 26 47.4 +0.9
comp=Z,44nm,0.6s
FOZ Fox Glacier 31.71 204 PN P 17 26 46.7 -3.1
LBZ Lake Benmore 32.22 203 ePN P 17 26 55.0 +0.7
JCZ Jackson Bay 32.50 205 ePN P 17 26 54.8 -2.1
TAOE Nuku Hiva Isla 32.95 83 eT T 18 01 04.1
comp=Z,1µm,0.3s
MLZ Mavora Lakes 33.80 204 PN P 17 27 06.8 -1.3
DCZ Deep Cove 34.31 205 eP P 17 27 14.6 +2.1
comp=Z,76nm,0.8s
WHZ Wether Hill Ro 34.34 204 eP P 17 27 14.2 +1.4
comp=Z,155nm,1.0s
EIDS Eidsvold 34.83 248 P P 17 27 18.0 +0.7
baz=35,SNR=3.8
ARMA Armidale 35.53 239 P P 17 27 21.8 -1.6
baz=36,SNR=15
ARMA Armidale 35.53 239 eP P 17 27 22.0 -1.4
comp=Z,21nm,0.8s
MGCD Mangrove Creek 36.84 235 P P 17 27 24.8 -10
baz=37,SNR=18
RKT Rikitea 36.86 108 eP P 17 27 35.3 +0.5
comp=Z,172nm,1.5s
RKT eS S 17 33 19.1 +1.9
comp=Z,4µm,28.8s
RKT eLQ LQ 17 35 58.7
comp=Z,8µm,27.8s
RKT eLR LR 17 37 25.6
comp=Z,17µm,27.0s,baz=280
RKT Rikitea 36.86 108 eT T 18 06 13.3
comp=Z,27nm,0.3s
RMQ Roma 37.08 246 P P 17 27 36.4 -0.2
baz=37,SNR=12
CTA Charters Tower 38.82 257 P P 17 27 49.7 -1.7
comp=Z,14nm,0.9s,baz=94,slow=12,SNR=6.8
CTA LR LR 17 41 19.8
comp=Z,12µm,21.9s,baz=80,slow=32
CTAO Charters Tower 38.82 257 eP P 17 27 51.0 -0.4
CTAO pmax pmax
comp=Z,396nm,2.8s
CTAO MLR MLR
comp=Z,13µm,22.0s
CTAO Charters Tower 38.82 257 eP P 17 27 51.0 -0.4
comp=Z,396nm,2.8s
CTAO LR LR
comp=Z,13µm,22.0s
CNB Canberra Magne 38.93 232 P P 17 27 51.3 -0.9
baz=39,SNR=4.7
POHA Pohakuloa 38.96 27 eP P 17 27 52.4 -0.3
comp=Z,545nm,1.5s
POHA LR LR
comp=Z,15µm,21.0s
H11S2 WAKE ISLAND Hy 38.98 329 T T 18 09 08.3
baz=147,slow=76,SNR=6.4
H11S3 WAKE ISLAND Hy 38.99 329 T T 18 09 04.4
baz=147,slow=76,SNR=7.7
H11S1 WAKE ISLAND Hy 38.99 329 T T 18 09 06.1
baz=147,slow=76,SNR=5.5
PMG Port Moresby 39.09 274 eP P 17 27 54.8 +1.1
PMG pmax pmax
comp=Z,116nm,1.2s
PMG MLR MLR
comp=Z,3µm,20.0s
PMG Port Moresby 39.09 274 P P 17 27 55.4 +1.7
baz=39,SNR=8.0
PMG Port Moresby 39.09 274 eP P 17 27 54.8 +1.1
comp=Z,116nm,1.2s
PMG LR LR
comp=Z,3µm,20.0s
CAN Canberra 39.21 232 eP P 17 27 50.1 -4.4
CAN pmax pmax
comp=Z,77nm,1.3s
CAN MLR MLR
comp=Z,11µm,22.0s
CAN Canberra 39.21 232 eP P 17 27 50.0 -4.4
comp=Z,77nm,1.3s
CAN LR LR
comp=Z,11µm,22.0s
KIP Kipapa 39.45 23⇓ eP P 17 27 56.3 -0.1
KIP pmax pmax
comp=Z,196nm,1.1s
KIP Kipapa 39.45 23 eP P 17 27 57.3 +0.9
comp=Z,806nm,1.4s
KIP LR LR
comp=Z,12µm,21.0s
WAKE Wake Island 39.67 329 eP P 17 27 59.4 +1.1
comp=Z,801nm,1.4s
WAKE LR LR
comp=Z,7µm,20.0s
MILA Mila 39.74 230 P P 17 28 03.3 +4.4
baz=40,SNR=5.0
H11N3 WAKE ISLAND Hy 39.92 330 T T 18 10 15.1
baz=147,slow=76,SNR=9.1
H11N1 WAKE ISLAND Hy 39.92 330 T T 18 10 13.5
baz=147,slow=76,SNR=124
H11N2 WAKE ISLAND Hy 39.94 330 T T 18 10 15.1
baz=147,slow=76,SNR=4.8
CMSA Cobar Meteorol 40.74 239 P P 17 28 05.3 -1.9
baz=41,SNR=40
QLP Quilpie 41.10 247 P P 17 28 07.8 -2.4
baz=41,SNR=18
PTCN Pitcairn Islan 41.48 111 PFAKE 17 28 20.0 +6.6
PTCN LR LR
comp=Z,5µm,21.0s
COEN Coen 42.15 266 P P 17 28 19.2 +0.2
baz=42,SNR=12
COEN Coen 42.15 266 eP P 17 28 18.9 -0.1
comp=Z,12nm,1.0s
TOO Toolangi 42.65 231 P P 17 28 21.2 -1.6
baz=43,SNR=23
TAU Tasmania Unive 43.49 223 PFAKE 17 28 40.0 +11
TAU LR LR
comp=Z,20µm,21.0s
STKA Stephens Creek 44.22 240 P P 17 28 34.0 -1.5
comp=Z,44nm,0.9s,baz=86,slow=9.7,SNR=42
STKA LR LR 17 44 56.6
comp=Z,10µm,22.0s,baz=86,slow=33
STKA Stephens Creek 44.22 240 P P 17 28 34.0 -1.5
STKA pmax pmax
comp=Z,44nm,0.9s
STKA MLR MLR
comp=Z,10µm,22.0s
STKA Stephens Creek 44.22 240 P P 17 28 33.7 -1.8
baz=44,SNR=48
STKA Stephens Creek 44.22 240 eP P 17 28 33.7 -1.8
comp=Z,21nm,1.2s
QIS Mount Isa 45.06 256 P P 17 28 41.4 -0.9
baz=45,SNR=9.7
JAY Jayapura 47.13 281 P P 17 28 57.0 -1.8
GENI Genyem 47.62 281 P P 17 29 01.2 -1.3
comp=Z,141nm,1.4s,comp=Z,4µm
BBOO Buckleboo 49.00 240 P P 17 29 11.0 -1.9
baz=49,SNR=18
BBOO Buckleboo 49.00 240 eP P 17 29 11.3 -1.6
comp=Z,3.9nm,0.9s
SMPI Sarmi 49.19 281 P P 17 29 15.1 +0.5
WB2 Warramunga Arr 50.01 257 eP P 17 29 18.6 -2.3
WRAB Tennant Creek 50.01 257 ceP P 17 29 18.5 -2.4
WRAB pmax pmax
comp=Z,146nm,1.8s
WRAB Tennant Creek 50.01 257 eP P 17 29 18.9 -2.0
comp=Z,171nm,1.6s
WRAB LR LR
comp=Z,12µm,22.0s
WRA Warramunga Arr 50.02 257 P P 17 29 18.7 -2.3
comp=Z,19nm,0.9s,baz=92,slow=7.0,SNR=210
WRA S S 17 36 25.5 -4.3
comp=Z,1.0nm,1.0s,baz=104,slow=10,SNR=2.6
WRA LR LR 17 48 53.7
comp=Z,11µm,21.7s,baz=100,slow=34
AS31 Alice Springs 50.29 252 eP P 17 29 20.9 -2.1
ASAR Alice Springs 50.29 252 P P 17 29 21.1 -1.9
comp=Z,70nm,0.9s,baz=87,slow=8.3,SNR=294
ASAR S S 17 36 30.2 -3.3
comp=Z,3.5nm,1.2s,baz=86,slow=14,SNR=4.7
ASAR LR LR 17 49 03.1
comp=Z,29µm,21.7s,baz=93,slow=34
GUMO Guam 50.43 303 PFAKE 17 29 40.0 +16
GUMO LR LR
comp=Z,276nm,19.0s
KDU Kakadu 52.64 266 P P 17 29 40.8 +0.2
baz=53,SNR=12
MTN Manton Dam 53.90 265 P P 17 29 49.8 -0.1
baz=54,SNR=12
FAKI Fak Fak 55.07 277 P P 17 29 56.1 -2.3
FAKI Fak Fak 55.07 277 P P 17 30 00.0 +1.6
baz=55,SNR=3.8
FAKI Fak Fak 55.07 277 eP P 17 29 59.4 +1.0
comp=Z,39nm,1.1s
FAKI epP pP 17 30 20.4 +11
WRKA Warakurna 55.38 250 P P 17 29 59.1 -1.4
baz=56,SNR=108
FORT Forrest 55.60 243 P P 17 29 59.9 -2.1
baz=56,SNR=10
FORT Forrest 55.60 243 eP P 17 29 59.1 -2.9
comp=Z,148nm,1.0s
KNRA Kununurra 55.74 261 P P 17 30 02.4 -0.7
baz=56,SNR=17
SWI Sorong 56.62 279 P P 17 30 07.3 -2.1
comp=Z,100nm,1.2s,comp=Z,1µm
SWI Sorong 56.62 279 P P 17 30 10.7 +1.2
baz=57,SNR=6.9
FITZ Fitzroy Crossi 58.39 258 P P 17 30 22.4 +0.5
baz=59,SNR=4.5
FITZ Fitzroy Crossi 58.39 258 eP P 17 30 21.4 -0.4
DRV Dumont d'Urvil 59.73 200 P P 17 30 18.0 -12
DRV PP PP 17 32 38.0 -4.3
DRV S S 17 38 18.0 -21
DRV L L 17 45 00.0
DRV R 17 48 00.0
NLAI Namlea 59.92 275 P P 17 30 29.0 -3.6
comp=Z,38nm,1.4s,comp=Z,881nm
LBMI Labuha 60.27 278 P P 17 30 31.2 -3.8
comp=Z,75nm,0.9s,comp=Z,2µm
TNTI Ternate 60.82 280 P P 17 30 34.1 -4.6
comp=Z,75nm,0.9s,comp=Z,3µm
SOEI Soe 61.10 267 P P 17 30 38.3 -2.4
comp=Z,156nm,1.0s,comp=Z,2µm
SOEI Soe 61.10 267 P P 17 30 42.4 +1.6
baz=61,SNR=16
SOEI Soe 61.10 267 eP P 17 30 42.4 +1.6
comp=Z,217nm,1.1s
SANI Sanana 61.31 276 P P 17 30 38.3 -3.8
comp=Z,49nm,1.3s,comp=Z,906nm
MMRI Maumere 63.29 268 P P 17 30 51.6 -3.7
comp=Z,83nm,1.2s,comp=Z,2µm
MMRI Maumere 63.29 268 eP P 17 30 52.1 -3.2
SBA Scott Base 63.35 185 eP P 17 30 56.8 +2.2
SBA pmax pmax
comp=Z,762nm,2.3s
SBA MLR MLR
comp=Z,4µm,22.0s
SBA Scott Base 63.35 185 eP P 17 30 56.8 +2.2
comp=Z,762nm,2.3s
SBA LR LR
comp=Z,4µm,22.0s
VNDA Vanda 63.48 186 P P 17 30 56.1 +0.6
comp=Z,8.1nm,0.8s,baz=4.6,slow=5.8,SNR=19
VNDA LR LR 17 53 55.0
comp=Z,2µm,21.8s,baz=16,slow=32
VNDA Vanda 63.48 186 P P 17 30 56.1 +0.6
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA MLR MLR
comp=Z,2µm,21.8s
VNDA Vanda 63.48 186 eP P 17 30 56.8 +1.3
comp=Z,119nm,1.4s
SGSI Sangihe 63.48 282 P P 17 30 51.4 -5.2
comp=Z,149nm,0.6s,comp=Z,7µm
EDFI Ende, Flores 63.80 268 P P 17 30 57.5 -1.3
MEEK Meekatharra 64.00 248 P P 17 31 00.5 +0.7
baz=64,SNR=14
KDI Kendari 64.04 273 P P 17 30 54.2 -6.1
DAV Davao City (W) 64.57 286 PFAKE 17 31 20.0 +16
DAV LR LR
comp=Z,2µm,21.0s
NWAO Narrogin (SRO) 64.80 241 P P 17 31 06.6 +1.6
baz=65,SNR=5.4
BLDU Ballidu 65.37 243 P P 17 31 10.2 +1.5
baz=66,SNR=5.2
MORW Morawa 66.07 245 P P 17 31 16.2 +2.9
baz=66,SNR=3.3
KAPI Kappang 66.54 271 PFAKE 17 31 30.0 +14
KAPI LR LR
comp=Z,2µm,22.0s
ADK Adak 66.98 358 eP P 17 31 18.5 +0.1
ADK pmax pmax
comp=Z,232nm,1.4s
ADK MLR MLR
comp=Z,7µm,21.0s
ADK Adak 66.98 358 eP P 17 31 18.5 +0.1
comp=Z,232nm,1.4s
ADK LR LR
comp=Z,7µm,21.0s
MJAR Matsushiro Arr 68.98 320 P P 17 31 30.7 -0.7
comp=Z,24nm,1.0s,baz=155,slow=6.1,SNR=31
MJAR LR LR 17 56 19.2
comp=Z,4µm,21.7s,baz=130,slow=31
MAJO Matsushiro 68.98 320⇓ iP P 17 31 31.2 -0.2
MAJO pmax pmax
comp=Z,234nm,1.1s
MAJO Matsushiro 68.98 320 eP P 17 31 31.4 +0.1
comp=Z,101nm,1.2s
MAJO LR LR
comp=Z,6µm,22.0s
MAT Matsushiro 68.98 320 P P 17 31 31.5 +0.1
MAT S S 17 40 32.4 -1.3
UNV Unalaska Valle 69.12 4 eP P 17 31 31.1 -0.7
comp=Z,132nm,1.3s
ERM Erimo 69.78 327⇑ eP P 17 31 32.7 -3.5
ERM pmax pmax
comp=Z,202nm,2.2s
ERM Erimo 69.78 327 PFAKE 17 31 50.0 +14
ERM LR LR
comp=Z,5µm,21.0s
KUR Kuril'sk 69.83 332 diP P 17 31 30.2 -6.1
KUR i S S 17 40 41.1 -2.1
KUR i SS SS 17 45 14.3 +1.4
KUR pmax pmax
comp=N,171nm,1.6s
KUR pmax pmax
comp=E,201nm,1.6s
KUR pmax pmax
comp=Z,400nm,1.6s
KUR pmax pmax
comp=Z,3µm,4.4s
KUR MLR MLR
comp=N,3µm,19.0s
KUR MLR MLR
comp=E,2µm,19.0s
KUR MLR MLR
comp=Z,2µm,19.0s
YUK Yuzh-Kuril'sk 69.87 330 diP P 17 31 29.6 -7.0
YUK i 17 34 11.4
YUK i S S 17 40 36.3 -7.5
CASY Casey 70.55 205 eP P 17 31 40.6 0.0
comp=Z,63nm,1.3s
CASY LR LR
comp=Z,3µm,20.0s
BSC Santa Cruz Isl 70.75 45 ⇑P P 17 31 41.7 -0.6
baz=71
SCI San Clemente I 70.93 47 ⇑P P 17 31 43.3 -0.1
baz=71
SBC Santa Barbara 70.95 45 ⇑P P 17 31 43.9 +0.5
baz=71
SKR Severo-Kuril's 71.00 340 e P 17 31 43.5 +0.1
SKR e 17 34 17.0
SKR eS S 17 40 50.0 -6.7
SKR e 17 41 20.0
SKR eSS SS 17 45 28.0 -2.7
SKR eSSS SSS 17 48 28.0
SKR pmax pmax
comp=Z,70nm,0.9s
SKR pmax pmax
comp=Z,1µm,8.0s
SKR pmax pmax
comp=N,1µm,5.0s
SKR pmax pmax
comp=E,800nm,5.0s
SKR smax smax
comp=N,1µm,10.0s
SKR smax smax
comp=E,3µm,12.0s
BLG Laguna Peak, P 71.20 45 ⇓P P 17 31 44.1 -1.0
baz=71
SDPT Sand Point 71.21 8 eP P 17 31 44.0 -0.6
comp=E,128nm,0.8s
SMMC Simmler 71.25 44 ⇓P P 17 31 45.1 -0.3
baz=71
CIS Catalina Islan 71.27 46 ⇑P P 17 31 43.8 -1.7
baz=71
FMP Fort Macarthur 71.51 46 ⇓P P 17 31 46.1 -0.8
baz=72
ASAJ Asahikawa 71.56 328 eP P 17 31 48.4 +1.4
comp=E,56nm,1.3s
OSI Osito Audit: C 71.72 45 ⇓P P 17 31 47.4 -0.9
baz=72
DECC Green Verdugo 71.79 46 ⇓P P 17 31 48.4 -0.2
baz=72
PASC Pasadena Art C 71.84 46 eP P 17 31 50.3 +1.4
comp=E,69nm,1.1s
JNU Nakatsue 71.86 313 LR LR 17 57 59.2
comp=E,2µm,21.2s,slow=31
JNU Nakatsue 71.86 313 eP P 17 31 49.7 +0.6
comp=E,223nm,2.4s
JNU epP PcP 17 32 05.6 -2.2
KMRM Mail Ridge 71.89 38 eP P 17 31 49.9 +0.7
comp=E,169nm,1.0s
109C Camp Elliot, M 71.90 47 ⇓P P 17 31 48.7 -0.6
baz=72
ARVC Arvin 71.94 45 ⇓P P 17 31 49.5 +0.1
baz=72
MWC Mount Wilson 71.96 46 eP P 17 31 50.8 +0.9
MWC e*PP pP 17 32 03.3 +2.3
MWC pmax pmax
comp=Z,94nm,1.0s
MWC Mount Wilson 71.96 46 eP P 17 31 50.8 +0.9
comp=Z,94nm,1.0s
MWC epP pP 17 32 03.3 +2.3
BAR Barrett 72.10 48 epP pP 17 32 10.0 +8.3
VES Vestal, Richgr 72.17 44 ⇑P P 17 31 50.2 -0.6
baz=72
MURC Murrieta 72.22 47 ⇓P P 17 31 50.8 -0.4
baz=72
BFSC Mount Baldy Ra 72.24 46 ⇓P P 17 31 50.1 -1.4
baz=72
PET Petropavlovsk 72.25 343 diP P 17 31 49.7 -1.1
PET e 17 34 35.4
PET eS S 17 41 11.5 +0.5
PET ePS PnS 17 41 43.5 -1.5
PET ePPS PPS 17 41 54.4
PET eSS SS 17 45 53.6 +3.8
PET pmax pmax
comp=Z,900nm,9.6s
PET pmax pmax
comp=Z,2µm,6.0s
PET pmax pmax
comp=Z,44nm,1.1s
PET Petropavlovsk 72.25 343 eP P 17 31 49.2 -1.6
comp=Z,144nm,1.5s
PET LR LR
comp=Z,2µm,20.0s
KHMM Horse Mountain 72.30 37 eP P 17 31 52.7 +1.1
comp=Z,168nm,1.3s
KHMM epP PcP 17 32 10.5 +0.9
RCTC Rector, Farmer 72.33 43 ⇓P P 17 31 50.5 -1.3
baz=72
EDW2 Edwards Air Fo 72.37 45 ⇓P P 17 31 51.2 -0.9
baz=72
MONP Monument Peak, 72.39 48 ⇓P P 17 31 51.5 -1.0
baz=72
ISA Isabella, Lake 72.48 44 eP P 17 31 52.8 0.0
ISA pmax pmax
comp=Z,863nm,2.8s
ISA Isabella, Lake 72.48 44 ⇓P P 17 31 52.1 -0.6
baz=73
ISA ⇓S S 17 41 16.5 +1.9
baz=73
ISA Isabella, Lake 72.48 44 eP P 17 31 52.8 0.0
comp=Z,863nm,2.8s
CMB Columbia Colle 72.59 41 eP P 17 31 53.1 -0.3
CMB pmax pmax
comp=Z,53nm,1.0s
CMB Columbia Colle 72.59 41 eP P 17 31 53.1 -0.3
comp=Z,53nm,1.0s
PETK Petropavlovsk- 72.60 342 P P 17 31 52.8 -0.2
comp=Z,42nm,0.9s,baz=140,slow=8.8,SNR=64
PETK LR LR 17 59 29.1
comp=Z,2µm,20.5s,baz=152,slow=32
OHCM Honcut 72.69 40 epP pP 17 32 12.8 +7.8
PFO Pinyon Flats O 72.75 47 eP P 17 31 52.9 -1.6
PFO pmax pmax
comp=Z,12nm,0.8s
PFO MLR MLR
comp=Z,9µm,20.0s
PFO Pinyon Flats O 72.75 47 ⇑P P 17 31 53.1 -1.4
baz=73
PFO Pinyon Flats O 72.75 47 eP P 17 31 52.9 -1.6
comp=Z,12nm,0.8s
PFO LR LR
comp=Z,9µm,20.0s
BBRC Big Bear Solar 72.77 46 ⇑P P 17 31 54.1 -0.6
baz=73
WDC Whiskeytown Da 72.81 38 eP P 17 31 54.1 -0.5
WDC pmax pmax
comp=Z,769nm,2.7s
WDC Whiskeytown Da 72.81 38 eP P 17 31 54.1 -0.5
comp=Z,769nm,2.7s
LPIG La Paz 72.85 58 LR LR 17 55 28.5
comp=Z,6µm,21.7s,baz=275,slow=29
SWSC Sam W. Stewart 72.86 48 ⇓P P 17 31 54.3 -0.7
baz=73
LRMC Laurel Mtn Rad 72.91 45 ⇓P P 17 31 54.3 -1.0
baz=73
N02D Trinity Center 72.96 38 ⇑P P 17 31 54.8 -0.7
baz=73,SNR=8.0
KKM Kota Kinabalu 73.02 281 P P 17 31 48.8 -7.7
baz=73,SNR=3.1
KKM Kota Kinabalu 73.02 281 eP P 17 31 56.2 -0.3
comp=Z,78nm,1.1s
KKM LR LR
comp=Z,2µm,22.0s
RRX Edison Barstow 73.05 46 ⇓P P 17 31 55.1 -1.0
baz=73
M02C Callahan 73.14 37 ⇓P P 17 31 56.7 +0.1
baz=73,SNR=6.3
L02D Cave Junction, 73.19 36 ⇓P P 17 31 56.6 -0.1
baz=73
BELC Belle Mtn. Jos 73.28 47 ⇑P P 17 31 56.8 -0.8
baz=73
MLAC Mammoth, Mammo 73.35 42 ⇑P P 17 31 57.5 -0.7
baz=74
MPMC Manual Prospec 73.36 44 ⇑P P 17 31 57.6 -0.5
baz=74
MTUM Tungsten Hills 73.37 43 eP P 17 31 58.3 +0.1
DAC Darwin (Calif) 73.41 44 eP P 17 31 58.2 -0.2
DAC pmax pmax
comp=Z,374nm,2.5s

DAC **Darwin (Calif)** 73.41 44 *e*P P 17 31 58.2 -0.2
comp=Z,374nm,2.5s
GSC **Goldstone, Bar** 73.41 45 *e*P P 17 31 57.8 -0.6
GSC pmax pmax
comp=Z,185nm,1.6s
GSC **Goldstone, Bar** 73.41 45 ⇓P P 17 31 57.5 -0.8
baz=74
GSC **Goldstone, Bar** 73.41 45 *e*P P 17 31 57.8 -0.6
comp=Z,185nm,1.6s
TIN **Tinemaha, Big** 73.42 43 ⇑P P 17 31 57.7 -0.7
baz=74
YBH **Yreka Blue Hor** 73.43 37 LR LR 17 56 38.5
comp=Z,10µm,21.6s,baz=246,slow=30
YBH **Yreka Blue Hor** 73.43 37 *e*P P 17 31 58.9 +0.6
YBH pmax pmax
comp=Z,73nm,0.9s
YBH **Yreka Blue Hor** 73.43 37 *e*P P 17 31 58.9 +0.6
comp=Z,73nm,0.9s
WAKR **Walker** 73.47 41 *e*P P 17 31 58.5 -0.3
BC3 **Big Chuckawall** 73.48 47 ⇑P P 17 31 57.8 -1.0
baz=74
HEC **Hector,Ludlow** 73.48 46 ⇓P P 17 31 57.7 -1.1
baz=74
YSS **Yuzh-Sakhalins** 73.49 330 *e*P P 17 31 56.0 -2.4
YSS *e**SP **sP** 17 32 12.7 -1.1
YSS *e* 17 34 47.0
YSS *e*S S 17 41 23.0 -2.4
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,1µm,5.0s
YSS smax smax
comp=E,2µm,10.0s
YSS **Yuzh-Sakhalins** 73.49 330 *e*P P 17 31 58.5 +0.1
comp=E,121nm,1.1s
YSS LR LR
comp=Z,2µm,22.0s
GLA **Glamis** 73.61 48 *e*P P 17 31 59.6 +0.1
GLA *e**PP **PcP** 17 32 18.5 +3.2
GLA **Glamis** 73.61 48 ⇑P P 17 31 58.8 -0.7
baz=74
GLA **Glamis** 73.61 48 *e*P P 17 31 59.6 +0.1
GLA *e*pP **PcP** 17 32 18.5 +3.2
HUMO **Hull Mountain** 73.84 36 *e*P P 17 32 01.3 +0.7
comp=Z,123nm,1.3s
GMRC **Granite Mounta** 73.92 46 ⇑P P 17 32 00.6 -0.9
baz=74
IRM **Iron Mountain** 73.96 47 ⇓P P 17 32 00.9 -0.6
baz=74
GRAC **Grapevine Rang** 73.96 44 ⇑P P 17 32 01.4 -0.1
baz=74
M04C **Macdoel** 73.97 37 ⇑P P 17 32 00.7 -0.8
baz=74,SNR=8.7
FURC **Furnace Creek,** 74.01 44 ⇑P P 17 32 01.3 -0.4
baz=74
TUQ **Turquoise Moun** 74.09 46 ⇑P P 17 32 01.9 -0.5
baz=74
SHOC **Shoshone, Teco** 74.09 45 ⇓P P 17 32 01.4 -0.8
baz=74
OHAK **Old Harbor** 74.15 11 *e*P P 17 32 01.3 -0.7
NVAR **Mina Array Bea** 74.16 42 P P 17 32 02.2 -0.6
comp=Z,28nm,0.8s,baz=228,slow=10,SNR=29
Y12C **Blythe** 74.19 48 ⇑P P 17 32 02.4 -0.4
baz=74
113A **Mohawk Valley,** 74.24 49 ⇓P P 17 32 02.5 -0.6
baz=74
I03D **Drain, OR** 74.32 35 ⇑P P 17 32 02.9 -0.4
baz=74
LDFC **Landfair** 74.47 46 *e*P P 17 32 05.3 +0.8
comp=Z,253nm,1.3s
214A **Organ Pipe Nat** 74.53 50 ⇑P P 17 32 04.4 -0.4
baz=75
214A **Organ Pipe Nat** 74.53 50 *e*P P 17 32 04.5 -0.4
comp=Z,73nm,1.4s
K04D **Chiloquin, OR** 74.55 37 ⇓P P 17 32 04.6 -0.3
baz=75
NEE2 **Needles Airpor** 74.65 47 ⇓P P 17 32 05.0 -0.5
baz=75
TPH **Tonopah** 74.66 43 *e*P P 17 32 05.2 -0.5
TPH pmax pmax
comp=Z,145nm,1.2s
TPH **Tonopah** 74.66 43 *e*P P 17 32 05.2 -0.5
comp=Z,145nm,1.2s
YULB **Yu-li** 74.67 300 P P 17 32 08.2 +2.3
comp=Z,158nm,1.8s
TPNV **Topopah Spring** 74.68 44 *e*P P 17 32 05.4 -0.4
TPNV pmax pmax
comp=Z,349nm,1.9s
TPNV **Topopah Spring** 74.68 44 ⇑P P 17 32 05.5 -0.4
baz=75
TPNV **Topopah Spring** 74.68 44 *e*P P 17 32 05.4 -0.4
comp=Z,349nm,1.9s
J04D **Umpqua Nationa** 74.73 36 ⇑P P 17 32 05.9 -0.1
baz=75
QSPA **South Pole Qui** 74.73 180 P P 17 32 04.6 -1.0
comp=Z,13nm,0.9s,baz=12,slow=0.5,SNR=27
QSPA **South Pole Qui** 74.73 180 *e*P P 17 32 06.5 +0.8
QSPA comp=Z,155nm,1.1s LR LR
comp=Z,4µm,19.0s
UGM **Wanagama** 74.74 266 P P 17 32 17.3 +11
baz=75,SNR=3.1
PDMCI **Parker Dam,Lak** 74.75 47 ⇑P P 17 32 05.6 -0.5
baz=75
KDAK **Kodiak Island** 74.81 11 *e*P P 17 32 05.5 -0.3
KDAK pmax pmax
comp=Z,201nm,1.1s
KDAK MLR MLR
comp=Z,13µm,22.0s
KDAK **Kodiak Island** 74.81 11 *e*P P 17 32 05.5 -0.3
comp=Z,201nm,1.1s
KDAK LR LR
comp=Z,13µm,22.0s
I04A **Tendick Farm,** 74.90 36 ⇑P P 17 32 06.5 -0.3
baz=75
MOD **Modoc Plateau** 74.95 38 *e*P P 17 32 07.0 -0.3
comp=Z,120nm,1.0s
HBO **Huckleberry Mo** 74.99 36 P P 17 32 07.4 0.0
K05A **Summer Lake** 75.11 37 *e*P P 17 32 08.3 +0.1
comp=Z,284nm,1.2s
SSLB **Suanglung** 75.12 300 *e*P P 17 32 13.0 +4.6
comp=Z,25nm,0.9s
Z14A **Wintersburg** 75.13 49 ⇑P P 17 32 07.4 -0.9
baz=75
YHNB **Yeheng** 75.13 301 *e*P P 17 32 12.3 +3.7
YHNB comp=Z,137nm,1.2s LR LR
comp=Z,3µm,20.0s
TATO **Taipei** 75.17 301 PFAKE 17 32 20.0 +11
TATO LR LR
comp=Z,2µm,20.0s
SHPR **Sheep Range** 75.18 45 *e*P P 17 32 08.4 -0.4
TPUB **Ta-pu** 75.19 300 *e*P P 17 32 08.2 -0.7
comp=Z,99nm,0.9s
J05D **Fort Rock, OR** 75.25 37 ⇓P P 17 32 08.4 -0.5
baz=75,SNR=22
W13A **Hualapai Mount** 75.33 47 ⇑P P 17 32 09.3 -0.4
baz=75
G03D **McMinnville, O** 75.34 34 ⇑P P 17 32 08.8 -0.4
baz=76
Y14A **Wickenburg** 75.37 48 ⇓P P 17 32 09.4 -0.3
baz=76
H04A **Detroit Lake** 75.59 35 *e*P P 17 32 09.3 -1.4
comp=Z,295nm,1.4s
I05D **Terrebonne, OR** 75.85 36 ⇓P P 17 32 11.9 -0.3
baz=76,SNR=12
R11A **Troy Canyon, C** 75.89 43 ⇑P P 17 32 12.0 -0.8
baz=76
R11A **Troy Canyon, C** 75.89 43 *e*P P 17 32 12.0 -0.8
comp=Z,610nm,2.6s
F04D **Rainier, OR** 76.04 33 ⇓P P 17 32 13.2 0.0
baz=76
TUC **Tucson** 76.21 51 *e*P P 17 32 13.7 -0.9
TUC pmax pmax
comp=Z,124nm,1.1s
TUC MLR MLR
comp=Z,6µm,21.0s
TUC **Tucson** 76.21 51 *e*P P 17 32 13.7 -0.9
comp=Z,124nm,1.1s
TUC LR LR
comp=Z,6µm,21.0s
KSRS **Korea Array** 76.21 315 P P 17 32 14.6 +0.3
comp=Z,11nm,0.9s,baz=123,slow=6.3,SNR=27
KSRS LR LR 18 00 16.6
comp=Z,2µm,21.7s,baz=108,slow=31
KSRS **Korea Array** 76.21 315 P P 17 32 14.6 +0.3
KSRS pmax pmax
comp=Z,11nm,0.9s
KSRS MLR MLR
comp=Z,2µm,21.7s
KSAR **Wonju Array Be** 76.23 315 P P 17 32 14.6 +0.1
KSAR **Wonju Array Be** 76.23 315 P P 17 32 14.6 +0.1
F04A **Amboy** 76.26 34 *e*P P 17 32 14.3 -0.1
comp=Z,174nm,1.2s
WVOR **Wild Horse Val** 76.27 38 *e*P P 17 32 14.3 -0.4
WVOR pmax pmax
comp=Z,198nm,1.3s
WVOR MLR MLR
comp=Z,10µm,20.0s
WVOR **Wild Horse Val** 76.27 38 *e*P P 17 32 14.3 -0.4
comp=Z,198nm,1.3s
WVOR LR LR
comp=Z,10µm,20.0s
LVP **Lakeview Peak** 76.35 34 P P 17 32 14.6 -0.5
G05D **Wamic, OR** 76.42 35 ⇓P P 17 32 15.1 -0.4
baz=77,SNR=7.6
CROR **Criterion Ridg** 76.44 35 P P 17 32 15.1 -0.5
NLWA **Neilton Lookou** 76.44 32 *e*P P 17 32 15.9 +0.4
comp=Z,200nm,1.4s
NLWA *e*pP PcP 17 32 34.2 +7.1
NLWA LR LR
comp=Z,5µm,22.0s
ERK **Elk Rock** 76.54 34 P P 17 32 16.4 +0.2
HSR **South Ridge** 76.54 34 P P 17 32 16.7 +0.4
ESD **East Dome** 76.57 34 P P 17 32 17.0 +0.6
TDL **Tradedollar La** 76.63 34 P P 17 32 16.7 -0.1
I07A **Izee** 76.73 37 *e*P P 17 32 17.1 -0.2
comp=Z,679nm,2.2s
G06A **Carlson Farm,** 76.80 35 *e*P P 17 32 15.7 -1.9
comp=Z,396nm,1.6s
VLA **Vladivostok** 76.84 322 *i*P P 17 32 14.6 -3.2
VLA 17 32 26.4
VLA 17 35 08.1
VLA *e*S S 17 42 01.4 -1.4
VLA pmax pmax
comp=Z,22nm,1.0s
319A **Douglas** 76.91 52 ⇑P P 17 32 17.9 -0.7
baz=77
CCUT **Cedar City** 76.96 45 *e*P P 17 32 18.9 0.0
comp=Z,473nm,2.2s
ARUT **Antelope Range** 77.03 45 *e*P P 17 32 19.0 -0.2
ARUT pmax pmax
comp=Z,19nm,1.4s
ARUT **Antelope Range** 77.03 45 *e*P P 17 32 19.0 -0.2
comp=Z,19nm,1.4s
LON **Longmire** 77.10 33 *e*P P 17 32 18.4 -0.9
LON pmax pmax
comp=Z,175nm,1.6s
LON **Longmire** 77.10 33 *e*P P 17 32 18.4 -0.9
comp=Z,175nm,1.6s
INCN **Inchon** 77.11 315 *e*P P 17 32 21.6 +2.1
comp=Z,2µm,2.9s
INCN *e*pP pP 17 32 37.7 +7.0
INCN LR LR
comp=Z,2µm,20.0s
RCS **Mount Rainier-** 77.22 33 P P 17 32 19.7 -0.6
D05A **Enumclaw** 77.29 33 *e*P P 17 32 20.8 +0.6
comp=Z,866nm,1.5s
FMW **Mount Fremont** 77.29 33 P P 17 32 20.0 -0.5
RSO **Redoubt South** 77.30 10 *e*P P 17 32 19.1 -1.2
WUAZ **Wupatki** 77.32 48 ⇓P P 17 32 20.3 -0.6
baz=77
WUAZ **Wupatki** 77.32 48 PFAKE 17 32 30.0 +9.1
WUAZ LR LR
comp=Z,5µm,20.0s
KSM **Kuching** 77.34 275 P P 17 32 22.0 +0.7
baz=78,SNR=13
KSM **Kuching** 77.34 275 *e*P P 17 32 21.5 +0.2
KSM comp=Z,103nm,1.0s LR LR
comp=Z,1µm,22.0s
ELK **Elko** 77.41 41 LR LR 17 58 55.0
comp=Z,8µm,22.0s,baz=180,slow=30
ELK **Elko** 77.41 41 *e*P P 17 32 20.8 -0.6
ELK pmax pmax
comp=Z,117nm,1.5s
ELK **Elko** 77.41 41 *e*P P 17 32 20.8 -0.6
comp=Z,117nm,1.5s
USRK **Ussuriysk Ar.** 77.42 323 P P 17 32 21.6 +0.6
comp=Z,21nm,1.1s,baz=108,slow=4.8,SNR=23
USRK LR LR 18 00 09.2
comp=Z,5µm,21.7s,baz=120,slow=31
SVW2 **Sparrevohn** 77.45 9 *e*P P 17 32 18.8 -2.0
PGC **Sidney** 77.48 31 *e*P P 17 32 20.9 -0.3
comp=Z,131nm,1.2s
QZH **Quanzhou** 77.55 300 ⇓*i*P P 17 32 24.0 +1.8
QZH S S 17 42 13.0 +1.7
QZH PMZ
comp=Z,40nm,0.9s
QZH PMZ
comp=Z,1µm,4.8s
QZH LN
comp=Z,2µm,21.1s
QZH LE
comp=Z,960nm,13.1s
QZH LZ
comp=Z,7µm,32.0s
MIR **Mirnyy** 77.57 204 *e*P P 17 32 23.0 +1.5
SEW **Seward** 77.57 12 *e*P P 17 32 20.9 -0.6
comp=Z,102nm,1.0s
NAC **Naches** 77.62 34 P P 17 32 22.0 -0.1
BBB **Bella Bella** 77.74 27 LR LR 17 58 37.0
comp=Z,5µm,22.0s,baz=240,slow=30
G08A **Pilot Rock** 77.77 36 *e*P P 17 32 22.6 -0.5
comp=Z,192nm,1.3s
LEM **Lembang** 77.80 266 P P 17 32 24.9 +0.9
comp=Z,32nm,0.7s,baz=53,slow=5.8,SNR=6.0
LEM LR LR 18 06 31.8
comp=Z,3µm,20.6s,baz=116,slow=36
X18A **Snowflake** 77.87 49 ⇓P P 17 32 23.4 -0.6
baz=78
LTY **Liberty** 78.03 34 *e*P P 17 32 23.6 -0.9
comp=Z,177nm,1.6s
SSE **Sheshan** 78.04 307 P P 17 32 24.8 +0.1
SSE sP **sP** 17 32 41.4 +1.2
SSE S S 17 42 16.0 -0.3
SSE PMZ
comp=Z,42nm,0.8s
SSE PMZ
comp=Z,680nm,9.0s
SSE LN
comp=Z,2µm,32.0s
SSE LE
comp=Z,2µm,32.0s
SSE LZ
comp=Z,3µm,35.7s
HAWA **Hanford** 78.11 35 *e*P P 17 32 24.6 -0.3
HAWA *e*pP pP 17 32 42.2 +6.1
HAWA LR LR
comp=Z,8µm,22.0s
H2OWA **Water** 78.18 35 P P 17 32 25.1 0.0
MVU **Marysvale** 78.22 45 *e*P P 17 32 25.8 -0.2
comp=Z,112nm,1.3s
W18A **Petrified Fore** 78.30 49 ⇓P P 17 32 25.5 -0.9
baz=78
W18A **Petrified Fore** 78.30 49 *e*P P 17 32 26.7 +0.3
comp=Z,106nm,1.4s
HABR **Khabarovsk** 78.35 328 *di*P P 17 32 26.6 +0.5
HABR *e**PP **PcP** 17 32 34.5 -0.8
HABR *e**SP **sP** 17 32 38.5 -3.0
HABR *e* 17 35 21.1
HABR *e*PPP PPP 17 37 09.0
HABR *e*S S 17 42 21.6 +2.7
HABR *e* 17 42 31.0
HABR *e* 17 42 42.0
HABR *e*SS **SS** 17 47 21.5 -1.1
HABR *e*SSS SSS 17 50 46.5
HABR pmax pmax
comp=E,64nm,3.4s
HABR pmax pmax
comp=N,38nm,3.4s
HABR pmax pmax
comp=Z,111nm,1.7s
HABR MLR MLR
comp=N,419nm,17.0s
HABR MLR MLR
comp=Z,962nm,17.0s
HABR MLR MLR
comp=E,970nm,19.0s
A05A **Maple Falls** 78.39 32 *e*P P 17 32 27.1 +0.8
comp=E,196nm,1.5s
A05A *e*pP pP 17 32 43.8 +6.2
B06A **Marblemount** 78.39 32 *e*P P 17 32 25.9 -0.5
B06A *e*pP pP 17 32 46.8 +9.2
ETW **Entiat** 78.42 33 P P 17 32 26.0 -0.7
RC01 **Rabbit Creek A** 78.43 11 *e*P P 17 32 25.8 -0.4
comp=E,222nm,1.3s
BMO **Blue Mountains** 78.46 37 *e*P P 17 32 25.8 -1.1
BMO pmax pmax
comp=Z,3.0nm,0.2s
BMO MLR MLR
comp=Z,7µm,21.0s
BMO **Blue Mountains** 78.46 37 *e*P P 17 32 25.8 -1.1
comp=Z,2.6nm,0.2s
BMO LR LR
comp=Z,7µm,21.0s
MFID **Camas Ranch** 78.52 39 *e*P P 17 32 26.7 -0.6
comp=Z,153nm,1.5s
121A **Cookes Peak, D** 78.56 52 ⇓P P 17 32 27.5 -0.4
baz=79
121A **Cookes Peak, D** 78.56 52 *e*P P 17 32 27.6 -0.3
comp=Z,78nm,0.9s
DUG **Dugway, Tooele** 78.69 43 *e*P P 17 32 27.8 -0.6
DUG pmax pmax
comp=Z,83nm,1.2s
DUG MLR MLR
comp=Z,8µm,21.0s
DUG **Dugway, Tooele** 78.69 43 ⇑P P 17 32 27.7 -0.7
baz=79
DUG **Dugway, Tooele** 78.69 43 *e*P P 17 32 27.8 -0.6
comp=Z,83nm,1.2s
DUG LR LR
comp=Z,8µm,21.0s
SIT **Sitka** 78.69 20 *e*P P 17 32 28.4 +0.7
SIT pmax pmax
comp=Z,87nm,1.2s
SIT **Sitka** 78.69 20 *e*P P 17 32 28.4 +0.7
comp=Z,87nm,1.2s
GAMB **Gambell** 78.85 1 *e*P P 17 32 28.3 -0.2
comp=Z,91nm,1.2s
BGU **Big Grassy Mou** 78.92 42 *e*P P 17 32 29.4 -0.3
E09A **Wood Farm, Sta** 78.95 35 *e*P P 17 32 28.8 -0.7
comp=Z,204nm,1.4s
PMR **Palmer** 79.01 11 *e*P P 17 32 28.3 -1.0
PMR **Palmer** 79.01 11 *e*P P 17 32 28.3 -1.0
NLU **North Lily Min** 79.05 43 *e*P P 17 32 31.8 +1.4
comp=Z,292nm,2.2s
MDJ **Mudanjiang** 79.06 322 P P 17 32 31.1 +1.0
MDJ pP **pP** 17 32 40.4 -1.0
MDJ sP **sP** 17 32 43.9 -1.7
MDJ PP **PP** 17 35 30.1 +0.3
MDJ S S 17 42 31.5 +4.8
MDJ SS **SS** 17 47 33.9 +0.4
MDJ PMZ
comp=Z,1µm,10.3s
MDJ LN
comp=Z,2µm,31.1s
MDJ LE
comp=Z,3µm,32.0s
MDJ LZ
comp=Z,6µm,23.6s
MDJ **Mudanjiang** 79.06 322 *e*P P 17 32 30.1 +0.1
comp=Z,115nm,1.6s
MDJ LR LR
comp=Z,6µm,22.0s
F10A **Beach Ranch, E** 79.15 36 *e*P P 17 32 29.6 -1.1
comp=Z,500nm,1.8s
WRAK **Wrangell Islan** 79.21 22 *e*P P 17 32 30.8 +0.2
comp=Z,64nm,0.9s
WRAK LR LR
comp=Z,5µm,20.0s
DIV **Divide** 79.28 13 *e*P P 17 32 29.7 -1.3
comp=Z,184nm,0.9s
TMUT **Trail Mountain** 79.30 44 *e*P P 17 32 24.8 -7.2
comp=Z,708nm,2.0s
MPU **Maple Canyon** 79.37 43 *e*P P 17 32 32.3 +0.1
comp=Z,362nm,2.1s
BMRM **Bremner River** 79.40 14 *e*P P 17 32 30.7 -1.0
comp=Z,541nm,1.2s
B08A **Colville Reser** 79.42 33 *e*P P 17 32 30.9 -1.2
comp=Z,140nm,1.4s
HLID **Hailey** 79.46 39 ⇑P P 17 32 32.4 -0.2
baz=80
HLID **Hailey** 79.46 39 *e*P P 17 32 32.3 -0.3
comp=Z,157nm,1.3s
HLID LR LR
comp=Z,5µm,22.0s
HVU **Hansel Valley** 79.53 41 *e*P P 17 32 32.6 -0.4
HVU **Hansel Valley** 79.53 41 *e*P P 17 32 32.6 -0.4
CTU **Camp Tracy** 79.64 43 *e*P P 17 32 33.4 -0.2
comp=Z,207nm,1.6s
C09A **Chrisman Ranch** 79.65 34 *e*P P 17 32 32.6 -0.7
comp=Z,287nm,1.6s
SRU **San Rafael Swe** 79.67 45 *e*P P 17 32 33.9 +0.1
SRU pmax pmax
comp=Z,171nm,1.3s
SRU **San Rafael Swe** 79.67 45 *e*P P 17 32 33.9 +0.1
comp=Z,171nm,1.3s
PPLA **Purkeypile** 79.68 10 *e*P P 17 32 32.6 -0.6
comp=Z,56nm,1.0s
JLU **Jordanelle** 79.79 43 *e*P P 17 32 34.1 -0.4
comp=Z,74nm,1.1s
DAU **Daniels Canyon** 79.82 43 *e*P P 17 32 34.6 -0.2
DAU **Daniels Canyon** 79.82 43 *e*P P 17 32 34.6 -0.2
LAZ **Ladron** 79.88 50 *e*P P 17 32 34.9 -0.1
comp=Z,72nm,1.5s
Y22D **IRIS PASSCAL I** 79.89 51 ⇓P P 17 32 35.1 0.0
baz=80
LENM **Lemitar** 79.90 50 *e*P P 17 32 35.1 0.0
MNTX **Cornudas Mount** 80.04 53 ⇑P P 17 32 35.4 -0.4
baz=80
MNTX **Cornudas Mount** 80.04 53 *e*P P 17 32 35.2 -0.6
comp=Z,148nm,1.3s
MNTX LR LR
comp=Z,5µm,20.0s
TCUT **Toone Canyon** 80.08 43 *e*P P 17 32 35.4 -0.7
comp=Z,740nm,1.6s
MVCO **Mesa Verde** 80.17 47 ⇑P P 17 32 36.3 -0.3
baz=80
MVCO **Mesa Verde** 80.17 47 *e*P P 17 32 36.3 -0.3
comp=Z,166nm,1.4s
MVCO LR LR
comp=Z,8µm,22.0s
LPM **Los Pinos Moun** 80.22 50 *e*P P 17 32 36.7 -0.2
HWUT **Hardware Ranch** 80.22 42 *e*P P 17 32 35.6 -1.1
comp=Z,175nm,1.6s
HWUT LR LR
comp=Z,11µm,21.0s
NJ2 **Nanjing** 80.25 307 *e*P P 17 32 37.4 +0.6
NJ2 pP **pP** 17 32 46.3 -1.8
NJ2 sP **sP** 17 32 49.4 -2.9
NJ2 S S 17 42 42.0 +2.3
NJ2 sS **sS** 17 42 57.0 -1.5
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 PMZ
comp=Z,2µm,3.9s
NJ2 LN
comp=Z,5µm,29.0s
NJ2 LE
comp=Z,6µm,27.8s
NJ2 LZ
comp=Z,5µm,26.2s
TXAR **Lajitas Array** 80.43 56 P P 17 32 37.5 -0.5
comp=Z,49nm,1.1s,baz=224,slow=7.0,SNR=64
TXAR LR LR 18 01 00.1
comp=Z,5µm,20.3s,baz=0.0,slow=30
KTH **Kantishna Hill** 80.50 10 *e*P P 17 32 35.5 -2.1
comp=Z,199nm,1.4s
TRF **Thorofare Moun** 80.51 10 *e*P P 17 32 36.0 -1.7
comp=Z,36nm,1.1s
KLR **Kul'dur** 80.54 327 *e*P P 17 32 43.5 +5.5
KLR *e*S S 17 42 43.5 +1.4
KLR *e*PS **PnS** 17 43 31.5 0.0
NEW **Newport** 80.55 34 LR LR 18 00 36.4
comp=Z,6µm,21.8s,baz=224,slow=30
NEW **Newport** 80.55 34 *e*P P 17 32 36.8 -1.3
NEW pmax pmax
comp=Z,89nm,1.4s
NEW **Newport** 80.55 34 ⇓P P 17 32 37.5 -0.6
baz=81,SNR=18
NEW **Newport** 80.55 34 *e*P P 17 32 36.8 -1.3
comp=Z,89nm,1.4s
PV01 **Paradox Valley** 80.55 46 *e*P P 17 32 38.1 -0.6
comp=Z,16µm,1.3s
SKAG **Skagway** 80.61 19 *e*P P 17 32 38.7 +0.6
comp=Z,510nm,1.9s
ANMO **Albuquerque** 80.62 50 LR LR 18 00 50.9
comp=Z,5µm,21.2s,baz=217,slow=30
ANMO **Albuquerque** 80.62 50 *e*P P 17 32 38.7 -0.4

ANMO pmax pmax
comp=Z,180nm,1.5s
ANMO Albuquerque 80.62 50 *e*P **P 17 32 38.7 -0.4**
comp=Z,180nm,1.5s
TNA Tin City 80.73 2 *e*P **P 17 32 38.5 -0.1**
comp=Z,175nm,1.2s
PAX Paxson 80.99 12 *e*P **P 17 32 38.3 -1.9**
PAX pmax pmax
comp=Z,134nm,1.4s
PAX Paxson 80.99 12 *e*P **P 17 32 38.3 -1.9**
comp=Z,134nm,1.4s
MCK McKinley 81.01 11 *e*P **P 17 32 38.8 -1.4**
MCK pmax pmax
comp=Z,251nm,1.0s
MCK McKinley 81.01 11 *e*P **P 17 32 38.8 -1.4**
comp=Z,251nm,1.0s
GDL2 Guadalupe Moun 81.04 53 *e*P **P 17 32 40.7 -0.6**
HYT Haines Junctio 81.08 17 *e*P **P 17 32 40.2 -0.6**
comp=Z,253nm,1.4s
MCMT McKenzie Canyo 81.09 39 *e*P **P 17 32 40.6 -0.8**
comp=Z,54nm,1.0s
AHID Auburn Hatcher 81.11 41 *e*P **P 17 32 40.6 -0.9**
comp=Z,815nm,2.1s
AHID LR LR
comp=Z,6µm,22.0s
CN2 Changchun 81.13 320 ⇓P **P 17 32 42.3 +1.0**
CN2 *e*PP **PP 17 35 50.0 +3.0**
CN2 *e*S **S 17 42 50.5 +2.0**
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,1µm,21.0s
CN2 LE
comp=Z,2µm,21.0s
CN2 LZ
comp=Z,1µm,22.0s
DL2 Dalian 81.24 314 ⇓*i*P **P 17 32 43.8 +1.8**
DL2 sP **sP 17 33 00.3 +2.8**
DL2 PP PP 17 35 54.3 +6.3
DL2 S **S 17 42 53.8 +3.9**
DL2 PMZ
comp=Z,51nm,1.0s
DL2 PMZ
comp=Z,950nm,8.8s
DL2 LN
comp=Z,510nm,23.1s
DL2 LE
comp=Z,780nm,23.0s
DL2 LZ
comp=Z,1µm,24.7s
GZH Guangzhou 81.31 297 P **P 17 32 44.8 +2.1**
GZH S **S 17 42 52.6 +1.4**
GZH SS **SS 17 48 11.8 +3.9**
GZH PMZ
comp=Z,1µm,8.4s
GZH LN
comp=Z,2µm,21.6s
GZH LE
comp=Z,2µm,23.5s
SNY Shenyang 81.32 318 ⇓P **P 17 32 43.3 +1.0**
SNY SKS **S 17 42 51.8 +1.2**
SNY S **SKSac 17 42 56.6 -2.3**
SNY PMZ
comp=Z,32nm,1.2s
SNY PMZ
comp=Z,1µm,8.7s
SNY LN
comp=Z,1µm,23.0s
SNY LE
comp=Z,1µm,27.4s
SNY LZ
comp=Z,2µm,28.4s
MSO Missoula 81.52 37 ⇑P **P 17 32 42.3 -1.2**
baz=82,SNR=55
MSO Missoula 81.52 37 *e*P **P 17 32 42.2 -1.2**
comp=Z,154nm,1.3s
DLBC Dease Lake 81.56 21 LR LR 18 00 54.9
comp=Z,5µm,21.9s,baz=204,slow=30
DLBC Dease Lake 81.56 21 *e*P **P 17 32 42.6 -0.7**
comp=Z,62nm,1.2s
TPAW Teton Pass 81.57 41 *e*P **P 17 32 43.6 -0.4**
comp=Z,130nm,1.1s
S22A 4UR Ranch, Cre 81.59 47 ⇓P **P 17 32 43.9 -0.4**
baz=82
FXWY Fox Creek 81.59 40 *e*P **P 17 32 43.6 -0.5**
comp=Z,250nm,1.8s
BSMT Basso Peak 81.60 35 *e*P **P 17 32 42.9 -1.1**
O20A White River Ci 81.71 45 ⇑P **P 17 32 44.1 -0.6**
baz=82
O20A White River Ci 81.71 45 *e*P **P 17 32 44.4 -0.4**
comp=Z,317nm,1.7s
IMW Indian Meadow 81.78 40 *e*P **P 17 32 44.8 -0.3**
comp=Z,215nm,1.4s
JTMT Jette 81.82 36 *e*P **P 17 32 43.6 -1.4**
LRM Limekiln Ridge 81.85 38 *e*P **P 17 32 44.6 -0.8**
SWMT Swartz Lake 81.85 36 *e*P **P 17 32 43.5 -1.7**
DOT Dot Lake 81.89 13 *e*P **P 17 32 43.8 -1.1**
comp=Z,110nm,1.0s
529A Stev Forest Ra 81.89 56 ⇑P **P 17 32 45.0 -0.8**
baz=82,SNR=102
BLMT Blacktail Moun 81.92 35 *e*P **P 17 32 44.1 -1.6**
QLMT Earthquake Lak 81.95 39 *e*P **P 17 32 46.0 +0.1**
CHMT Chamberlain Mo 81.96 37 *e*P **P 17 32 44.6 -1.3**
SLMT Seeley Lake 82.00 36 *e*P **P 17 32 44.3 -1.7**
I17A Pilgrim Ck. 82.02 40 ⇓P **P 17 32 46.1 -0.2**
baz=82,SNR=51
N20A Spence Gulch, 82.02 44 ⇑P **P 17 32 45.9 -0.5**
baz=82,SNR=24
FLWY Flagg Ranch 82.02 40 *e*P **P 17 32 46.2 -0.1**
comp=Z,283nm,1.4s
YBMT Yellow Bay 82.04 36 *e*P **P 17 32 44.4 -1.8**
BW06 Boulder Array 82.09 42 *e*P **P 17 32 45.3 -1.5**
comp=Z,432nm,1.9s
BW06 LR LR
comp=Z,8µm,20.0s
PDAR Pinedale Array 82.09 42 P **P 17 32 45.6 -1.1**
comp=Z,44nm,1.1s,baz=211,slow=3.3,SNR=78
PDAR LR LR 18 03 18.1
comp=Z,7µm,19.7s,baz=240,slow=31
YFT Old Faithful 82.12 40 *e*P **P 17 32 48.2 +1.4**
comp=Z,127nm,1.2s
YMR Madison River 82.15 40 *e*P **P 17 32 47.5 +0.5**
comp=Z,492nm,1.6s
S23A Nye Farm, Mont 82.16 48 ⇓P **P 17 32 47.5 +0.3**
baz=82
BOZ Bozeman (W) 82.25 39 *e*P **P 17 32 46.6 -0.8**
BOZ pmax pmax
comp=Z,171nm,1.4s
BOZ MLR MLR
comp=Z,5µm,20.0s
BOZ Bozeman (W) 82.25 39 *e*P **P 17 32 46.6 -0.8**
comp=Z,171nm,1.4s
BOZ LR LR
comp=Z,5µm,20.0s
COLA College 82.25 11 *e*P **P 17 32 44.9 -1.8**
COLA pmax pmax
comp=Z,249nm,0.9s
COLA MLR MLR
comp=Z,11µm,21.0s
COLA College 82.25 11 *e*P **P 17 32 44.9 -1.8**
comp=Z,249nm,0.9s
COLA LR LR
comp=Z,11µm,21.0s
H17A Grant Village 82.25 40 ⇑P **P 17 32 47.7 +0.2**
baz=82,SNR=28
H17A Grant Village 82.25 40 *e*P **P 17 32 48.4 +0.9**
comp=Z,75nm,1.1s
ILAR Eielson Array 82.33 11 P **P 17 32 45.9 -1.3**
comp=Z,31nm,1.0s,baz=209,slow=5.2,SNR=66
ILAR LR LR 18 02 43.3
comp=Z,4µm,21.9s,baz=212,slow=31
429A Davenport Ranc 82.35 55 ⇓P **P 17 32 47.2 -0.9**
baz=82,SNR=154
YNR Norris Junctio 82.35 40 *e*P **P 17 32 49.0 +0.9**
comp=Z,358nm,1.7s
228A UT Block 9, Go 82.38 54 ⇓P **P 17 32 47.4 -0.9**
baz=82,SNR=19
LKWY Lake 82.45 40 *e*P **P 17 32 49.3 +0.7**
LKWY pmax pmax
comp=Z,85nm,0.9s
LKWY MLR MLR
comp=Z,4µm,20.0s
LKWY Lake 82.45 40 *e*P **P 17 32 49.3 +0.7**
comp=Z,85nm,0.9s
LKWY LR LR
comp=Z,4µm,20.0s
P22A Eagle 82.47 46 ⇑P **P 17 32 48.4 -0.4**
baz=83,SNR=11
R23A Moffat 82.50 47 ⇑P **P 17 32 48.7 -0.3**
baz=83,SNR=51
SDCO Great Sand Dun 82.54 48 ⇓P **P 17 32 48.8 -0.4**
baz=83,SNR=34
SDCO Great Sand Dun 82.54 48 *e*P **P 17 32 48.7 -0.6**
comp=Z,385nm,2.0s
530A J-C Ranch, Com 82.61 56 ⇑P **P 17 32 48.9 -0.5**
baz=83,SNR=34
329A Wagon Wheel Ra 82.61 55 ⇓P **P 17 32 48.7 -0.8**
baz=83,SNR=39
J19A Crowheart 82.66 42 ⇓P **P 17 32 48.8 -0.8**
baz=83,SNR=88
128A Castleberry Fa 82.66 53 ⇑P **P 17 32 49.1 -0.7**
baz=83,SNR=71
HRY Holter Researc 82.68 38 *e*P **P 17 32 48.9 -0.6**
WALA Waterton Lakes 82.75 35 *e*P **P 17 32 48.6 -1.3**
comp=Z,132nm,1.3s
Q23A Hartsel 82.81 47 ⇓P **P 17 32 50.0 -0.7**
baz=83,SNR=6.2
O22A Kremmling 82.87 45 ⇓P **P 17 32 50.8 -0.1**
baz=83,SNR=81
229A Bryant Ranch, 82.93 54 ⇑P **P 17 32 50.4 -0.8**
baz=83,SNR=24
430A Baggett Ranch, 82.93 56 ⇓P **P 17 32 50.2 -0.9**
baz=83,SNR=8.9
631A Perdido Creek 82.95 57 ⇑P **P 17 32 50.4 -0.8**
baz=83,SNR=74
H18A Shoshone NF, C 82.96 40 ⇓P **P 17 32 50.8 -0.4**
baz=83,SNR=41
MSTX Muleshoe 82.98 52 ⇑P **P 17 32 50.7 -0.7**
baz=83,SNR=43
MSTX Muleshoe 82.98 52 *e*P **P 17 32 50.2 -1.1**
comp=Z,207nm,1.1s
Z28A Tucker Farm, M 83.00 53 ⇑P **P 17 32 50.7 -0.8**
baz=83,SNR=21
P23A Jefferson 83.01 46 ⇑P **P 17 32 52.0 +0.3**
baz=83,SNR=35
832A Faith Ranch, C 83.02 58 ⇑P **P 17 32 50.7 -0.9**
baz=83,SNR=34
QIZ Qiongzhong 83.03 292 P **P 17 32 52.3 +0.5**
QIZ pP **pP 17 33 02.3 -0.9**
QIZ S **S 17 43 09.4 +0.4**
QIZ PMZ
comp=Z,580nm,13.9s
QIZ LN
comp=Z,1µm,29.0s
QIZ LE
comp=Z,760nm,21.7s
QIZ LZ
comp=Z,3µm,24.7s
QIZ Qiongzhong 83.03 292 PFAKE 17 33 00.0 +8.2
QIZ LR LR
comp=Z,1µm,20.0s
R24A Sanders Place, 83.03 47 ⇑P **P 17 32 51.6 -0.1**
baz=83,SNR=41
T25A Trinidad 83.06 49 ⇑P **P 17 32 51.2 -0.7**
baz=83,SNR=38
I19A Meeteetse 83.07 41 ⇓P **P 17 32 51.5 -0.3**
baz=83,SNR=45
129A Stewart Farms, 83.15 54 ⇑P **P 17 32 51.7 -0.5**
baz=83,SNR=17
WHN Wuhan 83.18 304 P **P 17 32 52.3 0.0**
WHN PP **PP 17 36 03.6 -0.6**
WHN S S 17 43 16.5 +6.4
WHN LN
comp=Z,3µm,18.2s
WHN LE
comp=Z,2µm,19.8s
WHN LZ
comp=Z,3µm,21.2s
732A Laxson Ranch, 83.19 58 ⇑P **P 17 32 51.7 -0.8**
baz=83
330A Mertzon 83.22 55 ⇑P **P 17 32 51.6 -1.0**
baz=83,SNR=14
N22A Wattenberg Ran 83.22 45 ⇓P **P 17 32 52.5 -0.2**
baz=83,SNR=77
531A Rocksprings 83.25 56 ⇓P **P 17 32 52.1 -0.7**
baz=83,SNR=130
TIA Tai'an 83.28 310 ⇓P **P 17 32 54.5 +1.8**
TIA pP **pP 17 33 05.4 +1.3**
TIA sP **sP 17 33 10.1 +1.8**
TIA PMZ
comp=Z,30nm,0.9s
TIA PMZ
comp=Z,2µm,8.1s
TIA LN
comp=Z,1µm,19.7s
TIA LE
comp=Z,2µm,21.9s
TIA LZ
comp=Z,3µm,22.8s
DAWY Dawson 83.30 14 *e*P **P 17 32 51.5 -0.7**
comp=Z,51nm,0.9s
Q24A Divide 83.31 47 ⇑P **P 17 32 53.0 -0.3**
baz=83,SNR=75
J20A Shoshoni 83.32 42 ⇓P **P 17 32 52.5 -0.5**
baz=83,SNR=119
O23A Lake Granby, G 83.33 45 ⇓P **P 17 32 53.0 -0.3**
baz=83,SNR=35
Y28A McKinney Farm, 83.35 52 ⇓P **P 17 32 52.8 -0.5**
baz=83,SNR=14
ISCO Idaho Springs 83.35 46 *e*P **P 17 32 53.0 -0.4**
ISCO pmax pmax
comp=Z,280nm,1.8s
ISCO MLR MLR
comp=Z,6µm,20.0s
ISCO Idaho Springs 83.35 46 ⇑P **P 17 32 53.0 -0.4**
baz=84,SNR=29
ISCO Idaho Springs 83.35 46 *e*P **P 17 32 53.0 -0.4**
comp=Z,280nm,1.8s
ISCO LR LR
comp=Z,6µm,20.0s
933A Laredo 83.36 59 ⇓P **P 17 32 52.7 -0.7**
baz=83,SNR=9.1
H19A Powell 83.38 40 ⇑P **P 17 32 53.3 +0.1**
baz=84,SNR=56
431A Sonora 83.39 56 ⇓P **P 17 32 52.4 -1.2**
baz=84,SNR=15
M22A Cedar Creek Ra 83.40 44 ⇓P **P 17 32 52.8 -0.8**
baz=84,SNR=46
RLMT Red Lodge 83.42 40 *e*P **P 17 32 52.9 -0.6**
comp=Z,94nm,1.0s
RLMT LR LR
comp=Z,4µm,20.0s
230A Sterling City 83.45 55 ⇑P **P 17 32 53.3 -0.5**
baz=84
EGAK Eagle 83.50 13 *e*P **P 17 32 52.2 -1.0**
comp=Z,153nm,1.4s
EGAK LR LR
comp=Z,10µm,22.0s
GCMT Greycliff 83.51 39 *e*P **P 17 32 53.4 -0.5**
comp=Z,153nm,1.4s
833A Chaparral WMA, 83.52 58 ⇓P **P 17 32 53.4 -0.8**
baz=84
Z29A Hungry Hill Ra 83.52 53 ⇓P **P 17 32 53.1 -1.0**
baz=84,SNR=36
K21A Alcova 83.53 43 ⇑P **P 17 32 53.3 -0.8**
baz=84,SNR=79
I20A Worland 83.58 41 ⇑P **P 17 32 53.6 -0.7**
baz=84,SNR=61
R25A Fountain Ranch 83.58 48 ⇑P **P 17 32 53.6 -0.9**
baz=84,SNR=52
N23A Red Feather La 83.61 45 ⇑P **P 17 32 54.5 -0.2**
baz=84,SNR=27
632A Uvalde 83.62 57 ⇓P **P 17 32 54.4 -0.3**
baz=84,SNR=58
X28A Dimmitt 83.63 52 ⇓P **P 17 32 54.0 -0.8**
baz=84,SNR=55
V27A Dan Oppiter Fa 83.65 50 ⇑P **P 17 32 54.0 -0.8**
baz=84,SNR=17
034A Hebbronville 83.66 60 ⇑P **P 17 32 55.1 +0.2**
baz=84,SNR=30
T26A Comanche Natio 83.67 49 ⇑P **P 17 32 53.8 -1.2**
baz=84,SNR=28
CMIG Matias Romero 83.70 70 LR LR 18 01 36.2
comp=Z,6µm,20.4s,baz=226,slow=30
P24A Kohler Place, 83.72 46 ⇑P **P 17 32 54.5 -0.7**
baz=84
J21A Lysite 83.73 42 ⇓P **P 17 32 54.2 -0.9**
baz=84,SNR=81
733A Divot King Ran 83.74 58 ⇑P **P 17 32 54.4 -0.9**
baz=84,SNR=6.7
532A Rocksprings 83.75 57 ⇓P **P 17 32 54.3 -1.1**
baz=84,SNR=66
331A San Angelo 83.77 55 ⇑P **P 17 32 54.4 -1.0**
baz=84,SNR=11
Y29A Porterfield Fa 83.78 53 ⇑P **P 17 32 54.6 -0.9**
baz=84,SNR=49
L22A Ellis Ranch, M 83.79 44 ⇓P **P 17 32 55.4 -0.1**
baz=84,SNR=50
130A Snyder 83.83 54 ⇑P **P 17 32 54.7 -1.0**
baz=84,SNR=7.1
O24A Longmont 83.87 46 ⇑P **P 17 32 55.5 -0.3**
baz=84
H20A Greybull 83.91 41 ⇓P **P 17 32 54.9 -1.0**
baz=84,SNR=29
W28A Vega 83.92 51 ⇓P **P 17 32 54.9 -1.3**
baz=84,SNR=17
U27A Thompson Grove 83.92 50 ⇓P **P 17 32 54.7 -1.5**
baz=84,SNR=32
Q25A Bedland, Calha 83.93 47 ⇓P **P 17 32 55.1 -1.2**
baz=84,SNR=11
S26A Kim 83.94 49 ⇓P **P 17 32 54.9 -1.4**
baz=84,SNR=55
035Z Hargill 83.96 61 ⇓P **P 17 32 55.5 -0.9**
baz=84
JCT Junction City 83.97 56 *e*P **P 17 32 55.5 -1.0**
JCT pmax pmax
comp=Z,458nm,2.4s
JCT MLR MLR
comp=Z,5µm,20.0s
JCT Junction City 83.97 56 ⇑P **P 17 32 55.2 -1.3**
baz=84,SNR=17
JCT Junction City 83.97 56 *e*P **P 17 32 55.5 -1.0**
comp=Z,458nm,2.4s
JCT LR LR
comp=Z,5µm,20.0s
Z30A Sanderson Ranc 83.97 53 ⇓P **P 17 32 55.4 -1.0**
baz=84,SNR=81
F19A Roth Farm, Mol 83.98 39 ⇓P **P 17 32 55.9 -0.4**
baz=84,SNR=86
X29A Tulia 83.98 52 ⇑P **P 17 32 55.7 -0.8**
baz=84,SNR=35
934A Benavides 83.98 59 ⇓P **P 17 32 56.7 +0.2**
baz=84,SNR=7.1
K22A Casper 84.01 43 ⇑P **P 17 32 56.0 -0.6**
baz=84,SNR=32
K22A Casper 84.01 43 *e*P **P 17 32 55.6 -0.9**
comp=Z,94nm,1.1s
M23A Laramie 84.02 44 ⇓P **P 17 32 56.2 -0.5**
baz=84,SNR=52
COLD Coldfoot 84.03 9 *e*P **P 17 32 55.6 -0.3**
comp=Z,84nm,1.1s
I21A Big Trails, Te 84.05 42 ⇑P **P 17 32 55.6 -1.1**
baz=84,SNR=159
231A Bronte 84.09 55 ⇑P **P 17 32 55.7 -1.4**
baz=84,SNR=25
035A Encino 84.10 60 ⇓P **P 17 32 56.9 -0.2**
baz=84,SNR=7.6
V28A Channing 84.10 51 ⇑P **P 17 32 56.0 -1.1**
baz=84,SNR=10
633A Saathoff Ranch 84.10 57 ⇓P **P 17 32 56.7 -0.4**
baz=84,SNR=18
432A Menard 84.12 56 ⇑P **P 17 32 55.9 -1.3**
baz=84,SNR=50
G20A Bridger 84.12 40 ⇓P **P 17 32 56.1 -0.9**
baz=84,SNR=42
834A Tilden 84.14 59 ⇓P **P 17 32 57.1 -0.2**
baz=84,SNR=44
AMTX Amarillo 84.17 52 ⇓P **P 17 32 56.7 -0.8**
baz=84
AMTX Amarillo 84.17 52 *e*P **P 17 32 56.6 -0.9**
comp=Z,166nm,0.9s
PMSA Palmer Station 84.19 156 LR LR 18 01 06.6
comp=Z,4µm,21.5s,baz=254,slow=29
P25A Willow Gulch B 84.24 47 ⇓P **P 17 32 57.4 -0.4**
baz=84,SNR=67
R26A Arlington 84.24 48 ⇓P **P 17 32 56.9 -0.9**
baz=84,SNR=76
T27A Campo 84.26 49 ⇓P **P 17 32 56.9 -1.0**
baz=84,SNR=8.7
W29A Amarillo 84.28 51 ⇓P **P 17 32 57.1 -0.9**
baz=84,SNR=36
N24A Carr 84.31 45 ⇑P **P 17 32 57.6 -0.5**
baz=84,SNR=19
131A Roby 84.31 54 ⇓P **P 17 32 57.2 -1.0**
baz=84,SNR=13
332A Millersview 84.34 55 ⇑P **P 17 32 57.4 -0.9**
baz=84,SNR=64
U28A Mallet 84.35 50 ⇓P **P 17 32 57.0 -1.4**
baz=84
E19A Rath Farm, Rou 84.37 39 ⇓P **P 17 32 57.8 -0.4**
baz=84,SNR=137
Y30A Stafford Cattl 84.38 53 ⇑P **P 17 32 57.4 -1.1**
baz=84,SNR=26
S27A Las Animas 84.38 49 ⇓P **P 17 32 57.5 -1.0**
baz=84
J22A Midwest 84.39 42 ⇑P **P 17 32 57.7 -0.8**
baz=84,SNR=88
734A La Parita Cree 84.39 58 ⇑P **P 17 32 57.8 -0.8**
baz=84
533A Kerrville 84.44 57 ⇓P **P 17 32 58.0 -0.8**
baz=84,SNR=22
F20A Billings 84.44 40 ⇑P **P 17 32 57.9 -0.6**
baz=85,SNR=22
BILL Bilibino 84.45 352 ⇓*e*P **P 17 32 57.4 -0.6**
BILL *i* 17 33 04.7
BILL *i* SS SS 17 48 46.9 -5.8
BILL pmax pmax
comp=Z,52nm,1.2s
BILL Bilibino 84.45 352 *e*P **P 17 32 55.9 -2.1**
comp=Z,162nm,1.7s
BILL LR LR
comp=Z,12µm,22.0s
Q26A Hugo 84.45 47 ⇑P **P 17 32 58.1 -0.8**
baz=84,SNR=17
KVTX Kingsville 84.48 60 PFAKE 17 33 10.0 +11
KVTX LR LR
comp=Z,2µm,20.0s
O25A Wiggins 84.52 46 ⇑P **P 17 32 58.1 -1.1**
baz=85
EGMT Eagleton 84.56 37 ⇑P **P 17 32 58.3 -0.8**
baz=85,SNR=6.8
EGMT Eagleton 84.56 37 *e*P **P 17 32 58.8 -0.4**
comp=Z,69nm,0.8s
EGMT LR LR
comp=Z,7µm,20.0s
H21A Big Horn, Sher 84.58 41 ⇓P **P 17 32 58.5 -0.8**
baz=85,SNR=28
I22A 9 Mile Ranch, 84.60 42 ⇓P **P 17 32 58.5 -1.0**
baz=85,SNR=73
232A Coleman 84.61 55 ⇑P **P 17 32 58.8 -0.9**
baz=85,SNR=15
X30A Coker Ranch, T 84.61 52 ⇑P **P 17 32 58.7 -1.0**
baz=85,SNR=33
M24A Cheyenne 84.62 45 ⇑P **P 17 32 59.3 -0.4**
baz=85,SNR=17
433A Art 84.64 56 ⇑P **P 17 32 58.8 -1.0**
baz=85,SNR=29
K23A Bowen Ranch, D 84.65 43 ⇓P **P 17 32 59.0 -0.8**
baz=85,SNR=29
D19A Cripps Ranch, 84.66 38 ⇓P **P 17 32 59.0 -0.6**
baz=85,SNR=99
V29A Stinnett 84.67 51 ⇓P **P 17 32 59.2 -0.7**
baz=85,SNR=15
R27A Eads 84.70 48 ⇓P **P 17 32 58.9 -1.2**
baz=85,SNR=15
T28A Walsh 84.73 49 ⇓P **P 17 32 59.0 -1.2**
baz=85,SNR=26
634A China Grove, S 84.75 58 ⇑P **P 17 32 59.1 -1.3**
baz=85
Z31A Sharp Cattle R 84.75 54 ⇑P **P 17 32 59.3 -1.0**
baz=85,SNR=45
G21A Lodge Grass 84.75 40 ⇓P **P 17 32 59.5 -0.7**
baz=85,SNR=13
E20A Meyer Farm, Mu 84.79 39 ⇑P **P 17 32 59.9 -0.4**
baz=85,SNR=28
835A Beeville 84.79 59 ⇓P **P 17 33 00.2 -0.4**
baz=85
L24A Wheatland 84.80 44 ⇓P **P 17 32 60.0 -0.6**
baz=85,SNR=18
P26A Davis Ranch, A 84.83 47 ⇓P **P 17 33 00.0 -0.8**
baz=85,SNR=6.0
C19A Slack Wire Ran 84.83 38 ⇑P **P 17 33 00.4 -0.1**
baz=85,SNR=151
N25A Grover 84.84 45 ⇓P **P 17 33 00.3 -0.5**
baz=85
534A Blanco 84.87 57 ⇓P **P 17 32 60.0 -1.1**
baz=85,SNR=44
ABTX Abilene, Hawle 84.88 54 ⇓P **P 17 33 00.1 -0.9**
baz=85,SNR=72
ABTX Abilene, Hawle 84.88 54 *e*P **P 17 33 00.1 -0.9**
comp=Z,253nm,1.0s

Y31A	Rekieta Farm, baz=85,SNR=72	84.90	53	⇑P		P	17 33 00.1	-1.0
333A	Richland Sprin baz=85,SNR=30	84.93	56	⇑P		P	17 33 00.1	-1.2
936A	North Padre Is baz=85	84.93	60	⇓P		P	17 33 00.7	-0.5
J23A	Dilts Ranch, B baz=85	84.99	43	⇑P		P	17 33 00.3	-1.2
H22A	Clearmont baz=85,SNR=25	85.00	41	⇑P		P	17 33 00.8	-0.7
735A	Kenedy baz=85	85.01	58	⇓P		P	17 33 01.5	-0.2
D20A	Manuel Ranch, baz=85,SNR=42	85.06	38	⇑P		P	17 33 01.2	-0.5
S28A	Manter baz=85	85.07	49	⇓P		P	17 33 00.7	-1.2
F21A	Absaloka Mine, baz=85,SNR=15	85.08	40	⇓P		P	17 33 01.7	-0.1
U29A	Oasis Ranch, S baz=85,SNR=14	85.09	50	⇓P		P	17 33 00.9	-1.1
KSCO	Kaye Shedlock' baz=85	85.12	48	⇑P		P	17 33 01.1	-1.1
KSCO	Kaye Shedlock' comp=Z,596nm,1.8s	85.12	48	eP		P	17 33 00.4	-1.8
M25A	Palm-Egli Farm baz=85,SNR=7.9	85.13	45	⇑P		P	17 33 01.8	-0.5
O26A	Horse Wrangler baz=85,SNR=8.0	85.14	46	⇓P		P	17 33 01.7	-0.6
K24A	Anderson Ranch baz=85,SNR=15	85.17	43	⇑P		P	17 33 01.8	-0.6
635A	Leesville baz=85	85.22	58	⇑P		P	17 33 02.0	-0.8
233A	Rising Star baz=85,SNR=26	85.24	55	⇑P		P	17 33 02.0	-0.9
B19A	Brinkman Farms baz=85,SNR=19	85.25	37	⇓P		P	17 33 02.1	-0.4
V30A	Spur Ranch, Mi baz=85,SNR=19	85.25	51	⇓P		P	17 33 02.5	-0.4
Z32A	Haskell baz=85,SNR=267	85.26	54	⇑P		P	17 33 02.5	-0.4
I23A	Meade Ranch, G baz=85	85.29	42	⇑P		P	17 33 02.1	-0.9
434A	Burnet baz=85,SNR=41	85.32	56	⇓P		P	17 33 02.3	-0.9
G22A	Birney baz=85,SNR=12	85.33	41	⇓P		P	17 33 02.1	-0.9
EDM	Edmonton	85.33	31	eP		P	17 33 01.7	-1.1
EDM	comp=Z,239nm,1.3s			pmax		pmax		
EDM	Edmonton comp=Z,240nm,1.3s	85.33	31	eP		P	17 33 01.7	-1.1
T29A	Hugoton baz=85	85.34	50	⇓P		P	17 33 02.1	-1.2
X31A	McDonald Ranch baz=85,SNR=36	85.36	52	⇑P		P	17 33 02.4	-1.0
P27A	Ficken Ranch, baz=86	85.37	47	⇑P		P	17 33 02.4	-1.1
R28A	Tribune baz=86,SNR=21	85.43	48	⇑P		P	17 33 02.9	-0.9
C20A	Veseth Ranch, baz=86,SNR=83	85.44	38	⇑P		P	17 33 03.2	-0.3
133A	Hamilton Ranch baz=86,SNR=52	85.44	55	⇑P		P	17 33 03.3	-0.5
N26A	Koester Ranch, baz=86	85.45	46	⇑P		P	17 33 02.7	-1.1
E21A	Keefer Ranch, baz=86,SNR=19	85.45	39	⇑P		P	17 33 03.3	-0.2
L25A	Engebretsen Ra baz=86,SNR=8.1	85.50	44	⇑P		P	17 33 03.6	-0.4
334A	Lometa baz=86,SNR=66	85.53	56	⇓P		P	17 33 03.5	-0.8
BJT	Baijiatuau	85.53	313		PFAKE		17 33 10.0	+6.0
BJT	comp=Z,2μm,22.0s				LR	LR		
BJI	Beijing	85.53	313		P	P	17 33 05.8	+1.8
BJI					sP	sP	17 33 19.0	-0.6
BJI					PP	PP	17 36 20.9	-2.2
BJI					S	ScS	17 43 38.9	-4.0
BJI					SS	SS	17 49 07.3	-2.5
BJI	comp=Z,42nm,1.3s				PMZ			
BJI	comp=Z,1μm,8.6s				PMZ			
BJI	comp=Z,1μm,25.0s				LN			
BJI	comp=Z,1μm,25.0s				LE			
BJI	comp=Z,2μm,25.0s				LZ			
J24A	Dixon Ranch, L baz=86,SNR=9.1	85.54	43	⇓P		P	17 33 03.4	-0.8
Y32A	R-V Farms, Ver baz=86,SNR=74	85.54	53	⇓P		P	17 33 03.6	-0.7
U30A	WK&E Inc, Balk baz=86,SNR=13	85.58	50	⇓P		P	17 33 03.4	-1.1
A19A	Klindworth Far baz=86	85.60	37	⇑P		P	17 33 03.5	-0.8
H23A	Clabaugh Cattl baz=86	85.60	42	⇓P		P	17 33 03.0	-1.5
W31A	Holland Ranch, baz=86,SNR=36	85.60	52	⇑P		P	17 33 03.7	-0.9
F22A	Rosebud baz=86,SNR=13	85.60	40	⇑P		P	17 33 03.9	-0.5
535A	Dale baz=86	85.61	57	⇓P		P	17 33 04.1	-0.5
S29A	Ulysses baz=86	85.65	49	⇑P		P	17 33 03.7	-1.1
O27A	Beecher Island baz=86	85.70	46	⇑P		P	17 33 04.2	-0.8
Q28A	Sharon Springs baz=86	85.70	48	⇓P		P	17 33 04.0	-1.1
D21A	La Casta Ranch baz=86,SNR=12	85.74	39	⇓P		P	17 33 04.9	-0.1
K25A	Mack Ranch, Ha baz=86	85.75	44	⇑P		P	17 33 04.5	-0.8
M26A	McRoberts Ranc baz=86	85.77	45	⇑P		P	17 33 04.5	-0.8
B20A	Solberg Farm, baz=86,SNR=31	85.78	37	⇑P		P	17 33 04.6	-0.6
I24A	Kuemmerle Ranc baz=86	85.79	42	⇑P		P	17 33 04.2	-1.3
Z33A	Whitaker Ranch baz=86,SNR=59	85.81	54	⇓P		P	17 33 04.9	-0.7
X32A	Elmer baz=86,SNR=75	85.82	53	⇑P		P	17 33 04.2	-1.5
636A	Smothers Creek baz=86,SNR=13	85.84	58	⇑P		P	17 33 06.1	+0.3
234A	Clairette baz=86,SNR=22	85.84	55	⇓P		P	17 33 05.3	-0.5
435B	Jarrell baz=86	85.86	57	⇓P		P	17 33 05.1	-0.8
UBPT	Khong Chiam	85.86	287		P	P	17 33 16.7	+10
T30A	Plains baz=86	85.87	50	⇑P		P	17 33 04.4	-1.5
G23A	Biddle baz=86,SNR=28	85.89	41	⇑P		P	17 33 04.9	-0.9
V31A	Spring Creek L baz=86,SNR=8.6	85.89	51	⇑P		P	17 33 06.2	+0.1
USHA	Ushuaia comp=Z,7μm,22.0s,baz=232,slow=29	85.90	146		LR	LR	18 02 24.4	
N27A	Anderson Farm, baz=86	85.91	46	⇑P		P	17 33 05.0	-1.1
R29A	Marienthal baz=86,SNR=13	85.95	49	⇓P		P	17 33 05.5	-0.8
P28A	Saint Francis baz=86	85.96	47	⇑P		P	17 33 05.1	-1.2
536A	Bastrop baz=86	86.03	58	⇑P		P	17 33 06.5	-0.3
C21A	Desert Coulee baz=86	86.03	38	⇑P		P	17 33 05.6	-0.8
LAO	LASA Array comp=Z,137nm,1.2s	86.04	39	eP		P	17 33 06.8	+0.3
LAO	comp=Z,4μm,21.0s				LR	LR		
A20A	Cobblestone Ra baz=86,SNR=14	86.05	37	⇓P		P	17 33 05.4	-1.1
L26A	Underwood Farm baz=86	86.05	45	⇓P		P	17 33 06.0	-0.7
134A	White-Moore Ra baz=86,SNR=12	86.09	55	⇓P		P	17 33 06.6	-0.4
E22A	Miles City baz=86,SNR=8.0	86.09	40	⇓P		P	17 33 06.4	-0.4
W32A	Sentinel baz=86,SNR=74	86.11	52	⇑P		P	17 33 06.1	-1.0
F23A	Volborg baz=86,SNR=16	86.11	41	⇓P		P	17 33 06.2	-0.7
U31A	Nine Bar Ranch baz=86	86.11	51	⇓P		P	17 33 06.1	-1.0
J25A	Sunshine Ranch baz=86	86.13	43	⇑P		P	17 33 06.0	-1.1
S30A	Montezuma baz=86	86.14	49	⇓P		P	17 33 06.3	-1.0
335A	Moody baz=86,SNR=14	86.16	56	⇑P		P	17 33 06.7	-0.6
O28A	Krutsinger Ran baz=86	86.17	47	⇑P		P	17 33 06.3	-1.1
Y33A	Hilltop Ranch, baz=86,SNR=15	86.18	53	⇓P		P	17 33 06.3	-1.1
H24A	Dirks Ranch, A baz=86,SNR=64	86.22	42	⇓P		P	17 33 06.5	-1.0
Q29A	Oakley baz=86,SNR=12	86.25	48	⇓P		P	17 33 06.7	-1.1
K26A	Motz Farm, Whi baz=86,SNR=8.2	86.25	44	⇑P		P	17 33 07.0	-0.8
D22A	Cohagen baz=86	86.28	39	⇑P		P	17 33 06.8	-0.8
RSSD	Black Hills	86.29	42	eP		P	17 33 05.8	-2.2
RSSD	comp=Z,102nm,1.3s				pmax	pmax		
RSSD	Black Hills comp=Z,102nm,1.3s	86.29	42	eP		P	17 33 05.8	-2.2
M27A	Reverse DX Ran baz=86	86.31	45	⇓P		P	17 33 07.0	-1.0
OGNE	Ogallala baz=86	86.32	46	⇓P		P	17 33 06.8	-1.3
OGNE	Ogallala	86.32	46		PFAKE		17 33 20.0	+12
OGNE	comp=Z,4μm,21.0s				LR	LR		
WMOK	Wichita Mounta	86.32	53	eP		P	17 33 06.7	-1.5
WMOK	comp=Z,41nm,1.1s				pmax	pmax		
WMOK	comp=Z,4μm,19.0s				MLR	MLR		
WMOK	Wichita Mounta comp=Z,41nm,1.1s	86.32	53	eP		P	17 33 06.7	-1.5
WMOK	comp=Z,4μm,19.0s				LR	LR		
B21A	Ellsworth Farm baz=86,SNR=20	86.36	38	⇓P		P	17 33 07.6	-0.4
WHTX	Lake Whitney, baz=86,SNR=6.2	86.38	56	⇑P		P	17 33 07.8	-0.6
WHTX	Lake Whitney, comp=Z,153nm,1.2s	86.38	56	eP		P	17 33 07.8	-0.6
I25A	Rochford baz=86,SNR=25	86.44	43	⇓P		P	17 33 07.4	-1.4
X33A	Lawton baz=86,SNR=14	86.47	53	⇑P		P	17 33 07.5	-1.3
V32A	Arapaho baz=87,SNR=7.5	86.48	52	⇓P		P	17 33 08.4	-0.5
436A	Wall Ranch, Ga baz=86,SNR=17	86.49	57	⇑P		P	17 33 08.5	-0.5
Z34A	Collier Ranch, baz=87	86.50	54	⇑P		P	17 33 08.0	-1.0
T31A	Randall Ranch, baz=87,SNR=8.9	86.51	50	⇓P		P	17 33 08.1	-0.9
E23A	Ismay baz=87,SNR=7.3	86.52	40	⇑P		P	17 33 08.4	-0.5
R30A	Dighton baz=87	86.52	49	⇓P		P	17 33 08.1	-1.0
N28A	Pribbeno Ranch baz=87	86.56	46	⇓P		P	17 33 08.3	-0.9
P29A	Atwood baz=87	86.56	48	⇑P		P	17 33 08.4	-0.8
G24A	Alzada baz=87	86.56	41	⇑P		P	17 33 08.1	-1.1
J26A	Sides Ranch, S baz=87	86.58	43	⇓P		P	17 33 08.3	-1.0
L27A	T5 Ranch, Ells baz=87	86.58	45	⇓P		P	17 33 08.7	-0.7
135A	Vickery Place, baz=87,SNR=18	86.61	55	⇑P		P	17 33 09.0	-0.6
537A	Green Hill Far baz=87	86.65	58	⇑P		P	17 33 09.4	-0.4
336A	Riesel baz=87,SNR=15	86.66	56	⇓P		P	17 33 08.9	-0.9
A21A	Bergtoll Ranch baz=87,SNR=13	86.68	37	⇑P		P	17 33 08.9	-0.7
W33A	Caddo, Fort Co baz=87,SNR=11	86.71	52	⇑P		P	17 33 09.8	-0.2
C22A	Vida baz=87	86.72	39	⇑P		P	17 33 09.2	-0.6
U32A	Winter Ranch, baz=87	86.75	51	⇑P		P	17 33 08.9	-1.3
F24A	Ekalaka baz=87	86.77	41	⇓P		P	17 33 09.1	-1.1
COCO	West Island	86.78	258		PFAKE		17 33 20.0	+9.2
COCO	comp=Z,4μm,19.0s				LR	LR		
738A	Farr-Stevens R baz=87	86.78	59	⇑P		P	17 33 10.8	+0.3
H25A	Fruitdale baz=87	86.78	42	⇓P		P	17 33 09.2	-1.1
Q30A	Quinter baz=87,SNR=17	86.83	48	⇓P		P	17 33 09.7	-0.8
Y34A	Reagan Ranch, baz=87,SNR=23	86.83	54	⇓P		P	17 33 09.5	-1.1
S31A	Mullinville baz=87,SNR=9.4	86.85	50	⇑P		P	17 33 10.0	-0.7
O29A	4D Ranch, Culb baz=87	86.86	47	⇓P		P	17 33 09.5	-1.2
D23A	Lindsay baz=87,SNR=6.3	86.88	39	⇑P		P	17 33 10.6	0.0
K27A	Flueckinger Fa baz=87	86.89	44	⇓P		P	17 33 10.2	-0.7
B22A	Reddig Ranch S baz=87,SNR=9.3	86.91	38	⇑P		P	17 33 10.4	-0.3
M28A	Bar X Bar Ranc baz=87	86.95	46	⇓P		P	17 33 09.9	-1.3
HKT	Hockley	87.00	58	eP		P	17 33 10.6	-0.8
HKT	comp=Z,332nm,2.1s				pmax	pmax		
HKT	Hockley comp=Z,332nm,2.1s	87.00	58	eP		P	17 33 10.6	-0.8
X34A	Smith Ranch, M baz=87,SNR=6.0	87.00	53	⇓P		P	17 33 11.2	-0.2
Z35A	Perchaven, San baz=87,SNR=22	87.01	54	⇑P		P	17 33 10.5	-1.0
ENH	Enshi	87.01	302	eP		P	17 33 08.4	-3.2
ENH	comp=Z,37nm,1.2s				LR	LR		
ENH	comp=Z,741nm,22.0s							
I26A	New Underwood baz=87	87.02	43	⇓P		P	17 33 10.0	-1.3
P30A	Selden baz=87,SNR=13	87.02	48	⇑P		P	17 33 11.1	-0.4
437A	Phantom Ranch, baz=87,SNR=13	87.04	57	⇑P		P	17 33 11.3	-0.4
R31A	Burdett baz=87,SNR=14	87.07	49	⇑P		P	17 33 10.9	-0.8
IPM	Ipoh comp=Z,40nm,0.9s	87.08	275	eP		P	17 33 13.8	+1.5
V33A	Lossen Ranch, baz=87,SNR=15	87.09	52	⇓P		P	17 33 10.9	-1.0
L28A	Connealy Angus baz=87	87.09	45	⇑P		P	17 33 11.2	-0.7
T32A	Huddler Ranch, baz=87	87.10	50	⇓P		P	17 33 10.6	-1.3
G25A	Newell baz=87	87.14	42	⇓P		P	17 33 10.8	-1.2
E24A	Baker baz=87	87.16	40	⇑P		P	17 33 11.1	-0.9
C23A	Lambert baz=87,SNR=22	87.17	39	⇑P		P	17 33 11.4	-0.6
HIA	Hailar	87.23	323	eP		P	17 33 11.9	-0.3
HIA	comp=Z,90nm,1.4s				pmax	pmax		
HIA	comp=Z,5μm,22.0s				MLR	MLR		
HIA	Hailar comp=Z,90nm,1.4s	87.23	323	eP		P	17 33 11.9	-0.3
HIA	comp=Z,5μm,22.0s				LR	LR		
N29A	Votaw Ranch, W baz=87	87.25	46	⇓P		P	17 33 11.4	-1.2
J27A	Elkhorn Farm, baz=87	87.27	44	⇑P		P	17 33 11.5	-1.1
A22A	Carney Farms, baz=87,SNR=18	87.27	37	⇑P		P	17 33 11.8	-0.7
W34A	Bridge Creek, baz=87	87.27	52	⇓P		P	17 33 11.8	-1.0
W34A	Bridge Creek, comp=Z,87nm,1.1s	87.27	52	eP		P	17 33 12.1	-0.6
S32A	Newby Ranch, P baz=87	87.28	50	⇓P		P	17 33 11.6	-1.2
H26A	Fairpoint baz=87	87.32	42	⇑P		P	17 33 11.7	-1.1
TIY	Taiyuan	87.32	310	eP		P	17 33 14.6	+1.6
TIY				PP		PP	17 36 37.3	-0.5
TIY				S		S	17 43 56.4	+5.4
TIY	comp=Z,1μm,3.7s			PMZ				
TIY	comp=Z,530nm,19.7s			LN				
TIY	comp=Z,2μm,23.0s			LE				
TIY	comp=Z,2μm,20.7s			LZ				
538A	Harpers Horsep baz=87	87.37	58	⇓P		P	17 33 12.5	-0.8
D24A	Glendive baz=88,SNR=17	87.39	40	⇑P		P	17 33 13.0	-0.1
O30A	MW Ranch, Wils baz=88	87.40	47	⇑P		P	17 33 11.9	-1.4
337A	Centerville baz=88,SNR=14	87.41	57	⇑P		P	17 33 13.7	+0.2
F25A	Bowman baz=88	87.43	41	⇑P		P	17 33 12.4	-0.9
Q31A	Ellis baz=88	87.43	49	⇓P		P	17 33 12.2	-1.3
U33A	Lingo Farm, Me baz=88	87.44	51	⇑P		P	17 33 12.0	-1.6
M29A	Burnside Ranch baz=88	87.44	46	⇑P		P	17 33 12.6	-0.9
C24A	Savage baz=88	87.51	39	⇓P		P	17 33 12.8	-0.9
438A	Sam Houston St baz=88	87.56	57	⇑P		P	17 33 14.1	0.0
I27A	Quinn baz=88	87.56	43	⇑P		P	17 33 13.0	-1.0
T33A	Patterson Ranc baz=88	87.57	51	⇓P		P	17 33 12.8	-1.3
B23A	Brockton baz=88,SNR=15	87.58	38	⇑P		P	17 33 13.9	-0.1
N30A	Hueftle Ranch, baz=88	87.61	47	⇑P		P	17 33 13.0	-1.3
P31A	Stockton baz=88,SNR=10	87.64	48	⇓P		P	17 33 13.8	-0.7
KULM	Kulim	87.65	276		PFAKE		17 33 30.0	+15
KULM	comp=Z,2μm,21.0s				LR	LR		
V34A	Guthrie baz=88	87.68	52	⇓P		P	17 33 13.6	-1.1
V34A	Guthrie comp=Z,26nm,1.0s	87.68	52	eP		P	17 33 13.4	-1.2
237A	Washetta, Mont baz=88,SNR=15	87.70	56	⇓P		P	17 33 14.4	-0.4
E25A	Miller Ranch, baz=88	87.70	40	⇑P		P	17 33 13.9	-0.7
G26A	Maurine baz=88	87.71	42	⇑P		P	17 33 13.4	-1.3
R32A	Long Quarter, baz=88,SNR=18	87.72	49	⇓P		P	17 33 13.6	-1.2
H27A	Howes baz=88	87.78	43	⇑P		P	17 33 13.9	-1.1
L29A	Maesberg Ranch baz=88	87.83	45	⇓P		P	17 33 14.2	-1.2
J28A	Allard Ranch, baz=88	87.85	44	⇑P		P	17 33 14.3	-1.1
A23A	Redstone baz=88	87.87	38	⇑P		P	17 33 15.0	-0.3
U34A	Anderson Ranch baz=88,SNR=13	87.88	51	⇓P		P	17 33 14.4	-1.2
U34A	Anderson Ranch comp=Z,47nm,0.8s	87.88	51	eP		P	17 33 14.3	-1.3
338A	Crockett baz=88	87.89	57	⇓P		P	17 33 15.2	-0.6
F26A	Lodgepole baz=88	87.89	41	⇓P		P	17 33 14.4	-1.2
O31A	Woolen Ranch, baz=88	87.91	47	⇑P		P	17 33 14.7	-1.0
MAW	Mawson comp=Z,15nm,0.9s,baz=119,slow=6.4,SNR=7.8	87.92	199	P		P	17 33 15.5	+0.3
MAW	comp=Z,6μm,21.8s,baz=119,slow=33				LR	LR	18 08 37.1	
MAW	Mawson baz=88,SNR=11	87.92	199	P		P	17 33 16.0	+0.8
S33A	Kaszmaul Farm, baz=88	87.94	50	⇓P		P	17 33 15.2	-0.7
137A	Heron Place, G baz=88,SNR=11	87.94	56	⇓P		P	17 33 15.7	-0.3
539A	Cross D Ranch, baz=88	87.96	58	⇓P		P	17 33 15.9	-0.2
D25A	Fairfield baz=88,SNR=6.6	88.03	40	⇑P		P	17 33 15.5	-0.7
Q32A	Meitler Ranch, baz=88,SNR=18	88.03	49	⇓P		P	17 33 15.1	-1.2
M30A	Dale-Ortello V baz=88	88.05	46	⇓P		P	17 33 15.0	-1.4
DGMT	Dagmar baz=88	88.06	38	⇑P		P	17 33 15.4	-0.9
DGMT	Dagmar comp=Z,176nm,1.0s	88.06	38	eP		P	17 33 16.0	-0.3
DGMT	comp=Z,10μm,20.0s				LR	LR		
I28A	Midland baz=88,SNR=5.9	88.12	43	⇓P		P	17 33 15.5	-1.1
439A	Center Grove, baz=88	88.15	58	⇑P		P	17 33 16.2	-0.8
INK	Inuvik comp=Z,6μm,21.8s,baz=212,slow=31	88.15	14	LR		LR	18 05 41.6	
INK	Inuvik	88.15	14	eP		P	17 33 15.0	-1.1
INK	comp=Z,97nm,1.3s			pmax		pmax		
INK	Inuvik comp=Z,97nm,1.3s	88.15	14	eP		P	17 33 14.9	-1.1
GYA	Guiyang	88.15	298	⇑iP		P	17 33 18.0	+0.7
GYA				pP		pP	17 33 29.8	+1.1
GYA				sP		sP	17 33 36.4	+3.5
GYA				PP		PP	17 36 47.0	+2.2
GYA				SKS		SKSac	17 43 41.8	-1.9
GYA				S		S	17 43 57.3	-2.1
GYA				SS		SS	17 49 50.6	+1.6
GYA	comp=Z,40nm,1.0s			PMZ				
GYA	comp=Z,140nm,5.6s			LN				
GYA	comp=Z,3μm,20.2s			LE				
GYA	comp=Z,2μm,21.6s			LZ				
GYA	comp=Z,3μm,20.8s							
V35A	Meyer Ranch, C baz=88	88.17	52	⇑P		P	17 33 15.7	-1.4
G27A	Dupree baz=88,SNR=6.1	88.17	42	⇑P		P	17 33 15.8	-1.1
R33A	Olander Ranch, baz=88,SNR=16	88.21	50	⇓P		P	17 33 16.0	-1.2
K29A	Lazy Trails An baz=88,SNR=7.6	88.21	45	⇑P		P	17 33 16.1	-1.0
P32A	Huiting Farm, baz=88	88.23	48	⇓P		P	17 33 16.2	-1.1
238A	Jacksonville baz=88	88.25	56	⇓P		P	17 33 16.7	-0.8
E26A	Carlson Angus baz=88	88.28	41	⇑P		P	17 33 16.4	-0.9
C25A	Freed Ranch, W baz=88	88.31	39	⇑P		P	17 33 16.7	-0.8
L30A	Spencer Herefo baz=88	88.31	46	⇑P		P	17 33 16.2	-1.4
F27A	Lemmon baz=88	88.32	41	⇑P		P	17 33 16.2	-1.3
A24A	Westby baz=88	88.37	38	⇓P		P	17 33 16.7	-1.0
N31A	Bailey Ranch, baz=88	88.42	47	⇑P		P	17 33 16.8	-1.3
W36A	Wetumka baz=88,SNR=7.5	88.43	53	⇓P		P	17 33 17.1	-1.1
J29A	Okreek baz=88,SNR=14	88.45	44	⇑P		P	17 33 16.6	-1.6
H28A	Mission Ridge baz=89	88.48	43	⇑P		P	17 33 16.9	-1.5
339A	Huntington baz=88	88.49	57	⇓P		P	17 33 18.2	-0.4
138A	Matatall Enter baz=89	88.49	56	⇑P		P	17 33 18.4	-0.2
D26A	Manning baz=89,SNR=8.0	88.53	40	⇑P		P	17 33 17.7	-0.8
NATX	Nacogdoches comp=Z,132nm,1.0s	88.54	57	eP		P	17 33 19.2	+0.3
Q33A	Connelly Farm, baz=89,SNR=18	88.56	49	⇑P		P	17 33 17.3	-1.6
B25A	Knox Farm, Ray baz=89	88.60	39	⇑P		P	17 33 17.7	-1.1

M31A Lambtecht Ranc 88.60 46 ⇑P P 17 33 17.8 -1.2
baz=89
S34A Willow Spring 88.64 50 ⇓P P 17 33 18.5 -0.7
baz=89,SNR=12
PSI Prapat 88.66 273 P P 17 33 20.3 +0.3
comp=Z,3.2nm,0.3s,baz=94,slow=15,SNR=4.3
PSI LR LR 18 14 26.1
comp=Z,2µm,20.8s,baz=124,slow=37
K30A Basset 88.66 45 ⇑P P 17 33 18.4 -0.8
baz=89,SNR=14
O32A Brockman Farm, 88.70 48 ⇑P P 17 33 17.6 -1.8
baz=89
I29A Vivian Onida 88.70 44 ⇓P P 17 33 18.0 -1.3
baz=89
G28A Parade 88.71 42 ⇓P P 17 33 18.1 -1.3
baz=89
XAN Xi'an 88.72 306 P P 17 33 24.3 +4.6
XAN pP pP 17 33 34.8 +3.6
XAN S **S** **17 44 07.9 +3.6**
XAN PMZ
comp=Z,150nm,8.4s
XAN LN
comp=Z,860nm,28.6s
XAN LE
comp=Z,520nm,33.7s
XAN LZ
comp=Z,470nm,32.7s
239A Gary 88.78 56 ⇑P P 17 33 19.0 -0.9
baz=89
P33A Williams Farm, 88.82 49 ⇑P P 17 33 19.0 -1.1
baz=89,SNR=6.8
E27A Carson 88.83 41 ⇑P P 17 33 18.8 -1.2
baz=89
N32A Stulken Farm, 88.87 47 ⇑P P 17 33 18.8 -1.4
baz=89
A25A Svangstu Ranch 88.91 38 ⇑P P 17 33 19.6 -0.6
baz=89
J30A Dallas 88.98 44 ⇑P P 17 33 19.4 -1.4
baz=89
H29A Onida 89.00 43 ⇓P P 17 33 19.0 -1.7
baz=89
L31A Butterfield Fa 89.00 46 ⇑P P 17 33 19.6 -1.3
baz=89
TUL1 Leonard 89.02 52 ⇑P P 17 33 20.2 -0.9
baz=89,SNR=8.4
TUL1 Leonard 89.02 52 *eP* P 17 33 20.1 -0.9
comp=Z,49nm,1.0s
340A Bronson 89.06 57 ⇓P P 17 33 20.5 -0.8
baz=89
C26A Wahner Farm, P 89.06 40 ⇑P P 17 33 20.3 -0.6
baz=89
F28A McLaughlin 89.09 42 ⇓P P 17 33 19.7 -1.4
baz=89
HHC Hu-ho-hao-te 89.09 313 *eP* P 17 33 23.0 +1.6
HHC PP **PP** **17 36 51.0 -1.0**
HHC SKS **SKSac** **17 43 47.9 -0.7**
HHC S **S** **17 44 07.6 -0.1**
HHC SS **SS** **17 50 02.8 +0.7**
HHC PMZ
comp=Z,52nm,0.9s
HHC PMZ
comp=Z,520nm,5.8s
HHC LN
comp=Z,500nm,17.3s
HHC LE
comp=Z,650nm,19.7s
HHC LZ
comp=Z,1µm,22.2s
YAK Yakutsk 89.10 337 *eP* P 17 33 19.0 -1.7
YAK *e* 17 33 25.5
YAK *e**PP **pP** **17 33 33.9 +1.7**
YAK *e* 17 36 50.4
YAK *e*PPP PPP 17 38 48.1
YAK *e*S **SKSac** **17 43 45.6 -1.8**
YAK *e*SS **SS** **17 50 01.1 +0.1**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,445nm,6.8s
YAK pmax pmax
comp=N,118nm,3.7s
YAK pmax pmax
comp=E,156nm,6.3s
YAK smax smax
comp=N,493nm,6.2s
YAK smax smax
comp=E,599nm,6.6s
YAK MLR MLR
comp=Z,871nm,20.0s
YAK MLR MLR
comp=N,285nm,19.0s
YAK MLR MLR
comp=E,509nm,19.0s
YAK Yakutsk 89.10 337 *eP* P 17 33 19.3 -1.5
YAK LR LR
comp=E,56nm,0.9s
comp=Z,2µm,22.0s
D27A Center 89.13 40 ⇓P P 17 33 20.8 -0.5
baz=89,SNR=7.4
BGNE Belgrade 89.20 47 ⇓P P 17 33 20.1 -1.7
baz=89
BGNE Belgrade 89.20 47 *eP* P 17 33 20.3 -1.5
comp=Z,55nm,1.0s
B26A Jensen Ranch, 89.20 39 ⇑P P 17 33 20.6 -1.0
baz=89
S35A Otter Creek Ra 89.22 51 ⇑P P 17 33 20.8 -1.1
baz=89,SNR=11
I30A Oacoma 89.25 44 ⇓P P 17 33 20.3 -1.6
baz=89
C27A Sayler Ranch, 89.39 40 ⇑P P 17 33 21.3 -1.1
baz=90
G29A Hoven 89.40 43 ⇑P P 17 33 20.9 -1.7
baz=90
E28A Huff 89.44 41 ⇑P P 17 33 21.5 -1.3
baz=90
PLCA Paso Flores 89.45 132 P P 17 33 30.6 +7.4
comp=Z,3.5nm,0.9s,baz=238,slow=6.4,SNR=3.5
PLCA LR LR 18 04 42.5
comp=Z,3µm,21.1s,baz=248,slow=30
PLCA Paso Flores 89.45 132 P P 17 33 30.6 +7.4
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA MLR MLR
comp=Z,3µm,21.1s
PLCA Paso Flores 89.45 132 *eP* P 17 33 22.4 -0.8
comp=Z,119nm,1.4s
KSU1 Kansas State U 89.49 49 ⇓P P 17 33 21.9 -1.3
baz=90
KSU1 Kansas State U 89.49 49 *eP* P 17 33 21.8 -1.3
comp=Z,52nm,1.1s
KSU1 LR LR
comp=Z,7µm,21.0s
A26A Wade Farm, Ken 89.54 39 ⇓P P 17 33 21.9 -1.2
baz=90
GSI Gunungsitoli 89.56 271 *eP* P 17 33 24.0 0.0
comp=Z,63nm,1.0s
F29A Eureka 89.71 42 ⇑P P 17 33 22.7 -1.3
baz=90
BRSD Miller 89.76 44 ⇑P P 17 33 22.4 -2.0
baz=90
D28A Regan 89.76 41 ⇓P P 17 33 22.4 -1.9
baz=90
S36A Lake Cedric, C 89.78 51 ⇑P P 17 33 22.6 -2.0
baz=90
B27A Peters Farms, 89.81 39 ⇓P P 17 33 23.4 -1.0
baz=90
G30A Faulkton 89.89 43 ⇓P P 17 33 23.5 -1.4
baz=90
YKA Yellowknife Ar 89.95 23 P P 17 33 23.6 -1.1
comp=Z,26nm,1.0s,baz=235,slow=4.3,SNR=54
A27A Ledoux Ranch, 90.04 39 ⇓P P 17 33 24.6 -0.9
baz=90
R36A Gordon, Harris 90.04 50 ⇓P P 17 33 24.2 -1.6
baz=90
C28A Hausauer Farms 90.08 40 ⇓P P 17 33 24.3 -1.4
baz=90
BTO Baotou 90.10 312 *eP* P 17 33 28.1 +2.0
E29A Napoleon 90.11 41 ⇑P P 17 33 24.6 -1.3
baz=90
F30A Leola 90.23 42 ⇑P P 17 33 25.3 -1.2
baz=90
MIAR Mount Ida 90.30 54 *eP* P 17 33 26.1 -0.9
MIAR pmax pmax
comp=Z,35nm,1.2s
MIAR MLR MLR
comp=Z,5µm,20.0s
MIAR Mount Ida 90.30 54 *eP* P 17 33 26.1 -0.9
comp=Z,34nm,1.2s
MIAR LR LR
comp=Z,5µm,20.0s
D29A Pettibone, Tap 90.33 41 ⇓P P 17 33 25.2 -1.7
baz=90
B28A Dugan Ranch, T 90.38 40 ⇓P P 17 33 25.8 -1.2
baz=90
PBKT Sadao Pong 90.38 287 P P 17 33 30.8 +3.1
comp=Z,23nm,1.5s,comp=Z,779nm
SURT Suratani 90.40 279 P P 17 33 41.5 +14
E30A Jud 90.55 42 ⇓P P 17 33 26.3 -1.7
baz=91
TEIG Tepich 90.60 69 *eP* P 17 33 28.8 0.0
comp=Z,108nm,1.3s
TEIG LR LR
comp=Z,3µm,22.0s
A28A Rude Farm, Bot 90.61 39 ⇑P P 17 33 27.2 -1.0
baz=91
MDND Maddock 90.62 40 ⇓P P 17 33 26.6 -1.6
baz=91
MDND Maddock 90.62 40 *eP* P 17 33 26.9 -1.4
comp=Z,79nm,1.0s
D30A Buchanan 90.87 41 ⇓P P 17 33 27.8 -1.7
baz=91
Q37A Longview Farm, 91.00 50 ⇓P P 17 33 28.6 -1.6
baz=91
B29A Wagenman Farm, 91.00 40 ⇓P P 17 33 28.6 -1.4
baz=91
JTS JuntasAbangare 91.03 80 P P 17 33 31.0 +0.1
comp=Z,315nm,1.0s,SNR=10
JTS JuntasAbangare 91.03 80 P P 17 33 31.3 +0.4
comp=Z,49nm,1.0s,baz=325,slow=5.9,SNR=12
JTS JuntasAbangare 91.03 80 *eP* P 17 33 31.2 +0.3
JTS MLR MLR
comp=Z,4µm,21.0s
JTS JuntasAbangare 91.03 80 *eP* P 17 33 31.2 +0.3
comp=Z,257nm,1.2s
JTS LR LR
comp=Z,4µm,21.0s
ECSD EROS Data Cent 91.08 45 ⇑P P 17 33 28.9 -1.6
baz=91
ECSD EROS Data Cent 91.08 45 *eP* P 17 33 28.5 -2.0
comp=Z,69nm,1.5s
ECSD LR LR
comp=Z,9µm,22.0s
KMI Kunming 91.14 296 P P 17 33 33.8 +2.4
KMI sP **sP** **17 33 50.5 +3.5**
KMI SKS **SKSac** **17 44 04.1 +2.7**
KMI S **ScS** **17 44 31.4 +0.8**
KMI PMZ
comp=Z,23nm,1.7s
KMI PMZ
comp=Z,380nm,8.5s
KMI LN
comp=Z,510nm,23.7s
KMI LE
comp=Z,1µm,24.2s
KMI LZ
comp=Z,2µm,35.1s
A29A Manning Farm, 91.25 39 ⇑P P 17 33 29.6 -1.5
baz=91
C30A Mose, Pekin 91.27 41 ⇓P P 17 33 29.7 -1.5
baz=91
UALR University of 91.33 54 *eP* P 17 33 31.7 -0.1
comp=Z,60nm,1.0s
B30A Myrvik Farm, E 91.63 40 ⇑P P 17 33 31.4 -1.5
baz=92
A30A Hoffart Farm, 91.83 40 ⇓P P 17 33 32.3 -1.5
baz=92
CD2 Chengdu 91.91 301 *eP* P **17 33 35.5 +0.8**
CD2 pP **pP** **17 33 46.6 +0.5**
CD2 sP **sP** **17 33 50.8 +0.5**
CD2 PP **PP** **17 37 17.4 +2.9**
CD2 SKS **SKSac** **17 44 03.8 -1.4**
CD2 S **S** **17 44 31.5 -2.4**
CD2 sS **sS** **17 44 50.0 -3.0**
CD2 SS **SS** **17 50 40.6 -2.6**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,890nm,6.8s
CD2 LN
comp=Z,2µm,20.7s
CD2 LE
comp=Z,1µm,20.8s
CD2 LZ
comp=Z,1µm,21.0s
CRAI Chiangrai 91.91 290 P P 17 33 40.8 +6.0
comp=Z,27nm,2.2s
FFC Flin Flon 91.94 33 *eP* P **17 33 32.0 -2.2**
FFC pmax pmax
comp=Z,120nm,1.8s
FFC MLR MLR
comp=Z,4µm,22.0s
FFC Flin Flon 91.94 33 *eP* P **17 33 32.0 -2.2**
comp=Z,120nm,1.8s
FFC LR LR
comp=Z,4µm,22.0s
CIT Chita 91.96 324 *eP* P **17 33 35.5 +1.1**
CIT *e* 17 33 48.3
LAMP Lampang 92.13 289 P P 17 33 40.9 +5.0
comp=Z,4.4nm,0.9s,comp=Z,76nm
CMAR Chiang Mai Arr 92.74 288 P P **17 33 40.1 +1.4**
comp=Z,4.4nm,1.0s,baz=105,slow=3.2,SNR=17
CMAR LR LR 18 09 48.1
comp=Z,1µm,21.6s,baz=114,slow=32
CMAR Chiang Mai Arr 92.74 288 *i* P P **17 33 41.0 +2.3**
CMAR pmax pmax
comp=Z,4.0nm,1.0s
CMMT Chiang Mai 92.83 289 P P 17 33 43.4 +4.3
comp=Z,19nm,0.9s,comp=Z,548nm
CHTO Chiang Mai 92.84 289 PFAKE 17 33 50.0 +11
CHTO LR LR
comp=Z,1µm,22.0s
SCIA State Center 92.85 47 PFAKE 17 33 50.0 +11
SCIA LR LR
comp=Z,6µm,21.0s
EFI East Falkland 92.87 146 PFAKE 17 33 50.0 +11
EFI LR LR
comp=Z,6µm,21.0s
NNA Nana 92.92 103 PFAKE 17 33 50.0 +10
NNA LR LR
comp=Z,2µm,22.0s
VNA3 Neumayer Olymp 92.92 175 P P 17 33 45.3 +6.7
SNAA Sanae 92.98 177 P P 17 33 44.2 +5.3
SNAA Sanae 92.98 177⇑ *eP* P 17 33 43.6 +4.7
SNAA pmax pmax
comp=Z,44nm,1.2s
SNAA Sanae 92.98 177 *eP* P 17 33 43.7 +4.7
comp=Z,48nm,1.2s
AGMN Agassiz Nation 93.12 41 ⇓P P **17 33 38.5 -1.3**
baz=93
AGMN Agassiz Nation 93.12 41 *eP* P **17 33 37.5 -2.3**
comp=Z,36nm,1.2s
AGMN LR LR
comp=Z,7µm,20.0s
LCO Las Campanas 93.25 121 *eP* P **17 33 40.8 -0.5**
comp=Z,42nm,1.0s
LCO LR LR
comp=Z,3µm,19.0s
LZH Lanzhou 93.31 306 *eP* P 17 33 45.5 +4.3
LZH pP pP 17 33 55.3 +2.7
LZH sP sP 17 33 59.4 +2.6
LZH PP PP 17 37 32.8 +7.3
LZH SKS **SKSac** **17 44 11.8 -1.2**
LZH *e*S **ScS** **17 44 49.1 +1.0**
LZH SS **SS** **17 51 02.4 -0.9**
LZH PMZ
comp=Z,27nm,1.2s
LZH PMZ
comp=Z,230nm,5.5s
LZH LN
comp=Z,480nm,17.8s
LZH LE
comp=Z,1µm,17.7s
LZH LZ
comp=Z,2µm,20.5s
OXF Oxford 93.57 55 *eP* P **17 33 41.3 -0.8**
OXF pmax pmax
comp=Z,178nm,1.2s
OXF Oxford 93.57 55 *eP* P **17 33 41.3 -0.8**
comp=Z,178nm,1.2s
VNA1 Neumayer--Stat 93.62 175 P P 17 33 48.6 +6.8
ULM Lac du Bonnet 93.76 39 P P 17 33 40.4 -2.3
comp=Z,21nm,1.0s,baz=239,slow=5.2,SNR=17
ULM LR LR 18 10 45.2
comp=Z,7µm,19.5s,baz=254,slow=32
BOD Bodaibo 93.94 329 *eP* P **17 33 43.3 0.0**
BOD pmax pmax
comp=Z,20nm,1.7s
NVL N'lazarevskaya 94.06 182 *eP* sP 17 33 58.8 -0.6
NVL pmax pmax
comp=Z,19nm,1.0s
SPMN Marine on St. 94.14 44 ⇓P P **17 33 43.0 -1.5**
baz=94
SPMN Marine on St. 94.14 44 *eP* P **17 33 43.3 -1.3**
comp=Z,52nm,1.1s
ULN Ulaanbaatar 94.48 318 *deP* P **17 33 46.5 +0.2**
ULN pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 94.48 318 *eP* P **17 33 46.4 +0.2**
comp=Z,56nm,1.5s
ULN LR LR
comp=Z,3µm,22.0s
BRAL Brewton 94.55 59 PFAKE 17 34 00.0 +13
BRAL LR LR
comp=Z,2µm,21.0s
SIUC Southern Illin 94.59 52 *eP* P **17 33 45.9 -0.9**
comp=Z,37nm,0.9s
OTAV Otavalo 94.67 91 PFAKE 17 34 00.0 +12
OTAV LR LR
comp=Z,2µm,22.0s
PAF Port-aux-Franc 94.79 216 S **SKSac** **17 44 15.0 -5.4**
PAF SS **SS** **17 51 18.0 -4.3**
PAF L L 18 00 00.0
PAF R 18 04 00.0
PAF Port-aux-Franc 94.79 216 PFAKE 17 34 00.0 +12
PAF LR LR
comp=Z,6µm,21.0s
SONM Songino Array 94.89 318 P P **17 33 47.9 -0.3**
comp=Z,4.2nm,1.0s,baz=108,slow=2.5,SNR=16
SONM LR LR 18 11 47.9
comp=Z,1µm,21.6s,baz=104,slow=32
TIXI Tiksi 94.97 344⇑ *eP* P **17 33 46.3 -1.4**
TIXI pmax pmax
comp=Z,16nm,1.2s
TIXI Tiksi 94.97 344 *eP* P **17 33 46.8 -0.9**
comp=Z,29nm,1.1s
TIXI LR LR
comp=Z,3µm,21.0s
LRAL Lakeview Retre 95.11 57 *eP* P **17 33 50.2 +0.9**
comp=Z,20nm,1.5s
AIS Amsterdam Isla 95.23 229 S SKSac 17 44 03.0 -20
AIS SP SP 17 46 01.0 -19
AIS R 18 05 00.0
WVT Waverly 95.25 54 *eP* P **17 33 48.4 -1.4**
WVT pmax pmax
comp=Z,30nm,1.2s
WVT Waverly 95.25 54 *eP* P **17 33 48.4 -1.4**
comp=Z,30nm,1.2s
JFWS Jewell Farm 95.25 47 *eP* P **17 33 48.1 -1.6**
JFWS pmax pmax
comp=Z,72nm,1.0s
JFWS MLR MLR
comp=Z,8µm,22.0s
JFWS Jewell Farm 95.25 47 *eP* P **17 33 48.1 -1.6**
comp=Z,72nm,1.0s
JFWS LR LR
comp=Z,8µm,22.0s
BCIP Isla Barro Col 95.62 82 PFAKE 17 34 00.0 +8.0
BCIP LR LR
comp=Z,1µm,20.0s
EYMN Ely 95.80 42 *eP* P **17 33 49.2 -2.9**
comp=Z,33nm,1.3s
EYMN LR LR
comp=Z,5µm,20.0s
USIN University of 95.84 52 *eP* P **17 33 51.4 -1.1**
comp=Z,17nm,0.5s
SWET Sewanee 96.51 55 *eP* P **17 33 53.8 -1.9**
comp=Z,33nm,1.1s
TRQA Tornquist 96.60 132 PFAKE 17 34 10.0 +14
TRQA LR LR
comp=Z,2µm,22.0s
COWI Conover 96.86 44 *eP* P **17 33 55.0 -1.9**
comp=Z,63nm,1.1s
COWI LR LR
comp=Z,10µm,20.0s
SFIN Lafayette 96.87 50 ⇓P P **17 33 55.9 -1.2**
baz=97
SFIN Lafayette 96.87 50 *eP* P **17 33 56.5 -0.6**
comp=Z,28nm,1.0s
LVC Limon Verde 96.90 116 PFAKE 17 34 10.0 +12
LVC LR LR
comp=Z,2µm,21.0s
GTA Gaotai 97.25 309 *eP* Pdif 17 34 00.3 +1.1
GTA pP pP 17 34 10.8 +0.2
GTA sP sP 17 34 14.6 -0.1
GTA PP **PP** **17 37 55.5 -0.6**
GTA SKS **SKSac** **17 44 34.1 +0.3**
GTA S **S** **17 45 18.0 -2.5**
GTA sS sS 17 45 35.4 -4.2
GTA SS **SS** **17 52 00.9 +1.7**
GTA PMZ
comp=Z,4.0nm,0.9s
GTA PMZ
comp=Z,250nm,7.1s
GTA LN
comp=Z,950nm,22.6s
GTA LE
comp=Z,2µm,23.8s
GTA LZ
comp=Z,3µm,23.0s
FCC Fort Churchill 97.43 31 *eP* P **17 33 57.1 -2.0**
FCC pmax pmax
comp=Z,45nm,1.4s
FCC Fort Churchill 97.43 31 *eP* P **17 33 57.1 -2.0**
comp=Z,45nm,1.4s
IRK Irkutsk 97.44 322 *eP* Pdif 17 34 01.4 +1.9
IRK pmax pmax
comp=Z,46nm,1.8s
TIGA Tifton 97.53 60 ⇑P P **17 33 59.1 -1.2**
baz=98
ZAK Zakamensk 97.56 320 *eP* Pdif 17 34 00.4 +0.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 97.67 321 *eP* Pdif 17 34 00.5 -0.1
TLY *e*S **SKSac** **17 44 29.1 -6.0**
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY Talaya 97.67 321 PFAKE 17 34 10.0 +9.4
TLY LR LR
comp=Z,3µm,21.0s
GOGA Godfrey 98.08 58 PFAKE 17 34 10.0 +7.2
GOGA LR LR
comp=Z,2µm,20.0s
TKL Tuckaleechee C 98.33 55 LR LR 18 11 32.5
comp=Z,4µm,21.5s,baz=271,slow=31
TKL Tuckaleechee C 98.33 55 *eP* P **17 34 03.6 -0.2**
TKL Tuckaleechee C 98.33 55 *eP* P **17 34 03.6 -0.2**
LPAZ La Paz 99.69 110 P Pdif **17 34 09.8 -1.3**
comp=Z,0.9nm,0.7s,baz=235,slow=13,SNR=2.7
LPAZ LR LR 18 10 07.2
comp=Z,688nm,22.0s,baz=256,slow=30
AAM Ann Arbor 99.83 49 *eP* Pdif **17 34 11.2 +0.9**
AAM MLR MLR
comp=Z,3µm,21.0s
AAM Ann Arbor 99.83 49 *eP*dif Pdif **17 34 11.2 +0.9**
AAM LR LR
comp=Z,3µm,21.0s
ROSC El Rosal 99.84 88 LR LR 18 09 46.6
comp=Z,1µm,21.3s,baz=259,slow=30
ACSO Alum Creek Sta 99.91 51 PFAKE 17 34 20.0 +9.2
ACSO LR LR
comp=Z,5µm,19.0s
MTDJ Mount Denham 99.94 74 PFAKE 17 34 20.0 +8.5
MTDJ LR LR
comp=Z,2µm,22.0s
KMSC Kings Mountain 100.17 56 ⇓Pdiff **Pdif** **17 34 12.2 +0.1**
baz=100
NHSC New Hope 100.71 59 PFAKE 17 34 30.0 +16
NHSC LR LR
comp=Z,4µm,20.0s
BLA Blacksburg 101.29 54 PFAKE 17 34 30.0 +13
BLA LR LR
comp=Z,6µm,20.0s
HOPE Hope Point 101.50 156 PFAKE 17 34 30.0 +12
HOPE LR LR
comp=Z,4µm,20.0s
LSA Lhasa 102.22 298 PFAKE 17 34 30.0 +8.1

LSA LR LR
comp=Z,936nm,21.0s
ERPA Erie 102.47 50 PFAKE 17 34 30.0 +7.9
ERPA LR LR
comp=Z,5µm,20.0s
GTBY Guantanamo Bay 102.54 73 PFAKE 17 34 30.0 +7.1
GTBY LR LR
comp=Z,2µm,21.0s
CNNC Cliffs of the 102.96 57 PFAKE 17 34 40.0 +16
CNNC LR LR
comp=Z,4µm,22.0s
CBN Corbin Frederi 103.84 54 PFAKE 17 34 40.0 +12
CBN LR LR
comp=Z,7µm,22.0s
SDV Santo Domingo 104.37 85 PFAKE 17 34 40.0 +8.6
SDV LR LR
comp=Z,2µm,22.0s
BINY Binghamton 105.43 50 PFAKE 17 39 00.0
BINY LR LR
comp=Z,6µm,19.0s
SDDR Presa de Saban 105.89 74 PFAKE 17 39 00.0
SDDR LR LR
comp=Z,6µm,21.0s
CRZF Crozet Islands 106.36 211 SP SP 17 48 09.0 -8.4
CRZF SS **SKKPbc 17 53 52.0 +1.1**
CRZF R 18 10 00.0
GRTK Grand Turk 106.50 72 PFAKE 17 39 00.0
GRTK LR LR
comp=Z,2µm,22.0s
SAML Samuel 106.63 104 PFAKE 17 39 00.0
SAML LR LR
comp=Z,1µm,21.0s
LONY Lake Ozonia 106.70 47 PFAKE 17 39 00.0
LONY LR LR
comp=Z,6µm,21.0s
NCB Newcomb 106.90 48 PFAKE 17 39 00.0
NCB LR LR
comp=Z,9µm,22.0s
WMQ Urumqi 106.93 312 Pdif **Pdif 17 34 41.9 -0.1**
WMQ PP **PP 17 39 06.9 -1.7**
WMQ SS SS 17 54 11.8 -1.0
WMQ PPMZ
comp=Z,410nm,6.0s
WMQ LN
comp=Z,1µm,17.7s
WMQ LE
comp=Z,1µm,23.4s
WMQ LZ
comp=Z,2µm,28.6s
LBNH Lisbon 108.57 48 PFAKE 17 39 10.0
LBNH LR LR
comp=Z,10µm,21.0s
ZALV Zalesovo Beam 109.26 322 Pdiff **Pdif 17 34 52.2 +0.2**
comp=Z,3.6nm,1.1s,baz=90,slow=5.9,SNR=5.5
ZALV PKiKP **PKiKP 17 38 54.7 -0.9**
comp=Z,1.4nm,0.7s,baz=172,slow=1.0,SNR=6.3
ZALV PKKP PKKPdf 17 50 38.4 +19
comp=Z,1.7nm,0.8s,baz=270,slow=2.2,SNR=6.3
NVS Novosibirsk 110.17 323 *e*P **Pdif 17 35 04.2 +8.2**
PKME Peaks-Kenny Pk 110.49 47 PFAKE 17 39 10.0
PKME LR LR
comp=Z,3µm,21.0s
SJG San Juan 110.53 76 PFAKE 17 39 10.0
SJG LR LR
comp=Z,710nm,20.0s
MKAR Makanchi Array 110.89 315 Pdiff **Pdif 17 34 59.8 +0.3**
comp=Z,0.4nm,0.8s,baz=107,slow=1.5,SNR=3.1
MKAR PKiKP **PKiKP 17 38 57.9 -1.1**
comp=Z,2.6nm,0.9s,baz=87,slow=2.6,SNR=8.6
MKAR PKKP **PKKPdf 17 50 12.9 -3.3**
comp=Z,0.9nm,1.0s,baz=261,slow=5.4,SNR=4.0
DGAR Diego Garcia 111.13 256 PFAKE 17 39 10.0
DGAR LR LR
comp=Z,3µm,21.0s
KULLO Kullorsuaq 111.48 15 *i* P **PP 17 39 38.1 -2.4**
comp=Z,6µm,21.0s
PTGA Pitinga 112.19 97 PFAKE 17 39 10.0
PTGA LR LR
comp=Z,1µm,20.0s
KURK Kurchatov 113.19 319 *e*PKiKP **PKiKP 17 39 01.0 -2.2**
KURK MLR MLR
comp=Z,2µm,21.0s
KURK Kurchatov 113.19 319 *e*PKiKP **PKiKP 17 39 00.9 -2.2**
KURK PKKP **PKKPdf 17 50 14.2 +2.3**
KURK LR LR
comp=Z,2µm,21.0s
KURBB Kurchatov Arra 113.25 319 PKKP **PKKPdf 17 50 14.2 +2.4**
comp=Z,2.6nm,0.7s,baz=261,slow=4.0,SNR=7.2
BBSR BB Station 113.54 61 PFAKE 17 39 20.0
BBSR LR LR
comp=Z,2µm,20.0s
GRGR Grenville 113.69 83 PFAKE 17 39 20.0
GRGR LR LR
comp=Z,934nm,21.0s
ANWB Willy Bob 114.55 77 PFAKE 17 39 20.0 +13
ANWB LR LR
comp=Z,1µm,22.0s
FDF Fort de France 114.66 81 PFAKE 17 39 20.0 +13
FDF LR LR
comp=Z,1µm,22.0s
ILULI Ilulissat 115.36 20 *i* P PP 17 40 01.8 -6.3
ILULI *i* S **SP 17 49 44.9 +1.9**
ILULI *i* 17 56 30.2
comp=Z,4µm,26.0s
KSH Kashi 115.56 307 PKP **PKPdf 17 39 09.6 +1.3**
KSH *es*PKP 17 39 24.0
KSH PP PP 17 40 18.8 +8.0
KSH PKS **PKSdf 17 42 45.3 +0.3**
KSH SKS **SKSdf 17 46 16.8 -1.1**
KSH SKKS **SKKSac 17 47 08.5 -0.9**
KSH SS SS 17 56 15.4 +7.3
KSH PPMZ
comp=Z,160nm,3.6s
KSH LN
comp=Z,620nm,13.8s
KSH LE
comp=Z,1µm,17.9s
KSH LZ
comp=Z,2µm,24.1s
TKM2 Tokmak 2 115.73 311 *e*PKiKP **PKPdf 17 39 06.5 -2.1**
TKM2 MLR MLR
comp=Z,2µm,22.0s
TKM2 Tokmak 2 115.73 311 *e*PKPdf **PKPdf 17 39 06.5 -2.1**
TKM2 LR LR
comp=Z,2µm,22.0s
BBGH Gun Hill 115.89 83 PFAKE 17 39 20.0 +11
BBGH LR LR
comp=Z,3µm,21.0s
KBS Kingsbay 116.32 359 PFAKE 17 39 20.0 +12
KBS LR LR
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 116.47 22 PFAKE 17 39 20.0 +11
SFJD LR LR
comp=Z,5µm,20.0s
SFJD Kangerlussuaq 116.47 22 *i* P **PP 17 40 13.9 -2.0**
SFJD *i* S **SP 17 49 52.1 -1.1**
SFJD *i* 17 56 55.4
comp=Z,4µm,25.0s
AAK Ala-Archa 116.56 310 ⇑*i*PKIKP **PKPdf 17 39 10.2 0.0**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 116.56 310 *e*PKPdf **PKPdf 17 39 08.9 -1.2**
AAK LR LR
comp=Z,2µm,22.0s
SUMG Summit 117.07 14 *i* P **PP 17 40 19.6 -0.9**
comp=Z,6µm,23.0s
EKS2 Erkin-Say 117.08 310 *e*PKIKP **PKPdf 17 39 09.6 -1.5**
EKS2 MLR MLR
comp=Z,2µm,22.0s
EKS2 Erkin-Say 117.08 310 *e*PKPdf **PKPdf 17 39 09.6 -1.5**
EKS2 LR LR
comp=Z,2µm,22.0s
DAG Danmarks Havn 117.14 6 *i* P PP 17 40 14.8 -5.5
DAG *i* S **PS 17 50 11.9 +7.4**
DAG *i* 17 56 57.2
comp=Z,3µm,22.0s
BVAR Borovoye Array 117.92 322 PKKP PKKPdf 17 49 57.5 -5.4
comp=Z,0.8nm,0.8s,baz=252,slow=4.2,SNR=4.8
BRVK Borovoye 117.97 322 ⇓*i*PKIKP **PKPdf 17 39 11.0 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK MLR MLR
comp=Z,3µm,21.0s
BRVK Borovoye 117.97 322 PFAKE 17 39 20.0 +7.7
BRVK LR LR
comp=Z,3µm,20.0s
KKAR Karatay Array 119.43 311 *e*PKIKP **PKPdf 17 39 14.5 -1.0**
KKAR Karatay Array 119.43 311 *e*PKPdf **PKPdf 17 39 14.5 -1.0**
RER Riviere de l'E 119.80 234 PFAKE 17 39 30.0 +13
RER LR LR
comp=Z,3µm,22.0s
KBL Kabul 121.25 301 *e*PKIKP **PKPdf 17 39 19.6 +0.1**
KBL Kabul 121.25 301 *e*PKPdf **PKPdf 17 39 19.6 +0.1**
SVE Sverdlovsk 122.14 328 *i* PKIKP **PKPdf 17 39 19.7 -0.5**
SVE *e* 17 40 53.2
SVE *e*PPP PPP 17 43 29.1
SVE *e* 17 57 23.3
SVE pmax pmax
comp=Z,39nm,1.4s
SVE MLR MLR
comp=Z,2µm,20.0s
SOKR Solikamsk 122.78 332 *i* PKIKP **PKPdf 17 39 20.0 -1.3**
SOKR pmax pmax
comp=Z,20nm,1.2s
ARU Arti 123.36 328 *i* PKIKP **PKPdf 17 39 21.6 -0.9**
ARU 17 41 00.7
ARU 17 46 19.1
ARU PS **PS 17 50 53.2 -7.6**
ARU Arti 123.36 328 *e*PKPdf **PKPdf 17 39 21.7 -0.9**
ARU LR LR
comp=Z,3µm,20.0s
KEV Kevo 124.14 352 PFAKE 17 39 30.0 +6.3
KEV LR LR
comp=Z,2µm,22.0s
LVZ Lovozero 124.45 348 PFAKE 17 39 40.0 +16
LVZ LR LR
comp=Z,3µm,21.0s
ARCES ARCESS Array B 124.55 352 PKP **PKPdf 17 39 23.5 -1.0**
comp=Z,9.5nm,0.8s,baz=343,slow=1.3,SNR=15
TRIS Tristan da Cun 124.88 161 PFAKE 17 39 40.0 +14
TRIS LR LR
comp=Z,2µm,22.0s
APA Apatity 124.99 348 ⇓*i*PKIKP **PKPdf 17 39 28.4 +3.0**
APA *i* 17 41 15.0
APA *i* 17 46 24.0
APA *i* 17 51 11.0
APA *i* PPS PPS 17 52 45.0
APA *i* SS SS 17 58 11.0 +4.4
ABKAR Akbulak array 125.26 320 *e*PKPdf **PKPdf 17 39 25.6 -0.8**
PRGR Permogore 126.12 338 *e*PKIKP **PKPdf 17 39 25.9 -1.8**
PRGR pmax pmax
comp=Z,8.0nm,0.3s
TMCR Tamitsa 126.68 344 *e*PKIKP **PKPdf 17 39 28.2 -0.5**
TMCR *e* 17 41 24.7
TMCR pmax pmax
comp=Z,6.0nm,0.3s
BORG Borgarnes 127.03 15 PFAKE 17 39 40.0 +11
BORG LR LR
comp=Z,6µm,21.0s
ABPO Ambohimpanom 127.56 231 PFAKE 17 39 40.0 +8.0
ABPO LR LR
comp=Z,5µm,21.0s
KLMR Klimovskoe 128.77 340 *e*PKIKP **PKPdf 17 39 32.2 -0.6**
KLMR 17 41 35.8
KLMR pmax pmax
comp=Z,99nm,1.4s
KLMR MLR MLR
comp=Z,3µm,22.0s
GEYT Alibeck 129.59 307 PKP **PKPdf 17 39 35.0 -0.1**
comp=Z,6.0nm,0.9s,baz=318,slow=2.0,SNR=10.0
SUR Sutherland 130.71 196 PFAKE 17 39 50.0 +12
SUR LR LR
comp=Z,3µm,19.0s
FINES FINESS Array B 131.90 348 PKP **PKPdf 17 39 37.8 -0.8**
comp=Z,2.5nm,0.7s,baz=126,slow=3.3,SNR=7.4
RCBR Riachuelo 132.79 113 PFAKE 17 39 50.0 +8.1
RCBR LR LR
comp=Z,2µm,22.0s
MOS Moscow 133.23 337 *i* PKIKP PKPdf 17 39 46.5 +5.1
MOS *e* 17 42 06.5
MOS pmax pmax
comp=Z,400nm,3.0s
MOS pmax pmax
comp=Z,60nm,1.4s
MOS MLR MLR
comp=Z,2µm,22.0s
OBN Obninsk 134.10 337 *i* PKIKP **PKPdf 17 39 42.2 -0.8**
OBN *i* 17 39 49.3
OBN pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 134.10 337 PFAKE 17 39 50.0 +7.0
OBN LR LR
comp=Z,3µm,22.0s
NB2 NORSAR Subarra 134.23 357 PKP **PKPdf 17 39 43.2 0.0**
comp=Z,48nm,1.4s,baz=11,slow=4.1
NB2 NORSAR Subarra 134.23 357 PKP **PKPdf 17 39 43.2 0.0**
baz=11,slow=4.1
NOA NORSAR Array B 134.23 357 PKP **PKPdf 17 39 42.2 -1.0**
comp=Z,0.7nm,0.9s,baz=8.2,slow=4.0,SNR=4.8
VRHR Novokhopersk 134.67 330 *e*PKIKP **PKPdf 17 39 43.7 -0.5**
VRHR pmax pmax
comp=Z,6.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
MAK Makhachkala 135.64 317 *i* PKIKP **PKPdf 17 39 45.3 -1.0**
MAK *e* 17 42 21.5
MAK *e*PPP PPP 17 45 20.5
MAK *e* 17 46 56.0
MAK *e*SP SP 17 52 40.6 -1.9
MAK *e*PS **PS 17 52 47.4 -0.5**
MAK *e*SS **SS 18 00 21.2 +2.2**
MAK pmax pmax
comp=Z,70nm,0.7s
MAK MLR MLR
comp=Z,3µm,20.0s
KONO Kongsberg 135.69 358 PFAKE 17 40 00.0 +14
KONO LR LR
comp=Z,2µm,21.0s
VSR Storozhevoye 135.77 331 *e*PKIKP **PKPdf 17 39 46.7 +0.4**
VSR *e* 17 42 20.9
VSR pmax pmax
comp=Z,5.0nm,0.9s
VSR pmax pmax
comp=N,120nm,0.7s
VSR pmax pmax
comp=E,5.0nm,1.0s
VSR pmax pmax
comp=Z,500nm,7.3s
VSR pmax pmax
comp=N,48µm,6.0s
VSR pmax pmax
comp=E,100nm,3.8s
GOF Gofitskoye 137.44 322 *e*PKIKP PKPdf 17 39 57.4 +7.8
MICGM Minsk 137.58 342 *e*PKP **PKPdf 17 39 50.0 +0.5**
MNK Minsk 137.60 342 *e*PKIKP **PKPdf 17 39 50.0 +0.4**
MNK MLR MLR
comp=Z,3µm,20.0s
DGRG David-gareji 137.73 316 P **PKPdf 17 39 51.3 +1.0**
TBLG Delisi 138.03 316 *e*P **PKPdf 17 39 49.6 -1.2**
TBLG Delisi 138.03 316 P **PKPdf 17 39 50.4 -0.4**
ZEI Tsey 138.07 318 *i* PKIKP **PKPdf 17 39 55.5 +4.4**
ZEI pmax pmax
comp=Z,22nm,1.5s
KBZ Khabaz 138.23 320 PKhKP PKPpre 17 39 44.6
comp=Z,2.5nm,0.8s,baz=53,slow=20,SNR=4.4
KIV Kislovodsk 138.24 320 *e*P **PKPdf 17 39 48.0 -3.2**
KIV Kislovodsk 138.24 320 *i* PKIKP **PKPdf 17 39 51.6 +0.4**
KIV *e* 17 42 39.4
KIV *es*SS SS 18 00 48.2 -1.7
KIV *es*SS SSS 18 05 59.6
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,2µm,21.0s
KIV Kislovodsk 138.24 320 PFAKE 17 40 00.0 +8.8
KIV LR LR
comp=Z,2µm,20.0s
ONI Oni 138.46 318 P **PKPdf 17 39 53.9 +2.3**
GNI Garni 138.73 314 *e*PKIKP **PKPdf 17 39 54.5 +2.1**
GNI MLR MLR
comp=Z,2µm,22.0s
GNI Garni 138.73 314 *e*PKPdf **PKPdf 17 39 54.5 +2.1**
GNI LR LR
comp=Z,2µm,22.0s
MUD Monsted U'grnd 138.90 358 *e*PKHKP PKPpre 17 39 45.3
MUD *i* 17 42 43.2
MUD MLR MLR
comp=Z,2µm,26.0s
MUD Monsted U'grnd 138.90 358 *i* P PKPpre 17 39 45.3
MUD *i* PP **PP 17 42 43.2 0.0**
comp=Z,2µm,26.0s
AKH Akhalkalaki 139.00 317 P **PKPdf 17 39 53.9 +1.0**
H07S1 FLORES T-PHASE 139.06 47 *e*LR LR 18 25 36.6
SUW Suwalki 139.31 345 *e*PKP PKPpre 17 39 46.7
SUW *e* 17 40 00.7
SUW LMZ LR 18 30 40.7
SUW Suwalki 139.31 345 *e*PKHKP PKPpre 17 39 46.8
ESK Eskdalemuir 139.34 9 PFAKE 17 40 00.0 +7.3
ESK LR LR
comp=Z,5µm,20.0s
COP Copenhagen 139.48 355 *i* P PKPpre 17 39 45.9
COP *i* PP **PP 17 42 45.9 -0.9**
comp=Z,930nm,24.0s
KARS Kars 139.65 316 *e*P **PKPdf 17 39 55.5 +1.5**
CLDR Caldiran 139.74 313 *e*P **PKPdf 17 39 53.2 -1.1**
BSD Bornholm Skovb 139.78 353 *e*PKIKP PKPpre 17 39 48.3
BSD *i* 17 42 47.7
BSD MLR MLR
comp=Z,1µm,24.0s
BSD Bornholm Skovb 139.78 353 *i* P PKPpre 17 39 48.3
BSD *i* PP **PP 17 42 47.7 -1.0**
comp=Z,1µm,24.0s
AGRB Hanur-Agry 140.19 314 *e*P PKPdf 17 40 09.7 +15
SOC Sochi 140.24 322 *i* PKIKP **PKPdf 17 39 55.2 +0.5**
SOC *e* 17 42 52.6
SOC *e* 17 47 03.0
SOC *es*SS SSS 18 06 27.0
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,3µm,19.0s
AKASG Malin Array Be 140.32 338 PKP **PKPdf 17 39 54.3 -0.4**
comp=Z,10nm,1.0s,baz=36,slow=2.8,SNR=9.1
KIEV Kiev 140.34 338 *e*PKIKP **PKPdf 17 39 52.0 -2.7**
KIEV MLR MLR
comp=Z,4µm,22.0s
KIEV Kiev 140.34 338 *e*PKPdf **PKPdf 17 39 52.0 -2.7**
KIEV LR LR
comp=Z,4µm,22.0s
HKR Hakkari 140.53 311 *e*P **PKPdf 17 39 52.7 -3.0**
CUKT Cukurca 140.76 311 *e*P PKPdf 17 39 50.4 -5.7
ANN Anapa 140.83 325 *i* PKHKP PKPpre 17 39 49.7
ANN *e* 17 42 55.9
ANN *e*PPP PPP 17 46 01.0
ANN *es*SS SS 18 01 19.7 0.0
ANN *es*SS SSS 18 06 33.1
ANN pmax pmax
comp=Z,64nm,1.7s
ANN MLR MLR
comp=E,2µm,23.0s
ANN MLR MLR
comp=Z,1µm,23.0s
ANN MLR MLR
comp=N,2µm,23.0s
EZM Erzurum 141.15 316 *e*P **PKPdf 17 39 53.2 -3.7**
GKP Gorka Klasztor 141.24 350 *e*PKP **PKPdf 17 39 55.2 -1.0**
GKP *e* 17 40 16.7
GKP LMZ LR 18 36 56.3
GKP Gorka Klasztor 141.24 350 *e*PKIKP **PKPdf 17 39 55.2 -1.0**
GKP MLR MLR
comp=Z,5µm,24.0s
ROSA Rosais 141.42 46 *e*LR LR 18 26 36.3
comp=Z,137nm,21.0s
VRTB Varto-Mus 141.44 315 *e*P **PKPdf 17 39 59.6 +2.3**
PGRA Graciosa 141.46 45 *e*LR LR 18 26 24.0
comp=Z,128nm,19.4s
BAYT Ayd¯ntepe-Bay 141.71 317 *e*P PKPdf 17 40 04.7 +6.9
BNGB Bing ¶ll 142.05 315 *e*P PKPdf 17 40 08.8 +11
GUMT Gumushane 142.11 318 *e*P **PKPdf 17 39 54.5 -3.9**
SIM Simferopol' 142.51 328 PKHKP PKPpre 17 39 53.9
SIM 17 43 06.6
SIM PPP PPP 17 46 18.8
SIM SSS SSS 18 07 01.4
SIM pmax pmax
comp=Z,110nm,8.2s
RAYN Ar Rayn 142.66 289 *e*PKPdf **PKPdf 17 39 58.0 -1.8**
LVV L'vov 142.83 341 *e*PKIKP **PKPdf 17 40 00.4 +1.2**
LVV *e* 17 40 13.0
DYBB Diyarbakir 142.92 314 *e*P PKPdf 17 40 11.1 +11
MAZI Mazidag 142.94 313 *e*P **PKPdf 17 39 55.9 -4.0**
LSZ Lusaka 142.96 216 PFAKE 17 40 10.0 +9.4
LSZ LR LR
comp=Z,4µm,20.0s
KBSD Kabsdagh 143.07 312 *e*P PKPdf 17 40 05.6 +5.5
SVRC Sivrice-ELAZID 143.29 315 *e*P PKPbc 17 39 57.3 -0.4
KWP Kalwaria Pacla 143.39 343 *e*PKP PKPab 17 39 56.5 +0.2
KWP LMZ LR 18 34 45.3
KWP Kalwaria Pacla 143.39 343 ⇑*i*P PKPab 17 39 56.7 +0.4
KWP Kalwaria Pacla 143.39 343 *e*PKIKP PKPab 17 39 56.6 +0.3
KWP Kalwaria Pacla 143.39 343 *e*PKPdf PKPab 17 39 56.6 +0.3
KWP LR LR
comp=Z,3µm,20.0s
WTSB Winterswijk 143.44 360 *e*PKP PKPdf 17 40 14.0 +14
KIS Kishinev 143.47 334 *e*PKP PKPab 17 39 54.0 -2.7
KIS Kishinev 143.47 334 *e*PsP 17 40 16.0
KIS Kishinev 143.47 334 *e*PP PP 17 43 12.0 +0.5
KIS *es*KP 17 43 32.0
KIS Kishinev 143.47 334 *e*PPS PPS 17 55 38.0
KIS *e*L L 18 29 50.0
comp=Z,3µm,25.0s
KIS LRM MLR 18 42 07.0
comp=Z,2µm,22.0s
KIS Kishinev 143.47 334 *e*PKHKP PKPab 17 39 54.0 -2.7
KIS *e* 17 43 12.0
KIS *e* 17 46 30.0
KIS *e*PPS PPS 17 55 38.0
KIS MLR MLR
comp=Z,2µm,22.0s
KIS MLR MLR
comp=Z,2µm,21.0s
RSDY Resadiye-TOKAT 143.52 319 *e*P PKPab 17 39 56.9 -0.3
PSET Sete Cidades 143.59 46 *e*LR LR 18 27 36.0
comp=Z,160nm,17.6s
OJC Ojcow 143.62 346 *e*PKP PKPab 17 39 56.6 -0.6
OJC *e* 17 40 14.6
OJC LMZ LR 18 40 07.5
OJC Ojcow 143.62 346 *e*PKIKP PKPab 17 39 56.8 -0.4
OJC *e* 17 43 10.1
OJC MLR MLR
comp=Z,6µm,22.0s
KSP Ksiaz 143.74 350 *e*PKP PKPab 17 39 56.7 -0.9
KSP *e* 17 40 14.4
KSP LMZ LR 18 42 43.7
KSP Ksiaz 143.74 350 *e*PKIKP PKPbc 17 39 58.0 -0.3
KSP *i* 17 40 03.9
KSP MLR MLR
comp=Z,21µm,21.9s
CLL Collm 143.75 353 *e*PKPpre PKPpre 17 39 59.0
CLL ⇓*i*PKPdf **PKPdf 17 40 00.7 -0.1**
comp=Z,26nm,1.2s
CLL *es*PKiKP sPKiKP 17 40 19.0 -1.0
CLL *e*PP **PP 17 43 11.0 -1.8**
CLL *e*PPP PPP 17 46 24.0
CLL *e*SKSac **SKSac 17 47 12.0 -3.0**
CLL *e*SKKSac **SKKSac 17 50 03.0 -0.5**
CLL *e*PSKS 17 53 29.0
CLL *e* 17 53 54.0
CLL *e*PPS PPS 17 55 48.0
CLL *e* 17 57 11.0
CLL *e*SS **SS 18 01 54.0 +1.7**
CLL *e*SKSSKSac 18 03 26.0 +7.7
CLL *e* 18 05 07.0
CLL *e*SSS SSS 18 07 30.0
CLL *e*SSSS 18 11 18.0
CLL LmV 18 48 00.0
comp=Z,2µm,20.5s
CLL Collm 143.75 353 ⇓*i*PKIKP **PKPdf 17 40 00.7 -0.1**
CLL *e* 17 43 11.0
CLL pmax pmax
comp=Z,26nm,1.2s
CLL MLR MLR
comp=Z,2µm,20.5s
KVT Kavak 143.91 321 *e*P PKPab 17 39 57.6 -1.1
MALT Malatya 143.92 315 *e*P **PKPdf 17 40 00.7 -0.9**
MALT Malatya 143.92 315 ⇑*i*P **PKPdf 17 40 01.0 -0.6**
MALT Malatya 143.92 315 ⇑PKIKP **PKPdf 17 40 01.0 -0.6**
SVSK Karacayir 144.00 319 *e*P PKPbc 17 39 59.9 +0.5
DIKM Dikmen 144.04 323 *e*P PKPbc 17 40 00.1 +0.5
BRG Berggiesshubel 144.06 352 *e*PKP **PKPdf 17 40 03.5 +2.1**
comp=Z,13nm,0.9s
BRG *i* 17 40 20.6

comp=Z,99nm,1.5s
BRG Berggiesshubel 144.06 352 *e*PKIKP **PKPdf 17 40 03.5 +2.1**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG MLR MLR
comp=N,2µm,24.4s
BRG MLR MLR
comp=E,2µm,22.6s
BRG MLR MLR
comp=Z,3µm,22.3s
URFA Urfa 144.08 314 *e*P **PKPab 17 39 58.7 -0.8**
TSUM Tsumeb 144.09 198 PFAKE 17 40 10.0 +7.5
TSUM LR LR
comp=Z,3µm,20.0s
RAC Raciborz 144.10 347 *e*PKIKP **PKPab 17 39 58.6 -0.4**
RAC MLR MLR
comp=Z,4µm,23.4s
UPC Upice 144.11 350 *e*PKP PKPbc 17 39 59.6 +0.1
UPC Upice 144.11 350 *e*PKIKP PKPbc 17 39 59.6 +0.1
KOLS Kolonicke sedl 144.14 342 *e*PKIKP **PKPab 17 39 59.1 -0.1**
KOLS Kolonicke sedl 144.14 342 *e*PKP **PKPab 17 39 59.1 -0.1**
DPC Dobruska-Polom 144.21 350 *e*PKP **PKPab 17 39 59.2 -0.3**
DPC Dobruska-Polom 144.21 350 *e*PKIKP **PKPab 17 39 59.2 -0.3**
NIE Niedzica 144.23 345 *e*PKP **PKPab 17 39 59.3 -0.3**
NIE *e* 17 40 17.7
NIE LMZ LR 18 33 36.0
NIE Niedzica 144.23 345 *e*PKIKP **PKPab 17 39 59.2 -0.3**
NIE *e* 17 43 13.7
NIE MLR MLR
comp=Z,3µm,21.8s
PVCC Panska Ves 144.31 351 *e*PKP **PKPdf 17 40 01.0 -0.8**
PVCC Panska Ves 144.31 351 *e*PKIKP **PKPdf 17 40 01.0 -0.8**
OKC Ostrava-Krasne 144.34 347 *e*PKP PKPbc 17 40 00.2 0.0
OKC AMS AMS 18 39 00.0
comp=Z,3µm,22.1s
OKC Ostrava-Krasne 144.34 347 *e*PKIKP PKPbc 17 40 00.2 0.0
OKC MLR MLR
comp=Z,3µm,22.1s
BURAR Bucovina Array 144.35 338⇑ *i*P **PKPab 17 39 59.6 -0.5**
BURAR Bucovina Array 144.35 338 ⇑PKIKP **PKPab 17 39 59.6 -0.5**
CRVS Cervenica-Dubn 144.40 343 *e*PKIKP PKPbc 17 40 00.3 -0.2
CRVS Cervenica-Dubn 144.40 343 *e*PKP PKPbc 17 40 00.2 -0.2
UZH Uzhgorod 144.41 342 *e*PKIKP **PKPab 17 39 58.9 -1.3**
UZH *e* 17 40 06.7
UZH *e*SS SS 18 02 00.7 +0.5
DARE Darende-Malaty 144.42 317 *e*P **PKPdf 17 40 01.9 -0.6**
PSMN Pico do Norte, 144.44 47 *e*LR LR 18 27 46.5
comp=Z,116nm,19.2s
MORC Moravsky Berou 144.53 348⇑ *i*P **PKPdf 17 40 03.3 +1.0**
MORC Moravsky Berou 144.53 348 ⇑PKIKP **PKPdf 17 40 03.3 +1.0**
MORC Moravsky Berou 144.53 348 *e*PKPdf **PKPab 17 39 59.9 -0.7**
UCC Uccle 144.55 3 P **PKPab 17 40 00.3 -0.3**
BZK Bozkurt 144.56 324 *e*P **PKPab 17 39 59.6 -1.3**
BEBN Eben Emael 144.60 1 PKP PKPbc 17 40 01.2 +0.2
HGN Heimansgroeve 144.63 1 *e*PKP PKPbc 17 40 01.1 0.0
comp=Z,329nm,2.0s
HGN *e*PP PP 17 43 06.8 -11
KSRV Kasrt alli 144.70 311 *e*P PKPbc 17 40 01.7 -0.1
PRA Prague 144.78 351 *e*PKP **PKPdf 17 40 02.8 +0.2**
PRA AMS AMS 18 42 40.0
comp=Z,3µm,21.5s
PRA Prague 144.78 351 *e*PKIKP **PKPdf 17 40 02.8 +0.2**
PRA MLR MLR
comp=Z,3µm,21.5s
TRPA Tarpa 144.78 342⇓ *e*PKPbc **PKPab 17 40 01.3 -0.3**
MEM Membach 144.79 1 PKP **PKPab 17 40 01.0 -0.5**
SNF Seneffe 144.84 3 PKP **PKPab 17 40 00.9 -0.8**
PRU Pruhonice 144.84 351 *e*PKP **PKPab 17 40 01.6 -0.1**
PRU AMS AMS 18 42 20.0
comp=Z,3µm,22.2s
PRU Pruhonice 144.84 351 *e*PKIKP **PKPab 17 40 01.6 -0.1**
PRU MLR MLR
comp=Z,3µm,22.2s
GOPC GO Pecny, Ondr 144.88 351 *e*PKP **PKPab 17 40 01.5 -0.4**
GOPC AMS AMS 18 43 20.0
comp=Z,3µm,20.4s
BMR Baia Mare 144.88 340⇑ *i*P **PKPdf 17 40 02.9 0.0**
BMR Baia Mare 144.88 340 ⇑PKIKP **PKPdf 17 40 02.9 0.0**
BCLA Clavier 144.97 2 PKP **PKPab 17 40 01.6 -0.6**
KECS Kecovo 145.05 344 *e*PKIKP **PKPab 17 40 02.6 0.0**
KECS Kecovo 145.05 344 *e*PKP **PKPab 17 40 02.6 0.0**
PETR Petresti 145.15 335⇓ *i*P **PKPdf 17 40 03.3 -0.1**
VRAC Vranov 145.16 349 PKPbc **PKPbc 17 40 02.5 -0.4**
comp=Z,42nm,1.1s,baz=17,slow=3.1,SNR=34
JHLN Al Jahlan 145.19 312 *e*P **PKPbc 17 40 01.1 -2.4**
CFR Carcaliu 145.20 333⇑ *i*P **PKPab 17 40 03.1 -0.1**
CFR Carcaliu 145.20 333 ⇑PKIKP **PKPab 17 40 03.1 -0.1**
DOU Dourbes 145.27 2 PKP **PKPab 17 40 02.3 -0.8**
CORM Corum 145.31 321 *e*P **PKPdf 17 40 05.0 +1.0**
KMRS Kahramanmaras 145.37 315 *e*P **PKPab 17 40 04.7 +0.5**
TREC Trest 145.37 350 *e*PKP **PKPab 17 40 04.1 +0.4**
TREC AMS AMS 18 42 20.0
comp=Z,4µm,21.9s
TREC Trest 145.37 350 *e*PKIKP **PKPab 17 40 04.1 +0.4**
TREC MLR MLR
comp=Z,4µm,21.9s
VYHS Vyhne 145.45 346 *e*PKIKP **PKPbc 17 40 03.5 -0.3**
VYHS Vyhne 145.45 346 *e*PKP **PKPbc 17 40 03.5 -0.3**
GRF Grafenberg Arr 145.52 355 *e*PKP **PKPdf 17 40 03.6 -0.3**
GRF *e*L L 18 44 48.1
comp=Z,2µm,20.8s
GRFO Grafenberg 145.53 355 *e*PKIKP **PKPdf 17 40 03.8 -0.1**
GRFO Grafenberg 145.53 355 *e*PKPdf **PKPdf 17 40 03.8 -0.1**
GRER 145.53 335⇓ *i*P **PKPab 17 40 05.6 +1.2**
TIRR Tirgusor 145.64 332 *e*PKIKP **PKPdf 17 40 04.1 -0.1**
TIRR Tirgusor 145.64 332 *e*PKPdf **PKPdf 17 40 04.1 -0.1**
CANT Cankiri 145.65 322 *e*P **PKPab 17 40 06.5 +1.4**
HARR Harsova 145.67 333⇑ *i*P **PKPbc 17 40 04.5 -0.1**
HARR Harsova 145.67 333 ⇑PKIKP **PKPbc 17 40 04.5 -0.1**
DOPR Dopca 145.68 337⇓ *i*P **PKPab 17 40 04.9 -0.1**
CJR Cluj-Napoca 145.69 339⇑ *i*P **PKPdf 17 40 03.7 -0.7**
CJR Cluj-Napoca 145.69 339 ⇑PKIKP **PKPdf 17 40 03.7 -0.7**
KMBO Kilima Mbogo 145.72 244 PKPbc **PKPab 17 40 07.0 +0.6**
comp=Z,16nm,1.0s,baz=79,slow=3.9,SNR=24
KMBO Kilima Mbogo 145.72 244 PKP2 **PKPab 17 40 07.0 +0.6**
KMBO MLR MLR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 145.72 244 PKPbc **PKPab 17 40 07.0 +0.6**
KMBO LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 145.72 344 *e*PKIKP **PKPdf 17 40 03.8 -0.6**
PSZ MLR MLR
comp=Z,2µm,20.0s
PSZ Piszkesteto 145.72 344 *e*PKPdf **PKPdf 17 40 03.8 -0.6**
PSZ LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 145.72 344⇓ *e*PKPdf **PKPdf 17 40 04.3 -0.1**
WLF Walferdange 145.74 1 PKP **PKPbc 17 40 04.5 -0.2**
WLF Walferdange 145.74 1 *e*PKIKP **PKPdf 17 40 04.2 -0.1**
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 145.74 1 *e*PKPdf **PKPdf 17 40 04.2 -0.1**
WLF LR LR
comp=Z,3µm,20.0s
SMOL Smolenice 145.75 347 *e*PKIKP **PKPbc 17 40 04.6 -0.2**
SMOL Smolenice 145.75 347 *e*PKP **PKPbc 17 40 04.6 -0.2**
SAFT Safranbolu 145.78 324 *e*P **PKPbc 17 40 05.1 0.0**
KHC Kasperske Hory 145.82 352 *e*PKP **PKPdf 17 40 04.5 0.0**
KHC *es*PKP 17 40 20.0
KHC Kasperske Hory 145.82 352 *e*PKIKP **PKPdf 17 40 04.5 0.0**
KHC *e* 17 40 20.0
EFOR EFORIE 145.83 331⇓ *i*P **PKPdf 17 40 01.8 -2.8**
MLR Muntele Rosu 145.86 336⇓ *i*P **PKPdf 17 40 04.7 -0.1**
MLR Muntele Rosu 145.86 336 PKPbc **PKPdf 17 40 04.2 -0.6**
comp=Z,18nm,1.1s,baz=70,slow=7.6,SNR=43
MLR Muntele Rosu 145.86 336⇓ PKP2 **PKPdf 17 40 04.7 -0.1**
PGOR Pogoanele 145.91 334⇑ *i*P **PKPdf 17 40 04.2 -0.5**
DRGR 145.92 340⇓ *i*P **PKPdf 17 40 04.7 -0.1**
DRGR 145.92 340⇓ PKP2 **PKPdf 17 40 04.7 -0.1**
ISR Istrita 145.92 335⇑ *i*P **PKPdf 17 40 05.0 +0.2**
ISR Istrita 145.92 335 ⇑PKP2 **PKPdf 17 40 05.0 +0.2**
GERES GERESS Array B 146.08 352 PKPbc **PKPdf 17 40 05.2 +0.2**
comp=Z,44nm,1.0s,baz=29,slow=3.0,SNR=57
KOZT Kozan 146.10 316 *e*P **PKPdf 17 40 05.1 -0.2**
MSAB Monastry St. A 146.19 332⇑ *i*P **PKPdf 17 40 05.2 0.0**
BRTR Keskin Array B 146.19 321 PKPbc **PKPbc 17 40 06.5 -0.1**
comp=Z,167nm,1.0s,baz=114,slow=1.6,SNR=126
PSN Preselentsi 146.34 331 *i*P **PKPbc 17 40 06.5 -0.2**
BUD Budapest 146.35 345⇓ *e*PKPdf **PKPdf 17 40 03.9 -1.5**
KAMT Kaman 146.37 321 *e*P PKPab 17 40 12.9 +5.0
CEYT Ceyhan 146.41 315 *e*P **PKPab 17 40 08.8 +0.8**
ARR Arges 146.47 337⇑ *i*P **PKPbc 17 40 06.7 -0.4**
NIG Nigde 146.55 318 *e*P **PKPbc 17 40 07.4 -0.4**

SHEL Horse Pasture 146.56 158 PFAKE 17 40 20.0 +11
SHEL LR LR
comp=Z,2µm,20.0s
STU Stuttgart 146.58 357 *e*PKP2 **PKPbc 17 40 07.2 -0.1**
STU Stuttgart 146.58 357 *e*PKPbc **PKPbc 17 40 07.2 -0.1**
PKSG 146.59 346⇓ *e*PP **PKPdf 17 40 06.8 +1.0**
ANTO Ankara 146.61 322 *e*P **PKPab 17 40 08.6 -0.2**
ANTO Ankara 146.61 322⇑ *i*P **PKPdf 17 40 05.9 -0.3**
ANTO Ankara 146.61 322 *e*PKP2 **PKPbc 17 40 08.1 +0.4**
ANTO MLR MLR
comp=Z,1µm,21.0s
ANTO Ankara 146.61 322 *e*PKPbc **PKPbc 17 40 08.1 +0.4**
ANTO LR LR
comp=Z,1µm,21.0s
LOD Lodumlu 146.61 322 *e*P **PKPdf 17 40 06.5 +0.3**
CONA Conrad Observa 146.62 349⇑ *i*PKPbc **PKPdf 17 40 06.0 +0.1**
comp=Z,62nm,1.0s,SNR=28
CSKK Cs˘˛kako 146.65 346 *e*PP **PKPdf 17 40 04.7 -1.2**
PKSN Nyarlorinc 146.67 344 *e*PKPdf **PKPdf 17 40 05.7 -0.2**
AFSR Af˘ar-Bala (A 146.71 321 *e*P **PKPab 17 40 11.6 +2.3**
LOT Lotru 146.72 338 *e*P **PKPdf 17 40 04.2 -2.0**
LOT Lotru 146.72 338⇓ *i*P **PKPdf 17 40 06.4 +0.2**
PKS7 Kunszentmiklos 146.72 344⇓ *e*PKPdf **PKPbc 17 40 07.2 -0.5**
SOP Sopron 146.72 348⇓ *e*PP **PKPdf 17 40 07.4 +1.4**
KARA Karaisali 146.74 316 *e*P **PKPbc 17 40 07.4 -0.7**
PKST T˘s 146.80 346⇓ *e*PP **PKPdf 17 40 07.0 +0.8**
MOA Molln 146.97 351 *i* PKPab **PKPbc 17 40 08.1 -0.3**
comp=Z,82nm,1.4s,SNR=24
PKS6 Bocsa 147.03 344⇓ *e*PKPdf **PKPdf 17 40 06.1 -0.4**
HUMR Humele 147.04 336⇑ *i*P **PKPbc 17 40 07.6 -1.1**
BFO Black Forest 147.05 358 *e*PKP2 **PKPdf 17 40 07.3 +0.7**
BFO MLR MLR
comp=Z,3µm,22.0s
BFO Black Forest 147.05 358 *e*PKPdf **PKPdf 17 40 07.3 +0.7**
BFO LR LR
comp=Z,3µm,22.0s
GZR Gura Zlata 147.12 339⇑ *i*P **PKPbc 17 40 08.1 -0.9**
GZR Gura Zlata 147.12 339 ⇑PKIKP **PKPbc 17 40 08.1 -0.9**
MDUB Mudurnu 147.13 324 *e*P **PKPdf 17 40 07.8 +0.8**
ECH Echery 147.19 360 *e*PKP2 **PKPbc 17 40 08.6 -0.4**
ECH MLR MLR
comp=Z,3µm,22.0s
ECH Echery 147.19 360 *e*PKPbc **PKPbc 17 40 08.6 -0.4**
ECH LR LR
comp=Z,3µm,22.0s
SULT Sultanhani-AKS 147.20 319 *e*P **PKPbc 17 40 09.2 -0.3**
HAWK Haweek 147.20 311 *e*P **PKPab 17 40 10.5 -0.9**
PKS2 Kecel 147.22 344⇓ *e*PP **PKPdf 17 40 08.9 +2.1**
BZS Buzias 147.31 341 *e*P **PKPbc 17 40 08.3 -1.1**
BZS Buzias 147.31 341⇑ *i*P **PKPdf 17 40 07.4 +0.3**
BZS Buzias 147.31 341 ⇑PKIKP **PKPdf 17 40 07.4 +0.3**
MERS Mersin 147.31 316 *e*P **PKPbc 17 40 10.2 +0.3**
ARSA Arzberg 147.34 349⇑ *i*PKPbc **PKPbc 17 40 08.3 -1.2**
comp=Z,43nm,1.1s,SNR=14
PKS9 Tamasi 147.37 345⇑ *e*PP **PKPdf 17 40 09.2 +2.1**
MARH Ras Al Marh 147.38 310 *e*P **PKPbc 17 40 11.0 +0.6**
SPNC Sapanca-Adapaz 147.48 326 *e*P **PKPbc 17 40 10.6 +0.6**
SILT Sile 147.50 327 *e*P **PKPbc 17 40 09.8 -0.3**
GULT Gulveren 147.54 325 *e*P **PKPbc 17 40 10.7 +0.3**
PKSM Moragy 147.63 345⇑ *i*P **PKPdf 17 40 08.8 +1.3**
PKSM Moragy 147.63 345 ⇑PKP2 **PKPdf 17 40 08.8 +1.3**
PKSM Moragy 147.63 345⇓ *e*PP **PKPdf 17 40 06.8 -0.7**
SVRH Sivrihisar-ESK 147.63 323 *e*P **PKPdf 17 40 08.8 +0.9**
SZH Strazhica 147.68 333 *i* P **PKPbc 17 40 11.1 +0.6**
HRT Hereke 147.73 326 *e*P **PKPbc 17 40 11.6 +0.8**
KLYT Kilyos 147.75 328 *e*P **PKPbc 17 40 10.7 -0.1**
RETA Reutte 147.75 355⇓ *i*PKPbc **PKPbc 17 40 09.4 -1.3**
comp=Z,50nm,1.0s,SNR=25
SALA Sala 147.77 308 *e*P **PKPbc 17 40 11.0 -0.4**
KIZT Kizilcal 147.79 322 *e*P **PKPbc 17 40 11.1 0.0**
WATA Walderalm 147.82 354⇑ *i*PKPbc **PKPdf 17 40 09.2 +1.1**
comp=Z,68nm,1.0s,SNR=11
KBA Koelnbreinsper 147.86 352 *i* PKPbc **PKPdf 17 40 08.9 +0.8**
comp=Z,41nm,0.8s,SNR=9.6
MOTA Moosalm 147.86 354⇓ *i*PKPbc **PKPdf 17 40 09.5 +1.3**
comp=Z,62nm,1.0s,SNR=35
ASF Jabal al Asfar 147.87 307 PKPbc **PKPbc 17 40 12.3 +0.7**
baz=32,slow=2.9
ISK Istanbul-Kandi 147.87 327 *e*P **PKPab 17 40 12.5 -1.1**
WTTA Wattenberg 147.89 354⇓ *i*PKPbc **PKPbc 17 40 09.8 -1.3**
comp=Z,114nm,1.1s,SNR=14
LADK Ladik-KONYA 147.92 320 *e*P **PKPbc 17 40 11.2 -0.3**
BGKT Bogazkoy 147.94 328 *e*P **PKPab 17 40 12.5 -1.3**
KOGS Kog 147.96 348 *e*PKPdf **PKPdf 17 40 09.4 +1.3**
KOGS *e* 17 40 30.7
ADVT Abdulvahap 147.97 326 *e*P **PKPbc 17 40 12.1 +0.7**
ESKT Eskisehir 147.97 323 *e*P **PKPdf 17 40 09.2 +0.7**
SOKA Soboth 147.98 349⇑ *i*PKPbc **PKPdf 17 40 09.1 +0.8**
comp=Z,72nm,1.1s,SNR=28
DAVA Damuels 148.02 356⇑ *i*PKPbc **PKPbc 17 40 10.5 -1.1**
comp=Z,88nm,1.1s,SNR=29
JMB Yambol 148.03 332⇑ *i*P **PKPdf 17 40 04.6 -3.7**
CTKS Kestanelik-??a 148.03 328 *e*P **PKPdf 17 40 09.2 +0.9**
BRBR Barbar 148.05 310 *e*P **PKPbc 17 40 12.5 +0.4**
CAVI Cavuskoy 148.07 325 *e*P **PKPbc 17 40 12.9 +1.3**
KONT Konya--Tatoy 148.08 320 *e*P **PKPbc 17 40 12.1 +0.2**
IZI Iznik 148.18 326 *e*P **PKPbc 17 40 12.0 0.0**
FURI Furi 148.18 262 P **PKPab 17 40 17.9 +1.8**
SLVT Silivri 148.19 328 *e*P **PKPbc 17 40 10.6 -1.3**
FETA Feichten 148.22 355⇑ *i*PKPbc **PKPdf 17 40 09.4 +0.6**
comp=Z,47nm,1.1s,SNR=17
OBKA Obir 148.23 350⇑ *i*PKPbc **PKPdf 17 40 09.5 +0.9**
comp=Z,26nm,0.8s
PHSR Pinarhisar 148.23 330 *e*P **PKPdf 17 40 08.8 +0.1**
MYKA Terra Mystica 148.26 351⇑ *i*PKPbc **PKPdf 17 40 09.6 +0.9**
comp=Z,45nm,1.0s,SNR=10
GEMT Gemlik 148.26 326 *e*P **PKPbc 17 40 11.6 -0.6**
EREN Erenkoy 148.28 314 *e*P **PKPbc 17 40 10.6 -1.7**
ABTA Abfaltersbach 148.30 352⇑ *i*PKPdf **PKPdf 17 40 08.7 -0.1**
comp=Z,64nm,1.0s,SNR=21
ARMT Armutlu 148.34 327 *e*P **PKPbc 17 40 12.2 -0.2**
EDRB Edirne 148.44 331 *e*P **PKPbc 17 40 11.1 -1.4**
MDNY Mudanya-Bursa 148.47 327 *e*P **PKPbc 17 40 11.6 -1.1**
DAVOX Davos/Dischmat 148.52 356 PKPbc **PKPbc 17 40 11.9 -1.0**
comp=Z,45nm,0.9s,baz=333,slow=4.5,SNR=24
DAVOX Davos/Dischmat 148.52 356 PKP2 **PKPbc 17 40 11.9 -1.0**
DAVOX pmax pmax
comp=Z,45nm,0.9s
MMAI Mount Meron Ar 148.64 309 PKPbc **PKPbc 17 40 14.3 +0.8**
comp=Z,47nm,0.9s,baz=72,slow=4.7,SNR=3.3
LJU Ljubljana 148.68 350 *e*PKPdf **PKPdf 17 40 09.6 +0.3**
LJU *e* 17 40 32.8
LJU *e* 17 40 37.3
LJU *e* 17 43 57.4
ALT Altintas 148.71 324 *e*P **PKPdf 17 40 10.2 +0.5**
SHUT Suhut-Afyon 148.79 322 *e*P **PKPbc 17 40 14.3 +0.6**
TVSB Tavsanli 148.81 325 *e*P **PKPdf 17 40 08.8 -1.1**
ASCN Ascension 148.82 136 PFAKE 17 40 20.0 +1.8
ASCN LR LR
comp=Z,2µm,19.0s
LFK Lefkose 148.85 315 *e*P **PKPbc 17 40 13.9 0.0**
TUE Stuetta 148.86 357 PFAKE 17 40 20.0 +2.3
TUE LR LR
comp=Z,4µm,21.0s
MMLI Mount Malkishu 148.89 308 *e*P PKPab 17 40 27.5 +9.4
MRMT Marmara Adasi 148.97 328 *e*P **PKPbc 17 40 12.1 -2.0**
BNT Bandirma 148.98 328 *e*P **PKPbc 17 40 12.5 -1.5**
PGB Panagyurishte 149.01 335 *i* P **PKPbc 17 40 15.1 +1.0**
EDC Edincik 149.02 328 *e*P **PKPdf 17 40 06.9 -3.1**
BOJS Bojanci 149.07 348 *e*PKPdf **PKPdf 17 40 10.8 +0.9**
RKY Sarkoy-Tekirda 149.11 329 *e*P **PKPdf 17 40 10.6 +0.4**
TRI Trieste 149.13 350 *e*PKP2 **PKPbc 17 40 13.2 -1.0**
TRI Trieste 149.13 350 *e*PKPbc **PKPbc 17 40 13.2 -1.0**
CSS Prodhromos 149.16 314 *e*P **PKPbc 17 40 13.2 -1.5**
CSS Prodhromos 149.16 314 *e*PKPbc **PKPbc 17 40 13.7 -1.0**
CSS LR LR
comp=Z,340nm,20.0s
KDZ Kurdzhali 149.20 332⇑ *i*P **PKPdf 17 40 10.2 -0.1**
KDZ Kurdzhali 149.20 332 ⇑PKIKP **PKPdf 17 40 10.2 -0.1**
KDZ Kurdzhali 149.20 332 *i* P **PKPbc 17 40 13.9 -0.7**
KRBG Karabiga-Canak 149.27 328 *e*P **PKPbc 17 40 12.5 -2.2**
ISP Isparta 149.28 321 *e*P **PKPbc 17 40 14.7 -0.3**
ISP Isparta 149.28 321⇓ *i*P **PKPdf 17 40 11.3 +0.6**
ISP Isparta 149.28 321 ⇓PKIKP **PKPdf 17 40 11.3 +0.6**
ISP Isparta 149.28 321 *e*PKPbc **PKPbc 17 40 14.3 -0.6**
ISP LR LR
comp=Z,2µm,21.0s
VTS Vitosha 149.37 336 *i* P **PKPbc 17 40 15.9 +0.8**
LEF Lefka 149.38 315 *e*P **PKPdf 17 40 08.8 -2.0**
ERIK Erikli-Kesan 149.45 330 *e*P **PKPdf 17 40 08.3 -2.4**
BCK Bucak 149.47 321 *e*P **PKPdf 17 40 08.8 -2.1**
ALN Alexandroupoli 149.50 330 P **PKPdf 17 40 08.0 -2.8**

ALN Alexandroupoli 149.50 330 *e*P **PKPbc 17 40 14.5 -0.8**
ALN Alexandroupoli 149.50 330 PKIKP **PKPdf 17 40 08.0 -2.8**
ALN Alexandroupoli 149.50 330 P **PKPdf 17 40 08.0 -2.8**
BALB Balikesir 149.53 327 *e*P **PKPbc 17 40 14.3 -1.0**
LPK Lapseki 149.56 329 *e*P **PKPbc 17 40 16.2 +0.8**
ENEZ Enez 149.58 330 *e*P **PKPdf 17 40 11.6 +0.7**
GELI Tayfur-Gelibol 149.68 329 *e*P **PKPdf 17 40 11.1 0.0**
ANTB Antalya 149.79 320 *e*P **PKPdf 17 40 12.0 +0.7**
KULA Kula-Manisa 149.90 324 *e*P **PKPdf 17 40 09.7 -1.9**
MMB Musomiste 149.99 334⇑ *i*P **PKPbc 17 40 15.8 -0.7**
MMB Musomiste 149.99 334 *i* P **PKPbc 17 40 17.0 +0.5**
KKB Krupnik 150.03 335 *i* P **PKPbc 17 40 16.6 0.0**
PLE Pljevlja 150.06 341⇑ *i*PKP **PKPbc 17 40 15.2 -1.6**
SSB Saint Sauveur 150.07 3 *e*PKP2 **PKPbc 17 40 16.1 -0.5**
SSB MLR MLR
comp=Z,7µm,21.0s
SSB Saint Sauveur 150.07 3 *e*PKPbc **PKPbc 17 40 16.1 -0.5**
SSB LR LR
comp=Z,7µm,21.0s
AKS Akhisar 150.11 326 *e*P **PKPbc 17 40 16.7 -0.2**
NVR Nevrokopi 150.13 334 P **PKPdf 17 40 10.4 -1.4**
NVR Nevrokopi 150.13 334 P **PKPdf 17 40 10.4 -1.4**
KAVA Kavala 150.13 332 P **PKPdf 17 40 09.5 -2.3**
KAVA Kavala 150.13 332 P **PKPdf 17 40 09.5 -2.3**
EZN Ezine 150.19 329 *e*P **PKPbc 17 40 16.2 -0.8**
DENT Denizli 150.21 323 *e*P **PKPdf 17 40 11.6 -0.5**
IVA Berane 150.32 340⇑ *i*PKP **PKPdf 17 40 14.4 +2.3**
UPM Unac-Piva 150.33 342⇑ *i*PKP **PKPdf 17 40 15.5 -2.0**
ELL Elmali 150.35 320 *e*P **PKPdf 17 40 13.0 +0.5**
BNI Bardonecchia 150.36 0 *e*PKIKP **PKPdf 17 40 17.7 +0.3**
BNI MLR MLR
comp=Z,4µm,20.0s
BNI Bardonecchia 150.36 0 *e*PKPbc **PKPbc 17 40 17.7 +0.3**
BNI LR LR
comp=Z,4µm,20.0s
SRS Serrai 150.44 334 P **PKPdf 17 40 13.5 +1.2**
SRS Serrai 150.44 334 PKIKP **PKPdf 17 40 13.5 +1.2**
SRS Serrai 150.44 334 P **PKPdf 17 40 13.5 +1.2**
SRS Serrai 150.44 334 P **PKPdf 17 40 13.5 +1.2**
PGAV Gavieira, Arco 150.44 23 *e*PKPdf **PKPbc 17 40 16.9 -0.8**
PGAV Gavieira, Arco 150.44 23 PKPab 17 40 31.8 +7.7
PVY Plav 150.54 340 *e*PKP **PKPdf 17 40 15.0 +2.4**
NKY Niksic 150.56 341 *e*PKP **PKPbc 17 40 15.5 -2.7**
PRK Paraskevi 150.66 328 P **PKPbc 17 40 16.5 -1.6**
PRK Paraskevi 150.66 328 PKIKP **PKPbc 17 40 16.5 -1.6**
PRK Paraskevi 150.66 328 P **PKPbc 17 40 16.5 -1.6**
PRK Paraskevi 150.66 328 P **PKPbc 17 40 16.5 -1.6**
SACV Santiago Islan 150.68 87 PFAKE 17 40 20.0 +1.1
SACV LR LR
comp=Z,1µm,20.0s
KNT Kendrikon 150.69 335 P **PKPdf 17 40 12.8 +0.1**
KNT Kendrikon 150.69 335 *e*P **PKPbc 17 40 19.8 +1.6**
KNT Kendrikon 150.69 335 PKIKP **PKPdf 17 40 12.8 +0.1**
KNT Kendrikon 150.69 335 P **PKPdf 17 40 12.8 +0.1**
KNT Kendrikon 150.69 335 P **PKPdf 17 40 12.8 +0.1**
LIA Limnos Island 150.69 330 P **PKPdf 17 40 12.2 -0.5**
LIA Limnos Island 150.69 330 P **PKPdf 17 40 12.2 -0.5**
LIA Limnos Island 150.69 330 P **PKPdf 17 40 12.2 -0.5**
NKME Niksic 150.71 341⇑ *i*PKP **PKPbc 17 40 16.6 -1.6**
BRY Bratogost 150.71 342 *e*PKP **PKPbc 17 40 16.2 -2.1**
AYDB Zeytinkoy-Aydi 150.73 324 *e*P **PKPbc 17 40 17.1 -1.4**
IZM Izmir 150.76 326 *e*P **PKPdf 17 40 15.3 +2.4**
BLCB Balcova 150.89 326 *e*P **PKPdf 17 40 08.8 -4.2**
SIGR SIGRI 150.89 329 *e*P **PKPdf 17 40 12.9 -0.1**
SIGR SIGRI 150.89 329 *e*P **PKPdf 17 40 12.9 -0.1**
OUR Ouranopolis 150.91 332 *e*P **PKPbc 17 40 16.4 -2.2**
TTG Podgorica 150.92 341⇑ *i*PKP **PKPbc 17 40 16.0 -2.6**
FETY Fethiye 150.93 321 *e*P **PKPdf 17 40 14.3 +1.2**
GRG Griva 151.07 335 P **PKPdf 17 40 13.1 -0.2**
GRG Griva 151.07 335 *e*P **PKPdf 17 40 12.6 -0.7**
GRG Griva 151.07 335 PKIKP **PKPdf 17 40 13.1 -0.2**
GRG Griva 151.07 335 *e*P **PKPdf 17 40 12.6 -0.7**
GRG Griva 151.07 335 P **PKPdf 17 40 13.1 -0.2**
HORT Hortiatis 151.08 334 P **PKPdf 17 40 14.6 +1.2**
HORT Hortiatis 151.08 334 *e*P **PKPbc 17 40 12.2 -1.2**
HORT Hortiatis 151.08 334 *e*P **PKPdf 17 40 12.2 -1.2**
HORT Hortiatis 151.08 334 P **PKPdf 17 40 14.6 +1.2**
VLC Villacollemand 151.09 355 *e*PKPbc **PKPbc 17 40 17.5 -1.5**
VLC LR LR
comp=Z,4µm,20.0s
POLO Lamas de Olo 151.13 23 *e*PKPdf **PKPbc 17 40 18.9 -0.4**
POLO Lamas de Olo 151.13 23 *e*PKPab PKPab 17 40 33.5 +6.5
PBRG Braganca 151.14 21 PKPdf **PKPbc 17 40 18.4 -0.9**
PBRG Braganca 151.14 21 PKPab PKPab 17 40 33.6 +6.7
HCY Herceg Novi 151.14 342⇑ *i*PKP **PKPbc 17 40 18.0 -1.2**
BUM Brajici-Budva 151.15 341⇑ *i*PKP **PKPbc 17 40 17.5 -1.8**
DRME Dracevica, Mon 151.16 341⇑ *i*PKP **PKPdf 17 40 14.8 +1.5**
PVRL Vila Real 151.25 23 *e*PKPdf **PKPbc 17 40 19.1 -0.4**
PVRL Vila Real 151.25 23 PKPab PKPab 17 40 35.6 +8.2
ULC Ulcinj 151.34 340 *e*PKP **PKPbc 17 40 16.7 -3.0**
MVO Moncorvo 151.60 22 PKPdf **PKPbc 17 40 19.6 -0.8**
MVO Moncorvo 151.60 22 PKPab PKPab 17 40 34.4 +5.5
FNA Florina 151.62 336 P **PKPdf 17 40 14.0 -0.2**
FNA Florina 151.62 336 *e*P **PKPbc 17 40 18.2 -2.2**
FNA Florina 151.62 336 PKIKP **PKPdf 17 40 14.0 -0.2**
FNA Florina 151.62 336 P **PKPdf 17 40 14.0 -0.2**
FNA Florina 151.62 336 P **PKPdf 17 40 14.0 -0.2**
PVIS Viseu 151.66 24 *e*PKPdf **PKPbc 17 40 19.7 -0.8**
PVIS Viseu 151.66 24 PKPab PKPab 17 40 35.1 +5.9
BODT Bodrum 151.68 324 *e*P PKPdf 17 40 06.1 -8.3
LIT Litokhoron 151.75 334 P **PKPdf 17 40 16.4 +2.1**
LIT Litokhoron 151.75 334 PKIKP **PKPdf 17 40 16.4 +2.1**
LIT Litokhoron 151.75 334 P **PKPdf 17 40 16.4 +2.1**
DAT Datca 151.76 323 *e*P **PKPdf 17 40 17.6 +3.0**
PCAS Casmilo, Conde 151.98 25 PKPdf **PKPbc 17 40 18.9 -2.3**
PCAS Casmilo, Conde 151.98 25 PKPab **PKPab 17 40 29.1 -1.4**
KBN Korca 151.99 337 P **PKPbc 17 40 24.0 +2.7**
MTE Manteigas 152.07 24 PKPdf **PKPbc 17 40 20.6 -0.9**
MTE Manteigas 152.07 24 PKPab **PKPab 17 40 32.0 +1.1**
MTE Manteigas 152.07 24 *e*PKPbc **PKPbc 17 40 20.6 -0.9**
MTE LR LR
comp=Z,3µm,20.0s
PTOM Tomar 152.38 26 *e*PKPdf **PKPbc 17 40 19.6 -2.5**
AQU L'Aquila 152.46 349 PKIKP **PKPbc 17 40 23.1 +0.9**
AQU MLR MLR
comp=Z,2µm,22.0s
AQU L'Aquila 152.46 349 PKPbc **PKPbc 17 40 23.1 +0.9**
AQU LR LR
comp=Z,2µm,22.0s
PCBR Castelo Branco 152.57 24 PKPdf **PKPbc 17 40 20.8 -1.7**
PCBR Castelo Branco 152.57 24 *e*PKPab **PKPab 17 40 36.2 +3.3**
APE Apeiranthos 152.67 326 *e*P **PKPdf 17 40 17.1 +1.3**
LIS Lisbon 152.80 28 *e*P **PKPdf 17 40 16.3 +

MORF	**Marmelete**	**154.17**	**29**	*e*PKPab	**PKPab**	**17 40 39.5**	**-0.4**
MORF	**Marmelete**	**154.17**	**29**	*e*PKIKP	**PKPdf**	**17 40 18.6**	**+0.7**
PCVE	**Castro Verde**	**154.19**	**28**	PKPab	**PKPab**	**17 40 37.8**	**-2.0**
PFVI	**Vila Bisbo**	**154.23**	**30**	*e*PKPab	**PKPab**	**17 40 43.7**	**+3.7**
IDI	**Anoyia**	**154.32**	**324**	PKP	**PKPdf**	**17 40 18.7**	**+0.4**
	comp=Z,12nm,1.0s,baz=353,slow=1.3,SNR=2.5						
IDI				PKPab	**PKPab**	**17 40 37.7**	**-2.9**
	comp=Z,23nm,0.9s,baz=172,slow=5.9,SNR=4.0						
PVAQ	**Vaqueiros**	**154.52**	**28**	PKPab	**PKPab**	**17 40 39.7**	**-1.5**
TIP	**Timpagrande**	**154.66**	**342**	*e*PKPdf	**PKPdf**	**17 40 19.6**	**+0.9**
TIP				LR	LR		
	comp=Z,2μm,22.0s						
CEL	**Celeste**	**155.77**	**342**	PFAKE		17 40 30.0	+10
CEL				LR	LR		
	comp=Z,2μm,20.0s						
VSL	**Villasalto**	**155.80**	**355**	PFAKE		17 40 30.0	+10
VSL				LR	LR		
	comp=Z,3μm,21.0s						
CLTB	**Caltabellotta**	**157.10**	**347**	PFAKE		17 40 30.0	+8.0
CLTB				LR	LR		
	comp=Z,2μm,20.0s						
WDD	**Wield Dalam**	**158.39**	**343**	PFAKE		17 40 30.0	+6.5
WDD				LR	LR		
	comp=Z,2μm,21.0s						
CMAH	**Djebel Manchou**	**158.77**	**359**	P	PKPdf	17 40 39.3	+15
DFRA	**Djebel Bou Aff**	**158.84**	**2**	P	PKPab	17 40 43.4	-17
ABSA	**Djebel Ababsia**	**159.12**	**358**	P	PKPdf	17 40 39.3	+15
SET	**Setif**	**159.16**	**3**	P	PKPab	17 40 50.0	-11
KEST	**Kesra**	**159.54**	**354**	PKP	**PKPdf**	**17 40 25.5**	**+0.6**
	comp=Z,1.6nm,1.0s,baz=192,slow=4.2,SNR=2.9						
KEST				PKPab	**PKPab**	**17 41 02.0**	**-0.9**
	comp=Z,4.0nm,1.0s,baz=179,slow=21,SNR=4.8						
MDT	**Midelt**	**159.74**	**29**	PKP	**PKPdf**	**17 40 25.9**	**+0.5**
	comp=Z,5.9nm,1.0s,baz=35,slow=2.5,SNR=8.0						
MDT				PKPab	**PKPab**	**17 41 03.9**	**-0.1**
	comp=Z,23nm,1.1s,baz=350,slow=6.5,SNR=6.3						
LIC	**Lamto**	**165.31**	**127**	*e*P	**PKPdf**	**17 40 32.7**	**+1.5**
	comp=Z,153nm,1.9s						
TIC	**Toumodi**	**165.58**	**125**	*e*P	**PKPdf**	**17 40 31.9**	**+0.4**
	comp=Z,7.3nm,0.2s						
KIC	**Kosan Boka**	**165.62**	**127**	*e*P	**PKPdf**	**17 40 29.7**	**-1.8**
	comp=Z,113nm,1.3s						
DBIC	**Dimbokro**	**165.72**	**126**	PKP	**PKPdf**	**17 40 30.0**	**-1.5**
	comp=Z,7.1nm,1.0s,baz=41,slow=3.9,SNR=3.8						
TAM	**Tamanrasset**	**172.47**	**9**	*e*PKIKP	**PKPdf**	**17 40 34.7**	**-1.0**
TAM				MLR	MLR		
	comp=Z,3μm,20.0s						
TAM	**Tamanrasset**	**172.47**	**9**	*e*PKPdf	**PKPdf**	**17 40 34.7**	**-1.0**
TAM				LR	LR		
	comp=Z,3μm,20.0s						
TORD	**Torodi Ar. Bea**	**174.63**	**113**	PKP	**PKPdf**	**17 40 35.2**	**-1.3**
	comp=Z,5.8nm,1.1s,baz=322,slow=0.5,SNR=11						
TORD				PKPab	PKPab	17 42 15.0	+4.8
	comp=Z,4.4nm,1.0s,baz=253,slow=4.2,SNR=2.9						

CSEM ***21*** *17:23:37.7±0.2, 37.°06N×28.°94E, h10km, MD2.6, Error ellipse: s-maj=6.2km s-min=5.2km az=159.0*
DDA ***21*** *17:23:37.8, 37.°03N×28.°96E, h7km, MD2.6*
ISK 21 17:23:37.0, 37.°06N×28.°96E, h10km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.34**	**236**	*i* P		Pn	17 23 49.5	+1.5
TURN				*i* S		Sb	17 23 59.9	+9.3
TURN	**Turunc**	**0.34**	**236**	*i* P		Pn	17 23 49.5	+1.5
TURN				*i* S		Sb	17 23 59.9	+9.2
DALY	**Dalyan (Mu˘la**	**0.34**	**225**	*e*PG		Pg	17 23 44.3	+0.5
DALY				*e*SG		Sb	17 23 49.7	-1.1
DALY	**Dalyan (Mu˘la**	**0.34**	**225**	*e*Pg		Pg	17 23 44.3	+0.5
DALY				*e*Sg		Sb	17 23 49.7	-1.0
FETY	**Fethiye**	**0.44**	**167**	*e*PG		Pg	17 23 45.8	+0.2
FETY				*e*SG		Sb	17 23 52.9	-0.7
FETY	**Fethiye**	**0.44**	**167**	*e*Pg		Pg	17 23 45.8	+0.2
FETY				*e*Sg		Sb	17 23 52.9	-0.6
GOLH	**Golhisar**	**0.51**	**70**	*i* P		Pb	17 23 47.8	-0.5
GOLH				*i* S		Sb	17 23 56.8	+0.9
GOLH	**Golhisar**	**0.51**	**70**	*i* P		Pb	17 23 47.8	-0.5
GOLH				*i* S		Sb	17 23 56.8	+0.9
YER	**Yerkesik**	**0.54**	**278**	*e*PG		Pb	17 23 48.2	-0.5
YER	**Yerkesik**	**0.54**	**278**	*e*Pg		Pb	17 23 48.3	-0.4
AYDB	**Zeytinkoy-Aydi**	**1.22**	**316**	*e*PN		Pg	17 24 00.7	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.22**	**316**	*e*Pn		Pg	17 24 00.7	0.0

IDC ***21*** *17:35:34.7±9.3, 2.°11S×127.°75E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/34, mbtmp3.7/3, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx3.3/33, Error ellipse: s-maj=148.6km s-min=127.1km az=104.0*
ISCJB ***21*** *17:36:01.2±0.5, 3.°77S±0.°05×128.°50E±0.°05, h91km, mb3.6/1, Error ellipse: s-maj=7.2km s-min=6.6km az=138.9*
DJA ***21*** *17:36:04.0±0.6, 4.°S±6.°×12.°8E±.°, h93km±4km, M3.4/8, MLv3.4/8*
ISC 21 17:36:02.5±0.9, 3.°75S±0.°07×128.°45E±0.°05, h91km, n17, σ1=9.°75/20, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.62**	**50**	P		**Pn**	**17 36 20.4**	**+2.0**
MSAI				S		**Sn**	**17 36 32.9**	**+2.6**
NLAI	**Namlea**	**1.44**	**291**	P		**Pn**	**17 36 30.1**	**+2.6**
SANI	**Sanana**	**2.98**	**304**	P		**Pn**	**17 36 46.0**	**-1.8**
SANI				S		**Sn**	**17 37 23.8**	**+1.1**
LBMI	**Labuha**	**3.23**	**343**	P		**Pn**	**17 36 51.7**	**+0.5**
FAKI	**Fak Fak**	**3.88**	**78**	P		**Pn**	**17 37 00.8**	**+0.8**
FAKI	**Fak Fak**	**3.88**	**78**	P		**Pn**	**17 37 00.9**	**+0.9**
	baz=4.0,SNR=51							
FAKI				S		**Sn**	**17 37 41.8**	**-2.9**
	baz=4.0,SNR=8.7							
SWI	**Sorong**	**4.01**	**45**	P		**Pn**	**17 37 02.0**	**+0.2**
SWI	**Sorong**	**4.01**	**45**	P		**Pn**	**17 37 02.5**	**+0.7**
	baz=4.0,SNR=20							
SWI				S		**Sn**	**17 37 45.5**	**-2.3**
	baz=4.0,SNR=12							
SOEI	**Soe**	**7.27**	**215**	P		**Pn**	**17 37 43.6**	**-2.6**
	baz=7.3,SNR=3.7							
BATI	**Baumata**	**7.98**	**216**	LR		LR	17 41 54.3	
	comp=Z,469nm,18.1s,baz=40,slow=42							
MTN	**Manton Dam**	**9.42**	**164**	P		**Pn**	**17 38 17.2**	**+1.8**
	baz=9.7,SNR=4.5							
KDU	**Kakadu**	**9.73**	**156**	P		**Pn**	**17 38 20.9**	**+1.2**
	baz=10.0,SNR=5.8							
WRA	**Warramunga Arr**	**17.09**	**161**	P		**Pn**	**17 39 54.8**	**-1.1**
	0.4nm,0.3s,baz=339,slow=11,SNR=39							
QIS	**Mount Isa**	**19.93**	**148**	P		**P**	**17 40 27.0**	**-0.3**
	baz=20,SNR=4.1							
ASAR	**Alice Springs**	**20.49**	**166**	P		**P**	**17 40 33.4**	**0.0**
	0.9nm,0.5s,baz=349,slow=12,SNR=26							
WRKA	**Warakurna**	**21.17**	**180**	P		**P**	**17 40 40.7**	**+0.2**
	baz=21,SNR=3.7							
STKA	**Stephens Creek**	**30.59**	**158**	P		**P**	**17 42 06.8**	**-1.1**
	1.1nm,0.9s,baz=332,slow=10,SNR=3.5							

CSEM ***21*** *17:39:24.0±0.4, 37.°89N×22.°11E, h27km±3km, MD2.6, Error ellipse: s-maj=12.3km s-min=8.9km az=155.0*
ATH 21 17:39:25.0, 37.°85N×22.°10E, h16km±2km, MD2.6/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.20**	**12**	*e*PB		Pg	17 39 29.5	-0.3
KLV				*e*SB		Sg	17 39 33.3	+0.2
KLV	**Kalavryta, Ach**	**0.20**	**12**	*e*Pb		Pg	17 39 29.5	-0.3
KLV				*e*Sb		Sg	17 39 33.3	+0.2
GUR	**Goura**	**0.21**	**66**	*e*PB		Pg	17 39 30.0	-0.1
GUR				*e*SB		Sg	17 39 33.2	-0.3
GUR	**Goura**	**0.21**	**66**	*e*Pb		Pg	17 39 30.0	-0.1
GUR				*e*Sb		Sg	17 39 33.2	-0.3
DRO	**Drossia**	**0.33**	**288**	*e*PB		Pg	17 39 31.6	-0.3
DRO				*e*SB		Sg	17 39 37.0	+0.4
DRO	**Drossia**	**0.33**	**288**	*e*Pb		Pg	17 39 31.6	-0.3
DRO				*e*Sb		Sg	17 39 37.0	+0.4
AMT	**Artemida-Makis**	**0.44**	**224**	*e*PB		Pg	17 39 33.7	-0.3
AMT				*e*SB		Sg	17 39 40.4	+0.3
AMT	**Artemida-Makis**	**0.44**	**224**	*e*Pb		Pg	17 39 33.7	-0.3
AMT				*e*Sb		Sg	17 39 40.4	+0.3
EFP	**Efpalio**	**0.60**	**345**	*e*PN		Pg	17 39 36.7	-0.1
EFP	**Efpalio**	**0.60**	**345**	*e*Pn		Pg	17 39 36.7	-0.1
LTK	**Loutraki**	**0.71**	**76**	*e*PN		Pb	17 39 39.2	+0.2
LTK	**Loutraki**	**0.71**	**76**	*e*Pn		Pb	17 39 39.2	+0.2

MAN 21 17:46:31, 18.°02N×120.°17E, h19km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.53**	**55**	*i* P		Pn	17 46 43.0	-0.5
PIP				*e*S		Sn	17 46 51.6	-0.3
ABRA	**Dolores**	**0.64**	**125**	*e*P		Pn	17 46 44.5	-0.5
ABRA				*e*S		Sn	17 46 54.4	-0.4
APYP	**Conner**	**1.04**	**99**	*e*P		Pb	17 46 50.4	0.0
APYP				*e*S		Sg	17 47 05.9	+1.0

ISCJB ***21*** *17:54:31.5±0.3, 22.°01S±0.°04×68.°61W±0.°06, h115km, mb4.2/22, Error ellipse: s-maj=7.8km s-min=5.9km az=165.5*
NEIC ***21*** *17:54:32.1±0.3, 22.°06S×68.°51W, mb4.3/13, Error ellipse: s-maj=9.2km s-min=6.6km az=81.0*
IDC ***21*** *17:54:32.4±0.6, 22.°03S×68.°58W, h107km±4km, mb4.0/13, mb1 4.1/17, mb1mx3.9/37, mbtmp4.3/17, MS2.6/1, Ms1 2.6/1, ms1mx2.5/27, Error ellipse: s-maj=15.0km s-min=13.4km az=35.0*
GUC ***21*** *17:54:36.0, 21.°76S×69.°10W, h74km*
ISC 21 17:54:32.1±0.5, 22.°12S±0.°06×68.°43W±0.°07, h115km, n156, σ1=9.°07/153, mb4.2/22, 58C-48D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.66**	**222**	P		**Pn**	**17 54 49.8**	**-1.1**
	38μm,0.3s,baz=359,slow=6.1							
LVC				S		**Sn**	**17 55 03.1**	**-2.0**
	40μm,0.3s,baz=167,slow=18,SNR=248							
PB09	**IPOC Station P**	**0.82**	**293**	*e*P		Pn	17 54 48.2	-4.0
PB04	**IPOC Station P**	**0.99**	**261**	*e*P		Pn	17 54 56.5	+3.0
PB07	**IPOC Station P**	**1.41**	**286**	*e*P		Pn	17 54 53.5	-4.8
PB01	**IPOC Station P**	**1.45**	**317**	*e*P		Pn	17 54 54.0	-4.8
PATCX	**Punta Patache**	**2.06**	**309**	*e*P		Pn	17 55 01.3	-4.9
HMBC	**Humberstone**	**2.28**	**323**	*e*P		Pn	17 55 04.1	-4.9
PB10	**IPOC Station P**	**2.40**	**234**	*e*P		**Pn**	**17 55 10.5**	**+0.1**
PB11	**IPOC Station P**	**2.61**	**334**	*e*P		Pn	17 55 09.0	-4.4
PSGC	**Pisagua**	**2.97**	**328**	*e*P		Pn	17 55 12.6	-5.3
MNMC	**Minimini**	**3.17**	**340**	*e*P		Pn	17 55 16.8	-4.0
LPAZ	**La Paz**	**5.81**	**3**	P		**Pn**	**17 55 55.9**	**-0.7**
	4.5nm,0.3s,baz=206,slow=4.6,SNR=48							
LPAZ	**La Paz**	**5.81**	**3**	*e*P		**Pn**	**17 55 56.9**	**+0.4**
LCO	**Las Campanas**	**7.16**	**196**	*e*P		Pn	17 56 21.8	+7.4
LCO	**Las Campanas**	**7.16**	**196**	*e*Pn		**Pn**	**17 56 14.9**	**+0.4**
	104nm,0.8s							
SIV	**San Ignacio**	**9.25**	**50**	P		**Pn**	**17 56 41.9**	**-0.8**
	4.2nm,0.3s,baz=244,slow=12,SNR=30							
SIV				S		**Sn**	**17 58 20.3**	**-4.7**
	0.1nm,0.3s,baz=156,slow=20,SNR=2.2							
CFAA	**Coronel Fontan**	**9.45**	**179**	P		**Pn**	**17 56 43.4**	**-1.8**
	0.2nm,0.3s,baz=355,slow=12,SNR=6.3							
CFAA				S		**Sn**	**17 58 25.2**	**-4.4**
	0.1nm,0.3s,baz=246,slow=20,SNR=2.5							
CFAA				LR		LR	18 00 16.6	
	comp=Z,39nm,20.8s,baz=150,slow=36							
CPUP	**Villa Florida**	**10.96**	**115**	P		**Pn**	**17 57 05.8**	**+0.1**
	0.1nm,0.3s,baz=273,slow=18,SNR=4.8							
CPUP	**Villa Florida**	**10.96**	**115**	*e*P		**Pn**	**17 57 07.2**	**+1.5**
	0.3nm,1.0s							
NNA	**Nana**	**12.88**	**320**	P		**Pn**	**17 57 28.3**	**-2.9**
	1.3nm,0.3s,baz=190,slow=12,SNR=2.2							
NNA				S		Sn	17 59 42.7	-10
	0.8nm,0.3s,baz=235,slow=17,SNR=3.4							
SAML	**Samuel**	**14.04**	**22**	*e*P		**Pn**	**17 57 44.9**	**-1.1**
	2.1nm,0.9s							
TRQA	**Tornquist**	**16.83**	**162**	*e*P		**P**	**17 58 22.0**	**+1.1**
	24nm,0.8s							
PLCA	**Paso Flores**	**18.64**	**185**	P		**Pn**	**17 58 42.4**	**-0.2**
	0.5nm,0.3s,baz=3.0,slow=12,SNR=9.5							
PLCA	**Paso Flores**	**18.64**	**185**	*e*P		**Pn**	**17 58 42.8**	**+0.2**
	9.2nm,0.8s							
BDFB	**Brasilia**	**20.36**	**75**	P		**P**	**17 59 00.9**	**+1.2**
	4.7nm,0.5s,baz=225,slow=11,SNR=7.0							
PTGA	**Pitinga**	**22.80**	**22**	P		**P**	**17 59 26.1**	**+0.8**
	3.0nm,0.4s,baz=173,slow=14,SNR=3.4							
OTAV	**Otavalo**	**24.27**	**335**	*e*P		**P**	**17 59 39.9**	**+0.6**
	5.1nm,0.6s							
RCBR	**Riachuelo**	**35.36**	**68**	P		**P**	**18 01 18.2**	**+1.3**
	9.9nm,0.8s,baz=232,slow=11,SNR=5.1							
CMIG	**Matias Romero**	**46.79**	**324**	P		**P**	**18 02 50.2**	**-0.1**
	1.2nm,0.3s,baz=118,slow=2.9,SNR=6.7							
034A	**Hebbronville**	**56.99**	**328**	⇓P		**P**	**18 04 06.1**	**+0.3**
	baz=57							
833A	**Chaparral WMA,**	**58.38**	**328**	⇑P		**P**	**18 04 15.7**	**+0.2**
	baz=58							
733A	**Divot King Ran**	**58.66**	**328**	⇓P		**P**	**18 04 17.3**	**-0.2**
	baz=59							
732A	**Laxson Ranch,**	**59.00**	**328**	⇑P		**P**	**18 04 20.1**	**+0.3**
	baz=59							
633A	**Saathoff Ranch**	**59.21**	**329**	⇑P		**P**	**18 04 20.9**	**-0.4**
	baz=59							
632A	**Uvalde**	**59.55**	**328**	⇓P		**P**	**18 04 23.7**	**+0.1**
	baz=60							
533A	**Kerrville**	**59.66**	**329**	⇑P		**P**	**18 04 24.3**	**-0.1**
	baz=60							
336A	**Riesel**	**59.77**	**332**	⇓P		**P**	**18 04 24.7**	**-0.4**
	baz=60							
631A	**Perdido Creek**	**59.86**	**328**	⇑P		**P**	**18 04 25.8**	**+0.1**
	baz=60							
335A	**Moody**	**59.94**	**331**	⇓P		**P**	**18 04 26.1**	**-0.1**
	baz=60							
433A	**Art**	**60.25**	**330**	⇑P		**P**	**18 04 28.1**	**-0.3**
	baz=60							
JCT	**Junction City**	**60.36**	**329**	⇑P		**P**	**18 04 29.0**	**-0.2**
	baz=60							
JCT	**Junction City**	**60.36**	**329**	*e*P		**P**	**18 04 28.9**	**-0.3**
	8.3nm,0.7s							
531A	**Rocksprings**	**60.46**	**328**	⇑P		**P**	**18 04 30.2**	**+0.3**
	baz=61							
333A	**Richland Sprin**	**60.68**	**330**	⇑P		**P**	**18 04 30.9**	**-0.4**
	baz=61							
432A	**Menard**	**60.69**	**329**	⇑P		**P**	**18 04 31.0**	**-0.5**
	baz=61							
530A	**J-C Ranch, Com**	**60.84**	**327**	⇑P		**P**	**18 04 32.5**	**0.0**
	baz=61							
431A	**Sonora**	**60.92**	**328**	⇑P		**P**	**18 04 32.5**	**-0.5**
	baz=61							
332A	**Millersview**	**61.08**	**329**	⇑P		**P**	**18 04 33.7**	**-0.3**
	baz=61							
233A	**Rising Star**	**61.22**	**331**	⇓P		**P**	**18 04 34.9**	**-0.1**
	baz=61							
529A	**Stev Forest Ra**	**61.27**	**327**	⇑P		**P**	**18 04 36.0**	**+0.6**
	baz=61							
134A	**White-Moore Ra**	**61.33**	**332**	⇓P		**P**	**18 04 34.9**	**-0.7**
	baz=62							
331A	**San Angelo**	**61.35**	**329**	⇓P		**P**	**18 04 35.8**	**-0.1**
	baz=62							
TXAR	**Lajitas Array**	**61.39**	**325**	P		**P**	**18 04 35.9**	**-0.4**
	1.0nm,0.6s,baz=153,slow=8.6,SNR=15							
TXAR				pP		**pP**	**18 05 01.8**	**-2.4**
	1.2nm,0.7s,baz=145,slow=7.3,SNR=6.6							
232A	**Coleman**	**61.46**	**330**	⇑P		**P**	**18 04 36.3**	**-0.3**
	baz=62							
429A	**Davenport Ranc**	**61.51**	**327**	⇑P		**P**	**18 04 37.1**	**+0.1**
	baz=62							
133A	**Hamilton Ranch**	**61.73**	**331**	⇑P		**P**	**18 04 37.7**	**-0.6**
	baz=62							
330A	**Mertzon**	**61.79**	**328**	⇓P		**P**	**18 04 38.8**	**0.0**
	baz=62							
231A	**Bronte**	**61.81**	**329**	⇑P		**P**	**18 04 38.7**	**-0.3**
	baz=62							
ABTX	**Abilene, Hawle**	**62.07**	**330**	⇓P		**P**	**18 04 41.1**	**+0.4**
	baz=62							
Z33A	**Whitaker Ranch**	**62.23**	**331**	⇑P		**P**	**18 04 41.9**	**+0.2**
	baz=62							
Y34A	**Reagan Ranch,**	**62.37**	**333**	⇓P		**P**	**18 04 42.5**	**-0.1**
	baz=63							
131A	**Roby**	**62.46**	**330**	⇑P		**P**	**18 04 43.1**	**-0.2**
	baz=63							
Z32A	**Haskell**	**62.57**	**331**	⇓P		**P**	**18 04 43.5**	**-0.4**
	baz=63							
130A	**Snyder**	**62.66**	**329**	⇓P		**P**	**18 04 44.5**	**-0.2**
	baz=63							
Y33A	**Hilltop Ranch,**	**62.78**	**332**	⇓P		**P**	**18 04 45.0**	**-0.4**
	baz=63							
Z31A	**Sharp Cattle R**	**62.88**	**330**	⇓P		**P**	**18 04 45.6**	**-0.4**
	baz=63							
129A	**Stewart Farms,**	**63.12**	**329**	⇑P		**P**	**18 04 48.0**	**+0.2**
	baz=63							
Z30A	**Sanderson Ranc**	**63.31**	**330**	⇑P		**P**	**18 04 48.8**	**-0.1**
	baz=64							
128A	**Castleberry Fa**	**63.42**	**328**	⇑P		**P**	**18 04 49.6**	**-0.1**
	baz=64							
Y31A	**Rekieta Farm,**	**63.47**	**331**	⇑P		**P**	**18 04 49.5**	**-0.4**
	baz=64							
X31A	**McDonald Ranch**	**63.91**	**331**	⇑P		**P**	**18 04 52.5**	**-0.3**
	baz=64							
W32A	**Sentinel**	**64.00**	**332**	⇓P		**P**	**18 04 53.2**	**-0.2**
	baz=64							
Y29A	**Porterfield Fa**	**64.04**	**330**	⇓P		**P**	**18 04 53.5**	**-0.3**
	baz=64							
X30A	**Coker Ranch, T**	**64.16**	**330**	⇑P		**P**	**18 04 54.1**	**-0.4**
	baz=64							
V33A	**Lossen Ranch,**	**64.19**	**333**	⇓P		**P**	**18 04 53.5**	**-1.1**
	baz=64							
X29A	**Tulia**	**64.54**	**330**	⇑P		**P**	**18 04 56.6**	**-0.3**
	baz=65							
MSTX	**Muleshoe**	**64.65**	**329**	⇑P		**P**	**18 04 57.8**	**0.0**
	baz=65							
S35A	**Otter Creek Ra**	**65.02**	**336**	⇑P		**P**	**18 04 59.1**	**-0.8**
	baz=65							
121A	**Cookes Peak, D**	**66.09**	**324**	⇓P		**P**	**18 05 08.7**	**+1.6**
	baz=66							
Q32A	**Meitler Ranch,**	**67.02**	**335**	⇑P		**P**	**18 05 12.2**	**-0.6**
	baz=67							
R30A	**Dighton**	**67.11**	**333**	⇓P		**P**	**18 05 13.0**	**-0.4**
	baz=67							
T27A	**Campo**	**67.16**	**331**	⇑P		**P**	**18 05 13.7**	**-0.1**
	baz=67							
Q30A	**Quinter**	**67.68**	**334**	⇓P		**P**	**18 05 17.0**	**+0.1**
	baz=68							
P31A	**Stockton**	**67.80**	**335**	⇑P		**P**	**18 05 17.4**	**-0.3**
	baz=68							
DBIC	**Dimbokro**	**68.49**	**73**	P		**P**	**18 05 24.6**	**+2.1**
	5.7nm,0.7s,baz=215,slow=7.3,SNR=7.4							
DBIC				pP		**pP**	**18 05 50.6**	**-0.4**
	3.3nm,0.9s,baz=129,slow=1.9,SNR=2.4							
BGNE	**Belgrade**	**68.96**	**336**	⇓P		**P**	**18 05 24.3**	**-0.5**
	baz=69							
P25A	**Willow Gulch B**	**69.82**	**331**	⇓P		**P**	**18 05 31.2**	**+0.8**
	baz=70							
Q24A	**Divide**	**69.82**	**330**	⇓P		**P**	**18 05 31.5**	**+1.0**
	baz=70							
W13A	**Hualapai Mount**	**71.39**	**322**	⇑P		**P**	**18 05 41.9**	**+1.9**
	baz=72							
O22A	**Kremmling**	**71.42**	**330**	⇑P		**P**	**18 05 40.9**	**+0.7**
	baz=72							
M24A	**Cheyenne**	**71.70**	**332**	⇓P		**P**	**18 05 43.0**	**+1.3**
	baz=72							
J28A	**Allard Ranch,**	**71.86**	**335**	⇑P		**P**	**18 05 43.1**	**+0.7**
	baz=72							
J27A	**Elkhorn Farm,**	**72.01**	**335**	⇑P		**P**	**18 05 44.5**	**+1.1**
	baz=72							
M23A	**Laramie**	**72.09**	**331**	⇓P		**P**	**18 05 45.1**	**+1.0**
	baz=72							
GMRC	**Granite Mounta**	**72.20**	**321**	⇓P		**P**	**18 05 46.7**	**+2.0**
	baz=72							
O20A	**White River Ci**	**72.20**	**329**	⇓P		**P**	**18 05 46.0**	**+1.3**
	baz=72							
I28A	**Midland**	**72.32**	**336**	⇓P		**P**	**18 05 45.6**	**+0.4**
	baz=72							
K24A	**Anderson Ranch**	**72.72**	**333**	⇑P		**P**	**18 05 48.7**	**+1.0**
	baz=73							
N20A	**Spence Gulch,**	**72.75**	**329**	⇓P		**P**	**18 05 49.1**	**+1.0**
	baz=73							
K23A	**Bowen Ranch, D**	**73.09**	**332**	⇓P		**P**	**18 05 50.6**	**+0.6**
	baz=73							
I25A	**Rochford**	**73.34**	**334**	⇓P		**P**	**18 05 52.7**	**+1.3**
	baz=74							
K21A	**Alcova**	**73.71**	**331**	⇓P		**P**	**18 05 55.0**	**+1.4**
	baz=74							
G26A	**Maurine**	**73.96**	**336**	⇓P		**P**	**18 05 55.4**	**+0.5**
	baz=74							
H24A	**Dirks Ranch, A**	**74.27**	**334**	⇑P		**P**	**18 05 57.0**	**+0.3**
	baz=74							
J21A	**Lysite**	**74.36**	**332**	⇑P		**P**	**18 05 57.8**	**+0.4**
	baz=74							
I22A	**9 Mile Ranch,**	**74.38**	**332**	⇑P		**P**	**18 05 58.0**	**+0.6**
	baz=75							
DUG	**Dugway, Tooele**	**74.52**	**326**	*e*P		**P**	**18 05 59.8**	**+1.5**
	3.0nm,0.8s							
J20A	**Shoshoni**	**74.65**	**331**	⇑P		**P**	**18 06 00.5**	**+1.5**
	baz=75							
R11A	**Troy Canyon, C**	**74.66**	**323**	⇓P		**P**	**18 06 00.8**	**+1.6**
	baz=75							
I21A	**Big Trails, Te**	**74.67**	**332**	⇑P		**P**	**18 05 59.7**	**+0.6**
	baz=75							
F25A	**Bowman**	**74.82**	**335**	⇑P		**P**	**18 06 00.5**	**+0.7**
	baz=75							
PDAR	**Pinedale Array**	**74.87**	**330**	P		**P**	**18 06 00.8**	**+0.5**
	1.3nm,0.6s,baz=138,slow=

BMO	**Blue Mountains** 6.4nm,0.9s	**80.17**	**327**	*e*P	**P**	**18 06 30.6 +0.9**
N02D	**Trinity Center** baz=81	**80.48**	**321**	⇑P	P	18 06 34.8 +3.5
MAW	**Mawson** 6.0nm,0.9s,baz=247,slow=6.0,SNR=4.0	**83.61**	**163**	P	**P**	**18 06 50.4 +3.1**
YKA	**Yellowknife Ar** 3.4nm,0.8s,baz=134,slow=4.6,SNR=21	**91.92**	**340**	P	**P**	**18 07 27.6 +0.6**
YKA	2.4nm,0.6s,baz=136,slow=4.7,SNR=10			pP	**pP**	**18 07 56.5 -0.4**
ABKAR	**Akbulak array**	**131.30**	**43**	*e*PKPdf	**PKPdf**	**18 13 28.8 -1.8**
PETK	**Petropavlovsk-** 4.1nm,1.2s,baz=113,slow=3.4,SNR=4.2	**133.32**	**323**	PKP	**PKPdf**	**18 13 36.9 +2.6**
MJAR	**Matsushiro Arr** 1.7nm,0.8s,baz=117,slow=0.3,SNR=4.4	**152.80**	**308**	PKPbc	**PKPbc**	**18 14 16.9 +1.1**

*BJI **21** 18:03:30.7, 0.°82S×100.°85E, h164km, mB4.8/10, mb4.6/23*
*DJA **21** 18:03:34.9±0.1, 1.°S±2.°×101.°1E±.°, h155km±2km, M5.0/43, mb5.3/43, mB5.5/23, MLv5.0/5, Mw(mB)4.9/23*
*ISCJB **21** 18:03:34.1±0.2, 0.°62S±0.°03×100.°83E±0.°03, h172km±2km, mb4.6/96, Error ellipse: s-maj=5.3km s-min=2.5km az=135.3*
*NEIC **21** 18:03:36.0±0.5, 0.°54S×100.°99E, h175km±4km, mb4.9/34, Error ellipse: s-maj=8.2km s-min=4.3km az=224.0*
NEIC Felt at Padang.
*MOS **21** 18:03:35.6±1.1, 0.°34S×101.°21E, h181km, mb4.7/28, Error ellipse: s-maj=11.6km s-min=5.3km az=120.2*
*IDC **21** 18:03:35.5±0.3, 0.°56S×101.°12E, h170km±2km, mb4.1/43, mb1 4.2/45, mb1mx4.2/52, mbtmp4.6/45, Error ellipse: s-maj=9.3km s-min=5.9km az=57.0*
*KLM **21** 18:03:37.2, 0.°57S×100.°91E, h141km, mb5.0, ML4.6, MS5.5*
*SZGRF **21** 18:03:56.2, 1.°34S×101.°57E, h33km, mb4.8, Southern Sumatera, Indonesia*

ISC 21 18:03:35.2±0.3, 0.°61S±0.°03×100.°84E±0.°04, h170km±2km, h170km:pP-P, n385, σ1937/444, mb4.6/95, 23C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.48**	**231**	P		**Pn**		**18 03 55.9**	**-2.9**
PDSI				S		**Sn**		**18 04 13.3**	**-3.5**
SDSI	**Sungai Dareh**	**0.67**	**119**	P		**Pn**		**18 03 59.8**	**+0.2**
SDSI				S		**Sn**		**18 04 17.1**	**-1.3**
BKNI	**Bangkinang**	**0.95**	**12**	P		**Pn**		**18 04 01.6**	**+0.1**
BKNI				S		**Sn**		**18 04 21.7**	**-0.1**
BKNI	**Bangkinang** baz=0.9,SNR=101	**0.95**	**12**	P		**Pn**		**18 04 01.6**	**+0.1**
BKNI	baz=0.9,SNR=11			S		**Sn**		**18 04 21.1**	**-0.8**
BKNI	**Bangkinang**	**0.95**	**12**	*e*Pg		**Pn**		**18 04 01.4**	**0.0**
MNSI	**Mandailing Nat**	**1.88**	**318**	P		**Pn**		**18 04 09.5**	**-0.7**
MNSI				S		**Sn**		**18 04 36.0**	**-1.3**
MASI	**Maura Aman, Be**	**2.88**	**151**	P		**Pn**		**18 04 21.4**	**-0.6**
MASI				S		**Sn**		**18 04 56.7**	**-1.7**
JMBI	**JAMBI**	**2.98**	**110**	P		**Pn**		**18 04 23.6**	**+0.5**
JMBI				S		**Sn**		**18 05 01.5**	**+1.1**
BTDF	**Bukit Timah Da** baz=3.4,SNR=60	**3.53**	**56**	P		**Pn**		**18 04 30.1**	**+0.2**
BTDF	baz=3.4,SNR=7.2			S		**Sn**		**18 05 11.1**	**-1.5**
KGM	**Kluang**	**3.60**	**44**	⇑P		**Pn**		**18 04 31.1**	**+0.2**
GSI	**Gunungsitoli**	**3.77**	**300**	P		**Pn**		**18 04 32.4**	**-0.7**
GSI				S		**Sn**		**18 05 16.5**	**-1.8**
GSI	**Gunungsitoli**	**3.77**	**300**	*e*Pn		**Pn**		**18 04 34.1**	**+1.0**
MYKOM	**Kota Tinggi**	**3.84**	**52**	⇑P		**Pn**		**18 04 34.3**	**+0.3**
PSI	**Prapat** 60nm,0.3s,baz=157,slow=15,SNR=259	**3.89**	**331**	P		**Pn**		**18 04 34.6**	**-0.1**
PSI	12nm,0.3s,baz=138,slow=16,SNR=5.5			S		Sn		18 05 14.4	-6.7
FRIM	**Kepong**	**3.90**	**12**	⇓P		**Pn**		**18 04 35.7**	**+1.0**
TPRI	**Tanjung Pinang**	**3.99**	**68**	P		**Pn**		**18 04 37.1**	**+1.3**
LHSI	**Lahat**	**4.17**	**140**	P		**Pn**		**18 04 38.2**	**0.0**
MNAI	**Manna**	**4.29**	**150**	P		**Pn**		**18 04 39.3**	**-0.4**
MNAI				S		**Sn**		**18 05 29.1**	**-1.1**
MNAI	**Manna** baz=4.3,SNR=47	**4.29**	**150**	P		**Pn**		**18 04 39.4**	**-0.4**
MNAI	baz=4.3,SNR=5.5			S		**Sn**		**18 05 32.3**	**+2.1**
MNAI	**Manna**	**4.29**	**150**	*e*Pn		**Pn**		**18 04 38.7**	**-1.1**
PMBI	**Palembang**	**4.56**	**120**	P		**Pn**		**18 04 42.6**	**-0.6**
PMBI	**Palembang** baz=4.5,SNR=5.2	**4.56**	**120**	P		**Pn**		**18 04 43.7**	**+0.5**
TSI	**Tuntungan**	**4.67**	**331**	P		**Pn**		**18 04 44.9**	**+0.2**
IPM	**Ipoh**	**5.05**	**2**	⇓P		**Pn**		**18 04 51.5**	**+1.8**
IPM	**Ipoh** 334nm,0.8s	**5.05**	**2**	*e*Pn		**Pn**		**18 04 51.3**	**+1.6**
MDSI	**Maura Dua**	**5.10**	**139**	P		**Pn**		**18 04 50.2**	**0.0**
KCSI	**Kotacane, Aceh**	**5.12**	**323**	P		**Pn**		**18 04 50.4**	**-0.2**
KCSI				S		**Sn**		**18 05 47.0**	**-2.6**
TPTI		**5.30**	**316**	P		**Pn**		**18 04 52.7**	**-0.2**
TPTI				S		**Sn**		**18 05 51.1**	**-2.8**
SNSI	**Sinabang, Aceh**	**5.41**	**304**	P		**Pn**		**18 04 53.8**	**-0.6**
LWLI	**Liwa**	**5.44**	**144**	P		**Pn**		**18 04 54.4**	**-0.4**
PPBI	**Pangkal Pinang**	**5.52**	**106**	P		**Pn**		**18 04 56.8**	**+1.0**
KLI	**Kotabumi**	**5.83**	**137**	P		**Pn**		**18 04 59.7**	**-0.2**
KULM	**Kulim**	**5.86**	**358**	⇑P		**Pn**		**18 05 01.8**	**+1.6**
KULM	**Kulim** 859nm,0.8s	**5.86**	**358**	*e*Pn		**Pn**		**18 05 00.3**	**0.0**
KASI	**Kota Agung**	**6.10**	**143**	P		**Pn**		**18 05 01.7**	**-1.7**
KTGM	**Kuala Trenggan**	**6.33**	**21**	⇑P		**Pn**		**18 05 07.2**	**+0.8**
BLSI	**Bandar Lampung**	**6.46**	**137**	P		**Pn**		**18 05 08.2**	**0.0**
LHMI	**Lhok Sumawe**	**6.98**	**326**	P		**Pn**		**18 05 14.7**	**-0.3**
LHMI	**Lhok Sumawe** baz=7.0,SNR=24	**6.98**	**326**	P		**Pn**		**18 05 14.6**	**-0.5**
LHMI	**Lhok Sumawe** 361nm,0.6s	**6.98**	**326**	*e*Pn		**Pn**		**18 05 14.2**	**-0.9**
TPI	**Tanjungpandan** 53nm,0.7s,2μm0.3nm	**7.14**	**107**	P		**Pn**		**18 05 18.1**	**+0.9**
SBJI	**Serang**	**7.61**	**136**	P		**Pn**		**18 05 23.6**	**+0.2**
CGJI	**Cibinong**	**7.69**	**141**	P		Pn		18 05 20.4	-4.0
SKLT	**Songkhla** 1μm,0.8s,9μm3.9nm	**7.73**	**358**	P		**Pn**		**18 05 24.7**	**-0.3**
PKDT	**Phuket** 56nm,1.0s,0.2nm	**8.80**	**344**	P		**Pn**		**18 05 38.7**	**-0.5**
CNJI	**Cibinong** 135nm,1.3s,3μm	**9.15**	**137**	P		Pn		18 05 39.7	-4.0
CNJI	135nm,1.3s,3μm			S		Sn		18 07 16.9	-8.8
LEM	**Lembang** 98nm,0.8s	**9.16**	**133**	P		**Pn**		**18 05 44.4**	**+0.4**
LEM	**Lembang** 8.2nm,0.3s,baz=292,slow=18,SNR=12	**9.16**	**133**	P		**Pn**		**18 05 44.6**	**+0.6**
LEM	**Lembang** baz=9.1,SNR=4.1	**9.16**	**133**	P		**Pn**		**18 05 45.5**	**+1.5**
KSM	**Kuching** baz=9.6,SNR=70	**9.69**	**78**	P		**Pn**		**18 05 52.1**	**+1.2**
KSM	**Kuching**	**9.69**	**78**	⇑P		**Pn**		**18 05 52.5**	**+1.6**
KSM	**Kuching** 63nm,0.9s	**9.69**	**78**	*e*Pn		**Pn**		**18 05 52.0**	**+1.0**
SURT	**Suratani** 19nm,0.8s	**9.72**	**348**	P		**Pn**		**18 05 51.8**	**+0.6**
CISI	**Cisompet, Garu**	**9.80**	**135**	P		**Pn**		**18 05 49.5**	**-2.9**
CISI	**Cisompet, Garu** baz=9.8,SNR=14	**9.80**	**135**	P		**Pn**		**18 05 49.8**	**-2.6**
CISI	baz=9.8,SNR=4.4			S		Sn		18 07 33.7	-7.7
CMJI	**Cimerak** 173nm,0.6s	**10.41**	**133**	P		Pn		18 05 56.5	-3.8
KPJI	**Karang Pucung**	**10.48**	**130**	P		**Pn**		**18 06 01.7**	**+0.5**
STKI	**Sintang**	**10.66**	**86**	P		Pn		18 06 07.4	+3.8
XMI	**Christmas Isla** baz=11,SNR=16	**10.90**	**154**	P		Pn		18 06 00.3	-6.4
XMI	baz=11,SNR=7.9			S		Sn		18 07 57.7	-10
XMIS	**Christmas Isla** baz=11,SNR=15	**10.91**	**154**	P		Pn		18 06 00.5	-6.4
XMIS	baz=11,SNR=4.7			S		Sn		18 07 53.0	-15
PBKI	**Pangkalan Bun**	**11.03**	**101**	P		**Pn**		**18 06 09.8**	**+1.4**
SMRI	**Semarang**	**11.52**	**124**	P		**Pn**		**18 06 15.3**	**+0.5**
SMRI	**Semarang** baz=12,SNR=4.5	**11.52**	**124**	P		**Pn**		**18 06 17.0**	**+2.2**
SMRI	**Semarang** 92nm,0.8s	**11.52**	**124**	*e*P		**Pn**		**18 06 16.3**	**+1.5**
UGM	**Wanagama** baz=12,SNR=13	**12.08**	**127**	P		**Pn**		**18 06 20.2**	**-1.8**
CHBT	**CHBT** 45nm,1.1s	**13.36**	**6**	P		**Pn**		**18 06 38.9**	**+0.7**
BBKI	**Banjar Baru**	**14.28**	**102**	P		**P**		**18 06 51.4**	**-0.8**
KMMI	**Kalianget**	**14.57**	**116**	P		**Pn**		**18 06 54.0**	**+0.5**
SRDT	**SRDT**	**14.96**	**354**	P		**P**		18 07 07.6	+8.0
ABJI	**Asem Bagus**	**15.14**	**118**	P		**P**		**18 07 01.5**	**-0.2**
KHLT	**Khaolaem Dam** 9.9nm,0.8s	**15.46**	**352**	P		**P**		**18 07 08.1**	**+2.8**
KBKI	**Kotaraja**	**15.55**	**100**	P		**P**		**18 07 07.2**	**+0.9**
SRBI	**Singaraja**	**16.14**	**118**	P		**Pn**		**18 07 13.8**	**+1.1**
UBPT	**Khong Chiam** 16nm,0.9s,727nm	**16.43**	**16**	P		**Pn**		**18 07 19.0**	**+2.7**
KKM	**Kota Kinabalu** baz=172,NR=13	**16.71**	**66**	P		**Pn**		**18 07 21.0**	**+1.2**
KKM	**Kota Kinabalu** 123nm,0.9s	**16.71**	**66**	*e*P		**Pn**		**18 07 20.4**	**+0.6**
KHON	**Khomkaen** 7.6nm,1.0s,4μm	**16.95**	**7**	P		**Pn**		**18 07 24.3**	**+1.8**
PBKT	**Sadao Pong** 19nm,0.7s	**17.07**	**0**	P		**Pn**		**18 07 24.1**	**+0.2**
UTTA	**Uttaradit** 3.7nm,0.8s,56nm	**18.24**	**359**	P		**Pn**		**18 07 37.3**	**-0.4**
MHMT	**Maesarieng** 12nm,0.9s	**18.88**	**351**	P		**Pn**		**18 07 48.4**	**+3.1**
PCI	**Palu** 228nm,1.2s,2μm	**19.00**	**91**	P		**Pn**		**18 07 45.9**	**-0.8**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=186,slow=9.7,SNR=36	**19.04**	**354**	P		**P**		**18 07 43.3**	**-1.2**
CMAR	0.5nm,0.3s,baz=208,slow=2.7,SNR=14			PcP		**PcP**		**18 12 03.4**	**+1.2**
CMAR	0.9nm,0.3s,baz=210,slow=3.4,SNR=34			ScP		**ScP**		**18 15 21.1**	**-1.1**
CMAR	0.1nm,0.3s,baz=165,slow=4.9,SNR=1.6			ScS		**ScS**		**18 19 02.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**19.04**	**354**	*ce*P		**P**		**18 07 43.2**	**-1.2**
CMAR	comp=Z,5.0nm,0.5s			pmax		pmax			
LAMP	**Lampang** comp=Z,4.9nm,0.7s,comp=Z,56nm	**19.05**	**356**	P		**Pn**		**18 07 48.3**	**+1.1**
MPSI	**Mapaga**	**19.08**	**87**	P		**Pn**		**18 07 46.7**	**-1.0**
TTSI	**Tana Toraja**	**19.12**	**98**	P		**Pn**		**18 07 47.2**	**-1.0**
SPSI	**Sidrap Palu** comp=Z,7.3nm,0.8s,comp=Z,763nm	**19.20**	**100**	P		**P**		**18 07 47.1**	**+0.8**
CMMT	**Chiang Mai** comp=Z,44nm,0.8s	**19.39**	**355**	P		**P**		**18 07 48.0**	**-0.2**
KAPI	**Kappang** comp=Z,218nm,1.1s	**19.39**	**103**	*e*P		**P**		**18 07 49.2**	**+0.9**
BNSI	**Bone**	**19.61**	**101**	P		**Pn**		**18 07 52.4**	**-1.6**
BKSI	**Bulukumba**	**19.82**	**104**	P		**P**		**18 07 54.4**	**+1.5**
TOLI	**Toli-Toli**	**20.03**	**85**	*e*P		**P**		**18 07 55.5**	**+0.3**
BSSI	**Bau Bau, Buton**	**20.37**	**106**	P		**P**		**18 08 00.4**	**+1.6**
APSI	**Ampana** comp=Z,149nm,1.0s,comp=Z,2μm	**20.81**	**91**	P		Pn		18 08 06.7	-1.8
MRSI	**Marisa** comp=Z,164nm,0.8s,comp=Z,2μm	**21.13**	**87**	P		**P**		**18 08 07.2**	**+0.3**
PALK	**Pallekele**	**21.56**	**292**	*e*P		**P**		**18 08 14.8**	**+3.3**
PALK	comp=Z,31nm,1.0s			pmax		pmax			
PALK	**Pallekele** comp=Z,32nm,1.0s	**21.56**	**292**	*e*P		**P**		**18 08 14.8**	**+3.3**
LUWI	**Luwuk** comp=Z,406nm,0.7s,comp=Z,4μm	**21.94**	**91**	P		**P**		**18 08 16.5**	**+1.1**
LUWI	**Luwuk** baz=22,SNR=38	**21.94**	**91**	P		**P**		**18 08 16.5**	**+1.1**
LUWI	**Luwuk** comp=Z,244nm,0.7s	**21.94**	**91**	*e*P		**P**		**18 08 16.1**	**+0.8**
KMSI	**Cibinong** comp=Z,359nm,0.7s,comp=Z,3μm	**23.17**	**87**	P		**P**		**18 08 28.3**	**+1.4**
BATI	**Baumata** comp=Z,18nm,0.5s,baz=262,slow=2.6,SNR=7.9	**24.62**	**114**	P		**P**		**18 08 37.5**	**-2.6**
BATI	comp=Z,10nm,0.6s,baz=126,slow=1.2,SNR=4.2			PcP		**PcP**		**18 12 15.4**	**+2.0**
BATI	comp=Z,11nm,0.7s,baz=197,slow=23,SNR=1.8			S		**S**		**18 12 43.3**	**-5.8**
BATI	comp=Z,7.3nm,0.4s,baz=219,slow=0.7,SNR=5.6			ScP		**ScP**		**18 15 34.5**	**-1.9**
SOEI	**Soe**	**25.02**	**112**	P		P		18 08 50.9	+7.0
SOEI	**Soe** baz=25,SNR=6.1	**25.02**	**112**	P		**P**		**18 08 41.9**	**-2.0**
SOEI	**Soe** comp=Z,25nm,0.6s	**25.02**	**112**	*e*P		**P**		**18 08 42.0**	**-1.9**
SANI	**Sanana** comp=Z,36nm,0.9s	**25.18**	**94**	P		**P**		**18 08 45.2**	**0.0**
GIRL	**Giralia** baz=26,SNR=3.8	**25.49**	**150**	P		**P**		**18 08 50.4**	**+2.6**
NLAI	**Namlea** comp=Z,146nm,0.7s,comp=Z,1μm	**26.38**	**96**	P		**P**		**18 08 57.8**	**+1.8**
LBMI	**Labuha** comp=Z,144nm,0.8s,comp=Z,1μm	**26.66**	**90**	P		**P**		**18 08 59.7**	**+1.2**
MSAI	**Masohi** comp=Z,42nm,0.7s,comp=Z,386nm	**28.20**	**96**	P		**P**		**18 09 12.9**	**+0.6**
H08S2	**Diego Garcia H** baz=74,slow=74,SNR=583	**29.11**	**255**	T		T		18 37 48.9	
H08S3	**Diego Garcia H** baz=74,slow=74,SNR=384	**29.11**	**255**	T		T		18 37 52.0	
H08S1	**Diego Carcia H** baz=74,slow=74,SNR=869	**29.12**	**255**	T		T		18 37 54.3	
FITZ	**Fitzroy Crossi** baz=30,SNR=32	**29.93**	**127**	P		**P**		**18 09 25.2**	**-2.3**
FITZ	**Fitzroy Crossi** comp=Z,6.4nm,0.6s	**29.93**	**127**	*e*P		**P**		**18 09 24.9**	**-2.6**
ODAN	**Odan** comp=Z,25nm,0.6s	**30.22**	**336**	*e*P		**P**		**18 09 30.4**	**+0.2**
ODAN	**Odare** comp=Z,27nm,0.6s	**30.22**	**336**	*e*P		**PcP**		**18 12 28.5**	**+1.5**
SWI	**Sorong** comp=Z,112nm,1.0s,comp=Z,1μm	**30.42**	**91**	P		**P**		**18 09 32.1**	**+0.2**
SWI	**Sorong** baz=30,SNR=7.9	**30.42**	**91**	P		**P**		**18 09 31.8**	**-0.1**
SWI	baz=30,SNR=3.2			S		**S**		**18 14 24.6**	**+4.2**
TAPN	**Taplejung** comp=Z,37nm,0.7s	**30.53**	**337**	*e*P		**P**		**18 09 33.5**	**+0.5**
RAMN	**Ramite** comp=Z,16nm,0.4s	**30.64**	**334**	*e*P		**P**		**18 09 33.9**	**0.0**
RAMN	**Ramite** comp=Z,26nm,0.6s	**30.64**	**334**	*e*P		**PcP**		**18 12 29.5**	**+1.4**
MEEK	**Meekatharra** baz=31,SNR=22	**31.02**	**148**	P		**P**		**18 09 38.1**	**+1.0**
KNRA	**Kununurra** baz=31,SNR=13	**31.36**	**120**	P		**P**		**18 09 37.7**	**-2.4**
JIRN	**Jiri** comp=Z,37nm,0.5s	**31.43**	**335**	*e*P		**P**		**18 09 41.4**	**+0.4**
JIRN	**Jiri** comp=Z,20nm,0.6s	**31.43**	**335**	*e*P		**PcP**		**18 12 31.4**	**+1.0**
FAKI	**Fak Fak** comp=Z,76nm,1.1s	**31.48**	**95**	P		**P**		**18 09 41.5**	**+0.3**
FAKI	**Fak Fak** baz=31,SNR=14	**31.48**	**95**	P		**P**		**18 09 41.4**	**+0.2**
FAKI	**Fak Fak** comp=Z,58nm,0.8s	**31.48**	**95**	*e*P		**P**		**18 09 41.0**	**-0.2**
LSA	**Lhasa**	**31.52**	**344**	*e*P		**P**		**18 09 41.0**	**-0.9**
LSA	comp=Z,8.0nm,0.6s			pmax		pmax			
LSA	**Lhasa** comp=Z,7.8nm,0.6s	**31.52**	**344**	*e*P		**P**		**18 09 41.0**	**-0.9**
PKI	**Pulchoki** comp=Z,9.5nm,0.4s	**31.70**	**333**	*e*P		**P**		**18 09 43.5**	**+0.2**
PKI	**Pulchoki** comp=Z,12nm,0.6s	**31.70**	**333**	*e*P		**PcP**		**18 12 31.9**	**+0.8**
PKIN	**Phulchoki** comp=Z,6.8nm,0.5s	**31.71**	**333**	*e*P		**P**		**18 09 43.5**	**+0.2**
PKIN	**Phulchoki** comp=Z,13nm,0.6s	**31.71**	**333**	*e*P		**PcP**		**18 12 31.8**	**+0.8**
GUN	**Gumba** comp=Z,67nm,0.4s	**31.78**	**334**	*e*P		**P**		**18 09 44.6**	**+0.6**
GUN	**Gumba** comp=Z,23nm,0.5s	**31.78**	**334**	*e*P		**PcP**		**18 12 32.5**	**+1.2**
MORW	**Morawa** baz=32,SNR=6.4	**31.81**	**154**	P		**P**		**18 09 45.6**	**+1.8**
DMN	**Daman** comp=Z,9.9nm,0.5s	**31.87**	**333**	*e*P		**P**		**18 09 45.0**	**+0.3**
DMN	**Daman** comp=Z,35nm,0.6s	**31.87**	**333**	*e*P		**PcP**		**18 12 32.5**	**+1.1**
KKN	**Kakani** comp=Z,20nm,0.4s	**31.94**	**333**	*e*P		**P**		**18 09 45.6**	**+0.3**
KKN	**Kakani** comp=Z,15nm,0.6s	**31.94**	**333**	*e*P		**PcP**		**18 12 32.5**	**+0.9**
MTN	**Manton Dam** baz=32,SNR=4.2	**32.39**	**113**	P		**P**		**18 09 47.9**	**-1.2**
DANN	**Dangsing** comp=Z,51nm,0.4s	**33.12**	**332**	*e*P		**P**		**18 09 56.1**	**+0.5**
DANN	**Dangsing**	**33.12**	**332**	*e*P		**PcP**		**18 12 35.4**	**+0.5**
RKPI	**Ransiki, Papua** comp=Z,115nm,1.0s	**33.34**	**92**	P		**P**		**18 09 58.5**	**+1.0**
BLDU	**Balldu** baz=34,SNR=18	**33.43**	**155**	P		**P**		**18 09 59.4**	**+1.4**
KDU	**Kakadu** baz=34,SNR=3.7	**33.58**	**112**	P		**P**		**18 09 57.8**	**-1.6**
XAN	**Xi'an** comp=Z,4.0nm,0.7s	**35.29**	**12**	P	PMZ	**P**		**18 10 13.1**	**-0.8**
SRPI	**Serui, Papua** comp=Z,148nm,0.7s,comp=Z,2μm	**35.41**	**92**	P		**P**		**18 10 14.6**	**-0.7**
NWAO	**Narrogin (SRO)** comp=Z,6.3nm,0.4s,baz=311,slow=7.6,SNR=10	**35.66**	**156**	P		**P**		**18 10 18.5**	**+1.4**
NWAO	**Narrogin (SRO)** baz=36,SNR=7.1	**35.66**	**156**	P		**P**		**18 10 19.2**	**+2.1**
WRKA	**Warakurna** baz=36,SNR=32	**35.97**	**135**	P		**P**		**18 10 18.4**	**-1.5**
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=7.2	**36.29**	**161**	T		T		18 48 48.7	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=3.7	**36.30**	**161**	T		T		18 48 49.8	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=4.4	**36.31**	**161**	T		T		18 48 51.0	
KMBL	**Kambalda** baz=37,SNR=16	**36.51**	**149**	P		**P**		**18 10 25.3**	**+1.0**
NDI	**New Delhi**	**36.87**	**324**	*e*P		**P**		**18 10 28.5**	**+1.1**
NDI				*e*S		**S**		**18 16 02.0**	**+2.5**
SMPI	**Sarmi** comp=Z,117nm,1.1s	**37.89**	**92**	P		**P**		**18 10 36.8**	**+0.6**
WRA	**Warramunga Arr** comp=Z,8.2nm,0.5s,baz=303,slow=8.9,SNR=148	**38.00**	**122**	P		**P**		**18 10 34.8**	**-2.3**
WRA	comp=Z,5.2nm,0.6s,baz=315,slow=2.5,SNR=9.4			PcP		**PcP**		**18 12 49.1**	**-0.1**
WRA	comp=Z,2.0nm,0.9s,baz=296,slow=16,SNR=5.5			S		S		18 16 06.2	-11
WRA	comp=Z,1.6nm,0.8s,baz=309,slow=3.0,SNR=7.1			ScP		**ScP**		**18 16 18.7**	**-2.3**
WRAB	**Tennant Creek**	**38.01**	**122**	*ce*P		**P**		**18 10 35.2**	**-1.9**
WRAB	comp=Z,29nm,0.5s			pmax		pmax			
WRAB	**Tennant Creek** comp=Z,15nm,0.4s	**38.01**	**122**	*e*P		**P**		**18 10 34.9**	**-2.2**
WB2	**Warramunga Arr**	**38.01**	**122**	*e*P		**P**		**18 10 34.8**	**-2.4**
GENI	**Genyem** comp=Z,146nm,0.9s,comp=Z,1μm	**39.36**	**93**	P		**P**		**18 10 48.4**	**-0.1**
ASAR	**Alice Springs** comp=Z,8.2nm,0.7s,baz=295,slow=7.6,SNR=164	**39.42**	**128**	P		**P**		**18 10 47.0**	**-1.8**
ASAR	comp=Z,7.9nm,0.6s,baz=311,slow=2.5,SNR=23			PcP		**PcP**		**18 12 53.9**	**+0.3**
ASAR	comp=Z,1.7nm,0.8s,baz=302,slow=4.3,SNR=6.3			ScP		**ScP**		**18 16 24.7**	**-1.7**
ASAR	comp=Z,1.6nm,0.8s,baz=291,slow=14,SNR=7.7			S		S		18 16 29.2	-8.8
ASAR	comp=Z,0.7nm,0.9s,baz=311,slow=6.0,SNR=4.9			ScS		**ScS**		**18 20 36.6**	**-2.7**
AS31	**Alice Springs**	**39.42**	**128**	*e*P		**P**		**18 10 46.7**	**-2.2**
FORT	**Forrest** baz=40,SNR=63	**39.59**	**142**	P		**P**		**18 10 50.5**	**+0.4**
FORT	**Forrest** comp=Z,100nm,0.6s	**39.59**	**142**	*e*P		**P**		**18 10 50.5**	**+0.4**
JAY	**Jayapura** comp=Z,34nm,0.8s,comp=Z,3μm	**39.90**	**93**	P		**P**		**18 10 54.7**	**+1.8**
JAY	**Jayapura** comp=Z,28nm,0.8s,baz=265,slow=23,SNR=12	**39.90**	**93**	P		**P**		**18 10 51.7**	**-1.2**
HHC	**Hu-ho-hao-te**	**42.40**	**12**	*e*P		P		18 11 17.3	+4.3
HHC				S		**S**		**18 17 26.4**	**+4.6**
HHC				sS		sS		18 18 29.4	+2.8
HHC				SS		**SS**		**18 20 35.6**	**-2.2**
HHC	comp=Z,21nm,0.7s			PMZ					
HHC	comp=Z,200nm,7.5s			PMZ					
QIS	**Mount Isa** baz=43,SNR=6.2	**42.75**	**120**	P		**P**		**18 11 14.6**	**-1.5**
JNU	**Nakatsue** comp=Z,24nm,0.8s,baz=220,slow=2.9,SNR=8.3	**43.89**	**37**	P		**P**		**18 11 24.8**	**-0.2**
COEN	**Coen** baz=44,SNR=6.5	**43.94**	**110**	P		**P**		**18 11 26.1**	**+0.5**
KSAR	**Wonju Array Be**	**45.37**	**31**	P		**P**		**18 11 36.6**	**0.0**
KSAR	**Wonju Array Be**	**45.37**	**31**	P		**P**		**18 11 36.6**	**0.0**
KSRS	**Korea Array** comp=Z,8.4nm,0.7s,baz=226,slow=7.7,SNR=28	**45.40**	**31**	P		**P**		**18 11 36.6**	**-0.2**
WMQ	**Urumqi**	**45.77**	**347**	*e*P		**P**		**18 11 40.3**	**+0.6**
WMQ	comp=Z,17nm,0.6s			PMZ					
KBL	**Kabul**	**45.92**	**323**	*e*P		**P**		**18 11 41.9**	**+0.6**
KBL	comp=Z,30nm,0.6s			pmax		pmax			
KBL	**Kabul** comp=Z,30nm,0.6s	**45.92**	**323**	*e*P		**P**		**18 11 41.9**	**+0.6**
BBOO	**Buckleboo** baz=46,SNR=21	**46.09**	**138**	P		**P**		**18 11 41.5**	**-0.9**
BBOO	**Buckleboo** comp=Z,8.2nm,0.6s	**46.09**	**138**	*e*P		**P**		**18 11 41.0**	**-1.3**
PMG	**Port Moresby**	**46.91**	**102**	*e*P		**P**		**18 11 47.5**	**-1.5**
PMG	comp=Z,20nm,0.8s			pmax		pmax			
PMG	**Port Moresby** baz=47,SNR=7.5	**46.91**	**102**	P		**P**		**18 11 49.1**	**+0.1**
PMG	**Port Moresby** comp=Z,20nm,0.8s	**46.91**	**102**	*e*P		**P**		**18 11 47.5**	**-1.5**
ULHL	**Ulahol** SNR=5.3	**48.08**	**335**	P		**P**		**18 11 58.5**	**+0.5**
ULHL	**Ulahol**	**48.08**	**335**	*i* P		**P**		**18 11 58.4**	**+0.5**
KZA	**Kyzart** SNR=9.0	**48.36**	**335**	P		**P**		**18 12 01.3**	**+0.9**
KZA	**Kyzart**	**48.36**	**335**	*i* P		**P**		**18 12 01.2**	**+0.9**
CTA	**Charters Tower** comp=Z,9.4nm,0.9s,baz=293,slow=9.4,SNR=6.1	**48.45**	**117**	P		**P**		**18 11 59.9**	**-0.9**
SONM	**Songino Array** comp=Z,3.5nm,0.7s,baz=184,slow=8.5,SNR=12	**48.49**	**5**	P		**P**		**18 12 00.8**	**0.0**
SONM	comp=Z,2.9nm,0.7s,baz=185,slow=9.5,SNR=3.2			sP		**sP**		**18 12 57.

comp=Z,4.3nm,0.4s,baz=160,slow=8.4,SNR=131
MKAR pP **pP** **18 12 49.1 -0.7**
comp=Z,2.3nm,0.5s,baz=160,slow=9.5,SNR=1.5
MKAR sP **sP** **18 13 08.4 -0.3**
comp=Z,4.1nm,0.7s,baz=148,slow=7.1,SNR=2.1
MKAR ScP **ScP** **18 17 07.2 -1.9**
comp=Z,1.7nm,0.7s,baz=150,slow=5.2,SNR=5.0
MKAR S **S** **18 19 07.1 -1.7**
comp=Z,0.4nm,0.5s,baz=162,slow=16,SNR=4.7
HATD **Hatta, Dubai** **50.10 304**⇑*iP* **P** **18 12 15.4 +2.1**
SNR=5.0
MJAR **Matsushiro Arr** **50.67 39** P **P** **18 12 16.2 -1.2**
comp=Z,5.4nm,0.9s,baz=222,slow=7.9,SNR=8.7
ASUD **Al Ashush, Dub** **50.70 303**⇓*iP* **P** **18 12 20.3 +2.5**
SNR=14
IDAH **Dahanechah** **50.90 315** *eP* **P** **18 12 20.5 +1.1**
KKAR **Karatay Array** **51.32 332** *eP* **P** **18 12 22.1 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR **Karatay Array** **51.32 332** *eP* **P** **18 12 22.1 0.0**
comp=Z,1.6nm,0.4s
IKOO **Kooshah** **51.35 314** *eP* **P** **18 12 23.8 +0.9**
ITEG **Tejag** **51.78 314** *eP* **P** **18 12 26.8 +0.8**
CMSA **Cobar Meteorol** **52.36 130** P **P** **18 12 29.2 -0.8**
baz=52,SNR=25
USRK **Ussuriysk Ar.** **52.54 28** P **P** **18 12 31.0 0.0**
comp=Z,14nm,0.7s,baz=223,slow=5.9,SNR=43
IMYA **Miami** **52.73 319** *eP* **P** **18 12 32.3 -0.6**
IMOG **Moghan** **53.11 318** *eP* **P** **18 12 35.5 -0.3**
IBAF **Bafgh** **53.48 311** *eP* **P** **18 12 39.2 +0.8**
IPAY **Payeh** **53.53 318** *eP* **P** **18 12 38.8 0.0**
IKRD **Kardeh** **54.03 318** *eP* P 18 12 37.7 -4.7
IMEH **Mehriz** **54.12 310** *eP* **P** **18 12 42.6 -0.5**
EIDS **Eidsvold** **54.34 121** P **P** **18 12 43.9 -0.6**
baz=54,SNR=6.0
KURBB **Kurchatov Arra** **54.47 343** P **P** **18 12 44.6 -0.4**
comp=Z,1.7nm,0.6s,baz=159,slow=7.0,SNR=14
KURBB pP **pP** **18 13 24.7 +0.9**
comp=Z,5.9nm,0.9s,baz=162,slow=6.8,SNR=6.3
KURBB sP **sP** **18 13 42.0 -0.5**
comp=Z,2.5nm,0.7s,baz=162,slow=6.8,SNR=2.7
KURBB PcP **PcP** **18 13 46.8 +0.5**
comp=Z,0.7nm,0.5s,baz=146,slow=3.4,SNR=4.4
KURBB ScP **ScP** **18 17 26.5 -2.1**
comp=Z,3.0nm,0.8s,baz=156,slow=3.6,SNR=11
KURK **Kurchatov** **54.52 343** *eP* **P** **18 12 44.5 -0.8**
KURK *PP **pP** **18 13 24.7 +0.5**
KURK *SP **sP** **18 13 42.0 -0.9**
KURK 18 13 46.8
KURK pmax pmax
comp=Z,12nm,0.9s
KURK **Kurchatov** **54.52 343** *eP* **P** **18 12 44.5 -0.8**
comp=Z,12nm,0.9s
KURK pP **pP** **18 13 24.7 +0.5**
KURK sP **sP** **18 13 42.0 -0.9**
KURK PcP **PcP** **18 13 46.8 +0.3**
KURK ScP **ScP** **18 17 26.5 -2.4**
GEYT **Alibeck** **54.94 319** P **P** **18 12 49.3 +0.6**
comp=Z,11nm,0.8s,baz=160,slow=4.7,SNR=25
GEYT PcP **PcP** **18 13 49.9 +1.4**
comp=Z,5.9nm,0.8s,baz=134,slow=4.2,SNR=4.2
ZALV **Zalesovo Beam** **55.97 349** P **P** **18 12 54.9 -0.8**
comp=Z,2.5nm,0.4s,baz=174,slow=6.0,SNR=26
ZALV ScP **ScP** **18 17 32.3 -2.8**
comp=Z,0.7nm,0.4s,baz=176,slow=4.3,SNR=4.2
ZALV ScS **ScS** **18 22 21.1 -6.4**
comp=Z,1.9nm,0.7s,baz=205,slow=6.6,SNR=4.5
ZALV **Zalesovo Beam** **55.97 349** *i* P **P** **18 12 55.0 -0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
KLR **Kul'dur** **56.33 24** *eP* P 18 12 54.8 -3.5
IZEF **Zefreh** **56.52 311** *eP* **P** **18 12 59.7 -0.6**
ARMA **Armidale** **56.54 127** P **P** **18 13 00.8 +0.5**
baz=56,SNR=18
IGLO **Ghaloghah** **57.10 315** *eP* **P** **18 13 05.6 +1.4**
MGCD **Mangrove Creek** **57.21 130** P **P** **18 13 04.9 +0.1**
baz=57,SNR=6.9
IKLH **Kolahrood** **57.27 311** *eP* **P** **18 13 05.5 0.0**
IDMV **Damavand** **57.94 314** *eP* **P** **18 13 11.0 +0.7**
ASAJ **Asahikawa** **58.00 34** P **P** **18 13 09.7 -0.4**
comp=Z,4.1nm,0.5s,baz=202,slow=4.7,SNR=17
IR3 **Iran Long-Peri** **58.63 313** *eP* **P** **18 13 16.1 +1.3**
RAYN **Ar Rayn** **58.81 298** *eP* **P** **18 13 16.7 +0.5**
comp=Z,6.0nm,0.8s
BVAR **Borovoye Array** **59.18 339** P **P** **18 13 17.4 -0.7**
comp=Z,4.6nm,0.6s,baz=144,slow=9.6,SNR=38
BVAR pP **pP** **18 13 56.9 -0.6**
comp=Z,2.6nm,0.5s,baz=146,slow=8.7,SNR=2.1
BVAR sP **sP** **18 14 15.6 -0.5**
comp=Z,2.8nm,0.6s,baz=151,slow=8.6,SNR=2.3
BVAR ScP **ScP** **18 17 47.8 -1.6**
comp=Z,1.2nm,0.7s,baz=145,slow=5.4,SNR=4.8
BOD **Bodaibo** **59.19 8** *eP* **P** **18 13 18.4 +0.3**
BOD pmax pmax
comp=Z,4.0nm,1.0s
YSS **Yuzh-Sakhalins** **59.86 32** *eP* **P** **18 13 22.0 -0.9**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS **Yuzh-Sakhalins** **59.86 32** *eP* **P** **18 13 22.6 -0.3**
comp=Z,15nm,0.8s
IDHR **Dehrash** **61.77 310** *eP* **P** **18 13 35.4 -0.9**
AKTO **Aktyubinsk** **62.55 331** P **P** **18 13 40.4 -0.5**
comp=Z,2.4nm,0.7s,baz=152,slow=7.5,SNR=10
AKTO pP **PcP** **18 14 18.9 +0.5**
comp=Z,2.5nm,0.7s,baz=130,slow=7.2,SNR=2.5
KMBO **Kilima Mbogo** **63.58 269** P P 18 13 52.1 +3.4
comp=Z,2.0nm,0.6s,baz=65,slow=11,SNR=6.8
KMBO pP pP 18 14 31.9 +3.3
comp=Z,1.0nm,0.4s,baz=36,slow=9.1,SNR=2.8
KMBO **Kilima Mbogo** **63.58 269***cP* **P** **18 13 50.5 +1.8**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
SVE **Sverdlovsk** **65.73 337**⇑*eP* **P** **18 14 01.4 0.0**
SVE pmax pmax
comp=Z,11nm,0.9s
YAK **Yakutsk** **66.19 14** *eP* **P** **18 14 02.7 -1.6**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK **Yakutsk** **66.19 14** *eP* **P** **18 14 02.4 -1.9**
comp=Z,14nm,0.8s
ARU **Arti** **66.28 336***c iP* **P** **18 14 04.1 -0.9**
ARU 18 14 32.1
ARU S **S** **18 22 42.1 +1.6**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU **Arti** **66.28 336** *eP* **P** **18 14 04.0 -0.9**
comp=Z,9.5nm,1.0s
DZM **Mont Dzumac** **67.23 114** P **P** **18 14 12.0 +0.2**
comp=Z,6.9nm,0.7s,baz=270,slow=17,SNR=3.7
KBZ **Khabaz** **67.82 318** P **P** **18 14 16.2 +1.3**
comp=Z,2.1nm,0.7s,baz=56,slow=24,SNR=6.3
KBZ pP **pP** **18 14 55.0 -0.4**
comp=Z,3.6nm,0.9s,baz=56,slow=24,SNR=2.5
KIV **Kislovodsk** **68.05 319** *eP* **P** **18 14 17.3 +0.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s
ASF **Jabal al Asfar** **68.47 305** P **P** **18 14 21.9 +2.5**
comp=Z,1.9nm,0.6s,baz=149,slow=4.6,SNR=5.3
MMAI **Mount Meron Ar** **69.91 306** P **P** **18 14 30.7 +2.5**
comp=Z,3.5nm,0.8s,baz=79,slow=13,SNR=3.6
PETK **Petropavlovsk-** **71.27 32** P **P** **18 14 35.5 -0.4**
comp=Z,3.7nm,0.7s,baz=200,slow=7.7,SNR=11
MAW **Mawson** **71.83 194** P **P** **18 14 42.0 +3.0**
comp=Z,4.3nm,0.6s,baz=55,slow=7.4,SNR=6.2
MAW **Mawson** **71.83 194** P **P** **18 14 42.0 +3.0**
BRTR **Keskin Array B** **73.01 312** P **P** **18 14 46.8 0.0**
comp=Z,2.6nm,0.6s,baz=136,slow=7.6,SNR=18
BRTR pP **pP** **18 15 26.4 -1.3**
comp=Z,2.5nm,0.8s,baz=124,slow=6.1,SNR=3.7
BRTR **Keskin Array B** **73.01 312***cP* **P** **18 14 47.0 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
TIXI **Tiksi** **74.36 9**⇓*iP* **P** **18 14 52.7 -1.0**
TIXI pmax pmax
comp=Z,16nm,1.2s
TIXI **Tiksi** **74.36 9** *eP* **P** **18 14 52.0 -1.7**
comp=Z,7.7nm,0.6s
PRGR **Permogore** **74.74 336**⇑*iP* **P** **18 14 55.6 -0.5**
PRGR *e*PP **pP** **18 15 37.3 0.0**
PRGR pmax pmax
comp=Z,16nm,0.6s
RPZ **Rata Peaks** **75.37 135** P **P** **18 15 00.3 +0.2**
comp=Z,7.4nm,0.6s,baz=280,slow=3.9,SNR=8.8
OBN **Obninsk** **76.07 328** *eP* **P** **18 15 03.1 -0.7**
OBN *i* *PP **pP** **18 15 44.0 -1.1**
OBN *i* 18 17 57.8
OBN pmax pmax
comp=Z,8.0nm,1.2s
KLMR **Klimovskoe** **76.95 334** *eP* **P** **18 15 07.5 -1.2**
KLMR pmax pmax
comp=Z,11nm,1.0s
TIRR **Tirgusor** **77.94 316**⇑*iP* **P** **18 15 14.8 +0.3**
TIRR **Tirgusor** **77.94 316**⇑P **P** **18 15 14.8 +0.3**
TLB **Topalu** **78.23 316**⇓*iP* **P** **18 15 16.1 0.0**
TLB **Topalu** **78.23 316**⇓P **P** **18 15 16.1 0.0**
CFR **Carcaliu** **78.30 316**⇑*iP* **P** **18 15 17.7 +1.3**
CFR **Carcaliu** **78.30 316**⇑P **P** **18 15 17.7 +1.3**
URZ **Urewera** **78.86 129** P **P** **18 15 18.5 -1.2**
comp=Z,4.0nm,0.5s,baz=252,slow=4.5,SNR=5.2
IDI **Anoyia** **78.90 306** P **P** **18 15 21.2 +1.1**
comp=Z,4.6nm,0.6s,baz=135,slow=4.3,SNR=4.9
AKASG **Malin Array Be** **78.90 322** P **P** **18 15 19.4 -0.2**
comp=Z,1.2nm,0.6s,baz=86,slow=4.6,SNR=9.6
AKASG pP **pP** **18 15 59.1 -2.1**
comp=Z,1.0nm,0.5s,baz=81,slow=5.5,SNR=2.6
AKASG pP **PP** **18 18 18.2 -2.5**
comp=Z,2.0nm,0.8s,baz=89,slow=7.1,SNR=5.5
TMCR **Tamitsa** **79.00 337** *eP* **P** **18 15 20.4 +0.5**
TMCR pmax pmax
comp=Z,15nm,0.7s
VRI **Vrincioaia** **79.41 317**⇓*iP* **P** **18 15 24.2 +1.6**
VRI **Vrincioaia** **79.41 317**⇓P **P** **18 15 24.2 +1.6**
TESR **Tescani** **79.60 317**⇑*iP* **P** **18 15 24.5 +1.0**
MLR **Muntele Rosu** **79.87 316**⇑*iP* **P** **18 15 26.5 +1.3**
MLR **Muntele Rosu** **79.87 316** P **P** **18 15 26.5 +1.3**
comp=Z,0.6nm,0.5s,baz=135,slow=6.3,SNR=6.1
MLR pP **pP** **18 16 06.5 -0.4**
comp=Z,1.2nm,0.9s,baz=52,slow=2.5,SNR=2.4
VOIR **80.48 316**⇑*iP* **P** **18 15 28.2 -0.2**
VOIR **80.48 316**⇑P **P** **18 15 28.2 -0.2**
BURAR **Bucovina Array** **80.78 318**⇓*iP* **P** **18 15 31.8 +1.8**
BURAR **Bucovina Array** **80.78 318**⇓P **P** **18 15 31.8 +1.8**
UZH **Uzhgorod** **82.88 319** *eP* P 18 15 44.7 +3.9
KOLS **Kolonicke sedl** **82.94 319** *eP* **P** **18 15 43.1 +2.0**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS **Kolonicke sedl** **82.94 319** *eP* **P** **18 15 43.1 +2.0**
FINES **FINESS Array B** **83.28 322** P **P** **18 15 42.9 +0.4**
comp=Z,3.5nm,0.5s,baz=109,slow=5.6,SNR=30
FINES pP **pP** **18 16 25.1 +0.6**
comp=Z,2.0nm,0.5s,baz=114,slow=5.4,SNR=2.8
FINES PKKPbc **PKKPbc** **18 34 02.0 -2.7**
comp=Z,0.7nm,0.5s,baz=235,slow=2.0,SNR=11
KAF **Kangasniemi** **83.33 333** *ep* **P** **18 15 43.3 +0.5**
comp=Z,7.7nm,0.5s
KAF **Kangasniemi** **83.33 333** *eP* **P** **18 15 43.3 +0.5**
KAF pmax pmax
comp=Z,8.0nm,0.5s
VNDA **Vanda** **83.36 169** P **P** **18 15 43.9 +1.3**
comp=Z,4.7nm,0.5s,baz=306,slow=4.9,SNR=41
STHS **Stebnicka Huta** **83.69 320** *eP* **P** **18 15 46.6 +1.6**
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS **Stebnicka Huta** **83.69 320** *eP* **P** **18 15 46.5 +1.6**
KECS **Kecovo** **84.05 319** *eP* **P** **18 15 47.5 +0.7**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS **Kecovo** **84.05 319** *eP* **P** **18 15 47.5 +0.7**
SBA **Scott Base** **84.45 169** *eP* **P** **18 15 50.0 +1.8**
SBA pmax pmax
comp=Z,10.0nm,0.8s
SBA **Scott Base** **84.45 169** *eP* **P** **18 15 50.0 +1.8**
comp=Z,9.9nm,0.8s
ARCES **ARCESS Array B** **85.46 340** P **P** **18 15 53.5 +0.2**
comp=Z,4.2nm,0.5s,baz=108,slow=4.4,SNR=53
ARCES pP **pP** **18 16 37.4 +1.8**
comp=Z,2.7nm,0.8s,baz=99,slow=5.6,SNR=2.1
BRG **Berggiesshubel** **88.50 321** *eP* **P** **18 16 09.8 +1.4**
comp=Z,7.4nm,0.7s
BRG *e* 18 16 50.7
comp=Z,6.7nm,1.0s
BRG **Berggiesshubel** **88.50 321** *eP* **P** **18 16 09.8 +1.4**
BRG *e* 18 16 50.7
BRG pmax pmax
comp=Z,7.0nm,0.7s
GERES **GERESS Array B** **88.56 319** P **P** **18 16 10.1 +1.2**
comp=Z,1.6nm,0.7s,baz=60,slow=3.2,SNR=8.4
GERES pP **pP** **18 16 50.5 -0.9**
comp=Z,1.6nm,0.8s,baz=94,slow=4.1,SNR=4.0
GERES pP **PP** **18 19 36.0 -3.6**
comp=Z,0.7nm,0.7s,baz=121,slow=9.6,SNR=3.8
HFS **Hagfors** **89.09 330** P **P** **18 16 11.5 +0.6**
comp=Z,1.0nm,0.4s,baz=168,slow=2.9,SNR=10.0
HFS pP **pP** **18 16 54.2 +0.7**
comp=Z,3.3nm,0.9s,baz=119,slow=5.1,SNR=3.0
NVL **N'lazarevskaya** **89.10 199** *eP* **P** **18 16 13.9 +3.1**
NVL pmax pmax
comp=Z,6.0nm,0.6s
CLL **Collm** **89.11 321** *eP* **P** **18 16 12.0 +0.8**
comp=Z,7.0nm,1.4s
CLL *i* pP **pP** **18 16 52.9 -0.9**
comp=Z,7.0nm,1.1s
CLL **Collm** **89.11 321** *eP* **P** **18 16 10.0 -1.2**
CLL *i* *PP **pP** **18 16 52.9 -0.9**
CLL pmax pmax
comp=Z,7.0nm,1.4s
SPITS **Spitsbergen Ar** **89.45 348** P **P** **18 16 11.5 -0.8**
comp=Z,4.6nm,0.5s,baz=79,slow=4.3,SNR=11
NOA **NORSAR Array B** **90.34 331** P **P** **18 16 16.5 -0.3**
comp=Z,0.8nm,0.8s,baz=95,slow=5.2,SNR=3.6
DAVOX **Davos/Dischmat** **91.10 317** P **P** **18 16 21.8 +1.0**
comp=Z,6.3nm,0.7s,baz=146,slow=4.3,SNR=11
DAVOX pP **pP** **18 17 03.0 -0.5**
comp=Z,7.3nm,0.8s,baz=83,slow=5.6,SNR=5.3
KEST **Kesra** **91.56 306** P **P** **18 16 25.5 +2.3**
comp=Z,1.6nm,0.8s,baz=64,slow=8.7,SNR=4.3
KEST pP **pP** **18 17 05.7 -0.1**
comp=Z,3.8nm,1.1s,baz=75,slow=2.9,SNR=3.8
LPG **La Plagne** **93.30 315** *ep*P pP 18 17 13.1 -0.7
LPG **La Plagne** **93.30 315** *eP* **P** **18 16 32.2 +1.0**
comp=Z,4.7nm,0.7s
LPG **La Plagne** **93.30 315** *eP* **P** **18 16 32.2 +1.0**
LPG *e**PP **pP** **18 17 13.1 -0.7**
LPG pmax pmax
comp=Z,5.0nm,0.7s
LPG **La Plagne** **93.30 315** *eP* **P** **18 16 32.2 +1.0**
comp=Z,4.7nm,0.7s
LPG *ep*P **pP** **18 17 13.1 -0.7**
LPL **La Plagne** **93.31 315** *ep*P pP 18 17 13.1 -0.7
LPL **La Plagne** **93.31 315** *eP* **P** **18 16 32.2 +1.0**
comp=Z,7.6nm,0.7s
LPL **La Plagne** **93.31 315** *eP* **P** **18 16 32.2 +1.0**
LPL *e**PP **pP** **18 17 13.1 -0.7**
LPL pmax pmax
comp=Z,8.0nm,0.7s
LPL **La Plagne** **93.31 315** *eP* **P** **18 16 32.2 +1.0**
comp=Z,7.6nm,0.7s
LPL *ep*P **pP** **18 17 13.1 -0.7**
FRF **La Foret Royal** **93.46 313** *eP* **P** **18 16 32.0 +0.4**
comp=Z,9.2nm,0.9s
FRF **La Foret Royal** **93.46 313** *eP* **P** **18 16 32.0 +0.4**
FRF pmax pmax
comp=Z,9.0nm,0.9s
FRF **La Foret Royal** **93.46 313** *eP* **P** **18 16 32.0 +0.4**
comp=Z,9.2nm,0.9s
HAU **Haudompre** **93.46 318** *eP* **P** **18 16 32.2 +0.7**
HAU **Haudompre** **93.46 318** *eP* **P** **18 16 32.2 +0.7**
HAU **Haudompre** **93.46 318** *eP* **P** **18 16 32.2 +0.7**
SFTF **Sexfontaines** **94.33 318** *eP* **P** **18 16 36.3 +0.8**
comp=Z,8.4nm,0.7s
SFTF **Sexfontaines** **94.33 318** *eP* **P** **18 16 36.3 +0.8**
comp=Z,8.4nm,0.7s
SMF **Signal de Mont** **95.25 317** *eP* **P** **18 16 40.5 +0.7**
comp=Z,7.1nm,0.7s
SMF **Signal de Mont** **95.25 317** *eP* **P** **18 16 40.5 +0.7**
SMF pmax pmax
comp=Z,7.0nm,0.7s
SMF **Signal de Mont** **95.25 317** *eP* **P** **18 16 40.5 +0.7**
comp=Z,7.1nm,0.7s
CAF **Calviac** **96.65 315** *eP* **P** **18 16 47.3 +1.1**
CAF **Calviac** **96.65 315** *eP* **P** **18 16 47.3 +1.1**
CAF **Calviac** **96.65 315** *eP* **P** **18 16 47.3 +1.1**
RJF **Les Rejaudoux** **96.99 315** *eP* **P** **18 16 48.8 +1.1**
RJF **Les Rejaudoux** **96.99 315** *eP* **P** **18 16 48.8 +1.1**
RJF **Les Rejaudoux** **96.99 315** *eP* **P** **18 16 48.8 +1.1**
FLN **La Foliniere** **97.92 319** *eP* Pdif 18 16 52.2 +0.4
FLN **La Foliniere** **97.92 319** *eP* Pdif 18 16 52.2 +0.4
FLN **La Foliniere** **97.92 319** *eP* Pdif 18 16 52.2 +0.4
GRR **Gorron** **98.22 319** *eP* Pdif 18 16 55.1 +2.0
comp=Z,11nm,0.8s
GRR **Gorron** **98.22 319** *eP* Pdif 18 16 55.1 +2.0
comp=Z,11nm,0.8s
TORD **Torodi Ar. Bea** **99.04 283** PKiKP **PKiKP** **18 21 28.4 +1.1**
comp=Z,0.2nm,0.5s,baz=54,slow=1.7,SNR=4.2
ILAR **Eielson Array** **99.90 24** P **Pdif** **18 16 59.3 -0.9**
comp=Z,0.4nm,0.6s,baz=267,slow=4.1,SNR=4.5
ILAR PKKPbc **PKKPbc** **18 33 19.9 -2.2**
comp=Z,1.0nm,0.7s,baz=121,slow=2.0,SNR=11
INK **Inuvik** **103.08 18** PKiKP **PKiKP** **18 21 32.9 -0.2**
comp=Z,1.2nm,0.9s,baz=325,slow=7.1,SNR=3.3
INK PKKPbc **PKKPbc** **18 33 10.3 -2.7**
comp=Z,0.5nm,0.8s,baz=18,slow=3.3,SNR=5.7
RES **Resolute Bay** **105.42 4** PKiKP **PKiKP** **18 21 37.8 +0.6**
comp=Z,0.9nm,0.8s,baz=259,slow=0.7,SNR=4.1
YKA **Yellowknife Ar** **112.80 17** PKiKP **PKiKP** **18 21 50.3 -1.1**
comp=Z,0.6nm,0.8s,baz=319,slow=1.9,SNR=3.1
YKA PKKPbc **PKKPbc** **18 32 39.5 -2.8**
comp=Z,0.5nm,0.6s,baz=141,slow=4.5,SNR=4.2
YKA PKKPab **PKKPab** **18 32 48.5 -0.5**
comp=Z,0.4nm,0.5s,baz=142,slow=5.1,SNR=5.3
USHA **Ushuaia** **124.05 187** PKP **PKPdf** **18 22 13.4 +0.1**
comp=Z,7.6nm,0.8s,baz=253,slow=7.2,SNR=2.8
SCHQ **Schefferville** **125.01 351** PKP **PKPdf** **18 22 15.3 +0.1**
comp=Z,5.4nm,0.5s,baz=24,slow=2.0,SNR=19
NVAR **Mina Array Bea** **128.00 39** PKP **PKPdf** **18 22 23.1 +1.4**
comp=Z,2.4nm,0.7s,baz=288,slow=1.9,SNR=10
NVAR pPKP **pPKPdf** **18 23 06.4 +0.1**
comp=Z,0.3nm,0.3s,baz=286,slow=1.3,SNR=2.1
NVAR SKPbc SKPbc 18 25 25.4
comp=Z,1.1nm,0.7s,baz=309,slow=4.3,SNR=4.5
NVAR SKP 18 25 41.8
comp=Z,1.3nm,0.8s,baz=240,slow=3.0,SNR=4.2
ELK **Elko** **128.38 35** PKP **PKPdf** **18 22 23.6 +1.3**
comp=Z,2.3nm,0.6s,baz=5.2,slow=2.6,SNR=11
ELK SKP 18 25 42.3
comp=Z,1.0nm,0.6s,baz=254,slow=7.4,SNR=5.3
ULM **Lac du Bonnet** **128.53 14** PKP **PKPdf** **18 22 21.9 -0.1**
comp=Z,4.2nm,0.7s,baz=303,slow=3.8,SNR=9.5
ULM SKPbc SKPbc 18 25 25.4
comp=Z,0.7nm,0.3s,baz=332,slow=3.0,SNR=3.4
ULM SKP 18 25 39.9
comp=Z,1.7nm,0.6s,baz=357,slow=2.7,SNR=3.4
PDAR **Pinedale Array** **129.96 29** PKP **PKPdf** **18 22 25.4 +0.1**
comp=Z,0.9nm,0.5s,baz=155,slow=2.3,SNR=8.3
SADO **Sadowa** **136.03 360** SKPbc **SKPbc** **18 25 49.5 -2.9**
comp=Z,15nm,0.9s,baz=345,slow=4.8,SNR=8.4
ANMO **Albuquerque** **137.39 34** PKhKP PKPpre 18 22 31.4
comp=Z,0.9nm,0.5s,baz=344,slow=7.4,SNR=2.6
ANMO PKP **PKiKP** **18 22 40.4 -0.9**
comp=Z,2.1nm,0.8s,baz=269,slow=2.1,SNR=4.8
ANMO SKPbc **SKPbc** **18 25 55.7 -1.4**
comp=Z,3.0nm,0.8s,baz=318,slow=2.1,SNR=9.4
PLCA **Paso Flores** **138.12 190** PKhKP PKPpre 18 22 34.1
comp=Z,0.7nm,0.4s,baz=263,slow=2.6,SNR=3.5
PLCA SKPbc **SKPbc** **18 25 58.5 -0.3**
comp=Z,5.9nm,1.1s,baz=164,slow=0.8,SNR=4.1
TXAR **Lajitas Array** **143.09 37** PKhKP PKPpre 18 22 46.6
comp=Z,2.0nm,0.5s,baz=223,slow=1.2,SNR=26
TXAR SKPbc **SKPbc** **18 26 11.4 -0.9**
comp=Z,1.2nm,0.5s,baz=199,slow=1.4,SNR=10
MIAR **Mount Ida** **143.65 20** *e*PKiKP PKPab 18 22 47.3 -0.1
MIAR **Mount Ida** **143.65 20** *e*PKPpre PKPab 18 22 47.3 -0.1
JCT **Junction City** **144.40 32** *e*PKiKP **PKPab** **18 22 50.5 0.0**
JCT **Junction City** **144.40 32** *e*PKPdf **PKPab** **18 22 50.5 0.0**
TKL **Tuckaleechee C** **144.86 7** PKP **PKPab** **18 22 51.2 -0.8**
comp=Z,20nm,0.6s,baz=352,slow=1.9
TKL SKPbc **SKPbc** **18 26 13.9 -2.2**
comp=Z,9.0nm,0.6s,baz=52,slow=3.2,SNR=12
OXF **Oxford** **144.93 15** *e*PKiKP PKPbc 18 22 51.1 -1.1
OXF **Oxford** **144.93 15** *e*PKPdf PKPbc 18 22 51.1 -1.1
BDFB **Brasilia** **145.25 241** PKPbc **PKPab** **18 22 55.4 +1.3**
comp=Z,12nm,0.5s,baz=112,slow=3.5,SNR=24
BDFB pPKPbc pPKPbc 18 23 38.0 +0.1
comp=Z,8.4nm,0.7s,baz=68,slow=3.4,SNR=3.8
KMSC **Kings Mountain** **145.58 3** *e*PKPdf **PKPdf** **18 22 53.2 -0.6**
CPUP **Villa Florida** **145.93 217** PKPbc **PKPbc** **18 22 55.5 0.0**
comp=Z,5.0nm,0.9s,baz=128,slow=2.4,SNR=30
CPUP pPKPbc pPKPbc 18 23 39.3 -0.2
comp=Z,2.5nm,0.8s,baz=138,slow=5.3,SNR=4.6
CPUP PP **PP** **18 26 17.9 +0.6**
comp=Z,0.7nm,0.9s,baz=90,slow=5.1,SNR=3.8
CFAA **Coronel Fontan** **146.33 197** PKP **PKPdf** **18 22 55.9 +0.7**
comp=Z,4.7nm,0.6s,baz=174,slow=3.5,SNR=58
CFAA PKPbc **PKPab** **18 22 57.8 +0.1**
comp=Z,4.7nm,0.6s,baz=176,slow=2.7,SNR=58
CFAA pPKPbc pPKPbc 18 23 41.0 +0.3
comp=Z,0.3nm,0.5s,baz=254,slow=5.3,SNR=1.9
CFAA PP **PP** **18 26 18.6 -0.4**
comp=Z,0.2nm,0.4s,baz=153,slow=2.3,SNR=4.1
LRAL **Lakeview Retre** **146.91 12** *e*PKPbc **PKPbc** **18 22 57.3 -0.8**
GOGA **Godfrey** **147.12 7** *e*PKP2 **PKPdf** **18 22 56.9 +0.5**
GOGA **Godfrey** **147.12 7** *e*PKPdf **PKPdf** **18 22 56.9 +0.5**
LCO **Las Campanas** **149.46 195** *e*PKPbc **PKPbc** **18 23 06.0 +0.7**
LVC **Limon Verde** **154.85 203** PKP **PKPdf** **18 23 09.3 +0.4**
comp=Z,9.0nm,0.5s,baz=285,slow=4.3,SNR=3.6
LVC PKPbc **PKiKP** **18 23 18.2 +0.6**
comp=Z,8.0nm,0.5s,baz=326,slow=3.5,SNR=3.9
LVC PKPab **PKPab** **18 23 35.3 +2.0**
comp=Z,7.3nm,0.4s,baz=236,slow=5.7,SNR=3.9
SIV **San Ignacio** **155.69 227** PKP **PKPdf** **18 23 10.3 +0.5**
comp=Z,2.7nm,0.7s,baz=132,slow=3.3,SNR=4.5
SIV PKPab **PKPab** **18 23 38.7 +1.9**
comp=Z,1.1nm,0.6s,baz=104,slow=4.2,SNR=2.2
CMIG **Matias Romero** **157.46 43** PKPab **PKPab** **18 23 44.9 +0.5**
comp=Z,2.9nm,0.6s,baz=308,slow=2.4,SNR=6.8
LPAZ **La Paz** **159.99 212** PKP **PKPdf** **18 23 17.0 +1.2**
comp=Z,4.7nm,0.8s,baz=27,slow=2.3,SNR=16
LPAZ PKPab **PKPab** **18 23 58.1 +2.1**
comp=Z,1.8nm,0.6s,baz=223,slow=2.7,SNR=3.7

NIED ***21*** *18:05:00,26.00N×128.60E,h17km,Mw4.2 Best double couple: M₀2.23000×10¹⁵ NP1:φ=1.00000°,δ65.00000°, λ-160.00000°. NP2:φ=262.00000°,δ72.00000°, λ-27.00000°.*

ISCJB ***21*** *18:05:25.2±0.4,25.91N±0.03×128.60E±0.03,h27km, mb4.1/13,Error ellipse: s-maj=4.9km s-min=2.9km az=41.6*

JMA ***21*** *18:05:27.2±0.3,25.98N×128.60E,h44km,M4.2*

IDC ***21*** *18:05:29.0±1.0,25.91N×128.73E,h28km±6km,mb3.9/9, mb1 4.0/12,mb1mx3.8/29,mbtmp4.0/12,ML3.4/2,Error ellipse: s-maj=30.8km s-min=16.4km az=88.0*

NEIC ***21*** *18:05:29.6±0.7,25.96N×128.61E,h35km,mb4.8/3, MW4.2(NIED),Error ellipse: s-maj=30.1km s-min=12.5km az=86.0*

ISC 21 18:05:27.4±0.6,25.91N±0.04×128.60E±0.04,h27km,n43, σ2.507/68,mb4.3/13,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.80**	**320**		P		**Pb**	**18 05 41.1**	**-1.5**
JNTH					eS		**Sb**	**18 05 51.9**	**-1.2**
JJT2	**Tamagusuku 2**	**0.80**	**287**		P		**Pb**	**18 05 42.2**	**-0.5**
JJT2					eS		**Sn**	**18 05 53.5**	**-0.4**
JOW	**Kunigami**	**0.96**	**342**		P		**Pn**	**18 05 43.8**	**-1.3**
JOW					eS		**Sb**	**18 05 55.2**	**-2.6**
JOW	**Kunigami**	**0.96**	**342**		*e*P		**Pn**	**18 05 43.5**	**-1.6**
JIH	**Iheya**	**1.25**	**333**		P		**Pn**	**18 05 48.3**	**-0.8**
JIH					eS		**Sn**	**18 06 03.8**	**-1.3**
JAGN	**Aguni-jima**	**1.39**	**299**		P		**Pn**	**18 05 50.6**	**-0.4**
JAGN					eS		**Sn**	**18 06 07.8**	**-0.8**
JOKE	**Okinoerabujima**	**1.44**	**359**		P		**Pn**	**18 05 50.7**	**-1.1**
JOKE					eS		**Sn**	**18 06 07.5**	**-2.4**
JKE	**Kume jima 2**	**1.68**	**285**		P		**Pn**	**18 05 54.1**	**-0.9**
JKE					eS		**Sn**	**18 06 13.6**	**-2.1**
JTK	**Tokunoshima**	**1.89**	**9**		P		**Pn**	**18 05 56.9**	**-1.0**
JTK					eS		**Sn**	**18 06 18.0**	**-2.9**
JMZ	**Minamidaito 2**	**2.36**	**92**		P		**Pn**	**18 06 02.3**	**-2.1**
JMZ					S		**Sn**	**18 06 27.6**	**-4.9**
JAMN	**Amaminishikomi**	**2.38**	**12**		P		**Pn**	**18 06 03.5**	**-1.1**
JAMN					eS		**Sn**	**18 06 30.4**	**-2.5**
JAM	**Amami Oshima**	**2.65**	**20**		P		**Pn**	**18 06 07.0**	**-

JTAJ eS **Sn** **18 06 50.7 -4.3**
JIRB Irabujima 3.28 252 P **Pn** **18 06 16.4 -0.6**
JIRB eS **Sn** **18 06 53.1 -2.1**
JTJ Tarama 3.75 251 P **Pn** **18 06 22.3 -1.1**
JTJ eS **Sn** **18 07 02.4 -4.3**
JISG Ishigakijimahi 4.10 252 P **Pn** **18 06 26.7 -1.6**
JISG eS **Sn** **18 07 10.8 -4.6**
JIJ Ishigaki jima 4.32 250 P **Pn** **18 06 29.4 -2.0**
JIJ eS **Sn** **18 07 16.5 -4.4**
JKRS Kuro-shima 4.48 249 P **Pn** **18 06 32.2 -1.4**
IRIF Iriomote-Funau 4.69 251 P **Pn** **18 06 34.4 -1.9**
YOJ Yonaguni jima 5.26 255 P **Pn** **18 06 42.6 -1.7**
YOJ eS **Sn** **18 07 39.1 -5.0**
JYNG Yonagunijimaku 5.33 255 P **Pn** **18 06 43.4 -1.7**
JYNG eS **Sn** 18 07 39.3 -6.3
JNU Nakatsue 7.45 15 Pn **Pn** **18 07 14.9 +0.5**
1.5nm,0.3s,baz=292,slow=1.3,SNR=11
JNU Sn **Sn** **18 08 37.7 -0.4**
0.4nm,0.3s,baz=140,slow=19,SNR=1.4
KSAR Wonju Array Be 11.51 357 Pn **Pn** **18 08 09.9 -0.1**
KSRS Korea Array 11.52 357 Pn **Pn** **18 08 09.9 -0.2**
baz=177,slow=13,SNR=4.5
USRK Ussuriysk Ar. 18.45 8 P **Pn** **18 09 42.7 +1.6**
0.2nm,0.3s,baz=188,slow=8.4,SNR=8.7
YSS Yuzh-Sakhalins 23.82 25 *eP* **P** **18 10 39.3 +1.3**
48nm,1.3s
GTA Gaotai 27.59 306 *eP* **P** **18 11 12.0 -0.5**
GTA pP **pP** **18 11 17.6 -2.8**
GTA sP **sP** **18 11 21.3 -2.4**
GTA pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 28.00 327 P **P** **18 11 18.3 +2.3**
comp=Z,3.3nm,0.4s,baz=143,slow=11,SNR=77
YAK Yakutsk 36.12 1 *eP* **P** **18 12 26.5 -0.3**
comp=Z,11nm,0.9s
WRAB Tennant Creek 45.91 172 *eP* **P** **18 13 48.2 +0.3**
comp=Z,6.7nm,0.9s
WRA Warramunga Arr 45.92 172 P **P** **18 13 48.5 +0.6**
comp=Z,3.7nm,0.6s,baz=351,slow=8.4,SNR=11
ASAR Alice Springs 49.55 174 P **P** **18 14 17.3 +1.2**
comp=Z,2.1nm,0.7s,baz=3.4,slow=9.7,SNR=8.3
ILAR Eielson Array 64.56 28 P **P** **18 16 04.0 +2.2**
comp=Z,0.3nm,0.5s,baz=278,slow=6.8,SNR=3.9
ILAR pP **pP** **18 16 11.5 +1.3**
comp=Z,0.6nm,0.6s,baz=284,slow=7.4,SNR=4.9
RES Resolute Bay 75.80 11 P **P** **18 17 10.0 -0.4**
comp=Z,0.5nm,0.7s,baz=290,slow=7.1,SNR=2.3
AKASG Malin Array Be 75.99 320 P **P** **18 17 12.3 +0.3**
comp=Z,0.3nm,0.3s,baz=57,slow=7.1,SNR=4.9
BRTR Keskin Array B 77.49 308 P P 18 17 24.4 +3.6
comp=Z,1.8nm,0.7s,baz=111,slow=6.8,SNR=4.8
BRTR pP **PcP** **18 17 32.3 +1.1**
comp=Z,2.9nm,0.9s,baz=90,slow=8.6,SNR=6.8
YKA Yellowknife Ar 78.67 25 P **P** **18 17 29.5 +2.7**
comp=Z,0.5nm,0.7s,baz=298,slow=4.7,SNR=3.6
NB2 NORSAR Subarra 79.74 334 P **P** **18 17 35.1 +2.4**
comp=Z,1.1nm,0.7s,baz=53,slow=5.6
NOA NORSAR Array B 79.74 334 P **P** **18 17 34.2 +1.5**
comp=Z,1.4nm,0.8s,baz=52,slow=5.6,SNR=4.6

*ISCJB **21** 18:14:06.8±0.2,39.97N±0.02×51.27E±0.02,h10km, mb4.3/52,Error ellipse: s-maj=3.3km s-min=2.7km az=10.6*
*IDC **21** 18:14:06.5±0.7,39.81N×51.21E,h0km,mb4.1/24, mb1 4.2/33,mb1mx4.2/55,mbtmp4.2/33,ML4.3/8,MS3.2/1, Ms1 3.0/1,ms1mx2.6/37,Error ellipse: s-maj=14.2km s-min=7.4km az=169.0*
*NEIC **21** 18:14:07.7±0.2,39.75N×51.21E,h10km,mb4.4/21,Error ellipse: s-maj=6.3km s-min=3.4km az=179.0*
*CSEM **21** 18:14:08.4±0.1,39.94N×51.27E,h10km,mb4.3/22,Error ellipse: s-maj=3.7km s-min=3.1km az=10.0*
*MOS **21** 18:14:09.3±1.1,40.03N×51.26E,h27km,mb4.5/23,Error ellipse: s-maj=6.2km s-min=4.9km az=124.1*
*TEH **21** 18:14:10.0,39.83N×51.24E,h7km,ML4.6*
*BJI **21** 18:14:10.5,40.34N×50.89E,h48km,mB4.6/1,mb4.4/8, Ms4.8/1,Ms7 4.5/1*
*NNC **21** 18:14:17.5±3.5,40.41N×52.36E,h0km,mb4.5,mpv5.0, Error ellipse: s-maj=29.9km s-min=17.9km az=86.0*
ISC 21 18:14:07.9±0.4,39.93N±0.04×51.25E±0.03,h10km,n300, σ1.9 s27/280,mb4.3/51,35C-32D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ISRB	**Sarab**	**3.50**	**234**	*e*Pn		Pn	18 15 03.5	+1.0
ISRB				*e*Sn		**Sn**	**18 15 42.5**	**-1.6**
ISRB				*e*			18 15 43.9	
comp=Z,6μm,0.1s								
ISRB	**Sarab**	**3.50**	**234**	*e*Pn		Pn	18 15 03.5	+1.0
ISRB				*e*Sn		**Sn**	**18 15 42.5**	**-1.6**
IHRS	**Heris**	**3.65**	**245**	*e*Sn		**Sn**	**18 15 47.5**	**-0.3**
IHRS				*e*Pn		Pn	18 15 05.9	+1.3
IHRS				*e*			18 15 49.3	
comp=Z,11μm,0.1s								
IPRN	**Peran**	**3.78**	**167**	*e*			18 15 48.8	
comp=Z,37μm,0.2s								
IPRN					*e*Pn	**Pn**	**18 15 05.9**	**-0.5**
IGLO	**Ghaloghah**	**3.98**	**148**	*e*			18 15 59.0	
comp=Z,14μm,0.1s								
IGLO					*e*Pn	**Pn**	**18 15 09.1**	**-0.1**
IALA	**Alasht**	**4.03**	**162**	*e*Pn		Pn	18 15 10.4	+0.4
IALA				*e*			18 15 56.3	
comp=E,42μm,0.2s								
IALA				*e*			18 15 56.4	
comp=Z,5μm,0.1s								
IALA	**Alasht**	**4.03**	**162**	*e*Pn		Pn	18 15 10.4	+0.4
IMHD	**Mahdasht**	**4.26**	**186**	*e*Pn		Pn	18 15 13.9	+1.0
IMHD				*e*			18 16 05.1	
comp=Z,3μm,0.1s								
IMHD	**Mahdasht**	**4.26**	**186**	*e*Pn		Pn	18 15 13.9	+1.0
ITBZ	**Tabriz**	**4.32**	**249**	*e*Pn		Pn	18 15 15.4	+1.7
ITBZ				*e*			18 16 17.8	
comp=Z,1μm,0.3s								
ITBZ	**Tabriz**	**4.32**	**249**	*e*Pn		Pn	18 15 15.4	+1.7
IDMV	**Damavand**	**4.39**	**172**	*e*Pn		Pn	18 15 16.3	+1.4
IDMV				*e*Sn		**Sn**	**18 16 03.6**	**-2.5**
IDMV				*e*			18 16 06.2	
comp=Z,4μm,0.2s								
IDMV	**Damavand**	**4.39**	**172**	*e*Pn		Pn	18 15 16.3	+1.4
IDMV				*e*Sn		**Sn**	**18 16 03.7**	**-2.5**
ISHM	**Shahmirzad**	**4.42**	**158**	*e*Pn		Pn	18 15 16.3	+1.0
ISHM				*e*			18 16 08.3	
comp=Z,24μm,0.1s								
ISHM	**Shahmirzad**	**4.42**	**158**	*e*Pn		Pn	18 15 16.3	+1.0
IFIR	**Firoozkooh**	**4.44**	**164**	*e*Pn		Pn	18 15 16.7	+1.1
IFIR				*e*			18 16 08.6	
comp=Z,20μm,0.2s								
IFIR	**Firoozkooh**	**4.44**	**164**	*e*Pn		Pn	18 15 16.7	+1.1
IMRD	**Marand**	**4.47**	**256**	*e*Pn		Pn	18 15 17.7	+1.9
IMRD				*e*			18 16 17.5	
comp=Z,5μm,0.2s								
IMRD	**Marand**	**4.47**	**256**	*e*Pn		Pn	18 15 17.7	+1.9
IRAZ	**Razeghan**	**4.64**	**193**	*e*Pn		**Pn**	**18 15 18.0**	**-0.2**
IRAZ				*e*			18 16 23.4	
comp=Z,3μm,0.3s								
IRAZ	**Razeghan**	**4.64**	**193**	*e*Pn		**Pn**	**18 15 18.0**	**-0.2**
DGRG	**David-gareji**	**4.72**	**291**	P		Pn	18 15 22.0	+2.8
DGRG				S		**Sn**	**18 16 16.1**	**+2.2**
ILAS	**Lasjerd**	**4.74**	**163**	*e*Pn		Pn	18 15 21.0	+1.4
ILAS				*e*			18 16 17.5	
comp=Z,7μm,0.3s								
ILAS	**Lasjerd**	**4.74**	**163**	*e*Pn		Pn	18 15 21.0	+1.4
IANJ	**Anjilo**	**4.93**	**154**	*e*Pn		Pn	18 15 23.7	+1.4
IANJ				*e*			18 16 22.6	
comp=Z,4μm,0.1s								
IANJ	**Anjilo**	**4.93**	**154**	*e*Pn		Pn	18 15 23.7	+1.4
IVRN	**Varamin**	**4.94**	**175**	*e*Pn		Pn	18 15 22.9	+0.6
IVRN				*e*			18 16 28.4	
comp=Z,2μm,0.1s								
IVRN	**Varamin**	**4.94**	**175**	*e*Pn		Pn	18 15 22.9	+0.6
GNI	**Garni**	**5.00**	**275**	Pn		Pn	18 15 26.4	+3.2
comp=Z,5.3nm,0.3s,baz=166,slow=0.9,SNR=17								
GNI					Sn	Sn	18 16 25.6	+4.6
comp=Z,6.9nm,0.3s,baz=332,slow=21,SNR=3.7								
SEAG	**Tbilisi Sea**	**5.22**	**293**	P		**Sn**	**18 16 25.1**	**-1.2**
TBLG	**Delisi**	**5.25**	**292**	P		Pn	18 15 28.7	+2.2
TBLG				S		**Sn**	**18 16 26.1**	**-1.1**
TBLG	**Delisi**	**5.25**	**292**	P		Pn	18 15 28.7	+2.2
TBLG				S		**Sn**	**18 16 26.1**	**-1.1**
GEYT	**Alibeck**	**5.72**	**108**	Pn		**Pn**	**18 15 33.7**	**+0.8**
comp=Z,6.1nm,0.3s,baz=295,slow=4.8,SNR=111								
GEYT					Sn	**Sn**	**18 16 34.3**	**-4.2**
comp=Z,7.9nm,0.3s,baz=285,slow=14,SNR=2.4								
ASHT	**Ashkhabad**	**5.91**	**107**	⇓Pn		Pn	18 15 38.6	+3.2
comp=Z,146nm,0.6s								
ASHT				⇓Sn		**Sn**	**18 16 40.4**	**-2.8**
comp=Z,168nm,0.6s								
ASHT	**Ashkhabad**	**5.91**	**107**	P		Pn	18 15 39.3	+3.8
ASHT							18 16 40.3	
ASHT				pmax		pmax		
comp=Z,146nm,0.6s								
ASHT				smax		smax		
comp=N,168nm,0.6s								
AKH	**Akhalkalaki**	**6.08**	**287**	P		**Pn**	**18 15 36.3**	**-1.7**
ONI	**Oni**	**6.45**	**297**	P		Pn	18 15 46.1	+3.2
IKRD	**Kardeh**	**6.52**	**117**	*e*Pn		Pb	18 15 54.3	-7.3
IKRD				*e*			18 17 18.3	
comp=Z,830nm,0.1s								
NCK	**Nalchik**	**6.74**	**304**	⇑*e*P		**Pn**	**18 15 47.3**	**+0.4**
NCK	**Nalchik**	**6.74**	**304**	*e*P		**Pn**	**18 15 47.3**	**+0.4**
IPAY	**Payeh**	**7.02**	**117**	*e*Pn		**Pn**	**18 15 52.3**	**+1.3**
IPAY				*e*			18 17 15.2	
comp=Z,751nm,0.1s								
IPAY	**Payeh**	**7.02**	**117**	*e*Pn		**Pn**	**18 15 52.3**	**+1.3**
KBZ	**Khabaz**	**7.30**	**304**	Pn		**Pn**	**18 15 56.8**	**+2.3**
comp=Z,0.8nm,0.3s,baz=236,slow=24,SNR=12								
KBZ					Sn	**Sn**	**18 17 14.6**	**-2.8**
comp=Z,2.3nm,0.3s,baz=236,slow=24,SNR=2.2								
KBZ					LR	LR	18 19 12.6	
comp=Z,166nm,20.6s,baz=144,slow=42								
KIV	**Kislovodsk**	**7.54**	**305**	*e*P		**Pn**	**18 15 58.2**	**+0.2**
KIV				*e*S		**Sn**	**18 17 22.0**	**-1.6**
KIV				pmax		pmax		
comp=Z,6.0nm,0.6s								
KIV				MLR		MLR		
comp=Z,39nm,7.0s								
KIV	**Kislovodsk**	**7.54**	**305**	*e*P		**Pn**	**18 15 59.8**	**+1.8**
comp=Z,32nm,0.8s								
KIV				*e*S		**Sn**	**18 17 22.0**	**-1.6**
comp=Z,39nm,7.0s								
KIV	**Kislovodsk**	**7.54**	**305**	*e*P		**Pn**	**18 15 59.8**	**+1.8**
comp=Z,32nm,0.8s								
IMYA	**Miami**	**7.84**	**114**	*e*Pn		**Pn**	**18 16 03.0**	**+0.8**
IMYA				*e*			18 17 27.5	
comp=Z,347nm,0.2s								
IMYA	**Miami**	**7.84**	**114**	*e*Pn		**Pn**	**18 16 03.0**	**+0.8**
AB31	**Akbulak array**	**11.19**	**31**	⇑Pn		**Pn**	**18 16 47.4**	**-0.5**
comp=Z,2.5nm,0.4s,baz=206,slow=13								
AB31				⇓Sn		Sn	18 18 45.6	-7.3
comp=Z,11nm,0.5s,baz=199,slow=22								
AB31	**Akbulak array**	**11.19**	**31**	P		**Pn**	**18 16 47.3**	**-0.5**
AB31							18 18 52.8	
AB31				pmax		pmax		
comp=Z,3.0nm,0.4s								
AB31				smax		smax		
comp=N,11nm,0.5s								
AB31	**Akbulak array**	**11.19**	**31**	Pn		**Pn**	**18 16 47.4**	**-0.5**
comp=N,2.5nm,0.4s								
AB31				Sn		Sn	18 18 45.6	-7.3
comp=N,11nm,0.5s								
AB31				S		**Sn**	**18 18 52.8**	**-0.1**
comp=N,11nm,0.5s								
ABKAR	**Akbulak array**	**11.19**	**31**	*e*P		**Pn**	**18 16 47.3**	**-0.5**
ABKAR	**Akbulak array**	**11.19**	**31**	*e*P		**Pn**	**18 16 47.3**	**-0.5**
ANN	**Anapa**	**11.32**	**300**	*e*P		Pn	18 16 59.5	+10
ANN				pmax		pmax		
comp=Z,45nm,1.5s								
AKTK	**Aktyubinsk**	**11.53**	**22**	P		**Pn**	**18 16 51.9**	**-0.6**
comp=Z,11nm,0.4s								
AKTO	**Aktyubinsk**	**11.53**	**22**	⇑Pn		**Pn**	**18 16 52.0**	**-0.6**
comp=Z,11nm,0.4s								
AKTO				⇓Sn		Sn	18 18 55.8	-5.5
comp=Z,29nm,0.5s								
AKTO	**Aktyubinsk**	**11.53**	**22**	Pn		**Pn**	**18 16 52.4**	**-0.1**
comp=Z,5.6nm,0.3s,baz=207,slow=12,SNR=54								
AKTO					Sn	Sn	18 18 56.8	-4.5
comp=Z,4.2nm,0.3s,baz=43,slow=20,SNR=9.5								
AKTO	**Aktyubinsk**	**11.53**	**22**	P		**Pn**	**18 16 51.9**	**-0.6**
AKTO							18 18 58.5	
AKTO				pmax		pmax		
comp=Z,11nm,0.4s								
AKTO				smax		smax		
comp=N,29nm,0.5s								
AKTO	**Aktyubinsk**	**11.53**	**22**	Pn		**Pn**	**18 16 52.4**	**-0.1**
AKTO				Sn		Sn	18 18 55.8	-5.5
comp=N,29nm,0.5s								
BRTR	**Keskin Array B**	**13.54**	**275**	*i* P		P	18 17 23.8	-5.5
BRTR				pmax		pmax		
comp=Z,2.0nm,0.8s								
KK31	**Karatay Array**	**14.78**	**71**	Pn		**Pn**	**18 17 35.2**	**-1.7**
comp=Z,5.4nm,0.6s,baz=253,slow=16,SNR=11								
KK31				⇑Sn		Sn	18 20 11.0	-10
comp=Z,4.8nm,0.8s								
KK31	**Karatay Array**	**14.78**	**71**	*i* P		**Pn**	**18 17 35.2**	**-1.7**
KK31							18 20 11.9	
KK31				pmax		pmax		
comp=Z,2.0nm,0.4s								
KK31				smax		smax		
comp=N,3.0nm,0.6s								
KK31	**Karatay Array**	**14.78**	**71**	Pn		**Pn**	**18 17 35.2**	**-1.7**
comp=N,5.4nm,0.6s,SNR=11								
KK31					Sn	Sn	18 20 11.0	-10
comp=N,4.8nm,0.8s								
KKAR	**Karatay Array**	**14.78**	**71**	*e*P		**Pn**	**18 17 35.0**	**-1.9**
KKAR	**Karatay Array**	**14.78**	**71**	*e*P		**Pn**	**18 17 35.0**	**-1.9**
MNAS	**Manas**	**16.20**	**74**	⇓Pn		**Pn**	**18 17 54.0**	**-1.7**
comp=N,8.0nm,1.2s								
SFK	**Sufi-Kurgan**	**17.06**	**83**	⇓Pn		**P**	**18 18 09.5**	**+1.0**
comp=N,8.4nm,0.9s								
SFK	**Sufi-Kurgan**	**17.06**	**83**	Pn		**P**	**18 18 09.5**	**+1.0**
comp=N,8.4nm,0.9s								
RAYN	**Ar Rayn**	**17.06**	**198**	*e*P		**Pn**	**18 18 02.9**	**-3.8**
comp=N,40nm,0.9s								
EKS2	**Erkin-Say**	**17.14**	**74**	*e*P		**P**	**18 18 08.0**	**-1.3**
EKS2				pmax		pmax		
comp=Z,8.0nm,0.7s								
EKS2	**Erkin-Say**	**17.14**	**74**	*e*P		**P**	**18 18 08.0**	**-1.3**
comp=Z,8.0nm,0.7s								
EKS2	**Erkin-Say**	**17.14**	**74**	*e*P		**P**	**18 18 08.0**	**-1.3**
comp=Z,8.0nm,0.7s								
ARU	**Arti**	**17.20**	**14**	*d* *i* P		**Pn**	**18 18 06.3**	**-1.8**
ARU				S		Sn	18 21 12.3	-6.9
ARU				pmax		pmax		
comp=Z,30nm,1.7s								
ARU	**Arti**	**17.20**	**14**	*e*P		**Pn**	**18 18 05.0**	**-3.1**
comp=Z,30nm,0.9s								
OTUK	**Ortayu**	**17.24**	**54**	⇓Pn		**Pn**	**18 18 07.7**	**-1.0**
comp=Z,13nm,0.7s								
OTUK				⇓Sn		Sn	18 21 10.0	-11
comp=Z,6.5nm,0.5s								
OTUK	**Ortayu**	**17.24**	**54**	P		**Pn**	**18 18 07.7**	**-1.0**
OTUK							18 21 11.2	
OTUK				pmax		pmax		
comp=Z,13nm,0.7s								
OTUK				smax		smax		
comp=N,7.0nm,0.5s								
TIRR	**Tirgusor**	**17.50**	**292**	⇑*i*P		**P**	**18 18 14.5**	**+1.5**
TIRR	**Tirgusor**	**17.50**	**292**	⇑*i*P		**P**	**18 18 14.5**	**+1.5**
AAK	**Ala-Archa**	**17.67**	**74**	P		**P**	**18 18 15.9**	**+0.7**
comp=N,0.5nm,0.3s,baz=205,slow=1.5,SNR=8.8								
AAK	**Ala-Archa**	**17.67**	**74**	⇓*e*P		**P**	**18 18 15.3**	**+0.2**
AAK				pmax		pmax		
comp=Z,11nm,0.8s								
AAK	**Ala-Archa**	**17.67**	**74**	*e*P		**P**	**18 18 15.4**	**+0.2**
comp=Z,4.0nm,0.6s								
AAK	**Ala-Archa**	**17.67**	**74**	*e*P		**P**	**18 18 15.4**	**+0.2**
comp=Z,4.0nm,0.6s								
TLB	**Topalu**	**17.78**	**293**	⇑*i*P		**P**	**18 18 17.0**	**+0.9**
TLB	**Topalu**	**17.78**	**293**	⇑*i*P		**P**	**18 18 17.0**	**+0.9**
CFR	**Carcaliu**	**17.79**	**295**	⇑*i*P		**P**	**18 18 17.3**	**+1.0**
CFR	**Carcaliu**	**17.79**	**295**	⇑*i*P		**P**	**18 18 17.3**	**+1.0**
MSAB	**Monastry St. A**	**17.88**	**291**	⇑*i*P		**P**	**18 18 19.0**	**+1.8**
MSAB	**Monastry St. A**	**17.88**	**291**	⇑*i*P		**P**	**18 18 19.0**	**+1.8**
SVE	**Sverdlovsk**	**17.99**	**17**	⇑*i*P		**P**	**18 18 19.2**	**+0.8**
SVE				*e*S		Sn	18 21 30.3	-8.1
SVE				pmax		pmax		
comp=Z,35nm,0.9s								
SVE	**Sverdlovsk**	**17.99**	**17**	*i* P		**P**	**18 18 19.2**	**+0.8**
comp=Z,35nm,0.9s								
OBN	**Obninsk**	**18.08**	**332**	P		**P**	**18 18 20.1**	**+0.7**
comp=Z,4.6nm,0.3s,baz=324,slow=22,SNR=2.9								
OBN	**Obninsk**	**18.08**	**332**	*e*P		**P**	**18 18 20.0**	**+0.7**
OBN				*i* S		**Sn**	**18 21 35.6**	**-4.9**
OBN				pmax		pmax		
comp=Z,17nm,0.6s								
MOS	**Moscow**	**18.21**	**335**	*e*P		P	18 18 31.4	+11
MOS				pmax		pmax		
comp=Z,71nm,1.2s								
BRVK	**Borovoye**	**18.48**	**38**	⇑Pn		**Pn**	**18 18 24.7**	**+0.9**
comp=Z,28nm,0.9s								
BRVK				⇓Sn		Sn	18 21 41.1	-9.1
comp=Z,9.8nm,1.0s								
BRVK	**Borovoye**	**18.48**	**38**	⇓*e*P		**Pn**	**18 18 24.4**	**+0.6**
BRVK				pmax		pmax		
comp=Z,17nm,1.2s								
BRVK	**Borovoye**	**18.48**	**38**	*e*P		**Pn**	**18 18 24.4**	**+0.6**
comp=Z,17nm,1.2s								
BRVK	**Borovoye**	**18.48**	**38**	Pn		**Pn**	**18 18 24.7**	**+0.9**
comp=Z,28nm,0.9s								
BRVK	**Borovoye**	**18.48**	**38**	*e*P		**Pn**	**18 18 24.7**	**+0.9**
comp=Z,15nm,0.8s								
TKM2	**Tokmak 2**	**18.49**	**73**	⇓Pn		**Pn**	**18 18 24.4**	**+0.1**
comp=Z,8.7nm,0.8s								
TKM2	**Tokmak 2**	**18.49**	**73**	*e*P		**Pn**	**18 18 24.7**	**+0.4**
TKM2				pmax		pmax		
comp=Z,8.0nm,0.8s								
TKM2	**Tokmak 2**	**18.49**	**73**	Pn		**Pn**	**18 18 24.4**	**+0.1**
comp=Z,8.7nm,0.8s								
TKM2	**Tokmak 2**	**18.49**	**73**	*e*P		**Pn**	**18 18 24.7**	**+0.4**
comp=Z,8.2nm,0.8s								
TKM2	**Tokmak 2**	**18.49**	**73**	*e*P		**Pn**	**18 18 24.7**	**+0.4**
comp=Z,8.2nm,0.8s								
BVA2	**Borovoye Array**	**18.50**	**39**	⇓Pn		**Pn**	**18 18 24.7**	**+0.5**
comp=Z,12nm,0.5s								
BVA2	**Borovoye Array**	**18.50**	**39**	Pn		**Pn**	**18 18 24.7**	**+0.5**
comp=Z,12nm,0.5s								
BVA1	**Borovoye Array**	**18.50**	**39**	⇓Sn		Sn	18 21 40.7	-10
comp=Z,4.6nm,0.6s								
BVAR	**Borovoye Array**	**18.50**	**39**	P		**Pn**	**18 18 25.3**	**+1.0**
comp=Z,4.9nm,0.3s,baz=232,slow=11,SNR=94								
BVAR				S		Sn	18 21 41.4	-10
comp=Z,0.4nm,0.3s,baz=226,slow=26,SNR=4.6								
AKASG	**Malin Array Be**	**18.79**	**312**	P		**Pn**	**18 18 27.5**	**-0.2**
comp=Z,5.8nm,0.3s,baz=109,slow=9.9,SNR=20								
AKASG				S		**Sn**	**18 21 54.9**	**-2.9**
comp=Z,0.4nm,0.3s,baz=110,slow=22,SNR=5.3								
KIEV	**Kiev**	**18.80**	**312**	*e*P		**P**	**18 18 26.0**	**-1.3**
KIEV				pmax		pmax		
comp=Z,56nm,0.8s								
KIEV	**Kiev**	**18.80**	**312**	*e*P		**P**	**18 18 26.0**	**-1.3**
comp=Z,56nm,0.8s								
KIEV	**Kiev**	**18.80**	**312**	*e*P		**P**	**18 18 26.0**	**-1.3**
comp=Z,56nm,0.8s								
VRI	**Vrincioaia**	**18.88**	**296**	⇑*i*P		**Pn**	**18 18 30.3**	**+1.4**
VRI	**Vrincioaia**	**18.88**	**296**	⇑*i*P		**Pn**	**18 18 30.3**	**+1.4**
MLR	**Muntele Rosu**	**19.37**	**295**	⇓*i*P		**Pn**	**18 18 34.4**	**-0.5**
MLR	**Muntele Rosu**	**19.37**	**295**	P		**Pn**	**18 18 33.3**	**-1.6**
comp=Z,0.1nm,0.3s,baz=126,slow=8.7,SNR=2.7								
KDZ	**Kurdzhali**	**19.61**	**283**	⇑*i*P		**Pn**	**18 18 39.0**	**+1.3**
KDZ	**Kurdzhali**	**19.61**	**283**	⇑*i*P		**Pn**	**18 18 39.0**	**+1.3**
DOPR	**Dopca**	**19.82**	**296**	⇓*i*P		**Pn**	**18 18 40.3**	**+0.1**
DOPR	**Dopca**	**19.82**	**296**	⇓*i*P		**Pn**	**18 18 40.3**	**+0.1**
VOIR		**19.99**	**295**	⇑*i*P		Pn	18 18 42.6	+0.4
VOIR		**19.99**	**295**	⇑*i*P		Pn	18 18 42.6	+0.4
SOKR	**Solikamsk**	**20.00**	**8**	*e*P		Pn	18 18 42.1	+0.1
SOKR				pmax		pmax		
comp=Z,10.0nm,0.9s								
BURAR	**Bucovina Array**	**20.24**	**301**	⇓*i*P		Pn	18 18 44.2	-1.0
BURAR	**Bucovina Array**	**20.24**	**301**	⇓*i*P		Pn	18 18 44.2	-1.0
APE	**Apeiranthos**	**20.31**	**270**	⇑*i*P		Pn	18 18 44.2	-1.8
APE	**Apeiranthos**	**20.31**	**270**	⇑*i*P		Pn	18 18 44.2	-1.8
MMB	**Musomiste**	**20.88**	**283**	⇑*i*P		Pn	18 18 51.6	-1.1
MMB	**Musomiste**	**20.88**	**283**	⇑*i*P		Pn	18 18 51.6	-1.1
VTS	**Vitosha**	**21.21**	**286**	⇑*i*P		**P**	**18 18 54.0**	**+0.2**
VTS	**Vitosha**	**21.21**	**286**	⇑*i*P		**P**	**18 18 54.0**	**+0.2**
IDI	**Anoyia**	**21.36**	**266**	P		**P**	**18 18 56.1**	**+0.8**
comp=Z,12nm,0.5s,baz=99,slow=12,SNR=12								
LVV	**L'vov**	**21.57**	**306**	*e*P		**P**	**18 18 57.6**	**+0.2**
LVV				*e*			18 19 10.0	
LVV	**L'vov**	**21.57**	**306**	*e*P		**P**	**18 18 57.6**	**+0.2**
GZR	**Gura Zlata**	**21.57**	**294**	⇑*i*P		**P**	**18 18 58.7**	**+1.1**
GZR	**Gura Zlata**	**21.57**	**294**	⇑*i*P		**P**	**18 18 58.7**	**+1.1**
DRGR		**21.77**	**298**	⇑*i*P		**P**	**18 19 00.5**	**+0.7**
DRGR		**21.77**	**298**	⇑*i*P		**P**	**18 19 00.5**	**+0.7**
KURBB	**Kurchatov Arra**	**21.85**	**52**	⇓Pn		**P**	**18 19 01.4**	**+0.9**
comp=Z,8.1nm,0.8s								
KURBB				⇓Sn		**S**	**18 23 01.3**	**-0.5**
comp=Z,4.9nm,1.1s								
KURBB	**Kurchatov Arra**	**21.85**	**52**	P		**P**	**18 19 01.8**	**+1.3**
comp=Z,4.4nm,0.7s,baz=254,slow=11,SNR=19								
KURBB				S		**S**	**18 23 04.9**	**+3.1**
comp=Z,0.2nm,0.

TMCR					pmax	pmax				
	comp=Z,47nm,1.1s									
JOF	**Joensuu**	**25.94**	**339**	*ep*		**P**	**18**	**19**	**41.1**	**+1.1**
	comp=Z,14nm,0.3s									
JOF	**Joensuu**	**25.94**	**339**	*eP*		**P**	**18**	**19**	**41.1**	**+1.1**
JOF					pmax	pmax				
	comp=Z,14nm,0.3s									
FINES	**FINESS Array B**	**26.48**	**333**	P		P	18	19	45.8	+0.8
	comp=Z,8.5nm,0.5s,baz=140,slow=11,SNR=24									
FINES	**FINESS Array B**	**26.48**	**333**	*i* P		**P**	18	19	48.0	+3.0
FINES					pmax	pmax				
	comp=Z,9.0nm,0.5s									
ZALV	**Zalesovo Beam**	**26.57**	**47**	P		**P**	**18**	**19**	**46.5**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=264,slow=11,SNR=22									
ZALV	**Zalesovo Beam**	**26.57**	**47**	*i* P		**P**	18	19	47.2	+1.3
ZALV					pmax	pmax				
	comp=Z,5.0nm,0.6s									
KAF	**Kangasniemi**	**26.87**	**334**	*ep*		**P**	18	19	49.3	+0.9
	comp=Z,1.5nm,0.3s									
KAF	**Kangasniemi**	**26.87**	**334**	*eP*		**P**	18	19	49.3	+0.9
KAF					pmax	pmax				
	comp=Z,2.0nm,0.3s									
KAF	**Kangasniemi**	**26.87**	**334**	*eP*		**P**	18	19	49.3	+0.9
	comp=Z,1.5nm,0.3s									
GERES	**GERESS Array B**	**28.03**	**301**	P		P	18	19	59.9	+0.7
	comp=Z,0.3nm,0.4s,baz=93,slow=8.8,SNR=3.6									
DAVOX	**Davos/Dischmat**	**30.57**	**297**	P		**P**	18	20	22.6	+0.8
	comp=Z,1.2nm,0.4s,baz=90,slow=8.1,SNR=3.4									
DAVOX	**Davos/Dischmat**	**30.57**	**297**	P		**P**	18	20	22.6	+0.8
DAVOX					pmax	pmax				
	comp=Z,1.0nm,0.4s									
HFS	**Hagfors**	**30.84**	**323**	P		**P**	18	20	24.6	+0.8
	comp=Z,4.2nm,0.5s,baz=120,slow=11,SNR=31									
NB2	**NORSAR Subarra**	**32.33**	**324**	P		**P**	18	20	36.9	0.0
	comp=Z,3.1nm,0.7s,baz=115,slow=8.6									
NB2	**NORSAR Subarra**	**32.33**	**324**	P		**P**	18	20	36.9	0.0
	comp=Z,3.1nm,0.7s,SNR=5.3									
NOA	**NORSAR Array B**	**32.33**	**324**	P		**P**	18	20	37.4	+0.5
	comp=Z,2.9nm,0.7s,baz=117,slow=8.4,SNR=17									
KEV	**Kevo**	**32.50**	**345**	*ep*		**P**	18	20	39.8	+1.5
	comp=Z,3.3nm,0.4s									
KEV	**Kevo**	**32.50**	**345**	*eP*		**P**	18	20	39.8	+1.5
KEV					pmax	pmax				
	comp=Z,3.0nm,0.4s									
KEV	**Kevo**	**32.50**	**345**	*eP*		**P**	18	20	39.8	+1.5
	comp=Z,3.0nm,0.4s									
ARCES	**ARCESS Array B**	**32.64**	**344**	P		**P**	18	20	40.8	+1.3
	comp=Z,2.0nm,0.5s,baz=141,slow=9.9,SNR=36									
ARCES	**ARCESS Array B**	**32.64**	**344**	P		**P**	18	20	40.8	+1.3
ARCES					pmax	pmax				
	comp=Z,2.0nm,0.5s									
LPG	**La Plagne**	**32.84**	**295**	*eP*		**P**	18	20	42.2	+0.3
	comp=Z,1.4nm,0.4s									
LPG	**La Plagne**	**32.84**	**295**	*eP*		**P**	18	20	42.2	+0.3
LPG					pmax	pmax				
	comp=Z,1.0nm,0.4s									
LPG	**La Plagne**	**32.84**	**295**	*eP*		**P**	18	20	42.2	+0.3
	comp=Z,0.7nm,0.4s									
LPG	**La Plagne**	**32.84**	**295**	*eP*		**P**	18	20	42.2	+0.3
	comp=Z,1.4nm,0.4s									
LPL	**La Plagne**	**32.85**	**295**	*eP*		**P**	18	20	42.1	+0.2
	comp=Z,1.8nm,0.4s									
LPL	**La Plagne**	**32.85**	**295**	*eP*		**P**	18	20	42.1	+0.2
LPL					pmax	pmax				
	comp=Z,2.0nm,0.4s									
LPL	**La Plagne**	**32.85**	**295**	*eP*		**P**	18	20	42.1	+0.2
	comp=Z,0.9nm,0.4s									
LPL	**La Plagne**	**32.85**	**295**	*eP*		**P**	18	20	42.1	+0.2
	comp=Z,1.8nm,0.4s									
HAU	**Haudompre**	**32.91**	**299**	*eP*		**P**	18	20	42.4	+0.2
HAU	**Haudompre**	**32.91**	**299**	*eP*		**P**	18	20	42.4	+0.2
HAU	**Haudompre**	**32.91**	**299**	*eP*		**P**	18	20	42.4	+0.2
HAU	**Haudompre**	**32.91**	**299**	*eP*		**P**	18	20	42.4	+0.2
MBDF	**Montbardon**	**32.91**	**293**	*eP*		**P**	18	20	42.7	+0.3
	comp=Z,7.5nm,0.6s									
MBDF	**Montbardon**	**32.91**	**293**	*eP*		**P**	18	20	42.7	+0.3
MBDF					pmax	pmax				
	comp=Z,8.0nm,0.6s									
MBDF	**Montbardon**	**32.91**	**293**	*eP*		**P**	18	20	42.7	+0.3
	comp=Z,3.8nm,0.6s									
MBDF	**Montbardon**	**32.91**	**293**	*eP*		**P**	18	20	42.7	+0.3
	comp=Z,7.5nm,0.6s									
FRF	**La Foret Royal**	**33.17**	**291**	*eP*		**P**	18	20	44.4	-0.1
FRF	**La Foret Royal**	**33.17**	**291**	*eP*		**P**	18	20	44.4	-0.1
FRF	**La Foret Royal**	**33.17**	**291**	*eP*		**P**	18	20	44.4	-0.1
FRF	**La Foret Royal**	**33.17**	**291**	*eP*		**P**	18	20	44.4	-0.1
CABF	**La Chapelle**	**33.19**	**297**	*eP*		**P**	18	20	44.5	-0.2
CABF	**La Chapelle**	**33.19**	**297**	*eP*		**P**	18	20	44.5	-0.2
CABF	**La Chapelle**	**33.19**	**297**	*eP*		**P**	18	20	44.5	-0.2
CABF	**La Chapelle**	**33.19**	**297**	*eP*		**P**	18	20	44.5	-0.2
VIVF	**Saint-Julien-l**	**34.38**	**294**	*eP*		**P**	18	20	55.0	0.0
VIVF	**Saint-Julien-l**	**34.38**	**294**	*eP*		**P**	18	20	55.0	0.0
VIVF	**Saint-Julien-l**	**34.38**	**294**	*eP*		**P**	18	20	55.0	0.0
VIVF	**Saint-Julien-l**	**34.38**	**294**	*eP*		**P**	18	20	55.0	0.0
LOR	**Lormes**	**34.65**	**298**	*eP*		**P**	18	20	57.0	-0.3
	comp=Z,2.3nm,0.4s									
LOR	**Lormes**	**34.65**	**298**	*eP*		**P**	18	20	57.0	-0.3
LOR					pmax	pmax				
	comp=Z,2.0nm,0.4s									
LOR	**Lormes**	**34.65**	**298**	*eP*		**P**	18	20	57.0	-0.3
	comp=Z,1.1nm,0.4s									
LOR	**Lormes**	**34.65**	**298**	*eP*		**P**	18	20	57.0	-0.3
	comp=Z,2.3nm,0.4s									
SMF	**Signal de Mont**	**34.72**	**297**	*eP*		**P**	18	20	57.8	-0.2
SMF	**Signal de Mont**	**34.72**	**297**	*eP*		**P**	18	20	57.8	-0.2
SMF	**Signal de Mont**	**34.72**	**297**	*eP*		**P**	18	20	57.8	-0.2
SMF	**Signal de Mont**	**34.72**	**297**	*eP*		**P**	18	20	57.8	-0.2
AVF	**Avril sur Loir**	**35.04**	**297**	*eP*		**P**	18	21	00.9	+0.2
	comp=Z,2.9nm,0.6s									
AVF	**Avril sur Loir**	**35.04**	**297**	*eP*		**P**	18	21	00.9	+0.2
AVF					pmax	pmax				
	comp=Z,3.0nm,0.6s									
AVF	**Avril sur Loir**	**35.04**	**297**	*eP*		**P**	18	21	00.9	+0.2
	comp=Z,1.5nm,0.6s									
AVF	**Avril sur Loir**	**35.04**	**297**	*eP*		**P**	18	21	00.9	+0.2
	comp=Z,2.9nm,0.6s									
LFF	**La Frestale**	**37.12**	**295**	*eP*		**P**	18	21	18.8	+0.3
	comp=Z,5.1nm,0.4s									
LFF	**La Frestale**	**37.12**	**295**	*eP*		**P**	18	21	18.8	+0.3
LFF					pmax	pmax				
	comp=Z,5.0nm,0.4s									
LFF	**La Frestale**	**37.12**	**295**	*eP*		**P**	18	21	18.8	+0.3
	comp=Z,2.5nm,0.4s									
LFF	**La Frestale**	**37.12**	**295**	*eP*		**P**	18	21	18.8	+0.3
	comp=Z,5.1nm,0.4s									
LDF	**La Druitiere**	**37.17**	**301**	*eP*		**P**	18	21	19.0	+0.1
	comp=Z,2.9nm,0.4s									
LDF	**La Druitiere**	**37.17**	**301**	*eP*		**P**	18	21	19.0	+0.1
LDF					pmax	pmax				
	comp=Z,3.0nm,0.4s									
LDF	**La Druitiere**	**37.17**	**301**	*eP*		**P**	18	21	19.0	+0.1
	comp=Z,1.5nm,0.4s									
LDF	**La Druitiere**	**37.17**	**301**	*eP*		**P**	18	21	19.0	+0.1
	comp=Z,2.9nm,0.4s									
FLN	**La Foliniere**	**37.39**	**301**	*eP*		**P**	18	21	20.8	0.0
FLN	**La Foliniere**	**37.39**	**301**	*eP*		**P**	18	21	20.8	0.0
FLN	**La Foliniere**	**37.39**	**301**	*eP*		**P**	18	21	20.8	0.0
FLN	**La Foliniere**	**37.39**	**301**	*eP*		**P**	18	21	20.8	0.0
EKA	**Eskdalemuir Ar**	**38.70**	**312**	P		P	18	21	32.7	+0.9
	comp=Z,0.5nm,0.3s,baz=99,slow=9.2,SNR=7.9									
SGMF	**Saint Gilles**	**38.83**	**301**	*eP*		**P**	18	21	32.4	-0.4
SGMF	**Saint Gilles**	**38.83**	**301**	*eP*		**P**	18	21	32.4	-0.4
SGMF	**Saint Gilles**	**38.83**	**301**	*eP*		**P**	18	21	32.4	-0.4
SGMF	**Saint Gilles**	**38.83**	**301**	*eP*		**P**	18	21	32.4	-0.4
SJPF	**Ste Jean**	**38.89**	**292**	*eP*		**P**	18	21	33.0	-0.5
SJPF	**Ste Jean**	**38.89**	**292**	*eP*		**P**	18	21	33.0	-0.5
SJPF	**Ste Jean**	**38.89**	**292**	*eP*		**P**	18	21	33.0	-0.5
SJPF	**Ste Jean**	**38.89**	**292**	*eP*		**P**	18	21	33.0	-0.5
QUIF	**Quistinic**	**39.28**	**300**	*eP*		**P**	18	21	36.6	0.0
QUIF	**Quistinic**	**39.28**	**300**	*eP*		**P**	18	21	36.6	0.0
QUIF	**Quistinic**	**39.28**	**300**	*eP*		**P**	18	21	36.6	0.0
QUIF	**Quistinic**	**39.28**	**300**	*eP*		**P**	18	21	36.6	0.0
ROSF	**Rostrenen**	**39.29**	**301**	*eP*		**P**	18	21	36.2	-0.5
	comp=Z,15nm,0.9s									
ROSF	**Rostrenen**	**39.29**	**301**	*eP*		**P**	18	21	36.2	-0.5
ROSF					pmax	pmax				
	comp=Z,15nm,0.9s									
ROSF	**Rostrenen**	**39.29**	**301**	*eP*		**P**	18	21	36.2	-0.5
	comp=Z,7.6nm,0.9s									
ROSF	**Rostrenen**	**39.29**	**301**	*eP*		**P**	18	21	36.2	-0.5
	comp=Z,15nm,0.9s									
SONM	**Songino Array**	**39.78**	**60**	P		P	18	21	41.9	+0.9
	comp=Z,0.8nm,0.7s,baz=273,slow=9.1,SNR=11									
SONM					ScP	**ScP**	18	27	31.9	-4.0
	comp=Z,0.2nm,0.8s,baz=290,slow=5.3,SNR=3.9									

ULN	**Ulaanbaatar**	**40.21**	**60**	*i* P		**P**	**18**	**21**	**46.4**	**+1.8**
ULN					pmax	pmax				
	comp=Z,4.0nm,0.8s									
ULN	**Ulaanbaatar**	**40.21**	**60**	*eP*		**P**	18	21	46.1	+1.5
	comp=Z,3.8nm,0.8s									
ULN	**Ulaanbaatar**	**40.21**	**60**	*eP*		**P**	18	21	46.1	+1.5
	comp=Z,3.8nm,0.8s									
SPITS	**Spitsbergen Ar**	**40.92**	**350**	P		P	18	21	51.6	+1.7
	comp=Z,1.5nm,0.3s,baz=137,slow=12,SNR=69									
ESDC	**Sonseca Array**	**41.83**	**288**	P		P	18	21	57.9	-0.1
	comp=Z,1.1nm,0.6s,baz=66,slow=7.9,SNR=8.9									
TAM	**Tamanrasset**	**42.13**	**260**	*eP*		**P**	18	22	01.1	+0.5
TAM					pmax	pmax				
	comp=Z,2.0nm,0.6s									
TAM	**Tamanrasset**	**42.13**	**260**	*eP*		**P**	18	22	01.1	+0.5
	comp=Z,1.9nm,0.6s									
TAM	**Tamanrasset**	**42.13**	**260**	*eP*		**P**	18	22	01.1	+0.5
	comp=Z,1.9nm,0.6s									
BOD	**Bodaibo**	**43.24**	**44**	*eP*		**P**	18	22	09.6	+0.5
BOD					*PP	pP	18	22	23.0	+11
BOD					pmax	pmax				
	comp=Z,5.0nm,0.8s									
BOD	**Bodaibo**	**43.24**	**44**	*eP*		**P**	18	22	09.6	+0.5
	comp=Z,5.0nm,0.8s									
CMAR	**Chiang Mai Arr**	**46.18**	**103**	P		P	18	22	33.6	+0.7
	comp=Z,0.4nm,0.5s,baz=303,slow=8.0,SNR=4.5									
TIXI	**Tiksi**	**48.81**	**24**	*eP*		**P**	18	22	54.6	+1.9
TIXI					pmax	pmax				
	comp=Z,3.0nm,1.0s									
YAK	**Yakutsk**	**50.47**	**37**	*eP*		**P**	18	23	05.5	0.0
YAK					pmax	pmax				
	comp=Z,2.0nm,0.6s									
TORD	**Torodi Ar. Bea**	**50.92**	**253**	P		**P**	18	23	08.5	-1.0
	comp=Z,0.8nm,0.5s,baz=43,slow=6.3,SNR=14									
USRK	**Ussuriysk Ar.**	**57.78**	**57**	P		**P**	18	23	59.2	+0.1
	comp=Z,3.0nm,0.7s,baz=276,slow=6.0,SNR=14									
KSAR	**Wonju Array Be**	**58.10**	**66**	P		**P**	18	24	02.1	+0.7
KSAR	**Wonju Array Be**	**58.10**	**66**	P		**P**	18	24	02.1	+0.7
KSAR	**Wonju Array Be**	**58.10**	**66**	P		**P**	18	24	02.1	+0.7
KSRS	**Korea Array**	**58.12**	**66**	P		**P**	18	24	02.1	+0.5
	comp=Z,1.7nm,0.7s,baz=292,slow=6.9,SNR=6.7									
KSRS	**Korea Array**	**58.12**	**66**	P		**P**	18	24	02.1	+0.5
KSRS					pmax	pmax				
	comp=Z,2.0nm,0.7s									
SEY	**Seymchan**	**59.96**	**31**	*eP*		**P**	18	24	15.6	+1.6
SEY	**Seymchan**	**59.96**	**31**	*eP*		**P**	18	24	15.6	+1.6
DBIC	**Dimbokro**	**60.02**	**252**	P		**P**	18	24	14.4	-0.6
	comp=Z,3.3nm,0.4s,baz=34,slow=8.6,SNR=10									
KIC	**Kosan Boka**	**60.14**	**252**	*eP*		**P**	18	24	15.3	-0.6
	comp=Z,14nm,0.7s									
TIC	**Toumodi**	**60.15**	**252**	*eP*		**P**	18	24	15.2	-0.8
	comp=Z,6.6nm,0.2s									
LIC	**Lamto**	**60.44**	**252**	*i* P		**P**	18	24	17.4	-0.5
	comp=Z,17nm,0.6s									
LIC	**Lamto**	**60.44**	**252**	*eP*		**P**	18	24	17.3	-0.6
	comp=Z,29nm,0.6s									
LIC	**Lamto**	**60.44**	**252**	*i* P		**P**	18	24	17.4	-0.5
	comp=Z,8.4nm,0.6s									
LIC	**Lamto**	**60.44**	**252**	*i* P		**P**	18	24	17.4	-0.5
	comp=Z,17nm,0.6s									
FRB	**Frobisher Bay**	**66.25**	**335**	P		P	18	24	56.9	+1.2
	comp=Z,3.0nm,0.7s,baz=38,slow=10									
SCHQ	**Schefferville**	**71.82**	**328**	P		P	18	25	31.8	+1.3
	comp=Z,1.4nm,0.5s,baz=53,slow=5.4,SNR=4.1									
ILAR	**Eielson Array**	**74.67**	**8**	P		P	18	25	48.1	+1.0
	comp=Z,0.4nm,0.6s,baz=340,slow=6.0,SNR=4.4									
YKA	**Yellowknife Ar**	**77.29**	**353**	P		P	18	26	02.8	+0.7
	comp=Z,1.0nm,0.7s,baz=12,slow=5.8,SNR=8.1									
WRA	**Warramunga Ar**	**97.45**	**110**	P		Pdif	18	27	40.9	-1.2
	comp=Z,0.3nm,0.8s,baz=323,slow=3.8,SNR=4.7									

IGQ 21 18:17:22.0±0.2, 0.09N×77.88W, h2km±126km, Mb4.1, 11C-11D, Error ellipse: s-maj=1.6km s-min=1.2km az=7.9, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAYA	**Cayambe**	**0.11**	**261**	⇓P	Pg	18 17 25.9	+1.1
ANGU	**Angureal**	**0.13**	**252**	⇑P	Pg	18 17 25.4	+0.1
CAYR	**Refugio Cayamb**	**0.14**	**240**	⇓P	Pg	18 17 26.7	+1.1
ELAGU	**Cayambe Volc**	**0.15**	**224**	⇑P	Pg	18 17 26.9	+1.1
CHAR	**Charly**	**0.28**	**129**	⇑P	Pg	18 17 28.3	+0.5
CONE	**Cono NE Rev Vo**	**0.29**	**123**	⇓P	Pg	18 17 28.3	+0.3
LAV4	**Lava4-Reventad**	**0.31**	**125**	⇓P	Pb	18 17 29.7	-1.0
ANTI	**Antisana**	**0.60**	**207**	⇑P	Pg	18 17 34.0	-0.3
YANA	**Yana**	**0.72**	**253**	⇓P	Pg	18 17 36.2	-0.2
GGP	**Refugio Guagua**	**0.76**	**250**	⇓P	Pg	18 17 37.2	-0.1
PINO	**Pino**	**0.76**	**251**	⇓P	Pg	18 17 37.3	-0.2
TERV	**Terraza Guagua**	**0.77**	**250**	P	Pg	18 17 37.2	-0.2
JUA2	**San Juan 2**	**0.78**	**247**	⇓P	Pg	18 17 37.3	-0.3
LITE	**Lita**	**0.86**	**326**	P	Pg	18 17 37.4	-1.4
LITE	**Lita**	**0.86**	**326**	S	Sg	18 17 49.3	-0.8
COV1	**Cotopaxi Volc**	**0.88**	**212**	P	Pn	18 17 41.8	-0.4
VC1	**Cotopaxi 1**	**0.89**	**216**	⇑P	Pb	18 17 40.7	-0.2
BVC2	**Cotopaxi Volca**	**0.91**	**215**	⇑P	Pg	18 17 40.2	0.0
BTAM	**Cotopaxi Volca**	**0.92**	**214**	⇑S	Sg	18 17 53.1	+0.4
BTAM	**Cotopaxi Volca**	**0.92**	**214**	⇑P	Pg	18 17 40.2	-0.1
TAMB	**Tambo**	**0.92**	**212**	P	Pg	18 17 40.1	-0.2
NAS2	**Nasa**	**0.93**	**219**	P	Pb	18 17 41.8	+0.2
BREF	**Cotopaxi Volca**	**0.94**	**216**	⇑P	Pb	18 17 41.8	0.0
BREF	**Cotopaxi Volca**	**0.94**	**216**	⇑S	Sn	18 17 56.4	-1.1
MOV1	**Cotopaxi Vol s**	**0.97**	**215**	P	Pg	18 17 41.1	-0.3
CAMI	**Rancho Maria**	**0.98**	**219**	P	Pb	18 17 42.1	-0.2
BMOR	**Cotopaxi Volca**	**1.00**	**215**	P	Pg	18 17 41.2	-0.6
BMOR	**Cotopaxi Volca**	**1.00**	**215**	S	Sg	18 17 55.2	-0.1
PAST	**Pastocalle**	**1.08**	**224**	P	Pn	18 17 44.8	0.0
PISA	**Pisayambo**	**1.24**	**204**	S	Sg	18 18 03.3	+0.1
PISA	**Pisayambo**	**1.24**	**204**	P	Pg	18 17 46.7	+0.2
GOLV	**Golondrinas**	**1.26**	**275**	P	Pg	18 17 45.4	-0.9
GOLV	**Golondrinas**	**1.26**	**275**	S	Sg	18 18 02.4	-0.2
RUNS	**Runtun**	**1.59**	**200**	P	Pn	18 17 50.4	-1.2
BRUN	**Tungurahua Vol**	**1.59**	**199**	⇓P	Pn	18 17 51.4	-0.2
BULB	**Ulba Tungurahu**	**1.60**	**199**	P	Pn	18 17 51.3	-0.5
JUI6	**Juive**	**1.61**	**201**	P	Pn	18 17 51.4	-0.5
ULBA	**Ulba**	**1.61**	**199**	P	Pn	18 17 51.4	-0.6
RETU	**Refugio**	**1.63**	**200**	P	Pn	18 17 51.2	-1.2
BPAT	**Tungurahua Vol**	**1.67**	**199**	P	Pn	18 17 52.4	-0.6
PAT1	**Patacocha**	**1.68**	**199**	P	Pb	18 17 54.0	-0.3
ARRY	**Arrayan**	**1.68**	**200**	P	Pn	18 17 53.6	+0.6
BMAS	**Trigal station**	**1.69**	**201**	⇓S	Sg	18 18 19.6	+2.4
BMAS	**Trigal station**	**1.69**	**201**	⇓P	Pb	18 17 53.9	-0.4
IGUA	**Igualata**	**1.74**	**206**	P	Pg	18 17 55.9	-0.3
MACE	**Macas**	**2.35**	**188**	⇑P	Pb	18 18 04.3	-1.0

IDC 21 18:17:53.3±2.3, 6.95S×128.73E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=128.0km s-min=34.0km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.22**	**237**	S	Sn	18 20 15.8	+1.9
	baz=9.0,SNR=3.4						
MTN	**Manton Dam**	**6.32**	**158**	P	Pn	18 19 33.7	+5.9
	baz=13,SNR=17						
KDU	**Kakadu**	**6.79**	**147**	P	Pn	18 19 40.6	+6.4
	baz=13,SNR=45						
KNRA	**Kununurra**	**8.68**	**180**	P	Pn	18 20 03.0	+2.9
	baz=15,SNR=33						
FITZ	**Fitzroy Crossi**	**11.49**	**195**	P	Pn	18 20 39.4	+0.6
	baz=17,SNR=6.2						
WRA	**Warramunga Arr**	**14.02**	**158**	Pn	Pn	18 21 12.9	-0.5
	0.1nm,0.3s,baz=336,slow=12,SNR=7.8						
WRA				Sn	Sn	18 23 36.8	-13
	0.2nm,0.3s,baz=336,slow=22,SNR=6.0						
ASAR	**Alice Springs**	**17.35**	**164**	Pn	Pn	18 21 57.5	+0.4
	0.1nm,0.3s,baz=342,slow=10,SNR=8.8						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	18 28 51.3	0.0
	0.1nm,0.4s,baz=140,slow=5.8,SNR=3.0						

MAN 21 18:36:44, 18.83N×121.18E, h3km, mb4.5, ML3.4, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.73**	**227**	⇓*i* P	Pg	18 36 57.9	-0.2
PIP				*eS*	Sb	18 37 09.9	+0.1
APYP	**Conner**	**0.97**	**176**	*eP*	Pn	18 37 04.0	-0.5
APYP				*eS*	Sg	18 37 15.2	0.0
SGCP	**Mt. Cagua**	**1.01**	**125**	*eP*	Pb	18 37 04.2	0.0
SGCP				*eS*	Sn	18 37 19.6	-0.2
ABRA	**Dolores**	**1.26**	**201**	*eP*	Pg	18 37 07.4	-0.7
ABRA				*eS*	Sn	18 37 25.6	-0.3

IDC 21 18:51:15.3±0.7, 7.33S×128.18E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.1/21, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=61.5km s-min=6.8km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**8.31**	**176**	P	Pn	18 53 24.1	+6.9
	baz=1.9,SNR=16						
FITZ	**Fitzroy Crossi**	**10.99**	**193**	P	Pn	18 54 01.1	+7.2
	baz=4.4,SNR=3.6						
WRA	**Warramunga Arr**	**13.89**	**155**	Pn	Pn	18 54 33.6	0.0
	0.1nm,0.3s,baz=323,slow=14,SNR=18						
WRA				Sn	Sn	18 56 56.7	-12
	0.4nm,0.3s,baz=338,slow=22,SNR=8.4						
ASAR	**Alice Springs**	**17.15**	**162**	Pn	Pn	18 55 16.7	+0.1
	0.1nm,0.3s,baz=338,slow=10,SNR=11						
ASAR				Sn	Sn	18 58 17.1	-11
	0.1nm,0.3s,baz=321,slow=16,SNR=2.4						
MKAR	**Makanchi Array**	**67.53**	**328**	P	P	19 02 13.5	0.0
	0.1nm,0.4s,baz=133,slow=7.2,SNR=3.1						

MAN 21 18:52:55, 16.60N×120.39E, h21km, mb4.5, ML3.4, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.28**	**140**	⇑*i* P	Pb	18 53 01.9	+0.2
BCPH				*i* S	Sb	18 53 07.0	+0.7
BOLP	**Bolinao**	**0.51**	**245**	*eP*	Pn	18 53 06.9	-0.1
BOLP				*eS*	Sn	18 53 16.3	+1.2
ABRA	**Dolores**	**1.09**	**16**	*eP*	Pn	18 53 13.2	-1.9
BALP	**Baler**	**1.42**	**127**	*eP*	Pb	18 53 20.6	-0.2
BALP				*eS*	Sb	18 53 38.5	0.0
APYP	**Conner**	**1.50**	**33**	*eP*	Pb	18 53 21.5	-0.6

IDC ***21*** *19:00:08.6±8.7, 6.64S×129.92E, h144km±90km, mb3.0/1, mb1 3.1/4, mb1mx2.8/31, mbtmp3.5/4, Error ellipse: s-maj=76.8km s-min=29.0km az=38.0*
ISCJB ***21*** *19:00

BARN	**Barnard Glacie**	**5.91**	**63**	P		**Pn**	19 01 41.3	**-0.5**
TABL	**Table Mountain**	**6.01**	**70**	P		**Pn**	19 01 43.4	**+0.3**
WRH	**Wood River Hil**	**6.02**	**19**	P		**Pn**	19 01 42.6	**-0.4**
CCB	**Clear Creek Bu**	**6.23**	**19**	P		**Pn**	19 01 45.6	**-0.3**
MLY	**Manley**	**6.25**	**7**	P		**Pn**	19 01 46.2	**0.0**
ILAR	**Eielson Array**	**6.51**	**22**	P		**Pn**	19 01 50.0	**+0.3**
	0.5nm,0.3s,baz=206,slow=14,SNR=12							
ILAR				S		**Sn**	19 02 58.7	**-3.8**
	2.0nm,0.3s,baz=204,slow=15,SNR=2.3							
ILB	**Eielson Array**	**6.51**	**22**	P		**Pn**	19 01 49.1	**-0.7**
IM3	**Indian Mountai**	**7.17**	**356**	P		**Pn**	19 01 58.6	**0.0**
DLBC	**Dease Lake**	**11.74**	**82**	P		**Pn**	19 03 02.8	**+1.6**
	0.2nm,0.3s,baz=263,slow=8.1,SNR=3.6							
DLBC				S		**Sn**	19 05 08.8	**-1.6**
	0.1nm,0.3s,baz=343,slow=20,SNR=1.9							
YKA	**Yellowknife Ar**	**18.75**	**63**	P		**Pn**	19 04 31.4	**+0.4**
	0.1nm,0.3s,baz=276,slow=9.9,SNR=2.7							
SEY	**Seymchan**	**26.37**	**302**	P		**P**	19 05 45.1	**-0.9**
	0.4nm,0.4s,baz=97,slow=8.4,SNR=6.0							
PDAR	**Pinedale Array**	**30.93**	**102**	P		**P**	19 06 29.6	**+2.6**
	0.3nm,0.5s,baz=243,slow=0.7,SNR=3.4							
ARCES	**ARCESS Array B**	**51.89**	**1**	P		**P**	19 09 16.7	**-0.9**
	1.0nm,0.7s,baz=2.9,slow=7.3,SNR=6.1							
KSRS	**Korea Array**	**53.65**	**284**	P		**P**	19 09 31.3	**+0.5**
	0.8nm,0.5s,baz=35,slow=7.3,SNR=3.3							
KSAR	**Wonju Array Be**	**53.68**	**284**	P		**P**	19 09 31.3	**+0.2**
SONM	**Songino Array**	**55.64**	**307**	P		**P**	19 09 45.5	**+0.1**
	0.2nm,0.5s,baz=59,slow=5.0,SNR=5.4							
FINES	**FINESS Array B**	**60.02**	**1**	P		**P**	19 10 14.9	**-0.7**
	1.3nm,0.9s,baz=2.9,slow=3.8,SNR=5.0							

*IDC **21** 19:04:47.6±1.2,5°.31S×151°.71E,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.7/32,mbtmp3.9/5,MS4.5/2,Ms1 4.5/2, ms1mx3.4/33,Error ellipse: s-maj=49.8km s-min=24.1km az=107.0*

ISC 21 19:04:55.4±1.2,**5°.3S**±0°.2×**151°.7E**±0°.3,**h57**km,**n17,** σ1**9**0**6**/**11**,**mb3.9/5**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.39**	**307**	P	Pn	19 06 21.3	+7.9
	baz=5.1,SNR=4.2						
PMG	**Port Moresby**	**6.04**	**228**	P	**Pn**	**19 06 23.1**	**+0.9**
	baz=5.0,SNR=8.7						
QIS	**Mount Isa**	**19.15**	**217**	P	**Pn**	**19 09 14.9**	**-0.8**
	baz=18,SNR=4.3						
WRA	**Warramunga Arr**	**22.26**	**228**	P	**P**	**19 09 46.8**	**-1.1**
	3.4nm,0.7s,baz=53,slow=10.0,SNR=35						
KNRA	**Kununurra**	**24.74**	**244**	P	**P**	**19 10 11.8**	**+0.1**
	baz=24,SNR=14						
ASAR	**Alice Springs**	**25.02**	**221**	P	**P**	**19 10 13.4**	**-0.9**
	4.4nm,0.7s,baz=57,slow=8.3,SNR=53						
FITZ	**Fitzroy Crossi**	**28.43**	**241**	P	**P**	**19 10 44.6**	**-0.4**
	baz=27,SNR=16						
LUWI	**Luwuk**	**29.16**	**277**	P	P	19 10 57.3	+5.7
	baz=28,SNR=4.4						
WRKA	**Warakurna**	**29.79**	**226**	P	**P**	**19 10 55.7**	**-1.3**
	baz=29,SNR=13						
MEEK	**Meekatharra**	**38.00**	**232**	P	P	19 12 11.4	+3.2
	baz=37,SNR=12						
MORW	**Morawa**	**41.15**	**231**	P	P	19 12 37.4	+3.0
	baz=40,SNR=3.4						
PSI	**Prapat**	**53.31**	**277**	LR	LR	19 41 50.6	
	comp=Z,329nm,19.4s,slow=42						
SONM	**Songino Array**	**66.17**	**328**	P	**P**	**19 15 38.2**	**+1.0**
	0.6nm,0.5s,baz=146,slow=5.8,SNR=11						
VNDA	**Vanda**	**72.35**	**178**	P	**P**	**19 16 16.0**	**+1.2**
	0.5nm,0.4s,baz=33,slow=9.6,SNR=5.4						
ILAR	**Eielson Array**	**83.06**	**22**	P	**P**	**19 17 13.7**	**-0.9**
	0.3nm,0.6s,baz=245,slow=6.2,SNR=4.2						
NEW	**Newport**	**94.73**	**42**	LR	LR	19 58 00.2	
	comp=Z,323nm,18.2s,baz=58,slow=34						
TORD	**Torodi Ar. Bea**	**149.39**	**287**	PKPbc	**PKPbc**	**19 24 38.7**	**-0.5**
	1.5nm,0.5s,baz=84,slow=2.2,SNR=30						

*IDC **21** 19:27:35.2±1.2,1°.64N×127°.07E,h0km,mb3.4/5, mb1 3.5/5,mb1mx3.4/30,mbtmp3.4/5,Error ellipse: s-maj=133.8km s-min=18.9km az=69.0*

*ISCJB **21** 19:27:46.2±0.7,1°.61N±0°.05×126°.94E±0°.07,h103km, mb3.4/5,Error ellipse: s-maj=11.4km s-min=5.8km az=150.2*

*DJA **21** 19:27:47.8±0.5,2°.N±3°×12°.7E±°,h97km±9km,M3.9/6, mb4.1/1,mB4.7/1,MLv3.7/6,Mw(mB)3.9/1*

ISC 21 19:27:47.3±0.9,**1°.50N**±0°.06×**126°.81E**±0°.09,**h103**km,**n11,** σ2**9**01/**16**,**mb3.3/5**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.91**	**142**	P	**Pn**	**19 28 08.3**	**+1.3**
TNTI				S	**Sn**	**19 28 23.7**	**+1.9**
LBMI	**Labuha**	**2.23**	**162**	P	**Pn**	**19 28 24.3**	**+1.3**
LBMI				S	**Sn**	**19 28 52.0**	**+1.7**
SGSI	**Sangihe**	**2.52**	**329**	P	**Pn**	**19 28 26.4**	**-0.4**
SGSI				S	**Sn**	**19 28 56.7**	**-0.5**
KMSI	**Cibinong**	**2.98**	**252**	P	Pn	19 28 35.6	+2.8
KMSI				S	**Sn**	**19 29 11.9**	**+4.0**
SANI	**Sanana**	**3.62**	**193**	P	**Pn**	**19 28 41.4**	**0.0**
SANI				S	**Sn**	**19 29 20.0**	**-3.3**
NLAI	**Namlea**	**4.71**	**177**	P	**Pn**	**19 28 57.2**	**+1.0**
NLAI				S	**Sn**	**19 29 47.1**	**-2.7**
WRA	**Warramunga Arr**	**22.55**	**161**	P	**P**	**19 32 37.0**	**-2.0**
	0.5nm,0.4s,baz=341,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.95**	**165**	P	**P**	**19 33 11.7**	**+1.4**
	0.3nm,0.3s,baz=343,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**36.03**	**158**	P	**P**	**19 34 37.5**	**-1.2**
	1.0nm,0.8s,baz=323,slow=15,SNR=3.0						
SONM	**Songino Array**	**49.43**	**342**	P	**P**	**19 36 27.2**	**+0.3**
	0.2nm,0.6s,baz=147,slow=8.2,SNR=2.2						
MKAR	**Makanchi Array**	**59.43**	**326**	P	**P**	**19 37 39.4**	**+0.1**
	0.3nm,0.4s,baz=116,slow=8.4,SNR=12						

*LDG **21** 19:29:25.4±0.4,10°.35N×62°.54W,h10km,Mb4.8/20, Ms3.7/1,Error ellipse: s-maj=27.6km s-min=11.5km az=97.0*

*MOS **21** 19:29:26.5±1.1,10°.44N×62°.42W,h10km,mb5.1/36,Error ellipse: s-maj=6.5km s-min=6.2km az=97.1*

*IDC **21** 19:29:26.7±0.3,10°.44N×62°.34W,h0km,mb4.5/36, mb1 4.6/37,mb1mx4.6/44,mbtmp4.5/37,ML3.5/1,MS4.2/6, Ms1 4.2/6,ms1mx3.6/49,Error ellipse: s-maj=11.5km s-min=9.5km az=97.0*

*NEIC **21** 19:29:28.9,10°.34N×62°.26W,h7km,mb5.0/84, MD4.6(TRN),MW4.6(CAR),After TRN.*

NEIC Felt at Carupano, Cumana, Maturin and Puerto La Cruz. Also felt at Arima and Port-of-Spain, Trinidad.

*TRN **21** 19:29:28.6,10°.34N×62°.27W,h7km,MD4.6*

TRN Felt Trinidada MMI III.

*ISCJB **21** 19:29:29.1±0.4,10°.35N±0°.02×62°.34W±0°.02,h28km±2km, mb4.8/136,MS4.3/5,Error ellipse: s-maj=3.1km s-min=2.2km az=144.7*

*FUNV **21** 19:29:29.1,10°.30N×62°.16W,h5km,MW4.6*

ISC 21 19:29:29.6±0.7,**10°.35N**±0°.02×**62°.26W**±0°.02,**h20**km±2km, **n650,** σ1**9**03/674,**mb4.9**/136,**MS4.2**/5,**159C-125D**,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**7**	⇓*eP*	**Pg**	**19 29 35.9**	**-0.5**
GUIV				*eS*	**Sg**	**19 29 40.5**	**-0.4**
ALNG	**Atlantic LNG**	**0.59**	**106**	*eP*	**Pb**	**19 29 39.9**	**-1.3**
ALNG				*eS*	**Sg**	**19 29 49.3**	**-0.1**
ALNG	**Atlantic LNG**	**0.59**	**106**	*eP*	**Pb**	**19 29 39.6**	**-1.6**
ALNG				*eS*	**Sg**	**19 29 49.3**	**-0.1**
TCE	**Chacachacare**	**0.61**	**55**	*eP*	**Pb**	**19 29 41.0**	**-0.6**
TCE				*eS*	**Sb**	**19 29 49.6**	**-0.1**
TCE	**Chacachacare**	**0.61**	**55**	*eP*	**Pb**	**19 29 41.0**	**-0.6**
TCE				*eS*	**Sb**	**19 29 49.6**	**-0.1**
GUNV	**Guanoco**	**0.69**	**255**	⇓*iP*	**Pb**	**19 29 43.0**	**-0.1**
GUNV				*eS*	**Sn**	**19 29 54.4**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.80**	**92**	⇑*iP*	**Pg**	**19 29 45.4**	**+0.1**
TPP	**Pointe-a-Pierr**	**0.80**	**92**	⇑*iP*	**Pg**	**19 29 45.4**	**+0.1**
TPP	**Pointe-a-Pierr**	**0.80**	**92**	⇑*iP*	**Pg**	**19 29 45.4**	**+0.1**
TRN	**Trinidad (W)**	**0.90**	**70**	⇑*iP*	**Pb**	**19 29 45.7**	**-0.9**
TRN	**Trinidad (W)**	**0.90**	**70**	⇑*iP*	**Pb**	**19 29 45.7**	**-0.9**
TRN	**Trinidad (W)**	**0.90**	**70**	⇑*iP*	**Pb**	**19 29 45.7**	**-0.9**
CRUV	**Carupano**	**1.01**	**289**	⇓*iP*	**Pb**	**19 29 48.0**	**-0.6**
CRUV				*eS*	**Sg**	**19 30 03.1**	**+0.4**
TBH	**Brigand Hill**	**1.18**	**83**	⇑*iP*	**Pb**	**19 29 51.8**	**+0.3**
TBH	**Brigand Hill**	**1.18**	**83**	⇑*iP*	**Pb**	**19 29 51.8**	**+0.3**
TBH	**Brigand Hill**	**1.18**	**83**	⇑*iP*	**Pb**	**19 29 51.8**	**+0.3**
TPR	**Prospect**	**1.68**	**60**	⇑*iP*	**Pb**	**19 29 59.5**	**-0.5**
TPR	**Prospect**	**1.68**	**60**	⇑*iP*	**Pb**	**19 29 59.5**	**-0.5**
TPR	**Prospect**	**1.68**	**60**	⇑*iP*	**Pb**	**19 29 59.5**	**-0.5**
ORIV	**Oritupano**	**1.70**	**222**	⇓*iP*	**Pb**	**19 29 59.9**	**-0.3**
ORIV				*eS*	**Sb**	**19 30 22.2**	**+1.0**
BOT	**Bacolet**	**1.72**	**62**	⇑*eP*	**Pb**	**19 30 00.4**	**-0.3**
BOT				*eS*	**Sb**	**19 30 21.2**	**-0.7**
BOT	**Bacolet**	**1.72**	**62**	⇑*eP*	**Pb**	**19 30 00.4**	**-0.3**
BOT				*eS*	**Sb**	**19 30 21.2**	**-0.7**
GRGR	**Grenville**	**1.87**	**18**	*eP*	**Pn**	**19 30 00.6**	**0.0**
GRGR				*eS*	**Sn**	**19 30 24.8**	**+1.1**
GRGR	**Grenville**	**1.87**	**18**	*eP*	**Pn**	**19 30 00.2**	**-0.4**
GRW	**Mount Saint Ca**	**1.90**	**18**	⇑*eP*	**Pb**	**19 30 02.5**	**-1.2**
GRW	**Mount Saint Ca**	**1.90**	**18**	⇑*eP*	**Pb**	**19 30 02.5**	**-1.2**
TOSP	**Speyside**	**1.94**	**61**	*eP*	**Pn**	**19 30 02.8**	**+1.3**
TOSP	**Speyside**	**1.94**	**61**	⇑*iP*	**Pn**	**19 30 02.9**	**+1.3**
TOSP				*eS*	**Sb**	**19 30 27.7**	**-0.5**
GRHS	**Sauteurs**	**1.96**	**18**	*eP*	**Pn**	**19 30 02.9**	**+1.0**
GRHS				*eS*	**Sb**	**19 30 27.8**	**-1.0**
GRHS	**Sauteurs**	**1.96**	**18**	*eP*	**Pn**	**19 30 02.9**	**+1.0**
GRHS				*eS*	**Sb**	**19 30 27.8**	**-1.0**
GRSS	**Sisters**	**2.04**	**18**	*eP*	**Pn**	**19 30 03.5**	**+0.5**
GRSS	**Sisters**	**2.04**	**18**	*eP*	**Pn**	**19 30 03.5**	**+0.5**
PCRV	**Puerto La Cruz**	**2.34**	**266**	⇓*iP*	**Pn**	**19 30 08.2**	**+1.1**
PCRV				*eS*	**Sb**	**19 30 38.0**	**-1.8**
PCRV	**Puerto La Cruz**	**2.34**	**266**	*Pn*	**Pn**	**19 30 08.2**	**+1.1**
	147nm,0.3s,baz=85,slow=5.0,SNR=117						
PCRV				LR	LR	19 30 58.0	
	comp=Z,821nm,19.1s,baz=91,slow=41						
GURV	**El Guri**	**2.69**	**198**	*eP*	**Pn**	**19 30 11.7**	**-0.2**
GURV				*eS*	**Sn**	**19 30 43.7**	**-0.3**
PRGV	**PARIAGUAN**	**2.83**	**236**	⇓*eP*	**Pn**	**19 30 14.9**	**+1.1**
PRGV				*eS*	**Sn**	**19 30 48.6**	**+1.3**
SVB	**Belmont**	**3.07**	**19**	*eP*	**Pn**	**19 30 17.7**	**+0.6**
SVB	**Belmont**	**3.07**	**19**	⇑*iP*	**Pn**	**19 30 17.8**	**+0.6**
SVB				*eS*	**Sn**	**19 30 55.0**	**+1.6**
SVB	**Belmont**	**3.07**	**19**	*eP*	**Pn**	**19 30 17.7**	**+0.6**
SVB				*eS*	**Sn**	**19 30 55.0**	**+1.6**
CUPV	**Cœpira**	**3.48**	**266**	⇓*iP*	**Pn**	**19 30 24.6**	**+1.7**
CUPV				*eS*	**Sn**	**19 31 05.3**	**+1.7**
MCLT	**Moule a Chique**	**3.58**	**21**	*eP*	**Pn**	**19 30 25.0**	**+0.9**
MCLT	**Moule a Chique**	**3.58**	**21**	⇑*iP*	**Pn**	**19 30 25.1**	**+0.9**
MCLT				*eS*	**Sn**	**19 31 05.5**	**-0.5**
MCLT				*eS*	**Sn**	**19 31 06.7**	**+0.7**
MCLT	**Moule a Chique**	**3.58**	**21**	*eP*	**Pn**	**19 30 25.0**	**+0.9**
MCLT				*eS*	**Sn**	**19 31 06.7**	**+0.7**
BBGH	**Gun Hill**	**3.84**	**43**	*eP*	**Pn**	**19 30 27.5**	**-0.2**
BBGH	**Gun Hill**	**3.84**	**43**	*eP*	**Pn**	**19 30 28.5**	**+0.8**
BIRV	**Birongo**	**3.94**	**272**	⇓*iP*	**Pn**	**19 30 31.2**	**+2.1**
BIRV				*eS*	**Sn**	**19 31 16.0**	**+1.1**
MERV	**Las Mercedes**	**4.12**	**255**	⇓*iP*	**Pn**	**19 30 32.4**	**+0.8**
ORCV	**Isla La Orchil**	**4.13**	**291**	*eP*	**Pn**	**19 30 32.1**	**+0.5**
H05S1	**Guadeloupe/Mar**	**4.29**	**19**	*Pn*	**Pn**	**19 30 35.4**	**+1.6**
	SNR=1682						
H05S1				*Sn*	**Sn**	**19 31 22.0**	**-1.3**
BIM	**Bigot**	**4.31**	**16**	⇓*eP*	**Pn**	**19 30 35.8**	**+1.7**
BIM	**Bigot**	**4.31**	**16**	*eS*	**Sn**	**19 31 24.0**	**+0.1**
ZAM	**Aeronautique**	**4.37**	**16**	*eP*	**Pn**	**19 30 36.6**	**+1.6**
LPMF	**Morne Lapointe**	**4.39**	**17**	*eP*	**Pn**	**19 30 37.0**	**+1.8**
MVM	**Montagne Vaucl**	**4.39**	**18**	*eP*	**Pn**	**19 30 37.2**	**+1.9**
FUNV	**FUNVISIS**	**4.48**	**272**	⇓*iP*	**Pn**	**19 30 37.8**	**+1.2**
FDF	**Fort de France**	**4.49**	**14**	⇑*iP*	**Pn**	**19 30 37.7**	**+1.0**
FDF	**Fort de France**	**4.49**	**14**	*eP*	**Pn**	**19 30 38.3**	**+1.6**
FDF	**Fort de France**	**4.49**	**14**	*eS*	**Sn**	**19 31 26.3**	**-2.2**
FDF	**Fort de France**	**4.49**	**14**	*eS*	**Sn**	**19 31 26.5**	**-2.0**
FDF	**Fort de France**	**4.49**	**14**	*eP*	**Pn**	**19 30 37.4**	**+0.7**
FDF	**Fort de France**	**4.49**	**14**	*eP*	**Pn**	**19 30 37.4**	**+0.7**
BVM	**Bellevue**	**4.52**	**15**	⇓*eP*	**Pn**	**19 30 36.3**	**-0.8**
LUEV	**Luepa**	**4.54**	**170**	*eP*	**Pn**	**19 30 36.1**	**-1.4**
LUEV				*eS*	**Sn**	**19 31 26.4**	**-3.5**
SVN	**Savane Anatole**	**4.59**	**13**	⇑*eP*	**Pn**	**19 30 39.8**	**+1.7**
DSHT	**Scott's Head**	**4.92**	**10**	*eP*	**Pn**	**19 30 44.9**	**+2.4**
DSHT	**Scott's Head**	**4.92**	**10**	*eS*	**Sn**	**19 31 39.6**	**+0.8**
DSHT	**Scott's Head**	**4.92**	**10**	*eP*	**Pn**	**19 30 44.9**	**+2.4**
DSHT				*eS*	**Sn**	**19 31 39.6**	**+0.8**
DPMT	**Pointe Michel**	**4.96**	**10**	*eP*	**Pn**	**19 30 45.2**	**+2.1**
DPMT	**Pointe Michel**	**4.96**	**10**	*eS*	**Sn**	**19 31 40.6**	**+0.7**
DPMT	**Pointe Michel**	**4.96**	**10**	*eP*	**Pn**	**19 30 45.2**	**+2.1**
DPMT				*eS*	**Sn**	**19 31 40.6**	**+0.7**
DBCT	**Belle View Cho**	**4.98**	**10**	*eP*	**Pn**	**19 30 45.4**	**+2.1**
DBCT	**Belle View Cho**	**4.98**	**10**	*eS*	**Sn**	**19 31 41.7**	**+1.3**
DBCT	**Belle View Cho**	**4.98**	**10**	*eP*	**Pn**	**19 30 45.4**	**+2.1**
DBCT				*eS*	**Sn**	**19 31 41.7**	**+1.3**
MDN	**Morne-Daniel**	**5.01**	**10**	*eP*	**Pn**	**19 30 46.0**	**+2.1**
MDN	**Morne-Daniel**	**5.01**	**10**	*eS*	**Sn**	**19 31 42.1**	**+0.8**
MDN	**Morne-Daniel**	**5.01**	**10**	*eP*	**Pn**	**19 30 46.0**	**+2.1**
MDN				*eS*	**Sn**	**19 31 43.6**	**+2.3**
DLPL	**La Plaine**	**5.05**	**11**	*eP*	**Pn**	**19 30 45.1**	**+0.7**
DLPL	**La Plaine**	**5.05**	**11**	⇑*iP*	**Pn**	**19 30 45.5**	**+1.1**
DLPL	**La Plaine**	**5.05**	**11**	*eS*	**Sn**	**19 31 43.3**	**+1.0**
DLPL	**La Plaine**	**5.05**	**11**	*eS*	**Sn**	**19 31 43.3**	**+1.0**
BBL	**Barber's Block**	**5.21**	**8**	⇑*iP*	**Pn**	**19 30 47.3**	**+0.8**
TBG	**Guadaloupe-3**	**5.51**	**6**	*eP*	**Pn**	**19 30 51.4**	**+0.8**
PHG	**Guadaloupe-2**	**5.67**	**6**	*eP*	**Pn**	**19 30 54.5**	**+1.6**
SCG	**Saint Claude**	**5.68**	**6**	*eP*	**Pn**	**19 30 54.6**	**+1.6**
DOG	**Dongo Capester**	**5.69**	**6**	*eP*	**Pn**	**19 30 54.4**	**+1.2**
TAG	**Tarade**	**5.69**	**6**	*eP*	**Pn**	**19 30 54.4**	**+1.1**
ECG	**Echelle**	**5.69**	**6**	*eP*	**Pn**	**19 30 54.7**	**+1.4**
LKG	**Breislack**	**5.70**	**6**	*eP*	**Pn**	**19 30 54.6**	**+1.2**
CRG	**Carmichael**	**5.71**	**6**	*eP*	**Pn**	**19 30 55.0**	**+1.5**
MLG	**Mont-d'or**	**5.71**	**5**	*eP*	**Pn**	**19 30 54.8**	**+1.3**
MLG	**Mont-d'or**	**5.71**	**5**	*eS*	**Sn**	**19 31 58.6**	**+0.2**
FNG	**Fond-Bernard**	**5.71**	**6**	*eP*	**Pn**	**19 30 54.3**	**+0.9**
SSG	**Sans Toucher**	**5.74**	**6**	*eP*	**Pn**	**19 30 55.2**	**+1.3**
LZG	**Guadaloupe-1**	**5.78**	**5**	*eP*	**Pn**	**19 30 55.6**	**+1.3**
BAUV	**El Baul**	**5.87**	**257**	*eP*	**Pn**	**19 30 55.5**	**-0.1**
BAUV				*eS*	**Sn**	**19 32 00.3**	**-2.1**
DEG	**La Desirade**	**6.05**	**11**	*eP*	**Pn**	**19 30 59.5**	**+1.4**
H05N1	**Guadeloupe/Mar**	**6.05**	**11**	*Pn*	**Pn**	**19 30 59.2**	**+1.1**
	SNR=974						
H05N1				*Sn*	**Sn**	**19 32 04.8**	**-2.0**
SEG	**Port Louis**	**6.07**	**7**	*eP*	**Pn**	**19 31 00.5**	**+2.2**
MAPV	**Macapo**	**6.12**	**266**	*eP*	**Pn**	**19 30 59.8**	**+0.7**
JACV	**Jacura**	**6.50**	**277**	⇓*iP*	**Pn**	**19 31 29.2**	**+1.0**
TEPV	**Terepaima**	**6.83**	**267**	⇓*eP*	**Pn**	**19 31 09.2**	**+0.2**
SANV	**Sanarito**	**7.22**	**264**	⇓*iP*	**Pn**	**19 31 14.3**	**+0.1**
PAYV	**Puerto Ayacuch**	**7.25**	**228**	*eP*	**Pn**	**19 31 14.2**	**-0.4**
ANWB	**Willy Bob**	**7.29**	**4**	*eP*	**Pn**	**19 31 15.6**	**+0.5**
ANWB	**Willy Bob**	**7.29**	**4**	*eP*	**Pn**	**19 31 16.0**	**+0.8**
SIQV	**Siquisique**	**7.43**	**273**	⇓*iP*	**Pn**	**19 31 16.8**	**-0.2**
CURV	**Curarigua**	**7.59**	**268**	⇓*iP*	**Pn**	**19 31 19.3**	**0.0**
MONV	**Montecano**	**7.73**	**283**	*eP*	**Pn**	**19 31 21.0**	**-0.2**
CDVI	**St. Croix**	**7.75**	**342**	*eP*	**Pn**	**19 31 19.6**	**-1.9**
ELOV	**Elorza**	**7.87**	**246**	⇓*iP*	**Pn**	**19 31 22.6**	**-0.6**
QARV	**Quebrada Arrib**	**8.13**	**270**	*eP*	**Pn**	**19 31 26.6**	**-0.2**
DABV	**Dabajuro**	**8.25**	**275**	*eP*	**Pn**	**19 31 28.7**	**+0.3**
MTP	**Monte Pirata**	**8.34**	**338**	*eP*	**Pn**	**19 31 29.2**	**-0.3**
STVI	**Saint Thomas**	**8.38**	**342**	*eP*	**Pn**	**19 31 30.3**	**+0.3**
STVI				*eSn*	Sn	19 32 57.5	-6.5
SDV	**Santo Domingo**	**8.38**	**261**	*eP*	**Pn**	**19 31 29.4**	**-0.9**
SOCV	**Socops**	**8.73**	**257**	*eP*	**Pn**	**19 31 34.8**	**-0.1**
OBIP	**Obispado Ponce**	**8.73**	**332**	*eP*	**Pn**	**19 31 35.5**	**+0.6**
CELP	**Cerrillos**	**8.75**	**332**	*eP*	**Pn**	**19 31 33.9**	**-1.3**
CRPR	**Cabo Rojo, PR**	**8.95**	**329**	*eP*	**Pn**	**19 31 36.4**	**-1.5**
LRS	**Lares**	**9.06**	**331**	*eP*	**Pn**	**19 31 40.2**	**+0.8**
LSP	**Las Mesas**	**9.08**	**330**	*P*	**Pn**	**19 31 40.9**	**+1.2**
VIGV	**El Vigia**	**9.10**	**261**	*eP*	**Pn**	**19 31 39.0**	**-1.1**
AGPR	**Aguadilla, PR**	**9.34**	**330**	*eP*	**Pn**	**19 31 44.9**	**+1.7**
VIRV	**Villa del Rosa**	**9.98**	**272**	*eP*	**Pn**	**19 31 51.7**	**-0.3**
PCDR	**Punta Cana, DR**	**10.05**	**325**	*eP*	**Pn**	**19 31 51.9**	**-1.1**
CAPV	**Capacho**	**10.23**	**257**	*eP*	**Pn**	**19 31 54.9**	**-0.8**
SMN1	**Samana, DR**	**11.10**	**323**	*eP*	**Pn**	**19 32 08.6**	**+1.2**
SMN1				*eSn*	**Sn**	**19 34 12.6**	**+1.5**
PTGA	**Pitinga**	**11.24**	**168**	*Pn*	**Pn**	**19 32 07.1**	**-2.2**
	1.8nm,0.3s,baz=1.3,slow=15,SNR=30						
PTGA				*Sn*	**Sn**	**19 34 06.6**	**-7.8**
	6.3nm,0.3s,baz=76,slow=16,SNR=8.8						
PTGA				Lg	Lg	19 35 13.0	
	12nm,0.3s,baz=270,slow=24,SNR=8.8						
SDDR	**Presa de Saban**	**12.24**	**316**	*eP*	**Pn**	**19 32 24.3**	**+1.3**
SDDR				*eSn*	**Sn**	**19 34 37.7**	**-1.4**
ROSC	**El Rosal**	**13.14**	**246**	*Pn*	**Pn**	**19 32 36.5**	**+0.8**
	5.4nm,0.3s,baz=100,slow=11,SNR=21						
ROSC				Lg	Lg	19 36 24.7	
	0.4nm,0.3s,baz=253,slow=22,SNR=2.5						
ROSC				LR	LR	19 38 47.5	
	comp=Z,3μm,19.6s,baz=33,slow=43						
GRTK	**Grand Turk**	**13.99**	**324**	*eP*	**Pn**	**19 32 47.5**	**+0.6**
GTBY	**Guantanamo Bay**	**15.63**	**309**	*eP*	**Pn**	**19 33 09.8**	**+0.9**
	39nm,0.9s						
MTDJ	**Mount Denham**	**16.74**	**300**	*eP*	**P**	**19 33 25.2**	**-0.2**
	228nm,1.4s						
BCIP	**Isla Barro Col**	**17.36**	**268**	*eP*	**Pn**	**19 33 29.4**	**-1.6**
OTAV	**Otavalo**	**18.98**	**239**	*eP*	**Pn**	**19 33 51.9**	**+0.6**
	20nm,0.7s						
SAML	**Samuel**	**19.19**	**183**	*eP*	**P**	**19 33 51.3**	**-1.1**
	19nm,0.3s						
JTS	**JuntasAbangare**	**22.32**	**272**	P	**P**	**19 34 27.2**	**+0.8**
	3.6nm,0.4s,baz=114,slow=17,SNR=3.6						
JTS	**JuntasAbangare**	**22.32**	**272**	⇓*eP*	P	19 34 32.3	+5.9
JTS				pmax	pmax		
	comp=Z,39nm,1.2s						
ATAH	**Atahualpa**	**23.66**	**223**	P	**P**	**19 34 41.5**	**+1.0**
	comp=Z,18nm,0.6s,baz=20,slow=3.0,SNR=14						
ATAH				Lg	Lg	19 41 41.0	
	comp=Z,12nm,1.0s,baz=333,slow=12,SNR=2.3						
SIV	**San Ignacio**	**26.19**	**177**	P	**P**	**19 35 04.0**	**+0.7**
	comp=Z,7.5nm,0.8s,baz=23,slow=9.3,SNR=14						
SIV				PcP Lg	Lg	19 43 05.2	
	comp=Z,9.0nm,0.9s,baz=130,slow=18,SNR=3.7						
NNA	**Nana**	**26.50**	**214**	P	**P**	**19 35 07.2**	**+1.2**
	comp=Z,14nm,0.6s,baz=28,slow=9.5,SNR=3.9						
NNA				LR	LR	19 46 15.6	
	comp=Z,612nm,18.5s,baz=30,slow=38						
TEIG	**Tepich**	**26.91**	**294**	P	**P**	**19 35 10.5**	**+0.7**
	comp=Z,12nm,0.4s,baz=53,slow=5.1,SNR=9.5						
TEIG				PcP	**PcP**	**19 38 32.1**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=153,slow=2.3,SNR=4.2						
LPAZ	**La Paz**	**27.09**	**192**	P	**P**	**19 35 14.4**	**+2.4**
	comp=Z,2.3nm,0.8s,baz=18,slow=7.9,SNR=5.9						
LPAZ				Lg	Lg	19 43 40.2	
	comp=

732A Laxson Ranch, 39.74 303 ⇑P P 19 36 59.8 -1.3
baz=40
433A Art 39.76 306 ⇑P P 19 37 00.8 -0.5
baz=40,SNR=26
632A Uvalde 39.85 304 ⇑P P 19 37 01.0 -1.1
baz=40
333A Richland Sprin 39.89 307 ⇑P P 19 37 01.8 -0.7
baz=40,SNR=27
Y34A Reagan Ranch, 40.09 311 ⇓P P 19 37 03.5 -0.5
baz=40,SNR=11
233A Rising Star 40.11 308 ⇑P P 19 37 03.8 -0.5
baz=40,SNR=8.6
532A Rocksprings 40.17 305 ⇑P P 19 37 04.0 -0.9
baz=40,SNR=21
JCT Junction City 40.22 305 eP P 19 37 04.2 -1.0
JCT pmax pmax
comp=Z,16nm,0.6s
JCT Junction City 40.22 305 ⇑P P 19 37 04.5 -0.7
baz=40,SNR=11
JCT Junction City 40.22 305 eP P 19 37 04.2 -1.0
comp=Z,16nm,0.6s
V35A Meyer Ranch, C 40.30 314 ⇑P P 19 37 05.4 -0.3
baz=40
432A Menard 40.36 306 ⇑P P 19 37 05.5 -0.9
baz=40
133A Hamilton Ranch 40.37 309 ⇑P P 19 37 05.7 -0.6
baz=40
X34A Smith Ranch, M 40.44 312 ⇓P P 19 37 06.7 -0.3
baz=40,SNR=20
631A Perdido Creek 40.47 304 ⇑P P 19 37 06.1 -1.1
baz=40
S36A Lake Cedric, C 40.48 318 ⇑P P 19 37 07.9 +0.6
baz=40
332A Millersview 40.51 307 ⇓P P 19 37 06.6 -1.0
baz=40,SNR=12
Z33A Whitaker Ranch 40.54 310 ⇓P P 19 37 07.8 0.0
baz=41
JFWS Jewell Farm 40.59 328 eP P 19 37 05.8 -2.3
JFWS pmax pmax
comp=Z,58nm,0.9s
JFWS Jewell Farm 40.59 328 eP P 19 37 05.8 -2.3
comp=Z,58nm,0.9s
232A Coleman 40.64 308 ⇓P P 19 37 07.9 -0.7
baz=41,SNR=18
W34A Bridge Creek, 40.70 313 ⇑P P 19 37 08.5 -0.6
baz=41
W34A Bridge Creek, 40.70 313 eP P 19 37 07.0 -2.1
comp=Z,49nm,0.8s
531A Rocksprings 40.70 305 ⇓P P 19 37 08.5 -0.7
baz=41
Y33A Hilltop Ranch, 40.75 311 ⇑P P 19 37 08.9 -0.7
baz=41
R36A Gordon, Harris 40.76 319 ⇓P P 19 37 10.9 +1.3
baz=41
V34A Guthrie 40.81 314 ⇓P P 19 37 11.1 +1.2
baz=41
V34A Guthrie 40.81 314 eP P 19 37 11.9 +1.9
comp=Z,14nm,0.7s
X33A Lawton 40.90 312 ⇓P P 19 37 09.7 -1.1
baz=41
ABTX Abilene, Hawle 40.93 309 ⇑P P 19 37 10.7 -0.4
baz=41,SNR=6.1
ABTX Abilene, Hawle 40.93 309 eP P 19 37 09.3 -1.7
comp=Z,31nm,0.8s
431A Sonora 40.94 305 ⇓P P 19 37 10.7 -0.5
baz=41,SNR=13
S35A Otter Creek Ra 40.94 317 ⇓P P 19 37 10.3 -0.7
baz=41
331A San Angelo 41.02 306 ⇑P P 19 37 11.3 -0.5
baz=41
Z32A Haskell 41.09 310 ⇑P P 19 37 11.9 -0.4
baz=41,SNR=6.6
U34A Anderson Ranch 41.12 315 ⇑P P 19 37 12.9 +0.3
baz=41
U34A Anderson Ranch 41.12 315 eP P 19 37 11.5 -1.0
comp=Z,30nm,0.9s
W33A Caddo, Fort Co 41.16 313 ⇑P P 19 37 13.0 +0.1
baz=41
231A Bronte 41.18 307 ⇑P P 19 37 12.0 -1.1
baz=41
WMOK Wichita Mounta 41.20 312 eP P 19 37 11.1 -2.1
WMOK pmax pmax
comp=Z,7.0nm,0.7s
WMOK Wichita Mounta 41.20 312 eP P 19 37 11.1 -2.1
comp=Z,6.6nm,0.7s
530A J-C Ranch, Com 41.34 304 ⇓P P 19 37 13.9 -0.6
baz=41,SNR=13
V33A Lossen Ranch, 41.35 314 ⇑P P 19 37 13.5 -1.0
baz=41,SNR=8.9
Y32A R-V Farms, Ver 41.36 311 ⇓P P 19 37 13.2 -1.3
baz=41
X32A Elmer 41.43 311 ⇑P P 19 37 15.2 +0.1
baz=42
430A Baggett Ranch, 41.48 305 ⇑P P 19 37 14.5 -1.1
baz=42
S34A Willow Spring 41.48 317 ⇑P P 19 37 15.9 +0.4
baz=42
131A Roby 41.52 308 ⇑P P 19 37 15.2 -0.8
baz=42
SCIA State Center 41.53 325 eP P 19 37 16.8 +1.0
comp=Z,67nm,0.9s
Z31A Sharp Cattle R 41.60 309 ⇓P P 19 37 15.9 -0.6
baz=42,SNR=21
330A Mertzon 41.66 306 ⇑P P 19 37 15.9 -1.1
baz=42
W32A Sentinel 41.71 312 ⇓P P 19 37 16.5 -0.9
baz=42,SNR=10
230A Sterling City 41.78 307 ⇓P P 19 37 17.0 -1.1
baz=42
KSU1 Kansas State U 41.91 319 ⇓P P 19 37 19.0 0.0
baz=42
KSU1 Kansas State U 41.91 319 eP P 19 37 18.0 -1.0
comp=Z,45nm,0.8s
T33A Patterson Ranc 41.94 315 ⇓P P 19 37 18.8 -0.4
baz=42
130A Snyder 41.94 308 ⇑P P 19 37 18.5 -0.9
baz=42
Y31A Rekieta Farm, 41.96 310 ⇓P P 19 37 19.0 -0.5
baz=42
S33A Kaszmaul Farm, 42.03 316 ⇓P P 19 37 19.4 -0.6
baz=42
X31A McDonald Ranch 42.03 311 ⇑P P 19 37 18.6 -1.5
baz=42,SNR=9.8
529A Stev Forest Ra 42.05 304 ⇑P P 19 37 19.5 -0.8
baz=42
CFAA Coronel Fontan 42.10 188 P P 19 37 20.7 +0.1
comp=Z,0.8nm,0.7s,baz=0.0,slow=6.4,SNR=10
U32A Winter Ranch, 42.12 314 ⇑P P 19 37 20.0 -0.8
baz=42
Z30A Sanderson Ranc 42.34 309 ⇑P P 19 37 22.1 -0.6
baz=42,SNR=11
R33A Olander Ranch, 42.39 317 ⇑P P 19 37 23.3 +0.4
baz=42
Y30A Stafford Cattl 42.40 310 ⇑P P 19 37 22.3 -0.8
baz=42
V31A Spring Creek L 42.44 313 ⇑P P 19 37 23.1 -0.4
baz=42
T32A Huddler Ranch, 42.46 315 ⇓P P 19 37 23.3 -0.2
baz=42,SNR=6.7
X30A Coker Ranch, T 42.62 310 ⇑P P 19 37 24.3 -0.6
baz=43
Q33A Connelly Farm, 42.65 318 ⇑P P 19 37 24.9 -0.1
baz=43,SNR=10
129A Stewart Farms, 42.66 307 ⇑P P 19 37 23.9 -1.4
baz=43
S32A Newby Ranch, P 42.73 316 ⇑P P 19 37 25.5 -0.1
baz=43
Z29A Hungry Hill Ra 42.77 308 ⇑P P 19 37 25.6 -0.5
baz=43,SNR=15
P33A Williams Farm, 42.80 319 ⇓P P 19 37 26.5 +0.3
baz=43
T31A Randall Ranch, 42.95 315 ⇑P P 19 37 27.0 -0.4
baz=43,SNR=14
Y29A Porterfield Fa 42.98 309 ⇑P P 19 37 27.4 -0.5
baz=43,SNR=17
TXAR Lajitas Array 43.00 302 P P 19 37 28.2 +0.1
comp=Z,2.4nm,0.6s,baz=127,slow=6.8,SNR=26
TXAR PcP PcP 19 39 17.8 -0.6
comp=Z,4.9nm,0.7s,baz=130,slow=6.3,SNR=10
TXAR ScP ScP 19 43 06.2 -2.5
comp=Z,0.9nm,0.8s,baz=114,slow=5.6,SNR=4.5
228A UT Block 9, Go 43.04 306 ⇑P P 19 37 27.3 -1.0
baz=43
V30A Spur Ranch, Mi 43.05 312 ⇑P P 19 37 28.1 -0.3
baz=43
S31A Mullinville 43.06 315 ⇓P P 19 37 27.9 -0.5
baz=43,SNR=11
X29A Tulia 43.24 310 ⇓P P 19 37 29.2 -0.8
baz=43,SNR=5.1
Z28A Tucker Farm, M 43.31 308 ⇓P P 19 37 29.8 -0.8
baz=43
U30A WK&E Inc. Balk 43.37 313 ⇑P P 19 37 31.0 +0.1
baz=43
AMTX Amarillo 43.41 311 ⇑P P 19 37 30.8 -0.5
baz=43
AMTX Amarillo 43.41 311 eP P 19 37 30.2 -1.2
comp=Z,11nm,0.6s
R31A Burdett 43.42 316 ⇓P P 19 37 31.3 -0.1
baz=44
Y28A McKinney Farm, 43.44 309 ⇓P P 19 37 31.0 -0.6
baz=44,SNR=13
W29A Amarillo 43.48 311 ⇑P P 19 37 31.2 -0.7
baz=44
P32A Huiting Farm, 43.49 318 ⇓P P 19 37 32.1 +0.3
baz=44
SPMN Marine on St. 43.52 329 ⇓P P 19 37 33.4 +1.4
baz=44
SPMN Marine on St. 43.52 329 eP P 19 37 30.9 -1.1
comp=Z,19nm,0.7s
T30A Plains 43.52 314 ⇑P P 19 37 31.7 -0.5
baz=44
O32A Brockman Farm, 43.62 319 ⇑P P 19 37 33.2 +0.3
baz=44
X28A Dimmitt 43.65 310 ⇓P P 19 37 32.5 -0.8
baz=44
Q31A Ellis 43.69 317 ⇑P P 19 37 33.8 +0.3
baz=44
V29A Stinnett 43.71 312 ⇑P P 19 37 33.3 -0.4
baz=44
S30A Montezuma 43.75 315 ⇓P P 19 37 34.0 0.0
baz=44
U29A Oasis Ranch, S 43.78 313 ⇓P P 19 37 34.1 -0.2
baz=44
MSTX Muleshoe 43.87 309 ⇑P P 19 37 34.3 -0.7
baz=44,SNR=16
MSTX Muleshoe 43.87 309 eP P 19 37 34.4 -0.7
comp=Z,41nm,0.9s
R30A Dighton 43.93 316 ⇑P P 19 37 35.3 -0.2
baz=44
P31A Stockton 43.95 318 ⇑P P 19 37 36.1 +0.6
baz=44
BGNE Belgrade 44.18 321 ⇑P P 19 37 38.2 +0.9
baz=44
BGNE Belgrade 44.18 321 eP P 19 37 38.9 +1.6
Q30A Quinter 44.24 317 ⇑P P 19 37 37.6 -0.2
baz=44
O31A Woolen Ranch, 44.24 319 ⇑P P 19 37 38.1 +0.3
baz=44
SCHQ Schefferville 44.52 356 P P 19 37 40.2 +0.4
comp=Z,14nm,0.6s,baz=180,slow=6.0,SNR=25
R29A Marienthal 44.59 315 ⇓P P 19 37 40.7 -0.1
baz=45
ECSD EROS Data Cent 44.62 324 ⇑P P 19 37 41.6 +0.8
baz=45,SNR=6.0
ECSD EROS Data Cent 44.62 324 eP P 19 37 41.3 +0.5
comp=Z,13nm,0.8s
V27A Dan Oppiter Fa 44.63 311 ⇓P P 19 37 40.4 -0.7
baz=45
T28A Walsh 44.68 313 ⇓P P 19 37 40.7 -0.9
baz=45,SNR=16
Q29A Oakley 44.71 316 ⇓P P 19 37 41.0 -0.6
baz=45
S28A Manter 44.74 314 ⇑P P 19 37 41.3 -0.6
baz=45
U27A Thompson Grove 44.90 312 ⇑P P 19 37 42.1 -1.2
baz=45,SNR=18
R28A Tribune 45.02 315 ⇓P P 19 37 43.6 -0.6
baz=45
T27A Campo 45.09 313 ⇑P P 19 37 44.1 -0.7
baz=45
MNTX Cornudas Mount 45.13 305 ⇑P P 19 37 44.3 -0.7
baz=45,SNR=15
MNTX Cornudas Mount 45.13 305 eP P 19 37 44.1 -0.9
comp=Z,6.3nm,0.8s
Q28A Sharon Springs 45.37 316 ⇓P P 19 37 47.2 +0.2
baz=45
L30A Spencer Herefo 45.45 320 ⇓P P 19 37 47.8 +0.3
baz=46
P28A Saint Francis 45.56 316 ⇑P P 19 37 48.4 -0.1
baz=46
R27A Eads 45.69 314 ⇑P P 19 37 48.9 -0.6
baz=46
T26A Comanche Natio 45.77 313 ⇑P P 19 37 49.5 -0.8
baz=46
K30A Basset 45.79 321 ⇑P P 19 37 50.2 0.0
baz=46
M29A Burnside Ranch 45.80 319 ⇓P P 19 37 50.1 -0.3
baz=46
O28A Kisinger Ran 45.85 317 ⇑P P 19 37 50.3 -0.4
baz=46
S26A Kim 45.88 313 ⇑P P 19 37 50.4 -0.7
baz=46
KSCO Kaye Shedlock' 45.90 315 ⇑P P 19 37 50.4 -0.8
baz=46
N28A Pribbeno Ranch 45.97 318 ⇑P P 19 37 51.6 -0.1
baz=46
J30A Dallas 46.08 322 ⇓P P 19 37 52.6 +0.2
baz=46
R26A Arlington 46.15 314 ⇑P P 19 37 52.4 -0.8
baz=46,SNR=13
O27A Beecher Island 46.35 317 ⇓P P 19 37 54.9 +0.2
baz=46
T25A Trinidad 46.35 312 ⇓P P 19 37 54.6 -0.3
baz=46
I30A Oacoma 46.37 323 ⇑P P 19 37 54.7 0.0
baz=46,SNR=7.1
BRSD Miller 46.40 324 ⇑P P 19 37 55.3 +0.4
baz=46,SNR=12
BRSD Miller 46.40 324 eP P 19 37 54.7 -0.2
comp=Z,104nm,0.8s
OGNE Ogallala 46.42 318 ⇑P P 19 37 54.6 -0.6
baz=46
J29A Okreek 46.62 322 ⇓P P 19 37 55.6 -1.1
baz=47,SNR=8.7
K28A Ten Mile Ranch 46.90 320 ⇑P P 19 37 58.8 -0.1
baz=47
G30A Faulkton 46.91 324 ⇑P P 19 37 59.3 +0.4
baz=47
I29A Vivian Onida 46.95 323 ⇑P P 19 37 59.4 +0.2
baz=47
ANMO Albuquerque 47.06 309 P P 19 38 01.0 +0.6
comp=Z,9.0nm,0.8s,baz=123,slow=7.1,SNR=16
ANMO Albuquerque 47.06 309 eP P 19 38 00.8 +0.4
ANMO pmax pmax
comp=Z,33nm,0.7s
AGMN Agassiz Nation 47.15 330 ⇑P P 19 38 01.1 +0.4
baz=47
AGMN Agassiz Nation 47.15 330 eP P 19 37 59.7 -1.0
comp=Z,14nm,0.6s
J28A Allard Ranch, 47.19 321 ⇑P P 19 38 01.1 0.0
baz=47
H29A Onida 47.24 323 ⇓P P 19 38 01.1 -0.4
baz=47
F30A Leola 47.26 325 ⇓P P 19 38 01.8 +0.2
baz=47
121A Cookes Peak, D 47.33 305 eP P 19 38 03.4 +0.9
comp=Z,11nm,0.9s
SDCO Great Sand Dun 47.39 312 ⇓P P 19 38 01.2 -2.0
baz=47,SNR=17
LAZ Ladron 47.40 308 eP P 19 38 03.5 +0.4
comp=Z,4.8nm,0.7s
I28A Midland 47.46 322 ⇓P P 19 38 03.5 +0.3
baz=48
E30A Jud 47.60 326 ⇑P P 19 38 04.1 -0.1
baz=48,SNR=24
R23A Moffat 47.80 313 ⇓P P 19 38 05.0 -1.3
baz=48
D30A Buchanan 47.88 327 ⇓P P 19 38 06.3 -0.2
baz=48,SNR=27
G28A Parade 47.91 323 ⇓P P 19 38 06.7 0.0
baz=48
E29A Napoleon 48.04 326 ⇑P P 19 38 07.8 +0.1
baz=48
C30A Mose, Pekin 48.10 328 ⇓P P 19 38 08.1 0.0
baz=48,SNR=7.5
J26A Sides Ranch, S 48.28 320 ⇓P P 19 38 09.2 -0.4
baz=48
P23A Jefferson 48.30 314 ⇑P P 19 38 08.6 -1.5
baz=48
D29A Pettibone, Tap 48.31 326 ⇓P P 19 38 09.6 -0.2
baz=48,SNR=7.1
ISCO Idaho Springs 48.32 315 eP P 19 38 09.5 -0.8
ISCO pmax pmax
comp=Z,8.0nm,0.8s
ISCO Idaho Springs 48.32 315 ⇑P P 19 38 08.9 -1.4
baz=48,SNR=5.2
ISCO Idaho Springs 48.32 315 eP P 19 38 09.5 -0.8
comp=Z,8.4nm,0.8s
H27A Howes 48.35 322 ⇑P P 19 38 09.9 -0.3
baz=48
ULM Lac du Bonnet 48.48 332 P P 19 38 09.2 -1.8
comp=Z,9.7nm,0.5s,baz=132,slow=8.2,SNR=11
B30A Myrvik Farm, E 48.50 328 ⇑P P 19 38 11.8 +0.7
baz=49
I26A New Underwood 48.51 321 ⇓P P 19 38 11.0 -0.5
baz=49
G27A Dupree 48.67 323 ⇓P P 19 38 12.5 -0.1
baz=49,SNR=20
O23A Lake Granby, G 48.71 315 ⇑P P 19 38 12.1 -1.2
baz=49
H26A Fairpoint 48.77 322 ⇓P P 19 38 12.6 -0.8
baz=49
MDND Maddock 48.79 327 ⇑P P 19 38 13.9 +0.5
baz=49
MDND Maddock 48.79 327 eP P 19 38 13.7 +0.3
comp=Z,89nm,0.9s
A30A Hoffart Farm, 48.80 329 ⇑P P 19 38 13.8 +0.3
baz=49
L24A Wheatland 48.86 318 ⇓P P 19 38 12.4 -1.8
baz=49
D28A Regan 48.92 326 ⇑P P 19 38 14.3 -0.2
baz=49,SNR=22
F27A Lemmon 48.99 324 ⇑P P 19 38 14.7 -0.3
baz=49,SNR=16
G26A Maurine 49.02 323 ⇓P P 19 38 15.0 -0.3
baz=49,SNR=23
B29A Wagenman Farm, 49.04 328 ⇓P P 19 38 15.9 +0.6
baz=49
I25A Rochford 49.05 321 ⇑P P 19 38 14.7 -1.0
baz=49,SNR=6.1
O22A Kremmling 49.12 315 ⇓P P 19 38 15.6 -0.9
baz=49
C28A Hausauer Farms 49.13 327 ⇓P P 19 38 16.4 +0.4
baz=49
A29A Manning Farm, 49.26 328 ⇑P P 19 38 17.3 +0.3
baz=49,SNR=5.5
H25A Fruitdale 49.27 322 ⇓P P 19 38 16.8 -0.4
baz=49
N22A Wattenberg Ran 49.33 316 ⇓P P 19 38 16.8 -1.2
baz=49
MVCO Mesa Verde 49.40 311 ⇑P P 19 38 16.9 -1.7
baz=49
D27A Center 49.41 325 ⇓P P 19 38 18.7 +0.6
baz=50
E26A Carlson Angus 49.58 324 ⇑P P 19 38 19.2 -0.4
baz=50
X18A Snowflake 49.65 307 ⇑P P 19 38 18.6 -1.8
baz=50
C27A Sayler Ranch, 49.74 326 ⇑P P 19 38 20.5 -0.3
baz=50,SNR=5.4
PV01 Paradox Valley 49.78 312 eP P 19 38 21.1 -0.3
A28A Rude Farm, Bot 49.79 328 ⇓P P 19 38 20.9 -0.2
baz=50,SNR=9.6
L22A Ellis Ranch, M 49.85 317 ⇑P P 19 38 21.3 -0.6
baz=50
D26A Manning 49.88 325 ⇓P P 19 38 21.3 -0.4
baz=50
H24A Dirks Ranch, A 49.92 321 ⇓P P 19 38 20.3 -1.9
baz=50
K22A Casper 50.19 318 eP P 19 38 22.9 -1.4
comp=Z,16nm,0.9s
J22A Midwest 50.50 319 ⇓P P 19 38 26.3 -0.4
baz=50
N20A Spence Gulch, 50.59 315 ⇓P P 19 38 26.6 -0.9
baz=51
K21A Alcova 50.66 318 ⇓P P 19 38 26.7 -1.3
baz=51,SNR=16
G23A Biddle 50.66 321 ⇓P P 19 38 27.4 -0.5
baz=51
C25A Freed Ranch, W 50.72 325 ⇑P P 19 38 28.3 +0.1
baz=51
H10N3 ASCENSION HYDR 50.86 109 T T 20 33 37.3
baz=292,slow=75,SNR=4.9
H10N2 ASCENSION HYDR 50.87 109 T T 20 33 37.7
baz=292,slow=75,SNR=5.4
H10N1 ASCENSION HYDR 50.88 109 T T 20 33 39.2
baz=292,slow=75,SNR=7.3
B25A Knox Farm, Ray 50.98 326 ⇑P P 19 38 30.3 +0.2
baz=51
H10S3 ASCENSION HYDR 51.10 110 T T 20 34 02.6
baz=294
H10S1 ASCENSION HYDR 51.11 110 T T 20 34 02.3
baz=294
H10S2 ASCENSION HYDR 51.12 110 T T 20 34 06.1
baz=294
I21A Big Trails, Te 51.21 319 ⇓P P 19 38 31.4 -0.6
baz=51
G22A Birney 51.23 321 ⇑P P 19 38 31.4 -0.7
baz=51
PLCA Paso Flores 51.40 188 P P 19 38 33.4 +0.1
comp=Z,2.7nm,0.8s,baz=20,slow=5.5,SNR=5.2
J20A Shoshoni 51.52 318 ⇓P P 19 38 33.3 -1.1
baz=52,SNR=14
E22A Miles City 51.62 322 ⇓P P 19 38 34.2 -0.8
baz=52
DGMT Dagmar 51.66 325 ⇓P P 19 38 34.8 -0.4
baz=52,SNR=23
DGMT Dagmar 51.66 325 eP P 19 38 34.8 -0.4
comp=Z,122nm,0.8s
G21A Lodge Grass 51.80 321 ⇓P P 19 38 36.2 -0.2
baz=52
A24A Westby 51.80 326 ⇑P P 19 38 36.5 +0.3
baz=52,SNR=5.3
I20A Worland 51.81 319 ⇓P P 19 38 36.0 -0.5
baz=52
C23A Lambert 51.86 324 ⇓P P 19 38 37.0 +0.3
baz=52
H20A Greybull 51.97 319 ⇓P P 19 38 36.5 -1.1
baz=52
B23A Brockton 52.10 325 ⇑P P 19 38 39.0 +0.5
baz=52,SNR=6.8
J19A Crowheart 52.12 318 ⇑P P 19 38 38.5 -0.4
baz=52
BW06 Boulder Array 52.26 317 eP P 19 38 38.2 -1.7
comp=Z,9.1nm,0.7s
PDAR Pinedale Array 52.26 317 P P 19 38 38.2 -1.8
comp=Z,8.6nm,0.7s,baz=115,slow=9.8,SNR=29
PDAR PcP PcP 19 39 50.5 -0.8
comp=Z,1.9nm,0.8s,baz=119,slow=7.3,SNR=1.8
I19A Meeteetse 52.41 318 ⇑P P 19 38 40.1 -1.0
baz=52,SNR=6.1
G20A Bridger 52.43 320 ⇑P P 19 38 40.5 -0.6
baz=52
D21A La Casta Ranch 52.55 323 ⇑P P 19 38 41.9 0.0
baz=53
B22A Reddig Ranch S 52.59 324 ⇑P P 19 38 42.5 +0.3
baz=53
F20A Billings 52.65 321 ⇑P P 19 38 42.6 -0.1
baz=53
A22A Carney Farms, 52.90 325 ⇑P P 19 38 44.5 0.0
baz=53
E20A Meyer Farm, Mu 52.97 322 ⇑P P 19 38 45.0 0.0
baz=53
RLMT Red Lodge 53.05 320 eP P 19 38 43.6 -2.3
comp=Z,9.1nm,0.9s
Y12C Blythe 53.10 305 ⇓P P 19 38 44.1 -2.0
baz=53
H18A Shoshone NF, C 53.12 319 ⇑P P 19 38 45.6 -0.8
baz=53
F19A Roth Farm, Mol 53.17 321 ⇓P P 19 38 45.9 -0.7
baz=53
HWUT Hardware Ranch 53.19 315 eP P 19 38 45.0 -1.8
comp=Z,4.2nm,0.6s
D20A Manuel Ranch, 53.25 322 ⇓P P 19 38 46.7 -0.3
baz=53,SNR=6.0
ARUT Antelope Range 53.30 310 eP P 19 38 49.4 +1.7
ARUT Antelope Range 53.30 310 eP P 19 38 49.4 +1.7
comp=Z,0.6nm,0.7s
E19A Rath Farm, Rou 53.35 321 ⇓P P 19 38 47.3 -0.5
baz=53,SNR=12
C20A Veseth Ranch, 53.47 323 ⇑P P 19 38 48.7 +0.1
baz=54
A21A Bergtoll Ranch 53.47 325 ⇓P P 19 38 48.7 +0.1
baz=54,SNR=5.9
DUG Dugway, Tooele 53.59 313 eP P 19 38 47.9 -1.9
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG Dugway, Tooele 53.59 313 ⇑P P 19 38 48.4 -1.4
baz=54
DUG Dugway, Tooele 53.59 313 eP P 19 38 47.9 -1.9
comp=Z,5.9nm,0.8s
GCMT Greycliff 53.60 320 eP P 19 38 48.7 -1.0
comp=Z,8.7nm,0.9s
B20A Solberg Farm, 53.83 324 ⇑P P 19 38 51.0 -0.2

baz=54
YMR **Madison River** 53.96 318 *e*P P 19 38 52.9 +0.4
comp=Z,8.5nm,0.8s
BGU **Big Grassy Mou** 53.99 313 *e*P P 19 38 51.5 -1.2
comp=Z,8.1nm,0.9s
A20A **Cobblestone Ra** 53.99 324 ⇓P P 19 38 52.3 -0.1
baz=54
FCC **Fort Churchill** 53.99 340 *e*P P 19 38 49.8 -2.3
FCC pmax pmax
comp=Z,9.0nm,0.7s
FCC **Fort Churchill** 53.99 340 *e*P P 19 38 49.8 -2.3
comp=Z,9.3nm,0.7s
HVU **Hansel Valley** 54.10 315 *e*P P 19 38 50.8 -2.7
HVU pmax pmax
comp=Z,3.0nm,0.6s
HVU **Hansel Valley** 54.10 315 *e*P P 19 38 50.8 -2.7
comp=Z,2.8nm,0.6s
FFC **Flin Flon** 54.24 333 *e*P P 19 38 52.0 -2.1
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC **Flin Flon** 54.24 333 *e*P P 19 38 52.0 -2.1
comp=Z,8.8nm,0.8s
GMRC **Granite Mounta** 54.25 305 ⇓P P 19 38 52.8 -1.9
baz=54
QLMT **Earthquake Lak** 54.33 318 *e*P P 19 38 55.0 -0.2
comp=Z,1.1nm,0.8s
PFO **Pinyon Flats O** 54.64 304 LR LR 20 02 33.8
comp=Z,341nm,19.1s,baz=114,slow=36
BOZ **Bozeman (W)** 54.79 319 *e*P P 19 38 57.8 -0.6
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ **Bozeman (W)** 54.79 319 *e*P P 19 38 57.8 -0.6
comp=Z,6.0nm,0.8s
MCMT **McKenzie Canyo** 55.26 318 *e*P P 19 39 00.5 -1.4
comp=Z,1.6nm,0.8s
PNCL **Nicolau / Gran** 55.33 51 *e*P P 19 39 01.9 -0.4
comp=Z,30nm,2.0s
HRY **Holter Researc** 55.35 320 *e*P P 19 39 01.6 -0.8
comp=Z,8.7nm,0.7s
LRM **Limekiln Ridge** 55.38 319 P P 19 39 01.6 -1.2
comp=Z,18nm,0.7s
PMTG **Montargil** 55.82 50 *e*P P 19 39 07.6 +1.9
comp=Z,30nm,1.8s
HLID **Hailey** 55.85 316 ⇑P P 19 39 05.0 -1.2
baz=56
HLID **Hailey** 55.85 316 *e*P P 19 39 04.5 -1.7
comp=Z,7.7nm,1.0s
PCAS **Casmilo, Conde** 55.89 48 *e*P P 19 39 07.7 +1.4
comp=Z,22nm,1.3s
PESTR **Estremoz** 56.24 50 *e*P P 19 39 10.5 +1.7
comp=Z,21nm,1.4s
CHMT **Chamberlain Mo** 56.33 320 *e*P P 19 39 08.8 -0.7
comp=Z,2.3nm,0.8s
PBAR **Barrancos** 56.48 51 *e*P P 19 39 12.4 +1.9
comp=Z,33nm,1.3s
PVIS **Viseu** 56.52 48 *e*P P 19 39 12.7 +1.9
comp=Z,20nm,1.7s
PCBR **Castelo Branco** 56.58 49 *e*P P 19 39 13.1 +1.9
comp=Z,21nm,1.9s
SLMT **Seeley Lake** 56.61 320 P P 19 39 09.9 -1.6
comp=Z,5.5nm,0.8s
TIC **Toumodi** 56.67 89 *e*P P 19 39 12.2 -0.1
comp=Z,3.4nm,0.2s
LIC **Lamto** 56.73 89 *e*P P 19 39 12.3 -0.3
comp=Z,13nm,0.6s,baz=266
LIC **Lamto** 56.73 89 *e*P P 19 39 12.8 +0.2
comp=Z,30nm,0.9s
LIC **Lamto** 56.73 89 *e*P P 19 39 12.3 -0.3
comp=Z,13nm,0.6s
POLO **Lamas de Olo** 56.78 47 *e*P P 19 39 14.4 +1.7
comp=Z,15nm,2.7s
PVRL **Vila Real** 56.81 47 *e*P P 19 39 14.7 +1.9
comp=Z,25nm,1.8s
DBIC **Dimbokro** 56.83 89 P P 19 39 13.6 +0.3
comp=Z,7.1nm,0.7s,baz=262,slow=6.4,SNR=10
KIC **Kosan Boka** 56.99 89 *e*P P 19 39 14.7 +0.2
comp=Z,25nm,0.9s
SWMT **Swartz Lake** 57.03 321 P P 19 39 15.8 +1.4
comp=Z,2.8nm,0.8s
SFJD **Kangerlussuaq** 57.12 5 P P 19 39 16.0 +1.5
comp=Z,11nm,0.9s,baz=186,slow=7.4,SNR=6.4
SFJD **Kangerlussuaq** 57.12 5 *i*P P 19 39 18.2 +3.7
SFJD **Kangerlussuaq** 57.12 5 *i*P P 19 39 18.2 +3.7
comp=Z,7.2nm,0.7s
NVAR **Mina Array Bea** 57.17 309 P P 19 39 14.4 -1.3
comp=Z,1.4nm,0.5s,baz=112,slow=6.9,SNR=6.1
NVAR PcP **PcP** 19 40 12.5 +2.2
comp=Z,1.6nm,0.6s,baz=145,slow=5.4,SNR=4.3
MVO **Moncorvo** 57.27 47 *e*P P 19 39 18.3 +2.1
comp=Z,20nm,1.8s
BSMT **Bassoo Peak** 57.65 321 *e*P P 19 39 15.7 -3.2
EDM **Edmonton** 59.06 327 *e*P P 19 39 26.3 -2.1
EDM **Edmonton** 59.06 327 *e*P P 19 39 26.3 -2.1
ESDC **Sonseca Array** 59.17 50 P P 19 39 31.0 +1.5
comp=Z,4.1nm,0.8s,baz=259,slow=7.2,SNR=29
ESDC ScP **ScP** 19 44 18.1 +0.3
comp=Z,0.1nm,0.3s,baz=211,slow=3.3,SNR=4.5
NEW **Newport** 59.26 321 P P 19 39 28.8 -1.1
comp=Z,4.9nm,0.7s,baz=133,slow=8.1,SNR=5.3
YBH **Yreka Blue Hor** 61.21 312 P P 19 39 41.8 -1.7
comp=Z,1.3nm,0.7s,baz=63,slow=2.3,SNR=2.8
ROSF **Rostrenen** 61.89 40 *e*P P 19 39 47.9 +0.1
comp=Z,23nm,0.9s
ROSF **Rostrenen** 61.89 40 *e*P P 19 39 47.9 +0.1
ROSF pmax pmax
comp=Z,23nm,0.9s
ROSF **Rostrenen** 61.89 40 *e*P P 19 39 47.9 +0.1
comp=Z,23nm,0.9s
SJPF **Ste Jean** 61.94 47 *e*P P 19 39 49.8 +1.6
comp=Z,22nm,1.1s
SJPF **Ste Jean** 61.94 47 *e*P P 19 39 49.8 +1.6
SJPF pmax pmax
comp=Z,22nm,1.1s
SJPF **Ste Jean** 61.94 47 *e*P P 19 39 49.8 +1.6
comp=Z,22nm,1.1s
ETSF **Etsaut** 62.37 47 *e*P P 19 39 52.8 +1.6
comp=Z,7.9nm,0.8s
ETSF **Etsaut** 62.37 47 *e*P P 19 39 52.8 +1.6
ETSF pmax pmax
comp=Z,8.0nm,0.8s
ETSF **Etsaut** 62.37 47 *e*P P 19 39 52.8 +1.6
comp=Z,7.9nm,0.8s
TORD **Torodi Ar. Bea** 62.54 81 P P 19 39 52.7 0.0
comp=Z,4.0nm,0.9s,baz=283,slow=5.8,SNR=18
EPF **Esparros** 63.04 47 *e*P P 19 39 57.2 +1.5
comp=Z,10nm,0.6s
EPF **Esparros** 63.04 47 *e*P P 19 39 57.2 +1.5
EPF pmax pmax
comp=Z,10.0nm,0.6s
EPF **Esparros** 63.04 47 *e*P P 19 39 57.2 +1.5
comp=Z,10nm,0.6s
GRR **Gorron** 63.45 41 *e*P P 19 39 58.8 +0.6
GRR **Gorron** 63.45 41 *e*P P 19 39 58.8 +0.6
GRR **Gorron** 63.45 41 *e*P P 19 39 58.8 +0.6
MFF **Saint Martin d** 63.48 43 *e*P P 19 39 58.0 -0.4
MFF **Saint Martin d** 63.48 43 *e*P P 19 39 58.0 -0.4
MFF **Saint Martin d** 63.48 43 *e*P P 19 39 58.0 -0.4
LFF **La Frestale** 63.71 45 *e*P P 19 40 00.9 +0.9
comp=Z,14nm,0.8s
LFF **La Frestale** 63.71 45 *e*P P 19 40 00.9 +0.9
LFF pmax pmax
comp=Z,14nm,0.8s
LFF **La Frestale** 63.71 45 *e*P P 19 40 00.9 +0.9
comp=Z,14nm,0.8s
FLN **La Foliniere** 63.79 41 *e*P P 19 40 01.1 +0.7
comp=Z,28nm,0.8s
FLN **La Foliniere** 63.79 41 *e*P P 19 40 01.1 +0.7
FLN pmax pmax
comp=Z,28nm,0.8s
FLN **La Foliniere** 63.79 41 *e*P P 19 40 01.1 +0.7
comp=Z,28nm,0.8s
SUMG **Summit** 63.81 8 *e*P P 19 40 01.6 +1.0
SUMG pmax pmax
comp=Z,31nm,0.8s
SUMG **Summit** 63.81 8 *e*P P 19 40 01.6 +1.0
comp=Z,31nm,0.8s
SUMG **Summit** 63.81 8 *i*P P 19 40 02.5 +1.9
comp=Z,30nm,0.9s
YKA **Yellowknife Ar** 64.08 336 P P 19 39 59.9 -2.2
comp=Z,6.0nm,0.6s,baz=110,slow=7.5,SNR=27
MTLF **Montolieu** 64.45 47 *e*P P 19 40 05.7 +0.8
comp=Z,8.9nm,0.8s
MTLF **Montolieu** 64.45 47 *e*P P 19 40 05.7 +0.8
MTLF pmax pmax
comp=Z,9.0nm,0.8s
MTLF **Montolieu** 64.45 47 *e*P P 19 40 05.7 +0.8
comp=Z,8.9nm,0.8s

CAF **Calvac** 64.63 45 *e*P P 19 40 06.7 +0.6
comp=Z,8.8nm,0.7s
CAF **Calvac** 64.63 45 *e*P P 19 40 06.7 +0.6
CAF pmax pmax
comp=Z,9.0nm,0.7s
CAF **Calvac** 64.63 45 *e*P P 19 40 06.7 +0.6
comp=Z,8.8nm,0.7s
TCF **Toulx Ste Croi** 65.00 44 *e*P P 19 40 08.9 +0.4
comp=Z,9.8nm,1.0s
TCF **Toulx Ste Croi** 65.00 44 *e*P P 19 40 08.9 +0.4
TCF pmax pmax
comp=Z,10.0nm,1.0s
TCF **Toulx Ste Croi** 65.00 44 *e*P P 19 40 08.9 +0.4
comp=Z,9.8nm,1.0s
BGF **Bois d'Agland** 65.48 43 *e*P P 19 40 11.9 +0.3
comp=Z,12nm,0.8s
BGF **Bois d'Agland** 65.48 43 *e*P P 19 40 11.9 +0.3
BGF pmax pmax
comp=Z,12nm,0.8s
BGF **Bois d'Agland** 65.48 43 *e*P P 19 40 11.9 +0.3
comp=Z,12nm,0.8s
TAM **Tamanrasset** 65.67 70 *e*P P 19 40 15.2 +1.8
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM **Tamanrasset** 65.67 70 *e*P P 19 40 15.2 +1.8
comp=Z,4.1nm,0.8s
AVF **Avril sur Loir** 65.87 43 *e*P P 19 40 14.3 +0.3
AVF **Avril sur Loir** 65.87 43 *e*P P 19 40 14.3 +0.3
AVF **Avril sur Loir** 65.87 43 *e*P P 19 40 14.3 +0.3
SMF **Signal de Mont** 66.18 44 *e*P P 19 40 16.3 +0.3
comp=Z,14nm,1.0s
SMF **Signal de Mont** 66.18 44 *e*P P 19 40 16.3 +0.3
SMF pmax pmax
comp=Z,14nm,1.0s
SMF **Signal de Mont** 66.18 44 *e*P P 19 40 16.3 +0.3
comp=Z,14nm,1.0s
LOR **Lormes** 66.30 43 *e*P P 19 40 16.9 +0.1
comp=Z,6.8nm,0.6s
LOR **Lormes** 66.30 43 *e*P P 19 40 16.9 +0.1
LOR pmax pmax
comp=Z,7.0nm,0.6s
LOR **Lormes** 66.30 43 *e*P P 19 40 16.9 +0.1
comp=Z,6.8nm,0.6s
VIVF **Saint-Julien-l** 66.45 46 *e*P P 19 40 18.3 +0.5
VIVF **Saint-Julien-l** 66.45 46 *e*P P 19 40 18.3 +0.5
VIVF **Saint-Julien-l** 66.45 46 *e*P P 19 40 18.3 +0.5
RES **Resolute Bay** 66.91 351 P P 19 40 18.6 -1.6
comp=Z,2.5nm,0.8s,baz=166,slow=11,SNR=4.9
SMRF **Simiane la Rot** 66.96 47 *e*P P 19 40 21.0 -0.1
SMRF **Simiane la Rot** 66.96 47 *e*P P 19 40 21.0 -0.1
SFTF **Sexfontaines** 67.25 42 *e*P P 19 40 23.0 +0.1
SFTF **Sexfontaines** 67.25 42 *e*P P 19 40 23.0 +0.1
ORIF **Oris-en-Rattie** 67.30 46 *e*P P 19 40 23.8 +0.4
ORIF **Oris-en-Rattie** 67.30 46 *e*P P 19 40 23.8 +0.4
ORIF **Oris-en-Rattie** 67.30 46 *e*P P 19 40 23.8 +0.4
MEZF **Maizieres J'vi** 67.32 42 *e*P P 19 40 23.5 +0.3
comp=Z,26nm,0.9s
MEZF **Maizieres J'vi** 67.32 42 *e*P P 19 40 23.5 +0.3
comp=Z,26nm,0.9s
FRF **La Foret Royal** 67.67 47 *e*P P 19 40 26.2 +0.6
FRF **La Foret Royal** 67.67 47 *e*P P 19 40 26.2 +0.6
FRF **La Foret Royal** 67.67 47 *e*P P 19 40 26.2 +0.6
CABF **La Chapelle** 67.70 44 *e*P P 19 40 26.2 +0.4
CABF **La Chapelle** 67.70 44 *e*P P 19 40 26.2 +0.4
CABF **La Chapelle** 67.70 44 *e*P P 19 40 26.2 +0.4
PAGF **Fort de Pagny** 67.77 42 *e*P P 19 40 26.3 +0.2
comp=Z,3.0nm,0.8s
PAGF **Fort de Pagny** 67.77 42 *e*P P 19 40 26.3 +0.2
comp=Z,3.0nm,0.8s
LPL **La Plagne** 67.98 45 *e*P P 19 40 28.8 +1.0
comp=Z,10nm,0.8s
LPL **La Plagne** 67.98 45 *e*P P 19 40 28.8 +1.0
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPL **La Plagne** 67.98 45 *e*P P 19 40 28.8 +1.0
comp=Z,10nm,0.8s
LPG **La Plagne** 68.00 45 *e*P P 19 40 29.2 +1.2
comp=Z,7.5nm,0.8s
LPG **La Plagne** 68.00 45 *e*P P 19 40 29.2 +1.2
LPG pmax pmax
comp=Z,8.0nm,0.8s
LPG **La Plagne** 68.00 45 *e*P P 19 40 29.2 +1.2
comp=Z,7.5nm,0.8s
HINF **Hinteralfeld** 68.39 43 *e*P P 19 40 29.7 -0.4
HINF **Hinteralfeld** 68.39 43 *e*P P 19 40 29.7 -0.4
HINF **Hinteralfeld** 68.39 43 *e*P P 19 40 29.7 -0.4
KEST **Kesra** 69.12 56 P P 19 40 36.3 +1.3
comp=Z,1.9nm,0.9s,baz=238,slow=5.6,SNR=5.5
DLBC **Dease Lake** 69.66 329 *e*P P 19 40 37.8 0.0
DAG **Danmarks Havn** 70.26 10 *i*P P 19 40 33.1 -8.0
DAG **Danmarks Havn** 70.26 10 *i*P P 19 40 33.1 -8.0
DAVA **Damuels** 70.36 43 ⇑*i*P P 19 40 43.2 +0.8
comp=Z,6.4nm,0.9s
FETA **Feichten** 70.91 44 ⇑*i*P P 19 40 46.3 +0.5
comp=Z,5.6nm,1.0s
KBA **Koelnbreinsper** 72.70 44 ⇑*i*P P 19 40 56.5 -0.1
comp=Z,8.4nm,1.1s
CLL **Collm** 72.78 39 *e*(sP) sP 19 41 04.0 -1.5
CLL *e* 19 41 18.0
NB2 **NORSAR Subarra** 73.02 29 P P 19 40 59.0 +1.0
comp=Z,0.6nm,0.6s,baz=261,slow=6.2
NOA **NORSAR Array B** 73.02 29 P P 19 40 59.2 +1.2
comp=Z,3.9nm,0.7s,baz=262,slow=5.9,SNR=21
GERES **GERESS Array B** 73.05 42 P P 19 40 58.7 +0.2
comp=Z,1.1nm,0.8s,baz=260,slow=4.1,SNR=11
GERES **GERESS Array B** 73.05 42 *e*P P 19 40 58.5 0.0
BRG **Berggiesshubel** 73.34 40 *e*P P 19 41 07.6 +7.5
comp=Z,4.2nm,1.1s
BRG **Berggiesshubel** 73.34 40 *e*P P 19 41 07.6 +7.5
BRG pmax pmax
comp=Z,4.0nm,1.1s
OBKA **Obir** 73.50 45 ⇓*i*P P 19 41 01.9 +0.7
comp=Z,6.8nm,1.1s
INK **Inuvik** 73.55 338 P P 19 40 58.9 -2.0
comp=Z,6.9nm,0.9s,baz=105,slow=7.6,SNR=18
HYT **Haines Junctio** 73.84 330 *e*P P 19 41 02.3 -0.7
DAWY **Dawson** 75.13 334 *e*P P 19 41 08.9 -1.4
EGAK **Eagle** 75.97 334 *e*P P 19 41 13.5 -1.5
comp=Z,22nm,0.9s
VYHS **Vyhne** 76.44 43 *e*P P 19 41 18.9 +0.8
VYHS **Vyhne** 76.44 43 *e*P P 19 41 18.9 +0.8
MENT **Mentasta** 76.97 332 *e*P P 19 41 20.5 -0.3
SPITS **Spitsbergen Ar** 77.61 12 P P 19 41 24.2 +0.1
comp=Z,8.1nm,0.7s,baz=173,slow=2.3,SNR=4.5
PAX **Paxson** 77.77 332 *e*P P 19 41 25.1 -0.2
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX **Paxson** 77.77 332 *e*P P 19 41 25.1 -0.2
comp=Z,6.3nm,1.0s
ILAR **Eielson Array** 78.42 334 P P 19 41 26.9 -2.0
comp=Z,5.8nm,0.8s,baz=90,slow=4.3,SNR=30
MCK **McKinley** 79.33 333 *e*P P 19 41 32.9 -1.0
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK **McKinley** 79.33 333 *e*P P 19 41 32.9 -1.0
comp=Z,9.3nm,1.0s
ARCES **ARCESS Array B** 79.60 21 P P 19 41 35.7 +0.5
comp=Z,2.8nm,0.8s,baz=276,slow=3.5,SNR=24
ARCES **ARCESS Array B** 79.60 21 *e*P P 19 41 35.2 0.0
SEW **Seward** 79.71 329 *e*P P 19 41 37.9 +2.0
KEV **Kevo** 80.12 21 *e*P P 19 41 37.7 -0.3
KEV **Kevo** 80.12 21 *e*P P 19 41 37.7 -0.3
FINES **FINESS Array B** 80.20 29 P P 19 41 39.3 +0.8
comp=Z,5.4nm,0.5s,baz=242,slow=3.7,SNR=66
KTH **Kantishna Hill** 80.22 333 *e*P P 19 41 38.0 -0.7
comp=Z,12nm,0.8s
KAF **Kangasniemi** 80.27 28 *e*p P 19 41 39.2 +0.3
comp=Z,4.8nm,0.6s
KAF **Kangasniemi** 80.27 28 *e*P P 19 41 39.2 +0.3
KAF pmax pmax
comp=Z,5.0nm,0.6s
RSO **Redoubt South** 81.33 330 *e*P P 19 41 43.8 -1.1
comp=Z,77nm,0.8s
KDAK **Kodiak Island** 81.51 327 *i*P P 19 41 45.5 -0.1
JOF **Joensuu** 82.50 27 *e*p P 19 41 50.9 +0.2
comp=Z,4.9nm,0.7s
JOF **Joensuu** 82.50 27 *e*P P 19 41 50.9 +0.2
JOF pmax pmax
comp=Z,5.0nm,0.7s
AKASG **Malin Array Be** 83.02 40 P P 19 41 53.8 +0.1
comp=Z,0.5nm,0.4s,baz=265,slow=4.3,SNR=6.3
OBN **Obninsk** 86.60 35 *i*P P 19 42 12.4 +0.8
OBN *i* 19 42 17.2
OBN pmax pmax
comp=Z,31nm,1.7s

OBN **Obninsk** 86.60 35 *e*P P 19 42 12.0 +0.4
comp=Z,20nm,0.9s
BRTR **Keskin Array B** 87.96 50 P P 19 42 19.4 +0.6
comp=Z,4.7nm,0.7s,baz=262,slow=4.8,SNR=24
BRTR **Keskin Array B** 87.96 50 *i*P P 19 42 19.3 +0.6
BRTR pmax pmax
comp=Z,5.0nm,0.7s
SUR **Sutherland** 89.70 123 LR LR 20 22 03.0
comp=Z,86nm,18.0s,baz=74,slow=35
NCK **Nalchik** 94.20 45 ⇑*e*P P 19 42 51.8 +4.2
BILL **Bilibino** 94.58 344 *e*P P 19 42 51.4 +2.7
BILL pmax pmax
comp=Z,8.0nm,2.5s
ZALV **Zalesovo Beam** 110.14 20 PKiKP **PKiKP** 19 48 00.7 +0.7
comp=Z,0.4nm,0.5s,baz=298,slow=3.2,SNR=3.8
MKAR **Makanchi Array** 114.90 26 PKP PKPdf 19 48 09.2 -0.2
comp=Z,0.3nm,0.7s,baz=345,slow=2.2,SNR=3.9
SONM **Songino Array** 121.21 9 PKP **PKPdf** 19 48 20.2 -1.4
comp=Z,0.8nm,0.6s,baz=275,slow=1.3,SNR=7.4
SONM PP **PP** 19 49 54.1 +3.4
comp=Z,0.5nm,0.9s,baz=320,slow=4.4,SNR=3.5
SONM PKKPbc **PKKPbc** 19 58 25.3 +0.2
comp=Z,0.5nm,0.7s,baz=172,slow=4.2,SNR=4.4
HHC **Hu-ho-hao-te** 128.74 6 *e*PKP **PKPdf** 19 48 36.9 +0.7
HHC PP PP 19 50 46.8 +5.8
HHC **Hu-ho-hao-te** 128.74 6 SS SS 20 07 58.5 +1.4
HHC AMB AMB
comp=Z,93nm,6.0s
HHC LR LR
comp=N,110nm,18.5s
HHC LR LR
comp=E,120nm,14.8s
HHC LR LR
comp=Z,100nm,16.0s
DANN **Dangsing** 129.41 40 *e*P SKPab 19 51 57.2 -0.9
comp=Z,35nm,1.2s
KKN **Kakani** 130.75 39 *e*P **SKPab** 19 52 02.5 -1.2
comp=Z,42nm,1.2s
DMN **Daman** 130.77 39 *e*P **SKPab** 19 52 02.3 -1.6
comp=Z,46nm,1.0s
PKIN **Phulchoki** 130.98 39 *e*P **SKPab** 19 52 03.0 -1.7
comp=Z,24nm,1.2s
PKI **Pulchoki** 130.99 39 *e*P **SKPab** 19 52 03.1 -1.8
comp=Z,20nm,1.1s
GUN **Gumba** 131.03 38 *e*P **SKPab** 19 52 04.0 -1.1
comp=Z,94nm,1.3s
JIRN **Jiri** 131.41 38 *e*P **SKPab** 19 52 06.6 -0.1
comp=Z,21nm,1.1s
KSRS **Korea Array** 131.50 349 SKPbc **SKPbc** 19 52 05.1 -0.7
comp=Z,3.7nm,0.9s,baz=2.1,slow=4.9,SNR=8.2
KSAR **Wonju Array Be** 131.52 349 SKPbc **SKPbc** 19 52 05.1 -0.7
CMAR **Chiang Mai Arr** 145.90 33 PKPbc **PKPbc** 19 49 08.8 +0.1
comp=Z,4.6nm,0.7s,baz=312,slow=5.3,SNR=21
CMAR SKP 19 52 45.8
comp=Z,1.1nm,0.6s,baz=303,slow=3.7,SNR=5.4
STKA **Stephens Creek** 149.25 222 PKPbc **PKPbc** 19 49 17.2 -0.4
comp=Z,4.5nm,0.7s,baz=144,slow=4.4,SNR=10
CTA **Charters Tower** 150.87 247 PKPbc **PKPbc** 19 49 21.7 -0.2
comp=Z,9.9nm,0.9s,baz=64,slow=2.4,SNR=6.5
ASAR **Alice Springs** 159.67 227 PKP **PKPdf** 19 49 27.0 -1.0
comp=Z,1.1nm,0.9s,baz=106,slow=1.4,SNR=3.3
ASAR PKPab **PKPab** 19 50 06.4 -0.1
comp=Z,1.5nm,0.7s,baz=128,slow=3.8,SNR=7.6
WRA **Warramunga Arr** 161.37 237 PKP **PKPdf** 19 49 29.1 -0.9
comp=Z,1.2nm,0.9s,baz=111,slow=0.5,SNR=7.8
WRA PKPab **PKPab** 19 50 12.6 -1.4
comp=Z,3.3nm,0.9s,baz=108,slow=4.1,SNR=12

*IDC **21** 19:40:23.6±6.3, 17.75S×178.75W, h554km±63km, mb3.4/11, mb1 3.5/11, mb1rmx3.2/42, mbtmp4.3/11, Error ellipse: s-maj=45.7km s-min=22.0km az=119.0*
*ISCJB **21** 19:40:24.6±1.2, 17.8S±0.2×178.8W±0.2, h579km, mb3.9/11, Error ellipse: s-maj=38.0km s-min=13.6km az=135.2*

ISC 21 19:40:24.9±1.4, 17.8S±0.3×178.7W±0.2, h579km, n27, σ0s 90/25, mb3.7/11, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.20**	**260**	P	**P**	**19 46 14.7**	**-0.4**
	8.5nm,1.0s,baz=103,slow=14,SNR=3.0						
CMSA	**Cobar Meteorol**	**34.98**	**240**	P	**P**	**19 46 29.9**	**+0.1**
	baz=32,SNR=7.5						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**19 46 58.9**	**+0.6**
	1.8nm,0.5s,baz=99,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**19 46 59.0**	**+0.7**
	baz=36,SNR=5.6						
JAY	**Jayapura**	**42.60**	**286**	P	**P**	**19 47 31.1**	**-0.4**
	10nm,0.8s,baz=77,slow=11,SNR=4.0						
BBOO	**Buckleboo**	**43.24**	**241**	P	**P**	**19 47 36.5**	**+0.4**
	baz=41,SNR=10						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**19 47 44.4**	**-0.8**
	1.4nm,0.5s,baz=97,slow=7.0,SNR=63						
WRA				PcP	**PcP**	**19 49 17.1**	**+0.8**
	0.9nm,0.7s,baz=92,slow=3.3,SNR=6.4						
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**19 47 46.5**	**-0.1**
	19nm,0.6s,baz=89,slow=8.2,SNR=288						
ASAR				PcP	**PcP**	**19 49 17.6**	**+0.6**
	1.1nm,0.6s,baz=98,slow=3.1,SNR=5.5						
WRKA	**Warakurna**	**49.63**	**252**	P	**P**	**19 48 24.6**	**+0.1**
	baz=47,SNR=18						
FORT	**Forrest**	**49.82**	**244**	P	**P**	**19 48 25.4**	**-0.3**
	baz=47,SNR=10.0						
KNRA	**Kununurra**	**50.23**	**264**	P	**P**	**19 48 29.0**	**0.0**
	baz=47,SNR=6.4						
SOEI	**Soe**	**55.80**	**270**	P	P	19 49 10.6	+2.0
	baz=53,SNR=3.3						
MJAR	**Matsushiro Arr**	**67.62**	**323**	P	**P**	**19 50 25.5**	**+0.5**
	1.2nm,0.5s,baz=157,slow=6.5,SNR=5.8						
PETK	**Petropavlovsk-**	**73.47**	**345**	P	**P**	**19 50 59.9**	**+1.0**
	1.3nm,0.7s,baz=152,slow=7.2,SNR=4.1						
SEY	**Seymchan**	**83.57**	**347**	P	**P**	**19 51 53.1**	**+0.7**
	2.7nm,0.6s,baz=157,slow=4.8,SNR=21						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**19 52 03.3**	**0.0**
	0.5nm,0.5s,baz=229,slow=4.9,SNR=8.1						
PDAR	**Pinedale Array**	**87.44**	**44**	P	P	19 52 12.8	+1.0
	0.4nm,0.5s,baz=227,slow=3.3,SNR=3.5						
SONM	**Songino Array**	**93.26**	**319**	P	P	19 52 39.8	+1.4
	0.2nm,0.4s,baz=118,slow=6.8,SNR=3.2						
MKAR	**Makanchi Array**	**108.84**	**314**	PKiKP	**PKiKP**	**19 57 48.9**	**-0.1**
	0.3nm,0.5s,baz=183,slow=1.2,SNR=4.2						
BVAR	**Borovoye Array**	**116.56**	**321**	PKP	**PKPdf**	**19 58 03.4**	**-0.1**
	0.7nm,0.4s,baz=62,slow=2.6,SNR=4.2						
ARCES	**ARCESS Array B**	**126.12**	**350**	PKP	**PKPdf**	**19 58 22.1**	**+0.7**
	1.2nm,1.0s,baz=82,slow=2.6,SNR=5.2						
HFS	**Hagfors**	**136.75**	**351**	PKhKP	PKPpre	19 58 35.7	
	1.1nm,0.7s,baz=81,slow=9.2,SNR=4.2						
BRTR	**Keskin Array B**	**144.48**	**315**	PKP	**PKPab**	**19 58 57.4**	**+0.3**
	2.4nm,0.8s,baz=115,slow=2.1,SNR=11						
BRG	**Berggiesshubel**	**145.46**	**346**	*e*P	**PKPab**	**19 58 59.4**	**-0.9**
	4.2nm,0.9s						
GERES	**GERESS Array B**	**147.40**	**345**	PKPbc	**PKPab**	**19 59 05.2**	**-3.0**
	2.4nm,0.7s,baz=25,slow=2.6,SNR=22						
CONA	**Conrad Observa**	**147.64**	**342**	⇑*i*PKPdf	**PKPbc**	**19 59 04.0**	**-0.9**
	2.9nm,0.6s						
ABTA	**Abfaltersbach**	**149.65**	**345**	⇓*i*PKPdf	**PKPbc**	**19 59 08.7**	**-1.3**
	3.4nm,0.6s						

HEL 21 19:40:34.8±0.3, 67.59N×33.92E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.65**	**278**	PG	Pn	19 41 04.8	-0.3
VRF				SG	Sn	19 41 25.5	-1.5
VRF				MSG		19 41 25.5	
	comp=Z,2.2nm,0.2s						
KU6	**Riekki**	**2.23**	**227**	PG	Pb	19 41 14.9	-1.1
	baz=45						
KU6				SG	Sb	19 41 43.9	-0.2
MSF	**Maaselka**	**2.56**	**231**	SG	Sb	19 41 53.7	+0.1
MSF				MSG		19 41 53.7	
	comp=Z,1.5nm,0.3s						
SGF	**Sodankyl**	**2.84**	**271**	PG	Pb	19 41 25.8	-0.6
SGF				SG	Sb	19 42 01.6	-0.1
SGF				MSG		19 42 01.6	
	comp=Z,2.1nm,0.3s						
KEV	**Kevo**	**3.33**	**314**	PN	Pn	19 41 28.3	+0.2
KEV				SN	Sn	19 42 07.1	-1.2
KEV				MSG		19 42 07.1	
	comp=Z,0.8nm,0.2s						
ARE0	**ARCESS Array S**	**3.66**	**306**	PN	Pn	19 41 31.8	-0.8
ARE0				SN	Sn	19 42 13.6	-2.7
ARE0				MSG		19 42 13.6	
	comp=Z,0.3nm,0.2s						

HEF	**Hetta**	**3.95**	**287**	SN	Sn	19 42 23.1	-0.4	
HEF				MSG		19 42 23.1		
	comp=Z,0.2nm,0.2s							
LANU	**Lannavaara**	**4.55**	**281**	PG	Pb	19 41 56.0	+0.6	
LANU				SG	Sb	19 42 55.5	+4.8	
ERTU	**Ertsjaerv**	**4.70**	**263**	SN	Sn	19 42 41.4	-0.6	

*ISCJB **21** 19:45:22.9±0.4, 81°.02N±0°.06×3°.6W±0°.3, h10km, mb3.7/19, MS3.8/17, Error ellipse: s-maj=8.0km s-min=6.0km az=4.6*
*IDC **21** 19:45:23.7±0.6, 81°.26N×3°.43W, h0km, mb3.7/17, mb1 3.9/19, mb1mx3.8/36, mbtmp3.8/19, ML4.0/2, MS3.8/22, Ms1 3.8/22, ms1mx3.6/46, Error ellipse: s-maj=20.0km s-min=12.0km az=34.0*
*CSEM **21** 19:45:25.2±0.2, 81°.14N×3°.22W, h15km, mb4.1/4, Error ellipse: s-maj=9.6km s-min=6.2km az=20.0*
*NEIC **21** 19:45:25.0±0.4, 81°.22N×3°.43W, h10km, mb4.0/5, Error ellipse: s-maj=11.4km s-min=7.8km az=213.0*
*BER **21** 19:45:41.1±4.5, 80°.73N×3°.66E, h12km±999km, MD2.4, ML2.5, ML4.1(NAO)*

ISC 21 19:45:24.9±0.5, 81°.07N±0°.07×3°.07W±0°.04, h10km, n72, σ1s71/66, mb3.7/19, MS3.8/17, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**3.38**	**122**	Pn	**Pn**	**19 46 17.3**	**-0.3**
KBS	**Kingsbay**	**3.38**	**122**	*e*P	**Pn**	**19 46 17.2**	**-0.4**
KBS				*e*Sg	**Sn**	**19 46 53.8**	**-3.8**
KBS				IAML		19 47 01.2	
	comp=Z,51nm,0.5s						
KBS	**Kingsbay**	**3.38**	**122**	*e*P	**Pn**	**19 46 16.7**	**-0.9**
KBS	**Kingsbay**	**3.38**	**122**	Pn	**Pn**	**19 46 17.3**	**-0.3**
KBS				*e*Sg	**Sn**	**19 46 53.8**	**-3.8**
	SNR=90						
KBS				*i* S	**Sn**	**19 46 54.8**	**-2.8**
	comp=Z,17nm,0.3s,SNR=56						
KBS	**Kingsbay**	**3.38**	**122**	*e*P	**Pn**	**19 46 16.7**	**-0.9**
SPA0	**Spitsbergen Ar**	**4.53**	**120**	Pn	**Pn**	**19 46 33.2**	**-0.2**
	baz=338,slow=10						
SPA0				Sn	**Sn**	**19 47 23.7**	**-2.3**
SPA0	**Spitsbergen Ar**	**4.53**	**120**	Pn	**Pn**	**19 46 33.2**	**-0.2**
	baz=338,slow=10						
SPA0				*e*Sg	**Sn**	**19 47 23.0**	**-3.0**
SPA0				IAML		19 47 35.0	
	comp=Z,28nm,0.6s						
SPA0	**Spitsbergen Ar**	**4.53**	**120**	Pn	**Pn**	**19 46 33.2**	**-0.2**
	SNR=329						
SPA0				*e*Sg	**Sn**	**19 47 23.0**	**-3.0**
	SNR=90						
SPA0				Sn	**Sn**	**19 47 23.7**	**-2.3**
SPITS	**Spitsbergen Ar**	**4.53**	**120**	Pn	**Pn**	**19 46 33.7**	**+0.3**
	baz=342,slow=10,SNR=821						
SPITS				Sn	**Sn**	**19 47 24.8**	**-1.2**
	baz=305,slow=8.3,SNR=0.9						
SPITS				LR	LR	19 48 25.2	
	comp=Z,2μm,18.1s,baz=280,slow=39						
DAG	**Danmarks Havn**	**5.23**	**223**	*i* S	**Sn**	**19 47 40.2**	**-3.0**
	comp=Z,60nm,0.4s,SNR=51						
DAG	**Danmarks Havn**	**5.23**	**223**	*i* P	**Pn**	**19 46 43.1**	**+0.1**
DAG				*i* S	**Sn**	**19 47 40.1**	**-3.1**
HSPB	**Hornsund (broa**	**5.37**	**130**	*e*P	**Pn**	**19 46 46.0**	**+1.0**
HSPB				*e*Sg	**Sn**	**19 47 47.7**	**+1.0**
HSPB	**Hornsund (broa**	**5.37**	**130**	*e*P	**Pn**	**19 46 46.0**	**+1.0**
	SNR=53						
HOPEN	**Hopen**	**7.03**	**115**	*e*P	**Pn**	**19 47 07.2**	**-0.4**
HOPEN	**Hopen**	**7.03**	**115**	*e*P	**Pn**	**19 47 07.2**	**-0.4**
	SNR=53						
JMIC	**Jan Mayen**	**10.21**	**190**	LR	LR	19 50 40.2	
	comp=Z,133nm,19.1s,baz=333,slow=30						
SUMG	**Summit**	**11.42**	**242**	*e*Pn	**Pn**	**19 48 07.5**	**-0.6**
	comp=Z,7.8nm,0.4s						
SUMG	**Summit**	**11.42**	**242**	*e*P	**Pn**	**19 48 08.9**	**+0.8**
	SNR=51						
SUMG	**Summit**	**11.42**	**242**	*e*Pn	**Pn**	**19 48 07.5**	**-0.6**
	comp=Z,7.8nm,0.4s						
SUMG	**Summit**	**11.42**	**242**	*i* P	**Pn**	**19 48 08.8**	**+0.7**
SUMG				*i* S	Sn	19 50 04.8	-11
KULLO	**Kullorsuaq**	**12.53**	**269**	*i* P	Pn	19 48 18.6	-4.2
KULLO				*e*S	Sn	19 50 26.2	-16
ARA0	**ARCESS Array S**	**13.37**	**133**	Pn	**Pn**	**19 48 34.1**	**-0.3**
	baz=352,slow=14						
ARA0	**ARCESS Array S**	**13.37**	**133**	Pn	**Pn**	**19 48 34.1**	**-0.3**
	baz=352,slow=14						
ARA0	**ARCESS Array S**	**13.37**	**133**	Pn	**Pn**	**19 48 34.1**	**-0.3**
	SNR=0.7						
ARCES	**ARCESS Array B**	**13.37**	**133**	Pn	**Pn**	**19 48 35.5**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=356,slow=12,SNR=32						
ARCES				Sn	**Sn**	**19 50 59.2**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=45,slow=26,SNR=1.3						
ARCES				LR	LR	19 53 37.8	
	comp=Z,368nm,20.2s,baz=347,slow=36						
RES	**Resolute Bay**	**18.04**	**301**	P	Pn	19 49 27.6	-7.5
	comp=Z,0.3nm,0.3s,baz=22,slow=12,SNR=11						
RES				S	Sn	19 52 32.8	-23
	comp=Z,0.1nm,0.3s,baz=126,slow=23,SNR=3.1						
RES				LR	LR	19 56 51.5	
	comp=Z,229nm,20.1s,baz=42,slow=38						
RES	**Resolute Bay**	**18.04**	**301**	*e*P	Pn	19 49 27.2	-7.9
	comp=Z,14nm,1.4s						
RES				S	Sn	19 52 32.8	-23
SFJD	**Kangerlussuaq**	**18.25**	**248**	S	Sn	19 52 42.0	-19
	comp=Z,3.1nm,0.3s,baz=320,slow=13,SNR=11						
SFJD				LR	LR	19 57 12.8	
	comp=Z,339nm,18.2s,baz=38,slow=39						
NB2	**NORSAR Subarra**	**20.52**	**160**	P	Pn	19 50 09.0	+3.9
NB2	**NORSAR Subarra**	**20.52**	**160**	P	Pn	19 50 09.0	+3.9
NOA	**NORSAR Array B**	**20.52**	**160**	P	Pn	19 50 05.6	+0.6
	comp=Z,1.0nm,0.8s,baz=345,slow=9.8,SNR=3.3						
NOA				LR	LR	19 56 47.7	
	comp=Z,86nm,19.8s,baz=340,slow=33						
FINES	**FINESS Array B**	**21.28**	**140**	P	**P**	**19 50 13.7**	**+2.7**
	comp=Z,1.5nm,0.8s,baz=84,slow=5.9,SNR=4.3						
FINES				LR	LR	19 58 03.1	
	comp=Z,291nm,21.9s,baz=337,slow=35						
HFS	**Hagfors**	**21.56**	**157**	P	**P**	**19 50 18.2**	**+4.2**
	comp=Z,3.4nm,1.0s,baz=344,slow=4.8,SNR=4.1						
HFS				LR	LR	19 57 48.4	
	comp=Z,209nm,19.1s,baz=7.0,slow=34						
FRB	**Frobisher Bay**	**24.01**	**264**	P	**P**	**19 50 39.4**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=20,slow=13,SNR=3.1						
TIXI	**Tiksi**	**25.34**	**33**	*e*P	**P**	**19 50 51.0**	**-0.3**
	comp=Z,3.3nm,0.9s						
TIXI	**Tiksi**	**25.34**	**33**	*e*P	**P**	**19 50 51.0**	**-0.3**
	comp=Z,3.3nm,0.9s						
INK	**Inuvik**	**28.45**	**324**	P	**P**	**19 51 17.9**	**-1.4**
	comp=Z,1.2nm,1.0s,baz=0.1,slow=5.3,SNR=3.2						
OBN	**Obninsk**	**28.65**	**130**	LR	LR	20 03 10.3	
	comp=Z,230nm,19.5s,baz=288,slow=37						
YKA	**Yellowknife Ar**	**31.99**	**305**	P	**P**	**19 51 48.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=15,slow=9.1,SNR=4.2						
YKA				PcP	**PcP**	**19 54 40.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=11,slow=2.6,SNR=4.0						
YKA	**Yellowknife Ar**	**31.99**	**305**	P	**P**	**19 51 49.0**	**-1.6**
AKASG	**Malin Array Be**	**32.19**	**140**	LR	LR	20 05 57.2	
	comp=Z,81nm,19.9s,baz=40,slow=38						
SCHQ	**Schefferville**	**32.27**	**256**	LR	LR	20 05 16.6	
	comp=Z,196nm,19.5s,baz=360,slow=37						
EGAK	**Eagle**	**32.59**	**328**	*e*P	P	19 51 52.4	-3.4
GERES	**GERESS Array B**	**32.82**	**159**	PcP	**PcP**	**19 54 44.5**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=344,slow=1.9,SNR=3.8						
GERES				LR	LR	20 04 52.8	
	comp=Z,80nm,18.5s,baz=4.0,slow=35						
ILAR	**Eielson Array**	**33.04**	**332**	P	**P**	**19 51 59.2**	**-0.5**
	comp=Z,2.7nm,1.1s,baz=3.3,slow=7.4,SNR=18						
ILAR				PcP	**PcP**	**19 54 42.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=354,slow=2.3,SNR=4.6						
AKTO	**Aktyubinsk**	**36.13**	**108**	P	**P**	**19 52 26.1**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=334,slow=9.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**36.86**	**80**	LR	LR	20 11 37.2	
	comp=Z,166nm,18.3s,baz=250,slow=43						
KURK	**Kurchatov**	**39.03**	**87**	P	**P**	**19 52 53.2**	**+2.1**
KURK	**Kurchatov**	**39.03**	**87**	P	**P**	**19 52 53.2**	**+2.1**
KURBB	**Kurchatov Arra**	**39.11**	**87**	P	**P**	**19 52 53.2**	**+1.5**
	comp=Z,1.2nm,0.8s,baz=350,slow=7.5,SNR=8.7						
KBZ	**Khabaz**	**40.61**	**127**	LR	LR	20 10 48.3	
	comp=Z,123nm,18.8s,baz=152,slow=37						
ULM	**Lac du Bonnet**	**41.20**	**283**	LR	LR	20 10 15.3	
	comp=Z,179nm,18.7s,baz=39,slow=36						
ESDC	**Sonseca Array**	**41.52**	**181**	P	**P**	**19 53 13.9**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=12,slow=9.4,SNR=4.1						
MKAR	**Makanchi Array**	**43.42**	**85**	P	**P**	**19 53 28.3**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=350,slow=5.8,SNR=11						
MKAR				LR	LR	20 15 22.4	
	comp=Z,93nm,18.4s,baz=347,slow=41						
BRTR	**Keskin Array B**	**43.50**	**138**	LR	LR	20 12 57.8	
	comp=Z,69nm,20.6s,baz=14,slow=38						
SADO	**Sadowa**	**43.94**	**265**	LR	LR	20 12 17.1	
	comp=Z,294nm,18.3s,baz=38,slow=37						
KKAR	**Karatay Array**	**45.18**	**98**	*e*P	**P**	**19 53 42.7**	**+1.3**
	comp=Z,1.2nm,0.8s						
KKAR	**Karatay Array**	**45.18**	**98**	*e*P	**P**	**19 53 42.6**	**+1.3**
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**45.99**	**62**	P	**P**	**19 53 48.2**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=330,slow=6.0,SNR=4.8						
SONM				LR	LR	20 13 20.9	
	comp=Z,220nm,20.9s,baz=336,slow=36						
ULN	**Ulaanbaatar**	**46.05**	**61**	*e*P	**P**	**19 53 48.8**	**+0.4**
	comp=Z,3.1nm,1.0s						
ULN	**Ulaanbaatar**	**46.05**	**61**	*e*P	**P**	**19 53 48.8**	**+0.4**
	comp=Z,3.1nm,1.0s						
AAK	**Ala-Archa**	**46.26**	**94**	P	**P**	**19 53 52.0**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=314,slow=5.4,SNR=6.6						
AAK	**Ala-Archa**	**46.26**	**94**	*e*P	**P**	**19 53 52.5**	**+2.4**
	comp=Z,1.3nm,0.7s						
AAK	**Ala-Archa**	**46.26**	**94**	*e*P	**P**	**19 53 52.5**	**+2.4**
	comp=Z,1.3nm,0.7s						
GEYT	**Alibeck**	**48.38**	**112**	LR	LR	20 18 15.2	
	comp=Z,112nm,18.1s,baz=0.0,slow=41						
TKL	**Tuckaleechee C**	**53.57**	**267**	LR	LR	20 16 52.0	
	comp=Z,98nm,21.5s,baz=16,slow=35						
NVAR	**Mina Array Bea**	**56.01**	**301**	P	**P**	**19 55 03.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=32,slow=3.6,SNR=3.6						
TXAR	**Lajitas Array**	**62.85**	**285**	P	**P**	**19 55 50.1**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=28,slow=5.7,SNR=3.8						
TXAR				LR	LR	20 22 54.6	
	comp=Z,103nm,19.3s,baz=0.0,slow=36						
TORD	**Torodi Ar. Bea**	**67.97**	**175**	P	**P**	**19 56 25.0**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=357,slow=5.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**73.74**	**75**	P	**P**	**19 56 58.4**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=340,slow=7.7,SNR=3.4						
WRA	**Warrmunga Arr**	**116.31**	**45**	PKP	**PKPdf**	**20 04 06.8**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=334,slow=2.2,SNR=5.7						
ASAR	**Alice Springs**	**119.94**	**46**	PKP	**PKPdf**	**20 04 13.7**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=342,slow=2.0,SNR=9.7						

*ISCJB **21** 19:47:57.4±0.5, 6°.17S±0°.06×147°.89E±0°.07, h60km, mb4.0/10, MS3.7/1, Error ellipse: s-maj=10.6km s-min=8.0km az=19.4*
*IDC **21** 19:47:57.9±2.6, 6°.14S×147°.80E, h41km±20km, mb3.9/8, mb1 4.0/9, mb1mx3.6/36, mbtmp4.1/9, ML4.1/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/25, Error ellipse: s-maj=35.5km s-min=11.8km az=118.0*
*NEIC **21** 19:48:00.2±1.8, 6°.23S×147°.79E, h65km±15km, mb4.0/3, Error ellipse: s-maj=20.2km s-min=11.9km az=87.0*

ISC 21 19:47:59.6±0.6, 6°.21S±0°.08×147°.86E±0°.09, h60km, n38, σ1s49/41, mb4.2/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.25**	**192**	P	**Pn**	**19 48 47.5**	**-0.8**
	baz=3.4,SNR=47						
PMG	**Port Moresby**	**3.25**	**192**	*e*P	**Pn**	**19 48 47.4**	**-0.8**
RABL	**Rabaul**	**4.73**	**65**	P	**Pn**	**19 49 05.9**	**-2.6**
	baz=4.7,SNR=7.7						
JAY	**Jayapura**	**8.02**	**297**	P	**Pn**	**19 49 54.7**	**+1.1**
	0.8nm,0.3s,baz=162,slow=13,SNR=4.5						
JAY				LR	LR	19 53 24.2	
	comp=Z,335nm,21.1s,baz=203,slow=41						
COEN	**Coen**	**8.98**	**211**	P	**Pn**	**19 50 05.7**	**-0.9**
	baz=9.1,SNR=20						
COEN	**Coen**	**8.98**	**211**	*e*P	**Pn**	**19 50 04.7**	**-1.9**
CTAO	**Charters Tower**	**13.89**	**186**	P	**Pn**	**19 51 16.3**	**+2.7**
QIS	**Mount Isa**	**16.36**	**209**	P	**Pn**	**19 51 45.7**	**+0.1**
	baz=16,SNR=5.2						
KDU	**Kakadu**	**16.48**	**246**	P	**P**	**19 51 47.7**	**-1.1**
	baz=16,SNR=6.7						
MTN	**Manton Dam**	**17.76**	**247**	P	**P**	**19 52 03.3**	**+0.4**
	baz=18,SNR=5.3						
WRAB	**Tennant Creek**	**18.93**	**223**	*e*P	**P**	**19 52 14.3**	**-1.5**
	1.1nm,1.0s						
WB2	**Warramunga Arr**	**18.94**	**223**	*e*P	**P**	**19 52 14.2**	**-1.7**
WRA	**Warramunga Arr**	**18.95**	**223**	P	**P**	**19 52 14.7**	**-1.3**
	0.6nm,0.3s,baz=48,slow=11,SNR=32						
WRA				S	**Sn**	**19 55 49.8**	**+0.9**
	0.0nm,0.3s,baz=118,slow=37,SNR=2.9						
WRA				PcP	**PcP**	**19 56 41.5**	**+1.5**
	0.0nm,0.3s,baz=42,slow=2.1,SNR=2.7						
WRA				pPcP		19 56 52.9	
	baz=15,slow=2.0,SNR=5.0						
WRA				ScP	**ScP**	**20 00 14.5**	**+3.7**
	0.0nm,0.3s,baz=44,slow=2.6,SNR=3.1						
EIDS	**Eidsvold**	**19.30**	**171**	P	**Pn**	**19 52 20.9**	**-0.5**
	baz=20,SNR=3.4						
RMQ	**Roma**	**20.18**	**178**	P	Pn	19 52 31.0	-0.8
	baz=20,SNR=6.3						
QLP	**Quilpie**	**20.55**	**189**	P	**P**	**19 52 34.0**	**+0.6**
	baz=21,SNR=35						
KNRA	**Kununurra**	**20.96**	**242**	P	**P**	**19 52 36.4**	**-1.4**
	baz=21,SNR=14						
AS31	**Alice Springs**	**21.94**	**216**	*e*P	**P**	**19 52 47.7**	**-0.7**
ASAR	**Alice Springs**	**21.95**	**216**	P	**P**	**19 52 47.8**	**-0.7**
	5.2nm,0.6s,baz=51,slow=9.0,SNR=39						
ASAR				S	**S**	**19 56 47.7**	**+0.1**
	2.2nm,0.9s,baz=35,slow=17,SNR=9.0						
ASAR				ScP	**ScP**	**20 00 20.6**	**+2.7**
	0.6nm,0.8s,baz=73,slow=3.2,SNR=5.3						
BATI	**Baumata**	**24.27**	**259**	P	**P**	**19 53 12.9**	**+1.5**
	21nm,1.0s,baz=256,slow=2.9,SNR=4.0						
ARMA	**Armidale**	**24.34**	**172**	P	**P**	**19 53 13.2**	**+1.2**
	baz=25,SNR=4.8						
FITZ	**Fitzroy Crossi**	**24.69**	**239**	P	**P**	**19 53 15.1**	**-0.1**
	baz=25,SNR=31						
FITZ	**Fitzroy Crossi**	**24.69**	**239**	*e*P	**P**	**19 53 14.9**	**-0.3**
	8.9nm,0.6s						
STKA	**Stephens Creek**	**26.20**	**192**	P	**P**	**19 53 29.9**	**+1.1**
	5.1nm,0.7s,baz=7.1,slow=11,SNR=8.4						
STKA	**Stephens Creek**	**26.20**	**192**	P	**P**	**19 53 30.0**	**+1.1**
	baz=26,SNR=8.6						
WRKA	**Warakurna**	**26.49**	**223**	P	**P**	**19 53 30.8**	**-0.8**
	baz=27,SNR=70						
WSI	**Waingapu**	**27.51**	**261**	P	**P**	**19 53 37.0**	**-3.8**
	baz=28,SNR=3.5						
WSI				S	S	19 58 49.2	+32
	baz=28,SNR=3.8						
MEEK	**Meekatharra**	**34.48**	**231**	P	**P**	**19 54 41.8**	**-0.2**
	baz=35,SNR=8.3						
NWAO	**Narrogin (SRO)**	**38.96**	**223**	P	**P**	**19 55 20.7**	**+0.7**
	4.8nm,0.7s,baz=67,slow=13,SNR=2.5						
MJAR	**Matsushiro Arr**	**43.48**	**349**	LR	LR	20 13 17.2	
	comp=Z,104nm,20.5s,baz=345,slow=35						
PETK	**Petropavlovsk-**	**59.68**	**7**	P	**P**	**19 57 58.8**	**+1.1**
	2.5nm,0.8s,baz=179,slow=8.9,SNR=5.0						
ULN	**Ulaanbaatar**	**64.70**	**331**	*e*P	**P**	**19 58 31.3**	**-0.3**
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**78.20**	**320**	P	**P**	**19 59 51.7**	**-1.1**
	0.1nm,0.3s,baz=99,slow=8.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**79.64**	**328**	P	**P**	**19 59 59.9**	**-0.6**
	0.3nm,0.4s,baz=112,slow=3.4,SNR=2.4						
ILAR	**Eielson Array**	**85.33**	**23**	P	**P**	**20 00 28.3**	**-1.6**
	0.3nm,0.6s,baz=267,slow=5.0,SNR=4.0						
SAML	**Samuel**	**145.59**	**116**	*e*PKPdf	**PKPab**	**20 07 33.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**145.97**	**284**	PKPbc	**PKPbc**	**20 07 33.2**	**-0.5**
	1.6nm,0.6s,baz=82,slow=4.4,SNR=11						
TORD				pPKPbc	pPKPbc	20 07 46.1	-5.0
	1.2nm,0.5s,baz=77,slow=4.0,SNR=7.2						
BDFB	**Brasilia**	**153.20**	**144**	PKPbc	**PKPbc**	**20 07 52.6**	**+0.7**
	3.8nm,0.7s,baz=190,slow=3.2,SNR=8.0						

*CSEM **21** 19:57:10.3, 15°.85N×43°.11E, h10km, ML3.5*

DHMR 21 19:57:10.3±1.6, 15°.85N×43°.11E, h10km, ML3.5, 2C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAJJ	**Hajjah**	**0.50**	**108**	⇑*i*P	Pg	19 57 20.5	+0.2
HAJJ				*i* S	Sg	19 57 27.5	+0.5
HAJJ				AML	AML	19 57 28.9	
	comp=Z,4μm,0.3s						
HAJJ	**Hajjah**	**0.50**	**108**	⇑*i*P	Pg	19 57 20.5	+0.2
HAJJ				*i* S	Sg	19 57 27.5	+0.5
	comp=Z,2μm,0.3s						
SANA	**San'a**	**1.15**	**114**	*i* P	Pb	19 57 31.3	-1.5
SANA				*i* S	Sb	19 57 47.6	-0.4
SANA				AML	AML	19 57 50.4	
	comp=E,6μm,0.3s						
SANA	**San'a**	**1.15**	**114**	*i* P	Pb	19 57 31.3	-1.4
SANA				*i* S	Sb	19 57 47.7	-0.4
	comp=E,3μm,0.3s						
DHBB	**Dhamar BB**	**1.78**	**136**	*i* P	Pn	19 57 41.6	+0.1
DHBB				*i* S	Sb	19 58 06.7	+0.6
DHBB	**Dhamar BB**	**1.78**	**136**	*i* P	Pn	19 57 41.6	+0.1
DHBB				*i* S	Sb	19 58 06.7	+0.6
UDYN	**Al 'Udayn**	**2.05**	**156**	*i* P	Pn	19 57 46.0	+0.9
UDYN				*i* S	Sg	19 58 15.3	-1.4
UDYN				AML	AML	19 58 29.4	
	comp=N,135nm,0.5s						
UDYN	**Al 'Udayn**	**2.05**	**156**	*i* P	Pn	19 57 46.0	+0.9
UDYN				*i* S	Sg	19 58 15.3	-1.4
	comp=N,68nm,0.5s						
TRBA	**At Turbah**	**2.78**	**159**	⇓*i*P	Pn	19 57 57.7	+2.4
TRBA				*i* S	Sb	19 58 35.2	+0.3
TRBA				AML	AML	19 58 52.4	
	comp=E,159nm,0.5s						
BDHA	**Al Bayda'**	**3.02**	**128**	*i* P	Pb	19 58 02.0	-2.6
BDHA				*i* S	Sb	19 58 41.9	0.0
BDHA				AML	AML	19 58 55.5	
	comp=E,277nm,0.4s						
BDHA	**Al Bayda'**	**3.02**	**128**	*i* P	Pb	19 58 02.0	-2.6
BDHA				*i* S	Sb	19 58 41.9	+0.1
	comp=E,138nm,0.4s						

*ISCJB **21** 20:03:58.0±0.2, 43°.96N±0°.01×105°.31W±0°.02, h0km, mb3.6/2, MS3.3/1, Error ellipse: s-maj=2.1km s-min=2.0km az=176.1*
*NEIC **21** 20:03:57.8±0.5, 44°.06N×105°.18W, h0km, ML3.4, Error ellipse: s-maj=8.8km s-min=6.9km az=181.0, Suspected Mining explosion.*
NEIC 35 km [20 miles] SE of Gillette.
*IDC **21** 20:03:59.1±1.0, 44°.20N×105°.76W, h0km, mb3.5/2, mb1 3.6/6, mb1mx3.3/42, mbtmp3.4/6, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/38, Error ellipse: s-maj=25.5km s-min=8.3km az=143.0*

ISC 21 20:03:58.2±0.6, 43°.98N±0°.02×105°.31W±0°.02, h0km, n83, σ0s93/101, 38C-19D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.11**	**261**	⇑P	**Pg**	**20 04 01.6**	**+1.3**
	baz=0.2,SNR=1000						
I24A	**Kuemmerle Ranc**	**0.51**	**103**	P	**Pg**	**20 04 08.0**	**+0.1**
	baz=0.4,SNR=57						
I24A				⇓S	**Sg**	**20 04 14.5**	**0.0**
	baz=0.4						
H23A	**Clabaugh Cattl**	**0.59**	**354**	⇑P	**Pb**	**20 04 10.1**	**-1.4**
	baz=0.5,SNR=12						
H23A				⇓S	**Sg**	**20 04 17.8**	**+0.7**
	baz=0.5						
J23A	**Dilts Ranch, B**	**0.60**	**197**	⇑P	**Pg**	**20 04 09.7**	**0.0**
	baz=0.7,SNR=36						
J23A				⇑S	**Sg**	**20 04 17.2**	**-0.2**
	baz=0.7						
J24A	**Dixon Ranch, L**	**0.80**	**144**	P	**Pg**	**20 04 13.3**	**-0.2**
	baz=0.8,SNR=165						
J24A				⇑S	**Sg**	**20 04 24.1**	**+0.2**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.85**	**265**	⇑P	**Pg**	**20 04 14.8**	**+0.3**
	baz=1.0,SNR=113						
I22A				⇓S	**Sb**	**20 04 26.6**	**-1.4**
	baz=1.0						
RSSD	**Black Hills**	**0.93**	**81**	*e*Pg	**Pg**	**20 04 15.1**	**-0.9**
H24A	**Dirks Ranch, A**	**0.94**	**35**	P	**Pg**	**20 04 16.0**	**-0.2**
	baz=0.8,SNR=76						
H24A				⇑S	**Sg**	**20 04 29.1**	**+0.6**
	baz=0.8						
H22A	**Clearmont**	**0.97**	**310**	⇑P	**Pb**	**20 04 17.3**	**-0.6**
	baz=1.0,SNR=35						
J22A	**Midwest**	**1.02**	**237**	P	**Pg**	**20 04 17.1**	**-0.7**
	baz=1.1,SNR=51						
J22A				⇑S	**Sg**	**20 04 31.2**	**+0.3**
	baz=1.1						
I25A	**Rochford**	**1.14**	**87**	P	**Pg**	**20 04 19.5**	**-0.5**
	baz=1.0,SNR=112						
I25A				⇑S	**Sg**	**20 04 35.9**	**+1.1**
	baz=1.0						
G23A	**Biddle**	**1.22**	**357**	P	**Pb**	**20 04 21.6**	**-0.7**
	baz=1.2,SNR=67						
J25A	**Sunshine Ranch**	**1.24**	**118**	⇑P	**Pg**	**20 04 21.2**	**-0.7**
	baz=1.2,SNR=94						
J25A				⇑S	**Sg**	**20 04 38.6**	**+0.6**
	baz=1.2						
K23A	**Bowen Ranch, D**	**1.25**	**191**	⇓P	**Pg**	**20 04 21.5**	**-0.5**
	baz=1.3,SNR=13						
K23A				⇑S	**

	baz=2.4,SNR=166								
E22A	**Miles City**	**2.50**	**350**	⇓	*e*P		**Pn**	**20 04 40.4**	**+0.2**
	baz=2.4								
E23A	**Ismay**	**2.52**	**0**	⇑	*e*P		**Pn**	**20 04 40.9**	**+0.5**
	baz=2.4,SNR=14								
M23A	**Laramie**	**2.53**	**187**	⇓	P		**Pn**	**20 04 40.6**	**-0.1**
	baz=2.6								
E24A	**Baker**	**2.68**	**15**	⇑	P		**Pn**	**20 04 43.4**	**+0.8**
	baz=2.6,SNR=11								
F20A	**Billings**	**2.72**	**313**		P		**Pn**	**20 04 43.2**	**0.0**
	baz=2.7,SNR=26								
H19A	**Powell**	**2.73**	**286**	⇑	P		**Pn**	**20 04 44.1**	**+0.7**
	baz=2.8,SNR=7.9								
RLMT	**Red Lodge**	**3.05**	**293**		*e*Pn		**Pn**	**20 04 48.4**	**+0.5**
F19A	**Roth Farm, Mol**	**3.19**	**307**		P		**Pn**	**20 04 50.6**	**+0.8**
	baz=3.2,SNR=38								
D23A	**Lindsay**	**3.20**	**1**	⇑	P		**Pn**	**20 04 50.8**	**+1.1**
	baz=3.1,SNR=5.5								
BW06	**Boulder Array**	**3.33**	**250**		*e*Pn		**Pn**	**20 04 54.4**	**+2.7**
PDAR	**Pinedale Array**	**3.33**	**250**		Pn		**Pn**	**20 04 52.9**	**+1.1**
	2.2nm,0.3s,baz=74,slow=16,SNR=38								
PDAR					Pg		**Pb**	**20 04 57.0**	**-1.2**
	3.1nm,0.3s,baz=70,slow=18,SNR=59								
PDAR					Lg		Lg	20 05 37.3	
	1.6nm,0.3s,baz=92,slow=21,SNR=5.7								
E19A	**Rath Farm, Rou**	**3.49**	**317**	⇓	P		**Pn**	**20 04 54.0**	**+0.2**
	baz=3.5,SNR=6.6								
GCMT	**Greycliff**	**3.59**	**302**		*e*Pn		**Pn**	**20 04 56.0**	**+0.8**
N27A	**Anderson Farm,**	**3.78**	**146**	⇑	P		**Pn**	**20 04 58.1**	**+0.3**
	baz=3.8,SNR=10.0								
H17A	**Grant Village**	**3.81**	**278**		*e*Pn		**Pn**	**20 05 00.1**	**+1.7**
OGNE	**Ogallala**	**3.88**	**140**		*e*Pn		**Pn**	**20 05 00.3**	**+1.2**
ISCO	**Idaho Springs**	**4.18**	**183**		*e*Pn		**Pn**	**20 05 04.2**	**+0.7**
O20A	**White River Ci**	**4.42**	**211**		*e*Pn		**Pn**	**20 05 07.5**	**+0.8**
QLMT	**Earthquake Lak**	**4.47**	**283**		Pn		**Pn**	**20 05 06.9**	**-0.5**
P26A	**Davis Ranch, A**	**4.65**	**161**	⇓	P		**Pn**	**20 05 10.0**	**+0.2**
	baz=4.7,SNR=12								
BOZ	**Bozeman (W)**	**4.80**	**293**		Pn		**Pn**	**20 05 09.8**	**-2.0**
HWUT	**Hardware Ranch**	**5.18**	**245**		*e*Pn		**Pn**	**20 05 17.1**	**0.0**
	12nm,0.5s								
LRM	**Limekiln Ridge**	**5.40**	**292**		Pn		**Pn**	**20 05 20.8**	**+0.6**
	48nm,0.5s								
MCMT	**McKenzie Canyo**	**5.47**	**282**		P		Pn	20 05 25.5	+4.3
	1.9nm,0.6s								
R26A	**Arlington**	**5.84**	**165**	⇑	P		**Pn**	**20 05 26.1**	**-0.1**
	baz=5.9,SNR=9.4								
ECSD	**EROS Data Cent**	**6.29**	**89**		*e*Pg		Pb	20 05 53.3	+4.7
	14nm,0.6s								
CHMT	**Chamberlain Mo**	**6.31**	**300**		*e*P		**Pn**	**20 05 32.5**	**-0.2**
	2.6nm,0.4s								
SWMT	**Swartz Lake**	**7.03**	**303**		*e*Pn		**Pn**	**20 05 39.3**	**-3.2**
	2.6nm,0.5s								
YBMT	**Yellow Bay**	**7.21**	**306**		*e*Pn		**Pn**	**20 05 45.5**	**+0.6**
	8.5nm,0.7s								
JTMT	**Jette**	**7.31**	**304**		*e*Pn		**Pn**	**20 05 47.3**	**+1.0**
CCUT	**Cedar City**	**8.86**	**226**		*e*Pn		**Pn**	**20 06 09.5**	**+1.8**
	3.3nm,0.6s								
I10CA	**LAC DU BONNET**	**8.88**	**42**		*i*			20 58 10.3	
	baz=224,slow=327,SNR=1.7								
ULM	**Lac du Bonnet**	**8.98**	**42**		Pn		**Pn**	**20 06 07.6**	**-1.5**
	0.5nm,0.3s,baz=223,slow=13,SNR=5.0								
ULM					Lg		Lg	20 08 37.0	
	0.3nm,0.3s,baz=153,slow=22,SNR=1.8								
FFC	**Flin Flon**	**10.97**	**10**		*e*Pn		**Pn**	**20 06 33.5**	**-2.9**
TXAR	**Lajitas Array**	**14.68**	**174**		Pn		**P**	**20 07 34.2**	**+0.6**
	baz=340,slow=11,SNR=3.4								
YKA	**Yellowknife Ar**	**19.33**	**347**		P		**P**	**20 08 24.1**	**-0.6**
	0.1nm,0.3s,baz=156,slow=13,SNR=3.1								
ROSC	**El Rosal**	**47.55**	**136**		LR		LR	20 35 20.5	
	comp=Z,32nm,20.1s,baz=148,slow=39								
SONM	**Songino Array**	**84.40**	**339**		P		**P**	**20 16 33.5**	**+1.1**
	0.3nm,0.9s,baz=318,slow=1.9,SNR=2.1								
MKAR	**Makanchi Array**	**89.36**	**355**		P		**P**	**20 16 56.0**	**-0.5**
	0.4nm,0.7s,baz=16,slow=4.1,SNR=5.5								

*DJA **21** 20:16:20.2±0.9,2°N±3°×9°6E±°, h54km±6km, M3.7/9, mb4.0/2, mB4.8/1, MLv3.5/9, Mw(mB)4.0/1*
*ISCJB **21** 20:16:22.4±0.7, 1°.98N±0°.05×96°.58E±0°.06, h28km, mb3.7/8, Error ellipse: s-maj=9.5km s-min=6.7km az=145.9*
*IDC **21** 20:16:24.4±1.2,2°.01N×96°.74E, h24km±4km, mb3.5/8, mb1 3.7/9, mb1mx3.5/28, mbtmp3.7/9, ML3.1/2, Error ellipse: s-maj=40.5km s-min=15.6km az=53.0*
ISC 21 20:16:24.4±0.7,2°.11N±0°.05×96°.61E±0°.08, h28km, n23, σ1°.23/26, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.41**	**316**	P		P	**Pb**	**20 16 31.9**	**-1.5**
SNSI				S		S	**Sn**	**20 16 40.6**	**-0.7**
GSI	**Gunungsitoli**	**1.25**	**130**	P		P	**Pn**	**20 16 44.2**	**-1.9**
GSI				S		S	**Sb**	**20 17 05.0**	**+1.9**
TPTI		**1.28**	**26**	P		P	**Pn**	**20 16 45.4**	**-1.0**
TPTI				S		S	**Sb**	**20 17 04.7**	**+0.8**
KCSI	**Kotacane, Aceh**	**1.82**	**39**	P		P	**Pn**	**20 16 53.5**	**-0.4**
KCSI				S		S	**Sb**	**20 17 19.1**	**-0.4**
PSI	**Prapat**	**2.41**	**73**	Pn		Pn	**Pn**	**20 17 01.8**	**-0.4**
	0.6nm,0.3s,baz=262,slow=15,SNR=2.2								
LHMI	**Lhok Sumawe**	**3.12**	**6**	P		Pn		20 17 08.4	-3.4
LHMI				S		S	**Sn**	**20 17 46.5**	**-1.6**
MNSI	**Mandailing Nat**	**3.24**	**114**	P		P	**Pn**	**20 17 13.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.41**	**8**	Pn		Pn	**Pn**	**20 20 13.4**	**+0.6**
	0.1nm,0.3s,baz=198,slow=12,SNR=23								
H08S2	**Diego Garcia H**	**25.94**	**248**	T		T		20 48 42.6	
	baz=68,slow=75,SNR=95								
H08S3	**Diego Garcia H**	**25.94**	**248**	T		T		20 48 41.8	
	baz=68,slow=75,SNR=123								
H08S1	**Diego Carcia H**	**25.96**	**248**	T		T		20 48 42.9	
	baz=68,slow=75,SNR=124								
H01W3	**Cape Leeuwin H**	**40.30**	**158**	T		T		21 06 42.2	
	baz=333,slow=76,SNR=5.2								
H01W2	**Cape Leeuwin H**	**40.31**	**158**	T		T		21 06 43.4	
	baz=333,slow=76,SNR=5.5								
H01W1	**Cape Leeuwin H**	**40.32**	**157**	T		T		21 06 42.8	
	baz=333,slow=76,SNR=5.5								
WRA	**Warramunga Arr**	**43.01**	**122**	P		P	**P**	**20 24 20.7**	**-1.2**
	0.6nm,0.5s,baz=302,slow=9.1,SNR=10								
WRA				pP			**pP**	**20 24 28.2**	**-2.1**
	0.5nm,0.6s,baz=301,slow=9.2,SNR=4.6								
ASAR	**Alice Springs**	**44.41**	**127**	P		P	**P**	**20 24 31.9**	**-1.2**
	0.3nm,0.7s,baz=304,slow=8.6,SNR=3.8								
MKAR	**Makanchi Array**	**46.23**	**346**	P		P	**P**	**20 24 48.4**	**+1.2**
	0.9nm,0.6s,baz=163,slow=7.2,SNR=12								
MKAR				pP			**pP**	**20 24 56.3**	**+0.7**
	0.7nm,0.6s,baz=153,slow=8.2,SNR=6.1								
SONM	**Songino Array**	**46.33**	**9**	P		P	**P**	**20 24 49.2**	**+1.1**
	0.3nm,0.3s,baz=184,slow=8.4,SNR=7.1								
SONM				pP			**pP**	**20 24 56.0**	**-0.5**
	0.3nm,0.6s,baz=195,slow=7.4,SNR=2.7								
KURBB	**Kurchatov Arra**	**50.71**	**345**	P		P	**P**	**20 25 23.4**	**+1.8**
	0.3nm,0.6s,baz=164,slow=6.9,SNR=6.7								
KURBB				pP			**pP**	**20 25 30.9**	**+0.9**
	0.4nm,0.5s,baz=162,slow=6.9,SNR=3.8								
ZALV	**Zalesovo Beam**	**52.58**	**351**	P		P	**P**	**20 25 36.6**	**+1.1**
	0.7nm,0.3s,baz=181,slow=6.7,SNR=7.7								
ZALV				pP			**pP**	**20 25 43.7**	**-0.3**
	0.6nm,0.4s,baz=170,slow=7.9,SNR=3.4								
BVAR	**Borovoye Array**	**55.21**	**341**	P		P	**P**	**20 25 55.6**	**+0.9**
	0.4nm,0.6s,baz=132,slow=8.2,SNR=4.4								
ARCES	**ARCESS Array B**	**81.49**	**340**	P		P	**P**	**20 28 40.0**	**+1.1**
	1.4nm,0.9s,baz=43,slow=5.5,SNR=4.0								
LPAZ	**La Paz**	**159.41**	**226**	PKP			**PKPdf**	**20 36 23.4**	**+1.2**
	0.8nm,0.3s,baz=288,slow=3.2,SNR=6.4								

NNC 21 20:20:19.9±0.9, 38°.48N×71°.29E, h0km, mb3.7, mpv3.2, 1C-6D, Error ellipse: s-maj=9.9km s-min=4.9km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.95**	**280**	⇓	Pn		Pn	20 20 54.4	-0.2
	56nm,0.3s								
DZET				⇓	Lg		Lg	20 21 22.9	
	69nm,0.7s								
SFK	**Sufi-Kurgan**	**2.30**	**48**	⇓	Pn		Pn	20 20 59.3	-0.1
	11nm,0.4s								
SFK				⇓	Lg		Lg	20 21 34.7	
KK31	**Karatay Array**	**4.65**	**353**		Pn		Pn	20 21 31.5	0.0
	0.5nm,0.4s,baz=178,slow=14,SNR=21								
KK31				⇓	Pg		Pb	20 21 44.0	+1.5
	0.8nm,0.5s,baz=176,slow=15,SNR=3.6								
KK31				⇓	Sn		Sn	20 22 27.2	+0.9
	0.9nm,0.3s,baz=184,slow=24,SNR=3.6								
KK31				⇑	Lg		Lg	20 22 47.7	

2.2nm,0.5s,baz=161,slow=28,SNR=4.7

IDC 21 20:23:27.8±3.6, 16°.21S×175°.48W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/35, mbtmp4.1/3, Error ellipse: s-maj=164.4km s-min=75.9km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.90**	**240**	P		P		20 31 20.7	+0.5
	0.9nm,0.5s,baz=104,slow=14,SNR=4.4								
WRA	**Warramunga Arr**	**47.72**	**258**	P		P		20 32 06.6	-0.2
	1.1nm,0.5s,baz=94,slow=7.3,SNR=64								
WRA				PcP		PcP		20 33 36.1	-0.1
	0.2nm,0.4s,baz=91,slow=3.5,SNR=4.1								
ASAR	**Alice Springs**	**47.96**	**253**	P		P		20 32 08.3	-0.5
	4.1nm,0.6s,baz=87,slow=8.7,SNR=64								
ASAR				PcP		PcP		20 33 36.5	-0.6
	0.3nm,0.4s,baz=102,slow=4.0,SNR=4.5								

*JMA **21** 20:27:29.2±0.3, 45°.45N×147°.73E, h10km, M3.8*
*ISCJB **21** 20:27:32.0±0.7, 45°.35N±0°.04×147°.74E±0°.06, h19km±6km, mb3.5/9, Error ellipse: s-maj=9.1km s-min=5.3km az=43.4*
*SKHL **21** 20:27:33.1±0.2, 45°.30N×147°.83E, h17km±5km, mb5.1/4*
SKHL Felt (II-III) at Kurilsk.
*MOS **21** 20:27:34.2±2.1, 45°.24N×147°.85E, h41km, mb4.1/3, Error ellipse: s-maj=0.1km s-min=0.0km az=26.9*
MOS Felt (II-III) at Kuril'sk.
*IDC **21** 20:27:37.0±4.0, 45°.23N×147°.75E, h43km±37km, mb3.3/9, mb1 3.7/12, mb1mx3.5/28, mbtmp3.7/12, ML3.6/3, Error ellipse: s-maj=28.0km s-min=16.8km az=132.0*
ISC 21 20:27:33.5±0.9, 45°.30N±0°.05×147°.77E±0°.06, h16km±6km, n37, σ1°.13/40, mb3.6/9, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.09**	**133**	*d*	iPN		**Pg**	**20 27 36.6**	**-0.2**
KUR					pmax		pmax		
	comp=Z,6μm,0.5s								
KUR					pmax		pmax		
	comp=N,3μm,0.2s								
KUR					pmax		pmax		
	comp=E,2μm,0.2s								
KUR	**Kuril'sk**	**0.09**	**133**	*e*	P		**Pg**	**20 27 36.6**	**-0.2**
KUR					AMB		AMB	20 27 36.8	
	comp=E,2μm,0.5s								
KUR					AMB		AMB	20 27 36.8	
	comp=E,4μm,0.5s								
KUR					AMB		AMB	20 27 36.8	
	comp=E,6μm,0.5s								
KUR					*e*S		**Sg**	**20 27 39.1**	**+0.1**
KUR					A		A	20 27 39.4	
	comp=E,36μm,0.3s								
KUR					A		A	20 27 39.4	
	comp=E,41μm,0.3s								
SHO	**Shikotan**	**1.58**	**206**	*e*	P		**Pn**	**20 27 59.8**	**-1.0**
SHO					AMB		AMB	20 28 00.8	
	comp=E,530nm,0.6s								
SHO					*e*S		**Sn**	**20 28 20.0**	**-0.9**
SHO					A		A	20 28 22.2	
	comp=E,3μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**1.86**	**228**	*c*	iPN		**Pn**	**20 28 06.0**	**+1.4**
YUK					*i* S		**Sb**	**20 28 30.7**	**+0.7**
YUK					pmax		pmax		
	comp=N,81nm,0.3s								
YUK					pmax		pmax		
	comp=E,133nm,0.3s								
YUK					pmax		pmax		
	comp=Z,328nm,0.3s								
YUK					smax		smax		
	comp=N,1μm,0.7s								
YUK					smax		smax		
	comp=E,1μm,0.7s								
YUK	**Yuzh-Kuril'sk**	**1.86**	**228**	*e*	P		**Pn**	**20 28 06.0**	**+1.4**
YUK					AMB		AMB	20 28 15.1	
	comp=E,328nm,0.3s								
YUK					*e*S		**Sb**	**20 28 30.7**	**+0.7**
YUK					A		A	20 28 34.2	
	comp=E,1μm,0.7s								
YUK					A		A	20 28 34.2	
	comp=E,1μm,0.7s								
JRA	**Rausu**	**2.33**	**235**	P		P	**Pn**	**20 28 09.6**	**-1.5**
NEM2	**Nemuro 2**	**2.42**	**218**	P		P	**Pn**	**20 28 11.4**	**-1.0**
NEM2					*e*S		**Sn**	**20 28 42.5**	**+0.9**
JTKR	**Abashiri--Toko**	**3.06**	**246**	P		P	**Pn**	**20 28 19.3**	**-1.9**
JTKR					*e*S		**Sn**	**20 28 56.3**	**-1.1**
JAK	**Akkeshi**	**3.19**	**225**		*e*S		**Sn**	**20 29 01.7**	**+1.0**
JKK2	**Kamakawa 2**	**3.86**	**250**	P		P	**Pn**	**20 28 31.1**	**-1.1**
JKK2					*e*S		**Sn**	**20 29 17.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**3.86**	**297**	*e*	P		**Pn**	**20 28 32.8**	**+0.6**
YSS					AMB		AMB	20 28 34.3	
	comp=E,420nm,0.2s								
YSS					*e*S		**Sn**	**20 29 15.0**	**-2.2**
YSS					A		A	20 29 15.6	
	comp=E,543nm,0.4s								
ASAJ	**Asahikawa**	**3.87**	**254**	P		P	**Pn**	**20 28 32.5**	**+0.1**
	comp=E,1.8nm,0.3s,baz=15,slow=4.2,SNR=8.9								
ASAJ	**Asahikawa**	**3.87**	**254**	PN		P	**Pn**	**20 28 32.5**	**+0.1**
ASAJ					pmax		pmax		
	comp=Z,2.0nm,0.3s								
JCH	**Churui**	**4.16**	**231**	*e*S		S	**Sn**	**20 29 25.9**	**+1.3**
JNBK	**Urakawa-nobuka**	**4.72**	**232**	*e*S		S	**Sn**	**20 29 39.7**	**+1.3**
SKR	**Severo-Kuril's**	**7.77**	**43**	*e*	P	P	**Pn**	**20 29 26.2**	**+0.4**
SKR					AMB		AMB	20 29 27.2	
	comp=Z,146nm,1.1s								
SEY	**Seymchan**	**17.87**	**7**	P		P	**P**	**20 31 44.5**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=189,slow=11,SNR=4.7								
YAK	**Yakutsk**	**19.77**	**334**	P		P	**Pn**	**20 32 05.3**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=211,slow=0.9,SNR=6.4								
YAK	**Yakutsk**	**19.77**	**334**	*e*	P		**Pn**	**20 32 03.9**	**-0.3**
YAK					pmax		pmax		
	comp=Z,10.0nm,0.9s								
SONM	**Songino Array**	**28.32**	**290**	P		P	**P**	**20 33 27.2**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=83,slow=11,SNR=2.9								
H11N2	**WAKE ISLAND Hy**	**30.01**	**142**	T		T		21 04 30.6	
	baz=333,slow=75,SNR=42								
H11N1	**WAKE ISLAND Hy**	**30.03**	**142**	T		T		21 04 35.0	
	baz=333,slow=75,SNR=28								
H11N3	**WAKE ISLAND Hy**	**30.03**	**142**	T		T		21 04 32.0	
	baz=333,slow=75,SNR=37								
H11S1	**WAKE ISLAND Hy**	**31.01**	**143**	T		T		21 05 50.8	
	baz=340,slow=77,SNR=63								
H11S3	**WAKE ISLAND Hy**	**31.02**	**143**	T		T		21 05 49.7	
	baz=340,slow=77,SNR=27								
H11S2	**WAKE ISLAND Hy**	**31.03**	**143**	T		T		21 05 49.9	
	baz=340,slow=77,SNR=32								
ILAR	**Eielson Array**	**39.98**	**37**	P		P	**P**	**20 35 07.0**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=285,slow=8.7,SNR=14								
ILAR	**Eielson Array**	**39.98**	**37**	P		P	**P**	**20 35 07.0**	**+0.1**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.9s								
MKAR	**Makanchi Array**	**44.28**	**296**	P		P	**P**	**20 35 40.3**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=69,slow=6.9,SNR=3.9								
MKAR				PcP			**PP**	**20 37 25.8**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=78,slow=6.6,SNR=2.9								
CMAR	**Chiang Mai Arr**	**48.40**	**253**	P		P	**P**	**20 36 14.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=36,slow=8.5,SNR=5.1								
YKA	**Yellowknife Ar**	**54.27**	**35**	P		P	**P**	**20 36 57.0**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=308,slow=8.2,SNR=4.3								
YKA	**Yellowknife Ar**	**54.27**	**35**	P		P	**P**	**20 36 57.0**	**-1.3**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.7s								
WRA	**Warramunga Arr**	**66.07**	**194**	P		P	**P**	**20 38 18.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=13,slow=6.7,SNR=5.2								
WRA	**Warramunga Arr**	**66.07**	**194**	P		P	**P**	**20 38 18.6**	**-0.9**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.8s								
PDAR	**Pinedale Array**	**68.58**	**51**	P		P	**P**	**20 38 36.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=256,slow=3.6,SNR=2.9								
ASAR	**Alice Springs**	**69.79**	**194**	P		P	**P**	**20 38 42.9**	**0.0**
	comp=Z,0.4nm,0.9s,baz=15,slow=7.7,SNR=4.8								
TXAR	**Lajitas Array**	**81.43**	**57**	P		P	**P**	**20 39 50.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=332,slow=5.6,SNR=3.8								

MAN 21 20:41:31, 10°.90N×125°.03E, h33km, mb4.0, ML2.7, MS2.4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.27**	**350**	⇓	*e*P		Pn	20 41 40.7	+2.1
PLP					*i* S		Sb	20 41 46.9	+3.4
OCLP	**Ormoc**	**0.44**	**291**		*e*P		Pn	20 41 42.9	+1.8
OCLP					*e*S		Sn	20 41 50.4	+2.5
MSLP	**Maasin**	**0.78**	**192**		*e*P		Pb	20 41 47.4	+1.2
MSLP					*e*S		Sb	20 41 58.4	+2.0

MEX 21 20:45:11.2±0.8, 16°.18N×97°.61W, h15km±9km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**293**	*e*	P		Pg	20 45 19.8	-2.0
PNIG					*e*S		Sg	20 45 27.7	-1.4
VHO	**Vista Hermosa**	**1.22**	**43**	*i*	P		Pn	20 45 30.1	-3.9
VHO					*e*S		Sb	20 45 44.7	-5.5
HUIG	**Huatulco**	**1.50**	**106**	*e*	P		Pn	20 45 34.6	-3.0
HUIG					*e*S		Sn	20 45 52.1	-5.0
TLIG	**Tlapa**	**1.65**	**327**	*e*	P		Pn	20 45 36.3	-3.5
TLIG					*i* S		Sn	20 45 55.8	-5.1

*CSEM **21** 20:49:48.7, 25°.18N×55°.74E, h8km, ML1.8/2*
DSN 21 20:49:48.7±6.6, 25°.18N×55°.74E, h8km, mb1.2/4, ML1.8/2, 3C, Error ellipse: s-maj=1.8km s-min=0.7km az=319.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NAZ	**Nazwa, Dubai**	**0.20**	**200**	P		P	Pg	20 49 53.0	+0.2
	SNR=20								
NAZ	**Nazwa, Dubai**	**0.20**	**200**	⇑	*e*P		Pg	20 49 53.0	+0.1
	SNR=20								
FAQ	**Al Faqa, Dubai**	**0.45**	**197**	P		P	Pg	20 49 57.2	-0.3
	SNR=28								
FAQ	**Al Faqa, Dubai**	**0.45**	**197**	*e*	P	P	Pg	20 49 57.2	-0.3
	SNR=28								
HATD	**Hatta, Dubai**	**0.50**	**134**	P		P	Pg	20 49 58.3	-0.2
	SNR=5.7								
HATD	**Hatta, Dubai**	**0.50**	**134**	⇑	*e*P	P	Pg	20 49 58.3	-0.2
	SNR=5.7								
ASHO	**Ashiyiah**	**0.57**	**149**	P		P	Pg	20 49 59.7	-0.2
	SNR=24								
ASHO	**Ashiyiah**	**0.57**	**149**	⇑	*e*P	P	Pg	20 49 59.7	-0.2
	SNR=24								
ASUD	**Al Ashush, Dub**	**0.66**	**214**	P		P	Pg	20 50 01.4	-0.1
	SNR=24								
ASUD	**Al Ashush, Dub**	**0.66**	**214**	*e*	P	P	Pg	20 50 01.4	-0.1
	SNR=24								

GUC 21 20:53:38.1±0.3, 35°.21S×71°.91W, h52km±3km, ML3.5, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.29**	**131**	*e*	P		Pn	20 53 47.9	+0.6
TALC					*e*S		Sn	20 53 55.2	+1.3
TALC					AML		AML	20 53 55.9	
	comp=E,6μm,0.1s								
COCH	**Cobquecura**	**1.17**	**218**	*e*	P		Pn	20 53 59.3	+1.2
COCH					*e*S		Sn	20 54 15.3	+2.3
LNV	**Longovilo**	**1.31**	**18**	*e*	P		Pn	20 54 01.6	+1.5
LNV					*e*S		Sn	20 54 19.0	+2.5
CACH	**El Canelo**	**1.53**	**45**	*e*	P		Pn	20 54 05.0	+1.8
CHCH	**Chadas Angostu**	**1.64**	**40**	*e*	P		Pn	20 54 06.3	+1.8

*ISCJB **21** 21:08:28.1±1.2, 13°.40S±0°.09×165°.9E±0°.2, h36km, mb3.6/5, Error ellipse: s-maj=28.6km s-min=11.5km az=169.3*
*IDC **21** 21:08:29.5±1.3, 13°.27S×165°.80E, h30km±6km, mb3.6/5, mb1 3.8/6, mb1mx3.5/23, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=37.5km s-min=20.2km az=125.0*
ISC 21 21:08:29.6±1.1, 13°.29S±0°.10×165°.8E±0°.2, h36km, n6, σ1°.22/10, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.75**	**176**	P		Pn	**Pn**	**21 10 33.7**	**-0.1**
	0.4nm,0.3s,baz=315,slow=17,SNR=4.8								
DZM						Sn	**Sn**	**21 12 10.7**	**-0.6**
	0.7nm,0.3s,baz=341,slow=23,SNR=1.3								
STKA	**Stephens Creek**	**28.92**	**226**	P		P	**P**	**21 14 26.8**	**+1.4**
	1.5nm,1.0s,baz=45,slow=13,SNR=2.7								
WRA	**Warramunga Arr**	**30.86**	**253**	P		P	**P**	**21 14 43.0**	**+0.3**
	0.3nm,1.0s,baz=86,slow=9.2,SNR=4.1								
WRA				pP			**pP**	**21 14 51.0**	**-2.1**
	0.3nm,0.7s,baz=85,slow=9.0,SNR=2.5								
**AS

OKC					*e*SG	**Sb**	**21 27 53.5**	**+0.6**
	comp=Z,24nm,0.4s								
OKC	**Ostrava-Krasne**	**2.13**	**144**		Pg	**Pb**	**21 27 26.5**	**+0.5**
OKC					Sg	**Sb**	**21 27 53.5**	**+0.6**
	comp=Z,24nm,0.4s								
VRAC	**Vranov**	**2.27**	**173**		Pn	**Pn**	**21 27 25.9**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=354,slow=17,SNR=19								
VRAC					Lg	Lg	21 27 58.6		
	comp=Z,6.4nm,0.3s,baz=254,slow=24,SNR=9.7								
VRAC	**Vranov**	**2.27**	**173**	*e*Pn		**Pn**	**21 27 25.9**	**+0.5**
VRAC				*e*Sg		**Sb**	**21 27 58.1**	**+1.0**
TREC	**Trest**	**2.32**	**192**	*e*SG		Sg	**21 28 00.4**	**-0.5**
	comp=Z,18nm,0.3s								
TREC	**Trest**	**2.32**	**192**	Sg		**Sg**	**21 28 00.4**	**-0.5**
	comp=Z,18nm,0.3s								
OJC	**Ojcow**	**2.65**	**119**	Pn		**Pn**	**21 27 29.8**	**-0.8**
OJC				*e*Pg		**Pg**	**21 27 37.2**	**-0.2**
OJC				*e*Sn		**Sn**	**21 28 02.1**	**-1.3**
OJC				*e*Sg		**Sg**	**21 28 12.7**	**+1.0**
OJC	**Ojcow**	**2.65**	**119**	Pn		**Pn**	**21 27 29.8**	**-0.8**
KHC	**Kasperske Hory**	**2.96**	**216**	*e*PN		**Pn**	**21 27 35.5**	**+0.7**
KHC				*e*PG		**Pb**	**21 27 41.5**	**+1.4**
KHC				*e*SN		**Sn**	**21 28 11.0**	**0.0**
KHC				*e*SG		**Sg**	**21 28 23.0**	**+1.5**
KHC	**Kasperske Hory**	**2.96**	**216**	Pn		**Pn**	**21 27 35.5**	**+0.7**
KHC	**Kasperske Hory**	**2.96**	**216**	Pg		**Pb**	**21 27 41.5**	**+1.4**
KHC				Sn		**Sn**	**21 28 11.0**	**0.0**
KHC				Sg		**Sg**	**21 28 23.0**	**+1.5**
GERES	**GERESS Array B**	**3.16**	**211**	Pn		**Pn**	**21 27 36.5**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=30,slow=12,SNR=21								
GERES				Pg		**Pb**	**21 27 44.7**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=27,slow=16,SNR=28								
GERES				Lg		Lg	21 28 23.4		
	comp=Z,3.8nm,0.3s,baz=33,slow=26,SNR=6.7								
NIE	**Niedzica**	**3.40**	**128**	*e*P		**Pg**	**21 27 52.4**	**+0.8**
NIE				*e*S		**Sg**	**21 28 37.0**	**+1.4**
VYHS	**Vyhne**	**3.51**	**150**	*e*Pn		**Pn**	**21 27 42.3**	**-0.1**
VYHS	**Vyhne**	**3.51**	**150**	*e*PN		**Pn**	**21 27 42.3**	**-0.1**
BSD	**Bornholm Skovb**	**3.64**	**348**	*i* P		**Pn**	**21 27 43.5**	**-0.6**
BSD				*i* S		**Sn**	**21 28 27.5**	**-0.2**
BSD	**Bornholm Skovb**	**3.64**	**348**	*i* P		**Pn**	**21 27 43.5**	**-0.6**
BSD				*i* S		**Sn**	**21 28 27.5**	**-0.2**
CONA	**Conrad Observa**	**3.65**	**183**	⇑*i* Pn		**Pn**	**21 27 44.7**	**+0.4**
CONA				⇓*i* Sg		**Sg**	**21 28 41.5**	**-2.1**
	comp=Z,8.6nm,0.3s								
CONA	**Conrad Observa**	**3.65**	**183**	Pn		**Pn**	**21 27 44.7**	**+0.4**
CONA				Sg		**Sg**	**21 28 41.5**	**-2.1**
	comp=Z,8.6nm,0.3s								
STHS	**Stebnicka Huta**	**3.88**	**122**	*e*Pn		**Pn**	**21 27 47.9**	**+0.5**
STHS	**Stebnicka Huta**	**3.88**	**122**	*e*PN		**Pn**	**21 27 47.9**	**+0.5**
STHS				*e*PG		**Pg**	**21 28 01.6**	**+0.8**
MOA	**Molln**	**3.92**	**199**	⇑*i* Pn		**Pn**	**21 27 48.7**	**+0.6**
MOA				⇓*i* Sg		**Sg**	**21 28 50.0**	**-2.5**
	comp=Z,13nm,0.6s								
MOA	**Molln**	**3.92**	**199**	Pn		**Pn**	**21 27 48.7**	**+0.6**
MOA				Sg		**Sg**	**21 28 50.0**	**-2.5**
	comp=Z,13nm,0.6s								
ARSA	**Arzberg**	**4.34**	**186**	⇑*i* Pn		**Pn**	**21 27 53.7**	**-0.1**
ARSA				⇓*i* Sg		**Sg**	**21 29 04.6**	**-1.3**
	comp=Z,13nm,0.7s								
ARSA	**Arzberg**	**4.34**	**186**	Pn		**Pn**	**21 27 53.7**	**-0.1**
ARSA				Sg		**Sg**	**21 29 04.6**	**-1.3**
	comp=Z,13nm,0.7s								
KOLS	**Kolonicke sedl**	**4.71**	**122**	*e*Pn		**Pn**	**21 27 59.6**	**+0.8**
KOLS	**Kolonicke sedl**	**4.71**	**122**	*e*PN		**Pn**	**21 27 59.6**	**+0.8**
KBA	**Koelnbreinsper**	**4.86**	**204**	⇑*i* Pn		**Pn**	**21 28 02.0**	**+0.9**
KBA				⇑*i* Sg		**Sg**	**21 29 20.5**	**-2.1**
	comp=Z,6.6nm,0.6s								
KBA	**Koelnbreinsper**	**4.86**	**204**	Pn		**Pn**	**21 28 02.0**	**+0.9**
KBA				Sg		**Sg**	**21 29 20.5**	**-2.1**
	comp=Z,6.6nm,0.6s								
AKASG	**Malin Array Be**	**8.24**	**91**	Pn		**Pn**	**21 28 46.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=282,slow=12,SNR=3.3								
FINES	**FINESS Array B**	**11.29**	**25**	Pn		**Pn**	**21 29 27.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=3.9								
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn		**Pn**	**21 29 40.2**	**-0.3**
	baz=107,slow=13,SNR=3.1								

IDC ***21*** *21:27:42.2±1.1, 34°.58S×72°.69W, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.6/27, mbtmp3.5/6, ML3.3/3, MS1.5/1, Ms1 1.5/1, ms1mx1.5/20, Error ellipse: s-maj=30.7km s-min=17.8km az=103.0*

ISCJB ***21*** *21:27:45.3±1.0, 34°.62S±0°.09×72°.7W±0°.2, h33km, mb3.7/3, MS3.7/1, Error ellipse: s-maj=27.9km s-min=13.1km az=8.1*

ISC 21 21:27:47.3±2.0, 34°.6S±0°.1×72°.7W±0°.3, h35km, n9, σ0s09/6, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.78**	**53**	Pn			**Pn**	**21 28 56.8**	**0.0**
	0.3nm,0.3s,baz=224,slow=10,SNR=8.2								
CFAA				LR		LR	LR	21 30 12.0	
	comp=Z,6.0nm,21.2s,baz=180,slow=31								
CFAA				Lg		Lg	Lg	21 30 12.5	
	0.2nm,0.3s,baz=25,slow=19,SNR=4.1								
PLCA	**Paso Flores**	**6.36**	**165**	Pn			**Pn**	**21 29 18.6**	**0.0**
	0.2nm,0.3s,baz=338,slow=8.7,SNR=3.5								
PLCA				Lg		Lg	Lg	21 31 03.2	
	0.1nm,0.3s,baz=84,slow=23,SNR=1.9								
LPAZ	**La Paz**	**18.68**	**14**	P			**Pn**	**21 32 03.7**	**0.0**
	0.1nm,0.3s,baz=178,slow=5.7,SNR=5.5								
QSPA	**South Pole Qui**	**55.65**	**180**	P			P	21 37 20.2	+0.6
	1.1nm,0.9s,baz=122,slow=5.1,SNR=3.9								
TXAR	**Lajitas Array**	**69.99**	**331**	P			P	21 38 55.1	-0.2
	0.4nm,0.9s,baz=157,slow=6.8,SNR=4.2								
PFO	**Pinyon Flats O**	**79.29**	**324**	LR			LR	22 07 51.1	
	comp=Z,41nm,21.6s,baz=296,slow=30								
TORD	**Torodi Ar. Bea**	**84.91**	**70**	P			**P**	**21 40 19.0**	**0.0**
	0.5nm,0.7s,baz=276,slow=5.1,SNR=6.7								
ZALV	**Zalesovo Beam**	**155.01**	**32**	PKPab			**PKPab**	**21 48 00.3**	**0.0**
	0.8nm,0.7s,baz=329,slow=5.5,SNR=3.6								
MKAR	**Makanchi Array**	**157.56**	**50**	PKPab			**PKPab**	**21 48 11.4**	**-0.1**
	0.3nm,0.6s,baz=292,slow=6.0,SNR=3.1								

ISCJB ***21*** *21:44:50.2±1.1, 0°.4S±0°.1×149°.3E±0°.3, h33km, mb3.7/8, Error ellipse: s-maj=36.2km s-min=17.3km az=7.2*

IDC ***21*** *21:44:53.8±0.9, 0°.41S×149°.25E, h44km±5km, mb3.6/8, mb1 3.8/8, mb1mx3.6/32, mbtmp3.8/8, Error ellipse: s-maj=30.7km s-min=15.5km az=87.0*

ISC 21 21:44:53.0±1.0, 0°.4S±0°.1×149°.4E±0°.3, h35km, n15, σ1s50/16, mb3.8/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.37**	**216**	P			**P**	**21 50 05.6**	**-2.4**
	1.3nm,0.4s,baz=38,slow=11,SNR=64								
WRA				PcP			**PcP**	**21 53 47.2**	**+0.1**
	0.5nm,0.9s,baz=38,slow=2.4,SNR=5.3								
H11S3	**WAKE ISLAND Hy 25.34**	**41**		T			T	22 17 15.6	
	baz=224,slow=75,SNR=14								
H11S2	**WAKE ISLAND Hy 25.35**	**41**		T			T	22 17 18.7	
	baz=224,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy 25.36**	**41**		T			T	22 17 14.4	
	baz=224,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy 26.36**	**40**		T			T	22 18 46.3	
	baz=221,slow=74								
H11N3	**WAKE ISLAND Hy 26.37**	**40**		T			T	22 18 45.2	
	baz=221,slow=74,SNR=1.2								
H11N2	**WAKE ISLAND Hy 26.37**	**40**		T			T	22 18 46.3	
	baz=221								
ASAR	**Alice Springs**	**27.57**	**212**	P			**P**	**21 50 35.0**	**-2.0**
	0.5nm,0.6s,baz=47,slow=7.3,SNR=9.4								
ASAR				pP			**pP**	**21 50 48.1**	**+1.0**
	1.3nm,0.4s,baz=44,slow=7.2,SNR=9.0								
ASAR				PcP			**PcP**	**21 53 54.7**	**+0.3**
	0.4nm,0.7s,baz=46,slow=2.7,SNR=4.0								
CMAR	**Chiang Mai Arr**	**52.93**	**294**	P			**P**	**21 54 06.3**	**+0.1**
	2.1nm,0.8s,baz=108,slow=5.6,SNR=18								
CMAR				pP			**pP**	**21 54 17.9**	**+1.2**
	1.6nm,0.7s,baz=116,slow=5.8,SNR=7.8								
SONM	**Songino Array**	**60.78**	**328**	P			**P**	**21 55 01.8**	**+0.2**
	0.5nm,0.6s,baz=146,slow=6.9,SNR=6.1								
SONM				pP			**pP**	**21 55 14.5**	**+2.2**
	0.7nm,0.7s,baz=150,slow=6.8,SNR=5.9								
MKAR	**Makanchi Array**	**74.76**	**319**	P			**P**	**21 56 28.4**	**-1.1**
	0.4nm,0.7s,baz=92,slow=8.5,SNR=5.4								
MKAR				pP			**pP**	**21 56 40.7**	**+0.2**
	0.6nm,0.8s,baz=128,slow=3.7,SNR=5.4								
ZALV	**Zalesovo Beam**	**75.59**	**327**	P			**P**	**21 56 33.2**	**-0.9**
	0.5nm,0.6s,baz=125,slow=7.2,SNR=3.0								
VNDA	**Vanda**	**77.36**	**177**	P			**P**	**21 56 44.1**	**+0.3**
	1.2nm,0.8s,baz=314,slow=3.7,SNR=6.0								
VNDA				pP			**pP**	**21 56 57.4**	**+2.7**
	1.6nm,0.7s,baz=331,slow=6.9,SNR=8.1								
ILAR	**Eielson Array**	**79.43**	**23**	P			**P**	**21 56 54.1**	**-1.3**
	1.2nm,0.8s,baz=244,slow=5.7,SNR=11								
TORD	**Torodi Ar. Bea**	**145.54**	**293**	PKPbc			**PKPdf**	**22 04 27.8**	**-0.8**
	1.5nm,0.5s,baz=42,slow=2.2,SNR=22								

ISCJB ***21*** *21:45:44.1±0.9, 36°.18S±0°.05×72°.1W±0°.2, h35km, mb3.9/5, MS3.5/1, Error ellipse: s-maj=19.6km s-min=7.4km az=177.5*

NEIC ***21*** *21:45:46.8±1.2, 36°.21S×72°.11W, h46km±10km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=8.8km az=90.0*

IDC ***21*** *21:45:47.4±5.5, 36°.18S×72°.07W, h46km±62km, mb3.7/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.9/5, ML4.1/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/18, Error ellipse: s-maj=61.1km s-min=43.0km az=6.0*

ISC 21 21:45:46.5±0.8, 36°.20S±0°.06×72°.1W±0°.1, h35km, n16, σ1s30/17, mb3.9/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.69**	**166**	P			**Pn**	**21 46 55.8**	**+0.9**
	2.1nm,0.3s,baz=336,slow=12,SNR=30								
PLCA				S			Sn	21 47 57.9	+10
	1.2nm,0.3s,baz=285,slow=23,SNR=1.0								
PLCA	**Paso Flores**	**4.69**	**166**	*e*Pn			**Pn**	**21 46 55.5**	**+0.7**
PLCA				*e*Sn			**Sn**	**21 47 48.3**	**+0.3**
LCO	**Las Campanas**	**7.26**	**10**	*e*Pn			**Pn**	**21 47 30.4**	**+0.1**
LCO				*e*Sn			**Sn**	**21 48 51.5**	**-0.2**
TRQA	**Tornquist**	**8.28**	**106**	*e*Pn			**Pn**	**21 47 44.7**	**+0.7**
CPUP	**Villa Florida**	**15.97**	**56**	LR			LR	21 55 55.1	
	comp=Z,277nm,20.7s,baz=195,slow=38								
CPUP	**Villa Florida**	**15.97**	**56**	*e*Pn			**Pn**	**21 49 28.3**	**-0.2**
LPAZ	**La Paz**	**20.14**	**11**	P			Pn	21 50 20.8	+0.4
	0.9nm,0.6s,baz=196,slow=7.4,SNR=3.7								
LPAZ	**La Paz**	**20.14**	**11**	*e*P			**P**	**21 50 18.0**	**-0.3**
BDFB	**Brasilia**	**29.64**	**53**	P			**P**	**21 51 48.6**	**-0.3**
	0.9nm,0.4s,baz=162,slow=6.4,SNR=2.8								
QSPA	**South Pole Qui**	**54.05**	**180**	*e*P			**P**	**21 55 05.1**	**-2.1**
	2.8nm,1.1s								
CMIG	**Matias Romero**	**57.22**	**334**	LR			LR	22 14 54.9	
	comp=Z,38nm,20.6s,baz=195,slow=30								
TXAR	**Lajitas Array**	**71.64**	**331**	P			**P**	**21 57 04.1**	**-0.4**
	0.4nm,0.7s,baz=141,slow=8.1,SNR=3.8								
TXAR				pP			**pP**	**21 57 18.4**	**+3.0**
	0.4nm,0.7s,baz=146,slow=9.3,SNR=3.6								
DBIC	**Dimbokro**	**75.92**	**71**	P			**P**	**21 57 29.6**	**-0.3**
	2.2nm,0.6s,baz=225,slow=9.1,SNR=6.2								
DBIC	**Dimbokro**	**75.92**	**71**	*e*P			**P**	**21 57 29.3**	**-0.6**
	1.4nm,0.5s								
TORD	**Torodi Ar. Bea**	**84.99**	**70**	P			**P**	**21 58 17.9**	**-0.7**
	0.7nm,0.8s,baz=240,slow=2.9,SNR=3.6								
TORD				pP			**pP**	**21 58 32.2**	**+2.6**
	0.9nm,1.0s,baz=220,slow=6.0,SNR=3.1								
ZALV	**Zalesovo Beam**	**156.07**	**35**	PKPab			**PKPab**	**22 06 03.3**	**-0.8**
	0.4nm,0.5s,baz=352,slow=2.9,SNR=2.6								

PRE 21 21:49:08.2±2.2, 26°.46S×27°.45E, h2km, ML3.5, 2C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.18**	**52**	*e*P			Pg	21 49 12.9	+0.9
KLOF				*e*S			Sg	21 49 14.8	+0.2
KLOF				AML		AML	AML	21 49 15.3	
	comp=Z,12μm,0.4s								
ERPM	**east rand prop**	**0.72**	**81**	⇓*e*P			Pb	21 49 23.1	-0.7
ERPM				*e*S			Sg	21 49 31.6	-0.3
ERPM				AML		AML	AML	21 49 32.4	
	comp=Z,420nm,0.4s								
MOAB	**Moab Khotsong**	**0.78**	**228**	*e*P			Pb	21 49 24.2	-0.6
MOAB				*e*S			Sg	21 49 33.4	-0.3
MOAB				AML		AML	AML	21 49 41.7	
	comp=Z,533nm,0.2s								
TLEK	**Tau Lekoa**	**0.85**	**234**	⇑*e*P			Pb	21 49 25.6	-0.3
TLEK				*e*S			Sg	21 49 35.8	-0.3
TLEK				AML		AML	AML	21 49 37.0	
	comp=Z,309nm,0.2s								
SEK	**Senekal**	**1.86**	**175**	⇑*e*P			Pb	21 49 43.6	+0.5
SEK				*e*S			Sb	21 50 06.5	-0.5
SEK				AML		AML	AML	21 50 08.6	
	comp=Z,279nm,0.2s								
LBTB	**Lobatse**	**2.21**	**310**	*e*P			Pn	21 49 47.3	+1.3
LBTB				*e*S			Sn	21 50 15.1	+1.1
LBTB				AML		AML	AML	21 50 17.5	
	comp=Z,693nm,0.5s								
MSNA	**Messina**	**4.72**	**30**	*e*P			Pn	21 50 19.5	-1.1
MSNA				*e*S			Sn	21 51 10.7	-5.4
MSNA				AML		AML	AML	21 51 44.5	
	comp=Z,58nm,0.5s								
GRM	**Grahamstown**	**6.88**	**187**	*e*P			Pn	21 50 51.1	+1.0
GRM				*e*S			Sn	21 52 05.7	-3.4
GRM				AML		AML	AML	21 52 43.2	
	comp=Z,12nm,0.7s								
BUFB	**Buffelsbos**	**8.01**	**196**	*e*P			Pn	21 51 05.5	-0.1
BUFB				*e*S			Sn	21 52 33.3	-3.5
BUFB				AML		AML	AML	21 52 56.1	
	comp=Z,3.3nm,0.2s								
SUR	**Sutherland**	**8.26**	**223**	*e*P			Pn	21 51 09.7	+0.4
SUR				*e*S			Sn	21 52 39.2	-4.2
SUR				AML		AML	AML	21 53 36.4	
	comp=Z,21nm,0.8s								
KOMG	**Komaggas**	**9.40**	**247**	*e*P			Pn	21 51 24.8	+0.1
KOMG				*e*S			Sn	21 53 05.5	-5.6
KOMG				AML		AML	AML	21 54 05.7	
	comp=Z,20nm,0.6s								

ISCJB ***21*** *21:58:32.5±0.5, 6°.03S±0°.06×76°.53W±0°.05, h10km, mb3.7/9, MS3.5/2, Error ellipse: s-maj=8.4km s-min=7.1km az=25.4*

IDC ***21*** *21:58:33.5±0.7, 6°.04S×76°.83W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.8/38, mbtmp3.8/11, ML3.7/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/22, Error ellipse: s-maj=16.4km s-min=12.9km az=115.0*

NEIC ***21*** *21:58:34.0, 6°.19S×76°.78W, h25km, mb3.9/3, ML4.2(ARE), After ARE.*

NEIC Felt [III] at Moyobamba. Also felt at Tarapoto.

ISC 21 21:58:34.4±0.5, 6°.04S±0°.06×76°.67W±0°.07, h10km, n30, σ1s99/28, mb3.8/9, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.03**	**237**	Pn			**Pb**	**21 59 09.4**	**-2.3**
	64nm,0.3s,baz=36,slow=10,SNR=170								
ATAH				Lg		Lg	Lg	21 59 33.0	
	38nm,0.3s,baz=100,slow=17,SNR=9.6								
NNA	**Nana**	**5.92**	**182**	Pn			**Pn**	**22 00 04.1**	**+2.0**
	6.0nm,0.3s,baz=4.7,slow=12,SNR=17								
NNA				Sn			**Sn**	**22 01 14.2**	**+4.1**
	11nm,0.3s,baz=240,slow=20,SNR=2.9								
NNA				Lg		Lg	Lg	22 01 40.7	
	5.5nm,0.3s,baz=269,slow=21,SNR=3.8								
NNA				LR		LR	LR	22 02 12.5	
	comp=Z,128nm,18.1s,baz=334,slow=37								
NNA	**Nana**	**5.92**	**182**	*e*Pn			Pn	21 59 57.8	-4.4
	49nm,0.6s								
NNA				*e*Sn			**Sn**	**22 01 05.7**	**-4.4**
OTAV	**Otavalo**	**6.48**	**344**	*e*Pn			**Pn**	**22 00 09.4**	**-0.9**
	18nm,0.8s								
ROSC	**El Rosal**	**11.07**	**12**	Lg			Lg	22 04 37.0	
	0.4nm,0.3s,baz=245,slow=23,SNR=1.7								
ROSC				LR			LR	22 06 35.1	
	comp=Z,392nm,18.4s,baz=204,slow=43								
LPAZ	**La Paz**	**13.18**	**141**	Pn			**Pn**	**22 01 44.8**	**+2.5**
	0.1nm,0.3s,baz=344,slow=15,SNR=2.9								
LPAZ				Lg			Lg	22 05 33.6	
	0.5nm,0.3s,baz=174,slow=19,SNR=5.5								
LPAZ	**La Paz**	**13.18**	**141**	*e*Pn			Pn	22 01 38.8	-3.6
	7.3nm,1.1s								
SAML	**Samuel**	**13.68**	**103**	*e*Pn			**Pn**	**22 01 47.3**	**-1.3**
	9.7nm,0.7s								
SAML				*e*Sn			**Sn**	**22 04 18.5**	**-2.2**
BCIP	**Isla Barro Col**	**15.43**	**348**	*e*Pn			**Pn**	**22 02 11.4**	**-0.9**
SDV	**Santo Domingo**	**16.00**	**22**	*e*Pn			**Pn**	**22 02 19.8**	**0.0**
	5.2nm,0.5s								
PTGA	**Pitinga**	**17.48**	**73**	Pn			**Pn**	**22 02 37.8**	**-0.7**
	1.8nm,0.3s,baz=257,slow=17,SNR=12								
PTGA				Sn			Sn	22 05 46.5	-6.8
	1.2nm,0.3s,baz=312,slow=21,SNR=2.0								
PTGA				Lg			Lg	22 07 53.1	
	0.6nm,0.3s,baz=346,slow=23,SNR=1.8								
PTGA				LR			LR	22 10 07.4	
	comp=Z,114nm,19.8s,baz=276,slow=39								
PTGA	**Pitinga**	**17.48**	**73**	*e*Pn			**Pn**	**22 02 36.9**	**-1.5**
	9.4nm,0.7s								
PTGA				*e*Sn			**Sn**	**22 05 50.6**	**-2.7**
LVC	**Limon Verde**	**18.10**	**156**	*e*Pn			**Pn**	**22 02 42.8**	**-3.5**
	3.9nm,0.6s								
CFAA	**Coronel Fontan**	**26.63**	**164**	P			**P**	**22 04 14.2**	**+0.9**
	0.2nm,0.3s,baz=346,slow=8.3,SNR=5.4								
CPUP	**Villa Florida**	**27.35**	**140**	LR			LR	22 16 37.7	
	comp=Z,291nm,19.6s,baz=328,slow=40								
PLCA	**Paso Flores**	**34.98**	**172**	LR			LR	22 17 49.4	
	comp=Z,44nm,19.1s,baz=4.0,slow=33								
PLCA	**Paso Flores**	**34.98**	**172**	*e*P			P	22 05 23.0	-3.9
TXAR	**Lajitas Array**	**43.71**	**325**	P			**P**	**22 06 40.8**	**+0.8**
	0.1nm,0.5s,baz=144,slow=11,SNR=2.4								
NVAR	**Mina Array Bea**	**58.73**	**322**	P			**P**	**22 08 33.9**	**+1.1**
	0.9nm,0.7s,baz=120,slow=5.3,SNR=3.6								
DBIC	**Dimbokro**	**72.76**	**81**	P			**P**	**22 10 06.4**	**+2.8**
	1.7nm,0.7s,baz=265,slow=6.1,SNR=3.7								
YKA	**Yellowknife Ar**	**74.24**	**343**	P			**P**	**22 10 11.3**	**+0.1**
	0.5nm,0.5s,baz=139,slow=5.9,SNR=5.4								
TORD	**Torodi Ar. Bea**	**80.11**	**76**	P			**P**	**22 10 46.5**	**+1.2**
	0.6nm,0.4s,baz=278,slow=6.1,SNR=8.0								
INK	**Inuvik**	**83.96**	**342**	P			**P**	**22 11 04.6**	**+0.2**
	0.6nm,0.3s,baz=103,slow=9.1,SNR=3.2								
ILAR	**Eielson Array**	**87.14**	**336**	P			**P**	**22 11 19.2**	**-1.2**
	0.4nm,0.9s,baz=108,slow=2.9,SNR=3.4								
VNDA	**Vanda**	**90.63**	**191**	P			**P**	**22 11 35.2**	**-1.4**
	0.4nm,0.7s,baz=215,slow=3.9,SNR=3.5								
KURK	**Kurchatov**	**130.92**	**21**	PKP			**PKPdf**	**22 17 47.1**	**+0.8**
KURBB	**Kurchatov Arra**	**130.97**	**21**	PKP			**PKPdf**	**22 17 47.1**	**+0.8**
	0.5nm,0.8s,baz=318,slow=2.4,SNR=5.2								
ASAR	**Alice Springs**	**138.02**	**224**	PKP			**PKPdf**	**22 18 00.1**	**-0.3**
	0.8nm,0.8s,baz=105,slow=1.7,SNR=7.1								
SONM	**Songino Array**	**138.27**	**357**	PKP			**PKPdf**	**22 18 00.9**	**+0.6**
	0.2nm,0.7s,baz=297,slow=1.1,SNR=3.2								
WRA	**Warramunga Arr**	**140.04**	**229**	PKP			**PKPdf**	**22 18 04.3**	**+0.1**
	0.5nm,0.5s,baz=124,slow=2.1,SNR=13								

KRSC 21 22:17:08.4±1.5, 48°.84N×157°.21E, h6km±42km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**3.58**	**7**	*e*P			Pn	22 18 07.1	+2.6
RUS	**Russkaya**	**3.69**	**13**	*e*P			Pn	22 18 08.9	+3.0
RUS				*e*S			Sn	22 18 53.5	+3.8
MTVR	**Mutnovka**	**3.70**	**9**	*e*P			Pn	22 18 09.4	+3.1
MTVR				*e*S			Sn	22 18 54.3	+4.0
UGLR	**Uglovaya**	**4.49**	**13**	*e*P			Pn	22 18 21.4	+4.3
AVH	**Avacha**	**4.54**	**12**	*e*P			Pn	22 18 22.2	+4.6
SMAR	**Somma**	**4.54**	**12**	*e*P			Pn	22 18 22.6	+4.7
KOK	**Koryaka**	**4.55**	**11**	*e*P			Pn	22 18 22.3	+4.5
SDLR	**Sedlovina**	**4.57**	**13**	*e*P			Pn	22 18 21.6	+3.5
KRER	**Koryakskii**	**4.58**	**12**	*e*P			Pn	22 18 22.4	+4.1
KRER				S			Sn	22 19 16.5	+4.6
KRX	**Arik**	**4.62**	**11**	*e*P			Pn	22 18 22.8	+4.0
KRX				S			Sn	22 19 17.2	+4.4
SPN	**Mys Shipunski**	**4.62**	**22**	*e*P			Pn	22 18 23.1	+4.4
SPN				S			Sn	22 19 18.0	+5.4
GNL	**Ganaly**	**4.88**	**5**	P			Pn	22

mb3.3/3, Error ellipse: s-maj=9.7km s-min=7.3km az=17.3
*JMA **21** 22:57:56.7, 38.81N×142.18E, h12km±1km, M3.3*
*IDC **21** 22:57:58.3±2.8, 39.02N×142.13E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/34, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=65.7km s-min=30.9km az=148.0*

ISC 21 22:57:56.8±2.2, 38.82N±0.05×142.16E±0.09, h7km±11km, n17, σ1§06/17, mb3.4/3, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.46**	**305**	⇓P		**Pg**		**22 58 06.2**	**+0.5**
OFUJ				eS		**Sg**		**22 58 12.9**	**+1.1**
JIO	**Ouri**	**0.73**	**240**	P		**Pg**		**22 58 10.6**	**-0.2**
JIO				S		**Sg**		**22 58 20.4**	**+0.2**
JMK	**Ichinoseki**	**0.74**	**281**	⇓P		**Pg**		**22 58 11.1**	**0.0**
JMK				eS		**Sg**		**22 58 21.4**	**+0.7**
JOM	**Ohasama**	**0.94**	**315**	P		**Pg**		**22 58 14.5**	**-0.3**
JOM				eS		**Sg**		**22 58 27.5**	**+0.5**
JTH	**Tanohata**	**1.14**	**349**	P		**Pb**		**22 58 17.3**	**-1.6**
JTH				S		**Sb**		**22 58 32.9**	**-1.1**
JOU	**Okura**	**1.25**	**249**	P		**Pn**		**22 58 19.9**	**-0.9**
JOU				S		**Sn**		**22 58 37.2**	**-0.8**
JRG	**Rokugo**	**1.32**	**297**	P		**Pb**		**22 58 21.5**	**-0.4**
JRG				eS		**Sn**		**22 58 39.1**	**-0.4**
MJAR	**Matsushiro Arr**	**3.87**	**235**	Pn		Pb		22 59 00.7	-4.7
	0.2nm,0.3s,baz=42,slow=11,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**28.61**	**125**	T		T		23 33 50.2	
	baz=317,slow=76,SNR=258								
H11N1	**WAKE ISLAND Hy**	**28.62**	**125**	T		T		23 33 50.8	
	baz=317,slow=76,SNR=170								
H11N3	**WAKE ISLAND Hy**	**28.63**	**125**	T		T		23 33 51.5	
	baz=317,slow=76,SNR=176								
H11S1	**WAKE ISLAND Hy**	**29.39**	**127**	T		T		23 34 47.8	
	baz=319,slow=76,SNR=39								
H11S3	**WAKE ISLAND Hy**	**29.39**	**127**	T		T		23 34 49.9	
	baz=319,slow=76,SNR=45								
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T		T		23 34 49.4	
	baz=319,slow=76,SNR=48								
ZALV	**Zalesovo Beam**	**41.17**	**311**	P		**P**		**23 05 44.0**	**+2.3**
	0.3nm,0.4s,baz=134,slow=8.3,SNR=2.7								
MKAR	**Makanchi Array**	**43.69**	**301**	P		**P**		**23 06 02.3**	**-0.1**
	0.5nm,0.8s,baz=81,slow=7.6,SNR=4.5								
ILAR	**Eielson Array**	**47.68**	**33**	P		**P**		**23 06 34.7**	**+1.1**
	0.2nm,0.5s,baz=269,slow=5.4,SNR=3.9								

IDC 21 23:07:59.8±3.4, 5.59S×147.27E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=112.6km s-min=20.3km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.02**	**220**	P		P		23 12 23.6	+0.1
	0.3nm,0.3s,baz=45,slow=11,SNR=9.8								
ASAR	**Alice Springs**	**22.11**	**214**	P		P		23 12 56.7	-0.3
	0.7nm,0.5s,baz=47,slow=9.7,SNR=16								
ASAR				S		S		23 17 03.1	+1.3
	1.1nm,0.9s,baz=34,slow=23,SNR=7.1								
MKAR	**Makanchi Array**	**77.36**	**320**	P		P		23 19 57.0	+0.3
	0.1nm,0.4s,baz=104,slow=7.2,SNR=3.3								
TORD	**Torodi Ar. Bea**	**145.25**	**285**	PKPbc		PKPbc		23 27 39.1	-1.2
	0.7nm,1.1s,baz=74,slow=2.8,SNR=6.1								

*IDC **21** 23:13:23.8±5.5, 36.19N×70.89E, h138km±48km, mb3.3/7, mb1 3.3/12, mb1mx3.1/32, mbtmp3.7/12, MS3.3/1, Ms1 3.4/1, ms1mx2.2/29, Error ellipse: s-maj=38.3km s-min=22.0km az=35.0*
*ISCJB **21** 23:13:30.1±0.6, 36.69N±0.04×70.84E±0.08, h188km, mb3.5/6, Error ellipse: s-maj=9.3km s-min=5.6km az=164.0*
*NNC **21** 23:13:33.9±2.0, 36.99N×70.64E, h177km±27km, mb2.6, mpv3.3, Error ellipse: s-maj=21.0km s-min=14.7km az=56.0*

ISC 21 23:13:29.7±0.8, 36.62N±0.07×70.88E±0.09, h188km, n31, σ1§82/34, mb3.4/6, 7C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.96**	**31**	⇓P		**Pn**		**23 14 31.7**	**+1.0**
	3.1nm,0.4s								
SFK				⇑S		**Sn**		**23 15 18.4**	**-0.2**
	14nm,0.2s								
MNAS	**Manas**	**5.99**	**12**	⇓P		**Pn**		**23 14 57.4**	**+0.7**
	1.3nm,0.5s								
MNAS				⇑S		**Sn**		**23 16 03.3**	**-2.0**
	16nm,0.5s								
KK31	**Karatay Array**	**6.48**	**358**	⇑P		**Pn**		**23 15 03.2**	**+0.3**
	2.5nm,0.5s								
KK31				⇓S		**Sn**		**23 16 11.4**	**-5.3**
	11nm,0.5s								
AAK	**Ala-Archa**	**6.62**	**24**	⇑P		**Pn**		**23 15 05.2**	**+0.3**
	1.4nm,0.6s								
AAK				⇑S		**Sn**		**23 16 18.6**	**-1.6**
	5.4nm,0.7s								
AAK	**Ala-Archa**	**6.62**	**24**	P		**Pn**		**23 15 05.8**	**+0.9**
	0.5nm,0.3s,baz=189,slow=5.9,SNR=11								
AAK				S		**Sn**		**23 16 19.5**	**-0.7**
	0.7nm,0.3s,baz=313,slow=15,SNR=10								
TKM2	**Tokmak 2**	**7.26**	**29**	P		**Pn**		**23 15 13.8**	**+0.5**
TKM2				S		**Sn**		**23 16 34.2**	**-1.3**
MK31	**Makanchi Array**	**13.25**	**36**	⇓P		**P**		**23 16 33.0**	**-0.7**
	0.6nm,0.6s,baz=207,slow=10,SNR=6.8								
MKAR	**Makanchi Array**	**13.25**	**36**	P		**P**		**23 16 32.5**	**-1.2**
	0.0nm,0.3s,baz=212,slow=10,SNR=4.3								
AB31	**Akbulak array**	**14.93**	**331**	⇓P		**Pn**		**23 16 51.2**	**-0.1**
	1.6nm,0.7s,baz=146,slow=12,SNR=20								
AB31				⇑S		Sn		23 19 28.9	-9.1
	1.2nm,0.7s,baz=156,slow=24,SNR=4.3								
DMN	**Daman**	**15.02**	**123**	*eP*		**P**		**23 16 55.4**	**+1.6**
	24nm,0.8s								
KKN	**Kakani**	**15.02**	**122**	*eP*		**P**		**23 16 55.1**	**+1.3**
	5.7nm,0.3s								
KURBB	**Kurchatov Arra**	**15.04**	**19**	P		**P**		**23 16 55.3**	**+1.8**
	0.1nm,0.3s,baz=210,slow=10.0,SNR=4.9								
PKIN	**Phulchoki**	**15.24**	**122**	*eP*		**P**		**23 16 58.0**	**+1.8**
	19nm,0.6s								
PKI	**Pulchoki**	**15.25**	**122**	*eP*		**P**		**23 16 58.3**	**+1.9**
	23nm,0.5s								
GUN	**Gumba**	**15.36**	**120**	*eP*		**P**		**23 16 58.4**	**+0.7**
	3.9nm,0.3s								
JIRN	**Jiri**	**15.73**	**120**	*eP*		**Pn**		**23 17 00.7**	**-1.0**
	12nm,0.6s								
BVAR	**Borovoye Array**	**16.41**	**359**	P		**Pn**		**23 17 11.8**	**+2.6**
	0.4nm,0.3s,baz=170,slow=11,SNR=9.5								
RAMN	**Ramite**	**16.46**	**121**	*eP*		**P**		**23 17 05.6**	**-4.1**
	4.7nm,0.3s								
AKTO	**Aktyubinsk**	**16.63**	**330**	⇑P		**Pn**		**23 17 12.7**	**+0.9**
	3.8nm,0.7s								
AKTO				⇓S		**S**		**23 20 14.2**	**-0.6**
	1.9nm,0.9s								
AKTO	**Aktyubinsk**	**16.63**	**330**	P		**Pn**		**23 17 13.3**	**+1.4**
	0.6nm,0.3s,baz=143,slow=11,SNR=14								
TAPN	**Taplejung**	**16.99**	**118**	*eP*		P		23 17 09.2	-6.3
	4.3nm,0.5s								
ODAN	**Odare**	**17.06**	**120**	*eP*		P		23 17 08.3	-8.0
	15nm,0.3s								
ZALV	**Zalesovo Beam**	**19.84**	**25**	P		**P**		**23 17 47.4**	**+1.5**
	1.8nm,0.4s,baz=220,slow=11,SNR=13								
ARCES	**ARCESS Array B**	**41.00**	**338**	P		**P**		**23 20 56.0**	**+2.3**
	1.8nm,1.0s,baz=112,slow=8.0,SNR=8.1								
NB2	**NORSAR Array**	**44.23**	**323**	P		**P**		**23 21 21.0**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.23**	**323**	P		**P**		**23 21 21.2**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=96,slow=7.8,SNR=4.8								
SPITS	**Spitsbergen Ar**	**47.35**	**347**	P		P		23 21 47.2	+3.1
	comp=Z,6.2nm,1.1s,baz=129,slow=14,SNR=2.9								
ESDC	**Sonseca Array**	**57.32**	**298**	LR		LR		23 51 30.7	
	comp=Z,26nm,19.8s,baz=110,slow=40								
TORD	**Torodi Ar. Bea**	**65.63**	**269**	P		**P**		**23 23 52.4**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=50,slow=5.9,SNR=3.8								
WRA	**Warramunga Arr**	**82.13**	**122**	P		**P**		**23 25 27.2**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=324,slow=5.0,SNR=4.7								
ASAR	**Alice Springs**	**84.40**	**125**	P		**P**		**23 25 40.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=306,slow=5.2,SNR=3.8								

IDC 21 23:22:09.6±6.1, 13.49S×167.03E, h211km±62km, mb3.3/7, mb1 3.5/8, mb1mx3.3/28, mbtmp3.8/8, Error ellipse: s-maj=50.4km s-min=26.8km az=155.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.55**	**184**	P		Pn		23 24 11.2	+1.0
	0.7nm,0.3s,baz=270,slow=11,SNR=4.9								
DZM				S		S		23 25 46.2	-0.5
	0.3nm,0.3s,baz=278,slow=22,SNR=1.4								
STKA	**Stephens Creek**	**29.63**	**228**	P		P		23 27 56.1	+0.7
	1.1nm,0.5s,baz=53,slow=7.6,SNR=10								
WRA	**Warramunga Arr**	**31.92**	**254**	P		P		23 28 14.7	-1.0
	0.2nm,0.6s,baz=85,slow=9.0,SNR=3.4								
ASAR	**Alice Springs**	**32.91**	**247**	P		P		23 28 23.4	-0.9
	0.6nm,0.4s,baz=74,slow=9.2,SNR=15								
CMAR	**Chiang Mai Arr**	**74.23**	**294**	P		P		23 33 25.3	+1.3
	0.8nm,0.3s,baz=126,slow=5.6,SNR=4.6								
SONM	**Songino Array**	**81.36**	**324**	P		P		23 34 03.6	+0.7
	0.2nm,0.3s,baz=139,slow=4.4,SNR=5.0								
ILAR	**Eielson Array**	**85.43**	**18**	P		P		23 34 21.1	-1.8
	0.2nm,0.5s,baz=250,slow=5.4,SNR=4.3								
MKAR	**Makanchi Array**	**96.15**	**317**	P		P		23 35 13.4	-0.1
	0.4nm,0.7s,baz=86,slow=7.1,SNR=6.6								
ARCES	**ARCESS Array B**	**119.00**	**346**	PKP		PKPdf		23 40 31.7	-0.9
	0.8nm,0.8s,baz=83,slow=1.8,SNR=5.0								
KEST	**Kesra**	**150.10**	**322**	PKPbc		PKPbc		23 41 36.1	+0.3
	0.5nm,0.6s,baz=63,slow=4.5,SNR=3.5								

IDC 21 23:34:49.8±25.0, 20.79S×172.86W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/34, mbtmp4.3/4, Error ellipse: s-maj=466.9km s-min=156.1km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.24**	**264**	P		P		23 42 12.9	+1.0
	8.6nm,0.4s,baz=95,slow=10,SNR=17								
STKA	**Stephens Creek**	**42.01**	**245**	P		P		23 42 41.1	-2.0
	0.8nm,0.5s,baz=86,slow=10,SNR=3.9								
ASAR	**Alice Springs**	**49.13**	**256**	P		P		23 43 39.3	-0.3
	1.7nm,0.5s,baz=96,slow=8.0,SNR=2.3								
WRA	**Warramunga Arr**	**49.32**	**261**	P		P		23 43 41.3	+0.2
	2.0nm,0.4s,baz=91,slow=8.5,SNR=43								

*IDC **21** 23:40:46.5±1.8, 2.05N×96.20E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/36, mbtmp3.7/7, ML4.0/2, MS3.0/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=53.6km s-min=20.4km az=55.0*
*ISCJB **21** 23:40:49.2±1.0, 2.13N±0.06×96.27E±0.09, h28km, mb3.7/5, Error ellipse: s-maj=13.5km s-min=7.3km az=153.6*
*DJA **21** 23:40:49.8±0.9, 2°N±4'×9°6E±', h23km±7km, M3.9/3, mb4.4/3, mb4.8/1, MLv3.6/3, Mw(mB)4.0/1*

ISC 21 23:40:50.9±1.2, 2.17N±0.07×96.3E±0.1, h28km, n18, σ0§60/14, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.24**	**359**	P		**Pb**		**23 40 56.7**	**-0.7**
TPTI		**1.38**	**38**	P		**Pn**		**23 41 13.3**	**-0.9**
TPTI				S		**Sn**		**23 41 32.0**	**+0.5**
GSI	**Gunungsitoli**	**1.51**	**125**	P		**Pn**		**23 41 16.1**	**0.0**
GSI				S		**Sn**		**23 41 35.1**	**+0.2**
PSI	**Prapat**	**2.66**	**76**	Pn		**Pn**		**23 41 32.6**	**+0.6**
	6.0nm,0.3s,baz=306,slow=9.4,SNR=16								
LHMI	**Lhok Sumawe**	**3.10**	**11**	P		**Pn**		**23 41 38.2**	**+0.2**
MNSI	**Mandailing Nat**	**3.52**	**113**	P		**Pn**		**23 41 42.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**16.39**	**9**	Pn		**P**		**23 44 41.0**	**-0.7**
	0.6nm,0.3s,baz=200,slow=11,SNR=9.5								
CMAR				LR		LR		23 50 25.9	
	comp=Z,58nm,20.1s,baz=200,slow=35								
H08S2	**Diego Garcia H**	**25.70**	**247**	T		T		00 12 54.4	
	baz=68,slow=75,SNR=67								
H08S3	**Diego Garcia H**	**25.71**	**248**	T		T		00 12 54.6	
	baz=68,slow=75,SNR=84								
H08S1	**Diego Garcia H**	**25.72**	**247**	T		T		00 12 55.1	
	baz=68,slow=75,SNR=130								
H01W3	**Cape Leeuwin H**	**40.47**	**157**	T		T		00 31 33.7	
	baz=333,slow=76,SNR=25								
H01W2	**Cape Leeuwin H**	**40.48**	**157**	T		T		00 31 33.7	
	baz=333,slow=76,SNR=30								
H01W1	**Cape Leeuwin H**	**40.48**	**157**	T		T		00 31 33.3	
	baz=333,slow=76,SNR=21								
WRA	**Warramunga Arr**	**43.28**	**122**	P		**P**		**23 48 50.8**	**+0.3**
	0.2nm,0.7s,baz=303,slow=9.0,SNR=4.4								
ASAR	**Alice Springs**	**44.67**	**127**	P		**P**		**23 49 01.6**	**-0.1**
	0.2nm,0.3s,baz=299,slow=7.7,SNR=6.4								
MKAR	**Makanchi Array**	**46.10**	**347**	P		**P**		**23 49 13.1**	**+0.5**
	2.2nm,0.6s,baz=161,slow=8.8,SNR=37								
SONM	**Songino Array**	**46.31**	**9**	P		**P**		**23 49 14.7**	**+0.3**
	0.3nm,0.4s,baz=191,slow=9.8,SNR=6.4								
ZALV	**Zalesovo Beam**	**52.47**	**351**	P		**P**		**23 50 01.7**	**+0.6**
	2.1nm,0.4s,baz=177,slow=7.3,SNR=15								

*ISCJB **21** 23:46:23.0±0.7, 35.17S±0.09×71.78W±0.1, h58km±14km, Error ellipse: s-maj=23.5km s-min=6.3km az=34.9*
*GUC **21** 23:46:23.7±0.6, 35.13S×71.90W, h44km±5km, ML3.7*
*SJA **21** 23:46:45.1±0.9, 34.05S×70.08W, h104km±31km, ML2.7*

ISC 21 23:46:24.1±1.4, 35.17S±0.08×71.8W±0.1, h49km±18km, n13, σ0§72/20, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.27**	**145**	*eP*		**Pn**		**23 46 32.7**	**-0.1**
TALC				eS		**Sn**		**23 46 39.4**	**+0.3**
NICH	**Los Niches**	**0.52**	**71**	*eP*		**Pn**		**23 46 34.8**	**-0.7**
NICH				eS		**Sn**		**23 46 43.6**	**0.0**
LNCH	**Linares**	**0.70**	**165**	*eP*		**Pn**		**23 46 37.9**	**+0.2**
LNCH				eS		**Sn**		**23 46 48.5**	**+0.8**
COCH	**Cobquecura**	**1.23**	**219**	*eP*		**Pn**		**23 46 44.5**	**-0.4**
COCH				eS		**Sn**		**23 47 00.1**	**-0.4**
CLCH	**Cerro Calan**	**2.07**	**31**	*eP*		**Pn**		**23 46 56.4**	**-0.1**
CLCH				eS		**Sn**		**23 47 21.5**	**+0.4**
CLCH				AML	AML			23 47 27.2	
	comp=E,715nm,0.3s								
PEL	**Peldehue**	**2.24**	**25**	*eP*		**Pn**		**23 46 58.4**	**-0.3**
PEL				eS		**Sn**		**23 47 24.9**	**-0.2**
AAGR	**Agrelo**	**3.25**	**51**	*eP*		**Pn**		**23 47 11.4**	**-1.2**
AAGR				eS		Sn		23 47 31.4	-1.9
ARCO	**CERRO ARCO**	**3.35**	**47**	*eP*		**Pn**		**23 47 13.5**	**-0.5**
ARCO				eS		Sn		23 47 34.3	-1.8
ARCO				AML	AML			23 47 35.0	
	comp=Z,73nm,0.5s								
AUSP	**Uspallata**	**3.58**	**35**	*eP*		**Pn**		**23 47 18.4**	**+1.1**
AUSP				eP		**Pn**		**23 47 18.4**	**+1.1**
ASAL	**Salagasta**	**3.58**	**45**	*eP*		**Pn**		**23 47 17.1**	**-0.1**
RTLS	**Leoncito**	**3.98**	**33**	*eP*		**Pn**		**23 47 24.2**	**+1.4**
RTLL	**Cerro Villicun**	**4.75**	**37**	*eP*		**Pn**		**23 47 33.0**	**-0.3**
AMOG	**MOGNA**	**5.07**	**34**	*eP*		**Pn**		**23 47 37.0**	**-0.6**

*ISCJB **21** 23:54:31.9±0.4, 36.35N±0.02×71.70E±0.03, h102km±4km, mb4.1/41, Error ellipse: s-maj=4.6km s-min=3.2km az=160.3*
*BJI **21** 23:54:32.5, 36.40N×71.60E, h100km, mB4.3/3, mb4.3/8*
*MOS **21** 23:54:33.0±1.1, 36.43N×71.64E, h104km, mb4.1/21, Error ellipse: s-maj=9.0km s-min=4.8km az=85.8*
*NEIC **21** 23:54:33.8±1.0, 36.41N×71.60E, h98km±7km, mb4.5/10, Error ellipse: s-maj=22.5km s-min=7.0km az=129.0*
*IDC **21** 23:54:33.3±0.7, 36.27N×71.43E, h102km±5km, mb3.7/18, mb1 3.9/22, mb1mx3.8/35, mbtmp4.1/22, MS2.8/4, Ms1 2.8/4, ms1mx2.6/39, Error ellipse: s-maj=16.0km s-min=10.4km az=23.0*
*NNC **21** 23:54:34.7±3.0, 36.62N×70.99E, h94km, mb3.8, mpv4.2, Error ellipse: s-maj=28.4km s-min=20.9km az=136.0*

ISC 21 23:54:33.1±0.4, 36.36N±0.04×71.58E±0.04, h96km±4km, h95km:pP-P, n206, σ1§66/222, mb4.2/41, 20C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.54**	**174**	P		**Pn**		**23 55 15.3**	**+2.4**
CEP				S		**Sn**		**23 55 48.0**	**+4.7**
KBL	**Kabul**	**2.75**	**229**	ePN		**Pn**		**23 55 16.7**	**+1.0**
KBL	**Kabul**	**2.75**	**229**	*ePn*		**Pn**		**23 55 16.7**	**+1.0**
KBL				*eSn*		**Sn**		**23 55 47.8**	**-0.6**
CHCP	**Chirah Chowk**	**3.03**	**152**	P		Pn		23 55 22.5	+3.3
THW	**Thamme Wali**	**3.56**	**178**	P		**Pn**		**23 55 28.1**	**+1.7**
SFK	**Sufi-Kurgan**	**3.95**	**22**	⇓P		**Pn**		**23 55 33.6**	**+1.8**
	15nm,0.4s								
SFK				⇓S		**Sn**		**23 56 20.0**	**+2.8**
	43nm,0.3s								
JMU	**Jammu**	**4.55**	**142**	*eS*		**Sn**		**23 56 29.5**	**-1.9**
DLH	**Dalhousie**	**5.26**	**135**	*eP*		**Pn**		**23 55 51.0**	**+1.5**
DLH				*eS*		**Sn**		**23 56 47.0**	**-2.0**
PONG	**Pong**	**5.70**	**139**	*eP*		**Pn**		**23 55 56.0**	**+0.8**
PONG				*eS*		**Sn**		**23 56 57.0**	**-2.3**
AML	**Almayashu**	**5.99**	**15**	P		**Pn**		**23 55 59.5**	**-0.1**
	SNR=32								
AML	**Almayashu**	**5.99**	**15**	*i* PN		**Pn**		**23 55 59.5**	**-0.1**
MNAS	**Manas**	**6.16**	**6**	⇑P		**Pn**		**23 56 01.5**	**-0.1**
	13nm,0.4s								
MNAS				⇑S		**Sn**		**23 57 08.3**	**-2.5**
	76nm,0.8s								
UCH	**Uchtor**	**6.29**	**20**	P		**Pn**		**23 56 04.4**	**+0.8**
	SNR=18								
UCH	**Uchtor**	**6.29**	**20**	*i* PN		**Pn**		**23 56 04.4**	**+0.8**
BHK	**Bhakra**	**6.36**	**139**	*eP*		**Pn**		**23 56 05.6**	**+1.2**
BHK				*eS*		**Sn**		**23 57 14.6**	**-1.0**
KZA	**Kyzart**	**6.38**	**25**	P		**Pn**		**23 56 04.9**	**0.0**
	SNR=15								
KZA	**Kyzart**	**6.38**	**25**	*i* PN		**Pn**		**23 56 04.9**	**0.0**
EKS2	**Erkin-Say**	**6.52**	**14**	P		**Pn**		**23 56 07.0**	**+0.5**
	SNR=21								
EKS2	**Erkin-Say**	**6.52**	**14**	*i* PN		**Pn**		**23 56 07.0**	**+0.5**
EKS2	**Erkin-Say**	**6.52**	**14**	*ePn*		**Pn**		**23 56 06.9**	**+0.4**
SDNR	**Sundarnagar**	**6.60**	**136**	*eP*		**Pn**		**23 56 07.5**	**-0.1**
SDNR				*eS*		**Sn**		**23 57 16.0**	**-5.4**
AAK	**Ala-Archa**	**6.66**	**19**	⇑P		**Pn**		**23 56 08.9**	**+0.5**
	11nm,0.6s								
AAK				⇓S		**Sn**		**23 57 20.8**	**-2.1**
	60nm,0.9s								
AAK	**Ala-Archa**	**6.66**	**19**	P		**Pn**		**23 56 09.5**	**+1.0**
	SNR=10								
AAK	**Ala-Archa**	**6.66**	**19**	P		**Pn**		**23 56 09.3**	**+0.9**
	3.2nm,0.3s,baz=186,slow=5.8,SNR=53								
AAK				S		**Sn**		**23 57 21.6**	**-1.3**
	2.5nm,0.3s,baz=327,slow=23,SNR=8.4								
AAK				LR		LR		23 58 32.2	
	comp=Z,27nm,19.7s,baz=195,slow=35								
AAK	**Ala-Archa**	**6.66**	**19**	*ePn*		**Pn**		**23 56 09.0**	**+0.5**
KK31	**Karatay Array**	**6.79**	**353**	⇓P		**Pn**		**23 56 09.1**	**-0.9**
	16nm,0.5s,baz=181,slow=14								
KK31				⇑S		**Sn**		**23 57 20.8**	**-4.9**
	14nm,0.4s,baz=183,slow=23								
KKAR	**Karatay Array**	**6.79**	**353**	*ePN*		**Pn**		**23 56 09.2**	**-0.8**
KKAR	**Karatay Array**	**6.79**	**353**	*ePn*		**Pn**		**23 56 09.2**	**-0.8**
KKAR				*eSn*		**Sn**		**23 57 21.1**	**-4.6**
KBK	**Karagaybulak**	**6.80**	**21**	P		**Pn**		**23 56 12.0**	**+1.5**
	SNR=8.4								
KBK	**Karagaybulak**	**6.80**	**21**	*i* PN		**Pn**		**23 56 12.0**	**+1.5**
ULHL	**Ulahol**	**6.90**	**30**	P		**Pn**		**23 56 11.9**	**+0.1**
	SNR=12								
ULHL	**Ulahol**	**6.90**	**30**	*i* PN		**Pn**		**23 56 11.9**	**+0.1**
SMLA	**Simla**	**6.99**	**137**	*i* P		**Pn**		**23 56 13.4**	**+0.6**
SMLA				*i* S		**Sn**		**23 57 28.6**	**-2.2**
SMLA				AML	AML			23 57 34.2	
	comp=N,415nm,0.1s								
SMLA				AML	AML			23 57 35.2	
	comp=E,432nm,0.3s								
CHMS	**Chumysh**	**7.07**	**19**	P		**Pn**		**23 56 14.1**	**+0.2**
	SNR=14								
CHMS	**Chumysh**	**7.07**	**19**	*i* PN		**Pn**		**23 56 14.0**	**+0.2**
TKM2	**Tokmak 2**	**7.25**	**24**	⇑P		**Pn**		**23 56 16.6**	**+0.1**
	comp=E,7.9nm,0.6s								
TKM2				S		**Sn**		**23 57 37.5**	**+0.2**
TKM2	**Tokmak 2**	**7.25**	**24**	P		**Pn**		**23 56 16.7**	**+0.1**
	SNR=5.5								
TKM2	**Tokmak 2**	**7.25**	**24**	*i* PN		**Pn**		**23 56 16.6**	**+0.1**
TKM2	**Tokmak 2**	**7.25**	**24**	*ePn*		**Pn**		**23 56 16.8**	**+0.3**
USP	**Ospenovka**	**7.25**	**17**	P		**Pn**		**23 56 15.8**	**-0.6**
	SNR=9.3								
USP	**Ospenovka**	**7.25**	**17**	*i* PN		**Pn**		**23 56 15.8**	**-0.6**
JOSI	**Joshimath**	**8.83**	**129**	*eP*		x		23 57 02.5	
JOSI				*eS*		Sn		23 58 34.1	+18
JOSI				AML	AML			23 58 47.3	
	comp=E,424nm,0.7s								
JOSI				AML	AML			23 58 47.7	
	comp=N,448nm,0.7s								
KHET	**Khetri**	**9.00**	**155**	*eS*		Sn		23 58 12.7	-7.3
KHET				AML	AML			23 58 15.3	
	comp=E,317nm,0.1s								
KHET				AML	AML			23 58 15.7	
	comp=N

BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 16.72 357 ⇑P **Pn 23 58 20.3 -1.1**
comp=Z,4.3nm,0.7s
BRVK Borovoye 16.72 357 ⇓*eP* **Pn 23 58 20.2 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 16.72 357 *e*Pn **Pn 23 58 19.8 -1.5**
comp=Z,4.9nm,0.7s
AKTO Aktyubinsk 17.14 329 ⇑P **Pn 23 58 24.7 -1.7**
comp=Z,20nm,1.0s
AKTO Aktyubinsk 17.14 329 P **Pn 23 58 24.4 -1.9**
comp=Z,1.5nm,0.3s,baz=134,slow=9.4,SNR=16
AKTO S Sn 00 01 25.1 -12
comp=Z,0.5nm,0.3s,baz=14,slow=22,SNR=2.1
AKTO Aktyubinsk 17.14 329 P **Pn 23 58 24.5 -1.9**
AKTO S Sn 00 01 25.1 -12
AKTO pmax pmax
comp=Z,2.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
ASHO Ashiyiah 17.70 233 ⇓*i*P **Pn 23 58 34.2 +0.7**
SNR=6.0
ZALV Zalesovo Beam 19.85 23 P **P 23 58 55.8 -0.5**
comp=N,3.9nm,0.3s,baz=222,slow=11,SNR=48
ZALV Zalesovo Beam 19.85 23 *i* P **P 23 58 55.7 -0.5**
ZALV pmax pmax
comp=Z,11nm,0.3s
NVS Novosibirsk 20.15 20 ⇑*i*P **P 23 58 58.1 -1.4**
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=Z,9.0nm,0.6s
NVS pmax pmax
comp=E,3.0nm,0.7s
DGRG David-gareji 20.98 292 P **P 23 59 09.5 +0.9**
GNI Garni 21.38 288 P **P 23 59 15.6 +2.6**
comp=E,22nm,0.9s,baz=59,slow=1.2,SNR=14
GNI Garni 21.38 288 *e*P **P 23 59 15.0 +2.0**
GNI pmax pmax
comp=Z,30nm,1.0s
GNI Garni 21.38 288 ⇑*i*P **P 23 59 15.7 +2.6**
SNR=12
GNI Garni 21.38 288 *e*P **P 23 59 15.0 +2.0**
comp=Z,30nm,1.0s
TBLG Delisi 21.48 293 P **P 23 59 15.5 +1.6**
HVS Khovu-Aksy 21.64 40 ⇓*e*P **P 23 59 13.8 -1.8**
SVE Sverdlovsk 21.76 344 *e*P **P 23 59 16.1 -0.5**
SVE pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 21.92 340 *c i*P **P 23 59 18.9 +0.5**
ARU 23 59 47.6
ARU S **S 00 03 14.5 0.0**
ARU SS **SnSn 00 03 52.2 +3.4**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 21.92 340 *e*P **P 23 59 18.1 -0.3**
comp=Z,11nm,1.2s
GTA Gaotai 22.46 74 *e*P **P 23 59 26.6 +2.2**
GTA PMZ
comp=Z,5.0nm,0.6s
ONI Oni 22.52 295 P **P 23 59 29.5 +4.5**
NCK Nalchik 22.54 297 ⇓*e*P **P 23 59 26.2 +1.1**
KBZ Khabaz 23.08 297 P **P 23 59 29.3 -1.1**
comp=Z,1.7nm,0.7s,baz=236,slow=23,SNR=4.9
KBZ Khabaz 23.08 297 P **P 23 59 29.3 -1.1**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
NEY Neytrino 23.14 296 ⇑*e*P **P 23 59 32.4 +1.2**
NEY pmax pmax
comp=Z,4.0nm,2.9s
KIV Kislovodsk 23.27 298 *e*P **P 23 59 34.3 +2.0**
KIV *e**PP **pP 23 59 54.8 +3.0**
KIV *e*S **S 00 03 39.7 +2.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,14.0s
KIV Kislovodsk 23.27 298 *e*P **P 23 59 33.8 +1.5**
comp=Z,12nm,0.8s
SOKR Solikamsk 25.15 342 *e*P **P 23 59 53.5 +4.5**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SONM Songino Array 28.03 55 P **P 00 00 16.6 +1.4**
comp=Z,0.9nm,0.7s,baz=259,slow=8.6,SNR=12
SONM Songino Array 28.03 55 P **P 00 00 16.6 +1.4**
SONM pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 29.92 288 P **P 00 00 32.8 +0.7**
comp=Z,0.7nm,0.7s,baz=106,slow=8.7,SNR=5.1
BRTR LR LR 00 16 04.2
comp=Z,17nm,18.1s,baz=147,slow=43
BRTR Keskin Array B 29.92 288 *ce*P **P 00 00 34.2 +2.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 29.98 119 P **P 00 00 34.1 +1.5**
comp=Z,0.7nm,0.3s,baz=305,slow=9.0,SNR=4.8
CMAR Chiang Mai Arr 29.98 119 P **P 00 00 34.1 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
OBN Obninsk 30.35 319 ⇑*i*P **P 00 00 35.7 +0.3**
OBN *i* *PP **pP 00 00 55.5 -1.6**
OBN *e* 00 01 42.4
OBN pmax pmax
comp=Z,7.0nm,0.7s
HHC Hu-ho-hao-te 31.38 69 *e*P P 00 00 51.6 +6.7
HHC PP **PP 00 01 55.4 -1.9**
HHC S S 00 05 56.4 +11
HHC SS **SnSn 00 07 47.4 +8.4**
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,140nm,4.3s
HHC LR LR
comp=N,190nm,13.6s
HHC LR LR
comp=E,190nm,13.6s
HHC LR LR
comp=Z,100nm,16.0s
AKASG Malin Array Be 33.40 309 P **P 00 01 02.1 -0.2**
comp=Z,2.1nm,0.5s,baz=80,slow=7.1,SNR=16
AKASG Malin Array Be 33.40 309 P **P 00 01 02.1 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
JOF Joensuu 36.22 330 *ep* **P 00 01 26.6 +0.2**
comp=Z,3.2nm,0.5s
JOF Joensuu 36.22 330 *e*P **P 00 01 26.6 +0.2**
JOF pmax pmax
comp=Z,3.0nm,0.5s
UZH Uzhgorod 37.72 305 *e*P **P 00 01 38.7 -0.6**
FINES FINESS Array B 37.86 326 P **P 00 01 40.1 -0.1**
comp=Z,1.2nm,0.5s,baz=116,slow=8.8,SNR=16
FINES FINESS Array B 37.86 326 P **P 00 01 40.1 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
KAF Kangasniemi 38.00 327 *ep* **P 00 01 41.7 +0.3**
comp=Z,0.4nm,0.2s
KAF Kangasniemi 38.00 327 *e*P **P 00 01 41.7 +0.3**
NIE Niedzica 39.02 306 *e*P **P 00 01 52.4 +2.1**
OJC Ojcow 39.36 307 *e*P **P 00 01 53.9 +0.9**
ARCES ARCESS Array B 41.45 338 P **P 00 02 10.4 +0.4**
comp=Z,2.9nm,0.6s,baz=113,slow=9.5,SNR=22
ARCES LR LR 00 20 31.9
comp=Z,32nm,18.7s,baz=45,slow=38
ARCES ARCESS Array B 41.45 338 P **P 00 02 10.4 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,32nm,18.7s
PSI Prapat 41.86 137 P **P 00 02 13.9 -0.1**
comp=Z,2.4nm,0.3s,baz=335,slow=5.4,SNR=4.3
PSI Prapat 41.86 137 P **P 00 02 13.9 -0.1**
PSI pmax pmax
comp=Z,2.0nm,0.3s
GERES GERESS Array B 43.39 305 P **P 00 02 26.0 -0.1**
comp=Z,0.2nm,0.4s,baz=72,slow=8.6,SNR=3.9
KSRS Korea Array 44.48 71 P **P 00 02 36.3 +1.5**
comp=Z,1.5nm,0.6s,baz=274,slow=6.5,SNR=4.1
KSRS Korea Array 44.48 71 P **P 00 02 36.3 +1.5**
KSRS pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 44.77 323 P **P 00 02 36.3 -0.6**
comp=Z,4.2nm,0.7s,baz=95,slow=7.9
NOA NORSAR Array B 44.77 323 P **P 00 02 36.5 -0.3**
comp=Z,4.2nm,0.7s,baz=97,slow=7.8,SNR=30
NOA pP **pP 00 03 00.0 +0.5**
comp=Z,0.8nm,0.6s,baz=96,slow=8.0,SNR=1.8
NOA NORSAR Array B 44.77 323 P **P 00 02 36.5 -0.3**
NOA *PP **pP 00 03 00.0 +0.5**
NOA pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 45.73 22 ⇑*eP* **P 00 02 43.6 -0.6**
TIXI *i* *PP **pP 00 03 09.3 +2.4**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
BFO Black Forest 46.99 305 *i* P **P 00 02 55.7 +1.2**
PGF Pioggiola 47.75 298 *e*P **P 00 03 00.5 0.0**
comp=Z,13nm,0.9s
PGF Pioggiola 47.75 298 *e*P **P 00 03 00.5 0.0**
comp=Z,13nm,0.9s
HINF Hinteralfeld 48.06 305 *e*P **P 00 03 02.9 +0.1**
comp=Z,4.1nm,0.6s
HINF Hinteralfeld 48.06 305 *e*P **P 00 03 02.9 +0.1**
comp=Z,4.1nm,0.6s
LPG La Plagne 48.62 302 *e*P **P 00 03 07.9 +0.5**
comp=Z,4.4nm,0.7s
LPG La Plagne 48.62 302 *e*P **P 00 03 07.9 +0.5**
comp=Z,4.4nm,0.7s
LPL La Plagne 48.62 302 *e*P **P 00 03 08.0 +0.6**
LPL La Plagne 48.62 302 *e*P **P 00 03 08.0 +0.6**
PAGF Fort de Pagny 48.66 306 *e*P **P 00 03 08.3 +1.0**
comp=Z,2.2nm,0.7s
PAGF Fort de Pagny 48.66 306 *e*P **P 00 03 08.3 +1.0**
comp=Z,2.2nm,0.7s
MBDF Montbardon 48.78 301 *e*P **P 00 03 08.6 +0.1**
MBDF Montbardon 48.78 301 *e*P **P 00 03 08.6 +0.1**
CABF La Chapelle 48.82 304 *e*P **P 00 03 09.5 +0.8**
comp=Z,5.4nm,0.7s
CABF La Chapelle 48.82 304 *e*P **P 00 03 09.5 +0.8**
comp=Z,5.4nm,0.7s
KMBO Kilima Mbogo 49.08 228 *ce*P **P 00 03 13.3 +2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
SFTF Sexfontaines 49.18 306 *e*P **P 00 03 11.8 +0.5**
SFTF Sexfontaines 49.18 306 *e*P **P 00 03 11.8 +0.5**
BAIF Baives 49.34 308 *e*P **P 00 03 13.6 +1.1**
comp=Z,4.5nm,0.6s
BAIF Baives 49.34 308 *e*P **P 00 03 13.6 +1.1**
comp=Z,4.5nm,0.6s
LOR Lormes 50.16 305 *e*P **P 00 03 17.9 -0.8**
LOR Lormes 50.16 305 *e*P **P 00 03 17.9 -0.8**
VIVF Saint-Julien-l 50.20 302 *e*P **P 00 03 19.4 +0.3**
comp=Z,5.0nm,0.8s
VIVF Saint-Julien-l 50.20 302 *e*P **P 00 03 19.4 +0.3**
comp=Z,5.0nm,0.8s
SMF Signal de Mont 50.32 304 *e*P **P 00 03 20.1 +0.2**
comp=Z,9.6nm,0.7s
SMF Signal de Mont 50.32 304 *e*P **P 00 03 20.1 +0.2**
comp=Z,9.6nm,0.7s
SSF Saint Saulge 50.44 305 *e*P **P 00 03 20.8 -0.1**
SSF Saint Saulge 50.44 305 *e*P **P 00 03 20.8 -0.1**
AVF Avril sur Loir 50.61 304 *e*P **P 00 03 22.3 +0.2**
comp=Z,5.3nm,0.6s
AVF Avril sur Loir 50.61 304 *e*P **P 00 03 22.3 +0.2**
comp=Z,5.3nm,0.6s
TCF Toulx Ste Croi 51.50 304 *e*P **P 00 03 29.3 +0.5**
TCF Toulx Ste Croi 51.50 304 *e*P **P 00 03 29.3 +0.5**
LDF La Druziere 52.43 307 *e*P **P 00 03 35.4 -0.3**
LDF La Druziere 52.43 307 *e*P **P 00 03 35.4 -0.3**
MJAR Matsushiro Arr 52.57 69 P **P 00 03 38.0 +1.1**
comp=Z,2.0nm,0.8s,baz=290,slow=8.9,SNR=3.5
MJAR Matsushiro Arr 52.57 69 P **P 00 03 38.0 +1.1**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
FLN La Foliniere 52.62 308 *e*P **P 00 03 36.9 -0.1**
comp=Z,6.2nm,0.6s
FLN La Foliniere 52.62 308 *e*P **P 00 03 36.9 -0.1**
comp=Z,6.2nm,0.6s
LFF La Frestale 52.86 303 *e*P **P 00 03 39.4 +0.5**
comp=Z,12nm,0.9s
LFF La Frestale 52.86 303 *e*P **P 00 03 39.4 +0.5**
comp=Z,12nm,0.9s
GRR Gorron 52.96 307 *e*P **P 00 03 39.4 -0.1**
GRR Gorron 52.96 307 *e*P **P 00 03 39.4 -0.1**
MFF Saint Martin d 52.98 305 *e*P **P 00 03 39.6 -0.1**
MFF Saint Martin d 52.98 305 *e*P **P 00 03 39.6 -0.1**
SGMF Saint Gilles 54.09 307 *e*P **P 00 03 49.4 +1.6**
SGMF Saint Gilles 54.09 307 *e*P **P 00 03 49.4 +1.6**
ETSF Etsaut 54.39 301 *e*P **P 00 03 49.6 -0.6**
comp=Z,3.4nm,0.6s
ETSF Etsaut 54.39 301 *e*P **P 00 03 49.6 -0.6**
comp=Z,3.4nm,0.6s
ROSF Rostrenen 54.52 308 *e*P **P 00 03 51.5 +0.6**
ROSF Rostrenen 54.52 308 *e*P **P 00 03 51.5 +0.6**
ESDC Sonseca Array 57.93 298 P **P 00 04 14.3 -1.1**
comp=Z,0.2nm,0.4s,baz=60,slow=7.5,SNR=5.0
ESDC pP **pP 00 04 40.4 +1.3**
comp=Z,1.1nm,0.8s,baz=58,slow=8.1,SNR=5.2
TORD Torodi Ar. Bea 66.18 269 P **P 00 05 08.1 -2.7**
comp=Z,1.4nm,0.5s,baz=50,slow=5.8,SNR=64
TORD pP **pP 00 05 34.2 -0.8**
comp=Z,1.3nm,0.7s,baz=44,slow=5.5,SNR=3.9
TORD sP **sP 00 05 42.3 -3.2**
comp=Z,1.3nm,0.7s,baz=43,slow=5.3,SNR=3.8
ILAR Eielson Array 74.78 16 P **P 00 06 01.5 -0.9**
comp=Z,1.0nm,0.9s,baz=312,slow=4.3,SNR=10
ILAR Eielson Array 74.78 16 P **P 00 06 01.5 -0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 81.36 3 P **P 00 06 38.2 -0.5**
comp=Z,2.0nm,0.7s,baz=348,slow=5.1,SNR=20
YKA pP **pP 00 07 04.8 +1.1**
comp=Z,0.8nm,0.7s,baz=350,slow=5.5,SNR=3.2
YKA Yellowknife Ar 81.36 3 P **P 00 06 38.2 -0.5**
YKA *PP **pP 00 07 04.8 +1.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 81.52 122 P **P 00 06 39.6 -0.6**
comp=Z,0.7nm,0.6s,baz=322,slow=5.3,SNR=7.9
WRA pP **pP 00 07 06.5 +1.3**
comp=Z,0.3nm,0.3s,baz=322,slow=5.5,SNR=2.4
WRA Warramunga Arr 81.52 122 P **P 00 06 39.6 -0.6**
WRA *PP **pP 00 07 06.5 +1.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 83.79 125 P **P 00 06 51.5 -0.4**
comp=Z,0.7nm,0.5s,baz=312,slow=5.3,SNR=9.2
ASAR Alice Springs 83.79 125 P **P 00 06 51.6 -0.4**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
FFC Flin Flon 89.11 356 *i* P **P 00 07 18.3 +0.8**

*IDC **21** 23:55:39.1±10.0, 16°.06S×177°.77W, h409km±103km, mb3.3/5, mb1 3.6/5, mb1mx3.2/25, mbtmp4.1/5, Error ellipse: s-maj=83.6km s-min=32.7km az=147.0*
*ISCJB **21** 23:55:40.1±1.5, 16°.1S±0°.6×177°.9W±0°.4, h432km, mb3.6/5, Error ellipse: s-maj=91.5km s-min=21.4km az=147.4*
ISC 21 23:55:41.1±1.6, 16°.1S±0°.6×177°.8W±0°.4, h432km, n7, σ0s32/7, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**40.02**	**239**	P		P		**00 02 36.9**	**-0.2**
	1.6nm,0.5s,baz=84,slow=9.7,SNR=9.2								
WRA	**Warramunga Arr**	**45.54**	**258**	P		P		**00 03 20.9**	**0.0**
	0.6nm,0.3s,baz=95,slow=8.2,SNR=22								
WRA				PcP		PcP		**00 04 51.4**	**+0.4**
	0.3nm,0.5s,baz=99,slow=3.7,SNR=2.9								
ASAR	**Alice Springs**	**45.85**	**253**	P		P		**00 03 23.4**	**+0.2**
	10nm,0.6s,baz=88,slow=8.0,SNR=73								
ILAR	**Eielson Array**	**83.99**	**13**	P		P		**00 07 24.2**	**0.0**
	0.3nm,0.6s,baz=216,slow=4.5,SNR=3.6								
TXAR	**Lajitas Array**	**84.55**	**58**	P		P		**00 07 28.0**	**+0.1**
	0.6nm,0.8s,baz=225,slow=6.2,SNR=5.4								
BRTR	**Keskin Array B**	**143.87**	**317**	PKP		**PKPdf**		**00 14 26.1**	**-0.5**
	0.5nm,0.5s,baz=70,slow=2.9,SNR=4.9								
TORD	**Torodi Ar. Bea**	**177.04**	**171**	PKPab		PKPab		00 16 45.1	-3.0
	0.3nm,0.8s,baz=181,slow=2.3,SNR=2.2								

*SKO **22** 00:09:43.0, 44°.32N×20°.13E, h0km, M1.7, ML2.1*
*CSEM **22** 00:09:44.4±0.2, 44°.23N×20°.13E, h2km, ML2.0, Error ellipse: s-maj=4.0km s-min=3.2km az=93.0*
BEO 22 00:09:44.7±0.2, 44°.24N×20°.11E, h0km, ML2.0/1, 15C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DIVS	**Divibare**	**0.17**	**211**	⇑*i*P		Pg		00 09 47.3	-0.7
DIVS					*e*Sg	Sg		00 09 50.1	-0.2
TEKS	**Tekeris**	**0.52**	**307**	*i* P		Pg		00 09 54.6	-0.1
TEKS					*e*Sg	Sg		00 10 00.9	-0.6
TEKS	**Tekeris**	**0.52**	**307**	*i* P		Pg		00 09 54.6	-0.1
TEKS					*e*Sg	Sg		00 10 00.9	-0.6
GRUS	**Gruza**	**0.56**	**129**	⇑*i*Pg		Pg		00 09 54.9	-0.6
GRUS					*e*Sg	Sg		00 10 02.4	-0.3
GRUS	**Gruza**	**0.56**	**129**	⇑*i*Pg		Pg		00 09 54.9	-0.6
GRUS					*e*Sg	Sg		00 10 02.4	-0.3
BEO	**Beograd**	**0.62**	**24**	*e*Pg		Pg		00 09 55.6	-1.1
BEO					*e*Sg	Sg		00 10 03.4	-1.4
BEO	**Beograd**	**0.62**	**24**	*e*Pg		Pg		00 09 55.6	-1.1
BEO					*e*Sg	Sg		00 10 03.4	-1.4
BBLS	**Lazići**	**0.63**	**234**	⇓*i*Pg		Pg		00 09 56.1	-0.8
BBLS	**Lazići**	**0.63**	**234**	⇓*i*Pg		Pg		00 09 56.1	-0.8
IVAS	**Ivanjica**	**0.66**	**177**	*i* Pg		Pg		00 09 56.7	-0.8
IVAS					*e*Sg	Sg		00 10 06.8	+0.6
IVAS	**Ivanjica**	**0.66**	**177**	*i* Pg		Pg		00 09 56.7	-0.8
IVAS					*e*Sg	Sg		00 10 06.8	+0.6
SVIS	**Svilajnac**	**0.80**	**88**	*e*Pg		Pg		00 10 00.0	+0.1
SVIS					*e*Sg	Sg		00 10 10.3	+0.1
SVIS	**Svilajnac**	**0.80**	**88**	*e*Pg		Pg		00 10 00.0	+0.1
SVIS					*e*Sg	Sg		00 10 10.3	+0.1
FGSL	**Fruska Gora**	**0.94**	**347**	⇑*i*Pg		Pg		00 10 02.5	-0.3
FGSL					*e*Sg	Sg		00 10 14.5	-0.6
FRGS	**Fruska Gora**	**0.94**	**347**	⇑*i*Pg		Pg		00 10 02.5	-0.3
FRGS					*e*Sg	Sg		00 10 14.5	-0.6
SJES	**Sjenica**	**0.98**	**186**	⇑*i*Pg		Pg		00 10 03.0	-0.7
SJES					*e*Sg	Sg		00 10 15.8	-0.8
SJES	**Sjenica**	**0.98**	**186**	⇑*i*Pg		Pg		00 10 03.0	-0.7
SJES					*e*Sg	Sg		00 10 15.8	-0.8
SELS	**Selova**	**1.25**	**144**	⇓*i*Pg		Pg		00 10 07.2	-1.6
SELS					*e*Sg	Sg		00 10 24.2	-1.0
BOLS	**Boljevac**	**1.39**	**107**	*e*Pg		Pn		00 10 09.2	-2.2
BOLS					*e*Sg	Sg		00 10 28.2	-1.3
BOLS	**Boljevac**	**1.39**	**107**	*e*Pg		Pn		00 10 09.2	-2.2
BOLS					*e*Sg	Sg		00 10 28.2	-1.3
BZS	**Buzias**	**1.74**	**37**	*e*Pn		Pn		00 10 16.5	+0.3
BZS					*e*Sg	Sb		00 10 39.7	-0.4
BZS	**Buzias**	**1.74**	**37**	⇑*i*P		Pb		00 10 17.6	0.0
BZS	**Buzias**	**1.74**	**37**	S		Sb		00 10 39.7	-0.4
BZS	**Buzias**	**1.74**	**37**	*e*Pn		Pn		00 10 16.5	+0.3
BZS	**Buzias**	**1.74**	**37**	⇑*i*P		Pb		00 10 17.6	0.0
BZS					*e*Sg	Sb		00 10 39.7	-0.4
BARS	**Barje**	**1.89**	**138**	*e*Pn		Pn		00 10 17.7	-0.5
BARS					*e*Sg	Sg		00 10 45.4	0.0
BARS	**Barje**	**1.89**	**138**	*e*Pn		Pn		00 10 17.7	-0.5
BARS					*e*Sg	Sg		00 10 45.4	0.0
ZAPS	**Zavoj**	**2.07**	**117**	⇑*i*Pn		Pn		00 10 19.6	-1.1
ZAPS					*e*Sg	Sg		00 10 50.5	-0.8
GZR	**Gura Zlata**	**2.22**	**58**	⇑*i*P		Pn		00 10 21.6	-1.3
GZR	**Gura Zlata**	**2.22**	**58**	⇑*i*P		Pn		00 10 21.6	-1.3
GZR					S	Sn		00 10 48.8	-2.3
STON	**Ston**	**2.22**	**233**	*e*Pn		Pn		00 10 22.9	+0.1
STON					Sn	Sn		00 10 50.6	-0.3
PKSM	**Moragy**	**2.23**	**333**	⇓*i*P		Pb		00 10 25.8	0.0
PKSM	**Moragy**	**2.23**	**333**	S		Sg		00 10 55.5	-0.8
PKSM	**Moragy**	**2.23**	**333**	⇓*i*P		Pb		00 10 25.8	0.0
SIRR	**Siria**	**2.30**	**28**	⇑*i*P		Pb		00 10 25.6	-1.6
SIRR	**Siria**	**2.30**	**28**	⇑*i*P		Pb		00 10 25.6	-1.6
SIRR					S	Sn		00 10 49.8	-3.3
SKO	**Skopje**	**2.47**	**156**	*i* Pn		Pn		00 10 26.2	0.0
SKO					*e*Sg	Sn		00 10 56.0	-1.0
SKO					*e*Lg	Lg		00 11 02.9	
	comp=N,11nm,0.4s								
SKO					*e*Lg	Lg		00 11 05.3	
	comp=E,17nm,1.1s								
SKO	**Skopje**	**2.47**	**156**	*i* Pn		Pn		00 10 26.1	-0.1
SKO					*e*Lg	Lg		00 11 02.9	
	comp=E,11nm,0.4s								
DRGR		**3.14**	**35**	⇓*i*P		Pn		00 10 36.4	+0.9
DRGR		**3.14**	**35**	⇓*i*P		Pn		00 10 36.4	+0.9
DRGR					S	Sn		00 11 11.6	-2.2

IDC 22 00:13:39.6±5.0, 15°.15S×173°.38W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/21, Error ellipse: s-maj=240.3km s-min=29.3km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
H11S2	**WAKE ISLAND Hy**	**38.76**	**329**	T		T		01 01 44.2	
	baz=146,slow=76,SNR=5.5								
H11S3	**WAKE ISLAND Hy**	**38.77**	**329**	T		T		01 01 45.1	
	baz=146,slow=76,SNR=6.5								
H11S1	**WAKE ISLAND Hy**	**38.77**	**329**	T		T		01 01 45.5	
	baz=146,slow=76,SNR=3.9								
H11N3	**WAKE ISLAND Hy**	**39.70**	**330**	T		T		01 02 52.8	
	baz=146,slow=76,SNR=3.0								
H11N1	**WAKE ISLAND Hy**	**39.71**	**330**	T		T		01 02 54.7	
	baz=146,slow=76,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**39.72**	**330**	T		T		01 02 55.4	
	baz=146,slow=76,SNR=2.9								
STKA	**Stephens Creek**	**44.18**	**240**	P		P		00 21 50.4	-0.1
	1.8nm,0.9s,baz=93,slow=7.6,SNR=4.9								
WRA	**Warramunga Arr**	**49.92**	**257**	P		P		00 22 35.2	-0.3
	0.4nm,0.6s,baz=91,slow=6.8,SNR=4.9								
ASAR	**Alice Springs**	**50.21**	**252**	P		P		00 22 37.3	-0.4
	1.4nm,0.5s,baz=88,slow=7.9,SNR=20								
ASAR				LR		LR		00 44 26.0	
	comp=Z,61nm,18.6s,baz=312,slow=37								
KSRS	**Korea Array**	**75.99**	**316**	LR		LR		00 58 52.7	
	comp=Z,26nm,18.0s,baz=222,slow=36								
TXAR	**Lajitas Array**	**80.45**	**56**	LR		LR		00 54 50.3	
	comp=Z,18nm,19.1s,baz=0.0,slow=31								
ILAR	**Eielson Array**	**82.19**	**11**	P		P		00 26 01.6	-0.5
	0.4nm,0.5s,baz=224,slow=6.3,SNR=5.4								
ULM	**Lac du Bonnet**	**93.72**	**39**	LR		LR		01 03 15.1	
	comp=Z,30nm,18.3s,baz=354,slow=32								
ROSC	**El Rosal**	**99.97**	**88**	LR		LR		01 07 03.8	
	comp=Z,21nm,18.2s,baz=6.5,slow=32								
GERES	**GERESS Array B**	**145.89**	**352**	PKPbc		PKPdf		00 33 19.8	-0.8
	0.6nm,0.7s,baz=289,slow=28,SNR=8.3								
BRTR	**Keskin Array B**	**145.97**	**321**	PKPbc		PKPab		00 33 22.4	+0.1
	1.6nm,0.7s,baz=96,slow=1.5,SNR=9.9								

*IDC **22** 00:22:07.2±1.4, 2°.42S×139°.15E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=27.2km s-min=14.5km az=1.0*
*ISCJB **22** 00:22:09.9±1.0, 1°.94S±0°.09×139°.26E±0°.05, h29km, mb3.3/2, Error ellipse: s-maj=12.5km s-min=6.6km az=12.5*
*DJA **22** 00:22:09.7±0.7, 2°S±12°×13°9E±°, h23km±7km, M3.8/4, mb3.9/1, MLv3.7/4*
ISC 22 00:22:08.6±1.3, 2°.03S±0°.09×139°.25E±0°.05, h29km, n9, σ1s46/11, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SMPI	**Sarmi**	**0.54**	**274**	P		**Pb**		**00 22 19.6**	**-0.1**
SMPI				S		**Sn**		**00 22 29.6**	**+1.0**
GENI	**Genyem**	**1.07**	**122**	P		**Pb**		**00 22 28.9**	**+0.2**
GENI				S		**Sb**		**00 22 44.4**	**+2.0**
JAY	**Jayapura**	**1.53**	**109**	P		**Pb**		**00 22 36.3**	**-0.1**
JAY	**Jayapura**	**1.53**	**109**	Pg		**Pb**		**00 22 35.9**	**-0.6**
	37nm,0.3s,baz=269,slow=9.1,SNR=125								
JAY				Lg		Lg		00 22 56.6	
	28nm,0.3s,baz=301,slow=24,SNR=24								
WAMI	**Wamena**	**1.92**	**196**	P		**Pb**		**00 22 43.5**	**+0.4**
WAMI				S		**Sb**		**00 23 06.9**	**+0.2**
FAKI	**Fak Fak**	**7.05**	**263**	P		**Pn**		**00 23 50.9**	**+0.9**
WRA	**Warramunga Arr**	**18.44**	**195**	P		**P**		**00 26 19.5**	**-2.6**
	0.2nm,0.3s,baz=17,slow=11,SNR=5.4								
ASAR	**Alice Springs**	**22.13**	**193**	P		**P**		**00 27 00.1**	**-2.0**
	0.7nm,0.6s,baz=29,slow=11,SNR=15								
MKAR	**Makanchi Array**	**69.58**	**322**	P		P		00 33 19.6	+4.5
	0.2nm,0.5s,baz=112,slow=7.0,SNR=2.8								

DJA 22 00:22:08.3±0.5, 2°N±4°×12°7E±°, h10km, M4.1/4, mb4.8/1, mB5.3/1, MLv3.7/4, Mw(mB)4.7/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TNTI	**Ternate**	**0.95**	**170**	P		Pb		00 22 26.7	-0.1
TNTI				S		Sg		00 22 38.3	-0.6
SGSI	**Sangihe**	**2.58**	**320**	P		Pn		00 22 49.9	-0.2
LUWI	**Luwuk**	**5.20**	**238**	P		Pn		00 23 25.7	-0.6

GUC 22 00:31:28.1±0.4, **34°75S**×**72°65W**, **h47**km±4km, **ML3.8, 2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.38**	**185**	⇑*iP*	Pn	00 31 51.7	+0.7
COCH				*eS*	Sn	00 32 09.9	+1.8
SJCH	**San Jose de Ma**	**2.20**	**60**	⇑*iP*	Pn	00 32 03.9	+1.5
SJCH				*eS*	Sn	00 32 30.8	+2.3
SJCH				AML	AML	00 32 38.7	
	comp=N,580nm,0.6s						
CLCH	**Cerro Calan**	**2.21**	**53**	*eP*	Pn	00 32 03.7	+1.3
CLCH				*eS*	Sn	00 32 30.7	+2.0
CLCH				AML	AML	00 32 39.6	
	comp=N,893nm,0.5s						

ISCJB **22** *00:34:29.9±1.4, 35°.9N±0°.1×5°.68E±0°.06, h10km, Error ellipse: s-maj=17.7km s-min=6.7km az=1.0*
CRAAG **22** *00:34:29.3, 35°.94N×5°.78E, MI3.0*
MDD **22** *00:34:29.8±1.7, 35°.78N×5°.75E, h0km, mb3.9/1, Error ellipse: s-maj=19.3km s-min=5.5km az=6.0, PRXIMO*
CSEM **22** *00:34:29.3, 35°.94N×5°.78E, h0km, ML3.0*

ISC 22 00:34:29.1±1.8, 35°.8N±0°.1×5°.79E±0°.03, h10km, n28, σ0°69/28, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.32**	**316**	P	**Pg**	**00 34 35.0**	**-0.5**
CKHR	**Kef el Ahmar**	**0.32**	**316**	P	**Pg**	**00 34 35.0**	**-0.5**
CKHR	**Kef el Ahmar**	**0.32**	**316**	P	**Pg**	**00 34 35.0**	**-0.5**
SET	**Setif**	**0.52**	**323**	P	**Pg**	**00 34 39.0**	**-0.2**
SET	**Setif**	**0.52**	**323**	P	**Pg**	**00 34 39.0**	**-0.2**
SET	**Setif**	**0.52**	**323**	P	**Pg**	**00 34 39.0**	**-0.2**
CTEI	**Djebel Teioual**	**0.57**	**61**	P	**Pg**	**00 34 39.0**	**-1.3**
CTEI	**Djebel Teioual**	**0.57**	**61**	P	**Pg**	**00 34 39.0**	**-1.3**
CTEI	**Djebel Teioual**	**0.57**	**61**	P	**Pg**	**00 34 39.0**	**-1.3**
CASM	**Ain Smara**	**0.74**	**50**	P	**Pg**	**00 34 43.5**	**+0.1**
CASM	**Ain Smara**	**0.74**	**50**	P	**Pg**	**00 34 43.5**	**+0.1**
CASM	**Ain Smara**	**0.74**	**50**	P	**Pg**	**00 34 43.5**	**+0.1**
DFRA	**Djebel Bou Aff**	**0.76**	**6**	P	**Pb**	**00 34 44.5**	**0.0**
DFRA	**Djebel Bou Aff**	**0.76**	**6**	P	**Pb**	**00 34 44.5**	**0.0**
DFRA	**Djebel Bou Aff**	**0.76**	**6**	P	**Pb**	**00 34 44.5**	**0.0**
CKFL	**Kef-Lekhel**	**0.97**	**51**	P	**Pn**	**00 34 49.0**	**+0.1**
CKFL	**Kef-Lekhel**	**0.97**	**51**	P	**Pn**	**00 34 49.0**	**+0.1**
CKFL	**Kef-Lekhel**	**0.97**	**51**	P	**Pn**	**00 34 49.0**	**+0.1**
CAEH	**'Ain El Ouahch**	**1.31**	**41**	P	**Pg**	**00 34 54.6**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.31**	**41**	P	**Pg**	**00 34 54.6**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.31**	**41**	P	**Pg**	**00 34 54.6**	**+0.3**
CMAH	**Djebel Manchou**	**1.56**	**57**	P	**Pg**	**00 34 59.9**	**+0.8**
CMAH	**Djebel Manchou**	**1.56**	**57**	P	**Pg**	**00 34 59.9**	**+0.8**
CMAH	**Djebel Manchou**	**1.56**	**57**	P	**Pg**	**00 34 59.9**	**+0.8**
OKGL	**Djebel Kef Gue**	**4.18**	**275**	P	**Pn**	**00 35 34.1**	**+1.1**
	1.1nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**4.62**	**330**	P	**Pn**	**00 35 39.8**	**+0.8**
	0.1nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**4.79**	**314**	P	Pn	00 35 44.9	+3.6
	0.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**00 36 35.5**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**6.00**	**292**	P	**Pn**	**00 35 58.4**	**+0.5**
	0.2nm,0.1s,SNR=7.9						

ATH **22** *01:14:38.9, 41°.36N×20°.11E, h5km±1km, MD3.8/37, ML3.5*
IDC **22** *01:14:41.2±1.2, 41°.10N×20°.06E, h0km, mb3.4/6, mb1 3.4/13, mb1mx3.4/33, mbtmp3.4/13, ML3.1/7, MS2.5/4, Ms1 2.4/4, ms1mx2.1/33, Error ellipse: s-maj=19.4km s-min=14.9km az=45.0*
BEO **22** *01:14:41.8±0.6, 41°.09N×20°.18E, h0km, ML3.1/9*
TIR **22** *01:14:41.3±2.6, 41°.20N×20°.24E, h1km±23km, ML3.4*
SKO **22** *01:14:42.7, 41°.14N×20°.17E, h0km*
PDG **22** *01:14:42.8±0.5, 41°.22N×20°.14E, h9km, MD3.4/2, ML3.3/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
THE **22** *01:14:42.5, 41°.18N×20°.20E, h6km±4km, ML3.3/4, Error ellipse: s-maj=5.1km s-min=1.2km az=42.0*
CSEM **22** *01:14:43.0±0.1, 41°.20N×20°.15E, h2km, ML3.3, Ms3.3, Error ellipse: s-maj=3.4km s-min=1.9km az=55.0*
VIE **22** *01:14:44.0±0.4, 41°.13N×20°.02E, h10km, mb2.9/5, Ms3.3/4, Error ellipse: s-maj=3.9km s-min=3.0km az=81.0*

ISC 22 01:14:42.3±1.0, 41°.20N±0°.01×20°.19E±0°.02, h4km±8km, **n274, σ1°49/365, mb3.7/4, 38C-34D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.29**	**301**	*i* PG	**Pg**	**01 14 48.0**	**+0.1**
TIR				*i* SG	**Sb**	**01 14 58.3**	**+3.1**
TIR	**Tirane**	**0.29**	**301**	P	**Pg**	**01 14 48.0**	**+0.1**
TIR				S	**Sg**	**01 14 53.3**	**+1.6**
TIR	**Tirane**	**0.29**	**301**	*e*Pg	**Pg**	**01 14 48.0**	**+0.1**
TIR	**Tirane**	**0.29**	**301**	*e*Pg	**Pg**	**01 14 48.0**	**+0.1**
TIR				*i* Sg	**Sb**	**01 14 58.3**	**+3.1**
	SNR=130						
OHR	**Ohrid**	**0.47**	**101**	*e*PKP		04 22 28.4	
PHP	**Peshkopia**	**0.52**	**21**	*i* PG	**Pg**	**01 14 52.3**	**0.0**
PHP				*i* SG	**Sg**	**01 15 00.2**	**+1.1**
PHP	**Peshkopia**	**0.52**	**21**	P	**Pg**	**01 14 52.3**	**0.0**
PHP				S	**Sb**	**01 15 01.1**	**-0.9**
PHP	**Peshkopia**	**0.52**	**21**	*i* Pg	**Pg**	**01 14 52.3**	**0.0**
	SNR=115						
PHP				*i* Sg	**Sg**	**01 15 00.2**	**+1.1**
	SNR=115						
KBN	**Korca**	**0.73**	**142**	*i* PG	**Pg**	**01 14 56.1**	**-0.2**
KBN				*i* SG	**Sb**	**01 15 08.7**	**+0.8**
KBN	**Korca**	**0.73**	**142**	P	**Pg**	**01 14 54.7**	**-1.6**
KBN				S	**Sb**	**01 15 08.0**	**+0.1**
KBN	**Korca**	**0.73**	**142**	*i* Pg	**Pg**	**01 14 56.1**	**-0.2**
	SNR=90						
KBN				S	**Sb**	**01 15 08.0**	**+0.1**
KBN				*i* Sg	**Sb**	**01 15 08.7**	**+0.8**
	SNR=90						
PUK	**Puka**	**0.87**	**345**	*i* PG	**Pg**	**01 14 59.1**	**0.0**
FNA	**Florina**	**0.99**	**114**	*i* PG	**Pg**	**01 15 00.6**	**-0.7**
FNA				*i* SG	**Sg**	**01 15 14.2**	**+0.2**
FNA	**Florina**	**0.99**	**114**	P	**Pg**	**01 15 00.1**	**-1.1**
FNA				S	**Sb**	**01 15 15.5**	**+0.2**
FNA	**Florina**	**0.99**	**114**	*e*PB	**Pg**	**01 15 00.6**	**-0.7**
FNA				*e*SB	**Sb**	**01 15 15.9**	**+0.6**
FNA	**Florina**	**0.99**	**114**	*e*Pb	**Pg**	**01 15 00.6**	**-0.7**
FNA				*i* Sg	**Sg**	**01 15 14.2**	**+0.2**
	SNR=90						
FNA				S	**Sb**	**01 15 15.5**	**+0.2**
FNA				*e*Sb	**Sb**	**01 15 15.9**	**+0.6**
NEST	**Nestorio**	**1.02**	**140**	P	**Pg**	**01 15 01.0**	**-1.7**
NEST				S	**Sb**	**01 15 16.9**	**+0.7**
NEST	**Nestorio**	**1.02**	**140**	*e*PB	**Pg**	**01 15 01.6**	**-0.2**
NEST				*e*SB	**Sb**	**01 15 17.4**	**+1.2**
NEST	**Nestorio**	**1.02**	**140**	*e*Pb	**Pg**	**01 15 01.6**	**-0.2**
NEST				S	**Sb**	**01 15 16.9**	**+0.7**
NEST				*e*Sb	**Sb**	**01 15 17.4**	**+1.2**
ULC	**Ulcinj**	**1.04**	**317**	⇑*i*Pg	**Pg**	**01 15 01.0**	**-1.4**
ULC				*e*Sg	**Sb**	**01 15 17.1**	**+0.1**
ULC	**Ulcinj**	**1.04**	**317**	⇑*i*Pg	**Pg**	**01 15 01.0**	**-1.4**
ULC				*e*Sg	**Sb**	**01 15 17.1**	**+0.1**
BCI	**Bajram Curri**	**1.17**	**355**	*i* PN	**Pg**	**01 15 04.8**	**0.0**
BCI				*i* SN	Sn	01 15 29.2	+7.3
BCI	**Bajram Curri**	**1.17**	**355**	*i* Pn	**Pg**	**01 15 04.8**	**0.0**
SKO	**Skopje**	**1.21**	**50**	*e*Pg	**Pg**	**01 15 05.0**	**-0.6**
SKO				*e*Sg	**Sb**	**01 15 22.2**	**+0.4**
SKO	**Skopje**	**1.21**	**50**	*e*Pg	**Pg**	**01 15 05.0**	**-0.6**
SKO				*e*Sg	**Sb**	**01 15 22.2**	**+0.4**
DRME	**Dracevica, Mon**	**1.24**	**323**	⇓*i*Pg	**Pg**	**01 15 04.8**	**-1.4**
DRME				*e*Sg	**Sn**	**01 15 24.3**	**+0.7**
DRME	**Dracevica, Mon**	**1.24**	**323**	⇓*i*Pg	**Pg**	**01 15 04.8**	**-1.4**
DRME				*e*Sg	**Sn**	**01 15 24.3**	**+0.7**
SRN	**Sarande**	**1.32**	**186**	P	**Pg**	**01 15 06.8**	**-0.9**
SRN				S	**Sn**	**01 15 29.5**	**+3.9**
SRN	**Sarande**	**1.32**	**186**	P	**Pg**	**01 15 06.8**	**-0.9**
PVY	**Plav**	**1.41**	**353**	⇓*i*Pg	**Pn**	**01 15 08.2**	**-0.6**
PVY				*e*Sg	**Sn**	**01 15 30.1**	**+2.3**
PVY	**Plav**	**1.41**	**353**	⇓*i*Pg	**Pn**	**01 15 08.2**	**-0.6**
PVY				*e*Sg	**Sn**	**01 15 30.1**	**+2.3**
PDG	**Podgorica**	**1.42**	**331**	*e*Pg	**Pn**	**01 15 08.0**	**-0.8**
PDG				*e*Sg	**Sn**	**01 15 30.5**	**+2.6**
PDG	**Podgorica**	**1.42**	**331**	*e*Pg	**Pn**	**01 15 08.0**	**-0.8**
PDG				*e*Sg	**Sn**	**01 15 30.1**	**+2.2**
TTG	**Podgorica**	**1.42**	**331**	⇑*i*Pg	**Pn**	**01 15 07.8**	**-1.0**
TTG				*e*Sg	**Sn**	**01 15 30.1**	**+2.2**
BUM	**Brajici-Budva**	**1.47**	**319**	⇓*i*Pg	**Pn**	**01 15 09.1**	**-0.5**
BUM				*e*Sg	**Sn**	**01 15 31.3**	**+2.0**
BUM	**Brajici-Budva**	**1.47**	**319**	⇓*i*Pg	**Pn**	**01 15 09.1**	**-0.5**
BUM				*e*Sg	**Sn**	**01 15 31.3**	**+2.0**
KZN	**Kozani**	**1.49**	**126**	*e*PB	**Pn**	**01 15 10.2**	**+0.3**
KZN				*e*SB	**Sn**	**01 15 32.7**	**+2.8**
KZN	**Kozani**	**1.49**	**126**	*e*Pb	**Pn**	**01 15 10.2**	**+0.3**
KZN				*e*Sb	**Sn**	**01 15 32.7**	**+2.8**
KEK	**Kerkira**	**1.51**	**192**	P	**Pn**	**01 15 09.4**	**-0.7**
KEK				S	**Sn**	**01 15 33.9**	**+3.6**
KEK	**Kerkira**	**1.51**	**192**	*e*PB	**Pn**	**01 15 10.6**	**+0.5**
KEK				*e*SB	**Sn**	**01 15 33.1**	**+2.8**
KEK	**Kerkira**	**1.51**	**192**	P	**Pn**	**01 15 09.4**	**-0.7**
KEK	**Kerkira**	**1.51**	**192**	*e*Pb	**Pn**	**01 15 10.6**	**+0.5**
KEK				*e*Sb	**Sn**	**01 15 33.1**	**+2.8**
JAN	**Janina**	**1.62**	**174**	*e*PN	**Pg**	**01 15 13.5**	**+0.1**
JAN				*e*SN	**Sg**	**01 15 37.2**	**+2.9**
JAN	**Janina**	**1.62**	**162**	*e*Pn	**Pg**	**01 15 13.5**	**+0.1**
JAN				*e*Sn	**Sg**	**01 15 37.2**	**+2.9**
IGT	**Igoumenitsa**	**1.67**	**176**	P	**Pn**	**01 15 11.2**	**-1.1**
IGT				S	**Sg**	**01 15 38.6**	**+2.7**
IGT	**Igoumenitsa**	**1.67**	**176**	*e*PN	**Pb**	**01 15 13.7**	**+0.2**
IGT				*e*SN	**Sg**	**01 15 37.6**	**+1.7**
IGT	**Igoumenitsa**	**1.67**	**176**	P	**Pn**	**01 15 11.2**	**-1.1**
IGT	**Igoumenitsa**	**1.67**	**176**	*e*Pn	**Pb**	**01 15 13.7**	**+0.2**
IGT				*e*Sn	**Sg**	**01 15 37.6**	**+1.7**
BEY	**Berane**	**1.69**	**352**	⇓*i*Pn	**Pn**	**01 15 12.9**	**+0.3**
BEY				*e*Sn	**Sg**	**01 15 36.9**	**+0.3**
GRG	**Griva**	**1.69**	**97**	*e*PN	**Pn**	**01 15 12.9**	**+0.4**
GRG	**Griva**	**1.69**	**97**	*e*PN	**Pn**	**01 15 12.6**	**0.0**
GRG				*e*SN	**Sb**	**01 15 36.4**	**+0.9**
GRG	**Griva**	**1.69**	**97**	*e*Pn	**Pn**	**01 15 12.6**	**0.0**
GRG				*e*Sn	**Sb**	**01 15 36.4**	**+0.9**
IVA	**Berane**	**1.69**	**352**	⇓*i*Pn	**Pn**	**01 15 12.9**	**+0.3**
IVA				*e*Sn	**Sg**	**01 15 36.9**	**+0.3**
HCY	**Herceg Novi**	**1.78**	**315**	⇓*i*Pn	**Pn**	**01 15 13.8**	**0.0**
HCY				*e*Sn	**Sg**	**01 15 39.1**	**-0.4**
HCY	**Herceg Novi**	**1.78**	**315**	⇓*i*Pn	**Pn**	**01 15 13.8**	**0.0**
HCY				*e*Sn	**Sg**	**01 15 39.1**	**-0.4**
NKME	**Niksic**	**1.82**	**330**	⇑*i*Pn	**Pn**	**01 15 15.0**	**+0.6**
NKME				*e*Sn	**Sb**	**01 15 40.2**	**+0.9**
NKME	**Niksic**	**1.82**	**330**	⇑*i*Pn	**Pn**	**01 15 15.0**	**+0.6**
NKME				*e*Sn	**Sb**	**01 15 40.2**	**+0.9**
NKY	**Niksic**	**1.84**	**331**	⇑*i*Pn	**Pn**	**01 15 15.7**	**+0.9**
NKY				*e*Sn	**Sb**	**01 15 40.4**	**+0.3**
NKY	**Niksic**	**1.84**	**331**	⇑*i*Pn	**Pn**	**01 15 15.7**	**+0.9**
NKY				*e*Sn	**Sb**	**01 15 40.4**	**+0.3**
BARS	**Barje**	**2.02**	**36**	*e*Pn	**Pn**	**01 15 17.9**	**+0.8**
BARS				*e*Sg	**Sg**	**01 15 48.3**	**+1.1**
KNT	**Kendrikon**	**2.04**	**90**	*e*PN	**Pn**	**01 15 17.2**	**-0.3**
KNT	**Kendrikon**	**2.04**	**90**	*e*PN	**Pn**	**01 15 17.5**	**+0.1**
KNT				*e*SN	**Sb**	**01 15 45.8**	**+0.1**
KNT	**Kendrikon**	**2.04**	**90**	*e*Pn	**Pn**	**01 15 17.5**	**+0.1**
KNT				*e*Sn	**Sb**	**01 15 45.8**	**+0.1**
TREB	**Trebinje**	**2.05**	**318**	*e*Pn	**Pn**	**01 15 18.0**	**+0.5**
TREB				*e*Sg	**Sg**	**01 15 48.9**	**+0.8**
TREB	**Trebinje**	**2.05**	**318**	*e*Pn	**Pn**	**01 15 18.0**	**+0.5**
LIT	**Litokhoron**	**2.06**	**121**	*e*PN	**Pn**	**01 15 18.4**	**+0.7**
LIT	**Litokhoron**	**2.06**	**121**	*e*Pn	**Pn**	**01 15 18.4**	**+0.7**
SJES	**Sjenica**	**2.07**	**356**	*e*Pn	**Pn**	**01 15 18.5**	**+0.6**
SJES				*e*Sg	**Sg**	**01 15 51.5**	**+2.7**
SJES	**Sjenica**	**2.07**	**356**	*e*Pn	**Pn**	**01 15 18.5**	**+0.6**
BRY	**Bratogost**	**2.10**	**325**	⇓*i*Pn	**Pn**	**01 15 18.8**	**+0.4**
BRY				*e*Sn	**Sb**	**01 15 47.0**	**-0.5**
BRY	**Bratogost**	**2.10**	**325**	⇓*i*Pn	**Pn**	**01 15 18.8**	**+0.4**
BRY				*e*Sn	**Sb**	**01 15 47.0**	**-0.5**
SELS	**Selova**	**2.13**	**18**	*e*Pn	**Pn**	**01 15 19.8**	**+1.1**
THL	**Klokotos Trika**	**2.14**	**139**	*e*PN	**Pn**	**01 15 20.2**	**+1.4**
THL				*e*SN	**Sg**	**01 15 51.3**	**+0.1**
THL	**Klokotos Trika**	**2.14**	**139**	*e*Pn	**Pn**	**01 15 20.2**	**+1.4**
THL				*e*Sn	**Sg**	**01 15 51.3**	**+0.1**
DSL	**Palaion Diasel**	**2.17**	**161**	*e*PN	**Pb**	**01 15 21.5**	**-0.7**
DSL				*e*SN	**Sb**	**01 15 50.9**	**+1.4**
DSL	**Palaion Diasel**	**2.17**	**161**	*e*Pn	**Pb**	**01 15 21.5**	**-0.7**
DSL				*e*Sn	**Sb**	**01 15 50.9**	**+1.4**
THE	**Thessaloniki**	**2.17**	**104**	*e*PN	**Pn**	**01 15 19.6**	**+0.4**
THE				*e*SN	**Sb**	**01 15 49.1**	**-0.4**
THE	**Thessaloniki**	**2.17**	**104**	*e*Pn	**Pn**	**01 15 19.6**	**+0.4**
THE				*e*Sn	**Sb**	**01 15 49.1**	**-0.4**
PLE	**Pljevlja**	**2.21**	**345**	⇓*i*Pn	**Pn**	**01 15 20.1**	**+0.2**
PLE				*e*Sn	**Sn**	**01 15 49.7**	**+2.0**
PLE	**Pljevlja**	**2.21**	**345**	⇓*i*Pn	**Pn**	**01 15 20.1**	**+0.2**
PLE				*e*Sn	**Sn**	**01 15 49.7**	**+2.0**
UPM	**Unac-Piva**	**2.22**	**335**	⇓*i*Pn	**Pn**	**01 15 21.2**	**+1.1**
UPM				*e*Sn	**Sn**	**01 15 49.7**	**+1.7**
UPM	**Unac-Piva**	**2.22**	**335**	⇓*i*Pn	**Pn**	**01 15 21.2**	**+1.1**
UPM				*e*Sn	**Sn**	**01 15 49.7**	**+1.7**
HORT	**Hortiatis**	**2.28**	**104**	*e*PN	**Pn**	**01 15 21.0**	**+0.2**
HORT	**Hortiatis**	**2.28**	**104**	*e*PN	**Pn**	**01 15 20.7**	**-0.1**
HORT				*e*SN	**Sb**	**01 15 52.8**	**+0.1**
HORT	**Hortiatis**	**2.28**	**104**	*e*Pn	**Pn**	**01 15 20.7**	**-0.1**
HORT				*e*Sn	**Sb**	**01 15 52.8**	**+0.1**
IVAS	**Ivanjica**	**2.38**	**359**	*e*Pn	**Pn**	**01 15 24.2**	**+2.1**
IVAS	**Ivanjica**	**2.38**	**359**	*e*Pn	**Pn**	**01 15 24.2**	**+2.1**
SOH	**Sokhos**	**2.42**	**98**	*e*PN	**Pn**	**01 15 23.4**	**+0.7**
SOH	**Sokhos**	**2.42**	**98**	*e*Pn	**Pn**	**01 15 23.4**	**+0.7**
STON	**Ston**	**2.50**	**313**	*e*Pn	**Pn**	**01 15 23.7**	**0.0**
STON				Sn	**Sn**	**01 15 56.4**	**+1.9**
STON	**Ston**	**2.50**	**313**	*e*Pn	**Pn**	**01 15 23.9**	**+0.2**
STON	**Ston**	**2.50**	**313**	*e*Pn	**Pn**	**01 15 23.9**	**+0.2**
STON				Sn	**Sn**	**01 15 56.4**	**+1.9**
BAI	**Bari**	**2.50**	**269**	*e*Pn	**Pn**	**01 15 23.4**	**-0.3**
SRS	**Serrai**	**2.57**	**91**	*e*PN	**Pn**	**01 15 25.2**	**+0.5**
SRS	**Serrai**	**2.57**	**91**	*e*Pn	**Pn**	**01 15 25.2**	**+0.5**
EVR	**Evrytania**	**2.59**	**151**	*e*PG	**Pb**	**01 15 28.7**	**-0.7**
EVR				*e*SN	**Sb**	**01 16 02.5**	**+0.9**
EVR	**Evrytania**	**2.59**	**151**	*e*Pg	**Pb**	**01 15 28.7**	**-0.7**
PLG	**Polygyros**	**2.60**	**107**	*e*PN	**Pn**	**01 15 26.4**	**+1.2**
PLG				*e*SN	**Sn**	**01 15 59.5**	**+2.3**
PLG	**Polygyros**	**2.60**	**107**	*e*Pn	**Pn**	**01 15 26.4**	**+1.2**
PLG				*e*Sn	**Sn**	**01 15 59.5**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.64**	**145**	*e*PN	**Pn**	**01 15 27.5**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.64**	**145**	*e*Pn	**Pn**	**01 15 27.5**	**+1.8**
VTS	**Vitosha**	**2.65**	**57**	⇓*i*P	**Pn**	**01 15 26.4**	**+0.5**
VTS	**Vitosha**	**2.65**	**57**	⇓*i*P	**Pn**	**01 15 26.4**	**+0.5**
SG1	**Sgolgore (BA)**	**2.68**	**263**	*e*Pn	**Pb**	**01 15 30.6**	**-0.3**
MMB	**Musomiste**	**2.69**	**80**	⇑*i*P	**Pn**	**01 15 27.4**	**+1.1**
MMB	**Musomiste**	**2.69**	**80**	⇑*i*P	**Pn**	**01 15 27.4**	**+1.1**
PDO	**Prodromos**	**2.71**	**163**	*e*PB	**Pn**	**01 15 27.8**	**+1.3**
PDO	**Prodromos**	**2.71**	**163**	*e*Pb	**Pn**	**01 15 27.8**	**+1.3**
GRUS	**Gruza**	**2.72**	**8**	⇑*i*Pn	**Pn**	**01 15 29.2**	**+2.5**
GRUS	**Gruza**	**2.72**	**8**	⇑*i*Pn	**Pn**	**01 15 29.2**	**+2.5**
AGG	**Agios Georgios**	**2.72**	**142**	*e*PN	**Pn**	**01 15 28.1**	**+1.3**
AGG	**Agios Georgios**	**2.72**	**142**	*e*PN	**Pn**	**01 15 28.0**	**+1.2**
AGG				*e*SN	**Sb**	**01 16 04.2**	**-1.1**
AGG	**Agios Georgios**	**2.72**	**142**	*e*Pn	**Pn**	**01 15 28.0**	**+1.2**
AGG				*e*Sn	**Sb**	**01 16 04.2**	**-1.1**
BBLS	**Lazići**	**2.73**	**348**	⇓*i*Pn	**Pn**	**01 15 29.1**	**+2.2**
BBLS	**Lazići**	**2.73**	**348**	⇓*i*Pn	**Pn**	**01 15 29.1**	**+2.2**
ZAPS	**Zavoj**	**2.75**	**40**	*e*Pn	**Pn**	**01 15 29.7**	**+2.5**
ZAPS	**Zavoj**	**2.75**	**40**	*e*Pn	**Pn**	**01 15 29.7**	**+2.5**
NVR	**Nevrokopi**	**2.77**	**86**	*e*PN	**Pn**	**01 15 27.9**	**+0.5**
NVR	**Nevrokopi**	**2.77**	**86**	*e*Pn	**Pn**	**01 15 27.9**	**+0.5**
DIVS	**Divibare**	**2.90**	**357**	*e*Pn	**Pn**	**01 15 31.5**	**+2.2**
DIVS	**Divibare**	**2.90**	**357**	*e*Pn	**Pn**	**01 15 31.5**	**+2.2**
BOLS	**Boljevac**	**2.93**	**26**	⇑*i*Pn	**Pn**	**01 15 30.5**	**+0.8**
BOLS	**Boljevac**	**2.93**	**26**	⇑*i*Pn	**Pn**	**01 15 30.5**	**+0.8**
XOR	**Xorichti**	**2.93**	**128**	*e*PN	**Pn**	**01 15 31.2**	**+1.5**
XOR				*e*SN	**Sb**	**01 16 10.0**	**-1.4**
XOR	**Xorichti**	**2.93**	**128**	*e*Pn	**Pn**	**01 15 31.2**	**+1.5**
XOR				*e*Sn	**Sb**	**01 16 10.0**	**-1.4**
PAIG	**Paliouri**	**2.94**	**114**	*e*PN	**Pn**	**01 15 30.9**	**+1.1**
PAIG				*e*SN	**Sb**	**01 16 09.4**	**-2.2**
PAIG	**Paliouri**	**2.94**	**114**	*e*Pn	**Pn**	**01 15 30.9**	**+1.1**
PAIG				*e*Sn	**Sb**	**01 16 09.4**	**-2.2**
NEO	**Neokhori**	**2.99**	**128**	*e*PB	**Pn**	**01 15 31.1**	**+0.6**
NEO				*e*SN	**Sb**	**01 16 11.2**	**-1.8**
NEO	**Neokhori**	**2.99**	**128**	*e*Pb	**Pn**	**01 15 31.1**	**+0.6**
NEO				*e*Sn	**Sb**	**01 16 11.2**	**-1.8**
OUR	**Ouranopolis**	**3.00**	**105**	*e*PN	**Pn**	**01 15 31.2**	**+0.6**
OUR	**Ouranopolis**	**3.00**	**105**	*e*PB	**Pn**	**01 15 31.2**	**+0.6**
OUR	**Ouranopolis**	**3.00**	**105**	*e*Pb	**Pn**	**01 15 31.2**	**+0.6**
HAPS	**Han Pijesak,BI**	**3.03**	**343**	*e*Pn	**Pn**	**01 15 32.2**	**+1.1**
HAPS	**Han Pijesak,BI**	**3.03**	**343**	*e*Pn	**Pn**	**01 15 32.2**	**+1.1**
VLS	**Valsamata**	**3.03**	**174**	*e*PB	**Pn**	**01 15 31.0**	**0.0**
VLS	**Valsamata**	**3.03**	**174**	*e*Pb	**Pn**	**01 15 31.0**	**0.0**
EFP	**Efpalio**	**3.07**	**154**	*e*PN	**Pn**	**01 15 34.5**	**+3.0**
EFP	**Efpalio**	**3.07**	**154**	*e*Pn	**Pn**	**01 15 34.5**	**+3.0**
SVIS	**Svilajnac**	**3.16**	**13**	*e*Pn	**Pn**	**01 15 34.5**	**+1.8**
KALE	**Kalithea**	**3.18**	**151**	*e*PN	**Pn**	**01 15 34.9**	**+1.8**
KALE	**Kalithea**	**3.18**	**151**	*e*Pn	**Pn**	**01 15 34.9**	**+1.8**
SKIA	**Skiathos**	**3.23**	**128**	*e*PN	**Pn**	**01 15 34.9**	**+1.2**
SKIA	**Skiathos**	**3.23**	**128**	*e*Pn	**Pn**	**01 15 34.9**	**+1.2**
MS1	**Monte Sant'Ang**	**3.23**	**280**	*e*Pn	**Pn**	**01 15 32.9**	**-1.0**
KAVA	**Kavala**	**3.27**	**92**	*e*PN	**Pn**	**01 15 34.5**	**+0.2**
KAVA	**Kavala**	**3.27**	**92**	*e*Pn	**Pn**	**01 15 34.5**	**+0.2**
RLS	**Riolos of Patr**	**3.29**	**162**	*e*PN	**Pn**	**01 15 35.1**	**+0.6**
RLS	**Riolos of Patr**	**3.29**	**162**	*e*Pn	**Pn**	**01 15 35.1**	**+0.6**
DSF	**Desfina**	**3.31**	**146**	*e*PN	**Pn**	**01 15 36.4**	**+1.5**
DSF				*e*SN	**Sn**	**01 16 18.8**	**+4.0**
DSF	**Desfina**	**3.31**	**146**	*e*Pn	**Pn**	**01 15 36.4**	**+1.5**
DSF				*e*Sn	**Sn**	**01 16 18.8**	**+4.0**
LKR	**Lokris**	**3.34**	**139**	*e*PN	**Pn**	**01 15 36.2**	**+1.0**
LKR	**Lokris**	**3.34**	**139**	*e*Pn	**Pn**	**01 15 36.2**	**+1.0**
TEKS	**Tekeris**	**3.38**	**352**	*e*PN	**Pn**	**01 15 37.1**	**+1.2**
TEKS	**Tekeris**	**3.38**	**352**	*e*Pn	**Pn**	**01 15 37.1**	**+1.2**
DRO	**Drossia**	**3.45**	**160**	*e*PN	**Pn**	**01 15 38.6**	**+1.9**
DRO	**Drossia**	**3.45**	**160**	*e*Pn	**Pn**	**01 15 38.6**	**+1.9**
AOS	**Alonnisos**	**3.48**	**124**	*e*PN	**Pn**	**01 15 37.5**	**+0.4**
AOS	**Alonnisos**	**3.48**	**124**	*e*PN	**Pn**	**01 15 38.8**	**+1.7**
AOS	**Alonnisos**	**3.48**	**124**	*e*Pn	**Pn**	**01 15 38.8**	**+1.7**
KLV	**Kalavryta, Ach**	**3.49**	**154**	*e*PN	**Pn**	**01 15 39.5**	**+2.1**
KLV	**Kalavryta, Ach**	**3.49**	**154**	*e*Pn	**Pn**	**01 15 39.5**	**+2.1

HFS	**Hagfors**	**19.38**	**350**	P	**P**	**01 19 08.9**	**+0.1**
	0.1nm,0.3s,baz=146,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**20.59**	**8**	P	**P**	**01 19 21.9**	**-0.1**
	0.6nm,0.5s,baz=179,slow=9.7,SNR=4.8						
NOA	**NORSAR Array B**	**20.61**	**348**	P	**P**	**01 19 21.2**	**-1.1**
	0.6nm,0.6s,baz=151,slow=9.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**32.28**	**215**	P	**P**	**01 21 11.1**	**-1.1**
	0.6nm,0.8s,baz=16,slow=12,SNR=2.4						
ZALV	**Zalesovo Beam**	**43.91**	**50**	P	**P**	**01 22 49.3**	**-0.5**
	1.0nm,0.6s,baz=276,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**43.99**	**61**	P	**P**	**01 22 50.4**	**-0.2**
	0.2nm,0.4s,baz=270,slow=10,SNR=3.3						
SONM	**Songino Array**	**58.76**	**52**	P	**P**	**01 24 41.0**	**-0.4**
	0.3nm,0.4s,baz=292,slow=6.2,SNR=5.8						

IDC ***22*** *01:23:54.4±0.9, 35°.28N×6°.30W, h0km, mb3.7/13, mb1 4.0/15, mb1mx3.8/36, mbtmp3.8/15, ML5.1/2, MS3.0/10, Ms1 3.1/10, ms1mx2.8/44, Error ellipse: s-maj=21.6km s-min=17.9km az=72.0*

NEIC ***22*** *01:23:56.0±0.5, 35°.27N×6°.23W, h10km, mb4.8/1, MW4.7(MDD), Error ellipse: s-maj=8.6km s-min=5.6km az=99.0*

NEIC Felt [III] at Casablanca and Kenitra, Morocco. Also felt at Al Hoceima, M'dik, Rabat and Tangier. Felt at Vila Real de Santo Antonio, Portugal and [II] at Sevilla, Spain.

LDG ***22*** *01:23:55.8±0.2, 35°.11N×6°.26W, h22km, Md4.2/1, Ml4.6/31, Error ellipse: s-maj=6.0km s-min=5.3km az=128.0*

SFS ***22*** *01:23:56.0, 35°.26N×6°.33W, h0km, ML4.2*

ISCJB ***22*** *01:23:58.1±0.2, 35°.33N±0°.01×6°.25W±0°.02, h56km±3km, mb3.9/14, MS3.1/8, Error ellipse: s-maj=2.8km s-min=2.2km az=44.2*

CSEM ***22*** *01:23:59.6±0.1, 35°.30N×6°.25W, h40km, ML5.2/13, Mw4.7, Error ellipse: s-maj=3.3km s-min=2.7km az=82.0*

IGIL ***22*** *01:24:00.5, 35°.31N×6°.30W, h22km, ML4.5*

MDD ***22*** *01:24:00.2±0.3, 35°.26N×6°.29W, h47km±6km, mb5.4/65, Error ellipse: s-maj=3.2km s-min=2.8km az=85.0, PRXIMO*

CNRM ***22*** *01:24:01.2, 35°.16N×6°.21W, h33km, MD4.1*

INMG ***22*** *01:24:01.9±1.4, 35°.32N×6°.32W, h31km±7km, MD3.6, ML4.2, Error ellipse: s-maj=3.5km s-min=2.5km az=44.0*

STR ***22*** *01:24:16.6±0.3, 36°.37N×5°.12W, h10km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 22 01:23:59.6±0.7, 35°.33N±0°.03×6°.25W±0°.03, h42km±6km, n445, σ1s93/597, mb4.0/14, MS3.1/8, 10C-21D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TSY	**Tnine Yamani**	**0.23**	**79**	P		**Pn**	**01 24 09.0**	**+1.6**
TSY				S		**Sn**	**01 24 14.0**	**+1.2**
TSY	**Tnine Yamani**	**0.23**	**79**	*i* P		**Pn**	**01 24 09.0**	**+1.6**
TSY				*i* S		**Sn**	**01 24 14.0**	**+1.2**
DKH	**Dar Kharkhour**	**0.74**	**77**	P		**Pn**	**01 24 15.5**	**+1.7**
DKH				S		**Sn**	**01 24 24.0**	**-0.1**
DKH	**Dar Kharkhour**	**0.74**	**77**	*i* P		**Pn**	**01 24 15.5**	**+1.7**
DKH				*i* S		**Sn**	**01 24 24.0**	**-0.1**
CNIL	**Conil**	**1.05**	**9**	⇑P		**Pn**	**01 24 20.6**	**+2.7**
CNIL				S		**Sn**	**01 24 31.4**	**0.0**
CNIL	**Conil**	**1.05**	**9**	*i* P		**Pn**	**01 24 20.6**	**+2.7**
CNIL				*i* S		**Sn**	**01 24 31.4**	**0.0**
SFS	**San Fernando**	**1.14**	**2**	⇓P		**Pn**	**01 24 21.3**	**+2.3**
SFS				S		**Sn**	**01 24 32.5**	**-0.9**
SFS	**San Fernando**	**1.14**	**2**	*i* P		**Pn**	**01 24 21.3**	**+2.3**
SFS				*i* S		**Sn**	**01 24 32.5**	**-0.9**
RTC	**Rabat Centre**	**1.43**	**201**	P		**Pn**	**01 24 22.5**	**-0.5**
RTC				S		**Sn**	**01 24 38.0**	**-2.5**
RTC	**Rabat Centre**	**1.43**	**201**	*i* P		**Pn**	**01 24 22.5**	**-0.5**
RTC				*i* S		**Sn**	**01 24 38.0**	**-2.5**
REAL	**Reales**	**1.43**	**36**	⇑P		**Pn**	**01 24 25.7**	**+2.5**
REAL	**Reales**	**1.43**	**36**	*i* P		**Pn**	**01 24 25.7**	**+2.5**
ESPR	**Espera**	**1.57**	**12**	⇓P		**Pn**	**01 24 26.4**	**+1.4**
	354nm,0.3s,SNR=18							
ESPR				S		**Sn**	**01 24 44.6**	**+0.5**
	893nm,0.2s,SNR=16							
ESPR	**Espera**	**1.57**	**12**	P		**Pn**	**01 24 26.4**	**+1.4**
	354nm,0.3s,SNR=18							
ESPR				S		**Sn**	**01 24 44.6**	**+0.5**
	893nm,0.2s,SNR=16							
ESPR	**Espera**	**1.57**	**12**	P		**Pn**	**01 24 26.4**	**+1.4**
ESPR				S		**Sn**	**01 24 44.6**	**+0.5**
TGT	**Taghat**	**1.59**	**141**	P		**Pn**	**01 24 25.0**	**-0.4**
TGT				S		**Sn**	**01 24 42.0**	**-2.8**
TGT	**Taghat**	**1.59**	**141**	*i* P		**Pn**	**01 24 25.0**	**-0.4**
TGT				*i* S		**Sn**	**01 24 42.0**	**-2.8**
LIJA	**Lijar**	**1.72**	**23**	⇑P		**Pn**	**01 24 29.1**	**+2.0**
LIJA				S		**Sn**	**01 24 45.8**	**-2.1**
LIJA	**Lijar**	**1.72**	**23**	*i* P		**Pn**	**01 24 29.1**	**+2.0**
LIJA				*i* S		**Sn**	**01 24 45.8**	**-2.1**
EMIJ	**Mijas**	**1.72**	**44**	⇑P		**Pn**	**01 24 27.8**	**+0.7**
	67nm,0.1s,SNR=18							
EMIJ				S		**Sn**	**01 24 47.1**	**-0.8**
	326nm,0.3s,SNR=7.4							
EMIJ	**Mijas**	**1.72**	**44**	P		**Pn**	**01 24 27.8**	**+0.7**
	67nm,0.1s,SNR=18							
EMIJ				S		**Sn**	**01 24 47.5**	**-0.4**
EMIJ	**Mijas**	**1.72**	**44**	P		**Pn**	**01 24 27.8**	**+0.7**
EMIJ				S		**Sn**	**01 24 47.5**	**-0.4**
EXHU	**Huelva**	**2.02**	**344**	P		**Pn**	**01 24 32.3**	**+1.1**
	SNR=7.9							
EXHU				S		**Sn**	**01 24 55.0**	**-0.2**
	SNR=7.9							
EMAL	**Malaga-Limoner**	**2.06**	**45**	⇑P		**Pn**	**01 24 32.2**	**+0.5**
EMAL				S		**Sn**	**01 24 56.0**	**0.0**
EMAL	**Malaga-Limoner**	**2.06**	**45**	*i* P		**Pn**	**01 24 32.2**	**+0.5**
EMAL				*i* S		**Sn**	**01 24 56.0**	**0.0**
TOU	**Touzarine**	**2.08**	**99**	P		**Pn**	**01 24 32.0**	**-0.1**
TOU				S		**Sn**	**01 24 54.0**	**-2.8**
TOU	**Touzarine**	**2.08**	**99**	*i* P		**Pn**	**01 24 32.0**	**-0.1**
TOU				*i* S		**Sn**	**01 24 54.0**	**-2.8**
MIF	**Mishlifen**	**2.09**	**156**	P		**Pn**	**01 24 32.0**	**-0.4**
MIF				S		Sn	01 24 53.0	-4.3
MIF	**Mishlifen**	**2.09**	**156**	*i* P		**Pn**	**01 24 32.0**	**-0.4**
PBDV	**Barranco-do-Ve**	**2.34**	**325**	*e*Pn		**Pn**	**01 24 36.2**	**+0.6**
PBDV				*e*Sn		**Sn**	**01 25 02.1**	**-1.1**
PBDV				A		A	01 25 05.0	
	720nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.34**	**325**	⇓Pn		**Pn**	**01 24 36.2**	**+0.6**
PBDV				Sn		**Sn**	**01 25 02.1**	**-1.1**
	720nm,0.3s							
PVAQ	**Vaqueiros**	**2.39**	**331**	*i* Pn		**Pn**	**01 24 37.0**	**+0.8**
PVAQ				*e*Sn		**Sn**	**01 25 03.2**	**-1.0**
PVAQ				A		A	01 25 05.0	
	2µm,0.2s							
PVAQ	**Vaqueiros**	**2.39**	**331**	⇓Pn		**Pn**	**01 24 37.0**	**+0.8**
PVAQ				Sn		**Sn**	**01 25 03.2**	**-1.0**
	2µm,0.2s							
EGRO	**El Granado**	**2.42**	**336**	⇓P		**Pn**	**01 24 37.5**	**+0.9**
	217nm,0.1s,SNR=18							
EGRO				S		**Sn**	**01 25 03.5**	**-1.4**
	456nm,0.1s,SNR=12							
EGRO	**El Granado**	**2.42**	**336**	P		**Pn**	**01 24 37.5**	**+0.9**
	217nm,0.1s,SNR=18							
EGRO				S		**Sn**	**01 25 03.5**	**-1.4**
	456nm,0.1s,SNR=12							
EMIN	**Mina Concepcio**	**2.46**	**352**	⇓P		**Pn**	**01 24 38.0**	**+0.8**
	272nm,0.1s,SNR=18							
EMIN				S		**Sn**	**01 25 04.0**	**-2.0**
	206nm,0.1s,SNR=7.8							
EMIN	**Mina Concepcio**	**2.46**	**352**	P		**Pn**	**01 24 38.0**	**+0.8**
	272nm,0.1s,SNR=18							
EMIN				S		**Sn**	**01 25 04.0**	**-2.0**
	206nm,0.1s,SNR=7.8							
ERON	**Agron**	**2.60**	**49**	P		Pn	01 24 45.5	+6.2
	44nm,0.1s,SNR=7.9							
ERON				S		Sn	01 25 17.0	+7.3
	162nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**2.65**	**55**	P		**Pn**	**01 24 39.3**	**-0.5**
	54nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**01 25 08.5**	**-2.1**
	189nm,0.3s,SNR=7.9							
EGUA	**Guajares**	**2.65**	**55**	P		**Pn**	**01 24 39.3**	**-0.5**
	54nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**01 25 08.5**	**-2.1**
	189nm,0.3s,SNR=7.9							
EMEL	**Melilla**	**2.69**	**90**	⇑P		**Pn**	**01 24 40.6**	**+0.2**
	228nm,0.1s,SNR=18							
EMEL				S		**Sn**	**01 25 10.0**	**-1.8**
	1µm,0.2s,SNR=8.7							
EMLI	**Melilla**	**2.70**	**90**	P		**Pn**	**01 24 40.6**	**+0.1**
	228nm,0.1s,SNR=18							
EMLI				S		**Sn**	**01 25 10.0**	**-1.9**
	1µm,0.2s,SNR=8.7							
MELI	**Melilla**	**2.71**	**90**	P		**Pn**	**01 24 40.8**	**+0.1**
	SNR=7.9							
MELI				S		**Sn**	**01 25 11.3**	**-0.9**
	590nm,0.3s,SNR=7.9							
MELI	**Melilla**	**2.71**	**90**	*i* P		**Pn**	**01 24 40.7**	**+0.1**
MELI				S		**Sn**	**01 25 11.3**	**-0.9**
	590nm,0.3s,SNR=7.9							
PCVE	**Castro Verde**	**2.71**	**328**	*i* Pn		**Pn**	**01 24 41.4**	**+0.7**
PCVE				*e*Sn		**Sn**	**01 25 11.1**	**-1.2**
PCVE				A		A	01 25 12.3	
	48nm,0.6s							
PCVE	**Castro Verde**	**2.71**	**328**	⇓Pn		**Pn**	**01 24 41.4**	**+0.7**
PCVE				Sn		**Sn**	**01 25 11.1**	**-1.2**
	48nm,0.6s							
KIB	**El Ksiba**	**2.75**	**176**	P		**Pn**	**01 24 41.0**	**-0.3**
KIB				S		**Sn**	**01 25 10.0**	**-3.3**
KIB	**El Ksiba**	**2.75**	**176**	*i* P		**Pn**	**01 24 41.0**	**-0.3**
KIB				*i* S		**Sn**	**01 25 10.0**	**-3.3**
PFVI	**Vila Bisbo**	**2.75**	**312**	*i* Pn		**Pn**	**01 24 41.4**	**+0.2**
PFVI				*e*Sn		**Sn**	**01 25 11.7**	**-1.5**
PFVI				A		A	01 25 18.3	
	689nm,0.4s							
PFVI	**Vila Bisbo**	**2.75**	**312**	⇓P		**Pn**	**01 24 41.4**	**+0.2**
	411nm,0.1s,SNR=18							
PFVI				S		**Sn**	**01 25 11.5**	**-1.7**
	396nm,0.1s,SNR=9.6							
PFVI	**Vila Bisbo**	**2.75**	**312**	P		**Pn**	**01 24 41.4**	**+0.2**
	411nm,0.1s,SNR=18							
PFVI				*e*Sn		**Sn**	**01 25 11.7**	**-1.5**
	689nm,0.4s							
MORF	**Marmelete**	**2.77**	**316**	*e*P		**Pn**	**01 24 41.6**	**+0.1**
MORF				*e*S		**Sn**	**01 25 11.9**	**-1.7**
MORF				AML		AML	01 25 13.3	
	comp=N,3µm,0.4s							
MORF	**Marmelete**	**2.77**	**316**	*i* Pn		**Pn**	**01 24 41.6**	**+0.1**
MORF				*e*Sn		**Sn**	**01 25 11.9**	**-1.7**
MORF				A		A	01 25 13.2	
	comp=N,1µm,0.1s							
MORF	**Marmelete**	**2.77**	**316**	⇓Pn		**Pn**	**01 24 41.6**	**+0.1**
MORF				Sn		**Sn**	**01 25 11.9**	**-1.7**
	comp=N,1µm,0.1s							
SELV	**Sierra Elvira**	**2.79**	**46**	P		**Pn**	**01 24 43.8**	**+2.0**
	comp=N,41nm,0.2s,SNR=7.9							
SELV				S		**Sn**	**01 25 14.6**	**+0.3**
	comp=N,144nm,0.3s,SNR=7.9							
SELV	**Sierra Elvira**	**2.79**	**46**	P		**Pn**	**01 24 43.8**	**+2.0**
	comp=N,41nm,0.2s,SNR=7.9							
SELV				S		**Sn**	**01 25 14.6**	**+0.3**
	comp=N,144nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**2.82**	**13**	⇓P		**Pn**	**01 24 42.9**	**+0.7**
	comp=N,113nm,0.2s,SNR=18							
ECAB				S		**Sn**	**01 25 12.7**	**-2.4**
	comp=N,364nm,0.1s,SNR=12							
ECAB	**El Cabril**	**2.82**	**13**	P		**Pn**	**01 24 42.9**	**+0.7**
	comp=N,113nm,0.2s,SNR=18							
ECAB				S		**Sn**	**01 25 12.6**	**-2.4**
	comp=N,364nm,0.1s,SNR=12							
MDT	**Midelt**	**2.85**	**151**	Pn		**Pn**	**01 24 42.4**	**-0.2**
	comp=N,454nm,0.3s,baz=335,slow=14							
MDT				Sn		**Sn**	**01 25 12.3**	**-3.5**
	comp=N,198nm,0.3s,baz=198,slow=23,SNR=29							
ZAI	**Zaio**	**2.90**	**96**	P		**Pn**	**01 24 43.0**	**-0.2**
ZAI				S		**Sn**	**01 25 15.0**	**-1.8**
ZAI	**Zaio**	**2.90**	**96**	*i* P		**Pn**	**01 24 43.0**	**-0.2**
ZAI				*i* S		**Sn**	**01 25 15.0**	**-1.8**
PBAR	**Barrancos**	**2.91**	**348**	*i* Pn		**Pn**	**01 24 44.3**	**+0.9**
PBAR				*e*Sn		**Sn**	**01 25 16.1**	**-1.0**
PBAR				A		A	01 25 16.6	
	comp=N,1µm,0.3s							
PBAR	**Barrancos**	**2.91**	**348**	⇓Pn		**Pn**	**01 24 44.3**	**+0.9**
PBAR				Sn		**Sn**	**01 25 16.1**	**-1.0**
	comp=N,1µm,0.3s							
ECOG	**Cogollos-Vega**	**2.91**	**47**	⇓P		**Pn**	**01 24 45.7**	**+2.1**
	comp=N,35nm,0.1s,SNR=18							
ECOG				S		**Sn**	**01 25 17.8**	**+0.4**
	comp=N,245nm,0.2s,SNR=22							
ECOG	**Cogollos-Vega**	**2.91**	**47**	P		**Pn**	**01 24 45.7**	**+2.1**
	comp=N,35nm,0.1s,SNR=18							
ECOG				S		**Sn**	**01 25 17.8**	**+0.4**
	comp=N,245nm,0.2s,SNR=22							
EQUE	**Quentar**	**2.94**	**50**	P		**Pn**	**01 24 45.9**	**+1.9**
	comp=N,19nm,0.1s,SNR=59							
EQUE				S		**Sn**	**01 25 18.4**	**+0.3**
	comp=N,30nm,0.2s,SNR=14							
EQUE	**Quentar**	**2.94**	**50**	P		**Pn**	**01 24 45.9**	**+1.9**
	comp=N,19nm,0.1s,SNR=59							
EQUE				S		**Sn**	**01 25 18.4**	**+0.3**
	comp=N,30nm,0.2s,SNR=14							
MESJ	**Messejana**	**2.97**	**328**	*e*P		**Pn**	**01 24 44.9**	**+0.8**
MESJ				*e*S		**Sn**	**01 25 16.9**	**-1.6**
MESJ				AML		AML	01 25 19.4	
	comp=N,1µm,0.6s							
MESJ	**Messejana**	**2.97**	**328**	P		**Pn**	**01 24 44.9**	**+0.8**
MESJ				S		**Sn**	**01 25 16.9**	**-1.6**
	comp=N,1µm,0.6s							
PTEO	**Sao Teotonio**	**2.98**	**319**	*e*Pn		**Pn**	**01 24 44.9**	**+0.6**
PTEO				*e*Sn		**Sn**	**01 25 17.8**	**-1.0**
PTEO				A		A	01 25 19.6	
	comp=N,958nm,0.3s							
PTEO	**Sao Teotonio**	**2.98**	**319**	⇓Pn		**Pn**	**01 24 44.9**	**+0.6**
PTEO				Sn		**Sn**	**01 25 17.8**	**-1.0**
	comp=N,479nm,0.3s							
EADA	**Adamuz**	**3.14**	**25**	⇓P		**Pn**	**01 24 47.7**	**+1.1**
	comp=N,98nm,0.2s,SNR=18							
EADA				S		**Sn**	**01 25 20.3**	**-2.5**
	comp=N,714nm,0.2s,SNR=8.1							
EADA	**Adamuz**	**3.14**	**25**	P		**Pn**	**01 24 47.7**	**+1.1**
	comp=N,98nm,0.2s,SNR=18							
EADA				S		**Sn**	**01 25 20.3**	**-2.5**
	comp=N,714nm,0.2s,SNR=8.1							
EBER	**Berja**	**3.14**	**59**	⇑P		**Pn**	**01 24 46.8**	**+0.1**
	comp=N,85nm,0.3s,SNR=18							
EBER				S		**Sn**	**01 25 21.2**	**-1.9**
	comp=N,155nm,0.3s,SNR=8.8							
EBER	**Berja**	**3.14**	**59**	P		**Pn**	**01 24 46.8**	**+0.1**
	comp=N,85nm,0.3s,SNR=18							
EBER				S		**Sn**	**01 25 21.2**	**-1.9**
	comp=N,155nm,0.3s,SNR=8.8							
TZC	**Tazercounte**	**3.18**	**184**	P		**Pn**	**01 24 46.0**	**-1.2**
TZC				S		Sn	01 25 19.0	-5.0
TZC	**Tazercounte**	**3.18**	**184**	*i* P		**Pn**	**01 24 46.0**	**-1.2**
PNCL	**Nicolau / Gran**	**3.33**	**327**	*i* Pn		**Pn**	**01 24 49.7**	**+0.6**
PNCL				*e*Sn		**Sn**	**01 25 25.8**	**-1.6**
PNCL				A		A	01 25 30.3	
	comp=N,420nm,0.2s							
GORA	**Gorafe**	**3.37**	**49**	P		**Pn**	**01 24 51.7**	**+2.0**
	comp=N,55nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**01 25 28.8**	**+0.3**
	comp=N,449nm,0.3s,SNR=7.9							
GORA	**Gorafe**	**3.37**	**49**	P		**Pn**	**01 24 51.7**	**+2.0**
	comp=N,55nm,0.1s,SNR=7.9							
GORA				S		**Sn**	**01 25 28.8**	**+0.3**
	comp=N,449nm,0.3s,SNR=7.9							
EBAN	**Banos Encina**	**3.46**	**34**	⇓P		**Pn**	**01 24 51.8**	**+0.9**
	comp=N,95nm,0.2s,SNR=18							
EBAN				S		**Sn**	**01 25 27.6**	**-3.0**
	comp=N,211nm,0.2s,SNR=5.5							
EBAN	**Banos Encina**	**3.46**	**34**	P		**Pn**	**01 24 51.8**	**+0.9**
	comp=N,95nm,0.2s,SNR=18							
EBAN				S		**Sn**	**01 25 27.6**	**-3.0**
	comp=N,211nm,0.2s,SNR=5.5							
EBAD	**Badajoz**	**3.48**	**350**	⇓P		**Pn**	**01 24 52.0**	**+0.8**
	comp=N,461nm,0.1s,SNR=18							
EBAD				S		**Sn**	**01 25 28.5**	**-2.6**
	comp=N,405nm,0.2s,SNR=7.5							
EBAD	**Badajoz**	**3.48**	**350**	P		**Pn**	**01 24 52.0**	**+0.8**
	comp=N,461nm,0.1s,SNR=18							
EBAD				S		**Sn**	**01 25 28.5**	**-2.6**
	comp=N,405nm,0.2s,SNR=7.5							
EVO	**Evora**	**3.50**	**337**	*e*Pn		**Pn**	**01 24 52.7**	**+1.3**
EVO				*e*Sn		**Sn**	**01 25 29.8**	**-1.7**
	comp=N,971nm,0.3s							
EVO	**Evora**	**3.50**	**337**	*i* Pn		**Pn**	**01 24 52.4**	**+1.0**
EVO				*e*Sn		**Sn**	**01 25 30.0**	**-1.5**
EVO				A		A	01 25 32.2	
	comp=N,800nm,0.1s							
EVO	**Evora**	**3.50**	**337**	⇓Pn		**Pn**	**01 24 52.4**	**+1.0**
EVO				Sn		**Sn**	**01 25 30.0**	**-1.5**
	comp=N,800nm,0.1s							
EVOP	**Sao Brissos**	**3.53**	**335**	*e*Pn		**Pn**	**01 24 52.7**	**+0.8**
EVOP				*e*Sn		**Sn**	**01 25 29.8**	**-2.5**
	comp=N,486nm,0.3s							
EVOP	**Sao Brissos**	**3.53**	**335**	*e*Pn		**Pn**	**01 24 52.7**	**+0.8**
EVOP				*e*Sn		**Sn**	**01 25 29.8**	**-2.5**
EQES	**Quesada**	**3.56**	**45**	⇓P		**Pn**	**01 24 53.6**	**+1.2**
	comp=N,21nm,0.1s,SNR=18							
EQES				S		**Sn**	**01 25 31.5**	**-1.7**
	comp=N,101nm,0.2s,SNR=11							
EQES	**Quesada**	**3.56**	**45**	P		**Pn**	**01 24 53.6**	**+1.2**
	comp=N,21nm,0.1s,SNR=18							
EQES				S		**Sn**	**01 25 31.5**	**-1.7**
	comp=N,101nm,0.2s,SNR=11							
ZFT	**Errachidia**	**3.65**	**154**	P		**Pn**	**01 24 53.0**	**-0.7**
ZFT				S		Sn	01 25 31.0	-4.6
ZFT	**Errachidia**	**3.65**	**154**	*i* P		**Pn**	**01 24 53.0**	**-0.7**
ENIJ	**Nijar**	**3.66**	**62**	P		**Pn**	**01 24 54.4**	**+0.7**
	comp=N,81nm,0.3s,SNR=7.9							
ENIJ				S		**Sn**	**01 25 35.4**	**-0.3**
	comp=N,51nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**3.66**	**62**	P		**Pn**	**01 24 54.4**	**+0.7**
	comp=N,81nm,0.3s,SNR=7.9							
ENIJ				S		**Sn**	**01 25 35.4**	**-0.3**
	comp=N,51nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**3.69**	**344**	*i* Pn		**Pn**	**01 24 54.9**	**+0.8**
PESTR				*e*Sn		**Sn**	**01 25 34.3**	**-2.1**
PESTR				A		A	01 25 42.0	
	comp=N,228nm,0.4s							
EHUE	**Huescar**	**3.85**	**49**	P		**Pn**	**01 24 57.8**	**+1.4**
	comp=N,37nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**01 25 39.2**	**-1.2**
	comp=N,141nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**3.85**	**49**	P		**Pn**	**01 24 57.8**	**+1.4**
	comp=N,37nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**01 25 39.2**	**-1.2**
	comp=N,141nm,0.3s,SNR=7.9							
PACT	**Alcochete**	**4.01**	**330**	*i* Pn		**Pn**	**01 25 00.6**	**+2.2**
PACT				*e*S		**Sn**	**01 25 45.3**	**+1.2**
PACT				A		A	01 26 05.3	
	comp=N,333nm,0.3s							
PMTG	**Montargil**	**4.05**	**338**	*i* Pn		**Pn**	**01 24 59.8**	**+0.7**
PMTG				*e*Sn		**Sn**	**01 25 43.9**	**-1.4**
PMTG				A		A	01 25 46.4	
	comp=N,242nm,0.1s							
SESP	**Santiago Espad**	**4.08**	**46**	P		**Pn**	**01 25 00.3**	**+0.7**
	comp=N,40nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**01 25 43.6**	**-2.5**
	comp=N,172nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**4.08**	**46**	P		**Pn**	**01 25 00.3**	**+0.7**
	comp=N,40nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**01 25 43.6**	**-2.5**
	comp=N,172nm,0.1s,SNR=7.9							
LIS	**Lisbon**	**4.10**	**326**	*e*P		**Pn**	**01 25 00.7**	**+0.9**
LIS				*e*S		**Sn**	**01 25 44.2**	**-2.2**
LIS				AML		AML	01 25 47.6	
	comp=E,1µm,0.2s							
LIS	**Lisbon**	**4.10**	**326**	*e*Pn		**Pn**	**01 25 01.0**	**+1.3**
LIS				*e*Sn		**Sn**	**01 25 46.2**	**-0.2**
LIS				A		A	01 25 47.8	
	comp=E,404nm,0.5s							
LIS	**Lisbon**	**4.10**	**326**	Pn		**Pn**	**01 25 01.0**	**+1.3**
LIS				Sn		**Sn**	**01 25 46.2**	**-0.2**
	comp=E,404nm,0.5s							
LIS	**Lisbon**	**4.10**	**326**	*e*Pn		**Pn**	**01 25 01.0**	**+1.3**
LIS				*e*Sn		**Sn**	**01 25 46.2**	**-0.2**
	comp=E,404nm,0.5s							
PMST	**Lisbon--Monsan**	**4.13**	**326**	*i* Pn		**Pn**	**01 25 01.2**	**+1.0**
PMST				*e*Sn		**Sn**	**01 25 46.7**	**-0.5**
PMST				A		A	01 26 02.0	
	comp=E,285nm,0.5s							
PMRV	**Marv??o**	**4.19**	**348**	*e*Pn		**Pn**	**01 25 02.0**	**+1.0**
PMRV				*e*Sn		**Sn**	**01 25 46.8**	**-1.9**
PMRV				A		A	01 25 47.8	
	comp=E,277nm,0.1s							
PMRV	**Marv??o**	**4.19**	**348**	⇓Pn		**Pn**	**01 25 02.0**	**+1.0**
PMRV				Sn		**Sn**	**01 25 46.8**	**-1.9**
	comp=E,277nm,0.1s							
CIA	**Chichaoua**	**4.30**	**210**	P		**Pn**	**01 25 02.0**	**-0.5**
CIA				S		Sn	01 25 47.0	-4.4
CIA	**Chichaoua**	**4.30**	**210**	*i* P		**Pn**	**01 25 02.0**	**-0.5**
OUK	**Oukaimeden**	**4.32**	**199**	P		**Pn**	**01 25 02.0**	**-1.1**
OUK				S		Sn	01 25 47.0	-5.5
OUK	**Oukaimeden**	**4.32**	**199**	*i* P		**Pn**	**01 25 02.0**	**-1.1**
EVIA	**Vianos**	**4.46**	**41**	P		**Pn**	**01 25 05.1**	**+0.3**
	comp=E,108nm,0.1s,SNR=233							
EV

comp=E,84nm,0.2s,SNR=20
GUD Guadarrama 5.56 17 P Pn 01 25 20.5 +0.6
comp=E,77nm,0.5s,SNR=243
AFS Agadir Fac de 5.60 210 P Pn 01 25 20.0 -0.4
AFS S Sn 01 26 17.0 -6.5
AFS Agadir Fac de 5.60 210 *i* P Pn 01 25 20.0 -0.4
OKGL Djebel Kef Gue 5.66 81 P Pn 01 25 20.9 -0.2
comp=E,61nm,0.2s,SNR=7.9
OKGL S **Sn 01 26 21.7 -3.1**
comp=E,92nm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 5.66 81 P Pn 01 25 20.9 -0.2
comp=E,61nm,0.2s,SNR=7.9
MVO Moncorvo 5.86 354 *e*Pn Pn 01 25 24.8 +0.8
MVO *e*Sn **Sn 01 26 26.5 -3.4**
MVO A A 01 26 29.6
comp=E,265nm,0.4s
MVO Moncorvo 5.86 354 P Pn 01 25 24.8 +0.8
comp=E,455nm,0.3s,SNR=1157
MVO S **Sn 01 26 25.6 -4.2**
comp=E,127nm,0.1s,SNR=6.9
MVO Moncorvo 5.86 354 P Pn 01 25 24.8 +0.8
comp=E,455nm,0.2s,SNR=1000
EBEN Beniarda 5.88 53 P Pn 01 25 25.0 +0.8
comp=E,3.5nm,0.1s,SNR=59
EBEN S **Sn 01 26 26.2 -4.2**
comp=E,9.5nm,0.3s,SNR=7.4
EBEN Beniarda 5.88 53 P Pn 01 25 25.0 +0.8
comp=E,3.5nm,0.1s,SNR=59
ECHE Chera 5.98 43 P Pn 01 25 26.2 +0.6
comp=E,17nm,0.2s,SNR=7.9
ECHE S **Sn 01 26 27.2 -5.6**
comp=E,33nm,0.3s,SNR=6.6
ECHE Chera 5.98 43 P Pn 01 25 26.2 +0.6
comp=E,17nm,0.2s,SNR=7.9
PVRL Vila Real 6.05 349 *e*Pn Pn 01 25 27.2 +0.7
PVRL *e*Sn **Sn 01 26 29.7 -4.8**
PVRL A A 01 26 33.0
comp=E,268nm,0.3s
PVRL Vila Real 6.05 349 Pn Pn 01 25 27.2 +0.7
PVRL Sn **Sn 01 26 29.7 -4.8**
comp=E,134nm,0.3s
PVRL Vila Real 6.05 349 *e*Pn Pn 01 25 27.2 +0.7
PTO Porto 6.09 343 *e*Pn Pn 01 25 27.8 +0.8
PTO *e*Sn **Sn 01 26 31.9 -3.5**
PTO A A 01 26 35.7
comp=E,514nm,0.1s
PTO Porto 6.09 343 Pn Pn 01 25 27.8 +0.8
PTO Sn **Sn 01 26 31.9 -3.5**
comp=E,257nm,0.1s
PTO Porto 6.09 343 *e*Pn Pn 01 25 27.8 +0.8
YBT Youssef Ben Ta 6.11 208 P Pn 01 25 28.0 +0.6
YBT S Sn 01 26 29.0 -7.0
YBT Youssef Ben Ta 6.11 208 *e*P Pn 01 25 28.0 +0.6
POLO Lamas de Olo 6.16 349 *e*Pn Pn 01 25 28.9 +0.8
POLO *e*Sn **Sn 01 26 32.7 -4.5**
POLO A A 01 26 36.1
comp=E,67nm,0.2s
ETOR Torete 6.40 30 P Pn 01 25 32.3 +0.9
comp=E,197nm,0.3s,SNR=250
ETOR S **Sn 01 26 37.5 -5.8**
comp=E,193nm,0.3s,SNR=6.7
ETOR Torete 6.40 30 P Pn 01 25 32.3 +0.9
comp=E,197nm,0.3s,SNR=250
PBRG Braganca 6.48 357 *e*Pn Pn 01 25 33.3 +0.9
PBRG *e*Sn **Sn 01 26 40.0 -5.1**
PBRG A A 01 26 43.3
comp=E,122nm,0.4s
PBRG Braganca 6.48 357 Pn Pn 01 25 33.3 +0.9
PBRG Sn **Sn 01 26 40.0 -5.1**
comp=E,61nm,0.4s
PBRG Braganca 6.48 357 *e*Pn Pn 01 25 33.3 +0.9
PCAB Cabril 6.52 348 *e*Pn Pn 01 25 33.4 +0.4
PCAB *e*Sn **Sn 01 26 41.8 -4.3**
PCAB A A 01 26 44.9
comp=E,73nm,0.1s
PCAB Cabril 6.52 348 Pn Pn 01 25 33.4 +0.4
PCAB Sn **Sn 01 26 41.8 -4.3**
comp=E,36nm,0.1s
PCAB Cabril 6.52 348 *e*Pn Pn 01 25 33.4 +0.4
ECAL Calabor 6.62 357 P Pn 01 25 35.2 +0.9
comp=E,290nm,0.4s,SNR=393
ECAL S **Sn 01 26 43.7 -4.8**
comp=E,53nm,0.2s,SNR=7.9
ECAL Calabor 6.62 357 P Pn 01 25 35.2 +0.9
comp=E,290nm,0.4s,SNR=393
ELOB Lobios 6.68 348 P Pn 01 25 35.7 +0.5
comp=E,195nm,0.3s,SNR=663
ELOB S **Sn 01 26 46.0 -4.1**
comp=E,49nm,0.2s,SNR=5.8
ELOB Lobios 6.68 348 P Pn 01 25 35.7 +0.5
comp=E,195nm,0.3s,SNR=663
EMOS Mosqueruela 6.79 41 P Pn 01 25 37.8 +0.9
comp=E,5.7nm,0.2s,SNR=62
EMOS S Sn 01 26 46.9 -6.1
comp=E,26nm,0.2s,SNR=23
EMOS Mosqueruela 6.79 41 P Pn 01 25 37.8 +0.9
comp=E,5.7nm,0.2s,SNR=62
PGAV Gavieira, Arco 6.81 347 *e*Pn Pn 01 25 37.4 +0.4
PGAV *e*Sn **Sn 01 26 48.4 -4.9**
PGAV A A 01 26 53.4
comp=E,57nm,0.1s
PGAV Gavieira, Arco 6.81 347 *e*Pn Pn 01 25 37.4 +0.4
EIBI Ibiza 7.10 56 P Pn 01 25 41.6 +0.7
comp=E,2.8nm,0.1s,SNR=20
EIBI S **Sn 01 26 55.5 -4.8**
comp=E,5.4nm,0.3s,SNR=7.9
EIBI Ibiza 7.10 56 P Pn 01 25 41.6 +0.7
comp=E,2.8nm,0.1s,SNR=20
EAGO Agolada(Pontev 7.60 350 P Pn 01 25 48.5 +0.7
comp=E,67nm,0.2s,SNR=7.9
EAGO S Sn 01 27 06.5 -6.1
comp=E,16nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 7.60 350 P Pn 01 25 48.5 +0.7
comp=E,67nm,0.2s,SNR=7.9
EBR Ebro Roquetas 7.64 42 P Pn 01 25 49.1 +0.8
comp=E,46nm,0.4s,SNR=4.0
EBR S **Sn 01 27 09.3 -4.2**
comp=E,57nm,0.4s,SNR=7.9
EBR Ebro Roquetas 7.64 42 P Pn 01 25 49.1 +0.8
comp=E,46nm,0.4s,SNR=4.0
ERTA Horta de San J 7.65 41 P Pn 01 25 49.3 +0.9
comp=E,4.4nm,0.2s,SNR=14
ERTA S **Sn 01 27 08.1 -5.6**
comp=E,32nm,0.3s,SNR=7.9
ERTA Horta de San J 7.65 41 P Pn 01 25 49.3 +0.9
comp=E,4.4nm,0.2s,SNR=14
STS Santiago 7.76 347 P Pn 01 25 50.8 +0.9
comp=E,40nm,0.2s,SNR=45
STS S **Sn 01 27 11.0 -5.4**
comp=E,8.8nm,0.2s,SNR=7.9
STS Santiago 7.76 347 P Pn 01 25 50.8 +0.9
comp=E,40nm,0.2s,SNR=45
EMAZ Mazaricos 7.90 345 P Pn 01 25 52.3 +0.4
comp=E,41nm,0.2s,SNR=123
EMAZ S **Sn 01 27 14.0 -5.9**
comp=E,16nm,0.2s,SNR=5.0
EMAZ Mazaricos 7.90 345 P Pn 01 25 52.3 +0.4
comp=E,41nm,0.2s,SNR=123
EARI Arriondas 8.00 5 P Pn 01 25 54.5 +1.2
comp=E,33nm,0.2s,SNR=277
EARI S **Sn 01 27 16.9 -5.6**
comp=E,35nm,0.2s,SNR=12
EARI Arriondas 8.00 5 P Pn 01 25 54.5 +1.2
comp=E,33nm,0.2s,SNR=277
EPON Pontenova 8.02 355 P Pn 01 25 54.7 +1.2
comp=E,33nm,0.3s,SNR=51
EPON S **Sn 01 27 17.6 -5.2**
comp=E,12nm,0.2s,SNR=22
EPON Pontenova 8.02 355 P Pn 01 25 54.7 +1.2
comp=E,33nm,0.3s,SNR=51
ELAN Lanestosa 8.19 15 P Pn 01 25 56.5 +0.7
comp=E,29nm,0.2s,SNR=97
ELAN S Sn 01 27 18.6 -8.4
comp=E,23nm,0.2s,SNR=4.6
ELAN Lanestosa 8.19 15 P Pn 01 25 56.5 +0.7
comp=E,29nm,0.2s,SNR=97
EARA Aranguren 8.27 25 P Pn 01 25 58.4 +1.4
comp=E,18nm,0.4s,SNR=6.6
EARA S **Sn 01 27 23.6 -5.5**
comp=E,73nm,0.4s,SNR=5.6
EARA Aranguren 8.27 25 P Pn 01 25 58.4 +1.4
comp=E,18nm,0.4s,SNR=6.6
EPOB Poblet 8.33 42 P Pn 01 25 58.4 +0.6
comp=E,2.7nm,0.1s,SNR=24
EPOB S Sn 01 27 23.4 -7.1
comp=E,4.3nm,0.2s,SNR=6.5
EPOB Poblet 8.33 42 P Pn 01 25 58.4 +0.6
comp=E,2.7nm,0.1s,SNR=24
IEPA Eparoz 8.39 26 P Pn 01 26 00.3 +1.7
SNR=7.9
IEPA S **Sn 01 27 27.2 -4.8**
SNR=7.9
IZUN Zunzarren 8.39 25 P Pn 01 26 00.4 +1.7
SNR=7.9
IZUN S **Sn 01 27 27.2 -4.9**
SNR=7.9
IUSE Utxeti 8.44 24 P Pn 01 26 01.7 +2.4
SNR=7.9
IUSE S **Sn 01 27 28.9 -4.3**
SNR=7.9
ETOS Mallorca 8.45 56 P Pn 01 26 01.7 +2.2
comp=E,5.9nm,0.4s,SNR=18
ETOS S **Sn 01 27 29.0 -4.6**
comp=E,1.8nm,0.2s,SNR=5.2
ETOS Mallorca 8.45 56 P Pn 01 26 01.7 +2.2
comp=E,5.9nm,0.4s,SNR=18
IELO Elcoad 8.46 26 P Pn 01 26 00.5 +1.0
comp=E,40nm,0.3s,SNR=7.9
IELO S Sn 01 27 27.5 -6.1
comp=E,7.9nm,0.2s,SNR=7.9
IELO Elcoad 8.46 26 P Pn 01 26 00.5 +1.0
comp=E,40nm,0.3s,SNR=7.9
ELIZ Elizondo 8.64 24 P Pn 01 26 03.7 +1.7
comp=E,23nm,0.3s,SNR=25
ELIZ S Sn 01 27 32.0 -6.1
comp=E,25nm,0.2s,SNR=7.9
ELIZ Elizondo 8.64 24 P Pn 01 26 03.7 +1.7
comp=E,23nm,0.3s,SNR=25
EALK Alkurruntz 8.70 24 P Pn 01 26 03.9 +1.2
comp=E,35nm,0.2s,SNR=107
EALK S **Sn 01 27 33.8 -5.6**
comp=E,37nm,0.4s,SNR=12
EALK Alkurruntz 8.70 24 P Pn 01 26 03.9 +1.2
comp=E,35nm,0.2s,SNR=107
SJPF Ste Jean 8.70 25 *e*Pn Pn 01 26 04.0 +1.2
SJPF *e*Sn **Sn 01 27 34.0 -5.5**
comp=E,86nm,0.5s,SNR=1.0
SJPF Ste Jean 8.70 25 Pn Pn 01 26 04.0 +1.2
SJPF Sn **Sn 01 27 34.0 -5.5**
comp=E,43nm,0.5s
SJPF Ste Jean 8.70 25 *e*Pn Pn 01 26 04.0 +1.2
SJPF Ste Jean 8.70 25 *e*Pn Pn 01 26 04.0 +1.2
SJPF *e*Sn **Sn 01 27 34.0 -5.5**
LARF Larrau 8.71 26 P Pn 01 26 04.5 +1.4
LARF S **Sn 01 27 34.4 -5.6**
LARF Larrau 8.71 26 P Pn 01 26 04.5 +1.4
EFAM Famara 8.73 227 P Pn 01 26 00.1 -3.2
comp=E,21nm,0.2s,SNR=17
EFAM S Sn 01 27 29.9 -10
comp=E,18nm,0.3s,SNR=7.9
ETSF Etsaut 8.76 29 *e*Pn Pn 01 26 04.6 +0.9
ETSF *e*Sn **Sn 01 27 35.5 -5.6**
comp=E,57nm,0.4s
ETSF Etsaut 8.76 29 Pn Pn 01 26 04.6 +0.9
ETSF Sn **Sn 01 27 35.5 -5.6**
comp=E,28nm,0.4s
ETSF Etsaut 8.76 29 *e*Pn Pn 01 26 04.6 +0.9
ETSF Etsaut 8.76 29 *e*Pn Pn 01 26 04.6 +0.9
ETSF *e*Sn **Sn 01 27 35.5 -5.6**
OSSF Osses 8.81 25 P Pn 01 26 05.2 +0.9
OSSF S **Sn 01 27 36.3 -5.9**
OSSF Osses 8.81 25 P Pn 01 26 05.2 +0.9
ATE Arette 8.86 27 P Pn 01 26 06.2 +1.1
comp=E,14nm,0.2s,SNR=7.9
ATE S **Sn 01 27 38.5 -5.1**
comp=E,25nm,0.2s,SNR=7.9
ATE Arette 8.86 27 P Pn 01 26 06.0 +0.9
ATE S **Sn 01 27 38.3 -5.3**
ATE Arette 8.86 27 P Pn 01 26 06.2 +1.1
comp=E,14nm,0.2s,SNR=7.9
ORDF Ordiarp 8.89 26 P Pn 01 26 06.6 +1.2
ORDF S **Sn 01 27 38.9 -5.2**
ORDF Ordiarp 8.89 26 P Pn 01 26 06.6 +1.2
EMIR Miracle 8.96 40 P Pn 01 26 07.2 +0.8
comp=E,6.2nm,0.1s,SNR=36
EMIR S **Sn 01 27 40.4 -5.5**
comp=E,8.6nm,0.3s,SNR=5.8
EMIR Miracle 8.96 40 P Pn 01 26 07.2 +0.8
comp=E,6.2nm,0.1s,SNR=36
REYF Montagne du Re 8.97 29 P Pn 01 26 07.4 +0.8
REYF S Sn 01 27 39.9 -6.3
REYF Montagne du Re 8.97 29 P Pn 01 26 07.4 +0.8
VIEF Viey 8.98 31 P Pn 01 26 07.3 +0.5
VIEF S Sn 01 27 39.9 -6.7
VIEF Viey 8.98 31 P Pn 01 26 07.3 +0.5
CSOR Sort 9.09 37 P Pn 01 26 08.6 +0.3
comp=E,4.0nm,0.2s,SNR=26
CSOR S Sn 01 27 41.3 -8.1
comp=E,13nm,0.4s,SNR=7.9
CSOR Sort 9.09 37 P Pn 01 26 08.6 +0.3
comp=E,4.0nm,0.2s,SNR=26
LABF Labassere 9.14 31 P Pn 01 26 10.2 +1.3
LABF S Sn 01 27 44.0 -6.4
LABF Labassere 9.14 31 P Pn 01 26 10.2 +1.3
EPF Esparros 9.24 32 *e*Pn Pn 01 26 10.9 +0.7
EPF *e*Sn Sn 01 27 45.8 -7.0
comp=E,125nm,0.5s,SNR=1.0
EPF Esparros 9.24 32 Pn Pn 01 26 10.9 +0.7
EPF Sn Sn 01 27 45.8 -7.0
comp=E,62nm,0.5s
EPF Esparros 9.24 32 *e*Pn Pn 01 26 10.9 +0.7
EPF Esparros 9.24 32 *e*Pn Pn 01 26 10.9 +0.7
EPF *e*Sn Sn 01 27 45.8 -7.0
MELF Melles 9.29 34 P Pn 01 26 11.7 +0.7
MELF S Sn 01 27 47.6 -6.7
MELF Melles 9.29 34 P Pn 01 26 11.7 +0.7
CFUE Fuerteventura 9.32 227 P Pn 01 26 08.5 -2.9
comp=E,23nm,0.2s,SNR=7.9
CFUE S Sn 01 27 44.9 -10
comp=E,31nm,0.1s,SNR=7.9
CFON Fontmartina 9.36 44 P Pn 01 26 11.8 -0.1
comp=E,2.0nm,0.2s,SNR=7.9
CFON S Sn 01 27 47.6 -8.2
comp=E,8.7nm,0.3s,SNR=7.9
CFON Fontmartina 9.36 44 P Pn 01 26 11.8 -0.1
comp=E,2.0nm,0.2s,SNR=7.9
CFTV Fuerteventura 9.58 226 P Pn 01 26 11.6 -3.3
comp=E,7.5nm,0.1s,SNR=7.9
CFTV S Sn 01 27 50.8 -11
comp=E,7.1nm,0.2s,SNR=7.9
CLLI Llivia 9.59 39 P Pn 01 26 15.7 +0.5
comp=E,3.6nm,0.3s,SNR=30
CLLI S Sn 01 27 54.2 -7.5
comp=E,2.4nm,0.2s,SNR=9.0
CLLI Llivia 9.59 39 P Pn 01 26 15.7 +0.5
comp=E,3.6nm,0.3s,SNR=30
CARF Carcanieres 9.83 39 P Pn 01 26 18.2 -0.2
CARF S Sn 01 28 01.0 -6.4
CARF Carcanieres 9.83 39 P Pn 01 26 18.2 -0.2
EJON La Jonquera 10.06 42 P Pn 01 26 21.7 +0.2
comp=E,1.4nm,0.3s,SNR=7.9
EJON S Sn 01 28 06.7 -6.3
comp=E,1.8nm,0.2s,SNR=7.9
EJON La Jonquera 10.06 42 P Pn 01 26 21.7 +0.2
comp=E,1.4nm,0.3s,SNR=7.9
SJAF Saint Jean de 10.08 42 P Pn 01 26 22.2 +0.5
comp=E,0.2nm,0.1s,SNR=7.9
SJAF S **Sn 01 28 08.3 -5.2**
comp=E,0.8nm,0.2s,SNR=7.9
SJAF Saint Jean de 10.08 42 P Pn 01 26 22.2 +0.5
comp=E,0.2nm,0.1s,SNR=7.9
MTLF Montolieu 10.34 37 *e*Pn Pn 01 26 25.4 +0.1
MTLF *e*Sn Sn 01 28 11.6 -8.2
comp=E,12nm,0.5s
MTLF Montolieu 10.34 37 Pn Pn 01 26 25.4 +0.1
MTLF Sn Sn 01 28 11.6 -8.2
comp=E,6.2nm,0.5s
MTLF Montolieu 10.34 37 *e*Pn Pn 01 26 25.4 +0.1
MTLF Montolieu 10.34 37 *e*Pn Pn 01 26 25.4 +0.1
MTLF *e*Sn Sn 01 28 11.6 -8.2
EOSO Osorio 10.72 230 P Pn 01 26 27.7 -2.9
comp=E,9.5nm,0.2s,SNR=16
EOSO S Sn 01 28 17.8 -12
comp=E,15nm,0.2s,SNR=12
EBAJ Bajamar 10.92 234 P Pn 01 26 28.4 -4.8
comp=E,7.9nm,0.2s,SNR=14
EBAJ S Sn 01 28 22.2 -12
comp=E,19nm,0.2s,SNR=11
LFF La Frestale 10.99 27 *e*Pn Pn 01 26 34.5 +0.4
LFF *e*Sn Sn 01 28 28.5 -7.0
comp=E,43nm,0.4s
LFF La Frestale 10.99 27 Pn Pn 01 26 34.5 +0.4
LFF Sn Sn 01 28 28.5 -7.0
comp=E,22nm,0.4s
LFF La Frestale 10.99 27 *e*Pn Pn 01 26 34.5 +0.4
LFF La Frestale 10.99 27 *e*Pn Pn 01 26 34.5 +0.4
LFF *e*Sn Sn 01 28 28.5 -7.0
CRAJ Montana Rajada 11.27 234 P Pn 01 26 34.5 -3.8
comp=E,1.5nm,0.1s,SNR=4.0
CRAJ S Sn 01 28 31.9 -11
comp=E,32nm,0.2s,SNR=11
CICO Icod de los Vi 11.29 235 P Pn 01 26 34.7 -3.8
comp=E,0.3nm,0.2s
CICO S Sn 01 28 33.9 -10
comp=E,1.1nm,0.2s,SNR=7.8
CCAN Las Canadas 11.30 234 P Pn 01 26 34.0 -4.7
comp=E,2.3nm,0.3s,SNR=8.4
CCAN S Sn 01 28 32.5 -11
comp=E,1.9nm,0.2s
CAF Calvac 11.50 31 *e*Pn Pn 01 26 40.9 -0.3
SNR=1.0
CAF *e*Sn Sn 01 28 39.9 -8.3
comp=E,17nm,0.3s
CAF Calvac 11.50 31 Pn Pn 01 26 40.9 -0.3
CAF Sn Sn 01 28 39.9 -8.3
comp=E,8.6nm,0.3s
CAF Calvac 11.50 31 *e*Pn Pn 01 26 40.9 -0.3
SNR=1.0
CAF Calvac 11.50 31 *e*Pn Pn 01 26 40.9 -0.3
CAF *e*Sn Sn 01 28 39.9 -8.3
RJF Les Rejaudoux 11.59 28 *e*Pn Pn 01 26 42.4 +0.1
RJF *e*Sn Sn 01 28 41.3 -9.0
comp=E,15nm,0.3s,SNR=1.0
RJF Les Rejaudoux 11.59 28 Pn Pn 01 26 42.4 +0.1
RJF Sn Sn 01 28 41.3 -9.0
comp=E,7.6nm,0.3s
RJF Les Rejaudoux 11.59 28 *e*Pn Pn 01 26 42.4 +0.1
RJF Les Rejaudoux 11.59 28 *e*Pn Pn 01 26 42.4 +0.1
RJF *e*Sn Sn 01 28 41.3 -9.0
LASF Ste Croix 11.69 39 *e*Pn Pn 01 26 43.3 -0.5
LASF *e*Sn Sn 01 28 45.7 -7.2
comp=E,3.9nm,0.4s
LASF Ste Croix 11.69 39 Pn Pn 01 26 43.3 -0.5
LASF Sn Sn 01 28 45.7 -7.2
comp=E,1.9nm,0.4s
LASF Ste Croix 11.69 39 *e*Pn Pn 01 26 43.3 -0.5
LASF Ste Croix 11.69 39 *e*Pn Pn 01 26 43.3 -0.5
LASF *e*Sn Sn 01 28 45.7 -7.2
EGOM La Gomera 11.74 236 P Pn 01 26 39.7 -4.8
comp=E,1.4nm,0.1s,SNR=6.1
EGOM S Sn 01 28 42.1 -12
comp=E,11nm,0.2s,SNR=8.9
EHIG Higuera 11.90 239 P Pn 01 26 42.7 -4.1
comp=E,22nm,0.4s,SNR=6.1
EHIG S Sn 01 28 47.3 -11
comp=E,12nm,0.1s,SNR=7.5
LCHF La Chataignera 12.07 18 P Pn 01 26 49.8 +1.0
LCHF La Chataignera 12.07 18 P Pn 01 26 49.8 +1.0
MFF Saint Martin d 12.17 20 *e*Pn Pn 01 26 49.7 -0.5
MFF *e*Sn Sn 01 28 53.9 -11
comp=E,34nm,0.7s,SNR=1.0
MFF Saint Martin d 12.17 20 Pn Pn 01 26 49.7 -0.5
MFF Sn Sn 01 28 53.9 -11
comp=E,17nm,0.7s
MFF Saint Martin d 12.17 20 *e*Pn Pn 01 26 49.7 -0.5
MFF Saint Martin d 12.17 20 *e*Pn Pn 01 26 49.7 -0.5
MFF *e*Sn Sn 01 28 53.9 -11
LBL Lubilhac 12.26 33 P Pn 01 26 51.3 -0.2
LBL Lubilhac 12.26 33 P Pn 01 26 51.3 -0.2
CHIE El Hierro 12.53 236 S Sn 01 29 01.9 -12
comp=E,4.9nm,0.3s,SNR=7.9
SMRF Simiane la Rot 12.54 43 *e*Pn Pn 01 26 53.5 -1.9
SMRF Simiane la Rot 12.54 43 Pn Pn 01 26 53.5 -1.9
SMRF Simiane la Rot 12.54 43 *e*Pn Pn 01 26 53.5 -1.9
PYM Petit Puy Mans 12.56 31 P Pn 01 26 56.4 +0.7
PYM Petit Puy Mans 12.56 31 P Pn 01 26 56.4 +0.7
VIVF Saint-Julien-l 12.66 38 *e*Pn Pn 01 26 55.7 -1.3
VIVF *e*Sn Sn 01 29 09.0 -7.5
comp=E,5.2nm,0.6s
VIVF Saint-Julien-l 12.66 38 Pn Pn 01 26 55.7 -1.3
VIVF Sn Sn 01 29 09.0 -7.5
comp=E,2.6nm,0.6s
VIVF Saint-Julien-l 12.66 38 *e*Pn Pn 01 26 55.7 -1.3
VIVF Saint-Julien-l 12.66 38 *e*Pn Pn 01 26 55.7 -1.3
VIVF *e*Sn Sn 01 29 09.0 -7.5
TCF Toulx Ste Croi 12.68 28 *e*Pn Pn 01 26 55.9 -1.3
TCF *e*Sn Sn 01 29 04.7 -12
comp=E,17nm,0.6s
TCF Toulx Ste Croi 12.68 28 Pn Pn 01 26 55.9 -1.3
TCF Toulx Ste Croi 12.68 28 *e*Pn Pn 01 26 55.9 -1.3
TCF Toulx Ste Croi 12.68 28 *e*Pn Pn 01 26 55.9 -1.3
TCF *e*Sn Sn 01 29 04.7 -12
LMR La Mourre 12.70 47 *e*Pn Pn 01 26 56.3 -1.2
LMR *e*Sn Sn 01 29 09.7 -7.7
comp=E,7.1nm,0.5s
LMR La Mourre 12.70 47 Pn Pn 01 26 56.3 -1.2
LMR Sn Sn 01 29 09.7 -7.7
comp=E,3.6nm,0.5s
LMR La Mourre 12.70 47 *e*Pn Pn 01 26 56.3 -1.2
LMR La Mourre 12.70 47 *e*Pn Pn 01 26 56.3 -1.2
LMR *e*Sn Sn 01 29 09.7 -7.7
KEST Kesra 12.72 84 P Pn 01 26 57.2 -0.7
comp=E,0.0nm,0.3s,baz=279,slow=19,SNR=2.9
KEST Kesra 12.72 84 *e*Pn Pn 01 26 58.5 +0.6
KEST Kesra 12.72 84 *e*Pn Pn 01 26 58.5 +0.6
QUIF Quistinic 12.79 9 *e*Pn Pn 01 26 58.5 -0.1
QUIF *e*Sn Sn 01 29 11.4 -8.1
comp=E,69nm,0.5s,SNR=1.0
QUIF Quistinic 12.79 9 Pn Pn 01 26 58.5 -0.1
QUIF Sn Sn 01 29 11.4 -8.1
comp=E,0.0nm,0.5s
QUIF Quistinic 12.79 9 *e*Pn Pn 01 26 58.5 -0.1
QUIF Quistinic 12.79 9 *e*Pn Pn 01 26 58.5 -0.1
QUIF *e*Sn Sn 01 29 11.4 -8.1
AGO Saint Agoulin 12.85 31 P Pn 01 26 58.9 -0.7
AGO Saint Agoulin 12.85 31 P Pn 01 26 58.9 -0.7
PLDF La Plantade 12.99 32 P Pn 01 27 01.8 +0.2
PLDF La Plantade 12.99 32 P Pn 01 27 01.8 +0.2
BGF Bois d'Agland 13.15 29 *e*Pn Pn 01 27 03.1 -0.5
BGF *e*Sn Sn 01 29 18.1 -10
comp=E,44nm,0.5s
BGF Bois d'Agland 13.15 29 Pn Pn 01 27 03.1 -0.5
BGF Sn Sn 01 29 18.1 -10
comp=E,22nm,0.5s
BGF Bois d'Agland 13.15 29 *e*Pn Pn 01 27 03.1 -0.5
BGF Bois d'Agland 13.15 29 *e*Pn Pn 01 27 03.1 -0.5
BGF *e*Sn Sn 01 29 18.1 -10
ROSF Rostrenen 13.19 9 *e*Pn Pn 01 27 03.6 -0.5
ROSF *e*Sn Sn 01 29 16.5 -13
comp=E,28nm,0.4s
ROSF Rostrenen 13.19 9 Pn Pn 01 27 03.6 -0.5
ROSF Rostrenen 13.19 9 *e*Pn Pn 01 27 03.6 -0.5
ROSF Rostrenen 13.19 9 *e*Pn Pn 01 27 03.6 -0.5
ROSF *e*Sn Sn 01 29 16.5 -13
SGMF Saint Gilles 13.21 11 *e*Pn Pn 01 27 03.8 -0.6
SGMF *e*Sn Sn 01 29 15.8 -14
comp=E,56nm,0.7s
SGMF Saint Gilles 13.21 11 Pn Pn 01 27 03.8 -0.6
SGMF Saint Gilles 13.21 11 *e*Pn Pn 01 27 03.8 -0.6
SGMF Saint Gilles 13.21 11 *e*Pn Pn 01 27 03.8 -0.6
SGMF *e*Sn Sn 01 29 15.8 -14
ORIF Oris-en-Rattie 13.32 40 *e*Pn Pn 01 27 05.2 -0.9
ORIF Oris-en-Rattie 13.32 40 Pn Pn 01 27 05.2 -0.9
ORIF Oris-en-Rattie 13.32 40 *e*Pn Pn 01 27 05.2 -0.9
ORIF Oris-en-Rattie 13.32 40 *e*Pn Pn 01 27 05.2 -0.9
AVF Avril sur Loir 13.54 29 *e*Pn Pn 01 27 08.0 -0.9
AVF *e*Sn Sn 01 29 30.1 -7.8
comp=E,8.4nm,0.6s
AVF Avril sur Loir 13.54 29 Pn Pn 01 27 08.0 -0.9
AVF Sn Sn 01 29 30.1 -7.8
comp=E,4.2nm,0.6s
AVF Avril sur Loir 13.54 29 *e*Pn Pn 01 27 08.0 -0.9
AVF Avril sur Loir 13.54 29 *e*Pn Pn 01 27 08.0 -0.9
AVF *e*Sn Sn 01 29 30.1 -7.8
SMF Signal de Mont 13.62 31 *e*Pn Pn 01 27 08.4 -1.7
SMF *e*Sn Sn 01 29 31.5 -8.4
comp=E,13nm,0.7s
SMF Signal de Mont 13.62 31 Pn Pn 01 27 08.4 -1.7
SMF Sn Sn 01 29 31.5 -8.4
comp=E,6.7nm,0.7s
SMF Signal de Mont 13.62 31 *e*Pn Pn 01 27 08.4 -1.7
SMF Signal de Mont 13.62 31 *e*Pn Pn 01 27 08.4 -1.7
SMF *e*Sn Sn 01 29 31.5 -8.4
GRR Gorron 13.65 15 *e*Pn Pn 01 27 10.1 -0.3
GRR *e*Sn Sn 01 29 27.5 -13
comp=E,40nm,0.5s

GRR	**Gorron**	**13.65**	**15**	Pn		**Pn**	**01 27 10.1**	**-0.3**
GRR	**Gorron**	**13.65**	**15**	*e*Pn		**Pn**	**01 27 10.1**	**-0.3**
GRR	**Gorron**	**13.65**	**15**	*e*Pn		**Pn**	**01 27 10.1**	**-0.3**
GRR				*e*Sn		Sn	01 29 27.5	-13
HYF	**Humbligny**	**13.66**	**26**	*e*Pn		**Pn**	**01 27 10.5**	**-0.1**
HYF				*e*Sn		Sn	01 29 33.0	-7.9
HYF	**Humbligny**	**13.66**	**26**	Pn		**Pn**	**01 27 10.5**	**-0.1**
HYF				Sn		Sn	01 29 33.0	-7.9
HYF	**Humbligny**	**13.66**	**26**	*e*Pn		**Pn**	**01 27 10.5**	**-0.1**
HYF	**Humbligny**	**13.66**	**26**	*e*Pn		**Pn**	**01 27 10.5**	**-0.1**
HYF				*e*Sn		Sn	01 29 33.0	-7.9
MBDF	**Montbardon**	**13.69**	**43**	*e*Pn		**Pn**	**01 27 09.3**	**-1.8**
MBDF	**Montbardon**	**13.69**	**43**	Pn		**Pn**	**01 27 09.3**	**-1.8**
MBDF	**Montbardon**	**13.69**	**43**	*e*Pn		**Pn**	**01 27 09.3**	**-1.8**
MBDF	**Montbardon**	**13.69**	**43**	*e*Pn		**Pn**	**01 27 09.3**	**-1.8**
SSF	**Saint Saulge**	**13.82**	**29**	*e*Pn		**Pn**	**01 27 12.0**	**-0.8**
SSF				*e*Sn		Sn	01 29 34.2	-11
	comp=E,8.2nm,0.6s							
SSF	**Saint Saulge**	**13.82**	**29**	Pn		**Pn**	**01 27 12.0**	**-0.8**
SSF				Sn		Sn	01 29 34.2	-11
	comp=E,4.1nm,0.6s							
SSF	**Saint Saulge**	**13.82**	**29**	*e*Pn		**Pn**	**01 27 12.0**	**-0.8**
SSF	**Saint Saulge**	**13.82**	**29**	*e*Pn		**Pn**	**01 27 12.0**	**-0.8**
SSF				*e*Sn		Sn	01 29 34.2	-11
LDF	**La Druitiere**	**14.01**	**17**	*e*Pn		**Pn**	**01 27 15.0**	**-0.4**
LDF				*e*Sn		Sn	01 29 34.8	-15
	comp=E,13nm,0.4s							
LDF	**La Druitiere**	**14.01**	**17**	*e*Pn		**Pn**	**01 27 15.0**	**-0.4**
LDF	**La Druitiere**	**14.01**	**17**	*e*Pn		**Pn**	**01 27 15.0**	**-0.4**
LDF				*e*Sn		Sn	01 29 34.8	-15
FLN	**La Foliniere**	**14.09**	**16**	*e*Pn		**Pn**	**01 27 16.1**	**-0.3**
FLN				*e*Sn		Sn	01 29 37.3	-14
	comp=E,37nm,0.4s							
FLN	**La Foliniere**	**14.09**	**16**	Pn		**Pn**	**01 27 16.1**	**-0.3**
FLN	**La Foliniere**	**14.09**	**16**	*e*Pn		**Pn**	**01 27 16.1**	**-0.3**
FLN	**La Foliniere**	**14.09**	**16**	*e*Pn		**Pn**	**01 27 16.1**	**-0.3**
FLN				*e*Sn		Sn	01 29 37.3	-14
LOR	**Lormes**	**14.13**	**29**	*e*Pn		**Pn**	**01 27 17.1**	**+0.1**
	baz=211,SNR=1.0							
LOR				*e*Sn		Sn	01 29 40.3	-12
	comp=E,18nm,1.0s							
LOR	**Lormes**	**14.13**	**29**	Pn		**Pn**	**01 27 17.1**	**+0.1**
LOR	**Lormes**	**14.13**	**29**	*e*Pn		**Pn**	**01 27 17.1**	**+0.1**
	SNR=1.0							
LOR	**Lormes**	**14.13**	**29**	*e*Pn		**Pn**	**01 27 17.1**	**+0.1**
LOR				*e*Sn		Sn	01 29 40.3	-12
LPL	**La Plagne**	**14.17**	**40**	*e*Pn		**Pn**	**01 27 17.1**	**-0.7**
LPL	**La Plagne**	**14.17**	**40**	Pn		**Pn**	**01 27 17.1**	**-0.7**
LPL	**La Plagne**	**14.17**	**40**	*e*Pn		**Pn**	**01 27 17.1**	**-0.7**
LPL	**La Plagne**	**14.17**	**40**	*e*Pn		**Pn**	**01 27 17.1**	**-0.7**
CABF	**La Chapelle**	**14.61**	**36**	*e*Pn		**Pn**	**01 27 21.8**	**-1.7**
CABF	**La Chapelle**	**14.61**	**36**	Pn		**Pn**	**01 27 21.8**	**-1.7**
CABF	**La Chapelle**	**14.61**	**36**	*e*Pn		**Pn**	**01 27 21.8**	**-1.7**
CABF	**La Chapelle**	**14.61**	**36**	*e*Pn		**Pn**	**01 27 21.8**	**-1.7**
SFTF	**Sexfontaines**	**15.36**	**30**	*e*Pn		**Pn**	**01 27 31.8**	**-1.4**
SFTF	**Sexfontaines**	**15.36**	**30**	Pn		**Pn**	**01 27 31.8**	**-1.4**
SFTF	**Sexfontaines**	**15.36**	**30**	*e*Pn		**Pn**	**01 27 31.8**	**-1.4**
SFTF	**Sexfontaines**	**15.36**	**30**	*e*Pn		**Pn**	**01 27 31.8**	**-1.4**
MEZF	**Maizieres J'vi**	**15.60**	**29**	*e*Pn		**Pn**	**01 27 35.1**	**-1.3**
MEZF	**Maizieres J'vi**	**15.60**	**29**	Pn		**Pn**	**01 27 35.1**	**-1.3**
MEZF	**Maizieres J'vi**	**15.60**	**29**	*e*Pn		**Pn**	**01 27 35.1**	**-1.3**
MEZF	**Maizieres J'vi**	**15.60**	**29**	*e*Pn		**Pn**	**01 27 35.1**	**-1.3**
BAIF	**Baives**	**16.58**	**24**	*e*Pn		**Pn**	**01 27 48.9**	**0.0**
BAIF				*e*Sn		Sn	01 30 41.8	-10
	comp=E,4.9nm,0.5s							
BAIF	**Baives**	**16.58**	**24**	Pn		**Pn**	**01 27 48.9**	**0.0**
BAIF				Sn		Sn	01 30 41.8	-10
	comp=E,2.5nm,0.5s							
BAIF	**Baives**	**16.58**	**24**	*e*Pn		**Pn**	**01 27 48.9**	**0.0**
BAIF	**Baives**	**16.58**	**24**	*e*Pn		**Pn**	**01 27 48.9**	**0.0**
BAIF				*e*Sn		Sn	01 30 41.8	-10
DAVOX	**Davos/Dischmat**	**16.66**	**42**	LR		LR	01 34 38.6	
	comp=E,47nm,20.8s,baz=251,slow=38							
DOU	**Dourbes**	**16.75**	**25**	P		**P**	**01 27 52.2**	**-0.6**
	comp=Z,6.6nm,1.2s							
DOU	**Dourbes**	**16.75**	**25**	P		**P**	**01 27 52.1**	**-0.6**
	comp=Z,6.6nm,1.2s							
GIVF	**Givet**	**16.83**	**25**	*e*Pn		**Pn**	**01 27 52.1**	**+0.1**
GIVF				*e*Sn		Sn	01 30 48.6	-9.2
	comp=Z,12nm,0.6s							
GIVF	**Givet**	**16.83**	**25**	Pn		**Pn**	**01 27 52.1**	**+0.1**
GIVF				Sn		Sn	01 30 48.6	-9.2
	comp=Z,6.2nm,0.6s							
GIVF	**Givet**	**16.83**	**25**	*e*Pn		**Pn**	**01 27 52.1**	**+0.1**
GIVF	**Givet**	**16.83**	**25**	*e*Pn		**Pn**	**01 27 52.1**	**+0.1**
GIVF				*e*Sn		Sn	01 30 48.6	-9.2
BCLA	**Clavier**	**17.27**	**26**	P		**P**	**01 27 59.5**	**+1.1**
BCLA	**Clavier**	**17.27**	**26**	P		**P**	**01 27 59.5**	**+1.1**
FETA	**Feichten**	**17.27**	**42**	⇓*i*Pn		**P**	**01 27 59.1**	**+0.3**
	comp=Z,1.2nm,0.5s							
FETA				⇑*i*Sn		**Sn**	**01 31 08.8**	**-0.1**
FETA	**Feichten**	**17.27**	**42**	Pn		**P**	**01 27 59.0**	**+0.2**
	comp=Z,1.2nm,0.5s							
FETA				Sn		**Sn**	**01 31 08.8**	**-0.1**
MOA	**Molln**	**19.73**	**44**	⇑*i*P		**P**	**01 28 25.4**	**-0.1**
	comp=Z,1.2nm,0.3s							
MOA	**Molln**	**19.73**	**44**	P		**P**	**01 28 25.4**	**-0.1**
	comp=Z,1.2nm,0.3s							
GERES	**GERESS Array B**	**19.96**	**41**	P		**P**	**01 28 28.0**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=219,slow=11,SNR=10							
GERES				LR		LR	01 36 53.3	
	comp=Z,40nm,18.0s,baz=238,slow=39							
GERES	**GERESS Array B**	**19.96**	**41**	P		**P**	**01 28 28.0**	**-0.2**
KHC	**Kasperske Hory**	**20.06**	**41**	*e*P		**P**	**01 28 24.5**	**-4.7**
KHC				*ex*		x	01 28 41.5	
EKA	**Eskdalemuir Ar**	**20.12**	**5**	P		Pn	01 28 31.9	+0.1
	comp=Z,4.5nm,0.7s,baz=182,slow=12,SNR=23							
EKA				S		**S**	**01 32 07.5**	**-5.7**
	comp=Z,0.6nm,0.5s,baz=190,slow=23,SNR=4.6							
CONA	**Conrad Observa**	**20.69**	**46**	⇑*i*P		**P**	**01 28 35.0**	**-1.0**
	comp=Z,2.0nm,0.5s							
CONA	**Conrad Observa**	**20.69**	**46**	P		**P**	**01 28 35.0**	**-1.0**
	comp=Z,2.0nm,0.5s							
PRU	**Pruhonice**	**21.08**	**40**	*e*P		P	01 28 50.4	+10
CLL	**Collm**	**21.14**	**35**	*e*P		**P**	**01 28 41.0**	**+0.2**
TREC	**Trest**	**21.19**	**42**	*e*P		**P**	**01 28 40.1**	**-1.2**
TREC				*ep*P		**pP**	**01 28 50.8**	**-0.9**
TREC				*ex*		x	01 28 53.2	
TREC	**Trest**	**21.19**	**42**	P		**P**	**01 28 40.1**	**-1.2**
VRAC	**Vranov**	**21.81**	**43**	LR		LR	01 37 10.9	
	comp=Z,42nm,21.0s,baz=234,slow=36							
DPC	**Dobruska-Polom**	**22.22**	**41**	*e*P		**P**	**01 28 54.8**	**+2.4**
DPC				*ex*		x	01 29 04.1	
DPC	**Dobruska-Polom**	**22.22**	**41**	P		**P**	**01 28 54.8**	**+2.4**
VYHS	**Vyhne**	**22.71**	**47**	*e*P		**P**	**01 28 59.4**	**+1.7**
VYHS	**Vyhne**	**22.71**	**47**	*e*P		**P**	**01 28 59.4**	**+1.7**
TORD	**Torodi Ar. Bea**	**23.22**	**160**	P		**P**	**01 29 02.5**	**-0.5**
	comp=Z,4.2nm,0.7s,baz=343,slow=10,SNR=64							
CRVS	**Cervenica-Dubn**	**24.47**	**48**	*e*P		**P**	**01 29 17.0**	**+2.5**
CRVS	**Cervenica-Dubn**	**24.47**	**48**	*e*P		**P**	**01 29 17.0**	**+2.5**
IDI	**Anoyia**	**25.36**	**81**	P		**P**	**01 29 23.5**	**+0.7**
	comp=Z,6.4nm,0.8s,baz=320,slow=17,SNR=5.0							
IDI				LR		LR	01 41 49.9	
	comp=Z,15nm,18.2s,baz=28,slow=42							
HFS	**Hagfors**	**27.98**	**21**	P		**P**	**01 29 46.9**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=206,slow=9.5,SNR=10							
HFS				LR		LR	01 41 57.2	
	comp=Z,39nm,18.7s,baz=215,slow=39							
NOA	**NORSAR Array B**	**28.05**	**18**	LR		LR	01 42 19.9	
	comp=Z,22nm,21.3s,baz=210,slow=39							
DBIC	**Dimbokro**	**28.55**	**177**	LR		LR	01 42 56.9	
	comp=Z,59nm,18.0s,baz=348,slow=40							
LIC	**Lamto**	**28.98**	**177**	*e*P		**P**	**01 29 53.6**	**-1.7**
	comp=Z,20nm,1.3s							
LIC	**Lamto**	**28.98**	**177**	*e*P		**P**	**01 29 53.6**	**-1.7**
	comp=Z,9.9nm,1.3s							
LIC	**Lamto**	**28.98**	**177**	*e*P		**P**	**01 29 53.6**	**-1.7**
	comp=Z,20nm,1.3s							
FINES	**FINESS Array B**	**33.19**	**28**	P		**P**	**01 30 33.5**	**+1.5**
	comp=Z,2.4nm,1.0s,baz=224,slow=3.8,SNR=6.2							
FINES				LR		LR	01 44 36.9	
	comp=Z,38nm,19.2s,baz=277,slow=37							
ARCES	**ARCESS Array B**	**38.43**	**17**	P		**P**	**01 31 17.1**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=275,slow=9.9,SNR=3.5							
ARCES				LR		LR	01 47 08.9	
	comp=Z,37nm,19.7s,baz=201,slow=36							
KURBB	**Kurchatov Arra**	**60.59**	**47**	P		**P**	**01 34 05.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=292,slow=7.4,SNR=5.2							
KURK	**Kurchatov**	**60.60**	**47**	P		**P**	**01 34 05.7**	**-0.1**
KURK	**Kurchatov**	**60.60**	**47**	P		**P**	**01 34 05.7**	**-0.1**
MKAR	**Makanchi Array**	**64.37**	**50**	P		**P**	**01 34 32.9**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=311,slow=8.8,SNR=2.4							
YKA	**Yellowknife Ar**	**67.03**	**331**	P		**P**	**01 34 47.7**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=60,slow=7.2,SNR=4.3							
WMQ	**Urumqi**	**69.12**	**51**	*e*P		**P**	**01 35 02.9**	**+1.5**
WMQ				pP		pP	01 35 07.0	-6.8
WMQ				pmax		pmax		
	comp=Z,5.0nm,0.6s							
PDAR	**Pinedale Array**	**75.47**	**312**	P		**P**	**01 35 40.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=76,slow=7.6,SNR=4.6							
ILAR	**Eielson Array**	**75.57**	**344**	P		**P**	**01 35 42.0**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=19,slow=5.7,SNR=3.4							
ILAR	**Eielson Array**	**75.57**	**344**	P		**P**	**01 35 42.0**	**+2.6**
TXAR	**Lajitas Array**	**79.14**	**298**	P		**P**	**01 36 01.5**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=93,slow=6.3,SNR=3.2							
HHC	**Hu-ho-hao-te**	**85.09**	**42**	*e*P		**P**	**01 36 32.0**	**+0.8**
HHC				sP		sP	01 36 39.5	-9.2
HHC				PP		**PP**	**01 39 51.0**	**+3.0**
HHC	**Hu-ho-hao-te**	**85.09**	**42**	SKS		**SKSac**	**01 46 51.3**	**-1.3**
HHC	**Hu-ho-hao-te**	**85.09**	**42**	S		**S**	**01 47 00.0**	**+2.4**
HHC	**Hu-ho-hao-te**	**85.09**	**42**	sS		S	01 47 07.5	+10
HHC				pmax		pmax		
	comp=Z,13nm,1.4s							
HHC				pmax		pmax		
	comp=Z,66nm,10.0s							
HHC				LR		LR		
	comp=N,150nm,17.4s							
HHC				LR		LR		
	comp=E,190nm,18.7s							
HHC				LR		LR		
	comp=Z,88nm,16.2s							
CD2	**Chengdu**	**86.92**	**54**	*e*P		**P**	**01 36 42.0**	**+1.7**

IDC ***22*** *01:42:42.7±4.7, 35.26N×5.92W, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.2/41, mbtmp3.3/3, ML4.1/2, Error ellipse: s-maj=133.3km s-min=27.3km az=96.0*
LDG ***22*** *01:42:45.9±0.5, 35.41N×6.23W, h30km, Ml3.7/12, Error ellipse: s-maj=9.5km s-min=4.5km az=16.0*
CSEM ***22*** *01:42:45.0±0.2, 35.32N×6.30W, h20km, ML4.5/13, Error ellipse: s-maj=4.0km s-min=3.4km az=51.0*
ISCJB ***22*** *01:42:46.0±0.3, 35.43N±0.02×6.24W±0.02, h74km±4km, mb3.1/1, Error ellipse: s-maj=3.8km s-min=2.5km az=25.8*
SFS ***22*** *01:42:46.0, 35.26N×6.31W, h32km, ML3.4*
MDD ***22*** *01:42:47.0±0.3, 35.28N×6.30W, h40km±6km, mb5.1/52, Error ellipse: s-maj=3.7km s-min=3.3km az=70.0, PRXIMO*
CNRM ***22*** *01:42:47.9, 35.13N×6.25W, h18km, MD3.5*
IGIL ***22*** *01:42:47.3, 35.26N×6.35W, h38km, ML3.7*
INMG ***22*** *01:42:48.2±2.2, 35.31N×6.32W, h31km±7km, MD3.4, ML3.4, Error ellipse: s-maj=4.5km s-min=3.0km az=55.0*

ISC 22 01:42:45.6±0.9, 35.34N±0.03×6.27W±0.03, h54km±8km, n280, σ1$79/408, 4C-22D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSY	**Tnine Yamani**	**0.25**	**82**	P		**Pn**	**Pn**	**01 42 55.0**	**+0.4**
TSY				S		**Sn**	**Sn**	**01 42 59.0**	**-2.1**
TSY	**Tnine Yamani**	**0.25**	**82**	*i* P		**Pn**	**Pn**	**01 42 55.0**	**+0.4**
TSY				*i* S		**Sn**	**Sn**	**01 42 59.0**	**-2.1**
DKH	**Dar Kharkhour**	**0.76**	**78**	P		**Pn**	**Pn**	**01 43 02.0**	**+1.7**
DKH				S		**Sn**	**Sn**	**01 43 13.0**	**+1.9**
DKH	**Dar Kharkhour**	**0.76**	**78**	*i* P		**Pn**	**Pn**	**01 43 02.0**	**+1.7**
DKH				*i* S		**Sn**	**Sn**	**01 43 13.0**	**+1.9**
CNIL	**Conil**	**1.05**	**10**	⇑P		Pn	Pn	01 43 07.3	+3.3
CNIL	**Conil**	**1.05**	**10**	*i* P		Pn	Pn	01 43 07.3	+3.3
SFS	**San Fernando**	**1.13**	**3**	⇓P		**Pn**	**Pn**	**01 43 07.9**	**+2.8**
SFS				S		**Sn**	**Sn**	**01 43 18.7**	**-0.9**
SFS	**San Fernando**	**1.13**	**3**	*i* P		**Pn**	**Pn**	**01 43 07.9**	**+2.8**
SFS				*i* S		**Sn**	**Sn**	**01 43 18.7**	**-0.9**
RTC	**Rabat Centre**	**1.43**	**200**	P		**Pn**	**Pn**	**01 43 09.0**	**-0.2**
RTC				S		**Sn**	**Sn**	**01 43 25.0**	**-1.9**
RTC	**Rabat Centre**	**1.43**	**200**	*i* P		**Pn**	**Pn**	**01 43 09.0**	**-0.2**
RTC				*i* S		**Sn**	**Sn**	**01 43 25.0**	**-1.9**
REAL	**Reales**	**1.43**	**37**	⇑P		**Pn**	**Pn**	**01 43 12.2**	**+2.8**
REAL				S		**Sn**	**Sn**	**01 43 27.7**	**+0.5**
REAL	**Reales**	**1.43**	**37**	*i* P		**Pn**	**Pn**	**01 43 12.1**	**+2.8**
REAL				*i* S		**Sn**	**Sn**	**01 43 27.7**	**+0.5**
ESPR	**Espera**	**1.56**	**12**	⇓P		**Pn**	**Pn**	**01 43 13.0**	**+2.0**
	52nm,0.2s,SNR=18								
ESPR				S		**Sn**	**Sn**	**01 43 32.4**	**+2.2**
	196nm,0.2s,SNR=11								
ESPR	**Espera**	**1.56**	**12**	P		**Pn**	**Pn**	**01 43 13.0**	**+2.0**
	52nm,0.2s,SNR=18								
ESPR				S		**Sn**	**Sn**	**01 43 32.4**	**+2.2**
	196nm,0.2s,SNR=11								
TGT	**Taghat**	**1.61**	**141**	P		**Pn**	**Pn**	**01 43 12.0**	**+0.3**
TGT				S		**Sn**	**Sn**	**01 43 30.0**	**-1.4**
TGT	**Taghat**	**1.61**	**141**	*i* P		**Pn**	**Pn**	**01 43 12.0**	**+0.3**
TGT				*i* S		**Sn**	**Sn**	**01 43 30.0**	**-1.4**
LIJA	**Lijar**	**1.72**	**24**	⇑P		**Pn**	**Pn**	**01 43 15.6**	**+2.5**
LIJA				S		**Sn**	**Sn**	**01 43 36.0**	**+2.0**
LIJA	**Lijar**	**1.72**	**24**	*i* P		**Pn**	**Pn**	**01 43 15.6**	**+2.5**
LIJA				*i* S		**Sn**	**Sn**	**01 43 36.0**	**+2.0**
EMIJ	**Mijas**	**1.73**	**44**	⇓P		**Pn**	**Pn**	**01 43 14.4**	**+1.2**
	28nm,0.2s,SNR=18								
EMIJ				S		**Sn**	**Sn**	**01 43 34.2**	**+0.1**
	87nm,0.3s,SNR=5.7								
EMIJ	**Mijas**	**1.73**	**44**	P		**Pn**	**Pn**	**01 43 14.4**	**+1.2**
	28nm,0.2s,SNR=18								
EMIJ				S		**Sn**	**Sn**	**01 43 34.2**	**+0.1**
	87nm,0.3s,SNR=5.7								
EMAL	**Malaga-Limoner**	**2.06**	**46**	P		**Pn**	**Pn**	**01 43 18.3**	**+0.6**
EMAL				S		**Sn**	**Sn**	**01 43 40.0**	**-2.3**
EMAL	**Malaga-Limoner**	**2.06**	**46**	*e*P		**Pn**	**Pn**	**01 43 18.3**	**+0.6**
EMAL				*i* S		**Sn**	**Sn**	**01 43 40.0**	**-2.3**
TOU	**Touzarine**	**2.09**	**100**	P		**Pn**	**Pn**	**01 43 21.0**	**+2.7**
TOU				S		**Sn**	**Sn**	**01 43 44.0**	**+0.7**
TOU	**Touzarine**	**2.09**	**100**	*i* P		**Pn**	**Pn**	**01 43 21.0**	**+2.7**
TOU				*i* S		**Sn**	**Sn**	**01 43 44.0**	**+0.7**
MIF	**Mishlifen**	**2.11**	**156**	P		**Pn**	**Pn**	**01 43 18.0**	**-0.6**
MIF				S		**Sn**	**Sn**	**01 43 40.0**	**-3.8**
MIF	**Mishlifen**	**2.11**	**156**	*i* P		**Pn**	**Pn**	**01 43 18.0**	**-0.6**
PBDV	**Barranco-do-Ve**	**2.33**	**325**	*i* Pn		**Pn**	**Pn**	**01 43 22.7**	**+1.2**
PBDV				*e*Sn		**Sn**	**Sn**	**01 43 48.5**	**-0.4**
PBDV				A		A		01 43 55.0	
	115nm,0.2s								
PBDV	**Barranco-do-Ve**	**2.33**	**325**	⇓Pn		**Pn**	**Pn**	**01 43 22.7**	**+1.2**
PBDV				Sn		**Sn**	**Sn**	**01 43 48.5**	**-0.4**
	115nm,0.2s								
PVAQ	**Vaqueiros**	**2.37**	**331**	*i* Pn		**Pn**	**Pn**	**01 43 23.5**	**+1.5**
PVAQ				*e*Sn		**Sn**	**Sn**	**01 43 49.9**	**0.0**
PVAQ				A		A		01 43 51.5	
	304nm,0.7s								
PVAQ	**Vaqueiros**	**2.37**	**331**	⇓Pn		**Pn**	**Pn**	**01 43 23.5**	**+1.5**
PVAQ				Sn		**Sn**	**Sn**	**01 43 49.9**	**0.0**
	304nm,0.7s								
EGRO	**El Granado**	**2.40**	**336**	⇓P		**Pn**	**Pn**	**01 43 24.0**	**+1.6**
	55nm,0.1s,SNR=18								
EGRO				S		**Sn**	**Sn**	**01 43 50.2**	**-0.4**
	212nm,0.1s,SNR=18								
EGRO	**El Granado**	**2.40**	**336**	P		**Pn**	**Pn**	**01 43 24.0**	**+1.6**
	55nm,0.1s,SNR=18								
EGRO				S		**Sn**	**Sn**	**01 43 50.2**	**-0.4**
	212nm,0.1s,SNR=18								
EMIN	**Mina Concepcio**	**2.45**	**352**	⇓P		**Pn**	**Pn**	**01 43 24.5**	**+1.4**
	69nm,0.1s,SNR=18								
EMIN				S		**Sn**	**Sn**	**01 43 52.2**	**+0.4**
	94nm,0.1s,SNR=11								
EMIN	**Mina Concepcio**	**2.45**	**352**	P		**Pn**	**Pn**	**01 43 24.5**	**+1.4**
	69nm,0.1s,SNR=18								
EMIN				S		**Sn**	**Sn**	**01 43 52.2**	**+0.4**
	94nm,0.1s,SNR=11								
ERON	**Agron**	**2.60**	**49**	P		Pn	Pn	01 43 32.2	+6.9
	31nm,0.2s,SNR=7.9								
ERON				S		Sn	Sn	01 44 03.5	+7.7
	43nm,0.1s,SNR=7.9								
EGUA	**Guajares**	**2.65**	**55**	P		**Pn**	**Pn**	**01 43 26.2**	**+0.3**
	8.7nm,0.1s,SNR=7.9								
EGUA				S		**Sn**	**Sn**	**01 43 54.6**	**-2.2**
	23nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**2.65**	**55**	P		**Pn**	**Pn**	**01 43 26.2**	**+0.3**
	8.7nm,0.1s,SNR=7.9								
EGUA				S		**Sn**	**Sn**	**01 43 54.6**	**-2.2**
	23nm,0.2s,SNR=7.9								
PCVE	**Castro Verde**	**2.70**	**329**	*e*Pn		**Pn**	**Pn**	**01 43 27.4**	**+0.9**
PCVE				*e*Sn		**Sn**	**Sn**	**01 43 57.5**	**-0.4**
PCVE				A		A	A	01 44 00.6	
	9.8nm,0.6s								
PCVE	**Castro Verde**	**2.70**	**329**	Pn		**Pn**	**Pn**	**01 43 27.4**	**+0.9**
PCVE				Sn		**Sn**	**Sn**	**01 43 57.5**	**-0.4**
	9.8nm,0.6s								
PCVE	**Castro Verde**	**2.70**	**329**	*e*Pn		**Pn**	**Pn**	**01 43 27.4**	**+0.9**
PCVE				*e*Sn		**Sn**	**Sn**	**01 43 57.5**	**-0.4**
	9.8nm,0.6s								
EMEL	**Melilla**	**2.71**	**90**	P		**Pn**	**Pn**	**01 43 27.3**	**+0.7**
	55nm,0.1s,SNR=6.9								
EMEL				S		**Sn**	**Sn**	**01 43 56.9**	**-1.3**
	282nm,0.2s,SNR=6.8								
EMLI	**Melilla**	**2.71**	**90**	P		**Pn**	**Pn**	**01 43 27.3**	**+0.6**
	55nm,0.1s,SNR=6.9								
EMLI				S		**Sn**	**Sn**	**01 43 56.9**	**-1.4**
	282nm,0.2s,SNR=6.8								
PFVI	**Vila Bisbo**	**2.74**	**312**	*e*Pn		**Pn**	**Pn**	**01 43 27.9**	**+0.9**
PFVI				*e*Sn		**Sn**	**Sn**	**01 43 58.2**	**-0.7**
PFVI				A		A	A	01 44 04.6	
	95nm,0.4s								
PFVI	**Vila Bisbo**	**2.74**	**312**	⇓P		**Pn**	**Pn**	**01 43 27.9**	**+0.9**
	37nm,0.1s,SNR=18								
PFVI				S		**Sn**	**Sn**	**01 43 58.2**	**-0.7**
	166nm,0.1s,SNR=8.7								
PFVI	**Vila Bisbo**	**2.74**	**312**	P		**Pn**	**Pn**	**01 43 27.9**	**+0.9**
	37nm,0.1s,SNR=18								
PFVI				S		**Sn**	**Sn**	**01 43 58.2**	**-0.7**
	166nm,0.1s,SNR=8.7								
ELUQ	**Luque**	**2.74**	**35**	S		**Sn**	**Sn**	**01 43 59.6**	**+0.5**
	273nm,0.2s,SNR=7.9								
ELUQ	**Luque**	**2.74**	**35**	S		**Sn**	**Sn**	**01 43 59.6**	**+0.5**
	273nm,0.2s,SNR=7.9								
MORF	**Marmelete**	**2.75**	**316**	*e*P		**Pn**	**Pn**	**01 43 28.1**	**+0.8**
MORF				*e*S		**Sn**	**Sn**	**01 43 58.2**	**-1.1**
MORF				AML		AML	AML	01 44 02.8	
	comp=E,317nm,0.3s								
MORF	**Marmelete**	**2.75**	**316**	*e*Pn		**Pn**	**Pn**	**01 43 28.1**	**+0.8**
MORF				*e*Sn		**Sn**	**Sn**	**01 43 58.5**	**-0.8**
MORF				A		A	A	01 44 03.7	
	comp=E,193nm,0.1s								
MORF	**Marmelete**	**2.75**	**316**	Pn		**Pn**	**Pn**	**01 43 28.1**	**+0.8**
MORF				Sn		**Sn**	**Sn**	**01 43 58.5**	**-0.8**
	comp=E,193nm,0.1s								
MORF	**Marmelete**	**2.75**	**316**	*e*Pn		**Pn**	**Pn**	**01 43 28.1**	**+0.8**
MORF				*e*Sn		**Sn**	**Sn**	**01 43 58.5**	**-0.8**
	comp=E,193nm,0.1s								
SELV	**Sierra Elvira**	**2.80**	**47**	P		Pn	Pn	01 43 30.4	+2.5
	comp=E,27nm,0.2s,SNR=7.9								
SELV				S		**Sn**	**Sn**	**01 44 02.4**	**+2.0**
	comp=E,20nm,0

comp=N,4.9nm,0.1s,SNR=7.9
ENIJ S Sn 01 44 20.1 -1.7
comp=N,2.3nm,0.1s,SNR=7.9
PESTR Estremoz 3.68 344 *i* Pn Pn 01 43 41.4 +1.5
PESTR *e*Sn Sn 01 44 21.8 -0.2
PESTR A A 01 44 26.7
comp=N,31nm,0.2s
EHUE Huescar 3.86 49 P Pn 01 43 44.2 +1.8
comp=N,23nm,0.2s,SNR=7.9
EHUE S Sn 01 44 25.7 -0.8
comp=N,24nm,0.3s,SNR=7.9
EHUE Huescar 3.86 49 P Pn 01 43 44.2 +1.8
comp=N,23nm,0.2s,SNR=7.9
EHUE S Sn 01 44 25.7 -0.8
comp=N,24nm,0.3s,SNR=7.9
PACT Alcochete 3.99 330 *e*Pn Pn 01 43 47.1 +2.9
PACT *e*Sn Sn 01 44 32.1 +2.4
PACT A A 01 44 33.2
comp=N,48nm,0.1s
PACT Alcochete 3.99 330 *e*Pn Pn 01 43 47.1 +2.9
PACT *e*Sn Sn 01 44 32.1 +2.4
comp=N,48nm,0.1s
PMTG Montargil 4.04 338 *i* Pn Pn 01 43 46.3 +1.4
PMTG *e*Sn Sn 01 44 30.9 0.0
PMTG A A 01 44 32.4
comp=N,52nm,0.1s
SESP Santiago Espad 4.08 46 P Pn 01 43 47.0 +1.4
comp=N,21nm,0.2s,SNR=7.9
SESP S Sn 01 44 29.6 -2.6
comp=N,50nm,0.1s,SNR=7.9
SESP Santiago Espad 4.08 46 P Pn 01 43 47.0 +1.4
comp=N,21nm,0.2s,SNR=7.9
SESP S Sn 01 44 29.6 -2.6
comp=N,50nm,0.1s,SNR=7.9
LIS Lisbon 4.08 327 *e*S Sn 01 44 29.6 -2.4
LIS AML AML 01 44 34.0
comp=E,176nm,0.5s
LIS Lisbon 4.08 327 S Sn 01 44 29.6 -2.4
comp=E,176nm,0.5s
PMST Lisbon--Monsan 4.12 326 *e*Pn Pn 01 43 47.9 +2.0
PMST *e*Sn Sn 01 44 32.3 -0.5
PMST A A 01 44 36.5
comp=E,41nm,0.2s
PMST Lisbon--Monsan 4.12 326 *e*Pn Pn 01 43 47.9 +2.0
PMST *e*Sn Sn 01 44 32.3 -0.5
comp=E,41nm,0.2s
PMRV Marv??o 4.18 348 *i* Pn Pn 01 43 48.5 +1.7
PMRV *e*Sn Sn 01 44 33.3 -1.1
PMRV A A 01 44 35.2
comp=E,34nm,0.2s
PMRV Marv??o 4.18 348 ⇓Pn Pn 01 43 48.5 +1.7
PMRV Sn Sn 01 44 33.3 -1.1
comp=E,34nm,0.2s
CIA Chichaoua 4.30 210 P Pn 01 43 49.0 +0.5
CIA S Sn 01 44 34.0 -3.4
CIA Chichaoua 4.30 210 *i* P Pn 01 43 49.0 +0.5
CIA *i* S Sn 01 44 34.0 -3.4
OUK Oukaimeden 4.33 198 P Pn 01 43 49.0 -0.2
OUK S Sn 01 44 34.0 -4.5
OUK Oukaimeden 4.33 198 *i* P Pn 01 43 49.0 -0.2
EVIA Vianos 4.47 41 P Pn 01 43 51.6 +0.8
comp=E,72nm,0.1s,SNR=97
EVIA S Sn 01 44 39.3 -2.3
comp=E,172nm,0.2s,SNR=25
EVIA Vianos 4.47 41 P Pn 01 43 51.6 +0.8
comp=E,72nm,0.1s,SNR=97
EVIA S Sn 01 44 39.3 -2.3
comp=E,172nm,0.2s,SNR=25
PAB San Pablo 4.47 19 ⇓P Pn 01 43 52.0 +1.2
comp=E,4.7nm,0.2s,SNR=18
PAB S Sn 01 44 37.7 -3.9
comp=E,13nm,0.2s,SNR=7.9
PAB San Pablo 4.47 19 P Pn 01 43 52.0 +1.2
comp=E,4.7nm,0.2s,SNR=18
PCBR Castelo Branco 4.60 348 *e*Pn Pn 01 43 54.3 +1.8
PCBR *e*Sn Sn 01 44 42.9 -1.7
PCBR A A 01 44 44.2
comp=E,30nm,0.2s
PCBR Castelo Branco 4.60 348 Pn Pn 01 43 54.3 +1.8
PCBR Sn Sn 01 44 42.9 -1.7
comp=E,15nm,0.2s
PCBR Castelo Branco 4.60 348 *e*Pn Pn 01 43 54.3 +1.8
PCBR *e*Sn Sn 01 44 42.9 -1.7
comp=E,30nm,0.2s
PTOM Tomar 4.60 339 *e*Pn Pn 01 43 54.3 +1.8
PTOM *e*Sn Sn 01 44 43.9 -0.8
PTOM A A 01 44 45.6
comp=E,58nm,0.2s
PTOM Tomar 4.60 339 Pn Pn 01 43 54.3 +1.8
PTOM Sn Sn 01 44 43.9 -0.8
comp=E,29nm,0.2s
PTOM Tomar 4.60 339 *e*Pn Pn 01 43 54.3 +1.8
PTOM *e*Sn Sn 01 44 43.9 -0.8
comp=E,58nm,0.2s
ESDC Sonseca Array 4.70 22 P Pn 01 43 55.2 +1.2
comp=E,8.2nm,0.1s,baz=207,slow=13,SNR=128
ESDC S Sn 01 44 43.2 -4.0
comp=E,7.0nm,0.4s,baz=204,slow=23,SNR=126
ESDC Sonseca Array 4.70 22 Pn Pn 01 43 55.3 +1.2
comp=E,7.9nm,0.3s,baz=203,slow=13,SNR=144
ESDC Sn Sn 01 44 43.5 -3.7
comp=E,16nm,0.3s,baz=202,slow=23,SNR=20
EPLA Plasencia 4.72 2 ⇓P Pn 01 43 55.6 +1.3
comp=E,95nm,0.2s,SNR=18
EPLA S Sn 01 44 45.5 -2.2
comp=E,23nm,0.2s,SNR=6.8
EPLA Plasencia 4.72 2 P Pn 01 43 55.6 +1.3
comp=E,95nm,0.2s,SNR=18
EPLA S Sn 01 44 45.5 -2.2
comp=E,23nm,0.2s,SNR=6.8
EMUR La Murta 4.76 57 P Pn 01 43 57.0 +2.3
comp=E,3.0nm,0.3s,SNR=10.0
EMUR S Sn 01 44 46.2 -2.4
comp=E,11nm,0.6s
EMUR La Murta 4.76 57 P Pn 01 43 57.0 +2.3
comp=E,3.0nm,0.3s,SNR=10.0
EMUR S Sn 01 44 46.2 -2.4
comp=E,11nm,0.6s
ETOB Tobarra 5.02 47 ⇓P Pn 01 43 59.5 +1.1
comp=E,28nm,0.1s,SNR=18
ETOB S Sn 01 44 51.2 -3.9
comp=E,26nm,0.1s,SNR=5.7
ETOB Tobarra 5.02 47 P Pn 01 43 59.5 +1.1
comp=E,28nm,0.1s,SNR=18
MTE Manteigas 5.15 349 *e*Pn Pn 01 44 01.9 +1.7
MTE *e*Sn Sn 01 44 56.8 -1.6
MTE A A 01 44 59.8
comp=E,38nm,0.1s
MTE Manteigas 5.15 349 Pn Pn 01 44 01.9 +1.7
MTE Sn Sn 01 44 56.8 -1.6
comp=E,19nm,0.1s
MTE Manteigas 5.15 349 *e*Pn Pn 01 44 01.9 +1.7
MTE *e*Sn Sn 01 44 56.8 -1.6
comp=E,38nm,0.1s
PVIS Viseu 5.52 347 *e*Pn Pn 01 44 06.6 +1.4
PVIS *e*Sn Sn 01 45 05.0 -2.4
PVIS A A 01 45 08.5
comp=E,26nm,0.2s
PVIS Viseu 5.52 347 Pn Pn 01 44 06.6 +1.4
PVIS Sn Sn 01 45 05.0 -2.4
comp=E,13nm,0.2s
PVIS Viseu 5.52 347 *e*Pn Pn 01 44 06.6 +1.4
GUD Guadarrama 5.55 17 P Pn 01 44 06.9 +1.2
comp=E,14nm,0.2s,SNR=120
GUD S Sn 01 45 04.2 -4.1
comp=E,18nm,0.3s
GUD Guadarrama 5.55 17 P Pn 01 44 06.9 +1.2
comp=E,14nm,0.2s,SNR=120
OKGL Djebel Kef Gue 5.67 81 P Pn 01 44 08.4 +1.2
comp=E,9.2nm,0.1s,SNR=7.9
OKGL S Sn 01 45 08.8 -2.3
comp=E,68nm,0.4s,SNR=7.9
MVO Moncorvo 5.85 354 *e*Pn Pn 01 44 11.3 +1.6
MVO *e*Sn Sn 01 45 13.5 -2.0
MVO A A 01 45 14.8
comp=E,22nm,0.2s
MVO Moncorvo 5.85 354 P Pn 01 44 11.3 +1.6
comp=E,50nm,0.2s,SNR=282
MVO S Sn 01 45 13.1 -2.3
comp=E,40nm,0.2s
MVO Moncorvo 5.85 354 P Pn 01 44 11.3 +1.6
comp=E,50nm,0.2s,SNR=282
EBEN Beniarda 5.89 53 P Pn 01 44 11.8 +1.5
comp=E,1.9nm,0.2s,SNR=23
EBEN S Sn 01 45 12.7 -3.7
comp=E,2.9nm,0.3s
EBEN Beniarda 5.89 53 P Pn 01 44 11.8 +1.5
comp=E,1.9nm,0.2s,SNR=23
PVRL Vila Real 6.04 350 *e*Pn Pn 01 44 13.8 +1.5
PVRL *e*Sn Sn 01 45 16.9 -3.1
PVRL A A 01 45 20.5
comp=E,44nm,0.1s
PVRL Vila Real 6.04 350 Pn Pn 01 44 13.8 +1.5
PVRL Sn Sn 01 45 16.9 -3.1
comp=E,22nm,0.1s
PVRL Vila Real 6.04 350 *e*Pn Pn 01 44 13.8 +1.5
PTO Porto 6.08 343 *e*Pn Pn 01 44 14.4 +1.6
PTO *e*Sn Sn 01 45 17.4 -3.5
PTO A A 01 45 22.4
comp=E,86nm,0.1s
PTO Porto 6.08 343 Pn Pn 01 44 14.4 +1.6
PTO Sn Sn 01 45 17.4 -3.5
comp=E,43nm,0.1s
PTO Porto 6.08 343 *e*Pn Pn 01 44 14.4 +1.6
POLO Lamas de Olo 6.15 349 *e*Pn Pn 01 44 15.4 +1.6
POLO *e*Sn Sn 01 45 20.1 -2.7
POLO A A 01 45 24.1
comp=E,9.5nm,0.2s
POLO Lamas de Olo 6.15 349 *e*Pn Pn 01 44 15.4 +1.6
ETOR Torete 6.40 30 ⇓P Pn 01 44 18.8 +1.5
comp=E,98nm,0.3s,SNR=18
ETOR S Sn 01 45 26.6 -2.5
comp=E,77nm,0.2s,SNR=8.8
ETOR Torete 6.40 30 P Pn 01 44 18.8 +1.5
comp=E,98nm,0.3s,SNR=18
PBRG Braganca 6.47 357 *e*Pn Pn 01 44 19.9 +1.7
PBRG *e*Sn Sn 01 45 28.0 -2.6
PBRG A A 01 45 29.8
comp=E,8.7nm,0.2s
PBRG Braganca 6.47 357 Pn Pn 01 44 19.9 +1.7
PBRG Sn Sn 01 45 28.0 -2.6
comp=E,4.3nm,0.2s
PBRG Braganca 6.47 357 *e*Pn Pn 01 44 19.9 +1.7
PCAB Cabril 6.51 348 *e*Pn Pn 01 44 20.3 +1.5
PCAB *e*Sn Sn 01 45 28.0 -3.7
PCAB A A 01 45 32.7
comp=E,14nm,0.1s
PCAB Cabril 6.51 348 Pn Pn 01 44 20.3 +1.5
PCAB Sn Sn 01 45 28.0 -3.7
comp=E,7.2nm,0.1s
PCAB Cabril 6.51 348 *e*Pn Pn 01 44 20.3 +1.5
ECAL Calabor 6.61 357 P Pn 01 44 21.8 +1.7
comp=E,23nm,0.1s,SNR=99
ECAL S Sn 01 45 31.9 -2.1
comp=E,9.9nm,0.2s
ECAL Calabor 6.61 357 P Pn 01 44 21.8 +1.7
comp=E,23nm,0.1s,SNR=99
ELOB Lobios 6.67 348 P Pn 01 44 22.6 +1.6
comp=E,13nm,0.1s,SNR=106
ELOB S Sn 01 45 32.6 -3.0
comp=E,10nm,0.1s,SNR=6.0
ELOB Lobios 6.67 348 P Pn 01 44 22.6 +1.6
comp=E,13nm,0.1s,SNR=106
EMOS Mosqueruela 6.80 41 ⇓P Pn 01 44 24.4 +1.6
comp=E,4.4nm,0.2s,SNR=18
EMOS S Sn 01 45 34.8 -4.1
comp=E,7.4nm,0.3s,SNR=11
EMOS Mosqueruela 6.80 41 P Pn 01 44 24.4 +1.6
comp=E,4.4nm,0.2s,SNR=18
PGAV Gavieira, Arco 6.80 347 *e*Pn Pn 01 44 24.4 +1.6
PGAV *e*Sn Sn 01 45 35.1 -3.8
PGAV A A 01 45 40.0
comp=E,12nm,0.3s
PGAV Gavieira, Arco 6.80 347 *e*Pn Pn 01 44 24.4 +1.6
EIBI Ibiza 7.11 57 P Pn 01 44 28.2 +1.3
comp=E,1.1nm,0.1s,SNR=6.9
EIBI S Sn 01 45 40.4 -5.8
comp=E,0.2nm,0.1s
EIBI Ibiza 7.11 57 P Pn 01 44 28.2 +1.3
comp=E,1.1nm,0.1s,SNR=6.9
EAGO Agolada(Pontev 7.59 350 P Pn 01 44 35.2 +1.7
comp=E,4.3nm,0.1s,SNR=7.9
EAGO S Sn 01 45 54.9 -3.2
comp=E,6.4nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 7.59 350 P Pn 01 44 35.2 +1.7
comp=E,4.3nm,0.1s,SNR=7.9
EBR Ebro Roquetas 7.64 42 P Pn 01 44 35.9 +1.7
comp=E,18nm,0.2s,SNR=7.9
EBR S Sn 01 45 58.6 -0.7
comp=E,18nm,0.2s,SNR=7.9
EBR Ebro Roquetas 7.64 42 P Pn 01 44 35.9 +1.7
comp=E,18nm,0.2s,SNR=7.9
ERTA Horta de San J 7.65 41 P Pn 01 44 35.9 +1.6
comp=E,1.3nm,0.1s,SNR=18
ERTA S Sn 01 45 55.7 -3.9
comp=E,3.0nm,0.2s,SNR=7.9
ERTA Horta de San J 7.65 41 P Pn 01 44 35.9 +1.6
comp=E,1.3nm,0.1s,SNR=18
STS Santiago 7.74 347 P Pn 01 44 37.4 +1.8
comp=E,5.5nm,0.1s,SNR=7.1
STS S Sn 01 45 57.0 -4.9
comp=E,4.1nm,0.2s
STS Santiago 7.74 347 P Pn 01 44 37.4 +1.8
comp=E,5.5nm,0.1s,SNR=7.1
EMAZ Mazaricos 7.89 345 P Pn 01 44 38.8 +1.2
comp=E,5.2nm,0.1s,SNR=22
EMAZ S Sn 01 46 01.8 -3.6
comp=E,4.6nm,0.1s,SNR=7.9
EMAZ Mazaricos 7.89 345 P Pn 01 44 38.8 +1.2
comp=E,5.2nm,0.1s,SNR=22
EARI Arriondas 8.00 6 P Pn 01 44 41.3 +2.2
comp=E,5.3nm,0.2s,SNR=66
EARI S Sn 01 46 03.9 -4.2
comp=E,2.5nm,0.3s,SNR=4.9
EARI Arriondas 8.00 6 P Pn 01 44 41.3 +2.2
comp=E,5.3nm,0.2s,SNR=66
EPON Pontenova 8.01 355 P Pn 01 44 41.7 +2.4
comp=E,8.3nm,0.3s,SNR=7.5
EPON S Sn 01 46 05.1 -3.3
comp=E,3.5nm,0.2s,SNR=7.1
ELAN Lanestosa 8.18 15 P Pn 01 44 43.2 +1.6
comp=E,9.3nm,0.2s,SNR=66
ELAN S Sn 01 46 07.3 -5.3
comp=E,5.1nm,0.1s,SNR=5.8
ELAN Lanestosa 8.18 15 P Pn 01 44 43.2 +1.6
comp=E,9.3nm,0.2s,SNR=66
EARA Aranguren 8.27 25 P Pn 01 44 44.3 +1.4
comp=E,3.7nm,0.1s,SNR=7.9
EARA S Sn 01 46 10.0 -4.8
comp=E,1.9nm,0.1s,SNR=7.9
EARA Aranguren 8.27 25 P Pn 01 44 44.3 +1.4
comp=E,3.7nm,0.1s,SNR=7.9
IUNC Uncíti 8.28 25 P Pn 01 44 46.1 +3.1
SNR=7.9
IUNC S Sn 01 46 15.7 +0.5
SNR=7.9
EPOB Poblet 8.33 42 P Pn 01 44 44.9 +1.2
comp=E,2.2nm,0.2s,SNR=12
EPOB S Sn 01 46 10.2 -6.1
comp=E,1.7nm,0.4s,SNR=6.0
EPOB Poblet 8.33 42 P Pn 01 44 44.9 +1.2
comp=E,2.2nm,0.2s,SNR=12
IEPA Eparoz 8.39 26 P Pn 01 44 46.4 +1.9
SNR=7.9
IEPA S Sn 01 46 15.7 -2.0
SNR=7.9
IZUN Zunzarren 8.39 25 P Pn 01 44 47.9 +3.3
SNR=7.9
IZUN S Sn 01 46 15.5 -2.3
SNR=7.9
IUSE Utxeti 8.44 24 P Pn 01 44 47.9 +2.8
SNR=7.9
IUSE S Sn 01 46 15.3 -3.7
SNR=7.9
IELO Elcoad 8.45 26 P Pn 01 44 47.2 +1.8
comp=E,12nm,0.2s,SNR=7.9
IELO S Sn 01 46 14.9 -4.4
comp=E,6.2nm,0.3s,SNR=7.9
IELO Elcoad 8.45 26 P Pn 01 44 47.2 +1.8
comp=E,12nm,0.2s,SNR=7.9
ETOS Mallorca 8.46 56 P Pn 01 44 47.4 +2.0
comp=E,0.4nm,0.2s,SNR=7.9
ETOS S Sn 01 46 12.7 -6.8
comp=E,0.3nm,0.2s,SNR=7.9
ETOS Mallorca 8.46 56 P Pn 01 44 47.4 +2.0
comp=E,0.4nm,0.2s,SNR=7.9
ELIZ Elizondo 8.64 24 P Pn 01 44 50.1 +2.3
comp=E,8.7nm,0.3s,SNR=37
ELIZ S Sn 01 46 15.8 -8.0
comp=E,5.2nm,0.3s,SNR=8.7
ELIZ Elizondo 8.64 24 P Pn 01 44 50.1 +2.3
comp=E,8.7nm,0.3s,SNR=37
EALK Alkurruntz 8.69 24 P Pn 01 44 51.4 +2.8
comp=E,10nm,0.2s,SNR=48
EALK S Sn 01 46 20.3 -4.8
comp=E,18nm,0.3s,SNR=8.6
EALK Alkurruntz 8.69 24 P Pn 01 44 51.4 +2.8
comp=E,10nm,0.2s,SNR=48
SJPF Ste Jean 8.69 25 *e*Pn Pn 01 44 49.9 +1.3
SNR=1.0
SJPF *e*Sn Sn 01 46 16.6 -8.6
comp=E,6.9nm,0.3s,SNR=1.0
SJPF Ste Jean 8.69 25 Pn Pn 01 44 49.9 +1.3
SJPF Sn Sn 01 46 16.6 -8.6
comp=E,3.5nm,0.3s
SJPF Ste Jean 8.69 25 *e*Pn Pn 01 44 49.9 +1.3
SNR=1.0
LARF Larrau 8.71 26 P Pn 01 44 50.8 +1.9
LARF Larrau 8.71 26 P Pn 01 44 50.8 +1.9
EFAM Famara 8.72 227 S Sn 01 46 17.2 -8.8
comp=E,12nm,0.3s,SNR=7.9
ETSF Etsaut 8.76 29 *e*Pn Pn 01 44 50.9 +1.4
SNR=1.0
ETSF *e*Sn Sn 01 46 18.3 -8.5
comp=E,2.5nm,0.2s,SNR=1.0
ETSF Etsaut 8.76 29 Pn Pn 01 44 50.9 +1.4
ETSF Sn Sn 01 46 18.3 -8.5
comp=E,1.2nm,0.2s
ETSF Etsaut 8.76 29 *e*Pn Pn 01 44 50.9 +1.4
SNR=1.0
OSSF Osses 8.81 25 P Pn 01 44 52.0 +1.9
OSSF Osses 8.81 25 P Pn 01 44 52.0 +1.9
ATE Arette 8.86 27 P Pn 01 44 52.8 +1.9
comp=E,4.4nm,0.1s,SNR=7.9
ATE S Sn 01 46 24.8 -4.5
comp=E,3.8nm,0.2s,SNR=7.9
ATE Arette 8.86 27 P Pn 01 44 52.8 +1.9
ATE Arette 8.86 27 P Pn 01 44 52.8 +1.9
comp=E,4.4nm,0.1s,SNR=7.9
ORDF Ordiarp 8.88 26 P Pn 01 44 53.1 +1.9
ORDF Ordiarp 8.88 26 P Pn 01 44 53.1 +1.9
EMIR Miracle 8.96 41 P Pn 01 44 53.6 +1.3
comp=E,11nm,0.3s,SNR=18
EMIR S Sn 01 46 26.0 -5.8
comp=E,3.9nm,0.3s,SNR=7.9
EMIR Miracle 8.96 41 P Pn 01 44 53.6 +1.3
comp=E,11nm,0.3s,SNR=18
REYF Montagne du Re 8.97 29 P Pn 01 44 54.0 +1.6
REYF Montagne du Re 8.97 29 P Pn 01 44 54.0 +1.6
CSOR Sort 9.09 37 P Pn 01 44 55.0 +0.8
comp=E,2.2nm,0.3s,SNR=16
CSOR S Sn 01 46 28.9 -6.2
comp=E,7.0nm,0.4s,SNR=6.1
CSOR Sort 9.09 37 P Pn 01 44 55.0 +0.8
comp=E,2.2nm,0.3s,SNR=16
LABF Labassere 9.14 31 P Pn 01 44 56.4 +1.7
LABF Labassere 9.14 31 P Pn 01 44 56.4 +1.7
EPF Esparros 9.23 32 *e*Pn Pn 01 44 57.1 +1.0
SNR=1.0
EPF *e*Sn Sn 01 46 29.9 -8.6
comp=E,8.2nm,0.3s,SNR=1.0
EPF Esparros 9.23 32 Pn Pn 01 44 57.1 +1.0
EPF Sn Sn 01 46 29.9 -8.6
comp=E,4.1nm,0.3s
EPF Esparros 9.23 32 *e*Pn Pn 01 44 57.1 +1.0
SNR=1.0
CFUE Fuerteventura 9.32 226 S Sn 01 46 31.9 -8.7
comp=E,19nm,0.2s,SNR=7.9
CFTV Fuerteventura 9.58 226 S Sn 01 46 37.4 -10
comp=E,2.4nm,0.1s,SNR=7.9
CLLI Llivia 9.59 40 P Pn 01 45 02.4 +1.3
comp=E,2.7nm,0.3s,SNR=16
CLLI S Sn 01 46 40.3 -7.1
comp=E,1.4nm,0.4s,SNR=7.9
CLLI Llivia 9.59 40 P Pn 01 45 02.4 +1.3
comp=E,2.7nm,0.3s,SNR=16
MTLF Montolieu 10.34 37 *e*Pn Pn 01 45 10.0 -1.2
SNR=1.0
MTLF *e*Sn Sn 01 46 56.4 -9.1
comp=E,0.9nm,0.3s
MTLF Montolieu 10.34 37 Pn Pn 01 45 10.0 -1.2
MTLF Sn Sn 01 46 56.4 -9.1
comp=E,0.4nm,0.3s
EOSO Osorio 10.72 230 S Sn 01 47 02.7 -12
comp=E,3.9nm,0.3s,SNR=7.9
EBAJ Bajamar 10.91 234 S Sn 01 47 08.1 -11
comp=E,6.0nm,0.2s,SNR=7.9
LFF La Frestale 10.98 27 *e*Pn Pn 01 45 20.1 +0.2
LFF *e*Sn Sn 01 47 11.6 -10
comp=E,4.0nm,0.4s
LFF La Frestale 10.98 27 Pn Pn 01 45 20.1 +0.2
LFF Sn Sn 01 47 11.6 -10
comp=E,2.0nm,0.4s
LFF La Frestale 10.98 27 *e*Pn Pn 01 45 20.1 +0.2
CRAJ Montana Rajada 11.26 234 S Sn 01 47 16.9 -12
comp=E,14nm,0.2s,SNR=7.9
CAF Calviac 11.50 31 *e*Pn Pn 01 45 26.9 -0.1
SNR=1.0
CAF *e*Sn Sn 01 47 23.9 -10
comp=E,1.6nm,0.3s
CAF Calviac 11.50 31 Pn Pn 01 45 26.9 -0.1
CAF Sn Sn 01 47 23.9 -10
comp=E,0.8nm,0.3s
CAF Calviac 11.50 31 *e*Pn Pn 01 45 26.9 -0.1
SNR=1.0
RJF Les Rejaudoux 11.59 28 *e*Pn Pn 01 45 28.4 +0.2
SNR=1.0
RJF *e*Sn Sn 01 47 26.2 -10
comp=E,1.6nm,0.3s
RJF Les Rejaudoux 11.59 28 Pn Pn 01 45 28.4 +0.2
RJF Sn Sn 01 47 26.2 -10
comp=E,0.8nm,0.3s
RJF Les Rejaudoux 11.59 28 *e*Pn Pn 01 45 28.4 +0.2
SNR=1.0
LASF Ste Croix 11.70 39 *e*Pn Pn 01 45 28.9 -0.7
SNR=1.0
LASF Ste Croix 11.70 39 Pn Pn 01 45 28.9 -0.7
LASF Ste Croix 11.70 39 *e*Pn Pn 01 45 28.9 -0.7
SNR=1.0
EGOM La Gomera 11.74 235 S Sn 01 47 27.4 -12
comp=E,8.0nm,0.3s,SNR=7.9
MFF Saint Martin d 12.16 20 *e*Pn Pn 01 45 36.4 +0.4
SNR=1.0
MFF *e*Sn Sn 01 47 39.8 -10
comp=E,2.5nm,0.5s,SNR=1.0
MFF Saint Martin d 12.16 20 Pn Pn 01 45 36.4 +0.4
MFF Sn Sn 01 47 39.8 -10
comp=E,1.2nm,0.5s
MFF Saint Martin d 12.16 20 *e*Pn Pn 01 45 36.4 +0.4
SNR=1.0
TCF Toulx Ste Croi 12.68 28 *e*Pn Pn 01 45 42.0 -1.0
SNR=1.0
TCF *e*Sn Sn 01 47 51.9 -11
comp=E,1.2nm,0.3s,SNR=1.0
TCF Toulx Ste Croi 12.68 28 Pn Pn 01 45 42.0 -1.0
TCF Sn Sn 01 47 51.9 -11
comp=E,0.6nm,0.3s
QUIF Quistinic 12.78 9 *e*Pn Pn 01 45 44.9 +0.5
SNR=1.0
QUIF Quistinic 12.78 9 Pn Pn 01 45 44.9 +0.5
QUIF Quistinic 12.78 9 *e*Pn Pn 01 45 44.9 +0.5
SNR=1.0
BGF Bois d'Agland 13.15 29 *e*Pn Pn 01 45 49.3 -0.1
SNR=1.0
BGF Bois d'Agland 13.15 29 Pn Pn 01 45 49.3 -0.1
BGF Bois d'Agland 13.15 29 *e*Pn Pn 01 45 49.3 -0.1
SNR=1.0
ROSF Rostrenen 13.18 9 *e*Pn Pn 01 45 50.3 +0.5
SNR=1.0
ROSF *e*Sn Sn 01 48 04.3 -10
comp=E,1.7nm,0.3s
ROSF Rostrenen 13.18 9 Pn Pn 01 45 50.3 +0.5
ROSF Sn Sn 01 48 04.3 -10
comp=E,0.9nm,0.3s
ROSF Rostrenen 13.18 9 *e*Pn Pn 01 45 50.3 +0.5
SNR=1.0
SGMF Saint Gilles 13.20 11 *e*Pn Pn 01 45 52.0 +1.9
SNR=1.0
SGMF Saint Gilles 13.20 11 Pn Pn 01 45 52.0 +1.9
SGMF Saint Gilles 13.20 11 *e*Pn Pn 01 45 52.0 +1.9
SNR=1.0
AVF Avril sur Loir 13.54 29 *e*Pn Pn 01 45 54.1 -0.6
SNR=1.0
AVF Avril sur Loir 13.54 29 Pn Pn 01 45 54.1 -0.6
AVF Avril sur Loir 13.54 29 *e*Pn Pn 01 45 54.1 -0.6
SNR=1.0
SMF Signal de Mont 13.62 31 *e*Pn Pn 01 45 55.1 -0.8
SMF Signal de Mont 13.62 31 Pn Pn 01 45 55.1 -0.8
SMF Signal de Mont 13.62 31 *e*Pn Pn 01 45 55.1 -0.8
GRR Gorron 13.64 15 *e*Pn Pn 01 45 56.2 0.0

SNR=1.0

GRR	**Gorron**	**13.64**	**15**	Pn	**Pn**	**01 45 56.2**	**0.0**
GRR	**Gorron**	**13.64**	**15**	*e*Pn	**Pn**	**01 45 56.2**	**0.0**
	SNR=1.0						
SSF	**Saint Saulge**	**13.82**	**29**	*e*Pn	**Pn**	**01 45 58.0**	**-0.6**
	SNR=1.0						
SSF	**Saint Saulge**	**13.82**	**29**	Pn	**Pn**	**01 45 58.0**	**-0.6**
SSF	**Saint Saulge**	**13.82**	**29**	*e*Pn	**Pn**	**01 45 58.0**	**-0.6**
	SNR=1.0						
LDF	**La Druitiere**	**14.01**	**17**	*e*Pn	**Pn**	**01 46 01.5**	**+0.4**
	SNR=1.0						
LDF	**La Druitiere**	**14.01**	**17**	*e*Pn	**Pn**	**01 46 01.5**	**+0.4**
	SNR=1.0						
FLN	**La Foliniere**	**14.08**	**16**	*e*Pn	**Pn**	**01 46 00.8**	**-1.3**
	SNR=1.0						
FLN	**La Foliniere**	**14.08**	**16**	Pn	**Pn**	**01 46 00.8**	**-1.3**
GERES	**GERESS Array B**	**19.97**	**41**	P	**P**	**01 47 14.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=226,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**23.23**	**160**	P	**P**	**01 47 49.9**	**+1.7**
	comp=E,0.6nm,0.5s,baz=344,slow=12,SNR=12						

SJA ***22*** *01:54:03.3±1.1,28.41S×71.12W,h24km±7km,ML4.2*
ISCJB ***22*** *01:54:04.5±0.6,28.28S±0.04×71.0W±0.1,h47km,mb4.1/8, MS3.4/3,Error ellipse: s-maj=13.6km s-min=4.6km az=171.0*
IDC ***22*** *01:54:06.0±0.7,28.36S×71.04W,h45km±5km,mb4.0/7, mb1 4.0/11,mb1mx3.9/20,mbtmp4.1/11,ML3.9/4,MS3.3/6, Ms1 3.3/6,ms1mx3.1/19,Error ellipse: s-maj=19.0km s-min=10.6km az=74.0*
NEIC ***22*** *01:54:05.0,28.50S×70.86W,h52km,mb4.2/3,After GUC. NEIC Felt [III] at Copiapo, Tierra Amarilla and Vallenar; [II] at Coquimbo, La Higuera and La Serena.*

ISC 22 01:54:05.8±0.6,28.34S±0.04×71.0W±0.1,h47km,n41, σ1§75/43,mb4.1/8,MS3.5/3,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.71**	**161**	*e*Pn	**Pn**	**01 54 18.2**	**-1.6**
LCO				*e*S	**Sn**	**01 54 27.4**	**-2.5**
LCO	**Las Campanas**	**0.71**	**161**	*i* P	**Pn**	**01 54 18.1**	**-1.6**
LCO				*i* S	**Sn**	**01 54 27.8**	**-2.2**
RTLL	**Cerro Villicun**	**3.69**	**145**	*i* P	**Pn**	**01 55 02.5**	**+2.2**
RTLS	**Leoncito**	**3.74**	**158**	*i* P	**Pn**	**01 55 03.7**	**+2.4**
CFAA	**Coronel Fontan**	**4.03**	**145**	P	**Pn**	**01 55 06.3**	**+1.4**
	5.8nm,0.3s,baz=328,slow=8.2,SNR=270						
CFAA				S	**Sn**	**01 55 53.9**	**+2.9**
	14nm,0.3s,baz=156,slow=12,SNR=11						
CFAA				LR	LR	01 56 35.1	
	comp=Z,11nm,19.8s,baz=312,slow=37						
CFAA	**Coronel Fontan**	**4.03**	**145**	*i* P	**Pn**	**01 55 06.4**	**+1.4**
RTCV	**Cerro Valdivia**	**4.10**	**150**	*i* P	**Pn**	**01 55 07.4**	**+1.5**
AUSP	**Uspallata**	**4.11**	**161**	*i* P	**Pn**	**01 55 08.9**	**+2.6**
ARCO	**CERRO ARCO**	**4.82**	**159**	*i* P	**Pn**	**01 55 18.0**	**+2.0**
ARCO				*i* S	**Sn**	**01 56 14.3**	**+3.7**
ARCO				AML	AML	01 56 16.1	
	comp=Z,184nm,0.5s						
AAGR	**Agrelo**	**5.08**	**159**	*i* P	**Pn**	**01 55 20.9**	**+1.5**
LVC	**Limon Verde**	**6.00**	**19**	P	**Pn**	**01 55 32.9**	**+0.7**
	comp=Z,245nm,0.3s,baz=162,slow=10,SNR=63						
LVC				S	**Sn**	**01 56 42.4**	**+2.7**
	comp=Z,660nm,0.3s,baz=207,slow=13,SNR=3.3						
LVC				LR	LR	01 57 57.2	
	comp=Z,907nm,19.3s,baz=217,slow=38						
LVC	**Limon Verde**	**6.00**	**19**	*e*Pn	**Pn**	**01 55 32.9**	**+0.7**
LVC				*e*S	**Sn**	**01 56 34.7**	**-5.0**
TRQA	**Tornquist**	**12.27**	**145**	*e*Pn	**Pn**	**01 56 55.7**	**-2.1**
TRQA				*e*S	**Sn**	**01 59 12.6**	**-0.5**
LPAZ	**La Paz**	**12.27**	**13**	P	**Pn**	**01 56 57.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=213,slow=5.6,SNR=16						
LPAZ	**La Paz**	**12.27**	**13**	*e*Pn	**Pn**	**01 56 57.7**	**-0.8**
CPUP	**Villa Florida**	**12.29**	**84**	P	**Pn**	**01 56 57.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=254,slow=13,SNR=16						
CPUP				LR	LR	02 02 20.2	
	comp=Z,1μm,19.5s,baz=254,slow=40						
PLCA	**Paso Flores**	**12.37**	**179**	P	**Pn**	**01 56 58.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=343,slow=11,SNR=2.3						
PLCA				LR	LR	02 02 31.1	
	comp=Z,85nm,18.6s,baz=36,slow=41						
SIV	**San Ignacio**	**15.32**	**39**	P	**Pn**	**01 57 37.1**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=242,slow=13,SNR=5.0						
SIV				LR	LR	02 03 02.9	
	comp=Z,23nm,18.1s,baz=288,slow=35						
SAML	**Samuel**	**20.63**	**22**	*e*P	Pn	01 58 42.8	-1.3
	comp=Z,4.8nm,1.0s						
BDFB	**Brasilia**	**24.70**	**64**	P	**P**	**01 59 22.6**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=221,slow=8.6,SNR=9.1						
BDFB				LR	LR	02 11 05.0	
	comp=Z,55nm,19.8s,baz=257,slow=41						
USHA	**Ushuaia**	**26.54**	**177**	P	**P**	**01 59 37.5**	**-1.3**
	comp=Z,12nm,1.1s,baz=315,slow=8.6,SNR=2.3						
USHA				pP	**pP**	**01 59 49.9**	**-1.2**
	comp=Z,9.8nm,0.7s,baz=354,slow=8.7,SNR=2.9						
RPN	**Rapa Nui**	**33.89**	**263**	LR	LR	02 10 27.5	
	comp=Z,104nm,20.6s,baz=69,slow=29						
SDV	**Santo Domingo**	**37.00**	**1**	P	**P**	**02 01 11.1**	**-0.1**
	comp=Z,1.4nm,0.5s						
H06E1	**SOCORRO T-PHAS**	**50.72**	**316**	T	T	03 09 56.3	
	SNR=13						
QSPA	**South Pole Qui**	**61.88**	**180**	*e*P	**P**	**02 04 19.8**	**-0.4**
QSPA				*e*		02 04 32.3	
TXAR	**Lajitas Array**	**65.32**	**329**	P	**P**	**02 04 44.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=154,slow=8.7,SNR=5.9						
DBIC	**Dimbokro**	**72.54**	**72**	P	**P**	**02 05 28.5**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=229,slow=7.2,SNR=8.3						
DBIC	**Dimbokro**	**72.54**	**72**	*e*P	**P**	**02 05 28.4**	**+0.2**
	comp=Z,2.5nm,0.5s						
PDAR	**Pinedale Array**	**79.17**	**332**	P	**P**	**02 06 07.0**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=126,slow=9.0,SNR=7.0						
ULM	**Lac du Bonnet**	**81.30**	**344**	P	**P**	**02 06 16.6**	**0.0**
	comp=Z,0.6nm,0.4s,baz=198,slow=8.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**81.42**	**70**	P	**P**	**02 06 18.8**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=270,slow=5.0,SNR=67						
TORD				pP	**pP**	**02 06 31.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=267,slow=4.9,SNR=3.9						
KEST	**Kesra**	**98.85**	**54**	LR	LR	02 55 35.2	
	comp=Z,17nm,18.3s,baz=279,slow=37						
WRA	**Warramunga Arr**	**126.13**	**210**	PKP	**PKPdf**	**02 13 03.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=157,slow=1.8,SNR=10						
WRA				pPKP	**pPKPdf**	**02 13 17.0**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=156,slow=1.7,SNR=5.8						
H11S2	**WAKE ISLAND Hyd**	**126.60**	**273**	T	T	04 32 14.2	
	baz=112,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hyd**	**126.61**	**273**	T	T	04 32 21.2	
	baz=112,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hyd**	**126.61**	**273**	T	T	04 32 21.6	
	baz=112,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hyd**	**126.86**	**274**	T	T	04 32 36.3	
	baz=112,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hyd**	**126.88**	**274**	T	T	04 32 37.4	
	baz=112,slow=75,SNR=6.2						
H11N2	**WAKE ISLAND Hyd**	**126.88**	**274**	T	T	04 32 37.6	
	baz=112,slow=75,SNR=11						
ZALV	**Zalesovo Beam**	**148.88**	**28**	PKPbc	**PKPbc**	**02 13 48.7**	**+0.9**
	comp=Z,4.1nm,0.4s,baz=295,slow=3.1,SNR=17						
ZALV				pPKPbc	**pPKPbc**	**02 14 02.9**	**+0.7**
	comp=Z,4.5nm,0.5s,baz=302,slow=3.3,SNR=7.9						
MKAR	**Makanchi Array**	**152.12**	**41**	PKPbc	**PKPbc**	**02 13 56.2**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=300,slow=2.8,SNR=17						
MKAR				pPKPbc	**pPKPbc**	**02 14 09.6**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=346,slow=1.5,SNR=5.8						

BJI ***22*** *01:58:07.3,4.61S×145.09E,h129km,mB4.9/33,mb4.7/41*
ISCJB ***22*** *01:58:07.4±0.7,4.56S±0.03×144.85E±0.04,h119km±6km, mb4.7/39,Error ellipse: s-maj=6.8km s-min=4.2km az=166.2*
GCMT ***22*** *01:58:08.7±0.3,4.67S×144.79E,h141km±3km,MW5.0/72, Moment Tensor Solution. s37,c43; s72,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.45±.15; Mθθ-1.77±.17; Mφφ 1.32±.20; Mrθ-2.20±.10; Mθφ0.77±.14; Mφr-2.18±.13; Best double couple: Mo3.52100×10¹⁶ NP1:♮b235.00000°,δ87.00000°,λ60.00000°. NP2: φs139.00000°,δ30.00000°,λ173.00000°. Principal axes: T 3.8500, Plg41.0000°, Azm117.0000°; N -0.6540, Plg30.0000°, Azm237.0000°; P -3.1920, Plg35.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *01:58:08.7±0.8,4.60S×144.81E,h118km±7km,mb4.7/10 Error ellipse: s-maj=8.2km s-min=4.7km az=76.0*
IDC ***22*** *01:58:09.6±0.5,4.64S×144.70E,h125km±4km,mb4.4/26, mb1 4.4/29,mb1mx4.4/32,mbtmp4.7/29,MS3.5/8,*

Ms1 3.5/8,ms1mx3.2/21,Error ellipse: s-maj=10.6km s-min=7.0km az=89.0
DJA ***22*** *01:58:10.8±1.0,4.5S±9.9×144.5E±1.1,h127km±7km,M5.0/17, mb5.0/17,mB5.3/8,MLv5.2/3,Mw(mB)4.7/8,Mwp6.0/1*

ISC 22 01:58:10.1±0.4,4.66S±0.04×144.78E±0.05,h130km±2km, h130km:pP-P,n124,σ1§50/160,mb4.6/37,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.67**	**45**	P	**Pn**	**01 59 06.2**	**+0.7**
	baz=3.6,SNR=13						
JAY	**Jayapura**	**4.59**	**298**	P	**Pn**	**01 59 17.3**	**-0.5**
JAY	**Jayapura**	**4.59**	**298**	P	**Pn**	**01 59 17.0**	**-0.8**
	35nm,0.3s,baz=162,slow=9.1,SNR=66						
JAY				S	**Sn**	**02 00 08.2**	**-2.2**
	20nm,0.3s,baz=0.9,slow=4.6,SNR=5.7						
JAY				LR	LR	02 01 10.4	
	comp=Z,768nm,20.0s,baz=136,slow=40						
GENI	**Genyem**	**5.04**	**294**	P	**Pn**	**01 59 23.9**	**+0.1**
	488nm,1.0s,7μm4.1nm						
PMG	**Port Moresby**	**5.27**	**153**	P	**Pn**	**01 59 25.9**	**-1.0**
	baz=5.3,SNR=32						
PMG	**Port Moresby**	**5.27**	**153**	*e*Pn	**Pn**	**01 59 25.8**	**-1.1**
PMG				*e*S	**Sn**	**02 00 24.9**	**-1.9**
SMPI	**Sarmi**	**6.61**	**293**	P	**Pn**	**01 59 43.6**	**-1.3**
	147nm,1.1s,2μm0.9nm						
COEN	**Coen**	**9.37**	**190**	P	**Pn**	**02 00 23.8**	**+1.7**
	baz=9.5,SNR=84						
FAKI	**Fak Fak**	**12.62**	**277**	P	**Pn**	**02 01 05.7**	**+0.5**
	39nm,0.9s						
FAKI	**Fak Fak**	**12.62**	**277**	P	**Pn**	**02 01 04.4**	**-0.8**
	baz=13,SNR=20						
FAKI				S	**Sn**	**02 03 19.4**	**-5.1**
	baz=13,SNR=5.3						
SWI	**Sorong**	**14.02**	**285**	P	**Pn**	**02 01 22.6**	**-0.6**
	115nm,0.6s,1μm38μm						
SWI	**Sorong**	**14.02**	**285**	P	**Pn**	**02 01 24.4**	**+1.2**
	baz=14,SNR=6.0						
KDU	**Kakadu**	**14.54**	**236**	P	**Pn**	**02 01 31.0**	**+1.2**
	baz=15,SNR=97						
CTA	**Charters Tower**	**15.40**	**175**	P	**P**	**02 01 42.5**	**+0.2**
	2.0nm,0.3s,baz=334,slow=11,SNR=7.3						
CTAO	**Charters Tower**	**15.40**	**175**	*e*Pn	**Pn**	**02 01 38.5**	**-2.0**
CTAO				*e*S	Sn	02 04 20.5	-11
MTN	**Manton Dam**	**15.74**	**238**	P	**P**	**02 01 45.9**	**-0.1**
	baz=16,SNR=14						
QIS	**Mount Isa**	**16.58**	**197**	P	**P**	**02 01 55.9**	**+0.5**
	baz=17,SNR=12						
NLAI	**Namlea**	**17.69**	**274**	P	**Pn**	**02 02 08.9**	**+0.3**
	69nm,0.7s						
LBMI	**Labuha**	**17.71**	**283**	P	Pn	02 02 22.3	+13
WRAB	**Tennant Creek**	**18.26**	**213**	P	**Pn**	**02 02 14.9**	**-0.4**
	297nm,1.0s,SNR=92						
WRAB	**Tennant Creek**	**18.26**	**213**	*e*Pn	**P**	**02 02 14.2**	**+0.4**
WRAB				*e*S	**S**	**02 05 33.0**	**-3.2**
WB2	**Warramunga Arr**	**18.27**	**213**	*e*Pn	**P**	**02 02 14.3**	**+0.4**
WB2				*e*S	**S**	**02 05 35.7**	**-0.7**
WRA	**Warramunga Arr**	**18.28**	**213**	P	**P**	**02 02 14.4**	**+0.4**
	4.6nm,0.3s,baz=37,slow=11,SNR=178						
WRA				S	**S**	**02 05 33.3**	**-3.2**
	baz=22,slow=24,SNR=5.6						
SANI	**Sanana**	**18.93**	**277**	P	**P**	**02 02 20.4**	**-0.8**
	32nm,1.3s						
KNRA	**Kununurra**	**19.17**	**234**	P	**P**	**02 02 24.0**	**+0.3**
	baz=19,SNR=16						
SOEI	**Soe**	**20.96**	**255**	P	Pn	02 02 45.4	-1.8
	194nm,1.1s,2μm						
SOEI	**Soe**	**20.96**	**255**	P	Pn	02 02 46.0	-1.3
	baz=21,SNR=8.7						
EIDS	**Eidsvold**	**21.46**	**164**	P	**P**	**02 02 50.0**	**+1.7**
	baz=22,SNR=23						
ASAR	**Alice Springs**	**21.61**	**208**	P	**P**	**02 02 50.5**	**+0.5**
	13nm,0.9s,baz=37,slow=8.9,SNR=51						
ASAR				S	**S**	**02 06 40.7**	**-0.8**
	10.0nm,1.0s,baz=30,slow=20,SNR=7.7						
BATI	**Baumata**	**21.64**	**254**	P	**P**	**02 02 50.9**	**+0.5**
	130nm,0.5s,baz=289,slow=0.5,SNR=21						
QLP	**Quilpie**	**21.80**	**181**	P	**P**	**02 02 53.1**	**+1.2**
	baz=22,SNR=29						
RMQ	**Roma**	**22.03**	**170**	P	**P**	**02 02 56.1**	**+1.8**
	baz=22,SNR=35						
MMRI	**Maumere**	**22.73**	**259**	P	**P**	**02 03 00.2**	**-1.1**
	100nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.99**	**233**	P	**P**	**02 03 00.0**	**-3.8**
	baz=23,SNR=5.3						
MRSI	**Marisa**	**23.38**	**282**	P	**P**	**02 03 07.9**	**+0.5**
	70nm,0.6s,1μm						
APSI	**Ampana**	**23.39**	**278**	P	**P**	**02 03 07.8**	**+0.2**
WSI	**Waggapu**	**24.78**	**257**	P	**P**	**02 03 20.6**	**+0.4**
	baz=25,SNR=7.2						
WRKA	**Warakurna**	**25.71**	**216**	P	**P**	**02 03 29.0**	**+0.5**
	baz=26,SNR=111						
CMSA	**Cobar Meteorol**	**26.75**	**178**	P	**P**	**02 03 39.1**	**+1.4**
	baz=27,SNR=24						
DZM	**Mont Dzumac**	**27.20**	**131**	*e*P	**P**	**02 03 42.4**	**+0.4**
	78nm,1.2s						
DZM				*e*LR	LR	02 10 38.2	
	472nm,30.9s						
DZM	**Mont Dzumac**	**27.20**	**131**	P	**P**	**02 03 41.0**	**-1.0**
	16nm,0.5s,baz=248,slow=9.6,SNR=14						
DZM				LR	LR	02 13 01.3	
	comp=Z,255nm,19.5s,baz=347,slow=33						
STKA	**Stephens Creek**	**27.24**	**186**	P	**P**	**02 03 42.8**	**+0.8**
	16nm,0.6s,baz=353,slow=8.3,SNR=80						
STKA				LR	LR	02 15 11.6	
	comp=Z,209nm,20.0s,baz=11,slow=38						
STKA	**Stephens Creek**	**27.24**	**186**	P	**P**	**02 03 42.9**	**+0.8**
	baz=27,SNR=63						
BBOO	**Buckleboo**	**29.17**	**195**	P	**P**	**02 03 59.9**	**+0.7**
	baz=29,SNR=88						
YNG	**Young**	**29.68**	**174**	P	**P**	**02 04 05.5**	**+1.7**
	baz=30,SNR=6.3						
FORT	**Forrest**	**30.38**	**209**	P	**P**	**02 04 10.9**	**+1.0**
	baz=30,SNR=12						
CNB	**Canberra Magne**	**30.80**	**173**	P	**P**	**02 04 15.7**	**+2.1**
	baz=31,SNR=11						
CBIJ	**Chichi jima**	**31.67**	**356**	P	**P**	**02 04 19.3**	**-2.0**
JCJ	**Chichijima**	**31.67**	**356**	P	**P**	**02 04 19.3**	**-2.0**
	166nm,0.4s,baz=236,slow=1.5,SNR=40						
TOO	**Toolangi**	**32.76**	**179**	P	**P**	**02 04 32.8**	**+2.0**
	baz=33,SNR=7.5						
MEEK	**Meekatharra**	**33.20**	**226**	P	**P**	**02 04 35.2**	**+0.5**
	baz=33,SNR=13						
KMBL	**Kambalda**	**34.18**	**216**	P	**P**	**02 04 44.2**	**+1.0**
	baz=34,SNR=7.0						
KSM	**Kuching**	**34.97**	**279**	P	**P**	**02 04 50.4**	**+0.2**
	baz=35,SNR=4.0						
MORW	**Morawa**	**36.47**	**225**	P	**P**	**02 05 04.0**	**+1.2**
	baz=37,SNR=6.8						
BLDU	**Ballidu**	**36.95**	**222**	P	**P**	**02 05 07.1**	**+0.3**
	baz=37,SNR=9.9						
YHNB	**Yeheng**	**36.99**	**323**	*e*P	**P**	**02 05 07.5**	**+0.2**
	16nm,0.7s						
MOO	**Moorlands**	**37.68**	**177**	P	**P**	**02 05 15.0**	**+2.2**
	baz=38,SNR=5.1						
NWAO	**Narrogin (SRO)**	**38.10**	**219**	P	**P**	**02 05 16.8**	**+0.3**
	6.7nm,0.7s,baz=40,slow=9.7,SNR=2.8						
JNU	**Nakatsue**	**39.82**	**342**	P	**P**	**02 05 29.8**	**-1.0**
	5.8nm,0.4s,baz=234,slow=8.7,SNR=2.1						
MJAR	**Matsushiro Arr**	**41.45**	**352**	P	**P**	**02 05 42.7**	**-1.3**
	4.8nm,0.5s,baz=254,slow=1.2,SNR=18						
MAJO	**Matsushiro**	**41.45**	**352**	*e*P	**P**	**02 05 42.7**	**-1.4**
MAT	**Matsushiro**	**41.45**	**352**	P	**P**	**02 05 42.6**	**-1.5**
QIZ	**Qiongzhong**	**41.68**	**305**	P	**P**	**02 05 46.4**	**+0.2**
QIZ				pP	**pP**	**02 06 15.1**	**-0.4**
QIZ				sP	**sP**	**02 06 30.6**	**+0.4**
QIZ				PP	**PP**	**02 07 25.3**	**0.0**
QIZ				S	**S**	**02 11 53.5**	**0.0**
QIZ				sS	**sS**	**02 12 44.9**	**+0.6**
QIZ				ScS	**ScS**	**02 15 35.8**	**-0.5**
QIZ				PMZ			
	180nm,3.2s						
NJ2	**Nanjing**	**44.06**	**328**	*e*P	**P**	**02 06 04.3**	**-0.9**
NJ2				PMZ			
	30nm,0.7s						
URZ	**Urewera**	**44.54**	**143**	P	**P**	**02 06 10.1**	**+1.1**
	14nm,0.4s,baz=255,slow=7.5,SNR=20						
KSRS	**Korea Array**	**44.74**	**341**	P	**P**	**02 06 10.3**	**-0.2**
	3.6nm,0.5s,baz=156,slow=9.8,SNR=16						
KSRS				pP	**pP**	**02 06 39.1**	**-1.0**
	16nm,0.9s,baz=155,slow=8.3,SNR=9.5						
KSRS				LR	LR	02 24 55.2	
	comp=Z,35nm,19.0s,baz=171,slow=36						
KSAR	**Wonju Array Be**	**44.75**	**341**	P	**P**	**02 06 10.3**	**-0.2**
KSAR				pP	**pP**	**02 06 39.1**	**-1.1**
RPZ	**Rata Peaks**	**45.28**	**153**	P	**P**	**02 06 15.9**	**+1.1**
	88nm,0.7s,baz=337,slow=1.8,SNR=50						
WHN	**Wuhan**	**45.52**	**322**	P	**P**	**02 06 14.8**	**-2.0**
PSI	**Prapat**	**46.41**	**278**	P	**P**	**02 06 23.4**	**-0.8**
	4.5nm,0.8s,baz=90,slow=14,SNR=4.9						
GYA	**Guiyang**	**48.15**	**312**	P	**P**	**02 06 39.3**	**+1.8**
GYA				pP	**pP**	**02 07 10.8**	**+3.4**
GYA				sP	**sP**	**02 07 25.4**	**+3.4**
GYA				PcP	**PcP**	**02 08 05.0**	**+1.9**
GYA				PP	**PP**	**02 08 32.5**	**+1.5**
GYA				ScP	**ScP**	**02 11 45.6**	**-0.1**
GYA				S	**S**	**02 13 27.0**	**+0.2**
GYA				sS	**sS**	**02 14 19.5**	**+0.9**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,5.0s						
ASAJ	**Asahikawa**	**48.59**	**358**	P	**P**	**02 06 41.0**	**+0.5**
	1.6nm,0.3s,baz=215,slow=12,SNR=5.6						
USRK	**Ussuriysk Ar.**	**49.98**	**348**	P	**P**	**02 06 50.6**	**-0.3**
	4.6nm,0.5s,baz=163,slow=7.8,SNR=21						
USRK				pP	**pP**	**02 07 19.7**	**-1.4**
	15nm,0.8s,baz=170,slow=7.8,SNR=14						
CMAR	**Chiang Mai Arr**	**50.67**	**298**	P	**P**	**02 06 56.7**	**0.0**
	2.5nm,0.5s,baz=121,slow=5.6,SNR=11						
CMAR				pP	**pP**	**02 07 24.6**	**-2.3**
	5.3nm,0.7s,baz=124,slow=6.1,SNR=5.0						
MDJ	**Mudanjiang**	**50.91**	**346**	P	**P**	**02 06 59.8**	**+1.8**
MDJ				PMZ			
	5.0nm,0.8s						
MDJ				PMZ			
	80nm,5.2s						
XAN	**Xi'an**	**51.26**	**321**	P	**P**	**02 06 59.8**	**-1.0**
XAN				pP	**pP**	**02 07 29.4**	**-1.7**
XAN				sP	**sP**	**02 07 44.3**	**-1.3**
XAN				PMZ			
	2.0nm,1.4s						
XAN				PMZ			
	21nm,5.4s						
XAN				LN			
	75nm,17.4s						
XAN				LZ			
	40nm,15.3s						
CN2	**Changchun**	**51.29**	**342**	*e*P	**P**	**02 07 00.5**	**-0.3**
CN2				*e*sP	**sP**	**02 07 48.9**	**+3.3**
CN2				*e*S	**S**	**02 14 07.8**	**-2.0**
BJI	**Beijing**	**51.68**	**332**	P	**P**	**02 07 02.8**	**-0.9**
BJI				PMZ			
	19nm,1.3s						
CD2	**Chengdu**	**52.76**	**315**	P	**P**	**02 07 13.3**	**+1.2**
CD2				pP	**pP**	**02 07 44.3**	**+1.8**
CD2				sP	**sP**	**02 07 59.3**	**+2.4**
CD2				PP	**PP**	**02 09 16.3**	**+3.5**
CD2				S	**S**	**02 14 30.0**	**-0.5**
CD2				sS	**sS**	**02 15 23.6**	**+0.5**
CD2				SS	**SS**	**02 18 09.6**	**-1.5**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	160nm,5.4s						
CD2				LE			
	260nm,16.6s						
CD2				LZ			
	190nm,16.6s						
HHC	**Hu-ho-hao-te**	**54.55**	**329**	*e*P	**P**	**02 07 25.8**	**+0.9**
HHC				PP	**PP**	**02 09 29.4**	**+0.7**
HHC				S	S	02 15 02.8	+8.4
HHC				PMZ			
	24nm,1.2s						
HHC				PMZ			
	120nm,6.2s						
HHC				LN			
	140nm,14.9s						
HHC				LE			
	180nm,14.9s						
HHC				LZ			
	97nm,16.2s						
LZH	**Lanzhou**	**55.76**	**320**	*e*P	**P**	**02 07 36.8**	**+3.0**
LZH				pP	**pP**	**02 08 05.9**	**+1.3**
LZH				sP	**sP**	**02 08 20.8**	**+1.9**
LZH				PMZ			
	19nm,1.0s						
PETK	**Petropavlovsk-**	**58.58**	**9**	P	**P**	**02 07 53.2**	**+0.1**
	4.4nm,0.5s,baz=175,slow=9.0,SNR=11						
PETK				pP	**pP**	**02 08 22.9**	**-1.2**
	5.0nm,0.6s,baz=178,slow=8.9,SNR=6.0						
PETK				LR	LR	02 29 34.6	
	comp=Z,10nm,21.4s,baz=160,slow=32						
GTA	**Gaotai**	**60.31**	**321**	*e*P	P	02 08 09.0	+3.6
GTA				pP	pP	02 08 37.1	+0.5
GTA				sP	sP	02 08 52.1	+1.3
GTA				S	S	02 16 15.8	+6.0
GTA				sS	sS	02 17 08.8	+5.2
GTA				PMZ			
	5.0nm,0.9s						
GTA				PMZ			
	110nm,5.9s						
GTA				LN			
	140nm,16.6s						
GTA				LE			
	120nm,15.2s						
GTA				LZ			
	88nm,15.2s						
ULN	**Ulaanbaatar**	**61.89**	**332**	*e*P	**P**	**02 08 15.6**	**-0.4**
	2.1nm,0.6s						
SONM	**Songino Array**	**62.17**	**332**	P	**P**	**02 08 17.5**	**-0.3**
	3.2nm,1.1s,baz=155,slow=7.0,SNR=12			

193nm,33.2s

EKS2	**Erkin-Say**	**79.35**	**315**	*e*P	**P**	**02 10 01.8**	**-0.1**
MAW	**Mawson**	**82.63**	**202**	P	**P**	**02 10 18.4**	**-0.1**
	8.2nm,0.7s,baz=88,slow=7.7,SNR=5.5						
MCK	**McKinley**	**83.91**	**24**	*e*P	**P**	**02 10 24.3**	**-0.9**
	3.3nm,0.4s						
BVAR	**Borovoye Array**	**84.39**	**324**	P	**P**	**02 10 27.8**	**0.0**
	4.7nm,0.5s,baz=116,slow=7.3,SNR=38						
BRVK	**Borovoye**	**84.46**	**324**	*e*P	**P**	**02 10 28.0**	**-0.2**
COLA	**College**	**84.79**	**23**	*e*P	**P**	**02 10 28.7**	**-0.9**
	4.1nm,0.6s						
ILAR	**Eielson Array**	**85.14**	**24**	P	**P**	**02 10 29.6**	**-1.7**
	4.8nm,0.6s,baz=254,slow=4.9,SNR=82						
ILAR				pP	**pP**	**02 11 01.5**	**-3.0**
	3.0nm,0.7s,baz=253,slow=5.1,SNR=5.3						
ILAR				LR	LR	02 44 07.5	
	comp=Z,15nm,21.5s,baz=357,slow=32						
QSPA	**South Pole Qui**	**85.30**	**180**	*e*P	**P**	**02 10 32.1**	**-0.2**
	41nm,0.8s						
INK	**Inuvik**	**91.23**	**22**	P	**P**	**02 10 59.7**	**-0.5**
	1.1nm,0.6s,baz=284,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**99.02**	**28**	P	**Pdif**	**02 11 35.6**	**-0.2**
	0.1nm,0.4s,baz=285,slow=5.1,SNR=3.4						
TXAR	**Lajitas Array**	**111.05**	**60**	PKKPab	PKKPab	02 27 37.9	+1.4
	0.5nm,0.8s,baz=118,slow=7.6,SNR=5.8						
STHS	**Stebnicka Huta**	**114.88**	**323**	PDIF	**Pdif**	**02 12 48.4**	**+1.6**
SCHQ	**Schefferville**	**123.85**	**21**	PKP	**PKPdf**	**02 16 53.5**	**+0.8**
	1.4nm,0.8s,baz=243,slow=2.3,SNR=3.0						
KEST	**Kesra**	**128.66**	**313**	PKP	**PKPdf**	**02 17 03.0**	**+0.4**
	0.9nm,0.8s,baz=329,slow=5.9,SNR=13						
ROSC	**El Rosal**	**141.03**	**88**	PKhKP	PKPpre	02 17 21.0	
	6.3nm,0.5s,baz=94,slow=15,SNR=2.6						
LPAZ	**La Paz**	**141.37**	**123**	PKhKP	PKPpre	02 17 23.0	
	0.5nm,0.4s,baz=61,slow=3.4,SNR=3.9						
CPUP	**Villa Florida**	**142.48**	**146**	PKhKP	PKPpre	02 17 23.6	
	0.2nm,0.5s,baz=174,slow=6.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**142.61**	**286**	PKhKP	PKPpre	02 17 23.4	
	0.2nm,0.4s,baz=73,slow=2.9,SNR=7.9						
TORD				SKPbc	**SKPbc**	**02 20 55.0**	**0.0**
	1.1nm,1.0s,baz=45,slow=0.8,SNR=4.1						
KIC	**Kosan Boka**	**149.61**	**275**	*e*P	pPKPbc	02 18 18.4	-1.9
	26nm,1.0s						
DBIC	**Dimbokro**	**149.72**	**275**	PKPbc	**PKPbc**	**02 17 45.4**	**-0.3**
	3.6nm,0.9s,baz=135,slow=1.4,SNR=3.1						
DBIC				pPKPbc	**pPKPbc**	**02 18 15.7**	**-4.8**
	1.8nm,0.4s,baz=64,slow=4.5,SNR=4.5						
TIC	**Toumodi**	**149.88**	**275**	*e*P	pPKPbc	02 18 17.0	-3.9
	12nm,0.5s						
LIC	**Lamto**	**149.90**	**274**	*e*P	pPKPbc	02 18 16.5	-4.5
	38nm,1.0s						
BDFB	**Brasilia**	**156.18**	**148**	PKPab	**PKPab**	**02 18 18.6**	**0.0**
	3.6nm,0.8s,baz=210,slow=3.3,SNR=7.1						

TIR **22** *02:09:56.4, 41.20N×20.22E, h8km, ML2.7*
ATH **22** *02:09:58.3, 41.33N×20.16E, h7km±1km, MD3.5/15*
BEO **22** *02:09:59.4±0.8, 41.08N×20.25E, h0km, ML2.4/4*
THE **22** *02:10:00.6, 41.20N×20.22E, h0km±4km, ML2.4/3, Error ellipse: s-maj=4.6km s-min=1.2km az=27.0*
SKO **22** *02:10:00.9, 41.15N×20.20E, h6km, M2.0, ML2.4*
PDG **22** *02:10:00.9±0.6, 41.18N×20.22E, h4km, ML2.8/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
CSEM **22** *02:10:01.1±0.2, 41.21N×20.21E, h5km, ML2.4, Error ellipse: s-maj=6.0km s-min=3.2km az=53.0*

ISC 22 02:09:59.8±1.0, **41.29N**±0.02×**20.21E**±0.02, **h7**km±9km, **n125**, σ1°39/159, **8C-12D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.27**	**284**	P		**Pg**	**02 10 05.8**	**+0.6**
TIR				S		**Sg**	**02 10 10.8**	**+2.1**
TIR	**Tirane**	**0.27**	**284**	*e*Pg		**Pg**	**02 10 05.7**	**+0.6**
TIR				*e*Sg		Sg	02 10 12.6	+3.9
TIR	**Tirane**	**0.27**	**284**	*e*Pg		**Pg**	**02 10 05.7**	**+0.6**
TIR				*e*Sg		Sg	02 10 12.6	+3.9
PHP	**Peshkopia**	**0.43**	**23**	*i* PG		**Pn**	**02 10 10.4**	**-2.2**
PHP				*i* SG		**Sb**	**02 10 19.1**	**+2.5**
PHP	**Peshkopia**	**0.43**	**23**	P		**Pn**	**02 10 10.1**	**-2.5**
PHP				S		**Sb**	**02 10 18.8**	**+2.2**
PHP	**Peshkopia**	**0.43**	**23**	*i* Pg		**Pn**	**02 10 10.4**	**-2.2**
PHP				S		**Sb**	**02 10 18.8**	**+2.2**
PHP				*i* Sg		**Sb**	**02 10 19.1**	**+2.5**
KBN	**Korca**	**0.79**	**146**	*i* PG		**Pn**	**02 10 17.2**	**-0.2**
KBN				*i* SG		**Sn**	**02 10 31.2**	**+1.7**
KBN	**Korca**	**0.79**	**146**	*i* Pg		**Pn**	**02 10 17.2**	**-0.2**
KBN				*i* Sg		**Sn**	**02 10 31.2**	**+1.7**
PUK	**Puka**	**0.79**	**343**	*i* PG		**Pb**	**02 10 14.3**	**-1.7**
PUK				*i* SG		**Sb**	**02 10 25.1**	**-2.0**
PUK	**Puka**	**0.79**	**343**	*i* Pg		**Pb**	**02 10 14.3**	**-1.7**
ULC	**Ulcinj**	**0.99**	**313**	⇓*i* Pg		**Pn**	**02 10 19.5**	**-0.7**
ULC				*e*Sg		Sn	02 10 37.8	+3.3
ULC	**Ulcinj**	**0.99**	**313**	⇓*i* Pg		**Pn**	**02 10 19.5**	**-0.7**
ULC				*e*Sg		Sn	02 10 37.8	+3.3
FNA	**Florina**	**1.01**	**119**	*i* PG		**Pg**	**02 10 18.8**	**-0.5**
FNA				*i* SG		Sg	02 10 22.4	-10
FNA	**Florina**	**1.01**	**119**	P		**Pg**	**02 10 18.0**	**-1.2**
FNA				S		**Sb**	**02 10 33.2**	**0.0**
FNA	**Florina**	**1.01**	**119**	*e*PG		**Pg**	**02 10 18.7**	**-0.5**
FNA				*e*SG		**Sg**	**02 10 32.8**	**+0.4**
FNA	**Florina**	**1.01**	**119**	*e*PG		**Pg**	**02 10 18.3**	**-0.9**
FNA				*e*SB		**Sb**	**02 10 33.5**	**+0.3**
FNA	**Florina**	**1.01**	**119**	*i* Pg		**Pg**	**02 10 18.8**	**-0.5**
FNA				*e*Sg		**Sg**	**02 10 32.8**	**+0.4**
FNA				S		**Sb**	**02 10 33.2**	**0.0**
FNA				*e*Sb		**Sb**	**02 10 33.5**	**+0.3**
NEST	**Nestorio**	**1.08**	**144**	P		**Pg**	**02 10 18.6**	**-1.8**
NEST				S		**Sg**	**02 10 34.6**	**+0.2**
NEST	**Nestorio**	**1.08**	**144**	*e*PB		**Pg**	**02 10 19.7**	**-0.7**
NEST				*e*SB		**Sg**	**02 10 34.6**	**+0.2**
NEST	**Nestorio**	**1.08**	**144**	*e*Pb		**Pg**	**02 10 19.7**	**-0.7**
NEST				S		**Sg**	**02 10 34.6**	**+0.2**
SKO	**Skopje**	**1.15**	**53**	*e*Pg		**Pn**	**02 10 22.6**	**+0.3**
SKO	**Skopje**	**1.15**	**53**	*e*Pg		**Pn**	**02 10 22.6**	**+0.3**
DRME	**Dracevica, Mon**	**1.19**	**320**	⇓*i* Pg		**Pn**	**02 10 22.8**	**0.0**
DRME				*e*Sg		Sn	02 10 44.6	+5.4
DRME	**Dracevica, Mon**	**1.19**	**320**	⇓*i* Pg		**Pn**	**02 10 22.8**	**0.0**
DRME				*e*Sg		Sn	02 10 44.6	+5.4
PVY	**Plav**	**1.32**	**352**	⇓*i* Pg		Pg	02 10 26.9	+1.7
PVY				*e*Sg		Sn	02 10 50.1	+7.3
PVY	**Plav**	**1.32**	**352**	⇓*i* Pg		Pg	02 10 26.9	+1.7
PDG	**Podgorica**	**1.35**	**328**	*e*Pg		**Pg**	**02 10 26.1**	**+0.4**
PDG				*e*Sg		Sn	02 10 48.4	+5.2
PDG	**Podgorica**	**1.35**	**328**	⇑*i* Pg		**Pg**	**02 10 26.1**	**+0.4**
PDG				*e*Sg		Sn	02 10 48.4	+5.2
TTG	**Podgorica**	**1.35**	**328**	⇑*i* Pg		**Pg**	**02 10 26.1**	**+0.4**
TTG				*e*Sg		Sn	02 10 50.3	+7.1
BUM	**Brajici-Budva**	**1.42**	**316**	⇓*i* Pg		**Pg**	**02 10 27.2**	**+0.3**
BUM				*e*Sg		Sg	02 10 52.4	+6.9
BUM	**Brajici-Budva**	**1.42**	**316**	⇓*i* Pg		**Pg**	**02 10 27.2**	**+0.3**
KZN	**Kozani**	**1.53**	**129**	*e*PG		**Pn**	**02 10 27.1**	**-0.6**
KZN				*e*SB		**Sg**	**02 10 50.5**	**+1.4**
KZN	**Kozani**	**1.53**	**129**	*e*Pg		**Pn**	**02 10 27.1**	**-0.6**
KZN				*e*Sb		**Sg**	**02 10 50.5**	**+1.4**
KEK	**Kerkira**	**1.60**	**192**	*e*PB		**Pg**	**02 10 29.4**	**-1.1**
KEK	**Kerkira**	**1.60**	**192**	*e*Pb		**Pg**	**02 10 29.4**	**-1.1**
BEY	**Berane**	**1.60**	**352**	⇓*i* Pn		Pg	02 10 33.2	+2.7
IVA	**Berane**	**1.60**	**352**	⇓*i* Pn		Pg	02 10 33.2	+2.7
IVA				*e*Sn		Sg	02 10 57.8	+6.5
GRG	**Griva**	**1.69**	**101**	*e*PG		**Pg**	**02 10 31.2**	**-0.9**
GRG	**Griva**	**1.69**	**101**	*e*PG		**Pb**	**02 10 30.6**	**-0.6**
GRG				*e*SG		**Sg**	**02 10 55.4**	**+1.5**
GRG	**Griva**	**1.69**	**101**	*e*Pg		**Pb**	**02 10 30.6**	**-0.6**
GRG				*e*Sg		**Sg**	**02 10 55.4**	**+1.5**
JAN	**Janina**	**1.70**	**163**	*e*PN		**Pb**	**02 10 31.3**	**-0.1**
JAN				*e*SN		**Sg**	**02 10 55.0**	**+0.7**
JAN	**Janina**	**1.70**	**163**	*e*Pn		**Pb**	**02 10 31.3**	**-0.1**
JAN				*e*Sn		**Sg**	**02 10 55.0**	**+0.7**
HCY	**Herceg Novi**	**1.73**	**313**	⇓*i* Pn		**Pg**	**02 10 32.5**	**-0.5**
HCY				*e*Sn		Sg	02 11 00.1	+4.7
HCY	**Herceg Novi**	**1.73**	**313**	⇓*i* Pn		**Pg**	**02 10 32.5**	**-0.5**
IGT	**Igoumenitsa**	**1.75**	**177**	P		**Pb**	**02 10 30.8**	**-1.5**
IGT				S		**Sb**	**02 10 54.8**	**+0.3**
IGT	**Igoumenitsa**	**1.75**	**177**	*e*PG		**Pg**	**02 10 32.5**	**-0.9**
IGT	**Igoumenitsa**	**1.75**	**177**	*e*PG		**Pb**	**02 10 31.5**	**-0.8**
IGT				*e*SN		**Sg**	**02 10 56.5**	**+0.4**
IGT	**Igoumenitsa**	**1.75**	**177**	P		**Pb**	**02 10 30.8**	**-1.5**
IGT	**Igoumenitsa**	**1.75**	**177**	*e*Pg		**Pb**	**02 10 31.5**	**-0.8**
IGT				S		**Sb**	**02 10 54.8**	**+0.3**
IGT				*e*Sn		**Sg**	**02 10 56.5**	**+0.4**
NKME	**Niksic**	**1.75**	**328**	⇑*i* Pn		**Pg**	**02 10 33.4**	**0.0**
NKME				*e*Sn		Sg	02 11 00.8	+4.7
NKME	**Niksic**	**1.75**	**328**	⇑*i* Pn		**Pg**	**02 10 33.4**	**0.0**
NKY	**Niksic**	**1.78**	**330**	⇑*i* Pn		**Pg**	**02 10 34.1**	**+0.2**
NKY				*e*Sn		Sg	02 11 01.9	+5.0
NKY	**Niksic**	**1.78**	**330**	⇑*i* Pn		**Pg**	**02 10 34.1**	**+0.2**
BARS	**Barje**	**1.94**	**37**	*e*Pn		**Pg**	**02 10 35.3**	**-1.7**
SJES	**Sjenica**	**1.98**	**355**	*e*Pn		**Pg**	**02 10 36.6**	**-1.2**
TREB	**Trebinje**	**1.99**	**316**	*e*Pn		**Pg**	**02 10 37.3**	**-0.7**
TREB				*e*Sg		Sg	02 11 07.4	+3.5
TREB	**Trebinje**	**1.99**	**316**	*e*Pn		**Pg**	**02 10 37.3**	**-0.7**
KNT	**Kendrikon**	**2.03**	**93**	*e*PG		**Pb**	**02 10 35.9**	**-1.1**
KNT	**Kendrikon**	**2.03**	**93**	*e*PN		**Pb**	**02 10 34.9**	**-2.1**
KNT				*e*SN		**Sb**	**02 11 03.0**	**+0.5**
KNT	**Kendrikon**	**2.03**	**93**	*e*Pn		**Pb**	**02 10 34.9**	**-2.1**
KNT	**Kendrikon**	**2.03**	**93**	*e*Pg		**Pb**	**02 10 35.9**	**-1.1**
KNT				*e*Sn		**Sb**	**02 11 03.0**	**+0.5**
BRY	**Bratogost**	**2.04**	**323**	⇑*i* Pn		Pg	02 10 38.2	-0.7
BRY				*e*Sn		Sg	02 11 08.2	+2.8
BRY	**Bratogost**	**2.04**	**323**	⇑*i* Pn		**Pg**	**02 10 38.2**	**-0.7**
SELS	**Selova**	**2.05**	**19**	*e*Pn		**Pg**	**02 10 37.5**	**-1.5**
PLE	**Pljevlja**	**2.13**	**344**	*e*Pn		**Pg**	**02 10 40.4**	**-0.3**
PLE				*e*Sn		**Sg**	**02 11 10.2**	**+1.9**
PLE	**Pljevlja**	**2.13**	**344**	*e*Pn		**Pg**	**02 10 40.4**	**-0.3**
UPM	**Unac-Piva**	**2.15**	**334**	*e*Pn		**Pg**	**02 10 40.2**	**-0.8**
UPM				*e*Sn		**Sg**	**02 11 10.8**	**+2.0**
UPM	**Unac-Piva**	**2.15**	**334**	*e*Pn		**Pg**	**02 10 40.2**	**-0.8**
THL	**Klokotos Trika**	**2.20**	**141**	*e*PN		**Pb**	**02 10 38.2**	**-1.7**
THL				*e*SB		**Sb**	**02 11 06.4**	**-1.0**
THL	**Klokotos Trika**	**2.20**	**141**	*e*Pn		**Pb**	**02 10 38.2**	**-1.7**
THL				*e*Sb		**Sb**	**02 11 06.4**	**-1.0**
DSL	**Palaion Diasel**	**2.25**	**162**	*e*PN		**Pb**	**02 10 39.1**	**-1.7**
DSL				*e*SN		**Sb**	**02 11 08.7**	**-0.2**
DSL	**Palaion Diasel**	**2.25**	**162**	*e*Pn		**Pb**	**02 10 39.1**	**-1.7**
DSL				*e*Sn		**Sb**	**02 11 08.7**	**-0.2**
IVAS	**Ivanjica**	**2.29**	**359**	*e*Pn		**Pg**	**02 10 41.9**	**-1.8**
IVAS	**Ivanjica**	**2.29**	**359**	*e*Pn		**Pg**	**02 10 41.9**	**-1.8**
HORT	**Hortiatis**	**2.29**	**106**	*e*PG		**Pb**	**02 10 39.5**	**-2.0**
HORT	**Hortiatis**	**2.29**	**106**	*e*PN		**Pn**	**02 10 39.0**	**+0.9**
SOH	**Sokhos**	**2.42**	**100**	*e*PN		**Pn**	**02 10 40.7**	**+0.9**
SOH	**Sokhos**	**2.42**	**100**	*e*Pn		**Pn**	**02 10 40.7**	**+0.9**
STON	**Ston**	**2.45**	**311**	*e*Pn		**Pb**	**02 10 42.0**	**-2.2**
STON				Sn		**Sb**	**02 11 12.3**	**-2.3**
STON	**Ston**	**2.45**	**311**	*e*Pn		**Pb**	**02 10 42.2**	**-2.0**
STON	**Ston**	**2.45**	**311**	*e*Pn		**Pb**	**02 10 42.2**	**-2.0**
STON				Sn		**Sb**	**02 11 12.3**	**-2.3**
VTS	**Vitosha**	**2.59**	**59**	*e*Pg		**Pb**	**02 10 46.7**	**+0.1**
VTS	**Vitosha**	**2.59**	**59**	*e*Pg		**Pb**	**02 10 46.7**	**+0.1**
PLG	**Polygyros**	**2.62**	**109**	*e*PN		**Pb**	**02 10 44.8**	**-2.2**
PLG	**Polygyros**	**2.62**	**109**	*e*Pn		**Pb**	**02 10 44.8**	**-2.2**
EVR	**Evrytania**	**2.66**	**152**	*e*PN		**Pn**	**02 10 45.0**	**+1.8**
EVR	**Evrytania**	**2.66**	**152**	*e*Pn		**Pn**	**02 10 45.0**	**+1.8**
ZAPS	**Zavoj**	**2.68**	**41**	*e*Pn		**Pb**	**02 10 46.1**	**-2.0**
ZAPS	**Zavoj**	**2.68**	**41**	*e*Pn		**Pb**	**02 10 46.1**	**-2.0**
MAKR	**Makrakomi, Fth**	**2.70**	**146**	*e*PN		**Pb**	**02 10 46.3**	**-2.2**
MAKR				*e*SN		**Sn**	**02 11 18.8**	**+2.1**
NVR	**Nevrokopi**	**2.75**	**87**	*e*PN		**Pb**	**02 10 46.2**	**-3.1**
NVR	**Nevrokopi**	**2.75**	**87**	*e*Pn		**Pb**	**02 10 46.2**	**-3.1**
AGG	**Agios Georgios**	**2.78**	**144**	*e*PG		**Pn**	**02 10 45.8**	**+1.0**
AGG	**Agios Georgios**	**2.78**	**144**	*e*PB		**Pn**	**02 10 46.0**	**+1.2**
AGG				*e*SN		**Sb**	**02 11 21.7**	**-2.4**
AGG	**Agios Georgios**	**2.78**	**144**	*e*Pb		**Pn**	**02 10 46.0**	**+1.2**
AGG				*e*Sn		**Sb**	**02 11 21.7**	**-2.4**
PDO	**Prodromos**	**2.79**	**164**	*e*PB		**Pn**	**02 10 45.6**	**+0.8**
PDO	**Prodromos**	**2.79**	**164**	*e*Pb		**Pn**	**02 10 45.6**	**+0.8**
DIVS	**Divibare**	**2.82**	**357**	*e*Pn		**Pb**	**02 10 49.3**	**-1.2**
DIVS	**Divibare**	**2.82**	**357**	*e*Pn		**Pb**	**02 10 49.3**	**-1.2**
PAIG	**Paliouri**	**2.97**	**116**	*e*PN		**Pn**	**02 10 48.4**	**+1.1**
PAIG	**Paliouri**	**2.97**	**116**	*e*Pn		**Pn**	**02 10 48.4**	**+1.1**
XOR	**Xorichti**	**2.98**	**129**	*e*PN		**Pn**	**02 10 48.2**	**+0.7**
XOR	**Xorichti**	**2.98**	**129**	*e*Pn		**Pn**	**02 10 48.2**	**+0.7**
OUR	**Ouranopolis**	**3.01**	**107**	*e*PG		**Pn**	**02 10 50.0**	**+2.1**
OUR	**Ouranopolis**	**3.01**	**107**	*e*PN		**Pn**	**02 10 49.3**	**+1.4**
OUR	**Ouranopolis**	**3.01**	**107**	*e*Pn		**Pn**	**02 10 49.3**	**+1.4**
OUR	**Ouranopolis**	**3.01**	**107**	*e*Pg		**Pn**	**02 10 50.0**	**+2.1**
NEO	**Neokhori**	**3.03**	**130**	*e*PB		**Pn**	**02 10 50.2**	**+1.9**
NEO	**Neokhori**	**3.03**	**130**	*e*Pb		**Pn**	**02 10 50.2**	**+1.9**
VLS	**Valsamata**	**3.12**	**175**	*e*PN		**Pn**	**02 10 48.7**	**-0.7**
VLS	**Valsamata**	**3.12**	**175**	*e*Pn		**Pn**	**02 10 48.7**	**-0.7**
EFP	**Efpalio**	**3.14**	**155**	*e*PB		Pb	02 10 52.3	-3.6
EFP	**Efpalio**	**3.14**	**155**	*e*Pb		Pb	02 10 52.3	-3.6
KALE	**Kalithea**	**3.25**	**152**	*e*PB		Pb	02 10 54.1	-3.7
KALE	**Kalithea**	**3.25**	**152**	*e*Pb		Pb	02 10 54.1	-3.7
DRO	**Drossia**	**3.52**	**160**	*e*PN		**Pn**	**02 10 56.7**	**+1.7**
DRO	**Drossia**	**3.52**	**160**	*e*Pn		**Pn**	**02 10 56.7**	**+1.7**
KLV	**Kalavryta, Ach**	**3.57**	**155**	*e*PN		**Pn**	**02 10 57.5**	**+1.9**
KLV	**Kalavryta, Ach**	**3.57**	**155**	*e*Pn		**Pn**	**02 10 57.5**	**+1.9**
GUR	**Goura**	**3.73**	**153**	*e*PN		**Pn**	**02 10 59.9**	**+2.1**
GUR	**Goura**	**3.73**	**153**	*e*Pn		**Pn**	**02 10 59.9**	**+2.1**
ALN	**Alexandroupoli**	**4.42**	**93**	*e*PN		**Pn**	**02 11 09.1**	**+1.8**
ALN	**Alexandroupoli**	**4.42**	**93**	*e*Pn		**Pn**	**02 11 09.1**	**+1.8**
UDBI	**Udbina**	**4.60**	**316**	*e*PN		**Pn**	**02 11 09.2**	**-0.6**
UDBI				Sn		**Sn**	**02 12 05.3**	**+1.7**
UDBI	**Udbina**	**4.60**	**316**	*e*Pn		**Pn**	**02 11 09.2**	**-0.6**
UDBI				Sn		**Sn**	**02 12 05.2**	**+1.7**

ISCJB **22** *02:15:30.3±0.3, 39.30N±0.01×23.22E±0.02, h10km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=11.5*
THE **22** *02:15:30.7, 39.29N×23.18E, h8km, ML2.5/18, Error ellipse: s-maj=0.7km s-min=0.4km az=98.0*
ATH **22** *02:15:30.0, 39.31N×23.20E, h15km, MD3.2/31, ML2.5*
CSEM **22** *02:15:30.7±0.1, 39.30N×23.19E, h10km, MD3.2, Error ellipse: s-maj=3.2km s-min=2.5km az=106.0*
SKO **22** *02:15:32.8, 39.53N×23.48E, h0km*

ISC 22 02:15:30.5±0.7, **39.30N**±0.01×**23.19E**±0.01, **h8**km±4km, **n151**, σ0°74/243, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.03**	**80**	P		**Pg**	**02 15 31.9**	**-0.2**
NEO				S		**Sg**	**02 15 33.0**	**-0.3**
NEO	**Neokhori**	**0.03**	**80**	*e*PB		**Pg**	**02 15 32.0**	**-0.2**
NEO				*e*SB		**Sg**	**02 15 33.0**	**-0.3**
NEO	**Neokhori**	**0.03**	**80**	P		**Pg**	**02 15 31.9**	**-0.2**
NEO				S		**Sg**	**02 15 33.0**	**-0.3**
XOR	**Xorichti**	**0.06**	**4**	P		**Pg**	**02 15 32.7**	**+0.2**
XOR				S		**Sg**	**02 15 34.2**	**+0.3**
XOR	**Xorichti**	**0.06**	**4**	*e*PB		**Pg**	**02 15 32.8**	**+0.2**
XOR				*e*SB		**Sg**	**02 15 34.3**	**+0.3**
XOR	**Xorichti**	**0.06**	**4**	P		**Pg**	**02 15 32.7**	**+0.2**
XOR				S		**Sg**	**02 15 34.2**	**+0.3**
SKIA	**Skiathos**	**0.26**	**122**	P		**Pg**	**02 15 35.9**	**+0.3**
SKIA				S		**Sg**	**02 15 39.7**	**+0.7**
SKIA	**Skiathos**	**0.26**	**122**	*e*PB		**Pg**	**02 15 35.9**	**+0.3**
SKIA				*e*SB		**Sg**	**02 15 39.8**	**+0.7**
SKIA	**Skiathos**	**0.26**	**122**	P		**Pg**	**02 15 35.9**	**+0.3**
SKIA				*e*Sb		**Sg**	**02 15 39.8**	**+0.7**
SMIA	**Simia**	**0.42**	**178**	P		**Pg**	**02 15 39.0**	**+0.3**
SMIA				S		**Sg**	**02 15 44.9**	**+0.6**
SMIA	**Simia**	**0.42**	**178**	*e*PB		**Pg**	**02 15 39.0**	**+0.3**
SMIA				*e*SB		**Sg**	**02 15 45.2**	**+0.9**
SMIA	**Simia**	**0.42**	**178**	P		**Pg**	**02 15 39.0**	**+0.3**
SMIA				S		**Sg**	**02 15 44.9**	**+0.6**
SMIA				*e*Sb		**Sg**	**02 15 45.2**	**+0.9**
AOS	**Alonnisos**	**0.55**	**103**	P		**Pg**	**02 15 41.1**	**-0.1**
AOS				S		**Sg**	**02 15 48.9**	**+0.5**
AOS	**Alonnisos**	**0.55**	**103**	*e*PG		**Pg**	**02 15 41.2**	**0.0**
AOS	**Alonnisos**	**0.55**	**103**	*e*PN		**Pg**	**02 15 41.5**	**+0.3**
AOS				*e*SN		**Sg**	**02 15 49.0**	**+0.5**
AOS	**Alonnisos**	**0.55**	**103**	*e*Pg		**Pg**	**02 15 41.2**	**0.0**
AOS	**Alonnisos**	**0.55**	**103**	*e*Pn		**Pg**	**02 15 41.5**	**+0.3**
AOS				*e*Sn		**Sg**	**02 15 49.0**	**+0.5**
LKR	**Lokris**	**0.67**	**193**	P		**Pg**	**02 15 43.0**	**-0.3**
LKR				S		**Sg**	**02 15 52.5**	**+0.5**
LKR	**Lokris**	**0.67**	**193**	*e*PN		**Pg**	**02 15 43.1**	**-0.3**
LKR				*e*SN		**Sg**	**02 15 52.7**	**+0.7**
LKR	**Lokris**	**0.67**	**193**	*e*Pn		**Pg**	**02 15 43.1**	**-0.3**
LKR				S		**Sg**	**02 15 52.5**	**+0.5**
MRKA	**Markates**	**0.67**	**152**	P		**Pg**	**02 15 43.2**	**-0.2**
MRKA				S		**Sg**	**02 15 53.2**	**+1.0**
MRKA	**Markates**	**0.67**	**152**	*e*PN		**Pg**	**02 15 43.3**	**-0.2**
MRKA				*e*SN		**Sg**	**02 15 52.4**	**+0.2**
MRKA	**Markates**	**0.67**	**152**	*e*Pn		**Pg**	**02 15 43.3**	**-0.2**
MRKA				*e*Sn		**Sg**	**02 15 52.4**	**+0.2**
MRKA				S		**Sg**	**02 15 53.2**	**+1.0**
AXAR	**Agios Charalam**	**0.67**	**218**	P		**Pg**	**02 15 43.0**	**-0.5**
AXAR				S		**Sb**	**02 15 53.8**	**-0.2**
AXAR	**Agios Charalam**	**0.67**	**218**	P		**Pg**	**02 15 43.0**	**-0.5**
AXAR				S		**Sb**	**02 15 53.8**	**-0.2**
AGG	**Agios Georgios**	**0.72**	**248**	P		**Pg**	**02 15 43.5**	**-0.9**
AGG	**Agios Georgios**	**0.72**	**248**	*e*PG		**Pg**	**02 15 43.7**	**-0.7**
AGG	**Agios Georgios**	**0.72**	**248**	*e*PB		**Pg**	**02 15 43.7**	**-0.7**
AGG				*e*SN		**Sg**	**02 15 54.9**	**+1.1**
AGG	**Agios Georgios**	**0.72**	**248**	*e*Pb		**Pg**	**02 15 43.7**	**-0.7**
AGG				*e*Sn		**Sg**	**02 15 54.9**	**+1.1**
PAIG	**Paliouri**	**0.73**	**31**	P		**Pb**	**02 15 45.3**	**-0.2**
PAIG				S		**Sb**	**02 15 55.8**	**+0.2**
PAIG	**Paliouri**	**0.73**	**31**	*e*PN		**Pb**	**02 15 45.6**	**+0.1**
PAIG				*e*SN		**Sg**	**02 15 54.4**	**+0.3**
PAIG	**Paliouri**	**0.73**	**31**	P		**Pb**	**02 15 45.3**	**-0.2**
PAIG	**Paliouri**	**0.73**	**31**	*e*Pn		**Pb**	**02 15 45.6**	**+0.1**
PAIG				*e*Sn		**Sg**	**02 15 54.4**	**+0.3**
PAIG				S		**Sb**	**02 15 55.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.87**	**251**	P		**Pg**	**02 15 46.4**	**-0.8**
MAKR				S		**Sb**	**02 15 59.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.87**	**251**	*e*PN		**Pg**	**02 15 46.5**	**-0.8**
MAKR				*e*SN		**Sb**	**02 16 00.1**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.87**	**251**	P		**Pg**	**02 15 46.4**	**-0.8**
MAKR				*e*Sn		**Sb**	**02 16 00.1**	**+0.5**
THL	**Klokotos Trika**	**0.94**	**287**

SIGR	**SIGRI**	**2.07**	**92**	*e*Pn	**Pb**	**02 16 07.3**	**-1.0**
NVR	**Nevrokopi**	**2.11**	**14**	*e*PN	**Pn**	**02 16 06.4**	**+0.3**
NVR				*e*Sn	**Sn**	**02 16 32.2**	**-0.3**
NVR	**Nevrokopi**	**2.11**	**14**	*e*Pn	**Pn**	**02 16 06.4**	**+0.3**
NVR				*e*Sn	**Sn**	**02 16 32.2**	**-0.3**
AMT	**Artemida-Makis**	**2.11**	**214**	*e*PN	**Pn**	**02 16 07.1**	**+1.0**
AMT	**Artemida-Makis**	**2.11**	**214**	*e*Pn	**Pn**	**02 16 07.1**	**+1.0**
SMTH	**Samothraki Isl**	**2.15**	**56**	*e*PB	**Pn**	**02 16 05.3**	**-1.3**
IGT	**Igoumenitsa**	**2.22**	**277**	*e*PN	**Pb**	**02 16 09.5**	**-1.4**
IGT	**Igoumenitsa**	**2.22**	**277**	*e*PN	**Pb**	**02 16 10.4**	**-0.5**
IGT	**Igoumenitsa**	**2.22**	**277**	*e*Pn	**Pb**	**02 16 09.5**	**-1.4**
VLS	**Valsamata**	**2.32**	**242**	*e*PN	**Pb**	**02 16 11.6**	**-1.0**
VLS	**Valsamata**	**2.32**	**242**	*e*Pn	**Pb**	**02 16 11.6**	**-1.0**
ITM	**Ithomi**	**2.34**	**205**	*e*PN	**Pb**	**02 16 11.4**	**-1.5**
ITM	**Ithomi**	**2.34**	**205**	*e*Pn	**Pb**	**02 16 11.4**	**-1.5**
PRK	**Paraskevi**	**2.40**	**90**	*e*PB	**Pn**	**02 16 10.4**	**+0.5**
CHOS	**Chios island**	**2.42**	**111**	*e*PN	**Pn**	**02 16 11.9**	**+1.6**
CHOS	**Chios island**	**2.42**	**111**	*e*PB	**Pn**	**02 16 10.4**	**0.0**
CHOS	**Chios island**	**2.42**	**111**	*e*Pn	**Pn**	**02 16 11.9**	**+1.6**
VLI	**Veliai**	**2.59**	**184**	*e*PN	**Pn**	**02 16 13.2**	**+0.6**
VLI	**Veliai**	**2.59**	**184**	*e*Pn	**Pn**	**02 16 13.2**	**+0.6**
KEK	**Kerkira**	**2.65**	**280**	*e*PB	**Pn**	**02 16 16.0**	**+2.5**
ALN	**Alexandroupoli**	**2.71**	**53**	*e*PN	**Pn**	**02 16 16.0**	**+1.7**
ALN	**Alexandroupoli**	**2.71**	**53**	*e*PN	**Pn**	**02 16 12.6**	**-1.7**
ALN	**Alexandroupoli**	**2.71**	**53**	*e*Pn	**Pn**	**02 16 12.6**	**-1.7**
GELI	**Tayfur-Gelibol**	**2.76**	**66**	*e*PN	**Pn**	**02 16 16.6**	**+1.7**
GELI	**Tayfur-Gelibol**	**2.76**	**66**	*e*Pn	**Pn**	**02 16 16.6**	**+1.7**
APE	**Apeiranthos**	**2.90**	**140**	*e*PN	**Pn**	**02 16 17.0**	**+0.1**
APE	**Apeiranthos**	**2.90**	**140**	*e*Pn	**Pn**	**02 16 17.0**	**+0.1**
ERIK	**Erikli-Kesan**	**2.90**	**61**	*e*PN	**Pn**	**02 16 18.6**	**+1.7**
ERIK	**Erikli-Kesan**	**2.90**	**61**	*e*Pn	**Pn**	**02 16 18.6**	**+1.7**
KRBG	**Karabiga-Canak**	**3.35**	**70**	*e*PN	**Pn**	**02 16 24.8**	**+1.8**
KRBG	**Karabiga-Canak**	**3.35**	**70**	*e*Pn	**Pn**	**02 16 24.8**	**+1.8**

*IDC **22** 02:20:03.3±2.1, 32°.40S×179°.24W, h0km, mb4.3/2, mb1 4.5/2, mb1mx3.8/17, mbtmp4.3/2, Error ellipse: s-maj=75.3km s-min=43.1km az=22.0*
ISC 22 02:20:37.2±1.6, **33°.2S**±0°.1×**179°.4E**±0°.2, **h250**km, **n21**, σ2°**08**/29, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.47**	**191**	*e*Pn	**Pn**	**02 21 44.9**	**-1.6**
MXZ				*e*SN	S	**02 22 44.9**	**+3.2**
WMGZ	**Waiomatatini S**	**4.71**	**189**	*e*Pn	**Pn**	**02 21 49.1**	**-0.2**
WMGZ				*e*SN	S	02 22 50.1	+3.3
HAZ	**Te Kaha**	**4.76**	**195**	*e*Pn	**Pn**	**02 21 50.2**	**+0.3**
HAZ				*e*SN	S	02 22 52.5	+4.6
PUZ	**Puketiti**	**4.98**	**190**	*e*PN	**Pn**	**02 21 51.5**	**-1.2**
PUZ				SN	**S**	**02 22 54.9**	**+2.0**
TWGZ	**Tauwhareparae**	**5.12**	**192**	*e*PN	**Pn**	**02 21 54.2**	**-0.3**
MWZ	**Matawai**	**5.37**	**196**	*e*Pn	**Pn**	**02 21 56.9**	**-0.6**
MWZ				*e*SN	**S**	**02 23 04.7**	**+3.1**
URZ	**Urewera**	**5.40**	**199**	*e*Pn	**Pn**	**02 21 57.3**	**-0.6**
URZ				*e*SN	**S**	**02 23 06.2**	**+4.0**
KNZ	**Kokohu**	**6.00**	**193**	*e*Pn	**Pn**	**02 22 03.6**	**-1.6**
NMHZ	**Naumai**	**6.27**	**199**	*e*PN	**Pn**	**02 22 08.3**	**-0.5**
ARHZ	**Aropaoanui**	**6.38**	**197**	*e*Pn	**Pn**	**02 22 08.5**	**-1.4**
ARHZ				*e*SN	**S**	**02 23 27.4**	**+3.1**
KAHZ	**Kahuranaki**	**6.91**	**196**	*e*Pn	**Pn**	**02 22 15.0**	**-1.8**
PXZ	**Pawanui**	**7.14**	**196**	*e*PN	**Pn**	**02 22 16.6**	**-2.9**
PXZ				*e*SN	**S**	**02 23 40.5**	**-1.3**
OGWZ	**Otaki Gorge**	**8.34**	**203**	*e*PN	**Pn**	**02 22 32.4**	**-2.4**
PLWZ	**Palliser**	**9.00**	**200**	*e*PN	**Pn**	**02 22 41.6**	**-1.5**
NNZ	**Nelson**	**9.35**	**209**	*e*PN	**Pn**	**02 22 48.4**	**+0.9**
NNZ				*e*SN	**S**	**02 24 33.1**	**+0.3**
THZ	**Tophouse**	**10.00**	**209**	*e*PN	**Pn**	**02 22 55.3**	**-0.4**
THZ				*e*SN	**S**	**02 24 47.0**	**-1.1**
MQZ	**McQueen's Vall**	**11.76**	**205**	*e*SN	**S**	**02 25 23.7**	**-5.2**
ASAR	**Alice Springs**	**40.83**	**271**	P	**P**	**02 27 56.3**	**+1.4**
	1.9nm,0.7s,baz=107,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**42.08**	**277**	P	**P**	**02 28 05.8**	**+0.8**
	2.1nm,0.3s,baz=115,slow=8.0,SNR=34						
FINES	**FINESS Array B**	**146.89**	**337**	PKPbc	**PKPdf**	**02 39 46.0**	**-1.0**
	1.8nm,1.0s,baz=84,slow=4.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**159.96**	**187**	PKPab	**PKPab**	**02 40 47.2**	**-0.3**
	0.4nm,0.6s,baz=174,slow=3.9,SNR=10						

IDC 22 02:53:13.1±10.0, **14°.21S**×**173°.43W**, **h0**km, **mb3.8**/3, **mb1 4.1**/3, **mb1mx3.7**/20, **mbtmp3.8**/3, **Error ellipse: s-maj=459.8km s-min=33.4km az=138.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**37.94**	**328**	T	T	03 41 49.3	
	baz=150						
H11S3	**WAKE ISLAND Hy**	**37.95**	**328**	T	T	03 41 48.7	
	baz=150						
H11S1	**WAKE ISLAND Hy**	**37.95**	**328**	T	T	03 41 48.9	
	baz=150						
WRA	**Warramunga Arr**	**50.09**	**256**	P	P	03 02 10.4	**+0.1**
	0.8nm,0.8s,baz=94,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**50.45**	**251**	P	P	03 02 13.0	-0.1
	1.8nm,0.8s,baz=84,slow=8.3,SNR=18						
ILAR	**Eielson Array**	**81.29**	**11**	P	P	03 05 31.1	+0.3
	0.4nm,0.7s,baz=218,slow=5.8,SNR=8.6						
BRTR	**Keskin Array B**	**145.21**	**322**	PKPbc	PKPbc	03 12 51.1	-1.7
	0.3nm,0.5s,baz=30,slow=3.1,SNR=3.9						

IDC 22 02:59:46.9±2.3, **16°.82N**×**88°.54W**, **h0**km, **mb3.6**/4, **mb1 3.8**/7, **mb1mx3.6**/24, **mbtmp3.5**/7, **ML3.3**/3, **MS2.9**/1, **Ms1 2.9**/1, **ms1mx2.3**/29, **Error ellipse: s-maj=45.2km s-min=23.0km az=112.0, Belize**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**3.39**	**4**	Pn	Pn	03 00 40.9	-0.3
	1.7nm,0.3s,baz=203,slow=2.0,SNR=13						
TEIG				Pg	Pg	03 00 50.3	-1.7
	14nm,0.3s,baz=351,slow=1.2,SNR=29						
TEIG				Sn	Sn	03 01 21.3	-0.9
	11nm,0.3s,baz=7.8,slow=12,SNR=6.0						
TEIG				Lg	Lg	03 01 33.9	
	44nm,0.3s,baz=88,slow=22,SNR=24						
CMIG	**Matias Romero**	**6.07**	**273**	Pn	Pn	03 01 16.7	-1.4
	0.8nm,0.3s,baz=84,slow=9.0,SNR=9.2						
CMIG				Sn	Sn	03 02 21.9	-6.5
	1.3nm,0.3s,baz=309,slow=2.3,SNR=4.3						
TXAR	**Lajitas Array**	**18.65**	**315**	P	P	03 04 05.6	-0.9
	0.0nm,0.3s,baz=141,slow=10,SNR=3.3						
LPIG	**La Paz**	**21.62**	**293**	LR	LR	03 14 15.9	
	comp=Z,31nm,18.5s,baz=227,slow=40						
PDAR	**Pinedale Array**	**31.46**	**330**	P	P	03 06 12.2	+1.6
	0.3nm,0.8s,baz=128,slow=5.8,SNR=2.1						
YKA	**Yellowknife Ar**	**49.14**	**344**	P	P	03 08 35.9	-0.3
	0.6nm,0.6s,baz=140,slow=7.5,SNR=9.3						
ILAR	**Eielson Array**	**61.62**	**336**	P	P	03 10 06.4	+0.3
	0.1nm,0.7s,baz=126,slow=5.8,SNR=3.0						
ARCES	**ARCESS Array B**	**82.42**	**19**	P	P	03 12 10.2	-0.5
	2.8nm,0.9s,baz=300,slow=9.0,SNR=4.3						

*SKO **22** 03:01:28.1, 41°.14N×20°.18E, h0km, M1.8, ML2.4*
TIR 22 03:01:20.2, 41°.17N×20°.23E, h7km, **ML2.7, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.54**	**17**	*i* Pg	Pn	03 01 37.3	+2.9
PHP				*i* Sg	Sn	03 01 45.7	+1.9
PUK	**Puka**	**0.91**	**344**	*i* Pg	Pn	03 01 42.4	+2.9
PUK				*i* Sg	Sn	03 01 58.2	+5.2
FNA	**Florina**	**0.95**	**114**	*i* Pg	Pn	03 01 45.6	+5.6
FNA				*i* Sg	Sn	03 01 59.9	+6.0

*ISCJB **22** 03:01:43.0±0.7, 16°.5N±0°.1×46°.6W±0°.1, h13km, mb3.6/11, MS3.1/5, Error ellipse: s-maj=18.5km s-min=15.6km az=19.5*
*IDC **22** 03:01:42.7±0.8, 16°.45N×46°.53W, h0km, mb3.6/11, mb1 3.8/11, mb1mx3.6/61, mbtmp3.7/11, MS3.2/5, Ms1 3.2/5, ms1mx2.8/27, Error ellipse: s-maj=22.7km s-min=19.3km az=104.0*
ISC 22 03:01:44.7±0.8, **16°.4N**±0°.1×**46°.5W**±0°.1, **h13**km, **n20**, σ0°**78**/**11**, **mb3.7**/11, **MS3.2**/5, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**13.93**	**264**	T	T	03 19 21.3	
	SNR=12						
PTGA	**Pitinga**	**21.60**	**219**	P	**P**	**03 06 35.4**	**+0.9**
	3.3nm,0.9s,baz=25,slow=14,SNR=3.9						
PTGA				LR	LR	03 14 10.9	
	comp=Z,59nm,18.3s,baz=88,slow=35						
RCBR	**Riachuelo**	**24.50**	**154**	LR	LR	03 13 40.4	
	comp=Z,27nm,20.8s,baz=22,slow=29						
LPAZ	**La Paz**	**38.87**	**214**	P	**P**	**03 09 11.2**	**+0.5**
	1.4nm,0.8s,baz=17,slow=5.2,SNR=6.1						
H10N3	**ASCENSION HYDR**	**39.84**	**125**	T	T	03 51 25.4	
	baz=307,slow=75,SNR=47						
H10N2	**ASCENSION HYDR**	**39.84**	**125**	T	T	03 51 27.7	
	baz=307,slow=75,SNR=53						
H10N1	**ASCENSION HYDR**	**39.86**	**125**	T	T	03 51 28.9	
	baz=307,slow=75,SNR=86						
H10S3	**ASCENSION HYDR**	**40.39**	**126**	T	T	03 52 08.3	
	baz=308,slow=75,SNR=30						
H10S1	**ASCENSION HYDR**	**40.39**	**126**	T	T	03 52 08.6	
	baz=308,slow=75,SNR=25						
H10S2	**ASCENSION HYDR**	**40.41**	**126**	T	T	03 52 09.7	
	baz=308,slow=75,SNR=25						
CPUP	**Villa Florida**	**43.79**	**194**	P	**P**	**03 09 50.4**	**+0.1**
	0.8nm,0.8s,baz=22,slow=13,SNR=6.0						
CMIG	**Matias Romero**	**46.20**	**278**	P	**P**	**03 10 09.1**	**-0.7**
	1.1nm,0.7s,baz=59,slow=5.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**46.67**	**87**	P	**P**	**03 10 13.4**	**0.0**
	1.2nm,1.1s,baz=286,slow=4.7,SNR=6.2						
TORD				LR	LR	03 27 15.5	
	comp=Z,42nm,20.0s,baz=165,slow=33						
ULM	**Lac du Bonnet**	**51.90**	**322**	P	**P**	**03 10 52.2**	**-0.8**
	1.8nm,0.7s,baz=121,slow=8.8,SNR=5.4						
CFAA	**Coronel Fontan**	**52.11**	**204**	P	**P**	**03 10 53.5**	**-1.3**
	0.1nm,0.4s,baz=357,slow=7.7,SNR=4.7						
TXAR	**Lajitas Array**	**53.71**	**295**	P	**P**	**03 11 07.8**	**+0.9**
	0.2nm,0.8s,baz=106,slow=9.5,SNR=2.8						
TXAR				LR	LR	03 35 41.9	
	comp=Z,20nm,18.5s,baz=0.0,slow=38						
PDAR	**Pinedale Array**	**59.28**	**310**	P	**P**	**03 11 46.6**	**+0.1**
	0.2nm,0.4s,baz=118,slow=7.6,SNR=2.4						
PDAR				LR	LR	03 34 50.2	
	comp=Z,18nm,21.1s,baz=35,slow=34						
H09W1	**TRISTAN DA CUN**	**62.25**	**149**	T	T	04 19 48.5	
	SNR=3.4						
BRTR	**Keskin Array B**	**72.22**	**53**	P	**P**	**03 13 10.2**	**+0.3**
	1.4nm,1.0s,baz=284,slow=1.8,SNR=4.0						
ILAR	**Eielson Array**	**79.62**	**335**	P	**P**	**03 13 51.9**	**+0.4**
	0.8nm,0.8s,baz=74,slow=4.3,SNR=13						

ROM 22 03:06:09.5±0.1, **42°.61N**×**13°.16E**, **h10**km, **Md1.4**/3, **Ml0.6**/2, **Error ellipse: s-maj=0.3km s-min=0.2km az=174.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.09**	**265**	Pg	Pg	03 06 12.4	+0.3
LNSS				Sg	Sg	03 06 14.5	+0.5
	18nm,0.2s						
SMA1	**SAN MARTINO**	**0.13**	**81**	Pg	Pg	03 06 13.1	+0.4
SMA1				Sg	Sg	03 06 15.6	+0.7
	13nm,0.4s						
NRCA	**Norcia**	**0.23**	**351**	Pg	Pg	03 06 14.9	+0.6
NRCA				Sg	Sg	03 06 18.9	+1.3

*VIE **22** 03:06:33.4±0.2, 45°.87N×14°.90E, h6km, ML1.2/2, Error ellipse: s-maj=1.9km s-min=1.5km az=155.0 38 km SE of Ljubljana*
*CSEM **22** 03:06:33.5±0.1, 45°.85N×14°.89E, h10km, ML1.6/7, Error ellipse: s-maj=2.7km s-min=2.0km az=83.0*
LJU 22 03:06:33.3, 45°.86N×14°.89E, h8km, **ML1.0, 6C-9D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VISS	**Visnje**	**0.06**	**213**	⇑*i* Pg	Pg	03 06 35.5	+0.3
VISS				*i* Sg	Sg	03 06 36.7	+0.2
	comp=Z,27nm,0.0s						
VISS	**Visnje**	**0.06**	**213**	Pg	Pg	03 06 35.5	+0.3
VISS				*i* Sg	Sg	03 06 36.7	+0.1
	comp=Z,27nm,0.0s						
PDKS	**Podkum**	**0.22**	**20**	⇓*i* Pg	Pg	03 06 38.4	+0.6
PDKS				*i* Sg	Sg	03 06 41.6	+0.7
	comp=Z,14nm,0.1s						
PDKS	**Podkum**	**0.22**	**20**	⇓*i* Pg	Pg	03 06 38.4	+0.6
PDKS				*i* Sg	Sg	03 06 41.6	+0.7
	comp=Z,14nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.28**	**332**	⇓*i* Pg	Pg	03 06 39.4	+0.5
VNDS				*i* Sg	Sg	03 06 42.9	+0.2
	comp=Z,6.0nm,0.1s						
LEGS	**Legarje**	**0.31**	**73**	⇑*i* Pg	Pg	03 06 40.0	+0.4
LEGS				*i* Sg	Sg	03 06 44.1	+0.3
LEGS	**Legarje**	**0.31**	**73**	⇑*i* Pg	Pg	03 06 40.0	+0.5
LEGS				*i* Sg	Sg	03 06 44.1	+0.4
GBRS	**Gornja Briga**	**0.33**	**190**	⇓*i* Pg	Pg	03 06 40.1	+0.2
	comp=Z,8.0nm,0.1s						
CEY	**Cerknica**	**0.34**	**250**	⇑*i* Pg	Pg	03 06 40.5	+0.3
CEY				*i* Sg	Sg	03 06 45.1	+0.3
	comp=Z,5.0nm,0.1s						
CEY	**Cerknica**	**0.34**	**250**	⇑*i* Pg	Pg	03 06 40.5	+0.4
CEY				*i* Sg	Sg	03 06 45.1	+0.3
	comp=Z,5.0nm,0.1s						
CRES	**Cresnjev**	**0.40**	**94**	*i* Pg	Pg	03 06 41.4	+0.2
CRES				*i* Sg	Sg	03 06 46.8	+0.4
	comp=Z,3.0nm,0.1s						
CRES	**Cresnjev**	**0.40**	**94**	*i* Pg	Pg	03 06 41.4	+0.3
CRES				*i* Sg	Sg	03 06 46.8	+0.4
	comp=Z,3.0nm,0.1s						
BOJS	**Bojanci**	**0.43**	**144**	*i* Pg	Pg	03 06 42.1	+0.3
BOJS				*i* Sg	Sg	03 06 47.6	0.0
	comp=Z,4.0nm,0.1s						
BOJS	**Bojanci**	**0.43**	**144**	*i* Pg	Pg	03 06 42.1	+0.3
BOJS				*i* Sg	Sg	03 06 47.6	+0.1
	comp=Z,4.0nm,0.1s						
MOZS	**Mozjanca**	**0.54**	**325**	⇓*i* Pg	Pg	03 06 44.3	+0.5
	comp=Z,3.0nm,0.2s						
MOZS	**Mozjanca**	**0.54**	**325**	⇓*i* Pg	Pg	03 06 44.3	+0.5
	comp=Z,3.0nm,0.2s						
OBKA	**Obir**	**0.69**	**340**	⇓*i* Pg	Pg	03 06 46.9	+0.1
OBKA				⇓*i* Sg	Sg	03 06 56.5	+0.5
	comp=Z,1.6nm,0.1s						
OBKA	**Obir**	**0.69**	**340**	Pg	Pg	03 06 46.9	0.0
OBKA				Sg	Sg	03 06 56.5	+0.5
	comp=Z,1.6nm,0.1s						
SOKA	**Soboth**	**0.83**	**7**	⇓*i* Pg	Pg	03 06 49.3	-0.1
SOKA				⇑*i* Sg	Sg	03 07 00.5	+0.2
	comp=Z,1.1nm,0.3s						
SOKA	**Soboth**	**0.83**	**7**	Pg	Pg	03 06 49.3	-0.1
SOKA				Sg	Sg	03 07 00.5	+0.2
	comp=Z,1.1nm,0.3s						
NVLJ	**Novalja**	**1.29**	**181**	*e*Pg	Pg	03 06 58.7	+0.6
NVLJ				Sg	Sn	03 07 16.9	+1.8
NVLJ	**Novalja**	**1.29**	**181**	*e*Pg	Pg	03 06 58.7	+0.6
NVLJ				Sg	Sn	03 07 16.8	+1.7
UDBI	**Udbina**	**1.47**	**155**	*e*Pg	Pb	03 07 00.7	-0.2
UDBI				Sg	Sn	03 07 18.8	-0.8
UDBI	**Udbina**	**1.47**	**155**	*e*Pg	Pb	03 07 00.7	-0.2
UDBI				Sg	Sn	03 07 18.7	-0.9

*ISCJB **22** 03:19:10.1±1.1, 38°.89N±0°.06×74°.62E±0°.08, h10km, mb3.4/4, Error ellipse: s-maj=10.2km s-min=8.2km az=38.4*
*IDC **22** 03:19:11.9±2.2, 39°.08N×74°.19E, h0km, mb3.6/4, mb1 3.5/7, mb1mx3.3/29, mbtmp3.4/7, ML2.8/3, Error ellipse: s-maj=41.9km s-min=19.8km az=124.0*
*NNC **22** 03:19:11.4±1.7, 39°.00N×74°.56E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=11.8km s-min=10.0km az=140.0*
ISC 22 03:19:13.2±1.2, **39°.02N**±0°.08×**74°.51E**±0°.07, **h10**km, **n16**, σ1°**85**/**21**, **mb3.5**/4, **9C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.26**	**322**	⇓P	**Pn**	**03 19 34.3**	**-2.8**
	34nm,0.5s						
SFK				⇓S	**Sn**	**03 19 54.5**	**+0.3**
	116nm,0.4s						
AAK	**Ala-Archa**	**3.61**	**360**	⇓Pg	**Pb**	**03 20 17.7**	**+0.5**
	16nm,1.1s						
AAK				⇑Lg	Lg	03 21 07.2	
	49nm,1.1s						
AAK	**Ala-Archa**	**3.61**	**360**	Pn	**Pn**	**03 20 11.3**	**+2.0**
	1.2nm,0.3s,baz=170,slow=10,SNR=7.0						
AAK				Lg	Lg	03 21 04.6	
	1.1nm,0.3s,baz=264,slow=18,SNR=8.9						

MNAS	**Manas**	**3.78**	**337**	⇑Pn	**Pn**	**03 20 13.1**	**+1.4**
	4.9nm,0.6s						
MNAS				⇑Sn	**Sn**	**03 20 57.6**	**+1.3**
	15nm,0.7s						
TKM2	**Tokmak 2**	**3.98**	**12**	⇓Pn	**Pn**	**03 20 16.2**	**+1.7**
	4.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 21 03.1**	**+1.7**
	30nm,1.1s						
DZET	**Dzherino**	**4.44**	**269**	⇓Pn	**Pn**	**03 20 22.0**	**+1.4**
	4.2nm,0.8s						
DZET				⇑Pg	**Pb**	**03 20 32.4**	**+1.1**
	22nm,0.8s						
DZET				⇓Sn	**Sn**	**03 21 14.8**	**+2.5**
	24nm,0.5s						
DZET				⇑Lg	Lg	03 21 32.8	
	83nm,0.9s						
KK31	**Karatay Array**	**5.07**	**325**	⇓Pn	**Pn**	**03 20 31.4**	**+2.0**
	0.3nm,0.3s,baz=131,slow=12,SNR=8.2						
KK31				⇓Pg	**Pb**	**03 20 42.7**	**+0.7**
	1.3nm,0.5s,baz=132,slow=17,SNR=4.3						
KK31				⇑Sn	**Sn**	**03 21 31.1**	**+3.1**
	2.5nm,0.6s						
KK31				⇓Lg	Lg	03 21 53.8	
	5.2nm,0.6s,baz=118,slow=27,SNR=3.5						
PDGK	**Podgornoye**	**5.71**	**40**	⇑Pg	**Pb**	**03 20 54.1**	**+1.2**
	3.2nm,0.6s						
PDGK				⇑Lg	Lg	03 22 12.6	
	14nm,0.9s						
MKAR	**Makanchi Array**	**9.64**	**34**	Pn	Pn	03 21 35.1	+3.1
	0.0nm,0.3s,baz=217,slow=7.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**11.94**	**12**	Lg	Lg	03 25 34.2	
	0.0nm,0.3s,baz=200,slow=27,SNR=5.9						
BVAR	**Borovoye Array**	**14.29**	**350**	Pn	**Pn**	**03 22 32.9**	**-2.6**
	0.1nm,0.3s,baz=157,slow=8.6,SNR=2.1						
AB31	**Akbulak array**	**14.60**	**319**	P	**Pn**	**03 22 39.9**	**+0.1**
	0.7nm,0.7s,baz=131,slow=13,SNR=5.4						
FINES	**FINESS Array B**	**37.03**	**323**	P	**P**	**03 26 21.9**	**-0.9**
	0.3nm,0.4s,baz=107,slow=9.3,SNR=4.9						
ARCES	**ARCESS Array B**	**39.94**	**336**	P	**P**	**03 26 45.5**	**-1.6**
	2.5nm,0.9s,baz=105,slow=9.4,SNR=4.9						
GERES	**GERESS Array B**	**43.80**	**304**	P	**P**	**03 27 18.7**	**-0.4**
	0.1nm,0.3s,baz=60,slow=4.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**68.53**	**270**	P	**P**	**03 30 14.0**	**-2.3**
	0.2nm,0.5s,baz=51,slow=4.8,SNR=3.6						

*SKO **22** 03:20:15.8, 43°.91N×21°.53E, h0km, M1.2, ML1.7*
*CSEM **22** 03:20:18.4±0.2, 43°.76N×21°.26E, h2km, ML1.4, Error ellipse: s-maj=5.3km s-min=4.0km az=41.0*
BEO 22 03:20:19.5±0.3, **43°.77N**×**21°.25E**, **h0**km, **ML1.4**/7, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRUS	**Gruza**	**0.41**	**287**	*e*Pg	Pg	03 20 27.1	-0.2
GRUS				*e*Sg	Sg	03 20 31.7	-0.9
GRUS	**Gruza**	**0.41**	**287**	*e*Pg	Pg	03 20 27.1	-0.2
GRUS				*e*Sg	Sg	03 20 31.7	-0.9
SVIS	**Svilajnac**	**0.50**	**357**	*e*Pg	Pg	03 20 28.0	-1.0
SVIS				*e*Sg	Sg	03 20 34.7	-0.8
SELS	**Selova**	**0.56**	**190**	*e*Pg	Pg	03 20 28.2	-2.1
SELS				*e*Sg	Sg	03 20 37.0	-0.6
IVAS	**Ivanjica**	**0.82**	**257**	*e*Pg	Pg	03 20 33.8	-1.5
IVAS				*e*Sg	Sg	03 20 45.3	-0.7
IVAS	**Ivanjica**	**0.82**	**257**	*e*Pg	Pg	03 20 33.8	-1.5
IVAS				*e*Sg	Sg	03 20 45.3	-0.7
DIVS	**Divibare**	**0.97**	**290**	*e*Pg	Pg	03 20 37.5	-0.7
DIVS				*e*Sg	Sg	03 20 50.7	-0.1
DIVS	**Divibare**	**0.97**	**290**	*e*Pg	Pg	03 20 37.5	-0.7
DIVS				*e*Sg	Sg	03 20 50.7	-0.1
ZAPS	**Zavoj**	**1.12**	**116**	*e*Pg	Pg	03 20 40.4	-0.7
BBLS	**Lazići**	**1.34**	**275**	*e*Pg	Pg	03 20 44.4	-0.9
BBLS				*e*Sg	Sg	03 21 02.3	-0.5
BBLS	**Lazići**	**1.34**	**275**	*e*Pg	Pg	03 20 44.4	-0.9
BBLS				*e*Sg	Sg	03 21 02.3	-0.5
SKO	**Skopje**	**1.80**	**176**	*e*Pn	Pn	03 20 50.5	-1.3
SKO	**Skopje**	**1.80**	**176**	*e*Pn	Pn	03 20 50.5	-1.3

*IDC **22** 03:31:

NVAR	**Mina Array Bea**	**76.94**	**43**	P		P	03 43 47.2	-1.1
	1.4nm,0.8s,baz=232,slow=8.8,SNR=10								
TXAR	**Lajitas Array**	**83.43**	**57**	P		P	03 44 24.9	+1.6
	1.2nm,0.9s,baz=224,slow=5.2,SNR=8.0								
ILAR	**Eielson Array**	**84.09**	**12**	P		P	03 44 26.5	+0.7
	0.7nm,0.9s,baz=216,slow=5.8,SNR=6.1								
PDAR	**Pinedale Array**	**84.88**	**43**	P		P	03 44 29.9	-0.7
	1.3nm,0.8s,baz=219,slow=3.8,SNR=5.8								
YKA	**Yellowknife Ar**	**92.20**	**24**	P		P	03 45 06.1	+1.3
	0.4nm,0.8s,baz=251,slow=3.8,SNR=3.2								
BRTR	**Keskin Array B**	**145.31**	**318**	PKPbc		PKPbc	03 51 30.3	-3.3
	1.6nm,1.1s,baz=151,slow=2.8,SNR=4.4								
GERES	**GERESS Array B**	**146.80**	**348**	PKPbc		PKPdf	03 51 35.8	-0.2
	0.2nm,0.5s,baz=52,slow=5.1,SNR=2.7								

IDC ***22*** *03:53:45.8±1.4,31.57N×141.36E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.4/37,mbtmp3.5/6,ML3.5/2,MS3.0/1, Ms1 3.0/1,ms1mx2.3/31,Error ellipse: s-maj=54.5km s-min=20.5km az=71.0*

ISCJB ***22*** *03:53:49.7±1.0,31.5N±0.1×141.3E±0.3,h40km,mb3.5/5, MS2.8/1, Error ellipse: s-maj=40.3km s-min=8.7km az=162.4*

ISC 22 03:53:51.3±1.1, 31.5N±0.1×141.3E±0.3, h40km, n8, σ0.974/7, mb3.4/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**4.49**	**170**	Pn		**Pn**	**03 54 57.3**	**+0.5**
	5.9nm,0.3s,baz=81,slow=22,SNR=5.6							
JCJ				Sn		**Sn**	**03 55 46.8**	**-1.1**
	6.5nm,0.3s,baz=300,slow=20,SNR=4.0							
MJAR	**Matsushiro Arr**	**5.62**	**334**	Pn		**Pn**	**03 55 12.1**	**-0.2**
	0.5nm,0.3s,baz=149,slow=11,SNR=4.5							
PETK	**Petropavlovsk-**	**24.61**	**24**	LR		LR	04 09 07.1	
	comp=Z,34nm,21.5s,baz=162,slow=38							
SONM	**Songino Array**	**31.09**	**312**	P		P	04 00 09.1	+3.3
	0.2nm,0.4s,baz=110,slow=11,SNR=3.6							
ZALV	**Zalesovo Beam**	**45.70**	**316**	P		**P**	**04 02 07.4**	**-0.7**
	0.5nm,0.3s,baz=64,slow=9.8,SNR=2.7							
MKAR	**Makanchi Array**	**47.15**	**307**	P		**P**	**04 02 20.0**	**+0.4**
	0.2nm,0.6s,baz=90,slow=10,SNR=4.3							
WRA	**Warramunga Arr**	**51.62**	**188**	P		**P**	**04 02 54.4**	**+0.4**
	0.2nm,0.4s,baz=5.4,slow=7.6,SNR=7.0							
TXAR	**Lajitas Array**	**93.53**	**52**	P		**P**	**04 07 03.5**	**+0.1**
	0.4nm,0.9s,baz=328,slow=3.2,SNR=3.7							

IDC 22 03:53:54.6±3.3, 6.85S×147.79E, h0km, mb2.8/1, mb1 3.2/2, mb1mx3.0/31, mbtmp2.9/2, ML3.1/1, Error ellipse: s-maj=116.6km s-min=44.5km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Ar**	**18.44**	**224**	P		Pn	03 58 11.3	-0.5
	0.1nm,0.3s,baz=49,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**21.39**	**217**	P		P	03 58 44.0	-0.2
	0.2nm,0.3s,baz=50,slow=8.5,SNR=2.0							
TORD	**Torodi Ar. Bea**	**146.05**	**283**	PKPbc		PKPdf	04 13 37.0	+0.1
	0.4nm,0.9s,baz=77,slow=3.3,SNR=7.0							

KRSC 22 03:56:41.1±0.9, 55.34N×160.59E, h184km±8km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUMR	**Tumrok**	**0.26**	**257**	P		Pn	03 57 07.4	+1.6
TUMR				*e*S		Sn	03 57 26.7	+2.0
KZV	**Kizimen**	**0.29**	**217**	*e*P		Pn	03 57 07.4	+1.5
KMNR	**Kamenistaya**	**0.46**	**334**	*e*P		Pn	03 57 07.7	+1.4
KMNR				*e*S		Sn	03 57 26.8	+1.0
KOZ	**Kozyrevsk**	**0.83**	**331**	*e*P		Pn	03 57 08.8	+0.8
KLY	**Klyuchi**	**0.97**	**2**	*e*P		Pn	03 57 10.1	+1.2
MKZ	**Mys Kozlova**	**1.02**	**140**	*e*P		Pn	03 57 10.2	+0.8
MKZ				*e*S		Sn	03 57 31.4	+0.3
SRDR	**Sredinnyy**	**1.10**	**334**	*e*P		Pn	03 57 10.2	+0.2
SRDR				*e*S		Sn	03 57 32.1	-0.3
ESO	**Esso**	**1.22**	**299**	*e*P		Pn	03 57 11.3	+0.4
BDR	**Baidarnaya**	**1.28**	**15**	*e*P		Pn	03 57 12.9	+1.4
BDR				*e*S		Sn	03 57 36.2	+1.1
SMKR	**Semkarok**	**1.34**	**21**	*e*P		Pn	03 57 13.1	+1.1
SMKR				*e*S		Sn	03 57 36.4	+0.4
SRKR	**Sorokina**	**1.35**	**14**	*e*P		Pn	03 57 13.5	+1.4
SRKR				*e*S		Sn	03 57 37.5	+1.2
KII	**Karymskiy**	**1.47**	**207**	*e*P		Pn	03 57 14.8	+1.6
KBTR	**Krutoberegovo**	**1.53**	**54**	*e*P		Pn	03 57 14.8	+1.2
KBTR				*e*S		Sn	03 57 39.2	+0.4
GNL	**Ganaly**	**2.26**	**224**	*e*P		Pn	03 57 22.8	+1.3
SPN	**Mys Shipunski**	**2.27**	**189**	*e*P		Pn	03 57 21.4	0.0
SPN				*e*S		Sn	03 57 51.2	-1.5
KRX	**Arik**	**2.29**	**211**	*e*P		Pn	03 57 23.6	+1.8
KRX				*e*S		Sn	03 57 54.8	+1.4
NLC	**Nalytchevo**	**2.29**	**199**	*e*P		Pn	03 57 22.5	+0.8
NLC				*e*S		Sn	03 57 53.4	+0.3
SDLR	**Sedlovina**	**2.30**	**207**	*e*P		Pn	03 57 23.4	+1.5
SDLR				*e*S		Sn	03 57 54.3	+0.8
KRER	**Koryakskii**	**2.31**	**209**	*e*P		Pn	03 57 23.9	+1.8
SMAR	**Somma**	**2.33**	**207**	*e*P		Pn	03 57 23.7	+1.3
SMAR				*e*S		Sn	03 57 55.0	+0.6
AVH	**Avacha**	**2.35**	**208**	*e*P		Pn	03 57 24.3	+1.9
KOK	**Koryaka**	**2.35**	**210**	*e*P		Pn	03 57 24.5	+2.0
UGLR	**Uglovaya**	**2.38**	**207**	*e*P		Pn	03 57 24.3	+1.5
UGLR				*e*S		Sn	03 57 56.2	+1.1
PET	**Petropavlovsk**	**2.59**	**207**	*e*P		Pn	03 57 26.5	+1.5
PET				*e*S		Sn	03 58 00.4	+1.3
BKI	**Bering**	**3.08**	**90**	*e*P		Pn	03 57 33.0	+2.2
BKI				*e*S		Sn	03 58 11.1	+1.5
APC	**Apacha**	**3.15**	**221**	*e*P		Pn	03 57 33.7	+1.9
RUS	**Russkaya**	**3.16**	**204**	*e*P		Pn	03 57 32.0	+0.1
RUS				*e*S		Sn	03 58 10.5	-1.0
MTVR	**Mutnovka**	**3.20**	**207**	*e*P		Pn	03 57 33.8	+1.2
MTVR				*e*S		Sn	03 58 12.5	-0.1
ASAK	**Asacha**	**3.37**	**209**	*e*P		Pn	03 57 35.9	+1.4
ASAK				*e*S		Sn	03 58 16.1	-0.1
OSSR	**Ossora**	**4.14**	**18**	*e*P		Pn	03 57 45.3	+1.3

IDC 22 04:02:23.5±1.6, 27.50S×66.31E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/24, mbtmp3.9/6, Error ellipse: s-maj=55.3km s-min=35.1km az=16.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S1	**Diego Carcia H**	**20.59**	**18**	T		T	04 28 01.6	
	baz=186							
H08S2	**Diego Garcia H**	**20.60**	**18**	T		T	04 28 00.7	
	baz=186							
H08S3	**Diego Garcia H**	**20.61**	**18**	T		T	04 28 03.5	
	baz=186							
CMAR	**Chiang Mai Arr**	**55.56**	**38**	P		P	04 12 00.6	-0.3
	0.8nm,0.3s,baz=224,slow=6.2,SNR=4.2							
WRA	**Warramunga Arr**	**62.07**	**99**	P		P	04 12 46.5	+0.1
	2.0nm,0.8s,baz=257,slow=5.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**74.51**	**294**	P		P	04 14 04.7	+0.3
	0.4nm,1.0s,baz=100,slow=6.0,SNR=3.0							
MKAR	**Makanchi Array**	**75.34**	**11**	P		P	04 14 08.2	-0.3
	0.4nm,0.6s,baz=193,slow=4.7,SNR=3.8							
ZALV	**Zalesovo Beam**	**82.68**	**11**	P		P	04 14 48.8	+0.3
	1.7nm,0.6s,baz=200,slow=4.8,SNR=8.2							
SONM	**Songino Array**	**83.19**	**26**	P		P	04 14 51.8	+0.3
	0.4nm,0.7s,baz=205,slow=6.4,SNR=4.6							
YKA	**Yellowknife Ar**	**145.00**	**1**	PKPbc		PKPbc	04 22 00.5	-0.8
	1.2nm,0.8s,baz=342,slow=3.6,SNR=7.3							
DLBC	**Dease Lake**	**147.03**	**16**	PKPbc		PKPdf	04 22 06.6	+0.8
	2.7nm,0.9s,baz=262,slow=5.0,SNR=5.7							
ULM	**Lac du Bonnet**	**153.52**	**334**	PKPbc		PKPbc	04 22 23.4	-0.3
	1.1nm,0.8s,baz=80,slow=6.1,SNR=2.9							

ISCJB ***22*** *04:02:36.8±0.1, 15.26S±0.04×173.25W±0.03, h33km, mb5.1/150, MS4.7/29, Error ellipse: s-maj=6.0km s-min=3.7km az=139.3*

SZGRF ***22*** *04:02:38.1, 15.57S×171.68W, h36km, mb4.9, Samoa Islands region*

MOS ***22*** *04:02:39.8±1.0, 14.62S×173.09W, h37km, mb5.4/43, MS5.0/8, Error ellipse: s-maj=13.3km s-min=8.3km az=49.5*

BJI ***22*** *04:02:39.0, 14.85S×172.94W, h38km, mB5.4/32, mb5.0/36, Ms5.1/34, Ms7 4.9/34*

GCMT ***22*** *04:02:42.5±0.2, 15.23S×173.07W, h53km±2km, MW5.3/101, Moment Tensor Solution. s56,c71; s101,c161; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr-0.27±.03; Mθθ 0.47±.03; Mϕϕ -0.19±.03; Mrθ -0.97±.03; Mrϕ 0.10±.02; Mθϕ -0.00±.02; Best double couple: M0 1.04000×1017 NP1:ϕs 90.00000°, δ 80.00000°, λ -84.00000°. NP2:ϕs 241.00000°, δ 12.00000°, λ -119.00000°. Principal axes: T 1.1390, Plg 34.0000°, Azm 175.0000°; N -0.1960, Plg 6.0000°, Azm 269.0000°; P -0.9420, Plg 55.0000°, Azm 8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *04:02:42.5±3.0, 15.33S×173.18W, h75km±4km, mb5.2/134 Error ellipse: s-maj=15.0km s-min=11.2km az=139.0*

NEIC Felt [II] at Apia, Samoa.

IDC ***22*** *04:02:43.4±0.4, 15.33S×173.24W, h74km±3km, mb4.5/24, mb1 4.6/24, mb1mx4.6/27, mbtmp4.8/24, MS4.6/20, Ms1 4.6/20, ms1mx4.4/27, Error ellipse: s-maj=15.2km s-min=10.5km az=121.0*

ISC 22 04:02:40.6±0.3, 15.28S±0.06×173.25W±0.05, h50km±2km, h50km:pP-P, n827, σ1.937/818, mb5.2/150, MS4.8/30, 188C-178D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.97**	**46**	*e*P		Pn	04 03 04.0	-7.7
AFI				*e*			04 03 21.5	
AFI	**Afiamalu**	**1.97**	**46**	*e*Pn		Pn	04 03 04.0	-7.7
AFI				*e*Sn		Sn	04 03 21.5	-14
NIUE	**Niue**	**4.93**	**140**	P		Pn	04 03 48.0	-4.1
	baz=4.8,SNR=120							
NIUE				S		Sn	04 04 38.1	-10
	baz=4.8,SNR=14							
MSVF	**Nonsavu**	**8.70**	**253**	Pn		Pn	04 04 52.2	+8.3
	537nm,1.2s,SNR=8.6							
MSVF	**Nonsavu**	**8.70**	**253**	*e*P		Pn	04 04 51.0	+7.1
MSVF	**Nonsavu**	**8.70**	**253**	*e*Pn		Pn	04 04 51.0	+7.1
KNTN	**Kanton**	**12.52**	**7**	*e*Pn		Pn	04 05 28.9	-7.2
RAR	**Rarotonga**	**14.09**	**117**	*e*P		Pn	04 05 51.8	-5.7
RAR	**Rarotonga**	**14.09**	**117**	*e*Pn		Pn	04 05 51.8	-5.7
DZM	**Mont Dzumac**	**20.38**	**248**	*e*P		Pn	04 07 19.4	+3.5
	212nm,1.4s							
DZM				*e*LQ		LQ	04 11 34.4	
	2μm,26.7s							
DZM				*e*LR		LR	04 12 27.0	
	3μm,26.9s							
DZM	**Mont Dzumac**	**20.38**	**248**	P		**P**	**04 07 14.7**	**+1.2**
	17nm,0.9s,baz=90,slow=16,SNR=9.4							
DZM				LR		LR	04 13 52.1	
	comp=Z,1μm,20.7s,baz=116,slow=33							
DZM	**Mont Dzumac**	**20.38**	**248**	*e*P		Pn	04 07 15.2	-0.7
TARA	**Tarawa**	**21.46**	**319**	*e*P		**P**	**04 07 26.7**	**+1.8**
	452nm,1.5s							
PAE	**Paea**	**22.82**	**99**	*e*P		**P**	**04 07 38.2**	**-1.3**
	5.4nm,0.6s							
PAE	**Paea**	**22.82**	**99**	*e*T		T	04 30 52.1	
	5.0nm,0.3s							
PPT	**Papeete**	**22.82**	**99**	P		**P**	**04 07 40.2**	**+0.7**
	40nm,1.0s,baz=1.1,slow=4.9,SNR=3.6							
PPT				LR		LR	04 13 59.2	
	comp=Z,636nm,21.0s,baz=262,slow=30							
PPT2	**Papeete2**	**22.82**	**99**	*e*LQ		LQ	04 11 52.5	
	2μm,32.2s							
PPT2				*e*LR		LR	04 12 52.0	
	2μm,27.0s,baz=260							
PPT2	**Papeete2**	**22.82**	**99**	*e*T		T	04 30 53.0	
	7.6nm,0.3s							
TIAR	**Tiarei**	**23.03**	**99**	*e*T		T	04 31 08.7	
	5.1nm,0.3s							
OUZ	**Omahuta**	**23.10**	**208**	*e*P		**P**	**04 07 43.6**	**+1.4**
	70nm,1.0s							
TVO	**Taravao**	**23.13**	**100**	*e*T		T	04 31 15.7	
	2.9nm,0.3s							
XMAS	**Kiritimati**	**23.26**	**44**	*e*P		**P**	**04 07 41.8**	**-2.1**
	159nm,1.1s							
MXZ	**Matakaoa Point**	**23.42**	**197**	*e*PN		**P**	**04 07 47.1**	**+1.8**
HAZ	**Te Kaha**	**23.75**	**198**	*e*PN		**P**	**04 07 48.4**	**0.0**
HAZ				*e*SN		**S**	**04 12 01.7**	**+1.5**
TBI	**Tubuai**	**23.81**	**113**	*e*LQ		LQ	04 12 28.3	
	2μm,27.5s							
TBI				*e*LR		LR	04 13 27.1	
	3μm,27.5s,baz=289							
TBI	**Tubuai**	**23.81**	**113**	*e*T		T	04 32 12.4	
	22nm,0.3s							
WTAZ	**Waiatarua**	**24.13**	**204**	*e*PN		**P**	**04 07 52.0**	**+0.1**
URZ	**Urewera**	**24.42**	**199**	P		**P**	**04 07 53.4**	**-1.1**
	48nm,0.8s,baz=25,slow=2.9,SNR=23							
URZ				LR		LR	04 16 48.1	
	comp=Z,1μm,19.3s,baz=16,slow=35							
URZ	**Urewera**	**24.42**	**199**	*e*PN		**P**	**04 07 52.6**	**-1.9**
URZ	**Urewera**	**24.42**	**199**	*e*P		**P**	**04 07 53.1**	**-1.4**
	44nm,0.8s							
PMOR	**Pomariorio Ree**	**24.47**	**93**	*e*P		**P**	**04 07 54.0**	**-1.2**
	197nm,1.3s							
PMOR	**Pomariorio Ree**	**24.47**	**93**	*e*T		T	04 32 53.8	
	7.1nm,0.3s							
VAH	**Vaihoa**	**24.71**	**93**	*e*P		**P**	**04 07 56.0**	**-1.4**
	43nm,0.8s							
VAH	**Vaihoa**	**24.71**	**93**	*e*T		T	04 33 11.5	
	12nm,0.3s							
BKZ	**Black Stump Fm**	**25.44**	**199**	*e*PN		**P**	**04 08 02.5**	**-1.4**
BKZ	**Black Stump Fm**	**25.44**	**199**	*e*P		**P**	**04 08 02.7**	**-1.1**
	18nm,0.8s							
WNVZ	**Wahianoa**	**25.88**	**200**	*e*PN		**P**	**04 08 07.0**	**-0.9**
PXZ	**Pawanui**	**26.13**	**197**	*e*PN		**P**	**04 08 09.8**	**-0.2**
BFZ	**Birch Farm**	**26.91**	**198**	*e*P		**P**	**04 08 17.6**	**+0.6**
	56nm,0.7s							
THZ	**Tophouse**	**28.98**	**202**	*e*PN		**P**	**04 08 32.6**	**-2.9**
KHZ	**Kahutara**	**29.34**	**200**	*e*P		**P**	**04 08 37.9**	**-0.7**
	345nm,2.2s							
RPZ	**Rata Peaks**	**31.34**	**202**	P		**P**	**04 08 55.4**	**-1.0**
	9.8nm,0.5s,baz=331,slow=1.4,SNR=12							
RPZ				LR		LR	04 21 26.7	
	comp=Z,2μm,19.0s,baz=46,slow=36							
RPZ	**Rata Peaks**	**31.34**	**202**	*e*P		**P**	**04 08 56.0**	**-0.4**
TAOE	**Nuku Hiva Isla**	**32.96**	**83**	*e*T		T	04 43 26.8	
	333nm,0.3s							
WHZ	**Wether Hill Ro**	**34.36**	**204**	*e*P		**P**	**04 09 22.4**	**-0.3**
	138nm,1.1s							
ARMA	**Armidale**	**35.53**	**239**	P		**P**	**04 09 32.2**	**-0.9**
	baz=36,SNR=9.0							
ARMA	**Armidale**	**35.53**	**239**	*e*P		**P**	**04 09 30.9**	**-2.2**
	9.3nm,0.7s							
RKT	**Rikitea**	**36.89**	**108**	*e*S		**S**	**04 15 25.9**	**-0.3**
	358nm,34.5s							
RKT				*e*LQ		LQ	04 18 01.1	
	600nm,25.0s							
RKT				*e*LR		LR	04 19 26.8	
	2μm,28.5s,baz=285							
RKT	**Rikitea**	**36.89**	**108**	*e*T		T	04 48 30.0	
	13nm,0.3s							
CNB	**Canberra Magne**	**38.94**	**232**	P		**P**	**04 10 00.9**	**-1.0**
	baz=40,SNR=5.3							
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T		T	04 50 42.6	
	baz=146,slow=76,SNR=22							
H11S3	**WAKE ISLAND Hy**	**38.95**	**329**	T		T	04 50 42.9	
	baz=146,slow=76,SNR=8.6							
H11S1	**WAKE ISLAND Hy**	**38.96**	**329**	T		T	04 50 43.5	
	baz=146,slow=76,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**39.88**	**330**	T		T	04 51 50.9	
	baz=147,slow=76,SNR=29							
H11N1	**WAKE ISLAND Hy**	**39.89**	**330**	T		T	04 52 11.4	
	baz=147,slow=76,SNR=26							
H11N2	**WAKE ISLAND Hy**	**39.90**	**330**	T		T	04 51 49.8	
	baz=147,slow=76,SNR=28							
CMSA	**Cobar Meteorol**	**40.74**	**239**	P		**P**	**04 10 15.7**	**-1.2**
	baz=42,SNR=7.8							
QLP	**Quilpie**	**41.10**	**247**	P		**P**	**04 10 19.1**	**-0.8**
	baz=42,SNR=4.0							
TOO	**Toolangi**	**42.65**	**231**	P		**P**	**04 10 31.5**	**-0.9**
	baz=43,SNR=5.2							
STKA	**Stephens Creek**	**44.22**	**240**	P		**P**	**04 10 44.0**	**-1.1**
	9.7nm,0.8s,baz=71,slow=7.2,SNR=35							
STKA				LR		LR	04 26 39.7	
	comp=Z,522nm,21.8s,baz=63,slow=32							
STKA	**Stephens Creek**	**44.22**	**240**	*e*P		**P**	**04 10 44.5**	**-0.7**
STKA	**Stephens Creek**	**44.22**	**240**	P		**P**	**04 10 44.5**	**-0.7**
	baz=45,SNR=16							
STKA	**Stephens Creek**	**44.22**	**240**	*e*P		**P**	**04 10 44.5**	**-0.7**
	3.4nm,1.0s							
BBOO	**Buckleboo**	**49.00**	**240**	P		**P**	**04 11 21.3**	**-1.3**
	baz=50,SNR=10							
BBOO	**Buckleboo**	**49.00**	**240**	*e*P		**P**	**04 11 21.0**	**-1.6**
	34nm,2.3s							

WRAB	**Tennant Creek**	**50.01**	**257**	P		**P**	**04 11 28.7**	**-1.7**
	62nm,0.8s,SNR=9.8							
WRAB	**Tennant Creek**	**50.01**	**257**	*e*P		**P**	**04 11 28.3**	**-2.1**
WRAB				pmax		pmax		
	comp=Z,16nm,0.9s							
WRAB	**Tennant Creek**	**50.01**	**257**	*e*P		**P**	**04 11 28.3**	**-2.1**
	comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**50.01**	**257**	P		**P**	**04 11 29.0**	**-1.5**
	comp=Z,4.9nm,0.8s,baz=92,slow=7.0,SNR=80							
WRA				LR		LR	04 31 24.1	
	comp=Z,499nm,20.7s,baz=105,slow=34							
AS12	**Alice Springs**	**50.29**	**252**	*e*P		**P**	**04 11 31.1**	**-1.4**
AS12				*e*S		**S**	**04 18 37.8**	**-4.1**
ASAR	**Alice Springs**	**50.29**	**252**	P		**P**	**04 11 31.1**	**-1.4**
	comp=Z,10nm,0.5s,baz=88,slow=7.9,SNR=126							
ASAR				S		**S**	**04 18 37.8**	**-4.1**
	comp=Z,0.5nm,0.9s,baz=81,slow=17,SNR=4.6							
ASAR				LR		LR	04 31 40.8	
	comp=Z,662nm,19.9s,baz=91,slow=35							
KDU	**Kakadu**	**52.63**	**266**	P		P	04 11 53.6	+3.5
	baz=53,SNR=3.3							
WRKA	**Warakurna**	**55.37**	**250**	P		**P**	**04 12 09.1**	**-0.9**
	baz=56,SNR=85							
FORT	**Forrest**	**55.60**	**243**	P		**P**	**04 12 10.1**	**-1.5**
	baz=56,SNR=15							
FORT	**Forrest**	**55.60**	**243**	*e*P		**P**	**04 12 09.8**	**-1.7**
	comp=Z,25nm,0.6s							
FITZ	**Fitzroy Crossi**	**58.38**	**258**	P		**P**	**04 12 32.4**	**+1.1**
	baz=59,SNR=3.6							
RPN	**Rapa Nui**	**60.20**	**113**	LR		LR	04 31 59.6	
	comp=Z,230nm,19.3s,baz=259,slow=29							
SBA	**Scott Base**	**63.38**	**185**	*e*P		**P**	**04 13 06.9**	**+2.6**
SBA				pmax		pmax		
	comp=Z,27nm,0.9s							
SBA	**Scott Base**	**63.38**	**185**	*e*P		**P**	**04 13 06.9**	**+2.6**
	comp=Z,26nm,0.9s							
VNDA	**Vanda**	**63.51**	**186**	P		**P**	**04 13 06.6**	**+1.4**
	comp=Z,16nm,1.1s,baz=10,slow=6.6,SNR=48							
VNDA				LR		LR	04 35 17.1	
	comp=Z,252nm,21.9s,baz=14,slow=31							
VNDA	**Vanda**	**63.51**	**186**	*e*P		**P**	**04 13 06.8**	**+1.6**
VNDA				pmax		pmax		
	comp=Z,39nm,1.4s							
VNDA	**Vanda**	**63.51**	**186**	*e*P		**P**	**04 13 06.8**	**+1.6**
	comp=Z,39nm,1.4s							
MJAR	**Matsushiro Arr**	**68.94**	**320**	P		**P**	**04 13 40.4**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=159,slow=6.6,SNR=10							
MJAR				LR		LR	04 38 25.2	
	comp=Z,650nm,21.8s,baz=130,slow=31							
MAJO	**Matsushiro**	**68.95**	**320**	⇓*e*P		**P**	**04 13 40.9**	**+0.2**
MAJO				pmax		pmax		
	comp=Z,145nm,1.7s							
MAJO	**Matsushiro**	**68.95**	**320**	*e*P		**P**	**04 13 40.4**	**-0.3**
	comp=Z,30nm,1.3s							
YUK	**Yuzh-Kuril'sk**	**69.83**	**330**	*ce*P		**P**	**04 13 43.9**	**-2.0**
YUK				*e*S		**S**	**04 22 51.1**	**-0.6**
H06S1	**SOCORRO T**	**70.02**	**63**	T		T	05 30 26.4	
H06E1	**SOCORRO T-PHAS**	**70.07**	**63**	T		T	05 30 25.8	
	SNR=6.6							
CASY	**Casey**	**70.58**	**205**	*e*P		**P**	**04 13 50.0**	**-0.2**
	comp=Z,11nm,0.9s							
VES	**Vestal, Richgr**	**72.16**	**44**	⇓P		**P**	**04 14 00.6**	**+0.3**
	baz=72							
PET	**Petropavlovsk**	**72.21**	**343**	*e*P		**P**	**04 13 59.9**	**-0.2**
PET				*e*			04 16 45.1	
PET				*e*S		**S**	**04 23 18.2**	**-0.7**
PET				*e*PS		**PnS**	**04 23 49.5**	**-5.6**
PET				*e*PS			04 24 00.7	
PET				pmax		pmax		
	comp=Z,37nm,1.0s							
PET				pmax		pmax		
	comp=Z,100nm,14.5s							
PEA2	**Petropavlovsk-**	**72.56**	**342**	*e*P		**P**	**04 14 02.2**	**0.0**
PETK	**Petropavlovsk-**	**72.56**	**342**	P		**P**	**04 14 02.2**	**0.0**
	comp=Z,14nm,0.8s,baz=126,slow=9.3,SNR=20							
PETK				LR		LR	04 41 35.0	
	comp=Z,197nm,20.9s,baz=158,slow=32							
BORC	**Borrego Spring**	**72.58**	**47**	*e*PKiKP		**PKiKP**	**04 20 00.7**	**-3.2**
YUH	**Yuha Desert**	**72.61**	**48**	*e*P		**P**	**04 14 00.9**	**-2.1**
WDC	**Whiskeytown Da**	**72.80**	**38**	*e*P		**P**	**04 14 04.2**	**+0.2**
WDC				pmax		pmax		
	comp=Z,55nm,1.7s							
WDC	**Whiskeytown Da**	**72.80**	**38**	*e*P		**P**	**04 14 04.2**	**+0.2**
	comp=Z,55nm,1.7s							
SWSC	**Sam W. Stewart**	**72.85**	**48**	*e*PKiKP		**PKiKP**	**04 20 02.6**	**-1.7**
N02D	**Trinity Center**	**72.94**	**38**	⇓P		**P**	**04 14 04.8**	**-0.1**
	baz=73							
MPMC	**Manual Prospec**	**73.35**	**44**	⇓P		**P**	**04 14 07.3**	**-0

BMN Battle Mountai 75.97 41 eP P 04 14 22.2 -0.4
comp=Z,7.2nm,0.7s
F04D Rainier, OR 76.02 33 ⇓P P 04 14 23.2 +0.6
baz=76
KSRS Korea Array 76.18 315 P P 04 14 24.8 +1.1
comp=Z,2.0nm,0.6s,baz=125,slow=6.4,SNR=7.7
KSRS pP pP 04 14 45.0 +7.1
comp=Z,7.9nm,1.1s,baz=118,slow=6.9,SNR=4.2
KSRS LR LR 04 42 00.6
comp=Z,258nm,21.9s,baz=106,slow=31
KS15 Wonju Array Si 76.20 315 eP P 04 14 24.8 +1.0
KS15 epP pP 04 14 45.0 +7.0
TUC Tucson 76.20 51 eP P 04 14 23.7 -0.3
TUC pmax pmax
comp=Z,15nm,1.0s
TUC Tucson 76.20 51 eP P 04 14 23.7 -0.3
comp=Z,15nm,1.0s
WVOR Wild Horse Val 76.25 38 eP P 04 14 23.5 -0.6
WVOR pmax pmax
comp=Z,20nm,1.1s
WVOR Wild Horse Val 76.25 38 eP P 04 14 23.5 -0.6
comp=Z,20nm,1.1s
G05D Wamic, OR 76.41 35 ⇑P P 04 14 25.3 +0.5
baz=77
I07A Izee 76.72 37 eP P 04 14 26.5 -0.2
comp=Z,31nm,1.3s
X16A Lo Mia Camp, P 76.73 48 ⇑P P 04 14 27.2 +0.1
baz=77
G06A Carlson Farm, 76.78 35 eP P 04 14 25.9 -1.0
319A Douglas 76.90 52 ⇓P P 04 14 28.2 +0.2
baz=77
CCUT Cedar City 76.94 45 eP P 04 14 28.1 -0.2
comp=Z,34nm,1.8s
KNB Kanab 77.04 46 eP P 04 14 27.3 -1.5
KNB pmax pmax
comp=Z,117nm,2.2s
KNB Kanab 77.04 46 eP P 04 14 27.3 -1.5
comp=Z,117nm,2.2s
LON Longmire 77.09 33 eP P 04 14 27.1 -1.5
LON pmax pmax
comp=Z,122nm,2.6s
LON Longmire 77.09 33 eP P 04 14 27.1 -1.5
comp=Z,122nm,2.6s
U15A North Rim 77.11 46 ⇑P P 04 14 29.3 0.0
baz=77
D05A Enumclaw 77.27 33 eP P 04 14 29.9 +0.4
comp=Z,66nm,1.3s
WUAZ Wupatki 77.31 48 ⇓P P 04 14 30.1 -0.3
baz=77
WUAZ Wupatki 77.31 48 eP P 04 14 30.4 +0.1
comp=Z,73nm,2.1s
USRK Ussuriysk Ar. 77.38 323 P P 04 14 31.1 +0.9
comp=Z,6.7nm,1.1s,baz=96,slow=5.7,SNR=16
USRK LR LR 04 42 15.0
comp=Z,716nm,21.9s,baz=119,slow=31
ELK Elko 77.40 41 eP P 04 14 30.4 -0.4
ELK pmax pmax
comp=Z,59nm,2.2s
ELK Elko 77.40 41 eP P 04 14 30.4 -0.4
comp=Z,58nm,2.2s
SVW2 Sparrevohn 77.42 9 eP P 04 14 29.4 -0.8
comp=Z,15nm,0.9s
SEW Seward 77.55 12 eP P 04 14 28.4 -2.4
comp=Z,32nm,1.0s
G08A Pilot Rock 77.75 36 eP P 04 14 31.6 -0.9
comp=Z,37nm,1.1s
X18A Snowflake 77.86 49 ⇑P P 04 14 33.1 -0.3
baz=78
LTY Liberty 78.01 34 eP P 04 14 32.2 -1.6
comp=Z,141nm,2.6s
E07A Sunnyside 78.02 34 eP P 04 14 33.1 -0.7
comp=Z,23nm,1.0s
HAWA Hanford 78.10 35 eP P 04 14 32.8 -1.4
comp=Z,28nm,1.1s
MVU Marysvale 78.21 45 eP P 04 14 33.5 -1.8
comp=Z,17nm,1.3s
HABR Khabarovsk 78.32 328 eP P 04 14 33.9 -1.4
HABR e 04 14 43.1
HABR e*SP sP 04 14 48.4 -6.9
HABR e 04 17 30.4
HABR ePPP PPP 04 19 18.4
HABR eS S 04 24 26.9 +0.1
HABR e*SS SKSac 04 24 44.4 -1.3
HABR e 04 24 51.3
HABR eSS SS 04 29 29.5 -1.2
HABR pmax pmax
comp=Z,54nm,1.4s
RC01 Rabbit Creek A 78.40 11 eP P 04 14 34.5 -1.0
comp=Z,55nm,1.2s
BMO Blue Mountains 78.44 37 eP P 04 14 34.5 -1.8
BMO pmax pmax
comp=Z,25nm,1.3s
BMO Blue Mountains 78.44 37 eP P 04 14 34.5 -1.8
comp=Z,25nm,1.3s
MFID Camas Ranch 78.50 39 eP P 04 14 35.6 -1.1
comp=Z,17nm,1.0s
121A Cookes Peak, D 78.56 52 ⇑P P 04 14 37.4 +0.1
baz=79
DUG Dugway, Tooele 78.67 43 eP P 04 14 36.3 -1.4
DUG pmax pmax
comp=Z,18nm,1.2s
DUG Dugway, Tooele 78.67 43 ⇓P P 04 14 37.5 -0.2
baz=79
DUG Dugway, Tooele 78.67 43 eP P 04 14 36.3 -1.4
comp=Z,18nm,1.2s
GAMB Gambell 78.82 1 eP P 04 14 37.6 -0.1
comp=Z,40nm,1.2s
D08A Wollman Farm, 78.83 34 eP P 04 14 36.4 -1.9
BGU Big Grassy Mou 78.91 42 eP P 04 14 37.5 -1.6
comp=Z,50nm,2.0s
E09A Wood Farm, Sta 78.94 35 eP P 04 14 37.3 -1.6
comp=Z,18nm,1.0s
PMR Palmer 78.98 11 eP P 04 14 37.4 -1.3
PMR Palmer 78.98 11 eP P 04 14 37.4 -1.3
MDJ Mudanjiang 79.02 322 P P 04 14 40.1 +0.8
MDJ pP pP 04 14 51.3 -2.5
MDJ sP sP 04 14 57.0 -2.3
MDJ S S 04 24 39.3 +4.7
MDJ PMZ
comp=Z,7.0nm,0.9s
MDJ PMZ
comp=Z,160nm,6.2s
MDJ LN
comp=Z,290nm,22.2s
MDJ LE
comp=Z,410nm,24.3s
MDJ LZ
comp=Z,740nm,28.6s
NLU North Lily Min 79.04 43 eP P 04 14 39.0 -0.9
comp=Z,12nm,1.3s
F10A Beach Ranch, E 79.14 36 eP P 04 14 39.1 -1.0
DIV Divide 79.25 13 eP P 04 14 38.9 -1.4
comp=Z,59nm,1.0s
MPU Maple Canyon 79.36 43 eP P 04 14 40.2 -1.4
comp=Z,20nm,1.3s
BMRM Bremner River 79.37 14 eP P 04 14 39.4 -1.6
comp=Z,86nm,1.1s
B08A Colville Reser 79.40 33 eP P 04 14 39.4 -2.0
comp=Z,20nm,1.1s
HLID Hailey 79.44 39 ⇓P P 04 14 41.9 -0.1
baz=80
HLID Hailey 79.44 39 eP P 04 14 40.5 -1.4
comp=Z,23nm,1.0s
HVU Hansel Valley 79.52 41 eP P 04 14 41.0 -1.4
HVU pmax pmax
comp=Z,21nm,1.1s
HVU Hansel Valley 79.52 41 eP P 04 14 41.0 -1.4
comp=Z,21nm,1.1s
C09A Chrisman Ranch 79.63 34 eP P 04 14 40.7 -1.9
comp=Z,33nm,1.4s
PPLA Purkeypile 79.65 10 eP P 04 14 40.6 -2.0
comp=Z,34nm,1.4s
SRU San Rafael Swe 79.66 45 eP P 04 14 42.3 -0.9
SRU pmax pmax
comp=Z,19nm,1.2s
SRU San Rafael Swe 79.66 45 eP P 04 14 42.2 -0.9
comp=Z,19nm,1.2s
JLU Jordanelle 79.78 43 eP P 04 14 42.7 -1.2
comp=Z,15nm,1.1s
DAU Daniels Canyon 79.81 43 eP P 04 14 43.3 -0.9
DAU Daniels Canyon 79.81 43 eP P 04 14 43.2 -0.9
LAZ Ladron 79.87 50 eP P 04 14 43.5 -1.0
LENM Lemitar 79.89 50 eP P 04 14 44.2 -0.3
MNTX Cornudas Mount 80.04 53 ⇓P P 04 14 44.8 -0.4
baz=80,SNR=10.0
BNM Barren Site 80.14 51 eP P 04 14 45.9 0.0
MVCO Mesa Verde 80.16 47 eP P 04 14 43.9 -2.2
comp=Z,12nm,1.3s
CAST Castle Rocks 80.16 9 eP P 04 14 42.6 -2.5
comp=Z,8.9nm,0.9s
LPM Los Pinos Moun 80.21 50 eP P 04 14 46.5 +0.2
HWUT Hardware Ranch 80.21 42 eP P 04 14 45.0 -1.1
comp=Z,7.1nm,0.5s
PV09 Paradox Valley 80.32 46 eP P 04 14 47.1 +0.2
PV10 Paradox Valley 80.32 46 eP P 04 14 45.3 -1.6
LTX Lajitas 80.42 56 eP P 04 14 47.8 +0.3
LTX Lajitas 80.42 56 eP P 04 14 47.8 +0.3
TXAR Lajitas Array 80.42 56 P P 04 14 47.8 +0.3
comp=Z,4.8nm,1.0s,baz=232,slow=6.1,SNR=30
KTH Kantishna Hill 80.47 10 eP P 04 14 45.0 -1.9
comp=Z,47nm,1.1s
TRF Thorofare Moun 80.48 10 eP P 04 14 45.8 -1.3
comp=Z,61nm,1.1s
NEW Newport 80.53 34 P P 04 14 46.5 -1.0
comp=Z,3.3nm,0.7s,baz=253,slow=4.7,SNR=7.6
NEW Newport 80.53 34 eP P 04 14 45.7 -1.8
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 80.53 34 ⇑P P 04 14 46.5 -1.0
baz=81,SNR=6.0
NEW Newport 80.53 34 eP P 04 14 45.7 -1.8
comp=Z,8.3nm,1.0s
PV01 Paradox Valley 80.54 46 eP P 04 14 47.3 -0.7
SKAG Skagway 80.58 19 eP P 04 14 46.5 -1.0
comp=Z,29nm,1.1s
ANMO Albuquerque 80.61 50 dP P 04 14 48.0 -0.5
ANMO pmax pmax
comp=Z,39nm,1.0s
ANMO Albuquerque 80.61 50 eP P 04 14 47.4 -1.1
comp=Z,21nm,1.4s
TNA Tin City 80.70 2 eP P 04 14 47.8 -0.1
comp=Z,50nm,1.2s
PAX Paxson 80.96 12 eP P 04 14 48.0 -1.5
PAX pmax pmax
comp=Z,36nm,1.4s
PAX Paxson 80.96 12 eP P 04 14 48.0 -1.5
comp=Z,36nm,1.4s
MCK McKinley 80.98 11 eP P 04 14 48.5 -1.0
MCK pmax pmax
comp=Z,75nm,0.9s
MCK McKinley 80.98 11 eP P 04 14 48.5 -1.0
comp=Z,75nm,0.9s
HYT Haines Junctio 81.06 17 eP P 04 14 49.7 -0.4
MCMT McKenzie Canyo 81.07 39 eP P 04 14 50.4 -0.3
AHID Auburn Hatcher 81.09 41 eP P 04 14 50.1 -0.7
comp=Z,18nm,1.0s
CN2 Changchun 81.09 320 eP P 04 14 51.8 +1.3
CN2 eSP sP 04 15 10.1 -0.5
CN2 eS S 04 24 56.8 +0.4
CN2 eSS SS 04 30 15.5 +3.0
CN2 PMZ
comp=Z,20nm,1.1s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,500nm,15.0s
CN2 LE
comp=Z,400nm,15.0s
CN2 LZ
comp=Z,600nm,17.0s
MSO Missoula 81.50 37 ⇑P P 04 14 51.9 -0.9
baz=82,SNR=14
MSO Missoula 81.50 37 eP P 04 14 51.4 -1.3
comp=Z,28nm,1.1s
DLMT Dillon 81.51 38 eP P 04 14 51.5 -1.4
comp=Z,23nm,1.1s
DLBC Dease Lake 81.54 21 P P 04 14 52.4 -0.3
comp=Z,6.7nm,0.9s,baz=222,slow=7.8,SNR=12
DLBC Dease Lake 81.54 21 eP P 04 14 51.4 -1.3
REDW Red Top Meadow 81.55 41 eP P 04 14 52.6 -0.7
comp=Z,36nm,1.3s
TPAW Teton Pass 81.55 41 eP P 04 14 52.1 -1.3
comp=Z,26nm,1.1s
FXWY Fox Creek 81.58 40 eP P 04 14 53.3 -0.2
comp=Z,27nm,1.4s
BSMT Bassoo Peak 81.58 35 eP P 04 14 52.2 -1.1
S22A 4UR Ranch, Cre 81.58 47 ⇓P P 04 14 53.7 0.0
baz=82,SNR=14
S22A 4UR Ranch, Cre 81.58 47 eP P 04 14 53.6 0.0
comp=Z,98nm,2.1s
SNOW Snow King Moun 81.66 41 eP P 04 14 53.0 -0.9
comp=Z,28nm,1.1s
O20A White River Ci 81.69 45 ⇑P P 04 14 53.3 -0.8
baz=82
O20A White River Ci 81.69 45 eP P 04 14 53.5 -0.6
comp=Z,30nm,2.3s
IMW Indian Meadow 81.77 40 eP P 04 14 53.7 -0.8
comp=Z,32nm,1.3s
JTMT Jette 81.81 36 eP P 04 14 53.0 -1.4
LOHW Long Hollow 81.83 41 eP P 04 14 53.9 -0.9
comp=Z,43nm,1.6s
LRM Limekiln Ridge 81.83 38 eP P 04 14 53.7 -1.0
SWMT Swartz Lake 81.84 36 eP P 04 14 52.9 -1.7
DOT Dot Lake 81.86 13 eP P 04 14 53.1 -1.1
comp=Z,43nm,1.0s
529A Stev Forest Ra 81.89 56 ⇑P P 04 14 54.9 -0.3
baz=82,SNR=9.0
BLMT Blacktail Moun 81.91 35 eP P 04 14 54.1 -0.9
QLMT Earthquake Lak 81.94 39 eP P 04 14 55.0 -0.3
CHMT Chamberlain Mo 81.94 37 eP P 04 14 53.6 -1.7
SLMT Seeley Lake 81.98 36 eP P 04 14 53.4 -2.0
I17A Pilgrim Ck. 82.00 40 ⇑P P 04 14 56.1 +0.4
baz=82,SNR=14
FLWY Flagg Ranch 82.01 40 eP P 04 14 55.2 -0.5
comp=Z,42nm,1.2s
N20A Spence Gulch, 82.01 44 ⇓P P 04 14 55.2 -0.6
baz=82,SNR=11
BW06 Boulder Array 82.08 42 eP P 04 14 54.8 -1.3
comp=Z,34nm,1.4s
PD31 Pinedale Array 82.08 42 eP P 04 14 55.3 -0.8
PDAR Pinedale Array 82.08 42 P P 04 14 55.3 -0.8
comp=Z,6.9nm,1.0s,baz=209,slow=2.7,SNR=34
YFT Old Faithful 82.11 40 eP P 04 14 56.1 -0.2
comp=Z,19nm,1.2s
SMCO Snowmass 82.12 46 eP P 04 14 56.0 -0.7
comp=Z,41nm,1.5s
YMR Madison River 82.14 40 eP P 04 14 55.9 -0.5
comp=Z,67nm,1.4s
COLA College 82.22 11 eP P 04 14 54.9 -1.1
COLA pmax pmax
comp=Z,88nm,0.9s
COLA College 82.22 11 eP P 04 14 54.9 -1.1
comp=Z,88nm,0.9s
BOZ Bozeman (W) 82.23 39 eP P 04 14 55.5 -1.2
BOZ pmax pmax
comp=Z,54nm,1.6s
BOZ Bozeman (W) 82.23 39 eP P 04 14 55.5 -1.2
comp=Z,54nm,1.6s
H17A Grant Village 82.24 40 ⇑P P 04 14 57.7 +0.8
baz=82,SNR=11
H17A Grant Village 82.24 40 eP P 04 14 57.6 +0.6
comp=Z,22nm,1.3s
ILAR Eielson Array 82.30 11 P P 04 14 55.4 -1.1
comp=Z,7.7nm,0.8s,baz=232,slow=6.3,SNR=86
ILAR LR LR 04 45 00.1
comp=Z,294nm,21.8s,baz=214,slow=31
ILB Eielson Array 82.30 11 eP P 04 14 55.4 -1.1
IM04 Indian Mountai 82.32 8 eP P 04 14 56.2 -0.4
YNR Norris Junctio 82.34 40 eP P 04 14 58.2 +0.8
comp=Z,59nm,1.7s
429A Davenport Ranc 82.34 55 ⇑P P 04 14 57.1 -0.4
baz=82,SNR=18
228A UT Block 9, Go 82.38 54 ⇓P P 04 14 57.3 -0.4
baz=82
P22A Eagle 82.46 46 ⇓P P 04 14 58.2 0.0
baz=83,SNR=10.0
R23A Moffat 82.49 47 ⇑P P 04 14 58.2 -0.2
baz=83,SNR=9.7
SDCO Great Sand Dun 82.53 48 ⇑P P 04 14 58.4 -0.2
baz=83,SNR=5.7
530A J-C Ranch, Com 82.61 56 ⇑P P 04 14 58.1 -0.8
baz=83,SNR=6.0
329A Wagon Wheel Ra 82.61 55 ⇑P P 04 14 58.3 -0.6
baz=83,SNR=10
J19A Crowheart 82.64 42 ⇓P P 04 14 58.8 -0.2
baz=83,SNR=18
128A Castleberry Fa 82.66 53 ⇑P P 04 14 58.5 -0.6
baz=83,SNR=14
HRY Holter Researc 82.67 38 eP P 04 14 58.1 -0.8
WALA Waterton Lakes 82.73 35 eP P 04 14 57.8 -1.4
comp=Z,789nm,1.3s
O22A Kremmling 82.86 45 ⇑P P 04 15 00.4 +0.1
baz=83,SNR=22
229A Bryant Ranch, 82.93 54 ⇓P P 04 14 59.9 -0.6
baz=83,SNR=6.0
430A Baggett Ranch, 82.93 56 ⇑P P 04 14 59.9 -0.7
baz=83
631A Perdido Creek 82.94 57 ⇓P P 04 14 60.0 -0.6
baz=83,SNR=11
H18A Shoshone NF, C 82.95 40 ⇑P P 04 15 00.2 -0.3
baz=83,SNR=8.4
MSTX Muleshoe 82.97 52 ⇓P P 04 15 00.2 -0.6
baz=83,SNR=8.0
MSTX Muleshoe 82.97 52 eP P 04 14 59.3 -1.4
comp=Z,27nm,1.1s
Z28A Tucker Farm, M 83.00 53 ⇑P P 04 14 59.8 -1.1
baz=83,SNR=5.4
P23A Jefferson 83.00 46 ⇓P P 04 15 01.2 +0.1
baz=83,SNR=11
QIZ Qiongzhong 83.00 292 P P 04 15 01.3 +0.2
QIZ pP pP 04 15 12.8 -2.8
QIZ sP sP 04 15 17.9 -3.2
QIZ S S 04 25 17.8 +0.8
QIZ LN
comp=Z,170nm,22.8s
QIZ LE
comp=Z,150nm,21.1s
QIZ LZ
comp=Z,410nm,24.6s
R24A Sanders Place, 83.02 47 ⇓P P 04 15 01.3 +0.2
baz=83,SNR=16
832A Faith Ranch, C 83.02 58 ⇑P P 04 15 00.1 -0.9
baz=83,SNR=6.2
T25A Trinidad 83.05 49 ⇓P P 04 15 00.9 -0.4
baz=83,SNR=12
T25A Trinidad 83.05 49 eP P 04 15 00.1 -1.1
comp=Z,12nm,0.9s
I19A Meeteetse 83.06 41 ⇑P P 04 15 00.9 -0.2
baz=83,SNR=14
129A Stewart Farms, 83.14 54 ⇓P P 04 15 01.3 -0.4
baz=83
732A Laxson Ranch, 83.19 58 ⇑P P 04 15 02.2 +0.4
baz=83
N22A Wattenberg Ran 83.21 45 ⇑P P 04 15 02.2 +0.1
baz=83,SNR=30
330A Mertzon 83.21 55 ⇑P P 04 15 01.1 -0.9
baz=83
TIA Tai'an 83.25 310 eP P 04 15 03.9 +1.9
531A Rocksprings 83.25 56 ⇓P P 04 15 01.7 -0.5
baz=83,SNR=19
DAWY Dawson 83.27 14 eP P 04 15 00.9 -0.7
comp=Z,49nm,1.2s
Q24A Divide 83.30 47 ⇓P P 04 15 02.8 +0.1
baz=83,SNR=15
Q24A Divide 83.30 47 eP P 04 15 02.4 -0.3
comp=Z,33nm,1.1s
J20A Shoshoni 83.31 42 ⇓P P 04 15 02.3 0.0
baz=84,SNR=19
O23A Lake Granby, G 83.31 45 ⇑P P 04 15 02.3 -0.3
baz=84
ISCO Idaho Springs 83.34 46 eP P 04 15 02.2 -0.6
ISCO pmax pmax
comp=Z,33nm,1.6s
ISCO Idaho Springs 83.34 46 ⇓P P 04 15 02.6 -0.2
baz=84,SNR=10
ISCO Idaho Springs 83.34 46 eP P 04 15 02.2 -0.6
comp=Z,32nm,1.6s
Y28A McKinney Farm, 83.35 52 ⇑P P 04 15 02.5 -0.2
baz=84
933A Laredo 83.36 59 ⇓P P 04 15 02.4 -0.4
baz=83
H19A Powell 83.37 40 ⇑P P 04 15 02.6 0.0
baz=84,SNR=25
M22A Cedar Creek Ra 83.39 44 ⇑P P 04 15 02.3 -0.6
baz=84,SNR=8.1
RLMT Red Lodge 83.41 40 eP P 04 15 02.0 -0.9
comp=Z,32nm,1.1s
230A Sterling City 83.44 55 ⇓P P 04 15 02.7 -0.5
baz=84
EGAK Eagle 83.47 13 eP P 04 15 01.8 -0.7
comp=Z,29nm,1.1s
GCMT Greycliff 83.49 39 eP P 04 15 03.2 -0.1
Z29A Hungry Hill Ra 83.51 53 ⇑P P 04 15 02.7 -0.9
baz=84,SNR=5.5
833A Chaparral WMA, 83.51 58 ⇑P P 04 15 02.9 -0.6
baz=84
K21A Alcova 83.51 43 ⇑P P 04 15 02.4 -1.1
baz=84,SNR=22
I20A Worland 83.56 41 ⇑P P 04 15 03.1 -0.5
baz=84,SNR=48
N23A Red Feather La 83.60 45 ⇑P P 04 15 04.3 +0.2
baz=84,SNR=14
N23A Red Feather La 83.60 45 eP P 04 15 03.9 -0.2
comp=Z,33nm,1.3s
632A Uvalde 83.62 57 ⇑P P 04 15 03.5 -0.7
baz=84
X28A Dimmitt 83.62 52 ⇓P P 04 15 03.6 -0.5
baz=84,SNR=15
034A Hebbronville 83.66 60 ⇓P P 04 15 04.2 -0.1
baz=84
T26A Comanche Natio 83.66 49 ⇑P P 04 15 03.6 -0.8
baz=84,SNR=5.9
J21A Lysite 83.72 42 ⇑P P 04 15 04.0 -0.5
baz=84,SNR=36
532A Rocksprings 83.75 57 ⇑P P 04 15 04.1 -0.7
baz=84,SNR=8.4
331A San Angelo 83.77 55 ⇑P P 04 15 04.0 -0.9
baz=84
Y29A Porterfield Fa 83.77 53 ⇑P P 04 15 04.2 -0.6
baz=84,SNR=8.7
L22A Ellis Ranch, M 83.78 44 ⇓P P 04 15 04.5 -0.4
baz=84,SNR=6.7
130A Snyder 83.83 54 ⇓P P 04 15 04.8 -0.4
baz=84
O24A Longmont 83.86 46 ⇑P P 04 15 05.4 +0.1
baz=84,SNR=6.5
H20A Greybull 83.90 41 ⇑P P 04 15 04.6 -0.7
baz=84,SNR=13
W28A Vega 83.91 51 ⇑P P 04 15 04.9 -0.7
baz=84
U27A Thompson Grove 83.92 50 ⇓P P 04 15 04.5 -1.1
baz=84,SNR=12
S26A Kim 83.93 49 ⇓P P 04 15 04.9 -0.8
baz=84,SNR=10
JCT Junction City 83.96 56 eP P 04 15 04.3 -1.6
JCT pmax pmax
comp=Z,9.0nm,1.0s
JCT Junction City 83.96 56 ⇓P P 04 15 05.3 -0.5
baz=84
JCT Junction City 83.96 56 eP P 04 15 04.3 -1.6
comp=Z,8.9nm,1.0s
F19A Roth Farm, Mol 83.97 39 ⇓P P 04 15 05.3 -0.3
baz=84,SNR=35
Z30A Sanderson Ranc 83.97 53 ⇑P P 04 15 05.0 -0.9
baz=84,SNR=7.9
X29A Tulia 83.97 52 ⇓P P 04 15 05.5 -0.4
baz=84,SNR=9.7
K22A Casper 84.00 43 ⇓P P 04 15 05.2 -0.7
baz=84,SNR=8.3
K22A Casper 84.00 43 eP P 04 15 05.4 -0.6
comp=Z,58nm,1.5s
M23A Laramie 84.00 44 ⇓P P 04 15 05.7 -0.3
baz=84,SNR=14
COLD Coldfoot 84.01 9 eP P 04 15 05.1 -0.1
comp=Z,41nm,1.2s
I21A Big Trails, Te 84.03 42 ⇓P P 04 15 05.1 -0.9
baz=84,SNR=25
231A Bronte 84.09 55 ⇓P P 04 15 05.4 -1.1
baz=84,SNR=5.7
V28A Channing 84.09 51 ⇓P P 04 15 05.4 -1.1
baz=84,SNR=5.5
633A Saathoff Ranch 84.10 57 ⇑P P 04 15 06.3 -0.3
baz=84,SNR=9.8
G20A Bridger 84.11 40 ⇑P P 04 15 05.8 -0.6
baz=84,SNR=7.8
432A Menard 84.11 56 ⇓P P 04 15 05.4 -1.3
baz=84,SNR=9.2
834A Tilden 84.14 59 ⇓P P 04 15 06.8 +0.1
baz=84,SNR=10
AMTX Amarillo 84.16 52 ⇓P P 04 15 06.5 -0.4
baz=84
AMTX Amarillo 84.16 52 eP P 04 15 05.8 -1.0
comp=Z,38nm,0.9s
P25A Willow Gulch B 84.23 47 ⇓P P 04 15 06.8 -0.3
baz=84,SNR=14
R26A Arlington 84.23 48 ⇓P P 04 15 06.5 -0.7
baz=84,SNR=7.0
T27A Campo 84.25 49 ⇓P P 04 15 06.5 -0.9
baz=84,SNR=14
W29A Amarillo 84.28 51 ⇓P P 04 15 07.0 -0.5
baz=84,SNR=11

L23A	**Garrett**	**84.30**	**44**	⇓P		**P**	**04 15 07.0**	**-0.6**
	baz=84,SNR=19								
131A	**Roby**	**84.31**	**54**	⇓P		**P**	**04 15 06.9**	**-0.7**
	baz=84,SNR=5.8								
332A	**Millersview**	**84.34**	**55**	⇓P		**P**	**04 15 06.8**	**-1.0**
	baz=84,SNR=16								
U28A	**Mallet**	**84.34**	**50**	⇑P		**P**	**04 15 06.9**	**-0.8**
	baz=84								
E19A	**Rath Farm, Rou**	**84.36**	**39**	⇓P		**P**	**04 15 07.4**	**-0.1**
	baz=84,SNR=19								
Y30A	**Stafford Cattl**	**84.37**	**53**	⇑P		**P**	**04 15 07.4**	**-0.5**
	baz=84								
J22A	**Midwest**	**84.37**	**42**	⇑P		**P**	**04 15 07.1**	**-0.7**
	baz=84,SNR=32								
734A	**La Parita Cree**	**84.39**	**58**	⇑P		**P**	**04 15 07.7**	**-0.3**
	baz=84								
BILL	**Bilibino**	**84.41**	**352**	*d* iP		**P**	**04 15 06.6**	**-0.6**
BILL				pmax		pmax			
	comp=Z,32nm,1.7s								
BILL	**Bilibino**	**84.41**	**352**	*e*P		**P**	**04 15 06.6**	**-0.6**
	comp=Z,16nm,1.0s								
F20A	**Billings**	**84.43**	**40**	⇑P		**P**	**04 15 07.5**	**-0.4**
	baz=85,SNR=8.5								
533A	**Kerrville**	**84.43**	**57**	⇓P		**P**	**04 15 07.5**	**-0.8**
	baz=84,SNR=12								
Q26A	**Hugo**	**84.44**	**47**	⇓P		**P**	**04 15 07.4**	**-0.8**
	baz=85,SNR=5.3								
EGMT	**Eagleton**	**84.55**	**37**	⇑P		**P**	**04 15 07.8**	**-0.7**
	baz=85,SNR=6.4								
EGMT	**Eagleton**	**84.55**	**37**	*e*P		**P**	**04 15 07.5**	**-1.0**
	comp=Z,31nm,1.0s								
H21A	**Big Horn, Sher**	**84.57**	**41**	⇓P		**P**	**04 15 08.1**	**-0.6**
	baz=85,SNR=14								
I22A	**9 Mile Ranch,**	**84.59**	**42**	⇓P		**P**	**04 15 08.4**	**-0.4**
	baz=85,SNR=20								
232A	**Coleman**	**84.60**	**55**	⇓P		**P**	**04 15 08.1**	**-1.0**
	baz=85,SNR=8.2								
X30A	**Coker Ranch, T**	**84.60**	**52**	⇑P		**P**	**04 15 08.5**	**-0.6**
	baz=85								
M24A	**Cheyenne**	**84.61**	**45**	⇓P		**P**	**04 15 08.9**	**-0.2**
	baz=85,SNR=6.1								
433A	**Art**	**84.63**	**56**	⇓P		**P**	**04 15 08.7**	**-0.5**
	baz=85,SNR=13								
K23A	**Bowen Ranch, D**	**84.64**	**43**	⇓P		**P**	**04 15 08.7**	**-0.5**
	baz=85,SNR=6.6								
D19A	**Cripps Ranch,**	**84.64**	**38**	⇓P		**P**	**04 15 08.8**	**-0.1**
	baz=85,SNR=37								
V29A	**Stinnett**	**84.67**	**51**	⇓P		**P**	**04 15 08.9**	**-0.5**
	baz=85								
T28A	**Walsh**	**84.72**	**49**	⇓P		**P**	**04 15 08.6**	**-1.1**
	baz=85,SNR=6.7								
Z31A	**Sharp Cattle R**	**84.74**	**54**	⇓P		**P**	**04 15 08.9**	**-0.8**
	baz=85,SNR=13								
E20A	**Meyer Farm, Mu**	**84.77**	**39**	⇓P		**P**	**04 15 09.5**	**-0.1**
	baz=85,SNR=26								
C19A	**Slack Wire Ran**	**84.82**	**38**	⇓P		**P**	**04 15 09.7**	**-0.1**
	baz=85,SNR=48								
P26A	**Davis Ranch, A**	**84.82**	**47**	⇓P		**P**	**04 15 10.1**	**-0.1**
	baz=85								
534A	**Blanco**	**84.87**	**57**	⇓P		**P**	**04 15 09.9**	**-0.6**
	baz=85,SNR=11								
ABTX	**Abilene, Hawle**	**84.87**	**54**	⇓P		**P**	**04 15 09.9**	**-0.5**
	baz=85,SNR=13								
ABTX	**Abilene, Hawle**	**84.87**	**54**	*e*P		**P**	**04 15 09.3**	**-1.2**
	comp=Z,41nm,0.9s								
Y31A	**Rekieta Farm,**	**84.89**	**53**	⇑P		**P**	**04 15 09.9**	**-0.6**
	baz=85,SNR=10								
333A	**Richland Sprin**	**84.92**	**56**	⇓P		**P**	**04 15 09.8**	**-0.9**
	baz=85,SNR=7.2								
735A	**Kenedy**	**85.00**	**58**	⇑P		**P**	**04 15 11.3**	**+0.2**
	baz=85								
D20A	**Manuel Ranch,**	**85.05**	**38**	⇑P		**P**	**04 15 11.1**	**+0.1**
	baz=85,SNR=26								
S28A	**Manter**	**85.06**	**49**	⇑P		**P**	**04 15 11.2**	**-0.2**
	baz=85								
F21A	**Absaloka Mine,**	**85.07**	**40**	⇓P		**P**	**04 15 11.5**	**+0.3**
	baz=85								
U29A	**Oasis Ranch, S**	**85.08**	**50**	⇓P		**P**	**04 15 11.5**	**0.0**
	baz=85								
KSCO	**Kaye Shedlock'**	**85.11**	**48**	⇑P		**P**	**04 15 11.6**	**0.0**
	baz=85								
KSCO	**Kaye Shedlock'**	**85.11**	**48**	*e*P		**P**	**04 15 11.0**	**-0.6**
KSCO				*ep*P		**pP**	**04 15 27.5**	**+1.4**
M25A	**Palm-Egli Farm**	**85.12**	**45**	⇓P		**P**	**04 15 11.4**	**-0.2**
	baz=85								
K24A	**Anderson Ranch**	**85.16**	**43**	⇓P		**P**	**04 15 11.3**	**-0.5**
	baz=85,SNR=6.3								
635A	**Leesville**	**85.22**	**58**	⇑P		**P**	**04 15 11.8**	**-0.4**
	baz=85								
B19A	**Brinkman Farms**	**85.23**	**37**	⇓P		**P**	**04 15 11.5**	**-0.3**
	baz=85,SNR=5.7								
233A	**Rising Star**	**85.24**	**55**	⇓P		**P**	**04 15 11.8**	**-0.5**
	baz=85,SNR=8.5								
V30A	**Spur Ranch, Mi**	**85.25**	**51**	⇑P		**P**	**04 15 12.3**	**0.0**
	baz=85								
Z32A	**Haskell**	**85.25**	**54**	⇓P		**P**	**04 15 12.0**	**-0.3**
	baz=85,SNR=48								
EDM	**Edmonton**	**85.31**	**31**	*e*P		**P**	**04 15 10.6**	**-1.5**
EDM	**Edmonton**	**85.31**	**31**	*e*P		**P**	**04 15 10.6**	**-1.5**
G22A	**Birney**	**85.31**	**41**	⇓P		**P**	**04 15 12.2**	**-0.2**
	baz=86								
434A	**Burnet**	**85.31**	**56**	⇑P		**P**	**04 15 11.9**	**-0.8**
	baz=85,SNR=14								
X31A	**McDonald Ranch**	**85.36**	**52**	⇑P		**P**	**04 15 11.7**	**-1.1**
	baz=86,SNR=7.8								
R28A	**Tribune**	**85.42**	**48**	⇓P		**P**	**04 15 12.6**	**-0.6**
	baz=86,SNR=12								
C20A	**Veseth Ranch,**	**85.43**	**38**	⇓P		**P**	**04 15 12.8**	**-0.1**
	baz=86,SNR=33								
E21A	**Keefer Ranch,**	**85.43**	**39**	⇑P		**P**	**04 15 13.0**	**+0.1**
	baz=86,SNR=8.5								
133A	**Hamilton Ranch**	**85.44**	**55**	⇑P		**P**	**04 15 13.0**	**-0.2**
	baz=86,SNR=8.8								
BJI	**Beijing**	**85.50**	**313**	P		**P**	**04 15 13.8**	**+0.5**
BJI				S		**S**	**04 25 42.5**	**+1.4**
BJI				SS		**SS**	**04 31 19.8**	**+1.9**
BJI				PMZ					
	comp=Z,16nm,2.3s								
BJI				PMZ					
	comp=Z,160nm,4.2s								
BJI				LN					
	comp=Z,220nm,14.5s								
BJI				LE					
	comp=Z,240nm,24.9s								
BJI				LZ					
	comp=Z,300nm,27.6s								
334A	**Lometa**	**85.52**	**56**	⇑P		**P**	**04 15 13.2**	**-0.5**
	baz=86,SNR=13								
J24A	**Dixon Ranch, L**	**85.53**	**43**	⇓P		**P**	**04 15 13.4**	**-0.2**
	baz=86								
Y32A	**R-V Farms, Ver**	**85.54**	**53**	⇓P		**P**	**04 15 13.4**	**-0.3**
	baz=86,SNR=16								
U30A	**WK&E Inc. Balk**	**85.57**	**50**	⇑P		**P**	**04 15 13.5**	**-0.3**
	baz=86								
A19A	**Klindworth Far**	**85.58**	**37**	⇓P		**P**	**04 15 13.1**	**-0.5**
	baz=86,SNR=15								
F22A	**Rosebud**	**85.59**	**40**	⇓P		**P**	**04 15 13.4**	**-0.3**
	baz=86								
W31A	**Holland Ranch,**	**85.59**	**52**	⇓P		**P**	**04 15 13.4**	**-0.6**
	baz=86,SNR=11								
535A	**Dale**	**85.61**	**57**	⇓P		**P**	**04 15 13.8**	**-0.3**
	baz=86								
S29A	**Ulysses**	**85.64**	**49**	⇑P		**P**	**04 15 14.2**	**-0.1**
	baz=86								
736A	**Circle Diamond**	**85.65**	**59**	⇓P		**P**	**04 15 15.0**	**+0.7**
	baz=86								
D21A	**La Casta Ranch**	**85.73**	**39**	⇑P		**P**	**04 15 14.4**	**0.0**
	baz=86,SNR=14								
K25A	**Mack Ranch, Ha**	**85.74**	**44**	⇓P		**P**	**04 15 14.9**	**+0.3**
	baz=86								
B20A	**Solberg Farm,**	**85.76**	**37**	⇑P		**P**	**04 15 14.3**	**-0.2**
	baz=86,SNR=17								
I24A	**Kuemmerle Ranc**	**85.78**	**42**	⇑P		**P**	**04 15 14.6**	**-0.2**
	baz=86								
Z33A	**Whitaker Ranch**	**85.80**	**54**	⇑P		**P**	**04 15 14.7**	**-0.3**
	baz=86,SNR=15								
X32A	**Elmer**	**85.81**	**53**	⇓P		**P**	**04 15 14.2**	**-0.8**
	baz=86,SNR=20								
636A	**Smothers Creek**	**85.84**	**58**	⇑P		**P**	**04 15 15.3**	**+0.1**
	baz=86								
234A	**Clairette**	**85.84**	**55**	⇓P		**P**	**04 15 14.7**	**-0.5**
	baz=86,SNR=6.9								
435B	**Jarrell**	**85.85**	**57**	⇓P		**P**	**04 15 14.8**	**-0.5**
	baz=86								
T30A	**Plains**	**85.86**	**50**	⇓P		**P**	**04 15 14.7**	**-0.6**
	baz=86								
G23A	**Biddle**	**85.88**	**41**	⇑P		**P**	**04 15 14.5**	**-0.7**
	baz=86,SNR=5.8								
V31A	**Spring Creek L**	**85.89**	**51**	⇑P		**P**	**04 15 15.5**	**0.0**
	baz=86,SNR=6.6								
N27A	**Anderson Farm,**	**85.90**	**46**	⇑P		**P**	**04 15 15.2**	**-0.3**
	baz=86								
USHA	**Ushuaia**	**85.93**	**146**	LR		LR	04 44 31.3		
	comp=Z,745nm,21.7s,baz=240,slow=29								
R29A	**Marienthal**	**85.94**	**49**	⇓P		**P**	**04 15 15.6**	**0.0**
	baz=86								
C21A	**Desert Coulee**	**86.02**	**38**	⇓P		**P**	**04 15 15.6**	**-0.2**
	baz=86,SNR=11								
LAO	**LASA Array**	**86.02**	**39**	*e*P		**P**	**04 15 15.8**	**-0.1**
	comp=Z,56nm,1.2s								
A20A	**Cobblestone Ra**	**86.03**	**37**	⇑P		**P**	**04 15 15.4**	**-0.5**
	baz=86,SNR=28								
E22A	**Miles City**	**86.08**	**40**	⇓P		**P**	**04 15 16.0**	**-0.2**
	baz=86								
134A	**White-Moore Ra**	**86.09**	**55**	⇓P		**P**	**04 15 15.8**	**-0.6**
	baz=86								
F23A	**Volborg**	**86.10**	**41**	⇓P		**P**	**04 15 15.8**	**-0.5**
	baz=86,SNR=12								
W32A	**Sentinel**	**86.10**	**52**	⇑P		**P**	**04 15 16.1**	**-0.3**
	baz=86,SNR=17								
S30A	**Montezuma**	**86.13**	**49**	⇓P		**P**	**04 15 16.3**	**-0.3**
	baz=86								
335A	**Moody**	**86.15**	**56**	⇓P		**P**	**04 15 16.3**	**-0.5**
	baz=86,SNR=6.0								
O28A	**Kutsinger Ran**	**86.16**	**47**	⇓P		**P**	**04 15 16.6**	**-0.1**
	baz=86								
Y33A	**Hilltop Ranch,**	**86.17**	**53**	⇑P		**P**	**04 15 15.9**	**-0.9**
	baz=86,SNR=6.1								
H24A	**Dirks Ranch, A**	**86.21**	**42**	⇓P		**P**	**04 15 15.7**	**-1.1**
	baz=86,SNR=14								
K26A	**Motz Farm, Whi**	**86.24**	**44**	⇓P		**P**	**04 15 16.5**	**-0.6**
	baz=86,SNR=5.5								
D22A	**Cohagen**	**86.26**	**39**	⇑P		**P**	**04 15 17.1**	**+0.1**
	baz=86,SNR=11								
RSSD	**Black Hills**	**86.28**	**42**	*e*P		**P**	**04 15 15.7**	**-1.7**
RSSD				pmax		pmax			
	comp=Z,26nm,1.1s								
RSSD	**Black Hills**	**86.28**	**42**	*e*P		**P**	**04 15 15.7**	**-1.7**
	comp=Z,26nm,1.1s								
WMOK	**Wichita Mounta**	**86.31**	**53**	*e*P		**P**	**04 15 16.3**	**-1.3**
WMOK				pmax		pmax			
	comp=Z,18nm,1.5s								
WMOK	**Wichita Mounta**	**86.31**	**53**	*e*P		**P**	**04 15 16.3**	**-1.3**
	comp=Z,18nm,1.5s								
I25A	**Rochford**	**86.43**	**43**	⇑P		**P**	**04 15 17.2**	**-0.9**
	baz=87,SNR=8.0								
X33A	**Lawton**	**86.46**	**53**	⇓P		**P**	**04 15 17.2**	**-1.1**
	baz=87,SNR=5.0								
V32A	**Arapaho**	**86.47**	**52**	⇓P		**P**	**04 15 18.5**	**+0.2**
	baz=87								
436A	**Wall Ranch, Ga**	**86.49**	**57**	⇑P		**P**	**04 15 18.4**	**0.0**
	baz=87,SNR=5.3								
Z34A	**Collier Ranch,**	**86.50**	**54**	⇓P		**P**	**04 15 18.2**	**-0.2**
	baz=87								
E23A	**Ismay**	**86.50**	**40**	⇓P		**P**	**04 15 18.3**	**+0.1**
	baz=87								
T31A	**Randall Ranch,**	**86.51**	**50**	⇓P		**P**	**04 15 18.3**	**-0.2**
	baz=87								
R30A	**Dighton**	**86.51**	**49**	⇑P		**P**	**04 15 18.1**	**-0.4**
	baz=87								
G24A	**Alzada**	**86.55**	**41**	⇓P		**P**	**04 15 18.4**	**-0.1**
	baz=87								
P29A	**Atwood**	**86.55**	**48**	⇓P		**P**	**04 15 18.1**	**-0.5**
	baz=87								
135A	**Vickery Place,**	**86.61**	**55**	⇑P		**P**	**04 15 18.6**	**-0.4**
	baz=87,SNR=6.5								
537A	**Green Hill Far**	**86.64**	**58**	⇓P		**P**	**04 15 19.2**	**0.0**
	baz=87								
336A	**Riesel**	**86.66**	**56**	⇓P		**P**	**04 15 19.0**	**-0.3**
	baz=87								
A21A	**Bergtoll Ranch**	**86.66**	**37**	⇑P		**P**	**04 15 18.6**	**-0.4**
	baz=87,SNR=10.0								
W33A	**Caddo, Fort Co**	**86.70**	**52**	⇓P		**P**	**04 15 19.7**	**+0.3**
	baz=87								
C22A	**Vida**	**86.71**	**39**	⇑P		**P**	**04 15 19.2**	**0.0**
	baz=87								
U32A	**Winter Ranch,**	**86.75**	**51**	⇓P		**P**	**04 15 19.7**	**+0.1**
	baz=87								
F24A	**Ekalaka**	**86.75**	**41**	⇓P		**P**	**04 15 19.4**	**-0.1**
	baz=87								
H25A	**Fruitdale**	**86.77**	**42**	⇓P		**P**	**04 15 19.5**	**-0.1**
	baz=87								
Q30A	**Quinter**	**86.82**	**48**	⇑P		**P**	**04 15 19.5**	**-0.4**
	baz=87								
S31A	**Mullinville**	**86.84**	**50**	⇑P		**P**	**04 15 19.4**	**-0.7**
	baz=87,SNR=5.6								
B22A	**Reddig Ranch S**	**86.89**	**38**	⇑P		**P**	**04 15 20.1**	**0.0**
	baz=87								
HKT	**Hockley**	**87.00**	**58**	*e*P		**P**	**04 15 20.3**	**-0.5**
HKT				pmax		pmax			
	comp=Z,45nm,1.7s								
HKT	**Hockley**	**87.00**	**58**	*e*P		**P**	**04 15 20.3**	**-0.5**
	comp=Z,45nm,1.7s								
X34A	**Smith Ranch, M**	**87.00**	**53**	⇓P		**P**	**04 15 20.4**	**-0.5**
	baz=87,SNR=7.1								
Z35A	**Perchaven, San**	**87.00**	**54**	⇓P		**P**	**04 15 20.9**	**0.0**
	baz=87								
P30A	**Selden**	**87.02**	**48**	⇑P		**P**	**04 15 20.5**	**-0.4**
	baz=87								
437A	**Phantom Ranch,**	**87.04**	**57**	⇑P		**P**	**04 15 20.6**	**-0.5**
	baz=87								
IPM	**Ipoh**	**87.06**	**275**	*e*P		**P**	**04 15 21.9**	**+0.3**
IPM				*ep*P		pP	04 15 45.0	+8.7
R31A	**Burdett**	**87.06**	**49**	⇑P		**P**	**04 15 20.7**	**-0.4**
	baz=87								
V33A	**Lossen Ranch,**	**87.08**	**52**	⇑P		**P**	**04 15 20.8**	**-0.4**
	baz=87								
C23A	**Lambert**	**87.16**	**39**	⇑P		**P**	**04 15 21.3**	**0.0**
	baz=87,SNR=5.7								
J27A	**Elkhorn Farm,**	**87.25**	**44**	⇓P		**P**	**04 15 21.7**	**-0.3**
	baz=87,SNR=8.6								
A22A	**Carney Farms,**	**87.25**	**37**	⇑P		**P**	**04 15 21.3**	**-0.5**
	baz=87,SNR=5.5								
S32A	**Newby Ranch, P**	**87.28**	**50**	⇓P		**P**	**04 15 21.3**	**-0.9**
	baz=87								
H26A	**Fairpoint**	**87.31**	**42**	⇑P		**P**	**04 15 21.7**	**-0.5**
	baz=87								
D24A	**Glenkive**	**87.38**	**40**	⇓P		**P**	**04 15 22.0**	**-0.4**
	baz=88								
337A	**Centerville**	**87.41**	**57**	⇓P		**P**	**04 15 23.1**	**+0.2**
	baz=88								
F25A	**Bowman**	**87.41**	**41**	⇓P		**P**	**04 15 22.3**	**-0.4**
	baz=88								
C24A	**Savage**	**87.50**	**39**	⇑P		**P**	**04 15 23.1**	**+0.1**
	baz=88								
438A	**Sam Houston St**	**87.55**	**57**	⇓P		**P**	**04 15 23.9**	**+0.3**
	baz=88								
B23A	**Brixton**	**87.57**	**38**	⇓P		**P**	**04 15 23.3**	**0.0**
	baz=88,SNR=12								
P31A	**Stockton**	**87.63**	**48**	⇑P		**P**	**04 15 22.3**	**-1.5**
	baz=88								
V34A	**Guthrie**	**87.67**	**52**	⇓P		**P**	**04 15 23.5**	**-0.6**
	baz=88								
E25A	**Miller Ranch,**	**87.69**	**40**	⇑P		**P**	**04 15 23.4**	**-0.6**
	baz=88								
G26A	**Maurine**	**87.70**	**42**	⇓P		**P**	**04 15 22.9**	**-1.1**
	baz=88								
R32A	**Long Quarter,**	**87.71**	**49**	⇑P		**P**	**04 15 23.4**	**-0.8**
	baz=88,SNR=5.6								
H27A	**Howes**	**87.77**	**43**	⇑P		**P**	**04 15 23.5**	**-0.9**
	baz=88								
L29A	**Maesberg Ranch**	**87.82**	**45**	⇑P		**P**	**04 15 24.1**	**-0.6**
	baz=88								
J28A	**Allard Ranch,**	**87.84**	**44**	⇑P		**P**	**04 15 23.7**	**-1.1**
	baz=88								
U34A	**Anderson Ranch**	**87.87**	**51**	⇓P		**P**	**04 15 24.3**	**-0.7**
	baz=88								
U34A	**Anderson Ranch**	**87.87**	**51**	*e*P		**P**	**04 15 23.8**	**-1.2**
	comp=Z,8.6nm,0.8s								
338A	**Crockett**	**87.88**	**57**	⇑P		**P**	**04 15 25.1**	**-0.1**
	baz=88								
W35A	**Tecumseh**	**87.93**	**53**	⇑P		**P**	**04 15 24.8**	**-0.5**
	baz=88								
MAW	**Mawson**	**87.95**	**199**	P		**P**	**04 15 23.6**	**-1.2**
	comp=Z,13nm,0.9s,baz=80,slow=4.8,SNR=6.8								
MAW				LR		LR	04 50 55.8		
	comp=Z,733nm,22.0s,baz=74,slow=33								
MAW	**Mawson**	**87.95**	**199**	*e*P		**P**	**04 15 24.4**	**-0.4**
MAW	**Mawson**	**87.95**	**199**	*e*P		**P**	**04 15 24.4**	**-0.4**
D25A	**Fairfield**	**88.02**	**40**	⇓P		**P**	**04 15 25.4**	**-0.1**
	baz=88								
Q32A	**Meitler Ranch,**	**88.02**	**49**	⇑P		**P**	**04 15 25.2**	**-0.5**
	baz=88								
DGMT	**Dagmar**	**88.05**	**38**	⇑P		**P**	**04 15 25.4**	**-0.2**
	baz=88,SNR=9.5								
DGMT	**Dagmar**	**88.05**	**38**	*e*P		**P**	**04 15 25.0**	**-0.5**
	comp=Z,42nm,1.0s								
DGMT				*ep*P		**pP**	**04 15 40.8**	**+0.6**
I28A	**Midland**	**88.11**	**43**	⇓P		**P**	**04 15 25.5**	**-0.5**
	baz=88								
GYA	**Guiyang**	**88.12**	**298**	⇑ *i*P		**P**	**04 15 29.3**	**+2.7**
GYA				pP		**pP**	**04 15 40.3**	**-0.9**
GYA				PP		**PP**	**04 18 56.8**	**+2.6**
GYA				SKS		**SKSac**	**04 25 49.0**	**-2.5**
GYA				S		**SKKSac**	**04 26 04.4**	**+2.5**
GYA				sS		**sS**	**04 26 28.6**	**-3.3**
GYA				SS		**SS**	**04 31 58.3**	**+1.2**
GYA				PMZ					
	comp=Z,30nm,1.1s								
GYA				PMZ					
	comp=Z,130nm,5.8s								
GYA				LN					
	comp=Z,540nm,20.8s								
GYA				LE					
	comp=Z,490nm,21.0s								
GYA				LZ					
	comp=Z,520nm,20.4s								
INK	**Inuvik**	**88.12**	**14**	P		**P**	**04 15 24.4**	**-1.0**
	comp=Z,9.6nm,1.0s,baz=213,slow=4.3,SNR=16								
INK	**Inuvik**	**88.12**	**14**	*e*P		**P**	**04 15 24.3**	**-1.1**
INK				pmax		pmax			
	comp=Z,22nm,1.2s								
INK	**Inuvik**	**88.12**	**14**	*e*P		**P**	**04 15 24.2**	**-1.1**
	comp=Z,22nm,1.2s								
G27A	**Dupree**	**88.16**	**42**	⇑P		**P**	**04 15 25.1**	**-1.1**
	baz=88								
K29A	**Lazy Trails An**	**88.20**	**45**	⇑P		**P**	**04 15 25.6**	**-0.9**
	baz=88								
R33A	**Olander Ranch,**	**88.20**	**50**	⇓P		**P**	**04 15 25.1**	**-1.4**
	baz=88								
238A	**Jacksonville**	**88.25**	**56**	⇑P		**P**	**04 15 27.3**	**+0.5**
	baz=88,SNR=5.2								
E26A	**Carlson Angus**	**88.27**	**41**	⇑P		**P**	**04 15 25.9**	**-0.9**
	baz=88								
F27A	**Lemmon**	**88.30**	**41**	⇓P		**P**	**04 15 26.1**	**-0.8**
	baz=88								
A24A	**Westby**	**88.36**	**38**	⇑P		**P**	**04 15 26.8**	**-0.3**
	baz=88,SNR=7.7								
W36A	**Wetumka**	**88.42**	**53**	⇓P		**P**	**04 15 26.7**	**-1.0**
	baz=88								
J29A	**Okreek**	**88.44**	**44**	⇑P		**P**	**04 15 27.0**	**-0.6**
	baz=89								
D26A	**Manning**	**88.52**	**40**	⇑P		**P**	**04 15 27.3**	**-0.6**
	baz=89								
Q33A	**Connelly Farm,**	**88.56**	**49**	⇓P		**P**	**04 15 27.6**	**-0.6**
	baz=89								
M31A	**Lambtecht Ranc**	**88.59**	**46**	⇑P		**P**	**04 15 27.8**	**-0.5**
	baz=89								
S34A	**Willow Spring**	**88.63**	**50**	⇓P		**P**	**04 15 28.0**	**-0.6**
	baz=89								
K30A	**Basset**	**88.64**	**45**	⇓P		**P**	**04 15 28.1**	**-0.5**
	baz=89								
XAN	**Xi'an**	**88.68**	**306**	P		**P**	**04 15 31.9**	**+2.9**
XAN				pP		**pP**	**04 15 45.8**	**+2.2**
XAN				PMZ					
	comp=Z,4.0nm,1.2s								
XAN				LN					
	comp=Z,140nm,22.5s								
XAN				LZ					
	comp=Z,68nm,19.4s								
G28A	**Parade**	**88.70**	**42**	⇑P		**P**	**04 15 27.7**	**-1.0**
	baz=89								
P33A	**Williams Farm,**	**88.81**	**49**	⇓P		**P**	**04 15 28.8**	**-0.7**
	baz=89								
E27A	**Carson**	**88.82**	**41**	⇓P		**P**	**04 15 28.7**	**-0.6**
	baz=89								
A25A	**Svangstu Ranch**	**88.89**	**38**	⇓P		**P**	**04 15 29.2**	**-0.4**
	baz=89								
J30A	**Dallas**	**88.97**	**44**	⇓P		**P**	**04 15 29.3**	**-0.8**
	baz=89								
H29A	**Onida**	**88.99**	**43**	⇑P		**P**	**04 15 29.3**	**-0.8**
	baz=89								
TUL1	**Leonard**	**89.01**	**52**	⇑P		**P**	**04 15 29.6**	**-0.8**
	baz=89								
C26A	**Wahner Farm, P**	**89.05**	**40**	⇑P		**P**	**04 15 30.1**	**-0.2**
	baz=89								
340A	**Bronson**	**89.05**	**57**	⇓P		**P**	**04 15 29.9**	**-0.8**
	baz=89								
HHC	**Hu-ho-hao-te**	**89.06**	**313**	*e*P		**P**	**04 15 32.3**	**+1.7**
HHC				pP		**pP**	**04 15 45.8**	**+0.5**
HHC				sP		**sP**	**04 15 50.8**	**0.0**
HHC				PP		**PP**	**04 19 04.4**	**+3.1**
HHC				SKS		**SKSac**	**04 25 57.5**	**+1.0**
HHC				S		**S**	**04 26 15.9**	**+0.3**
HHC				PMZ					
	comp=Z,23nm,1.2s								
HHC				PMZ					
	comp=Z,79nm,7.5s								
HHC				LN					
	comp=Z,150nm,13.7s								
HHC				LE					
	comp=Z,250nm,14.9s								
HHC				LZ					
	comp=Z,230nm,19.9s					

A29A Manning Farm, 91.24 39 ⇓P **P 04 15 39.3 -1.2**
baz=91
C30A Mose, Pekin 91.25 41 ⇑P **P 04 15 39.7 -0.9**
baz=91
B30A Myrvik Farm, E 91.62 40 ⇑P **P 04 15 40.9 -1.3**
baz=92
A30A Hoffart Farm, 91.81 40 ⇑P **P 04 15 42.1 -1.1**
baz=92
CD2 Chengdu 91.88 301 *e*P **P 04 15 44.3 +0.4**
CD2 pP **pP 04 15 57.8 -0.8**
CD2 sP **sP 04 16 03.0 -1.1**
CD2 PP **PP 04 19 26.3 +2.4**
CD2 SKS **SKSac 04 26 11.5 -1.6**
CD2 S **S 04 26 39.3 -2.5**
CD2 sS **sS 04 27 02.3 -4.2**
CD2 SS **SS 04 32 51.5 +0.2**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.6s
CD2 LN
comp=Z,290nm,23.0s
CD2 LE
comp=Z,370nm,21.1s
CD2 LZ
comp=Z,340nm,16.6s
FFC Flin Flon 91.92 33 *e*P **P 04 15 41.4 -2.1**
FFC *e*S **S 04 26 44.9 +3.8**
FFC pmax pmax
comp=Z,106nm,2.9s
FFC Flin Flon 91.92 33 *e*P **P 04 15 41.4 -2.1**
comp=Z,106nm,2.9s
FFC *e*S **S 04 26 44.9 +3.8**
CM31 Chiang Mai Arr 92.72 288 *e*P **P 04 15 48.9 +0.9**
CM31 *e*pP pP 04 16 09.8 +7.2
CMAR Chiang Mai Arr 92.72 288 P **P 04 15 48.9 +0.9**
comp=Z,0.6nm,0.3s,baz=106,slow=2.9,SNR=5.0
CMAR pP pP 04 16 09.8 +7.2
comp=Z,1.6nm,0.3s,baz=94,slow=2.7,SNR=4.5
CMAR LR LR 04 52 27.7
comp=Z,154nm,21.6s,baz=112,slow=32
SNAA Sanae 93.01 177⇓ *e*P **P 04 15 49.4 +0.9**
SNAA pmax pmax
comp=Z,25nm,1.7s
AGMN Agassiz Nation 93.11 41 ⇑P **P 04 15 48.0 -1.1**
baz=93
AGMN Agassiz Nation 93.11 41 *e*P **P 04 15 46.8 -2.3**
comp=Z,19nm,1.4s
LZH Lanzhou 93.27 306 *e*P **P 04 15 50.1 -0.3**
LZH pP **pP 04 16 02.3 -2.8**
LZH sP **sP 04 16 07.3 -3.3**
LZH PMZ
comp=Z,23nm,1.1s
LZH PMZ
comp=Z,93nm,4.8s
LZH LN
comp=Z,260nm,16.6s
LZH LE
comp=Z,260nm,16.3s
LZH LZ
comp=Z,280nm,19.0s
OXF Oxford 93.56 55 *e*P **P 04 15 49.5 -2.1**
OXF pmax pmax
comp=Z,21nm,1.0s
OXF Oxford 93.56 55 *e*P **P 04 15 49.5 -2.1**
comp=Z,21nm,1.0s
ULM Lac du Bonnet 93.75 39 P **P 04 15 50.0 -2.1**
comp=Z,5.6nm,1.0s,baz=243,slow=4.4,SNR=11
ULM LR LR 04 52 52.2
comp=Z,608nm,19.4s,baz=236,slow=32
ULM Lac du Bonnet 93.75 39 *e*P P 04 15 48.5 -3.5
ULM pmax pmax
comp=Z,33nm,1.7s
ULM Lac du Bonnet 93.75 39 *e*P P 04 15 48.5 -3.5
comp=Z,33nm,1.7s
BOD Bodaibo 93.91 329 *e*P P 04 15 44.7 -7.9
BOD pmax pmax
comp=Z,5.0nm,1.8s
SPMN Marine on St. 94.13 44 ⇑P **P 04 15 53.3 -0.6**
baz=94
ULN Ulaanbaatar 94.44 318 *de*P **P 04 15 55.9 +0.4**
ULN pmax pmax
comp=Z,7.0nm,1.4s
ULN Ulaanbaatar 94.44 318 *e*P **P 04 15 53.1 -2.4**
ULN *ep*P **pP 04 16 14.9 +4.7**
SONA0 Songino Array 94.86 318 *e*P **P 04 15 57.4 0.0**
SONA0 *ep*P **pP 04 16 16.4 +4.4**
SONM Songino Array 94.86 318 P **P 04 15 57.4 0.0**
comp=Z,0.9nm,0.9s,baz=121,slow=4.3,SNR=4.5
SONM pP **pP 04 16 16.4 +4.4**
comp=Z,2.2nm,1.0s,baz=111,slow=4.0,SNR=7.1
SONM LR LR 04 54 04.7
comp=Z,180nm,21.8s,baz=89,slow=32
TIXI Tiksi 94.93 344⇑ *i*P **P 04 15 56.7 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
SFIN Lafayette 96.86 50 ⇑P **P 04 16 05.9 -0.6**
baz=97
GTA Gaotai 97.22 309 *e*P Pdif 04 16 10.6 +2.2
GTA pP pP 04 16 23.6 +0.6
GTA sP sP 04 16 30.1 +1.6
GTA PP **PP 04 20 10.3 +4.9**
GTA SKS **SKSac 04 26 44.3 +2.6**
GTA S **S 04 27 27.0 -1.3**
GTA sS sS 04 27 50.3 -2.9
GTA SS **SS 04 34 09.4 +2.2**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,48nm,7.6s
GTA LN
comp=Z,200nm,20.9s
GTA LE
comp=Z,320nm,20.9s
GTA LZ
comp=Z,400nm,20.4s
ZAK Zakamensk 97.53 320 *e*P P 04 16 04.2 -5.2
ZAK pmax pmax
comp=Z,2.0nm,1.5s
CPUP Villa Florida 105.25 123 *e*PKiKP PKiKP 04 20 51.6 -6.8
MK32 Makanchi Array 110.85 315 *e*PKiKP **PKiKP 04 21 07.5 -0.7**
MK32 *e*PP **PP 04 21 43.3 -3.2**
MKAR Makanchi Array 110.85 315 PKiKP **PKiKP 04 21 07.5 -0.7**
comp=Z,0.6nm,0.7s,baz=48,slow=2.1,SNR=5.7
MKAR PP **PP 04 21 43.3 -3.2**
comp=Z,0.6nm,0.9s,baz=84,slow=5.9,SNR=3.0
KURK Kurchatov 113.15 319 *e*PKiKP **PKiKP 04 21 12.1 -0.3**
KURBB Kurchatov Arra 113.21 319 PKiKP **PKiKP 04 21 12.5 0.0**
comp=Z,0.7nm,0.7s,baz=86,slow=1.7,SNR=7.3
KURBB pPKiKP **pPKiKP 04 21 33.0 +5.3**
comp=Z,4.3nm,0.9s,baz=89,slow=1.8,SNR=14
KSH Kashi 115.52 307 *e*PKP **PKPdf 04 21 20.4 +2.9**
KSH sPKP 04 21 34.8
KSH PKS **PKSdf 04 24 56.0 +1.7**
KSH SKS **SKSdf 04 28 27.4 +1.6**
KSH PPMZ
comp=Z,130nm,5.1s
KSH LN
comp=Z,130nm,8.6s
KSH LE
comp=Z,110nm,5.7s
KSH LZ
comp=Z,180nm,9.9s
BVAR Borovoye Array 117.88 322 PKP **PKPdf 04 21 21.4 -0.1**
comp=Z,1.1nm,0.7s,baz=27,slow=1.7,SNR=6.6
BVAR pPKP **pPKPdf 04 21 42.4 +5.8**
comp=Z,5.5nm,0.9s,baz=64,slow=3.4,SNR=9.2
BRVK Borovoye 117.94 322⇑ *i*PKiKP **PKPdf 04 21 21.6 0.0**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 117.94 322 *e*PKPdf **PKPdf 04 21 21.8 +0.3**
KKAR Karatay Array 119.40 311 *e*PKiKP **PKPdf 04 21 24.8 +0.1**
KKAR Karatay Array 119.40 311 *e*PKPdf **PKPdf 04 21 24.8 +0.1**
KBL Kabul 121.22 301 *e*PKiKP **PKPdf 04 21 28.8 0.0**
KBL Kabul 121.22 301 *e*PKPdf **PKPdf 04 21 28.8 0.0**
ARU Arti 123.32 328 *i* PKiKP **PKPdf 04 21 32.1 +0.3**
ARU 04 23 11.4
ARU 04 28 29.8
ARA0 ARCESS Array S 124.52 352 *e*PKPdf **PKPdf 04 21 33.3 -0.5**
ARA0 *ep*PKPdf **pPKPdf 04 21 54.6 +5.7**
ARCES ARCESS Array B 124.52 352 PKP **PKPdf 04 21 33.3 -0.5**
comp=Z,3.1nm,0.8s,baz=40,slow=2.1,SNR=5.6
ARCES pPKP **pPKPdf 04 21 54.6 +5.7**
comp=Z,8.3nm,0.9s,baz=42,slow=2.0,SNR=5.3
AKTO Aktyubinsk 125.98 322 PKP **PKPdf 04 21 35.7 -1.4**
comp=Z,0.8nm,0.5s,baz=90,slow=2.0,SNR=4.0
AKTO pPKP **pPKPdf 04 21 58.4 +6.1**
comp=Z,5.3nm,0.9s,baz=280,slow=6.1,SNR=8.6
PRGR Permogore 126.08 338 PKiKP **PKPdf 04 21 38.1 +1.2**
PRGR pmax pmax
comp=Z,12nm,1.1s
KLMR Klimovskoe 128.73 340 *e*PKiKP PKPdf 04 21 52.5 +10
KLMR pmax pmax
comp=Z,29nm,1.4s
GEYT Alibeck 129.56 307 pPKP pPKPdf 04 22 05.7 +6.2
comp=Z,7.5nm,0.8s,baz=302,slow=3.3,SNR=5.6
FIA0 FINESS Array S 131.86 348 *e*PKiKP **PKPdf 04 21 48.3 +0.4**
FIA0 FINESS Array S 131.86 348 *e*PKPdf **PKPdf 04 21 48.3 +0.4**
FIA0 *ep*PKPdf **pPKPdf 04 22 08.8 +5.7**
FINES FINESS Array B 131.86 348 PKP **PKPdf 04 21 48.3 +0.4**
comp=Z,1.4nm,0.8s,baz=66,slow=3.5,SNR=4.4
FINES pPKP **pPKPdf 04 22 08.8 +5.7**
comp=Z,4.2nm,1.0s,baz=147,slow=4.5,SNR=2.9
OBN Obninsk 134.06 337 *e*PKiKP **PKPdf 04 21 53.6 +1.3**
OBN pmax pmax
comp=Z,7.0nm,1.3s
NB200 NORSAR Array S 134.19 357 *ep*PKPdf pPKPdf 04 22 13.2 +5.6
NOA NORSAR Array B 134.19 357 pPKP pPKPdf 04 22 13.2 +5.6
comp=Z,1.1nm,0.8s,baz=314,slow=2.8,SNR=4.0
HFS Hagfors 134.93 355 PKP **PKPdf 04 21 53.7 -0.1**
comp=Z,1.2nm,0.8s,baz=66,slow=4.9,SNR=2.5
KBZ Khabaz 138.19 320 pPKP pPKPdf 04 22 23.4 +7.9
comp=Z,4.3nm,1.0s,baz=56,slow=24,SNR=3.8
KIV Kislovodsk 138.21 321 *i* PKiKP **PKPdf 04 21 59.9 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,292nm,21.0s
GNI Garni 138.70 314 pPKP pPKPdf 04 22 23.9 +7.1
comp=Z,3.6nm,0.4s,baz=174,slow=5.8,SNR=2.2
AKASG Malin Array Be 140.29 338 PKhKP PKPpre 04 21 57.5
comp=Z,0.8nm,0.5s,baz=38,slow=3.1,SNR=3.8
AKASG PKP **PKPdf 04 22 04.0 +0.1**
comp=Z,0.4nm,0.4s,baz=40,slow=2.4,SNR=7.5
AKASG PP **PP 04 24 59.2 -2.4**
comp=Z,0.2nm,0.2s,baz=35,slow=5.9,SNR=5.0
AKBB Malin Array Si 140.29 338 *e*PKHKP PKPpre 04 21 57.5
AKBB *e* 04 22 04.0
AKBB *e* 04 24 59.2
AKBB Malin Array Si 140.29 338 *e*PKPpre PKPpre 04 21 57.5
AKBB *e*PKPdf **PKPdf 04 22 04.0 +0.1**
AKBB *e*PP **PP 04 24 59.2 -2.4**
RAYN Ar Rayn 142.64 289 *e*PKPdf **PKPdf 04 22 07.2 -1.9**
LVV L'vov 142.79 341 *e*PKiKP PKPdf 04 22 15.2 +6.7
LVV MLR MLR
comp=N,200nm,21.0s
LVV MLR MLR
comp=E,200nm,21.0s
LVV MLR MLR
comp=Z,300nm,21.0s
KWP Kalwaria Pacla 143.36 343 *e*PKP PKPbc 04 22 07.2 +0.5
KWP Kalwaria Pacla 143.36 343 *e*PKiKP PKPbc 04 22 07.3 +0.6
OJC Ojcow 143.58 346 *e*PKP PKPbc 04 22 07.2 -0.1
OJC Ojcow 143.58 346 *e*PKiKP PKPbc 04 22 08.0 +0.7
KSP Ksiaz 143.70 350 *e*PKP PKPdf 04 22 15.9 +5.9
CLL Collm 143.72 353 *e*PKPdf **PKPdf 04 22 11.0 +1.0**
comp=Z,7.0nm,0.8s
CLL *ep*PKPdf **pPKPdf 04 22 30.0 +4.8**
CLL *e*PP **PP 04 25 20.0 -2.1**
CLL *e*PSKS 04 35 36.0
CLL *e*PPS PPS 04 37 54.0
CLL *e*SSS SSS 04 49 48.0
CLL LmV 05 28 00.0
comp=Z,200nm,21.7s
CLL Collm 143.72 353 *e*PKiKP **PKPdf 04 22 11.0 +1.0**
CLL *e* 04 25 20.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL MLR MLR
comp=Z,200nm,21.7s
MALT Malatya 143.88 316⇑ *i*P PKPab 04 22 08.0 -0.1
STHS Stebnicka Huta 143.96 344 *e*PKiKP PKPbc 04 22 09.3 +0.8
STHS Stebnicka Huta 143.96 344 *e*PKP PKPbc 04 22 09.3 +0.8
BRG Berggiesshubel 144.03 352 *e*PKP PKPbc 04 22 08.9 +0.3
comp=Z,3.0nm,1.0s
BRG *e* 04 22 13.7
comp=Z,5.2nm,1.2s
comp=N,158nm,17.2s
comp=E,167nm,17.5s
comp=Z,281nm,24.1s
BRG Berggiesshubel 144.03 352 *e*PKiKP PKPbc 04 22 08.9 +0.3
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=N,158nm,17.2s
BRG MLR MLR
comp=E,167nm,17.5s
BRG MLR MLR
comp=Z,281nm,24.1s
UPC Upice 144.08 350 *e*PKP **PKPdf 04 22 10.1 -0.6**
UPC *ex* x 04 22 20.8
UPC *ep*PKP **pPKPdf 04 22 30.5 +4.6**
UPC Upice 144.08 350 *e*PKiKP **PKPdf 04 22 10.1 -0.6**
UPC *e* 04 22 20.8
KOLS Kolonicke sedl 144.11 342 *e*PKiKP PKPdf 04 22 18.0 +7.2
KOLS Kolonicke sedl 144.11 342 *e* PKPdf 04 22 18.0 +7.2
TSUM Tsumeb 144.11 198 *e*PKPdf PKPbc 04 22 10.6 +0.7
DPC Dobruska-Polom 144.17 350 *e*PKP PKPbc 04 22 09.5 +0.4
DPC *ex* x 04 22 13.0
DPC *ex* x 04 22 20.2
DPC *ep*PKP pPKPdf 04 22 31.2 +5.1
DPC *e*PP **PP 04 25 24.0 -1.0**
DPC AMS AMS 05 22 00.0
DPC Dobruska-Polom 144.17 350 *e*PKiKP PKPbc 04 22 09.5 +0.4
DPC *e* 04 22 20.2
DPC *e* 04 25 24.0
DPC Dobruska-Polom 144.17 350 *e*PKPdf PKPbc 04 22 09.9 +0.8
NIE Niedzica 144.20 345 *e*PKP PKPbc 04 22 09.5 +0.3
NIE Niedzica 144.20 345 *e*PKiKP PKPbc 04 22 09.3 +0.1
PVCC Panska Ves 144.28 351 *ep*PKP **pPKPdf 04 22 32.1 +5.9**
PVCC AMS AMS 05 24 30.0
comp=Z,400nm,18.0s
PVCC Panska Ves 144.28 351 *e*PKiKP PKPdf 04 22 22.1 +11
PVCC *e* 04 22 32.1
PVCC MLR MLR
comp=Z,400nm,18.0s
OKC Ostrava-Krasne 144.31 347 *e*PKP PKPbc 04 22 09.9 +0.4
OKC *ex* x 04 22 13.3
OKC *ex* x 04 22 20.4
OKC *ep*PKP pPKPdf 04 22 32.9 +6.6
OKC AMS AMS 05 21 20.0
comp=Z,400nm,25.4s
OKC Ostrava-Krasne 144.31 347 *e*PKiKP PKPbc 04 22 09.9 +0.4
OKC *e* 04 22 20.4
OKC MLR MLR
comp=Z,400nm,25.4s
BURAR Bucovina Array 144.31 338⇓ *i*P **PKPdf 04 22 10.8 -0.6**
BURAR Bucovina Array 144.31 338⇓ PKiKP **PKPdf 04 22 10.8 -0.6**
CRVS Cervenica-Dubn 144.37 343 *e*PKiKP PKPbc 04 22 10.2 +0.5
CRVS Cervenica-Dubn 144.37 343 *e*PKP PKPbc 04 22 10.2 +0.5
UZH Uzhgorod 144.37 342 *e*PKiKP **PKPab 04 22 08.7 -0.7**
UZH *e* 04 22 20.5
MORC Moravsky Berou 144.49 348⇑ *i*P PKPbc 04 22 10.7 +0.6
MORC Moravsky Berou 144.49 348⇑ PKiKP PKPbc 04 22 10.7 +0.6
MORC Moravsky Berou 144.49 348 *e*PKPdf PKPbc 04 22 10.5 +0.4
WERD Werda 144.64 354 *e*PKPbc PKPbc 04 22 10.6 0.0
WERD *ep*PKPbc PKiKP 04 22 21.3 +5.9
GUNZ Gunzen 144.72 354 *e*PKPbc PKPbc 04 22 10.8 0.0
PRA Prague 144.75 351 *ep*PKP pPKPdf 04 22 30.9 +3.9
PRA Prague 144.75 351 *e*PKiKP PKPdf 04 22 22.5 +11
PRA *e* 04 22 30.9
TRPA Tarpa 144.75 342⇑ *i*P PKPbc 04 22 11.4 +0.5
TRPA Tarpa 144.75 342⇓ *i*PKPbc PKPbc 04 22 11.3 +0.4
MEM Membach 144.76 1 PKP **PKPab 04 22 10.7 -0.1**
MEM APKP PKiKP 04 22 21.0 +5.4
WERN Wernitzgruen 144.79 354 *e*PKPbc **PKPab 04 22 10.6 -0.4**
WERN *ep*PKPbc PKiKP 04 22 21.7 +5.9
SNF Seneffe 144.81 3 PKP PKPbc 04 22 11.2 +0.2
SNF APKP pPKPdf 04 22 21.8 -5.3
PRU Pruhonice 144.81 351 *e*PKP PKPbc 04 22 11.4 +0.3
PRU *ex* x 04 22 14.3
PRU *ex* x 04 22 21.8
PRU *ep*PKP pPKPdf 04 22 31.5 +4.3
PRU AMS AMS 05 25 10.0
comp=Z,400nm,20.2s
PRU Pruhonice 144.81 351 *e*PKiKP PKPbc 04 22 11.4 +0.3
PRU *e* 04 22 21.8
PRU MLR MLR
comp=Z,400nm,20.2s
GOPC GO Pecny, Ondr 144.85 351 *e*PKP PKPbc 04 22 11.5 +0.3
GOPC *ex* x 04 22 14.2
GOPC *ex* x 04 22 22.8
GOPC *ep*PKP pPKPdf 04 22 31.6 +4.3
GOPC *e*PP **PP 04 25 31.0 +2.1**
GOPC AMS AMS 05 25 20.0
comp=Z,400nm,23.9s
ROHR Rohrbach 144.85 354 *e*PKPbc PKPbc 04 22 11.5 +0.3
BCLA Clavier 144.94 2 PKP **PKPab 04 22 11.3 -0.1**
BCLA APKP **pPKPdf 04 22 22.3 -5.0**
KECS Kecovo 145.01 344 *e*PKiKP **PKPdf 04 22 12.3 -0.1**
KECS Kecovo 145.01 344 *e*PKP **PKPdf 04 22 12.3 -0.1**
TNS Taunus Mts 145.12 358 *e*PKPbc **PKPbc 04 22 11.7 -0.5**
TNS *ep*PKPbc pPKPbc 04 22 22.7 -4.6
VRAC Vranov 145.12 349 PKPbc **PKPdf 04 22 12.9 +0.4**
comp=Z,3.6nm,0.4s,baz=8.3,slow=3.4,SNR=14
CFR Carcaliu 145.16 333⇑ *i*P **PKPab 04 22 12.4 0.0**
CFR Carcaliu 145.16 333⇑ PKiKP **PKPab 04 22 12.4 0.0**
VRI Vrincioaia 145.20 335⇑ *i*P **PKPdf 04 22 13.1 +0.3**
VRI Vrincioaia 145.20 335⇑ PKiKP **PKPdf 04 22 13.1 +0.3**
DOU Dourbes 145.24 2 PKP **PKPbc 04 22 12.3 -0.1**
DOU APKP **pPKPdf 04 22 23.1 -4.8**
PLOR Plostina 145.25 335⇑ *i*P **PKPdf 04 22 13.1 +0.2**
PLOR Plostina 145.25 335⇑ PKiKP **PKPdf 04 22 13.1 +0.2**
ROTZ Rotzenmuhle 145.32 354 *e*PKPbc **PKPbc 04 22 12.5 -0.2**
TREC Trest 145.34 350 *e*PKP **PKPbc 04 22 12.1 -0.7**
TREC *ex* x 04 22 22.6
TREC *ep*PKP **pPKPdf 04 22 30.8 +2.7**
TREC *e*PP **PP 04 25 30.8 -1.1**
TREC AMS AMS 05 24 10.0
comp=Z,400nm,22.4s
TREC Trest 145.34 350 *e*PKiKP **PKPbc 04 22 12.1 -0.7**
TREC *e* 04 22 22.6
TREC *e* 04 25 30.8
TREC MLR MLR
comp=Z,400nm,22.4s
VYHS Vyhne 145.42 346 *e*PKiKP **PKPab 04 22 13.4 +0.1**
VYHS *e* 04 22 24.2
VYHS Vyhne 145.42 346 *e*PKP **PKPab 04 22 13.4 +0.1**
VYHS *e* 04 22 24.2
GRF Grafenberg Arr 145.49 355 *e*PKPbc **PKPab 04 22 13.6 +0.1**
GRF *ep*PKPbc pPKPbc 04 22 24.1 -4.3
GRF *e*L L 05 28 03.6
comp=Z,246nm,21.7s
GRFO Grafenberg 145.49 355 *e*PKiKP **PKPbc 04 22 13.3 +0.1**
GRFO Grafenberg 145.49 355 *e*PKPdf **PKPbc 04 22 13.3 +0.1**
TIRR Tirgusor 145.60 332⇑ *i*P **PKPab 04 22 14.7 +0.6**
TIRR Tirgusor 145.60 332 *e*PKiKP **PKPab 04 22 14.0 -0.1**
TIRR Tirgusor 145.60 332 *e*PKPdf **PKPab 04 22 14.0 -0.1**
HARR Harsova 145.64 333⇑ *i*P **PKPab 04 22 14.8 +0.6**
HARR Harsova 145.64 333⇑ PKiKP **PKPab 04 22 14.8 +0.6**
TLB Topalu 145.67 333⇑ *i*P **PKPab 04 22 14.9 +0.6**
TLB Topalu 145.67 333⇑ PKiKP **PKPab 04 22 14.9 +0.6**
PSZ Piszkesteto 145.69 344⇑ *i*P **PKPab 04 22 14.9 +0.5**
PSZ Piszkesteto 145.69 344 *e*PKiKP **PKPbc 04 22 14.1 0.0**
PSZ Piszkesteto 145.69 344 *e*PKPdf **PKPbc 04 22 14.1 0.0**
PSZ Piszkesteto 145.69 344⇓ *e*PKPdf **PKPbc 04 22 14.1 0.0**
WLF Walferdange 145.71 1 PKP **PKPab 04 22 14.8 +0.6**
WLF APKP **pPKPdf 04 22 24.8 -3.9**
WLF Walferdange 145.71 1 *ep*PKPbc pPKPbc 04 22 24.6 -4.4
WLF Walferdange 145.71 1 *e*PKiKP **PKPab 04 22 14.9 +0.6**
WLF Walferdange 145.71 1 *e*PKPdf **PKPab 04 22 14.9 +0.6**
KMBO Kilima Mbogo 145.72 244 PKPbc **PKPab 04 22 16.2 +0.4**
comp=Z,13nm,1.1s,baz=133,slow=3.9,SNR=16
KHC Kasperske Hory 145.78 352 *e*PKP **PKPab 04 22 14.5 -0.2**
KHC *ex* x 04 22 25.0
KHC *e*PP **PP 04 25 35.5 +1.0**
KHC Kasperske Hory 145.78 352 *e*PKiKP **PKPab 04 22 14.5 -0.2**
KHC *e* 04 22 25.0
KHC *e* 04 25 35.5
MLR Muntele Rosu 145.82 336⇑ *i*P **PKPab 04 22 15.6 +0.5**
MLR Muntele Rosu 145.82 336 PKPbc **PKPab 04 22 15.3 +0.2**
comp=Z,6.5nm,1.1s,baz=18,slow=2.1,SNR=15
MLR pPKPbc pPKPbc 04 22 33.9 +4.3
comp=Z,9.6nm,1.1s,baz=177,slow=8.8,SNR=6.0
WET Wettzell 145.86 353 *e*PKPbc **PKPab 04 22 14.8 -0.2**
DRGR 145.88 340⇑ *i*P **PKPbc 04 22 14.6 -0.1**
DRGR 145.88 340⇑ PKiKP **PKPbc 04 22 14.6 -0.1**
ISR Istrita 145.89 335⇑ *i*P **PKPab 04 22 15.6 +0.4**
ISR Istrita 145.89 335⇑ PKiKP **PKPab 04 22 15.6 +0.4**
GEC2 GERESS Array S 146.05 352 *e*PKPbc **PKPbc 04 22 15.3 +0.1**
GEC2 *ep*PKPbc pPKPbc 04 22 25.6 -4.6
GEC2 GERESS Array S 146.05 352 *e*PKiKP **PKPdf 04 22 14.7 +0.4**
GEC2 GERESS Array S 146.05 352 *e*PKPdf **PKPdf 04 22 14.7 +0.4**
GEC2 *ep*PKPdf **pPKPdf 04 22 34.8 +5.4**
GERES GERESS Array B 146.05 352 PKPbc **PKPbc 04 22 15.1 -0.1**
comp=Z,9.6nm,1.0s,baz=29,slow=3.0,SNR=39
GERES pPKPbc pPKPbc 04 22 34.8 +4.7
comp=Z,8.9nm,0.9s,baz=7.4,slow=4.2,SNR=4.8
BR101 Keskin Array S 146.16 321 *e*PKPdf **PKPab 04 22 16.4 -0.1**
BR101 *ep*PKPdf pPKPdf 04 22 37.4 +7.3
BRTR Keskin Array B 146.16 321 PKPbc **PKPab 04 22 16.4 -0.1**
comp=Z,29nm,1.0s,baz=99,slow=2.0,SNR=81
BRTR pPKPbc pPKPbc 04 22 37.4 +6.5
comp=Z,20nm,0.8s,baz=126,slow=2.1,SNR=6.4
VOIR 146.22 337⇑ *i*P **PKPab 04 22 16.9 +0.4**
VOIR 146.22 337⇑ PKP2 **PKPab 04 22 16.9 +0.4**
BUD Budapest 146.32 345⇓ *e*PKPdf **PKPab 04 22 16.4 -0.3**
ARR Arges 146.44 337⇑ *i*P **PKPab 04 22 18.0 +0.7**
STU Stuttgart 146.54 357 *ep*PKPbc pPKPbc 04 22 26.7 -4.8
STU Stuttgart 146.54 357 *e*PKP2 **PKPbc 04 22 16.8 +0.3**
STU Stuttgart 146.54 357 *e*PKPbc **PKPbc 04 22 16.8 +0.3**
ANTO Ankara 146.57 322⇓ *i*P **PKPab 04 22 18.7 +0.6**
ANTO Ankara 146.57 322⇓ PKP2 **PKPab 04 22 18.7 +0.6**
ANTO Ankara 146.57 322 *e*PKPbc **PKPab 04 22 17.6 -0.4**
CONA Conrad Observa 146.59 349⇑ *i*PKiKP **PKPbc 04 22 17.0 +0.2**
comp=Z,67nm,1.9s,SNR=11
PKSN Nyarlorinc 146.64 344⇓ *e*PKPdf **PKPab 04 22 18.9 +1.0**
PKS7 Kunszentmiklos 146.69 344 *e*PKPdf **PKPbc 04 22 17.4 +0.5**
SOP Sopron 146.69 348⇓ *e*PKPdf **PKPab 04 22 17.7 -0.4**
MOA Molln 146.94 351⇑ *i*PKiKP **PKPbc 04 22 18.3 +0.6**
comp=Z,29nm,1.1s,SNR=6.6
FUR Furstenfeldbru 147.00 354 *e*PKPbc **PKPbc 04 22 18.2 +0.3**
BFO Black Forest 147.02 358 *e*PKPbc **PKPbc 04 22 17.8 -0.1**
BFO *ep*PKPbc **pPKPbc 04 22 28.3 -4.6**
BFO Black Forest 147.02 358 *i* PKP2 **PKPbc 04 22 17.9 0.0**
BFO Black Forest 147.02 358 *e*PKPbc **PKPdf 04 22 16.5 +0.7**
GZR Gura Zlata 147.08 339⇑ *i*P **PKPbc 04 22 18.6 +0.4**
GZR Gura Zlata 147.08 339⇑ PKiKP **PKPbc 04 22 18.6 +0.4**
RJOB Jochberg 147.25 352 *e*PKPbc **PKPbc 04 22 19.1 +0.5**
RJOB *ep*PKPbc **pPKPbc 04 22 29.5 -4.2**
BZS Buzias 147.28 341⇑ *i*P **PKPbc 04 22 18.4 -0.3**
BZS Buzias 147.28 341⇑ PKP2 **PKPbc 04 22 18.4 -0.3**
PKS9 Tamasi 147.34 345 *e*PKPdf **PKPbc 04 22 19.1 +0.3**
PKSM Moragy 147.59 345⇑ *i*P **PKPbc 04 22 19.7 +0.2**
PKSM Moragy 147.59 345⇑ PKP2 **PKPbc 04 22 19.7 +0.2**
PKSM Moragy 147.59 345⇓ *e*PKPdf **PKPbc 04 22 19.6 +0.1**
RETA Reutte 147.72 355 *i* PKiKP **PKPbc 04 22 20.4 +0.4**
comp=Z,40nm,1.3s,SNR=7.8
BEHE Becsehely 147.80 347⇓ *e*PKPdf **PKPbc 04 22 20.3 +0.2**
KBA Koelnbreinsper 147.83 352⇑ *i*PKiKP **PKPbc 04 22 19.4 -0.9**
comp=Z,24nm,1.2s
MOTA Moosalm 147.83 354⇑ *i*PKiKP **PKPbc 04 22 19.8 -0.6**
comp=Z,44nm,1.1s
ASF Jabal al Asfar 147.84 307 PKPbc **PKPbc 04 22 21.8 +1.0**
comp=Z,9.4nm,1.0s,baz=342,slow=3.4,SNR=7.4
WTTA Wettenberg 147.86 354⇑ *i*PKiKP **PKPbc 04 22 20.4 -0.1**
comp=Z,39nm,1.5s
SOKA Soboth 147.94 349⇑ *i*PKiKP **PKPbc 04 22 19.7 -0.9**
comp=Z,36nm,1.1s,SNR=13
PERS Pernice 147.97 349 *i* PKPdf **PKPbc 04 22 20.0 -0.6**
PERS *e* 04 22 30.6
DAVA Damuels 147.99 356⇑ *i*PKiKP **PKPbc 04 22 21.1 +0.3**
comp=Z,42nm,1.1s,SNR=11
FETA Feichten 148.18 355⇑ *i*PKiKP **PKPbc 04 22 20.6 -0.8**
comp=Z,34nm,1.1s
ABTA Abfaltersbach 148.26 352 *i* PKiKP **PKPbc 04 22 21.2 -0.2**
comp=Z,34nm,1.1s,SNR=7.6
MPEP Malo Peshtene 148.47 336 *i* P **PKPbc 04 22 23.3 +0.3**
DAVOX Davos/Dischmat 148.49 356 PKPbc **PKPbc 04 22 22.2 0.0**
comp=Z,15nm,1.1s,baz=320,slow=3.3,SNR=10.0
MMAI Mount Meron Ar 148.61 309 PKPbc **PKPbc 04 22 24.1 +1.3**
comp=Z,16nm,0.7s,baz=46,slow=6.0,SNR=7.0
MMAI pPKPbc **pPKPbc 04 22 43.1 +5.3**
comp=Z,31nm,0.9s,baz=39,slow=5.4,SNR=5.0
FUORN Ofenpass-Fuorn 148.62 355 *e*PKPbc **PKPbc 04 22 22.6 +0.1**
VISS Visnje 148.82 349 *e*PKPdf **PKPbc 04 22 22.5 -0.3**
VISS *i* 04 22 33.0
JAVS Javornik 148.87 350 *i* PKPdf **PKPbc 04 22 21.5 -1.5**
JAVS *e* 04 22 33.5
SENIN Lac Senin/Sane 149.01 359 *e*PKPbc **PKPbc 04 22 23.8 +0.3**

BOJS	**Bojanci**	**149.03**	**348**	*i* PKPdf	**PKPbc**	**04 22 23.5**	**+0.2**
BOJS				*i*		04 22 34.6	
KDZ	**Kurdzhali**	**149.17**	**332**	⇑*i*P	**PKPbc**	**04 22 24.7**	**+0.9**
KDZ	**Kurdzhali**	**149.17**	**332**	⇑PKP2	**PKPbc**	**04 22 24.7**	**+0.9**
KDZ	**Kurdzhali**	**149.17**	**332**	*i* P	**PKPbc**	**04 22 23.7**	**-0.1**
VTS	**Vitosha**	**149.33**	**336**	⇓*i*P	**PKPbc**	**04 22 25.1**	**+0.7**
VTS	**Vitosha**	**149.33**	**336**	⇓PKP2	**PKPbc**	**04 22 25.1**	**+0.7**
VTS	**Vitosha**	**149.33**	**336**	*i* P	**PKPbc**	**04 22 24.8**	**+0.4**
RZN	**Rozhen**	**149.45**	**333**	*i* P	**PKPbc**	**04 22 24.2**	**-0.5**
MMB	**Musomiste**	**149.95**	**334**	⇑*i*P	**PKPbc**	**04 22 26.2**	**+0.4**
MMB	**Musomiste**	**149.95**	**334**	⇑PKP2	**PKPbc**	**04 22 26.2**	**+0.4**
MMB	**Musomiste**	**149.95**	**334**	*i* P	**PKPbc**	**04 22 25.7**	**-0.1**
KKB	**Krupnik**	**149.99**	**335**	*i* P	**PKPbc**	**04 22 26.1**	**+0.3**
BNI	**Bardonecchia**	**150.33**	**0**	*e*PKP2	**PKPbc**	**04 22 27.9**	**+1.2**
BNI	**Bardonecchia**	**150.33**	**0**	*e*PKPbc	**PKPbc**	**04 22 27.9**	**+1.2**
PGAV	**Gavieira, Arco**	**150.42**	**23**	*e*LR	LR	05 13 01.5	
	comp=Z,476nm,20.0s						
SKO	**Skopje**	**150.54**	**337**	*e*PKP	**PKPbc**	**04 22 26.4**	**-0.7**
VAY	**Valandovo**	**150.66**	**335**	*e*PKP	**PKPbc**	**04 22 26.4**	**-1.0**
POLO	**Lamas de Olo**	**151.11**	**23**	*e*PKPab	**PKPbc**	**04 22 28.4**	**-0.2**
POLO				*i* P	x	04 22 48.6	
PBRG	**Braganca**	**151.11**	**21**	*e*PKPab	**PKPbc**	**04 22 29.9**	**+1.4**
PBRG				*i* P	x	04 22 48.8	
MVO	**Moncorvo**	**151.57**	**22**	*e*PKPab	**PKPbc**	**04 22 29.7**	**0.0**
MVO				*i* P	x	04 22 50.6	
MVO	**Moncorvo**	**151.57**	**22**	*e*LR	LR	05 13 22.6	
	comp=Z,396nm,20.0s						
MTE	**Manteigas**	**152.04**	**24**	*e*PKPab	**PKPbc**	**04 22 32.5**	**+1.8**
MTE				*i* P	x	04 22 51.7	
MTE	**Manteigas**	**152.04**	**24**	*e*LR	LR	05 13 14.2	
	comp=Z,371nm,20.0s						
MTE	**Manteigas**	**152.04**	**24**	*e*PKPbc	**PKPbc**	**04 22 31.5**	**+0.8**
PMTG	**Montargil**	**152.90**	**26**	*e*PKPab	**PKPbc**	**04 22 34.9**	**+2.3**
PMTG				*i* P	x	04 22 52.7	
PMRV	**Marv??o**	**152.94**	**25**	*e*PKPab	**PKPbc**	**04 22 30.2**	**-2.5**
PMRV				*i* P	x	04 22 53.4	
PMRV	**Marv??o**	**152.94**	**25**	*e*LR	LR	05 13 23.3	
	comp=Z,390nm,20.0s						
ESDC	**Sonseca Array**	**153.95**	**19**	PKPbc	**PKPbc**	**04 22 34.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=345,slow=2.0,SNR=4.1						
ESDC				PKPab	**PKPab**	**04 22 48.4**	**+0.1**
	comp=Z,5.1nm,1.1s,baz=332,slow=4.0,SNR=13						
PBAR	**Barrancos**	**154.15**	**26**	*i* P	PKPab	04 22 56.4	+7.4
PVAQ	**Vaqueiros**	**154.50**	**28**	*e*LR	LR	05 14 18.9	
	comp=Z,457nm,22.0s						
PBDV	**Barranco-do-Ve**	**154.54**	**28**	*e*PKPab	**PKPbc**	**04 22 32.1**	**-4.1**
MDT	**Midelt**	**159.72**	**29**	PKPab	**PKPab**	**04 23 14.1**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=306,slow=6.0,SNR=4.6						
TOA0	**Torodi Ar. Sit**	**174.66**	**113**	*e*PKPdf	**PKPdf**	**04 22 44.3**	**-1.5**
TOA0				*e*PKPab	**PKPab**	**04 24 18.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**174.66**	**113**	PKP	**PKPdf**	**04 22 44.3**	**-1.5**
	comp=Z,1.1nm,1.0s,baz=257,slow=5.6,SNR=3.6						
TORD				PKPab	**PKPab**	**04 24 18.4**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=242,slow=3.6,SNR=4.4						

IDC 22 04:09:59.9±1.2, 20°38N×45°64W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.6/5, Error ellipse: s-maj=43.7km s-min=28.6km az=63.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**15.66**	**250**	T	T	04 29 26.9	
	SNR=5.8						
H10N3	**ASCENSION HYDR**	**41.52**	**129**	T	T	05 01 41.5	
	baz=313,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**41.53**	**129**	T	T	05 01 38.0	
	baz=313,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**41.54**	**129**	T	T	05 01 39.7	
	baz=313,slow=75,SNR=42						
H10S3	**ASCENSION HYDR**	**42.17**	**131**	T	T	05 02 27.8	
	baz=314,slow=75,SNR=20						
H10S1	**ASCENSION HYDR**	**42.17**	**131**	T	T	05 02 25.9	
	baz=314,slow=75,SNR=20						
H10S2	**ASCENSION HYDR**	**42.19**	**131**	T	T	05 02 27.1	
	baz=314,slow=75,SNR=21						
TORD	**Torodi Ar. Bea**	**45.77**	**91**	P	P	04 18 23.5	-0.1
	0.5nm,1.0s,baz=297,slow=8.0,SNR=4.1						
CPUP	**Villa Florida**	**47.80**	**194**	P	P	04 18 38.9	-0.3
	1.0nm,1.0s,baz=23,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	**62.42**	**331**	P	P	04 20 24.1	-0.3
	0.2nm,0.4s,baz=83,slow=7.5,SNR=2.6						
INK	**Inuvik**	**70.47**	**337**	P	P	04 21 16.0	+0.1
	1.3nm,1.1s,baz=80,slow=3.9,SNR=1.9						
ILAR	**Eielson Array**	**76.45**	**334**	P	P	04 21 51.5	+0.3
	0.3nm,0.7s,baz=65,slow=4.7,SNR=4.0						

*ISCJB **22** 04:12:07.5±0.7, 20°.2N±0°.1×45°.3W±0°.1, h9km, mb3.8/10, MS3.7/13, Error ellipse: s-maj=19.9km s-min=18.2km az=6.2*

*IDC **22** 04:12:07.9±0.9, 20°.21N×45°.33W, h0km, mb3.8/10, mb1 4.1/10, mb1mx3.8/28, mbtmp3.8/10, MS3.7/13, Ms1 3.7/13, ms1mx3.5/32, Error ellipse: s-maj=26.4km s-min=23.1km az=87.0*

ISC 22 04:12:09.3±0.8, 20°.2N±0°.1×45°.3W±0°.2, h9km, n30, σ0s87/10, mb4.0/10, MS3.6/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**15.87**	**251**	T	T	04 31 50.6	
	SNR=15						
PTGA	**Pitinga**	**25.25**	**216**	LR	LR	04 26 19.0	
	comp=Z,188nm,21.7s,baz=26,slow=34						
RCBR	**Riachuelo**	**27.45**	**159**	LR	LR	04 26 05.4	
	comp=Z,180nm,18.1s,baz=338,slow=30						
BBTS	**Babate**	**27.99**	**97**	LR	LR	04 26 11.1	
	comp=Z,401nm,21.7s,baz=284,slow=30						
ROSC	**El Rosal**	**32.06**	**246**	LR	LR	04 33 09.6	
	comp=Z,91nm,19.4s,baz=21,slow=39						
SCHQ	**Schefferville**	**38.25**	**340**	LR	LR	04 33 35.3	
	comp=Z,89nm,18.0s,baz=86,slow=34						
MDT	**Midelt**	**38.32**	**62**	LR	LR	04 32 38.8	
	comp=Z,107nm,18.5s,baz=322,slow=32						
SIV	**San Ignacio**	**39.13**	**204**	LR	LR	04 36 56.6	
	comp=Z,48nm,18.2s,baz=329,slow=38						
TEIG	**Tepich**	**40.22**	**278**	P	**P**	**04 19 46.8**	**+0.2**
	12nm,1.1s,baz=51,slow=12,SNR=3.0						
ESDC	**Sonseca Array**	**40.35**	**52**	LR	LR	04 34 03.5	
	comp=Z,84nm,19.2s,baz=275,slow=33						
H10N3	**ASCENSION HYDR**	**41.17**	**130**	T	T	05 04 09.2	
	baz=312,slow=75,SNR=42						
H10N2	**ASCENSION HYDR**	**41.17**	**130**	T	T	05 04 08.5	
	baz=312,slow=75,SNR=38						
H10N1	**ASCENSION HYDR**	**41.19**	**130**	T	T	05 04 10.4	
	baz=312,slow=75,SNR=57						
DBIC	**Dimbokro**	**41.46**	**103**	LR	LR	04 34 00.5	
	comp=Z,232nm,21.2s,baz=281,slow=32						
H10S3	**ASCENSION HYDR**	**41.81**	**131**	T	T	05 04 46.3	
	baz=314,slow=75,SNR=53						
H10S1	**ASCENSION HYDR**	**41.82**	**131**	T	T	05 04 38.8	
	baz=314,slow=75,SNR=62						
H10S2	**ASCENSION HYDR**	**41.83**	**131**	T	T	05 04 47.6	
	baz=314,slow=75,SNR=55						
ATAH	**Atahualpa**	**42.36**	**233**	LR	LR	04 37 03.0	
	comp=Z,69nm,19.5s,baz=63,slow=35						
LPAZ	**La Paz**	**42.60**	**213**	P	**P**	**04 20 06.4**	**-0.4**
	0.9nm,0.8s,baz=23,slow=8.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**45.47**	**91**	P	**P**	**04 20 29.9**	**+0.7**
	3.4nm,1.1s,baz=301,slow=7.2,SNR=5.1						
TORD				LR	LR	04 37 31.7	
	comp=Z,260nm,20.1s,baz=270,slow=34						
CPUP	**Villa Florida**	**47.67**	**195**	P	**P**	**04 20 46.0**	**-0.2**
	0.2nm,0.6s,baz=40,slow=9.0,SNR=6.0						
KEST	**Kesra**	**50.11**	**60**	LR	LR	04 40 33.3	
	comp=Z,48nm,19.8s,baz=204,slow=34						
TXAR	**Lajitas Array**	**53.30**	**292**	P	**P**	**04 21 29.2**	**+0.1**
	0.1nm,0.4s,baz=74,slow=14,SNR=2.5						
NOA	**NORSAR Array B**	**56.52**	**29**	LR	LR	04 41 59.1	
	comp=Z,53nm,19.8s,baz=350,slow=32						
PDAR	**Pinedale Array**	**57.81**	**308**	P	**P**	**04 22 03.1**	**+1.6**
	1.2nm,1.1s,baz=100,slow=4.7,SNR=4.1						
YKA	**Yellowknife Ar**	**62.74**	**331**	P	**P**	**04 22 33.4**	**-1.1**
	0.6nm,0.8s,baz=95,slow=7.6,SNR=2.3						
ARCES	**ARCESS Array B**	**64.57**	**22**	P	**P**	**04 22 46.1**	**-0.5**
	1.0nm,0.6s,baz=284,slow=7.3,SNR=2.2						
H09W1	**TRISTAN DA CUN**	**64.91**	**151**	T	T	05 33 43.8	
	SNR=5.8						
INK	**Inuvik**	**70.77**	**337**	P	**P**	**04 23 25.7**	**0.0**
	2.7nm,1.0s,baz=75,slow=5.4,SNR=5.8						
ILAR	**Eielson Array**	**76.76**	**334**	P	**P**	**04 24 00.3**	**-0.6**
	2.0nm,1.0s,baz=72,slow=5.9,SNR=7.3						

IDC 22 04:14:55.3±4.3, 16°.83S×175°.04W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.7/35, mbtmp4.0/4, Error ellipse: s-maj=190.1km s-min=31.6km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.96**	**241**	P	P	04 22 48.6	+0.4
	1.0nm,0.5s,baz=74,slow=7.2,SNR=6.0						
WRA	**Warramunga Arr**	**47.99**	**258**	P	P	04 23 36.0	-0.5
	0.7nm,0.4s,baz=96,slow=7.2,SNR=43						
ASAR	**Alice Springs**	**48.18**	**253**	P	P	04 23 37.7	-0.2
	4.6nm,0.5s,baz=88,slow=8.9,SNR=80						
ILAR	**Eielson Array**	**84.15**	**12**	P	P	04 27 27.9	0.0
	0.3nm,0.5s,baz=216,slow=5.1,SNR=10						

*IDC **22** 04:17:48.4±0.8, 15°.55S×168°.24E, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.4/20, mbtmp4.4/14, ML5.7/2, Error ellipse: s-maj=26.0km s-min=17.8km az=125.0*

*ISCJB **22** 04:17:52.3±0.5, 15°.61S±0°.06×168°.16E±0°.08, h33km, mb4.3/15, Error ellipse: s-maj=11.1km s-min=8.2km az=15.1*

*NEIC **22** 04:17:53.8±0.4, 15°.57S×168°.19E, h35km, mb4.4/2, Error ellipse: s-maj=11.6km s-min=9.5km az=114.0*

ISC 22 04:17:54.2±0.5, 15°.54S±0°.08×168°.15E±0°.10, h35km, n31, σ1s16/30, mb4.4/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.69**	**194**	Pn	**Pn**	**04 19 29.1**	**-1.0**
	27nm,0.3s,baz=43,slow=16,SNR=112						
DZM				Sn	**Sn**	**04 20 44.6**	**-0.6**
	baz=283,slow=19,SNR=2.3						
RAO	**Raoul Island**	**18.74**	**139**	P	**P**	**04 22 09.8**	**-0.2**
	144nm,0.3s,baz=81,slow=19,SNR=4.8						
AFI	**Afiamalu**	**19.48**	**88**	*e*P	**Pn**	**04 22 22.2**	**+2.4**
	34nm,0.2s						
RMQ	**Roma**	**21.10**	**236**	P	P	04 22 41.5	+5.7
	baz=21,SNR=4.6						
CMSA	**Cobar Meteorol**	**25.95**	**228**	P	**P**	**04 23 26.8**	**+3.3**
	baz=26,SNR=12						
STKA	**Stephens Creek**	**29.14**	**231**	P	**P**	**04 23 50.6**	**-1.4**
	1.5nm,0.6s,baz=62,slow=9.9,SNR=5.7						
STKA	**Stephens Creek**	**29.14**	**231**	P	**P**	**04 23 53.8**	**+1.8**
	baz=29,SNR=6.5						
WRAB	**Tennant Creek**	**32.46**	**257**	*e*P	**P**	**04 24 21.2**	**-0.3**
	2.4nm,0.6s						
WRA	**Warramunga Arr**	**32.47**	**257**	P	**P**	**04 24 21.3**	**-0.3**
	2.9nm,0.7s,baz=88,slow=9.3,SNR=27						
ASAR	**Alice Springs**	**33.19**	**250**	P	**P**	**04 24 28.4**	**+0.4**
	4.8nm,0.7s,baz=76,slow=9.2,SNR=30						
BBOO	**Buckleboo**	**33.77**	**234**	P	**P**	**04 24 33.8**	**+1.0**
	baz=34,SNR=5.2						
FAKI	**Fak Fak**	**37.51**	**286**	S	**S**	**04 30 51.1**	**-0.9**
	baz=37,SNR=5.4						
KNRA	**Kununurra**	**37.90**	**264**	P	**P**	**04 25 08.7**	**+0.3**
	baz=38,SNR=9.1						
WRKA	**Warakurna**	**38.44**	**249**	P	**P**	**04 25 13.4**	**+0.5**
	baz=38,SNR=4.8						
FITZ	**Fitzroy Crossi**	**40.71**	**260**	P	**P**	**04 25 32.6**	**+0.8**
	baz=40,SNR=25						
MEEK	**Meekatharra**	**47.27**	**248**	P	**P**	**04 26 25.3**	**+0.9**
	baz=47,SNR=5.4						
CISI	**Cisompet, Garu**	**59.49**	**270**	P	P	04 27 49.5	-4.9
	baz=59,SNR=3.5						
USRK	**Ussuriysk Ar.**	**67.99**	**333**	P	**P**	**04 28 50.1**	**+0.4**
	1.7nm,0.7s,baz=136,slow=4.9,SNR=5.5						
PETK	**Petropavlovsk-**	**68.96**	**353**	P	**P**	**04 28 56.0**	**+0.4**
	4.5nm,0.8s,baz=148,slow=8.6,SNR=6.9						
QSPA	**South Pole Qui**	**74.49**	**180**	*e*P	**P**	**04 29 29.1**	**+0.1**
	8.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**76.06**	**294**	P	**P**	**04 29 39.8**	**+1.2**
	0.8nm,0.3s,baz=121,slow=3.5,SNR=2.8						
SONM	**Songino Array**	**83.65**	**323**	P	**P**	**04 30 19.6**	**+0.3**
	3.2nm,0.9s,baz=136,slow=5.5,SNR=16						
YBH	**Yreka Blue Hor**	**85.39**	**45**	P	**P**	**04 30 28.3**	**+0.1**
	1.2nm,0.6s,baz=186,slow=9.2,SNR=3.5						
ILAR	**Eielson Array**	**87.03**	**18**	P	**P**	**04 30 33.9**	**-1.7**
	1.9nm,0.8s,baz=236,slow=5.2,SNR=23						
TXAR	**Lajitas Array**	**95.92**	**61**	P	**P**	**04 31 17.1**	**-0.8**
	0.1nm,0.6s,baz=226,slow=4.7,SNR=3.6						
YKA	**Yellowknife Ar**	**97.88**	**27**	P	**P**	**04 31 25.3**	**-0.5**
	1.5nm,0.8s,baz=263,slow=4.7,SNR=12						
MKAR	**Makanchi Array**	**98.38**	**316**	P	**P**	**04 31 28.4**	**-0.1**
	1.0nm,0.9s,baz=87,slow=6.2,SNR=7.8						
ZALV	**Zalesovo Beam**	**98.55**	**324**	P	**P**	**04 31 28.4**	**-0.6**
	2.1nm,0.9s,baz=101,slow=4.7,SNR=3.8						
ARCES	**ARCESS Array B**	**121.25**	**346**	PKP	**PKPdf**	**04 36 41.6**	**-1.3**
	2.3nm,1.0s,baz=74,slow=3.2,SNR=4.1						
AKASG	**Malin Array Be**	**131.88**	**326**	PKP	**PKPdf**	**04 37 02.7**	**-1.0**
	0.1nm,0.2s,baz=48,slow=1.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**166.66**	**261**	PKPab	**PKPab**	**04 38 59.5**	**-0.1**
	0.5nm,1.0s,baz=93,slow=4.4,SNR=2.6						

*SKO **22** 04:20:38.5, 41°.50N×23°.59E, h0km, M0.7, ML0.9*

ATH 22 04:20:37.4, 41°.49N×23°.58E, h13km±3km, MD2.7/3, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.25**	**123**	*e*PG	Pg	04 20 43.0	+0.1
NVR				*e*SG	Sg	04 20 46.8	+0.3
SRS	**Serrai**	**0.37**	**179**	*e*PB	Pg	04 20 45.1	+0.2
SRS				*e*SB	Sg	04 20 50.5	+0.5
KNT	**Kendrikon**	**0.61**	**238**	*e*PB	Pg	04 20 49.0	-0.3
KNT				*e*SB	Sg	04 20 57.7	+0.2

*CSEM **22** 04:21:15.5, 42°.76N×12°.54E, h9km, MD1.9/6*

ROM 22 04:21:15.5±0.4, 42°.76N×12°.54E, h9km±4km, Md1.9/6, Ml1.1/5, Error ellipse: s-maj=5.8km s-min=2.0km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESX	**Cesi**	**0.15**	**170**	Pg	Pg	04 21 19.8	+1.0
CESX				Sg	Sg	04 21 21.9	+0.9
	46nm,0.5s						
CESX	**Cesi**	**0.15**	**170**	Pg	Pg	04 21 19.8	+1.0
CESX				Sg	Sg	04 21 21.9	+0.9
	46nm,0.5s						
MGAB	**Montegabbione**	**0.35**	**296**	Pg	Pg	04 21 23.0	+0.4
MGAB				Sg	Sb	04 21 29.2	-0.6
	13nm,0.3s						
MGAB	**Montegabbione**	**0.35**	**296**	Pg	Pg	04 21 23.0	+0.4
MGAB				Sg	Sb	04 21 29.2	-0.6
	13nm,0.3s						
MNS	**Montasola**	**0.39**	**165**	Pg	Pb	04 21 24.1	-0.5
	5.0nm,0.4s						
MNS	**Montasola**	**0.39**	**165**	Pg	Pb	04 21 24.1	-0.5
	5.0nm,0.4s						
LNSS	**Leonessa**	**0.40**	**113**	Pg	Pg	04 21 23.4	-0.1
LNSS				Sg	Sb	04 21 30.1	-1.1
	17nm,0.4s						
LNSS	**Leonessa**	**0.40**	**113**	Pg	Pg	04 21 23.4	-0.1
LNSS				Sg	Sb	04 21 30.1	-1.1
	17nm,0.4s						
NRCA	**Norcia**	**0.43**	**79**	Pg	Pg	04 21 24.1	+0.1
NRCA				Sg	Sb	04 21 31.9	-0.1
	1.0nm,0.3s						
NRCA	**Norcia**	**0.43**	**79**	Pg	Pg	04 21 24.1	+0.1
NRCA				Sg	Sb	04 21 31.9	-0.1
	1.0nm,0.3s						
SMA1	**SAN MARTINO**	**0.60**	**102**	Pg	Pg	04 21 27.2	0.0
SMA1				Sg	Sb	04 21 36.7	-0.3
	13nm,0.3s						

*ISCJB **22** 04:43:46.6±0.4, 32°.30N±0°.02×115°.31W±0°.03, h18km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=38.4*

*NEIC **22** 04:43:46.2, 32°.21N×115°.36W, h4km, ML3.2(PAS), After PAS.*

*ECX **22** 04:43:47.8±0.5, 32°.26N×115°.33W, h7km, MD3.1, ML3.3*

*MEX **22** 04:43:48.0±0.7, 32°.38N×115°.36W, h10km, MD3.8*

ISC 22 04:43:46.1±0.9, 32°.23N±0°.03×115°.33W±0°.03, h14km±6km, n27, σ1s51/44, 3C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**8**	*e*P	**Pg**	**04 43 50.3**	**-0.1**
CPBX				*e*S	**Sg**	**04 43 53.5**	**+0.1**
CPBX	**Cerro Prieto**	**0.19**	**8**	*e*P	**Pg**	**04 43 50.3**	**-0.1**
CPBX				*i* S	**Sg**	**04 43 52.8**	**-0.6**
MBIG	**Mexicali**	**0.21**	**33**	*e*P	**Pg**	**04 43 51.1**	**+0.4**
MBIG				*i* S	**Sg**	**04 43 53.2**	**-0.7**
RDX	**Rancho Dawling**	**0.60**	**240**	⇑*e*P	**Pb**	**04 43 58.6**	**+0.2**
RDX				*e*S	**Sb**	**04 44 07.0**	**+0.1**
RDX				AML	AML	04 44 07.8	
	comp=N,1μm,0.3s						
RDX				⇓*e*		04 44 07.8	
COA	**Coachella**	**0.65**	**16**	⇑*i*P	**Pg**	**04 43 58.8**	**0.0**
RMX	**La Rumorosa**	**0.73**	**301**	*e*P	**Pg**	**04 43 59.8**	**-0.5**
RMX				*e*S	**Sg**	**04 44 09.6**	**-0.3**
YMD	**Yuma Desert**	**0.74**	**64**	⇑*i*P	**Pg**	**04 44 00.3**	**-0.2**
GLA	**Glamis**	**0.92**	**27**	*e*Pg	**Pg**	**04 44 02.5**	**-1.4**
GLA				*e*S	**Sg**	**04 44 12.5**	**-3.5**
ZAX	**El Zacaton**	**1.07**	**228**	*e*P	**Pn**	**04 44 07.2**	**+0.4**
ZAX				*e*S	**Sn**	**04 44 21.9**	**+0.3**
ZAX				⇓*e*		04 44 24.9	
ZAX				AML	AML	04 44 24.9	
	comp=E,698nm,0.5s						
CBX	**Cerro Bola**	**1.13**	**274**	*i* P	**Pg**	**04 44 05.7**	**-2.2**
CBX				*i* S	**Sg**	**04 44 19.9**	**-2.7**
CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**04 44 07.8**	**+0.3**
CBX				*e*S	**Sb**	**04 44 22.6**	**+0.5**
CBX	**Cerro Bola**	**1.13**	**274**	*i* P	**Pg**	**04 44 05.7**	**-2.2**
SPIG	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pb**	**04 44 08.7**	**+0.1**
SPIG				*e*S	**Sn**	**04 44 26.4**	**+1.6**
SPIG	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pb**	**04 44 08.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pb**	**04 44 08.7**	**+0.1**
SPX	**San Pedro Mart**	**1.19**	**185**	*e*P	**Pb**	**04 44 08.8**	**+0.2**
SPX				*e*S	**Sn**	**04 44 25.5**	**+0.7**
BAR	**Barrett**	**1.22**	**292**	*e*P	**Pb**	**04 44 08.8**	**-0.1**
BAR	**Barrett**	**1.22**	**292**	*e*Pn	**Pb**	**04 44 09.0**	**+0.1**
BAR				*e*S	**Sb**	**04 44 24.2**	**-0.3**
ECNX	**Esteban Cantu**	**1.22**	**242**	*e*P	**Pg**	**04 44 09.4**	**-0.2**
ECNX				*e*S	**Sn**	**04 44 25.8**	**+0.6**
PBX	**Punta Banda**	**1.28**	**248**	*e*P	**Pb**	**04 44 10.2**	**+0.2**
PBX				*e*S	**Sn**	**04 44 27.8**	**+1.2**
PFO	**Pinyon Flats O**	**1.67**	**326**	*e*Pn	Pn	04 44 12.4	-2.6
PFO				*e*S	**Sn**	**04 44 35.2**	**-1.1**
LDFC	**Landfair**	**2.84**	**4**	*e*Pn	**Pn**	**04 44 31.4**	**+0.2**
MWC	**Mount Wilson**	**3.03**	**312**	*e*Pn	**Pn**	**04 44 36.8**	**+3.0**
MWC				*e*S	**Sb**	**04 44 52.0**	**+3.5**
GSC	**Goldstone, Bar**	**3.30**	**339**	Pn	**Pb**	**04 44 45.3**	**+0.8**
TUC	**Tucson**	**3.85**	**88**	*e*Pn	**Pn**	**04 44 46.2**	**+1.2**
TUC				*e*S	**Sg**	**04 45 46.6**	**-3.2**
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	**Pn**	**04 44 51.4**	**+0.6**
SHPR				*e*S	**Sg**	**04 45 58.9**	**-4.1**
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**	**04 44 56.5**	**+0.5**

*ISCJB **22** 05:01:27.4±0.5, 20°.30N±0°.09×45°.26W±0°.08, h10km, mb4.1/23, MS4.2/21, Error ellipse: s-maj=14.3km s-min=9.8km az=146.0*

*IDC **22** 05:01:27.6±0.7, 20°.34N×45°.39W, h0km, mb3.7/13, mb1 4.0/13, mb1mx3.7/53, mbtmp3.7/13, MS4.2/20, Ms1 4.2/20, ms1mx4.0/34, Error ellipse: s-maj=22.8km s-min=16.5km az=120.0*

*GCMT **22** 05:01:29.3±0.2, 20°.43N×45°.56W, h12km, MW5.1/112, Moment Tensor Solution. s37,c42; s112,c161; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.65±.10; Mθθ=0.21±.11; Mϕϕ=4.44±.09; Mrθ=1.11±.45; Mϕθ=0.80±.09; Mϕr=0.40±.35; Best double couple: M=4.76200×10^16 NP1:ϕs=202.00000°, δ50.00000°, λ=-75.00000°. NP2: ϕs=359.00000°, δ42.00000°, λ=-107.00000°. Principal axes: T 4.6270, Plg4.0000°, Azm281.0000°; N 0.2690, Plg12.0000°, Azm12.0000°; P -4.8970, Plg78.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **22** 05:01:29.3±0.5, 20°.23N×45°.27W, h10km, mb4.8/9 Error ellipse: s-maj=12.8km s-min=8.6km az=150.0*

*BJI **22** 05:01:35.3, 20°.21N×45°.64W, h13km, mB5.6/6, Ms5.3/5, Ms7 4.9/5*

ISC 22 05:01:30.0±0.6, 20°.1N±0°.1×45°.32W±0°.10, h10km, n58, σ2s81/28, mb4.0/23, MS4.2/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	**15.42**	**258**	T	T	05 20 58.8	
	SNR=9.9						
H05S1	**Guadeloupe/Mar**	**15.86**	**252**	T	T	05 21 37.3	
	SNR=46						
FDF	**Fort de France**	**16.02**	**253**	*e*Pn	**Pn**	**05 05 17.5**	**+1.8**
	218nm,1.4s						
GRGR	**Grenville**	**17.57**	**246**	*e

	comp=Z,332nm,21.2s,baz=106,slow=33								
JLU	**Jordanelle**	**59.27**	**306**	*e*P		P	05 11 39.6	+7.3	
	comp=Z,7.4nm,1.2s								
DUG	**Dugway, Tooele**	**60.32**	**305**	*e*P		P	05 11 47.1	+7.7	
	comp=Z,2.7nm,0.4s								
EDM	**Edmonton**	**61.03**	**320**	*e*P		P	05 11 51.0	+7.1	
SWMT	**Swartz Lake**	**61.14**	**314**	*e*P		P	05 11 52.6	+7.8	
YKA	**Yellowknife Ar**	**62.81**	**331**	P		P	**05 11 55.0**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=98,slow=7.1,SNR=4.3								
MLR	**Muntele Rosu**	**62.92**	**48**	P		P	**05 11 57.1**	**+0.2**	
	comp=Z,0.7nm,1.0s,baz=301,slow=5.8,SNR=3.6								
FINES	**FINESS Array B**	**63.66**	**31**	LR		LR	05 35 20.1		
	comp=Z,137nm,20.7s,baz=274,slow=32								
ARCES	**ARCESS Array B**	**64.64**	**22**	LR		LR	05 34 50.6		
	comp=Z,110nm,20.6s,baz=222,slow=31								
H09N1	**TRISTAN DA CUN**	**64.82**	**151**	T		T	06 23 09.5		
	SNR=6.1								
H09W1	**TRISTAN DA CUN**	**64.84**	**151**	T		T	06 23 08.3		
	SNR=28								
PLCA	**Paso Flores**	**64.91**	**201**	LR		LR	05 40 49.9		
	comp=Z,142nm,20.6s,baz=32,slow=36								
AKASG	**Malin Array Be**	**64.98**	**43**	P		**P**	**05 12 07.7**	**-2.4**	
	comp=Z,0.1nm,0.2s,baz=152,slow=31,SNR=4.2								
INK	**Inuvik**	**70.85**	**337**	P		P	05 12 42.6	-4.1	
	comp=Z,1.4nm,0.9s,baz=49,slow=6.4,SNR=4.1								
INK				LR		LR	05 42 07.1		
	comp=Z,384nm,20.4s,baz=86,slow=35								
ILAR	**Eielson Array**	**76.83**	**334**	P		P	05 13 17.9	-3.9	
	comp=Z,1.2nm,1.1s,baz=60,slow=5.3,SNR=8.0								
ILAR				LR		LR	05 46 55.4		
	comp=Z,224nm,18.7s,baz=91,slow=36								
ZALV	**Zalesovo Beam**	**94.73**	**27**	LR		LR	05 57 29.9		
	comp=Z,70nm,18.0s,baz=246,slow=36								
KSH	**Kashi**	**99.27**	**42**	*e*P		**Pdif**	**05 15 19.9**	**+7.2**	
KSH				*es*P		sP	05 15 26.9	+10	
KSH				*e*PP		PP	05 19 24.3	+9.4	
KSH				SKS		**SKSac**	**05 25 56.6**	**+5.0**	
KSH				S		**ScS**	**05 26 46.4**	**+1.5**	
KSH				PMZ					
	comp=Z,73nm,5.1s								
KSH				LN					
	comp=Z,58nm,5.9s								
KSH				LE					
	comp=Z,120nm,4.8s								
KSH				LZ					
	comp=Z,170nm,6.4s								
HHC	**Hu-ho-hao-te**	**115.67**	**19**	*e*PKP		PKPdf	05 20 17.8	+4.7	
HHC				PP		PP	05 21 24.3	+10	
HHC				PKS		**PKSdf**	**05 23 52.1**	**+2.2**	
HHC				SKS		**SKSdf**	**05 27 26.0**	**+0.4**	
HHC				SKKS		**SKKSac**	**05 28 10.8**	**-6.5**	
HHC				SS		**SS**	**05 37 16.8**	**+3.2**	
HHC				PPMZ					
	comp=Z,34nm,8.7s								
HHC				LN					
	comp=Z,250nm,17.4s								
HHC				LE					
	comp=Z,210nm,17.4s								
HHC				LZ					
	comp=Z,110nm,18.7s								
CD2	**Chengdu**	**121.22**	**31**	PKP		PKPdf	05 20 32.3	+8.4	
CD2				PP		PP	05 22 06.0	+13	
CD2				PKS		PKSdf	05 24 07.6	+6.8	
CD2				SKS		**SKSdf**	**05 27 41.8**	**+5.4**	
CD2				SKKS		**SKKSac**	**05 28 56.8**	**+2.5**	
CD2				SS		SS	05 38 35.5	+9.4	
CD2				PPMZ					
	comp=Z,100nm,6.2s								

*ISCJB **22** 05:03:52.4±0.7,20.3N±0.1×45.6W±0.2,h10km,mb3.8/11, Error ellipse: s-maj=21.8km s-min=17.2km az=13.8*
*IDC **22** 05:03:52.6±0.8,20.29N×45.55W,h0km,mb3.8/11, mb1 4.0/11,mb1mx3.7/55,mbtmp3.8/11,Error ellipse: s-maj=24.7km s-min=20.4km az=103.0*

ISC 22 05:03:54.1±0.8,20.3N±0.1×45.5W±0.2,h10km,n19, σ0s80/11,mb3.9/11,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**41.38**	**129**	T		T	T	05 56 09.7	
	baz=311								
H10N2	**ASCENSION HYDR**	**41.39**	**129**	T		T	T	05 55 39.2	
	baz=311								
H10N1	**ASCENSION HYDR**	**41.40**	**129**	T		T	T	05 55 51.0	
	baz=311								
H10S3	**ASCENSION HYDR**	**42.03**	**131**	T		T	T	05 56 45.6	
	baz=312,SNR=14								
H10S1	**ASCENSION HYDR**	**42.03**	**131**	T		T	T	05 56 37.0	
	baz=312								
H10S2	**ASCENSION HYDR**	**42.05**	**131**	T		T	T	05 56 32.5	
	baz=312								
LPAZ	**La Paz**	**42.57**	**213**	P		**P**	**05 11 51.2**	**0.0**	
	1.4nm,0.8s,baz=0.3,slow=5.8,SNR=3.8								
TORD	**Torodi Ar. Bea**	**45.67**	**91**	P		**P**	**05 12 15.7**	**+0.2**	
	0.8nm,0.8s,baz=298,slow=8.7,SNR=3.1								
CPUP	**Villa Florida**	**47.72**	**194**	P		**P**	**05 12 31.0**	**-0.2**	
	0.9nm,0.8s,baz=34,slow=8.9,SNR=6.6								
PDAR	**Pinedale Array**	**57.59**	**308**	P		**P**	**05 13 46.1**	**+1.5**	
	0.6nm,0.9s,baz=84,slow=9.2,SNR=2.4								
RES	**Resolute Bay**	**60.36**	**347**	P		**P**	**05 14 03.5**	**+0.5**	
	0.7nm,0.8s,baz=162,slow=6.4,SNR=2.4								
YKA	**Yellowknife Ar**	**62.56**	**331**	P		**P**	**05 14 16.8**	**-1.2**	
	0.4nm,0.5s,baz=99,slow=7.6,SNR=3.9								
ARCES	**ARCESS Array B**	**64.55**	**22**	P		**P**	**05 14 30.8**	**-0.3**	
	2.7nm,0.8s,baz=280,slow=7.1,SNR=5.9								
AKASG	**Malin Array Be**	**65.00**	**43**	P		**P**	**05 14 34.3**	**0.0**	
	0.4nm,0.5s,baz=275,slow=6.7,SNR=4.2								
H09N1	**TRISTAN DA CUN**	**65.08**	**151**	T		T	T	06 25 24.5	
	SNR=13								
H09W1	**TRISTAN DA CUN**	**65.09**	**151**	T		T	T	06 25 24.3	
INK	**Inuvik**	**70.61**	**337**	P		**P**	**05 15 08.7**	**-0.7**	
	1.2nm,0.8s,baz=84,slow=6.1,SNR=4.3								
ILAR	**Eielson Array**	**76.58**	**334**	P		**P**	**05 15 44.0**	**-0.6**	
	1.0nm,0.8s,baz=72,slow=4.4,SNR=5.8								
AKTO	**Aktyubinsk**	**82.87**	**39**	P		**P**	**05 16 19.5**	**+0.5**	
	1.0nm,0.8s,baz=346,slow=1.4,SNR=4.2								

IDC 22 05:17:46.9±2.4,56.99S×148.32E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.6/16,mbtmp3.5/4,MS3.6/2,Ms1 3.5/2, ms1mx3.1/14,Error ellipse: s-maj=258.0km s-min=26.1km az=77.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**21.16**	**172**	P		P	P	05 22 33.2	+0.1
	0.3nm,0.5s,baz=0.0,slow=6.1,SNR=2.6								
STKA	**Stephens Creek**	**25.54**	**347**	P		P	P	05 23 18.3	+1.3
	1.5nm,1.0s,baz=146,slow=14,SNR=3.9								
H01W1	**Cape Leeuwin H**	**31.91**	**299**	T		T	T	05 57 00.7	
	baz=143,slow=75,SNR=37								
H01W2	**Cape Leeuwin H**	**31.92**	**299**	T		T	T	05 57 04.3	
	baz=143,slow=75,SNR=53								
H01W3	**Cape Leeuwin H**	**31.93**	**299**	T		T	T	05 57 02.0	
	baz=143,slow=75,SNR=40								
ASAR	**Alice Springs**	**34.90**	**336**	P		P	P	05 24 39.6	-0.4
	0.5nm,0.7s,baz=175,slow=9.3,SNR=5.2								
MAW	**Mawson**	**37.85**	**219**	LR		LR	LR	05 39 20.2	
	comp=Z,108nm,18.6s,baz=241,slow=34								
WRA	**Warramunga Arr**	**38.42**	**339**	P		P	P	05 25 09.3	-0.7
	1.3nm,0.8s,baz=164,slow=7.5,SNR=9.9								
H08S2	**Diego Garcia H**	**75.91**	**278**	T		T	T	06 52 06.9	
	baz=147,slow=76,SNR=5.3								
H08S1	**Diego Garcia H**	**75.92**	**278**	T		T	T	06 52 08.9	
	baz=147,slow=76,SNR=4.8								
H08S3	**Diego Garcia H**	**75.93**	**278**	T		T	T	06 52 08.9	
	baz=147,slow=76,SNR=5.1								
H08N1	**Diego Garcia H**	**77.80**	**277**	T		T	T	06 54 12.7	
	baz=145,slow=76,SNR=4.1								
H08N3	**Diego Garcia H**	**77.81**	**277**	T		T	T	06 54 28.1	
	baz=111,slow=74,SNR=13								
H08N2	**Diego Garcia H**	**77.82**	**277**	T		T	T	06 54 31.5	
	baz=135,slow=76,SNR=3.3								
KSRS	**Korea Array**	**95.65**	**344**	LR		LR	LR	06 17 05.6	
	comp=Z,17nm,18.1s,baz=325,slow=37								

*ISCJB **22** 05:29:25.9±0.6,20.30N±0.09×45.5W±0.2,h10km, mb4.0/14,MS3.5/2, Error ellipse: s-maj=22.2km s-min=12.8km az=9.9*
*IDC **22** 05:29:26.2±0.6,20.31N×45.60W,h0km,mb4.0/12, mb1 4.2/12,mb1mx3.9/42,mbtmp4.0/12,MS3.6/2, Ms1 3.6/2,ms1mx3.0/33,Error ellipse: s-maj=26.1km s-min=15.4km az=100.0*

ISC 22 05:29:27.9±0.7,20.3N±0.1×45.5W±0.2,h10km,n24, σ1s11/14,mb4.0/14,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	**15.74**	**251**	T		T	T	05 49 01.7	
	SNR=20								
PTGA	**Pitinga**	**25.25**	**216**	P		**P**	**05 34 57.4**	**+3.0**	
	1.3nm,0.5s,baz=350,slow=18,SNR=3.5								
PTGA				LR		LR	LR	05 44 05.5	
	comp=Z,112nm,18.1s,baz=20,slow=35								
RCBR	**Riachuelo**	**27.65**	**159**	LR		LR	LR	05 42 59.7	
	comp=Z,120nm,19.9s,baz=347,slow=29								
BDFB	**Brasilia**	**35.82**	**184**	P		**P**	**05 36 26.7**	**-1.2**	
	0.9nm,0.5s,baz=24,slow=12,SNR=3.4								
SCHQ	**Schefferville**	**38.05**	**340**	P		**P**	**05 36 46.9**	**+0.4**	
	2.5nm,0.9s,baz=180,slow=4.0,SNR=2.7								
H10N3	**ASCENSION HYDR**	**41.40**	**129**	T		T	T	06 21 25.8	
	baz=312,slow=75,SNR=16								
H10N2	**ASCENSION HYDR**	**41.40**	**129**	T		T	T	06 21 26.4	
	baz=312,slow=75,SNR=16								
H10N1	**ASCENSION HYDR**	**41.42**	**129**	T		T	T	06 21 29.6	
	baz=312,slow=75,SNR=20								
H10S3	**ASCENSION HYDR**	**42.05**	**131**	T		T	T	06 22 04.2	
	baz=314,slow=74,SNR=39								
H10S1	**ASCENSION HYDR**	**42.05**	**131**	T		T	T	06 21 58.0	
	baz=314,slow=74,SNR=44								
H10S2	**ASCENSION HYDR**	**42.06**	**131**	T		T	T	06 22 06.5	
	baz=314,slow=74,SNR=37								
LPAZ	**La Paz**	**42.62**	**213**	P		**P**	**05 37 24.8**	**-0.5**	
	1.5nm,0.8s,baz=21,slow=9.1,SNR=8.1								
TORD	**Torodi Ar. Bea**	**45.66**	**91**	P		**P**	**05 37 49.3**	**+0.1**	
	2.2nm,1.1s,baz=286,slow=5.6,SNR=7.2								
CPUP	**Villa Florida**	**47.77**	**194**	P		**P**	**05 38 05.2**	**-0.1**	
	1.8nm,0.8s,baz=18,slow=9.0,SNR=13								
LVC	**Limon Verde**	**48.39**	**209**	P		**P**	**05 38 10.0**	**-0.6**	
	17nm,1.0s,baz=32,slow=5.3,SNR=5.1								
PDAR	**Pinedale Array**	**57.58**	**308**	P		P	05 39 21.9	+3.6	
	1.0nm,1.0s,baz=95,slow=7.4,SNR=5.5								
YKA	**Yellowknife Ar**	**62.53**	**331**	P		**P**	**05 39 50.8**	**-0.8**	
	0.5nm,0.7s,baz=103,slow=6.3,SNR=4.2								
ARCES	**ARCESS Array B**	**64.50**	**22**	P		**P**	**05 40 04.9**	**+0.3**	
	3.5nm,0.8s,baz=270,slow=7.2,SNR=6.8								
PLCA	**Paso Flores**	**65.05**	**201**	P		**P**	**05 40 08.3**	**-0.2**	
	1.9nm,0.9s,baz=6.8,slow=5.1,SNR=3.2								
H09W1	**TRISTAN DA CUN**	**65.12**	**151**	T		T	T	06 50 51.2	
	SNR=3.7								
BRTR	**Keskin Array B**	**69.16**	**54**	P		**P**	**05 40 35.1**	**+0.2**	
	0.5nm,0.6s,baz=268,slow=4.3,SNR=2.7								
INK	**Inuvik**	**70.57**	**337**	P		**P**	**05 40 41.9**	**-0.9**	
	1.2nm,0.7s,baz=64,slow=7.1,SNR=7.3								
ILAR	**Eielson Array**	**76.55**	**334**	P		**P**	**05 41 18.0**	**-0.1**	
	0.9nm,0.7s,baz=72,slow=5.0,SNR=14								
CMAR	**Chiang Mai Arr**	**128.05**	**44**	PKP		**PKPdf**	**05 48 35.9**	**+0.7**	
	1.2nm,0.3s,baz=316,slow=3.9,SNR=4.4								

IDC 22 05:38:21.1±1.7,39.48N×110.72E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/31,mbtmp3.6/4,ML2.9/1,Error ellipse: s-maj=47.5km s-min=21.1km az=68.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.92**	**341**	Pn		Pn	Pn	05 40 32.7	+1.4
	0.1nm,0.3s,baz=154,slow=13,SNR=23								
SONM				Sn		Sn	Sn	05 42 10.1	-2.6
	0.1nm,0.3s,baz=158,slow=16,SNR=4.6								
SONM				Lg		Lg	Lg	05 43 00.6	
	0.1nm,0.3s,baz=159,slow=29,SNR=3.7								
MKAR	**Makanchi Array**	**21.91**	**299**	P		P	P	05 43 16.2	+0.4
	2.2nm,0.8s,baz=90,slow=12,SNR=19								
CMAR	**Chiang Mai Arr**	**23.30**	**209**	P		P	P	05 43 30.0	-0.7
	2.3nm,0.7s,baz=14,slow=9.8,SNR=15								
WRA	**Warramunga Arr**	**63.10**	**155**	P		P	P	05 48 50.6	+0.1
	0.3nm,0.8s,baz=346,slow=10,SNR=3.3								

PRE 22 05:55:34.2±1.2,21.31S×33.44E,h5km,ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**7.80**	**319**	*e*P		Pn	Pn	05 57 30.2	+1.5
LSZ				*e*S		Sn	Sn	05 58 53.3	-4.3
PRYS	**Parys**	**7.88**	**224**	*e*P		Pn	Pn	05 57 29.7	-0.1
PRYS				*e*S		Sn	Sn	05 58 55.9	-3.6
PRYS				AML		AML	AML	05 59 14.1	
	comp=Z,6.7nm,0.7s								
LBTB	**Lobatse**	**8.10**	**241**	*e*P		Pn	Pn	05 57 34.1	+1.4
LBTB				*e*S		Sn	Sn	05 59 00.9	-4.0
LBTB				AML		AML	AML	05 59 18.9	
	comp=Z,5.2nm,0.5s								

*ISCJB **22** 05:56:45.6±1.1,33.05S±0.06×70.11W±0.06,h115km±8km, Error ellipse: s-maj=11.7km s-min=6.0km az=147.0*
*GUC **22** 05:56:45.5±0.6,32.94S×70.14W,h117km±7km,ML3.7*
*SJA **22** 05:56:45.9±0.7,33.00S×70.00W,h120km±5km,ML3.3*

ISC 22 05:56:44.7±2.8,33.08S±0.08×70.14W±0.06, h122km±19km,n19,σ0s62/36,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLCH	**Cerro Calan**	**0.46**	**227**	*e*P		**Pn**	**05 57 03.2**	**+0.4**	
CLCH				*e*P		**Pn**	**05 57 03.5**	**+0.7**	
CLCH				*e*S		**Sn**	**05 57 16.5**	**0.0**	
CLCH				*e*S		**Sn**	**05 57 16.8**	**+0.3**	
CLCH				AML		AML	05 57 17.8		
	comp=E,4μm,0.4s								
CLCH				AML		AML	05 57 18.3		
	comp=E,5μm,0.3s								
PEL	**Peldehue**	**0.46**	**262**	*e*P		**Pn**	**05 57 03.0**	**+0.2**	
PEL				*e*S		**Sn**	**05 57 15.8**	**-0.7**	
LACH	**Col Las Americ**	**0.49**	**222**	*e*P		**Pn**	**05 57 02.6**	**-0.3**	
LACH				*e*S		**Sn**	**05 57 16.4**	**-0.4**	
LACH				AML		AML	05 57 19.9		
	comp=N,2μm,0.4s								
STL	**Santa Lucia**	**0.55**	**230**	*e*P		**Pn**	**05 57 02.8**	**-0.5**	
STL				*e*S		**Sn**	**05 57 16.4**	**-1.0**	
STL				AML		AML	05 57 17.2		
	comp=N,1μm,0.3s								
YECH	**El Yeso**	**0.58**	**176**	*e*P		**Pn**	**05 57 04.8**	**+0.9**	
SJCH	**San Jose de Ma**	**0.58**	**198**	*e*P		**Pn**	**05 57 03.3**	**-0.3**	
SJCH				*e*S		**Sn**	**05 57 17.4**	**-0.5**	
RCDM	**Rinconada Maip**	**0.69**	**234**	*e*P		**Pn**	**05 57 05.0**	**+0.7**	
RCDM				*e*S		**Sn**	**05 57 19.8**	**+0.7**	
ROCH	**El Roble**	**0.74**	**278**	*e*P		**Pn**	**05 57 04.9**	**-0.1**	
ROCH				*e*S		**Sn**	**05 57 19.8**	**-0.3**	
ROCH				AML		AML	05 57 20.8		
	comp=E,6μm,0.3s								
ARCO	**CERRO ARCO**	**1.04**	**77**	*i* P		**Pn**	**05 57 07.9**	**+0.4**	
ARCO				*i* S		**Sn**	**05 57 24.9**	**+0.1**	
ARCO				AML		AML	05 57 27.3		
	comp=Z,594nm,0.3s								
AUSP	**Uspallata**	**1.06**	**37**	*i* P		**Pn**	**05 57 08.3**	**+0.4**	
AUSP				*i* S		**Sn**	**05 57 25.4**	**-0.1**	
AAGR	**Agrelo**	**1.10**	**90**	*i* P		**Pn**	**05 57 08.7**	**+0.6**	
AAGR				*i* S		**Sn**	**05 57 25.4**	**-0.3**	
ASAL	**Salagasta**	**1.20**	**66**	*i* P		**Pn**	**05 57 09.6**	**+0.5**	
ASAL				*i* S		**Sn**	**05 57 26.7**	**-0.8**	
RTLS	**Leoncito**	**1.46**	**29**	*i* P		**Pn**	**05 57 13.3**	**+1.2**	
RTLS				*i* S		**Sn**	**05 57 33.1**	**+0.1**	
RTCV	**Cerro Valdivia**	**1.82**	**48**	*i* P		**Pn**	**05 57 16.5**	**+0.4**	
RTCV				*i* S		**Sn**	**05 57 39.0**	**-1.0**	
SJA	**San Juan**	**2.05**	**41**	*i* P		**Pn**	**05 57 19.5**	**+0.5**	
SJA				*i* S		**Sn**	**05 57 43.7**	**-1.5**	
SJA				AML		AML	05 57 46.9		
	comp=Z,142nm,0.3s								
CFAA	**Coronel Fontan**	**2.18**	**48**	*i* P		**Pn**	**05 57 20.8**	**+0.1**	
CFAA				*i* P		**Pn**	**05 57 20.8**	**+0.1**	
RTLL	**Cerro Villicun**	**2.25**	**39**	*i* P		**Pn**	**05 57 21.8**	**+0.3**	
AMOG	**MOGNA**	**2.55**	**34**	*i* P		**Pn**	**05 57 26.1**	**+0.7**	
ACAN	**Cantantal**	**2.61**	**73**	*i* P		**Pn**	**05 57 26.2**	**+0.1**	

WEL 22 06:03:23.6±0.3,37.92S×176.39E,h161km±2km,ML4.0/17, 15C-4D,Error ellipse: s-maj=1.9km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.15**	**59**	PN		Pn	Pn	06 03 45.0	-0.1
OPRZ				*e*SN		Sn	Sn	06 04 02.0	+0.5
KARZ	**Kaharoa**	**0.15**	**230**	PN		Pn	Pn	06 03 45.4	+0.3
OMRZ	**Omania**	**0.18**	**185**	PN		Pn	Pn	06 03 45.5	+0.3
TGRZ	**Tauranga**	**0.22**	**332**	PN		Pn	Pn	06 03 45.4	+0.2
MARZ	**Manawahe**	**0.23**	**106**	PN		Pn	Pn	06 03 45.5	+0.2
RRRZ	**Republican Roa**	**0.43**	**167**	PN		Pn	Pn	06 03 46.1	+0.2
URZ	**Urewera**	**0.66**	**121**	PN		Pn	Pn	06 03 46.5	-0.4
URZ				*e*SN		Sn	Sn	06 04 03.9	-1.0
URZ				AML		AML	AML	06 04 05.3	
MWZ	**Matawai**	**0.98**	**115**	PN		Pn	Pn	06 03 49.0	-0.3
MWZ				*e*SN		Sn	Sn	06 04 07.5	-1.7
MWZ				AML		AML	AML	06 04 09.3	
MWZ				AML		AML	AML	06 04 09.3	
MWZ				AML		AML	AML	06 04 11.6	
RAGZ	**Rawiri**	**0.99**	**126**	⇑PN		Pn	Pn	06 03 49.5	+0.1
RAGZ				*e*SN		Sn	Sn	06 04 08.6	-0.7
HAZ	**Te Kaha**	**1.11**	**82**	⇓PN		Pn	Pn	06 03 49.2	-1.1
RAHZ	**Arahi**	**1.13**	**151**	PN		Pn	Pn	06 03 50.9	+0.3
SNGZ	**Shannon Statio**	**1.14**	**139**	⇑PN		Pn	Pn	06 03 50.8	+0.3
SNGZ				*e*SN		Sn	Sn	06 04 11.0	-0.3
NMHZ	**Naumai**	**1.22**	**165**	PN		Pn	Pn	06 03 51.9	+0.6
BKZ	**Black Stump Fm**	**1.24**	**176**	PN		Pn	Pn	06 03 51.2	-0.3
BKZ				SN		Sn	Sn	06 04 12.7	-0.6
TKGZ	**Te Karaka**	**1.26**	**115**	PN		Pn	Pn	06 03 51.7	+0.1
TWGZ	**Tauwhareparae**	**1.28**	**102**	PN		Pn	Pn	06 03 48.7	-3.2
KRVZ	**Karewarewa**	**1.31**	**206**	⇑PN		Pn	Pn	06 03 52.3	0.0
WHHZ	**Waihua**	**1.33**	**150**	PN		Pn	Pn	06 03 52.5	+0.2
WHHZ				SN		Sn	Sn	06 04 14.2	-0.3
RIGZ	**Rimuhau**	**1.33**	**126**	PN		Pn	Pn	06 03 52.5	+0.2
RIGZ				SN		Sn	Sn	06 04 14.6	+0.1
HIZ	**Hauiti**	**1.35**	**244**	⇑PN		Pn	Pn	06 03 52.9	+0.5
WTVZ	**West Tongariro**	**1.35**	**208**	PN		Pn	Pn	06 03 52.6	0.0
NGZ	**Ngauruhoe**	**1.40**	**206**	PN		Pn	Pn	06 03 53.3	+0.2
ARHZ	**Aropaoanui**	**1.42**	**161**	⇑PN		Pn	Pn	06 03 53.4	+0.3
WPVZ	**Whakapapa**	**1.44**	**207**	⇑PN		Pn	Pn	06 03 53.6	+0.1
TUVZ	**Tukino**	**1.46**	**203**	PN		Pn	Pn	06 03 53.8	0.0
PUZ	**Puketiti**	**1.48**	**96**	PN		Pn	Pn	06 03 53.0	-0.8
PUZ				*e*SN		Sn	Sn	06 04 15.6	-1.5
PUZ				AML		AML	AML	06 04 22.2	
KNZ	**Kokohu**	**1.49**	**138**	⇑PN		Pn	Pn	06 03 53.7	-0.1
WNVZ	**Wahianoa**	**1.53**	**204**	⇑PN		Pn	Pn	06 03 54.4	-0.2
CNGZ	**Carnagh Statio**	**1.54**	**112**	PN		Pn	Pn	06 03 55.0	+0.7
MCHZ	**McNeill Hill**	**1.54**	**171**	⇑PN		Pn	Pn	06 03 54.7	+0.4
PRGZ	**Paritu Road**	**1.54**	**131**	PN		Pn	Pn	06 03 54.3	-0.1
MXZ	**Matakaoa Point**	**1.56**	**77**	⇓PN		Pn	Pn	06 03 54.1	-0.5
MXZ				AML		AML	AML	06 04 18.4	
MOVZ	**Moawhango**	**1.56**	**198**	PN		Pn	Pn	06 03 54.1	-0.6
BHHZ	**Black Hill Sta**	**1.58**	**189**	⇑PN		Pn	Pn	06 03 54.4	-0.5
WMGZ	**Waiomatatini S**	**1.60**	**87**	⇓PN		Pn	Pn	06 03 54.5	-0.5
MTVZ	**Mangateitei**	**1.63**	**206**	⇓PN		Pn	Pn	06 03 55.3	-0.1
MHGZ	**Mahia Peninsul**	**1.71**	**136**	⇑PN		Pn	Pn	06 03 56.2	+0.1
KRHZ	**Kereru**	**1.72**	**181**	PN		Pn	Pn	06 03 55.8	-0.5
CKHZ	**Cape Kidnapper**	**1.81**	**163**	⇑PN		Pn	Pn	06 03 57.3	0.0
KAHZ	**Kahuranaki**	**1.91**	**169**	⇑PN		Pn	Pn	06 03 58.2	-0.1
PNHZ	**Pukenui**	**1.99**	**184**	PN		Pn	Pn	06 03 58.6	-0.8
WAZ	**Wanganui**	**2.13**	**211**	PN		Pn	Pn	06 04 00.4	-0.5
PXZ	**Pawanui**	**2.14**	**170**	⇑PN		Pn	Pn	06 04 00.2	-0.7
PXZ				*e*SN		Sn	Sn	06 04 28.2	-1.6
PXZ				AML		AML	AML	06 04 30.9	
PXZ				AML		AML	AML	06 04 31.7	
PXZ				AML		AML	AML	06 04 31.7	
WPHZ	**Waipukurau**	**2.14**	**179**	PN		Pn	Pn	06 04 00.1	-0.9
TSZ	**Takapari Road**	**2.16**	**189**	PN		Pn	Pn	06 04 00.2	-1.1
TSZ				AML		AML	AML	06 04 30.9	
TSZ				AML		AML	AML	06 04 31.2	
PRHZ	**Porangahau**	**2.35**	**175**	PN		Pn	Pn	06 04 02.4	-1.0
DVHZ	**Dannevirke**	**2.38**	**184**	⇑PN		Pn	Pn	06 04 02.4	-1.4
POWZ	**Post Office Ro**	**2.51**	**191**	PN		Pn	Pn	06 04 03.9	-1.5
ANWZ	**Angora Road**	**2.54**	**179**	PN		Pn	Pn

MKZ				S	Sn	06 37 17.8	-8.6
MKZ	**Mys Kozlova**	**7.20**	**38**	PN	**Pn**	**06 36 02.9**	**-1.9**
ASAJ	**Asahikawa**	**9.38**	**242**	P	**Pn**	**06 36 30.9**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=71,slow=14,SNR=7.1						
ASAJ	**Asahikawa**	**9.38**	**242**	PN	**Pn**	**06 36 30.9**	**-2.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BKI	**Bering**	**9.48**	**46**	S	Sn	06 38 05.7	-15
JCJ	**Chichijima**	**23.85**	**207**	LR	LR	06 47 19.9	
	comp=Z,100nm,21.0s,baz=124,slow=32						
H11S1	**WAKE ISLAND Hy**	**32.18**	**157**	T	T	07 14 15.2	
	baz=344,slow=74,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**32.19**	**157**	T	T	07 14 22.5	
	baz=344,slow=74,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**32.20**	**157**	T	T	07 14 24.9	
	baz=344						
ILAR	**Eielson Array**	**34.29**	**41**	P	**P**	**06 40 50.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=267,slow=5.4,SNR=14						
INK	**Inuvik**	**39.30**	**34**	P	**P**	**06 41 32.0**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=286,slow=7.0,SNR=19						
INK	**Inuvik**	**39.30**	**34**	P	**P**	**06 41 32.1**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RES	**Resolute Bay**	**48.37**	**19**	LR	LR	07 05 44.4	
	comp=Z,18nm,19.4s,baz=65,slow=39						
YKA	**Yellowknife Ar**	**48.63**	**38**	P	**P**	**06 42 46.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=292,slow=6.1,SNR=3.6						
PDAR	**Pinedale Array**	**62.82**	**55**	P	**P**	**06 44 29.1**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=281,slow=0.8,SNR=4.8						
SCHQ	**Schefferville**	**70.86**	**24**	P	**P**	**06 45 16.2**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=24,slow=12,SNR=2.8						
TXAR	**Lajitas Array**	**75.75**	**62**	P	**P**	**06 45 48.3**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=294,slow=5.1,SNR=9.7						

*ISCJB **22** 06:39:20.3±0.5, 45°.6N±0°.1×149°.9E±0°.1, h150km, mb3.5/10, Error ellipse: s-maj=17.0km s-min=4.9km az=146.4*
*SKHL **22** 06:39:20.2±0.9, 45°.25N×150°.28E, h141km±3km, mb4.7/3, msh5.5/3*
*MOS **22** 06:39:22.2±1.1, 45°.92N×149°.45E, h174km, mb4.0/5, Error ellipse: s-maj=23.3km s-min=12.4km az=52.9*
*IDC **22** 06:39:25.5±2.6, 46°.03N×149°.33E, h188km±26km, mb3.2/10, mb1 3.5/14, mb1mx3.3/32, mbtmp3.8/14, Error ellipse: s-maj=22.7km s-min=12.5km az=128.0*
*JMA **22** 06:39:25.4±0.5, 45°.31N×149°.55E, h166km, M3.9*

ISC 22 06:39:21.1±0.5, 45°.64N±0°.09×149°.73E±0°.08, h150km, n68, σ2s 24/63, mb3.6/10, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.37**	**254**	*e*P	N	**Pn**		**06 39 51.7**	**+2.4**
KUR				*e*S	N	**Sn**		**06 40 16.0**	**+5.2**
KUR				pmax	pmax				
	comp=Z,111nm,0.4s								
KUR				pmax	pmax				
	comp=N,65nm,0.2s								
KUR				pmax	pmax				
	comp=E,41nm,0.2s								
KUR				smax	smax				
	comp=N,663nm,0.2s								
KUR				smax	smax				
	comp=E,247nm,0.2s								
KUR	**Kuril'sk**	**1.37**	**254**	*e*P	N	**Pn**		**06 39 51.7**	**+2.4**
KUR				AMB	AMB	06 39 56.2			
	comp=E,110nm,0.4s								
KUR				*e*S	N	**Sn**		**06 40 16.0**	**+5.2**
KUR				A	A	06 40 19.5			
	comp=E,663nm,0.2s								
KUR				A	A	06 40 19.5			
	comp=E,247nm,0.2s								
SHO	**Shikotan**	**2.72**	**231**	*e*P	N	**Pn**		**06 40 06.0**	**+1.1**
SHO				AMB	AMB	06 40 13.2			
	comp=E,145nm,1.0s								
SHO				*e*S	N	**Sn**		**06 40 39.0**	**+0.4**
SHO				A	A	06 40 39.4			
	comp=E,330nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.18**	**241**	*d i*	PN	**Pn**		**06 40 13.7**	**+3.0**
YUK				*i* S		**Sn**		**06 40 53.1**	**+4.0**
YUK				pmax	pmax				
	comp=Z,182nm,0.4s								
YUK				pmax	pmax				
	comp=N,45nm,0.1s								
YUK				pmax	pmax				
	comp=E,49nm,0.1s								
YUK				smax	smax				
	comp=N,222nm,0.4s								
YUK				smax	smax				
	comp=E,283nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.18**	**241**	*e*P		**Pn**		**06 40 13.7**	**+3.0**
YUK				AMB	AMB	06 40 14.0			
	comp=E,180nm,0.4s								
YUK				*e*S		**Sn**		**06 40 53.1**	**+4.0**
YUK				A	A	06 40 57.0			
	comp=E,280nm,0.4s								
YUK				A	A	06 40 57.0			
	comp=E,220nm,0.4s								
NEM2	**Nemuro 2**	**3.65**	**233**	P		**Pn**		**06 40 17.9**	**+1.2**
NEM2				*e*S		**Sn**		**06 40 58.7**	**-1.1**
JRA	**Rausu**	**3.69**	**244**	P		**Pn**		**06 40 19.9**	**+2.6**
JNK	**Nakash**	**4.12**	**242**	P		**Pn**		**06 40 25.1**	**+2.2**
JTKR	**Abashiri--Toko**	**4.46**	**250**	P		**Pn**		**06 40 29.6**	**+2.2**
JAK	**Akkeshi**	**4.47**	**236**	P		**Pn**		**06 40 28.7**	**+1.2**
JAK				*e*S		**Sn**		**06 41 18.1**	**-1.1**
JMP	**Maruseppu**	**4.82**	**252**	P		**Pn**		**06 40 34.4**	**+2.3**
JAR	**Ashorobuto**	**4.87**	**243**	P		**Pn**		**06 40 35.1**	**+2.4**
YSS	**Yuzh-Sakhalins**	**5.01**	**288**	*e*PN		**Pn**		**06 40 35.0**	**+0.4**
YSS				pmax	pmax				
	comp=Z,30nm,0.9s								
YSS	**Yuzh-Sakhalins**	**5.01**	**288**	*e*P		Pn		06 40 40.5	+5.9
JOB	**Onbets**	**5.04**	**239**	P		**Pn**		**06 40 36.7**	**+1.7**
JOB				*e*S		**Sn**		**06 41 31.9**	**-0.7**
HRK	**Horoka**	**5.19**	**248**	*e*P		**Pn**		**06 40 39.7**	**+2.6**
JKK2	**Kamakawa 2**	**5.28**	**253**	P		**Pn**		**06 40 40.7**	**+2.6**
ASAJ	**Asahikawa**	**5.29**	**256**	P		**Pn**		**06 40 41.2**	**+2.9**
ASAJ	**Asahikawa**	**5.29**	**256**	P		**Pn**		**06 40 41.2**	**+2.9**
	comp=Z,1.7nm,0.3s,baz=83,slow=11,SNR=25								
ASAJ	**Asahikawa**	**5.29**	**256**	PN		**Pn**		**06 40 41.3**	**+2.9**
ASAJ				pmax	pmax				
	comp=Z,2.0nm,0.3s								
JCH	**Churui**	**5.49**	**239**	P		**Pn**		**06 40 42.1**	**+1.2**
JCH				*e*S		**Sn**		**06 41 41.6**	**-1.7**
JWK2	**Keihoku**	**5.52**	**269**	P		Pn		06 40 44.4	+3.1
MYR	**Moyori**	**5.73**	**237**	*e*P		**Pn**		**06 40 44.5**	**+0.4**
ERM	**Erimo**	**5.97**	**235**	*e*PN		**Pn**		**06 40 47.5**	**0.0**
ERM	**Erimo**	**5.97**	**235**	*e*P		**Pn**		**06 40 47.4**	**0.0**
JBT2	**Biratori 2**	**6.02**	**244**	P		**Pn**		**06 40 49.8**	**+1.8**
JNBK	**Urakawa-nobuka**	**6.05**	**239**	P		**Pn**		**06 40 48.6**	**+0.2**
JNBK				*e*S		**Sn**		**06 41 53.0**	**-3.7**
JKB	**Kayabe**	**7.33**	**242**	*e*S		**Sn**		**06 42 23.1**	**-4.2**
JYM2	**Yakumo 2**	**7.62**	**246**	P		**Pn**		**06 41 09.6**	**+0.2**
JSR	**Shiriuchi**	**7.91**	**242**	P		**Pn**		**06 41 13.3**	**+0.1**
JSR				*e*S		**Sn**		**06 42 36.7**	**-4.6**
JTM	**Tenmabayashi**	**7.97**	**236**	*e*S		Sn		06 42 36.2	-6.5
JANG	**Nango**	**7.99**	**232**	*e*S		Sn		06 42 37.4	-6.0
JTH	**Tanohata**	**8.11**	**228**	*e*S		**Sn**		**06 42 41.5**	**-4.8**
JIO	**Ouri**	**9.50**	**224**	*e*S		Sn		06 43 13.8	-5.9
USRK	**Ussuriysk Ar.**	**12.66**	**270**	P		**Pn**		**06 42 15.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=73,slow=11,SNR=3.8								
SEY	**Seymchan**	**17.40**	**4**	P		**P**		**06 43 10.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=106,slow=10.0,SNR=3.5								
KSRS	**Korea Array**	**18.22**	**251**	P		**P**		**06 43 23.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=51,slow=12,SNR=3.6								
H11N2	**WAKE ISLAND Hy**	**29.47**	**146**	T		T		07 16 29.0	
	baz=335,slow=75,SNR=50								
H11N1	**WAKE ISLAND Hy**	**29.48**	**146**	T		T		07 16 29.2	
	baz=335,slow=75,SNR=40								
H11N3	**WAKE ISLAND Hy**	**29.49**	**146**	T		T		07 16 30.7	
	baz=335,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hy**	**30.50**	**147**	T		T		07 17 44.8	
	baz=336,slow=76,SNR=59								
H11S3	**WAKE ISLAND Hy**	**30.51**	**147**	T		T		07 17 50.1	
	baz=336,slow=76,SNR=30								
H11S2	**WAKE ISLAND Hy**	**30.52**	**147**	T		T		07 17 48.7	
	baz=336,slow=76,SNR=39								
ILAR	**Eielson Array**	**38.88**	**38**	P		**P**		**06 46 30.8**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=268,slow=6.2,SNR=13								
ILAR	**Eielson Array**	**38.88**	**38**	P		**P**		**06 46 30.8**	**-0.6**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**43.84**	**31**	P		**P**		**06 47 11.0**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=301,slow=8.7,SNR=19								
INK	**Inuvik**	**43.84**	**31**	P		**P**		**06 47 11.0**	**-0.7**
INK				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**45.36**	**297**	P		**P**		**06 47 22.0**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=58,slow=9.0,SNR=3.6								
MKAR	**Makanchi Array**	**45.36**	**297**	P		**P**		**06 47 22.0**	**-2.1**
YKA	**Yellowknife Ar**	**53.20**	**35**	P		**P**		**06 48 22.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=302,slow=7.5,SNR=4.9								
YKA	**Yellowknife Ar**	**53.20**	**35**	P		**P**		**06 48 22.9**	**-0.4**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**53.20**	**35**	*e*P		**P**		**06 48 23.2**	**-0.1**
FFC	**Flin Flon**	**63.08**	**38**	*i* P		**P**		**06 49 33.0**	**+0.9**
FFC	**Flin Flon**	**63.08**	**38**	*e*P		**P**		**06 49 32.9**	**+0.9**
NVAR	**Mina Array Bea**	**65.03**	**60**	P		**P**		**06 49 46.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=297,slow=7.0,SNR=3.9								
WRA	**Warramunga Arr**	**66.75**	**196**	P		**P**		**06 49 57.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=13,slow=6.8,SNR=9.0								
WRA	**Warramunga Arr**	**66.75**	**196**	P		**P**		**06 49 57.8**	**+1.7**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**66.75**	**196**	*e*P		**P**		**06 49 57.1**	**+1.0**
PDAR	**Pinedale Array**	**67.29**	**52**	P		**P**		**06 49 59.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=270,slow=1.5,SNR=5.5								
NOA	**NORSAR Array B**	**68.49**	**340**	P		P		06 50 03.4	-3.3
	comp=Z,0.5nm,0.5s,baz=53,slow=7.6,SNR=2.3								
NOA	**NORSAR Array B**	**68.49**	**340**	P		P		06 50 03.4	-3.3
NOA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**70.46**	**195**	P		P		06 50 21.9	+2.9
	comp=Z,0.5nm,0.5s,baz=10,slow=6.2,SNR=7.4								
ASAR	**Alice Springs**	**70.46**	**195**	P		P		06 50 22.0	+2.9
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**71.13**	**325**	*i* P		P		06 50 28.7	+5.8
TXAR	**Lajitas Array**	**80.08**	**58**	P		**P**		**06 51 14.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=295,slow=4.6,SNR=11								
TXAR	**Lajitas Array**	**80.08**	**58**	P		**P**		**06 51 14.6**	**+0.3**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
PLCA	**Paso Flores**	**150.45**	**95**	PKPbc		**PKPbc**		**06 58 54.1**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=261,slow=3.1,SNR=6.6								
PLCA	**Paso Flores**	**150.45**	**95**	PKIKP		**PKPbc**		**06 58 54.1**	**-0.4**
PLCA				pmax	pmax				
	comp=Z,2.0nm,0.6s								

*ISCJB **22** 06:47:45.8±0.6, 21°.83S±0°.08×66°.96W±0°.10, h180km, mb3.5/4, Error ellipse: s-maj=15.5km s-min=7.8km az=41.0*
*IDC **22** 06:47:47.3±1.1, 21°.79S×67°.13W, h178km±11km, mb3.5/4, mb1 3.6/7, mb1mx3.3/31, mbtmp3.9/7, Error ellipse: s-maj=21.7km s-min=15.8km az=114.0*

ISC 22 06:47:46.4±0.7, 21°.93S±0°.07×66°.92W±0°.10, h180km, n11, σ1s 96/14, mb3.7/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.97**	**249**	P		**Pn**		**06 48 23.7**	**+0.3**
	190nm,0.3s,baz=24,slow=2.7,SNR=42								
LVC				S		**Sn**		**06 48 50.4**	**-1.6**
	228nm,0.3s,baz=249,slow=19,SNR=27								
LPAZ	**La Paz**	**5.73**	**348**	P		**Pn**		**06 49 10.1**	**-0.3**
	3.7nm,0.3s,baz=148,slow=7.0,SNR=107								
SIV	**San Ignacio**	**8.09**	**44**	P		**Pn**		**06 49 41.5**	**+0.5**
	2.3nm,0.3s,baz=239,slow=9.2,SNR=33								
SIV				S		**Sn**		**06 51 08.2**	**-3.6**
	2.5nm,0.3s,baz=145,slow=21,SNR=13								
CFAA	**Coronel Fontan**	**9.71**	**187**	P		**Pn**		**06 50 03.6**	**+1.5**
	0.1nm,0.3s,baz=8.7,slow=13,SNR=10.0								
CFAA				S		**Sn**		**06 51 46.1**	**-4.1**
	0.0nm,0.3s,baz=257,slow=19,SNR=2.9								
PLCA	**Paso Flores**	**19.00**	**189**	P		**Pn**		**06 51 57.1**	**0.0**
	0.1nm,0.3s,baz=20,slow=15,SNR=5.5								
PDAR	**Pinedale Array**	**75.42**	**329**	P		**P**		**06 59 10.2**	**-0.3**
	0.3nm,0.5s,baz=120,slow=5.3,SNR=3.4								
TORD	**Torodi Ar. Bea**	**75.77**	**69**	P		**P**		**06 59 14.7**	**+1.9**
	0.4nm,0.4s,baz=256,slow=5.6,SNR=15								
ULM	**Lac du Bonnet**	**76.30**	**341**	P		**P**		**06 59 14.4**	**-0.6**
	1.2nm,0.5s,baz=167,slow=5.2,SNR=5.6								
YKA	**Yellowknife Ar**	**92.22**	**340**	P		**P**		**07 00 35.3**	**+0.2**
	0.5nm,0.5s,baz=130,slow=4.5,SNR=5.6								
WRA	**Warramunga Arr**	**133.49**	**208**	PKP		**PKPdf**		**07 06 43.3**	**+1.2**
	0.5nm,1.0s,baz=158,slow=1.9,SNR=4.5								
MKAR	**Makanchi Array**	**144.87**	**38**	PKP		**PKPdf**		**07 07 03.2**	**+1.3**
	0.8nm,0.6s,baz=338,slow=2.9,SNR=9.1								

*TIR **22** 06:54:54.7±0.9, 41°.23N×20°.23E, h8km±17km, ML3.2*
*CSEM **22** 06:54:54.5±0.4, 41°.15N×20°.19E, h2km, ML3.2, Error ellipse: s-maj=8.6km s-min=3.9km az=34.0*
*PDG **22** 06:54:55.1±0.3, 41°.18N×20°.11E, h6km, ML2.9/10, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0*
*SKO **22** 06:54:55.1, 41°.14N×20°.17E, h0km*

ISC 22 06:54:54.7±1.2, 41°.18N±0°.03×20°.17E±0°.03, h3km±11km, n39, σ1s 08/74, 12C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.48**	**98**	*i* Pg		**Pg**		**06 55 02.5**	**-1.5**
OHR				*i* Sg		**Sg**		**06 55 10.4**	**+0.1**
OHR				*i* Lg		Lg		06 55 11.2	
	comp=N,267nm,0.5s								
OHR				*i* Lg		Lg		06 55 11.4	
	comp=E,351nm,0.5s								
OHR	**Ohrid**	**0.48**	**98**	*i* Pg		**Pg**		**06 55 02.4**	**-1.5**
OHR				*i* Sg		**Sg**		**06 55 10.3**	**+0.1**
OHR				*i* Lg		Lg		06 55 11.1	
	comp=E,267nm,0.5s								
PHP	**Peshkopia**	**0.55**	**22**	*i* PG		**Pg**		**06 55 04.5**	**-0.7**
PHP				*i* SG		**Sg**		**06 55 13.0**	**+0.7**
PHP	**Peshkopia**	**0.55**	**22**	*i* Pg		**Pg**		**06 55 04.5**	**-0.7**
	SNR=112								
PHP				*i* Sg		**Sg**		**06 55 13.0**	**+0.7**
	SNR=112								
KBN	**Korca**	**0.73**	**140**	*i* PG		**Pg**		**06 55 09.6**	**+0.9**
KBN				*i* SG		**Sb**		**06 55 20.2**	**-0.2**
KBN	**Korca**	**0.73**	**140**	*i* Pg		**Pg**		**06 55 09.6**	**+0.9**
	SNR=101								
PUK	**Puka**	**0.89**	**347**	*i* PG		**Pg**		**06 55 11.2**	**-0.5**
PUK				*i* SG		**Sb**		**06 55 24.8**	**-0.3**
PUK	**Puka**	**0.89**	**347**	*i* Pg		**Pg**		**06 55 11.2**	**-0.5**
	SNR=99								
PUK				*i* Sg		**Sb**		**06 55 24.8**	**-0.3**
	SNR=99								
FNA	**Florina**	**1.00**	**113**	*i* PG		**Pg**		**06 55 13.6**	**-0.2**
FNA				*i* SG		**Sg**		**06 55 27.2**	**+0.5**
FNA	**Florina**	**1.00**	**113**	*i* Pg		**Pg**		**06 55 13.6**	**-0.2**
	SNR=97								
FNA				*i* Sg		**Sg**		**06 55 27.2**	**+0.5**
	SNR=97								
ULC	**Ulcinj**	**1.05**	**319**	*e*Pg		**Pg**		**06 55 13.2**	**-1.6**
ULC				*e*Sg		**Sb**		**06 55 29.9**	**+0.3**
ULC	**Ulcinj**	**1.05**	**319**	*e*Pg		**Pg**		**06 55 13.2**	**-1.6**
ULC				*e*Sg		**Sb**		**06 55 29.9**	**+0.3**
SKO	**Skopje**	**1.24**	**50**	*i* Pg		**Pg**		**06 55 18.5**	**0.0**
SKO				*i* Sg		**Sb**		**06 55 35.3**	**+0.1**
SKO				*i* Lg		Lg		06 55 35.3	
	comp=E,66nm,0.7s								
SKO				*i* Lg		Lg		06 55 36.6	
	comp=N,66nm,0.7s								
SKO	**Skopje**	**1.24**	**50**	*i* Pg		**Pg**		**06 55 18.5**	**0.0**
SKO				*i* Sg		**Sb**		**06 55 35.3**	**+0.1**
SKO				*i* Lg		Lg		06 55 36.6	
	comp=N,66nm,0.7s								
DRME	**Dracevica, Mon**	**1.25**	**324**	*i* Pg		**Pg**		**06 55 17.0**	**-1.6**
DRME				*e*Sg		**Sn**		**06 55 36.3**	**0.0**
DRME	**Dracevica, Mon**	**1.25**	**324**	*i* Pg		**Pg**		**06 55 17.0**	**-1.6**
DRME				*e*Sg		**Sn**		**06 55 36.3**	**0.0**
PVY	**Plav**	**1.42**	**354**	*i* Pg		**Pn**		**06 55 21.8**	**+0.2**
PVY				*e*Sg		**Sg**		**06 55 43.3**	**+2.8**
PVY	**Plav**	**1.42**	**354**	*i* Pg		**Pn**		**06 55 21.8**	**+0.2**
PVY				*e*Sg		**Sg**		**06 55 43.3**	**+2.8**
PDG	**Podgorica**	**1.42**	**332**	*i* Pg		**Pn**		**06 55 21.0**	**-0.4**
PDG				*e*Sg		**Sg**		**06 55 43.0**	**+2.5**
TTG	**Podgorica**	**1.42**	**332**	*i* Pg		**Pn**		**06 55 21.0**	**-0.4**
TTG				*e*Sg		**Sg**		**06 55 43.0**	**+2.5**
BUM	**Brajici-Budva**	**1.47**	**320**	*i* Pg		**Pn**		**06 55 22.2**	**0.0**
BUM				*e*Sg		**Sg**		**06 55 44.5**	**+2.5**
BUM	**Brajici-Budva**	**1.47**	**320**	*i* Pg		**Pn**		**06 55 22.2**	**0.0**
BUM				*e*Sg		**Sg**		**06 55 44.5**	**+2.5**
BEY	**Berane**	**1.70**	**353**	*e*Pn		**Pn**		**06 55 26.2**	**+0.8**
BEY				*e*Sn		**Sg**		**06 55 51.0**	**+1.5**
IVA	**Berane**	**1.70**	**353**	*e*Pn		**Pn**		**06 55 26.2**	**+0.8**
IVA				*e*Sn		**Sg**		**06 55 51.0**	**+1.5**
HCY	**Herceg Novi**	**1.78**	**316**	*i* Pn		**Pn**		**06 55 26.8**	**+0.4**
HCY				*e*Sn		**Sg**		**06 55 52.1**	**+0.2**
HCY	**Herceg Novi**	**1.78**	**316**	*i* Pn		**Pn**		**06 55 26.8**	**+0.4**
HCY				*e*Sn		**Sg**		**06 55 52.1**	**+0.2**
VAY	**Valandovo**	**1.82**	**85**	*i* Pg		**Pb**		**06 55 27.6**	**-1.0**
VAY				*i* Sg		**Sg**		**06 55 53.6**	**+0.5**
VAY				*i* Lg		Lg		06 55 57.8	
	comp=N,20nm,0.6s								
VAY				*i* Lg		Lg		06 55 58.5	
	comp=E,22nm,0.7s								
VAY	**Valandovo**	**1.82**	**85**	*i* Pg		**Pb**		**06 55 27.6**	**-1.0**
VAY				*i* Sg		**Sg**		**06 55 53.6**	**+0.5**
VAY				*i* Lg		Lg		06 55 57.7	
	comp=E,20nm,0.6s								
NKME	**Niksic**	**1.83**	**331**	*i* Pn		**Pn**		**06 55 28.1**	**+1.1**
NKME				*e*Sn		**Sg**		**06 55 53.7**	**+0.3**
NKME	**Niksic**	**1.83**	**331**	*i* Pn		**Pn**		**06 55 28.1**	**+1.1**
NKME				*e*Sn		**Sg**		**06 55 53.7**	**+0.3**
NKY	**Niksic**	**1.85**	**332**	*i* Pn		**Pn**		**06 55 27.9**	**+0.4**
NKY				*e*Sn		**Sg**		**06 55 54.8**	**+0.6**
NKY	**Niksic**	**1.85**	**332**	*i* Pn		**Pn**		**06 55 27.9**	**+0.4**
NKY				*e*Sn		**Sg**		**06 55 54.8**	**+0.6**
TREB	**Trebinje**	**2.05**	**319**	*e*Pn		**Pn**		**06 55 30.5**	**+0.4**
BRY	**Bratogost**	**2.11**	**325**	*e*Pn		**Pn**		**06 55 31.8**	**+0.8**
BRY				*e*Sn		**Sb**		**06 55 59.9**	**-0.3**
BRY	**Bratogost**	**2.11**	**325**	*e*Pn		**Pn**		**06 55 31.8**	**+0.8**
BRY				*e*Sn		**Sb**		**06 55 59.9**	**-0.3**
UPM	**Unac-Piva**	**2.23**	**336**	*e*Pn		**Pn**		**06 55 33.9**	**+1.2**
UPM				*e*Sn		**Sb**		**06 56 03.4**	**-0.4**
UPM	**Unac-Piva**	**2.23**	**336**	*e*Pn		**Pn**		**06 55 33.9**	**+1.2**
UPM				*e*Sn		**Sb**		**06 56 03.4**	**-0.4**
IVAS	**Ivanjica**	**2.40**	**360**	*e*Pn		**Pb**		**06 55 36.9**	**-1.6**
ZAPS	**Zavoj**	**2.78**	**40**	*e*Pn		**Pb**		**06 55 45.2**	**+0.1**

KRSC 22 06:56:27.6±0.6, 55°.14N×160°.35E, h1km±3km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.04**	**227**	P		P		06 56 30.5	+1.9
TUMR	**Tumrok**	**0.18**	**320**	P		P		06 56 32.1	+0.8
KMNR	**Kamenistaya**	**0.62**	**354**	P		P		06 56 41.0	-0.3
KMNR				S		Sb		06 56 51.0	+0.4
BZMR	**Bezymyannaya**	**0.80**	**6**	P		P		06 56 44.6	+0.2
BZMR				S		Sb		06 56 56.4	+0.5
KIRR	**Kirishev**	**0.81**	**360**	P		P		06 56 44.7	0.0
KIRR				S		Sb		06 56 56.6	+0.3
BZGR	**Bezymyannyi-Gr**	**0.82**	**14**	P		P		06 56 45.1	+0.3
BZGR				S		Sb		06 56 57.0	+0.5
BZWR	**Bezymyannyi-We**	**0.83**	**6**	P		P		06 56 44.8	-0.2
KPT	**Kopyto**	**0.83**	**355**	P		P		06 56 44.9	0.0
KOZ	**Kozyrevsk**	**0.96**	**344**	P		P		06 56 47.0	0.0
KOZ				S		Sb		06 57 01.3	+1.1
MKZ	**Mys Kozlova**	**0.99**	**126**	P		P		06 56 47.7	+0.2
MKZ				S		Sn		06 57 02.1	-1.1
KLY	**Klyuchi**	**1.19**	**8**	P		P		06 56 51.7	+0.5
KLY				S		Sn		06 57 09.9	+1.9
ESO	**Esso**	**1.22**	**311**	P		P		06 56 50.6	-0.4
ESO				S		Sg		06 57 07.0	+0.1
KII	**Karymskiy**	**1.23**	**206**	P		P		06 56 51.9	0.0
SRDR	**Sredinnyy**	**1.23**	**343**	P		Pg		06 56 51.3	+0.1
SRDR				S		Sn		06 57 08.8	-0.5
BDR	**Baidarnaya**	**1.51**	**18**	P		Pg		06 56 56.8	+0.2
SMKR	**Semkarok**	**1.57**	**23**	P		Pn		06

0.7nm,0.3s,baz=126,slow=14,SNR=3.0
KSRS Korea Array 21.55 322 P **P 07 13 15.8 +1.1**
0.7nm,0.4s,baz=140,slow=8.3,SNR=4.2
SONM Songino Array 40.41 320 P **P 07 16 00.7 -0.9**
0.5nm,0.4s,baz=134,slow=7.1,SNR=8.2
WRA Warramunga Arr 42.27 194 P **P 07 16 16.9 0.0**
0.6nm,0.5s,baz=18,slow=9.0,SNR=13
ASAR Alice Springs 45.97 194 P **P 07 16 46.0 -0.4**
0.2nm,0.3s,baz=11,slow=8.3,SNR=4.8
STKA Stephens Creek 53.03 183 P **P 07 17 40.0 +0.3**
0.6nm,0.5s,baz=17,slow=11,SNR=4.8
ILAR Eielson Array 61.73 27 P **P 07 18 39.9 -0.6**
0.6nm,0.7s,baz=257,slow=5.2,SNR=12
YKA Yellowknife Ar 76.13 28 P **P 07 20 09.5 0.0**
1.9nm,0.6s,baz=291,slow=5.7,SNR=14
NVAR Mina Array Bea 82.32 52 P **P 07 20 44.6 +0.6**
0.5nm,0.7s,baz=270,slow=4.5,SNR=4.4

*ISCJB **22** 07:16:45.0±0.5,5°.33S±0°.06×147°.09E±0°.06,h195km, mb4.1/12,Error ellipse: s-maj=9.7km s-min=6.3km az=37.6*
*IDC **22** 07:16:46.9±0.8,5°.47S×147°.04E,h197km±7km, mb4.1/9, mb1 4.3/11,mb1mx3.9/27,mbtmp4.6/11,MS3.4/2, Ms1 3.3/2,ms1mx2.8/20,Error ellipse: s-maj=13.6km s-min=9.8km az=105.0*
*NEIC **22** 07:16:48.4±2.5,5°.45S×147°.05E,h212km±23km,mb4.2/3, Error ellipse: s-maj=15.2km s-min=11.6km az=219.0*
ISC 22 07:16:46.8±0.5,5°.41S±0°.06×147°.00E±0°.08,h195km,n43, σ1§03/53,mb4.2/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**178**	P	**Pn**	**07 17 45.8**	**-2.4**
	baz=4.1,SNR=157						
RABL	**Rabaul**	**5.29**	**77**	P	**Pn**	**07 18 04.8**	**-0.1**
	baz=5.2,SNR=6.1						
COEN	**Coen**	**9.29**	**204**	P	**Pn**	**07 18 57.6**	**+0.6**
	baz=9.5,SNR=6.0						
COEN				S	**Sn**	07 20 40.3	-0.8
	baz=9.5,SNR=4.1						
CTA	**Charters Tower**	**14.61**	**183**	P	**Pn**	**07 20 05.1**	**+0.5**
	0.4nm,0.3s,baz=8.8,slow=16,SNR=6.0						
CTAO	**Charters Tower**	**14.61**	**183**	*e*Pn	**P**	**07 20 05.3**	**-0.5**
	9.7nm,0.6s						
CTAO				*e*Sn	**Sn**	**07 22 52.1**	**+4.1**
KDU	**Kakadu**	**16.06**	**242**	P	**P**	**07 20 21.8**	**0.0**
	baz=16,SNR=116						
KDU				S	**S**	07 23 19.3	-0.8
	baz=16,SNR=4.3						
QIS	**Mount Isa**	**16.68**	**205**	P	**Pn**	**07 20 29.7**	**0.0**
	baz=17,SNR=56						
QIS				S	**S**	**07 23 32.2**	**-0.9**
	baz=17,SNR=7.3						
MTN	**Manton Dam**	**17.31**	**244**	P	**P**	**07 20 36.3**	**+0.7**
	baz=18,SNR=109						
WRAB	**Tennant Creek**	**18.97**	**219**	*e*P	**P**	**07 20 53.2**	**-0.4**
WRAB				*e*S	**S**	**07 24 17.1**	**-1.7**
WB2	**Warramunga Arr**	**18.98**	**219**	*e*P	**P**	**07 20 54.2**	**+0.5**
WB2				*e*S	**S**	**07 24 18.4**	**-0.5**
WRA	**Warramunga Arr**	**18.98**	**219**	P	**P**	**07 20 54.2**	**+0.4**
	19nm,0.3s,baz=39,slow=11,SNR=583						
WRA				S	**S**	**07 24 17.3**	**-1.7**
	0.6nm,0.3s,baz=41,slow=20,SNR=18						
EIDS	**Eidsvold**	**20.23**	**169**	P	**P**	**07 21 07.3**	**+0.3**
	baz=20,SNR=4.5						
KNRA	**Kununurra**	**20.61**	**239**	P	**P**	**07 21 10.7**	**-0.4**
	baz=21,SNR=55						
KNRA				S	**S**	**07 24 49.3**	**-1.4**
	baz=21,SNR=7.8						
RMQ	**Roma**	**21.03**	**176**	P	**P**	**07 21 16.6**	**+1.1**
	baz=21,SNR=4.5						
AS31	**Alice Springs**	**22.10**	**214**	*e*P	**P**	**07 21 27.1**	**+0.6**
ASAR	**Alice Springs**	**22.11**	**214**	P	**P**	**07 21 27.2**	**+0.6**
	36nm,0.5s,baz=49,slow=8.4,SNR=361						
ASAR				S	**S**	**07 25 16.4**	**+0.4**
	19nm,0.8s,baz=27,slow=23,SNR=15						
FITZ	**Fitzroy Crossi**	**24.38**	**237**	P	**P**	**07 21 47.8**	**+0.5**
	baz=25,SNR=62						
DZM	**Mont Dzumac**	**25.07**	**133**	P	**P**	**07 21 52.3**	**-1.3**
	9.3nm,0.6s,baz=333,slow=0.8,SNR=24						
ARMA	**Armidale**	**25.26**	**171**	P	**P**	**07 21 55.5**	**+0.2**
	baz=26,SNR=18						
WRKA	**Warakurna**	**26.51**	**221**	P	**P**	**07 22 06.4**	**-0.1**
	baz=27,SNR=21						
STKA	**Stephens Creek**	**26.82**	**190**	LR	LR	07 34 46.3	
	comp=Z,90nm,18.1s,baz=24,slow=40						
FORT	**Forrest**	**30.89**	**213**	P	**P**	**07 22 45.6**	**+0.5**
	baz=31,SNR=6.5						
MEEK	**Meekatharra**	**34.34**	**229**	P	**P**	**07 23 15.7**	**+0.5**
	baz=34,SNR=6.4						
KMBL	**Kambalda**	**34.95**	**219**	P	**P**	**07 23 20.7**	**+0.3**
	baz=35,SNR=5.1						
MORW	**Morawa**	**37.56**	**228**	P	**P**	**07 23 43.2**	**+0.6**
	baz=38,SNR=3.0						
URZ	**Urewera**	**42.63**	**144**	P	**P**	**07 24 23.6**	**-0.4**
	5.6nm,0.3s,baz=256,slow=4.4,SNR=16						
RPZ	**Rata Peaks**	**43.64**	**155**	P	**P**	**07 24 30.6**	**-1.4**
	16nm,0.8s,baz=287,slow=1.5,SNR=6.6						
RPZ	**Rata Peaks**	**43.64**	**155**	*e*P	**P**	**07 24 31.4**	**-0.7**
SONM	**Songino Array**	**63.89**	**331**	P	**P**	**07 27 00.6**	**+1.7**
	1.1nm,0.7s,baz=146,slow=5.7,SNR=9.0						
SONM				pP	**pP**	**07 27 45.7**	**+1.5**
	0.8nm,0.9s,baz=175,slow=7.4,SNR=3.2						
YAK	**Yakutsk**	**68.56**	**351**	LR	LR	07 55 50.9	
	comp=Z,18nm,19.8s,baz=21,slow=34						
VNDA	**Vanda**	**72.50**	**177**	P	**P**	**07 27 51.8**	**+0.1**
	5.5nm,0.7s,baz=328,slow=6.6,SNR=28						
MKAR	**Makanchi Array**	**77.04**	**320**	P	**P**	**07 28 17.9**	**-0.5**
	0.5nm,0.7s,baz=97,slow=8.7,SNR=4.8						
MKAR				pP	**pP**	**07 29 05.5**	**+0.1**
	1.8nm,0.7s,baz=101,slow=6.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**78.51**	**328**	P	**P**	**07 28 26.0**	**-0.2**
	0.9nm,0.4s,baz=123,slow=5.5,SNR=4.6						
QSPA	**South Pole Qui**	**84.56**	**180**	*e*P	**P**	**07 28 57.1**	**-0.9**
	3.9nm,0.7s						
ILAR	**Eielson Array**	**84.94**	**23**	P	**P**	**07 28 58.1**	**-1.6**
	1.5nm,0.8s,baz=255,slow=4.4,SNR=30						
ILAR				pP	**pP**	**07 29 47.2**	**-0.3**
	1.0nm,0.7s,baz=254,slow=4.5,SNR=4.6						
ABKAR	**Akbulak array**	**92.13**	**319**	*e*P	**P**	**07 29 33.6**	**-0.5**
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**97.01**	**52**	P	**P**	**07 29 58.2**	**+1.3**
	0.8nm,0.6s,baz=257,slow=6.0,SNR=6.6						
GERES	**GERESS Array B**	**121.42**	**326**	PKP	**PKPdf**	**07 35 17.2**	**+0.1**
	0.4nm,0.4s,baz=10,slow=2.2,SNR=3.5						
PLCA	**Paso Flores**	**122.61**	**147**	PKP	**PKPdf**	**07 35 19.6**	**-0.1**
	0.8nm,0.5s,baz=234,slow=1.9,SNR=7.8						
PLCA	**Paso Flores**	**122.61**	**147**	PKP	**PKPdf**	**07 35 19.6**	**-0.1**
PLCA				*e*PKPdf	**PKiKP**	**07 35 19.8**	**-0.1**
LPAZ	**La Paz**	**139.10**	**122**	PKhKP	PKPpre	07 35 44.9	
	0.5nm,0.4s,baz=280,slow=2.1,SNR=5.0						
LPAZ				PKP	**PKPdf**	**07 35 52.5**	**+0.4**
	0.8nm,0.4s,baz=305,slow=2.7,SNR=8.2						
TORD	**Torodi Ar. Bea**	**144.94**	**285**	PKPbc	PKPbc	07 36 00.7	-0.8
	1.1nm,0.5s,baz=63,slow=3.8,SNR=26						
BDFB	**Brasilia**	**154.34**	**145**	PKPbc	**PKPbc**	**07 36 24.4**	**-0.8**
	1.6nm,0.5s,baz=90,slow=3.4,SNR=4.0						

IDC 22 07:29:40.0±3.0,30°.13S×138°.71E,h0km,mb1 3.4/3, mb1mx3.3/20,mbtmp3.2/3,ML3.2/3,Error ellipse: s-maj=82.4km s-min=20.7km az=48.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.03**	**126**	Pn	Pn	07 30 29.6	+0.3
	1.0nm,0.3s,baz=305,slow=12,SNR=47						
STKA				Sn	Sn	07 31 05.5	-0.8
	5.0nm,0.3s,baz=318,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**7.73**	**325**	Pn	Pn	07 31 34.5	+0.6
	0.3nm,0.3s,baz=150,slow=13,SNR=9.5						
ASAR				Sn	Sn	07 33 02.1	-0.2
	0.2nm,0.3s,baz=145,slow=22,SNR=4.0						
WRA	**Warramunga Arr**	**10.88**	**338**	Pn	Pn	07 32 17.2	+0.1
	0.3nm,0.3s,baz=162,slow=12,SNR=22						
WRA				Sn	Sn	07 34 19.6	-0.1
	0.2nm,0.3s,baz=161,slow=23,SNR=5.3						

WEL 22 07:40:21.2±0.4,37°.00S×177°.59E,h133km±3km,ML3.6/4, 5C-2D,Error ellipse: s-maj=3.5km s-min=3.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.77**	**169**	⇑PN	Pn	07 40 42.2	-0.2
HAZ				SN	Sn	07 40 57.7	-0.8
MXZ	**Matakaoa Point**	**0.80**	**135**	⇑PN	Pn	07 40 42.5	-0.1
MXZ				SN	Sn	07 40 58.9	0.0
WMGZ	**Waiomatatini S**	**1.05**	**141**	⇑PN	Pn	07 40 44.8	+0.1
WMGZ				*e*SN	Sn	07 41 03.0	+0.2
OPRZ	**Ohinepanea**	**1.18**	**224**	PN	Pn	07 40 46.7	+0.6
PUZ	**Puketiti**	**1.19**	**154**	PN	Pn	07 40 46.0	-0.3
PUZ				SN	Sn	07 41 04.9	-0.5
PUZ				AML	AML	07 41 06.5	
TWGZ	**Tauwhareparae**	**1.21**	**165**	PN	Pn	07 40 46.9	+0.4
TWGZ				SN	Sn	07 41 06.1	+0.2
MWZ	**Matawai**	**1.33**	**182**	⇑PN	Pn	07 40 47.5	-0.3
MWZ				SN	Sn	07 41 07.5	-0.5
MWZ				AML	AML	07 41 08.6	
MWZ				AML	AML	07 41 08.7	
MWZ				AML	AML	07 41 08.7	
CNGZ	**Carnagh Statio**	**1.56**	**162**	PN	Pn	07 40 50.3	+0.2
RIGZ	**Rimuhau**	**1.71**	**176**	⇑PN	Pn	07 40 51.5	-0.4
SNGZ	**Shannon Statio**	**1.79**	**186**	PN	Pn	07 40 52.4	-0.4
PRGZ	**Paritu Road**	**1.93**	**173**	PN	Pn	07 40 53.7	-0.8
RAHZ	**Arahi**	**1.96**	**192**	PN	Pn	07 40 54.6	-0.2
KNZ	**Kokohu**	**2.02**	**178**	⇓PN	Pn	07 40 54.7	-0.7
WHHZ	**Waihua**	**2.09**	**188**	PN	Pn	07 40 56.0	-0.4
MHGZ	**Mahia Peninsul**	**2.16**	**174**	PN	Pn	07 40 56.7	-0.6
NMHZ	**Naumai**	**2.18**	**196**	PN	Pn	07 40 57.7	0.0
ARHZ	**Aropaoanui**	**2.31**	**192**	*e*PN	Pn	07 40 58.1	-0.9
BKZ	**Black Stump Fm**	**2.33**	**202**	PN	Pn	07 40 58.8	-0.6
MCHZ	**McNeill Hill**	**2.54**	**196**	PN	Pn	07 41 01.5	-0.4
CKHZ	**Cape Kidnapper**	**2.69**	**189**	PN	Pn	07 41 02.6	-1.2
BHHZ	**Black Hill Sta**	**2.76**	**205**	PN	Pn	07 41 03.8	-1.0
WNVZ	**Wahianoa**	**2.81**	**213**	*e*PN	Pn	07 41 04.3	-1.3
KRHZ	**Kereru**	**2.81**	**209**	PN	Pn	07 41 03.8	-1.6
KAHZ	**Kahuranaki**	**2.85**	**191**	PN	Pn	07 41 04.7	-1.3
PXZ	**Pawanui**	**3.08**	**190**	PN	Pn	07 41 06.6	-2.2
PXZ				SN	Sn	07 41 42.8	-3.0
PRHZ	**Porangahau**	**3.35**	**193**	PN	Pn	07 41 10.2	-2.1
MRZ	**Mangatainoka R**	**3.98**	**203**	PN	Pn	07 41 17.5	-3.1
HOWZ	**Holdsworth Sta**	**4.21**	**202**	PN	Pn	07 41 20.2	-3.6
OGWZ	**Otaki Gorge**	**4.25**	**206**	PN	Pn	07 41 21.0	-3.3
TMWZ	**Te Maipa**	**4.31**	**197**	PN	Pn	07 41 21.7	-3.4
MTW	**Mount Morrison**	**4.46**	**201**	PN	Pn	07 41 23.1	-3.9
PLWZ	**Palliser**	**4.91**	**201**	PN	Pn	07 41 28.5	-4.6
THZ	**Tophouse**	**5.98**	**216**	⇓PN	Pn	07 41 44.2	-3.3

IDC 22 07:46:24.4±7.4,20°.28S×178°.16W,h486km±90km, mb3.1/6,mb1 3.4/7,mb1mx3.0/34,mbtmp4.0/7,Error ellipse: s-maj=44.1km s-min=27.1km az=6.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.38**	**192**	P	P	07 50 07.6	-1.3
	0.7nm,0.3s,baz=309,slow=2.6,SNR=6.1						
CTA	**Charters Tower**	**33.37**	**264**	P	P	07 52 21.8	+0.1
	3.8nm,0.7s,baz=90,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**44.43**	**257**	P	P	07 53 51.9	+0.4
	1.8nm,0.5s,baz=94,slow=7.6,SNR=29						
WRA	**Warramunga Arr**	**44.49**	**262**	P	P	07 53 52.0	0.0
	1.0nm,0.3s,baz=97,slow=7.7,SNR=37						
PETK	**Petropavlovsk-**	**76.02**	**345**	P	P	07 57 20.4	-0.5
	0.7nm,0.6s,baz=155,slow=7.2,SNR=4.1						
TXAR	**Lajitas Array**	**87.06**	**57**	P	P	07 58 19.9	+1.6
	0.1nm,0.5s,baz=237,slow=5.9,SNR=3.1						
ILAR	**Eielson Array**	**88.14**	**13**	P	P	07 58 21.6	-0.7
	0.2nm,0.4s,baz=215,slow=5.1,SNR=7.2						
BRTR	**Kevin Array B**	**146.59**	**312**	PKPbc	PKPdf	08 05 10.0	+1.1
	0.4nm,0.5s,baz=52,slow=5.8,SNR=2.2						

SKO 22 08:02:02.0,42°.54N×23°.09E,h4km,M2.2,ML2.7, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**1.28**	**198**	*i* Pg	Pg	08 02 25.3	-1.2
VAY				*i* Sg	Sb	08 02 43.3	-0.1
VAY				*e*Lg	Lg	08 02 45.5	
	comp=N,12nm,0.4s						
VAY				*e*Lg	Lg	08 02 46.9	
	comp=E,12nm,0.5s						
SKO	**Skopje**	**1.35**	**246**	*i* Pg	Pn	08 02 26.0	-1.6
SKO				*e*Sg	Sg	08 02 44.6	-0.8
SKO				*e*Lg	Lg	08 02 44.7	
	comp=E,12nm,0.5s						
SKO				*e*Lg	Lg	08 02 45.3	
	comp=N,14nm,0.5s						

*SKO **22** 08:04:53.4,40°.39N×21°.84E,h26km,M1.8,ML2.0*
*THE **22** 08:04:53.5,40°.44N×21°.93E,h4km±23km,ML1.8/2,Error ellipse: s-maj=23.2km s-min=0.6km az=246.0*
*ATH **22** 08:04:54.0,40°.44N×21°.89E,h7km±6km,MD2.9/4*
CSEM 22 08:04:53.5±0.2,40°.44N×21°.85E,h11km±1km,MD2.9, Error ellipse: s-maj=5.0km s-min=3.9km az=86.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.15**	**204**	P	Pg	08 04 56.7	-0.4
KZN				S	Sg	08 05 00.1	+0.5
KZN	**Kozani**	**0.15**	**204**	*e*PG	Pg	08 04 56.8	-0.3
KZN				*e*SG	Sg	08 05 00.2	+0.6
KZN	**Kozani**	**0.15**	**204**	*e*Pg	Pg	08 04 56.8	-0.3
KZN				S	Sg	08 05 00.1	+0.5
FNA	**Florina**	**0.50**	**314**	P	Pg	08 05 03.8	+0.4
FNA				S	Sb	08 05 11.5	-0.2
FNA	**Florina**	**0.50**	**314**	*e*PB	Pb	08 05 04.0	-0.4
FNA				*e*SB	Sb	08 05 11.5	-0.2
FNA	**Florina**	**0.50**	**314**	*e*Pb	Pb	08 05 04.0	-0.4
FNA				S	Sb	08 05 11.5	-0.2
NEST	**Nestorio**	**0.61**	**268**	*e*PG	Pg	08 05 05.9	+0.3
NEST	**Nestorio**	**0.61**	**268**	*e*Pg	Pg	08 05 05.9	+0.3
THL	**Klokotos Trika**	**0.89**	**172**	P	Pg	08 05 10.4	-0.2
THL				S	Sb	08 05 22.7	+0.1
THL	**Klokotos Trika**	**0.89**	**172**	*e*PB	Pb	08 05 10.8	0.0
THL	**Klokotos Trika**	**0.89**	**172**	*e*Pb	Pb	08 05 10.8	0.0
THL				S	Sb	08 05 22.7	+0.1
VAY	**Valandovo**	**1.03**	**32**	*e*Pg	Pn	08 05 13.7	-0.2
VAY	**Valandovo**	**1.03**	**32**	*e*Pg	Pn	08 05 13.7	-0.2
OHR	**Ohrid**	**1.04**	**310**	*e*Pg	Pb	08 05 13.0	-0.6
OHR	**Ohrid**	**1.04**	**310**	*e*Pg	Pb	08 05 13.0	-0.6
KNT	**Kendrikon**	**1.07**	**48**	*e*PB	Pb	08 05 13.8	-0.3
KNT	**Kendrikon**	**1.07**	**48**	*e*Pb	Pb	08 05 13.8	-0.3
XOR	**Xorichti**	**1.49**	**136**	*e*PB	Pb	08 05 21.5	+0.3
XOR	**Xorichti**	**1.49**	**136**	*e*Pb	Pb	08 05 21.5	+0.3

*KRNET **22** 08:21:56.8±0.1,39°.26N×76°.67E,h2km,mb4.1*
*NNC **22** 08:21:59.1±9.5,39°.38N×77°.98E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=84.7km s-min=67.8km az=62.0*
ISC 22 08:21:58.5±3.3,39°.2N±0°.2×76°.9E±0°.1,h10km,n8, σ1§32/15,4C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**2.33**	**344**	*e*P	**Pn**	**08 22 37.2**	**0.0**
	baz=347						
NRN				*e*S	**Sn**	**08 23 06.5**	**+0.5**
	baz=347						
SALK	**Salom-Alik**	**2.88**	**307**	*e*P	**Pn**	**08 22 44.0**	**-0.6**
	baz=307						
SALK				*e*S	**Sn**	**08 23 18.8**	**-0.5**
	baz=307						
KDJ	**Kajisay**	**2.94**	**5**	*e*P	**Pn**	**08 22 46.1**	**+0.7**
	baz=8.0						
KDJ				*e*S	**Sn**	**08 23 22.7**	**+1.8**
	baz=8.0						
BOOM	**Boomskoye usch**	**3.36**	**348**	*e*P	**Pn**	**08 22 51.0**	**-0.2**
	baz=350						
BOOM				*e*S	**Sn**	**08 23 32.6**	**+1.3**
	baz=350						
TKM2	**Tokmak 2**	**3.84**	**346**	⇓Pn	**Pn**	**08 22 58.0**	**+0.2**
	5.4nm,1.4s						
TKM2				⇑Sn	**Sb**	**08 23 51.7**	**-1.3**
	4.8nm,0.6s						
AAK	**Ala-Archa**	**3.87**	**333**	⇓Pn	**Pb**	**08 23 04.5**	**-2.5**
	2.9nm,0.8s						
AAK				⇑Sn	**Sb**	**08 23 52.7**	**-1.2**
	12nm,0.6s						
MNAS	**Manas**	**4.66**	**316**	⇑Pn	**Pb**	**08 23 21.3**	**+0.9**
	5.2nm,1.2s						
MNAS				⇓Sn	**Sb**	**08 24 18.4**	**+1.8**
	11nm,0.8s						
KK31	**Karatay Array**	**6.18**	**311**	⇓Pn	Pb	08 23 42.1	-4.1
	0.2nm,0.4s						
KK31				⇑Sn	**Sb**	**08 25 01.1**	**+1.0**
	0.9nm,0.5s,baz=124,slow=28,SNR=5.2						

NNC 22 08:31:37.5±6.5,35°.24N×72°.88E,h0km,mb3.6,mpv3.2, 5C-2D,Error ellipse: s-maj=50.0km s-min=37.2km az=154.0,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.79**	**6**	⇓Pn	Pn	08 32 51.8	+0.6
	1.0nm,0.3s						
SFK				⇑Sn	Sn	08 33 51.2	+3.6
	2.9nm,0.2s						
DZET	**Dzherino**	**4.81**	**319**	⇑Pn	Pn	08 32 53.2	+1.9
	1.6nm,0.3s						
DZET				⇑Sn	Sn	08 33 49.1	+1.1
	8.1nm,0.6s						
MNAS	**Manas**	**7.24**	**358**	⇑Pn	Pn	08 33 22.1	-2.6
	0.7nm,0.5s						
MNAS				⇓Sn	Sn	08 34 47.0	-0.8
	0.9nm,0.6s						
KK31	**Karatay Array**	**8.06**	**348**	Pn	Pn	08 33 33.0	-2.9
	0.7nm,0.4s,baz=167,slow=13,SNR=20						
KK31				⇑Sn	Sn	08 35 06.8	-0.9
	0.7nm,0.3s,baz=163,slow=23,SNR=9.1						

*ISCJB **22** 08:50:19.1±0.5,56°.57S±0°.07×25°.78W±0°.2,h33km, mb4.6/12,MS3.9/15,Error ellipse: s-maj=14.6km s-min=7.7km az=152.1*
*NEIC **22** 08:50:20.7±0.3,56°.56S×25°.80W,h35km,mb4.9/3,Error ellipse: s-maj=9.6km s-min=8.3km az=70.0*
*IDC **22** 08:50:21.9±4.1,56°.55S×25°.82W,h44km±37km,mb4.3/12, mb1 4.3/13,mb1mx4.2/21,mbtmp4.5/13,ML3.6/1,MS3.8/16, Ms1 3.8/16,ms1mx3.8/19,Error ellipse: s-maj=18.9km s-min=14.7km az=64.0*
*BJI **22** 08:50:21.1,56°.50S×25°.70W,h35km,mB5.3/7,Ms5.2/4, Ms7 5.0/4*
*AWI **22** 08:50:29.6,57°.78S×27°.57W*
ISC 22 08:50:20.6±0.4,56°.58S±0°.08×25°.80W±0°.08,h33km,n70, σ1§50/86,mb4.5/12,MS3.8/15,1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.02**	**159**	P	**Pn**	**08 54 03.7**	**+0.7**
VNA3	**Neumayer Olymp**	**16.24**	**161**	P	**Pn**	**08 54 06.3**	**+0.5**
VNA2	**Neumayer--Watz**	**16.41**	**158**	P	**P**	**08 54 10.0**	**-0.6**
	baz=317,slow=15						
SNAA	**Sanae**	**17.95**	**156**	P	**P**	**08 54 27.8**	**+0.3**
SNAA	**Sanae**	**17.95**	**156**	P	**Pn**	**08 54 26.7**	**-0.5**
	0.2nm,0.3s,baz=325,slow=11,SNR=7.7						
SNAA				LR	LR	08 59 53.9	
	comp=Z,76nm,21.5s,baz=15,slow=32						
SNAA	**Sanae**	**17.95**	**156**	*e*Pn	**P**	**08 54 27.6**	**+0.1**
SNAA				*e*Sn	**Sn**	**08 57 41.5**	**-4.5**
PMSA	**Palmer Station**	**20.15**	**230**	P	**P**	**08 54 51.5**	**0.0**
	29nm,0.8s,baz=87,slow=10,SNR=4.8						
PMSA				LR	LR	09 01 47.1	
	comp=Z,355nm,18.6s,baz=90,slow=34						
USHA	**Ushuaia**	**23.80**	**256**	P	**P**	**08 55 30.7**	**+0.7**
	9.9nm,0.7s,baz=34,slow=4.8,SNR=4.4						
USHA				LR	LR	09 02 56.5	
	comp=Z,228nm,20.3s,baz=55,slow=32						
SYO	**Syowa Base**	**30.68**	**140**	⇓*e*P	P	08 56 27.0	-4.6
PLCA	**Paso Flores**	**32.85**	**280**	P	**P**	**08 56 49.6**	**-1.4**
	2.7nm,0.7s,baz=150,slow=8.2,SNR=6.9						
PLCA				LR	LR	09 09 51.2	
	comp=Z,142nm,19.9s,baz=126,slow=36						
PLCA	**Paso Flores**	**32.85**	**280**	*e*P	**P**	**08 56 50.5**	**-0.5**
QSPA	**South Pole Qui**	**33.67**	**180**	P	**P**	**08 56 58.8**	**+0.7**
	31nm,0.5s,baz=208,slow=1.4,SNR=375						
QSPA				PcP	**PcP**	**08 59 37.2**	**+0.1**
	3.8nm,0.7s,baz=182,slow=1.7,SNR=2.8						
QSPA	**South Pole Qui**	**33.67**	**180**	*e*P	**P**	**08 56 58.6**	**+0.5**
	32nm,0.6s						
QSPA				*e*PcP	**PcP**	**08 59 37.2**	**+0.1**
QSPA				PcP	PcP	08 59 37.2	+0.2
CPUP	**Villa Florida**	**37.74**	**310**	P	**P**	**08 57 32.9**	**-0.2**
	3.8nm,0.7s,baz=151,slow=7.3,SNR=35						
CPUP				PcP	**PcP**	**08 59 50.0**	**+0.5**
	0.3nm,0.6s,baz=181,slow=2.3,SNR=3.3						
CPUP				LR	LR	09 13 17.7	
	comp=Z,605nm,19.2s,baz=168,slow=36						
MAW	**Mawson**	**39.26**	**143**	LR	LR	09 12 40.2	
	comp=Z,122nm,18.5s,baz=242,slow=34						
BDFB	**Brasilia**	**44.21**	**329**	P	**P**	**08 58 27.5**	**+1.0**
	3.0nm,0.6s,baz=26,slow=14,SNR=6.1						
BDFB				LR	LR	09 16 32.4	
	comp=Z,188nm,18.9s,baz=168,slow=36						
VNDA	**Vanda**	**46.08**	**182**	P	**P**	**08 58 41.5**	**+0.9**
	12nm,0.7s,baz=187,slow=6.7,SNR=101						
VNDA				LR	LR	09 17 31.7	
	comp=Z,58nm,18.2s,baz=180,slow=35						
VNDA	**Vanda**	**46.08**	**182**	*e*P	**P**	**08 58 41.0**	**+0.4**
	9.1nm,0.6s						
LBTB	**Lobatse**	**48.43**	**71**	P	**P**	**08 59 01.2**	**+1.6**
	4.9nm,0.7s,baz=234,slow=6.6,SNR=9.3			

	baz=124							
A22A	**Carney Farms,**	**124.34**	**308**	P		**PKPdf**	**09 09 14.9**	**0.0**
	baz=125							
FINES	**FINESS Array B**	**124.49**	**27**	PKP		**PKPdf**	**09 09 13.9**	**-0.7**
	0.8nm,0.6s,baz=132,slow=2.8,SNR=4.6							
A21A	**Bergtoll Ranch**	**124.78**	**308**	P		**PKPdf**	**09 09 15.6**	**-0.1**
	baz=125							
C19A	**Slack Wire Ran**	**124.79**	**305**	P		**PKPdf**	**09 09 15.8**	**0.0**
	baz=125							
A20A	**Cobblestone Ra**	**125.14**	**307**	P		**PKPdf**	**09 09 16.5**	**0.0**
	baz=125							
EGMT	**Eagleton**	**125.32**	**305**	P		**PKPdf**	**09 09 16.8**	**-0.1**
	baz=126							
A19A	**Klindworth Far**	**125.54**	**306**	P		**PKPdf**	**09 09 17.3**	**0.0**
	baz=126							
MSO	**Missoula**	**126.38**	**302**	P		**PKPdf**	**09 09 19.1**	**+0.1**
	baz=127							
KSH	**Kashi**	**127.97**	**74**	*e*PKP		**PKPdf**	**09 09 22.8**	**+0.5**
KSH				sPKP			09 09 37.0	
KSH				*e*PP		**PP**	**09 11 27.0**	**+1.0**
KSH				SKS		**SKSdf**	**09 16 29.1**	**-2.1**
KSH				SKKS		**SKKSac**	**09 18 14.8**	**-5.2**
KSH				SS		**SS**	**09 28 31.8**	**-5.3**
KSH				LN				
	99nm,5.5s							
KSH				LE				
	100nm,7.9s							
KSH				LZ				
	180nm,5.5s							
ARCES	**ARCESS Array B**	**131.15**	**21**	PKP		**PKPdf**	**09 09 26.6**	**-0.6**
	0.8nm,0.7s,baz=202,slow=1.0,SNR=8.2							
BVAR	**Borovoye Array**	**134.41**	**57**	PKP		**PKPdf**	**09 09 34.0**	**+0.2**
	0.6nm,0.5s,baz=173,slow=2.5,SNR=3.4							
GYA	**Guiyang**	**134.75**	**111**	*e*Pdif		**Pdif**	**09 06 36.8**	**+0.1**
GYA				PKP		**PKPdf**	**09 09 36.0**	**+0.5**
GYA				sPKP			09 09 51.4	
GYA				PP		**PP**	**09 12 14.6**	**+5.0**
GYA				PKS		**PKSdf**	**09 13 11.8**	**-0.2**
GYA				SKKS			09 19 01.4	
GYA				SS		**SS**	**09 30 01.3**	**+1.6**
GYA				PPMZ				
	120nm,7.8s							
GYA				LN				
	140nm,21.0s							
GYA				LE				
	120nm,22.2s							
GYA				LZ				
	130nm,23.4s							
CD2	**Chengdu**	**136.78**	**105**	PKP		**PKPdf**	**09 09 40.0**	**+0.9**
CD2				sPKP			09 09 55.1	
CD2				PP		**PP**	**09 12 26.8**	**+4.5**
CD2				PKS		**PKSdf**	**09 13 14.8**	**-0.6**
CD2				SKS		**SKSdf**	**09 16 45.3**	**-1.9**
CD2				SKKS		**SKKSac**	**09 19 13.5**	**-0.5**
CD2				SS		**SS**	**09 30 25.9**	**+2.0**
CD2				PPMZ				
	160nm,5.4s							
KURBB	**Kurchatov Arra**	**136.83**	**64**	PKP		**PKPdf**	**09 09 38.5**	**0.0**
	0.4nm,0.4s,baz=232,slow=1.7,SNR=4.1							
KURK	**Kurchatov**	**136.93**	**64**	PKP		**PKPdf**	**09 09 38.5**	**-0.1**
KURK				*e*PKPdf		**PKPdf**	**09 09 38.5**	**-0.1**
YKA	**Yellowknife Ar**	**137.08**	**317**	PKP		**PKPdf**	**09 09 38.0**	**-0.4**
	1.7nm,0.5s,baz=130,slow=1.9,SNR=18							
YKA				PP		**PP**	**09 12 22.4**	**-1.5**
	0.7nm,0.8s,baz=126,slow=7.2,SNR=4.9							
WMQ	**Urumqi**	**137.26**	**78**	*e*PKP		**PKPdf**	**09 09 39.3**	**-0.3**
GTA	**Gaotai**	**140.93**	**92**	*e*PKP		**PKPdf**	**09 09 50.4**	**+3.9**
GTA				sPKP			09 10 04.8	
HHC	**Hu-ho-hao-te**	**148.38**	**101**	*e*PKPbc		**PKPdf**	**09 10 00.8**	**+1.5**
HHC				pPKP		**pPKPdf**	**09 10 11.3**	**+1.2**
HHC				sPKP			09 10 15.0	
HHC				SKS		**SKSdf**	**09 17 04.4**	**-0.5**
HHC				SKKS		**SKKSac**	**09 20 20.8**	**+0.1**
HHC				PPMZ				
	65nm,10.0s							
HHC				LN				
	170nm,18.7s							
HHC				LE				
	190nm,17.4s							
HHC				LZ				
	120nm,14.9s							
SONM	**Songino Array**	**149.99**	**86**	PKPbc		**PKPbc**	**09 10 06.0**	**-0.6**
	4.2nm,0.6s,baz=230,slow=2.9,SNR=31							
TLY	**Talaya**	**150.54**	**78**	PKPbc		**PKPbc**	**09 10 06.9**	**-0.7**
	1.7nm,0.6s,baz=243,slow=6.5,SNR=4.2							
ILAR	**Eielson Array**	**151.04**	**311**	PKPbc		**PKPbc**	**09 10 08.1**	**-0.3**
	12nm,0.9s,baz=130,slow=1.7,SNR=84							

WEL 22 08:58:43.0±0.1, 40.58S×174.17E, h80km±1km, ML3.5/19, 21C-4D, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.30**	**219**	⇓PN	Pn	08 58 54.8	-0.5
DUWZ				SN	Sn	08 59 03.7	-0.8
KIW	**Kapiti Island**	**0.63**	**117**	PN	Pn	08 58 58.1	0.0
KIW				SN	Sn	08 59 08.8	-0.4
KIW				AML	AML	08 59 10.0	
TCW	**Tory Channel**	**0.64**	**173**	⇑PN	Pn	08 58 58.2	+0.1
TCW				SN	Sn	08 59 09.3	0.0
TCW				AML	AML	08 59 10.0	
OGWZ	**Otaki Gorge**	**0.80**	**108**	PN	Pn	08 58 60.0	+0.2
WEL	**Wellington**	**0.84**	**148**	⇑PN	Pn	08 59 00.6	+0.3
WEL				AML	AML	08 59 13.4	
WEL				AML	AML	08 59 13.8	
CAW	**Cannon Point**	**0.87**	**128**	PN	Pn	08 59 00.9	+0.3
CAW				SN	Sn	08 59 13.6	0.0
CAW				AML	AML	08 59 15.2	
TUWZ	**Tuamarina**	**0.87**	**191**	⇑PN	Pn	08 59 00.1	-0.5
TUWZ				AML	AML	08 59 14.0	
TUWZ				AML	AML	08 59 15.3	
NNZ	**Nelson**	**0.88**	**223**	⇑PN	Pn	08 59 00.1	-0.6
BHW	**Baring Head**	**0.99**	**148**	PN	Pn	08 59 01.9	0.0
BHW				AML	AML	08 59 21.3	
BHW				AML	AML	08 59 23.2	
WAZ	**Wanganui**	**1.03**	**38**	⇑PN	Pn	08 59 03.0	+0.5
HOWZ	**Holdsworth Sta**	**1.07**	**108**	*e*PN	Pn	08 59 02.9	-0.1
MRZ	**Mangatainoka R**	**1.08**	**95**	⇓PN	Pn	08 59 02.9	-0.2
MRZ				SN	Sn	08 59 17.6	-0.4
MRZ				AML	AML	08 59 18.9	
LREZ	**Lake Rotokare**	**1.13**	**9**	⇑PN	Pn	08 59 03.9	+0.3
BSWZ	**Blackbirch Sta**	**1.16**	**191**	PN	Pn	08 59 04.4	+0.3
BSWZ				AML	AML	08 59 22.5	
BSWZ				AML	AML	08 59 23.1	
MTW	**Mount Morrison**	**1.17**	**120**	PN	Pn	08 59 04.0	-0.1
MTW				AML	AML	08 59 19.4	
MTW				AML	AML	08 59 19.8	
MSWZ	**Moikau Station**	**1.17**	**136**	PN	Pn	08 59 04.2	0.0
MSWZ				AML	AML	08 59 23.1	
MSWZ				AML	AML	08 59 27.0	
NMEZ	**Namu Road**	**1.18**	**349**	PN	Pn	08 59 03.8	-0.5
PREZ	**Palmer Road**	**1.23**	**360**	PN	Pn	08 59 04.8	-0.2
PAWZ	**Paruwai Farm**	**1.25**	**131**	PN	Pn	08 59 05.1	0.0
PAWZ				AML	AML	08 59 21.5	
PAWZ				AML	AML	08 59 21.7	
QRZ	**Quartz Range**	**1.27**	**258**	PN	Pn	08 59 03.6	-1.8
KHEZ	**Kahui Hut**	**1.28**	**355**	⇑PN	Pn	08 59 05.2	-0.5
PLWZ	**Palliser**	**1.29**	**141**	PN	Pn	08 59 05.5	-0.3
NEZ	**North Egmont**	**1.30**	**358**	PN	Pn	08 59 05.3	-0.6
NWEZ	**Newall Road**	**1.32**	**350**	PN	Pn	08 59 05.7	-0.4
TIWZ	**Tintock**	**1.32**	**99**	PN	Pn	08 59 05.7	-0.4
TIWZ				AML	AML	08 59 23.7	
TIWZ				AML	AML	08 59 23.7	
PRWZ	**Pori Road**	**1.37**	**90**	PN	Pn	08 59 06.6	-0.1
DREZ	**Durham Road**	**1.38**	**1**	⇑PN	Pn	08 59 06.7	-0.2
PKE	**Pukeiti**	**1.39**	**354**	PN	Pn	08 59 06.5	-0.5
TMWZ	**Te Maipa**	**1.41**	**113**	⇑PN	Pn	08 59 07.4	+0.2
TRWZ	**Traveller**	**1.42**	**126**	PN	Pn	08 59 07.3	+0.1
TRWZ				AML	AML	08 59 26.0	
TRWZ				AML	AML	08 59 32.9	
TSZ	**Takapari Road**	**1.46**	**70**	⇑PN	Pn	08 59 07.5	-0.4
TSZ				AML	AML	08 59 28.0	
TSZ				AML	AML	08 59 34.7	
MHEZ	**Mangahewa**	**1.50**	**5**	⇑PN	Pn	08 59 08.4	+0.1
VRZ	**Vera Road**	**1.52**	**18**	⇑PN	Pn	08 59 08.5	0.0
THZ	**Tophouse**	**1.52**	**218**	PN	Pn	08 59 08.4	-0.4
DVHZ	**Dannevirke**	**1.55**	**80**	PN	Pn	08 59 08.2	-0.8
MTVZ	**Mangateitei**	**1.55**	**41**	PN	Pn	08 59 09.0	-0.1
PKVZ	**Pokaka**	**1.57**	**36**	PN	Pn	08 59 09.0	-0.3
BFZ	**Birch Farm**	**1.58**	**95**	PN	Pn	08 59 08.9	-0.6
TRVZ	**Turoa**	**1.66**	**40**	PN	Pn	08 59 10.4	-0.3
WNVZ	**Wahianoa**	**1.66**	**42**	⇓PN	Pn	08 59 10.4	-0.2
DRZ	**Dome Shelter**	**1.68**	**40**	PN	Pn	08 59 11.7	+0.5
MOVZ	**Moawhango**	**1.69**	**47**	PN	Pn	08 59 10.7	-0.2
PNHZ	**Pukenui**	**1.69**	**68**	⇑PN	Pn	08 59 10.1	-0.7
WHVZ	**Whangaehu Hut**	**1.69**	**41**	⇑PN	Pn	08 59 11.1	-0.1
FWVZ	**Far West T-bar**	**1.69**	**39**	PN	Pn	08 59 11.0	-0.2
WPVZ	**Whakapapa**	**1.73**	**38**	PN	Pn	08 59 11.3	-0.2
COVZ	**Chateau Observ**	**1.73**	**38**	PN	Pn	08 59 11.4	-0.1
TUVZ	**Tukino**	**1.73**	**42**	PN	Pn	08 59 11.5	-0.1
ANWZ	**Angora Road**	**1.76**	**87**	PN	Pn	08 59 11.4	-0.3
NGZ	**Ngauruhoe**	**1.78**	**39**	PN	Pn	08 59 12.0	-0.2
TWVZ	**Taurewa**	**1.79**	**33**	PN	Pn	08 59 11.9	-0.4
WPHZ	**Waipukurau**	**1.81**	**74**	PN	Pn	08 59 11.6	-0.8
BHHZ	**Black Hill Sta**	**1.81**	**54**	PN	Pn	08 59 12.1	-0.5
OTVZ	**Oturere**	**1.82**	**40**	PN	Pn	08 59 12.9	+0.1
WTVZ	**West Tongariro**	**1.82**	**37**	PN	Pn	08 59 12.5	-0.2
KRVZ	**Karewarewa**	**1.86**	**38**	PN	Pn	08 59 12.9	-0.4
KHZ	**Kahutara**	**1.90**	**194**	PN	Pn	08 59 13.3	-0.3
KHZ				AML	AML	08 59 35.2	
PRHZ	**Porangahau**	**1.91**	**82**	PN	Pn	08 59 12.9	-0.8
KRHZ	**Kereru**	**1.93**	**62**	PN	Pn	08 59 12.8	-1.1
KATZ	**Kakaramea**	**1.98**	**37**	PN	Pn	08 59 14.9	0.0
HIZ	**Hauiti**	**2.12**	**15**	⇑PN	Pn	08 59 16.0	-0.6
PXZ	**Pawanui**	**2.13**	**76**	PN	Pn	08 59 15.6	-1.0
PXZ				AML	AML	08 59 50.0	
DSZ	**Denniston Nort**	**2.13**	**236**	⇑PN	Pn	08 59 15.5	-1.3
KAHZ	**Kahuranaki**	**2.22**	**70**	PN	Pn	08 59 16.7	-1.2
WATZ	**Wairara**	**2.22**	**33**	PN	Pn	08 59 17.7	-0.2
MCHZ	**McNeill Hill**	**2.25**	**61**	PN	Pn	08 59 17.2	-1.0
BKZ	**Black Stump Fm**	**2.27**	**53**	PN	Pn	08 59 16.6	-2.0
BKZ				AML	AML	08 59 47.2	
BKZ				AML	AML	08 59 56.0	
KUTZ	**Kaahu Road**	**2.44**	**32**	*e*PN	Pn	08 59 20.4	-0.5
TLZ	**Tolley Road**	**2.48**	**26**	PN	Pn	08 59 21.0	-0.4
LTZ	**Lake Taylor**	**2.62**	**212**	⇑PN	Pn	08 59 22.1	-1.3
TOZ	**Tahuroa Road**	**3.02**	**20**	PN	Pn	08 59 28.1	-0.5
KNZ	**Kokohu**	**3.11**	**61**	*e*PN	Pn	08 59 26.6	-3.2
OXZ	**Oxford**	**3.17**	**209**	⇑PN	Pn	08 59 28.1	-2.6
MHGZ	**Mahia Peninsul**	**3.21**	**65**	PN	Pn	08 59 28.6	-2.6
CRLZ	**Canterbury Las**	**3.21**	**200**	PN	Pn	08 59 28.8	-2.4
URZ	**Urewera**	**3.25**	**46**	PN	Pn	08 59 28.5	-3.2
URZ				AML	AML	09 00 07.7	
PRGZ	**Paritu Road**	**3.30**	**61**	PN	Pn	08 59 29.6	-2.9
MQZ	**McQueen's Vall**	**3.33**	**199**	⇓PN	Pn	08 59 29.9	-2.8
MWZ	**Matawai**	**3.43**	**50**	PN	Pn	08 59 31.6	-2.7
MWZ				AML	AML	09 00 18.1	
KBAZ	**Karaka Road Bo**	**3.52**	**9**	⇑PN	Pn	08 59 35.3	-0.1
MKAZ	**Moumakai**	**3.54**	**13**	PN	Pn	08 59 35.2	-0.5
WVZ	**Waitaha Valley**	**3.58**	**225**	PN	Pn	08 59 34.2	-2.0
WTAZ	**Waiatarua**	**3.65**	**5**	PN	Pn	08 59 36.9	-0.3
ETAZ	**East Tamaki Re**	**3.66**	**10**	⇑PN	Pn	08 59 36.8	-0.5
RVAZ	**Riverhead Bore**	**3.81**	**5**	PN	Pn	08 59 38.7	-0.6
MTAZ	**Motutapu**	**3.83**	**9**	PN	Pn	08 59 39.1	-0.4
RPZ	**Rata Peaks**	**3.90**	**215**	PN	Pn	08 59 37.8	-2.7
HAZ	**Te Kaha**	**3.98**	**46**	PN	Pn	08 59 38.3	-3.3
ABAZ	**Army Bay**	**4.00**	**8**	PN	Pn	08 59 41.4	-0.5
KUZ	**Kuaotunu**	**4.01**	**18**	⇑PN	Pn	08 59 41.0	-1.1
FOZ	**Fox Glacier**	**4.48**	**227**	PN	Pn	08 59 44.6	-3.8
WCZ	**Waipu Caves**	**4.63**	**2**	PN	Pn	08 59 50.1	-0.4
LBZ	**Lake Benmore**	**4.82**	**216**	PN	Pn	08 59 50.1	-2.9
ODZ	**Otahua Downs**	**5.17**	**209**	PN	Pn	08 59 54.5	-3.2
JCZ	**Jackson Bay**	**5.32**	**227**	PN	Pn	08 59 57.4	-2.6
OUZ	**Omahuta**	**5.36**	**355**	PN	Pn	08 59 59.4	-1.1
TUZ	**Tuapeka**	**6.32**	**210**	PN	Pn	09 00 10.7	-2.7
SYZ	**Scrubby Hill**	**6.99**	**210**	PN	Pn	09 00 20.5	-2.1

CSEM 22 08:59:20.3, 42.35N×13.51E, h10km, ML2.1/12
ROM 22 08:59:20.3±0.1, 42.35N×13.51E, h10km, Ml2.1/12, Error ellipse: s-maj=0.9km s-min=0.7km az=70.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.08**	**276**	Pg	Pg	08 59 22.9	+0.2
AQU				Sg	Sg	08 59 24.9	+0.4
	3μm,0.6s						
AQU	**L'Aquila**	**0.08**	**276**	Pg	Pg	08 59 22.9	+0.2
AQU				Sg	Sg	08 59 24.9	+0.4
	3μm,0.6s						
T0106	**Roio Piano**	**0.10**	**248**	Pg	Pg	08 59 23.5	+0.4
T0106				Sg	Sg	08 59 25.7	+0.6
	2μm,0.5s						
T0104	**Madonna delle**	**0.13**	**276**	Pg	Pg	08 59 23.8	+0.4
T0104				Sg	Sg	08 59 26.4	+0.8
CAMP	**Campotosto**	**0.20**	**338**	Pg	Pg	08 59 25.2	+0.4
CAMP				Sg	Sg	08 59 29.2	+1.4
	241nm,0.6s						
CAMP	**Campotosto**	**0.20**	**338**	Pg	Pg	08 59 25.2	+0.4
CAMP				Sg	Sg	08 59 29.2	+1.4
	241nm,0.6s						
T0110	**Collepietro**	**0.23**	**121**	Pg	Pg	08 59 26.1	+0.9
T0110				Sg	Sg	08 59 30.1	+1.6
VCEL	**Villa Celiera**	**0.25**	**79**	Pg	Pg	08 59 26.2	+0.6
VCEL				Sg	Sg	08 59 30.7	+1.6
	537nm,0.6s						
VCEL	**Villa Celiera**	**0.25**	**79**	Pg	Pg	08 59 26.2	+0.6
VCEL				Sg	Sg	08 59 30.7	+1.6
	537nm,0.6s						
TERO	**Teramo**	**0.28**	**14**	Pg	Pg	08 59 26.5	+0.3
TERO				Sg	Sg	08 59 31.2	+1.1
	267nm,0.3s						
TERO	**Teramo**	**0.28**	**14**	Pg	Pg	08 59 26.5	+0.3
TERO				Sg	Sg	08 59 31.2	+1.1
	267nm,0.3s						
FIAM	**Fiamignano**	**0.30**	**255**	Pg	Pg	08 59 26.8	+0.3
FIAM				Sg	Sb	08 59 32.3	-0.8
	292nm,0.7s						
FIAM	**Fiamignano**	**0.30**	**255**	Pg	Pg	08 59 26.8	+0.3
FIAM				Sg	Sb	08 59 32.3	-0.8
	292nm,0.7s						
SMA1	**SAN MARTINO**	**0.31**	**335**	Pg	Pg	08 59 27.2	+0.4
SMA1				Sg	Sb	08 59 32.8	-0.7
	230nm,0.6s						
PTQR	**Pietraquaria**	**0.33**	**194**	Pg	Pg	08 59 27.4	+0.3
PTQR				Sg	Sb	08 59 33.0	-1.0
	27nm,0.3s						
PTQR	**Pietraquaria**	**0.33**	**194**	Pg	Pg	08 59 27.4	+0.3
PTQR				Sg	Sb	08 59 33.0	-1.0
	27nm,0.3s						
LNSS	**Leonessa**	**0.43**	**307**	Pg	Pg	08 59 29.1	+0.1
LNSS				Sg	Sg	08 59 35.6	+0.8
	185nm,0.8s						
LNSS	**Leonessa**	**0.43**	**307**	Pg	Pg	08 59 29.1	+0.1
LNSS				Sg	Sg	08 59 35.6	+0.8
	185nm,0.8s						
INTR	**Introdacqua**	**0.44**	**139**	Pg	Pg	08 59 29.3	+0.2
INTR				Sg	Sb	08 59 36.6	-0.6
	179nm,0.8s						
INTR	**Introdacqua**	**0.44**	**139**	Pg	Pg	08 59 29.3	+0.2
INTR				Sg	Sb	08 59 36.6	-0.6
	179nm,0.8s						
VVLD	**Villa Vallelon**	**0.48**	**170**	Pg	Pg	08 59 30.2	+0.4
	73nm,0.6s						
VVLD	**Villa Vallelon**	**0.48**	**170**	Pg	Pg	08 59 30.2	+0.4
	73nm,0.6s						
NRCA	**Norcia**	**0.57**	**329**	Pg	Pg	08 59 31.4	-0.1
NRCA				Sg	Sb	08 59 40.5	-0.3
	84nm,0.4s						
NRCA	**Norcia**	**0.57**	**329**	Pg	Pg	08 59 31.4	-0.1
NRCA				Sg	Sb	08 59 40.5	-0.3
	84nm,0.4s						
LPEL	**Lama dei Pelig**	**0.58**	**121**	Pg	Pg	08 59 31.5	-0.2
	88nm,0.2s						
LPEL	**Lama dei Pelig**	**0.58**	**121**	Pg	Pg	08 59 31.5	-0.2
	88nm,0.2s						
FDMO	**Fiordimonte**	**0.76**	**336**	Pg	Pg	08 59 35.0	0.0
	47nm,0.2s						
FDMO	**Fiordimonte**	**0.76**	**336**	Pg	Pg	08 59 35.0	0.0
	47nm,0.2s						

CSEM 22 08:59:38.0, 42.36N×13.51E, h10km, ML2.2/8
ROM 22 08:59:38.0±0.1, 42.36N×13.51E, h10km±1km, MI2.2/8, Error ellipse: s-maj=1.9km s-min=1.1km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.08**	**269**	Pg	Pg	08 59 40.5	+0.1
AQU				Sg	Sg	08 59 42.4	+0.3
	3μm,0.6s						
AQU	**L'Aquila**	**0.08**	**269**	Pg	Pg	08 59 40.5	+0.1
AQU				Sg	Sg	08 59 42.4	+0.3
	3μm,0.6s						
T0106	**Roio Piano**	**0.11**	**243**	Pg	Pg	08 59 41.0	+0.2
T0106				Sg	Sg	08 59 43.3	+0.5
	2μm,0.5s						
T0104	**Madonna delle**	**0.13**	**272**	Pg	Pg	08 59 41.5	+0.4
T0104				Sg	Sg	08 59 44.7	+1.5
T0110	**Collepietro**	**0.24**	**123**	Pg	Pg	08 59 43.6	+0.6
T0110				Sg	Sg	08 59 47.6	+1.3
VCEL	**Villa Celiera**	**0.25**	**81**	Pg	Pg	08 59 44.0	+0.8
VCEL				Sg	Sg	08 59 48.8	+2.1
	537nm,0.6s						
VCEL	**Villa Celiera**	**0.25**	**81**	Pg	Pg	08 59 44.0	+0.8
VCEL				Sg	Sg	08 59 48.8	+2.1
	537nm,0.6s						
TERO	**Teramo**	**0.28**	**14**	Pg	Pg	08 59 44.2	+0.5
TERO				Sg	Sg	08 59 48.7	+1.2
	267nm,0.3s						
TERO	**Teramo**	**0.28**	**14**	Pg	Pg	08 59 44.2	+0.5
TERO				Sg	Sg	08 59 48.7	+1.2
	267nm,0.3s						
FIAM	**Fiamignano**	**0.30**	**254**	Pg	Pb	08 59 45.8	0.0
	292nm,0.7s						
FIAM	**Fiamignano**	**0.30**	**254**	Pg	Pb	08 59 45.8	0.0
	292nm,0.7s						
SMA1	**SAN MARTINO**	**0.30**	**335**	Pg	Pg	08 59 44.7	+0.4
	230nm,0.6s						
PTQR	**Pietraquaria**	**0.34**	**194**	Pg	Pg	08 59 45.0	+0.1
	27nm,0.3s						
PTQR	**Pietraquaria**	**0.34**	**194**	Pg	Pg	08 59 45.0	+0.1
	27nm,0.3s						
LNSS	**Leonessa**	**0.43**	**306**	Pg	Pg	08 59 46.8	+0.2
	185nm,0.8s						
LNSS	**Leonessa**	**0.43**	**306**	Pg	Pg	08 59 46.8	+0.2
	185nm,0.8s						
INTR	**Introdacqua**	**0.45**	**139**	Pg	Pg	08 59 47.2	+0.3
INTR				Sg	Sb	08 59 54.7	-0.4
	179nm,0.8s						
INTR	**Introdacqua**	**0.45**	**139**	Pg	Pg	08 59 47.2	+0.3
INTR				Sg	Sb	08 59 54.7	-0.4
	179nm,0.8s						
NRCA	**Norcia**	**0.56**	**329**	Pg	Pg	08 59 49.0	-0.1
NRCA				Sg	Sb	08 59 58.1	-0.2
	84nm,0.4s						
NRCA	**Norcia**	**0.56**	**329**	Pg	Pg	08 59 49.0	-0.1
NRCA				Sg	Sb	08 59 58.1	-0.2
	84nm,0.4s						

IDC 22 09:08:46.7±0.8, 38.52N×70.94E, h0km, mb3.9/16, mb1 4.1/23, mb1mx3.9/55, mbtmp4.0/23, ML3.7/7, MS3.1/5, Ms1 3.1/5, ms1mx2.7/44, Error ellipse: s-maj=14.6km s-min=10.2km az=147.0
NNC 22 09:08:49.5±1.2, 38.60N×70.75E, h0km, mb4.6, mpv4.5, Error ellipse: s-maj=13.4km s-min=3.9km az=162.0
BJI 22 09:08:51.3, 38.75N×70.91E, h26km, mB4.3/6, mb4.2/13, ML4.1/4, Ms3.8/4, Ms7 3.5/1
ISCJB 22 09:08:52.6±0.3, 38.66N±0.03×70.76E±0.04, h47km, mb3.9/25, MS3.2/3, Error ellipse: s-maj=4.4km s-min=3.9km az=165.4
MOS 22 09:08:52.9±1.3, 38.71N×70.76E, h42km, mb4.1/19, Error ellipse: s-maj=9.2km s-min=4.7km az=71.7
NEIC 22 09:08:53.0±0.7, 38.77N×70.85E, h35km, mb4.4/1, Error ellipse: s-maj=12.5km s-min=10.5km az=136.0
ISC 22 09:08:53.9±0.4, 38.61N±0.04×70.76E±0.03, h47km, n120, σ1991/124, mb3.9/25, MS3.4/3, 20C-13D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.52**	**278**	⇑P	**Pn**	**09 09 15.7**	**-3.1**
	452nm,0.5s						
DZET				⇑S	**Sn**	**09 09 39.5**	**+2.0**
	4μm,0.6s						
DZET	**Dzherino**	**1.52**	**278**	P	**Pn**	**09 09 15.7**	**-3.1**
DZET				S	**Sn**	**09 09 40.0**	**+2.6**
DZET				pmax	pmax		
	comp=Z,413nm,0.5s						
DZET				smax	smax		
	comp=N,4μm,0.6s						
SFK	**Sufi-Kurgan**	**2.55**	**56**	⇑Pn	**Pn**	**09 09 32.6**	**-0.4**
	comp=N,220nm,0.7s						
SFK				⇑Sn	**Sn**	**09 10 07.0**	**+4.0**
	comp=N,891nm,1.0s						
SFK	**Sufi-Kurgan**	**2.55**	**56**	PN	**Pn**	**09 09 33.9**	**+0.9**
SFK						09 10 11.7	
SFK				pmax	pmax		
	comp=Z,221nm,0.7s						
SFK				pmax	pmax		
	comp=N,325nm,0.5s						
MNAS	**Manas**	**4.10**	**18**	⇑Pn	**Pn**	**09 09 52.8**	**-1.3**
	comp=N,69nm,0.5s						
MNAS				⇓Sn	**Sn**	**09 10 43.7**	**+2.9**
	comp=N,214nm,0.8s						
MNAS	**Manas**	**4.10**	**18**	PN	**Pn**	**09 09 54.2**	**+0.1**
MNAS						09 10 44.6	
MNAS				pmax	pmax		
	comp=Z,59nm,0.7s						
MNAS				smax	smax		
	comp=N,196nm,0.8s						
KSH	**Kashi**	**4.16**	**76**	Pn	Pn	09 09 50.3	-4.7
KSH				Sn	**Sn**	**09 10 39.6**	**-2.8**

CHMS	**Chumysh**	**5.33**	**33**	P		**Pn**	**09 10 10.7**	**-0.3**
	SNR=26								
CHMS	**Chumysh**	**5.33**	**33**	*i* PN		**Pn**	**09 10 10.6**	**-0.3**
CHCP	**Chirah Chowk**	**5.34**	**157**	P		**Pn**	**09 10 13.9**	**+2.8**
USP	**Ospenovka**	**5.45**	**30**	P		**Pn**	**09 10 12.8**	**+0.2**
	SNR=15								
USP	**Ospenovka**	**5.45**	**30**	*i* PN		**Pn**	**09 10 12.8**	**+0.2**
ULHL	**Ulahol**	**5.54**	**47**	P		**Pn**	**09 10 14.6**	**+0.6**
	SNR=8.1								
ULHL	**Ulahol**	**5.54**	**47**	*i* PN		**Pn**	**09 10 14.6**	**+0.6**
TKM2	**Tokmak 2**	**5.66**	**39**	⇓Pn		**Pn**	**09 10 14.5**	**-1.1**
	comp=E,17nm,0.5s								
TKM2				⇓Sn		**Sn**	**09 11 23.1**	**+3.7**
	comp=E,88nm,0.8s								
TKM2				⇑Lg		Lg	09 11 49.3		
	comp=E,88nm,0.9s								
TKM2	**Tokmak 2**	**5.66**	**39**	P		**Pn**	**09 10 17.0**	**+1.3**
	SNR=50								
TKM2	**Tokmak 2**	**5.66**	**39**	PN		**Pn**	**09 10 16.6**	**+1.0**
TKM2							09 11 24.0		
TKM2				pmax		pmax			
	comp=Z,20nm,0.6s								
TKM2				pmax		pmax			
	comp=N,88nm,0.9s								
TKM2	**Tokmak 2**	**5.66**	**39**	*e*Pn		**Pn**	**09 10 14.0**	**-1.7**
THW	**Thamme Wali**	**5.86**	**172**	P		**Pn**	**09 10 19.5**	**+1.3**
DLH	**Dalhousie**	**7.39**	**143**	*e*P		Pn	09 10 43.0	+3.6
DLH				*e*S		**Sn**	**09 12 06.0**	**+3.9**
PDGK	**Podgornoye**	**8.11**	**52**	⇑Pn		**Pn**	**09 10 51.3**	**+2.3**
	comp=N,4.9nm,0.6s								
PDGK				⇑Pg			09 11 18.5		
	comp=N,20nm,0.8s								
PDGK				⇓Lg		Lg	09 13 07.4		
	comp=N,76nm,1.5s								
IMYA	**Miami**	**8.77**	**258**	*e*P		Pn	09 10 53.5	-4.7
GEYT	**Alibeck**	**9.96**	**270**	Pn		**Pn**	**09 11 14.5**	**+0.1**
	comp=N,0.7nm,0.3s,baz=127,slow=11,SNR=4.2								
GEYT				Sn		**Sn**	**09 13 01.4**	**-3.4**
	comp=N,1.1nm,0.3s,baz=96,slow=11,SNR=2.7								
GEYT				LR		LR	09 15 40.3		
	comp=N,67nm,18.8s,baz=80,slow=41								
ISFR	**Sfrayin**	**10.21**	**265**	*e*P		Pn	09 11 12.9	-5.1
MK09	**Makanchi Array**	**11.76**	**42**	⇑Pn		**Pn**	**09 11 37.1**	**-1.8**
	comp=N,5.7nm,0.8s								
MK09				⇑Lg		Lg	09 15 02.8		
	comp=N,3.9nm,0.8s								
MKAR	**Makanchi Array**	**11.78**	**42**	Pn		**Pn**	**09 11 37.0**	**-2.1**
	comp=N,0.4nm,0.3s,baz=236,slow=13,SNR=29								
MKAR				Lg		Lg	09 14 52.8		
	comp=N,0.2nm,0.3s,baz=248,slow=26,SNR=2.5								
MKAR	**Makanchi Array**	**11.78**	**42**	*i* P		**Pn**	**09 11 37.9**	**-1.3**
MKAR				pmax		pmax			
	comp=Z,6.0nm,0.9s								
AB31	**Akbulak array**	**13.17**	**327**	Pn		Pn	09 11 54.4	-3.7
	comp=Z,2.1nm,0.5s,baz=147,slow=10,SNR=124								
AB31				⇓Sn		**Sn**	**09 14 21.6**	**-1.5**
	comp=Z,11nm,0.8s,baz=147,slow=23,SNR=4.3								
ABKAR	**Akbulak array**	**13.17**	**327**	*e*Pn		Pn	09 11 54.0	-4.1
	comp=Z,6.8nm,0.5s								
KURBB	**Kurchatov Arra**	**13.21**	**22**	⇑Pn		**Pn**	**09 11 57.9**	**-0.8**
	comp=Z,3.1nm,0.5s								
KURBB				⇓Lg		Lg	09 15 47.9		
	comp=Z,24nm,0.8s								
KURBB	**Kurchatov Arra**	**13.21**	**22**	Pn		Pn	09 11 54.2	-4.5
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=17								
KURBB				Sn		**Sn**	**09 14 19.2**	**-4.9**
	comp=Z,0.0nm,0.3s,baz=212,slow=29,SNR=4.6								
KURK	**Kurchatov**	**13.32**	**22**	⇓Pn		**Pn**	**09 11 59.9**	**-0.3**
	comp=Z,1.6nm,0.8s								
KURK				⇓Lg		Lg	09 15 51.7		
	comp=Z,9.9nm,1.0s								
KURK	**Kurchatov**	**13.32**	**22**	P		Pn	09 11 54.3	-5.9
KURK							09 14 19.2		
KURK	**Kurchatov**	**13.32**	**22**	Pn		Pn	09 11 54.2	-5.9
KURK				Sn		Sn	09 14 19.2	-7.5
BVAR	**Borovoye Array**	**14.42**	**359**	Pn		Pn	09 12 10.4	-4.6
	comp=Z,0.5nm,0.3s,baz=168,slow=12,SNR=6.0								
BVAR	**Borovoye Array**	**14.42**	**359**	P		Pn	09 12 10.4	-4.6
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BRVK	**Borovoye**	**14.45**	**359**	⇑Pn		**Pn**	**09 12 14.9**	**-0.6**
	comp=Z,6.3nm,0.6s								
BRVK	**Borovoye**	**14.45**	**359**	⇓*i*P		**Pn**	**09 12 17.6**	**+2.1**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BRVK	**Borovoye**	**14.45**	**359**	Pn		Pn	09 12 11.9	-3.6
AKTO	**Aktyubinsk**	**14.88**	**327**	⇑Pn		**Pn**	**09 12 20.2**	**-1.0**
AKTO				⇑Sn		**Sn**	**09 15 04.2**	**-0.5**
	comp=Z,16nm,1.0s								
AKTO	**Aktyubinsk**	**14.88**	**327**	Pn		**Pn**	**09 12 18.0**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=147,slow=13,SNR=8.1								
AKTO				Sn		Sn	09 14 56.0	-8.7
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.7								
DANN	**Dangsing**	**14.90**	**130**	*e*P		Pn	09 12 17.9	-3.9
	comp=Z,20nm,0.5s								
DANN				*e*S		Sn	09 14 59.1	-6.7
PKIN	**Phulchoki**	**16.46**	**128**	*e*P		**Pn**	**09 12 38.1**	**-3.7**
	comp=Z,6.1nm,0.3s								
PKI	**Pulchoki**	**16.47**	**128**	*e*P		**Pn**	**09 12 39.5**	**-2.5**
GUN	**Gumba**	**16.53**	**126**	*e*P		**Pn**	**09 12 39.5**	**-3.2**
	comp=Z,13nm,0.4s								
JIRN	**Jiri**	**16.90**	**126**	*e*P		**Pn**	**09 12 44.6**	**-2.8**
	comp=Z,28nm,0.6s								
RAMN	**Ramite**	**17.65**	**127**	*e*P		**Pn**	**09 12 54.4**	**-2.2**
	comp=Z,29nm,0.5s								
ZALV	**Zalesovo Beam**	**18.11**	**28**	P		**P**	**09 12 57.7**	**-3.9**
	comp=Z,0.6nm,0.3s,baz=216,slow=11,SNR=8.0								
ZALV				LR		LR	09 19 30.3		
	comp=Z,27nm,19.4s,baz=150,slow=36								
ZALV	**Zalesovo Beam**	**18.11**	**28**	*i* P		**P**	**09 13 00.2**	**-1.4**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ODAN	**Odare**	**18.22**	**125**	*e*P		**P**	**09 13 01.7**	**-1.6**
	comp=Z,20nm,0.6s								
NVS	**Novosibirsk**	**18.30**	**23**	*e*P		**Pn**	**09 13 04.5**	**+0.4**
ARU	**Arti**	**19.58**	**340**	*d* i P		**Pn**	**09 13 21.2**	**+1.8**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.6s								
GNI	**Garni**	**20.15**	**283**	⇓*e*P		Pn	09 13 30.1	+3.6
GNI				pmax		pmax			
	comp=Z,9.0nm,1.4s								
ONI	**Oni**	**21.07**	**290**	P		**P**	**09 13 37.6**	**+3.5**
KBZ	**Khabaz**	**21.53**	**293**	P		**P**	**09 13 38.0**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=56,slow=24,SNR=4.5								
KBZ	**Khabaz**	**21.53**	**293**	P		**P**	**09 13 38.0**	**-0.9**
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.6s								
NEY	**Neytrino**	**21.63**	**291**	*e*P		**P**	**09 13 43.7**	**+3.5**
KIV	**Kislovodsk**	**21.70**	**293**	*e*P		**P**	**09 13 42.8**	**+1.9**
KIV				pmax		pmax			
	comp=Z,9.0nm,0.9s								
KIV				MLR		MLR			
	comp=Z,37nm,14.0s								
GTA	**Gaotai**	**22.56**	**79**	*e*P		**P**	**09 13 50.8**	**+0.6**
GTA				pP		**pP**	**09 13 56.1**	**-5.2**
GTA				sP		sP	09 13 59.4	-7.8
GTA				PMZ					
	comp=Z,9.0nm,1.1s								
GTA				PMZ					
	comp=Z,70nm,5.7s								
GTA				LN					
	comp=Z,95nm,15.2s								
GTA				LE					
	comp=Z,140nm,13.8s								
ZAK	**Zakamensk**	**25.80**	**52**	*e*P		**P**	**09 14 19.9**	**-0.6**
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.9s								
TLY	**Talaya**	**26.37**	**50**	*e*P		**P**	**09 14 26.6**	**+1.0**
TLY				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**27.35**	**59**	P		**P**	**09 14 32.8**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=260,slow=7.2,SNR=3.7								
SONM				LR		LR	09 26 18.1		
	comp=Z,90nm,19.5s,baz=208,slow=39								
ULN	**Ulaanbaatar**	**27.80**	**59**	⇑*e*P		**P**	**09 14 38.4**	**-0.1**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.9s								
OBN	**Obninsk**	**28.24**	**317**	*e*P		**P**	**09 14 43.5**	**+1.4**
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BRTR	**Keskin Array B**	**28.67**	**284**	P		**P**	**09 14 47.5**	**+1.2**
	comp=Z,1.5nm,1.0s,baz=78,slow=7.8,SNR=4.0								
BRTR	**Keskin Array B**	**28.67**	**284**	*ce*P		**P**	**09 14 48.9**	**+2.5**
BRTR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**31.27**	**73**	*e*P		**P**	**09 15 10.6**	**+1.3**
HHC				PP		**PnPn**	**09 16 13.3**	**+0.7**
HHC				S		**S**	**09 20 13.3**	**+0.6**
HHC				sS		sS	09 20 27.3	-6.2
HHC				SS		**SnSn**	**09 22 00.1**	**+1.5**
HHC				PMZ					
	comp=Z,32nm,1.0s								
HHC				LN					
	comp=Z,150nm,14.8s								
HHC				LE					
	comp=Z,130nm,13.6s								
AKASG	**Malin Array Be**	**31.51**	**306**	P		**P**	**09 15 10.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=110,slow=9.2,SNR=4.1								
ENH	**Enshi**	**32.81**	**93**	P		**P**	**09 15 20.5**	**-2.4**
	comp=Z,9.8nm,1.7s								
APE	**Apeiranthos**	**35.48**	**282**	P		P	09 15 51.2	+5.3
APE				pmax		pmax			
	comp=Z,30nm,1.3s								
FINES	**FINESS Array B**	**35.64**	**325**	P		**P**	**09 15 47.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=120,slow=11,SNR=4.9								
FINES	**FINESS Array B**	**35.64**	**325**	P		**P**	**09 15 47.6**	**+0.7**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
QIZ	**Qiongzhong**	**39.04**	**109**	P		**P**	**09 16 17.8**	**+1.6**
QIZ				S		**S**	**09 22 15.0**	**+2.8**
QIZ				PMZ					
	comp=Z,22nm,2.1s								
ARCES	**ARCESS Array B**	**39.13**	**337**	P		**P**	**09 16 17.0**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=105,slow=8.9,SNR=9.2								
ARCES				LR		LR	09 33 13.5		
	comp=Z,50nm,18.4s,baz=152,slow=37								
ARCES	**ARCESS Array B**	**39.13**	**337**	P		**P**	**09 16 17.0**	**+0.6**
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ARCES				MLR		MLR			
	comp=Z,51nm,18.4s								
HFS	**Hagfors**	**41.30**	**320**	P		**P**	**09 16 35.9**	**+1.4**
	comp=Z,6.2nm,0.4s,baz=98,slow=9.1,SNR=42								
HFS	**Hagfors**	**41.30**	**320**	P		**P**	**09 16 35.9**	**+1.4**
HFS				pmax		pmax			
	comp=Z,6.0nm,0.4s								
GERES	**GERESS Array B**	**41.58**	**303**	P		**P**	**09 16 39.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=62,slow=6.8,SNR=2.5								
NB2	**NORSAR Subarra**	**42.59**	**322**	P		**P**	**09 16 45.7**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=92,slow=7.9								
NOA	**NORSAR Array B**	**42.59**	**322**	P		**P**	**09 16 46.1**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=94,slow=8.1,SNR=9.8								
NOA	**NORSAR Array B**	**42.59**	**322**	P		**P**	**09 16 46.1**	**+1.0**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
TIXI	**Tiksi**	**43.90**	**23**	*ce*P		**P**	**09 16 56.0**	**+0.6**
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SPITS	**Spitsbergen Ar**	**45.40**	**346**	P		**P**	**09 17 07.1**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=125,slow=12,SNR=4.6								
SPITS	**Spitsbergen Ar**	**45.40**	**346**	P		**P**	**09 17 07.1**	**-0.2**
SPITS				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BILL	**Bilibino**	**56.80**	**27**	*e*P		**P**	**09 18 34.1**	**+1.2**
BILL				pmax		pmax			
	comp=Z,1.0nm,1.5s								
TORD	**Torodi Ar. Bea**	**65.59**	**268**	P		**P**	**09 19 31.9**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=46,slow=5.9,SNR=11								
INK	**Inuvik**	**71.86**	**9**	P		**P**	**09 20 10.2**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=350,slow=8.6,SNR=8.1								
INK	**Inuvik**	**71.86**	**9**	P		**P**	**09 20 10.2**	**-1.1**
INK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ILAR	**Eielson Array**	**72.81**	**16**	P		**P**	**09 20 16.6**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=305,slow=3.7,SNR=9.0								
ILAR	**Eielson Array**	**72.81**	**16**	P		**P**	**09 20 16.6**	**-0.5**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**79.15**	**3**	P		**P**	**09 20 53.6**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=352,slow=5.3,SNR=10								
YKA	**Yellowknife Ar**	**79.15**	**3**	P		**P**	**09 20 53.6**	**+0.4**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**83.27**	**122**	P		**P**	**09 21 14.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=324,slow=4.7,SNR=11								
WRA	**Warramunga Arr**	**83.27**	**122**	*i* P		**P**	**09 21 18.0**	**+2.3**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**85.62**	**125**	P		**P**	**09 21 27.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=311,slow=4.5,SNR=5.8								
ASAR	**Alice Springs**	**85.62**	**125**	P		**P**	**09 21 27.5**	**0.0**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
FFC	**Flin Flon**	**86.83**	**356**	*i* P		**P**	**09 21 35.9**	**+2.9**

ISCJB ***22*** *10:03:08.1±0.5, 39.°30N±0.°03×27.°82E±0.°05, h0km, Error ellipse: s-maj=5.2km s-min=3.5km az=167.6*
ISK ***22*** *10:03:08.2, 39.°28N×27.°90E, h9km, MD2.5*
CSEM ***22*** *10:03:08.1±0.3, 39.°28N×27.°84E, h1km, MD2.5, Error ellipse: s-maj=6.9km s-min=4.6km az=77.0, Mining explosion.*
DDA ***22*** *10:03:08.4, 39.°31N×27.°80E, h7km, MD2.6*

ISC 22 10:03:08.1±0.8, 39.°27N±0.°03×27.°82E±0.°03, h0km, n22, σ0s81/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.37**	**7**	*e*PG	**Pg**	**10 03 15.8**	**+0.6**
BALB				*e*SG	**Sg**	**10 03 21.6**	**+1.5**
BALB	**Balikesir**	**0.37**	**7**	*e*Pg	**Pg**	**10 03 15.8**	**+0.6**
BALB				*e*Sg	**Sg**	**10 03 21.6**	**+1.5**
AKHS	**Akhisar**	**0.39**	**181**	*i* P	**Pg**	**10 03 16.5**	**+1.0**
AKHS				*i* S	**Sb**	**10 03 24.5**	**+0.1**
AKHS	**Akhisar**	**0.39**	**181**	*i* P	**Pg**	**10 03 16.5**	**+1.0**
AKHS				*i* S	**Sb**	**10 03 24.5**	**+0.1**
AKS	**Akhisar**	**0.39**	**181**	*e*PG	**Pg**	**10 03 16.1**	**+0.6**
AKS				*e*SG	**Sb**	**10 03 23.2**	**-1.2**
AKS	**Akhisar**	**0.39**	**181**	*e*Pg	**Pg**	**10 03 16.1**	**+0.6**
AKS				*e*Sg	**Sb**	**10 03 23.2**	**-1.2**
BALY	**Balya**	**0.50**	**342**	*i* P	**Pg**	**10 03 17.1**	**-0.5**
BALY				*i* S	**Sg**	**10 03 25.2**	**+1.1**
BALY	**Balya**	**0.50**	**342**	*i* P	**Pg**	**10 03 17.1**	**-0.5**
BALY				*i* S	**Sg**	**10 03 25.2**	**+1.1**
DEMI	**Demirci**	**0.73**	**108**	*i* P	**Pg**	**10 03 22.9**	**+0.8**
DEMI				*i* S	**Sb**	**10 03 35.0**	**+0.7**
DEMI	**Demirci**	**0.73**	**108**	*i* P	**Pg**	**10 03 22.9**	**+0.8**
DEMI				*i* S	**Sb**	**10 03 35.0**	**+0.7**
KULA	**Kula-Manisa**	**1.00**	**139**	*e*PG	**Pg**	**10 03 26.9**	**-0.3**
KULA	**Kula-Manisa**	**1.00**	**139**	*e*Pg	**Pg**	**10 03 26.9**	**-0.3**
TVSB	**Tavsanli**	**1.28**	**81**	*e*PG	**Pg**	**10 03 31.7**	**-0.9**
TVSB				*e*SG	**Sb**	**10 03 49.9**	**-0.4**
TVSB	**Tavsanli**	**1.28**	**81**	*e*Pg	**Pg**	**10 03 31.7**	**-1.0**
TVSB				*e*Sg	**Sb**	**10 03 49.9**	**-0.4**
GDZ	**Gediz**	**1.30**	**97**	*i* P	**Pg**	**10 03 32.5**	**-0.5**
GDZ				*i* S	**Sn**	**10 03 52.2**	**+0.4**
GDZ	**Gediz**	**1.30**	**97**	*i* P	**Pg**	**10 03 32.5**	**-0.5**
GDZ				*i* S	**Sn**	**10 03 52.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**178**	*e*PG	**Pg**	**10 03 32.8**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**178**	*e*Pg	**Pg**	**10 03 32.8**	**-0.6**
ARMT	**Armutlu**	**1.52**	**31**	*e*PG	**Pn**	**10 03 35.7**	**-0.9**
ARMT	**Armutlu**	**1.52**	**31**	*e*Pg	**Pn**	**10 03 35.7**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.53**	**318**	*e*PG	**Pb**	**10 03 37.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.53**	**318**	*e*Pg	**Pb**	**10 03 37.2**	**-0.2**

DDA ***22*** *10:09:25.9, 39.°64N×30.°55E, h7km, MD2.9*
ISK ***22*** *10:09:26.6, 39.°65N×30.°67E, h13km, MD2.5*
CSEM ***22*** *10:09:27.1±0.2, 39.°69N×30.°67E, h1km, MD2.5, Error ellipse: s-maj=4.8km s-min=3.5km az=52.0*

ISC 22 10:09:26.9±1.0, 39.°67N±0.°03×30.°65E±0.°03, h5km±10km, n28, σ0s78/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESKT	**Eskisehir**	**0.22**	**135**	*e*PG	**Pg**	**10 09 31.7**	**+0.5**
ESKT	**Eskisehir**	**0.22**	**135**	*e*Pg	**Pg**	**10 09 31.7**	**+0.5**
SEYT	**Eskypehyr**	**0.22**	**135**	*i* P	**Pg**	**10 09 31.1**	**-0.1**
SEYT				*i* S	**Sg**	**10 09 35.9**	**+1.8**
SEYT	**Eskypehyr**	**0.22**	**135**	*i* P	**Pg**	**10 09 31.1**	**-0.1**
SEYT				*i* S	**Sg**	**10 09 35.9**	**+1.8**
BORA	**Eskisehir**	**0.26**	**324**	*i* P	**Pg**	**10 09 31.5**	**-0.5**
BORA				*i* S	**Sg**	**10 09 35.1**	**-0.3**
BORA	**Eskisehir**	**0.26**	**324**	*i* P	**Pg**	**10 09 31.5**	**-0.5**
BORA				*i* S	**Sg**	**10 09 35.0**	**-0.3**
SVRH	**Sivrihisar-ESK**	**0.71**	**108**	*e*PG	**Pg**	**10 09 39.9**	**-0.7**
SVRH	**Sivrihisar-ESK**	**0.71**	**108**	*e*Pg	**Pg**	**10 09 39.9**	**-0.7**
ALT	**Altintas**	**0.74**	**214**	*e*PG	**Pg**	**10 09 40.8**	**-0.4**
ALT				*e*SG	**Sb**	**10 09 51.9**	**-1.0**
ALT	**Altintas**	**0.74**	**214**	*e*Pg	**Pg**	**10 09 40.8**	**-0.4**
ALT				*e*Sg	**Sb**	**10 09 51.9**	**-1.0**
GULT	**Gulveren**	**0.77**	**352**	*e*PG	**Pb**	**10 09 42.5**	**-0.2**
GULT	**Gulveren**	**0.77**	**352**	*e*Pg	**Pb**	**10 09 42.5**	**-0.2**
CAVI	**Cavuskoy**	**0.82**	**311**	*e*PG	**Pg**	**10 09 42.9**	**+0.3**
CAVI	**Cavuskoy**	**0.82**	**311**	*e*Pg	**Pg**	**10 09 42.9**	**+0.3**
MDUB	**Mudurnu**	**0.90**	**28**	*e*PG	**Pb**	**10 09 45.0**	**-0.1**
MDUB	**Mudurnu**	**0.90**	**28**	*e*Pg	**Pb**	**10 09 45.0**	**-0.1**
TVSB	**Tavsanli**	**0.94**	**257**	*e*PG	**Pb**	**10 09 45.4**	**-0.4**
TVSB	**Tavsanli**	**0.94**	**257**	*e*Pg	**Pb**	**10 09 45.4**	**-0.4**
BOLV	**Bolvadin**	**0.98**	**166**	*i* P	**Pn**	**10 09 46.7**	**-0.7**
BOLV				*i* S	**Sn**	**10 10 03.2**	**+1.5**
BOLV	**Bolvadin**	**0.98**	**166**	*i* P	**Pn**	**10 09 46.7**	**-0.7**
BOLV				*i* S	**Sn**	**10 10 03.2**	**+1.5**
ADVT	**Abdulvahap**	**1.03**	**318**	*e*PG	**Pg**	**10 09 47.0**	**+0.3**
ADVT	**Abdulvahap**	**1.03**	**318**	*e*Pg	**Pg**	**10 09 47.0**	**+0.3**
GDZ	**Gediz**	**1.08**	**238**	*i* P	**Pn**	**10 09 49.2**	**+0.4**
GDZ				*i* S	**Sn**	**10 10 05.2**	**+1.1**
GDZ	**Gediz**	**1.08**	**238**	*i* P	**Pn**	**10 09 49.2**	**+0.4**
GDZ				*i* S	**Sn**	**10 10 05.2**	**+1.1**
IZI	**Iznik**	**1.12**	**307**	*e*PN	**Pn**	**10 09 49.3**	**0.0**
IZI	**Iznik**	**1.12**	**307**	*e*Pn	**Pn**	**10 09 49.3**	**0.0**
KDHN	**Kadinhani**	**1.62**	**135**	*i* P	**Pb**	**10 09 56.5**	**-0.8**
KDHN				*i* S	**Sg**	**10 10 18.5**	**-0.5**
KDHN	**Kadinhani**	**1.62**	**135**	*i* P	**Pb**	**10 09 56.5**	**-0.8**
KDHN				*i* S	**Sg**	**10 10 18.5**	**-0.5**

TIR ***22*** *10:12:51.9±1.0, 41.°10N×20.°12E, h14km±59km, ML2.9*
CSEM ***22*** *10:12:52.9±0.4, 41.°07N×20.°15E, h2km, ML2.9, Error ellipse: s-maj=10.0km s-min=4.3km az=34.0*
SKO ***22*** *10:12:53.9, 41.°10N×20.°13E, h0km*
PDG ***22*** *10:12:53.1±0.3, 41.°12N×20.°18E, h3km, ML2.7/9, Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*

ISC 22 10:12:53.4±1.3, 41.°11N±0.°04×20.°14E±0.°03, h3km±11km, n33, σ1s16/60, 8C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.50**	**90**	*i* Pg	**Pg**	**10 13 02.1**	**-1.0**
OHR				*i* Sg	**Sg**	**10 13 10.2**	**+0.6**
OHR				*e*Lg	Lg	10 13 10.5	
	comp=N,77nm,0.6s						
OHR				*e*Lg	Lg	10 13 12.0	
	comp=E,63nm,0.3s						
OHR	**Ohrid**	**0.50**	**90**	*i* Pg	**Pg**	**10 13 02.0**	**-1.1**
OHR				*i* Sg	**Sg**	**10 13 10.1**	**+0.5**
OHR				*e*Lg	Lg	10 13 10.4	
	comp=E,77nm,0.6s						
PHP	**Peshkopia**	**0.62**	**22**	*i* PG	**Pg**	**10 13 04.4**	**-0.9**
PHP				*i* SG	**Sg**	**10 13 14.5**	**+1.1**
PHP	**Peshkopia**	**0.62**	**22**	*i* Pg	**Pg**	**10 13 04.4**	**-0.9**
	SNR=101						
PHP				*i* Sg	**Sg**	**10 13 14.5**	**+1.1**
	SNR=101						
KBN	**Korca**	**0.69**	**134**	*i* PG	**Pg**	**10 13 06.3**	**-0.4**
KBN	**Korca**	**0.69**	**134**	*i* Pg	**Pg**	**10 13 06.3**	**-0.4**
	SNR=99						
PUK	**Puka**	**0.95**	**349**	*i* PG	**Pg**	**10 13 10.4**	**-1.3**
PUK				*i* SG	**Sb**	**10 13 25.6**	**-0.1**
FNA	**Florina**	**0.99**	**109**	*i* PG	**Pg**	**10 13 12.0**	**-0.5**
FNA	**Florina**	**0.99**	**109**	*i* Pg	**Pg**	**10 13 12.0**	**-0.5**
	SNR=95						
ULC	**Ulcinj**	**1.08**	**322**	⇑*i* Pg	**Pg**	**10 13 13.0**	**-1.2**
ULC				*e*Sg	**Sn**	**10 13 30.6**	**-0.6**
ULC	**Ulcinj**	**1.08**	**322**	⇑*i* Pg	**Pg**	**10 13 13.0**	**-1.2**
ULC				*e*Sg	**Sn**	**10 13 30.6**	**-0.6**
DRME	**Dracevica, Mon**	**1.29

PVY				*e*Sg	**Sg**	**10 13 44.2**	**+2.9**	
BUM	**Brajici-Budva**	**1.51**	**322**	*i*/*e*Pg	**Pb**	**10 13 22.1**	**-0.1**	
BUM				*e*Sg	**Sg**	**10 13 44.9**	**+2.9**	
BUM	**Brajici-Budva**	**1.51**	**322**	*i*/*e*Pg	**Pb**	**10 13 22.1**	**-0.1**	
BUM				*e*Sg	**Sg**	**10 13 44.9**	**+2.9**	
BEY	**Berane**	**1.77**	**354**	⇑*i*Pn	**Pb**	**10 13 25.8**	**-0.8**	
BEY				*e*Sn	**Sg**	**10 13 51.2**	**+0.9**	
IVA	**Berane**	**1.77**	**354**	⇑*i*Pn	**Pb**	**10 13 25.8**	**-0.8**	
IVA				*e*Sn	**Sg**	**10 13 51.2**	**+0.9**	
HCY	**Herceg Novi**	**1.81**	**318**	⇓*i*Pn	**Pn**	**10 13 26.0**	**+0.4**	
HCY				*e*Sn	**Sg**	**10 13 52.5**	**+0.7**	
HCY	**Herceg Novi**	**1.81**	**318**	⇓*i*Pn	**Pn**	**10 13 26.0**	**+0.4**	
HCY				*e*Sn	**Sg**	**10 13 52.5**	**+0.7**	
VAY	**Valandovo**	**1.85**	**83**	*i* Pg	**Pb**	**10 13 27.8**	**-0.1**	
VAY				*i* Sg	**Sg**	**10 13 53.2**	**+0.4**	
VAY				*e*Lg	Lg	10 13 55.0		
	comp=E,22nm,1.2s							
VAY				*e*Lg	Lg	10 13 55.9		
	comp=N,10nm,0.4s							
VAY	**Valandovo**	**1.85**	**83**	*i* Pg	**Pb**	**10 13 27.7**	**-0.2**	
VAY				*i* Sg	**Sg**	**10 13 53.1**	**+0.3**	
VAY				*e*Lg	Lg	10 13 55.0		
	comp=N,22nm,1.2s							
NKME	**Niksic**	**1.88**	**332**	*e*Pn	**Pb**	**10 13 27.6**	**-0.8**	
NKME				*e*Sn	**Sg**	**10 13 53.8**	**+0.1**	
NKME	**Niksic**	**1.88**	**332**	*e*Pn	**Pb**	**10 13 27.6**	**-0.8**	
NKME				*e*Sn	**Sg**	**10 13 53.8**	**+0.1**	
NKY	**Niksic**	**1.90**	**334**	⇓*i*Pn	**Pn**	**10 13 27.8**	**+0.9**	
NKY				*e*Sn	**Sg**	**10 13 54.3**	**-0.3**	
NKY	**Niksic**	**1.90**	**334**	⇓*i*Pn	**Pn**	**10 13 27.8**	**+0.9**	
NKY				*e*Sn	**Sg**	**10 13 54.3**	**-0.3**	
UPM	**Unac-Piva**	**2.28**	**337**	*e*Pn	**Pn**	**10 13 32.9**	**+0.7**	
UPM				*e*Sn	**Sb**	**10 14 04.0**	**-0.1**	
UPM	**Unac-Piva**	**2.28**	**337**	*e*Pn	**Pn**	**10 13 32.9**	**+0.7**	
UPM				*e*Sn	**Sb**	**10 14 04.0**	**-0.1**	

*IDC **22** 10:32:24.8±0.9, 7.°86S×158.°66E, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/28, mbtmp3.8/9, MS2.5/1, Ms1 2.5/1, ms1mx2.3/23, Error ellipse: s-maj=36.3km s-min=21.1km az=117.0*

*ISCJB **22** 10:32:31.5±0.8, 7.°9S±0.°2×158.°5E±0.°2, h61km, mb3.7/9, Error ellipse: s-maj=33.1km s-min=17.4km az=35.0*

ISC 22 10:32:33.1±0.9, **7.°9S**±0.°2×**158.°6E**±0.°2, **h61**km, **n16, σ0s83/9, mb3.8/9, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.04**	**139**	LR	LR	10 33 58.5	
	comp=Z,112nm,18.1s,baz=278,slow=46						
WRA	**Warramunga Arr**	**26.37**	**240**	P	**P**	**10 38 03.5**	**-0.4**
	0.7nm,0.4s,baz=66,slow=9.3,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**27.40**	**17**	T	T	11 06 46.9	
	baz=198,slow=76,SNR=197						
H11S2	**WAKE ISLAND Hy**	**27.40**	**17**	T	T	11 06 34.7	
	baz=198,slow=76,SNR=182						
H11S1	**WAKE ISLAND Hy**	**27.41**	**17**	T	T	11 06 34.8	
	baz=198,slow=76,SNR=142						
ASAR	**Alice Springs**	**28.40**	**234**	P	**P**	**10 38 21.2**	**-0.8**
	0.2nm,0.5s,baz=61,slow=9.8,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**28.61**	**16**	T	T	11 08 26.7	
	baz=196,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.62**	**17**	T	T	11 08 26.1	
	baz=196,slow=76,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**28.63**	**16**	T	T	11 08 28.3	
	baz=196,slow=76,SNR=38						
PETK	**Petropavlovsk-**	**60.76**	**359**	P	**P**	**10 42 38.4**	**0.0**
	1.1nm,0.5s,baz=177,slow=9.7,SNR=8.4						
VNDA	**Vanda**	**69.63**	**179**	P	**P**	**10 43 36.3**	**+0.8**
	0.5nm,0.8s,baz=339,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**72.03**	**326**	P	**P**	**10 43 51.9**	**+1.2**
	1.4nm,0.9s,baz=136,slow=4.9,SNR=8.1						
ILAR	**Eielson Array**	**82.91**	**21**	P	**P**	**10 44 49.9**	**-1.1**
	1.0nm,0.9s,baz=250,slow=5.4,SNR=11						
MKAR	**Makanchi Array**	**86.43**	**318**	P	**P**	**10 45 09.3**	**+0.1**
	0.4nm,0.4s,baz=94,slow=6.4,SNR=11						
NVAR	**Mina Array Bea**	**89.48**	**51**	P	**P**	**10 45 24.4**	**+0.2**
	0.3nm,0.6s,baz=258,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**95.45**	**28**	P	**P**	**10 45 50.5**	**-0.3**
	0.3nm,0.5s,baz=263,slow=4.7,SNR=4.2						

*CSEM **22** 10:36:47.7±0.4, 41.°19N×20.°67E, h10km, Error ellipse: s-maj=9.5km s-min=5.6km az=71.0*

*SKO **22** 10:36:49.5, 41.°15N×20.°75E, h0km*

TIR 22 10:36:44.8±2.6, **41.°19N×20.°74E, h7**km±978km, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.09**	**150**	*i* Pg	Pg	10 36 49.5	+2.5
OHR				*i* Sg	Sg	10 36 51.2	+2.6
OHR				*e*Lg	Lg	10 36 51.2	
	comp=N,411nm,0.6s						
OHR				*e*Lg	Lg	10 36 51.5	
	comp=E,526nm,0.5s						
OHR	**Ohrid**	**0.09**	**150**	*i* Pg	Pg	10 36 49.5	+2.5
OHR				*i* Sg	Sg	10 36 51.1	+2.5
OHR				*e*Lg	Lg	10 36 51.4	
	comp=E,526nm,0.5s						
PHP	**Peshkopia**	**0.54**	**336**	*i* PG	Pn	10 36 58.3	-0.7
PHP				*i* SG	Sn	10 37 07.6	-0.9
PHP	**Peshkopia**	**0.54**	**336**	*i* Pg	Pn	10 36 58.3	-0.8
	SNR=91						
PHP				*i* Sg	Sn	10 37 07.6	-0.9
	SNR=91						
KBN	**Korca**	**0.57**	**176**	*i* PG	Pn	10 37 00.4	+1.0
KBN				*i* SG	Sn	10 37 07.5	-1.6
KBN	**Korca**	**0.57**	**176**	*i* Pg	Pn	10 37 00.4	+1.0
	SNR=91						
KBN				*i* Sg	Sn	10 37 07.5	-1.6
	SNR=91						
FNA	**Florina**	**0.63**	**130**	*i* PG	Pn	10 37 00.5	+0.2
FNA				*i* SG	Sn	10 37 10.2	-0.5
FNA	**Florina**	**0.63**	**130**	*i* Pg	Pn	10 37 00.5	+0.2
	SNR=91						
FNA				*i* Sg	Sn	10 37 10.2	-0.5
	SNR=91						
NEST	**Nestorio**	**0.81**	**163**	*i* PG	Pn	10 37 03.7	+0.9
NEST				*i* SG	Sn	10 37 15.0	-0.2
NEST	**Nestorio**	**0.81**	**163**	*i* Pg	Pn	10 37 03.7	+0.9
SKO	**Skopje**	**0.94**	**34**	*i* Pg	Pn	10 37 07.1	+2.6
SKO				*i* Sg	Sn	10 37 20.1	+1.8
SKO				*e*Lg	Lg	10 37 21.6	
	comp=N,28nm,0.3s						
SKO				*e*Lg	Lg	10 37 25.1	
	comp=E,22nm,0.5s						
SKO	**Skopje**	**0.94**	**34**	*i* Pg	Pn	10 37 07.0	+2.5
SKO				*i* Sg	Sn	10 37 20.0	+1.8
SKO				*e*Lg	Lg	10 37 25.1	
	comp=E,22nm,0.5s						
PUK	**Puka**	**1.06**	**324**	*i* PN	Pn	10 37 06.7	+0.5
PUK				*i* SN	Sn	10 37 27.6	+6.3
PUK	**Puka**	**1.06**	**324**	*i* Pn	Pn	10 37 06.7	+0.5
VAY	**Valandovo**	**1.39**	**84**	*i* Pg	Pg	10 37 15.3	+3.8
VAY				*i* Sg	Sg	10 37 34.4	+4.9
VAY				*e*Lg	Lg	10 37 38.0	
	comp=N,13nm,0.7s						
VAY				*e*Lg	Lg	10 37 40.2	
	comp=E,24nm,1.4s						
VAY	**Valandovo**	**1.39**	**84**	*i* Pg	Pg	10 37 15.2	+3.8
VAY				*i* Sg	Sg	10 37 34.4	+4.9
VAY				*e*Lg	Lg	10 37 40.2	
	comp=E,24nm,1.4s						

*ISCJB **22** 10:43:20.7±0.8, 46.°7N±0.°1×153.°1E±0.°1, h40km, mb3.7/9, Error ellipse: s-maj=19.5km s-min=6.8km az=138.7*

*JMA **22** 10:43:22.8±0.5, 46.°87N×152.°81E, h30km, M4.1*

*MOS **22** 10:43:22.2±1.8, 46.°78N×153.°15E, h56km, mb4.2/5, Error ellipse: s-maj=22.7km s-min=13.2km az=68.5*

*SKHL **22** 10:43:24.5±0.8, 45.°78N×153.°20E, h34km±3km, mb5.4/1, Ms4.6/1*

*IDC **22** 10:43:28.1±2.9, 46.°80N×152.°88E, h88km±25km, mb3.4/8, mb1 3.5/11, mb1mx3.2/51, mbtmp3.7/11, Error ellipse: s-maj=29.5km s-min=16.9km az=107.0*

ISC 22 10:43:22.0±1.0, **46.°5N**±0.°1×**153.°09E**±0.°10, **h40**km, **n43, σ1s91/28, mb3.9/9, 1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**252**	*e*P	**Pn**	**10 44 20.8**	**+1.8**
KUR				pmax	pmax		
	comp=N,43nm,0.1s						
KUR				pmax	pmax		
	comp=E,51nm,0.1s						
KUR				pmax	pmax		
	comp=Z,116nm,0.1s						
KUR	**Kuril'sk**	**3.87**	**252**	*e*P	**Pn**	**10 44 20.8**	**+1.8**
KUR				AMB	AMB	10 44 34.8	
	comp=Z,116nm,0.1s						
KUR				*e*S	**Sn**	**10 45 03.6**	**+0.4**
KUR				A	A	10 45 11.3	
	comp=Z,97nm,0.6s						
KUR				A	A	10 45 11.3	
	comp=Z,61nm,0.6s						
SKR	**Severo-Kuril's**	**4.61**	**25**	*e*PN	Pn	10 44 25.7	-3.4
SHO	**Shikotan**	**5.17**	**241**	*e*P	**Pn**	**10 44 38.0**	**+1.3**
SHO				*e*S	**Sn**	**10 45 32.5**	**-2.5**
SHO				A	A	10 45 51.3	
	comp=Z,250nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.68**	**246**	PN	Pn	10 44 50.9	+7.1
YUK				*e*S	Sn	10 46 03.4	+16
YUK				smax	smax		
	comp=N,121nm,0.5s						
YUK				smax	smax		
	comp=E,124nm,0.5s						
YUK				MLR	MLR		
	comp=N,837nm,5.0s						
YUK				MLR	MLR		
	comp=E,1μm,5.0s						
YUK				MLR	MLR		
	comp=Z,814nm,5.0s						
YUK	**Yuzh-Kuril'sk**	**5.68**	**246**	*e*P	Pn	10 44 50.9	+7.1
YUK				*e*S	Sn	10 46 03.4	+16
YUK				A	A	10 46 09.2	
	comp=Z,120nm,0.5s						
YUK				AMS	AMS	10 47 05.4	
	comp=Z,840nm,5.0s						
YUK				AMS	AMS	10 47 05.4	
	comp=Z,1μm,5.0s						
YUK				AMS	AMS	10 47 05.4	
	comp=Z,800nm,5.0s						
NEM2	**Nemuro 2**	**6.10**	**241**	P	**Pn**	**10 44 50.0**	**+0.4**
NEM2				*e*S	**Sn**	**10 45 54.5**	**-3.6**
JRA	**Rausu**	**6.20**	**248**	P	Pn	10 44 54.3	+3.4
JNK	**Nakash**	**6.62**	**247**	P	**Pn**	**10 44 59.1**	**+2.4**
JAK	**Akkeshi**	**6.94**	**242**	P	**Pn**	**10 45 01.6**	**+0.5**
JAK				*e*S	Sn	10 46 14.9	-3.9
JTKR	**Abashiri--Toko**	**6.97**	**252**	P	**Pn**	**10 45 04.3**	**+2.8**
PETK	**Petropavlovsk-**	**7.22**	**23**	P	Pn	10 45 09.9	+5.0
	comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=6.0						
JMP	**Maruseppu**	**7.32**	**253**	P	Pn	10 45 09.7	+3.4
JAR	**Ashorobuto**	**7.37**	**247**	P	**Pn**	**10 45 09.3**	**+2.4**
HRK	**Horoka**	**7.70**	**250**	*e*P	**Pn**	**10 45 14.5**	**+2.9**
JKK2	**Kamakawa 2**	**7.78**	**254**	P	Pn	10 45 16.0	+3.4
ASAJ	**Asahikawa**	**7.78**	**256**	P	**Pn**	**10 45 15.8**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=85,slow=21,SNR=6.9						
ASAJ	**Asahikawa**	**7.78**	**256**	PN	**Pn**	**10 45 15.8**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JCH	**Churui**	**7.97**	**244**	*e*S	Sn	10 46 38.7	-5.4
MYR	**Moyori**	**8.20**	**242**	*e*S	Sn	10 46 44.0	-5.7
ERM	**Erimo**	**8.44**	**241**	⇓*e*PN	Pn	10 45 10.9	-11
JNBK	**Urakawa-nobuka**	**8.54**	**244**	P	**Pn**	**10 45 23.3**	**+0.3**
SEY	**Seymchan**	**16.44**	**359**	P	**Pn**	**10 47 10.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**29.04**	**152**	T	T	11 20 47.6	
	baz=340,slow=76,SNR=188						
H11N1	**WAKE ISLAND Hy**	**29.05**	**152**	T	T	11 20 48.6	
	baz=340,slow=76,SNR=94						
H11N3	**WAKE ISLAND Hy**	**29.05**	**152**	T	T	11 20 49.0	
	baz=340,slow=76,SNR=98						
H11S1	**WAKE ISLAND Hy**	**30.12**	**154**	T	T	11 22 04.8	
	baz=341,slow=76,SNR=121						
H11S3	**WAKE ISLAND Hy**	**30.13**	**154**	T	T	11 22 04.1	
	baz=341,slow=76,SNR=142						
H11S2	**WAKE ISLAND Hy**	**30.14**	**154**	T	T	11 21 58.6	
	baz=341,slow=76,SNR=154						
ULN	**Ulaanbaatar**	**30.95**	**290**	⇑*e*P	P	10 49 25.7	-10
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**10 51 06.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=299,slow=11,SNR=3.1						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**10 51 06.8**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.03**	**298**	P	**P**	**10 51 49.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=76,slow=7.6,SNR=3.0						
FINES	**FINESS Array B**	**64.23**	**335**	P	**P**	**10 53 50.8**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=47,slow=5.7,SNR=9.1						
FINES	**FINESS Array B**	**64.23**	**335**	*e*P	**P**	**10 53 51.1**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.31**	**199**	P	**P**	**10 54 20.3**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=25,slow=7.1,SNR=3.5						
NOA	**NORSAR Array B**	**68.42**	**341**	P	**P**	**10 54 18.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=29,slow=6.4,SNR=3.8						
NOA	**NORSAR Array B**	**68.42**	**341**	*e*P	**P**	**10 54 18.5**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**68.65**	**340**	P	**P**	**10 54 19.5**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=54,slow=6.3,SNR=8.4						
HFS	**Hagfors**	**68.65**	**340**	P	**P**	**10 54 19.5**	**-1.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.72**	**326**	P	**P**	**10 54 38.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=37,slow=5.9,SNR=2.8						
AKASG	**Malin Array Be**	**71.72**	**326**	P	**P**	**10 54 38.2**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**72.00**	**198**	P	P	10 54 44.5	+3.1
	comp=Z,0.2nm,0.5s,baz=8.0,slow=5.8,SNR=7.4						

*IDC **22** 10:51:47.2±1.2, 34.°31N×23.°65E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.6/42, mbtmp3.7/12, ML3.6/4, MS2.9/4, Ms1 2.9/4, ms1mx2.5/36, Error ellipse: s-maj=28.8km s-min=17.3km az=158.0*

*THE **22** 10:51:52.8, 34.°75N×23.°95E, h0km±4km, ML3.2/2, Error ellipse: s-maj=7.1km s-min=2.6km az=212.0*

*CSEM **22** 10:51:55.8±0.7, 34.°98N×23.°97E, h10km, MD3.4, Error ellipse: s-maj=17.1km s-min=9.1km az=44.0*

*ATH **22** 10:51:55.1, 34.°93N×23.°84E, h6km±5km, MD3.4/7*

ISC 22 10:51:55.0±1.1, **34.°90N**±0.°05×**23.°98E**±0.°05, **h15**km±6km, **n38, σ1s65/42, mb3.7/9, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.14**	**116**	*e*PG	**Pg**	**10 51 59.3**	**+0.4**
GVD	**Gavdhos**	**0.14**	**116**	*e*Pg	**Pg**	**10 51 59.3**	**+0.4**
KARN	**Karanos**	**0.50**	**359**	*e*PG	**Pg**	**10 52 04.1**	**-0.8**
KARN				*e*SB	**Sg**	**10 52 11.0**	**-0.7**
KARN	**Karanos**	**0.50**	**359**	*e*Pg	**Pg**	**10 52 04.1**	**-0.8**
KARN				*e*Sb	**Sg**	**10 52 11.0**	**-0.7**
VAM	**Vamos**	**0.55**	**24**	P	**Pg**	**10 52 05.7**	**-0.2**
VAM				S	**Sn**	**10 52 16.5**	**-0.7**
VAM	**Vamos**	**0.55**	**24**	*e*PG	**Pg**	**10 52 05.7**	**-0.2**
VAM	**Vamos**	**0.55**	**24**	P	**Pg**	**10 52 05.7**	**-0.2**
VAM				S	**Sn**	**10 52 16.5**	**-0.7**
SIVA	**Sivas**	**0.73**	**81**	*e*PB	**Pn**	**10 52 10.9**	**+0.1**
SIVA	**Sivas**	**0.73**	**81**	*e*Pb	**Pn**	**10 52 10.9**	**+0.1**
IDI	**Anoyia**	**0.88**	**64**	Pn	**Pn**	**10 52 15.3**	**+2.4**
	6.6nm,0.3s,baz=231,slow=16,SNR=29						
IDI				LR	LR	10 53 07.5	
	comp=Z,362nm,18.6s,baz=274,slow=57						
ANKY	**Antikythira Is**	**1.09**	**332**	P	**Pb**	**10 52 14.9**	**-0.7**
ANKY				S	**Sn**	**10 52 35.4**	**+4.8**
ANKY	**Antikythira Is**	**1.09**	**332**	*e*PN	**Pb**	**10 52 14.9**	**-0.7**
ANKY	**Antikythira Is**	**1.09**	**332**	P	**Pb**	**10 52 14.9**	**-0.7**
ANKY				S	**Sn**	**10 52 35.4**	**+4.8**
LAST	**Lasithi**	**1.30**	**78**	*e*PG	**Pg**	**10 52 20.6**	**+0.6**
LAST	**Lasithi**	**1.30**	**78**	*e*Pg	**Pg**	**10 52 20.6**	**+0.6**
VLI	**Veliai**	**1.98**	**336**	P	**Pn**	**10 52 28.3**	**+0.3**
VLI	**Veliai**	**1.98**	**336**	*e*PN	**Pb**	**10 52 30.6**	**-0.2**
VLI	**Veliai**	**1.98**	**336**	P	**Pn**	**10 52 28.3**	**+0.3**
VLI	**Veliai**	**1.98**	**336**	*e*Pn	**Pb**	**10 52 30.6**	**-0.2**
APE	**Apeiranthos**	**2.52**	**31**	*e*PB	**Pn**	**10 52 37.7**	**+2.2**
APE	**Apeiranthos**	**2.52**	**31**	*e*Pb	**Pn**	**10 52 37.7**	**+2.2**
KARP	**Karpathos**	**2.72**	**75**	P	**Pn**	**10 52 38.1**	**-0.1**
KARP				S	**Sn**	**10 53 12.4**	**+1.5**
KARP	**Karpathos**	**2.72**	**75**	P	**Pn**	**10 52 38.1**	**-0.1**
KARP				S	**Sn**	**10 53 12.4**	**+1.5**
BRTR	**Keskin Array B**	**9.11**	**55**	Pn	**Pn**	**10 54 09.1**	**+3.1**
	0.1nm,0.3s,baz=231,slow=14,SNR=6.6						
VRAC	**Vranov**	**15.38**	**342**	LR	LR	11 03 46.2	
	comp=Z,47nm,19.3s,baz=170,slow=45						
GERES	**GERESS Array B**	**15.86**	**335**	Pn	**Pn**	**10 55 38.3**	**+0.7**
	0.2nm,0.3s,baz=150,slow=12,SNR=7.3						
GERES				LR	LR	11 04 19.2	
	comp=Z,15nm,19.2s,baz=103,slow=46						
AKASG	**Malin Array Be**	**16.25**	**12**	Pn	**Pn**	**10 55 43.9**	**+1.3**
	0.6nm,0.3s,baz=203,slow=9.9,SNR=4.7						
KBZ	**Khabaz**	**17.09**	**53**	P	**P**	**10 55 55.4**	**+0.5**
	0.1nm,0.3s,baz=233,slow=20,SNR=2.8						
ESDC	**Sonseca Array**	**22.65**	**290**	P	P	10 56 49.2	-6.5
	0.7nm,0.5s,baz=92,slow=9.5,SNR=5.3						
HFS	**Hagfors**	**26.11**	**348**	P	**P**	**10 57 27.1**	**-0.9**
	1.4nm,0.5s,baz=134,slow=13,SNR=7.4						
FINES	**FINESS Array B**	**26.60**	**2**	P	**P**	**10 57 34.9**	**+2.6**
	1.3nm,0.8s,baz=27,slow=14,SNR=9.5						
EKA	**Eskdalemuir Ar**	**27.68**	**326**	P	**P**	**10 57 41.3**	**-0.8**
	0.4nm,0.4s,baz=137,slow=7.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**29.56**	**228**	P	P	10 57 49.0	-10
	1.1nm,0.7s,baz=29,slow=8.8,SNR=7.9						
ARCES	**ARCESS Array B**	**34.70**	**1**	LR	LR	11 13 36.7	
	comp=Z,24nm,21.3s,baz=167,slow=37						
MKAR	**Makanchi Array**	**44.76**	**56**	P	**P**	**11 00 06.0**	**-1.8**
	0.9nm,0.6s,baz=267,slow=12,SNR=11						
MKAR				LR	LR	11 22 45.2	
	comp=Z,27nm,18.2s,baz=97,slow=41						
ZALV	**Zalesovo Beam**	**45.91**	**46**	P	**P**	**11 00 16.1**	**-0.7**
	0.5nm,0.3s,baz=268,slow=8.1,SNR=2.8						
SONM	**Songino Array**	**60.43**	**50**	P	**P**	**11 02 01.7**	**-2.2**
	0.2nm,0.5s,baz=271,slow=5.6,SNR=3.3						
SEY	**Seymchan**	**74.18**	**22**	P	**P**	**11 03 29.0**	**-1.6**
	0.3nm,0.3s,baz=131,slow=2.0,SNR=3.6						

KRSC 22 11:04:39.1±0.8, **55.°14N×160.°33E, h-1**km±4km, **ML3.7, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.04**	**211**	P	Pg	11 04 42.3	+2.3
TUMR	**Tumrok**	**0.17**	**324**	P	Pg	11 04 44.0	+1.4
TUMR				S	Sg	11 04 47.1	+2.1
KMNR	**Kamenistaya**	**0.62**	**355**	P	Pb	11 04 52.3	-0.6
KMNR				S	Sb	11 05 02.4	+0.2
BZMR	**Bezymyannaya**	**0.80**	**7**	S	Sb	11 05 08.5	+0.9
KIRR	**Kirishev**	**0.81**	**1**	P	Pb	11 04 56.4	+0.1
KIRR				S	Sb	11 05 08.7	+0.8
KPT	**Kopyto**	**0.83**	**356**	S	Sb	11 05 08.4	+0.2
BZWR	**Bezymyannyi-We**	**0.83**	**7**	S	Sb	11 05 08.9	+0.5
KOZ	**Kozyrevsk**	**0.95**	**345**	P	Pb	11 04 58.9	+0.4
KOZ				S	Sn	11 05 13.2	-0.8
MKZ	**Mys Kozlova**	**1.00**	**125**	P	Pn	11 05 00.0	-0.3
MKZ				S	Sn	11 05 14.5	-0.6
KLY	**Klyuchi**	**1.19**	**9**	P	Pn	11 05 04.1	+1.2
KLY				S	Sn	11 05 21.9	+2.2
ESO	**Esso**	**1.21**	**311**	P	Pg	11 05 02.0	-0.3
ESO				S	Sb	11 05 19.1	0.0
KII	**Karymskiy**	**1.22**	**205**	P	Pn	11 05 04.0	+0.5
KII				S	Sn	11 05 22.5	+1.7
SRDR	**Sredinnyy**	**1.23**	**344**	P	Pb	11 05 03.3	+0.1
SRDR				S	Sn	11 05 20.3	-0.6
BDR	**Baidarnaya**	**1.51**	**19**	P	Pg	11 05 09.2	+1.0
BDR				S	Sn	11 05 30.3	+2.3
SMKR	**Semkarok**	**1.58**	**24**	P	Pn	11 05 01.0	-7.4
SMKR				S	Sg	11 05 32.5	+2.5
SRKR	**Sorokina**	**1.59**	**17**	P	Pg	11 05 09.5	-0.1
SRKR				S	Sg	11 05 31.0	+0.8
KBTR	**Krutoberegovo**	**1.77**	**52**	P	Pn	11 05 11.4	+0.5
KBTR				S	Sg	11 05 35.6	+0.3
GNL	**Ganaly**	**2.01**	**225**	P	Pn	11 05 15.4	+1.0
GNL				S	Sb	11 05 42.0	-0.4
KRX	**Arik**	**2.04**	**210**	P	Pb	11 05 16.5	-0.7
KRX				S	Sg	11 05 44.4	-0.6
SDLR	**Sedlovina**	**2.05**	**205**	P	Pb	11 05 16.8	-0.6
SDLR				S	Sg	11 05 44.6	-0.7
SPN	**Mys Shipunski**	**2.06**	**185**	S	Sn	11 05 41.4	+0.2
NLC	**Nalytchevo**	**2.06**	**197**	P	Pb	11 05 16.9	-0.4
NLC				S	Sg	11 05 44.7	-0.5
KRER	**Koryakskii**	**2.06**	**207**	P	Pb	11 05 17.6	0.0
SMAR	**Somma**	**2.09**	**206**	P	Pb	11 05 16.9	-1.2
SMAR				S	Sb	11 05 44.8	+0.1
AVH	**Avacha**	**2.10**	**207**	P	Pb	11 05 17.7	-0.4
KOK	**Koryaka**	**2.10**	**209**	P	Pb	11 05 17.7	-0.5
KOK				S	Sb	11 05 45.8	+0.8
UGLR	**Uglovaya**	**2.13**	**205**	P	Pb	11 05 17.8	-0.9
PET	**Petropavlovsk**	**2.34**	**206**	P	Pb	11 05 21.2	-0.9
PET				S	Sb	11 05 52.5	+1.0
APC	**Apacha**	**2.90**	**221**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.79**	**142**	*i* P	Pn	11 27 55.5	-0.6
COCH				*i* S	Sn	11 28 06.6	0.0
LNCH	**Linares**	**1.49**	**103**	*i* P	Pn	11 28 06.9	+1.1
LNCH				*i* S	Sn	11 28 25.1	+1.2
LNCH	comp=N,2μm,0.6s			AML	AML	11 28 40.6	
NICH	**Los Niches**	**1.84**	**75**	*i* P	Pn	11 28 11.1	+0.6
NICH				*i* S	Sn	11 28 33.9	+1.5

DDA ***22*** *11:32:17.0, 38°.54N×38°.94E, h19km, MD2.6*
ISCJB ***22*** *11:32:18.7±0.7, 38°.50N±0°.06×38°.90E±0°.05, h11km±7km, Error ellipse: s-maj=10.4km s-min=5.9km az=153.8*
ISK ***22*** *11:32:18.1, 38°.47N×38°.91E, h17km, MD2.4*
CSEM ***22*** *11:32:18.6±0.2, 38°.47N×38°.89E, h5km, MD2.4, Error ellipse: s-maj=7.7km s-min=4.3km az=161.0*

ISC 22 11:32:18.2±0.9, 38°.49N±0°.06×38°.90E±0°.03, h12km±6km, n12, σ0§44/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.06**	**82**	*i* P	**Pg**	**11 32 20.4**	**-0.4**
ELZG				*i* S	**Sg**	**11 32 23.2**	**+0.5**
ELZG	**Elazig**	**0.06**	**82**	*i* P	**Pg**	**11 32 20.4**	**-0.4**
ELZG				*i* S	**Sg**	**11 32 23.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.34**	**109**	*e*PG	**Pg**	**11 32 25.2**	**+0.3**
SVRC				*e*SG	**Sb**	**11 32 30.9**	**-0.7**
SVRC	**Sivrice-ELAZID**	**0.34**	**109**	*e*Pg	**Pg**	**11 32 25.3**	**+0.3**
SVRC				*e*Sg	**Sb**	**11 32 30.9**	**-0.7**
MALT	**Malatya**	**0.41**	**245**	*e*PG	**Pg**	**11 32 26.1**	**-0.3**
MALT				*e*SG	**Sb**	**11 32 33.7**	**-0.1**
MALT	**Malatya**	**0.41**	**245**	*e*Pg	**Pg**	**11 32 26.1**	**-0.3**
MALT				*e*Sg	**Sb**	**11 32 33.7**	**-0.1**
PTK	**Pertek**	**0.56**	**43**	*e*PG	**Pb**	**11 32 29.9**	**0.0**
PTK				*e*SG	**Sb**	**11 32 38.0**	**0.0**
PTK	**Pertek**	**0.56**	**43**	*e*Pg	**Pb**	**11 32 30.0**	**0.0**
PTK				*e*Sg	**Sb**	**11 32 38.0**	**0.0**
AKCD	**Akcadag**	**0.80**	**256**	*i* P	**Pg**	**11 32 33.1**	**-0.5**
AKCD				*i* S	**Sb**	**11 32 45.5**	**+0.7**
AKCD	**Akcadag**	**0.80**	**256**	*i* P	**Pg**	**11 32 33.1**	**-0.5**
AKCD				*i* S	**Sb**	**11 32 45.5**	**+0.7**
ILIC	**ilic-Erzincan**	**1.00**	**345**	*e*PG	**Pn**	**11 32 38.2**	**+0.1**
ILIC	**ilic-Erzincan**	**1.00**	**345**	*e*Pg	**Pn**	**11 32 38.2**	**+0.1**

SJA 22 11:40:16.8±0.6, 31°.56S×68°.59W, h111km±3km, ML3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.04**	**38**	*i* P	Pn	11 40 32.8	+0.6
RTLL	**Cerro Villicun**	**0.25**	**23**	*i* P	Pn	11 40 32.9	+0.2
RTLL				*i* S	Sn	11 40 45.5	+1.0
RTCV	**Cerro Valdivia**	**0.30**	**172**	*i* P	Pn	11 40 33.5	+0.7
RTCV				*i* S	Sn	11 40 45.5	+0.6
CFAA	**Coronel Fontan**	**0.30**	**98**	*i* P	Pn	11 40 33.1	+0.4
CFAA				*i* P	Pn	11 40 33.1	+0.4
RTLS	**Leoncito**	**0.65**	**248**	*i* P	Pn	11 40 36.1	+0.9
AUSP	**Uspallata**	**0.94**	**226**	*i* P	Pn	11 40 38.7	+0.8
ASAL	**Salagasta**	**1.05**	**191**	*i* P	Pn	11 40 39.8	+1.1
ASAL				*i* S	Sn	11 40 56.4	+1.1
ARCO	**CERRO ARCO**	**1.31**	**193**	*i* P	Pn	11 40 42.7	+1.0
ARCO				*i* S	Sn	11 41 01.7	+1.2
ARCO	comp=Z,727nm,0.3s			AML	AML	11 41 03.6	
ACAN	**Cantantal**	**1.39**	**121**	*i* P	Pn	11 40 43.6	+1.2
ACAN				*i* S	Sn	11 41 02.6	+0.8
AAGR	**Agrelo**	**1.53**	**187**	*i* P	Pn	11 40 45.1	+0.9
AAGR				*i* S	Sn	11 41 06.1	+1.0

JMA ***22*** *12:07:42.7±0.6, 45°.61N×152°.65E, h30km, M4.2*

SKHL 22 12:07:46.2±0.5, 44°.63N×152°.56E, h55km±9km, mb4.7/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.39**	**282**	*e*P	Pn	12 08 36.6	+0.1
KUR				AMB	AMB	12 08 37.1	
KUR	46nm,0.2s			*e*S	Sn	12 09 14.8	-0.6
KUR				A	A	12 09 18.2	
KUR	37nm,0.1s			A	A	12 09 18.2	
SHO	**Shikotan**	**4.19**	**262**	*e*P	Pn	12 08 48.0	+0.5
SHO				AMB	AMB	12 08 54.3	
SHO	158nm,1.0s			*e*S	Sn	12 09 34.0	-1.1
SHO				A	A	12 09 44.4	
YUK	**Yuzh-Kuril'sk**	**4.84**	**265**	*e*P	Pn	12 08 49.1	-7.4
YUK				AMB	AMB	12 08 52.0	
YUK	97nm,0.7s			*e*S	Sn	12 09 37.7	-13
YUK				A	A	12 09 38.2	
YUK	97nm,0.7s			A	A	12 09 38.2	
NEM2	**Nemuro 2**	**5.08**	**258**	P	Pn	12 09 00.7	+1.0
NEM2	110nm,0.7s			*e*S	Sn	12 09 58.7	+1.7
JNK	**Nakash**	**5.74**	**262**	P	Pn	12 09 10.5	+1.7
JAK	**Akkeshi**	**5.92**	**257**	P	Pn	12 09 12.3	+1.1
JAK				*e*S	Sn	12 10 18.6	+1.0
JTKR	**Abashiri--Toko**	**6.24**	**267**	P	Pn	12 09 17.6	+1.9
JAR	**Ashorobuto**	**6.48**	**261**	P	Pn	12 09 21.0	+2.0
JAR				*e*S	Sn	12 10 35.5	+4.0
JOB	**Onbets**	**6.55**	**258**	*e*S	Sn	12 10 35.1	+2.0
JMP	**Maruseppu**	**6.63**	**268**	P	Pn	12 09 23.2	+2.2
JCH	**Churui**	**6.97**	**256**	*e*S	Sn	12 10 44.6	+1.1
MYR	**Moyori**	**7.14**	**254**	*e*S	Sn	12 10 48.0	+0.3
JNBK	**Urakawa-nobuka**	**7.51**	**255**	P	Pn	12 09 34.6	+1.6
JKB	**Kayabe**	**8.85**	**256**	P	Pn	12 09 52.5	+1.2
JKB				*e*S	Sn	12 11 29.3	-0.2

NIED ***22*** *12:27:00, 28°.50N×142°.80E, h5km, Mw4.0 Best double couple: M0§9.81000×10^14 NP1:φ§194.00000°, δ42.00000°, λ121.00000°. NP2:φ§334.00000°, δ55.00000°, λ65.00000°.*
JMA ***22*** *12:27:21.0±0.2, 28°.51N×142°.80E, h73km, M4.0*
IDC ***22*** *12:27:22.9±0.7, 28°.01N×141°.28E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.8/42, mbtmp3.9/12, MS3.2/2, Ms1 3.2/2, ms1mx2.5/35, Error ellipse: s-maj=25.6km s-min=13.7km az=60.0*
NEIC ***22*** *12:27:24.2±0.5, 28°.13N×141°.34E, h10km, mb4.1/2, Error ellipse: s-maj=19.9km s-min=9.1km az=78.0*

ISC 22 12:27:26.3±0.8, 28°.38N±0°.08×141°.8E±0°.2, h35km, n32, σ1§75/32, mb4.1/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.32**	**166**	P	**Pn**	**12 27 46.7**	**-1.6**
CBIJ	**Chichi jima**	**1.32**	**166**	Pn	**Pn**	**12 27 46.6**	**-1.6**
CBIJ				Sn	**Sn**	**12 28 05.2**	**+0.6**
JCJ	**Chichijima**	**1.32**	**166**	Pn	**Pn**	**12 27 46.6**	**-1.6**
JCJ	baz=286,slow=17			Sn	**Sn**	**12 28 05.2**	**+0.6**
JHHJ	**Haha-jima-NKT**	**1.78**	**170**	P	**Pn**	**12 27 52.5**	**-2.0**
JHHJ	baz=288,slow=20			S	**Sn**	**12 28 16.6**	**+0.8**
JOD2	**Odawara 2**	**7.24**	**342**	P	**Pn**	**12 29 08.7**	**-0.9**
JHU	**Hanno**	**7.75**	**345**	P	**Pn**	**12 29 15.2**	**-1.4**
JHU				S	**Sn**	**12 30 38.2**	**-4.9**
JYT	**Yasato**	**7.94**	**350**	P	**Pn**	**12 29 18.3**	**-0.9**
JRY	**Ryogami san**	**8.00**	**343**	P	**Pn**	**12 29 19.4**	**-0.6**
JAG	**Ashikaga**	**8.26**	**347**	P	**Pn**	**12 29 21.1**	**-2.5**
MJAR	**Matsushiro Arr**	**8.69**	**340**	Pn	**Pn**	**12 29 29.2**	**-0.2**
MAJO	**Matsushiro**	**8.69**	**340**	*e*Pn	**Pn**	**12 29 29.1**	**-0.3**
MAT	**Matsushiro**	**8.69**	**340**	P	**Pn**	**12 29 29.6**	**+0.1**
MAT				*e*S	**Sn**	**12 31 04.7**	**-1.5**
KSRS	**Korea Array**	**14.75**	**311**	LR	LR	12 36 49.6	
ASAJ	**Asahikawa**	**15.71**	**2**	*e*Pn	**P**	**12 31 08.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**17.64**	**336**	P	**Pn**	**12 31 27.7**	**-1.5**
YSS	**Yuzh-Sakhalins**	**18.55**	**2**	P	**Pn**	**12 31 43.9**	**+3.6**
SONM	**Songino Array**	**33.57**	**315**	P	**P**	**12 34 04.2**	**+1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.4nm,0.4s,baz=103,slow=6.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**48.31**	**318**	P	**P**	**12 36 05.9**	**+1.9**
	1.0nm,0.4s,baz=96,slow=9.5,SNR=5.5						
WRAB	**Tennant Creek**	**48.57**	**189**	*e*P	**P**	**12 36 05.3**	**-1.1**
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**48.58**	**189**	P	**P**	**12 36 05.2**	**-1.2**
	1.4nm,0.6s,baz=12,slow=8.4,SNR=20						
MKAR	**Makanchi Array**	**49.41**	**309**	P	**P**	**12 36 13.9**	**+1.3**
	0.5nm,0.7s,baz=93,slow=7.3,SNR=6.3						
KURK	**Kurchatov**	**51.86**	**314**	P	**P**	**12 36 32.8**	**+1.9**
KURBB	**Kurchatov Arra**	**51.91**	**314**	P	**P**	**12 36 32.8**	**+1.4**
	4.3nm,0.9s,baz=96,slow=7.2,SNR=5.5						
AS31	**Alice Springs**	**52.31**	**189**	P	**P**	**12 36 34.0**	**-0.6**
ASAR	**Alice Springs**	**52.31**	**189**	P	**P**	**12 36 33.2**	**-1.3**
	0.4nm,0.9s,baz=6.3,slow=5.4,SNR=4.5						
AAK	**Ala-Archa**	**55.26**	**304**	LR	LR	13 01 11.6	
	comp=Z,33nm,18.4s,baz=98,slow=37						
ILAR	**Eielson Array**	**56.74**	**29**	P	P	12 37 11.3	+5.0
	0.7nm,1.0s,baz=254,slow=4.9,SNR=4.8						
BVAR	**Borovoye Array**	**56.88**	**317**	P	**P**	**12 37 09.0**	**+1.5**
	2.5nm,0.7s,baz=92,slow=7.7,SNR=9.7						
INK	**Inuvik**	**62.00**	**25**	P	P	12 37 49.4	+7.0
	1.1nm,0.6s,baz=282,slow=5.6,SNR=4.5						
AKTO	**Aktyubinsk**	**64.89**	**315**	P	**P**	**12 38 01.9**	**0.0**
	0.8nm,0.4s,baz=56,slow=16,SNR=3.8						
YKA	**Yellowknife Ar**	**71.17**	**28**	P	P	12 38 46.7	+5.6
	0.3nm,0.5s,baz=316,slow=3.9,SNR=4.1						
FINES	**FINESS Array B**	**76.65**	**334**	P	**P**	**12 39 15.5**	**+2.3**
	1.2nm,0.8s,baz=60,slow=8.2,SNR=3.6						

IDC ***22*** *12:32:11.8±1.6, 0°.12S×16°.69W, h0km, mb3.9/1, mb1 4.1/3, mb1mx3.5/51, mbtmp4.1/3, ML4.1/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/32, Error ellipse: s-maj=96.1km s-min=27.2km az=152.0*

ISC 22 12:32:11.7±1.3, 0°.1S±0°.7×16°.6W±0°.4, h10km, n10, σ2§50/9, MS3.0/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**13.14**	**61**	*e*P	**P**	**12 35 26.9**	**-1.8**
	42nm,1.3s						
TIC	**Toumodi**	**13.35**	**60**	*e*P	**Pn**	**12 35 23.3**	**+1.9**
	14nm,0.2s						
KIC	**Kosan Boka**	**13.46**	**61**	*e*P	**Pn**	**12 35 24.2**	**+1.4**
	60nm,1.5s						
DBIC	**Dimbokro**	**13.51**	**60**	Pn	**Pn**	**12 35 25.7**	**+2.2**
	0.8nm,0.3s,baz=228,slow=13,SNR=12						
DBIC				Sn	**Sn**	**12 37 50.3**	**-3.5**
	0.4nm,0.3s,baz=52,slow=19,SNR=3.6						
DBIC				LR	LR	12 40 03.5	
	comp=Z,55nm,19.1s,baz=221,slow=35						
RCBR	**Riachuelo**	**20.11**	**253**	P	**Pn**	**12 36 46.3**	**-1.4**
	0.8nm,0.3s,baz=80,slow=12,SNR=12						
RCBR				LR	LR	12 41 55.9	
	comp=Z,68nm,20.8s,baz=49,slow=29						
TORD	**Torodi Ar. Bea**	**22.41**	**53**	P	**P**	**12 37 13.4**	**+2.7**
	4.6nm,0.9s,baz=236,slow=11,SNR=11						
TORD				LR	LR	12 45 12.8	
	comp=Z,60nm,19.0s,baz=220,slow=35						
IDI	**Anoyia**	**52.28**	**43**	LR	LR	13 05 00.2	
	comp=Z,13nm,19.4s,baz=319,slow=38						
LPAZ	**La Paz**	**53.29**	**250**	LR	LR	13 01 58.8	
	comp=Z,22nm,21.8s,baz=74,slow=34						
ASAR	**Alice Springs**	**142.84**	**132**	PKP	**PKPdf**	**12 51 45.6**	**-0.8**
	0.3nm,0.7s,baz=218,slow=2.6,SNR=4.4						
WRA	**Warramunga Arr**	**145.22**	**127**	PKPbc	**PKPdf**	**12 51 52.0**	**+1.3**
	1.1nm,0.8s,baz=239,slow=2.7,SNR=11						

NIED ***22*** *12:45:00, 35°.70N×140°.10E, h68km, Mw3.8 Best double couple: M0§5.84000×10^14 NP1:φ§198.00000°, δ26.00000°, λ114.00000°. NP2:φ§351.00000°, δ67.00000°, λ79.00000°.*
IDC ***22*** *12:45:18.3±2.2, 35°.63N×140°.43E, h54km±18km, mb3.7/12, mb1 3.8/15, mb1mx3.5/49, mbtmp4.0/15, ML3.3/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/41, Error ellipse: s-maj=21.2km s-min=12.9km az=61.0*
ISCJB ***22*** *12:45:20.0±0.4, 35°.54N±0°.05×140°.09E±0°.06, h79km±3km, mb3.9/12, Error ellipse: s-maj=9.8km s-min=5.3km az=43.1*
JMA ***22*** *12:45:20.4±0.2, 35°.65N×140°.09E, h67km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φ±1.00000°, δ69.00000°, λ94.00000°. NP2:φ§170.00000°, δ21.00000°, λ80.00000°. Principal axes: T Plg66.0000°, Azm278.0000°; N Plg4.0000°, Azm180.0000°; P Plg24.0000°, Azm88.0000°;*
JMA Felt II J1.

ISC 22 12:45:20.6±0.8, 35°.60N±0°.06×140°.13E±0°.05, h73km±7km, n28, σ1§27/38, mb3.9/12, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**161**	⇑P	**Pn**	**12 45 31.6**	**+0.1**
JCN				S	**Sn**	**12 45 40.2**	**+0.7**
I30JP	**ISUMI INFRASON**	**0.33**	**152**	P	**Pn**	**12 45 32.6**	**+0.3**
I30JP				S	**Sn**	**12 45 42.9**	**+2.1**
BSO3	**Boso 3**	**0.85**	**158**	⇑P	**Pn**	**12 45 37.1**	**-0.1**
BSO3				S	**Sn**	**12 45 50.4**	**+0.8**
JOD2	**Odawara 2**	**0.91**	**249**	⇓P	**Pn**	**12 45 37.7**	**-0.5**
JOD2				S	**Sn**	**12 45 49.9**	**-1.3**
JAG	**Ashikaga**	**0.99**	**327**	P	**Pn**	**12 45 38.4**	**-0.8**
JAG				S	**Sn**	**12 45 51.7**	**-1.2**
JIM2	**Oshima 3**	**1.04**	**213**	P	**Pn**	**12 45 39.1**	**-0.8**
JIM2				S	**Sn**	**12 45 52.8**	**-1.4**
JRY	**Ryogami san**	**1.08**	**293**	⇓P	**Pn**	**12 45 40.2**	**-0.1**
BSO1	**Boso 1**	**1.17**	**143**	P	**Pn**	**12 45 40.6**	**-0.3**
BSO1				S	**Sn**	**12 45 56.6**	**+0.5**
JYN	**Shimob**	**1.29**	**266**	⇓P	**Pn**	**12 45 42.8**	**-0.2**
JYN				S	**Sn**	**12 45 59.2**	**-0.7**
JKT	**Katashina**	**1.37**	**329**	P	**Pn**	**12 45 43.3**	**-0.7**
MJAR	**Matsushiro Arr**	**1.82**	**302**	P	**Pn**	**12 45 49.6**	**-0.3**
	32nm,0.3s,baz=138,slow=15,SNR=195						
MJAR				S	**Sn**	**12 46 13.5**	**+1.4**
	33nm,0.3s,baz=124,slow=22,SNR=10						
MAT	**Matsushiro**	**1.82**	**302**	P	**Pn**	**12 45 50.2**	**+0.3**
MAT				S	**Sn**	**12 46 13.3**	**+1.1**
JCJ	**Chichijima**	**8.65**	**168**	P	**Pn**	**12 47 20.8**	**-2.4**
	9.4nm,0.3s,baz=98,slow=23,SNR=8.3						
JCJ				S	Sn	12 48 51.9	-7.3
	4.4nm,0.3s,baz=288,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**8.72**	**12**	P	**Pn**	**12 47 21.3**	**-2.6**
	0.4nm,0.3s,baz=196,slow=15,SNR=5.9						
KSRS	**Korea Array**	**9.99**	**284**	P	**Pn**	**12 47 43.5**	**+2.2**
	0.1nm,0.3s,baz=94,slow=14,SNR=5.5						
PETK	**Petropavlovsk-**	**21.45**	**30**	LR	LR	12 58 31.2	
	comp=Z,23nm,19.5s,baz=172,slow=37						
SONM	**Songino Array**	**27.76**	**307**	P	**P**	**12 51 02.9**	**+0.4**
	0.5nm,0.5s,baz=116,slow=9.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.13**	**314**	P	**P**	**12 53 06.2**	**+0.7**
	0.7nm,0.3s,baz=97,slow=6.1,SNR=4.8						
ZALV				PcP	**PcP**	**12 54 57.8**	**-0.8**
	0.9nm,0.4s,baz=122,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**12 53 21.7**	**+0.8**
	1.3nm,0.6s,baz=82,slow=7.7,SNR=19						
KURBB	**Kurchatov Arra**	**46.08**	**309**	P	**P**	**12 53 37.7**	**+0.6**
	1.9nm,0.6s,baz=85,slow=7.7,SNR=17						
BVAR	**Borovoye Array**	**50.78**	**313**	P	**P**	**12 54 15.5**	**+2.3**
	0.3nm,0.4s,baz=106,slow=5.3,SNR=3.9						
WRA	**Warramunga Arr**	**55.51**	**187**	P	**P**	**12 54 48.1**	**-0.1**
	2.1nm,0.5s,baz=1.4,slow=7.5,SNR=100						
INK	**Inuvik**	**56.14**	**27**	P	P	**12 54 49.1**	**-3.0**
	1.1nm,1.0s,baz=211,slow=5.9,SNR=2.2						
ASAR	**Alice Springs**	**59.23**	**187**	P	**P**	**12 55 14.5**	**+0.1**
	0.2nm,0.4s,baz=14,slow=9.8,SNR=12						
SPITS	**Spitsbergen Ar**	**61.73**	**349**	P	**P**	**12 55 32.3**	**+1.6**
	6.0nm,1.1s,baz=90,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**69.60**	**322**	P	**P**	**12 56 22.5**	**+0.9**
	1.0nm,0.4s,baz=79,slow=6.5,SNR=7.0						
AKASG	**Malin Array Be**	**74.79**	**322**	P	**P**	**12 56 52.5**	**-0.3**
	1.5nm,0.5s,baz=47,slow=5.9,SNR=4.5						
NOA	**NORSAR Array B**	**75.10**	**337**	P	**P**	**12 56 54.6**	**+0.1**
	0.8nm,0.7s,baz=42,slow=5.8,SNR=3.0						

ISCJB ***22*** *13:29:56.3±0.4, 67°.16N±0°.02×20°.61E±0°.08, h0km, Error ellipse: s-maj=4.3km s-min=3.1km az=180.0*
UPP ***22*** *13:29:57.5, 67°.18N×20°.63E, h0km, ML1.5, Suspected Mining explosion.*
NAO ***22*** *13:29:57.8±1.5, 67°.20N×21°.02E, ML2.5*
CSEM ***22*** *13:29:57.8±0.2, 67°.19N×20°.70E, h2km, ML2.0, Error ellipse: s-maj=5.6km s-min=3.7km az=85.0, Mining explosion.*
HEL ***22*** *13:29:58.2±0.1, 67°.17N×20°.66E, h0km, ML2.0, ML1.5(UPP), Explosion*
IDC ***22*** *13:29:58.1±0.8, 67°.13N×20°.89E, h0km, mb1 3.2/6, mb1mx3.0/36, mbtmp3.2/6, ML2.6/5, Error ellipse: s-maj=13.4km s-min=6.8km az=111.0*
BER ***22*** *13:29:59.8±5.1, 67°.17N×20°.73E, h0km±16km, ML2.1, ML2.5(NAO)*

ISC 22 13:29:57.1±0.6, 67°.12N±0°.02×20°.75E±0°.02, h0km, n64, σ1§45/89, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.59**	**54**	*i* P	**Pg**	**13 30 08.9**	**+0.5**
MASU	**Masugnsbyn**	**0.59**	**54**	P	**Pg**	**13 30 08.9**	**+0.5**
ERTU	**Ertsjaerv**	**0.80**	**134**	*e*P	**Pb**	**13 30 13.7**	**-0.2**
ERTU				*e*SB	**Sb**	**13 30 25.5**	**+0.2**
ERTU	**Ertsjaerv**	**0.80**	**134**	P	**Pb**	**13 30 13.6**	**-0.2**
ERTU				Sb	**Sb**	**13 30 25.4**	**+0.2**
KUA	**Kurravaara**	**0.86**	**350**	*i* P	**Pg**	**13 30 12.3**	**-1.2**
KUA	**Kurravaara**	**0.86**	**350**	P	**Pg**	**13 30 12.3**	**-1.2**
PAJU	**Pajala**	**0.93**	**95**	*e*P	**Pg**	**13 30 15.6**	**+0.7**
PAJU	**Pajala**	**0.93**	**95**	P	**Pg**	**13 30 15.6**	**+0.7**
NIKU	**Nikkaluokta**	**1.00**	**320**	*e*P	**Pg**	**13 30 14.8**	**-1.4**
NIKU	**Nikkaluokta**	**1.00**	**320**	P	**Pg**	**13 30 14.8**	**-1.4**
LANU	**Lannavaara**	**1.05**	**26**	*e*PB	**Pg**	**13 30 16.7**	**-0.5**
LANU				*e*SB	**Sg**	**13 30 30.5**	**-0.4**
LANU	**Lannavaara**	**1.05**	**26**	P	**Pg**	**13 30 16.4**	**-0.8**
LANU	**Lannavaara**	**1.05**	**26**	Pb	**Pg**	**13 30 16.7**	**-0.5**
LANU				Sb	**Sg**	**13 30 30.4**	**-0.4**
HEF	**Hetta**	**1.71**	**39**	*e*P	**Pn**	**13 30 28.2**	**+0.1**
HEF				*e*S	**Sn**	**13 30 50.3**	**-0.3**
HEF	**Hetta**	**1.71**	**39**	*e*P	**Pn**	**13 30 28.0**	**-0.1**
HEF				*e*SN	**Sg**	**13 30 51.7**	**-0.1**
HEF				MSG		13 30 51.7	
	comp=Z,5.3nm,0.2s						
HEF	**Hetta**	**1.71**	**39**	P	**Pn**	**13 30 28.0**	**-0.1**
HEF				*e*S	**Sn**	**13 30 50.3**	**-0.3**
	SNR=50						
HEF				Sn	**Sg**	**13 30 51.7**	**-0.1**
	comp=Z,5.3nm,0.2s						
LILU	**Lilltraesk**	**1.87**	**192**	*e*P	**Pb**	**13 30 32.0**	**-0.1**
LILU	**Lilltraesk**	**1.87**	**192**	P	**Pb**	**13 30 32.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.90**	**1**	Pg	**Pn**	**13 30 31.5**	**+0.9**
KIF				Lg	Lg	13 30 57.0	
KIF	**Kilpisjarvi**	**1.90**	**1**	Pg	**Pn**	**13 30 31.5**	**+0.9**
KIF				*e*P	**Pn**	**13 30 31.5**	**+0.9**
KIF				Lg	Lg	13 30 57.0	
KIF				*e*S	**Sg**	**13 30 58.0**	**0.0**
KIF	**Kilpisjarvi**	**1.90**	**1**	*e*PN	**Pn**	**13 30 31.5**	**+0.9**
	baz=178						
KIF				MSG	**Sb**	**13 30 57.2**	**+0.5**
	comp=Z,7.3nm,0.2s						
KIF				*e*SG	**Sb**	**13 30 57.2**	**+0.5**
KIF	**Kilpisjarvi**	**1.90**	**1**	*e*P	**Pn**	**13 30 31.5**	**+0.9**
	SNR=50						
KIF				Lg	Lg	13 30 57.0	
	SNR=50						
KIF				Sg	**Sb**	**13 30 57.2**	**+0.5**
KIF				*e*S	**Sg**	**13 30 58.0**	**0.0**
	SNR=50						
RNF	**Rovaniemi**	**2.14**	**101**	*e*PB	**Pb**	**13 30 36.7**	**0.0**
	baz=290						
RNF				*e*SG	**Sb**	**13 31 05.2**	**+1.4**
STEI	**Steigen**	**2.27**	**294**	*e*Sg	**Sb**	**13 31 07.4**	**+0.1**
STEI	**Steigen**	**2.27**	**294**	*e*Sg	**Sb**	**13 31 07.4**	**+0.1**
	SNR=90						
SGF	**Sodankyl**	**2.27**	**79**	*e*PB	**Pb**	**13 30 38.3**	**-0.5**
SGF				MSG	**Sb**	**13 31 07.5**	**+0.2**
	comp=Z,25nm,0.3s						
SGF				*e*SB	**Sb**	**13 31 07.5**	**+0.2**
BURU	**Burvik**	**2.56**	**174**	*e*P	**Pn**	**13 30 42.0**	**+2.3**
BURU	**Burvik**	**2.56**	**174**	P	**Pn**	**13 30 41.9**	**+2.3**
TRO	**Tromso**	**2.62**	**346**	*e*S	**Sn**	**13 31 14.6**	**+1.7**
TRO	**Tromso**	**2.62**	**346**	*e*S	**Sn**	**13 31 14.6**	**+1.7**
	SNR=50						
OUL	**Oulu**	**2.92**	**132**	*e*SG	**Sg**	**13 31 29.6**	**-1.2**
OUL				MSG		13 31 29.6	
	comp=Z,3.5nm,0.3s						
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn	**Pn**	**13 30 46.4**	**+0.5**
	baz=223,slow=14						
ARA0				Lg	Lg	13 31 27.2	
	baz=207,slow=37						
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn	**Pn**	**13 30 46.4**	**+0.5**
	baz=223,slow=14						
ARA0				Lg	Lg	13 31 27.2	
	baz=207,slow=37						
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn	**Pn**	**13 30 46.4**	**+0.5**
	baz=223,slow=14,SNR=50						
ARA0				Lg	Lg	13 31 27.2	
	SNR=2.0						
ARCES	**ARCESS Array B**	**3.00**	**34**	Pn	**Pn**	**13 30 46.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=215,slow=13,SNR=10						
ARCES				Sn	**Sn**	**13 31 22.4**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=214,slow=21,SNR=7.4						
ARE0	**ARCESS Array S**	**3.00**	**34**	IAML		13 31 40.5	
	comp=Z,8.3nm,0.5s						
ARE0	**ARCESS Array S**	**3.00**	**34**	*e*P	**Pn**

	comp=Z,0.1nm,0.3s,baz=27,slow=11,SNR=3.0							
NOA					Sn	**Sn**	**13 33 07.0**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=33,slow=23,SNR=4.3							
NOA					Lg	Lg	13 33 50.4	
	comp=Z,0.6nm,0.3s,baz=31,slow=18,SNR=5.1							
HFS	**Hagfors**	**7.67**	**207**		Lg	Lg	13 33 56.3	
	baz=32,slow=28							
HFS	**Hagfors**	**7.67**	**207**		Lg	Lg	13 33 56.3	
	baz=32,slow=28							
HFS	**Hagfors**	**7.67**	**207**		Pn	**Pn**	**13 31 49.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=2.7							
HFS					Sn	**Sn**	**13 33 15.4**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=27,slow=23,SNR=5.8							
HFS					Lg	Lg	13 33 57.9	
	comp=Z,0.4nm,0.3s,baz=25,slow=22,SNR=3.3							
HFS	**Hagfors**	**7.67**	**207**		Lg	Lg	13 33 56.3	
SPITS	**Spitsbergen Ar**	**11.19**	**355**		Pn	**Pn**	**13 32 36.9**	**-1.1**
	baz=172,slow=14,SNR=2.6							
AKASG	**Malin Array Be**	**17.00**	**161**		P	**P**	**13 33 57.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=350,slow=12,SNR=2.8							

ISCJB ***22*** *13:33:57.1±0.6,67.°09N±0.°02×20.°92E±0.°08,h0km, Error ellipse: s-maj=4.9km s-min=3.4km az=165.4*
HEL ***22*** *13:33:59.4±0.5,67.°15N×20.°59E,h0km,ML1.8, Explosion*
CSEM ***22*** *13:34:00.1±0.4,67.°17N×20.°94E,h2km,ML1.8, Error ellipse: s-maj=9.2km s-min=6.3km az=89.0, Mining explosion.*
NAO ***22*** *13:34:00.1±0.9,67.°16N×20.°95E,ML2.4*
IDC ***22*** *13:34:00.1±0.8,67.°14N×20.°86E,h0km,mb1 3.2/5, mb1mx3.0/30,mbtmp3.2/5,ML2.6/5, Error ellipse: s-maj=14.1km s-min=6.9km az=112.0*
BER ***22*** *13:34:02.1±4.2,67.°20N×20.°81E,h0km±15km, ML2.4(NAO)*

ISC 22 13:33:59.0±0.8, 67.°12N±0.°03×20.°72E±0.°04, h0km, n50, σ1°36/74, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.81**	**134**	Op PG		**Pg**	**13 34 15.5**	**+0.8**
ERTU				SB		**Sb**	**13 34 27.7**	**+0.2**
ERTU	**Ertsjaerv**	**0.81**	**134**	Pg		**Pg**	**13 34 15.4**	**+0.8**
LANU	**Lannavaara**	**1.05**	**27**	PG		**Pg**	**13 34 18.6**	**-0.5**
	baz=208							
LANU				SG		**Sb**	**13 34 33.7**	**-0.7**
LANU	**Lannavaara**	**1.05**	**27**	Pg		**Pg**	**13 34 18.6**	**-0.5**
LANU				Sg		**Sb**	**13 34 33.6**	**-0.7**
HEF	**Hetta**	**1.71**	**40**	PG		**Pn**	**13 34 30.0**	**-0.1**
HEF				SN		**Sn**	**13 34 52.1**	**-0.5**
HEF	**Hetta**	**1.71**	**40**	Pg		**Pn**	**13 34 29.9**	**-0.1**
HEF				Sn		**Sn**	**13 34 52.0**	**-0.5**
KIF	**Kilpisjarvi**	**1.89**	**1**	Pg		**Pn**	**13 34 33.5**	**+1.0**
KIF				Lg		Lg	13 34 59.3	
KIF	**Kilpisjarvi**	**1.89**	**1**	Pg		**Pn**	**13 34 33.5**	**+1.0**
KIF				Lg		Lg	13 34 59.3	
KIF	**Kilpisjarvi**	**1.89**	**1**	PG		**Pn**	**13 34 33.3**	**+0.8**
KIF				SG		**Sg**	**13 34 59.3**	**-0.4**
KIF				MSG			13 34 59.3	
	comp=Z,11nm,0.2s							
KIF	**Kilpisjarvi**	**1.89**	**1**	Pg		**Pn**	**13 34 33.5**	**+1.0**
	SNR=90							
KIF				Sg		**Sg**	**13 34 59.3**	**-0.4**
RNF	**Rovaniemi**	**2.15**	**101**	PG		**Pb**	**13 34 38.0**	**-0.8**
RNF				SG		**Sg**	**13 35 07.2**	**-0.8**
RNF	**Rovaniemi**	**2.15**	**101**	Pg		**Pb**	**13 34 38.0**	**-0.8**
RNF				Sg		**Sg**	**13 35 07.2**	**-0.8**
SGF	**Sodankyl**	**2.27**	**79**	PG		**Pb**	**13 34 40.1**	**-0.8**
SGF				SG		**Sg**	**13 35 10.9**	**-1.1**
SGF				MSG			13 35 10.9	
	comp=Z,4.1nm,0.2s							
SGF	**Sodankyl**	**2.27**	**79**	Pg		**Pb**	**13 34 40.1**	**-0.8**
SGF				Sg		**Sg**	**13 35 10.9**	**-1.1**
OUL	**Oulu**	**2.94**	**132**	SG		**Sg**	**13 35 31.6**	**-1.6**
OUL				MSG			13 35 31.6	
	comp=Z,3.5nm,0.3s							
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn		**Pn**	**13 34 48.5**	**+0.7**
	baz=210,slow=16							
ARA0				Sn		**Sn**	**13 35 24.1**	**-0.4**
	baz=212,slow=28							
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn		**Pn**	**13 34 48.5**	**+0.7**
	baz=210,slow=16							
ARA0				Sn		**Sn**	**13 35 24.1**	**-0.4**
	baz=212,slow=28							
ARA0	**ARCESS Array S**	**3.00**	**34**	Pn		**Pn**	**13 34 48.5**	**+0.7**
	SNR=50							
ARA0				Sn		**Sn**	**13 35 24.0**	**-0.4**
	SNR=50							
ARCES	**ARCESS Array B**	**3.00**	**34**	Pn		**Pn**	**13 34 48.4**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=216,slow=13,SNR=11							
ARCES				Sn		**Sn**	**13 35 24.0**	**-0.4**
	comp=Z,3.1nm,0.3s,baz=214,slow=24,SNR=11							
ARE0	**ARCESS Array S**	**3.00**	**34**	PN		**Pn**	**13 34 48.3**	**+0.5**
ARE0				SB		**Sn**	**13 35 27.4**	**+3.0**
ARE0				MSG			13 35 27.4	
	comp=Z,5.8nm,0.3s							
ARE0	**ARCESS Array S**	**3.00**	**34**	Pn		**Pn**	**13 34 48.3**	**+0.5**
UMAU	**Umeaa**	**3.25**	**180**	PN		**Pn**	**13 34 53.3**	**+2.1**
	baz=4.0							
UMAU	**Umeaa**	**3.25**	**180**	Pn		**Pn**	**13 34 53.3**	**+2.1**
VRF	**Varrio**	**3.48**	**76**	PG		**Pb**	**13 35 03.2**	**+1.8**
VRF				SG		**Sb**	**13 35 46.1**	**+1.9**
VRF				MSG			13 35 46.1	
	comp=Z,0.8nm,0.2s							
KEV	**Kevo**	**3.52**	**38**	*e*P		**Pn**	**13 34 55.7**	**+0.9**
KEV	**Kevo**	**3.52**	**38**	PN		**Pn**	**13 34 57.0**	**+2.1**
KEV				SN		**Sn**	**13 35 36.9**	**-0.1**
KEV				MSG			13 35 36.9	
	comp=Z,0.9nm,0.2s							
KEV	**Kevo**	**3.52**	**38**	*e*P		**Pn**	**13 34 55.7**	**+0.9**
	SNR=50							
KEV	**Kevo**	**3.52**	**38**	Pn		**Pn**	**13 34 56.9**	**+2.1**
KEV				Sn		**Sn**	**13 35 36.9**	**-0.1**
MSF	**Maaselka**	**3.54**	**106**	SG		**Sg**	**13 35 50.2**	**-2.6**
MSF				MSG			13 35 50.2	
	comp=Z,3.8nm,0.3s							
KU6	**Riekki**	**3.82**	**103**	SG		**Sg**	**13 36 01.1**	**-0.6**
KU6	**Riekki**	**3.82**	**103**	Sg		**Sg**	**13 36 01.1**	**-0.6**
VAF	**Ylistaro**	**4.18**	**168**	MSG			13 36 12.5	
	comp=Z,0.9nm,0.2s							
APA0	**Apatity Array**	**4.77**	**79**	Sn		**Sn**	**13 36 07.1**	**-0.7**
	baz=274,slow=28							
APA0				Lg		Lg	13 36 23.4	
	baz=275,slow=22							
APA0	**Apatity Array**	**4.77**	**79**	Sn		**Sn**	**13 36 07.1**	**-0.7**
	baz=274,slow=28							
APA0				Lg		Lg	13 36 23.4	
	baz=275,slow=22							
APA0	**Apatity Array**	**4.77**	**79**	Sn		**Sn**	**13 36 07.1**	**-0.7**
	SNR=50							
APA0				Lg		Lg	13 36 23.4	
FIA0	**FINESS Array S**	**6.16**	**155**	Pn		**Pn**	**13 35 33.6**	**+2.5**
	baz=346,slow=16							
FIA0				Sn		**Sn**	**13 36 42.1**	**+0.1**
	baz=340,slow=22							
FIA0				Lg		Lg	13 37 14.3	
	baz=349,slow=28							
FIA0	**FINESS Array S**	**6.16**	**155**	Pn		**Pn**	**13 35 33.6**	**+2.5**
	baz=346,slow=16							
FIA0				Sn		**Sn**	**13 36 42.1**	**+0.1**
	baz=340,slow=22							
FIA0				Lg		Lg	13 37 14.3	
	baz=349,slow=28							
FIA0	**FINESS Array S**	**6.16**	**155**	Pn		**Pn**	**13 35 33.6**	**+2.5**
	SNR=50							
FIA0				Sn		**Sn**	**13 36 42.2**	**+0.1**
	SNR=50							
FIA0				Lg		Lg	13 37 14.3	
	SNR=5.8							
FINES	**FINESS Array B**	**6.16**	**155**	Pn		**Pn**	**13 35 33.3**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=3.8							
FINES				Sn		**Sn**	**13 36 42.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=342,slow=22,SNR=5.3							
FINES				Lg		Lg	13 37 12.9	
	comp=Z,0.6nm,0.3s,baz=341,slow=26,SNR=3.4							
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn		**Pn**	**13 35 49.6**	**+1.7**
NB2				Lg		Lg	13 37 53.6	
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn		**Pn**	**13 35 49.6**	**+1.7**
NB2				Lg		Lg	13 37 53.6	
NB2	**NORSAR Subarra**	**7.38**	**219**	Pn		**Pn**	**13 35 49.7**	**+1.7**
	SNR=50							
NOA	**NORSAR Array B**	**7.38**	**219**	Pn		**Pn**	**13 35 48.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=3.2							
NOA				Sn		**Sn**	**13 37 08.5**	**-3.9**
	comp=Z,0.3nm,0.3s,baz=37,slow=18,SNR=3.2							
NOA				Lg		Lg	13 37 52.5	
	comp=Z,0.6nm,0.3s,baz=43,slow=22,SNR=4.2							
HFS	**Hagfors**	**7.68**	**207**	Sn		**Sn**	**13 37 16.8**	**-2.6**
	baz=33,slow=22							
HFS				Lg		Lg	13 37 59.8	
	baz=27,slow=28							
HFS	**Hagfors**	**7.68**	**207**	Sn		**Sn**	**13 37 16.8**	**-2.6**
	baz=33,slow=22							
HFS				Lg		Lg	13 37 59.8	
	baz=27,slow=28							
HFS	**Hagfors**	**7.68**	**207**	Pn		**Pn**	**13 35 52.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=4.8							
HFS				Sn		**Sn**	**13 37 17.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=25,slow=21,SNR=4.0							
HFS				Lg		Lg	13 38 00.1	
	comp=Z,0.2nm,0.3s,baz=24,slow=25,SNR=3.0							
SPA0	**Spitsbergen Ar**	**11.18**	**355**	Pn		**Pn**	**13 36 39.3**	**-0.6**
	baz=166,slow=18							
SPA0	**Spitsbergen Ar**	**11.18**	**355**	Pn		**Pn**	**13 36 39.3**	**-0.6**
	baz=166,slow=18							
SPA0	**Spitsbergen Ar**	**11.18**	**355**	Pn		**Pn**	**13 36 39.3**	**-0.6**
	SNR=50							
SPITS	**Spitsbergen Ar**	**11.18**	**355**	Pn		**Pn**	**13 36 38.4**	**-1.5**
	baz=172,slow=13,SNR=5.6							

ISCJB ***22*** *14:22:01.5±0.3,32.°69N±0.°01×115.°75W±0.°02,h10km±2km, mb3.7/6,MS3.6/6, Error ellipse: s-maj=2.3km s-min=2.1km az=9.0*
IASPEI ***22*** *14:22:01.9±0.9,32.°69N±0.°02×115.°80W±0.°02,h18km±4km, mb3.7/6,MS3.5/6, Error ellipse: s-maj=3.3km s-min=2.8km az=157.0*
IDC ***22*** *14:22:02.1±1.0,32.°73N×115.°76W,h0km,mb3.8/6, mb1 4.0/12,mb1mx3.8/46,mbtmp3.8/12,ML3.7/6,MS3.5/13, Ms1 3.5/13,ms1mx3.3/39, Error ellipse: s-maj=18.5km s-min=8.7km az=44.0*
MEX ***22*** *14:22:02.9±1.1,32.°80N×115.°72W,h10km,MD4.3*
NEIC ***22*** *14:22:03.1,32.°67N×115.°81W,h3km,MD4.3(MEX), MD4.5(ECX),ML4.6(PAS),After PAS.*
NEIC Felt [IV] at Imperial; [III] at Calexico, El Centro and San Diego; [II] at Alpine, Borrego Springs, Brawley, Carlsbad, Coronado, El Cajon, Escondido, La Jolla, Lakeside, Poway and Santee. Felt in Imperial, Orange, Riverside and San Diego Counties. Felt [III] at Mexicali, Baja California. Also felt at Tecate.
ECX ***22*** *14:22:03.6±0.7,32.°66N×115.°81W,h3km,ML4.5*

ISC 22 14:22:02.7±0.9, 32.°66N±0.°02×115.°79W±0.°02, h8km±6km, n99, σ1°21/144, mb3.7/6, MS3.5/6, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.06**	**102**	Op *i*P		**Pg**	**13 22 04.8**	**+0.3**
YUH	**Yuha Desert**	**0.11**	**263**	*i*P		**Pg**	**13 22 05.5**	**+0.2**
COK	**Cook Ranch**	**0.20**	**15**	*e*P		**Pg**	**13 22 07.2**	**+0.5**
RMX	**La Rumorosa**	**0.25**	**257**	*e*P		**Pg**	**13 22 08.0**	**+0.2**
RMX				*e*S		**Sg**	**13 22 11.5**	**+0.3**
IBP	**Imperial Bould**	**0.26**	**270**	P		**Pg**	**13 22 08.1**	**+0.3**
	baz=0.2							
IBP				S		**Sg**	**13 22 11.7**	**+0.3**
	baz=0.2							
CRR	**Carrizo Plain**	**0.27**	**326**	⇓*i*P		**Pg**	**13 22 08.2**	**+0.1**
SWSC	**Sam W. Stewart**	**0.28**	**359**	P		**Pg**	**13 22 08.1**	**-0.1**
	baz=0.3							
SWSC				S		**Sg**	**13 22 12.2**	**+0.1**
	baz=0.3							
CPBX	**Cerro Prieto**	**0.48**	**120**	*i*P		**Pb**	**13 22 12.5**	**-0.8**
CPBX				*e*S		**Sb**	**13 22 19.9**	**-0.6**
CPBX	**Cerro Prieto**	**0.48**	**120**	*i*P		**Pb**	**13 22 12.5**	**-0.8**
CPBX				*i*S		**Sb**	**13 22 20.6**	**+0.1**
MBIG	**Mexicali**	**0.56**	**117**	*e*P		**Pg**	**13 22 13.1**	**-0.4**
MBIG				*e*S		**Sg**	**13 22 21.2**	**+0.3**
MONP	**Monument Peak,**	**0.58**	**293**	P		**Pg**	**14 22 13.5**	**-0.4**
	baz=0.6							
MONP				S		**Sg**	**14 22 21.3**	**-0.3**
	baz=0.6							
COA	**Coachella**	**0.60**	**70**	⇑*i*P		**Pg**	**14 22 14.4**	**+0.2**
RDX	**Rancho Dawling**	**0.74**	**190**	*e*P		**Pg**	**14 22 16.5**	**-0.5**
RDX				*e*S		**Sg**	**14 22 26.7**	**0.0**
BAR	**Barrett**	**0.74**	**272**	*e*P		**Pg**	**14 22 16.7**	**-0.3**
CBX	**Cerro Bola**	**0.82**	**245**	*i*P		**Pg**	**14 22 18.2**	**-0.2**
CBX				*i*S		**Sg**	**14 22 29.3**	**+0.2**
CBX	**Cerro Bola**	**0.82**	**245**	*e*P		**Pg**	**14 22 18.2**	**-0.2**
CBX				*e*P		**Pg**	**14 22 18.2**	**-0.2**
CBX				*e*S		**Sg**	**14 22 28.8**	**-0.3**
CBX				*e*S		**Sb**	**14 22 29.1**	**-1.4**
CBX				⇓*e*			14 22 32.9	
	comp=E,25μm,0.5s							
CBX	**Cerro Bola**	**0.82**	**245**	*i*P		**Pg**	**14 22 18.2**	**-0.2**
CBX				*i*S		**Sg**	**14 22 29.3**	**+0.2**
GLA	**Glamis**	**0.90**	**64**	P		**Pg**	**14 22 18.7**	**-1.3**
	baz=0.9							
GLA				S		**Sg**	**14 22 30.4**	**-1.3**
	baz=0.9							
GLA	**Glamis**	**0.90**	**64**	*e*Pg		**Pg**	**14 22 18.8**	**-1.3**
GLA				*e*Sg		**Sg**	**14 22 30.5**	**-1.2**
BC3	**Big Chuckawall**	**1.03**	**16**	P		**Pg**	**14 22 20.9**	**-1.6**
	baz=1.0							
BC3				S		**Sg**	**14 22 33.8**	**-2.2**
	baz=1.0							
PFO	**Pinyon Flats O**	**1.10**	**330**	Pg		**Pg**	**14 22 21.9**	**-2.0**
	comp=E,468nm,0.3s,baz=150,slow=12,SNR=1803							
PFO				Lg		Lg	14 22 36.4	
	comp=E,2μm,0.3s,baz=230,slow=21,SNR=33							
PFO	**Pinyon Flats O**	**1.10**	**330**	P		**Pg**	**14 22 21.9**	**-2.0**
	baz=1.1							
PFO				S		**Sg**	**14 22 35.9**	**-2.3**
	baz=1.1							
PFO	**Pinyon Flats O**	**1.10**	**330**	*e*Pg		**Pg**	**14 22 21.9**	**-2.0**
PFO				Lg		Lg	14 22 36.4	
PFO				*e*Sg		**Sg**	**14 22 37.5**	**-0.6**
109C	**Camp Elliot, M**	**1.13**	**282**	P		**Pg**	**14 22 23.2**	**-1.2**
	baz=1.1							
109C				S		**Sg**	**14 22 37.4**	**-1.8**
	baz=1.1							
PBX	**Punta Banda**	**1.21**	**221**	*e*P		**Pb**	**14 22 25.1**	**-0.9**
PBX				*e*S		**Sg**	**14 22 41.0**	**-0.7**
ECNX	**Esteban Cantu**	**1.21**	**215**	*e*P		**Pb**	**14 22 24.9**	**-1.1**
ECNX				*e*S		**Sg**	**14 22 41.2**	**-0.6**
ZAX	**El Zacaton**	**1.22**	**200**	*e*P		**Pb**	**14 22 25.0**	**-1.1**
ZAX				*e*S		**Sg**	**14 22 41.0**	**-0.9**
BELC	**Belle Mtn. Jos**	**1.35**	**353**	P		**Pn**	**14 22 25.5**	**-2.5**
	baz=1.3							
MURC	**Murrieta**	**1.51**	**309**	P		**Pn**	**14 22 28.0**	**-2.2**
	baz=1.5							
MURC				S		**Sn**	**14 22 49.2**	**-0.8**
	baz=1.5							
Y12C	**Blythe**	**1.52**	**44**	P		**Pn**	**14 22 28.1**	**-2.1**
	baz=1.5							
IRM	**Iron Mountain**	**1.59**	**19**	P		**Pn**	**14 22 29.2**	**-2.0**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.63**	**170**	*e*P		**Pn**	**14 22 31.2**	**-0.9**
SPIG				*e*S		**Sn**	**14 22 52.6**	**-0.9**
SPIG	**San Pedro Mart**	**1.63**	**170**	*e*P		**Pn**	**14 22 31.2**	**-0.9**
SPIG				*e*S		**Sn**	**14 22 52.6**	**-0.9**
SPX	**San Pedro Mart**	**1.63**	**170**	*e*P		**Pn**	**14 22 32.2**	**+0.1**
SPX				⇑*e*			14 23 06.1	
	comp=N,3μm,0.8s							
SPX	**San Pedro Mart**	**1.63**	**170**	*e*P		**Pn**	**14 22 30.9**	**-1.2**
SPX				*i*S		**Sn**	**14 22 50.5**	**-3.0**
113A	**Mohawk Valley,**	**1.71**	**86**	P		**Pn**	**14 22 30.8**	**-2.0**
	baz=1.7							
BBRC	**Big Bear Solar**	**1.86**	**330**	P		**Pn**	**14 22 33.6**	**-1.5**
	baz=1.9							
GMRC	**Granite Mounta**	**2.12**	**3**	P		**Pn**	**14 22 36.7**	**-1.9**
	baz=2.1							
HEC	**Hector,Ludlow**	**2.21**	**348**	P		**Pn**	**14 22 38.0**	**-1.9**
	baz=2.2							
BFSC	**Mount Baldy Ra**	**2.22**	**316**	P		**Pn**	**14 22 38.3**	**-1.7**
	baz=2.2							
BFSC				Sb		**Sb**	**14 23 10.6**	**-0.3**
	baz=2.2							
NEE2	**Needles Airpor**	**2.32**	**25**	P		**Pn**	**14 22 39.8**	**-1.4**
	baz=2.3							
CIS	**Catalina Islan**	**2.32**	**289**	S		**Sn**	**14 23 10.0**	**0.0**
	baz=2.3							
SCI	**San Clemente I**	**2.34**	**279**	P		**Pn**	**14 22 41.3**	**-0.3**
	baz=2.3							
SCI				S		**Sn**	**14 23 10.7**	**+0.2**
	baz=2.3							
FMP	**Fort Macarthur**	**2.35**	**297**	Sb		**Sb**	**14 23 15.0**	**+0.6**
	baz=2.3							
RRX	**Edison Barstow**	**2.43**	**336**	P		**Pn**	**14 22 41.2**	**-1.6**
	baz=2.4							
Z14A	**Wintersburg**	**2.49**	**73**	P		**Pn**	**14 22 41.6**	**-1.9**
	baz=2.5							
214A	**Organ Pipe Nat**	**2.62**	**105**	P		**Pn**	**14 22 42.9**	**-2.5**
	baz=2.6							
DECC	**Green Verdugo**	**2.65**	**307**	Sb		**Sb**	**14 23 23.8**	**+0.6**
	baz=2.6							
Y14A	**Wickenburg**	**2.66**	**61**	P		**Pn**	**14 22 44.3**	**-1.6**
	baz=2.7							
GSC	**Goldstone, Bar**	**2.77**	**342**	P		**Pn**	**14 22 45.8**	**-1.7**
	baz=2.8							
GSC	**Goldstone, Bar**	**2.77**	**342**	*e*Pn		**Pn**	**14 22 45.8**	**-1.7**
GSC				*e*Pg		**Pg**	**14 22 55.5**	**-0.3**
GSC				*e*Sn		**Sn**	**14 23 20.9**	**-0.3**
GSC				*e*Sg		**Sg**	**14 23 30.7**	**-0.9**
TUQ	**Turquoise Moun**	**2.77**	**358**	P		**Pn**	**14 22 45.8**	**-1.8**
	baz=2.8							
EDW2	**Edwards Air Fo**	**2.87**	**321**	P		**Pn**	**14 22 47.4**	**-1.5**
	baz=2.9							
EDW2				Sb		**Sb**	**14 23 30.2**	**+0.5**
	baz=2.9							
W13A	**Hualapai Mount**	**2.90**	**33**	P		**Pn**	**14 22 48.1**	**-1.4**
	baz=2.9							
OSI	**Osito Audit: C**	**3.13**	**309**	Pb		**Pb**	**14 22 57.0**	**-1.7**
	baz=3.1							
ARVC	**Arvin**	**3.53**	**315**	P		**Pn**	**14 22 56.8**	**-1.1**
	baz=3.5							
MPMC	**Manual Prospec**	**3.67**	**338**	P		**Pn**	**14 22 58.4**	**-1.7**
	baz=3.7							
ISA	**Isabella, Lake**	**3.73**	**324**	P		**Pn**	**14 22 59.1**	**-1.6**
	baz=3.7							
ISA	**Isabella, Lake**	**3.73**	**324**	*e*Pn		**Pn**	**14 22 59.1**	**-1.6**
ISA				*e*Pg		**Pg**	**14 23 14.6**	**+0.3**
ISA				*e*Sn		**Sn**	**14 23 46.9**	**+1.9**
SHPR	**Sheep Range**	**3.87**	**8**	*e*Pn		**Pn**	**14 23 01.8**	**-0.9**
SHPR				*e*Pg		**Pg**	**14 23 17.7**	**+0.8**
SHPR				*e*Sg		**Sg**	**14 24 06.3**	**-0.7**
DAC	**Darwin (Calif)**	**3.90**	**338**	*e*Pn		**Pn**	**14 23 01.9**	**-1.3**
DAC				*e*Pg		**Pg**	**14 23 17.2**	**-0.3**
DAC				*e*Sn		**Sn**	**14 23 50.2**	**+0.9**
DAC				*e*Sg		**Sg**	**14 24 06.0**	**-2.1**
X16A	**Lo Mia Camp, P**	**4.03**	**63**	P		**Pn**	**14 23 04.3**	**-0.6**
	baz=4.0							
TUC	**Tucson**	**4.24**	**93**	*e*Pn		**Pn**	**14 23 05.5**	**-2.2**
TUC				*e*Pg		**Pg**	**14 23 23.3**	**-0.7**
TUC				*e*Sn		**Sn**	**14 23 59.6**	**+2.0**
TPNV	**Topopah Spring**	**4.29**	**355**	P		**Pn**	**14 23 07.8**	**-0.7**
	baz=4.3							
GRAC	**Grapevine Rang**	**4.52**	**344**	P		**Pn**	**14 23 11.0**	**-0.6**
	baz=4.5							
WUAZ	**Wupatki**	**4.64**	**51**	P		**Pn**	**14 23 13.4**	**0.0**
	baz=4.6							
WUAZ	**Wupatki**	**4.64**	**51**	*e*Pn		**Pn**	**14 23 13.3**	**0.0**
WUAZ				*e*Sn		**Sn**	**14 24 08.5**	**+1.0**
U15A	**North Rim**	**4.74**	**37**	P		**Pn**	**14 23 15.1**	**+0.3**
	baz=4.7							
X18A	**Snowflake**	**5.22**	**67**	P		**Pn**	**14 23 20.8**	**-0.4**
	baz=5.2							
CCUT	**Cedar City**	**5.27**	**21**	*e*Pn		**Pn**	**14 23 22.4**	**+0.4**
CCUT				*e*Pg		**Pg**	**14 23 42.3**	**-1.3**
TPH	**Tonopah**	**5.53**	**348**	*e*Pn		**Pn**	**14 23 26.1**	**+0.6**
TPH				*e*Sg		**Sg**	**14 25 00.3**	**+0.1**
W18A	**Petrified Fore**	**5.60**	**62**	P		**Pn**	**14 23 27.2**	**+0.7**
	baz=5.6							
319A	**Douglas**	**5.67**	**101**	P		**Pn**	**14 23 26.1**	**-1.4**
	baz=5.7							
NVAR	**Mina Array Bea**	**6.11**	**341**	Pn		**Pn**	**14 23 33.4**	**-0.2**
	comp=N,1.4nm,0.3s,baz=162,slow=15,SNR=24							
NVAR				Lg		Lg	14 25 19.9	
	comp=N,0.8nm,0.3s,baz=138,slow=26,SNR=2.8							
MVU	**Marysvale**	**6.52**	**26**	Pn		**Pn**	**14 23 40.1**	**+0.9**
MVU				*e*Pg		**Pg**	**14 24 09.1**	**+1.5**
MVU				*e*Sn		**Sn**	**14 24 53.8**	**0.0**
CMB	**Columbia Colle**	**6.55**	**326**	*e*Pn		**Pn**	**14 23 39.8**	**+0.4**
CMB				*e*Pg		**Pg**	**14 24 07.8**	**-0.3**
CMB				*e*Sn		**Sn**	**14 24 55.8**	**+1.6**
121A	**Cookes Peak, D**	**6.76**	**89**	P		**Pn**	**14 23 41.5**	**-0.9**
	baz=6.8							
MVCO	**Mesa Verde**	**7.51**	**51**	Pn		**Pn**	**14 23 53.8**	**+1.0**
MVCO				*e*Pg		**Pg**	**14 24 27.3**	**+0.8**
PV01	**Paradox Valley**	**8.03**	**45**	*e*Pn		**Pn**	**14 24 01.1**	**+1.2**
PV01				*e*Pg		**Pg**	**14 24 36.0**	**-0.6**
PV01				*e*Sn		**Sn**	**14 25 32.3**	**+1.2**
ELK	**Elko**	**8.08**	**3**	Pn		**Pn**	**14 24 01.0**	**+0.4**
	comp=N,0.1nm,0.3s,baz=178,slow=12,SNR=7.9							
ELK				Lg		Lg	14 26 16.5	
	comp=N,0.1nm,0.3s,baz=179,slow=9.4,SNR=2.8							
ELK				LR		LR	14 27 25.0	
	comp=N,249nm,20.4s,baz=180,slow=40							
ANMO	**Albuquerque**	**8.09**

PCVE					Sn	Sn	14 40 42.8	-3.0	
	0.2nm,0.6s								
EMIN	**Mina Concepcio**	**5.33**	**10**	Pn	Pn	Pn	14 39 47.2	-1.6	
	0.8nm,0.2s,SNR=7.9								
EMIN					Sn	Sn	14 40 47.5	-3.4	
	1.2nm,0.3s,SNR=7.9								
PNCL	**Nicolau / Gran**	**5.63**	**354**	*e*Pn	Pn	Pn	14 39 52.0	-0.9	
PBAR	**Barrancos**	**5.69**	**6**	*e*Pn	Pn	Pn	14 39 53.0	-0.8	
PBAR				*e*Sn	Sn	Sn	14 40 56.3	-3.5	
PBAR				A	A	A	14 40 59.6		
	4.1nm,0.4s								
PBAR	**Barrancos**	**5.69**	**6**	Pn	Pn	Pn	14 39 53.0	-0.8	
PBAR				Sn	Sn	Sn	14 40 56.3	-3.5	
	4.1nm,0.4s								
EADA	**Adamuz**	**6.22**	**24**	Pn	Pn	Pn	14 39 59.8	-1.4	
	0.1nm,0.1s,SNR=7.9								

IDC ***22*** *14:49:28.2±0.6, 10°.25N×125°.94E, h0km, mb3.9/15, mb1 4.1/15, mb1mx3.9/35, mbtmp3.9/15, MS3.2/7, Ms1 3.3/7, ms1mx3.0/39, Error ellipse: s-maj=30.2km s-min=13.9km az=71.0*

ISCJB ***22*** *14:49:34.9±0.9, 10°.35N±0°.03×126°.14E±0°.08, h63km±8km, mb3.9/15, Error ellipse: s-maj=12.9km s-min=5.4km az=170.0*

MAN ***22*** *14:49:35, 10°.36N×126°.11E, h39km, mb5.0, ML4.0, MS4.1*
MAN INTENSITY III - LORETO DINAGAT ISLAND; INTENSITY II - SURIGAO CITY.

ISC 22 14:49:35.6±1.3, 10°.36N±0°.04×126°.18E±0°.08, h54km±11km, n52, σ178/55, mb3.8/15, MS3.1/7, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.89**	**230**	*e*P	**Pn**	**14 49 50.8**	**-1.1**
SCPH				*e*S	**Sn**	**14 50 02.5**	**-1.5**
MSLP	**Maasin**	**1.32**	**260**	*e*P	**Pn**	**14 49 56.1**	**-1.5**
MSLP				*e*S	**Sn**	**14 50 13.0**	**-1.2**
PLP	**Palo**	**1.43**	**304**	*e*P	**Pn**	**14 49 58.2**	**-1.0**
PLP				*i* S	**Sn**	**14 50 16.5**	**-0.4**
BUTP	**Butuan**	**1.48**	**202**	*e*P	**Pn**	**14 49 58.9**	**-1.0**
BUTP				*e*S	**Sn**	**14 50 19.1**	**+0.8**
OCLP	**Ormoc**	**1.69**	**294**	*e*P	**Pn**	**14 50 02.9**	**+0.2**
OCLP				*e*S	**Sn**	**14 50 22.2**	**-1.1**
TBP	**Tagbilaran**	**2.38**	**254**	*e*P	**Pn**	**14 50 13.0**	**+0.9**
CGP	**Cagayan de Oro**	**2.39**	**218**	*e*P	**Pn**	**14 50 11.6**	**-0.7**
CGP				*e*S	**Sn**	**14 50 40.5**	**+0.1**
CNP	**Catarman**	**2.61**	**325**	*e*P	**Pn**	**14 50 14.8**	**-0.5**
CNP				*e*S	**Sn**	**14 50 41.5**	**-4.3**
BUKP	**Musuan**	**2.70**	**204**	*e*P	**Pn**	**14 50 17.5**	**+0.9**
DCPH	**Dipolog City**	**3.30**	**238**	*e*P	**Pn**	**14 50 26.4**	**+1.7**
DCPH				*i* S	**Sn**	**14 51 04.8**	**+2.1**
MATI	**Mati**	**3.39**	**179**	*e*P	Pn	14 50 30.7	+4.7
GUIM	**Jordan**	**3.54**	**275**	*e*P	**Pn**	**14 50 27.8**	**-0.3**
RCP	**Roxas**	**3.58**	**290**	*e*P	**Pn**	**14 50 29.5**	**+0.9**
PAGZ	**Pagadian**	**3.72**	**228**	*e*P	**Pn**	**14 50 31.2**	**+0.6**
PVCP	**Virac**	**3.78**	**329**	*e*P	**Pn**	**14 50 32.9**	**+1.6**
FAKI	**Fak Fak**	**14.51**	**155**	P	**P**	**14 53 04.6**	**+1.3**
	baz=15,SNR=3.8						
MTN	**Manton Dam**	**23.57**	**168**	P	**P**	**14 54 44.5**	**+3.1**
	baz=23,SNR=5.2						
KDU	**Kakadu**	**23.73**	**165**	P	**P**	**14 54 43.0**	**0.0**
	baz=24,SNR=6.3						
KDU				S	**S**	**14 58 48.6**	**-5.8**
	baz=24,SNR=3.2						
KNRA	**Kununurra**	**25.99**	**174**	P	**P**	**14 55 03.3**	**-0.2**
	baz=26,SNR=9.2						
BKNI	**Bangkinang**	**26.91**	**250**	S	**S**	**14 59 49.9**	**+4.7**
	baz=25,SNR=3.2						
KSRS	**Korea Array**	**27.02**	**3**	P	**P**	**14 55 13.6**	**+1.0**
	1.2nm,1.0s,baz=176,slow=8.0,SNR=3.8						
KSRS				LR	LR	15 07 49.0	
	comp=Z,31nm,18.0s,baz=180,slow=41						
CMAR	**Chiang Mai Arr**	**27.55**	**290**	P	**P**	**14 55 17.4**	**-0.3**
	4.7nm,0.8s,baz=99,slow=7.5,SNR=30						
CMAR				LR	LR	15 07 21.6	
	comp=Z,44nm,18.5s,baz=125,slow=39						
PSI	**Prapat**	**28.08**	**256**	LR	LR	15 06 37.5	
	comp=Z,59nm,19.4s,baz=41,slow=37						
MJAR	**Matsushiro Arr**	**28.25**	**21**	LR	LR	15 07 13.7	
	comp=Z,40nm,18.3s,baz=210,slow=38						
FITZ	**Fitzroy Crossi**	**28.28**	**181**	P	**P**	**14 55 24.0**	**0.0**
	baz=28,SNR=4.1						
WRA	**Warramunga Arr**	**31.16**	**165**	P	**P**	**14 55 48.1**	**-1.5**
	0.5nm,0.5s,baz=345,slow=9.2,SNR=9.9						
WRA				PcP	**PcP**	**14 58 43.9**	**+0.2**
	0.4nm,0.6s,baz=336,slow=3.0,SNR=6.3						
ASAR	**Alice Springs**	**34.65**	**167**	P	**P**	**14 56 19.5**	**-0.5**
	0.4nm,0.4s,baz=350,slow=7.2,SNR=35						
ASAR				PcP	**PcP**	**14 58 53.6**	**+0.2**
	0.5nm,0.6s,baz=344,slow=2.7,SNR=8.5						
ASAR				S	**S**	**15 01 40.8**	**-5.2**
	0.4nm,0.9s,baz=358,slow=20,SNR=4.2						
WRKA	**Warakurna**	**35.24**	**177**	P	**P**	**14 56 25.3**	**+0.2**
	baz=35,SNR=17						
ASAJ	**Asahikawa**	**36.52**	**20**	LR	LR	15 13 15.4	
	comp=Z,24nm,18.1s,baz=190,slow=39						
H11S3	**WAKE ISLAND Hy**	**39.98**	**74**	T	T	15 39 58.7	
	baz=262,slow=74,SNR=34						
H11S1	**WAKE ISLAND Hy**	**39.99**	**74**	T	T	15 40 04.5	
	baz=262,slow=74,SNR=21						
H11S2	**WAKE ISLAND Hy**	**40.00**	**74**	T	T	15 40 02.5	
	baz=262,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	15 40 28.9	
	baz=265,slow=74,SNR=68						
H11N2	**WAKE ISLAND Hy**	**40.32**	**72**	T	T	15 40 28.9	
	baz=265,slow=74,SNR=38						
H11N3	**WAKE ISLAND Hy**	**40.33**	**72**	T	T	15 40 28.9	
	baz=265,slow=74,SNR=68						
SONM	**Songino Array**	**40.91**	**340**	P	**P**	**14 57 13.4**	**+0.7**
	1.4nm,0.9s,baz=156,slow=9.0,SNR=10.0						
SONM				PcP	**PcP**	**14 59 12.6**	**+0.2**
	0.8nm,0.7s,baz=160,slow=3.8,SNR=5.3						
BBOO	**Buckleboo**	**43.95**	**168**	P	**P**	**14 57 38.0**	**+0.7**
	baz=44,SNR=10						
STKA	**Stephens Creek**	**44.51**	**161**	P	**P**	**14 57 42.3**	**+0.4**
	0.6nm,0.4s,baz=348,slow=7.3,SNR=6.7						
STKA	**Stephens Creek**	**44.51**	**161**	P	**P**	**14 57 42.8**	**+0.9**
	baz=44,SNR=5.8						
MKAR	**Makanchi Array**	**51.91**	**323**	P	**P**	**14 58 38.3**	**-0.5**
	2.9nm,0.8s,baz=145,slow=4.8,SNR=30						
MKAR				PcP	**PcP**	**14 59 50.8**	**-0.1**
	1.3nm,0.7s,baz=134,slow=3.5,SNR=5.0						
MKAR				LR	LR	15 23 56.8	
	comp=Z,32nm,18.0s,baz=120,slow=40						
ZALV	**Zalesovo Beam**	**54.51**	**331**	P	**P**	**14 58 56.9**	**-0.8**
	1.6nm,0.6s,baz=112,slow=6.5,SNR=7.5						
SEY	**Seymchan**	**55.76**	**14**	P	**P**	**14 59 09.4**	**+2.8**
	0.9nm,0.7s,baz=193,slow=6.0,SNR=9.2						
ILAR	**Eielson Array**	**79.40**	**26**	P	**P**	**15 01 36.2**	**+0.6**
	0.4nm,0.8s,baz=235,slow=4.7,SNR=5.7						
ARCES	**ARCESS Array B**	**84.08**	**340**	P	**P**	**15 02 01.1**	**+0.9**
	2.9nm,0.9s,baz=81,slow=7.5,SNR=4.1						
BRTR	**Keskin Array B**	**85.41**	**309**	P	**P**	**15 02 06.5**	**-1.2**
	0.5nm,0.7s,baz=80,slow=3.2,SNR=3.6						
FINES	**FINESS Array B**	**85.77**	**332**	P	**P**	**15 02 07.9**	**-0.9**
	1.2nm,0.7s,baz=130,slow=3.0,SNR=4.7						
AKASG	**Malin Array Be**	**86.44**	**321**	P	**P**	**15 02 10.6**	**-1.7**
	0.2nm,0.3s,baz=60,slow=6.2,SNR=3.2						
NOA	**NORSAR Array B**	**92.64**	**334**	LR	LR	15 48 30.0	
	comp=Z,14nm,19.1s,baz=50,slow=38						
YKA	**Yellowknife Ar**	**93.71**	**24**	P	**P**	**15 02 47.4**	**+1.2**
	0.4nm,0.5s,baz=281,slow=3.3,SNR=5.0						
TXAR	**Lajitas Array**	**117.84**	**49**	PKP	**PKPdf**	**15 08 17.7**	**+0.8**
	0.2nm,0.5s,baz=240,slow=1.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**120.15**	**292**	PKP	**PKPdf**	**15 08 20.4**	**-1.1**
	0.4nm,0.5s,baz=57,slow=2.1,SNR=6.7						
PLCA	**Paso Flores**	**146.32**	**157**	PKPbc	**PKPab**	**15 09 11.4**	**-0.2**
	1.7nm,0.7s,baz=260,slow=2.4,SNR=3.8						

MAN 22 14:53:17, 10°.34N×126°.04E, h31km, mb4.7, ML3.6, MS3.6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.78**	**224**	*e*P	Pn	14 53 31.7	-0.1
SCPH				*e*S	Sn	14 53 43.1	+0.6
MSLP	**Maasin**	**1.18**	**260**	*e*P	Pn	14 53 37.2	-0.2
BUTP	**Butuan**	**1.43**	**197**	*e*P	Pn	14 53 41.3	+0.5
OCLP	**Ormoc**	**1.57**	**297**	*e*P	Pb	14 53 44.8	-0.7
CNP	**Catarman**	**2.54**	**328**	*e*P	Pn	14 53 56.3	+0.2
BUKP	**Musuan**	**2.63**	**202**	*e*P	Pn	14 53 58.2	+0.8
GUIM	**Jordan**	**3.41**	**275**	*e*P	Pn	14 54 00.4	-7.7

DJA 22 14:54:04.3±0.3, 1°.S±2°.×12°.0E±°, h10km, M3.7/10, MLv3.7/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.45**	**271**	P	Pg	14 54 12.9	-0.3
PCI				S	Sb	14 54 21.1	-0.2
MPSI	**Mapaga**	**1.30**	**342**	P	Pn	14 54 26.4	-2.1
MPSI				S	Sb	14 54 44.9	-0.7
APSI	**Ampana**	**1.36**	**90**	P	Pn	14 54 28.0	-1.3
APSI				S	Sg	14 54 47.8	-0.3
MRSI	**Marisa**	**2.15**	**50**	P	Pn	14 54 40.3	+0.1
MRSI				S	Sb	14 55 08.7	-1.4
TTSI	**Tana Toraja**	**2.17**	**193**	P	Pn	14 54 40.2	-0.3
TTSI				S	Sb	14 55 09.8	-1.0
LUWI	**Luwuk**	**2.48**	**93**	P	Sn	14 55 10.8	-4.5
LUWI				S	Sb	14 55 13.9	-5.9
SPSI	**Sidrap Palu**	**3.08**	**190**	P	Pn	14 54 52.3	-0.7
BNSI	**Bone**	**3.47**	**183**	P	Pn	14 54 58.6	+0.2
BKSI	**Bulukumba**	**4.39**	**182**	P	Pn	14 55 10.9	-0.1

IDC ***22*** *15:01:55.2±3.2, 30°.78N×137°.83E, h376km±95km, mb2.3/3, mb1 2.6/5, mb1mx2.4/28, mbtmp3.2/5, Error ellipse: s-maj=200.7km s-min=15.7km az=65.0*

JMA ***22*** *15:01:59.2±0.5, 31°.32N×138°.98E, h435km, M3.2*

ISC 22 15:01:55.7±1.0, 31°.00N±0°.08×138°.3E±0°.2, h394km, n10, σ2911/14, mb2.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**4.31**	**31**	P	**Pn**	**15 03 12.3**	**+2.6**
JHU	**Hanno**	**4.92**	**10**	P	**Pn**	**15 03 19.0**	**+2.5**
JHU				*e*S	**S**	**15 04 22.3**	**+0.1**
JRY	**Ryogami san**	**5.04**	**6**	P	**Pn**	**15 03 20.7**	**+3.0**
JCJ	**Chichijima**	**5.19**	**138**	P	**Pn**	**15 03 20.8**	**+1.3**
	2.3nm,0.3s,baz=324,slow=19,SNR=2.4						
JCJ				S	**S**	**15 04 26.4**	**-1.1**
	baz=270,slow=19						
JYT	**Yasato**	**5.46**	**17**	P	**Pn**	**15 03 23.3**	**+1.1**
JYT				*e*S	**S**	**15 04 29.8**	**-2.8**
JAG	**Ashikaga**	**5.51**	**10**	P	**Pn**	**15 03 23.8**	**+1.1**
JAG				*e*S	**S**	**15 04 30.7**	**-2.8**
MJAR	**Matsushiro Arr**	**5.53**	**360**	P	**Pn**	**15 03 24.9**	**+2.0**
	0.4nm,0.3s,baz=170,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**45.37**	**307**	P	**P**	**15 09 35.6**	**-0.9**
	0.1nm,0.5s,baz=76,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**50.78**	**185**	P	**P**	**15 10 16.7**	**-1.0**
	0.2nm,0.3s,baz=1.5,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**54.51**	**185**	P	**P**	**15 10 44.4**	**-0.2**
	0.1nm,0.7s,baz=15,slow=12,SNR=7.5						

IDC 22 15:06:00.2±5.3, 18°.51S×176°.13W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=178.6km s-min=104.1km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.26**	**242**	P	P	15 13 39.3	+0.2
	1.0nm,1.0s,baz=90,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**46.66**	**260**	P	P	15 14 30.5	-0.4
	0.1nm,0.4s,baz=97,slow=7.5,SNR=7.4						
ASAR	**Alice Springs**	**46.72**	**255**	P	P	15 14 31.4	-0.1
	1.2nm,0.7s,baz=92,slow=8.1,SNR=20						
ASAR				PcP	PcP	15 16 04.8	-0.3
	0.2nm,0.7s,baz=107,slow=3.2,SNR=3.2						

BJI ***22*** *15:26:07.6, 3°.59S×153°.30E, h280km, mB4.7/11, mb4.2/18*

ISCJB ***22*** *15:26:23.6±0.5, 3°.19S±0°.04×152°.70E±0°.04, h394km±5km, mb4.2/43, Error ellipse: s-maj=7.0km s-min=5.9km az=164.2*

DJA ***22*** *15:26:23.4±2.4, 3°.S±13°.×15°.3E±1°.8, h428km±19km, M4.5/22, mb4.6/22, mB5.0/5, Mw(mB)4.4/5*

NEIC ***22*** *15:26:24.9±0.3, 3°.13S×152°.65E, mb4.6/20, Error ellipse: s-maj=11.6km s-min=7.8km az=119.0*

IDC ***22*** *15:26:24.1±0.6, 3°.20S×152°.64E, h384km±6km, mb3.6/20, mb1 3.8/21, mb1mx3.7/39, mbtmp4.3/21, Error ellipse: s-maj=11.7km s-min=7.5km az=99.0*

ISC 22 15:26:23.9±0.5, 3°.22S±0°.05×152°.75E±0°.06, h383km±4km, h383km:pP-P, n119, σ1935/141, mb4.3/43, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.13**	**211**	P	**Pn**	**15 27 13.8**	**0.0**
	baz=1.2,SNR=129						
RABL				S	**S**	**15 27 54.5**	**+0.8**
	baz=1.2,SNR=7.1						
MANU	**Manus Island**	**5.51**	**282**	P	**Pn**	**15 27 51.6**	**+1.0**
	baz=5.6,SNR=14						
PMG	**Port Moresby**	**8.28**	**222**	P	**P**	**15 28 23.9**	**+0.9**
	baz=8.4,SNR=12						
PMG	**Port Moresby**	**8.28**	**222**	*e*Pn	**P**	**15 28 23.2**	**+0.2**
HNR	**Honiara**	**9.44**	**131**	*e*P	**Pn**	**15 28 35.0**	**-0.5**
HNR				*e*S	**S**	**15 30 26.0**	**+2.6**
GENI	**Genyem**	**12.58**	**273**	P	**Pn**	**15 29 13.3**	**+1.1**
	53nm,0.9s						
MMPI	**Merauke**	**13.36**	**247**	P	**Pn**	**15 29 20.7**	**-0.5**
	244nm,1.1s						
MMPI	**Merauke**	**13.36**	**247**	P	**Pn**	**15 29 20.5**	**-0.8**
	baz=13,SNR=3.2						
SMPI	**Sarmi**	**14.08**	**275**	P	**P**	**15 29 28.3**	**+1.1**
	102nm,0.8s						
COEN	**Coen**	**14.26**	**221**	P	**Pn**	**15 29 31.8**	**+0.4**
	baz=14,SNR=9.7						
COEN	**Coen**	**14.26**	**221**	*e*P	**Pn**	**15 29 31.2**	**-0.2**
	28nm,0.8s						
CTA	**Charters Tower**	**17.92**	**200**	P	**P**	**15 30 09.7**	**+1.2**
	8.1nm,0.3s,baz=8.0,slow=11,SNR=89						
CTAO	**Charters Tower**	**17.92**	**200**	*e*P	**P**	**15 30 09.5**	**+1.0**
	51nm,0.6s						
FAKI	**Fak Fak**	**20.48**	**270**	P	**P**	**15 30 34.0**	**-0.1**
	121nm,0.7s,1μm						
FAKI	**Fak Fak**	**20.48**	**270**	P	**P**	**15 30 34.1**	**-0.1**
	baz=21,SNR=26						
FAKI	**Fak Fak**	**20.48**	**270**	*e*P	**P**	**15 30 33.8**	**-0.4**
	80nm,0.7s						
QIS	**Mount Isa**	**21.47**	**216**	P	**P**	**15 30 43.8**	**+0.7**
	baz=22,SNR=26						
QIS				S	S	15 34 29.5	+15
	baz=22,SNR=6.1						
SWI	**Sorong**	**21.61**	**276**	P	**P**	**15 30 44.7**	**+0.4**
	57nm,0.7s						
SWI	**Sorong**	**21.61**	**276**	P	**P**	**15 30 44.8**	**+0.4**
	baz=22,SNR=8.0						
EIDS	**Eidsvold**	**22.08**	**184**	P	**P**	**15 30 48.6**	**0.0**
	baz=22,SNR=7.9						
KDU	**Kakadu**	**22.16**	**244**	P	**P**	**15 30 48.9**	**-0.5**
	baz=22,SNR=28						
DZM	**Mont Dzumac**	**22.97**	**146**	P	**P**	**15 30 57.8**	**+1.0**
	62nm,0.7s,baz=330,slow=7.4,SNR=36						
DZM	**Mont Dzumac**	**22.97**	**146**	*e*P	**P**	**15 30 55.6**	**-1.2**
RMQ	**Roma**	**23.45**	**189**	P	**P**	**15 31 01.0**	**+0.1**
	baz=24,SNR=15						
MSAI	**Masohi**	**23.79**	**269**	P	**P**	**15 31 05.9**	**+1.7**
	10nm,0.8s,383nm						
WRAB	**Tennant Creek**	**24.46**	**226**	*e*P	**P**	**15 31 09.8**	**-0.4**
	13nm,0.5s						
WRAB				*e*PcP	**PcP**	**15 34 37.2**	**0.0**
WRA	**Warramunga Arr**	**24.48**	**226**	P	**P**	**15 31 10.4**	**+0.1**
	7.8nm,0.4s,baz=49,slow=9.5,SNR=204						
WRA				PcP	**PcP**	**15 34 37.4**	**+0.2**
	5.0nm,0.7s,baz=48,slow=2.5,SNR=10						
WRA				S	**S**	**15 34 59.0**	**-3.2**
	0.9nm,0.7s,baz=46,slow=14,SNR=3.3						
WRA				ScP	**ScP**	**15 37 38.5**	**-0.5**
	1.8nm,0.8s,baz=50,slow=3.2,SNR=8.0						
QLP	**Quilpie**	**24.62**	**199**	P	**P**	**15 31 11.8**	**+0.3**
	baz=25,SNR=58						
LBMI	**Labuha**	**25.36**	**275**	P	**P**	**15 31 17.4**	**-0.9**
	24nm,1.4s,660nm						
NLAI	**Namlea**	**25.61**	**269**	P	**P**	**15 31 20.9**	**+0.4**
	44nm,0.6s						
KNRA	**Kununurra**	**26.66**	**241**	P	**P**	**15 31 29.4**	**-0.4**
	baz=27,SNR=19						
SANI	**Sanana**	**26.76**	**272**	P	**P**	**15 31 30.2**	**-0.5**
	26nm,0.9s						
ARMA	**Armidale**	**27.07**	**182**	P	**P**	**15 31 34.9**	**+1.6**
	baz=27,SNR=13						
ASAR	**Alice Springs**	**27.30**	**220**	P	**P**	**15 31 34.9**	**-0.5**
	3.4nm,0.5s,baz=51,slow=8.8,SNR=56						
ASAR				PcP	**PcP**	**15 34 44.4**	**+0.6**
	2.4nm,0.7s,baz=58,slow=2.8,SNR=7.6						
ASAR				S	**S**	**15 35 43.9**	**-2.6**
	0.4nm,0.6s,baz=45,slow=13,SNR=3.0						
ASAR				ScP	**ScP**	**15 37 47.8**	**+0.4**
	0.8nm,0.9s,baz=60,slow=2.2,SNR=3.6						
CMSA	**Cobar Meteorol**	**28.94**	**193**	P	**P**	**15 31 49.5**	**-0.2**
	baz=29,SNR=12						
BATI	**Baumata**	**29.69**	**255**	P	**P**	**15 31 58.2**	**+1.6**
	27nm,0.9s						
MGCD	**Mangrove Creek**	**29.87**	**183**	P	**P**	**15 31 59.1**	**+1.3**
	baz=30,SNR=7.0						
LUWI	**Luwuk**	**30.04**	**273**	P	**P**	**15 31 57.7**	**-1.8**
	42nm,1.0s,1μm						
LUWI	**Luwuk**	**30.04**	**273**	P	**P**	**15 31 59.8**	**+0.3**
	baz=30,SNR=3.9						
LUWI	**Luwuk**	**30.04**	**273**	*e*P	**P**	**15 31 57.2**	**-2.3**
	28nm,0.8s						
STKA	**Stephens Creek**	**30.38**	**199**	P	**P**	**15 32 01.9**	**-0.3**
	3.6nm,0.3s,baz=359,slow=8.3,SNR=36						
STKA	**Stephens Creek**	**30.38**	**199**	P	**P**	**15 32 01.3**	**-1.0**
	baz=30,SNR=22						
STKA	**Stephens Creek**	**30.38**	**199**	*e*P	**P**	**15 32 01.3**	**-1.0**
	3.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**30.40**	**239**	P	**P**	**15 32 01.5**	**-1.1**
	baz=30,SNR=32						
FITZ	**Fitzroy Crossi**	**30.40**	**239**	*e*P	**P**	**15 32 01.3**	**-1.3**
	6.6nm,0.6s						
APSI	**Ampana**	**31.17**	**274**	P	**P**	**15 32 09.3**	**-0.1**
	27nm,1.3s						
WRKA	**Warakurna**	**32.01**	**225**	P	**P**	**15 32 15.2**	**-1.4**
	baz=32,SNR=59						
CNB	**Canberra Magne**	**32.09**	**185**	P	**P**	**15 32 18.1**	**+0.9**
	baz=32,SNR=8.1						
BBOO	**Buckleboo**	**33.33**	**206**	P	**P**	**15 32 27.2**	**-0.6**
	baz=34,SNR=13						
MILA	**Mila**	**33.83**	**185**	P	**P**	**15 32 33.2**	**+1.2**
	baz=34,SNR=7.6						
TOO	**Toolangi**	**34.83**	**190**	P	**P**	**15 32 42.1**	**+1.6**
	baz=35,SNR=4.0						
FORT	**Forrest**	**35.99**	**218**	P	**P**	**15 32 49.8**	**-0.5**
	baz=36,SNR=14						
OUZ	**Omahuta**	**37.25**	**151**	*e*P	**P**	**15 33 03.0**	**+2.3**
	52nm,0.9s						
MEEK	**Meekatharra**	**40.13**	**231**	P	**P**	**15 33 24.1**	**-0.5**
	baz=40,SNR=16						
URZ	**Urewera**	**41.37**	**151**	P	**P**	**15 33 35.6**	**+1.2**
	8.2nm,0.3s,baz=251,slow=5.5,SNR=38						
URZ	**Urewera**	**41.37**	**151**	*e*PN	**P**	**15 33 36.1**	**+1.8**
MWZ	**Matawai**	**41.63**	**150**	*e*PN	**P**	**15 33 37.5**	**+0.9**
BKZ	**Black Stump Fm**	**41.79**	**152**	*e*P	**P**	**15 33 38.3**	**+0.5**
	16nm,0.4s						
SNGZ	**Shannon Statio**	**41.89**	**151**	*e*PN	**P**	**15 33 39.4**	**+0.9**
ARHZ	**Aropaoanui**	**42.10**	**152**	*e*PN	**P**	**15 33 41.3**	**+1.1**
NNZ	**Nelson**	**42.13**	**157**	*e*PN	**P**	**15 33 41.7**	**+1.3**
THZ	**Tophouse**	**42.42**	**158**	*e*PN	**P**	**15 33 43.1**	**+0.4**
KSM	**Kuching**	**42.68**	**276**	P	**P**	**15 33 46.0**	**+0.8**
	baz=43,SNR=5.8						
KSM	**Kuching**	**42.68**	**276**	*e*P	**P**	**15 33 44.8**	**-0.4**
	18nm,0.9s						
MORW	**Morawa**	**43.31**	**230**	P	**P**	**15 33 48.7**	**-1.3**
	baz=43,SNR=3.1						
RPZ	**Rata Peaks**	**43.47**	**161**	P	**P**	**15 33 50.8**	**-0.2**
	7.5nm,0.7s,baz=355,slow=3.1,SNR=7.0						
KSRS	**Korea Array**	**46.58**	**333**	P	**P**	**15 34 14.6**	**-0.6**
	1.0nm,0.7s,baz=147,slow=8.2,SNR=4.4						
QIZ	**Qiongzhong**	**47.65**	**299**	P	**P**	**15 34 22.8**	**-0.9**
QIZ				S	**S**	**15 40 51.8**	**+1.7**
QIZ				PMZ			
	21nm,2.2s						
USRK	**Ussuriysk Ar.**	**50.75**	**341**	P	**P**	**15 34 45.8**	**-0.7**
	1.3nm,0.8s,baz=168,slow=8.4,SNR=5.3						
MDJ	**Mudanjiang**	**51.94**	**339**	P	**P**	**15 34 54.6**	**-0.6**
MDJ				PMZ			
	2.0nm,0.8s						
MDJ				PMZ			
	100nm,5.1s						
GYA	**Guiyang**	**53.41**	**306**	*e*P	**P**	**15 35 07.0**	**+0.6**
GYA				pP	**PcP**	**15 36 06.8**	**-1.2**
GYA				sP	sP	15 36 37.3	-30
GYA				S	S	15 42 16.0	+7.2
GYA				PMZ			
	10.0nm,0.9s						
XAN	**Xi'an**	**55.46**	**316**	P	**P**	**15 35 19.9**	**-0.8**
XAN				PMZ			
	1.0nm,0.8s						
PETK	**Petropavlovsk-**	**56.28**	**4**	P	**P**	**15 35 25.8**	**-0.2**
	0.5nm,0.3s,baz=169,slow=8.7,SNR=24						
CMAR	**Chiang Mai Arr**	**57.18**	**294**	P	**P**	**15 35 33.6**	**+0.7**
	2.3nm,0.8s,baz=109,slow=5.0,SNR=19						
CMAR				pP	**pP**	**15 36 52.9**	**-0.3**
	0.6nm,0.9s,baz=117,slow=5

	4.3nm,0.8s						
EGAK				*e*pP	**pP**	15 39 37.9	+3.8
HYT	**Haines Junctio**	**83.07**	**28**	*e*P	**P**	15 38 07.8	+0.2
HYT				*e*pP	**pP**	15 39 33.0	-2.0
DAWY	**Dawson**	**83.38**	**24**	*e*P	**P**	15 38 07.5	-1.5
AAK	**Ala-Archa**	**83.55**	**313**	*e*P	**P**	15 38 10.2	-0.3
	38nm,2.6s						
EKS2	**Erkin-Say**	**84.08**	**313**	*e*P	**P**	15 38 12.7	-0.5
	5.6nm,1.1s						
DLBC	**Dease Lake**	**86.06**	**31**	P	**P**	15 38 22.7	+0.3
	2.2nm,0.8s,baz=292,slow=3.4,SNR=5.7						
INK	**Inuvik**	**87.01**	**21**	P	**P**	15 38 25.2	-1.4
	1.3nm,0.4s,baz=221,slow=2.7,SNR=6.6						
INK	**Inuvik**	**87.01**	**21**	*e*P	**P**	15 38 25.6	-0.9
	62nm,2.9s						
WVOR	**Wild Horse Val**	**91.12**	**48**	*e*P	**P**	15 38 46.2	-0.4
	7.6nm,1.3s						
NVAR	**Mina Array Bea**	**91.15**	**52**	P	**P**	15 38 46.9	0.0
	1.3nm,0.7s,baz=256,slow=6.6,SNR=7.9						
CRY	**Cary Ranch**	**92.19**	**57**	*e*P	**P**	15 38 52.7	+1.1
TPNV	**Topopah Spring**	**92.71**	**53**	*e*P	**P**	15 38 54.1	0.0
	63nm,2.5s						
YKA	**Yellowknife Ar**	**94.06**	**28**	P	**P**	15 38 59.3	-0.1
	0.8nm,0.7s,baz=276,slow=4.9,SNR=7.0						
PDAR	**Pinedale Array**	**97.83**	**47**	P	**P**	15 39 15.8	-1.4
	0.9nm,0.7s,baz=254,slow=3.1,SNR=8.9						
AKASG	**Malin Array Be**	**113.19**	**325**	PKiKP	**PKiKP**	15 44 16.0	-0.6
	0.7nm,0.5s,baz=66,slow=2.3,SNR=6.7						
KOLS	**Kolonicke sedl**	**118.00**	**325**	*e*PKP	**PKPdf**	15 44 26.8	+0.9
CRVS	**Cervenica-Dubn**	**118.47**	**326**	*e*	**PKPdf**	15 44 29.1	+2.2
TKL	**Tuckaleechee C**	**118.74**	**51**	PKP	**PKPdf**	15 44 28.2	+0.4
	1.9nm,0.5s,baz=236,slow=3.6,SNR=3.1						
SCHQ	**Schefferville**	**119.39**	**25**	PKP	**PKPdf**	15 44 28.1	-0.3
	1.5nm,0.7s,baz=24,slow=20,SNR=3.8						
PLCA	**Paso Flores**	**121.06**	**143**	PKP	**PKPdf**	15 44 32.4	+0.2
	2.7nm,0.7s,baz=244,slow=1.6,SNR=5.1						
BRG	**Berggiesshubel**	**121.28**	**331**	*e*PKP	**PKPdf**	15 44 32.9	+0.7
	2.7nm,0.7s						
CLL	**Collm**	**121.45**	**332**	*i* PKPdf	**PKPdf**	15 44 32.9	+0.4
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**122.69**	**329**	PKP	**PKPdf**	15 44 34.7	-0.4
	comp=Z,1.2nm,0.6s,baz=71,slow=2.0,SNR=11						
LPAZ	**La Paz**	**135.19**	**117**	PKP	**PKPdf**	15 45 00.4	0.0
	comp=Z,2.6nm,0.8s,baz=291,slow=2.2,SNR=9.2						
TORD	**Torodi Ar. Bea**	**149.74**	**291**	PKPbc	**PKPbc**	15 45 29.1	-1.2
	comp=Z,4.7nm,0.5s,baz=67,slow=1.8,SNR=46						
TORD				pPKPbc	**pPKPbc**	15 47 03.3	-0.3
	comp=Z,1.6nm,0.9s,baz=56,slow=1.6,SNR=5.6						
BDFB	**Brasilia**	**152.19**	**133**	PKPbc	**PKPbc**	15 45 36.0	0.0
	comp=Z,10nm,0.7s,baz=216,slow=3.4,SNR=14						

GUC 22 15:39:17.9±0.5, 34°.59S×71°.68W, h40km±5km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.55**	**139**	*i* P	Pn	15 39 30.0	+0.6
NICH				*i* S	Sn	15 39 38.8	+1.3
LNV	**Longovilo**	**0.67**	**19**	*e*P	Pn	15 39 29.4	-1.5
LNCH	**Linares**	**1.26**	**177**	*i* P	Pn	15 39 40.5	+1.5
LNCH				*i* S	Sn	15 39 57.7	+3.0
RCDM	**Rinconada Maip**	**1.31**	**34**	*e*P	Pn	15 39 40.4	+0.5
RCDM				*e*S	Sn	15 39 58.2	+2.0
CLCH	**Cerro Calan**	**1.52**	**39**	*i* P	Pn	15 39 44.7	+2.0
CLCH				*i* P	Pn	15 39 45.0	+2.3
CLCH				*i* S	Sn	15 40 05.1	+3.7
CLCH				*i* S	Sn	15 40 05.2	+3.8
CLCH				AML	AML	15 40 11.2	
	comp=N,2μm,0.6s						
YECH	**El Yeso**	**1.61**	**56**	*i* P	Pn	15 39 47.7	+3.4
YECH				*i* S	Sn	15 40 08.8	+4.7
YECH				AML	AML	15 40 13.2	
	comp=N,650nm,0.3s						
PEL	**Peldehue**	**1.66**	**30**	⇓ *i* P	Pn	15 39 46.7	+2.1
PEL				*i* S	Sn	15 40 08.4	+3.6
PEL				AML	AML	15 40 19.9	
	comp=E,1μm,0.6s						

*IDC **22** 15:44:20.0±0.9, 55°.52S×29°.36W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/31, mbtmp3.9/5, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/17, Error ellipse: s-maj=44.1km s-min=22.5km az=82.0*

*ISCJB **22** 15:44:21.8±0.7, 55°.55S±0°.10×29°.5W±0°.2, h28km, mb4.2/7, MS3.4/2, Error ellipse: s-maj=17.9km s-min=13.5km az=162.9*

*NEIC **22** 15:44:21.0±0.5, 55°.49S×29°.46W, h10km, mb4.2/6, Error ellipse: s-maj=17.2km s-min=12.5km az=75.0*

ISC 22 15:44:23.6±0.7, 55°.5S±0°.1×29°.5W±0°.1, h28km, n24, σ1§08/16, mb4.1/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**19.27**	**227**	P	**Pn**	**15 48 46.4**	**-0.4**
SNAA	**Sanae**	**19.74**	**155**	P	**Pn**	**15 48 51.6**	**-0.8**
	0.2nm,0.3s,baz=321,slow=10,SNR=11						
SNAA	**Sanae**	**19.74**	**155**	*e*P	**Pn**	**15 48 51.5**	**-0.9**
	6.6nm,0.7s						
TRQA	**Tornquist**	**27.93**	**295**	P	**P**	**15 50 11.4**	**+0.1**
PLCA	**Paso Flores**	**30.63**	**282**	LR	LR	16 02 09.2	
	comp=Z,32nm,20.4s,baz=114,slow=35						
QSPA	**South Pole Qui**	**34.71**	**180**	P	**P**	**15 51 11.6**	**+0.9**
	2.7nm,0.8s,baz=210,slow=2.6,SNR=14						
CPUP	**Villa Florida**	**35.51**	**314**	LR	LR	16 03 48.5	
	comp=Z,193nm,20.5s,baz=174,slow=33						
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**15 52 52.1**	**+0.5**
	0.8nm,0.8s,baz=180,slow=2.0,SNR=4.7						
VNDA	**Vanda**	**47.02**	**183**	P	**P**	**15 52 50.2**	**-1.4**
	1.4nm,0.9s						
H10S2	**ASCENSION HYDR**	**47.92**	**20**	T	T	16 44 35.5	
	baz=191,slow=74,SNR=7.7						
H10S3	**ASCENSION HYDR**	**47.93**	**20**	T	T	16 44 43.8	
	baz=191,slow=74,SNR=8.5						
H10S1	**ASCENSION HYDR**	**47.94**	**20**	T	T	16 44 43.1	
	baz=191,slow=74,SNR=7.9						
LPAZ	**La Paz**	**49.03**	**307**	P	**P**	**15 53 09.8**	**+1.2**
	1.1nm,0.7s,baz=135,slow=5.7,SNR=3.7						
LPAZ	**La Paz**	**49.03**	**307**	*e*P	**P**	**15 53 09.2**	**+0.7**
	3.4nm,1.1s						
H10N1	**ASCENSION HYDR**	**49.04**	**20**	T	T	16 46 03.1	
	baz=196						
H10N3	**ASCENSION HYDR**	**49.04**	**20**	T	T	16 46 00.9	
	baz=196,slow=74,SNR=13						
H10N2	**ASCENSION HYDR**	**49.06**	**20**	T	T	16 46 01.5	
	baz=196,slow=74,SNR=6.0						
RCBR	**Riachuelo**	**49.84**	**352**	P	**P**	**15 53 11.4**	**-2.6**
	24nm,1.3s						
SAML	**Samuel**	**53.53**	**317**	P	**P**	**15 53 41.9**	**+0.3**
	1.9nm,1.0s						
LSZ	**Lusaka**	**59.42**	**71**	P	**P**	**15 54 24.3**	**+0.6**
	3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.28**	**32**	P	**P**	**15 55 53.1**	**+1.0**
	0.6nm,0.5s,baz=197,slow=6.0,SNR=7.0						
YKA	**Yellowknife Ar**	**134.93**	**319**	PKP	**PKPdf**	16 03 38.6	+0.4
	0.2nm,0.3s,baz=136,slow=2.9,SNR=3.6						
ILAR	**Eielson Array**	**148.81**	**313**	PKPbc	**PKPbc**	16 04 07.5	+0.7
	3.3nm,0.7s,baz=129,slow=1.7,SNR=38						
SONM	**Songino Array**	**152.00**	**87**	PKPbc	**PKPbc**	16 04 15.1	0.0
	0.4nm,0.6s,baz=223,slow=3.6,SNR=2.6						

*ISCJB **22** 15:46:11.5±1.9, 34°.67S±0°.03×71°.96W±0°.07, h15km±12km, mb3.9/9, Error ellipse: s-maj=10.0km s-min=5.0km az=177.4*

*GUC **22** 15:46:11.8±0.6, 34°.70S×71°.91W, h10km±4km, ML4.0*

*IDC **22** 15:46:11.4±0.9, 34°.64S×71°.90W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/35, mbtmp3.8/9, ML4.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.5/15, Error ellipse: s-maj=33.2km s-min=20.0km az=96.0*

*NEIC **22** 15:46:14.5±3.4, 34°.64S×71°.91W, h23km±24km, mb4.2/2, ML4.0(GUC), Error ellipse: s-maj=19.9km s-min=8.4km az=90.0*

NEIC Felt [IV] at Paredones and Pichilemu and [II] at San Fernando and Santa Cruz.

ISC 22 15:46:11.4±1.6, 34°.64S±0°.03×71°.91W±0°.07, h4km±10km, n30, σ0§82/43, mb4.0/8, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.67**	**123**	⇑ *i* P	**Pg**	**15 46 24.5**	**+0.3**
NICH				*i* S	**Sg**	**15 46 33.8**	**+0.9**
TALC	**Talca**	**0.79**	**163**	⇓ *i* P	**Pg**	**15 46 25.9**	**-0.7**
TALC				*i* S	**Sg**	**15 46 36.2**	**-0.6**
LNV	**Longovilo**	**0.80**	**31**	⇓ *i* P	**Pg**	**15 46 27.2**	**+0.5**
LNV				*i* S	**Sb**	**15 46 38.5**	**-0.5**
CACH	**El Canelo**	**1.20**	**65**	⇑ *i* P	**Pg**	**15 46 34.1**	**-0.3**
CACH				*i* S	**Sn**	**15 46 51.3**	**-0.8**
CHCH	**Chadas Angostu**	**1.26**	**56**	⇓ *i* P	**Pb**	**15 46 35.1**	**-0.7**
CHCH				*i* S	**Sg**	**15 46 51.9**	**0.0**
TACH	**Talagante**	**1.27**	**40**	⇓ *i* P	**Pn**	**15 46 35.0**	**-1.1**
RCDM	**Rinconada Maip**	**1.47**	**39**	⇓ *i* P	**Pn**	**15 46 38.3**	**-0.4**
RCDM				*i* S	**Sb**	**15 46 58.4**	**0.0**
PCH	**Pirque**	**1.54**	**49**	*e*P	**Pn**	**15 46 39.5**	**-0.3**
PCH				*i* S	**Sb**	**15 47 00.2**	**-0.4**
SAN	**Santiago**	**1.57**	**42**	*e*P	**Pn**	**15 46 40.1**	**-0.1**
SAN				*i* S	**Sb**	**15 47 01.3**	**-0.1**
CLCH	**Cerro Calan**	**1.69**	**43**	⇓ *i* P	**Pn**	**15 46 42.0**	**+0.2**
CLCH				*i* S	**Sb**	**15 47 04.5**	**-0.2**
CLCH				AML	AML	15 47 14.6	
	comp=N,3μm,0.5s						
CLCH				AML	AML	15 47 19.9	
	comp=N,3μm,0.6s						
PEL	**Peldehue**	**1.81**	**35**	⇓ *i* P	**Pn**	**15 46 43.9**	**+0.5**
PEL				*i* S	**Sb**	**15 47 08.5**	**+0.4**
PEL				AML	AML	15 47 18.8	
	comp=N,2μm,0.3s						
ROCH	**El Roble**	**1.82**	**25**	*e*P	**Pn**	**15 46 44.2**	**+0.4**
ROCH				*i* S	**Sg**	**15 47 09.8**	**-0.2**
ROCH				AML	AML	15 47 17.2	
	comp=N,2μm,0.6s						
CFAA	**Coronel Fontan**	**4.32**	**47**	Pn	**Pn**	**15 47 20.0**	**+2.0**
	comp=N,0.3nm,0.3s,baz=227,slow=13,SNR=14						
CFAA				Lg	Lg	15 48 15.9	
	comp=N,0.5nm,0.3s,baz=304,slow=16,SNR=4.8						
LCO	**Las Campanas**	**5.71**	**11**	*e*Pn	**Pn**	**15 47 37.4**	**+0.2**
LCO				*e*Sn	**Sn**	**15 48 42.3**	**-1.1**
PLCA	**Paso Flores**	**6.18**	**170**	Pn	**Pn**	**15 47 45.6**	**+2.1**
	comp=N,1.3nm,0.3s,baz=334,slow=11,SNR=11						
PLCA				Lg	Lg	15 49 19.8	
	comp=N,0.8nm,0.3s,baz=300,slow=23,SNR=3.0						
PLCA				LR	LR	15 50 29.6	
	comp=N,52nm,18.8s,baz=348,slow=42						
PLCA	**Paso Flores**	**6.18**	**170**	*e*Pn	**Pn**	**15 47 44.5**	**+1.0**
PLCA				*e*Sn	**Sn**	**15 48 54.5**	**-0.1**
PLCA				Lg	Lg	15 49 19.8	
TRQA	**Tornquist**	**8.71**	**116**	*e*Pn	**Pn**	**15 48 18.8**	**+0.6**
LPAZ	**La Paz**	**18.59**	**11**	P	**Pn**	**15 50 31.6**	**+1.2**
	comp=N,0.1nm,0.3s,baz=215,slow=9.6,SNR=3.5						
SIV	**San Ignacio**	**20.97**	**30**	P	**P**	**15 50 55.8**	**+0.1**
	comp=N,1.3nm,0.5s,baz=226,slow=14,SNR=3.7						
PTGA	**Pitinga**	**35.53**	**21**	P	**P**	**15 53 09.7**	**0.0**
	comp=N,2.0nm,0.5s,baz=223,slow=9.2,SNR=4.0						
SDV	**Santo Domingo**	**43.30**	**2**	P	**P**	**15 54 12.9**	**-1.8**
	comp=N,1.9nm,0.4s						
QSPA	**South Pole Qui**	**55.60**	**180**	P	**P**	**15 55 48.5**	**+0.5**
	comp=N,1.4nm,0.9s,baz=173,slow=8.9,SNR=4.9						
VNDA	**Vanda**	**63.50**	**191**	*e*P	**P**	**15 56 41.5**	**-0.7**
	comp=N,1.8nm,0.9s						
TXAR	**Lajitas Array**	**70.34**	**331**	P	**P**	**15 57 27.6**	**+1.2**
	comp=N,0.6nm,0.5s,baz=160,slow=7.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**15 58 45.6**	**+0.6**
	comp=N,0.6nm,0.9s,baz=224,slow=4.0,SNR=2.5						
PDAR	**Pinedale Array**	**84.38**	**333**	P	**P**	**15 58 45.1**	**+0.1**
	comp=N,0.2nm,0.6s,baz=130,slow=8.4,SNR=2.6						
NVAR	**Mina Array Bea**	**84.47**	**325**	P	**P**	**15 58 46.7**	**+1.2**
	comp=N,0.4nm,0.6s,baz=141,slow=5.8,SNR=3.3						
BVAR	**Borovoye Array**	**147.67**	**44**	PKPbc	**PKPbc**	**16 05 56.6**	**-0.1**
	comp=N,0.2nm,0.4s,baz=305,slow=1,SNR=2.2						
KURBB	**Kurchatov Arra**	**153.26**	**44**	PKPbc	**PKPbc**	**16 06 09.5**	**-0.7**
	comp=N,0.1nm,0.5s,baz=286,slow=2.7,SNR=4.5						
KURK	**Kurchatov**	**153.27**	**44**	PKPbc	**PKPbc**	**16 06 09.5**	**-0.7**

*ISCJB **22** 15:55:04.9±0.4, 1°.27N±0°.05×99°.92E±0°.04, h200km, mb3.6/15, Error ellipse: s-maj=7.6km s-min=5.1km az=39.5*

*IDC **22** 15:55:05.6±0.8, 1°.15N×99°.90E, h212km±5km, mb3.6/16, mb1 3.6/17, mb1mx3.4/49, mbtmp4.1/17, Error ellipse: s-maj=21.1km s-min=9.0km az=52.0*

*KLM **22** 15:55:06.9, 1°.15N×99°.99E, h189km, mb4.1, ML3.5, MS4.7*

*DJA **22** 15:55:08.2±0.5, 1°.4N±4°×10°.0E±°, h192km±8km, M3.7/11, mb3.4/1, MLv3.9/11*

ISC 22 15:55:05.1±0.5, 1°.20N±0°.05×99°.93E±0°.05, h200km, n50, σ1§69/55, mb3.8/15, 8C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.53**	**221**	P	**Pn**	**15 55 35.0**	**+2.6**
BKNI	**Bangkinang**	**1.41**	**128**	P	**Pn**	**15 55 41.0**	**+3.0**
BKNI				S	**Sn**	**15 56 06.3**	**+2.7**
PSI	**Prapat**	**1.88**	**328**	P	**Pn**	**15 55 44.5**	**+1.9**
	11nm,0.3s,baz=148,slow=8.3,SNR=28						
PSI				S	**Sn**	**15 56 12.9**	**+1.1**
	12nm,0.3s,baz=66,slow=20,SNR=24						
PDSI	**Padang**	**2.16**	**166**	P	**Pn**	**15 55 46.7**	**+1.3**
PDSI				S	**Sn**	**15 56 18.2**	**+1.3**
GSI	**Gunungsitoli**	**2.35**	**273**	P	**Pn**	**15 55 49.9**	**+2.5**
GSI				S	**Sn**	**15 56 21.8**	**+1.5**
FRIM	**Kepong**	**2.64**	**40**	⇑ P	**Pn**	**15 55 52.5**	**+1.9**
KCSI	**Kotacane, Aceh**	**3.16**	**317**	P	**Pn**	**15 55 58.9**	**+2.2**
IPM	**Ipoh**	**3.44**	**19**	⇑ P	**Pn**	**15 56 02.1**	**+2.1**
KGM	**Kluang**	**3.48**	**76**	⇑ P	**Pn**	**15 56 02.7**	**+2.1**
MYKOM	**Kota Tinggi**	**3.96**	**81**	⇓ P	**Pn**	**15 56 08.4**	**+2.0**
KULM	**Kulim**	**4.13**	**10**	⇓ P	**Pn**	**15 56 10.3**	**+1.8**
LHMI	**Lhok Sumawe**	**4.99**	**323**	P	**Pn**	**15 56 21.9**	**+2.5**
KTGM	**Kuala Trenggan**	**5.20**	**38**	⇑ P	**Pn**	**15 56 23.4**	**+1.3**
BSI	**Banda Aceh**	**6.29**	**313**	P	**Pn**	**15 56 39.0**	**+2.8**
SBUM	**Sibu**	**12.35**	**84**	⇑ P	**Pn**	**15 57 56.6**	**+2.0**
CMAR	**Chiang Mai Arr**	**17.18**	**357**	P	**P**	**15 58 52.0**	**0.0**
	0.3nm,0.3s,baz=191,slow=11,SNR=9.5						
KDM	**Kudat**	**17.79**	**71**	⇑ P	**P**	**15 59 00.7**	**+1.9**
SDKM	**Sandakan**	**17.79**	**75**	⇑ P	**P**	**15 59 00.8**	**+1.9**
TSM	**Tawau**	**18.18**	**80**	⇑ P	**P**	**15 59 04.8**	**+1.7**
KAPI	**Kappang**	**20.74**	**107**	P	**P**	**15 59 31.8**	**+1.2**
	4.9nm,0.3s						
ODAN	**Odare**	**28.22**	**336**	*e*P	**P**	**16 00 39.6**	**-0.1**
	14nm,0.4s						
TAPN	**Taplejung**	**28.52**	**337**	*e*P	**P**	**16 00 43.9**	**+1.4**
	6.2nm,0.4s						
RAMN	**Ramite**	**28.63**	**335**	*e*P	**P**	**16 00 44.8**	**+1.4**
	5.0nm,0.5s						
H08S2	**Diego Garcia H**	**28.74**	**252**	T	T	16 28 45.4	
	baz=72,slow=74,SNR=16						
H08S3	**Diego Garcia H**	**28.74**	**252**	T	T	16 28 46.0	
	baz=72,slow=74,SNR=18						
H08S1	**Diego Garcia H**	**28.76**	**252**	T	T	16 28 45.5	
	baz=72,slow=74,SNR=22						
JIRN	**Jiri**	**29.42**	**335**	*e*P	**P**	**16 00 51.4**	**+0.9**
	7.3nm,0.4s						
PKI	**Pulchoki**	**29.69**	**333**	*e*P	**P**	**16 00 52.8**	**0.0**
	2.3nm,0.3s						
PKIN	**Phulchoki**	**29.70**	**333**	*e*P	**P**	**16 00 53.2**	**+0.3**
	3.5nm,0.5s						
GUN	**Gumba**	**29.77**	**334**	*e*P	**P**	**16 00 54.9**	**+1.3**
	21nm,0.4s						
DMN	**Daman**	**29.86**	**333**	*e*P	**P**	**16 00 54.4**	**+0.1**
	1.9nm,0.2s						
KKN	**Kakani**	**29.93**	**333**	*e*P	**P**	**16 00 55.6**	**+0.7**
	5.1nm,0.4s						
DANN	**Dangsing**	**31.11**	**332**	*e*P	**P**	**16 01 04.9**	**-0.4**
	7.6nm,0.3s						
WRA	**Warramunga Arr**	**39.74**	**124**	P	**P**	**16 02 17.7**	**-1.0**
	2.6nm,0.5s,baz=304,slow=9.1,SNR=47						
WRA				PcP	**PcP**	**16 04 20.1**	**-1.0**
	0.2nm,0.4s,baz=316,slow=2.6,SNR=5.4						
WRA				ScP	**ScP**	**16 07 47.2**	**-3.8**
	0.4nm,0.8s,baz=316,slow=3.4,SNR=6.0						
ASAR	**Alice Springs**	**41.24**	**129**	P	**P**	**16 02 29.4**	**-1.5**
	0.2nm,0.4s,baz=309,slow=7.7,SNR=16						
ASAR				PcP	**PcP**	**16 04 25.1**	**-0.9**
	0.2nm,0.7s,baz=324,slow=3.4,SNR=4.8						
ASAR				ScP	**ScP**	**16 07 53.0**	**-4.0**
	0.4nm,0.7s,baz=314,slow=4.3,SNR=13						
KSRS	**Korea Array**	**44.35**	**32**	P	**P**	**16 02 54.7**	**-0.8**
	1.6nm,0.6s,baz=222,slow=8.0,SNR=9.6						
SONM	**Songino Array**	**46.79**	**6**	P	**P**	**16 03 14.9**	**+0.1**
	0.6nm,0.4s,baz=188,slow=11,SNR=7.6						
SONM				PcP	**PcP**	**16 04 44.0**	**-0.6**
	0.6nm,0.4s,baz=186,slow=3.2,SNR=5.5						
MKAR	**Makanchi Array**	**47.95**	**344**	P	**P**	**16 03 24.0**	**+0.4**
	1.8nm,0.3s,baz=152,slow=9.1,SNR=88						
STKA	**Stephens Creek**	**51.35**	**134**	P	**P**	**16 03 48.9**	**-0.6**
	0.7nm,0.8s,baz=296,slow=6.1,SNR=4.9						
USRK	**Ussuriysk Ar.**	**51.40**	**29**	P	**P**	**16 03 49.1**	**-0.5**
	1.8nm,0.6s,baz=221,slow=2.4,SNR=9.1						
KURBB	**Kurchatov Arra**	**52.49**	**343**	P	**P**	**16 03 57.5**	**0.0**
	1.1nm,0.6s,baz=161,slow=6.9,SNR=16						
ZALV	**Zalesovo Beam**	**54.03**	**349**	P	**P**	**16 04 08.6**	**-0.1**
	4.9nm,0.3s,baz=173,slow=7.2,SNR=33						
BVAR	**Borovoye Array**	**57.18**	**339**	P	**P**	**16 04 30.6**	**-0.5**
	1.1nm,0.4s,baz=146,slow=9.2,SNR=8.6						
PETK	**Petropavlovsk-**	**70.24**	**33**	P	**P**	**16 05 55.3**	**-1.1**
	1.7nm,0.8s,baz=194,slow=5.5,SNR=3.1						
BRTR	**Keskin Array B**	**71.14**	**312**	P	**P**	**16 06 01.2**	**-1.1**
	0.3nm,0.6s,baz=123,slow=7.1,SNR=2.6						
FINES	**FINESS Array B**	**81.27**	**332**	P	**P**	**16 06 58.5**	**-0.2**
	1.6nm,0.8s,baz=120,slow=8.2,SNR=4.6						
ARCES	**ARCESS Array B**	**83.46**	**340**	P	**P**	**16 07 09.2**	**-0.7**
	0.6nm,0.4s,baz=93,slow=4.2,SNR=14						
SPITS	**Spitsbergen Ar**	**87.51**	**348**	P	**P**	**16 07 27.9**	**-1.9**
	9.3nm,1.1s,baz=86,slow=8.8,SNR=5.0						
TXAR	**Lajitas Array**	**142.18**	**35**	PKhKP	PKPpre	16 14 00.3	
	0.1nm,0.3s,baz=252,slow=2.5,SNR=3.6						
CPUP	**Villa Florida**	**146.79**	**219**	PKPbc	**PKPdf**	**16 14 23.4**	**+1.1**
	0.6nm,1.0s,baz=59,slow=5.9,SNR=3.3						

WEL 22 16:04:21.9±0.3, 36°.90S×176°.72E, h239km±3km, ML3.9/8, 12C-3D, Error ellipse: s-maj=5.4km s-min=5.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.95**	**188**	P	Pn	16 04 56.5	+1.1
HAZ	**Te Kaha**	**1.20**	**135**	⇑ P	Pn	16 04 56.9	0.0
HAZ				S	S	16 05 24.1	-0.4
URZ	**Urewera**	**1.39**	**167**	⇑ P	Pn	16 04 58.1	-0.2
URZ				S	S	16 05 26.6	-0.4
MXZ	**Matakaoa Point**	**1.43**	**118**	⇑ P	Pn	16 04 58.7	+0.1
MXZ				S	S	16 05 27.8	+0.4
MWZ	**Matawai**	**1.57**	**156**	⇓ P	Pn	16 04 59.6	-0.1
MWZ				AML	AML	16 05 33.3	
MWZ				AML	AML	16 05 34.0	
PRRZ	**Plateau Road**	**1.61**	**189**	P	Pn	16 05 01.1	+1.0
TWGZ	**Tauwhareparae**	**1.62**	**142**	P	Pn	16 05 00.7	+0.5
WMGZ	**Waiomatatini S**	**1.63**	**125**	⇑ P	Pn	16 05 00.5	+0.3
RAGZ	**Rawiri**	**1.68**	**161**	P	Pn	16 05 00.9	+0.2
PUZ	**Puketiti**	**1.69**	**134**	⇑ P	Pn	16 05 00.7	0.0
PUZ				S	S	16 05 30.7	-0.6
TLZ	**Tolley Road**	**1.71**	**213**	⇑ P	Pn	16 05 02.5	+1.6
TKGZ	**Te Karaka**	**1.77**	**150**	P	Pn	16 05 01.4	0.0
SNGZ	**Shannon Statio**	**1.94**	**166**	P	Pn	16 05 03.0	+0.1
CNGZ	**Carnagh Statio**	**1.97**	**144**	P	Pn	16 05 03.5	+0.3
RIGZ	**Rimuhau**	**1.98**	**156**	⇑ P	Pn	16 05 03.5	+0.2
RAHZ	**Arahi**	**2.03**	**172**	P	Pn	16 05 04.0	+0.3
HATZ	**Hinemaiaia**	**2.05**	**194**	P	Pn	16 05 03.9	0.0
RITZ	**Rihia Road**	**2.18**	**198**	P	Pn	16 05 05.7	+0.5
NMHZ	**Naumai**	**2.19**	**178**	P	Pn	16 05 05.7	+0.3
WHHZ	**Waihua**	**2.21**	**170**	P	Pn	16 05 05.5	+0.1
PRGZ	**Paritu Road**	**2.22**	**156**	P	Pn	16 05 05.0	-0.6
KNZ	**Kokohu**	**2.25**	**161**	P	Pn	16 05 05.3	-0.5
BKZ	**Black Stump Fm**	**2.27**	**184**	⇑ P	Pn	16 05 05.3	-0.8
BKZ				S	S	16 05 39.4	-1.5
BKZ				AML	AML	16 05 42.1	
KRVZ	**Karewarewa**	**2.35**	**201**	P	Pn	16 05 07.1	+0.1
ARHZ	**Aropaoanui**	**2.37**	**175**	⇑ P	Pn	16 05 06.9	-0.1
OTVZ	**Oturere**	**2.41**	**200**	⇓ P	Pn	16 05 08.0	+0.4
MHGZ	**Mahia Peninsul**	**2.44**	**158**	P	Pn	16 05 07.2	-0.5
NGZ	**Ngauruhoe**	**2.44**	**201**	P	Pn

KECS				*e*Sn	**Sn**	**16 25 21.4**	**-1.8**
KECS	**Kecovo**	**1.86**	**150**	*e*PN	**Pn**	**16 24 58.5**	**-0.5**
KECS				*e*SN	**Sn**	**16 25 21.4**	**-1.8**
CRVS	**Cervenica-Dubn**	**1.96**	**127**	*e*Pn	**Pb**	**16 25 02.1**	**-0.4**
CRVS				*e*Sn	**Sn**	**16 25 27.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**1.96**	**127**	*e*PN	**Pb**	**16 25 02.0**	**-0.4**
CRVS				*e*SN	**Sn**	**16 25 27.0**	**+1.3**
UPC	**Upice**	**2.01**	**283**	*e*SG	**Sg**	**16 25 30.2**	**-0.1**
	comp=Z,2.3nm,0.4s						
UPC	**Upice**	**2.01**	**283**	Sg	**Sg**	**16 25 30.2**	**-0.1**
	2.3nm,0.4s						
KOLS	**Kolonicke sedl**	**2.39**	**118**	*e*SN	**Sn**	**16 25 37.2**	**+1.1**
KOLS	**Kolonicke sedl**	**2.39**	**118**	*e*	Pg	16 25 16.7	+5.2
KOLS	**Kolonicke sedl**	**2.39**	**118**	*e*SN	**Sn**	**16 25 37.2**	**+1.1**
GOPC	**GO Pecny, Ondr**	**2.78**	**268**	*e*SG	**Sg**	**16 25 54.5**	**-0.5**
	comp=Z,2.2nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.78**	**268**	Sg	**Sg**	**16 25 54.5**	**-0.5**
	2.2nm,0.3s						
PVCC	**Panska Ves**	**2.92**	**280**	*e*SG	**Sg**	**16 25 59.1**	**-0.6**
	comp=Z,4.7nm,0.1s						
PVCC	**Panska Ves**	**2.92**	**280**	Sg	**Sg**	**16 25 59.1**	**-0.6**
	4.7nm,0.1s						
PRU	**Pruhonice**	**2.93**	**269**	*e*SG	**Sg**	**16 25 59.3**	**-0.6**
	comp=Z,1.9nm,0.2s						
PRU	**Pruhonice**	**2.93**	**269**	Sg	**Sg**	**16 25 59.3**	**-0.6**
	1.9nm,0.2s						

ATH ***22*** *16:26:33.8, 41°.29N×20°.19E, h5km±4km, MD3.6/17*
TIR ***22*** *16:26:34.1±1.9, 41°.15N×20°.19E, h14km±34km, ML3.0*
SKO ***22*** *16:26:35.4, 41°.14N×20°.18E, h1km*
THE ***22*** *16:26:35.3, 41°.21N×20°.22E, h0km±2km, ML2.6/4, Error ellipse: s-maj=2.6km s-min=0.8km az=37.0*
BEO ***22*** *16:26:35.5±0.6, 41°.12N×20°.16E, h0km, ML2.5/6*
CSEM ***22*** *16:26:36.0±0.1, 41°.20N×20°.22E, h2km, ML2.6, Error ellipse: s-maj=4.7km s-min=2.6km az=64.0*
PDG ***22*** *16:26:36.9±0.7, 41°.27N×20°.13E, h9km±1km, ML2.6/10, Error ellipse: s-maj=1.1km s-min=1.5km az=0.0*

ISC 22 16:26:34.4±0.8, **41°.19N**±0°.01×**20°.21E**±0°.02, **h10**km±7km, **n107**, σ1§32/164, **4C-8D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.30**	**302**	*i* PG	**Pg**	**16 26 40.4**	**-0.1**
TIR				*i* SG	**Sg**	**16 26 45.3**	**+0.7**
TIR	**Tirane**	**0.30**	**302**	P	**Pg**	**16 26 40.7**	**+0.2**
TIR				S	**Sg**	**16 26 45.3**	**+0.7**
TIR	**Tirane**	**0.30**	**302**	*e*Pg	**Pg**	**16 26 40.9**	**+0.4**
TIR	**Tirane**	**0.30**	**302**	*e*Pg	**Pg**	**16 26 40.9**	**+0.4**
TIR				S	**Sg**	**16 26 45.3**	**+0.7**
OHR	**Ohrid**	**0.45**	**99**	*i* Pg	**Pg**	**16 26 43.1**	**-0.2**
OHR				*i* Sg	**Sb**	**16 26 50.7**	**-0.7**
OHR				*i* Lg	Lg	16 26 51.3	
	comp=N,580nm,0.5s						
OHR				*i* Lg	Lg	16 26 51.8	
	comp=E,610nm,0.5s						
OHR	**Ohrid**	**0.45**	**99**	*i* Pg	**Pg**	**16 26 43.1**	**-0.2**
OHR				*i* Lg	Lg	16 26 51.8	
	comp=E,610nm,0.5s						
PHP	**Peshkopia**	**0.53**	**19**	*i* PG	**Pg**	**16 26 44.9**	**+0.2**
PHP				*i* SG	**Sb**	**16 26 53.5**	**-0.1**
PHP	**Peshkopia**	**0.53**	**19**	P	**Pg**	**16 26 44.8**	**+0.1**
PHP				S	**Sg**	**16 26 52.9**	**+1.2**
PHP	**Peshkopia**	**0.53**	**19**	*i* Pg	**Pg**	**16 26 44.9**	**+0.2**
	SNR=99						
PHP				S	**Sg**	**16 26 52.9**	**+1.2**
PHP				*i* Sg	**Sb**	**16 26 53.5**	**-0.1**
	SNR=99						
KBN	**Korca**	**0.71**	**142**	*i* PG	**Pg**	**16 26 47.6**	**-0.5**
KBN				*i* SG	**Sn**	**16 27 01.2**	**-0.5**
KBN	**Korca**	**0.71**	**142**	P	**Pn**	**16 26 49.0**	**-1.7**
KBN				S	**Sn**	**16 27 00.4**	**-1.4**
KBN	**Korca**	**0.71**	**142**	*i* Pg	**Pg**	**16 26 47.7**	**-0.5**
	SNR=96						
KBN	**Korca**	**0.71**	**142**	P	**Pn**	**16 26 49.0**	**-1.7**
KBN				S	**Sn**	**16 27 00.4**	**-1.4**
KBN				*i* Sg	**Sn**	**16 27 01.2**	**-0.5**
	SNR=96						
PUK	**Puka**	**0.89**	**345**	*i* PG	**Pb**	**16 26 51.6**	**-0.4**
PUK				*i* SG	**Sn**	**16 27 06.0**	**-0.2**
PUK	**Puka**	**0.89**	**345**	*i* Pg	**Pb**	**16 26 51.6**	**-0.4**
	SNR=95						
PUK				*i* Sg	**Sn**	**16 27 06.0**	**-0.2**
	SNR=95						
FNA	**Florina**	**0.97**	**114**	*i* Pg	**Pn**	**16 26 53.3**	**-0.9**
FNA				*i* SG	**Sn**	**16 27 08.0**	**-0.1**
FNA	**Florina**	**0.97**	**114**	P	**Pg**	**16 26 53.1**	**0.0**
FNA				S	**Sn**	**16 27 07.7**	**-0.4**
FNA	**Florina**	**0.97**	**114**	*e*PN	**Pg**	**16 26 53.2**	**0.0**
FNA				*e*SN	**Sn**	**16 27 08.9**	**+0.8**
FNA	**Florina**	**0.97**	**114**	*e*PG	**Pg**	**16 26 53.2**	**+0.1**
FNA				*e*SB	**Sn**	**16 27 08.4**	**+0.3**
FNA	**Florina**	**0.97**	**114**	*i* Pg	**Pn**	**16 26 53.3**	**-0.9**
	SNR=95						
FNA				S	**Sn**	**16 27 07.7**	**-0.4**
FNA				*i* Sg	**Sn**	**16 27 08.0**	**-0.1**
	SNR=95						
FNA				*e*Sb	**Sn**	**16 27 08.4**	**+0.3**
FNA				*e*Sn	Sn	16 27 08.9	+0.7
NEST	**Nestorio**	**1.00**	**140**	P	**Pn**	**16 26 54.1**	**-0.6**
NEST				S	**Sn**	**16 27 09.2**	**+0.3**
NEST	**Nestorio**	**1.00**	**140**	*e*PN	**Pn**	**16 26 54.4**	**-0.3**
NEST				*e*SB	**Sn**	**16 27 09.4**	**+0.5**
NEST	**Nestorio**	**1.00**	**140**	P	**Pn**	**16 26 54.1**	**-0.6**
NEST	**Nestorio**	**1.00**	**140**	*e*Pn	**Pn**	**16 26 54.4**	**-0.3**
NEST				S	**Sn**	**16 27 09.2**	**+0.3**
ULC	**Ulcinj**	**1.06**	**317**	⇑ *i*Pg	**Pb**	**16 26 54.1**	**-0.9**
ULC				*e*Sg	**Sn**	**16 27 10.4**	**0.0**
SKO	**Skopje**	**1.21**	**49**	*e*Pg	**Pg**	**16 26 58.3**	**+0.6**
SKO				*e*Sg	**Sg**	**16 27 16.1**	**+2.6**
SKO	**Skopje**	**1.21**	**49**	*i* Pg	**Pb**	**16 26 57.6**	**+0.1**
SKO				*i* Sg	**Sg**	**16 27 14.8**	**+1.3**
SKO				*i* Lg	Lg	16 27 15.7	
	comp=E,150nm,0.8s						
SKO				*i* Lg	Lg	16 27 16.4	
	comp=N,192nm,0.8s						
SKO	**Skopje**	**1.21**	**49**	*e*Pg	**Pg**	**16 26 58.3**	**+0.6**
SKO				*e*Sg	**Sg**	**16 27 16.1**	**+2.6**
SKO				*i* Lg	Lg	16 27 16.4	
	comp=N,192nm,0.8s						
DRME	**Dracevica, Mon**	**1.26**	**323**	⇓ *i*Pg	**Pn**	**16 26 57.5**	**-0.7**
DRME				*e*Sg	**Sg**	**16 27 17.4**	**+2.4**
SRN	**Sarande**	**1.31**	**187**	P	**Pg**	**16 27 01.3**	**+1.7**
SRN				S	**Sg**	**16 27 19.9**	**+3.2**
SRN	**Sarande**	**1.31**	**187**	P	**Pg**	**16 27 01.3**	**+1.7**
SRN				S	**Sg**	**16 27 19.9**	**+3.2**
PVY	**Plav**	**1.42**	**353**	⇓ *i*Pg	**Pg**	**16 27 02.0**	**+0.3**
PVY				*e*Sg	**Sg**	**16 27 22.3**	**+2.1**
PVY	**Plav**	**1.42**	**353**	⇓ *i*Pg	**Pg**	**16 27 02.0**	**+0.3**
PVY				*e*Sg	**Sg**	**16 27 22.3**	**+2.1**
PDG	**Podgorica**	**1.43**	**331**	*e*Pg	**Pb**	**16 27 01.1**	**-0.2**
PDG				*e*Sg	**Sg**	**16 27 23.1**	**+2.6**
PDG	**Podgorica**	**1.43**	**331**	⇑ *i*Pg	**Pb**	**16 27 01.2**	**-0.1**
PDG				*e*Sg	**Sg**	**16 27 22.6**	**+2.1**
TTG	**Podgorica**	**1.43**	**331**	⇑ *i*Pg	**Pb**	**16 27 01.2**	**-0.1**
TTG				*e*Sg	**Sg**	**16 27 22.6**	**+2.1**
KZN	**Kozani**	**1.48**	**126**	*e*PB	**Pg**	**16 27 03.5**	**+0.7**
KZN	**Kozani**	**1.48**	**126**	*e*Pb	**Pg**	**16 27 03.5**	**+0.7**
BUM	**Brajici-Budva**	**1.49**	**319**	⇓ *i*Pg	**Pb**	**16 27 01.9**	**-0.3**
BUM				*e*Sg	**Sg**	**16 27 24.6**	**+2.3**
KEK	**Kerkira**	**1.50**	**192**	P	**Pg**	**16 27 03.5**	**+0.2**
KEK				S	**Sg**	**16 27 23.6**	**+0.8**
KEK	**Kerkira**	**1.50**	**192**	*e*PB	**Pg**	**16 27 04.7**	**+1.4**
KEK				*e*SB	**Sg**	**16 27 26.4**	**+3.6**
KEK	**Kerkira**	**1.50**	**192**	P	**Pg**	**16 27 03.5**	**+0.2**
KEK	**Kerkira**	**1.50**	**192**	*e*Pb	**Pg**	**16 27 04.7**	**+1.4**
KEK				S	**Sg**	**16 27 23.6**	**+0.8**
KEK				*e*Sb	**Sg**	**16 27 26.4**	**+3.6**
JAN	**Janina**	**1.60**	**162**	*e*PN	**Pg**	**16 27 06.8**	**+1.6**
JAN				*e*SN	**Sg**	**16 27 30.1**	**+4.1**
JAN	**Janina**	**1.60**	**162**	*e*Pn	**Pg**	**16 27 06.8**	**+1.6**
JAN				*e*Sn	**Sg**	**16 27 30.1**	**+4.1**
IGT	**Igoumenitsa**	**1.65**	**177**	P	**Pg**	**16 27 05.6**	**-0.5**
IGT				S	**Sg**	**16 27 28.8**	**+1.2**
IGT	**Igoumenitsa**	**1.65**	**177**	*e*PN	**Pg**	**16 27 06.3**	**+0.1**
IGT	**Igoumenitsa**	**1.65**	**177**	*e*PG	**Pg**	**16 27 06.2**	**+0.1**
IGT	**Igoumenitsa**	**1.65**	**177**	P	**Pg**	**16 27 05.6**	**-0.5**
IGT	**Igoumenitsa**	**1.65**	**177**	*e*Pn	**Pg**	**16 27 06.3**	**+0.1**
IGT				S	**Sg**	**16 27 28.8**	**+1.2**
BEY	**Berane**	**1.70**	**352**	*e*Pn	**Pb**	**16 27 06.0**	**+0.1**
BEY				*e*Sn	**Sg**	**16 27 29.9**	**+0.7**
IVA	**Berane**	**1.70**	**352**	*e*Pn	**Pb**	**16 27 06.0**	**+0.1**
IVA				*e*Sn	**Sg**	**16 27 29.9**	**+0.7**
VAY	**Valandovo**	**1.79**	**85**	*i* Pn	**Pg**	**16 27 08.2**	**-0.5**
VAY				*i* Sg	**Sg**	**16 27 33.5**	**+1.7**
VAY				*i* Lg	Lg	16 27 34.0	
	comp=N,42nm,0.7s						
VAY				*i* Lg	Lg	16 27 38.6	
	comp=E,34nm,0.6s						
VAY	**Valandovo**	**1.79**	**85**	*i* Pn	**Pg**	**16 27 08.2**	**-0.5**
VAY				*i* Sg	**Sg**	**16 27 33.5**	**+1.7**
VAY				*i* Lg	Lg	16 27 38.6	
	comp=E,34nm,0.6s						
HCY	**Herceg Novi**	**1.80**	**315**	*e*Pn	**Pb**	**16 27 06.8**	**-0.7**
HCY				*e*Sn	**Sg**	**16 27 32.0**	**-0.2**
NKME	**Niksic**	**1.84**	**330**	*e*Pn	**Pb**	**16 27 07.4**	**-0.8**
NKME				*e*Sn	**Sg**	**16 27 33.4**	**-0.1**
NKY	**Niksic**	**1.86**	**331**	⇓ *i*Pn	**Pb**	**16 27 08.6**	**0.0**
NKY				*e*Sn	**Sg**	**16 27 34.2**	**-0.1**
NKY	**Niksic**	**1.86**	**331**	⇓ *i*Pn	**Pb**	**16 27 08.6**	**0.0**
BARS	**Barje**	**2.02**	**36**	*e*Pn	**Pb**	**16 27 11.9**	**+0.6**
BARS				*e*Sg	**Sg**	**16 27 41.8**	**+2.4**
KNT	**Kendrikon**	**2.03**	**90**	*e*PN	**Pb**	**16 27 10.2**	**-1.3**
KNT	**Kendrikon**	**2.03**	**90**	*e*PG	**Pb**	**16 27 11.9**	**+0.4**
KNT	**Kendrikon**	**2.03**	**90**	*e*Pn	**Pb**	**16 27 10.2**	**-1.3**
KNT	**Kendrikon**	**2.03**	**90**	*e*Pg	**Pb**	**16 27 11.9**	**+0.4**
SJES	**Sjenica**	**2.08**	**355**	*e*Pn	**Pb**	**16 27 12.8**	**+0.4**
SJES				*e*Sg	**Sg**	**16 27 43.7**	**+2.4**
BRY	**Bratogost**	**2.12**	**325**	⇑ *i*Pn	**Pb**	**16 27 11.7**	**-1.3**
BRY				*e*Sn	**Sb**	**16 27 40.2**	**+0.7**
THL	**Klokotos Trika**	**2.13**	**139**	*e*PN	**Pg**	**16 27 14.1**	**-1.1**
THL	**Klokotos Trika**	**2.13**	**139**	*e*Pn	**Pg**	**16 27 14.1**	**-1.1**
SELS	**Selova**	**2.14**	**18**	*e*Pn	**Pb**	**16 27 12.8**	**-0.6**
DSL	**Palaion Diasel**	**2.16**	**161**	*e*PN	**Pg**	**16 27 14.4**	**-1.4**
DSL	**Palaion Diasel**	**2.16**	**161**	*e*Pn	**Pg**	**16 27 14.4**	**-1.4**
UPM	**Unac-Piva**	**2.24**	**335**	⇓ *i*Pn	**Pb**	**16 27 14.5**	**-0.6**
UPM				*e*Sn	**Sb**	**16 27 43.1**	**+0.2**
UPM	**Unac-Piva**	**2.24**	**335**	⇓ *i*Pn	**Pb**	**16 27 14.5**	**-0.6**
UPM				*e*Sn	**Sb**	**16 27 43.1**	**+0.2**
HORT	**Hortiatis**	**2.27**	**104**	*e*PN	**Pb**	**16 27 13.9**	**-1.6**
HORT	**Hortiatis**	**2.27**	**104**	*e*PN	**Pb**	**16 27 14.9**	**-0.7**
HORT	**Hortiatis**	**2.27**	**104**	*e*Pn	**Pb**	**16 27 14.9**	**-0.7**
IVAS	**Ivanjica**	**2.39**	**359**	*e*Pn	**Pb**	**16 27 17.2**	**-0.4**
IVAS	**Ivanjica**	**2.39**	**359**	*e*Pn	**Pb**	**16 27 17.2**	**-0.4**
STON	**Ston**	**2.52**	**313**	*e*PN	**Pb**	**16 27 17.0**	**-2.7**
STON				Sn	**Sn**	**16 27 46.3**	**+0.2**
STON	**Ston**	**2.52**	**313**	*e*Pn	**Pb**	**16 27 18.4**	**-1.3**
STON				*e*Sg	**Sg**	**16 27 55.5**	**+0.3**
STON	**Ston**	**2.52**	**313**	*e*Pn	**Pb**	**16 27 18.4**	**-1.3**
STON				Sn	**Sn**	**16 27 46.3**	**+0.2**
STON				*e*Sg	**Sg**	**16 27 55.5**	**+0.3**
EVR	**Evrytania**	**2.58**	**151**	*e*PN	**Pb**	**16 27 21.3**	**+0.5**
EVR	**Evrytania**	**2.58**	**151**	*e*Pn	**Pb**	**16 27 21.3**	**+0.5**
PLG	**Polygyros**	**2.59**	**107**	*e*PN	**Pb**	**16 27 20.1**	**-0.9**
PLG	**Polygyros**	**2.59**	**107**	*e*Pn	**Pb**	**16 27 20.1**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.62**	**145**	*e*PN	**Pb**	**16 27 21.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**2.62**	**145**	*e*Pn	**Pb**	**16 27 21.3**	**-0.3**
VTS	**Vitosha**	**2.64**	**57**	*e*Pn	**Pb**	**16 27 20.7**	**-1.3**
VTS	**Vitosha**	**2.64**	**57**	*e*Pn	**Pb**	**16 27 20.7**	**-1.3**
AGG	**Agios Georgios**	**2.71**	**142**	*e*PN	**Pb**	**16 27 20.9**	**-2.1**
AGG	**Agios Georgios**	**2.71**	**142**	*e*PN	**Pb**	**16 27 22.2**	**-0.8**
AGG	**Agios Georgios**	**2.71**	**142**	*e*Pn	**Pb**	**16 27 22.2**	**-0.8**
ZAPS	**Zavoj**	**2.76**	**40**	*e*Pn	**Pb**	**16 27 22.7**	**-1.2**
ZAPS	**Zavoj**	**2.76**	**40**	*e*Pn	**Pb**	**16 27 22.7**	**-1.2**
DIVS	**Divibare**	**2.92**	**357**	*e*Pn	**Pb**	**16 27 23.9**	**-2.7**
DIVS	**Divibare**	**2.92**	**357**	*e*Pn	**Pb**	**16 27 23.9**	**-2.7**
OUR	**Ouranopolis**	**2.99**	**105**	*e*PN	**Pn**	**16 27 23.9**	**+2.0**
OUR	**Ouranopolis**	**2.99**	**105**	*e*Pn	**Pn**	**16 27 23.9**	**+2.0**
VLS	**Valsamata**	**3.02**	**174**	*e*PN	**Pn**	**16 27 23.3**	**+1.0**
VLS	**Valsamata**	**3.02**	**174**	*e*Pn	**Pn**	**16 27 23.3**	**+1.0**
KALE	**Kalithea**	**3.16**	**151**	*e*PB	**Pb**	**16 27 28.7**	**-2.1**
KALE	**Kalithea**	**3.16**	**151**	*e*Pb	**Pb**	**16 27 28.7**	**-2.1**
SVIS	**Svilajnac**	**3.17**	**13**	*e*Pn	**Pn**	**16 27 26.8**	**+2.4**
TEKS	**Tekeris**	**3.40**	**352**	*e*Pn	Pn	16 27 30.5	+2.9
TEKS	**Tekeris**	**3.40**	**352**	*e*Pn	Pn	16 27 30.5	+2.9
KLV	**Kalavryta, Ach**	**3.48**	**154**	*e*PN	Pb	16 27 33.1	-3.1
KLV	**Kalavryta, Ach**	**3.48**	**154**	*e*Pn	Pb	16 27 33.1	-3.1
STHS	**Stebnicka Huta**	**8.26**	**5**	*e*PN	**Pn**	**16 28 35.3**	**+0.9**

KRSC ***22*** *16:37:55.9±2.0, 49°.65N×157°.69E, h100km±34km, ML4.5*
IDC ***22*** *16:37:56.8±0.5, 49°.94N×157°.32E, h0km, mb4.2/29, mb1 4.3/33, mb1mx4.2/49, mbtmp4.2/33, ML4.1/3, MS4.0/23, Ms1 4.1/23, ms1mx3.9/43, Error ellipse: s-maj=12.0km s-min=10.5km az=174.0*
SKHL ***22*** *16:37:57.1±0.2, 49°.68N×158°.12E, h54km±9km, mb5.4/1, Ms4.7/3, msh5.1/2*
MOS ***22*** *16:38:00.9±1.3, 49°.92N×157°.34E, h44km, mb4.5/36, MS4.1/20, Error ellipse: s-maj=8.0km s-min=5.0km az=81.7*
ISCJB ***22*** *16:38:00.1±0.5, 49°.87N±0°.03×157°.36E±0°.04, h35km±4km, mb4.5/86, MS4.3/28, Error ellipse: s-maj=6.7km s-min=3.2km az=145.5*
BJI ***22*** *16:38:00.3, 50°.20N×157°.57E, h44km, mB4.8/27, mb4.6/32, Ms4.8/22, Ms7 4.7/21*
NEIC ***22*** *16:38:02.5±0.9, 49°.93N×157°.29E, h41km±8km, mb4.6/42, Error ellipse: s-maj=8.4km s-min=4.6km az=153.0*
SZGRF ***22*** *16:38:18.1, 51°.46N×159°.33E, h35km, mb4.8, MS4.6, Off east coast of Kamchatka Peninsula, Russia*

ISC 22 16:38:02.6±0.5, **49°.87N**±0°.04×**157°.46E**±0°.04, **h44**km±3km, **n299**, σ1§**42**/313, **mb4.5**/86, **MS4.2**/31, **28C-8D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.18**	**314**	P	**Pn**	**16 38 22.3**	**-0.4**
SKR				S	**Sn**	**16 38 40.7**	**+3.1**
SKR	**Severo-Kuril's**	**1.18**	**314**	⇑ *i*PN	Pn	16 38 13.6	-9.1
SKR				*i* S	**Sn**	**16 38 32.0**	**-5.6**
SKR				pmax	pmax		
	comp=N,90nm,0.4s						
SKR				pmax	pmax		
	comp=Z,180nm,0.4s						
SKR				pmax	pmax		
	comp=E,100nm,0.3s						
SKR				smax	smax		
	comp=N,33μm,2.0s						
SKR				smax	smax		
	comp=E,13μm,1.0s						
SKR	**Severo-Kuril's**	**1.18**	**314**	*e*P	**Pn**	**16 38 22.9**	**+0.2**
SKR				AMB	AMB	16 38 23.5	
	comp=E,4μm,0.4s						
SKR				*e*S	**Sn**	**16 38 41.9**	**+4.3**
SKR				A	A	16 38 43.1	
	comp=E,2μm,0.4s						
PAU	**Pauzhetka**	**1.65**	**346**	*e*P	**Pn**	**16 38 29.3**	**+0.2**
PAU				*e*S	**Sn**	**16 38 53.6**	**+4.6**
ASAK	**Asacha**	**2.53**	**6**	P	**Pn**	**16 38 39.8**	**-1.4**
RUS	**Russkaya**	**2.65**	**14**	P	**Pn**	**16 38 40.9**	**-1.9**
RUS				S	**Sn**	**16 39 13.1**	**-0.5**
RUS	**Russkaya**	**2.65**	**14**	PN	**Pn**	**16 38 40.9**	**-1.9**
RUS				S	**Sn**	**16 39 13.1**	**-0.5**
MTVR	**Mutnovka**	**2.65**	**10**	P	**Pn**	**16 38 42.0**	**-1.0**
MTVR				S	**Sn**	**16 39 13.7**	**-0.2**
GRL	**Gorelyy**	**2.71**	**8**	P	**Pn**	**16 38 43.1**	**-0.7**
APC	**Apacha**	**3.06**	**357**	P	**Pn**	**16 38 48.6**	**+0.2**
APC				S	**Sn**	**16 39 26.7**	**+2.9**
PET	**Petropavlovsk**	**3.24**	**13**	P	**Pn**	**16 38 50.1**	**-0.8**
PET				S	**Sn**	**16 39 30.0**	**+1.8**
PET	**Petropavlovsk**	**3.24**	**13**	⇑ *i*PN	**Pn**	**16 38 49.6**	**-1.3**
PET				*i* S	**Sn**	**16 39 27.9**	**-0.3**
PET				pmax	pmax		
	comp=Z,200nm,4.0s						
PET				pmax	pmax		
	comp=Z,59nm,0.5s						
PET				smax	smax		
	comp=E,550nm,0.6s						
PET				smax	smax		
	comp=N,570nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
PET	**Petropavlovsk**	**3.24**	**13**	*e*P	**Pn**	**16 38 49.0**	**-1.9**
PET				AMB	AMB	16 38 55.0	
	comp=Z,593nm,0.5s						
PET				*e*S	**Sn**	**16 39 28.0**	**-0.3**
PET				A	A	16 39 40.6	
	comp=Z,5μm,0.9s						
PET	**Petropavlovsk**	**3.24**	**13**	*e*Pn	**Pn**	**16 38 50.1**	**-0.8**
PETK	**Petropavlovsk-**	**3.24**	**3**	Pn	**Pn**	**16 38 51.6**	**+0.7**
	comp=Z,2.9nm,0.3s,baz=164,slow=16,SNR=78						
PETK				LR	LR	16 40 20.2	
	comp=Z,1μm,18.5s,baz=141,slow=45						
PETK	**Petropavlovsk-**	**3.24**	**3**	PN	**Pn**	**16 38 51.6**	**+0.7**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,1μm,18.5s						
UGLR	**Uglovaya**	**3.45**	**14**	P	**Pn**	**16 38 53.3**	**-0.5**
AVH	**Avacha**	**3.49**	**13**	P	**Pn**	**16 38 54.1**	**-0.3**
SMAR	**Somma**	**3.50**	**13**	P	**Pn**	**16 38 54.4**	**-0.2**
KOK	**Koryaka**	**3.50**	**12**	P	**Pn**	**16 38 54.3**	**-0.3**
NLC	**Nalytchevo**	**3.51**	**19**	P	**Pn**	**16 38 52.6**	**-1.9**
NLC				S	**Sn**	**16 39 32.5**	**-2.2**
NLC	**Nalytchevo**	**3.51**	**19**	PN	**Pn**	**16 38 52.6**	**-1.9**
NLC				S	**Sn**	**16 39 32.5**	**-2.2**
SDLR	**Sedlovina**	**3.52**	**14**	P	**Pn**	**16 38 54.7**	**-0.2**
KRER	**Koryakskii**	**3.53**	**13**	P	**Pn**	**16 38 54.6**	**-0.4**
KRX	**Arik**	**3.57**	**12**	P	**Pn**	**16 38 55.4**	**-0.1**
SPN	**Mys Shipunski**	**3.60**	**25**	P	**Pn**	**16 38 54.6**	**-1.3**
SPN				S	**Sn**	**16 39 37.1**	**0.0**
SPN	**Mys Shipunski**	**3.60**	**25**	PN	**Pn**	**16 38 54.6**	**-1.3**
SPN				S	**Sn**	**16 39 37.1**	**0.0**
GNL	**Ganaly**	**3.84**	**4**	P	**Pn**	**16 38 59.6**	**+0.4**
MKZ	**Mys Kozlova**	**5.37**	**28**	P	Pn	16 39 16.4	-3.7
MKZ				S	**Sn**	**16 40 17.0**	**-3.6**
MKZ	**Mys Kozlova**	**5.37**	**28**	PN	Pn	16 39 16.4	-3.7
KZV	**Kizimen**	**5.53**	**17**	P	**Pn**	**16 39 22.0**	**-0.4**
BDR	**Baidarnaya**	**7.07**	**17**	P	**Pn**	**16 39 43.0**	**-0.5**
KBTR	**Krutoberegovo**	**7.12**	**25**	P	**Pn**	**16 39 42.5**	**-1.6**
KBTR				S	**Sn**	**16 41 00.5**	**-3.0**
KBTR	**Krutoberegovo**	**7.12**	**25**	PN	**Pn**	**16 39 42.5**	**-1.6**
KBG	**Krutoberegovo**	**7.13**	**24**	P	**Pn**	**16 39 42.4**	**-1.8**
KBG	**Krutoberegovo**	**7.13**	**24**	PN	**Pn**	**16 39 42.4**	**-1.8**
SRKR	**Sorokina**	**7.15**	**17**	P	**Pn**	**16 39 44.3**	**-0.2**
BKI	**Bering**	**7.44**	**41**	P	Pn	16 39 45.0	-3.5
BKI				S	Sn	16 41 04.5	-7.0
BKI	**Bering**	**7.44**	**41**	PN	Pn	16 39 45.0	-3.5
KUR	**Kuril'sk**	**7.98**	**238**	*e*PN	**Pn**	**16 39 54.3**	**-1.6**
KUR				pmax	pmax		
	comp=N,23nm,0.5s						
KUR				pmax	pmax		
	comp=E,30nm,0.5s						
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				pmax	pmax		
	comp=N,1μm,4.2s						
KUR				pmax	pmax		
	comp=E,615nm,4.2s						
KUR				MLR	MLR		
	comp=E,3μm,11.0s						
KUR				MLR	MLR		
	comp=Z,2μm,11.0s						
KUR				MLR	MLR		
	comp=N,2μm,13.0s						
KUR	**Kuril'sk**	**7.98**	**238**	*e*P	**Pn**	**16 39 54.3**	**-1.6**
KUR				AMB	AMB	16 40 15.9	
	comp=N,90nm,0.5s						
KUR				*e*S	**Sn**	**16 41 22.0**	**-2.7**
KUR				A	A	16 41 52.3	
	comp=N,1μm,4.2s						
KUR				A	A	16 41 52.3	
	comp=N,620nm,4.2s						
KUR				AMS	AMS	16 43 52.1	
	comp=N,2μm,11.0s						
KUR				AMS	AMS	16 43 52.1	
	comp=N,3μm,11.0s						
KUR				AMS	AMS	16 43 52.1	
	comp=N,2μm,11.0s						
SHO	**Shikotan**	**9.43**	**234**	*e*P	**Pn**	**16 40 15.4**	**-0.4**
OKH	**Okha**	**9.74**	**298**	*e*PN	Pn	16 40 27.8

comp=Z,4µm,12.0s
USRK Ussuriysk Ar. 18.22 262 P **P** **16 42 10.2 -1.6**
comp=Z,0.3nm,0.3s,baz=63,slow=11,SNR=6.9
USRK LR LR 16 48 51.6
comp=Z,449nm,21.6s,baz=56,slow=36
BILL Bilibino 18.74 10 *e*P **Pn** **16 42 19.5 +1.4**
BILL pmax pmax
comp=Z,1.0nm,0.7s
BILL MLR MLR
comp=Z,613nm,20.0s
BILL Bilibino 18.74 10 *e*P **Pn** **16 42 19.5 +1.4**
BILL Bilibino 18.74 10 *e*P **P** **16 42 16.1 -1.3**
comp=Z,4.5nm,0.6s
MAJO Matsushiro 19.28 234 *e*P **P** **16 42 22.4 -1.1**
MAJO pmax pmax
comp=Z,26nm,0.9s
MAJO Matsushiro 19.28 234 *e*P **P** **16 42 23.3 -0.2**
MAJO Matsushiro 19.28 234 *e*P **P** **16 42 22.4 -1.1**
comp=Z,26nm,0.9s
MAT Matsushiro 19.28 234 P **P** **16 42 22.8 -0.7**
MJAR Matsushiro Arr 19.28 234 P **P** **16 42 23.2 -0.3**
comp=Z,1.5nm,0.3s,baz=27,slow=9.9,SNR=18
MJAR LR LR 16 50 36.4
comp=Z,363nm,20.2s,baz=65,slow=40
MJAR Matsushiro Arr 19.28 234 P **P** **16 42 23.2 -0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
MJAR MLR MLR
comp=Z,363nm,20.2s
YAK Yakutsk 19.56 319 P **P** **16 42 24.8 -1.5**
comp=Z,0.0nm,0.3s,baz=121,slow=0.4,SNR=8.8
YAK S **S** **16 46 04.2 -0.3**
comp=Z,0.0nm,0.3s,baz=122,slow=0.7,SNR=2.0
YAK Yakutsk 19.56 319 *e*P **P** **16 42 25.0 -1.3**
YAK *e*S **Sn** **16 46 06.5 +0.2**
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK smax smax
comp=E,5.0nm,1.1s
YAK smax smax
comp=N,60nm,1.7s
YAK MLR MLR
comp=N,869nm,15.0s
YAK MLR MLR
comp=Z,1µm,14.0s
YAK MLR MLR
comp=E,864nm,13.0s
YAK Yakutsk 19.56 319 *e*P **P** **16 42 23.2 -3.1**
comp=E,38nm,1.0s
YAK S **S** **16 46 04.2 -0.3**
MDJ Mudanjiang 19.58 265 P **Pn** **16 42 29.6 +1.3**
MDJ pP **pP** **16 42 39.5 +2.3**
MDJ sP **sP** **16 42 44.0 +1.3**
MDJ PMZ
comp=E,4.0nm,0.8s
MDJ PMZ
comp=E,140nm,5.8s
MDJ LN
comp=E,470nm,20.4s
MDJ LE
comp=E,610nm,19.4s
MDJ LZ
comp=E,990nm,16.4s
MDJ Mudanjiang 19.58 265 *e*P **P** **16 42 24.2 -2.5**
comp=E,8.7nm,0.9s
GAMB Gambell 21.58 38 *e*P **P** **16 42 47.1 -1.0**
comp=E,17nm,1.4s
TNA Tin City 23.81 36 *e*P **P** **16 43 11.1 +0.1**
comp=E,12nm,0.8s
KSRS Korea Array 24.54 251 P **P** **16 43 18.6 +0.7**
comp=E,4.1nm,0.6s,baz=48,slow=10.0,SNR=14
KSRS LR LR 16 52 23.7
comp=E,483nm,19.1s,baz=56,slow=35
KSRS Korea Array 24.54 251 P **P** **16 43 18.6 +0.7**
KSRS pmax pmax
comp=Z,4.0nm,0.6s
KSRS MLR MLR
comp=Z,483nm,19.1s
KSAR Wonju Array Be 24.57 251 P **P** **16 43 18.6 +0.4**
KSAR Wonju Array Be 24.57 251 P **P** **16 43 18.6 +0.4**
TIK Tiksi 25.41 339 *e*P **P** **16 43 24.0 -1.5**
TIXI Tiksi 25.42 339 *ce*P **P** **16 43 24.0 -1.6**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 25.42 339 *e*P **P** **16 43 23.9 -1.8**
comp=Z,5.7nm,0.8s
BOD Bodaibo 26.43 304 *e*P P 16 43 24.4 -11
BOD pmax pmax
comp=Z,4.0nm,1.1s
BJI Beijing 30.48 267 P **P** **16 44 10.3 -0.8**
BJI S **S** **16 49 08.3 -0.8**
BJI PMZ
comp=Z,8.0nm,0.7s
BJI PMZ
comp=Z,92nm,5.2s
BJI LN
comp=Z,630nm,15.9s
BJI LE
comp=Z,370nm,18.0s
BJI LZ
comp=Z,270nm,21.7s
KTH Kantishna Hill 30.50 44 *e*P **P** **16 44 11.8 +0.6**
comp=Z,178nm,0.3s
TRF Thorofare Moun 30.78 44 *e*P **P** **16 44 14.3 +0.5**
comp=Z,27nm,0.5s
H11N2 WAKE ISLAND Hy 31.00 163 T T 17 18 01.5
baz=348,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 31.02 163 T T 17 18 03.8
baz=348,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 31.02 163 T T 17 18 03.8
baz=348,slow=76,SNR=29
COLA College 31.88 41 *i* P **P** **16 44 22.9 -0.3**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 31.88 41 *e*P **P** **16 44 20.8 -2.3**
comp=Z,51nm,0.3s
H11S1 WAKE ISLAND Hy 32.16 163 T T 17 18 53.4
baz=347,slow=76,SNR=90
H11S3 WAKE ISLAND Hy 32.17 163 T T 17 18 58.1
baz=347,SNR=111
H11S2 WAKE ISLAND Hy 32.18 163 T T 17 18 54.7
baz=347,slow=76,SNR=75
ILAR Eielson Array 32.29 41 P **P** **16 44 26.7 -0.1**
comp=Z,1.1nm,0.8s,baz=252,slow=8.4,SNR=12
ILAR LR LR 16 59 55.8
comp=Z,168nm,19.0s,baz=276,slow=41
ILAR Eielson Array 32.29 41 P **P** **16 44 26.7 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,168nm,19.0s
ULN Ulaanbaatar 32.71 286 *e*P **P** **16 44 30.8 -0.1**
ULN pmax pmax
comp=Z,7.0nm,2.5s
ULN Ulaanbaatar 32.71 286 *e*P **P** **16 44 30.8 -0.1**
HHC Hu-ho-hao-te 33.03 272 *e*P **P** **16 44 35.1 +1.4**
HHC pP pP 16 44 51.0 +5.6
HHC PP **PP** **16 45 48.1 -0.6**
HHC S **S** **16 49 47.0 -2.2**
HHC sS **sS** **16 50 10.8 +1.9**
HHC PMZ
comp=Z,24nm,1.0s
HHC PMZ
comp=Z,73nm,5.2s
HHC LN
comp=Z,410nm,13.6s
HHC LE
comp=Z,610nm,12.7s
HHC LZ
comp=Z,780nm,15.7s
SONM Songino Array 33.13 287 P **P** **16 44 33.4 -1.2**
comp=Z,0.4nm,0.5s,baz=70,slow=8.6,SNR=4.7
SONM PcP **PcP** **16 47 17.6 +1.0**
comp=Z,0.2nm,0.4s,baz=95,slow=3.0,SNR=2.7
SONM LR LR 16 59 49.3
comp=Z,303nm,18.1s,baz=87,slow=40
TLY Talaya 33.44 294 *e*P **P** **16 44 37.7 +0.7**
TLY *e*S **S** **16 49 53.5 -1.7**
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY MLR MLR
comp=Z,768nm,18.0s
TLY Talaya 33.44 294 *e*P **P** **16 44 37.2 +0.2**
NJ2 Nanjing 33.69 253 *e*P P 16 44 42.6 +3.2
NJ2 S **S** **16 49 57.0 -2.4**
NJ2 PMZ
comp=Z,40nm,0.7s
NJ2 LN
comp=Z,490nm,16.9s
NJ2 LE
comp=Z,1µm,14.7s
NJ2 LZ
comp=Z,8µm,14.0s
ZAK Zakamensk 34.09 292 *e*P **P** **16 44 42.0 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
EGAK Eagle 34.74 41 *e*P **P** **16 44 46.6 -1.5**
DAWY Dawson 35.58 42 *e*P **P** **16 44 56.0 +0.6**
comp=Z,10nm,1.4s
HYT Haines Junctio 37.01 48 *e*P **P** **16 45 07.3 -0.5**
INK Inuvik 37.44 35 P **P** **16 45 10.9 -0.2**
comp=Z,2.0nm,0.3s,baz=291,slow=7.5,SNR=12
INK Inuvik 37.44 35 P **P** **16 45 10.9 -0.2**
INK pmax pmax
comp=Z,2.0nm,0.3s
INK Inuvik 37.44 35 *e*P **P** **16 45 10.9 -0.2**
comp=Z,6.3nm,0.9s
DLBC Dease Lake 41.34 49 P **P** **16 45 45.7 +1.8**
comp=Z,2.2nm,0.7s,baz=305,slow=3.5,SNR=6.1
GTA Gaotai 41.38 278 *e*P **P** **16 45 44.8 +0.4**
GTA pP **pP** **16 45 54.8 -1.6**
GTA sP **sP** **16 45 58.4 -3.2**
GTA PcP **PcP** **16 47 46.6 +4.7**
GTA PMZ
comp=Z,3.0nm,1.0s
ZALV Zalesovo Beam 43.19 304 P **P** **16 45 57.2 -1.6**
comp=Z,1.4nm,0.4s,baz=55,slow=6.6,SNR=8.1
ZALV LR LR 17 04 24.6
comp=Z,123nm,18.6s,baz=70,slow=37
ZALV Zalesovo Beam 43.19 304 *i* P **P** **16 45 58.0 -0.8**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 43.64 306 *e*P **P** **16 46 00.2 -2.2**
NVS pmax pmax
comp=Z,6.0nm,1.0s
CD2 Chengdu 44.03 265 P **P** **16 46 06.8 +0.9**
CD2 pP **pP** **16 46 18.6 +0.6**
CD2 sP **sP** **16 46 23.8 +0.6**
CD2 PP **PcP** **16 47 50.9 +0.1**
CD2 S **S** **16 52 34.3 -0.8**
CD2 sS **sS** **16 52 54.3 -0.9**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,100nm,5.2s
WMQ Urumqi 46.52 291 *e*P **P** **16 46 27.1 +1.5**
WMQ pP **pP** **16 46 39.3 +1.6**
WMQ sP **sP** **16 46 42.9 +0.1**
WMQ PMZ
comp=Z,11nm,0.6s
WMQ PMZ
comp=Z,120nm,4.8s
WMQ LN
comp=Z,440nm,17.0s
WMQ LE
comp=Z,350nm,12.1s
WMQ LZ
comp=Z,480nm,17.1s
YKA Yellowknife Ar 46.67 40 P **P** **16 46 27.2 +0.8**
comp=Z,2.7nm,1.0s,baz=294,slow=7.3,SNR=7.1
YKA Yellowknife Ar 46.67 40 P **P** **16 46 27.2 +0.8**
YKA pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 46.92 20 *e*P **P** **16 46 28.5 +0.3**
RES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 46.92 20 *e*P **P** **16 46 28.5 +0.3**
comp=Z,3.0nm,1.0s
KURK Kurchatov 48.07 303 P **P** **16 46 37.0 -0.4**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 48.07 303 *e*P **P** **16 46 36.6 -0.8**
KURK Kurchatov 48.07 303 *e*P **P** **16 46 36.6 -0.8**
comp=Z,11nm,1.3s
MKAR Makanchi Array 48.10 297 P **P** **16 46 36.2 -1.5**
comp=Z,1.0nm,0.4s,baz=46,slow=6.2,SNR=38
MKAR LR LR 17 08 18.8
comp=Z,858nm,18.7s,baz=41,slow=38
MKAR Makanchi Array 48.10 297 *e*P **P** **16 46 35.9 -1.9**
KURBB Kurchatov Arra 48.17 303 P **P** **16 46 37.0 -1.2**
comp=Z,2.4nm,0.7s,baz=64,slow=8.4,SNR=18
SPITS Spitsbergen Ar 50.04 350 P **P** **16 46 51.8 -0.3**
comp=Z,1.7nm,0.5s,baz=60,slow=10.0,SNR=18
SPITS Spitsbergen Ar 50.04 350 P **P** **16 46 51.8 -0.3**
SPITS pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 51.12 309 P **P** **16 46 59.4 -1.2**
comp=Z,1.7nm,0.4s,baz=55,slow=7.1,SNR=25
BVAR Borovoye Array 51.12 309 P **P** **16 46 59.4 -1.2**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BRVK Borovoye 51.16 309 *e*P **P** **16 46 59.5 -1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 51.16 309 *e*P **P** **16 46 59.5 -1.4**
BRVK Borovoye 51.16 309 *e*P **P** **16 46 59.9 -1.0**
comp=Z,3.1nm,0.9s
B08A Colville Reser 51.74 58 *e*P **P** **16 47 06.0 +0.6**
comp=Z,10nm,1.5s
EDM Edmonton 52.07 50 *e*P **P** **16 47 06.7 -1.0**
EDM pmax pmax
comp=Z,8.0nm,0.6s
EDM Edmonton 52.07 50 *e*P **P** **16 47 06.7 -1.0**
comp=Z,7.7nm,0.6s
LSA Lhasa 52.98 274 P **P** **16 47 14.2 -1.1**
LSA Lhasa 52.98 274 P **P** **16 47 14.2 -1.1**
NEW Newport 53.00 57 LR LR 17 08 13.7
comp=Z,77nm,20.7s,baz=330,slow=34
DAG Danmarks Havn 53.61 359 *i* P **P** **16 47 18.6 -0.1**
DAG *i* 16 47 29.4
DAG Danmarks Havn 53.61 359 *e*P **P** **16 47 18.5 -0.1**
DAG Danmarks Havn 53.61 359 *i* P **P** **16 47 18.6 -0.1**
comp=Z,1.9nm,0.8s
DAG *i* 16 47 29.4
YBH Yreka Blue Hor 53.76 66 LR LR 17 06 33.9
comp=Z,79nm,21.4s,baz=310,slow=32
TKM2 Tokmak 2 54.22 296 *e*P **P** **16 47 23.6 -0.3**
TKM2 pmax pmax
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 54.22 296 *e*P **P** **16 47 23.6 -0.3**
comp=Z,3nm,0.8s
BSMT Basso Peak 54.50 56 *e*P **P** **16 47 27.0 +1.1**
BLMT Blacktail Moun 54.63 55 *e*P **P** **16 47 27.3 +0.5**
ARU Arti 54.66 318 *d i*P **P** **16 47 25.8 -0.9**
ARU 16 49 23.8
ARU S **S** **16 55 00.8 -2.3**
ARU SS **SS** **16 58 40.2 -5.4**
ARU pmax pmax
comp=Z,2.0nm,0.7s
ARU MLR MLR
comp=Z,516nm,16.0s
ARU Arti 54.66 318 *e*P **P** **16 47 25.7 -0.9**
AAK Ala-Archa 55.04 297 *ce*P **P** **16 47 29.2 -0.6**
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 55.04 297 *e*P **P** **16 47 29.1 -0.7**
AAK Ala-Archa 55.04 297 *e*P **P** **16 47 28.9 -0.9**
comp=Z,16nm,1.9s
MOD Modoc Plateau 55.07 64 P **P** **16 47 31.3 +1.3**
comp=Z,4.9nm,0.8s
EKS2 Erkin-Say 55.44 297 *e*P **P** **16 47 32.0 -0.6**
EKS2 pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 55.44 297 *e*P **P** **16 47 32.0 -0.6**
comp=Z,3.0nm,0.7s
WVOR Wild Horse Val 55.70 63 *e*P **P** **16 47 36.1 +1.6**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 55.70 63 *e*P **P** **16 47 36.0 +1.6**
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 55.83 342 P **P** **16 47 34.4 -0.5**
comp=Z,2.5nm,0.7s,baz=43,slow=8.0,SNR=10
ARCES LR LR 17 16 59.9
comp=Z,288nm,19.0s,baz=30,slow=42
ARCES ARCESS Array B 55.83 342 P **P** **16 47 34.4 -0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,288nm,19.0s
CMAR Chiang Mai Arr 55.90 258 P **P** **16 47 37.7 +1.7**
comp=Z,4.0nm,0.7s,baz=34,slow=7.0,SNR=41
CMAR LR LR 17 13 03.1
comp=Z,168nm,19.4s,baz=46,slow=38
CMAR Chiang Mai Arr 55.90 258 *i* P **P** **16 47 38.0 +2.0**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
KSH Kashi 56.13 293 *e*P P 16 47 42.4 +4.8
KSH pP pP 16 47 54.6 +4.6
KSH PP PP 16 49 50.1 +7.4
KSH PcS **PcS** **16 52 38.3 +2.6**
KSH S **S** **16 55 27.5 +4.0**
KSH ScS **ScS** **16 57 24.1 +1.1**
KSH PMZ
comp=Z,75nm,4.9s
KSH LN
comp=Z,480nm,15.1s
KSH LE
comp=Z,100nm,11.1s
KSH LZ
comp=Z,530nm,15.9s
TAPN Taplejung 56.80 274 *e*P P 16 47 52.9 +10
SUMG Summit 57.34 6 *e*P **P** **16 47 47.5 +1.5**
SUMG Summit 57.34 6 *e*P **P** **16 47 47.5 +1.5**
comp=Z,186nm,2.8s
SUMG Summit 57.34 6 *i* P **P** **16 47 47.8 +1.8**
comp=Z,5.9nm,0.9s
SUMG *i* 16 47 56.9
HLID Hailey 57.38 60 *e*P **P** **16 47 46.9 +0.4**
comp=Z,55nm,2.9s
BOZ Bozeman (W) 57.57 56 *e*P **P** **16 47 48.5 +0.7**
BOZ pmax pmax
comp=Z,52nm,2.7s
BOZ Bozeman (W) 57.57 56 *e*P **P** **16 47 48.5 +0.7**
comp=Z,52nm,2.7s
GUN Gumba 57.59 276 *e*P **P** **16 47 48.4 0.0**
comp=Z,12nm,0.6s
GUN Gumba 57.59 276 *e*P **P** **16 47 48.4 0.0**
comp=Z,12nm,0.6s
RAMN Ramite 57.79 275 *e*P **P** **16 47 49.8 +0.2**
RAMN Ramite 57.79 275 *e*P **P** **16 47 49.9 +0.3**
comp=Z,8.7nm,0.5s
KKN Kakani 58.06 276 *e*P **P** **16 47 51.8 +0.3**
comp=Z,10nm,0.5s
KKN Kakani 58.06 276 *e*P **P** **16 47 52.4 +0.9**
comp=Z,10nm,0.5s
PKIN Phulchoki 58.13 276 *e*P **P** **16 47 51.1 -1.0**
comp=Z,5.4nm,0.8s
QLMT Earthquake Lak 58.21 57 *e*P **P** **16 47 52.3 0.0**
DMN Daman 58.30 276 *e*P **P** **16 47 54.3 +1.1**
comp=Z,14nm,0.6s
DMN Daman 58.30 276 *e*P **P** **16 47 54.3 +1.1**
comp=Z,14nm,0.6s
NVAR Mina Array Bea 58.47 66 P **P** **16 47 55.1 +0.9**
comp=Z,1.1nm,0.6s,baz=300,slow=7.1,SNR=9.4
ABKAR Akbulak array 58.63 310 *e*P **P** **16 47 53.8 -1.1**
DANN Dangsing 58.65 278 *e*P **P** **16 47 55.1 -0.6**
comp=Z,15nm,0.6s
DANN Dangsing 58.65 278 *e*P **P** **16 47 56.3 +0.6**
comp=Z,15nm,0.6s
ELK Elko 58.74 63 *e*P **P** **16 47 57.9 +1.8**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 58.74 63 *e*P **P** **16 47 57.9 +1.8**
comp=Z,1.8nm,0.8s
YFT Old Faithful 58.78 57 *e*P P 16 48 00.2 +3.9
comp=Z,6.6nm,0.7s
H17A Grant Village 58.95 57 *e*P **P** **16 47 59.6 +2.0**
comp=Z,6.4nm,0.9s
IMW Indian Meadow 59.09 57 *e*P **P** **16 47 59.6 +1.1**
comp=Z,3.3nm,0.8s
FLWY Flagg Ranch 59.09 57 *e*P **P** **16 47 59.8 +1.3**
comp=Z,5.1nm,1.0s
RLMT Red Lodge 59.18 55 *e*P **P** **16 47 59.8 +0.7**
comp=Z,7.2nm,1.0s
FXWY Fox Creek 59.21 58 *e*P **P** **16 47 57.7 -1.6**
comp=Z,3.5nm,0.5s
TPAW Teton Pass 59.35 58 *e*P **P** **16 48 01.5 +1.1**
comp=Z,5.7nm,0.9s
LOHW Long Hollow 59.45 57 *e*P **P** **16 48 03.6 +2.6**
comp=Z,3.0nm,0.8s
REDW Red Top Meadow 59.48 58 *e*P **P** **16 48 02.4 +1.2**
comp=Z,5.5nm,0.9s
R11A Troy Canyon, C 60.12 65 *e*P **P** **16 48 06.2 +0.6**
comp=Z,44nm,2.8s
HWUT Hardware Ranch 60.25 60 *e*P **P** **16 48 08.3 +1.8**
comp=Z,3.2nm,0.6s
PDAR Pinedale Array 60.59 58 P **P** **16 48 09.3 +0.6**
comp=Z,4.3nm,0.9s,baz=255,slow=2.2,SNR=27
ULM Lac du Bonnet 62.26 44 P **P** **16 48 19.8 +0.2**
comp=Z,0.5nm,0.3s,baz=309,slow=3.8,SNR=3.4
ULM Lac du Bonnet 62.26 44 P **P** **16 48 19.8 +0.2**
ULM pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 62.41 336 P **P** **16 48 19.4 -1.0**
comp=Z,0.4nm,0.4s,baz=56,slow=4.8,SNR=6.4
FINES LR LR 17 19 51.2
comp=Z,281nm,18.3s,baz=35,slow=40
FINES FINESS Array B 62.41 336 *i* P **P** **16 48 19.7 -0.7**
FINES FINESS Array B 62.41 336 *e*P **P** **16 48 19.6 -0.8**
SRU San Rafael Swe 62.53 61 *e*P **P** **16 48 23.0 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 62.53 61 *e*P **P** **16 48 22.9 +1.1**
comp=Z,7.3nm,0.8s
N23A Red Feather La 63.84 57 *e*P **P** **16 48 32.8 +2.2**
comp=Z,86nm,2.9s
OBN Obninsk 64.33 327 P **P** **16 48 32.4 -0.8**
OBN *i* 16 49 07.0
OBN pmax pmax
comp=Z,1.0nm,0.8s
OBN MLR MLR
comp=Z,196nm,22.0s
SMCO Snowmass 64.47 59 *e*P **P** **16 48 35.9 +0.9**
comp=Z,3.6nm,0.8s
ISCO Idaho Springs 64.78 58 *e*P **P** **16 48 38.3 +1.4**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 64.78 58 *e*P **P** **16 48 38.3 +1.4**
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 66.15 343 P **P** **16 48 44.9 -0.1**
comp=Z,1.4nm,0.5s,baz=24,slow=6.5
NOA NORSAR Array B 66.15 343 P **P** **16 48 45.1 +0.1**
comp=Z,1.5nm,0.5s,baz=27,slow=6.8,SNR=14
NOA LR LR 17 23 42.2
comp=Z,125nm,19.2s,baz=20,slow=42
NOA NORSAR Array B 66.15 343 P **P** **16 48 45.1 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA MLR MLR
comp=Z,125nm,19.2s
GEYT Alibeck 67.44 302 P **P** **16 48 53.9 +0.3**
comp=Z,1.1nm,0.4s,baz=25,slow=3.8,SNR=3.2
GEYT LR LR 17 19 56.8
comp=Z,86nm,18.8s,baz=165,slow=37
MAK Makhachkala 69.17 312 *e*P P 16 49 12.7 +8.5
SCHQ Schefferville 69.27 26 P **P** **16 49 05.1 +0.4**
comp=Z,3.8nm,0.8s,baz=332,slow=6.5,SNR=4.0
SCHQ LR LR 17 24 33.8
comp=Z,107nm,18.4s,baz=302,slow=40
HYB Hyderabad 69.78 273 *i* P **P** **16 49 10.0 +1.6**
HYB *e* 16 49 19.0
AKASG Malin Array Be 70.50 328 P **P** **16 49 11.6 -0.7**
comp=Z,1.5nm,0.4s,baz=32,slow=6.6,SNR=7.6
AKASG LR LR 17 24 14.3
comp=Z,132nm,18.2s,baz=55,slow=40
AKASG Malin Array Be 70.50 328 P **P** **16 49 11.6 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG MLR MLR
comp=Z,132nm,18.2s
KIV Kislovodsk 70.64 316 *e*P **P** **16 49 11.2 -2.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,143nm,18.0s
KBZ Khabaz 70.72 316 P **P** **16 49 14.8 +1.1**
comp=Z,0.9nm,0.6s,baz=53,slow=20,SNR=3.8
KBZ Khabaz 70.72 316 P **P** **16 49 14.8 +1.1**
KBZ pmax pmax
comp=Z,1.0nm,0.6s
WRAB Tennant Creek 72.45 203 *e*P **P** **16 49 23.4 -0.9**
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WRAB Tennant Creek 72.45 203 *e*P **P** **16 49 23.4 -0.9**
comp=Z,5.4nm,0.9s
WRA Warramunga Arr 72.47 203 P **P** **16 49 23.6 -0.8**
comp=Z,1.2nm,0.6s,baz=18,slow=6.3,SNR=17
WRA Warramunga Arr 72.47 203 *i* P **P** **16 49 23.7 -0.8**

WRA pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 73.47 64 P **P 16 49 31.2 +0.6**
comp=Z,3.5nm,0.6s,baz=302,slow=4.2,SNR=41
TXAR Lajitas Array 73.47 64 P **P 16 49 31.2 +0.6**
TXAR pmax pmax
comp=Z,4.0nm,0.6s
IBAF Bafgh 73.52 299 *eP* **P 16 49 30.0 -0.9**
EKA Eskdalemuir Ar 73.92 349 P **P 16 49 33.4 +0.8**
comp=Z,2.0nm,0.5s,baz=17,slow=5.1,SNR=12
EKA Eskdalemuir Ar 73.92 349 P **P 16 49 33.4 +0.8**
EKA pmax pmax
comp=Z,2.0nm,0.5s
KOLS Kolonicke sedl 74.31 331 *eP* **P 16 49 33.8 -1.2**
KOLS Kolonicke sedl 74.31 331 *eP* **P 16 49 33.8 -1.2**
IZEF Zefreh 74.33 302 *eP* **P 16 49 36.1 +0.3**
BURAR Bucovina Array 74.50 329⇑*iP* **P 16 49 36.7 +0.4**
BURAR Bucovina Array 74.50 329⇑P **P 16 49 36.7 +0.4**
CRVS Cervenica-Dubn 74.58 332 *eP* **P 16 49 35.1 -1.6**
CRVS Cervenica-Dubn 74.58 332 *eP* **P 16 49 35.1 -1.6**
OKC Ostrava-Krasne 74.73 334 AMS AMS 17 26 40.0
comp=Z,300nm,11.9s
CLL Collm 74.75 338 *eP* **P 16 49 38.0 +0.5**
comp=Z,5.0nm,0.7s
CLL Lm MLR 17 27 00.0
comp=Z,400nm,18.7s
CLL Collm 74.75 338 *eP* **P 16 49 38.0 +0.5**
CLL pmax pmax
comp=Z,5.0nm,0.7s
DPC Dobruska-Polom 74.77 335 AMS AMS 17 28 40.0
TRPA Tarpa 74.93 331⇑*iP* **P 16 49 39.2 +0.6**
MORC Moravsky Berou 74.95 334⇑*iP* **P 16 49 40.0 +1.2**
MORC Moravsky Berou 74.95 334⇑P **P 16 49 40.0 +1.2**
PVCC Panska Ves 75.07 337 AMS AMS 17 27 50.0
comp=Z,500nm,16.7s
VRI Vrincioaia 75.50 327⇓*iP* **P 16 49 42.4 +0.4**
VRI Vrincioaia 75.50 327⇓P **P 16 49 42.4 +0.4**
PLOR Plostina 75.54 327⇑*iP* **P 16 49 43.0 +0.8**
PLOR Plostina 75.54 327⇑P **P 16 49 43.0 +0.8**
PRU Pruhonice 75.57 336 AMS AMS 17 28 10.0
comp=Z,400nm,14.4s
GOPC GO Pecny, Ondr 75.57 336 AMS AMS 17 29 10.0
comp=Z,400nm,14.5s
CFR Carcaliu 75.58 326⇓*iP* **P 16 49 41.7 -0.7**
CFR Carcaliu 75.58 326⇓P **P 16 49 41.7 -0.7**
VRAC Vranov 75.64 335⇑*iP* **P 16 49 43.5 +0.8**
VRAC Vranov 75.64 335⇑P **P 16 49 43.6 +0.8**
TREC Trest 75.95 335 AMS AMS 17 31 00.0
comp=Z,300nm,15.2s
TIRR Tirgusor 76.09 325⇑*iP* **P 16 49 44.8 -0.5**
TIRR Tirgusor 76.09 325⇑P **P 16 49 44.8 -0.5**
MLR Muntele Rosu 76.10 327⇑*iP* **P 16 49 46.7 +1.2**
MLR Muntele Rosu 76.10 327⇑P **P 16 49 46.7 +1.2**
ASAR Alice Springs 76.15 202 P **P 16 49 45.8 0.0**
comp=Z,0.5nm,0.6s,baz=17,slow=5.5,SNR=24
ASAR Alice Springs 76.15 202 P **P 16 49 45.8 0.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
VOIR 76.45 328⇑*iP* **P 16 49 47.4 -0.1**
VOIR 76.45 328⇑P **P 16 49 47.4 -0.1**
KHC Kasperske Hory 76.61 337 *eP* **P 16 49 50.0 +1.7**
KHC Kasperske Hory 76.61 337 *eP* **P 16 49 50.0 +1.7**
ARR Arges 76.66 328⇑*iP* **P 16 49 49.8 +1.1**
GRF Grafenberg Arr 76.67 338 *eP* **P 16 49 50.1 +1.5**
comp=Z,6.0nm,0.9s
GRF *ep*P **PcP 16 50 00.1 +0.2**
GRF *eL* L 17 29 06.4
comp=Z,287nm,18.4s
GEC2 GERESS Array S 76.84 336 *eP* **P 16 49 51.0 +1.4**
GEC2 GERESS Array S 76.84 336 *eP* **P 16 49 51.0 +1.4**
GERES GERESS Array B 76.84 336 P **P 16 49 50.4 +0.7**
comp=Z,1.8nm,0.5s,baz=34,slow=5.1,SNR=20
GERES LR LR 17 30 47.8
comp=Z,151nm,19.8s,baz=22,slow=41
GERES GERESS Array B 76.84 336 P **P 16 49 50.4 +0.7**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,151nm,19.8s
IKAZ Kazeroun 76.98 301 *eP* **P 16 49 51.0 -0.1**
BRTR Keskin Array B 78.02 319 P **P 16 49 56.6 +0.1**
comp=Z,1.0nm,0.6s,baz=62,slow=2.8,SNR=6.0
BRTR LR LR 17 31 23.7
comp=Z,41nm,18.2s,baz=352,slow=41
BRTR Keskin Array B 78.02 319 *i* P **P 16 49 57.2 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
SOKA Soboth 78.47 335⇑*iP* **P 16 50 00.1 +1.4**
comp=Z,11nm,1.3s
KBA Koelnbreinsper 78.56 336⇓*iP* **P 16 50 01.3 +2.0**
comp=Z,23nm,1.4s
MVL Millersville 78.77 39 *eP* P 16 49 57.0 -3.3
comp=Z,7.4nm,0.6s
MOTA Moosalm 78.89 337⇑*iP* **P 16 50 03.4 +2.3**
comp=Z,10nm,1.1s
ABTA Abfaltersbach 79.08 336⇑*iP* **P 16 50 04.0 +1.9**
comp=Z,11nm,1.3s
DIVS Divibare 79.32 330⇑*iP* **P 16 50 04.1 +0.6**
BLA Blacksburg 79.37 43 *eP* **P 16 50 02.0 -1.8**
BLA Blacksburg 79.37 43 *eP* **P 16 50 02.0 -1.8**
comp=Z,38nm,1.4s
VTS Vitosha 79.59 327⇓*iP* **P 16 50 05.8 +0.8**
VTS Vitosha 79.59 327⇓P **P 16 50 05.8 +0.8**
LOR Lormes 80.58 342 *eP* **P 16 50 09.4 -0.7**
LPL La Plagne 81.64 340 *eP* **P 16 50 16.3 +0.2**
LPG La Plagne 81.65 340 *eP* **P 16 50 16.5 +0.3**
comp=Z,5.2nm,0.6s
MFF Saint Martin d 81.96 345 *eP* **P 16 50 17.6 +0.2**
comp=Z,36nm,1.3s
MMAI Mount Meron Ar 82.82 314 P **P 16 50 23.5 +1.2**
comp=Z,2.8nm,0.5s,baz=49,slow=6.7,SNR=3.9
RAYN Ar Rayn 85.38 301 *eP* **P 16 50 36.3 +0.9**
comp=Z,3.2nm,0.6s
IDI Anoyia 85.39 323 LR LR 17 31 52.7
comp=Z,69nm,20.9s,baz=357,slow=38
ESDC Sonseca Array 89.34 346 LR LR 17 37 41.8
comp=Z,98nm,19.3s,baz=40,slow=40
KEST Kesra 90.21 335 LR LR 17 37 09.8
comp=Z,84nm,18.2s,baz=280,slow=39

*IDC **22** 16:52:29.4±1.7,30°.84S×72°.21W,h0km,mb3.9/1, mb1 3.6/5,mb1mx3.5/18,mbtmp3.5/5,ML3.6/4,MS3.4/3, Ms1 3.4/3,ms1mx2.9/21,Error ellipse: s-maj=39.6km s-min=31.8km az=54.0*
*ISCJB **22** 16:52:30.3±1.0,30°.84S±0°.05×72°.34W±0°.10,h33km, mb4.2/3,MS2.9/1, Error ellipse: s-maj=12.2km s-min=7.7km az=0.7*
*NEIC **22** 16:52:33.4±1.0,30°.73S×72°.20W,h35km,mb4.5/2,Error ellipse: s-maj=19.9km s-min=10.3km az=94.0*
ISC 22 16:52:32.6±1.2,30°.76S±0°.07×72°.3W±0°.1,h35km,n16, σ1$22/13,mb3.9/3,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**2.22**	**39**	*eP*	**Pn**	**16 53 07.1**	**-0.1**
LCO				*eS*	**Sn**	**16 53 34.9**	**+1.3**
CFAA	**Coronel Fontan**	**3.57**	**105**	Pn	Pn	16 53 26.2	+0.7
	1.4nm,0.3s,baz=280,slow=13,SNR=64						
CFAA				Sn	**Sn**	**16 54 08.4**	**+2.0**
	4.3nm,0.3s,baz=14,slow=19,SNR=6.0						
LVC	**Limon Verde**	**8.66**	**21**	Pn	Pn	16 54 37.9	+2.2
	5.3nm,0.3s,baz=225,slow=17,SNR=2.0						
LVC				LR	LR	16 57 53.7	
	comp=Z,224nm,19.9s,baz=210,slow=37						
LVC	**Limon Verde**	**8.66**	**21**	*e*Pn	**Pn**	**16 54 35.1**	**-0.5**
LVC				*e*S	Sn	16 56 27.7	+15
PLCA	**Paso Flores**	**10.05**	**172**	Pn	**Pn**	**16 54 54.3**	**-0.1**
	0.1nm,0.3s,baz=342,slow=19,SNR=2.7						
PLCA	**Paso Flores**	**10.05**	**172**	*e*Pn	**Pn**	**16 54 54.1**	**-0.3**
PLCA				*e*Sn	Sn	16 56 28.9	-17
TRQA	**Tornquist**	**11.19**	**133**	*e*Pn	Pn	16 55 11.2	+1.1
	2.8nm,0.6s						
TRQA				*e*Sn	**Sn**	**16 57 12.7**	**-1.2**
CPUP	**Villa Florida**	**13.87**	**75**	Pn	**Pn**	**16 55 45.5**	**-1.1**
	0.0nm,0.3s,baz=276,slow=19,SNR=2.3						
CPUP				LR	LR	17 01 20.0	
	comp=Z,386nm,18.8s,baz=196,slow=38						
CPUP	**Villa Florida**	**13.87**	**75**	Pn	**Pn**	**16 55 45.3**	**-1.3**
SAML	**Samuel**	**23.31**	**23**	P	**P**	**16 57 36.4**	**-1.1**
	2.7nm,1.2s						
BDFB	**Brasilia**	**26.83**	**61**	LR	LR	17 10 00.0	
	comp=Z,34nm,19.2s,baz=251,slow=39						
PMSA	**Palmer Station**	**34.42**	**174**	*eP*	**P**	**16 59 16.9**	**+0.6**
	36nm,0.7s						
VNA3	**Neumayer Olymp**	**52.43**	**159**	P	P	17 01 33.0	-8.2
TORD	**Torodi Ar. Bea**	**83.32**	**71**	P	**P**	**17 04 57.0**	**+0.7**
	0.7nm,0.7s,baz=254,slow=5.3,SNR=5.1						
ZALV	**Zalesovo Beam**	**151.55**	**29**	PKPbc	PKPab	17 12 25.1	-6.0
	0.8nm,0.6s,baz=312,slow=3.3,SNR=5.1						
ZALV				PKPab	PKiKP	17 12 34.2	+11
	1.3nm,0.7s,baz=325,slow=3.4,SNR=5.5						
MKAR	**Makanchi Array**	**154.68**	**44**	PKPab	**PKPab**	**17 12 46.2**	**+1.6**
	0.4nm,0.8s,baz=299,slow=5.9,SNR=3.1						

*IDC **22** 16:55:12.2±1.9,2°.18N×96°.30E,h0km,mb3.4/5,mb1 3.4/7, mb1mx3.3/30,mbtmp3.3/7,ML3.2/2,Error ellipse: s-maj=55.2km s-min=20.8km az=56.0*
*ISCJB **22** 16:55:14.9±1.4,2°.2N±0°.1×96°.4E±0°.2,h30km,mb3.4/5, Error ellipse: s-maj=29.2km s-min=15.5km az=144.1*
ISC 22 16:55:17.5±1.9,2°.3N±0°.2×96°.5E±0°.2,h30km,n13,σ1$22/7, mb3.3/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.46**	**79**	Pn	**Pn**	**16 55 55.5**	**-0.1**
	1.7nm,0.3s,baz=242,slow=5.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**16.19**	**8**	Pn	**P**	**16 59 05.0**	**-0.9**
	0.1nm,0.3s,baz=198,slow=12,SNR=6.5						
H08S2	**Diego Garcia H**	**25.93**	**247**	T	T	17 27 12.4	
	baz=68,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**25.93**	**247**	T	T	17 27 13.5	
	baz=68,slow=75,SNR=33						
H08S1	**Diego Garcia H**	**25.95**	**247**	T	T	17 27 13.5	
	baz=68,slow=75,SNR=36						
H01W3	**Cape Leeuwin H**	**40.56**	**157**	T	T	17 45 47.8	
	baz=329						
H01W2	**Cape Leeuwin H**	**40.57**	**158**	T	T	17 45 48.8	
	baz=329						
H01W1	**Cape Leeuwin H**	**40.57**	**157**	T	T	17 45 46.5	
	baz=329						
WRA	**Warramunga Arr**	**43.22**	**123**	P	**P**	**17 03 15.6**	**-0.8**
	0.2nm,0.9s,baz=296,slow=9.3,SNR=2.7						
ASAR	**Alice Springs**	**44.63**	**128**	P	**P**	**17 03 28.2**	**+0.5**
	0.3nm,1.0s,baz=300,slow=8.4,SNR=2.8						
MKAR	**Makanchi Array**	**45.98**	**346**	P	**P**	**17 03 37.2**	**-0.8**
	0.8nm,0.9s,baz=174,slow=8.3,SNR=5.9						
SONM	**Songino Array**	**46.12**	**9**	P	**P**	**17 03 41.0**	**+1.8**
	0.3nm,0.7s,baz=187,slow=9.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.33**	**351**	P	**P**	**17 04 25.8**	**-0.6**
	1.1nm,0.6s,baz=180,slow=8.0,SNR=6.1						

*ISCJB **22** 17:12:11.8±0.3,32°.69N±0°.02×115°.76W±0°.02,h12km±2km, mb3.9/12,MS3.7/5,Error ellipse: s-maj=2.6km s-min=2.3km az=5.0*
*IASPEI **22** 17:12:11.9±0.9,32°.69N±0°.02×115°.79W±0°.02,h18km±5km, mb4.0/12,MS3.6/5,Error ellipse: s-maj=3.6km s-min=2.9km az=168.2*
*IDC **22** 17:12:11.7±0.9,32°.73N×115°.75W,h0km,mb4.0/12, mb1 4.1/18,mb1mx3.9/36,mbtmp3.9/18,ML3.9/6,MS3.3/10, Ms1 3.3/10,ms1mx3.1/36,Error ellipse: s-maj=17.4km s-min=8.2km az=47.0*
*NEIC **22** 17:12:13.0,32°.66N×115°.81W,h6km,MD4.3(MEX), ML4.5(ECX),ML4.6(PAS),After PAS.*
NEIC Felt [IV] at Calexico, El Centro and Imperial; [III] at Brawley, Escondido, Heber and La Mesa; [II] in much of Orange and San Diego Counties. Felt at Yuma, Arizona. Felt [III] at Mexicali and [II] at Tecate and Tijuana, Baja California. Also felt at Primo Tapia.
*MEX **22** 17:12:12.4±1.1,32°.87N×115°.71W,h15km±54km,MD4.3*
*ECX **22** 17:12:13.3±0.7,32°.67N×115°.81W,h4km,MD4.4,ML4.6*
ISC 22 17:12:12.7±0.8,32°.67N±0°.02×115°.79W±0°.02,h9km±5km, n107,σ1$30/130,mb4.0/12,MS3.6/5,45C-33D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**113**⇓	*eP*	**Pg**	**17 12 14.5**	**-0.1**
YUH	**Yuha Desert**	**0.12**	**258**⇓	*eP*	**Pg**	**17 12 15.2**	**-0.3**
COK	**Cook Ranch**	**0.18**	**16**⇑	*eP*	**Pg**	**17 12 17.1**	**+0.5**
RMX	**La Rumorosa**	**0.26**	**254**⇑	*i*P	**Pg**	**17 12 17.7**	**-0.2**
IBP	**Imperial Bould**	**0.26**	**268**	⇑P	**Pg**	**17 12 17.8**	**-0.1**
	baz=0.2						
IBP				⇑S	**Sg**	**17 12 21.4**	**0.0**
	baz=0.2						
CRR	**Carrizo Plain**	**0.26**	**324**⇓	*eP*	**Pg**	**17 12 18.0**	**0.0**
SWSC	**Sam W. Stewart**	**0.27**	**358**	⇑P	**Pg**	**17 12 18.2**	**+0.1**
	baz=0.3						
SWSC				⇑S	**Sg**	**17 12 22.1**	**+0.4**
	baz=0.3						
CPBX	**Cerro Prieto**	**0.48**	**122**	*eP*	**Pg**	**17 12 22.2**	**+0.2**
CPBX	**Cerro Prieto**	**0.48**	**122**	*i* P	**Pg**	**17 12 22.2**	**+0.2**
CPBX				*i* S	**Sb**	**17 12 30.5**	**+0.1**
MBIG	**Mexicali**	**0.56**	**118**	*eP*	**Pg**	**17 12 23.8**	**+0.2**
MBIG				*eS*	**Sg**	**17 12 30.7**	**-0.3**
MONP	**Monument Peak,**	**0.58**	**292**	⇑P	**Pg**	**17 12 23.6**	**-0.3**
	baz=0.6						
MONP				⇓S	**Sg**	**17 12 31.0**	**-0.5**
	baz=0.6						
COA	**Coachella**	**0.59**	**71**⇑	*eP*	**Pg**	**17 12 24.2**	**+0.1**
BAR	**Barrett**	**0.75**	**271**	*eP*	**Pg**	**17 12 26.4**	**-0.7**
RDX	**Rancho Dawling**	**0.75**	**190**	*eP*	**Pg**	**17 12 26.2**	**-1.0**
RDX				*eS*	**Sg**	**17 12 36.7**	**-0.3**
CBX	**Cerro Bola**	**0.82**	**244**	*i* P	**Pg**	**17 12 27.9**	**-0.7**
CBX				*i* S	**Sg**	**17 12 39.4**	**+0.1**
CBX	**Cerro Bola**	**0.82**	**244**	*eP*	**Pg**	**17 12 27.9**	**-0.7**
CBX				*eP*	**Pg**	**17 12 27.9**	**-0.7**
CBX				*eS*	**Sg**	**17 12 38.4**	**-0.9**
CBX				*eS*	**Sb**	**17 12 38.6**	**-1.8**
CBX				⇓*e*		17 12 42.4	
	comp=E,25μm,0.3s						
CBX	**Cerro Bola**	**0.82**	**244**	*i* P	**Pg**	**17 12 27.9**	**-0.7**
CBX				*i* S	**Sg**	**17 12 39.4**	**+0.1**
GLA	**Glamis**	**0.89**	**65**	⇑P	**Pg**	**17 12 28.7**	**-1.2**
	baz=0.9						
GLA				⇑S	**Sg**	**17 12 40.5**	**-1.0**
	baz=0.9						
GLA	**Glamis**	**0.89**	**65**	*e*Pg	**Pg**	**17 12 28.6**	**-1.3**
GLA				*e*Sg	**Sg**	**17 12 40.5**	**-1.0**
BC3	**Big Chuckawall**	**1.02**	**16**	⇑P	**Pg**	**17 12 30.8**	**-1.5**
	baz=1.0						
YMD	**Yuma Desert**	**1.05**	**96**⇑	*eP*	**Pg**	**17 12 30.9**	**-2.0**
PFO	**Pinyon Flats O**	**1.09**	**329**	Pg	**Pg**	**17 12 31.7**	**-2.0**
	baz=151,slow=15						
PFO				Lg	Lg	17 12 47.0	
	baz=58,slow=19						
PFO	**Pinyon Flats O**	**1.09**	**329**	⇑P	**Pg**	**17 12 31.6**	**-2.0**
	baz=1.1						
PFO				⇑S	**Sg**	**17 12 46.9**	**-0.9**
	baz=1.1						
109C	**Camp Elliot, M**	**1.13**	**281**	⇑P	**Pb**	**17 12 32.9**	**-1.4**
	baz=1.1						
109C				⇓S	**Sg**	**17 12 47.2**	**-1.9**
	baz=1.1						
PBX	**Punta Banda**	**1.22**	**221**	*eP*	**Pn**	**17 12 34.7**	**-1.2**
PBX				*eS*	**Sb**	**17 12 50.7**	**-1.0**
ECNX	**Esteban Cantu**	**1.22**	**214**	*eP*	**Pn**	**17 12 34.6**	**-1.4**
ECNX				*eS*	**Sb**	**17 12 51.2**	**-0.7**
ZAX	**El Zacaton**	**1.23**	**200**	*eP*	**Pn**	**17 12 34.8**	**-1.2**
ZAX				*eS*	**Sb**	**17 12 50.9**	**-1.1**
ZAX				AML	AML	17 12 52.1	
	comp=N,17μm,0.4s						
ZAX				⇓*e*		17 12 52.1	
BELC	**Belle Mtn. Jos**	**1.34**	**352**	⇓P	**Pn**	**17 12 35.4**	**-2.2**
	baz=1.4						
MURC	**Murrieta**	**1.50**	**308**	⇑P	**Pn**	**17 12 37.7**	**-2.1**
	baz=1.5						
Y12C	**Blythe**	**1.51**	**44**	⇓P	**Pn**	**17 12 37.8**	**-2.0**
	baz=1.5						
IRM	**Iron Mountain**	**1.58**	**20**	⇑P	**Pn**	**17 12 38.9**	**-1.9**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.64**	**170**	*eP*	**Pn**	**17 12 40.6**	**-1.4**
SPIG				*eS*	**Sn**	**17 13 02.5**	**-0.9**
SPIG	**San Pedro Mart**	**1.64**	**170**	*eP*	**Pn**	**17 12 40.6**	**-1.4**
SPIG				*eS*	**Sn**	**17 13 02.5**	**-0.9**
SPX	**San Pedro Mart**	**1.65**	**170**	*eP*	**Pn**	**17 12 41.9**	**-0.1**
SPX				*eP*	**Pb**	**17 12 42.2**	**-1.1**
SPX				*eS*	**Sn**	**17 13 04.2**	**+0.8**
SPX				*eS*	**Sb**	**17 13 04.8**	**+0.5**
SPX				⇑*e*		17 13 06.2	
	comp=E,4μm,0.7s						
SPX	**San Pedro Mart**	**1.65**	**170**	*eP*	**Pn**	**17 12 40.6**	**-1.4**
SPX				*eS*	**Sn**	**17 13 01.2**	**-2.2**
113A	**Mohawk Valley,**	**1.71**	**86**	⇑P	**Pn**	**17 12 40.6**	**-2.0**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.85**	**329**	⇓P	**Pn**	**17 12 43.4**	**-1.4**
	baz=1.9						
GMRC	**Granite Mounta**	**2.11**	**3**	⇑P	**Pn**	**17 12 46.5**	**-1.7**
	baz=2.1						
PDMCI	**Parker Dam,Lak**	**2.13**	**40**	⇓P	**Pn**	**17 12 46.9**	**-1.4**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.20**	**348**	⇑P	**Pn**	**17 12 47.7**	**-1.8**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.21**	**315**	⇓P	**Pn**	**17 12 47.9**	**-1.7**
	baz=2.2						
BFSC				⇑Sb	**Sb**	**17 13 20.1**	**-0.3**
	baz=2.2						
NEE2	**Needles Airpor**	**2.31**	**25**	⇓P	**Pn**	**17 12 49.4**	**-1.4**
	baz=2.3						
SCI	**San Clemente I**	**2.34**	**278**	⇑P	**Pn**	**17 12 50.9**	**-0.5**
	baz=2.3						
SCI				⇓S	**Sn**	**17 13 19.3**	**-0.9**
	baz=2.3						
FMP	**Fort Macarthur**	**2.34**	**297**	⇑Sb	**Sb**	**17 13 23.7**	**-0.4**
	baz=2.3						
RRX	**Edison Barstow**	**2.42**	**336**	⇑P	**Pn**	**17 12 51.0**	**-1.4**
	baz=2.4						
Z14A	**Wintersburg**	**2.48**	**73**	⇑P	**Pn**	**17 12 51.5**	**-1.8**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.62**	**105**	⇓P	**Pn**	**17 12 52.7**	**-2.5**
	baz=2.6						
DECC	**Green Verdugo**	**2.65**	**307**	⇓Sb	**Sb**	**17 13 33.4**	**+0.6**
	baz=2.6						
Y14A	**Wickenburg**	**2.65**	**61**	⇑P	**Pn**	**17 12 54.1**	**-1.5**
	baz=2.7						
Y14A				⇓S	**Sn**	**17 13 26.0**	**-1.9**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.76**	**342**	⇑P	**Pn**	**17 12 55.6**	**-1.5**
	baz=2.8						
TUQ	**Turquoise Moun**	**2.76**	**358**	⇑P	**Pn**	**17 12 55.6**	**-1.5**
	baz=2.8						
EDW2	**Edwards Air Fo**	**2.87**	**321**	⇑P	**Pn**	**17 12 57.2**	**-1.4**
	baz=2.9						
EDW2				⇓Sb	**Sb**	**17 13 40.0**	**+0.8**
	baz=2.9						
BLG	**Laguna Peak, P**	**3.09**	**299**	⇓P	**Pn**	**17 12 59.8**	**-1.9**
	baz=3.1						
BLG				⇓Sb	**Sb**	**17 13 46.5**	**+0.8**
	baz=3.1						
OSI	**Osito Audit: C**	**3.12**	**309**	⇓Pb	**Pb**	**17 13 06.9**	**-1.5**
	baz=3.1						
OSI				⇑Sb	**Sb**	**17 13 47.4**	**+0.8**
	baz=3.1						
LRMC	**Laurel Mtn Rad**	**3.21**	**331**	⇑P	**Pn**	**17 13 02.0**	**-1.4**
	baz=3.2						
ARVC	**Arvin**	**3.52**	**315**	⇓P	**Pn**	**17 13 06.4**	**-1.1**
	baz=3.5						
MPMC	**Manual Prospec**	**3.66**	**338**	⇓P	**Pn**	**17 13 08.2**	**-1.5**
	baz=3.7						
ISA	**Isabella, Lake**	**3.72**	**324**	⇓P	**Pn**	**17 13 08.9**	**-1.5**
	baz=3.7						
X16A	**Lo Mia Camp, P**	**4.03**	**63**	⇓P	**Pn**	**17 13 14.0**	**-0.6**
	baz=4.0						
VES	**Vestal, Richgr**	**4.18**	**320**	⇑P	**Pn**	**17 13 15.4**	**-1.1**
	baz=4.2						
TUC	**Tucson**	**4.24**	**94**	*eP*	**Pn**	**17 13 15.0**	**-2.5**
TUC				*eS*	**Sn**	**17 14 01.4**	**-5.8**
TPNV	**Topopah Spring**	**4.28**	**355**	⇓P	**Pn**	**17 13 17.8**	**-0.4**
	baz=4.3						
GRAC	**Grapevine Rang**	**4.51**	**344**	⇑P	**Pn**	**17 13 20.7**	**-0.4**
	baz=4.5						
WUAZ	**Wupatki**	**4.63**	**51**	⇓P	**Pn**	**17 13 23.1**	**+0.2**
	baz=4.6						
U15A	**North Rim**	**4.73**	**37**	⇓P	**Pn**	**17 13 24.8**	**+0.4**
	baz=4.8						
X18A	**Snowflake**	**5.21**	**68**	⇓P	**Pn**	**17 13 30.7**	**-0.2**
	baz=5.2						
W18A	**Petrified Fore**	**5.59**	**62**	⇓P	**Pn**	**17 13 36.8**	**+0.7**
	baz=5.6						
R11A	**Troy Canyon, C**	**5.67**	**2**	⇑P	**Pn**	**17 13 37.1**	**-0.1**
	baz=5.7						
319A	**Douglas**	**5.67**	**101**	⇓P	**Pn**	**17 13 35.8**	**-1.4**
	baz=5.7						
NVAR	**Mina Array Bea**	**6.10**	**341**	Pn	**Pn**	**17 13 43.1**	**0.0**
	comp=E,1.9nm,0.3s,baz=161,slow=15,SNR=25						
NVAR				Pg	Pg	17 14 04.9	-4.6
	comp=E,2.3nm,0.3s,baz=158,slow=17,SNR=7.5						
NVAR				Lg	Lg	17 15 24.3	
	baz=149,slow=39,SNR=1.8						
121A	**Cookes Peak, D**	**6.75**	**89**	⇓P	**Pn**	**17 13 51.4**	**-0.7**
	baz=6.8						
ELK	**Elko**	**8.07**	**3**	Pn	**Pn**	**17 14 10.8**	**+0.6**
	comp=E,0.3nm,0.3s,baz=161,slow=14,SNR=5.6						
ELK				Pg	**Pg**	**17 14 46.3**	**-0.8**
	comp=E,0.6nm,0.3s,baz=179,slow=16,SNR=8.8						
ELK				Lg	Lg	17 16 25.2	
	comp=E,0.2nm,0.3s,baz=105,slow=20,SNR=2.8						
ELK				LR	LR	17 17 35.1	
	comp=E,226nm,21.3s,baz=180,slow=40						
ANMO	**Albuquerque**	**8.09**	**71**	Pn	**Pn**	**17 14 11.4**	**+0.9**
	comp=E,1.8nm,0.3s,baz=258,slow=13,SNR=22						
ANMO				Lg	Lg	17 16 28.2	
	comp=E,0.6nm,0.3s,baz=32,slow=19,SNR=3.1						
ANMO				LR	LR	17 17 32.9	
	comp=E,248nm,18.9s,baz=280,slow=40						
MNTX	**Cornudas Mount**	**8.87**	**93**	⇑P	**Pn**	**17 14 20.5**	**-0.6**
	baz=8.9						
S22A	**4UR Ranch, Cre**	**8.91**	**53**	⇓P	**Pn**	**17 14 23.1**	**+1.4**
	baz=8.9						
O20A	**White River Ci**	**9.61**	**37**	⇑P	**Pn**	**17 14 32.8**	**+1.5**
	baz=9.6						
LPIG	**La Paz**	**9.80**	**149**	LR	LR	17 18 22.1	
	comp=E,132nm,20.9s,baz=24,slow=38						
R23A	**Moffat**	**9.81**	**53**	⇑P	**Pn**	**17 14 35.7**	**+1.5**
	baz=9.8						
SDCO	**Great Sand Dun**	**9.82**	**56**	⇑P	**Pn**	**17 14 35.2**	**+1.0**
	baz=9.8						
P23A	**Jefferson**	**10.46**	**47**	⇑P	Pn	17 14 46.4	+3.2
	baz=10						
O22A	**Kremmling**	**10.54**	**42**	⇓P	**Pn**	**17 14 47.3**	**+3.1**
	baz=11						
YBH	**Yreka Blue Hor**	**10.59**	**331**	LR	LR	17 17 58.8	
	comp=E,55nm,20.0s,baz=268,slow=33						
ISCO	**Idaho Springs**	**10.86**	**46**	⇑P	Pn	17 14 51.8	+3.2
	baz=11						
TXAR	**Lajitas Array**	**10.92**	**105**	Pn	**Pn**	**17 14 49.6**	**+0.4**
	comp=E,0.9nm,0.3s,baz=288,slow=13,SNR=29						

comp=E,0.7nm,0.7s,baz=1.4,slow=5.8,SNR=4.8
KURK Kurchatov 96.00 351 P **P** **17 25 40.4 +0.4**
KURBB Kurchatov Arra 96.11 351 P **P** **17 25 40.4 -0.1**
comp=E,0.3nm,0.8s,baz=6.1,slow=4.1,SNR=3.1
WRA Warramunga Arr 116.87 263 PKP **PKPdf** **17 30 57.9 -0.2**
comp=E,0.3nm,0.6s,baz=58,slow=2.0,SNR=4.9
ASAR Alice Springs 118.87 259 PKP **PKPdf** **17 31 01.3 -0.6**
comp=E,0.6nm,0.9s,baz=62,slow=2.2,SNR=5.2

IDC 22 17:15:08.8±49.0, 16°27S×173°57W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=933.8km s-min=190.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.46**	**241**	P	P	17 23 14.5	+0.6
	0.4nm,0.4s,baz=103,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**49.49**	**257**	P	P	17 24 00.7	-0.8
	0.1nm,0.3s,baz=95,slow=8.0,SNR=8.4						
ASAR	**Alice Springs**	**49.69**	**253**	P	P	17 24 03.0	0.0
	1.0nm,0.4s,baz=89,slow=8.1,SNR=41						

*IDC **22** 17:18:31.7±1.0, 7.68N×137.24E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/27, mbtmp3.8/11, MS3.2/10, Ms1 3.3/10, ms1mx3.1/30, Error ellipse: s-maj=36.2km s-min=16.1km az=78.0*
*ISCJB **22** 17:18:33.1±0.8, 7.7N±0.1×137.2E±0.2, h22km, mb3.8/11, MS3.2/10, Error ellipse: s-maj=28.9km s-min=13.4km az=167.1*
ISC 22 17:18:35.2±1.0, 7.7N±0.1×137.2E±0.2, h22km, n23, σ0s27/12, mb3.8/11, MS3.2/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**26.00**	**348**	LR	LR	17 34 46.8	
	comp=Z,62nm,18.9s,baz=22,slow=38						
WRA	**Warramunga Arr**	**27.59**	**186**	P	**P**	**17 24 20.4**	**-0.6**
	0.9nm,0.6s,baz=4.4,slow=10.0,SNR=28						
HNR	**Honiara**	**28.31**	**126**	LR	LR	17 34 03.4	
	comp=Z,78nm,21.7s,baz=267,slow=33						
MJAR	**Matsushiro Arr**	**28.75**	**2**	LR	LR	17 34 10.3	
	comp=Z,38nm,18.6s,baz=185,slow=33						
H11S3	**WAKE ISLAND Hy 30.62**		**66**	T	T	17 56 58.9	
	baz=253,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy 30.62**		**66**	T	T	17 56 59.8	
	baz=253,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy 30.62**		**67**	T	T	17 57 00.0	
	baz=253,slow=75,SNR=62						
KSRS	**Korea Array**	**30.83**	**345**	LR	LR	17 35 45.2	
	comp=Z,26nm,20.1s,baz=178,slow=34						
H11N1	**WAKE ISLAND Hy 31.15**		**64**	T	T	17 57 42.6	
	baz=259,slow=75						
H11N2	**WAKE ISLAND Hy 31.16**		**64**	T	T	17 57 48.1	
	baz=259						
H11N3	**WAKE ISLAND Hy 31.17**		**64**	T	T	17 57 42.6	
	baz=259,slow=75						
ASAR	**Alice Springs**	**31.31**	**186**	P	**P**	**17 24 54.4**	**+0.3**
	0.3nm,0.5s,baz=17,slow=12,SNR=14						
ASAR				LR	LR	17 38 03.3	
	comp=Z,73nm,18.5s,baz=346,slow=37						
ASAJ	**Asahikawa**	**36.61**	**7**	LR	LR	17 40 38.3	
	comp=Z,39nm,18.1s,slow=36						
PSI	**Prapat**	**38.42**	**265**	P	**P**	**17 25 55.8**	**0.0**
	3.3nm,0.5s,baz=123,slow=5.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**38.71**	**290**	P	**P**	**17 25 58.0**	**0.0**
	1.1nm,0.9s,baz=105,slow=6.6,SNR=7.5						
CMAR				LR	LR	17 41 09.0	
	comp=Z,16nm,19.9s,baz=110,slow=35						
STKA	**Stephens Creek**	**39.55**	**174**	P	**P**	**17 26 04.8**	**+0.1**
	0.7nm,0.5s,baz=6.3,slow=9.2,SNR=5.2						
STKA				LR	LR	17 42 40.3	
	comp=Z,54nm,20.1s,baz=26,slow=37						
SONM	**Songino Array**	**47.82**	**332**	P	**P**	**17 27 11.4**	**0.0**
	1.3nm,1.0s,baz=134,slow=8.2,SNR=7.8						
SONM				PcP	**PcP**	**17 28 39.9**	**-0.1**
	0.3nm,0.5s,baz=132,slow=2.1,SNR=2.3						
MKAR	**Makanchi Array**	**60.81**	**320**	P	**P**	**17 28 46.2**	**+0.3**
	1.2nm,0.7s,baz=120,slow=5.2,SNR=17						
ZALV	**Zalesovo Beam**	**62.33**	**328**	P	**P**	**17 28 55.9**	**+0.1**
	0.3nm,0.4s,baz=117,slow=8.7,SNR=2.9						
ZALV				LR	LR	17 55 07.6	
	comp=Z,23nm,21.1s,baz=70,slow=35						
KURBB	**Kurchatov Arra**	**64.51**	**323**	P	**P**	**17 29 10.2**	**-0.1**
	0.4nm,0.4s,baz=114,slow=5.7,SNR=7.4						
BVAR	**Borovoye Array**	**70.05**	**324**	P	**P**	**17 29 45.4**	**0.0**
	1.1nm,0.8s,baz=104,slow=6.1,SNR=6.6						
ILAR	**Eielson Array**	**77.10**	**25**	P	**P**	**17 30 26.6**	**0.0**
	0.4nm,0.6s,baz=262,slow=5.2,SNR=4.1						
NOA	**NORSAR Array B**	**99.66**	**336**	LR	LR	18 20 36.1	
	comp=Z,11nm,19.8s,baz=85,slow=37						

IDC 22 17:31:24.9±0.8, 18°31S×174°80W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.2/22, mbtmp4.3/11, Error ellipse: s-maj=35.5km s-min=17.2km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.09**	**198**	P	P	17 36 11.5	+0.5
	18nm,0.4s,baz=309,slow=1.7,SNR=41						
RPZ	**Rata Peaks**	**27.99**	**202**	P	P	17 37 17.2	-0.2
	5.0nm,0.4s,baz=67,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**41.47**	**242**	P	P	17 39 13.6	-0.2
	0.9nm,0.5s,baz=91,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**47.93**	**259**	P	P	17 40 05.4	-0.2
	2.4nm,0.3s,baz=96,slow=7.3,SNR=7.1						
ASAR	**Alice Springs**	**47.99**	**254**	P	P	17 40 06.1	+0.1
	10nm,0.8s,baz=83,slow=8.5,SNR=14						
PETK	**Petropavlovsk-**	**75.00**	**343**	P	P	17 43 08.4	+0.4
	1.5nm,0.8s,baz=134,slow=8.3,SNR=3.6						
NVAR	**Mina Array Bea**	**77.38**	**42**	P	P	17 43 22.9	+0.8
	0.6nm,0.8s,baz=227,slow=8.5,SNR=3.4						
TXAR	**Lajitas Array**	**83.34**	**56**	P	P	17 43 53.7	-0.6
	0.6nm,0.7s,baz=246,slow=6.8,SNR=3.5						
SEY	**Seymchan**	**84.98**	**346**	P	P	17 44 01.4	-0.4
	0.9nm,0.2s,baz=34,slow=18,SNR=5.0						
PDAR	**Pinedale Array**	**85.31**	**42**	P	P	17 44 04.3	+0.1
	0.4nm,0.8s,baz=240,slow=3.0,SNR=3.4						
ILAR	**Eielson Array**	**85.55**	**12**	P	P	17 44 04.7	+0.1
	1.1nm,0.5s,baz=223,slow=5.7,SNR=18						
ARCES	**ARCESS Array B**	**127.28**	**351**	PKP	PKPdf	17 50 29.8	-1.1
	2.0nm,0.9s,baz=29,slow=2.1,SNR=4.3						
KMBO	**Kilima Mbogo**	**143.03**	**242**	PKP	PKPdf	17 51 01.5	-0.6
	0.9nm,0.5s,baz=62,slow=18,SNR=3.6						
BRTR	**Keskin Array B**	**147.46**	**317**	PKPbc	PKPbc	17 51 10.6	-0.8
	1.2nm,0.6s,baz=90,slow=4.3,SNR=8.5						
GERES	**GERESS Array B**	**148.77**	**349**	PKPbc	PKPbc	17 51 13.7	-0.8
	0.4nm,0.6s,baz=1.4,slow=3.9,SNR=4.2						

*ISCJB **22** 17:34:37.7±0.4, 5.40S±0.05×147.37E±0.08, h170km, mb3.9/15, Error ellipse: s-maj=11.7km s-min=7.3km az=12.6*
*IDC **22** 17:34:42.5±0.7, 5.52S×147.37E, h204km±5km, mb3.7/15, mb1 3.8/17, mb1mx3.8/23, mbtmp4.3/17, Error ellipse: s-maj=14.1km s-min=8.2km az=97.0*
ISC 22 17:34:39.1±0.6, 5.47S±0.07×147.3E±0.1, h170km, n28, σ0s92/28, mb4.0/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.40**	**1**	P	Pn	17 35 36.8	+4.5
	baz=3.4,SNR=4.8						
PMG	**Port Moresby**	**3.92**	**183**	P	**Pn**	**17 35 40.1**	**+1.2**
	baz=4.0,SNR=125						
RABL	**Rabaul**	**4.98**	**75**	P	**Pn**	**17 35 53.5**	**+0.9**
	baz=5.0,SNR=103						
COEN	**Coen**	**9.38**	**206**	P	Pn	17 36 54.4	+3.6
	baz=9.5,SNR=17						
COEN				S	Sn	17 38 28.6	-6.6
	baz=9.5,SNR=8.4						
CTA	**Charters Tower**	**14.57**	**184**	P	**P**	**17 37 59.7**	**+0.4**
	1.3nm,0.3s,baz=6.1,slow=14,SNR=26						
WRA	**Warramunga Arr**	**19.15**	**220**	P	**P**	**17 38 50.7**	**+1.0**
	4.6nm,0.3s,baz=47,slow=12,SNR=358						
WRA				S	**S**	**17 42 16.2**	**-1.6**
	baz=46,slow=20,SNR=14						
QLP	**Quilpie**	**21.20**	**188**	P	**P**	**17 39 12.1**	**+0.6**
	baz=21,SNR=10						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**17 39 23.2**	**+0.9**
	24nm,0.9s,baz=48,slow=8.6,SNR=229						
ASAR				S	**S**	**17 43 14.0**	**-0.7**
	3.4nm,1.1s,baz=35,slow=13,SNR=5.6						
DZM	**Mont Dzumac**	**24.78**	**134**	P	**P**	**17 39 45.1**	**-0.4**
	6.2nm,0.5s,baz=330,slow=8.1,SNR=9.0						
WRKA	**Warakurna**	**26.69**	**221**	P	**P**	**17 40 02.9**	**+0.3**
	baz=27,SNR=56						
STKA	**Stephens Creek**	**26.82**	**191**	P	**P**	**17 40 03.4**	**-0.3**
	4.6nm,0.7s,baz=352,slow=8.5,SNR=14						
STKA	**Stephens Creek**	**26.82**	**191**	P	**P**	**17 40 03.2**	**-0.3**
	baz=27,SNR=9.9						
BBOO	**Buckleboo**	**29.17**	**200**	P	**P**	**17 40 24.5**	**0.0**
	baz=29,SNR=5.3						
FORT	**Forrest**	**31.02**	**213**	P	**P**	**17 40 41.2**	**+0.3**
	baz=31,SNR=12						
MORW	**Morawa**	**37.77**	**228**	P	**P**	**17 41 39.4**	**+0.4**
	baz=38,SNR=3.9						
JNU	**Nakatsue**	**41.43**	**339**	P	**P**	**17 42 10.7**	**+1.5**
	7.1nm,0.6s,baz=207,slow=4.5,SNR=2.4						
URZ	**Urewera**	**42.39**	**145**	P	**P**	**17 42 16.2**	**-0.6**
	4.9nm,0.7s,baz=307,slow=5.1,SNR=4.3						
MJAR	**Matsushiro Arr**	**42.65**	**349**	P	**P**	**17 42 19.0**	**+0.1**
	2.1nm,0.9s,baz=163,slow=7.8,SNR=4.1						
RPZ	**Rata Peaks**	**43.45**	**155**	P	**P**	**17 42 25.3**	**0.0**
	8.7nm,0.9s,baz=354,slow=10,SNR=3.5						
USRK	**Ussuriysk Ar.**	**51.34**	**346**	P	**P**	**17 43 26.8**	**+0.7**
	1.0nm,0.6s,baz=168,slow=7.4,SNR=5.0						
CMAR	**Chiang Mai Arr**	**53.30**	**298**	P	**P**	**17 43 39.8**	**-1.2**
	0.3nm,0.6s,baz=120,slow=5.3,SNR=3.1						
CMAR				pP	pP	17 44 26.8	+7.1
	0.3nm,0.6s,baz=124,slow=5.3,SNR=2.6						
PETK	**Petropavlovsk-**	**59.01**	**7**	P	**P**	**17 44 21.2**	**+0.4**
	2.0nm,0.9s,baz=191,slow=6.9,SNR=3.7						
SONM	**Songino Array**	**64.11**	**331**	P	**P**	**17 44 56.5**	**+1.2**
	0.9nm,0.7s,baz=152,slow=5.6,SNR=7.8						
VNDA	**Vanda**	**72.42**	**177**	P	**P**	**17 45 45.8**	**-0.5**
	3.0nm,0.6s,baz=334,slow=6.6,SNR=17						
MKAR	**Makanchi Array**	**77.30**	**320**	P	**P**	**17 46 14.8**	**-0.1**
	0.4nm,0.4s,baz=132,slow=4.1,SNR=14						
MKAR				pP	pP	17 47 05.0	+8.6
	0.1nm,0.4s,baz=100,slow=5.0,SNR=1.3						
ZALV	**Zalesovo Beam**	**78.74**	**328**	P	**P**	**17 46 21.6**	**-1.0**
	0.8nm,0.4s,baz=104,slow=5.2,SNR=4.8						
ILAR	**Eielson Array**	**84.86**	**23**	P	**P**	**17 46 52.6**	**-1.8**
	0.4nm,0.8s,baz=250,slow=5.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**145.28**	**285**	PKPbc	**PKPdf**	**17 53 56.4**	**-1.3**
	0.6nm,0.4s,baz=75,slow=3.1,SNR=12						
TORD				pPKPbc	pPKPbc	17 54 48.1	+6.3
	1.8nm,0.9s,baz=96,slow=3.3,SNR=6.7						

*ISCJB **22** 17:35:46.6±0.5, 32.20N±0.02×115.26W±0.04, h11km±4km, Error ellipse: s-maj=6.1km s-min=3.8km az=168.2*
*ECX **22** 17:35:47.9±0.5, 32.21N×115.28W, h7km, MD3.4, ML3.6*
*NEIC **22** 17:35:47.9, 32.21N×115.27W, h7km, MD3.7(MEX), ML3.4(PAS), ML3.6(ECX), After ECX.*
NEIC Felt at Mexicali.
*MEX **22** 17:35:48.7±0.9, 32.23N×115.15W, h10km, MD3.7*
ISC 22 17:35:46.4±0.9, 32°19N±0.02×115°27W±0.03, h15km±6km, n25, σ0s35/44, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.20**	**172**	*e*P	**Pg**	**17 35 50.5**	**-0.5**
EMX				*e*S	**Sg**	**17 35 54.0**	**-0.1**
EMX				⇑*e*		17 35 57.1	
	comp=E,7μm,0.9s						
EMX	**El Mayor**	**0.20**	**172**	*e*P	**Pg**	**17 35 50.5**	**-0.5**
EMX				*e*S	**Sg**	**17 35 54.0**	**-0.1**
MBIG	**Mexicali**	**0.23**	**16**	*e*P	**Pg**	**17 35 51.8**	**+0.3**
MBIG				*e*S	**Sg**	**17 35 55.3**	**+0.4**
CPBX	**Cerro Prieto**	**0.23**	**354**	*e*P	**Pg**	**17 35 51.6**	**0.0**
CPBX				*e*P	**Pg**	**17 35 51.6**	**0.0**
CPBX				*e*S	**Sg**	**17 35 55.2**	**+0.3**
CPBX				*e*S	**Sg**	**17 35 55.3**	**+0.3**
CPBX				*e*		17 35 58.0	
	comp=E,58μm,0.3s						
CPBX	**Cerro Prieto**	**0.23**	**354**	*i* P	**Pg**	**17 35 51.7**	**+0.1**
CPBX				*i* S	**Sb**	**17 35 55.7**	**-0.6**
SGL	**Mount Signal**	**0.60**	**320**	⇓*i* P	**Pg**	**17 35 58.1**	**0.0**
SGL	**Mount Signal**	**0.60**	**320**	⇓*i* P	**Pg**	**17 35 58.1**	**0.0**
RDX	**Rancho Dawling**	**0.62**	**246**	*e*P	**Pg**	**17 35 59.0**	**+0.3**
RDX				*e*S	**Sb**	**17 36 07.7**	**-0.1**
RDX				⇑*e*		17 36 10.3	
	comp=N,2μm,0.5s						
COA	**Coachella**	**0.69**	**11**	*e*P	**Pg**	**17 35 59.7**	**-0.1**
YUH	**Yuha Desert**	**0.72**	**310**	⇓*i* P	**Pg**	**17 35 60.0**	**-0.4**
YMD	**Yuma Desert**	**0.72**	**59**	⇑*i* P	**Pg**	**17 36 00.1**	**-0.2**
ECBX	**El Chinero**	**0.74**	**165**	*e*P	**Pg**	**17 36 00.5**	**-0.3**
ECBX				*e*S	**Sb**	**17 36 10.9**	**+0.1**
ECBX				*e*		17 36 14.6	
	comp=E,1μm,0.8s						
COK	**Cook Ranch**	**0.76**	**330**	*e*P	**Pg**	**17 36 01.2**	**-0.1**
RMX	**La Rumorosa**	**0.80**	**302**	*i* PG	**Pg**	**17 36 01.6**	**-0.4**
RMX				*e*S	**Sg**	**17 36 12.7**	**+0.2**
ZAX	**El Zacaton**	**1.08**	**232**	*e*P	**Pb**	**17 36 07.0**	**+0.1**
ZAX				*e*S	**Sg**	**17 36 21.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.15**	**188**	*e*P	**Pn**	**17 36 08.3**	**0.0**
SPIG				*i* S	**Sg**	**17 36 24.5**	**+0.8**
SPIG	**San Pedro Mart**	**1.15**	**188**	*e*P	**Pn**	**17 36 08.3**	**0.0**
SPIG				*i* S	**Sg**	**17 36 24.5**	**+0.8**
SPX	**San Pedro Mart**	**1.15**	**188**	*e*P	**Pn**	**17 36 08.3**	**0.0**
SPX				*e*S	**Sg**	**17 36 24.5**	**+0.8**
SPX	**San Pedro Mart**	**1.15**	**188**	*e*P	**Pn**	**17 36 08.0**	**-0.3**
SPX				*i* S	**Sg**	**17 36 24.4**	**+0.8**
CBX	**Cerro Bola**	**1.19**	**276**	*e*P	**Pn**	**17 36 08.4**	**-0.2**
CBX				*i* S	**Sg**	**17 36 24.9**	**+0.1**
CBX	**Cerro Bola**	**1.19**	**276**	*e*P	**Pn**	**17 36 08.4**	**-0.2**
CBX				*e*S	**Sb**	**17 36 24.2**	**+0.3**
CBX	**Cerro Bola**	**1.19**	**276**	*e*P	**Pn**	**17 36 08.4**	**-0.2**
CBX				*i* S	**Sn**	**17 36 24.3**	**-0.2**
ECNX	**Esteban Cantu**	**1.24**	**245**	*e*P	**Pb**	**17 36 09.6**	**-0.1**
ECNX				*e*S	**Sn**	**17 36 26.2**	**+0.3**
PBX	**Punta Banda**	**1.31**	**251**	*e*P	**Pb**	**17 36 10.7**	**-0.1**
PBX				*e*S	**Sg**	**17 36 28.6**	**-0.2**
TUC	**Tucson**	**3.81**	**87**	*e*P	Pn	17 36 40.9	-3.7
TUC				*e*S	Sn	17 37 21.4	-7.7

MAN 22 17:44:25, 13.02N×120.75E, h21km, mb4.5, ML3.4, MS3.3, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.52**	**22**	⇑*i*P	Pb	17 44 33.2	-2.3
PGP				*i* S	Sb	17 44 39.6	-3.1
SJMP	**San Jose**	**0.66**	**147**	*e*P	Pb	17 44 37.3	-0.5
SJMP				*e*S	Sb	17 44 46.3	-0.3
LUBP	**Lubang**	**0.87**	**325**	*e*P	Pb	17 44 41.0	-0.4
LUBP				*e*S	Sn	17 44 54.4	+0.4
TGY	**Tagaytay City**	**1.09**	**9**	⇓*i*P	Pn	17 44 44.6	-0.6
TGY				*e*S	Sb	17 44 59.1	-0.1
BUSP	**Coron**	**1.14**	**208**	*e*P	Pn	17 44 45.6	-0.2
BUSP				*e*S	Sn	17 45 01.6	+0.8
AUQP	**San Andres**	**1.90**	**81**	*e*P	Pn	17 44 57.3	+1.1
CUYO	**Cuyo Island**	**2.17**	**173**	*e*P	Pn	17 44 58.7	-1.2
ENPP	**El Nido**	**2.22**	**216**	*e*P	Pn	17 45 00.9	+0.3
ENPP				*e*S	Sn	17 45 23.8	-3.5
BALP	**Baler**	**2.82**	**16**	*e*P	Pn	17 45 10.6	+1.7

*ISK **22** 17:45:36.4, 38.51N×28.30E, h5km, MD2.4*
*DDA **22** 17:45:37.4, 38.53N×28.38E, h7km, MD2.3*
CSEM 22 17:45:37.0±0.3, 38.49N×28.33E, h5km, MD2.4, Error ellipse: s-maj=6.4km s-min=4.9km az=138.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULA	**Kula-Manisa**	**0.26**	**85**	*e*PG	Pg	17 45 42.5	+0.3
KULA	**Kula-Manisa**	**0.26**	**85**	*e*Pg	Pg	17 45 42.5	+0.3
AKHS	**Akhisar**	**0.56**	**314**	*i* P	Pg	17 45 48.4	+0.6
AKHS				*i* S	Sb	17 45 57.3	-0.4
AKHS	**Akhisar**	**0.56**	**314**	*i* P	Pg	17 45 48.4	+0.5
AKHS				*i* S	Sb	17 45 57.3	-0.4
AKS	**Akhisar**	**0.56**	**314**	*e*PG	Pg	17 45 47.2	-0.6
AKS	**Akhisar**	**0.56**	**314**	*e*Pg	Pg	17 45 47.2	-0.6
DEMI	**Demirci**	**0.63**	**29**	*i* P	Pg	17 45 49.0	-0.2
DEMI				*i* S	Sg	17 45 56.7	-0.8
DEMI	**Demirci**	**0.63**	**29**	*i* P	Pg	17 45 49.0	-0.2
DEMI				*i* S	Sg	17 45 56.7	-0.8
AYDB	**Zeytinkoy-Aydi**	**0.65**	**213**	*e*PG	Pg	17 45 49.9	+0.3
AYDB				*e*SG	Sg	17 45 58.5	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.65**	**213**	*e*Pg	Pg	17 45 49.9	+0.3
AYDB				*e*Sg	Sg	17 45 58.5	+0.4
IZM	**Izmir**	**0.84**	**264**	*e*PG	Pg	17 45 52.6	-0.7
IZM	**Izmir**	**0.84**	**264**	*e*Pg	Pg	17 45 52.6	-0.7
AYDN	**Tasoluk**	**0.90**	**203**	*i* P	Pn	17 45 58.1	+1.6
AYDN				*i* S	Sn	17 46 09.0	-0.1
AYDN	**Tasoluk**	**0.90**	**203**	*i* P	Pn	17 45 58.1	+1.6
AYDN				*i* S	Sn	17 46 09.0	0.0
ZEY	**˙zmir**	**1.46**	**261**	*i* P	Pg	17 46 05.9	+0.9
ZEY				*i* S	Sg	17 46 26.6	+2.7

*ISCJB **22** 17:46:21.7±0.7, 40.09N±0.06×29.45E±0.04, h9km, Error ellipse: s-maj=8.1km s-min=4.7km az=175.3*
*ISK **22** 17:46:21.2, 40.09N×29.42E, h6km, MD2.5*
*CSEM **22** 17:46:21.7±0.1, 40.09N×29.42E, h10km, MD2.5, Error ellipse: s-maj=2.8km s-min=2.2km az=170.0*
*DDA **22** 17:46:24.4, 40.19N×29.36E, h7km, MD2.3*
ISC 22 17:46:22.8±1.2, 40.09N±0.03×29.44E±0.02, h9km, n22, σ1s01/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.24**	**282**	*i* P	**Pg**	**17 46 27.6**	**-0.2**
ULDT				*i* S	**Sg**	**17 46 31.6**	**+0.5**
ULDT	**Uludag**	**0.24**	**282**	*i* P	**Pg**	**17 46 27.5**	**-0.2**
ULDT				*i* S	**Sg**	**17 46 31.8**	**+0.7**
ULDT	**Uludag**	**0.24**	**282**	*i* P	**Pg**	**17 46 27.6**	**-0.2**
ULDT				*i* S	**Sg**	**17 46 31.6**	**+0.5**
ULDT	**Uludag**	**0.24**	**282**	*i* P	**Pg**	**17 46 27.5**	**-0.2**
ULDT				*i* S	**Sg**	**17 46 31.8**	**+0.7**
IZI	**Iznik**	**0.24**	**5**	*e*PG	**Pg**	**17 46 26.9**	**-0.9**
IZI	**Iznik**	**0.24**	**5**	*e*Pg	**Pg**	**17 46 26.9**	**-0.9**
CAVI	**Cavuskoy**	**0.33**	**70**	*e*PG	**Pg**	**17 46 28.4**	**-0.8**
CAVI				*e*SG	**Sg**	**17 46 33.2**	**-0.4**
CAVI	**Cavuskoy**	**0.33**	**70**	*e*Pg	**Pg**	**17 46 28.4**	**-0.8**
CAVI				*e*Sg	**Sg**	**17 46 33.2**	**-0.4**
ADVT	**Abdulvahap**	**0.41**	**33**	*e*PG	**Pg**	**17 46 29.9**	**-0.9**
ADVT	**Abdulvahap**	**0.41**	**33**	*e*Pg	**Pg**	**17 46 29.9**	**-0.9**
ORLT	**Orhaneli**	**0.42**	**264**	*e*PG	**Pg**	**17 46 29.1**	**-1.9**
ORLT	**Orhaneli**	**0.42**	**264**	*e*Pg	**Pg**	**17 46 29.1**	**-1.9**
TVSB	**Tavsanli**	**0.64**	**179**	*e*PG	**Pg**	**17 46 34.2**	**-1.0**
TVSB	**Tavsanli**	**0.64**	**179**	*e*Pg	**Pg**	**17 46 34.2**	**-1.0**
ARMT	**Armutlu**	**0.65**	**317**	*e*PG	**Pg**	**17 46 34.2**	**-1.1**
ARMT	**Armutlu**	**0.65**	**317**	*e*Pg	**Pg**	**17 46 34.2**	**-1.1**
BORA	**Eskisehir**	**0.80**	**105**	*i* P	**Pg**	**17 46 37.7**	**-0.6**
BORA	**Eskisehir**	**0.80**	**105**	*i* P	**Pg**	**17 46 37.7**	**-0.6**
BORA				*i* S	**Sn**	**17 46 54.7**	**+2.2**
GULT	**Gulveren**	**0.89**	**67**	*e*PG	**Pg**	**17 46 39.2**	**-0.7**
GULT	**Gulveren**	**0.89**	**67**	*e*Pg	**Pg**	**17 46 39.2**	**-0.7**
SILT	**Sile**	**1.07**	**8**	*e*PG	**Pg**	**17 46 42.5**	**-0.9**
SILT	**Sile**	**1.07**	**8**	*e*Pg	**Pg**	**17 46 42.5**	**-0.9**

*ISCJB **22** 17:52:26.5±0.4, 32.67N±0.03×115.81W±0.02, h6km±5km, Error ellipse: s-maj=4.8km s-min=3.3km az=10.5*
*MEX **22** 17:52:26.5±0.8, 32.95N×115.76W, h16km±20km, MD3.8*
*ECX **22** 17:52:27.9±0.6, 32.66N×115.82W, h3km, MD3.3, ML3.5*
*NEIC **22** 17:52:27.6, 32.66N×115.81W, h4km, ML3.3(PAS), After PAS.*
NEIC Felt at Boulevard.
ISC 22 17:52:27.1±0.9, 32°65N±0.03×115°80W±0.02, h12km±7km, n27, σ0s79/44, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**89**	⇓*i*P	**Pg**	**17 52 29.2**	**-0.3**
YUH	**Yuha Desert**	**0.11**	**270**	⇑*i*P	**Pg**	**17 52 29.8**	**-0.2**
COK	**Cook Ranch**	**0.21**	**16**	⇑*i*P	**Pg**	**17 52 31.8**	**+0.2**
RMX	**La Rumorosa**	**0.24**	**259**	⇑*e*P	**Pg**	**17 52 32.3**	**0.0**
RMX				*e*S	**Sg**	**17 52 35.7**	**-0.1**
RMX				⇑*e*		17 52 36.1	
RMX				AML	AML	17 52 36.1	
	comp=N,5μm,0.1s						
CRR	**Carrizo Plain**	**0.28**	**329**	⇓*i*P	**Pg**	**17 52 32.7**	**-0.2**
CPBX	**Cerro Prieto**	**0.47**	**119**	*e*P	**Pg**	**17 52 37.0**	**+0.6**
CPBX				*e*S	**Sb**	**17 52 44.5**	**+0.2**
CPBX				AML	AML	17 52 47.4	
	comp=N,12μm,0.3s						
CPBX				⇑*e*		17 52 47.4	
CPBX				*e*		17 52 48.4	
CPBX				AML	AML	17 52 48.4	
	comp=E,13μm,0.5s						
CPBX

RAMN	**Ramite**	**144.80**	**305**	*e*P		**PKPdf**	**18 12 33.7**	**-0.6**
	23nm,0.7s							
JIRN	**Jiri**	**144.82**	**307**	*e*P		PKPbc	18 12 33.6	+0.1
	29nm,0.9s							
GUN	**Gumba**	**144.95**	**307**	*e*P		**PKPdf**	**18 12 34.1**	**-0.6**
	30nm,0.9s							
PKI	**Pulchoki**	**145.48**	**307**	*e*P		**PKPbc**	**18 12 35.2**	**-0.3**
	20nm,0.8s							
KKN	**Kakani**	**145.48**	**307**	*e*P		**PKPab**	**18 12 35.6**	**0.0**
	17nm,0.8s							
PKIN	**Phulchoki**	**145.48**	**307**	*e*P		**PKPab**	**18 12 35.8**	**+0.1**
	7.2nm,0.7s							
DMN	**Daman**	**145.70**	**307**	*e*P		**PKPab**	**18 12 36.4**	**-0.1**
	17nm,0.9s							
DANN	**Dangsing**	**146.39**	**309**	*e*P		**PKPab**	**18 12 38.8**	**-0.3**
	62nm,0.8s							
GEYT	**Alibeck**	**150.73**	**355**	PKPbc		**PKPbc**	**18 12 50.0**	**+1.0**
	3.1nm,0.4s,baz=318,slow=1.9,SNR=6.9							

IDC 22 18:18:32.9±2.6, 7°07S×155°99E, h53km±7km, mb3.4/5, mb1 3.5/5, mb1mx3.3/18, mbtmp3.6/5, Error ellipse: s-maj=71.4km s-min=23.8km az=107.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**237**	P	P	18 23 48.3	0.0
	1.1nm,0.5s,baz=62,slow=9.9,SNR=15						
ASAR	**Alice Springs**	**26.87**	**230**	P	P	18 24 08.6	-0.4
	0.4nm,0.7s,baz=59,slow=9.8,SNR=16						
ASAR				pP	pP	18 24 22.8	+0.5
	0.7nm,1.0s,baz=63,slow=10.0,SNR=2.0						
ASAR				PcP	PcP	18 27 30.8	+0.3
	0.2nm,0.7s,baz=60,slow=2.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**61.70**	**295**	P	P	18 28 46.9	+0.7
	0.2nm,0.4s,baz=94,slow=6.3,SNR=4.2						
CMAR				pP	pP	18 29 00.5	-0.3
	1.5nm,0.9s,baz=114,slow=5.0,SNR=9.5						
SONM	**Songino Array**	**69.93**	**327**	P	P	18 29 39.1	+0.4
	0.6nm,0.6s,baz=140,slow=6.2,SNR=4.9						
SONM				pP	pP	18 29 53.2	-0.3
	0.3nm,0.6s,baz=133,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**84.11**	**318**	P	P	18 30 57.2	-1.1
	0.5nm,0.7s,baz=108,slow=2.3,SNR=6.2						
MKAR				pP	pP	18 31 13.9	+0.5
	0.6nm,0.9s,baz=124,slow=3.1,SNR=3.5						

GUC 22 18:22:00.9±0.6, 36°73S×73°33W, h12km±7km, ML3.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.21**	**122**	↑*i*P	Pg	18 22 05.3	-0.1
CCSP				*i* S	Sg	18 22 09.3	+0.9
CCSP				AML	AML	18 22 10.2	
	comp=N,18μm,0.1s						
LNCH	**Linares**	**1.65**	**58**	↑*i*P	Pn	18 22 29.0	-0.7
LNCH				*i* S	Sn	18 22 50.7	-0.1
TALC	**Talca**	**1.91**	**46**	↓*i*P	Pn	18 22 33.6	+0.4
TALC				*i* S	Sn	18 22 57.6	+0.3

IDC ***22*** *18:32:18.9±0.4, 6°58S×146°45E, h120km±3km, mb4.7/23, mb1 4.9/25, mb1mx4.9/26, mbtmp5.1/25, MS4.0/15, Ms1 4.0/15, ms1mx3.9/30, Error ellipse: s-maj=15.8km s-min=8.0km az=83.0*

ISCJB ***22*** *18:32:18.1±0.5, 6°58S±0°02×146°42E±0°03, h124km±4km, mb5.3/133, Error ellipse: s-maj=4.4km s-min=3.8km az=2.0*

MOS ***22*** *18:32:19.9±1.1, 6°53S×146°19E, h130km, mb5.4/27, MS4.3/4, Error ellipse: s-maj=10.3km s-min=6.1km az=103.9*

GCMT ***22*** *18:32:19.5±0.1, 6°57S×146°41E, h130km, MW5.4/115, Moment Tensor Solution. s104,c159; s115,c222; Duration: 1!2 Moment tensor: Scale 10^17 Nm; Mrr=1.13±.02; Mθθ 1.24±.02; Mφφ=0.10±.02; Mrθ=0.55±.02; Mθφ=0.88±.02; Mφr=0.29±.02; Best double couple: M0 1.58600×10^17 NP1:φs91.00000°, δ58.00000°, λ=124.00000°. NP2:φs323.00000°, δ45.00000°, λ=48.00000°. Principal axes: T 1.7210, Plg8.0000°, Azm205.0000°; N -0.2660, Plg28.0000°, Azm110.0000°; P -1.4520, Plg60.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *18:32:19.5±2.5, 6°61S×146°43E, h124km±2km, mb5.3/72, MW5.4 Error ellipse: s-maj=12.1km s-min=9.9km az=110.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^17 Nm; Mrr=0.93; Mθθ 1.25; Mφφ=0.31; Mrθ=0.65; Mθφ=0.69; Mφr=0.32; Best double couple: M0 1.50000×10^17 NP1:φs83.00000°, δ64.00000°, λ=126.00000°. NP2: φs322.00000°, δ44.00000°, λ=40.00000°. Principal axes: T 1.6100, Plg11.0000°, Azm198.0000°; N -0.2400, Plg32.0000°, Azm100.0000°; P -1.3700, Plg55.0000°, Azm305.0000°;*

BJI ***22*** *18:32:20.3, 6°16S×146°83E, h144km, mB5.4/42, mb5.3/68*

DJA ***22*** *18:32:22.6±0.7, 7°S×14°6E±°, h142km±5km, M5.2/52, mb5.2/52, mB5.6/44, MLv6.2/2, Mw(mB)5.1/44, Mwp5.5/1*

ISC 22 18:32:19.8±0.3, 6°66S±0°03×146°44E±0°04, h129km±2km, h129km:pP-P,n682,σ1!30/778, mb5.3/130, 43C-25D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.82**	**165**	*e*P	**Pn**	**18 33 03.7**	**-0.4**
PMG	**Port Moresby**	**2.82**	**165**	P	**Pn**	**18 33 03.7**	**-0.4**
	baz=2.9,SNR=984						
PMG	**Port Moresby**	**2.82**	**165**	*e*Pn	**Pn**	**18 33 03.7**	**-0.4**
MANU	**Manus Island**	**4.68**	**11**	P	**Pn**	**18 33 27.8**	**-0.8**
	baz=4.6,SNR=20						
RABL	**Rabaul**	**6.20**	**67**	P	**Pn**	**18 33 48.8**	**-0.4**
	baz=6.1,SNR=119						
MMPI	**Merauke**	**6.27**	**253**	P	**Pn**	**18 33 51.9**	**+2.0**
MMPI	**Merauke**	**6.27**	**253**	P	**Pn**	**18 33 52.3**	**+2.4**
	baz=6.3,SNR=6.9						
JAY	**Jayapura**	**7.04**	**306**	P	**Pn**	**18 33 59.9**	**-0.6**
GENI	**Genyem**	**7.44**	**303**	P	**Pn**	**18 34 04.0**	**-1.8**
COEN	**Coen**	**7.93**	**204**	P	**Pn**	**18 34 13.5**	**+1.1**
	baz=8.1,SNR=472						
COEN				S	**Sn**	**18 35 40.5**	**-0.2**
	baz=8.1,SNR=5.4						
COEN	**Coen**	**7.93**	**204**	*e*Pn	**Pn**	**18 34 13.6**	**+1.1**
SMPI	**Sarmi**	**8.99**	**301**	P	**Pn**	**18 34 26.3**	**-0.4**
SRPI	**Serui, Papua**	**11.22**	**295**	P	**Pn**	**18 34 55.1**	**-1.5**
	128nm,0.7s						
RKPI	**Ransiki, Papua**	**13.25**	**292**	P	**Pn**	**18 35 24.3**	**+1.2**
CTA	**Charters Tower**	**13.35**	**181**	P	**Pn**	**18 35 24.6**	**+0.2**
	0.4nm,0.3s,baz=354,slow=16,SNR=12						
CTA				S	**Sn**	**18 37 53.2**	**+1.4**
	2.4nm,0.3s,baz=285,slow=19,SNR=4.5						
CTA				LR	LR	18 41 04.2	
	comp=Z,1μm,18.1s,baz=1.0,slow=39						
CTAO	**Charters Tower**	**13.35**	**181**	*e*P	**Pn**	**18 35 26.3**	**+1.9**
CTAO	**Charters Tower**	**13.35**	**181**	*e*Pn	**Pn**	**18 35 26.3**	**+1.9**
HNR	**Honiara**	**13.66**	**103**	*e*P	**P**	**18 35 32.6**	**-0.1**
HNR	**Honiara**	**13.66**	**103**	*e*P	**P**	**18 35 32.6**	**-0.1**
FAKI	**Fak Fak**	**14.62**	**284**	P	**P**	**18 35 42.0**	**-1.4**
FAKI	**Fak Fak**	**14.62**	**284**	P	**P**	**18 35 44.5**	**+1.1**
	baz=15,SNR=40						
FAKI				S	**S**	**18 38 33.9**	**+1.4**
	baz=15,SNR=7.2						
FAKI	**Fak Fak**	**14.62**	**284**	*e*Pn	**Pn**	**18 35 40.2**	**-0.4**
KDU	**Kakadu**	**15.01**	**245**	P	**Pn**	**18 35 44.5**	**-1.0**
	baz=15,SNR=138						
QIS	**Mount Isa**	**15.32**	**205**	P	**Pn**	**18 35 49.5**	**+0.1**
	baz=16,SNR=36						
MTN	**Manton Dam**	**16.28**	**247**	P	**Pn**	**18 36 00.4**	**-0.9**
	baz=16,SNR=62						
MTN				S	**Sn**	**18 38 58.1**	**-4.4**
	baz=16,SNR=4.7						
BNDI	**Bandanaira**	**16.59**	**276**	P	**Pn**	**18 36 05.0**	**0.0**
	235nm,1.0s,9μm						
WRAB	**Tennant Creek**	**17.66**	**220**	P	**P**	**18 36 16.0**	**-1.0**
	727nm,0.6s						
WRAB	**Tennant Creek**	**17.66**	**220**	*c* *i*P	**P**	**18 36 17.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,227nm,0.8s						
WRAB	**Tennant Creek**	**17.66**	**220**	*e*P	**P**	**18 36 16.8**	**-0.2**
	comp=Z,463nm,1.6s						
WRA	**Warramunga Arr**	**17.67**	**221**	P	**P**	**18 36 17.0**	**-0.2**
	comp=Z,8.1nm,0.3s,baz=40,slow=12,SNR=149						
WRA				S	**S**	**18 39 29.1**	**-5.3**
	baz=39,slow=22,SNR=4.0						
MSAI	**Masohi**	**17.75**	**280**	P	**Pn**	**18 36 18.5**	**-0.5**
	comp=Z,19nm,1.0s,comp=Z,377nm						
EIDS	**Eidsvold**	**19.13**	**167**	P	**Pn**	**18 36 34.7**	**-0.5**
	baz=19,SNR=18						
EIDS	**Eidsvold**	**19.13**	**167**	*e*P	**Pn**	**18 36 34.8**	**-0.4**
	comp=Z,217nm,1.4s						
KNRA	**Kununurra**	**19.50**	**241**	P	**P**	**18 36 34.7**	**-2.4**
	baz=20,SNR=178						
NLAI	**Namlea**	**19.56**	**279**	P	**P**	**18 36 38.7**	**+0.9**
	comp=Z,131nm,1.0s,comp=Z,3μm						
LBMI	**Labuha**	**19.81**	**287**	P	**P**	**18 36 41.2**	**+0.7**
	comp=Z,248nm,1.6s,comp=Z,6μm						
RMQ	**Roma**	**19.84**	**174**	P	**Pn**	**18 36 43.2**	**-0.4**
	baz=20,SNR=52						
QLP	**Quilpie**	**19.93**	**186**	P	**P**	**18 36 42.9**	**+1.3**
	baz=20,SNR=76						
QLP				S	**Sn**	**18 40 26.1**	**-3.4**
	baz=20,SNR=6.7						
TNTI	**Ternate**	**20.41**	**290**	P	Pn	18 36 51.1	+0.7
	comp=Z,311nm,2.0s,comp=Z,5μm						
TNTI	**Ternate**	**20.41**	**290**	*e*P	Pn	18 36 50.6	+0.2
	comp=Z,2μm,2.1s						
AS12	**Alice Springs**	**20.76**	**214**	*e*P	**P**	**18 36 51.8**	**+1.1**
AS12				*e*S	**S**	**18 40 31.7**	**-3.8**
ASAR	**Alice Springs**	**20.76**	**214**	P	**P**	**18 36 51.8**	**+1.1**
	comp=Z,69nm,1.0s,baz=51,slow=8.6,SNR=773						
ASAR				S	**S**	**18 40 31.7**	**-3.8**
	comp=Z,3.5nm,0.8s,baz=30,slow=20,SNR=3.4						
ASAR				LR	LR	18 46 14.3	
	comp=Z,3μm,18.2s,baz=28,slow=40						
SANI	**Sanana**	**20.89**	**282**	P	**P**	**18 36 51.0**	**-1.1**
	comp=Z,170nm,1.2s,comp=Z,2μm						
SOEI	**Soe**	**22.16**	**261**	P	**P**	**18 37 04.9**	**-0.7**
	comp=Z,148nm,1.2s,comp=Z,5μm						
SOEI	**Soe**	**22.16**	**261**	P	**P**	**18 37 06.6**	**+1.0**
	baz=22,SNR=8.5						
SOEI	**Soe**	**22.16**	**261**	*e*P	**P**	**18 37 05.0**	**-0.7**
	comp=Z,198nm,1.0s						
BATI	**Baumata**	**22.80**	**260**	P	**P**	**18 37 11.4**	**-0.4**
	baz=23,SNR=516						
FITZ	**Fitzroy Crossi**	**23.25**	**239**	P	**P**	**18 37 14.2**	**-1.8**
	baz=23,SNR=516						
FITZ	**Fitzroy Crossi**	**23.25**	**239**	*e*P	**P**	**18 37 14.9**	**-1.1**
	comp=Z,335nm,0.9s						
SGSI	**Sangihe**	**23.27**	**296**	P	**P**	**18 37 16.5**	**+0.3**
	comp=Z,451nm,1.2s,comp=Z,8μm						
KMSI	**Cibinong**	**23.53**	**287**	P	**P**	**18 37 18.8**	**+0.2**
	comp=Z,650nm,1.2s,comp=Z,8μm						
MMRI	**Maumere**	**24.06**	**264**	P	**P**	**18 37 23.2**	**-0.2**
	comp=Z,391nm,0.8s,comp=Z,5μm						
MMRI	**Maumere**	**24.06**	**264**	*e*P	**P**	**18 37 22.9**	**-0.5**
	comp=Z,243nm,0.6s						
ARMA	**Armidale**	**24.14**	**169**	P	**P**	**18 37 25.4**	**+1.4**
	baz=24,SNR=26						
ARMA	**Armidale**	**24.14**	**169**	*e*P	**P**	**18 37 25.6**	**+1.6**
	comp=Z,152nm,1.3s						
LUWI	**Luwuk**	**24.25**	**282**	P	**P**	**18 37 25.4**	**+0.3**
	comp=Z,324nm,0.9s,comp=Z,6μmcomp=Z,4μm						
LUWI	**Luwuk**	**24.25**	**282**	P	**P**	**18 37 25.7**	**+0.6**
	baz=24,SNR=26						
LUWI	**Luwuk**	**24.25**	**282**	*e*P	**P**	**18 37 25.8**	**+0.6**
	comp=Z,1μm,1.7s						
EDFI	**Ende, Flores**	**24.61**	**264**	P	**P**	**18 37 27.4**	**-1.1**
	comp=Z,70nm,0.8s,comp=Z,1μm						
DZM	**Mont Dzumac**	**24.65**	**130**	*e*P	P	18 37 41.7	+13
	comp=Z,227nm,1.4s						
DZM				*e*LR	LR	18 43 57.3	
	comp=Z,1μm,27.9s						
DZM	**Mont Dzumac**	**24.65**	**130**	P	**P**	**18 37 28.2**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=192,slow=19,SNR=3.4						
DZM				LR	LR	18 45 25.7	
	comp=Z,443nm,18.8s,baz=330,slow=32						
CMSA	**Cobar Meteorol**	**24.76**	**182**	P	**P**	**18 37 30.3**	**+0.7**
	baz=25,SNR=70						
WRKA	**Warakurna**	**25.21**	**222**	P	**P**	**18 37 33.1**	**-0.7**
	baz=25,SNR=211						
APSI	**Ampana**	**25.38**	**282**	P	**P**	**18 37 36.2**	**+0.9**
MRSI	**Marisa**	**25.45**	**285**	P	**P**	**18 37 34.9**	**-1.1**
	comp=Z,64nm,1.1s,comp=Z,1μm						
STKA	**Stephens Creek**	**25.50**	**190**	P	**P**	**18 37 36.4**	**+0.2**
	comp=Z,29nm,0.5s,baz=1.0,slow=7.3,SNR=101						
STKA				LR	LR	18 49 30.5	
	comp=Z,531nm,18.3s,baz=14,slow=40						
STKA	**Stephens Creek**	**25.50**	**190**	*e*P	**P**	**18 37 36.4**	**+0.2**
STKA				pmax	pmax		
	comp=Z,38nm,1.6s						
STKA	**Stephens Creek**	**25.50**	**190**	P	**P**	**18 37 36.5**	**+0.3**
	baz=26,SNR=171						
STKA				S	S	18 42 04.2	+10
	baz=26,SNR=4.0						
STKA	**Stephens Creek**	**25.50**	**190**	*e*P	**P**	**18 37 36.4**	**+0.2**
	comp=Z,38nm,1.6s						
BASI	**Baing, Sumba**	**25.82**	**260**	P	P	18 37 45.5	+6.2
WSI	**Waingapu**	**26.04**	**262**	P	**P**	**18 37 40.9**	**-0.5**
	comp=Z,300nm,0.7s,comp=Z,5μm						
WSI	**Waingapu**	**26.04**	**262**	P	**P**	**18 37 41.5**	**+0.1**
	baz=26,SNR=11						
BKSI	**Bulukumba**	**26.20**	**271**	P	**P**	**18 37 42.9**	**+0.1**
	comp=Z,28nm,1.2s,comp=Z,800nm						
BNSI	**Bone**	**26.30**	**274**	P	**P**	**18 37 43.8**	**+0.1**
	comp=Z,26nm,1.2s,comp=Z,1μm						
CGP	**Cagayan de Oro**	**26.37**	**304**	*e*P	**P**	**18 37 44.2**	**-0.1**
KAPI	**Kappang**	**26.60**	**272**	P	**P**	**18 37 46.8**	**+0.4**
	comp=Z,196nm,1.0s,SNR=5.7						
KAPI	**Kappang**	**26.60**	**272**	*e*P	**P**	**18 37 46.8**	**+0.4**
KAPI				*e*pP	**pP**	**18 38 17.2**	**+3.3**
SPSI	**Sidrap Palu**	**26.69**	**274**	P	**P**	**18 37 47.3**	**+0.2**
	comp=Z,16nm,1.4s,comp=Z,918nm						
TTSI	**Tana Toraja**	**26.76**	**276**	P	**P**	**18 37 47.8**	**0.0**
	comp=Z,31nm,1.6s,comp=Z,1μm						
MGCD	**Mangrove Creek**	**26.77**	**171**	P	**P**	**18 37 50.6**	**+3.0**
	baz=27,SNR=7.3						
PCI	**Palu**	**27.14**	**281**	P	**P**	**18 37 51.3**	**+0.1**
	comp=Z,176nm,1.3s,comp=Z,2μm						
MPSI	**Mapaga**	**27.38**	**284**	P	**P**	**18 37 52.8**	**-0.5**
	comp=Z,46nm,1.3s,comp=Z,708nm						
YNG	**Young**	**27.57**	**176**	P	**P**	**18 37 56.4**	**+1.6**
	baz=28,SNR=10						
BBOO	**Buckleboo**	**27.75**	**199**	P	**P**	**18 37 57.1**	**+0.6**
	baz=28,SNR=28						
BBOO	**Buckleboo**	**27.75**	**199**	*e*P	**P**	**18 37 57.2**	**+0.6**
	comp=Z,4.9nm,1.2s						
CNB	**Canberra Magne**	**28.65**	**175**	P	**P**	**18 38 05.7**	**+1.3**
	baz=29,SNR=7.8						
FORT	**Forrest**	**29.55**	**213**	P	**P**	**18 38 13.2**	**+0.8**
	baz=30,SNR=19						
FORT	**Forrest**	**29.55**	**213**	*e*P	**P**	**18 38 12.9**	**+0.5**
	comp=Z,965nm,2.4s						
BKB	**Balikpapan**	**29.94**	**279**	P	**P**	**18 38 18.7**	**+2.6**
	comp=Z,170nm,1.0s,comp=Z,2μm						
MILA	**Mila**	**30.36**	**176**	P	**P**	**18 38 20.3**	**+0.8**
	baz=31,SNR=7.1						
TSM	**Tawau**	**30.52**	**290**	↑P	**P**	**18 38 21.2**	**0.0**
TOO	**Toolangi**	**30.78**	**181**	P	**P**	**18 38 25.0**	**+1.7**
	baz=31,SNR=6.7						
BBKI	**Banjar Baru**	**31.63**	**274**	P	**P**	**18 38 30.8**	**-0.2**
	comp=Z,48nm,1.7s,comp=Z,1μm						
SDKM	**Sandakan**	**31.64**	**292**	↓P	**P**	**18 38 32.5**	**+1.4**
KKM	**Kota Kinabalu**	**32.69**	**292**	P	**P**	**18 38 41.5**	**+1.1**
	baz=33,SNR=4.2						
MEEK	**Meekatharra**	**33.10**	**230**	P	**P**	**18 38 43.8**	**+0.1**
	baz=33,SNR=171						
KMBL	**Kambalda**	**33.64**	**220**	P	**P**	**18 38 48.9**	**+0.6**
	baz=34,SNR=17						
BTM	**Bintulu**	**34.71**	**285**	↓P	**P**	**18 38 59.1**	**+1.3**
GIRL	**Giralia**	**34.85**	**239**	P	**P**	**18 39 00.3**	**+1.5**
	baz=35,SNR=9.6						
PBKI	**Pangkalan Bun**	**34.87**	**275**	P	**P**	**18 38 59.8**	**+0.7**
SBUM	**Sibu**	**35.34**	**284**	↓P	**P**	**18 39 04.2**	**+1.1**
SBUM	**Sibu**	**35.34**	**284**	*e*P	**P**	**18 39 03.6**	**+0.5**
	comp=Z,63nm,1.2s						
STKI	**Sintang**	**35.52**	**279**	P	**P**	**18 39 04.1**	**-0.6**
	comp=Z,60nm,1.3s,comp=Z,2μm						
UGM	**Wanagama**	**35.64**	**266**	P	**P**	**18 39 05.0**	**-0.7**
	baz=36,SNR=5.9						
MOO	**Moorlands**	**35.64**	**179**	P	**P**	**18 39 07.2**	**+1.9**
	baz=36,SNR=3.2						
TAU	**Tasmania Unive**	**36.11**	**179**	*e*pP	pP	18 39 40.7	+3.0
MORW	**Morawa**	**36.32**	**228**	P	**P**	**18 39 11.6**	**+0.3**
	baz=36,SNR=23						
MORW				S	**S**	**18 44 42.9**	**0.0**
	baz=36,SNR=5.3						
BLDU	**Ballidu**	**36.68**	**226**	P	**P**	**18 39 14.7**	**+0.3**
	baz=37,SNR=38						
KSM	**Kuching**	**36.95**	**281**	P	**P**	**18 39 17.0**	**0.0**
	baz=37,SNR=20						
KSM				S	**S**	**18 44 53.8**	**+0.9**
	baz=37,SNR=6.1						
KSM	**Kuching**	**36.95**	**281**	↑P	**P**	**18 39 17.4**	**+0.5**
KSM	**Kuching**	**36.95**	**281**	*e*P	**P**	**18 39 16.9**	**0.0**
	comp=Z,50nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.67**	**222**	P	**P**	**18 39 22.4**	**-0.3**
	comp=Z,50nm,1.0s,baz=52,slow=9.2,SNR=14						
NWAO				LR	LR	18 55 35.3	
	comp=Z,16nm,18.3s,baz=211,slow=37						
NWAO	**Narrogin (SRO)**	**37.67**	**222**	P	**P**	**18 39 23.6**	**+1.0**
	baz=38,SNR=7.6						
NWAO	**Narrogin (SRO)**	**37.67**	**222**	*e*P	**P**	**18 39 22.4**	**-0.3**
	comp=Z,0.1nm,1.0s						
OUZ	**Omahuta**	**37.84**	**142**	*e*P	P	18 39 27.6	+3.6
	comp=Z,28nm,1.6s						
CISI	**Cisompet, Garu**	**38.33**	**266**	P	**P**	**18 39 28.6**	**+0.1**
CISI	**Cisompet, Garu**	**38.33**	**266**	P	**P**	**18 39 27.2**	**-1.3**
	baz=38,SNR=13						
CISI	**Cisompet, Garu**	**38.33**	**266**	*e*P	**P**	**18 39 27.1**	**-1.5**
	comp=Z,671nm,1.9s						
LEM	**Lembang**	**38.55**	**267**	P	**P**	**18 39 30.4**	**0.0**
	baz=39,SNR=5.3						
RKGY	**Rocky Gully**	**38.88**	**220**	P	**P**	**18 39 34.3**	**+1.6**
	baz=39,SNR=11						
TPUB	**Ta-pu**	**39.02**	**321**	*e*P	**P**	**18 39 32.9**	**-1.3**
	comp=Z,314nm,1.8s						
NACB	**Ninganchiao**	**39.07**	**322**	*e*P	**P**	**18 39 34.6**	**+0.2**
	comp=Z,310nm,1.9s						
SSLB	**Suanglung**	**39.17**	**321**	*e*P	**P**	**18 39 35.4**	**0.0**
	comp=Z,129nm,1.8s						
YHNB	**Yeheng**	**39.57**	**323**	*e*P	**P**	**18 39 40.8**	**+2.1**
	comp=Z,1μm,2.7s						
QZH	**Quanzhou**	**41.49**	**320**	↓*i*P	**P**	**18 39 54.8**	**+0.4**
QZH				S	**S**	**18 46 01.1**	**+0.7**
QZH				PMZ			
	comp=Z,810nm,8.8s						
URZ	**Urewera**	**41.96**	**143**	P	**P**	**18 39 58.0**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=11,slow=5.2,SNR=2.4						
URZ				pP	**pP**	**18 40 25.1**	**-2.1**
	comp=Z,8.8nm,0.6s,baz=207,slow=6.3,SNR=1.9						
URZ				LR	LR	18 55 28.0	
	comp=Z,436nm,20.8s,baz=321,slow=33						
BKZ	**Black Stump Fm**	**42.20**	**145**	*e*pP	pP	18 40 29.9	+0.7
JNU	**Nakatsue**	**42.23**	**340**	P	**P**	**18 39 59.4**	**-0.9**
	comp=Z,34nm,0.9s,baz=163,slow=7.7,SNR=6.1						
JNU	**Nakatsue**	**42.23**	**340**	*e*P	**P**	**18 39 59.4**	**-0.9**
	comp=Z,110nm,1.2s						
RPZ	**Rata Peaks**	**42.77**	**154**	P	**P**	**18 40 05.9**	**+1.3**
	comp=Z,13nm,0.7s,baz=327,slow=4.5,SNR=11						
RPZ				pP	**pP**	**18 40 33.3**	**-0.4**
	comp=Z,23nm,0.8s,baz=344,slow=6.8,SNR=4.4						
RPZ				LR	LR	18 55 39.7	
	comp=Z,355nm,20.7s,baz=326,slow=33						
RPZ	**Rata Peaks**	**42.77**	**154**	*e*P	**P**	**18 40 05.9**	**+1.3**
RPZ				*e*pP	**pP**	**18 40 33.3**	**-0.4**
RPZ				*e*pP	**pP**	**18 40 35.4**	**+1.7**
BFZ	**Birch Farm**	**43.09**	**146**	*e*pP	pP	18 40 36.5	+0.2
MYKOM	**Kota Tinggi**	**43.33**	**280**	↑P	**P**	**18 40 10.2**	**+0.7**
MYKOM	**Kota Tinggi**	**43.33**	**280**	*e*P	**P**	**18 40 09.9**	**+0.4**
	comp=Z,77nm,1.1s						
MJAR	**Matsushiro Arr**	**43.66**	**350**	P	**P**	**18 40 10.3**	**-1.5**
	comp=Z,38nm,1.0s,baz=180,slow=9.0,SNR=56						
MJAR				PcP	**PcP**	**18 41 58.4**	**+1.6**
	comp=Z,5.5nm,1.1s,baz=165,slow=2.7,SNR=4.3						
MAJO	**Matsushiro**	**43.66**	**350**	*e*P	**P**	**18 40 10.3**	**-1.5**
MAJO				*e*		18 41 58.4	
MAJO				pmax	pmax		
	comp=Z,72nm,0.8s						
MAJO	**Matsushiro**	**43.66**	**350**	*e*P	**P**	**18 40 10.3**	**-1.5**
	comp=Z,72nm,0.8s						
MAJO				*e*PP	**PcP**	**18 41 58.4**	**+1.6**
MAT	**Matsushiro**	**43.66**	**350**	P	**P**	**18 40 10.6**	**-1.2**
MAT				S	**S**	**18 46 29.0**	**-2.9**
KGM	**Kluang**	**43.90**	**280**	↓P	**P**	**18 40 15.1**	**+1.0**
QIZ	**Qiongzhong**	**44.18**	**306**	P	**P**	**18 40 16.3**	**+0.1**
QIZ				PP	**PP**	**18 42 01.0**	**-0.8**
QIZ				S	**S**	**18 46 40.8**	**+0.8**
QIZ				PMZ			
	comp=Z,62nm,1.4s						
QIZ				PMZ			
	comp=Z,330nm,4.4s						
SSE	**Sheshan**	**44.64**	**329**	*e*P	**P**	**18 40 18.4**	**-1.2**
SSE				S	**S**	**18 46 45.3**	**-1.0**
SSE				PMZ			
	comp=Z,15nm,1.1s						
SSE				PMZ			
	comp=Z,120nm,5.9s						
SSE				LN			
	comp=Z,140nm,24.0s						
SSE				LE			
	comp=Z,240nm,24.0s						
SSE				LZ			
	comp=Z,190nm,23.3s						
KTGM	**Kuala Trenggan**	**44.83**	**284**	↑P	**P**	**18 40 22.7**	**+1.3**
FRIM	**Kepong**	**45.80**	**281**	↓P	**P**	**18 40 29.3**	**+0.1**
NJ2	**Nanjing**	**46.62**	**327**	*e*P	**P**	**18 40 34.5**	**-0.7**
NJ2	

	comp=Z,120nm,20.2s								
GYA				LZ					
	comp=Z,130nm,21.4s								
TIA	**Tai'an**	**50.75**	**329**	⇑P	**P**	**18**	**41**	**06.0**	**-0.7**
TIA				PMZ					
	comp=Z,40nm,0.8s								
LHMI	**Lhok Sumawe**	**50.79**	**282**	*e*P	**P**	**18**	**41**	**09.2**	**+1.8**
	comp=Z,102nm,1.0s								
ENH	**Enshi**	**51.02**	**318**	*e*P	**P**	**18**	**41**	**10.4**	**+1.5**
	comp=Z,39nm,1.4s								
VLA	**Vladivostok**	**51.28**	**346**	⇓*i*P	**P**	**18**	**41**	**09.9**	**-0.6**
VLA				*e*		18	42	22.8	
VLA				*e*		18	43	06.5	
VLA				*i* S	**S**	**18**	**48**	**18.9**	**-0.5**
VLA				pmax	pmax				
	comp=Z,55nm,1.0s								
SRDT	**SRDT**	**51.37**	**294**	P	**P**	**18**	**41**	**12.6**	**+0.9**
	comp=Z,189nm,1.1s,comp=Z,9µm								
UTTA	**Uttaradit**	**51.38**	**299**	P	**P**	**18**	**41**	**12.6**	**+0.8**
	comp=Z,23nm,1.3s,comp=Z,203nm								
KUR	**Kuril'sk**	**51.67**	**1***d*	*i*P	P	18	41	07.0	-6.4
KUR				pmax	pmax				
	comp=N,112nm,1.3s								
KUR				pmax	pmax				
	comp=E,46nm,1.3s								
KUR				pmax	pmax				
	comp=Z,228nm,1.3s								
KUR				MLR	MLR				
	comp=Z,396nm,19.0s								
NANT	**Nan**	**51.69**	**300**	P	**P**	**18**	**41**	**14.8**	**+0.7**
	comp=Z,287nm,1.2s,comp=Z,3µm								
KHLT	**Khaolaem Dam**	**52.01**	**295**	P	**P**	**18**	**41**	**17.5**	**+1.1**
	comp=Z,31nm,1.6s,comp=Z,548nm								
USRK	**Ussuriysk Ar.**	**52.28**	**347**	P	**P**	**18**	**41**	**17.4**	**-0.5**
	comp=Z,46nm,0.8s,baz=169,slow=6.9,SNR=113								
LAMP	**Lampang**	**52.50**	**299**	P	**P**	**18**	**41**	**21.4**	**+1.3**
	comp=Z,21nm,1.3s,comp=Z,162nm								
CRAI	**Chiangrai**	**52.58**	**302**	P	**P**	**18**	**41**	**18.5**	**-2.1**
	comp=Z,50nm,1.7s								
SNY	**Shenyang**	**52.59**	**339**	⇑P	**P**	**18**	**41**	**20.0**	**-0.2**
SNY				S	**S**	**18**	**48**	**36.3**	**-1.1**
SNY				sS	**sS**	**18**	**49**	**31.6**	**+2.1**
SNY				PMZ					
	comp=Z,41nm,1.0s								
SNY				LN					
	comp=Z,210nm,22.8s								
SNY				LE					
	comp=Z,210nm,14.4s								
SNY				LZ					
	comp=Z,330nm,16.2s								
KMI	**Kunming**	**52.96**	**308**	P	**P**	**18**	**41**	**25.1**	**+1.5**
KMI				pP	**pP**	**18**	**41**	**54.8**	**+1.0**
KMI				S	**S**	**18**	**48**	**44.9**	**+1.4**
KMI				PMZ					
	comp=Z,120nm,1.2s								
KMI				PMZ					
	comp=Z,440nm,3.1s								
CM31	**Chiang Mai Arr**	**53.07**	**299**	*e*P	**P**	**18**	**41**	**25.7**	**+1.4**
CM31				*e*ScP	**ScP**	**18**	**46**	**18.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**53.07**	**299**	P	**P**	**18**	**41**	**25.7**	**+1.4**
	comp=Z,36nm,0.9s,baz=123,slow=5.5,SNR=166								
CMAR				ScP	**ScP**	**18**	**46**	**18.3**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=134,slow=3.9,SNR=5.4								
CMAR				LR	LR	19	04	05.1	
	comp=Z,96nm,21.7s,baz=136,slow=36								
CMMT	**Chiang Mai**	**53.21**	**299**	P	**P**	**18**	**41**	**25.9**	**+0.6**
	comp=Z,67nm,1.2s,comp=Z,1µm								
MDJ	**Mudanjiang**	**53.25**	**345**	P	**P**	**18**	**41**	**24.0**	**-1.1**
MDJ				PcP	**PcP**	**18**	**42**	**28.6**	**-2.6**
MDJ				PP	**PP**	**18**	**43**	**27.0**	**+0.4**
MDJ				S	**S**	**18**	**48**	**45.8**	**-0.5**
MDJ				SS	SS	18	52	17.1	-11
MDJ				PMZ					
	comp=Z,33nm,0.9s								
MDJ				PMZ					
	comp=Z,86nm,6.7s								
MDJ				LN					
	comp=Z,240nm,25.5s								
MDJ				LE					
	comp=Z,390nm,21.7s								
MDJ				LZ					
	comp=Z,320nm,18.7s								
YSS	**Yuzh-Sakhalins**	**53.48**	**357**	⇓*e*P	**P**	**18**	**41**	**26.0**	**-0.6**
YSS				*e*		18	41	57.0	
YSS				*e*		18	48	49.0	
YSS				pmax	pmax				
	comp=Z,50nm,1.0s								
YSS	**Yuzh-Sakhalins**	**53.48**	**357**	*e*P	**P**	**18**	**41**	**25.8**	**-0.8**
	comp=Z,39nm,0.8s								
YSS				*e*pP	**pP**	**18**	**42**	**00.6**	**+3.7**
CMAI	**Chiengmai2**	**53.58**	**301**	P	**P**	**18**	**41**	**28.5**	**+0.3**
	comp=Z,47nm,1.4s,comp=Z,1µm								
CN2	**Changchun**	**53.70**	**341**	*e*P	**P**	**18**	**41**	**27.4**	**-0.9**
CN2				PcP	**PcP**	**18**	**42**	**32.3**	**-0.6**
CN2				*e*S	**S**	**18**	**48**	**50.6**	**-1.8**
CN2				PMZ					
	comp=Z,30nm,1.0s								
CN2				PMZ					
	comp=Z,200nm,5.0s								
CN2				LN					
	comp=Z,200nm,16.0s								
CN2				LE					
	comp=Z,200nm,16.0s								
CN2				LZ					
	comp=Z,400nm,17.0s								
XAN	**Xi'an**	**53.84**	**321**	P	**P**	**18**	**41**	**29.0**	**-0.6**
XAN				pP	**pP**	**18**	**41**	**59.9**	**-0.1**
XAN				S	**S**	**18**	**48**	**51.3**	**-3.5**
XAN				SS	**SKiKP**	**18**	**52**	**33.3**	**+3.3**
XAN				PMZ					
	comp=Z,17nm,0.7s								
XAN				PMZ					
	comp=Z,64nm,5.0s								
XAN				LN					
	comp=Z,140nm,17.4s								
XAN				LZ					
	comp=Z,41nm,14.3s								
MHMT	**Maesarieng**	**53.84**	**298**	P	**P**	**18**	**41**	**30.9**	**+1.0**
	comp=Z,28nm,1.3s,comp=Z,396nm								
BJI	**Beijing**	**54.21**	**332**	P	**P**	**18**	**41**	**31.4**	**-0.7**
BJI				S	**S**	**18**	**48**	**56.8**	**-2.6**
BJI				PMZ					
	comp=Z,47nm,1.3s								
BJI				PMZ					
	comp=Z,320nm,5.5s								
BJI				LN					
	comp=Z,340nm,26.2s								
BJI				LE					
	comp=Z,290nm,18.9s								
BJI				LZ					
	comp=Z,240nm,33.6s								
CD2	**Chengdu**	**55.34**	**315**	P	**P**	**18**	**41**	**42.3**	**+1.8**
CD2				pP	**pP**	**18**	**42**	**11.5**	**+0.5**
CD2				sP	**sP**	**18**	**42**	**25.9**	**+0.7**
CD2				PP	**PP**	**18**	**43**	**48.1**	**+2.4**
CD2				PcS	**PcS**	**18**	**46**	**38.5**	**-1.4**
CD2				S	**S**	**18**	**49**	**14.0**	**-1.0**
CD2				sS	**sS**	**18**	**50**	**06.6**	**-0.9**
CD2				SS	**SS**	**18**	**53**	**00.3**	**-1.3**
CD2				PMZ					
	comp=Z,200nm,0.7s								
CD2				PMZ					
	comp=Z,570nm,4.0s								
CD2				LN					
	comp=Z,220nm,20.0s								
CD2				LE					
	comp=Z,330nm,12.0s								
CD2				LZ					
	comp=Z,210nm,10.0s								
HABR	**Khabarovsk**	**55.80**	**351**	*de*P	**P**	**18**	**41**	**41.6**	**-1.8**
HABR				*e**PP	pP	18	42	08.0	-5.9
HABR						18	42	39.5	
HABR				*e*		18	43	46.9	
HABR				*e*PPP	PPP	18	45	02.1	
HABR				*e*S	**S**	**18**	**49**	**20.1**	**-0.3**
HABR				*e*		18	51	19.4	
HABR				*e*SS	**SS**	**18**	**53**	**08.1**	**-0.1**
HABR				pmax	pmax				
	comp=N,43nm,1.4s								
HABR				pmax	pmax				
	comp=Z,120nm,1.4s								
HABR				pmax	pmax				
	comp=E,13nm,0.9s								
HABR				MLR	MLR				
	comp=Z,75nm,18.0s								
HHC	**Hu-ho-hao-te**	**57.10**	**329**	*e*P	**P**	**18**	**41**	**52.8**	**-0.1**
HHC				PP	**PP**	**18**	**44**	**03.8**	**+2.5**
HHC				S	**S**	**18**	**49**	**36.0**	**-2.1**
HHC				sS	**sS**	**18**	**50**	**33.6**	**+2.7**
HHC				PMZ					
	comp=Z,29nm,0.7s								
HHC				PMZ					
	comp=Z,72nm,4.6s								
HHC				LN					
	comp=Z,150nm,14.8s								
HHC				LE					
	comp=Z,140nm,15.0s								
HHC				LZ					
	comp=Z,150nm,16.1s								
KLR	**Kul'dur**	**57.12**	**349**	*e*P	P	18	41	48.8	-3.9
KLR				*e*		18	42	23.7	
KLR				pmax	pmax				
	comp=N,40nm,1.6s								
KLR				pmax	pmax				
	comp=Z,130nm,1.6s								
LZH	**Lanzhou**	**58.35**	**320**	*e*P	**P**	**18**	**42**	**02.6**	**+0.8**
LZH				PcP	**PcP**	**18**	**42**	**53.9**	**+2.5**
LZH				PP	**PP**	**18**	**44**	**15.0**	**+2.5**
LZH				*e*S	**S**	**18**	**49**	**52.5**	**-2.1**
LZH				sS	**sS**	**18**	**50**	**48.3**	**+0.6**
LZH				PMZ					
	comp=Z,95nm,1.1s								
LZH				PMZ					
	comp=Z,400nm,5.4s								
LZH				LN					
	comp=Z,1µm,12.8s								
LZH				LE					
	comp=Z,1µm,14.8s								
LZH				LZ					
	comp=Z,1µm,14.9s								
IMP	**Imphal**	**59.90**	**304**	*ex*	**P**	**18**	**42**	**12.0**	**-0.6**
IMP				*ex*	x	18	42	54.0	
PEA2	**Petropavlovsk-**	**60.30**	**8**	*e*P	**P**	**18**	**42**	**14.9**	**+0.2**
PEA2				*e*pP	**pP**	**18**	**42**	**43.4**	**-2.2**
PETK	**Petropavlovsk-**	**60.30**	**8**	P	**P**	**18**	**42**	**14.9**	**+0.2**
	comp=Z,21nm,0.8s,baz=180,slow=8.3,SNR=37								
PETK				pP	**pP**	**18**	**42**	**43.4**	**-2.2**
	comp=Z,18nm,1.0s,baz=152,slow=6.5,SNR=4.3								
PETK				LR	LR	19	05	15.6	
	comp=Z,134nm,21.1s,baz=206,slow=33								
PET	**Petropavlovsk**	**60.35**	**8**	⇑*i*P	**P**	**18**	**42**	**15.1**	**+0.1**
PET				*e**PP	**pP**	**18**	**42**	**44.8**	**-1.2**
PET				*e*		18	42	58.2	
PET				*e*S	**S**	**18**	**50**	**18.2**	**-1.2**
PET				*e*SS	**SS**	**18**	**54**	**16.6**	**-2.9**
PET						18	56	58.3	
PET				pmax	pmax				
	comp=Z,200nm,12.8s								
PET				pmax	pmax				
	comp=Z,14nm,0.9s								
PET				pmax	pmax				
	comp=Z,100nm,13.2s								
HIA	**Hailar**	**60.38**	**340**	*e*P	**P**	**18**	**42**	**14.6**	**-0.7**
HIA				*e**PP	**pP**	**18**	**42**	**50.8**	**+4.5**
HIA				pmax	pmax				
	comp=Z,65nm,1.1s								
HIA	**Hailar**	**60.38**	**340**	*e*P	**P**	**18**	**42**	**14.6**	**-0.7**
	comp=Z,65nm,1.1s								
HIA				*e*pP	**pP**	**18**	**42**	**50.8**	**+4.5**
KIP	**Kipapa**	**61.20**	**61**	⇓*i*P	**P**	**18**	**42**	**22.9**	**+1.5**
KIP				pmax	pmax				
	comp=Z,145nm,1.7s								
SHL	**Shillong**	**61.91**	**303**	*ex*	**P**	**18**	**42**	**28.0**	**+1.7**
POHA	**Pohakuloa**	**62.83**	**64**	*e*P	**P**	**18**	**42**	**34.3**	**+1.7**
	comp=Z,311nm,1.1s								
GTA	**Gaotai**	**62.89**	**321**	⇓P	**P**	**18**	**42**	**33.1**	**+0.6**
GTA				pP	**PcP**	**18**	**43**	**11.5**	**+1.9**
GTA				sP	sP	18	43	28.8	+11
GTA				PP	PP	18	44	58.1	+5.5
GTA				S	**S**	**18**	**50**	**53.6**	**+1.3**
GTA				PMZ					
	comp=Z,51nm,1.3s								
GTA				PMZ					
	comp=Z,370nm,6.9s								
GTA				LN					
	comp=Z,140nm,19.0s								
GTA				LE					
	comp=Z,130nm,18.1s								
GTA				LZ					
	comp=Z,120nm,17.1s								
PPT2	**Papeete2**	**63.25**	**106**	*e*LR	LR	19	01	49.9	
	comp=Z,223nm,29.5s								
TBI	**Tubuai**	**63.63**	**113**	*e*LR	LR	19	02	04.9	
	comp=Z,222nm,30.0s								
SMY	**Shemya**	**63.66**	**18**	*e*P	**P**	**18**	**42**	**38.3**	**+1.2**
SMY	**Shemya**	**63.66**	**18**	*e*P	**P**	**18**	**42**	**38.3**	**+1.2**
LSA	**Lhasa**	**64.19**	**307**	*e*P	**P**	**18**	**42**	**43.1**	**+1.4**
LSA				pmax	pmax				
	comp=Z,104nm,0.8s								
LSA	**Lhasa**	**64.19**	**307**	*e*P	**P**	**18**	**42**	**43.1**	**+1.4**
	comp=Z,104nm,0.8s								
ULN	**Ulaanbaatar**	**64.42**	**332**	*d i*P	**P**	**18**	**42**	**42.5**	**+0.1**
ULN				pmax	pmax				
	comp=Z,50nm,1.7s								
ULN	**Ulaanbaatar**	**64.42**	**332**	P	**P**	**18**	**42**	**42.7**	**+0.3**
	SNR=20								
ULN	**Ulaanbaatar**	**64.42**	**332**	*e*P	**P**	**18**	**42**	**41.2**	**-1.2**
	comp=Z,45nm,1.2s								
CASY	**Casey**	**64.48**	**195**	*e*P	**P**	**18**	**42**	**43.1**	**+0.8**
	comp=Z,61nm,1.4s								
SONA0	**Songino Array**	**64.71**	**331**	*e*P	**P**	**18**	**42**	**44.0**	**-0.2**
SONM	**Songino Array**	**64.71**	**331**	P	**P**	**18**	**42**	**44.0**	**-0.2**
	comp=Z,15nm,1.0s,baz=149,slow=6.3,SNR=67								
SONM				LR	LR	19	10	07.0	
	comp=Z,123nm,20.5s,baz=134,slow=35								
CIT	**Chita**	**64.86**	**338**	*e*P	**P**	**18**	**42**	**45.0**	**0.0**
CIT				*e*		18	43	13.9	
CIT				*e*		18	43	33.0	
TAPN	**Taplejung**	**66.05**	**304**	*e*P	**P**	**18**	**42**	**54.4**	**+0.9**
	comp=Z,398nm,1.5s								
ODAN	**Odare**	**66.13**	**303**	*e*P	**P**	**18**	**42**	**54.8**	**+0.8**
ADK	**Adak**	**66.29**	**24**	*e*P	**P**	**18**	**42**	**55.0**	**+0.8**
ADK				pmax	pmax				
	comp=Z,102nm,1.0s								
ADK	**Adak**	**66.29**	**24**	*e*P	**P**	**18**	**42**	**55.0**	**+0.8**
	comp=Z,102nm,1.0s								
CHLP	**Challavanipeta**	**66.38**	**293**	*e*P	**P**	**18**	**42**	**56.7**	**+1.3**
CHLP				*e*pP	**pP**	**18**	**43**	**25.9**	**-1.0**
CHLP				*e*sP	**sP**	**18**	**43**	**38.7**	**-2.2**
RAMN	**Ramite**	**66.82**	**303**	*e*P	**P**	**18**	**42**	**59.1**	**+0.7**
JIRN	**Jiri**	**67.42**	**303**	*e*P	**P**	**18**	**43**	**03.1**	**+0.8**
	comp=Z,208nm,1.2s								
GUN	**Gumba**	**67.76**	**304**	*e*P	**P**	**18**	**43**	**05.3**	**+0.9**
ZAK	**Zakamensk**	**67.95**	**332**	⇑*i*P	**P**	**18**	**43**	**03.9**	**-0.9**
ZAK				pmax	pmax				
	comp=Z,49nm,1.2s								
PKI	**Pulchoki**	**68.03**	**303**	*e*P	**P**	**18**	**43**	**06.4**	**+0.3**
	comp=Z,477nm,1.6s								
PKIN	**Phulchoki**	**68.05**	**303**	*e*P	**P**	**18**	**43**	**06.7**	**+0.6**
KKN	**Kakani**	**68.22**	**303**	*e*P	**P**	**18**	**43**	**07.7**	**+0.6**
DMN	**Daman**	**68.30**	**303**	*e*P	**P**	**18**	**43**	**08.5**	**+0.8**
TLY	**Talaya**	**68.67**	**333**	LR	LR	19	12	11.3	
	comp=Z,59nm,18.5s,baz=130,slow=35								
TLY	**Talaya**	**68.67**	**333**	*i* P	**P**	**18**	**43**	**09.4**	**+0.2**
TLY				*e*		18	43	40.2	
TLY				*e*S	S	18	51	55.7	-6.1
TLY				pmax	pmax				
	comp=Z,12nm,0.7s								
TLY	**Talaya**	**68.67**	**333**	P	**P**	**18**	**43**	**10.0**	**+0.8**
	SNR=8.8								
TLY	**Talaya**	**68.67**	**333**	*e*P	**P**	**18**	**43**	**10.0**	**+0.8**
	comp=Z,40nm,1.4s								
IRK	**Irkutsk**	**68.78**	**334**	*e*P	**P**	**18**	**43**	**08.2**	**-1.7**
IRK				pmax	pmax				
	comp=Z,33nm,1.3s								
SKHT	**Srikalahasti**	**69.26**	**287**	*e*P	**P**	**18**	**43**	**13.8**	**+0.3**
BOD	**Bodaibo**	**69.43**	**342**	*e*P	**P**	**18**	**43**	**11.9**	**-1.8**
BOD				pmax	pmax				
	comp=Z,26nm,1.7s								
SEY	**Seymchan**	**69.54**	**3**	LR	LR	19	10	30.5	
	comp=Z,69nm,21.8s,baz=250,slow=33								
DANN	**Dangsing**	**69.67**	**303**	*e*P	**P**	**18**	**43**	**16.5**	**+0.3**
	comp=Z,68nm,0.6s								
YAK	**Yakutsk**	**69.70**	**352**	LR	LR	19	12	28.5	
	comp=Z,76nm,21.4s,baz=157,slow=35								
YAK	**Yakutsk**	**69.70**	**352**	*d i*P	**P**	**18**	**43**	**14.2**	**-1.1**
YAK				*e*		18	43	34.2	
YAK				*e**PP	**pP**	**18**	**43**	**48.5**	**+1.5**
YAK				*e*S	**S**	**18**	**52**	**12.2**	**-1.2**
YAK				*e**SS	**SKiKP**	**18**	**52**	**53.7**	**+3.7**
YAK				*e*		18	53	07.3	
YAK				pmax	pmax				
	comp=Z,54nm,1.3s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,63nm,2.2s								
YAK				smax	smax				
	comp=E,141nm,2.1s								
YAK				smax	smax				
	comp=N,85nm,2.3s								
YAK	**Yakutsk**	**69.70**	**352**	*e*P	**P**	**18**	**43**	**14.5**	**-0.8**
	comp=N,49nm,0.8s								
MOY	**Mondy**	**69.88**	**332**	*e*P	**P**	**18**	**43**	**16.3**	**-0.5**
MOY				pmax	pmax				
	comp=Z,51nm,1.4s								
RPR	**Rampur**	**70.83**	**293**	*e*P	**P**	**18**	**43**	**22.4**	**-0.7**
HYB	**Hyderabad**	**71.17**	**291**	*i* P	**P**	**18**	**43**	**24.0**	**-1.2**
HYB				*e*pP	**pP**	**18**	**43**	**58.0**	**+0.9**
HYB				*e*sP	**sP**	**18**	**44**	**12.0**	**+1.0**
HYBB	**Hyderabad (bro**	**71.17**	**291**	*e*P	**P**	**18**	**43**	**24.8**	**-0.4**
HYBB				*e*PcP	**PcP**	**18**	**43**	**44.7**	**+0.2**
HYBB				*e*pP	**pP**	**18**	**43**	**54.6**	**-2.5**
HYBB				*e*sP	**sP**	**18**	**44**	**11.2**	**+0.2**
VNDA	**Vanda**	**71.29**	**176**	P	**P**	**18**	**43**	**26.1**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=323,slow=6.1,SNR=18								
VNDA				pP	**pP**	**18**	**43**	**55.2**	**-1.4**
	comp=Z,23nm,1.0s,baz=333,slow=6.9,SNR=14								
URV	**Uravakonda**	**71.83**	**288**	*e*P	**P**	**18**	**43**	**29.1**	**-0.1**
URV				*e*pP	**pP**	**18**	**43**	**57.9**	**-3.2**
SBA	**Scott Base**	**71.95**	**176**	*e*pP	pP	18	44	00.8	+0.2
WMQ	**Urumqi**	**72.93**	**320**	P	**P**	**18**	**43**	**35.6**	**+0.4**
WMQ				PcP	**PcP**	**18**	**43**	**51.3**	**-0.2**
WMQ				S	**S**	**18**	**52**	**49.9**	**-1.6**
WMQ				PMZ					
	comp=Z,64nm,1.6s								
WMQ				PMZ					
	comp=Z,410nm,4.4s								
WMQ				LN					
	comp=Z,170nm,25.8s								
WMQ				LE					
	comp=Z,170nm,23.6s								
WMQ				LZ					
	comp=Z,150nm,21.4s								
LGTI	**Lohaghat**	**72.94**	**303**	*e*P	**P**	**18**	**43**	**35.4**	**-0.1**
BILL	**Bilibino**	**75.83**	**8***d*	*i*P	**P**	**18**	**43**	**51.3**	**-0.1**
BILL				*e*		18	44	01.5	
BILL				*i*		18	46	40.4	
BILL				*e*S	**S**	**18**	**53**	**23.9**	**+1.1**
BILL				pmax	pmax				
	comp=Z,66nm,1.2s								
BILL	**Bilibino**	**75.83**	**8**	*e*P	**P**	**18**	**43**	**51.0**	**-0.4**
	comp=Z,64nm,1.2s								
GAMB	**Gambell**	**76.97**	**18**	*e*P	**P**	**18**	**43**	**58.8**	**+0.9**
	comp=Z,120nm,1.9s								
MK31	**Makanchi Array**	**77.65**	**321**	*i* P	**P**	**18**	**44**	**02.5**	**+0.4**
MK31				pmax	pmax				
	comp=Z,126nm,1.2s								
MK32	**Makanchi Array**	**77.65**	**321**	*e*P	**P**	**18**	**44**	**02.1**	**0.0**
MKAR	**Makanchi Array**	**77.65**	**321**	P	**P**	**18**	**44**	**02.1**	**-0.1**
	comp=Z,16nm,0.7s,baz=98,slow=4.2,SNR=119								
MKAR	**Makanchi Array**	**77.65**	**321**	*ce*P	**P**	**18**	**44**	**02.0**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,16nm,0.7s								
MKAR	**Makanchi Array**	**77.65**	**321**	*e*P	**P**	**18**	**44**	**02.2**	**+0.1**
PDGK	**Podgornoye**	**78.17**	**317**	P	**P**	**18**	**44**	**03.7**	**-1.3**
PDGK				pmax	pmax				
	comp=Z,135nm,1.3s								
TIXI	**Tiksi**	**79.01**	**354**	⇑*i*P	**P**	**18**	**44**	**07.7**	**-1.3**
TIXI				pmax	pmax				
	comp=Z,14nm,0.8s								
TIXI	**Tiksi**	**79.01**	**354**	*e*P	**P**	**18**	**44**	**06.8**	**-2.2**
	comp=Z,14nm,0.9s								
ZALV	**Zalesovo Beam**	**79.27**	**328**	P	**P**	**18**	**44**	**09.3**	**-1.5**
	comp=Z,17nm,0.7s,baz=111,slow=5.1,SNR=70								
ZALV				LR	LR	19	18	05.9	
	comp=Z,66nm,22.0s,baz=70,slow=35								
ZAA1	**Zalesovo Array**	**79.27**	**328**	*e*P	**P**	**18**	**44**	**09.3**	**-1.5**
KSH	**Kashi**	**79.40**	**312**	⇓*i*P	**P**	**18**	**44**	**13.9**	**+1.9**
KSH				pP	**pP**	**18**	**44**	**45.6**	**+1.1**
KSH				*e*PP	**PP**	**18**	**47**	**17.8**	**+3.8**
KSH				S	**S**	**18**	**54**	**03.9**	**+1.3**
KSH				ScS	**ScS**	**18**	**54**	**22.9**	**-1.0**
KSH				PMZ					
	comp=Z,190nm,1.4s								
KSH				LN					
	comp=Z,95nm,5.0s								
KSH				LE					
	comp=Z,120nm,5.4s								
KSH				LZ					
	comp=Z,200nm,5.7s								
ULHL	**Ulahol**	**80.05**	**315**	P	**P**	**18**	**44**	**16.4**	**+0.7**
	SNR=39								
ULHL	**Ulahol**	**80.05**	**315**	*i* P	**P**	**18**	**44**	**16.3**	**+0.7**
OHAK	**Old Harbor**	**80.14**	**29**	*e*P	**P**	**18**	**44**	**16.2**	**+0.8**
NVS	**Novosibirsk**	**80.50**	**328**	⇓*i*P	**P**	**18**	**44**	**16.1**	**-1.3**
NVS				*e*S	**S**	**18**	**54**	**08.7**	**-4.5**
NVS				*e*PS	**PnS**	**18**	**55**	**11.3**	**-5.0**
NVS				pmax	pmax				
	comp=Z,88nm,2.2s								
NVS				pmax	pmax				
	comp=N,19nm,1.8s								
NVS				pmax	pmax				
	comp=E,40nm,2.0s								
NVS				smax	smax				
	comp=E,23nm,2.4s								
KZA	**Kyzart**	**80.70**	**314**	P	**P**	**18**	**44**	**20.7**	**+1.3**
	SNR=7.3								
KZA	**Kyzart**	**80.70**	**314**	*i* P	**P**	**18**	**44**	**20.6**	**+1.3**
TKM2	**Tokmak 2**	**80.72**	**315**	P	**P**	**18**	**44**	**19.4**	**+0.3**
	SNR=74								
TKM2	**Tokmak 2**	**80.72**	**315**	P	**P**	**18**	**44**	**18.5**	**-0.6**
TKM2				pmax	pmax				
	comp=Z,104nm,1.2s								
TKM2	**Tokmak 2**	**80.72**	**315**	*e*P	**P**	**18**	**44**	**19.7**	**+0.5**
	comp=Z,78nm,1.0s								
KDAK	**Kodiak Island**	**80.74**	**28**	P	**P**	**18**	**44**	**19.9**	**+1.3**
	comp=Z,334nm,0.9s,SNR=6.3								
KDAK	**Kodiak Island**	**80.74**	**28**	*e*P	**P**	**18**	**44**	**19.3**	**+0.7**
KDAK				pmax	pmax				
	comp=Z,62nm,0.9s								
KDAK	**Kodiak Island**	**80.74**	**28**	*e*P	**P**	**18**	**44**	**19.3**	**+0.7**
	comp=Z,62nm,0.9s								
KBK	**Karagaybulak**	**81.09**	**315**	P	**P**	**18**	**44**	**21.5**

AML Almayashu 81.82 314 P **P** 18 44 26.3 +1.1
SNR=213
EKS2 Erkin-Say 81.92 315 P **P** 18 44 26.3 +0.9
SNR=137
EKS2 Erkin-Say 81.92 315 *e*P **P** 18 44 26.3 +0.9
EKS2 pmax pmax
comp=Z,113nm,1.0s
EKS2 Erkin-Say 81.92 315 *e*P **P** 18 44 26.2 +0.9
comp=Z,113nm,1.0s
RSO Redoubt South 81.95 26 *e*P **P** 18 44 24.6 -0.6
MNAS Manas 82.77 314 P **P** 18 44 29.5 -0.3
MNAS pmax pmax
comp=Z,233nm,1.1s
SEW Seward 83.25 27 *e*P **P** 18 44 32.4 +0.7
comp=Z,86nm,1.1s
QSPA South Pole Qui 83.31 180 P **P** 18 44 32.2 +0.1
comp=Z,9.4nm,0.6s,baz=185,slow=0.3,SNR=71
QSPA pP **pP** 18 45 03.3 -1.6
comp=Z,37nm,1.0s,baz=2.0,slow=0.8,SNR=7.8
QSPA South Pole Qui 83.31 180 *e*P **P** 18 44 32.2 +0.1
comp=Z,24nm,0.8s
QSPA *e*P **P** 18 44 32.2 +0.1
QSPA *e*pP **pP** 18 45 03.3 -1.6
PPLA Purkeypile 83.36 24 *e*P **P** 18 44 32.0 -0.4
comp=Z,86nm,1.4s
KBL Kabul 83.46 306 *e*P **P** 18 44 33.3 -0.3
KBL pmax pmax
comp=Z,33nm,0.8s
KBL Kabul 83.46 306 *e*P **P** 18 44 33.3 -0.3
comp=Z,33nm,0.8s
RC01 Rabbit Creek A 83.56 26 *e*P **P** 18 44 33.2 0.0
comp=Z,80nm,1.0s
CAST Castle Rocks 83.66 23 *e*P **P** 18 44 33.7 -0.1
comp=Z,34nm,1.0s
PMR Palmer 84.04 26 *e*P **P** 18 44 35.3 -0.3
PMR pmax pmax
comp=Z,63nm,1.0s
PMR Palmer 84.04 26 *e*P **P** 18 44 35.3 -0.3
comp=Z,63nm,1.0s
KTH Kantishna Hill 84.18 24 *e*P **P** 18 44 35.4 -1.1
comp=Z,59nm,1.0s
IM04 Indian Mountai 84.28 21 *e*P **P** 18 44 36.5 -0.4
KK31 Karatay Array 84.35 314 *i* P **P** 18 44 37.6 -0.1
KK31 pmax pmax
comp=Z,334nm,1.5s
KKAR Karatay Array 84.35 314 *e*P **P** 18 44 37.8 +0.1
KKAR Karatay Array 84.35 314 *e*P **P** 18 44 37.8 +0.1
TRF Thorofare Moun 84.39 24 *e*P **P** 18 44 36.8 -0.8
comp=Z,30nm,1.0s
OTUK Ortayu 84.48 320 P **P** 18 44 37.7 -0.5
OTUK pmax pmax
comp=Z,323nm,1.4s
MCK McKinley 85.05 24 *e*P **P** 18 44 40.2 -0.6
MCK pmax pmax
comp=Z,119nm,1.0s
MCK McKinley 85.05 24 *e*P **P** 18 44 40.2 -0.6
comp=Z,119nm,1.0s
COLA College 85.97 23 *e*P **P** 18 44 44.5 -0.7
COLA pmax pmax
comp=Z,86nm,0.9s
COLA College 85.97 23 *e*P **P** 18 44 44.5 -0.7
comp=Z,86nm,0.9s
PAX Paxson 86.17 25 *e*P **P** 18 44 46.3 -0.1
PAX pmax pmax
comp=Z,59nm,1.4s
PAX Paxson 86.17 25 *e*P **P** 18 44 46.3 -0.1
comp=Z,59nm,1.4s
ILAR Eielson Array 86.30 23 P **P** 18 44 45.4 -1.5
comp=Z,57nm,0.8s,baz=255,slow=4.9,SNR=360
ILAR pP **pP** 18 45 16.6 -3.3
comp=Z,8.8nm,0.7s,baz=249,slow=5.6,SNR=2.9
ILB Eielson Array 86.30 23 *e*P **P** 18 44 45.4 -1.5
ILB *e*pP **pP** 18 45 16.6 -3.3
DOT Dot Lake 87.01 25 *e*P **P** 18 44 50.6 +0.1
comp=Z,79nm,1.0s
BRVK Borovoye 87.04 324 P **P** 18 44 50.9 +0.2
comp=Z,110nm,1.1s,SNR=20
BRVK Borovoye 87.04 324⇑ *i*P **P** 18 44 50.6 -0.1
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK Borovoye 87.04 324 P **P** 18 44 50.8 +0.1
SNR=17
BRVK Borovoye 87.04 324 *e*P **P** 18 44 50.3 -0.5
comp=Z,34nm,1.3s
CRZF Crozet Islands 88.38 224 S **SKSac** 18 55 14.0 -0.4
CRZF R 19 18 00.0
EGAK Eagle 88.59 24 *e*P **P** 18 44 58.3 +0.5
comp=Z,49nm,0.9s
HYT Haines Junctio 89.03 28 *e*P **P** 18 45 01.1 +0.9
DAWY Dawson 89.10 25 *e*P **P** 18 45 00.9 +0.6
IDAH Dahanechah 90.68 303 *e*P **P** 18 45 09.1 +0.4
IMYA Miami 90.96 306 *e*P **P** 18 45 09.9 +0.1
IKOO Kooshah 91.37 302 *e*P **P** 18 45 11.8 -0.1
ISRO Mashad 91.46 306 *e*P **P** 18 45 12.6 +0.6
IMOG Moghan 91.54 306 *e*P **P** 18 45 11.9 -0.8
ITEG Tejag 91.64 303 *e*Pn **P** 18 45 12.9 -0.1
IPAY Payeh 91.86 306 *e*P **P** 18 45 13.5 -0.5
IAKL Akhelmad 92.06 306 *e*P **P** 18 45 14.9 -0.1
DLBC Dease Lake 92.24 32 *e*P **P** 18 45 16.6 +1.5
IKRD Kardeh 92.28 307 *e*P P 18 45 12.3 -3.7
INK Inuvik 92.47 22 *e*P **P** 18 45 15.0 -0.8
INK *e**PP **pP** 18 45 46.2 -2.8
INK pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 92.47 22 *e*P **P** 18 45 15.0 -0.8
comp=Z,30nm,1.1s
INK *e*pP **pP** 18 45 46.2 -2.8
AB31 Akbulak array 92.71 319 *i* P **P** 18 45 15.4 -1.9
AB31 pmax pmax
comp=Z,29nm,0.7s
ABKAR Akbulak array 92.71 319 *e*P **P** 18 45 16.0 -1.3
ISFR Sfrayin 92.72 307 *e*P **P** 18 45 17.8 -0.2
GEYT Alibeck 92.72 308 P **P** 18 45 17.6 -0.2
comp=Z,22nm,1.0s,baz=108,slow=3.0,SNR=42
GEYT PP **PP** 18 49 02.3 +0.8
comp=Z,5.2nm,1.0s,baz=71,slow=6.4,SNR=6.7
GEYT LR LR 19 33 52.9
comp=Z,28nm,18.2s,baz=225,slow=40
SVE Sverdlovsk 93.22 327⇓ *e*P **P** 18 45 18.7 -0.8
SVE pmax pmax
comp=Z,37nm,1.5s
AKTO Aktyubinsk 94.07 320 P **P** 18 45 21.8 -1.8
AKTO pmax pmax
comp=Z,53nm,1.4s
ARU Arti 94.32 326 P **P** 18 45 23.4 -1.2
comp=Z,109nm,1.1s,SNR=8.7
ARU Arti 94.32 326*c* *i*P **P** 18 45 23.2 -1.4
ARU 18 49 11.4
ARU S **SKSac** 18 55 47.5 0.0
ARU pmax pmax
comp=Z,40nm,1.7s
ARU Arti 94.32 326 *e*P **P** 18 45 23.2 -1.4
comp=Z,34nm,1.3s
YBH Yreka Blue Hor 95.02 49 *e*pP pP 18 46 04.2 +2.7
ISAD Sadrabad 95.81 301 *e*P **P** 18 45 30.5 -1.8
ISRV Sarvestan 96.11 299 *e*P **P** 18 45 32.1 -1.7
MOD Modoc Plateau 96.82 49 *e*P **P** 18 45 37.4 +0.8
comp=Z,34nm,1.8s
IKAZ Kazeroun 97.25 299 *e*P **P** 18 45 38.0 -1.0
IKLH Kolahrood 97.67 303 *e*P **P** 18 45 40.1 -0.6
B08A Colville Reser 97.74 42 *e*P Pdif 18 45 40.9 +0.5
G08A Pilot Rock 97.92 45 *e*P Pdif 18 45 41.5 +0.1
comp=Z,48nm,2.5s
NV01 Mina Array Sit 98.21 52 *e*P Pdif 18 45 43.2 +0.3
NV01 *e*PP **PP** 18 49 45.8 +1.6
NVAR Mina Array Bea 98.21 52 P Pdif 18 45 43.2 +0.3
comp=Z,1.5nm,0.7s,baz=257,slow=5.8,SNR=8.1
NVAR PP **PP** 18 49 45.7 +1.6
comp=Z,1.1nm,1.0s,baz=285,slow=4.6,SNR=3.7
MWC Mount Wilson 98.25 56 *e*P Pdif 18 45 44.9 +1.7
MWC pmax pmax
comp=Z,43nm,1.5s
MWC Mount Wilson 98.25 56 *e*P Pdif 18 45 44.9 +1.7
comp=Z,43nm,1.5s
BMO Blue Mountains 99.09 46 *e*pP pP 18 46 19.9 0.0
DGR Domenigoni Val 99.10 57 *e*PKiKP **PKiKP** 18 50 17.3 +0.6
EML El Monte Cty P 99.21 58 *e*PKiKP **PKiKP** 18 50 20.9 +4.1
CRY Cary Ranch 99.32 57 *e*PKiKP **PKiKP** 18 50 20.6 +3.5
YKA Yellowknife Ar 100.01 28 P **Pdif** 18 45 49.6 -0.4
comp=Z,4.0nm,0.9s,baz=271,slow=4.7,SNR=20
YKB5 Yellowknife Ar 100.01 28 *e*Pdif **Pdif** 18 45 49.6 -0.4
R11A Troy Canyon, C 100.34 52 *e*PKiKP **PKiKP** 18 50 14.0 -4.9
WALA Waterton Lakes 101.32 41 *e*Pdif **Pdif** 18 45 58.5 +2.0
ZEI Tsey 103.69 312 *e*P **Pdif** 18 46 04.9 -2.3
ZEI pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 104.00 331 *e*P **Pdif** 18 46 05.0 -2.9
KLMR *e* 18 50 23.4
KLMR pmax pmax
comp=Z,16nm,1.5s
EGMT Eagleton 104.15 42 *e*Pdif **Pdif** 18 46 05.8 -3.2
KIV Kislovodsk 104.49 314 P **PP** 18 50 32.0 +0.9
SNR=10
KIV Kislovodsk 104.49 314 *e*PP PP 18 50 31.9 +0.8
PD31 Pinedale Array 104.77 48 *e*Pdif **Pdif** 18 46 12.8 +0.8
PDAR Pinedale Array 104.77 48 Pdiff **Pdif** 18 46 12.8 +0.8
comp=Z,0.4nm,0.6s,baz=209,slow=1.7,SNR=4.4
APA Apatity 104.80 339 *e*P **Pdif** 18 46 17.0 +5.7
APA MLR MLR
comp=Z,300nm,29.0s
MOS Moscow 106.03 326 *e*P **Pdif** 18 46 12.9 -4.1
MOS *e* 18 50 42.3
SOC Sochi 106.67 313 *e*P **Pdif** 18 46 15.9 -4.3
SOC *e*PPP PPP 18 52 59.4
SOC *e*PS PS 18 59 52.7 -16
SOC *e*SS SS 19 05 49.7 +7.9
ARA0 ARCESS Array S 106.70 342 *e*Pdif **Pdif** 18 46 18.3 -1.5
ARA0 *e*PKiKP **PKiKP** 18 50 28.5 -0.9
ARA0 *e*PKKPbc **PKKPbc** 19 01 47.6 -4.0
ARCES ARCESS Array B 106.70 342 Pdiff **Pdif** 18 46 18.3 -1.5
comp=Z,4.8nm,0.8s,baz=39,slow=9.8,SNR=8.0
ARCES PKiKP **PKiKP** 18 50 28.5 -0.9
comp=Z,1.0nm,0.7s,baz=62,slow=2.1,SNR=11
ARCES PKKPbc **PKKPbc** 19 01 47.6 -4.0
comp=Z,3.9nm,1.1s,baz=255,slow=3.1,SNR=11
K22A Casper 107.01 48 *e*PP PP 18 50 59.8 +10
FIA0 FINESS Array S 110.02 334 *e*P **Pdif** 18 46 32.3 -2.3
FIA0 FINESS Array S 110.02 334 *e*Pdif **Pdif** 18 46 32.3 -2.3
FIA0 *e*PKiKP **PKiKP** 18 50 35.2 -0.6
FINES FINESS Array B 110.02 334 Pdiff **Pdif** 18 46 32.3 -2.3
comp=Z,1.8nm,0.9s,baz=11,slow=1.4,SNR=3.4
FINES PKiKP **PKiKP** 18 50 35.2 -0.6
comp=Z,1.2nm,0.5s,baz=106,slow=2.3,SNR=11
LTX Lajitas 110.57 61 *e*PKiKP **PKiKP** 18 50 39.2 +1.3
LTX *e* 18 51 15.3
LTX Lajitas 110.57 61 *e*PKiKP **PKiKP** 18 50 39.2 +1.3
LTX *e*PP **PP** 18 51 15.3 -0.6
TXAR Lajitas Array 110.57 61 PKiKP **PKiKP** 18 50 39.2 +1.2
comp=Z,0.6nm,0.9s,baz=212,slow=3.2,SNR=3.6
TXAR PP **PP** 18 51 15.3 -0.6
comp=Z,0.9nm,0.9s,baz=212,slow=4.4,SNR=4.3
FCC Fort Churchill 110.67 29 *e*Sdif Sdif 18 58 42.9 +0.4
BR101 Keskin Array S 111.73 310 *e*Pdif **Pdif** 18 46 42.6 -0.4
BR101 *e*PKiKP **PKiKP** 18 50 39.7 -0.2
BRTR Keskin Array B 111.73 310 Pdiff **Pdif** 18 46 42.6 -0.4
comp=Z,0.5nm,0.7s,baz=117,slow=0.3,SNR=3.8
BRTR PKiKP **PKiKP** 18 50 39.7 -0.2
comp=Z,0.5nm,0.8s,baz=103,slow=6.2,SNR=3.8
AKASG Malin Array Be 112.19 322 PKiKP **PKiKP** 18 50 39.4 -0.8
comp=Z,0.2nm,0.3s,baz=56,slow=1.8,SNR=7.3
AKASG PP **PP** 18 51 26.3 -0.3
comp=Z,0.2nm,0.2s,baz=61,slow=6.7,SNR=6.3
AKBB Malin Array Si 112.19 322 *e*PKiKP **PKiKP** 18 50 39.4 -0.8
AKBB *e*PP **PP** 18 51 26.3 -0.3
ECSD EROS Data Cent 113.93 45 *e*PKiKP **PKiKP** 18 50 43.8 0.0
WMOK Wichita Mounta 114.09 55 *e*PKKPbc PKKPbc 19 01 29.4 +2.9
LVV L'vov 115.63 323 *e*P **Pdif** 18 47 04.6 +4.7
NB2 NORSAR Subarra 116.35 338 PKPdf **PKPdf** 18 50 47.5 -0.4
comp=Z,0.8nm,0.8s,baz=44,slow=1.9
NB200 NORSAR Array S 116.35 338 *e*PKPdf **PKPdf** 18 50 47.5 -0.4
NOA NORSAR Array B 116.35 338 PKP **PKPdf** 18 50 47.5 -0.4
comp=Z,2.7nm,0.9s,baz=53,slow=2.0,SNR=6.3
KOLS Kolonicke sedl 117.03 322 *e*PKiKP **PKPdf** 18 50 50.1 +0.5
KOLS Kolonicke sedl 117.03 322 *e*PKP **PKPdf** 18 50 50.0 +0.5
STHS Stebnicka Huta 117.46 323 *e*PKiKP **PKPdf** 18 50 51.0 +0.6
STHS Stebnicka Huta 117.46 323 *e*PKP **PKPdf** 18 50 51.0 +0.6
CRVS Cervenica-Dubn 117.53 322 *e*PKiKP **PKPdf** 18 50 50.8 +0.2
CRVS Cervenica-Dubn 117.53 322 *e*PKP **PKPdf** 18 50 50.8 +0.2
OJC Ojcow 117.97 324 *e*PKP **PKPdf** 18 50 51.4 0.0
NIE Niedzica 118.01 323 *e*PKP **PKPdf** 18 50 52.7 +1.2
KECS Kecovo 118.30 322 *e*PKiKP **PKPdf** 18 50 53.1 +1.1
KECS Kecovo 118.30 322 *e*PKP **PKPdf** 18 50 53.1 +1.1
PSZ Piszkesteto 118.89 322 *e*PKiKP **PKPdf** 18 50 53.5 +0.2
PSZ Piszkesteto 118.89 322 *e*PKPdf **PKPdf** 18 50 53.5 +0.2
PSZ Piszkesteto 118.89 322⇓ *e*PKPdf **PKPdf** 18 50 54.0 +0.7
OKC Ostrava-Krasne 119.10 324 *e*PKPdf **PKPdf** 18 50 54.0 +0.5
OKC Ostrava-Krasne 119.10 324 *e*PKiKP **PKPdf** 18 50 54.0 +0.5
VYHS Vyhne 119.29 323 *e*PKiKP **PKPdf** 18 50 53.9 -0.1
VYHS Vyhne 119.29 323 *e*PKP **PKPdf** 18 50 53.9 -0.1
PKSN Nyarlorinc 119.32 321⇑ *e*PKPdf **PKPdf** 18 50 55.1 +1.1
MORC Moravsky Berou 119.48 325 *e*PKiKP **PKPdf** 18 50 55.0 +0.7
MORC Moravsky Berou 119.48 325 *e*PKPdf **PKPdf** 18 50 55.0 +0.7
PKS6 Bocsa 119.63 321⇑ *e*PKPdf **PKPdf** 18 50 55.3 +0.7
KSP Ksiaz 119.68 326 *e*PKP **PKPdf** 18 50 55.3 +0.7
PKS7 Kunszentmiklos 119.70 321⇑ *e*PKPdf **PKPdf** 18 50 55.1 +0.4
DPC Dobruska-Polom 119.90 326 *e*PKPdf **PKPdf** 18 50 55.3 +0.2
DPC *es*PKP 18 51 39.7
DPC *e*PP **PP** 18 52 22.3 +1.9
DPC Dobruska-Polom 119.90 326 *e*PKiKP **PKPdf** 18 50 55.3 +0.2
DPC *e* 18 51 39.7
DPC *e* 18 52 22.3
DPC Dobruska-Polom 119.90 326 *e*PKPdf **PKPdf** 18 50 55.9 +0.8
UPC Upice 120.00 326 *e*PKPdf **PKPdf** 18 50 55.9 +0.7
UPC Upice 120.00 326 *e*PKiKP **PKPdf** 18 50 55.9 +0.7
PKST T''s 120.31 322⇓ *e*PKPdf **PKPdf** 18 50 55.8 -0.2
PKSM Moragy 120.37 321⇓ *e*PKPdf **PKPdf** 18 50 56.4 +0.3
PKS9 Tamasi 120.44 321⇑ *e*PKPdf **PKPdf** 18 50 56.5 +0.3
PVCC Panska Ves 120.78 326 *e*PKPdf **PKPdf** 18 50 57.4 +0.7
PVCC Panska Ves 120.78 326 *e*PKiKP **PKPdf** 18 50 57.4 +0.7
TREC Trest 120.88 325 *e*PKPdf **PKPdf** 18 50 57.3 +0.3
TREC Trest 120.88 325 *e*PKiKP **PKPdf** 18 50 57.3 +0.3
BRG Berggiesshubel 120.95 327 *e*PKP **PKPdf** 18 50 57.4 +0.4
comp=Z,13nm,1.0s
comp=N,252nm,16.0s
comp=E,219nm,14.9s
comp=Z,414nm,16.5s
BRG Berggiesshubel 120.95 327 *e*PKP **PKPdf** 18 50 56.9 -0.1
BRG Berggiesshubel 120.95 327 *e*PKiKP **PKPdf** 18 50 57.4 +0.4
BRG pmax pmax
comp=Z,13nm,1.0s
BRG MLR MLR
comp=N,252nm,16.0s
BRG MLR MLR
comp=E,219nm,14.9s
BRG MLR MLR
comp=Z,414nm,16.5s
GOPC GO Pecny, Ondr 120.97 326 *e*PKPdf **PKPdf** 18 50 57.6 +0.4
GOPC AMS AMS 19 41 00.0
comp=Z,100nm,19.2s
PRU Pruhonice 121.07 326 *e*PKPdf **PKPdf** 18 50 57.6 +0.3
PRU Pruhonice 121.07 326 *e*PKiKP **PKPdf** 18 50 57.6 +0.3
BSEG Bad Segeberg 121.08 331 *e*PKP **PKPdf** 18 50 57.3 +0.1
CLL Collm 121.22 328 *e*PKP **PKPdf** 18 50 57.2 -0.3
CLL Collm 121.22 328 *i* PKPdf **PKPdf** 18 50 57.3 -0.3
comp=Z,16nm,1.2s
CLL *e*pPKPdf **pPKPdf** 18 51 30.0 -2.2
CLL *e*PP **PP** 18 52 30.0 +0.7
CLL *e*PS **PS** 19 02 20.0 -3.5
CLL *es*PS 19 02 58.0
CLL *e*SS SS 19 08 55.0 +2.7
CLL *e*(sPSS) 19 10 03.0
CLL *e*SSS SSS 19 13 30.0
CLL *e*SSSS 19 17 06.0
CLL Collm 121.22 328 *e*PKiKP **PKPdf** 18 50 57.5 -0.1
CLL Collm 121.22 328 *e*PKPdf **PKPdf** 18 50 57.5 -0.1
CONA Conrad Observa 121.32 323⇑ *i*PKiKP **PKPdf** 18 50 57.8 -0.2
comp=Z,7.3nm,0.9s
BEHE Becsehely 121.43 321 *e*PKPdf **PKPdf** 18 50 58.9 +0.8
OLIL Olney 121.50 48 *e*PKPdf **PKPdf** 18 50 59.3 +0.8
PLCA Paso Flores 121.88 147 PKP **PKPdf** 18 51 00.1 +0.8
comp=Z,2.3nm,0.6s,baz=225,slow=1.4,SNR=6.2
TANN Tannenbergstha 121.99 327 *e*PKP **PKPdf** 18 50 59.0 -0.2
NRDL Niedersach Rie 122.04 330 *e*PKP **PKPdf** 18 50 59.2 +0.2
KHC Kasperske Hory 122.05 325 *e*pPKP pPKPdf 18 51 32.5 -1.4
KHC Kasperske Hory 122.05 325 *e*PKiKP PKPdf 18 51 06.0 +6.7
GEC2 GERESS Array S 122.13 325 *e*PKP **PKPdf** 18 50 59.2 -0.3
GEC2 *e*pPKP **pPKPdf** 18 51 31.0 -3.2
GEC2 GERESS Array S 122.13 325 *e*PKiKP **PKPdf** 18 50 59.0 -0.5
GEC2 GERESS Array S 122.13 325 *e*PKPdf **PKPdf** 18 50 59.0 -0.5
GEC2 *e*PKPdf **PKPdf** 18 50 59.0 -0.5
GERES GERESS Array B 122.13 325 PKP **PKPdf** 18 50 59.0 -0.5
comp=Z,3.5nm,0.7s,baz=64,slow=2.3,SNR=31
CLZ Clausthal 122.28 329 *e*PKP **PKPdf** 18 50 59.8 +0.1
MOA Molln 122.30 324⇓ *i*PKiKP **PKPdf** 18 50 59.6 -0.2
comp=Z,3.3nm,0.7s
MOX Moxa 122.32 328 *e*PKP **PKPdf** 18 50 59.5 -0.2
PERS Pernice 122.37 322 *e*PKPdf **PKPdf** 18 50 59.9 -0.1
SOKA Soboth 122.40 322⇑ *i*PKiKP **PKPdf** 18 50 59.9 -0.2
comp=Z,15nm,1.1s,SNR=7.4
WET Wettzell 122.44 326 *e*PKP **PKPdf** 18 51 00.0 0.0
ROTZ Rotzenmuhle 122.48 327 *e*PKP **PKPdf** 18 51 00.0 0.0
BOJS Bojanci 122.81 321 *i* PKPdf **PKPdf** 18 51 01.2 +0.4
VISS Visnje 122.93 321 *i* PKPdf **PKPdf** 18 51 01.4 +0.4
GRF Grafenberg Arr 123.06 327 *e*PKP **PKPdf** 18 51 01.0 -0.2
GRF *e*pPKP **pPKPdf** 18 51 33.1 -2.7
UBBA Unterbreizbach 123.07 329 *e*PKP **PKPdf** 18 51 01.1 +0.1
RJOB Jochberg 123.21 324 *e*PKP **PKPdf** 18 51 00.9 -0.7
KBA Koelnbreinsper 123.22 323⇑ *i*PKPdf **PKPdf** 18 51 01.0 -0.8
comp=Z,13nm,1.3s
IBBN Ibbenburen 123.30 331 *e*PKP **PKPdf** 18 51 01.5 0.0
JAVS Javornik 123.37 322 *i* PKPdf **PKPdf** 18 51 01.8 -0.2
FUR Furstenfeldbru 123.86 325 *e*PKP **PKPdf** 18 51 02.5 -0.3
ABTA Abfaltersbach 123.88 323⇑ *i*PKPdf **PKPdf** 18 51 02.5 -0.4
comp=Z,22nm,1.2s,SNR=8.4
LRAL Lakeview Retre 124.03 54 *e*PKPdf **PKPdf** 18 51 03.9 +0.4
LRAL *e*PP **PP** 18 52 44.6 -4.4
BUG Bochum--Univer 124.07 330 *e*PKP **PKPdf** 18 51 02.8 -0.2
WATA Walderalm 124.13 324⇑ *i*PKiKP **PKPdf** 18 51 03.3 -0.2
comp=Z,21nm,1.2s
WTTA Wattenberg 124.13 324 *i* PKiKP **PKPdf** 18 51 03.2 -0.3
comp=Z,32nm,1.2s,SNR=12
TNS Taunus Mts 124.22 329 *e*PKP **PKPdf** 18 51 03.4 0.0
MOTA Moosalm 124.39 325⇑ *i*PKPdf **PKPdf** 18 51 03.5 -0.5
comp=Z,17nm,0.9s,SNR=9.0
BRAL Brewton 124.50 57 *e*PP PP 18 52 50.3 -2.0
ACSO Alum Creek Sta 124.67 45 *e*PKPdf **PKPdf** 18 51 04.8 +0.3
STU Stuttgart 124.67 327 *e*PKP **PKPdf** 18 51 04.1 -0.2
FETA Feichten 124.78 324 *i* PKiKP **PKPdf** 18 51 04.9 +0.1
comp=Z,17nm,1.0s,SNR=12
SCHQ Schefferville 125.06 23 PKP **PKPdf** 18 51 05.1 +0.2
comp=Z,5.0nm,0.8s,baz=279,slow=4.8,SNR=7.1
DAVA Damuels 125.13 325⇓ *i*PKiKP **PKPdf** 18 51 05.5 +0.1
comp=Z,21nm,1.1s,SNR=7.1
MEM Membach 125.22 330 PKP **PKPdf** 18 51 06.0 +0.7
MEM Membach 125.22 330 *e*PKiKP **PKPdf** 18 51 06.3 +1.1
MEM Membach 125.22 330 *e*PKPdf **PKPdf** 18 51 06.3 +1.1
CPCT Cooper Cave 125.26 51 *e*PKPdf **PKPdf** 18 51 06.4 +0.5
FUORN Ofenpass-Fuorn 125.27 324 *e*PKPdf **PKPdf** 18 51 06.0 +0.2
BFO Black Forest 125.40 327 *e*PKP **PKPdf** 18 51 05.2 -0.5
BFO Black Forest 125.40 327 *e*PKiKP **PKPdf** 18 51 06.0 +0.3
BFO Black Forest 125.40 327 *e*PKPdf **PKPdf** 18 51 06.0 +0.3
BCLA Clavier 125.68 330 PKP **PKPdf** 18 51 07.1 +1.0
WLF Walferdange 125.74 329 PKP **PKPdf** 18 51 07.2 +1.0
WLF Walferdange 125.74 329 *e*PKP **PKPdf** 18 51 06.8 +0.5
WLF Walferdange 125.74 329 *e*PKiKP **PKPdf** 18 51 07.8 +1.5
WLF Walferdange 125.74 329 *e*PKPdf **PKPdf** 18 51 07.8 +1.5
TKL Tuckaleechee C 125.77 50 PKP **PKPdf** 18 51 07.2 +0.4
comp=Z,12nm,0.9s,baz=162,slow=1.8,SNR=8.7
CDF Champ du Feu 125.92 327⇑ *i*PKiKP **PKPdf** 18 51 06.5 -0.3
comp=Z,29nm,1.3s
CDF Champ du Feu 125.92 327 *e*PKiKP **PKPdf** 18 51 06.5 -0.3
CDF Champ du Feu 125.92 327 *e*PKPdf **PKPdf** 18 51 06.5 -0.3
SNF Seneffe 126.12 331 PKP **PKPdf** 18 51 08.1 +1.1
GIVF Givet 126.12 330⇑ *i*PKiKP **PKPdf** 18 51 07.3 +0.3
comp=Z,71nm,1.2s
GIVF Givet 126.12 330 *e*PKiKP **PKPdf** 18 51 07.3 +0.3
GIVF Givet 126.12 330 *e*PKPdf **PKPdf** 18 51 07.3 +0.3
DOU Dourbes 126.24 330 PKP **PKPdf** 18 51 07.9 +0.7
BAIF Baives 126.45 331⇑ *i*PKiKP **PKPdf** 18 51 08.0 +0.4
comp=Z,24nm,1.1s
BAIF Baives 126.45 331 *e*PKiKP **PKPdf** 18 51 08.0 +0.4
BAIF Baives 126.45 331 *e*PKPdf **PKPdf** 18 51 08.0 +0.4
HINF Hinteralfeld 126.50 327⇑ *i*PKiKP **PKPdf** 18 51 07.7 -0.2
comp=Z,47nm,1.0s
HINF Hinteralfeld 126.50 327 *e*PKiKP **PKPdf** 18 51 07.7 -0.2
HINF Hinteralfeld 126.50 327 *e*PKPdf **PKPdf** 18 51 07.7 -0.2
PAGF Fort de Pagny 126.65 328 *e*PKiKP **PKPdf** 18 51 08.3 +0.2
comp=Z,3.7nm,0.9s
PAGF Fort de Pagny 126.65 328 *e*PKPdf **PKPdf** 18 51 08.3 +0.2
HAU Haudompre 126.66 328⇑ *i*PKiKP **PKPdf** 18 51 08.1 0.0
comp=Z,35nm,0.9s
HAU *e*R
comp=Z,67nm,21.0s
HAU Haudompre 126.66 328 *e*PKiKP **PKPdf** 18 51 08.1 0.0
HAU Haudompre 126.66 328 *e*PKPdf **PKPdf** 18 51 08.1 0.0
GOGA Godfrey 126.75 53 *e*PKiKP **PKPdf** 18 51 09.4 +0.7
GOGA Godfrey 126.75 53 *e*PKPdf **PKPdf** 18 51 09.4 +0.7
MEZF Maizieres J'vi 127.03 329 *e*PKiKP **PKPdf** 18 51 09.3 +0.5
comp=Z,99nm,1.4s
MEZF Maizieres J'vi 127.03 329 *e*PKPdf **PKPdf** 18 51 09.3 +0.5
SENIN Lac Senin/Sane 127.11 325 *e*PKPdf **PKPdf** 18 51 10.1 +0.8
SFTF Sexfontaines 127.22 328 *e*PKiKP **PKPdf** 18 51 09.4 +0.2
comp=Z,44nm,1.4s
SFTF Sexfontaines 127.22 328 *e*PKPdf **PKPdf** 18 51 09.4 +0.2
CABF La Chapelle 127.64 326⇑ *i*PKiKP **PKPdf** 18 51 10.7 +0.6
comp=Z,53nm,1.1s
CABF La Chapelle 127.64 326 *e*PKiKP **PKPdf** 18 51 10.7 +0.6
CABF La Chapelle 127.64 326 *e*PKPdf **PKPdf** 18 51 10.7 +0.6
BLA Blacksburg 127.71 47 *e*PP PP 18 53 21.9 +8.6
PTN Potsdam (NY) 127.80 37 *e*PKiKP **PKPdf** 18 51 10.7 +0.3
PTN Potsdam (NY) 127.80 37 *e*PKPdf **PKPdf** 18 51 10.7 +0.3
KMSC Kings Mountain 127.82 50 *e*PKPdf **PKPdf** 18 51 11.6 +0.9
LPG La Plagne 127.92 325⇑ *i*PKiKP **PKPdf** 18 51 11.2 +0.2
comp=Z,18nm,1.0s
LPG La Plagne 127.92 325 *e*PKiKP **PKPdf** 18 51 11.2 +0.2
LPG La Plagne 127.92 325 *e*PKPdf **PKPdf** 18 51 11.2 +0.2
LPL La Plagne 127.92 325 *e*PKiKP **PKPdf** 18 51 11.1 +0.2
comp=Z,13nm,1.0s
LPL La Plagne 127.92 325 *e*PKiKP **PKPdf** 18 51 11.1 +0.2
LPL La Plagne 127.92 325 *e*PKPdf **PKPdf** 18 51 11.1 +0.2
SSPA Standing Stone 127.99 42 *e*PKPdf **PKPdf** 18 51 11.4 +0.6
LONY Lake Ozonia 128.01 37 *e*PKPdf **PKPdf** 18 51 11.2 +0.4
PGF Pioggiola 128.19 321 *e*PKiKP **PKPdf** 18 51 11.4 +0.1
comp=Z,84nm,1.2s
PGF Pioggiola 128.19 321 *e*PKiKP **PKPdf** 18 51 11.4 +0.1
PGF Pioggiola 128.19 321 *e*PKPdf **PKPdf** 18 51 11.4 +0.1
BNI Bardonecchia 128.22 324 *e*PKiKP **PKPdf** 18 51 11.6 +0.2
BNI Bardonecchia 128.22 324 *e*PKPdf **PKPdf** 18 51 11.6 +0.2
MBDF Montbardon 128.36 324 *e*PKiKP **PKPdf** 18 51 11.7 +0.1
MBDF Montbardon 128.36 324 *e*PKiKP **PKPdf** 18 51 11.7 +0.1
MBDF Montbardon 128.36 324 *e*PKPdf **PKPdf** 18 51 11.7 +0.1
LOR Lormes 128.43 328⇑ *i*PKiKP **PKPdf** 18 51 11.9 +0.4
comp=Z,60nm,1.4s
LOR *e*R
comp=Z,46nm,23.0s
LOR Lormes 128.43 328 *e*PKiKP **PKPdf** 18 51 11.9 +0.4
LOR Lormes 128.43 328 *e*PKPdf **PKPdf** 18 51 11.9 +0.4
SBF Sospel 128.45 323 *e*PKiKP **PKPdf** 18 51 11.5 -0.2
comp=Z,89nm,1.3s
SBF Sospel 128.45 323 *e*PKiKP **PKPdf** 18 51 11.5 -0.2
SBF Sospel 128.45 323 *e*PKPdf **PKPdf** 18 51 11.5 -0.2
SSF Saint Saulge 128.75 328⇑ *i*PKiKP **PKPdf** 18 51 12.6 +0.5
comp=Z,38nm,1.1s
SSF Saint Saulge 128.75 328 *e*PKiKP **PKPdf** 18 51 12.6 +0.5
SSF Saint Saulge 128.75 328 *e*PKPdf **PKPdf** 18 51 12.6 +0.5
ORIF Oris-en-Rattie 128.76 325 *e*PKiKP **PKPdf** 18 51 12.6 +0.3
comp=Z,12nm,1.0s
ORIF *e*R
comp=Z,88nm,21.2s
ORIF Oris-en-Rattie 128.76 325 *e*PKiKP **PKPdf** 18 51 12.6 +0.3
ORIF Oris-en-Rattie 128.76 325 *e*PKPdf **PKPdf** 18 51 12.6

LDF	**La Druitiere**	**129.53**	**332**	*e*PKIKP	**PKPdf**	**18 51 13.7**	**+0.2**
	comp=Z,61nm,1.4s						
LDF	**La Druitiere**	**129.53**	**332**	*e*PKIKP	**PKPdf**	**18 51 13.7**	**+0.2**
LDF	**La Druitiere**	**129.53**	**332**	*e*PKPdf	**PKPdf**	**18 51 13.7**	**+0.2**
FLN	**La Foliniere**	**129.58**	**332**	⇑*i*PKIKP	**PKPdf**	**18 51 13.8**	**+0.2**
	comp=Z,126nm,1.5s						
FLN				*e*R			
	comp=Z,70nm,20.8s						
FLN	**La Foliniere**	**129.58**	**332**	*e*PKIKP	**PKPdf**	**18 51 13.8**	**+0.2**
FLN	**La Foliniere**	**129.58**	**332**	*e*PKPdf	**PKPdf**	**18 51 13.8**	**+0.2**
TRY	**Troy**	**129.62**	**38**	*e*PKPdf	**PKPdf**	**18 51 15.2**	**+1.3**
HNH	**Hanover**	**129.89**	**36**	*e*PKPdf	**PKPdf**	**18 51 15.7**	**+1.3**
TCF	**Toulx Ste Croi**	**129.93**	**328**	⇑*i*PKIKP	**PKPdf**	**18 51 14.7**	**+0.3**
	comp=Z,32nm,0.9s						
TCF	**Toulx Ste Croi**	**129.93**	**328**	*e*PKIKP	**PKPdf**	**18 51 14.7**	**+0.3**
TCF	**Toulx Ste Croi**	**129.93**	**328**	*e*PKPdf	**PKPdf**	**18 51 14.7**	**+0.3**
GRR	**Gorron**	**130.02**	**332**	*e*PKIKP	**PKPdf**	**18 51 14.8**	**+0.3**
	comp=Z,37nm,1.1s						
GRR	**Gorron**	**130.02**	**332**	*e*PKIKP	**PKPdf**	**18 51 14.8**	**+0.3**
GRR	**Gorron**	**130.02**	**332**	*e*PKPdf	**PKPdf**	**18 51 14.8**	**+0.3**
LASF	**Ste Croix**	**130.43**	**325**	*e*PKIKP	**PKPdf**	**18 51 16.0**	**+0.6**
	comp=Z,48nm,1.5s						
LASF	**Ste Croix**	**130.43**	**325**	*e*PKPdf	**PKPdf**	**18 51 16.0**	**+0.6**
QUA2	**Belchertown**	**130.68**	**38**	*e*PKPdf	**PKPdf**	**18 51 17.2**	**+1.3**
CAF	**Calviac**	**130.89**	**327**	*e*PKIKP	**PKPdf**	**18 51 17.2**	**+0.9**
	comp=Z,35nm,1.4s						
CAF	**Calviac**	**130.89**	**327**	*e*PKIKP	**PKPdf**	**18 51 17.2**	**+0.9**
CAF	**Calviac**	**130.89**	**327**	*e*PKPdf	**PKPdf**	**18 51 17.2**	**+0.9**
SGMF	**Saint Gilles**	**130.90**	**333**	*e*PKIKP	**PKPdf**	**18 51 16.4**	**+0.3**
	comp=Z,85nm,1.3s						
SGMF	**Saint Gilles**	**130.90**	**333**	*e*PKIKP	**PKPdf**	**18 51 16.4**	**+0.3**
SGMF	**Saint Gilles**	**130.90**	**333**	*e*PKPdf	**PKPdf**	**18 51 16.4**	**+0.3**
MFF	**Saint Martin d**	**130.93**	**330**	⇑*i*PKIKP	**PKPdf**	**18 51 16.7**	**+0.4**
	comp=Z,48nm,1.4s						
MFF	**Saint Martin d**	**130.93**	**330**	*e*PKIKP	**PKPdf**	**18 51 16.7**	**+0.4**
MFF	**Saint Martin d**	**130.93**	**330**	*e*PKPdf	**PKPdf**	**18 51 16.7**	**+0.4**
RJF	**Les Rejaudoux**	**130.94**	**328**	*e*PKIKP	**PKPdf**	**18 51 17.1**	**+0.7**
	comp=Z,44nm,1.5s						
RJF				*e*R			
	comp=Z,83nm,22.5s						
RJF	**Les Rejaudoux**	**130.94**	**328**	*e*PKIKP	**PKPdf**	**18 51 17.1**	**+0.7**
RJF	**Les Rejaudoux**	**130.94**	**328**	*e*PKPdf	**PKPdf**	**18 51 17.1**	**+0.7**
ROSF	**Rostrenen**	**131.16**	**333**	*e*PKIKP	**PKPdf**	**18 51 16.8**	**+0.2**
	comp=Z,25nm,1.0s						
ROSF	**Rostrenen**	**131.16**	**333**	*e*PKIKP	**PKPdf**	**18 51 16.8**	**+0.2**
ROSF	**Rostrenen**	**131.16**	**333**	*e*PKPdf	**PKPdf**	**18 51 16.8**	**+0.2**
KEST	**Kesra**	**131.22**	**313**	PKP	**PKPdf**	**18 51 18.3**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=70,slow=3.3,SNR=3.3						
QUIF	**Quistinic**	**131.42**	**333**	*e*PKIKP	**PKPdf**	**18 51 17.6**	**+0.5**
QUIF	**Quistinic**	**131.42**	**333**	*e*PKIKP	**PKPdf**	**18 51 17.6**	**+0.5**
QUIF	**Quistinic**	**131.42**	**333**	*e*PKPdf	**PKPdf**	**18 51 17.6**	**+0.5**
LFF	**La Frestale**	**131.60**	**328**	*e*PKIKP	**PKPdf**	**18 51 17.9**	**+0.3**
LFF	**La Frestale**	**131.60**	**328**	*e*PKIKP	**PKPdf**	**18 51 17.9**	**+0.3**
LFF	**La Frestale**	**131.60**	**328**	*e*PKPdf	**PKPdf**	**18 51 17.9**	**+0.3**
MTLF	**Montolieu**	**131.81**	**325**	*e*PKIKP	**PKPdf**	**18 51 18.7**	**+0.6**
MTLF	**Montolieu**	**131.81**	**325**	*e*PKIKP	**PKPdf**	**18 51 18.7**	**+0.6**
MTLF	**Montolieu**	**131.81**	**325**	*e*PKPdf	**PKPdf**	**18 51 18.7**	**+0.6**
EPF	**Esparros**	**133.07**	**326**	*e*PKIKP	**PKPdf**	**18 51 21.2**	**+0.7**
	comp=Z,15nm,1.2s						
EPF	**Esparros**	**133.07**	**326**	*e*PKIKP	**PKPdf**	**18 51 21.2**	**+0.7**
EPF	**Esparros**	**133.07**	**326**	*e*PKPdf	**PKPdf**	**18 51 21.2**	**+0.7**
ETSF	**Etsaut**	**133.65**	**326**	*e*PKIKP	**PKPdf**	**18 51 21.2**	**-0.4**
	comp=Z,20nm,1.1s						
ETSF	**Etsaut**	**133.65**	**326**	*e*PKIKP	**PKPdf**	**18 51 21.2**	**-0.4**
ETSF	**Etsaut**	**133.65**	**326**	*e*PKPdf	**PKPdf**	**18 51 21.2**	**-0.4**
ESDC	**Sonseca Array**	**137.72**	**325**	PKP	**PKPdf**	**18 51 30.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=42,slow=2.1,SNR=8.2						
MVO	**Moncorvo**	**138.29**	**330**	*e*PKPdf	**PKPdf**	**18 51 33.6**	**+3.3**
POLO	**Lamas de Olo**	**138.51**	**330**	*e*PKPdf	**PKPdf**	**18 51 32.5**	**+1.8**
PVRL	**Vila Real**	**138.55**	**330**	*e*PKPdf	**PKPdf**	**18 51 34.0**	**+3.3**
LPAZ	**La Paz**	**138.89**	**124**	PKhKP	PKPpre	18 51 23.9	
	comp=Z,1.4nm,0.9s,baz=214,slow=4.0,SNR=3.6						
LPAZ				PKP	**PKPdf**	**18 51 33.1**	**+0.3**
	comp=Z,7.9nm,1.0s,baz=291,slow=3.3,SNR=13						
MTE	**Manteigas**	**139.12**	**329**	*e*PKPdf	**PKPdf**	**18 51 35.3**	**+3.5**
MTE	**Manteigas**	**139.12**	**329**	*e*PKPdf	**PKPdf**	**18 51 35.0**	**+3.1**
PCBR	**Castelo Branco**	**139.50**	**329**	*e*PKPdf	**PKPdf**	**18 51 36.4**	**+4.0**
CPUP	**Villa Florida**	**139.91**	**146**	PKP	**PKPdf**	**18 51 34.6**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=224,slow=2.0,SNR=6.2						
PMTG	**Montargil**	**140.46**	**328**	*e*PKPdf	**PKPdf**	**18 51 37.5**	**+3.3**
EVO	**Evora**	**140.75**	**328**	*e*PKIKP	**PKPdf**	**18 51 35.6**	**+0.8**
EVO				*e*R			
	comp=Z,57nm,21.2s						
EVOP	**Sao Brissos**	**140.81**	**328**	*e*PKIKP	**PKPdf**	**18 51 35.6**	**+0.8**
EVOP	**Sao Brissos**	**140.81**	**328**	*e*PKPdf	**PKPdf**	**18 51 35.6**	**+0.8**
PNCL	**Nicolau / Gran**	**141.33**	**328**	*e*PKPdf	**PKPdf**	**18 51 31.5**	**-4.3**
PBDV	**Barranco-do-Ve**	**141.64**	**326**	*e*PKPdf	**PKPdf**	**18 51 37.4**	**+1.0**
SMN1	**Samana, DR**	**143.12**	**67**	*e*PKPdf	PKPbc	18 51 37.0	+0.2
SDV	**Santo Domingo**	**143.21**	**84**	*e*PKPdf	PKPbc	18 51 37.6	+0.2
SDV				*ep*PKPdf	pPKPdf	18 52 17.2	+2.5
SIV	**San Ignacio**	**144.67**	**130**	PKP	PKPbc	18 51 41.5	0.0
	comp=Z,11nm,0.7s,baz=239,slow=4.9,SNR=30						
TOA0	**Torodi Ar. Sit**	**144.70**	**283**	*e*PKPdf	PKPbc	18 51 41.9	+0.3
TOA0				*ep*PKPdf	pPKPdf	18 52 14.9	-2.2
TORD	**Torodi Ar. Bea**	**144.70**	**283**	PKP	PKPbc	18 51 41.9	+0.3
	comp=Z,49nm,0.8s,baz=83,slow=3.0,SNR=192						
TORD				pPKP	pPKPdf	18 52 14.9	-2.2
	comp=Z,36nm,1.1s,baz=57,slow=3.5,SNR=3.6						
AGP	**Aguadilla**	**145.28**	**67**	*e*PKPdf	**PKPbc**	**18 51 43.1**	**-0.2**
LSP	**Las Mesas**	**145.39**	**68**	*e*PKPdf	**PKPdf**	**18 51 43.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**145.41**	**68**	*e*PKPdf	**PKPdf**	**18 51 42.9**	**-0.6**
LRS	**Lares**	**145.58**	**67**	*e*PKPdf	**PKPdf**	**18 51 43.8**	**-0.1**
OBIP	**Obispado Ponce**	**145.86**	**68**	*e*PKPdf	**PKPbc**	**18 51 44.9**	**-0.2**
OBIP				*ep*PKPdf	**pPKPdf**	**18 52 16.4**	**-2.6**
CELP	**Cerrillos**	**145.88**	**68**	*e*PKPdf	**PKPbc**	**18 51 44.9**	**-0.2**
CELP				*ep*PKPdf	**pPKPdf**	**18 52 17.1**	**-1.9**
ICMP	**Isla Caja de M**	**145.98**	**68**	*e*PKPdf	**PKPbc**	**18 51 45.2**	**-0.3**
SJG	**San Juan**	**146.26**	**67**	*ep*PKPdf	pPKPdf	18 52 17.0	-2.7
SAML	**Samuel**	**146.65**	**117**	*e*PKPdf	**PKPbc**	**18 51 46.7**	**-0.8**
MTP	**Monte Pirata**	**146.81**	**67**	*e*PKPdf	**PKPdf**	**18 51 46.5**	**+0.6**
STVI	**Saint Thomas**	**147.29**	**66**	*e*PKPdf	**PKPdf**	**18 51 46.5**	**-0.1**
CDVI	**St. Croix**	**147.63**	**67**	*e*PKPbc	**PKPbc**	**18 51 51.0**	**+0.9**
SMRT	**St. Maarten**	**149.08**	**66**	*e*PKPbc	**PKPbc**	**18 51 53.8**	**-0.1**
SMRT				*ep*PKPdf	**pPKPdf**	**18 52 25.9**	**+1.5**
KIC	**Kosan Boka**	**151.37**	**271**	*e*PKIKP	**PKPbc**	**18 51 59.3**	**-0.2**
	comp=Z,186nm,1.2s						
DBIC	**Dimbokro**	**151.49**	**272**	PKPbc	**PKPbc**	**18 52 00.2**	**+0.4**
	comp=Z,20nm,0.5s,baz=87,slow=2.6,SNR=33						
DBIC				pPKPbc	**pPKPbc**	**18 52 32.2**	**-2.1**
	comp=Z,13nm,0.5s,baz=68,slow=2.0,SNR=3.5						
LIC	**Lamto**	**151.64**	**271**	⇓*i*PKIKP	**PKPbc**	**18 52 00.4**	**+0.3**
	comp=Z,74nm,0.9s						
LIC	**Lamto**	**151.64**	**271**	*e*PKIKP	**PKPbc**	**18 51 59.8**	**-0.3**
	comp=Z,280nm,1.5s						
LIC	**Lamto**	**151.64**	**271**	*e*PKPbc	**PKPbc**	**18 52 00.4**	**+0.3**
TIC	**Toumodi**	**151.65**	**272**	*e*PKIKP	**PKPbc**	**18 51 59.8**	**-0.4**
	comp=Z,19nm,0.2s						
PTGA	**Pitinga**	**152.65**	**105**	PKP	**PKPdf**	**18 51 55.6**	**+0.4**
	comp=Z,5.0nm,0.9s,baz=240,slow=5.3,SNR=7.6						
PTGA				PKPbc	**PKPbc**	**18 52 02.4**	**0.0**
	comp=Z,16nm,1.0s,baz=232,slow=4.2,SNR=13						
PTGA				pPKPbc	**pPKPbc**	**18 52 35.6**	**-1.4**
	comp=Z,7.5nm,0.8s,baz=219,slow=6.5,SNR=3.6						
BDFB	**Brasilia**	**153.62**	**147**	PKP	**PKPdf**	**18 51 56.7**	**0.0**
	comp=Z,5.0nm,0.8s,baz=232,slow=0.9,SNR=6.1						
BDFB				PKPbc	**PKiKP**	**18 52 04.8**	**+0.1**
	comp=Z,9.7nm,0.6s,baz=295,slow=1.6,SNR=13						
BDFB				pPKPbc	**pPKPbc**	**18 52 36.9**	**-2.2**
	comp=Z,25nm,0.9s,baz=215,slow=3.6,SNR=9.0						

*IDC **22** 18:39:47.7±3.4, 18°.19S×174°.75W, h0km, mb4.5/5, mb1 4.6/5, mb1mx3.9/40, mbtmp4.5/5, Error ellipse: s-maj=69.3km s-min=49.3km az=66.0*

ISC 22 18:39:48.3±4.0, 18°.2S±0°.3×174°.6W±0°.5, h10km, n16, σ0§82/17, mb4.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.24**	**255**	Pn	P	18 44 07.7	+5.7
	0.4nm,0.3s,baz=240,slow=20,SNR=3.7						
URZ	**Urewera**	**21.30**	**198**	P	**P**	**18 44 35.2**	**-0.1**
	5.2nm,0.5s,baz=0.0,slow=6.1,SNR=5.7						
RMQ	**Roma**	**34.82**	**250**	P	**P**	**18 46 40.5**	**+0.9**
	baz=36,SNR=5.9						
CTA	**Charters Tower**	**37.00**	**261**	P	**P**	**18 46 58.9**	**+0.5**
	5.1nm,0.4s,baz=85,slow=10,SNR=16						
CMSA	**Cobar Meteorol**	**38.22**	**242**	P	**P**	**18 47 09.6**	**+1.0**
	baz=39,SNR=5.9						
QLP	**Quilpie**	**38.86**	**250**	P	**P**	**18 47 13.2**	**-0.9**
	baz=40,SNR=7.4						
STKA	**Stephens Creek**	**41.72**	**242**	P	**P**	**18 47 37.4**	**-0.3**
	1.3nm,0.5s,baz=94,slow=12,SNR=6.8						
STKA	**Stephens Creek**	**41.72**	**242**	P	**P**	**18 47 38.9**	**+1.2**
	baz=43,SNR=5.2						
BBOO	**Buckleboo**	**46.48**	**242**	P	**P**	**18 48 16.5**	**+0.6**
	baz=48,SNR=8.5						
WRA	**Warramunga Arr**	**48.16**	**259**	P	**P**	**18 48 28.1**	**-1.2**
	4.5nm,0.4s,baz=98,slow=8.5,SNR=122						
WRA				PcP	**PcP**	**18 49 57.2**	**+0.5**
	0.2nm,0.3s,baz=90,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**48.23**	**254**	P	**P**	**18 48 28.7**	**-1.0**
	6.5nm,0.6s,baz=85,slow=8.2,SNR=65						
ASAR				PcP	**PcP**	**18 49 56.9**	**0.0**
	0.4nm,0.3s,baz=107,slow=4.3,SNR=7.7						
KDU	**Kakadu**	**51.19**	**268**	P	**P**	**18 48 52.8**	**+0.5**
	baz=51,SNR=4.1						
MTN	**Manton Dam**	**52.43**	**268**	P	**P**	**18 49 01.7**	**+0.1**
	baz=52,SNR=3.4						
WRKA	**Warakurna**	**53.23**	**252**	P	**P**	**18 49 06.1**	**-1.3**
	baz=54,SNR=10						
KNRA	**Kununurra**	**54.08**	**264**	P	**P**	**18 49 13.4**	**-0.3**
	baz=54,SNR=16						
FITZ	**Fitzroy Crossi**	**56.58**	**260**	P	**P**	**18 49 31.4**	**-0.3**
	baz=57,SNR=7.4						

MAN 22 18:49:08, 17°.65N×119°.31E, h26km, mb4.7, ML3.5, MS3.5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.34**	**90**	*e*P	Pn	18 49 31.6	+0.5
ABRA				*e*S	Sb	18 49 48.7	-0.5
BOLP	**Bolinao**	**1.39**	**155**	*e*P	Pn	18 49 32.5	+0.8
BOLP				*e*S	Sb	18 49 50.4	-0.2
BCPH	**Baguio City Da**	**1.75**	**136**	⇑*i*P	Pn	18 49 37.6	+0.6
BCPH				*i* S	Sn	18 49 59.5	+0.8
APYP	**Conner**	**1.86**	**83**	*e*P	Pn	18 49 39.0	+0.8
APYP				*e*S	Sn	18 50 02.3	+1.5
SCZP	**Santa Cruz**	**1.95**	**163**	*e*P	Pn	18 49 39.8	+0.4
BALP	**Baler**	**2.89**	**131**	*e*P	Pb	18 49 55.9	-2.9
BALP				*e*S	Sn	18 50 27.8	+1.6

*NIED **22** 19:02:00, 33°.50N×141°.00E, h68km, Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φs342.00000°, δ60.00000°, λ19.00000°. NP2:φs242.00000°, δ74.00000°, λ149.00000°.*
*ISCJB **22** 19:02:28.1±0.7, 33°.47N±0°.04×141°.01E±0°.07, h61km±7km, mb3.9/5, Error ellipse: s-maj=9.2km s-min=6.0km az=5.1*
*IDC **22** 19:02:28.3±2.3, 33°.40N×141°.00E, h40km±20km, mb3.5/4, mb1 3.7/7, mb1mx3.4/27, mbtmp3.8/7, ML3.6/3, Error ellipse: s-maj=42.1km s-min=10.8km az=69.0*
*JMA **22** 19:02:29.0±0.2, 33°.52N×140°.98E, h59km±5km, M3.7*

ISC 22 19:02:28.7±1.2, 33°.43N±0°.05×141°.02E±0°.07, h48km±13km, n24, σ1§21/35, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.06**	**253**	P	**Pn**	**19 02 48.0**	**+0.8**
JHJ2				S	**Sn**	**19 03 01.1**	**+0.3**
JHCJ	**Hachijojimakas**	**1.08**	**251**	P	**Pn**	**19 02 48.3**	**+0.7**
JHCJ				*e*S	**Sn**	**19 03 01.5**	**0.0**
BSO1	**Boso 1**	**1.22**	**358**	P	**Pn**	**19 02 48.8**	**-0.1**
BSO1				*e*S	**Sn**	**19 03 04.4**	**+0.5**
BSO2	**Boso 2**	**1.33**	**351**	*e*S	**Sn**	**19 03 08.3**	**+1.2**
BSO3	**Boso 3**	**1.43**	**343**	P	**Pn**	**19 02 51.9**	**-0.1**
BSO4	**Boso 4**	**1.65**	**340**	P	**Pn**	**19 02 55.6**	**+0.4**
JKO	**Kozu shima**	**1.74**	**296**	P	**Pn**	**19 02 56.6**	**+0.1**
JKO				*e*S	**Sn**	**19 03 17.0**	**-0.5**
JIM2	**Oshima 3**	**1.84**	**315**	P	**Pn**	**19 02 57.3**	**-0.6**
JIM2				*e*S	**Sn**	**19 03 18.0**	**-2.0**
JIZS	**Izushimoda**	**2.19**	**306**	P	**Pn**	**19 03 02.9**	**+0.2**
JIZS				S	**Sn**	**19 03 28.2**	**-0.4**
JOD2	**Odawara 2**	**2.42**	**319**	P	**Pn**	**19 03 05.5**	**-0.4**
JOD2				S	**Sn**	**19 03 32.6**	**-1.8**
TK02	**Tokai 2**	**2.77**	**282**	P	**Pn**	**19 03 11.8**	**+1.4**
TK04	**Tokai 4**	**2.78**	**291**	S	**Sn**	**19 03 38.9**	**-4.0**
SHZ3	**Shizuoka 3**	**2.84**	**306**	P	**Pn**	**19 03 12.9**	**+1.3**
JYN	**Shimoto**	**2.90**	**316**	P	**Pn**	**19 03 13.2**	**+0.7**
JYN				*e*S	**Sn**	**19 03 46.6**	**+0.4**
MJAR	**Matsushiro Arr**	**3.87**	**324**	P	**Pn**	**19 03 26.5**	**+0.8**
	5.0nm,0.3s,baz=144,slow=14,SNR=57						
MJAR				S	**Sn**	**19 04 09.5**	**-0.3**
	3.4nm,0.3s,baz=151,slow=21,SNR=5.4						
MAT	**Matsushiro**	**3.87**	**324**	P	**Pn**	**19 03 27.1**	**+1.4**
MAT				S	**Sn**	**19 04 10.4**	**+0.5**
JCJ	**Chichijima**	**6.40**	**171**	P	**Pn**	**19 04 01.1**	**+0.6**
	4.4nm,0.3s,baz=306,slow=19,SNR=4.2						
JCJ				S	**Sn**	**19 05 09.1**	**-3.0**
	8.8nm,0.3s,baz=298,slow=22,SNR=5.7						
ASAJ	**Asahikawa**	**10.74**	**6**	P	**Pn**	**19 04 59.2**	**-0.5**
	0.3nm,0.3s,baz=225,slow=13,SNR=5.8						
ASAJ				S	Sn	19 06 50.9	-7.7
	0.1nm,0.3s,baz=288,slow=20,SNR=2.5						
SONM	**Songino Array**	**29.67**	**309**	P	**P**	**19 08 30.5**	**+0.5**
	0.4nm,0.7s,baz=111,slow=8.8,SNR=3.7						
MKAR	**Makanchi Array**	**45.84**	**305**	P	**P**	**19 10 45.5**	**-0.5**
	0.2nm,0.5s,baz=91,slow=6.1,SNR=4.6						
WRA	**Warramunga Arr**	**53.46**	**188**	P	**P**	**19 11 44.4**	**+0.3**
	5.2nm,0.4s,baz=5.8,slow=7.6,SNR=119						
ASAR	**Alice Springs**	**57.19**	**188**	P	**P**	**19 12 11.5**	**+0.6**
	1.4nm,0.4s,baz=1.8,slow=6.4,SNR=52						
AKASG	**Malin Array Be**	**76.95**	**323**	P	**P**	**19 14 16.0**	**0.0**
	0.4nm,0.4s,baz=47,slow=4.7,SNR=3.0						
LPAZ	**La Paz**	**148.68**	**64**	PKPbc	**PKPbc**	**19 22 12.0**	**+0.1**
	1.1nm,0.6s,baz=321,slow=2.0,SNR=5.0						

IDC 22 19:04:24.6±1.5, 6°.25S×147°.17E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/27, mbtmp3.6/4, ML3.2/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/24, Error ellipse: s-maj=77.0km s-min=26.6km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**221**	P	Pn	19 08 41.7	-0.4
	0.1nm,0.3s,baz=44,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**21.51**	**215**	P	P	19 09 15.4	0.0
	0.7nm,0.5s,baz=54,slow=9.3,SNR=25						
ASAR				LR	LR	19 18 42.3	
	comp=Z,81nm,20.4s,baz=60,slow=40						
STKA	**Stephens Creek**	**26.02**	**191**	P	P	19 09 59.7	+0.1
	1.6nm,0.8s,baz=35,slow=7.6,SNR=3.1						
RAO	**Raoul Island**	**40.10**	**129**	LR	LR	19 24 15.9	
	comp=Z,486nm,19.2s,baz=76,slow=30						
ILAR	**Eielson Array**	**85.64**	**23**	P	P	19 17 05.4	+0.5
	0.4nm,0.8s,baz=244,slow=3.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**145.31**	**284**	PKPbc	PKPbc	19 24 03.7	-1.7
	0.8nm,0.7s,baz=84,slow=3.3,SNR=4.9						

*IDC **22** 19:21:52.6±0.8, 12°.34N×143°.79E, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.8/26, mbtmp3.7/10, MS3.1/2, Ms1 3.3/2, ms1mx2.7/34, Error ellipse: s-maj=33.2km s-min=18.3km az=95.0*
*ISCJB **22** 19:21:55.1±0.7, 12°.3N±0°.1×143°.7E±0°.2, h27km, mb3.7/10, MS3.1/2, Error ellipse: s-maj=26.0km s-min=15.3km az=2.5*

ISC 22 19:21:56.8±0.8, 12°.3N±0°.1×143°.8E±0°.2, h27km, n14, σ0§50/10, mb3.8/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**23.40**	**69**	T	T	19 51 26.0	
	baz=255,slow=75,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**23.41**	**69**	T	T	19 51 25.2	
	baz=255,slow=75,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**23.42**	**69**	T	T	19 51 30.0	
	baz=255,slow=75,SNR=5.3						
MJAR	**Matsushiro Arr**	**24.64**	**349**	LR	LR	19 36 17.0	
	comp=Z,48nm,18.9s,baz=125,slow=35						
WRA	**Warramunga Arr**	**33.37**	**196**	P	**P**	**19 28 32.9**	**-0.1**
	2.1nm,0.6s,baz=20,slow=9.8,SNR=34						
ASAR	**Alice Springs**	**37.04**	**195**	P	**P**	**19 29 05.0**	**+0.4**
	0.6nm,0.7s,baz=21,slow=12,SNR=18						
CMAR	**Chiang Mai Arr**	**43.55**	**284**	P	**P**	**19 29 59.1**	**+0.4**
	0.7nm,1.0s,baz=84,slow=7.2,SNR=5.1						
CMAR				LR	LR	19 48 01.6	
	comp=Z,25nm,19.7s,baz=110,slow=36						
STKA	**Stephens Creek**	**43.99**	**183**	P	**P**	**19 30 01.6**	**-0.3**
	2.0nm,0.7s,baz=12,slow=8.0,SNR=8.7						
SONM	**Songino Array**	**47.16**	**326**	P	**P**	**19 30 27.1**	**+0.1**
	0.2nm,0.6s,baz=132,slow=8.0,SNR=1.9						
MKAR	**Makanchi Array**	**61.66**	**317**	P	**P**	**19 32 12.4**	**+0.1**
	0.1nm,0.5s,baz=90,slow=7.2,SNR=2.8						
ILAR	**Eielson Array**	**70.18**	**25**	P	**P**	**19 33 06.6**	**-0.2**
	0.3nm,0.6s,baz=243,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**84.48**	**27**	P	**P**	**19 34 27.3**	**+0.4**
	0.4nm,0.4s,baz=285,slow=5.0,SNR=3.4						
NVAR	**Mina Array Bea**	**88.56**	**51**	P	**P**	**19 34 48.2**	**+0.4**
	0.3nm,0.2s,baz=268,slow=5.4,SNR=5.7						
FINES	**FINESS Array B**	**91.85**	**335**	P	**P**	**19 35 01.3**	**-1.0**
	0.3nm,0.4s,baz=108,slow=4.5,SNR=4.8						

IDC 22 19:27:40.1±1.9, 5°.63S×128°.40E, h0km, mb3.2/1, mb1 3.8/3, mb1mx3.4/27, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=119.9km s-min=29.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.35**	**158**	Pn	Pn	19 31 18.8	+0.6
	0.3nm,0.3s,baz=337,slow=13,SNR=31						
WRA				Sn	Sn	19 33 56.1	-13
	0.4nm,0.3s,baz=340,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**18.70**	**164**	P	P	19 31 59.8	-0.5
	0.6nm,0.3s,baz=343,slow=10,SNR=46						
ASAR				S	Sn	19 35 23.9	-6.6
	0.1nm,0.3s,baz=71,slow=21,SNR=4.5						
MKAR	**Makanchi Array**	**66.22**	**327**	P	P	19 38 29.9	0.0
	0.1nm,0.4s,baz=117,slow=6.2,SNR=3.1						

*NNC **22** 19:27:49.3±1.9, 37°.58N×71°.64E, h153km±19km, mb2.7, mpv3.7, Error ellipse: s-maj=17.6km s-min=6.8km az=160.0*

ISC 22 19:27:48.4±3.0, 37°.4N±0°.2×71°.74E±0°.09, h109km, n14, σ1§04/19, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.67**	**301**	⇑P	**Pn**	**19 28 30.5**	**+0.4**
	5.8nm,0.3s						
DZET				⇓S	**Sn**	**19 29 03.9**	**+1.8**
	16nm,0.3s						
SFK	**Sufi-Kurgan**	**2.91**	**28**	⇑P	**Pn**	**19 28 34.9**	**+1.5**
	12nm,0.3s						
SFK				⇑S	**Sn**	**19 29 10.5**	**+2.4**
	35nm,0.5s						
AML	**Almayashu**	**4.92**	**17**	P	**Pn**	**19 29 00.8**	**+0.4**
	SNR=96						
MNAS	**Manas**	**5.07**	**6**	⇓P	**Pn**	**19 29 03.0**	**+0.7**
	9.2nm,0.3s						
MNAS				⇑S	**Sn**	**19 29 59.8**	**+0.1**

KUR pmax pmax
comp=E,2µm,0.3s
KUR smax smax
comp=N,7µm,0.4s
KUR smax smax
comp=E,6µm,0.4s
KUR Kuril'sk 1.22 348 *e*P **Pn 19 59 01.6 -0.3**
KUR AMB AMB 19 59 08.2
comp=E,2µm,0.6s
KUR AMB AMB 19 59 08.2
comp=E,1µm,0.6s
KUR AMB AMB 19 59 08.2
comp=E,5µm,0.6s
KUR *e*S **Sn 19 59 20.7 +3.6**
KUR A A 19 59 25.9
comp=E,8µm,0.4s
KUR A A 19 59 25.9
comp=E,5µm,0.4s
YUK Yuzh-Kuril'sk 1.70 271 *d i*PN **Pn 19 59 08.4 -0.1**
YUK *i* S **Sn 19 59 30.4 +1.5**
YUK pmax pmax
comp=Z,3µm,0.4s
YUK pmax pmax
comp=N,789nm,0.1s
YUK pmax pmax
comp=E,497nm,0.1s
YUK smax smax
comp=N,27µm,3.6s
YUK smax smax
comp=E,17µm,3.6s
YUK smax smax
comp=N,6µm,0.7s
YUK smax smax
comp=E,10µm,0.7s
YUK Yuzh-Kuril'sk 1.70 271 *e*P **Pn 19 59 08.4 -0.1**
YUK AMB AMB 19 59 11.9
comp=E,3µm,0.4s
YUK *e*S **Sn 19 59 30.4 +1.5**
YUK A A 19 59 33.5
comp=E,17µm,3.6s
YUK A A 19 59 33.5
comp=E,27µm,3.6s
YUK A A 19 59 35.8
comp=E,10µm,0.7s
YUK A A 19 59 35.8
comp=E,6µm,0.7s
YUK AMS AMS 20 00 02.5
comp=E,25µm,15.0s
YUK AMS AMS 20 00 02.5
comp=E,17µm,15.0s
NEM2 Nemuro 2 1.92 250 P **Pn 19 59 10.5 -1.0**
NEM2 *e*S **Sn 19 59 35.1 +0.8**
JRA Rausu 2.23 268 P **Pn 19 59 16.6 +0.7**
JRA *e*S **Sn 19 59 46.0 +3.8**
JNK Nakash 2.57 261 P **Pn 19 59 20.7 +0.2**
JNK *e*S **Sn 19 59 53.5 +3.0**
JAK Akkeshi 2.76 249 P **Pn 19 59 22.7 -0.4**
JAK *e*S **Sn 19 59 56.9 +1.6**
JTKR Abashiri--Toko 3.11 270 P **Pn 19 59 29.2 +1.3**
JTKR *e*S **Sn 20 00 09.0 +5.3**
JAR Ashorobuto 3.31 258 P **Pn 19 59 31.6 +0.9**
JCH Churui 3.82 250 P **Pn 19 59 38.1 +0.5**
JKK2 Kamakawa 2 3.95 269 P **Pn 19 59 41.3 +1.8**
ASAJ Asahikawa 4.05 273 Pn **Pn 19 59 42.8 +1.9**
comp=E,7.9nm,0.3s,baz=86,slow=16,SNR=72
ASAJ Sn Sn 20 00 40.3 +13
comp=E,14nm,0.3s,baz=221,slow=20,SNR=2.4
ASAJ LR LR 20 01 27.9
comp=E,9µm,20.0s,baz=138,slow=41
JSE Soyaes 4.13 285 P **Pn 19 59 44.0 +2.1**
ERM Erimo 4.22 243 *ce*PN **Pn 19 59 45.8 +2.6**
ERM pmax pmax
comp=Z,403nm,1.2s
ERM Erimo 4.22 243 *e*P **Pn 19 59 45.8 +2.6**
JNBK Urakawa-nobuka 4.37 248 P **Pn 19 59 45.5 +0.3**
JWK2 Keihoku 4.68 288 P Pn 19 59 53.2 +3.7
JHR Hokuryu 4.70 269 P **Pn 19 59 52.1 +2.3**
YSS Yuzh-Sakhalins 4.81 309 ⇓ *i*PN **Pn 19 59 52.8 +1.5**
YSS *e*S **Sn 20 00 46.0 +0.2**
YSS pmax pmax
comp=Z,70nm,0.5s
YSS smax smax
comp=E,190µm,1.0s
YSS MLR MLR
comp=Z,5µm,15.0s
YSS MLR MLR
comp=N,3µm,14.0s
YSS MLR MLR
comp=E,4µm,14.0s
YSS Yuzh-Sakhalins 4.81 309 *e*P **Pn 19 59 53.1 +1.8**
YSS AMB AMB 20 00 01.5
comp=E,166nm,0.7s
YSS *e*S **Sn 20 00 48.5 +2.7**
YSS A A 20 00 50.5
comp=E,1µm,0.7s
YSS AMS AMS 20 01 54.0
comp=E,3µm,15.0s
YSS AMS AMS 20 01 54.0
comp=E,4µm,15.0s
YSS AMS AMS 20 01 54.0
comp=E,5µm,15.0s
JEW Eniwo 5.07 259 P **Pn 19 59 57.6 +2.8**
JKB Kayabe 5.69 250 P **Pn 20 00 04.5 +1.1**
JKB *e*S **Sn 20 01 07.9 +0.5**
JOT Ohata 5.91 246 *e*S **Sn 20 01 11.4 -1.4**
JANG Nango 6.18 236 P **Pn 20 00 09.0 -1.1**
JANG *e*S **Sn 20 01 14.6 -4.8**
UGL Uglegorsk 6.58 322 *e*PN **Pn 20 00 17.0 +1.5**
UGL pmax pmax
comp=Z,84nm,0.8s
UGL MLR MLR
comp=E,3µm,16.0s
UGL MLR MLR
comp=Z,4µm,16.0s
UGL MLR MLR
comp=N,4µm,19.0s
UGL Uglegorsk 6.58 322 *e*P **Pn 20 00 17.0 +1.5**
UGL AMS AMS 20 02 59.0
comp=N,4µm,16.0s
UGL AMS AMS 20 02 59.0
comp=N,3µm,16.0s
UGL AMS AMS 20 02 59.0
comp=N,4µm,16.0s
SKR Severo-Kuril's 8.53 36 *e*PN Pn 20 00 34.2 -8.1
SKR pmax pmax
comp=N,40nm,0.5s
SKR pmax pmax
comp=Z,60nm,0.5s
SKR MLR MLR
comp=N,2µm,16.0s
SKR MLR MLR
comp=E,2µm,16.0s
SKR MLR MLR
comp=Z,4µm,16.0s
SKR Severo-Kuril's 8.53 36 *e*P **Pn 20 00 42.0 -0.3**
SKR AMB AMB 20 00 51.6
comp=Z,600nm,0.5s
SKR *e*rx rx 20 02 05.2
SKR A A 20 02 23.2
comp=Z,70nm,0.5s
SKR A A 20 02 23.2
comp=Z,50nm,0.5s
SKR A A 20 02 23.2
comp=Z,2µm,8.0s
SKR AMS AMS 20 03 50.0
comp=Z,2µm,16.0s
SKR AMS AMS 20 03 50.0
comp=Z,2µm,16.0s
PAU Pauzhetka 9.41 35 *e*P **Pn 20 00 55.3 +1.0**
OKH Okha 10.13 342 *e*PN **Pn 20 01 05.8 +1.7**
OKH *e*S Sn 20 03 12.4 +16
OKH pmax pmax
comp=Z,1µm,4.4s
OKH smax smax
comp=N,2µm,5.0s
OKH MLR MLR
comp=Z,4µm,15.0s
OKH Okha 10.13 342 *e*P **Pn 20 01 05.8 +1.7**
OKH AMB AMB 20 01 10.4
comp=Z,600nm,4.2s
OKH AMB AMB 20 01 10.4
comp=Z,1µm,4.2s
OKH *e*rx rx 20 03 12.4
OKH A A 20 03 14.0
comp=Z,2µm,5.0s
OKH A A 20 03 14.0
comp=Z,500nm,5.0s
OKH AMS AMS 20 05 58.2
comp=Z,6µm,14.0s
OKH AMS AMS 20 05 58.2
comp=Z,4µm,14.0s
HABR Khabarovsk 10.13 301 *d*PN **Pn 20 01 05.1 +0.9**
HABR *e*SS SS 20 03 11.0
HABR pmax pmax
comp=Z,6.0nm,0.8s
HABR MLR MLR
comp=Z,3µm,15.0s
MAJO Matsushiro 10.70 229 *i* PN **Pn 20 01 12.0 0.0**
MAT Matsushiro 10.70 229 P **Pn 20 01 11.9 -0.1**
MAT *e*S **Sn 20 03 05.1 -5.3**
MJAR Matsushiro Arr 10.70 229 Pn **Pn 20 01 12.0 0.0**
comp=Z,2.1nm,0.3s,baz=28,slow=14,SNR=23
MJAR Sn Sn 20 03 16.8 +6.4
comp=Z,1.0nm,0.3s,baz=139,slow=17,SNR=4.8
MJAR LR LR 20 05 50.1
comp=Z,390nm,19.1s,baz=60,slow=40
PETK Petropavlovsk- 11.02 31 Pn **Pn 20 01 15.9 -0.5**
comp=Z,3.6nm,0.3s,baz=207,slow=13,SNR=36
PETK LR LR 20 05 25.4
comp=Z,1µm,21.2s,baz=211,slow=37
PET Petropavlovsk 11.33 34 *e*PN Pn 20 01 23.8 +3.2
PET *e*S Sn 20 03 31.9 +6.2
PET pmax pmax
comp=Z,28nm,0.5s
PET pmax pmax
comp=Z,300nm,6.0s
PET pmax pmax
comp=Z,200nm,6.9s
PET MLR MLR
comp=Z,3µm,18.0s
PET MLR MLR
comp=Z,3µm,17.0s
PET Petropavlovsk 11.33 34 *e*P **Pn 20 01 19.5 -1.1**
USRK Ussuriysk Ar. 11.67 276 Pn **Pn 20 01 26.8 +1.5**
comp=Z,0.1nm,0.3s,baz=93,slow=13,SNR=15
USRK LR LR 20 06 11.1
comp=Z,3µm,18.2s,baz=75,slow=39
VLA Vladivostok 11.88 271 ⇑ *i*PN Pn 20 01 32.5 +4.3
VLA *e*S Sn 20 03 50.3 +11
VLA pmax pmax
comp=Z,23nm,0.8s
KLR Kul'dur 12.44 300 *e*PN **Pn 20 01 36.5 +0.7**
KLR *e* 20 04 07.5
KLR MLR MLR
comp=Z,8µm,12.0s
MDJ Mudanjiang 13.35 279 P Pn 20 01 51.5 +3.3
MDJ pP P 20 02 00.8 +3.8
MDJ S Sn 20 04 21.8 +6.7
MDJ PMZ
comp=Z,13nm,0.7s
MDJ PMZ
comp=Z,170nm,5.8s
MDJ LN
comp=Z,930nm,19.7s
MDJ LE
comp=Z,1µm,39.3s
MDJ LZ
comp=Z,2µm,18.0s
CN2 Changchun 16.40 277 *e*P **Pn 20 02 29.4 +0.9**
CN2 *e*S **Sn 20 05 33.1 +3.8**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,1µm,15.0s
CN2 LE
comp=Z,2µm,15.0s
CN2 LZ
comp=Z,800nm,16.0s
KSRS Korea Array 16.70 254 Pn **P 20 02 33.6 -0.8**
comp=Z,0.3nm,0.3s,baz=56,slow=13,SNR=29
KSRS LR LR 20 07 15.4
comp=Z,181nm,21.4s,baz=68,slow=31
KSAR Wonju Array Be 16.74 254 P **Pn 20 02 33.6 +0.7**
KSAR Wonju Array Be 16.74 254 Pn **Pn 20 02 33.5 +0.7**
JNU Nakatsue 17.36 237 P **P 20 02 41.5 -0.1**
comp=Z,2.3nm,0.3s,baz=180,slow=5.1,SNR=6.8
JNU LR LR 20 09 43.2
comp=Z,735nm,21.4s,baz=57,slow=38
JCJ Chichijima 17.60 198 LR LR 20 08 35.9
comp=Z,439nm,20.3s,baz=126,slow=34
SNY Shenyang 18.16 272 ⇑ P **P 20 02 47.8 -2.6**
SNY S **Sn 20 06 05.3 -6.6**
SNY PMZ
comp=Z,190nm,10.2s
SNY LN
comp=Z,590nm,17.1s
SNY LE
comp=Z,1µm,18.0s
SNY LZ
comp=Z,1µm,19.2s
SEY Seymchan 19.08 6 P **P 20 02 59.1 -1.2**
comp=Z,0.5nm,0.3s,baz=186,slow=11,SNR=71
SEY LR LR 20 10 50.6
comp=Z,2µm,18.2s,baz=176,slow=38
SEY Seymchan 19.08 6 *e*P **P 20 02 59.5 -0.8**
CLNS Chul'man 19.48 319 *e*P **Pn 20 03 08.7 +2.4**
CLNS pmax pmax
comp=N,14nm,1.3s
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS MLR MLR
comp=Z,1µm,15.0s
CLNS MLR MLR
comp=N,715nm,15.0s
CLNS MLR MLR
comp=E,780nm,15.0s
HIA Hailar 20.16 295 PFAKE 20 03 20.0 +5.6
HIA LR LR
comp=Z,2µm,19.0s
YAK Yakutsk 21.04 335 P **P 20 03 19.6 -2.0**
comp=Z,28nm,0.5s,baz=165,slow=4.1,SNR=17
YAK LR LR 20 12 02.5
comp=Z,2µm,18.9s,baz=137,slow=38
YAK Yakutsk 21.04 335 *e*P **P 20 03 18.7 -2.9**
YAK *e* 20 03 31.8
YAK *e*S **S 20 07 07.0 -6.4**
YAK *e*SS **SnSn 20 07 30.2 -5.9**
YAK *e*SSS SSS 20 07 41.2
YAK *e* 20 14 40.5
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,16nm,1.1s
YAK smax smax
comp=N,73nm,2.3s
YAK smax smax
comp=E,73nm,2.3s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,1µm,17.0s
YAK MLR MLR
comp=E,914nm,15.0s
ADK Adak 24.59 59 PFAKE 20 04 10.0 +12
ADK LR LR
comp=Z,782nm,21.0s
SSE Sheshan 24.89 248 *e*P **P 20 04 03.0 +2.5**
SSE S **S 20 08 21.5 +0.5**
SSE PMZ
comp=Z,37nm,0.7s
SSE PMZ
comp=Z,160nm,3.7s
SSE LN
comp=Z,600nm,19.5s
SSE LE
comp=Z,320nm,19.5s
SSE LZ
comp=Z,740nm,20.7s
TIA Tai'an 24.92 262 ⇓ P **P 20 04 02.0 +1.3**
TIA PMZ
comp=Z,40nm,0.6s
BOD Bodaibo 25.26 315 *e*P **P 20 03 59.4 -4.2**
BOD pmax pmax
comp=Z,7.0nm,1.4s
BILL Bilibino 25.87 16 ⇑ *i*P **P 20 04 07.1 -1.9**
BILL *i* 20 07 35.6
BILL *e*S **S 20 08 36.5 +0.7**
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,1µm,20.0s
BILL Bilibino 25.87 16 PFAKE 20 04 20.0 +11
BILL LR LR
comp=Z,1µm,21.0s
NJ2 Nanjing 25.89 252 *e*P **P 20 04 11.1 +1.5**
NJ2 S **S 20 08 39.0 +2.1**
NJ2 PMZ
comp=Z,60nm,0.8s
NJ2 LN
comp=Z,2µm,15.9s
NJ2 LE
comp=Z,3µm,16.2s
NJ2 LZ
comp=Z,9µm,13.8s
HHC Hu-ho-hao-te 27.09 276 *e*P **P 20 04 21.4 +1.0**
HHC sP sP 20 04 30.6 -5.4
HHC PP **PnPn 20 05 07.3 +3.1**
HHC S **S 20 09 00.1 +4.2**
HHC PMZ
comp=Z,16nm,1.1s
HHC PMZ
comp=Z,170nm,4.4s
HHC LN
comp=Z,470nm,11.0s
HHC LE
comp=Z,1µm,13.9s
HHC LZ
comp=Z,1µm,18.2s
BTO Baotou 28.28 276 *e*P **P 20 04 31.1 +0.1**
BTO Baotou 28.28 276 *e*P **P 20 04 31.8 +0.8**
ULN Ulaanbaatar 28.62 292 ⇓ *i*P **P 20 04 35.1 +1.0**
ULN pmax pmax
comp=Z,13nm,1.2s
ULN Ulaanbaatar 28.62 292 *e*P **P 20 04 35.1 +1.0**
ULN Ulaanbaatar 28.62 292 P **P 20 04 35.6 +1.5**
SNR=7.4
ULN Ulaanbaatar 28.62 292 PFAKE 20 04 50.0 +16
ULN LR LR
comp=Z,1µm,19.0s
H11N2 WAKE ISLAND Hy 28.83 141 T T 20 35 24.5
baz=332,slow=76,SNR=560
H11N1 WAKE ISLAND Hy 28.85 141 T T 20 35 25.5
baz=332,slow=76,SNR=714
H11N3 WAKE ISLAND Hy 28.85 141 T T 20 35 25.8
baz=332,slow=76,SNR=861
SONM Songino Array 29.07 292 P **P 20 04 39.3 +1.2**
comp=Z,3.7nm,0.9s,baz=82,slow=7.8,SNR=24
SONM PcP **PcP 20 07 45.5 +0.2**
comp=Z,1.1nm,0.7s,baz=93,slow=2.1,SNR=2.8
SONM LR LR 20 17 22.1
comp=Z,1µm,19.7s,baz=92,slow=39
SONM Songino Array 29.07 292 P **P 20 04 39.3 +1.2**
SONM 20 07 45.5
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM MLR MLR
comp=Z,1µm,19.7s
YHNB Yeheng 29.19 237 PFAKE 20 04 50.0 +11
YHNB LR LR
comp=Z,853nm,21.0s
TIK Tiksi 29.22 348 *e*P **P 20 04 38.8 -0.1**
TIXI Tiksi 29.23 348 ⇑ *i*P **P 20 04 38.8 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
TIXI Tiksi 29.23 348 PFAKE 20 04 50.0 +11
TIXI LR LR
comp=Z,447nm,19.0s
H11S1 WAKE ISLAND Hy 29.82 143 T T 20 36 31.5
baz=333,slow=76,SNR=1341
H11S3 WAKE ISLAND Hy 29.83 143 T T 20 36 38.0
baz=333,slow=76,SNR=889
H11S2 WAKE ISLAND Hy 29.84 143 T T 20 36 39.0
baz=333,slow=76,SNR=1309
WHN Wuhan 29.90 255 P **P 20 04 45.8 +0.5**
WHN PMZ
comp=Z,28nm,0.5s
WHN LN
comp=Z,1µm,12.4s
WHN LE
comp=Z,3µm,20.0s
WHN LZ
comp=Z,2µm,20.6s
TLY Talaya 30.46 300 *e*P **P 20 04 53.0 +2.8**
TLY *e* 20 05 45.2
TLY *e*S **S 20 09 44.9 -3.6**
TLY *e*SS **ScP 20 11 28.0 +0.1**
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY MLR MLR
comp=Z,2µm,17.0s
TLY Talaya 30.46 300 *e*P **P 20 04 52.9 +2.8**
TLY Talaya 30.46 300 PFAKE 20 05 00.0 +10
TLY LR LR
comp=Z,2µm,19.0s
XAN Xi'an 31.85 265 P **P 20 05 02.8 +0.2**
XAN pP **pP 20 05 10.6 -2.9**
XAN sP **sP 20 05 14.5 -3.7**
XAN LN
comp=Z,180nm,18.4s
XAN LE
comp=Z,180nm,17.4s
XAN LZ
comp=Z,170nm,17.4s
MOY Mondy 32.11 301 *e*P **P 20 05 06.9 +2.1**
LZH Lanzhou 34.53 272 *e*P **P 20 05 27.6 +1.5**
LZH pP **pP 20 05 36.9 -0.2**
LZH sP **sP 20 05 40.6 -1.1**
LZH PMZ
comp=Z,70nm,1.1s
LZH PMZ
comp=Z,220nm,5.9s
LZH LN
comp=Z,2µm,11.5s
LZH LE
comp=Z,1µm,12.2s
LZH LZ
comp=Z,2µm,14.9s
GTA Gaotai 36.00 280 ⇑ P **P 20 05 40.0 +1.3**
GTA pP **pP 20 05 45.5 -4.2**
GTA sP sP 20 05 48.9 -5.5
GTA PP **PP 20 07 02.8 +1.9**
GTA PcP **PcP 20 08 06.5 +1.9**
GTA S **S 20 11 12.8 -2.0**
GTA ScS **ScS 20 15 54.8 +1.6**
GTA PMZ
comp=Z,18nm,1.4s
GTA PMZ
comp=Z,120nm,7.4s
GTA LN
comp=Z,470nm,14.2s
GTA LE
comp=Z,640nm,13.3s
GTA LZ
comp=Z,1µm,14.3s
KDAK Kodiak Island 38.48 48 PFAKE 20 06 10.0 +11
KDAK LR LR
comp=Z,790nm,22.0s
QIZ Qiongzhong 40.59 244 P **P 20 06 17.9 +0.6**
QIZ S **S 20 12 26.9 +2.7**
QIZ LZ
comp=Z,670nm,23.4s
QIZ Qiongzhong 40.59 244 PFAKE 20 06 30.0 +13
QIZ LR LR
comp=Z,553nm,19.0s
ILAR Eielson Array 40.80 36 P **P 20 06 18.6 +0.1**
comp=Z,7.8nm,0.6s,baz=260,slow=7.9,SNR=57
ILAR LR LR 20 25 19.9
comp=Z,367nm,19.1s,baz=284,slow=39
ILAR Eielson Array 40.80 36 P **P 20 06 18.6 +0.1**
ILAR pmax pmax
comp=Z,8.0nm,0.6s
ILAR MLR MLR
comp=Z,367nm,19.1s
KMI Kunming 41.33 258 P **P 20 06 24.5 +0.9**
KMI pP pP 20 06 28.3 -6.4
KMI PMZ
comp=Z,19nm,1.1s
KMI PMZ
comp=Z,110nm,4.2s
KMI LN
comp=Z,380nm,17.8s
KMI LE

comp=Z,340nm,16.3s
KMI LZ
comp=Z,530nm,17.8s
ZALV Zalesovo Beam 41.44 307 P **P 20 06 23.6 -0.3**
comp=Z,1.8nm,0.6s,baz=64,slow=10,SNR=11
ZALV PcP **PcP 20 08 21.6 +0.5**
comp=Z,6.0nm,0.6s,baz=82,slow=2.3,SNR=14
ZALV pPcP 20 08 32.8
comp=Z,7.5nm,0.7s,baz=89,slow=2.9,SNR=10.0
ZALV LR LR 20 24 43.3
comp=Z,557nm,19.1s,baz=70,slow=38
NVS Novosibirsk 42.14 309 *eP* **P 20 06 29.2 -0.4**
NVS *e* 20 08 20.2
NVS pmax pmax
comp=Z,10.0nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.4s
WMQ Urumqi 42.70 292 P **P 20 06 35.5 +1.1**
WMQ pP **pP 20 06 45.5 -0.1**
WMQ sP **sP 20 06 48.8 -1.4**
WMQ PMZ
comp=E,33nm,1.2s
WMQ PMZ
comp=E,150nm,4.2s
WMQ LN
comp=E,2μm,15.7s
WMQ LE
comp=E,1μm,15.7s
WMQ LZ
comp=E,2μm,17.2s
EGAK Eagle 43.24 36 PFAKE 20 06 50.0 +12
EGAK LR LR
comp=Z,384nm,19.0s
MKAR Makanchi Array 45.13 298 P **P 20 06 54.2 +0.4**
comp=Z,7.5nm,0.7s,baz=66,slow=5.0,SNR=105
MKAR PcP **PcP 20 08 34.7 +0.9**
comp=Z,2.0nm,0.6s,baz=76,slow=5.7,SNR=3.2
MKAR pPcP 20 08 45.7
comp=Z,3.8nm,0.7s,baz=302,slow=2.3,SNR=4.2
MKAR LR LR 20 27 08.6
comp=Z,2μm,18.4s,baz=70,slow=38
MKAR Makanchi Array 45.13 298 P **P 20 06 54.2 +0.4**
MKAR 20 08 34.7
MKAR 20 08 45.7
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR MLR MLR
comp=Z,2μm,18.4s
INK Inuvik 45.76 31 P **P 20 06 59.5 +1.0**
comp=Z,12nm,0.6s,baz=273,slow=4.4,SNR=18
INK Inuvik 45.76 31 P **P 20 06 59.5 +1.0**
INK pmax pmax
comp=Z,12nm,0.6s
KURK Kurchatov 46.00 304 *i* P **P 20 07 00.5 -0.1**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 46.00 304 *eP* **P 20 07 00.5 -0.1**
KURK Kurchatov 46.00 304 P **P 20 07 01.4 +0.8**
SNR=7.4
KURK Kurchatov 46.00 304 PFAKE 20 07 10.0 +9.4
KURK LR LR
comp=Z,575nm,20.0s
CRAI Chiangrai 46.16 255 P **P 20 07 00.5 -1.7**
comp=Z,12nm,1.1s
LSA Lhasa 46.95 272 PFAKE 20 07 20.0 +11
LSA LR LR
comp=Z,438nm,19.0s
KKM Kota Kinabalu 47.10 226 PFAKE 20 07 20.0 +10
KKM LR LR
comp=Z,288nm,20.0s
KHON Khomkaen 47.16 249 P **P 20 07 12.7 +2.6**
comp=Z,7.5nm,1.1s
LOEI Loei 47.40 251 P **P 20 07 10.9 -1.0**
comp=Z,28nm,1.1s
UTTA Uttaradit 47.72 252 P **P 20 07 16.6 +2.2**
comp=Z,2.4nm,1.1s
LAMP Lampang 47.82 254 P **P 20 07 18.1 +2.9**
comp=Z,4.2nm,0.8s,comp=Z,61nm
CMMT Chiang Mai 48.10 255 P **P 20 07 18.6 +1.2**
comp=Z,16nm,1.1s
CHTO Chiang Mai 48.10 255 PFAKE 20 07 30.0 +13
CHTO LR LR
comp=Z,454nm,19.0s
PBKT Sadao Pong 48.25 251 P P 20 07 26.2 +7.7
CMAR Chiang Mai Arr 48.34 254 P **P 20 07 20.6 +1.3**
comp=Z,2.2nm,0.7s,baz=44,slow=7.4,SNR=18
CMAR pP **pP 20 07 30.3 -0.2**
comp=Z,2.1nm,0.7s,baz=47,slow=7.9,SNR=5.5
CMAR LR LR 20 30 07.4
comp=Z,481nm,18.2s,baz=50,slow=39
CMAR Chiang Mai Arr 48.34 254 P **P 20 07 20.6 +1.3**
CMAR *PP **pP 20 07 30.3 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,481nm,18.3s
MHMT Maesarieng 49.24 255 P **P 20 07 28.9 +2.8**
comp=Z,12nm,0.7s
MRSI Marisa 49.28 216 P P 20 07 31.6 +5.2
comp=Z,21nm,1.1s,comp=Z,328nm
DLBC Dease Lake 49.94 43 P **P 20 07 32.9 +1.8**
comp=Z,3.6nm,0.8s,baz=297,slow=6.8,SNR=7.7
DLBC pP **pP 20 07 42.4 0.0**
comp=Z,3.0nm,0.6s,baz=116,slow=2.3,SNR=5.1
BRVK Borovoye 49.96 310⇑ *iP* **P 20 07 32.3 +1.1**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 49.96 310 *eP* **P 20 07 32.3 +1.1**
CHBT CHBT 50.08 246 P **P 20 07 34.8 +2.3**
comp=Z,24nm,1.2s
TAPN Taplejung 50.77 272 *eP* **P 20 07 38.9 +0.9**
comp=Z,43nm,1.1s
ULHL Ulahol 50.97 295 P **P 20 07 40.4 +1.1**
SNR=24
ULHL Ulahol 50.97 295 *i* P **P 20 07 40.3 +1.1**
TKM2 Tokmak 2 51.07 296 P **P 20 07 41.1 +1.0**
SNR=38
TKM2 Tokmak 2 51.07 296 *i* P **P 20 07 41.0 +1.0**
TKM2 Tokmak 2 51.07 296 PFAKE 20 07 50.0 +10
TKM2 LR LR
comp=Z,253nm,19.0s
ODAN Odare 51.29 272 *eP* **P 20 07 42.4 +0.6**
comp=Z,46nm,1.3s
CHMS Chumysh 51.58 296 P **P 20 07 44.7 +1.0**
SNR=8.6
CHMS Chumysh 51.58 296 *i* P **P 20 07 44.6 +1.0**
KBK Karagaybulak 51.62 296 P **P 20 07 45.1 +1.1**
SNR=31
KBK Karagaybulak 51.62 296 *i* P **P 20 07 45.1 +1.1**
KBK Karagaybulak 51.62 296 *eP* **P 20 07 45.1 +1.1**
USP Ospenovka 51.62 297 P **P 20 07 45.0 +1.0**
SNR=16
USP Ospenovka 51.62 297 *i* P **P 20 07 44.9 +1.0**
JIRN Jiri 51.69 273 *eP* **P 20 07 45.8 +0.8**
comp=Z,91nm,1.3s
KZA Kyzart 51.70 295 P **P 20 07 46.6 +1.7**
SNR=40
KZA Kyzart 51.70 295 *i* P **P 20 07 46.6 +1.7**
KZA Kyzart 51.70 295 *eP* **P 20 07 46.6 +1.7**
FRU Bishkek 51.75 296 *eP* **P 20 07 45.5 +0.6**
FRU *e* 20 08 03.0
FRU pmax pmax
comp=Z,50nm,2.0s
GUN Gumba 51.76 274 *eP* **P 20 07 46.3 +0.8**
comp=Z,65nm,1.0s
RAMN Ramite 51.80 272 *eP* **P 20 07 46.3 +0.6**
comp=Z,38nm,0.5s
AAK Ala-Archa 51.92 296 P **P 20 07 47.1 +0.8**
SNR=16
AAK Ala-Archa 51.92 296 *i* P **P 20 07 47.1 +0.8**
AAK pmax pmax
comp=Z,64nm,1.2s
AAK Ala-Archa 51.92 296 *eP* **P 20 07 47.1 +0.8**
AAK Ala-Archa 51.92 296 P **P 20 07 47.1 +0.8**
SNR=15
AAK Ala-Archa 51.92 296 PFAKE 20 08 00.0 +14
AAK LR LR
comp=Z,681nm,19.0s
UCH Uchtor 52.10 295 P **P 20 07 49.4 +1.4**
SNR=5.9
UCH Uchtor 52.10 295 *i* P **P 20 07 49.4 +1.4**
KKN Kakani 52.26 274 *eP* **P 20 07 49.9 +0.8**
comp=Z,42nm,1.0s
PKI Pulchoki 52.30 274 *eP* **P 20 07 50.0 +0.5**
comp=Z,70nm,1.2s
PKIN Phulchoki 52.30 274 *eP* **P 20 07 50.4 +0.9**
comp=Z,18nm,0.6s
EKS2 Erkin-Say 52.37 296 P **P 20 07 50.4 +0.8**
SNR=32
EKS2 Erkin-Say 52.37 296 *i* P **P 20 07 50.4 +0.8**
EKS2 Erkin-Say 52.37 296 PFAKE 20 08 00.0 +10
EKS2 LR LR
comp=Z,495nm,21.0s
DMN Daman 52.49 274 *eP* **P 20 07 51.7 +0.8**
comp=Z,45nm,0.8s
AML Almayashu 52.68 296 P **P 20 07 53.4 +1.1**
SNR=23
AML Almayashu 52.68 296 *i* P **P 20 07 53.4 +1.1**
DANN Dangsing 53.03 276 *eP* **P 20 07 55.9 +1.0**
comp=Z,102nm,0.9s
PMG Port Moresby 53.20 181 PFAKE 20 08 10.0 +14
PMG LR LR
comp=Z,310nm,21.0s
SVE Sverdlovsk 53.45 317⇑ *eP* **P 20 07 57.8 +0.6**
SVE pmax pmax
comp=Z,21nm,1.2s
SVE MLR MLR
comp=Z,951nm,16.0s
SOKR Solikamsk 54.03 321 *eP* P 20 07 51.7 -10
SOKR pmax pmax
comp=Z,3.0nm,0.6s
SOKR MLR MLR
comp=Z,640nm,14.0s
HNR Honiara 54.28 166 LR LR 20 27 45.8
comp=Z,319nm,21.9s,baz=340,slow=32
RES Resolute Bay 54.46 17 P **P 20 08 03.7 -0.6**
comp=Z,9.8nm,0.7s,baz=324,slow=8.3,SNR=40
RES Resolute Bay 54.46 17 P **P 20 08 03.7 -0.6**
RES pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 54.66 317 *d iP* **P 20 08 05.4 -0.6**
ARU 20 09 07.7
ARU 20 10 06.5
ARU S **S 20 15 43.4 +0.5**
ARU SS **SS 20 19 23.7 -1.7**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU MLR MLR
comp=Z,894nm,17.0s
ARU Arti 54.66 317 PFAKE 20 08 20.0 +14
ARU LR LR
comp=Z,633nm,20.0s
LGTI Lohaghat 54.91 279 *ex* **P 20 08 10.1 +1.9**
YKA Yellowknife Ar 55.13 34 P **P 20 08 09.6 +0.3**
comp=Z,4.2nm,0.6s,baz=300,slow=7.0,SNR=6.8
YKA pP **pP 20 08 19.5 -1.2**
comp=Z,8.0nm,0.8s,baz=301,slow=7.2,SNR=12
YKA PcP **PcP 20 09 10.3 +0.2**
comp=Z,1.7nm,0.6s,baz=298,slow=3.4,SNR=5.5
YKA Yellowknife Ar 55.13 34 P **P 20 08 09.6 +0.3**
YKA *PP **pP 20 08 19.5 -1.2**
YKA 20 09 10.3
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 55.13 34 *eP* **P 20 08 08.3 -1.0**
SMLA Simla 56.13 282 *i* P **P 20 08 17.4 +0.5**
PRGR Permogore 57.75 327 *eP* **P 20 08 25.8 -2.1**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
LVZ Lovozero 57.85 336 PFAKE 20 08 40.0 +11
LVZ LR LR
comp=Z,471nm,22.0s
KEV Kevo 58.71 340 *ep* **P 20 08 33.3 -1.2**
comp=Z,1.2nm,0.3s
KEV Kevo 58.71 340 *eP* **P 20 08 33.3 -1.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 58.71 340 PFAKE 20 08 50.0 +16
KEV LR LR
comp=Z,483nm,20.0s
DAG Danmarks Havn 59.17 357 *i* P **P 20 08 37.9 +0.3**
DAG Danmarks Havn 59.17 357 *i* P **P 20 08 37.9 +0.3**
comp=Z,2.9nm,0.7s
ARCES ARCESS Array B 59.24 340 P **P 20 08 37.5 -0.7**
comp=Z,1.7nm,0.8s,baz=52,slow=6.7,SNR=9.2
ARCES PcP **PcP 20 09 26.6 +0.5**
comp=Z,2.2nm,0.7s,baz=54,slow=6.3,SNR=3.8
ARCES LR LR 20 38 04.5
comp=Z,488nm,20.0s,baz=36,slow=40
KLMR Klimovskoe 60.60 328 *eP* **P 20 08 46.5 -1.1**
KLMR pmax pmax
comp=Z,19nm,1.6s
KLMR MLR MLR
comp=Z,635nm,19.0s
NEW Newport 61.56 49 P **P 20 08 54.1 -0.3**
comp=Z,4.4nm,0.9s,baz=321,slow=5.9,SNR=3.7
NEW Newport 61.56 49 P **P 20 08 54.1 -0.3**
NEW pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 62.09 58 P **P 20 08 59.4 +1.2**
comp=Z,4.6nm,1.0s,baz=352,slow=7.1,SNR=4.8
YBH Yreka Blue Hor 62.09 58 P **P 20 08 59.4 +1.2**
YBH pmax pmax
comp=Z,5.0nm,1.0s
JOF Joensuu 62.18 333 *ep* **P 20 08 57.7 -0.6**
comp=Z,1.8nm,0.2s
JOF Joensuu 62.18 333 *eP* **P 20 08 57.7 -0.6**
JOF pmax pmax
comp=Z,2.0nm,0.2s
N02D Trinity Center 62.53 59 P **P 20 09 01.5 +0.3**
baz=62
HYB Hyderabad 63.55 269 *i* P **P 20 09 07.5 -0.6**
HYB *e* 20 09 18.0
HYBB Hyderabad (bro 63.55 269 *eP* **P 20 09 07.3 -0.8**
SUMG Summit 63.59 2⇑ *iP* **P 20 09 08.2 +0.2**
SUMG Summit 63.59 2⇑ *iP* **P 20 09 08.2 +0.2**
comp=Z,9.6nm,0.9s
CTAO Charters Tower 63.84 182 PFAKE 20 09 20.0 +10
CTAO LR LR
comp=Z,383nm,20.0s
MSO Missoula 64.15 49 P **P 20 09 12.0 +0.2**
baz=64
KAF Kangasniemi 64.39 334 *ep* **P 20 09 12.1 -0.8**
comp=Z,3.7nm,0.4s
KAF Kangasniemi 64.39 334 *eP* **P 20 09 12.1 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.4s
IMYA Miami 64.66 297 *eP* **P 20 09 16.0 +0.6**
WRAB Tennant Creek 64.92 194⇓ *eP* **P 20 09 16.7 -0.1**
WRA Warramunga Arr 64.93 194 P **P 20 09 16.6 -0.3**
comp=Z,1.7nm,0.7s,baz=10,slow=6.7,SNR=19
WRA PKPPKP P'P'df 20 38 03.7 +8.3
comp=Z,0.4nm,0.7s,baz=202,slow=3.0,SNR=3.6
FINES FINESS Array B 64.96 333 P **P 20 09 15.3 -1.3**
comp=Z,8.5nm,0.5s,baz=45,slow=6.6,SNR=104
FINES LR LR 20 41 42.3
comp=Z,491nm,18.3s,baz=40,slow=40
FINES FINESS Array B 64.96 333 P **P 20 09 15.3 -1.3**
FINES pmax pmax
comp=Z,9.0nm,0.5s
FINES MLR MLR
comp=Z,491nm,18.3s
GEYT Alibeck 64.97 299 P **P 20 09 17.9 +0.7**
comp=Z,11nm,0.8s,baz=3.8,slow=4.5,SNR=26
GEYT LR LR 20 39 43.1
comp=Z,425nm,20.6s,baz=45,slow=38
ISRO Mashad 65.09 297 *eP* **P 20 09 19.4 +1.3**
SKHT Srikalahasti 65.15 265 *eP* P 20 09 14.7 -3.8
IMOG Moghan 65.29 297 *eP* **P 20 09 20.7 +1.1**
IPAY Payeh 65.31 297 *eP* **P 20 09 20.9 +1.2**
IAKL Akhelmad 65.37 298 *eP* **P 20 09 21.1 +1.0**
IKRD Kardeh 65.42 298 *eP* P 20 09 16.7 -3.7
OBN Obninsk 65.53 324⇓ *iP* **P 20 09 20.6 +0.2**
OBN *i* 20 09 46.1
OBN *i* 20 11 45.4
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,508nm,16.0s
OBN Obninsk 65.53 324 *eP* **P 20 09 20.6 +0.2**
ISFR Sfrayin 65.57 299 *eP* **P 20 09 22.4 +0.9**
EGMT Eagleton 65.63 46 P **P 20 09 21.1 -0.3**
baz=65
HLID Hailey 65.89 52 P **P 20 09 23.6 +0.4**
baz=66
VRHR Novokhopersk 65.93 319 *eP* **P 20 09 21.8 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,20nm,1.2s
VRHR MLR MLR
comp=Z,560nm,17.0s
VRHR MLR MLR
comp=N,280nm,20.0s
VRHR MLR MLR
comp=E,260nm,14.0s
C19A Slack Wire Ran 66.19 46 P **P 20 09 25.5 +0.6**
baz=66
B20A Solberg Farm, 66.26 45 P **P 20 09 25.9 +0.5**
baz=66
C20A Veseth Ranch, 66.74 46 P **P 20 09 28.9 +0.5**
baz=66
NVAR Mina Array Bea 66.77 59 P **P 20 09 29.8 +0.8**
comp=E,8.7nm,0.9s,baz=296,slow=6.9,SNR=20
VSR Storozhevoye 67.01 320 *eP* **P 20 09 29.6 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,170nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR MLR MLR
comp=Z,630nm,15.0s
VSR MLR MLR
comp=N,54μm,20.0s
VSR MLR MLR
comp=E,320nm,18.0s
IDAH Dahanechah 67.02 294 *eP* **P 20 09 31.8 +1.1**
D20A Manuel Ranch, 67.07 46 P **P 20 09 31.0 +0.4**
baz=67
VORD Divnogorie 67.12 320 *eP* **P 20 09 30.1 -0.6**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD MLR MLR
comp=Z,600nm,16.0s
VORD MLR MLR
comp=N,750nm,18.0s
VORD MLR MLR
comp=E,330nm,13.0s
E19A Rath Farm, Rou 67.14 47 P **P 20 09 31.8 +0.7**
baz=67
F19A Roth Farm, Mol 67.45 48 P **P 20 09 33.3 +0.3**
baz=67
E20A Meyer Farm, Mu 67.46 47 P **P 20 09 32.1 -1.0**
baz=67
IKOO Kooshah 67.78 294 *eP* **P 20 09 36.5 +0.9**
I17A Pilgrim Ck. 67.82 50 P **P 20 09 36.9 +1.4**
baz=68
H18A Shoshone NF, C 67.83 49 P **P 20 09 36.7 +1.1**
baz=68
DZM Mont Dzumac 67.88 162 *e*LR LR 20 29 52.3
comp=E,368nm,31.9s
MAK Makhachkala 68.16 309 *eP* **P 20 09 37.0 -0.3**
MAK MLR MLR
comp=Z,443nm,17.0s
DGMT Dagmar 68.16 43 P **P 20 09 37.5 +0.2**
baz=68
GRAC Grapevine Rang 68.24 59 P **P 20 09 39.0 +1.0**
baz=68
R11A Troy Canyon, C 68.48 57 P **P 20 09 40.3 +0.6**
baz=68
ASAR Alice Springs 68.64 194 P **P 20 09 40.6 +0.1**
comp=Z,1.2nm,0.6s,baz=12,slow=6.3,SNR=23
ASAR LR LR 20 37 21.0
comp=Z,68nm,21.9s,baz=10.0,slow=34
ASAR PKPPKP P'P'df 20 37 54.9 +5.7
comp=Z,0.4nm,0.5s,baz=163,slow=1.0,SNR=5.7
MPMC Manual Prospec 68.76 60 P **P 20 09 42.0 +0.4**
baz=68
FURC Furnace Creek, 68.89 59 P **P 20 09 42.8 +0.8**
baz=69
F22A Rosebud 68.92 46 P **P 20 09 42.1 0.0**
baz=69
DUG Dugway, Tooele 68.95 54 P **P 20 09 42.2 -0.4**
baz=69
TPNV Topopah Spring 68.97 59 P **P 20 09 43.3 +0.6**
baz=69
D24A Glendive 69.01 44 P **P 20 09 42.9 +0.2**
baz=69
J19A Crowheart 69.08 50 P **P 20 09 44.3 +0.9**
baz=69
PDAR Pinedale Array 69.13 50 P **P 20 09 43.8 0.0**
comp=Z,3.5nm,0.7s,baz=259,slow=1.9,SNR=11
PDAR LR LR 20 40 13.2
comp=Z,63nm,20.2s,baz=344,slow=36
EDW2 Edwards Air Fo 69.20 61 P **P 20 09 44.4 +0.3**
baz=69
H21A Big Horn, Sher 69.27 48 P **P 20 09 44.5 0.0**
baz=69
G22A Birney 69.27 47 P **P 20 09 44.4 -0.1**
baz=69
E24A Baker 69.39 45 P **P 20 09 44.0 -1.1**
baz=69
J20A Shoshoni 69.56 49 P **P 20 09 46.7 +0.4**
baz=69
NB2 NORSAR Subarra 69.60 339 P **P 20 09 45.7 -0.4**
comp=Z,4.9nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 69.60 339 P **P 20 09 45.7 -0.4**
comp=Z,6.3nm,0.5s,baz=31,slow=6.6,SNR=52
NOA LR LR 20 43 22.8
comp=Z,317nm,21.1s,baz=25,slow=39
NOA NORSAR Array B 69.60 339 P **P 20 09 45.7 -0.4**
NOA pmax pmax
comp=Z,6.0nm,0.5s
NOA MLR MLR
comp=Z,317nm,21.1s
GSC Goldstone, Bar 69.67 60 P **P 20 09 47.0 -0.1**
baz=69
I21A Big Trails, Te 69.68 48 P **P 20 09 47.1 +0.1**
baz=69
J21A Lysite 69.91 49 P **P 20 09 47.7 -0.8**
baz=70
I22A 9 Mile Ranch, 70.06 48 P **P 20 09 49.3 -0.1**
baz=70
KIV Kislovodsk 70.14 312 *eP* **P 20 09 50.7 +1.0**
KIV pmax pmax
comp=Z,70nm,1.1s
KIV MLR MLR
comp=Z,794nm,18.0s
KIV Kislovodsk 70.14 312 *eP* **P 20 09 50.8 +1.0**
KIV Kislovodsk 70.14 312⇑ *iP* **P 20 09 51.1 +1.3**
SNR=7.5
KIV Kislovodsk 70.14 312 P **P 20 09 51.3 +1.5**
SNR=15
KIV Kislovodsk 70.14 312 PFAKE 20 10 00.0 +10
KIV LR LR
comp=Z,626nm,21.0s
KBZ Khabaz 70.18 312 P **P 20 09 51.1 +1.3**
comp=Z,17nm,0.7s,baz=56,slow=24,SNR=47
KBZ LR LR 20 45 38.3
comp=Z,683nm,18.0s,baz=240,slow=40
KBZ Khabaz 70.18 312 P **P 20 09 51.1 +1.3**
KBZ pmax pmax
comp=Z,17nm,0.7s
KBZ MLR MLR
comp=Z,683nm,18.0s
A29A Manning Farm, 70.23 40 P **P 20 09 50.2 +0.1**
baz=70
ZEI Tsey 70.27 311 *eP* **P 20 09 49.0 -1.7**
ZEI pmax pmax
comp=Z,14nm,0.6s
J22A Midwest 70.39 48 P **P 20 09 51.8 +0.4**
baz=70
K21A Alcova 70.49 49 P **P 20 09 51.9 -0.2**
baz=70
H24A Dirks Ranch, A 70.50 46 P **P 20 09 51.9 -0.1**
baz=70
TBLG Delisi 70.51 309 P **P 20 09 53.5 +1.5**
NEY Neytrino 70.59 312⇓ *iP* **P 20 09 54.5 +1.8**
NEY pmax pmax
comp=Z,7.0nm,1.5s
ONI Oni 70.64 311 P **P 20 09 54.6 +1.7**
GMRC Granite Mounta 70.73 60 P **P 20 09 53.9 +0.3**
baz=70
ULM Lac du Bonnet 70.80 38 P **P 20 09 53.5 -0.1**
comp=Z,2.4nm,0.6s,baz=333,slow=8.9,SNR=5.5
ULM Lac du Bonnet 70.80 38 P **P 20 09 53.5 -0.1**
ULM pmax pmax
comp=Z,2.0nm,0.6s
IVRN Varamin 70.81 300 *eP* **P 20 09 55.1 +1.1**
IGZV Ghazvin 70.84 302 *eP* **P 20 09 55.5 +1.2**
KZR Kazreti 70.92 309 P **P 20 09 55.8 +1.3**
IR3 Iran Long-Peri 70.94 301 *eP* **P 20 09 55.3 +0.5**

G26A Maurine 71.13 45 P P 20 09 55.6 -0.1
baz=71
N20A Spence Gulch, 71.14 51 P P 20 09 56.2 +0.1
baz=71
KONO Kongsberg 71.21 339 PFAKE 20 10 10.0 +14
KONO LR LR
comp=Z,571nm,20.0s
AKH Akhalkalaki 71.42 310 P P 20 09 59.5 +1.8
I25A Rochford 71.43 46 P P 20 09 57.6 -0.2
baz=71
IRM Iron Mountain 71.45 60 P P 20 09 57.8 0.0
baz=71
IHRS Heris 71.47 306 *e*P P 20 09 59.1 +1.0
GNI Garni 71.57 308⇑*i*P P 20 09 59.9 +1.3
GNI pmax pmax
comp=Z,42nm,1.5s
GNI Garni 71.57 308 *i* P P 20 10 00.8 +2.2
SNR=13
GNI Garni 71.57 308 P P 20 10 01.1 +2.5
SNR=9.0
GNI Garni 71.57 308 PFAKE 20 10 10.0 +11
GNI LR LR
comp=Z,361nm,19.0s
W13A Hualapai Mount 71.62 59 P P 20 09 59.0 0.0
baz=71
SUW Suwalki 71.64 329 *e*P P 20 09 58.0 -0.5
SUW Suwalki 71.64 329 *e*P P 20 09 58.1 -0.5
M22A Cedar Creek Ra 71.68 50 P P 20 09 59.5 +0.1
baz=71
U15A North Rim 71.72 57 P P 20 10 00.3 +0.6
baz=72
AKASG Malin Array Be 71.80 324 P P 20 09 59.2 -0.3
comp=Z,11nm,0.6s,baz=37,slow=6.4,SNR=72
AKASG LR LR 20 45 22.2
comp=Z,212nm,20.8s,baz=35,slow=39
AKASG Malin Array Be 71.80 324 P P 20 09 59.3 -0.3
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG MLR MLR
comp=Z,212nm,20.8s
IZEF Zefreh 71.80 298 *e*P P 20 10 00.9 +0.6
KIEV Kiev 71.81 324*c*/P P 20 09 59.3 -0.3
KIEV Kiev 71.81 324 *e*P P 20 09 59.3 -0.3
KIEV Kiev 71.81 324 PFAKE 20 10 10.0 +10
KIEV LR LR
comp=Z,251nm,21.0s
PDMCI Parker Dam,Lak 71.99 60 P P 20 10 01.1 +0.1
baz=72
IKLH Kolahrood 72.00 299 *e*P P 20 10 02.4 +1.0
ITBZ Tabriz 72.05 306 *e*P P 20 10 02.8 +1.2
ANN Anapa 72.28 316 *e*P P 20 10 03.3 +0.8
ANN pmax pmax
comp=Z,42nm,1.1s
ANN MLR MLR
comp=N,328nm,20.0s
ANN MLR MLR
comp=Z,371nm,20.0s
GLA Glamis 72.38 61 P P 20 10 03.0 -0.5
baz=72
O23A Lake Granby, G 72.87 50 P P 20 10 07.3 +0.7
baz=73
WUAZ Wupatki 72.88 57 P P 20 10 07.3 +0.8
baz=73
G30A Faulkton 72.97 43 P P 20 10 06.9 +0.2
baz=73
ISCO Idaho Springs 73.33 51 P P 20 10 09.2 -0.1
baz=73
X16A Lo Mia Camp, P 73.58 58 P P 20 10 11.1 +0.4
baz=73
SIM Simferopol' 73.82 318*ce*P P 20 10 11.7 0.0
SIM pmax pmax
comp=Z,20nm,0.9s
SIM pmax pmax
comp=Z,30nm,8.4s
SIM MLR MLR
comp=Z,230nm,16.0s
Q23A Hartsel 73.82 51 P P 20 10 12.5 +0.3
baz=74
S22A 4UR Ranch, Cre 74.05 53 P P 20 10 14.1 +0.5
baz=74
BEL Belsk 74.25 329 *e*P P 20 10 14.9 +0.9
BEL Belsk 74.25 329 *e*P P 20 10 15.0 +0.9
IDHR Dehrash 74.29 303 *e*P P 20 10 15.0 +0.2
HATD Hatta, Dubai 74.61 290 *i* P P 20 10 17.4 +0.8
SNR=6.5
KIS Kishinev 74.76 322 *e*P P 20 10 17.0 -0.1
KIS LRM MLR 20 45 50.0
comp=Z,800nm,18.0s
KIS Kishinev 74.76 322 *e*P P 20 10 17.0 -0.1
KIS *e* 20 20 48.0
KIS MLR MLR
comp=Z,700nm,16.0s
KIS MLR MLR
comp=Z,800nm,18.0s
FAQ Al Faqa, Dubai 75.02 290⇓*i*P P 20 10 19.4 +0.4
SNR=6.5
ECSD EROS Data Cent 75.23 43 PFAKE 20 10 30.0 +10
ECSD LR LR
comp=Z,313nm,20.0s
BSY Bisya 75.25 287 P P 20 10 21.4 +1.0
SNR=5.6
KWP Kalwaria Pacla 75.28 327 *e*P P 20 10 21.1 +1.0
KWP Kalwaria Pacla 75.28 327⇑*i*P P 20 10 21.1 +1.0
KWP Kalwaria Pacla 75.28 327 *e*P P 20 10 21.1 +1.0
KWP Kalwaria Pacla 75.28 327 PFAKE 20 10 30.0 +10
KWP LR LR
comp=Z,751nm,20.0s
R26A Arlington 75.58 50 P P 20 10 21.4 -0.8
baz=75
STKA Stephens Creek 75.80 186 LR LR 20 42 09.9
comp=Z,160nm,21.9s,baz=22,slow=34
BURAR Bucovina Array 75.85 324⇑*i*P P 20 10 24.0 +0.5
T25A Trinidad 75.86 52 P P 20 10 24.2 +0.3
baz=76
OJC Ojcow 75.93 329 *e*P P 20 10 24.4 +0.6
OJC Ojcow 75.93 329⇑*i*P P 20 10 24.3 +0.5
OJC *e**SP sP 20 10 38.9 -1.2
OJC MLR MLR
comp=Z,600nm,20.1s
BSEG Bad Segeberg 75.97 336 *e*P P 20 10 24.0 +0.1
comp=Z,47nm,1.5s
KOLS Kolonicke sedl 76.01 327 *e*P P 20 10 24.7 +0.4
KOLS pmax pmax
comp=Z,26nm,1.4s
KOLS Kolonicke sedl 76.01 327 *e*P P 20 10 24.7 +0.4
STHS Stebnicka Huta 76.03 327 *e*P P 20 10 25.9 +1.5
STHS pmax pmax
comp=Z,24nm,1.1s
STHS Stebnicka Huta 76.03 327 *e*P P 20 10 25.9 +1.5
TESR Tescani 76.09 323⇑*i*P P 20 10 25.4 +0.6
TLCR 76.14 321⇑*i*P P 20 10 25.7 +0.6
ANMO Albuquerque 76.21 55⇓*i*P P 20 10 26.1 +0.2
ANMO pmax pmax
comp=Z,15nm,1.0s
UZH Uzhgorod 76.25 326 *e*P P 20 10 25.1 -0.5
UZH *e* 20 10 32.7
UZH *e*S S 20 20 04.5 -2.4
UZH MLR MLR
comp=N,400nm,14.0s
UZH MLR MLR
comp=E,200nm,14.0s
UZH MLR MLR
comp=Z,400nm,14.0s
T26A Comanche Natio 76.29 51 P P 20 10 25.7 -0.6
baz=76
CRVS Cervenica-Dubn 76.36 327 *e*P P 20 10 26.8 +0.5
CRVS pmax pmax
comp=Z,36nm,1.8s
CRVS Cervenica-Dubn 76.36 327 *e*P P 20 10 26.8 +0.5
MALT Malatya 76.37 310⇑*i*P P 20 10 27.8 +1.2
NIE Niedzica 76.39 328 *e*P P 20 10 27.5 +1.1
NIE Niedzica 76.39 328⇑*i*P P 20 10 27.2 +0.8
NIE *e**SP sP 20 10 40.6 -2.2
NIE MLR MLR
comp=Z,500nm,19.5s
P30A Selden 76.43 48 P P 20 10 26.7 -0.2
baz=76
CFR Carcaliu 76.46 321⇑*i*P P 20 10 27.4 +0.6
TRPA Tarpa 76.55 326⇑*i*P P 20 10 28.4 +1.1
TRPA Tarpa 76.55 326⇓*e*P P 20 10 28.2 +0.9
VRI Vrincioaia 76.56 322⇓*i*P P 20 10 28.4 +0.9
KSP Ksiaz 76.69 331 *e*P P 20 10 28.4 +0.4
KSP Ksiaz 76.69 331⇑*e*P P 20 10 28.5 +0.4
KSP *e**PP pP 20 10 45.8 +5.9
KSP MLR MLR
comp=Z,3µm,19.2s
OKC Ostrava-Krasne 76.86 329 *e*P P 20 10 29.6 +0.6
OKC *ep*P pP 20 10 40.6 -0.3
OKC *es*P sP 20 10 47.0 +1.6
OKC AMS AMS 20 50 30.0
comp=Z,300nm,15.2s
OKC Ostrava-Krasne 76.86 329 *e*P P 20 10 29.6 +0.6
OKC *e* 20 10 40.6
OKC *e* 20 10 47.0
OKC MLR MLR
comp=Z,300nm,15.2s
HARR Harsova 76.93 321⇓*i*P P 20 10 30.7 +1.2
TLB Topalu 76.96 321⇑*i*P P 20 10 30.3 +0.6
319A Douglas 76.97 59 P P 20 10 30.8 +0.6
baz=77
UPC Upice 77.06 331 *e*P P 20 10 30.9 +0.7
UPC *es*P sP 20 10 47.1 +0.5
UPC Upice 77.06 331 *e*P P 20 10 30.9 +0.7
UPC *e* 20 10 47.1
KECS Kecovo 77.08 327 *e*P P 20 10 30.8 +0.5
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 77.08 327 *e*P P 20 10 30.8 +0.5
DPC Dobruska-Polom 77.09 331 *e*P P 20 10 31.3 +0.9
DPC *ep*P pP 20 10 42.5 +0.2
DPC *es*P sP 20 10 48.1 +1.3
DPC *ex* x 20 26 14.6
DPC AMS AMS 20 47 20.0
DPC Dobruska-Polom 77.09 331 *e*P P 20 10 31.3 +0.9
DPC *e* 20 10 42.5
DPC *e* 20 10 48.1
SCHQ Schefferville 77.09 20 P P 20 10 30.4 +0.2
comp=Z,4.2nm,0.6s,baz=326,slow=4.2,SNR=11
SCHQ LR LR 20 47 53.8
comp=Z,382nm,20.1s,baz=311,slow=38
121A Cookes Peak, D 77.09 57 P P 20 10 31.5 +0.6
baz=77
MORC Moravsky Berou 77.13 330⇑*i*P P 20 10 31.3 +0.7
KRLC Kraliky 77.15 330 *e*P P 20 10 31.4 +0.6
KRLC *ep*P pP 20 10 42.3 -0.4
KRLC *es*P sP 20 10 48.6 +1.5
KRLC Kraliky 77.15 330 *e*P P 20 10 31.4 +0.6
KRLC *e* 20 10 42.3
KRLC *e* 20 10 48.6
MLR Muntele Rosu 77.20 322⇓*i*P P 20 10 31.7 +0.5
ISR Istrita 77.22 322⇑*i*P P 20 10 32.5 +1.3
NRDL Niedersach Rie 77.29 335 *e*P P 20 10 31.2 -0.1
comp=Z,43nm,1.7s
R30A Dighton 77.33 49 P P 20 10 31.9 -0.1
baz=77
CLL Collm 77.41 333 *e*P P 20 10 31.7 -0.4
comp=Z,76nm,1.5s
CLL Collm 77.41 333⇑*i*P P 20 10 31.9 -0.2
comp=Z,77nm,1.5s
CLL *e*PS PnS 20 21 00.0 -2.2
CLL *e*(SS) 20 26 06.0
CLL Lm MLR 20 48 00.0
comp=N,300nm,18.6s
CLL Lm MLR 20 48 00.0
comp=E,200nm,18.6s
CLL Lm MLR 20 48 00.0
comp=Z,500nm,18.8s
CLL Collm 77.41 333⇑*i*P P 20 10 31.9 -0.2
CLL pmax pmax
comp=Z,77nm,1.5s
CLL MLR MLR
comp=Z,500nm,18.8s
MSAB Monastry St. A 77.44 320⇑*i*P P 20 10 33.7 +1.3
BRG Berggiesshubel 77.46 332 *e*P P 20 10 32.6 +0.2
comp=Z,16nm,1.1s
BRG Berggiesshubel 77.46 332 *e*P P 20 10 32.2 -0.2
comp=Z,27nm,1.5s
BRG Berggiesshubel 77.46 332 *e*P P 20 10 32.6 +0.2
BRG pmax pmax
comp=Z,16nm,1.1s
PVCC Panska Ves 77.55 332 *e*P P 20 10 33.4 +0.5
PVCC *es*P sP 20 10 51.9 +2.7
PVCC AMS AMS 20 48 30.0
comp=Z,700nm,16.1s
PVCC Panska Ves 77.55 332 *e*P P 20 10 33.4 +0.5
PVCC *e* 20 10 51.9
PVCC MLR MLR
comp=Z,700nm,16.1s
DRGR 77.55 325⇑*i*P P 20 10 33.6 +0.5
PSN Preselentsi 77.59 320⇓*i*P P 20 10 34.8 +1.6
VOIR 77.63 323⇑*i*P P 20 10 34.6 +1.0
VYHS Vyhne 77.70 328 *e*P P 20 10 34.7 +0.9
VYHS pmax pmax
comp=Z,18nm,1.5s
VYHS Vyhne 77.70 328 *e*P P 20 10 34.7 +0.9
PSZ Piszkesteto 77.77 327⇑*i*P P 20 10 35.3 +1.0
PSZ Piszkesteto 77.77 327⇓*e*P P 20 10 35.1 +0.8
CLZ Clausthal 77.78 335 *e*P P 20 10 34.4 +0.2
comp=Z,98nm,1.5s
VRAC Vranov 77.86 330⇑*i*P P 20 10 35.5 +0.8
ARR Arges 77.87 323⇑*i*P P 20 10 36.2 +1.3
BRTR Keskin Array B 77.89 314 P P 20 10 35.7 +0.5
comp=Z,3.6nm,0.7s,baz=80,slow=3.1,SNR=20
BRTR LR LR 20 49 51.8
comp=Z,169nm,19.9s,baz=62,slow=39
BRTR Keskin Array B 77.89 314 *i* P P 20 10 35.9 +0.7
BRTR pmax pmax
comp=Z,4.0nm,0.7s
PRA Prague 77.98 332 *e*P P 20 10 35.9 +0.6
PRA AMS AMS 20 48 20.0
comp=Z,800nm,19.4s
PRA Prague 77.98 332 *e*P P 20 10 35.9 +0.6
PRA MLR MLR
comp=Z,800nm,19.4s
GOPC GO Pecny, Ondr 77.99 331 *e*P P 20 10 35.9 +0.5
GOPC *es*P sP 20 10 52.7 +0.9
GOPC *ex* x 20 26 26.1
GOPC AMS AMS 20 48 20.0
comp=Z,600nm,21.4s
PRU Pruhonice 78.01 331 *e*P P 20 10 36.0 +0.5
PRU *es*P sP 20 10 52.8 +0.9
PRU *ex* x 20 26 26.1
PRU AMS AMS 20 48 30.0
comp=Z,700nm,16.1s
PRU Pruhonice 78.01 331 *e*P P 20 10 36.0 +0.5
PRU *e* 20 10 52.8
PRU MLR MLR
comp=Z,700nm,16.1s
Q33A Connelly Farm, 78.11 47 P P 20 10 35.6 -0.7
baz=78
IBBN Ibbenburen 78.15 336 *e*P P 20 10 35.9 -0.3
comp=Z,43nm,1.3s
SMOL Smolenice 78.22 329 *e*P P 20 10 37.8 +1.1
SMOL Smolenice 78.22 329 *e*P P 20 10 37.8 +1.1
ANTO Ankara 78.22 315⇑*i*P P 20 10 38.1 +1.2
ANTO Ankara 78.22 315 P P 20 10 38.5 +1.6
SNR=7.8
ANTO Ankara 78.22 315 PFAKE 20 10 50.0 +13
ANTO LR LR
comp=Z,284nm,19.0s
SCIA State Center 78.25 42 PFAKE 20 10 50.0 +13
SCIA LR LR
comp=Z,383nm,21.0s
TREC Trest 78.27 331 *e*P P 20 10 37.3 +0.3
TREC AMS AMS 20 48 00.0
comp=Z,500nm,16.2s
TREC Trest 78.27 331 *e*P P 20 10 37.3 +0.3
TREC MLR MLR
comp=Z,500nm,16.2s
TANN Tannenbergstha 78.35 333 *e*P P 20 10 37.4 0.0
comp=Z,33nm,1.8s
SIRR Siria 78.40 325⇑*i*P P 20 10 38.5 +0.8
MOX Moxa 78.42 333 *e*P P 20 10 37.7 -0.1
comp=Z,38nm,1.4s
BUD Budapest 78.46 328⇑*e*P P 20 10 39.2 +1.2
PKSN Nyarlorinc 78.61 327⇓*e*P P 20 10 40.5 +1.7
GZR Gura Zlata 78.64 324⇓*i*P P 20 10 39.4 +0.3
WTSB Winterswijk 78.72 337 *e*P P 20 10 39.4 0.0
comp=Z,41nm,1.0s
PKS7 Kunszentmiklos 78.77 327⇓*e*P P 20 10 41.1 +1.4
UBBA Unterbreizbach 78.78 334 *e*P P 20 10 39.8 +0.2
comp=Z,15nm,0.9s
JFWS Jewell Farm 78.88 40 PFAKE 20 10 50.0 +10
JFWS LR LR
comp=Z,344nm,20.0s
BZS Buzias 78.94 325⇑*i*P P 20 10 40.8 +0.1
PKS6 Bocsa 78.98 327⇓*e*P P 20 10 40.9 +0.1
ROTZ Rotzenmuhle 78.99 333 *e*P P 20 10 41.3 +0.4
comp=Z,38nm,1.5s
AMTX Amarillo 79.01 52 P P 20 10 41.3 -0.1
baz=79
PKST T''s 79.03 328⇑*e*P P 20 10 41.8 +0.6
BUG Bochum--Univer 79.06 336 *e*P P 20 10 40.9 -0.3
comp=Z,70nm,1.6s
KHC Kasperske Hory 79.07 332 *e*P P 20 10 41.5 +0.1
KHC *es*P sP 20 10 59.0 +1.2
KHC Kasperske Hory 79.07 332 *e*P P 20 10 41.5 +0.1
KHC *e* 20 10 59.0
MNTX Cornudas Mount 79.13 56 P P 20 10 41.7 -0.3
baz=79
PKS2 Kecel 79.20 327 *e*P P 20 10 42.7 +0.6
SOP Sopron 79.23 329⇑*e*P P 20 10 43.4 +1.2
GEC2 GERESS Array S 79.27 331 *e*P P 20 10 42.3 -0.3
comp=Z,11nm,1.1s
GERES GERESS Array B 79.27 331 P P 20 10 42.5 -0.1
comp=Z,3.4nm,0.7s,baz=34,slow=5.5,SNR=35
GERES LR LR 20 49 30.6
comp=Z,577nm,19.3s,baz=28,slow=38
GERES GERESS Array B 79.27 331 P P 20 10 42.5 -0.1
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,577nm,19.3s
CONA Conrad Observa 79.28 330⇓*i*P P 20 10 43.5 +0.9
comp=Z,20nm,1.0s,SNR=14
WET Wettzell 79.30 332 *e*P P 20 10 42.9 +0.3
comp=Z,44nm,1.4s
GRF Grafenberg Arr 79.38 333 *e*P P 20 10 43.5 +0.5
comp=Z,50nm,1.1s
GRF *e*L L 20 50 19.1
comp=Z,398nm,19.6s
PKS9 Tamasi 79.49 327⇓*e*P P 20 10 44.2 +0.5
PKSM Moragy 79.66 327⇓*i*P P 20 10 44.7 +0.1
PKSM Moragy 79.66 327⇑*e*P P 20 10 44.2 -0.4
W31A Holland Ranch, 79.77 51 P P 20 10 45.1 -0.4
baz=80
TNS Taunus Mts 79.78 335 *e*P P 20 10 45.2 -0.1
comp=Z,33nm,1.5s
R36A Gordon, Harris 79.82 46 P P 20 10 45.3 -0.3
baz=80
MOA Molln 79.92 330⇑*i*P P 20 10 46.5 +0.4
comp=Z,5.9nm,0.8s,SNR=5.4
ARSA Arzberg 79.98 329⇑*i*P P 20 10 46.9 +0.6
comp=Z,14nm,1.4s,SNR=6.2
HGN Heimansgroeve 80.04 337 *e*P P 20 10 46.5 -0.1
comp=Z,29nm,1.0s
BEBN Eben Emael 80.09 337 P P 20 10 47.4 +0.6
MEM Membach 80.16 337 P P 20 10 47.3 +0.1
comp=Z,13nm,1.4s
BEHE Becsehely 80.16 328⇑*e*P P 20 10 47.5 +0.2
Z29A Hungry Hill Ra 80.17 53 P P 20 10 47.8 +0.1
baz=80
128A Castleberry Fa 80.18 54 P P 20 10 48.1 +0.3
baz=80
S36A Lake Cedric, C 80.23 46 P P 20 10 47.6 -0.3
baz=80
Z30A Sanderson Ranc 80.48 53 P P 20 10 49.4 0.0
baz=80
BCLA Clavier 80.53 337 P P 20 10 49.2 0.0
comp=Z,11nm,1.4s
RJOB Jochberg 80.53 331 *e*P P 20 10 49.8 +0.4
comp=Z,14nm,1.0s
SOKA Soboth 80.64 329⇑*i*P P 20 10 50.2 +0.2
comp=Z,27nm,1.2s,SNR=23
PERS Pernice 80.64 329 *e*P P 20 10 50.2 +0.3
FUR Furstenfeldbru 80.68 332 *e*P P 20 10 50.3 +0.2
comp=Z,49nm,1.3s
VTS Vitosha 80.70 322⇑*i*P P 20 10 51.1 +0.6
ALN Alexandroupoli 80.75 319 *e*P P 20 10 51.1 +0.6
STU Stuttgart 80.83 334 *e*P P 20 10 51.1 +0.2
comp=Z,21nm,0.9s
DIVS Divibare 80.85 325⇑*i*P P 20 10 51.1 -0.1
KBA Koelnbreinsper 80.91 331⇑*i*P P 20 10 52.0 +0.5
comp=Z,24nm,0.9s,SNR=11
GIVF Givet 80.95 337 *e*P P 20 10 51.1 -0.4
GIVF Givet 80.95 337 *e*P P 20 10 51.1 -0.4
GIVF Givet 80.95 337 *e*P P 20 10 51.1 -0.4
OBKA Obir 80.96 330⇑*i*P P 20 10 51.5 -0.3
comp=Z,7.0nm,0.8s
WLF Walferdange 80.96 336 P P 20 10 52.4 +0.8
comp=Z,9.4nm,1.4s
DOU Doures 81.02 337 P P 20 10 51.8 0.0
comp=Z,6.6nm,1.7s
BAIF Baives 81.16 337 *e*P P 20 10 52.4 -0.2
comp=Z,12nm,0.9s
BAIF Baives 81.16 337 *e*P P 20 10 52.4 -0.2
BAIF pmax pmax
comp=Z,12nm,0.9s
BAIF Baives 81.16 337 *e*P P 20 10 52.4 -0.2
comp=Z,12nm,0.9s
CRES Cresnjev 81.20 329 *e*P P 20 10 52.8 -0.1
MMB Musomiste 81.27 321⇑*i*P P 20 10 54.3 +0.9
WATA Walderalm 81.30 332⇓*i*P P 20 10 54.1 +0.5
comp=Z,9.1nm,0.7s,SNR=11
WTTA Wattenberg 81.34 332⇑*i*P P 20 10 54.4 +0.5
comp=Z,21nm,0.7s,SNR=13
NVR Nevrokopi 81.40 321 *e*P P 20 10 54.5 +0.4
Z32A Haskell 81.41 52 P P 20 10 54.4 +0.1
baz=81
RETA Reutte 81.44 332⇑*i*P P 20 10 54.7 +0.5
comp=Z,20nm,1.0s,SNR=13
MOTA Moosalm 81.45 332⇓*i*P P 20 10 54.9 +0.5
comp=Z,20nm,1.0s,SNR=12
VISS Visnje 81.45 329 *i* P P 20 10 53.9 -0.3
BFO Black Forest 81.49 334 *e*P P 20 10 54.2 -0.2
comp=Z,23nm,1.5s
BFO Black Forest 81.49 334 PFAKE 20 11 10.0 +16
BFO LR LR
comp=Z,206nm,20.0s
230A Sterling City 81.51 54 P P 20 10 54.7 -0.2
baz=81
BOJS Bojanci 81.55 329 *i* P P 20 10 54.6 -0.1
JAVS Javornik 81.66 330 *i* P P 20 10 55.0 -0.5
SRS Serrai 81.70 321 *e*P P 20 10 56.3 +0.6
CDF Champ du Feu 81.75 335 *e*P P 20 10 55.6 -0.2
comp=Z,32nm,1.1s
CDF Champ du Feu 81.75 335 *e*P P 20 10 55.6 -0.2
CDF pmax pmax
comp=Z,32nm,1.1s
CDF Champ du Feu 81.75 335 *e*P P 20 10 55.6 -0.2
comp=Z,32nm,1.1s
330A Mertzon 81.83 54 P P 20 10 56.3 -0.2
baz=82
W36A Wetumka 81.84 48 P P 20 10 56.5 0.0
baz=82
TXAR Lajitas Array 81.85 57 P P 20 10 57.1 +0.4
comp=Z,8.1nm,0.6s,baz=302,slow=3.9,SNR=83
TXAR Lajitas Array 81.85 57 P P 20 10 57.1 +0.4
TXAR pmax pmax
comp=Z,8.0nm,0.6s
FETA Feichten 81.86 332⇑*i*P P 20 10 57.0 +0.4
comp=Z,14nm,1.2s,SNR=8.3
DAVA Damuels 81.91 333⇑*i*P P 20 10 56.9 +0.1
comp=Z,15nm,0.9s,SNR=8.4
LIA Limnos Island 81.94 319 *e*P P 20 10 56.9 0.0
ECH Echery 81.96 335 PFAKE 20 11 10.0 +13
ECH LR LR
comp=Z,174nm,19.0s
429A Davenport Ranc 81.97 55 P P 20 10 57.0 -0.4
baz=82
KNT Kendrikon 81.98 322 *e*P P 20 10 57.1 0.0
X35A Drake 81.99 49 P P 20 10 57.3 0.0
baz=82
SADO Sadowa 82.05 32 LR LR 20 49 54.0
comp=Z,165nm,18.4s,baz=5.5,slow=38
PAGF Fort de Pagny 82.08 336 *e*P P 20 10 57.5 0.0
comp=Z,11nm,0.8s
PAGF Fort de Pagny 82.08 336 *e*P P 20 10 57.5 0.0
comp=Z,11nm,0.8s
529A Stev Forest Ra 82.14 55 P P 20 10 58.2 0.0
baz=82
OUR Ouranopolis 82.15 320 *e*P P 20 10 58.2 +0.2
SIGR SIGRI 82.16 319 *e*P P 20 10 55.9 -2.2
430A Baggett Ranch, 82.24 54 P P 20 10 58.8 0.0
baz=82
MEZF Maizieres J'vi 82.33 336 *e*P P 20 10 58.9 +0.1
comp=Z,46nm,1.1s
MEZF Maizieres J'vi 82.33 336 *e*P P 20 10 58.9 +0.1
comp=Z,46nm,1.1s
HORT Hortiatis 82.34 321 *e*P P 20 10 58.3 -0.8
232A Coleman 82.36 53 P P 20 10 59.0 -0.2
baz=82
PLG Polygyros 82.37 321 *e*P P 20 10 58.8 -0.4
GRG Griva 82.37 322 *e*P P 20 10 58.9 -0.3
HAU Haudompre 82.39 335 *e*P P 20 10 58.7 -0.4

HAU eR
comp=Z,284nm,20.8s
HAU Haudompre 82.39 335 eP **P** **20 10 58.7 -0.4**
HAU Haudompre 82.39 335 eP **P** **20 10 58.7 -0.4**
HINF Hinteralfeld 82.41 335 eP **P** **20 10 58.6 -0.7**
comp=Z,7.8nm,0.8s
HINF Hinteralfeld 82.41 335 eP **P** **20 10 58.6 -0.7**
HINF pmax pmax
comp=Z,8.0nm,0.8s
HINF Hinteralfeld 82.41 335 eP **P** **20 10 58.6 -0.7**
comp=Z,7.8nm,0.8s
SFTF Sexfontaines 82.60 336 eP **P** **20 10 59.9 -0.3**
comp=Z,48nm,1.1s
SFTF Sexfontaines 82.60 336 eP **P** **20 10 59.9 -0.3**
comp=Z,48nm,1.1s
PAIG Paliouri 82.62 320 eP **P** **20 10 58.7 -1.7**
PMOR Pomariorio Ree 82.62 119 eT T 21 42 05.6
comp=Z,38nm,0.2s
Z35A Perchaven, San 82.64 50 P **P** **20 11 00.2 -0.4**
baz=82
530A J-C Ranch, Com 82.65 55 P **P** **20 11 01.2 +0.4**
baz=82
431A Sonora 82.69 54 P **P** **20 11 00.9 -0.2**
baz=82
X37A Clayton 82.71 48 P **P** **20 11 00.8 -0.3**
baz=82
CHOS Chios island 82.72 318 eP **P** **20 11 01.1 0.0**
FNA Florina 82.96 322 eP **P** **20 11 02.0 -0.3**
432A Menard 83.02 53 P **P** **20 11 02.7 -0.1**
baz=83
LIT Litokhoron 83.02 321 eP P 20 10 56.4 -6.2
531A Rocksprings 83.10 54 P **P** **20 11 03.2 0.0**
baz=83
234A Clairette 83.13 52 P **P** **20 11 03.2 -0.1**
baz=83
333A Richland Sprin 83.15 53 P **P** **20 11 03.5 +0.1**
baz=83
JCT Junction City 83.30 54 P **P** **20 11 04.1 -0.1**
baz=83
NEO Neokhori 83.32 320 eP **P** **20 11 03.9 -0.2**
SKIA Skiathos 83.32 320 eP **P** **20 11 04.5 +0.4**
ARG Arkhangelos 83.39 315 eP **P** **20 11 04.9 +0.4**
NEST Nestorio 83.41 322 eP **P** **20 11 04.5 -0.2**
532A Rocksprings 83.50 54 P **P** **20 11 05.3 0.0**
baz=83
433A Art 83.51 53 P **P** **20 11 05.1 -0.1**
baz=83
PPT Papeete 83.52 122 LR LR 20 42 30.9
comp=Z,116nm,21.7s,baz=343,slow=32
PPT2 Papeete2 83.53 122 eLR LR 20 37 08.8
comp=Z,491nm,25.5s
334A Lometa 83.57 52 P **P** **20 11 05.8 +0.2**
baz=83
FLN La Foliniere 83.58 340 eP **P** **20 11 05.0 -0.3**
comp=Z,15nm,0.7s
FLN eR
comp=Z,363nm,21.0s
FLN La Foliniere 83.58 340 eP **P** **20 11 05.0 -0.3**
FLN pmax pmax
comp=Z,15nm,0.7s
FLN La Foliniere 83.58 340 eP **P** **20 11 05.0 -0.3**
comp=Z,15nm,0.7s
631A Perdido Creek 83.64 55 P **P** **20 11 05.9 0.0**
baz=83
MRKA Markates 83.64 320 eP **P** **20 11 05.1 -0.7**
LDF La Druitiere 83.65 339 eP **P** **20 11 05.7 +0.1**
LDF La Druitiere 83.65 339 eP **P** **20 11 05.7 +0.1**
LDF La Druitiere 83.65 339 eP **P** **20 11 05.7 +0.1**
TIAR Tiarei 83.65 122 eT T 21 43 16.6
comp=Z,3.0nm,0.3s
THL Klokotos Trika 83.67 321 eP P 20 10 53.8 -12
CABF La Chapelle 83.72 335 eP **P** **20 11 06.0 -0.1**
comp=Z,12nm,0.9s
CABF La Chapelle 83.72 335 eP **P** **20 11 06.0 -0.1**
CABF pmax pmax
comp=Z,12nm,0.9s
CABF La Chapelle 83.72 335 eP **P** **20 11 06.0 -0.1**
comp=Z,12nm,0.9s
LOR Lormes 83.79 336 eP **P** **20 11 06.0 -0.4**
comp=Z,44nm,1.3s
LOR eR
comp=Z,561nm,19.0s
LOR Lormes 83.79 336 eP **P** **20 11 06.0 -0.4**
LOR pmax pmax
comp=Z,44nm,1.3s
LOR Lormes 83.79 336 eP **P** **20 11 06.0 -0.4**
comp=Z,44nm,1.3s
LKR Lokris 83.95 320 eP **P** **20 11 06.4 -0.9**
AGG Agios Georgios 83.96 321 eP **P** **20 11 05.2 -2.2**
GRR Gorron 84.03 340 eP **P** **20 11 07.5 0.0**
comp=Z,74nm,1.2s
GRR Gorron 84.03 340 eP **P** **20 11 07.5 0.0**
GRR pmax pmax
comp=Z,74nm,1.2s
GRR Gorron 84.03 340 eP **P** **20 11 07.5 0.0**
comp=Z,74nm,1.2s
632A Uvalde 84.03 54 P **P** **20 11 08.2 +0.3**
baz=84
MAKR Makrakomi, Fth 84.06 321 eP P 20 11 04.7 -3.2
SSF Saint Saulge 84.08 337 eP **P** **20 11 07.6 -0.2**
comp=Z,11nm,0.8s
SSF Saint Saulge 84.08 337 eP **P** **20 11 07.6 -0.2**
SSF pmax pmax
comp=Z,11nm,0.8s
SSF Saint Saulge 84.08 337 eP **P** **20 11 07.6 -0.2**
comp=Z,11nm,0.8s
EVR Evrytania 84.29 321 eP **P** **20 11 08.9 -0.3**
SMF Signal de Mont 84.36 336 eP **P** **20 11 09.2 -0.1**
comp=Z,31nm,0.9s
SMF Signal de Mont 84.36 336 eP **P** **20 11 09.2 -0.1**
SMF pmax pmax
comp=Z,31nm,0.9s
SMF Signal de Mont 84.36 336 eP **P** **20 11 09.2 -0.1**
comp=Z,31nm,0.9s
DSF Desfina 84.37 320 eP **P** **20 11 08.3 -1.2**
AVF Avril sur Loir 84.37 337 eP **P** **20 11 09.3 0.0**
comp=Z,24nm,0.9s
AVF Avril sur Loir 84.37 337 eP **P** **20 11 09.3 0.0**
AVF pmax pmax
comp=Z,24nm,0.9s
AVF Avril sur Loir 84.37 337 eP **P** **20 11 09.3 0.0**
comp=Z,24nm,0.9s
KARP Karpathos 84.40 315 eP **P** **20 11 08.8 -0.9**
534A Blanco 84.41 53 P **P** **20 11 09.6 -0.2**
baz=84
DSL Palaion Diasel 84.43 321 eP **P** **20 11 09.7 -0.1**
IGT Igoumenitsa 84.45 322 eP **P** **20 11 09.8 -0.1**
LPL La Plagne 84.50 334 eP **P** **20 11 10.4 +0.1**
comp=Z,19nm,0.7s
LPL La Plagne 84.50 334 eP **P** **20 11 10.4 +0.1**
LPL pmax pmax
comp=Z,19nm,0.7s
LPL La Plagne 84.50 334 eP **P** **20 11 10.4 +0.1**
comp=Z,19nm,0.7s
732A Laxson Ranch, 84.50 55 P **P** **20 11 10.7 +0.4**
baz=84
LPG La Plagne 84.50 334 eP **P** **20 11 10.7 +0.3**
comp=Z,20nm,0.7s
LPG La Plagne 84.50 334 eP **P** **20 11 10.7 +0.3**
LPG pmax pmax
comp=Z,20nm,0.7s
LPG La Plagne 84.50 334 eP **P** **20 11 10.7 +0.3**
comp=Z,20nm,0.7s
KEK Kerkira 84.53 323 eP **P** **20 11 09.5 -0.8**
KALE Kalithea 84.56 320 eP **P** **20 11 09.5 -1.0**
SGMF Saint Gilles 84.56 341 eP **P** **20 11 10.3 +0.1**
comp=Z,25nm,0.7s
SGMF Saint Gilles 84.56 341 eP **P** **20 11 10.3 +0.1**
SGMF pmax pmax
comp=Z,25nm,0.7s
SGMF Saint Gilles 84.56 341 eP **P** **20 11 10.3 +0.1**
comp=Z,25nm,0.7s
ROSF Rostrenen 84.65 341 eP **P** **20 11 10.7 0.0**
comp=Z,16nm,0.7s
ROSF Rostrenen 84.65 341 eP **P** **20 11 10.7 0.0**
ROSF pmax pmax
comp=Z,16nm,0.7s
ROSF Rostrenen 84.65 341 eP **P** **20 11 10.7 0.0**
comp=Z,16nm,0.7s
BGF Bois d'Agland 84.72 337 eP **P** **20 11 11.5 +0.4**
comp=Z,14nm,0.7s
BGF Bois d'Agland 84.72 337 eP **P** **20 11 11.5 +0.4**
BGF pmax pmax
comp=Z,14nm,0.7s
BGF Bois d'Agland 84.72 337 eP **P** **20 11 11.5 +0.4**
comp=Z,14nm,0.7s

832A Faith Ranch, C 84.82 55 P **P** **20 11 11.6 -0.3**
baz=85
GUR Goura 84.83 320 eP **P** **20 11 10.9 -1.1**
KLV Kalavryta, Ach 84.84 320 eP **P** **20 11 11.0 -0.9**
BNI Bardonecchia 84.93 334 PFAKE 20 11 20.0 +7.7
BNI LR LR
comp=Z,317nm,22.0s
AQU L'Aquila 84.94 328 PFAKE 20 11 20.0 +7.7
AQU LR LR
comp=Z,658nm,22.0s
QUIF Quistinic 85.02 341 eP **P** **20 11 12.4 -0.1**
comp=Z,21nm,0.9s
QUIF Quistinic 85.02 341 eP **P** **20 11 12.4 -0.1**
QUIF pmax pmax
comp=Z,21nm,0.9s
QUIF Quistinic 85.02 341 eP **P** **20 11 12.4 -0.1**
comp=Z,21nm,0.9s
DRO Drossia 85.11 320 eP **P** **20 11 13.3 0.0**
RLS Riolos of Patr 85.14 321 eP **P** **20 11 13.5 +0.2**
TCF Toulx Ste Croi 85.15 337 eP **P** **20 11 13.2 -0.1**
comp=Z,16nm,0.9s
TCF Toulx Ste Croi 85.15 337 eP **P** **20 11 13.2 -0.1**
TCF pmax pmax
comp=Z,16nm,0.9s
TCF Toulx Ste Croi 85.15 337 eP **P** **20 11 13.2 -0.1**
comp=Z,16nm,0.9s
MBDF Montbardon 85.19 334 eP **P** **20 11 13.1 -0.6**
comp=Z,13nm,0.7s
MBDF Montbardon 85.19 334 eP **P** **20 11 13.1 -0.6**
MBDF pmax pmax
comp=Z,13nm,0.7s
MBDF Montbardon 85.19 334 eP **P** **20 11 13.1 -0.6**
comp=Z,13nm,0.7s
ZKR Zakros 85.21 316 eP **P** **20 11 14.0 +0.2**
ORIF Oris-en-Rattie 85.30 334 eP **P** **20 11 14.4 +0.2**
comp=Z,21nm,0.9s
ORIF eR
comp=Z,255nm,21.8s
ORIF Oris-en-Rattie 85.30 334 eP **P** **20 11 14.4 +0.2**
ORIF pmax pmax
comp=Z,21nm,0.9s
ORIF Oris-en-Rattie 85.30 334 eP **P** **20 11 14.4 +0.2**
comp=Z,21nm,0.9s
SSB Saint Sauveur 85.39 335 PFAKE 20 11 30.0 +15
SSB LR LR
comp=Z,238nm,19.0s
NPS Neapolis 85.40 316 eP **P** **20 11 13.7 -1.0**
VLS Valsamata 85.44 321 eP **P** **20 11 14.3 -0.6**
AMT Artemida-Makis 85.46 320 eP **P** **20 11 15.0 0.0**
MFF Saint Martin d 85.50 339 eP **P** **20 11 15.3 +0.3**
comp=Z,25nm,0.7s
MFF Saint Martin d 85.50 339 eP **P** **20 11 15.3 +0.3**
MFF pmax pmax
comp=Z,25nm,0.7s
MFF Saint Martin d 85.50 339 eP **P** **20 11 15.3 +0.3**
comp=Z,25nm,0.7s
LAST Lasithi 85.55 316 eP **P** **20 11 16.0 +0.5**
ITM Ithomi 85.64 320 eP **P** **20 11 15.0 -0.9**
VIVF Saint-Julien-l 85.73 335 eP **P** **20 11 16.6 +0.4**
comp=Z,19nm,0.9s
VIVF Saint-Julien-l 85.73 335 eP **P** **20 11 16.6 +0.4**
VIVF pmax pmax
comp=Z,19nm,0.9s
VIVF Saint-Julien-l 85.73 335 eP **P** **20 11 16.6 +0.4**
comp=Z,19nm,0.9s
933A Laredo 85.73 55 P **P** **20 11 17.6 +1.1**
baz=86
SBF Sospel 85.74 333 eP **P** **20 11 15.6 -0.7**
comp=Z,67nm,1.0s
SBF Sospel 85.74 333 eP **P** **20 11 15.6 -0.7**
SBF pmax pmax
comp=Z,67nm,1.0s
SBF Sospel 85.74 333 eP **P** **20 11 15.6 -0.7**
comp=Z,67nm,1.0s
CUC Castrocucco 85.99 325 PFAKE 20 11 30.0 +12
CUC LR LR
comp=Z,117nm,20.0s
SIVA Sivas 85.99 317 eP **P** **20 11 16.4 -1.2**
KARN Karanos 86.12 317 eP **P** **20 11 16.5 -1.8**
SMRF Simiane la Rot 86.24 334 eP **P** **20 11 17.9 -0.9**
SMRF Simiane la Rot 86.24 334 eP **P** **20 11 17.9 -0.9**
RJF Les Rejaudoux 86.25 337 eP **P** **20 11 19.0 +0.3**
comp=Z,20nm,1.1s
RJF eR
comp=Z,370nm,19.5s
RJF Les Rejaudoux 86.25 337 eP **P** **20 11 19.0 +0.3**
RJF pmax pmax
comp=Z,20nm,1.0s
RJF Les Rejaudoux 86.25 337 eP **P** **20 11 19.0 +0.3**
comp=Z,20nm,1.0s
FRF La Foret Royal 86.27 333 eP **P** **20 11 17.5 -1.4**
FRF La Foret Royal 86.27 333 eP **P** **20 11 17.5 -1.4**
FRF La Foret Royal 86.27 333 eP **P** **20 11 17.5 -1.4**
TIP Timpagrande 86.28 324 PFAKE 20 11 30.0 +11
TIP LR LR
comp=Z,174nm,19.0s
PGF Pioggiola 86.37 331 eP **P** **20 11 18.9 -0.6**
comp=Z,32nm,1.0s
PGF Pioggiola 86.37 331 eP **P** **20 11 18.9 -0.6**
PGF pmax pmax
comp=Z,32nm,1.0s
PGF Pioggiola 86.37 331 eP **P** **20 11 18.9 -0.6**
comp=Z,32nm,1.0s
CAF Calviac 86.44 337 eP **P** **20 11 20.5 +0.8**
comp=Z,26nm,0.9s
CAF Calviac 86.44 337 eP **P** **20 11 20.5 +0.8**
CAF pmax pmax
comp=Z,26nm,0.9s
CAF Calviac 86.44 337 eP **P** **20 11 20.5 +0.8**
comp=Z,26nm,0.9s
LMR La Mourre 86.52 333 eP **P** **20 11 19.1 -1.0**
comp=Z,90nm,1.2s
LMR La Mourre 86.52 333 eP **P** **20 11 19.1 -1.0**
LMR pmax pmax
comp=Z,90nm,1.2s
LMR La Mourre 86.52 333 eP **P** **20 11 19.1 -1.0**
comp=Z,90nm,1.2s
LASF Ste Croix 86.68 335 eP **P** **20 11 20.7 -0.2**
comp=Z,17nm,1.0s
LASF Ste Croix 86.68 335 eP **P** **20 11 20.7 -0.2**
comp=Z,17nm,1.0s
LFF La Frestale 86.80 338 eP **P** **20 11 22.1 +0.7**
comp=Z,15nm,0.6s
LFF La Frestale 86.80 338 eP **P** **20 11 22.1 +0.7**
LFF pmax pmax
comp=Z,15nm,0.6s
LFF La Frestale 86.80 338 eP **P** **20 11 22.1 +0.7**
comp=Z,15nm,0.6s
CEL Celeste 87.42 324 PFAKE 20 11 40.0 +15
CEL LR LR
comp=Z,373nm,20.0s
TKL Tuckaleechee C 87.68 40 LR LR 20 54 48.0
comp=Z,102nm,18.4s,baz=322,slow=38
MTLF Montolieu 87.84 336 eP **P** **20 11 27.2 +0.7**
comp=Z,8.8nm,0.8s
MTLF Montolieu 87.84 336 eP **P** **20 11 27.2 +0.7**
MTLF pmax pmax
comp=Z,9.0nm,0.8s
MTLF Montolieu 87.84 336 eP **P** **20 11 27.2 +0.7**
comp=Z,8.8nm,0.8s
BLA Blacksburg 87.90 37 PFAKE 20 11 40.0 +13
BLA LR LR
comp=Z,217nm,22.0s
TBI Tubuai 88.01 125 eLR LR 20 39 15.2
comp=Z,388nm,22.8s,baz=322
EPF Esparros 88.67 337 eP **P** **20 11 29.7 -0.8**
EPF Esparros 88.67 337 eP **P** **20 11 29.7 -0.8**
EPF Esparros 88.67 337 eP **P** **20 11 29.7 -0.8**
VSL Villasalto 88.92 329 PFAKE 20 11 40.0 +8.3
VSL LR LR
comp=Z,173nm,19.0s
SJPF Ste Jean 89.02 338 eP **P** **20 11 31.9 -0.2**
SJPF Ste Jean 89.02 338 eP **P** **20 11 31.9 -0.2**
SJPF Ste Jean 89.02 338 eP **P** **20 11 31.9 -0.2**
ETSF Etsaut 89.04 338 eP **P** **20 11 32.2 -0.1**
comp=Z,6.5nm,0.6s
ETSF Etsaut 89.04 338 eP **P** **20 11 32.2 -0.1**
ETSF pmax pmax
comp=Z,7.0nm,0.6s
ETSF Etsaut 89.04 338 eP **P** **20 11 32.2 -0.1**
comp=Z,6.5nm,0.6s
CLTB Caltabellotta 89.11 326 PFAKE 20 11 40.0 +7.3
CLTB LR LR
comp=Z,193nm,19.0s
GOGA Godfrey 89.67 41 PFAKE 20 11 50.0 +15
GOGA LR LR
comp=Z,331nm,19.0s
KEST Kesra 92.24 328 LR LR 20 59 16.5
comp=Z,199nm,18.7s,baz=354,slow=39
ESDC Sonseca Array 92.96 339 P **P** **20 11 50.4 -0.1**
comp=Z,1.2nm,0.7s,baz=16,slow=4.4,SNR=9.5
ESDC LR LR 20 58 29.2
comp=Z,239nm,20.9s,baz=25,slow=39
MTE Manteigas 93.15 342 PFAKE 20 12 00.0 +8.6
MTE LR LR
comp=Z,354nm,20.0s
PAB San Pablo 93.18 339 PFAKE 20 12 00.0 +8.4
PAB LR LR
comp=Z,456nm,20.0s
MSEY Mahe Island 95.18 269 PFAKE 20 12 10.0 +9.0
MSEY LR LR
comp=Z,160nm,19.0s
CMIG Matias Romero 96.30 59 LR LR 20 55 33.4
comp=Z,51nm,18.3s,baz=6.0,slow=35
RKT Rikitea 96.84 115 eLR LR 20 43 10.4
comp=Z,278nm,24.0s,baz=314
GTBY Guantanamo Bay 105.00 42 PFAKE 20 13 00.0 +15
GTBY LR LR
comp=Z,205nm,21.0s
TAM Tamanrasset 105.22 325 PFAKE 20 17 10.0
TAM LR LR
comp=Z,156nm,21.0s
TORD Torodi Ar. Bea 115.42 323 PKP **PKPdf** **20 17 18.7 -0.6**
comp=Z,0.4nm,0.6s,baz=5.8,slow=3.0,SNR=4.5
TORD PP **PP** **20 18 19.6 -0.4**
comp=Z,1.6nm,1.1s,baz=21,slow=5.6,SNR=3.7
BDFB Brasilia 148.51 31 PKPbc **PKPbc** **20 18 24.8 +0.5**
comp=Z,4.1nm,0.5s,baz=48,slow=3.3,SNR=7.1
BDFB pPKPbc **pPKPbc** **20 18 36.8 +0.1**
comp=Z,10nm,1.0s,baz=254,slow=3.6,SNR=4.3
VNA2 Neumayer--Watz 150.48 196 P **PKPbc** **20 18 28.3 +0.8**
baz=82,slow=0.6
VNA3 Neumayer Olymp 150.65 194 P **PKPbc** **20 18 28.8 +0.9**
PLCA Paso Flores 151.36 97 PKPbc **PKPbc** **20 18 30.9 +0.4**
comp=Z,4.7nm,1.0s,baz=278,slow=2.5,SNR=6.9
PLCA pPKPbc **pPKPbc** **20 18 44.3 +1.3**
comp=Z,4.4nm,1.0s,baz=256,slow=4.0,SNR=4.2
PLCA Paso Flores 151.36 97 PKIKP **PKPbc** **20 18 30.9 +0.4**
PLCA 20 18 44.3
PLCA pmax pmax
comp=Z,5.0nm,1.0s
CPUP Villa Florida 152.82 58 PKPbc **PKPbc** **20 18 34.8 +0.7**
comp=Z,0.6nm,0.7s,baz=270,slow=4.0,SNR=2.9
CPUP Villa Florida 152.82 58 PKIKP **PKPbc** **20 18 34.8 +0.7**
CPUP pmax pmax
comp=Z,1.0nm,0.7s
TRQA Tornquist 156.54 86 PFAKE 20 18 40.0 +8.2
TRQA LR LR
comp=Z,158nm,20.0s

MOS ***22*** *20:05:46.6±1.6, 43.°94N×148.°53E, h37km, mb4.0/1, Error ellipse: s-maj=28.4km s-min=21.4km az=126.2*
JMA ***22*** *20:05:46.9±0.4, 43.°83N×148.°08E, h0km, M4.0*
ISCJB ***22*** *20:05:47.6±1.4, 43.°97N±0.°08×148.°3E±0.°1, h40km±13km, mb3.4/6, Error ellipse: s-maj=17.6km s-min=7.6km az=41.5*
SKHL ***22*** *20:05:48.1±0.5, 43.°97N×148.°37E, h55km±1km, mb4.7/2*
IDC ***22*** *20:05:52.5±5.2, 43.°90N×148.°35E, h68km±47km, mb3.1/6, mb1 3.4/7, mb1mx3.2/26, mbtmp3.4/7, ML3.0/1, Error ellipse: s-maj=36.1km s-min=28.2km az=104.0*
ISC 22 20:05:47.6±3.7, 44.°01N±0.°07×148.°33E±0.°09, h26km±25km, n29, σ0.98/31, mb3.5/6, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.09**	**263**	*eP*			**Pn**	**20 06 06.7**	**-0.5**
SHO				*eS*			**Sn**	**20 06 20.6**	**-0.9**
SHO				A		A	A	20 06 23.3	
	1μm,0.5s								
KUR	**Kuril'sk**	**1.27**	**345**	*d*	iPN		**Pn**	**20 06 09.4**	**-0.2**
KUR				*i*	S		**Sn**	**20 06 25.3**	**-0.5**
KUR					pmax	pmax			
	comp=N,101nm,0.3s								
KUR					pmax	pmax			
	comp=E,112nm,0.3s								
KUR					pmax	pmax			
	comp=Z,187nm,0.3s								
KUR					smax	smax			
	comp=N,249nm,0.2s								
KUR					smax	smax			
	comp=E,535nm,0.2s								
KUR	**Kuril'sk**	**1.27**	**345**	*eP*			**Pn**	**20 06 09.4**	**-0.2**
KUR					AMB	AMB		20 06 13.6	
	comp=E,190nm,0.3s								
KUR				*eS*			**Sn**	**20 06 25.3**	**-0.5**
KUR				A		A	A	20 06 30.9	
	comp=E,249nm,0.2s								
KUR				A		A	A	20 06 30.9	
	comp=E,535nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.78**	**272**	*c*	iPN		**Pn**	**20 06 16.4**	**-0.3**
YUK				*i*	S		**Sn**	**20 06 38.3**	**-0.2**
YUK					pmax	pmax			
	comp=N,98nm,0.2s								
YUK					pmax	pmax			
	comp=E,131nm,0.2s								
YUK					pmax	pmax			
	comp=Z,226nm,0.2s								
YUK					smax	smax			
	comp=N,548nm,0.7s								
YUK					smax	smax			
	comp=E,982nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**1.78**	**272**	*eP*			**Pn**	**20 06 16.4**	**-0.3**
YUK					AMB	AMB		20 06 20.4	
	comp=E,230nm,0.2s								
YUK				*eS*			**Sn**	**20 06 38.3**	**-0.2**
YUK				A		A	A	20 06 39.9	
	comp=E,550nm,0.7s								
YUK				A		A	A	20 06 39.9	
	comp=E,980nm,0.7s								
NEM2	**Nemuro 2**	**1.98**	**252**	P		P	**Pn**	**20 06 18.9**	**-0.6**
NEM2				*eS*			**Sn**	**20 06 42.4**	**-1.1**
JRA	**Rausu**	**2.31**	**269**	P		P	**Pn**	**20 06 24.9**	**+0.8**
JNK	**Nakash**	**2.65**	**262**	P		P	**Pn**	**20 06 28.6**	**0.0**
JAK	**Akkeshi**	**2.83**	**250**	P		P	**Pn**	**20 06 31.1**	**0.0**
JAK				*eS*			**Sn**	**20 07 03.8**	**-0.6**
JTKR	**Abashiri--Toko**	**3.19**	**271**	P		P	**Pn**	**20 06 37.7**	**+1.6**
JAR	**Ashorobuto**	**3.38**	**259**	P		P	**Pn**	**20 06 39.7**	**+0.9**
JCH	**Churui**	**3.88**	**251**	*eS*			**Sn**	**20 07 31.2**	**+0.8**
ASAJ	**Asahikawa**	**4.13**	**273**	P		P	Pn	20 06 53.2	+4.1
	comp=E,0.8nm,0.3s,baz=91,slow=12,SNR=7.8								
ASAJ				S			**Sb**	**20 07 48.7**	**-0.4**
	comp=E,1.2nm,0.3s,baz=16,slow=31,SNR=6.2								
ASAJ	**Asahikawa**	**4.13**	**273**	PN		Pn	Pn	20 06 53.2	+4.1
ASAJ				S			**Sb**	**20 07 48.7**	**-0.4**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ				smax		smax			
	comp=N,1.0nm,0.3s								
JNBK	**Urakawa-nobuka**	**4.43**	**249**	P		P	**Pn**	**20 06 54.2**	**+1.0**
JKB	**Kayabe**	**5.76**	**251**	P		P	**Pn**	**20 07 12.6**	**+1.2**
JKB				*eS*			**Sn**	**20 08 14.6**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**28.76**	**141**	T		T	T	20 42 29.7	
	baz=332								
H11N1	**WAKE ISLAND Hy**	**28.77**	**141**	T		T	T	20 42 32.8	
	baz=332								
H11N3	**WAKE ISLAND Hy**	**28.77**	**141**	T		T	T	20 42 33.1	
	baz=332								
H11S1	**WAKE ISLAND Hy**	**29.75**	**143**	T		T	T	20 43 44.6	
	baz=333,slow=76								
H11S3	**WAKE ISLAND Hy**	**29.75**	**143**	T		T	T	20 43 43.2	
	baz=333,slow=76								
H11S2	**WAKE ISLAND Hy**	**29.76**	**143**	T		T	T	20 43 48.0	
	baz=333,slow=76								
MKAR	**Makanchi Array**	**45.22**	**298**	P		P	**P**	**20 14 04.9**	**+2.4**
	comp=N,0.1nm,0.6s,baz=52,slow=9.5,SNR=3.5								
WRA	**Warramunga Arr**	**64.92**	**195**	P		P	**P**	**20 16 23.7**	**-1.1**
	comp=N,0.3nm,0.9s,baz=14,slow=6.7,SNR=3.2								
FINES	**FINESS Array B**	**65.03**	**333**	P		P	**P**	**20 16 24.0**	**-1.1**
	comp=N,0.5nm,0.5s,baz=44,slow=9.0,SNR=3.8								
FINES	**FINESS Array B**	**65.03**	**333**	P		P	**P**	**20 16 24.0**	**-1.1**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NVAR	**Mina Array Bea**	**66.72**	**59**	P		P	**P**	**20 16 37.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=292,slow=7.8,SNR=4.1								
ASAR	**Alice Springs**	**68.63**	**194**	P		P	**P**	**20 16 47.6**	**-0.8**
	comp=Z,0.2nm,0.9s,baz=10,slow=5.7,SNR=2.9								
TXAR	**Lajitas Array**	**81.80**	**57**	P		P	**P**	**20 18 04.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=316,slow=5.0,SNR=3.0								

*CSEM **22** 20:10:12.0, 44°.20N × 11°.68E, h30km, MD2.1/8*

ROM 22 20:10:12.0±0.3, 44°.20N×11°.68E, h30km±3km, Md2.1/8, Ml1.7/5, Error ellipse: s-maj=3.3km s-min=1.8km az=55.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.24**	**320**	Pg	Pb	20 10 18.9	+0.2
MTRZ	**Monterenzio**	**0.24**	**320**	Pg	Pb	20 10 18.9	+0.2
VMG	**Vicchio**	**0.26**	**203**	Pg	Pb	20 10 18.7	-0.2
VMG	49nm,0.2s			Sg	Sn	20 10 24.2	-0.6
VMG	**Vicchio**	**0.26**	**203**	Pg	Pb	20 10 18.7	-0.2
VMG	49nm,0.2s			Sg	Sn	20 10 24.2	-0.6
SEI	**Scarperia**	**0.27**	**239**	Pg	Pb	20 10 19.2	+0.1
SEI	278nm,0.3s			Sg	Sn	20 10 24.7	-0.6
SEI	**Scarperia**	**0.27**	**239**	Pg	Pb	20 10 19.2	+0.1
SEI	278nm,0.3s			Sg	Sn	20 10 24.7	-0.6
SFI	**Santa Sofia**	**0.32**	**157**	Pg	Pb	20 10 19.4	-0.3
SFI	129nm,0.6s			Sg	Sb	20 10 25.3	+0.4
SFI	**Santa Sofia**	**0.32**	**157**	Pg	Pb	20 10 19.4	-0.3
SFI	129nm,0.6s			Sg	Sb	20 10 25.3	+0.4
FNVD	**Fontana Vidola**	**0.40**	**266**	Pg	Pb	20 10 20.8	-0.2
FNVD	151nm,0.3s			Sg	Sn	20 10 27.9	-0.7
FNVD	**Fontana Vidola**	**0.40**	**266**	Pg	Pb	20 10 20.8	-0.2
FNVD	151nm,0.3s			Sg	Sn	20 10 27.9	-0.7
ASQU	**Asqua**	**0.41**	**169**	Pg	Pb	20 10 21.0	-0.1
ASQU	55nm,0.4s			Sg	Sb	20 10 27.8	+0.5
ASQU	**Asqua**	**0.41**	**169**	Pg	Pb	20 10 21.0	-0.1
ASQU	55nm,0.4s			Sg	Sb	20 10 27.8	+0.5
CRE	**Caprese Michel**	**0.61**	**161**	Pg	Pb	20 10 24.4	0.0
CRE	18nm,0.6s			Sg	Sn	20 10 33.8	0.0
CRE	**Caprese Michel**	**0.61**	**161**	Pg	Pb	20 10 24.4	0.0
CRE	18nm,0.6s			Sg	Sn	20 10 33.8	0.0
PARC	**Parchiule**	**0.68**	**143**	Pg	Pb	20 10 25.3	-0.2
PARC	16nm,0.5s			Sg	Sn	20 10 35.5	+0.1
PARC	**Parchiule**	**0.68**	**143**	Pg	Pb	20 10 25.3	-0.2
PARC	16nm,0.5s			Sg	Sn	20 10 35.5	+0.1
FSSB	**Fossombrone**	**0.94**	**122**	Pg	Pb	20 10 30.8	+1.0
FSSB	5.0nm,0.3s **Fossombrone**	**0.94**	**122**	Pg	Pb	20 10 30.8	+1.0
	5.0nm,0.3s						

IDC 22 20:11:32.4±4.4, 16°.29S×175°.91W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/26, mbtmp3.7/4, Error ellipse: s-maj=196.7km s-min=32.5km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.50**	**240**	P	P	20 19 22.2	+0.7
WRA	0.5nm,0.4s,baz=66,slow=10.0,SNR=5.1 **Warramunga Arr**	**47.29**	**258**	P	P	20 20 07.4	-0.7
ASAR	0.1nm,0.2s,baz=94,slow=8.1,SNR=7.5 **Alice Springs**	**47.54**	**253**	P	P	20 20 09.8	-0.2
ILAR	2.3nm,0.6s,baz=90,slow=8.2,SNR=44 **Eielson Array**	**83.80**	**12**	P	P	20 24 03.3	0.0
	0.6nm,1.0s,baz=202,slow=6.8,SNR=3.3						

*ISCJB **22** 20:18:53.3±0.9, 13°.2N±0°.2×88°.7W±0°.2, h10km, mb3.8/8, MS3.2/1, Error ellipse: s-maj=36.7km s-min=7.9km az=42.0*

*IDC **22** 20:18:53.1±1.5, 13°.15N×88°.73W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.8/9, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=52.2km s-min=22.0km az=42.0*

ISC 22 20:18:54.6±1.2, 13°.2N±0°.2×88°.7W±0°.2, h10km, n12, σ1§12/11, mb3.7/8, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**4.65**	**127**	Pn	Pn	20 20 07.0	+2.0
JTS	2.4nm,0.3s,baz=303,slow=23,SNR=13				Sn	**20 20 59.8**	**+0.8**
CMIG	1.9nm,0.3s,baz=186,slow=18,SNR=3.2 **Matias Romero**	**7.14**	**304**	Pn	**Pn**	**20 20 40.2**	**+1.0**
CMIG	0.5nm,0.3s,baz=133,slow=14,SNR=5.1				Sn	20 22 09.6	+9.2
TXAR	0.4nm,0.3s,baz=288,slow=20,SNR=1.7 **Lajitas Array**	**21.26**	**322**	P	**P**	**20 23 41.9**	**+0.6**
TKL	1.8nm,0.7s,baz=137,slow=11,SNR=12 **Tuckaleechee C**	**22.84**	**10**	P	P	20 24 02.0	+4.0
PDAR	3.0nm,0.7s,baz=196,slow=11,SNR=4.2 **Pinedale Array**	**34.58**	**332**	P	**P**	**20 25 45.4**	**+1.4**
NVAR	0.4nm,1.0s,baz=125,slow=7.8,SNR=2.9 **Mina Array Bea**	**36.37**	**319**	P	**P**	**20 25 59.5**	**+0.1**
NVAR	0.6nm,0.7s,baz=126,slow=10,SNR=4.3			PcP	**PcP**	**20 28 23.4**	**-0.5**
ULM	0.2nm,0.5s,baz=155,slow=3.0,SNR=2.7 **Lac du Bonnet**	**37.45**	**352**	P	**P**	**20 26 07.9**	**-0.2**
SCHQ	2.4nm,0.6s,baz=164,slow=8.9,SNR=6.3 **Schefferville**	**44.97**	**18**	P	**P**	**20 27 10.8**	**+0.9**
YKA	2.4nm,0.7s,baz=224,slow=8.0,SNR=5.2 **Yellowknife Ar**	**52.62**	**345**	P	**P**	**20 28 07.2**	**-1.3**
RCBR	1.1nm,0.9s,baz=144,slow=8.1,SNR=5.2 **Riachuelo**	**55.73**	**106**	LR	LR	20 53 10.3	
ILAR	comp=Z,22nm,20.3s,baz=72,slow=37 **Eielson Array**	**64.89**	**336**	P	**P**	**20 29 32.5**	**-1.3**
CMAR	0.5nm,1.0s,baz=152,slow=4.9,SNR=4.2 **Chiang Mai Arr**	**147.69**	**346**	PKPbc	**PKPbc**	**20 38 39.3**	**-1.2**
	1.0nm,0.8s,baz=352,slow=3.6,SNR=9.2						

*IDC **22** 20:20:19.8±4.0, 8°.46S×156°.87E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=102.9km s-min=42.6km az=103.0*

*ISCJB **22** 20:20:20.5±1.4, 8°.6S±0°.2×157°.04E±0°.08, h19km, mb3.4/4, Error ellipse: s-maj=34.5km s-min=11.3km az=6.1*

ISC 22 20:20:22.0±1.5, 8°.5S±0°.3×157°.1E±0°.1, h19km, n5, σ0§88/5, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.00**	**108**	*e*P	Pn	20 21 03.0	-5.6
HNR				*e*S	**Sn**	**20 21 44.0**	**-0.1**
WRA	**Warramunga Arr**	**24.73**	**240**	P	**P**	**20 25 42.7**	**+0.3**
ASAR	2.0nm,0.8s,baz=66,slow=9.2,SNR=15 **Alice Springs**	**26.79**	**233**	P	**P**	**20 26 00.0**	**-1.1**
STKA	0.4nm,0.7s,baz=66,slow=9.2,SNR=4.3 **Stephens Creek**	**27.32**	**210**	P	**P**	**20 26 06.2**	**+0.5**
MKAR	0.7nm,0.7s,baz=53,slow=15,SNR=3.9 **Makanchi Array**	**85.89**	**318**	P	**P**	**20 33 00.8**	**0.0**
	0.2nm,0.7s,baz=90,slow=4.3,SNR=2.4						

IDC 22 20:24:49.2±1.8, 13°.56S×166°.35E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=51.3km s-min=30.0km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.46**	**179**	Pn	Pn	20 26 52.5	-0.8
DZM	0.5nm,0.3s,baz=120,slow=20,SNR=3.7				Sn	20 28 20.3	-9.4
STKA	baz=171,slow=19,SNR=2.1 **Stephens Creek**	**29.10**	**227**	P	P	20 30 52.3	+0.6
WRA	3.4nm,0.6s,baz=50,slow=8.0,SNR=21 **Warramunga Arr**	**31.27**	**254**	P	P	20 31 10.7	-0.4
ASAR	0.4nm,0.8s,baz=85,slow=9.2,SNR=5.7 **Alice Springs**	**32.28**	**247**	P	P	20 31 19.8	-0.2
ILAR	0.9nm,0.7s,baz=74,slow=9.3,SNR=14 **Eielson Array**	**85.70**	**18**	P	P	20 37 29.6	0.0
	0.3nm,0.5s,baz=233,slow=4.8,SNR=5.9						

*MEX **22** 20:33:39.7±0.5, 32°.51N×114°.90W, h15km, MD3.7*

*ISCJB **22** 20:33:41.2±0.4, 32°.28N±0°.03×115°.34W±0°.04, h11km±5km, Error ellipse: s-maj=6.4km s-min=4.1km az=162.6*

*ECX **22** 20:33:42.5±0.5, 32°.27N×115°.35W, h6km, MD2.8, ML3.0*

ISC 22 20:33:40.8±0.9, 32°.28N±0°.03×115°.31W±0°.03, h15km±7km, n19, σ0§57/31, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**2**	*e*P	**Pg**	**20 33 44.6**	**0.0**
CPBX				*e*S	**Sg**	**20 33 47.0**	**-0.1**
CPBX				⇑*e*		20 33 55.3	
CPBX				AML	AML	20 33 55.3	
	comp=N,12μm,0.5s						
MBIG	**Mexicali**	**0.16**	**36**	*i* P	**Pb**	**20 33 45.4**	**-0.2**
MBIG				*i* S	**Sb**	**20 33 49.2**	**+0.6**
EMX	**El Mayor**	**0.29**	**169**	⇓*e*P	**Pg**	**20 33 46.9**	**-0.1**
EMX				*e*S	**Sg**	**20 33 51.2**	**0.0**
SGL	**Mount Signal**	**0.51**	**317**	⇑*i*P	**Pb**	**20 33 51.2**	**-0.4**
COA	**Coachella**	**0.61**	**15**	*e*P	**Pb**	**20 33 53.4**	**+0.2**
YUH	**Yuha Desert**	**0.64**	**306**	⇑*i*P	**Pg**	**20 33 53.0**	**-0.3**
RDX	**Rancho Dawling**	**0.64**	**237**	*e*P	**Pg**	**20 33 53.4**	**-0.1**
RDX				*e*S	**Sg**	**20 34 01.9**	**-0.1**
COK	**Cook Ranch**	**0.67**	**328**	*e*P	**Pb**	**20 33 54.5**	**+0.3**
YMD	**Yuma Desert**	**0.70**	**67**	*e*P	**Pb**	**20 33 54.9**	**+0.1**
RMX	**La Rumorosa**	**0.73**	**297**	*e*P	**Pg**	**20 33 54.6**	**-0.5**
RMX				*e*S	**Sg**	**20 34 04.2**	**-0.5**
RMX				⇑*e*		20 34 06.5	
RMX				AML	AML	20 34 06.5	
	comp=N,410nm,0.2s						
ECBX	**El Chinero**	**0.83**	**165**	*e*P	**Pg**	**20 33 56.5**	**-0.5**
ECBX				*e*S	**Sb**	**20 34 08.0**	**0.0**
ECBX				AML	AML	20 34 09.6	
	comp=E,415nm,0.3s						
ECBX				⇓*e*		20 34 09.6	
ZAX	**El Zacaton**	**1.12**	**227**	*e*P	**Pn**	**20 34 02.1**	**0.0**
ZAX				*e*S	**Sb**	**20 34 16.2**	**-0.2**
ZAX				⇓*e*		20 34 20.8	
ZAX				AML	AML	20 34 20.8	
	comp=N,406nm,0.7s						
CBX	**Cerro Bola**	**1.15**	**272**	*e*P	**Pb**	**20 34 02.5**	**0.0**
CBX				*i* S	**Sg**	**20 34 20.3**	**+2.3**
CBX	**Cerro Bola**	**1.15**	**272**	*e*P	**Pn**	**20 34 02.2**	**-0.3**
CBX				*e*S	**Sb**	**20 34 17.3**	**0.0**
BAR	**Barrett**	**1.22**	**290**	*e*P	**Pn**	**20 34 03.4**	**-0.1**
SPIG	**San Pedro Mart**	**1.23**	**186**	*i* P	**Pn**	**20 34 03.6**	**-0.3**
SPIG				*i* S	**Sg**	**20 34 22.1**	**+1.3**
SPIG	**San Pedro Mart**	**1.23**	**186**	*e*P	**Pn**	**20 34 03.6**	**-0.3**
SPX	**San Pedro Mart**	**1.23**	**186**	*e*P	**Pn**	**20 34 03.6**	**-0.2**
SPX				*e*S	**Sn**	**20 34 20.4**	**-0.1**
ECNX	**Esteban Cantu**	**1.26**	**241**	*e*P	**Pn**	**20 34 04.0**	**0.0**
ECNX				*e*S	**Sb**	**20 34 20.2**	**-0.2**

MAN 22 20:50:30, 13°.22N×121°.06E, h27km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**341**	⇑*i*P	Pb	20 50 37.9	+0.7
PGP				*i* S	Sb	20 50 42.9	+0.7
SJMP	**San Jose**	**0.75**	**175**	*e*P	Pb	20 50 44.0	-0.5
SJMP				*e*S	Sb	20 50 54.8	+0.4
LUBP	**Lubang**	**0.94**	**303**	*e*P	Pb	20 50 48.1	+0.4
LUBP				*e*S	Sn	20 51 00.2	+0.2
OTRP	**Odiongan**	**1.27**	**132**	*e*P	Pb	20 50 52.8	-0.5
BUSP	**Coron**	**1.47**	**215**	*e*P	Pn	20 50 55.6	+0.9
CUYO	**Cuyo Island**	**2.35**	**181**	*e*P	Pn	20 51 06.9	0.0
ENPP	**El Nido**	**2.56**	**219**	*e*P	Pn	20 51 10.3	+0.6

*IDC **22** 20:57:36.6±2.9, 36°.27N×71°.03E, h172km±25km, mb3.2/8, mb1 3.2/14, mb1mx3.0/32, mbtmp3.7/14, Error ellipse: s-maj=22.0km s-min=15.8km az=177.0*

*ISCJB **22** 20:57:40.3±0.4, 36°.58N±0°.03×70°.85E±0°.05, h188km, mb3.4/8, Error ellipse: s-maj=6.0km s-min=4.1km az=152.8*

*NNC **22** 20:57:47.5±0.9, 37°.03N×70°.91E, h210km±7km, mb2.6, mpv3.8, Error ellipse: s-maj=9.4km s-min=4.2km az=158.0*

ISC 22 20:57:40.6±0.6, 36°.58N±0°.06×70°.88E±0°.06, h188km, n42, σ1§40/50, mb3.3/8, 8C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.75**	**324**	⇓P	Pn	20 58 31.3	+4.5
DZET	11nm,0.3s			⇓S	**Sn**	**20 59 05.9**	**+3.0**
SFK	275nm,0.4s **Sufi-Kurgan**	**4.00**	**30**	⇓P	**Pn**	**20 58 44.6**	**+2.4**
SFK	11nm,0.3s			⇑S	**Sn**	**20 59 31.3**	**+0.9**
DLH	29nm,0.3s **Dalhousie**	**5.82**	**132**	*e*P	**Sn**	**21 00 13.0**	**+0.5**
AML	**Almayashu**	**5.96**	**21**	P	**Pn**	**20 59 08.9**	**+1.4**
MNAS	SNR=70 **Manas**	**6.03**	**12**	⇑P	**Pn**	**20 59 10.0**	**+1.9**
MNAS	2.8nm,0.4s			⇑S	**Sn**	**21 00 14.8**	**-2.5**
UCH	14nm,0.5s **Uchtor**	**6.30**	**25**	P	**Pn**	**20 59 13.5**	**+1.5**
KZA	SNR=20 **Kyzart**	**6.45**	**30**	P	**Pn**	**20 59 14.4**	**+0.5**
EKS2	SNR=12 **Erkin-Say**	**6.47**	**19**	P	**Pn**	**20 59 15.9**	**+2.1**
KK31	SNR=11 **Karatay Array**	**6.52**	**358**	P	**Pn**	**20 59 16.3**	**+1.9**
KK31	0.8nm,0.3s,baz=181,slow=12,SNR=33			S	**Sn**	**21 00 26.1**	**-2.6**
AAK	2.5nm,0.3s,baz=181,slow=18,SNR=16 **Ala-Archa**	**6.66**	**24**	⇑P	**Pn**	**20 59 17.7**	**+1.3**
AAK	5.9nm,0.3s			⇓S	**Sn**	**21 00 30.8**	**-1.3**
AAK	16nm,0.7s **Ala-Archa**	**6.66**	**24**	P	**Pn**	**20 59 18.0**	**+1.6**
AAK	SNR=21 **Ala-Archa**	**6.66**	**24**	P	**Pn**	**20 59 16.9**	**+0.5**
AAK	5.3nm,0.3s,baz=187,slow=6.4,SNR=69			S	**Sn**	**21 00 31.5**	**-0.6**
KBK	1.7nm,0.3s,baz=319,slow=19,SNR=24 **Karagaybulak**	**6.83**	**26**	P	**Pn**	**20 59 21.1**	**+2.4**
ULHL	SNR=19 **Ulahol**	**7.01**	**35**	P	**Pn**	**20 59 22.0**	**+0.9**
TKM2	SNR=14 **Tokmak 2**	**7.30**	**28**	⇓P	**Pn**	**20 59 25.8**	**+1.0**
TKM2	9.1nm,0.5s			⇓S	**Sn**	**21 00 45.1**	**-2.2**
TKM2	8.6nm,0.9s **Tokmak 2**	**7.30**	**28**	P	**Pn**	**20 59 26.1**	**+1.3**
SMLA	SNR=5.9 **Simla**	**7.54**	**134**	⇑*i*P	**Pn**	**20 59 29.8**	**+1.8**
SMLA				*i* S	**Sn**	**21 00 51.5**	**-1.4**
SMLA				*i* S	**Sn**	**21 00 51.6**	**-1.4**
SMLA				AML	AML	21 00 53.5	
	comp=N,618nm,0.3s						
SMLA				AML	AML	21 00 53.7	
	comp=E,800nm,0.3s						
GEYT	**Alibeck**	**10.26**	**281**	P	**Pn**	**21 00 03.1**	**-0.3**
GEYT	comp=E,0.3nm,0.3s,baz=115,slow=10,SNR=3.4			S	**Sn**	**21 01 56.0**	**-1.8**
MKAR	comp=E,0.1nm,0.3s,baz=86,slow=26,SNR=2.8 **Makanchi Array**	**13.28**	**36**	P	**Pn**	**21 00 40.8**	**-1.1**
MKAR	comp=E,0.2nm,0.3s,baz=220,slow=13,SNR=5.1			S	**S**	**21 03 11.9**	**-0.2**
DANN	baz=229,slow=28,SNR=2.8 **Dangsing**	**13.61**	**123**	*e*P	**Pn**	**21 00 46.7**	**+0.2**
AB31	comp=E,5.4nm,0.3s **Akbulak array**	**14.97**	**331**	⇑P	**P**	**21 01 05.5**	**+1.8**
DMN	comp=E,0.2nm,0.5s,baz=142,slow=12,SNR=8.9 **Daman**	**15.00**	**123**	*e*P	**P**	**21 01 04.9**	**+0.3**
KKN	comp=E,4.9nm,0.3s **Kakani**	**15.00**	**122**	*e*P	**P**	**21 01 04.9**	**+0.3**
KURBB	comp=E,6.7nm,0.4s **Kurchatov Arra**	**15.08**	**19**	P	**Pn**	**21 01 04.0**	**-0.1**
PKIN	comp=E,0.0nm,0.3s,baz=199,slow=10.0,SNR=4.1 **Phulchoki**	**15.22**	**122**	*e*P	**P**	**21 01 08.0**	**+1.0**
PKI	comp=E,3.8nm,0.3s **Pulchoki**	**15.23**	**122**	*e*P	**P**	**21 01 07.9**	**+0.7**
GUN	comp=E,4.1nm,0.2s **Gumba**	**15.34**	**120**	*e*P	**P**	**21 01 08.6**	**+0.2**
JIRN	comp=E,5.6nm,0.3s **Jiri**	**15.71**	**120**	*e*P	**Pn**	**21 01 12.3**	**-0.1**
JIRN	comp=E,7.7nm,0.3s			*e*S	S	21 03 58.0	-9.3
RAMN	**Ramite**	**16.44**	**121**	*e*P	**Pn**	**21 01 22.1**	**+1.0**
BVAR	comp=E,3.0nm,0.2s **Borovoye Array**	**16.45**	**359**	P	**Pn**	**21 01 20.9**	**+0.3**
AKTO	comp=E,0.3nm,0.3s,baz=155,slow=10.0,SNR=7.9 **Aktyubinsk**	**16.66**	**330**	⇑P	**Pn**	**21 01 24.0**	**+0.7**
	comp=E,1.3nm,0.6s						
AKTO	**Aktyubinsk**	**16.66**	**330**	P	**Pn**	**21 01 23.9**	**+0.6**
TAPN	comp=E,0.4nm,0.3s,baz=139,slow=13,SNR=7.2 **Taplejung**	**16.97**	**118**	*e*P	**Pn**	**21 01 27.5**	**0.0**
ZALV	comp=E,2.9nm,0.3s **Zalesovo Beam**	**19.88**	**25**	P	**P**	**21 01 56.4**	**-0.9**
JOF	comp=E,1.0nm,0.3s,baz=222,slow=10,SNR=6.0 **Joensuu**	**35.75**	**330**	*e*p	**P**	**21 04 22.1**	**+1.0**
FINES	comp=E,1.3nm,0.3s **FINESS Array B**	**37.36**	**326**	P	**P**	**21 04 35.1**	**+0.4**
ARCES	comp=E,0.7nm,0.4s,baz=128,slow=8.7,SNR=9.6 **ARCESS Array B**	**41.03**	**338**	P	**P**	**21 05 05.6**	**+0.5**
NOA	comp=E,2.2nm,0.8s,baz=107,slow=8.1,SNR=12 **NORSAR Array B**	**44.26**	**323**	P	**P**	**21 05 30.6**	**-0.5**
TORD	comp=E,0.3nm,0.5s,baz=96,slow=7.9,SNR=3.1 **Torodi Ar. Bea**	**65.62**	**269**	P	**P**	**21 08 02.8**	**-2.0**
YKA	comp=E,0.3nm,0.5s,baz=49,slow=5.7,SNR=7.1 **Yellowknife Ar**	**81.17**	**3**	P	**P**	**21 09 33.6**	**-1.2**
WRA	comp=E,0.2nm,0.4s,baz=349,slow=4.9,SNR=3.5 **Warramunga Arr**	**82.11**	**122**	P	P	21 09 37.1	-3.3
ASAR	comp=E,0.1nm,0.3s,baz=324,slow=4.9,SNR=6.5 **Alice Springs**	**84.38**	**125**	P	P	21 09 47.9	-4.0
	comp=E,0.3nm,0.6s,baz=305,slow=4.5,SNR=6.2						

CASC 22 21:05:30.5±2.9, 8°.62N×83°.10W, h21km±8km, MD4.0, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.07**	**298**	⇑*i*P	Pb	21 05 34.3	-0.1
CTCR	**Cotoan**	**0.44**	**51**	⇓*i*P	Pb	21 05 40.2	+0.4
BRU2	**Volcan**	**0.44**	**67**	⇓*i*P	Pb	21 05 40.3	+0.5
TBS2		**0.47**	**69**	*e*P	Pn	21 05 41.8	-0.5
TBS2				*e*S	Sn	21 05 50.4	+0.2
BRU	**Baru**	**0.57**	**71**	*e*P	Pb	21 05 42.3	-0.2
BRU				*e*S	Sb	21 05 50.9	+0.3
CNI	**Changuinola**	**0.98**	**36**	*e*P	Pb	21 05 48.2	-0.6
CNI				*e*S	Sn	21 06 03.1	+0.7
BUS	**Buena Vista**	**1.13**	**325**	⇑*i*P	Pn	21 05 49.9	-1.8
BUS				*e*S	Sb	21 06 05.4	-1.3
URSC	**Urasca**	**1.38**	**331**	*e*P	Pn	21 05 54.0	-0.9
URSC				*e*S	Sn	21 06 12.6	0.0
SJS	**Escuela Geolog**	**1.61**	**324**	*e*P	Pn	21 05 55.6	-2.4
SJS				*e*S	Sb	21 06 20.9	+1.0
CGA2	**Cerro Gallo 2**	**1.93**	**316**	*e*P	Pn	21 06 03.3	+0.9
CGA2				*e*S	Sn	21 06 26.5	+0.2
JTS	**JuntasAbangare**	**2.47**	**312**	*e*S	Sn	21 06 39.1	-0.1
VCR	**Vista de Mar**	**2.91**	**301**	*e*P	Pn	21 06 15.1	-0.7
VCR				*e*S	Sn	21 06 47.1	-3.2

GUC 22 21:11:36.2±0.5, 37°.78S×73°.35W, h31km±5km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.52**	**94**	*e*P	Pn	21 11 47.3	-0.2
AGCH				*e*S	Sn	21 11 55.2	0.0
CCSP	**San Pedro de C**	**0.95**	**12**	*e*P	Pb	21 11 54.1	0.0
CCSP				*e*S	Sb	21 12 07.5	+1.2
CCSP				AML	AML	21 12 10.3	
	comp=E,7μm,0.5s						
COCH	**Cobquecura**	**1.70**	**15**	*e*P	Pb	21 12 05.6	-1.2
COCH				*e*S	Sb	21 12 28.2	+0.4

*ISCJB **22** 21:14:29.9±0.8, 32°.4N±0°.1×92°.6E±0°.2, h10km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=28.0km s-min=11.8km az=158.6*

*IDC **22** 21:14:30.4±1.1, 32°.39N×92°.60E, h0km, mb3.5/5, mb1 3.5/8, mb1mx3.3/34, mbtmp3.4/8, ML3.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/28, Error ellipse: s-maj=46.0km s-min=19.5km az=63.0*

ISC 22 21:14:31.7±1.0, 32°.4N±0°.1×92°.6E±0°.2, h10km, n9, σ0§58/8, mb3.8/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.03**	**156**	Pn	**Pn**	**21 18 03.7**	**-0.6**
MKAR	baz=340,slow=13,SNR=2.5 **Makanchi Array**	**16.38**	**334**	Pn	**Pn**	**21 18 21.0**	**-0.7**
SONM	0.1nm,0.3s,baz=158,slow=12,SNR=4.9 **Songino Array**	**18.61**	**30**	P	**Pn**	**21 18 49.2**	**-0.3**
KURBB	0.1nm,0.3s,baz=216,slow=12,SNR=3.1 **Kurchatov Arra**	**20.95**	**334**	P	**P**	**21 19 14.8**	**+0.2**
ZALV	0.9nm,0.9s,baz=142,slow=12,SNR=9.5 **Zalesovo Beam**	**22.22**	**348**	P	**P**	**21 19 28.9**	**+0.7**
GEYT	0.6nm,0.6s,baz=179,slow=12,SNR=4.2 **Alibeck**	**28.62**	**291**	LR	LR	21 35 22.9	
WRA	comp=Z,37nm,19.4s,baz=170,slow=44 **Warramunga Arr**	**65.62**	**137**	P	**P**	**21 25 16.3**	**+0.3**
ASAR	0.6nm,1.1s,baz=326,slow=6.0,SNR=3.4 **Alice Springs**	**68.31**	**139**	P	**P**	**21 25 33.6**	**+0.4**
TORD	0.4nm,0.6s,baz=334,slow=7.5,SNR=5.0 **Torodi Ar. Bea**	**83.83**	**282**	P	**P**	**21 27 02.0**	**+0.1**
	0.7nm,0.6s,baz=54,slow=3.5,SNR=4.5						

*IDC **22** 21:20:15.5±1.3, 36°.06S×73°.57W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/25, mbtmp3.7/7, ML3.5/2, MS4.0/3, Ms1 4.0/3, ms1mx3.3/22, Error ellipse: s-maj=37.5km s-min=17.9km az=86.0*

*ISCJB **22** 21:20:17.6±1.0, 36°.06S±0°.08×73°.4W±0°.2, h33km, mb4.0/5, MS3.8/2, Error ellipse: s-maj=20.6km s-min=11.7km az=180.0*

*NEIC **22** 21:20:17.0, 36°.09S×73°.64W, h30km, mb4.2/2, ML4.4(GUC), After GUC.*

NEIC Felt [III] Concepcion and Tome; [II] at Angol, Carahue and Renaico.

ISC 22 21:20:18.9±1.1, 36°.00S±0°.09×73°.5W±0°.2, h35km, n14, σ1§50/10, mb3.9/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.27**	**155**	Pn	**Pn**	**21 21 35.6**	**+0.5**
PLCA	0.5nm,0.3s,baz=331,slow=14,SNR=11			Lg	Lg	21 23 00.3	
PLCA	1.9nm,0.3s,baz=246,slow=20,SNR=3.0 **Paso Flores**	**5.27**	**155**	*e*Pn	**Pn**	**21 21 34.0**	**-1.2**
CFAA	**Coronel Fontan**	**6.20**	**47**	Pn	**Pn**	**21 21 48.2**	**+0.3**
CFAA	0.5nm,0.3s,baz=222,slow=13,SNR=35			Lg	Lg	21 23 22.7	
LCO	0.2nm,0.3s,baz=306,slow=20,SNR=4.0 **Las Campanas**	**7.36**	**20**	*e*Pn	**Pn**	**21 22 02.4**	**-1.7**
TRQA	**Tornquist**	**9.45**	**106**	*e*Pn	**Pn**	**21 22 33.2**	**+0.8**
CPUP	**Villa Florida**	**16.85**	**60**	LR	LR	21 31 14.4	
LPAZ	comp=Z,906nm,19.2s,baz=253,slow=39 **La Paz**	**20.20**	**15**	P	Pn	21 24 54.2	+0.6
LPAZ	2.7nm,0.7s,baz=167,slow=3.0,SNR=5.7 **La Paz**	**20.20**	**15**	*e*P	**P**	**21 24 49.8**	**-1.5**
SIV	3.7nm,0.8s **San Ignacio**	**22.80**	**32**	P	**P**	**21 25

CLCH					*e*S		Sn	21 28 49.9	+0.2
CLCH					AML		AML	21 29 01.2	
	comp=E,2µm,0.6s								
YECH	**El Yeso**	**1.86**	**57**	*e*P			Pn	21 28 29.9	+0.6
YECH				*e*S			Sb	21 28 54.0	-1.1
PEL	**Peldehue**	**1.88**	**35**	*e*P			Pn	21 28 30.2	+1.0
PEL				*e*S			Sb	21 28 54.4	-0.6
PEL				AML			AML	21 29 02.1	
	comp=N,1µm,0.6s								

GUC 22 21:28:20.4±0.3, 34°77′S×71°72′W, h33km±5km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.63**	**174**	*i* P		Pn	21 28 32.3	-0.7
TALC				*i* S		Sb	21 28 41.6	-0.2
CACH	**El Canelo**	**1.13**	**55**	*i* S		Sb	21 28 56.2	+0.1
CHCH	**Chadas Angostu**	**1.21**	**47**	*i* S		Sb	21 28 57.8	-0.5
CLCH	**Cerro Calan**	**1.68**	**36**	*e*P		Pn	21 28 49.0	+1.4
CLCH				AML		AML	21 29 20.3	
	comp=N,1µm,0.6s							
CLCH				AML		AML	21 29 20.9	
	comp=N,1µm,0.6s							
YECH	**El Yeso**	**1.74**	**51**	*e*S		Sb	21 29 13.6	-0.5
PEL	**Peldehue**	**1.83**	**28**	AML		AML	21 29 22.7	
	comp=N,1µm,0.4s							
ROCH	**El Roble**	**1.89**	**18**	AML		AML	21 29 01.9	
	comp=E,826nm,0.7s							
ROCH				AML		AML	21 29 20.6	
	comp=N,1µm,0.5s							
ROCH	**El Roble**	**1.89**	**18**	*i* S		Sb	21 29 16.8	-1.1
ROCH				AML		AML	21 29 20.4	
	comp=N,1µm,0.5s							

*IDC **22** 21:34:47.6±1.3, 5°.83S×103°.64E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.6/29, mbtmp3.6/10, Error ellipse: s-maj=46.1km s-min=17.1km az=54.0*
*ISCJB **22** 21:34:54.1±1.1, 5°.98S±0°.07×103°.75E±0°.08, h69km±8km, mb3.6/10, Error ellipse: s-maj=16.0km s-min=6.2km az=142.6*
*DJA **22** 21:34:54.7±0.7, 6°.S±3°×10°.4E±°, h25km±6km, M4.3/14, mb4.6/5, mB5.3/1, MLv4.1/14, Mw(mB)4.7/1*
ISC 22 21:34:54.4±2.0, 5°.99S±0°.09×103°.7E±0°.1, h53km±17km, n32, σ1°09/34, mb3.7/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.92**	**60**	P		**Pn**	**21 35 09.7**	**-1.4**
KASI				S		**Sn**	**21 35 21.5**	**-1.9**
LWLI	**Liwa**	**1.03**	**20**	P		**Pn**	**21 35 12.6**	**-0.2**
LWLI				S		**Sn**	**21 35 26.6**	**+0.3**
MDSI	**Maura Dua**	**1.57**	**18**	P		**Pn**	**21 35 20.3**	**+0.4**
MDSI				S		**Sn**	**21 35 40.4**	**+1.3**
KLI	**Kotabumi**	**1.60**	**46**	P		**Pn**	**21 35 21.8**	**+1.4**
KLSI		**1.65**	**38**	S		**Sn**	**21 35 41.6**	**+0.5**
BLSI	**Bandar Lampung**	**1.65**	**68**	P		**Pn**	**21 35 21.0**	**-0.1**
BLSI				S		**Sn**	**21 35 40.7**	**-0.6**
MNAI	**Manna**	**1.78**	**335**	P		**Pn**	**21 35 24.3**	**+1.4**
CGJI	**Cibinong**	**2.07**	**108**	P		**Pn**	**21 35 26.3**	**-0.5**
CGJI				S		**Sn**	**21 35 52.1**	**+0.6**
LHSI	**Lahat**	**2.16**	**355**	P		**Pn**	**21 35 29.4**	**+1.4**
SKJI	**Sukabumi**	**3.01**	**110**	P		**Pn**	**21 35 38.7**	**-1.0**
CBJI	**Citeko**	**3.16**	**98**	P		**Pn**	**21 35 43.9**	**+2.2**
CNJI	**Cibinong**	**3.65**	**111**	P		**Pn**	**21 35 48.1**	**-0.3**
CISI	**Cisompet, Garu**	**4.37**	**111**	P		**Pn**	**21 35 58.4**	**0.0**
CISI				S		Sn	21 36 41.7	-6.4
KPJI	**Karang Pucung**	**5.36**	**105**	P		**Pn**	**21 36 11.6**	**-0.3**
	20nm,1.5s,3µm0.2nm							
PWJI	**Pagerwojo**	**8.29**	**105**	P		**Pn**	**21 36 53.3**	**+1.2**
	23nm,1.8s							
BLJI	**Banyuglugur**	**9.97**	**101**	P		**Pn**	**21 37 15.1**	**-0.1**
	25nm,0.5s							
SRBI	**Singaraja**	**11.61**	**101**	P		**Pn**	**21 37 38.4**	**+0.8**
	25nm,0.7s							
DNP	**Denpasar**	**11.72**	**104**	P		**Pn**	**21 37 40.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**24.74**	**349**	P		**P**	**21 40 09.6**	**-1.6**
	1.4nm,0.6s,baz=183,slow=8.7,SNR=14							
H08S2	**Diego Garcia H**	**31.03**	**265**	T		T	22 14 49.8	
	baz=88,slow=75,SNR=3.5							
H08S3	**Diego Garcia H**	**31.04**	**265**	T		T	22 14 49.9	
	baz=88,slow=75,SNR=3.0							
H08S1	**Diego Garcia H**	**31.05**	**265**	T		T	22 14 50.4	
	baz=88,slow=75,SNR=3.3							
WRA	**Warramunga Arr**	**32.83**	**118**	P		**P**	**21 41 24.3**	**+1.0**
	0.1nm,0.3s,baz=307,slow=9.1,SNR=3.8							
ASAR	**Alice Springs**	**33.95**	**124**	P		**P**	**21 41 34.6**	**+1.7**
	0.3nm,0.7s,baz=300,slow=7.4,SNR=4.2							
STKA	**Stephens Creek**	**43.76**	**131**	P		**P**	**21 42 55.7**	**+0.8**
	0.9nm,0.5s,baz=310,slow=9.9,SNR=5.4							
KSRS	**Korea Array**	**48.77**	**26**	P		**P**	**21 43 34.0**	**-0.1**
	0.6nm,0.6s,baz=226,slow=8.1,SNR=2.9							
SONM	**Songino Array**	**53.65**	**2**	P		**P**	**21 44 10.0**	**-0.7**
	0.5nm,0.6s,baz=182,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**55.88**	**342**	P		**P**	**21 44 25.6**	**-1.1**
	0.9nm,0.7s,baz=167,slow=6.4,SNR=14							
USRK	**Ussuriysk Ar.**	**56.09**	**24**	P		**P**	**21 44 27.2**	**-0.9**
	0.4nm,0.6s,baz=151,slow=3.3,SNR=3.9							
ZALV	**Zalesovo Beam**	**61.79**	**347**	P		**P**	**21 45 06.2**	**-1.4**
	0.6nm,0.4s,baz=160,slow=4.7,SNR=6.4							
BRTR	**Keskin Array B**	**78.72**	**312**	P		**P**	**21 46 52.0**	**+0.4**
	0.6nm,0.8s,baz=81,slow=8.9,SNR=3.4							
TXAR	**Lajitas Array**	**145.26**	**45**	PKPbc		**PKPdf**	**21 54 27.3**	**+0.2**
	0.5nm,0.6s,baz=5.7,slow=3.8,SNR=4.0							

*SKO **22** 21:38:44.3, 41°.10N×20°.09E, h0km*
*CSEM **22** 21:38:45.2±0.6, 41°.04N×20°.22E, h2km, ML1.8, Error ellipse: s-maj=13.6km s-min=5.9km az=124.0*
ATH 22 21:38:45.2, 41°.07N×20°.12E, h25km±6km, MD3.3/5, Albania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.52**	**85**	*i* Pg		Pb	21 38 53.2	-2.6
OHR				*i* Sg		Sb	21 39 00.7	-2.3
OHR				*e*Lg		Lg	21 39 01.9	
	comp=N,42nm,0.5s							
OHR				*e*Lg		Lg	21 39 02.0	
	comp=E,51nm,0.5s							
OHR	**Ohrid**	**0.52**	**85**	*i* Pg		Pb	21 38 53.1	-2.7
OHR				*i* Sg		Sb	21 39 00.6	-2.4
OHR				*e*Lg		Lg	21 39 02.0	
	comp=E,51nm,0.5s							
NEST	**Nestorio**	**0.96**	**133**	*e*PN		Pn	21 39 03.3	0.0
NEST				*e*SN		Sn	21 39 18.0	+1.7
NEST	**Nestorio**	**0.96**	**133**	*e*Pn		Pn	21 39 03.3	0.0
NEST				*e*Sn		Sn	21 39 18.0	+1.7
FNA	**Florina**	**0.99**	**106**	*e*PB		Pn	21 39 03.6	-0.1
FNA	**Florina**	**0.99**	**106**	*e*Pb		Pn	21 39 03.6	-0.1
SKO	**Skopje**	**1.34**	**47**	*i* Pg		Pb	21 39 09.9	+0.2
SKO				*i* Sg		Sb	21 39 28.3	+1.8
SKO				*e*Lg		Lg	21 39 28.7	
	comp=E,8.5nm,0.4s							
SKO				*e*Lg		Lg	21 39 28.8	
	comp=N,22nm,1.1s							
SKO	**Skopje**	**1.34**	**47**	*i* Pg		Pb	21 39 09.8	+0.1
SKO				*i* Sg		Sb	21 39 28.2	+1.8
SKO				*e*Lg		Lg	21 39 28.8	
	comp=N,22nm,1.1s							
KEK	**Kerkira**	**1.38**	**190**	*e*Pn		Pb	21 39 11.1	+0.8
KEK	**Kerkira**	**1.38**	**190**	*e*Pn		Pb	21 39 11.1	+0.8
IGT	**Igoumenitsa**	**1.54**	**174**	*e*PN		Pb	21 39 14.0	+0.8
IGT				*e*SN		Sb	21 39 32.8	+0.5
IGT	**Igoumenitsa**	**1.54**	**174**	*e*Pn		Pb	21 39 14.0	+0.8
IGT				*e*Sn		Sb	21 39 32.8	+0.5
GRG	**Griva**	**1.73**	**93**	*e*PN		Pb	21 39 16.3	-0.1
GRG	**Griva**	**1.73**	**93**	*e*Pn		Pb	21 39 16.3	-0.1
MAKR	**Makrakomi, Fth**	**2.57**	**142**	*e*PN		Pn	21 39 27.2	+1.9
MAKR	**Makrakomi, Fth**	**2.57**	**142**	*e*Pn		Pn	21 39 27.2	+1.9

IDC 22 21:47:45.6±11.0, 11°.10S×165°.48E, h171km±90km, mb3.4/4, mb1 3.6/5, mb1mx3.2/29, mbtmp4.1/5, Error ellipse: s-maj=128.5km s-min=61.0km az=48.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.95**	**175**	P		Pn	21 50 18.0	+0.2
	2.6nm,0.3s,baz=356,slow=6.2,SNR=41							
DZM				S		Sn	21 52 18.2	-1.2
	0.5nm,0.3s,baz=323,slow=20,SNR=4.5							
CTA	**Charters Tower**	**20.54**	**242**	P		P	21 52 11.8	+0.8
	4.6nm,0.7s,baz=73,slow=13,SNR=6.2							
H11S2	**WAKE ISLAND Hy**	**29.43**	**2**	T		T	22 24 14.8	
	baz=181,slow=76,SNR=5.8							
H11S3	**WAKE ISLAND Hy**	**29.43**	**2**	T		T	22 24 04.6	
	baz=181,slow=76,SNR=5.8							
H11S1	**WAKE ISLAND Hy**	**29.45**	**2**	T		T	22 24 04.6	
	baz=181,slow=76,SNR=6.3							
STKA	**Stephens Creek**	**30.22**	**223**	P		P	21 53 41.4	+1.1
	1.2nm,0.6s,baz=45,slow=11,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**30.65**	**3**	T		T	22 25 37.9	
	baz=182,slow=76,SNR=3.5							
H11N3	**WAKE ISLAND Hy**	**30.66**	**3**	T		T	22 25 35.5	
	baz=182,slow=76,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**30.67**	**3**	T		T	22 25 32.9	
	baz=182,slow=76,SNR=3.7							
WRA	**Warramunga Arr**	**31.22**	**250**	P		P	21 53 48.5	-0.6
	1.1nm,0.6s,baz=83,slow=8.7,SNR=7.7							
ASAR	**Alice Springs**	**32.53**	**243**	P		P	21 53 59.9	-0.8
	0.9nm,0.7s,baz=69,slow=9.5,SNR=10							

*ISCJB **22** 22:04:40.0±0.7, 32°.50S±0°.03×178°.68W±0°.09, h33km, mb4.5/9, MS3.6/2, Error ellipse: s-maj=11.0km s-min=4.7km az=6.3*
*NEIC **22** 22:04:42.0±0.7, 32°.32S×178°.66W, h35km, mb4.8/3, Error ellipse: s-maj=20.9km s-min=14.4km az=114.0*
*IDC **22** 22:04:44.6±2.7, 32°.11S×178°.54W, h59km±24km, mb4.2/6, mb1 4.4/7, mb1mx4.0/27, mbtmp4.5/7, MS3.5/5, Ms1 3.5/5, ms1mx3.2/21, Error ellipse: s-maj=22.1km s-min=17.5km az=113.0*
ISC 22 22:04:41.8±0.7, 32°46S±0°06×178°62W±0°10, h33km, n61, σ1°58/53, mb4.6/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.25**	**11**	P		**Pn**	**22 05 28.9**	**-1.5**
	baz=128,slow=20,SNR=2.1							
RAO				S		Sn	22 06 02.3	-5.7
	79nm,0.3s,baz=90,slow=20,SNR=3.4							
MXZ	**Matakaoa Point**	**5.69**	**206**	*e*PN		**Pn**	**22 06 04.0**	**+0.1**
MXZ				*e*SN		**Sn**	**22 07 07.5**	**-0.5**
WMGZ	**Waiomatatini S**	**5.88**	**204**	*e*PN		**Pn**	**22 06 06.9**	**+0.4**
HAZ	**Te Kaha**	**6.05**	**208**	PN		**Pn**	**22 06 09.4**	**+0.5**
HAZ				*e*SN		**Sn**	**22 07 19.9**	**+2.9**
PUZ	**Puketiti**	**6.16**	**204**	*e*PN		**Pn**	**22 06 09.3**	**-1.2**
PUZ				SN		**Sn**	**22 07 20.2**	**+0.5**
CNGZ	**Carnagh Statio**	**6.55**	**202**	*e*PN		**Pn**	**22 06 15.6**	**-0.1**
TKGZ	**Te Karaka**	**6.63**	**205**	*e*PN		Pn	22 06 19.9	+3.0
TKGZ				*e*SN		**Sn**	**22 07 30.4**	**-0.8**
MWZ	**Matawai**	**6.66**	**207**	*e*PN		**Pn**	**22 06 16.6**	**-0.7**
MWZ				*e*SN		**Sn**	**22 07 33.3**	**+1.3**
URZ	**Urewera**	**6.76**	**210**	P		**Pn**	**22 06 18.3**	**-0.3**
	3.8nm,0.3s,baz=276,slow=3.7,SNR=34							
URZ				S		**Sn**	**22 07 35.3**	**+0.8**
	9.5nm,0.3s,baz=85,slow=19,SNR=8.8							
URZ				LR		LR	22 08 20.5	
	comp=Z,70nm,19.8s,baz=40,slow=30							
URZ	**Urewera**	**6.76**	**210**	*e*PN		**Pn**	**22 06 17.7**	**-0.9**
RIGZ	**Rimuhau**	**6.90**	**204**	*e*PN		**Pn**	**22 06 19.7**	**-0.9**
RIGZ				SN		**Sn**	**22 07 38.4**	**+0.5**
SNGZ	**Shannon Statio**	**7.12**	**206**	*e*PN		**Pn**	**22 06 24.4**	**+0.8**
BKZ	**Black Stump Fm**	**7.78**	**209**	*e*PN		**Pn**	**22 06 30.2**	**-2.6**
KAHZ	**Kahuranaki**	**8.18**	**205**	*e*PN		**Pn**	**22 06 35.9**	**-2.3**
KRHZ	**Kereru**	**8.24**	**208**	*e*PN		**Pn**	**22 06 36.8**	**-2.2**
PXZ	**Pawanui**	**8.39**	**204**	*e*SN		**Sn**	**22 08 09.5**	**-5.2**
MRZ	**Mangatainoka R**	**9.42**	**208**	*e*PN		Pn	22 06 51.7	-3.5
MRZ				*e*SN		Sn	22 08 32.6	-7.4
THZ	**Tophouse**	**11.48**	**214**	*e*PN		Pn	22 07 20.1	-3.4
THZ				*e*SN		Sn	22 09 22.6	-8.0
NFK	**Norfolk Island**	**12.05**	**283**	S		**Sn**	**22 09 45.6**	**+1.1**
	baz=11,SNR=4.1							
MQZ	**McQueen's Vall**	**13.16**	**209**	*e*PN		Pn	22 07 36.9	-9.3
MQZ				*e*SN		Sn	22 09 56.5	-15
RPZ	**Rata Peaks**	**13.86**	**213**	LR		LR	22 13 15.9	
	comp=Z,266nm,21.3s,baz=79,slow=36							
DZM	**Mont Dzumac**	**16.82**	**304**	*e*LR		LR	22 11 33.1	
	445nm,25.4s							
DZM	**Mont Dzumac**	**16.82**	**304**	LR		LR	22 13 45.7	
	comp=Z,356nm,18.1s,baz=176,slow=32							
TBI	**Tubuai**	**27.25**	**78**	*e*LR		LR	22 16 54.7	
	157nm,28.2s							
TBI	**Tubuai**	**27.25**	**78**	*e*T		T	22 38 51.6	
	23nm,0.4s							
PAE	**Paea**	**30.03**	**68**	*e*T		T	22 42 15.2	
	5.5nm,0.3s							
PPT2	**Papeete2**	**30.07**	**68**	*e*LR		LR	22 18 26.1	
	144nm,24.8s							
CMSA	**Cobar Meteorol**	**30.20**	**262**	P		**P**	**22 10 51.0**	**+1.8**
	baz=28,SNR=7.8							
VAH	**Vaihoa**	**32.96**	**66**	*e*T		T	22 45 53.6	
	14nm,0.2s							
STKA	**Stephens Creek**	**33.55**	**260**	P		**P**	**22 11 20.4**	**+1.7**
	2.7nm,1.0s,baz=81,slow=13,SNR=5.0							
STKA				LR		LR	22 23 22.3	
	comp=Z,105nm,18.7s,baz=72,slow=33							
CTA	**Charters Tower**	**33.67**	**283**	P		**P**	**22 11 21.6**	**+1.8**
	7.4nm,0.6s,baz=110,slow=11,SNR=14							
QIS	**Mount Isa**	**38.99**	**277**	P		**P**	**22 12 05.6**	**+0.3**
	baz=38,SNR=4.1							
COEN	**Coen**	**39.38**	**289**	P		**P**	**22 12 09.8**	**+1.3**
	baz=38,SNR=6.2							
RKT	**Rikitea**	**39.49**	**88**	*e*LR		LR	22 22 35.3	
	191nm,30.2s							
ASAR	**Alice Springs**	**42.52**	**269**	P		**P**	**22 12 34.0**	**-0.3**
	8.3nm,0.7s,baz=109,slow=7.8,SNR=80							
ASAR				LR		LR	22 29 49.2	
	comp=Z,94nm,18.1s,baz=152,slow=35							
WRAB	**Tennant Creek**	**43.69**	**275**	*e*P		**P**	**22 12 42.8**	**-1.0**
	12nm,0.6s							
WRA	**Warramunga Arr**	**43.69**	**275**	P		**P**	**22 12 43.2**	**-0.7**
	20nm,0.7s,baz=114,slow=8.0,SNR=213							
VNDA	**Vanda**	**46.00**	**186**	P		**P**	**22 13 03.5**	**+2.0**
	0.7nm,0.7s,baz=25,slow=7.5,SNR=3.9							
WRKA	**Warakurna**	**46.73**	**265**	P		**P**	**22 13 06.6**	**-1.4**
	baz=45,SNR=23							
KDU	**Kakadu**	**48.79**	**282**	P		**P**	**22 13 22.9**	**-1.0**
	baz=47,SNR=4.7							
MTN	**Manton Dam**	**49.82**	**281**	P		**P**	**22 13 30.6**	**-1.2**
	baz=48,SNR=4.0							
KNRA	**Kununurra**	**50.37**	**276**	P		**P**	**22 13 35.0**	**-0.9**
	baz=49,SNR=5.6							
FITZ	**Fitzroy Crossi**	**51.86**	**272**	P		**P**	**22 13 46.5**	**-0.7**
	baz=50,SNR=4.0							
FITZ	**Fitzroy Crossi**	**51.86**	**272**	*e*P		**P**	**22 13 45.9**	**-1.3**
	3.4nm,0.8s							
QSPA	**South Pole Qui**	**57.66**	**180**	P		**P**	**22 14 31.5**	**+2.8**
	5.3nm,0.7s,baz=11,slow=1.1,SNR=29							
QSPA	**South Pole Qui**	**57.66**	**180**	*e*P		**P**	**22 14 31.4**	**+2.8**
	11nm,0.7s							
KSM	**Kuching**	**74.90**	**282**	P		P	22 16 28.5	+8.8
	baz=74,SNR=3.2							
VNA3	**Neumayer Olymp**	**76.29**	**176**	P		P	22 16 33.5	+6.7
VNA2	**Neumayer--Watz**	**76.72**	**177**	P		P	22 16 34.8	+5.5
	baz=185,slow=3.8							
NVAR	**Mina Array Bea**	**90.10**	**43**	P		**P**	**22 17 39.8**	**+1.2**
	1.7nm,0.9s,baz=217,slow=8.9,SNR=7.8							
ARCES	**ARCESS Array B**	**140.48**	**347**	PKhKP		PKPpre	22 24 01.1	
	2.9nm,1.0s,baz=20,slow=4.0,SNR=3.5							
JOF	**Joensuu**	**144.12**	**337**	*e*pkp		**PKPdf**	**22 24 14.8**	**+1.6**
KBZ	**Khabaz**	**145.77**	**301**	PKPbc		**PKPdf**	**22 24 15.8**	**-0.9**
	3.6nm,1.0s,baz=53,slow=20,SNR=5.2							
KAF	**Kangasniemi**	**146.29**	**339**	*e*pkp		**PKPdf**	**22 24 16.6**	**-0.4**
FINES	**FINESS Array B**	**146.88**	**338**	PKPbc		**PKPdf**	**22 24 18.3**	**+0.3**
	8.8nm,0.7s,baz=92,slow=4.4,SNR=37							
NB2	**NORSAR Subarra**	**150.69**	**350**	PKP		**PKPbc**	**22 24 28.5**	**-1.3**
	comp=Z,3.8nm,0.6s,baz=14,slow=2.6							
NOA	**NORSAR Array B**	**150.69**	**350**	PKPbc		**PKPbc**	**22 24 28.5**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=15,slow=4.1,SNR=15							
AKASG	**Malin Array Be**	**152.57**	**320**	PKPbc		**PKPbc**	**22 24 33.1**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=48,slow=3.4,SNR=5.0							
AKASG				PKPab		**PKPab**	**22 24 43.1**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=54,slow=2.7,SNR=5.3							
BRTR	**Keskin Array B**	**153.05**	**295**	PKPbc		**PKPbc**	**22 24 34.1**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=157,slow=3.3,SNR=5.0							
DBIC	**Dimbokro**	**153.69**	**166**	PKPbc		**PKPbc**	**22 24 39.2**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=158,slow=5.4,SNR=2.7							
TORD	**Torodi Ar. Bea**	**160.78**	**181**	PKP		**PKPdf**	**22 24 37.2**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=136,slow=0.8,SNR=2.5							
TORD				PKPab		**PKPab**	**22 25 20.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=186,slow=3.4,SNR=6.2							

CASC 22 22:10:18.5±1.6, 12°.48N×89°.33W, h19km±13km, MD3.9, 1D,

Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.16**	**13**	*e*P		Pn	22 10 39.4	-0.5
BOQS	**Boqueron**	**1.24**	**2**	*e*P		Pn	22 10 40.9	-0.3
BOQS				*e*S		Sn	22 10 58.0	+0.3
LBRS	**Las Brisas**	**1.28**	**12**	*e*P		Pn	22 10 41.5	+0.1
SBLS	**San Blas**	**1.38**	**348**	*e*P		Pn	22 10 42.3	-0.7
RBDL	**Robledal**	**1.66**	**348**	*e*P		Pn	22 10 46.9	0.0
IXG	**Ixpaco**	**2.01**	**327**	*e*P		Pn	22 10 50.7	-0.9
NBG	**Las Nubes**	**2.31**	**335**	*e*P		Pn	22 10 57.8	+1.8
FUG	**Fuego 3**	**2.45**	**323**	*e*P		Pn	22 10 57.3	-0.4
MRL	**Marmol**	**2.59**	**352**	*e*P		Pb	22 11 02.3	-2.3

IDC 22 22:12:25.7±4.8, 21°.18S×170°.12E, h175km±30km, mb3.0/3, mb1 3.1/4, mb1mx3.0/24, mbtmp3.4/4, Error ellipse: s-maj=94.3km s-min=34.1km az=145.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.54**	**255**	P		Pn	22 13 20.5	-0.3
	0.8nm,0.3s,baz=109,slow=18,SNR=17							
DZM				S		Sn	22 14 04.3	+0.4
	4.7nm,0.3s,baz=218,slow=20,SNR=7.4							
STKA	**Stephens Creek**	**27.58**	**241**	P		P	22 17 56.7	+0.1
	0.8nm,0.8s,baz=79,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**33.48**	**266**	P		P	22 18 48.0	-0.6
	0.2nm,0.5s,baz=97,slow=8.5,SNR=5.2							
ASAR	**Alice Springs**	**33.52**	**259**	P		P	22 18 48.9	0.0
	0.4nm,0.7s,baz=95,slow=9.4,SNR=4.6							
WRKA	**Warakurna**	**38.55**	**256**	S		P	22 19 32.0	+0.3
	baz=45,SNR=3.2							
ARCES	**ARCESS Array B**	**127.15**	**345**	PKP		PKPdf	22 31 07.6	-0.8
	2.5nm,0.9s,baz=27,slow=3.0,SNR=5.7							
FINES	**FINESS Array B**	**132.69**	**337**	PKP		PKPdf	22 31 18.8	-0.3
	0.9nm,0.9s,baz=100,slow=3.1,SNR=3.2							
DPC	**Dobruska-Polom**	**144.32**	**331**	*e*P		PKPdf	22 31 39.8	-1.0
TREC	**Trest**	**145.45**	**330**	*e*P		PKPdf	22 31 42.7	0.0
GERES	**GERESS Array B**	**146.59**	**331**	PKPbc		PKPbc	22 31 46.4	-0.1
	1.4nm,0.6s,baz=40,slow=3.2,SNR=18							
DAVOX	**Davos/Dischmat**	**149.84**	**332**	PKPbc		PKPbc	22 31 54.6	-0.6
	2.6nm,0.3s,baz=255,slow=1.1,SNR=9.1							

*DDA **22** 22:23:06.1, 36°.97N×28°.58E, h7km, MD2.3*
*CSEM **22** 22:23:07.7±0.3, 36°.95N×28°.27E, h2km, MD2.3, Error ellipse: s-maj=8.3km s-min=5.5km az=34.0*
ISK 22 22:23:06.3, 36°.96N×28°.32E, h20km, MD2.5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**351**	*e*PG		Pb	22 23 11.4	+0.1
YER	**Yerkesik**	**0.18**	**351**	*e*Pg		Pb	22 23 11.4	+0.1
TURN	**Turunc**	**0.25**	**111**	*i* P		Pb	22 23 13.1	+1.0
TURN				*i* S		Sb	22 23 17.4	+1.3
TURN	**Turunc**	**0.25**	**111**	*i* P		Pb	22 23 13.1	+1.0
TURN				*i* S		Sb	22 23 17.4	+1.3
DALY	**Dalyan (Mu¨la**	**0.31**	**118**	*e*PG		Pb	22 23 13.9	+0.8
DALY				*e*SG		Sb	22 23 18.4	+0.8
DALY	**Dalyan (Mu¨la**	**0.31**	**118**	*e*Pg		Pb	22 23 13.9	+0.8
DALY				*e*Sg		Sb	22 23 18.4	+0.8
DAT	**Datca**	**0.64**	**249**	*e*PG		Pb	22 23 19.2	+0.3
DAT	**Datca**	**0.64**	**249**	*e*Pg		Pb	22 23 19.2	+0.3
BDRM	**Kayabasi**	**0.71**	**279**	*i* P		Pn	22 23 24.0	+2.8
BDRM				*i* S		Sn	22 23 37.2	+5.7
AYDN	**Tasoluk**	**0.78**	**334**	*i* P		Pn	22 23 23.5	+1.2
AYDN				*i* S		Sn	22 23 34.5	+1.0
AYDN	**Tasoluk**	**0.78**	**334**	*i* P		Pn	22 23 23.5	+1.2
AYDN				*i* S		Sn	22 23 34.5	+1.0
BODT	**Bodrum**	**0.81**	**278**	*e*PG		Pn	22 23 22.7	0.0
**

IDC 22 22:48:31.5±2.5, 4°06S×147°66E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=369.1km s-min=28.4km az=121.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.44**	**218**	P	P	22 53 11.1	+0.3
	1.1nm,0.5s,baz=40,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.59**	**213**	P	P	22 53 43.9	-0.3
	0.6nm,0.6s,baz=45,slow=8.3,SNR=7.2						
ILAR	**Eielson Array**	**83.45**	**23**	P	P	23 01 00.8	+0.1
	0.3nm,0.7s,baz=238,slow=5.2,SNR=3.2						

KRSC 22 22:50:07.2±1.1, 49°75N×157°94E, h49km±23km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.49**	**309**	*e*P	Pn	22 50 33.0	+1.4
SKR				*e*S	Sn	22 50 51.9	+2.0
ASAK	**Asacha**	**2.63**	**360**	*e*P	Pn	22 50 50.2	+2.9
ASAK				*e*S	Sn	22 51 21.5	+3.4
RUS	**Russkaya**	**2.71**	**7**	*e*P	Pn	22 50 51.3	+3.1
RUS				*e*S	Sn	22 51 23.1	+3.4
MTVR	**Mutnovka**	**2.74**	**3**	*e*P	Pn	22 50 52.1	+3.3
MTVR				*e*S	Sn	22 51 24.6	+3.8
APC	**Apacha**	**3.21**	**352**	*e*P	Pn	22 50 58.2	+3.1
UGLR	**Uglovaya**	**3.50**	**9**	*e*P	Pn	22 51 03.2	+3.9
AVH	**Avacha**	**3.55**	**8**	*e*P	Pn	22 51 04.1	+4.2
SMAR	**Somma**	**3.56**	**8**	*e*P	Pn	22 51 03.7	+3.6
KOK	**Koryaka**	**3.57**	**7**	*e*P	Pn	22 51 04.3	+4.1
SDLR	**Sedlovina**	**3.58**	**9**	*e*P	Pn	22 51 03.4	+3.1
KRER	**Koryakskii**	**3.59**	**8**	*e*P	Pn	22 51 03.8	+3.2
KRX	**Arik**	**3.64**	**7**	*e*P	Pn	22 51 03.8	+2.6
GNL	**Ganaly**	**3.95**	**0**	*e*P	Pn	22 51 09.0	+3.6
MKZ	**Mys Kozlova**	**5.35**	**24**	*e*P	Pn	22 51 28.6	+4.3
TUMR	**Tumrok**	**5.70**	**13**	*e*P	Pn	22 51 34.1	+4.7
KBTR	**Krutoberegovo**	**7.10**	**23**	*e*P	Pn	22 51 52.8	+4.4

IDC 22 22:56:56.0±0.9, 2°16S×138°68E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/33, mbtmp4.1/12, ML4.5/2, Error ellipse: s-maj=37.8km s-min=15.0km az=73.0
ISCJB 22 22:56:58.7±0.7, 2°12S±0°06×138°87E±0°05, h31km±5km, mb4.0/10, Error ellipse: s-maj=10.4km s-min=7.7km az=34.9
DJA 22 22:56:59.3±0.6, 2°S±5°×13°9E±°, h14km±3km, M4.4/7, mb4.3/2, mB4.8/1, MLv4.4/7, Mw(mB)4.1/1
ISC 22 22:56:59.8±0.9, 2°11S±0°07×138°86E±0°05, h27km±6km, n36, σ1°9 46/35, mb4.1/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.19**	**309**	P	**Pb**	**22 57 04.9**	**-0.8**
SMPI				S	**Sb**	**22 57 08.9**	**-0.7**
GENI	**Genyem**	**1.39**	**110**	P	**Pn**	**22 57 23.2**	**-0.3**
GENI				S	**Sb**	**22 57 45.2**	**+2.6**
JAY	**Jayapura**	**1.89**	**102**	P	**Pn**	**22 57 31.3**	**+1.0**
SRPI	**Serui, Papua**	**2.63**	**275**	P	**Pn**	**22 57 42.0**	**+1.5**
SRPI				S	**Sn**	**22 58 12.6**	**+1.0**
RKPI	**Ransiki, Papua**	**4.72**	**277**	P	**Pb**	**22 58 21.7**	**-0.2**
FAKI	**Fak Fak**	**6.65**	**263**	P	**Pn**	**22 58 37.6**	**+1.7**
	52nm,1.2s,715nm0.2nm						
NLAI	**Namlea**	**11.80**	**264**	P	Pn	22 59 51.0	+4.5
KDU	**Kakadu**	**12.26**	**211**	P	**Pn**	**22 59 51.4**	**-1.5**
	baz=12,SNR=14						
MTN	**Manton Dam**	**13.12**	**215**	P	**Pn**	**23 00 07.3**	**+2.7**
	baz=13,SNR=8.6						
KNRA	**Kununurra**	**16.75**	**216**	P	**Pn**	**23 00 53.3**	**+0.5**
	baz=17,SNR=5.4						
WRA	**Warramunga Arr**	**18.26**	**194**	P	**Pn**	**23 01 09.8**	**-1.7**
	2.0nm,0.3s,baz=18,slow=12,SNR=50						
WRA				S	Sn	23 04 22.2	-13
	0.1nm,0.3s,baz=16,slow=23,SNR=4.7						
QIS	**Mount Isa**	**18.35**	**178**	P	**Pn**	**23 01 12.6**	**+0.1**
	baz=18,SNR=3.8						
CTA	**Charters Tower**	**19.27**	**158**	P	**Pn**	**23 01 23.3**	**-0.4**
	0.5nm,0.3s,baz=317,slow=10,SNR=5.1						
FITZ	**Fitzroy Crossi**	**20.51**	**218**	P	**P**	**23 01 35.3**	**-0.8**
	baz=20,SNR=3.8						
FITZ				S	S	23 05 15.8	-8.6
	baz=20,SNR=4.2						
ASAR	**Alice Springs**	**21.96**	**192**	P	**P**	**23 01 50.8**	**-0.9**
	5.4nm,0.5s,baz=14,slow=11,SNR=43						
ASAR				S	**S**	**23 05 48.5**	**-4.3**
	0.7nm,0.8s,baz=15,slow=26,SNR=4.1						
QLP	**Quilpie**	**24.87**	**168**	P	**P**	**23 02 21.2**	**+0.9**
	baz=25,SNR=7.6						
WRKA	**Warakurna**	**24.97**	**203**	P	**P**	**23 02 21.2**	**-0.1**
	baz=25,SNR=17						
WRKA				S	S	23 07 03.9	+20
	baz=25,SNR=5.2						
RMQ	**Roma**	**26.03**	**159**	P	**P**	**23 02 34.4**	**+3.5**
	baz=26,SNR=5.6						
STKA	**Stephens Creek**	**29.72**	**175**	P	**P**	**23 03 03.7**	**-0.1**
	2.5nm,0.7s,baz=336,slow=7.8,SNR=9.0						
STKA	**Stephens Creek**	**29.72**	**175**	P	**P**	**23 03 04.0**	**+0.2**
	baz=30,SNR=6.9						
FORT	**Forrest**	**30.29**	**199**	P	**P**	**23 03 09.7**	**+0.8**
	baz=30,SNR=8.8						
BBOO	**Buckleboo**	**30.65**	**185**	P	**P**	**23 03 12.2**	**+0.1**
	baz=30,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**34.19**	**52**	T	T	23 39 33.1	
	baz=236,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**34.21**	**52**	T	T	23 39 32.6	
	baz=236,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**34.21**	**52**	T	T	23 39 32.9	
	baz=236,slow=75,SNR=4.4						
LHI	**Lord Howe Isla**	**34.92**	**149**	P	P	23 03 54.4	+5.0
	baz=35,SNR=3.5						
PSI	**Prapat**	**40.22**	**277**	P	**P**	**23 04 33.4**	**-1.3**
	5.2nm,0.9s,baz=122,slow=7.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**44.27**	**299**	P	**P**	**23 05 07.3**	**-0.2**
	1.2nm,0.4s,baz=118,slow=5.4,SNR=9.5						
USRK	**Ussuriysk Ar.**	**46.52**	**353**	P	**P**	**23 05 25.1**	**+0.3**
	1.7nm,0.8s,baz=178,slow=9.0,SNR=6.1						
SONM	**Songino Array**	**57.25**	**335**	P	**P**	**23 06 45.1**	**+0.1**
	0.3nm,0.5s,baz=152,slow=7.0,SNR=3.5						
MKAR	**Makanchi Array**	**69.41**	**322**	P	**P**	**23 08 05.5**	**0.0**
	2.5nm,0.8s,baz=121,slow=4.7,SNR=26						
ZALV	**Zalesovo Beam**	**71.50**	**330**	P	**P**	**23 08 17.1**	**-0.9**
	0.5nm,0.6s,baz=105,slow=5.1,SNR=3.7						
VNDA	**Vanda**	**76.36**	**175**	P	**P**	**23 08 45.5**	**-0.5**
	0.8nm,0.5s,baz=338,slow=7.4,SNR=8.1						
GEYT	**Alibeck**	**83.99**	**308**	P	**P**	**23 09 28.6**	**+0.6**
	1.1nm,0.3s,baz=163,slow=1.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**136.23**	**287**	PKP	**PKPdf**	**23 16 19.7**	**-0.2**
	0.3nm,0.8s,baz=53,slow=2.3,SNR=3.3						
LPAZ	**La Paz**	**147.67**	**125**	PKPbc	**PKPab**	**23 16 45.2**	**-0.7**
	1.4nm,0.7s,baz=134,slow=1.2,SNR=7.1						

IDC 22 23:07:35.5±0.5, 3°00S×142°25E, h0km, mb4.6/21, mb1 4.7/23, mb1mx4.6/34, mbtmp4.6/23, ML4.0/2, MS3.9/13, Ms1 3.9/13, ms1mx3.6/31, Error ellipse: s-maj=23.7km s-min=10.8km az=80.0
MOS 22 23:07:38.9±1.1, 3°01S×142°23E, h33km, mb5.1/29, Error ellipse: s-maj=12.2km s-min=6.3km az=106.5
ISCJB 22 23:07:38.2±0.2, 2°94S±0°03×142°37E±0°03, h27km, mb4.8/88, MS3.9/13, Error ellipse: s-maj=4.1km s-min=3.7km az=162.1
DJA 22 23:07:38.5±0.4, 3°S±4°×14°2E±°, h10km, M5.0/33, mb4.9/33, mB5.5/10, MLv5.2/3, Mw(mB)4.9/10
BJI 22 23:07:39.3, 3°04S×142°64E, h53km, mB5.1/37, mb5.0/57, Ms4.7/32, MS7 4.3/31
NEIC 22 23:07:40.5±2.0, 2°97S×142°21E, h34km±14km, mb5.0/55, Error ellipse: s-maj=6.2km s-min=4.3km az=55.0
ISC 22 23:07:39.8±0.3, 2°90S±0°04×142°24E±0°04, h27km, n295, σ1°9 57/310, mb4.9/88, MS3.9/13, 6C-6D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.58**	**284**	P	**Pn**	**23 08 05.3**	**-0.8**
GENI	**Genyem**	**2.09**	**278**	P	**Pn**	**23 08 15.8**	**+2.7**
SMPI	**Sarmi**	**3.64**	**284**	P	**Pn**	**23 08 36.3**	**+1.9**
SMPI				S	**Sb**	**23 09 23.8**	**-3.5**
MMPI	**Merauke**	**5.83**	**198**	P	**Pn**	**23 09 06.2**	**+1.6**
	818nm,0.7s,26µm5.0nm						
SRPI	**Serui, Papua**	**6.08**	**280**	P	Pn	23 09 11.6	+3.6
	356nm,0.9s,1.5nn						

PMG	**Port Moresby**	**8.10**	**143**	*e*P	**Pn**	**23 09 36.5**	**+0.7**
PMG	**Port Moresby**	**8.10**	**143**	*e*Pn	**Pn**	**23 09 36.5**	**+0.7**
RKPI	**Ransiki, Papua**	**8.18**	**280**	P	Pb	23 09 56.0	-4.8
FAKI	**Fak Fak**	**9.98**	**270**	P	**Pn**	**23 10 02.4**	**+0.9**
	51nm,0.9s,594nm						
FAKI	**Fak Fak**	**9.98**	**270**	P	**Pn**	**23 10 03.6**	**+2.0**
	baz=9.7,SNR=7.4						
FAKI	**Fak Fak**	**9.98**	**270**	*e*Pn	**Pn**	**23 10 01.1**	**-0.4**
COEN	**Coen**	**11.03**	**175**	P	**Pn**	**23 10 18.0**	**+2.1**
	baz=11,SNR=14						
COEN	**Coen**	**11.03**	**175**	*e*Pn	**Pn**	**23 10 17.8**	**+1.9**
SWI	**Sorong**	**11.16**	**280**	P	**Pn**	**23 10 20.8**	**+3.1**
	34nm,1.2s,2µm						
KDU	**Kakadu**	**13.71**	**224**	P	**Pn**	**23 10 50.3**	**-2.3**
	baz=13,SNR=39						
MTN	**Manton Dam**	**14.78**	**227**	P	**Pn**	**23 11 05.5**	**-1.6**
	baz=14,SNR=5.5						
LBMI	**Labuha**	**14.90**	**278**	P	**P**	**23 11 12.9**	**-1.4**
NLAI	**Namlea**	**15.12**	**268**	P	**P**	**23 11 15.4**	**-1.3**
TNTI	**Ternate**	**15.31**	**284**	*e*Pn	**Pn**	**23 11 12.1**	**-2.1**
	50nm,0.9s						
SANI	**Sanana**	**16.26**	**273**	P	**P**	**23 11 31.6**	**+2.3**
	19nm,1.1s						
CTA	**Charters Tower**	**17.53**	**167**	P	**Pn**	**23 11 39.9**	**-2.5**
	0.1nm,0.3s,baz=338,slow=14,SNR=2.1						
CTA				LR	LR	23 18 59.9	
	comp=Z,611nm,21.6s,baz=359,slow=39						
QIS	**Mount Isa**	**17.74**	**188**	P	**Pn**	**23 11 43.8**	**-1.2**
	baz=17,SNR=11						
KNRA	**Kununurra**	**18.37**	**225**	P	**P**	**23 11 50.4**	**-2.2**
	baz=18,SNR=14						
KMSI	**Cibinong**	**18.58**	**280**	P	Pn	23 12 06.3	+11
WRAB	**Tennant Creek**	**18.60**	**204**	*d* iP	**P**	**23 11 53.2**	**-2.0**
	217nm,0.8s,SNR=18						
WRAB	**Tennant Creek**	**18.60**	**204**	*d* iP	**P**	**23 11 53.6**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,93nm,1.7s						
WRAB	**Tennant Creek**	**18.60**	**204**	*e*P	**P**	**23 11 52.9**	**-2.3**
	comp=Z,43nm,0.9s						
WRA	**Warramunga Arr**	**18.61**	**204**	P	**P**	**23 11 52.4**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=32,slow=10,SNR=35						
WRA				Lg	Lg	23 17 24.0	
	baz=28,slow=27,SNR=3.5						
WRA				LR	LR	23 19 14.8	
	comp=Z,567nm,19.0s,baz=30,slow=38						
HNR	**Honiara**	**18.75**	**111**	*e*P	**P**	**23 11 56.5**	**-0.4**
HNR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HNR	**Honiara**	**18.75**	**111**	*e*P	**P**	**23 11 56.5**	**-0.4**
	comp=Z,7.4nm,0.8s						
HNR				*e*S	**S**	**23 15 32.5**	**+3.6**
SOEI	**Soe**	**19.11**	**248**	P	**Pn**	**23 12 02.9**	**+1.0**
SOEI	**Soe**	**19.11**	**248**	P	**Pn**	**23 12 02.4**	**+0.5**
	baz=19,SNR=6.6						
SOEI	**Soe**	**19.11**	**248**	*e*P	**P**	**23 12 01.1**	**+0.2**
	comp=Z,178nm,1.1s						
SOEI				*e*Sn	**Sn**	**23 15 33.5**	**-1.9**
LUWI	**Luwuk**	**19.55**	**275**	P	**Pn**	**23 12 09.4**	**+2.4**
LUWI	**Luwuk**	**19.55**	**275**	P	Pn	23 12 13.3	+6.3
	baz=19,SNR=3.6						
LUWI	**Luwuk**	**19.55**	**275**	*e*P	**P**	**23 12 06.1**	**+0.5**
	comp=Z,87nm,0.8s						
BATI	**Baumata**	**19.82**	**248**	P	**Pn**	**23 12 11.9**	**+1.6**
	comp=Z,72nm,1.0s,comp=Z,1µm						
MRSI	**Marisa**	**20.57**	**279**	P	Pn	23 12 19.6	+0.5
APSI	**Ampana**	**20.68**	**275**	P	Pn	23 12 21.3	+1.0
MMRI	**Maumere**	**20.69**	**253**	*e*P	**P**	**23 12 16.8**	**-1.3**
	comp=Z,70nm,1.2s						
EDFI	**Ende, Flores**	**21.25**	**253**	P	P	23 12 29.3	+5.1
	comp=Z,32nm,1.5s						
BSSI	**Bau Bau, Buton**	**21.92**	**261**	P	**P**	**23 12 34.8**	**+3.5**
BNSI	**Bone**	**22.14**	**265**	P	**P**	**23 12 37.1**	**+3.4**
ASAR	**Alice Springs**	**22.16**	**201**	P	**P**	**23 12 31.5**	**-2.4**
	comp=Z,10nm,0.8s,baz=31,slow=9.5,SNR=58						
ASAR				LR	LR	23 21 10.5	
	comp=Z,359nm,20.2s,baz=22,slow=37						
BKSI	**Bulukumba**	**22.19**	**263**	P	**P**	**23 12 37.6**	**+3.4**
	comp=Z,32nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.21**	**226**	P	**P**	**23 12 33.2**	**-1.1**
	baz=22,SNR=21						
FITZ	**Fitzroy Crossi**	**22.21**	**226**	*e*P	**P**	**23 12 33.1**	**-1.2**
	comp=Z,44nm,1.1s						
TTSI	**Tana Toraja**	**22.39**	**269**	P	**P**	**23 12 39.6**	**+3.2**
SPSI	**Sidrap Palu**	**22.46**	**267**	P	**P**	**23 12 38.2**	**+1.1**
PCI	**Palu**	**22.48**	**275**	P	**P**	**23 12 40.7**	**+3.4**
	comp=Z,171nm,1.1s,comp=Z,1µm						
KAPI	**Kappang**	**22.53**	**264**	*e*P	**P**	**23 12 38.1**	**+0.2**
	comp=Z,3.9nm,0.9s						
MPSI	**Mapaga**	**22.57**	**278**	P	**P**	**23 12 38.8**	**+0.6**
QLP	**Quilpie**	**23.63**	**176**	P	**P**	**23 12 47.4**	**-1.4**
	baz=23,SNR=4.9						
EIDS	**Eidsvold**	**23.91**	**160**	P	**P**	**23 12 52.1**	**+0.6**
	baz=24,SNR=17						
EIDS	**Eidsvold**	**23.91**	**160**	*e*P	**P**	**23 12 50.6**	**-1.0**
	comp=Z,74nm,1.0s						
RMQ	**Roma**	**24.27**	**166**	P	**P**	**23 12 55.7**	**+0.7**
	baz=24,SNR=10						
BKB	**Balikpapan**	**25.38**	**273**	P	**P**	**23 13 08.2**	**+3.1**
WRKA	**Warakurna**	**25.79**	**210**	P	**P**	**23 13 07.4**	**-1.4**
	baz=25,SNR=41						
KBKI	**Kotabaru**	**26.04**	**268**	P	**P**	**23 13 14.5**	**+3.4**
BBKI	**Banjar Baru**	**27.36**	**268**	P	**P**	**23 13 26.9**	**+3.8**
KKM	**Kota Kinabalu**	**27.47**	**289**	*e*P	**P**	**23 13 23.0**	**-1.1**
	comp=Z,71nm,1.4s						
CMSA	**Cobar Meteorol**	**28.67**	**174**	P	**P**	**23 13 34.6**	**+0.1**
	baz=28,SNR=23						
ARMA	**Armidale**	**28.78**	**163**	*e*P	**P**	**23 13 33.8**	**-1.8**
	comp=Z,52nm,1.9s						
STKA	**Stephens Creek**	**28.83**	**181**	P	**P**	**23 13 34.4**	**-1.6**
	comp=Z,9.3nm,0.8s,baz=351,slow=8.4,SNR=19						
STKA				LR	LR	23 26 47.7	
	comp=Z,565nm,18.5s,baz=352,slow=40						
STKA	**Stephens Creek**	**28.83**	**181**	*e*P	**P**	**23 13 34.4**	**-1.6**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**28.83**	**181**	P	**P**	**23 13 34.9**	**-1.1**
	baz=28,SNR=18						
STKA	**Stephens Creek**	**28.83**	**181**	*e*P	**P**	**23 13 34.4**	**-1.6**
	comp=Z,3.1nm,0.9s						
BLJI	**Banyuglugur**	**28.92**	**259**	P	P	23 13 40.7	+3.8
DZM	**Mont Dzumac**	**30.26**	**131**	P	**P**	**23 13 47.0**	**-1.8**
	comp=Z,37nm,1.1s,baz=308,slow=11,SNR=7.2						
BBOO	**Buckleboo**	**30.32**	**190**	P	**P**	**23 13 48.6**	**-0.5**
	baz=30,SNR=13						
BBOO	**Buckleboo**	**30.32**	**190**	*e*P	**P**	**23 13 48.1**	**-1.0**
	comp=Z,3.6nm,0.9s						
FORT	**Forrest**	**30.80**	**204**	P	**P**	**23 13 52.4**	**-1.0**
	baz=30,SNR=9.8						
FORT	**Forrest**	**30.80**	**204**	*e*P	**P**	**23 13 52.3**	**-1.1**
	comp=Z,32nm,0.7s						
YNG	**Young**	**31.76**	**170**	P	**P**	**23 14 04.0**	**+2.2**
	baz=32,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**32.12**	**48**	T	T	23 48 05.9	
	baz=231,slow=76,SNR=89						
H11S2	**WAKE ISLAND Hy**	**32.13**	**48**	T	T	23 48 03.5	
	baz=231,slow=76,SNR=54						
H11S1	**WAKE ISLAND Hy**	**32.13**	**48**	T	T	23 47 58.6	
	baz=231,slow=76,SNR=74						
KSM	**Kuching**	**32.22**	**277**	*e*P	**P**	**23 14 05.6**	**-0.5**
MEEK	**Meekatharra**	**32.71**	**222**	P	**P**	**23 14 09.6**	**-0.7**
	baz=32,SNR=6.2						
CNB	**Canberra Magne**	**32.92**	**169**	P	**P**	**23 14 14.4**	**+2.3**
	baz=33,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**33.04**	**46**	T	T	23 49 09.3	
	baz=229,slow=76,SNR=541						
H11N2	**WAKE ISLAND Hy**	**33.05**	**46**	T	T	23 49 08.8	
	baz=229,slow=76,SNR=473						
H11N3	**WAKE ISLAND Hy**	**33.05**	**46**	T	T	23 49 06.8	
	baz=229,slow=76,SNR=378						
TPI	**Tanungpandan**	**34.55**	**269**	P	**P**	**23 14 28.1**	**+1.7**
	comp=Z,15nm,1.1s						
TOO	**Toolangi**	**34.63**	**175**	P	**P**	**23 14 27.7**	**+0.8**
	baz=34,SNR=4.2						
MORW	**Morawa**	**36.02**	**221**	P	**P**	**23 14 39.4**	**+0.5**
	baz=36,SNR=5.3						
PPBI	**Pangkal Pinang**	**36.08**	**270**	P	**P**	**23 14 40.9**	**+1.3**
	comp=Z,12nm,1.3s						
BLDU	**Balidu**	**36.64**	**219**	P	**P**	**23 14 44.0**	**-0.2**
	baz=36,SNR=6.3						
JNU	**Nakatsue**	**37.40**	**344**	P	**P**	**23 14 50.6**	**0.0**
	comp=Z,9.3nm,0.9s,baz=232,slow=19,SNR=2.8						
MDSI	**Maura Dua**	**38.01**	**266**	P	**P**	**23 14 55.5**	**-0.6**
	comp=Z,15nm,1.2s,comp=Z,1µm						
QIZ	**Qiongzhong**	**38.60**	**306**	P	**P**	**23 15 01.8**	**+0.8**
QIZ				pP	pP	23 15 15.4	+6.3
QIZ				PP	**PnPn**	**23 16 32.3**	**+0.5**
QIZ				S	**S**	**23 20 54.9**	**-1.0**

QIZ				sS	sS	23 21 18.5	+9.3
QIZ				PMZ			
	comp=Z,470nm,3.0s						
MJAR	**Matsushiro Arr**	**39.42**	**355**	P	**P**	**23 15 06.7**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=181,slow=9.2,SNR=8.4						
MJAR				LR	LR	23 29 30.9	
	comp=Z,134nm,19.2s,baz=220,slow=33						
MAJO	**Matsushiro**	**39.42**	**355**	*e*P	**P**	**23 15 09.8**	**+2.3**
NJ2	**Nanjing**	**41.25**	**329**	*e*P	P	23 15 15.5	-7.2
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
BKNI	**Bangkinang**	**41.31**	**274**	*e*P	**P**	**23 15 22.7**	**-0.9**
	comp=Z,109nm,0.4s						
IPM	**Ipoh**	**41.83**	**280**	*e*P	**P**	**23 15 26.6**	**-1.3**
	comp=Z,7.4nm,0.9s						
KSRS	**Korea Array**	**42.30**	**343**	P	**P**	**23 15 31.4**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=158,slow=8.4,SNR=10						
KSRS				PcP	**PcP**	**23 17 26.7**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=171,slow=3.8,SNR=6.3						
KSRS				LR	LR	23 32 04.2	
	comp=Z,58nm,18.9s,baz=158,slow=35						
KSAR	**Wonju Array Be**	**42.30**	**343**	P	**P**	**23 15 31.5**	**+0.3**
KSAR						23 17 26.7	
KSAR	**Wonju Array Be**	**42.30**	**343**	P	**P**	**23 15 31.4**	**+0.3**
KSAR				PcP	**PcP**	**23 17 26.7**	**+2.0**
KULM	**Kulim**	**42.34**	**281**	*e*P	**P**	**23 15 31.1**	**-0.8**
	comp=Z,11nm,1.1s						
SKLT	**Songkhla**	**42.73**	**284**	P	P	23 15 38.8	+3.7
	comp=Z,29nm,1.1s,comp=Z,723nm						
OUZ	**Omahuta**	**43.35**	**142**	*e*P	**P**	**23 15 39.6**	**-0.2**
	comp=Z,32nm,1.0s						
SURT	**Suratani**	**44.88**	**286**	P	P	23 15 56.0	+3.6
	comp=Z,10nm,1.1s						
GYA	**Guiyang**	**45.10**	**313**	P	**P**	**23 15 57.3**	**+3.2**
GYA				pP	pP	23 16 11.3	+9.0
GYA				sP	sP	23 16 17.8	+12
GYA				PP	**PP**	**23 17 44.0**	**+4.1**
GYA				ScP	**ScP**	**23 21 23.6**	**-2.0**
GYA				S	**S**	**23 22 31.4**	**-0.6**
GYA				sS	sS	23 22 55.8	+10
GYA				SS	**ScS**	**23 25 47.0**	**-3.0**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,5.0s						
GYA				LN			
	comp=Z,640nm,18.8s						
GYA				LE			
	comp=Z,520nm,19.2s						
GYA				LZ			
	comp=Z,630nm,20.4s						
LOEI	**Loei**	**45.21**	**298**	P	**P**	**23 15 57.4**	**+2.4**
	comp=Z,11nm,1.0s,comp=Z,1µm						
TIA	**Tai'an**	**45.43**	**331**	⇑P	**P**	**23 15 57.6**	**+1.1**
TIA				PMZ			
	comp=Z,20nm,1.0s						
NANT	**Nan**	**46.21**	**300**	P	P	23 16 07.8	+4.9
	comp=Z,28nm,1.1s						
ASAJ	**Asahikawa**	**46.81**	**0**	P	**P**	**23 16 08.0**	**+0.8**
	comp=Z,7.7nm,0.7s,baz=220,slow=13,SNR=6.8						
ASAJ	**Asahikawa**	**46.81**	**0**	*e*P	**P**	**23 16 06.7**	**-0.5**
	comp=Z,16nm,1.0s						
KMI	**Kunming**	**47.36**	**308**	P	**P**	**23 16 14.1**	**+2.0**
KMI				pP	**pP**	**23 16 23.6**	**+3.3**
KMI				PMZ			
	comp=Z,12nm,1.1s						
URZ	**Urewera**	**47.46**	**142**	*e*P	**P**	**23 16 11.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**47.61**	**298**	P	**P**	**23 16 13.8**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=120,slow=6.5,SNR=10						
CMAR				LR	LR	23 34 31.0	
	comp=Z,44nm,21.2s,baz=136,slow=34						
BKZ	**Black Stump Fm**	**47.67**	**144**	*e*P	**P**	**23 16 13.9**	**-0.2**
	comp=Z,25nm,1.0s						
CMMT	**Chiang Mai**	**47.74**	**299**	P	P	23 16 21.1	+6.2
	comp=Z,5.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**47.78**	**350**	P	**P**	**23 16 15.9**	**+1.1**
	comp=Z,10nm,0.7s,baz=176,slow=8.5,SNR=36						
RPZ	**Rata Peaks**	**48.00**	**152**	P	**P**	**23 16 16.8**	**+0.3**
	comp=Z,30nm,0.9s,baz=109,slow=2.8,SNR=8.9						
RPZ	**Rata Peaks**	**48.00**	**152**	*e*P	**P**	**23 16 15.8**	**-0.7**
	comp=Z,464nm,2.6s						
XAN	**Xi'an**	**48.32**	**322**	P	**P**	**23 16 19.8**	**+0.7**
XAN				pP	pP	23 16 33.0	+5.6
XAN				sP	sP	23 16 39.6	+9.0
XAN				S	**S**	**23 23 13.6**	**-4.1**
XAN				PMZ			
	comp=Z,7.0nm,1.3s						
XAN				PMZ			
	comp=Z,19nm,3.6s	

LZH				sP	sP	23 17 14.8	+10	
LZH				PP	PP	23 18 59.3	+6.5	
LZH				eS	S	23 24 19.4	-0.9	
LZH				sS	sS	23 24 39.8	+5.9	
LZH				SS	SS	23 27 54.0	-5.4	
LZH				PMZ				
	comp=Z,38nm,1.0s							
LZH				PMZ				
	comp=Z,88nm,4.7s							
HIA	**Hailar**	**55.50**	**342**	*eP*	**P**	**23 17 12.8**	**+0.4**	
HIA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HIA	**Hailar**	**55.50**	**342**	*eP*	**P**	**23 17 12.8**	**+0.4**	
	comp=Z,7.2nm,0.7s							
SHL	**Shillong**	**56.36**	**303**	*ex*	**P**	**23 17 21.0**	**+1.8**	
PETK	**Petropavlovsk-**	**57.30**	**11**	P	**P**	**23 17 26.3**	**+1.2**	
	comp=Z,7.1nm,0.9s,baz=202,slow=7.4,SNR=8.7							
PETK				LR	LR	23 37 54.0		
	comp=Z,76nm,22.0s,baz=216,slow=32							
GTA	**Gaotai**	**57.36**	**322**	⇓P	**P**	**23 17 27.8**	**+1.8**	
GTA				pP	pP	23 17 41.1	+6.7	
GTA				sP	sP	23 17 46.4	+8.8	
GTA				PP	**PP**	**23 19 34.3**	**+0.7**	
GTA				S	**S**	**23 25 20.3**	**-0.9**	
GTA				sS	sS	23 25 42.3	+7.3	
GTA				SS	**SS**	**23 29 12.3**	**+1.2**	
GTA				PMZ				
	comp=Z,33nm,1.1s							
GTA				PMZ				
	comp=Z,140nm,6.9s							
GTA				LN				
	comp=Z,90nm,14.2s							
GTA				LE				
	comp=Z,130nm,15.7s							
GTA				LZ				
	comp=Z,120nm,17.1s							
LSA	**Lhasa**	**58.60**	**308**	*eP*	**P**	**23 17 36.2**	**+0.9**	
LSA				pmax	pmax			
	comp=Z,14nm,1.2s							
LSA	**Lhasa**	**58.60**	**308**	*eP*	**P**	**23 17 36.2**	**+0.9**	
	comp=Z,14nm,1.2s							
ULN	**Ulaanbaatar**	**59.17**	**333**	⇓*iP*	**P**	**23 17 40.0**	**+1.5**	
ULN				pmax	pmax			
	comp=Z,12nm,1.7s							
ULN	**Ulaanbaatar**	**59.17**	**333**	*eP*	**P**	**23 17 39.2**	**+0.7**	
	comp=Z,11nm,1.3s							
SONM	**Songino Array**	**59.45**	**333**	P	**P**	**23 17 41.4**	**+1.0**	
	comp=Z,2.6nm,1.1s,baz=152,slow=7.0,SNR=12							
SONM				LR	LR	23 44 11.4		
	comp=Z,144nm,18.4s,baz=124,slow=37							
TAPN	**Taplejung**	**60.49**	**304**	*eP*	**P**	**23 17 49.2**	**+1.0**	
	comp=Z,27nm,1.2s							
ODAN	**Odare**	**60.59**	**303**	*eP*	**P**	**23 17 49.5**	**+0.7**	
RAMN	**Ramite**	**61.28**	**303**	*eP*	**P**	**23 17 54.4**	**+0.9**	
JIRN	**Jiri**	**61.87**	**303**	*eP*	**P**	**23 17 58.5**	**+0.9**	
	comp=Z,24nm,1.0s							
GUN	**Gumba**	**62.21**	**304**	*eP*	**P**	**23 18 00.9**	**+1.0**	
	comp=Z,67nm,1.1s							
PKI	**Pulchoki**	**62.49**	**303**	*eP*	**P**	**23 18 02.2**	**+0.5**	
	comp=Z,37nm,1.2s							
KKN	**Kakani**	**62.67**	**303**	*eP*	**P**	**23 18 03.7**	**+0.9**	
	comp=Z,44nm,1.0s							
ZAK	**Zakamensk**	**62.70**	**333**	⇑*iP*	**P**	**23 18 02.6**	**+0.2**	
ZAK				pmax	pmax			
	comp=Z,12nm,1.4s							
DMN	**Daman**	**62.76**	**303**	*eP*	**P**	**23 18 04.4**	**+1.0**	
	comp=Z,69nm,1.2s							
TLY	**Talaya**	**63.47**	**334**	*eP*	**P**	**23 18 08.7**	**+1.3**	
TLY				*e*		23 20 26.1		
TLY				eS	**S**	**23 26 36.0**	**-2.8**	
TLY				pmax	pmax			
	comp=Z,18nm,1.1s							
TLY				MLR	MLR			
	comp=Z,113nm,21.0s							
TLY	**Talaya**	**63.47**	**334**	*eP*	**P**	**23 18 07.9**	**+0.5**	
	comp=Z,12nm,1.0s							
DANN	**Dangsing**	**64.12**	**303**	*eP*	**P**	**23 18 13.1**	**+0.6**	
	comp=Z,35nm,0.8s							
BOD	**Bodaibo**	**64.63**	**344**	*eP*	**P**	**23 18 14.6**	**-0.2**	
BOD				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MOY	**Mondy**	**64.64**	**333**	*eP*	**P**	**23 18 16.8**	**+1.6**	
MOY				pmax	pmax			
	comp=Z,26nm,1.7s							
YAK	**Yakutsk**	**65.46**	**354**	*eP*	**P**	**23 18 19.9**	**-0.2**	
YAK				pmax	pmax			
	comp=Z,25nm,1.1s							
YAK				pmax	pmax			
	comp=N,12nm,1.1s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.1s							
YAK	**Yakutsk**	**65.46**	**354**	*eP*	**P**	**23 18 20.2**	**+0.1**	
	comp=E,38nm,0.4s							
SEY	**Seymchan**	**66.11**	**5**	P	**P**	**23 18 25.2**	**+1.0**	
	comp=E,3.3nm,0.7s,baz=257,slow=10,SNR=4.3							
CASY	**Casey**	**67.06**	**193**	*eP*	**P**	**23 18 30.9**	**+0.5**	
	comp=E,123nm,2.6s							
WMQ	**Urumqi**	**67.38**	**320**	P	**P**	**23 18 34.6**	**+1.7**	
WMQ				pP	pP	23 18 50.0	+8.6	
WMQ				sP	sP	23 18 56.4	+12	
WMQ				PcP	**PcP**	**23 19 03.5**	**+3.1**	
WMQ				eS	**S**	**23 27 25.6**	**-1.5**	
WMQ				PMZ				
	comp=E,17nm,1.0s							
WMQ				PMZ				
	comp=E,130nm,4.6s							
WMQ				LN				
	comp=E,220nm,16.8s							
WMQ				LE				
	comp=E,220nm,22.0s							
WMQ				LZ				
	comp=E,250nm,18.7s							
MKAR	**Makanchi Array**	**72.12**	**321**	P	**P**	**23 19 02.9**	**+0.9**	
	comp=E,7.2nm,0.8s,baz=119,slow=4.5,SNR=81							
MKAR	**Makanchi Array**	**72.12**	**321**	*eP*	**P**	**23 19 02.5**	**+0.5**	
MKAR	**Makanchi Array**	**72.12**	**321**	*eP*	**P**	**23 19 02.5**	**+0.5**	
BILL	**Bilibino**	**72.75**	**9**	⇑*iP*	**P**	**23 19 06.2**	**+0.9**	
BILL				*e*		23 19 22.8		
BILL				*e*		23 21 44.8		
BILL				pmax	pmax			
	comp=Z,9.0nm,1.7s							
BILL				MLR	MLR			
	comp=Z,237nm,18.0s							
BILL	**Bilibino**	**72.75**	**9**	*eP*	**P**	**23 19 05.2**	**0.0**	
	comp=Z,3.4nm,0.7s							
KSH	**Kashi**	**73.80**	**312**	P	**P**	**23 19 14.5**	**+2.3**	
KSH				sP	sP	23 19 32.8	+8.8	
KSH				PP	**PP**	**23 22 00.4**	**+3.3**	
KSH				S	**SKiKP**	**23 28 40.1**	**0.0**	
KSH				SKS	**SKSac**	**23 29 12.6**	**-5.1**	
KSH				ScS	**SKKSac**	**23 29 16.5**	**-1.4**	
KSH				PMZ				
	comp=Z,20nm,1.2s							
KSH				PMZ				
	comp=Z,80nm,6.5s							
KSH				LN				
	comp=Z,95nm,7.8s							
KSH				LE				
	comp=Z,89nm,6.2s							
KSH				LZ				
	comp=Z,100nm,7.2s							
ZALV	**Zalesovo Beam**	**73.90**	**329**	P	**P**	**23 19 12.0**	**-0.3**	
	comp=Z,9.0nm,0.7s,baz=113,slow=5.4,SNR=41							
ZALV				LR	LR	23 53 04.9		
	comp=Z,64nm,18.5s,baz=70,slow=37							
ZALV	**Zalesovo Beam**	**73.90**	**329**	*iP*	**P**	**23 19 12.3**	**0.0**	
ZALV				pmax	pmax			
	comp=Z,9.0nm,0.7s							
ULHL	**Ulahol**	**74.46**	**315**	P	**P**	**23 19 17.5**	**+1.3**	
	SNR=8.1							
ULHL	**Ulahol**	**74.46**	**315**	*iP*	**P**	**23 19 17.4**	**+1.3**	
GAMB	**Gambell**	**74.76**	**19**	*eP*	**P**	**23 19 17.4**	**+0.4**	
	comp=Z,6.3nm,1.0s							
TIXI	**Tiksi**	**74.92**	**356**	⇑*iP*	**P**	**23 19 17.7**	**-0.2**	
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TIXI	**Tiksi**	**74.92**	**356**	*eP*	**P**	**23 19 17.4**	**-0.5**	
	comp=Z,4.9nm,1.1s							
KZA	**Kyzart**	**75.10**	**315**	P	**P**	**23 19 22.1**	**+1.9**	
	SNR=50							
KZA	**Kyzart**	**75.10**	**315**	*iP*	**P**	**23 19 22.0**	**+1.9**	
TKM2	**Tokmak 2**	**75.12**	**316**	P	**P**	**23 19 20.8**	**+0.8**	
	SNR=13							
TKM2	**Tokmak 2**	**75.12**	**316**	*iP*	**P**	**23 19 20.3**	**+0.3**	
TKM2				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TKM2	**Tokmak 2**	**75.12**	**316**	*eP*	**P**	**23 19 20.5**	**+0.5**	
	comp=Z,7.9nm,0.8s							
NVS	**Novosibirsk**	**75.14**	**329**	*eP*	**P**	**23 19 18.4**	**-1.1**	
NVS				pmax	pmax			
	comp=Z,32nm,1.5s							
NVS				pmax	pmax			
	comp=N,8.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,15nm,1.4s							
VNDA	**Vanda**	**75.30**	**176**	P	**P**	**23 19 19.1**	**-1.0**	
	comp=E,4.5nm,0.9s,baz=320,slow=5.2,SNR=18							
VNDA				LR	LR	23 51 22.7		
	comp=E,97nm,19.0s,baz=297,slow=35							
VNDA	**Vanda**	**75.30**	**176**	*eP*	**P**	**23 19 21.1**	**+1.0**	
VNDA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**75.30**	**176**	*eP*	**P**	**23 19 21.1**	**+1.0**	
	comp=Z,5.2nm,0.9s							
UCH	**Uchtor**	**75.67**	**315**	P	**P**	**23 19 25.1**	**+1.7**	
	SNR=16							
CHMS	**Chumysh**	**75.74**	**316**	P	**P**	**23 19 24.6**	**+1.3**	
	SNR=9.8							
CHMS	**Chumysh**	**75.74**	**316**	*iP*	**P**	**23 19 24.5**	**+1.3**	
FRU	**Bishkek**	**75.78**	**315**	*eP*	**P**	**23 19 23.0**	**-0.5**	
FRU				*e*		23 19 41.0		
AAK	**Ala-Archa**	**75.81**	**315**	P	**P**	**23 19 24.5**	**+0.7**	
	comp=Z,39nm,1.3s,SNR=7.5							
AAK	**Ala-Archa**	**75.81**	**315**	P	**P**	**23 19 25.5**	**+1.6**	
	SNR=6.2							
AAK	**Ala-Archa**	**75.81**	**315**	⇓*iP*	**P**	**23 19 25.2**	**+1.4**	
AAK				pmax	pmax			
	comp=Z,34nm,1.7s							
AAK	**Ala-Archa**	**75.81**	**315**	*eP*	**P**	**23 19 24.1**	**+0.3**	
	comp=Z,35nm,1.9s							
KURK	**Kurchatov**	**75.92**	**324**	P	**P**	**23 19 24.2**	**+0.2**	
	comp=Z,31nm,1.2s,SNR=8.3							
KURK	**Kurchatov**	**75.92**	**324**	*eP*	**P**	**23 19 24.3**	**+0.2**	
KURK				pmax	pmax			
	comp=Z,17nm,1.2s							
KURK	**Kurchatov**	**75.92**	**324**	*eP*	**P**	**23 19 24.3**	**+0.2**	
	comp=Z,17nm,1.2s							
USP	**Ospenovka**	**75.99**	**316**	P	**P**	**23 19 26.1**	**+1.3**	
	SNR=7.0							
USP	**Ospenovka**	**75.99**	**316**	*iP*	**P**	**23 19 26.0**	**+1.3**	
SBA	**Scott Base**	**76.02**	**175**	*eP*	**P**	**23 19 25.9**	**+1.7**	
SBA				pmax	pmax			
	comp=Z,96nm,2.7s							
SBA	**Scott Base**	**76.02**	**175**	*eP*	**P**	**23 19 25.9**	**+1.7**	
	comp=Z,96nm,2.7s							
AML	**Almayashu**	**76.22**	**315**	P	**P**	**23 19 28.1**	**+1.6**	
	SNR=18							
AML	**Almayashu**	**76.22**	**315**	*iP*	**P**	**23 19 28.1**	**+1.6**	
EKS2	**Erkin-Say**	**76.32**	**315**	P	**P**	**23 19 28.6**	**+1.9**	
	SNR=14							
EKS2	**Erkin-Say**	**76.32**	**315**	*eP*	**P**	**23 19 27.9**	**+1.2**	
EKS2				pmax	pmax			
	comp=Z,12nm,0.9s							
EKS2	**Erkin-Say**	**76.32**	**315**	*eP*	**P**	**23 19 27.9**	**+1.2**	
	comp=Z,12nm,0.9s							
TNA	**Tin City**	**77.16**	**19**	*eP*	**P**	**23 19 31.2**	**+0.5**	
	comp=Z,12nm,1.1s							
KBL	**Kabul**	**77.88**	**306**	*eP*	**P**	**23 19 35.4**	**-0.4**	
KBL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KBL	**Kabul**	**77.88**	**306**	*eP*	**P**	**23 19 35.4**	**-0.4**	
	comp=Z,8.6nm,0.8s							
KKAR	**Karatay Array**	**78.75**	**315**	*eP*	**P**	**23 19 40.4**	**+0.2**	
KKAR	**Karatay Array**	**78.75**	**315**	*eP*	**P**	**23 19 40.4**	**+0.2**	
OTUK	**Ortayu**	**78.93**	**320**	*iP*	**P**	**23 19 41.4**	**+0.4**	
OTUK				pmax	pmax			
	comp=Z,11nm,1.2s							
SVW2	**Sparrevohn**	**79.48**	**26**	*eP*	**P**	**23 19 45.4**	**+1.6**	
KDAK	**Kodiak Island**	**79.50**	**30**	*eP*	**P**	**23 19 44.7**	**+0.8**	
KDAK				pmax	pmax			
	comp=Z,20nm,0.9s							
KDAK	**Kodiak Island**	**79.50**	**30**	*eP*	**P**	**23 19 44.7**	**+0.8**	
	comp=Z,20nm,0.9s							
RSO	**Redoubt South**	**80.48**	**27**	*eP*	**P**	**23 19 49.1**	**-0.2**	
BRVK	**Borovoye**	**81.57**	**325**	P	**P**	**23 19 56.2**	**+1.1**	
	comp=Z,96nm,0.8s,SNR=5.8							
BRVK	**Borovoye**	**81.57**	**325**	*eP*	**P**	**23 19 55.4**	**+0.3**	
BRVK				pmax	pmax			
	comp=Z,14nm,0.9s							
BRVK	**Borovoye**	**81.57**	**325**	*eP*	**P**	**23 19 55.4**	**+0.3**	
	comp=Z,14nm,0.9s							
PPLA	**Purkeypile**	**81.69**	**25**	*eP*	**P**	**23 19 56.1**	**+0.4**	
	comp=Z,34nm,1.7s							
CAST	**Castle Rocks**	**81.94**	**24**	*eP*	**P**	**23 19 56.3**	**-0.6**	
	comp=Z,8.3nm,0.9s							
RC01	**Rabbit Creek A**	**82.08**	**27**	*eP*	**P**	**23 19 56.8**	**-0.9**	
	comp=Z,19nm,0.9s							
IM04	**Indian Mountai**	**82.32**	**22**	*eP*	**P**	**23 19 59.5**	**+0.7**	
KTH	**Kantishna Hill**	**82.47**	**25**	*eP*	**P**	**23 19 59.5**	**-0.2**	
	comp=Z,19nm,1.0s							
PMR	**Palmer**	**82.53**	**27**	*eP*	**P**	**23 19 59.9**	**0.0**	
PMR				pmax	pmax			
	comp=Z,21nm,1.1s							
PMR	**Palmer**	**82.53**	**27**	*eP*	**P**	**23 19 59.9**	**0.0**	
	comp=Z,21nm,1.1s							
TRF	**Thorofare Moun**	**82.70**	**25**	*eP*	**P**	**23 20 00.3**	**-0.8**	
	comp=Z,42nm,1.9s							
MAW	**Mawson**	**83.28**	**202**	P	**P**	**23 20 04.7**	**+1.0**	
	comp=Z,8.8nm,1.0s,baz=57,slow=7.4,SNR=5.3							
MAW	**Mawson**	**83.28**	**202**	*eP*	**P**	**23 20 04.5**	**+0.8**	
MAW	**Mawson**	**83.28**	**202**	*eP*	**P**	**23 20 04.5**	**+0.8**	
MCK	**McKinley**	**83.37**	**25**	*eP*	**P**	**23 20 04.4**	**+0.1**	
MCK				pmax	pmax			
	comp=Z,28nm,1.1s							
MCK	**McKinley**	**83.37**	**25**	*eP*	**P**	**23 20 04.4**	**+0.1**	
	comp=Z,28nm,1.1s							
DIV	**Divide**	**83.92**	**28**	*eP*	**P**	**23 20 07.3**	**+0.1**	
	comp=Z,39nm,1.0s							
COLD	**Coldfoot**	**84.14**	**21**	*eP*	**P**	**23 20 08.4**	**+0.2**	
	comp=Z,14nm,1.0s							
COLA	**College**	**84.20**	**24**	*eP*	**P**	**23 20 07.0**	**-1.4**	
COLA				pmax	pmax			
	comp=Z,13nm,0.9s							
COLA	**College**	**84.20**	**24**	*eP*	**P**	**23 20 07.0**	**-1.4**	
	comp=Z,13nm,0.9s							
BMRM	**Bremner River**	**84.42**	**28**	*eP*	**P**	**23 20 10.2**	**+0.4**	
	comp=Z,32nm,1.2s							
ILAR	**Eielson Array**	**84.56**	**24**	P	**P**	**23 20 09.7**	**-0.7**	
	comp=Z,10nm,0.9s,baz=256,slow=5.1,SNR=68							
ILAR				LR	LR	23 51 03.2		
	comp=Z,63nm,21.4s,baz=212,slow=31							
PAX	**Paxson**	**84.60**	**26**	*eP*	**P**	**23 20 10.6**	**-0.1**	
PAX				pmax	pmax			
	comp=Z,12nm,1.2s							
PAX	**Paxson**	**84.60**	**26**	*eP*	**P**	**23 20 10.6**	**-0.1**	
	comp=Z,12nm,1.2s							
IDAH	**Dahanechah**	**85.14**	**303**	*eP*	**P**	**23 20 15.1**	**+0.8**	
MENT	**Mentasta**	**85.36**	**26**	*eP*	**P**	**23 20 14.2**	**-0.2**	
IMYA	**Miami**	**85.38**	**307**	*eP*	**P**	**23 20 16.5**	**+1.2**	
DOT	**Dot Lake**	**85.40**	**25**	*eP*	**P**	**23 20 15.0**	**+0.3**	
	comp=Z,23nm,1.1s							
IKOO	**Kooshah**	**85.83**	**303**	*eP*	**P**	**23 20 18.5**	**+0.8**	
ISRO	**Mashad**	**85.88**	**307**	*eP*	**P**	**23 20 18.9**	**+1.2**	
ITEG	**Tejag**	**86.10**	**303**	*eP*	**P**	**23 20 19.4**	**+0.5**	
IPAY	**Payeh**	**86.27**	**307**	*eP*	**P**	**23 20 20.1**	**+0.2**	
IKRD	**Kardeh**	**86.69**	**307**	*eP*	**P**	**23 20 19.9**	**-2.0**	
EGAK	**Eagle**	**86.92**	**25**	*eP*	**P**	**23 20 22.4**	**+0.4**	
	comp=Z,14nm,1.1s							
GEYT	**Allbeck**	**87.13**	**308**	P	**P**	**23 20 24.5**	**+0.8**	
	comp=Z,3.0nm,0.9s,baz=108,slow=3.3,SNR=7.4							
ISFR	**Sfrayin**	**87.13**	**307**	*eP*	**P**	**23 20 24.5**	**+0.4**	
AB31	**Akbulak array**	**87.15**	**319**	⇑*eP*	**P**	**23 20 22.6**	**-0.9**	
AB31				pmax	pmax			
	comp=Z,4.0nm,0.7s							
DAWY	**Dawson**	**87.51**	**26**	*eP*	**P**	**23 20 25.4**	**+0.4**	
HYT	**Haines Junctio**	**87.76**	**29**	*eP*	**P**	**23 20 24.7**	**-1.7**	
ARU	**Arti**	**88.89**	**326**	*diP*	**P**	**23 20 31.3**	**-0.3**	
ARU						23 23 59.5		
ARU				S	**SKSac**	**23 30 55.7**	**-3.6**	
ARU				SS	**SS**	**23 37 04.4**	**-5.9**	
ARU				pmax	pmax			
	comp=Z,11nm,1.7s							
ARU	**Arti**	**88.89**	**326**	*eP*	**P**	**23 20 30.7**	**-0.9**	
	comp=Z,23nm,1.9s							
INK	**Inuvik**	**90.54**	**22**	P	**P**	**23 20 39.0**	**0.0**	
	comp=Z,6.0nm,1.1s,baz=296,slow=3.6,SNR=5.3							
INK	**Inuvik**	**90.54**	**22**	*eP*	**P**	**23 20 38.7**	**-0.3**	
INK	**Inuvik**	**90.54**	**22**	*eP*	**P**	**23 20 38.7**	**-0.3**	
YKA	**Yellowknife Ar**	**98.63**	**27**	P	**P**	**23 21 16.2**	**0.0**	
	comp=Z,1.9nm,1.0s,baz=272,slow=4.4,SNR=6.8							
KLMR	**Klimovskoe**	**98.71**	**331**	*eP*	**P**	**23 21 14.4**	**-2.2**	
KLMR				pmax	pmax			
	comp=Z,19nm,1.6s							
SPITS	**Spitsbergen Ar**	**99.78**	**350**	LR	LR	00 08 05.2		
	comp=Z,39nm,18.5s,baz=40,slow=36							
RES	**Resolute Bay**	**101.10**	**13**	P	**Pdif**	**23 21 26.9**	**0.0**	
	comp=Z,3.0nm,1.0s,baz=292,slow=5.1,SNR=7.0							
RES	**Resolute Bay**	**101.10**	**13**	*eP*	**Pdif**	**23 21 27.0**	**0.0**	
RES	**Resolute Bay**	**101.10**	**13**	*ePdif*	**Pdif**	**23 21 27.0**	**0.0**	
OBN	**Obninsk**	**101.31**	**326**	*eP*	**Pdif**	**23 21 27.7**	**-0.6**	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARCES	**ARCESS Array B**	**101.83**	**341**	*eP*	**Pdif**	**23 21 31.6**	**+1.2**	
ARCES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GERES	**GERESS Array B**	**116.67**	**325**	PKP	**PKPdf**	**23 26 21.7**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=29,slow=2.2,SNR=5.0							
HINF	**Hinteralfeld**	**121.08**	**326**	*ePKIKP*	**PKPdf**	**23 26 29.1**	**-1.2**	
	comp=Z,6.3nm,0.9s							
CABF	**La Chapelle**	**122.20**	**326**	*ePKIKP*	**PKPdf**	**23 26 30.4**	**-2.2**	
SMF	**Signal de Mont**	**123.43**	**327**	*ePKIKP*	**PKPdf**	**23 26 33.1**	**-1.7**	
AVF	**Avril sur Loir**	**123.61**	**327**	*ePKIKP*	**PKPdf**	**23 26 34.0**	**-1.1**	
	comp=Z,5.8nm,1.0s							
BGF	**Bois d'Agland**	**124.03**	**327**	*ePKIKP*	**PKPdf**	**23 26 35.4**	**-0.5**	
TCF	**Toulx Ste Croi**	**124.54**	**327**	*ePKIKP*	**PKPdf**	**23 26 36.4**	**-0.6**	
	comp=Z,13nm,1.0s							
QUIF	**Quistinic**	**126.17**	**332**	*ePKIKP*	**PKPdf**	**23 26 37.6**	**-2.4**	
	comp=Z,34nm,1.2s							
TORD	**Torodi Ar. Bea**	**139.69**	**287**	PKP	**PKPdf**	**23 27 04.7**	**-1.6**	
	comp=Z,1.0nm,0.9s,baz=18,slow=0.5,SNR=3.7							
ROSC	**El Rosal**	**143.46**	**86**	PKP	PKPbc	23 27 11.8	+0.9	
	comp=Z,12nm,0.6s,baz=117,slow=6.5,SNR=6.8							
LPAZ	**La Paz**	**144.44**	**123**	PKP	**PKPdf**	**23 27 14.8**	**-0.7**	
	comp=Z,5.4nm,0.7s,baz=273,slow=2.2,SNR=7.8							
SMN1	**Samana, DR**	**145.20**	**60**	*ePKPbc*	**PKPbc**	**23 27 13.5**	**-2.2**	
CPUP	**Villa Florida**	**145.32**	**148**	PKPbc	**PKPdf**	**23 27 16.9**	**+1.0**	
	comp=Z,2.2nm,0.9s,baz=213,slow=2.1,SNR=6.7							
CPUP	**Villa Florida**	**145.32**	**148**	*ePKIKP*	**PKPdf**	**23 27 16.2**	**+0.2**	
CPUP	**Villa Florida**	**145.32**	**148**	*ePKPbc*	**PKPdf**	**23 27 16.2**	**+0.2**	
SDV	**Santo Domingo**	**146.78**	**78**	*ePKPbc*	**PKPbc**	**23 27 20.4**	**-0.4**	
KIC	**Kosan Boka**	**146.92**	**277**	*eP*	**PKPbc**	**23 27 21.7**	**+0.7**	
	comp=Z,66nm,1.4s							
DBIC	**Dimbokro**	**147.01**	**278**	PKPbc	**PKPbc**	**23 27 21.0**	**-0.2**	
	comp=Z,4.9nm,0.7s,baz=82,slow=3.5,SNR=6.0							
DBIC	**Dimbokro**	**147.01**	**278**	PKP2	**PKPbc**	**23 27 21.0**	**-0.2**	
TIC	**Toumodi**	**147.17**	**278**	*eP*	**PKPbc**	**23 27 22.3**	**+0.6**	
	comp=Z,5.2nm,0.2s							
LIC	**Lamto**	**147.21**	**277**	*ePKIKP*	**PKPdf**	**23 27 19.6**	**+0.1**	
LIC	**Lamto**	**147.21**	**277**	*eP*	**PKPdf**	**23 27 20.2**	**+0.7**	
	comp=Z,90nm,1.8s							
LSP	**Las Mesas**	**147.50**	**60**	*ePKPdf*	**PKPdf**	**23 27 18.7**	**-1.2**	
CRPR	**Cabo Rojo, PR**	**147.55**	**60**	*ePKPdf*	**PKPdf**	**23 27 20.7**	**+0.8**	
LRS	**Lares**	**147.66**	**60**	*ePKPdf*	**PKPdf**	**23 27 20.0**	**-0.2**	
OBIP	**Obispado Ponce**	**147.97**	**60**	*ePKPdf*	**PKPdf**	**23 27 19.2**	**-1.4**	
CELP	**Cerrillos**	**147.98**	**60**	*ePKPbc*	**PKPbc**	**23 27 22.9**	**-0.9**	
ICMP	**Isla Caja de M**	**148.10**	**60**	*ePKPbc*	**PKPbc**	**23 27 23.6**	**-0.5**	
SJG	**San Juan**	**148.34**	**59**	*ePKP2*	**PKPbc**	**23 27 24.2**	**-0.5**	
SJG	**San Juan**	**148.34**	**59**	*ePKPbc*	**PKPbc**	**23 27 24.2**	**-0.5**	
STVI	**Saint Thomas**	**149.25**	**58**	*ePKPbc*	**PKPbc**	**23 27 26.4**	**-0.5**	
CDVI	**St. Croix**	**149.68**	**59**	*ePKPdf*	**PKPdf**	**23 27 21.6**	**-1.9**	
SIV	**San Ignacio**	**150.27**	**130**	PKPbc	**PKPbc**	**23 27 29.4**	**-0.2**	
	comp=Z,6.2nm,0.8s,baz=110,slow=1.9,SNR=6.9							
SMRT	**St. Maarten**	**150.98**	**57**	*ePKPbc*	**PKPbc**	**23 27 30.4**	**-0.8**	

*IDC **22** 23:11:11.3±0.7,3°.03S×142°.14E,h0km,mb4.4/8, mb1 4.4/9,mb1mx4.1/33,mbtmp4.4/9,ML4.1/1,Error ellipse: s-maj=36.6km s-min=17.6km az=82.0*

*ISCJB **22** 23:11:13.9±0.7,3°.07S±0°.09×142°.1E±0°.2,h30km,mb4.3/8, Error ellipse: s-maj=27.7km s-min=13.4km az=0.5*

ISC 22 23:11:15.9±0.8,3°.0S±0°.1×142°.1E±0°.2,h30km,n19, σ1s06/13,mb4.3/8,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.45**	**204**	P	**P**	**23 15 28.6**	**-0.6**
	0.6nm,0.3s,baz=27,slow=13,SNR=6.2						
ASAR	**Alice Springs**	**22.00**	**200**	P	**P**	**23 16 06.6**	**-1.2**
	2.5nm,0.8s,baz=31,slow=12,SNR=3.8						
QLP	**Quilpie**	**23.51**	**175**	S	**P**	**23 16 25.7**	**+2.4**
	baz=23,SNR=4.0						
STKA	**Stephens Creek**	**28.70**	**181**	P	**P**	**23 17 10.7**	**+0.2**
	4.1nm,0.7s,baz=356,slow=5.5,SNR=

GERES	**GERESS Array B**	**148.95**	**346**	PKPbc	PKPbc	23 34 17.9	-0.8
	0.4nm,0.7s,baz=29,slow=2.2,SNR=4.4						

*ISCJB **22** 23:20:32.1±1.0, 15.07S±0.07×73.30W±0.06, h79km±11km, mb3.9/9, Error ellipse: s-maj=13.5km s-min=6.8km az=39.8*
*NEIC **22** 23:20:34.1±1.0, 15.12S×73.31W, h82km±10km, mb4.2/4, Error ellipse: s-maj=12.9km s-min=10.3km az=58.0*
NEIC Felt [III] at Caraveli and Tocota.
*IDC **22** 23:20:36.4±0.8, 15.20S×73.21W, h100km±6km, mb3.8/7, mb1 3.9/12, mb1mx3.8/22, mbtmp4.2/12, MS3.3/3, Ms1 3.3/3, ms1mx2.8/26, Error ellipse: s-maj=21.0km s-min=16.1km az=47.0*

ISC 22 23:20:35.2±0.6, 15.21S±0.07×73.34W±0.07, h95km±6km, h95km:pP-P, n35, σ1°82/38, mb3.9/9, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.67**	**313**	P	**Pn**	**23 21 45.9**	**+2.4**
	22nm,0.3s,baz=162,slow=10,SNR=14						
NNA				S	**Sn**	**23 22 33.6**	**-3.0**
	35nm,0.3s,baz=200,slow=20,SNR=6.9						
NNA	**Nana**	**4.67**	**313**	*e*Pn	**Pn**	**23 21 42.4**	**-1.1**
NNA				*e*Sn	**Sn**	**23 22 35.7**	**-0.9**
LPAZ	**La Paz**	**5.13**	**103**	P	**Pn**	**23 21 51.0**	**+0.8**
	3.6nm,0.3s,baz=284,slow=9.6,SNR=92						
LPAZ				S	**Sn**	**23 22 47.1**	**-1.4**
	baz=198,slow=20,SNR=1.3						
LPAZ				LR	LR	23 23 39.4	
	comp=Z,104nm,18.0s,baz=320,slow=36						
LPAZ	**La Paz**	**5.13**	**103**	*e*Pn	**Pn**	**23 21 52.5**	**+2.3**
LPAZ				S	**Sn**	**23 22 47.1**	**-1.4**
LVC	**Limon Verde**	**8.47**	**151**	P	**Pn**	**23 22 34.3**	**-1.1**
	439nm,0.3s,baz=342,slow=9.0,SNR=106						
LVC				S	**Sn**	**23 24 05.2**	**-4.2**
	185nm,0.3s,baz=266,slow=22,SNR=11						
LVC	**Limon Verde**	**8.47**	**151**	*e*Pn	**Pn**	**23 22 33.9**	**-1.4**
LVC				*e*Sn	**Sn**	**23 24 05.3**	**-4.1**
ATAH	**Atahualpa**	**9.43**	**328**	P	Pn	23 22 54.1	+5.6
	0.6nm,0.3s,baz=104,slow=8.3,SNR=2.8						
ATAH				S	**Sn**	**23 24 28.5**	**-4.5**
	baz=41,slow=20,SNR=1.6						
SAML	**Samuel**	**11.72**	**59**	*e*Pn	Pn	23 23 15.2	-4.1
SIV	**San Ignacio**	**11.85**	**95**	P	**Pn**	**23 23 18.8**	**-2.2**
	2.8nm,0.3s,baz=287,slow=11,SNR=29						
SIV				LR	LR	23 28 27.5	
	comp=Z,100nm,19.0s,baz=292,slow=40						
CFAA	**Coronel Fontan**	**16.98**	**165**	P	**Pn**	**23 24 27.3**	**+0.5**
	0.1nm,0.3s,baz=332,slow=12,SNR=5.1						
PTGA	**Pitinga**	**19.53**	**44**	P	**P**	**23 24 55.1**	**-0.1**
	1.4nm,0.3s,baz=213,slow=13,SNR=30						
PTGA	**Pitinga**	**19.53**	**44**	*e*P	**P**	**23 24 54.6**	**-0.7**
	10nm,0.5s						
BDFB	**Brasilia**	**24.41**	**94**	P	**P**	**23 25 46.1**	**+1.0**
	1.7nm,0.4s,baz=278,slow=13,SNR=3.4						
PLCA	**Paso Flores**	**25.55**	**175**	P	**P**	**23 25 56.0**	**+0.8**
	2.2nm,0.9s,baz=1.6,slow=12,SNR=5.4						
PLCA	**Paso Flores**	**25.55**	**175**	*e*P	**P**	**23 25 55.8**	**+0.7**
	1.6nm,0.6s						
ANMO	**Albuquerque**	**58.96**	**328**	*e*P	**P**	**23 30 24.2**	**-0.8**
	0.9nm,0.4s						
PDAR	**Pinedale Array**	**66.60**	**332**	LR	LR	00 04 54.7	
	comp=Z,72nm,18.1s,baz=282,slow=40						
ULM	**Lac du Bonnet**	**68.12**	**345**	P	**P**	**23 31 24.8**	**+0.1**
	1.5nm,0.5s,baz=148,slow=9.5,SNR=3.6						
DBIC	**Dimbokro**	**71.24**	**77**	P	**P**	**23 31 44.1**	**-0.5**
	5.6nm,0.9s,baz=225,slow=5.7,SNR=2.7						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*P	**P**	**23 32 07.2**	**+1.5**
	1.6nm,0.5s						
QSPA				*e*pP	**pP**	**23 32 30.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**79.40**	**73**	P	**P**	**23 32 31.1**	**-0.3**
	1.7nm,0.8s,baz=270,slow=4.3,SNR=7.2						
TORD				pP	**pP**	**23 32 57.6**	**+1.4**
	0.7nm,0.8s,baz=252,slow=4.8,SNR=2.4						
YKA	**Yellowknife Ar**	**83.91**	**342**	P	**P**	**23 32 54.3**	**+0.2**
	1.2nm,0.8s,baz=132,slow=4.3,SNR=7.3						
ESDC	**Sonseca Array**	**84.45**	**47**	P	**P**	**23 32 57.6**	**+0.2**
	0.7nm,0.7s,baz=252,slow=4.4,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**122.60**	**284**	T	T	01 52 52.6	
	baz=86						
H11N2	**WAKE ISLAND Hy**	**122.61**	**284**	T	T	01 52 48.6	
	baz=86						
H11N1	**WAKE ISLAND Hy**	**122.62**	**284**	T	T	01 52 49.7	
	baz=86						
H11S2	**WAKE ISLAND Hy**	**122.66**	**282**	T	T	01 53 08.9	
	baz=86						
H11S1	**WAKE ISLAND Hy**	**122.67**	**282**	T	T	01 53 10.1	
	baz=86						
H11S3	**WAKE ISLAND Hy**	**122.68**	**282**	T	T	01 53 10.8	
	baz=86						
ASAR	**Alice Springs**	**133.07**	**215**	PKP	**PKPdf**	**23 39 40.6**	**+0.2**
	0.3nm,0.7s,baz=140,slow=2.7,SNR=3.7						
ASAR				pPKP	**pPKPdf**	**23 40 08.8**	**+2.0**
	0.2nm,0.5s,baz=141,slow=2.4,SNR=1.6						
WRA	**Warramunga Arr**	**135.72**	**219**	PKP	**PKPdf**	**23 39 46.0**	**+0.6**
	0.9nm,0.7s,baz=147,slow=1.4,SNR=7.8						
WRA				pPKP	**pPKPdf**	**23 40 13.7**	**+1.9**
	0.4nm,0.6s,baz=140,slow=1.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**137.73**	**19**	PKP	**PKPdf**	**23 39 49.0**	**+1.0**
	1.1nm,0.7s,baz=270,slow=1.5,SNR=5.0						
SONM	**Songino Array**	**147.47**	**0**	PKPbc	**PKPab**	**23 40 09.6**	**-0.9**
	1.6nm,0.6s,baz=338,slow=2.3,SNR=14						
SONM				pPKPbc	**pPKPbc**	**23 40 35.0**	**+0.6**
	0.6nm,0.8s,baz=314,slow=1.8,SNR=3.2						
KSRS	**Korea Array**	**150.91**	**324**	PKPbc	**PKPbc**	**23 40 18.5**	**+1.4**
	0.7nm,0.5s,baz=23,slow=1.6,SNR=4.7						
KSAR	**Wonju Array Be**	**150.94**	**324**	PKPbc	**PKPbc**	**23 40 18.5**	**+1.4**

*ISCJB **22** 23:28:23.9±0.4, 32.73N±0.02×115.77W±0.02, h10km±3km, Error ellipse: s-maj=3.3km s-min=3.2km az=30.0*
*IDC **22** 23:28:23.2±2.3, 32.60N×115.83W, h0km, mb1 3.4/4, mb1mx3.2/41, mbtmp3.0/4, ML3.5/2, Error ellipse: s-maj=35.6km s-min=10.2km az=43.0*
*IASPEI **22** 23:28:24.7±0.9, 32.66N±0.03×115.74W±0.03, h13km±7km, Error ellipse: s-maj=4.5km s-min=3.8km az=7.6*
*ECX **22** 23:28:26.3±0.6, 32.65N×115.76W, h3km, MD3.7, ML3.9*
*NEIC **22** 23:28:26.1, 32.65N×115.77W, h13km, ML3.8(PAS), After PAS.*
NEIC Felt [III] at Calexico and El Centro. Also felt at Imperial, Ramona, San Diego, Santee and Spring Valley. Felt at Mexicali, Baja California.

ISC 22 23:28:25.0±0.9, 32.65N±0.02×115.75W±0.02, h12km±6km, n36, σ1°01/53, 9C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.02**	**89**	↑*i* P	**Pg**	**23 28 26.8**	**-0.4**
YUH	**Yuha Desert**	**0.15**	**270**	↑*i* P	**Pg**	**23 28 28.8**	**+0.2**
COK	**Cook Ranch**	**0.20**	**6**	↓*i* P	**Pg**	**23 28 30.4**	**+1.0**
RMX	**La Rumorosa**	**0.28**	**261**	↑*e* P	**Pg**	**23 28 31.3**	**+0.3**
RMX				*e*S	**Sg**	**23 28 35.3**	**+0.4**
RMX				↑*e*		23 28 37.2	
RMX				AML	AML	23 28 37.2	
	comp=N,11μm,0.2s						
CPBX	**Cerro Prieto**	**0.44**	**121**	*e*P	**Pg**	**23 28 33.0**	**-0.8**
CPBX				*e*S	**Sg**	**23 28 39.6**	**-0.1**
CPBX				↑*e*		23 28 46.4	
CPBX				AML	AML	23 28 46.4	
	comp=E,49μm,0.4s						
RDX	**Rancho Dawling**	**0.74**	**193**	*e*P	**Pg**	**23 28 39.1**	**-0.2**
RDX				*e*S	**Sb**	**23 28 50.0**	**+0.1**
RDX				AML	AML	23 28 53.1	
	comp=N,3μm,0.3s						
RDX				↑*e*		23 28 53.1	
BAR	**Barrett**	**0.78**	**273**	↑*e* P	**Pg**	**23 28 40.2**	**+0.1**
BAR	**Barrett**	**0.78**	**273**	*e*Pg	**Pg**	**23 28 40.1**	**+0.1**
BAR				*e*Sg	**Sg**	**23 28 49.5**	**-0.9**
CBX	**Cerro Bola**	**0.84**	**247**	↑*e* P	**Pb**	**23 28 41.5**	**-0.2**
CBX				*e*S	**Sb**	**23 28 52.6**	**-0.3**
GLA	**Glamis**	**0.88**	**62**	*e*Pg	**Pg**	**23 28 41.5**	**-0.5**
GLA				*e*Sg	**Sb**	**23 28 53.9**	**0.0**
PFO	**Pinyon Flats O**	**1.13**	**329**	Pg	**Pb**	**23 28 45.5**	**-1.0**
	comp=N,78nm,0.3s,baz=152,slow=15,SNR=502						
PFO				Lg	Lg	23 28 59.9	
	baz=246,slow=18						
PFO	**Pinyon Flats O**	**1.13**	**329**	*e*Pg	**Pb**	**23 28 45.4**	**-1.1**
PFO				*e*Sg	**Sg**	**23 29 00.1**	**-1.3**
ZAX	**El Zacaton**	**1.22**	**202**	*e*P	**Pn**	**23 28 47.9**	**0.0**
ZAX				*e*S	**Sb**	**23 29 03.9**	**+0.2**
ZAX				↑*e*		23 29 12.6	
ZAX				AML	AML	23 29 12.6	
	comp=N,2μm,0.6s						
ECNX	**Esteban Cantu**	**1.22**	**216**	*e*P	**Pn**	**23 28 48.0**	**-0.1**
ECNX				*e*S	**Sg**	**23 29 04.2**	**-0.3**
PBX	**Punta Banda**	**1.23**	**223**	*e*P	**Pn**	**23 28 47.8**	**-0.2**
PBX				*e*S	**Sb**	**23 29 03.8**	**-0.1**
ECBX	**El Chinero**	**1.31**	**153**	*e*P	**Pb**	**23 28 49.8**	**+0.1**
ECBX				*e*S	**Sg**	**23 29 07.6**	**+0.2**
SPX	**San Pedro Mart**	**1.62**	**171**	*e*P	**Pn**	**23 28 54.2**	**+0.6**
LDFC	**Landfair**	**2.48**	**12**	*e*Pn	**Pn**	**23 29 05.4**	**0.0**
LDFC				*e*Pg	**Pg**	**23 29 14.4**	**+1.7**
MWC	**Mount Wilson**	**2.49**	**310**	*e*Pg	**Pb**	**23 29 10.2**	**+0.4**
MWC				*e*Sg	**Sb**	**23 29 42.4**	**+2.0**
PASC	**Pasadena Art C**	**2.54**	**307**	*e*Pg	**Pb**	**23 29 11.2**	**+0.6**
PASC				*e*Sg	**Sb**	**23 29 42.9**	**+1.1**
214A	**Organ Pipe Nat**	**2.58**	**105**	*e*Pn	**Pn**	**23 29 05.3**	**-1.4**
GSC	**Goldstone, Bar**	**2.79**	**342**	*e*Pn	**Pn**	**23 29 08.9**	**-0.7**
GSC				*e*Pg	**Pg**	**23 29 17.3**	**-1.2**
GSC				*e*Sg	**Sg**	**23 29 54.3**	**-0.3**
OSI	**Osito Audit: C**	**3.16**	**309**	*e*Pg	**Pb**	**23 29 23.0**	**+1.8**
OSI				*e*Sg	**Sg**	**23 30 05.2**	**-1.4**
DAC	**Darwin (Calif)**	**3.93**	**338**	*e*Pn	**Pn**	**23 29 25.2**	**-0.1**
DAC				*e*Sg	**Sg**	**23 30 28.5**	**-2.7**
TUC	**Tucson**	**4.21**	**93**	*e*Pn	**Pn**	**23 29 27.9**	**-1.2**
WUAZ	**Wupatki**	**4.62**	**51**	*e*Pn	**Pn**	**23 29 36.0**	**+1.2**
TPH	**Tonopah**	**5.55**	**348**	*e*Pg	**Pg**	**23 30 09.4**	**-1.8**
W18A	**Petrified Fore**	**5.58**	**62**	*e*Pn	**Pn**	**23 29 49.5**	**+1.5**
R11A	**Troy Canyon, C**	**5.69**	**1**	*e*Pg	**Pg**	**23 30 12.7**	**-1.4**
NVAR	**Mina Array Bea**	**6.13**	**341**	Pn	**Pn**	**23 29 56.3**	**+0.7**
	baz=161,slow=14,SNR=2.2						
NVAR				Pg	Pg	23 30 18.9	-3.5
	comp=N,0.7nm,0.3s,baz=158,slow=17,SNR=7.1						
NVAR				Lg	Lg	23 31 40.4	
	comp=N,0.1nm,0.3s,baz=154,slow=35,SNR=2.2						
MVU	**Marysvale**	**6.51**	**25**	*e*Pn	**Pn**	**23 30 01.6**	**+0.7**
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn	**Pn**	**23 30 04.2**	**+0.4**
ANMO	**Albuquerque**	**8.07**	**71**	Pn	**Pn**	**23 30 23.2**	**+1.1**
	comp=N,0.3nm,0.3s,baz=252,slow=12,SNR=3.7						
ANMO				Lg	Lg	23 32 45.1	
	comp=N,0.0nm,0.3s,baz=55,slow=18,SNR=3.0						
ELK	**Elko**	**8.09**	**3**	Pg	**Pg**	**23 31 00.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=178,slow=14,SNR=5.6						
ELK				Lg	Lg	23 32 42.1	
	comp=N,0.1nm,0.3s,baz=167,slow=19,SNR=2.2						
TXAR	**Lajitas Array**	**10.88**	**104**	Pn	**Pn**	**23 31 02.7**	**+2.0**
	comp=N,0.2nm,0.3s,baz=287,slow=13,SNR=4.2						
PDAR	**Pinedale Array**	**11.22**	**24**	Pn	Pn	23 31 09.2	+3.8
	baz=198,slow=11,SNR=2.4						

MEX 22 23:28:45.1±0.4, 16.86N×98.46W, h44km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.56**	**145**	*i* P	Pn	23 28 55.2	-1.7
PNIG				*i* S	Sn	23 29 03.5	-1.8
TLIG	**Tlapa**	**0.71**	**352**	*i* P	Pn	23 28 57.1	-1.8
TLIG				*i* S	Sn	23 29 06.7	-2.2
HMTT	**Tlapaneco**	**0.94**	**354**	*e*P	Pn	23 29 00.7	-1.4
HMTT				*e*S	Sn	23 29 12.4	-2.0
ACX	**Acapulco**	**1.34**	**271**	*e*P	Pn	23 29 09.9	+2.6
ACX				*e*S	Sn	23 29 26.1	+2.1
VHO	**Vista Hermosa**	**1.67**	**82**	*e*P	Pn	23 29 09.9	-2.2
VHO				*e*S	Sn	23 29 30.2	-2.2
CAIG	**El Cayaco**	**1.74**	**276**	*e*P	Pn	23 29 11.4	-1.5
CAIG				*e*S	Sn	23 29 32.0	-1.9
PLIG	**Platanillo**	**1.82**	**327**	*e*P	Pn	23 29 12.8	-1.3
PLIG				*i* S	Sn	23 29 33.6	-2.5
TPIG	**Tehuac#an**	**1.87**	**34**	*e*P	Pn	23 29 13.4	-1.5
TPIG				*e*S	Sn	23 29 35.3	-2.2
YAIG	**Yautepec**	**2.07**	**344**	*e*P	Pn	23 29 16.8	-0.9
YAIG				*e*S	Sn	23 29 40.4	-2.0
ARIG	**Puente Sto Nin**	**2.29**	**308**	*e*P	Pn	23 29 19.7	-0.7
ARIG				*i* S	Sn	23 29 44.6	-2.8
HUIG	**Huatulco**	**2.50**	**115**	*i* P	Pn	23 29 22.3	-1.1
HUIG				*e*S	Sn	23 29 50.5	-2.3

*ISCJB **22** 23:29:35.1±0.8, 1.7N±0.2×126.0E±0.3, h10km, mb3.8/6, Error ellipse: s-maj=53.0km s-min=12.2km az=150.3*
*IDC **22** 23:29:35.5±1.2, 1.59N×125.95E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/34, mbtmp3.8/6, Error ellipse: s-maj=171.3km s-min=16.5km az=67.0*
*DJA **22** 23:29:50.5±0.5, 1°N±3°×12°E±°, h31km±6km, M3.7/5, MLv3.7/5*

ISC 22 23:29:36.7±0.9, 1.6N±0.2×126.2E±0.3, h10km, n10, σ0°93/10, mb4.0/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.44**	**124**	P	**Pn**	**23 30 03.2**	**+0.3**
TNTI				S	Sn	23 30 14.9	-6.9
SGSI	**Sangihe**	**2.18**	**343**	P	**Sn**	**23 30 40.6**	**+0.4**
LBMI	**Labuha**	**2.58**	**149**	P	**Pb**	**23 30 21.8**	**-1.2**
LBMI				S	Sn	23 30 44.1	-5.8
WRA	**Warramunga Arr**	**22.85**	**160**	P	**P**	**23 34 40.6**	**+0.3**
	2.9nm,0.6s,baz=339,slow=11,SNR=35						
ASAR	**Alice Springs**	**26.20**	**164**	P	**P**	**23 35 13.4**	**+1.6**
	1.6nm,0.5s,baz=348,slow=13,SNR=19						
STKA	**Stephens Creek**	**36.35**	**158**	P	**P**	**23 36 42.0**	**+0.9**
	0.7nm,0.4s,baz=331,slow=12,SNR=2.7						
SONM	**Songino Array**	**49.15**	**342**	P	**P**	**23 38 24.7**	**-0.2**
	0.3nm,0.8s,baz=147,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**59.00**	**326**	P	**P**	**23 39 36.4**	**-0.3**
	0.6nm,0.4s,baz=132,slow=5.2,SNR=24						
KURBB	**Kurchatov Arra**	**63.24**	**328**	P	**P**	**23 40 04.9**	**-0.5**
	0.6nm,0.5s,baz=129,slow=6.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.03**	**287**	PKP	**PKPdf**	**23 48 33.9**	**-0.7**
	0.4nm,1.0s,baz=96,slow=1.4,SNR=2.4						

CASC 22 23:46:46.5±1.4, 13.34N×90.76W, h7km±25km, MD3.7, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.88**	**20**	*e*P	Pg	23 47 03.2	-0.5
FUG	**Fuego 3**	**1.10**	**356**	*e*P	Pg	23 47 05.9	-2.0
SBLS	**San Blas**	**1.21**	**66**	↑*e* P	Pg	23 47 08.3	-1.7
RTR	**El Retiro**	**1.21**	**63**	*e*P	Pb	23 47 08.6	-1.5
RBDL	**Robledal**	**1.29**	**54**	*e*P	Pn	23 47 09.9	-1.3
NBG	**Las Nubes**	**1.30**	**18**	*e*P	Pn	23 47 10.8	-0.7
NBG				*e*S	Sb	23 47 28.5	-0.3
LFRS	**El Faro**	**1.67**	**80**	*e*P	Pn	23 47 15.4	-1.0
MRL	**Marmol**	**2.00**	**31**	*e*P	Pn	23 47 21.8	+0.9

*IDC **22** 23:47:38.3±2.5, 3.02S×141.99E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=111.8km s-min=21.4km az=86.0*
*ISCJB **22** 23:47:41.1±1.9, 3.1S±0.1×142.0E±0.6, h30km, mb3.5/5, Error ellipse: s-maj=80.6km s-min=16.1km az=179.3*

ISC 22 23:47:43.3±2.3, 3.1S±0.1×141.9E±0.7, h30km, n12, σ0°60/6, mb3.6/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.31**	**203**	P	**Pn**	**23 51 55.4**	**+0.2**
	0.2nm,0.3s,baz=25,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.88**	**200**	P	**P**	**23 52 33.4**	**-0.5**
	0.9nm,0.8s,baz=31,slow=9.3,SNR=9.0						
STKA	**Stephens Creek**	**28.65**	**180**	P	**P**	**23 53 37.6**	**+0.2**
	1.5nm,0.7s,baz=350,slow=11,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**32.50**	**48**	T	T	00 28 08.6	
	baz=231,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**32.51**	**48**	T	T	00 28 04.9	
	baz=231,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**32.52**	**48**	T	T	00 28 05.9	
	baz=231,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**33.42**	**46**	T	T	00 29 09.2	
	baz=229,slow=76,SNR=45						
H11N2	**WAKE ISLAND Hy**	**33.44**	**46**	T	T	00 29 14.5	
	baz=229,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**33.44**	**46**	T	T	00 29 16.4	
	baz=229,slow=76,SNR=24						
MKAR	**Makanchi Array**	**72.02**	**321**	P	**P**	**23 59 05.0**	**+0.6**
	0.5nm,0.7s,baz=112,slow=5.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**73.86**	**329**	P	**P**	**23 59 14.8**	**-0.3**
	0.3nm,0.4s,baz=103,slow=6.5,SNR=2.7						
BVAR	**Borovoye Array**	**81.43**	**325**	P	**P**	**23 59 56.8**	**-0.5**
	0.5nm,0.7s,baz=104,slow=6.1,SNR=4.2						

IDC 22 23:54:57.7±2.1, 4.90S×141.49E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.5/33, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=173.9km s-min=36.1km az=105.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.49**	**204**	P	Pn	23 58 50.6	-0.1
	0.1nm,0.3s,baz=26,slow=13,SNR=3.4						
WRA				Sn	Sn	00 01 45.2	-9.3
	0.1nm,0.3s,baz=23,slow=23,SNR=3.3						
WRA				Lg	Lg	00 03 45.0	
	0.1nm,0.3s,baz=32,slow=27,SNR=4.8						
ASAR	**Alice Springs**	**20.04**	**201**	P	Pn	23 59 36.0	+1.7
	1.9nm,0.6s,baz=32,slow=9.4,SNR=21						
ASAR				Lg	Lg	00 05 38.4	
	1.1nm,0.8s,baz=15,slow=32,SNR=3.3						
VNDA	**Vanda**	**73.38**	**175**	P	P	00 06 31.1	0.0
	0.4nm,0.3s,baz=333,slow=4.4,SNR=9.5						
ILAR	**Eielson Array**	**86.68**	**24**	P	P	00 07 43.1	0.0
	0.4nm,0.6s,baz=258,slow=4.8,SNR=6.6						

*ISCJB **23** 00:01:06.6±1.5, 13.1N±0.2×142.6E±0.4, h33km, mb4.2/6, Error ellipse: s-maj=59.0km s-min=23.9km az=14.2*
*IDC **23** 00:01:13.6±16.0, 13.08N×142.59E, h80km±150km, mb4.0/6, mb1 4.1/6, mb1mx3.5/39, mbtmp4.3/6, Error ellipse: s-maj=55.5km s-min=36.1km az=105.0*

ISC 23 00:01:08.7±1.6, 13.1N±0.2×142.6E±0.5, h35km, n7, σ0°68/7, mb4.4/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.19**	**174**	P	**P**	**00 07 42.5**	**+0.3**
	2.6nm,0.3s,baz=351,slow=10.0,SNR=5.0						
WRA	**Warramunga Arr**	**33.85**	**194**	P	**P**	**00 07 48.5**	**+0.5**
	5.5nm,0.6s,baz=15,slow=9.3,SNR=34						
ASAR	**Alice Springs**	**37.54**	**193**	P	**P**	**00 08 20.0**	**+0.3**
	1.3nm,0.4s,baz=20,slow=13,SNR=27						
DZM	**Mont Dzumac**	**42.05**	**146**	P	**P**	**00 08 57.5**	**+0.2**
	2.5nm,0.4s,baz=299,slow=4.7,SNR=8.3						
STKA	**Stephens Creek**	**44.75**	**181**	P	**P**	**00 09 17.9**	**-0.9**
	3.0nm,0.4s,baz=14,slow=6.6,SNR=10						
ILAR	**Eielson Array**	**69.93**	**25**	P	**P**	**00 12 16.3**	**+0.3**
	0.3nm,0.5s,baz=252,slow=5.7,SNR=4.5						
LPAZ	**La Paz**	**150.09**	**100**	PKPbc	**PKPbc**	**00 20 56.8**	**-0.7**
	1.1nm,0.5s,baz=289,slow=3.0,SNR=5.5						

*LDG **23** 00:02:22.5±0.1, 35.60N×77.27E, h50km, Mb4.2/7, Error ellipse: s-maj=4.6km s-min=2.9km az=41.0*
*BJI **23** 00:02:23.6, 35.68N×77.67E, h10km, mB4.2/3, mb4.1/4, ML4.1/6, Ms3.6/2*
*ISCJB **23** 00:02:26.8±0.2, 35.65N±0.02×77.70E±0.05, h100km, mb3.9/23, Error ellipse: s-maj=5.6km s-min=2.5km az=168.7*
*MOS **23** 00:02:28.3±1.0, 35.66N×77.42E, h104km, mb4.5/9, Error ellipse: s-maj=12.3km s-min=5.3km az=106.5*
*IDC **23** 00:02:29.5±3.1, 35.69N×77.55E, h98km±27km, mb3.5/16, mb1 3.7/21, mb1mx3.6/43, mbtmp3.9/21, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=21.4km s-min=13.1km az=27.0*
*NEIC **23** 00:02:33.7±3.8, 35.99N×76.92E, h102km±13km, mb4.6/5, Error ellipse: s-maj=53.0km s-min=12.2km az=122.0*
*NNC **23** 00:02:34.9±7.2, 36.16N×77.45E, h162km±82km, mb3.1, mpv3.8, Error ellipse: s-maj=56.6km s-min=29.1km az=161.0*

ISC 23 00:02:28.9±0.5, 35.67N±0.04×77.62E±0.06, h100km, n137, σ1°69/144, mb4.0/23, 15C-9D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.41**	**204**	*e*P	**Pn**	**00 03 22.0**	**+1.7**
DLH				*e*S	**Sn**	**00 04 00.0**	**-0.1**
DHRM	**DHARAMSHALA**	**3.59**	**198**	*e*P	**Pn**	**00 03 24.7**	**+2.0**
DHRM				*e*S	**Sn**	**00 04 06.1**	**+1.8**
KSH	**Kashi**	**4.05**	**342**	Pn	Pn	00 03 25.8	-3.0
KSH				Sn	**Sn**	**00 04 09.8**	**-5.5**
KSH				SMN			
	880nm,1.1s						
KSH				SME			
	410nm,1.1s						
SDNR	**Sundarnagar**	**4.20**	**188**	*e*P	**Pn**	**00 03 32.0**	**+1.2**
SDNR				*ex*	x	00 04 55.0	
BHK	**Bhakra**	**4.36**	**194**	*e*P	**Pn**	**00 03 35.0**	**+2.0**
SMLA	**Simla**	**4.55**	**185**	*i* P	**Pn**	**00 03 36.4**	**+0.9**
SMLA				*i* S	**Sn**	**00 04 25.8**	**-1.4**
DDI	**Dehra Dun**	**5.35**	**176**	*e*P	**Pn**	**00 03 46.8**	**+0.4**
DDI				*e*S	**Sn**	**00 04

DANN					*e*Sn		Sn	00 06 07.7	-7.6
	comp=N,61nm,0.4s									
KK31	**Karatay Array**	**9.23**	**326**	⇑Pn			**Pn**	**00 04 37.0**	**-2.1**
	comp=N,0.8nm,0.3s,baz=136,slow=13,SNR=6.2									
KK31				⇑Sn			Sn	00 06 13.1	-7.9
	comp=N,5.6nm,0.6s,baz=142,slow=25,SNR=3.0									
KKAR	**Karatay Array**	**9.23**	**326**	*e*P			**Pn**	**00 04 36.8**	**-2.2**
KKAR				*e*				00 06 12.8		
KKAR	**Karatay Array**	**9.23**	**326**	*e*Pn			**Pn**	**00 04 36.8**	**-2.2**
KKAR				*e*Sn			Sn	00 06 12.8	-8.2
AJM	**Ajmer**	**9.51**	**196**	*e*P			**Pn**	**00 04 43.0**	**0.0**
AJM				*e*S			**Sn**	**00 06 23.0**	**-5.1**
KKN	**Kakani**	**10.21**	**138**	*e*Pn			Pn	00 04 49.7	-2.9
DMN	**Daman**	**10.26**	**140**	*e*Pn			**Pn**	**00 04 51.7**	**-1.7**
DMN				*e*Sn			Sn	00 06 39.0	-7.6
	comp=N,27nm,0.3s									
PKIN	**Phulchoki**	**10.44**	**138**	*e*Pn			Pn	00 04 53.8	-2.0
PKIN				*e*Sn			Sn	00 06 43.3	-7.7
	comp=N,26nm,0.3s									
GUN	**Gumba**	**10.45**	**135**	*e*Pn			**Pn**	**00 04 54.5**	**-1.5**
PKI	**Pulchoki**	**10.45**	**138**	*e*Pn			Pn	00 04 53.7	-2.4
PKI				*e*Sn			Sn	00 06 43.5	-7.9
	comp=N,30nm,0.5s									
JIRN	**Jiri**	**10.82**	**135**	*e*Pn			Pn	00 04 59.1	-2.0
JIRN				*e*Sn			Sn	00 06 52.0	-8.7
	comp=N,33nm,0.3s									
WMQ	**Urumqi**	**11.23**	**41**	*e*P			Pn	00 05 10.4	+4.1
WMQ				pP				00 05 17.3		
WMQ				sP				00 05 20.3		
WMQ				S			**Sn**	**00 07 05.5**	**-4.3**
RAMN	**Ramite**	**11.60**	**136**	*e*Pn			Pn	00 05 07.9	-3.5
MK31	**Makanchi Array**	**11.65**	**16**	⇓Pn			**Pn**	**00 05 11.2**	**-0.5**
	comp=N,2.1nm,0.3s,baz=203,slow=17,SNR=3.5									
MK31				⇑Sn			Sn	00 07 12.6	-7.1
	comp=N,4.1nm,0.5s,baz=208,slow=21,SNR=19									
MKAR	**Makanchi Array**	**11.65**	**16**	P			**Pn**	**00 05 10.5**	**-1.3**
	comp=N,3.3nm,0.3s,baz=214,slow=14,SNR=148									
MKAR				S			Sn	00 07 12.9	-6.9
	comp=N,2.2nm,0.3s,baz=204,slow=24,SNR=14									
MKAR	**Makanchi Array**	**11.65**	**16**	P			**Pn**	**00 05 10.5**	**-1.3**
MKAR				S			Sn	00 07 12.9	-6.9
MKAR				pmax			pmax			
	comp=Z,3.0nm,0.3s									
MKAR				smax			smax			
	comp=N,2.0nm,0.3s									
TAPN	**Taplejung**	**11.95**	**131**	*e*Pn			Pn	00 05 13.0	-3.2
ODAN	**Odare**	**12.12**	**134**	*e*Pn			Pn	00 05 14.9	-3.5
ODAN				*e*Sn			Sn	00 07 21.3	-11
	comp=N,25nm,0.5s									
KURBB	**Kurchatov Arra**	**14.96**	**2**	⇓Pn			**P**	**00 05 57.1**	**-0.8**
	comp=N,4.7nm,1.4s									
KURBB	**Kurchatov Arra**	**14.96**	**2**	P			**Pn**	**00 05 54.9**	**0.0**
	comp=N,0.1nm,0.3s,baz=190,slow=12,SNR=7.9									
KURBB				S			**S**	**00 08 46.6**	**-4.2**
	baz=188,slow=20,SNR=5.5									
KURK	**Kurchatov**	**15.05**	**2**	⇓Pn			**Pn**	**00 05 56.9**	**+0.8**
	comp=N,1.2nm,0.6s									
KURK	**Kurchatov**	**15.05**	**2**	P			**Pn**	**00 05 54.9**	**-1.1**
KURK				S			**Sn**	**00 08 46.6**	**+4.6**
BVB9	**Borovoye Array**	**18.07**	**346**	Pn			**P**	**00 06 32.4**	**+0.1**
BVAR	**Borovoye Array**	**18.08**	**346**	P			**P**	**00 06 33.2**	**+0.7**
	comp=N,0.7nm,0.3s,baz=156,slow=11,SNR=29									
BVAR	**Borovoye Array**	**18.08**	**346**	P			**P**	**00 06 33.2**	**+0.7**
BVAR				pmax			pmax			
	comp=Z,1.0nm,0.3s									
BRVK	**Borovoye**	**18.14**	**346**	⇑Pn			**P**	**00 06 33.4**	**+0.4**
	comp=Z,5.5nm,0.8s									
AB31	**Akbulak array**	**18.76**	**322**	⇑Pn			**P**	**00 06 40.2**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=123,slow=12,SNR=6.1									
ABKAR	**Akbulak array**	**18.76**	**322**	*e*Pn			**P**	**00 06 37.7**	**-2.1**
	comp=Z,0.8nm,0.5s									
ZALV	**Zalesovo Beam**	**18.95**	**13**	P			**P**	**00 06 42.2**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=184,slow=9.8,SNR=5.7									
ZALV	**Zalesovo Beam**	**18.95**	**13**	*i* P			**Pn**	**00 06 44.4**	**+0.7**
ZALV				pmax			pmax			
	comp=Z,1.0nm,0.3s									
NVS	**Novosibirsk**	**19.56**	**10**	*e*P			**P**	**00 06 48.7**	**+0.2**
NVS				pmax			pmax			
	comp=Z,7.0nm,1.0s									
NVS				pmax			pmax			
	comp=N,4.0nm,0.7s									
ISAD	**Sadrabad**	**20.23**	**266**	*e*P			**P**	**00 06 53.5**	**-2.8**
AKTO	**Aktyubinsk**	**20.47**	**322**	⇑Pn			**P**	**00 06 57.8**	**-0.5**
	comp=N,4.7nm,0.8s									
AKTO	**Aktyubinsk**	**20.47**	**322**	P			**P**	**00 06 58.1**	**-0.3**
	comp=N,4.6nm,0.7s,baz=110,slow=11,SNR=10									
IZEF	**Zefreh**	**21.06**	**270**	*e*P			**P**	**00 07 05.9**	**+0.7**
ISRV	**Sarvestan**	**21.56**	**260**	*e*P			**P**	**00 07 14.0**	**+3.4**
CD2	**Chengdu**	**22.34**	**95**	*e*P			P	00 07 25.0	+6.5
ARU	**Arti**	**24.45**	**334**	*c i*P			**P**	**00 07 38.8**	**+0.7**
ARU								00 08 09.6		
ARU				SS			SS	00 12 52.3		
ARU				pmax			pmax			
	comp=Z,6.0nm,0.8s									
SONM	**Songino Array**	**24.52**	**51**	P			**P**	**00 07 40.8**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=248,slow=8.9,SNR=12									
ULN	**Ulaanbaatar**	**24.95**	**52**	*i* P			**P**	**00 07 45.2**	**+2.3**
CMAR	**Chiang Mai Arr**	**25.50**	**127**	P			**P**	**00 07 49.1**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=315,slow=10,SNR=3.4									
CMAR	**Chiang Mai Arr**	**25.50**	**127**	*ce*P			P	00 07 41.7	-6.2
CMAR				pmax			pmax			
	comp=Z,2.0nm,0.4s									
BRTR	**Keskin Array B**	**34.77**	**290**	P			**P**	**00 09 11.3**	**+1.6**
	comp=Z,1.2nm,0.4s,baz=107,slow=7.0,SNR=15									
BRTR	**Keskin Array B**	**34.77**	**290**	P			**P**	**00 09 11.4**	**+1.6**
BRTR				pmax			pmax			
	comp=Z,1.0nm,0.4s									
AKASG	**Malin Array Be**	**37.64**	**309**	P			**P**	**00 09 34.2**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=80,slow=7.9,SNR=4.3									
AKASG	**Malin Array Be**	**37.64**	**309**	*ce*P			**P**	**00 09 34.9**	**+1.0**
AKASG				pmax			pmax			
	comp=Z,1.0nm,0.4s									
JOF	**Joensuu**	**39.32**	**329**	*e*p			**P**	**00 09 47.9**	**+0.1**
	comp=Z,5.0nm,0.5s									
JOF	**Joensuu**	**39.32**	**329**	*e*P			**P**	**00 09 47.9**	**+0.1**
JOF				pmax			pmax			
	comp=Z,5.0nm,0.5s									
FINES	**FINESS Array B**	**41.19**	**325**	P			**P**	**00 10 04.1**	**+0.9**
	comp=Z,2.9nm,0.5s,baz=116,slow=9.9,SNR=39									
FINES	**FINESS Array B**	**41.19**	**325**	*i* P			**P**	**00 10 04.0**	**+0.8**
FINES				pmax			pmax			
	comp=Z,3.0nm,0.5s									
KAF	**Kangasniemi**	**41.26**	**326**	*e*p			**P**	**00 10 03.6**	**-0.2**
	comp=Z,1.8nm,0.7s									
KAF	**Kangasniemi**	**41.26**	**326**	*e*P			**P**	**00 10 03.6**	**-0.2**
KAF				pmax			pmax			
	comp=Z,2.0nm,0.7s									
ARCES	**ARCESS Array B**	**44.00**	**336**	P			**P**	**00 10 26.9**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=106,slow=8.9,SNR=13									
ARCES	**ARCESS Array B**	**44.00**	**336**	P			**P**	**00 10 26.9**	**+1.0**
ARCES				pmax			pmax			
	comp=Z,1.0nm,0.5s									
GERES	**GERESS Array B**	**47.75**	**307**	P			**P**	**00 10 54.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=66,slow=9.8,SNR=3.1									
NB2	**NORSAR Subarra**	**48.26**	**323**	P			**P**	**00 10 59.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=83,slow=7.4									
NOA	**NORSAR Array B**	**48.26**	**323**	P			**P**	**00 10 59.8**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=91,slow=7.5,SNR=3.5									
SBF	**Sospel**	**53.09**	**302**	*e*P			**P**	**00 11 35.7**	**-0.3**
SBF	**Sospel**	**53.09**	**302**	*e*P			**P**	**00 11 35.7**	**-0.3**
SBF	**Sospel**	**53.09**	**302**	*e*P			**P**	**00 11 35.7**	**-0.3**
LPG	**La Plagne**	**53.10**	**304**	*e*P			**P**	**00 11 36.3**	**0.0**
	comp=Z,5.1nm,0.9s									
LPG	**La Plagne**	**53.10**	**304**	*e*P			**P**	**00 11 36.3**	**0.0**
LPG				pmax			pmax			
	comp=Z,5.0nm,0.9s									
LPG	**La Plagne**	**53.10**	**304**	*e*P			**P**	**00 11 36.3**	**0.0**
	comp=Z,5.1nm,0.9s									
LPL	**La Plagne**	**53.11**	**304**	*e*P			**P**	**00 11 36.0**	**-0.3**
	comp=Z,3.5nm,0.6s									
LPL	**La Plagne**	**53.11**	**304**	*e*P			**P**	**00 11 36.0**	**-0.3**
LPL				pmax			pmax			
	comp=Z,4.0nm,0.6s									
LPL	**La Plagne**	**53.11**	**304**	*e*P			**P**	**00 11 36.0**	**-0.3**
	comp=Z,3.5nm,0.6s									
ORIF	**Oris-en-Rattie**	**53.85**	**303**	*e*P			**P**	**00 11 41.4**	**-0.2**
ORIF	**Oris-en-Rattie**	**53.85**	**303**	*e*P			**P**	**00 11 41.4**	**-0.2**
ORIF	**Oris-en-Rattie**	**53.85**	**303**	*e*P			**P**	**00 11 41.4**	**-0.2**
SMF	**Signal de Mont**	**54.72**	**306**	*e*P			**P**	**00 11 47.9**	**+0.2**
SMF	**Signal de Mont**	**54.72**	**306**	*e*P			**P**	**00 11 47.9**	**+0.2**
SMF	**Signal de Mont**	**54.72**	**306**	*e*P			**P**	**00 11 47.9**	**+0.2**
AVF	**Avril sur Loir**	**55.00**	**306**	*e*P			**P**	**00 11 50.0**	**+0.3**
	comp=Z,5.0nm,1.0s									
AVF	**Avril sur Loir**	**55.00**	**306**	*e*P			**P**	**00 11 50.0**	**+0.3**
AVF				pmax			pmax			
	comp=Z,5.0nm,1.0s									
AVF	**Avril sur Loir**	**55.00**	**306**	*e*P			**P**	**00 11 50.0**	**+0.3**
	comp=Z,5.0nm,0.6s									
BGF	**Bois d'Agland**	**55.40**	**306**	*e*P			**P**	**00 11 52.5**	**-0.1**
BGF	**Bois d'Agland**	**55.40**	**306**	*e*P			**P**	**00 11 52.5**	**-0.1**
BGF	**Bois d'Agland**	**55.40**	**306**	*e*P			**P**	**00 11 52.5**	**-0.1**
TCF	**Toulx Ste Croi**	**55.90**	**306**	*e*P			**P**	**00 11 56.2**	**-0.1**
	comp=Z,9.5nm,1.1s									
TCF					pmax		pmax			
	comp=Z,10.0nm,1.1s									
TCF	**Toulx Ste Croi**	**55.90**	**306**	*e*P			**P**	**00 11 56.2**	**-0.1**
	comp=Z,9.5nm,1.1s									
LDF	**La Druitiere**	**56.70**	**309**	*e*P			**P**	**00 12 02.1**	**+0.3**
	comp=Z,4.5nm,0.6s									
LDF	**La Druitiere**	**56.70**	**309**	*e*P			**P**	**00 12 02.1**	**+0.3**
LDF				pmax			pmax			
	comp=Z,5.0nm,0.6s									
LDF	**La Druitiere**	**56.70**	**309**	*e*P			**P**	**00 12 02.1**	**+0.3**
	comp=Z,4.5nm,0.6s									
MTLF	**Montolieu**	**56.85**	**303**	*e*P			**P**	**00 12 03.7**	**+0.7**
MTLF	**Montolieu**	**56.85**	**303**	*e*P			**P**	**00 12 03.7**	**+0.7**
MTLF	**Montolieu**	**56.85**	**303**	*e*P			**P**	**00 12 03.7**	**+0.7**
GRR	**Gorron**	**57.23**	**309**	*e*P			**P**	**00 12 05.6**	**0.0**
GRR	**Gorron**	**57.23**	**309**	*e*P			**P**	**00 12 05.6**	**0.0**
GRR	**Gorron**	**57.23**	**309**	*e*P			**P**	**00 12 05.6**	**0.0**
ESDC	**Sonseca Array**	**62.53**	**301**	P			**P**	**00 12 43.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=57,slow=4.7,SNR=3.3									
TORD	**Torodi Ar. Bea**	**71.09**	**273**	P			**P**	**00 13 36.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=50,slow=5.8,SNR=11									
INK	**Inuvik**	**73.75**	**12**	P			**P**	**00 13 52.7**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=20,slow=4.8,SNR=3.7									
ILAR	**Eielson Array**	**74.00**	**18**	P			**P**	**00 13 53.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=323,slow=4.4,SNR=9.1									
WRA	**Warramunga Arr**	**77.09**	**126**	P			**P**	**00 14 13.0**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=327,slow=6.0,SNR=5.8									
WRA	**Warramunga Arr**	**77.09**	**126**	P			**P**	**00 14 13.0**	**+1.6**
ASAR	**Alice Springs**	**79.48**	**129**	P			**P**	**00 14 26.0**	**+1.5**
	comp=Z,0.5nm,1.0s,baz=318,slow=5.8,SNR=5.0									
ASAR	**Alice Springs**	**79.48**	**129**	P			**P**	**00 14 26.0**	**+1.5**
YKA	**Yellowknife Ar**	**81.68**		P			**P**	**00 14 35.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=344,slow=4.9,SNR=4.4									

MEX 23 00:08:37.1±0.4**, 17°.98N**×**101°.73W, h42**km±8km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.45**	**146**	*i* P		Pn	00 08 45.4	-1.8
ZIIG				*i* S		Sn	00 08 52.6	-1.7
ARIG	**Puente Sto Nin**	**1.35**	**77**	*e*P		Pn	00 08 58.0	-1.5
ARIG				*e*S		Sn	00 09 13.9	-2.3
MMIG	**Aquila**	**1.57**	**282**	*e*P		Pn	00 09 01.4	-1.1
MMIG				*e*S		Sn	00 09 20.0	-1.6
CAIG	**El Cayaco**	**1.67**	**123**	*e*P		Pn	00 09 02.7	-1.2
CAIG				*i* S		Sn	00 09 22.0	-2.1
MEIG	**Mezcala**	**2.01**	**91**	*i* P		Pn	00 09 06.4	-2.3
MEIG				*i* S		Sn	00 09 30.6	-2.0
PLIG	**Platanillo**	**2.15**	**79**	*i* P		Pn	00 09 09.1	-1.6
PLIG				*i* S		Sn	00 09 34.0	-2.3
YAIG	**Yautepec**	**2.67**	**70**	*e*P		Pn	00 09 15.9	-1.9
YAIG				*e*S		Sn	00 09 47.2	-2.0

*IDC **23** 00:16:11.8±8.9, 30°.71S×179°.67W, h386km±95km, mb2.8/1, mb1 3.1/2, mb1mx2.8/23, mbtmp3.7/2, Error ellipse: s-maj=97.5km s-min=44.4km az=14.0*

ISC 23 00:16:08.9±1.5**, 30°.4S**±0°.1×**179°.5E**±0°.4**, h350km, n16, σ1°65/22, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.18**	**188**	*e*PN		**Pn**	**00 17 55.2**	**+2.0**
MXZ				*e*SN		**S**	**00 19 17.9**	**-0.3**
WMGZ	**Waiomatatini S**	**7.42**	**187**	*e*PN		**Pn**	**00 17 57.7**	**+1.6**
HAZ	**Te Kaha**	**7.44**	**191**	*e*PN		**Pn**	**00 17 59.4**	**+3.1**
HAZ				SN		**S**	**00 19 24.4**	**+0.7**
PUZ	**Puketiti**	**7.69**	**187**	*e*PN		**Pn**	**00 17 59.8**	**+0.6**
PUZ				*e*SN		**S**	**00 19 27.5**	**-1.7**
MWZ	**Matawai**	**8.05**	**191**	*e*PN		**P**	**00 18 05.8**	**-0.8**
MWZ				*e*SN		**S**	**00 19 36.8**	**-0.2**
URZ	**Urewera**	**8.05**	**194**	P		**P**	**00 18 06.5**	**0.0**
	1.1nm,0.3s,baz=27,slow=6.8,SNR=15							
URZ				S		**S**	**00 19 39.9**	**+2.9**
	3.2nm,0.3s,baz=252,slow=22,SNR=17							
URZ	**Urewera**	**8.05**	**194**	*e*PN		**P**	**00 18 05.2**	**-1.4**
URZ				*e*SN		**S**	**00 19 37.6**	**+0.6**
SNGZ	**Shannon Statio**	**8.51**	**191**	*e*PN		**P**	**00 18 11.3**	**-0.4**
PXZ	**Pawanui**	**9.81**	**192**	*e*PN		**Pn**	**00 18 24.3**	**-0.2**
PXZ				*e*SN		**S**	**00 20 12.8**	**-2.8**
MRZ	**Mangatainoka R**	**10.69**	**196**	*e*PN		**P**	**00 18 36.1**	**+0.2**
MRZ				*e*SN		**S**	**00 20 31.6**	**-3.3**
NNZ	**Nelson**	**11.85**	**203**	*e*SN		**S**	**00 21 00.6**	**+0.1**
WRA	**Warramunga Arr**	**41.95**	**274**	P		P	00 23 32.5	+5.6
	0.4nm,0.5s,baz=111,slow=8.2,SNR=8.8							
KAF	**Kangasniemi**	**143.84**	**339**	*ep*		PKPab	00 34 58.2	-2.0
	2.0nm,0.6s							
FINES	**FINESS Array B**	**144.41**	**338**	PKP		**PKPab**	**00 35 02.5**	**0.0**
	1.9nm,0.4s,baz=66,slow=3.4,SNR=27							
NB2	**NORSAR Subarra**	**148.42**	**349**	PKP		**PKPbc**	**00 35 13.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.42**	**349**	PKPbc		**PKPbc**	**00 35 13.0**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=16,slow=4.2,SNR=3.3							

*CSEM **23** 00:28:14.5±0.1, 36°.38N×3°.69W, h2km, ML3.5/15, Error ellipse: s-maj=2.6km s-min=2.4km az=11.0*
*INMG **23** 00:28:15.2±1.4, 36°.32N×3°.67W, h0km, ML2.8, Error ellipse: s-maj=3.0km s-min=2.3km az=139.0*
*MDD **23** 00:28:15.3±0.3, 36°.36N×3°.68W, h0km, mbLg3.0/31, Error ellipse: s-maj=2.7km s-min=2.6km az=142.0, PRXIMO*
*SFS **23** 00:28:15.0, 36°.34N×3°.68W, h0km, ML3.0*
*IGIL **23** 00:28:16.3, 36°.34N×3°.69W, h2km, ML2.6*
*LDG **23** 00:28:16.2±0.2, 36°.33N×3°.64W, h2km, Md3.6/1, Ml3.0/4, Error ellipse: s-maj=3.3km s-min=2.8km az=175.0*
*CNRM **23** 00:28:19.3, 36°.39N×3°.62W, h30km, MD3.2*

ISC 23 00:28:14.6±1.0**, 36°.39N**±0°.02×**3°.65W**±0°.02**, h16km**±9km**, n161, σ1°65/255, 2C-3D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGUA	**Guajares**	**0.45**	**8**	⇓Pg		**Pb**	**00 28 24.3**	**+0.2**
	286nm,0.2s,SNR=18							
EGUA				Lg		Lg	00 28 31.2	
	362nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**0.45**	**8**	Pg		**Pb**	**00 28 24.3**	**+0.2**
	286nm,0.2s,SNR=18							
EGUA				Lg		Lg	00 28 31.2	
	362nm,0.2s,SNR=7.9							
ERON	**Agron**	**0.64**	**349**	Pg		Pn	00 28 32.4	+3.3
	184nm,0.3s,SNR=7.9							
EMAL	**Malaga-Limoner**	**0.73**	**301**	P		**Pg**	**00 28 28.8**	**-0.1**
EMAL				S		**Sg**	**00 28 37.7**	**-0.9**
EMAL	**Malaga-Limoner**	**0.73**	**301**	*e*P		**Pg**	**00 28 28.8**	**-0.1**
EMAL				*e*S		**Sg**	**00 28 37.7**	**-0.9**
EBER	**Berja**	**0.79**	**50**	Pg		**Pb**	**00 28 30.2**	**+0.1**
	64nm,0.3s,SNR=281							
EBER				Lg		Lg	00 28 42.2	
	279nm,0.2s,SNR=25							
EBER	**Berja**	**0.79**	**50**	Pg		**Pb**	**00 28 30.2**	**+0.1**
	64nm,0.3s,SNR=281							
EBER				Lg		Lg	00 28 42.2	
	279nm,0.2s,SNR=25							
EQUE	**Quentar**	**0.83**	**11**	Pg		**Pb**	**00 28 31.1**	**+0.4**
	72nm,0.3s,SNR=104							
EQUE				Lg		Lg	00 28 42.3	
	87nm,0.3s,SNR=10							
EQUE	**Quentar**	**0.83**	**11**	Pg		**Pb**	**00 28 31.1**	**+0.4**
	72nm,0.3s,SNR=104							
EQUE				Lg		Lg	00 28 42.3	
	87nm,0.3s,SNR=10							
SELV	**Sierra Elvira**	**0.85**	**356**	Pg		**Pb**	**00 28 31.3**	**+0.3**
	16nm,0.4s,SNR=7.9							
SELV				Lg		Lg	00 28 42.8	
	36nm,0.2s,SNR=7.9							
SELV	**Sierra Elvira**	**0.85**	**356**	Pg		**Pb**	**00 28 31.3**	**+0.3**
	16nm,0.4s,SNR=7.9							
SELV				Lg		Lg	00 28 42.8	
	36nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**0.89**	**4**	⇓Pg		**Pg**	**00 28 32.5**	**+0.6**
	108nm,0.2s,SNR=18							
ECOG				Lg		Lg	00 28 46.3	
	95nm,0.2s,SNR=6.2							
EMIJ	**Mijas**	**0.92**	**281**	Pg		**Pb**	**00 28 31.3**	**-0.9**
	23nm,0.1s,SNR=476							
EMIJ				Lg		Lg	00 28 43.2	
	137nm,0.3s,SNR=16							
EMIJ	**Mijas**	**0.92**	**281**	Pg		**Pb**	**00 28 31.3**	**-0.9**
	23nm,0.1s,SNR=476							
EMIJ				Lg		Lg	00 28 43.2	
	137nm,0.3s,SNR=16							
GORA	**Gorafe**	**1.19**	**24**	Pg		**Pg**	**00 28 37.7**	**0.0**
	33nm,0.3s,SNR=7.9							
GORA				Lg		Lg	00 28 55.7	
	66nm,0.2s,SNR=7.9							
GORA	**Gorafe**	**1.19**	**24**	Pg		**Pg**	**00 28 37.7**	**0.0**
	33nm,0.3s,SNR=7.9							
GORA				Lg		Lg	00 28 55.7	
	66nm,0.2s,SNR=7.9							
EMEL	**Melilla**	**1.22**	**152**	Pg		**Pb**	**00 28 37.8**	**+0.5**
	63nm,0.2s,SNR=14							
EMEL				Lg		Lg	00 28 52.3	
	885nm,0.1s,SNR=12							
EMLI	**Melilla**	**1.23**	**152**	Pg		**Pb**	**00 28 37.8**	**+0.5**
	63nm,0.2s,SNR=14							
EMLI				Lg		Lg	00 28 52.3	
	885nm,0.1s,SNR=12							
MELI	**Melilla**	**1.24**	**152**	Pg		**Pn**	**00 28 37.5**	**+0.4**
	SNR=4.0							
MELI				Lg		Lg	00 28 54.2	
	188nm,0.3s,SNR=7.9							
MELI	**Melilla**	**1.24**	**152**	Pg		**Pn**	**00 28 37.5**	**+0.4**
	SNR=4.0							
MELI	**Melilla**	**1.24**	**152**	*e*P		**Pg**	**00 28 38.3**	**-0.1**
MELI				*e*S		**Sb**	**00 28 53.2**	**0.0**
MELI				Lg		Lg	00 28 54.2	
	188nm,0.3s,SNR=7.9							
REAL	**Reales**	**1.26**	**275**	P		**Pn**	**00 28 36.8**	**-0.9**
REAL				S		**Sb**	**00 28 51.8**	**-2.3**
REAL	**Reales**	**1.26**	**275**	*e*P		**Pn**	**00 28 36.8**	**-0.9**
REAL				*e*S		**Sb**	**00 28 51.8**	**-2.3**
ELUQ	**Luque**	**1.27**	**337**	⇑Pg		**Pg**	**00 28 40.0**	**+0.9**
	55nm,0.2s,SNR=18							
ELUQ				Lg		Lg	00 28 57.4	
	132nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**1.27**	**337**	Pg		**Pg**	**00 28 40.0**	**+0.9**
	55nm,0.2s,SNR=18							
ELUQ				Lg		Lg	00 28 57.4	
	132nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**1.30**	**63**	Pg		**Pn**	**00 28 38.4**	**+0.4**
	38nm,0.2s,SNR=7.9							
ENIJ				Lg		Lg	00 28 57.2	
	254nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**1.30**	**63**	Pg		**Pn**	**00 28 38.4**	**+0.4**
	38nm,0.2s,SNR=7.9							
ENIJ				Lg		Lg	00 28 57.2	
	254nm,0.4s,SNR=7.9							
TOU	**Touzarine**	**1.43**	**184**	P		**Pg**	**00 28 42.0**	**-0.1**
TOU				S		**Sn**	**00 28 58.5**	**+0.2**
TOU	**Touzarine**	**1.43**	**184**	*i* P		**Pg**	**00 28 42.0**	**-0.1**
TOU				*i* S		**Sn**	**00 28 58.5**	**+0.2**
EQES	**Quesada**	**1.48**	**18**	⇓Pg		**Pg**	**00 28 43.4**	**+0.2**
	74nm,0.3s,SNR=18							
EQES				Lg		Lg	00 29 02.5	
	70nm

28nm,0.4s
PBAR Barrancos 3.24 304 Pn **Pn** **00 29 05.7 +1.0**
PBAR Sn **Sn** **00 29 43.4 +0.5**
28nm,0.4s
PBAR Barrancos 3.24 304 *e*Pn **Pn** **00 29 05.7 +1.0**
PBAR *e*Sn **Sn** **00 29 43.4 +0.5**
28nm,0.4s
EGRO El Granado 3.28 292 Pn **Pn** **00 29 06.3 +1.1**
5.1nm,0.3s,SNR=52
EGRO Sn **Sn** **00 29 44.0 +0.1**
3.8nm,0.1s,SNR=7.9
EGRO El Granado 3.28 292 Pn **Pn** **00 29 06.3 +1.1**
5.1nm,0.3s,SNR=52
EGRO Sn **Sn** **00 29 44.0 +0.1**
3.8nm,0.1s,SNR=7.9
ESDC Sonseca Array 3.29 356 Pn **Pn** **00 29 08.1 +2.6**
1.0nm,0.2s,baz=176,slow=12,SNR=15
ESDC Lg Lg 00 29 58.6
baz=178,slow=28,SNR=7.9
ESDC Sonseca Array 3.29 356 Pn **Pn** **00 29 08.1 +2.6**
1.0nm,0.2s,SNR=15
ESDC Lg Lg 00 29 58.6
SNR=7.9
PVAQ Vaqueiros 3.42 288 *e*Pn **Pn** **00 29 08.1 +1.0**
PVAQ *e*Sn **Sn** **00 29 47.1 -0.2**
PVAQ A A 00 29 50.3
13nm,0.3s
PVAQ Vaqueiros 3.42 288 Pn **Pn** **00 29 08.1 +1.0**
PVAQ Sn **Sn** **00 29 47.1 -0.2**
13nm,0.3s
PVAQ Vaqueiros 3.42 288 *e*Pn **Pn** **00 29 08.1 +1.0**
PVAQ *e*Sn **Sn** **00 29 47.1 -0.2**
13nm,0.3s
OKGL Djebel Kef Gue 3.49 94 Pn **Pn** **00 29 10.0 +1.8**
10.0nm,0.1s,SNR=7.9
PBDV Barranco-do-Ve 3.54 285 *e*Pn **Pn** **00 29 10.8 +1.9**
PBDV *e*Sn **Sn** **00 29 50.8 +0.4**
PBDV A A 00 29 59.5
12nm,0.5s
PBDV Barranco-do-Ve 3.54 285 Pn **Pn** **00 29 10.8 +1.9**
PBDV Sn **Sn** **00 29 50.8 +0.4**
12nm,0.5s
PBDV Barranco-do-Ve 3.54 285 *e*Pn **Pn** **00 29 10.8 +1.9**
PBDV *e*Sn **Sn** **00 29 50.8 +0.4**
12nm,0.5s
EBAD Badajoz 3.57 312 Pn **Pn** **00 29 10.4 +1.1**
6.5nm,0.4s,SNR=62
EBAD Sn **Sn** **00 29 50.7 -0.3**
19nm,0.2s,SNR=7.9
EBAD Lg Lg 00 30 08.0
SNR=7.9
EBEN Beniarda 3.57 49 Pn **Pn** **00 29 10.4 +1.1**
0.3nm,0.2s,SNR=7.9
EBEN Sn **Sn** **00 29 51.6 +0.5**
1.5nm,0.3s,SNR=7.9
PCVE Castro Verde 3.73 291 *e*Pn **Pn** **00 29 12.6 +1.2**
PCVE *e*Sn **Sn** **00 29 55.7 +0.7**
PCVE Castro Verde 3.73 291 Pn **Pn** **00 29 12.6 +1.2**
PCVE Sn **Sn** **00 29 55.7 +0.7**
PCVE Castro Verde 3.73 291 *e*Pn **Pn** **00 29 12.6 +1.2**
PCVE *e*Sn **Sn** **00 29 55.7 +0.7**
MESJ Messejana 3.93 293 *e*P **Pn** **00 29 15.5 +1.3**
MESJ *e*S **Sn** **00 29 59.2 -0.8**
MESJ AML AML 00 30 03.1
comp=N,11nm,0.3s
MESJ Messejana 3.93 293 P **Pn** **00 29 15.5 +1.3**
MESJ S **Sn** **00 29 59.2 -0.8**
comp=N,11nm,0.3s
PESTR Estremoz 3.99 310 *e*Pn **Pn** **00 29 17.0 +2.0**
PESTR *e*Sn **Sn** **00 29 59.6 -1.8**
PESTR A A 00 30 38.8
comp=N,16nm,0.6s
PESTR Estremoz 3.99 310 *e*Pn **Pn** **00 29 17.0 +2.0**
PESTR *e*Sn **Sn** **00 29 59.6 -1.8**
comp=N,16nm,0.6s
EVO Evora 4.08 303 *e*Pn **Pn** **00 29 18.3 +2.0**
EVO *e*Sn **Sn** **00 30 04.8 +1.2**
EVO *e*Sg **Sg** **00 30 26.5 +1.0**
comp=N,36nm,0.6s
EVO Evora 4.08 303 *e*Pn **Pn** **00 29 18.2 +2.0**
EVO *e*Sn **Sn** **00 30 02.9 -0.7**
EVO A A 00 30 08.1
comp=N,11nm,0.1s
EVO Evora 4.08 303 Pn **Pn** **00 29 18.2 +2.0**
EVO Sn **Sn** **00 30 02.9 -0.7**
comp=N,11nm,0.1s
EVO Evora 4.08 303 *e*Pn **Pn** **00 29 18.2 +2.0**
EVO *e*Sn **Sn** **00 30 02.9 -0.7**
comp=N,11nm,0.1s
MORF Marmelete 4.12 284 *e*P **Pn** **00 29 18.5 +1.7**
MORF *e*S **Sn** **00 30 03.2 -1.5**
MORF AML AML 00 30 06.9
comp=N,14nm,0.4s
MORF Marmelete 4.12 284 *e*Pn **Pn** **00 29 18.7 +1.9**
MORF *e*Sn **Sn** **00 30 06.3 +1.7**
MORF A A 00 30 10.7
comp=N,11nm,0.2s
MORF Marmelete 4.12 284 P **Pn** **00 29 18.5 +1.7**
MORF S **Sn** **00 30 03.2 -1.5**
comp=N,14nm,0.4s
MORF Marmelete 4.12 284 *e*Pn **Pn** **00 29 18.7 +1.9**
MORF *e*Sn **Sn** **00 30 06.3 +1.7**
comp=N,11nm,0.2s
EPLA Plasencia 4.14 333 Pn **Pn** **00 29 19.6 +2.5**
comp=N,3.4nm,0.3s,SNR=7.9
EPLA Lg Lg 00 30 24.5
SNR=7.9
EVOP Sao Brissos 4.15 302 *e*Pn **Pn** **00 29 18.3 +1.1**
EVOP *e*Sn **Sn** **00 30 04.8 -0.6**
EVOP *e*Sg **Sg** **00 30 26.5 -1.4**
comp=N,18nm,0.6s
PTEO Sao Teotonio 4.23 287 *e*Pn **Pn** **00 29 20.3 +2.0**
PTEO *e*Sn **Sn** **00 30 07.8 +0.6**
PTEO A A 00 30 13.4
comp=N,14nm,0.5s
PTEO Sao Teotonio 4.23 287 Pn **Pn** **00 29 20.3 +2.0**
PTEO Sn **Sn** **00 30 07.8 +0.6**
comp=N,6.8nm,0.5s
PTEO Sao Teotonio 4.23 287 *e*Pn **Pn** **00 29 20.3 +2.0**
PTEO *e*Sn **Sn** **00 30 07.8 +0.6**
comp=N,14nm,0.5s
PMRV Marv??o 4.24 317 *e*Pn **Pn** **00 29 20.4 +1.9**
PMRV *e*Sn **Sn** **00 30 09.5 +1.9**
PMRV A A 00 30 44.4
comp=N,15nm,0.5s
PMRV Marv??o 4.24 317 Pn **Pn** **00 29 20.4 +1.9**
PMRV Sn **Sn** **00 30 09.5 +1.9**
comp=N,15nm,0.5s
PMRV Marv??o 4.24 317 *e*Pn **Pn** **00 29 20.4 +1.9**
PMRV *e*Sn **Sn** **00 30 09.5 +1.9**
comp=N,15nm,0.5s
PNCL Nicolau / Gran 4.26 295 *e*Pn **Pn** **00 29 20.0 +1.3**
PNCL *e*Sn **Sn** **00 30 07.7 -0.3**
PNCL A A 00 30 28.1
comp=N,5.4nm,0.6s
PNCL Nicolau / Gran 4.26 295 *e*Pn **Pn** **00 29 20.0 +1.3**
PNCL *e*Sn **Sn** **00 30 07.7 -0.3**
comp=N,5.4nm,0.6s
GUD Guadarrama 4.27 355 Pn **Pn** **00 29 21.3 +2.4**
comp=N,1.2nm,0.4s,SNR=8.8
GUD Lg Lg 00 30 30.4
comp=N,12nm,0.4s,SNR=7.9
GUD Guadarrama 4.27 355 Lg Lg 00 30 30.4
comp=N,12nm,0.4s,SNR=7.9
KIB El Ksiba 4.29 208 P **Pn** **00 29 22.0 +2.8**
KIB S **Sn** **00 30 09.0 +0.1**
KIB El Ksiba 4.29 208 *i* P **Pn** **00 29 22.0 +2.8**
KIB *i* S **Sn** **00 30 09.0 +0.1**
PMTG Montargil 4.51 308 *e*Pn **Pn** **00 29 23.8 +1.7**
PMTG A A 00 30 49.3
comp=N,12nm,0.7s
PMTG Montargil 4.51 308 *e*Pn **Pn** **00 29 23.8 +1.7**
comp=N,12nm,0.7s
PCBR Castelo Branco 4.58 320 *e*Pn **Pn** **00 29 25.2 +2.1**
PCBR *e*Sn **Sn** **00 30 14.9 -1.1**
PCBR A A 00 30 50.6
comp=N,12nm,0.7s
PCBR Castelo Branco 4.58 320 Pn **Pn** **00 29 25.2 +2.1**
PCBR Sn **Sn** **00 30 14.9 -1.1**
comp=N,6.2nm,0.7s
PCBR Castelo Branco 4.58 320 *e*Pn **Pn** **00 29 25.2 +2.1**
PCBR *e*Sn **Sn** **00 30 14.9 -1.1**
comp=N,12nm,0.7s
ETOR Torete 4.60 15 Pn **Pn** **00 29 25.4 +1.9**
comp=N,6.0nm,0.3s,SNR=36

ETOR Pg **Pg** **00 29 40.3 -2.3**
comp=N,21nm,0.3s,SNR=7.9
ETOR Lg Lg 00 30 41.3
comp=N,29nm,0.3s,SNR=7.9
EMOS Mosqueruela 4.69 31 Pn **Pn** **00 29 27.4 +2.7**
comp=N,2.1nm,0.4s,SNR=28
EMOS Sn **Sn** **00 30 20.6 +1.7**
SNR=7.9
EMOS Lg Lg 00 30 45.1
comp=N,6.9nm,0.6s,SNR=7.9
EIBI Ibiza 4.75 55 Pn **Pn** **00 29 26.5 +1.0**
comp=N,14nm,0.9s,SNR=9.3
EIBI Sn **Sn** **00 30 18.2 -2.1**
SNR=7.9
PACT Alcochete 4.75 302 *e*Pn **Pn** **00 29 28.1 +2.6**
PACT *e*Sn **Sn** **00 30 21.5 +1.3**
PACT A A 00 31 03.6
comp=N,15nm,0.2s
PACT Alcochete 4.75 302 *e*Pn **Pn** **00 29 28.1 +2.6**
PACT *e*Sn **Sn** **00 30 21.5 +1.3**
comp=N,15nm,0.2s
PTOM Tomar 4.95 312 *e*Pn **Pn** **00 29 30.1 +1.8**
PTOM *e*Sn **Sn** **00 30 26.2 +1.0**
PTOM *e*Sg **Sg** **00 30 52.0 -1.6**
PTOM A A 00 30 57.6
comp=N,12nm,0.4s
PTOM Tomar 4.95 312 Pn **Pn** **00 29 30.1 +1.8**
PTOM Sn **Sn** **00 30 26.2 +1.0**
PTOM Lg Lg 00 30 52.0
comp=N,6.2nm,0.4s
PTOM Tomar 4.95 312 *e*Pn **Pn** **00 29 30.1 +1.8**
PTOM *e*Sn **Sn** **00 30 26.2 +1.0**
PTOM *e*Sg **Sg** **00 30 52.0 -1.6**
comp=N,12nm,0.4s
PMST Lisbon--Monsan 4.98 300 *e*Pn **Pn** **00 29 31.3 +2.6**
PMST *e*Sn **Sn** **00 30 26.4 +0.5**
PMST A A 00 30 30.0
comp=N,12nm,0.3s
PMST Lisbon--Monsan 4.98 300 *e*Pn **Pn** **00 29 31.3 +2.6**
PMST *e*Sn **Sn** **00 30 26.4 +0.5**
comp=N,12nm,0.3s
MTE Manteigas 5.04 324 *e*Pn **Pn** **00 29 31.9 +2.4**
MTE *e*Sg **Sg** **00 30 53.3 -3.0**
MTE A A 00 30 59.0
comp=N,28nm,0.6s
MTE Manteigas 5.04 324 Pn **Pn** **00 29 31.9 +2.4**
MTE Lg Lg 00 30 53.3
comp=N,14nm,0.6s
MTE Manteigas 5.04 324 *e*Pn **Pn** **00 29 31.9 +2.4**
MTE *e*Sg **Sg** **00 30 53.3 -3.0**
comp=N,28nm,0.6s
MVO Moncorvo 5.45 332 *e*Pn **Pn** **00 29 37.6 +2.4**
MVO *e*Sn **Sn** **00 30 37.6 +0.1**
MVO *e*Sg **Sg** **00 31 08.2 -1.3**
MVO A A 00 31 18.1
comp=N,15nm,0.3s
MVO Moncorvo 5.45 332 Pn **Pn** **00 29 37.7 +2.5**
comp=N,3.8nm,0.3s,SNR=11
MVO Sn **Sn** **00 30 36.5 -1.0**
comp=N,2.7nm,0.2s,SNR=7.9
MVO Lg Lg 00 31 10.4
comp=N,18nm,0.5s,SNR=7.9
PVIS Viseu 5.45 324 *e*Pn **Pn** **00 29 37.4 +2.2**
PVIS Viseu 5.45 324 Pn **Pn** **00 29 37.4 +2.2**
ERTA Horta de San J 5.52 33 Pn **Pn** **00 29 38.6 +2.5**
comp=N,1.8nm,0.4s,SNR=9.2
ERTA Sn **Sn** **00 30 40.0 +0.8**
comp=N,1.4nm,0.3s,SNR=7.9
PVRL Vila Real 5.82 328 *e*Pn **Pn** **00 29 42.4 +2.2**
PVRL *e*Sn **Sn** **00 30 48.1 +1.5**
PVRL A A 00 31 25.8
comp=N,6.6nm,0.3s
PVRL Vila Real 5.82 328 Pn **Pn** **00 29 42.4 +2.2**
PVRL Sn **Sn** **00 30 48.1 +1.5**
comp=N,3.3nm,0.3s
PBRG Braganca 5.92 337 *e*Pn **Pn** **00 29 44.0 +2.4**
PBRG *e*Sg **Sg** **00 31 21.8 -2.7**
PBRG A A 00 31 27.1
comp=N,6.5nm,0.6s
PBRG Braganca 5.92 337 Pn **Pn** **00 29 44.0 +2.4**
PBRG Lg Lg 00 31 21.8
comp=N,3.2nm,0.6s
POLO Lamas de Olo 5.94 328 *e*Pn **Pn** **00 29 44.5 +2.7**
POLO *e*Sn **Sn** **00 30 48.3 -1.2**
POLO A A 00 31 32.7
comp=N,4.4nm,0.6s
ECAL Calabor 6.04 338 Pn **Pn** **00 29 46.0 +2.7**
comp=N,0.9nm,0.3s,SNR=5.7
ECAL Sn **Sn** **00 30 51.9 -0.2**
comp=N,2.2nm,0.3s,SNR=7.9
ECAL Lg Lg 00 31 25.1
comp=N,22nm,0.6s,SNR=7.9
ETOS Mallorca 6.11 55 Pn **Pn** **00 29 45.9 +1.7**
SNR=7.9
ETOS Sn **Sn** **00 30 53.3 -0.5**
SNR=7.9
EPOB Poblet 6.18 35 Pn **Pn** **00 29 47.5 +2.4**
comp=N,0.6nm,0.1s,SNR=7.9
PCAB Cabril 6.31 329 *e*Pn **Pn** **00 29 49.4 +2.5**
PCAB Cabril 6.31 329 Pn **Pn** **00 29 49.4 +2.5**
ELOB Lobios 6.46 329 Pn **Pn** **00 29 51.3 +2.3**
SNR=7.9
ELOB Sn **Sn** **00 30 59.4 -2.9**
comp=N,0.8nm,0.2s,SNR=7.9
ELOB Lg Lg 00 31 39.4
comp=N,6.0nm,0.5s,SNR=7.9
PGAV Gavieira, Arco 6.62 329 *e*Pn Pn 00 29 54.5 +3.2
PGAV *e*Sg **Sg** **00 31 43.1 -4.0**
PGAV A A 00 31 52.8
comp=N,7.1nm,0.6s
IELO Elcoad 6.71 15 Pn **Pn** **00 29 54.6 +2.2**
SNR=7.9
EMIR Miracle 6.83 34 Pn **Pn** **00 29 56.8 +2.8**
comp=N,5.9nm,0.7s,SNR=8.1
ELAN Lanestosa 6.84 1 Pn Pn 00 29 57.8 +3.7
comp=N,2.2nm,0.6s,SNR=6.7
ETSF Etsaut 6.92 19 *e*Pn **Pn** **00 29 57.7 +2.3**
ETSF *e*Sn **Sn** **00 31 12.4 -1.4**
comp=N,1.2nm,0.3s
ETSF Etsaut 6.92 19 Pn **Pn** **00 29 57.7 +2.3**
ETSF Sn **Sn** **00 31 12.4 -1.4**
comp=N,0.6nm,0.3s
ELIZ Elizondo 6.96 13 Pn **Pn** **00 29 58.3 +2.5**
comp=N,3.9nm,0.3s,SNR=15
ELIZ Elizondo 6.96 13 Pn **Pn** **00 29 58.3 +2.5**
comp=N,3.9nm,0.3s,SNR=15
SJPF Ste Jean 6.97 15 *e*Pn **Pn** **00 29 57.2 +1.2**
SJPF *e*Sn **Sn** **00 31 13.5 -1.4**
comp=N,2.6nm,0.5s
SJPF Ste Jean 6.97 15 Pn **Pn** **00 29 57.2 +1.2**
SJPF Sn **Sn** **00 31 13.5 -1.4**
comp=N,1.3nm,0.5s
EARI Arriondas 7.01 351 Pn **Pn** **00 29 59.7 +3.2**
SNR=7.9
EARI Arriondas 7.01 351 Pn **Pn** **00 29 59.7 +3.2**
SNR=7.9
EALK Alkurruntz 7.02 13 Pn **Pn** **00 29 59.2 +2.6**
comp=N,3.8nm,0.3s,SNR=22
EALK Sn **Sn** **00 31 14.5 -1.5**
SNR=7.9
EALK Alkurruntz 7.02 13 Pn **Pn** **00 29 59.2 +2.6**
comp=N,3.8nm,0.3s,SNR=22
CSOR Sort 7.03 30 Pn **Pn** **00 29 59.5 +2.6**
comp=N,1.6nm,0.3s,SNR=9.5
CSOR Sort 7.03 30 Pn **Pn** **00 29 59.5 +2.6**
comp=N,1.6nm,0.3s,SNR=9.5
ATE Arette 7.06 18 Pn **Pn** **00 29 59.7 +2.5**
SNR=7.9
ATE Arette 7.06 18 Pn **Pn** **00 29 59.7 +2.5**
SNR=7.9
EPF Esparros 7.31 24 *e*Pn **Pn** **00 30 02.6 +1.9**
EPF *e*Sn **Sn** **00 31 21.7 -1.6**
comp=N,0.7nm,0.3s
EPF Esparros 7.31 24 Pn **Pn** **00 30 02.6 +1.9**
EPF Sn **Sn** **00 31 21.7 -1.6**
comp=N,0.3nm,0.3s
CLLI Llivia 7.48 34 Pn **Pn** **00 30 06.0 +3.0**
comp=N,3.6nm,0.8s,SNR=6.8
CLLI Llivia 7.48 34 Pn **Pn** **00 30 06.0 +3.0**
comp=N,3.6nm,0.8s,SNR=6.8

*IDC **23** 00:28:33.6±0.9, 3°.89S×123°.17E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/32, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=73.6km s-min=17.6km az=66.0*

*ISCJB **23** 00:28:36.9±0.5, 3°.81S±0°.04×123°.41E±0°.04, h33km, mb3.9/6, Error ellipse: s-maj=6.0km s-min=5.1km az=26.3*
*DJA **23** 00:28:39.4±0.3, 4°.S×123°.3E, h63km±22km, M4.2/18, mb4.5/6, mB4.9/2, MLv4.0/18, Mw(mB)4.2/2*
ISC 23 00:28:39.3±0.8, 3.77S±0°.05×123°.41E±0°.06, h35km, n25, σ1§01/28, mb3.9/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**1.90**	**206**	P	**Pn**	**00 29 10.2**	**+1.0**
LUWI	**Luwuk**	**2.78**	**347**	P	**Pn**	**00 29 21.0**	**-0.3**
LUWI				S	**Sn**	**00 29 54.5**	**+0.8**
SANI	**Sanana**	**3.09**	**57**	P	**Pn**	**00 29 24.6**	**-1.0**
SANI				S	**Sn**	**00 30 00.5**	**-0.8**
APSI	**Ampana**	**3.34**	**328**	P	**Pn**	**00 29 28.4**	**-0.6**
APSI				S	**Sn**	**00 30 08.8**	**+1.4**
BNSI	**Bone**	**3.35**	**259**	P	**Pn**	**00 29 28.9**	**-0.3**
BKSI	**Bulukumba**	**3.62**	**245**	P	**Pn**	**00 29 31.5**	**-1.4**
SPSI	**Sidrap Palu**	**3.64**	**267**	P	**Pn**	**00 29 32.6**	**-0.5**
TTSI	**Tana Toraja**	**3.66**	**281**	P	**Pn**	**00 29 32.8**	**-0.5**
NLAI	**Namlea**	**3.72**	**82**	P	**Pn**	**00 29 36.0**	**+1.8**
MRSI	**Marisa**	**4.46**	**341**	P	**Pn**	**00 29 44.1**	**-0.4**
MRSI				S	**Sn**	**00 30 35.6**	**+0.4**
PCI	**Palu**	**4.56**	**308**	P	**Pn**	**00 29 45.2**	**-0.7**
MPSI	**Mapaga**	**5.38**	**319**	P	**Pn**	**00 29 56.5**	**-0.6**
	44nm,0.8s,510nm0.2nm						
MSAI	**Masohi**	**5.53**	**86**	P	**Pn**	**00 29 58.0**	**-1.1**
	24nm,0.6s,3µm0.2nm						
TNTI	**Ternate**	**6.00**	**41**	P	**Pn**	**00 30 06.6**	**+1.0**
	81nm,0.7s,0.4nm						
WSI	**Waingapu**	**6.63**	**208**	P	Pn	00 30 10.3	-3.9
SWI	**Sorong**	**8.36**	**70**	P	**Pn**	**00 30 40.0**	**+2.0**
FAKI	**Fak Fak**	**8.87**	**85**	P	**Pn**	**00 30 45.2**	**+0.2**
WRA	**Warramunga Arr**	**19.29**	**147**	P	**P**	**00 32 59.6**	**-1.7**
	0.1nm,0.3s,baz=320,slow=13,SNR=16						
ASAR	**Alice Springs**	**22.23**	**154**	P	**P**	**00 33 32.6**	**-0.4**
	3.7nm,0.9s,baz=337,slow=12,SNR=35						
STKA	**Stephens Creek**	**32.77**	**151**	P	**P**	**00 35 09.0**	**-0.1**
	3.3nm,0.8s,baz=300,slow=7.9,SNR=4.5						
SONM	**Ussuriysk Ar.**	**48.37**	**8**	P	**P**	**00 37 18.2**	**+0.6**
	1.4nm,0.8s,baz=186,slow=7.2,SNR=3.6						
MKAR	**Songino Array**	**53.51**	**346**	P	**P**	**00 37 57.7**	**+1.2**
	0.2nm,0.4s,baz=170,slow=9.0,SNR=3.6						
ZALV	**Makanchi Array**	**62.02**	**329**	P	**P**	**00 38 56.4**	**+0.3**
	0.6nm,0.8s,baz=149,slow=3.3,SNR=8.1						
	Zalesovo Beam	**65.90**	**336**	P	**P**	**00 39 20.0**	**-1.4**
	1.7nm,0.8s,baz=123,slow=5.5,SNR=8.2						
TORD	**Torodi Ar. Bea**	**121.72**	**283**	PKP	**PKPdf**	**00 47 29.8**	**-0.8**
	0.4nm,0.8s,baz=84,slow=3.6,SNR=2.4						

*DDA **23** 00:49:33.0, 37°.62N×30°.40E, h8km, MD2.9*
*ISK **23** 00:49:36.2, 37°.63N×30°.07E, h2km, MD2.8*
*ISCJB **23** 00:49:37.8±0.6, 37°.66N±0°.04×30°.12E±0°.05, h14km, Error ellipse: s-maj=6.1km s-min=5.6km az=138.7*
*CSEM **23** 00:49:37.5±0.3, 37°.64N×30°.10E, h10km, MD2.8, Error ellipse: s-maj=8.2km s-min=7.2km az=166.0*
ISC 23 00:49:36.6±0.9, 37.62N±0°.04×30.08E±0°.04, h14km, n14, σ0§53/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.40**	**60**	*e*PG	**Pb**	**00 49 44.6**	**-1.0**
ISP	**Isparta**	**0.40**	**60**	*e*Pg	**Pb**	**00 49 44.6**	**-1.0**
BCK	**Bucak**	**0.43**	**112**	*e*PG	**Pb**	**00 49 46.1**	**0.0**
BCK				*e*SG	**Sb**	**00 49 53.1**	**+0.6**
BCK	**Bucak**	**0.43**	**112**	*e*Pg	**Pb**	**00 49 46.1**	**0.0**
BCK				*e*Sg	**Sb**	**00 49 53.1**	**+0.6**
GOLH	**Golhisar**	**0.57**	**227**	*i* P	**Pb**	**00 49 48.1**	**-0.3**
GOLH				*i* S	**Sn**	**00 49 59.4**	**-0.2**
GOLH	**Golhisar**	**0.57**	**227**	*i* P	**Pb**	**00 49 48.0**	**-0.3**
GOLH				*i* S	**Sn**	**00 49 59.4**	**-0.2**
KHL	**Karahalli**	**0.83**	**328**	*e*PG	**Pb**	**00 49 52.9**	**0.0**
KHL	**Karahalli**	**0.83**	**328**	*e*Pg	**Pb**	**00 49 52.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.00**	**22**	*e*PG	**Pn**	**00 49 56.4**	**0.0**
SHUT				*e*SG	**Sn**	**00 50 11.0**	**+0.6**
SHUT	**Suhut-Afyon**	**1.00**	**22**	*e*Pg	**Pn**	**00 49 56.4**	**0.0**
SHUT				*e*Sg	**Sn**	**00 50 11.0**	**+0.6**
KULA	**Kula-Manisa**	**1.43**	**309**	*e*PN	**Pg**	**00 50 03.6**	**-0.6**
KULA	**Kula-Manisa**	**1.43**	**309**	*e*Pn	**Pg**	**00 50 03.6**	**-0.6**
MANT	**Manisa**	**1.48**	**306**	*i* P	**Pg**	**00 50 05.6**	**+0.4**
MANT	**Manisa**	**1.48**	**306**	*i* P	**Pg**	**00 50 05.6**	**+0.4**
MANT				*i* S	Sg	00 50 30.4	+5.9

IDC 23 00:50:52.4±12.0, 8°.91S×158°.31E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=357.7km s-min=38.3km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.70**	**108**	LR	LR	00 52 11.0	
	comp=Z,60nm,18.2s,baz=157,slow=46						
WRA	**Warramunga Arr**	**25.64**	**242**	P	P	00 56 23.6	-0.3
	0.5nm,0.3s,baz=76,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**27.57**	**235**	P	P	00 56 41.9	+0.4
	0.3nm,0.6s,baz=60,slow=11,SNR=4.1						
WRKA	**Warakurna**	**32.77**	**237**	P	P	00 57 28.8	+1.4
	baz=18,SNR=4.4						
SONM	**Songino Array**	**72.73**	**326**	P	P	01 02 22.5	0.0
	0.8nm,0.6s,baz=138,slow=5.6,SNR=6.4						

*CSEM **23** 00:52:17.6±1.7, 36°.33N×29°.06E, h5km, MD2.3, Error ellipse: s-maj=42.8km s-min=16.2km az=37.0*
ISK 23 00:52:19.2, 36.84N×29.21E, h5km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.23**	**207**	*e*PG	Pg	00 52 24.4	+0.7
FETY				*e*SG	Sg	00 52 29.4	+2.6
FETY	**Fethiye**	**0.23**	**207**	*e*Pg	Pg	00 52 24.5	+0.8
FETY				*e*Sg	Sg	00 52 29.4	+2.7
DALY	**Dalyan (Mu¨la**	**0.45**	**268**	*e*PG	Pg	00 52 28.1	+0.2
DALY				*e*SG	Sb	00 52 37.1	+0.6
DALY	**Dalyan (Mu¨la**	**0.45**	**268**	*e*Pg	Pg	00 52 28.1	+0.3
DALY				*e*Sg	Sb	00 52 37.2	+0.6
ELL	**Elmali**	**0.57**	**99**	*e*PG	Pb	00 52 31.4	-0.4
ELL	**Elmali**	**0.57**	**99**	*e*Pg	Pb	00 52 31.5	-0.3
AKAS	**Kas**	**0.68**	**152**	*i* P	Pg	00 52 27.6	-4.9
AKAS				*i* S	Sg	00 52 38.0	-3.5
AKAS	**Kas**	**0.68**	**152**	*i* P	Pg	00 52 27.6	-5.0
AKAS				*i* S	Sg	00 52 38.0	-3.5

*ISCJB **23** 00:59:11.2±0.4, 32°.27N±0°.02×115°.29W±0°.03, h8km±4km, Error ellipse: s-maj=3.8km s-min=3.6km az=37.4*
*NEIC **23** 00:59:12.0, 32°.27N×115°.32W, h4km, MD3.8(MEX), ML3.8(ECX), ML3.9(PAS), After ECX.*
*ECX **23** 00:59:12.9±0.6, 32°.27N×115°.32W, h4km, MD3.7, ML3.9*
*MEX **23** 00:59:13.9±0.4, 32°.28N×115°.29W, h5km±8km, MD3.8*
ISC 23 00:59:11.7±0.9, 32°.23N±0°.02×115°.33W±0°.03, h11km±7km, n39, σ0§95/59, 3C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**7**	*e*P	**Pg**	**00 59 15.6**	**-0.1**
CPBX				*e*S	**Sg**	**00 59 17.9**	**-0.6**
CPBX				⇑*e*		00 59 24.2	
	comp=E,122µm,0.6s						
MBIG	**Mexicali**	**0.21**	**33**	*e*P	**Pg**	**00 59 16.6**	**+0.5**
MBIG				*e*S	**Sg**	**00 59 18.8**	**-0.3**
SGL	**Mount Signal**	**0.53**	**321**	⇓*i*P	**Pg**	**00 59 22.2**	**+0.2**
RDX	**Rancho Dawling**	**0.60**	**240**	*e*P	**Pg**	**00 59 24.1**	**+0.7**
RDX				*e*S	**Sb**	**00 59 32.7**	**-0.2**
RDX				*e*		00 59 34.8	
	comp=N,3µm,0.4s						
RDX	**Rancho Dawling**	**0.60**	**240**	*e*P	**Pg**	**00 59 24.1**	**+0.7**
RDX				*e*S	**Sn**	**00 59 34.8**	**-1.4**
YUH	**Yuha Desert**	**0.65**	**310**	⇑*i*P	**Pg**	**00 59 24.3**	**0.0**
RMX	**La Rumorosa**	**0.73**	**300**	*e*P	**Pg**	**00 59 25.7**	**-0.1**
RMX				⇓*e*		00 59 37.9	
	comp=N,6µm,0.4s						
YMD	**Yuma Desert**	**0.74**	**64**	⇑*i*P	**Pg**	**00 59 25.7**	**-0.3**
ECBX	**El Chinero**	**0.80**	**163**	*e*P	**Pg**	**00 59 27.1**	**0.0**
ECBX				*e*S	**Sb**	**00 59 38.6**	**+0.3**
ZAX	**El Zacaton**	**1.08**	**228**	*e*P	**Pb**	**00 59 32.5**	**+0.1**
ZAX				*e*S	**Sn**	**00 59 47.5**	**-0.3**
CBX	**Cerro Bola**	**1.13**	**274**	*i* P	**Pb**	**00 59 33.1**	**-0.2**
CBX				*i* S	**Sb**	**00 59 47.6**	**-0.5**

CBX	**Cerro Bola**	**1.13**	**274**	*e*P	**Pb**	**00 59 33.2**	**-0.2**
CBX				*e*S	**Sb**	**00 59 48.4**	**+0.3**
CBX	**Cerro Bola**	**1.13**	**274**	*i* P	**Pb**	**00 59 33.1**	**-0.2**
CBX				*i* S	**Sb**	**00 59 47.6**	**-0.5**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**00 59 34.1**	**-0.5**
SPIG				*e*S	**Sn**	**00 59 50.6**	**-0.3**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**00 59 34.1**	**-0.5**
SPIG				*e*S	**Sn**	**00 59 50.6**	**-0.3**
SPX	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**00 59 34.1**	**-0.5**
SPX				*e*S	**Sn**	**00 59 51.4**	**+0.5**
SPX	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**00 59 34.1**	**-0.5**
SPX				*e*S	**Sb**	**00 59 49.8**	**-0.2**
BAR	**Barrett**	**1.22**	**292**	*e*P	**Pn**	**00 59 34.4**	**-0.3**
BAR	**Barrett**	**1.22**	**292**	*e*Pg	**Pn**	**00 59 34.4**	**-0.3**
BAR				*e*Sg	**Sb**	**00 59 50.1**	**-0.4**
ECNX	**Esteban Cantu**	**1.22**	**242**	*e*P	**Pn**	**00 59 35.0**	**+0.2**
ECNX				*e*S	**Sn**	**00 59 51.5**	**+0.2**
PBX	**Punta Banda**	**1.28**	**248**	*e*P	**Pn**	**00 59 35.5**	**-0.1**
PBX				*e*S	**Sn**	**00 59 53.0**	**+0.2**
PFO	**Pinyon Flats O**	**1.67**	**326**	*e*Pn	**Pn**	**00 59 39.3**	**-1.6**
PFO				*e*Sn	**Sn**	**00 59 59.4**	**-3.0**
214A	**Organ Pipe Nat**	**2.16**	**97**	*e*Pn	**Pn**	**00 59 45.9**	**-1.6**
LDFC	**Landfair**	**2.84**	**4**	*e*Pn	**Pn**	**00 59 57.1**	**-0.1**
MWC	**Mount Wilson**	**3.03**	**312**	*e*Pb	**Pb**	**01 00 05.6**	**-0.1**
MWC				*e*Sb	**Sb**	**01 00 44.3**	**+1.6**
PASC	**Pasadena Art C**	**3.08**	**310**	*e*Pb	**Pb**	**01 00 06.8**	**+0.4**
PASC				*e*Sb	**Sb**	**01 00 46.3**	**+2.3**
GSC	**Goldstone, Bar**	**3.30**	**339**	*e*Pg	**Pg**	**01 00 14.5**	**-0.4**
OSI	**Osito Audit: C**	**3.70**	**311**	*e*Pb	**Pb**	**01 00 17.2**	**+0.2**
TUC	**Tucson**	**3.85**	**88**	*e*Pn	**Pn**	**01 00 11.8**	**+0.8**
TUC				*e*Pg	**Pg**	**01 00 26.5**	**+1.0**
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn	**Pn**	**01 00 17.1**	**+0.4**
SHPR				*e*Pg	**Pg**	**01 00 34.5**	**+1.2**
ISA	**Isabella, Lake**	**4.30**	**323**	*e*Pn	Pb	01 00 23.1	-4.3
DAC	**Darwin (Calif)**	**4.45**	**336**	*e*Pn	Pn	01 00 22.9	+3.7
DAC				*e*Pg	**Pg**	**01 00 38.4**	**+1.5**
WUAZ	**Wupatki**	**4.64**	**44**	*e*Pn	**Pn**	**01 00 23.5**	**+1.6**
W18A	**Petrified Fore**	**5.48**	**57**	*e*Pn	**Pn**	**01 00 35.1**	**+1.7**
CCUT	**Cedar City**	**5.54**	**16**	*e*Pn	**Pn**	**01 00 34.7**	**+0.3**
ARUT	**Antelope Range** comp=N,2.0nm,0.6s	**5.75**	**15**	*e*Pg	**Pg**	**01 01 00.4**	**-1.5**
TPH	**Tonopah**	**6.03**	**346**	*e*Pg	**Pg**	**01 01 09.6**	**+2.4**
R11A	**Troy Canyon, C**	**6.11**	**358**	*e*Pg	**Pg**	**01 01 07.7**	**-0.9**
121A	**Cookes Peak, D**	**6.39**	**85**	*e*Pn	**Pn**	**01 00 44.9**	**-1.0**

IDC ***23*** *01:25:57.6±2.0, 22.°07S×174.°36W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/23, mbtmp4.0/6, Error ellipse: s-maj=87.2km s-min=25.3km az=153.0*

ISCJB ***23*** *01:26:00.1±1.8, 22.°1S±0.°5×174.°5W±0.°3, h27km, mb4.1/8, Error ellipse: s-maj=80.9km s-min=17.1km az=152.3*

NEIC ***23*** *01:26:02.3±1.1, 22.°23S×174.°35W, h35km, mb4.5/2, Error ellipse: s-maj=57.0km s-min=13.0km az=153.0*

ISC 23 01:26:01.3±2.0, 22.°2S±0.°6×174.°4W±0.°3, h27km, n13, σ0°76/13, mb4.2/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTAO	**Charters Tower** 5.1nm,0.6s	**36.72**	**266**	*e*P		**P**	**P**	**01 33 06.4**	**0.0**
AS31	**Alice Springs**	**47.45**	**258**	*e*P		**P**	**P**	**01 34 33.9**	**-0.1**
ASAR	**Alice Springs** 2.3nm,0.8s,baz=89,slow=8.7,SNR=22	**47.45**	**258**	P		**P**	**P**	**01 34 34.9**	**+0.8**
WB2	**Warramunga Arr**	**47.73**	**263**	*e*P		**P**	**P**	**01 34 35.8**	**-0.3**
WRAB	**Tennant Creek** 5.1nm,1.0s	**47.73**	**263**	*e*P		**P**	**P**	**01 34 36.0**	**-0.2**
WRA	**Warramunga Arr** 2.2nm,0.8s,baz=102,slow=8.1,SNR=17	**47.74**	**263**	P		**P**	**P**	**01 34 36.2**	**-0.1**
MJAR	**Matsushiro Arr** 1.2nm,0.5s,baz=148,slow=5.9,SNR=3.0	**73.60**	**322**	P		**P**	**P**	**01 37 32.0**	**-0.2**
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=222,slow=8.7,SNR=5.3	**79.98**	**41**	P		**P**	**P**	**01 38 08.4**	**0.0**
PDAR	**Pinedale Array** 0.7nm,0.9s,baz=207,slow=3.0,SNR=4.5	**87.91**	**42**	P		**P**	**P**	**01 38 48.4**	**-0.4**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=207,slow=5.8,SNR=3.1	**89.25**	**11**	P		**P**	**P**	**01 38 54.8**	**+0.5**
TKM2	**Tokmak 2**	**119.21**	**308**	*e*PKPdf		**PKPdf**	**PKPdf**	**01 44 46.5**	**-1.8**
EKS2	**Erkin-Say**	**120.53**	**307**	*e*PKPdf		**PKPdf**	**PKPdf**	**01 44 50.7**	**0.0**
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=48,slow=2.1,SNR=3.6	**150.47**	**313**	PKPbc		**PKPbc**	**PKPbc**	**01 45 52.0**	**+1.2**

IDC 23 01:42:18.4±3.7, 11.°10S×166.°24E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/26, mbtmp3.6/4, MS3.9/2, Ms1 3.9/2, ms1mx3.1/20, Error ellipse: s-maj=155.0km s-min=31.4km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=80,slow=9.4,SNR=4.7	**31.92**	**250**	P		P	P	01 48 46.5	+0.5
ASAR	**Alice Springs** 0.4nm,0.6s,baz=69,slow=8.9,SNR=4.9	**33.20**	**244**	P		P	P	01 48 56.3	-1.0
ASAR	comp=Z,73nm,18.1s,baz=192,slow=35			LR		LR	LR	02 01 48.4	
JCJ	**Chichijima** comp=Z,311nm,20.9s,baz=122,slow=34	**44.58**	**329**	LR		LR	LR	02 07 22.5	
ILAR	**Eielson Array** 0.4nm,0.6s,baz=234,slow=5.4,SNR=7.8	**83.42**	**18**	P		P	P	01 54 47.0	-0.3
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=94,slow=4.6,SNR=3.4	**93.89**	**317**	P		P	P	01 55 38.6	+0.6

ISCJB ***23*** *01:48:35.1±1.8, 20.°9S±0.°5×178.°7W±0.°3, h600km, mb3.6/6, Error ellipse: s-maj=74.3km s-min=14.5km az=155.2*

IDC ***23*** *01:48:38.0±3.2, 20.°83S×178.°66W, h617km±37km, mb3.1/6, mb1 3.5/6, mb1mx3.1/32, mbtmp4.1/6, Error ellipse: s-maj=55.2km s-min=13.2km az=154.0*

ISC 23 01:48:36.0±1.6, 20.°9S±0.°4×178.°6W±0.°2, h600km, n17, σ1°04/21, mb3.7/6, 5C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.4nm,0.5s,baz=97,slow=7.6,SNR=15	**43.88**	**257**	P		**P**	**P**	**01 55 51.8**	**+0.7**
ASAR	0.2nm,0.6s,baz=110,slow=3.6,SNR=4.9			PcP		**PcP**	**PcP**	**01 57 24.7**	**+1.0**
ASAR	0.7nm,1.1s,baz=86,slow=18,SNR=4.1			S		**S**	**S**	**02 01 40.0**	**-0.1**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=98,slow=8.4,SNR=9.0	**43.99**	**263**	P		**P**	**P**	**01 55 52.0**	**0.0**
WRA	0.3nm,0.8s,baz=100,slow=21,SNR=5.4			S		**S**	**S**	**02 01 41.0**	**-0.7**
PETK	**Petropavlovsk-** 1.4nm,0.6s,baz=151,slow=7.1,SNR=2.9	**76.49**	**346**	P		**P**	**P**	**01 59 26.1**	**+1.0**
NVAR	**Mina Array Bea** 0.9nm,0.7s,baz=220,slow=8.3,SNR=6.6	**81.69**	**44**	P		**P**	**P**	**01 59 54.1**	**+1.0**
ILAR	**Eielson Array** 0.7nm,0.7s,baz=229,slow=6.0,SNR=7.2	**88.81**	**13**	P		**P**	**P**	**02 00 26.1**	**-0.5**
PDAR	**Pinedale Array** 0.7nm,0.4s,baz=252,slow=0.9,SNR=4.3	**89.62**	**43**	P		**P**	**P**	**02 00 30.3**	**-0.8**
ARCES	**ARCESS Array B** 1.0nm,0.6s,baz=45,slow=1.9,SNR=5.7	**129.19**	**349**	PKP		**PKPdf**	**PKPdf**	**02 06 36.4**	**+0.1**
AKASG	**Malin Array Be** 1.0nm,0.5s,baz=42,slow=4.3,SNR=24	**143.06**	**330**	PKP		**PKPdf**	**PKPdf**	**02 07 00.1**	**-2.2**
BRTR	**Keskin Array B** 0.9nm,0.6s,baz=128,slow=2.1,SNR=6.4	**146.67**	**312**	PKPbc		**PKPbc**	**PKPbc**	**02 07 12.1**	**+0.2**
KWP	**Kalwaria Pacla**	**146.68**	**335**	*i*P		**PKPab**	**PKPab**	**02 07 15.3**	**+0.9**
BURAR	**Bucovina Array**	**147.11**	**330**	⇑*i*P		**PKPbc**	**PKPab**	**02 07 14.9**	**-1.4**
DOPR	**Dopca**	**148.19**	**327**	⇑*i*P		**PKPbc**	**PKPbc**	**02 07 16.9**	**+1.5**
MLR	**Muntele Rosu**	**148.23**	**326**	⇑*i*P		**PKPbc**	**PKPbc**	**02 07 16.0**	**+0.4**
ARR	**Arges**	**148.98**	**327**	⇑*i*P		**PKPbc**	**PKPbc**	**02 07 19.1**	**+1.7**
BZS	**Buzias**	**150.25**	**331**	⇑*i*P		**PKPbc**	**PKPbc**	**02 07 20.5**	**+0.2**
GERES	**GERESS Array B** 0.6nm,0.6s,baz=29,slow=3.0,SNR=7.4	**150.41**	**343**	PKPbc		**PKPbc**	**PKPbc**	**02 07 21.3**	**+0.7**
GERES	0.2nm,0.5s,baz=29,slow=2.0,SNR=3.1			PKPab		**PKPab**	**PKPab**	**02 07 28.9**	**-1.0**
PKSM	**Moragy**	**151.06**	**335**	⇓*i*P		**PKPbc**	**PKPbc**	**02 07 21.8**	**-0.3**

NIED ***23*** *01:49:00, 24.°50N×122.°30E, h98km, Mw4.3 Best double couple: M◎3.00000×10^15 NP1:φ◎75.00000°, δ43.00000°, λ158.00000°. NP2:φ◎181.00000°, δ75.00000°, λ49.00000°.*

BJI ***23*** *01:49:42.9, 24.°63N×122.°20E, h10km, mB4.4/6, mb4.2/8, ML4.2/7, Ms3.8/1, Ms7 3.4/1*

ISCJB ***23*** *01:49:46.8±0.1, 24.°65N±0.°02×122.°39E±0.°01, h95km±1km, mb4.1/34, Error ellipse: s-maj=3.0km s-min=1.8km az=156.4*

NEIC ***23*** *01:49:47.3±0.3, 24.°65N×122.°40E, h88km±3km, mb4.4/18, Error ellipse: s-maj=5.7km s-min=4.8km az=123.0*

NEIC Felt at Taipei. Recorded [2 TAP] in I-lan and T'ao-yuan; [1 TAP] in Hsin-chu, Hua-lien, Miao-li, Nan-t'ou, T'ai-chung and T'ai-pei.

TAP ***23*** *01:49:48.4, 24.°61N×122.°33E, h85km, ML5.0, C*

JMA ***23*** *01:49:48.0±0.2, 24.°55N×122.°34E, h83km±3km, M4.0*

IDC ***23*** *01:49:50.0±3.5, 24.°75N×122.°49E, h112km±32km, mb3.8/16, mb1 4.0/18, mb1mx3.9/29, mbtmp4.2/18, MS3.0/4, Ms1 3.1/4, ms1mx2.8/38, Error ellipse: s-maj=18.3km s-min=12.9km az=72.0*

ISC 23 01:49:47.3±0.6, 24.°61N±0.°03×122.°39E±0.°02, h87km±5km, n149, σ1°37/240, mb4.2/34, 2C-33D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao** baz=270	**0.49**	**270**	⇓*i*P		**P**	**Pn**	**01 50 02.1**	**+0.5**
TWC	baz=270			*e*S			**Sn**	**01 50 11.5**	**-0.8**
JYNG	**Yonagunijimaku**	**0.53**	**107**	P		**P**	**Pn**	**01 50 02.8**	**+0.9**
JYNG				S			**Sn**	**01 50 12.1**	**-0.7**
TWB1	**Santiao Chiao** baz=318	**0.54**	**318**	⇓*i*P		**P**	**Pn**	**01 50 02.7**	**+0.6**
TWB1	baz=318			*i* S			**Sn**	**01 50 12.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.58**	**104**	P		**P**	**Pn**	**01 50 03.3**	**+0.9**
YOJ				S			**Sn**	**01 50 14.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.58**	**104**	*e*Pn		**P**	**Pn**	**01 50 03.2**	**+0.9**
YOJ				*e*Sn			**Sn**	**01 50 12.5**	**-1.2**
ILA	**Ilan** baz=287	**0.60**	**285**	⇓*i*P		**P**	**Pn**	**01 50 03.6**	**+1.0**
ILA	baz=287			S			**Sn**	**01 50 14.5**	**+0.5**
ENA	**Nanau** baz=254	**0.62**	**253**	⇓*i*P		**P**	**Pn**	**01 50 03.6**	**+0.9**
ENA	baz=254			*e*S			**Sn**	**01 50 15.1**	**+0.8**
EHP	**Heping Village** baz=240	**0.66**	**244**	*e*P		**P**	**Pn**	**01 50 04.6**	**+1.5**
EHP	baz=240			*e*S			**Sn**	**01 50 16.5**	**+1.5**
NWF	**Wu-fen Shan** baz=306	**0.72**	**310**	⇓*i*P		**P**	**Pn**	**01 50 04.8**	**+0.9**
NWF	baz=306			S			**Sn**	**01 50 15.8**	**-0.3**
ENTT	**Nioudou** baz=273	**0.75**	**273**	⇓*i*P		**P**	**Pn**	**01 50 05.2**	**+1.2**
TWA	**Mucha** baz=292	**0.82**	**297**	⇓*i*P		**P**	**Pn**	**01 50 05.5**	**+0.7**
TWA	baz=292			S			**Sn**	**01 50 17.2**	**-0.7**
NACB	**Ninganchiao**	**0.84**	**239**	*e*Pn		**P**	**Pn**	**01 50 04.8**	**-0.2**
TWD	**Chiawan** baz=226	**0.89**	**234**	⇓*i*P		**P**	**Pn**	**01 50 05.8**	**+0.2**
TWD	baz=226			S			**Sn**	**01 50 19.3**	**+0.1**
TAP1	**Taipei** baz=293	**0.90**	**299**	*e*P		**P**	**Pn**	**01 50 06.2**	**+0.6**
TAP1	baz=293			S			**Sn**	**01 50 18.8**	**-0.5**
TATO	**Taipei**	**0.90**	**294**	*e*Pn		**P**	**Pn**	**01 50 05.8**	**+0.2**
TATO				*e*Sn			**Sn**	**01 50 18.1**	**-1.2**
TAP	**Taipei** baz=293	**0.91**	**298**	*e*P		**P**	**Pn**	**01 50 06.2**	**+0.4**
TAP	baz=293			*e*S			**Sn**	**01 50 18.9**	**-0.6**
YHNB	**Yeheng**	**0.93**	**274**	*e*Pn		**P**	**Pn**	**01 50 06.8**	**+0.8**
YHNB				*e*Sn			**Sn**	**01 50 20.2**	**+0.2**
NNS	**Nan Shan** baz=253	**0.94**	**260**	⇓*i*P		**P**	**Pn**	**01 50 07.0**	**+0.8**
NNS	baz=253			*e*S			**Sn**	**01 50 20.4**	**0.0**
NSK	**Sanguang** baz=274	**0.94**	**274**	⇓*i*P		**P**	**Pn**	**01 50 07.3**	**+1.2**
NSK	baz=274			S			**Sn**	**01 50 20.7**	**+0.4**
HWA	**Hwalien** baz=220	**0.95**	**229**	*e*P		**P**	**Pn**	**01 50 06.6**	**+0.4**
HWA	baz=220			*e*S			**Sn**	**01 50 20.9**	**+0.5**
TWY	**Chenhua** baz=307	**0.98**	**313**	*e*P		**P**	**Pn**	**01 50 07.4**	**+0.9**
TWY	baz=307			*e*S			**Sn**	**01 50 21.2**	**+0.3**
TWS1	**Kuangyinshan** baz=305	**1.01**	**299**	⇑*i*P		**P**	**Pn**	**01 50 07.8**	**+0.9**
TWS1	baz=305			S			**Sn**	**01 50 21.6**	**0.0**
PCYT	**Pengchaiyu** baz=339	**1.06**	**344**	⇑P		**P**	**Pn**	**01 50 09.0**	**+1.6**
PCYT	baz=339			*e*S			**Sn**	**01 50 22.8**	**+0.3**
ESF	**Shoufeng Towns** baz=219	**1.09**	**228**	*e*P		**P**	**Pn**	**01 50 08.5**	**+0.7**
ESF	baz=219			*e*S			**Sn**	**01 50 23.9**	**+0.7**
WHF	**Hehuan Shan** baz=239	**1.12**	**246**	⇓*i*P		**P**	**Pn**	**01 50 09.4**	**+0.7**
WHF	baz=239			S			**Sn**	**01 50 24.3**	**-0.4**
NCU	**National Centr** baz=289	**1.15**	**289**	*e*P		**P**	**Pn**	**01 50 09.8**	**+1.2**
NCU	baz=289			*e*S			**Sn**	**01 50 25.1**	**+0.6**
TWT	**Tachien** baz=244	**1.16**	**253**	⇓*i*P		**P**	**Pn**	**01 50 10.2**	**+1.4**
TWT	baz=244			*i* S			**Sn**	**01 50 25.7**	**+0.6**
ESL	**Shilin** baz=234	**1.18**	**228**	⇓*i*P		**P**	**Pn**	**01 50 08.9**	**0.0**
ESL	baz=234			*e*S			**Sn**	**01 50 23.2**	**-1.9**
TEGC	**Jichi Village** baz=218	**1.18**	**221**	*e*P		**P**	**Pn**	**01 50 10.1**	**+1.2**
TEGC	baz=218			*e*S			**Sn**	**01 50 26.4**	**+1.2**
IRIF	**Iriomote-Funau**	**1.25**	**102**	P		**P**	**Pn**	**01 50 10.7**	**+1.0**
IRIF				S			**Sn**	**01 50 27.7**	**+1.0**
NSTT	**Nanjuang** baz=271	**1.26**	**271**	⇓*i*P		**P**	**Pn**	**01 50 10.9**	**+1.0**
NSTT	baz=271			S			**Sn**	**01 50 27.5**	**+0.5**
HSN	**Hsinchu** baz=280	**1.31**	**279**	*e*P		**P**	**Pn**	**01 50 11.3**	**+0.9**
HSN	baz=280			*e*S			**Sn**	**01 50 28.3**	**+0.5**
HATJ	**Hateruma jima**	**1.40**	**113**	P		**P**	**Pn**	**01 50 13.2**	**+1.6**
HATJ				S			**Sn**	**01 50 32.3**	**+2.3**
WDT	**Danda** baz=225	**1.43**	**234**	⇓*i*P		**P**	**Pn**	**01 50 12.9**	**+0.7**
WDT	baz=225			*e*S			**Sn**	**01 50 30.4**	**-0.7**
EHY	**Hungye** baz=211	**1.47**	**222**	⇓*i*P		**P**	**Pn**	**01 50 12.2**	**-0.3**
EHY	baz=211			*e*S			**Sn**	**01 50 29.9**	**-1.6**
NSY	**Sanyi** baz=262	**1.50**	**263**	*e*P		**P**	**Pn**	**01 50 14.2**	**+1.4**
NSY	baz=262			*e*S			**Sn**	**01 50 33.0**	**+0.9**
TWQ1	**Liyutan** baz=259	**1.50**	**260**	⇓*i*P		**P**	**Pn**	**01 50 14.2**	**+1.3**
TWQ1	baz=259			*e*S			**Sn**	**01 50 32.9**	**+0.7**
JKRS	**Kuro-shima**	**1.52**	**104**	P		**P**	**Pn**	**01 50 14.6**	**+1.5**
JKRS				S			**Sn**	**01 50 35.1**	**+2.4**
SMLT	**Sun Moon Lake** baz=234	**1.54**	**242**	⇓*i*P		**P**	**Pn**	**01 50 14.8**	**+1.3**
SMLT	baz=234			*e*S			**Sn**	**01 50 36.2**	**+2.8**
SSLB	**Suanglung**	**1.54**	**238**	*e*Pn		**P**	**Pn**	**01 50 14.0**	**+0.6**
SSLB				*e*Sn			**Sn**	**01 50 34.1**	**+0.8**
TYC	**Yuchr** baz=247	**1.56**	**244**	⇓*i*P		**P**	**Pn**	**01 50 15.2**	**+1.5**
TYC	baz=247			*e*S			**Sn**	**01 50 34.9**	**+1.2**
YULB	**Yu-li**	**1.57**	**220**	*e*Pn		**P**	**Pn**	**01 50 13.1**	**-0.7**
YULB				*e*Sn			**Sn**	**01 50 33.6**	**-0.2**
TWF1	**Yuli** baz=224	**1.60**	**219**	⇓*i*P		**P**	**Pn**	**01 50 14.2**	**0.0**
TWF1	baz=224			*e*S			**Sn**	**01 50 32.9**	**-1.7**
JIJ	**Ishigaki jima**	**1.62**	**98**	P		**P**	**Pn**	**01 50 15.2**	**+0.9**
JIJ				S			**Sn**	**01 50 35.1**	**+0.2**
TCU	**Taichung** baz=253	**1.63**	**254**	⇓*e*P		**P**	**Pn**	**01 50 15.9**	**+1.4**
TCU	baz=253			*e*S			**Sn**	**01 50 35.7**	**+0.5**
WNT	**Mingjian** baz=254	**1.72**	**245**	*e*P			**Pn**	**01 50 17.5**	**+1.8**
YUS	**Yu-Shan** baz=221	**1.72**	**230**	*e*P			**Pn**	**01 50 17.3**	**+1.1**
YUS	baz=221			*e*S			**Sn**	**01 50 37.8**	**-0.3**
JISG	**Ishigakijimahi**	**1.75**	**90**	P			**Pn**	**01 50 17.1**	**+1.0**
JISG				S			**Sn**	**01 50 38.8**	**+0.8**
CHKT	**Chengkung** baz=203	**1.77**	**212**	⇓*e*P			**Pn**	**01 50 16.1**	**-0.2**
CHKT	baz=203			*e*S			**Sn**	**01 50 36.7**	**-1.8**
ALS	**Alishan** baz=224	**1.81**	**233**	⇓*i*P			**Pn**	**01 50 18.8**	**+1.6**
ALS	baz=224			*e*S			**Sn**	**01 50 40.7**	**+0.8**
CHN5	**Tsauling** baz=247	**1.86**	**238**	⇓*i*P			**Pn**	**01 50 19.4**	**+1.8**
CHN5	baz=247			*e*S			**Sn**	**01 50 42.0**	**+1.3**
ELDTW	**Lidau** baz=215	**1.89**	**222**	⇓P			**Pn**	**01 50 18.1**	**+0.1**
ELDTW	baz=215			*e*S			**Sn**	**01 50 40.4**	**-1.0**
WGK	**Gukeng** baz=251	**1.90**	**242**	*e*P			**Pn**	**01 50 19.8**	**+1.7**
WGK	baz=251			*e*S			**Sn**	**01 50 44.1**	**+2.5**
CHN2	**Minshiung** baz=248	**2.05**	**239**	*e*P			**Pn**	**01 50 22.6**	**+2.6**
CHN2	baz=248			*e*S			**Sn**	**01 50 47.7**	**+2.7**
WTCT	**Ta-ch'eng** baz=257	**2.06**	**249**	*e*P			**Pn**	**01 50 20.8**	**+0.6**
CHN4	**Tsaushan** baz=231	**2.06**	**233**	⇓P			**Pn**	**01 50 22.1**	**+1.8**
CHN4	baz=231			*e*S			**Sn**	**01 50 47.9**	**+2.5**
TPUB	**Ta-pu**	**2.07**	**231**	*e*Pn			**Pn**	**01 50 21.2**	**+0.9**
TPUB				*e*Sn			**Sn**	**01 50 46.4**	**+0.8**
STYT	**Tauyuan** baz=216	**2.07**	**226**	⇓*i*P			**Pn**	**01 50 21.9**	**+1.5**
STYT	baz=216			S			**Sn**	**01 50 47.1**	**+1.4**
JTJ	**Tarama**	**2.10**	**89**	P			**Pn**	**01 50 22.4**	**+1.7**
JTJ				S			**Sn**	**01 50 47.2**	**+0.9**
CHY	**Chiayi** baz=248	**2.11**	**239**	*e*P			**Pn**	**01 50 22.1**	**+1.3**
CHY	baz=248			*e*S			**Sn**	**01 50 47.8**	**+1.4**
WTP	**Ta-pu** baz=229	**2.12**	**231**	⇓*e*P			**Pn**	**01 50 22.5**	**+1.6**
WTP	baz=229			*e*S			**Sn**	**01 50 48.5**	**+1.8**
TWG	**Pinlang** baz=212	**2.15**	**214**	*e*P			**Pn**	**01 50 21.2**	**-0.2**
TWG	baz=212			*e*S			**Sn**	**01 50 45.0**	**-2.4**
TWG	**Pinlang**	**2.15**	**214**	*e*Pn			**Pn**	**01 50 20.6**	**-0.7**
TWG				*e*Sn			**Sn**	**01 50 44.6**	**-2.8**
TTN	**Taitung** baz=215	**2.17**	**212**	*e*P			**Pn**	**01 50 20.9**	**-0.7**
TWK	**Hsinying** baz=230	**2.19**	**233**	⇓P			**Pn**	**01 50 23.6**	**+1.6**
TWK	baz=230			*e*S			**Sn**	**01 50 49.6**	**+1.2**
WSF	**Szhu** baz=242	**2.20**	**244**	*e*P			**Pn**	**01 50 22.7**	**+0.7**
WSF	baz=242			S			**Sn**	**01 50 49.4**	**+0.8**
CHN1	**Nanshi** baz=228	**2.21**	**231**	⇓*i*P			**Pn**	**01 50 23.8**	**+1.6**
CHN1	baz=228			*e*S			**Sn**	**01 50 50.0**	**+1.0**
SGST	**Jiashian** baz=225	**2.25**	**228**	*e*P			**Pn**	**01 50 24.7**	**+2.1**
SGST	baz=225			*e*S			**Sn**	**01 50 51.6**	**+2.0**
ECL	**Taimali** baz=204	**2.40**	**214**	*e*P			**Pn**	**01 50 24.3**	**-0.3**
ECL	baz=204			*e*S			**Sn**	**01 50 50.7**	**-2.5**
CHN3	**Shinhua** baz=229	**2.40**	**231**	*e*P			**Pn**	**01 50 26.7**	**+2.0**
SSD	**Sandimen** baz=219	**2.46**	**221**	⇓*e*P			**Pn**	**01 50 27.5**	**+2.0**
SSD	baz=219			*e*S			**Sn**	**01 50 56.5**	**+1.9**
TWM1	**Shoushan** baz=223	**2.53**	**226**	*e*P			**Pn**	**01 50 28.9**	**+2.4**
JIRB	**Irabujima**	**2.54**	**84**	P			**Pn**	**01 50 28.2**	**+1.7**
JIRB				S			**Sn**	**01 50 57.0**	**+0.3**
SGLT	**Jiouru** baz=220	**2.56**	**223**	*e*P			**Pn**	**01 50 29.0**	**+2.2**
JIKM	**Ikemajima**	**2.62**	**82**	P			**Pn**	**01 50 30.1**	**+2.5**
JIKM				S			**Sn**	**01 51 00.1**	**+1.6**
TAW	**Tawu** baz=209	**2.62**	**212**	*e*P			**Pn**	**01 50 27.2**	**-0.5**
EAST	**Anshuo** baz=205	**2.63**	**213**	⇓*e*P			**Pn**	**01 50 27.8**	**0.0**
EAST	baz=205			*e*S			**Sn**	**01 50 56.7**	**-2.2**
JMJ	**Miyako jima 2**	**2.65**	**85**	P			**Pn**	**01 50 30.1**	**+2.1**
JMJ				S			**Sn**	**01 51 00.3**	**+1.0**
LAY	**Lan-yu** baz=194	**2.67**	**197**	*e*P			**Pn**	**01 50 28.0**	**-0.3**
LAY	baz=194			*e*S			**Sn**	**01 50 56.2**	**-3.6**
JOGS	**Gusukube**	**2.75**	**86**	P			**Pn**	**01 50 31.6**	**+2.3**
JOGS				S			**Sn**	**01 51 03.5**	**+1.8**
SCZT	**Fangliau** baz=213	**2.75**	**216**	*e*P			**Pn**	**01 50 31.3**	**+1.9**
SCZT	baz=213			*e*S			**Sn**	**01 51 02.4**	**+0.5**
PNG	**Penghu** baz=247	**2.79**	**249**	*e*P			**Pn**	**01 50 29.6**	**-0.3**
PNG	baz=247			*e*S			**Sn**	**01 51 01.0**	**-1.7**
WDGT	**Dungji** baz=240	**2.83**	**242**	*e*P			**Pn**	**01 50 31.1**	**+0.6**
WDGT	baz=240			*e*S			**Sn**	**01 51 03.1**	**-0.7**
TWP	**Hsiaoliuchiu** baz=217	**2.92**	**220**	*e*P			**Pn**	**01 50 33.2**	**+1.6**
HEN	**Hengchun** baz=219	**3.00**	**211**	*e*P			**Pn**	**01 50 35.7**	**+2.9**
TSEB	**Hengchuen, Pin** baz=205	**3.02**	**207**	*e*P			**Pn**	**01 50 33.2**	**+0.2**
TSEB	baz=205			*e*S			**Sn**	**01 51 09.0**	**+0.7**

KSAR	**Wonju Array Be**	**13.63**	**19**	P		**P**		**01 53 00.1**	**-2.5**
KSRS	**Korea Array**	**13.65**	**19**	P		**P**		**01 53 00.1**	**-2.7**
	2.8nm,0.3s,baz=199,slow=12,SNR=28								
KSRS					LR	LR		01 58 16.4	
	comp=Z,25nm,21.0s,baz=205,slow=38								
XAN	**Xi'an**	**15.03**	**312**	P		**Pn**		**01 53 15.8**	**+0.8**
XAN					PMZ				
	1.0nm,1.0s								
CD2	**Chengdu**	**17.64**	**295**	*eP*		**Pn**		**01 53 52.0**	**+4.6**
MAJO	**Matsushiro**	**18.05**	**45**	*ePn*		**P**		**01 53 50.6**	**-1.1**
MJAR	**Matsushiro Arr**	**18.06**	**45**	P		**P**		**01 53 50.6**	**-1.1**
	0.8nm,0.3s,baz=234,slow=9.2,SNR=6.5								
CN2	**Changchun**	**19.31**	**7**	*eP*		**Pn**		**01 54 06.6**	**-0.6**
CN2					PMZ				
	10.0nm,0.9s								
LZH	**Lanzhou**	**19.64**	**310**	*eP*		**Pn**		**01 54 14.4**	**+3.1**
LZH					PMZ				
	22nm,1.0s								
LZH					PMZ				
	93nm,4.5s								
USRK	**Ussuriysk Ar.**	**21.06**	**19**	P		**P**		**01 54 23.1**	**-1.0**
	4.4nm,0.6s,baz=202,slow=10,SNR=25								
CMAR	**Chiang Mai Arr**	**22.64**	**259**	P		**P**		**01 54 42.8**	**+1.5**
	0.9nm,0.3s,baz=52,slow=7.1,SNR=4.6								
CMAR					LR	LR		02 03 53.8	
	comp=Z,55nm,18.9s,baz=182,slow=37								
HIA	**Hailar**	**24.70**	**356**	*eP*		**P**		**01 55 01.4**	**+1.3**
	6.6nm,0.4s								
ASAJ	**Asahikawa**	**25.51**	**35**	P		**P**		**01 55 05.6**	**-1.9**
	4.2nm,0.3s,baz=254,slow=14,SNR=4.8								
ULN	**Ulaanbaatar**	**26.20**	**336**	*eP*		**P**		**01 55 13.7**	**-0.2**
	2.8nm,0.6s								
SONM	**Songino Array**	**26.43**	**335**	P		**P**		**01 55 16.2**	**+0.3**
	9.0nm,0.9s,baz=153,slow=10,SNR=51								
SONM					PcP	**PcP**		**01 58 39.1**	**0.0**
	0.8nm,0.7s,baz=166,slow=3.3,SNR=5.7								
SONM					LR	LR		02 07 08.1	
	comp=Z,40nm,18.9s,baz=14,slow=39								
KULM	**Kulim**	**28.37**	**231**	*eP*		**P**		**01 55 34.3**	**+0.9**
KAPI	**Kappang**	**29.55**	**185**	*eP*		**P**		**01 55 44.2**	**+0.4**
TLY	**Talaya**	**30.61**	**337**	LR		LR		02 08 07.9	
	comp=Z,40nm,18.0s,baz=341,slow=36								
MKAR	**Makanchi Array**	**38.81**	**315**	P		**P**		**01 57 03.6**	**+0.1**
	1.5nm,0.5s,baz=102,slow=7.5,SNR=25								
MKAR					PcP	**PcP**		**01 59 12.9**	**-0.3**
	1.5nm,0.9s,baz=84,slow=3.8,SNR=5.9								
ZALV	**Zalesovo Beam**	**40.50**	**326**	P		**P**		**01 57 16.5**	**-0.9**
	1.9nm,0.5s,baz=108,slow=8.9,SNR=9.2								
ZALV					PcP	**PcP**		**01 59 16.8**	**-1.5**
	1.3nm,0.4s,baz=117,slow=4.7,SNR=4.7								
TKM2	**Tokmak 2**	**42.38**	**307**	*eP*		**P**		**01 57 33.8**	**+0.6**
	2.1nm,0.7s								
KURK	**Kurchatov**	**42.48**	**319**	*eP*		**P**		**01 57 32.8**	**-0.9**
	2.6nm,0.4s								
COEN	**Coen**	**43.37**	**150**	*eP*		**P**		**01 57 41.5**	**+0.3**
WRAB	**Tennant Creek**	**45.78**	**164**	*eP*		**P**		**01 58 00.7**	**+0.4**
	15nm,0.8s								
WRA	**Warramunga Arr**	**45.78**	**164**	P		**P**		**01 58 00.9**	**+0.6**
	14nm,0.6s,baz=346,slow=8.4,SNR=71								
WRA					PcP	**PcP**		**01 59 36.9**	**+0.2**
	0.7nm,0.9s,baz=340,slow=3.8,SNR=5.0								
WB2	**Warramunga Arr**	**45.79**	**164**	*eP*		**P**		**01 58 00.5**	**+0.1**
TIXI	**Tiksi**	**47.22**	**3**	*eP*		**P**		**01 58 09.6**	**-1.4**
	5.4nm,0.8s								
BRVK	**Borovoye**	**48.12**	**320**	*eP*		**P**		**01 58 17.9**	**-0.3**
	1.6nm,0.6s								
AS31	**Alice Springs**	**49.27**	**166**	*eP*		**P**		**01 58 28.2**	**+0.9**
ASAR	**Alice Springs**	**49.27**	**166**	P		**P**		**01 58 28.6**	**+1.3**
	3.8nm,0.6s,baz=344,slow=7.2,SNR=46								
ASAR					PcP	**PcP**		**01 59 49.0**	**-0.1**
	1.3nm,0.8s,baz=349,slow=3.2,SNR=5.4								
CTAO	**Charters Tower**	**50.13**	**150**	*eP*		**P**		**01 58 34.5**	**+0.5**
	20nm,1.3s								
ABKAR	**Akbulak array**	**53.94**	**314**	*eP*		**P**		**01 59 01.7**	**-0.1**
	1.0nm,0.5s								
MCK	**McKinley**	**67.66**	**29**	*eP*		**P**		**02 00 34.7**	**0.0**
	2.5nm,0.6s								
ILAR	**Eielson Array**	**68.33**	**27**	P		**P**		**02 00 37.8**	**-1.1**
	0.4nm,0.8s,baz=293,slow=7.7,SNR=6.4								
ARCES	**ARCESS Array B**	**69.56**	**338**	P		**P**		**02 00 46.0**	**-0.5**
	1.5nm,0.8s,baz=69,slow=5.9,SNR=12								
FINES	**FINESS Array B**	**71.64**	**330**	P		**P**		**02 00 58.6**	**-0.5**
	0.8nm,0.3s,baz=76,slow=5.7,SNR=12								
BRTR	**Keskin Array B**	**73.81**	**307**	P		**P**		**02 01 12.6**	**0.0**
	0.9nm,0.8s,baz=92,slow=5.6,SNR=8.6								
RES	**Resolute Bay**	**78.07**	**9**	*eP*		**P**		**02 01 34.3**	**-1.7**
	0.8nm,0.6s								
NOA	**NORSAR Array B**	**78.36**	**332**	P		**P**		**02 01 37.2**	**-0.7**
	0.5nm,0.6s,baz=55,slow=5.9,SNR=3.4								
PSZ	**Piszkesteto**	**79.98**	**318**	*eP*		**P**		**02 01 47.2**	**+0.1**
	2.8nm,0.8s								
YKA	**Yellowknife Ar**	**82.15**	**23**	P		**P**		**02 01 57.4**	**-0.7**
	0.9nm,0.5s,baz=308,slow=5.4,SNR=7.3								
CLL	**Collm**	**82.38**	**323**	*eP*		**P**		**02 02 02.0**	**+2.4**
GERES	**GERESS Array B**	**83.21**	**321**	P		**P**		**02 02 04.4**	**+0.4**
	0.3nm,0.5s,baz=68,slow=7.4,SNR=4.1								
NEW	**Newport**	**90.03**	**35**	*eP*		**P**		**02 02 37.8**	**+0.5**
	3.9nm,1.1s								
FCC	**Fort Churchill**	**91.61**	**18**	*eP*		**P**		**02 02 43.2**	**-1.0**
	3.6nm,1.0s								
FFC	**Flin Flon**	**92.30**	**24**	*eP*		**P**		**02 02 46.6**	**-1.0**
	1.7nm,0.9s								
SLMT	**Seeley Lake**	**92.57**	**34**	*eP*		**P**		**02 02 49.0**	**-0.2**
	3.0nm,0.8s								
HLID	**Hailey**	**94.47**	**38**	*eP*		**P**		**02 02 58.5**	**+0.4**
	1.5nm,0.8s								
BOZ	**Bozeman (W)**	**94.59**	**35**	*eP*		**P**		**02 02 58.0**	**-0.6**
	1.6nm,0.9s								
NVAR	**Mina Array Bea**	**95.37**	**43**	P		**P**		**02 03 01.8**	**-0.5**
	0.6nm,0.6s,baz=285,slow=5.7,SNR=5.9								

NNC ***23*** *01:56:35.5±4.6,38.°47N×71.°08E,h186km±51km,mb2.8, mpv3.9,Error ellipse: s-maj=48.0km s-min=31.8km az=50.0*

KRNET ***23*** *01:56:40.0±0.1,39.°21N×70.°85E,h27km,mb3.7*

ISC 23 01:56:41.2±2.3,39.°28N±0.°10×70.°88E±0.°06,h7km±11km, n23,σ1°68/29,9C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.74**	**74**	*i*P	**Pg**	**01 56 55.0**	**-0.6**
	baz=69						
DRK				*e*S	**Sg**	**01 57 06.0**	**+0.7**
	baz=69						
BTK	**Batken**	**0.78**	**357**	*eP*	**Pg**	**01 56 55.8**	**-0.5**
	baz=358						
BTK				*eS*	**Sb**	**01 57 07.6**	**-0.4**
	baz=358						
CHVK	**Chauvay**	**1.34**	**50**	*eP*	**Pn**	**01 57 05.0**	**-1.5**
	baz=48						
CHVK				*eS*	**Sb**	**01 57 23.4**	**-0.8**
	baz=48						
SFK	**Sufi-Kurgan**	**2.16**	**69**	⇓Pn	**Pn**	**01 57 17.2**	**-0.6**
	38nm,0.7s						
SFK				⇓Sn	**Sg**	**01 57 51.8**	**+1.3**
	108nm,0.4s						
SALK	**Salom-Alik**	**2.77**	**54**	*eP*	**Pn**	**01 57 25.3**	**-0.8**
	baz=53						
SALK				*eS*	**Sn**	**01 57 59.9**	**0.0**
	baz=53						
MNAS	**Manas**	**3.44**	**21**	⇓P	**Pn**	**01 57 38.1**	**+2.9**
	24nm,0.8s						
MNAS				⇓S	**Sb**	**01 58 25.1**	**+0.6**
	50nm,1.0s						
AML	**Almayashu**	**3.57**	**36**	P	**Pn**	**01 57 38.4**	**+1.1**
	SNR=47						
KK31	**Karatay Array**	**3.83**	**356**	⇑P	Pn	01 57 44.3	+3.7
	9.7nm,0.5s,baz=178,slow=12,SNR=181						
KK31				⇑S	**Sg**	**01 58 43.7**	**-0.7**
	16nm,0.6s,baz=178,slow=30,SNR=7.5						
KSH	**Kashi**	**3.96**	**85**	Pn	Pn	01 57 38.4	-4.0
KSH				Sn	**Sn**	**01 58 30.0**	**+0.9**
KSH				smax	smax		
	comp=N,310nm,1.3s						
KSH				smax	smax		
	comp=E,67nm,0.7s						
EKS2	**Erkin-Say**	**4.03**	**32**	P	Pn	01 57 46.6	+3.2
	SNR=14						
UCH	**Uchtor**	**4.04**	**42**	P	**Pn**	**01 57 45.5**	**+1.7**
	SNR=34						
AAK	**Ala-Archa**	**4.33**	**38**	⇑Pn	**Pn**	**01 57 49.6**	**+2.1**
	comp=E,10nm,0.5s						
AAK				⇑Sn	**Sb**	**01 58 46.8**	**-3.4**
	comp=E,15nm,0.7s						
AAK	**Ala-Archa**	**4.33**	**38**	P	**Pn**	**01 57 49.9**	**+2.4**
	SNR=20						
KZA	**Kyzart**	**4.35**	**49**	P	**Pn**	**01 57 50.0**	**+2.0**
	SNR=66						
KBK	**Karagaybulak**	**4.57**	**41**	P	Pn	01 57 54.0	+3.2
	SNR=26						
CHMS	**Chumysh**	**4.73**	**37**	P	**Pn**	**01 57 55.0**	**+2.1**
	SNR=15						
USP	**Ospenovka**	**4.83**	**33**	P	**Pn**	**01 57 56.0**	**+1.7**
	SNR=8.1						
ULHL	**Ulahol**	**5.04**	**52**	P	**Pn**	**01 57 59.8**	**+2.4**
	SNR=14						
TKM2	**Tokmak 2**	**5.10**	**43**	⇑P	**Pn**	**01 58 00.1**	**+2.0**
	comp=E,9.5nm,0.5s						
TKM2				⇑S	Sb	01 59 04.9	-7.4
	comp=E,6.1nm,0.6s						
TKM2	**Tokmak 2**	**5.10**	**43**	P	**Pn**	**01 58 00.1**	**+2.0**
	SNR=15						
MK31	**Makanchi Array**	**11.23**	**44**	⇑P	Pn	01 59 12.3	-10
	comp=E,0.6nm,0.7s,baz=147,slow=3.8,SNR=6.0						
AB31	**Akbulak array**	**12.67**	**325**	P	**Pn**	**01 59 42.0**	**+0.3**
	comp=E,1.7nm,0.6s,baz=129,slow=12,SNR=12						
AB31				⇑S	**Sn**	**02 02 01.3**	**-1.6**
	comp=E,8.1nm,1.0s,baz=138,slow=25,SNR=4.8						
AKTO	**Aktyubinsk**	**14.39**	**325**	⇓P	**Pn**	**02 00 04.1**	**-1.0**
	comp=E,5.5nm,1.4s						
AKTO				⇑S	**Sn**	**02 02 45.1**	**+0.3**
	comp=E,2.3nm,0.6s						

NIED ***23*** *01:59:00,32.°30N×142.°30E,h5km,Mw4.4 Best double couple: M0 3.98000×10^15 NP1:φ5.00000°,δ39.00000°, λ-69.00000°. NP2:φ158.00000°,δ54.00000°, λ-106.00000°.*

BJI ***23*** *01:59:08.9,32.°24N×142.°61E,h10km,mB4.8/26,mb4.6/39, Ms4.3/18,Ms7 4.0/18*

JMA ***23*** *01:59:13.7±0.3,32.°31N×142.°26E,h17km,M4.9*

ISCJB ***23*** *01:59:13.7±1.2,32.°31N±0.°03×142.°37E±0.°03,h27km±7km, mb4.6/105,MS3.6/11,Error ellipse: s-maj=5.9km s-min=4.2km az=27.7*

IDC ***23*** *01:59:14.6±4.4,32.°03N×142.°42E,h33km±33km,mb4.2/21, mb1 4.4/25,mb1mx4.2/38,mbtmp4.4/25,ML4.0/4,MS3.4/9, Ms1 3.5/9,ms1mx3.2/36,Error ellipse: s-maj=16.6km s-min=14.4km az=91.0*

NEIC ***23*** *01:59:15.8±1.0,32.°13N×142.°33E,h40km±8km,mb4.8/47, MW4.3(NIED),Error ellipse: s-maj=7.1km s-min=6.3km az=144.0*

MOS ***23*** *01:59:15.0±0.9,32.°47N×142.°40E,h33km,mb4.9/54,Error ellipse: s-maj=9.8km s-min=4.7km az=115.8*

ISC 23 01:59:12.8±0.5,32.°25N±0.°05×142.°53E±0.°05,h17km±2km, h16km:pP-P,n316,σ1°28/352,mb4.7/107,MS3.6/11, 34C-18D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.44**	**291**	P	**Pn**	**01 59 50.7**	**-1.2**
JHJ2	**Mitsune**	**2.44**	**291**	*e*Pn	**Pn**	**01 59 50.2**	**-1.7**
JHJ2				*e*Sn	**Sn**	**02 00 18.3**	**-3.0**
JHCJ	**Hachijojimakas**	**2.44**	**290**	P	**Pn**	**01 59 50.6**	**-1.3**
JHCJ				S	**Sn**	**02 00 17.3**	**-4.1**
BSO1	**Boso 1**	**2.72**	**332**	P	**Pn**	**01 59 56.0**	**+0.7**
BSO1				S	**Sn**	**02 00 27.8**	**+0.2**
BSO3	**Boso 3**	**3.05**	**327**	P	**Pn**	**02 00 00.6**	**+0.5**
BSO4	**Boso 4**	**3.29**	**327**	P	**Pn**	**02 00 04.3**	**+0.9**
JOD2	**Odawara 2**	**4.15**	**317**	P	**Pn**	**02 00 15.1**	**-0.4**
JOD2				S	**Sn**	**02 01 02.1**	**-1.5**
TK02	**Tokai 2**	**4.34**	**294**	P	**Pn**	**02 00 18.7**	**+0.8**
JHU	**Hanno**	**4.49**	**324**	P	**Pn**	**02 00 20.1**	**0.0**
JHU				S	**Sn**	**02 01 10.4**	**-1.5**
JYN	**Shimob**	**4.63**	**315**	P	**Pn**	**02 00 22.6**	**+0.5**
JYN				S	**Sn**	**02 01 14.4**	**-1.1**
JHO	**Hitachi**	**4.64**	**340**	P	**Pn**	**02 00 22.0**	**-0.2**
JHO				S	**Sn**	**02 01 14.1**	**-1.6**
JRY	**Ryogami san**	**4.81**	**322**	P	**Pn**	**02 00 24.7**	**+0.2**
JRY				S	**Sn**	**02 01 19.5**	**-0.4**
JAG	**Ashikaga**	**4.88**	**329**	P	**Pn**	**02 00 25.8**	**+0.4**
JAG				S	**Sn**	**02 01 19.5**	**-2.0**
CBIJ	**Chichi jima**	**5.14**	**183**	Pn	Pn	02 00 24.6	-4.6
CBIJ				Sn	Sn	02 01 19.2	-9.0
JCJ	**Chichijima**	**5.14**	**183**	Pn	Pn	02 00 24.6	-4.6
	21nm,0.3s,baz=3.5,slow=19,SNR=21						
JCJ				Sn	Sn	02 01 19.2	-9.0
	41nm,0.3s,baz=336,slow=18,SNR=4.0						
JIE	**Ise**	**5.32**	**295**	P	**Pn**	**02 00 31.3**	**-0.2**
JIE				S	**Sn**	**02 01 30.5**	**-1.9**
JFT	**Otama**	**5.55**	**342**	P	**Pn**	**02 00 35.2**	**+0.5**
MJAR	**Matsushiro Arr**	**5.57**	**321**	Pn	**Pn**	**02 00 35.6**	**+0.6**
	15nm,0.3s,baz=188,slow=18,SNR=55						
MJAR				Sn	**Sn**	**02 01 37.8**	**-0.9**
	24nm,0.3s,baz=149,slow=17,SNR=15						
MAJO	**Matsushiro**	**5.57**	**321**	*eP*	**Pn**	**02 00 35.1**	**+0.1**
MAJO				*e*		02 01 35.5	
MAJO	**Matsushiro**	**5.57**	**321**	*ePn*	**Pn**	**02 00 35.1**	**+0.1**
MAJO				*eSn*	**Sn**	**02 01 35.5**	**-3.2**
MAT	**Matsushiro**	**5.57**	**321**	P	**Pn**	**02 00 35.9**	**+0.9**
MAT				S	**Sn**	**02 01 36.1**	**-2.6**
MAT	**Matsushiro**	**5.57**	**321**	P	**Pn**	**02 00 36.1**	**+1.1**
MAT				S	**Sn**	**02 01 37.7**	**-1.0**
ERM	**Erimo**	**9.76**	**3**	⇓*i*P	**Pn**	**02 01 30.7**	**-1.7**
ERM				pmax	pmax		
	comp=Z,73nm,1.7s						
ERM	**Erimo**	**9.76**	**3**	*ePn*	**Pn**	**02 01 30.0**	**-2.3**
JNU	**Nakatsue**	**9.86**	**278**	Pn	**Pn**	**02 01 34.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=53,slow=4.6,SNR=5.4						
ASAJ	**Asahikawa**	**11.85**	**0**	Pn	**Pn**	**02 02 00.3**	**-0.7**
	comp=Z,3.1nm,0.3s,baz=226,slow=13,SNR=15						
ASAJ				Sn	**Sn**	**02 04 07.8**	**-4.9**
	comp=Z,1.0nm,0.3s,baz=78,slow=19,SNR=6.3						
ASAJ				LR	LR	02 07 36.3	
	comp=Z,118nm,21.2s,baz=148,slow=42						
ASAJ	**Asahikawa**	**11.85**	**0**	P	**Pn**	**02 02 00.3**	**-0.7**
ASAJ						02 04 07.8	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**11.85**	**0**	*ePn*	**Pn**	**02 01 59.5**	**-1.5**
ASAJ				Sn	**Sn**	**02 04 07.8**	**-4.9**
YUK	**Yuzh-Kuril'sk**	**12.05**	**12**	P	Pn	02 01 57.0	-6.8
YUK				*e*S	Sn	02 04 10.8	-6.9
YUK				pmax	pmax		
	comp=N,76nm,0.5s						
YUK				pmax	pmax		
	comp=Z,128nm,0.5s						
YUK				pmax	pmax		
	comp=E,59nm,0.2s						
KSRS	**Korea Array**	**13.06**	**297**	Pn	**Pn**	**02 02 19.6**	**+2.0**
	comp=E,0.3nm,0.3s,baz=103,slow=12,SNR=7.6						
KSAR	**Wonju Array Be**	**13.09**	**297**	P	**Pn**	**02 02 19.6**	**+1.6**
KSAR	**Wonju Array Be**	**13.09**	**297**	Pn	**Pn**	**02 02 19.6**	**+1.6**
USRK	**Ussuriysk Ar.**	**14.51**	**328**	Pn	**Pn**	**02 02 36.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=151,slow=14,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**14.69**	**1**	⇑*eP*	**Pn**	**02 02 38.2**	**-1.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**14.69**	**1**	*ePn*	**Pn**	**02 02 38.2**	**-1.5**
MDJ	**Mudanjiang**	**15.95**	**324**	P	**Pn**	**02 02 55.8**	**-0.6**
MDJ				S	**Sn**	**02 05 58.0**	**+5.3**
MDJ				PMZ			
	comp=Z,5.0nm,1.1s						
MDJ				PMZ			
	comp=Z,31nm,3.9s						
MDJ				LN			
	comp=Z,130nm,18.1s						
MDJ				LE			
	comp=Z,140nm,17.2s						
MDJ				LZ			
	comp=Z,170nm,11.6s						
CN2	**Changchun**	**17.68**	**316**	*eP*	**Pn**	**02 03 16.9**	**-1.3**
CN2				PMZ			
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**18.79**	**338**	*eP*	**P**	**02 03 27.2**	**-4.1**
NJ2	**Nanjing**	**20.04**	**276**	*eP*	**Pn**	**02 03 48.4**	**+1.6**
NJ2				PMZ			
	comp=Z,50nm,0.9s						
BJI	**Beijing**	**22.60**	**298**	P	**P**	**02 04 12.8**	**+0.3**
BJI				S	**S**	**02 08 20.1**	**+0.6**
BJI				PMZ			
	comp=Z,12nm,0.6s						
BJI				PMZ			
	comp=Z,100nm,10.8s						
BJI				LN			
	comp=Z,260nm,17.7s						
BJI				LE			
	comp=Z,160nm,17.4s						
BJI				LZ			
	comp=Z,87nm,20.9s						
HIA	**Hailar**	**24.08**	**322**	*eP*	**P**	**02 04 26.8**	**-0.5**
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	**Hailar**	**24.08**	**322**	*eP*	**P**	**02 04 26.8**	**-0.5**
	comp=Z,12nm,0.6s						
HHC	**Hu-ho-hao-te**	**26.21**	**298**	*eP*	**P**	**02 04 46.1**	**-0.7**
HHC				PP	**PnPn**	**02 05 27.3**	**+1.7**
HHC				S	**S**	**02 09 14.0**	**-4.3**
HHC				SS	**SnSn**	**02 10 20.3**	**+2.9**
HHC				PMZ			
	comp=Z,22nm,1.3s						
HHC				PMZ			
	comp=Z,61nm,5.0s						
HHC				LN			
	comp=Z,180nm,13.1s						
HHC				LE			
	comp=Z,120nm,11.8s						
HHC				LZ			
	comp=Z,64nm,12.2s						
XAN	**Xi'an**	**28.12**	**283**	P	**P**	**02 05 02.4**	**-1.6**
XAN				pP	**pP**	**02 05 06.4**	**-2.8**
XAN				PMZ			
	comp=Z,2.0nm,0.6s						
YAK	**Yakutsk**	**30.93**	**348**	⇓*eP*	**P**	**02 05 29.7**	**+1.2**
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
ULN	**Ulaanbaatar**	**30.99**	**311**	⇓*iP*	**P**	**02 05 30.3**	**+0.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**30.99**	**311**	*eP*	**P**	**02 05 29.9**	**+0.4**
	comp=Z,12nm,0.9s						
SEY	**Seymchan**	**31.34**	**9**	P	**P**	**02 05 33.8**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=182,slow=6.3,SNR=9.9						
SEY	**Seymchan**	**31.34**	**9**	P	**P**	**02 05 33.8**	**+1.7**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**31.40**	**310**	P	**P**	**02 05 33.9**	**+0.8**
	comp=Z,5.0nm,0.8s,baz=112,slow=8.7,SNR=33						
SONM				PcP	**PcP**	**02 08 25.6**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=113,slow=3.3,SNR=2.8						
GYA	**Guiyang**	**31.69**	**269**	*eP*	**P**	**02 05 36.8**	**+1.1**
GYA				PP	**PnPn**	**02 06 41.0**	**+1.3**
GYA				S	**S**	**02 10 43.4**	**-1.3**
GYA				ScP	**ScP**	**02 12 12.0**	**+2.0**
GYA				SS	**SnSn**	**02 12 31.6**	**+0.3**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				LN			
	comp=Z,360nm,16.8s						
GYA				LE			
	comp=Z,240nm,17.2s						
GYA				LZ			
	comp=Z,380nm,16.4s						
BOD	**Bodaibo**	**32.11**	**331**	*eP*	**P**	**02 05 38.8**	**-0.1**
BOD				*SP	**sP**	**02 05 46.7**	**+0.5**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QIZ	**Qiongzhong**	**32.13**	**254**	P	**P**	**02 05 41.3**	**+1.7**
QIZ				S	**S**	**02 10 54.8**	**+3.3**
CD2	**Chengdu**	**32.94**	**278**	P	**P**	**02 05 47.0**	**+0.4**
CD2				pP	**pP**	**02 05 51.6**	**-0.1**
CD2				sP	**sP**	**02 05 54.3**	**+0.5**
CD2				PP	**PnPn**	**02 06 56.5**	**+0.9**
CD2				S	**S**	**02 11 02.8**	**-1.2**
CD2				sS	sS	02 11 09.5	-3.0
CD2				SS	**SnSn**	**02 13 00.3**	**-1.2**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,140nm,5.2s						
CD2				LN			
	comp=Z,350nm,15.2s						
CD2				LZ			
	comp=Z,390nm,14.0s						
ZAK	**Zakamensk**	**34.10**	**314**	*eP*	**P**	**02 05 56.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
TLY	**Talaya**	**34.28**	**316**	P	**P**	**02 05 59.0**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=142,slow=6.9,SNR=3.1						
TLY	**Talaya**	**34.28**	**316**	*eP*	**P**	**02 05 58.5**	**+0.4**
TLY				*e*		02 07 15.2	
TLY				*eS*	S	02 11 15.9	-8.5
TLY				pmax	pmax		
	comp=Z,11nm,1.1s						
TLY				MLR	MLR		
	comp=Z,10.0nm,5.0s						
GTA	**Gaotai**	**35.10**	**294**	*eP*	**P**	**02 06 05.1**	**-0.3**
GTA				pP	**pP**	**02 06 09.8**	**-0.8**
GTA				sP	**sP**	**02 06 12.3**	**-0.4**
GTA				PMZ			
	comp=Z,5.0nm,0.8s						
KMI	**Kunming**	**35.46**	**269**	P	**P**	**02 06 10.3**	**+1.5**
KMI				pP	**pP**	**02 06 13.1**	**-0.9**
KMI				PMZ			
	comp=Z,6.0nm,0.7s						
KMI				LZ			
	comp=Z,59nm,19.3s						
BILL	**Bilibino**	**38.39**	**14**	⇓*eP*	**P**	**02 06 34.3**	**+1.4**
BILL				*e*		02 08 01.5	
BILL				*i*		02 08 46.5	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,248nm,22.0s						
TIXI	**Tiksi**	**40.14**	**353**	⇓*iP*	**P**	**02 06 48.0**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	**Tiksi**	**40.14**	**353**	*eP*	**P**	**02 06 47.6**	**+0.2**
	comp=Z,7.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.43**	**261**	P	**P**	**02 06 57.4**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=58,slow=8.6,SNR=3.2				

comp=Z,6.0nm,0.4s
PKIN Phulchoki 49.25 280 *e*P **P 02 08 01.4 +0.4**
comp=Z,4.4nm,0.4s
KKN Kakani 49.27 281 *e*P **P 02 08 00.6 -0.5**
comp=Z,5.3nm,0.2s
DMN Daman 49.48 280 *e*P **P 02 08 02.2 -0.6**
comp=Z,8.3nm,0.5s
KURK Kurchatov 49.69 312 P P **02 08 02.7 -1.0**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 49.69 312 *e*P **P 02 08 02.9 -0.9**
comp=Z,13nm,0.8s
PDGK Podgornoye 49.95 302 P **P 02 08 05.4 -0.4**
PDGK pmax pmax
comp=Z,14nm,1.3s
KDAK Kodiak Island 50.13 39 *i* P **P 02 08 07.9 +1.0**
DANN Dangsing 50.35 282 *e*P **P 02 08 09.5 +0.1**
comp=Z,22nm,0.7s
MCK McKinley 52.16 32 *e*P **P 02 08 21.4 -0.7**
MCK pmax pmax
comp=Z,4.0nm,0.8s
MCK McKinley 52.16 32 *e*P **P 02 08 21.4 -0.7**
comp=Z,4.1nm,0.8s
CTAO Charters Tower 52.16 176 *e*P P 02 08 26.1 +3.5
CTAO pmax pmax
comp=Z,10.0nm,0.9s
CTAO Charters Tower 52.16 176 *e*P P 02 08 26.1 +3.5
comp=Z,9.9nm,0.9s
WRAB Tennant Creek 52.48 190*ce*P **P 02 08 22.8 -2.1**
WRAB pmax pmax
comp=Z,20nm,1.0s
WRAB Tennant Creek 52.48 190 *e*P **P 02 08 23.1 -1.8**
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 52.48 190 *e*P **P 02 08 22.5 -2.5**
WRA Warramunga Arr 52.48 190 P **P 02 08 22.9 -2.1**
comp=Z,6.0nm,0.9s,baz=7.7,slow=7.7,SNR=36
FITZ Fitzroy Crossi 52.62 200 *e*P **P 02 08 24.6 -1.4**
comp=Z,6.4nm,0.9s
TKM2 Tokmak 2 52.83 302 P P **02 08 28.0 +0.4**
TKM2 pmax pmax
comp=Z,10.0nm,1.5s
TKM2 Tokmak 2 52.83 302 *e*P **P 02 08 27.6 0.0**
comp=Z,14nm,1.5s
ILAR Eielson Array 53.09 30 P **P 02 08 29.7 +0.7**
comp=Z,1.3nm,0.6s,baz=267,slow=6.0,SNR=4.2
ILAR Eielson Array 53.09 30 P **P 02 08 29.7 +0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
KSH Kashi 53.32 298 P P 02 08 34.8 +3.6
KSH sP sP 02 08 41.8 +3.2
KSH *e*PP PP 02 10 36.4 +5.1
KSH S **S 02 16 04.4 +2.1**
KSH ScS **ScS 02 18 20.3 0.0**
KSH PMZ
comp=Z,7.0nm,0.7s
KSH PMZ
comp=Z,83nm,4.6s
KSH LN
comp=Z,65nm,8.1s
KSH LE
comp=Z,100nm,4.9s
KSH LZ
comp=Z,110nm,6.4s
AAK Ala-Archa 53.68 302⇑ *i*P **P 02 08 33.4 -0.5**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 53.68 302 *e*P **P 02 08 33.9 0.0**
comp=Z,3.3nm,0.6s
EKS2 Erkin-Say 54.19 302 *e*P **P 02 08 37.1 -0.5**
EKS2 pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 54.19 302 *e*P **P 02 08 37.1 -0.5**
comp=Z,2.8nm,0.7s
BRVK Borovoye 54.59 315*ce*P **P 02 08 39.2 -0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 54.59 315 *e*P **P 02 08 39.4 -0.8**
SFK Sufi-Kurgan 55.03 299 P **P 02 08 43.5 -0.4**
SFK pmax pmax
comp=Z,6.0nm,0.7s
MNAS Manas 55.14 302 P **P 02 08 44.5 0.0**
MNAS pmax pmax
comp=Z,4.0nm,0.9s
NDI New Delhi 55.63 285 *e*P **P 02 08 47.5 -0.5**
AS31 Alice Springs 56.21 190 *e*P **P 02 08 50.4 -1.7**
ASAR Alice Springs 56.21 190 P **P 02 08 50.0 -2.0**
comp=Z,1.2nm,0.7s,baz=11,slow=6.5,SNR=14
KK31 Karatay Array 56.41 303 *i* P **P 02 08 53.2 -0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 56.41 303 *e*P **P 02 08 53.3 -0.1**
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 56.41 303 *e*P **P 02 08 53.3 -0.1**
comp=Z,13nm,0.9s
INK Inuvik 58.25 26 P **P 02 09 07.4 +1.4**
comp=Z,8.9nm,0.7s,baz=288,slow=5.7,SNR=19
INK Inuvik 58.25 26 P **P 02 09 07.4 +1.4**
INK pmax pmax
comp=Z,9.0nm,0.7s
INK Inuvik 58.25 26 *e*P **P 02 09 07.0 +1.1**
comp=Z,12nm,1.0s
KBL Kabul 60.09 294 *e*P **P 02 09 17.4 -2.1**
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 60.09 294 *e*P **P 02 09 17.4 -2.1**
comp=Z,3.9nm,0.8s
ARU Arti 60.59 321*d i*P **P 02 09 21.9 -0.4**
ARU 02 11 33.6
ARU S **S 02 17 39.0 +1.6**
ARU SS SS 02 21 25.7 -10
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 60.59 321 *e*P **P 02 09 21.9 -0.4**
comp=Z,10nm,0.8s
AB31 Akbulak array 61.78 312 *i* P **P 02 09 29.6 -0.9**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 61.78 312 *e*P **P 02 09 30.3 -0.1**
AKTO Aktyubinsk 62.60 314 P **P 02 09 35.1 -0.9**
AKTO pmax pmax
comp=Z,6.0nm,0.7s
FORT Forrest 64.17 194 *e*P **P 02 09 44.8 -1.6**
comp=Z,18nm,0.8s
PRGR Permogore 65.29 329 P **P 02 09 51.1 -2.4**
PRGR pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 67.00 14 *e*P **P 02 10 04.3 +0.1**
RES pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 67.00 14 *e*P **P 02 10 04.3 +0.1**
comp=Z,7.6nm,0.9s
GEYT Alibeck 67.02 301 P **P 02 10 04.7 -0.4**
comp=Z,4.3nm,0.9s,baz=37,slow=5.6,SNR=8.3
GEYT LR LR 02 40 42.8
comp=Z,43nm,18.3s,baz=145,slow=37
YKA Yellowknife Ar 67.50 29 P **P 02 10 08.3 +0.7**
comp=Z,0.4nm,0.6s,baz=283,slow=5.2,SNR=6.4
KLMR Klimovskoe 68.30 329 *e*P **P 02 10 11.4 -1.3**
KLMR pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 68.79 340 LR LR 02 44 25.0
comp=Z,35nm,21.6s,baz=49,slow=39
DAG Danmarks Havn 70.61 355⇓ *i*P **P 02 10 27.3 +0.6**
DAG *i* 02 10 42.4
DAG Danmarks Havn 70.61 355⇓ *i*P **P 02 10 27.3 +0.6**
comp=Z,7.3nm,0.9s
DAG *i* 02 10 42.4
JOF Joensuu 70.62 333 *e*p **P 02 10 25.3 -1.6**
comp=Z,2.5nm,0.6s
JOF Joensuu 70.62 333 *e*P **P 02 10 25.3 -1.6**
JOF pmax pmax
comp=Z,3.0nm,0.6s
OBN Obninsk 72.49 325⇑ *i*P **P 02 10 38.5 +0.2**
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,60nm,19.0s
KULLO Kullorsuaq 72.64 5 *i* P **P 02 10 39.8 +0.9**
comp=Z,9.6nm,0.8s
NEW Newport 72.94 43 *e*P **P 02 10 42.7 +1.4**
NEW pmax pmax
comp=Z,10.0nm,1.4s
NEW Newport 72.94 43 *e*P **P 02 10 42.7 +1.4**
comp=Z,10nm,1.4s
KAF Kangasniemi 72.98 334 *e*p **P 02 10 40.3 -0.9**
comp=Z,7.4nm,0.6s
KAF Kangasniemi 72.98 334 *e*P **P 02 10 40.3 -0.9**
KAF pmax pmax
comp=Z,7.0nm,0.6s
K05A Summer Lake 73.30 50 *e*P **P 02 10 45.8 +2.1**
comp=Z,12nm,0.9s
FINES FINESS Array B 73.48 333 P **P 02 10 44.2 +0.1**
comp=Z,8.1nm,0.8s,baz=79,slow=7.2,SNR=21
ZEI Tsey 74.58 311 *e*P **P 02 10 50.4 -0.8**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 74.77 312⇓ *e*P **P 02 10 53.4 +1.3**
KIV *e* 02 13 40.3
KIV *e*S **S 02 20 26.9 -1.1**
KIV pmax pmax
comp=Z,11nm,1.2s
KIV MLR MLR
comp=Z,38nm,19.0s
KIV Kislovodsk 74.77 312 *e*P **P 02 10 52.5 +0.4**
comp=Z,6.8nm,0.7s
WVOR Wild Horse Val 74.89 49 *e*P **P 02 10 53.7 +0.8**
WVOR pmax pmax
comp=Z,15nm,1.4s
WVOR Wild Horse Val 74.89 49 *e*P **P 02 10 53.7 +0.8**
comp=Z,14nm,1.4s
VSU Vasula 75.05 331⇑ *i*P **P 02 10 53.2 -0.1**
SWMT Swartz Lake 75.14 43 *e*P **P 02 10 54.1 -0.1**
GNI Garni 75.34 308*ce*P **P 02 10 56.9 +1.3**
GNI pmax pmax
comp=Z,7.0nm,1.2s
SUMG Summit 75.45 0 *i* P **P 02 10 57.5 +1.6**
SUMG Summit 75.45 0 *e*P **P 02 10 57.3 +1.4**
SUMG Summit 75.45 0 *i* P **P 02 10 57.5 +1.6**
comp=Z,5.3nm,0.7s
SLMT Seeley Lake 75.57 43 *e*P **P 02 10 57.8 +1.0**
CMB Columbia Colle 75.92 54 *e*P **P 02 11 00.0 +1.2**
CMB Columbia Colle 75.92 54 *e*P **P 02 11 00.0 +1.2**
LRM Limekiln Ridge 76.94 44 *e*P **P 02 11 05.6 +0.9**
NVAR Mina Array Bea 77.14 53 P **P 02 11 07.0 +1.1**
comp=Z,2.6nm,0.8s,baz=283,slow=6.1,SNR=15
FFC Flin Flon 77.23 32 *e*P **P 02 11 05.1 -0.7**
FFC pmax pmax
comp=Z,2.0nm,0.8s
FFC Flin Flon 77.23 32 *e*P **P 02 11 05.1 -0.7**
comp=Z,1.8nm,0.8s
EGMT Eagleton 77.26 41 *e*P **P 02 11 07.5 +1.2**
comp=Z,8.8nm,1.2s
FCC Fort Churchill 77.86 26 *e*P **P 02 11 08.4 -0.8**
FCC Fort Churchill 77.86 26 *e*P **P 02 11 08.4 -0.8**
AKASG Malin Array Be 78.66 323 P **P 02 11 13.3 -0.4**
comp=Z,3.0nm,0.5s,baz=46,slow=6.1,SNR=22
AKASG LR LR 02 47 39.5
comp=Z,28nm,21.4s,baz=85,slow=37
KIEV Kiev 78.67 323 *e*P **P 02 11 14.0 +0.1**
KIEV Kiev 78.67 323 *e*P **P 02 11 13.7 -0.2**
H17A Grant Village 78.83 44 *e*P P 02 11 18.4 +3.2
comp=Z,6.0nm,0.8s
H17A *e* 02 11 31.6
IMW Indian Meadow 78.90 45 *e*P **P 02 11 17.5 +1.8**
FLWY Flagg Ranch 78.94 45 *e*P **P 02 11 18.4 +2.6**
NB2 NORSAR Subarra 78.95 338 P **P 02 11 15.1 -0.2**
comp=Z,12nm,1.1s,baz=41,slow=5.6
NOA NORSAR Array B 78.95 338 P **P 02 11 15.2 -0.1**
comp=Z,6.5nm,0.9s,baz=40,slow=5.3,SNR=13
NOA LR LR 02 51 33.9
comp=Z,40nm,19.4s,baz=45,slow=40
R11A Troy Canyon, C 79.00 52 *e*P **P 02 11 17.8 +1.6**
comp=Z,5.7nm,1.4s
TPAW Teton Pass 79.12 45 *e*P **P 02 11 18.9 +2.0**
TPNV Topopah Spring 79.30 53 *e*P **P 02 11 18.9 +1.0**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 79.30 53 *e*P **P 02 11 18.9 +1.0**
comp=Z,5.7nm,1.0s
HWUT Hardware Ranch 79.80 47 *e*P **P 02 11 21.7 +1.2**
comp=Z,13nm,1.6s
DUG Dugway, Tooele 79.80 49 *e*P **P 02 11 22.0 +1.5**
DUG pmax pmax
comp=Z,5.0nm,1.2s
DUG Dugway, Tooele 79.80 49 *e*P **P 02 11 21.9 +1.5**
comp=Z,5.0nm,1.2s
SHPR Sheep Range 80.27 53 *e*P **P 02 11 24.1 +1.0**
PDAR Pinedale Array 80.37 45 P **P 02 11 24.3 +0.6**
comp=Z,2.0nm,0.7s,baz=269,slow=2.4,SNR=19
SRU San Rafael Swe 81.87 49 *e*P **P 02 11 32.8 +1.2**
SRU *e**PP pP 02 11 45.8 +8.6
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU San Rafael Swe 81.87 49 *e*P **P 02 11 32.8 +1.2**
comp=Z,7.3nm,0.7s
SRU *e*pP pP 02 11 45.8 +8.6
KWP Kalwaria Pacla 82.56 325⇑ *i*P **P 02 11 35.1 +0.2**
KWP Kalwaria Pacla 82.56 325 *e*P **P 02 11 35.0 +0.2**
KWP Kalwaria Pacla 82.56 325 *e*P **P 02 11 35.0 +0.2**
comp=Z,35nm,1.1s
TESR Tescani 82.61 321⇑ *i*P **P 02 11 34.8 -0.3**
BURAR Bucovina Array 82.64 323⇑ *i*P **P 02 11 35.8 +0.4**
BURAR Bucovina Array 82.64 323⇑ *i*P **P 02 11 35.9 +0.5**
O20A White River Ci 82.70 47 *e*P **P 02 11 37.0 +1.1**
BRTR Keskin Array B 82.73 313 *i* P **P 02 11 36.4 +0.3**
comp=Z,4.0nm,1.0s,baz=106,slow=4.7,SNR=19
BRTR Keskin Array B 82.73 313 *i* P **P 02 11 36.2 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
VRI Vrincioaia 82.98 321⇑ *i*P **P 02 11 38.7 +1.6**
VRI Vrincioaia 82.98 321 ⇑P **P 02 11 38.7 +1.6**
PLOR Plostina 83.03 321⇑ *i*P **P 02 11 38.8 +1.5**
PLOR Plostina 83.03 321 ⇑P **P 02 11 38.8 +1.5**
TLB Topalu 83.07 319⇑ *i*P **P 02 11 37.8 +0.3**
TLB Topalu 83.07 319 ⇑P **P 02 11 37.9 +0.4**
KOLS Kolonicke sedl 83.24 325 *e*P **P 02 11 38.1 -0.2**
KOLS Kolonicke sedl 83.24 325 *e*P **P 02 11 38.1 -0.2**
RAYN Ar Rayn 83.36 293 *e*P **P 02 11 39.4 -0.1**
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 83.41 326 *e*P **P 02 11 40.3 +1.1**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 83.41 326 *e*P **P 02 11 40.3 +1.1**
UZH Uzhgorod 83.44 325⇓ *i*P **P 02 11 39.5 +0.2**
MSAB Monastry St. A 83.51 319⇑ *i*P **P 02 11 39.3 -0.5**
OJC Ojcow 83.53 327 *e*P **P 02 11 39.8 0.0**
DOPR Dopca 83.63 321⇑ *i*P **P 02 11 41.4 +1.0**
MLR Muntele Rosu 83.64 321⇑ *i*P **P 02 11 40.5 -0.1**
MLR Muntele Rosu 83.64 321 ⇑P **P 02 11 40.5 -0.1**
N23A Red Feather La 83.65 45 *e*P **P 02 11 42.3 +1.4**
TRPA Tarpa 83.65 324⇑ *i*P **P 02 11 41.3 +0.9**
CRVS Cervenica-Dubn 83.65 325 *e*P **P 02 11 40.9 +0.4**
CRVS pmax pmax
comp=Z,14nm,1.7s
CRVS Cervenica-Dubn 83.65 325 *e*P **P 02 11 40.9 +0.4**
PV01 Paradox Valley 83.68 49 *e*P **P 02 11 41.5 +0.4**
NIE Niedzica 83.84 326 *e*P **P 02 11 42.1 +0.6**
SMCO Snowmass 84.06 47 *e*P **P 02 11 44.6 +1.4**
VOIR 84.15 321⇑ *i*P **P 02 11 43.6 +0.4**
VOIR 84.15 321 ⇑P **P 02 11 43.6 +0.4**
KECS Kecovo 84.41 325 *e*P **P 02 11 44.5 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 84.41 325 *e*P **P 02 11 44.5 +0.2**
ARR Arges 84.42 321⇓ *i*P **P 02 11 45.0 +0.5**
DRGR 84.47 323⇑ *i*P **P 02 11 44.1 -0.6**
DRGR 84.47 323 ⇑P **P 02 11 44.1 -0.6**
ISCO Idaho Springs 84.52 46 *e*P **P 02 11 46.5 +1.1**
ISCO Idaho Springs 84.52 46 *e*P **P 02 11 46.5 +1.1**
OKC Ostrava-Krasne 84.55 328⇓ *e*P **P 02 11 45.0 0.0**
OKC Ostrava-Krasne 84.55 328 *e*P **P 02 11 45.0 0.0**
KSP Ksiaz 84.66 329⇓ *e*P **P 02 11 45.7 +0.2**
MORC Moravsky Berou 84.87 328⇑ *i*P **P 02 11 46.7 0.0**
MORC Moravsky Berou 84.87 328 *e*P **P 02 11 46.1 -0.6**
MORC pmax pmax
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 84.87 328 *e*P **P 02 11 46.1 -0.6**
comp=Z,2.5nm,0.6s
KRLC Kraliky 85.00 328⇓ *i*P **P 02 11 47.3 0.0**
KRLC Kraliky 85.00 328⇓ *i*P **P 02 11 47.3 0.0**
DPC Dobruska-Polom 85.00 329⇓ *i*P **P 02 11 47.8 +0.5**
DPC Dobruska-Polom 85.00 329⇓ *i*P **P 02 11 47.8 +0.5**
DPC Dobruska-Polom 85.00 329 *e*P **P 02 11 47.8 +0.5**
PSZ Piszkesteto 85.09 325⇑ *i*P **P 02 11 48.3 +0.5**
PSZ Piszkesteto 85.09 325 ⇑P **P 02 11 48.3 +0.5**
PSZ Piszkesteto 85.09 325 *e*P **P 02 11 48.4 +0.5**
VYHS Vyhne 85.19 326 *e*P **P 02 11 48.5 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 85.19 326 *e*P **P 02 11 48.5 +0.2**
PVCC Panska Ves 85.63 330⇓ *e*P **P 02 11 49.9 -0.5**
PVCC Panska Ves 85.63 330 *e*P **P 02 11 49.9 -0.5**
BRG Berggiesshubel 85.64 330 *e*P **P 02 11 50.5 +0.1**
comp=Z,6.8nm,1.2s
BRG Berggiesshubel 85.64 330 *e*P **P 02 11 50.1 -0.3**
comp=Z,7.0nm,1.2s
BRG Berggiesshubel 85.64 330 *e*P **P 02 11 50.5 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.2s
VRAC Vranov 85.64 328⇑ *i*P **P 02 11 51.1 +0.6**
VRAC Vranov 85.64 328 ⇑P **P 02 11 51.1 +0.6**
CLL Collm 85.70 331 *e*P **P 02 11 50.2 -0.4**
comp=Z,15nm,1.2s
CLL Collm 85.70 331 *i* P **P 02 11 50.3 -0.4**
comp=Z,14nm,1.1s
CLL *i* pP pP 02 12 04.8 +8.5
CLL Collm 85.70 331 *i* P **P 02 11 50.3 -0.4**
CLL *i* 02 12 04.8
CLL pmax pmax
comp=Z,14nm,1.1s
FBE Freiberg 85.85 331 *e*P **P 02 11 51.4 -0.1**
comp=Z,19nm,1.2s
NEUB Neuenburg 86.28 331 *e*P **P 02 11 53.4 -0.2**
comp=Z,11nm,1.1s
CLZ Clausthal 86.35 333 *e*P **P 02 11 54.0 0.0**
comp=Z,13nm,1.2s
GUNZ Gunzen 86.70 331 *e*P **P 02 11 55.6 -0.1**
comp=Z,4.0nm,1.0s
WERN Wernitzgruen 86.74 331 *e*P **P 02 11 55.8 -0.1**
comp=Z,4.0nm,0.9s
MOX Moxa 86.78 331 *e*P **P 02 11 55.8 -0.3**
comp=Z,10.0nm,1.6s
ROHR Rohrbach 86.80 331 *e*P **P 02 11 56.0 -0.2**
comp=Z,2.0nm,1.1s
ANMO Albuquerque 86.95 50*ce*P P 02 11 54.5 -3.0
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ECSD EROS Data Cent 87.09 39 *e*P **P 02 11 58.1 +0.4**
ROTZ Rotzenmuhle 87.20 330 *e*P **P 02 11 58.6 +0.4**
comp=Z,4.0nm,1.2s
GERES GERESS Array B 87.26 329 P **P 02 11 58.0 -0.5**
comp=Z,0.3nm,0.6s,baz=35,slow=4.9,SNR=3.7
GERES LR LR 02 56 42.2
comp=Z,19nm,18.5s,baz=76,slow=39
ESK Eskdalemuir 87.97 341 *e*P **P 02 12 02.1 +0.4**
ESK pmax pmax
comp=Z,25nm,1.4s
ESK Eskdalemuir 87.97 341 *e*P **P 02 12 02.1 +0.4**
comp=Z,25nm,1.4s
SOKA Soboth 88.28 327⇑ *i*PcP **P 02 12 03.0 -0.5**
comp=Z,3.1nm,0.7s
SCHQ Schefferville 89.66 16 P **P 02 12 10.0 +0.3**
comp=Z,1.6nm,0.7s,baz=297,slow=5.8,SNR=3.4
WLF Walferdange 89.71 333 *e*P **P 02 12 11.3 +1.3**
WLF pmax pmax
comp=Z,16nm,1.3s
WLF Walferdange 89.71 333 *e*P **P 02 12 11.3 +1.3**
comp=Z,16nm,1.3s
BFO Black Forest 89.92 331 *e*P **P 02 12 10.4 -0.7**
comp=Z,4.0nm,1.1s
BFO Black Forest 89.92 331 *i* P **P 02 12 12.4 +1.3**
FETA Feichten 89.95 329⇑ *i*PcP **P 02 12 10.4 -1.0**
comp=Z,3.3nm,0.7s
CDF Champ du Feu 90.28 332 *e*P **P 02 12 11.3 -1.5**
comp=Z,3.6nm,0.8s
CDF Champ du Feu 90.28 332 *e*P **P 02 12 11.3 -1.5**
CDF pmax pmax
comp=Z,4.0nm,0.8s
CDF Champ du Feu 90.28 332 *e*P **P 02 12 11.3 -1.5**
comp=Z,3.6nm,0.8s
TXAR Lajitas Array 92.28 53 P **P 02 12 23.4 +0.9**
comp=Z,1.9nm,0.8s,baz=300,slow=3.3,SNR=8.4
AQU L'Aquila 92.28 325 *e*P **P 02 12 21.6 -0.6**
AQU L'Aquila 92.28 325 *e*P **P 02 12 21.6 -0.6**
LOR Lormes 92.55 333 *e*P **P 02 12 21.7 -1.6**
comp=Z,9.6nm,1.1s
LOR *e*R
comp=Z,48nm,19.5s
LOR Lormes 92.55 333 *e*P **P 02 12 21.7 -1.6**
LOR pmax pmax
comp=Z,10.0nm,1.1s
LOR Lormes 92.55 333 *e*P **P 02 12 21.7 -1.6**
comp=Z,9.6nm,1.1s
LPL La Plagne 92.83 331 *e*P **P 02 12 23.5 -1.4**
comp=Z,7.7nm,0.7s
LPL La Plagne 92.83 331 *e*P **P 02 12 23.5 -1.4**
LPL pmax pmax
comp=Z,8.0nm,0.7s
LPL La Plagne 92.83 331 *e*P **P 02 12 23.5 -1.4**
comp=Z,7.7nm,0.7s
LPG La Plagne 92.84 331 *e*P **P 02 12 23.7 -1.3**
comp=Z,10nm,0.7s
LPG La Plagne 92.84 331 *e*P **P 02 12 23.7 -1.3**
LPG pmax pmax
comp=Z,11nm,0.7s
LPG La Plagne 92.84 331 *e*P **P 02 12 23.7 -1.3**
comp=Z,10nm,0.7s
SSF Saint Saulge 92.85 333 *e*P **P 02 12 23.3 -1.4**
comp=Z,11nm,1.1s
SSF Saint Saulge 92.85 333 *e*P **P 02 12 23.3 -1.4**
SSF pmax pmax
comp=Z,11nm,1.1s
SSF Saint Saulge 92.85 333 *e*P **P 02 12 23.3 -1.4**
comp=Z,11nm,1.1s
SMF Signal de Mont 93.07 333 *e*P **P 02 12 24.1 -1.6**
comp=Z,4.9nm,0.9s
SMF Signal de Mont 93.07 333 *e*P **P 02 12 24.1 -1.6**
SMF pmax pmax
comp=Z,5.0nm,0.9s
SMF Signal de Mont 93.07 333 *e*P **P 02 12 24.1 -1.6**
comp=Z,4.9nm,0.9s
AVF Avril sur Loir 93.14 333 *e*P **P 02 12 24.6 -1.3**
comp=Z,15nm,0.9s
AVF Avril sur Loir 93.14 333 *e*P **P 02 12 24.6 -1.3**
AVF pmax pmax
comp=Z,15nm,0.9s
AVF Avril sur Loir 93.14 333 *e*P **P 02 12 24.6 -1.3**
comp=Z,15nm,0.9s
BNI Bardonecchia 93.23 330 *e*P **P 02 12 25.7 -0.9**
BNI pmax pmax
comp=Z,4.0nm,0.7s
BNI Bardonecchia 93.23 330 *e*P **P 02 12 25.7 -0.9**
comp=Z,3.6nm,0.7s
MBDF Montbardon 93.45 330 *e*P **P 02 12 25.7 -2.0**
comp=Z,15nm,0.9s
MBDF Montbardon 93.45 330 *e*P **P 02 12 25.7 -2.0**
MBDF pmax pmax
comp=Z,15nm,0.9s
MBDF Montbardon 93.45 330 *e*P **P 02 12 25.7 -2.0**
comp=Z,15nm,0.9s
ORIF Oris-en-Rattie 93.67 331 *e*P **P 02 12 27.1 -1.5**
comp=Z,19nm,1.1s
ORIF *e*R
comp=Z,54nm,18.8s
ORIF Oris-en-Rattie 93.67 331 *e*P **P 02 12 27.1 -1.5**
ORIF pmax pmax
comp=Z,19nm,1.1s
ORIF Oris-en-Rattie 93.67 331 *e*P **P 02 12 27.1 -1.5**
comp=Z,19nm,1.1s
TCF Toulx Ste Croi 93.99 334 *e*P **P 02 12 28.6 -1.3**
comp=Z,7.9nm,1.0s
TCF Toulx Ste Croi 93.99 334 *e*P **P 02 12 28.6 -1.3**
TCF pmax pmax
comp=Z,8.0nm,1.0s
TCF Toulx Ste Croi 93.99 334 *e*P **P 02 12 28.6 -1.3**
comp=Z,7.9nm,1.0s
VIVF Saint-Julien-l 94.22 331 *e*P **P 02 12 29.7 -1.3**
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 94.22 331 *e*P **P 02 12 29.7 -1.3**
VIVF pmax pmax
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 94.22 331 *e*P **P 02 12 29.7 -1.3**
comp=Z,12nm,0.9s
TORD Torodi Ar. Bea 121.33 314 PKP **PKPdf 02 18 04.0 -1.7**
comp=Z,0.5nm,0.7s,baz=38,slow=1.2,SNR=9.5
LBTB Lobatse 124.85 260 *e*PKIKP **PKPdf 02 18 12.4 +0.1**
LBTB Lobatse 124.85 260 *e*PKPdf **PKPdf 02 18 12.4 +0.1**
SAML Samuel 146.76 51 *e*PKPbc **PKPbc 02 18 54.3 -0.3**
LPAZ La Paz 148.00 68 *e*PKP2 **PKPbc 02 18 59.0 +0.3**
LPAZ La Paz 148.00 68 *e*PKPbc **PKPbc 02 18 59.0 +0.3**
LVC Limon Verde 150.58 79 *e*PKPbc **PKPbc 02 19 05.5 +0.9**
LCO Las Campanas 151.29 92 *e*PKPbc **PKPbc 02 19 06.1 0.0**

*ISCJB **23** 01:59:52.9±1.3,34°70S±0°03×72°55W±0°07,h20km±9km,*

mb4.3/18,MS3.5/5,Error ellipse: s-maj=9.2km s-min=5.3km az=13.7
GUC ***23*** *01:59:54.8±0.8,34°.67S×72°.40W,h27km±6km,ML4.7*
NEIC ***23*** *01:59:57.1±2.3,34°.63S×72°.37W,h34km±16km,mb4.4/14, ML4.7(GUC),Error ellipse: s-maj=12.6km s-min=6.2km az=77.0*
NEIC Felt [IV] at Constitucion and Pencahue and [III] at Curico, San Javier and Talca.
IDC ***23*** *01:59:59.5±2.6,34°.69S×72°.11W,h48km±22km,mb3.9/7, mb1 4.0/10,mb1mx3.8/25,mbtmp4.1/10,ML4.1/2,MS3.6/9, Ms1 3.6/9,ms1mx3.4/30,Error ellipse: s-maj=34.6km s-min=11.8km az=105.0*

ISC 23 01:59:55.8±2.1,34°.70S±0°.03×72°.38W±0°.07,h27km±14km, n51,σ1°30/63,mb4.3/18,MS3.5/5,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.93**	**139**	*e*P		**Pn**	**02 00 11.9**	**-1.1**
TALC				*e*S		**Sb**	**02 00 24.7**	**-0.5**
NICH	**Los Niches**	**0.99**	**108**	⇓*i*P		**Pn**	**02 00 13.3**	**-0.6**
NICH				*e*S		**Sn**	**02 00 26.5**	**-0.6**
LNCH	**Linares**	**1.31**	**151**	*e*P		**Pn**	**02 00 18.3**	**0.0**
LNCH				*e*S		**Sn**	**02 00 35.4**	**+0.6**
IHA	**Instituto Hidr**	**1.78**	**20**	*e*P		**Pn**	**02 00 24.6**	**-0.2**
IHA				*e*S		**Sb**	**02 00 51.2**	**+1.5**
CLCH	**Cerro Calan**	**2.01**	**50**	*e*P		**Pn**	**02 00 28.6**	**+0.6**
CLCH				*e*S		**Sn**	**02 00 54.2**	**+1.9**
CLCH				AML		AML	02 01 05.6	
	comp=N,10μm,0.6s							
ROCH	**El Roble**	**2.07**	**34**	*e*P		**Pn**	**02 00 29.1**	**+0.1**
ROCH				*e*S		**Sn**	**02 00 55.3**	**+1.4**
ROCH				AML		AML	02 01 05.7	
	comp=E,6μm,0.5s							
PEL	**Peldehue**	**2.10**	**43**	⇓*e*P		**Pn**	**02 00 29.7**	**+0.5**
PEL				*e*S		**Sn**	**02 00 55.4**	**+1.0**
PEL				AML		AML	02 01 06.4	
	comp=E,9μm,0.4s							
YECH	**El Yeso**	**2.17**	**62**	*e*P		**Pn**	**02 00 31.9**	**+1.5**
YECH				*e*S		**Sb**	**02 00 59.9**	**-1.2**
CCSP	**San Pedro de C**	**2.22**	**195**	*e*S		**Sn**	**02 00 56.5**	**-0.8**
CFAA	**Coronel Fontan**	**4.65**	**50**	P		**Pn**	**02 01 05.8**	**+1.5**
	comp=E,0.5nm,0.3s,baz=222,slow=12,SNR=38							
CFAA				S		**Sn**	**02 01 56.2**	**-1.1**
	comp=E,1.1nm,0.3s,baz=228,slow=16,SNR=3.6							
CFAA				LR		LR	02 03 01.6	
	comp=E,60nm,18.1s,baz=227,slow=41							
LCO	**Las Campanas**	**5.85**	**15**	*e*Pn		**Pn**	**02 01 20.2**	**-0.8**
	comp=E,29nm,0.4s							
LCO				*e*Sn		**Sn**	**02 02 24.2**	**-3.1**
PLCA	**Paso Flores**	**6.19**	**167**	P		**Pn**	**02 01 27.1**	**+1.7**
	comp=E,0.9nm,0.3s,baz=333,slow=13,SNR=29							
PLCA				S		**Sn**	**02 02 37.6**	**+2.2**
	baz=336,slow=20,SNR=1.1							
PLCA				LR		LR	02 03 58.6	
	comp=E,295nm,20.4s,baz=346,slow=39							
PLCA	**Paso Flores**	**6.19**	**167**	*e*Pn		**Pn**	**02 01 26.8**	**+1.3**
	comp=E,2.3nm,0.2s							
PLCA				S		**Sn**	**02 02 37.6**	**+2.2**
TRQA	**Tornquist**	**9.03**	**115**	*e*Pn		**Pn**	**02 02 05.7**	**+1.3**
	comp=E,22nm,1.1s							
LVC	**Limon Verde**	**12.42**	**15**	LR		LR	02 08 05.0	
	comp=E,715nm,18.1s,baz=205,slow=39							
CPUP	**Villa Florida**	**15.41**	**61**	LR		LR	02 09 51.9	
	comp=E,1μm,20.7s,baz=236,slow=39							
LPAZ	**La Paz**	**18.73**	**13**	P		**Pn**	**02 04 15.5**	**+1.9**
	comp=E,0.4nm,0.3s,baz=183,slow=7.6,SNR=3.7							
LPAZ	**La Paz**	**18.73**	**13**	*e*P		**Pn**	**02 04 14.5**	**+0.9**
	comp=E,5.7nm,0.8s							
SIV	**San Ignacio**	**21.22**	**31**	P		**P**	**02 04 39.6**	**0.0**
	comp=E,9.5nm,0.7s,baz=221,slow=12,SNR=32							
SIV				LR		LR	02 14 22.5	
	comp=E,148nm,19.7s,baz=216,slow=41							
NNA	**Nana**	**22.97**	**349**	LR		LR	02 12 15.1	
	comp=E,60nm,19.1s,baz=164,slow=32							
SAML	**Samuel**	**26.99**	**20**	*e*P		**P**	**02 05 35.2**	**-0.2**
	comp=E,1.8nm,0.8s							
BDFB	**Brasilia**	**28.96**	**55**	P		**P**	**02 05 51.8**	**-1.4**
	comp=E,2.4nm,0.6s,baz=247,slow=11,SNR=5.2							
BDFB				LR		LR	02 18 26.9	
	comp=E,110nm,19.0s,baz=226,slow=38							
OTAV	**Otavalo**	**35.22**	**349**	*e*P		**P**	**02 06 47.1**	**-1.3**
	comp=E,2.3nm,0.8s							
SDV	**Santo Domingo**	**43.38**	**3**	*e*P		**P**	**02 07 56.6**	**+0.5**
	comp=E,4.2nm,0.9s							
SNAA	**Sanae**	**51.04**	**158**	P		**P**	**02 08 55.9**	**+0.8**
	comp=E,1.1nm,0.9s,baz=281,slow=6.9,SNR=3.7							
SNAA	**Sanae**	**51.04**	**158**	*e*P		**P**	**02 08 55.5**	**+0.4**
	comp=E,8.1nm,0.9s							
OBIP	**Obispado Ponce**	**52.74**	**7**	*e*P		**P**	**02 09 07.0**	**-1.2**
QSPA	**South Pole Qui**	**55.53**	**180**	P		**P**	**02 09 30.0**	**+1.6**
	comp=E,3.9nm,0.8s,baz=149,slow=1.8,SNR=11							
GOGA	**Godfrey**	**68.55**	**350**	*e*P		**P**	**02 10 55.5**	**-0.3**
	comp=E,2.8nm,0.8s							
TXAR	**Lajitas Array**	**70.21**	**331**	P		**P**	**02 11 07.7**	**+1.5**
	comp=E,0.4nm,0.6s,baz=168,slow=8.9,SNR=4.0							
TXAR				LR		LR	02 35 36.0	
	comp=E,49nm,21.1s,baz=0.0,slow=30							
WHTX	**Lake Whitney,**	**70.41**	**338**	*e*P		**P**	**02 11 06.0**	**-1.3**
WVT	**Waverly**	**71.93**	**347**	*e*P		**P**	**02 11 16.9**	**+0.5**
	comp=E,3.2nm,0.7s							
MNTX	**Cornudas Mount**	**72.98**	**331**	*e*P		**P**	**02 11 22.1**	**-0.7**
DBIC	**Dimbokro**	**75.67**	**71**	P		**P**	**02 11 39.1**	**+0.2**
	comp=E,5.5nm,1.0s,baz=192,slow=6.3,SNR=3.8							
DBIC				PP		**PP**	**02 14 24.9**	**-4.1**
	comp=E,6.8nm,1.1s,baz=234,slow=7.8,SNR=4.6							
DBIC				LR		LR	02 42 54.3	
	comp=E,47nm,18.7s,baz=130,slow=34							
DBIC	**Dimbokro**	**75.67**	**71**	*e*P		**P**	**02 11 39.2**	**+0.3**
	comp=E,14nm,1.1s							
DBIC				PP		**PP**	**02 14 24.9**	**-4.1**
MVCO	**Mesa Verde**	**79.04**	**331**	*e*P		**P**	**02 11 57.2**	**-0.4**
	comp=E,1.9nm,0.6s							
TSUM	**Tsumeb**	**79.30**	**106**	*e*P		**P**	**02 11 59.7**	**+0.3**
	comp=E,3.8nm,0.9s							
LDFC	**Landfair**	**80.09**	**326**	*e*P		**P**	**02 12 03.0**	**-0.1**
	comp=E,20nm,0.8s							
LBTB	**Lobatse**	**82.27**	**115**	*e*P		**P**	**02 12 15.2**	**0.0**
	comp=E,55nm,1.7s							
HWUT	**Hardware Ranch**	**84.03**	**332**	*e*P		**P**	**02 12 23.9**	**+0.1**
	comp=E,2.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**84.72**	**70**	P		**P**	**02 12 27.7**	**+0.1**
	comp=E,1.0nm,0.7s,baz=278,slow=7.9,SNR=7.0							
LSZ	**Lusaka**	**89.86**	**108**	*e*P		**P**	**02 12 52.9**	**+0.1**
	comp=E,14nm,1.6s							
WRA	**Warramunga Arr**	**120.01**	**209**	PKP		**PKPdf**	**02 18 44.1**	**-0.3**
	comp=E,0.5nm,0.6s,baz=156,slow=1.8,SNR=7.3							
BRTR	**Keskin Array B**	**122.42**	**61**	PKP		**PKPdf**	**02 18 49.0**	**+0.5**
	comp=E,0.1nm,0.4s,baz=211,slow=4.5,SNR=3.8							
H11N3	**WAKE ISLAND Hyl**	**25.91**	**270**	T		T	04 37 38.7	
	baz=115,slow=77,SNR=3.0							
H11N1	**WAKE ISLAND Hyl**	**25.92**	**270**	T		T	04 37 39.9	
	baz=115,slow=77,SNR=8.2							
H11N2	**WAKE ISLAND Hyl**	**25.92**	**270**	T		T	04 37 41.5	
	baz=115,slow=77,SNR=4.6							
AAK	**Ala-Archa**	**153.08**	**63**	*e*PKPbc		**PKPbc**	**02 19 51.2**	**+0.4**
AAK				*e*PKPab		**PKPab**	**02 20 02.8**	**+0.4**
KURK	**Kurchatov**	**153.58**	**44**	*e*PKPbc		**PKPbc**	**02 19 51.7**	**+0.3**
TKM2	**Tokmak 2**	**153.85**	**62**	*e*PKPbc		**PKPbc**	**02 19 52.8**	**+0.2**
TKM2				*e*PKPab		**PKPab**	**02 20 05.6**	**-0.2**
ZALV	**Zalesovo Beam**	**154.97**	**33**	PKP		**PKPdf**	**02 19 46.5**	**+1.1**
	comp=E,0.3nm,0.3s,baz=322,slow=9.4,SNR=2.8							
ZALV				PKPbc		**PKiKP**	**02 19 55.1**	**+0.8**
	comp=E,1.1nm,0.7s,baz=282,slow=2.8,SNR=4.9							
ZALV				PKPab		**PKPab**	**02 20 10.0**	**+0.2**
	comp=E,0.5nm,0.5s,baz=313,slow=3.9,SNR=3.5							

ISCJB ***23*** *02:11:08.9±0.8,32°.41N±0°.05×115°.40W±0°.05,h21km±7km, Error ellipse: s-maj=8.9km s-min=6.7km az=24.0*
MEX ***23*** *02:11:10.3±0.4,32°.44N×115°.42W,h5km, MD3.6*
ECX ***23*** *02:11:10.6±0.7,32°.39N×115°.47W,h8km, MD2.9,ML3.1*

ISC 23 02:11:08.7±1.2,32°.41N±0°.06×115°.40W±0°.06, h23km±11km,n11,σ0°.42/17,2C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.08**	**87**	*e*P		**Pb**	**02 11 13.7**	**+0.7**
CPBX				*e*S		**Sb**	**02 11 16.0**	**+0.1**
CPBX				⇓*e*			02 11 21.9	
	comp=N,15μm,0.3s							
MBIG	**Mexicali**	**0.17**	**92**	*e*P		**Pb**	**02 11 13.7**	**-0.1**
MBIG				*e*S		**Sb**	**02 11 16.4**	**-0.9**
SGL	**Mount Signal**	**0.36**	**311**	⇑*i*P		**Pb**	**02 11 16.5**	**0.0**
YUH	**Yuha Desert**	**0.50**	**298**	⇓*i*P		**Pb**	**02 11 18.6**	**-0.3**
RMX	**La Rumorosa**	**0.60**	**288**	*e*P		**Pb**	**02 11 20.8**	**+0.1**
RMX				⇓*e*			02 11 26.0	
	comp=N,1μm,0.1s							
RDX	**Rancho Dawling**	**0.67**	**223**	*e*P		**Pb**	**02 11 22.0**	**+0.2**
RDX				*e*S		**Sb**	**02 11 30.2**	**-0.4**
RDX				⇑*e*			02 11 36.1	
	comp=E,684nm,0.4s							
CRR	**Carrizo Plain**	**0.67**	**315**	⇓*i*P		**Pb**	**02 11 22.0**	**+0.2**
CBX	**Cerro Bola**	**1.07**	**265**	*e*P		**Pb**	**02 11 29.2**	**+0.5**
CBX				*i* S		**Sb**	**02 11 41.8**	**-0.5**
ZAX	**El Zacaton**	**1.16**	**220**	*e*P		**Pn**	**02 11 29.9**	**+0.3**
ZAX				*e*S		**Sn**	**02 11 44.8**	**0.0**
SPIG	**San Pedro Mart**	**1.36**	**182**	*e*P		**Pn**	**02 11 32.7**	**0.0**
SPIG				*e*S		**Sn**	**02 11 50.3**	**+0.1**
SPX	**San Pedro Mart**	**1.36**	**182**	*e*P		**Pb**	**02 11 33.7**	**-0.1**

ISCJB ***23*** *02:26:12.8±0.8,37°.47S±0°.06×73°.7W±0°.1,h33km, mb3.7/6, Error ellipse: s-maj=14.4km s-min=8.0km az=170.8*
IDC ***23*** *02:26:15.2±3.1,37°.49S×73°.68W,h45km±28km,mb3.5/6, mb1 3.8/9,mb1mx3.6/37,mbtmp3.7/9,ML3.5/2,MS2.6/2, Ms1 2.6/2,ms1mx2.6/20,Error ellipse: s-maj=36.7km s-min=15.0km az=85.0*

ISC 23 02:26:13.7±1.0,37°.48S±0°.08×73°.8W±0°.1,h35km,n11, σ1°21/13,mb3.7/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.11**	**143**	P		**Pn**	**02 27 13.5**	**-0.6**
	1.2nm,0.3s,baz=327,slow=10,SNR=16							
PLCA				S		**Sn**	**02 28 02.1**	**+1.1**
	3.8nm,0.3s,baz=314,slow=16,SNR=3.3							
PLCA				LR		LR	02 29 16.0	
	comp=Z,257nm,19.1s,baz=300,slow=45							
CFAA	**Coronel Fontan**	**7.43**	**40**	P		**Pn**	**02 27 59.1**	**-0.6**
	0.3nm,0.3s,baz=208,slow=9.8,SNR=16							
CFAA				S		**Sn**	**02 29 24.4**	**+1.7**
	0.2nm,0.3s,baz=258,slow=19,SNR=3.0							
CFAA				LR		LR	02 31 28.8	
	comp=Z,13nm,19.7s,baz=236,slow=42							
LVC	**Limon Verde**	**15.40**	**17**	P		**P**	**02 29 50.3**	**-2.5**
	4.5nm,0.3s,baz=207,slow=9.4,SNR=1.6							
LPAZ	**La Paz**	**21.69**	**15**	P		**P**	**02 31 02.8**	**+0.6**
	1.9nm,0.9s,baz=190,slow=12,SNR=5.6							
SIV	**San Ignacio**	**24.18**	**31**	P		**P**	**02 31 27.1**	**+0.2**
	1.0nm,0.6s,baz=221,slow=11,SNR=2.8							
TXAR	**Lajitas Array**	**72.12**	**333**	P		**P**	**02 37 35.2**	**+0.6**
	0.2nm,0.2s,baz=154,slow=6.7,SNR=2.9							
NVAR	**Mina Array Bea**	**85.96**	**326**	P		**P**	**02 38 51.5**	**+1.3**
	0.4nm,0.7s,baz=141,slow=3.1,SNR=4.0							
PDAR	**Pinedale Array**	**86.25**	**334**	P		**P**	**02 38 52.0**	**+0.4**
	0.8nm,1.0s,baz=157,slow=4.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**86.71**	**71**	P		**P**	**02 38 53.7**	**-0.6**
	0.6nm,0.8s,baz=221,slow=4.6,SNR=8.9							
BRTR	**Keskin Array B**	**124.71**	**64**	PKP		**PKPdf**	**02 45 08.8**	**-0.7**
	0.4nm,0.8s,baz=130,slow=2.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**157.90**	**35**	PKPab		**PKPab**	**02 46 39.3**	**+0.2**
	0.9nm,0.6s,baz=306,slow=5.0,SNR=4.8							

IDC ***23*** *02:38:18.2±8.7,5°.39S×151°.61E,h33km±65km,mb4.1/12, mb1 4.3/12,mb1mx4.0/30,mbtmp4.2/12,MS3.5/3, Ms1 3.5/3,ms1mx2.9/28,Error ellipse: s-maj=24.6km s-min=18.6km az=79.0*
ISCJB ***23*** *02:38:19.3±0.5,5°.39S±0°.06×151°.53E±0°.07,h57km, mb4.3/17,MS3.5/3,Error ellipse: s-maj=11.8km s-min=7.0km az=32.2*
NEIC ***23*** *02:38:21.3±2.0,5°.41S×151°.59E,h64km±17km,mb4.3/7, Error ellipse: s-maj=12.3km s-min=10.5km az=68.0*

ISC 23 02:38:20.7±0.5,5°.40S±0°.07×151°.61E±0°.09,h57km,n44, σ1°07/45,mb4.2/17,MS3.5/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.32**	**25**	P		**Pn**	**02 38 44.5**	**+1.5**
	baz=1.4,SNR=73							
MANU	**Manus Island**	**5.39**	**308**	P		Pn	02 39 44.4	+5.7
	baz=5.8,SNR=6.8							
PMG	**Port Moresby**	**5.94**	**228**	P		**Pn**	**02 39 48.2**	**+2.1**
	baz=6.1,SNR=4.3							
PMG				S		**Sn**	**02 40 55.8**	**+2.8**
	baz=6.1,SNR=4.7							
PMG	**Port Moresby**	**5.94**	**228**	*e*Pn		**Pn**	**02 39 46.6**	**+0.4**
	56nm,0.8s							
PMG				*e*Sn		**Sn**	**02 40 51.4**	**-1.5**
CTA	**Charters Tower**	**15.50**	**199**	Pn		**P**	**02 41 60.0**	**+0.7**
	0.3nm,0.3s,baz=26,slow=14,SNR=3.2							
QIS	**Mount Isa**	**19.05**	**217**	P		**P**	**02 42 38.9**	**+0.4**
	baz=19,SNR=8.1							
FAKI	**Fak Fak**	**19.47**	**277**	*e*P		**P**	**02 42 41.5**	**-1.5**
	12nm,1.2s							
KDU	**Kakadu**	**20.23**	**248**	P		**P**	**02 42 51.2**	**0.0**
	baz=20,SNR=17							
MTN	**Manton Dam**	**21.52**	**248**	P		**P**	**02 43 07.2**	**+2.0**
	baz=22,SNR=3.8							
DZM	**Mont Dzumac**	**21.92**	**141**	P		**P**	**02 43 09.0**	**-0.5**
	4.8nm,0.6s,baz=333,slow=6.8,SNR=6.9							
DZM				LR		LR	02 50 20.7	
	comp=Z,192nm,18.4s,baz=220,slow=33							
WRAB	**Tennant Creek**	**22.15**	**228**	*e*P		**P**	**02 43 12.9**	**+1.0**
	29nm,0.6s							
WB2	**Warramunga Arr**	**22.15**	**228**	*e*P		**P**	**02 43 12.8**	**+0.8**
WRA	**Warramunga Arr**	**22.16**	**228**	P		**P**	**02 43 11.1**	**-1.0**
	30nm,0.7s,baz=52,slow=9.9,SNR=150							
WRA				PcP		**PcP**	**02 47 09.1**	**+1.6**
	0.8nm,0.6s,baz=39,slow=1.5,SNR=5.4							
QLP	**Quilpie**	**22.21**	**198**	P		**P**	**02 43 12.4**	**-0.1**
	baz=22,SNR=5.4							
KNRA	**Kununurra**	**24.64**	**244**	P		**P**	**02 43 36.1**	**-0.1**
	baz=25,SNR=13							
AS31	**Alice Springs**	**24.91**	**221**	*e*P		**P**	**02 43 38.5**	**-0.2**
ASAR	**Alice Springs**	**24.91**	**221**	P		**P**	**02 43 38.2**	**-0.5**
	19nm,0.6s,baz=57,slow=8.9,SNR=136							
LHI	**Lord Howe Isla**	**26.91**	**166**	S		**S**	**02 48 29.7**	**+0.3**
	baz=27,SNR=3.4							
SOEI	**Soe**	**27.44**	**259**	*e*P		**P**	**02 44 00.4**	**-1.3**
	16nm,0.9s							
STKA	**Stephens Creek**	**27.96**	**198**	P		**P**	**02 44 06.5**	**+0.5**
	2.1nm,0.6s,baz=15,slow=7.6,SNR=3.6							
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P		**P**	**02 44 08.8**	**-0.7**
	baz=29,SNR=58							
WRKA	**Warakurna**	**29.68**	**226**	P		**P**	**02 44 20.7**	**-0.8**
	baz=30,SNR=33							
MEEK	**Meekatharra**	**37.90**	**233**	P		**P**	**02 45 32.2**	**-0.5**
	baz=38,SNR=16							
CMAR	**Chiang Mai Arr**	**57.07**	**296**	P		**P**	**02 48 01.8**	**+0.2**
	0.8nm,0.3s,baz=108,slow=5.7,SNR=3.2							
CMAR				LR		LR	03 12 25.1	
	comp=Z,21nm,18.2s,baz=190,slow=36							
PETK	**Petropavlovsk-**	**58.52**	**4**	P		**P**	**02 48 12.3**	**+1.3**
	1.1nm,0.7s,baz=199,slow=7.5,SNR=2.6							
SONM	**Songino Array**	**66.21**	**328**	P		**P**	**02 49 03.7**	**+0.9**
	0.8nm,0.5s,baz=142,slow=5.3,SNR=5.9							
CASY	**Casey**	**67.10**	**197**	*e*P		**P**	**02 49 07.6**	**-0.4**
	4.0nm,0.8s							
PALK	**Pallekele**	**71.86**	**279**	*e*P		**P**	**02 49 37.0**	**-1.4**
VNDA	**Vanda**	**72.28**	**178**	P		**P**	**02 49 39.8**	**+0.1**
	2.1nm,0.8s,baz=331,slow=6.8,SNR=11							
VNDA	**Vanda**	**72.28**	**178**	*e*P		**P**	**02 49 39.4**	**-0.2**
	2.1nm,0.8s							
MKAR	**Makanchi Array**	**80.00**	**319**	P		**P**	**02 50 23.6**	**-0.5**
	0.5nm,0.7s,baz=103,slow=4.9,SNR=5.3							
ZALV	**Zalesovo Beam**	**81.00**	**327**	P		**P**	**02 50 28.4**	**-0.8**
	0.9nm,0.3s,baz=113,slow=6.8,SNR=6.2							
COLA	**College**	**82.85**	**22**	*e*P		**P**	**02 50 38.2**	**-0.5**
	1.6nm,0.5s							
ILAR	**Eielson Array**	**83.16**	**22**	P		**P**	**02 50 38.9**	**-1.5**
	0.5nm,0.6s,baz=245,slow=5.2,SNR=10.0							
EKS2	**Erkin-Say**	**84.74**	**314**	*e*P		**P**	**02 50 49.8**	**+0.7**
	2.6nm,0.8s							
NVAR	**Mina Array Bea**	**93.39**	**52**	P		**P**	**02 51 31.1**	**+0.7**
	1.3nm,0.7s,baz=261,slow=6.6,SNR=8.4							
AKTO	**Aktyubinsk**	**96.42**	**320**	LR		LR	03 37 34.4	
	comp=Z,18nm,18.0s,slow=37							
PLCA	**Paso Flores**	**120.00**	**144**	*e*PKPdf		**PKPdf**	**02 57 05.4**	**-0.1**
MORC	**Moravsky Berou**	**121.34**	**327**	*e*PKPdf		**PKPdf**	**02 57 08.1**	**+0.4**
GERES	**GERESS Array B**	**123.94**	**328**	PKP		**PKPdf**	**02 57 12.8**	**+0.1**
	0.4nm,0.4s,baz=60,slow=1.6,SNR=7.3							
TRQA	**Tornquist**	**126.68**	**147**	*e*PKPdf		**PKPdf**	**02 57 18.0**	**-0.3**
OTAV	**Otavalo**	**129.76**	**94**	*e*PKPdf		**PKPdf**	**02 57 23.0**	**-2.4**
TORD	**Torodi Ar. Bea**	**149.36**	**287**	PKPbc		**PKPbc**	**02 58 04.0**	**-0.3**
	2.0nm,0.6s,baz=79,slow=2.0,SNR=52							
BDFB	**Brasilia**	**151.45**	**137**	PKPbc		**PKPbc**	**02 58 09.7**	**+0.2**
	3.6nm,0.6s,baz=278,slow=2.6,SNR=8.3							

MAN 23 02:47:23,13°.13N×121°.03E,h12km,mb4.3,ML3.2,MS3.0, 1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.37**	**348**	⇑*i*P		Pg	02 47 30.7	+0.1
PGP				*i* S		Sg	02 47 35.6	0.0
SJMP	**San Jose**	**0.67**	**173**	*e*P		Pb	02 47 37.0	+0.3
SJMP				*e*S		Sn	02 47 49.1	+0.3
TGY	**Tagaytay City**	**0.97**	**355**	⇓*i*P		Pn	02 47 42.5	0.0
LUBP	**Lubang**	**0.97**	**308**	*e*P		Pg	02 47 41.2	-0.6
BUSP	**Coron**	**1.39**	**216**	*e*P		Pb	02 47 48.6	-0.3
BUSP				*e*S		Sg	02 48 07.2	-0.6
AUQP	**San Andres**	**1.61**	**83**	*e*P		Pg	02 47 54.9	+0.9
BALP	**Baler**	**2.65**	**11**	*e*P		Pn	02 48 06.5	+1.0

IDC ***23*** *02:56:02.9±2.3,0°.14S×133°.52E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.6/32,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=129.0km s-min=23.9km az=72.0*
DJA ***23*** *02:56:08.5±1.8,0°.5S±23°×13°.3E±°,h10km,M4.4/3,mb4.7/2, mB5.2/2,MLv4.3/3,Mw(mB)4.7/2*

ISC 23 02:56:10.8±1.7,0°.6S±0°.1×132°.84E±0°.07,h32km,n19, σ1°66/19,mb4.0/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.61**	**259**	P		**Pn**	**02 56 36.8**	**-0.3**
SWI				S		**Sb**	**02 57 00.9**	**+1.0**
SWI	**Sorong**	**1.61**	**259**	S		**Pn**	**02 56 36.5**	**-0.5**
	baz=0.8,SNR=60							
RKPI	**Ransiki, Papua**	**1.63**	**125**	P		**Pn**	**02 56 38.6**	**+1.2**
FAKI	**Fak Fak**	**2.41**	**194**	P		**Pn**	**02 56 49.9**	**+1.8**
FAKI	**Fak Fak**	**2.41**	**194**	P		**Pn**	**02 56 49.5**	**+1.3**
	baz=2.4,SNR=165							
MSAI	**Masohi**	**4.79**	**235**	P		**Pn**	**02 57 23.9**	**+3.1**
BNDI	**Bandanaira**	**4.91**	**217**	P		**Pn**	**02 57 24.3**	**+1.9**
	123nm,0.9s,2μm							
KDU	**Kakadu**	**12.05**	**182**	P		**Pn**	**02 59 00.5**	**0.0**
	baz=12,SNR=9.5							
KDU				S		**Sn**	**03 01 12.0**	**-1.8**
	baz=12,SNR=3.4							
MTN	**Manton Dam**	**12.32**	**188**	P		**Pn**	**02 59 04.4**	**+0.3**
	baz=12,SNR=14							
MTN				S		Sn	03 01 13.1	-7.3
	baz=12,SNR=4.3							
KNRA	**Kununurra**	**15.55**	**195**	P		**Pn**	**02 59 46.7**	**-1.2**
	baz=16,SNR=7.1							
FITZ	**Fitzroy Crossi**	**18.81**	**202**	P		**P**	**03 00 27.0**	**-0.9**
	baz=19,SNR=7.7							
WRA	**Warramunga Arr**	**19.31**	**176**	P		**P**	**03 00 33.0**	**-0.5**
	0.3nm,0.3s,baz=358,slow=12,SNR=18							
WRA				S		Sn	03 03 59.9	-11
	0.2nm,0.3s,baz=354,slow=23,SNR=8.6							
RABL	**Rabaul**	**19.64**	**101**	S		Sn	03 04 25.6	+7.2
	baz=20,SNR=5.3							
ASAR	**Alice Springs**	**22.99**	**178**	P		**P**	**03 01 13.4**	**+0.4**
	3.3nm,0.7s,baz=10,slow=11,SNR=45							
ASAR				S		**S**	**03 05 17.9**	**-3.6**
	0.4nm,0.9s,baz=8.4,slow=20,SNR=2.8							
WRKA	**Warakurna**	**24.72**	**190**	P		**P**	**03 01 31.4**	**+2.0**
	baz=25,SNR=3.3							
WRKA				S		S	03 05 32.9	-17
	baz=25,SNR=4.3							
QLP	**Quilpie**	**28.10**	**158**	P		**P**	**03 02 00.6**	**+0.8**
	baz=29,SNR=3.9							
STKA	**Stephens Creek**	**32.23**	**166**	P		**P**	**03 02 36.1**	**-0.2**
	3.2nm,0.8s,baz=338,slow=8.4,SNR=5.5							
TOO	**Toolangi**	**38.

ARUT	**Antelope Range** comp=N,0.5nm,0.6s	**5.80**	**15**	*e*Pg	**Pg**	**03 01 48.2**	**+0.2**
121A	**Cookes Peak, D**	**6.38**	**85**	*e*Pn	**Pn**	**03 01 30.7**	**-0.8**
LAZ	**Ladron**	**7.19**	**70**	*e*Pn	**Pn**	**03 01 41.5**	**-1.2**

*IDC **23** 03:12:08.9±1.9, 0.°99N×126.°22E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/29, mbtmp3.7/3, Error ellipse: s-maj=169.3km s-min=24.1km az=65.0*
*ISCJB **23** 03:12:12.0±1.3, 1.°2N±0.°1×126.°5E±0.°1, h39km, mb3.7/3, Error ellipse: s-maj=24.3km s-min=11.6km az=42.9*
*DJA **23** 03:12:26.8±0.5, 1.°1N±3.°×12.°8E±.°, h10km, M3.6/4, mb4.5/1, mB4.8/1, MLv3.1/4, Mw(mB)4.1/1*
ISC 23 03:12:14.5±1.5, 1.°2N±0.°2×126.°5E±0.°2, h39km, n5, σ1§72/6, mb3.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**114**	P	**Pn**	**03 12 33.0**	**+1.7**
TNTI				S	**Sn**	**03 12 41.9**	**-1.7**
LBMI	**Labuha**	**2.05**	**151**	P	Pn	03 12 51.9	+5.4
LBMI				S	**Sn**	**03 13 11.4**	**+0.6**
WRA	**Warramunga Arr** 2.7nm,0.6s,baz=338,slow=11,SNR=34	**22.34**	**160**	P	**P**	**03 17 07.9**	**-1.3**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=344,slow=11,SNR=9.1	**25.71**	**164**	P	**P**	**03 17 40.3**	**-1.0**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=137,slow=5.1,SNR=9.9	**59.53**	**326**	P	**P**	**03 22 14.1**	**0.0**

*IDC **23** 03:18:44.2±3.0, 36.°06N×67.°33E, h0km, mb3.3/2, mb1 3.4/6, mb1mx3.2/36, mbtmp3.4/6, ML3.3/4, MS4.3/1, Ms1 4.3/1, ms1mx2.4/27, Error ellipse: s-maj=79.3km s-min=20.3km az=148.0*
*ISCJB **23** 03:18:45.8±1.2, 36.°0N±0.°1×67.°3E±0.°1, h33km, mb3.5/2, MS4.3/1, Error ellipse: s-maj=18.3km s-min=7.8km az=142.6*
*NNC **23** 03:18:48.1±4.6, 36.°35N×66.°86E, h20km±20km, mb3.9, mpv3.4, Error ellipse: s-maj=49.2km s-min=35.0km az=114.0*
ISC 23 03:18:48.6±1.6, 36.°0N±0.°2×67.°3E±0.°1, h35km, n14, σ1§76/17, 9C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 9.1nm,0.4s	**3.07**	**23**	⇑Pg	Pn	03 19 38.6	+4.0
DZET				⇑Sn	**Sn**	**03 20 09.2**	**-1.0**
DZET	37nm,0.4s			Lg	Lg	03 20 26.6	
SFK	**Sufi-Kurgan** 1.7nm,0.3s	**6.35**	**49**	⇑Pn	**Pn**	**03 20 20.8**	**+0.9**
SFK				⇑Sn	**Sn**	**03 21 33.6**	**+2.4**
KK31	**Karatay Array** 0.8nm,0.4s,baz=200,slow=14,SNR=15	**7.53**	**18**	⇑Pn	**Pn**	**03 20 37.8**	**+2.0**
KK31	0.7nm,0.3s,baz=204,slow=23,SNR=3.9			⇑Sn	**Sn**	**03 22 00.6**	**+0.7**
GEYT	**Alibeck** 0.4nm,0.3s,baz=134,slow=12,SNR=2.6	**7.58**	**287**	Pn	**Pn**	**03 20 36.5**	**-0.1**
MNAS	**Manas** 0.1nm,0.2s	**7.65**	**30**	⇑Pn	**Pn**	**03 20 38.1**	**+0.5**
MNAS	1.3nm,0.5s			⇑Sn	**Sn**	**03 22 05.2**	**+2.2**
AAK	**Ala-Archa** 1.7nm,0.5s	**8.67**	**38**	⇑Pn	**Pn**	**03 20 51.5**	**-0.2**
AAK	**Ala-Archa** 1.2nm,0.3s,baz=191,slow=7.4,SNR=9.5	**8.67**	**38**	Pn	**Pn**	**03 20 51.7**	**+0.1**
TKM2	**Tokmak 2** 1.2nm,0.5s	**9.45**	**40**	⇓Pn	**Pn**	**03 21 01.3**	**-1.0**
TKM2	3.4nm,0.8s			⇓Sn	**Sn**	**03 22 48.7**	**+1.4**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=229,slow=13,SNR=3.1	**15.57**	**42**	Pn	**Pn**	**03 22 22.2**	**-3.2**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=214,slow=10,SNR=8.9	**16.73**	**26**	Pn	**Pn**	**03 22 37.7**	**-2.3**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=179,slow=13,SNR=2.7	**17.17**	**6**	P	**Pn**	**03 22 44.5**	**-1.0**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=238,slow=8.5,SNR=3.7	**21.72**	**29**	P	**P**	**03 23 34.3**	**-2.1**
JOW	**Kunigami** comp=Z,296nm,22.0s,slow=36	**52.12**	**82**	LR	LR	03 50 10.4	
TORD	**Torodi Ar. Bea** 0.4nm,1.1s,baz=50,slow=6.8,SNR=2.9	**62.68**	**267**	P	**P**	**03 29 11.4**	**+1.4**

MAN 23 03:19:29, 13.°47N×120.°53E, h70km, mb4.3, ML3.2, MS3.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**313**	*e*P	Pn	03 19 42.9	+2.1
LUBP				*e*S	Sn	03 19 53.2	+3.8
PGP	**Puerto Galera**	**0.41**	**86**	⇑*i*P	Pn	03 19 42.4	+1.3
PGP				*i* S	Sn	03 19 54.3	+4.3
TGY	**Tagaytay City**	**0.74**	**32**	*e*P	Pn	03 19 47.3	+2.9
TGY				*i* S	Sn	03 19 58.3	+2.4
SJMP	**San Jose**	**1.16**	**150**	*e*P	Pn	03 19 50.8	+1.3
SJMP				*e*S	Sn	03 20 06.7	+1.9
BUSP	**Coron**	**1.50**	**193**	*e*P	Pn	03 19 55.2	+1.2
BUSP				*e*S	Sn	03 20 17.0	+4.3

*IDC **23** 03:23:44.6±3.1, 6.°46S×128.°57E, h0km, mb3.2/1, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, ML4.2/2, Error ellipse: s-maj=314.3km s-min=32.6km az=67.0*
*ISCJB **23** 03:23:54.4±0.5, 6.°17S±0.°03×130.°50E±0.°07, h146km, mb2.8/1, Error ellipse: s-maj=10.3km s-min=4.5km az=178.3*
*DJA **23** 03:24:02.2±0.9, 6.°5S±6.°×13.°0E±.°, h137km±8km, M4.3/8, mb4.7/3, mB6.4/1, MLv4.1/8, Mw(mB)6.2/1*
ISC 23 03:23:55.2±0.9, 6.°15S±0.°05×130.°46E±0.°08, h146km, n15, σ2§05/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.71**	**341**	P	**Pn**	**03 24 27.9**	**+1.1**
BNDI				S	**Sn**	**03 24 49.3**	**-1.7**
MSAI	**Masohi**	**3.18**	**331**	P	**Pn**	**03 24 45.7**	**+1.0**
MSAI				S	**Sn**	**03 25 20.9**	**-2.2**
FAKI	**Fak Fak**	**3.67**	**29**	P	**Pn**	**03 24 52.3**	**+1.2**
FAKI				S	**Sn**	**03 25 32.7**	**-1.8**
SWI	**Sorong**	**5.32**	**9**	P	**Pn**	**03 25 12.9**	**+0.1**
SWI				S	**Sn**	**03 26 09.5**	**-3.8**
SWI	**Sorong** baz=7.5,SNR=9.2	**5.32**	**9**	P	**Sn**	**03 26 09.6**	**-3.8**
RKPI	**Ransiki, Papua** 66nm,0.4s,48μm2.4nm	**5.92**	**39**	P	**Pn**	**03 25 22.7**	**+1.9**
RKPI	66nm,0.4s,48μm2.4nm			S	**Sn**	**03 26 27.1**	**-0.6**
LBMI	**Labuha** 86nm,0.8s,0.3nm	**6.22**	**332**	P	**Pn**	**03 25 26.1**	**+1.2**
MTN	**Manton Dam** baz=4.6,SNR=41	**6.68**	**174**	P	**Pn**	**03 25 31.2**	**+0.2**
MTN	baz=4.6,SNR=8.6			S	**Sn**	**03 26 43.3**	**-2.8**
KDU	**Kakadu** baz=4.8,SNR=299	**6.79**	**163**	P	**Pn**	**03 25 33.0**	**+0.6**
KDU	baz=4.8,SNR=6.5			S	**Sn**	**03 26 46.9**	**-1.7**
KNRA	**Kununurra** baz=7.5,SNR=30	**9.61**	**190**	P	**Pn**	**03 26 08.6**	**-1.5**
KNRA	baz=7.5,SNR=11			S	Sn	03 27 47.9	-8.7
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=334,slow=13,SNR=39	**14.21**	**165**	Pn	**Pn**	**03 27 09.8**	**-0.3**
WRA	0.8nm,0.3s,baz=333,slow=23,SNR=5.1			Sn	Sn	03 29 39.0	-8.7
QIS	**Mount Isa** baz=15,SNR=3.4	**16.84**	**149**	P	Pn	03 27 47.9	+5.4
ASAR	**Alice Springs** 0.6nm,0.3s,baz=347,slow=9.4,SNR=22	**17.73**	**170**	P	**Pn**	**03 27 55.9**	**+2.8**
WRKA	**Warakurna** baz=17,SNR=7.9	**18.89**	**186**	P	**Pn**	**03 28 08.0**	**+1.2**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=132,slow=6.0,SNR=2.2	**67.78**	**326**	P	**P**	**03 34 39.5**	**+2.2**

*IDC **23** 03:25:42.5±0.9, 35.°99S×73.°47W, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.0/24, mbtmp4.0/12, ML4.1/3, MS3.8/5, Ms1 3.8/5, ms1mx3.4/20, Error ellipse: s-maj=28.0km s-min=16.5km az=86.0*

*ISCJB **23** 03:25:45.6±0.4, 36.°01S±0.°06×73.°3W±0.°1, h33km, mb4.2/21, MS3.5/3, Error ellipse: s-maj=12.6km s-min=8.3km az=169.9*
*NEIC **23** 03:25:47.5±2.7, 36.°00S×73.°36W, h34km±18km, mb4.4/15, Error ellipse: s-maj=12.8km s-min=5.9km az=83.0*
ISC 23 03:25:47.7±0.6, 35.°99S±0.°07×73.°4W±0.°1, h35km, n36, σ0§62/33, mb4.2/21, MS3.8/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 0.9nm,0.3s,baz=325,slow=10,SNR=18	**5.22**	**156**	Pn	**Pn**	**03 27 03.6**	**+0.2**
PLCA	2.1nm,0.3s,baz=320,slow=11,SNR=4.0			Lg	Lg	03 28 30.0	
PLCA	**Paso Flores** 28nm,0.8s	**5.22**	**156**	*e*Pn	**Pn**	**03 27 03.5**	**+0.1**
PLCA				Lg	Lg	03 28 30.0	
CFAA	**Coronel Fontan** 1.9nm,0.3s,baz=220,slow=12,SNR=63	**6.11**	**46**	Pn	**Pn**	**03 27 15.9**	**+0.3**
CFAA	0.1nm,0.3s,baz=276,slow=8.7,SNR=4.8			Lg	Lg	03 28 51.3	
TRQA	**Tornquist** 9.0nm,1.0s	**9.34**	**106**	*e*Pn	**Pn**	**03 27 59.1**	**-0.7**
TRQA				*e*Lg	Lg	03 30 42.5	
LVC	**Limon Verde** 7.1nm,0.3s,baz=190,slow=18,SNR=2.2	**13.88**	**17**	Pn	**Pn**	**03 29 02.3**	**0.0**
LVC	comp=Z,1μm,18.2s,baz=205,slow=40			LR	LR	03 35 03.2	
LVC	**Limon Verde** 4.1nm,0.7s	**13.88**	**17**	*e*P	**Pn**	**03 29 02.4**	**+0.1**
CPUP	**Villa Florida** comp=Z,675nm,21.8s,baz=222,slow=36	**16.75**	**59**	LR	LR	03 35 49.7	
LPAZ	**La Paz** 2.2nm,0.6s,baz=191,slow=5.2,SNR=11	**20.17**	**15**	P	Pn	03 30 21.2	-0.9
LPAZ	**La Paz** 3.2nm,0.8s	**20.17**	**15**	*e*P	Pn	03 30 21.4	-0.6
SIV	**San Ignacio** 2.1nm,0.4s,baz=214,slow=5.6,SNR=15	**22.74**	**32**	P	**P**	**03 30 45.5**	**-1.3**
SIV	comp=Z,312nm,19.6s,baz=222,slow=42			LR	LR	03 41 29.3	
SAML	**Samuel** 0.8nm,0.8s	**28.48**	**21**	*e*P	**P**	**03 31 38.4**	**-1.2**
BDFB	**Brasilia** 1.6nm,0.7s,baz=204,slow=5.8,SNR=3.3	**30.36**	**55**	P	**P**	**03 31 57.4**	**+0.8**
BDFB	comp=Z,42nm,19.3s,baz=226,slow=38			LR	LR	03 44 45.6	
OTAV	**Otavalo** 2.4nm,0.8s	**36.35**	**351**	*e*P	**P**	**03 32 49.2**	**+0.2**
BCIP	**Isla Barro Col**	**45.33**	**351**	*e*P	**P**	**03 34 03.4**	**+1.0**
JTS	**JuntasAbangare** 30nm,1.5s	**47.31**	**344**	*e*P	**P**	**03 34 17.3**	**-0.8**
SNAA	**Sanae** 7.3nm,0.9s	**50.17**	**157**	*e*P	**P**	**03 34 39.3**	**-0.1**
OBIP	**Obispado Ponce**	**54.12**	**8**	*e*P	**P**	**03 35 09.6**	**+0.3**
QSPA	**South Pole Qui** 1.7nm,0.6s,baz=132,slow=1.1,SNR=13	**54.25**	**180**	P	**P**	**03 35 09.9**	**0.0**
QSPA	**South Pole Qui** 6.2nm,1.1s	**54.25**	**180**	*e*P	**P**	**03 35 09.6**	**-0.3**
VNDA	**Vanda** 1.5nm,0.9s	**61.94**	**192**	*e*P	**P**	**03 36 02.7**	**-0.7**
GOGA	**Godfrey** 1.9nm,0.6s	**69.69**	**351**	*e*P	**P**	**03 36 53.5**	**-0.2**
JCT	**Junction City** 2.3nm,0.6s	**70.63**	**336**	*e*P	**P**	**03 37 00.1**	**+0.5**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=154,slow=8.1,SNR=6.2	**70.96**	**332**	P	**P**	**03 37 02.3**	**+0.6**
TXAR	comp=Z,51nm,18.5s,baz=0.0,slow=32			LR	LR	04 03 49.1	
KMSC	**Kings Mountain**	**71.16**	**353**	*e*P	**P**	**03 37 02.6**	**0.0**
WVT	**Waverly** 2.4nm,0.8s	**73.01**	**348**	*e*P	**P**	**03 37 13.2**	**-0.4**
TUL1	**Leonard** 4.2nm,0.7s	**74.52**	**341**	*e*P	**P**	**03 37 21.9**	**-0.6**
DBIC	**Dimbokro** 6.1nm,1.2s,baz=192,slow=6.0,SNR=4.6	**76.84**	**72**	P	**P**	**03 37 37.0**	**+0.7**
ANMO	**Albuquerque** 2.1nm,1.1s	**77.03**	**333**	*e*P	**P**	**03 37 37.2**	**0.0**
CASY	**Casey** 5.8nm,1.1s	**78.01**	**182**	*e*P	**P**	**03 37 42.8**	**+0.7**
DUG	**Dugway, Tooele** 4.3nm,1.2s	**84.06**	**331**	*e*P	**P**	**03 38 14.9**	**+0.3**
HWUT	**Hardware Ranch** 12nm,1.8s	**84.79**	**332**	*e*P	**P**	**03 38 18.5**	**+0.1**
NVAR	**Mina Array Bea** 0.6nm,0.8s,baz=170,slow=8.3,SNR=3.9	**84.91**	**326**	P	**P**	**03 38 19.6**	**+0.4**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=269,slow=5.6,SNR=3.7	**85.90**	**71**	P	**P**	**03 38 24.2**	**-0.1**
ULM	**Lac du Bonnet** 0.9nm,0.6s,baz=188,slow=6.9,SNR=6.0	**88.15**	**346**	P	**P**	**03 38 33.0**	**-1.3**
BVAR	**Borovoye Array** 1.0nm,0.5s,baz=289,slow=4.5,SNR=5.7	**149.47**	**45**	PKPbc	**PKPbc**	**03 45 33.2**	**+0.6**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=316,slow=5.1,SNR=4.5	**158.87**	**52**	PKPab	**PKPab**	**03 46 17.8**	**+0.1**

IDC 23 03:44:08.3±6.5, 6.°08N×124.°76E, h570km±99km, mb2.8/4, mb1 3.0/4, mb1mx2.6/30, mbtmp3.8/4, Error ellipse: s-maj=128.9km s-min=21.7km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=342,slow=9.3,SNR=18	**27.52**	**160**	P	P	03 49 09.8	-0.5
ASAR	**Alice Springs** 0.7nm,0.3s,baz=342,slow=7.0,SNR=17	**30.88**	**164**	P	P	03 49 39.6	+0.2
SONM	**Songino Array** 0.4nm,0.5s,baz=149,slow=3.4,SNR=2.4	**44.47**	**342**	P	P	03 51 30.3	+0.6
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=130,slow=6.0,SNR=17	**54.52**	**325**	P	P	03 52 42.8	-0.5
MKAR	0.2nm,0.5s,baz=122,slow=5.2,SNR=3.7			PcP	PcP	03 53 37.7	0.0

*JSN **23** 03:49:07.1±0.3, 18.°49N×71.°57W, h9km±999km, MD5.1*
*ISCJB **23** 03:49:21.1±0.4, 18.°42N±0.°05×72.°90W±0.°03, h10km, mb4.1/4, Error ellipse: s-maj=7.5km s-min=4.3km az=176.5*
*NEIC **23** 03:49:21.9±0.5, 18.°45N×72.°95W, h10km, mb4.0/6, Error ellipse: s-maj=8.1km s-min=6.1km az=203.0*
NEIC Felt at Grand Goave and Petit Goave.
ISC 23 03:49:21.7±0.7, 18.°42N±0.°05×72.°96W±0.°04, h10km, n28, σ1§56/32, mb4.2/4, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSYH	**La Gonave Hosp**	**0.43**	**13**	*e*Pg	**Pg**	**03 49 30.0**	**-0.1**
JAKH	**Jacmel**	**0.46**	**113**	*e*Pg	**Pg**	**03 49 29.9**	**-0.8**
PAPH	**Port-au-Prince**	**0.64**	**80**	*e*Pg	**Pg**	**03 49 32.3**	**-1.8**
SDDR	**Presa de Saban**	**1.69**	**70**	*e*Pn	**Pn**	**03 49 49.7**	**-1.6**
SDDR				*e*Sn	**Sn**	**03 50 12.8**	**-0.2**
GTBY	**Guantanamo Bay**	**2.53**	**307**	*e*Pn	**Pn**	**03 50 02.9**	**0.0**
GTBY				*e*Sg	**Sb**	**03 50 38.3**	**-0.1**
SDD	**Santo Domingo**	**2.90**	**89**	*e*Pn	**Pn**	**03 50 09.6**	**+1.7**
CMJ	**Castle Mountai**	**3.25**	**266**	*i* P	**Pn**	**03 50 15.1**	**+2.3**
GRTK	**Grand Turk**	**3.53**	**29**	*e*Pn	**Pn**	**03 50 17.2**	**+0.6**
GRTK				*e*Sg	**Sb**	**03 51 09.2**	**+2.0**
SMN1	**Samana, DR**	**3.58**	**77**	*e*Pn	**Pn**	**03 50 18.9**	**+1.5**
GWJ	**Greenwich**	**3.59**	**265**	*i* P	**Pn**	**03 50 20.0**	**+2.3**
GWJ				*i* S	**Sg**	**03 51 14.6**	**-2.7**
HOJ	**Hope**	**3.62**	**264**	*i* P	**Pn**	**03 50 20.5**	**+2.5**
STH	**Stony Hill**	**3.67**	**265**	*i* P	**Pn**	**03 50 20.8**	**+2.2**
BBJ	**Bamboo Saint A**	**4.09**	**270**	*i* P	**Pn**	**03 50 26.6**	**+2.3**
CVJ	**Coleyville**	**4.35**	**268**	*i* P	**Pn**	**03 50 30.2**	**+2.2**
MTDJ	**Mount Denham**	**4.35**	**268**	*e*Pn	**Pn**	**03 50 30.0**	**+2.0**
CRPR	**Cabo Rojo, PR** 13nm,0.4s	**5.58**	**93**	*e*Pn	**Pn**	**03 50 44.8**	**0.0**
LRS	**Lares**	**5.81**	**90**	*e*Pn	**Pn**	**03 50 48.3**	**+0.2**
AOPR	**Arecibo Observ**	**5.90**	**90**	*e*Pn	**Pn**	**03 50 49.7**	**+0.5**
CELP	**Cerrillos**	**6.08**	**92**	*e*Pn	**Pn**	**03 50 51.8**	**+0.1**
SDV	**Santo Domingo**	**9.74**	**166**	*e*Pn	**Pn**	**03 51 42.9**	**+0.7**
BBSR	**BB Station**	**15.77**	**27**	*e*Pn	**Pn**	**03 53 03.1**	**-0.8**
OTAV	**Otavalo** 4.7nm,1.0s	**18.85**	**197**	*e*P	**P**	**03 53 43.2**	**+0.6**
BLA	**Blacksburg** 5.8nm,0.9s	**19.84**	**342**	*e*P	**P**	**03 53 53.4**	**+0.6**
ODNJ	**Ogdensburg** 19nm,1.5s	**22.64**	**357**	*e*P	**P**	**03 54 23.5**	**+0.6**
SAML	**Samuel** 0.8nm,0.5s	**28.85**	**160**	*e*P	**P**	**03 55 20.9**	**+0.3**
K22A	**Casper**	**37.28**	**318**	*e*P	**P**	**03 56 34.2**	**+0.1**
BW06	**Boulder Array** 4.3nm,1.4s	**39.31**	**316**	*e*P	**P**	**03 56 48.3**	**-2.9**
CTU	**Camp Tracy** 7.6nm,0.8s	**39.95**	**312**	*e*P	**P**	**03 56 55.7**	**-0.8**

*ISK **23** 04:05:58.5, 40.°74N×30.°03E, h10km, MD2.8*
*CSEM **23** 04:05:58.8±0.1, 40.°76N×30.°05E, h8km, MD2.8, Error ellipse: s-maj=3.2km s-min=1.8km az=31.0*
*DDA **23** 04:05:58.5, 40.°73N×30.°07E, h7km, MD2.7*
ISC 23 04:05:58.7±1.1, 40.°75N±0.°03×30.°06E±0.°02, h6km±10km, n48, σ0§68/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADVT	**Abdulvahap**	**0.40**	**217**	*e*Pg	**Pg**	**04 06 07.1**	**-1.0**
ADVT				*e*SG	**Sg**	**04 06 11.7**	**+0.1**
ADVT	**Abdulvahap**	**0.40**	**217**	*e*Pg	**Pb**	**04 06 07.1**	**-1.0**
ADVT				*e*Sg	**Sg**	**04 06 11.7**	**+0.1**
GULT	**Gulveren**	**0.47**	**132**	*e*PG	**Pb**	**04 06 08.6**	**-0.9**
GULT				*e*SG	**Sg**	**04 06 15.1**	**+1.1**
GULT	**Gulveren**	**0.47**	**132**	*e*Pg	**Pb**	**04 06 08.6**	**-0.9**
GULT				*e*Sg	**Sg**	**04 06 15.1**	**+1.1**
SILT	**Sile**	**0.51**	**322**	*e*PG	**Pb**	**04 06 09.5**	**-0.6**
SILT	**Sile**	**0.51**	**322**	*e*Pg	**Pb**	**04 06 09.5**	**-0.6**
CAVI	**Cavuskoy**	**0.57**	**197**	*e*PG	**Pg**	**04 06 09.9**	**+0.2**
CAVI	**Cavuskoy**	**0.57**	**197**	*e*Pg	**Pg**	**04 06 09.9**	**+0.2**
IZI	**Iznik**	**0.61**	**227**	*e*PG	**Pb**	**04 06 11.1**	**-0.7**
IZI	**Iznik**	**0.61**	**227**	*e*Pg	**Pb**	**04 06 11.1**	**-0.7**
BUY	**Buyukada**	**0.72**	**278**	*i* P	**Pg**	**04 06 12.3**	**-0.2**
BUY				*i* S	**Sb**	**04 06 23.0**	**-0.7**
BUY	**Buyukada**	**0.72**	**278**	*i* P	**Pb**	**04 06 13.3**	**-0.4**
BUY				*i* S	**Sb**	**04 06 23.2**	**-0.5**
BUY	**Buyukada**	**0.72**	**278**	*i* P	**Pg**	**04 06 12.3**	**-0.2**
BUY				*i* S	**Sb**	**04 06 23.0**	**-0.7**
BTAS	**Taskesti**	**0.74**	**104**	*i* P	**Pg**	**04 06 12.7**	**-0.3**
BTAS				*i* S	**Sg**	**04 06 23.0**	**+0.4**
BTAS	**Taskesti**	**0.74**	**104**	*i* P	**Pb**	**04 06 13.5**	**-0.6**
BTAS				*i* S	**Sb**	**04 06 23.4**	**-1.1**
BTAS	**Taskesti**	**0.74**	**104**	*i* P	**Pg**	**04 06 12.7**	**-0.3**
BTAS				*i* S	**Sg**	**04 06 23.0**	**+0.4**
ISK	**Istanbul-Kandi**	**0.82**	**293**	*e*PG	**Pg**	**04 06 14.6**	**+0.2**
ISK	**Istanbul-Kandi**	**0.82**	**293**	*e*Pg	**Pg**	**04 06 14.6**	**+0.2**
MDUB	**Mudurnu**	**0.91**	**107**	*e*PG	**Pb**	**04 06 16.8**	**-0.2**
MDUB	**Mudurnu**	**0.91**	**107**	*e*Pg	**Pb**	**04 06 16.8**	**-0.2**
KLYT	**Kilyos**	**0.92**	**304**	*e*PG	**Pg**	**04 06 15.8**	**-0.5**
KLYT	**Kilyos**	**0.92**	**304**	*e*Pg	**Pg**	**04 06 15.8**	**-0.5**
BORA	**Eskisehir**	**0.92**	**161**	*i* P	**Pb**	**04 06 16.5**	**-0.6**
BORA				*i* S	**Sb**	**04 06 29.7**	**+0.1**
BORA	**Eskisehir**	**0.92**	**161**	*i* P	**Pb**	**04 06 16.5**	**-0.6**
BORA				*i* S	**Sb**	**04 06 29.7**	**+0.1**
ARMT	**Armutlu**	**0.93**	**259**	*e*PG	**Pg**	**04 06 16.4**	**-0.1**
ARMT	**Armutlu**	**0.93**	**259**	*e*Pg	**Pg**	**04 06 16.4**	**-0.1**
ULDT	**Uludag**	**0.93**	**229**	*i* P	**Pg**	**04 06 16.7**	**+0.2**
ULDT				*i* S	**Sb**	**04 06 29.1**	**-0.8**
MDNY	**Mudanya-Bursa**	**0.97**	**247**	*e*PG	**Pg**	**04 06 17.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.97**	**247**	*e*Pg	**Pg**	**04 06 17.1**	**-0.2**
BGKT	**Bogazkoy**	**1.06**	**294**	*e*PG	**Pg**	**04 06 19.0**	**-0.1**
BGKT	**Bogazkoy**	**1.06**	**294**	*e*Pg	**Pg**	**04 06 19.0**	**-0.1**
CTKS	**Kestanelik-??a**	**1.27**	**293**	*e*PN	**Pn**	**04 06 22.6**	**-0.4**
CTKS	**Kestanelik-??a**	**1.27**	**293**	*e*Pn	**Pn**	**04 06 22.6**	**-0.4**
ELBA	**Catalca**	**1.29**	**288**	*i* P	**Pg**	**04 06 25.5**	**+2.0**
ELBA				*i* S	**Sn**	**04 06 42.3**	**+1.4**
ELBA	**Catalca**	**1.29**	**288**	*i* P	**Pg**	**04 06 25.5**	**+2.0**
ELBA				*i* S	**Sn**	**04 06 42.3**	**+1.4**
TVSB	**Tavsanli**	**1.38**	**200**	*e*PN	**Pb**	**04 06 24.5**	**-0.4**
TVSB	**Tavsanli**	**1.38**	**200**	*e*Pn	**Pb**	**04 06 24.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.38**	**250**	*e*PN	**Pb**	**04 06 24.4**	**-0.5**
KCTX	**Karacabey (Bur**	**1.38**	**250**	*e*Pn	**Pb**	**04 06 24.4**	**-0.5**
SLVT	**Silivri**	**1.48**	**290**	*e*PN	**Pn**	**04 06 25.6**	**-0.2**
SLVT	**Silivri**	**1.48**	**290**	*e*Pn	**Pn**	**04 06 25.6**	**-0.2**
CTYL	**Yal??k??y-??at**	**1.52**	**299**	*e*PN	**Pn**	**04 06 26.0**	**-0.4**
CTYL	**Yal??k??y-??at**	**1.52**	**299**	*e*Pn	**Pn**	**04 06 26.0**	**-0.4**
ALT	**Altintas**	**1.69**	**179**	*e*PN	**Pn**	**04 06 29.0**	**+0.1**
ALT	**Altintas**	**1.69**	**179**	*e*Pn	**Pn**	**04 06 29.0**	**+0.1**
GDZ	**Gediz**	**1.72**	**195**	*i* P	**Pg**	**04 06 31.8**	**+0.2**
GDZ				*i* S	**Sg**	**04 06 54.5**	**+0.6**
EDC	**Edincik**	**1.72**	**257**	*e*PN	**Pn**	**04 06 28.9**	**-0.2**
EDC	**Edincik**	**1.72**	**257**	*e*Pn	**Pn**	**04 06 28.9**	**-0.2**

*IDC **23** 04:33:39.4±1.8, 24.°94S×65.°64W, h0km, mb1 3.2/4, mb1mx3.1/22, mbtmp3.1/4, ML3.1/4, Error ellipse: s-maj=29.5km s-min=22.5km az=106.0*
*SJA **23** 04:33:40.1±0.9, 24.°92S×65.°60W, h7km±5km, ML3.3*
ISC 23 04:33:39.8±1.5, 24.°90S±0.°04×65.°72W±0.°06, h3km±12km, n11, σ1§17/17, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.26**	**48**	*e*P	**Pg**	**04 33 44.7**	**-0.1**
SLA				*e*S	**Sg**	**04 33 49.4**	**+1.1**
SLA	comp=Z,3μm,0.7s			AML	AML	04 33 50.2	
AZAP	**Zapla**	**0.89**	**42**	*e*P	**Pg**	**04 33 57.5**	**+0.5**
AZAP				*e*S	**Sb**	**04 34 09.6**	**-0.9**
AZAP	comp=Z,2μm,0.3s			AML	AML	04 34 17.1	
ASTB	**Santa Barbara**	**1.47**	**50**	*e*P	**Pg**	**04 34 08.0**	**0.0**
ASTB				*e*S	**Sg**	**04 34 27.3**	**+0.3**
AHML	**Horco Molle**	**1.91**	**170**	*e*P	**Pb**	**04 34 14.8**	**-0.6**
AHML				*e*P	**Pb**	**04 34 14.8**	**-0.6**
AHML				*e*S	**Sg**	**04 34 40.2**	**-1.1**
ALOL	**LOMAS DE OLMED**	**1.92**	**56**	*e*P	**Pb**	**04 34 14.3**	**-1.2**
ALOL				*e*S	**Sb**	**04 34 39.5**	**-0.4**
LVC	**Limon Verde** comp=Z,6.0n

SDLR	**Sedlovina**	**2.10**	**206**	*e*P	Pb	04 54 50.4	-0.8
SDLR				*e*S	Sb	04 55 18.9	+0.9
NLC	**Nalytchevo**	**2.11**	**198**	*e*P	Pb	04 54 50.2	-0.8
NLC				*e*S	Sb	04 55 18.3	+0.6
KRER	**Koryakskii**	**2.12**	**208**	*e*P	Pb	04 54 51.2	-0.3
SMAR	**Somma**	**2.14**	**207**	*e*P	Pb	04 54 50.9	-1.0
SMAR				*e*S	Sb	04 55 19.6	+0.4
AVH	**Avacha**	**2.15**	**208**	*e*P	Pb	04 54 51.4	-0.6
KOK	**Koryaka**	**2.16**	**210**	*e*P	Pb	04 54 51.5	-0.6
UGLR	**Uglovaya**	**2.18**	**206**	*e*P	Pb	04 54 51.5	-1.0
PET	**Petropavlovsk**	**2.39**	**207**	*e*P	Pb	04 54 55.6	-0.3
APC	**Apacha**	**2.96**	**222**	*e*P	Pn	04 55 02.6	+2.3
RUS	**Russkaya**	**2.97**	**203**	*e*P	Pn	04 55 02.6	+2.2
MTVR	**Mutnovka**	**3.01**	**207**	*e*P	Pb	04 55 04.4	-2.2
ASAK	**Asacha**	**3.17**	**209**	*e*P	Pb	04 55 07.0	-2.4
BKI	**Bering**	**3.18**	**87**	*e*P	Pn	04 55 04.2	+1.0
BKI				*e*S	Sn	04 55 42.4	+0.6

IDC 23 05:02:54.6±3.3, 56°.31S×27°.38W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.8/2, Error ellipse: s-maj=124.6km s-min=51.8km az=167.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.45**	**306**	P	P	05 11 54.5	-0.3
	0.8nm,0.7s,baz=146,slow=11,SNR=2.7						
TORD	**Torodi Ar. Bea**	**73.34**	**30**	P	P	05 14 27.9	0.0
	1.1nm,0.9s,baz=199,slow=6.9,SNR=7.5						
INK	**Inuvik**	**145.94**	**320**	PKPbc	PKPdf	05 22 33.9	+0.3
	1.4nm,0.8s,baz=91,slow=3.9,SNR=5.2						
ILAR	**Eielson Array**	**150.21**	**311**	PKPbc	PKPbc	05 22 45.4	-0.6
	1.5nm,0.8s,baz=99,slow=0.9,SNR=17						

IDC 23 05:09:14.7±1.9, 3°.00S×142°.34E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=79.9km s-min=27.2km az=101.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.57**	**204**	P	P	05 13 33.4	0.0
	0.3nm,0.3s,baz=26,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.11**	**201**	P	P	05 14 11.8	-0.2
	0.5nm,0.5s,baz=26,slow=11,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**32.11**	**47**	T	T	05 49 45.8	
	baz=230,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**32.12**	**47**	T	T	05 49 48.9	
	baz=230,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**32.12**	**47**	T	T	05 49 49.5	
	baz=230,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**33.03**	**46**	T	T	05 50 53.1	
	baz=229,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**33.05**	**46**	T	T	05 50 54.3	
	baz=229,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**33.05**	**46**	T	T	05 50 54.7	
	baz=229,slow=75,SNR=30						
MKAR	**Makanchi Array**	**72.25**	**321**	P	P	05 20 42.8	+0.8
	0.3nm,0.7s,baz=116,slow=5.5,SNR=3.9						
BVAR	**Borovoye Array**	**81.63**	**325**	P	P	05 21 34.1	-0.7
	0.5nm,0.3s,baz=94,slow=9.0,SNR=3.6						
ILAR	**Eielson Array**	**84.60**	**24**	P	P	05 21 49.7	-0.1
	0.5nm,1.0s,baz=264,slow=3.6,SNR=3.3						

IDC 23 05:46:08.2±1.8, 34°.27S×73°.41W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/17, Error ellipse: s-maj=41.3km s-min=31.3km az=87.0

ISCJB 23 05:46:11.5±1.1, 34°.3S±0°.1×73°.2W±0°.1, h33km, mb3.5/3, MS2.9/1, Error ellipse: s-maj=18.7km s-min=12.3km az=34.4

ISC 23 05:46:13.5±1.3, 34°.3S±0°.1×73°.2W±0°.1, h35km, n6, σ0s78/7, mb3.6/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.96**	**59**	Pn	**Pn**	**05 47 25.3**	**-0.2**
	0.1nm,0.3s,baz=57,slow=15,SNR=9.1						
CFAA				Sn	**Sn**	**05 48 21.5**	**-0.3**
	0.2nm,0.3s,baz=111,slow=19,SNR=7.9						
PLCA	**Paso Flores**	**6.81**	**163**	Pn	**Pn**	**05 47 50.9**	**0.0**
	0.4nm,0.3s,baz=336,slow=14,SNR=8.2						
LPAZ	**La Paz**	**18.47**	**16**	P	**P**	**05 50 26.9**	**-0.4**
	0.1nm,0.3s,baz=187,slow=7.4,SNR=6.3						
SIV	**San Ignacio**	**21.23**	**34**	P	**P**	**05 50 57.8**	**+1.4**
	1.6nm,0.8s,baz=224,slow=11,SNR=5.6						
SIV				LR	LR	05 58 55.9	
	comp=Z,48nm,18.8s,baz=116,slow=36						
TXAR	**Lajitas Array**	**69.48**	**332**	P	**P**	**05 57 18.1**	**-0.3**
	0.3nm,0.5s,baz=160,slow=9.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.23**	**71**	P	**P**	**05 58 46.7**	**-0.1**
	0.2nm,0.4s,baz=246,slow=5.1,SNR=1.6						

IDC 23 06:05:19.8±28.0, 20°.28S×173°.46W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/30, mbtmp4.2/4, Error ellipse: s-maj=514.8km s-min=162.1km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.74**	**263**	P	P	06 12 38.5	+0.9
	5.1nm,1.0s,baz=102,slow=12,SNR=5.0						
CMSA	**Cobar Meteorol**	**38.21**	**245**	P	P	06 12 40.4	-1.2
	baz=29,SNR=7.9						
QLP	**Quilpie**	**39.19**	**253**	P	P	06 12 48.7	-1.1
	baz=30,SNR=3.5						
STKA	**Stephens Creek**	**41.72**	**245**	P	P	06 13 09.9	-0.8
	2.4nm,0.6s,baz=78,slow=9.3,SNR=3.6						
BBOO	**Buckleboo**	**46.46**	**244**	P	P	06 13 47.4	-1.3
	baz=38,SNR=8.1						
ASAR	**Alice Springs**	**48.71**	**256**	P	P	06 14 06.0	-0.4
	2.2nm,0.7s,baz=95,slow=7.8,SNR=21						
WRA	**Warramunga Arr**	**48.84**	**261**	P	P	06 14 07.4	-0.1
	0.6nm,0.3s,baz=95,slow=8.3,SNR=60						
KDU	**Kakadu**	**52.20**	**269**	P	P	06 14 35.9	+3.0
	baz=43,SNR=3.5						
MTN	**Manton Dam**	**53.42**	**269**	P	P	06 14 45.7	+3.8
	baz=45,SNR=4.8						
WRKA	**Warakurna**	**53.61**	**253**	P	P	06 14 43.2	-0.1
	baz=44,SNR=24						
KNRA	**Kununurra**	**54.92**	**265**	P	P	06 14 55.3	+2.5
	baz=46,SNR=3.1						

IDC 23 06:15:32.0±2.1, 1°.75N×96°.45E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/36, mbtmp3.7/7, ML3.6/2, MS2.5/1, Ms1 2.5/1, ms1mx2.3/38, Error ellipse: s-maj=55.5km s-min=25.6km az=48.0

ISCJB 23 06:15:38.3±1.5, 2°.2N±0°.1×96°.60E±0°.07, h30km, mb3.8/5, Error ellipse: s-maj=21.0km s-min=8.5km az=19.8

DJA 23 06:15:40.4±1.7, 2°.7N±15°×97°.7E±1°.1, h45km±16km, MS3.7/5, mb4.1/1, MLv3.5/5

ISC 23 06:15:40.8±1.1, 2°.3N±0°.1×96°.70E±0°.06, h30km, n16, σ1s34/12, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.39**	**287**	P	**Pn**	**06 15 50.4**	**0.0**
SNSI				S	**Sn**	**06 15 59.2**	**+2.5**
PSI	**Prapat**	**2.28**	**77**	Pn	**Pn**	**06 16 16.8**	**+0.2**
PSI				Sn	**Sn**	**06 16 46.1**	**+2.4**
	3.5nm,0.3s,baz=290,slow=6.9,SNR=6.7						
PSI				LR	LR	06 17 05.1	
	comp=Z,87nm,20.5s,baz=282,slow=35						
MNSI	**Mandailing Nat**	**3.24**	**117**	P	**Pb**	**06 16 37.2**	**-0.5**
BSI	**Banda Aceh**	**3.47**	**336**	P	**Pn**	**06 16 32.2**	**-0.6**
BSI				S	**Sn**	**06 17 14.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**16.21**	**8**	Pn	**P**	**06 19 28.9**	**-0.5**
	0.4nm,0.3s,baz=197,slow=11,SNR=10						
H08S2	**Diego Garcia H**	**26.09**	**248**	T	T	06 47 57.3	
	baz=69,slow=75,SNR=83						
H08S3	**Diego Garcia H**	**26.09**	**248**	T	T	06 47 57.0	
	baz=69,slow=75,SNR=73						
H08S1	**Diego Garcia H**	**26.11**	**248**	T	T	06 48 04.5	
	baz=69,slow=75,SNR=82						
H01W3	**Cape Leeuwin H**	**40.44**	**158**	T	T	07 05 55.5	
	baz=38,slow=74,SNR=4.4						
H01W2	**Cape Leeuwin H**	**40.46**	**158**	T	T	07 05 48.4	
	baz=336,slow=74,SNR=4.9						
H01W1	**Cape Leeuwin H**	**40.46**	**158**	T	T	07 05 48.0	

WRA	**Warramunga Arr**	**43.04**	**123**	P	P	06 23 33.0	-5.2
	0.3nm,0.5s,baz=302,slow=9.1,SNR=5.5							
MKAR	**Makanchi Array**	**46.06**	**346**	P	**P**	**06 24 01.2**	**-0.7**
	0.8nm,0.6s,baz=189,slow=7.0,SNR=9.8							
SONM	**Songino Array**	**46.13**	**9**	P	**P**	**06 24 02.3**	**-0.3**
	0.5nm,0.4s,baz=194,slow=8.1,SNR=5.8							
KURBB	**Kurchatov Arra**	**50.55**	**345**	P	**P**	**06 24 36.0**	**-0.4**
	0.6nm,0.6s,baz=170,slow=7.1,SNR=8.6							
ZALV	**Zalesovo Beam**	**52.40**	**351**	P	**P**	**06 24 49.7**	**-0.5**
	1.6nm,0.6s,baz=190,slow=7.7,SNR=8.2							

CSEM 23 06:28:47.5, 38°.31N×26°.60W, h5km, ML2.3

PDA 23 06:28:47.5±0.9, 38°.31N×26°.60W, h5km, MD3.6, ML2.3, Error ellipse: s-maj=12.9km s-min=2.0km az=36.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.61**	**305**	*e*P	Pg	06 28 57.3	-1.9
ADH				*e*S	Sg	06 29 05.7	-1.5
ADH				A	A	06 29 06.1	
	95nm,0.4s						
ADH	**Angra Heroismo**	**0.61**	**305**	*e*P	Pg	06 28 57.3	-1.9
ADH				*e*S	Sg	06 29 05.7	-1.5
PSET	**Sete Cidades**	**0.84**	**125**	*e*P	Pg	06 29 01.3	-2.5
PSET				*e*S	Sg	06 29 11.3	-3.5
PSET				A	A	06 29 15.8	
	37nm,0.2s						
PSET	**Sete Cidades**	**0.84**	**125**	*e*P	Pg	06 29 01.3	-2.5
PSET				*e*S	Sg	06 29 11.3	-3.5
PDA	**Ponta Delgada**	**0.93**	**127**	*e*P	Pg	06 29 02.4	-2.9
PDA				*e*S	Sg	06 29 13.3	-4.0
PDA				A	A	06 29 14.5	
	26nm,0.1s						
PDA	**Ponta Delgada**	**0.93**	**127**	*e*P	Pg	06 29 02.4	-2.9
PDA				*e*S	Sg	06 29 13.3	-4.0
TOPO	**Topo**	**1.08**	**286**	*e*S	Sg	06 29 17.0	-5.3
TOPO	**Topo**	**1.08**	**286**	*e*S	Sg	06 29 17.0	-5.3
PMAN	**Manadas**	**1.22**	**286**	*e*S	Sg	06 29 20.1	-6.5
PMAN				A	A	06 29 23.4	
	22nm,0.2s						
PMAN	**Manadas**	**1.22**	**286**	*e*S	Sg	06 29 20.1	-6.5
ROSA	**Rosais**	**1.35**	**288**	*e*S	Sb	06 29 24.3	-6.8
ROSA				A	A	06 29 24.8	
	22nm,0.2s						
ROSA	**Rosais**	**1.35**	**288**	*e*S	Sb	06 29 24.3	-6.8

CSEM 23 06:38:41.2±0.4, 34°.73N×25°.24E, h15km, MD3.5, Error ellipse: s-maj=10.1km s-min=4.0km az=173.0

ISCJB 23 06:38:42.7±1.1, 34°.80N±0°.08×25°.24E±0°.03, h27km±5km, Error ellipse: s-maj=13.0km s-min=4.1km az=175.2

ATH 23 06:38:42.2, 34°.83N×25°.24E, h34km±1km, MD3.5/9

THE 23 06:38:43.7, 34°.89N×25°.17E, h11km±2km, ML2.7/2, Error ellipse: s-maj=5.7km s-min=1.4km az=1.0

ISC 23 06:38:43.0±1.4, 34°.81N±0°.08×25°.24E±0°.03, h29km±10km, n30, σ0s83/52, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.40**	**29**	*e*PB	**Pb**	**06 38 51.6**	**-0.3**
LAST				*e*SB	**Sb**	**06 38 58.4**	**+0.4**
LAST	**Lasithi**	**0.40**	**29**	*e*Pb	**Pb**	**06 38 51.6**	**-0.3**
LAST				*e*Sb	**Sb**	**06 38 58.4**	**+0.4**
SIVA	**Sivas**	**0.41**	**301**	*e*PB	**Pb**	**06 38 51.5**	**-0.5**
SIVA				*e*SB	**Sn**	**06 38 59.0**	**-0.7**
SIVA	**Sivas**	**0.41**	**301**	*e*Pb	**Pb**	**06 38 51.5**	**-0.5**
SIVA				*e*Sb	**Sn**	**06 38 59.0**	**-0.7**
NPS	**Neapolis**	**0.55**	**34**	P	**Pb**	**06 38 52.8**	**-1.3**
NPS				S	**Sb**	**06 39 02.4**	**+0.7**
NPS	**Neapolis**	**0.55**	**34**	*e*PN	**Pb**	**06 38 52.8**	**-1.3**
NPS				*e*SN	**Sb**	**06 39 01.4**	**-0.3**
NPS	**Neapolis**	**0.55**	**34**	P	**Pb**	**06 38 52.8**	**-1.3**
NPS				*e*Sn	**Sb**	**06 39 01.4**	**-0.3**
NPS				S	**Sb**	**06 39 02.4**	**+0.7**
ZKR	**Zakros**	**0.86**	**69**	*e*PN	**Pn**	**06 38 58.5**	**-0.6**
ZKR				*e*SN	**Sb**	**06 39 10.8**	**+0.3**
ZKR	**Zakros**	**0.86**	**69**	*e*Pn	**Pn**	**06 38 58.5**	**-0.6**
ZKR				*e*Sn	**Sb**	**06 39 10.8**	**+0.3**
GVD	**Gavdhos**	**0.95**	**272**	*e*PN	**Pn**	**06 39 00.3**	**-0.1**
GVD				*e*SN	**Sn**	**06 39 14.1**	**+1.1**
GVD	**Gavdhos**	**0.95**	**272**	*e*Pn	**Pn**	**06 39 00.3**	**-0.1**
GVD				*e*Sn	**Sn**	**06 39 14.1**	**+1.1**
VAM	**Vamos**	**1.04**	**305**	P	**Pn**	**06 39 01.2**	**-0.5**
VAM				S	**Sn**	**06 39 14.7**	**-0.6**
VAM	**Vamos**	**1.04**	**305**	*e*PN	**Pn**	**06 39 01.5**	**-0.2**
VAM				*e*SN	**Sb**	**06 39 16.0**	**+0.2**
VAM	**Vamos**	**1.04**	**305**	P	**Pn**	**06 39 01.2**	**-0.5**
VAM	**Vamos**	**1.04**	**305**	*e*Pn	**Pn**	**06 39 01.5**	**-0.2**
VAM				S	**Sn**	**06 39 14.7**	**-0.6**
VAM				*e*Sn	**Sb**	**06 39 16.0**	**+0.2**
KARN	**Karanos**	**1.24**	**299**	*e*PN	**Pn**	**06 39 04.6**	**+0.2**
KARN				*e*SN	**Sb**	**06 39 21.1**	**-0.2**
KARN	**Karanos**	**1.24**	**299**	*e*Pn	**Pn**	**06 39 04.6**	**+0.2**
KARN				*e*Sn	**Sb**	**06 39 21.1**	**-0.2**
KARP	**Karpathos**	**1.74**	**64**	P	**Pn**	**06 39 13.0**	**+1.7**
KARP				S	**Sb**	**06 39 35.2**	**-0.4**
KARP	**Karpathos**	**1.74**	**64**	*e*PB	**Pn**	**06 39 12.4**	**+1.1**
KARP	**Karpathos**	**1.74**	**64**	*e*Pb	**Pn**	**06 39 12.4**	**+1.1**
KARP	**Karpathos**	**1.74**	**64**	P	**Pn**	**06 39 13.0**	**+1.7**
KARP				S	**Sb**	**06 39 35.2**	**-0.4**
ANKY	**Antikythira Is**	**1.91**	**304**	P	**Pn**	**06 39 14.7**	**+1.1**
ANKY				S	**Sn**	**06 39 36.6**	**0.0**
ANKY	**Antikythira Is**	**1.91**	**304**	*e*PB	**Pn**	**06 39 14.9**	**+1.3**
ANKY	**Antikythira Is**	**1.91**	**304**	*e*Pb	**Pn**	**06 39 14.9**	**+1.3**
ANKY				S	**Sn**	**06 39 36.6**	**0.0**
APE	**Apeiranthos**	**2.27**	**6**	*e*PN	**Pn**	**06 39 19.5**	**+0.9**
APE	**Apeiranthos**	**2.27**	**6**	*e*Pn	**Pn**	**06 39 19.5**	**+0.9**
KYTH	**Kithira**	**2.32**	**310**	*e*PN	**Pn**	**06 39 20.4**	**+1.1**
KYTH	**Kithira**	**2.32**	**310**	*e*Pn	**Pn**	**06 39 20.4**	**+1.1**
SMG	**Samos**	**3.17**	**24**	*e*PN	**Pn**	**06 39 31.8**	**+0.9**
SMG	**Samos**	**3.17**	**24**	*e*Pn	**Pn**	**06 39 31.8**	**+0.9**

IDC 23 06:38:53.6±2.6, 57°.00S×148°.23E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/22, mbtmp3.9/4, MS3.6/4, Ms1 3.5/4, ms1mx3.3/19, Error ellipse: s-maj=226.2km s-min=24.8km az=79.0

ISC 23 06:38:55.0±2.4, 57°.0S±0°.4×148°.8E±1°, h10km, n12, σ1s25/6, mb4.0/4, MS3.5/3, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**19.59**	**57**	LR	LR	06 49 31.0	
	comp=Z,192nm,21.4s,baz=242,slow=32						
VNDA	**Vanda**	**21.14**	**172**	P	**P**	**06 43 39.2**	**-0.2**
	1.3nm,0.8s,baz=333,slow=12,SNR=5.4						
VNDA				LR	LR	06 50 10.6	
	comp=Z,63nm,20.7s,baz=326,slow=32						
STKA	**Stephens Creek**	**25.55**	**347**	P	**P**	**06 44 23.8**	**0.0**
	3.5nm,0.7s,baz=143,slow=8.0,SNR=5.5						
URZ	**Urewera**	**26.70**	**58**	LR	LR	06 53 52.3	
	comp=Z,129nm,20.8s,baz=210,slow=34						
ASAR	**Alice Springs**	**34.91**	**337**	P	**P**	**06 45 46.5**	**-0.1**
	1.0nm,0.6s,baz=160,slow=8.7,SNR=13						
MAW	**Mawson**	**37.81**	**219**	LR	LR	07 00 06.7	
	comp=Z,165nm,20.7s,baz=78,slow=34						
WRA	**Warramunga Arr**	**38.43**	**339**	P	**P**	**06 46 16.1**	**-0.6**
	3.1nm,0.9s,baz=167,slow=7.6,SNR=18						
H08S2	**Diego Garcia H**	**75.88**	**278**	T	T	08 13 38.5	
	baz=147,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**75.89**	**278**	T	T	08 13 37.7	
	baz=147,slow=76,SNR=9.4						
H08S3	**Diego Garcia H**	**75.90**	**278**	T	T	08 13 36.6	
	baz=147,slow=76,SNR=8.6						
FINES	**FINESS Array B**	**150.94**	**303**	PKPbc	**PKPbc**	**06 58 48.2**	**+1.9**
	1.5nm,0.6s,baz=86,slow=5.9,SNR=5.0						
GERES	**GERESS Array B**	**151.88**	**273**	PKPbc	**PKPbc**	**06 58 48.1**	**-0.9**
	0.4nm,0.4s,baz=196,slow=33,SNR=1.9						

BJI 23 06:46:15.1, 13°.45N×145°.05E, h121km, mB5.2/41, mb5.5/69

ISCJB 23 06:46:19.9±0.4, 13°.65N±0°.02×144°.65E±0°.02, h133km±3km, mb5.3/270, Error ellipse: s-maj=4.0km s-min=2.7km az=158.9

MOS 23 06:46:19.3±1.3, 13°.73N×144°.63E, h128km, mb5.3/61, Error ellipse: s-maj=8.4km s-min=5.0km az=102.4

IDC 23 06:46:20.8±1.1, 13°.62N×144°.71E, h133km±9km, mb4.9/35, mb1 5.0/35, mb1mx4.9/44, mbtmp5.2/35, MS3.9/17, Ms1 3.9/17, ms1mx3.7/36, Error ellipse: s-maj=13.6km s-min=7.3km az=78.0

NEIC 23 06:46:21.0±0.6, 13°.64N×144°.68E, h133km±5km, mb5.4/174, Error ellipse: s-maj=4.0km s-min=3.1km az=125.0

NEIC Felt [IV] at Agat and Barrigada; [III] at Andersen AFB, Apra Harbor, Hagatna, Santa Rita, Talofofo, Tamuning and Yigo; [II] at Dededo. Also felt at Barrigada Heights, Chalan Pago, Inarajan, Mangilao, Merizo and Toto. Felt on Rota, Northern Mariana Islands.

GCMT 23 06:46:21.0±0.2, 13°.46N×144°.73E, h132km±1km, MW5.3/101, Moment Tensor Solution. s80,c117; s101,c179; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-1.09±.20; Mθθ-0.99±.22; Mφφ2.08±.24; Mrθ4.83±.13; Mrφ-2.81±.20; Mθφ7.81±.15; Best double couple: Mo9.60400×10^16 NP1:φs206.00000°, δ89.00000°, λ-72.00000°. NP2:φs299.00000°, δ18.00000°, λ-176.00000°. Principal axes: T 8.5660, Plg41.0000°, Azm279.0000°; N 2.0760, Plg18.0000°, Azm25.0000°; P -10.6420, Plg43.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

DJA 23 06:46:29.9±1.6, 14°.N±7°.×14°.5E±°, h213km±13km, M5.2/69, mb5.4/69, mB5.6/31, Mw(mB)5.1/31

ISC 23 06:46:20.7±0.3, 13°.69N±0°.03×144°.69E±0°.04, h132km±2km, h132km:pP-P, n871, σ1s08/952, mb5.4/269, 139C-133D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.20**	**119**	*e*P	**Pn**	**06 46 38.3**	**-0.4**
GUMO				*e*		06 46 51.3	
GUMO	**Guam**	**0.20**	**119**	*e*Pn	**Pn**	**06 46 38.3**	**-0.4**
GUMO				*e*Sn	**Sn**	**06 46 51.2**	**-1.1**
CBIJ	**Chichi jima**	**13.55**	**350**	*e*Pn	**P**	**06 49 30.2**	**-1.8**
JCJ	**Chichijima**	**13.55**	**350**	P	**P**	**06 49 30.6**	**-1.4**
	92nm,0.3s,baz=228,slow=8.0,SNR=37						
JAY	**Jayapura**	**16.57**	**194**	P	**P**	**06 50 07.3**	**+1.5**
SMPI	**Sarmi**	**16.67**	**201**	P	**P**	**06 50 08.3**	**+1.6**
GENI	**Genyem**	**16.79**	**196**	P	**Pn**	**06 50 09.8**	**+1.7**
RKPI	**Ransiki, Papua**	**18.35**	**215**	P	**Pn**	**06 50 26.9**	**+0.1**
SCPH	**Surigao**	**19.19**	**260**	*e*P	**Pn**	**06 50 37.4**	**+0.6**
BUTP	**Butuan**	**19.27**	**258**	*e*P	P	06 50 29.6	-5.7
MATI	**Mati**	**19.32**	**252**	*e*P	**P**	**06 50 37.0**	**+1.1**
PLP	**Palo**	**19.41**	**265**	*e*P	**Pn**	**06 50 38.7**	**-0.6**
CNP	**Catarman**	**19.54**	**269**	*e*P	**Pn**	**06 50 41.1**	**+0.3**
SWI	**Sorong**	**19.65**	**224**	P	**Pn**	**06 50 40.9**	**-1.2**
MSLP	**Maasin**	**19.72**	**262**	*e*P	**P**	**06 50 41.2**	**+1.1**
OCLP	**Ormoc**	**19.79**	**265**	*e*P	**Pn**	**06 50 43.5**	**-0.3**
JHJ2	**Mitsune**	**19.84**	**348**	*e*P	**Pn**	**06 50 44.9**	**+0.8**
	3μm,2.7s						
DAV	**Davao City (W)**	**19.91**	**253**	*e*P	**Pn**	**06 50 44.8**	**-0.3**
	240nm,0.4s						
PVCP	**Virac**	**19.96**	**272**	*e*P	**Pn**	**06 50 45.0**	**-0.6**
BUKP	**Musuan**	**20.12**	**255**	*e*P	**P**	**06 50 45.7**	**+1.2**
JOW	**Kunigami**	**20.17**	**313**	P	Pn	06 50 47.7	-0.4
JOW	**Kunigami**	**20.17**	**313**	*e*P	Pn	06 50 47.7	-0.4
	92nm,0.7s						
FAKI	**Fak Fak**	**20.61**	**218**	P	**P**	**06 50 51.1**	**+1.5**
	413nm,1.3s						
FAKI	**Fak Fak**	**20.61**	**218**	*e*P	**P**	**06 50 51.1**	**+1.5**
	873nm,1.5s						
AUQP	**San Andres**	**21.41**	**272**	*e*P	**P**	**06 51 01.3**	**+3.0**
TNTI	**Ternate**	**21.42**	**235**	P	**P**	**06 50 59.9**	**+1.5**
TNTI	**Ternate**	**21.42**	**235**	*e*P	**P**	**06 50 57.3**	**-1.1**
	127nm,0.9s						
RCP	**Roxas**	**21.52**	**267**	*e*P	**P**	**06 51 00.2**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**21.66**	**74**	T	T	07 13 15.4	
	baz=261,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**21.68**	**74**	T	T	07 13 16.3	
	baz=261,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**21.68**	**74**	T	T	07 13 12.1	
	baz=261,slow=75,SNR=16						
PAGZ	**Pagadian**	**21.71**	**257**	*e*P	**P**	**06 51 02.6**	**+1.0**
GUIM	**Jordan**	**21.82**	**264**	*e*P	**P**	**06 51 03.8**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**22.08**	**71**	T	T	07 14 14.2	
	baz=257,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**22.09**	**71**	T	T	07 14 14.6	
	baz=257,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**22.10**	**71**	T	T	07 14 15.3	
	baz=257,slow=75,SNR=34						
OTRP	**Odiongan**	**22.12**	**269**	*e*P	**P**	**06 51 06.9**	**+1.1**
LBMI	**Labuha**	**22.20**	**231**	P	**P**	**06 51 08.3**	**+1.8**
SJMP	**San Jose**	**22.99**	**270**	*e*P	**P**	**06 51 15.5**	**+1.3**
MSAI	**Masohi**	**23.04**	**224**	P	**P**	**06 51 16.0**	**+1.3**
	95nm,0.9s,2μm						
PMG	**Port Moresby**	**23.07**	**174**	*e*P	**P**	**06 51 13.1**	**-1.8**
PMG				pmax	pmax		
	comp=Z,221nm,1.0s						
PMG	**Port Moresby**	**23.07**	**174**	*e*P	**P**	**06 51 13.1**	**-1.8**
	comp=Z,220nm,1.0s						
JNU	**Nakatsue**	**23.08**	**329**	P	**P**	**06 51 16.0**	**+1.1**
	comp=Z,71nm,0.6s,baz=161,slow=2.5,SNR=45						
JNU	**Nakatsue**	**23.08**	**329**	*e*P	**P**	**06 51 15.8**	**+0.8**
	comp=Z,307nm,1.8s						
YOJ	**Yonaguni jima**	**23.09**	**301**	*e*P	**P**	**06 51 16.5**	**+1.5**
YOJ

YUK *i* SS **SnSn** **06 59 03.8 +4.6**
YUK pmax pmax
comp=N,115nm,0.8s
YUK pmax pmax
comp=Z,101nm,0.8s
YUK pmax pmax
comp=E,9.0nm,0.2s
BNSI Bone 30.30 235 P **P** **06 52 20.8 +1.0**
comp=E,70nm,1.6s,comp=E,1µm
SPSI Sidrap Palu 30.32 236 P **P** **06 52 20.5 +0.5**
comp=E,29nm,1.5s
ASAJ Asahikawa 30.38 357 P **P** **06 52 21.8 +1.6**
comp=E,6.8nm,0.4s,baz=236,slow=13,SNR=9.8
ASAJ PcP **PcP** **06 55 17.8 +0.9**
comp=E,16nm,0.7s,baz=248,slow=5.7,SNR=7.3
ASAJ Asahikawa 30.38 357 *eP* **P** **06 52 21.6 +1.5**
comp=E,9.1nm,1.2s
ASAJ PcP **PcP** **06 55 17.8 +0.9**
SOEI Soe 30.88 222 P **P** **06 52 24.5 -0.5**
comp=E,86nm,0.9s
SOEI Soe 30.88 222 *eP* **P** **06 52 24.1 -0.9**
comp=E,93nm,0.8s
KAPI Kappang 30.95 235 P **P** **06 52 25.9 +0.4**
comp=E,374nm,0.6s,SNR=7.9
KAPI Kappang 30.95 235 *eP* **P** **06 52 25.7 +0.2**
comp=E,8.1nm,0.6s
MMRI Maumere 31.44 226 *eP* **P** **06 52 29.0 -0.9**
comp=E,104nm,0.8s
BATI Baumata 31.61 222 P **P** **06 52 30.9 -0.4**
comp=E,68nm,0.9s
EDFI Ende, Flores 31.91 227 P **P** **06 52 33.4 -0.7**
comp=E,62nm,0.7s,comp=E,1µm
USRK Ussuriysk Ar. 32.29 343 P **P** **06 52 38.1 +1.2**
comp=E,12nm,0.5s,baz=140,slow=8.5,SNR=43
USRK PcP **PcP** **06 55 22.3 +0.3**
comp=E,3.7nm,0.6s,baz=200,slow=4.4,SNR=6.5
USRK ScP **ScP** **06 58 53.0 -0.6**
comp=E,2.0nm,0.8s,baz=190,slow=7.7,SNR=4.4
USRK LR LR 07 05 32.5
comp=E,149nm,19.0s,baz=132,slow=36
WHN Wuhan 32.59 306 ⇑*iP* **P** **06 52 41.3 +1.6**
WHN pP **pP** **06 53 10.8 +2.6**
WHN PMZ
comp=E,90nm,0.5s
WHN LZ
comp=E,710nm,21.4s
BTM Bintulu 32.91 254 ⇑P **P** **06 52 43.6 +0.9**
YSS Yuzh-Sakhalins 33.20 358 *eP* **P** **06 52 45.0 +0.2**
YSS *e* 06 53 28.0
YSS *e* 06 55 25.0
YSS *e* 07 00 06.0
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 33.20 358 *eP* **P** **06 52 45.0 +0.2**
comp=Z,23nm,0.5s
TIA Tai'an 33.37 317 ⇑P **P** **06 52 47.4 +0.9**
TIA PMZ
comp=Z,30nm,0.8s
TIA PMZ
comp=Z,230nm,7.9s
MDJ Mudanjiang 33.41 340 P **P** **06 52 47.8 +1.1**
MDJ sP **sP** **06 53 28.4 -2.0**
MDJ S **S** **06 58 00.3 +2.2**
MDJ sS **sS** **06 58 48.9 +0.8**
MDJ PMZ
comp=Z,64nm,1.0s
MDJ PMZ
comp=Z,140nm,5.4s
MDJ LN
comp=Z,190nm,21.8s
MDJ LE
comp=Z,300nm,23.5s
MDJ LZ
comp=Z,260nm,25.6s
MDJ Mudanjiang 33.41 340 *eP* **P** **06 52 47.9 +1.3**
comp=Z,158nm,1.3s
SNY Shenyang 33.50 331 ⇑P **P** **06 52 48.3 +0.8**
SNY S **S** **06 58 05.4 +5.8**
SNY sS **ScP** **06 58 54.6 -3.3**
SNY PMZ
comp=Z,18nm,1.1s
SNY PMZ
comp=Z,280nm,6.6s
CTAO Charters Tower 33.60 177 *eP* **P** **06 52 48.6 +0.1**
CTAO pmax pmax
comp=Z,60nm,0.8s
CTAO Charters Tower 33.60 177 *eP* **P** **06 52 48.6 +0.1**
comp=Z,60nm,0.8s
QIZ Qiongzhong 33.82 284 P **P** **06 52 50.6 0.0**
QIZ pP **pP** **06 53 16.5 -2.7**
QIZ sP **sP** **06 53 30.3 -4.1**
QIZ PP **PP** **06 54 09.3 -0.4**
QIZ S **S** **06 58 05.6 +0.5**
QIZ sS **sS** **06 58 52.4 -2.7**
QIZ PMZ
comp=Z,35nm,2.1s
QIZ Qiongzhong 33.82 284 *eP* **P** **06 52 51.8 +1.2**
comp=Z,28nm,0.8s
SBUM Sibu 33.98 254 ⇓P **P** **06 52 52.6 +0.6**
SBUM Sibu 33.98 254 *eP* **P** **06 52 51.6 -0.4**
comp=Z,78nm,0.6s
WBSI Waikabubak, Su 34.17 229 P P 06 53 00.4 +6.7
CN2 Changchun 34.25 335 *eP* **P** **06 52 54.8 +0.9**
CN2 PMZ
comp=Z,20nm,0.7s
WRAB Tennant Creek 34.92 197 P **P** **06 52 59.3 -0.7**
comp=Z,715nm,0.6s
WRAB Tennant Creek 34.92 197 *d iP* **P** **06 52 59.3 -0.7**
WRAB pmax pmax
comp=Z,323nm,1.2s
WRAB Tennant Creek 34.92 197 *eP* **P** **06 52 58.7 -1.3**
comp=Z,208nm,1.3s
WB2 Warramunga Arr 34.93 197 *eP* **P** **06 52 59.3 -0.8**
WRA Warramunga Arr 34.94 197 P **P** **06 52 59.0 -1.2**
comp=Z,49nm,0.6s,baz=18,slow=9.1,SNR=284
WRA S **S** **06 58 19.4 -2.8**
comp=Z,3.9nm,1.0s,baz=14,slow=16,SNR=6.5
WRA ScP **ScP** **06 59 02.2 -1.2**
comp=Z,8.0nm,0.7s,baz=19,slow=4.2,SNR=17
DLV T Lat 35.33 271 *eP* **P** **06 53 05.2 +1.3**
STKI Sintang 35.57 250 P **P** **06 53 05.6 -0.1**
comp=Z,168nm,0.6s
HABR Khabarovsk 35.59 349 *eP* **P** **06 53 04.0 -1.4**
HABR *e* 06 54 28.2
HABR *e* 06 55 28.8
HABR *eS* **S** **06 58 28.5 -3.0**
HABR *e* 06 59 16.4
HABR *e* 07 03 04.6
HABR pmax pmax
comp=Z,10.0nm,1.3s
HABR MLR MLR
comp=Z,126nm,21.0s
KSM Kuching 36.11 253 *eP* **P** **06 53 09.8 -0.5**
comp=Z,271nm,1.8s
BJI Beijing 36.26 322 P **P** **06 53 11.8 +0.6**
BJI S **S** **06 58 44.3 +2.3**
BJI PMZ
comp=Z,85nm,0.9s
BJI PMZ
comp=Z,240nm,3.5s
BJI LN
comp=Z,330nm,19.7s
BJI LE
comp=Z,230nm,10.9s
BJI LZ
comp=Z,430nm,24.6s
ENH Enshi 36.39 303 *eP* **P** **06 53 13.4 +0.8**
comp=Z,33nm,0.5s
SRBI Singaraja 36.39 235 P **P** **06 53 13.7 +1.1**
comp=Z,89nm,1.1s
DNP Denpasar 36.74 234 P **P** **06 53 16.0 +0.4**
comp=Z,490nm,0.4s
IGBI Denpasar 36.88 234 P **P** **06 53 16.1 -0.7**
comp=Z,205nm,0.5s
KLR Kul'dur 37.01 346 *eP* **P** **06 53 14.8 -2.7**
KLR *e* 06 55 33.0
KLR pmax pmax
comp=Z,57nm,1.6s
ABJI Asem Bagus 37.01 237 P **P** **06 53 21.0 +3.1**
comp=Z,155nm,0.9s
JAGI Jajag, Banyuwa 37.47 236 *eP* **P** **06 53 20.3 -1.4**
comp=Z,62nm,0.5s
BLJI Banyuglugur 37.50 237 P **P** **06 53 23.1 +1.1**
comp=Z,122nm,1.0s
GYA Guiyang 37.76 296 ⇑*iP* **P** **06 53 25.9 +1.6**
GYA pP **pP** **06 53 52.4 -1.0**
GYA sP **sP** **06 54 08.0 -0.4**
GYA PP **PnPn** **06 54 56.8 +0.9**
GYA PcP **PcP** **06 55 39.5 +0.9**
GYA S **S** **06 59 05.3 -0.2**
GYA ScP **ScP** **06 59 14.0 0.0**
GYA sS **sS** **06 59 55.0 -1.1**
GYA PMZ
comp=Z,40nm,0.9s
GYA PMZ
comp=Z,160nm,4.8s
GYA LN
comp=Z,760nm,17.8s
GYA LE
comp=Z,690nm,18.2s
GYA LZ
comp=Z,820nm,17.4s
GMJI Gumukmas 37.92 237 P **P** **06 53 26.6 +1.0**
comp=Z,64nm,1.1s
XAN Xi'an 38.20 308 P **P** **06 53 28.5 +0.7**
XAN pP **pP** **06 53 56.6 -0.3**
XAN PcP **PcP** **06 55 40.3 +0.6**
XAN S **S** **06 59 10.8 -0.9**
XAN PMZ
comp=Z,22nm,0.6s
XAN PMZ
comp=Z,60nm,7.8s
XAN LN
comp=Z,280nm,20.5s
XAN LZ
comp=Z,75nm,14.3s
AS31 Alice Springs 38.59 196 *eP* **P** **06 53 30.5 -0.6**
ASAR Alice Springs 38.59 196 P **P** **06 53 30.4 -0.6**
comp=Z,15nm,0.7s,baz=22,slow=12,SNR=180
ASAR PP **PP** **06 54 59.1 -3.1**
comp=Z,13nm,0.9s,baz=15,slow=11,SNR=7.6
ASAR ScP **ScP** **06 59 15.9 -1.0**
comp=Z,2.7nm,0.6s,baz=15,slow=3.6,SNR=9.9
ASAR LR LR 07 10 47.8
comp=Z,118nm,20.1s,baz=18,slow=38
PWJI Pagerwojo 39.13 238 P **P** **06 53 34.8 -0.9**
comp=Z,154nm,0.7s
EIDS Eidsvold 39.32 171 *eP* **P** **06 53 36.1 -0.9**
comp=Z,33nm,0.7s
HHC Hu-ho-hao-te 39.59 319 *eP* **P** **06 53 41.1 +1.8**
HHC PP **PnPn** **06 55 18.3 +1.1**
HHC S **S** **06 59 34.3 +1.9**
HHC ScS **ScS** **07 03 31.1 -2.4**
HHC PMZ
comp=Z,38nm,1.2s
HHC PMZ
comp=Z,170nm,5.0s
PCJI Pacitan 39.74 239 P **P** **06 53 40.8 0.0**
comp=Z,260nm,0.7s
TPI Tanjungpandan 40.20 249 P **P** **06 53 44.1 -0.5**
comp=Z,88nm,0.6s,comp=Z,1µm
BTO Baotou 40.44 318 *eP* **P** **06 53 47.3 +0.9**
KHON Khomkaen 40.48 279 P **P** **06 53 47.9 +1.1**
comp=Z,29nm,0.6s,comp=Z,706nm
PETK Petropavlovsk- 40.66 12 P **P** **06 53 47.1 -0.7**
comp=Z,2.5nm,0.4s,baz=170,slow=4.5,SNR=9.7
PETK PcP **PcP** **06 55 47.2 +0.1**
comp=Z,30nm,0.8s,baz=182,slow=5.5,SNR=22
PETK ScP **ScP** **06 59 22.9 -1.6**
comp=Z,13nm,0.9s,baz=173,slow=3.9,SNR=12
HIA Hailar 40.98 335 *eP* **P** **06 53 51.8 +1.2**
HIA pmax pmax
comp=Z,153nm,1.0s
HIA Hailar 40.98 335 *eP* **P** **06 53 51.8 +1.2**
comp=Z,153nm,1.0s
KMI Kunming 41.01 293 P **P** **06 53 53.0 +1.6**
KMI pP **pP** **06 54 22.8 +1.9**
KMI sP **sP** **06 54 36.0 +0.2**
KMI PP **PP** **06 55 30.4 +1.7**
KMI S **S** **06 59 57.6 +3.3**
KMI sS **sS** **07 00 49.5 +4.0**
KMI SS **SS** **07 02 56.0 -5.7**
KMI PMZ
comp=Z,42nm,0.7s
KMI PMZ
comp=Z,290nm,6.4s
KMI LN
comp=Z,430nm,19.0s
KMI LE
comp=Z,150nm,19.0s
KMI LZ
comp=Z,190nm,19.0s
KPJI Karang Pucung 41.19 242 P **P** **06 53 52.3 -0.4**
comp=Z,58nm,0.7s
CHBT CHBT 41.21 274 P **P** **06 53 54.1 +1.2**
comp=Z,72nm,1.1s,comp=Z,3µm
CD2 Chengdu 41.30 301 ⇑*iP* **P** **06 53 54.1 +0.6**
CD2 pP **pP** **06 54 22.6 -0.3**
CD2 sP **sP** **06 54 37.3 -0.6**
CD2 PP **PP** **06 55 34.4 +2.9**
CD2 PcS **PcS** **06 59 41.3 +0.1**
CD2 S **S** **06 59 58.3 +0.3**
CD2 sS **sS** **07 00 48.0 -1.2**
CD2 SS **SS** **07 03 01.3 -5.5**
CD2 PMZ
comp=Z,150nm,0.5s
CD2 PMZ
comp=Z,290nm,4.4s
PPBI Pangkal Pinang 41.34 251 P **P** **06 53 54.3 +0.3**
comp=Z,16nm,0.6s,comp=Z,14µm
DZM Mont Dzumac 41.45 149 *e*LR LR 07 05 16.9
comp=Z,488nm,24.1s
DZM Mont Dzumac 41.45 149 P **P** **06 53 55.4 +0.7**
comp=Z,186nm,0.8s,baz=333,slow=6.0,SNR=66
DZM LR LR 07 10 48.7
comp=Z,357nm,18.3s,baz=6.0,slow=36
LOEI Loei 41.94 281 P **P** **06 53 56.3 -2.5**
comp=Z,21nm,1.6s
LEM Lembang 42.07 243 P **P** **06 54 02.1 +2.0**
comp=Z,69nm,0.6s
MYKOM Kota Tinggi 42.08 257 *eP* **P** **06 53 59.7 -0.3**
comp=Z,499nm,1.7s
DSRI Dabo 42.15 254 P **P** **06 54 00.5 -0.1**
comp=Z,303nm,0.8s,comp=Z,4µm
PBKT Sadao Pong 42.24 280 P **P** **06 54 02.4 +1.2**
comp=Z,157nm,0.6s,comp=Z,2µm
CISI Cisompet, Garu 42.26 242 P **P** **06 54 00.4 -1.0**
comp=Z,127nm,0.6s,comp=Z,5µm
CISI Cisompet, Garu 42.26 242 *eP* **P** **06 53 59.8 -1.7**
comp=Z,88nm,0.5s
UTTA Uttaradit 42.61 281 P **P** **06 54 04.7 +0.5**
comp=Z,12nm,0.8s,comp=Z,112nm
LZH Lanzhou 42.83 309 ⇑P **P** **06 54 07.8 +1.9**
LZH pP **pP** **06 54 36.5 +0.9**
LZH sP **sP** **06 54 50.3 -0.2**
LZH PP **PP** **06 55 48.3 +0.4**
LZH *eS* **S** **07 00 21.1 +0.5**
LZH sS **sS** **07 01 11.0 -1.0**
LZH SS **SS** **07 03 31.3 -5.4**
LZH PMZ
comp=Z,180nm,1.3s
LZH PMZ
comp=Z,290nm,4.7s
LAMP Lampang 43.47 283 P **P** **06 54 12.0 +0.8**
comp=Z,17nm,0.6s,comp=Z,142nm
CGJI Cibinong 43.65 245 P **P** **06 54 10.7 -1.9**
comp=Z,151nm,0.4s
SKLT Songkhla 43.77 266 P **P** **06 54 14.6 +1.0**
comp=Z,93nm,0.7s,comp=Z,1µm
IPM Ipoh 44.01 262 *eP* **P** **06 54 15.8 +0.3**
comp=Z,44nm,1.0s
CMAI Chiengmai2 44.03 285 P **P** **06 54 16.5 +0.7**
comp=Z,48nm,0.7s,comp=Z,908nm
MDSI Maura Dua 44.07 249 P **P** **06 54 14.8 -1.2**
comp=Z,107nm,0.7s,comp=Z,1µm
CMMT Chiang Mai 44.12 283 P **P** **06 54 16.7 +0.3**
comp=Z,26nm,0.9s
CMAR Chiang Mai Arr 44.13 282 P **P** **06 54 17.6 +1.2**
comp=Z,47nm,0.5s,baz=87,slow=6.2,SNR=135
CMAR PcP **PP** **06 56 00.9 -1.0**
comp=Z,8.8nm,0.5s,baz=98,slow=2.0,SNR=7.7
CMAR ScP **ScP** **06 59 39.5 +0.3**
comp=Z,4.0nm,0.6s,baz=92,slow=2.2,SNR=19
CMAR LR LR 07 12 22.3
comp=Z,96nm,20.4s,baz=94,slow=35
SRDT SRDT 44.16 277 P **P** **06 54 18.2 +1.5**
comp=Z,191nm,0.5s
KULM Kulim 44.17 263 *eP* **P** **06 54 17.7 +0.9**
comp=Z,113nm,1.0s
KASI Kota Agung 44.23 247 P **P** **06 54 16.0 -1.2**
comp=Z,100nm,0.6s
ARMA Armidale 44.35 171 *eP* **P** **06 54 18.1 0.0**
comp=Z,58nm,0.9s
LHSI Lahat 44.40 250 P **P** **06 54 18.3 -0.3**
comp=Z,91nm,1.3s
LWLI Liwa 44.40 248 P **P** **06 54 17.8 -1.0**
comp=Z,141nm,0.7s
KHLT Khaolaem Dam 44.64 277 P **P** **06 54 21.8 +1.3**
comp=Z,45nm,1.0s,comp=Z,542nm
MHMT Maesariang 45.09 282 P **P** **06 54 25.0 +0.9**
comp=Z,47nm,0.6s,comp=Z,530nm
MNAI Manna 45.13 249 P **P** **06 54 23.8 -0.6**
comp=Z,619nm,0.6s,comp=Z,7µm
MNAI Manna 45.13 249 *eP* **P** **06 54 22.4 -2.0**
comp=Z,345nm,0.5s
SURT Suratani 45.20 269 P **P** **06 54 26.0 +1.1**
comp=Z,29nm,1.1s,comp=Z,447nm
BKNI Bangkinang 45.20 257 *eP* **P** **06 54 24.0 -1.0**
comp=Z,55nm,0.5s
SDSI Sungai Dareh 45.26 255 P **P** **06 54 25.4 0.0**
comp=Z,303nm,0.8s
MASI Maura Aman, Be 45.31 251 P **P** **06 54 25.7 -0.1**
comp=Z,365nm,0.6s,comp=Z,4µm
STKA Stephens Creek 45.40 184 P **P** **06 54 25.4 -0.8**
comp=Z,51nm,0.8s,baz=350,slow=8.0,SNR=64
STKA LR LR 07 14 04.5
comp=Z,148nm,19.5s,baz=5.7,slow=37
STKA Stephens Creek 45.40 184 *eP* **P** **06 54 25.4 -0.8**
STKA pmax pmax
comp=Z,16nm,1.0s
STKA Stephens Creek 45.40 184 *eP* **P** **06 54 25.4 -0.8**
comp=Z,16nm,1.0s
CLNS Chul'man 45.65 345 *eP* **P** **06 54 28.5 +0.6**
CLNS *e* 06 56 05.0
CLNS *e* 06 56 15.9
CLNS *e*PPP PPP 06 57 02.5
CLNS *eS* **S** **07 01 04.7 +4.1**
CLNS *e**SS sS 07 01 58.9 +6.4
CLNS *e* 07 04 12.8
CLNS pmax pmax
comp=Z,25nm,0.8s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS smax smax
comp=E,84nm,11.0s
CLNS smax smax
comp=N,84nm,13.3s
CIT Chita 45.66 333 *eP* **P** **06 54 29.4 +1.3**
CIT *e* 06 55 01.3
CIT pmax pmax
comp=Z,168nm,1.9s
PKDT Phuket 45.84 268 P **P** **06 54 31.5 +1.5**
comp=Z,104nm,0.7s
ULN Ulaanbaatar 46.20 325 *c iP* **P** **06 54 33.7 +1.1**
ULN pmax pmax
comp=Z,18nm,0.9s
ULN Ulaanbaatar 46.20 325 *eP* **P** **06 54 33.9 +1.4**
comp=Z,337nm,2.5s
MNSI Mandailing Nat 46.44 258 P **P** **06 54 33.7 -1.0**
comp=Z,55nm,0.5s,comp=Z,3µm
SONM Songino Array 46.55 325 P **P** **06 54 36.5 +1.2**
comp=Z,18nm,0.6s,baz=133,slow=7.1,SNR=166
SONM ScP **ScP** **06 59 48.2 -0.5**
comp=Z,6.6nm,1.0s,baz=142,slow=4.2,SNR=11
SONM LR LR 07 15 47.8
comp=Z,208nm,19.3s,baz=91,slow=38
BBOO Buckleboo 46.97 190 *eP* **P** **06 54 38.0 -0.4**
comp=Z,5.9nm,0.5s
GTA Gaotai 46.98 312 ⇑P **P** **06 54 40.0 +1.3**
GTA pP **pP** **06 55 09.3 +0.5**
GTA sP **sP** **06 55 23.3 -0.3**
GTA PcP **PcP** **06 56 10.8 +1.7**
GTA PP **PP** **06 56 32.0 +1.5**
GTA ScP **ScP** **06 59 50.8 +0.1**
GTA S **S** **07 01 20.4 0.0**
GTA sS **sS** **07 02 11.3 -1.2**
GTA SS **SS** **07 04 43.8 -5.1**
GTA PMZ
comp=Z,62nm,0.8s
GTA PMZ
comp=Z,150nm,8.8s
GTA LN
comp=Z,290nm,19.0s
GTA LE
comp=Z,380nm,20.9s
GTA LZ
comp=Z,170nm,18.5s
FORT Forrest 47.02 200 *eP* **P** **06 54 38.9 +0.1**
comp=Z,200nm,0.9s
LHMI Lhok Sumawe 47.76 265 P **P** **06 54 48.1 +3.1**
LHMI Lhok Sumawe 47.76 265 *eP* **P** **06 54 46.9 +2.0**
comp=Z,221nm,0.8s
CAN Canberra 48.91 175 *eP* **P** **06 54 53.5 +0.1**
CAN pmax pmax
comp=Z,49nm,0.9s
CAN Canberra 48.91 175 *eP* **P** **06 54 53.5 +0.1**
comp=Z,49nm,0.9s
ADK Adak 49.07 31 *eP* **P** **06 54 54.1 -0.3**
ADK pmax pmax
comp=Z,52nm,0.6s
ADK Adak 49.07 31 *eP* **P** **06 54 54.0 -0.3**
comp=Z,52nm,0.6s
BSI Banda Aceh 49.30 265 P **P** **06 54 56.3 -0.5**
comp=Z,92nm,0.6s,comp=Z,1µm
YAK Yakutsk 49.46 351 P **P** **06 54 57.6 +0.5**
comp=Z,228nm,0.6s,baz=169,slow=0.1,SNR=28
YAK LR LR 07 13 52.4
comp=Z,133nm,21.8s,baz=90,slow=33
YAK Yakutsk 49.46 351 *eP* **P** **06 54 56.4 -0.8**
YAK *e* 06 56 15.0
YAK *e* 06 56 50.9
YAK *eS* **S** **07 01 51.6 -2.6**
YAK *e**SS sS 07 02 40.5 -6.3
YAK *e* 07 04 27.5
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,122nm,0.8s
YAK pmax pmax
comp=N,25nm,1.0s
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,22nm,1.2s
YAK smax smax
comp=E,75nm,2.0s
YAK smax smax
comp=N,37nm,1.8s
YAK Yakutsk 49.46 351 *eP* **P** **06 54 56.7 -0.5**
comp=N,201nm,0.6s
SEY Seymchan 49.48 5 P **P** **06 54 56.9 -0.4**
comp=N,18nm,0.6s,baz=181,slow=6.4,SNR=52
SEY PcP **PcP** **06 56 17.5 +0.1**
comp=N,16nm,0.7s,baz=186,slow=3.6,SNR=8.7
ZAK Zakamensk 49.66 326 *eP* **P** **06 54 59.3 +0.2**
ZAK pmax pmax
comp=Z,18nm,1.3s
BOD Bodaibo 49.76 339 ⇓*iP* **P** **06 54 59.7 +0.1**
BOD pmax pmax
comp=Z,19nm,1.3s
TLY Talaya 50.18 328 P **P** **06 55 04.9 +2.0**
comp=Z,248nm,0.6s,SNR=16
TLY Talaya 50.18 328 P **P** **06 55 04.1 +1.2**
comp=Z,22nm,0.6s,baz=153,slow=5.1,SNR=68
TLY Talaya 50.18 328 ⇑*iP* **P** **06 55 04.1 +1.2**
TLY pmax pmax
comp=Z,24nm,0.6s
TLY Talaya 50.18 328 *eP* **P** **06 55 03.6 +0.8**
comp=Z,28nm,0.7s
SHL Shillong 50.83 292 *eP* **P** **06 55 08.5 +0.1**
SHL *eS* **S** **07 02 13.0 -1.8**
MOY Mondy 51.57 327 *eP* **P** **06 55 14.2 +0.8**
MOY pmax pmax
comp=Z,47nm,2.3s
LSA Lhasa 51.80 297 *eP* **P** **06 55 17.1 +1.2**
LSA pmax pmax
comp=Z,50nm,0.6s
LSA Lhasa 51.80 297 *eP* **P** **06 55 17.1 +1.2**

comp=Z,50nm,0.6s
TAPN Taplejung 54.65 294 *e*P **P** **06 55 36.8 +0.2**
comp=Z,36nm,0.5s
ODAN Odare 54.92 293 *e*P **P** **06 55 38.0 -0.5**
comp=Z,22nm,0.4s
KIP Kipapa 54.92 73 *e*P **P** **06 55 38.6 +0.4**
KIP pmax pmax
comp=Z,112nm,1.2s
UNV Unalaska Valle 55.34 33 *e*P **P** **06 55 39.6 -1.1**
comp=Z,62nm,0.8s
RAMN Ramite 55.63 293 *e*P **P** **06 55 43.6 +0.1**
comp=Z,35nm,0.5s
JIRN Jiri 56.01 294 *e*P **P** **06 55 46.8 +0.4**
comp=Z,56nm,0.6s
BILL Bilibino 56.09 10 *e*P **P** **06 55 45.2 -0.6**
BILL *e* 06 56 42.1
BILL pmax pmax
comp=Z,24nm,1.0s
BILL Bilibino 56.09 10 *e*P **P** **06 55 44.8 -1.1**
comp=Z,32nm,1.1s
GUN Gumba 56.30 294 *e*P **P** **06 55 48.7 +0.3**
comp=Z,79nm,0.6s
TAU Tasmania Unive 56.37 178 *e*P **P** **06 55 48.4 +0.3**
TAU pmax pmax
comp=Z,34nm,1.0s
TAU Tasmania Unive 56.37 178 *e*P **P** **06 55 48.4 +0.3**
comp=Z,34nm,1.0s
PKI Pulchoki 56.70 294 *e*P **P** **06 55 51.0 -0.3**
comp=Z,32nm,0.6s
PKIN Phulchoki 56.71 294 *e*P **P** **06 55 50.8 -0.5**
comp=Z,23nm,0.4s
KKN Kakani 56.82 294 *e*P **P** **06 55 51.8 -0.2**
comp=Z,28nm,0.6s
WMQ Urumqi 56.95 314⇑ *i*P **P** **06 55 53.8 +1.4**
WMQ pP **pP** **06 56 22.3 -1.3**
WMQ sP **sP** **06 56 37.9 -0.2**
WMQ PcP **PcP** **06 56 48.3 +2.1**
WMQ PP **PP** **06 58 05.0 +4.7**
WMQ S **S** **07 03 38.8 +2.4**
WMQ PMZ
comp=Z,82nm,0.5s
WMQ PMZ
comp=Z,230nm,4.6s
WMQ LN
comp=Z,180nm,17.7s
WMQ LE
comp=Z,180nm,20.2s
WMQ LZ
comp=Z,180nm,20.2s
DMN Daman 56.97 294 *e*P **P** **06 55 53.0 -0.1**
comp=Z,42nm,0.6s
KRAR Krasnoyarsk 57.86 329 *e*P **P** **06 55 59.1 +0.6**
KRAR pmax pmax
comp=Z,26nm,1.3s
DANN Dangsing 58.18 295 *e*P **P** **06 56 01.6 0.0**
comp=Z,146nm,0.5s
CHLP Challavanipeta 58.23 283 *e*P **P** **06 56 02.8 +1.1**
CHLP *e*pP **pP** **06 56 33.1 +0.1**
CHLP *e*ScP **ScP** **07 00 39.3 -0.5**
GAMB Gambell 58.45 21 *e*P **P** **06 56 01.7 -0.7**
comp=Z,34nm,1.6s
TIXI Tiksi 58.72 354 *e*P **P** **06 56 03.7 -0.5**
TIXI pmax pmax
comp=Z,22nm,1.0s
TIXI Tiksi 58.72 354 *e*P **P** **06 56 04.0 -0.1**
comp=Z,27nm,0.8s
SDPT Sand Point 59.15 33 *e*P **P** **06 56 06.6 -0.8**
URZ Urewera 59.94 151 P **P** **06 56 11.9 -1.1**
comp=Z,25nm,0.6s,baz=21,slow=5.1,SNR=6.7
URZ LR LR 07 20 34.0
comp=Z,274nm,19.8s,baz=187,slow=34
URZ Urewera 59.94 151 *e*P **P** **06 56 13.2 +0.1**
comp=Z,26nm,0.9s
TNA Tin City 60.82 21 *e*P **P** **06 56 17.8 -0.8**
comp=Z,10nm,0.6s
MKAR Makanchi Array 61.30 316 P **P** **06 56 22.9 +0.7**
comp=Z,32nm,0.5s,baz=88,slow=6.2,SNR=342
MKAR ScP **ScP** **07 00 52.9 0.0**
comp=Z,2.9nm,0.8s,baz=116,slow=2.8,SNR=5.3
MKAR Makanchi Array 61.30 316 *e*P **P** **06 56 23.1 +0.8**
ZALV Zalesovo Beam 61.44 324 P **P** **06 56 23.0 -0.1**
comp=Z,8.9nm,0.5s,baz=113,slow=6.1,SNR=28
ZALV LR LR 07 22 34.7
comp=Z,106nm,21.4s,baz=70,slow=35
ZALV Zalesovo Beam 61.44 324 P **P** **06 56 23.0 -0.1**
BFZ Birch Farm 61.50 153 *e*P **P** **06 56 23.0 -0.5**
comp=Z,44nm,0.7s
KHZ Kahutara 61.81 156 *e*P **P** **06 56 24.5 -1.1**
comp=Z,27nm,0.8s
RPZ Rata Peaks 61.99 159 P **P** **06 56 25.5 -1.4**
comp=Z,46nm,0.8s,baz=259,slow=1.3,SNR=20
RPZ Rata Peaks 61.99 159 *e*P **P** **06 56 26.0 -0.9**
comp=Z,53nm,0.9s
NVS Novosibirsk 62.59 325⇑ *i*P **P** **06 56 30.8 +0.2**
NVS *e**PP **pP** **06 57 01.6 -0.7**
NVS *e*S **S** **07 04 49.0 +1.0**
NVS pmax pmax
comp=Z,59nm,1.6s
NVS pmax pmax
comp=E,51nm,1.8s
NVS smax smax
comp=N,36nm,2.5s
RPR Rampur 62.69 284 *e*P **P** **06 56 31.9 -0.2**
SKHT Srikalahasti 62.94 279 *e*P **P** **06 56 34.1 +0.4**
SKHT *e*pP **pP** **06 57 05.0 -0.5**
NJS Nagarjunasagar 62.95 282 *e*P **P** **06 56 33.8 +0.1**
NJS *e*pP **pP** **06 57 05.1 -0.4**
NJS *e*S **S** **07 04 51.6 -2.2**
PALK Pallekele 63.10 271 *e*P **P** **06 56 34.8 -0.1**
PALK pmax pmax
comp=Z,14nm,0.8s
PALK Pallekele 63.10 271 *e*P **P** **06 56 34.8 -0.1**
comp=Z,14nm,0.8s
HYB Hyderabad 63.55 283 *i*P **P** **06 56 36.0 -1.8**
HYBB Hyderabad (bro 63.56 283 *e*P **P** **06 56 37.6 -0.2**
HYBB *e*pP **pP** **06 57 09.0 -0.5**
HYBB *e*S **S** **07 05 00.7 -0.7**
SVW2 Sparrevohn 63.67 28 *e*P **P** **06 56 37.1 -0.6**
comp=Z,21nm,0.6s
KDAK Kodiak Island 64.08 32 P **P** **06 56 39.3 -1.1**
comp=Z,315nm,0.4s,SNR=38
KDAK Kodiak Island 64.08 32 *e*P **P** **06 56 40.1 -0.3**
KDAK pmax pmax
comp=Z,42nm,0.9s
KDAK Kodiak Island 64.08 32 *e*P **P** **06 56 40.1 -0.3**
comp=Z,42nm,0.9s
KURK Kurchatov 64.40 320 P **P** **06 56 42.1 -0.6**
comp=Z,309nm,0.6s,SNR=50
KURK Kurchatov 64.40 320 *e*P **P** **06 56 42.7 0.0**
KURK pmax pmax
comp=Z,56nm,0.6s
KURK Kurchatov 64.40 320 *e*P **P** **06 56 42.7 0.0**
comp=Z,56nm,0.6s
RSO Redoubt South 64.77 29 *e*P **P** **06 56 44.2 -1.0**
ULHL Ulahol 65.00 310 P **P** **06 56 47.6 +0.5**
SNR=15
ULHL Ulahol 65.00 310 *i*P **P** **06 56 47.6 +0.5**
KSH Kashi 65.05 307 P **P** **06 56 50.0 +2.7**
KSH pP **pP** **06 57 20.8 +1.6**
KSH PP PP 06 59 17.3 +5.4
KSH PcS 07 01 24.1
KSH S **S** **07 05 21.3 +1.9**
KSH ScS **SKSac** **07 06 28.9 -1.1**
KSH PMZ
comp=Z,16nm,0.5s
KSH PMZ
comp=Z,100nm,3.9s
KSH LN
comp=Z,250nm,12.6s
KSH LE
comp=Z,200nm,11.1s
KSH LZ
comp=Z,94nm,11.0s
URV Uravakonda 65.11 280 *e*P **P** **06 56 47.5 -0.5**
URV *e*S **S** **07 05 19.1 -1.6**
TKM2 Tokmak 2 65.53 311 P **P** **06 56 50.9 +0.4**
SNR=29
TKM2 Tokmak 2 65.53 311 *e*P **P** **06 56 50.8 +0.4**
TKM2 pmax pmax
comp=Z,13nm,0.6s
TKM2 Tokmak 2 65.53 311 *e*P **P** **06 56 50.8 +0.4**
comp=Z,13nm,0.6s
KZA Kyzart 65.73 310 P **P** **06 56 53.0 +1.1**
SNR=46
KZA Kyzart 65.73 310 *i*P **P** **06 56 53.0 +1.1**
PPLA Purkeypile 65.78 27 *e*P **P** **06 56 50.9 -0.7**
comp=Z,35nm,0.6s
KBK Karagaybulak 65.98 311 P **P** **06 56 53.8 +0.5**
SNR=14
CAST Castle Rocks 65.99 26 *e*P **P** **06 56 52.5 -0.3**
comp=Z,25nm,0.8s
CHMS Chumysh 66.15 311 P **P** **06 56 54.2 0.0**
SNR=5.9
CHMS Chumysh 66.15 311 *i*P **P** **06 56 54.1 0.0**
IM04 Indian Mountai 66.16 23 *e*P **P** **06 56 52.8 -1.0**
SEW Seward 66.26 30 *e*P **P** **06 56 53.8 -0.6**
comp=Z,60nm,0.7s
UCH Uchtor 66.28 310 P **P** **06 56 56.5 +0.9**
SNR=18
UCH Uchtor 66.28 310 *i*P **P** **06 56 56.4 +0.9**
AAK Ala-Archa 66.32 311 P **P** **06 56 55.3 -0.1**
comp=Z,62nm,0.5s,SNR=6.0
AAK Ala-Archa 66.32 311 P **P** **06 56 56.0 +0.6**
SNR=6.3
AAK Ala-Archa 66.32 311 *e*P **P** **06 56 56.0 +0.6**
AAK Ala-Archa 66.32 311 *e*P **P** **06 56 56.0 +0.6**
RC01 Rabbit Creek A 66.37 29 *e*P **P** **06 56 54.2 -1.0**
comp=Z,78nm,0.6s
KTH Kantishna Hill 66.52 26 *e*P **P** **06 56 55.4 -0.9**
comp=Z,43nm,1.0s
TRF Thorofare Moun 66.77 26 *e*P **P** **06 56 56.7 -1.2**
comp=Z,36nm,0.9s
PMR Palmer 66.78 28 *e*P **P** **06 56 56.6 -1.2**
PMR pmax pmax
comp=Z,80nm,0.9s
PMR Palmer 66.78 28 *e*P **P** **06 56 56.6 -1.2**
comp=Z,80nm,0.9s
EKS2 Erkin-Say 66.85 311 P **P** **06 56 59.0 +0.2**
SNR=8.0
EKS2 Erkin-Say 66.85 311 *e*P **P** **06 56 59.0 +0.2**
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 66.85 311 *e*P **P** **06 56 59.0 +0.2**
comp=Z,5.0nm,0.6s
AML Almayashu 66.89 310 P **P** **06 57 00.1 +0.7**
SNR=23
MCK McKinley 67.43 26 *e*P **P** **06 57 00.5 -1.4**
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 67.43 26 *e*P **P** **06 57 00.5 -1.4**
comp=Z,20nm,0.9s
COLD Coldfoot 67.92 22 *e*P **P** **06 57 05.0 +0.1**
comp=Z,20nm,0.6s
EYAK Cordova Ski Ar 68.15 30 *e*P **P** **06 57 06.4 0.0**
comp=Z,46nm,0.6s
DIV Divide 68.25 29 *e*P **P** **06 57 07.1 -0.1**
comp=Z,49nm,0.7s
ILAR Eielson Array 68.55 25 P **P** **06 57 06.8 -2.0**
comp=Z,24nm,0.4s,baz=251,slow=5.9,SNR=379
ILAR LR LR 07 27 11.8
comp=Z,47nm,19.1s,baz=243,slow=36
PAX Paxson 68.77 27 *e*P **P** **06 57 09.5 -0.8**
PAX pmax pmax
comp=Z,28nm,0.6s
PAX Paxson 68.77 27 *e*P **P** **06 57 09.5 -0.8**
comp=Z,28nm,0.6s
BMRM Bremner River 68.78 30 *e*P **P** **06 57 10.2 -0.2**
comp=Z,49nm,0.8s
KKAR Karatay Array 69.26 311 *e*P **P** **06 57 13.9 +0.3**
KKAR pmax pmax
comp=Z,17nm,0.7s
KKAR Karatay Array 69.26 311 *e*P **P** **06 57 13.9 +0.3**
comp=Z,17nm,0.7s
DOT Dot Lake 69.52 27 *e*P **P** **06 57 14.2 -0.7**
comp=Z,65nm,1.0s
MENT Mentasta 69.54 28 *e*P **P** **06 57 14.8 -0.2**
BVAR Borovoye Array 69.74 322 P **P** **06 57 16.3 -0.2**
comp=Z,25nm,0.5s,baz=106,slow=7.7,SNR=129
BRVK Borovoye 69.81 322 P **P** **06 57 17.7 +0.9**
comp=Z,190nm,0.7s,SNR=17
BRVK Borovoye 69.81 322*c* *i*P **P** **06 57 16.7 -0.1**
BRVK pmax pmax
comp=Z,16nm,0.9s
BRVK Borovoye 69.81 322 *e*P **P** **06 57 16.5 -0.3**
comp=Z,24nm,0.7s
KBL Kabul 70.64 302 *e*P **P** **06 57 22.4 -0.1**
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 70.64 302 *e*P **P** **06 57 22.4 -0.1**
comp=Z,9.3nm,0.6s
EGAK Eagle 70.96 26 *e*P **P** **06 57 23.0 -0.5**
comp=Z,20nm,0.8s
DAWY Dawson 71.63 27 *e*P **P** **06 57 27.4 -0.3**
comp=Z,19nm,0.6s
PPT Papeete 71.91 114 LR LR 07 23 29.4
comp=Z,286nm,20.3s,baz=301,slow=31
PPT2 Papeete2 71.92 114 *e*S **S** **07 06 42.9 +1.8**
comp=Z,116nm,22.0s
PPT2 Papeete2 71.92 114 *e*LR LR 07 19 32.1
comp=Z,311nm,22.2s
HYT Haines Junctio 72.21 30 *e*P **P** **06 57 31.6 +0.3**
comp=Z,64nm,0.6s
PMOR Pomario Ree 72.53 111 *e*T T 08 16 58.8
comp=Z,4.1nm,0.3s
SKAG Skagway 73.23 32 *e*P **P** **06 57 37.4 +0.2**
TBI Tubuai 74.17 119 *e*S **S** **07 07 07.2 +1.0**
comp=Z,126nm,25.8s
TBI Tubuai 74.17 119 *e*LR LR 07 20 05.6
comp=Z,293nm,37.2s
TBI Tubuai 74.17 119 *e*T T 08 18 58.2
comp=Z,9.0nm,0.3s
INK Inuvik 74.34 22 P **P** **06 57 42.8 -0.7**
comp=Z,20nm,0.9s,baz=276,slow=5.3
INK Inuvik 74.34 22 *e*P **P** **06 57 42.3 -1.2**
INK pmax pmax
comp=Z,27nm,0.9s
INK Inuvik 74.34 22 *e*P **P** **06 57 42.3 -1.2**
comp=Z,27nm,0.9s
WRAK Wrangell Islan 74.83 35 *e*P **P** **06 57 47.0 +0.5**
comp=Z,57nm,0.8s
DLBC Dease Lake 76.00 33 *e*P **P** **06 57 53.8 +0.5**
comp=Z,55nm,0.6s
ABKAR Akbulak array 76.35 318 *e*P **P** **06 57 54.8 -0.6**
comp=Z,20nm,0.8s
ARU Arti 76.59 325*c* *i*P **P** **06 57 56.1 -0.4**
ARU 06 58 06.8
ARU *PP **pP** **06 58 33.0 +3.6**
ARU 07 00 46.2
ARU S **S** **07 07 30.0 -1.9**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 76.59 325 *e*P **P** **06 57 56.0 -0.6**
comp=Z,14nm,0.8s
AKTO Aktyubinsk 77.48 319 P **P** **06 58 00.8 -0.8**
comp=Z,2.9nm,0.5s,baz=105,slow=6.2,SNR=13
IMOG Moghan 78.36 305 *e*P **P** **06 58 06.4 -0.8**
IAKL Akhelmad 78.75 305 *e*P **P** **06 58 09.4 +0.1**
GEYT Alibeck 79.06 306 P **P** **06 58 10.7 0.0**
comp=Z,4.3nm,0.6s,baz=66,slow=3.7,SNR=7.2
ISFR Sfrayin 79.28 306 *e*P **P** **06 58 13.8 +1.6**
ITEG Tejag 79.34 301 *e*P **P** **06 58 12.7 +0.2**
NLWA Neilton Lookou 81.03 43 *e*P **P** **06 58 22.5 +1.4**
OSD Olympics--Snow 81.06 43 P **P** **06 58 22.8 +1.3**
PGC Sidney 81.08 42 *e*P **P** **06 58 22.0 +0.8**
comp=Z,88nm,0.9s
KEBM Edon Butte 81.53 48 *e*P **P** **06 58 25.4 +1.6**
comp=Z,146nm,1.0s
G03D McMinnville, O 81.85 46⇓ P **P** **06 58 26.4 +1.0**
baz=82,SNR=7.9
F04D Rainier, OR 81.86 45⇓ P **P** **06 58 26.2 +0.8**
baz=82
A05A Maple Falls 81.90 42 *e*P **P** **06 58 26.2 +0.6**
comp=Z,86nm,1.2s
COR Corvallis 81.94 46 *e*P **P** **06 58 27.6 +1.7**
COR pmax pmax
comp=Z,81nm,0.9s
COR Corvallis 81.94 46 *e*P **P** **06 58 27.6 +1.7**
comp=Z,81nm,0.9s
I03D Drain, OR 82.08 47⇑ P **P** **06 58 27.8 +1.1**
baz=82,SNR=14
JCW Jim Creek 82.16 42 P **P** **06 58 27.9 +0.9**
L02D Cave Junction, 82.20 49⇑ P **P** **06 58 29.0 +1.7**
baz=82,SNR=7.2
F04A Amboy 82.29 45 *e*P **P** **06 58 28.8 +1.1**
comp=Z,86nm,0.8s
D05A Enumclaw 82.33 43 *e*P **P** **06 58 29.1 +1.3**
PRGR Permogore 82.33 332 *e*P **P** **06 58 25.3 -2.2**
PRGR pmax pmax
comp=Z,37nm,0.8s
TDL Tradedollar La 82.34 44 P **P** **06 58 29.2 +1.0**
KHMM Horse Mountain 82.36 50 *e*P **P** **06 58 30.7 +2.3**
comp=Z,74nm,0.8s
B06A Marblemount 82.39 42 *e*P **P** **06 58 28.6 +0.6**
comp=Z,51nm,0.7s
KMRM Mail Ridge 82.50 51 *e*P **P** **06 58 31.5 +2.5**
comp=Z,105nm,1.2s
LON Longmire 82.53 44 *e*P **P** **06 58 29.7 +0.7**
LON pmax pmax
comp=Z,83nm,1.6s
LON Longmire 82.53 44 *e*P **P** **06 58 29.7 +0.7**
comp=Z,83nm,1.6s
HUMO Hull Mountain 82.58 48 *e*P **P** **06 58 30.8 +1.5**
comp=Z,57nm,0.9s
VLMM Larch Mountain 82.63 45 P **P** **06 58 30.8 +1.2**
H04A Detroit Lake 82.70 46 *e*P **P** **06 58 30.4 +0.5**
comp=Z,81nm,0.7s
KCPM Cahto Peak 82.71 51 *e*P **P** **06 58 31.6 +1.5**
comp=Z,72nm,1.0s
I04A Tendick Farm, 82.73 47⇓ P **P** **06 58 30.6 +0.5**
baz=83
YKA Yellowknife Ar 82.85 27 P **P** **06 58 29.7 -0.5**
comp=Z,14nm,0.5s,baz=285,slow=5.1,SNR=194
YKA PKiKP **PKiKP** **07 03 47.7 -1.0**
comp=Z,0.9nm,0.7s,baz=297,slow=1.6,SNR=5.7
M02C Callahan 82.90 49⇓ P **P** **06 58 32.1 +1.1**
baz=83,SNR=10
YBH Yreka Blue Hor 82.94 49 *e*P **P** **06 58 32.7 +1.5**
YBH pmax pmax
comp=Z,84nm,0.8s
YBH Yreka Blue Hor 82.94 49 *e*P **P** **06 58 32.7 +1.5**
comp=Z,83nm,0.8s
J04D Umpqua Nationa 83.06 47⇓ P **P** **06 58 32.7 +0.7**
baz=83,SNR=43
VFP Flag Point 83.07 45 P **P** **06 58 32.6 +0.6**
N02D Trinity Center 83.10 50⇑ P **P** **06 58 33.3 +1.2**
baz=83,SNR=18
ALE Alert 83.14 3 P **P** **06 58 31.0 -0.4**
comp=Z,549nm,0.5s,SNR=57
G05D Wamic, OR 83.19 45⇓ P **P** **06 58 32.9 +0.6**
baz=83
LTY Liberty 83.19 43 *e*P **P** **06 58 32.7 +0.3**
comp=Z,47nm,0.7s
WDC Whiskeytown Da 83.30 50 *e*P **P** **06 58 34.6 +1.6**
WDC pmax pmax
comp=Z,43nm,1.0s
WDC Whiskeytown Da 83.30 50 *e*P **P** **06 58 34.6 +1.6**
comp=Z,44nm,1.0s
I05D Terrebonne, OR 83.37 46⇓ P **P** **06 58 34.1 +0.8**
baz=83,SNR=16
K04D Chiloquin, OR 83.44 48⇑ P **P** **06 58 34.5 +0.6**
baz=83,SNR=32
WTV Waterville 83.56 43 P **P** **06 58 34.5 +0.2**
M04C Macdoel 83.56 49⇑ P **P** **06 58 35.4 +0.9**
baz=84,SNR=37
G06A Carlson Farm, 83.66 45 *e*P **P** **06 58 35.4 +0.5**
comp=Z,26nm,0.9s
CASY Casey 83.66 193 *e*P **P** **06 58 34.5 +0.4**
comp=Z,9.8nm,0.8s
J05D Fort Rock, OR 83.67 47⇑ P **P** **06 58 36.2 +1.1**
baz=84,SNR=72
B08A Colville Reser 83.82 42 *e*P **P** **06 58 35.9 +0.3**
E07A Sunnyside 83.89 44 *e*P **P** **06 58 37.1 +1.2**
comp=Z,67nm,0.8s
SAW Saint Andrews 83.93 43 P **P** **06 58 36.3 +0.2**
SPITS Spitsbergen Ar 83.93 351 P **P** **06 58 35.7 +0.2**
comp=Z,12nm,0.6s,baz=92,slow=6.8,SNR=45
K05A Summer Lake 84.04 48 *e*P **P** **06 58 37.9 +0.9**
comp=Z,90nm,0.8s
KBS Kingsbay 84.08 352 *e*P **P** **06 58 35.5 -0.7**
KBS pmax pmax
comp=Z,11nm,0.7s
KBS Kingsbay 84.08 352 *e*P **P** **06 58 35.5 -0.7**
comp=Z,11nm,0.7s
HAWA Hanford 84.15 44 *e*P **P** **06 58 37.9 +0.7**
comp=Z,59nm,0.8s
OHCM Honcut 84.37 51 *e*P **P** **06 58 39.2 +0.7**
D08A Wollman Farm, 84.40 43 *e*P **P** **06 58 39.0 +0.6**
comp=Z,49nm,0.6s
RES Resolute Bay 84.50 13 *e*P **P** **06 58 38.3 -0.1**
RES pmax pmax
comp=Z,28nm,0.6s
RES Resolute Bay 84.50 13 *e*P **P** **06 58 38.3 -0.1**
comp=Z,28nm,0.6s
C09A Chrisman Ranch 84.64 42 *e*P **P** **06 58 40.1 +0.4**
comp=Z,65nm,0.6s
MOD Modoc Plateau 84.66 48 *e*P **P** **06 58 40.7 +0.7**
comp=Z,69nm,1.0s
I07A Izee 84.71 46 *e*P **P** **06 58 40.8 +0.5**
comp=Z,47nm,1.3s
ISRV Sarvestan 84.75 299 *e*P **P** **06 58 40.4 -0.6**
G08A Pilot Rock 84.80 45 *e*P **P** **06 58 41.1 +0.5**
comp=Z,25nm,0.8s
TMCR Tamitsa 84.88 335 *e*P **P** **06 58 39.2 -1.2**
TMCR pmax pmax
comp=Z,24nm,0.7s
E09A Wood Farm, Sta 85.05 43 *e*P **P** **06 58 42.5 +0.8**
comp=Z,54nm,0.8s
NEW Newport 85.27 42 *e*P **P** **06 58 43.3 +0.5**
NEW pmax pmax
comp=Z,106nm,0.8s
NEW Newport 85.27 42⇑ P **P** **06 58 43.4 +0.5**
baz=85
NEW Newport 85.27 42 *e*P **P** **06 58 43.3 +0.5**
comp=Z,106nm,0.8s
APA Apatity 85.31 339⇑ *i*P **P** **06 58 42.0 -0.6**
APA *i **PP **pP** **06 59 14.6 -1.4**
APA pmax pmax
comp=Z,18nm,0.6s
APA MLR MLR
comp=Z,400nm,14.0s
KLMR Klimovskoe 85.38 332 *e*P **P** **06 58 41.3 -1.7**
KLMR pmax pmax
comp=Z,34nm,1.5s
CMB Columbia Colle 85.50 52 *e*P **P** **06 58 44.7 +0.5**
CMB pmax pmax
comp=Z,31nm,0.9s
CMB Columbia Colle 85.50 52 *e*P **P** **06 58 44.7 +0.5**
comp=Z,31nm,0.9s
WVOR Wild Horse Val 85.73 48 *e*P **P** **06 58 45.8 +0.4**
WVOR pmax pmax
comp=Z,43nm,0.9s
WVOR Wild Horse Val 85.73 48 *e*P **P** **06 58 45.8 +0.4**
comp=Z,43nm,0.9s
IKAZ Kazeroun 85.75 299 *e*P **P** **06 58 44.7 -1.3**
F10A Beach Ranch, E 85.80 44 *e*P **P** **06 58 45.9 +0.2**
comp=Z,55nm,1.0s
BMO Blue Mountains 86.04 45 *e*P **P** **06 58 47.3 +0.5**
BMO pmax pmax
comp=Z,122nm,1.0s
BMO Blue Mountains 86.04 45 *e*P **P** **06 58 47.3 +0.5**
comp=Z,122nm,1.0s
WAKR Walker 86.11 51 *e*P **P** **06 58 48.4 +1.0**
EDM Edmonton 86.17 36 *e*P **P** **06 58 47.2 0.0**
EDM pmax pmax
comp=Z,239nm,1.2s
EDM Edmonton 86.17 36 *e*P **P** **06 58 47.1 0.0**
comp=Z,240nm,1.2s
PTRM Twissleman Ran 86.21 54 *e*P **P** **06 58 49.1 +1.4**
KEV Kevo 86.38 342 *e*p **P** **06 58 47.1 -0.7**
comp=Z,9.8nm,0.5s
KEV Kevo 86.38 342 *e*P **P** **06 58 47.1 -0.7**
KEV pmax pmax
comp=Z,10.0nm,0.5s
SMMC Simmler 86.46 55⇑ P **P** **06 58 49.9 +0.9**
baz=86
RKT Rikitea 86.65 115 *e*LR LR 07 25 48.3
comp=Z,310nm,37.0s
MLAC Mammoth, Mammo 86.79 52⇓ P **P** **06 58 52.2 +1.4**
baz=87
RCTC Rector, Farmer 86.81 54⇑ P **P** **06 58 52.5 +1.9**
baz=87
BSMT Bassoo Peak 86.89 42 *e*P **P** **06 58 51.6 +0.6**
SBC Santa Barbara 86.90 55⇓ P **P** **06 58 51.8 +0.7**
baz=87
ARCES ARCESS Array B 86.94 342 P **P** **06 58 50.4 -0.2**
comp=Z,16nm,0.7s,baz=60,slow=7.3,SNR=20
ARCES PKiKP **PKiKP** **07 03 55.4 +0.2**
comp=Z,2.3nm,0.8s,baz=64,slow=2.8,SNR=5.2
ARCES LR LR 07 40 00.8
comp=Z,93nm,22.0s,baz=57,slow=37
NVAR Mina Array Bea 87.00 51 P **P** **06 58 52.6 +0.8**
comp=Z,51nm,0.8s,baz=265,slow=5.6,SNR=186
NVAR PP **PP** **07 02 15.5 -1.0**
comp=Z,3.1nm,0.8s,baz=269,slow=8.7,SNR=4.8
NVAR PKKPbc **PKKPbc** **07 16 45.5 +0.9**
comp=Z,1.0nm,0.7s,baz=116,slow=3.2,SNR=11
VES Vestal, Richgr 87.05 54⇑ P **P** **06 58 52.0 +0.2**
baz=87,SNR=8.1
MTUM Tungsten Hills 87.07 52 *e*P **P** **06 58 53.1 +1.0**
WALA Waterton Lakes 87.09 40 *e*P **P** **06 58 52.7 +0.8**

comp=Z,73nm,0.8s
BLMT Blacktail Moun 87.12 41 *e*P **P 06 58 52.5 +0.3**
JTMT Jette 87.25 42 *e*P **P 06 58 52.8 +0.2**
BMN Battle Mountai 87.28 49 *e*P **P 06 58 54.2 +1.2**
BMN pmax pmax
comp=Z,19nm,0.5s
BMN Battle Mountai 87.28 49 *e*P **P 06 58 54.2 +1.2**
comp=Z,19nm,0.5s
YBMT Yellow Bay 87.39 41 *e*P **P 06 58 53.6 +0.3**
ARVC Arvin 87.43 55 ⇓P **P 06 58 54.2 +0.5**
baz=87
MFID Camas Ranch 87.46 46 *e*P **P 06 58 54.5 +0.7**
comp=Z,157nm,0.9s
SWMT Swartz Lake 87.50 42 *e*P **P 06 58 53.6 -0.2**
ISA Isabella, Lake 87.58 54 *e*P **P 06 58 54.7 +0.3**
ISA pmax pmax
comp=Z,14nm,1.2s
ISA Isabella, Lake 87.58 54 ⇓P **P 06 58 54.3 -0.1**
baz=88,SNR=8.2
ISA Isabella, Lake 87.58 54 *e*P **P 06 58 54.7 +0.3**
comp=Z,14nm,1.2s
OSI Osito Audit: C 87.65 55 ⇑P **P 06 58 55.2 +0.4**
baz=88
OSI Osito Audit: C 87.65 55 *e*P **P 06 58 55.7 +0.9**
comp=Z,19nm,0.4s
MSO Missoula 87.74 42 ⇓P **P 06 58 55.5 +0.5**
baz=88
MSO Missoula 87.74 42 *e*P **P 06 58 55.0 0.0**
comp=Z,40nm,1.5s
SLMT Seeley Lake 87.91 42 *e*P **P 06 58 55.6 -0.3**
TPH Tonopah 87.91 51 *e*P **P 06 58 56.9 +0.8**
TPH pmax pmax
comp=Z,82nm,1.1s
TPH Tonopah 87.91 51 *e*P **P 06 58 56.9 +0.8**
comp=Z,82nm,1.1s
GRAC Grapevine Rang 88.08 52 ⇓P **P 06 58 57.0 +0.2**
baz=88,SNR=8.9
DAC Darwin (Calif) 88.11 53 *e*P **P 06 58 57.7 +0.6**
DAC pmax pmax
comp=Z,37nm,1.3s
DAC Darwin (Calif) 88.11 53 *e*P **P 06 58 57.7 +0.6**
comp=Z,37nm,1.3s
JOF Joensuu 88.14 335 *e*p P 06 58 53.2 -3.1
comp=Z,8.7nm,0.6s
JOF Joensuu 88.14 335 *e*P P 06 58 53.2 -3.1
JOF pmax pmax
comp=Z,9.0nm,0.6s
EDW2 Edwards Air Fo 88.16 55 ⇓P **P 06 58 58.2 +1.0**
baz=88,SNR=8.8
CHMT Chamberlain Mo 88.17 42 *e*P **P 06 58 56.8 -0.4**
LRMC Laurel Mtn Rad 88.24 54 ⇓P **P 06 58 58.1 +0.5**
baz=88,SNR=19
MPMC Manual Prospec 88.24 53 ⇓P **P 06 58 58.2 +0.5**
baz=88,SNR=36
MWC Mount Wilson 88.28 55 *e*P **P 06 58 59.6 +1.7**
MWC Mount Wilson 88.28 55 *e*P **P 06 58 59.6 +1.7**
HLID Hailey 88.40 46 ⇓P **P 06 58 59.2 +0.9**
baz=88
HLID Hailey 88.40 46 *e*P **P 06 58 59.2 +0.9**
comp=Z,79nm,0.9s
ZEI Tsey 88.56 314 *e*P **P 06 58 56.6 -2.5**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
BFSC Mount Baldy Ra 88.60 55 ⇓P **P 06 58 59.8 +0.4**
baz=88
FURC Furnace Creek, 88.62 53 ⇓P **P 06 58 59.7 +0.6**
baz=89,SNR=16
OBN Obninsk 88.93 327 *e*P **P 06 59 00.8 +0.6**
OBN *e* 07 02 32.4
OBN pmax pmax
comp=Z,15nm,1.3s
RRX Edison Barstow 88.95 54 ⇓P **P 06 59 01.6 +0.7**
baz=89
TPNV Topopah Spring 88.96 52 *e*P **P 06 59 01.9 +0.8**
TPNV pmax pmax
comp=Z,33nm,0.6s
TPNV Topopah Spring 88.96 52 ⇑P **P 06 59 01.8 +0.8**
baz=89,SNR=40
TPNV Topopah Spring 88.96 52 *e*P **P 06 59 01.9 +0.8**
comp=Z,33nm,0.6s
GSC Goldstone, Bar 88.99 54 *e*P **P 06 59 01.6 +0.5**
GSC pmax pmax
comp=Z,10.0nm,0.5s
GSC Goldstone, Bar 88.99 54 ⇑P **P 06 59 01.6 +0.5**
baz=89,SNR=19
GSC Goldstone, Bar 88.99 54 *e*P **P 06 59 01.6 +0.5**
comp=Z,10nm,0.5s
LRM Limekiln Ridge 89.04 43 *e*P **P 06 59 01.6 +0.2**
KIV Kislovodsk 89.05 315 *e*P **P 06 59 01.1 -0.1**
KIV *i* *PP **pP 06 59 38.2 +3.3**
KIV *e* 07 02 33.3
KIV *e*SS SS 07 15 41.1 +6.6
KIV pmax pmax
comp=Z,5.0nm,1.0s
R11A Troy Canyon, C 89.07 51 ⇓P **P 06 59 02.4 +0.9**
baz=89,SNR=40
R11A Troy Canyon, C 89.07 51 *e*P **P 06 59 02.1 +0.6**
comp=Z,57nm,1.4s
MCMT McKenzie Canyo 89.08 44 *e*P **P 06 59 02.0 +0.5**
comp=Z,20nm,1.1s
DLMT Dillon 89.09 43 *e*P **P 06 59 02.2 +0.8**
MURC Murrieta 89.14 56 ⇑P **P 06 59 02.3 +0.6**
baz=89
HRY Holter Researc 89.16 42 *e*P **P 06 59 02.1 +0.5**
DAG Danmarks Havn 89.18 356 ⇑ *i*P **P 06 59 00.0 -1.0**
DAG Danmarks Havn 89.18 356 ⇑ *i*P **P 06 59 00.0 -1.0**
comp=Z,38nm,0.8s
SHOC Shoshone, Teco 89.23 53 ⇑P **P 06 59 03.1 +1.0**
baz=89,SNR=9.9
109C Camp Elliot, M 89.41 56 ⇓P **P 06 59 03.2 +0.2**
baz=89,SNR=7.5
HEC Hector,Ludlow 89.49 54 ⇓P **P 06 59 03.9 +0.5**
baz=89,SNR=20
BOZ Bozeman (W) 89.64 43 *e*P **P 06 59 04.3 +0.3**
BOZ pmax pmax
comp=Z,37nm,1.1s
BOZ Bozeman (W) 89.64 43 *e*P **P 06 59 04.3 +0.3**
comp=Z,37nm,1.1s
TUQ Turquoise Moun 89.64 54 ⇓P **P 06 59 04.8 +0.5**
baz=90,SNR=22
PFO Pinyon Flats O 89.73 56 P **P 06 59 05.2 +0.5**
comp=Z,110nm,1.3s,SNR=6.0
PFO Pinyon Flats O 89.73 56 *e*P **P 06 59 04.9 +0.2**
PFO pmax pmax
comp=Z,24nm,1.1s
PFO Pinyon Flats O 89.73 56 ⇑P **P 06 59 05.1 +0.4**
baz=90,SNR=8.6
PFO Pinyon Flats O 89.73 56 *e*P **P 06 59 04.9 +0.2**
comp=Z,24nm,1.1s
BAR Barrett 89.81 56 *e*P **P 06 59 05.6 +0.7**
comp=Z,11nm,0.7s
SHPR Sheep Range 89.93 52 *e*P **P 06 59 06.8 +1.2**
MONP Monument Peak, 89.96 56 ⇑P **P 06 59 06.4 +0.5**
baz=90,SNR=11
BELC Belle Mtn. Jos 89.99 55 ⇑P **P 06 59 06.3 +0.4**
baz=90,SNR=12
GMRC Granite Mounta 90.03 54 ⇓P **P 06 59 06.8 +0.8**
baz=90,SNR=24
QLMT Earthquake Lak 90.04 44 *e*P **P 06 59 07.2 +1.2**
A19A Klindworth Far 90.35 39 ⇑P **P 06 59 07.2 +0.1**
baz=90,SNR=25
LDFC Landfair 90.38 54 *e*P **P 06 59 08.4 +0.8**
comp=Z,46nm,0.6s
B19A Brinkman Farms 90.39 40 ⇑P **P 06 59 08.0 +0.6**
baz=90
YMR Madison River 90.41 44 *e*P **P 06 59 09.3 +1.6**
comp=Z,73nm,0.9s
BC3 Big Chuckawall 90.52 55 ⇓P **P 06 59 09.0 +0.7**
baz=90,SNR=10.0
KAF Kangasniemi 90.56 336 *e*p P 06 59 01.1 -6.6
comp=Z,5.9nm,0.6s
KAF Kangasniemi 90.56 336 *e*P P 06 59 01.1 -6.6
KAF pmax pmax
comp=Z,6.0nm,0.6s
YFT Old Faithful 90.57 44 *e*P **P 06 59 11.5 +3.0**
comp=Z,47nm,0.8s
DUG Dugway, Tooele 90.57 48 *e*P **P 06 59 09.1 +0.6**
DUG pmax pmax
comp=Z,64nm,1.4s
DUG Dugway, Tooele 90.57 48 ⇓P **P 06 59 08.8 +0.3**
baz=90,SNR=31
DUG Dugway, Tooele 90.57 48 *e*P **P 06 59 09.1 +0.6**
comp=Z,64nm,1.4s
YNR Norris Junctio 90.58 44 *e*P **P 06 59 11.1 +2.5**
comp=Z,156nm,1.3s
C19A Slack Wire Ran 90.59 40 ⇓P **P 06 59 08.6 +0.3**
baz=90,SNR=15

IRM Iron Mountain 90.62 55 ⇑P **P 06 59 09.4 +0.8**
baz=91,SNR=12
IMW Indian Meadow 90.68 44 *e*P **P 06 59 10.2 +1.1**
FXWY Fox Creek 90.71 45 *e*P **P 06 59 10.1 +0.9**
H17A Grant Village 90.76 44 ⇑P **P 06 59 11.9 +2.6**
baz=91,SNR=64
H17A Grant Village 90.76 44 *e*P **P 06 59 12.0 +2.6**
comp=Z,81nm,1.1s
TPAW Teton Pass 90.81 45 *e*P **P 06 59 10.6 +0.9**
LKWY Lake 90.82 44 *e*P **P 06 59 12.0 +2.3**
LKWY pmax pmax
comp=Z,60nm,1.1s
LKWY Lake 90.82 44 *e*P **P 06 59 12.0 +2.3**
comp=Z,60nm,1.1s
NEE2 Needles Airpor 90.86 54 ⇑P **P 06 59 10.2 +0.4**
baz=91
A20A Cobblestone Ra 90.86 39 ⇑P **P 06 59 09.6 +0.1**
baz=91,SNR=23
D19A Cripps Ranch, 90.90 41 ⇑P **P 06 59 10.1 +0.3**
baz=91,SNR=46
I17A Pilgrim Ck. 90.92 44 ⇑P **P 06 59 11.5 +1.3**
baz=91,SNR=24
AHID Auburn Hatcher 90.95 46 *e*P **P 06 59 11.0 +0.7**
comp=Z,74nm,1.1s
B20A Solberg Farm, 90.97 39 ⇓P **P 06 59 09.9 -0.1**
baz=91,SNR=27
CCUT Cedar City 90.99 51 *e*P **P 06 59 11.7 +1.1**
comp=Z,23nm,1.3s
FINES FINESS Array B 91.00 335 P **P 06 59 08.0 -1.7**
comp=Z,6.3nm,0.3s,baz=80,slow=4.2,SNR=34
FINES LR LR 07 41 45.3
comp=Z,55nm,20.0s,baz=38,slow=36
HWUT Hardware Ranch 91.01 47 *e*P **P 06 59 10.9 +0.3**
comp=Z,49nm,1.0s
CTU Camp Tracy 91.18 48 *e*P **P 06 59 12.8 +1.5**
comp=Z,15nm,0.8s
GLA Glamis 91.20 56 ⇓P **P 06 59 12.1 +0.7**
baz=91,SNR=5.7
E19A Rath Farm, Rou 91.22 42 ⇓P **P 06 59 11.4 +0.2**
baz=91,SNR=27
Y12C Blythe 91.23 55 ⇑P **P 06 59 12.3 +0.8**
baz=91,SNR=8.0
C20A Veseth Ranch, 91.25 40 ⇓P **P 06 59 12.2 +0.9**
baz=91,SNR=76
H18A Shoshone NF, C 91.28 43 ⇓P **P 06 59 12.9 +1.2**
baz=91,SNR=35
F19A Roth Farm, Mol 91.33 42 ⇑P **P 06 59 12.4 +0.6**
baz=91,SNR=21
W13A Hualapai Mount 91.33 54 ⇓P **P 06 59 13.1 +0.9**
baz=91,SNR=8.6
PDMCI Parker Dam,Lak 91.37 54 ⇑P **P 06 59 13.0 +0.9**
baz=91,SNR=7.2
RLMT Red Lodge 91.38 43 *e*P **P 06 59 13.3 +1.1**
comp=Z,44nm,0.9s
D20A Manuel Ranch, 91.40 41 ⇓P **P 06 59 12.7 +0.7**
baz=91,SNR=53
A21A Bergtoll Ranch 91.43 39 ⇑P **P 06 59 12.9 +0.7**
baz=91
MPU Maple Canyon 91.48 48 *e*P **P 06 59 13.9 +1.2**
comp=Z,7.3nm,0.6s
MVU Marysvale 91.55 50 *e*P **P 06 59 14.1 +1.0**
comp=Z,8.8nm,0.8s
VNDA Vanda 91.57 176 P **P 06 59 12.1 +0.1**
comp=Z,6.0nm,1.1s,baz=319,slow=4.8,SNR=17
VNDA PKKP **PKKPdf 07 16 32.8 +1.0**
comp=Z,0.6nm,0.4s,baz=173,slow=0.8,SNR=7.5
VNDA Vanda 91.57 176 *e*P **P 06 59 12.2 +0.2**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 91.57 176 *e*P **P 06 59 12.2 +0.2**
comp=Z,8.0nm,0.9s
VNDA PKKP **PKKPdf 07 16 32.8 +1.0**
B21A Ellsworth Farm 91.59 39 ⇑P **P 06 59 13.2 +0.4**
baz=92,SNR=32
E20A Meyer Farm, Mu 91.62 41 ⇑P **P 06 59 13.5 +0.4**
baz=92,SNR=26
DAU Daniels Canyon 91.63 48 *e*P **P 06 59 14.5 +0.9**
DAU Daniels Canyon 91.63 48 *e*P **P 06 59 14.5 +0.9**
H19A Powell 91.73 43 ⇑P **P 06 59 15.3 +1.6**
baz=92,SNR=41
C21A Desert Coulee 91.78 40 ⇓P **P 06 59 14.2 +0.5**
baz=92,SNR=32
FFC Flin Flon 91.82 32 P **P 06 59 13.5 -0.2**
comp=Z,159nm,1.0s,SNR=13
FFC Flin Flon 91.82 32 *e*P **P 06 59 13.2 -0.5**
FFC pmax pmax
comp=Z,33nm,1.1s
FFC Flin Flon 91.82 32 *e*P **P 06 59 13.2 -0.5**
comp=Z,34nm,1.1s
F20A Billings 91.87 42 ⇓P **P 06 59 14.8 +0.5**
baz=92,SNR=16
I19A Meeteetse 91.95 44 ⇓P **P 06 59 15.9 +1.1**
baz=92,SNR=46
BW06 Boulder Array 92.02 45 *e*P **P 06 59 15.1 -0.2**
comp=Z,16nm,1.1s
PDAR Pinedale Array 92.02 45 P **P 06 59 15.2 -0.1**
comp=Z,10nm,0.8s,baz=242,slow=2.2,SNR=70
PDAR PP **PP 07 02 55.4 -0.9**
comp=Z,5.4nm,1.2s,baz=267,slow=5.6,SNR=6.9
PDAR PKKP **PKKPdf 07 16 30.6 +1.5**
comp=Z,0.3nm,0.4s,baz=102,slow=6.5,SNR=4.3
G20A Bridger 92.04 43 ⇓P **P 06 59 15.8 +0.7**
baz=92,SNR=50
A22A Carney Farms, 92.04 38 ⇑P **P 06 59 14.7 -0.3**
baz=92,SNR=26
113A Mohawk Valley, 92.13 56 ⇓P **P 06 59 16.3 +0.7**
baz=92
D21A La Casta Ranch 92.13 40 ⇓P **P 06 59 15.6 +0.2**
baz=92,SNR=18
U15A North Rim 92.15 52 ⇑P **P 06 59 17.0 +0.9**
baz=92,SNR=24
J19A Crowheart 92.19 45 ⇓P **P 06 59 16.9 +1.0**
baz=92,SNR=102
SBA Scott Base 92.23 175 *e*P **P 06 59 16.4 +1.4**
SBA pmax pmax
comp=Z,36nm,1.7s
SBA Scott Base 92.23 175 *e*P **P 06 59 16.4 +1.4**
comp=Z,36nm,1.7s
VSU Vasula 92.26 332 *i* P **P 06 59 15.1 -0.5**
VSU pmax pmax
comp=Z,40nm,1.3s
B22A Reddig Ranch S 92.27 39 ⇓P **P 06 59 16.1 +0.1**
baz=92,SNR=10
E21A Keefer Ranch, 92.28 41 ⇑P **P 06 59 16.4 +0.3**
baz=92
Y14A Wickenburg 92.38 54 ⇓P **P 06 59 17.7 +0.8**
baz=92,SNR=13
H20A Greybull 92.45 43 ⇓P **P 06 59 17.4 +0.3**
baz=92,SNR=27
F21A Absaloka Mine, 92.53 42 ⇑P **P 06 59 16.9 -0.4**
baz=92,SNR=6.9
C22A Vida 92.56 40 ⇓P **P 06 59 17.4 +0.1**
baz=92,SNR=16
I20A Worland 92.57 44 ⇑P **P 06 59 18.3 +0.7**
baz=92,SNR=38
Z14A Wintersburg 92.61 55 ⇑P **P 06 59 18.7 +0.9**
baz=92
D22A Cohagen 92.61 40 ⇓P **P 06 59 18.1 +0.4**
baz=92,SNR=28
G21A Lodge Grass 92.70 42 ⇑P **P 06 59 18.6 +0.5**
baz=93,SNR=15
LAO LASA Array 92.77 41 *e*P **P 06 59 18.7 +0.4**
comp=Z,155nm,1.0s
J20A Shoshoni 92.81 44 ⇓P **P 06 59 19.3 +0.5**
baz=93,SNR=25
B23A Brockton 92.82 39 ⇓P **P 06 59 18.9 +0.3**
baz=93,SNR=39
C23A Lambert 92.97 39 ⇓P **P 06 59 19.7 +0.4**
baz=93,SNR=58
H21A Big Horn, Sher 93.03 43 ⇓P **P 06 59 20.9 +1.2**
baz=93,SNR=100
E22A Miles City 93.04 41 ⇑P **P 06 59 19.6 0.0**
baz=93,SNR=24
F22A Rosebud 93.10 41 ⇓P **P 06 59 20.1 +0.1**
baz=93,SNR=32
214A Organ Pipe Nat 93.15 56 ⇓P **P 06 59 21.4 +0.9**
baz=93
214A Organ Pipe Nat 93.15 56 *e*P **P 06 59 21.7 +1.3**
comp=Z,61nm,1.5s
WUAZ Wupatki 93.15 52 ⇓P **P 06 59 21.6 +1.0**
baz=93,SNR=9.4
WUAZ Wupatki 93.15 52 *e*P **P 06 59 21.4 +0.9**
comp=Z,14nm,0.9s
I21A Big Trails, Te 93.18 44 ⇑P **P 06 59 20.7 +0.2**
baz=93,SNR=61
D23A Lindsay 93.21 40 ⇓P **P 06 59 21.0 +0.6**
baz=93,SNR=14
A24A Westby 93.22 38 ⇑P **P 06 59 20.1 -0.3**
baz=93,SNR=14

J21A Lysite 93.25 44 ⇑P **P 06 59 21.5 +0.7**
baz=93,SNR=40
DGMT Dagmar 93.30 38 ⇓P **P 06 59 20.6 -0.2**
baz=93,SNR=14
DGMT Dagmar 93.30 38 *e*P **P 06 59 20.5 -0.2**
comp=Z,55nm,1.1s
G22A Birney 93.30 42 ⇓P **P 06 59 21.1 +0.2**
baz=93,SNR=20
E23A Ismay 93.42 41 ⇓P **P 06 59 22.0 +0.7**
baz=93,SNR=28
X16A Lo Mia Camp, P 93.46 54 ⇓P **P 06 59 22.9 +0.9**
baz=93
H22A Clearmont 93.50 43 ⇑P **P 06 59 22.3 +0.4**
baz=93,SNR=17
C24A Savage 93.55 39 ⇑P **P 06 59 22.1 +0.2**
baz=93,SNR=23
FCC Fort Churchill 93.55 27 *e*P **P 06 59 21.1 -0.4**
FCC pmax pmax
comp=Z,39nm,1.0s
FCC Fort Churchill 93.55 27 *e*P **P 06 59 21.1 -0.4**
comp=Z,39nm,1.0s
N20A Spence Gulch, 93.61 47 ⇓P **P 06 59 23.4 +0.7**
baz=94,SNR=9.1
K21A Alcova 93.65 45 ⇑P **P 06 59 23.4 +0.7**
baz=94,SNR=37
F23A Volborg 93.67 41 ⇓P **P 06 59 22.8 +0.2**
baz=94,SNR=28
I22A 9 Mile Ranch, 93.69 43 ⇑P **P 06 59 23.0 +0.3**
baz=94,SNR=19
A25A Svangstu Ranch 93.75 38 ⇑P **P 06 59 23.1 +0.3**
baz=94,SNR=7.7
D24A Glendive 93.78 40 ⇑P **P 06 59 23.7 +0.6**
baz=94,SNR=23
J22A Midwest 93.88 44 ⇓P **P 06 59 23.9 +0.2**
baz=94,SNR=44
O20A White River Ci 93.89 47 ⇓P **P 06 59 24.2 +0.4**
baz=94,SNR=9.3
O20A White River Ci 93.89 47 *e*P **P 06 59 23.6 -0.3**
comp=Z,33nm,1.2s
G23A Biddle 93.89 42 ⇓P **P 06 59 23.9 +0.3**
baz=94,SNR=33
SUMG Summit 93.91 1 ⇑ *i*P **P 06 59 23.1 -0.4**
SUMG Summit 93.91 1 *e*P **P 06 59 23.1 -0.4**
comp=Z,15nm,0.8s
SUMG Summit 93.91 1 ⇑ *i*P **P 06 59 23.1 -0.4**
comp=Z,15nm,0.9s
PV10 Paradox Valley 93.94 49 *e*P **P 06 59 24.3 +0.1**
comp=Z,419nm,0.8s
B25A Knox Farm, Ray 94.01 38 ⇑P **P 06 59 24.5 +0.5**
baz=94,SNR=15
E24A Baker 94.03 40 ⇓P **P 06 59 24.4 +0.2**
baz=94,SNR=16
H23A Clabaugh Cattl 94.14 42 ⇓P **P 06 59 25.1 +0.3**
baz=94
K22A Casper 94.14 44 *e*P **P 06 59 25.5 +0.6**
comp=Z,19nm,0.6s
C25A Freed Ranch, W 94.19 39 ⇑P **P 06 59 25.0 +0.1**
baz=94,SNR=8.4
F24A Ekalaka 94.23 41 ⇑P **P 06 59 25.1 -0.1**
baz=94,SNR=18
PV01 Paradox Valley 94.37 49 *e*P **P 06 59 25.8 -0.3**
comp=Z,504nm,0.6s
D25A Fairfld 94.39 39 ⇑P **P 06 59 26.0 +0.2**
baz=94,SNR=11
A26A Wade Farm, Ken 94.40 37 ⇑P **P 06 59 25.6 -0.2**
baz=94,SNR=14
L22A Ellis Ranch, M 94.44 45 ⇓P **P 06 59 27.2 +0.9**
baz=94,SNR=11
G24A Alzada 94.47 41 ⇓P **P 06 59 25.9 -0.3**
baz=94,SNR=7.6
J23A Dilts Ranch, B 94.50 43 ⇓P **P 06 59 26.1 -0.4**
baz=94
M22A Cedar Creek Ra 94.57 46 ⇑P **P 06 59 28.1 +1.0**
baz=94,SNR=17
X18A Snowflake 94.58 53 ⇑P **P 06 59 27.9 +0.7**
baz=94
E25A Miller Ranch, 94.62 40 ⇑P **P 06 59 27.2 +0.3**
baz=94,SNR=9.3
H24A Dirks Ranch, A 94.62 42 ⇓P **P 06 59 26.7 -0.2**
baz=94,SNR=37
TUC Tucson 94.67 55 *e*P **P 06 59 27.9 +0.5**
TUC pmax pmax
comp=Z,9.0nm,1.3s
TUC Tucson 94.67 55 *e*P **P 06 59 27.9 +0.5**
comp=Z,8.9nm,1.3s
K23A Bowen Ranch, D 94.71 44 ⇑P **P 06 59 27.7 +0.2**
baz=95,SNR=25
MVCO Mesa Verde 94.75 50 ⇑P **P 06 59 28.3 +0.4**
baz=95
MVCO Mesa Verde 94.75 50 *e*P **P 06 59 27.9 0.0**
comp=Z,8.9nm,1.0s
F25A Bowman 94.83 41 ⇓P **P 06 59 28.2 +0.3**
baz=95,SNR=16
AKASG Malin Array Be 94.84 325 P **P 06 59 26.5 -1.2**
comp=Z,0.3nm,0.3s,baz=46,slow=4.4,SNR=5.9
AKASG LR LR 07 42 32.9
comp=Z,45nm,22.0s,baz=125,slow=36
AKASG Malin Array Be 94.84 325 *i* P **P 06 59 27.2 -0.5**
C26A Wahner Farm, P 94.84 38 ⇓P **P 06 59 28.0 +0.1**
baz=95,SNR=19
A27A Ledoux Ranch, 94.85 37 ⇓P **P 06 59 28.0 +0.2**
baz=95
KIEV Kiev 94.85 325 *e*P **P 06 59 27.2 -0.5**
N22A Wattenberg Ran 94.90 46 ⇓P **P 06 59 29.7 +1.1**
baz=95,SNR=13
I24A Kuemmerle Ranc 94.93 43 ⇓P **P 06 59 28.6 +0.1**
baz=95,SNR=23
D26A Manning 94.99 39 ⇑P **P 06 59 28.9 +0.4**
baz=95,SNR=10
O22A Kremmling 95.08 47 ⇑P **P 06 59 29.6 +0.2**
baz=95,SNR=12
B27A Peters Farms, 95.08 38 ⇓P **P 06 59 28.8 -0.1**
baz=95
J24A Dixon Ranch, L 95.12 43 ⇑P **P 06 59 29.8 +0.5**
baz=95,SNR=7.9
P22A Eagle 95.14 47 ⇓P **P 06 59 30.4 +0.8**
baz=95,SNR=11
M23A Laramie 95.15 45 ⇑P **P 06 59 30.3 +0.7**
baz=95
RSSD Black Hills 95.21 42 *e*P **P 06 59 29.5 -0.3**
RSSD pmax pmax
comp=Z,39nm,1.1s
RSSD Black Hills 95.21 42 *e*P **P 06 59 29.5 -0.3**
comp=Z,39nm,1.1s
E26A Carlson Angus 95.22 40 ⇓P **P 06 59 30.0 +0.4**
baz=95,SNR=38
N23A Red Feather La 95.22 46 ⇑P **P 06 59 31.3 +1.2**
baz=95,SNR=14
C27A Sayler Ranch, 95.25 38 ⇓P **P 06 59 29.7 0.0**
baz=95,SNR=8.9
H25A Fruitdale 95.29 42 ⇓P **P 06 59 30.3 +0.3**
baz=95,SNR=43
F26A Lodgepole 95.36 40 ⇓P **P 06 59 30.7 +0.4**
baz=95,SNR=27
A28A Rude Farm, Bot 95.44 37 ⇑P **P 06 59 30.4 -0.1**
baz=95
I25A Rochford 95.45 42 ⇓P **P 06 59 30.8 -0.1**
baz=95,SNR=38
L24A Wheatland 95.46 45 ⇓P **P 06 59 31.4 +0.4**
baz=95
D27A Center 95.51 39 ⇓P **P 06 59 31.2 +0.3**
baz=95,SNR=7.4
B28A Dugan Ranch, T 95.60 37 ⇑P **P 06 59 30.9 -0.4**
baz=96,SNR=18
G26A Maurine 95.64 41 ⇑P **P 06 59 31.6 0.0**
baz=96,SNR=34
J25A Sunshine Ranch 95.67 43 ⇓P **P 06 59 31.8 0.0**
baz=96,SNR=5.1
F27A Lemmon 95.75 40 ⇑P **P 06 59 32.5 +0.4**
baz=96,SNR=36
M24A Cheyenne 95.77 45 ⇓P **P 06 59 33.4 +1.0**
baz=96,SNR=8.5
E27A Carson 95.79 40 ⇑P **P 06 59 32.6 +0.4**
baz=96,SNR=32
S22A 4UR Ranch, Cre 95.79 49 ⇑P **P 06 59 33.0 +0.3**
baz=96,SNR=7.8
H26A Fairpoint 95.82 42 ⇑P **P 06 59 32.6 +0.1**
baz=96,SNR=8.6
ISCO Idaho Springs 95.88 47 *e*P **P 06 59 33.6 +0.5**
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO Idaho Springs 95.88 47 ⇑P **P 06 59 33.4 +0.3**
baz=96,SNR=7.0
ISCO Idaho Springs 95.88 47 *e*P **P 06 59 33.6 +0.5**
comp=Z,2.2nm,0.7s
P23A Jefferson 95.89 47 ⇓P **P 06 59 34.0 +0.9**
baz=96,SNR=7.0

C28A	Hausauer Farms	95.92	38	⇓P		P	06 59 33.0	+0.2
	baz=96,SNR=7.5							
K25A	Mack Ranch, Ha	95.95	44	⇓P		P	06 59 33.8	+0.6
	baz=96,SNR=9.2							
N24A	Carr	95.99	46	⇓P		P	06 59 34.1	+0.7
	baz=96,SNR=7.0							
I26A	New Underwood	96.02	42	⇑P		P	06 59 33.5	+0.1
	baz=96,SNR=6.7							
G27A	Dupree	96.03	41	⇓P		P	06 59 32.9	-0.5
	baz=96,SNR=43							
A29A	Manning Farm,	96.03	37	⇓P		P	06 59 33.1	-0.1
	baz=96							
Q23A	Hartsel	96.07	48	⇓P		P	06 59 34.0	0.0
	baz=96,SNR=5.7							
L25A	Engebretsen Ra	96.08	44	⇑P		P	06 59 34.2	+0.5
	baz=96,SNR=8.7							
O24A	Longmont	96.14	46	⇓P		P	06 59 34.5	+0.5
	baz=96							
B29A	Wagenman Farm,	96.18	37	⇓P		P	06 59 33.7	-0.1
	baz=96,SNR=9.4							
J26A	Sides Ranch, S	96.19	43	⇓P		P	06 59 34.6	+0.5
	baz=96,SNR=5.4							
E28A	Huff	96.26	39	⇓P		P	06 59 34.2	-0.1
	baz=96,SNR=6.1							
H27A	Howes	96.26	41	⇑P		P	06 59 34.3	-0.1
	baz=96,SNR=21							
M25A	Palm-Egli Farm	96.31	45	⇓P		P	06 59 35.8	+1.0
	baz=96							
MDND	Maddock	96.33	38	⇑P		P	06 59 34.4	-0.2
	baz=96							
R23A	Moffat	96.35	48	⇓P		P	06 59 36.2	+0.9
	baz=96							
K26A	Motz Farm, Whi	96.38	43	⇑P		P	06 59 34.7	-0.3
	baz=96,SNR=6.5							
F28A	McLaughlin	96.53	40	⇑P		P	06 59 35.5	-0.1
	baz=96,SNR=7.0							
I27A	Quinn	96.53	42	⇓P		P	06 59 35.5	-0.1
	baz=96,SNR=16							
A30A	Hoffart Farm,	96.56	36	⇓P		P	06 59 35.9	+0.3
	baz=96							
HFS	Hagfors	96.64	338	P		P	06 59 34.5	-1.2
	comp=Z,2.1nm,0.5s,baz=120,slow=5.8,SNR=12							
D29A	Pettibone, Tap	96.70	38	⇑P		P	06 59 36.8	+0.5
	baz=97							
SDCO	Great Sand Dun	96.76	49	⇑P		P	06 59 37.3	+0.1
	baz=97,SNR=7.4							
B30A	Myrvik Farm, E	96.78	37	⇓P		P	06 59 36.6	-0.1
	baz=97							
G28A	Parade	96.81	41	⇑P		P	06 59 36.8	0.0
	baz=97,SNR=14							
O25A	Wiggins	96.81	46	⇓P		P	06 59 37.9	+0.8
	baz=97,SNR=7.1							
BRTR	Keskin Array B	96.87	314	LR		LR	07 48 16.3	
	comp=Z,13nm,21.9s,baz=42,slow=38							
NB2	NORSAR Subarra	96.90	339	P		P	06 59 35.1	-1.8
	comp=Z,2.9nm,0.8s,baz=46,slow=4.8							
NOA	NORSAR Array B	96.90	339	P		P	06 59 35.7	-1.2
	comp=Z,4.8nm,0.9s,baz=47,slow=4.6,SNR=9.5							
NOA				PP		PP	07 03 29.4	-3.8
	comp=Z,1.3nm,0.8s,baz=39,slow=7.3,SNR=3.5							
NOA				LR		LR	07 44 47.8	
	comp=Z,48nm,21.5s,baz=45,slow=36							
E29A	Napoleon	96.91	39	⇓P		P	06 59 37.5	+0.3
	baz=97							
J27A	Elkhorn Farm,	96.92	43	⇓P		P	06 59 37.3	-0.1
	baz=97,SNR=5.3							
K27A	Flueckinger Fa	97.00	43	⇑P		P	06 59 37.4	-0.5
	baz=97,SNR=5.9							
P25A	Willow Gulch B	97.02	47	⇑P		P	06 59 38.1	0.0
	baz=97							
C30A	Mose, Pekin	97.06	37	⇑P		Pdif	06 59 38.1	+0.1
	baz=97							
ANMO	Albuquerque	97.12	52	*e*P		Pdif	06 59 39.1	+0.3
ANMO				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ANMO	Albuquerque	97.12	52	*e*P		P	06 59 38.8	+0.1
	comp=Z,3.3nm,1.0s							
I28A	Midland	97.13	42	⇑P		P	06 59 38.0	-0.3
	baz=97,SNR=13							
F29A	Eureka	97.14	39	⇑P		P	06 59 37.7	-0.6
	baz=97,SNR=5.1							
D30A	Buchanan	97.18	38	⇓P		Pdif	06 59 38.6	+0.1
	baz=97							
ULM	Lac du Bonnet	97.26	34	P		P	06 59 38.0	-0.7
	comp=Z,11nm,0.7s,baz=305,slow=4.7,SNR=30							
ULM	Lac du Bonnet	97.26	34	P		P	06 59 38.0	-0.7
O26A	Horse Wrangler	97.32	46	⇑P		Pdif	06 59 39.6	+0.1
	baz=97							
J28A	Allard Ranch,	97.34	42	⇑P		P	06 59 38.9	-0.4
	baz=97,SNR=11							
E30A	Jud	97.38	39	⇑P		P	06 59 39.0	-0.4
	baz=97							
M27A	Reverse DX Ran	97.41	44	⇓P		P	06 59 39.5	-0.3
	baz=97							
H29A	Onida	97.46	41	⇑P		P	06 59 39.4	-0.4
	baz=97							
K28A	Ten Mile Ranch	97.57	43	⇓P		P	06 59 40.3	-0.1
	baz=98							
P26A	Davis Ranch, A	97.58	46	⇓P		Pdif	06 59 41.0	+0.3
	baz=98,SNR=8.1							
N27A	Anderson Farm,	97.62	45	⇑P		P	06 59 40.1	-0.5
	baz=98							
F30A	Leola	97.63	39	⇓P		P	06 59 40.1	-0.4
	baz=98							
I29A	Vivian Onida	97.68	41	⇑P		P	06 59 40.5	-0.3
	baz=98							
Q26A	Hugo	97.72	47	⇓P		P	06 59 41.0	-0.2
	baz=98							
T25A	Trinidad	97.80	49	⇑P		P	06 59 41.5	-0.2
	baz=98							
G30A	Faulkton	97.89	40	⇓P		P	06 59 41.0	-0.6
	baz=98							
J29A	Okreek	97.94	42	⇑P		P	06 59 41.7	-0.3
	baz=98							
R26A	Arlington	98.03	48	⇓P		P	06 59 42.6	0.0
	baz=98							
P27A	Ficken Ranch,	98.12	46	⇑P		Pdif	06 59 43.1	+0.1
	baz=98							
M28A	Bar X Bar Ranc	98.15	44	⇓Pdiff		P	06 59 43.0	0.0
	baz=98							
K29A	Lazy Trails An	98.24	42	⇑Pdiff		P	06 59 43.3	-0.1
	baz=98							
AGMN	Agassiz Nation	98.28	36	⇓Pdiff		P	06 59 42.8	-0.5
	baz=98							
AGMN	Agassiz Nation	98.28	36	*e*P		P	06 59 42.3	-1.0
	comp=Z,13nm,1.1s							
I30A	Oacoma	98.29	41	⇑Pdiff		P	06 59 43.2	-0.3
	baz=98							
S26A	Kim	98.29	48	⇑Pdiff		P	06 59 43.8	0.0
	baz=98							
KSCO	Kaye Shedlock'	98.31	47	⇑Pdiff		Pdif	06 59 44.0	+0.1
	baz=98							
KSCO	Kaye Shedlock'	98.31	47	*e*P		Pdif	06 59 45.0	+1.1
	comp=Z,9.6nm,0.9s							
BRSD	Miller	98.34	40	⇓Pdiff		P	06 59 43.4	-0.3
	baz=98							
BRSD	Miller	98.34	40	*e*P		P	06 59 43.1	-0.6
	comp=Z,36nm,0.9s							
N28A	Pribbeno Ranch	98.35	45	⇑Pdiff		P	06 59 43.9	0.0
	baz=98							
T26A	Comanche Natio	98.38	49	⇑Pdiff		Pdif	06 59 44.5	+0.1
	baz=98							
O28A	Krutsinger Ran	98.43	45	⇓Pdiff		Pdif	06 59 44.5	+0.2
	baz=98							
L29A	Maesberg Ranch	98.45	43	⇓Pdiff		P	06 59 44.3	0.0
	baz=98							
J30A	Dallas	98.52	42	⇑Pdiff		P	06 59 44.1	-0.5
	baz=98							
P28A	Saint Francis	98.69	46	⇓Pdiff		P	06 59 45.3	-0.2
	baz=99							
K30A	Basset	98.74	42	⇓Pdiff		P	06 59 45.5	-0.1
	baz=99							
SFJD	Kangerlussuaq	98.76	6	P		P	06 59 43.3	-1.7
	comp=Z,5.1nm,0.6s,baz=41,slow=1.8,SNR=4.9							
Q28A	Sharon Springs	98.85	46	⇑Pdiff		P	06 59 46.0	-0.2
	baz=99							
MNTX	Cornudas Mount	99.17	54	⇑Pdiff		Pdif	06 59 48.3	+0.6
	baz=99							
R28A	Tribune	99.18	47	⇑Pdiff		Pdif	06 59 47.8	+0.1
	baz=99							
T28A	Walsh	99.48	48	⇑Pdiff		Pdif	06 59 48.8	-0.3
	baz=99							
L31A	Butterfield Fa	99.48	42	⇑Pdiff		Pdif	06 59 49.0	+0.1
	baz=99							
Q29A	Oakley	99.53	46	⇑Pdiff		Pdif	06 59 49.0	-0.2
	baz=99							
P30A	Selden	99.75	45	⇓Pdiff		Pdif	06 59 49.7	-0.4
	baz=100							
Q30A	Quinter	100.02	46	⇓Pdiff		Pdif	06 59 51.2	-0.2
	baz=100							
ECSD	EROS Data Cent	100.16	40	⇑Pdiff		Pdif	06 59 51.3	-0.5
	baz=100							
ECSD	EROS Data Cent	100.16	40	*e*P		Pdif	06 59 51.0	-0.8
	comp=Z,8.6nm,1.1s							
R30A	Dighton	100.29	46	⇑Pdiff		Pdif	06 59 52.5	-0.1
	baz=100							
Q32A	Meitler Ranch,	101.16	45	⇑Pdiff		Pdif	06 59 55.7	-0.7
	baz=101							
TXAR	Lajitas Array	101.44	56	P		Pdif	06 59 57.8	-0.2
	comp=Z,0.7nm,0.7s,baz=232,slow=3.4,SNR=8.0							
TXAR				PKKP		PKKPbc	07 16 06.5	+0.2
	comp=Z,0.9nm,1.0s,baz=106,slow=5.6,SNR=4.8							
Q33A	Connelly Farm,	101.66	45	⇑Pdiff		Pdif	06 59 58.3	-0.3
	baz=102							
SPMN	Marine on St.	101.70	37	⇓Pdiff		Pdif	06 59 58.1	-0.5
	baz=102							
R33A	Olander Ranch,	101.88	46	⇓Pdiff		Pdif	06 59 59.2	-0.5
	baz=102							
W32A	Sentinel	102.44	49	⇓Pdiff		Pdif	07 00 01.5	-0.7
	baz=102							
CLL	Collm	102.87	331	*ep*PP			07 04 49.0	
CLL				*e*SKSac		SKSac	07 10 28.0	-3.1
CLL				*es*SKKSac			07 12 15.0	
CLL				*e*(SP)			07 13 06.0	
CLL				*e*PPS		PPS	07 14 21.0	
CLL				*es*SS			07 19 48.0	
U34A	Anderson Ranch	103.07	47	⇑Pdiff		Pdif	07 00 04.5	-0.5
	baz=103							
S35A	Otter Creek Ra	103.33	45	⇓Pdiff		Pdif	07 00 05.7	-0.3
	baz=103							
531A	Rocksprings	103.59	54	⇑Pdiff		Pdif	07 00 07.2	-0.3
	baz=104							
S36A	Lake Cedric, C	103.82	45	⇓Pdiff		Pdif	07 00 07.6	-0.6
	baz=104							
GERES	GERESS Array B	104.16	329	PKiKP		PKiKP	07 04 25.9	-0.1
	comp=Z,0.8nm,0.5s,baz=180,slow=0.3,SNR=6.1							
EKA	Eskdalemuir Ar	106.10	342	PKiKP		PKiKP	07 04 29.2	+0.1
	comp=Z,0.7nm,0.5s,baz=27,slow=3.2,SNR=5.9							
SCHQ	Schefferville	106.71	18	PKiKP		PKiKP	07 04 30.1	-0.2
	comp=Z,1.2nm,0.6s,baz=18,slow=5.9,SNR=4.4							
DAVOX	Davos/Dischmat	107.46	329	PKiKP		PKiKP	07 04 33.6	+1.4
	comp=Z,4.0nm,0.8s,baz=78,slow=5.5,SNR=4.2							
CABF	La Chapelle	109.41	331	*e*PKiKP		PKiKP	07 04 36.1	+0.3
CABF	La Chapelle	109.41	331	*e*PKPdf		PKiKP	07 04 36.1	+0.3
LPL	La Plagne	109.90	330	*e*PKiKP		PKiKP	07 04 37.0	+0.1
LPL	La Plagne	109.90	330	*e*PKPdf		PKiKP	07 04 37.0	+0.1
LPG	La Plagne	109.90	330	*e*PKiKP		PKiKP	07 04 37.2	+0.2
LPG	La Plagne	109.90	330	*e*PKPdf		PKiKP	07 04 37.2	+0.2
LOR	Lormes	109.94	333	*e*PKiKP		PKiKP	07 04 36.9	+0.3
LOR	Lormes	109.94	333	*e*PKPdf		PKiKP	07 04 36.9	+0.3
MBDF	Montbardon	110.45	329	*e*PKiKP		PKiKP	07 04 38.0	+0.1
	comp=Z,8.5nm,0.8s							
MBDF	Montbardon	110.45	329	*e*PKiKP		PKiKP	07 04 38.0	+0.1
MBDF	Montbardon	110.45	329	*e*PKPdf		PKiKP	07 04 38.0	+0.1
AVF	Avril sur Loir	110.53	333	*e*PKiKP		PKiKP	07 04 37.4	-0.3
AVF	Avril sur Loir	110.53	333	*e*PKiKP		PKiKP	07 04 37.4	-0.3
AVF	Avril sur Loir	110.53	333	*e*PKPdf		PKiKP	07 04 37.4	-0.3
FLN	La Foliniere	110.59	336	*e*PKiKP		PKiKP	07 04 37.7	-0.1
FLN	La Foliniere	110.59	336	*e*PKiKP		PKiKP	07 04 37.7	-0.1
FLN	La Foliniere	110.59	336	*e*PKPdf		PKiKP	07 04 37.7	-0.1
SBF	Sospel	110.73	328	*e*PKiKP		PKiKP	07 04 38.4	+0.1
SBF	Sospel	110.73	328	*e*PKiKP		PKiKP	07 04 38.4	+0.1
SBF	Sospel	110.73	328	*e*PKPdf		PKiKP	07 04 38.4	+0.1
ORIF	Oris-en-Rattie	110.75	330	*e*PKiKP		PKiKP	07 04 38.9	+0.6
	comp=Z,9.3nm,0.6s							
ORIF	Oris-en-Rattie	110.75	330	*e*PKiKP		PKiKP	07 04 38.9	+0.6
ORIF	Oris-en-Rattie	110.75	330	*e*PKPdf		PKiKP	07 04 38.9	+0.6
PGF	Pioggiola	110.83	326	*e*PKiKP		PKiKP	07 04 38.4	-0.2
	comp=Z,25nm,0.9s							
PGF	Pioggiola	110.83	326	*e*PKiKP		PKiKP	07 04 38.4	-0.2
PGF	Pioggiola	110.83	326	*e*PKPdf		PKiKP	07 04 38.4	-0.2
FRF	La Foret Royal	111.35	329	*e*PKiKP		PKiKP	07 04 40.1	+0.7
FRF	La Foret Royal	111.35	329	*e*PKiKP		PKiKP	07 04 40.1	+0.7
FRF	La Foret Royal	111.35	329	*e*PKPdf		PKiKP	07 04 40.1	+0.7
VIVF	Saint-Julien-l	111.37	331	*e*PKiKP		PKiKP	07 04 39.6	+0.1
VIVF	Saint-Julien-l	111.37	331	*e*PKiKP		PKiKP	07 04 39.6	+0.1
VIVF	Saint-Julien-l	111.37	331	*e*PKPdf		PKiKP	07 04 39.6	+0.1
LMR	La Mourre	111.58	328	*e*PKiKP		PKiKP	07 04 39.6	-0.2
	comp=Z,28nm,0.7s							
LMR	La Mourre	111.58	328	*e*PKiKP		PKiKP	07 04 39.6	-0.2
LMR	La Mourre	111.58	328	*e*PKPdf		PKiKP	07 04 39.6	-0.2
SMRF	Simiane la Rot	111.58	329	*e*PKiKP		PKiKP	07 04 40.5	+0.6
SMRF	Simiane la Rot	111.58	329	*e*PKPdf		PKiKP	07 04 40.5	+0.6
SGMF	Saint Gilles	111.80	337	*e*PKiKP		PKiKP	07 04 39.9	-0.2
SGMF	Saint Gilles	111.80	337	*e*PKiKP		PKiKP	07 04 39.9	-0.2
SGMF	Saint Gilles	111.80	337	*e*PKPdf		PKiKP	07 04 39.9	-0.2
LRAL	Lakeview Retre	112.25	45	*e*PKPdf		PKiKP	07 04 41.1	-0.3
LASF	Ste Croix	112.34	331	*e*PKiKP		PKiKP	07 04 41.5	+0.2
	comp=Z,12nm,0.8s							
LASF	Ste Croix	112.34	331	*e*PKPdf		PKiKP	07 04 41.5	+0.2
TKL	Tuckaleechee C	112.86	41	*e*PKiKP		PKiKP	07 04 42.5	0.0
TKL	Tuckaleechee C	112.86	41	*e*PKPdf		PKiKP	07 04 42.5	0.0
MTLF	Montolieu	113.68	331	*e*PKiKP		PKiKP	07 04 43.9	+0.1
MTLF	Montolieu	113.68	331	*e*PKiKP		PKiKP	07 04 43.9	+0.1
MTLF	Montolieu	113.68	331	*e*PKPdf		PKiKP	07 04 43.9	+0.1
EPF	Esparros	114.79	332	*e*PKiKP		PKPdf	07 04 46.4	+0.3
EPF	Esparros	114.79	332	*e*PKiKP		PKPdf	07 04 46.4	+0.3
EPF	Esparros	114.79	332	*e*PKPdf		PKPdf	07 04 46.4	+0.3
KEST	Kesra	115.20	321	PKP		PKPdf	07 04 47.0	-0.1
	comp=Z,1.5nm,0.5s,baz=94,slow=2.2,SNR=9.1							
ETSF	Etsaut	115.30	332	*e*PKiKP		PKPdf	07 04 47.9	+0.8
	comp=Z,13nm,0.7s							
ETSF	Etsaut	115.30	332	*e*PKiKP		PKPdf	07 04 47.9	+0.8
ETSF	Etsaut	115.30	332	*e*PKPdf		PKPdf	07 04 47.9	+0.8
SJPF	Ste Jean	115.43	333	*e*PKiKP		PKPdf	07 04 47.8	+0.6
	comp=Z,11nm,0.7s							
SJPF	Ste Jean	115.43	333	*e*PKiKP		PKPdf	07 04 47.8	+0.6
SJPF	Ste Jean	115.43	333	*e*PKPdf		PKPdf	07 04 47.8	+0.6
LSZ	Lusaka	118.70	260	*e*PKiKP		PKPdf	07 04 54.8	+0.5
LSZ	Lusaka	118.70	260	*e*PKPdf		PKPdf	07 04 54.8	+0.5
SNAA	Sanae	118.85	191	P		PKPdf	07 04 52.7	-0.2
ESDC	Sonseca Array	119.42	333	PKP		PKPdf	07 04 54.8	-0.2
	comp=Z,1.8nm,0.6s,baz=16,slow=2.8,SNR=11							
VNA2	Neumayer--Watz	120.29	190	P		PKPdf	07 04 55.6	0.0
	baz=137,slow=1.1							
MTE	Manteigas	120.33	336	*e*PKPdf		PKPdf	07 04 57.2	+0.4
VNA3	Neumayer Olymp	120.39	189	P		PKPdf	07 04 55.9	0.0
LBTB	Lobatse	121.85	249	*e*PKiKP		PKPdf	07 05 00.4	+0.3
LBTB	Lobatse	121.85	249	*e*PKPdf		PKPdf	07 05 00.4	+0.3
EVO	Evora	122.11	335	*e*PKiKP		PKPdf	07 05 00.8	+0.6
	comp=Z,13nm,0.6s							
EVOP	Sao Brissos	122.16	335	*e*PKiKP		PKPdf	07 05 00.8	+0.5
EVOP	Sao Brissos	122.16	335	*e*PKPdf		PKPdf	07 05 00.8	+0.5
TAM	Tamanrasset	126.02	312	*e*PKiKP		PKPdf	07 05 09.1	+0.8
TAM	Tamanrasset	126.02	312	*e*PKPdf		PKPdf	07 05 09.1	+0.8
SMN1	Samana, DR	133.24	46	*e*PKPdf		PKPdf	07 05 22.6	+0.6
TORD	Torodi Ar. Bea	134.67	304	PKP		PKPdf	07 05 24.7	0.0
	comp=Z,14nm,0.6s,baz=41,slow=2.2,SNR=68							
TORD				SKPbc		SKPbc	07 08 41.5	-1.3
	comp=Z,20nm,0.9s,baz=47,slow=2.2,SNR=27							
CELP	Cerrillos	135.87	45	*e*PKPdf		PKPdf	07 05 27.5	+0.6
OBIP	Obispado Ponce	135.87	45	*e*PKPdf		PKPdf	07 05 27.4	+0.5
ICMP	Isla Caja de M	136.04	45	*e*PKPdf		PKPdf	07 05 26.7	-0.4
PLCA	Paso Flores	139.12	138	SKPbc		SKPbc	07 08 56.0	+0.6
	comp=Z,2.4nm,0.7s,baz=231,slow=2.9,SNR=5.2							
PLCA	Paso Flores	139.12	138	*e*PKiKP		PKPdf	07 05 33.5	+1.2
PLCA	Paso Flores	139.12	138	*e*PKPdf		PKPdf	07 05 33.5	+1.2
PLCA				SKPbc		SKPbc	07 08 56.0	+0.6
DBIC	Dimbokro	143.62	302	PKP		PKPab	07 05 38.1	+0.2
	comp=Z,21nm,0.4s,baz=54,slow=3.7,SNR=92							
DBIC				SKPbc		SKiKP	07 09 08.4	-0.2
	comp=Z,4.7nm,0.6s,baz=12,slow=1.6,SNR=4.0							
DBIC	Dimbokro	143.62	302	PKP		PKPab	07 05 38.1	+0.2
DBIC				*e*PKPdf		PKPbc	07 05 38.2	-0.6
DBIC				SKPbc		SKiKP	07 09 08.4	-0.2
KIC	Kosan Boka	143.70	301	*e*PKiKP		PKPab	07 05 38.5	+0.3
	comp=Z,26nm,0.3s							
TIC	Toumodi	143.77	302	*e*PKiKP		PKPab	07 05 38.6	+0.1
	comp=Z,44nm,0.3s							
LCO	Las Campanas	143.85	121	*e*PKPdf		PKPbc	07 05 40.0	+0.5
LIC	Lamto	144.01	301	*i*PKiKP		PKPab	07 05 39.2	-0.2
	comp=Z,46nm,0.3s							
LIC	Lamto	144.01	301	*e*PKiKP		PKPab	07 05 38.7	-0.7
	comp=Z,137nm,0.5s							
LIC	Lamto	144.01	301	*i*PKPdf		PKPab	07 05 39.2	-0.2
TRQA	Tornquist	146.10	141	*e*PKPbc		PKPbc	07 05 45.9	+0.2
LVC	Limon Verde	146.92	110	*e*PKPbc		PKPab	07 05 50.0	-0.6
LPAZ	La Paz	148.21	99	PKPbc		PKPbc	07 05 53.2	+0.3
	comp=Z,26nm,0.7s,baz=340,slow=3.1,SNR=71							
LPAZ	La Paz	148.21	99	*e*PKiKP		PKPdf	07 05 50.4	+0.9
LPAZ				*e*			07 05 53.6	
LPAZ	La Paz	148.21	99	*e*PKPdf		PKPdf	07 05 50.4	+0.9
LPAZ						PKPbc	07 05 53.2	+0.3
LPAZ						*e*PKPbc	PKiKP	07 05 53.6 -0.9
SAML	Samuel	152.28	83			*e*PKPdf	PKPdf	07 05 55.4 +0.2
SAML						*e*PKPbc	PKiKP	07 06 02.6 +0.3
SAML						*e*PKPab	PKPab	07 06 12.4 +0.1
PTGA	Pitinga	152.41	64			*e*PKPdf	PKPdf	07 05 56.5 +1.1
PTGA						*e*PKPbc	PKiKP	07 06 02.9 +0.3
PTGA						*e*PKPab	PKPab	07 06 12.3 -0.6
CPUP	Villa Florida	155.83	125		PKPab	PKPab	07 06 27.4	+0.2
	comp=Z,1.1nm,0.7s,baz=273,slow=3.9,SNR=9.4							
CPUP	Villa Florida	155.83	125		*e*PKP2	PKPab	07 06 27.5	+0.4
CPUP	Villa Florida	155.83	125		*e*PKPab	PKPab	07 06 27.5	+0.4
BDFB	Brasilia	167.55	101		PKP	PKPdf	07 06 12.9	+0.7
	comp=Z,5.3nm,0.7s,baz=159,slow=1.7,SNR=10.0							
BDFB					PKPab	PKPab	07 07 19.3	+0.4
	comp=Z,2.3nm,0.7s,baz=288,slow=2.4,SNR=4.6							

SZGRF **23** *06:52:14.7,20.98S×178.63W,h600km, Fiji Islands region*
MOS **23** *06:52:15.0±2.3,20.72S×179.29W,h587km, mb4.8/22, Error ellipse: s-maj=12.1km s-min=9.0km az=55.9*
ISCJB **23** *06:52:16.7±0.5,21.16S±0.04×179.27W±0.03, h632km,6km, mb4.8/106, Error ellipse: s-maj=7.0km s-min=4.2km az=154.5*
IDC **23** *06:52:16.6±1.3,21.09S×179.28W, h621km,15km, mb4.2/15, mb1 4.5/18, mb1mx4.2/29, mbtmp5.2/18, Error ellipse: s-maj=14.3km s-min=9.7km az=155.0*
NEIC **23** *06:52:17.8±0.5,21.12S×179.28W, h633km,6km, mb4.8/90, Error ellipse: s-maj=7.1km s-min=4.4km az=150.0*
BJI **23** *06:52:17.2,20.42S×179.24W, h613km, mB5.0/16, mb4.8/18*

ISC 23 06:52:16.5±0.4,21.13S±0.05×179.09W±0.05, h621km±3km, h622km; pP-P, n631, σ1s23/689, mb4.8/105, 151C-117D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.33	321	*e*P	P	06 53 46.6	+0.6
MSVF	Nonsavu	4.33	321	*e*Pn	P	06 53 46.6	+0.6
MSVF				*e*Sn	S	06 54 60.0	+1.1
RAO	Raoul Island	8.15	173	P	P	06 54 17.3	-0.6
	116nm,0.3s,baz=74,slow=15,SNR=7.7						
RAO				S	S	06 55 56.4	-1.0
	88nm,0.3s,baz=101,slow=22,SNR=6.1						
RAO	Raoul Island	8.15	173	*e*P	P	06 54 17.8	-0.1
RAO				S	S	06 55 56.5	-1.0
RAO	Raoul Island	8.15	173	*e*Pn	P	06 54 17.8	-0.1
RAO				S	S	06 55 56.5	-1.0
RAO				*e*Sn	S	06 55 58.5	+1.1
NIUE	Niue	8.85	78	P	P	06 54 24.8	+0.2
	baz=8.8,SNR=4.5						
AFI	Afiamalu	10.01	45	*e*P	P	06 54 33.5	-2.5
AFI				*e*		06 56 26.4	
AFI	Afiamalu	10.01	45	*e*Pn	P	06 54 33.5	-2.5
AFI				*e*Sn	S	06 56 26.4	-4.0
DZM	Mont Dzumac	13.49	263	P	P	06 55 09.5	-0.4
	9.6nm,0.3s,baz=83,slow=9.0,SNR=15						
NFK	Norfolk Island	14.14	234	P	P	06 55 18.3	+2.4
	baz=14,SNR=4.3						
OUZ	Omahuta	15.44	203	*e*P	P	06 55

FORT	Forest		48.11	247	eP		P		07 00 01.5	-0.4
	comp=Z,142nm,0.6s									
MTN	Manton Dam		48.16	272	P		P		07 00 01.6	-0.9
	baz=48,SNR=24									
WRKA	Warakurna		48.32	255	P		P		07 00 02.1	-1.5
	baz=48,SNR=75									
WRKA					S		S		07 06 17.6	-2.0
	baz=48,SNR=5.4									
KNRA	Kununurra		49.61	267	P		P		07 00 12.8	-0.4
	baz=50,SNR=14									
FAKI	Fak Fak		50.66	284	P		P		07 00 20.1	-0.7
	baz=51,SNR=3.6									
FAKI	Fak Fak		50.66	284	eP		P		07 00 19.3	-1.6
	comp=Z,33nm,1.1s									
SWI	Sorong		52.43	286	P		P		07 00 33.5	-0.1
	baz=52,SNR=6.1									
KMBL	Kambalda		53.38	246	P		P		07 00 39.6	-0.4
	baz=53,SNR=4.8									
SOEI	Soe		55.51	273	P		P		07 00 56.3	+1.1
	baz=56,SNR=32									
SOEI	Soe		55.51	273	eP		P		07 00 55.5	+0.2
	comp=Z,232nm,1.0s									
TNTI	Ternate		56.65	286	eP		P		07 01 02.6	-0.3
	comp=Z,66nm,0.7s									
MEEK	Meekatharra		56.75	251	P		P		07 01 02.7	-0.7
	baz=57,SNR=16									
NWAO	Narrogin (SRO)		57.18	244	P		P		07 01 06.4	+0.2
	baz=57,SNR=6.8									
VNDA	Vanda		57.20	185	P		P		07 01 07.2	+1.7
	comp=Z,1.1nm,0.5s,baz=354,slow=4.3,SNR=2.5									
VNDA					ScP		ScP		07 04 53.5	+1.6
	comp=Z,2.9nm,0.8s,baz=337,slow=4.5,SNR=8.4									
VNDA	Vanda		57.20	185	eP		P		07 01 07.5	+2.0
VNDA	Vanda		57.20	185	eP		P		07 01 07.5	+2.0
	comp=Z,2.1nm,0.9s									
VNDA					ScP		ScP		07 04 53.5	+1.6
RKGY	Rocky Gully		57.25	242	P		P		07 01 07.3	+0.6
	baz=57,SNR=5.4									
BLDU	Ballidu		57.87	246	P		P		07 01 10.6	-0.3
	baz=58,SNR=26									
MORW	Morawa		58.65	248	P		P		07 01 15.9	-0.3
	baz=59,SNR=8.7									
KAPI	Kappang		61.34	276	eP		P		07 01 33.8	-0.3
	comp=Z,5.7nm,0.7s									
GIRL	Giralia		61.41	255	P		P		07 01 35.0	+0.6
	baz=61,SNR=13									
CASY	Casey		62.96	205	eP		P		07 01 44.3	+0.7
	comp=Z,17nm,1.2s									
MJA0	Matsu Arr-Jizo		70.10	325	eP		P		07 02 27.6	-0.4
MJAR	Matsushiro Arr		70.12	324	P		P		07 02 27.2	-0.8
	comp=Z,5.7nm,0.5s,baz=157,slow=5.9,SNR=13									
MAJO	Matsushiro		70.12	324	eP		P		07 02 23.9	-4.2
MAJO					pmax		pmax			
	comp=Z,36nm,0.8s									
MAT	Matsushiro		70.12	324	P		P		07 02 27.2	-0.9
KSM	Kuching		72.50	279	eP		P		07 02 42.6	+0.3
ASAJ	Asahikawa		73.80	332	eP		P		07 02 50.2	+1.1
	comp=Z,6.3nm,0.8s									
YSS	Yuzh-Sakhalins		76.01	334	eP		P		07 03 01.2	-0.1
PETK	Petropavlovsk-		76.63	346	P		P		07 03 04.2	-0.4
	comp=Z,20nm,0.7s,baz=141,slow=7.6,SNR=23									
BSC	Santa Cruz Isl		78.77	47	⇑P		P		07 03 18.6	+2.0
	baz=79									
USRK	Ussuriysk Ar.		78.92	326	P		P		07 03 17.5	+0.5
	comp=Z,12nm,0.8s,baz=119,slow=3.6,SNR=25									
SCI	San Clemente I		78.94	48	⇓P		P		07 03 19.0	+1.5
	baz=79									
SMMC	Simmler		79.28	46	⇓P		P		07 03 21.1	+1.9
	baz=80									
NJ2	Nanjing		79.50	310	eP		P		07 03 21.5	+1.1
NJ2					PMZ					
	comp=Z,40nm,0.5s									
KMRM	Mail Ridge		79.89	40	eP		P		07 03 24.7	+2.4
	comp=Z,113nm,0.9s									
ARVC	Arvin		79.96	46	⇑P		P		07 03 24.0	+1.3
	baz=80									
QIZ	Qiongzhong		80.19	295	P		P		07 03 25.1	+0.8
QIZ					pP		pP		07 05 33.3	-0.5
QIZ					sP		sP		07 06 36.8	+0.4
QIZ					S		S		07 12 39.6	-0.3
QIZ					ScS		ScS		07 12 53.8	-0.7
QIZ					PMZ					
	comp=Z,440nm,3.3s									
VES	Vestal, Richgr		80.19	46	⇓P		P		07 03 24.7	+0.8
	baz=80,SNR=7.4									
MURC	Murrieta		80.23	48	⇓P		P		07 03 25.4	+1.2
	baz=80									
BFSC	Mount Baldy Ra		80.26	48	⇓P		P		07 03 25.6	+1.1
	baz=81									
KHMM	Horse Mountain		80.28	39	eP		P		07 03 26.1	+1.6
	comp=Z,54nm,1.1s									
RCTC	Rector, Farmer		80.36	45	⇓P		P		07 03 26.4	+1.7
	baz=81									
MONP	Monument Peak,		80.39	49	⇑P		P		07 03 26.7	+1.5
	baz=81,SNR=6.4									
EDW2	Edwards Air Fo		80.39	47	⇓P		P		07 03 26.1	+1.1
	baz=81,SNR=14									
MDJ	Mudanjiang		80.46	326	P		P		07 03 25.6	+0.6
MDJ					sP		sP		07 06 37.5	+0.2
MDJ					S		S		07 12 40.0	-1.5
MDJ					ScS		ScS		07 12 55.3	-0.2
MDJ					PMZ					
	comp=Z,9.0nm,0.8s									
MDJ					PMZ					
	comp=Z,170nm,11.8s									
HABR	Khabarovsk		80.50	331	eP		P		07 03 22.4	-2.7
HABR					e				07 06 33.5	
HABR					S		S		07 12 40.9	-0.8
HABR					pmax		pmax			
	comp=Z,16nm,1.1s									
HABR					MLR		MLR			
	comp=Z,102nm,24.0s									
ISA	Isabella, Lake		80.50	46	eP		P		07 03 26.9	+1.3
ISA					pmax		pmax			
	comp=Z,29nm,1.0s									
ISA	Isabella, Lake		80.50	46	⇑P		P		07 03 26.9	+1.3
	baz=81,SNR=16									
ISA	Isabella, Lake		80.50	46	eP		P		07 03 26.9	+1.3
	comp=Z,29nm,1.0s									
CMB	Columbia Colle		80.61	43	eP		P		07 03 27.2	+1.1
CMB					pmax		pmax			
	comp=Z,51nm,1.5s									
CMB	Columbia Colle		80.61	43	eP		P		07 03 27.2	+1.1
	comp=Z,51nm,1.5s									
OHCM	Honcut		80.70	42	eP		P		07 03 27.8	+1.4
PFO	Pinyon Flats O		80.75	49	P		P		07 03 28.0	+1.0
	comp=Z,2.0nm,0.6s,baz=310,slow=3.5,SNR=5.6									
PFO	Pinyon Flats O		80.75	49	⇑P		P		07 03 28.3	+1.3
	baz=81									
WDC	Whiskeytown Da		80.81	40	eP		P		07 03 28.4	+1.4
WDC					pmax		pmax			
	comp=Z,31nm,0.9s									
WDC	Whiskeytown Da		80.81	40	eP		P		07 03 28.4	+1.4
	comp=Z,31nm,0.9s									
LRMC	Laurel Mtn Rad		80.93	47	⇓P		P		07 03 28.8	+0.9
	baz=81,SNR=7.7									
N02D	Trinity Center		80.95	40	⇑P		P		07 03 29.3	+1.6
	baz=81,SNR=8.6									
M02C	Callahan		81.12	39	⇓P		P		07 03 30.3	+1.7
	baz=81,SNR=13									
L02D	Cave Junction,		81.16	38	⇓P		P		07 03 30.5	+1.8
	baz=82									
BELC	Belle Mtn. Jos		81.28	49	⇓P		P		07 03 30.9	+1.2
	baz=82,SNR=6.5									
MLAC	Mammoth, Mammo		81.38	44	⇑P		P		07 03 31.8	+1.5
	baz=82									
MPMC	Manual Prospec		81.39	46	⇓P		P		07 03 31.4	+1.1
	baz=82,SNR=17									
MTUM	Tungsten Hills		81.40	45	eP		P		07 03 31.8	+1.5
YBH	Yreka Blue Hor		81.42	39	eP		P		07 03 32.0	+1.8
YBH					pmax		pmax			
	comp=Z,42nm,0.9s									
YBH	Yreka Blue Hor		81.42	39	eP		P		07 03 32.0	+1.8
	comp=Z,42nm,0.9s									
GSC	Goldstone, Bar		81.43	47	eP		P		07 03 31.6	+1.2
GSC					pmax		pmax			
	comp=Z,20nm,1.0s									
GSC	Goldstone, Bar		81.43	47	⇓P		P		07 03 31.4	+1.0
	baz=82,SNR=9.3									
GSC	Goldstone, Bar		81.43	47	eP		P		07 03 31.6	+1.2
	comp=Z,20nm,1.0s									
DAC	Darwin (Calif)		81.44	46	eP		P		07 03 31.4	+0.9
DAC					pmax		pmax			
	comp=Z,8.0nm,0.7s									
DAC	Darwin (Calif)		81.44	46	eP		P		07 03 31.4	+0.9
	comp=Z,8.0nm,0.7s									
TIN	Tinemaha, Big		81.45	45	⇓P		P		07 03 32.1	+1.6
	baz=82									
BC3	Big Chuckawall		81.48	49	⇑P		P		07 03 32.0	+1.3
	baz=82,SNR=5.4									
WAKR	Walker		81.50	43	eP		P		07 03 32.1	+1.4
HEC	Hector,Ludlow		81.50	48	⇑P		P		07 03 31.9	+1.1
	baz=82,SNR=20									
GLA	Glamis		81.61	50	⇑P		P		07 03 32.4	+1.1
	baz=82,SNR=13									
KDAK	Kodiak Island		81.67	14	eP		P		07 03 31.2	+0.3
KDAK					pmax		pmax			
	comp=Z,17nm,0.9s									
KDAK	Kodiak Island		81.67	14	eP		P		07 03 31.2	+0.3
	comp=Z,17nm,0.9s									
HUMO	Hull Mountain		81.81	38	eP		P		07 03 34.0	+1.9
	comp=Z,39nm,1.1s									
GMRC	Granite Mounta		81.94	48	⇑P		P		07 03 34.0	+0.9
	baz=82,SNR=8.3									
M04C	Macdoel		81.96	39	⇓P		P		07 03 34.4	+1.5
	baz=82,SNR=8.2									
IRM	Iron Mountain		81.96	49	⇑P		P		07 03 34.6	+1.5
	baz=82,SNR=10									
GRAC	Grapevine Rang		81.99	45	⇑P		P		07 03 34.5	+1.3
	baz=82,SNR=17									
FURC	Furnace Creek,		82.04	46	⇓P		P		07 03 34.4	+1.2
	baz=82,SNR=6.8									
TUQ	Turquoise Moun		82.11	47	⇑P		P		07 03 34.9	+1.1
	baz=82,SNR=11									
SHOC	Shoshone, Teco		82.12	47	⇑P		P		07 03 34.8	+1.0
	baz=82,SNR=7.0									
NVAR	Mina Array Bea		82.18	44	P		P		07 03 35.4	+1.1
	comp=Z,18nm,0.8s,baz=225,slow=8.2,SNR=42									
CN2	Changchun		82.19	323	eP		P		07 03 34.0	+0.1
CN2					PMZ					
	comp=Z,10.0nm,1.0s									
Y12C	Blythe		82.19	49	⇓P		P		07 03 35.6	+1.5
	baz=82,SNR=6.0									
IPM	Ipoh		82.21	278	eP		P		07 03 35.1	+0.4
	comp=Z,14nm,0.7s									
113A	Mohawk Valley,		82.22	51	⇑P		P		07 03 35.9	+1.6
	baz=82,SNR=7.6									
I03D	Drain, OR		82.27	37	⇑P		P		07 03 35.6	+1.3
	baz=83									
LDFC	Landfair		82.48	48	eP		P		07 03 37.0	+1.2
	comp=Z,95nm,1.0s									
214A	Organ Pipe Nat		82.50	52	⇑P		P		07 03 37.0	+1.2
	baz=83									
214A	Organ Pipe Nat		82.50	52	eP		P		07 03 36.6	+0.8
	comp=Z,19nm,1.0s									
K04D	Chiloquin, OR		82.53	39	⇑P		P		07 03 37.0	+1.2
	baz=83,SNR=5.9									
NEE2	Needles Airpor		82.66	49	⇑P		P		07 03 38.2	+1.7
	baz=83									
TPH	Tonopah		82.68	45	eP		P		07 03 37.9	+1.1
TPH					pmax		pmax			
	comp=Z,35nm,1.1s									
TPH	Tonopah		82.68	45	eP		P		07 03 37.9	+1.1
	comp=Z,35nm,1.1s									
J04D	Umpqua Nationa		82.69	38	⇑P		P		07 03 38.0	+1.2
	baz=83,SNR=18									
TPNV	Topopah Spring		82.71	46	eP		P		07 03 38.2	+1.3
TPNV					pmax		pmax			
	comp=Z,20nm,0.8s									
TPNV	Topopah Spring		82.71	46	⇑P		P		07 03 37.9	+1.0
	baz=83,SNR=21									
TPNV	Topopah Spring		82.71	46	eP		P		07 03 38.1	+1.3
	comp=Z,20nm,0.8s									
PDMCI	Parker Dam,Lak		82.75	49	⇑P		P		07 03 38.5	+1.6
	baz=83,SNR=10									
I04A	Tendick Farm,		82.86	38	⇓P		P		07 03 38.6	+1.2
	baz=83									
MOD	Modoc Plateau		82.95	40	eP		P		07 03 39.2	+1.2
	comp=Z,27nm,0.8s									
K05A	Summer Lake		83.09	39	eP		P		07 03 40.4	+1.6
	comp=Z,53nm,0.8s									
Z14A	Wintersburg		83.12	50	⇑P		P		07 03 40.6	+1.8
	baz=83									
SHPR	Sheep Range		83.20	47	eP		P		07 03 40.5	+1.1
J05D	Fort Rock, OR		83.23	39	⇓P		P		07 03 40.7	+1.4
	baz=84,SNR=42									
G03D	McMinnville, O		83.27	36	⇓P		P		07 03 40.6	+1.3
	baz=84									
W13A	Hualapai Mount		83.34	49	⇓P		P		07 03 41.1	+0.9
	baz=84,SNR=8.1									
Y14A	Wickenburg		83.37	50	⇑P		P		07 03 41.1	+1.0
	baz=84,SNR=7.3									
H04A	Detroit Lake		83.54	37	eP		P		07 03 41.4	+0.8
	comp=Z,20nm,0.6s									
I05D	Terrebonne, OR		83.81	38	⇑P		P		07 03 43.3	+1.3
	baz=84,SNR=8.2									
R11A	Troy Canyon, C		83.91	45	⇓P		P		07 03 43.6	+0.8
	baz=84									
RSO	Redoubt South		84.07	13	eP		P		07 03 42.9	-0.2
SVW2	Sparrevohn		84.11	11	eP		P		07 03 42.6	-0.4
TUC	Tucson		84.17	52	eP		P		07 03 45.9	+1.8
TUC					pmax		pmax			
	comp=Z,20nm,1.0s									
TUC	Tucson		84.17	52	eP		P		07 03 45.9	+1.8
	comp=Z,20nm,1.0s									
F04A	Amboy		84.18	36	eP		P		07 03 44.9	+1.1
	comp=Z,109nm,1.8s									
WVOR	Wild Horse Val		84.27	40	eP		P		07 03 45.4	+1.0
WVOR					pmax		pmax			
	comp=Z,17nm,0.9s									
WVOR	Wild Horse Val		84.27	40	eP		P		07 03 45.4	+1.0
	comp=Z,17nm,0.9s									
NLWA	Neilton Lookou		84.33	34	eP		P		07 03 45.2	+0.8
	comp=Z,29nm,1.0s									
G05D	Wamic, OR		84.37	37	⇓P		P		07 03 45.7	+1.0
	baz=85									
SEW	Seward		84.47	14	eP		P		07 03 44.4	-0.3
	comp=Z,36nm,1.0s									
I07A	Izee		84.71	39	eP		P		07 03 47.8	+1.2
	comp=Z,29nm,1.1s									
X16A	Lo Mia Camp, P		84.73	50	⇓P		P		07 03 48.2	+1.2
	baz=85,SNR=7.3									
G06A	Carlson Farm,		84.75	37	eP		P		07 03 47.8	+1.2
	comp=Z,20nm,1.3s									
GAMB	Gambell		84.83	3	eP		P		07 03 46.5	+0.2
	comp=Z,18nm,1.1s									
319A	Douglas		84.84	54	⇓P		P		07 03 49.3	+1.9
	baz=85,SNR=10									
CCUT	Cedar City		84.98	47	eP		P		07 03 49.2	+1.1
	comp=Z,74nm,0.9s									
LON	Longmire		85.02	35	eP		P		07 03 48.8	+0.9
LON					pmax		pmax			
	comp=Z,6.0nm,0.8s									
LON	Longmire		85.02	35	eP		P		07 03 48.8	+0.9
	comp=Z,5.5nm,0.8s									
U15A	North Rim		85.14	48	⇓P		P		07 03 50.6	+1.6
	baz=85,SNR=7.8									
D05A	Enumclaw		85.19	35	eP		P		07 03 50.5	+1.9
	comp=Z,53nm,1.2s									
RC01	Rabbit Creek A		85.29	14	eP		P		07 03 48.3	-0.4
	comp=Z,41nm,1.2s									
WUAZ	Wupatki		85.32	49	⇓P		P		07 03 51.2	+1.5
	baz=86									
WUAZ	Wupatki		85.32	49	eP		P		07 03 51.4	+1.6
	comp=Z,15nm,1.0s									
ELK	Elko		85.43	43	eP		P		07 03 51.3	+1.1
ELK	Elko		85.43	43	eP		P		07 03 51.3	+1.1
G08A	Pilot Rock		85.73	38	eP		P		07 03 52.4	+1.0
X18A	Snowflake		85.86	51	⇓P		P		07 03 53.5	+1.2
	baz=86									
SYO	Syowa Base		85.89	193	⇓eP		PcP		07 03 55.0	+1.7
LTY	Liberty		85.95	36	eP		P		07 03 53.0	+0.7
	comp=Z,12nm,0.7s									
E07A	Sunnyside		85.98	36	eP		P		07 03 53.8	+1.4
	comp=Z,28nm,0.8s									
HAWA	Hanford		86.06	37	eP		P		07 03 54.0	+1.3
	comp=Z,30nm,0.9s									
GYA	Guiyang		86.08	300	eP		P		07 03 54.0	+0.5
GYA					pP		pP		07 06 06.8	+1.2
GYA					sP		sP		07 07 07.3	-0.3
GYA					PP		PP		07 07 28.0	+1.8
GYA					SKS		SKSac		07 13 19.4	-2.1
GYA					S		S		07 13 36.6	-1.0
GYA					PMZ					
	comp=Z,10.0nm,1.0s									
MVU	Marysvale		86.25	46	eP		P		07 03 55.5	+1.4
	comp=Z,3.3nm,1.1s									
DIV	Divide		86.26	15	eP		P		07 03 53.3	-0.2
	comp=Z,41nm,1.0s									
A05A	Maple Falls		86.27	34	eP		P		07 03 54.6	+1.0
	comp=Z,19nm,1.3s									
B06A	Marblemount		86.28	34	eP		P		07 03 54.7	+1.0
	comp=Z,20nm,1.0s									
W18A	Petrified Fore		86.29	50	⇑P		P		07 03 55.9	+1.6
	baz=87									
BMRM	Bremner River		86.42	16	eP		P		07 03 54.0	-0.1
	comp=Z,67nm,1.2s									
BMO	Blue Mountains		86.44	39	eP		P		07 03 55.3	+0.6
BMO	Blue Mountains		86.44	39	eP		P		07 03 55.3	+0.6
121A	Cookes Peak, D		86.50	53	⇓P		P		07 03 57.2	+1.8
	baz=87									
MFID	Camas Ranch		86.52	41	eP		P		07 03 56.2	+1.0
	comp=Z,19nm,1.0s									
WRAK	Wrangell Islan		86.70	24	eP		P		07 03 56.5	+1.0
	comp=Z,22nm,0.8s									
SEY	Seymchan		86.76	347	P		P		07 03 55.5	-0.1
	comp=Z,16nm,0.8s,baz=148,slow=5.2,SNR=52									
D08A	Wollman Farm,		86.79	36	eP		P		07 03 57.3	+1.2
	comp=Z,40nm,1.0s									
TNA	Tin City		86.84	5	eP		P		07 03 55.8	-0.1
	comp=Z,7.9nm,0.8s									
CAST	Castle Rocks		86.90	12	eP		P		07 03 55.1	-1.3
E09A	Wood Farm, Sta		86.91	37	eP		P		07 03 57.9	+1.1
	comp=Z,25nm,1.0s									
F10A	Beach Ranch, E		87.12	38	eP		P		07 03 58.3	+0.4
	comp=Z,45nm,0.8s									
KTH	Kantishna Hill		87.25	12	eP		P		07 03 56.6	-1.4
	comp=Z,28nm,0.9s									
TRF	Thorofare Moun		87.28	13	eP		P		07 03 57.3	-1.0
	comp=Z,116nm,1.1s									
B08A	Colville Reser		87.33	35	eP		P		07 03 59.2	+0.5
	comp=Z,29nm,0.8s									
HLID	Hailey		87.47	41	⇑P		P		07 04 01.0	+1.3
	baz=88,SNR=21									
HLID	Hailey		87.47	41	eP		P		07 04 00.9	+1.3
	comp=Z,17nm,0.9s									
C09A	Chrisman Ranch		87.58	36	eP		P		07 04 00.7	+0.8
	comp=Z,24nm,0.8s									
MCK	McKinley		87.81	13	eP		P		07 03 59.9	-0.7
MCK					pmax		pmax			
	comp=Z,39nm,1.0s									
MCK	McKinley		87.81	13	eP		P		07 03 59.9	-0.7
	comp=Z,39nm,1.0s									
JLU	Jordanelle		87.82	45	eP		P		07 04 02.8	+1.3
DAU	Daniels Canyon		87.85	45	eP		P		07 04 03.3	+1.6
DAU	Daniels Canyon		87.85	45	eP		P		07 04 03.3	+1.6
Y22D	IRIS PASSCAL I		87.85	52	⇓P		P		07 04 03.2	+1.6
	baz=88									
PAX	Paxson		87.92	15	eP		P		07 04 00.8	-0.4
PAX					pmax		pmax			
	comp=Z,19nm,1.1s									
PAX	Paxson		87.92	15	eP		P		07 04 00.8	-0.4
	comp=Z,19nm,1.1s									
MNTX	Cornudas Mount		87.94	55	⇓P		P		07 04 03.3	+1.3
	baz=88									
MNTX	Cornudas Mount		87.94	55	eP		P		07 04 03.3	+1.3
	comp=Z,17nm,0.8s									
LPM	Los Pinos Moun		88.17	52	eP		P		07 04 04.3	+1.1
	comp=Z,12nm,1.2s									
HWUT	Hardware Ranch		88.25	44	eP		P		07 04 03.4	+0.1
TXAR	Lajitas Array		88.25	58	P		P		07 04 05.2	+1.6
	comp=Z,14nm,0.8s,baz=220,slow=6.0,SNR=97									
HYT	Haines Junctio		88.30	19	eP		P		07 04 03.1	0.0
PV10	Paradox Valley		88.35	48	eP		P		07 04 04.4	+0.4
NEW	Newport		88.48	36	eP		P		07 04 04.5	+0.4
NEW					pmax		pmax			
	comp=Z,7.0nm,0.9s									
NEW	Newport		88.48	36	⇑P		P		07 04 04.8	+0.7
	baz=89									
NEW	Newport		88.48	36	eP		P		07 04 04.5	+0.4
	comp=Z,6.7nm,0.9s									
PV01	Paradox Valley		88.56	48	eP		P		07 04 05.5	+0.6
ANMO	Albuquerque		88.59	52	eP		P		07 04 05.5	+0.4
ANMO					pmax		pmax			
	comp=Z,42nm,1.1s									
ANMO	Albuquerque		88.59	52	eP		P		07 04 06.1	+1.0
	comp=Z,14nm,1.1s									
KMI	Kunming		88.73	297	P		P		07 04 04.5	-1.5
KMI					PMZ					
	comp=Z,11nm,0.8s									
DOT	Dot Lake		88.83	15	eP		P		07 04 05.4	+0.1
	comp=Z,24nm,1.0s									
IM04	Indian Mountai		88.94	10	eP		P		07 04 04.8	-0.9
GDL2	Guadalupe Moun		88.94	55	eP		P		07 04 08.5	+1.7
HHC	Hu-ho-hao-te		89.07	315	eP		P		07 04 09.0	+1.9
HHC					PP		PP		07 07 52.4	+3.0
HHC					SKS		SKSac		07 13 41.3	+2.8
HHC					S		S		07 14 05.6	+1.1
HHC					sS		sS		07 17 56.3	-5.8
HHC					PMZ					
	comp=Z,27nm,1.2s									
HHC					PMZ					
	comp=Z,120nm,5.1s									
MCMT	McKenzie Canyo		89.09	41	eP		P		07 04 08.3	+1.0
AHID	Auburn Hatcher		89.13	43	eP		P		07 04 08.8	+1.3
	comp=Z,15nm,0.9s									
ILAR	Eielson Array		89.16	13	P		P		07 04 05.8	-1.0
	comp=Z,7.5nm,0.6s,baz=214,slow=5.1,SNR=95									
MSO	Missoula		89.49	39	⇓P		P		07 04 09.4	+0.5

baz=91
EGAK Eagle 90.48 15 eP P 07 04 12.5 -0.4
comp=Z,179nm,1.1s
P22A Eagle 90.49 47 ⇓P P 07 04 14.9 +1.0
baz=91
R23A Moffat 90.50 49 ⇑P P 07 04 15.1 +1.0
baz=91
SDCO Great Sand Dun 90.53 50 ⇑P P 07 04 15.1 +0.9
baz=91
SDCO Great Sand Dun 90.53 50 eP P 07 04 15.1 +0.9
128A Castleberry Fa 90.56 55 ⇑P P 07 04 15.2 +1.0
baz=91
HRY Holter Researc 90.67 39 eP P 07 04 14.6 +0.2
comp=Z,3.1nm,0.7s
J19A Crowheart 90.68 43 ⇑P P 07 04 15.0 +0.4
baz=91,SNR=5.6
COLD Coldfoot 90.68 11 eP P 07 04 14.3 +0.5
WALA Waterton Lakes 90.69 37 eP P 07 04 14.5 +0.1
comp=Z,3.5nm,0.6s
631A Perdido Creek 90.74 59 ⇑P P 07 04 15.8 +0.8
baz=91,SNR=22
832A Faith Ranch, C 90.77 60 ⇓P P 07 04 16.2 +1.1
baz=91,SNR=15
430A Baggett Ranch, 90.77 57 ⇑P P 07 04 15.9 +0.8
baz=91
Q23A Hartsel 90.82 48 ⇓P P 07 04 16.4 +0.9
baz=91
O22A Kremmling 90.89 47 ⇑P P 07 04 16.6 +0.8
baz=91,SNR=8.3
MSTX Muleshoe 90.90 54 ⇓P P 07 04 16.3 +0.5
baz=91
MSTX Muleshoe 90.90 54 eP P 07 04 16.3 +0.5
comp=Z,12nm,0.7s
732A Laxson Ranch, 90.95 60 ⇓P P 07 04 16.8 +0.8
baz=91
H18A Shoshone NF, C 90.98 42 ⇓P P 07 04 16.9 +1.0
baz=91
P23A Jefferson 91.02 48 ⇑P P 07 04 17.4 +1.0
baz=91
129A Stewart Farms, 91.04 55 ⇓P P 07 04 17.3 +0.9
baz=91
T25A Trinidad 91.05 50 ⇑P P 07 04 17.2 +0.7
baz=91
531A Rocksprings 91.06 58 ⇑P P 07 04 17.3 +0.8
baz=91,SNR=10
330A Mertzon 91.07 57 ⇓P P 07 04 17.2 +0.7
baz=91
933A Laredo 91.07 61 ⇓P P 07 04 17.7 +1.2
baz=91
I19A Meeteetse 91.09 43 ⇓P P 07 04 17.3 +0.9
baz=91
431A Sonora 91.22 58 ⇑P P 07 04 18.9 +1.6
baz=92
N22A Wattenberg Ran 91.25 46 ⇑P P 07 04 18.4 +1.1
baz=92,SNR=18
833A Chaparral WMA, 91.25 60 ⇑P P 07 04 18.4 +1.1
baz=92
Q24A Divide 91.32 49 ⇑P P 07 04 18.6 +0.7
baz=92
034A Hebbronville 91.34 62 ⇑P P 07 04 19.5 +1.8
baz=92
J20A Shoshoni 91.35 44 ⇓P P 07 04 18.4 +0.8
baz=92,SNR=9.9
ISCO Idaho Springs 91.37 48 eP P 07 04 18.6 +0.6
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO Idaho Springs 91.37 48 ⇓P P 07 04 18.6 +0.6
baz=92
ISCO Idaho Springs 91.37 48 eP P 07 04 18.6 +0.6
comp=Z,2.2nm,0.7s
H19A Powell 91.40 42 ⇑P P 07 04 18.7 +0.9
baz=92
632A Uvalde 91.41 59 ⇑P P 07 04 19.2 +1.2
baz=92,SNR=6.7
M22A Cedar Creek Ra 91.42 46 ⇓P P 07 04 18.8 +0.6
baz=92,SNR=6.9
733A Divot King Ran 91.49 60 ⇑P P 07 04 19.7 +1.3
baz=92
K21A Alcova 91.55 45 ⇑P P 07 04 19.0 +0.3
baz=92
532A Rocksprings 91.56 58 ⇑P P 07 04 19.2 +0.4
baz=92,SNR=5.8
X28A Dimmitt 91.56 54 ⇓P P 07 04 19.2 +0.4
baz=92
I20A Worland 91.60 43 ⇓P P 07 04 19.3 +0.6
baz=92
331A San Angelo 91.62 57 ⇓P P 07 04 19.3 +0.3
baz=92
N23A Red Feather La 91.63 47 ⇑P P 07 04 20.2 +1.1
baz=92,SNR=6.1
N23A Red Feather La 91.63 47 eP P 07 04 20.3 +1.1
Y29A Porterfield Fa 91.69 54 ⇑P P 07 04 19.8 +0.4
baz=92
J21A Lysite 91.75 44 ⇑P P 07 04 20.0 +0.5
baz=92,SNR=7.1
035A Encino 91.77 62 ⇑P P 07 04 20.9 +1.2
baz=92
JCT Junction City 91.78 58 eP P 07 04 20.4 +0.6
JCT pmax pmax
comp=Z,6.0nm,0.7s
JCT Junction City 91.78 58 ⇑P P 07 04 20.0 +0.3
baz=92,SNR=5.2
JCT Junction City 91.78 58 eP P 07 04 20.4 +0.6
comp=Z,5.8nm,0.7s
L22A Ellis Ranch, M 91.82 45 ⇓P P 07 04 20.8 +0.9
baz=92,SNR=7.0
834A Tilden 91.86 61 ⇓P P 07 04 21.2 +1.0
baz=92
633A Saathoff Ranch 91.88 59 ⇑P P 07 04 21.4 +1.2
baz=92
O24A Longmont 91.89 48 ⇓P P 07 04 21.1 +0.9
baz=92
U27A Thompson Grove 91.89 52 ⇓P P 07 04 20.1 -0.2
baz=92
S26A Kim 91.93 50 ⇑P P 07 04 21.0 +0.5
baz=92,SNR=8.4
H20A Greybull 91.93 43 ⇑P P 07 04 19.9 -0.3
baz=92
432A Menard 91.94 58 ⇓P P 07 04 20.8 +0.3
baz=92,SNR=9.2
231A Bronte 91.95 57 ⇓P P 07 04 20.3 -0.2
baz=92,SNR=10
F19A Roth Farm, Mol 91.99 41 ⇑P P 07 04 20.6 +0.1
baz=92
I21A Big Trails, Te 92.07 43 ⇓P P 07 04 21.1 +0.1
baz=92,SNR=7.5
332A Millersview 92.18 57 ⇓P P 07 04 21.9 +0.3
baz=92,SNR=10
131A Roby 92.19 56 ⇑P P 07 04 22.0 +0.4
baz=92
533A Kerrville 92.23 59 ⇑P P 07 04 22.1 +0.3
baz=92,SNR=9.2
R26A Arlington 92.24 50 ⇑P P 07 04 22.0 +0.2
baz=92,SNR=15
P25A Willow Gulch B 92.25 48 ⇓P P 07 04 22.6 +0.8
baz=92,SNR=5.5
E19A Rath Farm, Rou 92.38 41 ⇓P P 07 04 23.1 +0.9
baz=93
J22A Midwest 92.41 44 ⇑P P 07 04 23.0 +0.5
baz=93,SNR=6.5
433A Art 92.45 58 ⇓P P 07 04 23.1 +0.3
baz=93
Q26A Hugo 92.45 49 ⇓P P 07 04 23.9 +1.1
baz=93
232A Coleman 92.46 57 ⇓P P 07 04 23.4 +0.5
baz=93
H21A Big Horn, Sher 92.60 43 ⇓P P 07 04 24.2 +0.9
baz=93
I22A 9 Mile Ranch, 92.63 44 ⇑P P 07 04 23.7 +0.3
baz=93,SNR=6.3
D19A Cripps Ranch, 92.65 40 ⇓P P 07 04 24.4 +1.0
baz=93
534A Blanco 92.66 59 ⇑P P 07 04 24.5 +0.8
baz=93
K23A Bowen Ranch, D 92.68 45 ⇑P P 07 04 24.3 +0.6
baz=93
R27A Eads 92.69 50 ⇓P P 07 04 24.2 +0.3
baz=93
T28A Walsh 92.70 51 ⇓P P 07 04 25.1 +1.2
baz=93
G21A Lodge Grass 92.77 42 ⇓P P 07 04 25.7 +1.7
baz=93
C19A Slack Wire Ran 92.82 39 ⇑P P 07 04 25.3 +1.2
baz=93
635A Leesville 92.98 60 ⇓P P 07 04 26.4 +1.2
baz=93
S28A Manter 93.05 51 ⇑P P 07 04 26.1 +0.6
baz=93

D20A Manuel Ranch, 93.07 40 ⇑P P 07 04 26.4 +1.1
baz=93
233A Rising Star 93.09 57 ⇑P P 07 04 26.3 +0.5
baz=93
KSCO Kaye Shedlock' 93.12 49 ⇓P P 07 04 26.8 +1.1
baz=93
KSCO Kaye Shedlock' 93.12 49 eP P 07 04 26.9 +1.1
comp=Z,14nm,0.8s
434A Burnet 93.12 58 ⇑P P 07 04 26.5 +0.6
baz=93
133A Hamilton Ranch 93.31 56 ⇑P P 07 04 27.4 +0.7
baz=94
334A Lometa 93.35 58 ⇑P P 07 04 27.2 +0.3
baz=94,SNR=5.7
P27A Ficken Ranch, 93.38 49 ⇑P P 07 04 27.5 +0.5
baz=94
R28A Tribune 93.42 50 ⇓P P 07 04 27.6 +0.4
baz=94,SNR=12
C20A Veseth Ranch, 93.44 40 ⇓P P 07 04 27.6 +0.7
baz=94
Y32A R-V Farms, Ver 93.44 55 ⇑P P 07 04 28.1 +0.8
baz=94
L25A Engebretsen Ra 93.52 46 ⇑P P 07 04 28.8 +1.2
baz=94
W31A Holland Ranch, 93.53 54 ⇑P P 07 04 28.2 +0.5
baz=94
J24A Dixon Ranch, L 93.56 45 ⇓P P 07 04 28.1 +0.4
baz=94
A19A Klindworth Far 93.57 38 ⇓P P 07 04 28.2 +0.6
baz=94
F22A Rosebud 93.62 42 ⇓P P 07 04 29.1 +1.2
baz=94
234A Clairette 93.68 57 ⇑P P 07 04 29.1 +0.6
baz=94
Q28A Sharon Springs 93.70 50 ⇓P P 07 04 29.6 +1.2
baz=94
D21A La Casta Ranch 93.75 41 ⇓P P 07 04 29.6 +1.2
baz=94
B20A Solberg Farm, 93.77 39 ⇑P P 07 04 29.3 +0.9
baz=94
K25A Mack Ranch, Ha 93.78 46 ⇑P P 07 04 29.9 +1.2
baz=94
G23A Biddle 93.91 43 ⇑P P 07 04 29.9 +0.7
baz=94
N27A Anderson Farm, 93.93 48 ⇓P P 07 04 30.1 +0.7
baz=94
R29A Marienthal 93.94 50 ⇑P P 07 04 30.4 +0.9
baz=94
134A White-Moore Ra 93.95 57 ⇓P P 07 04 30.5 +0.9
baz=94
P28A Saint Francis 93.97 49 ⇓P P 07 04 30.2 +0.5
baz=94,SNR=6.3
A20A Cobblestone Ra 94.03 39 ⇓P P 07 04 30.2 +0.6
baz=94
C21A Desert Coulee 94.03 40 ⇑P P 07 04 30.5 +0.9
baz=94
LAO LASA Array 94.05 41 eP P 07 04 31.0 +1.2
F23A Volborg 94.13 42 ⇓P P 07 04 30.6 +0.4
baz=94
J25A Sunshine Ranch 94.16 45 ⇓P P 07 04 30.9 +0.5
baz=94
Q29A Oakley 94.24 50 ⇑P P 07 04 31.4 +0.5
baz=94
H24A Dirt Ranch, A 94.25 44 ⇓P P 07 04 31.0 +0.2
baz=94
RSSD Black Hills 94.31 44 eP P 07 04 31.4 +0.1
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 94.31 44 eP P 07 04 31.4 +0.1
comp=Z,7.0nm,0.9s
I25A Rochford 94.47 44 ⇓P P 07 04 32.3 +0.4
baz=95
P29A Atwood 94.56 49 ⇑P P 07 04 33.3 +1.0
baz=95
N28A Pribbeno Ranch 94.57 48 ⇓P P 07 04 33.1 +0.8
baz=95
F24A Ekalaka 94.79 43 ⇓P P 07 04 33.9 +0.7
baz=95
Q30A Quinter 94.82 50 ⇓P P 07 04 34.0 +0.5
baz=95,SNR=7.6
P30A Selden 95.02 50 ⇑P P 07 04 34.9 +0.5
baz=95,SNR=5.5
INK Iuvik 95.15 15 P P 07 04 33.3 -0.8
comp=Z,4.0nm,0.9s,baz=188,slow=7.2,SNR=7.0
C23A Lambert 95.17 41 ⇑P P 07 04 35.9 +1.1
baz=96
J27A Elkhorn Farm, 95.29 46 ⇑P P 07 04 36.7 +1.2
baz=96
B23A Brockton 95.58 40 ⇑P P 07 04 37.6 +0.9
baz=96
G26A Maurine 95.73 44 ⇑P P 07 04 38.3 +0.8
baz=96
H27A Howes 95.80 44 ⇓P P 07 04 38.2 +0.5
baz=96
Q32A Meitler Ranch, 96.02 51 ⇑Pdiff P 07 04 40.2 +1.4
baz=96
238A Jacksonville 96.06 58 ⇓Pdiff P 07 04 40.7 +1.6
baz=96
I28A Midland 96.15 45 ⇑Pdiff P 07 04 40.1 +0.8
baz=96
R33A Olander Ranch, 96.18 51 ⇓Pdiff P 07 04 40.7 +1.1
baz=96
G27A Dupree 96.20 44 ⇑Pdiff P 07 04 40.7 +1.2
baz=96
L30A Spencer Herefo 96.33 48 ⇓Pdiff P 07 04 41.2 +1.0
baz=97
D26A Manning 96.55 42 ⇑Pdiff P 07 04 42.1 +1.1
baz=97
YKA Yellowknife Ar 97.51 25 P Pdiff 07 04 44.7 -0.1
comp=Z,1.2nm,0.7s,baz=261,slow=4.3,SNR=9.2
YKA PP PP 07 08 50.1 -3.3
comp=Z,1.4nm,1.1s,baz=248,slow=7.6,SNR=4.2
WMQ Urumqi 106.57 311 ePdif Pdif 07 05 27.6 +1.9
WMQ PP PP 07 10 02.1 +1.4
WMQ PPMZ
comp=Z,70nm,4.6s
ZALV Zalesovo Beam 110.35 321 PKiKP PKiKP 07 09 37.3 -1.7
comp=Z,1.2nm,0.5s,baz=263,slow=0.8,SNR=7.5
MKAR Makanchi Array 110.89 313 PKiKP PKiKP 07 09 38.8 -1.5
comp=Z,0.6nm,0.5s,baz=255,slow=4.2,SNR=7.9
MKAR Makanchi Array 110.89 313c iPKIKP PKiKP 07 09 38.7 -1.6
MKAR pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 113.77 317 ePKIKP PKiKP 07 09 44.3 -1.3
KURK Kurchatov 113.77 317 ePKPdf PKiKP 07 09 44.3 -1.3
KSH Kashi 114.42 305 ePKP PKPdf 07 09 49.3 +1.9
KSH PP PP 07 10 59.9 +3.7
KSH esPKP 07 13 05.3
KSH PKS PKSdf 07 13 24.9 +0.7
KSH SKS SKSdf 07 16 05.3 +3.6
KSH SKKS SKKSac 07 16 50.4 -2.8
KSH PPMZ
comp=Z,39nm,4.3s
KKAR Karatay Array 118.84 308 ePKIKP PKPdf 07 09 54.5 -1.2
KKAR Karatay Array 118.84 308 ePKPdf PKPdf 07 09 54.5 -1.2
BVAR Borovoye Array 118.91 320 PKP PKPdf 07 09 54.4 -1.0
comp=Z,3.4nm,0.3s,baz=126,slow=2.1,SNR=22
BRVK Borovoye 118.97 320 iPKIKP PKPdf 07 09 53.9 -1.6
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 118.97 320 ePKPdf PKPdf 07 09 54.4 -1.2
SCHQ Schefferville 119.79 38 PKP PKPdf 07 09 56.0 -1.1
comp=Z,1.7nm,0.8s,baz=250,slow=5.9,SNR=4.5
DAG Danmarks Havn 123.46 5 iPKIKP PKPdf 07 10 01.7 -1.8
DAG Danmarks Havn 123.46 5 iP PKPdf 07 10 01.7 -1.8
comp=Z,5.1nm,0.8s
SFJD Kangerlussuaq 123.90 22 PKP PKPdf 07 10 03.4 -1.2
comp=Z,4.9nm,0.7s,baz=279,slow=2.2,SNR=5.5
SUMG Summit 124.00 13 iPKIKP PKPdf 07 10 05.0 -0.2
SUMG Summit 124.00 13 iP PKPdf 07 10 05.0 -0.2
comp=Z,6.5nm,0.9s
ARU Arti 125.14 325 iPKIKP PKPdf 07 10 06.7 -0.6
ARU 07 16 16.4
ARU Arti 125.14 325 ePKPdf PKPdf 07 10 07.0 -0.3
AKTO Aktyubinsk 126.86 318 PKP PKPdf 07 10 10.8 0.0
comp=Z,2.5nm,0.7s,baz=44,slow=3.0,SNR=9.3
GEYT Alibeck 128.26 302 PKP PKPdf 07 10 13.9 0.0
comp=Z,2.3nm,0.5s,baz=241,slow=3.1,SNR=4.8
KEV Kevo 128.89 349 epkp PKPdf 07 10 12.1 -1.9
KEV Kevo 128.89 349 ePKIKP PKPdf 07 10 12.1 -1.9
PRGR Permogore 129.18 334 PKIKP PKPdf 07 10 10.2 -4.6
PRGR 07 12 25.2
PRGR pmax pmax
comp=Z,7.0nm,0.5s
ARCES ARCESS Array B 129.35 349 PKP PKPdf 07 10 14.1 -0.9
comp=Z,9.1nm,0.6s,baz=18,slow=1.2,SNR=43
KLMR Klimovskoe 132.04 336 ePKIKP PKPdf 07 10 16.8 -3.4

KLMR e 07 12 47.0
KLMR pmax pmax
comp=Z,26nm,2.0s
JOF Joensuu 133.41 341 epkp PKPdf 07 10 21.0 -1.8
JOF Joensuu 133.41 341 ePKIKP PKPdf 07 10 21.0 -1.8
BORG Borgarnes 133.98 13 i PKIKP PKPdf 07 10 23.8 0.0
KAF Kangasniemi 135.47 343 epkp PKPdf 07 10 23.1 -3.5
KAF Kangasniemi 135.47 343 ePKIKP PKPdf 07 10 23.1 -3.5
FINES FINESS Array B 136.08 343 PKhKP PKPpre 07 10 17.7
comp=Z,1.4nm,0.7s,baz=86,slow=2.7,SNR=6.9
FINES PKP PKPdf 07 10 28.1 +0.3
comp=Z,4.8nm,0.6s,baz=103,slow=2.5,SNR=12
OBN Obninsk 136.82 331 ePKIKP PKPdf 07 10 30.9 +1.6
OBN e 07 12 38.0
OBN i 07 13 18.2
OBN pmax pmax
comp=Z,9.0nm,1.2s
KIV Kislovodsk 138.66 313 dePKIKP PKPdf 07 10 32.6 -0.6
KIV e 07 12 43.2
KIV e 07 16 48.7
KIV pmax pmax
comp=Z,10.0nm,1.2s
NB2 NORSAR Subarra 139.48 352 PKP PKPpre 07 10 26.2
comp=Z,2.0nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 139.48 352 PKhKP PKPpre 07 10 25.4
comp=Z,0.8nm,0.5s,baz=23,slow=1.1,SNR=11
NOA PKP PKPdf 07 10 35.3 +1.2
comp=Z,2.0nm,0.7s,baz=14,slow=4.0,SNR=8.1
SOC Sochi 140.80 314 i PKIKP PKPdf 07 10 37.4 +0.4
SOC e 07 13 42.2
MZRK Al-Mazaregh 142.40 302 eP PKPdf 07 10 48.3 +8.2
SUW Suwalki 143.06 338 ePKP PKPab 07 10 38.6 0.0
AKASG Malin Array Be 143.06 330 PKP PKPab 07 10 37.8 -1.0
comp=Z,32nm,0.6s,baz=43,slow=4.3,SNR=114
AKASG Malin Array Be 143.06 330c iPKIKP PKPdf 07 10 44.0 +3.3
AKASG pmax pmax
comp=Z,3.0nm,0.6s
MALT Malatya 143.50 306 ⇑iP PKPdf 07 10 41.6 -0.5
MALT Malatya 143.50 306 ⇑PKIKP PKPdf 07 10 41.6 -0.5
MUD Monsted U'grnd 144.20 352 i PKIKP PKPbc 07 10 42.1 -0.3
MUD Monsted U'grnd 144.20 352 i P PKPbc 07 10 42.1 -0.3
comp=Z,31nm,0.9s
BSD Bornholm Skovb 144.47 346 ePKIKP PKPdf 07 10 42.8 -0.2
BSD Bornholm Skovb 144.47 346 i P PKPdf 07 10 42.8 -0.2
comp=Z,20nm,0.7s
DRWC Darouich 145.33 304 eP PKPab 07 10 54.6 +6.5
ZALF Zalf 145.66 298 eP PKPbc 07 10 47.5 -0.1
BEL Belsk 145.67 338 ePKP PKPbc 07 10 47.1 +0.2
BEL Belsk 145.67 338 ePKIKP PKPbc 07 10 47.2 +0.3
ESK Eskdalemuir 145.73 4 ePKIKP PKPdf 07 10 45.6 +0.4
ESK Eskdalemuir 145.73 4 ePKPdf PKPdf 07 10 45.6 +0.4
LVV L'vov 146.02 333 ePKHKP PKPdf 07 10 45.8 -0.1
BIDA Albida 146.03 302 eP PKPbc 07 10 48.6 0.0
HAWK Haweek 146.08 301 eP PKPbc 07 10 49.0 +0.2
MARH Ras Al Marh 146.13 300 eP PKPbc 07 10 49.6 +0.4
BSEG Bad Segeberg 146.47 350 ePKPbc PKPbc 07 10 49.1 0.0
BRTR Keskin Array B 146.50 311 PKPbc PKPbc 07 10 49.1 -0.7
comp=Z,5.4nm,0.6s,baz=136,slow=3.8,SNR=27
KWP Kalwaria Pacla 146.72 334 ePKP PKPbc 07 10 49.8 -0.1
KWP Kalwaria Pacla 146.72 334 ⇑iP PKPbc 07 10 49.9 0.0
KWP Kalwaria Pacla 146.72 334 ⇑PKIKP PKPbc 07 10 49.9 0.0
KWP Kalwaria Pacla 146.72 334 ePKPbc PKPbc 07 10 49.7 -0.2
TLCR 146.81 323 ⇑iP PKPbc 07 10 50.0 -0.3
TLCR 146.81 323 ⇑PKIKP PKPbc 07 10 50.0 -0.3
BURAR Bucovina Array 147.10 329 ⇑iP PKPbc 07 10 51.6 +0.5
BURAR Bucovina Array 147.10 329 ⇓PKIKP PKPbc 07 10 51.6 +0.5
TESR Tescani 147.14 326 ⇓iP PKPbc 07 10 51.0 -0.1
CFR Carcaliu 147.20 323 ⇑iP PKPbc 07 10 51.1 -0.2
CFR Carcaliu 147.20 323 ⇑PKIKP PKPbc 07 10 51.1 -0.2
OJC Ojcow 147.36 337 ePKP PKPbc 07 10 51.4 -0.2
STHS Stebnicka Huta 147.47 335 ePKIKP PKPdf 07 10 49.2 +0.9
STHS Stebnicka Huta 147.47 335 ePKP PKPdf 07 10 49.2 +0.9
VRI Vrincioaia 147.53 325 ⇓iP PKPbc 07 10 52.0 -0.2
VRI Vrincioaia 147.53 325 ⇓PKIKP PKPbc 07 10 52.0 -0.2
PLOR Plostina 147.58 326 ⇑iP PKPbc 07 10 52.3 0.0
PLOR Plostina 147.58 326 ⇑PKIKP PKPbc 07 10 52.3 0.0
TLB Topalu 147.61 323 ⇑iP PKPbc 07 10 52.4 0.0
TLB Topalu 147.61 323 ⇑PKIKP PKPbc 07 10 52.4 0.0
UZH Uzhgorod 147.66 333 ⇑iPKIKP PKPbc 07 10 52.7 +0.3
UZH e 07 10 55.7
CRVS Cervenica-Dubn 147.79 334 ePKIKP PKPbc 07 10 52.6 -0.1
CRVS Cervenica-Dubn 147.79 334 ePKP PKPbc 07 10 52.6 -0.1
NIE Niedzica 147.83 336 ePKP PKPbc 07 10 53.2 +0.4
NRDL Niedersach Rie 147.90 349 ePKPbc PKPbc 07 10 52.7 0.0
TRPA Tarpa 147.94 332 ⇓iP PKPbc 07 10 53.1 0.0
TRPA Tarpa 147.94 332 ⇓eSKSac PKPbc 07 10 53.1 0.0
KSP Ksiaz 147.98 342 ePKP PKPbc 07 10 53.4 +0.3
KSP Ksiaz 147.98 342 ePKIKP PKPbc 07 10 53.3 +0.2
KSP e 07 10 58.4
MSAB Monastry St. A 148.03 322 ⇑iP PKPbc 07 10 53.5 +0.1
MLR Muntele Rosu 148.19 326 ⇓iP PKPbc 07 10 54.7 +0.7
MLR Muntele Rosu 148.19 326 PKPbc PKPbc 07 10 53.4 -0.6
comp=Z,2.7nm,0.8s,baz=22,slow=2.3,SNR=17
OKC Ostrava-Krasne 148.26 339 ePKP PKPbc 07 10 54.0 +0.2
UPC Upice 148.36 342 ePKP PKPbc 07 10 54.4 +0.3
UPC ePKPAB PKPab 07 11 00.2 +0.4
CSS Prodhromos 148.40 303 ePKPbc PKPbc 07 10 53.9 -0.9
DPC Dobruska-Polom 148.41 341 ⇑iPKP PKPbc 07 10 54.7 +0.4
DPC ePKPAB PKPab 07 11 00.5 +0.5
CLL Collm 148.43 345 ePKPbc PKPbc 07 10 54.1 -0.1
CLL Collm 148.43 345 ⇑iPKPbc PKPbc 07 10 54.0 -0.1
comp=Z,34nm,0.9s
CLL i PKPab PKPab 07 10 59.7 -0.3
comp=Z,10.0nm,0.6s
IBBN Ibbenburen 148.43 352 ePKPbc PKPbc 07 10 54.0 -0.2
IBBN ePKPab PKPab 07 10 58.5 -1.5
CLZ Clausthal 148.47 349 ePKPbc PKPbc 07 10 54.5 +0.1
CLZ ePKPab PKPab 07 10 59.7 -0.6
KRLC Kraliky 148.51 340 ⇑iPKP PKPbc 07 10 54.9 +0.4
CJR Cluj-Napoca 148.51 329 ⇑iP PKPbc 07 10 55.0 +0.4
MORC Moravsky Berou 148.52 339 ⇓iP PKPbc 07 10 54.9 +0.3
MORC Moravsky Berou 148.52 339 ePKPbc PKPbc 07 10 54.4 -0.2
MORC ePKPab PKPab 07 11 00.9 +0.4
KECS Kecovo 148.52 335 ePKP PKPbc 07 10 54.6 +0.1
BRG Berggiesshubel 148.60 344 i PKP PKPbc 07 10 54.6 0.0
comp=Z,18nm,0.7s
BRG i 07 11 00.6
comp=Z,16nm,1.1s
BRG epPKP pPKPdf 07 13 16.1 +2.7
comp=Z,5.3nm,1.3s
comp=N,57nm,13.3s
comp=E,58nm,17.4s
comp=Z,129nm,13.1s
BRG Berggiesshubel 148.60 344 ePKPbc PKPbc 07 10 54.6 0.0
BRG ePKPab PKPab 07 11 00.3 -0.5
VOIR 148.69 326 ⇑iP PKPbc 07 10 55.0 -0.2
PVCC Panska Ves 148.75 343 ⇑ePKP PKPbc 07 10 55.3 +0.3
DRGR 148.87 330 ⇑iP PKPbc 07 10 55.2 -0.3
WTSB Winterswijk 148.88 353 ePKPbc PKPbc 07 10 55.1 -0.2
comp=Z,45nm,0.6s
ARR Arges 148.95 327 ⇓iP PKPbc 07 10 56.8 +1.0
VYHS Vyhne 149.15 336 ePKP PKPbc 07 10 55.8 -0.3
PRA Prague 149.20 343 ⇑ePKP PKPbc 07 10 56.6 +0.5
PSZ Piszkesteto 149.21 335 ⇓iP PKPbc 07 10 56.3 0.0
PSZ Piszkesteto 149.21 335 ePKPbc PKPbc 07 10 55.8 -0.5
PSZ Piszkesteto 149.21 335 ⇓eSKSac PKPbc 07 10 56.9 +0.6
VRAC Vranov 149.24 340 ⇑iP PKPbc 07 10 57.2 +0.9
VRAC Vranov 149.24 340 PKPbc PKPbc 07 10 56.3 0.0
comp=Z,8.3nm,0.8s,baz=32,slow=1.9,SNR=11
GOPC GO Pecny, Ondr 149.25 342 ⇑ePKP PKPbc 07 10 56.4 +0.1
GOPC ePKPAB PKPab 07 11 03.7 +0.2
PRU Pruhonice 149.25 343 ⇑ePKP PKPbc 07 10 56.2 0.0
PRU ePKPAB PKPab 07 11 02.8 -0.7
HUMR Humele 149.34 325 ⇑iP PKPbc 07 10 55.3 -1.3
BUG Bochum--Univer 149.34 352 ePKPbc PKPbc 07 10 56.2 -0.2
BUG ePKPab PKPab 07 11 02.8 -1.0
MOX Moxa 149.36 347 ePKPbc PKPbc 07 10 56.4 -0.1
MOX ePKPab PKPab 07 11 03.3 -0.6
TANN Tannenbergstha 149.39 345 ePKPbc PKPbc 07 10 56.6 0.0
UBBA Unterbreizbach 149.52 349 ePKPbc PKPbc 07 10 56.6 -0.1
UBBA ePKPab PKPab 07 11 03.9 -0.5
TREC Trest 149.59 341 ⇑ePKP PKPbc 07 10 56.9 -0.2
JMB Yambol 149.74 321 ⇑iP PKPbc 07 10 56.0 -1.6
SIRR Siria 149.74 331 ⇓iP PKPbc 07 10 57.7 +0.1
GZR Gura Zlata 149.86 328 ⇑iP PKPbc 07 10 57.3 -0.6
GZR Gura Zlata 149.86 328 ⇑PKIKP PKPbc 07 10 57.4 -0.5
ROTZ Rotzenmuhle 150.05 345 ePKPbc PKPbc 07 10 58.3 +0.1
HGN Heimansgroeve 150.16 354 ePKPbc PKPbc 07 10 58.0 -0.3
comp=Z,15nm,0.7s
HGN ePKPab PKPab 07 11 06.3 -0.9
comp=Z,24nm,0.9s
PKSG 150.23 336 ⇓eSKSac PKPbc 07 10 58.6 0.0

BZS	**Buzias**	**150.25**	**330**	⇑	*i*P	**PKPbc**	**07 10 58.4**	**-0.3**
KHC	**Kasperske Hory**	**150.29**	**343**	⇑	*e*PKP	**PKPbc**	**07 10 59.0**	**+0.2**
KHC					*e*PKPAB	**PKPab**	**07 11 08.5**	**+0.6**
MEM	**Membach**	**150.31**	**353**		PKPbc	**PKPbc**	**07 10 58.5**	**-0.2**
GRF	**Grafenberg Arr**	**150.35**	**346**		*e*PKPbc	**PKPbc**	**07 10 59.0**	**+0.1**
TNS	**Taunus Mts**	**150.37**	**350**		*e*PKPbc	**PKPbc**	**07 10 58.8**	**-0.1**
TNS					*e*PKPab	**PKPab**	**07 11 07.7**	**-0.5**
PKS6	**Bocsa**	**150.40**	**333**	⇑	*e*SKSac	**PKPbc**	**07 10 59.2**	**+0.2**
WET	**Wettzell**	**150.46**	**344**		*e*PKPbc	**PKPbc**	**07 10 59.1**	**-0.1**
WET					*e*PKPab	**PKPab**	**07 11 08.6**	**0.0**
PKST	**T˜s**	**150.47**	**336**	⇓	*e*SKSac	**PKPbc**	**07 10 59.1**	**-0.1**
GEC2	**GERESS Array S**	**150.52**	**343**		*e*PKPbc	**PKPbc**	**07 10 59.2**	**-0.2**
GERES	**GERESS Array B**	**150.52**	**343**		PKP	**PKPdf**	**07 10 53.4**	**+0.1**
	comp=Z,0.4nm,0.2s,baz=5.7,slow=2.7,SNR=3.7							
GERES					PKPbc	**PKPbc**	**07 10 59.1**	**-0.2**
	comp=Z,9.1nm,0.7s,baz=48,slow=2.0,SNR=47							
SNF	**Seneffe**	**150.56**	**356**		PKPbc	**PKPbc**	**07 10 59.4**	**+0.2**
BCLA	**Clavier**	**150.57**	**354**		PKPab	**PKPab**	**07 11 08.7**	**-0.3**
PKS2	**Kecel**	**150.63**	**334**	⇓	*e*SKSac	**PKPbc**	**07 11 00.1**	**+0.6**
SOP	**Sopron**	**150.65**	**338**	⇑	*e*SKSac	**PKPbc**	**07 10 59.9**	**+0.3**
CONA	**Conrad Observa**	**150.68**	**339**	⇑	*i*PKiKP	**PKPbc**	**07 10 59.7**	**0.0**
	comp=Z,22nm,0.7s,SNR=14							
KDZ	**Kurdzhali**	**150.92**	**320**	⇓	*i*P	**PKPbc**	**07 11 00.1**	**-0.3**
KDZ	**Kurdzhali**	**150.92**	**320**	⇓	PKIKP	**PKPbc**	**07 11 00.1**	**-0.3**
PKS9	**Tamasi**	**150.93**	**335**	⇑	*e*SKSac	**PKPbc**	**07 10 59.7**	**-0.6**
DOU	**Dourbes**	**150.95**	**355**		PKPbc	**PKPbc**	**07 11 00.1**	**0.0**
PKSM	**Moragy**	**151.09**	**334**	⇑	*i*P	**PKPbc**	**07 11 00.2**	**-0.4**
PKSM	**Moragy**	**151.09**	**334**	⇑	PKIKP	**PKPbc**	**07 11 00.2**	**-0.4**
PKSM	**Moragy**	**151.09**	**334**	⇓	*e*SKSac	**PKPbc**	**07 11 00.8**	**+0.2**
WLF	**Walferdange**	**151.22**	**353**		PKPbc	**PKPbc**	**07 11 01.6**	**+0.7**
WLF	**Walferdange**	**151.22**	**353**		*e*PKPbc	**PKPbc**	**07 11 01.3**	**+0.5**
WLF					*e*PKPab	**PKPab**	**07 11 12.2**	**+0.5**
MOA	**Molln**	**151.25**	**341**	⇑	*i*PKPbc	**PKPbc**	**07 11 00.4**	**-0.6**
	comp=Z,7.1nm,0.5s							
VTS	**Vitosha**	**151.59**	**324**	⇓	*i*P	**PKPbc**	**07 11 01.2**	**-0.9**
VTS	**Vitosha**	**151.59**	**324**	⇓	PKIKP	**PKPbc**	**07 11 01.2**	**-0.9**
BEHE	**Becsehely**	**151.61**	**337**	⇓	*e*SKSac	**PKPbc**	**07 11 01.9**	**+0.1**
STU	**Stuttgart**	**151.64**	**348**		*e*PKPbc	**PKPbc**	**07 11 01.7**	**-0.1**
FUR	**Furstenfeldbru**	**151.77**	**345**		*e*PKPbc	**PKPbc**	**07 11 02.1**	**0.0**
RJOB	**Jochberg**	**151.78**	**343**		*e*PKPbc	**PKPbc**	**07 11 01.6**	**-0.6**
RJOB					*e*PKPab	**PKPab**	**07 11 14.6**	**+0.4**
SOKA	**Soboth**	**152.04**	**339**	⇑	*i*PKPbc	**PKPbc**	**07 11 01.9**	**-0.9**
	comp=Z,12nm,1.1s,SNR=5.9							
DIVS	**Divibare**	**152.16**	**330**	⇑	*i*P	**PKPbc**	**07 11 02.9**	**-0.3**
BFO	**Black Forest**	**152.22**	**349**		*e*PKPbc	**PKPbc**	**07 11 02.6**	**-0.5**
BFO					*e*PKPab	**PKPab**	**07 11 15.2**	**-0.8**
BFO	**Black Forest**	**152.22**	**349**		*i*PKIKP	**PKPbc**	**07 11 02.9**	**-0.2**
BFO	**Black Forest**	**152.22**	**349**		*e*PKPbc	**PKPbc**	**07 11 03.4**	**+0.3**
BFO					*e*PKPab	**PKPab**	**07 11 15.5**	**-0.6**
KBA	**Koelnbreinsper**	**152.22**	**342**	⇑	*i*PKPbc	**PKPbc**	**07 11 02.0**	**-1.3**
	comp=Z,11nm,0.9s							
WATA	**Walderalm**	**152.47**	**344**	⇑	*i*PKPbc	**PKPbc**	**07 11 03.1**	**-0.7**
	comp=Z,8.7nm,0.6s							
WTTA	**Wattenberg**	**152.52**	**344**	⇑	*i*PKPbc	**PKPbc**	**07 11 03.5**	**-0.5**
	comp=Z,14nm,0.6s							
CRES	**Cresnjev**	**152.64**	**338**		*i*PKPbc	**PKPbc**	**07 11 03.6**	**-0.5**
VNDS	**Vrh nad Dolski**	**152.66**	**339**		*i*PKPbc	**PKPbc**	**07 11 03.6**	**-0.6**
ABTA	**Abfaltersbach**	**152.76**	**342**	⇑	*i*PKPbc	**PKPbc**	**07 11 03.4**	**-1.1**
	comp=Z,14nm,0.6s,SNR=5.5							
LJU	**Ljubljana**	**152.77**	**339**		*i*PKPbc	**PKPbc**	**07 11 04.0**	**-0.4**
DAVA	**Damuels**	**152.91**	**347**	⇑	*i*PKiKP	**PKPbc**	**07 11 05.2**	**+0.3**
	comp=Z,11nm,1.0s							
FETA	**Feichten**	**152.97**	**345**	⇑	*i*PKPbc	**PKPbc**	**07 11 04.6**	**-0.4**
	comp=Z,8.9nm,0.9s							
BOJS	**Bojanci**	**152.99**	**337**		*i*PKPbc	**PKPbc**	**07 11 04.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**153.39**	**346**		PKP	**PKPdf**	**07 10 57.4**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=267,slow=2.0,SNR=3.7							
DAVOX					PKPbc	**PKPbc**	**07 11 05.6**	**-0.3**
	comp=Z,13nm,0.6s,baz=7.5,slow=1.7,SNR=17							
POLO	**Lamas de Olo**	**158.51**	**18**		*e*PKPab	**PKPab**	**07 11 43.9**	**+0.4**
MVO	**Moncorvo**	**158.92**	**17**		*e*PKPab	**PKPab**	**07 11 45.5**	**+0.2**
PMTG	**Montargil**	**160.47**	**22**		*e*PKPab	**PKPab**	**07 11 51.4**	**-0.6**
EVO	**Evora**	**161.03**	**22**		*e*PKPab	**PKPab**	**07 11 54.2**	**-0.2**
ESDC	**Sonseca Array**	**161.05**	**12**		PKPab	**PKPab**	**07 11 53.8**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=345,slow=4.4,SNR=15							
PNCL	**Nicolau / Gran**	**161.21**	**24**		*e*PKPab	**PKPab**	**07 11 55.0**	**-0.3**
PBAR	**Barrancos**	**161.68**	**20**		*e*PKPab	**PKPab**	**07 11 57.3**	**0.0**
PCVE	**Castro Verde**	**161.82**	**23**		*e*PKPab	**PKPab**	**07 11 57.9**	**-0.1**
PVAQ	**Vaqueiros**	**162.14**	**23**		*e*PKPab	**PKPab**	**07 11 59.5**	**+0.1**
KEST	**Kesra**	**163.69**	**335**		PKPab	**PKPab**	**07 12 05.8**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=205,slow=2.2,SNR=4.7							
DBIC	**Dimbokro**	**164.58**	**158**		PKP	**PKPdf**	**07 11 10.8**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=223,slow=6.5,SNR=2.3							
TORD	**Torodi Ar. Bea**	**172.03**	**185**		PKP	**PKPdf**	**07 11 14.9**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=320,slow=0.1,SNR=7.6							

*ISCJB **23** 06:55:42.5±0.3, 67.83N±0.02×20.30E±0.05, h0km, Error ellipse: s-maj=3.0km s-min=2.3km az=155.9*
*UPP **23** 06:55:43.1, 67.85N×20.21E, h0km, ML2.5, Suspected Mining explosion.*
*CSEM **23** 06:55:43.4±0.1, 67.84N×20.32E, h2km, ML2.5, Error ellipse: s-maj=3.9km s-min=2.8km az=154.0, Suspected Mining explosion.*
*HEL **23** 06:55:43.7±0.1, 67.87N×20.21E, h1km, ML2.3, ML2.5(UPP), Suspected explosion*
*NAO **23** 06:55:44.0±0.9, 67.83N×20.57E, ML2.4*
*IDC **23** 06:55:44.3±1.5, 67.83N×20.76E, h0km, mb1 2.9/3, mb1mx2.9/42, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=23.4km s-min=8.8km az=115.0*
*BER **23** 06:55:45.5±3.3, 67.81N×20.35E, h0km±12km, MD2.8, ML2.1, ML2.4(NAO)*

ISC 23 06:55:42.7±0.7, 67.82N±0.02×20.27E±0.01, h0km, n93, σ1s24/153, 9D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.47**	**277**	⇓	*i*P	**Pg**		**06 55 51.6**	**-0.2**
NIKU					*i*S	**Sg**		**06 55 57.6**	**-0.2**
NIKU	**Nikkaluokta**	**0.47**	**277**	⇓	P	**Pg**		**06 55 51.6**	**-0.2**
NIKU					S	**Sg**		**06 55 57.6**	**-0.2**
NIKU	**Nikkaluokta**	**0.47**	**277**		P	**Pg**		**06 55 51.6**	**-0.2**
NIKU					S	**Sg**		**06 55 57.6**	**-0.2**
LANU	**Lannavaara**	**0.69**	**69**		*e*P	**Pg**		**06 55 56.4**	**+0.5**
LANU					*e*S	**Sg**		**06 56 04.7**	**-0.1**
LANU	**Lannavaara**	**0.69**	**69**	⇓	P	**Pg**		**06 55 56.4**	**+0.5**
LANU					S	**Sg**		**06 56 05.8**	**+1.0**
LANU	**Lannavaara**	**0.69**	**69**		P	**Pg**		**06 55 56.4**	**+0.5**
LANU					S	**Sg**		**06 56 05.8**	**+1.0**
MASU	**Masugnsbyn**	**0.75**	**118**	⇓	*i*P	**Pg**		**06 55 57.8**	**+0.7**
MASU					*i*S	**Sg**		**06 56 08.6**	**+1.7**
MASU	**Masugnsbyn**	**0.75**	**118**	⇓	P	**Pg**		**06 55 57.8**	**+0.7**
MASU					S	**Sg**		**06 56 08.5**	**+1.7**
MASU	**Masugnsbyn**	**0.75**	**118**		P	**Pg**		**06 55 57.8**	**+0.7**
MASU					S	**Sg**		**06 56 08.6**	**+1.7**
SALU	**Saltoluokta**	**0.81**	**238**	⇓	*i*P	**Pg**		**06 55 58.1**	**0.0**
SALU					*i*S	**Sg**		**06 56 08.7**	**+0.2**
SALU	**Saltoluokta**	**0.81**	**238**	⇓	P	**Pg**		**06 55 58.1**	**0.0**
SALU					S	**Sg**		**06 56 08.7**	**+0.2**
SALU	**Saltoluokta**	**0.81**	**238**		P	**Pg**		**06 55 58.1**	**0.0**
SALU					S	**Sg**		**06 56 08.7**	**+0.2**
KIF	**Kilpisjarvi**	**1.21**	**9**		*e*P	**Pg**		**06 56 05.9**	**0.0**
KIF	**Kilpisjarvi**	**1.21**	**9**		*e*P	**Pg**		**06 56 05.4**	**-0.5**
KIF					*e*S	**Sg**		**06 56 21.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.21**	**9**		*e*P	**Pg**		**06 56 05.9**	**0.0**
	SNR=70								
KIF					S	**Sg**		**06 56 21.7**	**+0.1**
PAJU	**Pajala**	**1.35**	**125**	⇓	*e*P	**Pg**		**06 56 08.4**	**-0.2**
PAJU					*e*S	**Sg**		**06 56 27.1**	**+0.9**
PAJU	**Pajala**	**1.35**	**125**	⇓	P	**Pg**		**06 56 08.4**	**-0.2**
PAJU					S	**Sg**		**06 56 27.0**	**+0.9**
PAJU	**Pajala**	**1.35**	**125**		P	**Pg**		**06 56 08.4**	**-0.2**
PAJU					S	**Sg**		**06 56 27.1**	**+0.9**
HEF	**Hetta**	**1.40**	**63**		*e*P	**Pg**		**06 56 09.0**	**-0.6**
HEF					*e*S	**Sg**		**06 56 27.5**	**-0.2**
HEF	**Hetta**	**1.40**	**63**		*e*P	**Pg**		**06 56 08.9**	**-0.6**
HEF					*e*S	**Sg**		**06 56 27.1**	**-0.7**
HEF	**Hetta**	**1.40**	**63**		*e*P	**Pg**		**06 56 09.0**	**-0.6**
	SNR=50								
HEF					*e*S	**Sg**		**06 56 27.5**	**-0.2**
	SNR=50								
ERTU	**Ertsjaerv**	**1.47**	**149**		*e*P	**Pn**		**06 56 10.6**	**+0.1**
ERTU					*e*S	**Sg**		**06 56 30.4**	**+0.5**
ERTU	**Ertsjaerv**	**1.47**	**149**		P	**Pn**		**06 56 10.5**	**+0.1**
ERTU					S	**Sg**		**06 56 30.4**	**+0.5**
ERTU	**Ertsjaerv**	**1.47**	**149**		P	**Pn**		**06 56 10.5**	**+0.1**
ERTU					S	**Sn**		**06 56 31.4**	**+1.1**
KTK1	**Kautokeino**	**1.63**	**41**		*e*P	**Pn**		**06 56 12.6**	**0.0**
KTK1					*e*S	**Sn**		**06 56 33.8**	**-0.4**
KTK1					IAML			06 56 38.3	
	comp=N,47nm,0.3s								
KTK1	**Kautokeino**	**1.63**	**41**		*e*P	**Pn**		**06 56 12.6**	**0.0**
	SNR=50								
KTK1					*e*S	**Sn**		**06 56 33.8**	**-0.4**
	SNR=50								
TRO	**Tromso**	**1.89**	**346**		*e*P	**Pn**		**06 56 16.9**	**+0.7**
TRO					*e*S	**Sn**		**06 56 41.4**	**+0.7**
TRO					IAML			06 56 43.0	
	comp=Z,22nm,0.4s								
TRO	**Tromso**	**1.89**	**346**		*e*P	**Pn**		**06 56 16.9**	**+0.7**
	SNR=50								
TRO					*e*S	**Sn**		**06 56 41.4**	**+0.7**
	SNR=50								
STEI	**Steigen**	**1.91**	**276**		*e*P	**Pn**		**06 56 17.5**	**+1.1**
STEI					*e*S	**Sn**		**06 56 42.7**	**+1.6**
STEI					IAML			06 56 48.4	
	comp=Z,22nm,0.3s								
STEI	**Steigen**	**1.91**	**276**		*e*P	**Pn**		**06 56 17.5**	**+1.1**
	SNR=50								
STEI					*e*S	**Sn**		**06 56 42.7**	**+1.6**
	SNR=50								
SJUU	**Sjulsmark**	**2.38**	**166**		*e*P	**Pn**		**06 56 24.8**	**+1.9**
SJUU	**Sjulsmark**	**2.38**	**166**		P	**Pn**		**06 56 24.8**	**+1.9**
SJUU	**Sjulsmark**	**2.38**	**166**		P	**Pn**		**06 56 24.8**	**+1.9**
SGF	**Sodankyl**	**2.42**	**96**		*e*P	**Pn**		**06 56 23.9**	**+0.4**
SGF					*e*PB	**Pb**		**06 56 26.0**	**-1.1**
SGF					*e*SB	**Sb**		**06 56 56.2**	**-1.2**
SGF	**Sodankyl**	**2.42**	**96**		P	**Pn**		**06 56 23.9**	**+0.4**
RNF	**Rovaniemi**	**2.54**	**116**		*e*PB	**Pn**		**06 56 27.6**	**+2.5**
RNF	**Rovaniemi**	**2.54**	**116**		Pb	**Pn**		**06 56 27.6**	**+2.5**
LILU	**Lilltraesk**	**2.55**	**184**		*e*P	**Pn**		**06 56 27.1**	**+1.9**
LILU	**Lilltraesk**	**2.55**	**184**		P	**Pn**		**06 56 27.1**	**+1.9**
LILU	**Lilltraesk**	**2.55**	**184**		P	**Pn**		**06 56 27.1**	**+1.9**
LOF	**Lofoten**	**2.56**	**280**		*e*P	**Pn**		**06 56 27.5**	**+2.2**
LOF					*e*Sg	**Sb**		**06 57 02.6**	**+1.3**
LOF					IAML			06 57 06.0	
	comp=Z,14nm,0.3s								
LOF	**Lofoten**	**2.56**	**280**		*e*P	**Pn**		**06 56 27.5**	**+2.2**
	SNR=50								
LOF					*e*Sg	**Sb**		**06 57 02.6**	**+1.3**
	SNR=90								
ARA0	**ARCESS Array S**	**2.58**	**46**		Pn	**Pn**		**06 56 26.6**	**+0.9**
	baz=227,slow=14								
ARA0					Sn	**Sn**		**06 56 58.2**	**+0.5**
	baz=227,slow=28								
ARA0	**ARCESS Array S**	**2.58**	**46**		Pn	**Pn**		**06 56 26.6**	**+0.9**
	baz=227,slow=14								
ARA0					Sn	**Sn**		**06 56 58.2**	**+0.5**
	baz=227,slow=28								
ARA0	**ARCESS Array S**	**2.58**	**46**		Pn	**Pn**		**06 56 26.5**	**+0.9**
	SNR=50								
ARA0					Sn	**Sn**		**06 56 58.2**	**+0.5**
	SNR=50								
ARCES	**ARCESS Array B**	**2.58**	**46**		Pn	**Pn**		**06 56 26.5**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=228,slow=14,SNR=69								
ARCES					Lg	Lg		06 56 60.0	
	comp=Z,1.4nm,0.3s,baz=224,slow=19,SNR=4.3								
ARE0	**ARCESS Array S**	**2.58**	**46**		*e*P	**Pn**		**06 56 26.5**	**+0.8**
ARE0					*e*Sg	**Sb**		**06 57 01.3**	**-0.7**
ARE0					IAML			06 57 04.8	
	comp=Z,8.4nm,0.3s								
ARE0					*i*			06 58 50.7	
ARE0	**ARCESS Array S**	**2.58**	**46**		*e*P	**Pn**		**06 56 26.5**	**+0.8**
ARE0					*e*PB	**Pb**		**06 56 27.3**	**-2.4**
ARE0					*e*SB	**Sb**		**06 57 00.2**	**-1.8**
ARE0	**ARCESS Array S**	**2.58**	**46**		*e*P	**Pn**		**06 56 26.5**	**+0.8**
	SNR=50								
MOR8	**Moi Rana**	**2.82**	**237**		*e*P	**Pn**		**06 56 30.1**	**+1.1**
MOR8					*e*Sg	**Sn**		**06 57 06.5**	**+2.8**
MOR8					IAML			06 57 08.7	
	comp=Z,34nm,0.3s								
MOR8	**Moi Rana**	**2.82**	**237**		*e*P	**Pn**		**06 56 30.1**	**+1.1**
	SNR=50								
FLOS	**Flostrand**	**3.08**	**244**		*e*P	**Pn**		**06 56 34.5**	**+2.0**
FLOS					*e*Sg	**Sg**		**06 57 20.9**	**-0.7**
FLOS					IAML			06 57 24.3	
	comp=Z,18nm,0.5s								
FLOS	**Flostrand**	**3.08**	**244**		*e*P	**Pn**		**06 56 34.5**	**+2.0**
	SNR=50								
FLOS					*e*Sg	**Sg**		**06 57 20.9**	**-0.7**
KONS	**Konsvik**	**3.09**	**248**		*e*P	**Pn**		**06 56 33.7**	**+1.1**
KONS					*e*Sg	**Sg**		**06 57 21.1**	**-0.7**
KONS					IAML			06 57 23.9	
	comp=Z,12nm,0.4s								
KONS	**Konsvik**	**3.09**	**248**		*e*P	**Pn**		**06 56 33.7**	**+1.1**
	SNR=50								
KONS					*e*Sg	**Sg**		**06 57 21.1**	**-0.7**
	SNR=90								
KEV	**Kevo**	**3.13**	**48**		*e*P	**Pn**		**06 56 34.0**	**+0.8**
KEV					*e*S	**Sn**		**06 57 12.2**	**+0.9**
KEV					MSG			06 57 18.3	
	comp=Z,12nm,0.3s								
KEV	**Kevo**	**3.13**	**48**		P	**Pn**		**06 56 34.0**	**+0.8**
KEV					S	**Sn**		**06 57 12.1**	**+0.9**
STOK	**Stokkvaagen**	**3.21**	**246**		*e*P	**Pn**		**06 56 36.3**	**+2.1**
STOK					*e*Sg	**Sg**		**06 57 24.4**	**-1.2**
STOK					IAML			06 57 25.6	
	comp=N,14nm,0.4s								
STOK	**Stokkvaagen**	**3.21**	**246**		*e*P	**Pn**		**06 56 36.3**	**+2.1**
	SNR=50								
STOK					*e*Sg	**Sg**		**06 57 24.4**	**-1.2**
	SNR=90								
BURU	**Burvik**	**3.28**	**172**		*e*P	**Pn**		**06 56 37.5**	**+2.2**
BURU	**Burvik**	**3.28**	**172**		P	**Pn**		**06 56 37.4**	**+2.2**
BURU	**Burvik**	**3.28**	**172**		P	**Pn**		**06 56 37.5**	**+2.2**
SVAU	**Svanoeiden**	**3.35**	**185**		*e*P	**Pn**		**06 56 38.2**	**+2.0**
SVAU	**Svanoeiden**	**3.35**	**185**		P	**Pn**		**06 56 38.1**	**+2.0**
SVAU	**Svanoeiden**	**3.35**	**185**		P	**Pn**		**06 56 38.2**	**+2.0**
VRF	**Varrio**	**3.55**	**87**		*e*P	**Pn**		**06 56 39.4**	**+0.4**
VRF					*e*S	**Sn**		**06 57 22.4**	**+0.9**
VRF					MSG			06 57 33.9	
	comp=Z,5.8nm,0.2s								
VRF	**Varrio**	**3.55**	**87**		P	**Pn**		**06 56 39.4**	**+0.4**
VRF					S	**Sn**		**06 57 22.4**	**+0.9**
UMAU	**Umeaa**	**3.95**	**177**		*e*P	**Pn**		**06 56 46.4**	**+1.8**
UMAU					*e*S	**Sn**		**06 57 31.6**	**+0.1**
UMAU	**Umeaa**	**3.95**	**177**		P	**Pn**		**06 56 46.3**	**+1.8**
UMAU					S	**Sn**		**06 57 31.6**	**+0.1**
UMAU	**Umeaa**	**3.95**	**177**		P	**Pn**		**06 56 46.4**	**+1.8**
BREU	**Bredtraesk**	**4.00**	**191**		*e*P	**Pn**		**06 56 46.8**	**+1.6**
BREU	**Bredtraesk**	**4.00**	**191**		P	**Pn**		**06 56 46.7**	**+1.6**
BREU	**Bredtraesk**	**4.00**	**191**		P	**Pn**		**06 56 46.8**	**+1.6**
KU6	**Riekki**	**4.19**	**111**		*e*P	**Pn**		**06 56 49.2**	**+1.4**
KU6					MSG			06 57 57.1	
	comp=Z,4.1nm,0.2s								
KU6	**Riekki**	**4.19**	**111**		P	**Pn**		**06 56 49.2**	**+1.4**
KJN	**Kajaani**	**4.82**	**137**		MSG			06 58 13.3	
	comp=Z,3.2nm,0.3s								
APA0	**Apatity Array**	**4.85**	**87**		Pn	**Pn**		**06 56 56.9**	**+0.1**
	baz=293,slow=12								
APA0					Sn	**Sn**		**06 57 52.1**	**-1.4**
	baz=283,slow=28								
APA0					Lg	Lg		06 58 11.8	
	baz=278,slow=37								
APA0	**Apatity Array**	**4.85**	**87**		Pn	**Pn**		**06 56 56.9**	**+0.1**
	baz=293,slow=12								
APA0					Sn	**Sn**		**06 57 52.1**	**-1.4**
	baz=283,slow=28								
APA0					Lg	Lg		06 58 11.8	
	baz=278,slow=37								
APA0	**Apatity Array**	**4.85**	**87**		Pn	**Pn**		**06 56 56.9**	**+0.1**
	SNR=50								
APA0					Sn	**Sn**		**06 57 52.1**	**-1.4**
	SNR=50								
FIA0	**FINESS Array S**	**6.86**	**156**		Pn	**Pn**		**06 57 25.4**	**+1.0**
	baz=344,slow=12								
FIA0					Sn	**Sn**		**06 58 41.0**	**-2.1**
	baz=343,slow=22								
FIA0	**FINESS Array S**	**6.86**	**156**		Pn	**Pn**		**06 57 25.4**	**+1.0**
	baz=344,slow=12								
FIA0					Sn	**Sn**		**06 58 41.0**	**-2.1**
	baz=343,slow=22								
FIA0	**FINESS Array S**	**6.86**	**156**		Pn	**Pn**		**06 57 25.5**	**+1.0**
	SNR=50								
FIA0					Sn	**Sn**		**06 58 41.0**	**-2.1**
	SNR=50								
FINES	**FINESS Array B**	**6.86**	**156**		Pn	**Pn**		**06 57 25.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=6.2								
FINES					Sn	**Sn**		**06 58 42.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=346,slow=25,SNR=4.2								
NB2	**NORSAR Subarra**	**7.84**	**214**		Pn	**Pn**		**06 57 38.3**	**+0.4**
NB2	**NORSAR Subarra**	**7.84**	**214**		Pn	**Pn**		**06 57 38.3**	**+0.4**
NB2	**NORSAR Subarra**	**7.84**	**214**		Pn	**Pn**		**06 57 38.3**	**+0.4**
NOA	**NORSAR Array B**	**7.84**	**214**		Pn	**Pn**		**06 57 38.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=24,slow=12,SNR=1.5								
HFS	**Hagfors**	**8.23**	**204**		Pn	**Pn**		**06 57 43.2**	**0.0**
	baz=21,slow=14								
HFS					Sn	**Sn**		**06 59 13.4**	**-3.3**
	baz=29,slow=28								
HFS	**Hagfors**	**8.23**	**204**		Pn	**Pn**		**06 57 43.2**	**0.0**
	baz=21,slow=14								
HFS					Sn	**Sn**		**06 59 13.4**	**-3.3**
	baz=29,slow=28								
HFS	**Hagfors**	**8.23**	**204**		Pn	**Pn**		**06 57 43.2**	**0.0**
	SNR=50								
SPA0	**Spitsbergen Ar**	**10.48**	**356**		Pn	**Pn**		**06 58 14.6**	**+0.7**
	baz=177,slow=14								
SPA0	**Spitsbergen Ar**	**10.48**	**356**		Pn	**Pn**		**06 58 14.6**	**+0.7**
	baz=177,slow=14								
SPA0	**Spitsbergen Ar**	**10.48**	**356**		Pn	**Pn**		**06 58 14.6**	**+0.7**
	SNR=50								

IDC 23 06:59:08.0±54.0, 17.28S×179.63E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/31, mbtmp3.8/3, Error ellipse: s-maj=981.2km s-min=162.2km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.31**	**240**		P	P		07 06 22.6	+0.5
	1.0nm,0.5s,baz=97,slow=8.1,SNR=1.6								
WRA	**Warramunga Arr**	**42.91**	**259**		P	P		07 07 08.3	-0.5
	0.2nm,0.3s,baz=95,slow=7.9,SNR=4.6								
ASAR	**Alice Springs**	**43.16**	**254**		P	P		07 07 10.6	-0.3
	1.8nm,0.6s,baz=88,slow=8.3,SNR=15								

TRN 23 07:02:05.5, 12.92N×60.72W, h74km, MD3.3, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVB	**Belmont**	**0.62**	**304**		*e*P	Pn		07 02 22.0	+2.0
SVB					*e*S	Sn		07 02 32.4	+1.8
MCLT	**Moule a Chique**	**0.81**	**345**		*e*P	Pn		07 02 23.9	+1.8
MCLT					*e*S	Sn		07 02 36.1	+1.8
GRGR	**Grenville**	**1.20**	**229**		*e*P	Pn		07 02 27.8	+1.0
GRGR	**Grenville**	**1.20**	**229**		*e*P	Pn		07 02 27.8	+1.0
GRGR					*e*S	Sn		07 02 43.3	+0.6
GRGR					*e*S	Sn		07 02 43.9	+1.2
TOSP	**Speyside**	**1.62**	**173**		*e*P	Pn		07 02 34.6	+2.3
T

USRK	**Ussuriysk Ar.**	**24.06**	**340**	P	**P**	**07 19 25.8**	**-0.2**
	1.5nm,0.6s,baz=161,slow=10,SNR=6.2						
MDJ	**Mudanjiang**	**25.24**	**337**	P	**P**	**07 19 38.3**	**+1.7**
MDJ				PMZ			
	9.0nm,0.5s						
MDJ				PMZ			
	44nm,4.7s						
HHC	**Hu-ho-hao-te**	**32.56**	**313**	*e*P	**P**	**07 20 43.6**	**+2.1**
HHC				PP	**PP**	**07 22 05.9**	**+5.2**
HHC				S	**S**	**07 25 36.8**	**-1.4**
HHC				sS	sS	07 27 17.1	+9.4
HHC				SS	**SS**	**07 27 59.4**	**-6.2**
HHC				ScS	**ScS**	**07 30 37.3**	**-4.5**
HHC				PMZ			
	17nm,1.1s						
HHC				PMZ			
	72nm,5.7s						
CD2	**Chengdu**	**36.09**	**293**	*e*P	**P**	**07 21 12.3**	**+0.5**
LZH	**Lanzhou**	**36.77**	**301**	*e*P	**P**	**07 21 19.9**	**+2.3**
LZH				pP	pP	07 22 15.9	+7.5
LZH				sP	sP	07 22 49.6	+13
LZH				PMZ			
	21nm,1.0s						
LZH				PMZ			
	100nm,5.0s						
ULN	**Ulaanbaatar**	**38.71**	**321**	*e*P	**P**	**07 21 33.7**	**+0.1**
	2.9nm,0.5s						
SONM	**Songino Array**	**39.08**	**320**	P	**P**	**07 21 36.7**	**+0.1**
	3.1nm,0.4s,baz=128,slow=7.2,SNR=37						
CMAR	**Chiang Mai Arr**	**41.34**	**273**	P	**P**	**07 21 55.4**	**0.0**
	1.1nm,0.3s,baz=43,slow=8.8,SNR=5.3						
SEY	**Seymchan**	**41.56**	**6**	P	**P**	**07 21 56.6**	**+0.1**
	0.9nm,0.4s,baz=188,slow=5.6,SNR=12						
WRAB	**Tennant Creek**	**42.37**	**192**	*e*P	**P**	**07 22 04.3**	**+0.8**
	13nm,0.5s						
WB2	**Warramunga Arr**	**42.38**	**192**	*e*P	**P**	**07 22 04.2**	**+0.7**
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**07 22 04.4**	**+0.8**
	9.7nm,0.6s,baz=12,slow=8.2,SNR=117						
TLY	**Talaya**	**42.51**	**324**	P	**P**	**07 22 04.5**	**+0.2**
	1.5nm,0.4s,baz=114,slow=1.6,SNR=4.2						
ASAR	**Alice Springs**	**46.09**	**192**	P	**P**	**07 22 33.2**	**+0.3**
	1.9nm,0.5s,baz=15,slow=10,SNR=30						
WMQ	**Urumqi**	**50.31**	**309**	*e*P	**P**	**07 23 05.6**	**+0.6**
WMQ				PMZ			
	9.0nm,0.7s						
STKA	**Stephens Creek**	**53.44**	**181**	P	**P**	**07 23 28.5**	**+0.6**
	1.7nm,0.3s,baz=4.2,slow=6.1,SNR=4.4						
TNA	**Tin City**	**53.89**	**23**	*e*P	**P**	**07 23 31.3**	**+0.5**
	2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**53.95**	**322**	P	**P**	**07 23 31.1**	**-0.4**
	3.5nm,0.3s,baz=108,slow=8.4,SNR=22						
FORT	**Forrest**	**54.24**	**196**	*e*P	**P**	**07 23 34.6**	**+0.8**
	25nm,0.6s						
MKAR	**Makanchi Array**	**54.43**	**313**	P	**P**	**07 23 35.0**	**0.0**
	0.6nm,0.5s,baz=90,slow=12,SNR=11						
MKAR				PcP	**PcP**	**07 24 34.7**	**-0.6**
	0.3nm,0.4s,baz=71,slow=4.5,SNR=3.7						
MKAR	**Makanchi Array**	**54.43**	**313**	*e*P	**P**	**07 23 35.3**	**+0.3**
KURK	**Kurchatov**	**57.21**	**317**	*e*P	**P**	**07 23 53.9**	**-0.7**
	1.8nm,0.3s						
TRF	**Thorofare Moun**	**60.32**	**28**	*e*P	**P**	**07 24 16.0**	**+0.1**
	5.5nm,0.8s						
MCK	**McKinley**	**60.96**	**28**	*e*P	**P**	**07 24 19.9**	**-0.1**
	4.4nm,0.9s						
ILAR	**Eielson Array**	**62.01**	**27**	P	**P**	**07 24 25.9**	**-1.1**
	2.6nm,0.8s,baz=258,slow=5.5,SNR=28						
BRVK	**Borovoye**	**62.47**	**319**	*e*P	**P**	**07 24 29.9**	**-0.4**
	3.6nm,0.6s						
KKAR	**Karatay Array**	**62.78**	**308**	*e*P	**P**	**07 24 34.7**	**+2.1**
	1.3nm,0.6s						
INK	**Inuvik**	**67.52**	**24**	P	**P**	**07 25 01.6**	**-0.8**
	1.5nm,0.7s,baz=296,slow=7.3,SNR=11						
ARU	**Arti**	**69.01**	**324**	*e*P	**P**	**07 25 11.6**	**-0.3**
	5.0nm,0.7s						
ABKAR	**Akbulak array**	**69.28**	**316**	*e*P	**P**	**07 25 12.9**	**-0.7**
	4.9nm,0.8s						
DLBC	**Dease Lake**	**70.12**	**34**	P	**P**	**07 25 18.9**	**+0.2**
	2.7nm,0.9s,baz=41,slow=1.6,SNR=4.6						
YKA	**Yellowknife Ar**	**76.43**	**28**	P	**P**	**07 25 54.0**	**-1.2**
	2.0nm,0.5s,baz=292,slow=5.9,SNR=18						
KEV	**Kevo**	**78.14**	**341**	*e*p	**P**	**07 26 02.7**	**-1.9**
	0.8nm,0.3s						
ARCES	**ARCESS Array B**	**78.71**	**341**	P	**P**	**07 26 06.9**	**-0.8**
	4.6nm,0.7s,baz=70,slow=7.8,SNR=23						
JOF	**Joensuu**	**80.08**	**334**	*e*p	**P**	**07 26 13.5**	**-1.7**
	9.1nm,0.5s						
KAF	**Kangasniemi**	**82.49**	**335**	*e*p	**P**	**07 26 25.7**	**-2.1**
	2.9nm,0.6s						
FINES	**FINESS Array B**	**82.95**	**334**	P	**P**	**07 26 28.7**	**-1.5**
	6.5nm,0.4s,baz=82,slow=4.6,SNR=59						
NVAR	**Mina Array Bea**	**83.22**	**51**	P	**P**	**07 26 32.6**	**+0.2**
	0.8nm,0.6s,baz=271,slow=5.6,SNR=7.8						
SUMG	**Summit**	**85.81**	**0**	*e*P	**P**	**07 26 44.5**	**-0.4**
	2.9nm,0.6s						
AKASG	**Malin Array Be**	**87.25**	**324**	P	**P**	**07 26 50.0**	**-1.8**
	0.4nm,0.3s,baz=52,slow=4.9,SNR=5.7						
NB2	**NORSAR Subarra**	**88.72**	**339**	P	**P**	**07 26 56.7**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=44,slow=5.1						
NOA	**NORSAR Array B**	**88.72**	**339**	P	**P**	**07 26 56.7**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=45,slow=5.7,SNR=5.2						
BRTR	**Keskin Array B**	**90.07**	**313**	P	**P**	**07 27 03.5**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=62,slow=6.5,SNR=2.8						

*STR **23** 07:19:58.6±0.1, 44.˚34N×7.˚27E, h5km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **23** 07:19:58.7±0.1, 44.˚34N×7.˚26E, h2km, Md2.3/3, Ml2.3/8, Error ellipse: s-maj=1.6km s-min=0.7km az=72.0*
*GEN **23** 07:19:58.7, 44.˚34N×7.˚27E, h10km, ML1.7*
CSEM 23 07:19:58.2±0.1, 44.˚35N×7.˚26E, h8km, ML2.3/9, Error ellipse: s-maj=1.9km s-min=1.2km az=68.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.11**	**155**	P	Pg		07 20 01.5	+0.6
STV				S	Sg		07 20 03.4	+0.6
ENR	**Entracque**	**0.17**	**136**	P	Pg		07 20 02.2	+0.4
ENR				S	Sg		07 20 04.7	+0.4
PZZ	**Stroppo**	**0.19**	**327**	P	Pg		07 20 03.0	+0.7
PZZ				S	Sg		07 20 05.8	+0.7
TOUF	**Mont Tournerai**	**0.33**	**181**	Pg	Pg		07 20 05.4	+0.3
TOUF				Sg	Sg		07 20 09.5	-0.2
TOUF	**Mont Tournerai**	**0.33**	**181**	Pg	Pg		07 20 05.4	+0.3
TOUF				Sg	Sg		07 20 09.5	-0.2
SURF	**Saint Ours**	**0.35**	**293**	Pg	Pg		07 20 05.6	+0.3
SURF				Sg	Sg		07 20 11.1	+1.0
SURF	**Saint Ours**	**0.35**	**293**	Pg	Pg		07 20 05.6	+0.3
SURF				Sg	Sg		07 20 11.1	+1.0
AUTN	**L'Aution**	**0.37**	**161**	Pg	Pg		07 20 06.0	+0.2
AUTN				Sg	Sg		07 20 10.7	-0.3
AUTN	**L'Aution**	**0.37**	**161**	Pg	Pg		07 20 06.0	+0.2
AUTN				Sg	Sg		07 20 10.7	-0.3
MVIF	**Mont Vial**	**0.46**	**190**	Pg	Pg		07 20 07.4	+0.1
MVIF				Sg	Sg		07 20 13.8	+0.3
MVIF	**Mont Vial**	**0.46**	**190**	Pg	Pg		07 20 07.4	+0.1
MVIF				Sg	Sg		07 20 13.8	+0.3
SBF	**Sospel**	**0.50**	**165**	*e*Pg	Pg		07 20 08.6	+0.6
SBF				*e*Sg	Sg		07 20 14.8	+0.1
	31nm,0.2s							
SBF	**Sospel**	**0.50**	**165**	*e*Pg	Pg		07 20 08.6	+0.6
SBF				*e*Sg	Sg		07 20 14.8	+0.1
	15nm,0.2s							
MBDF	**Montbardon**	**0.52**	**318**	*e*Pg	Pg		07 20 08.6	+0.2
MBDF				*e*Sg	Sg		07 20 15.6	+0.2
	26nm,0.2s							
MBDF	**Montbardon**	**0.52**	**318**	*e*Pg	Pg		07 20 08.6	+0.2
MBDF				*e*Sg	Sg		07 20 15.6	+0.2
	13nm,0.2s							
OG22	**Abries**	**0.53**	**335**	Pg	Pg		07 20 08.8	+0.1
OG22				Sg	Sg		07 20 16.3	+0.5
OG22	**Abries**	**0.53**	**335**	Pg	Pg		07 20 08.8	+0.1
OG22				Sg	Sg		07 20 16.3	+0.5
RORO	**Rocca Rossa**	**0.63**	**112**	P	Pg		07 20 10.2	-0.1
RORO				S	Sg		07 20 18.2	-0.3
CALN	**Calern**	**0.65**	**204**	Pg	Pg		07 20 11.1	+0.1
CALN				Sg	Sg		07 20 20.3	+0.6
CALN	**Calern**	**0.65**	**204**	Pg	Pg		07 20 11.1	+0.1
CALN				Sg	Sg		07 20 20.3	+0.6
RRL	**Rocca Remolon**	**0.66**	**330**	P	Pg		07 20 11.4	0.0
RRL				S	Sg		07 20 20.1	-0.2
OG25	**Le Caire**	**0.85**	**272**	Pg	Pg		07 20 15.0	+0.3
OG25				Sg	Sb		07 20 26.5	-0.6
OG25	**Le Caire**	**0.85**	**272**	Pg	Pg		07 20 15.0	+0.3
OG25				Sg	Sb		07 20 26.5	-0.6
FRF	**La Foret Royal**	**0.90**	**210**	*e*Pg	Pg		07 20 15.5	-0.1
FRF				*e*Sg	Sg		07 20 26.3	-1.0
	14nm,0.2s							
FRF	**La Foret Royal**	**0.90**	**210**	*e*Pg	Pg		07 20 15.5	-0.1
FRF				*e*Sg	Sg		07 20 26.3	-1.0
	7.1nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.14**	**301**	*e*Pg	Pg		07 20 20.0	-0.2
ORIF				*e*Sg	Sg		07 20 35.2	+0.1
	4.5nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.14**	**301**	*e*Pg	Pg		07 20 20.0	-0.2
ORIF				*e*Sg	Sg		07 20 35.2	+0.1
	2.2nm,0.3s							
LMR	**La Mourre**	**1.15**	**208**	*e*Pg	Pg		07 20 20.0	-0.3
LMR				*e*Sg	Sg		07 20 34.6	-0.6
	26nm,0.2s							
LMR	**La Mourre**	**1.15**	**208**	*e*Pg	Pg		07 20 20.0	-0.3
LMR				*e*Sg	Sg		07 20 34.6	-0.6
	13nm,0.2s							
LPG	**La Plagne**	**1.21**	**343**	*e*Pg	Pb		07 20 21.6	-0.1
LPG				*e*Sg	Sg		07 20 37.4	-0.3
	3.6nm,0.3s							
LPG	**La Plagne**	**1.21**	**343**	*e*Pg	Pb		07 20 21.6	-0.1
LPG				*e*Sg	Sg		07 20 37.4	-0.3
	1.8nm,0.3s							
LPL	**La Plagne**	**1.23**	**342**	*e*Pg	Pb		07 20 21.9	-0.1
LPL				*e*Sg	Sb		07 20 37.7	-0.5
	4.6nm,0.3s							
LPL	**La Plagne**	**1.23**	**342**	*e*Pg	Pb		07 20 21.9	-0.1
LPL				*e*Sg	Sb		07 20 37.7	-0.5
	2.3nm,0.3s							
SMRF	**Simiane la Rot**	**1.27**	**254**	*e*Pg	Pn		07 20 22.2	-0.1
SMRF	**Simiane la Rot**	**1.27**	**254**	*e*P	Pg		07 20 23.3	+0.7
SMRF				*e*Sg	Sb		07 20 38.3	-0.6
	10nm,0.3s							
SMRF	**Simiane la Rot**	**1.27**	**254**	*e*Pg	Pn		07 20 22.2	-0.1
SMRF	**Simiane la Rot**	**1.27**	**254**	*e*P	Pg		07 20 23.3	+0.7
SMRF				*e*Sg	Sb		07 20 38.3	-0.6
	5.2nm,0.3s							
VIVF	**Saint-Julien-l**	**1.92**	**286**	*e*Pn	Pn		07 20 30.6	-0.6
VIVF				*e*Sn	Sn		07 20 54.2	-1.4
	2.7nm,0.3s							
VIVF	**Saint-Julien-l**	**1.92**	**286**	*e*Pn	Pn		07 20 30.6	-0.6
VIVF				*e*Sn	Sn		07 20 54.2	-1.4
	1.4nm,0.3s							

*IDC **23** 07:22:36.1±6.4, 20.˚86S×179.˚06W, h551km±77km, mb3.2/6, mb1 3.5/7, mb1mx3.1/38, mbtmp4.2/7, Error ellipse: s-maj=28.5km s-min=23.8km az=103.0*
*ISCJB **23** 07:22:40.8±0.8, 20.˚7S±0.˚1×179.˚4W±0.˚1, h619km, mb3.7/6, Error ellipse: s-maj=19.6km s-min=13.6km az=30.9*
ISC 23 07:22:41.6±0.9, 20.˚9S±0.˚2×179.˚2W±0.˚2, h619km, n11, σ1§20/12, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.61**	**190**	P	**P**		**07 26 10.2**	**-2.4**
	0.9nm,0.3s,baz=264,slow=2.3,SNR=7.9							
URZ				S	**S**		**07 29 06.2**	**+2.3**
	0.3nm,0.3s,baz=216,slow=24,SNR=2.7							
STKA	**Stephens Creek**	**36.60**	**244**	P	**P**		**07 28 57.8**	**+0.3**
	2.2nm,0.5s,baz=87,slow=10,SNR=5.3							
BBOO	**Buckleboo**	**41.36**	**244**	P	**P**		**07 29 35.7**	**0.0**
	baz=35,SNR=8.1							
ASAR	**Alice Springs**	**43.33**	**257**	P	**P**		**07 29 51.4**	**+0.2**
	4.4nm,0.5s,baz=96,slow=7.7,SNR=73							
WRA	**Warramunga Arr**	**43.42**	**263**	P	**P**		**07 29 51.5**	**-0.4**
	1.8nm,0.3s,baz=96,slow=7.2,SNR=142							
KDU	**Kakadu**	**46.83**	**272**	P	**P**		**07 30 18.1**	**+0.3**
	baz=40,SNR=7.2							
WRKA	**Warakurna**	**48.27**	**255**	P	**P**		**07 30 28.5**	**+0.1**
	baz=41,SNR=6.5							
KNRA	**Kununurra**	**49.50**	**267**	P	**P**		**07 30 38.0**	**+0.4**
	baz=42,SNR=3.3							
NVAR	**Mina Array Bea**	**82.08**	**44**	P	**P**		**07 33 60.0**	**+1.0**
	0.4nm,0.6s,baz=230,slow=8.1,SNR=2.6							
TXAR	**Lajitas Array**	**88.22**	**58**	P	**P**		**07 34 28.6**	**0.0**
	0.5nm,0.8s,baz=224,slow=4.5,SNR=4.1							
ILAR	**Eielson Array**	**88.94**	**13**	P	**P**		**07 34 30.4**	**-0.6**
	1.8nm,1.2s,baz=215,slow=5.1,SNR=6.0							

*IDC **23** 07:25:20.9±0.8, 38.˚12S×73.˚49W, h0km, mb4.2/8, mb1 4.3/12, mb1mx4.1/34, mbtmp4.1/12, ML3.9/3, MS4.0/8, Ms1 4.0/8, ms1mx3.9/15, Error ellipse: s-maj=22.3km s-min=14.1km az=79.0*
*ISCJB **23** 07:25:23.2±0.4, 37.˚97S±0.˚04×73.˚48W±0.˚08, h22km, mb4.6/22, MS4.1/6, Error ellipse: s-maj=8.9km s-min=6.2km az=177.5*
*BJI **23** 07:25:26.4, 38.˚10S×73.˚50W, h35km, mB5.1/5, Ms5.2/4, Ms7 4.9/4*
*NEIC **23** 07:25:26.4±0.3, 38.˚08S×73.˚46W, h35km, mb4.7/14, Error ellipse: s-maj=10.6km s-min=7.6km az=91.0*
NEIC Felt at Temuco.
ISC 23 07:25:24.7±0.4, 38.˚06S±0.˚05×73.˚50W±0.˚08, h22km, n62, σ1§91/78, mb4.5/22, MS4.1/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.51**	**140**	Pn	**Pn**		**07 26 18.0**	**0.0**
	4.5nm,0.3s,baz=306,slow=9.0,SNR=110							
PLCA				Pg	**Pb**		**07 26 23.7**	**-2.5**
	25nm,0.3s,baz=317,slow=12,SNR=66							
PLCA				Sn	**Sn**		**07 27 02.5**	**+3.6**
	23nm,0.3s,baz=353,slow=21,SNR=2.9							
PLCA				Lg	Lg		07 27 10.9	
	33nm,0.3s,baz=232,slow=15,SNR=4.4							
CFAA	**Coronel Fontan**	**7.76**	**35**	Pn	**Pn**		**07 27 15.8**	**-0.5**
	0.6nm,0.3s,baz=333,slow=3.4,SNR=35							
CFAA				Sn	**Sn**		**07 28 43.1**	**-0.4**
	0.6nm,0.3s,baz=118,slow=20,SNR=2.0							
CFAA				Lg	Lg		07 29 30.2	
	0.2nm,0.3s,baz=260,slow=14,SNR=3.9							
CFAA				LR	LR		07 30 37.5	
	comp=Z,150nm,20.3s,baz=226,slow=41							
TRQA	**Tornquist**	**9.09**	**94**	*e*Pn	**Pn**		**07 27 37.0**	**+2.4**
LCO	**Las Campanas**	**9.32**	**15**	*e*Pn	**Pn**		**07 27 37.1**	**-0.8**
LVC	**Limon Verde**	**15.89**	**16**	Pn	**Pn**		**07 29 06.2**	**-1.1**
	13nm,0.3s,baz=198,slow=9.6,SNR=2.4							
LVC				LR	LR		07 36 16.5	
	comp=Z,1μm,18.4s,baz=192,slow=41							
LVC	**Limon Verde**	**15.89**	**16**	*e*P	**Pn**		**07 29 08.6**	**+1.4**
	44nm,1.6s							
USHA	**Ushuaia**	**17.13**	**170**	P	**Pn**		**07 29 23.0**	**+0.5**
	0.3nm,0.3s,baz=315,slow=8.6,SNR=2.2							
CPUP	**Villa Florida**	**17.97**	**54**	P	**Pn**		**07 29 33.0**	**-0.1**
	0.1nm,0.3s,baz=233,slow=10.0,SNR=7.8							
CPUP				LR	LR		07 37 12.4	
	comp=Z,8μm,21.5s,baz=230,slow=40							
CPUP	**Villa Florida**	**17.97**	**54**	*e*P	**Pn**		**07 29 32.7**	**-0.3**
	0.4nm,1.1s							
LPAZ	**La Paz**	**22.20**	**14**	P	**P**		**07 30 21.8**	**+1.6**
	7.5nm,1.0s,baz=159,slow=8.9,SNR=14							
LPAZ	**La Paz**	**22.20**	**14**	*e*P	**P**		**07 30 22.8**	**+2.7**
	9.7nm,0.8s							
SIV	**San Ignacio**	**24.56**	**30**	P	**P**		**07 30 42.7**	**-0.3**
	13nm,1.1s,baz=223,slow=7.7,SNR=16							
SIV				LR	LR		07 42 43.7	
	comp=Z,686nm,18.0s,baz=224,slow=42							
SAML	**Samuel**	**30.44**	**20**	*e*P	**P**		**07 31 35.6**	**0.0**
	3.7nm,1.0s							
ATAH	**Atahualpa**	**31.10**	**351**	LR	LR		07 43 19.4	
	comp=Z,290nm,18.2s,baz=189,slow=35							
BDFB	**Brasilia**	**31.68**	**52**	P	**P**		**07 31 45.5**	**-1.3**
	2.0nm,0.7s,baz=224,slow=10.0,SNR=4.5							
BDFB				LR	LR		07 46 09.8	
	comp=Z,737nm,18.5s,baz=210,slow=39							
OTAV	**Otavalo**	**38.38**	**352**	*e*P	**P**		**07 32 47.5**	**+2.6**
	9.5nm,1.3s							
PTGA	**Pitinga**	**39.18**	**22**	*e*P	**P**		**07 32 51.8**	**+0.8**
	3.2nm,0.5s							
VNA3	**Neumayer Olymp**	**46.09**	**156**	P	P		07 33 43.3	-3.3
VNA2	**Neumayer--Watz**	**46.77**	**156**	P	P		07 33 45.7	-6.2
	baz=311,slow=12							
SDV	**Santo Domingo**	**46.78**	**4**	*e*P	**P**		**07 33 52.5**	**-0.2**
	5.2nm,0.9s							
SNAA	**Sanae**	**48.31**	**156**	P	**P**		**07 34 04.0**	**0.0**
SNAA	**Sanae**	**48.31**	**156**	LR	LR		07 53 44.4	
	comp=Z,58nm,18.4s,baz=205,slow=35							
QSPA	**South Pole Qui**	**52.18**	**180**	P	**P**		**07 34 32.8**	**-0.6**
	1.7nm,0.8s,baz=120,slow=2.0,SNR=7.1							
RKT	**Rikitea**	**54.07**	**267**	*e*LR	LR		07 50 33.4	
	396nm,25.8s							
RKT	**Rikitea**	**54.07**	**267**	*e*T	T		08 32 30.6	
	1.0nm,0.2s							
TBI	**Tubuai**	**65.30**	**259**	*e*LR	LR		07 55 40.0	
	302nm,23.5s							
TIAR	**Tiarei**	**68.39**	**264**	*e*T	T		08 50 30.1	
	4.4nm,0.2s							
PPT2	**Papeete2**	**68.56**	**264**	*e*LR	LR		07 57 09.3	
	273nm,25.2s							
LRAL	**Lakeview Retre**	**71.84**	**348**	*e*P	**P**		**07 36 45.0**	**-0.5**
	3.5nm,1.0s							
JCT	**Junction City**	**72.48**	**336**	*e*P	**P**		**07 36 50.0**	**+0.6**
	12nm,1.0s							
JCT				*e*S	**S**		**07 46 10.5**	**-1.8**
TXAR	**Lajitas Array**	**72.74**	**333**	P	**P**		**07 36 51.5**	**+0.4**
	0.6nm,0.7s,baz=149,slow=8.5,SNR=6.6							
SWET	**Sewanee**	**73.81**	**349**	*e*P	**P**		**07 36 57.6**	**+0.4**
CPCT	**Cooper Cave**	**73.85**	**351**	*e*P	**P**		**07 36 57.9**	**+0.5**
WVT	**Waverly**	**75.00**	**348**	*e*P	**P**		**07 37 03.6**	**-0.5**
	13nm,1.1s							
TUL1	**Leonard**	**76.44**	**342**	*e*P	**P**		**07 37 11.2**	**-1.1**
	20nm,0.8s							
LIC	**Lamto**	**77.18**	**72**	*e*P	**P**		**07 37 17.2**	**+0.1**
	55nm,1.1s							
TIC	**Toumodi**	**77.46**	**71**	*e*P	**P**		**07 37 18.8**	**+0.1**
	8.3nm,0.2s							
KIC	**Kosan Boka**	**77.49**	**72**	*e*P	**P**		**07 37 19.0**	**+0.2**
	62nm,1.1s							
DBIC	**Dimbokro**	**77.60**	**71**	P	**P**		**07 37 19.8**	**+0.4**
	16nm,0.9s,baz=186,slow=4.6,SNR=10							
DBIC				LR	LR		08 10 21.9	
	comp=Z,125nm,18.1s,baz=204,slow=35							
DBIC	**Dimbokro**	**77.60**	**71**	*e*P	**P**		**07 37 19.5**	**+0.1**
	10nm,0.7s							
BKZ	**Black Stump Fm**	**79.85**	**228**	*e*P	**P**		**07 37 32.1**	**+0.5**
	12nm,0.5s							
URZ	**Urewera**	**80.08**	**229**	*e*P	**P**		**07 37 33.2**	**+0.5**
	34nm,0.8s							
YUH	**Yuha Desert**	**80.68**	**325**	*e*P	**P**		**07 37 36.4**	**+0.6**
CRR	**Carrizo Plain**	**80.90**	**325**	*e*P	**P**		**07 37 38.0**	**+1.1**
ECSD	**EROS Data Cent**	**84.07**	**343**	*e*P	**P**		**07 37 53.5**	**+0.2**
	14nm,1.0s							
TORD	**Torodi Ar. Bea**	**86.69**	**71**	P	**P**		**07 38 06.4**	**-0.6**
	2.6nm,0.9s,baz=220,slow=4.4,SNR=8.6							
TORD				LR	LR		08 17 08.7	
	comp=Z,60nm,18.2s,baz=215,slow=36							
PDAR	**Pinedale Array**	**86.87**	**334**	P	**P**		**07 38 07.1**	**-0.4**
	0.6nm,0.9s,baz=141,slow=5.0,SNR=3.8							
DZM	**Mont Dzumac**	**97.89**	**234**	*e*LR	LR		08 10 49.8	
	320nm,23.6s							
BRTR	**Keskin Array B**	**124.77**	**64**	PKP	**PKPdf**		**07 44 22.0**	**-0.6**
	0.6nm,0.8s,baz=242,slow=2.7,SNR=3.8							
AKASG	**Malin Array Be**	**125.76**	**50**	PKP	**PKPdf**		**07 44 23.0**	**-0.9**
	0.3nm,0.3s,baz=264,slow=2.8,SNR=2.0							
ARU	**Arti**	**143.54**	**44**	*e*PKPdf	PKPbc		07 44 54.2	0.0
TIXI	**Tiksi**	**144.44**	**348**	*e*PKPdf	**PKPab**		**07 44 55.5**	**-0.7**
ABKAR	**Akbulak array**	**145.03**	**56**	*e*PKPdf	**PKPbc**		**07 44 58.7**	**-0.4**
BRVK	**Borovoye**	**150.91**	**47**	*e*PKPbc	**PKPbc**		**07 45 15.1**	**+0.3**
KSH	**Kashi**	**156.21**	**77**	*e*PKP	**PKPdf**		**07 45 15.6**	**-1.8**
KSH				pPKP	**pPKPdf**		**07 45 26.6**	**+1.7**
KSH				PKS	**PKSdf**		**07 48 48.4**	**-3.0**
KSH				PP	**PP**		**07 49 19.3**	**-4.3**
KSH				SKS	**SKSdf**		**07 52 17.5**	**-4.8**
KSH				SKKS	SKKSac		07 56 02.6	-8.8
KSH				PPMZ				
	85nm,4.4s							
KSH				LN				
	87nm,5.0s							
KSH				LE				
	72nm,6.4s							
KSH				LZ				
	140nm,6.1s							
ZALV	**Zalesovo Beam**	**158.25**	**36**	PKP	**PKPdf**		**07 45 18.2**	**-1.1**
	0.6nm,0.6s,baz=101,slow=6.2,SNR=4.4							
ZALV				PKPab	**PKPab**		**07 45 53.4**	**-0.1**
	2.1nm,0.7s,baz=284,slow=6.0,SNR=6.6							
MKAR	**Makanchi Array**	**160.17**	**56**	PKP	**PKPdf**		**07 45 20.8**	**-1.0**
	0.8nm,1.0s,baz=289,slow=3.7,SNR=4.7							
MKAR				PKPab	**PKPab**		**07 46 01.2**	**-1.0**
	1.4nm,1.0s,baz=270,slow=9.0,SNR=6.9							
MKAR				PP	**PP**		**07 49 46.5**	**+1.7**
	0.9nm,1.0s,baz=336,slow=2.7,SNR=4.1							
WMQ	**Urumqi**	**164.68**	**62**

NNA Nana 26.05 356 LR LR 07 40 20.0
comp=Z,322nm,18.1s,baz=180,slow=30
SAML Samuel 30.94 23 eP P 07 33 28.0 +4.7
5.5nm,1.3s
OTAV Otavalo 38.28 355 eP P 07 34 27.9 +0.7
9.9nm,1.3s
ROSC El Rosal 42.74 1 LR LR 07 52 05.9
comp=Z,205nm,18.4s,baz=206,slow=35
SDV Santo Domingo 46.92 6 eP P 07 35 36.4 -0.7
6.0nm,0.8s
SNAA Sanae 48.77 156 P P 07 35 49.5 -1.1
2.4nm,0.8s,baz=254,slow=5.5,SNR=3.5
SNAA Sanae 48.77 156 eP P 07 35 50.1 -0.5
28nm,1.3s
QSPA South Pole Qui 52.14 180 P P 07 36 14.7 -1.6
6.9nm,0.9s,baz=340,slow=0.6,SNR=8.1
QSPA South Pole Qui 52.14 180 eP P 07 36 14.2 -2.1
10nm,0.9s
VNDA Vanda 59.60 192 P P 07 37 09.0 -0.3
2.5nm,1.1s,baz=151,slow=7.7,SNR=4.0
034A Hebbronville 68.50 337 ⇑P P 07 38 09.5 +1.2
baz=69
933A Laredo 69.19 337 ⇓P P 07 38 13.6 +1.0
baz=70
834A Tilden 69.46 338 ⇓P P 07 38 15.6 +1.4
baz=70
736A Circle Diamond 69.81 340 ⇓P P 07 38 18.0 +1.6
baz=70
833A Chaparral WMA, 69.90 337 ⇑P P 07 38 17.2 +0.2
baz=70,SNR=7.1
832A Faith Ranch, C 70.04 337 ⇑P P 07 38 18.1 +0.3
baz=70,SNR=5.9
733A Divot King Ran 70.23 337 ⇓P P 07 38 20.2 +1.2
baz=71
636A Smothers Creek 70.31 340 ⇑P P 07 38 20.6 +1.2
baz=71
732A Laxson Ranch, 70.45 337 ⇑P P 07 38 21.0 +0.7
baz=71,SNR=6.1
633A Saathoff Ranch 70.89 338 ⇑P P 07 38 23.8 +0.8
baz=71
632A Uvalde 71.12 337 ⇑P P 07 38 25.6 +1.2
baz=72
534A Blanco 71.22 339 ⇑P P 07 38 25.9 +0.9
baz=72
631A Perdido Creek 71.28 337 ⇓P P 07 38 26.0 +0.7
baz=72
533A Kerrville 71.42 338 ⇑P P 07 38 26.8 +0.6
baz=72,SNR=6.7
LRAL Lakeview Retre 71.64 349 eP P 07 38 27.4 +0.1
13nm,0.8s
532A Rocksprings 71.74 337 ⇑P P 07 38 28.9 +0.7
baz=72,SNR=14
434A Burnet 71.90 339 ⇑P P 07 38 29.7 +0.6
baz=72,SNR=10
531A Rocksprings 71.97 337 ⇑P P 07 38 30.3 +0.8
baz=72,SNR=7.0
JCT Junction City 72.03 338 ⇑P P 07 38 30.8 +0.9
baz=72
JCT Junction City 72.03 338 eP P 07 38 30.2 +0.3
11nm,1.1s
336A Riesel 72.06 341 ⇑P P 07 38 30.4 +0.5
baz=72
433A Art 72.08 338 ⇓P P 07 38 30.4 +0.3
baz=72,SNR=5.2
530A J-C Ranch, Com 72.20 336 ⇓P P 07 38 31.7 +0.8
baz=73,SNR=7.8
TXAR Lajitas Array 72.22 334 P P 07 38 31.8 +0.6
3.3nm,0.7s,baz=155,slow=8.6,SNR=19
334A Lometa 72.38 339 ⇑P P 07 38 32.5 +0.6
baz=73,SNR=12
432A Menard 72.40 338 ⇓P P 07 38 32.5 +0.5
baz=73
529A Stev Forest Ra 72.46 335 ⇓P P 07 38 33.2 +0.7
baz=73
431A Sonora 72.47 337 ⇓P P 07 38 33.2 +0.7
baz=73
333A Richland Sprin 72.59 339 ⇑P P 07 38 33.3 +0.1
baz=73,SNR=5.3
430A Baggett Ranch, 72.76 337 ⇑P P 07 38 35.1 +0.8
baz=73,SNR=9.5
429A Davenport Ranc 72.82 336 ⇑P P 07 38 35.5 +0.9
baz=73,SNR=10.0
332A Millersview 72.86 338 ⇑P P 07 38 35.2 +0.4
baz=73,SNR=7.3
137A Heron Place, G 72.93 342 ⇑P P 07 38 35.2 +0.1
baz=73
234A Clairette 72.99 340 ⇑P P 07 38 35.8 +0.3
baz=73,SNR=7.0
331A San Angelo 73.00 337 ⇑P P 07 38 36.0 +0.4
baz=73,SNR=11
KMSC Kings Mountain 73.11 355 ⇓P P 07 38 35.8 -0.3
baz=74
233A Rising Star 73.21 339 ⇑P P 07 38 36.8 0.0
baz=74,SNR=5.6
232A Coleman 73.31 338 ⇑P P 07 38 37.6 +0.1
baz=74,SNR=6.2
330A Mertzon 73.32 337 ⇑P P 07 38 37.8 +0.3
baz=74
231A Bronte 73.55 338 ⇑P P 07 38 39.1 +0.2
baz=74
SWET Sewanee 73.64 351 eP P 07 38 39.3 -0.1
25nm,0.8s
329A Wagon Wheel Ra 73.64 336 ⇓P P 07 38 40.1 +0.6
baz=74,SNR=6.6
230A Sterling City 73.75 337 ⇓P P 07 38 40.4 +0.4
baz=74
133A Hamilton Ranch 73.77 339 ⇓P P 07 38 40.5 +0.3
baz=74
ABTX Abilene, Hawle 74.00 339 ⇓P P 07 38 41.9 +0.5
baz=74
Z35A Perchaven, San 74.01 341 ⇓P P 07 38 41.8 +0.3
baz=74
229A Bryant Ranch, 74.03 337 ⇑P P 07 38 42.1 +0.3
baz=74
131A Roby 74.26 338 ⇓P P 07 38 43.1 +0.1
baz=75
MIAR Mount Ida 74.30 344 eP P 07 38 42.4 -0.7
4.8nm,1.0s
130A Snyder 74.36 337 ⇑P P 07 38 43.8 +0.2
baz=75
Z33A Whitaker Ranch 74.37 340 ⇓P P 07 38 44.0 +0.4
baz=75
228A UT Block 9, Go 74.42 336 ⇑P P 07 38 44.5 +0.5
baz=75
Z32A Haskell 74.59 339 ⇓P P 07 38 44.8 0.0
baz=75,SNR=6.4
129A Stewart Farms, 74.67 337 ⇑P P 07 38 46.0 +0.5
baz=75
Y34A Reagan Ranch, 74.73 341 ⇑P P 07 38 45.9 +0.2
baz=75
Z31A Sharp Cattle R 74.79 338 ⇓P P 07 38 46.3 +0.3
baz=75,SNR=6.8
WVT Waverly 74.80 349 eP P 07 38 45.0 -1.0
13nm,1.2s
128A Castleberry Fa 74.85 336 ⇓P P 07 38 47.3 +0.8
baz=75
MNTX Cornudas Mount 74.98 334 ⇑P P 07 38 47.1 -0.1
baz=75
Y33A Hilltop Ranch, 75.01 340 ⇓P P 07 38 47.3 0.0
baz=76
Z30A Sanderson Ranc 75.05 338 ⇑P P 07 38 47.7 +0.1
baz=76,SNR=7.1
Z29A Hungry Hill Ra 75.20 337 ⇓P P 07 38 48.6 +0.1
baz=76
Y32A R-V Farms, Ver 75.23 339 ⇑P P 07 38 48.9 +0.3
baz=76
X34A Smith Ranch, M 75.36 341 ⇑P P 07 38 49.7 +0.4
baz=76
Y31A Rekieta Farm, 75.43 339 ⇓P P 07 38 50.2 +0.5
baz=76
W36A Wetumka 75.47 342 ⇓P P 07 38 49.7 -0.2
baz=76
X32A Elmer 75.58 339 ⇓P P 07 38 50.6 +0.1
baz=76
W35A Tecumseh 75.64 342 ⇑P P 07 38 50.6 -0.3
baz=76
WMOK Wichita Mounta 75.74 340 eP P 07 38 51.0 -0.5
11nm,1.3s
Y29A Porterfield Fa 75.75 337 ⇓P P 07 38 51.8 +0.2
baz=76
W34A Bridge Creek, 75.95 341 ⇑P P 07 38 52.6 0.0
baz=76
Y28A McKinney Farm, 75.97 337 ⇑P P 07 38 53.4 +0.5
baz=76
X31A McDonald Ranch 75.97 339 ⇓P P 07 38 53.1 +0.3
baz=76,SNR=5.6
W33A Caddo, Fort Co 76.05 340 ⇑P P 07 38 53.7 +0.5
baz=76

X30A Coker Ranch, T 76.06 338 ⇓P P 07 38 54.1 +0.8
baz=76
TUL1 Leonard 76.10 343 ⇓P P 07 38 53.2 -0.3
baz=76,SNR=9.6
319A Douglas 76.14 330 ⇑P P 07 38 55.5 +1.6
baz=77
MSTX Muleshoe 76.19 337 ⇓P P 07 38 54.7 +0.5
baz=77
MSTX Muleshoe 76.19 337 eP P 07 38 54.4 +0.2
7.9nm,0.8s
V35A Meyer Ranch, C 76.21 342 ⇓P P 07 38 54.2 +0.1
baz=77
W32A Sentinel 76.23 340 ⇓P P 07 38 54.5 +0.3
baz=77,SNR=9.3
X29A Tulia 76.30 338 ⇓P P 07 38 55.4 +0.7
baz=77
V34A Guthrie 76.45 341 ⇓P P 07 38 55.6 +0.1
baz=77
W31A Holland Ranch, 76.48 339 ⇓P P 07 38 55.8 0.0
baz=77
X28A Dimmitt 76.52 337 ⇑P P 07 38 56.5 +0.4
baz=77
121A Cookes Peak, D 76.60 332 ⇓P P 07 38 58.0 +1.4
baz=77
V33A Lossen Ranch, 76.63 341 ⇑P P 07 38 56.8 +0.3
baz=77
AMTX Amarillo 76.70 338 ⇓P P 07 38 57.7 +0.7
baz=77
AMTX Amarillo 76.70 338 eP P 07 38 57.3 +0.3
18nm,1.0s
V32A Arapaho 76.74 340 ⇓P P 07 38 57.8 +0.7
baz=77
W29A Amarillo 76.91 338 ⇓P P 07 38 58.6 +0.4
baz=77
V31A Spring Creek L 77.01 340 ⇑P P 07 38 59.5 +0.9
baz=78
U34A Anderson Ranch 77.03 342 ⇑P P 07 38 58.8 +0.1
baz=78
U32A Winter Ranch, 77.35 340 ⇑P P 07 39 01.1 +0.6
baz=78
TUC Tucson 77.56 330 eP P 07 39 02.8 +0.9
4.4nm,1.0s
V28A Channing 77.67 338 ⇑P P 07 39 03.3 +0.9
baz=78
S36A Lake Cedric, C 77.79 343 ⇑P P 07 39 02.8 -0.2
baz=78,SNR=6.2
T33A Patterson Ranc 77.82 341 ⇓P P 07 39 03.8 +0.6
baz=78
S35A Otter Creek Ra 77.92 343 ⇓P P 07 39 04.1 +0.5
baz=78
U30A WK&E Inc. Balk 77.94 339 ⇑P P 07 39 04.8 +0.9
baz=78
T31A Randall Ranch, 78.20 340 ⇓P P 07 39 06.1 +0.9
baz=79
ACSO Alum Creek Sta 78.29 354 eP P 07 39 05.6 0.0
4.1nm,0.7s
ANMO Albuquerque 78.30 344 eP P 07 39 07.0 +0.9
11nm,1.0s
U27A Thompson Grove 78.47 337 ⇓P P 07 39 07.4 +0.5
baz=79
Q37A Longview Farm, 78.65 345 ⇓P P 07 39 07.4 -0.3
baz=79
T29A Hugoton 78.71 339 ⇓P P 07 39 09.0 +0.9
baz=79
T28A Walsh 78.91 338 ⇑P P 07 39 09.5 +0.2
baz=79,SNR=7.4
R33A Olander Ranch, 78.91 342 ⇓P P 07 39 09.5 +0.3
baz=79
S30A Montezuma 78.93 340 ⇑P P 07 39 10.0 +0.7
baz=79
T27A Campo 79.03 338 ⇑P P 07 39 10.6 +0.6
baz=80
S29A Ulysses 79.09 339 ⇓P P 07 39 10.6 +0.4
baz=80
X18A Snowflake 79.19 331 ⇑P P 07 39 12.1 +1.1
baz=80
R32A Long Quarter, 79.20 341 ⇓P P 07 39 11.2 +0.5
baz=80
S28A Manter 79.28 339 ⇓P P 07 39 11.6 +0.3
baz=80
R31A Burdett 79.28 341 ⇓P P 07 39 11.8 +0.5
baz=80
Z14A Wintersburg 79.35 328 ⇓P P 07 39 13.5 +1.9
baz=80
T26A Comanche Natio 79.40 337 ⇑P P 07 39 12.7 +0.6
baz=80,SNR=5.9
Q33A Connelly Farm, 79.53 342 ⇑P P 07 39 12.9 +0.4
baz=80
T25A Trinidad 79.62 337 ⇓P P 07 39 14.2 +0.9
baz=80,SNR=9.5
X16A Lo Jan Camp, P 79.67 330 ⇓P P 07 39 15.0 +1.4
baz=80,SNR=8.6
Q32A Meitler Ranch, 79.70 342 ⇑P P 07 39 13.6 +0.1
baz=80
S26A Kim 79.78 337 ⇑P P 07 39 14.8 +0.8
baz=80,SNR=9.3
Y14A Wickenburg 79.88 329 ⇑P P 07 39 16.1 +1.5
baz=80
Q31A Ellis 79.93 341 ⇓P P 07 39 15.2 +0.5
baz=80
Q30A Quinter 80.11 340 ⇑P P 07 39 16.4 +0.7
baz=81,SNR=7.9
R27A Eads 80.19 338 ⇓P P 07 39 16.7 +0.5
baz=81
Q29A Oakley 80.24 340 ⇑P P 07 39 16.6 +0.2
baz=81
P32A Huiting Farm, 80.31 342 ⇓P P 07 39 16.3 -0.4
baz=81
Y12C Blythe 80.35 328 ⇓P P 07 39 19.0 +2.0
baz=81
R26A Arlington 80.40 338 ⇑P P 07 39 18.2 +0.9
baz=81
SDCO Great Sand Dun 80.52 336 ⇓P P 07 39 19.1 +0.9
baz=81,SNR=6.7
WUAZ Wupatki 80.61 331 ⇓P P 07 39 20.0 +1.4
baz=81
WUAZ Wupatki 80.61 331 eP P 07 39 19.3 +0.7
3.4nm,0.8s
Q28A Sharon Springs 80.63 339 ⇑P P 07 39 19.1 +0.5
baz=81
P30A Selden 80.66 341 ⇓P P 07 39 19.2 +0.6
baz=81
BC3 Big Chuckawall 80.66 327 ⇓P P 07 39 20.7 +1.8
baz=81
KSCO Kaye Shedlock' 80.81 339 ⇑P P 07 39 20.4 +0.8
baz=81
R24A Sanders Place, 80.84 336 ⇑P P 07 39 21.0 +1.2
baz=81,SNR=7.3
P29A Atwood 80.89 340 ⇓P P 07 39 20.6 +0.7
baz=81
S22A 4UR Ranch, Cre 80.96 335 ⇑P P 07 39 21.7 +1.1
baz=81,SNR=6.1
IRM Iron Mountain 80.96 327 ⇑P P 07 39 22.2 +1.8
baz=81
O31A Woolen Ranch, 80.99 341 ⇑P P 07 39 20.9 +0.5
baz=81
R23A Moffat 81.03 336 ⇑P P 07 39 21.9 +0.9
baz=82
MVCO Mesa Verde 81.05 334 ⇓P P 07 39 21.7 +0.7
baz=82
MVCO Mesa Verde 81.05 334 eP P 07 39 21.6 +0.6
6.1nm,1.1s
PFO Pinyon Flats O 81.06 326 ⇓P P 07 39 23.1 +2.1
baz=82
PFO Pinyon Flats O 81.06 326 eP P 07 39 22.7 +1.7
8.3nm,1.1s
P28A Saint Francis 81.09 339 ⇑P P 07 39 21.7 +0.7
baz=82
W13A Hualapai Mount 81.24 329 ⇓P P 07 39 24.1 +2.0
baz=82
MURC Murrieta 81.38 326 ⇑P P 07 39 24.4 +1.7
baz=82
Q24A Divide 81.53 337 ⇑P P 07 39 24.2 +0.6
baz=82
P26A Davis Ranch, A 81.53 338 ⇑P P 07 39 24.2 +0.8
baz=82
GMRC Granite Mounta 81.71 327 ⇑P P 07 39 25.8 +1.4
baz=82
P25A Willow Gulch B 81.73 338 ⇑P P 07 39 25.4 +0.9
baz=82,SNR=7.1
U15A North Rim 81.76 330 ⇑P P 07 39 26.4 +1.6
baz=82,SNR=7.1
BGNE Belgrade 81.89 343 ⇓P P 07 39 25.5 +0.4
baz=82
PV01 Paradox Valley 81.90 334 eP P 07 39 26.1 +0.5
380nm,1.1s
HEC Hector,Ludlow 82.04 327 ⇑P P 07 39 28.2 +2.1
baz=82

P23A Jefferson 82.12 336 ⇑P P 07 39 27.7 +1.0
baz=83
O26A Horse Wrangler 82.15 339 ⇓P P 07 39 27.5 +0.9
baz=83,SNR=5.4
PV10 Paradox Valley 82.28 334 eP P 07 39 28.4 +0.9
93nm,0.7s
TUQ Turquoise Moun 82.38 327 ⇓P P 07 39 29.9 +1.9
baz=83
ISCO Idaho Springs 82.44 337 ⇑P P 07 39 29.4 +1.0
baz=83
P22A Eagle 82.61 336 ⇑P P 07 39 30.0 +0.8
baz=83
GSC Goldstone, Bar 82.65 327 ⇓P P 07 39 31.4 +2.1
baz=83
L30A Spencer Herefo 82.78 342 ⇓P P 07 39 30.6 +0.9
baz=83
L31A Butterfield Fa 82.78 342 ⇑P P 07 39 30.4 +0.7
baz=83
SHOC Shoshone, Teco 82.93 327 ⇓P P 07 39 32.1 +1.5
baz=83
SHPR Sheep Range 82.98 328 eP P 07 39 32.4 +1.3
19nm,1.8s
O22A Kremmling 83.06 336 ⇑P P 07 39 32.4 +0.8
baz=84,SNR=8.6
CCUT Cedar City 83.16 330 eP P 07 39 33.9 +1.9
5.6nm,1.0s
LRMC Laurel Mtn Rad 83.18 326 ⇓P P 07 39 33.7 +1.6
baz=84
SRU San Rafael Swe 83.46 333 eP P 07 39 33.9 +0.3
5.4nm,1.0s
M25A Palm-Egli Farm 83.47 338 ⇑P P 07 39 33.9 +0.4
baz=84
N23A Red Feather La 83.54 337 ⇓P P 07 39 34.9 +0.9
baz=84
MVU Marysvale 83.55 332 eP P 07 39 35.2 +1.2
20nm,1.9s
MPMC Manual Prospec 83.58 327 ⇓P P 07 39 35.5 +1.2
baz=84
O20A White River Ci 83.59 335 ⇑P P 07 39 35.3 +1.1
baz=84
N22A Wattenberg Ran 83.61 337 ⇑P P 07 39 35.5 +1.1
baz=84
FURC Furnace Creek, 83.66 327 ⇑P P 07 39 36.1 +1.8
baz=84
ISA Isabella, Lake 83.68 326 ⇓P P 07 39 36.5 +1.9
baz=84,SNR=5.2
M24A Cheyenne 83.72 338 ⇓P P 07 39 35.9 +1.1
baz=84
ECSD EROS Data Cent 83.77 344 ⇑P P 07 39 34.7 0.0
baz=84,SNR=11
ECSD EROS Data Cent 83.77 344 eP P 07 39 34.5 -0.2
18nm,1.2s
TPNV Topopah Spring 83.81 328 ⇑P P 07 39 36.9 +1.6
baz=84
K28A Ten Mile Ranch 83.92 341 ⇑P P 07 39 36.2 +0.5
baz=84
M23A Laramie 83.99 337 ⇓P P 07 39 36.7 +0.4
baz=84
VES Vestal, Richgr 84.10 325 ⇓P P 07 39 38.5 +1.9
baz=84
L25A Engebretsen Ra 84.11 339 ⇓P P 07 39 37.2 +0.6
baz=85
K27A Fluekinger Fa 84.14 340 ⇓P P 07 39 37.5 +0.7
baz=85
J29A Okreek 84.31 342 ⇓P P 07 39 37.9 +0.4
baz=85,SNR=5.1
GRAC Grapevine Rang 84.33 327 ⇑P P 07 39 39.9 +2.0
baz=85
K25A Mack Ranch, Ha 84.50 339 ⇑P P 07 39 39.6 +0.9
baz=85
J28A Allard Ranch, 84.55 341 ⇓P P 07 39 39.5 +0.7
baz=85
I30A Oaxoma 84.57 343 ⇓P P 07 39 38.9 +0.1
baz=85
J27A Elkhorn Farm, 84.59 341 ⇓P P 07 39 40.0 +0.9
baz=85
MPU Maple Canyon 84.66 333 eP P 07 39 40.2 +0.6
10nm,1.4s
R11A Troy Canyon, C 84.73 329 ⇓P P 07 39 41.5 +1.5
baz=85,SNR=5.9
R11A Troy Canyon, C 84.73 329 eP P 07 39 40.1 +0.1
5.9nm,1.1s
K24A Anderson Ranch 84.87 338 ⇑P P 07 39 41.4 +0.8
baz=85
I29A Vivian Onida 84.88 342 ⇑P P 07 39 40.9 +0.5
baz=85
J26A Sides Ranch, S 84.93 340 ⇑P P 07 39 41.8 +1.0
baz=85
I28A Midland 85.07 341 ⇑P P 07 39 41.6 +0.2
baz=86,SNR=6.5
JLU Jordanelle 85.11 333 eP P 07 39 42.1 +0.2
2.4nm,0.7s
K23A Bowen Ranch, D 85.14 338 ⇓P P 07 39 42.4 +0.5
baz=86
TPH Tonopah 85.17 328 eP P 07 39 43.7 +1.4
8.6nm,1.1s
J25A Sunshine Ranch 85.20 339 ⇑P P 07 39 42.6 +0.4
baz=86
DUG Dugway, Tooele 85.25 332 ⇑P P 07 39 43.5 +0.9
baz=86,SNR=8.4
DUG Dugway, Tooele 85.25 332 eP P 07 39 43.5 +0.9
16nm,1.4s
K22A Casper 85.31 337 ⇑P P 07 39 43.4 +0.6
baz=86
K22A Casper 85.31 337 eP P 07 39 43.4 +0.6
9.3nm,1.1s
I27A Quinn 85.36 341 ⇑P P 07 39 43.2 +0.4
baz=86
J24A Dixon Ranch, L 85.39 339 ⇑P P 07 39 43.6 +0.5
baz=86
H29A Onida 85.42 342 ⇓P P 07 39 43.2 0.0
baz=86
K21A Alcova 85.52 337 ⇓P P 07 39 44.3 +0.4
baz=86,SNR=7.1
I26A New Underwood 85.54 340 ⇑P P 07 39 44.2 +0.4
baz=86
G30A Faulkton 85.65 343 ⇑P P 07 39 44.1 -0.1
baz=86
I25A Rochford 85.76 340 ⇓P P 07 39 45.3 +0.3
baz=86
H27A Howes 85.89 341 ⇓P P 07 39 45.6 +0.1
baz=86
NVAR Mina Array Bea 85.93 327 P P 07 39 46.9 +0.9
1.2nm,0.8s,baz=156,slow=6.3,SNR=6.1
J22A Midwest 86.00 338 ⇓P P 07 39 46.3 +0.2
baz=86
G28A Parade 86.02 342 ⇓P P 07 39 46.1 +0.1
baz=86
HWUT Hardware Ranch 86.04 333 eP P 07 39 46.8 +0.4
7.2nm,1.0s
J21A Lysite 86.23 337 ⇑P P 07 39 47.8 +0.4
baz=87
BW06 Boulder Array 86.38 335 eP P 07 39 47.8 -0.4
6.5nm,1.3s
PDAR Pinedale Array 86.38 335 P P 07 39 48.3 +0.1
2.0nm,0.8s,baz=142,slow=6.5,SNR=13
I22A 9 Mile Ranch, 86.43 338 ⇑P P 07 39 48.5 +0.2
baz=87
J20A Shoshoni 86.44 337 ⇑P P 07 39 49.2 +0.9
baz=87,SNR=12
F29A Eureka 86.47 343 ⇑P P 07 39 48.4 +0.1
baz=87
G27A Dupree 86.55 341 ⇑P P 07 39 48.8 +0.1
baz=87
I21A Big Trails, Te 86.61 337 ⇓P P 07 39 49.5 +0.3
baz=87,SNR=5.9
G26A Maurine 86.64 341 ⇓P P 07 39 49.4 +0.3
baz=87
H24A Dirks Ranch, A 86.66 339 ⇓P P 07 39 49.4 +0.1
baz=87
J19A Crowheart 86.66 336 ⇓P P 07 39 49.8 +0.3
baz=87,SNR=7.7
F28A McLaughlin 86.72 342 ⇑P P 07 39 49.5 +0.1
baz=87
I20A Worland 86.99 337 ⇓P P 07 39 51.3 +0.3
baz=87,SNR=6.1
F27A Lemmon 87.04 342 ⇓P P 07 39 51.4 +0.4
baz=88
I19A Meeteetse 87.34 336 ⇓P P 07 39 53.0 +0.3
baz=88
E28A Huff 87.37 343 ⇓P P 07 39 52.8 +0.2
baz=88
H20A Greybull 87.43 337 ⇑P P 07 39 53.4 +0.3
baz=88
D30A Buchanan 87.44 344 ⇑P P 07 39 52.9 0.0
baz=88
E27A Carson 87.45 342 ⇓P P 07 39 53.0 0.0
baz=88

E26A	**Carlson Angus** baz=88	**87.71**	**341**	⇓P	**P**	**07 39 54.5**	**+0.3**
I17A	**Pilgrim Ck.** baz=88	**87.75**	**335**	⇓P	**P**	**07 39 56.0**	**+1.2**
TORD	**Torodi Ar. Bea** 0.6nm,0.7s,baz=225,slow=3.3,SNR=2.4	**87.87**	**72**	P	**P**	**07 39 56.1**	**+0.4**
H19A	**Powell** baz=88	**87.90**	**337**	⇓P	**P**	**07 39 55.7**	**+0.3**
C30A	**Mose, Pekin** baz=88	**87.94**	**344**	⇓P	**P**	**07 39 55.8**	**+0.5**
AGMN	**Agassiz Nation** baz=88	**87.99**	**346**	⇓P	**P**	**07 39 55.5**	**0.0**
H18A	**Shoshone NF, C** baz=89,SNR=7.7	**88.12**	**336**	⇑P	**P**	**07 39 57.1**	**+0.5**
G20A	**Bridger** baz=89	**88.16**	**337**	⇑P	**P**	**07 39 56.9**	**+0.3**
D26A	**Manning** baz=89	**88.22**	**342**	⇓P	**P**	**07 39 57.0**	**+0.3**
MDND	**Maddock** baz=89	**88.33**	**344**	⇑P	**P**	**07 39 57.3**	**+0.2**
YMR	**Madison River** 8.0nm,1.1s	**88.54**	**335**	*e*P	**P**	**07 39 58.4**	**-0.1**
B30A	**Myrvik Farm, E** baz=89	**88.62**	**345**	⇑P	**P**	**07 39 58.7**	**+0.2**
C27A	**Sayler Ranch,** baz=89	**88.63**	**342**	⇓P	**P**	**07 39 59.2**	**+0.6**
HLID	**Hailey** baz=89	**88.77**	**333**	⇓P	**P**	**07 40 00.9**	**+1.3**
HLID	**Hailey** 15nm,1.8s	**88.77**	**333**	*e*P	**P**	**07 40 00.9**	**+1.3**
B29A	**Wagenman Farm,** baz=89	**88.85**	**344**	⇓P	**P**	**07 40 00.2**	**+0.7**
F19A	**Roth Farm, Mol** baz=89	**88.95**	**337**	⇓P	**P**	**07 40 00.5**	**+0.2**
B28A	**Dugan Ranch, T** baz=90	**89.06**	**343**	⇓P	**P**	**07 40 01.1**	**+0.6**
A30A	**Hoffart Farm,** baz=90	**89.08**	**345**	⇓P	**P**	**07 40 01.1**	**+0.5**
C24A	**Savage** baz=90	**89.19**	**341**	⇑P	**P**	**07 40 01.4**	**+0.1**
A29A	**Manning Farm,** baz=90	**89.26**	**344**	⇓P	**P**	**07 40 01.5**	**0.0**
MCMT	**McKenzie Canyo** 0.8nm,0.5s	**89.31**	**334**	*e*P	**P**	**07 40 03.0**	**+0.8**
E19A	**Rath Farm, Rou** baz=90	**89.45**	**337**	⇓P	**P**	**07 40 02.8**	**+0.2**
ULM	**Lac du Bonnet** 3.4nm,0.9s,baz=194,slow=3.4,SNR=5.8	**89.87**	**347**	P	**P**	**07 40 04.2**	**-0.1**
A22A	**Carney Farms,** baz=91	**90.93**	**340**	⇓P	**P**	**07 40 09.5**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=172,slow=1.5,SNR=2.4	**115.99**	**211**	PKP	**PKPdf**	**07 45 47.7**	**-1.6**
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=188,slow=5.3,SNR=3.0	**125.89**	**64**	PKP	**PKPdf**	**07 46 07.5**	**-0.2**
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=131,slow=8.6,SNR=3.9	**141.09**	**310**	PKP	**PKPdf**	**07 46 36.1**	**+0.6**
GEYT	**Alibeck** 1.9nm,0.4s,baz=297,slow=6.5,SNR=4.0	**143.42**	**75**	PKhKP	PKPpre	07 46 36.2	
ABKAR	**Akbulak array**	**146.07**	**56**	*e*PKPbc	**PKPdf**	**07 46 44.9**	**+0.5**
ASAJ	**Asahikawa** 6.2nm,0.6s,baz=211,slow=6.2,SNR=10	**151.18**	**294**	PKPbc	**PKPbc**	**07 46 58.8**	**0.0**
ASAJ	**Asahikawa**	**151.18**	**294**	*e*PKPbc	**PKPbc**	**07 46 58.0**	**-0.8**
BRVK	**Borovoye**	**151.84**	**47**	*e*PKPbc	**PKPbc**	**07 46 59.6**	**-0.4**
EKS2	**Erkin-Say**	**155.91**	**69**	*e*PKPdf	**PKPdf**	**07 46 59.9**	**+0.1**
AAK	**Ala-Archa**	**156.44**	**69**	*e*PKPdf	**PKPdf**	**07 47 00.4**	**-0.3**
TKM2	**Tokmak 2**	**157.24**	**68**	*e*PKPdf	**PKPdf**	**07 47 01.3**	**-0.4**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=278,slow=4.2,SNR=2.1	**158.99**	**35**	PKP	**PKPdf**	**07 47 02.2**	**-1.0**
ZALV	1.7nm,0.7s,baz=290,slow=6.1,SNR=4.7			PKPab	**PKPab**	**07 47 40.8**	**+1.1**
MKAR	**Makanchi Array** 1.5nm,1.1s,baz=287,slow=4.6,SNR=4.4	**161.21**	**55**	PKP	**PKPdf**	**07 47 05.6**	**-0.3**
MKAR	0.3nm,0.7s,baz=292,slow=7.6,SNR=1.5			PKPab	**PKPab**	**07 47 49.1**	**-0.7**

IDC ***23*** *07:45:31.9±1.4,26°.69N×142°.28E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/29,mbtmp3.8/5,MS2.9/3,Ms1 2.9/3, ms1mx2.6/28,Error ellipse: s-maj=74.7km s-min=14.5km az=87.0*

ISCJB ***23*** *07:45:34.8±1.2,26°.68N±0°.08×142°.3E±0°.4,h31km, mb3.7/5,MS3.9/1,Error ellipse: s-maj=55.9km s-min=10.2km az=174.7*

ISC 23 07:45:36.7±1.4,26°.7N±0°.1×142°.3E±0°.4,h31km,n9, σ1§02/7,mb3.8/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 894nm,0.3s,baz=96,slow=23,SNR=572	**0.38**	**349**	Pn	**Pb**			**07 45 44.9**	**-0.4**
JCJ	1µm,0.3s,baz=288,slow=23,SNR=18			Sn	**Sb**			**07 45 50.5**	**-0.8**
JCJ	comp=Z,231nm,19.7s,baz=61,slow=74			LR	LR			07 46 02.2	
KSRS	**Korea Array** comp=Z,15nm,18.4s,baz=180,slow=34	**16.17**	**315**	LR	LR			07 54 50.6	
ASAJ	**Asahikawa** comp=Z,14nm,18.2s,baz=174,slow=56	**17.36**	**1**	LR	LR			08 01 53.6	
SEY	**Seymchan** 0.5nm,0.3s,baz=177,slow=10,SNR=3.9	**36.82**	**8**	P	**P**			**07 52 42.6**	**+1.0**
WRA	**Warramunga Arr** 2.3nm,0.6s,baz=12,slow=8.7,SNR=34	**47.02**	**190**	P	**P**			**07 54 04.8**	**-0.5**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=9.8,slow=6.7,SNR=6.1	**50.74**	**190**	P	**P**			**07 54 33.3**	**-0.6**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=79,slow=7.5,SNR=2.5	**50.77**	**310**	P	**P**			**07 54 35.1**	**+1.2**
DZM	**Mont Dzumac** comp=Z,115nm,21.4s,baz=192,slow=31	**53.86**	**152**	LR	LR			08 13 30.8	
FINES	**FINESS Array B** 1.0nm,0.4s,baz=83,slow=4.4,SNR=12	**78.31**	**334**	P	**P**			**07 57 33.0**	**-0.6**

NEIC 23 08:19:17.3,60°.83N×148°.91W,h28km,ML3.6(AEIC), After AEIC.,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTE	**Portage**	**0.07**	**303**	P			Pb	08 19 21.9	-0.2
RC01	**Rabbit Creek A**	**0.48**	**303**	P			Pb	08 19 25.7	-1.6
RC01				S			Sb	08 19 33.5	-0.7
FIB	**Fire Island**	**0.70**	**299**	P			Pb	08 19 29.9	-1.1
SLKM	**Skilak Lake**	**0.72**	**244**	P			Pb	08 19 30.2	-1.1
PMR	**Palmer**	**0.77**	**352**	P			Pb	08 19 30.3	-1.9
PMR				S			Sb	08 19 41.0	-1.3
SEW	**Seward**	**0.77**	**200**	P			Pb	08 19 30.6	-1.5
SEW				S			Sb	08 19 42.0	-0.3
GLI	**Glacier Island**	**0.89**	**86**	P			Pn	08 19 32.2	-1.8
LTI	**Latouche**	**0.95**	**146**	P			Pn	08 19 32.2	-2.5
SUA	**Susitna One**	**1.09**	**306**	P			Pn	08 19 35.0	-1.9
SUA				S			Sn	08 19 49.8	-1.4
JPK	**Jack Peak**	**1.15**	**78**	P			Pn	08 19 36.2	-1.4
SCM	**Sheep Creek Mo**	**1.27**	**36**	P			Pn	08 19 38.3	-0.9
SCM				S			Sn	08 19 55.8	+0.5
VMT	**TAPS Tl Valdez**	**1.27**	**77**	P			Pn	08 19 38.0	-1.0
VMT				S			Sn	08 19 55.4	+0.2
VLZ	**Valdez**	**1.29**	**75**	P			Pn	08 19 38.2	-1.2
BRLK	**Bradley Lake**	**1.45**	**224**	P			Pn	08 19 40.8	-0.9
DIV	**Divide**	**1.56**	**77**	P			Pn	08 19 42.3	-1.0
STLK	**Strandline Lak**	**1.57**	**297**	P			Pn	08 19 42.3	-1.1
EYAK	**Cordova Ski Ar**	**1.58**	**99**	P			Pn	08 19 42.5	-0.9
KLU	**Klutina**	**1.59**	**64**	P			Pn	08 19 43.0	-0.7
CKN	**Chakachatna No**	**1.64**	**285**	P			Pn	08 19 43.6	-0.7
CKL	**Chakachamna La**	**1.71**	**284**	P			Pn	08 19 44.4	-0.9
CUT	**Chulitna**	**1.71**	**338**	P			Pn	08 19 44.5	-0.7
SKT	**Skwentna**	**1.71**	**314**	P			Pn	08 19 44.2	-1.1
SPBG	**Spurr Blockage**	**1.74**	**286**	P			Pn	08 19 44.8	-0.9
CNPM	**China Poot**	**1.75**	**223**	P			Pn	08 19 44.7	-1.1
BGL	**Barrier Glacie**	**1.75**	**286**	P			Pn	08 19 45.0	-0.9
HOM	**Homer**	**1.80**	**230**	P			Pn	08 19 46.0	-0.4
DFR	**Drift River**	**1.87**	**264**	P			Pn	08 19 46.6	-1.0
MID	**Middleton Isla**	**1.91**	**136**	P			Pn	08 19 47.4	-0.4
RDN	**Redoubt North**	**1.92**	**262**	P			Pn	08 19 47.4	-0.9
RSO	**Redoubt South**	**1.93**	**261**	*e*Pn			Pn	08 19 47.1	-1.4
RDWB	**Redoubt West**	**1.97**	**262**	P			Pn	08 19 47.7	-1.2
NCT	**North Crescent**	**2.00**	**264**	P			Pn	08 19 48.3	-1.0
PS11	**TAPS Pump St11**	**2.07**	**51**	P			Pn	08 19 50.4	+0.1
BMRM	**Bremner River**	**2.11**	**84**	P			Pn	08 19 49.8	-1.0
ILS	**Iliamna Low So**	**2.24**	**249**	P			Pn	08 19 51.0	-1.7
DHY	**Denali Highway**	**2.37**	**17**	P			Pn	08 19 54.5	0.0
HARP	**HAARP**	**2.39**	**47**	P			Pn	08 19 54.5	-0.1
OPT	**Oil Point**	**2.46**	**243**	P			Pn	08 19 54.8	-0.7
NICHA	**Nichawak Mount**	**2.51**	**101**	P			Pn	08 19 54.6	-1.7
GLB	**Gilahina Butte**	**2.55**	**74**	P			Pn	08 19 56.1	-0.7
RND	**Reindeer**	**2.59**	**1**	P			Pn	08 19 57.2	-0.2
PPLA	**Purkeypile**	**2.59**	**325**	P			Pn	08 19 56.0	-1.5
BERG	**Berg Lake**	**2.60**	**97**	P			Pn	08 19 55.8	-1.7
SUCK	**Suckling Hills**	**2.65**	**104**	P			Pn	08 19 56.3	-1.9
VRDI	**Verde Repeater**	**2.69**	**79**	P			Pn	08 19 57.8	-1.1
AUP	**Augustine Pinn**	**2.70**	**239**	P			Pn	08 19 59.0	+0.1
PAX	**Paxson**	**2.70**	**36**	P			Pn	08 19 58.8	-0.1
AUH	**Augustine H**	**2.71**	**239**	P			Pn	08 19 59.1	+0.2
TRF	**Thorofare Moun**	**2.71**	**347**	P			Pn	08 19 58.7	-0.5
KHIT	**Khitrov Hills**	**2.81**	**95**	P			Pn	08 19 58.9	-1.6
KTH	**Kantishna Hill**	**2.89**	**342**	P			Pn	08 20 01.0	-0.6
MCARA	**McCarthy VSAT**	**2.91**	**76**	P			Pn	08 20 01.1	-0.6
MCK	**McKinley**	**2.92**	**360**	P			Pn	08 20 01.9	+0.1
PS10	**TAPS Pump St10**	**2.99**	**28**	P			Pn	08 20 04.6	+1.7
CAST	**Castle Rocks**	**3.00**	**332**	P			Pn	08 20 03.0	+0.1
KULT	**Kultieth River**	**3.11**	**98**	P			Pn	08 20 02.8	-1.8
PTPK	**Patty Peak**	**3.16**	**81**	P			Pn	08 20 04.7	-0.6
BARK	**Barkley Ridge**	**3.19**	**95**	P			Pn	08 20 04.5	-1.2
KIAG	**Kiagna River**	**3.21**	**85**	P			Pn	08 20 04.9	-1.1
ISLE	**Juniper Island**	**3.24**	**91**	P			Pn	08 20 05.1	-1.3
SVW2	**Sparrevohn**	**3.27**	**278**	P			Pn	08 20 04.6	-1.9
DDM	**Donnelly Dome**	**3.29**	**24**	P			Pn	08 20 07.4	+0.4
BWN	**Browne**	**3.37**	**356**	P			Pn	08 20 08.0	+0.1
BAGL	**Bagley Icefiel**	**3.37**	**93**	P			Pn	08 20 07.1	-1.0
MESA	**MESA**	**3.50**	**98**	P			Pn	08 20 09.0	-1.2
GRNC	**Granite Creek**	**3.51**	**88**	P			Pn	08 20 09.1	-1.1
BARN	**Barnard Glacie**	**3.54**	**83**	P			Pn	08 20 10.1	-0.5
KDAK	**Kodiak Island**	**3.59**	**213**	P			Pn	08 20 09.4	-1.6
DOT	**Dot Lake**	**3.63**	**37**	P			Pn	08 20 11.3	-0.3
WRH	**Wood River Hil**	**3.68**	**6**	P			Pn	08 20 12.6	+0.4
HDA	**Harding Lake**	**3.70**	**13**	P			Pn	08 20 13.1	+0.5
RKAV	**Rock Avalanche**	**3.77**	**95**	P			Pn	08 20 12.8	-1.0
TABL	**Table Mountain**	**3.85**	**92**	P			Pn	08 20 14.2	-0.6
PS08	**TAPS Pump Stn8**	**3.85**	**14**	P			Pn	08 20 15.2	+0.6
CCB	**Clear Creek Bu**	**3.87**	**7**	P			Pn	08 20 15.2	+0.4
SCRK	**Sand Creek**	**3.90**	**34**	P			Pn	08 20 14.2	-1.3
CHX	**Chaix Hills**	**3.94**	**98**	P			Pn	08 20 14.7	-1.2
TT01	**Tatalina**	**3.96**	**305**	P			Pn	08 20 14.4	-1.7
BCA3	**Beaver Creek A**	**4.04**	**53**	P			Pn	08 20 17.3	-0.1
ILB	**Eielson Array**	**4.07**	**12**	P			Pn	08 20 17.1	-0.4
COLA	**College**	**4.09**	**6**	*e*Pn			Pn	08 20 18.1	+0.2
COLA				*e*Sn			Sn	08 21 10.2	+5.5
KABR	**Katmai Barrier**	**4.11**	**231**	P			Pn	08 20 16.9	-1.3
MDM	**Murphy Dome**	**4.16**	**4**	P			Pn	08 20 19.0	+0.2
OHAK	**Old Harbor**	**4.26**	**214**	P			Pn	08 20 18.0	-2.3
MLY	**Manley**	**4.30**	**350**	P			Pn	08 20 19.9	-0.9
EGAK	**Eagle**	**5.32**	**39**	P			Pn	08 20 34.0	-0.8
DAWY	**Dawson** 7.0nm,0.4s	**5.48**	**50**	*e*Pn			Pn	08 20 37.0	-0.1
HYT	**Haines Junctio**	**5.58**	**85**	P			Pn	08 20 38.1	-0.4
IM3	**Indian Mountai**	**5.61**	**339**	P			Pn	08 20 37.9	-0.9
COLD	**Coldfoot**	**6.45**	**356**	P			Pn	08 20 49.1	-1.2
BM3	**Burnt Mountain**	**6.88**	**14**	P			Pn	08 20 54.9	-1.3
WHY	**Whitehorse**	**6.88**	**85**	P			Pn	08 20 55.5	-0.9
TNA	**Tin City** 2.9nm,0.3s	**9.79**	**307**	*e*Pn			Pn	08 21 34.9	-1.0

NNC 23 08:23:38.0±10.0,37°.34N×73°.93E,h0km,mb4.0,mpv3.6, 5C-5D,Error ellipse: s-maj=103.4km s-min=74.5km az=76.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 16nm,0.4s	**2.69**	**353**	⇓Pn			Pn	08 24 24.6	+1.8
SFK	42nm,0.4s			⇓Sn			Sb	08 25 02.4	+1.4
MNAS	**Manas** 2.9nm,0.4s	**5.25**	**348**	⇓Pn			Pn	08 24 58.8	+0.8
MNAS	5.7nm,0.7s			⇑Sn			Sn	08 25 59.8	+0.4
AAK	**Ala-Archa** 5.1nm,0.6s	**5.30**	**5**	⇑Pn			Pn	08 24 51.8	-6.9
AAK	8.7nm,0.9s			⇓Lg			Lg	08 26 20.7	
TKM2	**Tokmak 2** 3.9nm,0.4s	**5.71**	**12**	⇓Pn			Pn	08 25 02.9	-1.6
TKM2	9.6nm,0.7s			⇑Sn			Sn	08 26 06.0	-4.9
KK31	**Karatay Array** 1.1nm,0.4s,baz=138,slow=12,SNR=24	**6.32**	**337**	⇑Pn			Pn	08 25 16.3	+3.9
KK31	4.8nm,0.6s,baz=151,slow=24,SNR=3.5			⇑Sn			Sn	08 26 27.9	+2.5

ISCJB ***23*** *08:51:39.8±1.1,34°.48S±0°.10×72°.1W±0°.2,h16km,mb3.7/2, MS4.1/1,Error ellipse: s-maj=21.3km s-min=11.1km az=29.3*

IDC ***23*** *08:51:44.9±3.3,34°.53S×71°.99W,h42km±30km,mb3.5/2, mb1 3.8/5,mb1mx3.5/31,mbtmp3.6/5,ML4.0/2,MS3.2/2, Ms1 3.2/2,ms1mx2.5/22,Error ellipse: s-maj=39.2km s-min=20.4km az=116.0*

ISC 23 08:51:41.3±1.1,34°.4S±0°.1×72°.1W±0°.2,h16km,n8,σ1§64/9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan** 0.5nm,0.3s,baz=221,slow=12,SNR=23	**4.32**	**50**	P			**Pn**	**08 52 46.9**	**+0.5**
CFAA	0.5nm,0.3s,baz=293,slow=7.1,SNR=4.4			S			**Sn**	**08 53 37.5**	**+1.0**
PLCA	**Paso Flores** 1.2nm,0.3s,baz=333,slow=11,SNR=18	**6.40**	**169**	P			**Pn**	**08 53 15.9**	**+0.9**
PLCA	comp=Z,33nm,21.2s,baz=79,slow=33			LR			LR	08 55 11.4	
LPAZ	**La Paz** 0.1nm,0.3s,baz=186,slow=10,SNR=6.1	**18.43**	**12**	P			**P**	**08 55 57.4**	**+0.6**
SIV	**San Ignacio** 2.1nm,0.6s,baz=217,slow=10,SNR=6.6	**20.89**	**31**	P			**P**	**08 56 20.5**	**-2.4**
TXAR	**Lajitas Array** 0.4nm,0.5s,baz=157,slow=8.8,SNR=9.5	**70.09**	**331**	P			**P**	**09 02 53.8**	**+1.0**
TXAR	comp=Z,95nm,18.4s,baz=0.0,slow=32			LR			LR	09 28 39.5	
TORD	**Torodi Ar. Bea** 0.7nm,0.8s,baz=243,slow=3.0,SNR=3.5	**84.42**	**70**	P			**P**	**09 04 11.6**	**-1.9**
WRA	**Warramunga Arr** 0.2nm,0.7s,baz=153,slow=1.4,SNR=3.6	**120.34**	**209**	PKP		**PKPdf**		**09 10 31.1**	**-1.3**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=349,slow=1.5,SNR=2.8	**157.10**	**50**	PKPab		**PKPab**		**09 12 07.8**	**+1.2**

IDC 23 09:04:38.2±2.6,54°.14N×86°.47E,h0km,mb1 2.8/2, mb1mx2.7/45,mbtmp2.8/2,ML2.4/2,Error ellipse: s-maj=20.1km s-min=12.5km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=79,slow=332,SNR=0.9	**0.99**	**260**	*i*				09 10 00.0	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=76,slow=17,SNR=14	**0.99**	**260**	Pg		Pg		09 04 56.3	-0.9
ZALV	1.7nm,0.3s,baz=79,slow=30,SNR=13			Lg		Lg		09 05 11.7	
ZALV	20nm,1.1s,baz=79,slow=37,SNR=19			Rg		Rg		09 05 17.7	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=14,SNR=5.7	**6.00**	**237**	Pn		Pn		09 06 09.3	+1.2
KURBB	0.1nm,0.3s,baz=50,slow=25,SNR=7.5			Sn		Sn		09 07 16.2	-1.3
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=15,slow=14,SNR=7.1	**7.82**	**202**	Pn		Pn		09 06 33.9	+0.7
MKAR	0.0nm,0.3s,baz=16,slow=38,SNR=3.3			Lg		Lg		09 08 49.1	

IDC 23 09:09:35.9±9.3,28°.89S×178°.72W,h253km±70km, mb3.4/4,mb1 3.5/5,mb1mx3.2/34,mbtmp4.0/5,Error ellipse: s-maj=84.1km s-min=23.4km az=40.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.5nm,0.3s,baz=270,slow=6.3,SNR=12	**9.97**	**199**	P			Pn	09 11 54.0	+0.1
URZ	0.9nm,0.3s,baz=100,slow=22,SNR=7.7			S			S	09 13 36.8	-9.2
STKA	**Stephens Creek** 0.9nm,0.5s,baz=116,slow=9.0,SNR=4.0	**34.23**	**255**	P			P	09 15 57.7	-0.4
ASAR	**Alice Springs** 1.0nm,0.6s,baz=99,slow=7.2,SNR=25	**42.58**	**266**	P			P	09 17 07.2	-0.2
WRA	**Warramunga Arr** 1.8nm,0.5s,baz=110,slow=7.6,SNR=35	**43.43**	**271**	P			P	09 17 14.3	+0.1
QSPA	**South Pole Qui**	**61.21**	**180**	P			P	09 19 23.9	-0.1
	1.2nm,0.8s,baz=37,slow=0.8,SNR=8.7								
FINES	**FINESS Array B** 0.9nm,0.3s,baz=52,slow=3.1,SNR=4.8	**143.52**	**340**	PKP			PKPdf	09 28 39.4	-0.2

ISCJB ***23*** *09:20:20.7±0.5,10°.93S±0°.06×161°.23E±0°.07,h28km, mb4.5/30,Error ellipse: s-maj=11.2km s-min=7.6km az=27.6*

NEIC ***23*** *09:20:23.4±0.6,10°.94S×161°.20E,h35km,mb4.6/10,Error ellipse: s-maj=15.6km s-min=9.6km az=129.0*

IDC ***23*** *09:20:35.5±6.6,10°.74S×160°.23E,h110km±60km, mb4.0/14,mb1 4.1/15,mb1mx3.9/33,mbtmp4.3/15,Error ellipse: s-maj=23.0km s-min=18.8km az=106.0*

ISC 23 09:20:22.8±0.6,10°.98S±0°.08×161°.24E±0°.08,h28km,n50, σ1§78/52,mb4.5/30,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.00**	**320**	*i* P			**Pn**	**09 20 52.5**	**-2.2**
HNR				*i* S			Sb	09 21 35.0	+12
CTA	**Charters Tower** 0.3nm,0.3s,baz=80,slow=14,SNR=4.4	**17.04**	**236**	P			**Pn**	**09 24 17.7**	**-1.5**
CTAO	**Charters Tower**	**17.04**	**236**	*e*Pn			**Pn**	**09 24 19.7**	**+0.5**
CTAO				*e*Sn			**Sn**	**09 27 21.5**	**-6.4**
EIDS	**Eidsvold** 18nm,1.0s	**17.25**	**213**	*e*P			**P**	**09 24 23.6**	**+0.5**
EIDS				*e*S			**S**	**09 27 42.9**	**+1.5**
MSVF	**Nonsavu** 45nm,1.4s	**17.61**	**114**	*e*P			**P**	**09 24 27.0**	**-0.2**
MSVF				*e*S			**S**	**09 27 49.1**	**+0.2**
COEN	**Coen** baz=18,SNR=8.4	**17.89**	**259**	P			**P**	**09 24 31.8**	**+1.5**
COEN	baz=18,SNR=22			S			**S**	**09 27 56.5**	**+1.9**
COEN	**Coen** 16nm,0.8s	**17.89**	**259**	*e*P			**P**	**09 24 31.1**	**+0.9**
RMQ	**Roma** baz=19,SNR=33	**19.41**	**216**	P			**P**	**09 24 47.4**	**+0.5**
ARMA	**Armidale** baz=21,SNR=5.0	**21.31**	**203**	P			**P**	**09 25 07.3**	**-0.3**
ARMA	**Armidale** 19nm,1.0s	**21.31**	**203**	*e*P			**P**	**09 25 07.5**	**-0.1**
QLP	**Quilpie** baz=22,SNR=6.3	**22.32**	**224**	P			**P**	**09 25 16.8**	**-1.6**
QIS	**Mount Isa** baz=23,SNR=5.6	**22.87**	**243**	P			**P**	**09 25 23.0**	**-1.3**
QIS	baz=23,SNR=63			S			**S**	**09 29 35.7**	**+3.3**
SMPI	**Sarmi**	**24.08**	**290**	P			P	09 25 45.2	+9.0
CMSA	**Cobar Meteorol** baz=25,SNR=11	**25.01**	**213**	P			**P**	**09 25 45.3**	**+0.8**
WRAB	**Tennant Creek** 24nm,1.0s	**27.37**	**248**	*e*P			**P**	**09 26 04.4**	**-1.5**
WB2	**Warramunga Arr**	**27.37**	**248**	*e*P			**P**	**09 26 04.2**	**-1.8**
WRA	**Warramunga Arr** 12nm,0.9s,baz=76,slow=9.3,SNR=40	**27.38**	**248**	P			**P**	**09 26 04.4**	**-1.7**
WRA	4.1nm,1.1s,baz=82,slow=1.8,SNR=4.9			PcP			**PcP**	**09 29 24.8**	**-0.1**
STKA	**Stephens Creek** 3.2nm,0.8s,baz=33,slow=12,SNR=4.5	**27.60**	**218**	P			**P**	**09 26 10.2**	**+2.3**
ASAR	**Alice Springs** 2.5nm,0.8s,baz=66,slow=9.7,SNR=18	**28.92**	**241**	P			**P**	**09 26 17.1**	**-2.8**
ASAR	1.5nm,0.9s,baz=67,slow=4.2,SNR=5.2			PcP			**PcP**	**09 29 28.4**	**-0.3**
MTN	**Manton Dam** baz=30,SNR=15	**29.51**	**263**	P			**P**	**09 26 27.2**	**+2.1**
KNRA	**Kununurra** baz=32,SNR=9.6	**31.93**	**258**	P			**P**	**09 26 45.2**	**-1.2**
WRKA	**Warakurna** baz=34,SNR=9.9	**34.20**	**241**	P			**P**	**09 27 03.8**	**-2.4**
FITZ	**Fitzroy Crossi** 6.8nm,1.0s	**35.14**	**254**	*e*P			**P**	**09 27 12.8**	**-1.5**
SANI	**Sanana** 19nm,1.0s	**36.09**	**282**	P			**P**	**09 27 24.4**	**+1.8**
BNSI	**Bone** 18nm,1.1s	**41.25**	**276**	P			**P**	**09 28 09.1**	**+3.2**
PPT	**Papeete** 38nm,0.7s,baz=80,slow=1.4,SNR=3.6	**48.01**	**104**	P			P	09 29 11.4	+12
STKI	**Sintang** 31nm,0.8s,17µm	**50.65**	**279**	P			**P**	**09 29 22.1**	**+2.0**
MJAR	**Matsushiro Arr** 1.5nm,0.8s,baz=150,slow=8.2,SNR=4.5	**52.01**	**336**	P			**P**	**09 29 29.9**	**+0.1**
KSM	**Kuching** 13nm,0.9s	**52.14**	**281**	*e*P			**P**	**09 29 31.7**	**+0.5**
TPI	**Tanjungpandan** 12nm,1.3s	**53.76**	**275**	P			**P**	**09 29 45.2**	**+2.0**
CGJI	**Cibinong** 59nm,0.9s,4µm	**55.01**	**270**	P			**P**	**09 29 53.3**	**+1.0**
MDSI	**Maura Dua** 15nm,1.4s	**56.84**	**272**	P			**P**	**09 30 05.5**	**+0.1**
ASAJ	**Asahikawa** 6.7nm,1.1s,baz=216,slow=14,SNR=4.5	**57.39**	**344**	P			**P**	**09 30 08.2**	**-0.6**
ASAJ	**Asahikawa**	**57.39**	**344**	*e*P			**P**	**09 30 08.3**	**-0.4**
ASAJ				*e*pP			pP	09 30 24.3	+6.9
KSRS	**Korea Array** 1.2nm,0.8s,baz=146,slow=7.6,SNR=5.7	**57.43**	**329**	P			**P**	**09 30 08.8**	**-0.3**
KSAR	**Wonju Array Be**	**57.44**	**329**	P			**P**	**09 30 08.8**

0.1nm,0.3s,baz=148,slow=13,SNR=4.0
PDAR Pinedale Array 18.66 1 P **Pn 09 27 50.1 -0.5**
0.0nm,0.3s,baz=180,slow=12,SNR=5.3
PDAR LR LR 09 35 04.6
comp=Z,98nm,20.4s,baz=242,slow=38
TKL Tuckaleechee C 25.49 57 LR LR 09 39 55.9
comp=Z,70nm,18.6s,baz=316,slow=39
ULM Lac du Bonnet 28.38 19 P **P 09 29 27.2 +0.9**
0.9nm,0.7s,baz=225,slow=1.4,SNR=2.9
ILAR Eielson Array 47.16 339 P P 09 32 08.1 +3.7
0.3nm,0.6s,baz=138,slow=7.0,SNR=8.8

KRNET 23 09:24:12.2±0.1, 39.85N×77.32E, h36km, mb3.7, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.87**	**328**	*e*P	Pn	09 24 44.2	+2.0
	baz=328						
NRN				*e*S	Sn	09 25 07.0	+2.1
	baz=328						
KDJ	**Kajisay**	**2.28**	**357**	*e*P	Pn	09 24 48.9	+1.3
	baz=358						
KDJ				*e*S	Sn	09 25 16.9	+2.3
	baz=358						
BOOM	**Boomskoye usch**	**2.83**	**339**	*e*P	Pn	09 24 55.8	+0.6
	baz=339						
BOOM				*e*S	Sn	09 25 30.8	+2.5
	baz=339						
SALK	**Salom-Alik**	**2.86**	**292**	*e*P	Pn	09 24 55.9	+0.3
	baz=292						
SALK				*e*S	Sn	09 25 30.7	+1.7
	baz=292						
KBK	**Karagaybulak**	**3.32**	**328**	*e*P	Pn	09 24 57.0	-4.9
	baz=17						

*BJI **23** 09:25:54.9, 6.54S×148.03E, h64km, mB5.2/41, mb5.3/60, Ms4.8/40, Ms7 4.5/40*
*MOS **23** 09:25:55.3±0.9, 6.51S×147.25E, h36km, mb5.6/37, Error ellipse: s-maj=11.5km s-min=5.8km az=99.6*
*IDC **23** 09:25:55.9±2.0, 6.67S×147.34E, h34km±14km, mb4.9/24, mb1 5.0/25, mb1mx5.0/29, mbtmp5.1/25, ML5.0/1, MS4.4/9, Ms1 4.4/9, ms1mx4.0/25, Error ellipse: s-maj=14.3km s-min=9.0km az=93.0*
*ISCJB **23** 09:25:57.1±0.7, 6.71S±0.02×147.31E±0.03, h57km±5km, mb5.3/126, MS4.6/11, Error ellipse: s-maj=4.2km s-min=3.7km az=17.2*
*GCMT **23** 09:25:59.2±0.2, 6.89S×147.28E, h65km±1km, MW5.2/76, Moment Tensor Solution. s76,c108; s73,c130; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr 0.65±.02; Mθθ -0.66±.02; Mϕϕ 0.01±.02; Mrθ 0.44±.01; Mθϕ 0.23±.02; Mϕr -0.13±.02; Best double couple: M0 0.83400×10^17 NP1: ϕs 107.00000°, δ62.00000°, λ90.00000°. NP2: ϕs 288.00000°, δ28.00000°, λ91.00000°. Principal axes: T 0.7920, Plg73.0000°, Azm16.0000°; N 0.0840, Plg0.0000°, Azm107.0000°; P -0.8760, Plg17.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 09:25:59.2±1.0, 6.70S×147.34E, h67km±9km, mb5.3/56, MW5.4 Error ellipse: s-maj=6.2km s-min=4.8km az=74.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^17 Nm; Mrr 1.34; Mθθ 0.04; Mϕϕ -1.30; Mrθ -0.10; Mθϕ 0.41; Mϕr 0.17; Best double couple: M0 1.40000×10^17 NP1: ϕs 166.00000°, δ41.00000°, λ93.00000°. NP2: ϕs 341.00000°, δ49.00000°, λ87.00000°. Principal axes: T 1.3500, Plg85.0000°, Azm224.0000°; N 0.0800, Plg2.0000°, Azm343.0000°; P -1.4300, Plg3.0000°, Azm73.0000°;*
NEIC Felt at Goroka.
*DJA **23** 09:26:04.0±0.8, 7.3S±4.3×14.7E±.7, h94km±5km, M5.2/53, mb5.4/53, mB5.7/31, Mw(mB)5.2/31*

ISC 23 09:25:58.8±0.3, 6.74S±0.03×147.35E±0.04, h63km±1km, h62km:pP-P, n667, σ1 9.38/755, mb5.3/122, 26C-14D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.66**	**184**	*e*P	**Pn**	**09 26 39.5**	**+0.2**
PMG				*e*		09 27 18.4	
PMG	**Port Moresby**	**2.66**	**184**	P	**Pn**	**09 26 39.5**	**+0.2**
	baz=2.6,SNR=498						
PMG	**Port Moresby**	**2.66**	**184**	*e*Pn	**Pn**	**09 26 39.5**	**+0.2**
PMG				*e*Sn	Sn	09 27 18.4	+8.1
RABL	**Rabaul**	**5.42**	**62**	P	**Pn**	**09 27 19.1**	**+2.0**
	baz=5.4,SNR=13						
JAY	**Jayapura**	**7.84**	**302**	P	Pn	09 27 54.6	+4.2
GENI	**Genyem**	**8.26**	**300**	P	Pn	09 28 00.4	+4.4
COEN	**Coen**	**8.27**	**209**	P	**Pn**	**09 27 55.7**	**-0.4**
	baz=8.3,SNR=94						
COEN				S	**Sn**	**09 29 25.0**	**-3.0**
	baz=8.3,SNR=7.2						
COEN	**Coen**	**8.27**	**209**	*e*Pn	**Pn**	**09 27 55.8**	**-0.3**
COEN				*e*Sn	**Sn**	**09 29 25.4**	**-2.7**
SMPI	**Sarmi**	**9.82**	**298**	P	**Pn**	**09 28 18.4**	**+1.0**
CTA	**Charters Tower**	**13.31**	**184**	Pn	**Pn**	**09 29 07.2**	**+2.2**
	7.9nm,0.3s,baz=349,slow=14,SNR=58						
CTA				Sn	**Sn**	**09 31 29.8**	**-1.6**
	1.6nm,0.3s,baz=11,slow=3.3,SNR=4.3						
CTA				LR	LR	09 33 55.4	
	comp=Z,3μm,19.3s,baz=3.5,slow=36						
CTAO	**Charters Tower**	**13.31**	**184**	*e*P	**Pn**	**09 29 07.2**	**+2.2**
CTAO				*e*		09 31 32.1	
CTAO	**Charters Tower**	**13.31**	**184**	*e*Pn	**Pn**	**09 29 07.2**	**+2.2**
CTAO				*e*Sn	**Sn**	**09 31 32.0**	**+0.6**
RKPI	**Ransiki, Papua**	**14.13**	**291**	P	**P**	**09 29 19.6**	**-2.1**
FAKI	**Fak Fak**	**15.52**	**283**	P	**P**	**09 29 37.4**	**+0.2**
FAKI	**Fak Fak**	**15.52**	**283**	P	**P**	**09 29 36.3**	**-0.9**
	baz=16,SNR=35						
FAKI				S	**S**	**09 32 41.3**	**+3.8**
	baz=16,SNR=5.2						
FAKI	**Fak Fak**	**15.52**	**283**	*e*Pn	**Pn**	**09 29 34.4**	**+0.4**
FAKI				*e*Sn	**Sn**	**09 32 20.4**	**-4.8**
QIS	**Mount Isa**	**15.65**	**208**	P	**Pn**	**09 29 36.2**	**+0.5**
	baz=16,SNR=47						
KDU	**Kakadu**	**15.81**	**247**	P	**Pn**	**09 29 37.2**	**-0.4**
	baz=16,SNR=68						
SWI	**Sorong**	**17.08**	**289**	P	**P**	**09 29 54.3**	**-0.2**
SWI	**Sorong**	**17.08**	**289**	P	**P**	**09 29 54.4**	**0.0**
	baz=17,SNR=10.0						
MTN	**Manton Dam**	**17.09**	**248**	P	**P**	**09 29 55.4**	**+0.8**
	baz=17,SNR=9.6						
MTN				S	**Sn**	**09 32 58.2**	**-4.9**
	baz=17,SNR=5.0						
BNDI	**Bandanaira**	**17.50**	**276**	P	**P**	**09 30 02.2**	**+3.0**
WRAB	**Tennant Creek**	**18.20**	**223**	⇑*i*P	**P**	**09 30 06.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,558nm,2.5s						
WRAB	**Tennant Creek**	**18.20**	**223**	*e*P	**P**	**09 30 06.0**	**-0.9**
WRAB				*e*S	**Sn**	**09 33 24.4**	**-5.6**
WB2	**Warramunga Arr**	**18.21**	**223**	*e*P	**P**	**09 30 06.2**	**-0.7**
WB2				*e*S	**Sn**	**09 33 23.3**	**-6.8**
WRA	**Warramunga Arr**	**18.22**	**223**	P	**P**	**09 30 06.9**	**-0.1**
	comp=Z,4.9nm,0.3s,baz=48,slow=11,SNR=100						
WRA				S	**Sn**	**09 33 25.7**	**-4.6**
	comp=Z,0.7nm,0.3s,baz=41,slow=21,SNR=8.0						
WRA				LR	LR	09 37 53.6	
	comp=Z,2μm,20.1s,baz=55,slow=39						
WRA	**Warramunga Arr**	**18.22**	**223**	*i* P	**P**	**09 30 05.0**	**-2.0**
WRA				pmax	pmax		
	comp=Z,15nm,0.4s						
MSAI	**Masohi**	**18.66**	**280**	P	**Pn**	**09 30 14.4**	**+1.6**
EIDS	**Eidsvold**	**18.86**	**170**	P	**Pn**	**09 30 15.2**	**-0.1**
	baz=19,SNR=16						
AAI	**Ambon**	**19.32**	**278**	P	**Pn**	**09 30 22.3**	**+1.6**
	comp=Z,201nm,0.8s,comp=Z,3μm						
AAI	**Ambon**	**19.32**	**278**	P	**Pn**	**09 30 22.4**	**+1.6**
	baz=19,SNR=4.7						
RMQ	**Roma**	**19.68**	**176**	P	**Pn**	**09 30 24.6**	**-0.3**
	baz=20,SNR=46						
QLP	**Quilpie**	**19.95**	**188**	P	**P**	**09 30 26.9**	**+0.9**
	baz=20,SNR=408						
KNRA	**Kununurra**	**20.27**	**242**	P	**P**	**09 30 28.9**	**-0.5**
	baz=20,SNR=107						
KNRA				S	**S**	**09 34 09.7**	**-3.7**
	baz=20,SNR=7.7						
GUMO	**Guam**	**20.35**	**353**	*e*P	**P**	**09 30 30.3**	**+0.1**
GUMO	**Guam**	**20.35**	**353**	*e*P	**P**	**09 30 30.3**	**+0.1**
NLAI	**Namlea**	**20.47**	**279**	P	Pn	09 30 38.0	+3.7
LBMI	**Labuha**	**20.71**	**286**	P	Pn	09 30 37.2	+0.1
	comp=Z,275nm,1.4s,comp=Z,6μm						
AS31	**Alice Springs**	**21.22**	**216**	*e*P	**P**	**09 30 39.4**	**-0.3**
ASAR	**Alice Springs**	**21.22**	**216**	P	**P**	**09 30 40.1**	**+0.4**
	comp=Z,79nm,0.6s,baz=53,slow=8.6,SNR=119						
ASAR				S	**S**	**09 34 34.8**	**+2.5**
	comp=Z,17nm,0.8s,baz=39,slow=22,SNR=7.4						
ASAR				LR	LR	09 39 34.9	
	comp=Z,2μm,19.6s,baz=32,slow=38						
TNTI	**Ternate**	**21.30**	**290**	P	**P**	**09 30 44.8**	**+4.3**
	comp=Z,286nm,1.4s,comp=Z,4μm						
TNTI	**Ternate**	**21.30**	**290**	*e*P	**P**	**09 30 41.7**	**+1.2**
	comp=Z,346nm,1.2s						
SANI	**Sanana**	**21.80**	**281**	P	**P**	**09 30 47.9**	**+2.0**
	comp=Z,90nm,1.1s,comp=Z,1μm						
SOEI	**Soe**	**23.04**	**261**	P	**P**	**09 31 02.6**	**+3.4**
SOEI	**Soe**	**23.04**	**261**	*e*P	**P**	**09 30 59.2**	**0.0**
BATI	**Baumata**	**23.68**	**260**	P	**P**	**09 31 08.8**	**+3.7**
ARMA	**Armidale**	**23.89**	**171**	P	**P**	**09 31 06.8**	**-0.2**
	baz=24,SNR=67						
ARMA	**Armidale**	**23.89**	**171**	*e*P	**P**	**09 31 06.6**	**-0.3**
	comp=Z,54nm,0.7s						
DZM	**Mont Dzumac**	**23.91**	**132**	*e*P	**P**	**09 31 08.3**	**+1.1**
	comp=Z,170nm,1.4s						
DZM				*e*S	**S**	**09 35 17.6**	**-1.8**
	comp=Z,784nm,26.4s						
DZM				*e*LR	LR	09 37 00.8	
	comp=Z,2μm,26.6s						
DZM	**Mont Dzumac**	**23.91**	**132**	P	**P**	**09 31 06.6**	**-0.6**
	comp=Z,21nm,0.6s,baz=258,slow=12,SNR=16						
FITZ	**Fitzroy Crossi**	**23.99**	**240**	*e*P	**P**	**09 31 07.0**	**-0.8**
	comp=Z,5.5nm,0.5s						
KMSI	**Cibinong**	**24.43**	**286**	P	**P**	**09 31 13.0**	**+1.1**
	comp=Z,1μm,0.6s,comp=Z,11μm						
CMSA	**Cobar Meteorol**	**24.72**	**183**	P	**P**	**09 31 14.5**	**+0.2**
	baz=25,SNR=103						
MMRI	**Maumere**	**24.96**	**264**	P	**P**	**09 31 18.6**	**+1.9**
	comp=Z,191nm,0.8s,comp=Z,3μm						
MMRI	**Maumere**	**24.96**	**264**	*e*P	**P**	**09 31 16.8**	**+0.1**
	comp=Z,131nm,0.4s						
LUWI	**Luwuk**	**25.16**	**282**	P	**P**	**09 31 20.8**	**+2.3**
	comp=Z,515nm,1.2s,comp=Z,5μm						
LUWI	**Luwuk**	**25.16**	**282**	P	**P**	**09 31 19.9**	**+1.3**
	baz=25,SNR=7.8						
LUWI	**Luwuk**	**25.16**	**282**	*e*P	**P**	**09 31 18.7**	**+0.2**
	comp=Z,734nm,1.3s						
EDFI	**Ende, Flores**	**25.50**	**264**	P	**P**	**09 31 21.0**	**-0.8**
	comp=Z,86nm,0.8s						
STKA	**Stephens Creek**	**25.58**	**191**	P	**P**	**09 31 21.9**	**-0.3**
	comp=Z,69nm,0.8s,baz=358,slow=8.2,SNR=50						
STKA	**Stephens Creek**	**25.58**	**191**	P	**P**	**09 31 22.0**	**-0.2**
	baz=26,SNR=43						
WRKA	**Warakurna**	**25.76**	**223**	P	**P**	**09 31 23.4**	**-0.5**
	baz=26,SNR=235						
WRKA				S	**S**	**09 35 47.6**	**-1.1**
	baz=26,SNR=10.0						
APSI	**Ampana**	**26.28**	**282**	P	**P**	**09 31 30.5**	**+1.8**
	comp=Z,158nm,1.1s,comp=Z,2μm						
MRSI	**Marisa**	**26.35**	**285**	P	**P**	**09 31 30.3**	**+1.0**
	comp=Z,78nm,1.3s,comp=Z,1μm						
MGCD	**Mangrove Creek**	**26.57**	**173**	P	**P**	**09 31 31.9**	**+0.8**
	baz=27,SNR=13						
BSSI	**Bau Bau, Buton**	**26.70**	**270**	P	**P**	**09 31 35.0**	**+2.5**
	comp=Z,96nm,1.2s,comp=Z,7μm						
WSI	**Waingapu**	**26.93**	**262**	P	**P**	**09 31 30.4**	**-4.1**
	baz=27,SNR=4.2						
LHI	**Lord Howe Isla**	**26.98**	**158**	P	**P**	**09 31 37.3**	**+2.5**
	baz=27,SNR=3.9						
BNSI	**Bone**	**27.21**	**273**	P	**P**	**09 31 39.8**	**+2.7**
	comp=Z,27nm,1.2s						
YNG	**Young**	**27.44**	**178**	P	**P**	**09 31 39.6**	**+0.7**
	baz=28,SNR=61						
KAPI	**Kappang**	**27.51**	**272**	P	**P**	**09 31 40.8**	**+1.1**
	SNR=6.1						
KAPI	**Kappang**	**27.51**	**272**	*e*P	**P**	**09 31 40.2**	**+0.4**
	comp=Z,26nm,0.9s						
SPSI	**Sidrap Palu**	**27.60**	**274**	P	P	09 31 49.3	+8.8
TTSI	**Tana Toraja**	**27.67**	**276**	P	**P**	**09 31 43.5**	**+2.3**
	comp=Z,26nm,1.3s,comp=Z,727nm						
WBSI	**Waikabubak, Su**	**27.82**	**262**	P	pP	09 32 00.5	+2.7
BBOO	**Buckleboo**	**27.99**	**201**	S	**P**	**09 31 43.8**	**-0.1**
	baz=32,SNR=9.3						
BBOO	**Buckleboo**	**27.99**	**201**	P	**P**	**09 31 43.7**	**-0.1**
	baz=28,SNR=44						
BBOO	**Buckleboo**	**27.99**	**201**	*e*P	**P**	**09 31 43.7**	**-0.1**
	comp=Z,143nm,0.9s						
MPSI	**Mapaga**	**28.28**	**283**	P	**P**	**09 31 46.7**	**+0.1**
	comp=Z,35nm,0.9s,comp=Z,602nm						
CAN	**Canberra**	**28.48**	**177**	*e*P	**P**	**09 31 48.4**	**+0.1**
CAN				pmax	pmax		
	comp=Z,74nm,1.3s						
CAN	**Canberra**	**28.48**	**177**	*e*P	**P**	**09 31 48.4**	**+0.1**
	comp=Z,74nm,1.3s						
CNB	**Canberra Magne**	**28.50**	**177**	P	**P**	**09 31 49.0**	**+0.6**
	baz=29,SNR=9.2						
FORT	**Forrest**	**29.99**	**215**	P	**P**	**09 32 01.4**	**-0.1**
	baz=30,SNR=17						
FORT	**Forrest**	**29.99**	**215**	*e*P	**P**	**09 32 01.4**	**-0.1**
	comp=Z,66nm,0.9s						
TOO	**Toolangi**	**30.74**	**183**	P	**P**	**09 32 08.9**	**+0.8**
	baz=31,SNR=5.4						
TSM	**Tawau**	**31.40**	**290**	⇑P	**P**	**09 32 15.2**	**+0.9**
SDKM	**Sandakan**	**32.51**	**292**	⇑P	**P**	**09 32 24.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**32.95**	**265**	P	**P**	**09 32 25.7**	**-2.2**
	baz=33,SNR=6.8						
KDM	**Kudat**	**33.33**	**293**	⇓P	**P**	**09 32 31.6**	**+0.4**
KKM	**Kota Kinabalu**	**33.57**	**292**	P	**P**	**09 32 33.3**	**0.0**
	baz=34,SNR=7.2						
KKM	**Kota Kinabalu**	**33.57**	**292**	⇑P	**P**	**09 32 33.9**	**+0.6**
KKM	**Kota Kinabalu**	**33.57**	**292**	*e*P	**P**	**09 32 33.1**	**-0.2**
	comp=Z,26nm,0.7s						
MEEK	**Meekatharra**	**33.75**	**231**	P	**P**	**09 32 35.1**	**+0.3**
	baz=34,SNR=70						
MEEK				S	**S**	**09 37 54.3**	**+0.2**
	baz=34,SNR=5.4						
JCJ	**Chichijima**	**34.01**	**352**	LR	LR	09 44 27.4	
	comp=Z,403nm,21.0s,baz=123,slow=33						
KMBL	**Kambalda**	**34.17**	**221**	P	**P**	**09 32 38.4**	**+0.1**
	baz=34,SNR=10						
MOO	**Moorlands**	**35.55**	**180**	P	**P**	**09 32 51.4**	**+1.4**
	baz=36,SNR=3.3						
GIRL	**Giralia**	**35.60**	**240**	P	**P**	**09 32 52.3**	**+1.7**
	baz=36,SNR=15						
WOJI	**Wonogiri, Jawa**	**36.14**	**266**	P	**P**	**09 32 55.3**	**-0.1**
	comp=Z,113nm,1.1s						
UGM	**Wanagama**	**36.54**	**266**	P	**P**	**09 32 59.7**	**+0.8**
	baz=37,SNR=6.1						
MORW	**Morawa**	**36.95**	**229**	P	**P**	**09 33 02.5**	**+0.4**
	baz=37,SNR=13						
MORW				S	**S**	**09 38 44.1**	**+1.0**
	baz=37,SNR=5.3						
BLDU	**Ballidu**	**37.27**	**227**	P	**P**	**09 33 04.4**	**-0.5**
	baz=37,SNR=6.0						
KSM	**Kuching**	**37.86**	**281**	P	**P**	**09 33 11.6**	**+1.5**
	baz=38,SNR=13						
KSM	**Kuching**	**37.86**	**281**	⇓P	**P**	**09 33 11.8**	**+1.7**
KSM	**Kuching**	**37.86**	**281**	*e*P	**P**	**09 33 10.5**	**+0.5**
	comp=Z,24nm,0.8s						
JOW	**Kunigami**	**38.15**	**332**	P	**P**	**09 33 11.4**	**-0.9**
	comp=Z,13nm,0.8s,baz=113,slow=18,SNR=14						
NWAO	**Narrogin (SRO)**	**38.22**	**223**	P	**P**	**09 33 13.0**	**+0.2**
	comp=Z,16nm,0.5s,baz=69,slow=12,SNR=18						
NWAO	**Narrogin (SRO)**	**38.22**	**223**	P	**P**	**09 33 13.0**	**+0.2**
	baz=38,SNR=14						
CISI	**Cisompet, Garu**	**39.23**	**266**	P	**P**	**09 33 21.4**	**-0.2**
	comp=Z,190nm,1.2s						
CISI	**Cisompet, Garu**	**39.23**	**266**	*e*P	**P**	**09 33 20.6**	**-1.0**
	comp=Z,99nm,0.6s						
RKGY	**Rocky Gully**	**39.41**	**221**	P	**P**	**09 33 23.9**	**+1.2**
	baz=40,SNR=7.4						
NACB	**Ninganchiao**	**39.69**	**322**	*e*P	**P**	**09 33 24.7**	**-0.4**
	comp=Z,207nm,1.5s						
YHNB	**Yeheng**	**40.19**	**322**	*e*P	**P**	**09 33 29.4**	**0.0**
	comp=Z,50nm,0.8s						
URZ	**Urewera**	**41.35**	**144**	P	**P**	**09 33 39.4**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=297,slow=4.5,SNR=4.5						
URZ	**Urewera**	**41.35**	**144**	*e*P	**P**	**09 33 38.5**	**-0.2**
	comp=Z,7.2nm,0.9s						
RPZ	**Rata Peaks**	**42.30**	**154**	P	**P**	**09 33 47.2**	**+0.8**
	comp=Z,21nm,0.5s,baz=286,slow=3.4,SNR=26						
RPZ	**Rata Peaks**	**42.30**	**154**	*e*P	**P**	**09 33 47.6**	**+1.2**
JNU	**Nakatsue**	**42.62**	**339**	*e*P	**P**	**09 33 48.5**	**-0.6**
	comp=Z,40nm,1.0s						
MJAR	**Matsushiro Arr**	**43.90**	**349**	P	**P**	**09 33 58.3**	**-1.1**
	comp=Z,28nm,1.1s,baz=175,slow=7.8,SNR=41						
MJAR				LR	LR	09 50 46.5	
	comp=Z,315nm,22.0s,baz=160,slow=34						
MAJO	**Matsushiro**	**43.90**	**349**	*e*P	P	09 33 54.9	-4.5
MAJO				pmax	pmax		
	comp=Z,329nm,1.4s						
MAJO	**Matsushiro**	**43.90**	**349**	*e*P	**P**	**09 33 58.4**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,109nm,1.3s						
MAJO	**Matsushiro**	**43.90**	**349**	*e*P	**P**	**09 33 58.4**	**-1.0**
	comp=Z,109nm,1.3s						
MAT	**Matsushiro**	**43.90**	**349**	P	**P**	**09 33 57.2**	**-2.2**
MAT				*e*S	**S**	**09 40 21.0**	**-5.3**
QIZ	**Qiongzhong**	**44.97**	**305**	P	P	09 34 13.8	+5.6
QIZ				pP	pP	09 34 23.9	-0.2
QIZ				sP	sP	09 34 31.8	+0.5
QIZ				S	**S**	**09 40 43.4**	**+1.1**
QIZ				sS	sS	09 41 10.9	+1.6
QIZ				LZ			
	comp=Z,460nm,27.0s						
SSE	**Sheshan**	**45.19**	**328**	⇑P	**P**	**09 34 09.3**	**-0.4**
SSE				pP	**pP**	**09 34 24.4**	**-1.3**
SSE				sP	**sP**	**09 34 32.8**	**-0.1**
SSE				S	**S**	**09 40 43.1**	**-2.0**
SSE				sS	**sS**	**09 41 10.8**	**-1.4**
SSE				PMZ			
	comp=Z,58nm,0.8s						
SSE				PMZ			
	comp=Z,64nm,3.5s						
SSE				LN			
	comp=Z,300nm,19.5s						
SSE				LE			
	comp=Z,210nm,19.5s						
SSE				LZ			
	comp=Z,370nm,21.1s						
UBPT	**Khong Chiam**	**46.91**	**298**	P	**P**	**09 34 24.9**	**+1.4**
	comp=Z,73nm,1.1s						
NJ2	**Nanjing**	**47.19**	**326**	*e*P	**P**	**09 34 26.4**	**+1.0**
NJ2				pP	**pP**	**09 34 41.4**	**-0.1**
NJ2				sP	**sP**	**09 34 48.3**	**-0.3**
NJ2				S	**S**	**09 41 12.5**	**-1.2**
NJ2				sS	**sS**	**09 41 43.0**	**+2.1**
NJ2				PMZ			
	comp=Z,40nm,0.9s						
NJ2				PMZ			
	comp=Z,760nm,8.5s						
NJ2				LN			
	comp=Z,930nm,24.4s						
NJ2				LE			
	comp=Z,2μm,26.2s						
NJ2				LZ			
	comp=Z,2μm,27.1s						
KSDGY	**Daegwallycong**	**47.51**	**340**	P	**P**	**09 34 28.1**	**+0.1**
	SNR=8.3						
KSDGY	**Daegwallycong**	**47.51**	**340**	P	**P**	**09 34 28.1**	**+0.1**
	SNR=8.3						
KSRS	**Korea Array**	**47.56**	**339**	P	**P**	**09 34 27.8**	**-0.4**
	comp=Z,62nm,0.9s,baz=154,slow=8.9,SNR=155						
KSRS	**Korea Array**	**47.56**	**339**	P	**P**	**09 34 27.8**	**-0.4**
KSRS				pmax	pmax		
	comp=Z,62nm,0.9s						
IPM	**Ipoh**	**47.57**	**282**	*e*P	**P**	**09 34 29.4**	**+0.7**
	comp=Z,118nm,1.1s						
KSAR	**Wonju Array Be**	**47.57**	**339**	P	**P**	**09 34 27.8**	**-0.5**
KSAR	**Wonju Array Be**	**47.57**	**339**	P	**P**	**09 34 27.8**	**-0.5**
KSICN	**Icheon**	**47.60**	**338**	P	**P**	**09 34 28.8**	**+0.3**
	SNR=5.3						
KSICN	**Icheon**	**47.60**	**338**	P	**P**	**09 34 28.8**	**+0.3**
	SNR=5.3						
KSJMJ	**Jumunjin**	**47.66**	**340**	P	**P**	**09 34 29.3**	**+0.3**
	SNR=7.0						
KSJMJ	**Jumunjin**	**47.66**	**340**	P	**P**	**09 34 29.3**	**+0.3**
	SNR=7.0						
KSSWO	**Suwon**	**47.75**	**338**	P	**P**	**09 34 29.8**	**+0.2**
	SNR=5.5						
KSIJA	**INJE**	**47.97**	**339**	P	**P**	**09 34 31.8**	**+0.4**
	SNR=7.0						
KSIJA	**INJE**	**47.97**	**339**	P	**P**	**09 34 31.8**	**+0.4**
	SNR=7.0						
INCN	**Inchon**	**48.06**	**338**	P	**P**	**09 34 32.5**	**+0.3**
	SNR=6.0						
INCN	**Inchon**	**48.06**	**338**	*e*P	**P**	**09 34 31.7**	**-0.5**
	comp=Z,122nm,0.9s						
KSSKC	**Sokcho**	**48.11**	**340**	P	**P**	**09 34 32.2**	**-0.2**
	SNR=6.6						
KSSKC	**Sokcho**	**48.11**	**340**	P	**P**	**09 34 32.2**	**-0.2**
	SNR=6.6						
KULM	**Kulim**	**48.12**	**283**	*e*P	**P**	**09 34 33.4**	**+0.5**
	comp=Z,113nm,1.1s						
KSCWO	**Cheorwon**	**48.27**	**339**	P	**P**	**09 34 34.0**	**+0.2**
	SNR=10						
MCQ	**Macquarie Isla**	**48.53**	**171**	P	**P**	**09 34 36.7**	**+1.3**
	baz=49,SNR=3.3						
SKLT	**Songkhla**	**48.62**	**286**	P	**P**	**09 34 38.0**	**+1.2**
	comp=Z,61nm,1.0s,comp=Z,906nm						
ERM	**Erimo**	**48.67**	**356**	*e*P	**P**	**09 34 35.2**	**-1.5**
ERM				pmax	pmax		
	comp=Z,40nm,1.4s						
CHBT	**CHBT**	**48.75**	**293**	P	**P**	**09 34 38.7**	**+0.9**
	comp=Z,129nm,0.9s,comp=Z,5μm						
KHON	**Khomkaen**	**49.67**	**298**	P	**P**	**09 34 46.9**	**+2.1**
	comp=Z,17nm,0.6s,comp=Z,8μm						
YUK	**Yuzh-Kuril'sk**	**50.56**	**359**	*d* P	**P**	**09 34 49.1**	**-1.9**
YUK				*i* S	**S**	**09 41 58.7**	**-2.0**
YUK				pmax	pmax		
	comp=Z,244nm,1.7s						
YUK				pmax	pmax		
	comp=N,225nm,1.6s						
YUK				pmax	pmax		
	comp=E,352nm,1.6s						
ASAJ	**Asahikawa**	**50.80**	**356**	*e*P	**P**	**09 34 53.1**	**+0.2**
	comp=E,47nm,1.3s						
SURT	**Suratani**	**50.85**	**287**	P	**P**	**09 34 54.4**	**+0.7**
	comp=E,35nm,0.8s,comp=E,432nm						
PKDT	**Phuket**	**51.00**	**286**	P	**P**	**09 34 55.5**	**+0.6**
	comp=E,114nm,1.0s						
PHET	**Kaeng Krachan**	**51.27**	**292**	P	**P**	**09 34 58.3**	**+1.4**
	comp=E,360nm,1.0s,comp=E,4μm						
PBKT	**Sadao Pong**	**51.39**	**297**	P	**P**	**09 34 59.0**	**+1.3**

MDJ PMZ
comp=E,35nm,1.1s
MDJ PMZ
comp=E,87nm,3.9s
MDJ LN
comp=E,370nm,24.3s
MDJ LE
comp=E,260nm,27.2s
MDJ LZ
comp=E,650nm,25.9s
MDJ Mudanjiang 53.57 344 *e*P **P** **09 35 13.2 -0.2**
comp=E,40nm,1.1s
YSS Yuzh-Sakhalins 53.61 356⇑ *i*P **P** **09 35 13.0 -0.6**
YSS *e* 09 35 26.9
YSS pmax pmax
comp=Z,80nm,1.1s
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 53.61 356 *e*P **P** **09 35 13.4 -0.2**
comp=Z,112nm,1.3s
KMI Kunming 53.72 308 P **P** **09 35 15.9 +0.7**
KMI pP **pP** **09 35 28.9 -2.6**
KMI PP PP 09 37 22.4 +5.6
KMI S **S** **09 42 48.4 +3.2**
KMI SS **SS** **09 46 28.0 +1.0**
KMI PMZ
comp=Z,28nm,1.1s
KMI PMZ
comp=Z,150nm,6.3s
KMI LN
comp=Z,190nm,12.4s
KMI LE
comp=Z,180nm,21.5s
KMI LZ
comp=Z,330nm,28.0s
CMAR Chiang Mai Arr 53.91 299 P **P** **09 35 17.8 +1.4**
comp=Z,34nm,0.6s,baz=122,slow=5.8,SNR=121
CMAR PcP **PcP** **09 36 23.2 +2.0**
comp=Z,16nm,0.9s,baz=125,slow=2.6,SNR=8.6
CMMT Chiang Mai 54.04 299 P **P** **09 35 18.5 +1.1**
comp=Z,65nm,1.1s,comp=Z,830nm
CMAI Chiengmai2 54.41 300 P **P** **09 35 21.2 +1.0**
comp=Z,26nm,1.0s
XAN Xi'an 54.47 321 P **P** **09 35 19.0 -1.3**
XAN pP **pP** **09 35 34.6 -2.1**
XAN sP **sP** **09 35 42.4 -1.4**
XAN PMZ
comp=Z,10.0nm,1.1s
XAN LN
comp=Z,130nm,20.5s
XAN LZ
comp=Z,100nm,27.6s
MHMT Maesarieng 54.69 298 P **P** **09 35 23.6 +1.6**
comp=Z,39nm,0.9s,comp=Z,887nm
BJI Beijing 54.72 331 P **P** **09 35 20.3 -1.5**
BJI S **S** **09 43 01.1 +3.5**
BJI PMZ
comp=Z,42nm,1.6s
BJI PMZ
comp=Z,250nm,3.8s
BJI LN
comp=Z,340nm,23.0s
BJI LE
comp=Z,430nm,23.0s
BJI LZ
comp=Z,380nm,26.2s
HABR Khabarovsk 56.03 350 *de*P **P** **09 35 29.1 -2.0**
HABR *e**PP **pP** **09 35 49.0 +1.4**
HABR *e* 09 36 26.2
HABR *e* 09 37 34.3
HABR *e*S **S** **09 43 12.0 -2.9**
HABR *e* 09 45 10.3
HABR *e*SS **SS** **09 46 59.5 -2.6**
HABR pmax pmax
comp=N,50nm,1.5s
HABR pmax pmax
comp=Z,164nm,1.5s
HABR pmax pmax
comp=E,12nm,0.9s
HABR MLR MLR
comp=Z,120nm,17.0s
CD2 Chengdu 56.04 314 P **P** **09 35 32.3 +0.7**
CD2 pP **pP** **09 35 48.0 -0.1**
CD2 sP **sP** **09 35 55.3 +0.1**
CD2 PP **PP** **09 37 39.0 +1.8**
CD2 PcS **PcS** **09 40 27.6 -2.3**
CD2 S **S** **09 43 14.6 -1.1**
CD2 sS **sS** **09 43 42.8 -0.8**
CD2 SS **SS** **09 47 02.1 -0.9**
CD2 PMZ
comp=Z,70nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,360nm,18.6s
CD2 LZ
comp=Z,210nm,22.5s
KLR Kul'dur 57.38 348 *e*P P 09 35 37.2 -3.5
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,140nm,1.8s
HHC Hu-ho-hao-te 57.64 328 *e*P **P** **09 35 45.5 +2.7**
HHC PP **PP** **09 37 55.8 +4.4**
HHC S **S** **09 43 38.4 +1.7**
HHC sS **sS** **09 44 05.8 +1.2**
HHC ScS **ScS** **09 45 25.8 -1.1**
HHC SS **SS** **09 47 31.3 +3.3**
HHC PMZ
comp=Z,35nm,1.2s
HHC PMZ
comp=Z,86nm,5.2s
HHC LN
comp=Z,210nm,15.9s
HHC LE
comp=Z,320nm,17.1s
HHC LZ
comp=Z,310nm,15.1s
BTO Baotou 58.29 327 *e*P **P** **09 35 46.6 -0.7**
LZH Lanzhou 59.00 319 *e*P **P** **09 35 52.8 +0.3**
LZH pP **pP** **09 36 09.3 +0.3**
LZH sP **sP** **09 36 18.1 +2.0**
LZH *e*S **S** **09 43 54.0 -0.6**
LZH SS **SS** **09 47 50.3 +0.7**
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,130nm,4.1s
LZH LN
comp=Z,290nm,12.4s
LZH LE
comp=Z,310nm,14.0s
LZH LZ
comp=Z,590nm,16.0s
DRV Dumont d'Urvil 60.04 183 S S 09 43 58.0 -8.8
DRV R 09 54 00.0
PETK Petropavlovsk- 60.26 7 P **P** **09 36 00.7 0.0**
comp=Z,31nm,1.0s,baz=158,slow=4.3,SNR=30
PETK LR LR 09 58 13.7
comp=Z,361nm,21.4s,baz=198,slow=32
PETK SKKP 10 00 42.1
comp=Z,0.7nm,0.4s,baz=248,slow=1.3,SNR=4.3
HIA Hailar 60.77 340 *e*P **P** **09 36 03.6 -0.5**
HIA pmax pmax
comp=Z,87nm,1.1s
HIA Hailar 60.77 340 *e*P **P** **09 36 03.6 -0.5**
comp=Z,87nm,1.1s
PPT2 Papeete2 62.35 106 *e*LR LR 09 54 55.8
comp=Z,362nm,23.5s
SHL Shillong 62.71 303 *e*P **P** **09 36 19.5 +1.6**
TBI Tubuai 62.76 113 *e*S **S** **09 44 44.6 +1.9**
comp=Z,288nm,31.2s
TBI Tubuai 62.76 113 *e*LR LR 09 55 04.1
comp=Z,486nm,28.0s
GTA Gaotai 63.53 320 *e*P **P** **09 36 23.1 +0.1**
GTA pP **pP** **09 36 39.5 -0.3**
GTA sP **sP** **09 36 46.3 -0.5**
GTA S **S** **09 44 52.8 +0.8**
GTA sS **sS** **09 45 20.5 +0.1**
GTA SS **SS** **09 49 02.6 +2.1**
GTA PMZ
comp=Z,23nm,0.9s
GTA PMZ
comp=Z,100nm,8.1s
GTA LN
comp=Z,230nm,20.4s

GTA LE
comp=Z,280nm,19.5s
GTA LZ
comp=Z,190nm,21.8s
CASY Casey 64.64 196 *e*P **P** **09 36 29.9 +0.2**
comp=Z,19nm,0.6s
ULN Ulaanbaatar 64.92 331 *e*P **P** **09 36 31.7 -0.3**
ULN pmax pmax
comp=Z,84nm,1.6s
ULN Ulaanbaatar 64.92 331 P **P** **09 36 32.1 +0.1**
SNR=13
ULN Ulaanbaatar 64.92 331 *e*P **P** **09 36 31.7 -0.3**
comp=Z,84nm,1.6s
LSA Lhasa 64.96 307 *e*P **P** **09 36 34.1 +1.1**
LSA pmax pmax
comp=Z,51nm,1.1s
LSA Lhasa 64.96 307 *e*P **P** **09 36 34.0 +1.1**
comp=Z,51nm,1.1s
SONM Songino Array 65.22 331 P **P** **09 36 33.6 -0.3**
comp=Z,12nm,1.1s,baz=148,slow=7.6,SNR=43
SONM PKP2bc 10 05 22.7
comp=Z,2.3nm,1.1s,baz=296,slow=2.9,SNR=5.5
CLNS Chul'man 65.98 347 *e*P **P** **09 36 38.1 -0.4**
CLNS *e* 09 37 08.3
CLNS *e* 09 39 03.4
CLNS *e*PPP PPP 09 40 38.6
CLNS *e*S S 09 45 12.0 -9.3
CLNS *e**SS sS 09 45 57.1 +7.3
CLNS *e* 09 46 23.8
CLNS pmax pmax
comp=Z,36nm,1.2s
CLNS pmax pmax
comp=N,23nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,1.3s
CLNS pmax pmax
comp=Z,3.0nm,1.2s
CLNS pmax pmax
comp=N,3.0nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS smax smax
comp=E,150nm,12.8s
CLNS smax smax
comp=N,54nm,12.8s
TAPN Taplejung 66.85 303 *e*P **P** **09 36 45.5 +0.5**
comp=N,54nm,0.6s
ODAN Odare 66.94 303 *e*P **P** **09 36 46.0 +0.5**
comp=N,170nm,0.9s
CHLP Challavanipeta 67.25 293 *e*P **P** **09 36 48.8 +1.6**
CHLP *e*pP **pP** **09 37 04.2 +0.1**
RAMN Ramite 67.63 303 *e*P **P** **09 36 50.0 +0.1**
comp=N,54nm,0.6s
PALK Pallekele 67.92 281 *i* P **P** **09 36 53.4 +1.7**
JIRN Jiri 68.22 303 *e*P **P** **09 36 54.0 +0.3**
comp=N,74nm,0.8s
ZAK Zakamensk 68.45 331 *e*P **P** **09 36 53.6 -0.7**
ZAK *e* 09 37 08.5
ZAK pmax pmax
comp=Z,24nm,1.3s
GUN Gumba 68.56 303 *e*P **P** **09 36 56.5 +0.7**
comp=Z,147nm,0.7s
PKI Pulchoki 68.84 303 *e*P **P** **09 36 57.5 0.0**
comp=Z,75nm,0.9s
PKIN Phulchoki 68.85 303 *e*P **P** **09 36 57.3 -0.2**
comp=Z,47nm,0.8s
KKN Kakani 69.02 303 *e*P **P** **09 36 58.7 +0.2**
comp=Z,120nm,0.8s
DMN Daman 69.10 303 *e*P **P** **09 36 59.3 +0.2**
comp=Z,212nm,0.9s
TLY Talaya 69.16 333 *e*P **P** **09 36 59.0 +0.4**
TLY *e* 09 46 51.1
TLY pmax pmax
comp=Z,28nm,1.5s
TLY Talaya 69.16 333 P **P** **09 36 59.1 +0.4**
SNR=5.5
SEY Seymchan 69.58 2 P **P** **09 37 00.4 -0.5**
comp=Z,10nm,0.9s,baz=178,slow=5.4,SNR=28
SEY Seymchan 69.58 2 P **P** **09 37 00.4 -0.5**
SEY pmax pmax
comp=Z,10.0nm,1.0s
BOD Bodaibo 69.79 342 *e*P **P** **09 37 00.4 -1.9**
BOD pmax pmax
comp=Z,29nm,1.6s
YAK Yakutsk 69.92 351 *c i*P **P** **09 37 02.3 -0.7**
YAK *e* 09 37 19.4
YAK *e**PP **PcP** **09 37 26.1 +1.1**
YAK *e*S **S** **09 46 06.0 -2.0**
YAK *e**SS **SKiKP** **09 46 48.6 +4.5**
YAK *e* 09 47 00.2
YAK *e*SS **SS** **09 50 33.8 -4.5**
YAK *e*SSS SSS 09 53 49.5
YAK pmax pmax
comp=Z,48nm,1.1s
YAK pmax pmax
comp=N,28nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK smax smax
comp=E,94nm,3.7s
YAK smax smax
comp=N,57nm,3.0s
YAK Yakutsk 69.92 351 *e*P **P** **09 37 02.3 -0.7**
comp=N,16nm,0.5s
YAK *e*pP **pP** **09 37 16.9 -3.1**
SKHT Srikalahasti 70.15 287 *e*P **P** **09 37 05.9 +0.5**
SKHT *e*pP **pP** **09 37 20.9 -1.5**
SKHT *e*sP **sP** **09 37 28.2 -1.1**
ADKI Addanki 70.37 289 *e*P **P** **09 37 07.6 +0.9**
ADKI *e*pP **pP** **09 37 23.1 -0.6**
MOY Mondy 70.39 331 *e*P **P** **09 37 06.0 -0.3**
MOY pmax pmax
comp=Z,59nm,2.3s
DANN Dangsing 70.47 303 *e*P **P** **09 37 07.2 -0.3**
comp=Z,149nm,0.8s
NJS Nagarjunasagar 71.15 290 *e*P **P** **09 37 11.5 +0.1**
NJS *e* 09 37 24.8
NJS *e*PcP **pP** **09 37 29.7 +1.2**
NJS *e*sP **sP** **09 37 36.4 +1.0**
VNDA Vanda 71.16 177 P **P** **09 37 11.4 +1.0**
comp=Z,13nm,0.6s,baz=330,slow=6.9,SNR=91
RPR Rampur 71.70 292 *e*P **P** **09 37 15.0 +0.2**
RPR *e*pP **pP** **09 37 30.4 -1.3**
SBA Scott Base 71.80 176 *e*P **P** **09 37 16.2 +1.9**
SBA pmax pmax
comp=Z,9.0nm,0.8s
SBA Scott Base 71.80 176 *e*P **P** **09 37 16.2 +1.9**
comp=Z,9.5nm,0.8s
HYB Hyderabad 72.05 291 *i* P **P** **09 37 16.0 -0.9**
comp=Z,100nm,1.0s
HYB *e*sP **sP** **09 37 42.0 +1.1**
HYBB Hyderabad (bro 72.05 291 *e*P **P** **09 37 16.9 0.0**
HYBB *e*sP **sP** **09 37 43.1 +2.2**
URV Uravakonda 72.72 288 *e*P **P** **09 37 20.9 0.0**
URV *e* 09 37 36.5
WMQ Urumqi 73.58 319⇑ *i*P **P** **09 37 25.5 0.0**
WMQ pP **pP** **09 37 42.0 -0.6**
WMQ sP **sP** **09 37 49.0 -0.6**
WMQ PP **PP** **09 40 12.0 +1.6**
WMQ S SKiKP 09 46 41.8 -8.5
WMQ SS **SS** **09 51 40.5 +5.2**
WMQ PMZ
comp=Z,14nm,0.9s
WMQ PMZ
comp=Z,140nm,5.0s
WMQ LN
comp=Z,220nm,29.8s
WMQ LE
comp=Z,260nm,23.0s
WMQ LZ
comp=Z,230nm,28.7s
LGTI Lohaghat 73.74 303 *e*P **P** **09 37 27.8 +1.2**
AGRA Agra 75.05 300 *e*P **P** **09 37 34.1 -0.1**
BILL Bilibino 75.80 7 *c i*P **P** **09 37 37.4 -0.3**
BILL *e* 09 37 44.6
BILL *e**PP **pP** **09 37 56.3 +1.4**
BILL *e* 09 40 30.9
BILL pmax pmax
comp=Z,43nm,1.7s
BILL MLR MLR
comp=Z,2µm,21.0s
BILL Bilibino 75.80 7 *e*P **P** **09 37 37.3 -0.4**
comp=Z,18nm,1.2s
NDI New Delhi 76.06 302 *e*P **P** **09 37 40.0 -0.1**
comp=Z,10.0nm,0.0s

RKT Rikitea 76.07 112 *e*LR LR 10 01 15.4
comp=Z,491nm,25.5s
AYAN Aya Nagar 76.08 301 *e*P **P** **09 37 38.5 -1.7**
AYAN AMB AMB 09 37 41.1
comp=Z,52nm,0.5s
KUDL Kundal 76.54 301 *e*P **P** **09 37 42.2 -0.5**
PAF Port-aux-Franc 76.54 221 P P 09 37 47.0 +4.6
PAF S **S** **09 47 28.0 +4.5**
PAF R 10 03 00.0
KKR Kurukshetra 76.74 303 *e*P **P** **09 37 45.1 +1.2**
GAMB Gambell 76.77 17 *e*P **P** **09 37 43.4 +0.1**
comp=Z,19nm,1.4s
KHET Khetri 77.10 301 *e*P **P** **09 37 45.8 -0.2**
KHET AMB AMB 09 37 47.2
comp=Z,76nm,1.2s
MK31 Makanchi Array 78.29 320 *i* P **P** **09 37 51.6 -0.6**
MK31 pmax pmax
comp=Z,27nm,0.9s
MKAR Makanchi Array 78.29 320 P **P** **09 37 52.1 -0.1**
comp=Z,18nm,1.0s,baz=108,slow=4.0,SNR=74
TIXI Tiksi 79.18 354 *c i*P **P** **09 37 54.8 -1.7**
TIXI pmax pmax
comp=Z,40nm,1.7s
TIXI Tiksi 79.18 354 *e*P **P** **09 37 54.9 -1.6**
comp=Z,25nm,1.0s
TNA Tin City 79.19 17 *e*P **P** **09 37 56.5 -0.2**
comp=Z,8.6nm,1.0s
ZALV Zalesovo Beam 79.82 328 P **P** **09 37 58.7 -1.6**
comp=Z,31nm,0.7s,baz=113,slow=5.3,SNR=129
ZALV LR LR 10 12 54.1
comp=Z,278nm,21.7s,baz=70,slow=35
KSH Kashi 80.13 312 P **P** **09 38 04.1 +1.5**
KSH sP **sP** **09 38 27.6 +0.8**
KSH PP **PP** **09 41 09.6 +4.0**
KSH S **S** **09 48 03.6 +0.9**
KSH SKS **SKSac** **09 48 12.3 -2.7**
KSH SS **SS** **09 53 18.1 +3.5**
KSH PMZ
comp=Z,15nm,0.9s
KSH LN
comp=Z,100nm,4.2s
KSH LE
comp=Z,130nm,4.8s
KSH LZ
comp=Z,190nm,5.7s
ULHL Ulahol 80.76 315 P **P** **09 38 06.0 0.0**
SNR=6.0
ULHL Ulahol 80.76 315 *i* P **P** **09 38 06.0 0.0**
NVS Novosibirsk 81.04 328⇑ *i*P **P** **09 38 05.4 -1.5**
NVS pmax pmax
comp=E,27nm,1.1s
NVS pmax pmax
comp=Z,42nm,1.1s
NVS pmax pmax
comp=N,20nm,1.5s
JASL Jaisalmer 81.07 299 *e*P **P** **09 38 08.2 +0.5**
KZA Kyzart 81.41 314 P **P** **09 38 10.4 +0.7**
SNR=44
KZA Kyzart 81.41 314 *i* P **P** **09 38 10.3 +0.7**
TKM2 Tokmak 2 81.41 315 P **P** **09 38 09.2 -0.3**
SNR=13
TKM2 Tokmak 2 81.41 315 *e*P **P** **09 38 09.0 -0.5**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
TKM2 Tokmak 2 81.41 315 *e*P **P** **09 38 09.0 -0.5**
comp=Z,10.0nm,0.9s
MAW Mawson 81.70 203 P **P** **09 38 10.0 -0.2**
comp=Z,6.0nm,0.6s,baz=115,slow=8.8,SNR=12
MAW Mawson 81.70 203 P **P** **09 38 10.7 +0.5**
baz=82,SNR=5.1
UCH Uchtor 81.98 314 P **P** **09 38 13.0 +0.3**
SNR=18
UCH Uchtor 81.98 314 *i* P **P** **09 38 13.0 +0.3**
KURK Kurchatov 82.01 323 *e*P **P** **09 38 10.7 -1.4**
KURK pmax pmax
comp=Z,37nm,1.0s
KURK Kurchatov 82.01 323 P **P** **09 38 11.8 -0.3**
SNR=13
KURK Kurchatov 82.01 323 *e*P **P** **09 38 10.7 -1.4**
comp=Z,37nm,1.0s
CHMS Chumysh 82.03 315 P **P** **09 38 12.7 +0.2**
SNR=8.4
CHMS Chumysh 82.03 315 *i* P **P** **09 38 12.6 +0.2**
AAK Ala-Archa 82.11 315 P **P** **09 38 13.1 +0.1**
SNR=7.8
AAK Ala-Archa 82.11 315 *i* P **P** **09 38 13.1 +0.1**
AAK pmax pmax
comp=Z,36nm,1.3s
AAK Ala-Archa 82.11 315 P **P** **09 38 13.4 +0.3**
SNR=9.1
AAK Ala-Archa 82.11 315 *e*P **P** **09 38 13.0 -0.1**
comp=Z,12nm,0.9s
USP Ospenovka 82.28 315 P **P** **09 38 14.2 +0.3**
SNR=5.0
USP Ospenovka 82.28 315 *i* P **P** **09 38 14.1 +0.3**
AML Almayashu 82.53 314 P **P** **09 38 15.7 +0.1**
SNR=34
EKS2 Erkin-Say 82.62 314 P **P** **09 38 15.9 +0.2**
SNR=18
EKS2 Erkin-Say 82.62 314 *e*P **P** **09 38 15.7 0.0**
EKS2 pmax pmax
comp=Z,17nm,0.9s
EKS2 Erkin-Say 82.62 314 *e*P **P** **09 38 15.7 0.0**
comp=Z,17nm,0.9s
SEW Seward 82.91 27 *e*P **P** **09 38 16.1 -0.4**
comp=Z,42nm,1.2s
PPLA Purkeypile 83.07 24 *e*P **P** **09 38 15.9 -1.7**
comp=Z,39nm,1.5s
RC01 Rabbit Creek A 83.23 26 *e*P **P** **09 38 17.3 -0.9**
comp=Z,58nm,1.5s
QSPA South Pole Qui 83.23 180 *e*P **P** **09 38 18.3 -0.1**
comp=Z,44nm,0.7s
KTH Kantishna Hill 83.89 23 *e*P **P** **09 38 20.1 -1.6**
comp=Z,31nm,1.2s
TRF Thorofare Moun 84.09 24 *e*P **P** **09 38 21.3 -1.5**
comp=Z,10nm,1.1s
KBL Kabul 84.24 306 *e*P **P** **09 38 23.7 -0.6**
KBL *e**PP **pP** **09 38 37.1 -4.7**
KBL pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 84.24 306 *e*P **P** **09 38 23.7 -0.6**
comp=Z,22nm,1.1s
KBL *e*pP **pP** **09 38 37.0 -4.7**
MCK McKinley 84.76 24 *e*P **P** **09 38 24.4 -1.6**
MCK pmax pmax
comp=Z,54nm,1.1s
MCK McKinley 84.76 24 *e*P **P** **09 38 24.4 -1.6**
comp=Z,54nm,1.1s
DIV Divide 84.99 27 *e*P **P** **09 38 26.3 -0.9**
comp=Z,58nm,1.3s
KK31 Karatay Array 85.05 314 *i* P **P** **09 38 27.4 -0.5**
KK31 pmax pmax
comp=Z,46nm,1.2s
KKAR Karatay Array 85.05 314 *e*P **P** **09 38 27.5 -0.5**
KKAR *e**PP **pP** **09 38 43.9 -1.6**
KKAR pmax pmax
comp=Z,66nm,1.4s
KKAR Karatay Array 85.05 314 *e*P **P** **09 38 27.5 -0.5**
comp=Z,66nm,1.4s
KKAR *e*pP **pP** **09 38 43.9 -1.6**
BMRM Bremner River 85.45 27 *e*P **P** **09 38 29.3 -0.2**
comp=Z,45nm,1.3s
COLA College 85.69 23 *e*P **P** **09 38 28.7 -1.8**
COLA pmax pmax
comp=Z,28nm,1.0s
COLA College 85.69 23 *e*P **P** **09 38 28.7 -1.8**
comp=Z,28nm,1.0s
COLD Coldfoot 85.90 20 *e*P **P** **09 38 31.3 -0.3**
comp=Z,23nm,1.0s
ILAR Eielson Array 86.02 23 P **P** **09 38 30.0 -2.2**
comp=Z,15nm,0.8s,baz=256,slow=4.8,SNR=133
ILAR LR LR 10 12 11.9
comp=Z,159nm,21.9s,baz=221,slow=32
DOT Dot Lake 86.70 25 *e*P **P** **09 38 35.2 -0.4**
comp=Z,34nm,1.1s
BRVK Borovoye 87.64 324 *c i*P **P** **09 38 38.8 -1.6**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 87.64 324 P **P** **09 38 39.2 -1.1**
SNR=6.7
BRVK Borovoye 87.64 324 *e*P **P** **09 38 38.7 -1.6**
comp=Z,19nm,1.0s
EGAK Eagle 88.30 24 *e*P **P** **09 38 42.7 -0.5**
comp=Z,45nm,1.2s
HYT Haines Junctio 88.67 28 *e*P **P** **09 38 45.9 +0.6**
DAWY Dawson 88.79 25 *e*P **P** **09 38 45.9 +0.3**

WBK Wadi Bani Khal 91.07 293 P P 09 38 57.6 +0.4
SNR=6.7
IDAH Dahanechah 91.49 303 eP P 09 38 59.5 +0.3
INK Inuvik 92.21 21 eP P 09 39 00.0 -1.4
INK pmax pmax
comp=Z,21nm,1.1s
INK Inuvik 92.21 21 eP P 09 38 60.0 -1.4
comp=Z,21nm,1.1s
AB31 Akbulak array 93.36 319 i P P 09 39 05.2 -1.9
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 93.36 319 eP P 09 39 05.5 -1.6
comp=Z,9.3nm,0.8s
ARQ Araqi 93.39 293 P P 09 39 08.1 +0.2
SNR=7.5
GEYT Alibeck 93.49 308 P P 09 39 07.2 -0.8
comp=Z,5.8nm,0.8s,baz=180,slow=2.8,SNR=11
L02D Cave Junction, 93.76 48 P P 09 39 09.9 +0.7
baz=94
I03D Drain, OR 94.10 47 P P 09 39 12.2 +1.6
baz=94
M02C Callahan 94.25 49 P P 09 39 12.5 +1.0
baz=94
HUMO Hull Mountain 94.28 48 eP P 09 39 13.4 +1.8
comp=Z,13nm,0.9s
G03D McMinnville, O 94.30 45 P P 09 39 12.5 +1.0
baz=94
N02D Trinity Center 94.33 49 P P 09 39 13.3 +1.5
baz=94
YBH Yreka Blue Hor 94.39 49 P P 09 39 13.1 +1.0
comp=Z,6.6nm,0.9s,baz=214,slow=3.5,SNR=8.5
ARU Arti 94.89 326 d iP P 09 39 11.3 -2.7
ARU 09 43 00.6
ARU S SKSac 09 49 39.1 -4.9
ARU pmax pmax
comp=Z,18nm,1.2s
J04D Umpqua Nationa 94.96 47 P P 09 39 16.0 +1.1
baz=95
M04C Macdoel 95.04 49 P P 09 39 16.6 +1.4
baz=95
J05D Fort Rock, OR 95.60 47 P P 09 39 18.5 +0.8
baz=96
VES Vestal, Richgr 96.78 55 P P 09 39 24.2 +1.1
baz=97
ISA Isabella, Lake 97.27 55 P Pdif 09 39 26.4 +0.9
baz=97
WVOR Wild Horse Val 97.46 48 eP Pdif 09 39 26.7 +0.5
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 97.46 48 eP Pdif 09 39 26.7 +0.4
comp=Z,3.6nm,0.9s
NVAR Mina Array Bea 97.54 52 P Pdif 09 39 28.6 +1.8
comp=Z,2.3nm,0.8s,baz=261,slow=5.4,SNR=13
EDW2 Edwards Air Fo 97.62 56 P Pdif 09 39 28.6 +1.5
baz=98
BFSC Mount Baldy Ra 97.87 56 P Pdif 09 39 29.1 +0.8
baz=98
LRMC Laurel Mtn Rad 97.90 55 P Pdif 09 39 29.3 +1.0
baz=98
MPMC Manual Prospec 98.09 55 P Pdif 09 39 30.9 +1.6
baz=98
FURC Furnace Creek, 98.61 54 P Pdif 09 39 32.9 +1.6
baz=99
GSC Goldstone, Bar 98.61 55 P Pdif 09 39 32.8 +1.3
baz=99
NEW Newport 98.66 42 P Pdif 09 39 32.0 +0.6
comp=Z,5.8nm,0.8s,baz=248,slow=5.4,SNR=15
NEW Newport 98.66 42 P Pdif 09 39 32.0 +0.6
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 98.66 42 P Pdif 09 39 32.0 +0.7
baz=99
NEW Newport 98.66 42 eP P 09 39 30.6 -0.7
comp=Z,6.2nm,0.9s
RPN Rapa Nui 98.68 119 LR LR 10 18 34.5
comp=Z,4µm,19.4s,baz=136,slow=32
PFO Pinyon Flats O 98.84 57 P Pdif 09 39 34.0 +1.4
baz=99
MONP Monument Peak, 98.84 58 P Pdif 09 39 34.4 +1.7
baz=99
SHOC Shoshone, Teco 99.06 55 P Pdif 09 39 34.3 +0.9
baz=99
TPNV Topopah Spring 99.12 54 P Pdif 09 39 35.5 +1.7
baz=99
BELC Belle Mtn. Jos 99.23 57 P Pdif 09 39 36.0 +1.6
baz=99
TUQ Turquoise Moun 99.34 55 P Pdif 09 39 35.8 +1.0
baz=99
GMRC Granite Mounta 99.54 56 P Pdif 09 39 36.8 +1.1
baz=100
YKA Yellowknife Ar 99.66 28 P Pdif 09 39 35.1 -0.2
comp=Z,3.5nm,0.9s,baz=261,slow=4.3,SNR=21
YKA PKiKP PKiKP 09 44 04.0 +0.1
comp=Z,1.2nm,1.0s,baz=291,slow=1.4,SNR=5.8
YKA PKKPbc PKKPbc 09 55 55.7 -3.6
comp=Z,0.3nm,0.5s,baz=105,slow=3.2,SNR=4.3
BC3 Big Chuckawall 99.67 57 P Pdif 09 39 37.8 +1.6
baz=100
R11A Troy Canyon, C 99.67 52 P Pdif 09 39 37.5 +1.2
baz=100
IRM Iron Mountain 99.94 57 P Pdif 09 39 39.1 +1.8
baz=100
ELK Elko 99.97 50 P Pdif 09 39 38.4 +0.8
comp=Z,0.7nm,0.4s,baz=289,slow=4.3,SNR=4.8
SHPR Sheep Range 99.98 54 ePdif Pdif 09 39 40.1 +2.4
comp=Z,14nm,1.5s
HLID Hailey 100.57 47 P Pdif 09 39 41.0 +0.9
baz=101
PDMCI Parker Dam,Lak 100.78 56 P Pdif 09 39 42.8 +1.8
baz=101
MSO Missoula 100.84 44 P Pdif 09 39 42.2 +1.1
baz=101
W13A Hualapai Mount 101.00 56 P Pdif 09 39 42.6 +0.3
baz=101
PRGR Permogore 101.47 332 P Pdif 09 39 38.9 -4.5
PRGR pmax pmax
comp=Z,18nm,1.2s
Y14A Wickenburg 101.72 57 P Pdif 09 39 46.3 +1.0
baz=102
Z14A Wintersburg 101.77 57 P Pdif 09 39 46.4 +0.9
baz=102
DUG Dugway, Tooele 101.82 50 P Pdif 09 39 46.6 +0.9
baz=102
RAYN Ar Rayn 103.50 293 ePdif Pdif 09 39 53.3 -0.1
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 104.15 48 Pdiff Pdif 09 39 56.8 +0.6
comp=Z,2.8nm,0.8s,baz=237,slow=2.2,SNR=21
A19A Klindworth Far 104.19 41 P Pdif 09 39 56.5 +0.6
baz=104
J19A Crowheart 104.49 47 P Pdif 09 39 58.5 +1.0
baz=104
KLMR Klimovskoe 104.51 331 eP Pdif 09 39 53.4 -3.6
KLMR pmax pmax
comp=Z,18nm,1.1s
A20A Cobblestone Ra 104.73 41 P Pdif 09 39 59.4 +1.1
baz=105
KEV Kevo 106.50 342 ep Pdif 09 39 58.5 -7.1
comp=Z,6.6nm,0.8s
ARCES ARCESS Array B 107.06 342 Pdiff Pdif 09 40 07.2 -0.9
comp=Z,12nm,0.9s,baz=64,slow=5.5,SNR=16
ARCES PKiKP PKiKP 09 44 16.8 -0.5
comp=Z,3.5nm,0.9s,baz=78,slow=2.2,SNR=5.7
JOF Joensuu 107.65 334 ep Pdif 09 40 06.7 -4.2
comp=Z,1.8nm,0.7s
B28A Dugan Ranch, T 109.74 41 P PKiKP 09 44 23.3 +0.4
baz=110
TXAR Lajitas Array 109.81 61 PKiKP PKiKP 09 44 24.4 +0.7
comp=Z,0.7nm,0.9s,baz=256,slow=4.8,SNR=5.4
TXAR PKKPab PKKPab 09 55 39.7 +1.2
comp=Z,1.2nm,1.0s,baz=131,slow=5.7,SNR=5.8
I28A Midland 110.07 46 P PKiKP 09 44 23.7 +0.1
baz=110
KAF Kangasniemi 110.11 335 ep Pdif 09 40 18.7 -3.1
comp=Z,2.7nm,0.7s
A29A Manning Farm, 110.36 40 P PKiKP 09 44 24.2 +0.2
baz=110
FINES FINESS Array B 110.49 334 Pdiff Pdif 09 40 23.6 0.0
comp=Z,1.8nm,0.6s,baz=60,slow=4.6,SNR=6.5
FINES PKiKP PKiKP 09 44 23.7 -0.1
comp=Z,2.7nm,0.7s,baz=66,slow=1.7,SNR=9.1
ULM Lac du Bonnet 112.12 38 PKiKP PKiKP 09 44 25.6 -1.7
comp=Z,2.0nm,0.7s,baz=287,slow=3.9,SNR=5.4
BRTR Keskin Array B 112.47 310 PKiKP PKiKP 09 44 28.4 -0.2
comp=Z,0.8nm,0.9s,baz=94,slow=4.6,SNR=4.8
BRTR PKKPbc PKKPbc 09 55 18.5 -0.7
comp=Z,0.7nm,0.9s,baz=291,slow=3.4,SNR=4.3
AKASG Malin Array Be 112.81 323 PKiKP PKiKP 09 44 28.1 -0.5
comp=Z,0.4nm,0.3s,baz=57,slow=2.9,SNR=7.9
AKASG PP PP 09 45 14.9 -2.2
comp=Z,0.8nm,0.4s,baz=56,slow=8.0,SNR=6.4
KIEV Kiev 112.83 323 i PKiKP PKiKP 09 44 25.0 -3.6
ECSD EROS Data Cent 113.35 45 P PKiKP 09 44 29.3 -0.5
baz=113
ECSD EROS Data Cent 113.35 45 ePKPdf PKiKP 09 44 29.4 -0.5
433A Art 113.64 59 P PKiKP 09 44 30.5 -0.4
baz=114
333A Richland Sprin 113.67 59 P PKiKP 09 44 30.9 0.0
baz=114
SUMG Summit 114.13 2 ePKIKP PKPdf 09 44 30.8 -0.3
SUMG Summit 114.13 2 ePKPdf PKPdf 09 44 30.8 -0.3
434A Burnet 114.34 59 P PKPdf 09 44 32.3 +0.1
baz=114
W35A Tecumseh 114.88 54 P PKPdf 09 44 33.1 0.0
baz=115
SUW Suwalki 115.05 327 ePKP PKPdf 09 44 33.5 +0.7
SUW Suwalki 115.05 327 ePKIKP PKPdf 09 44 33.5 +0.7
X37A Clayton 116.19 55 P PKPdf 09 44 35.5 -0.1
baz=116
NOA NORSAR Array B 116.77 338 PKP PKPdf 09 44 35.6 -0.4
comp=Z,5.5nm,0.9s,baz=51,slow=2.1,SNR=8.4
KWP Kalwaria Pacla 117.11 323 ePKP PKPdf 09 44 39.8 +2.9
KWP Kalwaria Pacla 117.11 323 ePKIKP PKPdf 09 44 39.9 +3.0
KOLS Kolonicke sedl 117.65 322 ePKIKP PKPdf 09 44 38.6 +0.6
KOLS Kolonicke sedl 117.65 322 ePKP PKPdf 09 44 38.6 +0.6
COWI Conover 117.73 41 ePKPdf PKPdf 09 44 37.0 -1.2
JFWS Jewell Farm 118.04 45 ePKIKP PKPdf 09 44 37.2 -1.7
JFWS Jewell Farm 118.04 45 ePKPdf PKPdf 09 44 37.2 -1.7
STHS Stebnicka Huta 118.07 323 ePKIKP PKPdf 09 44 38.7 -0.1
STHS Stebnicka Huta 118.07 323 ePKP PKPdf 09 44 38.7 -0.1
CRVS Cervenica-Dubn 118.15 323 ePKIKP PKPdf 09 44 38.9 0.0
CRVS Cervenica-Dubn 118.15 323 ePKP PKPdf 09 44 38.9 0.0
CMIG Matias Romero 118.46 74 PKP PKPdf 09 44 40.6 +0.2
comp=Z,3.5nm,0.9s,baz=61,slow=4.5,SNR=3.5
OJC Ojcow 118.57 325 ePKP PKPdf 09 44 40.0 +0.3
NIE Niedzica 118.62 324 ePKP PKPdf 09 44 41.0 +1.1
PSZ Piszkesteto 119.51 322 ∥e PKPdf 09 44 41.6 -0.1
VYHS Vyhne 119.90 323 ePKIKP PKPdf 09 44 41.6 -0.7
VYHS Vyhne 119.90 323 ePKP PKPdf 09 44 41.6 -0.7
KSP Ksiaz 120.25 326 ePKP PKPdf 09 44 43.5 +0.6
KSP Ksiaz 120.25 326 ePKIKP PKPdf 09 44 43.4 +0.6
PKS6 Bocsa 120.27 321 ∥ePKPdf PKPdf 09 44 43.8 +0.8
PKS7 Kunszentmiklos 120.33 321 ∥ePKPdf PKPdf 09 44 43.6 +0.5
DPC Dobruska-Polom 120.48 326 i PKPdf PKPdf 09 44 43.9 +0.5
DPC Dobruska-Polom 120.48 326 i PKIKP PKPdf 09 44 43.9 +0.5
UPC Upice 120.57 326 i PKPdf PKPdf 09 44 43.8 +0.3
UPC Upice 120.57 326 i PKIKP PKPdf 09 44 43.8 +0.3
PKSG 120.66 322 ∥ePKPdf PKPdf 09 44 43.9 +0.1
PKSM Moragy 121.01 321 ∥ePKPdf PKPdf 09 44 44.3 -0.2
PKS9 Tamasi 121.08 321 ∥ePKPdf PKPdf 09 44 44.8 +0.2
SFIN Lafayette 121.09 47 P PKPdf 09 44 44.5 -0.3
baz=121
PLCA Paso Flores 121.31 147 PKP PKPdf 09 44 46.1 +0.6
comp=Z,4.2nm,0.9s,baz=216,slow=4.4,SNR=6.5
TREC Trest 121.47 325 i PKPdf PKPdf 09 44 45.6 +0.3
TREC Trest 121.47 325 i PKIKP PKPdf 09 44 45.6 +0.3
BRG Berggiesshubel 121.51 327 ePKP PKPdf 09 44 45.3 0.0
comp=Z,22nm,1.1s
BRG Berggiesshubel 121.51 327 ePKPdf PKPdf 09 44 45.0 -0.3
BRG Berggiesshubel 121.51 327 ePKIKP PKPdf 09 44 45.3 0.0
BRG pmax pmax
comp=Z,22nm,1.1s
GOPC GO Pecny, Ondr 121.55 326 i PKPdf PKPdf 09 44 45.8 +0.3
BSEG Bad Segeberg 121.58 332 ePKPdf PKPdf 09 44 45.3 0.0
SOP Sopron 121.63 323 ∥ePKPdf PKPdf 09 44 45.4 -0.2
PRU Pruhonice 121.65 326 i PKPdf PKPdf 09 44 45.8 +0.2
PRU Pruhonice 121.65 326 i PKIKP PKPdf 09 44 45.8 +0.2
PRA Prague 121.67 326 i PKPdf PKPdf 09 44 46.1 +0.5
PRA Prague 121.67 326 i PKIKP PKPdf 09 44 46.1 +0.5
CLL Collm 121.77 328 ePKPdf PKPdf 09 44 45.2 -0.6
CLL Collm 121.77 328 ⇑i PKPdf PKPdf 09 44 45.5 -0.3
comp=Z,21nm,1.0s
CLL epPKPdf pPKPdf 09 45 05.0 +0.9
CLL ePP PP 09 46 12.0 -7.1
CLL ePS PS 09 56 18.0 +4.3
CLL ePPS PPS 09 57 36.0
CLL eSS SS 10 03 12.0 +21
CLL Collm 121.77 328 ⇑i PKIKP PKPdf 09 44 45.5 -0.3
CLL pmax pmax
comp=Z,21nm,1.0s
BLO Bloomington 121.90 48 ePKIKP PKPdf 09 44 46.6 +0.2
BLO Bloomington 121.90 48 ePKPdf PKPdf 09 44 46.6 +0.2
CONA Conrad Observa 121.92 324 ⇑i PKiKP PKPdf 09 44 45.5 -0.9
comp=Z,6.7nm,0.7s
BEHE Becsehely 122.06 322 ePKPdf PKPdf 09 44 46.8 +0.3
WCI Wyandotte Cave 122.38 49 ePKIKP PKPdf 09 44 47.0 -0.4
WCI Wyandotte Cave 122.38 49 ePKPdf PKPdf 09 44 47.0 -0.4
ARSA Arzberg 122.45 323 ⇑i PKPdf PKPdf 09 44 46.0 -1.3
comp=Z,8.4nm,1.0s
TANN Tannenbergstha 122.55 327 ePKPdf PKPdf 09 44 47.1 -0.3
NRDL Niedersach Rie 122.56 330 ePKPdf PKPdf 09 44 47.2 0.0
KHC Kasperske Hory 122.63 326 ePKPdf PKPdf 09 44 48.0 +0.4
KHC Kasperske Hory 122.63 326 ePKIKP PKPdf 09 44 48.0 +0.4
GEC2 GERESS Array S 122.71 325 ePKPdf PKPdf 09 44 47.4 -0.4
GERES GERESS Array B 122.71 325 PKP PKPdf 09 44 47.9 +0.1
comp=Z,6.8nm,0.8s,baz=70,slow=1.6,SNR=37
CLZ Clausthal 122.81 330 ePKPdf PKPdf 09 44 47.9 0.0
MOX Moxa 122.87 328 ePKPdf PKPdf 09 44 47.6 -0.4
MOA Molln 122.90 324 ⇑i PKPdf PKPdf 09 44 47.1 -1.0
comp=Z,9.7nm,1.4s
WET Wettzell 123.01 326 ePKPdf PKPdf 09 44 48.1 -0.2
SOKA Soboth 123.02 323 ⇑i PKiKP PKPdf 09 44 48.0 -0.5
comp=Z,14nm,1.0s,SNR=6.5
ROTZ Rotzenmuhle 123.05 327 ePKPdf PKPdf 09 44 48.2 -0.1
OBKA Obir 123.40 323 ⇑i PKiKP PKPdf 09 44 48.7 -0.5
comp=Z,13nm,1.5s
BOJS Bojanci 123.45 321 ePKPdf PKPdf 09 44 49.1 -0.1
VISS Visnje 123.56 322 i PKPdf PKPdf 09 44 49.2 -0.3
UBBA Unterbreizbach 123.61 329 ePKPdf PKPdf 09 44 49.1 -0.1
GRF Grafenberg Arr 123.62 327 ePKPdf PKPdf 09 44 49.1 -0.3
RJOB Jochberg 123.81 325 ePKPdf PKPdf 09 44 49.0 -0.9
IBBN Ibbenburen 123.81 331 ePKPdf PKPdf 09 44 49.9 +0.2
KBA Koelnbreinsper 123.83 324 ⇑i PKPdf PKPdf 09 44 48.8 -1.4
comp=Z,16nm,1.2s,SNR=6.1
VOJS Vojsko 124.03 322 i PKPdf PKPdf 09 44 49.8 -0.7
ACSO Alum Creek Sta 124.08 45 ePKPdf PKPdf 09 44 50.3 -0.3
FUR Furstenfeldbru 124.44 326 ePKPdf PKPdf 09 44 50.6 -0.5
ABTA Abfaltersbach 124.49 324 ∥i PKPdf PKPdf 09 44 50.3 -1.0
comp=Z,22nm,0.9s,SNR=6.7
BUG Bochum--Univer 124.59 331 ePKPdf PKPdf 09 44 50.9 -0.3
SADO Sadowa 124.67 39 PKP PKPdf 09 44 51.4 -0.2
comp=Z,5.5nm,0.8s,baz=338,slow=1.9,SNR=8.1
WATA Walderalm 124.72 325 ∥i PKiKP PKPdf 09 44 51.6 -0.2
comp=Z,8.0nm,0.7s
WTTA Wattenberg 124.72 325 ⇑i PKiKP PKPdf 09 44 51.8 -0.1
comp=Z,37nm,1.1s,SNR=9.0
TNS Taunus Mts 124.76 329 ePKPdf PKPdf 09 44 51.4 -0.3
SCHQ Schefferville 124.78 23 PKP PKPdf 09 44 51.6 +0.1
comp=Z,7.9nm,0.9s,baz=335,slow=3.4,SNR=9.7
MOTA Moosalm 124.98 325 ∥i PKiKP PKPdf 09 44 52.2 -0.1
comp=Z,25nm,0.9s,SNR=8.3
RETA Reutte 125.10 325 ⇑i PKiKP PKPdf 09 44 51.8 -0.6
comp=Z,14nm,1.3s
TKL Tuckaleechee C 125.12 51 PKP PKPdf 09 44 52.6 -0.1
comp=Z,12nm,0.9s,baz=181,slow=5.3,SNR=14
TKL Tuckaleechee C 125.12 51 PKP PKPdf 09 44 52.6 -0.1
TKL ePKPdf PKiKP 09 44 52.9 -0.2
STU Stuttgart 125.23 327 ePKPdf PKPdf 09 44 52.3 -0.2
FETA Feichten 125.38 325 ⇑i PKiKP PKPdf 09 44 52.8 -0.2
comp=Z,25nm,1.0s,SNR=14
DAVA Damuels 125.71 325 ⇑i PKiKP PKPdf 09 44 53.4 -0.3
comp=Z,25nm,0.9s,SNR=7.9
MEM Membach 125.73 331 PKP PKPdf 09 44 54.0 +0.5
BFO Black Forest 125.96 327 ePKPdf PKPdf 09 44 53.6 -0.3
BFO Black Forest 125.96 327 ePKIKP PKPdf 09 44 53.7 -0.3
BFO Black Forest 125.96 327 ePKPdf PKPdf 09 44 53.7 -0.3
GOGA Godfrey 126.07 53 ePKIKP PKPdf 09 44 54.8 +0.2
GOGA Godfrey 126.07 53 ePKPdf PKPdf 09 44 54.8 +0.2
BCLA Clavier 126.20 331 PKP PKPdf 09 44 55.3 +1.0
WLF Walferdange 126.27 330 PKP PKPdf 09 44 55.5 +1.0
WLF Walferdange 126.27 330 ePKPdf PKPdf 09 44 55.3 +0.8
CDF Champ du Feu 126.47 328 ePKIKP PKPdf 09 44 54.4 -0.6
comp=Z,21nm,0.9s
CDF Champ du Feu 126.47 328 ePKIKP PKPdf 09 44 54.4 -0.6
CDF Champ du Feu 126.47 328 ePKPdf PKPdf 09 44 54.4 -0.6
TIGA Tifton 126.54 56 P PKPdf 09 44 56.1 +0.5
baz=126
TIGA Tifton 126.54 56 ePKPdf PKPdf 09 44 55.9 +0.3
SNF Seneffe 126.63 331 PKP PKPdf 09 44 55.3 +0.2
GIVF Givet 126.64 331 ePKIKP PKPdf 09 44 55.5 +0.3
comp=Z,71nm,1.1s
GIVF Givet 126.64 331 ePKIKP PKPdf 09 44 55.5 +0.3
GIVF Givet 126.64 331 ePKPdf PKPdf 09 44 55.5 +0.3
ECH Echery 126.65 328 ePKIKP PKPdf 09 44 55.0 -0.3
ECH Echery 126.65 328 ePKPdf PKPdf 09 44 55.0 -0.3
DOU Dourbes 126.76 331 PKP PKPdf 09 44 56.0 +0.6
BAIF Baives 126.97 331 ePKIKP PKPdf 09 44 56.1 +0.3
comp=Z,49nm,1.1s
BAIF Baives 126.97 331 ePKIKP PKPdf 09 44 56.1 +0.3
BAIF Baives 126.97 331 ePKPdf PKPdf 09 44 56.1 +0.3
HINF Hinteralfeld 127.06 328 ePKIKP PKPdf 09 44 55.7 -0.4
comp=Z,82nm,1.2s
HINF Hinteralfeld 127.06 328 ePKIKP PKPdf 09 44 55.7 -0.4
HINF Hinteralfeld 127.06 328 ePKPdf PKPdf 09 44 55.7 -0.4
BLA Blacksburg 127.09 48 ePKIKP PKPdf 09 44 56.3 -0.2
BLA Blacksburg 127.09 48 ePKPdf PKPdf 09 44 56.3 -0.2
KMSC Kings Mountain 127.17 51 P PKPdf 09 44 56.7 0.0
baz=127
KMSC Kings Mountain 127.17 51 ePKPdf PKPdf 09 44 56.7 0.0
PAGF Fort de Pagny 127.19 329 ePKIKP PKPdf 09 44 55.3 -1.0
PAGF Fort de Pagny 127.19 329 ePKPdf PKPdf 09 44 55.3 -1.0
HAU Haudompre 127.21 328 ePKIKP PKPdf 09 44 56.2 -0.2
comp=Z,67nm,1.1s
HAU Haudompre 127.21 328 ePKIKP PKPdf 09 44 56.2 -0.2
HAU Haudompre 127.21 328 ePKPdf PKPdf 09 44 56.2 -0.2
LONY Lake Ozonia 127.53 37 ePKPdf PKPdf 09 44 56.2 -0.9
MEZF Maizieres J'vi 127.57 329 ePKIKP PKPdf 09 44 57.3 +0.3
comp=Z,38nm,0.9s
MEZF Maizieres J'vi 127.57 329 ePKPdf PKPdf 09 44 57.3 +0.3
JTS JuntasAbangare 128.19 82 ePKIKP PKPdf 09 45 01.2 +2.0
JTS JuntasAbangare 128.19 82 ePKPdf PKPdf 09 45 01.2 +2.0
CABF La Chapelle 128.21 327 ePKPdf PKPdf 09 44 58.6 +0.2
comp=Z,106nm,1.2s
CABF La Chapelle 128.21 327 ePKIKP PKPdf 09 44 58.6 +0.2
CABF La Chapelle 128.21 327 ePKPdf PKPdf 09 44 58.6 +0.2
LPG La Plagne 128.51 325 ePKPdf PKPdf 09 44 59.4 +0.1
comp=Z,42nm,1.2s
LPG La Plagne 128.51 325 ePKIKP PKPdf 09 44 59.4 +0.1
LPG La Plagne 128.51 325 ePKPdf PKPdf 09 44 59.4 +0.1
LPL La Plagne 128.51 325 ePKIKP PKPdf 09 44 59.2 0.0
comp=Z,42nm,1.1s
LPL La Plagne 128.51 325 ePKIKP PKPdf 09 44 59.2 0.0
LPL La Plagne 128.51 325 ePKPdf PKPdf 09 44 59.2 0.0
MDV Middlebury 128.72 37 ePKPdf PKPdf 09 44 59.3 0.0
BNI Bardonecchia 128.82 325 ePKIKP PKPdf 09 45 00.2 +0.5
BNI Bardonecchia 128.82 325 ePKPdf PKPdf 09 45 00.2 +0.5
MBDF Montbardon 128.95 324 ePKIKP PKPdf 09 44 59.7 -0.3
MBDF Montbardon 128.95 324 ePKPdf PKPdf 09 44 59.7 -0.3
MBDF Montbardon 128.95 324 ePKPdf PKPdf 09 44 59.7 -0.3
LOR Lormes 128.98 329 ePKIKP PKPdf 09 44 59.8 0.0
comp=Z,78nm,1.4s
LOR Lormes 128.98 329 ePKIKP PKPdf 09 44 59.8 0.0
LOR Lormes 128.98 329 ePKPdf PKPdf 09 44 59.8 0.0
SSF Saint Saulge 129.30 329 ePKIKP PKPdf 09 45 00.5 +0.1
comp=Z,63nm,1.4s
SSF Saint Saulge 129.30 329 ePKIKP PKPdf 09 45 00.5 +0.1
SSF Saint Saulge 129.30 329 ePKPdf PKPdf 09 45 00.5 +0.1
ORIF Oris-en-Rattie 129.35 325 ePKIKP PKPdf 09 45 00.6 -0.1
comp=Z,48nm,1.3s
ORIF Oris-en-Rattie 129.35 325 ePKIKP PKPdf 09 45 00.6 -0.1
ORIF Oris-en-Rattie 129.35 325 ePKPdf PKPdf 09 45 00.6 -0.1
SMF Signal de Mont 129.39 328 ePKIKP PKPdf 09 45 00.5 -0.1
comp=Z,78nm,1.3s
SMF Signal de Mont 129.39 328 ePKIKP PKPdf 09 45 00.5 -0.1
SMF Signal de Mont 129.39 328 ePKPdf PKPdf 09 45 00.5 -0.1
AVF Avril sur Loir 129.55 328 ePKIKP PKPdf 09 45 00.7 -0.1
AVF Avril sur Loir 129.55 328 ePKIKP PKPdf 09 45 00.7 -0.1
AVF Avril sur Loir 129.55 328 ePKPdf PKPdf 09 45 00.7 -0.1
HYF Humbligny 129.60 329 ePKIKP PKPdf 09 45 01.3 +0.4
HYF Humbligny 129.60 329 ePKPdf PKPdf 09 45 01.3 +0.4
FRF La Foret Royal 129.70 323 ePKIKP PKPdf 09 45 01.2 0.0
comp=Z,42nm,1.0s
FRF La Foret Royal 129.70 323 ePKIKP PKPdf 09 45 01.2 0.0
FRF La Foret Royal 129.70 323 ePKPdf PKPdf 09 45 01.2 0.0
SSB Saint Sauveur 129.88 326 ePKIKP PKPdf 09 45 02.2 +0.6
SSB Saint Sauveur 129.88 326 ePKPdf PKPdf 09 45 02.1 +0.6
LMR La Mourre 129.92 323 ePKIKP PKPdf 09 45 00.5 -1.1
comp=Z,73nm,1.2s
LMR La Mourre 129.92 323 ePKIKP PKPdf 09 45 00.5 -1.1
LMR La Mourre 129.92 323 ePKPdf PKPdf 09 45 00.5 -1.1
BGF Bois d'Agland 129.97 328 ePKIKP PKPdf 09 45 01.9 +0.2
BGF Bois d'Agland 129.97 328 ePKIKP PKPdf 09 45 01.9 +0.2
BGF Bois d'Agland 129.97 328 ePKPdf PKPdf 09 45 01.9 +0.2
LDF La Druitiere 130.03 332 ePKIKP PKPdf 09 45 01.6 -0.1
comp=Z,40nm,1.1s
LDF La Druitiere 130.03 332 ePKIKP PKPdf 09 45 01.6 -0.1
LDF La Druitiere 130.03 332 ePKPdf PKPdf 09 45 01.6 -0.1
FLN La Foliniere 130.07 333 ePKIKP PKPdf 09 45 01.7 -0.1
comp=Z,57nm,1.1s
FLN La Foliniere 130.07 333 ePKIKP PKPdf 09 45 01.7 -0.1
FLN La Foliniere 130.07 333 ePKPdf PKPdf 09 45 01.7 -0.1
VIVF Saint-Julien-l 130.07 326 ePKIKP PKPdf 09 45 02.0 +0.1
comp=Z,103nm,1.6s
VIVF Saint-Julien-l 130.07 326 ePKIKP PKPdf 09 45 02.0 +0.1
VIVF Saint-Julien-l 130.07 326 ePKPdf PKPdf 09 45 02.0 +0.1
SMRF Simiane la Rot 130.09 324 ePKPdf PKPdf 09 45 02.4 +0.4
SMRF Simiane la Rot 130.09 324 ePKIKP PKPdf 09 45 02.4 +0.4
comp=Z,177nm,1.6s
TCF Toulx Ste Croi 130.48 329 ePKIKP PKPdf 09 45 02.8 +0.1
comp=Z,92nm,1.4s
TCF Toulx Ste Croi 130.48 329 ePKIKP PKPdf 09 45 02.8 +0.1
TCF Toulx Ste Croi 130.48 329 ePKPdf PKPdf 09 45 02.8 +0.1
GRR Gorron 130.51 332 ePKIKP PKPdf 09 45 02.8 +0.2
GRR Gorron 130.51 332 ePKIKP PKPdf 09 45 02.8 +0.2
GRR Gorron 130.51 332 ePKPdf PKPdf 09 45 02.8 +0.2
LASF Ste Croix 131.01 325 ePKIKP PKPdf 09 45 04.0 +0.3
comp=Z,96nm,1.7s
LASF Ste Croix 131.01 325 ePKPdf PKPdf 09 45 04.0 +0.3
SGMF Saint Gilles 131.38 333 ePKIKP PKPdf 09 45 04.3 +0.1
comp=Z,35nm,0.9s
SGMF Saint Gilles 131.38 333 ePKIKP PKPdf 09 45 04.3 +0.1
SGMF Saint Gilles 131.38 333 ePKPdf PKPdf 09 45 04.3 +0.1
MFF Saint Martin d 131.45 330 ePKIKP PKPdf 09 45 04.6 +0.2
comp=Z,64nm,1.3s
MFF Saint Martin d 131.45 330 ePKIKP PKPdf 09 45 04.6 +0.2
MFF Saint Martin d 131.45 330 ePKPdf PKPdf 09 45 04.6 +0.2
CAF Calviac 131.46 327 ePKIKP PKPdf 09 45 05.2 +0.6
comp=Z,52nm,1.3s
CAF Calviac 131.46 327 ePKIKP PKPdf 09 45 05.2 +0.6
CAF Calviac 131.46 327 ePKPdf PKPdf 09 45 05.2 +0.6
RJF Les Rejaudoux 131.50 328 ePKIKP PKPdf 09 45 05.1 +0.5
RJF Les Rejaudoux 131.50 328 ePKIKP PKPdf 09 45 05.1 +0.5
RJF Les Rejaudoux 131.50 328 ePKPdf PKPdf 09 45 05.1 +0.5
ROSF Rostrenen 131.63 334 ePKIKP PKPdf 09 45 04.1 -0.6
ROSF Rostrenen 131.63 334 ePKIKP PKPdf 09 45 04.1 -0.6
ROSF Rostrenen 131.63 334 ePKPdf PKPdf 09 45 04.1 -0.6
KEST Kesra 131.94 313 PKP PKPdf 09 45 06.8 +0.9
comp=Z,3.9nm,1.1s,baz=311,slow=7.9,SNR=4.2
LFF La Frestale 132.15 328 ePKIKP PKPdf 09 45 06.4 +0.6
LFF La Frestale 132.15 328 ePKIKP PKPdf 09 45 06.4 +0.6
LFF La Frestale 132.15 328 ePKPdf PKPdf 09 45 06.4 +0.6
MTLF Montolieu 132.40 326 ePKIKP PKPdf 09 45 06.2 -0.2
MTLF Montolieu 132.40 326 ePKIKP PKPdf 09 45 06.2 -0.2
MTLF Montolieu 132.40 326 ePKPdf PKPdf 09 45 06.2 -0.2
EPF Esparros 133.64 327 ePKIKP PKPdf 09 45 09.2 +0.4
EPF Esparros 133.64 327 ePKIKP PKPdf 09 45 09.2 +0.4
EPF Esparros 133.64 327 ePKPdf PKPdf 09 45 09.2 +0.4
ETSF Etsaut 134.22 327 ePKIKP PKPdf 09 45 11.2 +1.3
comp=Z,26nm,1.1s
ETSF Etsaut 134.22 327 ePKIKP PKPdf 09 45 11.2 +1.3
ETSF Etsaut 134.22 327 ePKPdf PKPdf 09 45 11.2 +1.3
LPAZ La Paz 138.09 123 PKhKP PKPpre 09 45 10.1
comp=Z,1.2nm,0.8s,baz=208,slow=4.5,SNR=6.0
LPAZ PKP PKPdf 09 45 18.4 -0.1
comp=Z,6.3nm,0.9s,baz=237,slow=2.7,SNR=14
LPAZ SKPbc SKiKP 09 48 50.4 -1.1
comp=Z,2.6nm,0.9s,baz=240,slow=2.3,SNR=5.2
LPAZ La Paz 138.09 123 PKPpre PKPpre 09 45 10.1
LPAZ PKP PKPdf 09 45 18.4 -0.1
LPAZ ePKPdf PKiKP 09 45 19.7 -0.8
LPAZ SKPbc SKiKP 09 48 50.4 -1.1
ESDC Sonseca Array 138.30 326 PKP PKPdf 09 45 18.3 +0.8
comp=Z,1.3nm,0.6s,baz=5.4,slow=3.3,SNR=8.2
ESDC SKPbc SKiKP 09 48 48.7 -1.9
comp=Z,0.6nm,0.3s,baz=28,slow=3.5,SNR=8.1
ROSC El Rosal 138.50 90 PKP PKPdf 09 45 19.1 0.0
comp=Z,7.0nm,0.8s,baz=12,slow=5.7,SNR=5.5
MVO Moncorvo 138.82 330 ePKPdf PKPdf 09 45 19.6 +1.1
POLO Lamas de Olo 139.03 331 ePKPdf PKPdf 09 45 19.9 +1.0
CPUP Villa Florida 139.33 145 PKP PKPdf 09 45 19.8 +0.1
comp=Z,3.7nm,1.1s,baz=341,slow=3.1,SNR=6.5
MTE Manteigas 139.65 330 ePKPdf PKPdf 09 45 21.8 +1.8
PMRV Marv??o 140.30 329 ePKPdf PKPdf 09 45 22.7 +1.5
PMTG Montargil 141.00 329 PKPdf PKPdf 09 45 22.7 +0.3
EVO Evora 141.30 328 ePKIKP PKPdf 09 45 22.8 -0.1

	comp=Z,18nm,0.9s							
EVOP	**Sao Brissos**	**141.36**	**329**	*e*PKIKP		**PKPdf**	**09 45 22.8**	**-0.2**
EVOP	**Sao Brissos**	**141.36**	**329**	*e*PKPdf		**PKPdf**	**09 45 22.8**	**-0.2**
PCVE	**Castro Verde**	**141.98**	**328**	*e*PKPdf		**PKPdf**	**09 45 27.8**	**+3.6**
SDV	**Santo Domingo**	**142.32**	**84**	*e*PKPdf		**PKPdf**	**09 45 20.5**	**-5.2**
SMN1	**Samana, DR**	**142.32**	**67**	*e*PKPdf		**PKPdf**	**09 45 21.9**	**-3.5**
CRPR	**Cabo Rojo, PR**	**144.60**	**68**	*e*PKPdf		**PKPab**	**09 45 27.2**	**-0.7**
LRS	**Lares**	**144.77**	**68**	*e*PKPdf		**PKPab**	**09 45 27.9**	**-0.7**
OBIP	**Obispado Ponce**	**145.05**	**68**	*e*PKPbc		**PKPbc**	**09 45 29.2**	**-0.4**
CELP	**Cerrillos**	**145.07**	**68**	*e*PKPbc		**PKPbc**	**09 45 29.2**	**-0.4**
ICMP	**Isla Caja de M**	**145.16**	**68**	*e*PKPbc		**PKPbc**	**09 45 29.3**	**-0.7**
SJG	**San Juan**	**145.46**	**68**	*e*PKP2		**PKPdf**	**09 45 30.2**	**-0.6**
SJG	**San Juan**	**145.46**	**68**	*e*PKPbc		**PKPdf**	**09 45 30.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**145.61**	**283**	PKPbc		**PKPab**	**09 45 31.9**	**0.0**
	comp=Z,38nm,0.5s,baz=74,slow=3.5,SNR=308							
TORD				PP		**PP**	**09 48 55.2**	**+2.7**
	comp=Z,4.5nm,1.1s,baz=62,slow=3.2,SNR=3.9							
SAML	**Samuel**	**145.81**	**117**	*e*PKPbc		**PKPdf**	**09 45 31.5**	**-0.1**
STVI	**Saint Thomas**	**146.49**	**67**	*e*PKPdf		**PKPdf**	**09 45 31.9**	**-0.6**
STVI				*e*PKPbc		**PKPbc**	**09 45 33.6**	**-0.4**
STVI				*e*PKPab		**PKPab**	**09 45 35.5**	**+0.5**
CDVI	**St. Croix**	**146.82**	**68**	*e*PKPbc		**PKPbc**	**09 45 34.6**	**-0.3**
MBWH		**149.46**	**68**	*e*P		**PKPbc**	**09 45 42.0**	**0.0**
ANWB	**Willy Bob**	**149.57**	**66**	*e*P		**PKPdf**	**09 45 39.4**	**+1.8**
ANWB	**Willy Bob**	**149.57**	**66**	*e*PKPbc		**PKPbc**	**09 45 42.2**	**0.0**
ANWB				*e*PKPab		**PKPab**	**09 45 47.1**	**-0.3**
LZG	**Guadaloupe-1**	**150.00**	**69**	*e*P		**PKPbc**	**09 45 43.4**	**+0.1**
MLG	**Mont-d'or**	**150.08**	**69**	*e*P		**PKPbc**	**09 45 43.8**	**+0.2**
HMG	**Houelmont**	**150.11**	**70**	*e*P		**PKPbc**	**09 45 44.0**	**+0.3**
SCG	**Saint Claude**	**150.12**	**69**	*e*P		**PKPbc**	**09 45 44.3**	**+0.6**
TAG	**Tarade**	**150.13**	**69**	*e*P		**PKPbc**	**09 45 44.2**	**+0.5**
CRG	**Carmichael**	**150.13**	**69**	*e*P		**PKPbc**	**09 45 43.8**	**-0.1**
LKG	**Breislack**	**150.13**	**69**	*e*P		**PKPbc**	**09 45 44.2**	**+0.4**
ECG	**Echelle**	**150.14**	**69**	*e*P		**PKPbc**	**09 45 44.3**	**+0.4**
PHG	**Guadaloupe-2**	**150.16**	**70**	*e*P		**PKPbc**	**09 45 44.1**	**+0.3**
TBG	**Guadaloupe-3**	**150.19**	**70**	*e*P		**PKPbc**	**09 45 43.8**	**0.0**
BBL	**Barber's Block**	**150.44**	**70**	*e*P		**PKPbc**	**09 45 44.2**	**-0.2**
FDF	**Fort de France**	**150.92**	**72**	*e*P		**PKPbc**	**09 45 45.6**	**+0.1**
FDF	**Fort de France**	**150.92**	**72**	*e*PKIKP		**PKPbc**	**09 45 46.9**	**+1.3**
FDF				*e*			09 46 51.2	
FDF	**Fort de France**	**150.92**	**72**	*e*PKPbc		**PKPbc**	**09 45 46.9**	**+1.3**
FDF				*e*PKPab		**PKPab**	**09 45 51.2**	**-1.8**
PTGA	**Pitinga**	**151.75**	**104**	*e*PKPdf		**PKPdf**	**09 45 38.5**	**-2.6**
PTGA				*e*PKPbc		**PKPbc**	**09 45 47.7**	**+0.1**
KIC	**Kosan Boka**	**152.27**	**271**	*e*PKIKP		**PKPbc**	**09 45 49.0**	**+0.3**
	comp=Z,123nm,1.3s							
DBIC	**Dimbokro**	**152.40**	**272**	PKPbc		**PKPbc**	**09 45 49.4**	**+0.4**
	comp=Z,34nm,1.1s,baz=64,slow=3.1,SNR=15							
DBIC				PKPab		**PKPab**	**09 45 59.4**	**+0.1**
	comp=Z,9.3nm,0.7s,baz=38,slow=2.4,SNR=6.0							
DBIC	**Dimbokro**	**152.40**	**272**	PKIKP		**PKPbc**	**09 45 49.4**	**+0.4**
DBIC							09 45 59.4	
DBIC				pmax		pmax		
	comp=Z,34nm,1.1s							
DBIC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
DBIC	**Dimbokro**	**152.40**	**272**	*e*PKPbc		**PKPbc**	**09 45 49.3**	**+0.4**
DBIC				*e*PKPab		**PKPab**	**09 46 00.3**	**+1.0**
LIC	**Lamto**	**152.55**	**271**	*e*PKIKP		**PKPbc**	**09 45 49.6**	**+0.2**
	comp=Z,147nm,1.3s							
LIC	**Lamto**	**152.55**	**271**	*e*PKIKP		**PKPbc**	**09 45 49.2**	**-0.1**
	comp=Z,150nm,1.3s							
LIC	**Lamto**	**152.55**	**271**	*e*PKPdf		**PKPbc**	**09 45 49.6**	**+0.2**
TIC	**Toumodi**	**152.56**	**271**	*e*PKIKP		**PKPbc**	**09 45 49.5**	**+0.1**
	comp=Z,14nm,0.2s							
BDFB	**Brasilia**	**153.05**	**146**	PKP		**PKPdf**	**09 45 44.3**	**+1.1**
	comp=Z,6.7nm,0.8s,baz=248,slow=2.7,SNR=5.6							
BDFB				PKPbc		**PKiKP**	**09 45 50.8**	**+0.1**
	comp=Z,27nm,0.8s,baz=232,slow=0.1,SNR=24							
BDFB				PKPab		**PKPab**	**09 46 02.7**	**+0.8**
	comp=Z,6.4nm,0.6s,baz=165,slow=9.3,SNR=4.2							

IDC 23 09:28:57.7±4.5, 17°.54S×174°.80W, h0km, mb4.6/4, mb1 4.8/4, mb1mx3.9/40, mbtmp4.6/4, Error ellipse: s-maj=153.4km s-min=88.5km az=160.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.88**	**109**	S	Sb	09 31 19.5	-3.8
	baz=29,SNR=3.0						
CTA	**Charters Tower**	**36.90**	**260**	P	P	09 36 09.7	+1.2
	26nm,1.2s,baz=90,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**41.83**	**242**	P	P	09 36 50.1	+0.6
	2.2nm,0.4s,baz=78,slow=8.8,SNR=4.3						
WRA	**Warramunga Arr**	**48.08**	**259**	P	P	09 37 38.5	-1.0
	3.1nm,0.4s,baz=97,slow=7.4,SNR=15						
WRA				PcP	PcP	09 39 07.4	0.0
	0.9nm,0.8s,baz=93,slow=3.7,SNR=2.5						
ASAR	**Alice Springs**	**48.20**	**254**	P	P	09 37 39.2	-1.2
	4.8nm,0.4s,baz=87,slow=8.1,SNR=11						

*ISCJB **23** 09:30:25.3±0.3, 32°.25N±0°.02×115°.26W±0°.02, h20km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=149.5*
*NEIC **23** 09:30:26.0, 32°.26N×115°.33W, h8km, MD4.0(MEX), ML3.8(PAS), ML3.9(ECX), After ECX.*
*ECX **23** 09:30:26.8±0.5, 32°.26N×115°.34W, h6km, MD3.8, ML4.0*
*MEX **23** 09:30:27.2±0.6, 32°.27N×115°.27W, h5km, MD3.8*

ISC 23 09:30:24.7±0.9, 32°.24N±0°.02×115°.30W±0°.02, h11km±7km, n35, σ1°.56/60, 8C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.17**	**360**	*e*P	Pg	09 30 24.5	-4.0
CPBX				*e*S	**Sg**	**09 30 27.1**	**-4.0**
CPBX				AML	AML	09 30 43.1	
	comp=N,135μm,0.5s						
CPBX				*e*		09 30 43.1	
CPBX				*e*		09 30 43.4	
CPBX				AML	AML	09 30 43.4	
	comp=E,114μm,0.5s						
CPBX	**Cerro Prieto**	**0.17**	**360**	*i* P	**Pg**	**09 30 29.6**	**+1.1**
MBIG	**Mexicali**	**0.19**	**29**	*e*P	**Pg**	**09 30 30.3**	**+1.7**
MBIG				*e*S	**Sg**	**09 30 32.5**	**+1.1**
SGL	**Mount Signal**	**0.54**	**319**	*i* P	**Pg**	**09 30 35.5**	**+0.3**
RDX	**Rancho Dawling**	**0.63**	**240**	*e*P	**Pg**	**09 30 37.8**	**+0.9**
RDX				*e*S	**Sg**	**09 30 46.0**	**+0.9**
RDX				AML	AML	09 30 46.6	
	comp=N,7μm,0.2s						
RDX				*e*		09 30 46.6	
COA	**Coachella**	**0.64**	**14**	*i* P	**Pg**	**09 30 37.8**	**+0.8**
YUH	**Yuha Desert**	**0.66**	**308**	*i* P	**Pg**	**09 30 37.4**	**-0.1**
COK	**Cook Ranch**	**0.70**	**329**	*i* P	**Pg**	**09 30 38.6**	**+0.4**
YMD	**Yuma Desert**	**0.71**	**64**	*i* P	**Pg**	**09 30 39.2**	**+0.8**
RMX	**La Rumorosa**	**0.75**	**299**	*e*P	**Pg**	**09 30 39.2**	**0.0**
RMX				*e*S	**Sb**	**09 30 49.6**	**-0.5**
RMX				*e*		09 30 50.4	
	comp=E,4μm,0.2s						
RMX				*e*		09 30 50.5	
RMX				AML	AML	09 30 50.5	
	comp=N,5μm,0.2s						
ECBX	**El Chinero**	**0.80**	**164**	*e*P	**Pg**	**09 30 41.2**	**+1.1**
ECBX				*e*S	**Sg**	**09 30 52.4**	**+1.9**
GLA	**Glamis**	**0.90**	**26**	*e*Pg	**Pg**	**09 30 41.5**	**-0.6**
GLA				*e*Sg	**Sg**	**09 30 54.5**	**+0.7**
ZAX	**El Zacaton**	**1.10**	**229**	*e*P	**Pg**	**09 30 45.9**	**+0.1**
ZAX				*e*S	**Sg**	**09 31 00.7**	**+0.5**
CBX	**Cerro Bola**	**1.15**	**274**	*e*P	**Pg**	**09 30 46.3**	**-0.6**
CBX				*i* S	**Sg**	**09 31 02.0**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**274**	*e*P	**Pg**	**09 30 46.3**	**-0.6**
CBX				*e*S	**Sg**	**09 31 01.6**	**-0.3**
CBX	**Cerro Bola**	**1.15**	**274**	*e*P	**Pg**	**09 30 46.0**	**-0.9**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pg**	**09 30 47.6**	**-0.2**
SPIG				*i* S	**Sg**	**09 31 03.0**	**-0.4**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pg**	**09 30 47.7**	**-0.1**
BAR	**Barrett**	**1.24**	**291**	*e*Pn	**Pg**	**09 30 47.0**	**-1.4**
BAR				*e*Sn	**Sg**	**09 31 03.1**	**-1.3**
ECNX	**Esteban Cantu**	**1.25**	**242**	*e*P	**Pg**	**09 30 48.2**	**-0.4**
ECNX				*e*S	**Sg**	**09 31 04.7**	**-0.1**
PBX	**Punta Banda**	**1.31**	**248**	*e*P	**Pn**	**09 30 49.0**	**0.0**
PBX				*e*S	**Sg**	**09 31 06.6**	**-0.2**
PFO	**Pinyon Flats O**	**1.67**	**325**	*e*Pn	**Pn**	**09 30 52.4**	**-1.7**
PFO				*e*Sn	**Sn**	**09 31 16.3**	**+0.7**
214A	**Organ Pipe Nat**	**2.13**	**97**	*e*Pn	**Pn**	**09 30 59.6**	**-0.8**
214A				*e*Sn	**Sn**	**09 31 25.3**	**-1.6**
LDFC	**Landfair**	**2.83**	**3**	*e*Pn	**Pn**	**09 31 10.4**	**+0.4**
LDFC				*e*Sn	**Sn**	**09 31 43.8**	**-0.4**
MWC	**Mount Wilson**	**3.04**	**311**	*e*Pn	**Pb**	**09 31 16.9**	**-2.0**
MWC				*e*Sn	**Sn**	**09 31 51.9**	**+2.5**
PASC	**Pasadena Art C**	**3.09**	**309**	*e*Pn	**Pn**	**09 31 16.0**	**+2.6**
PASC				*e*Sn	**Sb**	**09 31 56.9**	**-0.5**
GSC	**Goldstone, Bar**	**3.30**	**338**	*e*Pn	Pn	09 31 20.0	+3.6
GSC				*e*Sn	**Sn**	**09 31 57.4**	**+1.7**
OSI	**Osito Audit: C**	**3.71**	**311**	Pn	**Pn**	**09 31 24.6**	**+2.6**
OSI				*e*Sn	**Sn**	**09 32 11.1**	**+5.2**
TUC	**Tucson**	**3.83**	**88**	*e*Pn	**Pn**	**09 31 24.4**	**+0.7**
TUC				*e*Sn	**Sn**	**09 32 06.5**	**-2.3**
SHPR	**Sheep Range**	**4.25**	**2**	*e*Pn	**Pn**	**09 31 30.0**	**+0.4**
SHPR				*e*Sn	**Sn**	**09 32 23.1**	**+3.7**
ISA	**Isabella, Lake**	**4.31**	**323**	*e*Pn	**Pn**	**09 31 33.3**	**+3.0**
ISA				*e*Sn	**Sn**	**09 32 18.9**	**-1.7**
DAC	**Darwin (Calif)**	**4.45**	**335**	*e*Pn	**Pn**	**09 31 34.2**	**+1.9**
DAC				*e*Sn	**Sn**	**09 32 23.7**	**-0.5**
WUAZ	**Wupatki**	**4.62**	**44**	*e*Pn	**Pn**	**09 31 35.4**	**+0.8**
WUAZ				*e*Sg	**Sg**	**09 32 51.6**	**-1.5**
121A	**Cookes Peak, D**	**6.37**	**85**	*e*Pn	**Pn**	**09 31 59.0**	**+0.4**
	comp=N,7.8nm,0.3s						
121A				*e*Sn	**Sn**	**09 33 11.4**	**0.0**
MVCO	**Mesa Verde**	**7.48**	**47**	*e*Pn	**Pn**	**09 32 14.6**	**+0.6**
	comp=N,7.7nm,0.6s						
MVCO				*e*Sn	**Sn**	**09 33 39.8**	**+0.9**

IDC 23 09:43:05.0±1.8, 2°.43S×141°.04E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=140.7km s-min=29.8km az=110.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.59**	**200**	P	Pn	09 47 24.4	+0.2
	0.2nm,0.3s,baz=24,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.21**	**198**	P	P	09 48 02.5	-0.8
	0.7nm,0.7s,baz=25,slow=11,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**32.71**	**49**	T	T	10 23 33.7	
	baz=232,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**32.72**	**50**	T	T	10 23 37.5	
	baz=232,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**32.73**	**49**	T	T	10 23 41.6	
	baz=232,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**33.60**	**48**	T	T	10 24 40.4	
	baz=229,slow=76,SNR=100						
H11N2	**WAKE ISLAND Hy**	**33.61**	**48**	T	T	10 24 50.0	
	baz=229,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**33.62**	**48**	T	T	10 24 41.6	
	baz=229,slow=76,SNR=62						
ILAR	**Eielson Array**	**84.62**	**24**	P	P	09 55 40.5	+0.3
	0.4nm,0.7s,baz=265,slow=5.3,SNR=5.1						

IDC 23 09:55:23.6±1.3, 17°.01S×171°.06W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/41, mbtmp3.6/4, Error ellipse: s-maj=58.5km s-min=27.4km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.58**	**204**	P	P	10 00 36.0	+0.1
	5.0nm,0.6s,baz=126,slow=8.7,SNR=9.8						
WRA	**Warramunga Arr**	**51.68**	**258**	P	P	10 04 33.7	+0.9
	0.1nm,0.3s,baz=93,slow=8.6,SNR=6.6						
ASAR	**Alice Springs**	**51.77**	**253**	P	P	10 04 32.2	-1.3
	0.4nm,0.8s,baz=108,slow=6.4,SNR=4.7						
TXAR	**Lajitas Array**	**79.66**	**55**	P	P	10 07 33.5	0.0
	0.2nm,0.3s,baz=200,slow=6.8,SNR=9.7						

*MOS **23** 10:03:05.5±0.8, 37°.49S×73°.08W, h33km, mb5.9/37, MS5.7/23, Error ellipse: s-maj=14.2km s-min=7.6km az=96.6*
*BJI **23** 10:03:05.0, 37°.40S×72°.90W, h35km, mB5.8/49, Ms6.0/58, Ms7 5.9/58*
*GCMT **23** 10:03:06.2±0.1, 37°.69S×73°.32W, h30km, MW6.0/130, Moment Tensor Solution. s124,c265; s130,c354; Duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.35±.01; $M_{\theta\theta}$0.06±.01; $M_{\phi\phi}$-0.40±.01; $M_{r\theta}$0.86±.02; $M_{\theta\phi}$0.20±.01; $M_{\phi r}$-0.81±.02; Best double couple: M_o1.25300×10^{18} NP1:ϕ_s135.00000°, δ81.00000°, λ79.00000°. NP2:ϕ_s7.00000°, δ14.00000°, λ141.00000°. Principal axes: T 1.2390, Plg52.0000°, Azm32.0000°; N 0.0280, Plg11.0000°, Azm136.0000°; P -1.2670, Plg36.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **23** 10:03:06.2±0.1, 37°.53S×72°.97W, h32km, mb5.8/95, ME5.6, MS5.6/188, MW5.9, MW6.0, ML6.2(GUC) Error ellipse: s-maj=5.3km s-min=3.8km az=76.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Cellular telephone service interrupted. Felt [VI] at Cobquecura, Coelemu, Lota, Penco and Tome; [V] at Angol, Arauco, Chiguayante, Concepcion, Contulmo, La Laja, Los Sauces, Parral, Renaico, San Fabian, Temuco and Trehuaco; [IV] at Chillan, Lonquimay, Los Angeles, Pucon, Puerto Saavedra and Talcahuano. Felt in most of central Chile from Santiago to Osorno. Felt at Mendoza and San Carlos de Bariloche, Argentina.
*ISCJB **23** 10:03:06.3±0.9, 37°.41S±0°.03×72°.84W±0°.06, h41km±7km, mb5.7/127, MS5.7/226, Error ellipse: s-maj=7.8km s-min=5.4km az=157.9*
*IDC **23** 10:03:07.8±2.1, 37°.54S×72°.92W, h43km±18km, mb5.2/23, mb1 5.3/28, mb1mx5.2/31, mbtmp5.4/28, ML4.7/4, MS5.6/22, Ms1 5.6/22, ms1mx5.5/25, Error ellipse: s-maj=16.7km s-min=9.7km az=88.0*
*NEIC **23** 10:03:07.0±0.0, 37°.42S×72°.94W, h35km Best double couple: NP1:ϕ_s137.00000°, δ81.00000°, λ84.00000°. NP2:ϕ_s350.00000°, δ10.00000°, λ123.00000°. Principal axes: T 1.1200, Plg53.0000°, Azm40.0000°; N 0.0200, Plg5.0000°, Azm138.0000°; P -1.1400, Plg36.0000°, Azm232.0000°;*
*NEIC **23** 10:03:22.7±0.0, 37°.51S×73°.51W, h49km, Moment Tensor Solution. s52 Moment tensor: Scale 10^{17}Nm; M_{rr}4.49; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-4.00; $M_{r\theta}$3.79; $M_{\theta\phi}$1.99; $M_{\phi r}$-6.08; Best double couple: M_o8.60000×10^{17} NP1:ϕ_s149.00000°, δ73.00000°, λ86.00000°. NP2:ϕ_s343.00000°, δ17.00000°, λ104.00000°. Principal axes: T 8.4000, Plg61.0000°, Azm53.0000°; N 0.3400, Plg3.0000°, Azm150.0000°; P -8.7400, Plg28.0000°, Azm242.0000°;*

ISC 23 10:03:06.9±0.2, 37°.47S±0°.04×72°.88W±0°.05, h41km±3km, h40km:pP-P, n1248, σ1°.30/1200, mb5.8/124, MS5.6/228, 268C-259D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.34**	**3**	*e*P	**Pn**	**10 03 30.3**	**+1.2**
COCH				*e*S	Sn	10 03 52.5	+6.7
PLCA	**Paso Flores**	**3.73**	**152**	P	**Pn**	**10 04 02.5**	**+0.5**
	22nm,0.3s,baz=325,slow=12,SNR=194						
PLCA	**Paso Flores**	**3.73**	**152**	*e*Pn	**Pn**	**10 04 02.4**	**+0.4**
PLCA				*e*Sn	Sn	10 04 58.5	+14
SJCH	**San Jose de Ma**	**4.34**	**29**	*e*P	**Pn**	**10 04 12.5**	**+2.0**
CFAA	**Coronel Fontan**	**7.00**	**35**	P	**Pn**	**10 04 48.0**	**+1.1**
	9.7nm,0.3s,baz=214,slow=12,SNR=347						
CFAA				LR	LR	10 07 47.4	
	comp=Z,13μm,20.2s,baz=208,slow=40						
LCO	**Las Campanas**	**8.63**	**13**	*e*Pn	**Pn**	**10 05 08.7**	**-0.9**
LCO				*e*Sn	Sn	10 06 53.5	+7.8
TRQA	**Tornquist**	**8.66**	**97**	*e*Pn	Pn	10 05 12.9	+3.3
TRQA				*e*Sn	Sn	10 06 59.3	+13
LVC	**Limon Verde**	**15.20**	**14**	P	**Pn**	**10 06 39.2**	**+0.2**
	123nm,0.3s,baz=192,slow=11,SNR=19						
LVC				LR	LR	10 12 53.2	
	comp=Z,87μm,20.8s,baz=195,slow=38						
LVC	**Limon Verde**	**15.20**	**14**	*e*Pn	**Pn**	**10 06 38.2**	**-0.8**
	651nm,1.0s						
CPUP	**Villa Florida**	**17.23**	**54**	P	**Pn**	**10 07 05.3**	**+0.8**
	0.6nm,0.3s,baz=228,slow=11,SNR=34						
CPUP				LR	LR	10 14 31.6	
	comp=Z,453μm,19.8s,baz=228,slow=40						
CPUP	**Villa Florida**	**17.23**	**54**	*e*P	**P**	**10 07 06.2**	**+0.6**
CPUP	**Villa Florida**	**17.23**	**54**	*e*P	**P**	**10 07 06.2**	**+0.6**
USHA	**Ushuaia**	**17.63**	**171**	P	**P**	**10 07 09.5**	**-0.3**
	1.3nm,0.3s,baz=340,slow=10,SNR=11						
EFI	**East Falkland**	**17.64**	**148**	*e*P	**P**	**10 07 10.2**	**+0.2**
EFI				pmax	pmax		
	comp=Z,981nm,1.7s						
EFI	**East Falkland**	**17.64**	**148**	*e*P	**P**	**10 07 12.0**	**+2.0**
EFI	**East Falkland**	**17.64**	**148**	*e*Pn	**P**	**10 07 10.2**	**+0.2**
	comp=Z,982nm,1.7s						
LPAZ	**La Paz**	**21.52**	**13**	P	**P**	**10 07 55.5**	**+2.4**
	comp=Z,453nm,1.0s,baz=147,slow=10,SNR=339						
LPAZ				LR	LR	10 16 51.0	
	comp=Z,17μm,20.8s,baz=153,slow=38						
LPAZ	**La Paz**	**21.52**	**13**	*e*P	**P**	**10 07 55.5**	**+2.4**
LPAZ				pmax	pmax		
	comp=Z,767nm,1.1s						
LPAZ	**La Paz**	**21.52**	**13**	*e*P	**P**	**10 07 55.5**	**+2.4**
	comp=Z,767nm,1.1s						
SIV	**San Ignacio**	**23.81**	**29**	P	**P**	**10 08 16.8**	**+0.6**
	comp=Z,282nm,0.9s,baz=225,slow=11,SNR=302						
SIV				LR	LR	10 19 03.5	
	comp=Z,26μm,20.2s,baz=210,slow=40						
NNA	**Nana**	**25.62**	**351**	P	**P**	**10 08 32.9**	**+0.2**
	comp=Z,209nm,1.0s,baz=188,slow=11,SNR=19						
NNA				LR	LR	10 16 29.6	
	comp=Z,14μm,21.3s,baz=171,slow=31						
NNA	**Nana**	**25.62**	**351**	*e*P	**P**	**10 08 32.9**	**+0.2**
NNA				pmax	pmax		
	comp=Z,191nm,0.9s						
NNA	**Nana**	**25.62**	**351**	*e*P	**P**	**10 08 32.9**	**+0.2**
	comp=Z,191nm,0.9s						
PMSA	**Palmer Station**	**27.84**	**172**	LR	LR	10 19 22.7	
	comp=Z,40μm,20.2s,baz=328,slow=35						
SAML	**Samuel**	**29.72**	**20**	*e*P	**P**	**10 09 09.8**	**+0.4**
	comp=Z,111nm,1.2s						
SAML				LR	LR		
	comp=Z,12μm,21.0s						
HOPE	**Hope Point**	**29.97**	**136**	PFAKE		10 09 20.0	+8.8
HOPE				LR	LR		
	comp=Z,8μm,20.0s						
ATAH	**Atahualpa**	**30.61**	**349**	P	**P**	**10 09 18.9**	**+1.2**
	comp=Z,70nm,1.0s,baz=173,slow=7.6,SNR=33						
ATAH				LR	LR	10 19 40.8	
	comp=Z,9μm,19.4s,baz=182,slow=32						
BDFB	**Brasilia**	**30.93**	**52**	P	**P**	**10 09 20.1**	**0.0**
	comp=Z,57nm,0.9s,baz=211,slow=6.5,SNR=58						
BDFB				LR	LR	10 23 12.6	
	comp=Z,34μm,18.1s,baz=212,slow=39						
OTAV	**Otavalo**	**37.88**	**351**	*e*P	**P**	**10 10 21.6**	**+1.0**
OTAV				LR	LR		
	comp=Z,5μm,20.0s						
PTGA	**Pitinga**	**38.46**	**21**	P	**P**	**10 10 25.1**	**+0.2**
	comp=Z,57nm,0.9s,baz=201,slow=9.8,SNR=73						
PTGA				LR	LR	10 28 33.0	
	comp=Z,21μm,19.3s,baz=188,slow=40						
PTGA	**Pitinga**	**38.46**	**21**	*e*P	**P**	**10 10 23.9**	**-1.1**
ROSC	**El Rosal**	**42.13**	**358**	P	**P**	**10 10 58.3**	**+2.5**
	comp=Z,107nm,0.9s,baz=208,slow=2.5,SNR=59						
ROSC				LR	LR	10 28 34.8	
	comp=Z,6μm,18.9s,baz=190,slow=36						
RCBR	**Riachuelo**	**46.10**	**56**	P	**P**	**10 11 28.9**	**+1.7**
	comp=Z,86nm,1.1s,baz=204,slow=8.4,SNR=18						
RCBR	**Riachuelo**	**46.10**	**56**	*e*P	**P**	**10 11 29.0**	**+1.7**
RCBR				LR	LR		
	comp=Z,65μm,18.0s						
SDV	**Santo Domingo**	**46.16**	**3**	*e*P	**P**	**10 11 28.1**	**+0.3**
	comp=Z,183nm,1.0s						
SDV				LR	LR		
	comp=Z,6μm,20.0s						
VNA3	**Neumayer Olymp**	**46.43**	**157**	P	**P**	**10 11 30.2**	**+1.0**
VNA1	**Neumayer--Stat**	**46.78**	**156**	P	**P**	**10 11 33.2**	**+1.4**
BCIP	**Isla Barro Col**	**46.85**	**351**	*e*P	**P**	**10 11 34.2**	**+1.3**
BCIP				LR	LR		
	comp=Z,3μm,21.0s						
VNA2	**Neumayer--Watz**	**47.11**	**156**	P	**P**	**10 11 36.0**	**+1.6**
	baz=285,slow=8.2						
TRIS	**Tristan da Cun**	**47.45**	**109**	PFAKE		10 11 50.0	+13
TRIS				LR	LR		
	comp=Z,5μm,21.0s						
PCRV	**Puerto La Cruz**	**48.02**	**11**	P	**P**	**10 11 43.1**	**+0.9**
	comp=Z,100nm,1.0s,baz=173,slow=1.9,SNR=16						
SNAA	**Sanae**	**48.66**	**157**	P	**P**	**10 11 47.6**	**+1.2**
SNAA	**Sanae**	**48.66**	**157**	P	**P**	**10 11 46.3**	**-0.2**
	comp=Z,14nm,0.9s,baz=284,slow=7.2,SNR=27						
SNAA	**Sanae**	**48.66**	**157**	*e*P	**P**	**10 11 47.3**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,59nm,1.3s						
SNAA	**Sanae**	**48.66**	**157**	*e*P	**P**	**10 11 46.9**	**+0.4**
SNAA				LR	LR		
	comp=Z,6μm,20.0s						
JTS	**JuntasAbangare**	**48.84**	**344**	P	**P**	**10 11 50.1**	**+1.7**
	comp=Z,72nm,1.0s,baz=173,slow=2

ASCN Ascension 60.36 76 *e*P **P 10 13 13.5 +1.4**
comp=Z,339nm,1.0s
ASCN LR LR
comp=Z,6µm,22.0s
VNDA Vanda 60.57 192 P **P 10 13 13.2 +0.6**
comp=Z,6.3nm,1.0s,baz=122,slow=5.2,SNR=16
VNDA PcP **PcP 10 13 52.6 -4.1**
comp=Z,14nm,1.1s,baz=206,slow=6.7,SNR=4.1
VNDA LR LR 10 35 20.6
comp=Z,2µm,19.7s,baz=132,slow=32
SHEL Horse Pasture 62.43 89 PFAKE
SHEL LR LR 10 13 40.0 +14
comp=Z,4µm,22.0s
TBI Tubuai 65.89 258 *e*S **S 10 22 32.7 -0.4**
comp=Z,4µm,30.8s
TBI *e*LQ LQ 10 30 08.5
comp=Z,3µm,28.0s
TBI *e*LR LR 10 33 35.4
comp=Z,18µm,26.8s,baz=125
MEH Mehetia 67.75 264 *e*T T 11 27 09.9
comp=Z,85nm,0.2s
035Z Hargill 67.86 336 ⇓P **P 10 14 02.2 +1.3**
baz=68
035A Encino 68.31 336 ⇓P **P 10 14 04.9 +1.2**
baz=69,SNR=7.0
034A Hebbronville 68.62 335 ⇑P **P 10 14 07.1 +1.4**
baz=69,SNR=16
TVO Taravao 68.74 264 *e*T T 11 28 24.1
comp=Z,3.7nm,0.3s
KVTX Kingsville 68.81 336 PFAKE 10 14 20.0 +13
KVTX LR LR
comp=Z,2µm,18.0s
TIAR Tiarei 68.94 264 *e*T T 11 28 38.9
comp=Z,20nm,0.3s
934A Benavides 69.06 336 ⇑P **P 10 14 10.0 +1.6**
baz=69,SNR=10
PPT2 Papeete2 69.11 263 *e*P **P 10 14 11.7 +2.5**
comp=Z,134nm,1.3s
PPT2 *e*S **S 10 23 11.6 -0.4**
comp=Z,8µm,28.0s
PPT2 *e*LQ LQ 10 31 16.0
comp=Z,4µm,29.2s
PPT2 *e*LR LR 10 35 03.7
comp=Z,13µm,25.0s,baz=118
PPT Papeete 69.12 264 LR LR 10 37 31.3
comp=Z,5µm,18.3s,baz=108,slow=30
PPT Papeete 69.12 264 *e*P **P 10 14 08.6 -0.6**
PPT Papeete 69.12 264 *e*P **P 10 14 08.6 -0.6**
TIGA Tifton 69.28 350 ⇑P **P 10 14 09.5 -0.1**
baz=70,SNR=30
933A Laredo 69.32 335 ⇓P **P 10 14 11.1 +1.0**
baz=70,SNR=30
738A Farr-Stevens R 69.33 339 ⇓P **P 10 14 12.0 +1.9**
baz=70
BRAL Brewton 69.41 347 PFAKE
BRAL LR LR 10 14 20.0 +10
comp=Z,1µm,22.0s
835A Beeville 69.48 337 ⇓P **P 10 14 12.7 +1.7**
baz=70,SNR=7.8
834A Tilden 69.56 336 ⇑P **P 10 14 13.2 +1.7**
baz=70,SNR=21
SACV Santiago Islan 69.75 51 *e*P **P 10 14 12.9 -0.1**
comp=Z,123nm,1.1s
SACV LR LR
comp=Z,12µm,19.0s
736A Circle Diamond 69.86 338 ⇓P **P 10 14 15.1 +1.8**
baz=70,SNR=13
BBSR BB Station 69.90 7 *e*P **P 10 14 14.9 +1.4**
comp=Z,154nm,1.1s
BBSR LR LR
comp=Z,2µm,22.0s
735A Kenedy 70.00 337 ⇓P **P 10 14 15.5 +1.4**
baz=70,SNR=20
833A Chaparral WMA, 70.02 335 ⇑P **P 10 14 15.1 +0.8**
baz=70,SNR=18
MAW Mawson 70.05 163 P **P 10 14 14.7 +0.6**
comp=Z,23nm,0.9s,baz=238,slow=6.4,SNR=16
MAW LR LR 10 44 16.6
comp=Z,16µm,21.9s,baz=226,slow=35
SLBS Sierra La Lagu 70.12 324 *e*P **P 10 14 16.4 +1.3**
comp=Z,284nm,2.1s
832A Faith Ranch, C 70.18 335 ⇓P **P 10 14 16.0 +0.7**
baz=70,SNR=48
734A La Parita Cree 70.23 336 ⇑P **P 10 14 16.6 +1.0**
baz=71,SNR=5.6
539A Cross D Ranch, 70.27 340 ⇑P **P 10 14 17.6 +1.8**
baz=71,SNR=7.1
733A Divot King Ran 70.35 335 ⇑P **P 10 14 17.2 +0.8**
baz=71,SNR=19
733A ⇑S **S 10 23 27.8 +2.1**
baz=71
636A Smothers Creek 70.35 338 ⇓P **P 10 14 17.8 +1.5**
baz=71,SNR=27
HKT Hockley 70.43 339 PFAKE 10 14 30.0 +13
HKT LR LR
comp=Z,2µm,21.0s
635A Leesville 70.48 337 ⇓P **P 10 14 17.6 +0.5**
baz=71,SNR=13
NHSC New Hope 70.55 354 PFAKE 10 14 30.0 +13
NHSC LR LR
comp=Z,3µm,22.0s
732A Laxson Ranch, 70.58 335 ⇑P **P 10 14 18.6 +0.8**
baz=71,SNR=78
538A Harpers Horsep 70.59 339 ⇑P **P 10 14 19.6 +1.8**
baz=71
634A China Grove, S 70.66 337 ⇑P **P 10 14 19.1 +0.9**
baz=71
537A Green Hill Far 70.69 339 ⇓P **P 10 14 19.8 +1.4**
baz=71,SNR=13
536A Bastrop 70.91 338 ⇑P **P 10 14 20.5 +0.8**
baz=71,SNR=6.5
439A Center Grove, 70.93 340 ⇓P **P 10 14 20.8 +1.0**
baz=71,SNR=7.6
633A Saathoff Ranch 71.00 336 ⇓P **P 10 14 21.0 +0.7**
baz=71,SNR=7.2
535A Dale 71.02 337 ⇓P **P 10 14 20.8 +0.4**
baz=71,SNR=17
438A Sam Houston St 71.08 340 ⇓P **P 10 14 21.9 +1.2**
baz=71
GOGA Godfrey 71.21 351 PFAKE 10 14 30.0 +8.6
GOGA LR LR
comp=Z,2µm,22.0s
632A Uvalde 71.24 335 ⇓P **P 10 14 22.7 +0.9**
baz=72,SNR=50
VBMS Vicksburg 71.26 344 *e*P **P 10 14 22.9 +1.1**
comp=Z,250nm,1.1s
340A Bronson 71.29 341 ⇓P **P 10 14 22.8 +0.9**
baz=72,SNR=10
534A Blanco 71.30 337 ⇑P **P 10 14 22.4 +0.3**
baz=72,SNR=14
437A Phantom Ranch, 71.35 339 ⇑P **P 10 14 23.5 +1.2**
baz=72
LRAL Lakeview Retre 71.37 348 PFAKE 10 14 40.0 +18
LRAL LR LR
comp=Z,1µm,22.0s
339A Huntington 71.39 341 ⇑P **P 10 14 23.5 +1.0**
baz=72,SNR=9.7
631A Perdido Creek 71.42 335 ⇑P **P 10 14 23.0 +0.2**
baz=72,SNR=20
436A Wall Ranch, Ga 71.48 338 ⇓P **P 10 14 24.4 +1.3**
baz=72
533A Kerrville 71.52 336 ⇑P **P 10 14 24.0 +0.6**
baz=72,SNR=38
338A Crockett 71.61 340 ⇑P **P 10 14 25.1 +1.2**
baz=72,SNR=17
435B Jarrell 71.73 338 ⇓P **P 10 14 25.5 +0.9**
baz=72,SNR=6.4
337A Centerville 71.73 339 ⇓P **P 10 14 26.5 +1.8**
baz=72
532A Rocksprings 71.85 336 ⇓P **P 10 14 26.3 +0.8**
baz=72,SNR=92
434A Burnet 71.96 337 ⇓P **P 10 14 26.7 +0.6**
baz=72,SNR=47
239A Gary 72.01 341 ⇑P **P 10 14 27.3 +1.0**
baz=72,SNR=17
336A Riesel 72.07 339 ⇓P **P 10 14 27.3 +0.6**
baz=72,SNR=8.5
531A Rocksprings 72.10 335 ⇓P **P 10 14 28.0 +1.0**
baz=72,SNR=58
JCT Junction City 72.14 336 *e*P **P 10 14 27.7 +0.5**
JCT *e**SP **sP 10 14 41.7 -2.3**
JCT pmax pmax
comp=Z,151nm,1.0s
JCT MLR MLR
comp=Z,900nm,20.0s
JCT Junction City 72.14 336 ⇓P **P 10 14 28.0 +0.8**
baz=72,SNR=65
JCT Junction City 72.14 336 *e*P **P 10 14 27.7 +0.5**
comp=Z,151nm,1.0s
JCT *e*sP **sP 10 14 41.7 -2.3**
JCT LR LR
comp=Z,900nm,20.0s
335A Moody 72.14 338 ⇑P **P 10 14 27.8 +0.7**
baz=72,SNR=31
433A Art 72.17 336 ⇑P **P 10 14 27.7 +0.4**
baz=72,SNR=61
238A Jacksonville 72.17 340 ⇑P **P 10 14 28.4 +1.1**
baz=72,SNR=9.0
530A J-C Ranch, Com 72.35 334 ⇓P **P 10 14 29.5 +1.0**
baz=73,SNR=99
237A Washetta, Mont 72.36 340 ⇑P **P 10 14 29.4 +1.0**
baz=73,SNR=18
334A Lometa 72.44 337 ⇓P **P 10 14 29.3 +0.4**
baz=73,SNR=70
LTX Lajitas 72.45 332 *e*P **P 10 14 29.8 +0.7**
LTX Lajitas 72.45 332 *e*P **P 10 14 29.8 +0.7**
TXAR Lajitas Array 72.45 332 P **P 10 14 29.8 +0.7**
comp=Z,33nm,0.9s,baz=151,slow=8.8,SNR=202
TXAR LR LR 10 40 48.3
comp=Z,3µm,21.4s,baz=0.0,slow=31
CNNC Cliffs of the 72.50 356 PFAKE 10 14 40.0 +11
CNNC LR LR
comp=Z,3µm,20.0s
432A Menard 72.50 336 ⇓P **P 10 14 29.5 +0.2**
baz=73,SNR=24
431A Sonora 72.59 335 ⇓P **P 10 14 30.4 +0.5**
baz=73,SNR=57
529A Stev Forest Ra 72.64 334 ⇓P **P 10 14 31.0 +0.9**
baz=73
333A Richland Sprin 72.66 337 ⇓P **P 10 14 30.6 +0.4**
baz=73,SNR=55
KMSC Kings Mountain 72.67 353 ⇓P **P 10 14 30.1 -0.1**
baz=73,SNR=39
KMSC Kings Mountain 72.67 353 *e*P **P 10 14 30.2 +0.1**
comp=Z,316nm,1.0s
138A Matatall Enter 72.78 341 ⇑P **P 10 14 32.0 +1.1**
baz=73,SNR=16
WHTX Lake Whitney, 72.82 338 ⇑P **P 10 14 31.6 +0.5**
baz=73,SNR=10
WHTX Lake Whitney, 72.82 338 *e*P **P 10 14 31.3 +0.2**
comp=Z,111nm,0.9s
WHTX *e*pP **pP 10 14 41.6 -1.7**
WHTX *e*sP **sP 10 14 45.2 -2.7**
430A Baggett Ranch, 72.90 335 ⇓P **P 10 14 32.5 +0.8**
baz=73,SNR=106
137A Heron Place, G 72.90 340 ⇑P **P 10 14 32.6 +1.0**
baz=73,SNR=18
332A Millersview 72.96 336 ⇓P **P 10 14 32.2 +0.2**
baz=73,SNR=88
429A Davenport Ranc 72.98 334 ⇓P **P 10 14 33.0 +0.7**
baz=73,SNR=83
234A Clairette 73.03 338 ⇓P **P 10 14 32.8 +0.4**
baz=73,SNR=39
331A San Angelo 73.11 336 ⇓P **P 10 14 33.3 +0.3**
baz=74,SNR=113
DRV Dumont d'Urvil 73.17 193 P P 10 14 19.0 -14
DRV S S 10 23 33.0 -24
DRV SS **SS 10 28 39.0 +1.0**
DRV L L 10 34 00.0
DRV R 10 37 00.0
233A Rising Star 73.28 337 ⇑P **P 10 14 34.3 +0.4**
baz=74,SNR=53
135A Vickery Place, 73.33 339 ⇑P **P 10 14 34.1 0.0**
baz=74,SNR=7.8
CPCT Cooper Cave 73.36 350 *e*P **P 10 14 34.4 +0.2**
232A Coleman 73.39 336 ⇓P **P 10 14 34.8 +0.2**
baz=74,SNR=14
330A Mertzon 73.45 335 ⇓P **P 10 14 35.2 +0.3**
baz=74,SNR=43
134A White-Moore Ra 73.55 338 ⇑P **P 10 14 35.7 +0.3**
baz=74,SNR=18
231A Bronte 73.65 336 ⇑P **P 10 14 36.2 +0.1**
baz=74,SNR=47
SUR Sutherland 73.77 118 PFAKE 10 14 50.0 +13
SUR LR LR
comp=Z,5µm,20.0s
329A Wagon Wheel Ra 73.80 334 ⇑P **P 10 14 37.6 +0.6**
baz=74,SNR=83
133A Hamilton Ranch 73.83 337 ⇓P **P 10 14 37.4 +0.3**
baz=74,SNR=42
230A Sterling City 73.87 335 ⇓P **P 10 14 37.6 +0.2**
baz=74,SNR=8.2
Z35A Perchaven, San 74.01 339 ⇑P **P 10 14 38.5 +0.4**
baz=74,SNR=23
ABTX Abilene, Hawle 74.07 337 ⇓P **P 10 14 38.8 +0.3**
baz=74,SNR=56
ABTX Abilene, Hawle 74.07 337 *e*pP pP 10 14 52.0 +1.3
229A Bryant Ranch, 74.18 335 ⇑P **P 10 14 39.5 +0.3**
baz=74,SNR=36
MIAR Mount Ida 74.19 342 *e*P P 10 14 53.2 +14
MIAR MLR MLR
comp=Z,800nm,19.0s
MIAR Mount Ida 74.19 342 *e*pP **pP 10 14 53.2 +1.9**
MIAR LR LR
comp=Z,800nm,19.0s
Z34A Collier Ranch, 74.24 338 ⇓P **P 10 14 39.8 +0.3**
baz=75,SNR=13
131A Roby 74.36 336 ⇑P **P 10 14 40.6 +0.4**
baz=75,SNR=27
Z33A Whitaker Ranch 74.42 338 ⇑P **P 10 14 40.8 +0.3**
baz=75,SNR=43
130A Snyder 74.47 336 ⇑P **P 10 14 41.1 +0.2**
baz=75,SNR=26
HBAR Harrisburg 74.51 345 *e*P **P 10 14 41.2 +0.2**
WVT Waverly 74.53 347 PFAKE 10 14 50.0 +8.9
WVT LR LR
comp=Z,2µm,20.0s
228A UT Block 9, Go 74.58 334 ⇓P **P 10 14 42.0 +0.4**
baz=75,SNR=55
VWCC Virginia Weste 74.64 354 *e*P **P 10 14 41.5 -0.2**
VWCC *e*pP **pP 10 14 50.8 -3.1**
VWCC *e*sP **sP 10 14 55.8 -2.7**
BLA Blacksburg 74.64 354 *e*P **P 10 14 41.6 -0.1**
BLA *e**SP **sP 10 14 56.0 -2.6**
BLA pmax pmax
comp=Z,62nm,1.0s
BLA MLR MLR
comp=Z,2µm,21.0s
BLA Blacksburg 74.64 354 *e*P **P 10 14 41.6 -0.1**
comp=Z,62nm,1.0s
BLA *e*sP **sP 10 14 56.0 -2.6**
BLA LR LR
comp=Z,2µm,21.0s
Z32A Haskell 74.65 337 ⇑P **P 10 14 42.3 +0.4**
baz=75,SNR=64
Y34A Reagan Ranch, 74.74 339 ⇑P **P 10 14 42.6 +0.2**
baz=75,SNR=27
GNAR Gosnell 74.78 346 *e*P **P 10 14 43.6 +1.1**
URVA University of 74.80 356 *e*P **P 10 14 43.3 +0.8**
129A Stewart Farms, 74.80 335 ⇓P **P 10 14 43.1 +0.3**
baz=75
Z31A Sharp Cattle R 74.87 337 ⇓P **P 10 14 43.6 +0.4**
baz=75,SNR=45
GLAT Glass 74.93 346 *e*P **P 10 14 44.4 +1.0**
128A Castleberry Fa 75.00 334 ⇑P **P 10 14 44.7 +0.6**
baz=75,SNR=49
Y33A Hilltop Ranch, 75.05 338 ⇑P **P 10 14 44.5 +0.3**
baz=75,SNR=35
Z30A Sanderson Ranc 75.16 336 ⇑P **P 10 14 45.1 +0.2**
baz=76,SNR=50
MNTX Cornudas Mount 75.21 332 ⇑P **P 10 14 44.7 -0.5**
baz=76,SNR=70
MNTX Cornudas Mount 75.21 332 PFAKE 10 15 00.0 +15
MNTX LR LR
comp=Z,2µm,22.0s
Y32A R-V Farms, Ver 75.29 337 ⇑P **P 10 14 46.0 +0.4**
baz=76,SNR=34
Z29A Hungry Hill Ra 75.32 335 ⇑P **P 10 14 45.9 0.0**
baz=76,SNR=97
X34A Smith Ranch, M 75.37 339 ⇓P **P 10 14 46.6 +0.6**
baz=76,SNR=31
PARMO Parma 75.40 346 *e*P **P 10 14 46.5 +0.4**
CBN Corbin Frederi 75.42 356 PFAKE 10 15 00.0 +14
CBN LR LR
comp=Z,3µm,22.0s
W36A Wetumka 75.43 340 ⇑P **P 10 14 45.8 -0.5**
baz=76,SNR=24
Y31A Rekieta Farm, 75.50 337 ⇓P **P 10 14 47.2 +0.4**
baz=76,SNR=36
X33A Lawton 75.50 338 ⇓P **P 10 14 46.6 -0.1**
baz=76,SNR=23
Z28A Tucker Farm, M 75.58 335 ⇓P **P 10 14 47.3 0.0**
baz=76,SNR=22
W35A Tecumseh 75.62 340 ⇑P **P 10 14 46.9 -0.5**
baz=76,SNR=23
Y30A Stafford Cattl 75.63 336 ⇑P **P 10 14 47.6 +0.1**
baz=76
X32A Elmer 75.63 338 ⇓P **P 10 14 47.7 +0.2**
baz=76,SNR=37
PBMO Poplar Bluff 75.65 346 *e*P **P 10 14 47.3 -0.1**
comp=Z,137nm,1.1s
PBMO *e*pP **PcP 10 15 01.3 +1.2**
WMOK Wichita Mounta 75.77 338 PFAKE 10 15 00.0 +12
WMOK LR LR
comp=Z,1µm,21.0s
Y29A Porterfield Fa 75.86 336 ⇓P **P 10 14 49.1 +0.2**
baz=76,SNR=34
W34A Bridge Creek, 75.94 339 ⇓P **P 10 14 49.4 +0.1**
baz=76,SNR=15
W34A Bridge Creek, 75.94 339 *e*P **P 10 14 49.5 +0.2**
comp=Z,131nm,1.1s
W34A *e*pP **PcP 10 15 03.0 +1.5**
X31A McDonald Ranch 76.03 337 ⇓P **P 10 14 50.1 +0.3**
baz=76,SNR=81
TUL1 Leonard 76.04 341 ⇑P **P 10 14 49.8 +0.1**
baz=76,SNR=57
TUL1 Leonard 76.04 341 *e*P **P 10 14 49.6 -0.2**
comp=Z,137nm,0.9s
TUL1 *e*sP **sP 10 15 03.6 -3.0**
W33A Caddo, Fort Co 76.07 339 ⇓P **P 10 14 50.9 +1.0**
baz=76,SNR=58
Y28A McKinney Farm, 76.10 335 ⇑P **P 10 14 50.3 0.0**
baz=76,SNR=19
X30A Coker Ranch, T 76.14 336 ⇑P **P 10 14 50.6 +0.1**
baz=76,SNR=45
V35A Meyer Ranch, C 76.18 340 ⇑P **P 10 14 50.5 -0.1**
baz=77,SNR=41
W32A Sentinel 76.27 338 ⇓P **P 10 14 51.7 +0.6**
baz=77,SNR=153
USIN University of 76.30 348 *e*P **P 10 14 50.5 -0.6**
comp=Z,205nm,1.0s
USIN *e*pP **PcP 10 15 04.5 +1.6**
MSTX Muleshoe 76.33 335 ⇓P **P 10 14 52.0 +0.4**
baz=77,SNR=41
MSTX Muleshoe 76.33 335 *e*P **P 10 14 51.8 +0.1**
comp=Z,108nm,1.0s
WCI Wyandotte Cave 76.34 349 PFAKE 10 15 00.0 +8.6
WCI LR LR
comp=Z,2µm,22.0s
X29A Tulia 76.41 336 ⇓P **P 10 14 52.5 +0.4**
baz=77,SNR=41
V34A Guthrie 76.44 340 ⇓P **P 10 14 52.2 +0.2**
baz=77,SNR=21
V34A Guthrie 76.44 340 *e*P **P 10 14 52.2 +0.2**
comp=Z,113nm,0.9s
V34A *e*pP **pP 10 15 02.3 -1.9**
V34A *e*sP **sP 10 15 05.9 -3.0**
V34A LR LR
comp=Z,1µm,21.0s
319A Douglas 76.47 329 ⇑P **P 10 14 53.9 +1.4**
baz=77,SNR=13
LIC Lamto 76.53 71 ⇑*i*P **P 10 14 54.3 +1.2**
comp=Z,824nm,1.3s,baz=236
LIC Lamto 76.53 71 *e*P **P 10 14 52.7 -0.4**
comp=Z,837nm,1.3s
LIC Lamto 76.53 71 *e*P **P 10 14 54.3 +1.2**
W31A Holland Ranch, 76.54 337 ⇓P **P 10 14 52.8 +0.2**
baz=77,SNR=38
CASY Casey 76.54 181 PFAKE 10 15 00.0 +7.6
CASY LR LR
comp=Z,5µm,22.0s
V33A Lossen Ranch, 76.64 339 ⇑P **P 10 14 53.6 +0.4**
baz=77,SNR=58
X28A Dimmitt 76.64 335 ⇑P **P 10 14 53.6 +0.3**
baz=77,SNR=8.5
W30A Crocket Farms 76.73 337 ⇓P **P 10 14 54.4 +0.6**
baz=77,SNR=6.7
V32A Arapaho 76.76 338 ⇓P **P 10 14 54.7 +0.8**
baz=77,SNR=23
AMTX Amarillo 76.80 336 ⇓P **P 10 14 54.9 +0.7**
baz=77
AMTX Amarillo 76.80 336 *e*P **P 10 14 54.6 +0.4**
comp=Z,191nm,1.0s
AMTX *e*sP **sP 10 15 08.5 -2.6**
AMTX LR LR
comp=Z,900nm,22.0s
TIC Toumodi 76.81 71 *e*P **P 10 14 54.9 +0.2**
comp=Z,379nm,1.2s
KIC Kosan Boka 76.84 71 *e*P **P 10 14 54.5 -0.3**
comp=Z,838nm,1.2s
121A Cookes Peak, D 76.88 330 ⇓P **P 10 14 56.3 +1.4**
baz=77,SNR=13
DBIC Dimbokro 76.95 71 P **P 10 14 56.7 +1.2**
comp=Z,92nm,0.9s,baz=202,slow=6.1,SNR=62
DBIC LR LR 10 46 12.4
comp=Z,3µm,19.4s,baz=213,slow=34
DBIC Dimbokro 76.95 71 *e*P **P 10 14 56.7 +1.2**
DBIC *e* 10 15 12.5
DBIC Dimbokro 76.95 71 *e*P **P 10 14 56.7 +1.2**
DBIC *e* 10 15 12.4
U34A Anderson Ranch 77.00 340 ⇓P **P 10 14 55.5 +0.3**
baz=77,SNR=22
U34A Anderson Ranch 77.00 340 *e*P **P 10 14 55.2 -0.1**
comp=Z,183nm,1.3s
U34A *e*pP **PcP 10 15 05.4 -0.6**
W29A Amarillo 77.01 336 ⇑P **P 10 14 55.9 +0.4**
baz=77,SNR=55
V31A Spring Creek L 77.05 338 ⇑P **P 10 14 56.8 +1.3**
baz=77,SNR=46
OLIL Olney 77.12 348 *e*P **P 10 14 55.1 -0.7**
comp=Z,104nm,1.2s
U33A Lingo Farm, Me 77.16 339 ⇑P **P 10 14 56.4 +0.3**
baz=78,SNR=15
MVL Millersville 77.16 357 *e*P **P 10 14 56.9 +0.9**
comp=Z,101nm,1.3s
V30A Spur Ranch, Mi 77.30 337 ⇓P **P 10 14 58.3 +1.4**
baz=78,SNR=34
W28A Vega 77.32 336 ⇑P **P 10 14 57.8 +0.7**
baz=78
U32A Winter Ranch, 77.36 339 ⇓P **P 10 14 58.0 +0.7**
baz=78,SNR=5.9
U31A Nine Bar Ranch 77.61 338 ⇑P **P 10 14 59.5 +0.8**
baz=78,SNR=10
V29A Stinnett 77.66 337 ⇓P **P 10 14 59.7 +0.7**
baz=78,SNR=6.9
S36A Lake Cedric, C 77.71 342 ⇑P **P 10 14 59.1 0.0**
baz=78,SNR=30
LUPA Lehigh Univers 77.73 358 *e*P **P 10 15 00.4 +1.2**
comp=Z,94nm,2.5s
V28A Channing 77.77 336 ⇓P **P 10 15 00.5 +0.8**
baz=78,SNR=25
T33A Patterson Ranc 77.81 339 ⇓P **P 10 15 00.3 +0.6**
baz=78,SNR=25
S35A Otter Creek Ra 77.85 341 ⇑P **P 10 15 00.0 +0.1**
baz=78,SNR=20
SSPA Standing Stone 77.87 356 PFAKE 10 15 10.0 +10
SSPA LR LR
comp=Z,2µm,21.0s
BNM Barren Site 77.87 332 *e*P **P 10 15 01.6 +1.2**
ACSO Alum Creek Sta 77.88 352 PFAKE 10 15 10.0 +10
ACSO LR LR
comp=Z,2µm,21.0s
Y22D IRIS PASSCAL I 77.91 332 ⇑P **P 10 15 01.8 +1.3**
baz=78
TUC Tucson 77.92 328 PFAKE 10 15 10.0 +9.5
TUC LR LR
comp=Z,2µm,20.0s
V27A Dan Oppiter Fa 77.98 335 ⇓P **P 10 15 01.6 +0.8**
baz=78,SNR=16
U30A WK&E Inc. Balk 78.00 337 ⇓P **P 10 15 01.7 +0.9**
baz=78,SNR=23
LENM Lemitar 78.01 332 *e*P **P 10 15 02.3 +1.2**
LENM *e*pP **pP 10 15 16.1 +2.7**
LPM Los Pinos Moun 78.02 332 *e*P **P 10 15 02.2 +1.1**
LPM *e*pP **pP 10 15 16.1 +2.7**
S34A Willow Spring 78.08 341 ⇑P **P 10 15 01.4 +0.2**
baz=78,SNR=5.6
T32A Huddler Ranch, 78.09 339 ⇓P **P 10 15 02.0 +0.7**
baz=78,SNR=12
PAL Palisades 78.11 359 PFAKE 10 15 10.0 +8.8
PAL LR LR
comp=Z,2µm,22.0s
U29A Oasis Ranch, S 78.11 337 ⇑P **P 10 15 02.1 +0.6**
baz=78
ODNJ Ogdensburg 78.19 359 *e*P **P 10 15 02.8 +1.1**
comp=Z,97nm,1.2s
S33A Kaszmaul Farm, 78.22 340 ⇑P **P 10 15 02.5 +0.5**
baz=79
T31A Randall Ranch, 78.23 338 ⇓P **P 10 15 02.7 +0.6**
baz=79,SNR=27
R36A Gordon, Harris 78.26 342 ⇑P **P 10 15 02.0 -0.2**
baz=79,SNR=8.0

LAZ	Ladron	78.29	332		eP		P	10 15 04.1	+1.4
LAZ					epP		pP	10 15 18.1	+3.1
U28A	Mallet	78.35	336	⇓	P		P	10 15 03.5	+0.7
	baz=79								
YLE	Yale	78.41	360		eP		P	10 15 04.6	+1.7
	comp=Z,201nm,1.0s								
T30A	Plains	78.44	338	⇓	P		P	10 15 04.3	+1.0
	baz=79,SNR=6.1								
214A	Organ Pipe Nat	78.49	326	⇑	P		P	10 15 05.3	+1.6
	baz=79,SNR=14								
ANMO	Albuquerque	78.52	332		LR		LR	10 44 24.0	
	comp=Z,2μm,21.9s,baz=140,slow=32								
ANMO	Albuquerque	78.52	332	c	iP		P	10 15 04.9	+1.0
ANMO					pmax		pmax		
	comp=Z,514nm,1.2s								
ANMO	Albuquerque	78.52	332		eP		P	10 15 05.0	+1.1
	comp=Z,100nm,1.1s								
ANMO					eSP		sP	10 15 18.6	-2.2
Q37A	Longview Farm,	78.53	343	⇑	P		P	10 15 03.3	-0.4
	baz=79,SNR=20								
SFIN	Lafayette	78.57	349	⇓	P		P	10 15 03.0	-0.8
	baz=79,SNR=7.6								
S32A	Newby Ranch, P	78.58	339	⇑	P		P	10 15 04.6	+0.6
	baz=79,SNR=11								
U27A	Thompson Grove	78.58	336	⇓	P		P	10 15 05.1	+0.9
	baz=79,SNR=25								
S31A	Mullinville	78.66	339	⇓	P		P	10 15 05.0	+0.6
	baz=79,SNR=23								
KSPA	Keystone Colle	78.70	358		eP		P	10 15 05.6	+1.1
	comp=Z,56nm,1.2s								
T29A	Hugoton	78.77	337	⇓	P		P	10 15 05.6	+0.5
	baz=79,SNR=17								
R33A	Olander Ranch,	78.88	340	⇓	P		P	10 15 06.0	+0.4
	baz=79,SNR=26								
TSUM	Tsumeb	78.94	106		eP		P	10 15 07.5	+0.8
	comp=Z,96nm,1.4s								
TSUM					epP		pP	10 15 17.2	-1.7
TSUM					LR		LR		
	comp=Z,6μm,20.0s								
S30A	Montezuma	78.97	338	⇓	P		P	10 15 07.1	+0.9
	baz=79,SNR=24								
T28A	Walsh	78.99	337	⇓	P		P	10 15 06.8	+0.5
	baz=79,SNR=44								
BRYW	Bryant College	79.02	1		eP		P	10 15 08.2	+2.0
	comp=Z,221nm,1.2s								
BRYW					epP		pP	10 15 20.0	+1.4
T27A	Campo	79.13	336	⇓	P		P	10 15 08.0	+0.8
	baz=80,SNR=19								
S29A	Ulysses	79.14	338	⇑	P		P	10 15 08.0	+0.9
	baz=80,SNR=21								
R32A	Long Quarter,	79.19	340	⇑	P		P	10 15 07.8	+0.5
	baz=80,SNR=44								
KSU1	Kansas State U	79.27	341	⇓	P		P	10 15 07.8	+0.1
	baz=80,SNR=8.5								
KSU1	Kansas State U	79.27	341		PFAKE			10 15 20.0	+12
KSU1					LR		LR		
	comp=Z,1μm,20.0s								
R31A	Burdett	79.29	339	⇑	P		P	10 15 08.5	+0.6
	baz=80,SNR=36								
BINY	Binghamton	79.34	358		PFAKE			10 15 20.0	+12
BINY					LR		LR		
	comp=Z,3μm,21.0s								
S28A	Manter	79.36	337	⇑	P		P	10 15 09.1	+0.7
	baz=80,SNR=40								
QUA2	Belchertown	79.38	0		eP		P	10 15 09.4	+1.3
	comp=Z,142nm,1.0s								
ERPA	Erie	79.48	355		PFAKE			10 15 20.0	+11
ERPA					LR		LR		
	comp=Z,3μm,22.0s								
Q33A	Connelly Farm,	79.49	340	⇓	P		P	10 15 09.6	+0.7
	baz=80,SNR=22								
X18A	Snowflake	79.50	330	⇓	P		P	10 15 10.8	+1.5
	baz=80,SNR=18								
R30A	Dighton	79.51	338	⇓	P		P	10 15 09.6	+0.6
	baz=80,SNR=26								
T26A	Comanche Natio	79.52	335	⇓	P		P	10 15 10.4	+1.1
	baz=80,SNR=59								
113A	Mohawk Valley,	79.60	326	⇓	P		P	10 15 11.2	+1.6
	baz=80,SNR=13								
HRV	Adam Dziewonsk	79.61	1		eP		P	10 15 11.1	+1.7
HRV					pmax		pmax		
	comp=Z,115nm,1.0s								
HRV					MLR		MLR		
	comp=Z,2μm,19.0s								
HRV	Adam Dziewonsk	79.61	1		eP		P	10 15 11.1	+1.7
	comp=Z,115nm,1.0s								
HRV					LR		LR		
	comp=Z,2μm,19.0s								
Q32A	Meitler Ranch,	79.68	340	⇓	P		P	10 15 10.6	+0.6
	baz=80,SNR=13								
Z14A	Wintersburg	79.75	327	⇑	P		P	10 15 11.9	+1.4
	baz=80								
BFZ	Birch Farm	79.76	226		PFAKE			10 15 20.0	+9.3
BFZ					LR		LR		
	comp=Z,4μm,21.0s								
S27A	Las Animas	79.76	336	⇓	P		P	10 15 11.6	+1.0
	baz=80								
T25A	Trinidad	79.76	335	⇓	P		P	10 15 12.2	+1.5
	baz=80,SNR=138								
T25A	Trinidad	79.76	335		eP		P	10 15 12.1	+1.4
	comp=Z,221nm,1.1s								
T25A					epP		pP	10 15 25.9	+2.9
TRY	Troy	79.83	359		eP		P	10 15 12.0	+1.3
	comp=Z,206nm,1.0s								
P33A	Williams Farm,	79.86	341	⇓	P		P	10 15 11.6	+0.7
	baz=80,SNR=7.3								
ODZ	Otahua Downs	79.87	220		PFAKE			10 15 20.0	+8.8
ODZ					LR		LR		
	comp=Z,3μm,19.0s								
S26A	Kim	79.89	336	⇑	P		P	10 15 12.5	+1.3
	baz=80,SNR=68								
R29A	Marienthal	79.89	338	⇑	P		P	10 15 12.1	+0.9
	baz=80,SNR=14								
Q31A	Ellis	79.92	339	⇑	P		P	10 15 12.0	+0.7
	baz=80,SNR=25								
W18A	Petrified Fore	79.92	330	⇓	P		P	10 15 13.1	+1.5
	baz=80,SNR=25								
W18A	Petrified Fore	79.92	330		eP		P	10 15 12.8	+1.2
W18A					epP		pP	10 15 26.8	+2.9
MMNY	Mt. Morris Dam	79.96	356		eP		P	10 15 11.9	+0.6
	comp=Z,371nm,1.3s								
AAM	Ann Arbor	80.00	352		PFAKE			10 15 20.0	+8.4
AAM					LR		LR		
	comp=Z,2μm,22.0s								
X16A	Lo Mia Camp, P	80.01	328	⇑	P		P	10 15 13.3	+1.2
	baz=80,SNR=32								
R28A	Tribune	80.02	337	⇑	P		P	10 15 12.8	+0.8
	baz=80,SNR=64								
KHZ	Kahutara	80.12	224		PFAKE			10 15 20.0	+7.4
KHZ					LR		LR		
	comp=Z,3μm,18.0s								
Q30A	Quinter	80.13	339	⇓	P		P	10 15 13.4	+0.9
	baz=80,SNR=69								
SNZO	South Karori	80.22	225		PFAKE			10 15 20.0	+6.9
SNZO					LR		LR		
	comp=Z,3μm,21.0s								
Y14A	Wickenburg	80.26	327	⇓	P		P	10 15 14.3	+1.0
	baz=81,SNR=18								
Q29A	Oakley	80.27	338	⇓	P		P	10 15 13.9	+0.7
	baz=81,SNR=30								
R27A	Eads	80.28	337	⇑	P		P	10 15 14.0	+0.7
	baz=81,SNR=57								
P32A	Huiting Farm,	80.28	340	⇓	P		P	10 15 13.8	+0.6
	baz=81,SNR=39								
GLA	Glamis	80.32	325	⇓	P		P	10 15 15.0	+1.4
	baz=81,SNR=11								
P31A	Stockton	80.40	340	⇑	P		P	10 15 14.5	+0.6
	baz=81,SNR=26								
R26A	Arlington	80.50	336	⇑	P		P	10 15 15.3	+0.8
	baz=81,SNR=34								
FFD	Franklin Falls	80.57	1		eP		P	10 15 16.5	+1.9
	comp=Z,134nm,1.0s								
IBP	Imperial Bould	80.57	324	⇑	P		P	10 15 16.5	+1.5
	baz=81								
RPZ	Rata Peaks	80.58	221		PFAKE			10 15 30.0	+15
RPZ					LR		LR		
	comp=Z,8μm,22.0s								
BKZ	Black Stump Fm	80.61	228		eP		P	10 15 17.9	+2.6
	comp=Z,180nm,1.7s								
BKZ					LR		LR		
	comp=Z,5μm,21.0s								
WHZ	Wether Hill Ro	80.63	218		eP		P	10 15 17.1	+1.8
	comp=Z,297nm,1.9s								
WHZ					LR		LR		
	comp=Z,5μm,22.0s								
P30A	Selden	80.67	339	⇓	P		P	10 15 16.1	+0.8
	baz=81,SNR=26								
SWSC	Sam W. Stewart	80.67	325	⇓	P		P	10 15 16.7	+1.3
	baz=81								
SDCO	Great Sand Dun	80.68	334	⇑	P		P	10 15 16.5	+0.8
	baz=81,SNR=63								
SDCO	Great Sand Dun	80.68	334		PFAKE			10 15 30.0	+14
SDCO					LR		LR		
	comp=Z,1μm,21.0s								
Q28A	Sharon Springs	80.69	338	⇑	P		P	10 15 16.4	+0.9
	baz=81,SNR=28								
Y12C	Blythe	80.77	326	⇑	P		P	10 15 17.7	+1.8
	baz=81,SNR=29								
O32A	Brockman Farm,	80.79	341	⇓	P		P	10 15 16.2	+0.3
	baz=81,SNR=20								
HNH	Hanover	80.80	0		eP		P	10 15 17.4	+1.6
	comp=Z,90nm,1.0s								
HNH					epP		pP	10 15 31.4	+3.3
S23A	Nye Farm, Mont	80.82	334	⇑	P		P	10 15 17.5	+1.1
	baz=81,SNR=7.4								
URZ	Urewera	80.83	229		PFAKE			10 15 30.0	+14
URZ					LR		LR		
	comp=Z,5μm,20.0s								
BAR	Barrett	80.86	324		ePKKPbc		PKKPbc	10 33 55.7	+0.3
KSCO	Kaye Shedlock'	80.89	337	⇑	P		P	10 15 17.7	+1.1
	baz=81,SNR=20								
KSCO	Kaye Shedlock'	80.89	337		eP		P	10 15 17.7	+1.1
KSCO					epP		pP	10 15 31.6	+2.7
MONP	Monument Peak,	80.92	324	⇓	P		P	10 15 18.1	+1.1
	baz=81,SNR=5.6								
P29A	Atwood	80.92	338	⇓	P		P	10 15 17.7	+1.0
	baz=81,SNR=48								
WUAZ	Wupatki	80.93	329	⇑	P		P	10 15 18.5	+1.5
	baz=81,SNR=26								
WUAZ	Wupatki	80.93	329		PFAKE			10 15 30.0	+13
WUAZ					LR		LR		
	comp=Z,2μm,19.0s								
O31A	Woolen Ranch,	80.97	340	⇑	P		P	10 15 17.4	+0.5
	baz=81,SNR=17								
R24A	Sanders Place,	80.98	335	⇓	P		P	10 15 18.8	+1.5
	baz=81,SNR=61								
PDMCI	Parker Dam,Lak	81.06	326	⇓	P		P	10 15 18.6	+1.1
	baz=81,SNR=6.6								
NCB	Newcomb	81.08	359		PFAKE			10 15 30.0	+13
NCB					LR		LR		
	comp=Z,2μm,21.0s								
Q26A	Hugo	81.09	336	⇑	P		P	10 15 19.1	+1.4
	baz=82,SNR=36								
BC3	Big Chuckawall	81.11	325	⇑	P		P	10 15 19.1	+1.2
	baz=81,SNR=15								
EML	El Monte Cty P	81.12	324		eP		P	10 15 18.8	+1.0
P28A	Saint Francis	81.14	338	⇓	P		P	10 15 19.0	+1.1
	baz=82,SNR=29								
S22A	4UR Ranch, Cre	81.15	333	⇑	P		P	10 15 19.4	+1.1
	baz=82,SNR=62								
S22A	4UR Ranch, Cre	81.15	333		eP		P	10 15 19.6	+1.4
	comp=Z,388nm,2.2s								
S22A					LR		LR		
	comp=Z,1μm,21.0s								
SCIA	State Center	81.16	345		PFAKE			10 15 30.0	+12
SCIA					LR		LR		
	comp=Z,1μm,19.0s								
R23A	Moffat	81.19	334	⇓	P		P	10 15 19.6	+1.2
	baz=82,SNR=46								
O30A	MW Ranch, Wils	81.20	339	⇑	P		P	10 15 19.0	+0.8
	baz=82,SNR=42								
BORC	Borrego Spring	81.23	324		eP		P	10 15 17.7	-0.7
109C	Camp Elliot, M	81.24	324	⇑	P		P	10 15 19.7	+1.2
	baz=82								
HAY	Hayfield	81.26	325		eP		P	10 15 15.7	-2.8
HAY	Hayfield	81.26	325		eP		P	10 15 15.7	-2.8
HAY					ePKiKP		PKiKP	10 20 47.5	+3.6
N32A	Stulken Farm,	81.27	341	⇑	P		P	10 15 19.2	+0.8
	baz=82								
MVCO	Mesa Verde	81.28	332	⇑	P		P	10 15 20.0	+1.2
	baz=82,SNR=41								
MVCO	Mesa Verde	81.28	332		PFAKE			10 15 30.0	+11
MVCO					LR		LR		
	comp=Z,2μm,20.0s								
Q25A	Bedland, Calha	81.31	336	⇑	P		P	10 15 19.9	+0.9
	baz=82,SNR=20								
LBNH	Lisbon	81.34	1		PFAKE			10 15 30.0	+11
LBNH					LR		LR		
	comp=Z,2μm,20.0s								
O29A	4D Ranch, Culb	81.36	339	⇓	P		P	10 15 19.9	+0.9
	baz=82								
P27A	Ficken Ranch,	81.37	337	⇓	P		P	10 15 20.3	+1.2
	baz=82,SNR=27								
IRM	Iron Mountain	81.39	326	⇑	P		P	10 15 20.9	+1.6
	baz=82,SNR=19								
N31A	Bailey Ranch,	81.50	340	⇑	P		P	10 15 20.7	+1.0
	baz=82								
PFO	Pinyon Flats O	81.53	324		LR		LR	10 45 03.2	
	comp=Z,1μm,19.7s,baz=138,slow=31								
PFO	Pinyon Flats O	81.53	324	⇓	P		P	10 15 21.9	+1.7
	baz=82,SNR=20								
JFWS	Jewell Farm	81.56	347		PFAKE			10 15 30.0	+10
JFWS					LR		LR		
	comp=Z,3μm,21.0s								
P26A	Davis Ranch, A	81.61	337	⇓	P		P	10 15 21.6	+1.1
	baz=82,SNR=28								
W13A	Hualapai Mount	81.63	327	⇑	P		P	10 15 22.4	+1.7
	baz=82,SNR=8.0								
BELC	Belle Mtn. Jos	81.65	325	⇑	P		P	10 15 22.2	+1.4
	baz=82,SNR=40								
O28A	Krutsinger Ran	81.65	338	⇓	P		P	10 15 21.7	+1.1
	baz=82,SNR=56								
Q24A	Divide	81.66	335	⇓	P		P	10 15 22.0	+1.0
	baz=82,SNR=56								
Q24A	Divide	81.66	335		eP		P	10 15 21.9	+1.0
Q24A					LR		LR		
	comp=Z,700nm,19.0s								
NEE2	Needles Airpor	81.67	326	⇑	P		P	10 15 22.0	+1.3
	baz=82,SNR=7.2								
PTN	Potsdam (NY)	81.69	358		eP		P	10 15 21.2	+0.7
PTN					pmax		pmax		
	comp=Z,211nm,1.0s								
PTN	Potsdam (NY)	81.69	358		eP		P	10 15 21.2	+0.7
	comp=Z,211nm,1.0s								
WVL	Waterville	81.71	2		eP		P	10 15 22.1	+1.4
	comp=Z,122nm,1.1s								
LONY	Lake Ozonia	81.73	359		PFAKE			10 15 30.0	+9.2
LONY					LR		LR		
	comp=Z,2μm,20.0s								
N30A	Hueftle Ranch,	81.79	339	⇑	P		P	10 15 22.2	+0.9
	baz=82								
P25A	Willow Gulch B	81.83	336	⇓	P		P	10 15 23.1	+1.5
	baz=82,SNR=51								
BGNE	Belgrade	81.83	341	⇓	P		P	10 15 22.0	+0.5
	baz=82,SNR=14								
Q23A	Hartsel	81.84	335	⇑	P		P	10 15 22.8	+0.9
	baz=82,SNR=13								
MURC	Murrieta	81.87	324	⇓	P		P	10 15 23.5	+1.7
	baz=82,SNR=16								
O27A	Beecher Island	81.92	338	⇓	P		P	10 15 23.1	+1.1
	baz=82,SNR=30								
EMMW	East Machias	81.95	4		eP		P	10 15 23.5	+1.6
	comp=Z,123nm,1.0s								
N29A	Votaw Ranch, W	81.96	339	⇑	P		P	10 15 23.1	+0.9
	baz=82,SNR=23								
M31A	Lambtecht Ranc	81.99	340	⇑	P		P	10 15 23.3	+1.0
	baz=82,SNR=23								
P24A	Kohler Place,	82.08	336	⇑	P		P	10 15 24.1	+1.2
	baz=82,SNR=8.4								
U15A	North Rim	82.09	329	⇓	P		P	10 15 24.7	+1.5
	baz=82,SNR=50								
N28A	Pribbeno Ranch	82.10	338	⇓	P		P	10 15 23.8	+0.9
	baz=82,SNR=18								
GMRC	Granite Mounta	82.14	326	⇑	P		P	10 15 25.2	+1.9
	baz=82,SNR=29								
O26A	Horse Wrangler	82.22	337	⇑	P		P	10 15 24.9	+1.3
	baz=83,SNR=11								
P23A	Jefferson	82.26	335	⇑	P		P	10 15 25.6	+1.5
	baz=83,SNR=17								
PV05	Paradox Valley	82.27	332		eP		P	10 15 25.1	+1.0
CIS	Catalina Islan	82.28	323	⇑	P		P	10 15 25.6	+1.7
	baz=83								
BBRC	Big Bear Solar	82.29	324	⇓	P		P	10 15 26.1	+1.8
	baz=83,SNR=8.9								
O25A	Wiggins	82.36	336	⇓	P		P	10 15 26.0	+1.6
	baz=83								
M30A	Dale-Ortello V	82.41	340	⇑	P		P	10 15 25.5	+0.9
	baz=83								
PKME	Peaks-Kenny Pk	82.42	3		PFAKE			10 15 40.0	+16
PKME					LR		LR		
	comp=Z,2μm,22.0s								
SMCO	Snowmass	82.47	334		eP		P	10 15 26.6	+1.3
	comp=Z,172nm,1.3s								
FMP	Fort Macarthur	82.48	323	⇑	P		P	10 15 26.5	+1.6
	baz=83								
OGNE	Ogallala	82.48	338	⇓	P		P	10 15 25.9	+1.0
	baz=83,SNR=6.1								
HEC	Hector,Ludlow	82.49	325	⇑	P		P	10 15 27.0	+1.9
	baz=83,SNR=12								
N27A	Anderson Farm,	82.50	338	⇑	P		P	10 15 26.1	+1.1
	baz=83,SNR=26								
PV10	Paradox Valley	82.51	332		eP		P	10 15 25.7	+0.4
M29A	Burnside Ranch	82.55	339	⇑	P		P	10 15 26.3	+1.0
	baz=83,SNR=19								
ISCO	Idaho Springs	82.57	335		eP		P	10 15 26.2	+0.6
ISCO					e*SP		sP	10 15 40.0	-2.6
ISCO					pmax		pmax		
	comp=Z,86nm,1.4s								
ISCO	Idaho Springs	82.57	335	⇑	P		P	10 15 26.6	+0.9
	baz=83,SNR=55								
ISCO	Idaho Springs	82.57	335		eP		P	10 15 26.2	+0.6
	comp=Z,86nm,1.4s								
ISCO					eSP		sP	10 15 40.0	-2.6
BFSC	Mount Baldy Ra	82.61	324	⇑	P		P	10 15 27.1	+1.3
	baz=83,SNR=20								
PV09	Paradox Valley	82.65	332		eP		P	10 15 27.3	+1.2
O24A	Longmont	82.68	336	⇑	P		P	10 15 27.0	+1.0
	baz=83,SNR=7.2								
M28A	Bar X Bar Ranc	82.70	339	⇑	P		P	10 15 27.1	+1.0
	baz=83,SNR=12								
L31A	Butterfield Fa	82.73	341	⇑	P		P	10 15 27.0	+0.9
	baz=83,SNR=78								
N26A	Koester Ranch,	82.73	337	⇓	P		P	10 15 27.5	+1.2
	baz=83								
L30A	Spencer Herefo	82.75	340	⇓	P		P	10 15 27.4	+1.1
	baz=83,SNR=26								
P22A	Eagle	82.77	334	⇓	P		P	10 15 28.0	+1.3
	baz=83,SNR=29								
TUQ	Turquoise Moun	82.81	326	⇓	P		P	10 15 28.3	+1.5
	baz=83,SNR=28								
RRX	Edison Barstow	82.83	325	⇑	P		P	10 15 28.7	+1.9
	baz=83								
CRZF	Crozet Islands	82.88	145		S		S	10 25 30.0	-13
CRZF					SS		SS	10 30 48.0	-17
CRZF					L		L	10 36 00.0	
CRZF					R			10 43 00.0	
DECC	Green Verdugo	82.94	324	⇓	P		P	10 15 29.0	+1.7
	baz=83								
N25A	Grover	82.99	337	⇑	P		P	10 15 29.0	+1.4
	baz=83								
L29A	Maesberg Ranch	83.07	340	⇓	P		P	10 15 29.0	+1.1
	baz=84,SNR=36								
GSC	Goldstone, Bar	83.09	325		eP		P	10 15 29.8	+1.5
GSC					pmax		pmax		
	comp=Z,37nm,1.1s								
GSC	Goldstone, Bar	83.09	325	⇑	P		P	10 15 29.8	+1.5
	baz=83,SNR=18								
GSC	Goldstone, Bar	83.09	325		eP		P	10 15 29.8	+1.5
	comp=Z,38nm,1.1s								
M27A	Reverse DX Ran	83.12	338	⇑	P		P	10 15 29.2	+1.0
	baz=84								
BLG	Laguna Peak, P	83.17	323	⇓	P		P	10 15 30.1	+1.5
	baz=84								
O22A	Kremmling	83.21	335	⇑	P		P	10 15 29.9	+0.9
	baz=84,SNR=70								
N24A	Carr	83.25	336	⇓	P		P	10 15 30.4	+1.3
	baz=84,SNR=14								
M26A	McRoberts Ranc	83.29	338	⇓	P		P	10 15 30.2	+1.1
	baz=84								
EDW2	Edwards Air Fo	83.29	324	⇑	P		P	10 15 30.4	+1.1
	baz=84,SNR=13								
L28A	Connealy Angus	83.31	339	⇓	P		P	10 15 30.3	+1.1
	baz=84								
BSC	Santa Cruz Isl	83.35	322	⇓	P		P	10 15 31.0	+1.5
	baz=84								
SHOC	Shoshone, Teco	83.36	326	⇓	P		P	10 15 30.7	+1.2
	baz=84,SNR=6.1								
K30A	Basset	83.40	340	⇑	P		P	10 15 30.6	+1.0
	baz=84,SNR=113								
OSI	Osito Audit: C	83.42	323	⇑	P		P	10 15 31.4	+1.5
	baz=84								
M25A	Palm-Egli Farm	83.54	337	⇓	P		P	10 15 31.4	+0.9
	baz=84,SNR=19								
L27A	T5 Ranch, Ells	83.61	338	⇑	P		P	10 15 32.0	+1.2
	baz=84								
LRMC	Laurel Mtn Rad	83.64	325	⇓	P		P	10 15 32.5	+1.4
	baz=84,SNR=22								
ECSD	EROS Data Cent	83.65	343	⇑	P		P	10 15 31.2	+0.4
	baz=84,SNR=220								
ECSD	EROS Data Cent	83.65	343		PFAKE			10 15 40.0	+9.2
ECSD					LR		LR		
	comp=Z,1μm,21.0s								
N23A	Red Feather La	83.66	335	⇓	P		P	10 15 32.4	+1.2
	baz=84,SNR=45								
N23A	Red Feather La	83.66	335		eP		P	10 15 32.1	+0.9
	comp=Z,104nm,1.3s								
N23A					LR		LR		
	comp=Z,1μm,21.0s								
K29A	Lazy Trails An	83.67	340	⇑	P		P	10 15 31.8	+0.8
	baz=84,SNR=35								
N22A	Wattenberg Ran	83.75	335	⇑	P		P	10 15 32.9	+1.2
	baz=84,SNR=48								
O20A	White River Ci	83.77	333	⇑	P		P	10 15 32.6	+0.9
	baz=84,SNR=19								
O20A	White River Ci	83.77	333		PFAKE			10 15 40.0	+8.2
O20A					LR		LR		
	comp=Z,2μm,21.0s								
L26A	Underwood Farm	83.79	338	⇓	P		P	10 15 32.6	+1.0
	baz=84,SNR=9.4								
M24A	Cheyenne	83.81	336	⇑	P		P	10 15 33.2	+1.3
	baz=84,SNR=39								
MVU	Marysvale	83.84	330		PFAKE			10 15 40.0	+7.8
MVU					LR		LR		
	comp=Z,2μm,19.0s								
PHWY	Pilot Hill	83.87	336		eP		P	10 15 33.0	+0.7
	comp=Z,65nm,1.0s								
PHWY					epP		pP	10 15 47.0	+2.3
PQI	Presque Isle	83.88	3		eP		P	10 15 32.9	+1.1
	comp=Z,164nm,1.1s								
ARVC	Arvin

J27A Elkhorn Farm, 84.60 339 ⇓P P 10 15 36.8 +1.1
baz=85,SNR=93
GRAC Grapevine Rang 84.76 326 ⇑P P 10 15 38.5 +1.9
baz=85,SNR=23
I29A Vivian Onida 84.84 341 ⇓P P 10 15 37.1 +0.2
baz=85,SNR=10.0
L22A Ellis Ranch, M 84.84 336 ⇑P P 10 15 38.2 +1.0
baz=85,SNR=18
BRSD Miller 84.88 342 ⇓P P 10 15 37.1 0.0
baz=85,SNR=7.0
K24A Anderson Ranch 84.95 337 ⇑P P 10 15 38.7 +1.1
baz=85
J26A Sides Ranch, S 84.96 338 ⇑P P 10 15 38.5 +1.0
baz=85,SNR=58
OUZ Omahuta 84.96 229 PFAKE 10 15 50.0 +12
OUZ LR LR
comp=Z,17μm,20.0s
RCTC Rector, Farmer 85.05 324 ⇓P P 10 15 38.9 +0.8
baz=85,SNR=7.3
I28A Midland 85.05 340 ⇓P P 10 15 38.5 +0.6
baz=85,SNR=61
R11A Troy Canyon, C 85.10 328 ⇓P P 10 15 40.1 +1.6
baz=85,SNR=63
TIN Tinemaha, Big 85.19 325 ⇑P P 10 15 40.5 +1.6
baz=86
K23A Bowen Ranch, D 85.23 336 ⇑P P 10 15 39.5 +0.5
baz=86,SNR=41
J25A Sunshine Ranch 85.25 338 ⇑P P 10 15 39.7 +0.7
baz=86,SNR=42
I27A Quinn 85.36 339 ⇑P P 10 15 40.0 +0.5
baz=86,SNR=47
H29A Onida 85.38 341 ⇓P P 10 15 39.8 +0.2
baz=86,SNR=23
K22A Casper 85.43 336 ⇓P P 10 15 40.6 +0.6
baz=86,SNR=68
J24A Dixon Ranch, L 85.45 337 ⇓P P 10 15 41.0 +0.9
baz=86,SNR=64
DUG Dugway, Tooele 85.53 330 eP P 10 15 41.7 +1.1
DUG pmax pmax
comp=Z,131nm,1.4s
DUG MLR MLR
comp=Z,2μm,18.0s
DUG Dugway, Tooele 85.53 330 ⇑P P 10 15 41.6 +1.1
baz=86,SNR=47
DUG Dugway, Tooele 85.53 330 eP P 10 15 41.7 +1.1
comp=Z,131nm,1.4s
DUG LR LR
comp=Z,2μm,18.0s
CTU Camp Tracy 85.55 331 eP P 10 15 41.1 +0.4
comp=Z,27nm,1.0s
I26A New Underwood 85.56 339 ⇑P P 10 15 41.0 +0.5
baz=86,SNR=39
G30A Faulkton 85.57 342 ⇑P P 10 15 40.5 0.0
baz=86,SNR=34
H28A Mission Ridge 85.64 340 ⇓P P 10 15 41.3 +0.5
baz=86
K21A Alcova 85.65 335 ⇓P P 10 15 41.9 +0.8
baz=86,SNR=59
J23A Dilts Ranch, B 85.79 337 ⇑P P 10 15 42.3 +0.5
baz=86,SNR=9.3
I25A Rochford 85.80 338 ⇑P P 10 15 42.6 +0.7
baz=86,SNR=69
G29A Hoven 85.83 341 ⇓P P 10 15 41.9 +0.1
baz=86,SNR=15
H27A Howes 85.89 340 ⇓P P 10 15 42.1 +0.1
baz=86,SNR=65
I24A Kuemmerle Ranc 85.92 338 ⇓P P 10 15 42.6 +0.3
baz=86,SNR=27
MLAC Mammoth, Mammo 85.94 325 ⇓P P 10 15 44.4 +1.7
baz=86
G28A Parade 85.98 340 ⇓P P 10 15 43.1 +0.6
baz=86,SNR=52
RSSD Black Hills 85.98 338 PFAKE 10 15 50.0 +7.2
RSSD LR LR
comp=Z,700nm,20.0s
TOA0 Torodi Ar. Sit 86.03 70 eP P 10 15 43.9 +0.5
TORD Torodi Ar. Bea 86.03 70 P P 10 15 43.9 +0.5
comp=Z,63nm,0.9s,baz=236,slow=4.5,SNR=185
TORD LR LR 10 50 17.3
comp=Z,3μm,22.0s,baz=225,slow=33
H26A Fairpoint 86.07 339 ⇓P P 10 15 42.8 -0.2
baz=86,SNR=10
J22A Midwest 86.10 336 ⇑P P 10 15 43.1 -0.2
baz=86,SNR=28
MCU Monte Cristo P 86.12 332 eP P 10 15 44.2 +0.6
F30A Leola 86.20 342 ⇑P P 10 15 44.0 +0.4
baz=87,SNR=12
MSKU Masuku 86.22 89 eP P 10 15 46.0 +1.5
MSKU LR LR
comp=Z,224nm,1.3s
comp=Z,4μm,21.0s
I23A Meade Ranch, G 86.27 337 ⇓P P 10 15 44.1 0.0
baz=87
HWUT Hardware Ranch 86.27 332 PFAKE 10 16 00.0 +16
HWUT LR LR
comp=Z,2μm,22.0s
H25A Fruitdale 86.31 339 ⇑P P 10 15 44.7 +0.5
baz=87,SNR=78
J21A Lysite 86.35 336 ⇓P P 10 15 45.1 +0.5
baz=87,SNR=19
NV01 Mina Array Sit 86.35 326 eP P 10 15 46.0 +1.3
NVAR Mina Array Bea 86.35 326 P P 10 15 46.0 +1.3
comp=Z,13nm,0.8s,baz=156,slow=6.2,SNR=76
F29A Eureka 86.40 341 ⇑P P 10 15 44.8 +0.2
baz=87,SNR=20
I22A 9 Mile Ranch, 86.53 336 ⇓P P 10 15 45.4 0.0
baz=87,SNR=31
G27A Dupree 86.53 340 ⇓P P 10 15 45.4 +0.2
baz=87,SNR=67
BW06 Boulder Array 86.56 334 PFAKE 10 16 00.0 +14
BW06 LR LR
comp=Z,2μm,20.0s
PD31 Pinedale Array 86.56 334 eP P 10 15 45.7 0.0
PD31 ePKKPbc PKKPbc 10 33 41.6 -1.1
PDAR Pinedale Array 86.56 334 P P 10 15 45.7 0.0
comp=Z,25nm,1.0s,baz=150,slow=4.1,SNR=118
PDAR PKKPbc PKKPbc 10 33 41.6 -1.1
comp=Z,0.5nm,0.8s,baz=202,slow=0.8,SNR=4.0
PDAR LR LR 10 49 56.7
comp=Z,2μm,21.6s,baz=154,slow=32
J20A Shoshoni 86.57 335 ⇓P P 10 15 46.8 +1.2
baz=87,SNR=69
G26A Maurine 86.64 339 ⇑P P 10 15 46.1 +0.3
baz=87,SNR=103
EYMN Ely 86.65 348 PFAKE 10 16 00.0 +14
EYMN LR LR
comp=Z,2μm,22.0s
F28A McLaughlin 86.67 341 ⇓P P 10 15 46.3 +0.5
baz=87,SNR=32
H24A Dirks Ranch, A 86.70 338 ⇑P P 10 15 46.2 +0.1
baz=87,SNR=34
I21A Big Trails, Te 86.72 336 ⇑P P 10 15 46.3 -0.1
baz=87,SNR=49
G25A Newell 86.78 339 ⇓P P 10 15 46.7 +0.3
baz=87,SNR=27
H23A Clabaugh Cattl 86.79 337 ⇓P P 10 15 46.3 -0.3
baz=87
E30A Jud 86.80 342 ⇑P P 10 15 47.1 +0.6
baz=87,SNR=14
J19A Crowheart 86.82 334 ⇑P P 10 15 47.3 +0.4
baz=87,SNR=65
ELK Elko 86.97 329 eP P 10 15 48.6 +0.8
ELK pmax pmax
comp=Z,40nm,1.1s
ELK Elko 86.97 329 eP P 10 15 48.6 +0.8
comp=Z,40nm,1.1s
F27A Lemmon 87.01 340 ⇑P P 10 15 47.8 +0.2
baz=87,SNR=113
E29A Napoleon 87.04 342 ⇓P P 10 15 48.2 +0.5
baz=87,SNR=12
AHID Auburn Hatcher 87.11 333 PFAKE 10 16 00.0 +12
AHID LR LR
comp=Z,2μm,22.0s
I20A Worland 87.11 335 ⇓P P 10 15 48.6 +0.3
baz=88,SNR=32
H22A Clearmont 87.12 337 ⇑P P 10 15 48.0 -0.2
baz=88,SNR=15
F26A Lodgepole 87.17 340 ⇑P P 10 15 48.5 +0.1
baz=88,SNR=60
G24A Alzada 87.19 338 ⇓P P 10 15 48.8 +0.3
baz=88,SNR=15
E28A Huff 87.31 341 ⇓P P 10 15 49.4 +0.5
baz=88,SNR=21
D30A Buchanan 87.33 343 ⇑P P 10 15 49.7 +0.6
baz=88,SNR=35
H21A Big Horn, Sher 87.36 336 ⇑P P 10 15 49.0 -0.4
baz=88,SNR=11
G23A Biddle 87.37 338 ⇓P P 10 15 49.0 -0.3
baz=88,SNR=16
E27A Carson 87.41 341 ⇓P P 10 15 49.9 +0.4
baz=88,SNR=35
DRLN Deer Lake 87.42 10 eP P 10 15 50.2 +0.8
comp=Z,72nm,1.1s
F25A Bowman 87.46 339 ⇓P P 10 15 50.1 +0.4
baz=88,SNR=24
I19A Meeteetse 87.48 335 ⇑P P 10 15 50.3 +0.2
baz=88,SNR=11
D29A Pettibone, Tap 87.49 342 ⇓P P 10 15 50.3 +0.5
baz=88
BMN Battle Mountai 87.53 328 eP P 10 15 50.9 +0.5
BMN pmax pmax
comp=Z,18nm,1.1s
BMN MLR MLR
comp=Z,2μm,21.0s
BMN Battle Mountai 87.53 328 eP P 10 15 50.9 +0.5
comp=Z,18nm,1.1s
BMN LR LR
comp=Z,2μm,21.0s
REDW Red Top Meadow 87.54 333 eP P 10 15 50.4 0.0
comp=Z,52nm,1.1s
H20A Greybull 87.55 336 ⇓P P 10 15 50.0 -0.3
baz=88,SNR=29
PAF Port-aux-Franc 87.58 157 S S 10 26 15.0 -14
PAF SS SS 10 31 59.0 -14
PAF L L 10 38 00.0
PAF R 10 44 00.0
SNOW Snow King Moun 87.59 333 eP P 10 15 51.0 +0.3
comp=Z,28nm,0.8s
G22A Birney 87.66 337 ⇑P P 10 15 50.7 -0.1
baz=88,SNR=9.1
LOHW Long Hollow 87.67 334 eP P 10 15 51.2 +0.2
comp=Z,38nm,1.1s
F24A Ekalaka 87.67 339 ⇑P P 10 15 50.9 +0.1
baz=88,SNR=33
TPAW Teton Pass 87.68 333 eP P 10 15 51.5 +0.3
comp=Z,45nm,0.9s
E26A Carlson Angus 87.69 340 ⇓P P 10 15 51.1 +0.3
baz=88,SNR=60
AGMN Agassiz Nation 87.81 345 ⇑P P 10 15 51.5 +0.2
baz=88,SNR=59
AGMN Agassiz Nation 87.81 345 PFAKE 10 16 00.0 +8.7
AGMN LR LR
comp=Z,2μm,20.0s
C30A Mose, Pekin 87.83 343 ⇑P P 10 15 52.0 +0.6
baz=88,SNR=57
FXWY Fox Creek 87.84 333 eP P 10 15 52.2 +0.4
comp=Z,62nm,1.5s
F23A Volborg 87.84 338 ⇑P P 10 15 51.4 -0.2
baz=88,SNR=25
D28A Regan 87.86 342 ⇓P P 10 15 52.1 +0.6
baz=88,SNR=9.0
I17A Pilgrim Ck. 87.93 334 ⇑P P 10 15 53.0 +0.8
baz=88,SNR=22
G21A Lodge Grass 87.95 337 ⇑P P 10 15 52.0 -0.1
baz=88
E25A Miller Ranch, 87.97 339 ⇓P P 10 15 52.7 +0.5
baz=88,SNR=34
D27A Center 88.02 341 ⇓P P 10 15 52.9 +0.6
baz=88,SNR=11
IMW Indian Meadow 88.03 334 eP P 10 15 53.4 +0.6
comp=Z,52nm,1.0s
H19A Powell 88.04 335 ⇑P P 10 15 52.7 0.0
baz=88,SNR=6.9
FLWY Flagg Ranch 88.11 334 eP P 10 15 53.9 +0.8
comp=Z,65nm,1.0s
F22A Rosebud 88.15 337 ⇓P P 10 15 53.0 -0.1
baz=88,SNR=11
D26A Manning 88.19 340 ⇓P P 10 15 53.5 +0.3
baz=89,SNR=26
MDND Maddock 88.23 342 ⇑P P 10 15 53.9 +0.6
baz=89,SNR=29
G20A Bridger 88.27 336 ⇓P P 10 15 53.5 -0.2
baz=89,SNR=17
H18A Shoshone NF, C 88.27 335 ⇓P P 10 15 54.0 +0.2
baz=89,SNR=43
E24A Baker 88.28 339 ⇓P P 10 15 54.1 +0.5
baz=89,SNR=18
C28A Hausauer Farms 88.30 342 ⇑P P 10 15 54.1 +0.5
baz=89,SNR=15
H17A Grant Village 88.34 334 ⇓P P 10 15 55.3 +1.1
baz=89
F21A Aloka Mine, 88.46 337 ⇑P P 10 15 54.6 0.0
baz=89
B30A Myrvik Farm, E 88.50 343 ⇑P P 10 15 55.0 +0.5
baz=89,SNR=38
E23A Ismay 88.52 338 ⇓P P 10 15 54.5 -0.3
baz=89,SNR=7.3
D25A Fairfield 88.54 340 ⇑P P 10 15 55.7 +0.9
baz=89,SNR=20
C27A Sayler Ranch, 88.58 341 ⇑P P 10 15 55.7 +0.7
baz=89,SNR=29
E22A Miles City 88.65 338 ⇑P P 10 15 55.1 -0.3
baz=89
B29A Wagenman Farm, 88.75 343 ⇓P P 10 15 56.1 +0.4
baz=89,SNR=27
F20A Billings 88.77 336 ⇓P P 10 15 56.1 +0.1
baz=89
D24A Glendive 88.79 339 ⇓P P 10 15 56.5 +0.5
baz=89,SNR=38
C26A Wahner Farm, P 88.83 341 ⇓P P 10 15 56.7 +0.6
baz=89,SNR=22
A30A Hoffart Farm, 88.95 344 ⇓P P 10 15 56.9 +0.3
baz=89,SNR=28
LAO LASA Array 88.96 338 PFAKE 10 16 10.0 +13
LAO LR LR
comp=Z,900nm,19.0s
B28A Dugan Ranch, T 88.97 342 ⇓P P 10 15 57.3 +0.5
baz=89,SNR=45
HLID Hailey 89.03 331 ⇓P P 10 15 58.7 +1.3
baz=89,SNR=46
HLID Hailey 89.03 331 PFAKE 10 16 10.0 +13
HLID LR LR
comp=Z,1μm,22.0s
C25A Freed Ranch, W 89.04 340 ⇑P P 10 15 57.4 +0.3
baz=89,SNR=18
F19A Roth Farm, Mol 89.07 336 ⇑P P 10 15 57.5 +0.1
baz=89,SNR=7.2
E21A Keefer Ranch, 89.09 337 ⇓P P 10 15 57.4 0.0
baz=90,SNR=9.9
D23A Lindsay 89.10 339 ⇑P P 10 15 58.1 +0.6
baz=90,SNR=19
A29A Manning Farm, 89.15 343 ⇑P P 10 15 57.6 0.0
baz=90,SNR=94
B27A Peters Farms, 89.16 342 ⇑P P 10 15 58.2 +0.6
baz=90,SNR=6.4
C24A Savage 89.20 339 ⇑P P 10 15 58.2 +0.3
baz=90,SNR=14
GCMT Greycliff 89.25 335 eP P 10 15 58.4 0.0
comp=Z,25nm,1.4s
GCMT esP sP 10 16 11.8 -3.6
LSZ Lusaka 89.36 109 P P 10 16 01.8 +2.1
SNR=12
LSZ Lusaka 89.36 109 PFAKE 10 16 10.0 +10
LSZ LR LR
comp=Z,4μm,18.0s
D22A Cohagen 89.36 338 ⇓P P 10 15 58.9 +0.2
baz=90,SNR=13
B26A Jensen Ranch, 89.38 341 ⇓P P 10 15 59.0 +0.3
baz=90,SNR=8.1
A28A Rude Farm, Bot 89.38 342 ⇓P P 10 15 59.0 +0.3
baz=90,SNR=10
E20A Meyer Farm, Mu 89.38 337 ⇓P P 10 15 58.9 0.0
baz=90,SNR=19
MFID Camas Ranch 89.45 330 PFAKE 10 16 10.0 +11
MFID LR LR
comp=Z,1μm,19.0s
B25A Knox Farm, Ray 89.53 340 ⇓P P 10 15 59.8 +0.4
baz=90,SNR=10
D21A La Cassa Ranch 89.53 337 ⇓P P 10 15 59.7 +0.2
baz=90,SNR=12
E19A Rath Farm, Rou 89.56 336 ⇑P P 10 15 59.7 0.0
baz=90,SNR=20
A27A Ledoux Ranch, 89.66 342 ⇓P P 10 16 00.6 +0.6
baz=90,SNR=12
C23A Lambert 89.66 339 ⇑P P 10 16 00.1 0.0
baz=90,SNR=16
ULM Lac du Bonnet 89.67 345 P P 10 15 59.8 -0.2
comp=Z,43nm,1.1s,baz=168,slow=3.3,SNR=54
WVOR Wild Horse Val 89.79 328 PFAKE 10 16 10.0 +9.1
WVOR LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 89.80 334 PFAKE 10 16 10.0 +9.1
BOZ LR LR
comp=Z,3μm,22.0s
A26A Wade Farm, Ken 89.81 341 ⇑P P 10 16 01.2 +0.5
baz=90,SNR=16
C22A Vida 89.81 338 ⇑P P 10 16 00.8 0.0
baz=90,SNR=10
D20A Manuel Ranch, 89.91 337 ⇓P P 10 16 01.2 -0.1
baz=90,SNR=12
DGMT Dagmar 89.99 340 ⇓P P 10 16 02.0 +0.4
baz=90,SNR=18
DGMT Dagmar 89.99 340 PFAKE 10 16 10.0 +8.4
DGMT LR LR
comp=Z,1μm,20.0s
WDC Whiskeytown Da 90.02 325 eP P 10 16 02.5 +0.6
WDC pmax pmax
comp=Z,22nm,1.3s
WDC Whiskeytown Da 90.02 325 eP P 10 16 02.5 +0.6
comp=Z,22nm,1.3s
MOD Modoc Plateau 90.07 327 PFAKE 10 16 10.0 +7.7
MOD LR LR
comp=Z,2μm,20.0s
A25A Svangstu Ranch 90.13 341 ⇑P P 10 16 02.7 +0.6
baz=90,SNR=9.2
B23A Brockton 90.20 339 ⇑P P 10 16 03.0 +0.4
baz=91,SNR=12
D19A Cripps Ranch, 90.21 336 ⇓P P 10 16 02.6 -0.1
baz=91,SNR=5.7
C21A Desert Coulee 90.24 338 ⇑P P 10 16 02.5 -0.3
baz=91,SNR=14
B22A Reddig Ranch S 90.34 339 ⇓P P 10 16 03.5 +0.2
baz=91,SNR=9.5
A24A Westby 90.35 340 ⇑P P 10 16 03.5 +0.3
baz=91,SNR=11
N02D Trinity Center 90.40 325 ⇓P P 10 16 04.2 +0.5
baz=91
C20A Veseth Ranch, 90.42 337 ⇓P P 10 16 03.3 -0.3
baz=91,SNR=7.7
M04C Macdoel 90.65 326 ⇓P P 10 16 04.5 -0.5
baz=91
B21A Ellsworth Farm 90.76 338 ⇑P P 10 16 05.0 -0.1
baz=91,SNR=14
C19A Slack Wire Ran 90.77 337 ⇓P P 10 16 05.4 +0.2
baz=91
M02C Callahan 90.80 325 ⇑P P 10 16 06.5 +0.8
baz=91
A22A Carney Farms, 90.94 339 ⇓P P 10 16 05.8 -0.3
baz=91,SNR=18
K05A Summer Lake 90.99 327 eP P 10 16 08.0 +1.4
comp=Z,221nm,2.1s
YBH Yreka Blue Hor 91.01 325 LR LR 10 51 26.4
comp=Z,528nm,20.4s,baz=153,slow=32
YBH Yreka Blue Hor 91.01 325 eP P 10 16 06.6 0.0
YBH pmax pmax
comp=Z,29nm,1.6s
YBH Yreka Blue Hor 91.01 325 eP P 10 16 06.6 0.0
comp=Z,29nm,1.6s
B20A Solberg Farm, 91.07 337 ⇑P P 10 16 06.7 +0.1
baz=91
A21A Bergtoll Ranch 91.24 338 ⇑P P 10 16 07.0 -0.4
baz=92,SNR=9.2
BMO Blue Mountains 91.24 330 PFAKE 10 16 20.0 +12
BMO LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 91.25 336 PFAKE 10 16 20.0 +12
EGMT LR LR
comp=Z,1μm,20.0s
K04D Chiloquin, OR 91.29 326 ⇑P P 10 16 08.7 +0.8
baz=92
B19A Brinkman Farms 91.37 337 ⇓P P 10 16 08.2 +0.2
baz=92
A20A Cobblestone Ra 91.44 338 ⇑P P 10 16 08.0 -0.3
baz=92,SNR=20
KTRM Thompson Ridge 91.45 325 P P 10 16 10.7 +2.0
I07A Izee 91.50 328 eP P 10 16 09.9 +1.1
comp=Z,30nm,1.3s
J05D Fort Rock, OR 91.59 327 ⇓P P 10 16 09.5 +0.2
baz=92,SNR=6.7
MSO Missoula 91.63 333 ⇑P P 10 16 09.6 +0.3
baz=92,SNR=13
MSO Missoula 91.63 333 eP P 10 16 10.2 +0.8
comp=Z,40nm,1.4s
MSO LR LR
comp=Z,1μm,21.0s
A19A Klindworth Far 91.73 337 ⇑P P 10 16 09.1 -0.6
baz=92,SNR=13
HUMO Hull Mountain 91.81 325 PFAKE 10 16 20.0 +10
HUMO LR LR
comp=Z,2μm,21.0s
J04D Umpqua Nationa 91.94 326 ⇓P P 10 16 12.0 +1.0
baz=92
TAU Tasmania Unive 92.03 208 eP P 10 16 13.0 +1.5
TAU pmax pmax
comp=Z,64nm,1.2s
TAU MLR MLR
comp=Z,2μm,22.0s
TAU Tasmania Unive 92.03 208 eP P 10 16 13.0 +1.5
comp=Z,64nm,1.2s
TAU LR LR
comp=Z,2μm,22.0s
SCHQ Schefferville 92.08 3 P P 10 16 10.5 -0.6
comp=Z,12nm,1.0s,baz=206,slow=2.7,SNR=9.9
SCHQ Schefferville 92.08 3 P P 10 16 10.5 -0.6
SCHQ epP pP 10 16 25.0 +1.4
F10A Beach Ranch, E 92.14 331 eP P 10 16 12.6 +0.9
comp=Z,27nm,1.0s
F10A eSS SS 10 33 28.6 +6.4
G08A Pilot Rock 92.26 329 eP P 10 16 13.3 +1.0
I05D Terrebonne, OR 92.48 327 ⇑P P 10 16 14.4 +1.1
baz=93
I04A Tendick Farm, 92.51 327 ⇓P P 10 16 14.0 +0.6
baz=93
I03D Drain, OR 92.85 326 ⇑P P 10 16 16.1 +1.2
baz=93
G06A Carlson Farm, 92.91 328 eP P 10 16 17.0 +1.8
comp=Z,80nm,1.9s
E09A Wood Farm, Sta 92.95 331 eP P 10 16 15.7 +0.4
comp=Z,13nm,1.0s
H04A Detroit Lake 93.12 327 eP P 10 16 16.9 +0.7
G05D Wamic, OR 93.20 328 ⇑P P 10 16 17.6 +1.1
baz=94
H2OWA Water 93.36 330 P P 10 16 18.6 +1.5
RSW Rattlesnake Hi 93.42 330 P P 10 16 19.0 +1.4
WALA Waterton Lakes 93.53 334 eP P 10 16 18.9 +0.8
comp=Z,1μm,1.0s
COR Corvallis 93.53 327 PFAKE 10 16 30.0 +12
COR LR LR
comp=Z,1μm,19.0s
E07A Sunnyside 93.66 330 eP P 10 16 20.0 +1.4
E07A epP pP 10 16 33.0 +1.9
MSVF Nonsavu 93.69 245 PFAKE 10 16 30.0 +10
MSVF LR LR
comp=Z,3μm,22.0s
D08A Wollman Farm, 93.70 330 eP P 10 16 19.8 +1.1
comp=Z,24nm,1.1s
OD2 Odessa Site #2 93.89 331 P P 10 16 20.1 +0.4
NEW Newport 94.01 332 ⇓P P 10 16 19.9 -0.3
baz=94,SNR=8.7
NEW Newport 94.01 332 PFAKE 10 16 30.0 +10
NEW LR LR
comp=Z,1μm,19.0s
G03D McMinnville, O 94.01 327 ⇑P P 10 16 21.3 +1.1
baz=94
C09A Chrisman Ranch 94.06 331 eP P 10 16 21.3 +0.9
comp=Z,36nm,1.3s
MDT Midelt 94.52 52 P P 10 16 24.8 +1.7
comp=Z,13nm,1.1s,baz=208,slow=5.6,SNR=13
F04D Rainier, OR 94.59 328 ⇑P P 10 16 23.2 +0.4
baz=95
WTV Waterville 94.63 330 P P 10 16 23.4 +0.3
ETW Entiat 94.70 330 P P 10 16 23.9 +0.4
B08A Colville Reser 94.92 331 eP P 10 16 24.7 +0.3
comp=Z,41nm,1.8s
D05A Enumclaw 95.04 329 eP P 10 16 26.4 +1.5
MORF Marmelete 95.15 46 eP P 10 16 26.5 +0.7
MORF eS SKSac 10 26 59.1 +1.0
MORF AMS AMS 10 57 04.9
comp=Z,7μm,21.0s
MORF Marmelete 95.15 46 eP P 10 16 26.4 +0.7
MORF eS SKSac 10 26 59.1 +1.0
FFC Flin Flon 95.17 344 PFAKE 10 16 40.0 +15
FFC LR LR
comp=Z,2μm,20.0s
PBDV Barranco-do-Ve 95.52 47 eP P 10 16 28.8 +1.4
comp=Z,79nm,1.8s
PCVE Castro Verde 95.73 46 eP P 10 16 28.8 +0.5
comp=Z,16nm,2.0s
PVAQ Vaqueiros 95.76 47 eP P 10 16 29.1 +0.7
comp=Z,45nm,2.0s
PVAQ Vaqueiros 95.76 47 eSKS SKSac 10 27 04.5 +3.3
PVAQ Vaqueiros 95.76 47 eLR LR 10 47 45.8
comp=Z,5μm,20.0s

MESJ	**Messejana**	**95.77**	**46**	*e*P	**P**	**10 16 29.1 +0.6**		
MESJ				*e*PP	**PP**	**10 20 21.0 0.0**		
MESJ				*e*S	**SKSac**	**10 27 02.7 +1.5**		
MESJ				AMS	AMS	10 57 33.7		
	comp=Z,7μm,23.8s							
MESJ	**Messejana**	**95.77**	**46**	*e*P	**P**	**10 16 29.0 +0.6**		
MESJ				*e*		10 20 21.0		
MESJ				*e*S	**SKSac**	**10 27 02.7 +1.5**		
NLWA	**Neilton Lookou**	**95.98**	**328**	PFAKE		10 16 40.0 +11		
NLWA				LR	LR			
	comp=Z,2μm,20.0s							
EVOP	**Sao Brissos**	**96.30**	**46**	*e*P	**P**	**10 16 31.3 +0.5**		
EVOP	**Sao Brissos**	**96.30**	**46**	*e*P	**P**	**10 16 31.3 +0.5**		
EVO	**Evora**	**96.36**	**46⇑**	*i*P	**P**	**10 16 31.3 +0.1**		
	comp=Z,43nm,1.2s							
A05A	**Maple Falls**	**96.52**	**330**	*e*P	**P**	**10 16 32.2 +0.6**		
	comp=Z,32nm,1.3s							
VDB	**Vedder Mountai**	**96.55**	**330**	P	**P**	**10 16 31.5 -0.3**		
PMTG	**Montargil**	**96.61**	**45**	*e*P	**P**	**10 16 33.0 +0.7**		
	comp=Z,41nm,1.6s							
PBAR	**Barrancos**	**96.68**	**46**	*e*P	P	10 16 36.2 +3.6		
	comp=Z,39nm,1.5s							
EDM	**Edmonton**	**96.90**	**337**	*e*P	**P**	**10 16 32.3 -1.0**		
EDM	**Edmonton**	**96.90**	**337**	*e*P	**P**	**10 16 32.2 -1.0**		
PMRV	**Marv??o**	**97.33**	**45**	*e*P	Pdif	10 16 36.1 +0.5		
	comp=Z,25nm,1.6s							
PMRV	**Marv??o**	**97.33**	**45**	*e*SKS	**SKSac**	**10 27 12.9 +3.6**		
PMRV	**Marv??o**	**97.33**	**45**	*e*LR	LR	10 48 42.5		
	comp=Z,3μm,22.0s							
PCBR	**Castelo Branco**	**97.56**	**45**	*e*P	Pdif	10 16 37.4 +0.8		
	comp=Z,34nm,1.6s							
MTE	**Manteigas**	**97.91**	**44**	*e*P	Pdif	10 16 39.0 +0.8		
	comp=Z,36nm,1.6s							
MTE	**Manteigas**	**97.91**	**44**	*e*SKS	**SKSac**	**10 27 14.3 +1.9**		
MTE	**Manteigas**	**97.91**	**44**	*e*LR	LR	10 49 00.2		
	comp=Z,5μm,20.0s							
MTE	**Manteigas**	**97.91**	**44**	*e*P	**P**	**10 16 38.1 -0.1**		
	comp=Z,30nm,1.3s							
MTE				LR	LR			
	comp=Z,6μm,20.0s							
POLO	**Lamas de Olo**	**98.44**	**44**	Pdif	Pdif	10 16 41.2 +0.6		
POLO				A	A	10 16 59.0		
	comp=Z,10nm,1.9s							
PGAV	**Gavieira, Arco**	**98.58**	**43**	*e*SKS	**SKSac**	**10 27 18.6 +2.9**		
PGAV	**Gavieira, Arco**	**98.58**	**43**	*e*LR	LR	10 49 09.4		
	comp=Z,8μm,20.0s							
DZM	**Mont Dzumac**	**98.64**	**234**	*e*PP	PP	10 20 40.1 -2.6		
	comp=Z,369nm,29.8s							
DZM				*e*SKSac	**SKSac**	**10 27 21.0 +3.7**		
	comp=Z,1μm,31.6s							
DZM				*e*SP	**SP**	**10 29 27.2 -5.8**		
	comp=Z,2μm,28.8s							
DZM				*e*SS	**SS**	**10 34 57.1 +3.6**		
	comp=Z,3μm,26.4s							
DZM	**Mont Dzumac**	**98.64**	**234**	*e*LR	LR	10 48 51.5		
	comp=Z,14μm,24.5s,baz=135							
MVO	**Moncorvo**	**98.72**	**44**	Pdif	Pdif	10 16 42.7 +0.9		
MVO				A	A	10 16 58.5		
	comp=Z,29nm,1.3s							
MVO	**Moncorvo**	**98.72**	**44**	*e*SKS	**SKSac**	**10 27 19.6 +3.2**		
MVO	**Moncorvo**	**98.72**	**44**	*e*LR	LR	10 49 12.2		
	comp=Z,6μm,20.0s							
PAB	**San Pablo**	**99.15**	**47**	*e*P	**Pdif**	**10 16 45.3 +1.5**		
PAB				pmax	pmax			
	comp=Z,23nm,1.5s							
PAB				MLR	MLR			
	comp=Z,5μm,21.0s							
PAB	**San Pablo**	**99.15**	**47**	*e*P	**Pdif**	**10 16 45.3 +1.5**		
	comp=Z,23nm,1.5s							
PAB				LR	LR			
	comp=Z,5μm,21.0s							
PBRG	**Braganca**	**99.31**	**44**	Pdif	**Pdif**	**10 16 45.3 +0.9**		
PBRG				A	A	10 17 04.2		
	comp=Z,27nm,1.6s							
ESDC	**Sonseca Array**	**99.46**	**47**	P	**Pdif**	**10 16 46.0 +0.8**		
	comp=Z,0.2nm,0.3s,baz=235,slow=4.4,SNR=9.9							
ESDC				PP	**PP**	**10 20 45.4 -4.1**		
	comp=Z,2.6nm,0.9s,baz=235,slow=8.4,SNR=4.4							
ESDC				LR	LR	10 59 52.2		
	comp=Z,3μm,20.1s,baz=245,slow=34							
ABPO	**Ambohimpanom**	**100.45**	**124**	PFAKE		10 17 00.0 +10		
ABPO				LR	LR			
	comp=Z,2μm,21.0s							
SJPF	**Ste Jean**	**103.25**	**46**	*e*P	**Pdif**	**10 17 03.7 +1.8**		
	comp=Z,110nm,1.8s							
SJPF	**Ste Jean**	**103.25**	**46**	*e*P	**Pdif**	**10 17 03.7 +1.8**		
SJPF				pmax	pmax			
	comp=Z,110nm,1.8s							
SJPF	**Ste Jean**	**103.25**	**46**	*e*P	**Pdif**	**10 17 03.7 +1.8**		
	comp=Z,110nm,1.8s							
ETSF	**Etsaut**	**103.50**	**46**	*e*P	**Pdif**	**10 17 04.7 +1.7**		
	comp=Z,56nm,1.7s							
ETSF	**Etsaut**	**103.50**	**46**	*e*P	**Pdif**	**10 17 04.7 +1.7**		
ETSF	**Etsaut**	**103.50**	**46**	*e*Pdif	**Pdif**	**10 17 04.7 +1.7**		
YKA	**Yellowknife Ar**	**105.12**	**341**	Pdiff	**Pdif**	**10 17 05.9 -3.7**		
	comp=Z,2.1nm,1.0s,baz=141,slow=3.3,SNR=5.1							
YKA				PP	**PP**	**10 21 28.8 -2.6**		
	comp=Z,3.2nm,1.0s,baz=143,slow=7.5,SNR=4.2							
YKB5	**Yellowknife Ar**	**105.12**	**341**	*e*Pdif	**Pdif**	**10 17 05.9 -3.7**		
YKB5				*e*PP	**PP**	**10 21 28.8 -2.6**		
KMBO	**Kilima Mbogo**	**105.19**	**103**	PFAKE		10 21 40.0		
KMBO				LR	LR			
	comp=Z,4μm,20.0s							
MTLF	**Montolieu**	**105.37**	**47**	*e*P	**Pdif**	**10 17 12.4 +1.1**		
	comp=Z,38nm,1.5s							
MTLF	**Montolieu**	**105.37**	**47**	*e*P	**Pdif**	**10 17 12.4 +1.1**		
MTLF	**Montolieu**	**105.37**	**47**	*e*Pdif	**Pdif**	**10 17 12.4 +1.1**		
LFF	**La Frestale**	**105.50**	**45**	*e*P	**Pdif**	**10 17 13.0 +1.2**		
	comp=Z,131nm,1.7s							
LFF	**La Frestale**	**105.50**	**45**	*e*P	**Pdif**	**10 17 13.0 +1.2**		
LFF	**La Frestale**	**105.50**	**45**	*e*Pdif	**Pdif**	**10 17 13.0 +1.2**		
SFJD	**Kangerlussuaq**	**105.53**	**9**	PFAKE		10 21 40.0		
SFJD				LR	LR			
	comp=Z,2μm,20.0s							
SFJD	**Kangerlussuaq**	**105.53**	**9**	*i*P	**PP**	**10 21 33.5 -0.8**		
MFF	**Saint Martin d**	**106.02**	**43**	*e*P	**Pdif**	**10 17 15.2 +1.1**		
	comp=Z,43nm,1.3s							
MFF	**Saint Martin d**	**106.02**	**43**	*e*P	**Pdif**	**10 17 15.2 +1.1**		
MFF	**Saint Martin d**	**106.02**	**43**	*e*Pdif	**Pdif**	**10 17 15.2 +1.1**		
RJF	**Les Rejaudoux**	**106.15**	**45**	*e*P	**Pdif**	**10 17 15.8 +1.1**		
	comp=Z,36nm,1.4s							
RJF	**Les Rejaudoux**	**106.15**	**45**	*e*P	**Pdif**	**10 17 15.8 +1.1**		
RJF	**Les Rejaudoux**	**106.15**	**45**	*e*Pdif	**Pdif**	**10 17 15.8 +1.1**		
DSB	**Dublin**	**107.07**	**35**	PFAKE		10 21 40.0		
DSB				LR	LR			
	comp=Z,2μm,20.0s							
TCF	**Toulx Ste Croi**	**107.13**	**45**	*e*P	**Pdif**	**10 17 20.2 +1.1**		
	comp=Z,51nm,1.7s							
TCF	**Toulx Ste Croi**	**107.13**	**45**	*e*P	**Pdif**	**10 17 20.2 +1.1**		
TCF	**Toulx Ste Croi**	**107.13**	**45**	*e*Pdif	**Pdif**	**10 17 20.2 +1.1**		
VSL	**Villasalto**	**107.51**	**54**	PFAKE		10 21 40.0		
VSL				LR	LR			
	comp=Z,6μm,19.0s							
ILULI	**Ilulissat**	**107.59**	**8**	*i*P	**PP**	**10 21 48.8 -0.6**		
	comp=Z,2μm,17.0s							
BGF	**Bois d'Agland**	**107.65**	**45**	*e*P	**Pdif**	**10 17 22.6 +1.3**		
BGF	**Bois d'Agland**	**107.65**	**45**	*e*P	**Pdif**	**10 17 22.6 +1.3**		
BGF	**Bois d'Agland**	**107.65**	**45**	*e*Pdif	**Pdif**	**10 17 22.6 +1.3**		
AVF	**Avril sur Loir**	**108.06**	**45**	*e*P	**Pdif**	**10 17 24.4 +1.3**		
AVF	**Avril sur Loir**	**108.06**	**45**	*e*P	**Pdif**	**10 17 24.4 +1.3**		
AVF	**Avril sur Loir**	**108.06**	**45**	*e*Pdif	**Pdif**	**10 17 24.4 +1.3**		
SMF	**Signal de Mont**	**108.25**	**45**	*e*P	**Pdif**	**10 17 25.4 +1.4**		
	comp=Z,61nm,1.7s							
SMF	**Signal de Mont**	**108.25**	**45**	*e*P	**Pdif**	**10 17 25.4 +1.4**		
SMF	**Signal de Mont**	**108.25**	**45**	*e*Pdif	**Pdif**	**10 17 25.4 +1.4**		
WDD	**Wield Dalam**	**108.91**	**59**	PFAKE		10 21 40.0		
WDD				LR	LR			
	comp=Z,16μm,20.0s							
CLTB	**Caltabellotta**	**108.96**	**57**	PFAKE		10 21 40.0		
CLTB				LR	LR			
	comp=Z,4μm,19.0s							
BNI	**Bardonecchia**	**108.97**	**47**	PFAKE		10 21 40.0		
BNI				LR	LR			
	comp=Z,6μm,20.0s							
CABF	**La Chapelle**	**109.51**	**46**	*e*P	**Pdif**	**10 17 31.4 +1.7**		
	comp=Z,34nm,1.4s							
CABF	**La Chapelle**	**109.51**	**46**	*e*P	**Pdif**	**10 17 31.4 +1.7**		
CABF	**La Chapelle**	**109.51**	**46**	*e*Pdif	**Pdif**	**10 17 31.4 +1.7**		
BORG	**Borgarnes**	**109.58**	**21**	PFAKE		10 21 40.0		
BORG				LR	LR			
	comp=Z,2μm,22.0s							
ESK	**Eskdalemuir**	**109.82**	**35**	PFAKE		10 21 50.0		
ESK				LR	LR			
	comp=Z,2μm,20.0s							
VLC	**Villacollemand**	**110.70**	**50**	PFAKE		10 21 50.0		
VLC				LR	LR			
	comp=Z,4μm,20.0s							
CEL	**Celeste**	**111.11**	**58**	PFAKE		10 21 50.0		
CEL				LR	LR			
	comp=Z,4μm,20.0s							
WLF	**Walferdange**	**111.23**	**43**	*e*SP	SP	10 31 40.3 -2.2		
WLF	**Walferdange**	**111.23**	**43**	PFAKE		10 21 50.0		
WLF				LR	LR			
	comp=Z,8μm,20.0s							
TUE	**Stuetta**	**111.31**	**47**	PFAKE		10 21 50.0		
TUE				LR	LR			
	comp=Z,5μm,18.0s							
AQU	**L'Aquila**	**111.62**	**53**	PFAKE		10 21 50.0		
AQU				LR	LR			
	comp=Z,6μm,21.0s							
BFO	**Black Forest**	**111.72**	**45**	*e*PKiKP	**PKiKP**	**10 21 36.9 +0.2**		
BFO				*e*SP	SP	10 31 46.6 -0.6		
BFO	**Black Forest**	**111.72**	**45***c*	*i*PKiKP	**PKiKP**	**10 21 38.0 +1.3**		
BFO	**Black Forest**	**111.72**	**45**	PFAKE		10 21 50.0		
BFO				LR	LR			
	comp=Z,4μm,20.0s							
CTAO	**Charters Tower**	**111.91**	**220**	PFAKE		10 21 50.0		
CTAO				LR	LR			
	comp=Z,2μm,20.0s							
CUC	**Castrococco**	**111.96**	**56**	PFAKE		10 21 50.0		
CUC				LR	LR			
	comp=Z,4μm,20.0s							
DAVA	**Damuels**	**112.06**	**47⇓**	*i*PKiKP	**PKiKP**	**10 21 37.9 +0.4**		
	comp=Z,115nm,3.4s							
TIP	**Timpagrande**	**112.17**	**57**	PFAKE		10 21 50.0		
TIP				LR	LR			
	comp=Z,9μm,21.0s							
KULLO	**Kullorsuaq**	**112.26**	**4**	*i*P	**PP**	**10 22 24.4 +1.3**		
	comp=Z,2μm,22.0s							
SUMG	**Summit**	**112.33**	**11**	PFAKE		10 21 50.0		
SUMG				LR	LR			
	comp=Z,3μm,21.0s							
SUMG	**Summit**	**112.33**	**11**	*i*P	**PP**	**10 22 20.9 -3.3**		
	comp=Z,2μm,19.0s							
FETA	**Feichten**	**112.41**	**47⇑**	*i*PKiKP	**PKiKP**	**10 21 37.8 -0.4**		
	comp=Z,31nm,1.8s							
STU	**Stuttgart**	**112.44**	**45**	*e*SP	SP	10 31 52.9 -0.8		
STU	**Stuttgart**	**112.44**	**45**	PFAKE		10 21 50.0		
STU				LR	LR			
	comp=Z,4μm,19.0s							
FURI	**Furi**	**112.46**	**96**	PFAKE		10 21 50.0		
FURI				LR	LR			
	comp=Z,3μm,19.0s							
RETA	**Reutte**	**112.67**	**47⇑**	*i*PKiKP	**PKiKP**	**10 21 39.2 +0.6**		
	comp=Z,10.0nm,1.1s							
TNS	**Taunus Mts**	**112.78**	**44**	*e*SP	SP	10 32 02.3 +5.4		
BUG	**Bochum--Univer**	**112.79**	**42**	*e*SP	SP	10 32 01.7 +5.0		
WTTA	**Wattenberg**	**113.07**	**47⇑**	*i*PKiKP	**PKiKP**	**10 21 39.0 -0.5**		
	comp=Z,133nm,3.2s							
FUR	**Furstenfeldbru**	**113.32**	**46**	*e*SP	SP	10 32 08.4 +6.6		
IBBN	**Ibbenburen**	**113.50**	**41**	*e*SP	SP	10 32 08.0 +4.8		
UBBA	**Unterbreizbach**	**113.94**	**44**	*e*SP	SP	10 32 15.5 +8.3		
KBA	**Koelnbreinsper**	**113.98**	**48⇑**	*i*PKiKP	**PKiKP**	**10 21 41.0 -0.2**		
	comp=Z,70nm,3.2s							
RJOB	**Jochberg**	**113.99**	**47**	*e*PKiKP	**PKiKP**	**10 21 41.0 0.0**		
RJOB				*e*SP	SP	10 32 15.0 +7.0		
GRFO	**Grafenberg**	**114.05**	**45**	PFAKE		10 21 50.0 +9.0		
GRFO				LR	LR			
	comp=Z,4μm,20.0s							
GRF	**Grafenberg Arr**	**114.06**	**45**	*e*PKiKP	**PKiKP**	**10 21 41.8 +0.8**		
GRF				*e*SP	SP	10 32 16.7 +8.2		
GRF				*e*L	L	11 10 39.7		
	comp=Z,4μm,19.5s							
AS12	**Alice Springs**	**114.17**	**207**	*e*PKiKP	**PKiKP**	**10 21 41.3 -1.0**		
AS12				*e*PKKPbc	**PKKPbc**	**10 32 21.1 -0.8**		
AS12				*e*PKKPab	**PKKPab**	**10 32 30.1 -2.1**		
ASAR	**Alice Springs**	**114.17**	**207**	PKP	PKPdf	10 21 41.3 -1.0		
	comp=Z,1.2nm,0.7s,baz=141,slow=2.1,SNR=12							
ASAR				PKKPbc	**PKKPbc**	**10 32 21.1 -0.8**		
	comp=Z,2.0nm,0.9s,baz=344,slow=3.0,SNR=4.7							
ASAR				PKKPab	**PKKPab**	**10 32 30.1 -2.1**		
	comp=Z,6.7nm,0.9s,baz=341,slow=3.2,SNR=13							
ASAR				PKPPKP	P'P'df	10 40 51.7 -8.5		
	comp=Z,0.4nm,0.7s,baz=339,slow=5.7,SNR=5.4							
ROTZ	**Rotzenmuhle**	**114.65**	**45**	*e*SP	SP	10 32 22.4 +8.5		
CLZ	**Clausthal**	**114.66**	**43**	*e*PKiKP	**PKiKP**	**10 21 43.3 +1.1**		
CLZ				*e*SP	SP	10 32 21.9 +8.0		
INK	**Inuvik**	**114.67**	**339**	*e*PKKPdf	PKKPdf	10 32 43.6 -1.3		
WET	**Wettzell**	**114.73**	**46**	*e*PKiKP	PKPdf	10 21 42.6 +0.2		
WET				*e*SP	SP	10 32 22.7 +8.0		
MOX	**Moxa**	**114.75**	**44**	*e*PKiKP	**PKiKP**	**10 21 42.9 +0.6**		
MOX				*e*SP	SP	10 32 24.1 +9.4		
MOX				*e*L	L	11 12 20.9		
	comp=Z,4μm,19.0s							
SOKA	**Soboth**	**114.80**	**49⇑**	*i*PKPdf	PKPdf	10 21 42.5 -0.2		
	comp=Z,8.5nm,1.3s							
NRDL	**Niedersach Rie**	**114.84**	**42**	*e*PKiKP	**PKiKP**	**10 21 43.4 +1.1**		
NRDL				*e*SP	SP	10 32 24.3 +9.0		
MOA	**Molln**	**114.91**	**48⇑**	*i*PKPdf	PKPdf	10 21 42.4 -0.4		
	comp=Z,46nm,2.0s							
EGAK	**Eagle**	**114.91**	**334**	PFAKE		10 21 50.0 +7.8		
EGAK				LR	LR			
	comp=Z,2μm,22.0s							
GEC2	**GERESS Array S**	**115.06**	**47**	*e*PKiKP	**PKPdf**	**10 21 43.0 -0.1**		
GEC2				*e*SP	SP	10 32 25.9 +8.1		
GEC2	**GERESS Array S**	**115.06**	**47**	*e*PKiKP	**PKPdf**	**10 21 43.4 +0.3**		
GEC2	**GERESS Array S**	**115.06**	**47**	*e*PKiKP	**PKPdf**	**10 21 43.4 +0.3**		
GEC2				*e*PKKPdf	**PKKPdf**	**10 32 40.8 -3.0**		
GERES	**GERESS Array B**	**115.06**	**47**	PKP	**PKPdf**	**10 21 43.4 +0.3**		
	comp=Z,6.6nm,0.9s,baz=207,slow=1.5,SNR=28							
GERES				PKKP	**PKKPdf**	**10 32 40.8 -3.0**		
	comp=Z,0.5nm,0.7s,baz=61,slow=6.4,SNR=3.8							
GVD	**Gavdhos**	**115.08**	**64**	PFAKE		10 22 00.0 +17		
GVD				LR	LR			
	comp=Z,19μm,21.0s							
TANN	**Tannenbergstha**	**115.11**	**45**	*e*PKiKP	**PKiKP**	**10 21 43.8 +0.7**		
TANN				*e*SP	SP	10 32 27.3 +9.2		
KHC	**Kasperske Hory**	**115.12**	**46**	*e*PKP	**PKPdf**	**10 21 44.0 +0.9**		
KHC				*e*PP	PP	10 22 39.0 -5.1		
KHC	**Kasperske Hory**	**115.12**	**46**	*e*PKIKP	**PKPdf**	**10 21 44.0 +0.9**		
DOT	**Dot Lake**	**115.31**	**332**	*e*PKPdf	**PKPdf**	**10 21 44.2 +1.2**		
ARSA	**Arzberg**	**115.37**	**49⇑**	*i*PKPdf	**PKPdf**	**10 21 43.0 -0.7**		
	comp=Z,106nm,4.2s							
BSEG	**Bad Segeberg**	**115.65**	**41**	*e*PKiKP	**PKiKP**	**10 21 44.8 +0.9**		
BSEG				*e*SP	SP	10 32 31.7 +9.0		
KDAK	**Kodiak Island**	**115.81**	**324**	PFAKE		10 22 00.0 +16		
KDAK				LR	LR			
	comp=Z,1μm,22.0s							
CLL	**Collm**	**115.83**	**44**	*e*PKiKP	**PKiKP**	**10 21 44.9 +0.6**		
CLL				*e*SP	SP	10 32 34.0 +9.4		
CLL	**Collm**	**115.83**	**44**	*e*Pdif	**Pdif**	**10 17 57.0 -0.6**		
CLL				*e*PKiKP	**PKiKP**	**10 21 45.0 +0.6**		
	comp=Z,16nm,1.2s							
CLL				*e*sPKiKP	sPKiKP	10 21 59.0 -2.7		
CLL				*e*PP	**PP**	**10 22 48.0 -1.0**		
CLL				*e*		10 23 09.0		
CLL				*e*PPP	PPP	10 25 12.0		
CLL				*e*SKKSac	**SKKSac**	**10 29 48.0 +2.2**		
CLL				*e*PS	**PS**	**10 32 29.0 -0.9**		
CLL				*e*		10 35 00.0		
CLL				*e*SS	SKKSdf	10 39 24.0 -27		
CLL				*e*SSS	SSS	10 43 30.0		
CLL				*e*PPPPrev		10 44 12.0		
CLL				*e*		10 48 00.0		
CLL				LmV		11 13 00.0		
	comp=Z,4μm,18.2s							
CLL	**Collm**	**115.83**	**44**	*e*PKIKP	**PKiKP**	**10 21 45.0 +0.6**		
CLL				*e*		10 21 59.0		
CLL				pmax	pmax			
	comp=Z,16nm,1.2s							
CLL				MLR	MLR			
	comp=Z,4μm,18.2s							
CLL	**Collm**	**115.83**	**44**	PFAKE		10 22 00.0 +16		
CLL				LR	LR			
	comp=Z,4μm,20.0s							
CONA	**Conrad Observa**	**115.89**	**48⇑**	*i*PKPdf	**PKPdf**	**10 21 44.4 -0.3**		
	comp=Z,62nm,2.1s							
PRA	**Prague**	**116.06**	**46**	*e*SP	SP	10 32 36.0 +9.3		
PRA				AMS	AMS	11 11 50.0		
	comp=Z,6μm,19.5s							
PRU	**Pruhonice**	**116.08**	**46**	*e*PKP	**PKPdf**	**10 21 45.6 +0.7**		
PRU				*e*PP	**PP**	**10 22 49.4 -1.4**		
PRU				*e*SKS	**SKSac**	**10 28 34.8 +3.3**		
PRU				*e*SP	**SP**	**10 32 24.5 -2.4**		
PRU				AMS	AMS	11 12 00.0		
	comp=Z,5μm,18.7s							
PRU	**Pruhonice**	**116.08**	**46**	*e*PKIKP	**PKPdf**	**10 21 45.6 +0.7**		
PRU				*e*		10 22 49.4		
PRU				*e*		10 28 34.8		
PRU				*e*		10 32 24.5		
PRU				MLR	MLR			
	comp=Z,5μm,18.7s							
BRG	**Berggiesshubel**	**116.15**	**45**	*e*PKP	**PKPdf**	**10 21 45.4 +0.4**		
	comp=Z,18nm,1.4s							
BRG				*e*		10 21 57.3		
	comp=Z,4.4nm,0.6s							
BRG				SDIFF		10 31 54.0		
BRG				SS	**SKKSdf**	**10 39 46.0 -4.8**		
	comp=N,2μm,16.8s							
	comp=E,1μm,18.5s							
	comp=Z,2μm,14.4s							
BRG	**Berggiesshubel**	**116.15**	**45**	*e*PKiKP	**PKiKP**	**10 21 45.6 +0.6**		
BRG				*e*SP	SP	10 32 37.4 +10		
BRG	**Berggiesshubel**	**116.15**	**45**	*e*PKIKP	**PKPdf**	**10 21 45.4 +0.4**		
BRG				*e*		10 21 57.3		
BRG				pmax	pmax			
	comp=Z,18nm,1.4s							
BRG				MLR	MLR			
	comp=N,2μm,16.8s							
BRG				MLR	MLR			
	comp=E,1μm,18.5s							
BRG				MLR	MLR			
	comp=Z,2μm,14.4s							
GOPC	**GO Pecny, Ondr**	**116.19**	**46**	*e*PKP	**PKPdf**	**10 21 46.1 +1.0**		
GOPC				*e*SP	SP	10 32 28.0 +0.1		
GOPC				AMS	AMS	11 12 20.0		
	comp=Z,4μm,18.3s							
MUD	**Monsted U'grnd**	**116.28**	**38**	*i*P	**PP**	**10 22 52.1 +0.1**		
	comp=Z,4μm,19.0s							
TREC	**Trest**	**116.30**	**47**	AMS	AMS	11 11 20.0		
	comp=Z,3μm,20.6s							
MSEY	**Mahe Island**	**116.30**	**119**	PFAKE		10 22 00.0 +13		
MSEY				LR	LR			
	comp=Z,2μm,20.0s							
PVCC	**Panska Ves**	**116.35**	**45**	*e*PKP	**PKPdf**	**10 21 45.6 +0.2**		
PVCC				*ex*	x	10 22 00.9		
PVCC				*e*PP	**PP**	**10 22 55.6 +3.0**		
PVCC				AMS	AMS	11 11 50.0		
	comp=Z,4μm,20.0s							
PVCC	**Panska Ves**	**116.35**	**45**	*e*PKIKP	**PKPdf**	**10 21 45.6 +0.2**		
PVCC				*e*		10 22 00.9		
PVCC				*e*		10 22 55.6		
PVCC				MLR	MLR			
	comp=Z,4μm,20.0s							
DIVS	**Divibare**	**116.67**	**54⇑**	*i*P	**PKPdf**	**10 21 46.9 +0.5**		
PKS9	**Tamasi**	**116.73**	**51⇓**	*e*PKPdf	**PKPdf**	**10 21 47.6 +1.3**		
PKSM	**Moragy**	**116.78**	**51⇓**	*i*P	**PKPdf**	**10 21 46.3 -0.1**		
PKSM	**Moragy**	**116.78**	**51** ⇓	PKiKP	**PKPdf**	**10 21 46.3 -0.1**		
PKSM	**Moragy**	**116.78**	**51⇑**	*e*PKPdf	**PKPdf**	**10 21 46.2 -0.1**		
RUE	**Ruedersdorf**	**116.81**	**43**	PFAKE		10 22 00.0 +14		
RUE				LR	LR			
	comp=Z,6μm,20.0s							
PKST	**T''s**	**116.89**	**50⇓**	*e*PKPdf	**PKPdf**	**10 21 47.3 +0.7**		
ILAR	**Eielson Array**	**116.96**	**332**	PKP	**PKPdf**	**10 21 46.0 -0.2**		
	comp=Z,2.2nm,0.8s,baz=163,slow=1.9,SNR=21							
ILAR				PP	**PP**	**10 22 56.1 -0.4**		
	comp=Z,3.9nm,1.1s,baz=120,slow=3.8,SNR=7.0							
ILAR				PKKPbc	**PKKPbc**	**10 32 11.4 -1.6**		
	comp=Z,0.5nm,0.8s,baz=288,slow=3.5,SNR=4.2							
ILB	**Eielson Array**	**116.96**	**332**	*e*PKPdf	**PKPdf**	**10 21 46.0 -0.2**		
ILB				*e*PP	**PP**	**10 22 56.1 -0.4**		
ILB				*e*PKKPbc	**PKKPbc**	**10 32 11.4 -1.6**		
UPC	**Upice**	**117.16**	**46**	*e*PKP	**PKPdf**	**10 21 47.7 +0.7**		
UPC	**Upice**	**117.16**	**46**	*e*PKIKP	**PKPdf**	**10 21 47.7 +0.7**		
PKSG		**117.16**	**50⇓**	*e*PKPdf	**PKPdf**	**10 21 47.5 +0.4**		
PKS2	**Kecel**	**117.26**	**51⇓**	*e*PKPdf	**PKPdf**	**10 21 48.6 +1.3**		
DPC	**Dobruska-Polom**	**117.27**	**46**	*e*PKP	**PKPdf**	**10 21 47.3 +0.1**		
DPC				*ep*PKP	**pPKPdf**	**10 22 00.0 -0.1**		
DPC				*e*PP	**PP**	**10 22 55.6 -3.5**		
DPC				AMS	AMS	11 11 20.0		
DPC	**Dobruska-Polom**	**117.27**	**46**	*e*PKIKP	**PKPdf**	**10 21 47.3 +0.1**		
DPC				*e*		10 22 00.0		
DPC	**Dobru

IM04	Indian Mountai	120.08	332	*e*PKPdf		**PKPdf**	**10 21 52.7**	**+0.6**	
HUMR	Humele	120.08	55	⇓ *i*P		**PKPdf**	**10 21 53.8**	**+1.0**	
PMG	Port Moresby	120.17	227	PFAKE			10 22 10.0	+16	
PMG				LR	LR				
	comp=Z,3μm,20.0s								
ARR	Arges	120.20	54	⇑ *i*P		**PKPdf**	**10 21 53.2**	**+0.1**	
JMB	Yambol	120.29	58	⇑ *i*P		**PKPdf**	**10 21 50.9**	**-2.3**	
JMB	Yambol	120.29	58	⇑PKIKP		**PKPdf**	**10 21 50.9**	**-2.3**	
DAMY	Dhamar	120.30	95	PFAKE			10 22 10.0	+16	
DAMY				LR	LR				
	comp=Z,2μm,18.0s								
MTUR	Matau	120.42	54	⇓ *i*P		**PKPdf**	**10 21 57.0**	**+3.5**	
MTUR	Matau	120.42	54	⇓PKIKP		**PKPdf**	**10 21 57.0**	**+3.5**	
VOIR		120.50	54	⇑ *i*P		**PKPdf**	**10 21 54.5**	**+0.8**	
VOIR		120.50	54	⇑PKIKP		**PKPdf**	**10 21 54.5**	**+0.8**	
KWP	Kalwaria Pacla	120.71	49	*e*PKP		**PKPdf**	**10 21 54.3**	**+0.5**	
KWP	Kalwaria Pacla	120.71	49	⇓ *i*P		**PKPdf**	**10 21 54.3**	**+0.5**	
KWP	Kalwaria Pacla	120.71	49	*e*PKIKP		**PKPdf**	**10 21 54.4**	**+0.6**	
KWP	Kalwaria Pacla	120.71	49	PFAKE			10 22 10.0	+16	
KWP				LR	LR				
	comp=Z,3μm,22.0s								
ISP	Isparta	121.06	64	PFAKE			10 22 10.0	+15	
ISP				LR	LR				
	comp=Z,4μm,20.0s								
MLR	Muntele Rosu	121.10	54	⇑ *i*P		**PKPdf**	**10 21 53.5**	**-1.4**	
MLR	Muntele Rosu	121.10	54	⇑PKIKP		**PKPdf**	**10 21 53.5**	**-1.4**	
BURAR	Bucovina Array	121.46	52	⇑ *i*P		**PKPdf**	**10 21 55.9**	**+0.4**	
BURAR	Bucovina Array	121.46	52	⇑PKIKP		**PKPdf**	**10 21 55.9**	**+0.4**	
LVV	L'vov	121.57	49	*e*PKIKP		**PKPdf**	**10 21 54.4**	**-1.1**	
PLOR	Plostina	121.69	54	⇓ *i*P		**PKPdf**	**10 21 55.6**	**-0.3**	
PLOR	Plostina	121.69	54	⇓PKIKP		**PKPdf**	**10 21 55.6**	**-0.3**	
VRI	Vrincioaia	121.75	54	⇓ *i*P		**PKPdf**	**10 21 55.3**	**-0.7**	
VRI	Vrincioaia	121.75	54	⇓PKIKP		**PKPdf**	**10 21 55.4**	**-0.6**	
MSAB	Monastry St. A	121.78	56	⇑ *i*P		**PKPdf**	**10 21 56.4**	**+0.4**	
CSS	Prodhromos	121.87	68	PFAKE			10 22 10.0	+13	
CSS				LR	LR				
	comp=Z,300nm,20.0s								
TESR	Tescani	121.95	53	⇑ *i*P		**PKPdf**	**10 21 56.3**	**0.0**	
TIRR	Tirgusor	122.31	56	⇓ *i*P		**PKPdf**	**10 21 56.2**	**-0.8**	
TIRR	Tirgusor	122.31	56	⇓PKIKP		**PKPdf**	**10 21 56.2**	**-0.8**	
CFR	Carcaliu	122.40	55	⇑ *i*P		**PKPdf**	**10 21 57.2**	**0.0**	
CFR	Carcaliu	122.40	55	⇑PKIKP		**PKPdf**	**10 21 57.2**	**0.0**	
SUW	Suwalki	122.59	44	*e*PKP		**PKPdf**	**10 21 57.2**	**-0.1**	
SUW	Suwalki	122.59	44	*e*PKIKP		**PKPdf**	**10 21 57.2**	**-0.1**	
SUW	Suwalki	122.59	44	PFAKE			10 22 10.0	+13	
SUW				LR	LR				
	comp=Z,5μm,21.0s								
TLCR		122.85	56	⇑ *i*P		**PKPdf**	**10 21 59.0**	**+1.0**	
TLCR		122.85	56	⇑PKIKP		**PKPdf**	**10 21 59.0**	**+1.0**	
TOTH	TOTAH	123.49	71	*e*P		**PKPdf**	**10 22 00.8**	**+1.0**	
KIS	Kishinev	123.51	54	*e*PKP		**PKPdf**	**10 21 59.0**	**-0.3**	
KIS	Kishinev	123.51	54	*e*PP		PP	10 23 36.0	-5.9	
KIS	Kishinev	123.51	54	*e*PKS			10 25 10.0		
KIS	Kishinev	123.51	54	*e*PS		PS	10 33 50.0	+11	
KIS				LRM		MLR	11 11 34.0		
	comp=Z,4μm,24.0s								
KIS	Kishinev	123.51	54	*e*PKIKP		**PKPdf**	**10 21 59.0**	**-0.3**	
KIS				*e*PPP		PPP	10 26 20.0		
ANTO	Ankara	123.52	63	⇑ *i*P		**PKPdf**	**10 22 00.2**	**+0.5**	
ANTO	Ankara	123.52	63	⇑PKIKP		**PKPdf**	**10 22 00.2**	**+0.5**	
ANTO	Ankara	123.52	63	P		**PKPdf**	**10 22 00.8**	**+1.1**	
	SNR=7.4								
ANTO	Ankara	123.52	63	PFAKE			10 22 10.0	+10	
ANTO				LR	LR				
	comp=Z,3μm,20.0s								
MARH	Ras Al Marh	123.82	71	*e*P		**PKPdf**	**10 22 01.7**	**+0.9**	
ZALF	Zalf	123.98	72	*e*P		**PKPdf**	**10 22 01.3**	**+0.6**	
BRTR	Keskin Array B	124.06	63	PKP		**PKPdf**	**10 22 01.4**	**+0.5**	
	comp=Z,11nm,0.8s,baz=194,slow=3.6,SNR=48								
BRTR	Keskin Array B	124.06	63	*c i*PKIKP		**PKPdf**	**10 22 01.3**	**+0.5**	
BRTR				pmax	pmax				
	comp=Z,12nm,0.9s								
BR101	Keskin Array S	124.07	63	*e*PKPdf		**PKPdf**	**10 22 01.4**	**+0.5**	
H11S2	WAKE ISLAND Hyl	124.97	267	T		T	12 39 06.0		
	baz=119								
H11S1	WAKE ISLAND Hyl	124.99	267	T		T	12 39 08.8		
	baz=119								
H11S3	WAKE ISLAND Hyl	124.99	267	T		T	12 39 07.3		
	baz=119								
KIEV	Kiev	124.99	49	*e*PKIKP		**PKPdf**	**10 22 01.1**	**-0.9**	
KIEV				*e*			10 23 49.2		
KIEV				MLR	MLR				
	comp=Z,2μm,19.0s								
KIEV	Kiev	124.99	49	*e*PKPdf		**PKPdf**	**10 22 01.1**	**-0.9**	
KIEV				*e*PP		**PP**	**10 23 49.1**	**-2.6**	
KIEV				LR	LR				
	comp=Z,2μm,19.0s								
AKASG	Malin Array Be	125.01	49	PKP		**PKPdf**	**10 22 01.8**	**-0.3**	
	comp=Z,10nm,0.9s,baz=265,slow=2.6,SNR=37								
AKASG				PP		**PP**	**10 23 49.1**	**-2.7**	
	comp=Z,8.5nm,1.0s,baz=256,slow=6.1,SNR=12								
AKBB	Malin Array Si	125.01	49	*e*PKIKP		**PKPdf**	**10 22 01.8**	**-0.2**	
AKBB				*e*			10 23 49.2		
AKBB	Malin Array Si	125.01	49	*e*PKPdf		**PKPdf**	**10 22 01.8**	**-0.2**	
AKBB				*e*PP		**PP**	**10 23 49.1**	**-2.7**	
MNK	Minsk	125.34	45	⇑*e*PKIKP		**PKPdf**	**10 22 01.0**	**-1.5**	
MNK				pmax	pmax				
	comp=Z,100nm,1.0s								
MNK				MLR	MLR				
	comp=Z,5μm,18.0s								
MICGM	Minsk	125.36	45	⇑*e*PKP		**PKPdf**	**10 22 01.0**	**-1.6**	
KBS	Kingsbay	125.49	14	PFAKE		LR	10 22 10.0	+7.8	
KBS				LR					
	comp=Z,2μm,22.0s								
VSU	Vasula	125.82	40	⇑ *i*PKIKP		**PKPdf**	**10 22 03.3**	**0.0**	
RAYN	Ar Rayn	125.99	86	*e*PKPdf		**PKPdf**	**10 22 05.3**	**+0.5**	
RAYN				*ep*PKPdf		**pPKPdf**	**10 22 17.8**	**+0.1**	
RAYN				LR	LR				
	comp=Z,3μm,19.0s								
SPA0	Spitsbergen Ar	126.20	15	*e*PKPdf		**PKPdf**	**10 22 03.7**	**+0.1**	
SPITS	Spitsbergen Ar	126.20	15	PKP		**PKPdf**	**10 22 03.7**	**+0.1**	
	comp=Z,14nm,1.0s,baz=260,slow=3.5,SNR=3.8								
FIA0	FINESS Array S	126.22	36	*e*PKIKP		**PKPdf**	**10 22 04.0**	**0.0**	
FIA0	FINESS Array S	126.22	36	*e*PKPdf		**PKPdf**	**10 22 04.0**	**0.0**	
FINES	FINESS Array B	126.22	36	PKP		**PKPdf**	**10 22 04.0**	**0.0**	
	comp=Z,12nm,1.0s,baz=129,slow=2.7,SNR=16								
FINES	FINESS Array B	126.22	36	PKIKP		**PKPdf**	**10 22 04.0**	**0.0**	
SIM	Simferopol'	126.28	57	*i* PKIKP		**PKPdf**	**10 22 04.2**	**-0.5**	
SIM				*e*			10 23 59.0		
SIM				*e*SS		SS	10 41 03.0	+1.7	
SIM				pmax	pmax				
	comp=Z,27nm,0.8s								
KSRV	Kasrt alli	126.46	70	*e*P		**PKPdf**	**10 22 05.3**	**0.0**	
KAF	Kangasniemi	126.47	35	*e*pkp		**PKPdf**	**10 22 02.8**	**-1.7**	
KAF	Kangasniemi	126.47	35	*e*PKIKP		**PKPdf**	**10 22 02.8**	**-1.7**	
MALT	Malatya	126.98	67	⇑ *i*P		**PKPdf**	**10 22 07.3**	**+0.9**	
MALT	Malatya	126.98	67	⇑PKIKP		**PKPdf**	**10 22 07.3**	**+0.9**	
ARA0	ARCESS Array S	127.44	26	*e*PKPdf		**PKPdf**	**10 22 06.1**	**-0.1**	
ARCES	ARCESS Array B	127.44	26	PKP		**PKPdf**	**10 22 06.1**	**-0.1**	
	comp=Z,7.2nm,0.9s,baz=302,slow=5.6,SNR=9.4								
MZRK	Al-Mazaregh	127.68	70	*e*P		**PKPdf**	**10 22 08.3**	**+0.6**	
KEV	Kevo	127.99	26	PFAKE			10 22 20.0	+13	
KEV				LR	LR				
	comp=Z,3μm,22.0s								
KBSD	Kabsdagh	128.04	69	*e*P		**PKPdf**	**10 22 08.4**	**+0.1**	
ANN	Anapa	128.47	59	*i* PKIKP		**PKPdf**	**10 22 07.7**	**-1.1**	
ANN				*e*			10 22 20.4		
ANN				*e*			10 24 12.4		
ANN				*e*PPP		PPP	10 27 07.0		
ANN				*e*			10 29 12.8		
ANN				*e*PS		**PS**	**10 34 26.3**	**+3.8**	
ANN				*e*SS		SS	10 41 47.7	+19	
ANN				pmax	pmax				
	comp=Z,113nm,1.9s								
JOF	Joensuu	128.90	35	*e*pkp		**PKPdf**	**10 22 08.0**	**-1.1**	
JOF	Joensuu	128.90	35	*e*PKIKP		**PKPdf**	**10 22 08.0**	**-1.1**	
COCO	West Island	129.67	167	PFAKE			10 22 20.0	+7.9	
COCO				LR	LR				
	comp=Z,2μm,20.0s								
SOC	Sochi	129.67	61	*c i*PKIKP		**PKPdf**	**10 22 11.9**	**+0.7**	
SOC				*e*PPP		PPP	10 27 08.1		
SOC				*e*			10 29 17.1		
SOC				*e*SS		SS	10 41 42.1	-1.3	
SOC				pmax	pmax				
	comp=Z,70nm,1.0s								
SOC				MLR	MLR				
	comp=Z,1μm,20.0s								
APA	Apatity	130.17	29	⇑ *i*PKIKP		PKPdf	10 22 18.6	+7.2	
APA				*i*			10 24 28.0		
APA				*i*			10 29 20.0		
APA				*i* PS		**PS**	**10 34 34.0**	**-2.7**	
SOEI	Soe	130.35	202	PFAKE			10 22 30.0	+16	
SOEI				LR	LR				
	comp=Z,4μm,22.0s								
OBN	Obninsk	130.40	45	PKP		**PKPdf**	**10 22 12.8**	**+0.6**	
	comp=Z,20nm,0.4s,baz=201,slow=2.0,SNR=12								
OBN	Obninsk	130.40	45	*i* PKIKP		**PKPdf**	**10 22 13.0**	**+0.9**	
OBN				*e*			10 22 24.9		
OBN				*e*			10 24 26.5		
OBN				pmax	pmax				
	comp=Z,110nm,1.7s								
OBN	Obninsk	130.40	45	PKP		**PKPdf**	**10 22 12.8**	**+0.6**	
OBN				LR	LR				
	comp=Z,4μm,20.0s								
LVZ	Lovozero	130.65	28	PFAKE			10 22 20.0	+7.6	
LVZ				LR	LR				
	comp=Z,2μm,21.0s								
MOS	Moscow	131.09	45	*e*PKIKP		**PKPdf**	**10 22 12.5**	**-0.9**	
MOS				*i*			10 22 26.9		
MOS				*e*			10 24 30.7		
MOS				pmax	pmax				
	comp=Z,81nm,1.6s								
VSR	Storozhevoye	131.21	51	*e*PKIKP		**PKPdf**	**10 22 13.5**	**-0.3**	
VSR				pmax	pmax				
	comp=N,2μm,2.1s								
VSR				pmax	pmax				
	comp=E,40nm,2.1s								
VSR				pmax	pmax				
	comp=Z,180nm,2.1s								
VSR				pmax	pmax				
	comp=N,4μm,3.1s								
VSR				pmax	pmax				
	comp=Z,270nm,3.1s								
VSR				pmax	pmax				
	comp=E,170nm,2.5s								
VORD	Divnogorie	131.24	51	*e*PKIKP		**PKPdf**	**10 22 14.1**	**+0.2**	
VORD				*e*			10 24 30.6		
VORD				pmax	pmax				
	comp=Z,20nm,1.1s								
VORD				pmax	pmax				
	comp=N,20nm,1.0s								
VORD				pmax	pmax				
	comp=E,40nm,0.9s								
VORD				pmax	pmax				
	comp=N,60nm,1.2s								
VORD				pmax	pmax				
	comp=E,130nm,1.2s								
VORD				pmax	pmax				
	comp=Z,20nm,1.2s								
AKH	Akhalkalaki	131.69	64	P		**PKPdf**	**10 22 16.6**	**+1.2**	
AKH				S		PP	10 24 29.5	-6.7	
KIV	Kislovodsk	131.84	61	*c i*PKIKP		**PKPdf**	**10 22 15.7**	**+0.3**	
KIV				pmax	pmax				
	comp=Z,82nm,1.7s								
KIV	Kislovodsk	131.84	61	⇓ *i*PKPdf		**PKPdf**	**10 22 16.1**	**+0.7**	
	SNR=7.2								
KIV	Kislovodsk	131.84	61	P		**PKPdf**	**10 22 16.1**	**+0.7**	
	SNR=13								
KIV	Kislovodsk	131.84	61	PFAKE			10 22 30.0	+15	
KIV				LR	LR				
	comp=Z,1μm,20.0s								
KBZ	Khabaz	131.92	61	PKP		**PKPdf**	**10 22 15.8**	**+0.4**	
	comp=Z,13nm,1.1s,baz=211,slow=2.3,SNR=20								
TMCR	Tamitsa	131.99	33	*e*PKIKP		**PKPdf**	**10 22 14.5**	**-0.4**	
TMCR				*e*			10 24 34.7		
TMCR				pmax	pmax				
	comp=Z,90nm,1.3s								
MMRI	Maumere	132.00	200	PFAKE			10 22 30.0	+13	
MMRI				LR	LR				
	comp=Z,2μm,21.0s								
ONI	Oni	132.00	63	P		**PKPdf**	**10 22 15.9**	**+0.2**	
ONI				S		**PP**	**10 24 39.7**	**+1.6**	
GNI	Garni	132.21	66	PKP		**PKPdf**	**10 22 16.8**	**+0.4**	
	comp=Z,3.9nm,0.5s,baz=107,slow=2.8,SNR=9.2								
GNI	Garni	132.21	66	*c i*PKIKP		**PKPdf**	**10 22 17.5**	**+1.2**	
GNI				pmax	pmax				
	comp=Z,59nm,1.7s								
GNI	Garni	132.21	66	P		**PKPdf**	**10 22 17.7**	**+1.3**	
	SNR=6.8								
GNI	Garni	132.21	66	PKP		**PKPdf**	**10 22 16.8**	**+0.4**	
GNI				LR	LR				
	comp=Z,2μm,20.0s								
NCK	Nalchik	132.35	62	*i* PKIKP		**PKPdf**	**10 22 17.4**	**+1.1**	
GOF	Gofitskoye	132.37	60	*e*PKIKP		**PKPdf**	**10 22 15.9**	**-0.3**	
ZEI	Tsey	132.37	63	*i* PKIKP		**PKPdf**	**10 22 16.5**	**-0.1**	
ZEI				pmax	pmax				
	comp=Z,19nm,1.2s								
IMRD	Marand	132.47	69	*e*P		**PKPdf**	**10 22 16.1**	**-0.8**	
KLMR	Klimovskoe	132.59	38	*c i*PKIKP		**PKPdf**	**10 22 16.2**	**+0.1**	
TBLG	Delisi	132.68	64	P		**PKPdf**	**10 22 18.1**	**+1.1**	
TBLG				S		**PP**	**10 24 39.7**	**-2.7**	
VRHR	Novokhopersk	132.71	51	*e*PKIKP		**PKPdf**	**10 22 17.8**	**+1.1**	
VRHR				*e*			10 24 40.4		
VRHR				pmax	pmax				
	comp=N,30nm,0.9s								
VRHR				pmax	pmax				
	comp=E,40nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,30nm,0.9s								
VRHR				pmax	pmax				
	comp=N,20nm,0.8s								
VRHR				pmax	pmax				
	comp=E,30nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VRHR				MLR	MLR				
	comp=N,820nm,29.0s								
VRHR				MLR	MLR				
	comp=E,3μm,29.0s								
VRHR				MLR	MLR				
	comp=Z,4μm,29.0s								
DGRG	David-gareji	133.05	65	P		**PKPdf**	**10 22 18.3**	**+0.6**	
DGRG				S		**PP**	**10 24 44.7**	**0.0**	
IHRS	Heris	133.34	70	*e*P		**PKPdf**	**10 22 16.3**	**-2.3**	
FAKI	Fak Fak	133.53	216	PFAKE			10 22 30.0	+11	
FAKI				LR	LR				
	comp=Z,1μm,22.0s								
JAGI	Jajag, Banyuwa	133.83	190	PFAKE			10 22 30.0	+10	
JAGI				LR	LR				
	comp=Z,1μm,20.0s								
IRAZ	Razeghan	134.56	74	*e*P		**PKPdf**	**10 22 18.6**	**-2.4**	
FAQ	Al Faqa, Dubai	134.61	91	⇑ *i*PKPdf		**PKPdf**	**10 22 21.4**	**+0.3**	
	SNR=6.4								
MAK	Makhachkala	134.98	64	*i* PKIKP		**PKPdf**	**10 22 21.5**	**+0.3**	
MAK				*e*			10 24 55.4		
MAK				*e*PPP		PPP	10 27 51.1		
MAK				*e*PS		**PS**	**10 35 16.5**	**-2.2**	
MAK				pmax	pmax				
	comp=Z,63nm,0.4s								
MAK				MLR	MLR				
	comp=Z,2μm,25.0s								
CISI	Cisompet, Garu	135.20	181	PFAKE			10 22 30.0	+7.3	
CISI				LR	LR				
	comp=Z,2μm,21.0s								
IZEF	Zefreh	135.51	79	*e*P		PKPdf	10 22 12.8	-10	
PRGR	Permogore	135.53	37	*e*PKIKP		**PKPdf**	**10 22 21.0**	**-0.6**	
PRGR				*e*			10 22 31.9		
PRGR				pmax	pmax				
	comp=Z,53nm,1.3s								
BILL	Bilibino	135.62	332	*i* PKIKP		**PKPdf**	**10 22 22.4**	**+0.8**	
BILL				pmax	pmax				
	comp=Z,31nm,1.7s								
KAPI	Kappang	136.12	198	*e*PKPdf		**PKPdf**	**10 22 23.3**	**-1.0**	
KAPI				LR	LR				
	comp=Z,1μm,20.0s								
IANJ	Anjilo	137.64	76	*e*P		**PKPdf**	**10 22 26.0**	**-0.8**	
MNAI	Manna	138.20	174	PFAKE			10 22 40.0	+12	
MNAI				LR	LR				
	comp=Z,3μm,20.0s								
TNTI	Ternate	138.98	212	PFAKE			10 22 40.0	+10	
TNTI				LR	LR				
	comp=Z,1μm,20.0s								
LUWI	Luwuk	139.03	204	PFAKE			10 22 40.0	+10	
LUWI				LR	LR				
	comp=Z,1μm,21.0s								
PMBI	Palembang	139.75	176	PFAKE			10 22 40.0	+9.0	
PMBI				LR	LR				
	comp=Z,1μm,20.0s								
ISHV	Shirvan	141.17	74	*e*P		PKPdf	10 22 26.0	-7.1	
ISFR	Sfrayin	141.27	75	*e*P		PKPdf	10 22 26.2	-7.2	
IDAH	Dahanechah	141.38	82	*e*P		PKPdf	10 22 28.0	-5.7	
PALK	Pallekele	141.54	135	PFAKE			10 22 50.0	+16	
PALK				LR	LR				
	comp=Z,2μm,20.0s								
GEYT	Alibeck	141.59	74	PKhKP		PKPpre	10 22 28.6		
	comp=Z,7.8nm,0.8s,baz=256,slow=6.0,SNR=8.2								
GEYT				PKP		**PKPdf**	**10 22 34.4**	**+0.8**	
	comp=Z,7.3nm,0.8s,baz=264,slow=3.0,SNR=9.2								
TOLI	Toli-Toli	141.69	202	PFAKE			10 22 50.0	+16	
TOLI				LR	LR				
	comp=Z,900nm,20.0s								
IAKL	Akhelmad	141.73	76	*e*P		PKPdf	10 22 28.4	-5.8	
PEA2	Petropavlovsk-	141.99	311	*e*PKPpre		PKPpre	10 22 27.9		
PEA2				*e*PKPdf		**PKPdf**	**10 22 33.4**	**-0.3**	
PETK	Petropavlovsk-	141.99	311	PKhKP		PKPpre	10 22 27.9		
	comp=Z,2.5nm,0.7s,baz=79,slow=3.1,SNR=15								
PETK				PKP		**PKPdf**	**10 22 33.4**	**-0.3**	
	comp=Z,5.7nm,0.8s,baz=106,slow=4.7,SNR=11								
BKNI	Bangkinang	142.61	170	PFAKE			10 22 50.0	+14	
BKNI				LR	LR				
	comp=Z,2μm,21.0s								
ARU	Arti	142.78	44	*i* PKHKP		PKPpre	10 22 31.6		
ARU							10 25 49.9		
ARU				MLR	MLR				
	comp=Z,5μm,23.0s								
ARU	Arti	142.78	44	*e*PKPpre		PKPpre	10 22 31.4		
ARU				LR	LR				
	comp=Z,3μm,20.0s								
AKTO	Aktyubinsk	143.02	53	PKP		PKPbc	10 22 34.5	+1.9	
	comp=Z,11nm,0.6s,baz=258,slow=3.3,SNR=29								
AKTO	Aktyubinsk	143.02	53	PKHKP		PKPpre	10 22 31.5		
AKTO				pmax	pmax				
	comp=Z,81nm,1.5s								
SVE	Sverdlovsk	143.83	42	⇑ *i*PKIKP		PKPbc	10 22 35.6	+0.9	
SVE				pmax	pmax				
	comp=Z,102nm,1.8s								
SVE				MLR	MLR				
	comp=Z,4μm,24.0s								
SVE				MLR	MLR				
	comp=E,3μm,24.0s								
TIXI	Tiksi	143.97	348	PFAKE			10 22 50.0	+13	
TIXI				LR	LR				
	comp=Z,1μm,22.0s								
KSM	Kuching	144.06	185	*e*PKPpre		PKPpre	10 22 36.4		
KSM				*ep*PKPdf		pPKPdf	10 22 48.1	-3.4	
KSM				LR	LR				
	comp=Z,2μm,20.0s								
AB31	Akbulak array	144.29	55	*i* PKIKP		PKPbc	10 22 37.1	+0.8	
AB31				pmax	pmax				
	comp=Z,116nm,1.0s								
MYKOM	Kota Tinggi	144.36	174	*e*PKPdf		PKPbc	10 22 37.9	+0.4	
MYKOM				LR	LR				
	comp=Z,3μm,21.0s								
PSI	Prapat	144.68	166	PKP		**PKPab**	**10 22 38.4**	**-0.2**	
	comp=Z,40nm,0.7s,baz=205,slow=3.6,SNR=16								
SBUM	Sibu	144.83	189	*e*PKPdf		PKPbc	10 22 39.4	+0.4	
SBUM				LR	LR				
	comp=Z,1μm,21.0s								
BHJ	Bhuj	144.95	103	*e*P		**PKPdf**	**10 22 40.3**	**+0.4**	
URV	Uravakonda	145.31	122	*e*PKPdf		**PKPbc**	**10 22 40.5**	**-0.1**	
POO	Poona	145.34	114	*e*P		**PKPbc**	**10 22 40.0**	**-0.6**	
POO				*e*P		**PKPdf**	**10 22 40.5**	**-0.2**	
MDRS	Chennai	145.86	128	*e*P		**PKPdf**	**10 22 42.0**	**+0.3**	
SKHT	Srikalahasti	146.03	127	*e*PKPab		**PKPbc**	**10 22 43.0**	**+0.3**	
LHMI	Lhok Sumawe	146.59	161	PFAKE			10 22 50.0	+4.5	
LHMI				LR	LR				
	comp=Z,2μm,21.0s								
IPM	Ipoh	146.69	169	PFAKE			10 23 00.0	+14	
IPM				LR	LR				
	comp=Z,2μm,18.0s								
CMBY	CAMPBELL BAY	147.39	155	*e*P		**PKPdf**	**10 22 43.5**	**-0.8**	
KULM	Kulim	147.43	168	⇑P		**PKPbc**	**10 22 46.8**	**0.0**	
KULM	Kulim	147.43	168	PFAKE			10 23 00.0	+11	
KULM				LR	LR				
	comp=Z,2μm,21.0s								
KKM	Kota Kinabalu	147.63	197	PFAKE			10 23 00.0	+10	
KKM				LR	LR				
	comp=Z,1μm,21.0s								
JASL	Jaisalmer	147.78	98	*e*P		**PKPdf**	**10 22 44.9**	**+0.3**	
NJS	Nagarjunasagar	147.83	123	*e*PKPdf		**PKPdf**	**10 22 44.5**	**-0.4**	
NJS				*e*PKPbc		**PKPbc**	**10 22 47.6**	**-0.2**	
HYB	Hyderabad	147.93	121	*i* PKP		**PKPdf**	**10 22 47.0**	**+1.9**	
HYB	Hyderabad	147.93	121	*e*P		**PKPdf**	**10 22 44.8**	**-0.3**	
HYBB	Hyderabad (bro	147.93	121	*e*PKPbc		**PKPbc**	**10 22 48.0**	**-0.2**	
KUR	Kuril'sk	148.71	297	*i* PKP2		**PKPab**	**10 22 52.3**	**-0.9**	
KUR				*i*			10 29 51.0		
KUR				*i* SS		SS	10 45 29.3	+2.0	
KBL	Kabul	149.20	84	*e*PKPdf		**PKPdf**	**10 22 47.5**	**+0.5**	
KBL				*e*PKPbc		**PKPbc**	**10 22 51.7**	**+0.4**	
RPR	Rampur	149.43	120	*e*PKPdf		**PKPdf**	**10 22 47.4**	**-0.1**	
RPR				*e*PKPbc		**PKPbc**	**10 22 51.8**	**-0.1**	
YUK	Yuzh-Kuril'sk	150.13	295	*i* PKIKP		**PKPd

AAK	**Ala-Archa**	**154.60**	**68**	*e*PKIKP	**PKPdf**	**10 22 55.8**	**+1.1**
AAK						10 23 04.7	
AAK						10 23 18.8	
AAK						10 26 54.9	
AAK				MLR	MLR		
	comp=Z,2μm,21.0s						
AAK	**Ala-Archa**	**154.60**	**68**	*e*PKPdf	**PKPdf**	**10 22 55.8**	**+1.1**
AAK				PKPbc	**PKPbc**	**10 23 04.7**	**+1.4**
AAK				PKPab	**PKPab**	**10 23 18.8**	**+0.7**
AAK				PP	**PP**	**10 26 54.9**	**+0.7**
AAK				LR	LR		
	comp=Z,2μm,21.0s						
DDI	**Dehra Dun**	**154.91**	**98**	*e*P	**PKPdf**	**10 22 56.3**	**+0.9**
CHBT	**CHBT**	**155.01**	**169**	P	PKPab	10 23 09.6	-10
	comp=Z,48nm,1.2s						
MJAR	**Matsushiro Arr**	**155.21**	**277**	PKP	**PKPdf**	**10 22 54.3**	**-1.2**
	comp=Z,2.1nm,1.0s,baz=240,slow=2.5,SNR=4.3						
MJAR				PKPbc	PKPbc	10 23 04.0	
	comp=Z,2.2nm,0.7s,baz=194,slow=2.6,SNR=4.5						
MJAR				PKPab	**PKPab**	**10 23 20.9**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=141,slow=3.2,SNR=5.3						
MAJO	**Matsushiro**	**155.21**	**277**	*e*PKIKP	**PKPdf**	**10 22 54.3**	**-1.3**
MAJO				*e*		10 23 04.0	
MAJO				*e*		10 23 20.9	
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s						
MAJO	**Matsushiro**	**155.21**	**277**	*e*PKPdf	**PKPdf**	**10 22 54.3**	**-1.3**
MAJO				*e*PKPbc	PKPbc	10 23 04.0	
MAJO				*e*PKPab	**PKPab**	**10 23 20.9**	**+0.2**
MAJO				LR	LR		
	comp=Z,2μm,21.0s						
MAT	**Matsushiro**	**155.21**	**277**	*e*PKP	PKPdf	10 23 02.3	+6.7
TKM2	**Tokmak 2**	**155.40**	**67**	*e*PKIKP	**PKPdf**	**10 22 55.8**	**-0.1**
TKM2				*e*		10 23 22.3	
TKM2				*e*		10 26 59.3	
TKM2				MLR	MLR		
	comp=Z,2μm,20.0s						
TKM2	**Tokmak 2**	**155.40**	**67**	*e*PKPdf	**PKPdf**	**10 22 55.8**	**-0.1**
TKM2				*e*PKPab	**PKPab**	**10 23 22.3**	**+0.7**
TKM2				*e*PP	**PP**	**10 26 59.3**	**+0.6**
TKM2				LR	LR		
	comp=Z,2μm,20.0s						
KSH	**Kashi**	**155.60**	**76**	PKP	**PKPdf**	**10 22 56.3**	**+0.2**
KSH				sPKP		10 23 10.8	
KSH				PKS	**PKSdf**	**10 26 29.1**	**-1.1**
KSH				PP	**PP**	**10 27 00.0**	**+0.1**
KSH				SKKS		10 33 43.9	
KSH				SS	**SS**	**10 46 38.0**	**-5.9**
KSH				PPMZ			
	comp=Z,520nm,6.4s						
KSH				LN			
	comp=Z,820nm,18.5s						
KSH				LE			
	comp=Z,2μm,20.3s						
KSH				LZ			
	comp=Z,2μm,23.0s						
KURBB	**Kurchatov Arra**	**155.78**	**48**	PKP	**PKPdf**	**10 22 56.1**	**+0.3**
	comp=Z,1.3nm,0.2s,baz=293,slow=2.0,SNR=25						
KURBB				PKPbc	PKPbc	10 23 06.2	
	comp=Z,14nm,1.0s,baz=295,slow=2.5,SNR=11						
KURBB				PKPab	**PKPab**	**10 23 23.7**	**+1.1**
	comp=Z,17nm,0.9s,baz=282,slow=5.0,SNR=15						
KURBB				PP	**PP**	**10 27 00.8**	**+0.7**
	comp=Z,7.9nm,0.9s,baz=282,slow=5.9,SNR=6.3						
KURK	**Kurchatov**	**155.80**	**48**	PKIKP	**PKPdf**	**10 22 55.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,51nm,1.5s						
KURK	**Kurchatov**	**155.80**	**48**	P	**PKPdf**	**10 22 56.8**	**+0.9**
	SNR=9.2						
KURK	**Kurchatov**	**155.80**	**48**	PKP	**PKPdf**	**10 22 56.1**	**+0.2**
KURK				PKPbc	PKPbc	10 23 06.2	
KURK				PKPab	**PKPab**	**10 23 23.7**	**+1.0**
KURK				PP	**PP**	**10 27 00.8**	**+0.6**
KURK				LR	LR		
	comp=Z,900nm,19.0s						
NVS	**Novosibirsk**	**156.20**	**35**	⇑*i*PKIKP	**PKPdf**	**10 22 55.8**	**-0.4**
NVS				*i*		10 23 22.3	
NVS				*i*		10 27 00.0	
NVS				pmax	pmax		
	comp=E,16nm,1.4s						
NVS				pmax	pmax		
	comp=Z,66nm,1.4s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,267nm,2.0s						
NVS				pmax	pmax		
	comp=N,23nm,1.4s						
NVS				pmax	pmax		
	comp=E,17nm,1.4s						
HABR	**Khabarovsk**	**156.92**	**307**	*ce*PKIKP	**PKPdf**	**10 22 57.0**	**-0.4**
HABR				*e*		10 23 07.4	
HABR				*e*		10 27 05.8	
HABR				*e*		10 30 00.6	
HABR				*e*PPP	PPP	10 30 40.2	
HABR				*e*SS	SS	10 46 57.0	+0.1
HABR				*e*SSS	SSS	10 52 57.9	
BOK	**Bokaro**	**157.27**	**121**	*e*P	**PKPdf**	**10 22 57.9**	**-0.8**
ZAA1	**Zalesovo Array**	**157.48**	**36**	*e*PKPdf	**PKPdf**	**10 22 57.8**	**-0.1**
ZAA1				*e*PKPab	**PKPab**	**10 23 30.9**	**+1.1**
ZALV	**Zalesovo Beam**	**157.48**	**36**	PKP	**PKPdf**	**10 22 57.8**	**-0.1**
	comp=E,25nm,1.0s,baz=280,slow=2.6,SNR=39						
ZALV				PKPab	**PKPab**	**10 23 30.9**	**+1.1**
	comp=E,34nm,0.9s,baz=298,slow=6.4,SNR=11						
DANN	**Dangsing**	**158.43**	**108**	*e*P	**PKPdf**	**10 22 59.9**	**-0.4**
PBKT	**Sadao Pong**	**158.48**	**164**	P	PKPdf	10 23 15.2	+15
	comp=E,19nm,1.7s						
KLR	**Kul'dur**	**158.68**	**311**	*e*PKIKP	**PKPdf**	**10 22 54.8**	**-4.7**
DMN	**Daman**	**159.04**	**112**	*e*P	**PKPdf**	**10 23 00.8**	**-0.2**
BOD	**Bodaibo**	**159.14**	**350**	*e*PKIKP	**PKPdf**	**10 22 56.3**	**-3.5**
BOD				*PP	**PKPab**	**10 23 36.1**	**-0.7**
BOD				*e*		10 27 13.8	
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BOD				pmax	pmax		
	comp=Z,52nm,1.3s						
PKIN	**Phulchoki**	**159.24**	**112**	*e*P	**PKPdf**	**10 23 00.7**	**-0.6**
PKI	**Pulchoki**	**159.25**	**112**	*e*P	**PKPdf**	**10 23 00.5**	**-0.8**
MK31	**Makanchi Array**	**159.44**	**55**	PKIKP	**PKPdf**	**10 23 00.1**	**-0.5**
MK31				pmax	pmax		
	comp=Z,46nm,1.1s						
MK32	**Makanchi Array**	**159.44**	**55**	*e*PKPdf	**PKPdf**	**10 23 00.9**	**+0.4**
MK32				*e*PKPab	**PKPab**	**10 23 39.0**	**+0.4**
MK32				*e*PP	**PP**	**10 27 18.5**	**-1.9**
MKAR	**Makanchi Array**	**159.44**	**55**	PKP	**PKPdf**	**10 23 00.9**	**+0.4**
	comp=Z,20nm,1.1s,baz=284,slow=6.1,SNR=15						
MKAR				PKPab	**PKPab**	**10 23 39.0**	**+0.4**
	comp=Z,16nm,0.9s,baz=278,slow=8.5,SNR=5.5						
MKAR				PP	**PP**	**10 27 18.5**	**-1.9**
	comp=Z,7.0nm,0.9s,baz=269,slow=8.5,SNR=5.1						
UTTA	**Uttaradit**	**159.52**	**162**	P	PKPdf	10 23 17.9	+16
	comp=Z,2.4nm,1.0s						
CM31	**Chiang Mai Arr**	**159.75**	**157**	*e*PKPdf	**PKPdf**	**10 23 01.6**	**-0.2**
CM31				*e*PKPab	**PKPab**	**10 23 40.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**159.75**	**157**	PKP	**PKPdf**	**10 23 01.6**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=230,slow=2.5,SNR=10						
CMAR				PKPab	**PKPab**	**10 23 40.4**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=218,slow=4.6,SNR=4.3						
RAMN	**Ramite**	**159.76**	**115**	*e*P	**PKPdf**	**10 23 01.8**	**0.0**
	comp=Z,135nm,1.6s						
GUN	**Gumba**	**159.78**	**112**	*e*P	**PKPdf**	**10 23 01.6**	**-0.4**
JIRN	**Jiri**	**159.87**	**113**	*e*P	**PKPdf**	**10 23 01.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**160.06**	**297**	PKP	**PKPdf**	**10 23 00.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=27,slow=0.9,SNR=3.2						
USRK				PKPab	**PKPab**	**10 23 41.8**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=68,slow=3.3,SNR=2.9						
CHTO	**Chiang Mai**	**160.08**	**157**	*e*PKIKP	**PKPdf**	**10 23 02.0**	**-0.1**
CHTO	**Chiang Mai**	**160.08**	**157**	*e*PKPdf	**PKPdf**	**10 23 02.0**	**-0.1**
CHTO				*e*pPKPab	**pPKPab**	**10 23 57.5**	**+3.1**
CMMT	**Chiang Mai**	**160.08**	**157**	P	PKPdf	10 23 18.1	+16
	comp=Z,18nm,1.2s						
TAPN	**Taplejung**	**160.79**	**116**	*e*P	**PKPdf**	**10 23 02.9**	**-0.1**
CMAI	**Chiengmai2**	**161.16**	**156**	P	PKPdf	10 23 20.0	+17
QIZ	**Qiongzhong**	**161.47**	**188**	PKP	**PKPdf**	**10 23 04.8**	**+1.2**
QIZ				PP	**PP**	**10 27 32.8**	**+2.6**
QIZ				SS	SS	10 47 47.3	+4.1
QIZ				LN			
	comp=Z,1μm,20.1s						
QIZ				LZ			
	comp=Z,2μm,21.5s						
MDJ	**Mudanjiang**	**161.64**	**300**	PKP	**PKPdf**	**10 23 03.8**	**+0.8**
SHL	**Shillong**	**162.43**	**128**	*e*P	**PKPdf**	**10 23 06.4**	**+1.8**
KSRS	**Korea Array**	**163.48**	**276**	PKP	**PKPdf**	**10 23 03.5**	**-1.5**
	comp=Z,2.6nm,1.0s,baz=118,slow=1.2,SNR=8.8						
KSRS				PKPab	**PKPab**	**10 23 58.1**	**+1.5**
	comp=Z,2.1nm,1.0s,baz=68,slow=3.2,SNR=2.9						
KS15	**Wonju Array Si**	**163.51**	**276**	*e*PKPdf	**PKPdf**	**10 23 03.5**	**-1.6**
KS15				*e*PKPab	**PKPab**	**10 23 58.1**	**+1.4**
KSAR	**Wonju Array Be**	**163.51**	**276**	PKIKP	**PKPdf**	**10 23 03.5**	**-1.6**
KSAR	**Wonju Array Be**	**163.51**	**276**	PKP	**PKPdf**	**10 23 03.5**	**-1.6**
KSAR				PKPab	**PKPab**	**10 23 58.1**	**+1.4**
WMQ	**Urumqi**	**163.97**	**61**	PKP	**PKPdf**	**10 23 05.6**	**+0.2**
WMQ				pPKP	**pPKPdf**	**10 23 16.0**	**-2.3**
WMQ				sPKP		10 23 20.5	
WMQ				PKPab	**PKPab**	**10 24 00.3**	**+1.7**
WMQ				PP	**PP**	**10 27 45.8**	**+1.0**
WMQ				SS	SS	10 48 09.6	-2.0
WMQ				PPMZ			
	comp=Z,1μm,6.2s						
WMQ				LN			
	comp=Z,2μm,18.2s						
WMQ				LE			
	comp=Z,2μm,22.3s						
WMQ				LZ			
	comp=Z,3μm,24.4s						
QZH	**Quanzhou**	**164.13**	**221**	PKP	**PKPdf**	**10 23 05.8**	**-0.2**
QZH				PPMZ			
	comp=Z,1μm,4.9s						
QZH				LZ			
	comp=Z,4μm,23.0s						
LSA	**Lhasa**	**164.61**	**116**	*e*PKIKP	**PKPdf**	**10 23 07.5**	**+0.5**
LSA				*e*		10 24 03.4	
LSA	**Lhasa**	**164.61**	**116**	*e*PKPdf	**PKPdf**	**10 23 07.5**	**+0.5**
LSA				*e*PKPab	**PKPab**	**10 24 03.4**	**+1.1**
CN2	**Changchun**	**164.73**	**300**	*e*PKP	PKPdf	10 22 59.1	-6.9
CN2				PPMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,400nm,22.0s						
CN2				LE			
	comp=Z,700nm,22.0s						
CN2				LZ			
	comp=Z,500nm,21.0s						
IRK	**Irkutsk**	**165.10**	**7**	*e*PKIKP	**PKPdf**	**10 23 05.0**	**-1.0**
IRK				*e*		10 24 02.7	
IRK				*e*		10 27 49.2	
IRK				pmax	pmax		
	comp=Z,36nm,2.1s						
MOY	**Mondy**	**165.16**	**15**	*e*PKIKP	**PKPdf**	**10 23 06.0**	**-0.2**
MOY				pmax	pmax		
	comp=Z,49nm,2.4s						
TLY	**Talaya**	**165.58**	**9**	PKPab	**PKPab**	**10 24 06.4**	**+1.1**
	comp=Z,13nm,1.0s,baz=339,slow=4.6,SNR=10						
TLY	**Talaya**	**165.58**	**9**	*e*PKIKP	PKPdf	10 23 20.5	+14
TLY				*e*		10 24 06.3	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TLY	**Talaya**	**165.58**	**9**	*e*PKPdf	**PKPdf**	**10 23 06.3**	**-0.2**
TLY				PKPab	**PKPab**	**10 24 06.4**	**+1.1**
SNY	**Shenyang**	**166.59**	**294**	⇑PKP	**PKPdf**	**10 23 02.8**	**-4.7**
SNY				SS	SS	10 48 37.9	-0.4
SNY				PPMZ			
	comp=Z,310nm,10.4s						
SNY				LE			
	comp=Z,1μm,22.2s						
SNY				LZ			
	comp=Z,2μm,24.9s						
SSE	**Sheshan**	**166.75**	**245**	*e*PKP	**PKPdf**	**10 23 10.0**	**+2.0**
SSE				PP	PP	10 28 04.8	+5.6
SSE				SKKS		10 34 45.8	
SSE				SS	**SS**	**10 48 41.1**	**+1.2**
SSE				PPMZ			
	comp=Z,430nm,9.8s						
SSE				LN			
	comp=Z,430nm,22.8s						
SSE				LE			
	comp=Z,1μm,22.7s						
SSE				LZ			
	comp=Z,2μm,21.6s						
ZAK	**Zakamensk**	**166.81**	**11**	*e*PKP2	**PKPab**	**10 24 09.8**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,21nm,1.2s						
KMI	**Kunming**	**167.14**	**162**	PKP	**PKPdf**	**10 23 07.5**	**-1.3**
KMI				pPKP	**pPKPdf**	**10 23 20.1**	**-1.6**
KMI				sPKP		10 23 25.3	
DL2	**Dalian**	**168.49**	**282**	PKP	**PKPdf**	**10 23 06.5**	**-2.5**
DL2				SS	SS	10 49 00.6	+2.8
DL2				PPMZ			
	comp=Z,260nm,8.2s						
DL2				LN			
	comp=Z,540nm,15.9s						
DL2				LE			
	comp=Z,660nm,15.4s						
DL2				LZ			
	comp=Z,1μm,19.5s						
NJ2	**Nanjing**	**168.94**	**244**	*e*PKP	**PKPdf**	**10 23 11.1**	**+1.6**
NJ2				pPKP	**pPKPdf**	**10 23 20.4**	**-2.0**
NJ2				sPKP		10 23 24.1	
NJ2				PKPab	**PKPab**	**10 24 22.0**	**+1.2**
NJ2				PP	**PP**	**10 28 14.5**	**+4.1**
NJ2				SKKS		10 34 53.5	
NJ2				SS	**SS**	**10 49 03.5**	**+1.7**
NJ2				PPMZ			
	comp=Z,910nm,11.4s						
NJ2				LN			
	comp=Z,3μm,30.6s						
NJ2				LE			
	comp=Z,2μm,29.4s						
NJ2				LZ			
	comp=Z,2μm,28.9s						
GYA	**Guiyang**	**169.01**	**178**	PKP	**PKPdf**	**10 23 10.3**	**+0.4**
GYA				sPKP		10 23 25.4	
GYA				PKPab	**PKPab**	**10 24 23.0**	**+1.9**
GYA				PKS	**PKSdf**	**10 26 41.8**	**-0.8**
GYA				PP	**PP**	**10 28 13.6**	**+4.0**
GYA				SKKS		10 34 55.3	
GYA				SS	**SS**	**10 49 01.8**	**+1.5**
GYA				PPMZ			
	comp=Z,190nm,8.0s						
GYA				LN			
	comp=Z,460nm,21.8s						
GYA				LE			
	comp=Z,390nm,22.2s						
GYA				LZ			
	comp=Z,420nm,21.4s						
ULN	**Ulaanbaatar**	**169.61**	**0**	P	**PKPdf**	**10 23 08.9**	**-0.7**
	SNR=11						
ULN	**Ulaanbaatar**	**169.61**	**0**	*e*PP	PP	10 28 12.5	-0.2
SONA0	**Songino Array**	**169.63**	**3**	*e*PKPdf	**PKPdf**	**10 23 08.9**	**-0.7**
SONA0				*e*PKPab	**PKPab**	**10 24 24.4**	**+1.1**
SONA0				*e*PP	**PP**	**10 28 11.6**	**-1.2**
SONM	**Songino Array**	**169.63**	**3**	PKP	**PKPdf**	**10 23 08.9**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=165,slow=0.6,SNR=15						
SONM				PKPab	**PKPab**	**10 24 24.4**	**+1.1**
	comp=Z,14nm,0.9s,baz=339,slow=4.1,SNR=19						
SONM				PP	**PP**	**10 28 11.6**	**-1.2**
	comp=Z,5.8nm,1.1s,baz=359,slow=3.3,SNR=3.5						
WHN	**Wuhan**	**170.85**	**223**	PKP	**PKPdf**	**10 23 10.8**	**+0.1**
WHN				PKPab	**PKPab**	**10 24 29.1**	**0.0**
WHN				PP	**PP**	**10 28 18.8**	**-0.6**
WHN				SKKS		10 34 59.4	
WHN				LN			
	comp=Z,7μm,25.6s						
WHN				LE			
	comp=Z,3μm,21.5s						
WHN				LZ			
	comp=Z,5μm,20.7s						
TIA	**Tai'an**	**171.88**	**264**	PKP	**PKPdf**	**10 23 11.1**	**+0.1**
TIA				pPKP	**pPKPdf**	**10 23 20.9**	**-3.0**
TIA				SS	SS	10 49 26.6	-4.9
TIA				PPMZ			
	comp=Z,1μm,6.9s						
TIA				LN			
	comp=Z,2μm,20.7s						
TIA				LE			
	comp=Z,2μm,22.9s						
TIA				LZ			
	comp=Z,3μm,23.5s						
BJI	**Beijing**	**172.47**	**293**	PKP	**PKPdf**	**10 23 10.3**	**-0.8**
BJI				PP	**PP**	**10 28 26.0**	**-2.1**
BJI				SS	SS	10 49 38.4	+1.6
BJI				LN			
	comp=Z,800nm,35.4s						
BJI				LE			
	comp=Z,540nm,22.8s						
BJI				LZ			
	comp=Z,2μm,30.7s						
CD2	**Chengdu**	**172.89**	**156**	PKP	**PKPdf**	**10 23 11.0**	**-0.7**
CD2				pPKP	**pPKPdf**	**10 23 23.5**	**-1.1**
CD2				PKS	**PKSdf**	**10 26 43.0**	**-1.0**
CD2				PP	**PP**	**10 28 33.4**	**+4.3**
CD2				SKS	**SKSdf**	**10 30 09.9**	**-1.8**
CD2				SKKS	**SKKSac**	**10 35 15.1**	**+2.1**
CD2				SS	**SS**	**10 49 41.0**	**+2.1**
CD2				PPMZ			
	comp=Z,730nm,8.4s						
CD2				LN			
	comp=Z,3μm,20.6s						
CD2				LE			
	comp=Z,2μm,22.5s						
CD2				LZ			
	comp=Z,2μm,21.1s						
GTA	**Gaotai**	**173.95**	**69**	⇑PKP	**PKPdf**	**10 23 12.3**	**+0.4**
GTA				pPKP	**pPKPdf**	**10 23 23.0**	**-1.9**
GTA				sPKP		10 23 26.9	
GTA				PKPab	**PKPab**	**10 24 43.5**	**+0.4**
GTA				PP	**PP**	**10 28 37.0**	**+1.4**
GTA				SKS	**SKSdf**	**10 30 10.0**	**-1.8**
GTA				SKKS	**SKKSac**	**10 35 16.5**	**-1.9**
GTA				SS	**SS**	**10 49 46.9**	**-4.7**
GTA				LN			
	comp=Z,2μm,23.3s						
GTA				LE			
	comp=Z,2μm,20.9s						
GTA				LZ			
	comp=Z,4μm,23.8s						
HHC	**Hu-ho-hao-te**	**175.17**	**316**	*e*PKP	**PKPdf**	**10 23 13.3**	**+1.1**
HHC				PKS	**PKSdf**	**10 26 44.0**	**-0.4**
HHC				PP	**PP**	**10 28 44.6**	**+3.8**
HHC				SKS	**SKSdf**	**10 30 11.0**	**-1.0**
HHC				SKKS	**SKKSac**	**10 35 25.5**	**+1.6**
HHC				SS	**SS**	**10 50 02.0**	**-0.1**
HHC				PPMZ			
	comp=Z,360nm,5.5s						
HHC				LN			
	comp=Z,880nm,24.1s						
HHC				LE			
	comp=Z,890nm,20.4s						
HHC				LZ			
	comp=Z,2μm,24.3s						
XAN	**Xi'an**	**176.27**	**204**	PKP	**PKPdf**	**10 23 12.1**	**-0.6**
XAN				pPKP	**pPKPdf**	**10 23 23.0**	**-2.6**
XAN				PP	PP	10 28 51.6	+6.2
XAN				SKKS		10 35 23.4	
XAN				LN			
	comp=Z,1μm,26.6s						
XAN				LZ			
	comp=Z,660nm,27.6s						
LZH	**Lanzhou**	**177.03**	**117**	*e*PKP	**PKPdf**	**10 23 14.0**	**+1.1**
LZH				pPKP	**pPKPdf**	**10 23 24.3**	**-1.5**
LZH				sPKP		10 23 29.3	
LZH				PP	**PP**	**10 28 53.1**	**+2.8**
LZH				SKKS		10 35 34.0	
LZH				SS	**SS**	**10 50 21.1**	**+0.2**
LZH				PPMZ			
	comp=Z,790nm,4.4s						

ISCJB ***23*** *10:14:14.4±0.4, 18°.01S±0°.04×69°.46W±0°.04, h111km±5km, mb4.7/74, Error ellipse: s-maj=7.4km s-min=5.4km az=26.3*

NEIC ***23*** *10:14:16.0, 18°.24S×69°.66W, h132km, mb4.8/47, After GUC.*

NEIC Felt [III] at Arica and Camina and [II] at Codpa and Cuya. Also felt [III] at Tacna, Peru.

GUC ***23*** *10:14:16.5±0.6, 18°.24S×69°.67W, h132km±5km, ML4.9*

IDC ***23*** *10:14:17.4±0.4, 18°.17S×69°.45W, h131km±3km, mb4.3/18, mb1 4.4/22, mb1mx4.3/32, mbtmp4.7/22, MS5.3/3, Ms1 5.3/3, ms1mx4.3/29, Error ellipse: s-maj=10.1km s-min=7.7km az=102.0*

BJI ***23*** *10:14:19.2, 18°.00S×69°.30W, h131km, mB5.1/1*

ISC 23 10:14:17.0±0.4, 18°.21S±0°.04×69°.48W±0°.06, h129km±3km, h129km:pP-P, n362, σ0°87/387, mb4.7/73, 107C-110D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.92**	**187**	⇓*i*P		**Pn**	**10 14 39.2**	**-0.3**
MNMC				*i*S		**Sn**	**10 14 56.3**	**-0.2**
MNMC				AML	AML		10 15 00.7	
	comp=E,51μm,0.2s							
PSGC	**Pisagua**	**1.50**	**204**	⇑*i*P		**Pn**	**10 14 44.2**	**-1.0**
PSGC				*i*S		**Sn**	**10 15 04.9**	**-1.8**
PSGC				AML	AML		10 15 06.1	
	comp=N,28μm,0.6s							
PB11	**IPOC Station P**	**1.55**	**186**	⇓*i*P		**Pn**	**10 14 45.5**	**-0.3**
PB11				*i*S		**Sn**	**10 15 07.6**	**-0.1**
PB11				AML	AML		10 15 09.4	
	comp=N,38μm,0.3s							
HMBC	**Humberstone**	**2.09**	**191**	⇑*i*P		**Pn**	**10 14 51.6**	**-0.6**
HMBC				*i*S		**Sn**	**10 15 17.1**	**-2.0**
HMBC				AML	AML		10 15 24.8	
	comp=E,6μm,0.6s							
LPAZ	**La Paz**	**2.31**	**34**	P		**Pn**	**10 14 56.6**	**+1.2**
	comp=E,146nm,0.3s,baz=214,slow=5.4,SNR=3130							
LPAZ				S		**Sn**	**10 15 25.8**	**+1.1**
	comp=E,31nm,0.3s,baz=68,slow=21,SNR=6.6							
PATCX	**Punta Patache**	**2.67**	**194**	⇑*i*P		**Pn**	**10 14 58.6**	**-0.9**
PATCX				AML	AML		10 15 41.5	
	comp=E,2μm,0.5s							
PB01	**IPOC Station P**	**2.81**	**180**	⇓*i*P		**Pn**	**10 15 01.5**	**+0.2**
PB01				AML	AML		10 15 38.5	
	comp=N,2μm,0.4s							
PB07	**IPOC Station P**	**3.52**	**186**	*e*P		**Pn**	**10 15 10.4**	**-0.2**
PB04	**IPOC Station P**	**4.03**	**180**	⇑*i*P		**Pn**	**10 15 18.1**	**+0.9**
LVC	**Limon Verde**	**4.41**	**173**	P		**Pn**	**10 15 23.6**	**+1.2**
	comp=N,875nm,0.3s,baz=357,slow=9.1,SNR=302							
LVC				S		**Sn**	**10 16 16.7**	**+3.4**
	comp=N,6μm,0.3s,baz=207,slow=22,SNR=12							
LVC	**Limon Verde**	**4.41**	**173**	*e*Pn		**Pn**	**10 15 23.8**	**+1.3**
LVC				*e*Sn		Sn	10 16 00.4	-13
SIV	**San Ignacio**	**8.34**	**76**	P		**Pn**	**10 16 13.4**	**-1.7**
	comp=N,9.8nm,0.3s,baz=255,slow=9.0,SNR=65							
SIV				S		**Sn**	**10 17 45.7**	**-2.1**
	comp=N,2.2nm,0.3s,baz=188,slow=22,SNR=6.6							
NNA	**Nana**	**9.42**	**310**	P		Pn	10 16 26.2	-3.6
	comp=N,4.7nm,0.3s,baz=130,slow=12,SNR=7.2							
NNA				S		Sn	10 18 04.3	-10
	comp=N,5.0nm,0.3s,baz=192,slow=16,SNR=3.5							
SAML	**Samuel**	**11.06**	**34**	*e*Pn		Pn	10 16 48.1	-3.5
CFAA	**Coronel Fontan**	**13.38**	**175**	P		**Pn**	**10 17 19.5**	**-2.4**
	comp=N,0.1nm,0.3s,baz=353,slow=12,SNR=18							
CFAA				S		Sn	10 19 42.5	-7.1
	comp=N,0.1nm,0.3s,baz=217,slow=18,SNR=6.1							
CPUP	**Villa Florida**	**13.84**	**128**	P		**Pn**	**10 17 27.3**	**-0.4**
	comp=N,0.2nm,0.3s,baz=272,slow=19,SNR=5.6							
PTGA	**Pitinga**	**19.73**	**29**	P		**P**	**10 18 34.9**	**-1.8**
	comp=N,13nm,0.3s,baz=324,slow=23,SNR=79							
OTAV	**Otavalo**	**20.35**	**333**	*e*P		**P**	**10 18 42.6**	**-1.3**
	comp=N,24nm,1.3s							
BDFB	**Brasília**	**20.69**	**86**	P		**P**	**10 18 47.0**	**-0.3**
	comp=N,42nm,0.7s,baz=254,slow=11,SNR=20						

733A **Divot King Ran** 54.84 328 ⇑P P 10 23 34.2 +0.2
baz=55
732A **Laxson Ranch,** 55.19 327 ⇓P P 10 23 36.9 +0.3
baz=55
TKL **Tuckaleechee C** 55.26 346 LR LR 10 51 41.6
comp=N,2µm,19.1s,slow=41
633A **Saathoff Ranch** 55.38 328 ⇑P P 10 23 38.1 +0.2
baz=56
435B **Jarrell** 55.71 331 ⇑P P 10 23 40.4 +0.2
baz=56
632A **Uvalde** 55.73 328 ⇑P P 10 23 40.4 0.0
baz=56
533A **Kerrville** 55.82 329 ⇑P P 10 23 41.2 +0.1
baz=56
336A **Riesel** 55.88 332 ⇑P P 10 23 41.6 +0.2
baz=56
237A **Washetta, Mont** 55.95 333 ⇓P P 10 23 42.2 +0.4
baz=56
631A **Perdido Creek** 56.06 327 ⇓P P 10 23 42.0 -0.7
baz=56,SNR=6.3
335A **Moody** 56.06 331 ⇑P P 10 23 42.9 +0.2
baz=56
434A **Burnet** 56.06 330 ⇑P P 10 23 42.3 -0.4
baz=56
532A **Rocksprings** 56.29 328 ⇑P P 10 23 44.3 -0.1
baz=56
433A **Art** 56.40 329 ⇓P P 10 23 44.5 -0.7
baz=57,SNR=5.8
137A **Heron Place, G** 56.44 333 ⇑P P 10 23 45.8 +0.5
baz=57
334A **Lometa** 56.48 330 ⇓P P 10 23 45.9 +0.2
baz=57
JCT **Junction City** 56.53 329 ⇑P P 10 23 46.4 +0.3
baz=57
531A **Rocksprings** 56.65 328 ⇓P P 10 23 46.8 -0.1
baz=57,SNR=6.2
WVT **Waverly** 56.77 342 *eP* P 10 23 46.0 -1.6
comp=N,9.7nm,0.7s
333A **Richland Sprin** 56.82 330 ⇑P P 10 23 48.1 -0.1
baz=57
432A **Menard** 56.85 329 ⇑P P 10 23 48.0 -0.3
baz=57,SNR=6.0
234A **Clairette** 56.99 331 ⇑P P 10 23 49.2 0.0
baz=57
530A **J-C Ranch, Com** 57.04 327 ⇓P P 10 23 49.6 -0.1
baz=57
431A **Sonora** 57.10 328 ⇑P P 10 23 49.9 -0.2
baz=57
332A **Millersview** 57.24 329 ⇓P P 10 23 50.7 -0.3
baz=57,SNR=7.8
233A **Rising Star** 57.36 330 ⇑P P 10 23 52.1 +0.2
baz=58
134A **White-Moore Ra** 57.44 331 ⇓P P 10 23 52.8 +0.4
baz=58
529A **Stev Forest Ra** 57.48 326 ⇓P P 10 23 52.8 0.0
baz=58
430A **Baggett Ranch,** 57.50 328 ⇑P P 10 23 52.5 -0.5
baz=58
331A **San Angelo** 57.51 329 ⇓P P 10 23 52.5 -0.5
baz=58
232A **Coleman** 57.61 330 ⇑P P 10 23 53.8 +0.2
baz=58
TXAR **Lajitas Array** 57.65 324 P P 10 23 53.9 -0.1
comp=N,1.6nm,1.0s,baz=140,slow=7.9,SNR=5.9
TXAR pP pP 10 24 24.1 -0.7
comp=N,2.0nm,1.0s,baz=137,slow=7.3,SNR=4.0
429A **Davenport Ranc** 57.71 327 ⇑P P 10 23 54.7 +0.2
baz=58
Z35A **Perchaven, San** 57.71 333 ⇓P P 10 23 54.7 +0.4
baz=58
PARMO **Parma** 57.84 341 *eP* P 10 23 55.2 +0.1
133A **Hamilton Ranch** 57.85 331 ⇓P P 10 23 55.7 +0.3
baz=58
330A **Mertzon** 57.97 328 ⇓P P 10 23 56.2 0.0
baz=58
X37A **Clayton** 58.00 335 ⇓P P 10 23 56.4 +0.1
baz=58
W38A **Poteau** 58.08 336 ⇓P P 10 23 57.1 +0.3
baz=58
PBMO **Poplar Bluff** 58.16 340 *eP* P 10 23 56.6 -0.8
comp=N,17nm,0.6s
ABTX **Abilene, Hawle** 58.21 330 ⇑P P 10 23 57.4 -0.4
baz=58,SNR=5.4
ABTX **Abilene, Hawle** 58.21 330 *eP* P 10 23 57.9 +0.1
comp=N,17nm,1.1s
ABTX epP pP 10 24 28.9 +0.3
Z33A **Whitaker Ranch** 58.35 331 ⇑P P 10 23 58.8 0.0
baz=58
329A **Wagon Wheel Ra** 58.44 327 ⇑P P 10 23 59.0 -0.5
baz=59,SNR=5.7
Y34A **Reagan Ranch,** 58.46 332 ⇓P P 10 23 59.0 -0.5
baz=59,SNR=5.8
X35A **Drake** 58.50 333 ⇓P P 10 23 59.3 -0.5
baz=59
131A **Roby** 58.61 330 ⇑P P 10 24 00.0 -0.6
baz=59
SIUC **Southern Illin** 58.65 342 *eP* P 10 24 00.2 -0.5
comp=N,50nm,0.8s
Z32A **Haskell** 58.70 331 ⇓P P 10 24 00.7 -0.5
baz=59
229A **Bryant Ranch,** 58.74 328 ⇑P P 10 24 00.7 -0.8
baz=59
130A **Snyder** 58.82 329 ⇓P P 10 24 01.5 -0.6
baz=59
W36A **Wetumka** 58.83 334 ⇓P P 10 24 01.3 -0.7
baz=59,SNR=5.0
Y33A **Hilltop Ranch,** 58.89 332 ⇓P P 10 24 01.8 -0.7
baz=59
Z31A **Sharp Cattle R** 59.02 330 ⇓P P 10 24 02.5 -0.9
baz=59
X34A **Smith Ranch, M** 59.04 333 ⇓P P 10 24 02.7 -0.9
baz=59
W35A **Tecumseh** 59.10 334 ⇑P P 10 24 03.2 -0.7
baz=59
228A **UT Block 9, Go** 59.26 327 ⇓P P 10 24 04.4 -0.7
baz=59
Y32A **R-V Farms, Ver** 59.26 331 ⇓P P 10 24 04.8 -0.3
baz=59
X33A **Lawton** 59.28 332 ⇓P P 10 24 04.6 -0.6
baz=60
129A **Stewart Farms,** 59.30 328 ⇓P P 10 24 04.9 -0.5
baz=60,SNR=5.7
TUL1 **Leonard** 59.32 335 ⇑P P 10 24 05.0 -0.3
baz=60
Z30A **Sanderson Ranc** 59.46 329 ⇓P P 10 24 06.1 -0.4
baz=60
X32A **Elmer** 59.53 332 ⇓P P 10 24 06.6 -0.4
baz=60
128A **Castleberry Fa** 59.60 328 ⇑P P 10 24 07.3 -0.2
baz=60
Y31A **Rekieta Farm,** 59.60 330 ⇑P P 10 24 07.3 -0.1
baz=60
V35A **Meyer Ranch, C** 59.61 334 ⇓P P 10 24 07.1 -0.3
baz=60
Z29A **Hungry Hill Ra** 59.73 329 ⇓P P 10 24 07.9 -0.5
baz=60
W33A **Caddo, Fort Co** 59.78 333 ⇑P P 10 24 08.8 +0.1
baz=60,SNR=5.5
V34A **Guthrie** 59.96 334 ⇓P P 10 24 09.3 -0.5
baz=60
V34A **Guthrie** 59.96 334 *eP* P 10 24 09.3 -0.5
comp=N,19nm,1.2s
X31A **McDonald Ranch** 60.03 331 ⇑P P 10 24 09.7 -0.6
baz=60,SNR=11
Z28A **Tucker Farm, M** 60.09 328 ⇓P P 10 24 10.1 -0.7
baz=60
W32A **Sentinel** 60.10 332 ⇑P P 10 24 10.7 -0.1
baz=60,SNR=7.1
Y29A **Porterfield Fa** 60.19 329 ⇑P P 10 24 10.7 -0.8
baz=60
GDL2 **Guadalupe Moun** 60.24 326 *eP* P 10 24 12.6 +0.6
GDL2 epP pP 10 24 47.2 +4.3
V33A **Lossen Ranch,** 60.27 333 ⇓P P 10 24 11.6 -0.4
baz=60
MNTX **Cornudas Mount** 60.41 325 ⇓P P 10 24 12.8 -0.2
baz=61
MNTX **Cornudas Mount** 60.41 325 *eP* P 10 24 12.3 -0.6
comp=N,6.4nm,1.2s
U34A **Anderson Ranch** 60.48 334 ⇓P P 10 24 13.4 0.0
baz=61
V32A **Arapaho** 60.52 333 ⇑P P 10 24 13.4 -0.3
baz=61
Y28A **McKinney Farm,** 60.52 329 ⇓P P 10 24 13.6 -0.1
baz=61
SFIN **Lafayette** 60.55 345 ⇑P P 10 24 12.0 -1.7
baz=61
MSTX **Muleshoe** 60.82 329 ⇑P P 10 24 15.5 -0.4
baz=61

MSTX **Muleshoe** 60.82 329 *eP* P 10 24 14.9 -0.9
comp=N,15nm,1.1s
MSTX epP pP 10 24 48.2 +1.4
S36A **Lake Cedric, C** 60.82 336 ⇑P P 10 24 15.6 -0.1
baz=61
S35A **Otter Creek Ra** 61.07 336 ⇓P P 10 24 17.1 -0.2
baz=61,SNR=6.1
R36A **Gordon, Harris** 61.32 337 ⇓P P 10 24 18.7 -0.2
baz=62
MDV **Middlebury** 62.00 357 *eP* P 10 24 23.2 -0.1
R33A **Olander Ranch,** 62.27 335 ⇓P P 10 24 25.1 -0.2
baz=62
121A **Cookes Peak, D** 62.37 324 ⇓P P 10 24 26.8 +0.5
baz=62
319A **Douglas** 62.38 322 ⇑P P 10 24 26.6 +0.3
baz=62
R32A **Long Quarter,** 62.66 334 ⇓P P 10 24 28.6 +0.6
baz=63
T29A **Hugoton** 62.71 332 ⇑P P 10 24 29.2 +0.8
baz=63
R31A **Burdett** 62.89 334 ⇓P P 10 24 30.7 +1.3
baz=63
R30A **Dighton** 63.20 333 ⇑P P 10 24 32.1 +0.5
baz=63
S28A **Manter** 63.34 332 ⇑P P 10 24 33.0 +0.4
baz=64
LAZ **Lazon** 63.42 326 *eP* P 10 24 34.3 +1.0
Q31A **Ellis** 63.44 334 ⇓P P 10 24 33.7 +0.6
baz=64
ANMO **Albuquerque** 63.47 326 *eP* P 10 24 34.1 +0.5
comp=N,52nm,2.6s
Q30A **Quinter** 63.76 334 ⇓P P 10 24 36.1 +0.9
baz=64
JFWS **Jewell Farm** 63.76 343 *eP* P 10 24 33.6 -1.4
comp=N,9.9nm,0.8s
Q29A **Oakley** 64.01 333 ⇓P P 10 24 36.9 0.0
baz=64
P29A **Atwood** 64.58 333 ⇓P P 10 24 41.3 +0.7
baz=65
R26A **Arlington** 64.63 331 ⇓P P 10 24 41.9 +0.9
baz=65
O30A **MW Ranch, Wils** 64.70 334 ⇓P P 10 24 41.7 +0.4
baz=65
214A **Organ Pipe Nat** 64.91 320 ⇑P P 10 24 43.5 +0.7
baz=65
BGNE **Belgrade** 65.00 337 ⇑P P 10 24 43.4 +0.2
baz=65
BGNE **Belgrade** 65.00 337 *eP* P 10 24 42.0 -1.2
comp=N,33nm,0.8s
SDCO **Great Sand Dun** 65.16 329 ⇑P P 10 24 45.1 +0.4
baz=65
SDCO **Great Sand Dun** 65.16 329 *eP* P 10 24 45.5 +0.8
comp=N,6.8nm,1.1s
S22A **4UR Ranch, Cre** 65.82 328 ⇑P P 10 24 49.3 +0.4
baz=66
S22A **4UR Ranch, Cre** 65.82 328 *eP* P 10 24 49.6 +0.7
comp=N,3.3nm,1.0s
X16A **Lo Mia Camp, P** 65.83 323 ⇓P P 10 24 49.4 +0.5
baz=66
L31A **Butterfield Fa** 65.92 336 ⇓P P 10 24 49.8 +0.7
baz=66
Q24A **Divide** 65.96 330 ⇓P P 10 24 50.3 +0.5
baz=66
MVCO **Mesa Verde** 66.26 327 ⇓P P 10 24 51.9 +0.2
baz=66
MVCO **Mesa Verde** 66.26 327 *eP* P 10 24 52.1 +0.4
comp=N,14nm,1.4s
COWI **Conover** 66.44 345 *eP* P 10 24 52.1 -0.2
comp=N,4.0nm,0.8s
ECSD **EROS Data Cent** 66.47 339 ⇑P P 10 24 52.7 +0.1
baz=67
ECSD **EROS Data Cent** 66.47 339 *eP* P 10 24 52.4 -0.3
comp=N,17nm,1.2s
ECSD epP pP 10 25 24.6 +0.5
WUAZ **Wupatki** 66.58 324 ⇑P P 10 24 53.9 +0.3
baz=67
WUAZ **Wupatki** 66.58 324 *eP* P 10 24 54.5 +0.8
comp=N,12nm,1.3s
SPMN **Marine on St.** 66.61 342 ⇓P P 10 24 53.5 +0.1
baz=67
SPMN **Marine on St.** 66.61 342 *eP* P 10 24 52.8 -0.5
comp=N,16nm,1.1s
K30A **Basset** 66.64 336 ⇓P P 10 24 54.3 +0.5
baz=67
ISCO **Idaho Springs** 66.84 330 ⇑P P 10 24 56.3 +0.9
baz=67
ISCO **Idaho Springs** 66.84 330 *eP* P 10 24 55.8 +0.4
comp=N,6.0nm,1.1s
O24A **Longmont** 66.84 331 ⇓P P 10 24 56.2 +1.0
baz=67
K29A **Lazy Trails An** 66.99 336 ⇑P P 10 24 56.7 +0.8
baz=67
SMCO **Snowmass** 67.00 329 *eP* P 10 24 57.6 +1.1
comp=N,44nm,2.5s
M26A **McRoberts Ranc** 67.07 333 ⇑P P 10 24 57.4 +0.8
baz=67
J30A **Dallas** 67.15 337 ⇑P P 10 24 57.9 +0.9
baz=67
Y12C **Blythe** 67.18 320 ⇓P P 10 24 58.3 +1.0
baz=67
P22A **Eagle** 67.22 329 ⇑P P 10 24 58.2 +0.5
baz=67
O23A **Lake Granby, G** 67.31 330 ⇓P P 10 24 58.7 +0.4
baz=68
J29A **Okreek** 67.54 336 ⇓P P 10 24 59.8 +0.4
baz=68
O22A **Kremmling** 67.56 330 ⇓P P 10 25 00.3 +0.3
baz=68
BC3 **Big Chuckawall** 67.69 320 ⇑P P 10 25 01.2 +0.6
baz=68
K27A **Fleckinger Fa** 67.71 334 ⇓P P 10 25 01.4 +0.8
baz=68
W13A **Hualapai Mount** 67.73 322 ⇓P P 10 25 01.7 +0.7
baz=68
U15A **North Rim** 67.75 324 ⇑P P 10 25 02.3 +1.1
baz=68,SNR=5.4
M24A **Cheyenne** 67.81 332 ⇑P P 10 25 01.9 +0.6
baz=68
IRM **Iron Mountain** 67.84 320 ⇓P P 10 25 02.6 +1.1
baz=68,SNR=5.8
J28A **Allard Ranch,** 67.91 336 ⇓P P 10 25 02.4 +0.6
baz=68
L25A **Engebretsen Ra** 67.98 333 ⇑P P 10 25 02.5 +0.2
baz=68
N22A **Wattenberg Ran** 68.02 331 ⇑P P 10 25 02.7 0.0
baz=68
LIC **Lamto** 68.03 75 *eP* P 10 25 03.2 +0.1
baz=242
LIC **Lamto** 68.03 75 *eP* P 10 25 03.1 0.0
comp=N,66nm,1.2s
LIC **Lamto** 68.03 75 *eP* P 10 25 03.2 +0.1
I29A **Vivian Onida** 68.06 337 ⇓P P 10 25 02.5 -0.1
baz=68
J27A **Elkhorn Farm,** 68.07 335 ⇑P P 10 25 03.3 +0.5
baz=68
TIC **Toumodi** 68.20 75 *eP* P 10 25 04.8 +0.7
comp=N,5.8nm,0.2s
M23A **Laramie** 68.21 331 ⇓P P 10 25 04.0 +0.2
baz=68
BELC **Belle Mtn. Jos** 68.26 320 ⇑P P 10 25 05.6 +1.4
baz=68
PFO **Pinyon Flats O** 68.28 319 ⇑P P 10 25 05.5 +1.2
baz=68
KIC **Kosan Boka** 68.35 75 *eP* P 10 25 04.5 -0.5
comp=N,85nm,0.9s
DBIC **Dimbokro** 68.36 75 P P 10 25 04.7 -0.4
comp=N,32nm,0.8s,baz=232,slow=7.0,SNR=37
DBIC **Dimbokro** P 10 25 05.0 -0.1
LDFC **Landfair** 68.44 321 *eP* P 10 25 06.8 +1.5
comp=N,12nm,1.0s
J26A **Sides Ranch, S** 68.56 334 ⇑P P 10 25 06.8 +1.0
baz=69
GMRC **Granite Mounta** 68.57 320 ⇓P P 10 25 07.2 +1.1
baz=69,SNR=5.5
MURC **Murrieta** 68.74 319 ⇓P P 10 25 08.1 +1.0
baz=69
EYMN **Ely** 68.75 344 *eP* P 10 25 05.6 -1.2
comp=N,7.1nm,1.0s
I27A **Quinn** 68.77 335 ⇓P P 10 25 08.0 +0.9
baz=69
N20A **Spence Gulch,** 68.91 329 ⇑P P 10 25 08.6 +0.4
baz=69
TUQ **Turquoise Moun** 69.17 321 ⇓P P 10 25 10.9 +1.0
baz=69
I25A **Rochford** 69.41 334 ⇓P P 10 25 12.1 +0.8
baz=70,SNR=7.6
BFSC **Mount Baldy Ra** 69.45 319 ⇓P P 10 25 12.2 +0.6
baz=70

SHPR **Sheep Range** 69.45 322 *eP* P 10 25 12.8 +1.2
GSC **Goldstone, Bar** 69.62 320 ⇑P P 10 25 13.8 +1.2
baz=70
SHOC **Shoshone, Teco** 69.70 321 ⇓P P 10 25 13.5 +0.5
baz=70
G27A **Dupree** 69.82 336 ⇓P P 10 25 14.1 +0.5
baz=70
K21A **Alcova** 69.83 331 ⇑P P 10 25 14.3 +0.4
baz=70,SNR=6.6
G26A **Maurine** 70.01 336 ⇑P P 10 25 15.1 +0.4
baz=70
EDW2 **Edwards Air Fo** 70.07 319 ⇓P P 10 25 16.3 +1.0
baz=70
J22A **Midwest** 70.10 332 ⇓P P 10 25 15.8 +0.4
baz=70
D30A **Buchanan** 70.16 339 ⇑P P 10 25 15.8 +0.3
baz=70
F27A **Lemmon** 70.27 336 ⇑P P 10 25 16.9 +0.7
baz=70
LRMC **Laurel Mtn Rad** 70.28 320 ⇓P P 10 25 17.5 +0.9
baz=70
AGMN **Agassiz Nation** 70.28 342 ⇑P P 10 25 17.1 +0.9
baz=70
AGMN **Agassiz Nation** 70.28 342 *eP* P 10 25 15.9 -0.3
comp=N,5.7nm,0.8s
AGMN epP pP 10 25 48.1 +0.1
AGMN esP sP 10 26 00.7 -1.2
H24A **Dirks Ranch, A** 70.34 334 ⇑P P 10 25 17.2 +0.5
baz=71
TPNV **Topopah Spring** 70.39 322 ⇓P P 10 25 18.2 +0.9
baz=70,SNR=6.7
TPNV **Topopah Spring** 70.39 322 *eP* P 10 25 19.2 +1.9
comp=N,8.9nm,1.0s
J21A **Lysite** 70.48 332 ⇑P P 10 25 17.9 +0.2
baz=71
I22A **9 Mile Ranch,** 70.48 333 ⇓P P 10 25 18.2 +0.5
baz=71
F26A **Lodgepole** 70.50 336 ⇓P P 10 25 17.7 0.0
baz=71
MPMC **Manual Prospec** 70.54 320 ⇓P P 10 25 18.0 -0.3
baz=71
E27A **Carson** 70.57 337 ⇑P P 10 25 19.2 +1.2
baz=71
C30A **Mose, Pekin** 70.58 340 ⇑P P 10 25 18.1 +0.1
baz=71
DUG **Dugway, Tooele** 70.74 326 ⇑P P 10 25 20.2 +0.8
baz=71
DAC **Darwin (Calif)** 70.74 320 *eP* P 10 25 20.7 +1.1
comp=N,4.5nm,0.9s
G24A **Alzada** 70.76 335 ⇑P P 10 25 19.8 +0.5
baz=71
J20A **Shoshoni** 70.77 331 ⇓P P 10 25 19.7 +0.3
baz=71
I21A **Big Trails, Te** 70.77 332 ⇓P P 10 25 19.7 +0.2
baz=71
F25A **Bowman** 70.87 336 ⇓P P 10 25 20.4 +0.5
baz=71
ISA **Isabella, Lake** 70.88 319 ⇓P P 10 25 21.1 +0.8
baz=71
ISA **Isabella, Lake** 70.88 319 *eP* P 10 25 22.1 +1.9
comp=N,7.4nm,1.0s
R11A **Troy Canyon, C** 70.96 323 ⇓P P 10 25 21.8 +1.0
baz=71
H22A **Clearmont** 70.98 333 ⇓P P 10 25 20.7 +0.1
baz=71
PDAR **Pinedale Array** 71.01 330 P P 10 25 21.1 0.0
comp=N,1.4nm,1.0s,baz=152,slow=6.7,SNR=5.7
PDAR pP pP 10 25 52.9 0.0
comp=N,0.8nm,0.8s,baz=142,slow=7.7,SNR=2.5
G23A **Biddle** 71.06 334 ⇓P P 10 25 21.2 +0.1
baz=71
MDND **Maddock** 71.09 339 ⇓P P 10 25 21.8 +0.7
baz=71
MDND **Maddock** 71.09 339 *eP* P 10 25 21.3 +0.2
comp=N,99nm,0.9s
MDND epP pP 10 25 52.5 -0.4
MDND esP sP 10 26 06.8 -0.1
HWUT **Hardware Ranch** 71.12 328 *eP* P 10 25 20.9 -0.8
comp=N,1.8nm,0.7s
J19A **Crowheart** 71.15 331 ⇓P P 10 25 21.8 0.0
baz=71
B30A **Myrvik Farm, E** 71.19 340 ⇓P P 10 25 21.8 +0.1
baz=71
F24A **Ekalaka** 71.20 335 ⇑P P 10 25 22.1 +0.2
baz=71
VES **Vestal, Richgr** 71.37 319 ⇑P P 10 25 23.6 +0.6
baz=72
F23A **Volborg** 71.49 334 ⇑P P 10 25 24.4 +0.7
baz=72
B29A **Wagenman Farm,** 71.54 340 ⇑P P 10 25 24.4 +0.6
baz=72
H20A **Greybull** 71.62 332 ⇓P P 10 25 24.3 -0.2
baz=72
TPH **Tonopah** 71.72 322 *eP* P 10 25 27.1 +1.7
comp=N,5.0nm,1.0s
E24A **Baker** 71.73 335 ⇑P P 10 25 25.9 +0.9
baz=72
RCTC **Rector, Farmer** 71.77 320 ⇓P P 10 25 26.1 +0.7
baz=72
F22A **Rosebud** 71.89 334 ⇓P P 10 25 26.0 0.0
baz=72
A29A **Manning Farm,** 71.89 340 ⇓P P 10 25 25.9 0.0
baz=72
C26A **Wahner Farm, P** 71.94 338 ⇑P P 10 25 26.4 +0.2
baz=72
ULM **Lac du Bonnet** 72.04 343 P P 10 25 25.8 -0.9
comp=N,5.0nm,0.7s,baz=151,slow=5.9,SNR=14
ULM pP pP 10 25 58.2 -0.4
comp=N,5.9nm,0.5s,baz=159,slow=5.8,SNR=5.3
ULM **Lac du Bonnet** 72.04 343 *eP* P 10 25 26.1 -0.6
ULM epP pP 10 25 58.2 -0.4
E23A **Ismay** 72.08 335 ⇑P P 10 25 27.3 +0.2
baz=72
FXWY **Fox Creek** 72.37 330 *eP* P 10 25 30.0 +0.8
comp=N,4.0nm,0.5s
H18A **Shoshone NF, C** 72.52 331 ⇑P P 10 25 30.5 +0.5
baz=73
FLWY **Flagg Ranch** 72.55 330 *eP* P 10 25 31.6 +1.4
comp=N,113nm,2.8s
D23A **Lindsay** 72.58 335 ⇑P P 10 25 31.1 +1.0
baz=73
NVAR **Mina Array Bea** 72.59 322 P P 10 25 31.3 +0.8
comp=N,2.8nm,0.9s,baz=140,slow=6.3,SNR=10.0
NVAR pP pP 10 26 02.9 +0.3
comp=N,1.5nm,0.8s,baz=140,slow=7.2,SNR=3.2
F20A **Billings** 72.71 333 ⇑P P 10 25 31.7 +0.7
baz=73
LKWY **Lake** 72.77 331 *eP* P 10 25 31.6 0.0
comp=N,3.9nm,0.8s
SCHQ **Schefferville** 72.79 2 P P 10 25 30.5 -0.5
comp=N,5.3nm,0.8s,baz=223,slow=3.9,SNR=8.9
SCHQ **Schefferville** 72.79 2 *eP* P 10 25 30.8 -0.3
E21A **Keefer Ranch,** 72.84 334 ⇑P P 10 25 32.5 +0.9
baz=73
D22A **Cohagen** 72.96 335 ⇑P P 10 25 33.2 +0.9
baz=73
D21A **La Casta Ranch** 73.22 334 ⇓P P 10 25 34.8 +0.9
baz=73,SNR=5.3
E20A **Meyer Farm, Mu** 73.25 333 ⇑P P 10 25 34.6 +0.5
baz=74
C22A **Vida** 73.32 335 ⇓P P 10 25 35.1 +0.7
baz=74
E19A **Rath Farm, Rou** 73.50 333 ⇓P P 10 25 36.2 +0.6
baz=74,SNR=6.7
B23A **Brockton** 73.55 336 ⇑P P 10 25 36.3 +0.5
baz=74
A24A **Westby** 73.56 337 ⇓P P 10 25 36.5 +0.7
baz=74
D20A **Manuel Ranch,** 73.72 334 ⇑P P 10 25 37.4 +0.6
baz=74
C21A **Desert Coulee** 73.87 335 ⇑P P 10 25 38.3 +0.6
baz=74
HLID **Hailey** 73.99 328 ⇓P P 10 25 39.8 +1.2
baz=74,SNR=5.7
HLID **Hailey** 73.99 328 *eP* P 10 25 39.4 +0.8
comp=N,3.9nm,0.9s
A22A **Carney Farms,** 74.34 336 ⇑P P 10 25 41.2 +0.9
baz=75
MFID **Camas Ranch** 74.61 327 *eP* P 10 25 43.5 +1.4
A20A **Cobblestone Ra** 75.04 335 ⇓P P 10 25 45.4 +1.0
baz=75
A19A **Klindworth Far** 75.42 334 ⇑P P 10 25 47.3 +0.7
baz=76
MOD **Modoc Plateau** 76.02 323 *eP* P 10 25 51.4 +1.1
comp=N,15nm,1.4s
MSO **Missoula** 76.12 330 ⇑P P 10 25 51.7 +1.0
baz=76
TORD **Torodi Ar. Bea** 76.79 71 P P 10 25 54.3 -0.7

comp=N,22nm,0.6s,baz=254,slow=5.3,SNR=76
TORD pP **pP** 10 26 27.5 +0.2
comp=N,6.9nm,0.9s,baz=248,slow=5.3,SNR=2.2
M04C Macdoel 76.83 323 ⇑P **P** 10 25 54.8 0.0
baz=77
K05A Summer Lake 76.89 324 *e*P **P** 10 25 57.6 +2.4
comp=N,35nm,1.4s
I07A Izee 77.01 325 *e*P **P** 10 25 57.6 +1.8
F10A Beach Ranch, E 77.11 328 *e*P **P** 10 25 59.1 +2.8
M02C Callahan 77.17 322 ⇑P **P** 10 25 57.4 +0.7
baz=77
J05D Fort Rock, OR 77.44 324 ⇑P **P** 10 25 58.7 +0.5
baz=78
I05D Terrebonne, OR 78.18 325 ⇑P **P** 10 26 03.3 +1.1
baz=78
I04A Tendick Farm, 78.42 324 ⇑P **P** 10 26 04.1 +0.6
baz=79
G05D Wamic, OR 78.75 326 ⇓P **P** 10 26 05.8 +0.5
baz=79
C09A Chrisman Ranch 78.89 329 *e*P **P** 10 26 07.1 +1.2
MORF Marmelete 79.52 45 *e*P **P** 10 26 11.4 +1.8
comp=N,53nm,1.2s
LTY Liberty 79.73 327 *e*P **P** 10 26 12.0 +1.4
SYO Syowa Base 79.75 160⇓*e*P **P** 10 26 09.9 -0.4
SYO Syowa Base 79.75 160⇓*e*PcP **PcP** 10 26 18.2 +0.6
F04A Amboy 79.79 326 *e*P **P** 10 26 12.2 +1.4
VNDA Vanda 79.98 190 P **P** 10 26 10.0 -1.5
comp=N,2.2nm,0.7s,baz=80,slow=17,SNR=13
PCVE Castro Verde 80.10 45 *e*P **P** 10 26 12.4 -0.3
comp=N,8.9nm,1.8s
PVAQ Vaqueiros 80.20 45 *e*PcP **PcP** 10 26 19.3 -0.8
PVAQ A A 10 26 39.6
comp=N,29nm,1.4s
D05A Enumclaw 80.36 327 *e*P **P** 10 26 15.2 +1.3
comp=N,14nm,0.9s
PMTG Montargil 80.75 44 *e*P **P** 10 26 16.9 +0.8
comp=N,17nm,1.7s
PBAR Barrancos 81.06 45 *e*P **P** 10 26 18.3 +0.5
comp=N,30nm,1.6s
A05A Maple Falls 81.58 328 *e*P **P** 10 26 21.3 +1.0
comp=N,22nm,1.1s
PCBR Castelo Branco 81.64 43 *e*P **P** 10 26 22.2 +1.4
MTE Manteigas 81.90 43 *e*P **P** 10 26 22.8 +0.5
comp=N,17nm,1.7s
PGAV Gavieira, Arco 82.28 41 *e*P **P** 10 26 23.0 -1.2
comp=N,21nm,2.0s
PCAB Cabril 82.29 42 *e*P **P** 10 26 25.0 +0.8
comp=N,25nm,2.1s
MVO Moncorvo 82.64 42 *e*P **P** 10 26 28.2 +2.1
comp=N,17nm,1.9s
PBRG Braganca 83.16 42 *e*P **P** 10 26 29.6 +0.9
comp=N,18nm,1.8s
PAB San Pablo 83.57 45 *e*P **P** 10 26 31.6 +0.7
comp=N,12nm,0.9s
PAB *e*pP **pP** 10 27 05.4 +1.7
TAM Tamanrasset 83.84 64 *e*P **P** 10 26 34.0 +1.2
ESDC Sonseca Array 83.89 45 P **P** 10 26 32.9 +0.4
comp=N,5.3nm,0.9s,baz=246,slow=5.5,SNR=18
ESDC pP **pP** 10 27 05.8 +0.5
comp=N,0.5nm,0.3s,baz=247,slow=5.4,SNR=2.1
MAW Mawson 87.62 164 P **P** 10 26 51.5 +1.1
comp=N,1.7nm,0.5s,baz=295,slow=8.5,SNR=4.1
YKA Yellowknife Ar 87.92 341 P **P** 10 26 52.1 +0.4
comp=N,1.7nm,0.5s,baz=134,slow=4.7,SNR=14
YKA pP **pP** 10 27 24.1 -0.7
comp=N,6.0nm,0.8s,baz=137,slow=5.3,SNR=8.0
EPF Esparros 88.33 44 *e*P **P** 10 26 54.6 +0.4
EPF Esparros 88.33 44 *e*P **P** 10 26 54.6 +0.4
ROSF Rostrenen 88.60 38 *e*P **P** 10 26 55.0 -0.3
comp=N,7.6nm,0.6s
ROSF Rostrenen 88.60 38 *e*P **P** 10 26 55.0 -0.3
comp=N,7.6nm,0.6s
SGMF Saint Gilles 88.97 38 *e*P **P** 10 26 55.4 -1.6
SGMF Saint Gilles 88.97 38 *e*P **P** 10 26 55.4 -1.6
LFF La Frestale 89.44 42 *e*P **P** 10 26 59.4 +0.1
comp=N,25nm,0.8s
LFF La Frestale 89.44 42 *e*P **P** 10 26 59.4 +0.1
comp=N,25nm,0.8s
MTLF Montolieu 89.70 44 *e*P **P** 10 27 00.4 -0.2
comp=N,18nm,1.1s
MTLF Montolieu 89.70 44 *e*P **P** 10 27 00.4 -0.2
comp=N,18nm,1.1s
GRR Gorron 90.04 38 *e*P **P** 10 27 01.4 -0.6
comp=N,8.3nm,0.5s
GRR Gorron 90.04 38 *e*P **P** 10 27 01.4 -0.6
comp=N,8.3nm,0.5s
RJF Les Rejaudoux 90.10 42 *e*P **P** 10 27 02.3 -0.1
RJF Les Rejaudoux 90.10 42 *e*P **P** 10 27 02.3 -0.1
CAF Calviac 90.28 42 *e*P **P** 10 27 03.2 -0.1
comp=N,8.0nm,0.7s
CAF Calviac 90.28 42 *e*P **P** 10 27 03.2 -0.1
comp=N,8.0nm,0.7s
LDF La Druitiere 90.57 38 *e*P **P** 10 27 03.9 -0.6
comp=N,16nm,0.9s
LDF La Druitiere 90.57 38 *e*P **P** 10 27 03.9 -0.6
comp=N,16nm,0.9s
LASF Ste Croix 91.08 44 *e*P **P** 10 27 07.5 +0.5
LASF Ste Croix 91.08 44 *e*P **P** 10 27 07.5 +0.5
BGF Bois d'Agland 91.47 41 *e*P **P** 10 27 08.5 -0.2
BGF Bois d'Agland 91.47 41 *e*P **P** 10 27 08.5 -0.2
SMF Signal de Mont 92.13 41 *e*P **P** 10 27 11.7 -0.1
SMF Signal de Mont 92.13 41 *e*P **P** 10 27 11.7 -0.1
ORIF Oris-en-Rattie 92.75 43 *e*P **P** 10 27 15.4 +0.6
comp=N,15nm,1.0s
ORIF Oris-en-Rattie 92.75 43 *e*P **P** 10 27 15.4 +0.6
comp=N,15nm,1.0s
SUMG Summit 92.92 9 *e*P **P** 10 27 16.6 +1.3
comp=N,91nm,2.4s
LPL La Plagne 93.53 43 *e*P **P** 10 27 19.2 +0.6
LPL La Plagne 93.53 43 *e*P **P** 10 27 19.2 +0.6
RES Resolute Bay 94.09 353 LR LR 11 15 00.3
comp=N,1µm,18.6s,baz=133,slow=39
INK Inuvik 97.68 340 LR LR 11 14 01.4
comp=N,2µm,21.6s,baz=111,slow=37
GERES GERESS Array B 99.13 42 P **Pdif** 10 27 43.2 -0.5
comp=N,0.6nm,0.7s,baz=269,slow=6.8,SNR=2.8
ASAR Alice Springs 132.53 210 PKP **PKPdf** 10 33 17.4 +0.2
comp=N,0.3nm,0.5s,baz=119,slow=1.2,SNR=2.6
ASAR pPKP **pPKPdf** 10 33 51.8 0.0
comp=N,1.5nm,1.0s,baz=140,slow=1.4,SNR=2.4
WRA Warramunga Arr 135.46 213 PKP **PKPdf** 10 33 23.6 +1.0
comp=N,1.6nm,0.8s,baz=148,slow=1.8,SNR=12
WRA pPKP **pPKPdf** 10 33 57.5 +0.2
comp=N,0.5nm,0.6s,baz=151,slow=1.7,SNR=1.7
ZALV Zalesovo Beam 139.19 23 PKP **PKPdf** 10 33 29.8 +1.4
comp=N,1.0nm,0.4s,baz=273,slow=2.8,SNR=3.6
ZALV pPKP **pPKPdf** 10 34 03.4 +0.3
comp=N,7.2nm,1.0s,baz=282,slow=2.9,SNR=5.5
KSH Kashi 143.37 47 *e*PKP PKPab 10 33 32.4 -0.5
KSH pPKP pPKPdf 10 34 14.3 +3.0
KSH ePP **PP** **10 36 47.8 -1.2**
KSH PKS PKSdf 10 37 06.9 -5.5
KSH PPMZ
comp=N,42nm,3.0s
KSH LN
comp=N,120nm,8.5s
KSH LE
comp=N,160nm,8.0s
KSH LZ
comp=N,130nm,6.4s
WMQ Urumqi 148.05 32 *e*PKPbc **PKPbc** 10 33 46.8 -0.9
USRK Ussuriysk Ar. 148.44 330 PKPbc **PKPbc** 10 33 49.9 +1.4
comp=N,6.1nm,0.8s,baz=17,slow=1.9,SNR=14
USRK pPKPbc **pPKPbc** 10 34 23.9 +1.0
comp=N,2.9nm,0.9s,baz=299,slow=1.3,SNR=2.7
MJAR Matsushiro Arr 149.54 312 PKPbc **PKPbc** 10 33 52.7 +1.1
comp=N,4.7nm,0.9s,baz=158,slow=0.6,SNR=7.5
SONM Songino Array 150.26 6 PKPbc **PKPbc** 10 33 53.7 +0.6
comp=N,2.5nm,0.7s,baz=299,slow=1.6,SNR=9.2
SONM pPKPbc **pPKPbc** 10 34 28.3 +0.7
comp=N,7.1nm,1.1s,baz=309,slow=0.8,SNR=5.6
KSRS Korea Array 155.50 325 PKPab **PKPab** 10 34 22.4 +0.5
comp=N,2.0nm,0.9s,baz=45,slow=5.0,SNR=4.5
KSAR Wonju Array Be 155.53 325 PKPab **PKPab** 10 34 22.4 +0.4
HHC Hu-ho-hao-te 157.42 358 *e*PKP **PKPdf** 10 33 54.3 -3.9
HHC PKS PKSdf 10 37 26.8 -5.2
HHC PP **PP** **10 38 08.3 -0.2**
HHC PPMZ
comp=N,100nm,5.6s
CD2 Chengdu 165.95 25 PKP **PKPdf** 10 34 06.0 -1.2
CMAR Chiang Mai Arr 169.00 87 PKPab **PKPab** 10 35 21.8 0.0
comp=N,0.7nm,0.3s,baz=273,slow=5.2,SNR=5.0

*ISCJB **23** 10:42:53.8±0.5,28°.49S±0'.04×67°.17W±0'.07,h134km, mb3.5/3,Error ellipse: s-maj=8.8km s-min=4.7km az=18.7*

*SJA **23** 10:42:54.3±1.2,28°.51S×67°.12W,h139km±8km,ML3.5*
*IDC **23** 10:42:55.2±0.7,28°.59S×67°.06W,h144km±6km,mb3.4/3, mb1 3.5/7,mb1mx3.3/33,mbtmp3.9/7,Error ellipse: s-maj=25.4km s-min=11.2km az=110.0*
ISC 23 10:42:54.5±0.7,28°.49S±0'.05×67°.14W±0'.08,h134km,n23, σ1§42/32,mb3.6/3,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**1.18**	**88**	*e*P	**Pn**	**10 43 21.1**	**+1.6**
CYA				*e*S	**Sn**	**10 43 39.3**	**+0.7**
CYA				AML	AML	10 43 40.9	
	comp=Z,529nm,0.7s						
AHML	**Horco Molle**	**2.34**	**44**	*e*P	**Pn**	**10 43 33.6**	**+0.7**
AHML				*e*S	**Sn**	**10 44 02.7**	**+0.3**
RTLL	**Cerro Villicun**	**3.06**	**202**	*e*P	**Pn**	**10 43 42.7**	**+0.7**
RTLL				*e*S	**Sn**	**10 44 18.4**	**-0.4**
CFAA	**Coronel Fontan**	**3.25**	**197**	P	**Pn**	**10 43 45.0**	**+0.5**
	comp=Z,8.5nm,0.3s,baz=50,slow=22,SNR=319						
CFAA				S	**Sn**	**10 44 22.8**	**-0.4**
	comp=Z,10nm,0.3s,baz=8.0,slow=12,SNR=7.9						
CFAA	**Coronel Fontan**	**3.25**	**197**	*e*P	**Pn**	**10 43 45.0**	**+0.5**
CFAA				*e*S	**Sn**	**10 44 23.0**	**-0.2**
ACAN	**Cantantal**	**3.77**	**181**	*e*P	**Pn**	**10 43 52.0**	**+0.6**
ACAN				*e*P	**Pn**	**10 43 52.0**	**+0.6**
SLA	**San Lorenzo**	**4.03**	**22**	*e*P	**Pn**	**10 43 56.8**	**+1.8**
SLA				AML	AML	10 45 18.2	
	comp=Z,46nm,0.7s						
AZAP	**Zapla**	**4.64**	**24**	*e*P	**Pn**	**10 44 04.0**	**+0.9**
LVC	**Limon Verde**	**6.07**	**344**	P	**Pn**	**10 44 23.4**	**+1.1**
	comp=Z,208nm,0.3s,baz=140,slow=8.5,SNR=39						
LVC				S	**Sn**	**10 45 29.8**	**-1.0**
	comp=Z,112nm,0.3s,baz=225,slow=19,SNR=9.5						
CPUP	**Villa Florida**	**8.98**	**78**	P	**Pn**	**10 45 00.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=268,slow=12,SNR=4.4						
LPAZ	**La Paz**	**12.18**	**355**	P	**Pn**	**10 45 44.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=209,slow=5.4,SNR=8.0						
PLCA	**Paso Flores**	**12.53**	**192**	P	Pn	10 45 44.6	-3.6
	comp=Z,0.1nm,0.3s,baz=6.9,slow=11,SNR=3.9						
SIV	**San Ignacio**	**13.64**	**26**	P	**Pn**	**10 46 00.6**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=215,slow=14,SNR=17						
BDFB	**Brasilia**	**21.82**	**58**	P	**P**	**10 47 34.2**	**-2.1**
	comp=Z,1.6nm,0.4s,baz=179,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**78.33**	**68**	P	**P**	**10 54 39.8**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=273,slow=7.4,SNR=5.7						
PDAR	**Pinedale Array**	**80.94**	**330**	P	**P**	**10 54 54.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=146,slow=3.9,SNR=3.0						
DOU	**Dourbes**	**100.68**	**38**	P	**PKiKP**	**11 00 52.2**	**-0.3**
SNF	**Seneffe**	**100.73**	**38**	P	PKiKP	11 00 46.6	-6.0
MEM	**Membach**	**101.72**	**39**	P	**PKiKP**	**11 00 58.8**	**+4.4**
ASAR	**Alice Springs**	**124.32**	**203**	PKP	**PKPdf**	**11 01 36.6**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=132,slow=1.8,SNR=8.5						
ASAR				pPKP	**pPKPdf**	**11 02 15.8**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=153,slow=2.1,SNR=1.7						
WRA	**Warramunga Arr**	**127.56**	**206**	PKP	**PKPdf**	**11 01 42.8**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=170,slow=1.7,SNR=12						
WRA				pPKP	**pPKPdf**	**11 02 21.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=157,slow=1.8,SNR=1.8						
ZALV	**Zalesovo Beam**	**147.35**	**31**	PKPbc	**PKPbc**	**11 02 21.9**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=305,slow=5.1,SNR=2.0						
ZALV				pPKPbc	**pPKPbc**	**11 02 59.7**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=241,slow=3.1,SNR=2.9						
MKAR	**Makanchi Array**	**149.94**	**44**	PKPbc	**PKPbc**	**11 02 28.9**	**0.0**
	comp=Z,1.4nm,0.8s,baz=292,slow=4.5,SNR=12						
MKAR				pPKPbc	**pPKPbc**	**11 03 06.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=280,slow=7.0,SNR=3.7						

*KRSC **23** 10:43:15.7±1.1,55°.16N×160°.46E,h0km±6km,ML4.4*
*MOS **23** 10:43:15.8±1.0,55°.18N×160°.28E,h5km,mb4.8/17,Error ellipse: s-maj=10.3km s-min=5.6km az=90.9*
*ISCJB **23** 10:43:18.6±0.4,55°.23N±0'.02×160°.27E±0'.05,h21km±3km, mb4.3/45,MS4.3/2,Error ellipse: s-maj=4.7km s-min=3.0km az=18.5*
*IDC **23** 10:43:21.9±4.1,55°.18N×160°.29E,h33km±32km,mb3.8/19, mb1 4.0/21,mb1mx3.8/48,mbtmp4.0/21,ML2.9/2,MS3.5/2, Ms1 3.5/2,ms1mx3.2/34,Error ellipse: s-maj=19.2km s-min=12.4km az=156.0*
*NEIC **23** 10:43:22.6±0.4,55°.14N×160°.12E,h35km,mb4.6/14,Error ellipse: s-maj=10.2km s-min=6.8km az=145.0*
*BJI **23** 10:43:23.9,55°.53N×159°.83E,h50km,mB4.9/7,mb4.6/9, Ms4.5/3,Ms7 4.2/3*
ISC 23 10:43:17.0±1.0,55°.15N±0'.02×160°.41E±0'.03,h5km±6km, n137,σ1§53/148,mb4.5/45,4C-6D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.07**	**241**	*i* P	**Pg**	**10 43 18.9**	**+0.2**
TUMR	**Tumrok**	**0.20**	**312**	*i* P	**Pg**	**10 43 21.2**	**+0.3**
KMNR	**Kamenistaya**	**0.62**	**351**	*i* P	**Pb**	**10 43 29.2**	**-1.1**
BZMR	**Bezymyannaya**	**0.79**	**3**	*e*P	**Pb**	**10 43 32.7**	**-0.6**
KIRR	**Kirishev**	**0.81**	**357**	*e*P	**Pb**	**10 43 32.7**	**-0.9**
KIRR				*e*S	**Sb**	**10 43 45.0**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**0.81**	**12**	*e*P	**Pg**	**10 43 31.7**	**-0.8**
BZWR	**Bezymyannyi-We**	**0.82**	**4**	*e*P	**Pb**	**10 43 33.5**	**-0.3**
KPT	**Kopyto**	**0.83**	**353**	*e*P	**Pb**	**10 43 32.7**	**-1.2**
ZLN	**Zelenaya**	**0.90**	**14**	*e*P	**Pb**	**10 43 33.7**	**-1.4**
KOZ	**Kozyrevsk**	**0.96**	**342**	*e*P	**Pb**	**10 43 35.2**	**-0.9**
KOZR	**Kozyr**	**0.96**	**343**	PN	**Pb**	**10 43 35.2**	**-1.0**
MKZ	**Mys Kozlova**	**0.97**	**127**	*i* P	**Pn**	**10 43 35.8**	**-1.4**
MKZ				*i* S	**Sn**	**10 43 50.5**	**-0.8**
MKZ	**Mys Kozlova**	**0.97**	**127**	PN	**Pn**	**10 43 35.8**	**-1.4**
MKZ				S	**Sn**	**10 43 50.5**	**-0.8**
KRSR	**Krestovskiy**	**1.07**	**5**	*e*P	**Pg**	**10 43 36.2**	**-1.4**
KLY	**Klyuchi**	**1.18**	**7**	*i* P	**Pn**	**10 43 39.5**	**-0.5**
KLY				*e*S	**Sn**	**10 43 58.2**	**+1.8**
KLY	**Klyuchi**	**1.18**	**7**	PN	**Pn**	**10 43 39.5**	**-0.5**
KLY				S	**Sn**	**10 43 58.2**	**+1.8**
SRDR	**Sredinnyy**	**1.23**	**342**	*e*P	**Pg**	**10 43 38.9**	**-1.7**
ESO	**Esso**	**1.24**	**309**	*i* P	**Pg**	**10 43 39.1**	**-1.7**
ESO				*i* S	**Sb**	**10 43 57.2**	**-0.1**
ESO	**Esso**	**1.24**	**309**	PN	**Pg**	**10 43 39.2**	**-1.6**
ESO				S	**Sb**	**10 43 57.2**	**-0.1**
Kll	**Karymskiy**	**1.25**	**207**	*i* P	**Pn**	**10 43 41.0**	**-0.1**
BDR	**Baidarnaya**	**1.49**	**17**	*e*P	**Pg**	**10 43 45.4**	**-0.2**
SMKR	**Semkarok**	**1.56**	**22**	*e*P	**Pg**	**10 43 46.0**	**-0.8**
SRKR	**Sorokina**	**1.57**	**16**	*e*P	**Pg**	**10 43 45.8**	**-1.2**
KBTR	**Krutoberegovo**	**1.73**	**51**	*e*P	**Pb**	**10 43 47.9**	**-1.2**
KBTR				*e*S	**Sg**	**10 44 11.3**	**-1.2**
KBTR	**Krutoberegovo**	**1.73**	**51**	PN	**Pb**	**10 43 48.0**	**-1.2**
KBTR				S	**Sg**	**10 44 11.3**	**-1.2**
GNL	**Ganaly**	**2.05**	**226**	*e*P	**Pn**	**10 43 52.5**	**+0.3**
SPN	**Mys Shipunski**	**2.07**	**186**	*e*P	**Pn**	**10 43 52.3**	**0.0**
SPN				*e*S	**Sb**	**10 44 20.2**	**-0.7**
SPN	**Mys Shipunski**	**2.07**	**186**	PN	**Pn**	**10 43 52.3**	**0.0**
SPN				S	**Sb**	**10 44 20.2**	**-0.7**
KRX	**Arik**	**2.07**	**211**	*e*P	**Pb**	**10 43 53.6**	**-1.4**
SDLR	**Sedlovina**	**2.08**	**206**	*e*P	**Pb**	**10 43 53.9**	**-1.3**
NLC	**Nalytchevo**	**2.08**	**198**	*e*P	**Pb**	**10 43 54.4**	**-0.7**
NLC				*e*S	**Sg**	**10 44 23.2**	**-0.4**
NLC	**Nalytchevo**	**2.08**	**198**	PN	**Pb**	**10 43 54.4**	**-0.7**
NLC				S	**Sg**	**10 44 23.2**	**-0.4**
KRER	**Koryakskii**	**2.09**	**208**	*e*P	**Pb**	**10 43 54.8**	**-0.6**
SMAR	**Somma**	**2.11**	**207**	*e*P	**Pb**	**10 43 54.9**	**-0.9**
AVH	**Avacha**	**2.13**	**208**	*e*P	**Pb**	**10 43 55.0**	**-1.0**
KOK	**Koryaka**	**2.13**	**210**	*e*P	**Pb**	**10 43 55.0**	**-1.1**
UGLR	**Uglovaya**	**2.15**	**206**	*e*P	**Pb**	**10 43 56.0**	**-0.5**
PET	**Petropavlovsk**	**2.37**	**207**	*e*P	**Pn**	**10 43 57.7**	**+1.3**
PET				*e*S	**Sb**	**10 44 30.6**	**+1.1**
PET	**Petropavlovsk**	**2.37**	**207**	*e*PN	**Pb**	**10 43 57.9**	**-2.1**
PET				*e*S	**Sg**	**10 44 32.7**	**-0.2**
PET				smax	smax		
	comp=N,478nm,1.0s						
PET				smax	smax		
	comp=E,575nm,1.0s						
PET	**Petropavlovsk**	**2.37**	**207**	*e*Pn	**Pn**	**10 43 57.6**	**+1.3**
PET				*e*Sn	**Sn**	**10 44 24.3**	**-1.5**
PETK	**Petropavlovsk-**	**2.59**	**219**	Pn	**Pn**	**10 44 00.2**	**+0.7**
	comp=E,12nm,0.3s,baz=61,slow=16,SNR=39						
PETK				LR	LR	10 45 27.2	
	comp=E,382nm,18.6s,baz=94,slow=49						
APC	**Apacha**	**2.94**	**222**	*e*P	**Pn**	**10 44 06.4**	**+2.1**
RUS	**Russkaya**	**2.94**	**203**	*e*P	**Pn**	**10 44 06.0**	**+1.7**
RUS				*e*S	**Sn**	**10 44 42.3**	**+2.3**
RUS	**Russkaya**	**2.94**	**203**	PN	**Pn**	**10 44 06.0**	**+1.7**
RUS				S	**Sn**	**10 44 42.3**	**+2.3**
GRL	**Gorelyy**	**2.95**	**209**	*e*P	**Pn**	**10 44 06.5**	**+2.0**
MTVR	**Mutnovka**	**2.98**	**207**	*e*P	**Pb**	**10 44 08.2**	**-2.3**
ASAK	**Asacha**	**3.15**	**209**	*e*P	**Pn**	**10 44 09.4**	**+2.2**
BKI	**Bering**	**3.19**	**87**	*e*P	**Pn**	**10 44 08.1**	**+0.4**
BKI				*e*S	**Sn**	**10 44 47.0**	**+0.9**
BKI	**Bering**	**3.19**	**87**	PN	**Pn**	**10 44 08.1**	**+0.4**
PAU	**Pauzhetka**	**4.27**	**212**	*e*P	Pn	10 44 26.9	+4.3
PAU	**Pauzhetka**	**4.27**	**212**	PN	Pn	10 44 26.9	+4.3
OSSR	**Ossora**	**4.36**	**18**	*e*P	**Pn**	**10 44 25.6**	**+1.9**
SKR	**Severo-Kuril's**	**5.17**	**212**	*e*PN	Pn	10 44 31.2	-3.7
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SEY	**Seymchan**	**8.83**	**335**	Pn	**Pn**	**10 45 27.2**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=147,slow=14,SNR=6.6						
BILL	**Bilibino**	**13.22**	**10**	*e*PN	**P**	**10 46 33.7**	**-1.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
BILL	**Bilibino**	**13.22**	**10**	*e*Pn	P	10 46 31.1	-4.1
YSS	**Yuzh-Sakhalins**	**13.77**	**241**	*e*P	**P**	**10 46 39.0**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**14.55**	**226**	⇓*i* P	**Pn**	**10 46 44.8**	**+1.5**
YUK				*e*S	**Sn**	**10 49 23.4**	**-1.4**
YUK				pmax	pmax		
	comp=N,45nm,0.2s						
YUK				pmax	pmax		
	comp=E,33nm,0.2s						
YUK				pmax	pmax		
	comp=Z,60nm,0.2s						
YUK				MLR	MLR		
	comp=Z,422nm,13.0s						
ASAJ	**Asahikawa**	**15.91**	**233**	*e*Pn	**Pn**	**10 47 02.5**	**+1.0**
	comp=Z,3.2nm,0.9s						
HABR	**Khabarovsk**	**16.98**	**257**	*d*P	**Pn**	**10 47 11.9**	**-3.1**
HABR				*e*S	Sn	10 50 14.6	-9.3
HABR				pmax	pmax		
	comp=Z,34nm,1.5s						
HABR				MLR	MLR		
	comp=Z,201nm,19.0s						
YAK	**Yakutsk**	**17.30**	**306**	*e*P	P	10 47 25.8	+5.4
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
KLR	**Kul'dur**	**18.46**	**263**	*e*P	**P**	**10 47 31.2**	**-2.1**
TNA	**Tin City**	**18.58**	**43**	*e*P	Pn	10 47 39.2	+4.5
	comp=N,6.9nm,1.1s						
UNV	**Unalaska Valle**	**19.17**	**80**	*e*Pn	Pn	10 47 48.8	+7.0
	comp=N,72nm,1.4s						
CLNS	**Chul'man**	**19.80**	**290**	*e*P	**Pn**	**10 47 48.8**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,30nm,1.1s						
CLNS				pmax	pmax		
	comp=E,21nm,0.9s						
CLNS				pmax	pmax		
	comp=N,17nm,0.9s						
USRK	**Ussuriysk Ar.**	**21.25**	**251**	P	**P**	**10 48 05.9**	**+2.2**
	comp=N,10nm,1.0s,baz=48,slow=9.0,SNR=5.4						
USRK				LR	LR	10 57 22.4	
	comp=N,253nm,20.7s,baz=3.9,slow=40						
TIXI	**Tiksi**	**21.31**	**333**	*d*P	**P**	**10 48 06.1**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,24nm,1.3s						
TIXI	**Tiksi**	**21.31**	**333**	*e*P	**P**	**10 48 06.6**	**+2.5**
	comp=Z,44nm,1.4s						
MAJO	**Matsushiro**	**24.01**	**228**	*e*P	**P**	**10 48 29.9**	**-2.6**
MAJO				pmax	pmax		
	comp=Z,58nm,1.3s						
MAJO	**Matsushiro**	**24.01**	**228**	*e*P	**P**	**10 48 36.2**	**+3.7**
MJAR	**Matsushiro Arr**	**24.01**	**228**	P	**P**	**10 48 32.4**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=19,slow=7.9,SNR=9.0						
IM04	**Indian Mountai**	**24.37**	**45**	*e*P	**P**	**10 48 37.2**	**+1.6**
RSO	**Redoubt South**	**25.07**	**59**	*e*P	**P**	**10 48 46.0**	**+3.8**
	comp=Z,16nm,0.8s						
BOD	**Bodaibo**	**25.37**	**295**	*e*P	**P**	**10 48 44.4**	**-0.3**
BOD				pmax	pmax		
	comp=Z,19nm,1.2s						
KDAK	**Kodiak Island**	**25.70**	**65**	*e*P	**P**	**10 48 50.4**	**+2.8**
KDAK				pmax	pmax		
	comp=Z,31nm,1.5s						
KDAK	**Kodiak Island**	**25.70**	**65**	*e*P	**P**	**10 48 50.4**	**+2.8**
	comp=Z,31nm,1.5s						
ILAR	**Eielson Array**	**27.27**	**48**	P	**P**	**10 49 01.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=266,slow=8.1,SNR=8.2						
KSRS	**Korea Array**	**28.21**	**245**	P	**P**	**10 49 10.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=34,slow=8.8,SNR=3.7						
KSAR	**Wonju Array Be**	**28.24**	**245**	P	**P**	**10 49 10.7**	**0.0**
KSAR	**Wonju Array Be**	**28.24**	**245**	P	**P**	**10 49 10.7**	**0.0**
INK	**Inuvik**	**32.15**	**40**	P	**P**	**10 49 46.4**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=317,slow=6.9,SNR=6.0						
TLY	**Talaya**	**33.21**	**288**	*e*P	**P**	**10 49 53.9**	**-0.5**
	comp=Z,2.3nm,0.3s						
ULN	**Ulaanbaatar**	**33.27**	**280**	*e*P	**P**	**10 49 54.5**	**-0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ULN	**Ulaanbaatar**	**33.27**	**280**	*e*P	**P**	**10 49 54.3**	**-0.8**
	comp=Z,1.3nm,0.4s						
SONM	**Songino Array**	**33.66**	**280**	P	**P**	**10 49 58.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=62,slow=8.7,SNR=4.2						
SONM				PcP	**PcP**	**10 52 37.2**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=79,slow=3.2,SNR=3.8						
ZAK	**Zakamensk**	**34.05**	**286**	*e*P	**P**	**10 50 01.6**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
HHC	**Hu-ho-hao-te**	**34.90**	**267**	*e*P	**P**	**10 50 09.9**	**+0.5**
HHC				PP	**PnPn**	**10 51 25.5**	**-0.2**
HHC				S	S	10 55 33.4	-7.6
HHC				SS	**SnSn**	**10 57 46.6**	**-8.2**
HHC				PMZ			
	comp=Z,33n

EKS2	**Erkin-Say**	**54.71**	**296**	*eP*		**P**	**10 52 46.6**	**-0.4**
	comp=Z,6.0nm,1.0s							
NVAR	**Mina Array Bea**	**54.89**	**72**	P		**P**	**10 52 50.6**	**+2.1**
	comp=Z,2.0nm,0.8s,baz=302,slow=7.0,SNR=7.8							
FRB	**Frobisher Bay**	**55.55**	**24**	P		**P**	**10 52 51.8**	**-0.7**
	comp=Z,4.2nm,1.1s,baz=308,slow=7.6,SNR=4.2							
JOF	**Joensuu**	**55.78**	**335**	*ep*		**P**	**10 52 53.3**	**-1.0**
	comp=Z,2.0nm,0.6s							
JOF	**Joensuu**	**55.78**	**335**	*eP*		**P**	**10 52 53.3**	**-1.0**
JOF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**56.06**	**298**	*eP*		**P**	**10 52 56.3**	**-0.3**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**56.06**	**298**	*eP*		**P**	**10 52 56.3**	**-0.3**
	comp=Z,3.8nm,0.9s							
PDAR	**Pinedale Array**	**56.38**	**62**	P		**P**	**10 53 00.3**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=354,slow=3.7,SNR=6.3							
ABKAR	**Akbulak array**	**56.61**	**309**	*eP*		**P**	**10 53 00.9**	**+0.5**
	comp=Z,6.3nm,1.0s							
FINES	**FINESS Array B**	**58.31**	**336**	P		**P**	**10 53 12.3**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=54,slow=4.9,SNR=6.8							
OBN	**Obninsk**	**60.89**	**327**	*eP*		**P**	**10 53 28.7**	**-1.3**
OBN				*e*			10 55 45.4	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NOA	**NORSAR Array B**	**61.62**	**344**	P		**P**	**10 53 34.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=21,slow=6.9,SNR=3.1							
GEYT	**Alibeck**	**66.13**	**302**	P		**P**	**10 54 05.5**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=316,slow=4.1,SNR=6.7							
AKASG	**Malin Array Be**	**66.95**	**329**	P		**P**	**10 54 09.6**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=30,slow=6.5,SNR=4.3							
KIEV	**Kiev**	**66.96**	**329**	*eP*		**P**	**10 54 11.1**	**+1.1**
KIV	**Kislovodsk**	**68.07**	**316**	*ceP*		**P**	**10 54 15.4**	**-1.9**
KIV				*e*			10 56 45.2	
KIV				*eS*		**S**	**11 03 19.2**	**+2.0**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,1μm,20.0s							
KBZ	**Khabaz**	**68.17**	**316**	P		**P**	**10 54 18.9**	**+1.1**
	comp=Z,11nm,1.0s,baz=311,slow=5.8,SNR=14							
ZEI	**Tsey**	**68.55**	**315**	*eP*		**P**	**10 54 20.0**	**-0.5**
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.3s							
TXAR	**Lajitas Array**	**69.67**	**68**	P		**P**	**10 54 29.1**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=308,slow=5.0,SNR=10							
KWP	**Kalwaria Pacla**	**69.75**	**332**	*eP*		**P**	**10 54 28.7**	**+1.1**
KWP				pmax	pmax			
	comp=Z,20nm,0.9s							
KWP	**Kalwaria Pacla**	**69.75**	**332**	*eP*		**P**	**10 54 28.7**	**+1.1**
	comp=Z,20nm,0.9s							
STHS	**Stebnicka Huta**	**70.34**	**333**	*eP*		**P**	**10 54 32.8**	**+1.6**
STHS	**Stebnicka Huta**	**70.34**	**333**	*eP*		**P**	**10 54 32.8**	**+1.6**
GNI	**Garni**	**70.41**	**313**	*eP*		**P**	**10 54 32.3**	**+0.3**
GNI				pmax	pmax			
	comp=Z,20nm,1.3s							
CLL	**Collm**	**70.50**	**339**	*⇓iP*		P	10 54 35.0	+2.9
	comp=Z,9.0nm,1.1s							
CLL	**Collm**	**70.50**	**339**	*⇓iP*		P	10 54 35.0	+2.9
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s							
GERES	**GERESS Array B**	**72.68**	**338**	P		**P**	**10 54 45.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=27,slow=6.1,SNR=7.7							
CONA	**Conrad Observa**	**73.05**	**336**	*⇑iP*		**P**	**10 54 46.2**	**-1.5**
	comp=Z,4.8nm,0.8s							
KBA	**Koelnbreinsper**	**74.42**	**337**	*⇑iP*		**P**	**10 54 57.0**	**+1.2**
	comp=Z,8.3nm,1.0s							
BRTR	**Keskin Array B**	**75.15**	**320**	P		**P**	**10 55 00.6**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=68,slow=3.2,SNR=11							
WRAB	**Tennant Creek**	**78.01**	**205**	*eP*		**P**	**10 55 15.8**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WRAB	**Tennant Creek**	**78.01**	**205**	*eP*		**P**	**10 55 15.8**	**-0.4**
	comp=Z,1.1nm,0.5s							

MEX 23 10:49:11.3±0.5, 17.37N×100.96W, h16km±15km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.73**	**116**	*i* P	Pg	10 49 22.8	-2.9
CAIG				*i* S	Sg	10 49 32.2	-3.1
ARIG	**Puente Sto Nin**	**1.07**	**33**	*eP*	Pb	10 49 27.6	-3.9
ARIG				*i* S	Sb	10 49 40.8	-4.6
ACX	**Acapulco**	**1.16**	**115**	*eP*	Pn	10 49 32.5	-0.4
ACX				*eS*	Sb	10 49 45.7	-2.2
MEIG	**Mezcala**	**1.39**	**66**	*eP*	Pn	10 49 32.7	-3.4
MEIG				*i* S	Sn	10 49 49.2	-5.1
PLIG	**Platanillo**	**1.71**	**54**	*i* P	Pn	10 49 37.6	-3.0
PLIG				*i* S	Sn	10 49 56.8	-5.6
TLIG	**Tlapa**	**2.29**	**85**	*eP*	Pn	10 49 45.0	-3.6
TLIG				*i* S	Sn	10 50 11.7	-4.9

IDC 23 10:50:38.1±1.7, 5.22S×146.50E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=118.6km s-min=29.1km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.82**	**218**	P	P	10 54 58.7	-0.9
	0.2nm,0.3s,baz=24,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.99**	**212**	P	P	10 55 36.0	+1.9
	1.0nm,0.8s,baz=24,slow=10,SNR=11						
STKA	**Stephens Creek**	**26.92**	**189**	P	P	10 56 19.6	-1.5
	1.8nm,1.0s,baz=28,slow=11,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**30.85**	**40**	T	T	11 30 50.0	
	baz=229,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**30.86**	**40**	T	T	11 30 52.5	
	baz=229,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**30.86**	**40**	T	T	11 30 51.9	
	baz=229,slow=75,SNR=25						
ILAR	**Eielson Array**	**84.96**	**23**	P	P	11 03 15.1	+0.1
	0.3nm,0.7s,baz=250,slow=4.9,SNR=4.4						

GUC 23 10:52:15.8±0.3, 32.73S×69.94W, h146km±5km, ML3.5
ISCJB 23 10:52:16.4±1.0, 32.89S±0.05×69.51W±0.07, h120km±8km, Error ellipse: s-maj=11.4km s-min=5.6km az=44.5
SJA 23 10:52:17.5±1.0, 32.82S×69.44W, h112km±4km, ML3.1
ISC 23 10:52:15.8±2.0, 32.89S±0.06×69.54W±0.06, h126km±13km, n15, σ0.80/29, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.52**	**85**	*eP*	**Pn**	**10 52 35.4**	**+0.8**
ARCO				*eS*	**Sn**	**10 52 48.2**	**-0.7**
ARCO				AML	AML	10 52 50.6	
	comp=Z,430nm,0.2s						
AAGR	**Agrelo**	**0.63**	**108**	*eP*	**Pn**	**10 52 36.3**	**+0.9**
AAGR				*eS*	**Sn**	**10 52 49.0**	**-1.1**
ASAL	**Salagasta**	**0.67**	**64**	*eP*	**Pn**	**10 52 36.2**	**+0.7**
ASAL				*eS*	**Sn**	**10 52 49.1**	**-1.4**
AUSP	**Uspallata**	**0.67**	**11**	*eP*	**Pn**	**10 52 36.3**	**+0.4**
AUSP				*eS*	**Sn**	**10 52 50.6**	**-0.4**
CLCH	**Cerro Calan**	**0.98**	**238**	*eP*	**Pn**	**10 52 38.4**	**+0.3**
CLCH				*eP*	**Pn**	**10 52 38.8**	**+0.6**
CLCH				*eS*	**Sn**	**10 52 55.4**	**+0.3**
CLCH				*eS*	**Sn**	**10 52 56.0**	**+0.9**
CLCH				AML	AML	10 52 56.5	
	comp=N,945nm,0.5s						
CLCH				AML	AML	10 52 57.3	
	comp=N,1μm,0.4s						
STL	**Santa Lucia**	**1.07**	**239**	*eP*	**Pn**	**10 52 38.5**	**-0.6**
STL				*eS*	**Sn**	**10 52 56.1**	**-0.6**
RTLS	**Leoncito**	**1.10**	**11**	*eP*	**Pn**	**10 52 40.5**	**+0.8**
RTLS				*eS*	**Sn**	**10 52 57.5**	**-0.1**
RTCV	**Cerro Valdivia**	**1.33**	**40**	*eP*	**Pn**	**10 52 42.0**	**+0.3**
RTCV				*eS*	**Sn**	**10 53 00.3**	**-1.1**
CHCH	**Chadas Angostu**	**1.40**	**221**	*eP*	**Pn**	**10 52 43.1**	**+0.6**
CACH	**El Canelo**	**1.51**	**215**	*eP*	**Pn**	**10 52 44.9**	**+1.1**
CFAA	**Coronel Fontan**	**1.69**	**41**	*eP*	**Pn**	**10 52 46.1**	**+0.2**
CFAA				*eP*	**Pn**	**10 52 46.1**	**+0.2**
RTLL	**Cerro Villicun**	**1.80**	**31**	*eP*	**Pn**	**10 52 47.6**	**+0.5**
RTLL				*eS*	**Sn**	**10 53 10.6**	**-0.4**
LNV	**Longovilo**	**1.89**	**235**	*eP*	**Pn**	**10 52 47.0**	**-1.1**
ACAN	**Cantantal**	**2.08**	**74**	*eP*	**Pn**	**10 52 51.5**	**+0.9**
ACAN				*eS*	**Sn**	**10 53 15.9**	**-1.2**
AMOG	**MOGNA**	**2.14**	**25**	*eP*	**Pn**	**10 52 52.0**	**+0.7**
AMOG				*eS*	**Sn**	**10 53 18.5**	**0.0**

MEX 23 11:07:45.9±0.5, 32.27N×115.20W, h10km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.14**	**1**	*i* P	Pg	11 07 48.6	-0.5
MBIG				*eS*	Sg	11 07 50.9	-0.5
CBX	**Cerro Bola**	**1.24**	**273**	*eP*	Pn	11 08 05.8	-3.7
CBX				*eS*	Sb	11 08 20.6	-5.2

ISCJB 23 11:21:54.6±1.3, 44.24N±0.09×147.3E±0.1, h133km±8km, Error ellipse: s-maj=20.3km s-min=7.8km az=43.1
SKHL 23 11:21:54.6±0.5, 44.48N×147.31E, h135km, mb4.3/3, msh5.3/3
JMA 23 11:21:56.4±0.4, 44.38N×147.14E, h132km±4km, M3.2
ISC 23 11:21:53.4±2.7, 44.40N±0.09×147.4E±0.1, h141km±16km, n17, σ0.99/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.67**	**217**	*eP*	**Pn**	**11 22 15.5**	**+0.8**
SHO				AMB	AMB	11 22 15.9	
	309nm,0.4s						
SHO				*eS*	**Sn**	**11 22 30.8**	**0.0**
SHO				A	A	11 22 31.0	
	2μm,0.2s						
KUR	**Kuril'sk**	**0.90**	**22**	*eP*	**Pn**	**11 22 16.6**	**+0.2**
KUR				AMB	AMB	11 22 17.1	
	40nm,0.4s						
KUR				*eS*	**Sn**	**11 22 33.1**	**-0.9**
KUR				A	A	11 22 33.7	
	47nm,0.4s						
KUR				A	A	11 22 33.7	
	214nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.16**	**252**	*eP*	**Pn**	**11 22 19.3**	**+0.6**
YUK				AMB	AMB	11 22 19.8	
	156nm,0.5s						
YUK				*eS*	**Sn**	**11 22 38.2**	**+0.2**
YUK				A	A	11 22 38.7	
	860nm,0.8s						
YUK				A	A	11 22 38.7	
	970nm,0.8s						
NEM2	**Nemuro 2**	**1.58**	**230**	P	**Pn**	**11 22 23.7**	**+0.6**
NEM2				*eS*	**Sn**	**11 22 44.7**	**-1.0**
JRA	**Rausu**	**1.69**	**255**	P	**Pn**	**11 22 25.0**	**+0.6**
JRA				*eS*	**Sn**	**11 22 47.1**	**-1.0**
JNK	**Nakash**	**2.09**	**248**	P	**Pn**	**11 22 30.0**	**+1.0**
JAK	**Akkeshi**	**2.40**	**235**	P	**Pn**	**11 22 33.5**	**+0.7**
JAK				*eS*	**Sn**	**11 23 02.0**	**-1.2**
JTKR	**Abashiri--Toko**	**2.54**	**261**	P	**Pn**	**11 22 34.9**	**+0.4**
JAR	**Ashorobuto**	**2.84**	**248**	P	**Pn**	**11 22 39.7**	**+1.4**
JMP	**Maruseppu**	**2.92**	**264**	P	**Pn**	**11 22 39.8**	**+0.4**
JOB	**Onbets**	**2.98**	**241**	P	**Pn**	**11 22 41.4**	**+1.3**
JOB				*eS*	**Sn**	**11 23 15.8**	**-0.4**
JKK2	**Kamakawa 2**	**3.38**	**263**	P	**Pn**	**11 22 46.2**	**+0.9**
JCH	**Churui**	**3.43**	**240**	P	**Pn**	**11 22 46.6**	**+0.7**
JCH				*eS*	**Sn**	**11 23 25.3**	**-1.2**
JSE	**Soyaes**	**3.47**	**281**	P	**Pn**	**11 22 46.4**	**0.0**
JNBK	**Urakawa-nobuka**	**3.99**	**240**	P	**Pn**	**11 22 53.1**	**-0.1**
JNBK				*eS*	**Sn**	**11 23 37.7**	**-2.0**
JWK2	**Keihoku**	**4.01**	**285**	P	**Pn**	**11 22 54.6**	**+1.2**
JHR	**Hokuryu**	**4.13**	**263**	P	**Pn**	**11 22 56.5**	**+1.4**

KRSC 23 11:24:34.2±0.6, 55.17N×160.36E, h-2km±4km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.07**	**212**	*eP*	Pg	11 24 36.6	+0.9
TUMR	**Tumrok**	**0.17**	**312**	*eP*	Pg	11 24 38.7	+1.2
TUMR				*eS*	Sg	11 24 41.5	+1.7
KMNR	**Kamenistaya**	**0.59**	**353**	*eP*	Pb	11 24 47.1	-0.4
KMNR				*eS*	Sb	11 24 57.4	+0.8
BZMR	**Bezymyannaya**	**0.77**	**5**	P	Pb	11 24 50.8	+0.2
BZMR				*S*	Sb	11 25 02.1	+0.3
KIRR	**Kirishev**	**0.78**	**359**	*eP*	Pb	11 24 50.3	-0.6
KIRR				*eS*	Sb	11 25 03.4	+1.2
BZGR	**Bezymyannyi-Gr**	**0.79**	**14**	S	Sb	11 25 03.5	+1.1
BZWR	**Bezymyannyi-We**	**0.80**	**6**	P	Pb	11 24 51.3	+0.1
BZWR				S	Sn	11 25 04.5	-1.2
KPT	**Kopyto**	**0.80**	**354**	P	Pb	11 24 50.9	-0.2
KPT				S	Sb	11 25 03.9	+1.3
KOZ	**Kozyrevsk**	**0.93**	**343**	*eP*	Pb	11 24 53.6	+0.4
KOZ				*eS*	Sn	11 25 08.1	-0.5
MKZ	**Mys Kozlova**	**1.00**	**127**	*eP*	Pg	11 24 53.7	+0.3
MKZ				*eS*	Sb	11 25 07.4	-0.7
KLY	**Klyuchi**	**1.16**	**8**	*eP*	Pb	11 24 57.2	+0.2
KLY				*eS*	Sn	11 25 15.6	+1.5
SRDR	**Sredinnyy**	**1.20**	**343**	*eP*	Pg	11 24 57.5	+0.1
SRDR				*eS*	Sb	11 25 13.7	-0.4
ESO	**Esso**	**1.21**	**309**	P	Pg	11 24 57.0	-0.4
ESO				S	Sb	11 25 14.5	+0.4
BDR	**Baidarnaya**	**1.48**	**19**	P	Pg	11 25 02.7	0.0
BDR				S	Sn	11 25 25.7	+3.4
SMKR	**Semkarok**	**1.55**	**23**	P	Pg	11 25 04.4	+0.5
SMKR				S	Sg	11 25 26.8	+2.8
SRKR	**Sorokina**	**1.55**	**17**	*eP*	Pg	11 25 04.2	+0.1
SRKR				*eS*	Sg	11 25 26.8	+2.5
KBTR	**Krutoberegovo**	**1.74**	**52**	*eP*	Pn	11 25 05.4	-0.2
KBTR				S	Sb	11 25 29.1	-0.2
GNL	**Ganaly**	**2.04**	**225**	P	Pb	11 25 12.1	-0.2
KRX	**Arik**	**2.08**	**210**	P	Pb	11 25 12.4	-0.5
SDLR	**Sedlovina**	**2.09**	**205**	P	Pb	11 25 12.3	-0.7
SPN	**Mys Shipunski**	**2.09**	**186**	P	Pn	11 25 10.6	+0.2
KRER	**Koryakskii**	**2.10**	**207**	P	Pb	11 25 13.5	+0.2
SMAR	**Somma**	**2.12**	**206**	P	Pb	11 25 12.9	-0.8
AVH	**Avacha**	**2.13**	**207**	P	Pb	11 25 13.0	-0.8
UGLR	**Uglovaya**	**2.16**	**205**	*eP*	Pb	11 25 15.0	+0.7
APC	**Apacha**	**2.94**	**221**	P	Pn	11 25 23.6	+1.6
ASAK	**Asacha**	**3.15**	**209**	P	Pb	11 25 28.6	-2.5

IDC 23 11:52:15.3±3.3, 6.96S×148.38E, h0km, mb3.1/1, mb1 3.5/2, mb1mx3.2/22, mbtmp3.2/2, ML3.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.5/7, Error ellipse: s-maj=119.6km s-min=44.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.76**	**225**	P	P	11 56 34.9	-1.2
	0.1nm,0.3s,baz=51,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.66**	**218**	P	P	11 57 07.5	-0.2
	0.5nm,0.6s,baz=48,slow=8.5,SNR=5.6						
DZM	**Mont Dzumac**	**23.01**	**133**	LR	LR	12 04 22.7	
	comp=Z,287nm,18.0s,baz=226,slow=32						
TORD	**Tomodi Ar. Bea**	**146.65**	**283**	PKPbc	PKPbc	12 11 59.8	-0.3
	0.4nm,0.4s,baz=72,slow=3.3,SNR=7.0						

IDC 23 12:09:34.5±1.4, 53.53N×163.77W, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.7/33, mbtmp3.7/15, ML3.1/1, Error ellipse: s-maj=38.4km s-min=17.1km az=161.0
ISCJB 23 12:09:36.3±0.6, 53.36N±0.06×163.51W±0.06, h29km, mb3.8/13, Error ellipse: s-maj=9.4km s-min=4.5km az=158.4
NEIC 23 12:09:37.0, 53.38N×163.56W, h30km, ML3.3(AEIC), After AEIC.
ISC 23 12:09:38.8±0.8, 53.53N±0.08×163.70W±0.05, h29km, n43, σ0.65/41, mb3.9/13, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.08**	**331**	P	**Pb**	**12 09 58.7**	**-0.2**
SSLW	**Shishaldin Wes**	**1.27**	**349**	P	**Pn**	**12 10 01.0**	**+0.5**
SSLN	**Shishaldin Nor**	**1.29**	**352**	P	**Pn**	**12 10 02.1**	**-0.4**
AKSA	**Akutan Strait**	**1.33**	**298**	P	**Pn**	**12 10 01.8**	**+0.4**
FALS	**False Pass**	**1.34**	**7**	P	**Pn**	**12 10 01.7**	**+0.3**
FALS				S	**Sb**	**12 10 20.4**	**+0.5**
AKUT	**Akutan**	**1.37**	**297**	P	**Pn**	**12 10 02.2**	**+0.4**
ZRO	**Akutan Zero**	**1.47**	**293**	P	**Pn**	**12 10 03.4**	**+0.2**
AKGG	**Akutan Green G**	**1.52**	**297**	P	**Pn**	**12 10 04.4**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.53**	**294**	P	**Pn**	**12 10 04.6**	**+0.5**
DRIA	**Deer Island**	**1.67**	**30**	P	**Pn**	**12 10 05.4**	**-0.5**
UNV	**Unalaska Valle**	**1.70**	**282**	P	**Pn**	**12 10 06.0**	**-0.4**
UNV				S	**Sb**	**12 10 29.7**	**-0.5**
DT1	**Dutton Round H**	**1.78**	**27**	P	**Pn**	**12 10 08.3**	**+0.8**
DTNA	**Dutton South F**	**1.83**	**27**	P	**Pn**	**12 10 08.1**	**-0.1**
MREP	**Makushin Rep't**	**1.84**	**280**	P	**Pn**	**12 10 08.9**	**+0.6**
MSW	**Makushin Switc**	**1.87**	**283**	P	**Pn**	**12 10 09.4**	**+0.6**
MSW				S	**Sb**	**12 10 34.4**	**-0.9**
MGOD	**Makushin Gods**	**1.91**	**279**	P	**Pn**	**12 10 09.8**	**+0.5**
MCIR	**Makushin Cirqu**	**1.94**	**284**	P	**Pn**	**12 10 11.0**	**+1.1**
OKFG	**Magazine Ridge**	**2.52**	**269**	P	**Pn**	**12 10 18.8**	**+1.1**
SDPT	**Sand Point**	**2.62**	**45**	P	**Pn**	**12 10 19.1**	**+0.1**
SDPT				S	**Sn**	**12 10 50.7**	**+1.0**
NIKH	**Nikolski High**	**3.15**	**262**	P	**Pn**	**12 10 26.0**	**-0.3**
ILAR	**Eielson Array**	**14.12**	**31**	Pn	**Pn**	**12 12 55.8**	**-0.7**
	0.0nm,0.3s,baz=224,slow=13,SNR=4.1						
INK	**Inuvik**	**20.51**	**32**	P	**P**	**12 14 13.0**	**-1.1**
	0.6nm,0.8s,baz=252,slow=6.4,SNR=4.0						
PETK	**Petropavlovsk-**	**22.88**	**285**	P	**P**	**12 14 39.7**	**0.0**
	1.2nm,0.5s,baz=5.7,slow=16,SNR=6.5						
YKA	**Yellowknife Ar**	**26.87**	**51**	P	**P**	**12 15 17.9**	**+1.4**
	0.5nm,0.6s,baz=268,slow=8.4,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**40.61**	**225**	T	T	13 01 02.4	
	baz=26,slow=75,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**40.62**	**225**	T	T	13 00 59.6	
	baz=26,slow=75,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**40.63**	**225**	T	T	13 00 58.9	
	baz=26,slow=75,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**41.78**	**225**	T	T	13 02 28.8	
	baz=26,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**41.80**	**225**	T	T	13 02 23.9	
	baz=26,slow=75,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**41.80**	**225**	T	T	13 02 28.0	
	baz=26,slow=75,SNR=7.0						
MJAR	**Matsushiro Arr**	**43.14**	**271**	P	**P**	**12 17 35.6**	**-0.8**
	2.1nm,0.9s,baz=30,slow=10,SNR=4.2						
KSRS	**Korea Array**	**48.64**	**280**	P	**P**	**12 18 20.4**	**+0.7**
	3.2nm,1.1s,baz=55,slow=6.4,SNR=5.8						
KSAR	**Wonju Array Be**	**48.67**	**280**	P	**P**	**12 18 20.4**	**+0.4**
TXAR	**Lajitas Array**	**49.35**	**94**	P	**P**	**12 18 25.6**	**+0.2**
	0.2nm,0.5s,baz=304,slow=6.4,SNR=2.1						
SONM	**Songino Array**	**53.59**	**303**	P	**P**	**12 18 57.1**	**+0.1**
	1.8nm,0.9s,baz=45,slow=7.6,SNR=11						
KURK	**Kurchatov**	**63.71**	**321**	P	**P**	**12 20 07.9**	**+0.8**
KURBB	**Kurchatov Arra**	**63.81**	**321**	P	**P**	**12 20 07.9**	**+0.1**
	1.0nm,0.9s,baz=9.3,slow=6.5,SNR=4.3						
BVAR	**Borovoye Array**	**64.67**	**327**	P	**P**	**12 20 14.3**	**+0.9**
	1.0nm,0.6s,baz=62,slow=7.6,SNR=5.7						
FINES	**FINESS Array B**	**65.11**	**355**	P	**P**	**12 20 15.2**	**-0.8**
	1.0nm,0.7s,baz=350,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**65.42**	**316**	P	**P**	**12 20 17.8**	**-0.6**
	0.3nm,0.8s,baz=7.4,slow=4.5,SNR=2.8						
AKASG	**Malin Array Be**	**75.57**	**352**	P	**P**	**12 21 19.6**	**-0.6**
	0.4nm,0.4s,baz=9.7,slow=5.7,SNR=3.0						
CMAR	**Chiang Mai Arr**	**79.64**	**287**	P	**P**	**12 21 44.0**	**+0.5**
	0.6nm,0.4s,baz=23,slow=5.2,SNR=5.6						
BRTR	**Keskin Array B**	**85.92**	**347**	P	**P**	**12 22 16.0**	**+0.1**
	0.7nm,0.8s,baz=66,slow=1.5,SNR=3.6						

IDC 23 12:12:57.8±2.7, 54.10N×87.34E, h0km, mb1 3.2/3, mb1mx3.1/31, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=25.7km s-min=16.8km az=55.0
NNC 23 12:13:00.6±2.4, 53.83N×87.19E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=19.4km s-min=16.6km az=84.0
ISC 23 12:13:00.6±4.6, 54.4N±0.2×87.2E±0.3, h35km, n8, σ0.81/9, 3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**255**	*i*		12 20 51.9	
	baz=83,slow=329,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.46**	**255**	Pg	**Pn**	**12 13 23.5**	**-1.0**
	5.5nm,0.3s,baz=86,slow=12,SNR=46						
ZALV				Lg	Lg	12 13 45.2	
	3.1nm,0.3s,baz=88,slow=24,SNR=9.1						
ZALV				Rg	Rg	12 14 02.0	
	7.8nm,0.7s,baz=43,slow=28,SNR=5.4						
KURK	**Kurchatov**	**6.38**	**239**	*⇓*Pn	**Pn**	**12 14 32.7**	**+0.7**
	2.1nm,1.1s						
KURK				*⇑*Lg	Lg	12 16 15.7	
	9.1nm,1.4s						
KURBB	**Kurchatov Arra**	**6.48**	**238**	*⇑*Pn	**Pn**	**12 14 33.7**	**+0.3**
	2.1nm,0.5s						
KURBB				*⇓*Sn	**Sn**	**12 15 45.4**	**-0.6**
	5.4nm,0.8s						
KURBB				*⇑*Lg	Lg	12 16 19.0	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**6.48**	**238**	Pn	**Pn**	**12 14 34.0**	**+0.6**
	0.3nm,0.3s,baz=56,slow=14,SNR=21						
KURBB				Lg	Lg	12 16 24.2	
	0.0nm,0.3s,baz=57,slow=32,SNR=5.1						
MK31	**Makanchi Array**	**8.18**	**204**	Pn	**Pn**	**12 14 56.5**	**-0.3**
	0.1nm,0.2s,baz=37,slow=16,SNR=13						
MK31				*⇓*Sn	**Sn**	**12 16 28.4**	**+0.4**
	2.2nm,1.1s,baz=34,slow=29,SNR=4.2						
MK31				*⇓*Lg	Lg	12 17 05.9	
	7.3nm

	2.4nm,1.0s,baz=278,slow=8.5,SNR=5.3							
LCO	**Las Campanas**	**39.58**	**143**	*e*P	**P**	**12 24 09.4**	**-0.3**	
	1.7nm,0.4s							
NVAR	**Mina Array Bea**	**41.31**	**334**	P	**P**	**12 24 23.4**	**-0.5**	
	0.2nm,0.3s,baz=176,slow=5.0,SNR=3.3							
ECSD	**EROS Data Cent**	**41.44**	**360**	*e*P	**P**	**12 24 23.0**	**-1.7**	
	7.5nm,0.8s							
PDAR	**Pinedale Array**	**42.14**	**346**	P	**P**	**12 24 30.3**	**-0.3**	
	2.5nm,0.9s,baz=151,slow=6.4,SNR=8.0							
PDAR				LR	LR	12 41 40.2		
	comp=Z,392nm,18.6s,baz=332,slow=36							
AGMN	**Agassiz Nation**	**46.01**	**1**	*e*P	**P**	**12 25 00.3**	**-1.0**	
	11nm,1.1s							
ULM	**Lac du Bonnet**	**47.96**	**0**	P	**P**	**12 25 16.9**	**+0.4**	
	3.9nm,0.8s,baz=201,slow=6.3,SNR=6.9							
PLCA	**Paso Flores**	**48.75**	**154**	LR	LR	12 41 36.7		
	comp=Z,183nm,18.1s,baz=344,slow=31							
TRQA	**Tornquist**	**51.11**	**145**	*e*P	**P**	**12 25 39.6**	**-1.2**	
	4.6nm,0.9s							
INK	**Inuvik**	**70.70**	**346**	P	**P**	**12 27 52.6**	**-0.9**	
	2.4nm,1.0s,baz=140,slow=1.9,SNR=10							
ILAR	**Eielson Array**	**72.19**	**340**	P	**P**	**12 28 01.3**	**-1.3**	
	2.2nm,0.8s,baz=141,slow=5.1,SNR=7.5							
ILAR				LR	LR	12 59 57.0		
	comp=Z,95nm,18.4s,baz=178,slow=36							
H11N3	**WAKE ISLAND Hy**	**95.54**	**290**	T	T	14 16 05.9		
	baz=86,slow=75,SNR=26							
H11N2	**WAKE ISLAND Hy**	**95.55**	**290**	T	T	14 16 06.5		
	baz=86,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**95.56**	**290**	T	T	14 16 07.0		
	baz=86,slow=75,SNR=38							
H11S2	**WAKE ISLAND Hy**	**95.82**	**289**	T	T	14 16 26.5		
	baz=86,slow=75,SNR=241							
H11S1	**WAKE ISLAND Hy**	**95.83**	**289**	T	T	14 16 26.6		
	baz=86,slow=75,SNR=202							
H11S3	**WAKE ISLAND Hy**	**95.84**	**289**	T	T	14 16 27.7		
	baz=86,slow=75,SNR=143							
SONM	**Songino Array**	**126.40**	**341**	PKP	**PKPdf**	**12 35 43.2**	**+1.9**	
	0.4nm,0.7s,baz=42,slow=1.2,SNR=2.9							
ASAR	**Alice Springs**	**126.81**	**242**	PKP	**PKPdf**	**12 35 43.7**	**+1.0**	
	0.4nm,0.8s,baz=127,slow=1.4,SNR=4.1							
KURK	**Kurchatov**	**127.20**	**4**	*e*PKPdf	**PKPdf**	**12 35 42.2**	**-0.4**	
WRAB	**Tennant Creek**	**127.34**	**247**	*e*PKPdf	**PKPdf**	**12 35 42.2**	**-1.6**	
WRA	**Warramunga Arr**	**127.35**	**246**	PKP	**PKPdf**	**12 35 46.0**	**+2.2**	
	0.5nm,0.8s,baz=78,slow=3.0,SNR=4.1							
MKAR	**Makanchi Array**	**131.29**	**1**	PKP	**PKPdf**	**12 35 50.9**	**+0.4**	
	0.4nm,0.8s,baz=336,slow=3.2,SNR=3.5							
CMAR	**Chiang Mai Arr**	**154.55**	**324**	PKPbc	**PKPbc**	**12 36 42.2**	**+2.4**	
	0.4nm,0.4s,baz=1.3,slow=3.8,SNR=4.1							
CMAR				PKPab	**PKPab**	**12 36 55.2**	**+1.0**	
	0.7nm,0.4s,baz=35,slow=4.9,SNR=3.5							

SKHL 23 12:17:29.2±0.6, 45°00N×149°59E, h35km, mb4.8/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.24**	**281**	*e*P	Pn	12 17 49.4	-0.6
KUR				AMB	AMB	12 17 50.5	
	92nm,0.1s						
KUR				*e*S	Sn	12 18 04.6	-0.9
KUR				A	A	12 18 08.2	
	800nm,0.6s						
KUR				A	A	12 18 08.2	
	700nm,0.6s						
SHO	**Shikotan**	**2.28**	**241**	*e*P	Pn	12 18 04.5	+0.2
SHO				*e*S	Sn	12 18 30.5	-0.6
SHO				A	A	12 18 41.5	
	1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.84**	**251**	*e*P	Pn	12 18 12.3	+0.4
YUK				*e*S	Sn	12 18 45.0	+0.1
YUK				A	A	12 18 58.9	
	110nm,0.9s						
YUK				A	A	12 18 58.9	
	430nm,0.9s						

*ISCJB **23** 12:20:54.4±1.6, 28°58N×0°04×142°5E±0°4, h25km, mb3.5/6, Error ellipse: s-maj=49.5km s-min=4.8km az=176.6*
*JMA **23** 12:20:55.9, 28°52N×141°96E, h21km, M3.9*
*IDC **23** 12:20:56.1±1.4, 28°16N×141°45E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=65.9km s-min=15.2km az=62.0*
ISC 23 12:20:56.7±2.1, 28°50N±0°06×142°6E±0°5, h25km, n12, σ0s99/15, mb3.6/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.44**	**194**	P	**Pn**	**12 21 20.7**	**-0.5**
CBIJ				S	**Sn**	**12 21 38.7**	**-0.6**
JCJ	**Chichijima**	**1.44**	**194**	Pn	**Pn**	**12 21 20.9**	**-0.3**
	8.0nm,0.3s,baz=260,slow=18,SNR=7.9						
JCJ				Sn	**Sn**	**12 21 38.6**	**-0.6**
	48nm,0.3s,baz=106,slow=22,SNR=14						
JHHJ	**Haha-jima-NKT**	**1.90**	**190**	P	**Pn**	**12 21 27.7**	**+0.2**
JHHJ				S	**Sn**	**12 21 51.0**	**+0.5**
JHU	**Hanno**	**7.84**	**340**	P	**Pn**	**12 22 48.8**	**-0.3**
JHU				S	Sn	12 24 09.5	-7.5
JAG	**Ashikaga**	**8.32**	**342**	P	**Pn**	**12 22 55.3**	**-0.5**
JAG				S	**Sn**	**12 24 27.1**	**-1.9**
MJAR	**Matsushiro Arr**	**8.82**	**336**	Pn	**Pn**	**12 23 03.1**	**+0.5**
	0.7nm,0.3s,baz=160,slow=11,SNR=7.7						
SONM	**Songino Array**	**33.95**	**315**	P	**P**	**12 27 38.8**	**+0.7**
	0.3nm,0.5s,baz=118,slow=7.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**48.66**	**318**	P	**P**	**12 29 38.4**	**-0.1**
	0.5nm,0.4s,baz=80,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**48.81**	**190**	P	**P**	**12 29 39.5**	**-0.4**
	0.8nm,0.6s,baz=13,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**49.85**	**309**	P	P	12 29 45.0	-2.8
	0.1nm,0.4s,baz=100,slow=7.7,SNR=2.6						
ASAR	**Alice Springs**	**52.53**	**190**	P	**P**	**12 30 06.9**	**-1.1**
	0.1nm,0.4s,baz=78,slow=7.5,SNR=3.6						
BRTR	**Keskin Array B**	**85.29**	**313**	P	**P**	**12 33 33.8**	**+2.0**
	0.3nm,0.6s,baz=66,slow=3.6,SNR=2.5						

*AZER **23** 12:37:18.9±0.0, 40°60N×46°56E, h16km, Error ellipse: s-maj=0.5km s-min=0.2km az=22.0*
*NSSP **23** 12:37:19.5, 40°47N×46°53E, h11km, Ms3.6*
*ISCJB **23** 12:37:20.0±0.4, 40°57N±0°02×46°63E±0°02, h2km±3km, Error ellipse: s-maj=2.7km s-min=2.1km az=6.8*
*MOS **23** 12:37:19.8±0.8, 40°50N×46°59E, h8km, mb3.9/2, Error ellipse: s-maj=11.2km s-min=6.4km az=98.6*
*CSEM **23** 12:37:20.4±0.1, 40°54N×46°64E, h2km, ML3.6, Error ellipse: s-maj=3.4km s-min=2.8km az=177.0*
*DDA **23** 12:37:58.8, 40°13N×44°81E, h2km, MD3.4*
ISC 23 12:37:20.2±0.9, 40°53N±0°02×46°60E±0°01, h11km±7km, n103, σ1s20/178, 26C-26D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GANJ	**Ganja**	**0.24**	**300**	↑P	**Pg**	**12 37 25.5**	**+0.3**
GANJ				↑S	**Sg**	**12 37 29.2**	**+0.6**
GANJ	**Ganja**	**0.24**	**300**	P	**Pg**	**12 37 25.5**	**+0.3**
MNGR	**Mingechevir, A**	**0.45**	**57**	↑P	**Pb**	**12 37 30.0**	**-0.1**
MNGR				↑S	**Sb**	**12 37 36.4**	**-0.4**
MNGR	**Mingechevir, A**	**0.45**	**57**	P	**Pb**	**12 37 30.0**	**-0.1**
MNGR				S	**Sb**	**12 37 36.4**	**-0.4**
BRDA	**Brd**	**0.52**	**120**	↑P	**Pb**	**12 37 32.0**	**+0.7**
BRDA				↑S	**Sn**	**12 37 42.1**	**-0.3**
BRDA	**Brd**	**0.52**	**120**	P	**Pb**	**12 37 32.0**	**+0.7**
STKZ		**0.72**	**170**	↓*i*P	**Pg**	**12 37 31.4**	**-2.8**
STKZ				↓S	**Sg**	**12 37 41.1**	**-2.6**
VADZ	**Vardenis**	**0.74**	**242**	↓*i*P	**Pn**	**12 37 36.0**	**-0.8**
VADZ				↓S	**Sn**	**12 37 49.0**	**+0.8**
VADZ	**Vardenis**	**0.74**	**242**	↓P	**Pn**	**12 37 36.0**	**-0.8**
VADZ				S	**Sn**	**12 37 49.0**	**+0.8**
SEKA	**Sheki**	**0.82**	**34**	↑P	**Pg**	**12 37 35.2**	**-0.9**
SEKA				↓S	**Sg**	**12 37 47.2**	**+0.4**
GRS	**Goris**	**1.05**	**191**	↑*i*P	**Pb**	**12 37 40.0**	**-0.4**
GRS				↑*i*S	**Sb**	**12 37 54.0**	**-0.2**
GRS	**Goris**	**1.05**	**191**	↑P	**Pb**	**12 37 40.0**	**-0.4**
GRS				S	**Sb**	**12 37 54.0**	**-0.2**
QZX	**Qazax, Azerbai**	**1.07**	**300**	↑P	**Pb**	**12 37 39.2**	**-1.6**
QZX				↑S	**Sb**	**12 37 53.8**	**-0.9**
ZKTA	**Zakatala**	**1.11**	**1**	↓P	**Pb**	**12 37 40.3**	**-1.2**
ZKTA				↓S	**Sg**	**12 37 56.3**	**+0.3**
KDMR	**Kurdemir**	**1.22**	**97**	↑P	**Pn**	**12 37 43.2**	**0.0**
KDMR				↑S	**Sg**	**12 38 01.5**	**+1.9**
KDMR	**Kurdemir**	**1.22**	**97**	P	**Pn**	**12 37 43.2**	**0.0**
KDMR				S	**Sg**	**12 38 01.5**	**+1.9**
IML	**Ismayilli**	**1.24**	**77**	↑P	**Pn**	**12 37 42.6**	**-0.9**
IML				↓S	**Sb**	**12 37 59.8**	**+0.2**
IML	**Ismayilli**	**1.24**	**77**	P	**Pn**	**12 37 42.6**	**-0.9**
IML				S	**Sb**	**12 37 59.8**	**+0.2**
AKT	**Akhty**	**1.28**	**42**	↓*i*PG	**Pn**	**12 37 43.2**	**-1.0**
AKT				*e*S	**Sb**	**12 38 00.0**	**-1.0**
AKT				pmax	pmax		
	comp=Z,180nm,0.3s						
AKT	**Akhty**	**1.28**	**42**	*i* Pg	**Pn**	**12 37 43.2**	**-1.0**
	comp=Z,180nm,0.3s						
AKT				*e*Sg	**Sb**	**12 38 00.0**	**-1.0**
DGRG	**David-gareji**	**1.31**	**315**	P	**Pn**	**12 37 44.3**	**-0.2**
DGRG				S	**Sg**	**12 38 03.3**	**+1.0**
DGRG	**David-gareji**	**1.31**	**315**	*e*PG	**Pn**	**12 37 44.3**	**-0.1**
DGRG	**David-gareji**	**1.31**	**315**	*e*Pg	**Pn**	**12 37 44.3**	**-0.1**
KAPZ	**Kaputan**	**1.46**	**263**	*e*P	**Pg**	**12 37 49.6**	**+1.3**
KAPZ				*e*S	**Sg**	**12 38 09.3**	**+2.0**
KAPZ	**Kaputan**	**1.46**	**263**	P	**Pg**	**12 37 49.6**	**+1.3**
KAPZ				S	**Sg**	**12 38 09.3**	**+2.0**
GNI	**Garni**	**1.47**	**256**	*e*PG	**Pb**	**12 37 47.7**	**+0.1**
GNI	**Garni**	**1.47**	**256**	*e*Pg	**Pb**	**12 37 47.7**	**+0.1**
GNI	**Garni**	**1.47**	**256**	↓P	**Pg**	**12 37 48.5**	**+0.1**
GNI				S	**Sg**	**12 38 08.7**	**+1.3**
CKLZ	**Chkalov**	**1.53**	**286**	↓*i*P	**Pb**	**12 37 48.4**	**-0.3**
CKLZ				↓*i*S	**Sb**	**12 38 08.5**	**+0.3**
CKLZ	**Chkalov**	**1.53**	**286**	↓P	**Pb**	**12 37 48.4**	**-0.3**
CKLZ				S	**Sb**	**12 38 08.5**	**+0.3**
PQL	**Pirkuli**	**1.54**	**80**	↑Pn	**Pn**	**12 37 47.6**	**-0.2**
PQL				↓Sn	**Sn**	**12 38 08.5**	**+1.0**
PQL	**Pirkuli**	**1.54**	**80**	Pn	**Pn**	**12 37 47.6**	**-0.2**
PQL				Sn	**Sb**	**12 38 09.5**	**+1.0**
SAAT	**Saatly**	**1.55**	**115**	↓Pn	**Pn**	**12 37 46.5**	**-1.2**
SAAT				↑Sn	**Sn**	**12 38 07.0**	**-0.8**
SAAT	**Saatly**	**1.55**	**115**	Pn	**Pn**	**12 37 46.5**	**-1.2**
SAAT				Sn	**Sn**	**12 38 07.0**	**-0.8**
KSMR	**Kasumkent**	**1.58**	**47**	PG	**Pn**	**12 37 49.0**	**+0.8**
KSMR				S	**Sg**	**12 38 11.0**	**-0.1**
KSMR	**Kasumkent**	**1.58**	**47**	Pg	**Pn**	**12 37 49.0**	**+0.8**
KSMR				Sg	**Sg**	**12 38 11.0**	**-0.1**
NAX	**Nakhchivan**	**1.59**	**212**	↑Pn	**Pg**	**12 37 50.6**	**-0.2**
NAX				↑Sn	**Sg**	**12 38 12.7**	**+1.2**
NAX	**Nakhchivan**	**1.59**	**212**	Pn	**Pg**	**12 37 50.6**	**-0.2**
KMKR	**Kumukh**	**1.65**	**13**	↓*i*Pn	**Pn**	**12 37 50.0**	**+0.7**
KMKR				*e*S	**Sb**	**12 38 12.5**	**+1.0**
KMKR				pmax	pmax		
	comp=Z,349nm,0.2s						
KMKR	**Kumukh**	**1.65**	**13**	*i* Pn	**Pn**	**12 37 50.0**	**+0.7**
	comp=Z,349nm,0.2s						
KMKR				*e*Sg	**Sb**	**12 38 12.5**	**+1.0**
QUBA	**Quba, Azerbaij**	**1.66**	**59**	↓Pn	**Pn**	**12 37 49.9**	**+0.6**
QUBA				↑Sn	**Sb**	**12 38 11.6**	**-0.1**
QUBA	**Quba, Azerbaij**	**1.66**	**59**	Pn	**Pn**	**12 37 49.9**	**+0.6**
QUBA				Sn	**Sb**	**12 38 11.6**	**-0.1**
PAAR	**P'arak'ar**	**1.73**	**258**	*e*P	**Pg**	**12 37 53.6**	**+0.1**
PAAR				*e*S	**Sg**	**12 38 17.1**	**+1.0**
PAAR	**P'arak'ar**	**1.73**	**258**	P	**Pg**	**12 37 53.6**	**+0.1**
PAAR				S	**Sg**	**12 38 17.0**	**+1.0**
AMBZ	**Amberd**	**1.79**	**266**	*e*P	**Pg**	**12 37 54.8**	**+0.3**
AMBZ				*e*S	**Sg**	**12 38 19.6**	**+1.8**
AMBZ	**Amberd**	**1.79**	**266**	P	**Pg**	**12 37 54.8**	**+0.3**
SPIZ	**Spitak**	**1.79**	**280**	↓*i*P	**Pn**	**12 37 51.9**	**+0.7**
SPIZ				↑*i*S	**Sn**	**12 38 14.2**	**+0.1**
SPIZ	**Spitak**	**1.79**	**280**	↓P	**Pn**	**12 37 51.9**	**+0.7**
SPIZ				S	**Sn**	**12 38 14.2**	**+0.1**
ATGJ	**Altiaghaj**	**1.81**	**79**	↑Pn	**Pb**	**12 37 52.8**	**-0.7**
ATGJ				↓Sn	**Sb**	**12 38 17.6**	**+1.4**
ATGJ	**Altiaghaj**	**1.81**	**79**	Pn	**Pb**	**12 37 52.8**	**-0.7**
URKR	**Urkarakh**	**1.81**	**25**	*e*PN	**Pb**	**12 37 53.0**	**-0.5**
URKR				*e*S	**Sb**	**12 38 18.0**	**+1.7**
URKR				pmax	pmax		
	comp=Z,401nm,0.2s						
URKR	**Urkarakh**	**1.81**	**25**	*e*Pn	**Pb**	**12 37 53.0**	**-0.5**
	comp=Z,401nm,0.2s						
URKR				*e*Sg	**Sb**	**12 38 18.0**	**+1.7**
SEAG	**Tbilisi Sea**	**1.83**	**313**	P	**Pn**	**12 37 50.7**	**-1.0**
SEAG				S	**Sn**	**12 38 14.8**	**-0.1**
SIZA	**Siyzn**	**1.83**	**72**	↑Pn	**Pn**	**12 37 52.4**	**+0.7**
SIZA	**Siyzn**	**1.83**	**72**	Pn	**Pn**	**12 37 52.4**	**+0.7**
TBLG	**Delisi**	**1.85**	**311**	*e*PG	**Pn**	**12 37 51.6**	**-0.2**
TBLG				*e*SG	**Sn**	**12 38 14.6**	**-0.6**
TBLG	**Delisi**	**1.85**	**311**	P	**Pn**	**12 37 51.5**	**-0.4**
TBLG				S	**Sn**	**12 38 15.9**	**+0.7**
TBLG	**Delisi**	**1.85**	**311**	*e*PN	**Pn**	**12 37 51.5**	**-0.4**
TBLG	**Delisi**	**1.85**	**311**	*e*Pg	**Pn**	**12 37 51.6**	**-0.2**
TBLG				*e*Sg	**Sn**	**12 38 14.6**	**-0.6**
KZR	**Kazreti**	**1.86**	**298**	P	**Pn**	**12 37 51.6**	**-0.4**
KZR				S	**Sn**	**12 38 15.4**	**-0.2**
GNBR	**Gunib**	**1.88**	**8**	PN	**Pn**	**12 37 53.6**	**+1.3**
GNBR				S	**Sb**	**12 38 19.4**	**+1.3**
GNBR	**Gunib**	**1.88**	**8**	Pn	**Pn**	**12 37 53.6**	**+1.3**
GNBR				Sg	**Sb**	**12 38 19.4**	**+1.3**
GLBA	**Clilabad**	**1.89**	**132**	↑Pn	**Pn**	**12 37 52.9**	**+0.6**
GLBA				↓Sn	**Sb**	**12 38 17.9**	**-0.3**
GLBA	**Clilabad**	**1.89**	**132**	Pn	**Pn**	**12 37 52.9**	**+0.6**
GLBA				Sn	**Sb**	**12 38 17.9**	**-0.3**
ALIB	**Äli-Bayra**	**1.93**	**106**	↓Pn	**Pn**	**12 37 54.0**	**+1.0**
ALIB	**Äli-Bayra**	**1.93**	**106**	Pn	**Pn**	**12 37 54.0**	**+1.0**
XNZR	**Khunzakh**	**2.01**	**2**	*e*PN	**Pn**	**12 37 55.5**	**+1.2**
XNZR				pmax	pmax		
	comp=Z,220nm,0.2s						
XNZR	**Khunzakh**	**2.01**	**2**	*e*Pn	**Pn**	**12 37 55.5**	**+1.2**
	comp=Z,220nm,0.2s						
EAK	**Akyaka**	**2.28**	**275**	*i* P	**Pb**	**12 38 00.6**	**-0.9**
EAK				*i* S	**Sb**	**12 38 31.0**	**+1.3**
EAK	**Akyaka**	**2.28**	**275**	*i* P	**Pb**	**12 38 00.6**	**-0.9**
EAK				*i* S	**Sb**	**12 38 31.0**	**+1.3**
LRK	**Lerik**	**2.31**	**144**	↓Pn	**Pn**	**12 37 59.5**	**+1.1**
LRK				↑Sn	**Sn**	**12 38 28.8**	**+1.8**
LRK	**Lerik**	**2.31**	**144**	Pn	**Pn**	**12 37 59.5**	**+1.1**
LRK				Sn	**Sn**	**12 38 28.8**	**+1.8**
GOBA	**Gobu**	**2.40**	**92**	↓Sn	**Sn**	**12 38 29.9**	**+1.2**
GOBA	**Gobu**	**2.40**	**92**	Sn	**Sn**	**12 38 29.9**	**+1.2**
DIGO	**Kars**	**2.46**	**268**	*i* P	**Pb**	**12 38 03.0**	**-1.6**
DIGO	**Kars**	**2.46**	**268**	*i* P	**Pb**	**12 38 03.0**	**-1.6**
DIGO				*i* S	**Sb**	**12 38 36.8**	**+1.8**
LKRN	**Lenkeran, Azer**	**2.48**	**136**	↓Pn	**Pn**	**12 38 01.1**	**+0.6**
LKRN				↑Sn	**Sn**	**12 38 32.3**	**+1.6**
LKRN	**Lenkeran, Azer**	**2.48**	**136**	Pn	**Pn**	**12 38 01.1**	**+0.6**
LKRN				Sn	**Sn**	**12 38 32.3**	**+1.6**
AKH	**Akhalkalaki**	**2.51**	**292**	*e*PG	**Pn**	**12 38 01.5**	**+0.4**
AKH				*e*SG	**Sb**	**12 38 35.5**	**-0.8**
AKH	**Akhalkalaki**	**2.51**	**292**	P	**Pb**	**12 38 03.6**	**-1.8**
AKH				S	**Sb**	**12 38 35.5**	**-0.8**
AKH	**Akhalkalaki**	**2.51**	**292**	*e*Pg	**Pn**	**12 38 01.5**	**+0.4**
AKH				*e*Sg	**Sb**	**12 38 35.5**	**-0.8**
GRO	**Groznyy**	**2.86**	**348**	*e*PN	**Pb**	**12 38 09.6**	**-1.6**
GRO				*e*S	**Sn**	**12 38 41.6**	**+1.5**
GRO	**Groznyy**	**2.86**	**348**	*e*Pn	**Pb**	**12 38 09.6**	**-1.6**
GRO				*e*Sn	**Sn**	**12 38 41.6**	**+1.5**
ZEI	**Tsey**	**3.03**	**319**	*e*PN	**Pn**	**12 38 09.7**	**+1.4**
ZEI				*e*S	**Sn**	**12 38 46.0**	**+1.4**
ZEI	**Tsey**	**3.03**	**319**	*e*Pn	**Pn**	**12 38 09.7**	**+1.4**
ZEI				*e*Sn	**Sn**	**12 38 46.0**	**+1.4**
ONI	**Oni**	**3.13**	**312**	P	**Pn**	**12 38 10.6**	**+1.0**
ONI				S	**Sb**	**12 38 50.7**	**-3.4**
ONI	**Oni**	**3.13**	**312**	*e*PN	**Pn**	**12 38 10.6**	**+1.0**
ONI	**Oni**	**3.13**	**312**	*e*Pn	**Pn**	**12 38 10.6**	**+1.0**
ARNR	**Ardon**	**3.16**	**328**	*e*PN	**Pn**	**12 38 11.7**	**+1.8**
ARNR				*e*S	**Sn**	**12 38 49.3**	**+1.6**
BTKR	**Batakoyurt**	**3.23**	**332**	*e*PN	**Pn**	**12 38 12.2**	**+1.4**
BTKR				*e*S	**Sn**	**12 38 50.5**	**+1.2**
BTKR	**Batakoyurt**	**3.23**	**332**	*e*Pn	**Pn**	**12 38 12.2**	**+1.4**
BTKR				*e*Sn	**Sn**	**12 38 50.5**	**+1.2**
DIGR	**Digorskoe uzhe**	**3.27**	**317**	*e*PN	**Pn**	**12 38 12.9**	**+1.3**
DIGR				*e*S	**Sn**	**12 38 51.9**	**+1.3**
DIGR	**Digorskoe uzhe**	**3.27**	**317**	*e*Pn	**Pn**	**12 38 12.9**	**+1.3**
DIGR				*e*Sn	**Sn**	**12 38 51.9**	**+1.3**
STDR	**Stavd-Durt**	**3.41**	**327**	*e*PN	**Pb**	**12 38 22.6**	**+2.0**
STDR				*e*S	**Sb**	**12 39 02.3**	**+0.2**
LSNR	**Lesken**	**3.44**	**324**	*e*PN	**Pb**	**12 38 19.2**	**-1.9**
LSNR				*e*S	**Sb**	**12 38 59.2**	**-3.7**
LSNR	**Lesken**	**3.44**	**324**	*e*Pn	**Pb**	**12 38 19.2**	**-1.9**
LSNR				*e*Sn	**Sb**	**12 38 59.2**	**-3.7**
DAGI	**Agillar**	**3.59**	**280**	*i* P	**Pb**	**12 38 25.2**	**+1.4**
DAGI				*i* S	**Sg**	**12 39 11.9**	**-3.7**
DDEM	**Demirkent**	**3.70**	**277**	*i* P	**Pb**	**12 38 27.0**	**+1.4**
DDEM				*i* S	**Sg**	**12 39 19.5**	**+0.5**
NEY	**Neytrino**	**3.97**	**315**	*e*PN	**Pn**	**12 38 21.5**	**+0.3**
NEY	**Neytrino**	**3.97**	**315**	*e*Pn	**Pn**	**12 38 21.5**	**+0.3**
ARU	**Arti**	**17.74**	**22**	*e*P	**Pn**	**12 41 24.1**	**-2.8**
BRVK	**Borovoye**	**20.38**	**44**	*e*P	Pn	12 41 59.6	+0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	**Ala-Archa**	**20.94**	**75**	*e*P	Pn	12 42 05.4	-0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						

*IDC **23** 12:44:37.0±0.8, 19°05N×121°48E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/26, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=29.7km s-min=18.8km az=84.0*
*ISCJB **23** 12:44:41.4±0.6, 19°26N±0°04×121°14E±0°08, h35km, mb3.6/8, Error ellipse: s-maj=11.1km s-min=6.0km az=2.3*
*MAN **23** 12:44:43, 18°93N×121°10E, h3km, mb4.7, ML3.6, MS3.6*
ISC 23 12:44:42.8±0.7, 19°22N±0°07×121°14E±0°08, h35km, n26, σ1s51/21, mb3.6/8, 3C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.02**	**209**	↓*i*P	**Pn**	**12 44 58.7**	**-1.9**
PIP				*e*S	**Sn**	**12 45 12.1**	**-1.6**
SGCP	**Mt. Cagua**	**1.30**	**138**	*e*P	**Pn**	**12 45 04.6**	**+0.2**
APYP	**Conner**	**1.35**	**176**	*e*P	**Pn**	**12 45 04.9**	**-0.3**
APYP				*e*S	**Sn**	**12 45 21.0**	**-1.0**
SIPP	**Brgy, Tapao**	**1.44**	**207**	↓*i*P	Pn	12 44 57.6	-8.8
SIPP				*e*S	Sn	12 45 10.1	-14
ABRA	**Dolores**	**1.61**	**195**	*e*P	**Pn**	**12 45 08.5**	**-0.3**
CVP	**Callao Caves**	**1.64**	**157**	↑*i*P	**Pn**	**12 45 09.4**	**+0.2**
CVP				*i* S	**Sn**	**12 45 29.6**	**+0.6**
BCPH	**Baguio City Da**	**2.87**	**191**	↑*i*P	**Pn**	**12 45 26.9**	**+0.6**
BCPH				*i* S	**Sn**	**12 46 03.3**	**+3.6**
BOLP	**Bolinao**	**3.06**	**203**	*e*P	**Pn**	**12 45 29.3**	**+0.7**
BALP	**Baler**	**3.48**	**173**	*e*P	**Pn**	**12 45 35.7**	**+1.2**
PCPH	**Palayan**	**3.64**	**181**	↑*e*P	Pn	12 45 41.0	+4.4
KSRS	**Korea Array**	**19.11**	**17**	P	**P**	**12 49 03.6**	**+1.0**
	0.5nm,0.3s,baz=196,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**21.02**	**272**	P	**P**	**12 49 25.0**	**+1.4**
	1.6nm,0.9s,baz=74,slow=9.5,SNR=11						
SONM	**Songino Array**	**30.96**	**341**	P	P	12 51 01.5	+4.8
	0.4nm,0.5s,baz=167,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**41.02**	**161**	P	P	12 52 18.6	-4.2
	0.6nm,0.5s,baz=342,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**12 54 22.6**	**+0.1**
	0.5nm,0.5s,baz=343,slow=3.1,SNR=9.5						
MKAR	**Makanchi Array**	**41.98**	**320**	P	**P**	**12 52 32.9**	**+2.4**
	0.9nm,0.8s,baz=114,slow=7.0,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**43.01**	**83**	T	T	13 38 16.5	
	baz=276,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy**	**43.02**	**83**	T	T	13 38 17.6	
	baz=276,slow=74,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**43.03**	**83**	T	T	13 38 18.3	
	baz=276,slow=74,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**43.04**	**81**	T	T	13 38 15.1	
	baz=277,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**43.04**	**81**	T	T	13 38 15.3	

comp=N,16nm,0.2s
MOY ePb Pb 14 01 34.1 +0.3
MOY i Sg Sg 14 01 45.6 +0.1
MOY Pmax
comp=N,57nm,0.1s
MOY Smax
comp=N,418nm,0.7s
MOY Mondy 0.98 190 ePG Pg 14 01 33.1 +0.2
MOY e 14 01 45.6
MOY pmax pmax
comp=Z,57nm,0.1s
MOY smax smax
comp=E,611nm,0.2s
ARS Arshan 1.00 135⇓ iPg Pg 14 01 33.7 +0.4
comp=E,51nm,0.4s
ARS ⇑iPg Pg 14 01 33.7 +0.4
comp=E,45nm,0.4s
ARS ⇑iPg Pg 14 01 33.7 +0.4
comp=E,197nm,0.4s
ARS eSg Sg 14 01 47.4 +1.1
ARS Pmax
comp=E,238nm,0.3s
ARS Smax
comp=E,650nm,0.2s
ARS Arshan 1.00 135 ePG Pg 14 01 33.7 +0.4
ARS e 14 01 47.4
ARS pmax pmax
comp=Z,245nm,0.2s
ARS smax smax
comp=E,648nm,0.3s
TLY Talaya 1.74 122⇑ iPg Pn 14 01 46.1 +0.8
TLY e 14 01 47.5
TLY eSg Sb 14 02 09.8 +0.8
TLY max
comp=E,35nm,0.3s
TLY Smax
comp=E,128nm,0.3s
TLY Talaya 1.74 122 ePN Pn 14 01 46.1 +0.8
TLY e 14 02 08.4
TLY pmax pmax
comp=Z,32nm,0.2s
TLY smax smax
comp=N,130nm,0.2s
IRK Irkutsk 1.88 101 ePg Pn 14 01 48.4 +1.3
IRK e 14 01 51.7
IRK i Sg Sb 14 02 13.3 +0.4
IRK e 14 02 15.1
IRK Smax
comp=N,1µm,0.4s
LSTR Listvyanka 2.32 108 ePn Pn 14 01 51.7 -1.5
LSTR ePg Pb 14 01 55.4 -1.1
LSTR ⇑i 14 01 57.1
LSTR e 14 01 59.5
LSTR i Sg Sb 14 02 25.8 +0.2
LSTR max
comp=N,11nm,0.2s
LSTR Smax
comp=N,188nm,1.2s
ZAK Zakamensk 2.58 150⇓ iPg Pb 14 02 00.8 -0.2
ZAK eSg Sb 14 02 36.1 +3.0
ZAK Pmax
comp=N,16nm,0.3s
ZAK Smax
comp=N,43nm,0.5s
TRG Tyrgan 3.09 86⇑ iPn Pn 14 02 03.8 0.0
TRG ePg Pb 14 02 10.5 +0.7
TRG e 14 02 12.1
TRG eSn Sn 14 02 40.3 -1.0
TRG e 14 02 49.4
TRG eSg Sg 14 02 52.9 -0.5
TRG max
comp=N,23nm,0.2s
TRG Smax
comp=N,143nm,0.7s
KAB Kabansk 3.35 98 e Pg 14 02 30.7 +12
KAB eSg Sb 14 02 58.5 +3.2
KAB Smax
comp=N,342nm,0.7s
ZRHB Zarechye 3.59 89 Pg Pb 14 02 19.9 +1.7
ZRHB eSg Sg 14 03 07.2 -2.1
ZRHB Pmax
comp=N,18nm,0.4s
ZRHB Smax
comp=N,265nm,0.8s
HRMR Khuramsha 3.64 104 ePn Pn 14 02 10.8 -0.6
HRMR e 14 02 14.6
HRMR ePg Pb 14 02 19.6 +0.5
HRMR e 14 02 23.1
HRMR e 14 02 58.4
HRMR e 14 03 05.3
HRMR eSg Sb 14 03 07.7 +4.0
HRMR max
comp=N,15nm,0.3s
HRMR Smax
comp=N,328nm,0.9s
OGRR Ongureny 3.94 73 ePn Pn 14 02 15.1 -0.4
OGRR e 14 02 16.8
OGRR ePg Pb 14 02 25.6 +1.4
OGRR eSg Sb 14 03 17.4 +5.1
OGRR Pmax
comp=N,19nm,0.4s
OGRR Smax
comp=N,185nm,0.9s
OGRR Ongureny 3.94 73 ePN Pn 14 02 16.6 +1.1
OGRR e 14 02 26.5
OGRR e 14 03 17.6
OGRR pmax pmax
comp=Z,19nm,0.4s
OGRR smax smax
comp=N,185nm,1.0s
UUDB Ulan-Yde 4.00 98 ePn Pn 14 02 17.0 +0.7
UUDB Pg Pb 14 02 25.6 +0.4
UUDB eSg Sb 14 03 18.7 +4.7
UUDB Smax
comp=N,85nm,1.0s
MXMB Maximikha 4.56 79 ePn Pn 14 02 22.0 -2.1
MXMB ePg Pb 14 02 36.6 +1.8
MXMB eSn Sn 14 03 14.1 -3.5
MXMB eSg Sg 14 03 37.2 -3.4
MXMB Pmax
comp=N,10.0nm,0.5s
MXMB Smax
comp=N,101nm,1.0s
SYVR Suvo 5.35 75 ePn Pn 14 02 36.4 +1.5
SYVR ePg Pb 14 02 50.9 +2.6
SYVR eSg Sg 14 04 02.1 -3.8
SYVR Pmax
comp=N,2.0nm,0.1s
SYVR Smax
comp=N,16nm,1.0s
NIZ Nizh Angarsk 5.79 54 i Pn Pn 14 02 41.0 +0.2
NIZ e 14 02 47.0
NIZ ePg Pb 14 02 59.2 +3.6
NIZ eSn Sn 14 03 45.6 -2.0
NIZ eSg Sg 14 04 14.6 -5.2
NIZ Pmax
comp=N,5.0nm,0.4s
NIZ Smax
comp=N,25nm,0.8s
ULN Ulaanbaatar 6.04 140 eSg Sg 14 04 23.2 -4.8
YLYR Ulyunkhan 6.28 65⇑ iPn Pn 14 02 47.3 -0.3
YLYR e 14 02 52.4
YLYR ePg Pb 14 03 07.6 +3.5
YLYR i Sg Sg 14 04 29.5 -6.2
YLYR Pmax
comp=N,2.0nm,0.3s
YLYR Smax
comp=N,20nm,1.3s
KMO Kumora 6.67 57 ePn Pn 14 02 53.2 +0.3
KMO eSn Sn 14 04 05.9 -3.5
KMO eSg Sg 14 04 41.7 -6.4
KMO max
comp=N,4.0nm,0.4s
KMO Smax
comp=N,25nm,1.7s
KPC Khapcheranga 7.57 108 ePg Pb 14 03 32.2 +6.1
KPC e 14 03 46.8
KPC eSg Sg 14 05 10.5 -6.6
KPC Smax
comp=N,12nm,1.7s
UKT Uakit 7.81 64 ePn Pn 14 03 08.4 -0.3
UKT ePg Pb 14 03 35.1 +4.9
UKT eSg Sg 14 05 16.7 -8.1
UKT Smax
comp=N,5.0nm,0.9s
SVKR Severomuysk 7.98 59 eSg Sg 14 05 21.9 -8.2
SVKR Smax
comp=N,18nm,0.8s
BOD Bodaibo 8.94 49 eSg Sg 14 05 53.0 -7.7
BOD Smax
comp=N,5.0nm,0.7s
NLYR Nelyaty 9.23 60 eSg Sn 14 05 59.5 +47
NLYR Smax
comp=N,47nm,0.5s
CRS Chara 10.70 60 eSg Sn 14 06 47.2 +59
CRS Smax
comp=N,5.0nm,1.0s
TUP Tupik 11.26 73 eSg 14 07 03.2
TUP Smax
comp=N,5.0nm,0.9s

*DDA **23** 14:03:59.3, 38.55N×26.76E, h26km, MD2.9*
*ISCJB **23** 14:04:00.2±0.5, 38.54N±0.02×26.75E±0.03, h8km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=40.2*
*THE **23** 14:04:00.9, 38.54N×26.70E, h21km±3km, ML2.6/4, Error ellipse: s-maj=3.6km s-min=0.9km az=229.0*
*ISK **23** 14:04:00.0, 38.50N×26.76E, h10km, MD2.8*
*CSEM **23** 14:04:00.2±0.1, 38.53N×26.77E, h5km, MD2.9, Error ellipse: s-maj=2.6km s-min=2.2km az=55.0*

ISC 23 14:04:00.3±0.9, 38.55N±0.02×26.75E±0.02, h15km±7km, n63, σ0=90/93, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.22**	**213**	*i* P	**Pb**	**14 04 04.9**	**-1.2**
URLA				*i* S	**Sg**	**14 04 10.4**	**+1.7**
URLA	**Izmir**	**0.22**	**213**	*i* P	**Pb**	**14 04 04.9**	**-1.2**
URLA				*i* S	**Sg**	**14 04 10.4**	**+1.7**
BLCB	**Balcova**	**0.28**	**125**	*e*PG	**Pg**	**14 04 05.5**	**-0.8**
BLCB				*e*SG	**Sg**	**14 04 09.7**	**-0.6**
BLCB	**Balcova**	**0.28**	**125**	*e*Pg	**Pg**	**14 04 05.5**	**-0.8**
BLCB				*e*Sg	**Sg**	**14 04 09.7**	**-0.6**
IZM	**Izmir**	**0.43**	**110**	*e*PG	**Pg**	**14 04 08.6**	**-0.4**
IZM				*e*SG	**Sg**	**14 04 15.0**	**+0.2**
IZM	**Izmir**	**0.43**	**110**	*e*Pg	**Pg**	**14 04 08.6**	**-0.4**
IZM				*e*Sg	**Sg**	**14 04 15.0**	**+0.2**
CHOS	**Chios island**	**0.57**	**254**	P	**Pb**	**14 04 11.5**	**-0.5**
CHOS				S	**Sb**	**14 04 19.4**	**-0.6**
CHOS	**Chios island**	**0.57**	**254**	*e*PG	**Pb**	**14 04 11.9**	**-0.2**
CHOS	**Chios island**	**0.57**	**254**	P	**Pb**	**14 04 11.5**	**-0.5**
CHOS	**Chios island**	**0.57**	**254**	*e*Pg	**Pb**	**14 04 11.9**	**-0.2**
CHOS				S	**Sb**	**14 04 19.4**	**-0.6**
AYVA	**Ayvalik**	**0.76**	**357**	*i* P	**Pb**	**14 04 14.7**	**-0.6**
AYVA				*i* S	**Sg**	**14 04 26.3**	**+1.1**
AYVA	**Ayvalik**	**0.76**	**357**	*i* P	**Pb**	**14 04 14.7**	**-0.6**
AYVA				*i* S	**Sg**	**14 04 26.3**	**+1.1**
PRK	**Paraskevi**	**0.79**	**332**	P	**Pb**	**14 04 15.7**	**-0.1**
PRK				S	**Sb**	**14 04 25.8**	**-0.6**
PRK	**Paraskevi**	**0.79**	**332**	P	**Pb**	**14 04 15.7**	**-0.1**
PRK				S	**Sb**	**14 04 25.8**	**-0.6**
SMG	**Samos**	**0.84**	**175**	P	**Pb**	**14 04 16.1**	**-0.6**
SMG				S	**Sb**	**14 04 27.8**	**0.0**
SMG	**Samos**	**0.84**	**175**	P	**Pb**	**14 04 16.1**	**-0.6**
SMG				S	**Sb**	**14 04 27.8**	**0.0**
AKS	**Akhisar**	**0.90**	**68**	*e*PG	**Pg**	**14 04 13.3**	**+0.6**
AKS	**Akhisar**	**0.90**	**68**	*e*Pg	**Pg**	**14 04 18.3**	**+0.6**
AKHS	**Akhisar**	**0.90**	**68**	*i* P	**Pb**	**14 04 15.9**	**-1.7**
AKHS				*i* S	**Sb**	**14 04 29.4**	**-0.1**
AKHS	**Akhisar**	**0.90**	**68**	*i* P	**Pb**	**14 04 15.9**	**-1.7**
AKHS				*i* S	**Sb**	**14 04 29.4**	**-0.1**
GCAM	**G?zelcaml?**	**0.93**	**156**	*i* P	**Pb**	**14 04 17.1**	**-1.0**
GCAM				*i* S	**Sb**	**14 04 30.3**	**0.0**
GCAM	**G?zelcaml?**	**0.93**	**156**	*i* P	**Pb**	**14 04 17.1**	**-1.0**
GCAM				*i* S	**Sb**	**14 04 30.3**	**0.0**
SIGR	**SIGRI**	**0.96**	**314**	P	**Pb**	**14 04 18.3**	**-0.4**
SIGR				S	**Sb**	**14 04 30.7**	**-0.6**
SIGR	**SIGRI**	**0.96**	**314**	*e*PG	**Pn**	**14 04 19.1**	**-0.2**
SIGR	**SIGRI**	**0.96**	**314**	P	**Pb**	**14 04 18.3**	**-0.4**
SIGR	**SIGRI**	**0.96**	**314**	*e*Pg	**Pn**	**14 04 19.1**	**-0.2**
SIGR				S	**Sb**	**14 04 30.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**123**	*e*PG	**Pb**	**14 04 20.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**123**	*e*Pg	**Pb**	**14 04 20.5**	**-0.3**
BALY	**Balya**	**1.37**	**29**	*i* P	**Pn**	**14 04 24.8**	**-0.2**
BALY				*i* S	**Sb**	**14 04 43.4**	**+0.3**
BALY	**Balya**	**1.37**	**29**	*i* P	**Pn**	**14 04 24.8**	**-0.2**
BALY				*i* S	**Sb**	**14 04 43.4**	**+0.3**
BOZC	**Bozcaada**	**1.40**	**338**	*i* P	**Pn**	**14 04 22.6**	**-2.8**
BOZC				*i* S	**Sn**	**14 04 43.1**	**-0.6**
MANT	**Manisa**	**1.42**	**92**	*i* P	**Pn**	**14 04 26.0**	**+0.1**
MANT				*i* S	**Sb**	**14 04 44.6**	**-0.1**
MANT	**Manisa**	**1.42**	**92**	*i* P	**Pn**	**14 04 26.0**	**+0.1**
MANT				*i* S	**Sb**	**14 04 44.6**	**-0.1**
KULA	**Kula-Manisa**	**1.50**	**91**	*e*PN	**Pb**	**14 04 27.6**	**-0.3**
KULA	**Kula-Manisa**	**1.50**	**91**	*e*Pn	**Pb**	**14 04 27.6**	**-0.3**
BODT	**Bodrum**	**1.55**	**163**	*e*PN	**Pn**	**14 04 27.1**	**-0.3**
BODT	**Bodrum**	**1.55**	**163**	*e*Pn	**Pn**	**14 04 27.1**	**-0.3**
BDRM	**Kayabasi**	**1.58**	**159**	*i* P	**Pn**	**14 04 28.4**	**+0.6**
BDRM	**Kayabasi**	**1.58**	**159**	*i* P	**Pn**	**14 04 28.4**	**+0.6**
BDRM				*i* S	**Sg**	**14 04 52.8**	**+1.7**
DEMI	**Demirci**	**1.61**	**72**	*i* P	**Pb**	**14 04 29.7**	**-0.2**
DEMI				*i* S	**Sb**	**14 04 51.0**	**+0.8**
DEMI	**Demirci**	**1.61**	**72**	*i* P	**Pb**	**14 04 29.7**	**-0.2**
DEMI				*i* S	**Sb**	**14 04 51.0**	**+0.8**
APE	**Apeiranthos**	**1.76**	**214**	*e*PN	**Pn**	**14 04 31.3**	**+0.9**
APE	**Apeiranthos**	**1.76**	**214**	*e*Pn	**Pn**	**14 04 31.3**	**+0.9**
GADA	**Gvkgeada**	**1.77**	**338**	*e*PN	**Pb**	**14 04 32.3**	**-0.2**
GADA	**Gvkgeada**	**1.77**	**338**	*e*Pn	**Pb**	**14 04 32.3**	**-0.2**
LPK	**Lapseki**	**1.82**	**0**	*e*PN	**Pb**	**14 04 32.4**	**-1.0**
LPK	**Lapseki**	**1.82**	**0**	*e*Pn	**Pb**	**14 04 32.4**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.86**	**354**	*e*PN	**Pb**	**14 04 33.2**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.86**	**354**	*e*Pn	**Pb**	**14 04 33.3**	**-0.8**
ERIK	**Erikli-Kesan**	**2.13**	**355**	*e*PN	**Pb**	**14 04 37.1**	**-1.5**
ERIK	**Erikli-Kesan**	**2.13**	**355**	*e*Pn	**Pb**	**14 04 37.1**	**-1.5**
MRMT	**Marmara Adasi**	**2.15**	**17**	*e*PN	**Pb**	**14 04 37.6**	**-1.4**
MRMT	**Marmara Adasi**	**2.15**	**17**	*e*Pn	**Pb**	**14 04 37.7**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.16**	**9**	*e*PN	**Pb**	**14 04 38.2**	**-1.0**
RKY	**Sarkoy-Tekirda**	**2.16**	**9**	*e*Pn	**Pb**	**14 04 38.3**	**-1.0**
SART	**Tekirdag**	**2.17**	**9**	*i* P	**Pn**	**14 04 36.4**	**+0.4**
SART				*i* S	**Sb**	**14 05 05.7**	**-0.3**
SART	**Tekirdag**	**2.17**	**9**	*i* P	**Pn**	**14 04 36.4**	**+0.4**
SART				*i* S	**Sb**	**14 05 05.7**	**-0.3**
TVSB	**Tavsanli**	**2.30**	**66**	*e*PN	**Pn**	**14 04 38.6**	**+0.9**
TVSB	**Tavsanli**	**2.30**	**66**	*e*Pn	**Pn**	**14 04 38.7**	**+0.9**
ALN	**Alexandroupoli**	**2.41**	**347**	*e*PN	**Pn**	**14 04 41.1**	**+1.9**
ALN	**Alexandroupoli**	**2.41**	**347**	*e*Pn	**Pn**	**14 04 41.1**	**+1.9**
ARMT	**Armutlu**	**2.59**	**38**	*e*PN	**Pn**	**14 04 43.7**	**+1.9**
ARMT	**Armutlu**	**2.59**	**38**	*e*Pn	**Pn**	**14 04 43.7**	**+1.9**

BUC 23 14:05:32.0±0.7, 45.17N×23.24E, h12km±7km, MD2.6/3, 12C-8D, Error ellipse: s-maj=7.2km s-min=5.4km az=40.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZR	**Gura Zlata**	**0.39**	**304**⇑	*i*P	Pg	14 05 40.3	+0.4
GZR				*i* S	Sg	14 05 46.0	+0.7
GZR	**Gura Zlata**	**0.39**	**304**⇑	*i*P	Pg	14 05 40.3	+0.4
GZR	**Gura Zlata**	**0.39**	**304**	S	Sg	14 05 46.0	+0.7
LOT	**Lotru**	**0.46**	**54**⇓	*i*P	Pb	14 05 42.0	-0.4
LOT				*i* S	Sg	14 05 48.3	+0.6
LOT	**Lotru**	**0.46**	**54**⇓	*i*P	Pb	14 05 42.0	-0.4
LOT	**Lotru**	**0.46**	**54**	S	Sg	14 05 48.3	+0.6
SRE	**Strehaia**	**0.51**	**183**⇑	*i*P	Pg	14 05 42.5	+0.4
SRE				*i* S	Sb	14 05 50.9	+0.5
SRE	**Strehaia**	**0.51**	**183**⇑	*i*P	Pg	14 05 42.5	+0.4
DEV	**Deva**	**0.75**	**342**⇑	*i*P	Pb	14 05 47.2	+0.2
DEV				*i* S	Sb	14 05 57.7	+0.5
DEV	**Deva**	**0.75**	**342**⇑	*i*P	Pb	14 05 47.2	+0.2
ARR	**Arges**	**1.00**	**78**⇑	*i*P	Pg	14 05 51.3	-0.2
ARR				*i* S	Sb	14 06 05.0	+0.2
ARR	**Arges**	**1.00**	**78**⇑	*i*P	Pg	14 05 51.3	-0.2
BZS	**Buzias**	**1.23**	**292**⇑	*i*P	Pn	14 05 54.2	-0.8
BZS				*i* S	Sg	14 06 11.6	+0.1
BZS	**Buzias**	**1.23**	**292**⇑	*i*P	Pn	14 05 54.2	-0.8
VOIR		**1.30**	**78**⇓	*i*P	Pb	14 05 56.6	0.0
VOIR				*i* S	Sg	14 06 15.4	+1.1
VOIR		**1.30**	**78**⇓	*i*P	Pb	14 05 56.6	0.0
SIRR	**Siria**	**1.56**	**315**⇓	*i*P	Pg	14 06 01.4	-0.5
SIRR				*i* S	Sg	14 06 21.9	-0.3
SIRR	**Siria**	**1.56**	**315**⇓	*i*P	Pg	14 06 01.4	-0.5
DRGR		**1.66**	**347**⇓	*i*P	Pb	14 06 02.8	+0.1
DRGR				*i* S	Sb	14 06 24.4	+0.8
DRGR		**1.66**	**347**⇓	*i*P	Pb	14 06 02.8	+0.1
DOPR	**Dopca**	**1.71**	**62**⇑	*i*P	Pb	14 06 02.7	-0.7
DOPR				*i* S	Sn	14 06 24.1	+0.6
DOPR	**Dopca**	**1.71**	**62**⇑	*i*P	Pb	14 06 02.7	-0.7

*ISCJB **23** 14:28:42.8±0.5, 40.12N±0.03×141.26E±0.09, h105km±3km, mb3.8/8, Error ellipse: s-maj=10.9km s-min=4.9km az=5.4*
*JMA **23** 14:28:44.2, 40.15N×141.23E, h94km±1km, M3.1*
*IDC **23** 14:28:45.0±1.7, 40.13N×141.22E, h112km±17km, mb3.5/8, mb1 3.6/10, mb1mx3.4/29, mbtmp3.8/10, Error ellipse: s-maj=24.0km s-min=13.2km az=87.0*

ISC 23 14:28:43.7±0.8, 40.12N±0.04×141.23E±0.07, h97km±6km, n23, σ0=99/35, mb4.0/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKZ	**Kuzumaki**	**0.16**	**151**	P	**Pn**	**14 28 57.8**	**+0.3**
JKZ				S	**Sn**	**14 29 07.7**	**0.0**
JANG	**Nango**	**0.33**	**41**	P	**Pn**	**14 28 58.1**	**0.0**
JANG				S	**Sn**	**14 29 08.4**	**-0.4**
JAH	**Hinai**	**0.46**	**278**	P	**Pn**	**14 28 59.0**	**+0.2**
JAH				*e*S	**Sn**	**14 29 10.1**	**-0.1**
JOM	**Ohasama**	**0.65**	**176**	P	**Pn**	**14 29 00.8**	**+0.4**
JOM				S	**Sn**	**14 29 13.2**	**+0.3**
JTM	**Tenmabayashi**	**0.67**	**349**	P	**Pn**	**14 29 00.6**	**0.0**
JTM				*e*S	**Sn**	**14 29 12.9**	**-0.3**
JRG	**Rokugo**	**0.86**	**213**	P	**Pn**	**14 29 03.1**	**+0.7**
JRG				S	**Sn**	**14 29 17.7**	**+1.3**
JIW	**Iwasaki**	**1.05**	**297**	P	**Pn**	**14 29 04.8**	**+0.4**
JIW				*e*S	**Sn**	**14 29 20.3**	**+0.3**
JMK	**Ichinoseki**	**1.17**	**180**	P	**Pn**	**14 29 06.4**	**+0.6**
JMK				*e*S	**Sn**	**14 29 22.8**	**+0.4**
JOT	**Ohata**	**1.27**	**354**	P	**Pn**	**14 29 07.2**	**+0.3**
JOT				*e*S	**Sn**	**14 29 25.9**	**+1.5**
JYK	**Kaneyama**	**1.38**	**210**	P	**Pn**	**14 29 09.0**	**+0.7**
JYK				*e*S	**Sn**	**14 29 27.6**	**+0.7**
JKB	**Kayabe**	**1.77**	**355**	P	**Pn**	**14 29 13.8**	**+0.7**
JKB				S	**Sn**	**14 29 36.4**	**+0.9**
ASAJ	**Asahikawa**	**4.12**	**14**	P	**Pn**	**14 29 44.3**	**0.0**
	1.3nm,0.3s,baz=195,slow=19,SNR=14						
ASAJ				S	**Sn**	**14 30 34.1**	**+2.7**
	1.0nm,0.3s,baz=261,slow=19,SNR=3.2						
MAT	**Matsushiro**	**4.29**	**215**	P	**Pn**	**14 29 48.6**	**+1.8**
MJAR	**Matsushiro Ar.**	**4.29**	**215**	P	**Pn**	**14 29 48.5**	**+1.7**
	1.6nm,0.3s,baz=21,slow=15,SNR=16						
USRK	**Usuriysk Ar.**	**7.98**	**304**	P	**Pn**	**14 30 38.9**	**+2.1**
	0.5nm,0.3s,baz=122,slow=13,SNR=12						
SONM	**Songino Array**	**26.05**	**299**	P	**P**	**14 34 06.4**	**-1.5**
	0.3nm,0.4s,baz=83,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**39.78**	**310**	P	**P**	**14 36 06.8**	**+0.1**
	1.7nm,0.5s,baz=78,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**42.42**	**299**	P	**P**	**14 36 27.6**	**-0.9**
	0.3nm,0.6s,baz=84,slow=7.7,SNR=4.8						
KURBB	**Kurchatov Arra**	**44.04**	**305**	P	**P**	**14 36 41.3**	**-0.2**
	1.7nm,0.5s,baz=80,slow=8.5,SNR=20						
BVAR	**Borovoye Array**	**48.43**	**310**	P	**P**	**14 37 15.9**	**+0.1**
	1.2nm,0.5s,baz=74,slow=8.2,SNR=7.2						
WRA	**Warramunga Ar**	**60.10**	**187**	P	**P**	**14 38 40.0**	**-0.7**
	1.1nm,0.6s,baz=4.4,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**63.83**	**187**	P	**P**	**14 39 05.8**	**+0.1**
	0.7nm,0.4s,baz=1.5,slow=7.2,SNR=22						
FINES	**FINESS Array B**	**66.03**	**332**	P	**P**	**14 39 19.1**	**-0.4**
	0.9nm,0.7s,baz=45,slow=6.1,SNR=2.7						

DHMR 23 14:52:51.6±0.5, 11.97N×48.11E, h10km, ML3.6, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**2.65**	**20**	*i* S	Sb	14 54 12.5	+0.8
MUKL				AML	AML	14 54 18.8	
	comp=N,208nm,0.5s						
BDHA	**Al Bayda'**	**3.17**	**309**	*i* P	Pn	14 53 44.4	+2.4
BDHA				*i* S	Sb	14 54 25.7	-1.8
BDHA				AML	AML	14 54 28.7	
	comp=N,988nm,0.3s						
TRBA	**At Turbah**	**4.09**	**288**	*i* P	Pn	14 53 56.9	+2.4
TRBA				*i* S	Sn	14 54 47.9	+5.2
TRBA				AML	AML	14 55 12.1	
	comp=N,97nm,0.6s						
UDYN	**Al 'Udayn**	**4.49**	**297**	*i* S	Sn	14 54 56.8	+4.2

GUC 23 15:05:50.3±0.5, 36.60S×73.59W, h14km±2km, ML4.4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.46**	**123**	*e*P	Pg	15 05 59.7	+0.3
CCSP				*e*S	Sb	15 06 06.2	-0.6
CCSP				AML	AML	15 06 07.5	
	comp=N,53µm,0.3s						
COCH	**Cobquecura**	**0.79**	**55**	*e*P	Pg	15 06 05.4	-0.3
COCH				*e*S	Sb	15 06 16.8	+0.3
AGCH	**Angol**	**1.40**	**150**	*e*S	Sb	15 06 34.1	0.0
LNCH	**Linares**	**1.77**	**66**	*e*P	Pn	15 06 19.9	-0.7
LNCH				*e*S	Sn	15 06 43.5	+0.6
TALC	**Talca**	**1.98**	**54**	*e*P	Pn	15 06 24.2	+0.8
TALC				*e*S	Sb	15 06 50.2	-0.6

*ISCJB **23** 15:31:50.1±0.6, 32.16N±0.03×115.20W±0.03, h9km±5km, Error ellipse: s-maj=5.0km s-min=4.4km az=32.7*
*ECX **23** 15:31:51.8±0.5, 32.15N×115.23W, h6km, MD3.0, ML3.2*
*NEIC **23** 15:31:52.0, 32.16N×115.21W, h6km, ML2.9(PAS), ML3.2(ECX), After ECX.*
*MEX **23** 15:31:53.5±0.7, 32.22N×115.17W, h9km±27km, MD3.7*

ISC 23 15:31:49.8±1.0, 32.17N±0.02×115.18W±0.03, h16km±9km, n20, σ0=54/37, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.24**	**357**	*i* P	**Pb**	**15 31 57.1**	**+1.4**
MBIG				*e*S	**Sg**	**15 31 59.2**	**+0.4**
CPBX	**Cerro Prieto**	**0.27**	**337**⇑	*e*P	**Pb**	**15 31 57.0**	**+0.8**
CPBX				*e*S	**Sb**	**15 32 01.1**	**+0.5**
CPBX				*e*		15 32 03.2	
	comp=E,11µm,0.2s						
CPBX				*e*		15 32 05.1	
	comp=N,9µm,0.2s						
CPBX	**Cerro Prieto**	**0.27**	**337**	*e*P	**Pb**	**15 31 56.9**	**+0.6**
CPBX				*e*S	**Sb**	**15 32 00.7**	**+0.1**
YMD	**Yuma Desert**	**0.66**	**54**⇑	*e*P	**Pb**	**15 32 03.7**	**+0.7**
SGL	**Mount Signal**	**0.66**	**316**⇓	*e*P	**Pb**	**15 32 03.1**	**+0.1**
RDX	**Rancho Dawling**	**0.69**	**250**⇑	*e*P	**Pb**	**15 32 03.9**	**+0.3**
RDX				*e*S	**Sg**	**15 32 12.4**	**-0.1**
RDX			⇑	*e*		15 32 13.9	
	comp=N,829nm,0.6s						
COA	**Coachella**	**0.69**	**4**⇓	*e*P	**Pb**	**15 32 04.0**	**+0.5**
ECBX	**El Chinero**	**0.70**	**171**	*e*P	**Pb**	**15 32 04.0**	**+0.3**
ECBX				*e*S	**Sb**	**15 32 13.6**	**+0.5**
ECBX			⇓	*e*		15 32 14.4	
	comp=N,1µm,0.3s						
RMX	**La Rumorosa**	**0.87**	**300**	*e*P	**Pg**	**15 32 06.7**	**-0.2**
RMX				*e*S	**Sg**	**15 32 18.4**	**0.0**
RMX			⇑	*e*		15 32 18.9	
	comp=N,525nm,0.2s						
RMX			⇑	*e*		15 32 18.9	
	comp=E,870nm,0.3s						
GLA	**Glamis**	**0.93**	**19**	*e*Pg	**Pg**	**15 32 07.4**	**-0.5**
GLA				*e*Sg	**Sg**	**15 32 19.9**	**-0.3**
ZAX	**El Zacaton**	**1.14**	**235**	*e*P	**Pb**	**15 32 10.9**	**-0.2**
ZAX				*e*S	**Sb**	**15 32 25.6**	**0.0**
SPX	**San Pedro Mart**	**1.15**	**192**	*e*P	**Pb**	**15 32 11.2**	**-0.3**
SPX				*e*S	**Sg**	**15 32 27.0**	**-0.1**
SPX	**San Pedro Mart**	**1.15**	**192**	*e*P	**Pg**	**15 32 12.5**	**+0.5**
SPX				*e*S	**Sn**	**15 32 27.6**	**+0.7**
CBX	**Cerro Bola**	**1.26**	**277**	*e*P	**Pb**	**15 32 13.8**	**+0.5**
CBX				*e*S	**Sb**	**15 32 29.3**	**-0.1**
CBX	**Cerro Bola**	**1.26**	**277**	*e*P	**Pn**	**15 32 12.6**	**-0.3**
CBX				*e*S	**Sb**	**15 32 29.5**	**+0.1**
CBX	**Cerro Bola**	**1.26**	**277**	*e*P	**Pb**	**15 32 13.8**	**+0.5**
CBX				*e*S	**Sb**	**15 32 29.3**	**-0.1**
ECNX	**Esteban Cantu**	**1.31**	**247**	*e*P	**Pn**	**15 32 13.5**	**0.0**
ECNX				*e*S	**Sb**	**15 32 30.7**	**+0.1**
PBX	**Punta Banda**	**1.38**	**252**	*e*P	**Pn**	**15 32 14.4**	**0.0**
PBX				*e*S	**Sn**	**15 32 32.4**	**+0.1**

PFO	**Pinyon Flats O**	**1.79**	**324**	*e*Pn	**Pn**	**15 32 19.0**	**-1.1**
PFO				*e*Sn	**Sg**	**15 32 46.6**	**-0.9**
214A	**Organ Pipe Nat**	**2.02**	**95**	*e*Pn	**Pn**	**15 32 22.8**	**-0.4**
214A				*e*Sn	**Sg**	**15 32 53.9**	**-1.1**

CASC 23 15:51:54.8±1.9, 8°29'N×82°76'W, h20km±9km, MD3.7, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.51**	**7**	*e*P	Pb	15 52 05.2	-0.1
BRU2				*e*S	Sb	15 52 13.1	+0.7
CTCR	**Cotoan**	**0.60**	**360**	*e*P	Pb	15 52 06.5	-0.5
BUS	**Buena Vista**	**1.60**	**322**	*e*P	Pn	15 52 21.6	-1.0
BUS				*e*S	Sn	15 52 41.5	-1.6
URSC	**Urasca**	**1.84**	**327**	*e*P	Pn	15 52 25.0	-0.6
URSC				*e*S	Sn	15 52 49.3	+0.9
CGA2	**Cerro Gallo 2**	**2.41**	**316**	*e*P	Pn	15 52 35.0	+1.7
CGA2				*e*S	Sn	15 53 04.7	+2.3

*IDC **23** 16:08:36.2±0.9, 29°53'S×178°22'W, h101km±8km, mb3.8/4, mb1 3.9/5, mb1mx3.7/23, mbtmp4.1/5, Error ellipse: s-maj=38.5km s-min=23.2km az=148.0*
ISC 23 16:08:35.1±0.7, 29°7'S±0.1'×178°5'W±0.2', h100km, n28, σ2s13/30, mb4.2/5, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.70**	**47**	P	**Pn**	**16 08 52.2**	**-0.3**
	1μm,0.3s,baz=98,slow=9.2,SNR=68						
RAO				S	**Sn**	**16 09 03.5**	**-2.1**
	4μm,0.3s,baz=107,slow=20,SNR=90						
MXZ	**Matakaoa Point**	**8.25**	**198**	*e*PN	**Pn**	**16 10 30.4**	**-1.5**
MXZ				*e*SN	**Sn**	**16 12 05.0**	**+1.5**
WMGZ	**Waiomatatini S**	**8.46**	**197**	*e*PN	**Pn**	**16 10 34.9**	**0.0**
HAZ	**Te Kaha**	**8.58**	**200**	*e*PN	**Pn**	**16 10 36.8**	**+0.4**
HAZ				*e*SN	**Sn**	**16 12 16.0**	**+4.6**
PUZ	**Puketiti**	**8.74**	**197**	*e*PN	**Pn**	**16 10 37.9**	**-0.8**
PUZ				*e*SN	**Sn**	**16 12 17.7**	**+2.2**
MWZ	**Matawai**	**9.19**	**200**	*e*PN	**Pn**	**16 10 43.6**	**-1.2**
URZ	**Urewera**	**9.25**	**202**	P	**Pn**	**16 10 44.9**	**-0.6**
	0.2nm,0.3s,baz=214,slow=3.6,SNR=5.2						
URZ				S	**Sn**	**16 12 29.2**	**+1.4**
	4.2nm,0.3s,baz=166,slow=16,SNR=14						
URZ	**Urewera**	**9.25**	**202**	*e*PN	**Pn**	**16 10 45.0**	**-0.5**
KNZ	**Kokohu**	**9.79**	**198**	*e*SN	**Sn**	**16 12 41.3**	**+0.5**
PXZ	**Pawanui**	**10.96**	**199**	*e*PN	**Pn**	**16 11 09.3**	**+0.6**
PXZ				⇓*e*SN	**Sn**	**16 13 07.1**	**-2.1**
MRZ	**Mangatainoka R**	**11.93**	**202**	*e*SN	**Sn**	**16 13 28.8**	**-4.1**
NNZ	**Nelson**	**13.22**	**208**	*e*SN	**Sn**	**16 14 01.1**	**-3.1**
THZ	**Tophouse**	**13.88**	**208**	*e*PN	**P**	**16 11 50.2**	**-2.1**
THZ				*e*SN	**Sn**	**16 14 15.3**	**-4.8**
CTZ	**Chatham Island**	**14.05**	**174**	*e*SN	Sn	16 14 16.7	-7.6
OXZ	**Oxford**	**15.54**	**207**	*e*SN	Sn	16 14 51.0	-9.2
MQZ	**McQueen's Vall**	**15.63**	**204**	*e*SN	Sn	16 14 51.1	-11
RPZ	**Rata Peaks**	**16.25**	**208**	P	**P**	**16 12 20.2**	**+1.5**
	0.4nm,0.3s,baz=18,slow=20,SNR=3.7						
STKA	**Stephens Creek**	**34.21**	**256**	P	P	16 15 14.6	+3.3
	4.0nm,1.0s,baz=102,slow=1,SNR=5.5						
ASAR	**Alice Springs**	**42.72**	**266**	P	P	16 16 25.6	+3.0
	1.1nm,0.6s,baz=104,slow=6.6,SNR=26						
ASAR				PcP	**PcP**	**16 18 14.2**	**+1.7**
	0.4nm,0.6s,baz=117,slow=3.5,SNR=8.0						
WRA	**Warramunga Arr**	**43.64**	**272**	P	P	16 16 33.0	+2.9
	2.8nm,0.6s,baz=110,slow=7.6,SNR=44						
WRA				ScP	**ScP**	**16 21 59.6**	**+1.4**
	0.3nm,0.8s,baz=101,slow=3.9,SNR=6.4						
PETK	**Petropavlovsk-**	**85.06**	**346**	P	**P**	**16 21 00.3**	**+1.1**
	1.8nm,0.8s,baz=134,slow=8.5,SNR=3.7						
USRK	**Ussuriysk Ar.**	**86.37**	**327**	P	P	16 21 12.8	+6.9
	1.8nm,0.6s,baz=170,slow=10.0,SNR=7.6						
FINES	**FINESS Array B**	**144.37**	**340**	PKP	PKPbc	16 27 56.6	-0.9
	2.2nm,0.5s,baz=102,slow=2.2,SNR=16						
NB2	**NORSAR Subarra**	**148.03**	**351**	PKP	**PKPab**	**16 28 09.6**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=16,slow=3.0						
NOA	**NORSAR Array B**	**148.03**	**351**	PKPbc	**PKPbc**	**16 28 07.9**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=15,slow=4.3,SNR=4.7						
AKASG	**Malin Array Be**	**150.51**	**323**	PKPbc	**PKPbc**	**16 28 14.7**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=49,slow=3.5,SNR=14						
BRTR	**Keskin Array B**	**151.90**	**299**	PKPbc	**PKPbc**	**16 28 18.9**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=251,slow=2.2,SNR=4.6						
BRTR				PKPab	**PKPab**	**16 28 29.9**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=59,slow=5.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	**163.49**	**181**	PKPab	**PKPab**	**16 29 21.2**	**+3.0**
	comp=Z,0.8nm,0.6s,baz=183,slow=3.8,SNR=5.9						

MEX 23 16:14:34.5±0.6, 16°68N×99°84W, h12km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**354**	*e*P	Pb	16 14 42.1	+2.1
ACX				*e*S	Sg	16 14 44.9	+3.3
CAIG	**El Cayaco**	**0.55**	**312**	*e*P	Pg	16 14 44.2	-1.1
CAIG				*e*S	Sg	16 14 51.6	-0.9
TLIG	**Tlapa**	**1.50**	**54**	*e*P	Pn	16 14 57.7	-3.8
TLIG				*i* S	Sn	16 15 16.7	-4.5
ARIG	**Puente Sto Nin**	**1.66**	**343**	*e*P	Pn	16 15 00.1	-3.5
ARIG				*e*S	Sn	16 15 19.9	-5.0
PNIG	**Pinotepa**	**1.67**	**100**	*i* P	Pn	16 14 59.6	-4.0
PNIG				*i* S	Sn	16 15 19.6	-5.5
PLIG	**Platanillo**	**1.73**	**11**	*e*P	Pn	16 15 01.5	-3.2
PLIG				*e*S	Sn	16 15 21.5	-5.3

IDC 23 16:17:28.5±46.0, 15°36'S×171°11'W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, Error ellipse: s-maj=899.4km s-min=187.0km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.97**	**240**	P	P	16 25 53.9	+0.3
	1.3nm,0.7s,baz=95,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**52.00**	**257**	P	P	16 26 39.7	-0.4
	0.6nm,0.7s,baz=95,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**52.22**	**252**	P	P	16 26 41.6	-0.1
	4.2nm,0.5s,baz=89,slow=8.0,SNR=198						

IDC 23 16:25:23.4±4.5, 23°15N×94°94E, h117km±37km, mb2.9/3, mb1 3.0/4, mb1mx2.7/40, mbtmp3.1/4, Error ellipse: s-maj=160.8km s-min=23.6km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.98**	**141**	P	Pn	16 26 49.6	0.0
	0.1nm,0.3s,baz=318,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**25.70**	**340**	P	P	16 30 42.6	0.0
	0.2nm,0.4s,baz=166,slow=8.3,SNR=4.3						
WRA	**Warramunga Arr**	**57.55**	**135**	P	P	16 35 00.8	-0.1
	0.4nm,1.0s,baz=318,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**59.99**	**138**	P	P	16 35 17.9	0.0
	0.2nm,0.8s,baz=317,slow=7.0,SNR=5.6						

*DDA **23** 16:48:46.5, 38°14N×30°04E, h25km, MD3.6*
*ISCJB **23** 16:48:47.0±0.6, 38°13N±0°02×29°98E±0°02, h2km±4km, Error ellipse: s-maj=3.3km s-min=2.9km az=155.1*
*ISK **23** 16:48:47.0, 38°11N×29°97E, h4km, ML3.2*
*CSEM **23** 16:48:47.4±0.1, 38°10N×29°99E, h2km, ML3.2, Error ellipse: s-maj=3.1km s-min=2.9km az=79.0*
ISC 23 16:48:47.6±1.1, 38°12N±0°02×30°03E±0°02, h6km±9km, n113, σ1s17/148, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHL	**Karahalli**	**0.45**	**297**	*e*PG	**Pg**	**16 48 55.4**	**-0.9**
KHL				*e*SG	**Sg**	**16 49 01.7**	**-0.4**
KHL	**Karahalli**	**0.45**	**297**	*e*Pg	**Pg**	**16 48 55.4**	**-0.9**
KHL				*e*Sg	**Sg**	**16 49 01.7**	**-0.4**
BCK	**Bucak**	**0.80**	**146**	*e*PG	**Pg**	**16 49 02.2**	**-0.7**
BCK				*e*SG	**Sg**	**16 49 14.1**	**+0.9**
BCK	**Bucak**	**0.80**	**146**	*e*Pg	**Pg**	**16 49 02.2**	**-0.7**
BCK				*e*Sg	**Sg**	**16 49 14.1**	**+0.9**
DENT	**Denizli**	**0.87**	**245**	*e*PG	**Pg**	**16 49 03.3**	**-1.0**
DENT	**Denizli**	**0.87**	**245**	*e*Pg	**Pg**	**16 49 03.3**	**-1.0**
ALT	**Altintas**	**0.93**	**4**	*e*PG	**Pg**	**16 49 05.4**	**-0.1**
ALT				*e*SG	**Sb**	**16 49 19.4**	**+0.5**
ALT	**Altintas**	**0.93**	**4**	*e*Pg	**Pg**	**16 49 05.4**	**-0.1**
ALT				*e*Sg	**Sb**	**16 49 19.4**	**+0.5**
BOLV	**Bolvadin**	**0.94**	**50**	*i* P	**Pg**	**16 49 04.5**	**-1.1**
BOLV				*i* S	**Sb**	**16 49 18.8**	**-0.1**
BOLV	**Bolvadin**	**0.94**	**50**	*i* P	**Pg**	**16 49 04.5**	**-1.1**
BOLV				*i* S	**Sb**	**16 49 18.8**	**-0.1**
GOLH	**Golhisar**	**0.96**	**203**	*i* P	**Pg**	**16 49 04.5**	**-1.5**
GOLH				*i* S	**Sg**	**16 49 17.7**	**-0.8**
GOLH	**Golhisar**	**0.96**	**203**	*i* P	**Pg**	**16 49 04.5**	**-1.5**
GOLH				*i* S	**Sg**	**16 49 17.7**	**-0.8**
GDZ	**Gediz**	**1.05**	**336**	*i* P	**Pg**	**16 49 06.6**	**-1.2**
GDZ				*i* S	**Sg**	**16 49 20.6**	**-1.0**
GDZ	**Gediz**	**1.05**	**336**	*i* P	**Pg**	**16 49 06.6**	**-1.2**
GDZ				*i* S	**Sg**	**16 49 20.6**	**-1.0**
KULA	**Kula-Manisa**	**1.15**	**290**	*e*PN	**Pg**	**16 49 08.6**	**-1.0**
KULA				*e*SN	**Sb**	**16 49 25.0**	**0.0**
KULA	**Kula-Manisa**	**1.15**	**290**	*e*Pn	**Pg**	**16 49 08.6**	**-1.0**
KULA				*e*Sn	**Sb**	**16 49 25.0**	**0.0**
KORT	**Korkueli**	**1.15**	**167**	*i* P	**Pg**	**16 49 08.3**	**-1.3**
KORT				*i* S	**Sn**	**16 49 26.4**	**0.0**
KORT	**Korkueli**	**1.15**	**167**	*i* P	**Pg**	**16 49 08.3**	**-1.3**
KORT				*i* S	**Sn**	**16 49 26.4**	**0.0**
MANT	**Manisa**	**1.22**	**288**	*i* P	**Pg**	**16 49 09.9**	**-1.0**
MANT				*i* S	**Sn**	**16 49 29.6**	**+1.5**
MANT	**Manisa**	**1.22**	**288**	*i* P	**Pg**	**16 49 09.9**	**-1.0**
MANT				*i* S	**Sn**	**16 49 29.6**	**+1.5**
ANTB	**Antalya**	**1.32**	**158**	*e*PN	**Pg**	**16 49 13.7**	**+0.8**
ANTB	**Antalya**	**1.32**	**158**	*e*Pn	**Pg**	**16 49 13.7**	**+0.8**
ELL	**Elmali**	**1.38**	**184**	*e*PN	**Pg**	**16 49 14.1**	**+0.1**
ELL	**Elmali**	**1.38**	**184**	*e*Pn	**Pg**	**16 49 14.1**	**+0.1**
DEMI	**Demirci**	**1.38**	**312**	*i* P	**Pn**	**16 49 12.7**	**-0.7**
DEMI				*i* S	**Sb**	**16 49 31.0**	**-0.7**
DEMI	**Demirci**	**1.38**	**312**	*i* P	**Pn**	**16 49 12.7**	**-0.7**
DEMI				*i* S	**Sb**	**16 49 31.0**	**-0.7**
KDHN	**Kadinhani**	**1.69**	**76**	*i* P	**Pn**	**16 49 17.2**	**-0.5**
KDHN				*i* S	**Sn**	**16 49 39.5**	**-0.1**
KDHN	**Kadinhani**	**1.69**	**76**	*i* P	**Pn**	**16 49 17.2**	**-0.5**
KDHN				*i* S	**Sn**	**16 49 39.5**	**-0.1**
TURN	**Turunc**	**1.69**	**223**	*i* P	**Pg**	**16 49 21.0**	**+1.1**
TURN	**Turunc**	**1.69**	**223**	*i* P	**Pg**	**16 49 21.0**	**+1.1**
TURN				*i* S	**Sg**	**16 49 45.1**	**+3.2**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**265**	*e*PN	**Pn**	**16 49 17.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.70**	**265**	*e*Pn	**Pn**	**16 49 17.6**	**-0.2**
YER	**Yerkesik**	**1.70**	**235**	*e*PN	**Pn**	**16 49 17.7**	**-0.1**
YER	**Yerkesik**	**1.70**	**235**	*e*Pn	**Pn**	**16 49 17.7**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.70**	**220**	*e*PN	**Pn**	**16 49 17.5**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.70**	**220**	*e*Pn	**Pn**	**16 49 17.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.76**	**41**	*e*PN	**Pb**	**16 49 20.2**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.76**	**41**	*e*Pn	**Pb**	**16 49 20.2**	**-0.1**
AYDN	**Tasoluk**	**1.76**	**255**	*i* P	**Pn**	**16 49 19.1**	**+0.4**
AYDN	**Tasoluk**	**1.76**	**255**	*i* P	**Pn**	**16 49 19.1**	**+0.4**
AYDN				*i* S	**Sg**	**16 49 47.5**	**+3.2**
BORA	**Eskisehir**	**1.78**	**11**	*i* P	**Pn**	**16 49 19.5**	**+0.5**
BORA				*i* S	**Sn**	**16 49 41.0**	**-1.0**
BORA	**Eskisehir**	**1.78**	**11**	*i* P	**Pn**	**16 49 19.5**	**+0.5**
BORA				*i* S	**Sn**	**16 49 41.0**	**-1.0**
LADK	**Ladik-KONYA**	**1.84**	**87**	*e*PN	**Pb**	**16 49 21.6**	**-0.1**
LADK	**Ladik-KONYA**	**1.84**	**87**	*e*Pn	**Pb**	**16 49 21.6**	**-0.1**
KONT	**Konya--Tatoy**	**1.85**	**95**	*e*PN	**Pn**	**16 49 20.3**	**+0.5**
KONT	**Konya--Tatoy**	**1.85**	**95**	*e*Pn	**Pn**	**16 49 20.3**	**+0.5**
AKHS	**Akhisar**	**1.90**	**294**	*i* P	**Pn**	**16 49 19.3**	**-1.1**
AKHS	**Akhisar**	**1.90**	**294**	*i* P	**Pn**	**16 49 19.3**	**-1.1**
AKHS				*i* S	**Sg**	**16 49 53.3**	**+4.9**
AKS	**Akhisar**	**1.90**	**294**	*e*PN	**Pn**	**16 49 19.6**	**-0.9**
AKS	**Akhisar**	**1.90**	**294**	*e*Pn	**Pn**	**16 49 19.6**	**-0.9**
AKAS	**Kas**	**1.92**	**190**	*i* P	**Pn**	**16 49 21.4**	**+0.5**
AKAS				*i* S	**Sg**	**16 49 49.2**	**0.0**
AKAS	**Kas**	**1.92**	**190**	*i* P	**Pn**	**16 49 21.4**	**+0.5**
AKAS				*i* S	**Sg**	**16 49 49.2**	**0.0**
CAVI	**Cavuskoy**	**2.08**	**356**	*e*PN	**Pn**	**16 49 24.2**	**+1.2**
CAVI	**Cavuskoy**	**2.08**	**356**	*e*Pn	**Pn**	**16 49 24.2**	**+1.2**
IZI	**Iznik**	**2.25**	**349**	*e*PN	**Pn**	**16 49 26.4**	**+1.0**
IZI	**Iznik**	**2.25**	**349**	*e*Pn	**Pn**	**16 49 26.4**	**+1.0**
BALB	**Balikesir**	**2.26**	**313**	*e*PN	**Pn**	**16 49 26.4**	**+1.0**
BALB	**Balikesir**	**2.26**	**313**	*e*Pn	**Pn**	**16 49 26.4**	**+1.0**
BDRM	**Kayabasi**	**2.31**	**244**	*i* P	**Pn**	**16 49 25.2**	**-0.9**
BDRM				*i* S	**Sn**	**16 49 51.8**	**-3.0**
BDRM	**Kayabasi**	**2.31**	**244**	*i* P	**Pn**	**16 49 25.2**	**-0.9**
BDRM				*i* S	**Sn**	**16 49 51.8**	**-3.0**
ADVT	**Abdulvahap**	**2.32**	**354**	*e*PN	**Pn**	**16 49 27.7**	**+1.5**
ADVT	**Abdulvahap**	**2.32**	**354**	*e*Pn	**Pn**	**16 49 27.7**	**+1.5**
GULT	**Gulveren**	**2.34**	**9**	*e*PN	**Pn**	**16 49 27.7**	**+1.1**
GULT	**Gulveren**	**2.34**	**9**	*e*Pn	**Pn**	**16 49 27.7**	**+1.1**
BLCB	**Balcova**	**2.37**	**277**	*e*PN	**Pn**	**16 49 27.7**	**+0.8**
BLCB	**Balcova**	**2.37**	**277**	*e*Pn	**Pn**	**16 49 27.7**	**+0.8**
DAT	**Datca**	**2.40**	**235**	*e*PN	**Pn**	**16 49 27.2**	**-0.2**
DAT	**Datca**	**2.40**	**235**	*e*Pn	**Pn**	**16 49 27.2**	**-0.2**
GEMT	**Gemlik**	**2.40**	**344**	*e*PN	**Pn**	**16 49 28.1**	**+0.8**
GEMT	**Gemlik**	**2.40**	**344**	*e*Pn	**Pn**	**16 49 28.1**	**+0.8**
BODT	**Bodrum**	**2.41**	**245**	*e*PN	**Pn**	**16 49 27.2**	**-0.3**
BODT	**Bodrum**	**2.41**	**245**	*e*Pn	**Pn**	**16 49 27.2**	**-0.3**
MDUB	**Mudurnu**	**2.51**	**21**	*e*PN	**Pn**	**16 49 30.2**	**+1.2**
MDUB	**Mudurnu**	**2.51**	**21**	*e*Pn	**Pn**	**16 49 30.2**	**+1.2**
ARMT	**Armutlu**	**2.60**	**340**	*e*PN	**Pn**	**16 49 31.6**	**+1.4**
ARMT	**Armutlu**	**2.60**	**340**	*e*Pn	**Pn**	**16 49 31.6**	**+1.4**
GAZI	**Gazipasa**	**2.62**	**135**	*i* P	**Pn**	**16 49 31.2**	**+0.8**
GAZI				*i* S	**Sb**	**16 50 07.2**	**-0.3**
GAZI	**Gazipasa**	**2.62**	**135**	*i* P	**Pn**	**16 49 31.2**	**+0.8**
GAZI				*i* S	**Sb**	**16 50 07.2**	**-0.3**
HRT	**Hereke**	**2.71**	**354**	*e*PN	**Pn**	**16 49 32.5**	**+0.8**
HRT	**Hereke**	**2.71**	**354**	*e*Pn	**Pn**	**16 49 32.5**	**+0.8**
SULT	**Sultanhani-AKS**	**2.75**	**87**	*e*PN	**Pn**	**16 49 33.9**	**+1.7**
SULT	**Sultanhani-AKS**	**2.75**	**87**	*e*Pn	**Pn**	**16 49 33.9**	**+1.7**
EDC	**Edincik**	**2.79**	**324**	*e*PN	**Pn**	**16 49 33.9**	**+1.2**
EDC	**Edincik**	**2.79**	**324**	*e*Pn	**Pn**	**16 49 33.9**	**+1.2**
ISK	**Istanbul-Kandi**	**3.03**	**346**	*e*PN	**Pn**	**16 49 37.3**	**+1.2**
ISK	**Istanbul-Kandi**	**3.03**	**346**	*e*Pn	**Pn**	**16 49 37.3**	**+1.2**
SILT	**Sile**	**3.04**	**354**	*e*PN	**Pn**	**16 49 37.8**	**+1.7**
SILT	**Sile**	**3.04**	**354**	*e*Pn	**Pn**	**16 49 37.8**	**+1.7**
SIGR	**SIGRI**	**3.44**	**290**	*e*PN	**Pn**	**16 49 43.4**	**+1.7**
SIGR	**SIGRI**	**3.44**	**290**	*e*Pn	**Pn**	**16 49 43.4**	**+1.7**
BOZC	**Bozcaada**	**3.54**	**300**	*i* P	**Pn**	**16 49 42.3**	**-0.8**
BOZC				*i* S	**Sn**	**16 50 24.6**	**-0.6**
GELI	**Tayfur-Gelibol**	**3.57**	**311**	*e*PN	**Pn**	**16 49 43.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**3.57**	**311**	*e*Pn	**Pn**	**16 49 43.6**	**+0.1**
CDAG	**Cicekdag**	**3.70**	**65**	*i* P	**Pn**	**16 49 44.4**	**-1.0**
CDAG	**Cicekdag**	**3.70**	**65**	*i* P	**Pn**	**16 49 44.4**	**-1.0**
CDAG				*i* S	**Sn**	**16 50 26.1**	**-3.3**
ERIK	**Erikli-Kesan**	**3.73**	**314**	*e*PN	**Pn**	**16 49 46.9**	**+1.3**
ERIK	**Erikli-Kesan**	**3.73**	**314**	*e*Pn	**Pn**	**16 49 46.9**	**+1.3**
GADA	**Gvkgeada**	**3.82**	**304**	*e*PN	**Pn**	**16 49 47.6**	**+0.8**
GADA	**Gvkgeada**	**3.82**	**304**	*e*Pn	**Pn**	**16 49 47.6**	**+0.8**
ENEZ	**Enez**	**3.98**	**312**	*e*PN	**Pn**	**16 49 50.0**	**+0.9**
ENEZ	**Enez**	**3.98**	**312**	*e*Pn	**Pn**	**16 49 50.0**	**+0.9**
CORM	**Corum**	**4.12**	**59**	*e*PN	**Pn**	**16 49 53.0**	**+1.8**
CORM	**Corum**	**4.12**	**59**	*e*Pn	**Pn**	**16 49 53.0**	**+1.8**
ALN	**Alexandroupoli**	**4.14**	**313**	*e*PN	**Pn**	**16 49 53.2**	**+1.9**
ALN	**Alexandroupoli**	**4.14**	**313**	*e*Pn	**Pn**	**16 49 53.2**	**+1.9**
EDRB	**Edirne**	**4.49**	**327**	*e*PN	**Pn**	**16 49 57.5**	**+1.4**
EDRB	**Edirne**	**4.49**	**327**	*e*Pn	**Pn**	**16 49 57.5**	**+1.4**

IDC 23 16:54:02.4±1.2, 57°11S×148°79E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, Error ellipse: s-maj=152.9km s-min=22.3km az=70.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**21.00**	**172**	P	P	16 58 46.7	-0.2
	0.3nm,0.3s,baz=0.0,slow=7.1,SNR=6.5						
H01W1	**Cape Leeuwin H**	**32.19**	**299**	T	T	17 33 20.0	
	baz=143,slow=75,SNR=23						
H01W2	**Cape Leeuwin H**	**32.20**	**299**	T	T	17 33 17.8	
	baz=143,slow=75,SNR=27						
H01W3	**Cape Leeuwin H**	**32.21**	**299**	T	T	17 33 21.2	
	baz=143,slow=75,SNR=23						
ASAR	**Alice Springs**	**35.11**	**336**	P	P	17 00 57.3	-0.1
	0.5nm,0.9s,baz=168,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**38.62**	**338**	P	P	17 01 27.1	-0.1
	1.1nm,1.0s,baz=164,slow=7.7,SNR=5.6						
H08S2	**Diego Garcia H**	**76.18**	**277**	T	T	18 28 26.3	
	baz=153						
H08S1	**Diego Carcia H**	**76.19**	**277**	T	T	18 28 28.0	
	baz=153						
H08S3	**Diego Garcia H**	**76.20**	**277**	T	T	18 28 25.4	
	baz=153,SNR=4.5						
PLCA	**Paso Flores**	**77.06**	**150**	P	P	17 05 57.3	+0.2
	0.7nm,0.7s,baz=194,slow=8.3,SNR=2.2						

*IDC **23** 17:07:31.6±1.1, 38°94N×72°64E, h0km, mb3.9/7, mb1 3.9/13, mb1mx3.6/43, mbtmp3.8/13, ML3.4/6, MS2.8/2, Ms1 2.8/2, ms1mx2.3/36, Error ellipse: s-maj=19.3km s-min=14.3km az=134.0*
*KRNET **23** 17:07:34.0±0.1, 39°26N×72°70E, h2km, mb3.6*
*NNC **23** 17:07:35.5±2.9, 39°08N×72°71E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=29.4km s-min=11.7km az=148.0*
ISC 23 17:07:35.6±1.3, 39°31N±0°04×72°65E±0°04, h14km±8km, n52, σ1s85/63, mb3.9/7, 21C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.68**	**285**	*e*P	**Pg**	**17 07 47.9**	**-1.0**
	baz=288						
DRK				*e*S	**Sg**	**17 07 57.9**	**0.0**
	baz=288						
CHVK	**Chauvay**	**0.89**	**338**	*e*P	**Pb**	**17 07 53.0**	**0.0**
	baz=337						
CHVK				*e*S	**Sb**	**17 08 06.8**	**+2.0**
	baz=337						
SFK	**Sufi-Kurgan**	**0.97**	**43**	⇑P	**Pn**	**17 07 55.2**	**+0.1**
	20nm,0.3s						
SFK				⇓S	**Sn**	**17 08 12.8**	**+4.0**
	277nm,0.3s						
BTK	**Batken**	**1.60**	**299**	*e*P	**Pg**	**17 08 06.5**	**+0.2**
	baz=299						
BTK				*e*S	**Sg**	**17 08 29.3**	**+2.2**
	baz=299						
SALK	**Salom-Alik**	**1.81**	**29**	*e*P	**Pn**	**17 08 07.0**	**+0.4**
	baz=28						
SALK				*e*S	**Sg**	**17 08 33.0**	**-0.9**
	baz=28						
ARK	**Arkit**	**2.54**	**348**	*e*P	**Pg**	**17 08 23.0**	**-1.4**
	baz=348						
ARK				*e*S	**Sg**	**17 09 01.5**	**+4.2**
	baz=348						
AML	**Almayashu**	**2.93**	**15**	P	**Pb**	**17 08 28.7**	**+0.8**
	SNR=126						
AML	**Almayashu**	**2.93**	**15**	⇑*i*P	**Pb**	**17 08 28.4**	**+0.5**
	baz=15						
AML				⇑*i*S	**Sg**	**17 09 08.7**	**-1.1**
	baz=15						
DZET	**Dzherino**	**3.02**	**262**	⇑Pn	**Pn**	**17 08 22.9**	**-0.2**
	66nm,0.5s						
DZET				⇓Sn	**Sb**	**17 09 06.8**	**+0.9**
	259nm,0.5s						
MNAS	**Manas**	**3.18**	**358**	⇑Pn	**Pb**	**17 08 31.5**	**-0.5**
	28nm,0.4s						
MNAS				⇓Sn	**Sg**	**17 09 15.2**	**-2.6**
	153nm,1.0s						
UCH	**Uchtor**	**3.24**	**25**	P	**Pb**	**17 08 33.1**	**-0.1**
	SNR=23						
UCH	**Uchtor**	**3.24**	**25**	⇑*i*P	**Pb**	**17 08 33.2**	**-0.1**
	baz=24						
UCH				⇑*i*S	**Sb**	**17 09 16.1**	**+3.3**
	baz=24						
KZA	**Kyzart**	**3.40**	**35**	P	**Pb**	**17 08 34.7**	**-1.2**
	SNR=25						
KZA	**Kyzart**	**3.40**	**35**	⇑*i*P	**Pb**	**17 08 34.6**	**-1.4**
	baz=34						
KZA

comp=Z,0.2nm,0.5s,baz=314,slow=6.7,SNR=5.5

IDC 23 17:08:20.9±61.0, 16°82.8S × 179°63.6E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.8/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/22, Error ellipse: s-maj=1095.0km s-min=148.3km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.49**	**245**	LR	LR	17 16 13.2	
	comp=Z,78nm,18.4s,baz=44,slow=35						
STKA	**Stephens Creek**	**37.54**	**239**	P	P	17 15 36.8	-0.1
	1.5nm,0.8s,baz=68,slow=11,SNR=2.8						
STKA				LR	LR	17 29 27.4	
	comp=Z,40nm,19.8s,baz=204,slow=34						
WRA	**Warramunga Arr**	**43.00**	**259**	P	P	17 16 22.2	-0.2
	0.8nm,1.0s,baz=93,slow=7.9,SNR=5.3						
ASAR	**Alice Springs**	**43.30**	**253**	P	P	17 16 24.8	-0.1
	1.2nm,0.6s,baz=88,slow=7.5,SNR=11						
ASAJ	**Asahikawa**	**69.44**	**332**	LR	LR	17 43 25.5	
	comp=Z,15nm,20.0s,slow=30						

MAN 23 17:27:58, 8°16N × 126°68E, h34km, mb4.9, ML3.8, MS3.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.28**	**199**	*e*P	Pn	17 28 19.9	+0.5
MATI				*e*S	Sn	17 28 36.0	+0.6
BUTP	**Butuan**	**1.32**	**308**	*e*P	Pn	17 28 20.7	+0.6
BUTP				*e*S	Sn	17 28 35.0	-1.4
BUKP	**Musuan**	**1.62**	**260**	*e*P	Pn	17 28 25.2	+0.9
SCPH	**Surigao**	**1.99**	**324**	⇑*e*P	Sn	17 28 59.2	+6.1
SCPH				*e*S	Sb	17 29 02.6	+4.4

*ISCJB **23** 17:36:15.1±0.7, 29°.04N±0°.06 × 139°.9E±0°.2, h424km, mb3.4/4, Error ellipse: s-maj=19.9km s-min=7.6km az=169.1*
*JMA **23** 17:36:15.7±0.1, 29°.09N × 140°.08E, h422km, M3.4*
*IDC **23** 17:36:15.8±22.0, 28°.90N × 139°.73E, h415km±120km, mb3.2/4, mb1 3.1/6, mb1mx2.8/39, mbtmp3.9/6, Error ellipse: s-maj=282.3km s-min=61.1km az=163.0*
ISC 23 17:36:16.0±1.0, 29°.10N±0°.10 × 140°.2E±0°.2, h424km, n13, σ0s96/17, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.04**	**144**	P	**P**	**17 37 21.4**	**0.0**
JHHJ				S	**S**	**17 38 13.8**	**-0.6**
BSO4	**Boso 4**	**5.87**	**1**	S	**S**	**17 39 03.0**	**+0.2**
JHU	**Hanno**	**6.77**	**354**	P	**P**	**17 37 57.6**	**-0.2**
JRY	**Ryogami san**	**6.98**	**352**	P	**P**	**17 38 00.2**	**+0.2**
JYT	**Yasato**	**7.10**	**0**	P	**P**	**17 38 02.3**	**+1.0**
JYT				S	**S**	**17 39 25.6**	**-1.6**
JAG	**Ashikaga**	**7.33**	**355**	P	**P**	**17 38 03.4**	**-0.4**
JAG				S	**S**	**17 39 29.8**	**-1.9**
JHO	**Hitachi**	**7.49**	**2**	P	**P**	**17 38 06.4**	**+0.8**
JHO				S	**S**	**17 39 34.9**	**-0.2**
MJAR	**Matsushiro Arr**	**7.60**	**348**	P	**P**	**17 38 07.6**	**+0.8**
	0.5nm,0.3s,baz=166,slow=7.3,SNR=5.3						
USRK	**Ussuriysk Ar.**	**16.42**	**339**	P	**P**	**17 39 43.6**	**+1.0**
	0.4nm,0.3s,baz=144,slow=9.5,SNR=6.5						
MKAR	**Makanchi Array**	**47.83**	**308**	P	**P**	**17 44 12.3**	**-1.0**
	0.2nm,0.3s,baz=94,slow=6.0,SNR=6.5						
KURBB	**Kurchatov Arra**	**50.37**	**313**	P	**P**	**17 44 31.4**	**-0.7**
	0.8nm,0.5s,baz=92,slow=7.6,SNR=17						
ARCES	**ARCESS Array B**	**71.06**	**340**	P	**P**	**17 46 49.9**	**+0.6**
	4.0nm,1.0s,baz=71,slow=8.1,SNR=4.3						
FINES	**FINESS Array B**	**75.36**	**333**	P	**P**	**17 47 15.3**	**+1.1**
	0.9nm,0.6s,baz=92,slow=4.6,SNR=8.2						

*ISCJB **23** 17:38:26.6±0.3, 10°.57N±0°.02 × 62°.46W±0°.02, h96km±3km, mb3.9/10, Error ellipse: s-maj=4.4km s-min=3.3km az=140.0*
*FUNV **23** 17:38:27.8, 10°.65N × 62°.38W, h89km, MW3.7*
*TRN **23** 17:38:28.3, 10°.55N × 62°.42W, h86km, MD3.9*
*IDC **23** 17:38:29.2±1.5, 10°.76N × 62°.65W, h108km±13km, mb3.7/10, mb1 3.8/10, mb1mx3.5/37, mbtmp4.0/10, Error ellipse: s-maj=19.1km s-min=11.9km az=117.0*
ISC 23 17:38:26.9±0.6, 10°.57N±0°.03 × 62°.46W±0°.03, h93km±5km, n57, σ1s54/85, mb4.0/10, 9C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.24**	**71**	*i*P	**Pn**	**17 38 40.6**	**+0.2**
GUIV				*e*S	**Sn**	**17 38 49.1**	**-1.5**
GUNV	**Guanoco**	**0.62**	**230**	*e*P	**Pn**	**17 38 44.6**	**+1.6**
GUNV				*e*S	**Sn**	**17 38 56.4**	**+1.4**
TCE	**Chacachacare**	**0.71**	**79**	*e*P	**Pn**	**17 38 44.5**	**+0.7**
TCE				*e*S	**Sn**	**17 38 56.0**	**-0.4**
CRUV	**Carupano**	**0.77**	**278**	⇑*i*P	**Pn**	**17 38 44.8**	**+0.4**
CRUV				*e*S	**Sn**	**17 38 56.6**	**-0.9**
ALNG	**Atlantic LNG**	**0.85**	**117**	*e*P	**Pn**	**17 38 46.3**	**+1.1**
ALNG				*e*S	**Sn**	**17 38 57.6**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.02**	**104**	⇑*e*P	**Pn**	**17 38 48.1**	**+1.0**
TPP				*e*S	**Sn**	**17 39 01.6**	**-0.6**
SIPA	**Siparia**	**1.03**	**114**	*e*P	**Pn**	**17 38 48.9**	**+1.7**
SIPA				*e*S	**Sn**	**17 39 01.1**	**-1.2**
TRN	**Trinidad (W)**	**1.04**	**86**	⇑*i*P	**Pn**	**17 38 48.2**	**+0.9**
TRN				*i* S	**Sn**	**17 39 01.7**	**-0.9**
TBH	**Brigand Hill**	**1.37**	**93**	*e*P	**Pn**	**17 38 52.1**	**+0.9**
TBH				*e*S	**Sn**	**17 39 10.2**	**+0.6**
GRGR	**Grenville**	**1.74**	**27**	⇑*i*P	**Pn**	**17 38 56.5**	**+0.6**
GRGR				*e*S	**Sn**	**17 39 17.6**	**-0.4**
ORIV	**Oritupano**	**1.76**	**212**	⇓*i*P	**Pn**	**17 38 57.7**	**+1.5**
TPR	**Prospect**	**1.76**	**69**	*e*P	**Pn**	**17 38 57.2**	**+1.0**
TPR				*e*S	**Sn**	**17 39 18.5**	**+0.1**
GRW	**Mount Saint Ca**	**1.77**	**26**	*e*P	**Pn**	**17 38 57.5**	**+1.2**
GRW				*e*S	**Sn**	**17 39 19.0**	**+0.4**
BOT	**Bacolet**	**1.81**	**71**	⇑*e*P	**Pn**	**17 38 57.4**	**+0.6**
BOT				*e*S	**Sn**	**17 39 19.4**	**-0.1**
GRHS	**Sauteurs**	**1.83**	**26**	*e*P	**Pn**	**17 38 58.6**	**+1.6**
GRHS				*e*S	**Sn**	**17 39 20.4**	**+0.4**
GRSS	**Sisters**	**1.91**	**26**	⇓*i*P	**Pn**	**17 38 59.9**	**+1.8**
GRSS				*e*S	**Sn**	**17 39 22.4**	**+0.5**
TOSP	**Speyside**	**2.02**	**69**	*e*P	**Pn**	**17 38 59.7**	**+0.2**
TOSP	**Speyside**	**2.02**	**69**	⇑*e*P	**Pn**	**17 38 59.7**	**+0.2**
TOSP				*e*S	**Sn**	**17 39 23.3**	**-1.2**
TOSP				*e*S	**Sn**	**17 39 23.9**	**-0.6**
PCRV	**Puerto La Cruz**	**2.18**	**260**	*e*P	**Pn**	**17 39 02.5**	**+0.9**
PCRV	**Puerto La Cruz**	**2.18**	**260**	P	**Pn**	**17 39 02.5**	**+0.9**
	8.1nm,0.3s,baz=95,slow=3.4,SNR=24						
PCRV				S	Sn	17 39 21.1	-7.0
	18nm,0.3s,baz=86,slow=10,SNR=8.8						
RIOV	**Rio Grande**	**2.56**	**166**	*e*P	**Pn**	**17 39 08.0**	**+1.3**
RIOV				*e*S	**Sn**	**17 39 38.0**	**+0.7**
PRGV	**PARIAGUAN**	**2.81**	**230**	*e*P	**Pn**	**17 39 10.8**	**+0.8**
GURV	**El Guri**	**2.86**	**193**	⇓*i*P	**Pn**	**17 39 11.4**	**+0.7**
SVB	**Belmont**	**2.94**	**24**	*e*P	**Pn**	**17 39 12.7**	**+1.0**
SVB	**Belmont**	**2.94**	**24**	⇑*e*P	**Pn**	**17 39 14.4**	**+2.7**
SVB				*e*S	**Sn**	**17 39 46.9**	**+0.7**
CUPV	**Cœpira**	**3.31**	**261**	*e*P	**Pn**	**17 39 18.0**	**+1.1**
CUPV				*e*S	**Sn**	**17 39 55.8**	**+0.4**
MCLT	**Moule a Chique**	**3.46**	**25**	⇑*e*P	**Pn**	**17 39 19.3**	**+0.6**
MCLT	**Moule a Chique**	**3.46**	**25**	*e*P	**Pn**	**17 39 19.7**	**+0.9**
MCLT				*e*S	**Sn**	**17 39 57.3**	**-1.5**
MCLT				*e*S	**Sn**	**17 39 57.4**	**-1.3**
BIRV	**Birongo**	**3.75**	**269**	*e*P	**Pn**	**17 39 24.2**	**+1.6**
BIRV				*e*S	**Sn**	**17 40 05.3**	**-0.5**
ORCV	**Isla La Orchil**	**3.87**	**289**	*e*P	**Pn**	**17 39 24.9**	**+0.7**
H05S1	**Guadeloupe/Mar**	**4.15**	**22**	P	**Pn**	**17 39 29.5**	**+1.5**
H05S1				S	**Sn**	**17 40 15.3**	**-0.1**
FDF	**Fort de France**	**4.33**	**17**	*e*P	**Pn**	**17 39 31.2**	**+0.6**
FDF	**Fort de France**	**4.33**	**17**	*e*S	**Sn**	**17 40 16.6**	**-3.4**
LUEV	**Luepa**	**4.80**	**168**	*e*P	**Pn**	**17 39 36.8**	**-0.3**
PHG	**Guadaloupe-2**	**5.47**	**8**	*e*P	**Pn**	**17 39 47.4**	**+1.3**
TAG	**Tarade**	**5.50**	**8**	*e*P	**Pn**	**17 39 49.5**	**+3.0**
MLG	**Mont-d'or**	**5.51**	**8**	*e*P	**Pn**	**17 39 48.5**	**+2.0**
FNG	**Fond-Bernard**	**5.51**	**8**	*e*P	**Pn**	**17 39 47.7**	**+1.1**
LZG	**Guadaloupe-1**	**5.58**	**7**	*e*P	**Pn**	**17 39 48.9**	**+1.4**
BAUV	**El Baul**	**5.73**	**254**	*e*P	**Pn**	**17 39 49.2**	**-0.5**
BAUV				*e*S	**Sn**	**17 40 50.2**	**-3.9**
H05N1	**Guadeloupe/Mar**	**5.88**	**13**	P	**Pn**	**17 39 53.0**	**+1.5**
H05N1				S	**Sn**	**17 40 53.0**	**-4.5**
MAPV	**Macapo**	**5.95**	**263**	*e*P	**Pn**	**17 39 52.5**	**-0.1**
TEPV	**Terepaima**	**6.65**	**265**	*e*P	**Pn**	**17 40 01.7**	**-0.4**
PTGA	**Pitinga**	**11.49**	**167**	P	**Pn**	**17 41 06.6**	**-1.4**
	6.0nm,0.3s,baz=349,slow=16,SNR=29						
PTGA				S	**Sn**	**17 43 08.8**	**-5.8**
	4.1nm,0.3s,baz=282,slow=20,SNR=12						
SIV	**San Ignacio**	**26.42**	**177**	P	**P**	**17 43 57.9**	**+2.7**
	2.0nm,0.7s,baz=20,slow=13,SNR=5.5						
SCHQ	**Schefferville**	**44.29**	**356**	P	**P**	**17 46 27.6**	**+0.3**
	1.7nm,0.5s,baz=163,slow=3.6,SNR=5.6						
ULM	**Lac du Bonnet**	**48.20**	**332**	P	**P**	**17 46 56.2**	**-1.7**
	1.4nm,0.3s,baz=143,slow=7.5,SNR=4.3						
PLCA	**Paso Flores**	**51.59**	**188**	P	**P**	**17 47 25.8**	**+2.0**
	1.8nm,0.7s,baz=5.4,slow=8.1,SNR=7.2						
PDAR	**Pinedale Array**	**51.96**	**317**	P	**P**	**17 47 26.8**	**-0.1**
	0.8nm,0.4s,baz=112,slow=10,SNR=12						
TORD	**Torodi Ar. Bea**	**62.69**	**81**	P	**P**	**17 48 44.5**	**+2.0**
	0.9nm,0.6s,baz=292,slow=6.4,SNR=9.4						
YKA	**Yellowknife Ar**	**63.80**	**336**	P	**P**	**17 48 46.4**	**-2.5**
	2.0nm,0.7s,baz=137,slow=11,SNR=4.8						
ILAR	**Eielson Array**	**78.14**	**334**	P	**P**	**17 50 14.5**	**-1.2**
	0.3nm,0.6s,baz=99,slow=4.5,SNR=4.5						
FINES	**FINESS Array B**	**80.10**	**29**	P	**P**	**17 50 27.7**	**+1.3**
	0.6nm,0.5s,baz=246,slow=6.0,SNR=6.3						
FINES				pP	**pP**	**17 50 51.1**	**+0.4**
	1.2nm,0.8s,baz=259,slow=2.9,SNR=4.1						
BRTR	**Keskin Array B**	**87.97**	**50**	P	**P**	**17 51 07.3**	**+0.3**
	0.5nm,0.6s,baz=242,slow=2.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**145.81**	**33**	PKPbc	**PKPdf**	**17 57 56.0**	**+0.3**
	0.3nm,0.4s,baz=310,slow=4.9,SNR=4.3						
STKA	**Stephens Creek**	**149.28**	**223**	PKPbc	**PKPbc**	**17 58 05.4**	**-0.1**
	1.9nm,0.9s,baz=37,slow=5.1,SNR=5.2						
WRA	**Warramunga Arr**	**161.32**	**238**	PKPab	**PKPab**	**17 59 00.3**	**-1.6**
	0.2nm,0.5s,baz=106,slow=4.7,SNR=5.4						

*IDC **23** 17:39:17.7±2.4, 6°.39S × 129°.08E, h0km, mb4.1/1, mb1 4.0/3, mb1mx3.5/28, mbtmp3.9/3, ML3.9/2, Error ellipse: s-maj=205.1km s-min=29.8km az=68.0*
*ISCJB **23** 17:39:30.9±0.4, 6°.50S±0°.03 × 130°.27E±0°.05, h150km, mb4.1/3, Error ellipse: s-maj=7.5km s-min=3.6km az=165.1*
*DJA **23** 17:39:31.4±0.4, 7°.5S±3°.3 × 13°.0E±°, h10km, M4.3/13, mb4.5/7, mB5.5/2, MLv4.2/13, Mw(mB)5.0/2*
*NEIC **23** 17:39:31.5±1.1, 6°.49S × 130°.21E, h149km±15km, mb4.3/4, Error ellipse: s-maj=18.4km s-min=10.5km az=83.0*
ISC 23 17:39:30.8±0.7, 6°.54S±0°.04 × 130°.38E±0°.06, h150km, n33, σ1s71/38, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.06**	**347**	P	**Pn**	**17 40 06.9**	**+0.2**
BNDI				S	**Sn**	**17 40 33.7**	**-0.6**
MSAI	**Masohi**	**3.49**	**335**	P	**Pn**	**17 40 25.7**	**+1.2**
MSAI				S	**Sn**	**17 41 07.8**	**+1.7**
FAKI	**Fak Fak**	**4.05**	**27**	P	**Pn**	**17 40 33.5**	**+1.7**
FAKI				S	**Sn**	**17 41 18.9**	**-0.4**
FAKI	**Fak Fak**	**4.05**	**27**	P	**Pn**	**17 40 33.4**	**+1.5**
	baz=4.2,SNR=84						
FAKI				S	**Sn**	**17 41 18.7**	**-0.6**
	baz=4.2,SNR=24						
FAKI	**Fak Fak**	**4.05**	**27**	*e*Pn	**Pn**	**17 40 33.2**	**+1.3**
FAKI				*e*Sn	**Sn**	**17 41 15.2**	**-4.0**
NLAI	**Namlea**	**4.63**	**315**	P	**Pn**	**17 40 40.6**	**+1.2**
SANI	**Sanana**	**6.25**	**315**	P	**Pn**	**17 41 00.6**	**-0.4**
	22nm,1.4s,0.1nm						
RKPI	**Ransiki, Papua**	**6.27**	**37**	P	Pn	17 41 06.8	+5.6
	164nm,0.7s,3μm0.9nm						
MTN	**Manton Dam**	**6.30**	**173**	P	Pn	17 41 05.7	+4.1
	baz=6.5,SNR=23						
MTN				S	**Sn**	**17 42 14.3**	**+1.6**
	baz=6.5,SNR=7.0						
KDU	**Kakadu**	**6.45**	**161**	P	Pn	17 41 07.0	+3.5
	baz=6.7,SNR=172						
KDU				S	**Sn**	**17 42 17.4**	**+1.3**
	baz=6.7,SNR=14						
LBMI	**Labuha**	**6.53**	**334**	P	**Pn**	**17 41 04.6**	**-0.1**
	17nm,0.7s,0.1nm						
SOEI	**Soe**	**6.84**	**242**	P	**Pn**	**17 41 09.3**	**+0.3**
	18nm,0.8s,0.2nm						
SOEI	**Soe**	**6.84**	**242**	P	**Pn**	**17 41 09.2**	**+0.3**
	baz=6.6,SNR=7.6						
SOEI				S	**Sn**	**17 42 24.7**	**-1.1**
	baz=6.6,SNR=6.2						
SOEI	**Soe**	**6.84**	**242**	*e*Pn	**Pn**	**17 41 08.7**	**-0.2**
	9.1nm,0.6s						
SOEI				*e*Sn	Sn	17 42 13.8	-12
BATI	**Baumata**	**7.58**	**241**	P	**Pn**	**17 41 19.1**	**+0.4**
KNRA	**Kununurra**	**9.22**	**190**	P	**Pn**	**17 41 41.5**	**+1.0**
	baz=9.3,SNR=50						
KNRA				S	**Sn**	**17 43 18.0**	**-4.7**
	baz=9.3,SNR=12						
FITZ	**Fitzroy Crossi**	**12.39**	**202**	P	**Pn**	**17 42 21.7**	**-0.5**
	baz=12,SNR=11						
FITZ				S	Sn	17 44 31.6	-7.6
	baz=12,SNR=4.4						
FITZ	**Fitzroy Crossi**	**12.39**	**202**	*e*Pn	**Pn**	**17 42 21.1**	**-1.1**
	2.4nm,0.3s						
FITZ				*e*Sn	Sn	17 44 23.4	-16
WRAB	**Tennant Creek**	**13.86**	**164**	*e*Pn	**Pn**	**17 42 40.8**	**-0.3**
WRAB				*e*Sn	Sn	17 45 08.6	-6.1
WRA	**Warramunga Arr**	**13.86**	**164**	Pn	**Pn**	**17 42 42.6**	**+1.4**
	0.6nm,0.3s,baz=333,slow=14,SNR=36						
WRA				Sn	Sn	17 45 08.8	-6.1
	1.6nm,0.3s,baz=332,slow=24,SNR=12						
COEN	**Coen**	**14.58**	**121**	P	P	17 42 58.1	+5.5
	baz=15,SNR=5.4						
COEN				S	**Sn**	**17 45 32.2**	**+0.1**
	baz=15,SNR=6.0						
QIS	**Mount Isa**	**16.56**	**148**	P	**P**	**17 43 12.0**	**-2.3**
	baz=17,SNR=4.9						
AS31	**Alice Springs**	**17.36**	**169**	*e*Pn	**Pn**	**17 43 27.4**	**+3.2**
AS31				*e*Sn	**Sn**	**17 46 34.8**	**-1.7**
ASAR	**Alice Springs**	**17.36**	**169**	P	**Pn**	**17 43 27.1**	**+3.0**
	0.2nm,0.3s,baz=345,slow=10,SNR=20						
ASAR				S	**S**	**17 46 33.6**	**-2.9**
	0.4nm,0.3s,baz=92,slow=28,SNR=6.1						
MANU	**Manus Island**	**17.51**	**76**	P	Pn	17 43 34.3	+8.3
	baz=18,SNR=5.9						
WRKA	**Warakurna**	**18.50**	**186**	P	**Pn**	**17 43 38.8**	**+1.2**
	baz=19,SNR=5.3						
KKM	**Kota Kinabalu**	**18.87**	**311**	P	**P**	**17 43 39.1**	**-0.8**
RMQ	**Roma**	**26.46**	**141**	P	P	17 44 45.0	-9.1
	baz=27,SNR=4.0						
PALK	**Pallekele**	**51.42**	**285**	*e*P	P	17 48 12.7	-8.4
	17nm,1.1s						
LSA	**Lhasa**	**52.13**	**316**	P	**P**	**17 48 25.5**	**-1.1**
ULN	**Ulaanbaatar**	**57.95**	**342**	*e*P	**P**	**17 49 07.3**	**-0.3**
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**17 50 13.9**	**-0.3**
	0.9nm,0.4s,baz=115,slow=8.0,SNR=23						
AAK	**Ala-Archa**	**70.44**	**320**	P	**P**	**17 50 29.1**	**-0.1**

GUC 23 17:53:55.6±0.9, 34°.72S × 71°.85W, h26km±7km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.58**	**119**	*e*P	Pb	17 54 07.0	-0.3
NICH				*e*S	Sb	17 54 15.1	-0.2
TALC	**Talca**	**0.70**	**165**	*e*P	Pb	17 54 09.0	-0.2
TALC				*e*S	Sb	17 54 18.2	-0.2
CLCH	**Cerro Calan**	**1.71**	**40**	*e*P	Pn	17 54 24.9	+1.0
CLCH				*e*S	Sb	17 54 46.7	-1.1
CLCH				AML	AML	17 54 53.8	
	comp=E,843nm,0.9s						
CLCH				AML	AML	17 54 56.2	
	comp=E,931nm,0.7s						
PEL	**Peldehue**	**1.85**	**32**	*e*P	Pn	17 54 27.2	+1.5
PEL				*e*S	Sb	17 54 51.4	-0.2
ROCH	**El Roble**	**1.88**	**22**	*e*P	Pn	17 54 27.6	+1.2
ROCH				*e*S	Sb	17 54 52.7	-0.1
ROCH				AML	AML	17 54 58.1	
	comp=N,713nm,0.3s						
FCH	**Farellones**	**1.90**	**43**	*e*P	Pb	17 54 28.9	-1.2
FCH				*e*S	Sb	17 54 54.1	+0.4

CASC 23 18:18:30.0±1.2, 13°.68N × 90°.97W, h12km±8km, MD3.7, ML3.6, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.69**	**45**	⇑*i*P	Pg	18 18 43.5	-0.2
FUG	**Fuego 3**	**0.77**	**9**	⇓*e*P	Pg	18 18 44.6	-0.6
PCG	**Pacaya**	**0.79**	**26**	*e*P	Pg	18 18 45.4	-0.2
PCG				*e*S	Sb	18 18 56.9	0.0
JAT	**Jato**	**0.91**	**314**	*e*P	Pg	18 18 45.8	-1.7
NBG	**Las Nubes**	**1.08**	**34**	*e*P	Pb	18 18 50.4	-0.6
NBG				*e*S	Sg	18 19 05.6	0.0
RTR	**El Retiro**	**1.30**	**80**	*e*P	Pn	18 18 53.7	-0.6
RTR				*e*S	Sb	18 19 11.6	+0.1
RBDL	**Robledal**	**1.31**	**71**	*e*P	Pn	18 18 53.3	-1.2
RBDL				*e*S	Sb	18 19 11.2	-0.7
SBLS	**San Blas**	**1.31**	**83**	*e*P	Pn	18 18 53.4	-1.1
SBLS				*e*S	Sb	18 19 11.4	-0.6
BOQS	**Boqueron**	**1.64**	**88**	*e*P	Pn	18 18 58.3	-0.7
BOQS				*e*S	Sn	18 19 20.5	+0.2
SNET	**Serv Nac Est T**	**1.69**	**90**	AML	AML	18 19 25.1	
	comp=Z,695nm,0.3s						
MRL	**Marmol**	**1.85**	**42**	*e*P	Pn	18 19 00.4	-1.4
LFRS	**El Faro**	**1.85**	**92**	*e*P	Pn	18 19 01.4	-0.4
LFRS				*e*S	Sn	18 19 26.1	+0.9
LBRS	**Las Brisas**	**1.87**	**88**	*e*P	Pn	18 19 01.9	-0.1

*ISCJB **23** 18:23:13.6±1.3, 37°.53N±0°.07 × 36°.82E±0°.08, h11km, Error ellipse: s-maj=9.8km s-min=9.0km az=21.0*
*DDA **23** 18:23:14.5, 37°.47N × 36°.95E, h7km, MD2.9*
ISC 23 18:23:14.0±1.6, 37°.51N±0°.06 × 36°.85E±0°.06, h11km, n5, σ1s18/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.04**	**89**	PG	**Pg**	**18 23 16.6**	**+0.4**
KMRS				SG	**Sg**	**18 23 18.3**	**+0.7**
HCB	**Kahramanmara¯**	**0.17**	**165**	*i* P	**Pg**	**18 23 18.1**	**+0.3**
HCB				*i* S	**Sg**	**18 23 21.0**	**+0.7**
KAMA	**Osmaniye**	**0.35**	**205**	*i* P	**Pg**	**18 23 21.9**	**+0.8**
KAMA				*i* S	**Sg**	**18 23 27.2**	**+1.4**
KUZU	**Kuzuini**	**0.75**	**166**	*i* P	**Pg**	**18 23 26.9**	**-1.7**
KUZU				*i* S	**Sb**	**18 23 38.5**	**-0.9**
KOZT	**Kozan**	**0.82**	**269**	*e*PG	**Pg**	**18 23 28.9**	**-0.9**

*ISCJB **23** 18:24:26.0±0.4, 32°.23N±0°.03 × 115°.22W±0°.04, h22km±4km, Error ellipse: s-maj=5.2km s-min=4.1km az=21.1*
*MEX **23** 18:24:27.6±0.5, 32°.24N × 115°.11W, h14km±26km, MD3.6*
*ECX **23** 18:24:27.6±0.4, 32°.21N × 115°.27W, h6km, MD3.6, ML3.8*
*NEIC **23** 18:24:27.0, 32°.22N × 115°.28W, h6km, ML3.4(PAS), ML3.8(ECX), After ECX.*
ISC 23 18:24:25.7±1.0, 32°.21N±0°.02 × 115°.21W±0°.03, h18km±2km, n28, σ0s82/44, 6C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**3**	*e*P	**Pg**	**18 24 31.3**	**+0.7**
MBIG				*e*S	**Sb**	**18 24 33.7**	**+0.7**
CPBX	**Cerro Prieto**	**0.22**	**339**	*e*P	**Pg**	**18 24 31.2**	**+0.2**
CPBX				*e*P	**Pg**	**18 24 31.2**	**+0.2**
CPBX				*e*S	**Sg**	**18 24 34.7**	**+0.1**
CPBX				*e*S	**Sg**	**18 24 34.9**	**+0.2**
CPBX				AML	AML	18 24 36.8	
	comp=N,35μm,0.2s						
CPBX				*e*		18 24 36.8	
CPBX	**Cerro Prieto**	**0.22**	**339**	*e*P	**Pg**	**18 24 31.2**	**+0.2**
SGL	**Mount Signal**	**0.62**	**315**	⇑*i*P	**Pb**	**18 24 37.8**	**0.0**
COA	**Coachella**	**0.65**	**6**	⇓*e*P	**Pg**	**18 24 39.2**	**+0.6**
YMD	**Yuma Desert**	**0.66**	**59**	⇑*i*P	**Pn**	**18 24 39.2**	**-0.4**
RDX	**Rancho Dawling**	**0.68**	**246**	*e*P	**Pb**	**18 24 39.0**	**-0.2**
RDX				*e*S	**Sb**	**18 24 47.5**	**-0.8**
RDX				⇑*e*		18 24 49.9	
	comp=N,5μm,0.5s						
YUH	**Yuha Desert**	**0.74**	**306**	⇑*i*P	**Pb**	**18 24 39.6**	**-0.5**
ECBX	**El Chinero**	**0.75**	**170**	*e*P	**Pb**	**18 24 40.2**	**+0.1**
ECBX				*e*S	**Sg**	**18 24 50.7**	**+0.3**
COK	**Cook Ranch**	**0.77**	**326**	*e*P	**Pb**	**18 24 40.6**	**+0.1**
RMX	**La Rumorosa**	**0.83**	**298**	*e*P	**Pb**	**18 24 41.2**	**-0.5**
RMX				*e*S	**Sb**	**18 24 52.3**	**-0.3**
RMX				⇑*e*		18 24 53.6	
	comp=N,3μm,0.2s						
GLA	**Glamis**	**0.90**	**21**	*e*Pg	**Pb**	**18 24 42.5**	**-0.3**
GLA				*e*Sg	**Sb**	**18 24 53.9**	**-0.5**
CRR	**Carrizo Plain**	**0.93**	**317**	⇑*e*P	**Pb**	**18 24 42.7**	**-0.6**
ZAX	**El Zacaton**	**1.14**	**233**	*e*P	**Pn**	**18 24 46.9**	**+0.1**
ZAX				*e*S	**Sb**	**18 25 01.6**	**+0.2**
SPX	**San Pedro Mart**	**1.18**	**191**	*e*P	**Pn**	**18 24 47.8**

ALFC	**Alevga**	**1.08**	**163**	P		**Pn**	**18 42 36.0**	**-1.0**
ALFC				S		**Sn**	**18 42 50.2**	**-0.9**
AKDN	**Akdeniz- K¯–br**	**1.08**	**146**	*e*PG		**Pn**	**18 42 37.2**	**+0.3**
AKDN				*e*SG		**Sb**	**18 42 52.2**	**+0.7**
AKDN	**Akdeniz- K¯–br**	**1.08**	**146**	*e*Pg		**Pn**	**18 42 37.3**	**+0.3**
AKDN				*e*Sg		**Sb**	**18 42 52.2**	**+0.7**
AKMC	**Akamas**	**1.17**	**176**	⇑P		**Pn**	**18 42 37.6**	**-0.6**
	baz=359							
AKMC	**Akamas**	**1.17**	**176**	⇑P		**Pn**	**18 42 37.6**	**-0.6**
LEF	**Lefka**	**1.21**	**153**	*e*PN		**Pn**	**18 42 38.7**	**0.0**
LEF	**Lefka**	**1.21**	**153**	*e*Pn		**Pn**	**18 42 38.7**	**0.0**
MAMC	**Mammari**	**1.31**	**141**	⇓P		**Pn**	**18 42 39.7**	**-0.4**
	baz=323							
MAMC	**Mammari**	**1.31**	**141**	⇓P		**Pn**	**18 42 39.7**	**-0.4**
PPCY	**Paphos**	**1.31**	**176**	P		**Pn**	**18 42 40.0**	**-0.1**
	baz=359							
PPCY	**Paphos**	**1.31**	**176**	P		**Pn**	**18 42 40.0**	**-0.1**
LFK	**Lefkose**	**1.41**	**130**	*e*PN		**Pn**	**18 42 42.0**	**+0.5**
LFK	**Lefkose**	**1.41**	**130**	*e*Pn		**Pn**	**18 42 42.0**	**+0.5**
ANTB	**Antalya**	**1.44**	**300**	*e*PN		**Pb**	**18 42 43.5**	**-0.4**
ANTB	**Antalya**	**1.44**	**300**	*e*Pn		**Pb**	**18 42 43.5**	**-0.4**
CSS	**Prodhromos**	**1.53**	**143**	P		**Pn**	**18 42 41.9**	**-1.2**
	baz=325							
CSS	**Prodhromos**	**1.53**	**143**	*e*PN		**Pn**	**18 42 43.4**	**+0.3**
CSS	**Prodhromos**	**1.53**	**143**	P		**Pn**	**18 42 41.9**	**-1.2**
CSS	**Prodhromos**	**1.53**	**143**	*e*Pn		**Pn**	**18 42 43.4**	**+0.3**
KIZK	**Mersin**	**1.58**	**79**	*i* P		**Pb**	**18 42 45.9**	**-0.2**
KIZK				*i* S		**Sb**	**18 43 06.6**	**+0.9**
KIZK	**Mersin**	**1.58**	**79**	*i* P		**Pb**	**18 42 45.9**	**-0.2**
KIZK				*i* S		**Sb**	**18 43 06.6**	**+0.9**
EREN	**Erenkoy**	**1.72**	**112**	*e*PN		**Pn**	**18 42 46.9**	**+1.2**
EREN	**Erenkoy**	**1.72**	**112**	*e*Pn		**Pn**	**18 42 46.9**	**+1.2**
KONT	**Konya--Tatoy**	**1.75**	**4**	*e*PN		**Pn**	**18 42 47.1**	**+0.9**
KONT	**Konya--Tatoy**	**1.75**	**4**	*e*Pn		**Pn**	**18 42 47.1**	**+0.9**
BCK	**Bucak**	**1.82**	**314**	*e*PN		**Pn**	**18 42 48.4**	**+1.2**
BCK	**Bucak**	**1.82**	**314**	*e*Pn		**Pn**	**18 42 48.4**	**+1.2**
ELL	**Elmali**	**1.94**	**287**	*e*PN		**Pn**	**18 42 50.4**	**+1.4**
ELL	**Elmali**	**1.94**	**287**	*e*Pn		**Pn**	**18 42 50.4**	**+1.4**
MERS	**Mersin**	**1.97**	**69**	*e*PN		**Pn**	**18 42 50.6**	**+1.3**
MERS	**Mersin**	**1.97**	**69**	*e*Pn		**Pn**	**18 42 50.6**	**+1.3**
LADK	**Ladik-KONYA**	**2.00**	**3**	*e*PN		**Pn**	**18 42 50.0**	**+0.3**
LADK	**Ladik-KONYA**	**2.00**	**3**	*e*Pn		**Pn**	**18 42 50.0**	**+0.3**
AKAS	**Kas**	**2.12**	**272**	*i* P		**Pn**	**18 42 51.9**	**+0.6**
AKAS				*i* S		**Sn**	**18 43 18.2**	**+1.5**
AKAS	**Kas**	**2.12**	**272**	*i* P		**Pn**	**18 42 51.9**	**+0.6**
AKAS				*i* S		**Sn**	**18 43 18.2**	**+1.5**
SULT	**Sultanhani-AKS**	**2.25**	**27**	*e*PN		**Pn**	**18 42 53.9**	**+0.8**
SULT	**Sultanhani-AKS**	**2.25**	**27**	*e*Pn		**Pn**	**18 42 53.9**	**+0.8**
GOLH	**Golhisar**	**2.38**	**297**	*i* P		**Pb**	**18 42 58.5**	**-1.3**
GOLH				*i* S		**Sb**	**18 43 27.9**	**-0.8**
GOLH	**Golhisar**	**2.38**	**297**	*i* P		**Pb**	**18 42 58.5**	**-1.3**
GOLH				*i* S		**Sb**	**18 43 27.9**	**-0.8**
KARA	**Karaisali**	**2.51**	**64**	*e*PN		**Pn**	**18 42 58.2**	**+1.5**
KARA	**Karaisali**	**2.51**	**64**	*e*Pn		**Pn**	**18 42 58.2**	**+1.5**
FETY	**Fethiye**	**2.57**	**281**	*e*PN		**Pn**	**18 42 59.1**	**+1.7**
FETY	**Fethiye**	**2.57**	**281**	*e*Pn		**Pn**	**18 42 59.1**	**+1.7**
KIZT	**Kizilcal**	**2.69**	**354**	*e*PN		**Pn**	**18 43 01.3**	**+2.1**
KIZT	**Kizilcal**	**2.69**	**354**	*e*Pn		**Pn**	**18 43 01.3**	**+2.1**
NIG	**Nigde**	**2.70**	**44**	*e*PN		**Pn**	**18 43 00.3**	**+0.8**
NIG	**Nigde**	**2.70**	**44**	*e*Pn		**Pn**	**18 43 00.3**	**+0.8**
BOLV	**Bolvadin**	**2.71**	**339**	*i* P		**Pn**	**18 42 59.9**	**+0.3**
BOLV	**Bolvadin**	**2.71**	**339**	*i* P		**Pn**	**18 42 59.9**	**+0.3**
BOLV				*i* S		**Sn**	**18 43 30.3**	**-1.2**
DALY	**Dalyan (Mu¨la**	**2.94**	**283**	*e*PN		**Pn**	**18 43 04.2**	**+1.7**
DALY	**Dalyan (Mu¨la**	**2.94**	**283**	*e*Pn		**Pn**	**18 43 04.2**	**+1.7**
CEYT	**Ceyhan**	**2.95**	**73**	*e*PN		**Pn**	**18 43 04.3**	**+1.6**
CEYT	**Ceyhan**	**2.95**	**73**	*e*Pn		**Pn**	**18 43 04.3**	**+1.6**
TURN	**Turunc**	**2.99**	**284**	*i* P		**Pb**	**18 43 07.9**	**-2.2**
TURN				*i* S		**Sb**	**18 43 43.6**	**-2.7**
KHL	**Karahalli**	**3.02**	**315**	*e*PN		**Pn**	**18 43 06.0**	**+2.3**
KHL	**Karahalli**	**3.02**	**315**	*e*Pn		**Pn**	**18 43 06.0**	**+2.3**
ARNB	**Al Arnab**	**3.06**	**95**	*e*P		**Pn**	**18 43 05.0**	**+0.8**
ARNB					AML	AML	18 43 46.9	
	comp=N,21nm,1.0s							
ARNB					AML	AML	18 43 52.9	
	comp=E,46nm,0.3s							
KOZT	**Kozan**	**3.16**	**65**	*e*PN		**Pn**	**18 43 07.2**	**+1.6**
KOZT	**Kozan**	**3.16**	**65**	*e*Pn		**Pn**	**18 43 07.2**	**+1.6**
SVRH	**Sivrihisar-ESK**	**3.29**	**351**	*e*PN		**Pn**	**18 43 09.4**	**+2.0**
SVRH	**Sivrihisar-ESK**	**3.29**	**351**	*e*Pn		**Pn**	**18 43 09.4**	**+2.0**
YER	**Yerkesik**	**3.30**	**288**	*e*PN		**Pn**	**18 43 09.3**	**+1.8**
YER	**Yerkesik**	**3.30**	**288**	*e*Pn		**Pn**	**18 43 09.3**	**+1.8**
WRDH	**Warideh**	**3.47**	**100**	*e*P		**Pn**	**18 43 08.9**	**-1.0**
WRDH					AML	AML	18 44 00.8	
	comp=N,16nm,0.6s							
WRDH					AML	AML	18 44 04.1	
	comp=E,22nm,0.6s							
BIDA	**Albida**	**3.54**	**108**	*e*P		**Pn**	**18 43 10.6**	**-0.3**
BIDA					AML	AML	18 43 55.9	
	comp=E,52nm,0.3s							
BIDA					AML	AML	18 44 00.7	
	comp=N,78nm,0.5s							
HWQ	**Hawqa**	**3.60**	**121**	*e*P		**Pn**	**18 43 13.6**	**+1.9**
HWQ	**Hawqa**	**3.60**	**121**	*e*P		**Pn**	**18 43 13.6**	**+1.9**
MANT	**Manisa**	**3.71**	**309**	*i* P		**Pn**	**18 43 15.0**	**+1.7**
MANT	**Manisa**	**3.71**	**309**	*i* P		**Pn**	**18 43 15.0**	**+1.7**
AYDN	**Tasoluk**	**3.77**	**294**	*i* P		**Pn**	**18 43 17.1**	**+3.1**
AYDN				*i* S		**Sn**	**18 44 00.3**	**+2.8**
AYDN	**Tasoluk**	**3.77**	**294**	*i* P		**Pn**	**18 43 17.1**	**+3.1**
AYDN				*i* S		**Sn**	**18 44 00.3**	**+2.8**
CDAG	**Cicekdag**	**3.82**	**26**	*i* P		**Pn**	**18 43 15.2**	**+0.5**
CDAG	**Cicekdag**	**3.82**	**26**	*i* P		**Pn**	**18 43 15.2**	**+0.5**
BNN	**Bunyan**	**3.92**	**46**	*e*PN		**Pn**	**18 43 18.1**	**+2.0**
BNN	**Bunyan**	**3.92**	**46**	*e*Pn		**Pn**	**18 43 18.1**	**+2.0**
BORA	**Eskisehir**	**3.93**	**340**	*i* P		**Pn**	**18 43 16.4**	**+0.1**
BORA	**Eskisehir**	**3.93**	**340**	*i* P		**Pn**	**18 43 16.4**	**+0.1**
BORA				*i* S		Sn	18 43 42.3	-19
HCB	**Kahramanmara¯**	**3.93**	**72**	*i* P		**Pn**	**18 43 17.6**	**+1.4**
HCB				*i* S		**Sn**	**18 44 01.3**	**-0.2**
BDRM	**Kayabasi**	**3.94**	**284**	*i* P		**Pn**	**18 43 17.9**	**+1.6**
BDRM				*i* S		**Sn**	**18 44 01.8**	**+0.2**
BDRM	**Kayabasi**	**3.94**	**284**	*i* P		**Pn**	**18 43 17.9**	**+1.6**
BDRM				*i* S		**Sn**	**18 44 01.8**	**+0.2**
KUZU	**Kuzuini**	**3.95**	**80**	*i* P		**Pn**	**18 43 17.0**	**+0.5**
KUZU				*i* S		**Sn**	**18 44 01.9**	**-0.1**
KUZU	**Kuzuini**	**3.95**	**80**	*i* P		**Pn**	**18 43 17.0**	**+0.5**
KUZU				*i* S		**Sn**	**18 44 01.9**	**-0.1**
RCY	**Rachaya**	**4.01**	**131**	*e*P		**Pn**	**18 43 19.6**	**+2.2**
RCY	**Rachaya**	**4.01**	**131**	*e*P		**Pn**	**18 43 19.6**	**+2.2**
MARH	**Ras Al Marh**	**4.11**	**121**	*e*P		**Pn**	**18 43 20.9**	**+2.0**
MARH					AML	AML	18 44 12.6	
	comp=E,13nm,0.2s							
MARH					AML	AML	18 44 24.2	
	comp=N,15nm,0.4s							
BRBR	**Barbar**	**4.14**	**131**	*e*P		**Pn**	**18 43 21.2**	**+1.9**
BRBR					AML	AML	18 44 11.8	
	comp=E,12nm,0.7s							
BRBR					AML	AML	18 44 12.6	
	comp=N,17nm,0.8s							
ELDT	**Eldivan**	**4.39**	**12**	*i* P		**Pn**	**18 43 21.7**	**-0.9**
ELDT	**Eldivan**	**4.39**	**12**	*i* P		**Pn**	**18 43 21.7**	**-0.9**
ELDT				*i* S		**Sn**	**18 44 10.9**	**-2.0**
TOTH	**TOTAH**	**4.47**	**128**	*e*P		**Pn**	**18 43 26.1**	**+2.5**
TOTH					AML	AML	18 43 30.2	
	comp=N,13nm,0.5s							
TOTH					AML	AML	18 44 26.1	
	comp=E,16nm,0.7s							
TCHB	**Talchebab**	**4.69**	**138**	*e*P		**Pn**	**18 43 29.1**	**+2.5**
TCHB				*e*S		Sn	18 44 06.5	-14
SALA	**Sala**	**5.10**	**132**	*e*P		**Pn**	**18 43 34.7**	**+2.3**
SALA					AML	AML	18 43 39.2	
	comp=E,1.2nm,0.3s							
SALA				*e*S		Sn	18 44 15.1	-16
SALA					AML	AML	18 44 46.6	
	comp=N,9.0nm,0.4s							
RSH		**5.37**	**166**	P		**Pn**	**18 43 37.7**	**+1.8**
	baz=166							
RSH		**5.37**	**166**	P		**Pn**	**18 43 37.7**	**+1.8**
AMAG	**Maghara**	**5.60**	**171**	P		**Pn**	**18 43 40.4**	**+1.2**
	baz=171							
AMAG	**Maghara**	**5.60**	**171**	P		**Pn**	**18 43 40.4**	**+1.2**
HMAT	**Matruh**	**6.64**	**221**	P		**Pn**	**18 43 54.5**	**+1.1**
	baz=222							
HMAT					AMP		18 45 00.0	
	comp=E,10µm,0.3s,logA/T=4.5,baz=222							
HMAT					S	**Sn**	**18 45 04.2**	**-4.0**
	baz=222							
HMAT	**Matruh**	**6.64**	**221**	P		**Pn**	**18 43 54.5**	**+1.1**
HKAT	**Jabal Katrina**	**7.80**	**168**	P		**Pn**	**18 44 10.2**	**+0.8**
	baz=168							
HKAT	**Jabal Katrina**	**7.80**	**168**	P		**Pn**	**18 44 10.2**	**+0.8**
TR2		**7.89**	**170**	P		**Pn**	**18 44 11.1**	**+0.5**
	baz=170							
TR2		**7.89**	**170**	P		**Pn**	**18 44 11.1**	**+0.5**

NIED ***23*** *18:48:00,36˚.90N×141˚.60E,h41km,Mw3.6 Best double couple: M₀2.48000×10¹⁴ NP1:φ=230.00000°, δ=8.00000°, λ=114.00000°. NP2:φ=26.00000°, δ=83.00000°, λ=87.00000°.*
IDC ***23*** *18:48:13.9±2.5,36˚.56N×141˚.86E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/27,mbtmp3.3/3,ML3.5/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/14,Error ellipse: s-maj=55.7km s-min=31.2km az=44.0*
ISCJB ***23*** *18:48:16.1±1.5,36˚.94N±0˚.05×141˚.66E±0˚.09,h20km±7km, mb3.3/2,Error ellipse: s-maj=12.0km s-min=7.4km az=18.9*
JMA ***23*** *18:48:16.7±0.1,36˚.92N×141˚.64E,h34km±2km,M3.6*

ISC 23 18:48:16.0±2.5,36˚.93N±0˚.06×141˚.65E±0˚.09,h27km±16km, n14,σ0ˢ99/23,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.70**	**284**	⇓P		**Pn**	**18 48 30.1**	**-0.1**
ONAJ				*e*S		**Sn**	**18 48 39.1**	**-1.1**
JFK	**Kawauchi**	**0.75**	**305**	⇓P		**Pn**	**18 48 30.9**	**0.0**
JFK				*e*S		**Sn**	**18 48 40.5**	**-1.0**
JHO	**Hitachi**	**0.93**	**250**	P		**Pn**	**18 48 33.0**	**-0.2**
JHO				*e*S		**Sn**	**18 48 45.1**	**-0.5**
JMM	**Marumori**	**1.15**	**324**	P		**Pn**	**18 48 36.8**	**+0.4**
JMM				*e*S		**Sn**	**18 48 51.0**	**-0.3**
JFT	**Otama**	**1.20**	**299**	⇓P		**Pb**	**18 48 38.4**	**+0.4**
JFT				*e*S		**Sb**	**18 48 53.3**	**+0.1**
JIO	**Ouri**	**1.54**	**351**	⇓P		**Pn**	**18 48 41.9**	**+0.3**
JIO				*e*S		**Sn**	**18 48 59.7**	**-1.0**
JFY	**Yanaizu**	**1.62**	**287**	P		**Pn**	**18 48 44.4**	**+1.6**
JFY				*e*S		**Sb**	**18 49 04.8**	**-0.5**
JOU	**Okura**	**1.63**	**332**	P		**Pn**	**18 48 44.5**	**+1.6**
JOU				*e*S		**Sn**	**18 49 04.5**	**+1.5**
JYS	**Shirataka**	**1.80**	**316**	P		**Pb**	**18 48 47.6**	**-0.6**
JYS				*e*S		**Sb**	**18 49 09.9**	**-0.5**
JAG	**Ashikaga**	**1.84**	**255**	P		**Pn**	**18 48 46.6**	**+0.8**
JAG				*e*S		**Sn**	**18 49 08.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.79**	**263**	Pn		**Pn**	**18 49 01.3**	**+2.4**
	6.8nm,0.3s,baz=88,slow=15,SNR=55							
MJAR					Sn	**Sb**	**18 49 38.6**	**-0.4**
	4.9nm,0.3s,baz=239,slow=9.6,SNR=7.7							
KSRS	**Korea Array**	**10.96**	**277**	LR		LR	18 55 03.1	
	comp=Z,37nm,18.4s,baz=90,slow=36							
MKAR	**Makanchi Array**	**44.33**	**302**	P		P	18 56 28.4	+4.7
	0.2nm,0.7s,baz=72,slow=9.3,SNR=2.9							
WRA	**Warramunga Arr**	**56.99**	**188**	P		**P**	**18 57 58.8**	**-0.4**
	1.0nm,1.2s,baz=6.0,slow=6.9,SNR=6.2							

CSEM ***23*** *19:02:48.5±1.0,40˚.97N×22˚.94E,h2km, ML2.1,Error ellipse: s-maj=17.8km s-min=9.4km az=6.0*
SKO ***23*** *19:02:48.4,40˚.93N×22˚.94E,h1km*

BEO 23 19:02:48.7±1.0,40˚.92N×22˚.86E,h0km,ML2.1/3,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.46**	**331**	*e*Pg	Pg	19 02 56.5	-1.0
VAY				*e*Sg	Sg	19 03 03.1	-0.3
VAY	**Valandovo**	**0.46**	**331**	*i* Pg	Pg	19 02 57.0	-0.5
VAY				*e*Sg	Sg	19 03 03.9	+0.4
VAY	**Valandovo**	**0.46**	**331**	*e*Pg	Pg	19 02 56.5	-1.0
VAY	**Valandovo**	**0.46**	**331**	*i* Pg	Pg	19 02 56.9	-0.6
VAY				*e*Sg	Sg	19 03 03.1	-0.3
VAY				*e*Sg	Sb	19 03 03.8	-3.2
VTS	**Vitosha**	**1.69**	**9**	*e*Pg	Pn	19 03 18.2	-1.5
VTS				*e*Sg	Sb	19 03 43.0	+0.1
VTS	**Vitosha**	**1.69**	**9**	*e*Pg	Pn	19 03 18.2	-1.5
VTS				*e*Sg	Sb	19 03 43.0	+0.1
PLD	**Plovdiv**	**1.82**	**49**	*e*Pg	Pn	19 03 21.9	+0.6
PLD				*e*Sg	Sb	19 03 46.0	-0.3
PLD	**Plovdiv**	**1.82**	**49**	*e*Pg	Pn	19 03 21.9	+0.6
PLD				*e*Sg	Sb	19 03 46.0	-0.3
BARS	**Barje**	**2.05**	**338**	*e*Pn	Pn	19 03 24.8	+0.3
BARS				*e*Sg	Sg	19 03 53.9	-0.8
BARS	**Barje**	**2.05**	**338**	*e*Pn	Pn	19 03 24.8	+0.3
BARS				*e*Sg	Sg	19 03 53.9	-0.8
ZAPS	**Zavoj**	**2.36**	**356**	*e*Pn	Pn	19 03 28.7	-0.1
ZAPS				*e*Sg	Sg	19 04 03.4	-1.2

MEX 23 19:04:07.2±0.4,15˚.64N×93˚.75W,h69km±10km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.51**	**83**	*e*P	Pn	19 04 17.9	-2.0
PCIG				*e*S	Sn	19 04 27.8	-1.6
TGIG		**1.28**	**28**	*e*P	Pn	19 04 28.0	-1.3
TGIG				*e*S	Sn	19 04 44.0	-1.9
CCIG	**Comitan**	**1.67**	**67**	*e*P	Pn	19 04 33.1	-1.6
CCIG				*e*S	Sn	19 04 53.7	-1.8
CMIG	**Matias Romero**	**1.81**	**323**	*i* P	Pn	19 04 35.5	-0.9
CMIG				*i* S	Sn	19 04 56.4	-2.0
HUIG	**Huatulco**	**2.28**	**274**	*e*P	Pn	19 04 41.3	-1.3
HUIG				*e*S	Sn	19 05 08.3	-1.4

IDC 23 19:07:46.6±3.5,6˚.72S×147˚.83E,h0km,mb3.0/1, mb1 3.4/2,mb1mx3.2/20,mbtmp3.1/2,ML3.2/1,MS2.9/1, Ms1 2.9/1,ms1mx2.6/5,Error ellipse: s-maj=125.7km s-min=44.1km az=117.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.55**	**224**	P	P	19 12 04.0	-1.1
	0.1nm,0.3s,baz=49,slow=11,SNR=9.4						
WRA				LR	LR	19 19 56.7	
	comp=Z,35nm,20.7s,baz=215,slow=39						
ASAR	**Alice Springs**	**21.52**	**217**	P	P	19 12 37.4	0.0
	0.4nm,0.3s,baz=35,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**146.07**	**284**	PKPbc	PKPdf	19 27 29.2	+0.4
	0.3nm,0.4s,baz=78,slow=3.3,SNR=6.1						

GUC 23 19:40:59.9±0.4,34˚.21S×71˚.99W,h47km±2km,ML3.6,1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.01**	**142**	*e*P	Pn	19 41 18.2	+0.5
NICH				*e*S	Sn	19 41 32.1	+1.3
RCDM	**Rinconada Maip**	**1.22**	**54**	*e*P	Pn	19 41 21.0	+0.5
RCDM				*e*S	Sn	19 41 37.4	+1.4
RCDM					AML	AML	19 41 40.9	
	comp=N,1µm,0.1s							
STL	**Santa Lucia**	**1.36**	**56**	*e*P	Pn	19 41 23.5	+0.9
STL				*e*S	Sn	19 41 41.6	+2.1
FSR	**Penalolen**	**1.42**	**59**	*e*S	Sn	19 41 43.3	+2.4
CLCH	**Cerro Calan**	**1.46**	**57**	*e*P	Pn	19 41 24.9	+1.0
CLCH				*e*S	Sn	19 41 44.1	+2.2
CLCH					AML	AML	19 41 49.1	
	comp=E,1µm,0.2s							
ROCH	**El Roble**	**1.48**	**34**	*e*P	Pn	19 41 25.9	+1.5
ROCH				*e*S	Sn	19 41 45.4	+2.6
ROCH					AML	AML	19 41 49.4	
	comp=N,1µm,0.5s							
PEL	**Peldehue**	**1.52**	**46**	*e*P	Pn	19 41 25.9	+1.2
PEL				*e*S	Sn	19 41 45.6	+2.2
PEL					AML	AML	19 41 50.1	
	comp=N,2µm,0.5s							
FCH	**Farellones**	**1.67**	**59**	*e*P	Pn	19 41 33.0	+6.0
FCH				*e*S	Sn	19 41 54.6	+7.0
FCH					AML	AML	19 41 54.9	
	comp=E,1µm,0.4s							
YECH	**El Yeso**	**1.67**	**72**	*e*P	Pn	19 41 28.5	+1.3
YECH				*e*S	Sn	19 41 50.3	+2.6
YECH					AML	AML	19 41 53.6	
	comp=N,917nm,0.3s							

ISCJB ***23*** *19:51:31.4±1.1,13˚.78N±0˚.08×91˚.80W±0˚.06,h54km, mb4.0/1,Error ellipse: s-maj=12.9km s-min=4.2km az=33.7*
CASC ***23*** *19:51:33.9±1.5,13˚.80N×91˚.45W,h3km±11km,MD3.7*
MEX ***23*** *19:51:33.2±0.3,13˚.69N×91˚.93W,h27km±13km,MD4.1*
NEIC ***23*** *19:51:33.2,13˚.69N×91˚.93W,h27km,mb4.1/1, MD4.1(MEX),After MEX.*

ISC 23 19:51:33.3±1.6,13˚.82N±0˚.10×91˚.76W±0˚.06,h54km,n21, σ1ᵍ30/33,2C-3D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.51**	**14**	⇓*i*P		**Pn**	**19 51 45.0**	**-0.1**
FUG	**Fuego 3**	**1.09**	**55**	*e*P		**Pn**	**19 51 51.1**	**-1.5**
THIG		**1.19**	**336**	*i* P		**Pn**	**19 51 52.4**	**-1.3**
THIG				*i* S		**Sn**	**19 52 07.5**	**-1.4**
THIG		**1.19**	**336**	*i* P		**Pn**	**19 51 52.4**	**-1.3**
THIG				*i* S		**Sn**	**19 52 07.5**	**-1.4**
PCG	**Pacaya**	**1.26**	**63**	*e*P		**Pn**	**19 51 54.1**	**-0.8**
PCG				*e*S		**Sn**	**19 52 07.9**	**-3.1**
IXG	**Ixpaco**	**1.32**	**74**	*i* P		**Pn**	**19 51 53.6**	**-2.0**
NBG	**Las Nubes**	**1.57**	**61**	*e*P		**Pn**	**19 51 59.3**	**+0.1**
NBG				*e*S		**Sn**	**19 52 19.1**	**+0.5**
RBDL	**Robledal**	**2.04**	**81**	⇑*i*P		**Pn**	**19 52 04.8**	**-0.6**
RTR	**El Retiro**	**2.06**	**87**	*i* P		**Pn**	**19 52 05.4**	**-0.3**
SBLS	**San Blas**	**2.08**	**89**	⇓*i*P		**Pn**	**19 52 05.2**	**-0.8**
SBLS				*e*S		**Sn**	**19 52 30.2**	**-0.7**
PCIG		**2.35**	**323**	*e*P		**Pn**	**19 52 08.5**	**-1.0**
PCIG				*e*S		**Sn**	**19 52 35.1**	**-2.0**
PCIG		**2.35**	**323**	*e*P		**Pn**	**19 52 08.5**	**-1.0**
PCIG				*e*S		**Sn**	**19 52 35.1**	**-2.0**
MRL	**Marmol**	**2.36**	**58**	⇓*e*P		**Pn**	**19 52 09.7**	**-0.1**
CCIG	**Comitan**	**2.48**	**352**	*e*P		**Pn**	**19 52 11.0**	**-0.5**
CCIG				*i* S		**Sn**	**19 52 41.4**	**+0.7**
CCIG	**Comitan**	**2.48**	**352**	*e*P		**Pn**	**19 52 11.0**	**-0.5**
CCIG				*i* S		**Sn**	**19 52 41.4**	**+0.7**
LFRS	**El Faro**	**2.63**	**94**	⇑*i*P		**Pn**	**19 52 13.4**	**-0.1**
LFRS				*e*S		**Sn**	**19 52 43.6**	**-0.7**
TGIG		**3.22**	**336**	*e*P		**Pn**	**19 52 20.9**	**-0.6**
TGIG				*i* S		**Sn**	**19 52 59.3**	**+0.5**
TGIG		**3.22**	**336**	*e*P		**Pn**	**19 52 20.9**	**-0.6**
TGIG				*i* S		**Sn**	**19 52 59.3**	**+0.5**
TEIG	**Tepich**	**7.19**	**27**	*e*Pn		**Pn**	**19 53 15.1**	**-0.8**
	14nm,0.3s							
JTS	**JuntasAbangare**	**7.53**	**117**	Pn		**Pn**	**19 53 21.1**	**+0.6**
121A	**Cookes Peak, D**	**23.69**	**325**	P		**P**	**19 56 43.7**	**+3.3**
	5.4nm,0.8s							

KRSC 23 20:58:35.8±0.5,55˚.16N×160˚.38E,h2km±2km,ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.07**	**227**	*i* P	Pg	20 58 38.0	+0.6
TUMR	**Tumrok**	**0.18**	**313**	*i* P	Pg	20 58 40.1	+0.5
KMNR	**Kamenistaya**	**0.60**	**352**	*e*P	Pg	20 58 48.1	+0.5
KMNR				*e*S	Sb	20 58 57.8	-0.6
BZMR	**Bezymyannaya**	**0.78**	**5**	*i* P	Pb	20 58 52.9	+0.5
BZMR				*i* S	Sb	20 59 04.7	+1.1
KIRR	**Kirishev**	**0.80**	**358**	*e*P	Pg	20 58 52.0	+0.7
KIRR				*e*S	Sb	20 59 03.8	-0.3
BZGR	**Bezymyannyi-Gr**	**0.80**	**13**	*e*P	Pb	20 58 52.1	-0.6
BZGR				*e*S	Sb	20 59 04.1	-0.1
BZWR	**Bezymyannyi-We**	**0.81**	**5**	*e*P	Pb	20 58 52.8	-0.1
BZWR				*e*S	Sb	20 59 04.8	+0.3
KPT	**Kopyto**	**0.81**	**354**	*e*P	Pb	20 58 52.4	-0.5
KPT				*e*S	Sb	20 59 03.9	-0.5
ZLN	**Zelenaya**	**0.89**	**15**	*e*P	Pn	20 58 55.0	-0.6
LGNR	**Loginova**	**0.94**	**11**	*e*P	Pb	20 58 54.9	-0.4
KOZ	**Kozyrevsk**	**

ITM				*e*S	**Sn**	**21 05 14.9 +0.9**
VLX	**Vlachokerasia**	**1.80**	**346**	P	**Pn**	**21 04 55.2 +1.7**
VLX				S	**Sn**	**21 05 17.9 +2.6**
VLX	**Vlachokerasia**	**1.80**	**346**	*e*P	Pn	21 04 55.6 +2.1
VLX				*e*S	**Sn**	**21 05 14.8 -0.5**
VLX	**Vlachokerasia**	**1.80**	**346**	P	**Pn**	**21 04 55.2 +1.7**
VLX				*e*S	**Sn**	**21 05 14.8 -0.5**
THR6	**Thira Island,**	**2.13**	**69**	P	**Pn**	**21 04 58.6 +0.7**
THR6	**Thira Island,**	**2.13**	**69**	P	**Pn**	**21 04 58.6 +0.7**
LAST	**Lasithi**	**2.13**	**102**	*e*P	**Pn**	**21 04 59.5 +1.5**
LAST	**Lasithi**	**2.13**	**102**	*e*P	**Pn**	**21 04 59.5 +1.5**
AMT	**Artemida-Makis**	**2.15**	**333**	P	**Pn**	**21 04 59.5 +1.3**
AMT	**Artemida-Makis**	**2.15**	**333**	*e*P	**Pn**	**21 04 59.3 +1.1**
AMT	**Artemida-Makis**	**2.15**	**333**	*e*P	**Pn**	**21 04 59.3 +1.1**
NPS	**Neapolis**	**2.22**	**99**	*e*P	**Pn**	**21 05 00.2 +1.1**
NPS	**Neapolis**	**2.22**	**99**	*e*P	**Pn**	**21 05 00.2 +1.1**
GUR	**Goura**	**2.36**	**349**	P	**Pn**	**21 05 02.6 +1.5**
GUR	**Goura**	**2.36**	**349**	*e*P	**Pn**	**21 05 02.8 +1.7**
GUR	**Goura**	**2.36**	**349**	P	**Pn**	**21 05 02.6 +1.5**
LTK	**Loutraki**	**2.40**	**1**	P	**Pn**	**21 05 02.4 +0.8**
LTK	**Loutraki**	**2.40**	**1**	*e*P	**Pn**	**21 05 02.4 +0.8**
LTK	**Loutraki**	**2.40**	**1**	*e*P	**Pn**	**21 05 02.4 +0.8**
ATH	**Athens Observa**	**2.43**	**15**	*e*P	**Pn**	**21 05 02.9 +0.9**
ATH	**Athens Observa**	**2.43**	**15**	*e*P	**Pn**	**21 05 02.9 +0.9**
KLV	**Kalavryta, Ach**	**2.50**	**346**	P	**Pn**	**21 05 04.1 +1.1**
KLV	**Kalavryta, Ach**	**2.50**	**346**	*e*P	**Pn**	**21 05 04.6 +1.6**
KLV	**Kalavryta, Ach**	**2.50**	**346**	P	**Pn**	**21 05 04.1 +1.1**
DRO	**Drossia**	**2.52**	**337**	P	**Pn**	**21 05 03.5 +0.2**
DRO	**Drossia**	**2.52**	**337**	*e*P	**Pn**	**21 05 03.6 +0.2**
DRO	**Drossia**	**2.52**	**337**	*e*P	**Pn**	**21 05 03.6 +0.2**
PTL	**Penteli**	**2.53**	**17**	P	**Pn**	**21 05 04.2 +0.7**
PTL	**Penteli**	**2.53**	**17**	*e*P	**Pn**	**21 05 04.0 +0.5**
PTL	**Penteli**	**2.53**	**17**	*e*P	**Pn**	**21 05 04.0 +0.5**
APE	**Apeiranthos**	**2.54**	**55**	*e*PN	**Pn**	**21 05 04.1 +0.4**
APE	**Apeiranthos**	**2.54**	**55**	*e*P	**Pn**	**21 05 04.0 +0.4**
APE	**Apeiranthos**	**2.54**	**55**	*e*Pn	**Pn**	**21 05 04.1 +0.4**
RLS	**Riolos of Patr**	**2.70**	**335**	*e*P	**Pn**	**21 05 06.2 +0.5**
RLS	**Riolos of Patr**	**2.70**	**335**	*e*P	**Pn**	**21 05 06.2 +0.5**
ZKR	**Zakros**	**2.73**	**100**	*e*P	**Pn**	**21 05 07.7 +1.5**
ZKR	**Zakros**	**2.73**	**100**	*e*P	**Pn**	**21 05 07.7 +1.5**
KALE	**Kalithea**	**2.83**	**347**	P	**Pn**	**21 05 08.1 +0.5**
KALE	**Kalithea**	**2.83**	**347**	*e*P	**Pn**	**21 05 08.5 +0.9**
KALE	**Kalithea**	**2.83**	**347**	*e*P	**Pn**	**21 05 08.5 +0.9**
EFP	**Efpalio**	**2.92**	**344**	*e*P	**Pn**	**21 05 10.7 +2.0**
EFP	**Efpalio**	**2.92**	**344**	*e*P	**Pn**	**21 05 10.7 +2.0**
LKR	**Lokris**	**3.02**	**1**	*e*P	**Pn**	**21 05 10.6 +0.5**
LKR	**Lokris**	**3.02**	**1**	*e*P	**Pn**	**21 05 10.6 +0.5**
MRKA	**Markates**	**3.12**	**9**	*e*P	**Pn**	**21 05 12.1 +0.6**
MRKA	**Markates**	**3.12**	**9**	*e*P	**Pn**	**21 05 12.1 +0.6**
AXAR	**Agios Charalam**	**3.15**	**356**	*e*P	**Pn**	**21 05 12.0 +0.2**
AXAR	**Agios Charalam**	**3.15**	**356**	*e*P	**Pn**	**21 05 12.0 +0.2**
VLS	**Valsamata**	**3.17**	**324**	*e*P	**Pn**	**21 05 12.9 +0.8**
VLS	**Valsamata**	**3.17**	**324**	*e*P	**Pn**	**21 05 12.9 +0.8**
SMIA	**Simia**	**3.26**	**4**	*e*P	**Pn**	**21 05 15.2 +1.8**
SMIA	**Simia**	**3.26**	**4**	*e*P	**Pn**	**21 05 15.2 +1.8**
PDO	**Prodromos**	**3.28**	**335**	*e*P	**Pn**	**21 05 14.7 +1.0**
PDO	**Prodromos**	**3.28**	**335**	*e*P	**Pn**	**21 05 14.7 +1.0**
EVR	**Evrytania**	**3.41**	**345**	*e*P	**Pn**	**21 05 16.5 +1.0**
EVR	**Evrytania**	**3.41**	**345**	*e*P	**Pn**	**21 05 16.5 +1.0**
AGG	**Agios Georgios**	**3.43**	**352**	*e*P	**Pn**	**21 05 16.2 +0.5**
AGG	**Agios Georgios**	**3.43**	**352**	*e*P	**Pn**	**21 05 16.2 +0.5**
MAKR	**Makrakomi, Fth**	**3.44**	**350**	P	**Pn**	**21 05 17.3 +1.4**
MAKR	**Makrakomi, Fth**	**3.44**	**350**	*e*P	**Pn**	**21 05 17.1 +1.2**
MAKR	**Makrakomi, Fth**	**3.44**	**350**	*e*P	**Pn**	**21 05 17.1 +1.2**
KARP	**Karpathos**	**3.45**	**90**	P	**Pn**	**21 05 16.3 +0.3**
KARP	**Karpathos**	**3.45**	**90**	*e*P	**Pn**	**21 05 16.1 +0.1**
KARP	**Karpathos**	**3.45**	**90**	P	**Pn**	**21 05 16.3 +0.3**
SKIA	**Skiathos**	**3.56**	**7**	*e*P	**Pn**	**21 05 18.4 +0.9**
SKIA	**Skiathos**	**3.56**	**7**	*e*P	**Pn**	**21 05 18.4 +0.9**
AOS	**Alonnisos**	**3.62**	**12**	*e*P	**Pn**	**21 05 19.3 +1.0**
AOS	**Alonnisos**	**3.62**	**12**	*e*P	**Pn**	**21 05 19.3 +1.0**
NEO	**Neokhori**	**3.68**	**4**	*e*P	**Pn**	**21 05 20.0 +0.8**
NEO	**Neokhori**	**3.68**	**4**	*e*P	**Pn**	**21 05 20.0 +0.8**
CHOS	**Chios island**	**3.72**	**41**	*e*PN	**Pn**	**21 05 19.7 -0.1**
CHOS	**Chios island**	**3.72**	**41**	*e*P	**Pn**	**21 05 20.4 +0.6**
CHOS	**Chios island**	**3.72**	**41**	*e*Pn	**Pn**	**21 05 19.7 -0.1**
CHOS	**Chios island**	**3.72**	**41**	*e*P	**Pn**	**21 05 20.4 +0.6**
XOR	**Xorichti**	**3.74**	**3**	*e*P	**Pn**	**21 05 21.3 +1.3**
XOR	**Xorichti**	**3.74**	**3**	*e*P	**Pn**	**21 05 21.3 +1.3**
SMG	**Samos**	**3.77**	**55**	*e*P	**Pn**	**21 05 20.2 -0.1**
SMG	**Samos**	**3.77**	**55**	*e*P	**Pn**	**21 05 20.2 -0.1**
BODT	**Bodrum**	**3.81**	**67**	*e*PN	**Pn**	**21 05 22.5 +1.5**
BODT	**Bodrum**	**3.81**	**67**	*e*Pn	**Pn**	**21 05 22.5 +1.5**
THL	**Klokotos Trika**	**4.00**	**350**	*e*P	**Pn**	**21 05 23.5 0.0**
THL	**Klokotos Trika**	**4.00**	**350**	*e*P	**Pn**	**21 05 23.5 0.0**
ARG	**Arkhangelos**	**4.26**	**80**	*e*P	**Pn**	**21 05 27.1 +0.1**
ARG	**Arkhangelos**	**4.26**	**80**	*e*P	**Pn**	**21 05 27.1 +0.1**
SIGR	**SIGRI**	**4.27**	**32**	*e*PN	**Pn**	**21 05 26.7 -0.5**
SIGR	**SIGRI**	**4.27**	**32**	*e*P	**Pn**	**21 05 28.6 +1.4**
SIGR	**SIGRI**	**4.27**	**32**	*e*Pn	**Pn**	**21 05 26.7 -0.5**
SIGR	**SIGRI**	**4.27**	**32**	*e*P	**Pn**	**21 05 28.6 +1.4**
PAIG	**Paliouri**	**4.34**	**8**	*e*P	**Pn**	**21 05 28.5 +0.4**
PAIG	**Paliouri**	**4.34**	**8**	*e*P	**Pn**	**21 05 28.5 +0.4**
IGT	**Igoumenitsa**	**4.42**	**333**	*e*P	**Pn**	**21 05 31.3 +2.1**
IGT	**Igoumenitsa**	**4.42**	**333**	*e*P	**Pn**	**21 05 31.3 +2.1**
LIT	**Litokhoron**	**4.48**	**356**	*e*P	**Pn**	**21 05 31.3 +1.1**
LIT	**Litokhoron**	**4.48**	**356**	*e*P	**Pn**	**21 05 31.3 +1.1**
AYDB	**Zeytinkoy-Aydi**	**4.61**	**58**	*e*PN	**Pn**	**21 05 32.9 +1.0**
AYDB	**Zeytinkoy-Aydi**	**4.61**	**58**	*e*Pn	**Pn**	**21 05 32.9 +1.0**
PLG	**Polygyros**	**4.76**	**5**	*e*P	**Pn**	**21 05 33.4 -0.6**
PLG	**Polygyros**	**4.76**	**5**	*e*P	**Pn**	**21 05 33.4 -0.6**
DALY	**Dalyan (Mu˘la**	**4.78**	**74**	*e*PN	**Pn**	**21 05 36.4 +2.2**
DALY	**Dalyan (Mu˘la**	**4.78**	**74**	*e*Pn	**Pn**	**21 05 36.4 +2.2**
DALY				*e*Sn	**Sn**	**21 06 30.1 +1.9**
OUR	**Ouranopolis**	**4.78**	**10**	*e*PN	**Pn**	**21 05 33.1 -1.1**
OUR	**Ouranopolis**	**4.78**	**10**	*e*P	**Pn**	**21 05 34.6 +0.5**
OUR	**Ouranopolis**	**4.78**	**10**	*e*Pn	**Pn**	**21 05 33.1 -1.1**
OUR	**Ouranopolis**	**4.78**	**10**	*e*P	**Pn**	**21 05 34.6 +0.5**
FETY	**Fethiye**	**5.08**	**77**	*e*PN	Pn	21 05 41.6 +3.2
FETY	**Fethiye**	**5.08**	**77**	*e*Pn	Pn	21 05 41.6 +3.2
SOH	**Sokhos**	**5.20**	**4**	*e*P	**Pn**	**21 05 40.4 +0.4**
SOH	**Sokhos**	**5.20**	**4**	*e*P	**Pn**	**21 05 40.4 +0.4**
ALN	**Alexandroupoli**	**5.81**	**24**	*e*PN	**Pn**	**21 05 48.9 +0.6**
ALN	**Alexandroupoli**	**5.81**	**24**	*e*P	**Pn**	**21 05 49.0 +0.7**
ALN	**Alexandroupoli**	**5.81**	**24**	*e*Pn	**Pn**	**21 05 48.9 +0.6**
STON	**Ston**	**8.30**	**332**	*i* Pn	Pn	21 06 17.9 -4.4
STON				Sn	Sn	21 07 42.4 -12
BRTR	**Keskin Array B**	**9.42**	**61**	Pn	Pn	21 06 40.6 +2.6
	0.0nm,0.3s,baz=246,slow=8,SNR=5.9					
MLR	**Muntele Rosu**	**10.12**	**12**	Pn	**Pn**	**21 06 47.1 -0.3**
	0.0nm,0.3s,baz=143,slow=20,SNR=2.1					
UDBI	**Udbina**	**10.45**	**331**	*e*Pn	**Pn**	**21 06 48.8 -3.0**
UDBI				Sn	Sn	21 08 36.7 -11
MMAI	**Mount Meron Ar**	**10.63**	**101**	Pn	Pn	21 06 50.5 -4.1
	0.4nm,0.3s,baz=288,slow=11,SNR=6.0					
NVLJ	**Novalja**	**10.85**	**328**	*i* Pn	Pn	21 06 51.1 -6.2
NVLJ				Sn	Sn	21 08 45.2 -12
GERES	**GERESS Array B**	**14.86**	**336**	Pn	Pn	21 07 48.0 -3.7
	0.1nm,0.3s,baz=156,slow=15,SNR=3.2					
HFS	**Hagfors**	**25.25**	**349**	P	**P**	**21 09 43.1 -2.5**
	3.0nm,1.0s,baz=129,slow=11,SNR=6.8					
FINES	**FINESS Array B**	**25.92**	**3**	P	**P**	**21 09 50.2 -1.5**
	0.4nm,0.3s,baz=172,slow=11,SNR=6.8					
NOA	**NORSAR Array B**	**26.52**	**347**	P	**P**	**21 09 55.3 -1.8**
	0.9nm,0.9s,baz=160,slow=10.0,SNR=3.0					
EKA	**Eskdalemuir Ar**	**26.62**	**326**	P	**P**	**21 09 57.7 -0.4**
	1.0nm,0.7s,baz=124,slow=8.6,SNR=4.8					
TORD	**Torodi Ar. Bea**	**29.45**	**226**	P	**P**	**21 10 21.2 -2.4**
	0.1nm,0.4s,baz=41,slow=9.0,SNR=3.5					
ARCES	**ARCESS Array B**	**34.00**	**2**	P	**P**	**21 11 02.3 -0.7**
	4.9nm,1.0s,baz=190,slow=9.0,SNR=4.7					
SPITS	**Spitsbergen Ar**	**42.75**	**358**	P	**P**	**21 12 16.0 -0.5**
	1.6nm,0.7s,baz=134,slow=8.3,SNR=12					
MKAR	**Makanchi Array**	**45.04**	**57**	P	**P**	**21 12 34.2 -1.0**
	0.5nm,0.5s,baz=275,slow=11,SNR=8.1					
ZALV	**Zalesovo Beam**	**46.00**	**46**	P	**P**	**21 12 41.4 -1.3**
	0.7nm,0.3s,baz=264,slow=8.2,SNR=5.4					
USRK	**Ussuriysk Ar.**	**77.79**	**44**	P	**P**	**21 16 15.0 -1.3**
	0.6nm,0.6s,baz=336,slow=4.7,SNR=5.8					

*NEIC **23** 21:07:14.8, 32˚.18N×115˚.39W, h7km, MD3.2(MEX), ML2.9(PAS), After PAS.*
*ISCJB **23** 21:07:15.0±0.5, 32˚.35N±0˚.03×115˚.31W±0˚.04, h20km±4km, Error ellipse: s-maj=5.7km s-min=4.7km az=170.6*
*MEX **23** 21:07:15.3±0.5, 32˚.58N×115˚.12W, h15km, MD3.5*
*ECX **23** 21:07:17.3±0.6, 32˚.29N×115˚.39W, h6km, MD2.9, ML3.1*
ISC 23 21:07:14.4±1.0, 32˚.34N±0˚.03×115˚.32W±0˚.03, h15km±4km, n21, σ0.975/34, 1C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.09**	**12**	*e*P	**Pb**	**21 07 16.8**	**-0.7**
CPBX				*e*S	**Sb**	**21 07 19.1**	**-0.5**
CPBX				*e*		21 07 26.5	
CPBX				AML	AML	21 07 26.5	
	comp=N,20μm,0.4s						
CPBX	**Cerro Prieto**	**0.09**	**12**	*e*P	**Pb**	**21 07 19.5**	**+1.9**
MBIG	**Mexicali**	**0.13**	**56**	*i* P	**Pb**	**21 07 19.2**	**+0.6**
MBIG				*i* S	**Sb**	**21 07 21.7**	**+0.3**
SGL	**Mount Signal**	**0.46**	**313**	⇓*i*P	**Pb**	**21 07 25.1**	**+0.9**
COA	**Coachella**	**0.55**	**18**	⇓*i*P	**Pn**	**21 07 28.0**	**+0.2**
YUH	**Yuha Desert**	**0.59**	**302**	⇓*i*P	**Pb**	**21 07 27.1**	**+0.6**
COK	**Cook Ranch**	**0.62**	**327**	*e*P	**Pn**	**21 07 28.4**	**-0.2**
RDX	**Rancho Dawling**	**0.66**	**232**	*e*P	**Pb**	**21 07 27.7**	**-0.1**
RDX				*e*S	**Sb**	**21 07 35.8**	**-1.1**
RMX	**La Rumorosa**	**0.69**	**293**	*e*P	**Pb**	**21 07 28.6**	**+0.4**
RMX				*e*S	**Sb**	**21 07 37.9**	**+0.2**
ECBX	**El Chinero**	**0.89**	**165**	*e*P	**Pb**	**21 07 32.2**	**+0.7**
ECBX				*e*S	**Sb**	**21 07 43.8**	**+0.6**
ECBX				⇑*e*		21 07 45.8	
ECBX				AML	AML	21 07 45.8	
	comp=E,618nm,0.4s						
CBX	**Cerro Bola**	**1.13**	**269**	*e*P	**Pn**	**21 07 35.8**	**-0.1**
CBX				*i* S	**Sn**	**21 07 51.4**	**+0.1**
CBX	**Cerro Bola**	**1.13**	**269**	*e*P	**Pb**	**21 07 36.4**	**+0.6**
CBX				*e*S	**Sb**	**21 07 50.6**	**+0.2**
CBX	**Cerro Bola**	**1.13**	**269**	*e*P	**Pb**	**21 07 36.2**	**+0.4**
CBX				*e*S	**Sn**	**21 07 51.1**	**-0.1**
ZAX	**El Zacaton**	**1.15**	**225**	*e*P	**Pb**	**21 07 36.6**	**+0.5**
ZAX				*e*S	**Sb**	**21 07 50.6**	**-0.2**
ZAX				AML	AML	21 07 55.6	
	comp=N,306nm,0.5s						
ZAX				⇓*e*		21 07 55.6	
BAR	**Barrett**	**1.19**	**287**	*e*P	**Pb**	**21 07 37.3**	**+0.6**
BAR	**Barrett**	**1.19**	**287**	*e*Pn	**Pb**	**21 07 37.0**	**+0.3**
BAR				*e*Sn	**Sb**	**21 07 52.0**	**+0.1**
ECNX	**Esteban Cantu**	**1.28**	**238**	*e*P	**Pb**	**21 07 38.4**	**+0.2**
ECNX				*e*S	**Sn**	**21 07 54.5**	**-0.2**
SPX	**San Pedro Mart**	**1.29**	**185**	*e*S	**Sb**	**21 07 55.6**	**+0.5**
SPX	**San Pedro Mart**	**1.29**	**185**	*e*P	**Pn**	**21 07 38.2**	**0.0**
SPX				*e*S	**Sb**	**21 07 56.6**	**+1.4**
PFO	**Pinyon Flats O**	**1.59**	**324**	*e*Pn	**Pn**	**21 07 42.3**	**+0.2**
PFO				*e*Sn	**Sn**	**21 08 01.1**	**-1.4**
214A	**Organ Pipe Nat**	**2.17**	**99**	*e*Pn	**Pn**	**21 07 48.3**	**-1.7**

IDC 23 21:17:03.6±2.8, 4˚.43N×93˚.94E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/36, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=112.6km s-min=23.6km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.77**	**19**	Pn	Pn	21 20 34.6	+0.7
	0.1nm,0.3s,baz=205,slow=12,SNR=5.2						
H08S2	**Diego Garcia H**	**24.53**	**241**	T	T	21 48 34.7	
	baz=65						
H08S3	**Diego Garcia H**	**24.53**	**241**	T	T	21 48 30.4	
	baz=65						
H08S1	**Diego Garcia H**	**24.55**	**241**	T	T	21 48 23.6	
	baz=65						
MKAR	**Makanchi Array**	**43.39**	**348**	P	P	21 25 08.1	+0.2
	0.4nm,0.5s,baz=182,slow=7.2,SNR=7.1						
WRA	**Warramunga Arr**	**46.51**	**123**	P	P	21 25 32.9	-0.3
	0.4nm,0.7s,baz=302,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**47.93**	**128**	P	P	21 25 44.3	0.0
	0.5nm,0.9s,baz=293,slow=6.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**49.92**	**353**	P	P	21 25 58.3	-0.7
	0.6nm,0.4s,baz=184,slow=7.1,SNR=4.6						

IDC 23 21:22:36.1±5.8, 19˚.03S×176˚.21W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/23, mbtmp3.9/2, Error ellipse: s-maj=285.1km s-min=56.2km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.49**	**260**	P	P	21 31 05.5	0.0
	0.6nm,0.5s,baz=97,slow=7.8,SNR=22						
ASAR	**Alice Springs**	**46.51**	**255**	P	P	21 31 05.5	-0.2
	1.5nm,0.6s,baz=95,slow=7.5,SNR=17						
AKASG	**Malin Array Be**	**142.50**	**333**	PKP	PKPdf	21 42 10.7	-0.2
	0.4nm,0.4s,baz=41,slow=4.5,SNR=7.3						
BRTR	**Keskin Array B**	**147.05**	**315**	PKPbc	PKPbc	21 42 20.4	-1.0
	0.2nm,0.3s,baz=46,slow=4.2,SNR=3.2						

*IDC **23** 21:51:58.6±6.5, 36˚.62N×142˚.83E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/41, mbtmp3.5/5, ML3.0/3, Error ellipse: s-maj=105.5km s-min=44.7km az=129.0*
*JMA **23** 21:52:08.1±0.2, 37˚.06N×141˚.92E, h44km±4km, M3.3*
ISC 23 21:52:05.3±2.5, 37˚.01N±0˚.08×141˚.91E±0˚.10, h12km±12km, n13, σ1.922/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.89**	**276**	P	Pn	**21 52 24.2**	**+0.4**
JFK	**Kawauchi**	**0.90**	**294**	P	**Pn**	**21 52 24.2**	**+0.4**
JFK				S	**Sb**	**21 52 35.4**	**+0.6**
JHO	**Hitachi**	**1.15**	**250**	P	**Pn**	**21 52 28.2**	**+1.0**
JHO				S	**Sg**	**21 52 42.6**	**+0.4**
JMM	**Marumori**	**1.23**	**314**	P	**Pg**	**21 52 28.9**	**-0.1**
JFT	**Otama**	**1.35**	**292**	P	**Pb**	**21 52 30.9**	**+0.3**
JFT				S	**Sb**	**21 52 48.1**	**+0.3**
JIO	**Ouri**	**1.51**	**343**	P	**Pn**	**21 52 32.0**	**-0.2**
JIO				S	**Sn**	**21 52 49.0**	**-2.8**
JOU	**Okura**	**1.67**	**324**	P	**Pb**	**21 52 36.3**	**+0.2**
JOU				S	**Sn**	**21 52 56.4**	**+0.5**
MJAR	**Matsushiro Arr**	**3.00**	**262**	Pn	**Pb**	**21 52 57.1**	**-1.7**
	3.2nm,0.3s,baz=83,slow=15,SNR=33						
MJAR				Sn	**Sb**	**21 53 34.7**	**-0.8**
	2.4nm,0.3s,baz=98,slow=27,SNR=4.9						
MAT	**Matsushiro**	**3.01**	**262**	P	**Pb**	**21 52 57.3**	**-1.5**
MAT				S	**Sb**	**21 53 34.1**	**-1.4**
ASAJ	**Asahikawa**	**7.12**	**4**	Pn	**Pn**	**21 53 49.4**	**+0.2**
	0.3nm,0.3s,baz=202,slow=11,SNR=4.8						
ASAJ				Sn	**Sn**	**21 55 08.6**	**-1.5**
	0.4nm,0.3s,baz=353,slow=17,SNR=4.9						
USRK	**Ussuriysk Ar.**	**10.40**	**317**	Pn	Pn	21 54 40.3	+6.0
	0.1nm,0.3s,baz=130,slow=13,SNR=7.4						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**22 00 17.7**	**+1.4**
	0.3nm,0.6s,baz=79,slow=7.5,SNR=4.7						
KURBB	**Kurchatov Arra**	**46.33**	**308**	P	**P**	**22 00 32.4**	**+1.4**
	0.7nm,0.5s,baz=83,slow=8.1,SNR=12						

*ISCJB **23** 21:56:38.8±0.3, 4˚.02S±0˚.05×126˚.86E±0˚.05, h300km, mb3.6/6, Error ellipse: s-maj=7.7km s-min=6.2km az=138.3*
*DJA **23** 21:56:40.4±0.4, 4˚.S±4˚×127˚.7E±˚, h269km±5km, M4.3/12, mb4.5/6, mB4.9/3, MLv4.1/12, Mw(mB)4.2/3*
*IDC **23** 21:56:42.1±2.1, 4˚.06S×126˚.82E, h308km±20km, mb3.3/7, mb1 3.5/8, mb1mx3.2/30, mbtmp4.1/8, Error ellipse: s-maj=40.4km s-min=9.0km az=66.0*
ISC 23 21:56:40.7±0.6, 4˚.03S±0˚.07×126˚.81E±0˚.09, h300km, n39, σ1.944/43, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.84**	**20**	P	**Pn**	**21 57 17.3**	**-3.1**
NLAI				S	S	21 57 45.7	-6.3
SANI	**Sanana**	**2.13**	**337**	P	Pn	21 57 25.2	-3.4
MSAI	**Masohi**	**2.22**	**72**	P	Pn	21 57 26.0	-3.3
BNDI	**Bandanaira**	**3.12**	**99**	P	**Pn**	**21 57 35.7**	**-2.0**
LBMI	**Labuha**	**3.44**	**12**	P	**Pn**	**21 57 39.0**	**-2.0**
KDI	**Kendari**	**4.18**	**271**	P	**Pn**	**21 57 46.8**	**-2.1**
TNTI	**Ternate**	**4.80**	**7**	P	**Pn**	**21 57 54.3**	**-1.7**
LUWI	**Luwuk**	**5.01**	**306**	P	**Pn**	**21 57 56.2**	**-2.1**
LUWI	**Luwuk**	**5.01**	**306**	P	**Pn**	**21 57 56.3**	**-2.1**
	baz=5.0,SNR=4.7						
KMSI	**Cibinong**	**5.38**	**328**	P	**Pn**	**21 58 01.1**	**-1.6**
FAKI	**Fak Fak**	**5.54**	**79**	P	**Pn**	**21 58 03.5**	**-1.1**
	181nm,0.7s,4μm0.9nm						
FAKI	**Fak Fak**	**5.54**	**79**	P	**Pn**	**21 58 03.8**	**-0.8**
	baz=5.6,SNR=181						
FAKI				S	S	21 59 05.3	-6.8
	baz=5.6,SNR=14						
SOEI	**Soe**	**6.22**	**204**	P	**Pn**	**21 58 11.3**	**-1.5**
	69nm,0.8s,0.2nm						
SOEI	**Soe**	**6.22**	**204**	P	**Pn**	**21 58 11.7**	**-1.1**
	baz=6.2,SNR=7.9						
MRSI	**Marisa**	**6.61**	**313**	P	**Pn**	**21 58 15.6**	**-1.8**
	64nm,0.7s,600nm0.2nm						
BATI	**Baumata**	**6.88**	**207**	P	**Pn**	**21 58 19.6**	**-1.1**
	59nm,0.9s,0.2nm						
SPSI	**Sidrap Palu**	**7.02**	**270**	P	**Pn**	**21 58 19.7**	**-2.7**
MTN	**Manton Dam**	**9.74**	**154**	P	**Pn**	**21 58 54.6**	**-1.2**
	baz=9.8,SNR=25						
BBKI	**Banjar Baru**	**11.96**	**272**	P	**Pn**	**21 59 22.7**	**-0.1**
WRA	**Warramunga Arr**	**17.44**	**156**	P	**P**	**22 00 23.9**	**-0.5**
	1.6nm,0.3s,baz=335,slow=12,SNR=152						
WRA				S	**S**	**22 03 32.5**	**+2.4**
	0.3nm,0.3s,baz=338,slow=17,SNR=6.4						
ASAR	**Alice Springs**	**20.69**	**161**	P	**P**	**22 00 59.0**	**+0.3**
	1.2nm,0.3s,baz=348,slow=12,SNR=28						
ASAR				S	**S**	**22 04 31.5**	**+1.0**
	2.7nm,0.9s,baz=350,slow=22,SNR=9.4						
ASAR				PcP	**PcP**	**22 04 56.2**	**+0.9**
	0.7nm,0.4s,baz=344,slow=2.1,SNR=5.4						
MEEK	**Meekatharra**	**23.81**	**198**	P	**P**	**22 01 25.8**	**-1.4**
	baz=24,SNR=11						
STKA	**Stephens Creek**	**30.99**	**155**	P	**P**	**22 02 31.2**	**+0.4**
	1.0nm,0.3s,baz=330,slow=8.3,SNR=8.4						
STKA				PcP	**PcP**	**22 05 19.0**	**+0.1**
	2.0nm,0.5s,baz=330,slow=4.0,SNR=4.4						
STKA				ScP	**ScP**	**22 08 29.8**	**-3.1**
	1.2nm,0.3s,baz=315,slow=10.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**35.40**	**310**	P	**P**	**22 03 10.2**	**+1.3**
	1.1nm,0.6s,baz=134,slow=6.9,SNR=14						
USRK	**Ussuriysk Ar.**	**48.24**	**5**	P	**P**	**22 04 53.1**	**+1.3**
	1.1nm,0.4s,baz=186,slow=6.6,SNR=8.5						
ODAN	**Odare**	**48.92**	**311**	*e*P	**P**	**22 04 58.3**	**+0.7**
TAPN	**Taplejung**	**48.95**	**312**	*e*P	**P**	**22 04 58.4**	**+0.5**
	4.6nm,0.3s						
RAMN	**Ramite**	**49.57**	**311**	*e*P	**P**	**22 05 03.3**	**+0.8**
	23nm,0.6s						
JIRN	**Jiri**	**50.25**	**311**	*e*P	**P**	**22 05 08.0**	**+0.3**
	9.2nm,0.6s						
GUN	**Gumba**	**50.62**	**311**	*e*P	**P**	**22 05 10.7**	**+0.3**
	20nm,0.5s						
PKI	**Pulchoki**	**50.79**	**311**	*e*P	**P**	**22 05 11.7**	**0.0**
	5.0nm,0.5s						
PKIN	**Phulchoki**	**50.81**	**311**	*e*P	**P**	**22 05 11.7**	**0.0**
	3.5nm,0.5s						
**KKN

WKZ	**Wanaka**	**1.50**	**112**	*e*PN	Pb	23 18 32.5	-0.3	
WKZ				AML	AML	23 18 52.9		
WKZ				AML	AML	23 18 52.9		
WKZ				AML	AML	23 18 53.9		
WKZ				AML	AML	23 18 53.9		
WHZ	**Wether Hill Ro**	**1.74**	**159**	PN	Pn	23 18 34.3	-0.7	
WHZ				*e*SN	Sn	23 18 53.0	-4.1	
WHZ				AML	AML	23 18 60.0		
EAZ	**Earnscleugh**	**1.86**	**122**	⇓PN	Pb	23 18 37.9	-1.0	
EAZ				AML	AML	23 19 03.0		
EAZ				AML	AML	23 19 03.2		
EAZ				AML	AML	23 19 04.4		
EAZ				AML	AML	23 19 04.5		
PYZ	**Puysegur Point**	**1.91**	**188**	PN	Pn	23 18 36.3	-1.1	
FOZ	**Fox Glacier**	**2.03**	**70**	PN	Pn	23 18 39.1	+0.2	
FOZ				AML	AML	23 19 16.4		
FOZ				AML	AML	23 19 16.4		
FOZ				AML	AML	23 19 23.8		
FOZ				AML	AML	23 19 23.8		
LBZ	**Lake Benmore**	**2.24**	**94**	PN	Pn	23 18 43.3	+1.4	
LBZ				AML	AML	23 19 18.1		
LBZ				AML	AML	23 19 19.5		
TUZ	**Tuapeka**	**2.48**	**134**	PN	Pn	23 18 45.2	+0.1	
APZ	**The Paps**	**2.64**	**166**	*e*PN	Pn	23 18 47.2	-0.2	
ODZ	**Otahua Downs**	**2.67**	**108**	PN	Pn	23 18 48.4	+0.7	
SYZ	**Scrubby Hill**	**2.69**	**148**	PN	Pn	23 18 48.2	+0.1	
SYZ				AML	AML	23 19 24.7		
SYZ				AML	AML	23 19 29.2		
WVZ	**Waitaha Valley**	**2.92**	**67**	PN	Pn	23 18 50.1	-1.1	
WVZ				AML	AML	23 19 43.3		
RPZ	**Rata Peaks**	**2.94**	**80**	⇑PN	Pn	23 18 51.4	0.0	
RPZ				AML	AML	23 19 40.5		
RPZ				AML	AML	23 19 41.8		
HHSZ	**Highcliff Hill**	**2.98**	**124**	*e*PN	Pn	23 18 52.6	+0.6	
MQZ	**McQueen's Vall**	**4.07**	**84**	PN	Pn	23 19 05.3	-1.8	
DSZ	**Dennistoun Nort**	**4.30**	**56**	PN	Pn	23 19 09.0	-1.2	
THZ	**Tophouse**	**4.96**	**62**	PN	Pn	23 19 19.4	0.0	

*ISCJB **23** 23:20:24.8±0.6,36°.52N±0°.03×27°.10E±0°.03,h118km±6km, Error ellipse: s-maj=5.5km s-min=4.2km az=148.1*
*CSEM **23** 23:20:25.3±0.3,36°.51N×27°.14E,h115km×4km,MD3.2, Error ellipse: s-maj=6.0km s-min=4.7km az=165.0*
*ATH **23** 23:20:27.0,36°.52N×26°.91E,h25km×2km, MD3.3/12*
*HLW **23** 23:20:28.9,36°.30N×27°.49E,h34km×27km,Md3.5,Ml3.0*
*THE **23** 23:20:28.9,36°.56N×26°.90E,h99km±10km,ML3.0/2, Error ellipse: s-maj=11.0km s-min=2.0km az=88.0*
*ISK **23** 23:20:35.6,37°.02N×27°.68E,h5km, MD2.9*
*DDA **23** 23:20:38.7,37°.02N×27°.81E,h7km,MD3.2*

ISC 23 23:20:24.4±1.3,36°.54N±0°.03×27°.10E±0°.03,h120km±8km, n75,σ1°.73/111,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.43**	**63**	*e*PG	**Pn**	**23 20 42.8**	**+0.8**
DAT	**Datca**	**0.43**	**63**	*e*Pg	**Pn**	**23 20 42.8**	**+0.8**
BODT	**Bodrum**	**0.55**	**18**	*e*PG	**Pn**	**23 20 43.0**	**+0.4**
BODT	**Bodrum**	**0.55**	**18**	*e*Pg	**Pn**	**23 20 43.0**	**+0.4**
BDRM	**Kayabasi**	**0.60**	**28**	*i* P	**Pn**	**23 20 43.8**	**+0.9**
BDRM				*i* S	**Sn**	**23 20 57.1**	**+0.2**
BDRM	**Kayabasi**	**0.60**	**28**	*i* P	**Pn**	**23 20 43.8**	**+0.9**
BDRM				*i* S	**Sn**	**23 20 57.1**	**+0.2**
ARG	**Arkhangelos**	**0.89**	**111**	P	Pn	23 20 49.8	+4.5
ARG				S	**Sn**	**23 21 02.1**	**+1.1**
ARG	**Arkhangelos**	**0.89**	**111**	*e*PN	**Pn**	**23 20 46.7**	**+1.4**
ARG				*e*SN	**Sn**	**23 21 01.4**	**+0.3**
ARG	**Arkhangelos**	**0.89**	**111**	*e*Pn	**Pn**	**23 20 46.7**	**+1.4**
ARG	**Arkhangelos**	**0.89**	**111**	P	Pn	23 20 49.8	+4.5
ARG				*e*Sn	**Sn**	**23 21 01.4**	**+0.3**
ARG				S	**Sn**	**23 21 02.1**	**+1.1**
KARP	**Karpathos**	**0.99**	**177**	P	Pn	23 20 49.9	+3.6
KARP				S	**Sn**	**23 21 02.9**	**+0.1**
KARP	**Karpathos**	**0.99**	**177**	*e*PN	**Pn**	**23 20 47.1**	**+0.8**
KARP				*e*SN	**Sn**	**23 21 00.6**	**-2.2**
KARP	**Karpathos**	**0.99**	**177**	*e*Pn	**Pn**	**23 20 47.1**	**+0.8**
KARP	**Karpathos**	**0.99**	**177**	P	Pn	23 20 49.9	+3.6
KARP				*e*Sn	**Sn**	**23 21 00.6**	**-2.2**
KARP				S	**Sn**	**23 21 02.9**	**+0.1**
YER	**Yerkesik**	**1.12**	**57**	*e*PG	**Pn**	**23 20 47.1**	**-0.5**
YER	**Yerkesik**	**1.12**	**57**	*e*Pg	**Pn**	**23 20 47.1**	**-0.5**
SMG	**Samos**	**1.19**	**350**	P	**Pn**	**23 20 49.1**	**+0.8**
SMG				S	**Sn**	**23 21 06.0**	**-0.5**
SMG	**Samos**	**1.19**	**350**	*e*PN	**Pn**	**23 20 49.2**	**+0.9**
SMG				*e*SN	**Sn**	**23 21 06.6**	**+0.1**
SMG	**Samos**	**1.19**	**350**	*e*Pn	**Pn**	**23 20 49.2**	**+0.9**
SMG				S	**Sn**	**23 21 06.0**	**-0.5**
SMG				*e*Sn	Sn	23 21 06.6	+0.1
TURN	**Turunc**	**1.26**	**74**	*i* P	**Pn**	**23 20 47.0**	**-1.9**
TURN				*i* S	**Sn**	**23 21 02.3**	**-5.3**
TURN	**Turunc**	**1.26**	**74**	*i* P	**Pn**	**23 20 47.0**	**-1.9**
TURN				*i* S	**Sn**	**23 21 02.3**	**-5.3**
DALY	**Dalyan (Mu˘la**	**1.28**	**77**	*e*PG	**Pn**	**23 20 51.5**	**+2.3**
DALY				*e*SG	**Sn**	**23 21 05.0**	**-3.2**
DALY	**Dalyan (Mu˘la**	**1.28**	**77**	*e*Pg	**Pn**	**23 20 51.5**	**+2.3**
DALY				*e*Sg	**Sn**	**23 21 05.0**	**-3.2**
AYDN	**Tasoluk**	**1.29**	**29**	*i* P	**Pn**	**23 20 52.3**	**+2.9**
AYDN				*i* S	**Sn**	**23 21 09.7**	**+1.3**
AYDN	**Tasoluk**	**1.29**	**29**	*i* P	**Pn**	**23 20 52.3**	**+2.9**
AYDN				*i* S	**Sn**	**23 21 09.7**	**+1.3**
APE	**Apeiranthos**	**1.37**	**293**	P	**Pn**	**23 20 51.7**	**+1.5**
APE				S	**Sn**	**23 21 07.8**	**-2.1**
APE	**Apeiranthos**	**1.37**	**293**	*e*PN	**Pn**	**23 20 50.6**	**+0.4**
APE				*e*SN	**Sn**	**23 21 07.8**	**-2.1**
APE	**Apeiranthos**	**1.37**	**293**	*e*Pn	**Pn**	**23 20 50.6**	**+0.4**
APE	**Apeiranthos**	**1.37**	**293**	P	**Pn**	**23 20 51.7**	**+1.5**
APE				S	**Sn**	**23 21 07.8**	**-2.1**
THR6	**Thira Island,**	**1.38**	**263**	P	**Pn**	**23 20 51.7**	**+1.3**
THR6	**Thira Island,**	**1.38**	**263**	P	**Pn**	**23 20 51.7**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**24**	*e*PG	**Pn**	**23 20 54.5**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**24**	*e*Pg	**Pn**	**23 20 54.5**	**+2.1**
ZKR	**Zakros**	**1.59**	**207**	*e*PN	**Pn**	**23 20 54.7**	**+1.9**
ZKR				*e*SN	**Sn**	**23 21 14.7**	**+0.3**
ZKR	**Zakros**	**1.59**	**207**	*e*Pn	**Pn**	**23 20 54.7**	**+1.9**
ZKR				*e*Sn	**Sn**	**23 21 14.7**	**+0.3**
NPS	**Neapolis**	**1.75**	**224**	P	**Pn**	**23 20 56.0**	**+1.3**
NPS				S	**Sn**	**23 21 16.8**	**-1.1**
NPS	**Neapolis**	**1.75**	**224**	*e*PN	**Pn**	**23 20 56.0**	**+1.3**
NPS				*e*SN	**Sn**	**23 21 17.8**	**-0.1**
NPS	**Neapolis**	**1.75**	**224**	P	**Pn**	**23 20 56.0**	**+1.3**
NPS				S	**Sn**	**23 21 16.8**	**-1.1**
NPS				*e*Sn	Sn	23 21 17.8	-0.1
LAST	**Lasithi**	**1.90**	**224**	*e*PN	**Pn**	**23 20 58.2**	**+1.6**
LAST				*e*SN	**Sn**	**23 21 20.8**	**-0.4**
LAST	**Lasithi**	**1.90**	**224**	*e*Pn	**Pn**	**23 20 58.2**	**+1.6**
LAST				*e*Sn	**Sn**	**23 21 20.8**	**-0.4**
CHOS	**Chios island**	**2.03**	**336**	P	**Pn**	**23 20 59.7**	**+1.5**
CHOS				S	**Sn**	**23 21 23.2**	**-0.9**
CHOS	**Chios island**	**2.03**	**336**	P	**Pn**	**23 20 59.7**	**+1.5**
CHOS				S	**Sn**	**23 21 23.2**	**-0.9**
AKAS	**Kas**	**2.05**	**98**	*i* P	**Pn**	**23 20 59.9**	**+1.4**
AKAS				*i* S	**Sn**	**23 21 25.5**	**+1.0**
AKAS	**Kas**	**2.05**	**98**	*i* P	**Pn**	**23 20 59.9**	**+1.4**
AKAS				*i* S	**Sn**	**23 21 25.6**	**+1.0**
GOLH	**Golhisar**	**2.10**	**70**	*i* P	**Pn**	**23 21 00.9**	**+1.8**
GOLH				*i* S	**Sn**	**23 21 26.0**	**+0.4**
GOLH	**Golhisar**	**2.10**	**70**	*i* P	**Pn**	**23 21 00.9**	**+1.8**
GOLH				*i* S	**Sn**	**23 21 26.0**	**+0.4**
SIVA	**Sivas**	**2.40**	**232**	*e*PN	**Pn**	**23 21 04.9**	**+2.1**
SIVA				*e*SN	**Sn**	**23 21 33.7**	**+1.4**
SIVA	**Sivas**	**2.40**	**232**	*e*Pn	**Pn**	**23 21 04.9**	**+2.1**
SIVA				*e*Sn	**Sn**	**23 21 33.7**	**+1.4**
VAM	**Vamos**	**2.61**	**245**	P	**Pn**	**23 21 06.1**	**+0.6**
VAM	**Vamos**	**2.61**	**245**	*e*PN	**Pn**	**23 21 06.5**	**+1.0**
VAM	**Vamos**	**2.61**	**245**	P	**Pn**	**23 21 06.1**	**+0.6**
VAM	**Vamos**	**2.61**	**245**	*e*Pn	**Pn**	**23 21 06.5**	**+1.0**
KARN	**Karanos**	**2.82**	**247**	*e*PN	**Pn**	**23 21 11.1**	**+2.9**
KARN				*e*SN	**Sn**	**23 21 42.3**	**+0.3**
KARN	**Karanos**	**2.82**	**247**	*e*Pn	**Pn**	**23 21 11.1**	**+2.9**
KARN				*e*Sn	**Sn**	**23 21 42.3**	**+0.3**
PTL	**Penteli**	**2.99**	**301**	P	**Pn**	**23 21 10.1**	**-0.4**
PTL	**Penteli**	**2.99**	**301**	P	**Pn**	**23 21 10.1**	**-0.4**
ANKY	**Antikythira Is**	**3.14**	**259**	P	**Pn**	**23 21 13.8**	**+1.3**
ANKY				S	**Sn**	**23 21 46.8**	**-2.8**
ANKY	**Antikythira Is**	**3.14**	**259**	*e*PN	Pn	23 21 15.8	+3.3
ANKY	**Antikythira Is**	**3.14**	**259**	P	**Pn**	**23 21 13.8**	**+1.3**
ANKY	**Antikythira Is**	**3.14**	**259**	*e*Pn	Pn	23 21 15.8	+3.3
ANKY				S	**Sn**	**23 21 46.8**	**-2.8**
KYTH	**Kithira**	**3.29**	**267**	P	**Pn**	**23 21 16.1**	**+1.7**
KYTH	**Kithira**	**3.29**	**267**	*e*PN	**Pn**	**23 21 15.7**	**+1.3**
KYTH	**Kithira**	**3.29**	**267**	*e*Pn	**Pn**	**23 21 15.7**	**+1.3**
KYTH	**Kithira**	**3.29**	**267**	P	**Pn**	**23 21 16.1**	**+1.7**
VLI	**Veliai**	**3.35**	**274**	*e*PN	**Pn**	**23 21 17.3**	**+2.1**
VLI	**Veliai**	**3.35**	**274**	*e*Pn	**Pn**	**23 21 17.3**	**+2.1**
HMAT	**Matruh**	**5.43**	**180**	P	**Pn**	**23 21 44.0**	**+1.0**
	baz=184						
HMAT				S	**Sn**	**23 22 40.1**	**-4.3**
	baz=184						
HMAT	**Matruh**	**5.43**	**180**	P	**Pn**	**23 21 44.0**	**+1.0**
HMAT				S	**Sn**	**23 22 40.1**	**-4.3**
SWA2		**7.40**	**191**	AMP		23 23 00.0	
	comp=E,10μm,0.2s,logA/T=4.6,baz=195						
AMAG	**Maghara**	**7.78**	**137**	P	**Pn**	**23 22 14.1**	**-0.8**
	baz=138						
AMAG	**Maghara**	**7.78**	**137**	P	**Pn**	**23 22 14.1**	**-0.8**
RSH		**7.83**	**133**	P	**Pn**	**23 22 14.5**	**-1.0**
	baz=134						
RSH		**7.83**	**133**	P	**Pn**	**23 22 14.5**	**-1.0**
HNKL	**Nakhl**	**8.75**	**137**	P	**Pn**	**23 22 26.8**	**-1.2**
	baz=137						
HNKL				S	Sn	23 23 57.1	-7.9
	baz=137						
HNKL	**Nakhl**	**8.75**	**137**	P	**Pn**	**23 22 26.8**	**-1.2**
HNKL				S	Sn	23 23 57.1	-7.9

*ISCJB **23** 23:40:09.9±0.6,39°.3S±0°.1×77°.9E±0°.1,h10km,mb4.2/10, MS3.8/5, Error ellipse: s-maj=20.9km s-min=15.7km az=4.9*
*IDC **23** 23:40:10.3±0.8,39°.35S×77°.85E,h0km,mb4.0/8, mb1 4.2/8,mb1mx3.9/23,mbtmp4.0/8,MS3.8/5,Ms1 3.8/5, ms1mx3.4/20, Error ellipse: s-maj=25.1km s-min=24.1km az=3.0*
*NEIC **23** 23:40:11.6±0.5,39°.34S×77°.85E,h10km,mb4.4/4, Error ellipse: s-maj=16.2km s-min=12.4km az=185.0*

ISC 23 23:40:11.7±0.7,39°.3S±0°.2×77°.8E±0°.1,h10km,n22, σ0°.69/13,mb4.2/10,MS3.9/5,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**29.17**	**93**	T	T	00 16 36.4	
	baz=250,slow=74,SNR=355						
H01W3	**Cape Leeuwin H**	**29.18**	**93**	T	T	00 16 35.3	
	baz=250,slow=74,SNR=375						
H01W1	**Cape Leeuwin H**	**29.19**	**93**	T	T	00 16 37.5	
	baz=250,slow=74,SNR=412						
MAW	**Mawson**	**29.52**	**192**	LR	LR	23 55 26.4	
	comp=Z,113nm,21.2s,baz=58,slow=31						
H08S2	**Diego Garcia H**	**31.90**	**350**	T	T	00 20 11.6	
	baz=172,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**31.91**	**350**	T	T	00 20 07.9	
	baz=172,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**31.92**	**350**	T	T	00 20 06.7	
	baz=172,slow=76,SNR=45						
LEM	**Lembang**	**42.02**	**47**	LR	LR	00 01 20.5	
	comp=Z,95nm,19.5s,baz=222,slow=30						
LBTB	**Lobatse**	**45.85**	**272**	P	**P**	**23 48 34.0**	**-0.2**
	1.4nm,0.5s,baz=122,slow=8.0,SNR=4.3						
LBTB	**Lobatse**	**45.85**	**272**	*e*P	**P**	**23 48 34.0**	**-0.2**
	3.0nm,0.8s						
LSZ	**Lusaka**	**49.45**	**285**	*e*P	**P**	**23 49 01.9**	**-0.3**
	4.6nm,0.8s						
ASAR	**Alice Springs**	**49.56**	**89**	P	**P**	**23 49 02.6**	**-0.4**
	1.3nm,0.8s,baz=238,slow=5.5,SNR=7.2						
VNDA	**Vanda**	**50.68**	**164**	P	**P**	**23 49 10.8**	**+0.1**
	0.9nm,1.0s,baz=271,slow=9.2,SNR=3.3						
VNDA				LR	LR	00 09 04.7	
	comp=Z,163nm,18.1s,baz=256,slow=34						
VNDA	**Vanda**	**50.68**	**164**	*e*P	**P**	**23 49 10.9**	**+0.1**
	2.7nm,1.2s						
QSPA	**South Pole Qui**	**50.83**	**180**	P	**P**	**23 49 12.8**	**+0.6**
	2.6nm,0.9s,baz=289,slow=5.0,SNR=4.8						
WRA	**Warramunga Arr**	**51.94**	**85**	P	**P**	**23 49 20.1**	**-0.9**
	4.6nm,0.8s,baz=234,slow=7.4,SNR=16						
WRAB	**Tennant Creek**	**51.95**	**85**	*e*P	**P**	**23 49 20.0**	**-1.0**
	5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.78**	**23**	P	**P**	**23 50 25.1**	**+1.2**
	1.0nm,0.5s,baz=212,slow=7.0,SNR=5.3						
MKAR	**Makanchi Array**	**85.83**		P	**P**	**23 52 51.2**	**+0.2**
	0.6nm,0.7s,baz=177,slow=2.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.79**	**289**	P	**P**	**23 53 01.2**	**0.0**
	0.4nm,0.8s,baz=141,slow=5.9,SNR=2.8						
TORD				LR	LR	00 30 45.3	
	comp=Z,39nm,18.0s,baz=135,slow=35						
DBIC	**Dimbokro**	**88.54**	**280**	LR	LR	00 29 59.7	
	comp=Z,45nm,18.6s,baz=151,slow=34						
INK	**Inuvik**	**146.33**	**20**	PKPbc	**PKPab**	**23 59 51.5**	**-0.8**
	2.0nm,0.8s,baz=20,slow=5.4,SNR=1.7						

*CSEM **23** 23:40:24.3±0.6,67°.77N×21°.04E,h2km,ML1.0, Error ellipse: s-maj=22.7km s-min=12.4km az=13.0,Mining explosion.*

UPP 23 23:40:21.7,67°.82N×20°.20E,h0km,ML1.2,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**21**	S	Sg	23 40 34.7	+8.4
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pn	23 40 38.7	+3.4

*IDC **23** 23:49:23.7±1.7,55°.02N×111°.23E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.3/40,mbtmp3.6/5,ML2.6/2,Error ellipse: s-maj=32.1km s-min=27.3km az=176.0*
*MOS **23** 23:49:27.2±0.8,55°.15N×110°.51E,h6km,mb4.4/1, Error ellipse: s-maj=13.1km s-min=7.2km az=73.1*
*BYKL **23** 23:49:28.6±0.3,55°.16N×110°.52E*

ISC 23 23:49:27.7±0.6,55°.11N±0°.02×110°.52E±0°.02,h10km,n52, σ2°.03/91,18C-8D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.44**	**122**	⇓*i*PG	**Pb**	**23 49 37.3**	**-0.3**
	322nm,0.5s						
YLYR				⇑*i*PG	**Pb**	**23 49 37.3**	**-0.3**
	351nm,0.5s						
YLYR				⇑*i*PG	**Pb**	**23 49 37.3**	**-0.3**
	556nm,0.5s						
YLYR				*i* Sg	**Sb**	**23 49 43.7**	**-0.5**
YLYR				Pmax			
	307nm,0.3s						
YLYR				Smax			
	2μm,0.5s						
YLYR	**Ulyunkhan**	**0.44**	**122**	⇑*i*PG	**Pb**	**23 49 37.3**	**-0.3**
YLYR				*e*		23 49 43.7	
YLYR				pmax	pmax		
	comp=Z,307nm,0.2s						
YLYR				smax	smax		
	comp=E,2μm,0.3s						
NIZ	**Nizh Angarsk**	**0.87**	**321**	⇑*i*PG	**Pb**	**23 49 44.2**	**-0.6**
	comp=E,15nm,0.4s						
NIZ				⇓*i*PG	**Pb**	**23 49 44.2**	**-0.6**
	comp=E,7.0nm,0.4s						
NIZ				⇑*i*PG	**Pb**	**23 49 44.2**	**-0.6**
	comp=E,68nm,0.4s						
NIZ				*i* Sg	**Sb**	**23 49 56.1**	**-0.4**
NIZ				*e*Sb	**Sn**	**23 50 01.6**	**+2.9**
NIZ				Pmax			
	comp=E,87nm,0.3s						
NIZ				max			
	comp=E,744nm,0.3s						
NIZ	**Nizh Angarsk**	**0.87**	**321**	*e*PG	**Pb**	**23 49 44.0**	**-0.8**
NIZ				*e*		23 49 55.5	
NIZ				pmax	pmax		
	comp=Z,81nm,0.3s						
NIZ				smax	smax		
	comp=N,606nm,0.3s						
KMO	**Kumora**	**0.87**	**26**	*e*Pg	**Pg**	**23 49 43.2**	**-1.2**
KMO				*e*Sg	**Sg**	**23 49 54.6**	**-1.2**
KMO				Pmax			
	comp=N,193nm,0.3s						
KMO				Smax			
	comp=N,899nm,0.9s						
KMO	**Kumora**	**0.87**	**26**	*e*PG	**Pg**	**23 49 43.2**	**-1.2**
KMO				*e*		23 49 54.1	
KMO				pmax	pmax		
	comp=Z,159nm,0.3s						
KMO				smax	smax		
	comp=E,368nm,0.4s						
YOA	**Uoyan**	**1.23**	**33**	⇑*i*PG	**Pg**	**23 49 50.7**	**-0.6**
YOA				⇑*i*		23 49 53.7	
YOA				*e*Sg	**Sn**	**23 50 07.3**	**-0.4**
YOA				*e*		23 50 11.7	
YOA				max			
	comp=E,464nm,0.2s						
YOA				max			
	comp=E,4μm,0.4s						
YOA	**Uoyan**	**1.23**	**33**	⇑*i*PG	**Pg**	**23 49 50.6**	**-0.7**
YOA				*i*		23 50 07.1	
YOA				pmax	pmax		
	comp=Z,288nm,0.2s						
YOA				smax	smax		
	comp=E,4μm,0.4s						
SYVR	**Suvo**	**1.49**	**192**	⇑*i*Pg	**Pg**	**23 49 56.6**	**+0.4**
SYVR				*e*		23 49 59.5	
SYVR				*e*Sg	**Sg**	**23 50 18.5**	**+3.0**
SYVR				Smax			
	comp=E,787nm,0.4s						
SYVR	**Suvo**	**1.49**	**192**	*e*PG	**Pg**	**23 49 56.5**	**+0.4**
SYVR				*e*		23 50 17.1	
SYVR				pmax	pmax		
	comp=Z,350nm,0.6s						
SYVR				smax	smax		
	comp=E,793nm,0.4s						
UKT	**Uakit**	**1.82**	**77**	⇑*i*Pg	**Pb**	**23 50 00.4**	**-0.7**
	comp=E,18nm,0.7s						
UKT				⇑*i*Pg	**Pb**	**23 50 00.4**	**-0.7**
	comp=E,190nm,0.7s						
UKT				⇑*i*Pg	**Pb**	**23 50 00.4**	**-0.7**
	comp=E,141nm,0.7s						
UKT				*e*		23 50 03.4	
UKT				*i* Sg	**Sb**	**23 50 24.4**	**+0.4**
UKT				Pmax			
	comp=E,190nm,0.2s						
UKT				Smax			
	comp=E,481nm,0.4s						
UKT	**Uakit**	**1.82**	**77**	⇑*i*PN	**Pb**	**23 50 00.3**	**-0.8**
UKT				*e*		23 50 24.3	
UKT				pmax	pmax		
	comp=Z,195nm,0.1s						
UKT				smax	smax		
	comp=N,653nm,0.3s						
SVKR	**Severomuysk**	**2.00**	**58**	⇓*i*Pg	**Pb**	**23 50 03.9**	**-0.3**
SVKR				*e*		23 50 05.8	
SVKR				*e*Sg	**Sg**	**23 50 31.5**	**-0.4**
SVKR				*e*		23 50 33.1	
SVKR				max			
	comp=N,329nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.7s						
SVKR	**Severomuysk**	**2.00**	**58**	*e*PN	**Pb**	**23 50 03.8**	**-0.4**
SVKR				*e*		23 50 30.6	
SVKR				pmax	pmax		
	comp=Z,330nm,0.3s						
SVKR				smax	smax		
	comp=N,2μm,0.6s						
MXMB	**Maximikha**	**2.12**	**210**	⇓*i*Pn	**Pb**	**23 50 06.3**	**0.0**
MXMB				⇓*i*Pg	**Pg**	**23 50 08.0**	**-0.4**
MXMB				*e*		23 50 11.9	
MXMB				*i* Sg	**Sg**	**23 50 37.9**	**+2.0**
MXMB				max			
	comp=N,98nm,0.4s						
MXMB				Smax			
	comp=N,641nm,0.5s						
OGRR	**Ongureny**	**2.25**	**230**	⇑*i*Pn	**Pb**	**23 50 08.1**	**-0.4**
OGRR				*e*Pg	**Pg**	**23 50 09.8**	**-1.1**
OGRR				*i* Sg	**Sg**	**23 50 40.7**	**+0.7**
OGRR				Pmax			
	comp=N,71nm,0.2s						
OGRR				Smax			
	comp=N,600nm,0.6s						
OGRR	**Ongureny**	**2.25**	**230**	*e*PN	**Pb**	**23 50 08.3**	**-0.2**
OGRR				*e*		23 50 11.1	
OGRR				*e*		23 50 40.7	
OGRR				pmax	pmax		
	comp=Z,72nm,0.3s						
OGRR				smax	smax		
	comp=N,726nm,0.9s						
NLYR	**Nelyaty**	**3.24**	**63**	*i* Pn	**Pn**	**23 50 20.2**	**+1.6**
NLYR				*e*Pg	**Pb**	**23 50 25.8**	**+0.6**
NLYR				*e*PgPg	**Pg**	**23 50 29.7**	**0.0**
NLYR				*e*Sn	**Sn**	**23 50 58.0**	**+0.9**
NLYR				*e*Sg	**Sg**	**23 51 08.0**	**-3.6**
NLYR				max			
	comp=N,38nm,0.5s						
NLYR				Smax			
	comp=N,298nm,1.6s						
ZRHB	**Zarechye**	**3.25**	**219**	*e*Pn	Pn	23 50 21.7	+3.1
ZRHB				*e*Pg	**Pg**	**23 50 28.9**	**-0.9**
ZRHB				*e*Sg	**Sg**	**23 51 12.4**	**+0.6**
ZRHB				*e*		23 51 21.7	
ZRHB				Pmax			
	comp=N,58nm,0.9s						
ZRHB				max			
	comp=N,566nm,1.0s						
BOD	**Bodaibo**	**3.33**	**34**	*e*Pn	**Pn**	**23 50 20.7**	**+0.9**
BOD				*e*Pg	**Pb**	**23 50 26.5**	**-0.3**
BOD				*e*		23 50 31.9	
BOD				*e*Sn	**Sn**	**23 51 00.2**	**+0.8**
BOD				*e*Sg	**Sb**	**23 51 09.1**	**+1.7**
BOD				max			
	comp=N,18nm,0.3s						
BOD				Smax			
	comp=N,159nm,0.5s						
BOD	**Bodaibo**	**3.33**	**34**	*e*PN	**Pn**	**23 50 20.2**	**+0.4**
BOD				*e*		23 50 25.9	
BOD				*e*S	**Sn**	**23 50 58.0**	**-1.4**
BOD				*e*		23 51 09.1	
BOD				pmax	pmax		
	comp=Z,18nm,0.3s						
BOD				smax	smax		
	comp=N,162nm,0.5s						
TRG	**Tyrgan**	**3.41**	**228**	⇑*i*Pn	Pn	23 50 24.0	+3.1
TRG				*e*Pg	**Pb**	**23 50 28.5**	**+0.4**
TRG				*e*		23 50 35.7	
TRG				*e*		23 51 05.1	
TRG				*e*Sg	**Sg**	**23 51 14.8**	**-2.3**
TRG				max			
	comp=N,14nm,0.3s						
TRG				Smax			
	comp=N,151nm,0.3s						
TRG	**Tyrgan**	**3.41**	**228**	*e*PN

comp=E,42nm,1.0s
CRS Smax
comp=E,219nm,2.3s
CRS Chara 4.71 64 *e*PN Pn 23 50 41.3 +2.6
CRS *e* 23 50 53.1
CRS *e* 23 51 53.2
CRS pmax pmax
comp=Z,57nm,0.8s
CRS smax smax
comp=E,204nm,1.0s
TLY Talaya 5.36 233 *e*Pn **Pn 23 50 46.1 -1.6**
TLY Pg Pb 23 51 05.1 +3.8
TLY *e*Sn **Sn 23 51 51.8 +2.4**
TLY *e*Sg **Sg 23 52 14.4 -5.2**
TLY Pmax
comp=E,7.0nm,1.0s
TLY Smax
comp=E,67nm,0.8s
TLY Talaya 5.36 233 Pn **Pn 23 50 48.6 +0.9**
comp=E,0.0nm,0.3s,baz=86,slow=13,SNR=3.1
TLY Lg Lg 23 52 12.1
comp=E,0.2nm,0.3s,baz=112,slow=15,SNR=14
TLY Talaya 5.36 233 *e*PN **Pn 23 50 48.7 +1.0**
TLY *e* 23 51 04.3
TLY *e*S **Sn 23 51 47.2 -2.2**
TLY *e* 23 52 12.0
TLY pmax pmax
comp=Z,5.0nm,0.4s
TLY smax smax
comp=E,23nm,0.6s
TUP Tupik 5.51 93 ⇓*i*Pn **Pn 23 50 51.0 +1.2**
TUP *e* 23 50 58.7
TUP *e*Pg Pb 23 51 07.2 +3.3
TUP *e* 23 52 05.8
TUP *i* Sg **Sg 23 52 19.5 -4.9**
TUP Pmax
comp=E,16nm,0.4s
TUP Smax
comp=E,232nm,1.6s
TUP Tupik 5.51 93 *e*PN **Pn 23 50 50.9 +1.2**
TUP *e* 23 51 07.3
TUP *e*S **Sn 23 51 53.5 +0.4**
TUP *e* 23 52 19.4
TUP pmax pmax
comp=Z,16nm,0.4s
TUP smax smax
comp=N,233nm,1.3s
KPC Khapcheranga 5.54 167 ⇑*i*Pn **Pn 23 50 51.3 +1.2**
KPC *e* 23 51 01.4
KPC Pg Pb 23 51 08.2 +3.8
KPC *i* Sn **Sn 23 51 53.0 -0.8**
KPC *i* Sg **Sg 23 52 20.9 -4.4**
KPC Pmax
comp=N,3.0nm,0.4s
KPC Smax
comp=N,71nm,1.0s
KPC Khapcheranga 5.54 167 *e*PN **Pn 23 50 51.3 +1.2**
KPC *e* 23 51 08.2
KPC *e*S **Sn 23 51 51.9 -1.9**
KPC *e* 23 52 20.9
KPC pmax pmax
comp=Z,4.0nm,0.3s
KPC smax smax
comp=E,77nm,1.1s
ARS Arshan 5.79 240 *e*Pn **Pn 23 50 54.2 +0.6**
ARS *e*Pg Pb 23 51 11.7 +3.0
ARS *e* 23 51 18.2
ARS *e* 23 52 03.1
ARS *e*Sg Sg 23 52 26.9 -6.5
ARS max
comp=E,18nm,0.6s
ARS Smax
comp=E,376nm,0.8s
ZAK Zakamensk 6.46 226 *e*Sg **Sg 23 52 49.2 -5.6**
ZAK Smax
comp=E,33nm,1.6s
MOY Mondy 6.66 243 ⇑*i*Pn Pn 23 51 08.8 +3.2
MOY *e* 23 51 18.6
MOY *e*Pg **Pb 23 51 26.1 +2.6**
MOY *i* 23 52 25.0
MOY *e*Sg Sb 23 52 52.3 +9.2
MOY Pmax
comp=E,9.0nm,0.5s
MOY Smax
comp=E,84nm,1.5s
MOY Mondy 6.66 243 *e*PN Pn 23 51 08.7 +3.2
MOY *e* 23 51 28.3
MOY *e* 23 52 53.2
MOY pmax pmax
comp=Z,8.0nm,0.4s
MOY smax smax
comp=N,95nm,1.1s
ORL Orlik 6.84 252 ⇑*i*Pn Pn 23 51 11.3 +3.2
ORL *e* 23 51 23.2
ORL *e*Pg Pb 23 51 31.7 +5.1
ORL *i* 23 52 29.9
ORL *e*Sg **Sg 23 53 01.1 -6.0**
ORL Pmax
comp=N,7.0nm,0.5s
ORL Smax
comp=N,76nm,0.6s
ULN Ulaanbaatar 7.57 198 *e*Pg Pb 23 51 45.2 +6.1
ULN *e*Sg **Sg 23 53 26.7 -3.8**
SONM Songino Array 7.73 201 Pn **Pn 23 51 22.6 +2.3**
comp=N,0.4nm,0.3s,baz=5,4,slow=18,SNR=3.5
HIA Hailar 8.14 132 *e*Sg Sg 23 53 40.6 -8.2
ZALV Zalesovo Beam 14.94 276 Pn **Pn 23 53 00.7 +2.0**
comp=N,0.1nm,0.3s,baz=81,slow=11,SNR=8.8
KURK Kurchatov 19.63 270 P **Pn 23 53 59.4 +2.0**
KURBB Kurchatov Arra 19.72 270 P **Pn 23 53 59.4 +0.8**
comp=N,0.4nm,0.5s,baz=60,slow=11,SNR=3.2
FINES FINESS Array B 41.88 314 P **P 23 57 17.8 +0.3**
comp=N,0.6nm,0.5s,baz=76,slow=8.7,SNR=4.8
FINES FINESS Array B 41.88 314 P **P 23 57 17.8 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 77.47 157 P P 00 01 19.4 -3.6
comp=Z,0.2nm,0.6s,baz=351,slow=7.1,SNR=3.7

BJI ***24*** *00:00:15.9, 10˚.50S×161˚.20E, h33km, mB5.0/31, mb4.9/37, Ms4.7/23, Ms7 4.3/23*
NEIC ***24*** *00:00:16.8±0.2, 10˚.36S×161˚.38E, mb5.0/54, Error ellipse: s-maj=6.4km s-min=4.8km az=124.0*
NEIC Felt at Honiara.
IDC ***24*** *00:00:16.5±0.7, 10˚.40S×161˚.44E, h39km±5km, mb4.4/18, mb1 4.6/20, mb1mx4.6/22, mbtmp4.7/20, ML4.8/2, MS4.1/13, Ms1 4.2/13, ms1mx4.0/25, Error ellipse: s-maj=18.6km s-min=12.6km az=89.0*
ISCJB ***24*** *00:00:18.4±0.9, 10˚.45S±0˚.04×161˚.40E±0˚.04, h66km±8km, mb4.8/75, Error ellipse: s-maj=6.0km s-min=5.9km az=25.5*
MOS ***24*** *00:00:19.6±0.9, 10˚.34S×161˚.29E, h80km, mb5.1/16, Error ellipse: s-maj=13.1km s-min=10.2km az=50.0*
GCMT ***24*** *00:00:25.0±0.2, 10˚.51S×161˚.43E, h38km, MW5.1/82, Moment Tensor Solution. s51,c68; s82,c104; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.46±.19; Mθθ0.68±.15; Mϕϕ-4.13±.14; Mrθ-2.34±.15; Mϕθ 1.85±.11; Mϕr0.06±.13; Best double couple: Mo4.86200×10¹⁶ NP1:ϕs189.00000°,δ47.00000°,λ135.00000°. Principal axes: T 4.8780, Plg58.0000°, Azm169.0000°; N -0.0260, Plg31.0000°, Azm335.0000°; P -4.8470, Plg6.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 24 00:00:17.2±0.4, 10˚.43S±0˚.04×161˚.52E±0˚.05, h41km±2km, h40km:pP-P, n223, σ1s56/259, mb5.0/75, MS4.2/17, 2C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**302**	*i* P		**Pn**		**00 00 46.0**	**-0.4**
HNR				*i* S		**Sn**		**00 01 11.0**	**+2.5**
NOUC	**Port Laguerre**	**12.48**	**159**	*e*P		**Pn**		**00 03 14.6**	**+2.3**
NOUC				*e*S		**Sn**		**00 05 29.2**	**-0.9**
DZM	**Mont Dzumac**	**12.50**	**158**	*e*Pn		**Pn**		**00 03 15.1**	**+2.4**
DZM	19nm,0.3s			*e*Sn		Sn		00 05 21.7	-9.0
DZM	12nm,0.3s			*e*LR		LR		00 06 04.1	
	3μm,25.1s								

DZM Mont Dzumac 12.50 158 Pn **Pn 00 03 14.4 +1.7**
4.8nm,0.3s,baz=36,slow=7.1,SNR=68
DZM Sn **Sn 00 05 26.6 -4.2**
1.6nm,0.3s,baz=270,slow=20,SNR=4.6
DZM LR LR 00 07 17.7
comp=Z,1μm,20.1s,baz=346,slow=34
PMG Port Moresby 14.19 273 *e*P **Pn 00 03 38.0 +2.3**
PMG Port Moresby 14.19 273 *e*Pn **Pn 00 03 38.0 +2.3**
TARA Tarawa 16.30 45 *e*Pn **P 00 04 10.0 +4.1**
116nm,0.8s
CTA Charters Tower 17.57 235 P **P 00 04 19.7 -0.2**
1.9nm,0.3s,baz=63,slow=13,SNR=15
CTA S Sn 00 07 25.7 -8.4
0.2nm,0.3s,baz=16,slow=20,SNR=2.2
CTAO Charters Tower 17.57 235 *e*P **P 00 04 20.3 +0.4**
CTAO pmax pmax
comp=Z,118nm,1.3s
CTAO Charters Tower 17.57 235 *e*P **P 00 04 20.3 +0.4**
comp=Z,118nm,1.3s
MSVF Nonsavu 17.59 116 P **P 00 04 23.3 +3.1**
comp=Z,207nm,1.1s,SNR=5.4
MSVF Nonsavu 17.59 116 *e*P **P 00 04 23.2 +3.1**
MSVF pmax pmax
comp=Z,122nm,1.4s
MSVF Nonsavu 17.59 116 *e*P **P 00 04 23.2 +3.0**
comp=Z,122nm,1.4s
EIDS Eidsvold 17.86 212 P **P 00 04 24.9 +1.9**
baz=18,SNR=12
EIDS Eidsvold 17.86 212 *e*P **P 00 04 24.3 +1.3**
comp=Z,67nm,1.1s
COEN Coen 18.27 257 P **Pn 00 04 30.7 +2.8**
baz=18,SNR=17
COEN Coen 18.27 257 *e*P **Pn 00 04 29.3 +1.5**
comp=Z,24nm,2.1s
RMQ Roma 20.01 215 P **Pn 00 04 48.8 +0.1**
baz=20,SNR=36
ARMA Armidale 21.92 203 P **P 00 05 08.1 +0.9**
baz=22,SNR=8.0
ARMA Armidale 21.92 203 *e*P **P 00 05 07.2 0.0**
comp=Z,40nm,0.9s
QLP Quilpie 22.91 223 P **P 00 05 18.6 +0.9**
baz=23,SNR=18
QIS Mount Isa 23.37 242 P **P 00 05 22.7 +0.3**
baz=23,SNR=10
QIS S **S 00 09 38.4 +5.7**
baz=23,SNR=8.2
SMPI Sarmi 24.16 289 P **P 00 05 32.9 +3.0**
comp=Z,65nm,1.6s,comp=Z,5μm
MGCD Mangrove Creek 24.61 201 P **P 00 05 34.5 +0.7**
baz=25,SNR=5.6
CMSA Cobar Meteorol 25.62 213 P **P 00 05 43.1 +0.1**
baz=26,SNR=11
AFI Afiamalu 26.32 100 *e*P P 00 05 55.0 +5.4
comp=Z,159nm,1.6s
YNG Young 26.62 205 P **P 00 05 52.7 +0.7**
baz=27,SNR=6.1
OUZ Omahuta 27.02 158 *e*P **P 00 05 56.1 +0.5**
comp=Z,19nm,0.9s
WRAB Tennant Creek 27.84 247 P **P 00 06 01.9 -1.1**
comp=Z,204nm,0.6s,SNR=30
WRAB Tennant Creek 27.84 247 *c i*P **P 00 06 02.0 -1.1**
WRAB pmax pmax
comp=Z,84nm,1.3s
WRAB Tennant Creek 27.84 247 *e*P **P 00 06 01.1 -2.0**
comp=Z,30nm,0.9s
WRA Warramunga Arr 27.85 247 P **P 00 06 01.9 -1.4**
comp=Z,21nm,0.7s,baz=76,slow=9.0,SNR=117
WRA S **S 00 10 39.8 -4.1**
comp=Z,1.5nm,1.1s,baz=75,slow=14,SNR=2.6
WRA ScP **ScP 00 12 55.0 -1.5**
comp=Z,1.6nm,1.0s,baz=73,slow=3.5,SNR=6.3
WRA LR LR 00 16 57.0
comp=Z,741nm,18.2s,baz=70,slow=36
STKA Stephens Creek 28.20 218 P **P 00 06 06.2 0.0**
comp=Z,5.9nm,0.8s,baz=15,slow=12,SNR=5.0
STKA LR LR 00 17 24.7
comp=Z,2μm,18.2s,baz=38,slow=36
STKA Stephens Creek 28.20 218 *e*P **P 00 06 04.9 -1.3**
STKA pmax pmax
comp=Z,7.0nm,1.4s
STKA Stephens Creek 28.20 218 *e*P **P 00 06 04.9 -1.3**
comp=Z,6.7nm,1.4s
KDU Kakadu 28.54 263 P **P 00 06 08.3 -1.1**
baz=28,SNR=7.6
H11S2 WAKE ISLAND Hy 29.19 10 T T 00 37 21.1
baz=188,slow=76,SNR=309
H11S3 WAKE ISLAND Hy 29.19 10 T T 00 37 21.1
baz=188,slow=76,SNR=174
H11S1 WAKE ISLAND Hy 29.20 10 T T 00 37 21.1
baz=188,slow=76,SNR=173
AS12 Alice Springs 29.43 240 *e*P **P 00 06 15.1 -2.2**
AS12 *e*S **S 00 11 10.3 +1.5**
AS12 *e*ScP **ScP 00 13 00.4 -1.0**
ASAR Alice Springs 29.43 240 P **P 00 06 15.1 -2.2**
comp=Z,9.2nm,0.8s,baz=63,slow=10.0,SNR=54
ASAR S **S 00 11 10.3 +1.5**
comp=Z,0.4nm,0.7s,baz=77,slow=13,SNR=2.9
ASAR ScP **ScP 00 13 00.4 -1.0**
comp=Z,0.5nm,0.6s,baz=57,slow=3.4,SNR=4.3
ASAR LR LR 00 17 51.1
comp=Z,2μm,19.1s,baz=66,slow=36
MTN Manton Dam 29.85 262 P **P 00 06 20.7 -0.3**
baz=30,SNR=3.0
MTN S S 00 11 24.0 +8.5
baz=30,SNR=3.8
H11N1 WAKE ISLAND Hy 30.42 10 T T 00 38 53.5
baz=188,slow=76,SNR=84
H11N3 WAKE ISLAND Hy 30.42 10 T T 00 38 53.3
baz=188,slow=76,SNR=98
H11N2 WAKE ISLAND Hy 30.43 10 T T 00 38 53.5
baz=188,slow=76,SNR=80
TOO Toolangi 30.64 206 P **P 00 06 28.6 +0.8**
baz=31,SNR=7.3
URZ Urewera 31.04 156 P **P 00 06 30.6 -0.7**
comp=Z,7.0nm,0.7s,baz=68,slow=7.7,SNR=3.6
URZ Urewera 31.04 156 *e*P **P 00 06 30.8 -0.4**
comp=Z,18nm,1.0s
BKZ Black Stump Fm 31.58 157 *e*P **P 00 06 35.9 -0.2**
comp=Z,43nm,0.7s
KNRA Kununurra 32.31 257 P **P 00 06 41.9 -0.8**
baz=32,SNR=41
BBOO Buckleboo 32.34 223 P **P 00 06 42.5 -0.3**
baz=32,SNR=19
BBOO Buckleboo 32.34 223 *e*P **P 00 06 41.9 -0.9**
comp=Z,3.0nm,0.8s
RPZ Rata Peaks 34.18 168 P **P 00 06 57.6 -1.1**
comp=Z,22nm,0.8s,baz=118,slow=6.9,SNR=9.2
RPZ Rata Peaks 34.18 168 *e*P **P 00 06 58.8 +0.1**
comp=Z,30nm,0.9s
WRKA Warakurna 34.70 241 P **P 00 07 02.0 -1.5**
baz=35,SNR=9.8
FITZ Fitzroy Crossi 35.55 253 *e*P **P 00 07 08.9 -1.9**
MMRI Maumere 38.77 269 *e*P **P 00 07 36.1 -2.1**
comp=Z,163nm,1.4s
LUWI Luwuk 39.62 281 *e*P **P 00 07 44.1 -1.2**
comp=Z,126nm,1.4s
KAPI Kappang 41.71 274 *e*P **P 00 08 01.2 -1.4**
comp=Z,5.0nm,1.0s
TBI Tubuai 48.41 112 *e*LQ LQ 00 20 53.4
comp=Z,685nm,31.2s
TBI *e*LR LR 00 23 02.3
comp=Z,267nm,25.8s
OPA Opana 50.95 51 *e*P **P 00 09 16.2 +1.1**
OPA Opana 50.95 51 *e*P **P 00 09 16.2 +1.1**
MJAR Matsushiro Arr 51.62 336 P **P 00 09 18.2 -1.6**
comp=Z,2.7nm,0.8s,baz=168,slow=8.9,SNR=6.5
MJAR LR LR 00 30 31.2
comp=Z,125nm,20.9s,baz=140,slow=35
MAJO Matsushiro 51.62 336 *e*P **P 00 09 18.2 -1.6**
MAJO pmax pmax
comp=Z,98nm,2.0s
MAJO Matsushiro 51.62 336 *e*P **P 00 09 18.2 -1.6**
comp=Z,98nm,2.0s
KSM Kuching 52.31 280 P **P 00 09 24.6 -0.8**
baz=52,SNR=3.6
YUK Yuzh-Kuril'sk 56.04 346 P **P 00 09 54.5 +2.6**
YUK *e*S S 00 17 43.6 +6.0
ASAJ Asahikawa 56.95 344 *e*P **P 00 09 59.0 +0.6**
comp=Z,34nm,1.0s
KSRS Korea Array 57.10 328 P **P 00 09 59.0 -0.6**
comp=Z,4.0nm,1.0s,baz=140,slow=7.4,SNR=16
KSRS LR LR 00 32 32.9
comp=Z,156nm,20.6s,baz=130,slow=34
KS15 Wonju Array Si 57.11 328 *e*P **P 00 09 59.0 -0.7**
KSAR Wonju Array Be 57.11 328 P **P 00 09 59.0 -0.7**
NJ2 Nanjing 58.72 318 *e*P **P 00 10 11.5 +0.4**
NJ2 PMZ
comp=Z,60nm,0.9s
QIZ Qiongzhong 58.75 300 P **P 00 10 12.3 +0.7**
QIZ S **S 00 18 15.8 +1.7**
QIZ PMZ
comp=Z,20nm,1.4s
QIZ LZ
comp=Z,290nm,26.1s
USRK Ussuriysk Ar. 60.62 336 P **P 00 10 23.9 0.0**
comp=Z,13nm,0.9s,baz=143,slow=6.3,SNR=28
USRK pP **pP 00 10 34.6 -1.2**
comp=Z,14nm,0.9s,baz=180,slow=6.4,SNR=11
USRK LR LR 00 35 19.3
comp=Z,114nm,20.2s,baz=130,slow=35
WHN Wuhan 60.92 314 P P 00 10 22.1 -4.2
WHN S S 00 18 21.8 -20
WHN LR LR
comp=Z,590nm,23.1s
RKT Rikitea 61.69 111 *e*LR LR 00 29 08.2
comp=Z,494nm,27.5s
MDJ Mudanjiang 61.94 335 P **P 00 10 33.4 +0.5**
MDJ pP **pP 00 10 42.8 -2.0**
MDJ sP sP 00 10 44.3 -5.2
MDJ S S 00 19 03.3 +9.2
MDJ PMZ
comp=Z,13nm,0.9s
MDJ PMZ
comp=Z,120nm,5.7s
MDJ LN
comp=Z,160nm,25.4s
MDJ LE
comp=Z,180nm,26.8s
MDJ LZ
comp=Z,130nm,19.8s
HABR Khabarovsk 63.15 341 *e*P **P 00 10 38.0 -2.8**
HABR *e* 00 12 56.9
HABR *e*PPP PPP 00 14 25.6
HABR *e*S **S 00 19 07.1 -1.9**
HABR *e**SS sS 00 19 24.4 -4.5
HABR *e* 00 20 28.3
HABR SS **SS 00 23 14.6 -1.3**
HABR pmax pmax
comp=E,6.0nm,0.7s
HABR pmax pmax
comp=N,15nm,1.4s
HABR pmax pmax
comp=Z,48nm,1.4s
HABR MLR MLR
comp=Z,124nm,19.0s
CN2 Changchun 63.15 331 *e*P **P 00 10 40.5 -0.5**
CN2 epP **pP 00 10 51.5 -1.5**
CN2 *e*S **S 00 19 07.3 -2.0**
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,200nm,16.0s
CN2 LE
comp=Z,200nm,16.0s
CN2 LZ
comp=Z,300nm,17.0s
PETK Petropavlovsk- 63.37 357 pP **pP 00 10 53.0 -1.2**
comp=Z,3.7nm,0.7s,baz=158,slow=4.7,SNR=3.5
PETK LR LR 00 33 16.2
comp=Z,175nm,21.9s,baz=167,slow=31
GYA Guiyang 64.67 306 P **P 00 10 52.8 +1.3**
GYA pP **pP 00 11 04.6 +1.1**
GYA PP **PP 00 13 18.0 +3.8**
GYA ScP 00 15 24.3
GYA S **S 00 19 29.4 +0.3**
GYA sS **sS 00 19 47.6 -1.4**
GYA SS **SS 00 23 41.0 +0.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,520nm,19.4s
GYA LE
comp=Z,390nm,20.0s
GYA LZ
comp=Z,460nm,19.8s
KLR Kul'dur 64.92 339 *e*P P 00 10 48.7 -3.8
BJI Beijing 65.45 323 P **P 00 10 58.3 +2.2**
BJI S **S 00 19 41.1 +3.2**
BJI PMZ
comp=Z,18nm,0.5s
BJI LN
comp=Z,86nm,23.0s
BJI LE
comp=Z,88nm,28.0s
BJI LZ
comp=Z,120nm,25.9s
CASY Casey 65.48 200 *e*P **P 00 10 55.4 -0.5**
comp=Z,49nm,1.0s
PBKT Sadao Pong 65.62 294 P **P 00 10 59.8 +2.2**
comp=Z,8.3nm,1.4s
LOEI Loei 65.68 295 P **P 00 10 55.1 -2.9**
comp=Z,5.5nm,1.0s
NANT Nan 66.63 296 P **P 00 11 03.6 -0.5**
comp=Z,21nm,1.0s
XAN Xi'an 66.68 314 P P 00 11 12.3 +8.1
XAN pP pP 00 11 22.8 +6.5
XAN sP sP 00 11 27.9 +7.0
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN LR LR
comp=E,68nm,22.5s
XAN LR LR
comp=Z,61nm,20.5s
VNDA Vanda 67.08 180 P **P 00 11 06.1 +0.1**
comp=Z,20nm,0.8s,baz=347,slow=7.0,SNR=56
KMI Kunming 67.28 303 P **P 00 11 09.1 +0.7**
KMI pP **pP 00 11 23.3 +2.8**
KMI sP **sP 00 11 27.3 +2.1**
KMI S **S 00 19 58.8 -2.4**
KMI sS **sS 00 20 19.3 -1.9**
KMI PMZ
comp=Z,10.0nm,1.6s
KMI PMZ
comp=Z,58nm,5.1s
KMI LN
comp=Z,120nm,18.5s
KMI LE
comp=Z,130nm,21.0s
KMI LZ
comp=Z,150nm,24.6s
CRAI Chiangrai 67.42 297 P P 00 11 05.9 -3.3
comp=Z,3.9nm,1.1s
SBA Scott Base 67.46 179 *e*P **P 00 11 09.5 +1.1**
SBA pmax pmax
comp=Z,27nm,1.0s
SBA Scott Base 67.46 179 *e*P **P 00 11 09.5 +1.1**
comp=Z,27nm,1.0s
CM31 Chiang Mai Arr 68.08 295 *e*P **P 00 11 12.4 -0.9**
CMAR Chiang Mai Arr 68.08 295 P **P 00 11 12.4 -0.9**
comp=Z,0.9nm,0.4s,baz=119,slow=4.1,SNR=10
CMAR LR LR 00 40 59.4
comp=Z,31nm,20.3s,baz=104,slow=36
CMMT Chiang Mai 68.19 295 P **P 00 11 14.0 0.0**
CHTO Chiang Mai 68.19 295 *e*P **P 00 11 12.4 -1.6**
CHTO pmax pmax
comp=Z,16nm,1.6s
CHTO Chiang Mai 68.19 295 *e*P **P 00 11 12.4 -1.6**
comp=Z,16nm,1.6s
CHTO Chiang Mai 68.19 295 P **P 00 11 14.1 +0.1**
comp=Z,27nm,1.6s
HHC Hu-ho-hao-te 68.72 321 *e*P **P 00 11 19.3 +2.3**
HHC PP **PP 00 13 53.3 +4.0**
HHC S **S 00 20 18.8 +1.2**
HHC sS **sS 00 20 35.8 -1.9**
HHC SS **SS 00 24 45.8 +2.6**
HHC PMZ

comp=Z,19nm,0.9s
HHC PMZ
comp=Z,47nm,7.5s
HHC LN
comp=Z,110nm,21.0s
HHC LE
comp=Z,100nm,19.7s
HHC LZ
comp=Z,100nm,19.7s
CD2 Chengdu 68.96 309 P **P** **00 11 20.0 +1.4**
CD2 pP **pP** **00 11 31.5 +0.8**
CD2 sP **sP** **00 11 36.0 +0.6**
CD2 PP **PP** **00 13 54.8 +3.3**
CD2 PcS 00 15 48.0
CD2 S **S** **00 20 20.3 -0.3**
CD2 sS **sS** **00 20 39.4 -1.4**
CD2 SS **SS** **00 24 47.8 +0.7**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
HIA Hailar 69.84 332 *e*P P **00 11 22.8 -0.9**
HIA pmax pmax
comp=Z,13nm,1.3s
LZH Lanzhou 71.30 314 *e*P P **00 11 35.6 +2.6**
LZH pP **pP** **00 11 45.6 +0.4**
LZH sP **sP** **00 11 52.1 +2.2**
LZH PMZ
comp=Z,15nm,1.0s
LZH PMZ
comp=Z,90nm,4.1s
LZH LN
comp=Z,160nm,12.3s
LZH LE
comp=Z,340nm,18.6s
LZH LZ
comp=Z,250nm,18.2s
ULN Ulaanbaatar 75.41 326 *c i*P P **00 11 56.5 -0.5**
ULN pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 75.41 326 *e*P P **00 11 55.9 -1.1**
comp=Z,10nm,0.7s
GTA Gaotai 75.67 315 *e*P P **00 11 58.9 +0.3**
GTA pP **PcP** **00 12 09.8 -1.5**
GTA sP **sP** **00 12 13.6 -1.9**
GTA PP **PP** **00 14 50.3 +1.4**
GTA S **S** **00 21 35.0 -2.4**
GTA sS sS 00 21 52.6 -5.1
GTA SKS **SKSac** **00 22 01.6 -4.3**
GTA SS **SS** **00 26 28.1 -1.6**
GTA PMZ
comp=Z,6.0nm,1.0s
GTA PMZ
comp=Z,72nm,5.2s
GTA LN
comp=Z,110nm,18.5s
GTA LE
comp=Z,96nm,16.9s
GTA LZ
comp=Z,160nm,20.4s
SONA0 Songino Array 75.76 325 *e*P P **00 11 58.3 -0.6**
SONA0 *e*PcP **PcP** **00 12 09.9 -1.5**
SONM Songino Array 75.76 325 P P **00 11 58.3 -0.6**
comp=Z,3.8nm,0.6s,baz=133,slow=5.3,SNR=8.4
SONM pP **PcP** **00 12 09.9 -1.5**
comp=Z,9.3nm,0.6s,baz=142,slow=5.6,SNR=11
SONM LR LR 00 47 38.2
comp=Z,105nm,18.3s,baz=141,slow=38
YAK Yakutsk 76.39 345 *e*P P 00 12 11.9 +10
YAK pmax pmax
comp=Z,39nm,1.1s
GAMB Gambell 76.76 12 *e*P P **00 12 04.3 +0.3**
comp=Z,21nm,1.7s
OHAK Old Harbor 76.93 23 *e*P P **00 12 05.7 +0.6**
comp=Z,17nm,1.0s
KDAK Kodiak Island 77.59 23 *e*P P **00 12 09.0 +0.2**
KDAK pmax pmax
comp=Z,18nm,1.0s
KDAK Kodiak Island 77.59 23 *e*P P **00 12 09.0 +0.2**
comp=Z,18nm,1.0s
BOD Bodaibo 78.25 336 *e*P P **00 12 11.1 -1.4**
BOD pmax pmax
comp=Z,7.0nm,1.2s
BILL Bilibino 78.34 2 ‖*e*P P **00 12 13.2 +0.4**
BILL *e* 00 15 07.7
BILL *e*S **S** **00 22 05.1 +0.1**
BILL pmax pmax
comp=Z,10.0nm,1.4s
BILL MLR MLR
comp=Z,175nm,16.0s
BILL Bilibino 78.34 2 *e*P P **00 12 13.4 +0.5**
comp=Z,23nm,1.2s
ZAK Zakamensk 78.85 326 *e*P P **00 12 14.5 -1.7**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
TNA Tin City 79.11 12 *e*P P **00 12 17.4 +0.3**
comp=Z,11nm,1.3s
TLY Talaya 79.34 328 ‖*i*P P **00 12 18.1 -0.6**
TLY *e*PPP PPP 00 17 02.2
TLY *e* 00 22 47.2
TLY pmax pmax
comp=Z,12nm,1.3s
TLY MLR MLR
comp=Z,107nm,20.0s
TLY Talaya 79.34 328 *e*P P **00 12 18.0 -0.8**
comp=Z,8.7nm,0.9s
RSO Redoubt South 79.39 21 *e*P P **00 12 18.8 -0.3**
PMR Palmer 81.46 22 *e*P P **00 12 29.3 -0.5**
PMR Palmer 81.46 22 *e*P P **00 12 29.3 -0.5**
KTH Kantishna Hill 82.16 19 *e*P P **00 12 32.8 -0.7**
comp=Z,11nm,1.0s
TRF Thorofare Moun 82.30 20 *e*P P **00 12 33.8 -0.7**
comp=Z,20nm,1.4s
BMRM Bremner River 82.77 23 *e*P P **00 12 37.4 +0.6**
comp=Z,19nm,1.3s
MCK McKinley 82.94 20 *e*P P **00 12 37.5 -0.1**
MCK pmax pmax
comp=Z,35nm,1.2s
MCK McKinley 82.94 20 *e*P P **00 12 37.5 -0.1**
comp=Z,35nm,1.2s
IM04 Indian Mountai 82.98 17 *e*P P **00 12 37.6 -0.2**
MAW Mawson 83.72 202 P P **00 12 41.4 -0.1**
comp=Z,32nm,0.8s,baz=95,slow=6.2,SNR=30
MAW Mawson 83.72 202 *e*P P **00 12 40.7 -0.9**
MAW Mawson 83.72 202 P P **00 12 41.6 0.0**
baz=84,SNR=19
MAW Mawson 83.72 202 *e*P P **00 12 40.7 -0.9**
COLA College 84.04 19 *e*P P **00 12 41.7 -1.4**
COLA pmax pmax
comp=Z,36nm,1.4s
COLA College 84.04 19 *e*P P **00 12 44.5 +1.3**
comp=Z,20nm,1.4s
ILAR Eielson Array 84.29 20 P P **00 12 44.0 -0.4**
comp=Z,2.2nm,0.6s,baz=241,slow=5.2,SNR=17
ILB Eielson Array 84.29 20 *e*P P **00 12 44.0 -0.4**
H02N1 VAN INLET T-PH 84.42 33 T T 01 45 55.6
SNR=18
H02S1 DAWSON INLET T 84.43 34 T T 01 45 59.5
SNR=19
TIXI Tiksi 84.74 350 *e*P P **00 12 44.8 -1.7**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 84.74 350 *e*P P **00 12 45.6 -1.0**
comp=Z,24nm,1.5s
TIXI *e*pP **pP** **00 12 57.0 -2.0**
WMQ Urumqi 85.74 316 *e*P P **00 12 53.0 +0.7**
WMQ pP **pP** **00 13 03.8 -0.9**
WMQ S **S** **00 23 25.4 +3.2**
WMQ SS **SS** **00 29 00.0 +0.2**
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,150nm,4.5s
WMQ LN
comp=Z,240nm,22.9s
WMQ LE
comp=Z,310nm,26.7s
WMQ LZ
comp=Z,350nm,27.6s
EGAK Eagle 86.27 21 *e*P P **00 12 54.7 +0.4**
comp=Z,22nm,1.2s
DAWY Dawson 86.52 22 *e*P P **00 12 56.3 +0.6**
comp=Z,27nm,1.3s
HUMO Hull Mountain 86.55 46 *e*P P **00 12 54.7 -1.5**
comp=Z,9.1nm,1.0s
I04A Tendick Farm, 87.28 45 P P **00 12 59.5 -0.3**
baz=88
J05D Fort Rock, OR 87.95 45 P P **00 13 04.9 +1.7**
baz=88
BAR Barrett 88.76 57 *e*P P **00 13 06.0 -1.1**
comp=Z,3.8nm,0.5s
NV01 Mina Array Sit 88.82 51 *e*P P **00 13 07.3 -0.2**
NVAR Mina Array Bea 88.82 51 P P **00 13 07.3 -0.2**
comp=Z,3.6nm,1.0s,baz=242,slow=5.9,SNR=15
DAC Darwin (Calif) 88.86 53 *e*P P **00 13 07.7 0.0**
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 88.86 53 *e*P P **00 13 07.7 0.0**
comp=Z,9.5nm,1.1s
MPMC Manual Prospec 88.89 53 P P **00 13 08.6 +0.8**
baz=89
GSC Goldstone, Bar 89.25 54 *e*P P **00 13 09.7 +0.3**
GSC pmax pmax
comp=Z,15nm,1.5s
GSC Goldstone, Bar 89.25 54 P P **00 13 10.5 +1.0**
baz=90
GSC Goldstone, Bar 89.25 54 *e*P P **00 13 09.7 +0.3**
comp=Z,15nm,1.5s
I07A Izee 89.38 45 *e*P P **00 13 08.9 -1.0**
comp=Z,34nm,1.9s
HEC Hector,Ludlow 89.52 55 P P **00 13 11.6 +0.9**
baz=90
WVOR Wild Horse Val 89.57 47 *e*P P **00 13 11.1 +0.3**
WVOR pmax pmax
comp=Z,18nm,1.3s
WVOR Wild Horse Val 89.57 47 *e*P P **00 13 11.1 +0.3**
comp=Z,18nm,1.3s
BELC Belle Mtn. Jos 89.61 55 P P **00 13 12.1 +0.9**
baz=90
GMRC Granite Mounta 90.05 55 P P **00 13 14.4 +1.1**
baz=90
G08A Pilot Rock 90.06 44 *e*P P **00 13 12.0 -1.0**
comp=Z,10nm,1.4s
TPNV Topopah Spring 90.06 53 *e*P P **00 13 13.1 -0.2**
TPNV pmax pmax
comp=Z,13nm,1.0s
TPNV Topopah Spring 90.06 53 P P **00 13 14.4 +1.1**
baz=90
TPNV Topopah Spring 90.06 53 *e*P P **00 13 13.1 -0.2**
comp=Z,12nm,1.0s
MK32 Makanchi Array 90.25 318 *e*P P **00 13 12.3 -1.4**
MKAR Makanchi Array 90.25 318 P P **00 13 12.3 -1.4**
comp=Z,1.3nm,0.6s,baz=91,slow=9.3,SNR=23
MKAR LR LR 00 54 50.5
comp=Z,50nm,20.4s,baz=82,slow=36
MKAR Makanchi Array 90.25 318 *e*P P **00 13 11.3 -2.5**
MKAR Makanchi Array 90.25 318 *e*P P **00 13 11.3 -2.5**
IRM Iron Mountain 90.33 55 P P **00 13 15.6 +1.2**
baz=91
GLA Glamis 90.36 57 *e*P P **00 13 13.6 -1.0**
GLA Glamis 90.36 57 *e*P P **00 13 13.6 -1.0**
comp=Z,27nm,0.4s
ZALV Zalesovo Beam 90.65 325 P P **00 13 12.6 -2.8**
comp=Z,0.7nm,0.5s,baz=117,slow=5.3,SNR=6.8
ZALV LR LR 00 54 08.1
comp=Z,64nm,20.6s,baz=70,slow=36
ZAA1 Zalesovo Array 90.65 325 *e*P P **00 13 12.6 -2.8**
SHPR Sheep Range 90.82 53 *e*P P **00 13 15.2 -1.6**
R11A Troy Canyon, C 90.88 51 P P **00 13 18.3 +1.2**
baz=91
R11A Troy Canyon, C 90.88 51 *e*P P **00 13 16.2 -0.9**
comp=Z,19nm,1.7s
R11A *e*pP **pP** **00 13 30.6 +1.0**
BMO Blue Mountains 91.09 45 *e*P P **00 13 16.8 -1.0**
BMO pmax pmax
comp=Z,11nm,1.4s
BMO Blue Mountains 91.09 45 *e*P P **00 13 16.8 -1.0**
comp=Z,11nm,1.4s
SYO Syowa Base 91.13 198 ‖*e*PcP **PcP** **00 13 19.0 +0.6**
C09A Chrisman Ranch 91.14 42 *e*P P **00 13 17.8 -0.1**
comp=Z,4.4nm,0.8s
F10A Beach Ranch, E 91.41 44 *e*P P **00 13 19.7 +0.4**
comp=Z,5.9nm,0.9s
MFID Camas Ranch 91.80 46 *e*P P **00 13 19.8 -1.4**
comp=Z,9.9nm,1.2s
NEW Newport 92.01 41 *e*P P **00 13 22.3 +0.4**
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 92.01 41 P P **00 13 22.5 +0.6**
baz=92
NEW Newport 92.01 41 *e*P P **00 13 22.3 +0.4**
comp=Z,7.8nm,1.0s
CCUT Cedar City 92.44 52 *e*P P **00 13 24.6 +0.2**
comp=Z,7.2nm,0.4s
HLID Hailey 92.84 46 P P **00 13 27.4 +1.4**
baz=93
HLID Hailey 92.84 46 *e*P P **00 13 26.3 +0.3**
comp=Z,5.5nm,1.1s
KSH Kashi 93.15 309 *e*P P **00 13 28.5 +1.0**
KSH *es*P **sP** **00 13 43.0 -1.6**
KSH PP **PP** **00 17 13.4 +2.1**
KSH SKS **SKSac** **00 23 57.6 -1.1**
KSH S **S** **00 24 28.1 -3.5**
KSH sS sS 00 24 45.5 -7.1
KSH SS **SS** **00 30 46.3 -1.3**
KSH PMZ
comp=Z,99nm,4.6s
KSH LN
comp=Z,120nm,6.2s
KSH LE
comp=Z,88nm,3.9s
KSH LZ
comp=Z,170nm,5.7s
KURK Kurchatov 93.53 321 *e*P P **00 13 26.3 -2.5**
KURK pmax pmax
comp=Z,18nm,1.9s
KURK Kurchatov 93.53 321 *e*P P **00 13 26.3 -2.5**
comp=Z,18nm,1.9s
PD31 Pinedale Array 96.20 48 *e*P P **00 13 42.2 +0.7**
PDAR Pinedale Array 96.20 48 P P **00 13 42.2 +0.7**
comp=Z,0.6nm,0.9s,baz=278,slow=4.3,SNR=4.2
YKA Yellowknife Ar 96.35 28 P P **00 13 40.5 -0.8**
comp=Z,0.6nm,0.4s,baz=264,slow=4.8,SNR=14
YKA pP **pP** **00 13 52.5 -1.4**
comp=Z,0.7nm,0.5s,baz=258,slow=4.7,SNR=4.9
YKB5 Yellowknife Ar 96.35 28 *e*P P **00 13 40.5 -0.8**
EGMT Eagleton 96.81 43 P P **00 13 44.7 +0.7**
baz=97
LENM Lemitar 97.00 57 *e*P P **00 13 44.8 -0.5**
F19A Roth Farm, Mol 97.07 45 P Pdif 00 13 45.9 +0.5
baz=97
ARA0 ARCESS Array S 114.66 344 *e*PKiKP **PKiKP** **00 18 50.6 -2.1**
ARCES ARCESS Array B 114.66 344 PKP PKPdf 00 18 50.6 -2.1
comp=Z,4.1nm,0.9s,baz=52,slow=2.2,SNR=5.6
PRU Pruhonice 132.05 332 AMS AMS 01 18 00.0
comp=Z,200nm,19.9s
TREC Trest 132.07 330 AMS AMS 01 16 50.0
comp=Z,300nm,22.9s
PGAV Gavieira, Arco 147.33 346 *e*LR LR 01 19 28.5
comp=Z,133nm,22.0s
MVO Moncorvo 147.76 344 PKP **PKPbc** **00 19 58.6 +0.5**
POLO Lamas de Olo 147.77 345 PKP **PKPbc** **00 19 57.8 -0.3**
ESDC Sonseca Array 148.14 339 PKPbc **PKPdf** **00 19 57.4 +1.5**
comp=Z,0.2nm,0.4s,baz=31,slow=2.7,SNR=4.5
PVIS Viseu 148.41 345 PKP **PKPbc** **00 19 59.3 -0.5**
MTE Manteigas 148.62 344 PKP **PKPbc** **00 20 01.3 +1.0**
MTE Manteigas 148.62 344 *e*LR LR 01 18 52.7
comp=Z,125nm,18.0s
PMRV Marv??o 149.48 343 PKP **PKPbc** **00 20 02.0 -0.5**
PTOM Tomar 149.58 345 PKP **PKPbc** **00 20 02.2 -0.5**
PMTG Montargil 150.05 344 PKP **PKPbc** **00 20 03.3 -0.5**
PVAQ Vaqueiros 151.44 342 *e*LR LR 01 19 30.2
comp=Z,103nm,20.0s
TOA0 Torodi Ar. Sit 160.07 280 *e*PKPdf **PKPdf** **00 20 10.6 -2.6**
TOA0 *e*PKPab **PKPab** **00 20 52.3 -0.8**
TORD Torodi Ar. Bea 160.07 280 PKP **PKPdf** **00 20 10.6 -2.6**
comp=Z,1.2nm,1.1s,baz=142,slow=1.8,SNR=4.1
TORD PKPab **PKPab** **00 20 52.3 -0.8**
comp=Z,1.1nm,1.0s,baz=91,slow=3.2,SNR=3.8

*IDC **24** 00:23:41.9±0.4, 36°.30S×99°.92W, h0km, mb5.0/14, mb1 5.1/14, mb1mx5.0/20, mbtmp5.0/14, MS4.6/13, Ms1 4.5/13, ms1mx4.5/15, Error ellipse: s-maj=16.0km s-min=14.4km az=105.0*
*MOS **24** 00:23:42.7±0.9, 36°.16S×99°.93W, h10km, mb5.6/54, MS4.9/7, Error ellipse: s-maj=14.2km s-min=6.4km az=84.8*
*ISCJB **24** 00:23:42.9±0.2, 36°.31S±0°.04×99°.58W±0°.06, h10km, mb5.5/185, MS4.8/66, Error ellipse: s-maj=7.2km s-min=5.5km az=141.4*
*NEIC **24** 00:23:43.5±1.1, 36°.30S×99°.78W, h10km±2km, mb5.6/182, MS4.9/60, Error ellipse: s-maj=14.1km s-min=10.0km az=180.0*
*GCMT **24** 00:23:43.5±0.2, 36°.49S×99°.61W, h12km, MW5.2/110, Moment Tensor Solution. s50,c63; s110,c172; Duration: 1!0 Moment tensor: Scale 10^17Nm; Mrr0.65±.01; Mθθ-0.69±.01; Mφφ0.04±.01; Mrθ-0.45±.04; Mrφ-0.09±.01; Mθφ-0.19±.05; Best double couple: M=0.83000×10^17 NP1:φs253.00000°, δ63.00000°, λ81.00000°. NP2:φs93.00000°, δ28.00000°, λ108.00000°. Principal axes: T 0.8140, Plg70.0000°, Azm144.0000°; N 0.0330, Plg8.0000°, Azm258.0000°; P -0.8470, Plg18.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **24** 00:23:44.4, 36°.30S×99°.60W, h10km, mB5.3/28, Ms5.4/21, Ms7 5.0/20*
*GUC **24** 00:23:58.0, 36°.47S×100°.66W, h201km*

ISC 24 00:23:43.5±0.2, 36°.36S±0°.07×99°.72W±0°.07, h10km, n1200, σ1!24/1203, mb5.6/184, MS4.8/67, 248C-236D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**23.17**	**110**	P	**P**	**00 28 52.1**	**+1.9**
	15nm,1.1s,baz=278,slow=9.3,SNR=13						
PLCA				LR	LR	00 35 35.3	
	comp=Z,1μm,20.2s,baz=276,slow=31						
PLCA	**Paso Flores**	**23.17**	**110**	*e*P	**P**	**00 28 53.1**	**+2.8**
PLCA	**Paso Flores**	**23.17**	**110**	*e*P	**P**	**00 28 51.6**	**+1.4**
	500nm,2.3s						
ROCH	**El Roble**	**23.81**	**90**	*e*P	**P**	**00 29 00.7**	**+3.8**
TLL	**Tololo Ustrono**	**24.90**	**84**	*e*P	**P**	**00 29 09.8**	**+2.9**
LCO	**Las Campanas**	**25.43**	**82**	*e*P	**P**	**00 29 13.6**	**+1.9**
LCO	**Las Campanas**	**25.43**	**82**	*e*P	**P**	**00 29 12.7**	**+0.9**
	396nm,1.2s						
CFAA	**Coronel Fontan**	**26.46**	**89**	P	**P**	**00 29 21.8**	**+1.0**
	9.3nm,1.0s,baz=253,slow=8.9,SNR=76						
PB04	**IPOC Station P**	**29.73**	**70**	*e*P	**P**	**00 29 48.1**	**-1.8**
PB07	**IPOC Station P**	**29.73**	**69**	*e*P	**P**	**00 29 52.5**	**+2.2**
LVC	**Limon Verde**	**29.97**	**71**	P	**P**	**00 29 54.0**	**+1.6**
	307nm,1.1s,baz=240,slow=9.0,SNR=38						
LVC	**Limon Verde**	**29.97**	**71**	*e*P	**P**	**00 29 51.6**	**-0.8**
	163nm,1.3s						
TRQA	**Tornquist**	**29.97**	**105**	*e*P	**P**	**00 29 54.3**	**+2.2**
TRQA	**Tornquist**	**29.97**	**105**	*e*P	**P**	**00 29 53.0**	**+1.0**
	26nm,1.1s						
TRQA				LR	LR		
	comp=Z,1μm,20.0s						
PB09	**IPOC Station P**	**30.18**	**70**	*e*P	**P**	**00 29 57.0**	**+2.8**
PB01	**IPOC Station P**	**30.44**	**68**	*e*P	**P**	**00 29 58.7**	**+2.3**
HMBC	**Humberstone**	**30.60**	**67**	*e*P	**P**	**00 30 00.1**	**+2.2**
PSGC	**Pisagua**	**30.85**	**65**	*e*P	**P**	**00 30 02.6**	**+2.6**
MNMC	**Minimini**	**31.53**	**65**	*e*P	**P**	**00 30 08.5**	**+2.3**
NNA	**Nana**	**31.84**	**46**	*e*P	**P**	**00 30 09.3**	**+0.6**
NNA				pmax	pmax		
	comp=Z,99nm,1.5s						
NNA				MLR	MLR		
	comp=Z,2μm,20.0s						
NNA	**Nana**	**31.84**	**46**	*e*P	**P**	**00 30 09.3**	**+0.6**
	comp=Z,99nm,1.5s						
NNA				LR	LR		
	comp=Z,2μm,20.0s						
EFI	**East Falkland**	**33.13**	**131**	PFAKE		00 30 30.0	+10
EFI				LR	LR		
	comp=Z,1μm,18.0s						
RKT	**Rikitea**	**33.15**	**284**	*e*LR	LR	00 39 12.3	
	comp=Z,707nm,26.5s						
LPAZ	**La Paz**	**34.42**	**63**	P	**P**	**00 30 33.9**	**+2.0**
	comp=Z,185nm,1.1s,baz=225,slow=5.2,SNR=158						
LPAZ				PcP	**PcP**	**00 33 07.9**	**+0.3**
	comp=Z,8.1nm,1.0s,baz=146,slow=2.3,SNR=3.4						
LPAZ				LR	LR	00 41 32.3	
	comp=Z,258nm,19.9s,baz=228,slow=31						
LPAZ	**La Paz**	**34.42**	**63**	*e*P	**P**	**00 30 34.2**	**+2.3**
LPAZ	**La Paz**	**34.42**	**63**	*e*P	**P**	**00 30 33.9**	**+2.0**
	comp=Z,346nm,1.3s						
LPAZ				*e*PcP	**PcP**	**00 33 07.9**	**+0.3**
CPUP	**Villa Florida**	**37.30**	**87**	P	**P**	**00 30 56.4**	**+0.6**
	comp=Z,8.5nm,1.0s,baz=263,slow=8.4,SNR=20						
CPUP				LR	LR	00 44 56.1	
	comp=Z,606nm,19.0s,baz=250,slow=34						
CPUP	**Villa Florida**	**37.30**	**87**	*e*P	**P**	**00 30 56.0**	**+0.2**
OTAV	**Otavalo**	**41.43**	**33**	*e*P	**P**	**00 31 30.0**	**-0.9**
	comp=Z,98nm,1.5s						
OTAV				LR	LR		
	comp=Z,600nm,19.0s						
SAML	**Samuel**	**42.95**	**60**	*e*P	**P**	**00 31 43.0**	**+0.2**
	comp=Z,156nm,1.2s						
SAML				LR	LR		
	comp=Z,200nm,20.0s						
TBI	**Tubuai**	**44.60**	**273**	*e*LR	LR	00 44 27.0	
	comp=Z,367nm,29.2s						
HOPE	**Hope Point**	**46.26**	**134**	*e*P	**P**	**00 32 10.1**	**+1.4**
	comp=Z,120nm,1.1s						
ROSC	**El Rosal**	**47.39**	**35**	P	**P**	**00 32 20.7**	**+2.2**
	comp=Z,10nm,0.4s,baz=155,slow=1.4,SNR=25						
ROSC				LR	LR	00 50 07.3	
	comp=Z,617nm,18.4s,baz=208,slow=33						
ROSC	**El Rosal**	**47.39**	**35**	*e*P	**P**	**00 32 19.8**	**+1.3**
PPT2	**Papeete2**	**47.65**	**279**	*e*S	S	00 39 22.9	+6.7
	comp=Z,114nm,23.8s						
PPT2				*e*LR	LR	00 45 43.5	
	comp=Z,437nm,25.2s						
PPT	**Papeete**	**47.66**	**279**	LR	LR	00 46 37.3	
	comp=Z,231nm,20.4s,baz=346,slow=29						
JTS	**JuntasAbangare**	**48.44**	**20**	*d i*P	**P**	**00 32 27.4**	**+1.2**
JTS				pmax	pmax		
	comp=Z,66nm,1.3s						
JTS	**JuntasAbangare**	**48.44**	**20**	*e*P	**P**	**00 32 26.3**	**+0.1**
	comp=Z,58nm,1.2s						
JTS				LR	LR		
	comp=Z,2μm,20.0s						
BCIP	**Isla Barro Col**	**49.00**	**26**	PFAKE		00 32 40.0	+10
BCIP				LR	LR		
	comp=Z,1μm,20.0s						
BDFB	**Brasilia**	**50.20**	**80**	P	**P**	**00 32 40.2**	**+0.3**
	comp=Z,37nm,1.2s,baz=221,slow=8.2,SNR=18						
BDFB				LR	LR	00 52 08.1	
	comp=Z,282nm,19.9s,baz=235,slow=34						
BDFB	**Brasilia**	**50.20**	**80**	*e*P	**P**	**00 32 40.5**	**+0.6**
PTGA	**Pitinga**	**51.10**	**55**	*e*P	**P**	**00 32 45.7**	**-0.7**
	comp=Z,74nm,1.3s						
PTGA				LR	LR		
	comp=Z,600nm,18.0s						
SDV	**Santo Domingo**	**52.67**	**37**	*e*P	**P**	**00 32 56.9**	**-1.5**
	comp=Z,127nm,2.1s						
SDV				LR	LR		
	comp=Z,700nm,18.0s						
QSPA	**South Pole Qui**	**53.85**	**180**	P	**P**	**00 33 07.5**	**+1.1**
	comp=Z,24nm,1.0s,baz=127,slow=3.5,SNR=28						
QSPA				PcP	**PcP**	**00 34 12.9**	**+0.9**
	comp=Z,19nm,1.1s,baz=180,slow=0.9,SNR=5.4						
SBA	**Scott Base**	**55.50**	**195**	*e*P	**P**	**00 33 19.2**	**+1.2**
SBA				pmax	pmax		
	comp=Z,27nm,1.2s						
SBA	**Scott Base**	**55.50**	**195**	*e*P	**P**	**00 33 19.2**	**+1.2**
	comp=Z,27nm,1.2s						
VNA3	**Neumayer Olymp**	**56.06**	**157**	P	**P**	**00 33 23.5**	**+1.4**
VNDA	**Vanda**	**56.60**	**195**	P	**P**	**00 33 27.1**	**+1.2**
	comp=Z,6.6nm,1.1s,baz=104,slow=7.1,SNR=16						
VNDA				LR	LR	00 51 53.8	
	comp=Z,733nm,20.8s,baz=109,slow=30						
VNA1	**Neumayer--Stat**	**56.65**	**156**	P	**P**	**00 33 28.5**	**+2.2**
VNA2	**Neumayer--Watz**	**56.86**	**157**	P	**P**	**00 33 29.4**	**+1.5**
TEIG	**Tepich**	**57.31**	**13**	*e*P	**P**	**00 33 30.9**	**-0.6**
	comp=Z,181nm,2.0s						
TEIG				LR	LR		
	comp=Z,600nm,20.0s						
SNAA	**Sanae**	**58.03**	**158**	P	**P**	**00 33 35.9**	**-0.3**
SNAA	**Sanae**	**58.03**	**158**	*e*P	**P**	**00 33 35.5**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,22nm,1.8s						
SNAA	**Sanae**	**58.03**	**158**	*e*P	**P**	**00 33 36.6**	**+0.3**
	comp=Z,101nm,2.1s						
MTDJ	**Mount Denham**	**58.21**	**25**	PFAKE		00 33 50.0	+12
MTDJ				LR	LR		
	comp=Z,800nm,18.0s						
GRGR	**Grenville**	**60.12**	**44**	PFAKE		00 34 00.0	+8.8
GRGR				LR	LR		
	comp=Z,500nm,19.0s						
SLBS	**Sierra La Lagu**	**60.50**	**349**	*e*P	**P**	**00 33 53.2**	**-0.5**
	comp=Z,67nm,1.4s						

GTBY	**Guantanamo Bay**	**60.63**	**27**	PFAKE			00 34 10.0	+15		
GTBY				LR	LR					
	comp=Z,300nm,18.0s									
SDDR	**Presa de Saban**	**61.26**	**31**	*eP*	**P**		**00 33 59.0**	**0.0**		
	comp=Z,27nm,0.8s									
SDDR				LR	LR					
	comp=Z,400nm,18.0s									
CRPR	**Cabo Rojo, PR**	**62.25**	**35**	*eP*	**P**		**00 34 05.1**	**-0.5**		
	comp=Z,68nm,1.0s									
CRPR				LR	LR					
	comp=Z,500nm,20.0s									
ICMP	**Isla Caja de M**	**62.42**	**36**	*eP*	**P**		**00 34 05.2**	**-1.5**		
035Z	**Hargill**	**62.51**	**2**	⇓P	**P**		**00 34 09.4**	**+2.3**		
	baz=63									
OBIP	**Obispado Ponce**	**62.51**	**36**	*eP*	**P**		**00 34 06.5**	**-0.9**		
	comp=Z,71nm,1.1s									
CELP	**Cerrillos**	**62.55**	**36**	*eP*	**P**		**00 34 06.8**	**-0.9**		
AGP	**Aguadilla**	**62.58**	**35**	PFAKE			00 34 20.0	+12		
AGP				LR	LR					
	comp=Z,700nm,21.0s									
LRS	**Lares**	**62.62**	**36**	*eP*	**P**		**00 34 07.1**	**-1.0**		
NVL	**N'lazarevskaya**	**62.70**	**160**	*eP*	**P**		**00 34 07.3**	**-0.7**		
NVL				pmax	pmax					
	comp=Z,15nm,0.9s									
AOPR	**Arecibo Observ**	**62.71**	**36**	*eP*	**P**		**00 34 07.7**	**-1.0**		
	comp=Z,58nm,1.0s									
SJG	**San Juan**	**62.79**	**36**	*eP*	**P**		**00 34 08.1**	**-1.1**		
SJG				pmax	pmax					
	comp=Z,114nm,1.2s									
SJG				MLR	MLR					
	comp=Z,1µm,22.0s									
SJG	**San Juan**	**62.79**	**36**	*eP*	**P**		**00 34 08.1**	**-1.1**		
	comp=Z,114nm,1.2s									
SJG				LR	LR					
	comp=Z,1µm,22.0s									
035A	**Encino**	**62.98**	**2**	⇑P	**P**		**00 34 11.6**	**+1.3**		
	baz=63									
034A	**Hebbronville**	**63.10**	**1**	⇓P	**P**		**00 34 13.0**	**+2.0**		
	baz=63,SNR=9.5									
BFZ	**Birch Farm**	**63.44**	**238**	PFAKE			00 34 30.0	+17		
BFZ				LR	LR					
	comp=Z,700nm,21.0s									
934A	**Benavides**	**63.63**	**1**	⇓P	**P**		**00 34 16.6**	**+2.0**		
	baz=64,SNR=12									
933A	**Laredo**	**63.64**	**0**	⇓P	**P**		**00 34 16.3**	**+1.6**		
	baz=64,SNR=6.1									
834A	**Tilden**	**64.16**	**1**	⇑P	**P**		**00 34 19.4**	**+1.3**		
	baz=64,SNR=5.8									
832A	**Faith Ranch, C**	**64.31**	**360**	⇓P	**P**		**00 34 19.4**	**+0.4**		
	baz=65,SNR=8.3									
835A	**Beeville**	**64.33**	**2**	⇑P	**P**		**00 34 20.5**	**+1.4**		
	baz=65									
833A	**Chaparral WMA,**	**64.34**	**0**	⇑P	**P**		**00 34 20.3**	**+1.0**		
	baz=65,SNR=8.7									
KHZ	**Kahutara**	**64.49**	**235**	PFAKE			00 34 30.0	+10		
KHZ				LR	LR					
	comp=Z,600nm,19.0s									
ANWB	**Willy Bob**	**64.60**	**40**	*eP*	**P**		**00 34 19.7**	**-1.5**		
	comp=Z,101nm,1.2s									
ANWB				LR	LR					
	comp=Z,400nm,22.0s									
733A	**Divot King Ran**	**64.74**	**0**	⇓P	**P**		**00 34 23.5**	**+1.7**		
	baz=65									
732A	**Laxson Ranch,**	**64.75**	**360**	⇑P	**P**		**00 34 22.0**	**+0.1**		
	baz=65									
734A	**La Parita Cree**	**64.87**	**1**	⇑P	**P**		**00 34 24.8**	**+2.0**		
	baz=65									
735A	**Kenedy**	**64.90**	**2**	⇓P	**P**		**00 34 24.6**	**+1.7**		
	baz=65									
736A	**Circle Diamond**	**65.02**	**3**	⇑P	**P**		**00 34 26.3**	**+2.7**		
	baz=65,SNR=6.7									
634A	**China Grove, S**	**65.41**	**1**	⇓P	**P**		**00 34 26.3**	**+0.1**		
	baz=66									
635A	**Leesville**	**65.43**	**2**	⇓P	**P**		**00 34 27.1**	**+0.7**		
	baz=66,SNR=5.0									
631A	**Perdido Creek**	**65.43**	**359**	⇓P	**P**		**00 34 26.4**	**+0.1**		
	baz=66,SNR=11									
LTX	**Lajitas**	**65.45**	**356**	*eP*	**P**		**00 34 26.0**	**-0.6**		
LTX	**Lajitas**	**65.45**	**356**	*eP*	**P**		**00 34 26.0**	**-0.6**		
TXAR	**Lajitas Array**	**65.45**	**356**	P	**P**		**00 34 26.0**	**-0.6**		
	comp=Z,19nm,1.1s,baz=180,slow=8.6,SNR=46									
TXAR				LR	LR		00 57 51.3			
	comp=Z,721nm,21.6s,baz=0.0,slow=31									
633A	**Saathoff Ranch**	**65.48**	**1**	⇓P	**P**		**00 34 27.7**	**+1.0**		
	baz=66,SNR=19									
632A	**Uvalde**	**65.52**	**360**	⇓P	**P**		**00 34 27.7**	**+0.7**		
	baz=66,SNR=14									
636A	**Smothers Creek**	**65.54**	**3**	⇓P	**P**		**00 34 28.8**	**+1.7**		
	baz=66,SNR=7.8									
534A	**Blanco**	**66.05**	**1**	⇓P	**P**		**00 34 30.4**	**0.0**		
	baz=66,SNR=7.8									
HKT	**Hockley**	**66.06**	**4**	*eP*	**P**		**00 34 31.0**	**+0.7**		
HKT				pmax	pmax					
	comp=Z,172nm,1.7s									
HKT	**Hockley**	**66.06**	**4**	*eP*	**P**		**00 34 31.0**	**+0.7**		
	comp=Z,172nm,1.7s									
535A	**Dale**	**66.07**	**2**	⇑P	**P**		**00 34 32.2**	**+1.7**		
	baz=66									
533A	**Kerrville**	**66.09**	**1**	⇑P	**P**		**00 34 32.0**	**+1.3**		
	baz=66,SNR=12									
532A	**Rocksprings**	**66.14**	**360**	⇓P	**P**		**00 34 32.3**	**+1.3**		
	baz=66,SNR=17									
537A	**Green Hill Far**	**66.17**	**3**	⇑P	**P**		**00 34 32.8**	**+1.7**		
	baz=66									
529A	**Stev Forest Ra**	**66.18**	**358**	⇓P	**P**		**00 34 32.2**	**+1.0**		
	baz=66,SNR=13									
530A	**J-C Ranch, Com**	**66.18**	**358**	⇓P	**P**		**00 34 31.9**	**+0.7**		
	baz=66,SNR=48									
531A	**Rocksprings**	**66.18**	**359**	⇓P	**P**		**00 34 32.3**	**+1.0**		
	baz=66,SNR=26									
JCT	**Junction City**	**66.49**	**360**	*eP*	**P**		**00 34 33.1**	**-0.1**		
JCT				pmax	pmax					
	comp=Z,204nm,1.9s									
JCT	**Junction City**	**66.49**	**360**	⇑P	**P**		**00 34 33.9**	**+0.7**		
	baz=67,SNR=11									
JCT	**Junction City**	**66.49**	**360**	*eP*	**P**		**00 34 33.1**	**-0.1**		
	comp=Z,204nm,1.9s									
429A	**Davenport Ranc**	**66.67**	**358**	⇓P	**P**		**00 34 34.4**	**0.0**		
	baz=67,SNR=13									
431A	**Sonora**	**66.70**	**359**	⇓P	**P**		**00 34 34.9**	**+0.4**		
	baz=67,SNR=17									
433A	**Art**	**66.77**	**1**	⇓P	**P**		**00 34 35.4**	**+0.4**		
	baz=67,SNR=32									
430A	**Baggett Ranch,**	**66.81**	**359**	⇑P	**P**		**00 34 35.6**	**+0.4**		
	baz=67,SNR=11									
435B	**Jarrell**	**66.82**	**2**	⇓P	**P**		**00 34 36.7**	**+1.4**		
	baz=67,SNR=7.5									
434A	**Burnet**	**66.84**	**1**	⇑P	**P**		**00 34 36.4**	**+1.0**		
	baz=67,SNR=35									
438A	**Sam Houston St**	**66.88**	**4**	⇑P	**P**		**00 34 36.4**	**+0.7**		
	baz=67									
432A	**Menard**	**66.89**	**360**	⇓P	**P**		**00 34 36.1**	**+0.4**		
	baz=67,SNR=10									
331A	**San Angelo**	**67.32**	**359**	⇑P	**P**		**00 34 38.6**	**+0.1**		
	baz=68,SNR=14									
335A	**Moody**	**67.33**	**2**	⇓P	**P**		**00 34 38.6**	**+0.1**		
	baz=68,SNR=9.8									
333A	**Richland Sprin**	**67.34**	**1**	⇑P	**P**		**00 34 38.6**	**+0.1**		
	baz=68									
334A	**Lometa**	**67.36**	**1**	⇓P	**P**		**00 34 38.8**	**+0.1**		
	baz=68,SNR=22									
332A	**Millersview**	**67.39**	**360**	⇑P	**P**		**00 34 39.3**	**+0.4**		
	baz=68									
337A	**Centerville**	**67.42**	**4**	⇑P	**P**		**00 34 40.5**	**+1.4**		
	baz=68									
330A	**Mertzon**	**67.43**	**359**	⇑P	**P**		**00 34 39.2**	**0.0**		
	baz=68,SNR=12									
336A	**Riesel**	**67.45**	**3**	⇓P	**P**		**00 34 39.7**	**+0.4**		
	baz=68,SNR=10.0									
338A	**Crockett**	**67.49**	**4**	⇑P	**P**		**00 34 41.2**	**+1.7**		
	baz=68									
339A	**Huntington**	**67.52**	**5**	⇑P	**P**		**00 34 41.0**	**+1.4**		
	baz=68									
329A	**Wagon Wheel Ra**	**67.53**	**358**	⇑P	**P**		**00 34 40.2**	**+0.4**		
	baz=68,SNR=12									
340A	**Bronson**	**67.65**	**5**	⇑P	**P**		**00 34 41.5**	**+1.1**		
	baz=68									
232A	**Coleman**	**67.90**	**0**	⇓P	**P**		**00 34 41.9**	**-0.3**		
	baz=68,SNR=9.0									
230A	**Sterling City**	**67.91**	**359**	⇑P	**P**		**00 34 43.2**	**+1.0**		
	baz=68									
MNTX	**Cornudas Mount**	**67.92**	**355**	⇑P	**P**		**00 34 41.7**	**-0.5**		
	baz=68,SNR=11									
NATX	**Nacogdoches**	**67.93**	**5**	*eP*	**P**		**00 34 43.0**	**+0.7**		
	comp=Z,856nm,2.3s									
NATX				LR	LR					
	comp=Z,1µm,22.0s									
231A	**Bronte**	**67.94**	**359**	⇓P	**P**		**00 34 42.2**	**-0.2**		
	baz=68,SNR=10									
319A	**Douglas**	**67.98**	**351**	⇓P	**P**		**00 34 43.4**	**+0.6**		
	baz=68,SNR=18									
229A	**Bryant Ranch,**	**68.00**	**358**	⇑P	**P**		**00 34 44.5**	**+1.7**		
	baz=68									
234A	**Clairette**	**68.03**	**1**	⇑P	**P**		**00 34 43.6**	**+0.8**		
	baz=68,SNR=20									
233A	**Rising Star**	**68.03**	**1**	⇑P	**P**		**00 34 43.0**	**+0.1**		
	baz=68,SNR=26									
WHTX	**Lake Whitney,**	**68.03**	**2**	⇓P	**P**		**00 34 43.3**	**+0.5**		
	baz=68,SNR=6.3									
WHTX	**Lake Whitney,**	**68.03**	**2**	*eP*	**P**		**00 34 42.6**	**-0.3**		
	comp=Z,241nm,1.6s									
237A	**Washetta, Mont**	**68.11**	**4**	⇓P	**P**		**00 34 43.8**	**+0.4**		
	baz=68,SNR=7.4									
238A	**Jacksonville**	**68.15**	**4**	⇑P	**P**		**00 34 44.4**	**+0.8**		
	baz=68,SNR=6.9									
228A	**UT Block 9, Go**	**68.18**	**357**	⇑P	**P**		**00 34 44.6**	**+0.7**		
	baz=68									
239A	**Gary**	**68.20**	**5**	⇑P	**P**		**00 34 44.1**	**+0.1**		
	baz=68,SNR=9.1									
134A	**White-Moore Ra**	**68.60**	**1**	⇑P	**P**		**00 34 47.5**	**+1.1**		
	baz=69,SNR=16									
135A	**Vickery Place,**	**68.60**	**2**	⇑P	**P**		**00 34 47.5**	**+1.1**		
	baz=69									
130A	**Snyder**	**68.61**	**359**	⇓P	**P**		**00 34 46.4**	**-0.2**		
	baz=69,SNR=5.6									
133A	**Hamilton Ranch**	**68.62**	**1**	⇓P	**P**		**00 34 46.4**	**-0.2**		
	baz=69,SNR=20									
ABTX	**Abilene, Hawle**	**68.63**	**0**	⇓P	**P**		**00 34 46.8**	**+0.1**		
	baz=69,SNR=9.3									
ABTX	**Abilene, Hawle**	**68.63**	**0**	*eP*	**P**		**00 34 46.0**	**-0.6**		
	comp=Z,133nm,1.8s									
129A	**Stewart Farms,**	**68.67**	**358**	⇓P	**P**		**00 34 47.3**	**+0.4**		
	baz=69,SNR=12									
128A	**Castleberry Fa**	**68.68**	**357**	⇓P	**P**		**00 34 47.7**	**+0.7**		
	baz=69,SNR=17									
131A	**Roby**	**68.68**	**359**	⇓P	**P**		**00 34 48.1**	**+1.1**		
	baz=69,SNR=7.5									
137A	**Heron Place, G**	**68.70**	**4**	⇓P	**P**		**00 34 49.1**	**+2.1**		
	baz=69,SNR=6.0									
138A	**Matatall Enter**	**68.80**	**4**	⇑P	**P**		**00 34 49.2**	**+1.6**		
	baz=69									
121A	**Cookes Peak, D**	**68.95**	**353**	⇓P	**P**		**00 34 50.6**	**+1.8**		
	baz=69,SNR=7.0									
214A	**Organ Pipe Nat**	**69.06**	**348**	⇓P	**P**		**00 34 51.3**	**+1.9**		
	baz=69,SNR=17									
TUC	**Tucson**	**69.10**	**350**	*eP*	**P**		**00 34 50.0**	**+0.3**		
TUC				pmax	pmax					
	comp=Z,96nm,1.6s									
TUC	**Tucson**	**69.10**	**350**	*eP*	**P**		**00 34 50.0**	**+0.3**		
	comp=Z,96nm,1.6s									
TIGA	**Tifton**	**69.12**	**15**	⇓P	**P**		**00 34 50.7**	**+1.0**		
	baz=69,SNR=7.8									
TIGA	**Tifton**	**69.12**	**15**	*eP*	**P**		**00 34 49.7**	**-0.1**		
	comp=Z,257nm,1.8s									
TIGA				LR	LR					
	comp=Z,498nm,18.0s									
Z29A	**Hungry Hill Ra**	**69.29**	**358**	⇑P	**P**		**00 34 51.4**	**+0.6**		
	baz=70,SNR=5.5									
Z33A	**Whitaker Ranch**	**69.30**	**1**	⇓P	**P**		**00 34 51.8**	**+1.1**		
	baz=70,SNR=9.2									
Z30A	**Sanderson Ranc**	**69.30**	**359**	⇑P	**P**		**00 34 51.2**	**+0.3**		
	baz=70,SNR=7.6									
Z32A	**Haskell**	**69.31**	**0**	⇑P	**P**		**00 34 51.3**	**+0.5**		
	baz=70,SNR=15									
Z31A	**Sharp Cattle R**	**69.32**	**360**	⇓P	**P**		**00 34 51.7**	**+0.7**		
	baz=70,SNR=7.5									
Z28A	**Tucker Farm, M**	**69.34**	**358**	⇓P	**P**		**00 34 52.0**	**+0.9**		
	baz=70									
Z35A	**Perchaven, San**	**69.37**	**2**	⇓P	**P**		**00 34 51.9**	**+0.7**		
	baz=70,SNR=6.4									
Z34A	**Collier Ranch,**	**69.39**	**2**	⇓P	**P**		**00 34 52.2**	**+0.8**		
	baz=70									
Y29A	**Porterfield Fa**	**69.89**	**358**	⇑P	**P**		**00 34 55.5**	**+1.0**		
	baz=70,SNR=8.9									
Y30A	**Stafford Cattl**	**69.89**	**359**	⇑P	**P**		**00 34 55.5**	**+1.0**		
	baz=70									
Y28A	**McKinney Farm,**	**69.95**	**358**	⇓P	**P**		**00 34 56.1**	**+1.2**		
	baz=70,SNR=10									
Y31A	**Rekieta Farm,**	**69.97**	**360**	⇑P	**P**		**00 34 55.7**	**+0.8**		
	baz=70,SNR=11									
Y34A	**Reagan Ranch,**	**69.98**	**2**	⇓P	**P**		**00 34 55.2**	**+0.2**		
	baz=70,SNR=17									
Y32A	**R-V Farms, Ver**	**70.01**	**0**	⇓P	**P**		**00 34 56.1**	**+1.0**		
	baz=70									
Y33A	**Hilltop Ranch,**	**70.02**	**1**	⇑P	**P**		**00 34 56.1**	**+0.9**		
	baz=70,SNR=9.3									
113A	**Mohawk Valley,**	**70.02**	**347**	⇓P	**P**		**00 34 56.5**	**+1.3**		
	baz=70,SNR=9.1									
MSTX	**Muleshoe**	**70.03**	**357**	⇓P	**P**		**00 34 56.1**	**+0.7**		
	baz=70,SNR=10									
MSTX	**Muleshoe**	**70.03**	**357**	*eP*	**P**		**00 34 54.7**	**-0.7**		
	comp=Z,70nm,1.2s									
LRAL	**Lakeview Retre**	**70.06**	**11**	*eP*	**P**		**00 34 55.2**	**-0.2**		
	comp=Z,50nm,1.4s									
LRAL				LR	LR					
	comp=Z,600nm,21.0s									
X32A	**Elmer**	**70.42**	**0**	⇑P	**P**		**00 34 58.5**	**+0.8**		
	baz=71,SNR=6.1									
X35A	**Drake**	**70.45**	**2**	⇑P	**P**		**00 34 58.2**	**+0.4**		
	baz=71,SNR=11									
X30A	**Coker Ranch, T**	**70.45**	**359**	⇓P	**P**		**00 34 58.9**	**+0.9**		
	baz=71,SNR=9.9									
Z14A	**Wintersburg**	**70.46**	**348**	⇓P	**P**		**00 34 59.2**	**+1.3**		
	baz=71									
X29A	**Tulia**	**70.47**	**358**	⇑P	**P**		**00 34 59.3**	**+1.2**		
	baz=71,SNR=8.1									
GLA	**Glamis**	**70.49**	**347**	*eP*	**P**		**00 34 58.6**	**+0.4**		
GLA				pmax	pmax					
	comp=Z,38nm,1.3s									
GLA	**Glamis**	**70.49**	**347**	⇓P	**P**		**00 34 59.6**	**+1.4**		
	baz=71									
GLA	**Glamis**	**70.49**	**347**	*eP*	**P**		**00 34 58.6**	**+0.4**		
	comp=Z,38nm,1.3s									
LENM	**Lemitar**	**70.49**	**354**	*eP*	**P**		**00 34 57.4**	**-1.0**		
BAR	**Barrett**	**70.49**	**345**	*eP*	**P**		**00 34 58.1**	**-0.1**		
	comp=Z,38nm,1.4s									
X33A	**Lawton**	**70.55**	**1**	⇓P	**P**		**00 34 59.2**	**+0.7**		
	baz=71									
X28A	**Dimmitt**	**70.56**	**358**	⇓P	**P**		**00 34 59.9**	**+1.3**		
	baz=71									
SWSC	**Sam W. Stewart**	**70.57**	**346**	⇓P	**P**		**00 34 59.5**	**+0.9**		
	baz=71									
X34A	**Smith Ranch, M**	**70.62**	**2**	⇑P	**P**		**00 34 59.7**	**+0.8**		
	baz=71,SNR=9.5									
X31A	**McDonald Ranch**	**70.63**	**360**	⇑P	**P**		**00 34 59.5**	**+0.5**		
	baz=71,SNR=8.9									
MONP	**Monument Peak,**	**70.64**	**345**	⇑P	**P**		**00 35 00.7**	**+1.4**		
	baz=71									
X37A	**Clayton**	**70.71**	**4**	⇑P	**P**		**00 34 59.8**	**+0.4**		
	baz=71,SNR=11									
LAZ	**Ladron**	**70.74**	**354**	*eP*	**P**		**00 34 59.8**	**-0.1**		
WMOK	**Wichita Mounta**	**70.74**	**1**	*eP*	**P**		**00 34 58.3**	**-1.4**		
WMOK				pmax	pmax					
	comp=Z,19nm,1.1s									
WMOK	**Wichita Mounta**	**70.74**	**1**	*eP*	**P**		**00 34 58.2**	**-1.4**		
	comp=Z,20nm,1.1s									
MIAR	**Mount Ida**	**70.78**	**5**	*eP*	**P**		**00 34 59.7**	**-0.2**		
MIAR				pmax	pmax					
	comp=Z,74nm,1.4s									
MIAR	**Mount Ida**	**70.78**	**5**	*eP*	**P**		**00 34 59.7**	**-0.2**		
	comp=Z,74nm,1.4s									
109C	**Camp Elliot, M**	**70.79**	**345**	⇑P	**P**		**00 35 02.0**	**+2.1**		
	baz=71									
AMTX	**Amarillo**	**70.91**	**358**	⇑P	**P**		**00 35 02.2**	**+1.5**		
	baz=71									
Y14A	**Wickenburg**	**71.03**	**348**	⇑P	**P**		**00 35 03.4**	**+1.9**		
	baz=71,SNR=7.1									
GOGA	**Godfrey**	**71.06**	**14**	*eP*	**P**		**00 35 01.3**	**-0.2**		
GOGA				pmax	pmax					
	comp=Z,36nm,1.2s									
GOGA	**Godfrey**	**71.06**	**14**	*eP*	**P**		**00 35 01.3**	**-0.2**		
	comp=Z,36nm,1.2s									
UALR	**University of**	**71.11**	**6**	*eP*	**P**		**00 35 01.6**	**-0.3**		
	comp=Z,69nm,1.3s									
Y12C	**Blythe**	**71.11**	**347**	⇓P	**P**		**00 35 03.9**	**+2.0**		
	baz=71,SNR=15									
W32A	**Sentinel**	**71.12**	**0**	⇓P	**P**		**00 35 02.5**	**+0.6**		
	baz=71,SNR=5.2									
W29A	**Amarillo**	**71.14**	**358**	⇑P	**P**		**00 35 03.0**	**+0.8**		
	baz=71									
W33A	**Caddo, Fort Co**	**71.16**	**1**	⇑P	**P**		**00 35 04.1**	**+1.9**		
	baz=72,SNR=13									
X18A	**Snowflake**	**71.17**	**351**	⇑P	**P**		**00 35 04.1**	**+1.6**		
	baz=72,SNR=24									
W30A	**Crocket Farms**	**71.19**	**359**	⇑P	**P**		**00 35 03.8**	**+1.4**		
	baz=72									
W31A	**Holland Ranch,**	**71.19**	**360**	⇑P	**P**		**00 35 03.8**	**+1.5**		
	baz=72									
BC3	**Big Chuckawall**	**71.19**	**346**	⇓P	**P**		**00 35 03.7**	**+1.1**		
	baz=72,SNR=15									
SCI	**San Clemente I**	**71.20**	**343**	⇓P	**P**		**00 35 03.7**	**+1.3**		
	baz=72									
W35A	**Tecumseh**	**71.20**	**2**	⇑P	**P**		**00 35 03.1**	**+0.7**		
	baz=72,SNR=6.4									
W36A	**Wetumka**	**71.21**	**3**	⇑P	**P**		**00 35 02.7**	**+0.2**		
	baz=72,SNR=18									
ANMO	**Albuquerque**	**71.22**	**354**	*eP*	**P**		**00 35 02.9**	**+0.1**		
ANMO				pmax	pmax					
	comp=Z,70nm,1.8s									
ANMO	**Albuquerque**	**71.22**	**354**	*eP*	**P**		**00 35 02.9**	**+0.1**		
	comp=Z,70nm,1.8s									
W38A	**Poteau**	**71.23**	**5**	⇓P	**P**		**00 35 03.3**	**+0.7**		
	baz=72,SNR=10									
W34A	**Bridge Creek,**	**71.26**	**2**	⇓P	**P**		**00 35 03.6**	**+0.9**		
	baz=72									
W34A	**Bridge Creek,**	**71.26**	**2**	*eP*	**P**		**00 35 02.8**	**0.0**		
	comp=Z,53nm,1.0s									
X16A	**Lo Mia Camp, P**	**71.26**	**350**	⇓P	**P**		**00 35 04.3**	**+1.3**		
	baz=72,SNR=25									
W28A	**Vega**	**71.29**	**358**	⇓P	**P**		**00 35 04.4**	**+1.3**		
	baz=72									
PFO	**Pinyon Flats O**	**71.35**	**345**	P	**P**		**00 35 04.2**	**+0.7**		
	comp=Z,89nm,1.5s,SNR=5.0									
PFO	**Pinyon Flats O**	**71.35**	**345**	*eP*	**P**		**00 35 04.1**	**+0.6**		
PFO				pmax	pmax					
	comp=Z,25nm,1.2s									
PFO	**Pinyon Flats O**	**71.35**	**345**	⇑P	**P**		**00 35 04.8**	**+1.3**		
	baz=72									
PFO	**Pinyon Flats O**	**71.35**	**345**	*eP*	**P**		**00 35 04.1**	**+0.6**		
	comp=Z,25nm,1.2s									
NHSC	**New Hope**	**71.48**	**17**	*eP*	**P**		**00 35 04.5**	**+0.3**		
	comp=Z,267nm,1.2s									
NHSC				LR	LR					
	comp=Z,600nm,18.0s									
MURC	**Murrieta**	**71.49**	**345**	⇓P	**P**		**00 35 05.6**	**+1.3**		
	baz=72,SNR=5.4									
CIS	**Catalina Islan**	**71.57**	**344**	⇑P	**P**		**00 35 06.2**	**+1.5**		
	baz=72									
PDMCI	**Parker Dam,Lak**	**71.58**	**347**	⇑P	**P**		**00 35 06.3**	**+1.6**		
	baz=72,SNR=7.6									
IRM	**Iron Mountain**	**71.62**	**347**	⇑P	**P**		**00 35 06.3**	**+1.2**		
	baz=72,SNR=13									
BELC	**Belle Mtn. Jos**	**71.63**	**346**	⇑P	**P**		**00 35 06.8**	**+1.6**		
	baz=72,SNR=6.6									
V32A	**Arapaho**	**71.72**	**1**	⇓P	**P**		**00 35 07.4**	**+1.9**		
	baz=72									
W18A	**Petrified Fore**	**71.73**	**351**	⇓P	**P**		**00 35 07.3**	**+1.5**		
	baz=72									
W18A	**Petrified Fore**	**71.73**	**351**	*eP*	**P**		**00 35 06.2**	**+0.4**		
	comp=Z,82nm,1.5s									
V30A	**Spur Ranch, Mi**	**71.77**	**359**	⇑P	**P**		**00 35 07.5**	**+1.6**		
	baz=72									
V31A	**Spring Creek L**	**71.77**	**360**	⇑P	**P**		**00 35 07.9**	**+2.0**		
	baz=72,SNR=5.8									
V28A	**Channing**	**71.79**	**358**	⇓P	**P**		**00 35 08.3**	**+2.3**		
	baz=72									
V35A	**Meyer Ranch, C**	**71.81**	**2**	⇓P	**P**		**00 35 06.7**	**+0.6**		
	baz=72,SNR=10									
V27A	**Dan Oppiter Fa**	**71.81**	**357**	⇓P	**P**		**00 35 07.4**	**+1.2**		
	baz=72									
V33A	**Lossen Ranch,**	**71.83**	**1**	⇓P	**P**		**00 35 07.8**	**+1.6**		
	baz=72,SNR=5.8									
FMP	**Fort Macarthur**	**71.84**	**344**	⇓P	**P**		**00 35 07.4**	**+1.1**		
	baz=72									
V34A	**Guthrie**	**71.86**	**2**	⇓P	**P**		**00 35 07.5**	**+1.1**		
	baz=72,SNR=10									
V34A	**Guthrie

PBMO **Poplar Bluff** 73.28 8 *e*P P 00 35 14.2 -0.6
comp=Z,48nm,1.1s
ARVC **Arvin** 73.32 344 ⇑P P 00 35 17.0 +1.9
baz=74
U15A **North Rim** 73.36 349 ⇑P P 00 35 17.7 +2.1
baz=74,SNR=26
LRMC **Laurel Mtn Rad** 73.41 345 ⇓P P 00 35 17.1 +1.3
baz=74,SNR=10
SHOC **Shoshone, Teco** 73.53 346 ⇓P P 00 35 17.8 +1.5
baz=74
MSVF **Nonsavu** 73.58 260 *e*P P 00 35 17.3 +0.1
MSVF pmax pmax
comp=Z,93nm,1.7s
MSVF **Nonsavu** 73.58 260 *e*P P 00 35 17.3 +0.1
comp=Z,93nm,1.7s
S33A **Kaszmaul Farm,** 73.61 1 ⇑P P 00 35 18.3 +1.6
baz=74
S28A **Manter** 73.61 358 ⇑P P 00 35 18.1 +1.2
baz=74,SNR=20
S31A **Mullinville** 73.61 0 ⇑P P 00 35 18.5 +1.7
baz=74,SNR=6.1
S29A **Ulysses** 73.62 359 ⇑P P 00 35 18.3 +1.3
baz=74
S30A **Montezuma** 73.64 359 ⇑P P 00 35 18.4 +1.5
baz=74,SNR=7.4
MVCO **Mesa Verde** 73.66 353 ⇓P P 00 35 18.5 +1.1
baz=74,SNR=24
MVCO **Mesa Verde** 73.66 353 *e*P P 00 35 17.4 +0.1
comp=Z,186nm,1.6s
S26A **Kim** 73.70 357 ⇑P P 00 35 18.7 +1.3
baz=74,SNR=36
S32A **Newby Ranch, P** 73.70 1 ⇑P P 00 35 18.5 +1.2
baz=74
S34A **Willow Spring** 73.73 2 ⇑P P 00 35 18.8 +1.3
baz=74,SNR=6.1
S27A **Las Animas** 73.74 357 ⇑P P 00 35 18.9 +1.3
baz=74
S35A **Otter Creek Ra** 73.74 3 ⇓P P 00 35 18.7 +1.2
baz=74,SNR=20
ISA **Isabella, Lake** 73.75 344 *e*P P 00 35 17.8 +0.1
ISA pmax pmax
comp=Z,81nm,1.7s
ISA **Isabella, Lake** 73.75 344 ⇓P P 00 35 19.1 +1.4
baz=74,SNR=7.0
ISA **Isabella, Lake** 73.75 344 *e*P P 00 35 17.8 +0.1
comp=Z,81nm,1.7s
SMMC **Simmler** 73.77 343 ⇓P P 00 35 19.4 +1.6
baz=74
S36A **Lake Cedric, C** 73.82 3 ⇑P P 00 35 19.0 +1.0
baz=74,SNR=20
SHPR **Sheep Range** 73.91 347 *e*P P 00 35 19.1 +0.3
MPMC **Manual Prospec** 73.93 345 ⇑P P 00 35 19.3 +0.4
baz=74,SNR=16
SDCO **Great Sand Dun** 73.93 355 ⇓P P 00 35 20.1 +1.1
baz=74,SNR=20
KNB **Kanab** 74.02 349 *e*P P 00 35 19.6 +0.2
KNB pmax pmax
comp=Z,110nm,1.6s
KNB **Kanab** 74.02 349 *e*P P 00 35 19.6 +0.2
comp=Z,110nm,1.6s
S22A **4UR Ranch, Cre** 74.03 354 ⇑P P 00 35 20.8 +1.2
baz=74,SNR=31
S22A **4UR Ranch, Cre** 74.03 354 *e*P P 00 35 19.3 -0.3
comp=Z,100nm,1.6s
VES **Vestal, Richgr** 74.06 344 ⇓P P 00 35 20.9 +1.5
baz=74,SNR=5.9
CNNC **Cliffs of the** 74.08 18 *e*P P 00 35 18.5 -1.0
CNNC LR LR
comp=Z,600nm,22.0s
DAC **Darwin (Calif)** 74.16 345 *e*P P 00 35 20.6 +0.4
DAC pmax pmax
comp=Z,37nm,1.4s
DAC **Darwin (Calif)** 74.16 345 *e*P P 00 35 20.6 +0.4
comp=Z,37nm,1.4s
FURC **Furnace Creek,** 74.19 346 ⇓P P 00 35 21.8 +1.6
baz=74
R30A **Dighton** 74.28 360 ⇑P P 00 35 22.1 +1.4
baz=75,SNR=12
R31A **Burdett** 74.28 0 ⇑P P 00 35 22.2 +1.5
baz=75,SNR=9.6
R33A **Olander Ranch,** 74.32 1 ⇓P P 00 35 22.5 +1.6
baz=75,SNR=6.6
R27A **Eads** 74.33 357 ⇓P P 00 35 22.7 +1.6
baz=75,SNR=15
SIUC **Southern Illin** 74.35 9 *e*P P 00 35 20.4 -0.6
comp=Z,62nm,1.3s
R28A **Tribune** 74.36 358 ⇑P P 00 35 22.6 +1.3
baz=75,SNR=22
R26A **Arlington** 74.37 357 ⇓P P 00 35 22.8 +1.5
baz=75,SNR=18
R24A **Sanders Place,** 74.39 356 ⇑P P 00 35 23.6 +2.1
baz=75,SNR=15
R23A **Moffat** 74.40 355 ⇓P P 00 35 23.2 +1.5
baz=75,SNR=20
R36A **Gordon, Harris** 74.42 3 ⇑P P 00 35 23.0 +1.5
baz=75,SNR=8.3
R32A **Long Quarter,** 74.42 1 ⇓P P 00 35 22.7 +1.2
baz=75,SNR=6.4
R29A **Marienthal** 74.43 359 ⇑P P 00 35 22.8 +1.2
baz=75
TPNV **Topopah Spring** 74.54 346 *e*P P 00 35 22.6 +0.2
TPNV pmax pmax
comp=Z,60nm,1.4s
TPNV **Topopah Spring** 74.54 346 ⇓P P 00 35 24.4 +2.0
baz=75,SNR=8.9
TPNV **Topopah Spring** 74.54 346 *e*P P 00 35 22.6 +0.2
comp=Z,60nm,1.4s
PV01 **Paradox Valley** 74.58 353 *e*P P 00 35 22.5 -0.1
PV05 **Paradox Valley** 74.58 352 *e*P P 00 35 22.8 +0.2
CCUT **Cedar City** 74.62 349 *e*P P 00 35 23.4 +0.4
comp=Z,83nm,1.5s
USIN **University of** 74.80 10 *e*P P 00 35 23.2 -0.4
comp=Z,70nm,1.1s
GRAC **Grapevine Rang** 74.81 345 ⇓P P 00 35 25.5 +1.7
baz=75
PV10 **Paradox Valley** 74.87 352 *e*P P 00 35 24.3 -0.1
ARUT **Antelope Range** 74.87 349 *e*P P 00 35 24.5 +0.2
ARUT **Antelope Range** 74.87 349 *e*P P 00 35 24.5 +0.2
Q29A **Oakley** 74.89 359 ⇓P P 00 35 25.6 +1.4
baz=75,SNR=21
Q30A **Quinter** 74.97 360 ⇓P P 00 35 26.3 +1.6
baz=75,SNR=13
Q32A **Meitler Ranch,** 74.99 1 ⇑P P 00 35 26.3 +1.5
baz=75,SNR=6.2
Q31A **Ellis** 75.00 0 ⇑P P 00 35 26.1 +1.3
baz=75
PV09 **Paradox Valley** 75.00 352 *e*P P 00 35 25.9 +0.7
Q26A **Hugo** 75.00 357 ⇓P P 00 35 26.2 +1.3
baz=75
Q33A **Connelly Farm,** 75.01 2 ⇓P P 00 35 26.8 +1.9
baz=75,SNR=13
Q25A **Bedland, Calha** 75.02 356 ⇑P P 00 35 26.5 +1.3
baz=75
Q37A **Longview Farm,** 75.03 4 ⇓P P 00 35 26.0 +1.0
baz=75,SNR=12
TIN **Tinemaha, Big** 75.04 345 ⇓P P 00 35 27.1 +1.9
baz=75
KSCO **Kaye Shedlock'** 75.05 358 ⇓P P 00 35 27.1 +1.8
baz=75,SNR=5.6
KSCO **Kaye Shedlock'** 75.05 358 *e*P P 00 35 25.8 +0.5
comp=Z,70nm,1.4s
CASY **Casey** 75.06 192 *e*P P 00 35 25.1 +0.2
CASY LR LR
comp=Z,110nm,1.8s
comp=Z,800nm,18.0s
Q28A **Sharon Springs** 75.08 358 ⇑P P 00 35 26.8 +1.4
baz=75
Q23A **Hartsel** 75.11 355 ⇓P P 00 35 27.6 +1.8
baz=75,SNR=8.1
Q24A **Divide** 75.12 356 ⇑P P 00 35 27.8 +1.9
baz=75,SNR=6.4
Q24A **Divide** 75.12 356 *e*P P 00 35 26.2 +0.3
comp=Z,56nm,1.5s
SLM **Saint Louis** 75.14 8 *e*P P 00 35 25.1 -0.5
SLM pmax pmax
comp=Z,169nm,1.5s
SLM **Saint Louis** 75.14 8 *e*P P 00 35 25.1 -0.5
comp=Z,169nm,1.5s
KSU1 **Kansas State U** 75.15 3 ⇑P P 00 35 27.3 +1.6
baz=76
KSU1 **Kansas State U** 75.15 3 *e*P P 00 35 25.7 +0.1
comp=Z,68nm,1.3s
WCI **Wyandotte Cave** 75.25 11 *e*P P 00 35 25.6 -0.7
WCI pmax pmax
comp=Z,37nm,1.1s
WCI **Wyandotte Cave** 75.25 11 *e*P P 00 35 25.6 -0.7
comp=Z,37nm,1.1s

BLA **Blacksburg** 75.36 16 *e*P P 00 35 26.7 -0.3
BLA pmax pmax
comp=Z,89nm,1.5s
BLA **Blacksburg** 75.36 16 *e*P P 00 35 26.6 -0.3
comp=Z,89nm,1.5s
MVU **Marysvale** 75.39 350 *e*P P 00 35 27.5 +0.1
comp=Z,77nm,1.7s
P33A **Williams Farm,** 75.45 2 ⇑P P 00 35 29.0 +1.6
baz=76
SMCO **Snowmass** 75.47 354 *e*P P 00 35 28.1 +0.1
comp=Z,38nm,1.2s
OLIL **Olney** 75.49 9 *e*P P 00 35 27.3 -0.3
comp=Z,200nm,1.5s
VWCC **Virginia Weste** 75.49 16 *e*P P 00 35 27.2 -0.5
P31A **Stockton** 75.51 0 ⇓P P 00 35 29.5 +1.7
baz=76,SNR=8.4
MAW **Mawson** 75.52 173 P P 00 35 27.5 0.0
comp=Z,23nm,1.1s,baz=205,slow=7.1,SNR=14
MAW LR LR 01 06 13.3
comp=Z,758nm,20.2s,baz=232,slow=34
MAW **Mawson** 75.52 173 *e*P P 00 35 27.9 +0.4
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW **Mawson** 75.52 173 *e*P P 00 35 27.9 +0.4
comp=Z,8.7nm,1.1s
P30A **Selden** 75.54 360 ⇓P P 00 35 29.5 +1.6
baz=76,SNR=6.4
P23A **Jefferson** 75.58 355 ⇑P P 00 35 30.3 +1.7
baz=76,SNR=16
P28A **Saint Francis** 75.59 358 ⇓P P 00 35 29.8 +1.5
baz=76
P27A **Ficken Ranch,** 75.59 358 ⇑P P 00 35 30.2 +1.8
baz=76
P29A **Atwood** 75.60 359 ⇑P P 00 35 29.8 +1.5
baz=76,SNR=9.6
P25A **Willow Gulch B** 75.61 356 ⇑P P 00 35 30.3 +1.7
baz=76
P32A **Huiting Farm,** 75.62 1 ⇑P P 00 35 29.7 +1.3
baz=76,SNR=6.6
P26A **Davis Ranch, A** 75.62 357 ⇑P P 00 35 30.4 +1.9
baz=76,SNR=8.0
MLAC **Mammoth, Mammo** 75.72 344 ⇓P P 00 35 31.1 +1.8
baz=76
SRU **San Rafael Swe** 75.76 351 *e*P P 00 35 28.8 -0.6
SRU pmax pmax
comp=Z,43nm,1.3s
SRU **San Rafael Swe** 75.76 351 *e*P P 00 35 28.8 -0.6
comp=Z,43nm,1.3s
R11A **Troy Canyon, C** 75.78 347 ⇓P P 00 35 30.9 +1.4
baz=76,SNR=14
R11A **Troy Canyon, C** 75.78 347 *e*P P 00 35 28.6 -0.9
comp=Z,68nm,1.6s
TPH **Tonopah** 75.82 346 *e*P P 00 35 29.8 0.0
TPH pmax pmax
comp=Z,90nm,1.6s
TPH **Tonopah** 75.82 346 *e*P P 00 35 29.8 0.0
comp=Z,90nm,1.6s
P22A **Eagle** 75.86 354 ⇑P P 00 35 31.5 +1.5
baz=76,SNR=19
ISCO **Idaho Springs** 75.98 355 *e*P P 00 35 30.6 -0.2
ISCO pmax pmax
comp=Z,33nm,1.5s
ISCO **Idaho Springs** 75.98 355 ⇑P P 00 35 32.1 +1.3
baz=76,SNR=15
ISCO **Idaho Springs** 75.98 355 *e*P P 00 35 30.6 -0.2
comp=Z,33nm,1.5s
TMUT **Trail Mountain** 76.03 351 *e*P P 00 35 31.9 +0.8
comp=Z,56nm,0.8s
O29A **4D Ranch, Culb** 76.12 359 ⇓P P 00 35 33.2 +1.9
baz=76
O28A **Krutsinger Ran** 76.14 358 ⇑P P 00 35 33.5 +2.0
baz=76
BLO **Bloomington** 76.14 11 *e*P P 00 35 30.3 -1.0
BLO pmax pmax
comp=Z,184nm,2.2s
BLO **Bloomington** 76.14 11 *e*P P 00 35 30.3 -1.0
comp=Z,184nm,2.2s
O30A **MW Ranch, Wils** 76.17 360 ⇓P P 00 35 33.1 +1.6
baz=76,SNR=8.7
O25A **Wiggins** 76.21 357 ⇓P P 00 35 33.6 +1.7
baz=76
O27A **Beecher Island** 76.22 358 ⇑P P 00 35 33.5 +1.6
baz=76
O32A **Brockman Farm,** 76.26 1 ⇑P P 00 35 33.4 +1.3
baz=77,SNR=5.4
O24A **Longmont** 76.27 356 ⇑P P 00 35 33.7 +1.5
baz=77
O26A **Horse Wrangler** 76.30 357 ⇓P P 00 35 34.1 +1.7
baz=77
NV01 **Mina Array Sit** 76.38 345 *e*P P 00 35 33.3 +0.3
NVAR **Mina Array Bea** 76.38 345 P P 00 35 33.3 +0.3
comp=Z,15nm,0.9s,baz=176,slow=7.1,SNR=73
URVA **University of** 76.38 18 *e*P P 00 35 32.5 -0.2
O22A **Kremmling** 76.41 355 ⇑P P 00 35 34.4 +1.2
baz=77,SNR=20
JSRW **J. Sargeant Re** 76.41 18 *e*P P 00 35 31.6 -1.3
O23A **Lake Granby, G** 76.42 355 ⇓P P 00 35 34.6 +1.4
baz=77,SNR=11
CMB **Columbia Colle** 76.46 343 *e*P P 00 35 32.6 -0.6
CMB pmax pmax
comp=Z,18nm,1.1s
CMB **Columbia Colle** 76.46 343 *e*P P 00 35 32.6 -0.6
comp=Z,18nm,1.1s
O20A **White River Ci** 76.53 353 ⇑P P 00 35 34.9 +1.1
baz=77,SNR=8.2
O20A **White River Ci** 76.53 353 *e*P P 00 35 32.5 -1.2
comp=Z,166nm,2.1s
N28A **Pribbeno Ranch** 76.69 359 ⇑P P 00 35 35.9 +1.4
baz=77
N32A **Stulken Farm,** 76.77 1 ⇓P P 00 35 36.1 +1.2
baz=77
N30A **Hueftle Ranch,** 76.79 360 ⇑P P 00 35 36.3 +1.3
baz=77
NLU **North Lily Min** 76.79 350 *e*P P 00 35 36.0 +0.7
NLU LR LR
comp=Z,43nm,1.4s
comp=Z,900nm,19.0s
N29A **Votaw Ranch, W** 76.81 359 ⇓P P 00 35 36.6 +1.4
baz=77
N31A **Bailey Ranch,** 76.82 1 ⇓P P 00 35 36.7 +1.5
baz=77
N27A **Anderson Farm,** 76.84 358 ⇓P P 00 35 36.9 +1.5
baz=77
N26A **Koester Ranch,** 76.89 357 ⇑P P 00 35 37.4 +1.7
baz=77
N25A **Grover** 76.91 357 ⇓P P 00 35 37.6 +1.8
baz=77
N24A **Carr** 76.96 356 ⇓P P 00 35 37.8 +1.7
baz=77
OGNE **Ogallala** 76.96 358 ⇓P P 00 35 37.5 +1.5
baz=77,SNR=13
CBN **Corbin Frederi** 77.02 18 PFAKE
CBN LR LR
comp=Z,900nm,22.0s
N22A **Wattenberg Ran** 77.04 355 ⇓P P 00 35 38.6 +1.8
baz=77,SNR=7.8
N23A **Red Feather La** 77.10 355 ⇓P P 00 35 38.7 +1.6
baz=77,SNR=6.1
N23A **Red Feather La** 77.10 355 *e*P P 00 35 37.5 +0.5
comp=Z,68nm,1.5s
DUG **Dugway, Tooele** 77.13 350 *e*P P 00 35 36.1 -1.0
DUG pmax pmax
comp=Z,53nm,1.4s
DUG MLR MLR
comp=Z,1µm,21.0s
DUG **Dugway, Tooele** 77.13 350 ⇑P P 00 35 38.4 +1.3
baz=77,SNR=13
DUG **Dugway, Tooele** 77.13 350 *e*P P 00 35 36.1 -1.0
comp=Z,53nm,1.4s
DUG LR LR
comp=Z,1µm,21.0s
DAU **Daniels Canyon** 77.14 351 *e*P P 00 35 37.5 +0.2
DAU **Daniels Canyon** 77.14 351 *e*P P 00 35 37.5 +0.2
HDIL **Hopedale** 77.14 8 *e*P P 00 35 36.7 -0.3
HDIL comp=Z,2µm,1.3s
HDIL LR LR
comp=Z,600nm,21.0s
N20A **Spence Gulch,** 77.22 353 ⇑P P 00 35 39.0 +1.3
baz=78
SFIN **Lafayette** 77.25 10 *e*P P 00 35 36.8 -0.8
comp=Z,107nm,1.4s
M31A **Lambtecht Ranc** 77.34 1 ⇓P P 00 35 39.5 +1.4
baz=78
JLU **Jordanelle** 77.35 351 *e*P P 00 35 37.5 -0.9
comp=Z,133nm,2.1s
M28A **Bar X Bar Ranc** 77.40 359 ⇓P P 00 35 40.2 +1.6
baz=78
BGNE **Belgrade** 77.41 1 ⇓P P 00 35 39.9 +1.4
baz=78,SNR=5.9
BGNE **Belgrade** 77.41 1 *e*P P 00 35 38.3 -0.2
comp=Z,82nm,1.0s
M29A **Burnside Ranch** 77.44 359 ⇑P P 00 35 40.5 +1.8
baz=78,SNR=5.8
PHWY **Pilot Hill** 77.47 356 *e*P P 00 35 38.5 -0.6
comp=Z,48nm,1.5s
M26A **McRoberts Ranc** 77.52 357 ⇑P P 00 35 40.7 +1.5
baz=78
M25A **Palm-Egli Farm** 77.53 357 ⇑P P 00 35 40.7 +1.4
baz=78
M30A **Dale-Ortello V** 77.53 360 ⇑P P 00 35 40.3 +1.1
baz=78
M27A **Reverse DX Ran** 77.56 358 ⇓P P 00 35 41.3 +1.9
baz=78
M24A **Cheyenne** 77.60 356 ⇓P P 00 35 41.7 +1.9
baz=78,SNR=10
M22A **Cedar Creek Ra** 77.65 355 ⇓P P 00 35 41.7 +1.5
baz=78
M23A **Laramie** 77.65 355 ⇑P P 00 35 41.6 +1.5
baz=78
ACSO **Alum Creek Sta** 77.76 13 *e*P P 00 35 40.1 -0.3
comp=Z,69nm,1.0s
BGU **Big Grassy Mou** 77.88 350 *e*P P 00 35 41.4 +0.1
comp=Z,43nm,1.5s
L30A **Spencer Herefo** 77.94 360 ⇑P P 00 35 43.2 +1.8
baz=78
ELK **Elko** 78.05 348 *e*P P 00 35 40.7 -1.6
ELK pmax pmax
comp=Z,37nm,1.4s
ELK **Elko** 78.05 348 *e*P P 00 35 40.7 -1.6
comp=Z,37nm,1.4s
L29A **Maesberg Ranch** 78.06 359 ⇓P P 00 35 44.1 +2.0
baz=78,SNR=5.8
L26A **Underwood Farm** 78.09 357 ⇑P P 00 35 43.8 +1.4
baz=78
BMN **Battle Mountai** 78.10 346 *e*P P 00 35 42.4 -0.1
BMN pmax pmax
comp=Z,58nm,1.5s
BMN **Battle Mountai** 78.10 346 *e*P P 00 35 42.4 -0.1
comp=Z,58nm,1.5s
SCIA **State Center** 78.12 5 *e*P P 00 35 41.8 -0.6
comp=Z,63nm,1.0s
L31A **Butterfield Fa** 78.17 1 ⇓P P 00 35 44.9 +2.2
baz=78,SNR=5.5
L24A **Wheatland** 78.18 356 ⇓P P 00 35 44.7 +1.8
baz=78
L25A **Engebretsen Ra** 78.24 357 ⇑P P 00 35 45.4 +2.2
baz=79
L22A **Ellis Ranch, M** 78.26 355 ⇓P P 00 35 45.6 +2.2
baz=79,SNR=5.2
L23A **Garrett** 78.29 355 ⇑P P 00 35 45.0 +1.4
baz=79
HWUT **Hardware Ranch** 78.35 351 *e*P P 00 35 43.3 -0.6
HWUT LR LR
comp=Z,56nm,2.0s
comp=Z,500nm,18.0s
K30A **Basset** 78.66 0 ⇓P P 00 35 47.4 +2.0
baz=79
HVU **Hansel Valley** 78.68 350 *e*P P 00 35 44.8 -0.9
HVU pmax pmax
comp=Z,59nm,1.7s
HVU **Hansel Valley** 78.68 350 *e*P P 00 35 44.8 -0.9
comp=Z,59nm,1.7s
K25A **Mack Ranch, Ha** 78.69 357 ⇑P P 00 35 47.8 +2.1
baz=79
K28A **Ten Mile Ranch** 78.72 359 ⇓P P 00 35 48.0 +2.3
baz=79
K27A **Flueckinger Fa** 78.72 358 ⇑P P 00 35 47.7 +1.8
baz=79
K29A **Lazy Trails An** 78.75 360 ⇑P P 00 35 47.8 +1.9
baz=79
K26A **Motz Farm, Whi** 78.75 357 ⇑P P 00 35 47.5 +1.5
baz=79
K24A **Anderson Ranch** 78.85 356 ⇓P P 00 35 48.1 +1.5
baz=79
K22A **Casper** 78.88 355 ⇑P P 00 35 48.5 +1.7
baz=79,SNR=12
K22A **Casper** 78.88 355 *e*P P 00 35 46.5 -0.3
comp=Z,181nm,1.7s
KIPM **Iron Peak** 78.89 342 *e*P P 00 35 46.6 -0.3
K21A **Alcova** 78.92 354 ⇓P P 00 35 48.5 +1.4
baz=79,SNR=5.2
K23A **Bowen Ranch, D** 78.93 356 ⇓P P 00 35 48.9 +1.9
baz=79,SNR=6.1
MVL **Millersville** 78.97 18 *e*P P 00 35 46.0 -1.1
comp=Z,69nm,1.3s
SSPA **Standing Stone** 79.21 17 *e*P P 00 35 47.8 -0.6
comp=Z,122nm,1.4s
BW06 **Boulder Array** 79.27 353 *e*P P 00 35 48.3 -0.7
comp=Z,51nm,1.2s
PD31 **Pinedale Array** 79.27 353 *e*P P 00 35 48.1 -0.8
PDAR **Pinedale Array** 79.27 353 P P 00 35 48.1 -0.8
comp=Z,16nm,0.9s,baz=160,slow=5.4,SNR=91
PDAR LR LR 01 05 16.5
comp=Z,346nm,20.2s,baz=173,slow=32
J27A **Elkhorn Farm,** 79.27 358 ⇑P P 00 35 50.3 +1.4
baz=80,SNR=11
J30A **Dallas** 79.31 0 ⇑P P 00 35 50.4 +1.4
baz=80,SNR=11
KMRM **Mail Ridge** 79.34 342 *e*P P 00 35 47.7 -1.6
comp=Z,211nm,1.7s
J26A **Sides Ranch, S** 79.36 358 ⇑P P 00 35 51.0 +1.8
baz=80,SNR=14
JFWS **Jewell Farm** 79.37 7 *e*P P 00 35 49.0 -0.3
JFWS pmax pmax
comp=Z,73nm,1.1s
JFWS **Jewell Farm** 79.37 7 *e*P P 00 35 49.0 -0.3
comp=Z,73nm,1.1s
WDC **Whiskeytown Da** 79.39 343 *e*P P 00 35 48.8 -0.6
WDC pmax pmax
comp=Z,45nm,1.3s
WDC **Whiskeytown Da** 79.39 343 *e*P P 00 35 48.8 -0.6
comp=Z,45nm,1.3s
J29A **Okreek** 79.40 360 ⇓P P 00 35 51.3 +1.9
baz=80,SNR=18
J28A **Allard Ranch,** 79.42 359 ⇓P P 00 35 51.7 +2.1
baz=80,SNR=9.0
AHID **Auburn Hatcher** 79.44 351 *e*P P 00 35 48.9 -1.0
comp=Z,132nm,2.1s
J24A **Dixon Ranch, L** 79.45 356 ⇓P P 00 35 51.6 +1.8
baz=80
J25A **Sunshine Ranch** 79.47 357 ⇑P P 00 35 51.9 +2.0
baz=80,SNR=6.6
J23A **Dilts Ranch, B** 79.57 356 ⇑P P 00 35 52.1 +1.6
baz=80
J22A **Midwest** 79.64 355 ⇑P P 00 35 52.0 +1.1
baz=80
J21A **Lysite** 79.65 354 ⇓P P 00 35 52.5 +1.5
baz=80,SNR=5.4
AAM **Ann Arbor** 79.65 12 *e*P P 00 35 50.1 -0.7
AAM pmax pmax
comp=Z,270nm,1.5s
AAM **Ann Arbor** 79.65 12 *e*P P 00 35 50.0 -0.7
comp=Z,270nm,1.5s
ALLY **Alegheny Colle** 79.68 15 *e*P P 00 35 50.0 -1.0
comp=Z,157nm,1.4s
J20A **Shoshoni** 79.71 354 ⇑P P 00 35 52.8 +1.6
baz=80,SNR=9.5
J19A **Crowheart** 79.71 353 ⇓P P 00 35 52.4 +1.0
baz=80,SNR=20
ECSD **EROS Data Cent** 79.77 2 ⇑P P 00 35 52.6 +1.1
baz=80,SNR=41
ECSD **EROS Data Cent** 79.77 2 *e*P P 00 35 51.3 -0.1
comp=Z,69nm,1.0s
LUPA **Lehigh Univers** 79.79 19 *e*P P 00 35 51.0 -0.6
comp=Z,9.2nm,1.3s
N02D **Trinity Center** 79.80 343 ⇓P P 00 35 52.8 +1.1
baz=80,SNR=10
I30A **Oacoma** 79.90 0 ⇓P P 00 35 53.3 +1.1
baz=80
I24A **Kuemmerle Ranc** 79.97 356 ⇓P P 00 35 53.9 +1.2
baz=80
REDW **Red Top Meadow** 80.00 352 *e*P P 00 35 53.1 +0.2
comp=Z,122nm,1.6s
I28A **Midland** 80.00 359 ⇑P P 00 35 54.8 +2.1
baz=80,SNR=12
I29A **Vivian Ordia** 80.01 360 ⇓P P 00 35 54.5 +1.7
baz=80,SNR=5.6
I26A **New Underwood** 80.07 358 ⇑P P 00 35 55.1 +2.0
baz=80,SNR=5.5
SNOW **Snow King Moun** 80.08 352 *e*P P 00 35 52.1 -1.3
comp=Z,60nm,1.5s
I27A **Quinn** 80.08 358 ⇓P P 00 35 55.2 +2.0
baz=80,SNR=9.3
I25A **Rochford** 80.09 357 ⇓P P 00 35 55.4 +2.0
baz=80,SNR=28
I21A **Big Trails, Te** 80.10 354 ⇓P P 00 35 54.2 +0.9

baz=80,SNR=19
I22A 9 Mile Ranch, 80.12 355 ⇓P P 00 35 54.5 +1.1
baz=80
I23A Meade Ranch, G 80.12 356 ⇑P P 00 35 55.2 +1.7
baz=80
TPAW Teton Pass 80.13 352 *e*P P 00 35 53.5 -0.3
comp=Z,104nm,1.4s
MOD Modoc Plateau 80.14 345 *e*P P 00 35 53.4 -0.2
comp=Z,42nm,1.3s
ERPA Erie 80.16 15 *e*P P 00 35 53.0 -0.5
comp=Z,44nm,1.0s
DZM Mont Dzumac 80.19 250 *e*LR LR 01 00 54.5
comp=Z,269nm,28.9s
RSSD Black Hills 80.20 357 *e*P P 00 35 53.8 -0.3
RSSD pmax pmax
comp=Z,146nm,1.8s
RSSD Black Hills 80.20 357 *e*P P 00 35 53.8 -0.3
comp=Z,146nm,1.8s
LOHW Long Hollow 80.21 352 *e*P P 00 35 53.5 -0.6
comp=Z,67nm,1.6s
M02C Callahan 80.23 343 ⇑P P 00 35 55.3 +1.2
baz=80,SNR=8.7
FXWY Fox Creek 80.29 352 *e*P P 00 35 54.4 -0.1
comp=Z,109nm,1.8s
I20A Worland 80.30 354 ⇑P P 00 35 55.6 +1.2
baz=81,SNR=13
WVOR Wild Horse Val 80.30 346 *e*P P 00 35 53.5 -1.0
WVOR pmax pmax
comp=Z,166nm,2.3s
WVOR Wild Horse Val 80.30 346 *e*P P 00 35 53.5 -1.0
comp=Z,166nm,2.3s
CPNY Central Park 80.34 20 *e*P P 00 35 54.1 -0.4
comp=Z,78nm,1.4s
M04C Macdoel 80.36 343 ⇑P P 00 35 56.2 +1.3
baz=81,SNR=11
BRSD Miller 80.43 1 ⇑P P 00 35 56.1 +1.1
baz=81
ODNJ Ogdensburg 80.44 19 *e*P P 00 35 54.2 -0.8
comp=Z,80nm,1.3s
ODNJ LR LR
comp=Z,800nm,21.0s
I19A Meeteetse 80.47 353 ⇑P P 00 35 56.3 +0.9
baz=81,SNR=8.6
I17A Pilgrim Ck. 80.52 352 ⇓P P 00 35 56.8 +1.1
baz=81,SNR=6.1
YBH Yreka Blue Hor 80.52 343 *e*P P 00 35 55.1 -0.5
YBH pmax pmax
comp=Z,28nm,1.5s
YBH Yreka Blue Hor 80.52 343 *e*P P 00 35 55.1 -0.5
comp=Z,28nm,1.5s
IMW Indian Meadow 80.53 352 *e*P P 00 35 55.5 -0.4
comp=Z,72nm,1.5s
PAL Palisades 80.56 20 *e*P P 00 35 54.9 -0.8
PAL pmax pmax
comp=Z,105nm,1.5s
PAL Palisades 80.56 20 *e*P P 00 35 54.9 -0.8
comp=Z,105nm,1.5s
KSPA Keystone Colle 80.59 18 *e*P P 00 35 54.6 -1.3
comp=Z,121nm,1.6s
H29A Onida 80.61 360 ⇑P P 00 35 57.3 +1.3
baz=81
H27A Howes 80.65 358 ⇑P P 00 35 58.1 +1.9
baz=81
H26A Fairpoint 80.65 358 ⇑P P 00 35 58.0 +1.8
baz=81
HLID Hailey 80.67 349 ⇑P P 00 35 57.8 +1.3
baz=81,SNR=52
HLID Hailey 80.67 349 *e*P P 00 35 56.4 -0.1
comp=Z,112nm,1.5s
H28A Mission Ridge 80.67 359 ⇓P P 00 35 57.8 +1.5
baz=81
H25A Fruitdale 80.69 357 ⇑P P 00 35 57.9 +1.5
baz=81,SNR=14
FLWY Flagg Ranch 80.69 352 *e*P P 00 35 56.9 +0.3
comp=Z,180nm,1.8s
H23A Clabaugh Cattl 80.71 356 ⇓P P 00 35 57.5 +0.9
baz=81
MFID Camas Ranch 80.75 348 *e*P P 00 35 56.7 -0.2
comp=Z,75nm,1.9s
H22A Clearmont 80.81 355 ⇑P P 00 35 57.9 +0.8
baz=81
H20A Greybull 80.82 354 ⇑P P 00 35 58.1 +0.9
baz=81,SNR=6.0
H24A Dirks Ranch, A 80.85 357 ⇓P P 00 35 58.3 +0.9
baz=81,SNR=11
H21A Big Horn, Sher 80.89 355 ⇑P P 00 35 57.9 +0.3
baz=81
H17A Grant Village 80.98 352 ⇑P P 00 35 59.3 +1.0
baz=81
H17A Grant Village 80.98 352 *e*P P 00 35 59.0 +0.8
comp=Z,44nm,1.7s
H17A LR LR
comp=Z,1μm,18.0s
K05A Summer Lake 81.05 344 *e*P P 00 35 58.6 0.0
comp=Z,74nm,1.4s
YFT Old Faithful 81.07 352 *e*P P 00 35 58.3 -0.4
comp=Z,34nm,1.3s
G28A Parade 81.07 359 ⇑P P 00 36 00.2 +1.8
baz=81
H19A Powell 81.09 353 ⇑P P 00 36 00.7 +2.0
baz=81,SNR=5.9
YLE Yale 81.11 20 *e*P P 00 35 57.6 -1.0
comp=Z,222nm,1.4s
G30A Faulkton 81.12 0 ⇑P P 00 36 00.3 +1.6
baz=81,SNR=5.6
LKWY Lake 81.13 352 *e*P P 00 35 58.8 -0.2
LKWY pmax pmax
comp=Z,57nm,1.5s
LKWY Lake 81.13 352 *e*P P 00 35 58.8 -0.2
comp=Z,56nm,1.5s
L02D Cave Junction, 81.14 342 ⇓P P 00 36 00.1 +1.2
baz=81
BINY Binghamton 81.14 18 *e*P P 00 35 58.5 -0.3
comp=Z,73nm,1.3s
K04D Chiloquin, OR 81.15 344 ⇓P P 00 36 00.3 +1.3
baz=81
H18A Shoshone NF, C 81.17 353 ⇑P P 00 36 00.0 +0.8
baz=82,SNR=24
G29A Hoven 81.18 360 ⇓P P 00 36 00.4 +1.4
baz=82
MMNY Mt. Morris Dam 81.20 16 *e*P P 00 35 58.1 -1.0
comp=Z,284nm,1.4s
YMR Madison River 81.30 352 *e*P P 00 36 00.3 +0.5
comp=Z,124nm,1.6s
YMR LR LR
comp=Z,2μm,19.0s
YNR Norris Junctio 81.31 352 *e*P P 00 36 00.5 +0.5
comp=Z,35nm,1.5s
G26A Maurine 81.32 358 ⇓P P 00 36 00.9 +1.1
baz=82,SNR=6.1
G23A Biddle 81.35 356 ⇑P P 00 36 00.9 +0.9
baz=82,SNR=6.0
G27A Dupree 81.39 358 ⇑P P 00 36 01.1 +1.0
baz=82
HUMO Hull Mountain 81.41 343 *e*P P 00 36 00.3 0.0
comp=Z,20nm,1.3s
G22A Birney 81.42 355 ⇑P P 00 36 01.1 +0.7
baz=82,SNR=12
G24A Alzada 81.43 357 ⇑P P 00 36 01.4 +1.0
baz=82
SPMN Marine on St. 81.45 5 ⇑P P 00 36 01.6 +1.2
baz=82,SNR=9.7
SPMN Marine on St. 81.45 5 *e*P P 00 36 00.1 -0.3
comp=Z,88nm,1.0s
G21A Lodge Grass 81.50 355 ⇑P P 00 36 01.7 +0.9
baz=82,SNR=5.5
QLMT Earthquake Lak 81.51 352 *e*P P 00 36 01.5 +0.5
RLMT Red Lodge 81.57 353 *e*P P 00 36 01.4 +0.1
comp=Z,53nm,1.4s
G20A Bridger 81.57 354 ⇑P P 00 36 02.6 +1.4
baz=82,SNR=21
J05D Fort Rock, OR 81.66 344 ⇓P P 00 36 03.0 +1.3
baz=82,SNR=19
MCMT McKenzie Canyo 81.69 351 *e*P P 00 36 02.5 +0.5
J04D Umpqua Nationa 81.81 344 ⇓P P 00 36 03.8 +1.2
baz=82
F29A Eureka 81.82 360 ⇓P P 00 36 04.0 +1.6
baz=82,SNR=7.3
F30A Leola 81.83 0 ⇓P P 00 36 04.3 +1.9
baz=82
F28A McLaughlin 81.84 359 ⇓P P 00 36 03.9 +1.4
baz=82
F23A Volborg 81.87 356 ⇑P P 00 36 03.9 +1.3
baz=82
F26A Lodgepole 81.88 358 ⇑P P 00 36 04.2 +1.5
baz=82,SNR=7.2
F27A Lemmon 81.89 358 ⇓P P 00 36 04.3 +1.6
baz=82,SNR=15

F24A Ekalaka 81.94 357 ⇑P P 00 36 04.4 +1.3
baz=82
F22A Rosebud 81.98 355 ⇑P P 00 36 04.5 +1.3
baz=82,SNR=14
F25A Bowman 81.98 357 ⇑P P 00 36 04.5 +1.3
baz=82
BRYW Bryant College 82.06 21 *e*P P 00 36 03.1 -0.6
comp=Z,85nm,1.2s
I07A Izee 82.06 346 *e*P P 00 36 04.3 +0.5
comp=Z,36nm,1.3s
F21A Absaloka Mine, 82.08 355 ⇓P P 00 36 04.9 +1.0
baz=82
F20A Billings 82.14 354 ⇑P P 00 36 05.3 +1.1
baz=82,SNR=12
QUA2 Belchertown 82.17 20 *e*P P 00 36 03.5 -0.7
comp=Z,108nm,1.2s
DLMT Dillon 82.18 351 *e*P P 00 36 05.2 +0.7
comp=Z,105nm,2.3s
F19A Roth Farm, Mol 82.26 354 ⇑P P 00 36 05.4 +0.6
baz=83,SNR=11
GCMT Greycliff 82.27 353 *e*P P 00 36 05.2 +0.3
BOZ Bozeman (W) 82.34 352 *e*P P 00 36 05.2 -0.1
BOZ pmax pmax
comp=Z,38nm,1.4s
BOZ Bozeman (W) 82.34 352 *e*P P 00 36 05.2 -0.1
comp=Z,38nm,1.4s
BMO Blue Mountains 82.39 347 *e*P P 00 36 04.8 -0.7
comp=Z,29nm,1.6s
I04A Tendick Farm, 82.41 344 ⇑P P 00 36 06.2 +0.7
baz=83,SNR=5.8
E27A Carson 82.43 359 ⇑P P 00 36 06.9 +1.3
baz=83
E30A Jud 82.49 1 ⇑P P 00 36 07.5 +1.6
baz=83
E26A Carlson Angus 82.50 358 ⇓P P 00 36 07.4 +1.5
baz=83
I03D Drain, OR 82.53 343 ⇓P P 00 36 08.1 +2.0
baz=83
E25A Miller Ranch, 82.56 357 ⇓P P 00 36 08.2 +2.0
baz=83
E29A Napoleon 82.56 0 ⇑P P 00 36 07.7 +1.5
baz=83,SNR=5.8
E28A Huff 82.57 359 ⇓P P 00 36 08.1 +1.8
baz=83
HRV Adam Dziewonsk 82.60 21 *e*P P 00 36 05.4 -1.1
HRV pmax pmax
comp=Z,130nm,1.5s
HRV Adam Dziewonsk 82.60 21 *e*P P 00 36 05.4 -1.1
comp=Z,130nm,1.5s
LRM Limekiln Ridge 82.61 351 *e*P P 00 36 06.9 +0.1
E22A Miles City 82.62 356 ⇓P P 00 36 08.4 +1.9
baz=83
E23A Ismay 82.64 356 ⇑P P 00 36 08.4 +1.8
baz=83
COWI Conover 82.64 7 *e*P P 00 36 06.4 -0.2
comp=Z,121nm,1.4s
E24A Baker 82.65 357 ⇑P P 00 36 08.5 +1.8
baz=83,SNR=5.5
I05D Terrebonne, OR 82.69 345 ⇓P P 00 36 09.0 +2.0
baz=83
E21A Keefer Ranch, 82.79 355 ⇑P P 00 36 09.4 +2.0
baz=83
E20A Meyer Farm, Mu 82.84 354 ⇓P P 00 36 09.2 +1.4
baz=83,SNR=9.4
ACCN Adirondack Com 82.84 19 *e*P P 00 36 07.2 -0.5
comp=Z,116nm,1.6s
ACCN LR LR
comp=Z,900nm,21.0s
E19A Rath Farm, Rou 82.85 354 ⇓P P 00 36 08.8 +1.0
baz=83,SNR=14
LAO LASA Array 82.88 355 *e*P P 00 36 08.1 +0.2
comp=Z,248nm,1.8s
D29A Pettibone, Tap 83.05 0 ⇑P P 00 36 10.4 +1.7
baz=83
D26A Manning 83.05 358 ⇑P P 00 36 11.4 +2.6
baz=83
D30A Buchanan 83.10 1 ⇑P P 00 36 11.0 +2.0
baz=83,SNR=8.3
D27A Center 83.11 359 ⇓P P 00 36 11.0 +1.9
baz=83
G08A Pilot Rock 83.12 346 *e*P P 00 36 09.2 0.0
comp=Z,79nm,1.8s
D28A Regan 83.19 359 ⇑P P 00 36 11.7 +2.3
baz=84
H04A Detroit Lake 83.20 344 *e*P P 00 36 08.7 -0.9
comp=Z,48nm,1.4s
D25A Fairfield 83.20 358 ⇑P P 00 36 12.2 +2.6
baz=84
D24A Glendive 83.21 357 ⇑P P 00 36 11.8 +2.2
baz=84
NCB Newcomb 83.25 18 PFAKE 00 36 20.0 +10
NCB LR LR
comp=Z,1μm,20.0s
D23A Lindsay 83.31 356 ⇓P P 00 36 12.6 +2.4
baz=84
D21A La Casta Ranch 83.31 355 ⇓P P 00 36 11.6 +1.4
baz=84,SNR=11
D22A Cohagen 83.34 356 ⇓P P 00 36 12.3 +2.1
baz=84,SNR=13
G06A Carlson Farm, 83.40 345 *e*P P 00 36 10.3 -0.3
HRY Holter Researc 83.41 352 *e*P P 00 36 11.8 +1.0
D20A Manuel Ranch, 83.42 354 ⇓P P 00 36 13.0 +2.2
baz=84
FFD Franklin Falls 83.46 20 *e*P P 00 36 10.1 -0.8
comp=Z,225nm,1.6s
F10A Beach Ranch, E 83.47 348 *e*P P 00 36 10.5 -0.5
HNH Hanover 83.51 20 *e*P P 00 36 10.3 -0.8
comp=Z,39nm,1.2s
MDV Middlebury 83.54 19 *e*P P 00 36 10.7 -0.6
G05D Wamic, OR 83.55 345 ⇑P P 00 36 13.4 +2.0
baz=84
D19A Cripps Ranch, 83.56 354 ⇑P P 00 36 13.4 +1.9
baz=84,SNR=5.3
PTN Potsdam (NY) 83.62 18 *e*P P 00 36 10.7 -1.0
PTN pmax pmax
comp=Z,78nm,1.2s
PTN Potsdam (NY) 83.62 18 *e*P P 00 36 10.7 -1.0
comp=Z,78nm,1.2s
C24A Savage 83.62 357 ⇑P P 00 36 13.6 +1.9
baz=84,SNR=8.1
C30A Mose, Pekin 83.70 1 ⇓P P 00 36 14.1 +2.1
baz=84,SNR=5.9
C28A Hausauer Farms 83.71 360 ⇑P P 00 36 14.2 +2.1
baz=84
C27A Sayler Ranch, 83.72 359 ⇓P P 00 36 14.7 +2.5
baz=84
C25A Freed Ranch, W 83.76 358 ⇓P P 00 36 14.6 +2.2
baz=84
LONY Lake Ozonia 83.76 18 *e*P P 00 36 11.6 -0.9
comp=Z,119nm,1.3s
CHMT Chamberlain Mo 83.79 351 *e*P P 00 36 12.9 +0.1
MSO Missoula 83.80 350 ⇑P P 00 36 14.6 +1.9
baz=84,SNR=12
MSO Missoula 83.80 350 *e*P P 00 36 12.6 -0.1
comp=Z,53nm,1.6s
MDND Maddock 83.84 0 ⇑P P 00 36 15.2 +2.4
baz=84
MDND Maddock 83.84 0 *e*P P 00 36 12.2 -0.6
comp=Z,987nm,1.4s
C26A Wahner Farm, P 83.84 358 ⇑P P 00 36 14.9 +2.1
baz=84
C22A Vida 83.92 356 ⇑P P 00 36 15.1 +1.9
baz=84,SNR=7.6
C23A Lambert 83.93 356 ⇓P P 00 36 14.5 +1.2
baz=84,SNR=9.8
G03D McMinnville, O 83.94 344 ⇓P P 00 36 15.1 +1.8
baz=84
C20A Veseth Ranch, 84.03 354 ⇑P P 00 36 15.0 +1.2
baz=84,SNR=12
C21A Desert Coulee 84.07 355 ⇓P P 00 36 15.7 +1.6
baz=84
LBNH Lisbon 84.10 20 *e*P P 00 36 13.6 -0.6
LBNH pmax pmax
comp=Z,48nm,1.4s
LBNH Lisbon 84.10 20 *e*P P 00 36 13.6 -0.6
comp=Z,48nm,1.4s
C19A Slack Wire Ran 84.14 354 ⇑P P 00 36 15.9 +1.5
baz=84,SNR=24
SLMT Seeley Lake 84.14 351 *e*P P 00 36 14.6 +0.1
EYMN Ely 84.26 6 *e*P P 00 36 14.5 -0.4
comp=Z,156nm,1.4s
HAWA Hanford 84.29 346 *e*P P 00 36 14.8 -0.3
comp=Z,30nm,1.1s
B25A Knox Farm, Ray 84.32 358 ⇑P P 00 36 17.6 +2.4
baz=85
AGMN Agassiz Nation 84.36 3 ⇑P P 00 36 16.6 +1.2
baz=85,SNR=10
AGMN Agassiz Nation 84.36 3 *e*P P 00 36 15.2 -0.2
comp=Z,79nm,1.4s
B26A Jensen Ranch, 84.39 358 ⇑P P 00 36 17.6 +2.0
baz=85
B27A Peters Farms, 84.40 359 ⇓P P 00 36 17.3 +1.7
baz=85
F04A Amboy 84.44 344 *e*P P 00 36 15.4 -0.5
comp=Z,56nm,1.3s
B28A Dugan Ranch, T 84.44 360 ⇑P P 00 36 17.9 +2.1
baz=85,SNR=17
B30A Myrvik Farm, E 84.45 1 ⇓P P 00 36 17.7 +1.9
baz=85,SNR=9.6
B29A Wagenman Farm, 84.45 0 ⇓P P 00 36 17.8 +1.9
baz=85
SWMT Swartz Lake 84.47 350 *e*P P 00 36 17.1 +1.0
B22A Reddig Ranch S 84.48 356 ⇓P P 00 36 18.2 +2.1
baz=85
EGMT Eagleton 84.49 353 ⇑P P 00 36 17.9 +1.7
baz=85,SNR=6.0
EGMT Eagleton 84.49 353 *e*P P 00 36 16.8 +0.6
comp=Z,50nm,1.4s
DGMT Dagmar 84.55 357 ⇑P P 00 36 18.5 +2.1
baz=85
DGMT Dagmar 84.55 357 *e*P P 00 36 16.2 -0.2
comp=Z,363nm,2.2s
B23A Brockton 84.58 356 ⇑P P 00 36 18.5 +2.0
baz=85
B21A Ellsworth Farm 84.67 355 ⇓P P 00 36 19.2 +2.2
baz=85
F04D Rainier, OR 84.71 344 ⇓P P 00 36 18.9 +1.7
baz=85
JTMT Jette 84.74 350 *e*P P 00 36 18.1 +0.6
B20A Solberg Farm, 84.75 354 ⇓P P 00 36 19.2 +1.7
baz=85,SNR=6.7
D08A Wollman Farm, 84.81 347 *e*P P 00 36 18.0 +0.2
YBMT Yellow Bay 84.82 350 *e*P P 00 36 18.2 +0.3
B19A Brinkman Farms 84.84 354 ⇑P P 00 36 19.7 +1.8
baz=85
A28A Rude Farm, Bot 84.90 360 ⇑P P 00 36 19.4 +1.2
baz=85,SNR=8.1
A26A Wade Farm, Ken 84.91 358 ⇓P P 00 36 20.3 +2.1
baz=85,SNR=8.5
A29A Manning Farm, 84.91 0 ⇓P P 00 36 19.4 +1.2
baz=85,SNR=19
BSMT Bassoo Peak 84.92 350 *e*P P 00 36 19.0 +0.5
A30A Hoffart Farm, 84.94 1 ⇑P P 00 36 19.8 +1.5
baz=85
A27A Ledoux Ranch, 84.95 359 ⇑P P 00 36 20.1 +1.7
baz=85
A25A Svangstu Ranch 84.98 358 ⇓P P 00 36 20.3 +1.8
baz=85,SNR=11
A24A Westby 85.00 357 ⇑P P 00 36 20.0 +1.4
baz=85,SNR=6.7
BLMT Blacktail Moun 85.01 350 *e*P P 00 36 19.9 +1.0
WVL Waterville 85.03 21 *e*P P 00 36 18.8 0.0
comp=Z,242nm,2.0s
A23A Redstone 85.07 357 ⇑P P 00 36 21.2 +2.2
baz=85
LON Longmire 85.09 345 *e*P P 00 36 17.9 -1.3
LON Longmire 85.09 345 *e*P P 00 36 17.9 -1.3
A22A Carney Farms, 85.16 356 ⇑P P 00 36 21.4 +1.9
baz=86
A20A Cobblestone Ra 85.18 355 ⇓P P 00 36 21.4 +1.8
baz=86,SNR=9.8
A21A Bergtoll Ranch 85.22 355 ⇑P P 00 36 21.8 +2.0
baz=86
A19A Klindworth Far 85.30 354 ⇓P P 00 36 22.3 +2.1
baz=86
C09A Chrisman Ranch 85.42 348 *e*P P 00 36 21.3 +0.6
comp=Z,159nm,1.9s
NEW Newport 85.67 348 *e*P P 00 36 22.2 +0.1
NEW pmax pmax
comp=Z,172nm,2.2s
NEW Newport 85.67 348 ⇑P P 00 36 23.7 +1.7
baz=86,SNR=9.7
NEW Newport 85.67 348 *e*P P 00 36 22.2 +0.1
comp=Z,172nm,2.2s
ARMA Armidale 85.73 235 *e*P P 00 36 22.4 -0.7
comp=Z,25nm,1.3s
EMMW East Machias 85.83 22 *e*P P 00 36 21.8 -1.0
comp=Z,261nm,2.5s
WALA Waterton Lakes 85.98 351 *e*P P 00 36 22.8 -0.8
comp=Z,3μm,1.8s
WALA LR LR
comp=Z,1μm,20.0s
B08A Colville Reser 86.14 347 *e*P P 00 36 23.6 -0.7
comp=Z,58nm,2.1s
ULM Lac du Bonnet 86.31 2 P P 00 36 24.6 -0.5
comp=Z,32nm,1.3s,baz=208,slow=4.5,SNR=25
ULM LR LR 01 11 13.7
comp=Z,392nm,19.1s,baz=175,slow=33
ULM Lac du Bonnet 86.31 2 *e*P P 00 36 24.6 -0.5
comp=Z,109nm,1.6s
FFC Flin Flon 90.74 359 *e*P P 00 36 46.4 +0.3
FFC pmax pmax
comp=Z,23nm,1.4s
FFC MLR MLR
comp=Z,500nm,18.0s
FFC Flin Flon 90.74 359 *e*P P 00 36 46.4 +0.3
comp=Z,23nm,1.4s
FFC LR LR
comp=Z,500nm,18.0s
STKA Stephens Creek 91.11 228 LR LR 01 11 44.6
comp=Z,265nm,18.4s,baz=165,slow=32
FCC Fort Churchill 94.89 3 *e*P P 00 37 04.2 -0.8
FCC Fort Churchill 94.89 3 *e*P P 00 37 04.2 -0.8
comp=Z,797nm,1.3s
SCHQ Schefferville 95.12 18 LR LR 01 15 31.0
comp=Z,544nm,20.1s,baz=231,slow=33
YKA Yellowknife Ar 99.25 353 P Pdif 00 37 24.0 -0.7
comp=Z,1.9nm,1.0s,baz=165,slow=2.2,SNR=6.7
YKA Yellowknife Ar 99.25 353 P Pdif 00 37 24.0 -0.7
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKB5 Yellowknife Ar 99.25 353 *e*P Pdif 00 37 24.1 -0.6
LBTB Lobatse 100.08 131 *e*P Pdif 00 37 28.7 -1.0
LBTB Lobatse 100.08 131 *e*Pdif Pdif 00 37 28.7 -1.0
AS12 Alice Springs 101.73 229 *e*Pdif Pdif 00 37 35.6 -1.4
AS12 *e*PKKPbc **PKKPbc** 00 53 43.0 +1.0
ASAR Alice Springs 101.73 229 P Pdif 00 37 35.6 -1.4
comp=Z,1.8nm,1.1s,baz=149,slow=5.4,SNR=5.8
ASAR PKKPbc **PKKPbc** 00 53 43.0 +1.0
comp=Z,0.8nm,0.8s,baz=343,slow=3.0,SNR=6.2
ASAR Alice Springs 101.73 229 P Pdif 00 37 35.6 -1.4
ASAR pmax pmax
comp=Z,2.0nm,1.1s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
H01W1 Cape Leeuwin H 102.40 208 T T 02 32 35.1
baz=152,slow=76,SNR=4.2
H01W2 Cape Leeuwin H 102.40 208 T T 02 32 35.6
baz=152,slow=76,SNR=3.8
H01W3 Cape Leeuwin H 102.42 208 T T 02 32 34.6
baz=152,slow=76,SNR=3.9
WRA Warramunga Arr 104.22 232 PKKPbc PKKPbc 00 53 33.9 -0.8
comp=Z,1.0nm,0.9s,baz=304,slow=3.5,SNR=4.9
TOA0 Torodi Ar. Sit 106.80 86 *e*Pdif Pdif 00 37 57.8 -1.7
TOA0 *e*PKiKP **PKiKP** 00 42 09.4 -0.3
TOA0 *e*PP PP 00 42 25.2 -0.2
TORD Torodi Ar. Bea 106.80 86 Pdiff Pdif 00 37 57.8 -1.7
comp=Z,0.6nm,0.9s,baz=261,slow=5.3,SNR=2.4
TORD PKiKP **PKiKP** 00 42 09.4 -0.3
comp=Z,2.1nm,1.0s,baz=273,slow=2.2,SNR=5.4
TORD PP PP 00 42 25.2 -0.2
comp=Z,1.8nm,0.8s,baz=244,slow=7.1,SNR=5.4
ILAR Eielson Array 107.35 341 PP PP 00 42 25.5 -3.2
comp=Z,1.8nm,1.3s,baz=178,slow=5.3,SNR=5.1
ILAR PKKPbc **PKKPbc** 00 53 24.9 -1.7
comp=Z,0.9nm,0.9s,baz=319,slow=3.6,SNR=8.5
ILB Eielson Array 107.35 341 *e*PKKPbc PKKPbc 00 53 24.9 -1.7
PPLA Purkeypile 107.43 338 PFAKE 00 42 20.0
PPLA LR LR
comp=Z,502nm,19.0s
TNA Tin City 114.34 335 PFAKE 00 42 30.0 +7.6
TNA LR LR
comp=Z,400nm,18.0s
ESDC Sonseca Array 115.97 59 PKP **PKPdf** 00 42 25.7 -0.7
comp=Z,1.3nm,0.8s,baz=272,slow=1.4,SNR=12
ESDC PP PP 00 43 30.8 -0.4
comp=Z,0.2nm,0.6s,baz=249,slow=8.0,SNR=4.1
SJPF Ste Jean 119.29 56 *e*PKIKP **PKPdf** 00 42 33.2 +0.5
comp=Z,21nm,1.0s
SJPF Ste Jean 119.29 56 *e*PKIKP **PKPdf** 00 42 33.2 +0.5
SJPF Ste Jean 119.29 56 *e*PKPdf **PKPdf** 00 42 33.2 +0.5
ETSF Etsaut 119.66 57 *e*PKIKP **PKPdf** 00 42 34.0 +0.5
comp=Z,33nm,1.3s
ETSF Etsaut 119.66 57 *e*PKIKP **PKPdf** 00 42 34.0 +0.5
ETSF Etsaut 119.66 57 *e*PKPdf **PKPdf** 00 42 34.0 +0.5

QUIF Quistinic 119.92 50 ePKIKP PKPdf 00 42 33.2 -0.5
comp=Z,37nm,1.4s
QUIF Quistinic 119.92 50 ePKIKP PKPdf 00 42 33.2 -0.5
QUIF Quistinic 119.92 50 ePKPdf PKPdf 00 42 33.2 -0.5
EPF Esparros 120.31 57 ePKIKP PKPdf 00 42 35.0 +0.3
comp=Z,37nm,1.1s
EPF Esparros 120.31 57 ePKIKP PKPdf 00 42 35.0 +0.3
EPF Esparros 120.31 57 ePKPdf PKPdf 00 42 35.0 +0.3
LFF La Frestale 121.31 55 ePKIKP PKPdf 00 42 36.3 -0.1
comp=Z,14nm,0.9s
LFF La Frestale 121.31 55 ePKIKP PKPdf 00 42 36.3 -0.1
LFF La Frestale 121.31 55 ePKPdf PKPdf 00 42 36.3 -0.1
MFF Saint Martin d 121.34 53 ePKIKP PKPdf 00 42 36.3 -0.2
comp=Z,30nm,1.3s
MFF Saint Martin d 121.34 53 ePKIKP PKPdf 00 42 36.3 -0.2
MFF Saint Martin d 121.34 53 ePKPdf PKPdf 00 42 36.3 -0.2
GRR Gorron 121.53 51 ePKIKP PKPdf 00 42 36.6 -0.2
comp=Z,73nm,1.5s
GRR Gorron 121.53 51 ePKIKP PKPdf 00 42 36.6 -0.2
GRR Gorron 121.53 51 ePKPdf PKPdf 00 42 36.6 -0.2
MTLF Montolieu 121.70 57 ePKIKP PKPdf 00 42 36.9 -0.4
comp=Z,33nm,1.3s
MTLF Montolieu 121.70 57 ePKIKP PKPdf 00 42 36.9 -0.4
MTLF Montolieu 121.70 57 ePKPdf PKPdf 00 42 36.9 -0.4
FLN La Foliniere 121.89 50 ePKIKP PKPdf 00 42 37.2 -0.2
comp=Z,61nm,1.5s
FLN eR
comp=Z,143nm,22.0s
FLN La Foliniere 121.89 50 ePKIKP PKPdf 00 42 37.2 -0.2
FLN La Foliniere 121.89 50 ePKPdf PKPdf 00 42 37.2 -0.2
RJF Les Rejaudoux 121.95 55 ePKIKP PKPdf 00 42 37.4 -0.3
comp=Z,10nm,0.9s
RJF eR
comp=Z,84nm,19.2s
RJF Les Rejaudoux 121.95 55 ePKIKP PKPdf 00 42 37.4 -0.3
RJF Les Rejaudoux 121.95 55 ePKPdf PKPdf 00 42 37.4 -0.3
LDF La Druitiere 122.06 51 ePKIKP PKPdf 00 42 37.4 -0.4
comp=Z,38nm,1.3s
LDF La Druitiere 122.06 51 ePKIKP PKPdf 00 42 37.4 -0.4
LDF La Druitiere 122.06 51 ePKPdf PKPdf 00 42 37.4 -0.4
CAF Calviac 122.18 55 ePKIKP PKPdf 00 42 38.2 0.0
comp=Z,23nm,1.3s
CAF Calviac 122.18 55 ePKIKP PKPdf 00 42 38.2 0.0
CAF Calviac 122.18 55 ePKPdf PKPdf 00 42 38.2 0.0
TCF Toulx Ste Croi 122.75 54 ePKIKP PKPdf 00 42 38.7 -0.5
comp=Z,32nm,1.5s
TCF Toulx Ste Croi 122.75 54 ePKIKP PKPdf 00 42 38.7 -0.5
TCF Toulx Ste Croi 122.75 54 ePKPdf PKPdf 00 42 38.7 -0.5
LASF Ste Croix 123.08 57 ePKIKP PKPdf 00 42 40.0 +0.1
comp=Z,43nm,1.3s
LASF Ste Croix 123.08 57 ePKPdf PKPdf 00 42 40.0 +0.1
BGF Bois d'Agland 123.26 54 ePKIKP PKPdf 00 42 40.1 -0.1
comp=Z,76nm,1.4s
BGF Bois d'Agland 123.26 54 ePKIKP PKPdf 00 42 40.1 -0.1
BGF Bois d'Agland 123.26 54 ePKPdf PKPdf 00 42 40.1 -0.1
HYF Humbligny 123.36 53 ePKIKP PKPdf 00 42 40.1 -0.2
HYF Humbligny 123.36 53 ePKPdf PKPdf 00 42 40.1 -0.2
AVF Avril sur Loir 123.66 54 ePKIKP PKPdf 00 42 40.4 -0.5
comp=Z,30nm,1.2s
AVF Avril sur Loir 123.66 54 ePKIKP PKPdf 00 42 40.4 -0.5
AVF Avril sur Loir 123.66 54 ePKPdf PKPdf 00 42 40.4 -0.5
SSF Saint Saulge 123.85 53 ePKIKP PKPdf 00 42 40.8 -0.5
comp=Z,27nm,1.2s
SSF Saint Saulge 123.85 53 ePKIKP PKPdf 00 42 40.8 -0.5
SSF Saint Saulge 123.85 53 ePKPdf PKPdf 00 42 40.8 -0.5
VIVF Saint-Julien-l 123.89 56 ePKIKP PKPdf 00 42 41.5 0.0
comp=Z,9.6nm,0.8s
VIVF Saint-Julien-l 123.89 56 ePKIKP PKPdf 00 42 41.5 0.0
VIVF Saint-Julien-l 123.89 56 ePKPdf PKPdf 00 42 41.5 0.0
KEST Kesra 123.90 68 PKP PKPdf 00 42 41.4 -0.4
comp=Z,2.8nm,0.9s,baz=347,slow=3.6,SNR=4.5
SMF Signal de Mont 123.93 54 ePKIKP PKPdf 00 42 41.2 -0.3
comp=Z,44nm,1.2s
SMF Signal de Mont 123.93 54 ePKIKP PKPdf 00 42 41.2 -0.3
SMF Signal de Mont 123.93 54 ePKPdf PKPdf 00 42 41.2 -0.3
LOR Lormes 124.15 53 ePKIKP PKPdf 00 42 41.7 -0.2
comp=Z,32nm,1.2s
LOR eR
comp=Z,146nm,22.8s
LOR Lormes 124.15 53 ePKIKP PKPdf 00 42 41.7 -0.2
LOR Lormes 124.15 53 ePKPdf PKPdf 00 42 41.7 -0.2
SMRF Simiane la Rot 124.21 57 ePKIKP PKPdf 00 42 42.6 +0.5
comp=Z,96nm,1.4s
SMRF Simiane la Rot 124.21 57 ePKPdf PKPdf 00 42 42.6 +0.5
ORIF Oris-en-Rattie 124.72 56 ePKIKP PKPdf 00 42 43.3 +0.1
comp=Z,16nm,0.9s
ORIF eR
comp=Z,205nm,22.8s
ORIF Oris-en-Rattie 124.72 56 ePKIKP PKPdf 00 42 43.3 +0.1
ORIF Oris-en-Rattie 124.72 56 ePKPdf PKPdf 00 42 43.3 +0.1
SFTF Sexfontaines 125.19 52 ePKIKP PKPdf 00 42 43.9 +0.1
comp=Z,13nm,1.3s
SFTF Sexfontaines 125.19 52 ePKPdf PKPdf 00 42 43.9 +0.1
BAIF Baives 125.21 50 ePKIKP PKPdf 00 42 43.8 0.0
comp=Z,43nm,1.2s
BAIF Baives 125.21 50 ePKIKP PKPdf 00 42 43.8 0.0
BAIF Baives 125.21 50 ePKPdf PKPdf 00 42 43.8 0.0
MBDF Montbardon 125.26 57 ePKIKP PKPdf 00 42 44.3 0.0
comp=Z,53nm,1.3s
MBDF Montbardon 125.26 57 ePKIKP PKPdf 00 42 44.3 0.0
MBDF Montbardon 125.26 57 ePKPdf PKPdf 00 42 44.3 0.0
MEZF Maizieres J'vi 125.29 52 ePKIKP PKPdf 00 42 44.3 +0.3
comp=Z,77nm,1.1s
MEZF Maizieres J'vi 125.29 52 ePKPdf PKPdf 00 42 44.3 +0.3
BNI Bardonecchia 125.30 56 ePKIKP PKPdf 00 42 42.9 -1.4
BNI Bardonecchia 125.30 56 ePKPdf PKPdf 00 42 42.9 -1.4
SNF Seneffe 125.38 49 PKP PKPdf 00 42 44.1 0.0
CABF La Chapelle 125.39 54 ePKIKP PKPdf 00 42 44.6 +0.2
comp=Z,38nm,1.1s
CABF La Chapelle 125.39 54 ePKIKP PKPdf 00 42 44.6 +0.2
CABF La Chapelle 125.39 54 ePKPdf PKPdf 00 42 44.6 +0.2
DOU Dourbes 125.46 50 PKP PKPdf 00 42 44.6 +0.3
LPL La Plagne 125.48 56 ePKIKP PKPdf 00 42 45.5 +0.7
comp=Z,41nm,1.1s
LPL La Plagne 125.48 56 ePKIKP PKPdf 00 42 45.5 +0.7
LPL La Plagne 125.48 56 ePKPdf PKPdf 00 42 45.5 +0.7
LPG La Plagne 125.49 56 ePKIKP PKPdf 00 42 45.6 +0.7
comp=Z,56nm,1.2s
LPG La Plagne 125.49 56 ePKIKP PKPdf 00 42 45.6 +0.7
LPG La Plagne 125.49 56 ePKPdf PKPdf 00 42 45.6 +0.7
GIVF Givet 125.60 50 ePKIKP PKPdf 00 42 44.5 0.0
comp=Z,22nm,1.0s
GIVF Givet 125.60 50 ePKIKP PKPdf 00 42 44.5 0.0
GIVF Givet 125.60 50 ePKPdf PKPdf 00 42 44.5 0.0
PAGF Fort de Pagny 125.73 52 ePKIKP PKPdf 00 42 45.1 +0.3
comp=Z,12nm,1.1s
PAGF Fort de Pagny 125.73 52 ePKPdf PKPdf 00 42 45.1 +0.3
HAU Haudompre 125.97 53 ePKIKP PKPdf 00 42 45.2 -0.2
comp=Z,16nm,1.1s
HAU eR
comp=Z,156nm,20.2s
HAU Haudompre 125.97 53 ePKIKP PKPdf 00 42 45.2 -0.2
HAU Haudompre 125.97 53 ePKPdf PKPdf 00 42 45.2 -0.2
PGF Pioggiola 126.09 60 ePKIKP PKPdf 00 42 46.0 +0.1
comp=Z,112nm,1.4s
PGF Pioggiola 126.09 60 ePKIKP PKPdf 00 42 46.0 +0.1
PGF Pioggiola 126.09 60 ePKPdf PKPdf 00 42 46.0 +0.1
SENIN Lac Senin/Sane 126.12 55 ePKPdf PKPdf 00 42 45.5 -0.5
HINF Hinteralfeld 126.25 53 ePKIKP PKPdf 00 42 45.7 -0.2
comp=Z,114nm,0.8s
HINF Hinteralfeld 126.25 53 ePKIKP PKPdf 00 42 45.7 -0.2
HINF Hinteralfeld 126.25 53 ePKPdf PKPdf 00 42 45.7 -0.2
WLF Walferdange 126.31 51 PKP PKPdf 00 42 46.8 +0.9
MEM Membach 126.47 50 PKP PKPdf 00 42 46.8 +0.7
MEM Membach 126.47 50 ePKIKP PKPdf 00 42 46.0 -0.2
MEM Membach 126.47 50 ePKPdf PKPdf 00 42 46.0 -0.2
CDF Champ du Feu 126.68 53 ePKIKP PKPdf 00 42 46.6 -0.2
comp=Z,8.6nm,0.8s
CDF Champ du Feu 126.68 53 ePKIKP PKPdf 00 42 46.6 -0.2
CDF Champ du Feu 126.68 53 ePKPdf PKPdf 00 42 46.6 -0.2
BFO Black Forest 127.34 53 ePKPdf PKPdf 00 42 47.7 -0.3
BFO Black Forest 127.34 53 ePKIKP PKPdf 00 42 47.5 -0.5
BFO Black Forest 127.34 53 i PKIKP PKPdf 00 42 48.9 +0.9
BFO Black Forest 127.34 53 ePKPdf PKPdf 00 42 47.5 -0.5
BUG Bochum-Univer 127.44 49 ePKPdf PKPdf 00 42 48.5 +0.5
TNS Taunus Mts 127.88 51 ePKPdf PKPdf 00 42 49.7 +0.7
IBBN Ibbenburen 127.94 48 ePKPdf PKPdf 00 42 49.5 +0.6
STU Stuttgart 128.01 53 ePKIKP PKPdf 00 42 49.6 +0.4
STU Stuttgart 128.01 53 ePKPdf PKPdf 00 42 49.2 0.0
STU Stuttgart 128.01 53 ePKPdf PKPdf 00 42 49.2 0.0
DAVA Damuels 128.08 55 ⇑iPKiKP PKiKP 00 42 50.6 +0.5
comp=Z,36nm,1.3s,SNR=9.8
FUORN Ofenpass-Fuorn 128.16 55 ePKPdf PKPdf 00 42 49.6 -0.2
FETA Feichten 128.57 55 i PKiKP PKiKP 00 42 51.5 +0.3
comp=Z,45nm,1.3s,SNR=13
RETA Reutte 128.71 55 i PKPdf PKPdf 00 42 51.3 +0.7
comp=Z,40nm,1.4s,SNR=17
MOTA Moosalm 128.90 55 ⇓iPKPdf PKPdf 00 42 51.6 +0.5
comp=Z,58nm,1.3s,SNR=22
UBBA Unterbreizbach 128.98 50 ePKPdf PKPdf 00 42 51.9 +1.1
FUR Furstenfeldbru 129.21 54 ePKPdf PKPdf 00 42 51.8 +0.3
WATA Walderalm 129.21 55 ⇓iPKPdf PKPdf 00 42 52.1 +0.4
comp=Z,18nm,0.9s,SNR=7.2
WTTA Wattenberg 129.23 55 i PKPdf PKPdf 00 42 52.4 +0.6
comp=Z,74nm,1.5s,SNR=18
NRDL Niedersach Rie 129.38 48 ePKPdf PKPdf 00 42 52.3 +0.7
CLZ Clausthal 129.42 49 ePKPdf PKPdf 00 42 52.5 +0.7
GRFO Grafenberg 129.51 52 ePKIKP PKPdf 00 42 52.5 +0.5
GRFO Grafenberg 129.51 52 ePKPdf PKPdf 00 42 52.5 +0.5
GRF Grafenberg Arr 129.51 52 ePKPdf PKPdf 00 42 53.0 +1.0
KBS Kingsbay 129.55 13 PFAKE 00 43 00.0 +8.7
KBS LR LR
comp=Z,200nm,18.0s
SEY Seymchan 129.68 326 PKP PKPdf 00 42 51.6 -0.3
comp=Z,1.9nm,0.8s,baz=132,slow=3.1,SNR=7.7
SEY Seymchan 129.68 326 PKIKP PKPdf 00 42 51.6 -0.3
SEY pmax pmax
comp=Z,2.0nm,0.8s
ABTA Abfaltersbach 129.69 56 ⇓iPKPdf PKPdf 00 42 52.1 -0.5
comp=Z,28nm,1.6s,SNR=7.0
BSEG Bad Segeberg 129.76 46 ePKPdf PKPdf 00 42 53.0 +0.7
MOX Moxa 129.95 51 ePKPdf PKPdf 00 42 53.2 +0.4
RJOB Jochberg 130.10 55 ePKPdf PKPdf 00 42 53.0 -0.3
ROTZ Rotzenmuhle 130.15 52 ePKPdf PKPdf 00 42 53.5 +0.3
KBA Koelnbreinsper 130.32 56 ⇓iPKPdf PKPdf 00 42 52.7 -1.2
comp=Z,19nm,1.6s
MYKA Terra Mystica 130.41 56 ⇑iPKPdf PKPdf 00 42 53.6 -0.3
comp=Z,16nm,1.5s
TANN Tannenbergstha 130.44 51 ePKPdf PKPdf 00 42 54.3 +0.5
WET Wettzell 130.46 53 ePKPdf PKPdf 00 42 54.0 +0.1
KHC Kasperske Hory 130.90 53 ePKPdf PKPdf 00 42 55.0 +0.3
KHC Kasperske Hory 130.90 53 ePKIKP PKPdf 00 42 55.0 +0.3
GEC2 GERESS Array S 130.93 53 ePKPdf PKPdf 00 42 54.5 -0.3
GEC2 GERESS Array S 130.93 53 ePKIKP PKPdf 00 42 54.6 -0.3
GEC2 e 00 45 09.6
GEC2 GERESS Array S 130.93 53 ePKPdf PKPdf 00 42 54.6 -0.2
GEC2 ePP PP 00 45 09.6 -2.3
GERES GERESS Array B 130.93 53 PKP PKPdf 00 42 54.5 -0.3
comp=Z,4.9nm,0.8s,baz=201,slow=1.1,SNR=40
GERES PP PP 00 45 09.6 -2.3
comp=Z,0.4nm,0.9s,baz=230,slow=3.3,SNR=4.0
GERES GERESS Array B 130.93 53 PKIKP PKPdf 00 42 54.5 -0.3
GERES 00 45 09.6
GERES pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 130.94 50 ePKPdf PKPdf 00 42 55.0 +0.4
CLL Collm 130.94 50 ⇓iPKPdf PKPdf 00 42 55.1 +0.4
comp=Z,45nm,1.5s
CLL i pPKPdf pPKPdf 00 42 59.8 +1.7
CLL ePP PP 00 45 11.0 -0.8
CLL Lm MLR 01 39 00.0
comp=Z,100nm,20.3s
CLL Collm 130.94 50 ⇓iPKIKP PKPdf 00 42 55.1 +0.4
CLL i 00 42 59.8
CLL pmax pmax
comp=Z,45nm,1.5s
CLL Collm 130.94 50 ePKPdf PKPdf 00 42 54.2 -0.4
OBKA Obir 131.00 57 ⇑iPKPdf PKPdf 00 42 54.9 -0.1
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 131.00 37 PKPdf PKPdf 00 42 54.7 +0.2
comp=Z,24nm,1.4s,baz=270,slow=1.9
NB2 NORSAR Subarra 131.00 37 PKPdf PKPdf 00 42 54.7 +0.2
baz=270,slow=1.9
NB200 NORSAR Array S 131.00 37 ePKPdf PKPdf 00 42 54.5 0.0
NOA NORSAR Array B 131.00 37 PKP PKPdf 00 42 54.5 0.0
comp=Z,2.4nm,0.9s,baz=272,slow=1.8,SNR=7.0
NOA NORSAR Array B 131.00 37 PKIKP PKPdf 00 42 54.5 0.0
NOA pmax pmax
comp=Z,2.0nm,0.9s
MOA Molln 131.10 55 ⇑iPKPdf PKPdf 00 42 53.2 -1.9
comp=Z,12nm,1.1s
SOKA Soboth 131.36 56 ⇓iPKPdf PKPdf 00 42 55.9 +0.2
comp=Z,9.4nm,1.1s
BRG Berggiesshubel 131.45 51 ePKP PKPdf 00 42 56.3 +0.7
comp=Z,63nm,1.8s
BRG Berggiesshubel 131.45 51 ePKPdf PKPdf 00 42 55.9 +0.3
BRG Berggiesshubel 131.45 51 ePKIKP PKPdf 00 42 56.3 +0.7
BRG pmax pmax
comp=Z,63nm,1.8s
PRA Prague 131.62 52 ePKPdf PKPdf 00 42 57.0 +1.0
PRA Prague 131.62 52 ePKIKP PKPdf 00 42 57.0 +1.0
PRU Pruhonice 131.68 52 ePKPdf PKPdf 00 42 56.5 +0.4
PRU Pruhonice 131.68 52 ePKIKP PKPdf 00 42 56.5 +0.4
PVCC Panska Ves 131.78 51 ePKPdf PKPdf 00 42 56.6 +0.3
PVCC Panska Ves 131.78 51 ePKIKP PKPdf 00 42 56.6 +0.3
ARSA Arzberg 131.81 56 i PKPdf PKPdf 00 42 56.6 +0.1
comp=Z,12nm,0.9s,SNR=7.3
CONA Conrad Observa 132.16 55 i PKPdf PKPdf 00 42 57.1 -0.1
comp=Z,12nm,1.0s,SNR=5.1
TREC Trest 132.16 53 ePKPdf PKPdf 00 42 57.1 0.0
TREC Trest 132.16 53 ePKIKP PKPdf 00 42 57.1 0.0
UPC Upice 132.69 51 ePKPdf PKPdf 00 42 59.0 +1.0
UPC Upice 132.69 51 ePKIKP PKPdf 00 42 59.0 +1.0
DPC Dobruska-Polom 132.87 52 ePKPdf PKPdf 00 42 58.8 +0.4
DPC Dobruska-Polom 132.87 52 ePKIKP PKPdf 00 42 58.8 +0.4
DPC Dobruska-Polom 132.87 52 ePKPdf PKPdf 00 42 58.2 -0.2
VRAC Vranov 132.88 53 ⇑iP PKPdf 00 42 54.4 -4.0
VRAC Vranov 132.88 53 ⇑iPKIKP PKPdf 00 42 54.4 -4.0
KSP Ksiaz 132.92 51 ePKP PKPdf 00 42 59.9 +1.5
KSP Ksiaz 132.92 51 ePKIKP PKPdf 00 42 59.4 +1.0
FURI Furi 133.40 115 ePKPdf PKPdf 00 43 01.2 +0.3
MORC Moravsky Berou 133.56 53 ⇓iP PKPdf 00 42 58.7 -1.1
MORC Moravsky Berou 133.56 53 ePKIKP PKPdf 00 42 58.6 -1.1
MORC Moravsky Berou 133.56 53 ⇓PKIKP PKPdf 00 42 58.7 -1.1
MORC Moravsky Berou 133.56 53 ePKPdf PKPdf 00 42 58.6 -1.1
PKSM Moragy 133.71 58 ⇓iP PKPdf 00 43 00.8 +0.8
PKSM Moragy 133.71 58 ⇓PKIKP PKPdf 00 43 00.8 +0.8
GKP Gorka Klasztor 133.77 48 ePKP PKPdf 00 43 01.3 +1.4
GKP Gorka Klasztor 133.77 48 ePKIKP PKPdf 00 43 01.4 +1.5
OKC Ostrava-Krasne 133.96 53 ePKPdf PKPdf 00 43 01.5 +1.1
OKC Ostrava-Krasne 133.96 53 ePKIKP PKPdf 00 43 01.5 +1.1
VYHS Vyhne 134.22 55 ePKIKP PKPdf 00 43 01.5 +0.5
VYHS Vyhne 134.22 55 ePKP PKPdf 00 43 01.5 +0.5
DIVS Divibare 134.23 61 ⇑iP PKPdf 00 42 59.1 -2.1
PSZ Piszkesteto 134.84 56 ePKIKP PKPdf 00 43 01.2 -1.0
PSZ Piszkesteto 134.84 56 ePKPdf PKPdf 00 43 01.2 -1.0
GVD Gavdhos 134.84 75 PFAKE 00 43 10.0 +7.5
GVD LR LR
comp=Z,300nm,20.0s
SBUM Sibu 135.19 229 PFAKE 00 43 20.0 +16
SBUM LR LR
comp=Z,200nm,19.0s
NIE Niedzica 135.31 54 ePKP PKPdf 00 43 03.1 +0.1
KECS Kecovo 135.31 55 ePKIKP PKPdf 00 42 58.1 -4.9
KECS Kecovo 135.31 55 e PKPdf 00 42 58.1 -4.9
KKM Kota Kinabalu 135.38 236 PFAKE 00 43 20.0 +16
KKM LR LR
comp=Z,200nm,19.0s
KSM Kuching 135.54 226 PFAKE 00 43 20.0 +15
KSM LR LR
comp=Z,200nm,19.0s
IDI Anoyia 135.60 74 PKP PKPdf 00 43 04.0 0.0
comp=Z,15nm,1.0s,baz=214,slow=2.0,SNR=9.7
BZS Buzias 135.65 59 ⇑iP PKPdf 00 43 00.2 -3.5
BZS Buzias 135.65 59 ⇑PKIKP PKPdf 00 43 00.2 -3.5
SIRR Siria 135.78 58 ⇓iP PKPdf 00 43 06.1 +2.1
STHS Stebnicka Huta 135.91 54 ePKIKP PKPdf 00 43 03.6 -0.5
STHS Stebnicka Huta 135.91 54 ePKP PKPdf 00 43 03.6 -0.5
MMB Musomiste 136.39 65 ⇓iP PKPdf 00 43 02.9 -2.4
MMB Musomiste 136.39 65 ⇓PKIKP PKPdf 00 43 02.9 -2.4
UZH Uzhgorod 136.51 55 ePKIKP PKPdf 00 43 05.7 +0.5
UZH e 00 43 11.9
KOLS Kolonicke sedl 136.53 54 ePKIKP PKPdf 00 43 04.6 -0.7
KOLS Kolonicke sedl 136.53 54 ePKP PKPdf 00 43 04.6 -0.7
DRGR 136.58 58 ⇑iP PKPdf 00 43 05.3 -0.2
DRGR 136.58 58 ⇑PKIKP PKPdf 00 43 05.3 -0.2
TRPA Tarpa 136.62 56 ⇑iP PKPpre 00 42 57.2
APE Apeiranthos 136.63 72 i PKIKP PKPdf 00 43 04.9 -1.0
TIXI Tiksi 136.81 340 ePKIKP PKPdf 00 43 02.6 -2.5
TIXI Tiksi 136.81 340 PFAKE 00 43 20.0 +15
TIXI LR LR
comp=Z,300nm,21.0s
KWP Kalwaria Pacla 136.88 53 ePKP PKPdf 00 43 06.8 +0.9
KWP Kalwaria Pacla 136.88 53 ⇑iP PKPpre 00 42 59.9
KWP Kalwaria Pacla 136.88 53 ePKIKP PKPdf 00 43 06.9 +1.0
SUW Suwalki 137.33 47 ePKP PKPdf 00 43 07.3 +0.8
SUW Suwalki 137.33 47 ePKIKP PKPdf 00 43 07.4 +0.9
SUW Suwalki 137.33 47 ePKPdf PKPdf 00 43 05.7 -0.8
KDZ Kurdzhali 137.64 65 ⇑iP PKPpre 00 43 02.3
KDZ Kurdzhali 137.64 65 ⇑PKIKP PKPpre 00 43 02.3
ARR Arges 137.71 60 ⇓iP PKPpre 00 42 58.5
LVV L'vov 137.75 53 ePKIKP PKPdf 00 43 08.0 +0.5
VOIR 138.01 60 ⇑iP PKPpre 00 43 02.6
VOIR 138.01 60 ⇑PKIKP PKPpre 00 43 02.6
KAF Kangasniemi 138.09 35 epkp PKPdf 00 43 07.3 -0.4
KAF Kangasniemi 138.09 35 ePKIKP PKPdf 00 43 07.3 -0.4
FIA0 FINESS Array S 138.12 36 ePKIKP PKPdf 00 43 07.0 -0.7
FIA0 FINESS Array S 138.12 36 ePKPdf PKPdf 00 43 07.0 -0.7
FINES FINESS Array B 138.12 36 PKP PKPdf 00 43 07.0 -0.7
comp=Z,5.5nm,1.0s,baz=198,slow=1.2,SNR=6.8
FINES FINESS Array B 138.12 36 PKIKP PKPdf 00 43 07.0 -0.7
FINES pmax pmax
comp=Z,6.0nm,1.0s
DOPR Dopca 138.31 59 ⇓iP PKPdf 00 43 05.6 -3.1
BURAR Bucovina Array 138.37 57 ⇑iP PKPpre 00 42 57.5
BURAR Bucovina Array 138.37 57 ⇑PKHKP PKPpre 00 42 57.5
MLR Muntele Rosu 138.64 60 ⇑iP PKPpre 00 43 02.0
MLR Muntele Rosu 138.64 60 ⇑PKHKP PKPpre 00 43 02.0
VSU Vasula 138.96 40 i PKIKP PKPdf 00 43 09.4 0.0
PLOR Plostina 139.18 59 ⇑iP PKPdf 00 43 08.3 -2.0
PLOR Plostina 139.18 59 ⇑PKIKP PKPdf 00 43 08.3 -2.0
VRI Vrincioaia 139.23 59 ⇓iP PKPdf 00 43 11.5 +1.1
VRI Vrincioaia 139.23 59 ⇓PKIKP PKPdf 00 43 11.5 +1.1
MYKOM Kota Tinggi 139.27 218 PFAKE 00 43 20.0 +8.6
MYKOM LR LR
comp=Z,200nm,21.0s
TLB Topalu 140.01 62 ⇑iP PKPpre 00 43 05.4
TLB Topalu 140.01 62 ⇑PKHKP PKPpre 00 43 05.4
JOF Joensuu 140.12 33 epkp PKPdf 00 43 12.5 +1.1
JOF Joensuu 140.12 33 ePKIKP PKPdf 00 43 12.5 +1.1
CFR Carcaliu 140.14 61 ⇓iP PKPpre 00 43 05.1
CFR Carcaliu 140.14 61 ⇓PKHKP PKPpre 00 43 05.1
YAK Yakutsk 140.20 326 ePKIKP PKPdf 00 43 08.1 -3.4
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 140.20 326 PFAKE 00 43 20.0 +8.5
YAK LR LR
comp=Z,200nm,21.0s
USRK Ussuriysk Ar. 140.34 298 PKP PKPdf 00 43 09.9 -2.5
comp=Z,1.8nm,0.9s,baz=163,slow=1.7,SNR=6.4
KLR Kul'dur 140.84 306 ePKIKP PKPdf 00 43 09.0 -4.1
KIEV Kiev 141.09 52 i PKIKP PKPdf 00 43 12.2 -1.3
KIEV Kiev 141.09 52 ePKPdf PKPdf 00 43 11.7 -1.8
AKASG Malin Array Be 141.10 52 PKhKP PKPpre 00 43 07.8
comp=Z,0.3nm,0.3s,baz=274,slow=4.0,SNR=7.6
AKBB Malin Array Si 141.10 52 ePKHKP PKPpre 00 43 07.8
AKBB Malin Array Si 141.10 52 ePKPpre PKPpre 00 43 07.8
KDHN Kadinhani 142.04 72 i P PKPdf 00 43 11.9 -3.9
MDJ Mudanjiang 142.10 298 PKP PKPdf 00 43 16.3 +0.8
MDJ PKS PKSdf 00 46 52.5 +1.3
MDJ PPMZ
comp=Z,66nm,5.5s
MDJ LN
comp=Z,57nm,28.3s
MDJ LE
comp=Z,49nm,25.9s
CSS Prodhromos 142.12 78 ePKPdf PKPdf 00 43 14.3 -1.6
KSRS Korea Array 142.21 286 PKP PKPdf 00 43 15.3 -0.6
comp=Z,3.5nm,1.0s,baz=90,slow=1.5,SNR=12
KSRS Korea Array 142.21 286 PKIKP PKPdf 00 43 15.3 -0.6
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KS15 Wonju Array Si 142.24 286 ePKPdf PKPdf 00 43 15.3 -0.7
PSI Prapat 142.43 212 PKhKP PKPpre 00 43 09.3
comp=Z,2.7nm,0.4s,baz=180,slow=5.1,SNR=3.5
PSI Prapat 142.43 212 i PKHKP PKPpre 00 43 09.3
PSI pmax pmax
comp=Z,3.0nm,0.4s
PSI Prapat 142.43 212 ePKPpre PKPpre 00 43 09.3
PSI LR LR
comp=Z,500nm,22.0s
ANTO Ankara 142.82 70 ePKIKP PKPdf 00 43 15.0 -2.1
ANTO Ankara 142.82 70 P PKPdf 00 43 15.1 -2.1
SNR=12
ANTO Ankara 142.82 70 ePKPdf PKPdf 00 43 15.0 -2.1
MMAI Mount Meron Ar 143.19 82 PKP PKPbc 00 43 15.6 +0.6
comp=Z,4.4nm,0.8s,baz=258,slow=3.1,SNR=8.8
BR101 Keskin Array S 143.43 70 ePKPpre PKPpre 00 43 15.4
BRTR Keskin Array B 143.43 70 PKhKP PKPpre 00 43 15.4
comp=Z,6.5nm,1.1s,baz=209,slow=2.3,SNR=24
BRTR Keskin Array B 143.43 70 i PKIKP PKPbc 00 43 15.5 0.0
BRTR pmax pmax
comp=Z,7.0nm,1.1s
ILGA Ilgaz 143.70 68 i P PKPbc 00 43 16.5 +0.2
KULM Kulim 143.86 216 ePKPpre PKPpre 00 43 17.0
KULM LR LR
comp=Z,300nm,18.0s
CDAG Cicekdag 143.97 71 i P PKPbc 00 43 17.4 +0.3
TOTH TOTAH 144.12 82 eP PKPbc 00 43 18.1 +0.5
ASF Jabal al Asfar 144.12 84 PKP PKPbc 00 43 18.6 +0.9
comp=Z,9.5nm,0.9s,baz=175,slow=2.6,SNR=30
ASF Jabal al Asfar 144.12 84 PKIKP PKPbc 00 43 18.6 +0.9
ASF pmax pmax
comp=Z,10.0nm,0.9s
SALA Sala 144.16 83 eP PKPbc 00 43 17.9 0.0
SIM Simferopol' 144.35 62 dePKIKP PKPbc 00 43 18.4 +0.5
SIM e 00 43 23.5
SIM pmax pmax
comp=Z,41nm,1.7s
MARH Ras Al Marh 144.35 81 eP PKPdf 00 43 19.5 -0.8
CTKT Corum 144.44 69 i P PKPbc 00 43 18.9 +0.4
KLMR Klimovskoe 144.49 33 d i PKIKP PKPbc 00 43 17.8 0.0
MUKL Al Mukalla 144.60 120 eP PKPdf 00 43 20.6 -0.2
ZALF Zalf 144.71 83 eP PKPab 00 43 18.2 -1.2
OBN Obninsk 144.92 44 ⇓iPKIKP PKPbc 00 43 19.4 +0.1
OBN e 00 46 42.9
OBN e 00 50 33.4
OBN pmax pmax
comp=Z,470nm,1.7s
OBN Obninsk 144.92 44 ePKPdf PKPab 00 43 18.9 -0.5
CN2 Changchun 145.01 296 ePKPbc PKPbc 00 43 17.4 -2.6
CN2 ePP PP 00 46 39.8 +0.3
CN2 LN
comp=Z,400nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,300nm,19.0s
HAVZ Havza 145.20 68 i P PKPdf 00 43 21.4 +0.2
KAMA Osmaniye 145.28 75 i P PKPdf 00 43 22.5 +1.0
MOS Moscow 145.34 42 ePKP2 PKPbc 00 43 19.3 -1.4
MOS e 00 46 50.7
MOS pmax pmax
comp=Z,280nm,1.6s
MOS pmax pmax
comp=N,101nm,1.4s
LHMI Lhok Sumawe 145.44 210 ePKPdf PKPbc 00 43 21.8 -0.5
KUZU Kuzuini 145.51 76 i P PKPab 00 43 22.8 +0.6
SNY Shenyang 146.23 293 PKPbc PKPdf 00 43 22.8 0.0
ANN Anapa 146.71 62 ic iPKP2 PKPbc 00 43 24.4 -0.8
ANN pmax pmax
comp=Z,193nm,1.2s
MALT Malatya 146.87 74 ⇑iP PKPbc 00 43 25.2 -0.9
MALT Malatya 146.87 74 ⇑PKP2 PKPbc 00 43 25.2 -0.9
PKDT Phuket 147.22 215 P PKPbc 00 43 27.8 +0.2
comp=Z,105nm,1.0s
VSR Storozhevoye 147.29 50 ePKIKP PKPdf 00 43 24.3 0.0
VSR pmax pmax
comp=N,460nm,1.4s
VSR pmax pmax
comp=E,40nm,1.4s
VSR pmax pmax
comp=Z,120nm,1.4s
VORD Divnogorie 147.41 50 ePKP2 PKPbc 00 43 26.6 -0.4
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,50nm,1.0s
VORD pmax pmax
comp=Z,50nm,1.0s
RAYN Ar Rayn 147.44 103 ePKPdf PKPdf 00 43 25.9 +0.4
KELT Kelkit 147.77 71 i P PKPdf 00 43 26.5 +0.8
SURT Suratani 147.94 216 P PKPbc 00 43 29.7 +0.2
comp=Z,25nm,1.1s
NJ2 Nanjing 147.96 274 ePKPbc PKPbc 00 43 29.8 +0.7
EUZM Uzumlu 148.05 72 i P PKPab 00 43 30.7 -1.4
SOC Sochi 148.33 64 ePKIKP PKPdf 00 43 26.7 +0.4
SOC i 00 43 30.1
SOC pmax pmax
comp=Z,107nm,0.9s

HIA	**Hailar**	**148.68**	**307**	*i* PKIKP	**PKPdf**	**00 43 28.2**	**+1.5**
KOPT	**Kop Dagi**	**148.70**	**71**	*i* P	**PKPdf**	**00 43 29.2**	**+1.8**
VRHR	**Novokhopersk**	**148.83**	**50**	*e*PKP2	**PKPbc**	**00 43 30.9**	**+0.2**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=E,3.0nm,0.9s						
VRHR				pmax	pmax		
	comp=Z,110nm,0.9s						
BOD	**Bodaibo**	**149.09**	**325**	*e*PKIKP	**PKPdf**	**00 43 28.4**	**+1.4**
BOD				pmax	pmax		
	comp=Z,27nm,1.8s						
ABTO	**Aybut**	**149.54**	**121**	P	**PKPbc**	**00 43 34.5**	**+0.9**
	SNR=12						
DBAD	**Bademkaya**	**149.69**	**69**	*i* P	**PKPdf**	**00 43 29.8**	**+1.1**
SIRN	**S¨–rnak**	**149.84**	**76**	*i* P	**PKPdf**	**00 43 29.9**	**+0.8**
DAGI	**Agillar**	**149.87**	**69**	*i* P	**PKPdf**	**00 43 30.0**	**+1.0**
ARTV	**Artvin**	**149.88**	**69**	*i* P	**PKPdf**	**00 43 30.3**	**+1.1**
TIA	**Tai'an**	**150.42**	**281**	PKPbc	**PKPbc**	**00 43 34.6**	**-0.6**
KIV	**Kislovodsk**	**150.48**	**63**	*de*PKIKP	**PKPdf**	**00 43 29.7**	**-0.1**
KIV				*e*		00 47 10.1	
KIV				pmax	pmax		
	comp=Z,131nm,1.5s						
KIV	**Kislovodsk**	**150.48**	**63**	P	**PKPbc**	**00 43 35.8**	**+0.6**
	SNR=25						
KIV	**Kislovodsk**	**150.48**	**63**	*e*PKPdf	**PKPdf**	**00 43 30.4**	**+0.5**
KIV				*e*PKPbc	**PKiKP**	**00 43 35.9**	**0.0**
KBZ	**Khabaz**	**150.64**	**64**	PKP	**PKPdf**	**00 43 30.2**	**+0.4**
	comp=Z,10.0nm,1.0s,baz=56,slow=24,SNR=14						
KBZ				PKPbc	**PKiKP**	**00 43 35.8**	**-0.3**
	comp=Z,66nm,0.9s,baz=52,slow=20,SNR=67						
KBZ	**Khabaz**	**150.64**	**64**	PKIKP	**PKPdf**	**00 43 30.3**	**+0.4**
KBZ						00 43 35.8	
KBZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GOF	**Gofitskoye**	**150.68**	**61**	*e*PKIKP	**PKPdf**	**00 43 30.0**	**0.0**
GOF				pmax	pmax		
	comp=Z,143nm,1.2s						
HAKT	**HAKKARI**	**150.86**	**77**	*i* P	**PKPdf**	**00 43 32.0**	**+1.2**
PALK	**Pallekele**	**151.04**	**181**	*e*PKIKP	**PKPdf**	**00 43 29.5**	**-2.1**
PALK				*e*		00 43 36.4	
PALK				MLR	MLR		
	comp=Z,700nm,20.0s						
PALK	**Pallekele**	**151.04**	**181**	P	**PKPbc**	**00 43 37.7**	**+0.3**
	SNR=6.8						
PALK	**Pallekele**	**151.04**	**181**	*e*PKPdf	**PKPdf**	**00 43 29.5**	**-2.1**
PALK				*e*PKPbc	**PKPbc**	**00 43 36.4**	**-1.0**
PALK				LR	LR		
	comp=Z,700nm,20.0s						
ONI	**Oni**	**151.06**	**66**	P	**PKPdf**	**00 43 31.3**	**+0.6**
AKH	**Akhalkalaki**	**151.07**	**69**	P	**PKPbc**	**00 43 38.0**	**+1.2**
EAK	**Akyaka**	**151.12**	**70**	*i* P	**PKPbc**	**00 43 37.7**	**+0.8**
ZEI	**Tsey**	**151.39**	**66**	*i* PKIKP	**PKPdf**	**00 43 30.4**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,212nm,2.0s						
KHON	**Khomkaen**	**151.74**	**231**	P	**PKPbc**	**00 43 39.4**	**+0.6**
GNI	**Garni**	**151.95**	**71**	PKP	**PKPdf**	**00 43 31.4**	**-0.9**
	comp=Z,15nm,1.0s,baz=216,slow=4.5,SNR=5.3						
GNI				PKPbc	**PKiKP**	**00 43 39.4**	**+0.2**
	comp=Z,25nm,0.9s,baz=8.6,slow=8.7,SNR=9.5						
GNI	**Garni**	**151.95**	**71**	PKIKP	**PKPdf**	**00 43 31.4**	**-0.9**
GNI						00 43 39.4	
GNI				pmax	pmax		
	comp=Z,15nm,1.0s						
GNI	**Garni**	**151.95**	**71**	*e*PKPdf	**PKPdf**	**00 43 33.1**	**+0.8**
GNI				*e*PKPbc	**PKiKP**	**00 43 39.9**	**+0.7**
TBLG	**Delisi**	**152.01**	**68**	P	**PKPdf**	**00 43 33.5**	**+1.3**
SRDT	**SRDT**	**152.35**	**222**	P	**PKPbc**	**00 43 40.6**	**+0.4**
	comp=Z,61nm,1.2s						
IDHR	**Dehrash**	**152.44**	**83**	*e*P	**PKPdf**	**00 43 33.0**	**-0.3**
DGRG	**David-gareji**	**152.49**	**69**	P	**PKPdf**	**00 43 33.3**	**+0.4**
IGHG	**Ghaleghazi**	**152.50**	**84**	*e*P	**PKPdf**	**00 43 33.2**	**-0.2**
IMRD	**Marand**	**152.57**	**75**	*e*P	**PKPdf**	**00 43 32.7**	**-0.6**
KHLT	**Khaolaem Dam**	**153.00**	**222**	P	**PKPbc**	**00 43 43.3**	**+1.7**
PBKT	**Sadao Pong**	**153.06**	**228**	P	**PKPbc**	**00 43 41.9**	**+0.2**
	comp=Z,19nm,1.3s						
UTHA	**Uthaitani**	**153.15**	**224**	P	**PKPbc**	**00 43 42.8**	**+0.9**
	comp=Z,6.3nm,1.2s						
LOEI	**Loei**	**153.60**	**230**	P	**PKPbc**	**00 43 42.3**	**-0.6**
	comp=Z,16nm,1.3s						
UTTA	**Uttaradit**	**154.21**	**229**	P	**PKPbc**	**00 43 45.2**	**+1.0**
	comp=Z,4.0nm,0.8s						
ENH	**Enshi**	**154.91**	**264**	PFAKE		00 43 50.0	+4.6
ENH				LR	LR		
	comp=Z,100nm,19.0s						
ARU	**Arti**	**155.15**	**29**	*i* PKIKP	**PKPdf**	**00 43 35.8**	**-0.3**
ARU	**Arti**	**155.15**	**29**	*e*PKPdf	**PKPdf**	**00 43 35.5**	**-0.7**
ARU				*e*PKPab	**PKPab**	**00 43 60.0**	**-1.0**
ARU				*e*PP	**PP**	**00 47 39.8**	**+2.7**
HHC	**Hu-ho-hao-te**	**155.22**	**290**	*e*PKP	**PKPdf**	**00 43 39.0**	**+2.1**
HHC				PP	PP	00 47 44.4	+5.6
HHC				SKS	**SKSdf**	**00 50 44.1**	**+0.6**
HHC				SS	**SS**	**01 07 28.4**	**+4.7**
HHC				PPMZ			
	comp=Z,75nm,6.6s						
HHC				LN			
	comp=Z,110nm,17.3s						
HHC				LE			
	comp=Z,170nm,16.0s						
IKAZ	**Kazeroun**	**155.33**	**97**	*e*P	**PKPdf**	**00 43 35.3**	**-2.4**
SVE	**Sverdlovsk**	**155.65**	**27**	*e*PKIKP	**PKPdf**	**00 43 37.1**	**+0.3**
CM31	**Chiang Mai Arr**	**155.74**	**228**	*e*PKPdf	**PKPdf**	**00 43 37.5**	**-0.6**
CM31				*e*PKPab	**PKPab**	**00 44 04.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**155.74**	**228**	PKP	**PKPdf**	**00 43 37.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=209,slow=1.1,SNR=6.3						
CMAR				PKPab	**PKPab**	**00 44 04.7**	**+0.2**
	comp=Z,10.0nm,0.9s,baz=160,slow=3.0,SNR=24						
CMAR	**Chiang Mai Arr**	**155.74**	**228**	PKIKP	**PKPdf**	**00 43 37.5**	**-0.6**
CMAR						00 44 04.7	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CHTO	**Chiang Mai**	**156.01**	**228**	*e*PKIKP	**PKPdf**	**00 43 36.7**	**-1.8**
CHTO	**Chiang Mai**	**156.01**	**228**	*e*PKPdf	**PKPdf**	**00 43 36.7**	**-1.8**
CHTO				*e*PKPab	**PKPab**	**00 44 06.3**	**+0.7**
CHTO	**Chiang Mai**	**156.01**	**228**	P	**PKPab**	**00 44 06.6**	**+1.0**
	comp=Z,71nm,1.7s						
MHMT	**Maesarieng**	**156.11**	**225**	P	**PKPab**	**00 44 07.4**	**+1.4**
XAN	**Xi'an**	**156.52**	**273**	PKP	**PKPdf**	**00 43 37.5**	**-1.3**
XAN				pPKP	**pPKPdf**	**00 43 44.5**	**+2.3**
SMDO	**Samad**	**156.65**	**118**	P	**PKPdf**	**00 43 40.0**	**+0.7**
	SNR=6.1						
IZEF	**Zefreh**	**156.77**	**90**	*e*P	**PKPdf**	**00 43 36.6**	**-2.9**
IVRN	**Varamin**	**156.80**	**85**	*e*P	**PKPdf**	**00 43 38.2**	**-0.9**
ULN	**Ulaanbaatar**	**157.18**	**309**	*e*PKIKP	**PKPdf**	**00 43 37.6**	**-1.7**
ULN				MLR	MLR		
	comp=Z,201nm,21.0s						
ULN	**Ulaanbaatar**	**157.18**	**309**	*e*PKPdf	**PKPdf**	**00 43 37.6**	**-1.7**
ULN				*e*PKPab	**PKPab**	**00 44 09.2**	**-1.0**
ULN				LR	LR		
	comp=Z,201nm,21.0s						
SONA0	**Songino Array**	**157.60**	**309**	*e*PKPdf	**PKPdf**	**00 43 37.8**	**-2.0**
SONA0				*e*PKPab	**PKPab**	**00 44 10.6**	**-1.3**
SONM	**Songino Array**	**157.60**	**309**	PKP	**PKPdf**	**00 43 37.8**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=148,slow=3.2,SNR=3.2						
SONM				PKPab	**PKPab**	**00 44 10.6**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=83,slow=4.6,SNR=5.7						
KMI	**Kunming**	**157.74**	**246**	PKP	**PKPdf**	**00 43 39.8**	**-1.0**
KMI				pPKP	**pPKPdf**	**00 43 44.0**	**-0.2**
KMI				LN			
	comp=Z,220nm,11.7s						
KMI				LE			
	comp=Z,140nm,11.2s						
KMI				LZ			
	comp=Z,210nm,22.4s						
ILAS	**Lasjerd**	**157.86**	**84**	*e*P	**PKPdf**	**00 43 38.7**	**-2.0**
ZAK	**Zakamensk**	**158.31**	**317**	*e*PKP2	**PKPab**	**00 44 13.1**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.9s						
IANJ	**Anjilo**	**158.64**	**85**	*e*P	**PKPdf**	**00 43 40.8**	**-0.8**
AKTO	**Aktyubinsk**	**158.67**	**42**	PKP	**PKPdf**	**00 43 41.1**	**+0.2**
	comp=Z,7.8nm,1.1s,baz=116,slow=9.1,SNR=3.6						
AKTO				PKPab	**PKPab**	**00 44 16.6**	**+0.3**
	comp=Z,11nm,1.0s,baz=308,slow=6.2,SNR=11						
AKTO	**Aktyubinsk**	**158.67**	**42**	PKIKP	**PKPdf**	**00 43 41.1**	**+0.2**
AKTO						00 44 16.6	
AKTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AKTO				pmax	pmax		
	comp=Z,11nm,1.0s						
IBAF	**Bafgh**	**158.98**	**96**	*e*P	**PKPdf**	**00 43 40.4**	**-1.6**
CD2	**Chengdu**	**159.73**	**261**	PKP	**PKPdf**	**00 43 43.0**	**+0.2**
CD2				PKS	**PKSdf**	**00 47 15.1**	**-1.2**
CD2				PP	**PP**	**00 48 07.3**	**+3.6**
CD2				SKS	**SKSdf**	**00 50 45.8**	**-2.5**
CD2				SKKS	**SKKSac**	**00 54 53.0**	**+0.7**
CD2				SS	**SS**	**01 08 13.9**	**+1.8**
CD2				PPMZ			
	comp=Z,220nm,5.4s						
ABKAR	**Akbulak array**	**160.36**	**43**	*e*PKPdf	**PKPdf**	**00 43 43.1**	**+0.3**
ABKAR				*e*PKPab	**PKPab**	**00 44 24.3**	**+0.6**
LZH	**Lanzhou**	**160.99**	**276**	*e*PKP	**PKPdf**	**00 43 41.8**	**-2.4**
LZH				pPKP	**pPKPdf**	**00 43 44.1**	**-3.5**
LZH				sPKP		00 43 46.6	
LZH				PP	**PP**	**00 48 11.0**	**+0.4**
LZH				*e*SS	SS	01 08 22.0	-3.7
LZH				PPMZ			
	comp=Z,170nm,6.1s						
NVS	**Novosibirsk**	**161.41**	**355**	*e*PKIKP	**PKPdf**	**00 43 41.0**	**-2.7**
BRVK	**Borovoye**	**161.89**	**20**	*e*PKIKP	**PKPdf**	**00 43 43.1**	**-1.2**
BRVK				*e*		00 44 29.9	
BRVK				*e*		00 48 13.6	
BRVK	**Borovoye**	**161.89**	**20**	P	**PKPdf**	**00 43 44.4**	**+0.1**
	SNR=5.6						
BRVK	**Borovoye**	**161.89**	**20**	*e*PKPdf	**PKPdf**	**00 43 43.1**	**-1.2**
BRVK				*e*PKPab	**PKPab**	**00 44 29.9**	**-0.2**
BRVK				*e*PP	**PP**	**00 48 13.6**	**-0.2**
BVAR	**Borovoye Array**	**161.95**	**20**	PKP	**PKPdf**	**00 43 44.3**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=222,slow=3.8,SNR=7.3						
BVAR				PKPab	**PKPab**	**00 44 30.6**	**+0.1**
	comp=Z,5.0nm,1.0s,baz=285,slow=2.3,SNR=13						
BVAR				PP	**PP**	**00 48 12.8**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=320,slow=5.8,SNR=8.2						
BVAR	**Borovoye Array**	**161.95**	**20**	PKIKP	**PKPdf**	**00 43 44.3**	**-0.1**
BVAR						00 44 30.6	
BVAR						00 48 12.8	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ITEG	**Tejag**	**161.95**	**95**	*e*P	**PKPdf**	**00 43 45.5**	**+0.2**
ISFR	**Sfrayin**	**162.12**	**81**	*e*P	**PKPdf**	**00 43 45.8**	**+0.3**
ZAA1	**Zalesovo Array**	**162.13**	**351**	*e*PKPdf	**PKPdf**	**00 43 42.4**	**-2.1**
ZAA1				*e*PKPab	**PKPab**	**00 44 30.4**	**-0.7**
ZALV	**Zalesovo Beam**	**162.13**	**351**	PKP	**PKPdf**	**00 43 42.4**	**-2.1**
	comp=Z,3.0nm,0.9s,baz=243,slow=0.7,SNR=17						
ZALV				PKPab	**PKPab**	**00 44 30.4**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=354,slow=4.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**162.13**	**351**	PKIKP	**PKPdf**	**00 43 42.4**	**-2.1**
ZALV						00 44 30.5	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GEYT	**Alibeck**	**162.26**	**78**	PKP	**PKPdf**	**00 43 45.8**	**+0.5**
	comp=Z,13nm,1.0s,baz=272,slow=5.5,SNR=24						
GEYT				PKPab	**PKPab**	**00 44 32.2**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=307,slow=3.2,SNR=4.1						
IKRD	**Kardeh**	**162.51**	**82**	*e*P	**PKPdf**	**00 43 45.8**	**-0.1**
IDAH	**Dahanechah**	**162.80**	**96**	*e*P	**PKPdf**	**00 43 45.3**	**-0.9**
IPAY	**Payeh**	**162.86**	**83**	*e*P	**PKPdf**	**00 43 45.3**	**-0.9**
IMOG	**Moghan**	**163.10**	**85**	*e*P	**PKPdf**	**00 43 45.9**	**-0.6**
ISRO	**Mashad**	**163.23**	**84**	*e*P	**PKPdf**	**00 43 42.6**	**-3.7**
IMYA	**Miami**	**163.74**	**84**	*e*P	**PKPdf**	**00 43 46.2**	**-0.7**
GTA	**Gaotai**	**164.28**	**287**	*e*PKP	**PKPdf**	**00 43 47.0**	**-0.3**
GTA				sPKP		00 43 54.0	
GTA				PKPab	**PKPab**	**00 44 41.3**	**-0.1**
GTA				PP	**PP**	**00 48 31.5**	**+3.6**
GTA				SKS	**SKSdf**	**00 50 49.8**	**-2.0**
GTA				SKKS	**SKKSac**	**00 55 17.5**	**+2.0**
GTA				SS	**SS**	**01 09 02.9**	**+3.4**
GTA				PPMZ			
	comp=Z,81nm,8.3s						
GTA				LN			
	comp=Z,130nm,20.9s						
GTA				LE			
	comp=Z,160nm,19.5s						
GTA				LZ			
	comp=Z,160nm,21.4s						
KURK	**Kurchatov**	**165.60**	**4**	PKIKP	**PKPdf**	**00 43 46.5**	**-1.3**
KURK						00 48 33.8	
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK				pmax	pmax		
	comp=Z,11nm,1.2s						
KURK	**Kurchatov**	**165.60**	**4**	P	**PKPdf**	**00 43 46.6**	**-1.3**
	SNR=5.3						
KURK	**Kurchatov**	**165.60**	**4**	*e*PKPdf	**PKPdf**	**00 43 46.0**	**-1.8**
KURK				*e*PKPab	**PKPab**	**00 44 46.5**	**+0.1**
KURK				*e*PP	**PP**	**00 48 33.3**	**+0.2**
KURBB	**Kurchatov Arra**	**165.69**	**5**	PKP	**PKPdf**	**00 43 46.5**	**-1.4**
	comp=Z,2.2nm,1.0s,baz=14,slow=0.9,SNR=14						
KURBB				PKPab	**PKPab**	**00 44 46.8**	**-0.1**
	comp=Z,5.1nm,1.0s,baz=337,slow=5.5,SNR=20						
KURBB				PP	**PP**	**00 48 33.8**	**+0.2**
	comp=Z,11nm,1.2s,baz=341,slow=5.5,SNR=17						
MK32	**Makanchi Array**	**169.47**	**352**	*e*PKPdf	**PKPdf**	**00 43 49.4**	**-1.4**
MK32				*e*PKPab	**PKPab**	**00 45 02.6**	**-1.2**
MK32				*e*PP	**PP**	**00 48 53.1**	**+0.2**
MKAR	**Makanchi Array**	**169.47**	**352**	PKP	**PKPdf**	**00 43 49.4**	**-1.4**
	comp=Z,1.8nm,1.0s,baz=298,slow=2.6,SNR=11						
MKAR				PKPab	**PKPab**	**00 45 02.6**	**-1.2**
	comp=Z,3.0nm,0.9s,baz=320,slow=5.3,SNR=8.0						
MKAR				PP	**PP**	**00 48 53.1**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=352,slow=4.9,SNR=7.4						
MKAR	**Makanchi Array**	**169.47**	**352**	PKIKP	**PKPdf**	**00 43 49.4**	**-1.4**
MKAR						00 45 02.6	
MKAR						00 48 53.1	
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**169.47**	**352**	*e*PKPdf	**PKPdf**	**00 43 48.6**	**-2.2**
MKAR				*e*PKPab	**PKPab**	**00 45 02.9**	**-0.9**
MKAR				*e*PP	**PP**	**00 48 52.8**	**-0.2**
WMQ	**Urumqi**	**170.64**	**325**	*e*PKP	**PKPdf**	**00 43 49.8**	**-1.8**
WMQ				pPKP	**pPKPdf**	**00 44 00.0**	**+5.0**
WMQ				PPMZ			
	comp=Z,99nm,4.6s						
WMQ				LN			
	comp=Z,350nm,25.4s						
WMQ				LE			
	comp=Z,500nm,32.2s						
WMQ				LZ			
	comp=Z,450nm,30.0s						
FRU	**Bishkek**	**172.20**	**32**	*e*PKIKP	PKPdf	00 43 44.0	-8.4
FRU				*e*		00 49 08.0	
AAK	**Ala-Archa**	**172.31**	**34**	PKP	**PKPdf**	**00 43 52.9**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=188,slow=1.6,SNR=5.8						
AAK				PKPab	**PKPab**	**00 45 17.4**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=258,slow=1.7,SNR=4.9						
AAK				PP	**PP**	**00 49 08.9**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=54,slow=6.8,SNR=5.4						
AAK	**Ala-Archa**	**172.31**	**34**	PKIKP	**PKPdf**	**00 43 52.9**	**+0.3**
AAK						00 49 08.9	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**172.31**	**34**	*e*PKPdf	**PKPdf**	**00 43 52.1**	**-0.5**
AAK				*e*PKPab	**PKPab**	**00 45 16.8**	**+0.1**
AAK				*e*PP	**PP**	**00 49 04.4**	**-3.3**
TKM2	**Tokmak 2**	**172.52**	**27**	*e*PKIKP	**PKPdf**	**00 43 52.2**	**-0.5**
TKM2				*e*		00 45 16.0	
TKM2				*e*		00 49 06.9	
TKM2	**Tokmak 2**	**172.52**	**27**	*e*PKPdf	**PKPdf**	**00 43 52.2**	**-0.5**
TKM2				*e*PKPab	**PKPab**	**00 45 16.0**	**-1.7**
TKM2				*e*PP	**PP**	**00 49 06.9**	**-1.8**
KSH	**Kashi**	**175.36**	**46**	*e*PKP	**PKPdf**	**00 43 54.4**	**+0.7**
KSH				PKS	**PKSdf**	**00 47 25.3**	**-0.6**
KSH				SKS	**SKSdf**	**00 50 54.0**	**-2.9**
KSH				PPMZ			
	comp=Z,150nm,4.1s						
KSH				LN			
	comp=Z,98nm,6.3s						
KSH				LE			
	comp=Z,91nm,6.0s						
KSH				LZ			
	comp=Z,150nm,6.2s						

CSEM ***24*** *00:40:39.2, 38°.24N×22°.68E, h25km, MD2.7*
ATH 24 00:40:39.2, 38°.24N×22°.68E, h25km±2km**, MD2.7**/7,

Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.31**	**134**	*e*PB	Pb		00 40 46.4	-0.1
LTK				*e*SB	Sb		00 40 52.1	+0.7
LTK	**Loutraki**	**0.31**	**134**	*e*Pb	Pb		00 40 46.4	-0.1
LTK				*e*Sb	Sb		00 40 52.1	+0.7
GUR	**Goura**	**0.40**	**221**	*e*PB	Pb		00 40 48.0	0.0
GUR				*e*SB	Sb		00 40 54.2	+0.2
GUR	**Goura**	**0.40**	**221**	*e*Pb	Pb		00 40 48.0	0.0
GUR				*e*Sb	Sb		00 40 54.2	+0.2
KALE	**Kalithea**	**0.45**	**290**	*e*PB	Pb		00 40 48.8	+0.1
KALE				*e*SB	Sb		00 40 55.7	+0.5
KALE	**Kalithea**	**0.45**	**290**	*e*Pb	Pb		00 40 48.8	+0.1
KALE				*e*Sb	Sb		00 40 55.7	+0.5
KLV	**Kalavryta, Ach**	**0.46**	**245**	*e*PB	Pb		00 40 49.0	+0.1
KLV				*e*SB	Sb		00 40 55.6	+0.1
KLV	**Kalavryta, Ach**	**0.46**	**245**	*e*Pb	Pb		00 40 49.0	+0.1
KLV				*e*Sb	Sb		00 40 55.6	+0.1
LKR	**Lokris**	**0.48**	**31**	*e*PB	Pb		00 40 48.7	-0.4
LKR				*e*SB	Sb		00 40 56.1	+0.2
LKR	**Lokris**	**0.48**	**31**	*e*Pb	Pb		00 40 48.7	-0.4
LKR				*e*Sb	Sb		00 40 56.1	+0.2
AXAR	**Agios Charalam**	**0.53**	**358**	*e*PN	Pb		00 40 50.0	+0.1
AXAR				*e*SN	Sb		00 40 58.1	+0.9
AXAR	**Agios Charalam**	**0.53**	**358**	*e*Pn	Pb		00 40 50.0	+0.1
AXAR				*e*Sn	Sb		00 40 58.1	+0.9
EFP	**Efpalio**	**0.64**	**287**	*e*PN	Pb		00 40 52.1	+0.4
EFP	**Efpalio**	**0.64**	**287**	*e*Pn	Pb		00 40 52.1	+0.4
DRO	**Drossia**	**0.82**	**250**	*e*PN	Pn		00 40 55.5	+0.3
DRO	**Drossia**	**0.82**	**250**	*e*Pn	Pn		00 40 55.5	+0.3

ISCJB ***24*** *00:54:26.5±0.7, 37°.89N±0°.04×27°.26E±0°.06, h11km±6km, Error ellipse: s-maj=7.9km s-min=6.1km az=156.6*
ISK ***24*** *00:54:26.0, 37°.85N×27°.28E, h18km, MD2.8*
CSEM ***24*** *00:54:26.4±0.2, 37°.87N×27°.27E, h15km, MD2.8, Error ellipse: s-maj=7.7km s-min=5.5km az=76.0*
DDA ***24*** *00:54:27.3, 37°.85N×27°.16E, h7km, MD2.7*
ISC 24 00:54:26.2±1.2, 37°.84N±0°.05×27°.27E±0°.04, h13km±13km**, n15, σ0s30/22, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.14**	**192**	*i* P		**Pb**	**00 54 31.1**	**+0.4**
GCAM				*i* S		**Sb**	**00 54 33.8**	**0.0**
GCAM	**G?zelcaml?**	**0.14**	**192**	*i* P		**Pb**	**00 54 31.1**	**+0.4**
GCAM				*i* S		**Sb**	**00 54 33.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.50**	**77**	*e*PG		**Pg**	**00 54 36.2**	**+0.1**
AYDB				*e*SG		**Sb**	**00 54 44.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.50**	**77**	*e*Pg		**Pg**	**00 54 36.2**	**+0.1**
AYDB				*e*Sg		**Sb**	**00 54 44.2**	**-0.1**
BLCB	**Balcova**	**0.57**	**342**	*e*PG		**Pg**	**00 54 37.6**	**+0.1**
BLCB	**Balcova**	**0.57**	**342**	*e*Pg		**Pg**	**00 54 37.6**	**+0.1**
ZEY	**¯zmir**	**0.73**	**304**	*i* P		**Pg**	**00 54 40.2**	**-0.1**
ZEY				*i* S		**Sg**	**00 54 49.5**	**-0.4**
BODT	**Bodrum**	**0.78**	**178**	*e*PG		**Pb**	**00 54 42.0**	**+0.4**
BODT	**Bodrum**	**0.78**	**178**	*e*Pg		**Pb**	**00 54 42.0**	**+0.4**
BDRM	**Kayabasi**	**0.78**	**170**	*i* P		**Pn**	**00 54 42.9**	**-0.1**
BDRM				*i* S		**Sn**	**00 54 54.7**	**0.0**
BDRM	**Kayabasi**	**0.78**	**170**	*i* P		**Pn**	**00 54 42.9**	**-0.1**
BDRM				*i* S		**Sn**	**00 54 54.7**	**0.0**
CHOS	**Chios island**	**1.10**	**300**	*e*PN		**Pn**	**00 54 47.4**	**-0.1**
CHOS	**Chios island**	**1.10**	**300**	*e*Pn		**Pn**	**00 54 47.4**	**-0.1**
DAT	**Datca**	**1.14**	**167**	*e*PN		**Pn**	**00 54 47.3**	**-0.6**
DAT	**Datca**	**1.14**	**167**	*e*Pn		**Pn**	**00 54 47.3**	**-0.6**

CSEM ***24*** *01:07:00.3, 38°.20N×26°.66W, h1km, ML2.4*
PDA 24 01:07:00.3±1.4, 38°.20N×26°.66W, h1km±9km, MD3.5, ML2.4, Error ellipse: s-maj=10.9km s-min=4.3km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.64**	**315**	*e*P		Pg	01 07 11.0	-1.5
ADH				*e*S		Sg	01 07 19.7	-1.1
ADH				A		A	01 07 20.0	
	102nm,0.4s							
ADH	**Angra Heroismo**	**0.64**	**315**	*e*P		Pg	01 07 11.0	-1.5
ADH				*e*S		Sg	01 07 19.7	-1.1
PSET	**Sete Cid

CMIG **Matias Romero** 17.53 325 P **P** **01 16 23.0 +4.4**
0.4nm,0.3s,baz=119,slow=10,SNR=5.6
CMIG LR LR 01 21 52.0
comp=Z,360nm,18.5s,baz=182,slow=33
TEIG Tepich 17.69 348 LR LR 01 22 32.7
comp=Z,442nm,19.7s,baz=146,slow=35
SDDR Presa de Saban 20.50 38 *e*Pn Pn 01 16 53.2 -0.2
124nm,2.1s
PCRV Puerto La Cruz 20.88 69 P **P** **01 16 55.5 +0.1**
35nm,1.1s,baz=230,slow=4.5,SNR=3.5
PCRV LR LR 01 24 55.6
comp=Z,180nm,18.2s,baz=259,slow=37
SMN1 Samana, DR 21.93 41 *e*P **P** **01 17 08.1 +1.5**
SAML Samuel 24.13 119 *e*P **P** **01 17 27.6 -1.3**
8.7nm,1.3s
PTGA Pitinga 24.63 98 LR LR 01 27 04.8
comp=Z,401nm,19.8s,baz=280,slow=36
PTGA Pitinga 24.63 98 *e*P **P** **01 17 34.2 +0.7**
90nm,2.5s
LPAZ La Paz 24.87 140 P **P** **01 17 37.4 +1.1**
3.8nm,0.8s,baz=317,slow=11,SNR=10
LPAZ LR LR 01 28 26.1
comp=Z,419nm,20.0s,baz=300,slow=39
LPAZ La Paz 24.87 140 *e*P **P** **01 17 36.6 +0.2**
555nm,0.8s
LVC Limon Verde 29.46 150 LR LR 01 28 40.5
comp=Z,491nm,18.2s,baz=316,slow=34
SIV San Ignacio 29.67 130 LR LR 01 30 32.7
comp=Z,623nm,20.0s,baz=302,slow=37
TXAR Lajitas Array 32.10 327 LR LR 01 30 53.6
comp=Z,146nm,19.7s,baz=0.0,slow=35
KMSC Kings Mountain 32.25 5 *e*P **P** **01 18 41.6 +0.3**
96nm,2.7s
ABTX Abilene, Hawle 32.91 336 *e*P **P** **01 18 47.8 +0.7**
26nm,1.8s
PBMO Poplar Bluff 34.22 351 *e*P **P** **01 18 58.3 -0.1**
11nm,1.3s
BLA Blacksburg 34.38 6 *e*P **P** **01 18 59.2 -0.7**
16nm,1.3s
MNTX Cornudas Mount 34.87 328 *e*P **P** **01 19 04.2 0.0**
29nm,2.3s
CFAA Coronel Fontan 37.54 157 P **P** **01 19 27.6 +0.6**
0.3nm,0.7s,baz=347,slow=6.0,SNR=3.5
MVL Millersville 37.68 10 *e*P **P** **01 19 28.5 +0.5**
15nm,1.3s
LAZ Ladron 37.89 329 *e*P **P** **01 19 30.8 +0.6**
2.5nm,1.0s
ANMO Albuquerque 37.97 330 *e*P **P** **01 19 32.1 +1.3**
3.4nm,0.9s
T25A Trinidad 38.79 334 *e*P **P** **01 19 39.7 +1.9**
63nm,2.5s
CPUP Villa Florida 39.04 140 LR LR 01 38 09.6
comp=Z,1μm,18.6s,baz=332,slow=40
SDCO Great Sand Dun 39.78 333 *e*P **P** **01 19 47.8 +1.7**
5.2nm,0.9s
BDFB Brasilia 40.36 118 LR LR 01 36 43.6
comp=Z,207nm,18.6s,baz=275,slow=36
SMCO Snowmass 41.61 333 *e*P **P** **01 20 02.8 +1.5**
6.3nm,0.8s
ECSD EROS Data Cent 42.14 347 *e*P **P** **01 20 04.8 -0.3**
6.9nm,1.2s
SPMN Marine on St. 42.85 351 *e*P **P** **01 20 09.6 -1.2**
3.3nm,0.3s
CCUT Cedar City 43.60 326 *e*P **P** **01 20 16.6 -0.7**
34nm,2.4s
RSSD Black Hills 44.64 340 *e*P **P** **01 20 25.7 +0.2**
3.2nm,0.7s
PLCA Paso Flores 45.17 165 P **P** **01 20 29.2 -0.4**
2.2nm,0.9s,baz=333,slow=9.1,SNR=5.0
PLCA LR LR 01 35 14.3
comp=Z,102nm,22.0s,baz=347,slow=31
PLCA Paso Flores 45.17 165 *e*P **P** **01 20 28.9 -0.7**
6.1nm,1.0s
PDAR Pinedale Array 45.66 334 P **P** **01 20 34.1 +0.4**
1.2nm,0.9s,baz=134,slow=9.1,SNR=9.0
PDAR PcP **PcP** **01 22 12.1 +0.5**
0.6nm,1.0s,baz=180,slow=2.3,SNR=3.1
PDAR LR LR 01 40 33.8
comp=Z,239nm,20.1s,baz=154,slow=37
HWUT Hardware Ranch 45.67 331 *e*P **P** **01 20 33.4 -0.3**
8.0nm,0.8s
AGMN Agassiz Nation 46.34 349 *e*P **P** **01 20 38.0 -0.6**
109nm,3.0s
REDW Red Top Meadow 46.71 333 *e*P **P** **01 20 42.9 +1.0**
16nm,1.5s
NVAR Mina Array Bea 47.06 323 P **P** **01 20 45.6 +0.9**
1.3nm,0.7s,baz=127,slow=7.6,SNR=8.9
ULM Lac du Bonnet 48.23 350 P **P** **01 20 52.2 -1.1**
4.6nm,1.0s,baz=209,slow=8.1,SNR=5.6
ULM LR LR 01 43 02.5
comp=Z,65nm,18.4s,baz=156,slow=38
WVOR Wild Horse Val 49.90 327 *e*P **P** **01 21 07.5 +1.1**
13nm,1.5s
FCC Fort Churchill 56.27 354 *e*P **P** **01 21 51.7 -1.2**
YKA Yellowknife Ar 63.62 345 P **P** **01 22 41.7 -1.5**
0.6nm,0.8s,baz=132,slow=5.9,SNR=4.8
PPT Papeete 67.40 250 LR LR 01 44 54.3
comp=Z,273nm,20.5s,baz=349,slow=29
INK Inuvik 73.22 343 P **P** **01 23 43.1 -0.2**
2.7nm,1.1s,baz=128,slow=5.0,SNR=3.7
ILAR Eielson Array 75.99 337 P **P** **01 23 58.1 -1.3**
0.9nm,1.0s,baz=156,slow=3.0,SNR=5.3
ILAR LR LR 01 59 08.9
comp=Z,116nm,20.0s,baz=136,slow=37
MCK McKinley 76.41 336 *e*P **P** **01 24 01.9 +0.1**
9.9nm,1.4s
ESDC Sonseca Array 80.78 50 P **P** **01 24 25.4 -1.1**
0.1nm,0.5s,baz=278,slow=4.8,SNR=5.1
TORD Torodi Ar. Bea 85.50 77 P **P** **01 24 49.8 -1.5**
1.0nm,0.7s,baz=257,slow=3.0,SNR=5.9
WLF Walferdange 88.17 41 *e*P **P** **01 25 03.1 -0.5**
5.7nm,0.9s
TAM Tamanrasset 88.79 67 *e*P **P** **01 25 07.0 -0.3**
3.0nm,1.2s
STU Stuttgart 90.21 41 *e*P **P** **01 25 13.5 +0.3**
11nm,0.6s
VNDA Vanda 97.81 192 LR LR 02 00 36.0
comp=Z,54nm,19.1s,baz=165,slow=30
ZALV Zalesovo Beam 122.68 8 PKP **PKPdf** **01 31 11.9 +3.7**
0.4nm,0.4s,baz=333,slow=1.6,SNR=3.2
KURK Kurchatov 124.67 13 *e*PKPdf **PKPdf** **01 31 12.7 +0.5**
MKAR Makanchi Array 129.18 12 PKP **PKPdf** **01 31 19.4 -1.6**
0.3nm,0.7s,baz=302,slow=3.2,SNR=3.2
EKS2 Erkin-Say 130.56 21 *e*PKPdf **PKPdf** **01 31 24.5 +0.6**
TKM2 Tokmak 2 130.97 19 *e*PKPdf **PKPdf** **01 31 25.3 +0.5**
WMQ Urumqi 132.99 8 *e*PKP **PKPdf** **01 31 24.0 -4.4**
KSH Kashi 134.12 21 *e*PKP **PKPdf** **01 31 31.1 +0.4**
KSH PP **PP** **01 34 04.9 +4.5**
KSH PKS **PKSdf** **01 35 04.9 -2.3**
KSH SKS **SKSdf** **01 38 40.8 +0.4**
KSH SKKS **SKKSac** **01 40 55.4 -0.1**
KSH LN
83nm,5.2s
KSH LE
93nm,6.5s
KSH LZ
160nm,6.1s
HHC Hu-ho-hao-te 134.14 343 *e*PKP **PKPdf** **01 31 31.8 +1.1**
HHC PPMZ
58nm,8.6s
HHC LN
88nm,19.7s
HHC LE
130nm,18.5s
HHC LZ
70nm,18.5s
ASAR Alice Springs 137.64 237 PKP **PKPdf** **01 31 37.6 +0.1**
0.5nm,0.8s,baz=84,slow=3.8,SNR=3.0
WRA Warramunga Arr 138.61 243 PKP **PKPdf** **01 31 39.1 -0.3**
0.5nm,0.8s,baz=106,slow=2.1,SNR=4.9
NJ2 Nanjing 138.89 329 *e*PKP **PKPdf** **01 31 37.1 -2.5**
CD2 Chengdu 145.55 348 PKP **PKPdf** **01 31 50.0 -1.5**
KAPI Kappang 155.87 264 *e*PKPdf **PKPdf** **01 32 07.0 -0.8**

ISCJB ***24*** *01:17:02.6±0.6, 17°.96S±0°.03×69°.59W±0°.04, h105km±5km, mb4.5/54, Error ellipse: s-maj=6.9km s-min=4.4km az=139.3*
SJA ***24*** *01:17:02.2±0.4, 18°.23S×70°.17W, h240km, ML4.6*
NEIC ***24*** *01:17:05.8±0.7, 18°.06S×69°.68W, h124km±6km, mb4.6/42, Error ellipse: s-maj=8.6km s-min=5.4km az=59.0*
NEIC Felt [II] at Arica. Also felt [II] at Tacna, Peru.
IDC ***24*** *01:17:06.1±0.6, 18°.04S×69°.58W, h126km±4km, mb4.2/17, mb1 4.3/21, mb1mx4.2/28, mbtmp4.7/21, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=13.9km*

s-min=10.6km az=63.0
BJI ***24*** *01:17:07.8, 18°.00S×69°.60W, h140km, mB5.2/9*
ISC 24 01:17:05.8±0.5, 18°.10S±0°.04×69°.59W±0°.06, h127km±4km, h127km:pP-P, n304, σ1s12/308, mb4.6/53, 87C-92D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**2.17**	**30**	P			**Pn**	**01 17 45.0**	**+2.8**
	baz=228,slow=17,SNR=1.0								
LPAZ	**La Paz**	**2.28**	**38**	P			Pn	01 17 47.2	+3.5
	47nm,0.3s,baz=223,slow=7.3,SNR=706								
LPAZ				S			**Sn**	**01 18 15.8**	**+3.2**
	48nm,0.3s,baz=309,slow=14,SNR=6.9								
ARE	**Arequipa**	**2.44**	**312**	*i* P			**Pn**	**01 17 42.9**	**-2.5**
ARE				*i* S			Sn	01 18 08.6	-7.2
LVC	**Limon Verde**	**4.53**	**172**	P			**Pn**	**01 18 13.4**	**+0.6**
	2μm,0.3s,baz=4.1,slow=9.1,SNR=1138								
LVC				S			**Sn**	**01 19 03.8**	**-1.1**
	7μm,0.3s,baz=270,slow=21,SNR=31								
LVC	**Limon Verde**	**4.53**	**172**	*i* P			**Pn**	**01 18 12.9**	**+0.1**
LVC				*i* P			**Pn**	**01 18 12.9**	**+0.1**
LVC				*e*S			**Sn**	**01 19 04.8**	**-0.1**
YJA	**Yavi**	**5.58**	**137**	*i* P			Pn	01 18 30.2	+3.3
AZAP	**Zapla**	**7.41**	**146**	*i* P			**Pn**	**01 18 51.5**	**0.0**
AZAP				*i* S			**Sn**	**01 20 13.3**	**-0.9**
AZAP				AML			AML	01 20 18.0	
	comp=Z,58nm,0.3s								
ASTB	**Santa Barbara**	**7.52**	**142**	*i* P			**Pn**	**01 18 53.5**	**+0.6**
SLA	**San Lorenzo**	**7.61**	**151**	*i* P4				01 18 55.1	
SIV	**San Ignacio**	**8.41**	**77**	P			**Pn**	**01 19 05.1**	**+0.2**
	comp=Z,46nm,0.3s,baz=273,slow=10.0,SNR=106								
SIV				S			**Sn**	**01 20 36.4**	**-1.9**
	comp=Z,1.9nm,0.3s,baz=90,slow=20,SNR=3.1								
FSA	**Cafayete**	**8.62**	**158**	*i* P4				01 18 56.8	
NNA	**Nana**	**9.27**	**310**	P			Pn	01 19 12.9	-3.6
	comp=Z,14nm,0.3s,baz=118,slow=14,SNR=15								
NNA				S			Sn	01 20 47.7	-11
	comp=Z,6.1nm,0.3s,baz=208,slow=17,SNR=3.8								
NNA	**Nana**	**9.27**	**310**	*e*Pn			Pn	01 19 12.7	-3.8
NNA				*e*Sn			Sn	01 20 49.2	-10
SAML	**Samuel**	**11.02**	**35**	*e*Pn			**Pn**	**01 19 38.1**	**-1.8**
SAML				*e*Sn			**Sn**	**01 21 36.0**	**-5.5**
CFAA	**Coronel Fontan**	**13.50**	**175**	P			Pn	01 20 08.8	-3.4
	comp=Z,0.3nm,0.3s,baz=349,slow=7.6,SNR=16								
CFAA				S			Sn	01 22 30.5	-11
	comp=Z,0.2nm,0.3s,baz=218,slow=18,SNR=8.1								
ATAH	**Atahualpa**	**13.87**	**321**	P			**Pn**	**01 20 17.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=139,slow=19,SNR=2.8								
CPUP	**Villa Florida**	**13.99**	**128**	P			**Pn**	**01 20 18.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=309,slow=13,SNR=12								
CPUP				LR			LR	01 26 35.5	
	comp=Z,110nm,19.3s,baz=332,slow=41								
CPUP	**Villa Florida**	**13.99**	**128**	*e*Pn			**Pn**	**01 20 16.2**	**-2.3**
	comp=Z,0.1nm,0.7s								
PTGA	**Pitinga**	**19.68**	**30**	P			**P**	**01 21 24.9**	**-0.2**
	comp=Z,20nm,0.3s,baz=334,slow=22,SNR=63								
PTGA	**Pitinga**	**19.68**	**30**	*e*P			**P**	**01 21 24.8**	**-0.3**
	comp=Z,38nm,0.4s								
OTAV	**Otavalo**	**20.20**	**334**	*e*P			**P**	**01 21 29.9**	**-1.2**
	comp=Z,12nm,1.2s								
BDFB	**Brasilia**	**20.79**	**86**	P			**P**	**01 21 37.5**	**+0.3**
	comp=Z,35nm,0.7s,baz=257,slow=11,SNR=39								
TRQA	**Tornquist**	**20.97**	**163**	*e*P			**P**	**01 21 40.0**	**+1.2**
	comp=Z,111nm,2.1s								
PLCA	**Paso Flores**	**22.57**	**182**	P			**P**	**01 21 55.6**	**+0.2**
	comp=Z,9.1nm,0.6s,baz=5.7,slow=10,SNR=36								
PLCA	**Paso Flores**	**22.57**	**182**	*e*P			**P**	**01 21 55.7**	**+0.2**
	comp=Z,50nm,1.4s								
BCIP	**Isla Barro Col**	**28.92**	**339**	*e*P			**P**	**01 22 52.9**	**-0.1**
	comp=Z,23nm,0.9s								
RCBR	**Riachuelo**	**35.06**	**74**	P			**P**	**01 23 47.7**	**+0.9**
	comp=Z,14nm,0.8s,baz=226,slow=7.4,SNR=5.6								
RCBR	**Riachuelo**	**35.06**	**74**	*e*P			**P**	**01 23 47.3**	**+0.5**
	comp=Z,21nm,1.0s								
OBIP	**Obispado Ponce**	**36.04**	**5**	*e*P			**P**	**01 23 54.3**	**-0.7**
USHA	**Ushuaia**	**36.67**	**179**	P			**P**	**01 23 59.8**	**-0.1**
	comp=Z,12nm,0.8s,baz=327,slow=8.9,SNR=3.7								
GTBY	**Guantanamo Bay**	**38.18**	**352**	*e*P			**P**	**01 24 12.2**	**-0.8**
TEIG	**Tepich**	**42.27**	**333**	P			**P**	**01 24 47.3**	**+0.5**
	comp=Z,3.2nm,0.4s,baz=137,slow=2.0,SNR=6.7								
TEIG	**Tepich**	**42.27**	**333**	*e*P			**P**	**01 24 45.5**	**-1.3**
CMIG	**Matias Romero**	**42.93**	**323**	P			**P**	**01 24 51.9**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=37,slow=4.9,SNR=3.5								
GOGA	**Godfrey**	**52.91**	**345**	*e*P			**P**	**01 26 07.4**	**-1.3**
	comp=Z,3.3nm,0.6s								
KMSC	**Kings Mountain**	**54.11**	**348**	*e*P			**P**	**01 26 16.9**	**-0.6**
	comp=Z,6.6nm,0.6s								
833A	**Chaparral WMA,**	**54.42**	**327**	⇓P			**P**	**01 26 20.1**	**+0.2**
	baz=55,SNR=5.2								
ASCN	**Ascension**	**54.58**	**87**	*e*P			**P**	**01 26 23.1**	**+1.7**
832A	**Faith Ranch, C**	**54.69**	**327**	⇓P			**P**	**01 26 22.4**	**+0.6**
	baz=55								
733A	**Divot King Ran**	**54.69**	**328**	⇓P			**P**	**01 26 21.9**	**+0.1**
	baz=55								
732A	**Laxson Ranch,**	**55.04**	**327**	⇓P			**P**	**01 26 24.6**	**+0.2**
	baz=55								
TKL	**Tuckaleechee C**	**55.13**	**346**	*e*P			**P**	**01 26 24.2**	**-0.7**
633A	**Saathoff Ranch**	**55.23**	**328**	⇑P			**P**	**01 26 25.8**	**+0.1**
	baz=55,SNR=5.1								
337A	**Centerville**	**55.24**	**333**	⇓P			**P**	**01 26 26.7**	**+0.9**
	baz=55								
SWET	**Sewanee**	**55.25**	**344**	*e*P			**P**	**01 26 24.4**	**-1.4**
	comp=Z,11nm,0.8s								
534A	**Blanco**	**55.36**	**329**	⇑P			**P**	**01 26 26.1**	**-0.6**
	baz=56								
632A	**Uvalde**	**55.58**	**328**	⇓P			**P**	**01 26 28.3**	**+0.1**
	baz=56								
533A	**Kerrville**	**55.67**	**329**	⇑P			**P**	**01 26 29.1**	**+0.2**
	baz=56								
336A	**Riesel**	**55.73**	**332**	⇓P			**P**	**01 26 29.5**	**+0.2**
	baz=56								
631A	**Perdido Creek**	**55.91**	**327**	⇑P			**P**	**01 26 30.1**	**-0.5**
	baz=56								
532A	**Rocksprings**	**56.14**	**328**	⇓P			**P**	**01 26 32.5**	**+0.2**
	baz=56								
433A	**Art**	**56.26**	**329**	⇓P			**P**	**01 26 32.7**	**-0.3**
	baz=56,SNR=5.1								
334A	**Lometa**	**56.33**	**330**	⇓P			**P**	**01 26 33.3**	**-0.3**
	baz=56								
JCT	**Junction City**	**56.38**	**329**	⇓P			**P**	**01 26 34.4**	**+0.4**
	baz=56								
JCT	**Junction City**	**56.38**	**329**	*e*P			**P**	**01 26 34.2**	**+0.3**
	comp=Z,7.0nm,0.9s								
531A	**Rocksprings**	**56.50**	**328**	⇓P			**P**	**01 26 34.9**	**+0.1**
	baz=57								
WVT	**Waverly**	**56.63**	**342**	*e*P			**P**	**01 26 34.1**	**-1.4**
	comp=Z,15nm,1.2s								
333A	**Richland Sprin**	**56.67**	**330**	⇓P			**P**	**01 26 35.6**	**-0.4**
	baz=57								
432A	**Menard**	**56.70**	**329**	⇑P			**P**	**01 26 36.1**	**-0.1**
	baz=57								
234A	**Clairette**	**56.84**	**331**	⇑P			**P**	**01 26 37.1**	**0.0**
	baz=57								
530A	**J-C Ranch, Com**	**56.89**	**327**	⇓P			**P**	**01 26 37.7**	**+0.1**
	baz=57								
431A	**Sonora**	**56.95**	**328**	⇓P			**P**	**01 26 37.9**	**-0.1**
	baz=57								
332A	**Millersview**	**57.09**	**329**	⇑P			**P**	**01 26 38.7**	**-0.2**
	baz=57								
MIAR	**Mount Ida**	**57.11**	**336**	*e*P			**P**	**01 26 38.5**	**-0.5**
	comp=Z,21nm,1.7s								
233A	**Rising Star**	**57.21**	**330**	⇓P			**P**	**01 26 39.7**	**-0.1**
	baz=57								
529A	**Stev Forest Ra**	**57.33**	**326**	⇑P			**P**	**01 26 40.7**	**0.0**
	baz=58,SNR=5.0								
430A	**Baggett Ranch,**	**57.35**	**328**	⇓P			**P**	**01 26 40.4**	**-0.4**
	baz=58,SNR=5.7								
331A	**San Angelo**	**57.36**	**329**	⇓P			**P**	**01 26 40.5**	**-0.4**
	baz=58								
232A	**Coleman**	**57.46**	**330**	⇓P			**P**	**01 26 41.5**	**0.0**
	baz=58								
TXAR	**Lajitas Array**	**57.49**	**325**	P			**P**	**01 26 41.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=133,slow=9.2,SNR=2.9								
TXAR				PcP			**PcP**	**01 27 34.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=122,slow=3.4,SNR=3.2								
429A	**Davenport Ranc**	**57.56**	**327**	⇑P			**P**	**01 26 42.1**	**-0.2**
	baz=58,SNR=6.0								
Z35A	**Perchaven, San**	**57.56**	**333**	⇓P			**P**	**01 26 42.6**	**+0.4**
	baz=58								
133A	**Hamilton Ranch**	**57.71**	**331**	⇓P			**P**	**01 26 43.2**	**0.0**
	baz=58								
330A	**Mertzon**	**57.82**	**328**	⇑P			**P**	**01 26 44.1**	**+0.1**
	baz=58								
231A	**Bronte**	**57.82**	**329**	⇓P			**P**	**01 26 43.6**	**-0.4**
	baz=58								
X37A	**Clayton**	**57.85**	**335**	⇓P			**P**	**01 26 44.4**	**+0.3**
	baz=58								
Z34A	**Collier Ranch,**	**57.89**	**332**	⇑P			**P**	**01 26 44.7**	**+0.3**
	baz=58								
W38A	**Poteau**	**57.94**	**336**	⇓P			**P**	**01 26 45.1**	**+0.4**
	baz=58								
PBMO	**Poplar Bluff**	**58.02**	**340**	*e*P			**P**	**01 26 44.4**	**-0.9**
	comp=Z,8.5nm,0.7s								
ABTX	**Abilene, Hawle**	**58.06**	**330**	⇑P			**P**	**01 26 45.5**	**-0.2**
	baz=58								
ABTX	**Abilene, Hawle**	**58.06**	**330**	*e*P			**P**	**01 26 44.7**	**-1.0**
	comp=Z,8.9nm,1.0s								
WCI	**Wyandotte Cave**	**58.19**	**345**	*e*P			**P**	**01 26 44.4**	**-2.0**
	comp=Z,9.0nm,1.1s								
Z33A	**Whitaker Ranch**	**58.20**	**331**	⇑P			**P**	**01 26 46.6**	**-0.1**
	baz=58								
329A	**Wagon Wheel Ra**	**58.29**	**327**	⇓P			**P**	**01 26 47.0**	**-0.4**
	baz=58								
Y34A	**Reagan Ranch,**	**58.32**	**333**	⇓P			**P**	**01 26 47.5**	**+0.1**
	baz=58								
X35A	**Drake**	**58.35**	**333**	⇓P			**P**	**01 26 47.8**	**+0.1**
	baz=58								
131A	**Roby**	**58.46**	**330**	⇑P			**P**	**01 26 48.6**	**+0.1**
	baz=59								
SIUC	**Southern Illin**	**58.51**	**342**	*e*P			**P**	**01 26 47.3**	**-1.3**
229A	**Bryant Ranch,**	**58.59**	**328**	⇓P			**P**	**01 26 49.5**	**+0.1**
	baz=59								
W36A	**Wetumka**	**58.68**	**335**	⇑P			**P**	**01 26 49.6**	**-0.3**
	baz=59								
Z31A	**Sharp Cattle R**	**58.87**	**330**	⇑P			**P**	**01 26 51.3**	**-0.1**
	baz=59								
W35A	**Tecumseh**	**58.96**	**334**	⇓P			**P**	**01 26 51.4**	**-0.5**
	baz=59								
X33A	**Lawton**	**59.14**	**332**	⇑P			**P**	**01 26 53.4**	**+0.3**
	baz=59								
129A	**Stewart Farms,**	**59.15**	**328**	⇓P			**P**	**01 26 53.4**	**+0.1**
	baz=59								
TUL1	**Leonard**	**59.17**	**335**	⇓P			**P**	**01 26 53.9**	**+0.6**
	baz=59								
Z30A	**Sanderson Ranc**	**59.31**	**329**	⇓P			**P**	**01 26 54.2**	**-0.2**
	baz=60								
X32A	**Elmer**	**59.39**	**332**	⇓P			**P**	**01 26 55.2**	**+0.4**
	baz=60								
W34A	**Bridge Creek,**	**59.41**	**333**	⇓P			**P**	**01 26 55.6**	**+0.6**
	baz=60								
WMOK	**Wichita Mounta**	**59.43**	**332**	*e*P			**P**	**01 26 53.7**	**-1.4**
	comp=Z,1.3nm,0.8s								
128A	**Castleberry Fa**	**59.45**	**328**	⇓P			**P**	**01 26 55.4**	**0.0**
	baz=60								
Y31A	**Rekieta Farm,**	**59.46**	**331**	⇓P			**P**	**01 26 56.0**	**+0.6**
	baz=60								
W33A	**Caddo, Fort Co**	**59.64**	**333**	⇓P			**P**	**01 26 57.4**	**+0.9**
	baz=60								
V34A	**Guthrie**	**59.81**	**334**	⇑P			**P**	**01 26 57.8**	**+0.1**
	baz=60								
X31A	**McDonald Ranch**	**59.88**	**331**	⇑P			**P**	**01 26 57.8**	**-0.4**
	baz=60,SNR=6.1								
Z28A	**Tucker Farm, M**	**59.94**	**328**	⇓P			**P**	**01 26 58.7**	**0.0**
	baz=60								
W32A	**Sentinel**	**59.96**	**332**	⇓P			**P**	**01 26 59.0**	**+0.2**
	baz=60								
Y29A	**Porterfield Fa**	**60.05**	**329**	⇓P			**P**	**01 26 59.2**	**-0.3**
	baz=60								
V33A	**Lossen Ranch,**	**60.12**	**333**	⇑P			**P**	**01 27 00.3**	**+0.4**
	baz=60								
X30A	**Coker Ranch, T**	**60.14**	**330**	⇓P			**P**	**01 27 00.2**	**+0.1**
	baz=60								
MNTX	**Cornudas Mount**	**60.26**	**325**	⇓P			**P**	**01 27 00.2**	**-0.6**
	baz=60								
MNTX	**Cornudas Mount**	**60.26**	**325**	*e*P			**P**	**01 26 58.7**	**-2.1**
W31A	**Holland Ranch,**	**60.32**	**332**	⇓P			**P**	**01 27 02.1**	**+0.8**
	baz=60								
U34A	**Anderson Ranch**	**60.33**	**334**	⇑P			**P**	**01 27 02.1**	**+0.8**
	baz=60								
Y28A	**McKinney Farm,**	**60.37**	**329**	⇑P			**P**	**01 27 01.4**	**-0.3**
	baz=60								
MSTX	**Muleshoe**	**60.67**	**329**	⇓P			**P**	**01 27 03.4**	**-0.3**
	baz=61								
S36A	**Lake Cedric, C**	**60.68**	**337**	⇑P			**P**	**01 27 03.3**	**-0.2**
	baz=61,SNR=5.8								
V31A	**Spring Creek L**	**60.77**	**332**	⇓P			**P**	**01 27 04.6**	**+0.4**
	baz=61								
AMTX	**Amarillo**	**60.88**	**330**	⇑P			**P**	**01 27 05.2**	**+0.1**
	baz=61								
U32A	**Winter Ranch,**	**60.91**	**333**	⇓P			**P**	**01 27 05.9**	**+0.7**
	baz=61								
S35A	**Otter Creek Ra**	**60.92**	**336**	⇑P			**P**	**01 27 05.4**	**+0.2**
	baz=61								
R36A	**Gordon, Harris**	**61.17**	**337**	⇓P			**P**	**01 27 07.0**	**+0.1**
	baz=61								
S34A	**Willow Spring**	**61.25**	**335**	⇑P			**P**	**01 27 07.0**	**-0.4**
	baz=61								
Q37A	**Longview Farm,**	**61.28**	**338**	⇓P			**P**	**01 27 07.7**	**+0.1**
	baz=62								
W28A	**Vega**	**61.43**	**330**	⇓P			**P**	**01 27 08.8**	**-0.1**
	baz=62								
T31A	**Randall Ranch,**	**61.80**	**333**	⇓P			**P**	**01 27 11.6**	**+0.4**
	baz=62								
R33A	**Olander Ranch,**	**62.12**	**335**	⇓P			**P**	**01 27 14.9**	**+1.6**
	baz=62								
121A	**Cookes Peak, D**	**62.22**	**324**	⇑P			**P**	**01 27 15.0**	**+0.7**
	baz=62								
319A	**Douglas**	**62.23**	**322**	⇑P			**P**	**01 27 14.9**	**+0.6**
	baz=62								
R32A	**Long Quarter,**	**62.52**	**334**	⇓P			**P**	**01 27 16.4**	**+0.5**
	baz=63								
T29A	**Hugoton**	**62.56**	**332**	⇓P			**P**	**01 27 17.3**	**+1.0**
	baz=63								
U27A	**Thompson Grove**	**62.67**	**330**	⇑P			**P**	**01 27 18.6**	**+1.4**
	baz=63								
S29A	**Ulysses**	**62.87**	**332**	⇑P			**P**	**01 27 18.5**	**+0.2**
	baz=63								
Q32A	**Meitler Ranch,**	**62.94**	**335**	⇑P			**P**	**01 27 19.1**	**+0.3**
	baz=63								
S28A	**Manter**	**63.19**	**332**	⇓P			**P**	**01 27 21.0**	**+0.5**
	baz=63								
LAZ	**Ladron**	**63.27**	**326**	*e*P			**P**	**01 27 20.4**	**-0.8**
ANMO	**Albuquerque**	**63.32**	**327**	*e*P			**P**	**01 27 21.1**	**-0.4**
	comp=Z,3.0nm,1.0s						

	baz=67						
ISCO	Idaho Springs	66.69	330	⇑P	P	01 27 44.1	+0.8
	baz=67						
ISCO	Idaho Springs	66.69	330	*e*P	P	01 27 42.5	-0.8
	comp=Z,2.4nm,0.9s						
SMCO	Snowmass	66.85	329	*e*P	P	01 27 45.3	+0.8
	comp=Z,2.8nm,0.7s						
O23A	Lake Granby, G	67.16	331	⇑P	P	01 27 47.2	+0.9
	baz=67						
PDMCI	Parker Dam,Lak	67.18	321	⇓P	P	01 27 47.2	+1.1
	baz=67						
O22A	Kremmling	67.41	330	⇑P	P	01 27 48.9	+1.0
	baz=68						
BC3	Big Chuckawall	67.54	320	⇑P	P	01 27 49.2	+0.6
	baz=68						
W13A	Hualapai Mount	67.58	322	⇓P	P	01 27 50.2	+1.2
	baz=68						
U15A	North Rim	67.60	324	⇓P	P	01 27 50.5	+1.4
	baz=68,SNR=5.9						
M24A	Cheyenne	67.66	332	⇓P	P	01 27 51.1	+1.8
	baz=68						
IRM	Iron Mountain	67.69	320	⇓P	P	01 27 50.6	+1.1
	baz=68,SNR=6.5						
J27A	Elkhorn Farm,	67.93	335	⇑P	P	01 27 52.3	+1.5
	baz=68						
M23A	Laramie	68.06	331	⇑P	P	01 27 52.5	+0.6
	baz=68						
BELC	Belle Mtn. Jos	68.10	320	⇑P	P	01 27 53.1	+0.9
	baz=68						
LIC	Lamto	68.11	75	*e*P	P	01 27 53.6	+1.2
	comp=Z,58nm,1.7s						
PFO	Pinyon Flats O	68.13	319	⇑P	P	01 27 52.9	+0.5
	baz=68						
O20A	White River Ci	68.21	329	⇑P	P	01 27 54.0	+1.2
	baz=68						
TIC	Toumodi	68.27	75	*e*P	P	01 27 54.9	+1.4
	comp=Z,8.0nm,0.3s						
LDFC	Landfair	68.29	321	*e*P	P	01 27 55.1	+1.8
	comp=Z,13nm,1.1s						
M22A	Cedar Creek Ra	68.41	331	⇑P	P	01 27 55.0	+0.9
	baz=69						
GMRC	Granite Mounta	68.42	320	⇓P	P	01 27 55.3	+1.2
	baz=68,SNR=5.2						
KIC	Kosan Boka	68.42	75	*e*P	P	01 27 56.1	+1.7
	comp=Z,46nm,0.5s						
DBIC	Dimbokro	68.43	75	P	P	01 27 54.3	-0.1
	comp=Z,18nm,0.5s,baz=230,slow=8.0,SNR=55						
DBIC	Dimbokro	68.43	75	*e*P	P	01 27 55.3	+0.8
	comp=Z,25nm,0.6s						
HEC	Hector,Ludlow	68.86	320	⇑P	P	01 27 58.4	+1.6
	baz=69						
CCUT	Cedar City	69.00	324	*e*P	P	01 27 58.8	+1.0
	comp=Z,7.1nm,0.9s						
TUQ	Turquoise Moun	69.02	321	⇑P	P	01 27 58.9	+1.0
	baz=69						
I25A	Rochford	69.27	334	⇓P	P	01 28 00.1	+0.8
	baz=69,SNR=6.3						
SHPR	Sheep Range	69.30	322	*e*P	P	01 28 00.4	+0.9
GSC	Goldstone, Bar	69.47	320	⇑P	P	01 28 01.7	+1.2
	baz=70						
GSC	Goldstone, Bar	69.47	320	*e*P	P	01 28 02.0	+1.4
	comp=Z,4.8nm,0.8s						
OSI	Osito Audit: C	70.21	318	⇑P	P	01 28 05.7	+0.7
	baz=70						
TPNV	Topopah Spring	70.24	322	⇑P	P	01 28 07.2	+1.9
	baz=70,SNR=6.3						
TPNV	Topopah Spring	70.24	322	*e*P	P	01 28 07.1	+1.7
	comp=Z,8.9nm,0.9s						
FURC	Furnace Creek,	70.28	321	⇑P	P	01 28 07.3	+1.9
	baz=70						
J21A	Lysite	70.33	332	⇑P	P	01 28 08.5	+2.7
	baz=70,SNR=7.8						
I22A	9 Mile Ranch,	70.33	333	⇑P	P	01 28 06.5	+0.8
	baz=70						
MPMC	Manual Prospec	70.39	320	⇑P	P	01 28 06.9	+0.6
	baz=70,SNR=5.4						
BSC	Santa Cruz Isl	70.39	317	⇓P	P	01 28 07.3	+1.2
	baz=70						
DUG	Dugway, Tooele	70.59	326	⇓P	P	01 28 08.2	+0.8
	baz=71,SNR=5.1						
DUG	Dugway, Tooele	70.59	326	*e*P	P	01 28 08.0	+0.6
	comp=Z,7.0nm,1.2s						
I21A	Big Trails, Te	70.63	332	⇑P	P	01 28 07.7	+0.1
	baz=71,SNR=5.6						
ISA	Isabella, Lake	70.73	319	⇑P	P	01 28 09.7	+1.4
	baz=71						
R11A	Troy Canyon, C	70.81	323	⇓P	P	01 28 10.4	+1.6
	baz=71,SNR=6.9						
R11A	Troy Canyon, C	70.81	323	*e*P	P	01 28 10.1	+1.3
	comp=Z,5.1nm,1.0s						
H22A	Clearmont	70.83	333	⇑P	P	01 28 10.7	+2.0
	baz=71						
PDAR	Pinedale Array	70.86	330	P	P	01 28 08.2	-0.9
	comp=Z,0.8nm,0.9s,baz=138,slow=7.7,SNR=5.7						
G23A	Biddle	70.91	334	⇑P	P	01 28 10.1	+1.0
	baz=71						
MDND	Maddock	70.94	339	⇓P	P	01 28 10.4	+1.2
	baz=71						
HWUT	Hardware Ranch	70.97	328	*e*P	P	01 28 09.3	-0.4
J19A	Crowheart	71.00	331	⇓P	P	01 28 11.0	+1.1
	baz=71						
F24A	Ekalaka	71.05	335	⇑P	P	01 28 10.9	+0.9
	baz=71						
VES	Vestal, Richgr	71.22	319	⇑P	P	01 28 12.3	+1.2
	baz=71						
F23A	Volborg	71.34	334	⇓P	P	01 28 12.3	+0.6
	baz=72						
SMMC	Simmler	71.46	318	⇓P	P	01 28 14.1	+1.5
	baz=72						
A30A	Hoffart Farm,	71.47	340	⇓P	P	01 28 14.7	+2.4
	baz=72						
E24A	Baker	71.58	336	⇑P	P	01 28 13.8	+0.7
	baz=72						
RCTC	Rector, Farmer	71.62	320	⇑P	P	01 28 15.1	+1.7
	baz=72						
D25A	Fairfield	71.69	336	⇑P	P	01 28 15.4	+1.6
	baz=72						
F22A	Rosebud	71.74	334	⇓P	P	01 28 14.8	+0.7
	baz=72						
A29A	Manning Farm,	71.75	340	⇑P	P	01 28 14.5	+0.5
	baz=72						
ULM	Lac du Bonnet	71.90	343	P	P	01 28 13.6	-1.2
	comp=Z,4.2nm,0.6s,baz=153,slow=6.5,SNR=13						
ULM				pP	pP	01 28 45.5	-0.8
	comp=Z,4.8nm,0.8s,baz=171,slow=9.2,SNR=3.8						
ULM	Lac du Bonnet	71.90	343	*e*P	P	01 28 14.2	-0.6
	comp=Z,40nm,2.2s						
ULM				*e*pP	pP	01 28 46.2	-0.1
I17A	Pilgrim Ck.	72.22	330	⇑P	P	01 28 18.7	+1.5
	baz=72						
H18A	Shoshone NF, C	72.37	331	⇑P	P	01 28 18.5	+0.4
	baz=72,SNR=6.9						
NVAR	Mina Array Bea	72.44	322	P	P	01 28 19.4	+0.7
	comp=Z,3.6nm,0.8s,baz=150,slow=6.8,SNR=18						
NVAR				pP	pP	01 28 50.6	+0.5
	comp=Z,0.9nm,0.7s,baz=134,slow=4.3,SNR=3.1						
D23A	Lindsay	72.44	335	⇑P	P	01 28 19.4	+1.2
	baz=73						
B25A	Knox Farm, Ray	72.56	337	⇓P	P	01 28 20.6	+1.7
	baz=73						
H17A	Grant Village	72.58	330	⇑P	P	01 28 20.9	+1.6
	baz=73						
SCHQ	Schefferville	72.68	2	P	P	01 28 18.0	-1.4
	comp=Z,3.1nm,0.8s,baz=214,slow=11,SNR=3.6						
D22A	Cohagen	72.81	335	⇑P	P	01 28 21.3	+0.9
	baz=73						
C23A	Lambert	72.94	336	⇓P	P	01 28 22.2	+1.1
	baz=73						
F19A	Roth Farm, Mol	72.95	332	⇑P	P	01 28 22.0	+0.7
	baz=73						
D21A	La Casta Ranch	73.08	334	⇓P	P	01 28 23.1	+1.1
	baz=73						
E20A	Meyer Farm, Mu	73.11	333	⇑P	P	01 28 23.4	+1.2
	baz=73						
DGMT	Dagmar	73.11	337	⇑P	P	01 28 23.3	+1.2
	baz=73						
C22A	Vida	73.17	335	⇑P	P	01 28 23.9	+1.4
	baz=73						
GCMT	Greycliff	73.23	332	*e*P	P	01 28 23.1	+0.2
	comp=Z,1.5nm,0.7s						
E19A	Rath Farm, Rou	73.36	333	⇓P	P	01 28 24.6	+0.9
	baz=74,SNR=8.2						
B23A	Brockton	73.41	336	⇑P	P	01 28 25.0	+1.2
	baz=74						
A24A	Westby	73.42	337	⇑P	P	01 28 25.1	+1.2
	baz=74						
D20A	Manuel Ranch,	73.57	334	⇑P	P	01 28 25.5	+0.6
	baz=74						
HLID	Hailey	73.84	328	⇑P	P	01 28 28.2	+1.5
	baz=74,SNR=5.3						
HLID	Hailey	73.84	328	*e*P	P	01 28 28.0	+1.3
	comp=Z,3.2nm,0.8s						
D19A	Cripps Ranch,	73.95	333	⇑P	P	01 28 27.7	+0.7
	baz=74						
A22A	Carney Farms,	74.19	336	⇑P	P	01 28 29.5	+1.0
	baz=74						
C19A	Slack Wire Ran	74.46	334	⇓P	P	01 28 30.6	+0.6
	baz=75						
MFID	Camas Ranch	74.46	327	*e*P	P	01 28 31.6	+1.3
	comp=Z,6.2nm,1.0s						
A20A	Cobblestone Ra	74.90	335	⇑P	P	01 28 33.7	+1.2
	baz=75						
EGMT	Eagleton	74.99	333	⇑P	P	01 28 33.5	+0.4
	baz=75						
MOD	Modoc Plateau	75.87	323	*e*P	P	01 28 39.6	+1.3
	comp=Z,16nm,1.5s						
MSO	Missoula	75.97	330	⇓P	P	01 28 40.2	+1.5
	baz=76						
M04C	Macdoel	76.67	323	⇑P	P	01 28 43.9	+1.0
	baz=77						
TORD	Torodi Ar. Bea	76.85	71	P	P	01 28 44.1	-0.2
	comp=Z,16nm,0.6s,baz=251,slow=5.5,SNR=65						
I07A	Izee	76.86	326	*e*P	P	01 28 45.0	+1.2
F10A	Beach Ranch, E	76.96	328	*e*P	P	01 28 45.5	+1.1
J05D	Fort Rock, OR	77.29	324	⇓P	P	01 28 47.7	+1.4
	baz=77						
I05D	Terrebonne, OR	78.03	325	⇓P	P	01 28 51.9	+1.6
	baz=78						
I04A	Tendick Farm,	78.27	324	⇑P	P	01 28 52.7	+1.0
	baz=78						
C09A	Chrisman Ranch	78.74	329	*e*P	P	01 28 55.3	+1.2
FCC	Fort Churchill	79.19	347	*e*P	P	01 28 55.7	-0.5
F04A	Amboy	79.64	326	*e*P	P	01 28 60.0	+1.0
	comp=Z,16nm,0.9s						
SYO	Syowa Base	79.89	160	*e*PKiKP	PKiKP	01 34 28.9	-0.5
VNDA	Vanda	80.07	190	P	P	01 29 02.9	+2.0
	comp=Z,2.9nm,0.8s,baz=124,slow=5.5,SNR=21						
VNDA	Vanda	80.07	190	*e*P	P	01 29 02.5	+1.7
	comp=Z,1.7nm,0.8s						
EDM	Edmonton	80.43	335	*e*P	P	01 29 02.8	-0.3
	comp=Z,8.0nm,0.5s						
ESDC	Sonseca Array	83.88	45	P	P	01 29 22.2	+0.7
	comp=Z,0.5nm,0.7s,baz=252,slow=5.5,SNR=5.3						
ESDC				pP	pP	01 29 54.2	+0.4
	comp=Z,1.0nm,0.8s,baz=249,slow=5.7,SNR=3.4						
TAM	Tamanrasset	83.88	64	*e*P	P	01 29 22.3	+0.3
	comp=Z,2.1nm,0.9s						
LBTB	Lobatse	87.03	115	*e*P	P	01 29 38.3	+0.7
	comp=Z,5.7nm,0.8s						
MAW	Mawson	87.75	164	P	P	01 29 41.1	+1.1
	comp=Z,3.7nm,0.5s,baz=196,slow=6.7,SNR=13						
YKA	Yellowknife Ar	87.78	341	P	P	01 29 40.1	+0.1
	comp=Z,6.1nm,0.7s,baz=132,slow=4.8,SNR=55						
YKA				pP	pP	01 30 12.1	-0.5
	comp=Z,2.7nm,0.6s,baz=133,slow=4.7,SNR=5.3						
YKA				sP	sP	01 30 26.3	+0.3
	comp=Z,2.7nm,0.7s,baz=135,slow=4.8,SNR=3.3						
LSZ	Lusaka	92.48	107	*e*P	P	01 30 04.3	+1.0
	comp=Z,2.4nm,0.8s						
FINES	FINESS Array B	108.42	30	PKKPbc	PKKPbc	01 46 30.1	-1.5
	comp=Z,1.9nm,1.0s,baz=49,slow=9.4,SNR=4.3						
ARCES	ARCESS Array B	108.59	22	PKKPbc	PKKPbc	01 46 29.2	-2.2
	comp=Z,11nm,1.1s,baz=63,slow=4.2,SNR=4.1						
ARU	Arti	125.67	33	*e*PKPdf	PKPdf	01 35 52.7	+0.8
H11S2	WAKE ISLAND Hyl	126.74	280	T	T	03 55 20.1	
	baz=100,slow=75,SNR=21						
H11S1	WAKE ISLAND Hyl	126.75	280	T	T	03 55 22.0	
	baz=100,slow=75,SNR=7.7						
H11S3	WAKE ISLAND Hyl	126.76	280	T	T	03 55 25.5	
	baz=100,slow=75,SNR=9.9						
AKTO	Aktyubinsk	127.49	40	PKP	PKPdf	01 35 56.4	+0.8
	comp=Z,0.6nm,0.6s,baz=196,slow=7.4,SNR=3.1						
ABKAR	Akbulak array	129.05	41	*e*PKPdf	PKPdf	01 35 59.8	+1.2
ASAR	Alice Springs	132.57	210	PKP	PKPdf	01 36 05.3	-0.8
	comp=Z,0.8nm,0.5s,baz=131,slow=1.8,SNR=12						
WB2	Warramunga Arr	135.49	213	*e*PKPdf	PKPdf	01 36 12.0	+0.3
WRA	Warramunga Arr	135.49	213	PKhKP	PKPpre	01 35 56.5	
	comp=Z,0.3nm,0.7s,baz=179,slow=1.9,SNR=5.2						
WRA				PKP	PKPdf	01 36 11.6	-0.1
	comp=Z,1.9nm,0.5s,baz=149,slow=1.7,SNR=26						
WRAB	Tennant Creek	135.50	213	*e*PKPdf	PKPdf	01 36 12.1	+0.4
KURK	Kurchatov	138.79	31	*e*PKPdf	PKPdf	01 36 17.7	+0.9
KURBB	Kurchatov Arra	138.81	31	PKP	PKPdf	01 36 18.0	+1.2
	comp=Z,0.7nm,0.7s,baz=314,slow=2.6,SNR=11						
ZALV	Zalesovo Beam	139.12	23	PKP	PKPdf	01 36 18.3	+1.0
	comp=Z,5.1nm,0.7s,baz=296,slow=2.5,SNR=22						
ZALV				SKPbc	SKPbc	01 39 40.3	-0.5
	comp=Z,0.7nm,0.6s,baz=316,slow=4.1,SNR=3.9						
AAK	Ala-Archa	140.97	43	PKP	PKPdf	01 36 20.4	-0.9
	comp=Z,0.5nm,0.3s,baz=338,slow=5.4,SNR=2.4						
TKM2	Tokmak 2	141.55	42	*e*PKPdf	PKPdf	01 36 23.3	+0.9
MKAR	Makanchi Array	143.20	33	PKhKP	PKPpre	01 36 21.9	
	comp=Z,0.6nm,0.7s,baz=295,slow=5.9,SNR=5.7						
KSH	Kashi	143.37	47	*e*PKP	PKPab	01 36 20.3	-1.6
KSH				sPKP		01 37 19.8	
KSH				PKS	PKSdf	01 39 54.1	-7.2
KSH				PPMZ			
	comp=Z,93nm,4.6s						
KSH				LN			
	comp=Z,100nm,5.1s						
KSH				LE			
	comp=Z,120nm,5.1s						
KSH				LZ			
	comp=Z,160nm,6.1s						
TLY	Talaya	146.07	8	PKPbc	PKPab	01 36 32.2	+0.7
	comp=Z,5.1nm,0.6s,baz=327,slow=4.7,SNR=4.2						
WMQ	Urumqi	148.01	32	*e*PKPbc	PKPdf	01 36 28.9	-4.3
USRK	Ussuriysk Ar.	148.29	330	PKPbc	PKPbc	01 36 37.9	+0.8
	comp=Z,11nm,0.8s,baz=28,slow=1.2,SNR=43						
USRK				pPKPbc	pPKPbc	01 37 10.8	-0.2
	comp=Z,2.3nm,0.7s,baz=27,slow=4.5,SNR=2.8						
MJAR	Matsushiro Arr	149.39	312	PKPbc	PKPbc	01 36 40.6	+0.4
	comp=Z,3.0nm,0.6s,baz=91,slow=1.5,SNR=7.1						
SONM	Songino Array	150.16	5	PKPbc	PKPbc	01 36 42.6	+0.7
	comp=Z,7.2nm,0.6s,baz=192,slow=0.9,SNR=13						
ULN	Ulaanbaatar	150.19	5	*e*PKPbc	PKPbc	01 36 42.8	+0.9
KAPI	Kappang	155.25	203	*e*PKPab	PKPab	01 37 11.2	+1.0
HHC	Hu-ho-hao-te	157.31	358	*e*PKP	PKPdf	01 36 43.1	-3.9
HHC				PP	PP	01 40 56.8	0.0
HHC				SKS	SKSdf	01 43 31.3	-10
HHC				PPMZ			
	comp=Z,38nm,9.1s						
LZH	Lanzhou	161.16	17	*e*PKP	PKPdf	01 36 47.9	-3.8
LZH				pPKP	pPKPdf	01 37 29.3	+3.2
LZH				sPKP		01 37 47.8	
NJ2	Nanjing	164.15	333	*e*PKP	PKPdf	01 36 52.4	-2.1
CD2	Chengdu	165.89	24	PKP	PKPdf	01 36 54.0	-2.1

CSEM ***24*** *01:21:05.1±0.4,50°.29N×19°.23E,h2km,Error ellipse: s-maj=10.2km s-min=3.8km az=7.0*

PRU 24 01:21:06.0,50°.21N×19°.22E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.37	88	*e*Pg	Pg	01 21 12.3	-0.9
OJC				*e*Sg	Sg	01 21 16.8	-1.2
OJC	Ojcow	0.37	88	*e*Pg	Pg	01 21 12.3	-0.9
OJC				*e*Sg	Sg	01 21 16.8	-1.2
OKC	Ostrava-Krasne	0.79	242	*e*PG	Pg	01 21 21.7	+0.6
OKC				*e*SG	Sb	01 21 32.7	-1.1
	comp=Z,12nm,0.7s						
OKC	Ostrava-Krasne	0.79	242	Pg	Pg	01 21 21.7	+0.6
OKC				Sg	Sb	01 21 32.7	-1.1
	12nm,0.7s						
NIE	Niedzica	1.06	138	*e*Pg	Pg	01 21 26.4	0.0
NIE				*e*Sg	Sb	01 21 41.8	0.0
NIE	Niedzica	1.06	138	*e*Pg	Pg	01 21 26.4	0.0
NIE				*e*Sg	Sb	01 21 41.8	0.0
LANS	Liptovska Anna	1.07	171	*e*Pg	Pg	01 21 26.7	0.0
LANS				*e*Sg	Sg	01 21 40.5	-0.1
MORC	Moravsky Berou	1.17	249	*e*Pg	Pg	01 21 28.3	-0.2
MORC				*e*Sg	Sb	01 21 44.8	0.0
STHS	Stebnicka Huta	1.53	120	*e*Pg	Pb	01 21 35.2	-0.1
STHS				*e*Sg	Sg	01 21 55.7	+0.3
STHS	Stebnicka Huta	1.53	120	*e*PG	Pb	01 21 35.2	-0.1
STHS				*e*SG	Sg	01 21 55.7	+0.3
VYHS	Vyhne	1.74	188	*e*PG	Pn	01 21 36.1	-1.3
VYHS				*e*SG	Sn	01 21 57.9	-2.4
DPC	Dobruska-Polom	1.86	275	*e*PG	Pn	01 21 39.7	+0.4
DPC				*e*SG	Sb	01 22 04.4	-0.5
DPC	Dobruska-Polom	1.86	275	Pg	Pn	01 21 39.7	+0.4
DPC				Sg	Sb	01 22 04.4	-0.5
VRAC	Vranov	1.93	243	*e*Pn	Pb	01 21 41.2	-0.8
VRAC				*e*Sg	Sb	01 22 06.0	-0.7
KSP	Ksiaz	1.97	290	*e*Pg	Pg	01 21 45.9	+2.1
KSP				*e*Sg	Sg	01 22 10.5	+1.1
PRU	Pruhonice	3.02	268	*e*SG	Sg	01 22 41.1	-2.0
	comp=Z,2.9nm,0.6s						
PRU	Pruhonice	3.02	268	Sg	Sg	01 22 41.1	-2.0
	2.9nm,0.6s						
BRG	Berggiesshubel	3.43	283	SG	Sg	01 22 55.7	-0.6
	2.1nm,0.4s						
KHC	Kasperske Hory	3.82	256	*e*SG	Sg	01 23 10.0	+1.1
KHC	Kasperske Hory	3.82	256	Sg	Sg	01 23 10.0	+1.1

ISCJB ***24*** *01:22:38.1±0.3,49°.86N±0°.02×18°.46E±0°.02,h0km,Error ellipse: s-maj=3.7km s-min=2.0km az=19.2*
CSEM ***24*** *01:22:40.1±0.2,49°.82N×18°.47E,h1km,ML3.4/6,Error ellipse: s-maj=5.4km s-min=2.9km az=23.0*
IPEC ***24*** *01:22:40.2±0.2,49°.85N×18°.57E,h0km±4km,ML2.6/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
PRU ***24*** *01:22:41.0,49°.85N×18°.48E,h0km*
BGR ***24*** *01:22:42.5±1.8,49°.85N×18°.36E,h1km,ML3.0/9,Error ellipse: s-maj=15.6km s-min=12.2km az=104.0*

ISC 24 01:22:40.2±0.7,49°.82N±0°.02×18°.51E±0°.02,h0km,n74, σ1ϟ45/116,12C-5D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.23	275	*e*PG	Pg	01 22 46.1	+1.4
OKC				*e*SG	Sg	01 22 49.1	+1.4
	comp=Z,122nm,0.2s						
OKC	Ostrava-Krasne	0.23	275	Pg	Pg	01 22 46.1	+1.4
OKC				Sg	Sg	01 22 49.1	+1.4
	122nm,0.2s						
RAC	Raciborz	0.33	323	*e*Pg	Pg	01 22 47.7	+1.1
RAC				*e*Sg	Sb	01 22 53.0	-1.9
MORC	Moravsky Berou	0.63	266	⇑*i*P	Pb	01 22 53.9	-0.2
MORC				S	Sg	01 23 02.0	+1.6
MORC	Moravsky Berou	0.63	266	*e*Pg	Pg	01 22 52.9	+0.7
MORC	Moravsky Berou	0.63	266	⇑*i*P	Pb	01 22 53.9	-0.2
MORC				*e*Sg	Sg	01 23 01.3	+0.9
	92nm,0.2s						
LANS	Liptovska Anna	0.92	137	*e*Pg	Pg	01 22 58.0	+0.2
OJC	Ojcow	0.92	64	*e*Pg	Pg	01 22 57.2	-0.7
OJC				*e*Sg	Sg	01 23 09.3	-0.6
OJC	Ojcow	0.92	64	*e*Pg	Pg	01 22 57.2	-0.7
OJC				*e*Sg	Sg	01 23 09.3	-0.6
NIE	Niedzica	1.24	108	*e*Pg	Pg	01 23 03.6	-0.4
NIE				*e*Sg	Sg	01 23 20.6	+0.6
NIE	Niedzica	1.24	108	*e*Pg	Pg	01 23 03.6	-0.4
NIE				*e*Sg	Sg	01 23 20.6	+0.6
VYHS	Vyhne	1.34	171	*e*Pg	Pg	01 23 05.6	-0.4
VYHS				*e*Sg	Sg	01 23 24.1	+0.8
VYHS	Vyhne	1.34	171	*e*PG	Pg	01 23 05.6	-0.4
VYHS				*e*SG	Sg	01 23 24.1	+0.8
VRAC	Vranov	1.35	248	⇓*i*P	Pg	01 23 06.2	+0.2
VRAC	Vranov	1.35	248	S	Sg	01 23 23.2	-0.3
VRAC	Vranov	1.35	248	*e*Pg	Pg	01 23 06.0	0.0
VRAC				*e*Sg	Sg	01 23 23.9	+0.4
	56nm,0.3s						
SMOL	Smolenice	1.49	209	*e*Pg	Pn	01 23 08.2	0.0
SMOL				*e*Sg	Sg	01 23 28.5	+0.6
SMOL	Smolenice	1.49	209	*e*PG	Pn	01 23 08.2	0.0
SMOL				*e*SG	Sg	01 23 28.5	+0.6
DPC	Dobruska-Polom	1.50	292	*e*PG	Pn	01 23 08.2	-0.3
DPC				*e*SG	Sg	01 23 27.5	-1.1
DPC	Dobruska-Polom	1.50	292	Pg	Pn	01 23 08.2	-0.3
DPC				Sg	Sg	01 23 27.5	-1.1
KRUC	Moravsky	1.57	242	*e*Pg	Pn	01 23 09.6	+0.2
KRUC				*e*Sg	Sn	01 23 31.0	+0.5
	86nm,0.2s						
UPC	Upice	1.75	294	*e*PG	Pn	01 23 12.4	+0.6
UPC				*e*SG	Sn	01 23 35.1	+0.3
	comp=Z,13nm,0.3s						
UPC	Upice	1.75	294	Pg	Pn	01 23 12.4	+0.6
UPC				Sg	Sn	01 23 35.1	+0.3
	13nm,0.3s						
KSP	Ksiaz	1.75	307	*e*Pn	Pn	01 23 11.3	-0.5
KSP				*e*Pg	Pg	01 23 14.5	+0.7
KSP				*e*Sn	Sn	01 23 34.3	-0.5
KSP				*e*Sg	Sg	01 23 37.8	+1.4
KSP	Ksiaz	1.75	307	*e*Pn	Pn	01 23 11.3	-0.5
STHS	Stebnicka Huta	1.82	102	*e*Pn	Pb	01 23 14.9	+0.4
STHS	Stebnicka Huta	1.82	102	*e*PN	Pb	01 23 14.9	+0.4
STHS				*e*SN	Sb	01 23 39.8	+1.9
KECS	Kecovo	1.86	135	*e*Pg	Pn	01 23 14.9	+1.5
KECS	Kecovo	1.86	135	*e*PG	Pn	01 23 14.9	+1.5
TREC	Trest	2.04	256	*e*SG	Sb	01 23 44.7	+0.7
TREC	Trest	2.04	256	Sg	Sb	01 23 44.7	+0.7
PSZ	Piszkesteto	2.11	154	⇑*i*P	Pn	01 23 17.2	+0.3
PSZ	Piszkesteto	2.11	154	⇑*i*P	Pn	01 23 17.2	+0.3
PRU	Pruhonice	2.57	275	*e*PG	Pb	01 23 25.9	-1.3
PRU				*e*SG	Sb	01 24 00.1	+0.8
	comp=Z,13nm,0.3s						
PVCC	Panska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.77**	**32**	⇑Pn	Pn	01 25 26.3	+0.3
	3.3nm,0.3s						
SFK				⇓Sn	Sb	01 26 03.1	-2.4
	1.6nm,0.3s						
MNAS	**Manas**	**4.85**	**8**	⇓Pn	Pn	01 25 53.7	-0.7
	3.2nm,0.4s						
MNAS				⇑Sn	Sn	01 26 52.5	+1.0
	2.7nm,0.7s						
AAK	**Ala-Archa**	**5.43**	**23**	⇓Pn	Pn	01 26 00.4	-2.0
	1.8nm,0.5s						
AAK				⇑Sn	Sn	01 27 05.1	-0.6
	1.0nm,0.6s						
KK31	**Karatay Array**	**5.48**	**352**	⇑Pn	Pn	01 26 02.1	-0.7
	0.2nm,0.3s,baz=165,slow=12,SNR=10						
KK31				Sn	Sn	01 27 06.6	+0.1
	0.6nm,0.3s,baz=161,slow=25,SNR=9.8						

MEX 24 01:35:10.3±0.8, 32°51N×115°26W, h14km±6km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.11**	**154**	*eP*	Pg	01 35 13.2	-0.4
MBIG				*eS*	Sg	01 35 15.1	-0.7
CBX	**Cerro Bola**	**1.21**	**261**	*eP*	Pn	01 35 29.2	-3.7
CBX				*i S*	Sb	01 35 43.4	-5.2

MEX 24 01:57:06.7±0.6, 17°37N×101°01W, h5km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.49**	**299**	*eP*	Pg	01 57 15.7	-0.6
ZIIG				*eS*	Sg	01 57 23.2	+0.6
CAIG	**El Cayaco**	**0.78**	**114**	*i* P	Pg	01 57 20.1	-1.6
CAIG				*eS*	Sg	01 57 30.9	-0.9
ARIG	**Puente Sto Nin**	**1.10**	**35**	*eP*	Pg	01 57 24.6	-3.4
ARIG				*eS*	Sg	01 57 39.0	-3.4
MEIG	**Mezcala**	**1.44**	**67**	*eP*	Pn	01 57 30.4	-3.1
MEIG				*i S*	Sb	01 57 48.2	-4.7
TLIG	**Tlapa**	**2.34**	**85**	*eP*	Pn	01 57 42.7	-3.3
TLIG				*eS*	Sn	01 58 10.8	-4.5

IDC 24 02:05:25.7±1.8, 4°07S×143°96E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=104.6km s-min=25.1km az=108.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.36**	**210**	P	Pn	02 09 40.7	-1.2
	0.4nm,0.3s,baz=28,slow=13,SNR=20						
WRA				S	Sn	02 12 53.7	-14
	0.0nm,0.3s,baz=25,slow=21,SNR=2.9						
ASAR	**Alice Springs**	**21.77**	**206**	P	P	02 10 20.0	+0.7
	0.6nm,0.4s,baz=32,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**49.24**	**349**	P	P	02 14 16.3	+0.3
	1.3nm,0.5s,baz=159,slow=8.1,SNR=5.4						
ILAR	**Eielson Array**	**84.92**	**24**	P	P	02 18 02.0	-0.4
	0.7nm,1.1s,baz=250,slow=5.0,SNR=2.9						

*ISCJB **24** 02:17:58.4±0.6, 19°60N±0°.08×145°.8E±0°.1, h100km, mb3.9/15, Error ellipse: s-maj=20.5km s-min=9.7km az=161.7*

*IDC **24** 02:18:00.3±3.8, 19°.55N×145°.82E, h106km±33km, mb3.7/15, mb1 3.9/17, mb1mx3.8/31, mbtmp4.1/17, Error ellipse: s-maj=22.2km s-min=14.5km az=94.0*

ISC 24 02:17:59.7±0.7, 19°6N±0°.1×145°.8E±0°.2, h100km, n28, σ1§04/25, mb4.0/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.18**	**337**	P	**Pn**	**02 19 55.4**	**-0.3**
	13nm,0.3s,baz=127,slow=20,SNR=4.6						
JCJ				S	**Sn**	**02 21 24.8**	**-1.7**
	baz=287,slow=20						
MJAR	**Matsushiro Arr**	**18.16**	**340**	P	**Pn**	**02 22 05.4**	**+0.1**
	1.7nm,0.3s,baz=160,slow=11,SNR=14						
MAT	**Matsushiro**	**18.16**	**340**	P	**Pn**	**02 22 05.9**	**+0.5**
MAT	**Matsushiro**	**18.16**	**340**	*eS*	pP	02 22 29.5	+6.4
H11S3	**WAKE ISLAND Hy**	**19.77**	**90**	T	T	02 43 29.1	
	baz=275,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hy**	**19.79**	**90**	T	T	02 43 30.3	
	baz=275,slow=74,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**19.79**	**90**	T	T	02 43 30.3	
	baz=275,slow=74,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**19.86**	**86**	T	T	02 43 40.8	
	baz=270						
H11N2	**WAKE ISLAND Hy**	**19.87**	**86**	T	T	02 43 38.7	
	baz=270						
H11N3	**WAKE ISLAND Hy**	**19.88**	**86**	T	T	02 43 40.8	
	baz=270						
KSRS	**Korea Array**	**23.67**	**323**	P	**P**	**02 23 03.1**	**+0.9**
	5.3nm,0.6s,baz=148,slow=9.1,SNR=21						
USRK	**Ussuriysk Ar.**	**27.13**	**338**	P	**P**	**02 23 34.6**	**+1.4**
	1.7nm,0.6s,baz=154,slow=7.8,SNR=5.9						
WRA	**Warramunga Arr**	**40.85**	**197**	P	**P**	**02 25 31.9**	**0.0**
	1.3nm,0.7s,baz=18,slow=8.7,SNR=14						
WRA				PcP	**PcP**	**02 27 29.5**	**-1.5**
	0.3nm,0.7s,baz=15,slow=3.5,SNR=4.7						
SONM	**Songino Array**	**42.52**	**321**	P	**P**	**02 25 45.6**	**+0.2**
	1.0nm,0.4s,baz=140,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**44.52**	**196**	P	**P**	**02 26 01.0**	**-0.6**
	0.3nm,0.5s,baz=15,slow=14,SNR=5.6						
ZALV	**Zalesovo Beam**	**57.38**	**322**	P	**P**	**02 27 37.8**	**+0.3**
	1.1nm,0.5s,baz=104,slow=8.0,SNR=6.2						
MKAR	**Makanchi Array**	**57.93**	**313**	P	**P**	**02 27 42.5**	**+0.9**
	0.8nm,0.6s,baz=85,slow=5.9,SNR=12						
MKAR				pP	**pP**	**02 28 08.8**	**+2.7**
	0.8nm,0.8s,baz=89,slow=6.6,SNR=3.7						
ILAR	**Eielson Array**	**62.81**	**26**	P	**P**	**02 28 13.8**	**-0.7**
	2.1nm,0.7s,baz=259,slow=4.6,SNR=28						
INK	**Inuvik**	**68.53**	**23**	P	**P**	**02 28 51.4**	**+0.3**
	1.3nm,0.7s,baz=288,slow=9.1,SNR=7.1						
YKA	**Yellowknife Ar**	**77.17**	**28**	P	**P**	**02 29 42.4**	**+0.2**
	2.2nm,0.6s,baz=289,slow=5.5,SNR=16						
ARCES	**ARCESS Array B**	**81.69**	**342**	P	**P**	**02 30 07.0**	**+0.4**
	4.1nm,0.8s,baz=70,slow=7.9,SNR=4.2						
NVAR	**Mina Array Bea**	**82.52**	**52**	P	**P**	**02 30 12.7**	**+0.7**
	2.1nm,0.7s,baz=263,slow=5.3,SNR=17						
FINES	**FINESS Array B**	**86.13**	**335**	P	**P**	**02 30 27.8**	**-1.6**
	0.9nm,0.4s,baz=90,slow=4.5,SNR=20						
FINES				pP	**pP**	**02 30 55.9**	**+0.4**
	0.8nm,0.5s,baz=115,slow=8.6,SNR=1.6						
PDAR	**Pinedale Array**	**87.14**	**46**	P	**P**	**02 30 34.9**	**-0.2**
	0.3nm,0.5s,baz=220,slow=1.2,SNR=3.7						
AKASG	**Malin Array Be**	**90.64**	**325**	P	**P**	**02 30 49.9**	**-1.1**
	0.2nm,0.3s,baz=78,slow=4.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**131.97**	**310**	PKP	**PKPdf**	**02 37 01.4**	**-1.1**
	0.9nm,1.1s,baz=356,slow=1.5,SNR=3.2						
PLCA	**Paso Flores**	**142.53**	**132**	PKP	**PKPdf**	**02 37 21.8**	**+0.6**
	0.4nm,0.6s,baz=126,slow=5.7,SNR=3.4						
LPAZ	**La Paz**	**147.58**	**90**	PKPbc	**PKPbc**	**02 37 34.3**	**+0.2**
	1.4nm,0.6s,baz=36,slow=4.1,SNR=4.9						

*ISCJB **24** 02:27:30.2±1.6, 30°.6S±0°.4×76°.0E±0°.3, h10km, mb3.6/5, MS3.5/4, Error ellipse: s-maj=64.0km s-min=25.7km az=22.4*

*IDC **24** 02:27:30.4±1.7, 30°.57S×75°.95E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/27, mbtmp3.6/5, MS3.5/4, Ms1 3.5/4, ms1mx3.0/31, Error ellipse: s-maj=73.2km s-min=28.9km az=21.0*

ISC 24 02:27:32.0±1.8, 30°.6S±0°.5×76°.0E±0°.3, h10km, n12, σ0§46/6, mb3.7/5, MS3.5/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**23.03**	**351**	T	T	02 56 39.9	
	baz=172,slow=76,SNR=20						
H08S1	**Diego Carcia H**	**23.04**	**351**	T	T	02 56 43.3	
	baz=172,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**23.05**	**351**	T	T	02 56 47.1	
	baz=172,slow=76,SNR=17						
ASAR	**Alice Springs**	**51.56**	**97**	P	**P**	**02 36 38.9**	**+0.3**
	0.4nm,0.9s,baz=244,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**53.34**	**93**	P	**P**	**02 36 51.2**	**-0.5**
	0.8nm,0.8s,baz=253,slow=7.1,SNR=4.0						
WRA				LR	LR	02 57 17.2	
	comp=Z,100nm,19.9s,baz=250,slow=34						
CMAR	**Chiang Mai Arr**	**53.52**	**27**	LR	LR	02 57 53.1	
	comp=Z,28nm,19.2s,baz=170,slow=34						
MKAR	**Makanchi Array**	**77.21**	**4**	P	**P**	**02 39 25.7**	**-0.2**
	0.5nm,0.8s,baz=205,slow=6.4,SNR=3.6						
KSRS	**Korea Array**	**83.31**	**39**	LR	LR	03 15 26.4	
	comp=Z,11nm,19.8s,baz=198,slow=34						
TORD	**Torodi Ar. Bea**	**83.48**	**289**	P	**P**	**02 40 00.2**	**-0.1**
	0.6nm,1.0s,baz=106,slow=3.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**84.51**	**5**	P	**P**	**02 40 04.9**	**+0.2**
	0.8nm,0.7s,baz=189,slow=3.6,SNR=4.6						
USRK	**Ussuriysk Ar.**	**90.28**	**37**	LR	LR	03 20 34.3	
	comp=Z,23nm,18.6s,baz=240,slow=35						
YKA	**Yellowknife Ar**	**147.33**	**9**	PKPbc	**PKPbc**	**02 47 15.4**	**+0.4**
	0.4nm,0.6s,baz=330,slow=3.0,SNR=4.6						

IDC 24 02:50:48.4±8.4, 15°.33S×176°.45W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/29, mbtmp3.4/3, Error ellipse: s-maj=375.4km s-min=35.0km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.99**	**257**	P	P	02 59 21.9	+0.1
	0.3nm,1.0s,baz=90,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**47.34**	**252**	P	P	02 59 24.1	-0.4
	0.9nm,0.5s,baz=88,slow=8.0,SNR=16						
ILAR	**Eielson Array**	**82.97**	**12**	P	P	03 03 15.0	0.0
	0.1nm,0.5s,baz=216,slow=6.2,SNR=4.1						

MAN 24 02:52:14, 11°.32N×122°.09E, h32km, mb4.1, ML2.9, MS2.5, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.69**	**69⇑**	*eP*	Pb	02 52 28.1	+0.6
GUIM	**Jordan**	**0.84**	**144**	*eP*	Pn	02 52 29.7	+0.1
GUIM				*eS*	Sb	02 52 44.9	+3.7
OTRP	**Odiongan**	**1.04**	**356**	*eP*	Pn	02 52 32.6	+0.2
OTRP				*eS*	Sn	02 52 45.9	0.0
CUYO	**Cuyo Island**	**1.15**	**246**	*eP*	Pn	02 52 34.2	+0.2
CUYO				*eS*	Sn	02 52 48.8	+0.1

IDC 24 02:57:56.3±2.3, 6°.47S×154°.46E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=90.4km s-min=33.9km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.69**	**234**	P	P	03 03 10.3	+0.4
	2.2nm,0.7s,baz=57,slow=9.9,SNR=25						
WRA				PcP	PcP	03 06 54.2	-0.4
	0.2nm,0.6s,baz=55,slow=3.1,SNR=3.7						
ASAR	**Alice Springs**	**26.13**	**227**	P	P	03 03 31.9	-0.4
	1.3nm,0.7s,baz=60,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**82.66**	**319**	P	P	03 10 22.4	+0.6
	0.3nm,0.8s,baz=93,slow=5.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**152.37**	**286**	PKPbc	PKPbc	03 17 54.8	-0.7
	0.5nm,0.7s,baz=51,slow=2.1,SNR=3.7						

MEX 24 03:05:41.8±0.5, 32°.04N×114°.72W, h12km±11km, MD3.5, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.55**	**312**	*i* P	Pg	03 05 51.1	-1.4
MBIG				*eS*	Sg	03 05 58.2	-1.5
CBX	**Cerro Bola**	**1.67**	**280**	*eP*	Pn	03 06 07.5	-3.6
CBX				*eS*	Sn	03 06 27.4	-5.2

*ISCJB **24** 03:07:37.1±0.5, 6°.42N±0°.04×82°.42W±0°.04, h10km, mb4.0/19, MS3.4/8, Error ellipse: s-maj=6.0km s-min=4.2km az=42.2*

*IDC **24** 03:07:38.1±2.0, 6°.44N×82°.61W, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.9/28, mbtmp4.0/11, ML3.7/3, MS3.4/14, Ms1 3.4/14, ms1mx3.2/29, Error ellipse: s-maj=64.5km s-min=17.5km az=31.0*

*NEIC **24** 03:07:39.6±5.2, 6°.33N×82°.35W, h17km±33km, mb4.2/12, Error ellipse: s-maj=16.6km s-min=8.8km az=52.0*

*CASC **24** 03:07:39.1±2.9, 6°.42N×82°.45W, h26km±44km, MD4.2*

ISC 24 03:07:38.5±0.7, 6°.40N±0°.07×82°.45W±0°.06, h10km, n61, σ1§61/61, mb4.1/19, MS3.3/8, 6C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.35**	**342**	*eP*	**Pn**	**03 08 14.9**	**-2.4**
ACR				*eS*	**Sn**	**03 08 44.5**	**-1.8**
TBS2		**2.39**	**355**	*eS*	**Sn**	**03 08 45.0**	**-2.4**
BRU2	**Volcan**	**2.39**	**354**	*eP*	**Pn**	**03 08 16.6**	**-1.4**
BRU2				*eS*	**Sn**	**03 08 45.2**	**-2.3**
BRU	**Baru**	**2.40**	**357**	*eP*	**Pn**	**03 08 16.1**	**-2.2**
BRU				*eS*	**Sn**	**03 08 46.4**	**-1.5**
CTCR	**Cotoan**	**2.50**	**353**	⇑*iP*	**Pn**	**03 08 17.9**	**-1.6**
AZU	**Azuero**	**2.56**	**57**	⇑*iP*	**Pn**	**03 08 18.9**	**-1.3**
AZU				*eS*	**Sn**	**03 08 49.5**	**-1.9**
CNI	**Changuinola**	**3.00**	**359**	⇓*iP*	**Pn**	**03 08 25.8**	**-0.4**
BUS	**Buena Vista**	**3.40**	**338**	⇑*eP*	**Pn**	**03 08 31.0**	**-1.1**
BUS				*eS*	**Sn**	**03 09 13.9**	**+1.3**
ZANG	**Zanguenga, Cho**	**3.61**	**45**	*i* P	**Pn**	**03 08 33.9**	**-0.7**
URSC	**Urasca**	**3.66**	**339**	⇑*eP*	**Pn**	**03 08 34.8**	**-0.7**
URSC				*eS*	**Sn**	**03 09 19.4**	**+0.5**
BCIP	**Isla Barro Col**	**3.78**	**43**	⇑*iP*	**Pn**	**03 08 36.0**	**-0.9**
BCIP				*eS*	**Sn**	**03 09 23.8**	**+2.4**
BCIP	**Isla Barro Col**	**3.78**	**43**	*ePn*	**Pn**	**03 08 35.8**	**-1.1**
SJS	**Escuela Geolog**	**3.86**	**336**	*eP*	**Pn**	**03 08 37.9**	**-0.2**
SJS				*eS*	**Sn**	**03 09 25.9**	**+2.2**
UPA	**Univ. de Panam**	**3.86**	**48**	*eP*	**Pn**	**03 08 36.8**	**-1.2**
UPA				*eS*	**Sn**	**03 09 22.6**	**-1.0**
CGA2	**Cerro Gallo 2**	**4.11**	**331**	*eP*	**Pn**	**03 08 40.9**	**-0.8**
CGA2				*eS*	**Sn**	**03 09 29.1**	**-0.9**
CAO	**Cobano**	**4.21**	**321**	⇓*iP*	**Pn**	**03 08 41.2**	**-1.7**
JCR	**Jicaral**	**4.33**	**323**	*eP*	**Pn**	**03 08 43.1**	**-1.4**
JTS	**JuntasAbangare**	**4.59**	**328**	⇑*iP*	**Pn**	**03 08 47.0**	**-1.2**
JTS	**JuntasAbangare**	**4.59**	**328**	*Pn*	**Pn**	**03 08 47.0**	**-1.2**
	32nm,0.3s,baz=99,slow=23,SNR=131						
JTS				Sn	**Sn**	**03 09 40.0**	**-1.6**
	12nm,0.3s,baz=58,slow=22,SNR=7.6						
JTS	**JuntasAbangare**	**4.59**	**328**	*ePn*	**Pn**	**03 08 46.7**	**-1.5**
JTS				*eSn*	**Sn**	**03 09 40.9**	**-0.8**
VCR	**Vista de Mar**	**4.86**	**320**	*eP*	**Pn**	**03 08 50.9**	**-1.0**
VCR				*eS*	**Sn**	**03 09 44.2**	**-4.3**
OTAV	**Otavalo**	**7.30**	**147**	*ePn*	**Pn**	**03 09 23.7**	**-2.1**
	4.1nm,0.6s						
OTAV				*eSn*	**Sn**	**03 10 46.4**	**-2.6**
ROSC	**El Rosal**	**8.22**	**100**	Pn	Pn	03 09 42.5	+4.1
	2.6nm,0.3s,baz=84,slow=17,SNR=5.3						
ROSC				LR	LR	03 12 10.9	
	comp=Z,92nm,18.9s,baz=32,slow=32						
SDV	**Santo Domingo**	**11.97**	**77**	*ePn*	**Pn**	**03 10 29.6**	**+0.1**
	8.3nm,0.8s						
ATAH	**Atahualpa**	**14.04**	**163**	LR	LR	03 15 45.5	
	comp=Z,290nm,19.0s,baz=350,slow=34						
TEIG	**Tepich**	**14.87**	**338**	LR	LR	03 17 02.5	
	comp=Z,164nm,18.1s,baz=245,slow=38						
CMIG	**Matias Romero**	**16.15**	**312**	Pn	**P**	**03 11 29.0**	**0.0**
	0.8nm,0.3s,baz=159,slow=7.0,SNR=8.1						
CMIG				LR	LR	03 16 48.2	
	comp=Z,144nm,18.7s,baz=184,slow=34						
SDDR	**Presa de Saban**	**16.57**	**40**	*ePn*	**Pn**	**03 11 31.5**	**+0.3**
	54nm,1.4s						
PCRV	**Puerto La Cruz**	**18.02**	**77**	P	**P**	**03 11 53.2**	**+3.4**
	0.4nm,0.3s,baz=221,slow=9.3,SNR=3.4						
PCRV				LR	LR	03 21 05.0	
	comp=Z,60nm,18.8s,baz=278,slow=44						
NNA	**Nana**	**19.09**	**163**	LR	LR	03 18 38.7	
	comp=Z,38nm,20.6s,baz=338,slow=34						
PTGA	**Pitinga**	**23.53**	**107**	P	**P**	**03 12 50.5**	**+1.3**
	4.2nm,1.0s,baz=310,slow=14,SNR=4.3						
PTGA				LR	LR	03 21 49.8	
	comp=Z,73nm,19.1s,baz=288,slow=36						
SAML	**Samuel**	**24.52**	**128**	*eP*	**P**	**03 12 55.6**	**-2.9**
	9.6nm,0.8s						
LPAZ	**La Paz**	**26.62**	**148**	LR	LR	03 24 48.3	
	comp=Z,170nm,20.4s,baz=353,slow=38						
LPAZ	**La Paz**	**26.62**	**148**	*eP*	**P**	**03 13 16.8**	**-1.4**
	6.7nm,1.5s						
TKL	**Tuckaleechee C**	**29.15**	**358**	LR	LR	03 24 56.2	
	comp=Z,47nm,18.8s,baz=122,slow=36						
WVT	**Waverly**	**30.00**	**351**	*eP*	**P**	**03 13 46.8**	**-0.7**
	1.7nm,0.6s						
H06E1	**SOCORRO T-PHAS**	**30.34**	**297**	T	T	03 45 42.1	
	SNR=4.5						
TXAR	**Lajitas Array**	**30.35**	**321**	LR	LR	03 27 12.5	
	comp=Z,64nm,19.0s,baz=0.0,slow=39						
ANMO	**Albuquerque**	**36.01**	**325**	*eP*	**P**	**03 14 42.6**	**+2.4**
	2.1nm,0.8s						
BDFB	**Brasilia**	**40.53**	**123**	LR	LR	03 32 50.9	
	comp=Z,41nm,20.1s,baz=284,slow=37						
CPUP	**Villa Florida**	**40.65**	**144**	LR	LR	03 32 31.4	
	comp=Z,301nm,19.3s,baz=337,slow=37						
DUG	**Dugway, Tooele**	**43.28**	**326**	*eP*	**P**	**03 15 41.4**	**+0.7**
	2.3nm,0.9s						
BW06	**Boulder Array**	**43.42**	**331**	*eP*	**P**	**03 15 42.5**	**+0.6**
	2.6nm,1.1s						
PDAR	**Pinedale Array**	**43.42**	**331**	P	**P**	**03 15 41.4**	**-0.5**
	1.1nm,1.0s,baz=148,slow=8.7,SNR=6.3						
PDAR				LR	LR	03 37 28.8	
	comp=Z,40nm,18.4s,baz=148,slow=41						
HWUT	**Hardware Ranch**	**43.59**	**328**	*eP*	**P**	**03 15 44.1**	**+1.0**
	4.8nm,0.8s						
ULM	**Lac du Bonnet**	**45.13**	**348**	P	**P**	**03 15 54.1**	**-1.0**
	3.6nm,0.7s,baz=168,slow=7.3,SNR=8.4						
NVAR	**Mina Array Bea**	**45.48**	**320**	P	**P**	**03 16 00.1**	**+1.7**
	1.4nm,0.7s,baz=128,slow=6.7,SNR=15						
HLID	**Hailey**	**46.46**	**328**	*eP*	**P**	**03 16 07.2**	**+1.2**
	1.3nm,0.7s						
BOZ	**Bozeman (W)**	**46.56**	**332**	*eP*	**P**	**03 16 07.4**	**+0.7**
	5.2nm,1.1s						
WVOR	**Wild Horse Val**	**48.07**	**324**	*eP*	**P**	**03 16 19.8**	**+1.3**
	6.8nm,1.3s						
BSMT	**Bassoo Peak**	**49.66**	**332**	*eP*	**P**	**03 16 31.7**	**+1.0**
NEW	**Newport**	**51.06**	**331**	*eP*	**P**	**03 16 41.3**	**+0.2**
	2.7nm,0.7s						
YKA	**Yellowknife Ar**	**60.75**	**344**	P	**P**	**03 17 50.3**	**+0.1**
	0.7nm,0.7s,baz=139,slow=6.5,SNR=10						
ILAR	**Eielson Array**	**73.52**	**336**	P	**P**	**03 19 11.8**	**+0.5**
	1.2nm,0.8s,baz=118,slow=4.2,SNR=20						
ESDC	**Sonseca Array**	**77.08**	**51**	P	P	03 19 35.9	+3.5
	0.3nm,0.5s,baz=284,slow=5.9,SNR=6.6						
ESDC				LR	LR	03 52 52.9	
	comp=Z,9.2nm,18.0s,baz=330,slow=35						
TORD	**Torodi Ar. Bea**	**82.89**	**78**	P	**P**	**03 20 06.0**	**+1.8**
	0.7nm,0.8s,baz=294,slow=5.4,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**07.50**	**292**	T	T	05 22 17.3	
	baz=77,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**07.50**	**292**	T	T	05 22 17.9	
	baz=77,slow=75,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**07.52**	**292**	T	T	05 22 17.4	
	baz=77,slow=75,SNR=5.8						
ASAR	**Alice Springs**	**141.09**	**240**	PKP	**PKPdf**	**03 27 11.8**	**+1.7**
	0.5nm,0.9s,baz=97,slow=1.5,SNR=5.2						
WRA	**Warramunga Arr**	**141.84**	**246**	PKP	**PKPdf**	**03 27 10.2**	**-1.4**
	0.4nm,0.6s,baz=99,slow=2.3,SNR=7.8						

*NIED **24** 03:18:00, 43°.70N×148°.40E, h35km, Mw3.5 Best double couple: M0 1.95000×10^14 NP1:φ=8.00000°, δ51.00000°, λ28.00000°. NP2:φ=260.00000°, δ69.00000°, λ137.00000°.*

*JMA **24** 03:18:12.5±0.3, 43°.74N×148°.39E, h18km, M3.5*

*SKHL **24** 03:18:14.7±0.5, 43°.86N×148°.43E, h35km, mb4.2/1*

ISC 24 03:18:12.3±3.2, 43°.9N±0°.1×148°.6E±0°.2, h47km, n10, σ1§51/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.28**	**271**	*eP*	**Pn**	**03 18 33.5**	**-0.2**
SHO				*eS*	**Sn**	**03 18 48.0**	**-1.7**
SHO				A	A	03 18 50.2	
	500nm,0.3s						
KUR	**Kuril'sk**	**1.47**	**339**	*eP*	**Pn**	**03 18 35.8**	**-0.5**
KUR				AMB	AMB	03 18 41.9	
	142nm,0.6s						
KUR				*eS*	**Sn**	**03 18 54.5**	**+0.2**
KUR				A	A	03 18 59.2	
	118nm,0.2s						
KUR				A	A	03 18 59.2	
	218nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.98**	**276**	*eP*	**Pn**	**03 18 44.0**	**+0.7**
YUK				*eS*	**Sn**	**03 19 05.6**	**-1.4**
YUK				A	A	03 19 09.9	
	370nm,0.5s						
YUK				A	A	03 19 09.9	
	160nm,0.5s						
NEM2	**Nemuro 2**	**2.13**	**258**	P	**Pn**	**03 18 45.9**	**+0.6**
NEM2				*eS*	**Sn**	**03 19 10.3**	**-0.3**
JRA	**Rausu**	**2.52**	**273**	P	**Pn**	**03 18 51.5**	**+0.9**
JRA				*eS*	**Sn**	**03 19 20.1**	**+0.1**
JAK	**Akkeshi**	**2.97**	**254**	P	**Pn**	**03 18 57.7**	**+0.9**
JTKR	**Abashiri--Toko**	**3.39**	**274**	P	**Pn**	**03 19 04.0**	**+1.4**
JAR	**Ashorobuto**	**3.55**	**263**	P	**Pn**	**03 19 06.5**	**+1.6**
JAR				*eS*	**Sn**	**03 19 46.4**	**+0.8**
JKB	**Kayabe**	**5.90**	**253**	P	**Pn**	**03 19 39.0**	**+2.0**
JKB				*eS*	**Sn**	**03 20 41.4**	**-1.9**
JANG	**Nango**	**6.31**	**239**	*eS*	**Sn**	**03 20 50.1**	**-3.4**

IDC 24 03:29:00.9±3.6, 6°.64S×154°.74E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/31, mbtmp3.5/2, Error ellipse: s-maj=192.5km s-min=48.4km az=129.0, Bougainville-Solomon Islands region

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

comp=Z,7.1nm,18.1s,slow=30
ULM Lac du Bonnet 96.05 39 LR LR 04 22 20.2
comp=Z,63nm,19.9s,baz=264,slow=31
LVC Limon Verde 97.79 116 LR LR 04 21 47.1
comp=Z,121nm,21.0s,baz=214,slow=30
BRTR Keskin Array B 146.25 318 PKPbc PKPdf 03 53 00.1 +0.3
1.1nm,0.8s,baz=352,slow=6.2,SNR=3.6
GERES GERESS Array B 147.31 349 PKPbc PKPbc 03 53 03.6 0.0
0.4nm,0.8s,baz=27,slow=0.6,SNR=4.1

IDC 24 03:34:34.2±2.5,1°25'N×127°95'E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.2/34,mbtmp3.1/3,Error ellipse: s-maj=197.1km s-min=27.0km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.98**	**164**	P	P	03 39 29.0	-1.0
	0.4nm,0.9s,baz=344,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**25.44**	**167**	P	P	03 40 04.7	+0.7
	0.3nm,0.6s,baz=347,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**60.27**	**326**	P	P	03 44 44.5	-0.1
	0.1nm,0.3s,baz=116,slow=6.6,SNR=4.4						

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*ISCJB **24** 03:54:32.9±0.6,32°.23N±0°.04×115°.22W±0°.05,h21km±7km, Error ellipse: s-maj=7.4km s-min=5.6km az=157.1*
*ECX **24** 03:54:34.4±0.6,32°.20N×115°.26W,h6km,MD2.8,ML3.0*
*MEX **24** 03:54:35.2±0.5,32°.27N×115°.16W,h10km,MD3.6*

ISC 24 03:54:32.6±1.0,32°20N±0°.03×115°22W±0°.04,h16km±8km, n13,σ0s29/21,3C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.21**	**6**	*e*P	**Pg**	**03 54 37.2**	**-0.3**
MBIG				*e*S	**Sg**	**03 54 41.1**	**+0.3**
CPBX	**Cerro Prieto**	**0.23**	**343**	*e*P	**Pb**	**03 54 38.5**	**+0.1**
CPBX				*e*S	**Sb**	**03 54 42.1**	**-0.1**
CPBX				AML	AML	03 54 43.7	
	comp=N,6μm,0.4s						
CPBX				⇓*e*		03 54 43.7	
CPBX				⇓*e*		03 54 43.7	
CPBX				AML	AML	03 54 43.7	
	comp=E,7μm,0.3s						
RDX	**Rancho Dawling**	**0.67**	**246**	⇑*e*P	**Pg**	**03 54 46.1**	**+0.3**
RDX				*e*S	**Sg**	**03 54 54.9**	**+0.2**
YMD	**Yuma Desert**	**0.67**	**58**	⇑*i*P	**Pb**	**03 54 46.2**	**+0.2**
ECBX	**El Chinero**	**0.74**	**169**	*e*P	**Pb**	**03 54 46.8**	**-0.3**
ECBX				*e*S	**Sg**	**03 54 57.3**	**+0.3**
ECBX				⇓*e*		03 54 58.7	
ECBX				AML	AML	03 54 58.7	
	comp=E,625nm,0.2s						
RMX	**La Rumorosa**	**0.82**	**299**	*e*P	**Pb**	**03 54 48.4**	**-0.3**
RMX				*e*S	**Sb**	**03 54 59.1**	**-0.5**
RMX				⇓*e*		03 55 00.1	
RMX				AML	AML	03 55 00.1	
	comp=N,419nm,0.1s						
CRR	**Carrizo Plain**	**0.93**	**318**	⇓*i*P	**Pb**	**03 54 50.5**	**+0.2**
ZAX	**El Zacaton**	**1.13**	**233**	*e*P	**Pn**	**03 54 53.7**	**-0.1**
ZAX				⇑*e*		03 55 11.1	
ZAX				AML	AML	03 55 11.1	
	comp=E,353nm,0.5s						
SPX	**San Pedro Mart**	**1.17**	**190**	*e*P	**Pn**	**03 54 54.4**	**-0.2**
SPX				*e*S	**Sn**	**03 55 10.7**	**+0.3**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**03 54 55.4**	**+0.2**
CBX				*e*S	**Sb**	**03 55 10.8**	**-0.2**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**03 54 54.8**	**-0.4**
CBX				*e*S	**Sb**	**03 55 10.8**	**-0.2**
ECNX	**Esteban Cantu**	**1.29**	**245**	*e*P	**Pn**	**03 54 56.2**	**+0.2**
BAR	**Barrett**	**1.31**	**292**	*e*P	**Pn**	**03 54 56.1**	**-0.2**

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*ISCJB **24** 04:00:39.1±0.2,27°.54N±0°.02×66°.13E±0°.02,h10km, mb4.3/67,MS3.6/11,Error ellipse: s-maj=3.7km s-min=3.0km az=23.3*
*IDC **24** 04:00:39.4±0.7,27°.50N×66°.18E,h0km,mb4.0/25, mb1 4.2/26,mb1mx4.1/41,mbtmp4.1/26,ML4.0/1,MS3.6/13, Ms1 3.6/13,ms1mx3.4/27,Error ellipse: s-maj=18.4km s-min=12.5km az=24.0*
*MOS **24** 04:00:42.3±0.9,27°.47N×66°.07E,h33km,mb4.6/45,Error ellipse: s-maj=8.4km s-min=5.3km az=113.5*
*NEIC **24** 04:00:42.2±3.6,27°.54N×66°.17E,h20km±22km,mb4.4/19, Error ellipse: s-maj=7.8km s-min=5.1km az=209.0*
*TEH **24** 04:00:42.2,27°.54N×66°.22E,h10km,ML4.5*
*BJI **24** 04:00:49.7,28°.26N×66°.63E,h15km,mB4.8/9,mb4.6/12, Ms4.1/7,Ms7 3.8/6*
*OMAN **24** 04:01:04.9±99.0,26°.21N×64°.60E,h0km±295km,Error ellipse: s-maj=316.6km s-min=34.1km az=252.0*

ISC 24 04:00:40.8±0.4,27°51N±0°.05×66°27E±0°.04,h10km,n226, σ1s52/218,mb4.4/67,MS3.7/11,7C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.08**	**41**	P	**Pn**	**04 02 25.7**	**+1.2**
THW				S	**Sn**	**04 03 45.0**	**-0.1**
KBL	**Kabul**	**7.40**	**18**	*e*P	**Pn**	**04 02 30.9**	**+1.8**
KBL				*e*		04 03 53.4	
KBL	**Kabul**	**7.40**	**18**	*e*Pn	**Pn**	**04 02 30.9**	**+1.8**
KBL				*e*Sn	**Sn**	**04 03 53.4**	**+0.3**
AJM	**Ajmer**	**7.54**	**96**	*e*P	Pn	04 02 36.0	+5.2
AJM				*e*S	**Sn**	**04 03 54.0**	**-2.4**
CEP	**Cherat**	**7.94**	**36**	P	**Pn**	**04 02 37.4**	**+0.9**
CEP				S	**Sn**	**04 04 07.0**	**+0.5**
WBK	**Wadi Bani Khal**	**8.22**	**235**	P	**Pn**	**04 02 38.5**	**-1.8**
	SNR=19						
KHET	**Khetri**	**8.46**	**84**	*e*P	**Pn**	**04 02 44.3**	**+0.8**
KHET				*e*S	**Sn**	**04 04 14.8**	**-4.3**
KHET				AML	AML	04 04 35.6	
	comp=E,125nm,0.9s						
KHET				AML	AML	04 04 36.4	
	comp=N,130nm,0.8s						
CHCP	**Chirah Chowk**	**8.59**	**43**	P	Pn	04 02 48.7	+3.5
SMDO	**Samad**	**8.66**	**241**	P	**Pn**	**04 02 45.5**	**-0.9**
	SNR=9.8						
HOQ	**Hoqain**	**8.99**	**246**	P	**Pn**	**04 02 50.0**	**-0.7**
	SNR=5.9						
BANOM	**Banah**	**9.06**	**262**	⇑*i*P	**Pn**	**04 02 50.7**	**-0.9**
	SNR=13						
BANOM	**Banah**	**9.06**	**262**	⇑P	**Pn**	**04 02 51.2**	**-0.5**
BANOM				⇑S	Sn	04 04 23.2	-11
KUDL	**Kundal**	**9.07**	**84**	*e*P	**Pn**	**04 02 53.4**	**+1.7**
KUDL				*e*S	**Sn**	**04 04 30.6**	**-3.3**
BSY	**Bisya**	**9.49**	**242**	⇓P	**Pn**	**04 02 56.8**	**-0.8**
	SNR=26						
HATD	**Hatta, Dubai**	**9.49**	**256**	⇑P	**Pn**	**04 02 56.7**	**-0.9**
ASHO	**Ashiyiah**	**9.60**	**255**	⇑*i*P	**Pn**	**04 02 58.1**	**-1.1**
	SNR=24						
ASHO	**Ashiyiah**	**9.60**	**255**	⇓P	**Pn**	**04 02 59.4**	**+0.2**
	SNR=24						
ASHO				⇓S	Sn	04 04 34.1	-13
BHK	**Bhakra**	**9.66**	**64**	*ex*	Pn	04 03 06.0	+6.1
NDI	**New Delhi**	**9.73**	**81**	*e*P	Pn	04 03 04.0	+3.1
NDI				*e*S	**Sn**	**04 04 46.0**	**-4.4**
DLH	**Dalhousie**	**9.78**	**57**	*e*P	**Pn**	**04 03 03.0**	**+1.3**
DLH				*e*S	**Sn**	**04 04 49.0**	**-2.8**
DHRM	**DHARAMSHALA**	**9.90**	**59**	*e*P	**Pn**	**04 03 04.9**	**+1.5**
DHRM				*e*S	**Sn**	**04 04 53.3**	**-1.4**
DHRM				AML	AML	04 05 52.4	
	comp=E,122nm,1.5s						
DHRM				AML	AML	04 05 52.5	
	comp=N,159nm,0.0s						
SDNR	**Sundarnagar**	**10.13**	**64**	*e*P	Pn	04 03 10.6	+4.2
SDNR				*e*S	**Sn**	**04 04 57.0**	**-3.1**
SMLA	**Simla**	**10.17**	**67**	*i* P	**Pn**	**04 03 09.0**	**+2.2**
SMLA				*e*S	**Sn**	**04 04 57.4**	**-3.5**
SMLA				AML	AML	04 05 36.6	
	comp=N,97nm,0.5s						
SMLA				AML	AML	04 05 37.8	
	comp=E,85nm,0.6s						
IMYA	**Miami**	**10.24**	**331**	*e*P	**Pn**	**04 03 08.9**	**+0.9**
AGRA	**Agra**	**10.38**	**89**	*e*S	**Sn**	**04 05 01.8**	**-4.3**
AGRA				AML	AML	04 05 19.3	
	comp=N,64nm,0.1s						
AGRA				AML	AML	04 05 20.1	
	comp=E,73nm,0.5s						
ISRO	**Mashad**	**10.50**	**328**	*e*P	Pn	04 03 20.2	+8.7
IPAY	**Payeh**	**10.84**	**327**	*e*P	Pn	04 03 18.2	+2.0
IAKL	**Akhelmad**	**11.07**	**327**	*e*P	Pn	04 03 16.1	-3.4
IKRD	**Kardeh**	**11.33**	**327**	*e*P	Pn	04 03 14.5	-8.5
GEYT	**Alibeck**	**12.44**	**329**	LR	LR	04 08 15.7	
	comp=E,72nm,21.8s,baz=110,slow=37						

RPR	**Rampur**	**14.74**	**123**	*e*Pn	**Pn**	**04 04 09.4**	**0.0**
RPR				*e*Sn	**Sn**	**04 06 57.9**	**+5.0**
HYBB	**Hyderabad (bro**	**15.14**	**129**	*e*Pn	**Pn**	**04 04 14.4**	**-0.6**
HYBB				*e*Sn	**Sn**	**04 07 05.5**	**+2.7**
HYB	**Hyderabad**	**15.15**	**129**	*i* P	**P**	**04 04 17.0**	**-3.1**
HYB				*e*S	**Sn**	**04 07 02.0**	**-0.9**
HYB	**Hyderabad**	**15.15**	**129**	*e*P	**P**	**04 04 17.0**	**-3.1**
HYB	**Hyderabad**	**15.15**	**129**	*e*P	**P**	**04 04 17.0**	**-3.1**
HYB				*e*S	S	04 07 35.0	+15
KK31	**Karatay Array**	**15.93**	**11**	*e*P	**P**	**04 04 29.5**	**+0.8**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KKAR	**Karatay Array**	**15.93**	**11**	*e*P	**P**	**04 04 25.9**	**-2.8**
KKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**15.93**	**11**	*e*Pn	**P**	**04 04 25.9**	**-2.8**
	comp=Z,14nm,0.8s						
URV	**Uravakonda**	**16.15**	**139**	*e*P	**P**	**04 04 30.7**	**-0.5**
URV				*e*Sn	**Sn**	**04 07 30.1**	**+2.8**
NJS	**Nagarjunasagar**	**16.26**	**129**	*e*Pn	**Pn**	**04 04 30.1**	**+0.7**
EKS2	**Erkin-Say**	**16.30**	**20**	*e*P	**Pn**	**04 04 29.5**	**-0.4**
EKS2				*e*		04 07 26.5	
EKS2	**Erkin-Say**	**16.30**	**20**	*e*Pn	**Pn**	**04 04 29.5**	**-0.4**
EKS2				*e*Sn	**Sn**	**04 07 26.5**	**-4.3**
AAK	**Ala-Archa**	**16.50**	**22**	Pn	**Pn**	**04 04 32.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=190,slow=8.3,SNR=11						
AAK				LR	LR	04 12 08.3	
	comp=Z,259nm,21.1s,baz=209,slow=42						
AAK	**Ala-Archa**	**16.50**	**22**	*e*P	**P**	**04 04 33.5**	**-1.7**
AAK				pmax	pmax		
	comp=Z,33nm,1.7s						
AAK	**Ala-Archa**	**16.50**	**22**	*e*Pn	**Pn**	**04 04 31.6**	**-1.0**
AAK				*e*Sn	**Sn**	**04 07 32.8**	**-3.0**
FRU	**Bishkek**	**16.72**	**22**	*e*P	P	04 04 42.0	+4.5
FRU				*e*		04 07 38.0	
FRU				pmax	pmax		
	comp=Z,35nm,2.0s						
TKM2	**Tokmak 2**	**17.14**	**24**	P	**Pn**	**04 04 38.9**	**-1.7**
TKM2				pmax	pmax		
	comp=Z,21nm,1.2s						
TKM2	**Tokmak 2**	**17.14**	**24**	*e*Pn	**Pn**	**04 04 38.8**	**-1.8**
ADKI	**Addanki**	**17.21**	**130**	*e*Pn	**P**	**04 04 41.9**	**-1.1**
ADKI				*e*Sn	**Sn**	**04 07 55.2**	**+2.2**
SKHT	**Srikalahasti**	**18.57**	**135**	*e*P	**Pn**	**04 04 58.9**	**+0.7**
SKHT				*e*Sn	**S**	**04 08 27.8**	**-2.2**
RAYN	**Ar Rayn**	**19.16**	**263**	*e*P	**Pn**	**04 05 02.8**	**-2.6**
	comp=Z,7.3nm,0.8s						
GNI	**Garni**	**21.81**	**311**	P	**P**	**04 05 35.8**	**+2.5**
	comp=Z,13nm,0.9s,baz=262,slow=5.9,SNR=4.4						
GNI	**Garni**	**21.81**	**311**	*i* P	**P**	**04 05 35.0**	**+1.7**
GNI				pmax	pmax		
	comp=Z,11nm,0.7s						
GNI	**Garni**	**21.81**	**311**	*e*P	P	04 05 36.9	+3.5
	comp=Z,21nm,0.9s						
LSA	**Lhasa**	**21.94**	**78**	*e*P	**P**	**04 05 36.3**	**+1.2**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**21.94**	**78**	*e*P	**P**	**04 05 36.3**	**+1.2**
	comp=Z,12nm,0.8s						
AB31	**Akbulak array**	**22.25**	**349**	*e*P	**P**	**04 05 38.2**	**+0.5**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ABKAR	**Akbulak array**	**22.25**	**349**	*e*P	**P**	**04 05 38.1**	**+0.3**
	comp=Z,9.1nm,0.7s						
SHL	**Shillong**	**22.98**	**89**	*e*P	**P**	**04 05 47.0**	**+1.1**
MK31	**Makanchi Array**	**23.01**	**29**	*e*P	**P**	**04 05 47.9**	**+2.0**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	**Makanchi Array**	**23.01**	**29**	P	**P**	**04 05 46.1**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=223,slow=13,SNR=40						
MKAR				LR	LR	04 15 38.5	
	comp=Z,143nm,19.9s,baz=216,slow=39						
MKAR	**Makanchi Array**	**23.01**	**29**	P	**P**	**04 05 46.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,143nm,19.9s						
ZEI	**Tsey**	**23.71**	**316**	*e*P	**P**	**04 05 54.1**	**+1.0**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMQ	**Urumqi**	**23.72**	**41**	P	P	04 05 58.5	+5.5
WMQ				pP	pP	04 06 06.8	+11
WMQ				PMZ			
	comp=Z,25nm,0.8s						
WMQ				PMZ			
	comp=Z,200nm,3.5s						
WMQ				LN			
	comp=Z,500nm,9.0s						
WMQ				LE			
	comp=Z,250nm,7.7s						
WMQ				LZ			
	comp=Z,390nm,12.6s						
AKTO	**Aktyubinsk**	**23.74**	**347**	P	**P**	**04 05 53.4**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=150,slow=6.8,SNR=18						
AKTO	**Aktyubinsk**	**23.74**	**347**	P	**P**	**04 05 53.4**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NCK	**Nalchik**	**24.28**	**317**	*e*P	**P**	**04 06 00.8**	**+2.5**
PALK	**Pallekele**	**24.34**	**143**	*e*P	**P**	**04 05 58.2**	**-0.8**
PALK				pmax	pmax		
	comp=Z,18nm,1.2s						
PALK	**Pallekele**	**24.34**	**143**	*e*P	**P**	**04 05 58.2**	**-0.8**
	comp=Z,18nm,1.2s						
NEY	**Neytrino**	**24.68**	**316**	*e*P	**P**	**04 06 05.0**	**+2.9**
KBZ	**Khabaz**	**24.83**	**317**	P	**P**	**04 06 03.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=56,slow=24,SNR=4.7						
KBZ	**Khabaz**	**24.83**	**317**	P	**P**	**04 06 03.5**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**24.90**	**19**	P	**P**	**04 06 04.8**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=210,slow=9.1,SNR=28						
KURK	**Kurchatov**	**25.00**	**19**	P	**P**	**04 06 04.8**	**+0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	**Kurchatov**	**25.00**	**19**	*e*P	**P**	**04 06 06.3**	**+1.6**
	comp=Z,11nm,0.9s						
KIV	**Kislovodsk**	**25.08**	**317**	⇑*e*P	**P**	**04 06 07.4**	**+1.8**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
KIV	**Kislovodsk**	**25.08**	**317**	*e*P	**P**	**04 06 05.4**	**-0.2**
	comp=Z,13nm,0.6s						
BVAR	**Borovoye Array**	**25.67**	**6**	P	**P**	**04 06 11.5**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=169,slow=10.0,SNR=13						
BVAR	**Borovoye Array**	**25.67**	**6**	P	**P**	**04 06 11.5**	**+0.8**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**25.69**	**6**	*e*P	**P**	**04 06 13.1**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRVK	**Borovoye**	**25.69**	**6**	*e*P	**P**	**04 06 09.3**	**-1.6**
	comp=Z,14nm,1.1s						
ASF	**Jabal al Asfar**	**25.86**	**287**	P	P	04 06 17.6	+4.8
	comp=Z,3.0nm,0.9s,baz=75,slow=4.7,SNR=8.1						
ASF	**Jabal al Asfar**	**25.86**	**287**	P	P	04 06 17.6	+4.8
ASF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MMAI	**Mount Meron Ar**	**27.16**	**289**	P	P	04 06 29.0	+4.5
	comp=Z,2.5nm,0.7s,baz=84,slow=13,SNR=8.3						
ARU	**Arti**	**29.42**	**351**	*d* iP	**P**	**04 06 44.5**	**+0.2**
ARU				S	S	04 11 30.7	-7.4
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRTR	**Keskin Array B**	**29.62**	**303**	P	**P**	**04 06 47.3**	**+0.9**
	comp=Z,0.5nm,1.0s,baz=117,slow=12,SNR=2.1						
ZALV	**Zalesovo Beam**	**29.73**	**22**	P	**P**	**04 06 48.1**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=227,slow=9.6,SNR=8.3						
ZALV				LR	LR	04 20 09.1	
	comp=Z,204nm,20.8s,baz=250,slow=39						
ZALV	**Zalesovo Beam**	**29.73**	**22**	P	**P**	**04 06 48.1**	**+1.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,204nm,20.8s						
GTA	**Gaotai**	**30.23**	**58**	*e*P	P	04 06 59.8	+8.0
GTA				pP	pP	04 07 03.4	+8.6
GTA				sP	sP	04 07 05.8	+10
GTA				PMZ			
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.32**	**100**	P	**P**	**04 07 03.8**	**+2.3**
	comp=Z,1.0nm,0.4s,baz=288,slow=9.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**31.32**	**100**	P	**P**	**04 07 03.8**	**+2.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	**34.98**	**330**	*de*P	**P**	**04 07 32.1**	**-0.9**
OBN				*e*		04 08 45.7	
OBN				pmax	pmax		
	comp=Z,24nm,2.5s						
AKASG	**Malin Array Be**	**36.35**	**320**	P	**P**	**04 07 44.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=111,slow=7.7,SNR=6.6						
KIEV	**Kiev**	**36.36**	**320**	*e*P	**P**	**04 07 43.3**	**-1.6**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIEV	**Kiev**	**36.36**	**320**	*e*P	**P**	**04 07 43.3**	**-1.6**
	comp=Z,3.4nm,0.8s						
MLR	**Muntele Rosu**	**36.59**	**310**	P	**P**	**04 07 48.4**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=140,slow=7.9,SNR=3.9						
MLR	**Muntele Rosu**	**36.59**	**310**	P	**P**	**04 07 48.4**	**+1.3**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**37.14**	**46**	P	**P**	**04 07 51.8**	**0.0**
	comp=Z,0.5nm,0.4s,baz=250,slow=4.2,SNR=3.5						
SONM	**Songino Array**	**37.14**	**46**	P	**P**	**04 07 51.8**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULN	**Ulaanbaatar**	**37.57**	**46**	*e*P	P	04 08 01.4	+5.9
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**37.57**	**46**	*e*P	**P**	**04 07 54.3**	**-1.2**
	comp=Z,3.4nm,1.1s						
HHC	**Hu-ho-hao-te**	**39.34**	**58**	*e*P	**P**	**04 08 12.0**	**+1.6**
HHC				PP	**PnPn**	**04 09 44.3**	**+1.0**
HHC				S	**S**	**04 14 12.8**	**+1.1**
HHC				PMZ			
	comp=Z,19nm,0.8s						
HHC				PMZ			
	comp=Z,67nm,4.1s						
HHC				LN			
	comp=Z,200nm,16.0s						
HHC				LE			
	comp=Z,130nm,16.0s						
HHC				LZ			
	comp=Z,91nm,13.6s						
PSI	**Prapat**	**39.71**	**123**	P	**P**	**04 08 14.8**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=336,slow=10.0,SNR=3.8						
PSI	**Prapat**	**39.71**	**123**	P	**P**	**04 08 14.8**	**+1.0**
PSI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KOLS	**Kolonicke sedl**	**39.94**	**314**	*e*P	P	04 08 24.4	+9.3
KOLS	**Kolonicke sedl**	**39.94**	**314**	*es*P	sP	04 08 24.4	+4.9
QIZ	**Qiongzhong**	**40.74**	**92**	P	P	04 08 29.9	+7.8
QIZ				S	S	04 14 40.5	+7.7
PSZ	**Piszkesteto**	**41.22**	**312**	*e*P	**P**	**04 08 24.7**	**-1.2**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PSZ	**Piszkesteto**	**41.22**	**312**	*e*P	**P**	**04 08 24.7**	**-1.2**
	comp=Z,1.7nm,0.5s						
WHN	**Wuhan**	**41.90**	**74**	P	P	04 08 36.9	+5.4
JOF	**Joensuu**	**42.12**	**337**	*ep*	**P**	**04 08 32.9**	**0.0**
	comp=Z,4.8nm,0.5s						
JOF	**Joensuu**	**42.12**	**337**	*e*P	**P**	**04 08 32.9**	**0.0**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MORC	**Moravsky Berou**	**43.14**	**315**	*e*P	**P**	**04 08 40.9**	**-0.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MORC	**Moravsky Berou**	**43.14**	**315**	*e*P	**P**	**04 08 40.9**	**-0.6**
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**43.20**	**333**	P	**P**	**04 08 40.7**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=135,slow=9.5,SNR=11						
FINES				LR	LR	04 27 15.7	
	comp=Z,27nm,19.8s,baz=143,slow=37						
KAF	**Kangasniemi**	**43.48**	**334**	*ep*	P	04 08 48.5	+4.6
	comp=Z,4.6nm,0.7s						
KAF	**Kangasniemi**	**43.48**	**334**	*e*P	P	04 08 48.5	+4.6
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BOD	**Bodaibo**	**44.94**	**34**	*e*P	P	04 08 58.2	+2.5
AQU	**L'Aquila**	**45.10**	**303**	*e*P	**P**	**04 08 56.4**	**-0.9**
AQU				pmax	pmax		
	comp=Z,25nm,1.1s						
AQU	**L'Aquila**	**45.10**	**303**	*e*P	**P**	**04 08 56.4**	**-0.9**
	comp=Z,25nm,1.1s						
GERES	**GERESS Array B**	**45.45**	**313**	P	**P**	**04 08 59.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=97,slow=8.0,SNR=4.7						
ARCES	**ARCESS Array B**	**48.18**	**342**	P	**P**	**04 09 20.5**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=134,slow=6.9,SNR=10.0						
ARCES				LR	LR	04 31 44.4	
	comp=Z,112nm,19.0s,baz=100,slow=39						
ARCES	**ARCESS Array B**	**48.18**	**342**	P	**P**	**04 09 20.5**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,112nm,19.0s						
KEST	**Kesra**	**48.59**	**295**	P	**P**	**04 09 25.1**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=37,slow=2.1,SNR=4.6						
KEST	**Kesra**	**48.59**	**295**	*e*P	**P**	**04 09 25.0**	**+0.3**
SBF	**Sospel**	**49.48**	**305**	*e*P	**P**	**04 09 29.1**	**-2.3**
	comp=Z,43nm,1.0s						
SBF	**Sospel**	**49.48**	**305**	*e*P	**P**	**04 09 29.1**	**-2.3**
SBF				pmax	pmax		
	comp=Z,43nm,1.0s						
SBF	**Sospel**	**49.48**	**305**	*e*P	**P**	**04 09 29.1**	**-2.3**
	comp=Z,43nm,1.0s						
NB2	**NORSAR Subarra**	**49.53**	**328**	P	**P**	**04 09 30.2**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=109,slow=7.9						
NOA	**NORSAR Array B**	**49.53**	**328**	P	**P**	**04 09 30.3**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=108,slow=7.5,SNR=3.1						
NOA				LR	LR	04 33 50.0	
	comp=Z,53nm,18.0s,baz=115,slow=40						
NOA	**NORSAR Array B**	**49.53**	**328**	P	**P**	**04 09 30.3**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,53nm,18.0s						
ECH	**Echery**	**49.72**	**311**	*e*P	**P**	**04 09 34.1**	**+1.0**
ECH				pmax	pmax		
	com

KSAR	Wonju Array Be	52.10	63	P	P	04 09 52.4	+1.2
KSAR	Wonju Array Be	52.10	63	P	P	04 09 52.4	+1.2
KSRS	Korea Array	52.13	63	P	P	04 09 52.4	+1.0
	comp=Z,4.6nm,0.7s,baz=274,slow=7.3,SNR=18						
KSRS				LR	LR	04 33 41.2	
	comp=Z,47nm,21.0s,baz=266,slow=38						
KSRS	Korea Array	52.13	63	P	P	04 09 52.4	+1.0
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,47nm,21.0s						
SSF	Saint Saulge	52.18	310	*eP*	P	04 09 49.8	-1.8
SSF	Saint Saulge	52.18	310	*eP*	P	04 09 49.8	-1.8
SSF	Saint Saulge	52.18	310	*eP*	P	04 09 49.8	-1.8
AVF	Avril sur Loir	52.29	309	*eP*	P	04 09 51.3	-1.1
AVF	Avril sur Loir	52.29	309	*eP*	P	04 09 51.3	-1.1
AVF	Avril sur Loir	52.29	309	*eP*	P	04 09 51.3	-1.1
CAF	Calviac	53.28	307	*eP*	P	04 09 59.2	-0.6
	comp=Z,13nm,1.0s						
CAF	Calviac	53.28	307	*eP*	P	04 09 59.2	-0.6
CAF				pmax	pmax		
	comp=Z,13nm,1.0s						
CAF	Calviac	53.28	307	*eP*	P	04 09 59.2	-0.6
	comp=Z,13nm,1.0s						
RJF	Les Rejaudoux	53.64	308	*eP*	P	04 10 01.5	-0.9
RJF				*eR*			
	comp=Z,64nm,18.5s						
RJF	Les Rejaudoux	53.64	308	*eP*	P	04 10 01.5	-0.9
RJF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RJF	Les Rejaudoux	53.64	308	*eP*	P	04 10 01.5	-0.9
	comp=Z,6.9nm,0.9s						
KLR	Kul'dur	53.94	48	*eP*	P	04 10 06.8	+2.3
LFF	La Frestale	54.22	307	*eP*	P	04 10 05.9	-0.7
	comp=Z,7.9nm,0.8s						
LFF	La Frestale	54.22	307	*eP*	P	04 10 05.9	-0.7
LFF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LFF	La Frestale	54.22	307	*eP*	P	04 10 05.9	-0.7
	comp=Z,7.9nm,0.8s						
LDF	La Druitiere	54.57	312	*eP*	P	04 10 08.0	-1.1
	comp=Z,15nm,1.1s						
LDF	La Druitiere	54.57	312	*eP*	P	04 10 08.0	-1.1
LDF				pmax	pmax		
	comp=Z,15nm,1.1s						
LDF	La Druitiere	54.57	312	*eP*	P	04 10 08.0	-1.1
	comp=Z,15nm,1.1s						
MFF	Saint Martin d	54.70	309	*eP*	P	04 10 09.3	-0.9
MFF	Saint Martin d	54.70	309	*eP*	P	04 10 09.3	-0.9
MFF	Saint Martin d	54.70	309	*eP*	P	04 10 09.3	-0.9
FLN	La Foliniere	54.80	312	*eP*	P	04 10 09.4	-1.4
FLN				*eR*			
	comp=Z,46nm,18.0s						
FLN	La Foliniere	54.80	312	*eP*	P	04 10 09.4	-1.4
FLN	La Foliniere	54.80	312	*eP*	P	04 10 09.4	-1.4
GRR	Gorron	55.07	311	*eP*	P	04 10 12.0	-0.8
GRR	Gorron	55.07	311	*eP*	P	04 10 12.0	-0.8
GRR	Gorron	55.07	311	*eP*	P	04 10 12.0	-0.8
ETSF	Etsaut	55.36	305	*eP*	P	04 10 14.3	-0.8
	comp=Z,13nm,0.9s						
ETSF	Etsaut	55.36	305	*eP*	P	04 10 14.3	-0.8
ETSF				pmax	pmax		
	comp=Z,13nm,0.9s						
ETSF	Etsaut	55.36	305	*eP*	P	04 10 14.3	-0.8
	comp=Z,13nm,0.9s						
TIXI	Tiksi	55.57	20	*eP*	P	04 10 19.1	+3.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SJPF	Ste Jean	55.82	305	*eP*	P	04 10 17.2	-1.1
	comp=Z,13nm,1.1s						
SJPF	Ste Jean	55.82	305	*eP*	P	04 10 17.2	-1.1
SJPF				pmax	pmax		
	comp=Z,13nm,1.1s						
SJPF	Ste Jean	55.82	305	*eP*	P	04 10 17.2	-1.1
	comp=Z,13nm,1.1s						
SGMF	Saint Gilles	56.21	311	*eP*	P	04 10 19.7	-1.3
	comp=Z,9.0nm,0.8s						
SGMF	Saint Gilles	56.21	311	*eP*	P	04 10 19.7	-1.3
SGMF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SGMF	Saint Gilles	56.21	311	*eP*	P	04 10 19.7	-1.3
	comp=Z,9.0nm,0.8s						
QUIF	Quistinic	56.64	311	*eP*	P	04 10 23.1	-1.0
	comp=Z,19nm,1.2s						
QUIF	Quistinic	56.64	311	*eP*	P	04 10 23.1	-1.0
QUIF				pmax	pmax		
	comp=Z,19nm,1.2s						
QUIF	Quistinic	56.64	311	*eP*	P	04 10 23.1	-1.0
	comp=Z,19nm,1.2s						
ROSF	Rostrenen	56.68	312	*eP*	P	04 10 22.2	-2.1
	comp=Z,7.7nm,0.9s						
ROSF	Rostrenen	56.68	312	*eP*	P	04 10 22.2	-2.1
ROSF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ROSF	Rostrenen	56.68	312	*eP*	P	04 10 22.2	-2.1
	comp=Z,7.7nm,0.9s						
ESDC	Sonseca Array	58.40	301	P	P	04 10 35.5	-1.1
	comp=Z,0.7nm,0.6s,baz=61,slow=7.5,SNR=11						
MJAR	Matsushiro Arr	60.38	62	LR	LR	04 39 31.8	
	comp=Z,35nm,18.9s,baz=140,slow=39						
TORD	Torodi Ar. Bea	61.62	271	P	P	04 10 58.5	-0.6
	comp=Z,3.4nm,0.8s,baz=57,slow=5.8,SNR=94						
TORD				LR	LR	04 39 38.0	
	comp=Z,73nm,19.6s,baz=245,slow=38						
TSUM	Tsumeb	66.18	231	*eP*	P	04 11 29.2	+0.1
	comp=Z,3.4nm,0.9s						
BILL	Bilibino	68.42	23	⇑*eP*	P	04 11 42.8	+0.3
BILL				*e*		04 14 20.9	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s						
PETK	Petropavlovsk-	69.31	40	LR	LR	04 44 33.2	
	comp=Z,56nm,20.3s,baz=284,slow=38						
DBIC	Dimbokro	70.22	267	LR	LR	04 46 35.4	
	comp=Z,38nm,18.1s,baz=72,slow=39						
WRA	Warramunga Arr	81.01	118	P	P	04 12 56.4	+0.2
	comp=Z,1.7nm,0.8s,baz=320,slow=4.5,SNR=27						
WRA	Warramunga Arr	81.01	118	P	P	04 12 56.4	+0.2
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	Tennant Creek	81.01	118	*eP*	P	04 12 56.6	+0.4
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WRAB	Tennant Creek	81.01	118	*eP*	P	04 12 56.6	+0.4
	comp=Z,8.3nm,1.2s						
AS31	Alice Springs	82.73	121	*eP*	P	04 13 05.3	+0.1
ASAR	Alice Springs	82.73	121	P	P	04 13 05.6	+0.4
	comp=Z,1.7nm,0.6s,baz=307,slow=5.3,SNR=31						
ASAR	Alice Springs	82.73	121	P	P	04 13 05.6	+0.4
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	Inuvik	83.34	7	P	P	04 13 08.4	+0.8
	comp=Z,1.1nm,0.6s,baz=360,slow=7.5,SNR=12						
INK	Inuvik	83.34	7	P	P	04 13 08.4	+0.8
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	83.34	7	*eP*	P	04 13 08.7	+1.1
	comp=Z,1.3nm,0.6s						
ILAR	Eielson Array	84.46	14	P	P	04 13 12.5	-0.9
	comp=Z,0.2nm,0.7s,baz=307,slow=4.9,SNR=3.3						
ILAR				LR	LR	04 56 35.8	
	comp=Z,64nm,18.8s,baz=326,slow=40						
YKA	Yellowknife Ar	90.31	0	P	P	04 13 41.9	+0.3
	comp=Z,0.3nm,0.5s,baz=356,slow=4.7,SNR=4.5						

*IDC **24** 04:05:39.1±1.0,55°.44S×27°.28W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.7/25,mbtmp3.9/3,Error ellipse: s-maj=43.8km s-min=31.7km az=91.0*

ISC 24 04:05:40.5±1.1,55°.4S±0°.2×27°.3W±0°.3,h10km,n9,σ0s66/6, mb3.9/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	Vanda	47.19	183	P	P	04 14 12.8	+0.3
	0.7nm,0.8s,baz=184,slow=6.1,SNR=6.6						
H10S2	ASCENSION HYDR	47.43	17	T	T	05 05 48.0	
	baz=190						
H10S3	ASCENSION HYDR	47.43	17	T	T	05 05 48.0	
	baz=190,slow=74						
H10S1	ASCENSION HYDR	47.45	17	T	T	05 05 48.0	
	baz=190,slow=74						
LPAZ	La Paz	49.97	305	P	P	04 14 35.6	+0.3
	0.9nm,0.7s,baz=163,slow=6.2,SNR=3.9						
TORD	Torodi Ar. Bea	72.55	30	P	P	04 17 08.0	+0.4
	1.4nm,0.6s,baz=199,slow=6.5,SNR=29						
INK	Inuvik	145.28	321	PKPbc	PKPab	04 25 16.6	-0.1
	2.5nm,0.9s,baz=99,slow=3.2,SNR=5.6						
ILAR	Eielson Array	149.65	312	PKPbc	PKPbc	04 25 27.9	-0.9
	1.3nm,0.8s,baz=127,slow=1.1,SNR=13						
SONM	Songino Array	150.75	85	PKPbc	PKPbc	04 25 31.7	-0.5
	0.8nm,0.5s,baz=219,slow=1.8,SNR=2.9						

*IDC **24** 04:10:40.0±3.1,37°.22S×177°.40E,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.4/23,mbtmp3.4/2,Error ellipse: s-maj=67.1km s-min=22.9km az=76.0*
*ISCJB **24** 04:10:41.2±0.6,37°.09S±0°.04×177°.20E±0°.04,h10km, mb3.2/2,Error ellipse: s-maj=6.5km s-min=4.0km az=27.1*
*WEL **24** 04:10:42.2±0.2,37°.10S×177°.21E,h5km,ML3.9/8,Error ellipse: s-maj=1.7km s-min=1.1km az=0.0*

ISC 24 04:10:41.5±1.0,37°.10S±0°.05×177°.21E±0°.03,h10km,n29, σ0s96/34,3C,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	White Island	0.43	182	⇑PG	Pg	04 10 51.0	+1.0
WIZ				SG	Sg	04 10 56.4	+0.7
MYRZ	Mayor Island	0.80	256	P*	Pg	04 10 57.2	+0.4
MYRZ				S*	Sg	04 11 08.2	+1.0
HAZ	Te Kaha	0.80	145	P*	Pg	04 10 56.7	-0.3
OPRZ	Ohinepanea	0.91	215	P*	Pg	04 10 58.5	-0.5
OPRZ				S*	Sg	04 11 11.0	0.0
TGRZ	Tauranga	0.99	230	P*	Pg	04 10 59.9	-0.5
TGRZ				AML	AML	04 11 22.7	
TGRZ				AML	AML	04 11 28.1	
MXZ	Matakaoa Point	0.99	118	⇑P*	Pg	04 10 59.8	-0.8
MXZ				S*	Sg	04 11 12.2	-1.3
MXZ				AML	AML	04 11 18.1	
MXZ				AML	AML	04 11 20.0	
URZ	Urewera	1.17	184	P*	Pb	04 11 02.5	-1.2
URZ				AML	AML	04 11 24.3	
URZ				AML	AML	04 11 25.3	
URZ	Urewera	1.17	184	Pn	Pb	04 11 02.5	-1.2
	29nm,0.3s,baz=342,slow=6.8,SNR=46						
URZ				Sn	Sb	04 11 18.0	-0.9
	55nm,0.3s,baz=190,slow=18,SNR=16						
WMGZ	Waiomatatini S	1.20	127	P*	Pb	04 11 04.6	+0.3
TWGZ	Tauwhareparae	1.24	151	P*	Pn	04 11 05.5	+0.6
KUZ	Kuaotunu	1.24	286	P*	Pn	04 11 03.2	-1.6
KUZ				AML	AML	04 11 19.1	
KUZ				AML	AML	04 11 19.1	
KUZ				AML	AML	04 11 21.8	
KUZ				AML	AML	04 11 21.8	
MWZ	Matawai	1.26	169	P*	Pn	04 11 04.1	-1.1
MWZ				AML	AML	04 11 26.7	
MWZ				AML	AML	04 11 26.7	
MWZ				AML	AML	04 11 29.4	
MWZ				AML	AML	04 11 29.4	
PUZ	Puketiti	1.28	140	P*	Pn	04 11 06.0	+0.5
PUZ				AML	AML	04 11 30.7	
PUZ				AML	AML	04 11 34.9	
RAGZ	Rawiri	1.41	173	⇑P*	Pn	04 11 06.8	-0.5
TKGZ	Te Karaka	1.43	159	*e*Pn	Pn	04 11 08.1	+0.5
TOZ	Tahuroa Road	1.50	244	P*	Pn	04 11 07.6	-0.8
MKAZ	Moumakai	1.63	269	PN	Pn	04 11 09.8	-0.5
MKAZ				AML	AML	04 11 40.2	
MKAZ				AML	AML	04 11 40.6	
RIGZ	Rimuhau	1.67	165	PN	Pn	04 11 12.2	+1.4
SNGZ	Shannon Statio	1.69	177	PN	Pn	04 11 11.1	+0.1
ETAZ	East Tamaki Re	1.83	274	*e*PN	Pn	04 11 12.9	-0.1
NMHZ	Naumai	2.02	189	*e*PN	Pn	04 11 15.9	+0.2
BKZ	Black Stump Fm	2.15	195	*e*P*	Pn	04 11 16.8	-0.5
BKZ				AML	AML	04 11 51.8	
BKZ				AML	AML	04 12 08.3	
HIZ	Hauiti	2.34	232	*e*PN	Pn	04 11 19.9	-0.1
MCHZ	McNeill Hill	2.38	190	*e*PN	Pn	04 11 22.8	+2.3
OUZ	Omahuta	3.47	302	PN	Pn	04 11 36.2	+0.7
BFZ	Birch Farm	3.66	192	*e*PN	Pn	04 11 37.7	-0.5
ASAR	Alice Springs	39.36	277	P	P	04 18 13.2	+1.9
	0.3nm,0.6s,baz=118,slow=8.1,SNR=5.3						
WRA	Warramunga Arr	40.98	283	P	P	04 18 25.5	+0.8
	0.5nm,0.9s,baz=120,slow=8.1,SNR=4.7						
TORD	Torodi Ar. Bea	155.82	191	PKPab	PKPab	04 31 02.0	-0.7
	0.7nm,1.1s,baz=178,slow=4.6,SNR=3.1						

*ISCJB **24** 04:12:24.8±0.6, 10°.88N±0°.03×62°.18W±0°.03,h111km±6km, Error ellipse: s-maj=5.5km s-min=3.7km az=42.8*
*TRN **24** 04:12:26.3, 10°.86N×62°.08W,h113km,MD3.5*
*FUNV **24** 04:12:26.4, 10°.93N×62°.12W,h105km,MW3.1*

ISC 24 04:12:24.3±1.3,10°.85N±0°.03×62°.16W±0°.03,h122km±8km, n26,σ1s39/48,2C-2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	Guiria	0.21	197	*e*P	Pn	04 12 41.5	+0.3
GUIV				*e*S	Sn	04 12 52.0	-1.9
TCE	Chacachacare	0.43	110	⇑*i*P	Pn	04 12 42.9	+0.8
TCE				*e*S	Sn	04 12 54.6	-0.8
TRN	Trinidad (W)	0.77	105	⇓*i*P	Pn	04 12 45.6	+1.2
TRN				*e*S	Sn	04 12 58.6	-1.0
TPP	Pointe-a-Pierr	0.88	127	*e*P	Pn	04 12 46.1	+0.8
TPP				*e*S	Sn	04 13 00.5	-0.7
GUNV	Guanoco	1.02	228	*e*P	Pn	04 12 48.5	+1.8
GUNV				*e*S	Sn	04 13 04.8	+1.1
CRUV	Carupano	1.07	261	⇓*i*P	Pn	04 12 47.7	+0.6
CRUV				*e*S	Sn	04 13 03.1	-1.3
TBH	Brigand Hill	1.14	108	*e*P	Pn	04 12 48.1	+0.2
TBH				*e*S	Sn	04 13 04.8	-1.0
GRW	Mount Saint Ca	1.40	21	*e*P	Pn	04 12 51.6	+0.8
GRW				*e*S	Sn	04 13 10.1	-0.8
TPR	Prospect	1.40	76	*e*P	Pn	04 12 51.9	+1.1
TPR				*e*S	Sn	04 13 10.0	-0.9
BOT	Bacolet	1.46	77	*e*P	Pn	04 12 52.2	+0.9
BOT				*e*S	Sn	04 13 10.5	-1.4
GRHS	Sauteurs	1.46	20	*e*P	Pn	04 12 52.8	+1.4
GRHS				*e*S	Sn	04 13 11.8	-0.3
GRSS	Sisters	1.54	20	⇑*i*P	Pn	04 12 54.1	+1.8
GRSS				*e*S	Sn	04 13 13.3	-0.4
TOSP	Speyside	1.66	74	*e*P	Pn	04 12 54.3	+0.5
TOSP				*e*S	Sn	04 13 14.5	-1.6
ORIV	Oritupano	2.15	215	*e*P	Pn	04 13 01.8	+2.0
FCV	Fort Charlotte	2.47	21	*e*P	Pn	04 13 04.4	+0.6
FCV				*e*S	Sn	04 13 34.0	-0.1
PCRV	Puerto La Cruz	2.52	255	*e*P	Pn	04 13 05.7	+1.2
PCRV				*e*S	Sn	04 13 34.2	-1.2
SVB	Belmont	2.57	20	*e*P	Pn	04 13 06.1	+1.0
SVB				*e*S	Sn	04 13 36.4	-0.1
SVV	Soufriere Volc	2.63	21	*e*P	Pn	04 13 07.1	+1.3
SVV				*e*S	Sn	04 13 37.0	-0.8
RIOV	Rio Grande	2.78	173	*e*P	Pn	04 13 10.2	+2.3
RIOV				*e*S	Sn	04 13 42.1	+0.7
MCLT	Moule a Chique	3.09	23	*e*P	Pn	04 13 12.6	+0.8
MCLT				*e*S	Sn	04 13 46.9	-1.6
PRGV	PARIAGUAN	3.21	230	*e*P	Pn	04 13 15.3	+1.9
CUPV	Cœpira	3.65	258	*e*P	Pn	04 13 20.4	+1.0
CUPV				*e*S	Sn	04 14 01.1	-0.8
BIRV	Birongo	4.05	265	*e*P	Pn	04 13 26.4	+1.8
BIRV				*e*S	Sn	04 14 10.1	-1.3
LUEV	Luepa	5.02	172	*e*P	Pn	04 13 38.3	+0.6
LUEV				*e*S	Sn	04 14 31.9	-3.0
BAUV	El Baul	6.09	252	*e*S	Sn	04 14 56.5	-4.0
MAPV	Macapo	6.28	261	*e*P	Pn	04 13 54.6	0.0

*ISCJB **24** 04:16:03.3±0.6,24°.34S±0°.05×66°.97W±0°.08,h169km, mb3.8/3,Error ellipse: s-maj=10.7km s-min=6.3km az=4.2*
*IDC **24** 04:16:03.8±2.2,24°.37S×66°.95W,h152km±29km,mb3.2/2, mb1 3.3/7,mb1mx3.2/26,mbtmp3.7/7,Error ellipse: s-maj=32.0km s-min=18.3km az=134.0*

ISC 24 04:16:04.5±0.8,24°.31S±0°.06×67°.0W±0°.1,h169km,n10, σ1s75/13,mb3.4/3,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	2.45	313	P	Pn	04 16 47.2	+0.8
	722nm,0.3s,baz=161,slow=6.8,SNR=103						
LVC				S	Sn	04 17 17.7	-1.0
	666nm,0.3s,baz=306,slow=22,SNR=42						
CFAA	Coronel Fontan	7.36	188	S	Sn	04 19 08.8	-3.1
	0.1nm,0.3s,baz=142,slow=18,SNR=4.2						
LPAZ	La Paz	8.05	352	P	Pn	04 17 59.5	+0.3
	0.5nm,0.3s,baz=176,slow=8.6,SNR=17						
LPAZ				S	Sn	04 19 26.5	-3.1
	0.1nm,0.3s,baz=338,slow=19,SNR=3.7						
SIV	San Ignacio	9.95	35	P	Pn	04 18 22.9	-0.8
	0.3nm,0.3s,baz=235,slow=14,SNR=7.0						
SIV				S	Sn	04 20 13.1	-1.3
	0.3nm,0.3s,baz=292,slow=19,SNR=2.6						
PLCA	Paso Flores	16.65	190	P	Pn	04 19 48.5	+0.3
	0.1nm,0.3s,baz=0.0,slow=12,SNR=2.8						
BDFB	Brasilia	19.78	68	P	P	04 20 22.9	+1.0
	0.4nm,0.3s,baz=230,slow=8.0,SNR=5.7						
PMSA	Palmer Station	40.51	178	P	P	04 23 25.6	-0.9
	33nm,1.0s,baz=0.0,slow=7.1,SNR=3.2						
VNDA	Vanda	74.40	190	P	P	04 27 25.1	+1.7
	0.3nm,0.6s,baz=135,slow=10.0,SNR=3.3						
TORD	Torodi Ar. Bea	76.65	69	P	P	04 27 38.5	+1.3
	0.8nm,1.1s,baz=252,slow=6.3,SNR=5.8						
WRA	Warramunga Arr	131.37	207	PKP	PKPdf	04 34 58.0	+0.5
	0.2nm,0.9s,baz=160,slow=1.6,SNR=5.7						

MAN 24 04:47:55,7°.90N×122°.10E,h10km,mb4.6,ML3.4,MS3.3, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIL	Ipil	0.48	103	⇓*e*P	Pg	04 48 04.7	+0.3
PAGZ	Pagadian	1.27	92	*e*P	Pn	04 48 18.2	-0.6
PAGZ				*e*S	Sn	04 48 36.7	+0.8
DCPH	Dipolog City	1.41	61	⇑*e*P	Pg	04 48 26.6	+4.5
GUIM	Jordan	2.75	10	*e*P	Pn	04 48 40.1	+0.8
BUKP	Musuan	2.93	90	*e*P	Pb	04 48 48.7	+1.2

GUC 24 04:58:59.2±0.6,34°.33S×72°.56W,h10km±8km,ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	Los Niches	1.29	122	*e*P	Pb	04 59 23.7	+0.1
NICH				*e*S	Sg	04 59 42.2	+1.4
TALC	Talca	1.31	145	*e*P	Pb	04 59 24.0	0.0
TALC				*e*S	Sg	04 59 42.6	+1.0
RCDM	Rinconada Maip	1.68	61	*e*P	Pb	04 59 29.7	-0.6
RCDM				*e*S	Sg	04 59 53.2	-0.2
CLCH	Cerro Calan	1.93	62	*e*P	Pb	04 59 33.8	-0.7
CLCH				*e*S	Sg	05 00 00.6	-0.8
CLCH				AML	AML	05 00 19.0	
	comp=E,534nm,0.5s						
PEL	Peldehue	1.96	54	*e*P	Pb	04 59 34.8	-0.3
PEL				*e*S	Sg	05 00 01.4	-1.0
PEL				AML	AML	05 00 13.0	
	comp=E,677nm,0.4s						

*LDG **24** 05:12:49.0±0.1,44°.52N×7°.27E,h3km,Md2.1/3,Ml2.1/10, Error ellipse: s-maj=1.2km s-min=0.6km az=63.0*
*GEN **24** 05:12:49.0,44°.51N×7°.26E,h13km,ML1.4*
*STR **24** 05:12:49.1±0.2,44°.51N×7°.26E,h5km,Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **24** 05:12:49.6±0.0,44°.45N×7°.22E,h8km,Md1.8/3,Error ellipse: s-maj=0.2km s-min=0.1km az=28.0*

CSEM 24 05:12:48.4±0.1,44°.52N×7°.28E,h10km,ML1.9/10,Error ellipse: s-maj=1.9km s-min=1.3km az=64.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOI	San Damiano	0.03	236	Pg	Pg	05 12 51.6	+1.2
DOI				Sg	Sg	05 12 53.1	+1.3
DOI	San Damiano	0.03	236	Pg	Pg	05 12 51.6	+1.2
DOI				Sg	Sg	05 12 53.1	+1.3
PZZ	Stroppo	0.12	263	Pg	Pg	05 12 52.3	+0.8
PZZ				Sg	Sg	05 12 54.2	+0.5
PZZ	Stroppo	0.12	263	Pg	Pg	05 12 52.3	+0.8
PZZ				Sg	Sg	05 12 54.2	+0.5
STV	Sant Anna di V	0.28	174	Pg	Pg	05 12 54.8	+0.6
STV				Sg	Sg	05 12 58.6	+0.6
STV	Sant Anna di V	0.28	174	P	Pg	05 12 54.8	+0.6
STV				S	Sg	05 12 58.6	+0.6
ENR	Entracque	0.31	162	P	Pg	05 12 54.8	0.0
ENR				S	Sg	05 12 58.8	-0.3
SURF	Saint Ours	0.34	263	Pg	Pg	05 12 55.8	+0.3
SURF				Sg	Sg	05 13 00.1	-0.1
SURF	Saint Ours	0.34	263	Pg	Pg	05 12 55.8	+0.3
SURF				Sg	Sg	05 13 00.1	-0.1
OG22	Abries	0.39	321	Pg	Pg	05 12 56.8	+0.5
OG22				Sg	Sg	05 13 02.0	+0.3
OG22	Abries	0.39	321	Pg	Pg	05 12 56.8	+0.5
OG22				Sg	Sg	05 13 02.0	+0.3
MBDF	Montbardon	0.42	299	*e*Pg	Pg	05 12 57.4	+0.5
MBDF				*e*Sg	Sg	05 13 02.9	+0.3
	31nm,0.2s						
MBDF	Montbardon	0.42	299	*e*Pg	Pg	05 12 57.4	+0.5
MBDF				*e*Sg	Sg	05 13 02.9	+0.3
	16nm,0.2s						
TOUF	Mont Tournerai	0.51	183	Pg	Pg	05 12 58.8	+0.2
TOUF	Mont Tournerai	0.51	183	Pg	Pg	05 12 58.8	+0.2
RRL	Rocca Remolon	0.53	319	P	Pg	05 12 59.3	+0.2
AUTN	L'Aution	0.54	169	Pg	Pg	05 12 59.4	+0.2
AUTN				Sg	Sg	05 13 06.0	-0.5
AUTN	L'Aution	0.54	169	Pg	Pg	05 12 59.4	+0.2
AUTN				Sg	Sg	05 13 06.0	-0.5
RSP	Reno Superiore	0.63	359	P	Pg	05 13 00.2	-0.6
RSP				S	Sg	05 13 08.7	-0.4
MVIF	Mont Vial	0.63	189	Pg	Pg	05 13 01.0	+0.1
MVIF				Sg	Sg	05 13 09.5	+0.1
MVIF	Mont Vial	0.63	189	Pg	Pg	05 13 01.0	+0.1
MVIF				Sg	Sg	05 13 09.5	+0.1
SBF	Sospel	0.67	171	*e*Pg	Pg	05 13 01.8	+0.4
SBF				*e*Sg	Sg	05 13 10.1	-0.2
	7.7nm,0.2s						
SBF	Sospel	0.67	171	*e*Pg	Pg	05 13 01.8	+0.4
SBF				*e*Sg	Sg	05 13 10.1	-0.2
	3.8nm,0.2s						
RORO	Rocca Rossa	0.69	126	P	Pg	05

FRF				*e*Sg		Sg	05 13 22.3	-0.5	
	3.6nm,0.2s								
LPL	**La Plagne**	**1.07**	**339**	*e*Pg		Pg	05 13 09.2	-0.1	
LPL				*e*Sg		Sg	05 13 23.2	-0.2	
	2.5nm,0.3s								
LPL	**La Plagne**	**1.07**	**339**	*e*Pg		Pg	05 13 09.2	-0.1	
LPL				*e*Sg		Sg	05 13 23.2	-0.2	
	1.2nm,0.3s								
ORIF	**Oris-en-Rattie**	**1.08**	**292**	*e*Pg		Pg	05 13 09.2	-0.1	
ORIF				*e*Sg		Sg	05 13 22.3	-1.1	
	5.9nm,0.3s								
ORIF	**Oris-en-Rattie**	**1.08**	**292**	*e*Pg		Pg	05 13 09.2	-0.1	
ORIF				*e*Sg		Sg	05 13 22.3	-1.1	
	3.0nm,0.3s								
LMR	**La Mourre**	**1.31**	**206**	*e*Pg		Pb	05 13 13.0	-0.2	
LMR				*e*Sg		Sb	05 13 29.8	-0.3	
	6.2nm,0.2s								
LMR	**La Mourre**	**1.31**	**206**	*e*Pg		Pb	05 13 13.0	-0.2	
LMR				*e*Sg		Sb	05 13 29.8	-0.3	
	3.1nm,0.2s								
SMRF	**Simiane la Rot**	**1.34**	**247**	*e*Pg		Pb	05 13 13.9	+0.1	
SMRF				*e*Sg		Sn	05 13 31.2	-0.1	
	7.7nm,0.3s								
SMRF	**Simiane la Rot**	**1.34**	**247**	*e*Pg		Pb	05 13 13.9	+0.1	
SMRF				*e*Sg		Sn	05 13 31.2	-0.1	
	3.8nm,0.3s								
VIVF	**Saint-Julien-l**	**1.89**	**281**	*e*Pn		Pn	05 13 20.4	-0.4	
VIVF				*e*Sn		Sn	05 13 43.4	-1.4	
	0.4nm,0.3s								
VIVF	**Saint-Julien-l**	**1.89**	**281**	*e*Pn		Pn	05 13 20.4	-0.4	
VIVF				*e*Sn		Sn	05 13 43.4	-1.4	
	0.2nm,0.3s								
PGF	**Pioggiola**	**2.33**	**147**	*e*Pn		Pn	05 13 26.7	-0.3	
PGF				*e*Sn		Sn	05 13 54.1	-1.7	
	0.5nm,0.2s								
PGF	**Pioggiola**	**2.33**	**147**	*e*Pn		Pn	05 13 26.7	-0.3	
PGF				*e*Sn		Sn	05 13 54.1	-1.7	
	0.2nm,0.2s								

NSSC ***24*** *05:15:02.7±1.7,39°.37N×40°.40E,h38km±154km,MD2.1, ML3.9*
DDA ***24*** *05:15:07.5,38°.80N×40°.13E,h20km, ML4.2*
ISCJB ***24*** *05:15:07.9±0.5,38°.80N±0°.02×40°.13E±0°.02,h7km±4km, mb3.3/5,MS2.8/2,Error ellipse: s-maj=2.8km s-min=2.7km az=12.6*
IDC ***24*** *05:15:07.2±0.9,38°.85N×40°.10E,h0km,mb3.4/5, mb1 3.6/12,mb1mx3.4/45,mbtmp3.5/12,ML3.2/4,MS2.7/5, Ms1 2.7/5,ms1mx2.4/32,Error ellipse: s-maj=18.8km s-min=9.3km az=166.0*
ISK ***24*** *05:15:07.2,38°.81N×40°.14E,h2km,ML3.9*
TEH ***24*** *05:15:08.7,38°.77N×40°.12E,h2km,ML4.0*
CSEM ***24*** *05:15:09.1±0.2,38°.79N×40°.14E,h10km,ML3.9,Error ellipse: s-maj=4.6km s-min=4.1km az=10.0*
ISN ***24*** *05:15:10.5±2.4,38°.76N×40°.50E,h0km±8km,ML4.1*

ISC 24 05:15:08.1±1.1,38.78N±0°.02×40.15E±0°.02,h7km±8km, n127,σ1§23/160,mb3.4/5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.28**	**71**	*e*Pg	**Pb**	**05 15 16.6**	**+1.0**
BNGB	**Bing ¶ll**	**0.46**	**63**	*e*PG	**Pg**	**05 15 16.2**	**-0.5**
BNGB				*e*SG	**Sg**	05 15 24.2	+1.1
PTK	**Pertek**	**0.60**	**281**	*e*PG	**Pg**	**05 15 19.4**	**-0.3**
PTK	**Pertek**	**0.60**	**281**	*e*Pg	**Pg**	05 15 19.4	-0.3
SVRC	**Sivrice-ELAZID**	**0.77**	**239**	*e*PG	**Pg**	**05 15 23.3**	**+0.3**
SVRC				*e*SG	**Sb**	**05 15 34.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.77**	**239**	*e*Pg	**Pg**	**05 15 23.3**	**+0.3**
SVRC				*e*Sg	**Sb**	**05 15 34.8**	**0.0**
BNGL	**BINGOL**	**0.80**	**78**	*i* P	**Pg**	**05 15 23.0**	**-0.5**
BNGL				*i* S	**Sb**	**05 15 35.8**	**+0.3**
DIYA	**Diyarbakir**	**0.86**	**181**	*i* P	**Pb**	**05 15 25.4**	**0.0**
DIYA				*i* S	**Sn**	**05 15 38.7**	**-0.8**
DIYA	**Diyarbakir**	**0.86**	**181**	*i* P	**Pb**	**05 15 25.4**	**0.0**
DIYA				*i* S	**Sn**	**05 15 38.7**	**-0.8**
ERZN	**Erzincan**	**0.87**	**338**	*e*PG	**Pg**	**05 15 23.7**	**-1.1**
ERZN				*e*SG	**Sg**	**05 15 35.8**	**-0.3**
ELZG	**Elazig**	**0.95**	**253**	*i* P	**Pg**	**05 15 24.3**	**-2.2**
ELZG				*i* S	**Sb**	**05 15 40.9**	**+0.9**
ELZG	**Elazig**	**0.95**	**253**	*i* P	**Pg**	**05 15 24.3**	**-2.2**
ELZG				*i* S	**Sb**	**05 15 40.9**	**+0.9**
EUZM	**Uzumlu**	**0.99**	**339**	*i* P	**Pg**	**05 15 25.8**	**-1.3**
EUZM				*i* S	**Sg**	**05 15 39.7**	**-0.2**
EUZM	**Uzumlu**	**0.99**	**339**	*i* P	**Pg**	**05 15 25.8**	**-1.3**
EUZM				*i* S	**Sg**	**05 15 39.7**	**-0.2**
VRTB	**Varto-Mus**	**1.09**	**69**	*e*PN	**Pg**	**05 15 28.9**	**0.0**
VRTB	**Varto-Mus**	**1.09**	**69**	*e*Pn	**Pg**	**05 15 29.0**	**0.0**
BTMT	**Batman**	**1.21**	**119**	*e*PN	**Pb**	**05 15 31.4**	**+0.1**
BTMT	**Batman**	**1.21**	**119**	*e*Pn	**Pb**	**05 15 31.4**	**+0.1**
BEST	**Besiri**	**1.25**	**135**	*i* P	**Pn**	**05 15 31.8**	**-0.3**
BEST				*i* S	**Sb**	**05 15 47.1**	**-1.4**
KOPT	**Kop Dagi**	**1.26**	**12**	*i* P	**Pn**	**05 15 31.2**	**-1.2**
KOPT				*i* S	**Sn**	**05 15 50.2**	**+0.5**
KOPT	**Kop Dagi**	**1.26**	**12**	*i* P	**Pn**	**05 15 31.2**	**-1.2**
KOPT				*i* S	**Sn**	**05 15 50.2**	**+0.5**
MAZI	**Mazidag**	**1.34**	**170**	*e*PN	**Pg**	**05 15 34.2**	**+0.3**
MAZI	**Mazidag**	**1.34**	**170**	*e*Pn	**Pg**	**05 15 34.2**	**+0.3**
ILIC	**ilic-Erzincan**	**1.40**	**299**	*e*PN	**Pn**	**05 15 34.4**	**+0.3**
ILIC	**ilic-Erzincan**	**1.40**	**299**	*e*Pn	**Pn**	**05 15 34.4**	**+0.3**
KELT	**Kelkit**	**1.53**	**333**	*i* P	**Pn**	**05 15 35.4**	**-0.6**
KELT				*i* S	**Sb**	**05 15 56.8**	**+0.3**
KELT	**Kelkit**	**1.53**	**333**	*i* P	**Pn**	**05 15 35.4**	**-0.6**
KELT				*i* S	**Sb**	**05 15 56.8**	**+0.3**
MARD	**Mardin**	**1.55**	**161**	*i* P	**Pn**	**05 15 36.0**	**-0.2**
MARD				*i* S	**Sb**	**05 15 57.5**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.61**	**360**	*e*PN	**Pn**	**05 15 37.4**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.61**	**360**	*e*Pn	**Pn**	**05 15 37.4**	**+0.3**
TATV	**Tatvan**	**1.68**	**99**	*i* P	**Pn**	**05 15 38.3**	**+0.2**
TATV				*i* S	**Sn**	**05 15 58.7**	**-1.3**
TATV	**Tatvan**	**1.68**	**99**	*i* P	**Pn**	**05 15 38.3**	**+0.2**
TATV				*i* S	**Sn**	**05 15 58.6**	**-1.3**
URFA	**Urfa**	**1.70**	**218**	*e*PN	**Pn**	**05 15 38.3**	**+0.1**
URFA	**Urfa**	**1.70**	**218**	*e*Pn	**Pn**	**05 15 38.3**	**+0.1**
KBSD	**Kabsdagh**	**1.81**	**170**	*e*P	**Pn**	**05 15 39.7**	**+0.1**
KBSD				*e*S	**Sb**	**05 16 04.2**	**-0.1**
KBSD				AML	AML	05 16 13.2	
	comp=N,2μm,0.5s						
KBSD				AML	AML	05 16 13.3	
	comp=E,4μm,0.5s						
AKCD	**Akcadag**	**1.81**	**255**	*i* P	**Pn**	**05 15 39.5**	**-0.3**
AKCD				*i* S	**Sg**	**05 16 06.3**	**0.0**
AKCD	**Akcadag**	**1.81**	**255**	*i* P	**Pn**	**05 15 39.5**	**-0.3**
AKCD				*i* S	**Sg**	**05 16 06.3**	**0.0**
HOMI	**Horasan**	**1.85**	**47**	*i* P	**Pn**	**05 15 40.3**	**-0.2**
HOMI				*i* S	**Sg**	**05 16 09.4**	**+1.7**
ATAB	**Bozova**	**1.96**	**229**	*i* P	**Pn**	**05 15 41.6**	**-0.2**
ATAB				*i* S	**Sn**	**05 16 07.0**	**+0.3**
ATAB	**Bozova**	**1.96**	**229**	*i* P	**Pn**	**05 15 41.6**	**-0.2**
ATAB				*i* S	**Sn**	**05 16 07.0**	**+0.3**
SUSE	**Susehri**	**2.07**	**314**	*i* P	**Pn**	**05 15 43.3**	**-0.1**
SUSE				*i* S	**Sn**	**05 16 08.3**	**-1.2**
SUSE	**Susehri**	**2.07**	**314**	*i* P	**Pn**	**05 15 43.3**	**-0.1**
SUSE				*i* S	**Sn**	**05 16 08.3**	**-1.2**
EATA	**Eleskirt**	**2.11**	**59**	*i* P	**Pb**	**05 15 47.7**	**+0.8**
EATA				*i* S	**Sg**	**05 16 15.8**	**-0.2**
EATA	**Eleskirt**	**2.11**	**59**	*i* P	**Pb**	**05 15 47.7**	**+0.8**
EATA				*i* S	**Sg**	**05 16 15.8**	**-0.2**
SIRT	**Sirnak**	**2.21**	**125**	*e*PN	**Pn**	**05 15 46.6**	**+1.3**
SIRT	**Sirnak**	**2.21**	**125**	*e*Pn	**Pn**	**05 15 46.6**	**+1.3**
KTUT	**Trabzon**	**2.22**	**353**	*e*PN	**Pn**	**05 15 46.3**	**+1.0**
KTUT	**Trabzon**	**2.22**	**353**	*e*Pn	**Pn**	**05 15 46.3**	**+1.0**
GEVA	**Gevas**	**2.33**	**101**	*i* P	**Pb**	**05 15 50.3**	**-0.2**
GEVA	**Gevas**	**2.33**	**101**	*i* P	**Pb**	**05 15 50.3**	**-0.2**
GEVA				*i* S	**Sg**	**05 16 22.2**	**-0.8**
AGRB	**Hanur-Agry**	**2.35**	**69**	*e*PN	**Pn**	**05 15 48.6**	**+1.4**
AGRB	**Hanur-Agry**	**2.35**	**69**	*e*Pn	**Pn**	**05 15 48.6**	**+1.4**
SFNV	**Sufian**	**2.36**	**181**	*e*P	**Pn**	**05 15 48.3**	**+1.0**
SFNV				*e*S	**Sb**	**05 16 19.6**	**-0.8**
SFNV				AML	AML	05 16 28.4	
	comp=E,614nm,0.4s						
ESPY	**Espiye-Giresun**	**2.39**	**333**	*e*PN	**Pn**	**05 15 48.9**	**+1.2**
ESPY	**Espiye-Giresun**	**2.39**	**333**	*e*Pn	**Pn**	**05 15 48.9**	**+1.2**
DBAD	**Bademkaya**	**2.53**	**28**	*i* P	**Pn**	**05 15 49.6**	**0.0**
DBAD				*i* S	**Sb**	**05 16 25.4**	**+0.2**
DBAD	**Bademkaya**	**2.53**	**28**	*i* P	**Pn**	**05 15 49.6**	**0.0**
DBAD				*i* S	**Sb**	**05 16 25.4**	**+0.2**
DAGI	**Agillar**	**2.66**	**30**	*i* P	**Pn**	**05 15 51.4**	**-0.1**
DAGI				*i* S	**Sb**	**05 16 30.4**	**+1.3**
SVSK	**Karacayir**	**2.69**	**296**	*e*PN	**Pn**	**05 15 52.9**	**+1.1**
SVSK	**Karacayir**	**2.69**	**296**	*e*Pn	**Pn**	**05 15 52.9**	**+1.1**
RSDY	**Resadiye-TOKAT**	**2.71**	**307**	*e*PN	**Pn**	**05 15 53.9**	**+1.8**
RSDY	**Resadiye-TOKAT**	**2.71**	**307**	*e*Pn	**Pn**	**05 15 53.9**	**+1.8**
DBOC	**Borcka**	**2.81**	**24**	*i* P	**Pn**	**05 15 53.9**	**+0.5**
DBOC	**Borcka**	**2.81**	**24**	*i* P	**Pn**	**05 15 54.0**	**+0.5**
KMRS	**Kahramanmaras**	**2.86**	**245**	*e*PN	**Pn**	**05 15 55.5**	**+1.3**
KMRS	**Kahramanmaras**	**2.86**	**245**	*e*Pn	**Pn**	**05 15 55.5**	**+1.3**
BCA	**Borcka**	**2.89**	**23**	*e*PN	**Pn**	**05 15 54.8**	**+0.3**
BCA	**Borcka**	**2.89**	**23**	*e*Pn	**Pn**	**05 15 54.8**	**+0.3**
MNKR	**ALMNKUR**	**2.92**	**194**	*e*P	**Pn**	**05 15 55.6**	**+0.7**
MNKR				*e*S	**Sb**	**05 16 34.9**	**-1.5**
CLDR	**Caldiran**	**2.96**	**82**	*e*PN	**Pn**	**05 15 57.0**	**+1.3**
CLDR	**Caldiran**	**2.96**	**82**	*e*Pn	**Pn**	**05 15 57.0**	**+1.3**
MZRK	**Al-Mazaregh**	**2.98**	**172**	*e*P	**Pn**	**05 15 55.5**	**-0.2**
MZRK				*e*S	**Sn**	**05 16 34.8**	**+3.1**
MZRK				AML	AML	05 16 49.0	
	comp=E,993nm,0.6s						
HAKT	**HAKKARI**	**3.06**	**112**	*i* P	**Pn**	**05 15 57.5**	**+0.4**
HAKT	**HAKKARI**	**3.06**	**112**	*i* P	**Pn**	**05 15 57.5**	**+0.4**
HAKT				*i* S	**Sg**	**05 16 46.3**	**-0.1**
HKR	**Hakkari**	**3.08**	**112**	*e*PN	**Pn**	**05 15 58.6**	**+1.4**
HKR	**Hakkari**	**3.08**	**112**	*e*Pn	**Pn**	**05 15 58.6**	**+1.4**
SLMH	**Al Salmeh**	**3.12**	**215**	*e*P	**Pn**	**05 15 57.6**	**0.0**
KUZU	**Kuzuini**	**3.15**	**231**	*i* P	**Pn**	**05 15 57.7**	**-0.5**
KUZU	**Kuzuini**	**3.15**	**231**	*i* P	**Pn**	**05 15 57.7**	**-0.5**
KUZU				*i* S	**Sb**	**05 16 45.7**	**+2.5**
MSL	**Mosul**	**3.35**	**134**	*e*PG	Pg	05 16 18.5	+6.3
MSL				*e*SG	Sg	05 17 08.6	+13
BNN	**Bunyan**	**3.36**	**272**	*e*PN	**Pn**	**05 16 03.3**	**+2.2**
BNN	**Bunyan**	**3.36**	**272**	*e*Pn	**Pn**	**05 16 03.3**	**+2.2**
KOZT	**Kozan**	**3.65**	**250**	*e*PN	**Pn**	**05 16 06.8**	**+1.9**
KOZT	**Kozan**	**3.65**	**250**	*e*Pn	**Pn**	**05 16 06.8**	**+1.9**
AKH	**Akhalkalaki**	**3.67**	**43**	P	Sg	05 17 25.3	+19
GNI	**Garni**	**3.81**	**68**	Pn	**Pn**	**05 16 07.2**	**-0.1**
	comp=E,0.7nm,0.3s,baz=308,slow=12,SNR=3.5						
GNI				Pg	**Pb**	**05 16 18.4**	**+2.7**
	comp=E,3.6nm,0.3s,baz=296,slow=3.4,SNR=19						
YOZ	**Yozgat**	**3.85**	**284**	*e*PN	**Pn**	**05 16 09.6**	**+1.8**
YOZ	**Yozgat**	**3.85**	**284**	*e*Pn	**Pn**	**05 16 09.6**	**+1.8**
KVT	**Kavak**	**3.90**	**307**	*e*PN	**Pn**	**05 16 10.2**	**+1.8**
KVT	**Kavak**	**3.90**	**307**	*e*Pn	**Pn**	**05 16 10.2**	**+1.8**
BTCH	**Batrach**	**4.02**	**228**	*e*P	**Pn**	**05 16 10.1**	**0.0**
BTCH				AML	AML	05 17 21.1	
	comp=Z,394nm,0.5s						
IMRD	**Marand**	**4.34**	**89**	*e*P	**Pb**	**05 16 22.1**	**-2.7**
ARNB	**Al Arnab**	**4.43**	**230**	*e*P	**Pn**	**05 16 15.4**	**-0.3**
WRDH	**Warideh**	**4.43**	**224**	*e*P	**Pn**	**05 16 15.7**	**0.0**
CORM	**Corum**	**4.49**	**290**	*e*PN	**Pn**	**05 16 18.6**	**+1.9**
CORM	**Corum**	**4.49**	**290**	*e*Pn	**Pn**	**05 16 18.6**	**+1.9**
ONI	**Oni**	**4.56**	**32**	P	**Sg**	**05 17 30.7**	**-3.6**
TBLG	**Delisi**	**4.58**	**49**	P	Sg	05 17 41.9	+6.7
DIKM	**Dikmen**	**4.71**	**309**	*e*PN	**Pn**	**05 16 21.7**	**+2.1**
DIKM	**Dikmen**	**4.71**	**309**	*e*Pn	**Pn**	**05 16 21.7**	**+2.1**
IAZR	**Azarshahr**	**4.72**	**102**	*e*P	**Pb**	**05 16 34.0**	**+2.7**
IKRK	**Kirkuk**	**4.76**	**134**	*e*PN	**Pn**	**05 16 20.9**	**+0.7**
IKRK				*e*SN	**Sn**	**05 17 12.0**	**-3.6**
BIDA	**Albida**	**4.85**	**220**	*e*P	**Pn**	**05 16 21.6**	**+0.1**
BIDA				AML	AML	05 17 51.7	
	comp=Z,146nm,0.6s						
BRTR	**Keskin Array B**	**5.14**	**283**	Pn	**Pn**	**05 16 25.4**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=108,slow=16,SNR=38						
BRTR				Lg	Lg	05 17 54.7	
	baz=116,slow=26,SNR=2.8						
HAWK	**Haweek**	**5.21**	**216**	*e*P	**Pn**	**05 16 26.6**	**+0.1**
KBZ	**Khabaz**	**5.36**	**22**	Pn	**Pn**	**05 16 30.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=236,slow=24,SNR=6.4						
IHRS	**Heris**	**5.42**	**93**	*e*P	**Pg**	**05 16 51.7**	**-0.3**
MARH	**Ras Al Marh**	**5.59**	**213**	*e*P	**Pn**	**05 16 32.6**	**+0.6**
RTB	**Rutbah**	**5.74**	**179**	*e*PN	Pn	05 16 37.4	+3.6
RTB				*e*SN	**Sn**	**05 17 39.7**	**-0.3**
BRBR	**Barbar**	**6.35**	**214**	*e*P	**Pn**	**05 16 43.6**	**+1.5**
IDHR	**Dehrash**	**6.46**	**127**	*e*P	**Pn**	**05 16 43.6**	**-0.1**
IDHR	**Dehrash**	**6.46**	**127**	*e*P	**Pn**	**05 16 43.6**	**-0.1**
IGHG	**Ghaleghazi**	**6.81**	**129**	*e*P	Pn	05 16 40.0	-8.7
MMAI	**Mount Meron Ar**	**6.92**	**215**	Pn	**Pn**	**05 16 52.2**	**+2.2**
	comp=Z,3.4nm,0.3s,baz=64,slow=15,SNR=14						
MMAI				Lg	Lg	05 18 50.9	
	comp=Z,2.8nm,0.3s,baz=20,slow=34,SNR=3.9						
ASF	**Jabal al Asfar**	**7.11**	**203**	Pn	**Pn**	**05 16 55.1**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=0.9,slow=12,SNR=7.2						
ASF				Lg	Lg	05 18 55.5	
	comp=Z,1.3nm,0.3s,baz=326,slow=13,SNR=3.0						
IBDR	**Badra**	**7.35**	**139**	*e*PN	**Pn**	**05 16 58.5**	**+2.7**
IBDR				*e*SN	**Sn**	**05 18 15.1**	**-4.3**
NSR	**Nassriya**	**9.18**	**146**	*e*PN	Pn	05 17 25.4	+4.5
NSR				*e*SN	Sn	05 18 57.6	-6.8
MLR	**Muntele Rosu**	**12.48**	**307**	LR	LR	05 24 12.8	
	comp=Z,17nm,18.8s,baz=129,slow=44						
IDI	**Anoyia**	**12.68**	**259**	LR	LR	05 22 31.7	
	comp=Z,12nm,21.8s,baz=73,slow=35						
AKASG	**Malin Array Be**	**14.20**	**331**	Pn	**Pn**	**05 18 28.8**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=144,slow=14,SNR=4.9						
AKTO	**Aktyubinsk**	**17.20**	**42**	P	**P**	**05 19 09.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=221,slow=5.4,SNR=4.8						
VRAC	**Vranov**	**19.85**	**310**	LR	LR	05 27 30.8	
	comp=Z,36nm,19.9s,baz=142,slow=38						
GERES	**GERESS Array B**	**21.47**	**307**	P	**P**	**05 19 57.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=139,slow=9.1,SNR=2.7						
GERES				LR	LR	05 29 00.6	
	comp=Z,48nm,19.5s,baz=92,slow=39						
FINES	**FINESS Array B**	**24.30**	**344**	P	**P**	**05 20 24.9**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=158,slow=12,SNR=6.1						
KURBB	**Kurchatov Arra**	**29.41**	**54**	P	**P**	**05 21 12.9**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=266,slow=9.1,SNR=5.6						
MKAR	**Makanchi Array**	**31.63**	**62**	P	**P**	**05 21 32.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=277,slow=12,SNR=2.7						
MKAR				LR	LR	05 37 01.4	
	comp=Z,16nm,18.6s,baz=14,slow=42						
TORD	**Torodi Ar. Bea**	**42.51**	**244**	P	**P**	**05 23 04.1**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=49,slow=6.5,SNR=3.2						

ATH ***24*** *05:15:22.8,40°.46N×19°.22E,h17km±1km,MD3.5/36*
IDC ***24*** *05:15:24.3±1.1,40°.36N×19°.61E,h0km,mb3.4/8, mb1 3.4/12,mb1mx3.3/45,mbtmp3.4/12,ML3.7/3,Error ellipse: s-maj=18.4km s-min=17.5km az=147.0*
TIR ***24*** *05:15:25.0±1.0,40°.27N×19°.37E,h26km±3km,ML3.5*
ISCJB ***24*** *05:15:26.8±0.4,40°.33N±0°.01×19°.43E±0°.03,h19km±3km, mb3.5/7,Error ellipse: s-maj=3.5km s-min=2.0km az=149.3*
THE ***24*** *05:15:27.6,40°.31N×19°.54E,h3km,ML3.5/8,Error ellipse: s-maj=1.2km s-min=0.7km az=257.0*
PDG ***24*** *05:15:28.4±0.3,40°.34N×19°.55E,h30km±1km,ML3.4/12, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0*
BEO ***24*** *05:15:28.4±0.6,40°.21N×19°.42E,h40km±3km,ML3.2/7*
CSEM ***24*** *05:15:28.0±0.1,40°.31N×19°.46E,h20km,ML3.5,Error ellipse: s-maj=3.0km s-min=1.6km az=57.0*

ISC 24 05:15:27.0±0.8,40°.29N±0°.02×19°.48E±0°.02,h17km±5km, n252,σ1§27.0/356,mb3.4/7,10C-15D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.18**	**4**	*i* PG	**Pg**	**05 15 31.4**	**-0.1**
VLO				*i* SG	**Sb**	**05 15 36.0**	**+0.9**
VLO	**Vlora**	**0.18**	**4**	P	**Pg**	**05 15 31.3**	**-0.1**
VLO				S	**Sg**	**05 15 33.8**	**-0.7**
VLO	**Vlora**	**0.18**	**4**	*i* Pg	**Pg**	**05 15 31.4**	**-0.1**
	SNR=133						
VLO				*i* Sg	**Sb**	**05 15 36.0**	**+0.9**
	SNR=133						
SRN	**Sarande**	**0.57**	**136**	*i* PG	**Pg**	**05 15 37.8**	**-0.6**
SRN				*i* SG	**Sb**	**05 15 47.6**	**+1.0**
SRN	**Sarande**	**0.57**	**136**	P	**Pg**	**05 15 37.6**	**-0.8**
SRN				S	**Sg**	**05 15 46.0**	**-0.1**
SRN	**Sarande**	**0.57**	**136**	*i* Pg	**Pg**	**05 15 37.8**	**-0.6**
	SNR=102						
SRN				S	**Sg**	**05 15 46.0**	**-0.1**
SRN				*i* Sg	**Sb**	**05 15 47.6**	**+1.0**
	SNR=102						
KEK	**Kerkira**	**0.63**	**157**	P	**Pg**	**05 15 39.3**	**-0.1**
KEK				S	**Sb**	**05 15 48.9**	**+0.8**
KEK	**Kerkira**	**0.63**	**157**	*e*PN	**Pg**	**05 15 39.7**	**+0.3**
KEK				*e*SN	**Sn**	**05 15 51.7**	**+0.8**
KEK	**Kerkira**	**0.63**	**157**	P	**Pg**	**05 15 39.3**	**-0.1**
KEK	**Kerkira**	**0.63**	**157**	*e*Pn	**Pg**	**05 15 39.7**	**+0.3**
KEK				S	**Sb**	**05 15 48.9**	**+0.8**
KEK				*e*Sn	**Sn**	**05 15 51.7**	**+0.8**
IGT	**Igoumenitsa**	**1.00**	**139**	P	**Pb**	**05 15 45.6**	**-0.4**
IGT				S	**Sg**	**05 16 00.2**	**+0.6**
IGT	**Igoumenitsa**	**1.00**	**139**	*e*PN	**Pb**	**05 15 46.3**	**+0.3**
IGT	**Igoumenitsa**	**1.00**	**139**	P	**Pb**	**05 15 45.6**	**-0.4**
IGT	**Igoumenitsa**	**1.00**	**139**	*e*Pn	**Pb**	**05 15 46.3**	**+0.3**
IGT				S	**Sg**	**05 16 00.2**	**+0.6**
KBN	**Korca**	**1.05**	**71**	*i* PG	**Pb**	**05 15 46.9**	**0.0**
KBN				*i* SG	**Sn**	**05 16 02.9**	**+1.4**
KBN	**Korca**	**1.05**	**71**	P	**Pb**	**05 15 46.7**	**-0.2**
KBN				S	**Sb**	**05 16 00.7**	**+0.3**
KBN	**Korca**	**1.05**	**71**	*i* Pg	**Pb**	**05 15 46.9**	**0.0**
	SNR=95						
KBN				S	**Sb**	**05 16 00.7**	**+0.3**
KBN				*i* Sg	**Sn**	**05 16 02.9**	**+1.4**
	SNR=95						
TIR	**Tirane**	**1.09**	**15**	*e*Pg	**Pg**	**05 15 50.9**	**+2.7**
TIR				*e*Sg	**Sg**	**05 16 05.7**	**+3.2**
TIR	**Tirane**	**1.09**	**15**	*e*Pg	**Pg**	**05 15 50.9**	**+2.7**
TIR				*e*Sg	**Sg**	**05 16 05.7**	**+3.2**
NEST	**Nestorio**	**1.21**	**84**	P	**Pn**	**05 15 48.7**	**-0.6**
NEST				S	**Sg**	**05 16 06.6**	**+0.5**
NEST	**Nestorio**	**1.21**	**84**	*e*PN	**Pn**	**05 15 49.5**	**+0.2**
NEST				*e*SN	**Sg**	**05 16 07.9**	**+1.8**
NEST	**Nestorio**	**1.21**	**84**	P	**Pn**	**05 15 48.7**	**-0.6**
NEST	**Nestorio**	**1.21**	**84**	*e*Pn	**Pn**	**05 15 49.5**	**+0.2**
NEST				S	**Sg**	**05 16 06.6**	**+0.5**
NEST				*e*Sn	**Sg**	**05 16 07.9**	**+1.8**
JAN	**Janina**	**1.23**	**121**	P	**Pb**	**05 15 50.6**	**+0.7**
JAN				S	**Sg**	**05 16 07.8**	**+0.9**
JAN	**Janina**	**1.23**	**121**	*e*PN	**Pb**	**05 15 50.7**	**+0.8**
JAN	**Janina**	**1.23**	**121**	P	**Pb**	**05 15 50.6**	**+0.7**
JAN				S	**Sg**	**05 16 07.8**	**+0.9**
MEV	**Metsovon**	**1.44**	**110**	P	**Pb**	**05 15 53.9**	**+0.4**
MEV	**Metsovon**	**1.44**	**110**	P	**Pb**	**05 15 53.9**	**+0.4**
FNA	**Florina**	**1.53**	**71**	*i* PN	**Pb**	**05 15 54.9**	**-0.1**
FNA	**Florina**	**1.53**	**71**	P	**Pn**	**05 15 54.2**	**+0.6**
FNA				S	**Sb**	**05 16 14.9**	**+0.8**
FNA	**Florina**	**1.53**	**71**	*e*PN	**Pn**	**05 15 54.5**	**+0.9**
FNA				*e*SN	**Sg**	**05 16 16.4**	**+0.1**
FNA	**Florina**	**1.53**	**71**	P	**Pn**	**05 15 54.2**	**+0.6**
FNA	**Florina**	**1.53**	**71**	*e*Pn	**Pn**	**05 15 54.5**	**+0.9**
FNA				S	**Sb**	**05 16 14.9**	**+0.8**
FNA				*e*Sn	**Sg**	**05 16 16.4**	**+0.1**
PHP	**Peshkopia**	**1.57**	**27**	*i* PN	**Pn**	**05 15 55.1**	**+0.9**
PHP				*i* SN	**Sg**	**05 16 17.6**	**-0.1**
PHP	**Peshkopia**	**1.

RLS	Riolos of Patr	2.71	145	*e*Pn		Pn	05 16 11.3	+1.4
KNT	Kendrikon	2.74	70	P		Pn	05 16 10.7	+0.5
KNT	Kendrikon	2.74	70	*e*Pn		Pn	05 16 10.8	+0.5
KNT				*e*SN		Sn	05 16 44.2	+1.2
KNT	Kendrikon	2.74	70	*e*Pn		Pn	05 16 10.8	+0.5
KNT				*e*Sn		Sn	05 16 44.2	+1.2
HORT	Hortiatis	2.78	83	P		Pn	05 16 10.9	+0.1
HORT	Hortiatis	2.78	83	*e*PN		Pn	05 16 11.0	+0.1
HORT	Hortiatis	2.78	83	*e*Pn		Pn	05 16 11.0	+0.1
KALE	Kalithea	2.80	132	P		Pn	05 16 13.1	+1.9
KALE	Kalithea	2.80	132	*e*PN		Pn	05 16 13.4	+2.2
KALE	Kalithea	2.80	132	P		Pn	05 16 13.1	+1.9
KALE	Kalithea	2.80	132	*e*Pn		Pn	05 16 13.4	+2.2
AXAR	Agios Charalam	2.89	121	P		Pn	05 16 13.8	+1.4
AXAR	Agios Charalam	2.89	121	*e*PB		Pn	05 16 15.1	+2.7
AXAR	Agios Charalam	2.89	121	P		Pn	05 16 13.8	+1.4
AXAR	Agios Charalam	2.89	121	*e*Pb		Pn	05 16 15.1	+2.7
STON	Ston	2.90	333	*e*Pn		Pn	05 16 11.8	-0.6
STON				Sn		Sn	05 16 44.9	-2.1
STON	Ston	2.90	333	*e*Pn		Pn	05 16 11.8	-0.6
STON	Ston	2.90	333	*e*Pn		Pn	05 16 12.4	0.0
STON	Ston	2.90	333	*e*Pn		Pn	05 16 12.4	0.0
STON				Sn		Sn	05 16 44.8	-2.1
DRO	Drossia	2.91	143	P		Pn	05 16 14.3	+1.7
DRO	Drossia	2.91	143	*e*PN		Pn	05 16 14.3	+1.7
DRO	Drossia	2.91	143	P		Pn	05 16 14.3	+1.7
UPM	Unac-Piva	2.94	352	⇓*i*Pn		Pn	05 16 14.4	+1.2
UPM				*e*Sn		Sn	05 16 47.4	-0.8
UPM	Unac-Piva	2.94	352	⇓*i*Pn		Pn	05 16 14.4	+1.2
UPM				*e*Sn		Sn	05 16 47.4	-0.8
SJES	Sjenica	2.99	7	*e*Pn		Pn	05 16 14.5	+0.7
SJES				*e*Sn		Sn	05 16 48.0	-1.3
SJES	Sjenica	2.99	7	*e*Pn		Pn	05 16 14.5	+0.7
SJES				*e*Sn		Sn	05 16 48.0	-1.3
SOH	Sokhos	3.00	79	P		Pn	05 16 14.4	+0.5
SOH	Sokhos	3.00	79	*e*PN		Pn	05 16 14.6	+0.7
SOH	Sokhos	3.00	79	*e*Pn		Pn	05 16 14.6	+0.7
XOR	Xorichti	3.00	107	P		Pn	05 16 14.8	+0.9
XOR	Xorichti	3.00	107	*e*PN		Pn	05 16 14.9	+1.0
XOR	Xorichti	3.00	107	*e*Pn		Pn	05 16 14.9	+1.0
MS1	Monte Sant'Ang	3.03	299	*e*Pn		Pn	05 16 15.0	+0.8
PLG	Polygyros	3.03	87	P		Pn	05 16 14.8	+0.5
PLG	Polygyros	3.03	87	*e*PN		Pn	05 16 14.8	+0.5
PLG	Polygyros	3.03	87	P		Pn	05 16 14.8	+0.5
PLE	Pljevlja	3.04	359	⇓*i*Pn		Pn	05 16 15.0	+0.6
PLE				*e*Sn		Sn	05 16 50.3	-0.2
PLE	Pljevlja	3.04	359	⇓*i*Pn		Pn	05 16 15.0	+0.6
PLE				*e*Sn		Sn	05 16 50.3	-0.2
NEO	Neokhori	3.05	108	*e*PN		Pn	05 16 15.9	+1.4
NEO				*e*SN		Sb	05 16 55.5	-2.3
NEO	Neokhori	3.05	108	*e*Pn		Pn	05 16 15.9	+1.4
NEO				*e*Sn		Sb	05 16 55.5	-2.3
KLV	Kalavryta, Ach	3.06	136	P		Pn	05 16 16.0	+1.3
KLV	Kalavryta, Ach	3.06	136	*e*PN		Pn	05 16 16.3	+1.6
KLV				*e*SN		Sn	05 16 55.0	+4.0
KLV	Kalavryta, Ach	3.06	136	P		Pn	05 16 16.0	+1.3
KLV	Kalavryta, Ach	3.06	136	*e*Pn		Pn	05 16 16.3	+1.6
KLV				*e*Sn		Sn	05 16 55.0	+4.0
BARS	Barje	3.07	34	*e*Pn		Pn	05 16 15.2	+0.4
BARS				*e*Sn		Sn	05 16 51.3	+0.1
BARS	Barje	3.07	34	*e*Pn		Pn	05 16 15.2	+0.4
BARS				*e*Sn		Sn	05 16 51.3	+0.1
KKB	Krupnik	3.15	59	*i* P		Pn	05 16 16.6	+0.7
KKB	Krupnik	3.15	59	*i* P		Pn	05 16 16.6	+0.7
SELS	Selova	3.17	22	*e*Pn		Pn	05 16 16.6	+0.4
LKR	Lokris	3.18	120	*e*PN		Pn	05 16 18.1	+1.8
LKR	Lokris	3.18	120	*e*Pn		Pn	05 16 18.1	+1.8
SMIA	Simia	3.21	115	*e*PN		Pn	05 16 18.5	+1.8
SMIA	Simia	3.21	115	*e*Pn		Pn	05 16 18.5	+1.8
SRS	Serrai	3.23	74	*e*PN		Pn	05 16 17.6	+0.5
SRS	Serrai	3.23	74	*e*Pn		Pn	05 16 17.6	+0.5
GUR	Goura	3.24	136	P		Pn	05 16 18.7	+1.5
GUR	Goura	3.24	136	*e*PN		Pn	05 16 18.9	+1.7
GUR	Goura	3.24	136	P		Pn	05 16 18.7	+1.5
PAIG	Paliouri	3.24	95	P		Pn	05 16 17.3	+0.2
PAIG	Paliouri	3.24	95	*e*PN		Pn	05 16 17.3	+0.2
PAIG	Paliouri	3.24	95	P		Pn	05 16 17.3	+0.2
AMT	Artemida-Makis	3.26	147	*e*PN		Pn	05 16 20.0	+2.6
AMT	Artemida-Makis	3.26	147	*e*Pn		Pn	05 16 20.0	+2.6
SKIA	Skiathos	3.27	109	*e*PN		Pn	05 16 18.8	+1.2
SKIA	Skiathos	3.27	109	*e*Pn		Pn	05 16 18.8	+1.2
IVAS	Ivanjica	3.32	8	*e*Pn		Pn	05 16 18.4	+0.1
IVAS	Ivanjica	3.32	8	*e*Pn		Pn	05 16 18.4	+0.1
OUR	Ouranopolis	3.44	88	*e*PN		Pn	05 16 20.6	+0.7
OUR				*e*SN		Sn	05 17 02.0	+2.0
OUR	Ouranopolis	3.44	88	*e*Pn		Pn	05 16 20.6	+0.7
OUR				*e*Sn		Sn	05 17 02.3	+2.0
MMB	Musomiste	3.47	67	*i* P		Pn	05 16 20.9	+0.6
MMB	Musomiste	3.47	67	*i* P		Pn	05 16 20.9	+0.6
NVR	Nevrokopi	3.49	71	*e*PN		Pn	05 16 21.2	+0.6
NVR	Nevrokopi	3.49	71	*e*Pn		Pn	05 16 21.2	+0.6
LTK	Loutraki	3.53	129	*e*PN		Pn	05 16 22.1	+0.9
LTK	Loutraki	3.53	129	*e*Pn		Pn	05 16 22.1	+0.9
MRKA	Markates	3.55	115	*e*PN		Pn	05 16 22.8	+1.4
MRKA	Markates	3.55	115	*e*Pn		Pn	05 16 22.8	+1.4
BBLS	Lazići	3.57	359	*e*Pn		Pn	05 16 21.5	-0.3
BBLS				*e*Sn		Sn	05 17 03.0	-0.6
BBLS	Lazići	3.57	359	*e*Pn		Pn	05 16 21.5	-0.3
BBLS				*e*Sn		Sn	05 17 03.0	-0.6
AOS	Alonnisos	3.57	107	P		Pn	05 16 23.1	+1.4
AOS	Alonnisos	3.57	107	*e*PN		Pn	05 16 22.4	+0.7
AOS	Alonnisos	3.57	107	*e*Pn		Pn	05 16 22.4	+0.7
AOS	Alonnisos	3.57	107	P		Pn	05 16 23.1	+1.4
VTS	Vitosha	3.62	49	*e*Pn		Pn	05 16 22.6	0.0
VTS				*e*Sn		Sn	05 17 03.7	-1.3
VTS	Vitosha	3.62	49	*i* P		Pn	05 16 23.6	+1.0
VTS	Vitosha	3.62	49	*e*Pn		Pn	05 16 22.6	0.0
VTS	Vitosha	3.62	49	*i* P		Pn	05 16 23.6	+1.0
VTS				*e*Sn		Sn	05 17 03.7	-1.3
ITM	Ithomi	3.65	148	*e*PN		Pn	05 16 24.4	+1.6
ITM	Ithomi	3.65	148	*e*Pn		Pn	05 16 24.4	+1.6
VLX	Vlachokerasia	3.69	141	*e*PN		Pn	05 16 24.6	+1.1
VLX	Vlachokerasia	3.69	141	*e*Pn		Pn	05 16 24.6	+1.1
GRUS	Gruza	3.71	14	*e*Pn		Pn	05 16 24.9	+1.3
GRUS	Gruza	3.71	14	*e*Pn		Pn	05 16 24.9	+1.3
ZAPS	Zavoj	3.80	37	*e*Pn		Pn	05 16 25.9	+1.0
ZAPS	Zavoj	3.80	37	*e*Pn		Pn	05 16 25.9	+1.0
HAPS	Han Pijesak,Bl	3.81	354	*e*Pn		Pn	05 16 25.9	+0.8
HAPS				*e*Sn		Sn	05 17 08.6	-1.0
HAPS	Han Pijesak,Bl	3.81	354	*e*Pn		Pn	05 16 25.9	+0.8
HAPS				*e*Sn		Sn	05 17 08.6	-1.0
DIVS	Divibare	3.82	6	*e*Pn		Pn	05 16 25.5	+0.3
DIVS				*e*Sn		Sn	05 17 09.1	-0.7
DIVS	Divibare	3.82	6	*e*Pn		Pn	05 16 25.5	+0.3
DIVS				*e*Sn		Sn	05 17 09.1	-0.7
PYL	PYLOS	3.83	152	*e*PN		Pn	05 16 27.5	+2.3
PYL	PYLOS	3.83	152	*e*Pn		Pn	05 16 27.5	+2.3
KAVA	Kavala	3.90	78	*e*PN		Pn	05 16 26.1	0.0
KAVA	Kavala	3.90	78	*e*Pn		Pn	05 16 26.1	0.0
BOLS	Boljevac	3.98	27	*e*Pn		Pn	05 16 28.2	+0.8
BOLS	Boljevac	3.98	27	*e*Pn		Pn	05 16 28.2	+0.8
TRUS	Trudelj	3.99	10	*e*Pn		Pn	05 16 28.2	+0.8
TRUS	Trudelj	3.99	10	*e*Pn		Pn	05 16 28.2	+0.8
RZN	Rozhen	4.20	69	*i* P		Pn	05 16 31.5	+1.0
RZN	Rozhen	4.20	69	*i* P		Pn	05 16 31.5	+1.0
MPEP	Malo Peshtene	4.42	45	*i* P		Pn	05 16 33.6	+0.3
MPEP	Malo Peshtene	4.42	45	*i* P		Pn	05 16 33.6	+0.3
KDZ	Kurdzhali	4.70	71	*i* P		Pn	05 16 36.6	-0.5
KDZ	Kurdzhali	4.70	71	*i* P		Pn	05 16 36.6	-0.5
UDBI	Udbina	5.05	328	*e*Pn		Pn	05 16 42.9	+0.8
UDBI				Sn		Sn	05 17 38.4	-1.6
UDBI	Udbina	5.05	328	*e*Pn		Pn	05 16 42.8	+0.8
UDBI				Sn		Sn	05 17 38.3	-1.6
NVLJ	Novalja	5.46	323	*e*Pn		Pn	05 16 48.2	+0.6
NVLJ				Sn		Sn	05 17 46.0	-4.1
NVLJ	Novalja	5.46	323	*e*Pn		Pn	05 16 48.2	+0.6
BOJS	Bojanci	6.06	331	*i* Pn		Pn	05 16 56.7	+0.8
BOJS				*i* Sn		Sn	05 18 01.8	-3.1
BOJS	Bojanci	6.06	331	*i* Pn		Pn	05 16 56.7	+0.8
IDI	Anoyia	6.58	138	Pn		Pn	05 17 01.2	-1.9
	0.7nm,0.3s,baz=315,slow=7.1,SNR=5.9							
IDI				Sn		Sn	05 18 10.3	-7.5
	0.8nm,0.3s,baz=322,slow=17,SNR=4.6							
SKDS	Skadanscina	6.61	324	*i* Pn		Pn	05 17 02.7	-0.7
SKDS				*i* Sn		Sn	05 18 14.2	-4.1
SKDS	Skadanscina	6.61	324	*i* Pn		Pn	05 17 02.7	-0.7
JAVS	Javornik	6.86	326	*i* Pn		Pn	05 17 06.8	-0.1
JAVS				*e*Sn		Sn	05 18 20.2	-4.4
JAVS	Javornik	6.86	326	*i* Pn		Pn	05 17 06.8	-0.1
MLR	Muntele Rosu	7.04	40	Pn		Pn	05 17 09.4	0.0
	0.0nm,0.3s,baz=193,slow=14,SNR=2.3							
PERS	Pernice	7.09	335	*i* Pn		Pn	05 17 10.1	+0.1
PERS				*i* Sn		Sn	05 18 24.7	-5.5
PERS	Pernice	7.09	335	*i* Pn		Pn	05 17 10.1	+0.1
MOA	Molln	8.43	335	⇓*i*Pn		Pn	05 17 28.0	-0.4
MOA	Molln	8.43	335	Pn		Pn	05 17 28.0	-0.4
GERES	GERESS Array B	9.49	336	Pn		Pn	05 17 42.4	-0.6
	0.1nm,0.3s,baz=168,slow=14,SNR=4.0							
GERES				Sn		Sn	05 19 24.6	-4.6
	0.2nm,0.3s,baz=157,slow=22,SNR=4.3							
DAVOX	Davos/Dischmat	9.52	316	Pn		Pn	05 17 47.6	+4.1
	0.2nm,0.3s,baz=165,slow=20,SNR=2.3							
DAVOX				Sn		Sn	05 19 27.8	-2.3
	0.1nm,0.3s,baz=347,slow=17,SNR=2.1							
ESDC	Sonseca Array	17.97	276	P		P	05 19 38.6	+2.1
	0.1nm,0.3s,baz=74,slow=11,SNR=3.1							
HFS	Hagfors	20.19	352	P		P	05 20 00.0	-0.6
	3.7nm,1.0s,baz=144,slow=12,SNR=5.0							
EKA	Eskdalemuir Ar	21.25	323	P		P	05 20 13.2	+1.1
	0.4nm,0.5s,baz=117,slow=10,SNR=2.9							
NB2	NORSAR Subarra	21.39	349	P		P	05 20 13.5	-0.1
	comp=Z,2.0nm,1.1s,baz=159,slow=9.3							
NB2	NORSAR Subarra	21.39	349	P		P	05 20 13.5	-0.1
	comp=Z,2.0nm,1.1s,SNR=4.1							
NOA	NORSAR Array B	21.39	349	P		P	05 20 12.3	-1.3
	comp=Z,2.6nm,0.7s,baz=162,slow=7.6,SNR=3.7							
FINES	FINESS Array B	21.56	9	P		P	05 20 12.2	-3.2
	comp=Z,1.0nm,0.6s,baz=188,slow=13,SNR=4.3							
AKTO	Aktyubinsk	28.62	56	P		P	05 21 21.2	-1.2
	comp=Z,1.1nm,0.5s,baz=268,slow=8.9,SNR=5.5							
TORD	Torodi Ar. Bea	31.23	215	P		P	05 21 46.5	+0.7
	comp=Z,0.4nm,1.0s,baz=30,slow=8.5,SNR=2.2							
ZALV	Zalesovo Beam	44.91	50	P		P	05 23 39.6	-0.9
	comp=Z,0.7nm,0.6s,baz=275,slow=7.8,SNR=3.7							
MKAR	Makanchi Array	44.91	60	P		P	05 23 39.2	-1.6
	comp=Z,0.9nm,0.6s,baz=278,slow=9.3,SNR=10.0							

*ISCJB **24** 05:24:47.3±1.1, 27.°95S±0.°06×71.°0W±0.°2, h38km, mb3.5/2, Error ellipse: s-maj=20.9km s-min=7.1km az=167.6*
*IDC **24** 05:24:49.5±2.9, 27.°96S×71.°01W, h45km±23km, mb3.4/2, mb1 3.7/6, mb1mx3.5/26, mbtmp3.7/6, ML3.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/11, Error ellipse: s-maj=49.2km s-min=24.6km az=72.0*

ISC 24 05:24:48.7±1.0, 27.°97S±0.°07×71.°2W±0.°2, h38km, n10, σ0s65/16, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.42	146	P		Pn	Pn	05 25 53.7	+0.5
	0.3nm,0.3s,baz=326,slow=5.6,SNR=75								
CFAA				S		Sn	Sn	05 26 43.8	+0.5
	0.7nm,0.3s,baz=224,slow=16,SNR=8.9								
LVC	Limon Verde	5.71	21	P		Pn	Pn	05 26 11.3	+0.1
	20nm,0.3s,baz=200,slow=11,SNR=11								
LVC				S		Sn	Sn	05 27 16.2	+0.6
	104nm,0.3s,baz=194,slow=17,SNR=3.1								
LVC				LR		LR	LR	05 27 54.6	
	comp=Z,116nm,18.0s,baz=214,slow=33								
LPAZ	La Paz	11.96	14	P		Pn	Pn	05 27 36.6	-0.6
	0.1nm,0.3s,baz=214,slow=9.2,SNR=2.5								
LPAZ				LR		LR	LR	05 33 14.0	
	comp=Z,25nm,18.8s,baz=127,slow=42								
NNA	Nana	16.77	340	P		Pn	Pn	05 28 41.6	+0.7
	0.3nm,0.3s,baz=182,slow=18,SNR=3.0								
PDAR	Pinedale Array	78.78	332	P		P	P	05 36 48.0	+0.5
	0.3nm,0.8s,baz=167,slow=4.3,SNR=3.1								
TORD	Torodi Ar. Bea	81.45	70	P		P	P	05 37 01.3	-1.0
	0.5nm,0.6s,baz=251,slow=4.3,SNR=7.0								
TORD				pP		pP	P	05 37 13.7	-0.3
	0.6nm,0.6s,baz=258,slow=5.7,SNR=2.7								
WRA	Warramunga Arr	126.36	210	PKP		PKPdf	P	05 43 47.4	-0.7
	0.1nm,0.5s,baz=152,slow=1.9,SNR=3.2								
KURBB	Kurchatov Arra	147.78	37	PKPbc		PKPbc	P	05 44 29.3	+0.2
	0.3nm,0.4s,baz=305,slow=3.3,SNR=3.5								
KURBB				pPKPbc		pPKPbc	P	05 44 42.0	+0.7
	0.8nm,0.6s,baz=300,slow=3.1,SNR=4.2								
ZALV	Zalesovo Beam	148.63	28	PKPbc		PKPbc	P	05 44 31.2	0.0
	0.8nm,0.5s,baz=300,slow=2.9,SNR=4.1								
ZALV				pPKPbc		pPKPbc	P	05 44 44.0	+0.6
	1.1nm,0.6s,baz=292,slow=3.7,SNR=4.8								
MKAR	Makanchi Array	151.96	41	PKPbc		PKPbc	P	05 44 38.5	-1.0
	0.4nm,0.7s,baz=310,slow=6.8,SNR=2.9								
MKAR				pPKPbc		pPKPbc	P	05 44 51.5	-0.2
	0.8nm,0.7s,baz=274,slow=6.0,SNR=5.9								

*GUC **24** 05:25:43.0±0.4, 33.°16S×72.°54W, h32km±2km, ML3.5*
*IDC **24** 05:25:43.7±1.5, 33.°29S×72.°26W, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.7/24, mbtmp3.7/5, ML3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=52.4km s-min=31.0km az=86.0*

ISC 24 05:25:43.2±2.3, 33.°3S±0.°1×72.°41W±0.°08, h3km±13km, n15, σ0s88/17, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	El Roble	1.20	77	*e*P		Pg	Pg	05 26 06.2	-0.1
ROCH				*e*S		Sb	Sb	05 26 23.7	+0.8
RCDM	Rinconada Maip	1.36	100	*e*P		Pn	Pn	05 26 08.6	-0.5
RCDM				*e*S		Sn	Sn	05 26 27.8	+0.1
RCDM				AML		AML	AML	05 26 30.6	
	comp=N,1μm,0.4s								
STL	Santa Lucia	1.49	97	*e*P		Pn	Pn	05 26 10.7	-0.2
STL				*e*S		Sg	Sg	05 26 31.7	+0.7
STL				AML		AML	AML	05 26 36.4	
	comp=E,324nm,0.7s								
FSR	Penalolen	1.59	99	*e*P		Pg	Pg	05 26 13.5	-0.1
FSR				*e*S		Sg	Sg	05 26 35.8	+1.6
SJCH	San Jose de Ma	1.76	103	*e*P		Pb	Pb	05 26 15.1	-1.1
SJCH				*e*S		Sg	Sg	05 26 39.8	+0.2
SJCH				AML		AML	AML	05 26 48.4	
	comp=N,695nm,0.3s								
YECH	El Yeso	1.98	102	*e*P		Pb	Pb	05 26 18.6	-1.5
YECH				*e*S		Sb	Sb	05 26 46.1	+0.8
YECH				AML		AML	AML	05 26 56.6	
	comp=N,1μm,0.2s								
CFAA	Coronel Fontan	3.89	66	Lg		Lg	Lg	05 27 48.5	
	comp=N,1.5nm,0.3s,baz=127,slow=20,SNR=2.7								
PLCA	Paso Flores	7.61	169	Pn		Pn	Pn	05 27 35.4	+0.4
	comp=N,0.4nm,0.3s,baz=329,slow=12,SNR=8.3								
PLCA				Lg		Lg	Lg	05 29 41.6	
	comp=N,0.0nm,0.3s,baz=60,slow=20,SNR=2.1								
PLCA				LR		LR	LR	05 30 19.8	
	comp=N,61nm,18.2s,baz=348,slow=36								
LVC	Limon Verde	11.04	17	Lg		Lg	Lg	05 31 23.5	
	comp=N,11nm,0.3s,baz=52,slow=18,SNR=2.6								
CPUP	Villa Florida	14.79	66	LR		LR	LR	05 35 23.1	
	comp=N,333nm,20.6s,baz=240,slow=39								
LPAZ	La Paz	17.33	14	P		P	P	05 29 48.4	0.0
	comp=N,0.1nm,0.3s,baz=178,slow=7.2,SNR=4.2								
SIV	San Ignacio	20.01	34	P		Pn	Pn	05 30 17.9	-1.0
	comp=N,0.2nm,0.3s,baz=223,slow=13,SNR=6.0								
TXAR	Lajitas Array	68.94	331	P		P	P	05 36 50.9	+1.1
	comp=N,0.4nm,0.8s,baz=150,slow=9.2,SNR=5.2								
TORD	Torodi Ar. Bea	84.25	70	P		P	P	05 38 16.1	-0.6
	comp=N,0.8nm,0.7s,baz=251,slow=4.3,SNR=4.2								
BVAR	Borovoye Array	146.94	42	PKPbc		PKPab	P	05 45 27.7	-0.4
	comp=N,0.2nm,0.3s,baz=289,slow=4.4,SNR=3.0								

*ISCJB **24** 05:56:52.6±0.8, 36.°3S±0.°2×100.°0W±0.°1, h10km, mb4.2/11, MS3.6/1, Error ellipse: s-maj=22.3km s-min=14.9km az=11.0*
*IDC **24** 05:56:52.6±0.8, 36.°29S×99.°95W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.0/26, mbtmp4.0/9, MS3.7/1, Ms1 3.7/1, ms1mx2.8/16, Error ellipse: s-maj=22.5km s-min=21.7km az=6.0*
*NEIC **24** 05:56:54.2±0.5, 36.°29S×99.°96W, h10km, mb4.6/4, Error ellipse: s-maj=16.1km s-min=11.2km az=183.0*

ISC 24 05:56:54.2±0.8, 36.°3S±0.°2×99.°9W±0.°1, h10km, n18, σ0s79/18, mb4.1/11, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	23.36	110	P		P	P	06 02 02.5	-0.4
	1.4nm,0.9s,baz=265,slow=11,SNR=2.2								
PLCA	Paso Flores	23.36	110	*e*P		P	P	06 02 04.0	+1.0
	26nm,1.8s								
CFAA	Coronel Fontan	26.64	89	P		P	P	06 02 32.6	-0.6
	0.2nm,0.8s,baz=269,slow=7.9,SNR=6.3								
PTCN	Pitcairn Islan	28.14	285	*e*P		P	P	06 02 47.0	+0.4
	329nm,0.7s								

LVC	Limon Verde	30.12	72	P		P	P	06 03 05.1	+0.7
	9.5nm,0.6s,baz=240,slow=11,SNR=4.2								
LVC	Limon Verde	30.12	72	*e*P		P	P	06 03 05.6	+1.1
	20nm,1.4s								
LPAZ	La Paz	34.55	63	P		P	P	06 03 44.9	+1.1
	9.8nm,1.1s,baz=228,slow=6.6,SNR=17								
LPAZ	La Paz	34.55	63	*e*P		P	P	06 03 45.2	+1.4
	16nm,1.2s								
PMSA	Palmer Station	35.61	154	LR		LR	LR	06 14 23.3	
	comp=Z,105nm,18.7s,baz=145,slow=30								
SIV	San Ignacio	39.97	70	P		P	P	06 04 28.4	-0.7
	3.2nm,0.7s,baz=237,slow=6.9,SNR=6.8								
SAML	Samuel	43.07	60	*e*P		P	P	06 04 54.0	-0.5
	8.2nm,1.2s								
QSPA	South Pole Qui	53.91	180	P		P	P	06 06 17.7	+0.1
	1.0nm,0.9s,baz=110,slow=6.9,SNR=2.7								
QSPA				PcP		PcP	PcP	06 07 23.1	+0.1
	1.0nm,0.8s,baz=170,slow=4.6,SNR=4.0								
TXAR	Lajitas Array	65.38	356	P		P	P	06 07 36.8	-0.1
	0.6nm,0.8s,baz=171,slow=8.9,SNR=5.7								
NVAR	Mina Array Bea	76.27	345	P		P	P	06 08 42.8	-0.4
	1.8nm,0.9s,baz=181,slow=7.4,SNR=8.0								
PDAR	Pinedale Array	79.18	353	P		P	P	06 08 59.5	+0.3
	1.3nm,0.8s,baz=156,slow=7.6,SNR=9.8								
GERES	GERESS Array B	131.03	53	PKP		PKPdf	P	06 16 04.7	-1.1
	0.6nm,0.7s,baz=222,slow=1.8,SNR=4.1								
KBZ	Khabaz	150.77	64	PKPbc		PKPbc	P	06 16 45.9	-0.6
	4.3nm,0.9s,baz=53,slow=20,SNR=6.1								
CMAR	Chiang Mai Arr	155.65	228	PKPab		PKPab	P	06 17 15.1	+0.3
	0.8nm,0.3s,baz=156,slow=4.8,SNR=4.2								

*CSEM **24** 06:04:53.1, 35.°65N×59.°44E, h15km, ML3.5*
THR 24 06:04:53.1±0.3, 35.°65N×59.°44E, h15km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHRT	Shahrakht	2.11	160	*e*Pg		Pb	Pb	06 05 31.6	+0.3
SHRT				*e*Sg		Sg	Sg	06 05 59.6	-1.7
SHRT				AML		AML	AML	06 06 02.7	
	comp=N,296nm,0.3s								
SHRT				AML		AML	AML	06 06 08.9	
	comp=E,271nm,0.5s								
SHRT	Shahrakht	2.11	160	*e*Pg		Pb	Pb	06 05 31.6	+0.4
SHRT				*e*Sg		Sg	Sg	06 05 59.6	-1.7
TABS	Tabas	2.76	225	*e*Pn		Pn	Pn	06 05 39.1	+2.1
TABS				AML		AML	AML	06 06 25.8	
	comp=N,171nm,0.5s								
TABS	Tabas	2.76	225	*e*Pn

YECH					AML	AML	06 36 37.4	
	comp=N,4μm,0.5s							
TALC	**Talca**	**1.63**	**176**	⇓*i*	*P*	**Pg**	**06 36 23.0**	**+0.3**
CFAA	**Coronel Fontan**	**3.68**	**55**	Pn		**Pn**	**06 36 49.5**	**+1.6**
	comp=N,1.5nm,0.3s,baz=228,slow=11,SNR=47							
CFAA					Sn	**Sn**	**06 37 34.2**	**+3.0**
	comp=N,0.6nm,0.3s,baz=291,slow=14,SNR=1.9							
CFAA					LR	LR	06 38 31.2	
	comp=N,13nm,20.9s,baz=218,slow=42							
PLCA	**Paso Flores**	**7.02**	**172**	Pn		Pn	06 37 30.1	-3.7
	comp=N,0.1nm,0.3s,baz=212,slow=16,SNR=2.2							
PLCA					Lg	Lg	06 39 20.4	
	comp=N,0.1nm,0.3s,baz=228,slow=18,SNR=1.4							
CPUP	**Villa Florida**	**14.53**	**63**	Pn		**Pn**	**06 39 17.5**	**+0.8**
	comp=N,0.0nm,0.3s,baz=231,slow=13,SNR=3.1							
LPAZ	**La Paz**	**17.71**	**12**	*P*		**P**	**06 40 00.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=196,slow=9.6,SNR=6.9							
SIV	**San Ignacio**	**20.16**	**31**	LR		LR	06 49 55.7	
	comp=N,59nm,18.9s,baz=103,slow=42							
TXAR	**Lajitas Array**	**69.64**	**331**	*P*		**P**	**06 47 00.5**	**0.0**
	comp=N,0.4nm,0.6s,baz=159,slow=8.7,SNR=3.8							
PDAR	**Pinedale Array**	**83.66**	**333**	*P*		**P**	**06 48 18.9**	**-0.7**
	comp=N,0.3nm,0.6s,baz=134,slow=6.4,SNR=2.7							
NVAR	**Mina Array Bea**	**83.82**	**325**	*P*		**P**	**06 48 20.9**	**+0.4**
	comp=N,0.1nm,0.3s,baz=163,slow=6.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**83.92**	**70**	*P*		**P**	**06 48 20.4**	**-1.0**
	comp=N,0.5nm,0.6s,baz=254,slow=5.4,SNR=4.1							
WRA	**Warramunga Arr**	**121.07**	**209**	PKP		**PKPdf**	**06 54 42.9**	**-1.4**
	comp=N,0.3nm,0.6s,baz=172,slow=1.6,SNR=6.5							
BVAR	**Borovoye Array**	**146.96**	**43**	PKPbc		**PKPdf**	**06 55 31.7**	**+0.7**
	comp=N,0.3nm,0.5s,baz=318,slow=3.9,SNR=2.9							
ZALV	**Zalesovo Beam**	**153.91**	**32**	PKPbc		**PKPbc**	**06 55 48.8**	**-0.9**
	comp=N,0.6nm,0.4s,baz=335,slow=1.9,SNR=3.6							

NNC 24 06:40:02.6±4.6, 37.99N×70.50E, h0km, mb3.9, mpv3.6, 6C-7D, Error ellipse: s-maj=41.9km s-min=11.8km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**1.54**	**302**	⇓*P*		Pn	06 40 30.0	-1.5
	47nm,0.4s							
DZET				⇓*S*		Sg	06 40 52.6	+0.1
	160nm,0.4s							
SFK	**Sufi-Kurgan**	**3.09**	**48**	⇑Pn		Pn	06 40 54.5	+1.5
	7.6nm,0.4s							
SFK				⇓Sn		Sb	06 41 34.1	-3.2
	20nm,0.5s							
MNAS	**Manas**	**4.75**	**18**	⇑Pn		Pn	06 41 14.7	-0.8
	4.6nm,0.6s							
MNAS				⇓Sn		Sn	06 42 06.7	-4.8
	7.7nm,0.7s							
KK31	**Karatay Array**	**5.11**	**0**	Pn		Pn	06 41 16.7	-3.6
	1.4nm,0.3s,baz=174,slow=12,SNR=50							
KK31				⇓Sn		Sn	06 42 25.6	+5.6
	19nm,0.6s,baz=182,slow=29,SNR=19							
AAK	**Ala-Archa**	**5.55**	**32**	⇓Pn		Pn	06 41 25.4	-1.3
	3.6nm,0.5s							
AAK				⇓Sn		Sn	06 42 31.5	+0.2
	4.7nm,0.7s							
TKM2	**Tokmak 2**	**6.27**	**37**	⇑Pn		Pn	06 41 38.0	+1.3
	3.2nm,0.5s							
TKM2				⇑Sn		Sn	06 42 48.2	-1.0
	2.5nm,0.6s							
AB31	**Akbulak array**	**13.59**	**329**	⇑*P*		Pn	06 43 11.8	-4.8
	1.0nm,0.5s,baz=149,slow=12,SNR=37							
AKTO	**Aktyubinsk**	**15.30**	**328**	⇑*P*		Pn	06 43 40.4	+0.7
	2.8nm,0.8s							

MAN 24 06:43:21, 6.96N×125.86E, h32km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**0.40**	**92**	*eP*		Pn	06 43 32.2	+1.7
MATI				*eS*		Sn	06 43 39.7	+2.7
BUKP	**Musuan**	**1.21**	**319**	*eP*		Pn	06 43 42.3	+0.6
BUKP				*eS*		Sn	06 43 57.8	+0.7
BIPH	**Bislig**	**1.32**	**22**	⇑*iP*		Pb	06 43 44.5	-0.7
BIPH				*iS*		Sb	06 44 00.9	-0.9
PAGZ	**Pagadian**	**2.61**	**290**	*eP*		Pn	06 44 02.8	+1.9

*IDC **24** 06:48:57.7±0.8, 36.23S×73.31W, h0km, mb3.8/9, mb1 4.0/11, mb1mx4.0/26, mbtmp3.8/11, ML3.8/2, MS2.8/3, Ms1 2.9/3, ms1mx2.7/23, Error ellipse: s-maj=29.2km s-min=17.3km az=103.0*
*GUC **24** 06:49:00.4±0.4, 36.29S×73.46W, h23km±2km, ML4.4*
*ISCJB **24** 06:49:01.2±0.5, 36.28S±0.04×73.38W±0.06, h33km, mb4.2/14, MS3.2/1, Error ellipse: s-maj=7.5km s-min=6.0km az=18.3*
*NEIC **24** 06:49:03.3±1.4, 36.22S×73.16W, h38km±12km, mb4.5/8, Error ellipse: s-maj=20.7km s-min=8.7km az=90.0*

ISC 24 06:49:02.7±0.6, 36.32S±0.05×73.38W±0.09, h35km, n30, σ1§42/32, mb4.2/14, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.51**	**68**	⇓*iP*		**Pn**	**06 49 11.1**	**-2.4**
COCH				*iS*		**Sn**	**06 49 19.4**	**-1.6**
CCSP	**San Pedro de C**	**0.56**	**157**	⇓*iP*		**Pn**	**06 49 12.0**	**-2.2**
CCSP				*iS*		**Sn**	**06 49 20.8**	**-1.5**
CCSP				AML		AML	06 49 22.5	
	comp=E,40μm,0.4s							
TALC	**Talca**	**1.69**	**57**	⇑*iP*		**Pn**	**06 49 29.8**	**+0.1**
TALC				*iS*		**Sn**	**06 49 52.0**	**+1.9**
NICH	**Los Niches**	**2.19**	**54**	*iP*		**Pn**	**06 49 37.1**	**+0.5**
NICH				*eS*		**Sn**	**06 50 05.1**	**+2.6**
PLCA	**Paso Flores**	**4.93**	**154**	Pn		**Pn**	**06 50 15.6**	**+1.3**
	comp=E,2.0nm,0.3s,baz=323,slow=14,SNR=13							
PLCA				Lg		Lg	06 51 31.9	
	comp=E,3.6nm,0.3s,baz=246,slow=20,SNR=4.7							
PLCA				LR		LR	06 52 32.5	
	comp=E,250nm,18.2s,baz=317,slow=43							
CFAA	**Coronel Fontan**	**6.35**	**44**	Pn		**Pn**	**06 50 31.9**	**-2.0**
	comp=E,0.4nm,0.3s,baz=211,slow=13,SNR=55							
CFAA				Sn		**Sn**	**06 51 44.1**	**-1.1**
	comp=E,0.4nm,0.3s,baz=222,slow=12,SNR=2.7							
CFAA				LR		LR	06 52 34.4	
	comp=E,15nm,20.2s,baz=237,slow=35							
LCO	**Las Campanas**	**7.63**	**18**	*ePn*		**Pn**	**06 50 48.7**	**-3.0**
LCO				*eSn*		**Sn**	**06 52 15.0**	**-2.1**
TRQA	**Tornquist**	**9.26**	**104**	*ePn*		Pn	06 51 17.9	+4.2
	comp=E,21nm,0.9s							
CPUP	**Villa Florida**	**16.93**	**58**	LR		LR	07 00 00.5	
	comp=E,1μm,21.3s,baz=230,slow=39							
LPAZ	**La Paz**	**20.49**	**15**	*P*		**P**	**06 53 38.0**	**-0.3**
	comp=E,2.5nm,0.8s,baz=183,slow=7.9,SNR=14							
LPAZ	**La Paz**	**20.49**	**15**	*eP*		**P**	**06 53 39.0**	**+0.7**
	comp=E,3.6nm,0.9s							
SIV	**San Ignacio**	**23.02**	**32**	*P*		**P**	**06 54 03.6**	**-1.2**
	comp=E,2.8nm,0.7s,baz=210,slow=12,SNR=11							
BDFB	**Brasilia**	**30.56**	**54**	LR		LR	07 09 47.1	
	comp=E,47nm,18.6s,baz=222,slow=41							
QSPA	**South Pole Qui**	**53.92**	**180**	*P*		**P**	**06 58 23.4**	**+1.0**
	comp=E,1.0nm,0.7s,baz=123,slow=4.3,SNR=5.2							
QSPA	**South Pole Qui**	**53.92**	**180**	*eP*		**P**	**06 58 23.7**	**+1.2**
	comp=E,9.2nm,1.3s							
VNDA	**Vanda**	**61.61**	**192**	*P*		**P**	**06 59 17.7**	**+1.6**
	comp=E,0.6nm,0.8s,baz=129,slow=4.5,SNR=3.5							
TXAR	**Lajitas Array**	**71.25**	**332**	*P*		**P**	**07 00 18.6**	**+0.2**
	comp=E,0.4nm,0.5s,baz=155,slow=7.6,SNR=4.8							
SWET	**Sewanee**	**72.13**	**349**	*eP*		**P**	**07 00 23.3**	**-0.2**
	comp=E,7.0nm,0.9s							
TUL1	**Leonard**	**74.83**	**341**	*eP*		**P**	**07 00 39.1**	**-0.1**
	comp=E,3.1nm,0.6s							
ACSO	**Alum Creek Sta**	**76.69**	**352**	*eP*		**P**	**07 00 49.6**	**-0.2**
	comp=E,16nm,1.1s							
DBIC	**Dimbokro**	**76.96**	**72**	*P*		**P**	**07 00 51.5**	**-0.5**
	comp=E,2.3nm,0.7s,baz=285,slow=16,SNR=2.9							
ECSD	**EROS Data Cent**	**82.44**	**343**	*eP*		**P**	**07 01 21.1**	**+0.1**
	comp=E,4.8nm,0.6s							
R11A	**Troy Canyon, C**	**83.92**	**328**	*eP*		**P**	**07 01 30.6**	**+1.6**
	comp=E,1.5nm,0.9s							
HWUT	**Hardware Ranch**	**85.07**	**332**	*eP*		**P**	**07 01 35.6**	**+0.8**
	comp=E,1.6nm,0.7s							
NVAR	**Mina Array Bea**	**85.18**	**326**	*P*		**P**	**07 01 36.1**	**+0.7**
	comp=E,0.8nm,0.7s,baz=159,slow=6.1,SNR=6.5							
PDAR	**Pinedale Array**	**85.35**	**334**	*P*		**P**	**07 01 36.2**	**0.0**
	comp=E,0.4nm,0.7s,baz=177,slow=4.5,SNR=4.2							
TORD	**Torodi Ar. Bea**	**86.02**	**71**	*P*		**P**	**07 01 39.7**	**-0.2**
	comp=E,1.0nm,0.8s,baz=238,slow=4.9,SNR=3.8							
WRA	**Warramunga Arr**	**118.20**	**210**	PKP		**PKPdf**	**07 07 45.9**	**-0.7**
	comp=E,0.4nm,0.8s,baz=162,slow=1.1,SNR=4.9							
ABKAR	**Akbulak array**	**143.96**	**54**	*e*PKPdf		PKPbc	07 08 31.8	0.0
BVAR	**Borovoye Array**	**149.71**	**45**	PKPbc		**PKPbc**	**07 08 47.8**	**-0.3**
	comp=E,0.5nm,0.6s,baz=289,slow=4.4,SNR=3.7							

*IDC **24** 06:52:46.7±3.0, 16.22S×173.25W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/29, mbtmp3.7/5, Error ellipse: s-maj=170.3km s-min=24.8km az=148.0*
*ISCJB **24** 06:52:49.4±2.7, 16.05S±1.0×173.54W±0.6, h26km, mb3.7/5, Error ellipse: s-maj=161.6km s-min=22.8km az=148.6*

ISC 24 06:52:50.8±2.9, 16.18S±0.09×173.44W±0.06, h26km, n7, σ0§31/7, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.73**	**257**	*P*		**P**	**07 01 41.3**	**-0.1**
	0.3nm,0.4s,baz=97,slow=6.8,SNR=9.8							
ASAR	**Alice Springs**	**49.94**	**252**	*P*		**P**	**07 01 42.8**	**-0.1**
	1.4nm,0.5s,baz=88,slow=8.3,SNR=20							
NVAR	**Mina Array Bea**	**74.82**	**42**	*P*		**P**	**07 04 29.4**	**+0.1**
	0.4nm,0.7s,baz=233,slow=8.9,SNR=4.0							
PDAR	**Pinedale Array**	**82.75**	**42**	*P*		**P**	**07 05 12.8**	**-0.1**
	0.4nm,0.8s,baz=215,slow=1.8,SNR=3.4							
ILAR	**Eielson Array**	**83.12**	**11**	*P*		**P**	**07 05 13.6**	**-0.3**
	0.3nm,0.7s,baz=227,slow=6.0,SNR=6.6							
BRTR	**Keskin Array B**	**146.72**	**320**	PKPbc		**PKPab**	**07 12 32.4**	**+0.4**
	0.4nm,0.4s,baz=57,slow=5.3,SNR=2.9							
GERES	**GERESS Array B**	**146.84**	**351**	PKPbc		**PKPbc**	**07 12 31.2**	**+0.3**
	0.3nm,0.4s,baz=338,slow=1.1,SNR=3.4							

IDC 24 07:08:20.3±3.2, 54.64N×86.94E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=27.8km s-min=21.5km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**242**	*i*			07 16 28.3	
	baz=62,slow=331							
ZALV	**Zalesovo Beam**	**1.43**	**242**	Pg		Pn	07 08 45.3	-2.2
	0.9nm,0.3s,baz=59,slow=16,SNR=11							
ZALV				Lg		Lg	07 09 05.7	
	0.9nm,0.3s,baz=58,slow=27,SNR=4.2							
KURBB	**Kurchatov Arra**	**6.51**	**235**	Pn		Pn	07 09 58.0	+0.7
	0.1nm,0.3s,baz=52,slow=14,SNR=23							
KURBB				Lg		Lg	07 11 46.9	
	0.0nm,0.3s,baz=47,slow=31,SNR=3.5							
MKAR	**Makanchi Array**	**8.39**	**202**	Pn		Pn	07 10 24.1	+0.9
	0.1nm,0.3s,baz=15,slow=12,SNR=3.5							
MKAR				Lg		Lg	07 12 48.1	
	baz=26,slow=30,SNR=2.1							

IDC 24 07:14:13.6±1.7, 14.79S×165.00E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=38.4km s-min=31.6km az=100.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.37**	**170**	Pn		Pn	07 16 02.5	-0.2
	0.2nm,0.3s,baz=131,slow=9.3,SNR=5.5							
DZM				Sn		Sn	07 17 27.6	+0.4
	baz=270,slow=20,SNR=2.7							
WRA	**Warramunga Arr**	**29.68**	**256**	*P*		*P*	07 20 21.5	0.0
	0.1nm,0.5s,baz=86,slow=9.7,SNR=5.7							
ASAR	**Alice Springs**	**30.61**	**248**	*P*		*P*	07 20 29.7	+0.1
	0.4nm,0.5s,baz=73,slow=9.4,SNR=9.0							
ILAR	**Eielson Array**	**87.27**	**19**	*P*		*P*	07 27 01.7	0.0
	0.2nm,0.6s,baz=238,slow=5.2,SNR=5.5							

IDC 24 07:37:56.1±2.9, 54.22N×86.39E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.2/1, Error ellipse: s-maj=22.0km s-min=14.7km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**255**	*i*			07 43 27.8	
	baz=76,slow=332,SNR=6.6							
ZALV	**Zalesovo Beam**	**0.97**	**254**	Pg		Pg	07 38 13.4	-1.3
	3.7nm,0.3s,baz=72,slow=16,SNR=32							
ZALV				Lg		Lg	07 38 28.8	
	3.0nm,0.3s,baz=72,slow=33,SNR=14							
KURBB	**Kurchatov Arra**	**6.01**	**236**	Pn		Pn	07 39 26.5	+0.3
	0.1nm,0.3s,baz=53,slow=13,SNR=7.2							
KURBB				Lg		Lg	07 41 08.1	
	0.0nm,0.3s,baz=45,slow=30,SNR=3.1							
MKAR	**Makanchi Array**	**7.88**	**201**	Pn		Pn	07 39 53.5	+1.6
	baz=15,slow=13,SNR=1.8							

IDC 24 07:40:00.2±2.9, 54.29N×86.94E, h0km, mb1 3.1/2, mb1mx2.9/30, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=23.7km s-min=16.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**255**	*i*			07 46 51.9	
	baz=75,slow=331,SNR=1.7							
ZALV	**Zalesovo Beam**	**1.30**	**255**	Pg		Pg	07 40 23.6	-1.4
	4.3nm,0.3s,baz=73,slow=16,SNR=20							
ZALV				Lg		Lg	07 40 42.1	
	1.4nm,0.3s,baz=74,slow=26,SNR=4.2							
KURBB	**Kurchatov Arra**	**6.32**	**238**	Pn		Pn	07 41 35.0	+0.5
	0.2nm,0.3s,baz=55,slow=14,SNR=12							
KURBB				Sn		Sn	07 42 46.8	-0.5
	0.0nm,0.3s,baz=40,slow=16,SNR=2.3							
KURBB				Lg		Lg	07 43 21.3	
	0.0nm,0.3s,baz=58,slow=34,SNR=6.3							
MKAR	**Makanchi Array**	**8.07**	**203**	Pn		Pn	07 42 00.1	+1.5
	0.2nm,0.3s,baz=14,slow=12,SNR=4.8							
MKAR				Sn		Sn	07 43 29.9	-0.7
	0.1nm,0.3s,baz=19,slow=28,SNR=3.4							
MKAR				Lg		Lg	07 44 16.6	
	0.1nm,0.3s,baz=26,slow=28,SNR=6.8							

*BJI **24** 07:40:54.6, 2.44S×128.52E, h35km, mB6.1/58, mb6.0/88, Ms5.5/90, Ms7 5.3/77*
*IDC **24** 07:40:56.3±0.3, 1.86S×128.02E, h0km, mb5.7/32, mb1 5.8/34, mb1mx5.8/35, mbtmp5.7/34, ML5.7/2, MS5.1/21, Ms1 5.1/21, ms1mx4.9/33, Error ellipse: s-maj=15.0km s-min=8.1km az=61.0*
*NEIC **24** 07:41:00.0±0.0, 1.91S×128.12E, h27km Best double couple: NP1:φs18.0000°, δ68.00000°, λ144.00000°. NP2:φs123.00000°, δ57.00000°, λ26.00000°. Principal axes: T 0.9500, Plg40.0000°, Azm337.0000°; N 0.2200, Plg48.0000°, Azm171.0000°; P -1.1700, Plg6.0000°, Azm73.0000°;*
*MOS **24** 07:41:00.4±1.0, 1.71S×127.99E, h33km, mb6.1/71, MS5.2/41 Error ellipse: s-maj=9.3km s-min=4.7km az=113.9*
*GCMT **24** 07:41:00.4±0.1, 1.79S×128.05E, h37km, MW6.0/136, Moment Tensor Solution. s126,c263; s136,c449; Duration: 2s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.40±.01; Mθθ0.57±.01; Mφφ-0.96±.01; Mrθ0.15±.01; Mrφ0.53±.01; Mθφ0.47±.01; Best double couple: M₀1.07500×10¹⁸ NP1:φs22.00000°, δ78.00000°, λ145.00000°. NP2:φs120.00000°, δ56.00000°, λ14.00000°. Principal axes: T 0.9160, Plg33.0000°, Azm335.0000°; N 0.3180, Plg54.0000°, Azm185.0000°; P -1.2340, Plg14.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **24** 07:41:00.4±0.1, 1.91S×128.12E, h27km, mb6.0/100, ME5.9, MS5.5/158, MW6.0, MW5.9, MW6.0 Error ellipse: s-maj=4.7km s-min=3.3km az=53.0, Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁷Nm; Mrr4.10; Mθθ1.69; Mφφ-5.79; Mrθ-0.11; Mθφ4.54; Mrφ3.50; Best double couple: M₀7.70000×10¹⁷ NP1:φs2.00000°, δ67.00000°, λ126.00000°. NP2:φs120.00000°, δ42.00000°, λ36.00000°. Principal axes: T 5.8300, Plg53.0000°, Azm316.0000°; N 2.9200, Plg32.0000°, Azm165.0000°; P -8.7400, Plg14.0000°, Azm66.0000°; Broadband fault plane solution: P waves. NP1:φs133.00000°, δ56.00000°, λ37.00000°. NP2:φs20.00000°, δ60.00000°, λ140.00000°. Principal axes: T Plg48.0000°, Azm345.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm77.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Labhua. Also felt [III] on Ambon and Buru.
*ISCJB **24** 07:41:02.5±0.3, 1.88S±0.02×128.17E±0.02, h58km±2km, mb5.8/204, MS5.5/193 Error ellipse: s-maj=2.8km s-min=2.5km az=152.7*
*KLM **24** 07:41:04.7, 1.54S×128.33E, h53km, mb6.1, MS6.6*
*DJA **24** 07:41:04.7±0.2, 2.5S±2.2×127.8E±1.2, h50km±2km, M6.1/118, mb6.0/118, mB6.4/100, MLv6.3/18, Mw(mB)6.1/100, Mwp6.2/35*
*NEIC **24** 07:41:21.2±0.0, 1.61S×128.16E, h32km Best double couple: NP1:φs122.00000°, δ36.00000°, λ28.00000°. NP2:φs9.00000°, δ74.00000°, λ123.00000°. Principal axes: T 0.8900, Plg49.0000°, Azm315.0000°; N 0.4900, Plg31.0000°, Azm178.0000°; P -1.3800, Plg21.0000°, Azm73.0000°;*

ISC 24 07:41:01.8±0.2, 1.90S±0.02×128.11E±0.03, h39km±1km, h39km:pP-P, n1370, σ1§58/1392, mb5.9/209, MS5.5/196, 245C-186D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**1.39**	**334**	*P*		Pn	07 41 28.3	+3.6
MSAI	**Masohi**	**1.65**	**150**	*P*		Pn	07 41 31.1	+2.8
MSAI				*S*		**Sn**	**07 41 48.8**	**+0.5**
NLAI	**Namlea**	**1.67**	**217**	*P*		**Pn**	**07 41 29.3**	**+0.8**
AAI	**Ambon**	**1.78**	**177**	*P*		**Pn**	**07 41 31.5**	**+1.4**
	baz=1.8,SNR=455							
AAI				*S*		**Sn**	**07 41 54.1**	**+2.7**
	baz=1.8,SNR=6.0							
SANI	**Sanana**	**2.13**	**266**	*P*		**Pn**	**07 41 34.0**	**-0.8**
TNTI	**Ternate**	**2.75**	**344**	*P*		**Pn**	07 41 46.6	+3.1
TNTI	**Ternate**	**2.75**	**344**	*ePn*		**Pn**	**07 41 45.4**	**+1.9**
TNTI				*eSn*		Sn	07 42 31.6	+16
BNDI	**Bandanaira**	**3.16**	**146**	*P*		**Pn**	**07 41 51.4**	**+2.4**
SWI	**Sorong**	**3.31**	**72**	*P*		**Pn**	**07 41 52.1**	**+1.0**
SWI	**Sorong**	**3.31**	**72**	*P*		**Pn**	**07 41 52.0**	**+0.9**
	baz=3.3,SNR=1000							
SWI				*S*		**Sn**	**07 42 32.1**	**+2.9**
	baz=3.3,SNR=6.7							
FAKI	**Fak Fak**	**4.26**	**104**	*P*		**Pn**	**07 42 05.5**	**+1.4**
FAKI	**Fak Fak**	**4.26**	**104**	*P*		**Pn**	**07 42 03.7**	**-0.4**
	baz=4.2,SNR=1000							
FAKI				*S*		**Sn**	**07 42 51.6**	**-1.0**
	baz=4.2,SNR=7.0							
FAKI	**Fak Fak**	**4.26**	**104**	*ePn*		**Pn**	**07 42 03.8**	**-0.4**
FAKI				*eSn*		**Sn**	**07 42 51.8**	**-0.8**
KMSI	**Cibinong**	**4.81**	**301**	*P*		Pn	07 42 15.9	+4.2
LUWI	**Luwuk**	**5.41**	**279**	*P*		**Pn**	**07 42 20.6**	**+0.7**
	5μm,1.1s,100μm218μm50nm							
LUWI	**Luwuk**	**5.41**	**279**	*P*		**Pn**	**07 42 19.7**	**-0.2**
	baz=5.5,SNR=60							
LUWI	**Luwuk**	**5.41**	**279**	*ePn*		**Pn**	**07 42 19.6**	**-0.3**
LUWI				*eSn*		**Sn**	**07 43 19.2**	**-1.7**
KDI	**Kendari**	**5.85**	**249**	*P*		Pn	07 42 31.0	+4.9
	46nm,1.3s,0.2nm							
RKPI	**Ransiki, Papua**	**6.08**	**86**	*P*		**Pn**	**07 42 30.1**	**+1.0**
	6μm,1.0s,46μm52nm							
MRSI	**Marisa**	**6.61**	**291**	*P*		**Pn**	**07 42 36.9**	**+0.5**
	2μm,0.8s,34μm16nm							
TOLI	**Toli-Toli**	**7.91**	**292**	*ePn*		**Pn**	**07 42 56.2**	**+1.9**
	1μm,0.5s							
TOLI				*eSn*		**Sn**	**07 44 24.5**	**+1.9**
SRPI	**Serui, Papua**	**8.12**	**90**	*P*		**Pn**	**07 42 58.5**	**+1.2**
	1μm,0.7s,17μm83μm22nm							
BNSI	**Bone**	**8.37**	**253**	*P*		Pn	07 43 05.4	+4.8
	2μm,0.7s,29μm96μm							
MPSI	**Mapaga**	**8.51**	**285**	*P*		**Pn**	**07 43 05.2**	**+2.7**
	1μm,1.1s,13μm107μm							
GSPH	**General Santos**	**8.54**	**338**	*eP*		**Pn**	**07 43 05.4**	**+2.3**
SPSI	**Sidrap Palu**	**8.58**	**256**	*P*		Pn	07 43 07.7	+4.2
	4μm,0.9s,45μm84μm							
BKSI	**Bulukumba**	**8.67**	**247**	*P*		Pn	07 43 09.4	+4.7
	8μm,0.9s,86μm82μm							
SOEI	**Soe**	**8.69**	**206**	*P*		Pn	07 43 09.2	+4.1
	2μm,1.1s,34μm78μm							
SOEI	**Soe**	**8.69**	**206**	*P*		Pn	07 43 10.0	+4.8
	baz=8.7,SNR=33							
SOEI	**Soe**	**8.69**	**206**	*ePn*		Pn	07 43 09.9	+4.8
BSSI	**Bau Bau, Buton**	**8.69**	**241**	*P*		Pn	07 43 09.7	+4.6
	7μm,1.0s,61μm							
MMRI	**Maumere**	**8.89**	**221**	*P*		Pn	07 43 12.2	+4.5
	835nm,1.0s,14μm97μm							
MMRI	**Maumere**	**8.89**	**221**	*ePn*		Pn	07 43 11.6	+3.8
KAPI	**Kappang**	**8.90**	**249**	Pn		Pn	07 43 12.4	+4.5
	25μm,1.1s							
KAPI	**Kappang**	**8.90**	**249**	*P*		Pn	07 43 12.0	+4.1
	SNR=677							
KAPI	**Kappang**	**8.90**	**249**	*ePn*		Pn	07 43 12.0	+4.1
MATI	**Mati**	**8.98**	**348**	*eP*		Pn	07 43 13.4	+4.4
MATI				*eS*		**Sn**	**07 44 47.9**	**-1.0**
DAV	**Davao City (W)**	**9.26**	**344**	*P*		Pn	07 43 16.3	+3.5
	SNR=26							
DAV	**Davao City (W)**	**9.26**	**344**	*ePn*		**Pn**	**07 43 15.5**	**+2.6**
EDFI	**Ende, Flores**	**9.34**	**223**	*P*		P

baz=14,SNR=15
KKM Kota Kinabalu 14.26 304 *e*Pn **Pn 07 44 21.3 -0.1**
RCP Roxas 14.40 338⇓*e*P **Pn 07 44 23.5 +0.4**
DNP Denpasar 14.50 242 P **P 07 44 30.4 -0.1**
comp=Z,2μm,1.2s,comp=Z,33μmcomp=Z,86μm
IGBI Denpasar 14.62 241 P **P 07 44 31.0 -0.8**
comp=Z,859nm,1.1s,comp=Z,16μmcomp=Z,31μm
ABJI Asem Bagus 15.01 247 P **P 07 44 35.5 -0.7**
comp=Z,1μm,1.3s,comp=Z,16μm
JAGI Jajag, Banyuwa 15.35 244 P **P 07 44 39.8 -0.2**
baz=15,SNR=21
JAGI Jajag, Banyuwa 15.35 244 *e*Pn **P 07 44 39.4 -0.6**
comp=Z,898nm,1.0s
BLJI Banyuglugur 15.58 248 P **P 07 44 42.9 +0.3**
comp=Z,1μm,1.2s,comp=Z,19μm
BTM Bintulu 15.85 289 ⇓P **P 07 44 44.7 -0.9**
BWJI Bawean 15.91 255 P P 07 44 55.7 +10
GMJI Gumukmas 15.92 246 P **P 07 44 47.5 +1.2**
comp=Z,948nm,1.4s,comp=Z,20μm
AUQP San Andres 16.06 341 *e*P **P 07 44 46.8 -1.0**
GRJI Gresik 16.36 252 P P 07 44 56.0 +4.8
comp=Z,629nm,1.1s,comp=Z,4μm
PBKI Pangkalan Bun 16.45 267 P **P 07 44 53.9 +1.7**
comp=Z,704nm,1.0s,comp=Z,9μmcomp=Z,36μm
SBUM Sibu 16.46 285 ⇑P **P 07 44 52.2 -0.2**
SBUM Sibu 16.46 285 *e*Pn **P 07 44 51.8 -0.6**
GQP Guinayangan 16.68 340⇓*e*P **P 07 44 54.7 +0.1**
STKI Sintang 16.75 277 P **P 07 44 56.9 +1.4**
comp=Z,281nm,1.5s,comp=Z,19μmcomp=Z,28μm
TBJI Tambak Boyo 16.93 253 P P 07 45 05.0 +7.5
PWJI Pagerwojo 17.34 249 P **P 07 45 04.9 +2.8**
comp=Z,943nm,1.2s,comp=Z,13μm
UWJI Ujung Watu 17.69 255 P sP 07 45 19.7 -0.9
PCJI Pacitan 17.98 249 P **P 07 45 12.5 +3.3**
comp=Z,844nm,1.2s,comp=Z,13μm
KSM Kuching 18.11 281 P **P 07 45 12.9 +2.3**
baz=18,SNR=20
KSM S **S 07 48 37.4 +1.1**
baz=18,SNR=8.5
KSM Kuching 18.11 281 ⇓P **P 07 45 13.3 +2.7**
KSM Kuching 18.11 281 *e*P **P 07 45 11.6 +1.0**
comp=Z,1μm,1.3s
KSM *e* 07 45 22.8
SMRI Semarang 18.34 253 P **Pn 07 45 16.7 +3.4**
comp=Z,678nm,1.9s,comp=Z,20μmcomp=Z,75μm
SMRI Semarang 18.34 253 P Pn 07 45 18.0 +4.7
baz=18,SNR=14
SMRI Semarang 18.34 253 *e*P **Pn 07 45 17.0 +3.7**
comp=Z,854nm,1.1s
UGM Wanagama 18.51 251 P **Pn 07 45 19.3 +3.9**
comp=Z,795nm,1.4s,comp=Z,18μmcomp=Z,61μm
UGM Wanagama 18.51 251 P **Pn 07 45 19.3 +3.9**
baz=19,SNR=9.1
UGM Wanagama 18.51 251 *e*Pn **Pn 07 45 18.7 +3.3**
WRAB Tennant Creek 18.93 162 P **P 07 45 17.9 -1.7**
comp=Z,5μm,1.0s
WRAB Tennant Creek 18.93 162 *d i*P **P 07 45 18.3 -1.3**
WRAB pmax pmax
comp=Z,4μm,1.7s
WRAB Tennant Creek 18.93 162 *e*P **P 07 45 17.1 -2.5**
comp=Z,837nm,1.0s
WRAB *e*S **Sn 07 48 46.9 -4.7**
WRA Warramunga Arr 18.94 162 P **P 07 45 18.0 -1.7**
comp=Z,61nm,0.3s,baz=341,slow=12,SNR=503
WRA S Sn 07 48 37.9 -14
comp=Z,10nm,0.3s,baz=346,slow=17,SNR=4.7
WRA Warramunga Arr 18.94 162 P **P 07 45 18.0 -1.7**
WRA pmax pmax
comp=Z,61nm,0.3s
WB2 Warramunga Arr 18.94 162 *e*P **P 07 45 17.4 -2.3**
WB2 *e*S Sn 07 48 42.2 -10
COEN Coen 19.11 130 P **P 07 45 21.7 +0.1**
baz=19,SNR=225
COEN S Sn 07 48 41.1 -15
baz=19,SNR=5.6
COEN Coen 19.11 130 *e*P **Pn 07 45 22.1 -0.6**
comp=Z,224nm,1.0s
COEN *e*S Sn 07 48 39.2 -17
KPJI Karang Pucung 19.86 254 P **Pn 07 45 33.2 +1.6**
comp=Z,837nm,0.8s,comp=Z,10μm
PMG Port Moresby 20.36 112 *e*P **P 07 45 35.2 0.0**
PMG pmax pmax
comp=Z,311nm,0.9s
PMG MLR MLR
comp=Z,14μm,22.0s
PMG Port Moresby 20.36 112 P **P 07 45 35.5 +0.3**
baz=20,SNR=32
PMG Port Moresby 20.36 112 *e*P **P 07 45 35.2 0.0**
comp=Z,311nm,0.9s
PMG LR LR
comp=Z,14μm,22.0s
CMJI Cimerak 20.44 253 P Pn 07 45 37.6 -0.8
comp=Z,923nm,1.0s,comp=Z,10μm
TPI Tanjungpandan 20.46 267 P Pn 07 45 38.2 -0.4
comp=Z,409nm,1.0s,comp=Z,6μmcomp=Z,58μm
CISI Cisompet, Garu 20.99 254 P Pn 07 45 44.0 -0.8
comp=Z,1μm,1.0s,comp=Z,11μmcomp=Z,47μm
CISI Cisompet, Garu 20.99 254 P **P 07 45 43.1 +1.0**
baz=21,SNR=10
CISI Cisompet, Garu 20.99 254 *e*P **P 07 45 42.4 +0.4**
comp=Z,782nm,0.8s
LEM Lembang 21.01 256 P P 07 45 49.6 +7.2
comp=Z,11μmcomp=Z,644nm,1.3s
LEM Lembang 21.01 256 P P 07 45 51.6 +9.3
baz=21,SNR=4.8
CNJI Cibinong 21.59 255 P **P 07 45 50.3 +1.9**
comp=Z,893nm,1.1s,comp=Z,8μm
CBJI Citeko 21.67 257 P **P 07 45 52.3 +3.0**
comp=Z,1μm,1.1s,comp=Z,33μm
QIS Mount Isa 21.68 150 P **P 07 45 48.4 -0.9**
baz=22,SNR=464
QIS S **S 07 49 41.3 -6.1**
baz=22,SNR=11
TNG Tangerang 21.82 258 P sP 07 46 07.4 +1.6
PPBI Pangkal Pinang 21.96 269 P **P 07 45 53.8 +1.3**
comp=Z,314nm,1.1s,comp=Z,6μm
SBJI Serang 22.32 259 P P 07 46 03.0 +6.7
comp=Z,540nm,1.2s,comp=Z,16μm
AS31 Alice Springs 22.35 166 *e*P **P 07 45 55.5 -1.2**
ASAR Alice Springs 22.36 166 P **P 07 45 55.1 -1.5**
comp=Z,891nm,0.8s,baz=347,slow=12,SNR=604
ASAR S S 07 49 50.7 -9.5
comp=Z,79nm,0.8s,baz=347,slow=20,SNR=8.8
ASAR Alice Springs 22.36 166 P **P 07 45 55.1 -1.5**
ASAR S S 07 49 50.7 -9.5
ASAR pmax pmax
comp=Z,891nm,0.8s
ASAR smax smax
comp=N,79nm,0.8s
GUMO Guam 22.65 47 *e*P **P 07 46 00.9 +1.1**
GUMO pmax pmax
comp=Z,127nm,1.3s
GUMO MLR MLR
comp=Z,1μm,20.0s
GUMO Guam 22.65 47 *e*P **P 07 46 00.9 +1.1**
comp=Z,127nm,1.3s
GUMO LR LR
comp=Z,1μm,20.0s
CGJI Cibinong 22.84 257 P **P 07 46 05.1 +3.3**
comp=Z,340nm,1.1s,comp=Z,7μmcomp=Z,43μm
WRKA Warakurna 23.00 180 P **P 07 46 02.6 -0.8**
baz=23,SNR=427
BLSI Bandar Lampung 23.08 261 P **P 07 46 08.1 +3.8**
comp=Z,579nm,1.1s,comp=Z,12μm
PMBI Palembang 23.34 267 P **P 07 46 11.3 +4.4**
comp=Z,2μm,1.2s,comp=Z,51μmcomp=Z,43μm
KLI Kotabumi 23.40 262 P **P 07 46 10.5 +3.0**
comp=Z,1μm,1.1s,comp=Z,19μm
KLSI 23.50 263 P **P 07 46 11.4 +2.9**
comp=Z,5.9nm,0.8s
DSRI Dabo 23.57 273 P **P 07 46 12.4 +3.3**
comp=Z,889nm,1.2s,comp=Z,22μmcomp=Z,931μm
TPRI Tanjung Pinang 23.75 277 P **P 07 46 14.0 +3.2**
comp=Z,877nm,1.1s,comp=Z,35μm
KASI Kota Agung 23.84 261 P **P 07 46 12.3 +0.7**
comp=Z,996nm,1.1s,comp=Z,13μm
XMI Christmas Isla 23.84 248 P **P 07 46 12.1 +0.5**
baz=24,SNR=5.4
DLV T Lat 23.86 306 *e*P **P 07 46 13.2 +1.1**
comp=Z,501nm,1.2s
XMIS Christmas Isla 23.88 248 P **P 07 46 12.1 0.0**
baz=24,SNR=6.3
XMIS S Sn 07 50 48.9 -1.6
baz=24,SNR=3.3
XMIS Christmas Isla 23.88 248 *e*P **P 07 46 12.3 +0.3**
comp=Z,156nm,1.1s
MDSI Maura Dua 24.03 263 P **P 07 46 15.3 +1.9**
comp=Z,1μm,1.1s,comp=Z,13μmcomp=Z,32μm
RABL Rabaul 24.12 96 P **P 07 46 16.6 +2.3**
baz=24,SNR=8.3
LWLI Liwa 24.20 262 P **P 07 46 18.3 +3.1**
comp=Z,1μm,1.0s,comp=Z,12μm
MYKOM Kota Tinggi 24.53 278 ⇑P **P 07 46 20.7 +2.6**
MYKOM Kota Tinggi 24.53 278 *e*P **P 07 46 19.9 +1.9**
BTDF Bukit Timah Da 24.55 277 P **P 07 46 21.1 +2.9**
baz=25,SNR=31
LHSI Lahat 24.63 265 P **P 07 46 21.7 +2.8**
comp=Z,1μm,1.1s,comp=Z,17μm
GIRL Giralia 24.64 212 P **P 07 46 19.0 +0.2**
baz=25,SNR=12
KGM Kluang 25.09 279 ⇑P **P 07 46 25.7 +2.6**
MNAI Manna 25.23 264 P **P 07 46 26.4 +2.0**
comp=Z,2μm,1.5s,comp=Z,25μm
MNAI Manna 25.23 264 P **P 07 46 26.4 +2.0**
baz=25,SNR=25
MNAI Manna 25.23 264 *e*P **P 07 46 26.2 +1.8**
comp=Z,1μm,1.0s
CTA Charters Tower 25.32 137 P **P 07 46 25.8 +0.7**
comp=Z,241nm,0.8s,baz=313,slow=12,SNR=99
CTA S **S 07 50 47.2 -1.7**
comp=Z,11nm,0.7s,baz=346,slow=19,SNR=1.5
CTA LR LR 07 57 38.6
comp=Z,7μm,20.4s,baz=322,slow=40
CTA Charters Tower 25.32 137 P **P 07 46 25.8 +0.7**
CTA S **S 07 50 47.2 -1.7**
CTA pmax pmax
comp=Z,241nm,0.8s
CTA smax smax
comp=N,11nm,0.7s
CTA MLR MLR
comp=Z,7μm,20.4s
CTAO Charters Tower 25.32 137 *e*P **P 07 46 26.0 +0.9**
CTAO pmax pmax
comp=Z,482nm,1.0s
CTAO MLR MLR
comp=Z,7μm,20.0s
CTAO Charters Tower 25.32 137 *e*P **P 07 46 26.0 +0.9**
comp=Z,482nm,1.0s
CTAO LR LR
comp=Z,7μm,20.0s
TWG Pinlang 25.51 345 *e*P **P 07 46 24.6 -2.2**
comp=Z,982nm,0.9s
MASI Maura Aman, Be 25.88 267 P **P 07 46 33.1 +2.8**
comp=Z,3μm,1.3s,comp=Z,28μm
KTGM Kuala Trenggan 25.96 286 ⇑P **P 07 46 33.1 +2.1**
YULB Yu-li 26.00 346 *e*P **P 07 46 31.2 0.0**
comp=Z,137nm,0.9s
TPUB Ta-pu 26.09 344 *e*P **P 07 46 31.9 -0.2**
comp=Z,546nm,1.0s
MEEK Meekatharra 26.23 200 P **P 07 46 31.7 -1.6**
baz=26,SNR=42
SSLB Suanglung 26.46 345 *e*P **P 07 46 34.4 -1.0**
comp=Z,349nm,1.0s
YOJ Yonaguni jima 26.67 350 *e*P **P 07 46 36.9 -0.3**
YOJ pmax pmax
comp=Z,484nm,1.2s
YOJ Yonaguni jima 26.67 350 *e*P **P 07 46 36.9 -0.3**
comp=Z,484nm,1.2s
NACB Ninganchiao 26.68 347 *e*P **P 07 46 36.6 -0.8**
comp=Z,189nm,1.0s
SDSI Sungai Dareh 26.69 272 P **P 07 46 40.2 +2.6**
comp=Z,217nm,1.1s,comp=Z,16μm
BKNI Bangkinang 27.16 274 *e*P **P 07 46 43.5 +1.7**
comp=Z,616nm,1.1s
YHNB Yeheng 27.21 347 *e*P **P 07 46 41.8 -0.4**
comp=Z,390nm,1.0s
YHNB LR LR
comp=Z,5μm,20.0s
TATO Taipei 27.48 347 *e*P **P 07 46 44.0 -0.5**
comp=Z,299nm,1.1s
TATO LR LR
comp=Z,4μm,20.0s
QIZ Qiongzhong 27.48 320 P **P 07 46 45.4 +0.8**
QIZ pP **pP 07 46 52.9 -2.4**
QIZ S **S 07 51 24.3 +1.4**
QIZ sS **sS 07 51 43.3 +2.5**
QIZ PMZ
comp=Z,76nm,1.5s
QIZ LZ
comp=Z,8μm,31.6s
QIZ Qiongzhong 27.48 320 *e*P **P 07 46 45.3 +0.8**
comp=Z,1μm,2.0s
QIZ LR LR
comp=Z,5μm,19.0s
HKC Hong Kong Obse 27.64 331 ⇑*i*P **P 07 46 46.0 +0.1**
IPM Ipoh 27.80 283 *e*P **P 07 46 49.0 +1.4**
comp=Z,800nm,1.1s
UBPT Khong Chiam 28.16 308 P **P 07 46 51.8 +1.1**
comp=Z,136nm,1.1s,comp=Z,4μm
QZH Quanzhou 28.23 341 ⇑*i*P **P 07 46 51.9 +0.7**
QZH S **S 07 51 37.6 +2.9**
QZH PMZ
comp=Z,840nm,1.2s
QZH PMZ
comp=Z,3μm,3.5s
QZH LN
comp=Z,3μm,12.8s
QZH LE
comp=Z,7μm,17.2s
QZH LZ
comp=Z,12μm,23.4s
KULM Kulim 28.35 285 *e*P **P 07 46 53.5 +1.0**
comp=Z,241nm,1.0s
KULM LR LR
comp=Z,9μm,20.0s
JOW Kunigami 28.56 0 P **P 07 46 54.1 -0.1**
comp=Z,20nm,1.1s,baz=193,slow=9.8
JOW Kunigami 28.56 0 *e*P **P 07 46 55.2 +1.0**
comp=Z,73nm,1.0s
MNSI Mandailing Nat 28.65 275 P **P 07 46 56.1 +0.9**
comp=Z,188nm,0.6s,comp=Z,3μm
GZH Guangzhou 28.70 331 P P 07 46 58.8 +3.4
GZH PP **PnPn 07 47 53.1 +6.0**
GZH S S 07 51 52.1 +10
GZH PcS **PcS 07 53 48.3 +0.2**
GZH PMZ
comp=Z,4μm,10.6s
GZH LN
comp=Z,6μm,21.1s
GZH LE
comp=Z,11μm,21.6s
FORT Forrest 28.72 180 P **P 07 46 54.2 -1.3**
baz=29,SNR=100
FORT Forrest 28.72 180 *e*P **P 07 46 54.3 -1.3**
comp=Z,537nm,0.7s
SKLT Songkhla 28.88 288 P **P 07 46 58.8 +1.7**
comp=Z,147nm,1.1s,comp=Z,3μm
QLP Quilpie 29.02 149 P **P 07 46 58.1 -0.2**
baz=29,SNR=49
MORW Morawa 29.36 202 P **P 07 47 01.9 +0.6**
baz=30,SNR=10
PSI Prapat 29.55 279 P **P 07 47 03.2 -0.1**
comp=Z,136nm,0.9s,baz=97,slow=7.4,SNR=106
PSI S **S 07 51 53.6 -2.3**
comp=Z,2.2nm,0.3s,baz=163,slow=19,SNR=4.3
PSI LR LR 07 59 44.0
comp=Z,5μm,20.7s,baz=89,slow=38
PSI Prapat 29.55 279 P **P 07 47 03.2 -0.1**
PSI S **S 07 51 53.6 -2.3**
PSI pmax pmax
comp=Z,136nm,0.9s
PSI smax smax
comp=N,2.0nm,0.3s
PSI MLR MLR
comp=Z,5μm,20.7s
KMBL Kambalda 29.90 191 P **P 07 47 04.6 -1.4**
baz=30,SNR=30
TSI Tuntungan 30.02 280 P P 07 47 10.8 +3.5
comp=Z,219nm,1.0s
BLDU Ballidu 30.54 200 P **P 07 47 10.7 -0.9**
baz=31,SNR=13
KHON Khomkaen 30.86 307 P **P 07 47 15.8 +1.2**
comp=Z,170nm,0.9s,comp=Z,1μm
SURT Suratani 31.14 291 P **P 07 47 18.5 +1.3**
comp=Z,112nm,0.9s,comp=Z,1μm
PKDT Phuket 31.25 289 P **P 07 47 19.7 +1.5**
comp=Z,192nm,1.0s,comp=Z,15μm
CHAI Chaiyaphum 31.30 305 P **P 07 47 19.4 +0.9**
comp=Z,62nm,1.0s
RMQ Roma 31.48 143 P **P 07 47 20.9 +0.9**
baz=32,SNR=14
BBOO Buckleboo 31.64 167 P **P 07 47 20.3 -1.0**
baz=32,SNR=18
BBOO Buckleboo 31.64 167 *e*P **P 07 47 20.7 -0.7**
comp=Z,9.4nm,1.0s
CBIJ Chichi jima 31.86 24 *e*P **P 07 47 23.9 +0.6**
comp=Z,235nm,1.4s
JCJ Chichijima 31.86 24 LR LR 08 00 04.3
comp=Z,5μm,18.6s,slow=36
LHMI Lhok Sumawe 31.93 283 P **P 07 47 26.9 +2.8**
comp=Z,558nm,0.9s,comp=Z,6μm
LHMI Lhok Sumawe 31.93 283 P **P 07 47 26.9 +2.8**
baz=32,SNR=7.7
LHMI Lhok Sumawe 31.93 283 *e*P **P 07 47 25.9 +1.8**
comp=Z,535nm,1.0s
EIDS Eidsvold 32.16 138 P **P 07 47 26.5 +0.4**
baz=32,SNR=11
EIDS Eidsvold 32.16 138 *e*P **P 07 47 26.4 +0.4**
comp=Z,103nm,1.4s
STKA Stephens Creek 32.42 158 P **P 07 47 27.6 -0.5**
comp=Z,79nm,0.9s,baz=329,slow=9.4,SNR=35
STKA PcP **PcP 07 50 15.3 +0.3**
comp=Z,14nm,0.5s,baz=45,slow=1.4,SNR=1.8
STKA S S 07 52 30.5 -10
comp=Z,7.1nm,0.8s,baz=6.0,slow=19,SNR=1.4
STKA Stephens Creek 32.42 158 P **P 07 47 27.5 -0.7**
baz=32,SNR=34
PBKT Sadao Pong 32.48 305 P **P 07 47 29.9 +1.0**
comp=Z,104nm,1.1s,comp=Z,2μm
NWAO Narrogin (SRO) 32.51 197 P **P 07 47 27.9 -1.2**
baz=33,SNR=14
COCO West Island 32.64 250 PFAKE 07 47 40.0 +10
COCO LR LR
comp=Z,4μm,21.0s
SRDT SRDT 32.95 300 P **P 07 47 35.1 +2.1**
comp=Z,545nm,1.5s
UTHA Uthaitani 33.23 302 P **P 07 47 36.5 +1.0**
comp=Z,50nm,1.1s,comp=Z,389nm
UTTA Uttaradit 33.44 307 P **P 07 47 38.5 +1.2**
comp=Z,35nm,1.0s,comp=Z,376nm
SSE Sheshan 33.47 349 P **P 07 47 37.9 +0.6**
SSE sP **sP 07 47 49.9 -2.9**
SSE S **S 07 52 54.5 -1.9**
SSE PMZ
comp=Z,120nm,1.1s
SSE PMZ
comp=Z,960nm,7.1s
SSE LN
comp=Z,1μm,19.2s
SSE LE
comp=Z,4μm,19.2s
SSE LZ
comp=Z,3μm,19.6s
BSI Banda Aceh 33.59 283 P **P 07 47 39.2 +0.5**
comp=Z,156nm,1.2s,comp=Z,3μm
KHLT Khaolaem Dam 33.61 301 P **P 07 47 40.8 +2.0**
comp=Z,76nm,1.6s,comp=Z,2μm
CMSA Cobar Meteorol 33.83 152 P **P 07 47 41.1 +0.6**
baz=34,SNR=52
SUKH Sukhothai 34.05 306 P **P 07 47 43.9 +1.4**
comp=Z,81nm,1.0s,comp=Z,563nm
RKGY Rocky Gully 34.16 196 P **P 07 47 44.5 +1.1**
baz=34,SNR=5.9
LAMP Lampang 34.60 307 P **P 07 47 49.1 +1.8**
comp=Z,45nm,1.1s,comp=Z,401nm
WHN Wuhan 34.83 339 P **P 07 47 49.9 +0.8**
WHN PP **PP 07 49 08.9 +0.2**
WHN S **S 07 53 22.0 +4.5**
WHN LN
comp=Z,5μm,16.2s
WHN LE
comp=Z,3μm,13.4s
WHN LZ
comp=Z,11μm,23.0s
NJ2 Nanjing 34.89 346 *e*P **P 07 47 50.9 +1.3**
NJ2 pP **pP 07 47 58.6 -1.9**
NJ2 sP **sP 07 48 03.1 -2.1**
NJ2 S **S 07 53 22.0 +3.6**
NJ2 sS **sS 07 53 37.0 +0.6**
NJ2 PMZ
comp=Z,100nm,0.7s
NJ2 PMZ
comp=Z,16μm,10.2s
NJ2 LN
comp=Z,8μm,19.7s
NJ2 LE
comp=Z,6μm,24.1s
JNU Nakatsue 34.93 4 P **P 07 47 50.2 +0.2**
comp=Z,202nm,1.1s,baz=190,slow=9.5,SNR=31
JNU Nakatsue 34.93 4 *e*P **P 07 47 51.0 +1.0**
comp=Z,90nm,1.1s
CRAI Chiangrai 34.98 310 P **P 07 47 48.8 -1.8**
comp=Z,55nm,1.4s,comp=Z,2μm
GYA Guiyang 34.98 325 P **P 07 47 53.0 +2.3**
GYA pP **pP 07 48 03.3 +1.7**
GYA PP **PP 07 49 13.8 +3.2**
GYA PcP **PcP 07 50 24.5 +1.9**
GYA S **S 07 53 22.0 +1.7**
GYA sS **sS 07 53 40.8 +2.5**
GYA ScP **ScP 07 54 06.4 +1.1**
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,230nm,5.2s
GYA LN
comp=Z,9μm,16.6s
GYA LE
comp=Z,6μm,17.2s
GYA LZ
comp=Z,6μm,16.8s
CMAR Chiang Mai Arr 35.11 306 P **P 07 47 52.8 +1.0**
comp=Z,56nm,1.1s,baz=134,slow=7.2,SNR=156
CMAR PcP **PcP 07 50 23.4 +0.4**
comp=Z,13nm,1.0s,baz=142,slow=1.5,SNR=4.6
CMAR S **S 07 53 24.8 +2.5**
comp=Z,0.8nm,0.3s,baz=118,slow=14,SNR=2.0
CMAR ScP **ScP 07 54 06.8 +1.0**
comp=Z,1.3nm,0.3s,baz=123,slow=3.3,SNR=4.8
CMAR LR LR 08 04 41.1
comp=Z,2μm,19.5s,baz=130,slow=41
CMAR Chiang Mai Arr 35.11 306 P **P 07 47 52.8 +1.0**
CMAR 07 50 23.4
CMAR S **S 07 53 24.8 +2.5**
CMAR pmax pmax
comp=Z,56nm,1.1s
CMAR smax smax
comp=N,1.0nm,0.3s
CMAR MLR MLR
comp=Z,2μm,19.5s
KSJJU Jeju 35.17 358 P **P 07 47 54.1 +1.9**
SNR=6.9
CMMT Chiang Mai 35.30 307 P **P 07 47 54.7 +1.3**
comp=Z,317nm,1.1s,comp=Z,4μm
CHTO Chiang Mai 35.30 307 *e*P **P 07 47 54.5 +1.0**
CHTO pmax pmax
comp=Z,263nm,1.1s
CHTO Chiang Mai 35.30 307 P **P 07 47 54.8 +1.3**
SNR=91
CHTO Chiang Mai 35.30 307 *e*P **P 07 47 54.5 +1.0**
comp=Z,263nm,1.1s
MHMT Maesariang 35.79 305 P **P 07 47 59.5 +1.9**
comp=Z,105nm,1.2s,comp=Z,2μm
CMAI Chiengmai2 35.83 309 P **P 07 47 59.4 +1.2**
comp=Z,170nm,1.4s,comp=Z,2μm
ARMA Armidale 36.08 144 P **P 07 48 01.5 +1.5**
baz=36,SNR=59
ARMA Armidale 36.08 144 *e*P **P 07 48 01.6 +1.5**
comp=Z,225nm,1.3s
KSWAN Wando 36.12 358 P **P 07 48 01.9 +1.7**
SNR=8.1
KSJDO Jindo 36.22 357 P **P 07 48 01.9 +0.8**
SNR=14
KMI Kunming 36.42 319 ⇑P **P 07 48 05.0 +1.8**
KMI pP **pP 07 48 15.4 +1.3**
KMI PP **PP 07 49 28.4 +1.9**
KMI S **S 07 53 45.3 +2.8**
KMI sS **sS 07 54 03.1 +2.5**
KMI PMZ
comp=Z,200nm,1.5s
KMI PMZ
comp=Z,2μm,5.3s
KMI LN
comp=Z,3μm,19.7s
KMI LE
comp=Z,3μm,19.7s
KMI LZ
comp=Z,4μm,18.6s
KSHUK Heuksando 36.48 356 P **P 07 48 04.9 +1.7**
SNR=9.6
KSMOK Mokpo 36.49 358 P **P 07 48 04.5 +1.1**
SNR=9.0

ENH	**Enshi**	**36.60**	**332**	*e*P		**P**	**07 48 05.2**	**+0.8**
	comp=Z,239nm,1.1s								
ENH				LR		LR			
	comp=Z,2μm,20.0s								
KSKWJ	**Gwangju**	**36.88**	**358**	P		**P**	**07 48 08.2**	**+1.5**
	SNR=6.2								
KSBUS	**Busan**	**36.97**	**1**	P		**P**	**07 48 09.2**	**+1.8**
	SNR=5.8								
KSJEU	**Jeongeup**	**37.21**	**358**	P		**P**	**07 48 10.6**	**+1.1**
	SNR=15								
YNG	**Young**	**37.38**	**152**	P		**P**	**07 48 12.5**	**+1.5**
	baz=38,SNR=24								
KSDAG	**Daegu**	**37.48**	**1**	P		**P**	**07 48 13.5**	**+1.8**
	SNR=6.8								
KSJEO	**Jeonju**	**37.65**	**359**	P		**P**	**07 48 14.9**	**+1.7**
	SNR=6.8								
KSGUS	**GUNSAN**	**37.76**	**358**	P		**P**	**07 48 14.6**	**+0.5**
	SNR=5.0								
MGCD	**Mangrove Creek**	**37.88**	**148**	P		P	07 48 18.4	+3.1
	baz=38,SNR=16								
KSPHA	**Pohang**	**37.91**	**2**	P		**P**	**07 48 17.2**	**+1.8**
	SNR=7.5								
KSCPR	**CHUPUNGNYEONG**	**37.92**	**360**	P		**P**	**07 48 16.9**	**+1.4**
	SNR=14								
DGPR	**DIGLIPUR**	**37.98**	**294**	*e*P		**P**	**07 48 14.6**	**-1.7**
DGPR				AMB		AMB	07 48 16.8		
	comp=Z,83nm,1.9s								
TJN	**Taejon**	**38.09**	**359**	*i* P		**P**	**07 48 17.4**	**+0.6**
KSBON	**Boeun**	**38.20**	**360**	P		**P**	**07 48 20.0**	**+2.1**
	SNR=18								
KSULJ	**Uljin**	**38.42**	**2**	P		**P**	**07 48 21.2**	**+1.6**
	SNR=8.3								
CAN	**Canberra**	**38.51**	**152**	*e*P		**P**	**07 48 21.4**	**+0.9**
CAN				pmax		pmax			
	comp=Z,95nm,0.8s								
CAN				MLR		MLR			
	comp=Z,6μm,19.0s								
CAN	**Canberra**	**38.51**	**152**	*e*P		**P**	**07 48 21.4**	**+0.9**
	comp=Z,95nm,0.8s								
CAN				LR		LR			
	comp=Z,6μm,19.0s								
KSSES	**Seosan**	**38.52**	**358**	P		**P**	**07 48 22.0**	**+1.4**
	SNR=6.1								
KSCEA	**Cheonan**	**38.53**	**359**	P		**P**	**07 48 21.4**	**+0.7**
	SNR=20								
KSCHJ	**Chungju**	**38.58**	**360**	P		**P**	**07 48 22.4**	**+1.4**
	SNR=9.2								
CNB	**Canberra Magne**	**38.67**	**152**	P		**P**	**07 48 24.1**	**+2.1**
	baz=39,SNR=8.8								
KSTBA	**Taebaek**	**38.83**	**1**	P		**P**	**07 48 25.3**	**+2.0**
	SNR=16								
KSYOW	**Yeongwol**	**38.88**	**0**	P		**P**	**07 48 24.9**	**+1.4**
	SNR=7.6								
TOO	**Toolangi**	**38.93**	**158**	P		**P**	**07 48 25.6**	**+1.5**
	baz=39,SNR=11								
KSSWO	**Suwon**	**38.98**	**359**	P		**P**	**07 48 25.2**	**+0.8**
	SNR=36								
KSICN	**Icheon**	**39.00**	**359**	P		**P**	**07 48 26.3**	**+1.8**
	SNR=22								
KSWJU	**Wonju**	**39.10**	**360**	P		**P**	**07 48 27.1**	**+1.7**
	SNR=16								
KSAR	**Wonju Array Be**	**39.14**	**360**	P		**P**	**07 48 26.0**	**+0.3**
KSAR							07 50 35.7		
KSAR				S		**S**	**07 54 19.8**	**-3.2**
KSAR	**Wonju Array Be**	**39.14**	**360**	P		**P**	**07 48 26.0**	**+0.3**
KSAR				PcP		**PcP**	**07 50 35.6**	**+0.9**
KSAR				S		**S**	**07 54 19.8**	**-3.2**
KSRS	**Korea Array**	**39.16**	**360**	P		**P**	**07 48 26.0**	**+0.2**
	comp=Z,152nm,1.0s,baz=175,slow=8.0,SNR=210								
KSRS				PcP		**PcP**	**07 50 35.6**	**+0.8**
	comp=Z,18nm,0.8s,baz=191,slow=3.1,SNR=7.4								
KSRS				S		**S**	**07 54 19.8**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=184,slow=16,SNR=2.8								
KSRS	**Korea Array**	**39.16**	**360**	P		**P**	**07 48 26.0**	**+0.2**
KSRS							07 50 35.7		
KSRS				S		**S**	**07 54 19.8**	**-3.3**
KSRS				pmax		pmax			
	comp=Z,152nm,1.0s								
KSSEO	**Seoul**	**39.20**	**358**	P		**P**	**07 48 27.4**	**+1.2**
	SNR=14								
INCN	**Inchon**	**39.21**	**358**	P		**P**	**07 48 28.1**	**+1.8**
	SNR=21								
INCN	**Inchon**	**39.21**	**358**	*e*P		**P**	**07 48 27.8**	**+1.5**
	comp=Z,249nm,1.0s								
INCN				LR		LR			
	comp=Z,4μm,20.0s								
KSULL	**Ulleungdo**	**39.26**	**4**	P		**P**	**07 48 29.2**	**+2.5**
	SNR=6.0								
TIA	**Tai'an**	**39.27**	**346**	⇑P		**P**	**07 48 26.5**	**-0.4**
TIA				pP		**pP**	**07 48 36.6**	**-1.3**
TIA				PP		**PnPn**	**07 50 02.5**	**+2.1**
TIA				S		**S**	**07 54 26.5**	**+1.4**
TIA				PMZ					
	comp=Z,130nm,1.1s								
TIA				PMZ					
	comp=Z,2μm,7.7s								
TIA				LN					
	comp=Z,2μm,16.6s								
TIA				LE					
	comp=Z,2μm,15.0s								
MJAR	**Matsushiro Arr**	**39.38**	**13**	P		**P**	**07 48 27.0**	**-0.8**
	comp=Z,208nm,1.0s,baz=185,slow=9.7,SNR=141								
MJAR				S		S	07 54 20.9	-5.8	
	comp=Z,1.0nm,0.7s,baz=160,slow=7.4,SNR=2.7								
MJAR	**Matsushiro Arr**	**39.38**	**13**	P		**P**	**07 48 27.0**	**-0.8**
MJAR				S		S	07 54 20.9	-5.8	
MJAR				pmax		pmax			
	comp=Z,208nm,1.0s								
MJAR				smax		smax			
	comp=N,1.0nm,0.7s								
MAJO	**Matsushiro**	**39.38**	**13**	*e*P		**P**	**07 48 27.1**	**-0.7**
MAJO				pmax		pmax			
	comp=Z,263nm,0.8s								
MAJO				MLR		MLR			
	comp=Z,5μm,21.0s								
MAJO	**Matsushiro**	**39.38**	**13**	*e*P		**P**	**07 48 27.1**	**-0.7**
	comp=Z,263nm,0.8s								
MAJO				LR		LR			
	comp=Z,5μm,21.0s								
MAT	**Matsushiro**	**39.38**	**13**	P		**P**	**07 48 27.1**	**-0.7**
MAT				S		**S**	**07 54 25.2**	**-1.5**
KSDGY	**Daegwallycong**	**39.39**	**1**	P		**P**	**07 48 29.8**	**+1.9**
	SNR=17								
KSGAH	**Ganghwa**	**39.44**	**358**	P		**P**	**07 48 30.0**	**+1.8**
	SNR=8.8								
KSCHC	**Chuncheon**	**39.48**	**360**	P		**P**	**07 48 30.6**	**+2.1**
	SNR=14								
KSJMJ	**Jumunjin**	**39.59**	**1**	P		**P**	**07 48 30.9**	**+1.5**
	SNR=16								
KSMUS	**Musan**	**39.61**	**358**	P		**P**	**07 48 32.1**	**+2.5**
	SNR=34								
KSDDC	**Dongducheon**	**39.61**	**359**	P		**P**	**07 48 32.3**	**+2.7**
	SNR=31								
KSIJA	**INJE**	**39.69**	**360**	P		**P**	**07 48 32.8**	**+2.5**
	SNR=56								
YNCB	**YEONCHEON**	**39.76**	**359**	P		**P**	**07 48 32.5**	**+1.8**
	SNR=29								
KSCWO	**Cheorwon**	**39.79**	**359**	P		**P**	**07 48 33.1**	**+2.0**
	SNR=41								
KSBAR	**Backryungdo**	**39.80**	**356**	P		**P**	**07 48 33.0**	**+1.9**
	SNR=26								
SEHB	**SEOHWA**	**39.97**	**0**	P		**P**	**07 48 35.4**	**+2.8**
	SNR=20								
KSSKC	**Sokcho**	**39.99**	**1**	P		**P**	**07 48 35.1**	**+2.3**
	SNR=29								
MILA	**Mila**	**40.01**	**153**	P		**P**	**07 48 35.5**	**+2.4**
	baz=40,SNR=16								
CD2	**Chengdu**	**40.02**	**327**	⇑P		**P**	**07 48 34.4**	**+1.1**
CD2				PP		**PnPn**	**07 50 10.6**	**+1.1**
CD2				PcS		**PcS**	**07 54 26.8**	**-1.5**
CD2				S		**S**	**07 54 36.0**	**-0.6**
CD2				sS		sS	07 54 59.8	+5.0
CD2				PMZ					
	comp=Z,440nm,0.9s								
CD2				PMZ					
	comp=Z,2μm,4.7s								
CD2				LN					
	comp=Z,6μm,22.5s								
CD2				LE					
	comp=Z,6μm,22.1s								
CD2				LZ					
	comp=Z,5μm,21.5s								
XAN	**Xi'an**	**40.05**	**335**	P		**P**	**07 48 33.3**	**-0.1**
XAN				pP		**pP**	**07 48 42.9**	**-1.5**
XAN				PP		**PnPn**	**07 50 13.4**	**+3.7**
XAN				PMZ					
	comp=Z,170nm,1.0s								
XAN				PMZ					
	comp=Z,370nm,8.2s								
XAN				LN					
	comp=Z,2μm,27.6s								
XAN				LE					
	comp=Z,2μm,32.7s								
DL2	**Dalian**	**41.04**	**352**	⇑*i*P		**P**	**07 48 41.4**	**0.0**
DL2				PP		**PP**	**07 50 18.3**	**+1.6**
DL2				S		**S**	**07 54 49.3**	**-2.0**
DL2				PMZ					
	comp=Z,260nm,1.0s								
DL2				PMZ					
	comp=Z,850nm,6.9s								
DL2				LN					
	comp=Z,17μm,20.5s								
DL2				LZ					
	comp=Z,12μm,13.0s								
LHI	**Lord Howe Isla**	**41.48**	**138**	P		P	07 48 53.2	+8.0	
	baz=42,SNR=3.2								
LHI				S		S	07 55 11.9	+14	
	baz=42,SNR=3.3								
TIY	**Taiyuan**	**42.00**	**341**	*e*P		**P**	**07 48 49.3**	**-0.2**
TIY				PP		**PP**	**07 50 28.5**	**+1.3**
TIY				S		**S**	**07 55 07.1**	**+1.2**
TIY				sS		**sS**	**07 55 26.3**	**+2.1**
TIY				PMZ					
	comp=Z,320nm,0.7s								
TIY				PMZ					
	comp=Z,1μm,4.7s								
TIY				LN					
	comp=Z,2μm,13.9s								
TIY				LE					
	comp=Z,2μm,19.7s								
TIY				LZ					
	comp=Z,3μm,22.9s								
NOUC	**Port Laguerre**	**42.20**	**121**	*e*P		**P**	**07 48 51.6**	**+0.4**
DZM	**Mont Dzumac**	**42.31**	**121**	*e*P		**P**	**07 48 54.2**	**+2.0**
	comp=Z,421nm,1.3s								
DZM				*e*S		**S**	**07 55 13.9**	**+3.0**
	comp=Z,3μm,29.1s								
DZM				*e*LR		LR	08 00 45.3		
	comp=Z,8μm,24.4s								
DZM	**Mont Dzumac**	**42.31**	**121**	P		P	**07 48 53.6**	**+1.3**
	comp=Z,127nm,1.1s,baz=264,slow=8.7,SNR=19								
DZM				S		S	07 55 05.1	-5.8	
	comp=Z,7.4nm,0.9s,baz=252,slow=20,SNR=2.0								
DZM				LR		LR	08 07 23.2		
	comp=Z,3μm,21.2s,baz=303,slow=37								
DZM	**Mont Dzumac**	**42.31**	**121**	*e*P		**P**	**07 48 52.6**	**+0.4**
IMP	**Imphal**	**42.45**	**311**	*ex*		**P**	**07 48 54.0**	**+0.7**
IMP				*ex*		**S**	**07 55 09.0**	**-3.8**
BJT	**Baijiatuau**	**43.13**	**347**	*e*P		**P**	**07 48 58.1**	**-0.4**
BJT				pmax		pmax			
	comp=Z,417nm,1.0s								
BJT				MLR		MLR			
	comp=Z,2μm,21.0s								
BJT	**Baijiatuau**	**43.13**	**347**	*e*P		**P**	**07 48 58.1**	**-0.4**
	comp=Z,417nm,1.0s								
BJT				LR		LR			
	comp=Z,2μm,21.0s								
BJI	**Beijing**	**43.15**	**347**	P		**P**	**07 48 58.0**	**-0.6**
BJI				S		**S**	**07 55 25.8**	**+3.4**
BJI				PMZ					
	comp=Z,380nm,1.1s								
BJI				PMZ					
	comp=Z,2μm,4.1s								
BJI				LN					
	comp=Z,1μm,17.3s								
BJI				LE					
	comp=Z,3μm,28.4s								
WAKE	**Wake Island**	**43.31**	**59**	PFAKE			07 49 10.0	+10	
WAKE				LR		LR			
	comp=Z,6μm,22.0s								
SNY	**Shenyang**	**43.72**	**355**	⇑P		**P**	**07 49 03.1**	**0.0**
SNY				S		**S**	**07 55 27.1**	**-3.6**
SNY				PMZ					
	comp=Z,260nm,1.2s								
SNY				PMZ					
	comp=Z,1μm,6.4s								
SNY				LN					
	comp=Z,1μm,21.6s								
SNY				LE					
	comp=Z,8μm,21.0s								
SNY				LZ					
	comp=Z,3μm,22.8s								
MOO	**Moorlands**	**43.84**	**160**	P		P	07 49 07.1	+2.9	
	baz=44,SNR=7.9								
LZH	**Lanzhou**	**44.05**	**331**	⇑P		**P**	**07 49 07.3**	**+1.1**
LZH				pP		**pP**	**07 49 17.6**	**+0.3**
LZH				PP		**PcP**	**07 50 52.0**	**+0.8**
LZH				S		**S**	**07 55 36.3**	**+0.2**
LZH				sS		**sS**	**07 55 56.1**	**+1.6**
LZH				PMZ					
	comp=Z,1μm,1.1s								
LZH				PMZ					
	comp=Z,3μm,4.0s								
LZH				LN					
	comp=Z,4μm,13.0s								
LZH				LE					
	comp=Z,2μm,14.7s								
LZH				LZ					
	comp=Z,7μm,16.4s								
TAU	**Tasmania Unive**	**44.30**	**160**	*e*P		**P**	**07 49 09.2**	**+1.4**
TAU				pmax		pmax			
	comp=Z,172nm,1.3s								
TAU				MLR		MLR			
	comp=Z,9μm,21.0s								
TAU	**Tasmania Unive**	**44.30**	**160**	*e*P		**P**	**07 49 09.2**	**+1.4**
	comp=Z,172nm,1.3s								
TAU				LR		LR			
	comp=Z,9μm,21.0s								
SHL	**Shillong**	**44.43**	**310**	⇓*i*P		**P**	**07 49 10.0**	**+0.6**
SHL				AMB		AMB	07 49 13.2		
	comp=Z,412nm,1.7s								
SHL				*i* x		x	07 55 40.0		
HHC	**Hu-ho-hao-te**	**45.14**	**342**	*e*P		**P**	**07 49 15.0**	**+0.3**
HHC				PP		**PP**	**07 51 01.0**	**+0.2**
HHC				S		**S**	**07 55 53.4**	**+1.7**
HHC				sS		**sS**	**07 56 09.0**	**-1.2**
HHC				SS		**ScS**	**07 59 11.6**	**+2.8**
HHC				PMZ					
	comp=Z,180nm,1.2s								
HHC				PMZ					
	comp=Z,2μm,3.3s								
HHC				LN					
	comp=Z,2μm,22.4s								
HHC				LE					
	comp=Z,2μm,20.2s								
HHC				LZ					
	comp=Z,3μm,23.7s								
BTO	**Baotou**	**45.41**	**341**	*e*P		**P**	**07 49 16.6**	**-0.3**
CN2	**Changchun**	**45.56**	**357**	⇑P		**P**	**07 49 17.9**	**+0.1**
CN2				*e*pP		**pP**	**07 49 27.8**	**-1.2**
CN2				*e*sP		**sP**	**07 49 31.8**	**-1.8**
CN2				PcP		**PcP**	**07 50 57.5**	**+1.5**
CN2				*e*PP		**PP**	**07 51 05.3**	**+0.3**
CN2				*e*S		**S**	**07 55 57.6**	**+0.2**
CN2				PMZ					
	comp=Z,80nm,0.7s								
CN2				PMZ					
	comp=Z,200nm,4.0s								
CN2				LN					
	comp=Z,2μm,17.0s								
CN2				LE					
	comp=Z,2μm,17.0s								
CN2				LZ					
	comp=Z,1μm,18.0s								
ERM	**Erimo**	**45.79**	**16**	P		P	07 49 22.7	+3.1	
	comp=Z,770nm,1.2s,SNR=12								
ERM	**Erimo**	**45.79**	**16**	*d* iP		**P**	**07 49 20.9**	**+1.3**
ERM				pmax		pmax			
	comp=Z,273nm,1.7s								
ERM	**Erimo**	**45.79**	**16**	*e*P		**P**	**07 49 21.9**	**+2.3**
	comp=Z,509nm,1.6s								
ERM				LR		LR			
	comp=Z,4μm,21.0s								
USRK	**Ussuriysk Ar.**	**46.02**	**4**	P		**P**	**07 49 21.7**	**+0.2**
	comp=Z,232nm,0.9s,baz=183,slow=7.2,SNR=207								
USRK				S		**S**	**07 56 01.1**	**-3.0**
	comp=Z,2.1nm,0.8s,baz=187,slow=11,SNR=4.2								
USRK				LR		LR	08 09 13.0		
	comp=Z,3μm,19.0s,baz=170,slow=37								
MDJ	**Mudanjiang**	**46.33**	**1**	P		**P**	**07 49 26.0**	**+2.1**
MDJ				pP		**pP**	**07 49 34.9**	**-0.2**
MDJ				PP		**PP**	**07 51 14.0**	**+0.7**
MDJ				S		**S**	**07 56 07.9**	**-0.5**
MDJ				PMZ					
	comp=Z,430nm,1.0s								
MDJ				PMZ					
	comp=Z,1μm,5.8s								
MDJ				LN					
	comp=Z,2μm,23.9s								
MDJ				LE					
	comp=Z,2μm,23.9s								
MDJ				LZ					
	comp=Z,3μm,24.9s								
MDJ	**Mudanjiang**	**46.33**	**1**	*e*P		**P**	**07 49 25.3**	**+1.4**
	comp=Z,616nm,1.1s								
MDJ				LR		LR			
	comp=Z,3μm,22.0s								
LSA	**Lhasa**	**47.27**	**315**	P		**P**	**07 49 33.8**	**+1.7**
LSA				PMZ					
	comp=Z,280nm,0.9s								
LSA				PMZ					
	comp=Z,1μm,13.3s								
LSA				LN					
	comp=Z,2μm,36.0s								
LSA				LE					
	comp=Z,3μm,31.0s								
LSA				LZ					
	comp=Z,5μm,35.5s								
LSA	**Lhasa**	**47.27**	**315**	*e*P		**P**	**07 49 33.5**	**+1.4**
LSA				pmax		pmax			
	comp=Z,275nm,0.8s								
LSA				MLR		MLR			
	comp=Z,2μm,21.0s								
LSA	**Lhasa**	**47.27**	**315**	*e*P		**P**	**07 49 33.5**	**+1.4**
	comp=Z,275nm,0.8s								
LSA				LR		LR			
	comp=Z,2μm,21.0s								
ASAJ	**Asahikawa**	**47.61**	**14**	P		**P**	**07 49 34.0**	**+0.1**
	comp=Z,394nm,1.1s,baz=236,slow=11,SNR=103								
ASAJ				S		**S**	**07 56 27.1**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=217,slow=20,SNR=2.9								
ASAJ	**Asahikawa**	**47.61**	**14**	P		**P**	**07 49 34.0**	**+0.1**
ASAJ				S		**S**	**07 56 27.1**	**+0.3**
ASAJ				pmax		pmax			
	comp=Z,394nm,1.1s								
ASAJ				smax		smax			
	comp=N,3.0nm,0.8s								
ASAJ	**Asahikawa**	**47.61**	**14**	*e*P		**P**	**07 49 34.9**	**+1.0**
	comp=N,244nm,1.3s								
ASAJ				S		**S**	**07 56 27.1**	**+0.3**
CHLP	**Challavanipeta**	**47.84**	**297**	*e*P		**P**	**07 49 37.2**	**+1.1**
CHLP				IAmb		IAmb	07 49 38.8		
	comp=Z,463nm,1.4s								
CHLP				*e*pP		**pP**	**07 49 43.7**	**-3.6**
CHLP				*e*PP		**PP**	**07 51 29.6**	**+1.3**
CHLP				*e*ScP		**ScP**	**07 54 54.3**	**-1.8**
CHLP				*e*S		**S**	**07 56 30.8**	**0.0**
CHLP				*e*SS		**SS**	**08 00 05.5**	**+5.6**
CHLP				IVMs_BB		IVMs_BB	08 10 16.6		
	comp=Z,853nm,25.5s								
PALK	**Pallekele**	**48.17**	**281**	P		**P**	**07 49 38.9**	**0.0**
	comp=Z,509nm,0.7s,SNR=5.6								
PALK	**Pallekele**	**48.17**	**281**	*e*P		**P**	**07 49 38.5**	**-0.4**
PALK				pmax		pmax			
	comp=Z,98nm,0.9s								
PALK	**Pallekele**	**48.17**	**281**	⇑*i*P		**P**	**07 49 39.3**	**+0.4**
	SNR=7.1								
PALK	**Pallekele**	**48.17**	**281**	P		**P**	**07 49 40.3**	**+1.4**
	SNR=8.7								
PALK	**Pallekele**	**48.17**	**281**	*e*P		**P**	**07 49 38.5**	**-0.4**
	comp=Z,98nm,0.9s								
VIS	**Vishakhapatnam**	**48.23**	**296**	*i* P		**P**	**07 49 39.3**	**+0.2**
VIS				AMB		AMB	07 49 41.3		
	comp=Z,200nm,1.2s								
VIS				*i* x		x	07 49 51.1		
BOK	**Bokaro**	**48.34**	**305**	*e*P		**P**	**07 49 40.9**	**+0.9**
BOK				AMB		AMB	07 49 42.1		
	comp=Z,149nm,1.2s								
TAPN	**Taplejung**	**48.55**	**310**	*e*P		**P**	**07 49 42.5**	**+0.6**
	comp=Z,826nm,0.9s								
ODAN	**Odare**	**48.56**	**309**	*e*P		**P**	**07 49 42.4**	**+0.6**
	comp=Z,1μm,0.9s								
GTA	**Gaotai**	**48.63**	**331**	⇑P		**P**	**07 49 42.6**	**+0.6**
GTA				pP		**pP**	**07 49 52.3**	**-1.0**
GTA				sP		**sP**	**07 49 56.1**	**-1.7**
GTA				PP		**PP**	**07 51 36.3**	**+1.0**
GTA				PcS		**PcS**	**07 55 02.3**	**-1.1**
GTA				S		**S**	**07 56 40.8**	**-0.8**
GTA				sS		**sS**	**07 56 58.4**	**-1.8**
GTA				ScS		**ScS**	**07 59 32.8**	**+1.0**
GTA				PMZ					
	comp=Z,350nm,1.0s								
GTA				PMZ					
	comp=Z,2μm,8.5s								
GTA				LN					
	comp=Z,3μm,22.3s								
GTA				LE					
	comp=Z,3μm,22.3s								
GTA				LZ					
	comp=Z,4μm,24.2s								
RAMN	**Ramite**	**49.22**	**309**	*e*P		**P**	**07 49 47.9**	**+1.0**
	comp=Z,1μm,0.7s								
JIRN	**Jiri**	**49.88**	**309**	*e*P		**P**	**07 49 52.6**	**+0.5**
	comp=Z,784nm,0.9s								
KUR	**Kuril'sk**	**50.11**	**18**	*d* iP		**P**	**07 49 51.2**	**-1.8**
KUR				*i* S		S	07 56 51.2	-11	
KUR				SSS		SSS	08 02 00.1		
KUR				pmax		pmax			
	comp=Z,1μm,1.9s								
KUR				pmax		pmax			
	comp=N,132nm,1.1s								
KUR				pmax		pmax			
	comp=E,80nm,1.1s								
KUR				pmax		pmax			
	comp=Z,629nm,1.1s								
KUR				MLR		MLR			
	comp=N,1μm,21.0s								
KUR				MLR		MLR			
	comp=E,1μm,21.0s								
KUR				MLR		MLR			
	comp=Z,1μm,21.0s								
GUN	**Gumba**	**50.24**	**309**	*e*P		**P**	**07 49 55.3**	**+0.5**
	comp=Z,1μm,0.7s								
YSS	**Yuzh-Sakhalins**	**50.32**	**13**	*αe*P		**P**	**07 49 55.0**	**+0.4**
YSS				*e*			07 51 13.0		
YSS				*e*			07 51 52.0		
YSS				*e*S		**S**	**07 57 04.0**	**-0.8**
YSS				*e*PS		**sS**	**07 57 24.0**	**+0.6**
YSS				*e*SS		SS	08 00 30.0	-9.0	
YSS				pmax		pmax			
	comp=Z,200nm,1.0s								
YSS				pmax		pmax			
	comp=Z,1μm,4.0s								
YSS				MLR		MLR			
	comp=Z,1μm,20.0s								
YSS				MLR		MLR			
	comp=N,2μm,18.0s								
YSS				MLR		MLR			
	comp=E,2μm,18.0s								
YSS	**Yuzh-Sakhalins**	**50.32**	**13**	*e*P		**P**	**07 49 55.3**	**+0.6**
	comp=E,307nm,1.2s								
YSS				LR		LR			
	comp=Z,2μm,22.0s								
SKHT	**Srikalahasti**	**50.43**	**289**	*e*P		**P**	**07 49 56.0**	**0.0**
SKHT				IAmb		IAmb	07 49 58.4		
	comp=Z,120nm,0.9s								
SKHT				*e*pP		**pP**	**07 50 04.3**	**-2.9**
SKHT				*e*sP		**sP**	**07 50 08.5**	**-3.3**
SKHT				*e*			07 51 56.4		
SKHT				*e*ScP		**ScP**	**07 55 08.1**	**+0.8**
SKHT				*e*S		**S**	**07 57 05.9**	**-1.3**
SKHT				IVMs_BB		IVMs_BB	08 10 04.0		
	comp=Z,1μm,25.2s								
PKI	**Pulchoki**	**50.44**	**309**	*e*P		**P**	**07 49 56.5**	**+0.2**
	comp=Z,453nm,0.8s								
PKIN	**Phulchoki**	**50.45**	**309**	*e*P		**P**	**07 49 56.5**	**+0.1**
	comp=Z,374nm,0.7s								
HABR	**Khabarovsk**	**50.53**	**6**	*c* iP		**P**	**07 49 55.4**	**-0.8**
HABR				*e**PP		**pP**	**07 50 04.6**	**-2.8**
HABR				*e**SP		**sP**	**07 50 08.7**	**-3.3**
HABR				*e*			07 51 11.5		
HABR				*e*			07 51 50.8		
HABR				PPP		PPP	07 52 50.0		
HABR				*e*S		**S**	**07 57 08.1**	**+0.5**
HABR				*e**SS		**sS**	**07 57 24.7**	**-1.5**
HABR				*e*			07 59 42.7		
HABR				*e*SS		**SS**	**08 00 43.6**	**+1.4**
HABR				*e*SSS		SSS	08 02 14.2		
HABR				pmax		pmax			

comp=Z,260nm,1.0s
HABR pmax pmax
comp=N,49nm,0.7s
HABR pmax pmax
comp=E,23nm,0.7s
HABR pmax pmax
comp=Z,1μm,1.3s
HABR MLR MLR
comp=Z,2μm,18.0s
KKN Kakani 50.65 309 *e*P **P 07 49 58.1 +0.4**
comp=Z,523nm,0.8s
DMN Daman 50.70 309 *e*P **P 07 49 58.5 +0.3**
comp=Z,1μm,0.9s
KLR Kul'dur 51.02 3κ *i*P **P 07 49 57.8 -2.1**
KLR pmax pmax
comp=E,130nm,1.4s
KLR pmax pmax
comp=Z,530nm,1.4s
KLR pmax pmax
comp=Z,2μm,7.5s
KLR MLR MLR
comp=Z,4μm,13.0s
MSVF Nonsavu 51.46 111 P P 07 50 07.7 +3.9
comp=Z,814nm,1.0s,SNR=13
MSVF Nonsavu 51.46 111 *e*P P 07 50 07.1 +3.3
MSVF pmax pmax
comp=Z,342nm,1.4s
MSVF MLR MLR
comp=Z,7μm,22.0s
MSVF Nonsavu 51.46 111 *e*P P 07 50 07.1 +3.3
comp=Z,342nm,1.4s
MSVF LR LR
comp=Z,7μm,22.0s
HIA Hailar 51.48 353*c i*P **P 07 50 03.8 +0.5**
HIA pmax pmax
comp=Z,105nm,1.0s
HIA Hailar 51.48 353 *e*P **P 07 50 04.6 +1.2**
comp=Z,109nm,1.0s
HIA LR LR
comp=Z,3μm,20.0s
NJS Nagarjunasagar 51.54 293 *e*P **P 07 50 04.1 -0.3**
NJS IAmb IAmb 07 50 06.4
comp=Z,157nm,0.8s
NJS *e*pP **pP 07 50 12.4 -3.2**
NJS *e*sP **sP 07 50 16.2 -3.9**
NJS *e*PP **PP 07 52 02.8 +0.8**
NJS *e*S **S 07 57 20.8 -1.8**
NJS *e* 07 59 52.5
NJS *e*SS **SS 08 01 02.2 +3.0**
NJS IVMs_BB IVMs_BB 08 16 30.4
comp=Z,762nm,20.8s
TRD Trivandrum 52.03 282 *e*P **P 07 50 08.4 +0.3**
DANN Dangsing 52.09 309 *e*P **P 07 50 09.0 +0.3**
comp=Z,1μm,0.7s
RPR Rampur 52.22 296 *e*P **P 07 50 09.3 0.0**
RPR IAmb IAmb 07 50 12.0
comp=Z,239nm,0.8s
RPR *e*pP **pP 07 50 17.5 -3.2**
RPR *e*sP **sP 07 50 21.8 -3.5**
RPR *e*PcP **PcP 07 50 20.6 0.0**
RPR *e*PP **PP 07 52 08.9 +0.7**
RPR *e*S **S 07 57 30.5 -1.4**
RPR *e*SS **SS 08 01 15.0 +5.1**
RPR IVMs_BB IVMs_BB 08 14 19.3
comp=Z,756nm,23.1s
HYB Hyderabad 52.47 294 *i* P **P 07 50 10.0 -1.3**
comp=Z,210nm,1.0s
HYB *e*pP **pP 07 50 19.0 -3.6**
HYB *e*sP **sP 07 50 23.0 -4.2**
HYB *e* 07 51 10.0
HYB *e*PcP **PcP 07 51 23.0 +1.3**
HYB *e*PP **PP 07 52 13.0 +2.5**
HYB *e*S **S 07 57 32.0 -3.4**
HYB *e* 07 58 08.0
HYB *e*SS **SS 08 01 12.0 -2.0**
HYB Hyderabad 52.47 294 *e*P **P 07 50 11.1 -0.2**
HYBB Hyderabad (bro 52.47 294 *e*P **P 07 50 11.0 -0.3**
HYBB IAmb IAmb 07 50 13.2
comp=Z,302nm,0.9s
HYBB *e*pP **pP 07 50 19.9 -2.7**
HYBB *e*sP **sP 07 50 23.8 -3.4**
HYBB *e*PP **PP 07 52 12.2 +1.7**
HYBB *e*ScP **ScP 07 55 16.4 +0.4**
HYBB *e*S **S 07 57 33.6 -1.9**
HYBB *e*SS **SS 08 01 12.9 -1.2**
HYBB IVMs_BB IVMs_BB 08 12 49.5
comp=Z,839nm,21.7s
ULN Ulaanbaatar 52.86 342*ce*P **P 07 50 14.0 +0.1**
ULN pmax pmax
comp=Z,384nm,1.0s
ULN Ulaanbaatar 52.86 342 P **P 07 50 14.3 +0.5**
SNR=215
ULN Ulaanbaatar 52.86 342 *e*P **P 07 50 13.9 +0.1**
comp=Z,488nm,1.1s
ULN LR LR
comp=Z,3μm,19.0s
URV Uravakonda 53.02 290 *e*P **P 07 50 14.5 -1.0**
URV IAmb IAmb 07 50 17.2
comp=Z,115nm,0.9s
URV *e*pP **pP 07 50 23.3 -3.5**
URV *e*sP **sP 07 50 26.7 -4.6**
URV *e*S **S 07 57 39.4 -3.7**
URV *e*SS **SS 08 01 24.8 +2.0**
URV IVMs_BB IVMs_BB 08 16 46.1
comp=Z,1μm,18.4s
SONM Songino Array 53.04 342 P **P 07 50 15.1 0.0**
comp=Z,246nm,1.1s,baz=158,slow=7.0,SNR=248
SONM LR LR 08 14 45.4
comp=Z,2μm,20.0s,baz=156,slow=38
SONM PKP2ab 08 21 18.5
comp=Z,1.6nm,1.0s,baz=318,slow=2.0,SNR=4.0
NGP Nagpur 53.17 298 *e*P **P 07 50 15.3 -1.1**
NGP AMB AMB 07 50 17.6
comp=Z,173nm,0.7s
OUZ Omahuta 53.66 134 *e*P **P 07 50 21.7 +2.0**
comp=Z,92nm,1.2s
AKL Akola 54.83 297 *e*P **P 07 50 27.8 -0.7**
AKL AMB AMB 07 50 30.4
comp=Z,284nm,2.0s
CIT Chita 55.12 349 *e*P **P 07 50 31.9 +1.8**
CIT *e* 07 50 50.8
CIT pmax pmax
comp=Z,527nm,1.6s
BHPL Bhopal 55.28 300 *e*P **P 07 50 31.4 -0.5**
BHPL AMB AMB 07 50 33.8
comp=Z,300nm,0.6s
LGTI Lohaghat 55.34 308 *e*P **P 07 50 32.1 +0.1**
DGAR Diego Garcia 55.71 262 PFAKE 07 50 50.0 +15
DGAR LR LR
comp=Z,4μm,20.0s
WHZ Wether Hill Ro 55.98 147 *e*P **P 07 50 37.9 +1.5**
comp=Z,168nm,1.3s
ZAK Zakamensk 56.26 341⇑ *i*P **P 07 50 38.8 +0.4**
ZAK pmax pmax
comp=Z,74nm,1.3s
AGRA Agra 56.28 305 *e*P **P 07 50 37.8 -1.0**
AGRA AMB AMB 07 50 40.0
comp=Z,281nm,0.7s
RPZ Rata Peaks 56.41 144 P **P 07 50 40.6 +1.0**
comp=Z,118nm,1.1s,baz=331,slow=5.5,SNR=17
RPZ S **S 07 58 29.0 +1.2**
comp=Z,4.7nm,0.9s,baz=296,slow=18,SNR=3.2
RPZ LR LR 08 16 47.5
comp=Z,3μm,19.3s,baz=306,slow=38
RPZ Rata Peaks 56.41 144 *e*P **P 07 50 40.9 +1.4**
comp=Z,282nm,1.3s
RPZ S **S 07 58 29.0 +1.2**
POO Poona 57.08 293 *e*P **P 07 50 43.8 -0.9**
POO AMB AMB 07 50 44.2
comp=Z,124nm,1.3s
POO *i* PP **PP 07 52 50.0 -1.9**
POO *i* SCS 08 00 31.0
KHZ Kahutara 57.21 141 *e*P **P 07 50 45.8 +0.7**
comp=Z,55nm,0.8s
TLY Talaya 57.27 342 P **P 07 50 46.1 +0.6**
comp=Z,689nm,1.2s,SNR=48
TLY Talaya 57.27 342 P **P 07 50 45.4 0.0**
comp=Z,99nm,1.0s,baz=175,slow=7.4,SNR=140
TLY S **S 07 58 38.0 -0.7**
comp=Z,1.6nm,0.2s,baz=234,slow=17,SNR=2.7
TLY Talaya 57.27 342*c i*P **P 07 50 45.5 0.0**
TLY *e* 07 51 33.8
TLY *e* 07 52 53.9
TLY *e*PPP PPP 07 54 12.5
TLY *e*S **S 07 58 39.6 +0.8**
TLY *e* 08 00 29.4
TLY pmax pmax
comp=Z,176nm,1.2s
TLY MLR MLR
comp=Z,2μm,27.0s
TLY Talaya 57.27 342 P **P 07 50 46.0 +0.6**
SNR=99
TLY Talaya 57.27 342 *e*P **P 07 50 45.9 +0.5**
comp=Z,162nm,1.1s
TLY S **S 07 58 38.0 -0.7**
TLY LR LR
comp=Z,2μm,21.0s
SONA Sohna 57.38 305 *e*P **P 07 50 45.8 -0.8**
SONA AMB AMB 07 50 48.0
comp=Z,464nm,0.3s
SNZO South Karori 57.38 139 *e*P **P 07 50 47.4 +1.0**
comp=Z,139nm,1.2s
SNZO LR LR
comp=Z,10μm,22.0s
DDI Dehra Dun 57.43 308 *e*P **P 07 50 46.7 -0.3**
DDI AMB AMB 07 50 57.4
comp=Z,351nm,2.4s
NDI New Delhi 57.44 306 *e*P **P 07 50 46.0 -1.0**
NDI *ex* x 07 59 16.0
URZ Urewera 57.55 135 P **P 07 50 48.9 +1.2**
comp=Z,23nm,0.6s,baz=286,slow=6.4,SNR=31
URZ S **S 07 58 40.1 -2.8**
comp=Z,3.5nm,0.9s,baz=9.5,slow=6.1,SNR=2.7
URZ Urewera 57.55 135 *e*P **P 07 50 48.4 +0.7**
comp=Z,71nm,0.7s
URZ S **S 07 58 40.1 -2.8**
IRK Irkutsk 57.58 343 *e*P **P 07 50 47.2 -0.4**
IRK *e*S **S 07 58 46.7 +4.0**
IRK pmax pmax
comp=Z,402nm,1.3s
SKR Severo-Kuril's 57.59 21 *e* **P 07 50 48.5 +0.9**
SKR *e*S S 07 58 32.0 -11
SKR *e*PS **PnS 07 58 55.0 -2.9**
SKR *e*SS **SS 08 02 36.0 +2.5**
SKR *e*SSS SSS 08 04 56.0
SKR pmax pmax
comp=Z,1μm,12.0s
SKR pmax pmax
comp=Z,980nm,2.0s
SKR smax smax
comp=N,2μm,12.0s
SKR smax smax
comp=E,2μm,12.0s
SKR MLR MLR
comp=N,1μm,18.0s
SKR MLR MLR
comp=E,2μm,18.0s
SKR MLR MLR
comp=Z,2μm,18.0s
RAO Raoul Island 58.01 124 PFAKE 07 51 00.0 +8.9
RAO LR LR
comp=Z,3μm,21.0s
MOY Mondy 58.11 340 *e*P **P 07 50 52.0 +0.5**
MOY pmax pmax
comp=Z,86nm,1.5s
WMQ Urumqi 58.12 326⇑ *i*P **P 07 50 52.1 +0.4**
WMQ pP **pP 07 51 03.0 -0.1**
WMQ PP **PP 07 53 03.9 +3.1**
WMQ PcS PcS 07 55 37.3 -7.1
WMQ S **S 07 58 49.4 -0.9**
WMQ ScS **ScS 08 00 35.5 -2.9**
WMQ PMZ
comp=Z,44nm,1.2s
WMQ PMZ
comp=Z,2μm,4.4s
WMQ LN
comp=Z,5μm,21.6s
WMQ LE
comp=Z,2μm,18.9s
WMQ LZ
comp=Z,6μm,26.2s
KHET Khetri 58.36 305 *e*P **P 07 50 52.7 -0.9**
KHET AMB AMB 07 50 54.4
comp=Z,284nm,1.0s
SMLA Simla 58.46 309 *i* P **P 07 50 54.6 +0.5**
SMLA AMB AMB 07 50 56.6
comp=Z,6μm,0.4s
SMLA *i* x x 07 58 52.7
CLNS Chul'man 58.60 358 *e*P **P 07 50 55.4 +0.7**
CLNS *e*PP pP 07 51 14.0 +7.8
CLNS *e* 07 51 45.9
CLNS *e* 07 53 01.7
CLNS *e*S **S 07 58 51.0 -5.1**
CLNS *e* 08 00 34.1
CLNS pmax pmax
comp=Z,160nm,1.2s
CLNS pmax pmax
comp=N,101nm,1.1s
CLNS pmax pmax
comp=E,50nm,1.1s
CLNS pmax pmax
comp=N,50nm,1.2s
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=E,21nm,1.2s
CLNS smax smax
comp=N,309nm,11.4s
CLNS smax smax
comp=E,820nm,11.4s
CLNS MLR MLR
comp=E,1μm,18.0s
CLNS MLR MLR
comp=Z,2μm,18.0s
CLNS MLR MLR
comp=N,1μm,14.0s
AJM Ajmer 58.76 303 *ex* **P 07 50 55.0 -1.4**
SDNR Sundarnagar 58.77 309 *e*P **P 07 50 57.0 +0.7**
BHK Bhakra 59.16 309 *e*P **P 07 50 58.6 -0.5**
DHRM DHARAMSHALA 59.59 309 *e*P **P 07 51 02.1 -0.2**
DHRM AMB AMB 07 51 04.8
comp=Z,971nm,0.9s
PETK Petropavlovsk- 60.15 20 P **P 07 51 05.7 +0.3**
comp=Z,49nm,0.8s,baz=194,slow=5.6,SNR=37
PETK LR LR 08 14 39.3
comp=Z,637nm,21.9s,baz=204,slow=34
PET Petropavlovsk 60.41 21*c i*P **P 07 51 07.5 +0.4**
PET *e*S **S 07 59 17.9 -1.5**
PET 08 05 48.2
PET pmax pmax
comp=Z,1μm,7.4s
PET pmax pmax
comp=Z,204nm,1.3s
PET pmax pmax
comp=Z,800nm,18.2s
PET Petropavlovsk 60.41 21 *e*P **P 07 51 08.6 +1.4**
comp=Z,218nm,1.1s
PET LR LR
comp=Z,2μm,22.0s
AFI Afiamalu 60.56 105 PFAKE 07 51 20.0 +11
AFI LR LR
comp=Z,2μm,21.0s
BOD Bodaibo 60.60 351 *e*P **P 07 51 08.0 -0.3**
BOD pmax pmax
comp=Z,342nm,1.3s
BHJ Bhuj 62.10 298 *e*P **P 07 51 18.8 -0.4**
BHJ AMB AMB 07 51 19.3
comp=Z,100nm,1.2s
MKAR Makanchi Array 62.96 326 P **P 07 51 24.6 +0.1**
comp=Z,230nm,0.8s,baz=120,slow=6.2,SNR=794
MKAR S **S 07 59 48.8 -3.2**
comp=Z,1.8nm,1.0s,baz=134,slow=6.2,SNR=2.4
MKAR PKPPKP **P'P'df 08 20 24.4 -0.8**
comp=Z,0.6nm,0.7s,baz=278,slow=4.1,SNR=4.1
MKAR LR LR 08 21 32.5
comp=Z,684nm,18.8s,baz=118,slow=39
KSH Kashi 63.02 317⇑ *i*P **P 07 51 26.0 +0.8**
KSH pP **pP 07 51 36.3 -0.5**
KSH sP **sP 07 51 40.1 -1.2**
KSH PP **PP 07 53 46.0 +1.8**
KSH PcS 07 56 06.1
KSH S **S 07 59 51.1 -2.2**
KSH ScS **SKSac 08 01 12.5 -2.8**
KSH PMZ
comp=Z,210nm,0.8s
KSH PMZ
comp=Z,1μm,3.4s
KSH LN
comp=Z,2μm,19.4s
KSH LE
comp=Z,1μm,16.9s
KSH LZ
comp=Z,2μm,23.8s
YAK Yakutsk 63.77 1*c i*P **P 07 51 29.9 +0.4**
YAK *e**PP **pP 07 51 39.6 -1.5**
YAK *e* 07 52 04.3
YAK *e* 07 53 46.5
YAK *e*PPP PPP 07 55 19.6
YAK *e*S **S 08 00 00.8 -0.6**
YAK *e**SS **sS 08 00 16.2 -4.4**
YAK *e* 08 01 17.5
YAK *e*SS **SS 08 04 10.0 0.0**
YAK pmax pmax
comp=Z,647nm,1.1s
YAK pmax pmax
comp=E,32nm,1.0s
YAK pmax pmax
comp=N,275nm,1.2s
YAK pmax pmax
comp=E,120nm,1.8s
YAK pmax pmax
comp=N,364nm,4.2s
YAK pmax pmax
comp=Z,327nm,3.7s
YAK smax smax
comp=N,2μm,3.5s
YAK smax smax
comp=E,1μm,3.4s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,519nm,20.0s
YAK Yakutsk 63.77 1 *e*P **P 07 51 29.8 +0.3**
comp=E,477nm,0.8s
YAK S **S 07 59 59.4 -2.0**
YAK LR LR
comp=Z,2μm,22.0s
ULHL Ulahol 64.14 320 P **P 07 51 33.8 +1.1**
SNR=11
ULHL Ulahol 64.14 320 *i* P **P 07 51 33.8 +1.1**
KRAR Krasnoyarsk 64.46 339⇓ *i*P **P 07 51 33.0 -1.1**
KRAR pmax pmax
comp=Z,95nm,1.7s
KZA Kyzart 64.71 319 P **P 07 51 37.4 +0.7**
SNR=352
KZA Kyzart 64.71 319 *i* P **P 07 51 37.3 +0.7**
TKM2 Tokmak 2 64.88 320 P **P 07 51 37.7 +0.2**
SNR=236
TKM2 Tokmak 2 64.88 320 *e*P **P 07 51 37.4 -0.1**
TKM2 pmax pmax
comp=Z,201nm,0.9s
TKM2 MLR MLR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 64.88 320 *e*P **P 07 51 37.4 -0.1**
comp=Z,201nm,0.9s
TKM2 LR LR
comp=Z,2μm,21.0s
KBK Karagaybulak 65.18 319 P **P 07 51 39.7 +0.3**
SNR=55
KBK Karagaybulak 65.18 319 *i* P **P 07 51 39.7 +0.3**
UCH Uchtor 65.26 319 P **P 07 51 40.9 +0.6**
SNR=301
UCH Uchtor 65.26 319 *i* P **P 07 51 40.8 +0.6**
CASY Casey 65.45 188 *e*P **P 07 51 40.5 +0.1**
comp=Z,70nm,1.0s
CASY LR LR
comp=Z,4μm,20.0s
AAK Ala-Archa 65.46 319 P **P 07 51 41.9 +0.6**
comp=Z,955nm,1.1s,SNR=81
AAK Ala-Archa 65.46 319 P **P 07 51 41.5 +0.2**
SNR=120
AAK Ala-Archa 65.46 319 P **P 07 51 41.2 0.0**
comp=Z,119nm,0.9s,baz=123,slow=6.4,SNR=186
AAK Ala-Archa 65.46 319 *e*P **P 07 51 41.4 +0.2**
AAK pmax pmax
comp=Z,220nm,1.1s
AAK MLR MLR
comp=Z,2μm,22.0s
AAK Ala-Archa 65.46 319 P **P 07 51 41.8 +0.6**
SNR=112
AAK Ala-Archa 65.46 319 *e*P **P 07 51 41.4 +0.2**
comp=Z,220nm,1.1s
AAK LR LR
comp=Z,2μm,22.0s
CHMS Chumysh 65.47 320 P **P 07 51 40.9 -0.1**
SNR=60
CHMS Chumysh 65.47 320 *i* P **P 07 51 40.9 -0.1**
FRU Bishkek 65.48 319 *i* P **P 07 51 40.0 -1.1**
FRU *e* 07 52 15.0
FRU *e* 07 54 12.0
FRU *e*S **S 08 00 22.0 -1.3**
FRU *e*PS **PnS 08 00 42.0 -4.5**
FRU pmax pmax
comp=Z,470nm,2.3s
FRU MLR MLR
comp=Z,2μm,25.0s
USP Ospenovka 65.75 320 P **P 07 51 43.0 +0.1**
SNR=284
USP Ospenovka 65.75 320 *i* P **P 07 51 43.0 +0.1**
AML Almayashu 65.76 318 P **P 07 51 43.8 +0.4**
SNR=344
AML Almayashu 65.76 318 *i* P **P 07 51 43.8 +0.4**
EKS2 Erkin-Say 65.94 319 P **P 07 51 44.9 +0.6**
SNR=233
EKS2 Erkin-Say 65.94 319 *e*P **P 07 51 44.6 +0.3**
EKS2 pmax pmax
comp=Z,311nm,0.9s
EKS2 MLR MLR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 65.94 319 *e*P **P 07 51 44.6 +0.3**
comp=Z,311nm,0.9s
EKS2 LR LR
comp=Z,2μm,21.0s
KBL Kabul 66.08 309 *e*P **P 07 51 44.8 -0.6**
KBL pmax pmax
comp=Z,238nm,1.0s
KBL Kabul 66.08 309 P **P 07 51 45.5 +0.1**
baz=66,SNR=10
KBL Kabul 66.08 309 *e*P **P 07 51 44.8 -0.6**
comp=Z,238nm,1.0s
ZALV Zalesovo Beam 66.21 334 P **P 07 51 44.6 -0.9**
comp=Z,318nm,1.2s,baz=134,slow=6.0,SNR=186
ZALV S **S 08 00 26.9 -4.8**
comp=Z,0.3nm,0.3s,baz=350,slow=5.9,SNR=2.2
ZALV PKPPKP **P'P'df 08 20 18.8 -0.5**
comp=Z,0.3nm,0.3s,baz=325,slow=1.8,SNR=3.3
ZALV PKP2ab 08 20 27.3
comp=Z,2.2nm,1.0s,baz=303,slow=2.9,SNR=7.5
ZALV LR LR 08 25 15.9
comp=Z,911nm,18.1s,baz=112,slow=40
SEY Seymchan 67.20 12 S **S 08 00 47.0 +3.7**
comp=Z,0.4nm,0.3s,baz=332,slow=22,SNR=13
KURBB Kurchatov Arra 67.21 328 P **P 07 51 51.6 -0.4**
comp=Z,285nm,0.8s,baz=128,slow=5.7,SNR=1063
KURBB PP **PP 07 54 19.6 -0.8**
comp=Z,91nm,1.3s,baz=130,slow=9.1,SNR=8.4
KURBB S **S 08 00 39.1 -4.8**
comp=Z,0.9nm,1.1s,baz=134,slow=9.2,SNR=3.7
KURK Kurchatov 67.21 328 P **P 07 51 51.6 -0.4**
KURK 07 54 19.6
KURK S **S 08 00 39.1 -4.9**
KURK pmax pmax
comp=Z,285nm,0.8s
KURK pmax pmax
comp=Z,91nm,1.3s
KURK smax smax
comp=N,1.0nm,1.1s
KURK Kurchatov 67.21 328 P **P 07 51 51.8 -0.2**
SNR=266
KURK Kurchatov 67.21 328 *e*P **P 07 51 51.4 -0.6**
comp=N,439nm,0.8s
KURK PP **PP 07 54 19.6 -0.9**
KURK S **S 08 00 39.1 -4.9**
KURK LR LR
comp=Z,2μm,22.0s
NVS Novosibirsk 67.49 334⇑ *i*P **P 07 51 52.6 -1.1**
NVS *i* 07 52 03.7
NVS *i* S **S 08 00 44.4 -2.7**
NVS *i* PS **PnS 08 01 15.1 +1.7**
NVS *e* 08 01 41.7
NVS pmax pmax
comp=N,138nm,1.2s
NVS pmax pmax
comp=E,124nm,1.2s
NVS pmax pmax

comp=Z,282nm,1.2s
NVS smax smax
comp=N,97nm,2.3s
NVS smax smax
comp=E,112nm,2.3s
PAF Port-aux-Franc 68.15 217 P P 07 51 45.0 -13
PAF S S 08 00 40.0 -15
PAF SS SS 08 05 27.0 +8.6
PAF L L 08 09 00.0
PAF R 08 14 00.0
PAF Port-aux-Franc 68.15 217 PFAKE 07 52 10.0 +12
PAF LR LR
comp=Z,3μm,20.0s
KKAR Karatay Array 68.30 318 *e*P **P 07 51 58.3 -0.7**
KKAR pmax pmax
comp=Z,320nm,1.1s
KKAR Karatay Array 68.30 318 *e*P **P 07 51 58.3 -0.7**
comp=Z,320nm,1.1s
ADK Adak 70.87 33 PFAKE 07 52 30.0 +15
ADK LR LR
comp=Z,3μm,22.0s
WBK Wadi Bani Khal 71.56 294 P **P 07 52 20.4 +0.9**
SNR=15
JMDO Jabal Madar 72.31 294 P **P 07 52 24.3 +0.3**
SNR=26
SMDO Samad 72.48 295 P **P 07 52 24.6 -0.5**
SNR=20
MSEY Mahe Island 72.54 266 PFAKE 07 52 40.0 +14
MSEY LR LR
comp=Z,3μm,21.0s
BVAR Borovoye Array 72.77 328 P **P 07 52 25.9 -0.2**
comp=Z,228nm,0.9s,baz=115,slow=7.2,SNR=258
BVAR Borovoye Array 72.77 328 P **P 07 52 25.9 -0.2**
BVAR pmax pmax
comp=Z,228nm,1.0s
BRVK Borovoye 72.84 328*c i*P **P 07 52 26.0 -0.5**
BRVK pmax pmax
comp=Z,540nm,1.4s
BRVK Borovoye 72.84 328 P **P 07 52 26.3 -0.2**
SNR=154
BRVK Borovoye 72.84 328 *e*P **P 07 52 26.2 -0.4**
comp=Z,742nm,1.3s
BRVK LR LR
comp=Z,1μm,20.0s
IDAH Dahanechah 72.87 305 *e*P **P 07 52 27.6 +0.2**
RER Riviere de l'E 72.88 249 *e*P **P 07 52 29.1 +1.6**
comp=Z,163nm,1.0s
RER LR LR
comp=Z,2μm,20.0s
BSY Bisya 73.20 294 P **P 07 52 29.2 -0.1**
SNR=25
HOQ Hoqain 73.23 295 P **P 07 52 29.5 0.0**
SNR=36
TIXI Tiksi 73.42 0*c i*P **P 07 52 29.4 -0.1**
TIXI pmax pmax
comp=Z,212nm,1.2s
TIXI Tiksi 73.42 0 *e*P **P 07 52 28.6 -1.0**
comp=Z,198nm,1.0s
TIXI LR LR
comp=Z,3μm,21.0s
IKOO Kooshah 73.51 305 *e*P **P 07 52 31.1 -0.2**
IMYA Miami 73.58 309 *e*P **P 07 52 31.1 -0.4**
ITEG Tejag 73.83 305 *e*P **P 07 52 33.1 +0.1**
ARQ Araqi 73.91 295 P **P 07 52 33.2 -0.2**
SNR=16
ISRO Mashad 74.06 309 *e*P **P 07 52 34.7 +0.5**
IMOG Moghan 74.11 308 *e*P **P 07 52 34.7 -0.1**
HATD Hatta, Dubai 74.50 296⇑*i*P **P 07 52 36.7 -0.2**
SNR=23
BANOM Banah 74.54 297⇑*i*P **P 07 52 36.9 -0.2**
SNR=7.6
BANOM Banah 74.54 297 P **P 07 52 38.1 +1.0**
SNR=6.5
ASHO Ashiyiah 74.55 296 *i* P **P 07 52 37.0 -0.2**
SNR=27
ASHO Ashiyiah 74.55 296 P **P 07 52 37.9 +0.7**
SNR=24
BILL Bilibino 74.63 14*d i*P **P 07 52 38.1 +1.4**
BILL *i* 07 52 51.6
BILL *e* 07 55 23.6
BILL *i* S **SKiKP 08 02 03.3 +3.9**
BILL *i* SS **SS 08 06 52.3 -4.9**
BILL pmax pmax
comp=Z,72nm,1.8s
BILL MLR MLR
comp=Z,2μm,23.0s
BILL Bilibino 74.63 14 *e*P **P 07 52 37.5 +0.9**
comp=Z,54nm,1.1s
BILL LR LR
comp=Z,1μm,22.0s
IAKL Akhelmad 74.69 309 *e*P **P 07 52 37.8 -0.3**
IKRD Kardeh 74.92 309 *e*P P 07 52 35.0 -4.4
NAZ Nazwa, Dubai 74.95 296⇑*i*P **P 07 52 39.3 -0.2**
SNR=12
FAQ Al Faqa, Dubai 74.97 296⇓*i*P **P 07 52 39.2 -0.4**
SNR=20
ASUD Al Ashush, Dub 75.19 296⇓*i*P **P 07 52 41.1 +0.3**
SNR=15
RBK Rabkut 75.25 289 P **P 07 52 41.4 0.0**
SNR=6.0
ISFR Sfrayin 75.39 309 *e*P **P 07 52 42.5 +0.4**
GEYT Alibeck 75.51 310 P **P 07 52 42.2 -0.2**
comp=Z,78nm,1.0s,baz=116,slow=6.6,SNR=78
GEYT S **S 08 02 18.1 -2.4**
comp=Z,1.4nm,0.4s,baz=101,slow=28,SNR=2.2
KIP Kipapa 75.72 67 PFAKE 07 53 00.0 +16
KIP LR LR
comp=Z,7μm,22.0s
ISHV Shirvan 75.73 309 *e*P **P 07 52 44.4 +0.4**
ABTO Aybut 76.10 288 P **P 07 52 45.6 -0.6**
SNR=13
IBAF Bafgh 76.19 303 *e*P **P 07 52 45.6 -1.0**
IMEH Mehriz 76.95 303 *e*P **P 07 52 49.7 -1.4**
ICHK Chekchek 77.28 304 *e*P **P 07 52 52.3 -0.6**
UNV Unalaska Valle 77.28 34 *e*P **P 07 52 52.4 +0.3**
comp=Z,216nm,1.3s
ABKAR Akbulak array 77.37 321 *e*P **P 07 52 51.5 -1.2**
comp=Z,34nm,0.5s
VNDA Vanda 77.71 173 P **P 07 52 54.6 +0.5**
comp=Z,40nm,0.7s,baz=318,slow=6.1,SNR=200
VNDA Vanda 77.71 173 P **P 07 52 54.6 +0.5**
VNDA pmax pmax
comp=Z,40nm,0.7s
VNDA Vanda 77.71 173 *e*P **P 07 52 54.1 0.0**
comp=Z,5.4nm,0.6s
POHA Pohakuloa 77.82 69 PFAKE 07 53 10.0 +14
POHA LR LR
comp=Z,6μm,20.0s
ISAD Sadrabad 77.83 303 *e*P **P 07 52 54.2 -1.8**
IANJ Anjilo 78.28 307 *e*P **P 07 52 57.0 -1.4**
IGLO Ghaloghah 78.54 308 *e*P **P 07 52 58.8 -1.0**
SBA Scott Base 78.61 172 *e*P **P 07 53 00.4 +1.4**
SBA pmax pmax
comp=Z,42nm,0.9s
SBA MLR MLR
comp=Z,2μm,19.0s
SBA Scott Base 78.61 172 *e*P **P 07 53 00.4 +1.4**
comp=Z,42nm,0.9s
SBA LR LR
comp=Z,2μm,19.0s
AKTO Aktyubinsk 78.91 322 P **P 07 53 00.9 -0.3**
comp=Z,69nm,0.5s,baz=109,slow=6.3,SNR=127
AKTO S **S 08 02 53.4 -3.5**
comp=Z,0.3nm,0.3s,baz=17,slow=20,SNR=4.3
AKTO Aktyubinsk 78.91 322 P **P 07 53 00.9 -0.3**
AKTO S **S 08 02 53.4 -3.5**
AKTO pmax pmax
comp=Z,69nm,0.5s
GAMB Gambell 78.97 23 *e*P **P 07 53 02.2 +1.0**
comp=Z,100nm,1.2s
MAW Mawson 79.00 201 P **P 07 53 02.0 +0.7**
comp=Z,23nm,0.8s,baz=73,slow=6.2,SNR=25
MAW LR LR 08 23 36.8
comp=Z,2μm,21.9s,baz=58,slow=32
MAW Mawson 79.00 201 P **P 07 53 02.5 +1.2**
baz=79,SNR=20
IZEF Zefreh 79.12 304 *e*P **P 07 53 01.2 -1.9**
CRZF Crozet Islands 79.16 223 P P 07 52 51.0 -12
CRZF S S 08 02 39.0 -21
CRZF R 08 19 00.0
IFIR Firoozkooh 79.24 307 *e*P **P 07 53 03.9 +0.2**
FALS False Pass 79.33 33 *e*P **P 07 53 04.8 +1.5**
comp=Z,277nm,1.7s
SVE Sverdlovsk 79.46 329*d i*P **P 07 53 03.6 -0.4**
SVE *e*S **S 08 02 59.5 -2.9**
SVE *e*SS SS 08 08 03.3 -7.2
SVE *e*SSS SSS 08 11 34.8
SVE pmax pmax
comp=Z,298nm,1.3s
SVE MLR MLR
comp=Z,1μm,23.0s
IPRN Peran 79.68 307 *e*P **P 07 53 05.8 -0.1**
IKLH Kolahrood 79.81 304 *e*P **P 07 53 06.5 -0.4**
IVRN Varamin 79.96 306 *e*P **P 07 53 07.0 -0.4**
IPIR Pirpir 80.28 303 *e*P **P 07 53 07.8 -1.7**
ARU Arti 80.41 328 P **P 07 53 08.0 -1.2**
comp=Z,774nm,0.9s,SNR=22
ARU Arti 80.41 328*c i*P **P 07 53 08.0 -1.2**
ARU 07 56 10.4
ARU S **S 08 03 13.2 +0.8**
ARU SS SS 08 08 17.6 -7.2
ARU SSS SSS 08 11 46.9
ARU pmax pmax
comp=Z,203nm,1.2s
ARU MLR MLR
comp=Z,2μm,24.0s
ARU Arti 80.41 328 *e*P **P 07 53 07.7 -1.6**
comp=Z,227nm,1.3s
ARU LR LR
comp=Z,1μm,21.0s
IR3 Iran Long-Peri 80.60 306 *e*P **P 07 53 10.0 -0.8**
ABPO Ambohimpanom 80.77 251 *e*P **P 07 53 12.7 +0.6**
ABPO pmax pmax
comp=Z,59nm,1.0s
ABPO MLR MLR
comp=Z,1μm,19.0s
ABPO Ambohimpanom 80.77 251 *e*P **P 07 53 12.7 +0.6**
comp=Z,59nm,1.0s
ABPO LR LR
comp=Z,1μm,19.0s
TNA Tin City 81.22 22 *e*P **P 07 53 14.7 +1.3**
comp=Z,77nm,1.5s
IRAZ Razeghan 81.48 306 *e*P **P 07 53 14.9 -0.8**
PPT Papeete 82.10 107 LR LR 08 27 25.5
comp=Z,1μm,21.9s,baz=270,slow=34
PPT2 Papeete2 82.10 107 *e*S **S 08 03 29.9 -1.8**
comp=Z,3μm,28.5s
PPT2 Papeete2 82.10 107 *e*LQ LQ 08 15 35.3
comp=Z,10μm,45.2s
PPT2 *e*LR LR 08 19 09.0
comp=Z,3μm,22.8s
TBI Tubuai 82.30 113 *e*S **S 08 03 35.0 +1.7**
comp=Z,2μm,31.2s
TBI Tubuai 82.30 113 *e*LQ LQ 08 15 41.2
comp=Z,2μm,45.0s
TBI *e*LR LR 08 19 16.4
comp=Z,3μm,24.8s
RAYN Ar Rayn 83.97 294 P **P 07 53 28.2 -0.5**
comp=Z,310nm,1.7s,SNR=10
RAYN Ar Rayn 83.97 294 *e*P **P 07 53 28.4 -0.3**
comp=Z,94nm,1.3s
IGHG Ghaleghazi 84.08 305 *e*P **P 07 53 27.4 -1.8**
IDHR Dehrash 84.27 305 *e*P **P 07 53 27.8 -2.4**
DAMY Dhamar 84.40 285 *e*P **P 07 53 33.1 +1.8**
comp=Z,65nm,1.0s
MAK Makhachkala 84.41 313 *e*P P 07 53 25.7 -4.7
MAK *e* 07 53 38.9
MAK *e* 07 56 44.3
MAK *e*PPP PPP 07 58 42.8
MAK *e*S S 08 03 42.8 -11
MAK pmax pmax
comp=Z,32nm,0.4s
DGRG David-gareji 85.80 312 P **P 07 53 37.6 +0.2**
KDAK Kodiak Island 85.90 32 P **P 07 53 38.9 +1.4**
comp=Z,861nm,1.1s,SNR=18
KDAK Kodiak Island 85.90 32 *e*P **P 07 53 38.2 +0.8**
KDAK pmax pmax
comp=Z,231nm,1.2s
KDAK MLR MLR
comp=Z,3μm,22.0s
KDAK Kodiak Island 85.90 32 *e*P **P 07 53 38.2 +0.8**
comp=Z,230nm,1.2s
KDAK LR LR
comp=Z,3μm,22.0s
GNI Garni 86.14 310 P **P 07 53 39.4 0.0**
comp=Z,7.3nm,0.3s,baz=211,slow=7.2,SNR=3.1
GNI S S 08 04 02.7 -8.8
comp=Z,3.7nm,0.3s,baz=57,slow=17,SNR=1.9
GNI Garni 86.14 310*c i*P **P 07 53 39.6 +0.2**
GNI pmax pmax
comp=Z,87nm,2.5s
GNI Garni 86.14 310⇓*i*P **P 07 53 39.6 +0.2**
SNR=8.0
GNI Garni 86.14 310 *e*P **P 07 53 40.4 +1.1**
comp=Z,7.6nm,0.3s
GNI S S 08 04 02.8 -8.8
GNI LR LR
comp=Z,664nm,22.0s
RSO Redoubt South 86.29 29 *e*P **P 07 53 39.7 0.0**
comp=Z,275nm,1.0s
TBLG Delisi 86.30 312 P **P 07 53 39.9 0.0**
PPLA Purkeypile 86.99 27 *e*P **P 07 53 43.2 +0.3**
comp=Z,44nm,1.1s
ZEI Tsey 87.02 313 *e*P **P 07 53 41.6 -2.1**
ZEI pmax pmax
comp=Z,101nm,1.5s
AKH Akhalkalaki 87.20 311 P **P 07 53 45.2 +0.7**
NCK Nalchik 87.31 314⇓*i*P **P 07 53 45.4 +0.6**
ONI Oni 87.33 313 P **P 07 53 45.4 +0.3**
KTH Kantishna Hill 87.66 26 *e*P **P 07 53 46.1 0.0**
comp=Z,30nm,1.1s
SYO Syowa Base 87.71 201⇓*e*P **P 07 53 48.6 +2.5**
KBZ Khabaz 87.83 314 P **P 07 53 47.8 +0.6**
comp=Z,18nm,1.1s,baz=233,slow=20,SNR=30
KBZ LR LR 08 36 54.2
comp=Z,294nm,20.7s,baz=96,slow=38
KBZ Khabaz 87.83 314 P **P 07 53 47.8 +0.6**
KBZ pmax pmax
comp=Z,18nm,1.1s
KBZ MLR MLR
comp=Z,294nm,20.7s
GOF Gofitskoye 87.84 315 *e*P **P 07 53 45.9 -1.4**
GOF pmax pmax
comp=Z,70nm,1.4s
RC01 Rabbit Creek A 87.85 29 *e*P **P 07 53 46.8 -0.2**
comp=Z,75nm,1.2s
SEW Seward 87.86 30 *e*P **P 07 53 48.2 +1.2**
comp=Z,149nm,1.2s
NEY Neytrino 87.92 313 *e*P **P 07 53 48.1 +0.1**
NEY pmax pmax
comp=Z,8.0nm,1.4s
TRF Thorofare Moun 87.93 26 *e*P **P 07 53 47.2 -0.3**
comp=Z,23nm,1.0s
KIV Kislovodsk 88.01 314 P **P 07 53 48.0 -0.2**
comp=Z,90nm,0.9s,SNR=6.9
KIV Kislovodsk 88.01 314*c i*P **P 07 53 47.7 -0.5**
KIV *e* 07 57 17.9
KIV *i* S S 08 04 20.6 -8.6
KIV *i* SS **SS 08 10 15.0 -2.7**
KIV pmax pmax
comp=Z,51nm,1.7s
KIV MLR MLR
comp=Z,727nm,17.0s
KIV Kislovodsk 88.01 314⇑*i*P **P 07 53 47.9 -0.4**
SNR=10
KIV Kislovodsk 88.01 314 P **P 07 53 48.8 +0.6**
SNR=10.0
KIV Kislovodsk 88.01 314 *e*P **P 07 53 48.2 0.0**
comp=Z,66nm,1.4s
KIV LR LR
comp=Z,740nm,19.0s
QSPA South Pole Qui 88.04 180 *e*P **P 07 53 48.3 +0.3**
comp=Z,192nm,1.0s
QSPA LR LR
comp=Z,3μm,20.0s
COLD Coldfoot 88.51 23 *e*P **P 07 53 50.4 +0.5**
comp=Z,46nm,1.0s
MCK McKinley 88.56 26 *e*P **P 07 53 49.3 -1.0**
MCK pmax pmax
comp=Z,69nm,1.2s
MCK McKinley 88.56 26 *e*P **P 07 53 49.3 -1.0**
comp=Z,69nm,1.2s
COLA College 89.17 25 *e*P **P 07 53 52.2 -0.9**
COLA pmax pmax
comp=Z,21nm,1.2s
COLA MLR MLR
comp=Z,2μm,22.0s
COLA College 89.17 25 *e*P **P 07 53 52.2 -0.9**
comp=Z,22nm,1.2s
COLA LR LR
comp=Z,2μm,22.0s
VRHR Novokhopersk 89.25 321 *e*P **P 07 53 52.6 -1.2**
VRHR *e* 07 57 24.8
VRHR *e*S **SKSac 08 04 19.4 -1.4**
VRHR pmax pmax
comp=N,40nm,1.1s
VRHR pmax pmax
comp=Z,70nm,1.1s
VRHR pmax pmax
comp=E,50nm,1.0s
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,50nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR smax smax
comp=N,40nm,7.1s
VRHR smax smax
comp=E,230nm,7.1s
VRHR smax smax
comp=Z,50nm,7.1s
ILAR Eielson Array 89.56 25 P **P 07 53 53.9 -1.1**
comp=Z,18nm,1.0s,baz=273,slow=4.2,SNR=66
ILAR PP **PP 07 57 23.8 -3.0**
comp=Z,3.5nm,1.0s,baz=266,slow=8.2,SNR=4.3
ILAR PKKP **PKKPdf 08 11 26.6 -0.7**
comp=Z,1.1nm,0.8s,baz=80,slow=1.1,SNR=11
ILAR LR LR 08 30 33.6
comp=Z,977nm,21.0s,baz=260,slow=33
DIV Divide 89.77 29 *e*P **P 07 53 57.1 +1.0**
comp=Z,100nm,1.0s
PAX Paxson 90.04 27 *e*P **P 07 53 58.1 +0.7**
PAX pmax pmax
comp=Z,62nm,1.3s
PAX Paxson 90.04 27 *e*P **P 07 53 58.0 +0.7**
comp=Z,62nm,1.3s
SOC Sochi 90.13 313*c i*P **P 07 53 56.6 -1.5**
SOC *i* 07 57 30.0
SOC *e*PPP PPP 07 59 26.9
SOC *i* S **SKSac 08 04 24.6 -1.7**
SOC *e*SSS SSS 08 14 25.3
SOC pmax pmax
comp=Z,10.0nm,0.6s
BMRM Bremner River 90.32 29 *e*P **P 07 53 59.7 +1.0**
comp=Z,67nm,1.1s
DOT Dot Lake 90.72 26 *e*P **P 07 54 00.3 -0.1**
comp=Z,16nm,0.8s
VSR Storozhevoye 90.80 321 *e*P **P 07 53 59.4 -1.6**
VSR *e* 07 57 32.3
VSR *e*PPP PPP 07 59 31.2
VSR *e*S **SKSac 08 04 28.3 -1.5**
VSR pmax pmax
comp=N,980nm,1.2s
VSR pmax pmax
comp=E,30nm,1.2s
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=E,40nm,1.3s
VSR pmax pmax
comp=Z,30nm,1.3s
VSR smax smax
comp=N,6μm,4.7s
VSR smax smax
comp=E,330nm,4.7s
VSR smax smax
comp=Z,230nm,4.7s
KMBO Kilima Mbogo 90.82 269 P **P 07 54 02.9 +0.6**
comp=Z,5.3nm,0.8s,baz=106,slow=5.5,SNR=14
KMBO LR LR 08 29 33.0
comp=Z,1μm,22.0s,baz=96,slow=32
KMBO Kilima Mbogo 90.82 269 P **P 07 54 03.9 +1.6**
baz=91,SNR=3.5
KMBO Kilima Mbogo 90.82 269 P **P 07 54 02.9 +0.6**
KMBO LR LR
comp=Z,2μm,22.0s
MENT Mentasta 90.84 27 *e*P **P 07 54 01.5 +0.5**
KLMR Klimovskoe 90.96 331 *e*P **P 07 53 59.7 -1.8**
KLMR *e* 07 57 35.3
KLMR pmax pmax
comp=Z,69nm,1.1s
TMCR Tamitsa 91.73 334 *e*P **P 07 54 04.7 -0.3**
TMCR *e* 07 57 44.2
TMCR pmax pmax
comp=Z,76nm,1.4s
ANN Anapa 91.81 315 *e*P **P 07 54 04.1 -1.7**
ANN *e* 07 57 41.8
ANN *e*PPP PPP 07 59 40.4
ANN *i* 08 04 34.3
ANN pmax pmax
comp=Z,82nm,1.5s
MOS Moscow 91.83 326 *e*P **P 07 54 03.2 -2.5**
MOS *e* 07 54 21.2
MOS *e* 07 57 41.0
MOS pmax pmax
comp=Z,91nm,1.1s
EGAK Eagle 92.02 25 *e*P **P 07 54 06.5 +0.1**
comp=Z,44nm,1.2s
EGAK LR LR
comp=Z,2μm,22.0s
OBN Obninsk 92.43 325*c i*P **P 07 54 07.0 -1.4**
OBN *i* S S 08 05 03.7 -5.6
OBN pmax pmax
comp=Z,92nm,1.2s
OBN Obninsk 92.43 325 *e*P **P 07 54 07.8 -0.7**
comp=Z,36nm,0.9s
OBN LR LR
comp=Z,1μm,22.0s
DAWY Dawson 92.79 26 *e*P **P 07 54 10.6 +0.6**
LVZ Lovozero 93.06 338 PFAKE 07 54 20.0 +8.8
LVZ LR LR
comp=Z,2μm,20.0s
MMAI Mount Meron Ar 93.30 303 P **P 07 54 12.8 -0.3**
comp=Z,14nm,1.1s,baz=102,slow=6.9,SNR=15
APA Apatity 93.55 337⇑*i*P **P 07 54 13.0 -0.3**
APA *i* 08 04 45.0
APA *i* S **S 08 05 15.0 -3.7**
APA *i* PS **PS 08 06 38.0 +1.0**
APA MLR MLR
comp=Z,3μm,17.0s
SIM Simferopol' 94.17 315*ce*P **P 07 54 16.3 -0.4**
SIM *e* 07 58 01.0
SIM *e*PPP PPP 08 00 10.0
SIM *e* 08 04 49.0
SIM *e*S **S 08 05 25.0 -0.1**
SIM pmax pmax
comp=Z,24nm,1.0s
SIM pmax pmax
comp=Z,70nm,8.9s
SIM pmax pmax
comp=Z,140nm,9.4s
BRTR Keskin Array B 94.65 310 P **P 07 54 17.5 -1.8**
comp=Z,2.8nm,0.8s,baz=121,slow=5.9,SNR=15
BRTR PP PP 07 58 01.4 -6.3
comp=Z,7.2nm,1.1s,baz=116,slow=8.9,SNR=4.4
BRTR LR LR 08 44 02.4
comp=Z,482nm,20.5s,baz=80,slow=40
BRTR Keskin Array B 94.65 310 P **P 07 54 17.5 -1.8**
BRTR 07 58 01.4
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR pmax pmax
comp=Z,7.0nm,1.1s
JOF Joensuu 94.78 333 *ep* **P 07 54 17.1 -2.0**
comp=Z,10.0nm,0.7s
JOF Joensuu 94.78 333 *eP* **P 07 54 17.1 -2.0**
JOF pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 94.86 22 *e*P **P 07 54 18.3 -1.0**
INK pmax pmax
comp=Z,64nm,1.4s
INK Inuvik 94.86 22 *e*P **P 07 54 18.3 -1.0**
comp=Z,64nm,1.4s
CSS Prodhromos 95.00 305 PFAKE 07 54 30.0 +9.2
CSS LR LR
comp=Z,210nm,19.0s
ANTO Ankara 95.30 310 PFAKE 07 54 30.0 +7.9
ANTO LR LR
comp=Z,855nm,21.0s
KEV Kevo 95.62 340 PFAKE 07 54 30.0 +7.2
KEV LR LR
comp=Z,2μm,22.0s
RKT Rikitea 95.62 113 *e*LQ LQ 08 21 18.7
comp=Z,2μm,44.8s
RKT *e*LR LR 08 25 28.6
comp=Z,2μm,25.5s
ARCES ARCESS Array B 96.17 340 P **P 07 54 24.3 -1.1**

comp=Z,17nm,0.6s,baz=83,slow=5.9,SNR=55
ARCES PKKPbc **PKKPbc** **08 11 12.4 -2.6**
baz=106
ARCES LR LR 08 44 04.1
comp=Z,949nm,19.1s,baz=80,slow=39
NVL N'lazarevskaya 96.64 197 *e*P **sP** **07 54 46.0 +2.1**
NVL *e* 07 58 20.1
NVL *e*PPP PPP 08 00 25.0
NVL *e*SS SS 08 12 34.9 +15
NVL pmax pmax
comp=Z,17nm,0.9s
KBS Kingsbay 96.75 350 PFAKE 07 54 40.0 +12
KBS LR LR
comp=Z,1μm,20.0s
WRAK Wrangell Islan 96.86 34 *e*P **P** **07 54 29.7 +1.0**
comp=Z,14nm,0.8s
WRAK LR LR
comp=Z,2μm,22.0s
AKASG Malin Array Be 97.10 321 P **P** **07 54 28.0 -1.9**
comp=Z,0.8nm,0.5s,baz=74,slow=4.6,SNR=15
AKASG PP PP 07 58 18.4 -7.7
comp=Z,3.2nm,0.8s,baz=74,slow=7.1,SNR=4.9
AKASG LR LR 08 43 44.1
comp=Z,294nm,19.4s,baz=100,slow=39
KIEV Kiev 97.11 321*c* *i*P **P** **07 54 28.0 -2.0**
KIEV Kiev 97.11 321 PFAKE 07 54 40.0 +10
KIEV LR LR
comp=Z,757nm,20.0s
ISP Isparta 97.16 308 PFAKE 07 54 40.0 +9.2
ISP LR LR
comp=Z,578nm,22.0s
KAF Kangasniemi 97.19 332 *e*p **P** **07 54 28.2 -1.9**
comp=Z,10nm,0.5s
KAF Kangasniemi 97.19 332 *e*P **P** **07 54 28.2 -1.9**
KAF pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 97.41 332 P **P** **07 54 29.2 -1.9**
comp=Z,4.0nm,0.5s,baz=83,slow=4.3,SNR=37
FINES FINESS Array B 97.41 332 P **P** **07 54 29.2 -1.9**
FINES pmax pmax
comp=Z,4.0nm,0.5s
MICGM Minsk 97.48 325⇑ *e*P **P** **07 54 30.0 -1.6**
MNK Minsk 97.51 325⇑ *e*P **P** **07 54 30.0 -1.7**
MNK *e* 07 58 30.0
MNK pmax pmax
comp=Z,60nm,1.0s
KIS Kishinev 97.73 317 *e*P **P** **07 54 30.0 -2.9**
KIS Kishinev 97.73 317 *e*PP PP 07 58 32.0 +0.9
KIS *e*SKS **SKSac** **08 05 06.0 -1.5**
KIS *e*SKKS **SKKSac** **08 05 34.0 -1.8**
KIS Kishinev 97.73 317 *e*PS PS 08 07 23.0 -0.6
KIS *e*L L 08 29 00.0
KIS LQM 08 35 21.0
comp=Z,2μm,28.0s
KIS LRM MLR 08 39 50.0
comp=Z,1μm,26.0s
KIS Kishinev 97.73 317 *e*P **P** **07 54 30.0 -2.9**
KIS *e* 07 54 42.0
KIS *e* 07 58 32.0
KIS *e* 08 05 06.0
KIS *e*PS **PS** **08 07 23.0 -0.6**
KIS MLR MLR
comp=Z,1μm,25.0s
KIS MLR MLR
comp=Z,1μm,24.0s
DLBC Dease Lake 97.82 31 PKKPbc PKKPbc 08 11 09.0 -1.2
comp=Z,1.1nm,0.8s,baz=137,slow=11,SNR=3.0
CFR Carcaliu 98.38 315⇓ *i*P **P** **07 54 34.6 -1.2**
CFR Carcaliu 98.38 315 ⇓P **P** **07 54 34.6 -1.2**
HARR Harsova 98.57 315⇓ *i*P Pdif 07 54 51.5 +15
HARR Harsova 98.57 315 ⇓P Pdif 07 54 51.5 +15
LSZ Lusaka 99.07 254 *e*P **Pdif** **07 54 40.9 +1.2**
LSZ pmax pmax
comp=Z,24nm,1.2s
LSZ MLR MLR
comp=Z,2μm,21.0s
LSZ Lusaka 99.07 254 *e*P **Pdif** **07 54 40.9 +1.2**
comp=Z,24nm,1.2s
LSZ LR LR
comp=Z,2μm,21.0s
VRI Vrincioaia 99.29 316⇓ *i*P **Pdif** **07 54 39.7 -0.2**
VRI Vrincioaia 99.29 316 ⇓P **Pdif** **07 54 39.7 -0.2**
PLOR Plostina 99.34 316⇓ *i*P **Pdif** **07 54 39.6 -0.6**
PLOR Plostina 99.34 316 ⇓P **Pdif** **07 54 39.6 -0.6**
MLR Muntele Rosu 99.88 316⇑ *i*P **Pdif** **07 54 41.7 -1.0**
MLR Muntele Rosu 99.88 316 ⇑P **Pdif** **07 54 41.7 -1.0**
BURAR Bucovina Array 100.09 318⇓ *i*P **Pdif** **07 54 43.4 -0.2**
BURAR Bucovina Array 100.09 318 ⇓P **Pdif** **07 54 43.4 -0.2**
DOPR Dopca 100.20 316⇑ *i*P **Pdif** **07 54 43.8 -0.2**
VOIR 100.51 316⇑ *i*P **Pdif** **07 54 44.4 -1.1**
VOIR 100.51 316 ⇑P **Pdif** **07 54 44.4 -1.1**
LBTB Lobatse 100.52 244 *e*P **Pdif** **07 54 47.1 +1.0**
LBTB Lobatse 100.52 244 *e*Pdif **Pdif** **07 54 47.0 +1.0**
ARR Arges 100.81 316⇑ *i*P **Pdif** **07 54 47.1 +0.3**
APE Apeiranthos 101.18 307⇑ *i*P **Pdif** **07 54 44.2 -4.4**
APE Apeiranthos 101.18 307 ⇑P **Pdif** **07 54 44.2 -4.4**
KWP Kalwaria Pacla 101.40 320 PFAKE 07 55 00.0 +11
KWP LR LR
comp=Z,1μm,20.0s
LOT Lotru 101.40 316⇑ *i*P **Pdif** **07 54 49.5 0.0**
KOLS Kolonicke sedl 101.81 320 *e*P **Pdif** **07 54 51.4 +0.3**
KOLS *e* 07 59 03.9
KOLS Kolonicke sedl 101.81 320 PDIF **Pdif** **07 54 51.4 +0.3**
KOLS *e*PP **PP** **07 59 03.9 +1.9**
UZH Uzhgorod 101.85 319 *e*P **Pdif** **07 54 51.3 +0.1**
UZH *e* 07 59 01.9
UZH *e* 08 05 25.3
UZH *e*S **Sdif** **08 06 24.3 -6.0**
DRGR 101.91 317⇑ *i*P **Pdif** **07 54 51.6 0.0**
DRGR 101.91 317 ⇑P **Pdif** **07 54 51.6 0.0**
GZR Gura Zlata 102.10 316⇑ *i*P **Pdif** **07 54 53.0 +0.5**
GZR Gura Zlata 102.10 316 ⇑P **Pdif** **07 54 53.0 +0.5**
CRVS Cervenica-Dubn 102.34 320 *e*P **Pdif** **07 54 53.7 +0.3**
CRVS Cervenica-Dubn 102.34 320 PDIF **Pdif** **07 54 53.7 +0.3**
SIRR Siria 102.71 317⇓ *i*P **Pdif** **07 54 55.7 +0.5**
DAG Danmarks Havn 102.98 353 *i* P PP 07 59 04.6 -5.3
comp=Z,6.0nm,0.9s
KECS Kecovo 103.06 319 *e*P **Pdif** **07 54 56.1 -0.5**
KECS *e* 07 59 11.8
KECS Kecovo 103.06 319 PDIF **Pdif** **07 54 56.1 -0.5**
KECS *e*PP **PP** **07 59 11.8 +0.4**
SUR Sutherland 103.53 236 PFAKE 07 55 10.0 +11
SUR LR LR
comp=Z,2μm,19.0s
NLWA Neilton Lookou 103.55 42 PFAKE 07 55 10.0 +11
NLWA LR LR
comp=Z,2μm,20.0s
PSZ Piszkesteto 103.56 319 PFAKE 07 55 10.0 +11
PSZ LR LR
comp=Z,1μm,22.0s
YKA Yellowknife Ar 104.00 25 Pdiff **Pdif** **07 54 59.8 -0.6**
comp=Z,4.2nm,1.0s,baz=296,slow=5.0,SNR=16
YKA PP PKiKP 07 59 11.4 -6.2
comp=Z,1.5nm,0.9s,baz=293,slow=8.0,SNR=3.5
YKA PKKPbc **PKKPbc** **08 10 48.0 -4.4**
comp=Z,1.6nm,0.7s,baz=116,slow=3.2,SNR=8.6
VYHS Vyhne 104.12 320 *e*P **Pdif** **07 55 00.6 -0.8**
VYHS *e* 07 59 15.4
VYHS Vyhne 104.12 320 PDIF **Pdif** **07 55 00.6 -0.8**
VYHS *e*PP **PKiKP** **07 59 15.4 -3.0**
OKC Ostrava-Krasne 104.24 321 *e*PP PP 07 59 21.4 +1.2
OKC *e*PS **PS** **08 08 41.9 +8.9**
OKC AMS AMS 08 54 00.0
comp=Z,1μm,21.8s
DIVS Divibare 104.29 315⇓ *i*P **Pdif** **07 55 02.1 -0.2**
NB2 NORSAR Subarra 104.41 333 P **Pdif** **07 55 00.5 -1.9**
baz=68,slow=4.6
NOA NORSAR Array B 104.41 333 Pdiff **Pdif** **07 55 00.9 -1.5**
comp=Z,2.9nm,0.5s,baz=68,slow=4.5,SNR=15
NOA NORSAR Array B 104.41 333 P **Pdif** **07 55 00.9 -1.5**
NOA pmax pmax
comp=Z,3.0nm,0.5s
KRLC Kraliky 105.03 322 *e*PP PP 07 59 31.4 +5.3
DPC Dobruska-Polom 105.25 322 *e*PKP PKiKP 07 59 14.9 -5.5
DPC *e*PP **PP** **07 59 29.9 +2.3**
DPC *e*SKS **SKSac** **08 05 43.9 +0.3**
DPC AMS AMS 08 59 10.0
UPC Upice 105.39 322 *e*PP PP 07 59 31.3 +2.6
J04D Umpqua Nationa 105.64 46⇑P **PKiKP** **07 59 22.3 +0.7**
baz=106
KONO Kongsberg 105.70 332 PFAKE 07 59 30.0
KONO LR LR
comp=Z,2μm,21.0s
M04C Macdoel 106.15 47 ⇓P **PKiKP** **07 59 23.2 +0.8**
baz=106
J05D Fort Rock, OR 106.25 45⇑P **PKiKP** **07 59 22.5 -0.2**
baz=106
PVCC Panska Ves 106.27 322 *e*PS PS 08 08 57.0 +3.0
PVCC AMS AMS 08 52 00.0
comp=Z,1μm,20.6s
GOPC GO Pecny, Ondr 106.32 322 *e*SKS **SKSac** **08 05 50.6 +2.3**
GOPC *e*SP **SP** **08 08 45.4 -3.7**
GOPC AMS AMS 08 54 00.0
comp=Z,1μm,19.1s
PRU Pruhonice 106.45 322 *e*PP PP 07 59 38.6 +2.2
PRU *e*SKS **SKSac** **08 05 49.6 +0.8**
PRU *e*SP **SP** **08 08 58.5 +8.1**
PRU AMS AMS 08 53 50.0
comp=Z,1μm,20.6s
PRA Prague 106.49 322 AMS AMS 08 51 50.0
comp=Z,1μm,19.1s
BRG Berggiesshubel 106.54 323 PKP PKiKP 07 59 11.0 -12
BRG SKS **SKSac** **08 05 51.0 +1.8**
BRG SDIFF **SKKSac** **08 06 40.0 +1.4**
comp=N,1μm,18.5s
comp=E,869nm,20.7s
comp=Z,977nm,27.8s
BRG Berggiesshubel 106.54 323 P **Pdif** **07 55 12.5 +0.4**
BRG 08 05 51.0
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG MLR MLR
comp=N,1μm,18.5s
BRG MLR MLR
comp=E,869nm,20.7s
BRG MLR MLR
comp=Z,977nm,20.8s
BRG Berggiesshubel 106.54 323 PDIFF **Pdif** **07 55 12.5 +0.4**
comp=Z,6.4nm,1.1s
HAWA Hanford 106.67 42 PFAKE 07 59 30.0
HAWA LR LR
comp=Z,2μm,19.0s
CLL Collm 106.97 324 *e*Pdif **Pdif** **07 55 13.0 -0.9**
CLL *e*(PKiKP) 07 59 20.0
CLL *i* PP **PP** **07 59 39.0 -1.2**
CLL *i* 07 59 42.3
comp=Z,30nm,1.3s
CLL *e*PPP PPP 08 01 55.0
CLL *e*SKSac **SKSac** **08 05 51.0 0.0**
CLL *e*Sdif **Sdif** **08 07 10.0 -2.9**
CLL *e*PS **PS** **08 09 01.0 -0.1**
CLL *e*PPS PPS 08 09 55.0
CLL *e*SS **SS** **08 14 38.0 -5.8**
CLL *e*SSS SSS 08 18 48.0
CLL LmV 08 54 00.0
comp=Z,2μm,20.5s
CLL Collm 106.97 324 *e*P **Pdif** **07 55 13.0 -0.9**
CLL *i* 07 59 39.0
CLL *e* 08 05 51.0
CLL MLR MLR
comp=Z,2μm,20.5s
BOJS Bojanci 107.24 317 *e*PKiKP **PKiKP** **07 59 25.1 +0.9**
BOJS *i* PP **PP** **07 59 39.9 -2.5**
KHC Kasperske Hory 107.30 321 *e*PP PP 07 59 48.0 +5.2
KHC *ex* x 08 00 18.5
GERES GERESS Array B 107.31 321 Pdiff **Pdif** **07 55 15.5 -0.2**
comp=Z,0.6nm,0.7s,baz=88,slow=6.0,SNR=5.3
GERES PKiKP **PKiKP** **07 59 24.3 -0.1**
comp=Z,0.9nm,0.5s,baz=90,slow=1.3,SNR=8.1
GERES PKKPab **PKKPab** **08 10 56.2 +0.7**
comp=Z,0.8nm,0.7s,baz=241,slow=4.1,SNR=3.9
TIP Timpagrande 107.67 311 PFAKE 07 59 40.0
TIP LR LR
comp=Z,429nm,22.0s
NEW Newport 107.71 40 PKiKP **PKiKP** **07 59 25.6 +0.5**
comp=Z,2.8nm,0.9s,baz=304,slow=3.6,SNR=4.5
NEW Newport 107.71 40 ⇓P **PKiKP** **07 59 25.2 +0.1**
baz=108
NEW Newport 107.71 40 PKiKP **PKiKP** **07 59 25.6 +0.5**
NEW LR LR
comp=Z,2μm,21.0s
JAVS Javornik 107.94 318 *i* PKiKP **PKiKP** **07 59 27.1 +1.4**
JAVS *i* PP PP 07 59 40.1 -7.5
MOX Moxa 108.02 323 *e*L L 08 51 04.6
comp=Z,1μm,22.0s
CUC Castrocucco 108.20 312 PFAKE 07 59 40.0
CUC LR LR
comp=Z,521nm,22.0s
NRDL Niedersach Rie 108.24 325 *e*PP PP 07 59 49.0 -0.3
WVOR Wild Horse Val 108.31 46 PFAKE 07 59 40.0
WVOR LR LR
comp=Z,2μm,20.0s
CLZ Clausthal 108.33 325 *e*PP PP 07 59 49.5 -0.6
CEL Celeste 108.53 310 PFAKE 07 59 40.0
CEL LR LR
comp=Z,761nm,22.0s
GRF Grafenberg Arr 108.58 322 *e*PP PP 07 59 52.4 +0.4
GRF *e*L L 08 52 42.5
comp=Z,1μm,20.2s
BMO Blue Mountains 108.59 43 PFAKE 07 59 40.0
BMO LR LR
comp=Z,2μm,20.0s
TSUM Tsumeb 108.69 249 PFAKE 07 59 40.0
TSUM LR LR
comp=Z,1μm,22.0s
UBBA Unterbreizbach 108.92 324 *e*PP PP 07 59 54.1 -0.2
SUMG Summit 108.92 356 *i* P PP 07 59 47.3 -6.8
SUMG Summit 108.92 356 *i* P **PKKPbc** **08 10 36.2 -1.7**
FUR Furstenfeldbru 109.06 321 *e*PP PP 07 59 55.7 +0.1
BSMT Bassoo Peak 109.33 39 *e*PKPdf **PKiKP** **07 59 28.1 -0.2**
AQU L'Aquila 109.38 314 PFAKE 07 59 40.0
AQU LR LR
comp=Z,1μm,22.0s
NVAR Mina Array Bea 109.54 50 Pdiff **Pdif** **07 55 26.0 +0.1**
comp=Z,0.3nm,0.7s,baz=296,slow=4.1,SNR=4.0
NVAR PKiKP **PKiKP** **07 59 29.8 +0.8**
comp=Z,0.5nm,0.6s,baz=298,slow=1.9,SNR=4.1
NVAR PKKPbc **PKKPbc** **08 10 34.4 -0.3**
comp=Z,1.3nm,0.7s,baz=135,slow=4.7,SNR=10
NVAR PKKPab **PKKPab** **08 10 45.9 +0.1**
comp=Z,1.5nm,0.7s,baz=113,slow=4.0,SNR=8.2
IBBN Ibbenburen 109.64 326 *e*PP PP 07 59 59.1 -0.5
SWMT Swartz Lake 109.95 40 *e*PKPdf **PKiKP** **07 59 28.7 -0.7**
ISA Isabella, Lake 110.03 53⇓P **PKiKP** **07 59 30.2 +0.4**
baz=110
TNS Taunus Mts 110.06 324 *e*PP PP 08 00 02.0 -0.8
WDD Wield Dalam 110.12 308 PFAKE 07 59 40.0
WDD LR LR
comp=Z,1μm,22.0s
STU Stuttgart 110.14 322 *e*PP PP 08 00 04.1 +0.7
MSO Missoula 110.22 40⇓P **PKiKP** **07 59 31.1 +1.2**
baz=110
BUG Bochum--Univer 110.27 325 *e*PP PP 08 00 05.4 +1.3
SLMT Seeley Lake 110.36 40 *e*PKPdf **PKiKP** **07 59 30.6 +0.4**
SCI San Clemente I 110.53 55⇓P **PKiKP** **07 59 31.3 +0.5**
baz=110
CIS Catalina Islan 110.56 55⇓P **PKiKP** **07 59 32.0 +1.1**
baz=110
EDW2 Edwards Air Fo 110.59 53⇓P **PKiKP** **07 59 33.0 +2.2**
baz=111
CHMT Chamberlain Mo 110.63 40 *e*PKPdf **PKiKP** **07 59 31.1 +0.2**
MPMC Manual Prospec 110.72 52⇑P **PKiKP** **07 59 32.7 +1.4**
baz=111
CLTB Caltabellotta 110.75 310 PFAKE 07 59 40.0
CLTB LR LR
comp=Z,465nm,19.0s
BFO Black Forest 110.84 322 *e*PP PP 08 00 07.9 -0.6
BFO Black Forest 110.84 322 PFAKE 07 59 40.0
BFO LR LR
comp=Z,1μm,21.0s
TUE Stuetta 110.87 320 PFAKE 07 59 40.0
TUE LR LR
comp=Z,2μm,22.0s
VLC Villacollemand 110.95 317 PFAKE 07 59 40.0
VLC LR LR
comp=Z,1μm,20.0s
HLID Hailey 110.97 44⇓P **PKiKP** **07 59 32.8 +1.3**
baz=111
HLID Hailey 110.97 44 *e*PKPdf **PKiKP** **07 59 33.0 +1.5**
HLID LR LR
comp=Z,2μm,19.0s
ELK Elko 111.22 47 PKiKP **PKiKP** **07 59 32.4 +0.2**
comp=Z,0.4nm,0.3s,baz=87,slow=0.6,SNR=4.4
GSC Goldstone, Bar 111.44 53⇑P **PKiKP** **07 59 35.0 +2.4**
baz=111
CDF Champ du Feu 111.46 322 *e*PKIKP **PKiKP** **07 59 31.5 -0.7**
CDF Champ du Feu 111.46 322 *e*PKIKP **PKiKP** **07 59 31.5 -0.7**
CDF Champ du Feu 111.46 322 *e*PKPdf **PKiKP** **07 59 31.5 -0.7**
ECH Echery 111.61 322 PFAKE 07 59 40.0
ECH LR LR
comp=Z,836nm,21.0s
MCMT McKenzie Canyo 111.61 42 *e*PKPdf **PKiKP** **07 59 33.5 +0.8**
R11A Troy Canyon, C 111.63 49⇑P **PKiKP** **07 59 35.9 +3.0**
baz=112
WLF Walferdange 111.64 324 *e*PP PP 08 00 14.2 +0.1
WLF Walferdange 111.64 324 PFAKE 07 59 40.0
WLF LR LR
comp=Z,983nm,21.0s
109C Camp Elliot, M 111.73 55⇑P **PKiKP** **07 59 34.3 +1.3**
baz=112
HINF Hinteralfeld 111.95 322 *e*PKIKP **PKiKP** **07 59 32.4 -0.7**
comp=Z,16nm,1.2s
HINF Hinteralfeld 111.95 322 *e*PKIKP **PKiKP** **07 59 32.4 -0.7**
HINF Hinteralfeld 111.95 322 *e*PKPdf **PKiKP** **07 59 32.4 -0.7**
PFO Pinyon Flats O 112.11 54⇓P **PKiKP** **07 59 34.5 +0.6**
baz=112
PFO Pinyon Flats O 112.11 54 PFAKE 07 59 50.0
PFO LR LR
comp=Z,4μm,20.0s
BOZ Bozeman (W) 112.13 41 PFAKE 07 59 50.0
BOZ LR LR
comp=Z,2μm,20.0s
GIVF Givet 112.24 324 *e*PKIKP **PKiKP** **07 59 32.5 -0.9**
GIVF Givet 112.24 324 *e*PKIKP **PKiKP** **07 59 32.5 -0.9**
GIVF Givet 112.24 324 *e*PKPdf **PKiKP** **07 59 32.5 -0.9**
MONP Monument Peak, 112.30 55⇑P **PKiKP** **07 59 35.2 +0.8**
baz=112
BELC Belle Mtn. Jos 112.39 54⇓P **PKiKP** **07 59 35.9 +1.5**
baz=112
EGMT Eagleton 112.41 38⇓P **PKiKP** **07 59 34.3 +0.3**
baz=112,SNR=5.7
EGMT Eagleton 112.41 38 *e*PKPdf **PKiKP** **07 59 33.9 -0.1**
EGMT LR LR
comp=Z,2μm,21.0s
GMRC Granite Mounta 112.47 53⇑P **PKiKP** **07 59 36.6 +2.0**
baz=112
BAIF Baives 112.61 325 *e*PKIKP **PKiKP** **07 59 33.3 -0.9**
comp=Z,11nm,1.0s
BAIF Baives 112.61 325 *e*PKIKP **PKiKP** **07 59 33.3 -0.9**
BAIF Baives 112.61 325 *e*PKPdf **PKiKP** **07 59 33.3 -0.9**
A19A Klindworth Far 112.65 37⇑P **PKiKP** **07 59 34.3 -0.1**
baz=113
B19A Brinkman Farms 112.73 37⇓P **PKiKP** **07 59 35.4 +0.8**
baz=113,SNR=5.5
MEZF Maizieres J'vi 112.78 323 *e*PKIKP **PKiKP** **07 59 33.4 -1.1**
MEZF Maizieres J'vi 112.78 323 *e*PKPdf **PKiKP** **07 59 33.4 -1.1**
SWSC Sam W. Stewart 112.80 55⇑P **PKiKP** **07 59 37.0 +2.0**
baz=113
CABF La Chapelle 112.91 321 *e*PKIKP **PKiKP** **07 59 34.1 -0.9**
comp=Z,18nm,0.9s
CABF La Chapelle 112.91 321 *e*PKIKP **PKiKP** **07 59 34.1 -0.9**
CABF La Chapelle 112.91 321 *e*PKPdf **PKiKP** **07 59 34.1 -0.9**
LPG La Plagne 112.91 319 *e*PKIKP **PKiKP** **07 59 33.9 -1.4**
LPG La Plagne 112.91 319 *e*PKIKP **PKiKP** **07 59 33.9 -1.4**
LPG La Plagne 112.91 319 *e*PKPdf **PKiKP** **07 59 33.9 -1.4**
BC3 Big Chuckawall 112.91 54⇑P **PKiKP** **07 59 36.5 +1.2**
baz=113
LPL La Plagne 112.91 319 *e*PKIKP **PKiKP** **07 59 34.0 -1.2**
LPL La Plagne 112.91 319 *e*PKIKP **PKiKP** **07 59 34.0 -1.2**
LPL La Plagne 112.91 319 *e*PKPdf **PKiKP** **07 59 34.0 -1.2**
C19A Slack Wire Ran 112.96 38⇑P **PKiKP** **07 59 35.8 +0.8**
baz=113
SBF Sospel 113.05 317 *e*PKIKP **PKiKP** **07 59 34.3 -1.0**
SBF Sospel 113.05 317 *e*PKIKP **PKiKP** **07 59 34.3 -1.0**
SBF Sospel 113.05 317 *e*PKPdf **PKiKP** **07 59 34.3 -1.0**
VSL Villasalto 113.12 312 PFAKE 07 59 50.0
VSL LR LR
comp=Z,575nm,19.0s
BNI Bardonecchia 113.12 319 PFAKE 07 59 50.0
BNI LR LR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 113.15 47⇓P **PKiKP** **07 59 35.8 +0.1**
baz=113
DUG Dugway, Tooele 113.15 47 PFAKE 07 59 50.0
DUG LR LR
comp=Z,2μm,21.0s
A20A Cobblestone Ra 113.16 37⇓P **PKiKP** **07 59 36.1 +0.7**
baz=113
H17A Grant Village 113.28 42⇑P **PKiKP** **07 59 36.4 +0.5**
baz=113
B20A Solberg Farm, 113.29 37⇑P **PKiKP** **07 59 36.2 +0.6**
baz=113,SNR=12
D19A Cripps Ranch, 113.30 39⇑P **PKiKP** **07 59 36.4 +0.7**
baz=113
LKWY Lake 113.34 42 PFAKE 07 59 50.0
LKWY LR LR
comp=Z,3μm,20.0s
FFC Flin Flon 113.50 29 *e*PKIKP **PKiKP** **07 59 36.6 +0.9**
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 113.50 29 *e*PKPdf **PKiKP** **07 59 36.6 +0.9**
FFC LR LR
comp=Z,1μm,20.0s
BORG Borgarnes 113.51 346 PFAKE 07 59 50.0
BORG LR LR
comp=Z,1μm,21.0s
AHID Auburn Hatcher 113.52 44 PFAKE 07 59 50.0
AHID LR LR
comp=Z,2μm,20.0s
GLA Glamis 113.56 55⇑P **PKiKP** **07 59 37.7 +1.1**
baz=114
HWUT Hardware Ranch 113.59 45 *e*PKPdf **PKiKP** **07 59 38.3 +1.8**
HWUT LR LR
comp=Z,2μm,22.0s
C20A Veseth Ranch, 113.61 38⇓P **PKiKP** **07 59 37.2 +0.9**
baz=114
E19A Rath Farm, Rou 113.65 39⇑P **PKiKP** **07 59 37.1 +0.7**
baz=114
FRF La Foret Royal 113.69 317 *e*PKIKP **PKiKP** **07 59 35.2 -1.2**
FRF La Foret Royal 113.69 317 *e*PKIKP **PKiKP** **07 59 35.2 -1.2**
FRF La Foret Royal 113.69 317 *e*PKPdf **PKiKP** **07 59 35.2 -1.2**
A21A Bergtoll Ranch 113.70 36⇑P **PKiKP** **07 59 37.3 +1.0**
baz=114
H18A Shoshone NF, C 113.78 41⇓P **PKiKP** **07 59 38.3 +1.4**
baz=114
F19A Roth Farm, Mol 113.79 40⇓P **PKiKP** **07 59 38.3 +1.6**
baz=114
D20A Manuel Ranch, 113.79 38⇑P **PKiKP** **07 59 38.0 +1.3**
baz=114
W13A Hualapai Mount 113.81 52⇓P **PKiKP** **07 59 38.8 +1.6**
baz=114
ESK Eskdalemuir 113.84 332 PFAKE 07 59 50.0
ESK LR LR
comp=Z,2μm,22.0s
RLMT Red Lodge 113.87 41 PFAKE 07 59 50.0
RLMT LR LR
comp=Z,2μm,20.0s
LOR Lormes 114.03 322 *e*PKIKP PKPdf 07 59 35.9 -1.1
LOR Lormes 114.03 322 *e*PKIKP PKPdf 07 59 35.9 -1.1
LOR Lormes 114.03 322 *e*PKPdf PKPdf 07 59 35.9 -1.1
C21A Desert Coulee 114.12 37⇓P PKPdf 07 59 38.5 +1.3
baz=114,SNR=5.7
H19A Powell 114.23 41⇑P PKPdf 07 59 38.8 +1.2
baz=114
A22A Carney Farms, 114.30 36⇑P PKPdf 07 59 38.5 +0.9
baz=114
SMF Signal de Mont 114.31 321 *e*PKIKP PKPdf 07 59 37.2 -0.3
comp=Z,14nm,1.0s
SMF Signal de Mont 114.31 321 *e*PKIKP PKPdf 07 59 37.2 -0.3
SMF Signal de Mont 114.31 321 *e*PKPdf PKPdf 07 59 37.2 -0.3
F20A Billings 114.32 40⇑P PKPdf 07 59 38.5 +0.8
baz=114
SSF Saint Saulge 114.34 322 *e*PKIKP PKPdf 07 59 37.6 0.0
SSF Saint Saulge 114.34 322 *e*PKIKP PKPdf 07 59 37.6 0.0
SSF Saint Saulge 114.34 322 *e*PKPdf PKPdf 07 59 37.6 0.0
SSB Saint Sauveur 114.42 320 PFAKE 07 59 50.0 +12
SSB LR LR
comp=Z,841nm,22.0s
I19A Meeteetse 114.47 42⇑P PKPdf 07 59 39.5 +1.3
baz=114
VIVF Saint-Julien-l 114.51 319 *e*PKIKP PKPdf 07 59 36.8 -1.2
comp=Z,7.7nm,0.8s
VIVF Saint-Julien-l 114.51 319 *e*PKIKP PKPdf 07 59 36.8 -1.2
VIVF Saint-Julien-l 114.51 319 *e*PKPdf PKPdf 07 59 36.8 -1.2
D21A La Casta Ranch 114.51 38⇑P PKPdf 07 59 39.4 +1.4
baz=114
G20A Bridger 114.52 40⇑P PKPdf 07 59 39.5 +1.3
baz=114
AVF Avril sur Loir 114.55 322 *e*PKIKP PKPdf 07 59 36.9 -1.1
comp=Z,8.5nm,0.9s
AVF Avril sur Loir 114.55 322 *e*PKIKP PKPdf 07 59 36.9 -1.1
AVF Avril sur Loir 114.55 322 *e*PKPdf PKPdf 07 59 36.9 -1.1
BW06 Boulder Array 114.57 43 *e*PKPdf PKPdf 07 59 39.2 +0.7
BW06 LR LR

comp=Z,2µm,22.0s
PDAR **Pinedale Array** 114.57 43 PKP PKPdf 07 59 39.1 +0.6
comp=Z,1.3nm,0.7s,baz=288,slow=0.6,SNR=8.9
PDAR PKKPbc **PKKPbc** 08 10 17.1 -1.1
comp=Z,2.9nm,0.7s,baz=120,slow=5.7,SNR=19
U15A **North Rim** 114.68 51 ⇑P PKPdf 07 59 40.6 +1.6
baz=115
E21A **Keefer Ranch,** 114.69 39 ⇑P PKPdf 07 59 39.9 +1.5
baz=115,SNR=5.4
J19A **Crowheart** 114.73 43 ⇓P PKPdf 07 59 40.1 +1.4
baz=115,SNR=7.1
Y14A **Wickenburg** 114.81 53 ⇑P PKPdf 07 59 40.6 +1.7
baz=115
C22A **Vida** 114.89 37 ⇓P PKPdf 07 59 39.8 +1.1
baz=115
H20A **Greybull** 114.95 41 ⇑P PKPdf 07 59 39.6 +0.6
baz=115
BGF **Bois d'Agland** 114.96 322 *e*PKIKP PKPdf 07 59 39.0 +0.2
BGF **Bois d'Agland** 114.96 322 *e*PKIKP PKPdf 07 59 39.0 +0.2
BGF **Bois d'Agland** 114.96 322 *e*PKPdf PKPdf 07 59 39.0 +0.2
D22A **Cohagen** 114.97 38 ⇓P PKPdf 07 59 40.4 +1.6
baz=115,SNR=12
SFJD **Kangerlussuaq** 115.02 359 PFAKE 07 59 50.0 +12
SFJD LR LR
comp=Z,741nm,19.0s
I20A **Worland** 115.08 42 ⇓P **PKPdf** 07 59 39.5 +0.3
baz=115
B23A **Brockton** 115.08 36 ⇓P **PKPdf** 07 59 40.0 +0.9
baz=115
LAO **LASA Array** 115.15 38 *e*PKPdf **PKPdf** 07 59 40.5 +1.2
LAO LR LR
comp=Z,2µm,21.0s
C23A **Lambert** 115.28 37 ⇑P **PKPdf** 07 59 40.8 +1.4
baz=115
J20A **Shoshoni** 115.35 42 ⇑P **PKPdf** 07 59 40.6 +0.8
baz=115,SNR=5.9
E22A **Miles City** 115.43 38 ⇑P **PKPdf** 07 59 40.6 +0.9
baz=115
A24A **Westby** 115.44 35 ⇓P **PKPdf** 07 59 40.9 +1.2
baz=115
TCF **Toulx Ste Croi** 115.48 322 *e*PKIKP **PKPdf** 07 59 39.9 +0.1
comp=Z,22nm,1.0s
TCF **Toulx Ste Croi** 115.48 322 *e*PKIKP **PKPdf** 07 59 39.9 +0.1
TCF **Toulx Ste Croi** 115.48 322 *e*PKPdf **PKPdf** 07 59 39.9 +0.1
214A **Organ Pipe Nat** 115.48 55 ⇑P **PKPdf** 07 59 40.9 +0.6
baz=115
H21A **Big Horn, Sher** 115.52 40 ⇑P **PKPdf** 07 59 40.9 +0.8
baz=116
F22A **Rosebud** 115.53 39 ⇓P **PKPdf** 07 59 40.6 +0.6
baz=116
DGMT **Dagmar** 115.55 36 ⇓P **PKPdf** 07 59 40.9 +0.9
baz=116
DGMT **Dagmar** 115.55 36 PFAKE 07 59 50.0 +10
DGMT LR LR
comp=Z,2µm,20.0s
D23A **Lindsay** 115.56 37 ⇑P **PKPdf** 07 59 41.9 +1.9
baz=116
WUAZ **Wupatki** 115.66 51 ⇑P **PKPdf** 07 59 41.9 +1.2
baz=116
WUAZ **Wupatki** 115.66 51 PFAKE 07 59 50.0 +9.3
WUAZ LR LR
comp=Z,2µm,19.0s
I21A **Big Trails, Te** 115.69 41 ⇑P **PKPdf** 07 59 41.9 +1.4
baz=116
G22A **Birney** 115.75 40 ⇓P **PKPdf** 07 59 41.5 +1.0
baz=116
J21A **Lysite** 115.78 42 ⇓P **PKPdf** 07 59 41.3 +0.6
baz=116
LDF **La Druitiere** 115.80 325 *e*PKIKP **PKPdf** 07 59 39.0 -1.3
LDF **La Druitiere** 115.80 325 *e*PKIKP **PKPdf** 07 59 39.0 -1.3
LDF **La Druitiere** 115.80 325 *e*PKPdf **PKPdf** 07 59 39.0 -1.3
E23A **Ismay** 115.80 38 ⇑P **PKPdf** 07 59 41.3 +0.9
baz=116
C24A **Savage** 115.86 37 ⇑P **PKPdf** 07 59 41.7 +1.1
baz=116,SNR=7.3
FLN **La Foliniere** 115.93 325 *e*PKIKP **PKPdf** 07 59 39.7 -0.9
FLN **La Foliniere** 115.93 325 *e*PKIKP **PKPdf** 07 59 39.7 -0.9
FLN **La Foliniere** 115.93 325 *e*PKPdf **PKPdf** 07 59 39.7 -0.9
X16A **Lo Mia Camp, P** 115.93 52 ⇓P **PKPdf** 07 59 42.6 +1.4
baz=116
A25A **Svangstu Ranch** 115.94 35 ⇑P **PKPdf** 07 59 41.4 +0.7
baz=116
H22A **Clearmont** 115.98 40 ⇑P **PKPdf** 07 59 41.9 +0.9
baz=116
F23A **Volborg** 116.09 39 ⇑P **PKPdf** 07 59 42.0 +0.9
baz=116
D24A **Glendive** 116.11 37 ⇓P **PKPdf** 07 59 42.5 +1.4
baz=116
CAF **Calviac** 116.17 320 *e*PKIKP **PKPdf** 07 59 40.5 -0.7
comp=Z,30nm,1.2s
CAF **Calviac** 116.17 320 *e*PKIKP **PKPdf** 07 59 40.5 -0.7
CAF **Calviac** 116.17 320 *e*PKPdf **PKPdf** 07 59 40.5 -0.7
I22A **9 Mile Ranch,** 116.19 41 ⇓P **PKPdf** 07 59 42.7 +1.2
baz=116
N20A **Spence Gulch,** 116.19 45 ⇓P **PKPdf** 07 59 42.8 +1.1
baz=116
K21A **Alcova** 116.19 43 ⇑P **PKPdf** 07 59 42.6 +1.0
baz=116,SNR=9.2
B25A **Knox Farm, Ray** 116.25 36 ⇓P **PKPdf** 07 59 42.9 +1.6
baz=116
GRR **Gorron** 116.33 325 *e*PKIKP **PKPdf** 07 59 40.4 -0.9
GRR **Gorron** 116.33 325 *e*PKIKP **PKPdf** 07 59 40.4 -0.9
GRR **Gorron** 116.33 325 *e*PKPdf **PKPdf** 07 59 40.4 -0.9
G23A **Biddle** 116.33 39 ⇑P **PKPdf** 07 59 42.4 +0.8
baz=116
E24A **Baker** 116.39 38 ⇓P **PKPdf** 07 59 42.8 +1.2
baz=116
J22A **Midwest** 116.39 42 ⇓P **PKPdf** 07 59 42.6 +0.7
baz=116
C25A **Freed Ranch, W** 116.47 36 ⇓P **PKPdf** 07 59 42.7 +1.0
baz=116
O20A **White River Ci** 116.47 45 ⇓P **PKPdf** 07 59 42.9 +0.7
baz=116
O20A **White River Ci** 116.47 45 *e*PKPdf **PKPdf** 07 59 41.9 -0.2
A26A **Wade Farm, Ken** 116.58 35 ⇑P **PKPdf** 07 59 42.6 +0.7
baz=116
H23A **Clabaugh Cattl** 116.61 40 ⇑P **PKPdf** 07 59 43.3 +1.2
baz=116
F24A **Ekalaka** 116.63 38 ⇓P **PKPdf** 07 59 43.4 +1.2
baz=117
K22A **Casper** 116.68 42 ⇓P **PKPdf** 07 59 43.0 +0.6
baz=117
K22A **Casper** 116.68 42 *e*PKPdf **PKPdf** 07 59 41.5 -0.9
D25A **Fairfield** 116.70 37 ⇑P **PKPdf** 07 59 43.4 +1.2
baz=117
B26A **Jensen Ranch,** 116.73 35 ⇓P **PKPdf** 07 59 43.9 +1.7
baz=117
MTLF **Montolieu** 116.75 319 *e*PKIKP **PKPdf** 07 59 41.1 -1.2
MTLF **Montolieu** 116.75 319 *e*PKIKP **PKPdf** 07 59 41.1 -1.2
MTLF **Montolieu** 116.75 319 *e*PKPdf **PKPdf** 07 59 41.1 -1.2
MFF **Saint Martin d** 116.78 323 *e*PKIKP **PKPdf** 07 59 42.1 -0.2
comp=Z,24nm,1.0s
MFF **Saint Martin d** 116.78 323 *e*PKIKP **PKPdf** 07 59 42.1 -0.2
MFF **Saint Martin d** 116.78 323 *e*PKPdf **PKPdf** 07 59 42.1 -0.2
I23A **Meade Ranch, G** 116.83 41 ⇓P **PKPdf** 07 59 44.5 +1.9
baz=117
PV01 **Paradox Valley** 116.95 48 *e*PKPdf **PKPdf** 07 59 43.8 +0.6
E25A **Miller Ranch,** 116.97 37 ⇑P **PKPdf** 07 59 43.6 +0.8
baz=117
L22A **Ellis Ranch, M** 116.99 43 ⇑P **PKPdf** 07 59 45.0 +1.8
baz=117
A27A **Ledoux Ranch,** 117.00 34 ⇓P **PKPdf** 07 59 44.1 +1.4
baz=117
LFF **La Frestale** 117.00 321 *e*PKIKP **PKPdf** 07 59 41.9 -0.8
comp=Z,14nm,0.8s
LFF **La Frestale** 117.00 321 *e*PKIKP **PKPdf** 07 59 41.9 -0.8
LFF **La Frestale** 117.00 321 *e*PKPdf **PKPdf** 07 59 41.9 -0.8
TUC **Tucson** 117.05 54 *e*PKIKP **PKPdf** 07 59 44.7 +1.4
TUC MLR MLR
comp=Z,2µm,20.0s
TUC **Tucson** 117.05 54 *e*PKPdf **PKPdf** 07 59 44.7 +1.4
TUC LR LR
comp=Z,2µm,20.0s
W18A **Petrified Fore** 117.06 51 ⇑P **PKPdf** 07 59 45.5 +2.0
baz=117
H24A **Dirks Ranch, A** 117.07 40 ⇓P **PKPdf** 07 59 43.7 +0.6
baz=117,SNR=5.0
X18A **Snowflake** 117.07 52 ⇑P **PKPdf** 07 59 45.0 +1.6
baz=117
C26A **Wahnee Farm, P** 117.09 36 ⇓P **PKPdf** 07 59 44.3 +1.5
baz=117
M22A **Cedar Creek Ra** 117.13 44 ⇓P **PKPdf** 07 59 45.1 +1.7
baz=117
F25A **Bowman** 117.21 38 ⇑P **PKPdf** 07 59 44.5 +1.2
baz=117
K23A **Bowen Ranch, D** 117.24 42 ⇑P **PKPdf** 07 59 44.0 +0.5
baz=117
D26A **Manning** 117.29 36 ⇓P **PKPdf** 07 59 44.5 +1.2
baz=117
MVCO **Mesa Verde** 117.32 49 ⇑P **PKPdf** 07 59 46.0 +2.1
baz=117
MVCO **Mesa Verde** 117.32 49 PFAKE 08 00 00.0 +16
MVCO LR LR
comp=Z,3µm,22.0s
SGMF **Saint Gilles** 117.37 325 *e*PKIKP **PKPdf** 07 59 42.4 -1.0
comp=Z,20nm,1.0s
SGMF **Saint Gilles** 117.37 325 *e*PKIKP **PKPdf** 07 59 42.4 -1.0
SGMF **Saint Gilles** 117.37 325 *e*PKPdf **PKPdf** 07 59 42.4 -1.0
I24A **Kuemmerle Ranc** 117.42 40 ⇓P **PKPdf** 07 59 44.1 +0.3
baz=117
N22A **Wattenberg Ran** 117.47 44 ⇓P **PKPdf** 07 59 45.8 +1.6
baz=117,SNR=5.6
C27A **Sayler Ranch,** 117.49 35 ⇑P **PKPdf** 07 59 44.6 +0.9
baz=117
E26A **Carlson Angus** 117.55 37 ⇓P **PKPdf** 07 59 44.9 +1.0
baz=118
A28A **Rude Farm, Bot** 117.56 34 ⇑P **PKPdf** 07 59 44.2 +0.5
baz=118
G25A **Newell** 117.58 39 ⇓P **PKPdf** 07 59 45.1 +1.1
baz=118
J24A **Dixon Ranch, L** 117.63 41 ⇑P **PKPdf** 07 59 44.5 +0.3
baz=118
O22A **Kremmling** 117.66 45 ⇑P **PKPdf** 07 59 45.6 +1.0
baz=118
RSSD **Black Hills** 117.68 40 *e*PKIKP **PKPdf** 07 59 43.9 -0.5
RSSD **Black Hills** 117.68 40 *e*PKPdf **PKPdf** 07 59 43.9 -0.5
M23A **Laramie** 117.71 43 ⇓P **PKPdf** 07 59 45.5 +0.9
baz=118
F26A **Lodgepole** 117.72 38 ⇑P **PKPdf** 07 59 44.8 +0.6
baz=118
P22A **Eagle** 117.73 46 ⇓P **PKPdf** 07 59 46.5 +1.8
baz=118,SNR=5.5
H25A **Fruitdale** 117.73 39 ⇓P **PKPdf** 07 59 44.8 +0.5
baz=118
ROSF **Rostrenen** 117.74 326 *e*PKIKP **PKPdf** 07 59 43.0 -1.1
comp=Z,16nm,0.9s
ROSF **Rostrenen** 117.74 326 *e*PKIKP **PKPdf** 07 59 43.0 -1.1
ROSF **Rostrenen** 117.74 326 *e*PKPdf **PKPdf** 07 59 43.0 -1.1
B28A **Dugan Ranch, T** 117.76 34 ⇓P **PKPdf** 07 59 45.3 +1.2
baz=118
N23A **Red Feather La** 117.79 44 ⇓P **PKPdf** 07 59 45.3 +0.5
baz=118
K24A **Anderson Ranch** 117.79 42 ⇓P **PKPdf** 07 59 45.3 +0.7
baz=118
QUIF **Quistinic** 117.90 325 *e*PKIKP **PKPdf** 07 59 43.0 -1.4
comp=Z,8.4nm,0.7s
QUIF **Quistinic** 117.90 325 *e*PKIKP **PKPdf** 07 59 43.0 -1.4
QUIF **Quistinic** 117.90 325 *e*PKPdf **PKPdf** 07 59 43.0 -1.4
I25A **Rochford** 117.92 40 ⇑P **PKPdf** 07 59 45.1 +0.2
baz=118,SNR=6.9
G26A **Maurine** 118.04 38 ⇑P **PKPdf** 07 59 45.7 +0.9
baz=118
O23A **Lake Granby, G** 118.08 45 ⇑P **PKPdf** 07 59 46.6 +1.2
baz=118,SNR=7.7
E27A **Carson** 118.11 37 ⇓P **PKPdf** 07 59 45.5 +0.6
baz=118,SNR=6.2
F27A **Lemmon** 118.11 37 ⇓P **PKPdf** 07 59 45.9 +0.9
baz=118
A29A **Manning Farm,** 118.13 33 ⇑P **PKPdf** 07 59 45.4 +0.6
baz=118
C28A **Hausauer Farms** 118.13 35 ⇑P **PKPdf** 07 59 46.0 +1.1
baz=118
J25A **Sunshine Ranch** 118.16 41 ⇓P **PKPdf** 07 59 45.9 +0.7
baz=118,SNR=6.3
H26A **Fairmt** 118.25 39 ⇑P **PKPdf** 07 59 45.5 +0.2
baz=118
D28A **Regan** 118.30 36 ⇑P **PKPdf** 07 59 46.2 +1.0
baz=118
B29A **Wagenman Farm,** 118.31 34 ⇓P **PKPdf** 07 59 46.0 +0.8
baz=118
M24A **Cheyenne** 118.32 43 ⇓P **PKPdf** 07 59 46.3 +0.6
baz=118
S22A **4UR Ranch, Cre** 118.37 48 ⇑P **PKPdf** 07 59 47.3 +1.3
baz=118
G27A **Dupree** 118.41 38 ⇑P **PKPdf** 07 59 46.4 +0.9
baz=118,SNR=7.0
ISCO **Idaho Springs** 118.46 45 *e*PKIKP **PKPdf** 07 59 46.8 +0.6
ISCO MLR MLR
comp=Z,2µm,22.0s
ISCO **Idaho Springs** 118.46 45 ⇓P **PKPdf** 07 59 47.3 +1.2
baz=118,SNR=7.0
ISCO **Idaho Springs** 118.46 45 *e*PKPdf **PKPdf** 07 59 46.8 +0.6
ISCO LR LR
comp=Z,2µm,22.0s
MDND **Maddock** 118.51 35 ⇓P **PKPdf** 07 59 46.6 +1.0
baz=118
319A **Douglas** 118.54 55 ⇑P **PKPdf** 07 59 47.9 +1.6
baz=118
E28A **Huff** 118.55 36 ⇑P **PKPdf** 07 59 47.1 +1.4
baz=118
L25A **Engebretsen Ra** 118.60 42 ⇑P **PKPdf** 07 59 47.4 +1.3
baz=118
A30A **Biffart Farm,** 118.63 33 ⇓P **PKPdf** 07 59 47.4 +1.6
baz=118
Q23A **Hartsel** 118.66 46 ⇑P **PKPdf** 07 59 48.4 +1.8
baz=119
ETSF **Etsaut** 118.77 319 *e*PKIKP **PKPdf** 07 59 45.8 -0.5
comp=Z,25nm,1.1s
ETSF **Etsaut** 118.77 319 *e*PKIKP **PKPdf** 07 59 45.8 -0.5
ETSF **Etsaut** 118.77 319 *e*PKPdf **PKPdf** 07 59 45.8 -0.5
F28A **McLaughlin** 118.86 37 ⇓P **PKPdf** 07 59 46.4 0.0
baz=119
K26A **Motz Farm, Whi** 118.88 41 ⇑P **PKPdf** 07 59 47.1 +0.5
baz=119
B30A **Myrvik Farm, E** 118.89 33 ⇓P **PKPdf** 07 59 46.9 +0.6
baz=119
D29A **Pettibone, Tap** 118.94 35 ⇓P **PKPdf** 07 59 48.0 +1.5
baz=119
R23A **Moffat** 118.94 47 ⇓P **PKPdf** 07 59 49.0 +1.9
baz=119
I27A **Quinn** 118.97 39 ⇓P **PKPdf** 07 59 47.4 +0.7
baz=119
P24A **Kohler Place,** 119.07 45 ⇓P **PKPdf** 07 59 49.0 +1.8
baz=119
SJPF **Ste Jean** 119.10 320 *e*PKIKP **PKPdf** 07 59 46.2 -0.7
comp=Z,14nm,1.0s
SJPF **Ste Jean** 119.10 320 *e*PKIKP **PKPdf** 07 59 46.2 -0.7
SJPF **Ste Jean** 119.10 320 *e*PKPdf **PKPdf** 07 59 46.2 -0.7
ULM **Lac du Bonnet** 119.14 31 PKP **PKPdf** 07 59 46.2 -0.5
comp=Z,5.0nm,0.7s,baz=315,slow=3.7,SNR=7.9
ULM **Lac du Bonnet** 119.14 31 PKIKP **PKPdf** 07 59 46.2 -0.5
ULM pmax pmax
comp=Z,5.0nm,0.7s
E29A **Napoleon** 119.17 36 ⇑P **PKPdf** 07 59 49.0 +2.0
baz=119
C30A **Mose, Pekin** 119.22 34 ⇑P **PKPdf** 07 59 47.9 +0.9
baz=119
LAZ **Ladron** 119.31 51 *e*PKPdf **PKPdf** 07 59 49.5 +1.7
H28A **Mission Ridge** 119.32 38 ⇑P **PKPdf** 07 59 48.5 +1.2
baz=119
SDCO **Great Sand Dun** 119.35 47 ⇓P **PKPdf** 07 59 49.8 +1.9
baz=119,SNR=7.1
J27A **Elkhorn Farm,** 119.39 40 ⇓P **PKPdf** 07 59 49.3 +1.8
baz=119
D30A **Buchanan** 119.39 35 ⇑P **PKPdf** 07 59 48.0 +0.6
baz=119
121A **Cookes Peak, D** 119.41 53 ⇓P **PKPdf** 07 59 49.7 +1.7
baz=119
F29A **Eureka** 119.45 37 ⇓P **PKPdf** 07 59 48.7 +1.3
baz=119
K27A **Fluecklinger Fa** 119.50 41 ⇑P **PKPdf** 07 59 48.2 +0.4
baz=119
I28A **Midland** 119.56 39 ⇓P **PKPdf** 07 59 48.4 +0.6
baz=120,SNR=7.4
P25A **Willow Gulch B** 119.60 45 ⇓P **PKPdf** 07 59 49.8 +1.7
baz=120
E30A **Jud** 119.63 36 ⇓P **PKPdf** 07 59 48.3 +0.5
baz=120
ANMO **Albuquerque** 119.65 50 PKP **PKPdf** 07 59 49.2 +0.8
comp=Z,10.0nm,1.1s,baz=229,slow=2.1,SNR=17
ANMO PKKPab **PKKPbc** 08 10 00.2 +0.4
comp=Z,0.5nm,0.3s,baz=136,slow=5.5,SNR=3.8
ANMO **Albuquerque** 119.65 50 PKP **PKPdf** 07 59 49.2 +0.8
ANMO *e*PKPdf **PKiKP** 07 59 49.5 +1.0
ANMO PKKPab **PKKPbc** 08 10 00.2 +0.4
ANMO LR LR
comp=Z,2µm,19.0s
LPM **Los Pinos Moun** 119.74 51 *e*PKPdf **PKPdf** 07 59 49.3 +0.7
J28A **Allard Ranch,** 119.80 40 ⇑P **PKPdf** 07 59 49.1 +0.8
baz=120,SNR=8.0
K28A **Ten Mile Ranch** 120.06 40 ⇓P **PKPdf** 07 59 48.8 0.0
baz=120
I29A **Vivian Onida** 120.09 39 ⇑P **PKPdf** 07 59 49.3 +0.5
baz=120,SNR=5.9
P26A **Davis Ranch, A** 120.15 44 ⇑P **PKPdf** 07 59 50.0 +0.8
baz=120
G30A **Faulkton** 120.23 37 ⇑P **PKPdf** 07 59 49.6 +0.6
baz=120
Q26A **Hugo** 120.30 45 ⇑P **PKPdf** 07 59 50.8 +1.3
baz=120
AGMN **Agassiz Nation** 120.32 32 ⇓P **PKPdf** 07 59 49.2 +0.1
baz=120
AGMN **Agassiz Nation** 120.32 32 PFAKE 08 00 00.0 +11
AGMN LR LR
comp=Z,2µm,20.0s
T25A **Trinidad** 120.38 47 ⇓P **PKPdf** 07 59 51.5 +1.7
baz=120,SNR=7.5
J29A **Okreek** 120.38 39 ⇑P **PKPdf** 07 59 50.0 +0.6
baz=120
OGNE **Ogallala** 120.44 42 PFAKE 08 00 00.0 +10
OGNE LR LR
comp=Z,2µm,21.0s
O27A **Beecher Island** 120.48 43 ⇓P **PKPdf** 07 59 50.5 +0.8
baz=120
TAM **Tamanrasset** 120.63 295 *e*PKIKP **PKPdf** 07 59 52.8 +2.2
TAM MLR MLR
comp=Z,685nm,22.0s
TAM **Tamanrasset** 120.63 295 *e*PKPdf **PKPdf** 07 59 52.8 +2.2
TAM LR LR
comp=Z,685nm,22.0s
M28A **Bar X Bar Ranc** 120.68 42 ⇓P **PKPdf** 07 59 50.9 +0.8
baz=121
I30A **Oacoma** 120.69 38 ⇓P **PKPdf** 07 59 50.9 +1.0
baz=121
P27A **Ficken Ranch,** 120.69 44 ⇓P **PKPdf** 07 59 51.8 +1.6
baz=121
K29A **Lazy Trails An** 120.71 40 ⇑P **PKPdf** 07 59 50.8 +0.8
baz=121
S26A **Kim** 120.87 46 ⇑P **PKPdf** 07 59 51.2 +0.5
baz=121
N28A **Pribbeno Ranch** 120.89 42 ⇓P **PKPdf** 07 59 49.4 -1.1
baz=121
T26A **Comanche Natio** 120.97 47 ⇑P **PKPdf** 07 59 51.6 +0.7
baz=121
R27A **Eads** 121.08 45 ⇑P **PKPdf** 07 59 51.9 +0.9
baz=121
M29A **Burnside Ranch** 121.11 41 ⇓P **PKPdf** 07 59 51.8 +0.9
baz=121
K30A **Basset** 121.20 40 ⇑P **PKPdf** 07 59 51.8 +0.8
baz=121
P28A **Saint Francis** 121.25 44 ⇓P **PKPdf** 07 59 52.3 +1.1
baz=121
Q28A **Sharon Springs** 121.43 44 ⇑P **PKPdf** 07 59 52.6 +0.9
baz=121
N29A **Votaw Ranch, W** 121.44 42 ⇑P **PKPdf** 07 59 52.7 +1.1
baz=121
L30A **Spencer Herefo** 121.50 40 ⇑P **PKPdf** 07 59 52.3 +0.7
baz=121
MNTX **Cornudas Mount** 121.60 54 ⇑P **PKPdf** 07 59 53.5 +1.4
baz=122
MNTX **Cornudas Mount** 121.60 54 *e*PKPdf **PKPdf** 07 59 52.8 +0.8
MNTX LR LR
comp=Z,2µm,19.0s
O29A **4D Ranch, Culb** 121.66 43 ⇓P **PKPdf** 07 59 52.9 +0.9
baz=122
R28A **Tribune** 121.76 45 ⇑P **PKPdf** 07 59 53.0 +0.7
baz=122
P29A **Atwood** 121.81 43 ⇑P **PKPdf** 07 59 53.3 +1.0
baz=122
N30A **Huefte Ranch,** 121.81 42 ⇑P **PKPdf** 07 59 54.9 +2.7
baz=122
U27A **Thompson Grove** 121.83 47 ⇑P **PKPdf** 07 59 54.1 +1.6
baz=122,SNR=9.0
L31A **Butterfield Fa** 121.95 40 ⇓P **PKPdf** 07 59 52.7 +0.3
baz=122
S28A **Manter** 122.02 46 ⇑P **PKPdf** 07 59 54.0 +1.2
baz=122
T28A **Walsh** 122.06 46 ⇓P **PKPdf** 07 59 53.8 +0.9
baz=122
V27A **Dan Oppiter Fa** 122.09 48 ⇑P **PKPdf** 07 59 54.5 +1.5
baz=122
Q29A **Oakley** 122.10 44 ⇑P **PKPdf** 07 59 53.9 +1.1
baz=122,SNR=6.7
O30A **MW Ranch, Wils** 122.13 42 ⇑P **PKPdf** 07 59 54.1 +1.2
baz=122
M31A **Lambtecht Ranc** 122.28 41 ⇑P **PKPdf** 07 59 52.6 -0.5
baz=122
P30A **Selden** 122.30 43 ⇑P **PKPdf** 07 59 54.5 +1.3
baz=122,SNR=5.2
ECSD **EROS Data Cent** 122.51 37 ⇓P **PKPdf** 07 59 53.9 +0.5
baz=122
ECSD **EROS Data Cent** 122.51 37 *e*PKPdf **PKPdf** 07 59 52.9 -0.5
ECSD LR LR
comp=Z,2µm,20.0s
ESDC **Sonseca Array** 122.54 317 PKP **PKPdf** 07 59 54.1 +0.4
comp=Z,1.2nm,0.6s,baz=28,slow=2.9,SNR=13
ESDC PP **PP** 08 01 27.0 -3.4
comp=Z,4.6nm,0.9s,baz=55,slow=7.3,SNR=6.0
V28A **Channing** 122.55 48 ⇓P **PKPdf** 07 59 55.3 +1.4
baz=122,SNR=5.4
S29A **Ulysses** 122.56 46 ⇓P **PKPdf** 07 59 55.2 +1.4
baz=122
HOPE **Hope Point** 122.57 191 PFAKE 08 00 00.0 +6.9
HOPE LR LR
comp=Z,2µm,19.0s
Q30A **Quinter** 122.58 44 ⇑P **PKPdf** 07 59 54.9 +1.1
baz=122
O31A **Woolen Ranch,** 122.64 42 ⇑P **PKPdf** 07 59 55.0 +1.1
baz=123
T29A **Hugoton** 122.64 46 ⇑P **PKPdf** 07 59 55.3 +1.4
baz=123
W28A **Vega** 122.77 49 ⇑P **PKPdf** 07 59 56.2 +1.9
baz=123
BGNE **Belgrade** 122.78 40 ⇑P **PKPdf** 07 59 53.7 -0.4
baz=123,SNR=7.4
BGNE **Belgrade** 122.78 40 *e*PKPdf **PKPdf** 07 59 53.3 -0.7
EYMN **Ely** 122.82 31 *e*PKPdf **PKPdf** 07 59 53.8 -0.1
EYMN LR LR
comp=Z,2µm,21.0s
MSTX **Muleshoe** 122.84 50 ⇓P **PKPdf** 07 59 55.4 +0.9
baz=123,SNR=6.8
MSTX **Muleshoe** 122.84 50 *e*PKPdf **PKPdf** 07 59 55.1 +0.6
PAB **San Pablo** 122.86 317 *e*PKIKP **PKPdf** 07 59 55.6 +1.3
PAB MLR MLR
comp=Z,453nm,22.0s
PAB **San Pablo** 122.86 317 *e*PKPdf **PKPdf** 07 59 55.6 +1.3
PAB LR LR
comp=Z,453nm,22.0s
R30A **Dighton** 122.86 44 ⇑P **PKPdf** 07 59 55.4 +1.1
baz=123,SNR=5.8
P31A **Stockton** 122.90 43 ⇓P **PKPdf** 07 59 55.2 +0.9
baz=123,SNR=8.3
V29A **Stinnett** 123.02 48 ⇓P **PKPdf** 07 59 54.8 +0.1
baz=123
S30A **Montezuma** 123.02 45 ⇑P **PKPdf** 07 59 56.1 +1.5
baz=123
X28A **Dimmitt** 123.07 49 ⇑P **PKPdf** 07 59 56.5 +1.6
baz=123,SNR=10.0
T30A **Plains** 123.24 46 ⇑P **PKPdf** 07 59 56.7 +1.6
baz=123
W29A **Amarillo** 123.24 48 ⇓P **PKPdf** 07 59 56.4 +1.2
baz=123
Y28A **McKinney Farm,** 123.27 50 ⇑P **PKPdf** 07 59 56.5 +1.2
baz=123
O32A **Brockman Farm,** 123.28 42 ⇑P **PKPdf** 07 59 55.4 +0.4
baz=123
PBRG **Braganca** 123.29 321 *e*PP PP 08 01 36.7 +1.4
AMTX **Amarillo** 123.31 49 ⇓P **PKPdf** 07 59 56.8 +1.5
baz=123
U30A **WK&E Inc. Balk** 123.38 46 ⇑P **PKPdf** 07 59 55.4 0.0
baz=123
P32A **Huiting Farm,** 123.38 42 ⇓P **PKPdf** 07 59 56.0 +0.8
baz=123,SNR=8.0
R31A **Burdett** 123.38 44 ⇑P **PKPdf** 07 59 56.6 +1.3
baz=123,SNR=8.0
Z28A **Tucker Farm, M** 123.40 51 ⇓P **PKPdf** 07 59 57.1 +1.6
baz=123
X29A **Tulia** 123.47 49 ⇓P **PKPdf** 07 59 56.8 +1.1
baz=123,SNR=8.5
128A **Castleberry Fa** 123.58 52 ⇓P **PKPdf** 07 59 57.0 +1.1
baz=124
228A **UT Block 9, Go** 123.68 52 ⇑P **PKPdf** 07 59 57.8 +1.7
baz=124
V30A **Spur Ranch, Mi** 123.68 47 ⇓P **PKPdf** 07 59 57.9 +1.9
baz=124
S31A **Mullinville** 123.72 45 ⇓P **PKPdf** 07 59 57.4 +1.4
baz=124
Y29A **Porterfield Fa** 123.73 50 ⇑P **PKPdf** 07 59 57.6 +1.5
baz=124,SNR=13
TXAR **Lajitas Array** 123.78 56 PKP **PKPdf** 07 59 57.1 +0.7
comp=Z,2.9nm,0.8s,baz=225,slow=2.2,SNR=12
TXAR PKKPab **PKKPab** 08 09 43.5 +0.1

comp=Z,1.6nm,0.7s,baz=116,slow=6.1,SNR=12
MVO Moncorvo 123.81 320 *e*PKPdf **PKPdf 07 59 57.4 +1.3**
MVO Moncorvo 123.81 320 *e*PP PP 08 01 40.7 +1.8
T31A Randall Ranch, 123.83 45 ⇓P **PKPdf 07 59 57.8 +1.6**
baz=124
SPMN Marine on St. 123.85 34 ⇓P **PKPdf 07 59 56.6 +0.6**
baz=124
SPMN Marine on St. 123.85 34 *e*PKPdf **PKPdf 07 59 55.9 0.0**
R32A Long Quarter, 123.89 44 ⇓P **PKPdf 07 59 57.3 +1.1**
baz=124,SNR=10.0
Z29A Hungry Hill Ra 123.94 50 ⇑P **PKPdf 07 59 57.9 +1.3**
baz=124,SNR=10
U31A Nine Bar Ranch 124.03 46 ⇑P **PKPdf 07 59 58.5 +1.9**
baz=124
129A Stewart Farms, 124.06 51 ⇑P **PKPdf 07 59 57.9 +1.1**
baz=124,SNR=10
P33A Williams Farm, 124.08 42 ⇓P **PKPdf 07 59 57.5 +0.9**
baz=124
X30A Coker Ranch, T 124.10 49 ⇑P **PKPdf 07 59 57.7 +0.9**
baz=124,SNR=7.4
PCAB Cabril 124.15 321 *e*PP PP 08 01 42.9 +1.9
PGAV Gavieira, Arco 124.16 322 *e*PKPdf **PKPdf 07 59 57.6 +0.8**
PGAV Gavieira, Arco 124.16 322 *e*PP PP 08 01 42.7 +1.5
POLO Lamas de Olo 124.19 321 *e*PKPdf **PKPdf 07 59 58.1 +1.3**
POLO Lamas de Olo 124.19 321 *e*PP PP 08 01 41.8 +0.4
PVRL Vila Real 124.19 321 *e*PKPdf **PKPdf 07 59 58.1 +1.3**
Q33A Connelly Farm, 124.21 43 ⇓P **PKPdf 07 59 57.7 +0.9**
baz=124
V31A Spring Creek L 124.30 47 ⇑P **PKPdf 07 59 59.1 +2.0**
baz=124,SNR=7.2
Y30A Stafford Cattl 124.31 49 ⇑P **PKPdf 07 59 59.0 +1.7**
baz=124
T32A Huddler Ranch, 124.32 45 ⇑P **PKPdf 07 59 58.5 +1.4**
baz=124
229A Bryant Ranch, 124.35 52 ⇑P **PKPdf 07 59 59.0 +1.7**
baz=124
Z30A Sanderson Ranc 124.37 50 ⇓P **PKPdf 07 59 58.3 +0.9**
baz=124
329A Wagon Wheel Ra 124.39 53 ⇑P **PKPdf 07 59 58.8 +1.3**
baz=124,SNR=12
R33A Olander Ranch, 124.44 43 ⇑P **PKPdf 07 59 58.4 +1.1**
baz=124,SNR=6.2
W31A Holland Ranch, 124.48 48 ⇑P **PKPdf 07 59 59.2 +1.7**
baz=124,SNR=9.1
MTE Manteigas 124.55 320 *e*PKPdf **PKPdf 07 59 58.9 +1.4**
MTE Manteigas 124.55 320 *e*PP PP 08 01 45.8 +2.0
MTE Manteigas 124.55 320 *e*PKPdf **PKPdf 07 59 57.9 +0.4**
MTE LR LR
comp=Z,925nm,20.0s
PVIS Viseu 124.61 320 *e*PKPdf **PKPdf 07 59 58.5 +0.9**
PVIS Viseu 124.61 320 *e*PP PP 08 01 49.2 +5.0
U32A Winter Ranch, 124.64 46 ⇑P **PKPdf 07 59 59.2 +1.5**
baz=125
X31A McDonald Ranch 124.69 48 ⇓P **PKPdf 07 59 59.0 +1.1**
baz=125,SNR=9.7
529A Stev Forest Ra 124.69 54 ⇑P **PKPdf 07 59 59.3 +1.2**
baz=125,SNR=18
Y31A Rekieta Farm, 124.76 49 ⇓P **PKPdf 07 59 59.2 +1.2**
baz=125
130A Snyder 124.77 51 ⇓P **PKPdf 07 59 59.7 +1.6**
baz=125
429A Davenport Ranc 124.78 54 ⇑P **PKPdf 07 59 59.3 +1.1**
baz=125,SNR=19
PCBR Castelo Branco 124.80 319 *e*PKPdf **PKPdf 07 59 58.9 +1.0**
PCBR Castelo Branco 124.80 319 *e*PP PP 08 01 48.0 +2.6
T33A Patterson Ranc 124.85 45 ⇓P **PKPdf 07 59 59.6 +1.5**
baz=125
V32A Arapaho 124.90 47 ⇓P **PKPdf 07 59 60.0 +1.7**
baz=125
230A Sterling City 124.93 52 ⇑P **PKPdf 08 00 00.4 +1.9**
baz=125
PMRV Marv??o 124.96 319 *e*PKPdf **PKPdf 07 59 59.0 +0.7**
PMRV Marv??o 124.96 319 *e*PP PP 08 01 48.7 +2.2
KSU1 Kansas State U 124.98 42 ⇑P **PKPdf 08 00 00.2 +1.9**
baz=125
KSU1 Kansas State U 124.98 42 PFAKE 08 00 10.0 +12
KSU1 LR LR
comp=Z,2μm,20.0s
W32A Sentinel 125.02 47 ⇑P **PKPdf 08 00 00.1 +1.6**
baz=125
330A Mertzon 125.06 52 ⇓P **PKPdf 07 59 59.6 +0.9**
baz=125,SNR=6.8
Z31A Sharp Cattle R 125.11 50 ⇑P **PKPdf 08 00 00.1 +1.4**
baz=125,SNR=6.0
131A Roby 125.19 51 ⇓P **PKPdf 08 00 00.4 +1.5**
baz=125
U33A Lingo Farm, Me 125.25 45 ⇑P **PKPdf 07 59 59.8 +0.9**
baz=125
430A Baggett Ranch, 125.25 53 ⇑P **PKPdf 08 00 00.5 +1.4**
baz=125,SNR=24
COWI Conover 125.25 31 *e*PKPdf **PKPdf 07 59 58.3 -0.3**
COWI LR LR
comp=Z,1μm,21.0s
X32A Elmer 125.30 48 ⇑P **PKPdf 08 00 00.7 +1.7**
baz=125
Y32A R-V Farms, Ver 125.36 49 ⇑P **PKPdf 08 00 00.9 +1.8**
baz=125
PBAR Barrancos 125.36 317 *e*PKPdf **PKPdf 08 00 00.3 +1.3**
PBAR Barrancos 125.36 317 *e*PP PP 08 01 51.9 +2.7
PESTR Estremoz 125.38 318 *e*PKPdf **PKPdf 08 00 00.6 +1.5**
PESTR Estremoz 125.38 318 *e*PP PP 08 01 51.3 +1.9
530A J-C Ranch, Com 125.40 54 ⇓P **PKPdf 08 00 01.2 +1.7**
baz=125,SNR=18
V33A Lossen Ranch, 125.41 46 ⇓P **PKPdf 08 00 00.8 +1.6**
baz=125,SNR=5.2
PTOM Tomar 125.53 319 *e*PKPdf **PKPdf 08 00 00.6 +1.3**
PTOM Tomar 125.53 319 *e*PP PP 08 01 55.8 +5.5
WMOK Wichita Mounta 125.53 48 PFAKE 08 00 10.0 +10
WMOK LR LR
comp=Z,2μm,20.0s
231A Bronte 125.53 51 ⇓P **PKPdf 08 00 00.7 +1.1**
baz=126,SNR=10
W33A Caddo, Fort Co 125.58 47 ⇑P **PKPdf 08 00 01.6 +2.0**
baz=126
SCIA State Center 125.60 37 PFAKE 08 00 10.0 +11
SCIA LR LR
comp=Z,2μm,21.0s
Z32A Haskell 125.62 50 ⇑P **PKPdf 08 00 01.2 +1.5**
baz=126,SNR=9.7
U34A Anderson Ranch 125.66 45 ⇓P **PKPdf 08 00 00.9 +1.3**
baz=126,SNR=6.2
U34A Anderson Ranch 125.66 45 *e*PKPdf **PKPdf 08 00 00.7 +1.0**
331A San Angelo 125.69 52 ⇑P **PKPdf 08 00 01.0 +1.1**
baz=126,SNR=13
PMTG Montargil 125.70 319 *e*PKPdf **PKPdf 08 00 00.5 +0.9**
PMTG Montargil 125.70 319 *e*PP PP 08 01 53.8 +2.4
ABTX Abilene, Hawle 125.78 50 ⇑P **PKPdf 08 00 01.2 +1.2**
baz=126,SNR=5.7
431A Sonora 125.79 53 ⇓P **PKPdf 08 00 01.3 +1.2**
baz=126,SNR=13
X33A Lawton 125.83 48 ⇓P **PKPdf 08 00 01.3 +1.2**
baz=126
TORD Torodi Ar. Bea 125.83 285 PKP **PKPdf 08 00 00.5 0.0**
comp=Z,12nm,0.6s,baz=76,slow=1.4,SNR=52
TORD PP **PP 08 01 56.8 +3.3**
comp=Z,9.7nm,1.0s,baz=108,slow=5.1,SNR=5.4
EVO Evora 125.84 318 ⇑/PKIKP **PKPdf 08 00 01.2 +1.3**
comp=Z,55nm,1.2s
SCHQ Schefferville 125.84 11 PKP **PKPdf 08 00 00.1 +0.6**
comp=Z,6.1nm,0.9s,baz=281,slow=1.8,SNR=9.0
S35A Otter Creek Ra 125.89 43 ⇑P **PKPdf 08 00 01.3 +1.2**
baz=126,SNR=6.5
EVOP Sao Brissos 125.91 318 ⇑/PKIKP **PKPdf 08 00 01.2 +1.1**
EVOP Sao Brissos 125.91 318 ⇑/PKPdf **PKPdf 08 00 01.2 +1.1**
V34A Guthrie 125.95 46 ⇓P **PKPdf 08 00 02.1 +1.8**
baz=126
Y33A Hilltop Ranch, 125.97 48 ⇑P **PKPdf 08 00 02.1 +1.8**
baz=126
531A Rocksprings 126.03 54 ⇑P **PKPdf 08 00 02.6 +2.0**
baz=126,SNR=18
W34A Bridge Creek, 126.05 47 ⇓P **PKPdf 08 00 02.1 +1.7**
baz=126
232A Coleman 126.08 51 ⇓P **PKPdf 08 00 02.5 +1.9**
baz=126,SNR=11
R36A Gordon, Harris 126.12 42 ⇑P **PKPdf 08 00 01.7 +1.2**
baz=126,SNR=6.2
Z33A Whitaker Ranch 126.17 49 ⇑P **PKPdf 08 00 02.2 +1.4**
baz=126
332A Millersview 126.20 52 ⇑P **PKPdf 08 00 02.3 +1.4**
baz=126
PVAQ Vaqueiros 126.21 317 *e*PKPdf **PKPdf 08 00 01.5 +0.8**
PVAQ Vaqueiros 126.21 317 *e*PP PP 08 01 57.0 +2.1
PACT Alcochete 126.26 319 *e*PP PP 08 01 58.6 +3.5
631A Perdido Creek 126.28 54 ⇓P **PKPdf 08 00 02.5 +1.4**
baz=126,SNR=23
X34A Smith Ranch, M 126.29 47 ⇓P **PKPdf 08 00 02.7 +1.8**
baz=126,SNR=7.6
PCVE Castro Verde 126.32 317 *e*PKPdf **PKPdf 08 00 02.4 +1.5**
PCVE Castro Verde 126.32 317 *e*PP PP 08 01 57.8 +2.2
MESJ Messejana 126.33 317 *e*P **PKPdf 08 00 01.2 +0.3**
MESJ *e*PP **PP 08 01 56.3 +0.7**
MESJ AMS AMS 09 04 19.1
comp=Z,628nm,19.0s
MESJ Messejana 126.33 317 *e*PKIKP **PKPdf 08 00 01.1 +0.3**
MESJ *e* 08 01 56.3
133A Hamilton Ranch 126.34 50 ⇑P **PKPdf 08 00 02.7 +1.6**
baz=126
432A Menard 126.36 52 ⇓P **PKPdf 08 00 02.5 +1.3**
baz=126,SNR=7.0
EFI East Falkland 126.37 175 PFAKE 08 00 10.0 +9.5
EFI LR LR
comp=Z,2μm,20.0s
S36A Lake Cedric, C 126.37 43 ⇑P **PKPdf 08 00 02.7 +1.7**
baz=126,SNR=5.5
PBDV Barranco-do-Ve 126.44 316 *e*PKPdf **PKPdf 08 00 03.7 +2.5**
PBDV Barranco-do-Ve 126.44 316 *e*PP PP 08 01 59.3 +2.8
V35A Meyer Ranch, C 126.47 46 ⇑P **PKPdf 08 00 02.7 +1.5**
baz=126,SNR=5.3
LIS Lisbon 126.50 319 *e*PP PP 08 01 57.4 +0.7
LIS AMS AMS 08 57 53.5
comp=N,1μm,21.1s
PMST Lisbon--Monsan 126.51 319 *e*PP PP 08 02 00.1 +3.3
JCT Junction City 126.51 53 *e*PKIKP **PKPdf 08 00 02.5 +1.0**
JCT MLR MLR
comp=Z,2μm,20.0s
JCT Junction City 126.51 53 ⇑P **PKPdf 08 00 03.1 +1.6**
baz=126,SNR=16
JCT Junction City 126.51 53 *e*PKPdf **PKPdf 08 00 02.5 +1.0**
JCT LR LR
comp=Z,2μm,20.0s
532A Rocksprings 126.56 53 ⇓P **PKPdf 08 00 02.9 +1.3**
baz=126,SNR=11
233A Rising Star 126.60 51 ⇑P **PKPdf 08 00 03.0 +1.3**
baz=126,SNR=9.6
Y34A Reagan Ranch, 126.64 48 ⇑P **PKPdf 08 00 03.5 +1.9**
baz=127
JFWS Jewell Farm 126.73 35 *e*PKIKP **PKPdf 08 00 01.1 -0.4**
JFWS MLR MLR
comp=Z,3μm,22.0s
JFWS Jewell Farm 126.73 35 *e*PKPdf **PKPdf 08 00 01.1 -0.4**
JFWS LR LR
comp=Z,3μm,22.0s
W35A Tecumseh 126.73 46 ⇓P **PKPdf 08 00 03.2 +1.4**
baz=127,SNR=7.6
Z34A Collier Ranch, 126.78 49 ⇑P **PKPdf 08 00 03.7 +1.8**
baz=127
333A Richland Sprin 126.82 52 ⇓P **PKPdf 08 00 03.5 +1.4**
baz=127
PTEO Sao Teotonio 126.83 317 *e*PKPdf **PKPdf 08 00 03.9 +2.1**
PTEO Sao Teotonio 126.83 317 *e*PP PP 08 02 03.0 +4.0
632A Uvalde 126.89 54 ⇑P **PKPdf 08 00 04.3 +2.1**
baz=127,SNR=12
MORF Marmelete 126.90 317 *e*P **PKPdf 08 00 01.8 -0.3**
MORF *e*PP **PP 08 01 60.0 +0.4**
MORF AMS AMS 09 04 45.6
comp=Z,838nm,17.3s
MORF Marmelete 126.90 317 *e*PKPdf **PKPdf 08 00 03.2 +1.1**
MORF Marmelete 126.90 317 *e*PP PP 08 02 02.7 +3.1
MORF Marmelete 126.90 317 *e*PKIKP **PKPdf 08 00 01.7 -0.3**
MORF *e* 08 01 59.9
433A Art 126.96 52 ⇓P **PKPdf 08 00 03.8 +1.4**
baz=127,SNR=17
134A White-Moore Ra 127.00 50 ⇑P **PKPdf 08 00 04.1 +1.7**
baz=127,SNR=6.4
X35A Drake 127.02 47 ⇑P **PKPdf 08 00 04.4 +2.1**
baz=127
732A Laxson Ranch, 127.02 55 ⇓P **PKPdf 08 00 04.7 +2.2**
baz=127
PFVI Vila Bisbo 127.11 317 *e*PKPdf **PKPdf 08 00 04.1 +1.7**
PFVI Vila Bisbo 127.11 317 *e*PP PP 08 02 02.8 +1.9
TUL1 Leonard 127.14 45 ⇑P **PKPdf 08 00 04.2 +1.7**
baz=127,SNR=5.1
832A Faith Ranch, C 127.18 55 ⇑P **PKPdf 08 00 04.9 +2.1**
baz=127,SNR=26
234A Clairette 127.20 50 ⇑P **PKPdf 08 00 04.3 +1.6**
baz=127,SNR=8.6
W36A Wetumka 127.21 46 ⇑P **PKPdf 08 00 04.0 +1.3**
baz=127,SNR=8.4
533A Kerrville 127.28 53 ⇑P **PKPdf 08 00 04.6 +1.6**
baz=127,SNR=7.8
Z35A Perchaven, San 127.29 48 ⇑P **PKPdf 08 00 04.4 +1.5**
baz=127
X36A Centrahoma 127.39 47 ⇑P **PKPdf 08 00 04.4 +1.4**
baz=127,SNR=6.3
633A Saathoff Ranch 127.40 54 ⇑P **PKPdf 08 00 05.1 +1.9**
baz=127,SNR=9.8
334A Lometa 127.40 51 ⇓P **PKPdf 08 00 04.3 +1.1**
baz=127,SNR=5.8
135A Vickery Place, 127.52 49 ⇑P **PKPdf 08 00 05.3 +1.9**
baz=127
733A Divot King Ran 127.58 55 ⇑P **PKPdf 08 00 05.9 +2.3**
baz=128,SNR=7.2
434A Burnet 127.59 52 ⇑P **PKPdf 08 00 04.9 +1.3**
baz=128,SNR=12
833A Chaparral WMA, 127.64 55 ⇓P **PKPdf 08 00 06.3 +2.6**
baz=128,SNR=11
WHTX Lake Whitney, 127.73 50 ⇑P **PKPdf 08 00 05.9 +2.1**
baz=128
534A Blanco 127.74 53 ⇓P **PKPdf 08 00 05.3 +1.4**
baz=128,SNR=11
933A Laredo 128.00 56 ⇓P **PKPdf 08 00 06.2 +1.8**
baz=128
335A Moody 128.05 51 ⇑P **PKPdf 08 00 06.3 +1.9**
baz=128
X37A Clayton 128.09 46 ⇑P **PKPdf 08 00 06.2 +1.9**
baz=128,SNR=6.2
634A China Grove, S 128.09 54 ⇓P **PKPdf 08 00 07.0 +2.5**
baz=128
734A La Parita Cree 128.13 54 ⇑P **PKPdf 08 00 06.2 +1.6**
baz=128
435B Jarrell 128.14 52 ⇓P **PKPdf 08 00 06.4 +1.9**
baz=128
834A Tilden 128.41 55 ⇓P **PKPdf 08 00 07.2 +2.1**
baz=128
336A Riesel 128.46 51 ⇑P **PKPdf 08 00 07.3 +2.1**
baz=128
535A Dale 128.46 52 ⇑P **PKPdf 08 00 07.6 +2.4**
baz=128
W38A Poteau 128.46 45 ⇑P **PKPdf 08 00 06.9 +1.9**
baz=128
635A Leesville 128.55 53 ⇓P **PKPdf 08 00 08.2 +2.9**
baz=128,SNR=5.5
934A Benavides 128.63 56 ⇑P **PKPdf 08 00 08.0 +2.4**
baz=129
034A Hebbronville 128.69 56 ⇑P **PKPdf 08 00 08.0 +2.3**
baz=129
735A Kenedy 128.73 54 ⇓P **PKPdf 08 00 08.4 +2.7**
baz=129
436A Wall Ranch, Ga 128.76 51 ⇓P **PKPdf 08 00 08.3 +2.6**
baz=129
HDIL Hopedale 128.77 36 PFAKE 08 00 20.0 +15
HDIL LR LR
comp=Z,22μm,22.0s
536A Bastrop 128.84 52 ⇓P **PKPdf 08 00 08.1 +2.2**
baz=129
636A Smothers Creek 129.09 53 ⇑P **PKPdf 08 00 09.3 +3.0**
baz=129
KVTX Kingsville 129.16 55 PFAKE 08 00 20.0 +13
KVTX LR LR
comp=Z,2μm,22.0s
035A Encino 129.22 56 ⇓P **PKPdf 08 00 09.5 +2.8**
baz=129
138A Matatall Enter 129.22 48 ⇓P **PKPdf 08 00 08.8 +2.3**
baz=129
337A Centerville 129.22 50 ⇓P **PKPdf 08 00 09.2 +2.6**
baz=129
437A Phantom Ranch, 129.24 51 ⇑P **PKPdf 08 00 09.6 +3.0**
baz=129
736A Circle Diamond 129.29 53 ⇓P **PKPdf 08 00 09.6 +2.8**
baz=129
MIAR Mount Ida 129.40 45 *e*PKIKP **PKPdf 08 00 07.9 +1.1**
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR Mount Ida 129.40 45 *e*PKPdf **PKPdf 08 00 07.9 +1.1**
MIAR LR LR
comp=Z,2μm,19.0s
035Z Hargill 129.41 57 ⇓P **PKPdf 08 00 09.5 +2.5**
baz=129
338A Crockett 129.65 50 ⇓P **PKPdf 08 00 10.2 +2.8**
baz=130
SFIN Lafayette 130.17 35 ⇑P **PKPdf 08 00 10.0 +1.8**
baz=130
OLIL Olney 130.63 38 *e*PKPdf **PKPdf 08 00 09.8 +0.8**
340A Bronson 130.70 49 ⇓P **PKPdf 08 00 11.6 +2.2**
baz=131
AAM Ann Arbor 130.73 31 PFAKE 08 00 20.0 +11
AAM LR LR
comp=Z,2μm,20.0s
SADO Sadowa 131.00 26 PKP **PKPdf 08 00 10.0 +0.5**
comp=Z,6.7nm,1.0s,baz=349,slow=2.5,SNR=7.1
SHEL Horse Pasture 131.08 247 PFAKE 08 00 20.0 +9.4
SHEL LR LR
comp=Z,1μm,20.0s
WCI Wyandotte Cave 132.04 37 *e*PKIKP **PKPdf 08 00 12.5 +0.7**
WCI Wyandotte Cave 132.04 37 *e*PKPdf **PKPdf 08 00 12.5 +0.7**
WVT Waverly 132.41 40 *e*PKIKP **PKPdf 08 00 13.2 +0.7**
WVT Waverly 132.41 40 *e*PKPdf **PKPdf 08 00 13.2 +0.7**
ACSO Alum Creek Sta 132.56 32 *e*PKPdf **PKPdf 08 00 12.9 +0.2**
ACSO LR LR
comp=Z,2μm,21.0s
ERPA Erie 132.68 28 PFAKE 08 00 20.0 +7.1
ERPA LR LR
comp=Z,2μm,21.0s
KIC Kosan Boka 132.78 277 *e*PKIKP **PKPdf 08 00 15.2 +1.4**
comp=Z,29nm,0.9s
DBIC Dimbokro 132.88 277 PKP **PKPdf 08 00 14.5 +0.5**
comp=Z,6.2nm,0.6s,baz=86,slow=2.1,SNR=14
DBIC Dimbokro 132.88 277 PKIKP **PKPdf 08 00 14.5 +0.5**
DBIC pmax pmax
comp=Z,6.0nm,0.6s
DBIC Dimbokro 132.88 277 PKP **PKPdf 08 00 14.5 +0.5**
DBIC *e*PKPdf **PKiKP 08 00 14.9 -0.2**
LONY Lake Ozonia 132.96 22 PFAKE 08 00 30.0 +17
LONY LR LR
comp=Z,1μm,20.0s
TIC Toumodi 133.04 277 *e*PKIKP **PKPdf 08 00 15.6 +1.3**
comp=Z,9.5nm,0.2s
LIC Lamto 133.08 277 *e*PKIKP **PKPdf 08 00 12.7 -1.7**
comp=Z,18nm,0.6s
LIC Lamto 133.08 277 *e*PKIKP **PKPdf 08 00 15.7 +1.3**
comp=Z,30nm,0.6s
LIC Lamto 133.08 277 *e*PKPdf **PKPdf 08 00 12.7 -1.7**
NCB Newcomb 133.65 22 PFAKE 08 00 30.0 +15
NCB LR LR
comp=Z,1μm,21.0s
PKME Peaks-Kenny Pk 134.17 17 PFAKE 08 00 30.0 +14
PKME LR LR
comp=Z,1μm,20.0s
LBNH Lisbon 134.25 20 PFAKE 08 00 30.0 +14
LBNH LR LR
comp=Z,2μm,20.0s
PLCA Paso Flores 134.28 160 PKP **PKPdf 08 00 16.8 +0.7**
comp=Z,9.2nm,0.7s,baz=215,slow=1.8,SNR=37
BINY Binghamton 134.42 25 *e*PKPdf **PKPdf 08 00 16.2 0.0**
BINY LR LR
comp=Z,2μm,19.0s
LRAL Lakeview Retre 134.80 43 *e*PKPdf **PKPdf 08 00 17.9 +0.8**
SSPA Standing Stone 134.83 28 *e*PKPdf **PKPdf 08 00 18.0 +1.1**
PMAR Madeira 135.08 317 *e*PKPdf **PKPdf 08 00 19.5 +1.6**
CMIG Matias Romero 135.13 68 PKP **PKPdf 08 00 18.6 +0.5**
comp=Z,4.5nm,0.8s,baz=266,slow=1.6,SNR=7.0
TKL Tuckaleechee C 135.25 38 PKP **PKPdf 08 00 18.2 +0.3**
comp=Z,12nm,0.7s,baz=142,slow=4.7,SNR=18
TKL Tuckaleechee C 135.25 38 PKIKP **PKPdf 08 00 18.2 +0.3**
TKL pmax pmax
comp=Z,12nm,0.7s
TKL Tuckaleechee C 135.25 38 PKP **PKPdf 08 00 18.2 +0.3**
TKL *e*PKPdf **PKiKP 08 00 18.6 -0.8**
BRAL Brewton 135.92 45 PFAKE 08 00 30.0 +11
BRAL LR LR
comp=Z,2μm,22.0s
BLA Blacksburg 136.12 33 PFAKE 08 00 30.0 +10
BLA LR LR
comp=Z,2μm,22.0s
GOGA Godfrey 136.91 40 PFAKE 08 00 30.0 +9.0
GOGA LR LR
comp=Z,2μm,19.0s
CBN Corbin Frederi 136.97 30 *e*PKPdf **PKPdf 08 00 20.9 0.0**
CBN LR LR
comp=Z,2μm,22.0s
KMSC Kings Mountain 137.07 36 ⇑P **PKPdf 08 00 23.4 +2.1**
baz=137
KMSC Kings Mountain 137.07 36 *e*PKPdf **PKPdf 08 00 22.8 +1.5**
JSRW J. Sargeant Re 137.11 31 *e*PKPdf **PKPdf 08 00 22.9 +1.7**
CNNC Cliffs of the 138.96 33 PFAKE 08 00 40.0 +15
CNNC LR LR
comp=Z,2μm,20.0s
NHSC New Hope 139.16 37 PFAKE 08 00 40.0 +15
NHSC LR LR
comp=Z,3μm,22.0s
TRQA Tornquist 139.16 168 *e*PKPdf **PKPdf 08 00 26.0 +1.0**
TRQA LR LR
comp=Z,2μm,22.0s
TEIG Tepich 140.07 60 PFAKE 08 00 40.0 +13
TEIG LR LR
comp=Z,988nm,22.0s
ASCN Ascension 141.32 255 PFAKE 08 00 40.0 +10
ASCN LR LR
comp=Z,2μm,21.0s
LCO Las Campanas 144.37 151 *e*PKPdf PKPbc 08 00 34.0 +0.7
LCO LR LR
comp=Z,1μm,19.0s
JTS JuntasAbangare 146.11 74 PKPbc **PKPbc 08 00 39.3 +0.4**
comp=Z,30nm,0.7s,baz=312,slow=5.5,SNR=23
JTS JuntasAbangare 146.11 74 PKP2 **PKPbc 08 00 39.3 +0.4**
JTS pmax pmax
comp=Z,30nm,0.7s
JTS JuntasAbangare 146.11 74 *e*PKPbc **PKPab 08 00 39.6 0.0**
JTS LR LR
comp=Z,1μm,20.0s
BBSR BB Station 147.38 20 *e*PKPbc **PKPbc 08 00 42.3 +0.3**
BBSR LR LR
comp=Z,1μm,20.0s
SACV Santiago Islan 149.22 297 PFAKE 08 00 50.0 -1.8
SACV LR LR
comp=Z,842nm,22.0s
MTDJ Mount Denham 150.06 56 *e*PKPbc **PKPbc 08 00 50.0 +0.6**
MTDJ LR LR
comp=Z,1μm,22.0s
BBJ Bamboo Saint A 150.21 55 *i* P **PKPbc 08 00 50.6 +0.9**
LVC Limon Verde 150.52 147 PKP **PKPdf 08 00 47.2 +1.9**
comp=Z,22nm,0.8s,baz=288,slow=3.2,SNR=1.8
LVC PKPbc **PKiKP 08 00 52.1 +0.7**
comp=Z,124nm,0.9s,baz=264,slow=4.0,SNR=5.8
LVC Limon Verde 150.52 147 PKP **PKPdf 08 00 47.2 +1.9**
LVC *e*PKPdf **PKPbc 08 00 47.7 -2.9**
LVC PKPbc **PKiKP 08 00 52.1 +0.7**
LVC *e*PKPbc **PKPab 08 00 52.2 -4.9**
LVC LR LR
comp=Z,2μm,20.0s
STH Stony Hill 150.73 55 *i* P **PKPbc 08 00 51.3 +0.3**
GWJ Greenwich 150.80 55 *i* P **PKPbc 08 00 52.0 +0.7**
GTBY Guantanamo Bay 151.08 50 *e*PKPbc **PKPbc 08 00 52.1 +0.4**
GTBY LR LR
comp=Z,1μm,21.0s
BCIP Isla Barro Col 151.28 74 *e*PKPdf **PKPdf 08 00 47.5 +1.2**
BCIP *e*PKPbc **PKiKP 08 00 52.7 -0.1**
BCIP LR LR
comp=Z,1μm,20.0s
CPUP Villa Florida 151.45 170 PKP **PKPdf 08 00 46.8 +0.6**
comp=Z,3.2nm,1.0s,baz=192,slow=2.6,SNR=7.6
CPUP PKPbc **PKiKP 08 00 53.0 +0.1**
comp=Z,16nm,0.7s,baz=168,slow=2.3,SNR=48
CPUP Villa Florida 151.45 170 PKIKP **PKPdf 08 00 46.8 +0.6**
CPUP 08 00 53.0
CPUP pmax pmax
comp=Z,3.0nm,1.0s
CPUP Villa Florida 151.45 170 PKP **PKPdf 08 00 46.8 +0.6**
CPUP *e*PKPdf **PKPdf 08 00 48.0 +1.8**
CPUP PKPbc **PKiKP 08 00 53.0 +0.1**
CPUP *e*PKPbc **PKPbc 08 00 53.1 +0.7**
NNA Nana 151.62 120 PKP **PKPdf 08 00 48.3 +1.4**
comp=Z,6.2nm,0.7s,baz=169,slow=5.1,SNR=2.5
NNA PKPbc **PKiKP 08 00 54.1 +0.5**
comp=Z,103nm,1.0s,baz=284,slow=5.7,SNR=22
NNA Nana 151.62 120 PKIKP **PKPdf 08 00 48.3 +1.4**
NNA 08 00 54.1
NNA pmax pmax
comp=Z,6.0nm,0.7s
NNA Nana 151.62 120 PKP **PKPdf 08 00 48.3 +1.4**
NNA PKPbc **PKiKP 08 00 54.1 +0.5**
NNA *e*PKPbc **PKPbc 08 00 54.6 +1.4**
NNA LR LR
comp=Z,2μm,20.0s
ATAH Atahualpa 152.07 109 PKP **PKPdf 08 00 49.5 +1.4**
comp=Z,21nm,1.2s,baz=252,slow=3.2,SNR=7.5
ATAH PKPbc **PKiKP 08 00 56.0 +0.9**
comp=Z,52nm,0.8s,baz=168,slow=2.6,SNR=35

GRTK	**Grand Turk**	**152.96**	**42**	PFAKE			08 01 00.0	+4.1
GRTK				LR	LR			
	comp=Z,1µm,22.0s							
OTAV	**Otavalo**	**153.39**	**93**	*e*PKPdf	**PKPdf**		**08 00 51.1**	**+1.0**
OTAV				LR	LR			
	comp=Z,1µm,22.0s							
SDDR	**Presa de Saban**	**154.52**	**47**	*e*PKPab	**PKPab**		**08 01 13.7**	**-0.1**
SDDR				LR	LR			
	comp=Z,1µm,21.0s							
LPAZ	**La Paz**	**155.83**	**139**	PKP	**PKPdf**		**08 00 54.8**	**+1.2**
	comp=Z,6.4nm,1.0s,baz=322,slow=1.9							
LPAZ				PKPbc	PKPbc		08 01 04.2	
	comp=Z,7.9nm,0.8s,baz=124,slow=1.4,SNR=5.9							
LPAZ	**La Paz**	**155.83**	**139**	PKIKP	**PKPdf**		**08 00 54.8**	**+1.2**
LPAZ							08 01 04.2	
LPAZ				pmax	pmax			
	comp=Z,6.0nm,1.0s							
LPAZ	**La Paz**	**155.83**	**139**	PKP	**PKPdf**		**08 00 54.8**	**+1.2**
LPAZ				*e*PKPdf	**PKPdf**		**08 00 55.5**	**+1.9**
LPAZ				PKPbc	PKPbc		08 01 04.2	
ROSC	**El Rosal**	**157.41**	**82**	PKP	**PKPdf**		**08 00 56.1**	**+0.7**
	comp=Z,5.4nm,0.8s,baz=133,slow=1.1,SNR=8.0							
SJG	**San Juan**	**158.66**	**40**	PFAKE			08 01 10.0	+14
SJG				LR	LR			
	comp=Z,949nm,22.0s							
SIV	**San Ignacio**	**160.04**	**153**	PKP	**PKPdf**		**08 00 58.6**	**+0.6**
	comp=Z,8.9nm,0.8s,baz=225,slow=1.6,SNR=18							
SIV				PKPab	**PKPab**		**08 01 38.4**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=217,slow=7.6,SNR=3.9							
SDV	**Santo Domingo**	**160.10**	**69**	*e*PKPdf	**PKPdf**		**08 00 58.6**	**+0.2**
SDV				LR	LR			
	comp=Z,1µm,21.0s							
ANWB	**Willy Bob**	**161.56**	**31**	PFAKE			08 01 10.0	+10
ANWB				LR	LR			
	comp=Z,1µm,22.0s							
BDFB	**Brasilia**	**162.16**	**192**	PKP	**PKPdf**		**08 01 00.9**	**+0.5**
	comp=Z,23nm,1.1s,baz=177,slow=1.6,SNR=17							
BDFB				PKPab	**PKPab**		**08 01 47.7**	**+0.9**
	comp=Z,7.8nm,0.8s,baz=171,slow=5.8,SNR=3.9							
BDFB	**Brasilia**	**162.16**	**192**	PKIKP	**PKPdf**		**08 01 00.9**	**+0.5**
BDFB							08 01 47.7	
BDFB				pmax	pmax			
	comp=Z,23nm,1.1s							
BDFB				pmax	pmax			
	comp=Z,8.0nm,0.8s							
RCBR	**Riachuelo**	**162.29**	**244**	PFAKE			08 01 10.0	+10
RCBR				LR	LR			
	comp=Z,1µm,22.0s							
FDF	**Fort de France**	**164.31**	**35**	PFAKE			08 01 10.0	+7.7
FDF				LR	LR			
	comp=Z,892nm,22.0s							
SAML	**Samuel**	**164.42**	**134**	*e*PKPdf	**PKPdf**		**08 01 03.2**	**+0.7**
SAML				LR	LR			
	comp=Z,1µm,22.0s							
GRGR	**Grenville**	**165.96**	**43**	PFAKE			08 01 10.0	+6.3
GRGR				LR	LR			
	comp=Z,939nm,21.0s							
BBGH	**Gun Hill**	**166.49**	**34**	PFAKE			08 01 20.0	+16
BBGH				LR	LR			
	comp=Z,2µm,21.0s							
PTGA	**Pitinga**	**171.51**	**108**	PKP	**PKPdf**		**08 01 07.4**	**+0.1**
	comp=Z,9.9nm,0.9s,baz=297,slow=1.0,SNR=13							
PTGA				PKPab	**PKPab**		**08 02 29.2**	**+0.7**
	comp=Z,6.2nm,0.9s,baz=254,slow=6.3,SNR=3.5							
PTGA	**Pitinga**	**171.51**	**108**	PKP	**PKPdf**		**08 01 07.4**	**+0.1**
PTGA				*e*PKPdf	PKPdf		08 01 07.7	+0.3
PTGA				PKPab	**PKPab**		**08 02 29.2**	**+0.7**
PTGA				LR	LR			
	comp=Z,1µm,22.0s							

*CSEM **24** 07:43:22.6,51.42N×16.16E,h0km*
PRU 24 07:43:20.2,51.50N×16.16E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**173**	*e*Pg	Pg	07 43 33.4	+0.5
KSP				*e*Sg	Sg	07 43 42.7	+1.1
UPC	**Upice**	**1.00**	**185**	*e*PG	Pg	07 43 39.5	+0.1
UPC				*e*SG	Sg	07 43 52.2	-0.1
	comp=Z,5.3nm,0.2s						
UPC	**Upice**	**1.00**	**185**	Pg	Pg	07 43 39.5	+0.1
UPC				Sg	Sg	07 43 52.2	-0.1
	5.3nm,0.2s						
DPC	**Dobruska-Polom**	**1.16**	**175**	*e*PG	Pg	07 43 41.8	-0.7
DPC				*e*SG	Sg	07 43 57.5	0.0
DPC	**Dobruska-Polom**	**1.16**	**175**	Pg	Pg	07 43 41.8	-0.7
DPC				Sg	Sg	07 43 57.5	0.0
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	Pn	07 43 46.6	-0.4
PVCC				*e*SG	Sb	07 44 05.8	+0.2
	comp=Z,25nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**227**	Pg	Pn	07 43 46.6	-0.4
PVCC				Sg	Sb	07 44 05.8	+0.2
	25nm,0.2s						
KRLC	**Kraliky**	**1.48**	**164**	*e*PG	Pn	07 43 47.3	-0.9
KRLC				*e*SG	Sg	07 44 06.6	-1.3
KRLC	**Kraliky**	**1.48**	**164**	Pg	Pn	07 43 47.3	-0.9
KRLC				Sg	Sg	07 44 06.6	-1.3
BRG	**Berggiesshubel**	**1.53**	**247**	PG	Pn	07 43 48.2	-0.6
BRG				SG	Sn	07 44 09.0	-0.4
	11nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	*e*SG	Sg	07 44 18.2	-0.3
	comp=Z,3.6nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	Sg	Sg	07 44 18.2	-0.3
	3.6nm,0.3s						
PRU	**Pruhonice**	**1.83**	**215**	*e*SG	Sb	07 44 17.8	-0.2
	comp=Z,3.7nm,0.2s						
PRU	**Pruhonice**	**1.83**	**215**	Sg	Sb	07 44 17.8	-0.2
	3.7nm,0.2s						
CLL	**Collm**	**1.99**	**266**	*e*Pg	Pb	07 43 57.0	-0.2
CLL				*e*Sg	Sb	07 44 23.0	+0.5
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PG	Pg	07 44 14.5	-1.2
KHC				*e*SG	Sg	07 44 57.0	+3.8
KHC	**Kasperske Hory**	**2.89**	**216**	Pg	Pg	07 44 14.5	-1.2

*IDC **24** 07:48:51.4±1.2,15.76S×175.66W,h0km,mb4.5/14,*
mb1 4.8/14,mb1mx4.4/45,mbtmp4.5/14,MS4.5/1,
Ms1 4.5/1,ms1mx3.8/25,Error ellipse: s-maj=48.3km
s-min=19.9km az=156.0
*ISCJB **24** 07:48:55.5±0.5,15.7S±0.1×175.8W±0.1,h33km,mb4.7/25,*
Error ellipse: s-maj=18.7km s-min=12.5km az=143.2
*NEIC **24** 07:48:57.3±0.4,15.68S×175.74W,h35km,mb4.8/12,*
Error ellipse: s-maj=16.0km s-min=10.3km az=139.0
ISC 24 07:48:57.1±0.6,15.7S±0.1×175.7W±0.1,h35km,n49,
σ1s24/42,mb4.7/24,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**13.62**	**188**	LR	LR	07 56 39.6	
	comp=Z,2µm,20.9s,baz=30,slow=34						
PMG	**Port Moresby**	**36.76**	**275**	*e*P	**P**	**07 56 02.0**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**38.16**	**332**	T	T	08 36 21.9	
	baz=148,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**38.18**	**332**	T	T	08 36 16.0	
	baz=148,slow=76,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**38.18**	**332**	T	T	08 36 19.7	
	baz=148,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**39.16**	**334**	T	T	08 37 22.1	
	baz=152,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**39.16**	**333**	T	T	08 37 22.4	
	baz=152,slow=76,SNR=406						
H11N2	**WAKE ISLAND Hy**	**39.17**	**334**	T	T	08 37 23.5	
	baz=152,slow=76,SNR=84						
WRA	**Warramunga Arr**	**47.61**	**257**	P	**P**	**07 57 29.1**	**-1.0**
	9.0nm,1.0s,baz=89,slow=7.8,SNR=7.1						
ASAR	**Alice Springs**	**47.91**	**252**	P	**P**	**07 57 31.5**	**-0.8**
	16nm,1.0s,baz=85,slow=8.0,SNR=11						
VNDA	**Vanda**	**62.84**	**185**	*e*P	**P**	**07 59 19.5**	**+0.7**
	9.8nm,1.4s						
MJAR	**Matsushiro Arr**	**67.78**	**321**	P	**P**	**07 59 50.9**	**-0.6**
	1.9nm,0.9s,baz=152,slow=7.4,SNR=4.6						
PETK	**Petropavlovsk-**	**72.29**	**344**	P	**P**	**08 00 18.5**	**-0.3**
	9.7nm,0.8s,baz=145,slow=11,SNR=11						
QSPA	**South Pole Qui**	**74.32**	**180**	*e*P	**P**	**08 00 31.8**	**+1.0**
	16nm,1.3s						
ISA	**Isabella, Lake**	**74.44**	**45**	*e*P	P	08 00 35.4	+3.5
	5.0nm,0.9s						
KSRS	**Korea Array**	**74.86**	**317**	P	**P**	**08 00 35.7**	**+1.5**
	2.4nm,0.8s,baz=127,slow=6.9,SNR=9.3						
KSAR	**Wonju Array Be**	**74.88**	**317**	P	**P**	**08 00 35.7**	**+1.4**
YBH	**Yreka Blue Hor**	**75.21**	**38**	P	**P**	**08 00 36.1**	**-0.2**
	6.8nm,0.9s,baz=274,slow=6.4,SNR=7.9						
NVAR	**Mina Array Bea**	**76.06**	**43**	P	**P**	**08 00 41.6**	**+0.2**
	6.4nm,0.9s,baz=230,slow=7.6,SNR=7.6						
GAMB	**Gambell**	**79.31**	**2**	*e*P	**P**	**08 00 57.5**	**-1.1**
DIV	**Divide**	**80.24**	**14**	*e*P	**P**	**08 01 04.6**	**+0.8**
BMRM	**Bremner River**	**80.38**	**15**	*e*P	**P**	**08 01 04.4**	**-0.1**
	18nm,1.0s						
TNA	**Tin City**	**81.26**	**3**	*e*P	**P**	**08 01 08.6**	**-0.4**
TRF	**Thorofare Moun**	**81.36**	**11**	*e*P	**P**	**08 01 08.7**	**-1.2**
	11nm,1.1s						
MCK	**McKinley**	**81.87**	**12**	*e*P	**P**	**08 01 12.8**	**+0.4**
	33nm,1.4s						
LAZ	**Ladron**	**81.97**	**51**	*e*P	**P**	**08 01 13.9**	**+0.1**
	15nm,1.7s						
SEY	**Seymchan**	**82.28**	**346**	P	**P**	**08 01 14.9**	**+0.4**
	2.4nm,0.8s,baz=167,slow=6.2,SNR=5.0						
TXAR	**Lajitas Array**	**82.64**	**57**	P	**P**	**08 01 18.4**	**+1.1**
	3.9nm,1.0s,baz=249,slow=6.6,SNR=3.9						
ANMO	**Albuquerque**	**82.71**	**51**	*e*P	**P**	**08 01 17.8**	**+0.1**
	9.5nm,1.1s						
DOT	**Dot Lake**	**82.83**	**14**	*e*P	**P**	**08 01 18.0**	**+0.6**
	10nm,1.3s						
COLA	**College**	**83.11**	**12**	*e*P	**P**	**08 01 18.4**	**-0.4**
ILAR	**Eielson Array**	**83.21**	**12**	P	**P**	**08 01 18.3**	**-1.0**
	2.0nm,0.8s,baz=224,slow=6.6,SNR=8.3						
ILAR				PKKP	**PKKPdf**	**08 19 30.6**	**-4.1**
	0.6nm,1.1s,baz=31,slow=4.2,SNR=3.6						
PDAR	**Pinedale Array**	**83.99**	**43**	P	**P**	**08 01 23.2**	**-1.0**
	6.4nm,0.9s,baz=241,slow=2.9,SNR=9.0						
DAWY	**Dawson**	**84.30**	**15**	*e*P	**P**	**08 01 24.7**	**-0.3**
EGAK	**Eagle**	**84.46**	**14**	*e*P	**P**	**08 01 26.2**	**+0.5**
HRY	**Holter Researc**	**84.47**	**38**	*e*P	**P**	**08 01 27.9**	**+1.6**
	9.9nm,1.1s						
BILL	**Bilibino**	**84.56**	**353**	*e*P	**P**	**08 01 26.6**	**+0.5**
COLD	**Coldfoot**	**84.82**	**10**	*e*P	**P**	**08 01 29.5**	**+2.0**
INK	**Inuvik**	**89.12**	**14**	P	**P**	**08 01 46.7**	**-1.6**
	2.3nm,0.8s,baz=233,slow=5.1,SNR=4.1						
INK	**Inuvik**	**89.12**	**14**	*e*P	**P**	**08 01 48.0**	**-0.4**
	3.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.62**	**289**	P	**P**	**08 01 57.6**	**+1.1**
	0.9nm,0.3s,baz=84,slow=3.2,SNR=6.9						
YKA	**Yellowknife Ar**	**91.28**	**24**	P	**P**	**08 01 58.7**	**+0.2**
	2.0nm,0.9s,baz=238,slow=4.6,SNR=6.0						
WCI	**Wyandotte Cave**	**99.10**	**53**	*e*P	**Pdif**	**08 02 31.6**	**-3.3**
	22nm,1.5s						
AKASG	**Malin Array Be**	**139.75**	**335**	PKP	**PKPdf**	**08 08 20.6**	**-0.7**
	0.2nm,0.2s,baz=33,slow=2.2,SNR=2.7						
BRTR	**Keskin Array B**	**144.98**	**319**	PKPbc	**PKPab**	**08 08 29.8**	**-0.6**
	21nm,0.9s,baz=94,slow=1.9,SNR=58						
ANTO	**Ankara**	**145.43**	**320**	*e*PKPdf	**PKPab**	**08 08 34.0**	**+2.0**
KHC	**Kasperske Hory**	**145.83**	**349**	*e*PKP	**PKPdf**	**08 08 31.5**	**-0.6**
KHC				ex	x	08 08 34.5	
GERES	**GERESS Array B**	**146.09**	**349**	PKPbc	**PKPbc**	**08 08 32.9**	**-0.7**
	2.5nm,0.8s,baz=29,slow=3.0,SNR=16						
ESDC	**Sonseca Array**	**155.07**	**15**	PKPab	**PKPab**	**08 09 10.9**	**-0.3**
	0.6nm,0.5s,baz=322,slow=3.5,SNR=7.2						

*IDC **24** 08:02:07.4±1.5,29.83S×179.02W,h335km±20km,mb3.0/2,*
mb1 3.3/3,mb1mx3.0/18,mbtmp3.8/3,Error ellipse:
s-maj=49.3km s-min=25.5km az=114.0
*ISCJB **24** 08:02:08.0±1.0,29.65S±0.07×179.8W±0.2,h300km,*
mb3.1/2,Error ellipse: s-maj=21.9km s-min=9.5km az=8.1
ISC 24 08:02:07.7±1.2,29.75S±0.10×179.7W±0.2,h300km,n14,
σ2s17/17,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.61**	**73**	P	**Pn**	**08 02 52.2**	**+0.5**
	81nm,0.3s,baz=97,slow=9.0,SNR=9.4						
WMGZ	**Waiomatatini S**	**8.21**	**191**	*e*PN	Pn	08 04 08.8	+5.1
HAZ	**Te Kaha**	**8.27**	**194**	*e*PN	Pn	08 04 07.8	+3.4
HAZ				SN	**S**	**08 05 41.8**	**+2.7**
PUZ	**Puketiti**	**8.48**	**191**	*e*PN	Pn	08 04 11.1	+4.0
PUZ				SN	**S**	**08 05 43.5**	**-0.6**
MWZ	**Matawai**	**8.88**	**194**	*e*PN	**P**	**08 04 16.4**	**-0.5**
URZ	**Urewera**	**8.90**	**197**	P	**Pn**	**08 04 13.3**	**+1.0**
	0.8nm,0.3s,baz=277,slow=4.6,SNR=20						
URZ				S	**S**	**08 05 55.5**	**+2.0**
	0.4nm,0.3s,baz=269,slow=17,SNR=2.6						
URZ	**Urewera**	**8.90**	**197**	*e*PN	**Pn**	**08 04 14.1**	**+1.9**
URZ				*e*SN	**S**	**08 05 55.0**	**+1.5**
BKZ	**Black Stump Fm**	**9.92**	**198**	*e*PN	**Pn**	**08 04 26.5**	**+1.7**
TSZ	**Takapari Road**	**10.89**	**198**	*e*PN	**Pn**	**08 04 37.3**	**+0.6**
BFZ	**Birch Farm**	**11.41**	**196**	*e*PN	**Pn**	**08 04 43.1**	**+0.2**
BFZ				*e*SN	**S**	**08 06 46.9**	**-3.3**
MRZ	**Mangatainoka R**	**11.56**	**198**	*e*PN	**Pn**	**08 04 44.0**	**-0.8**
MRZ				*e*SN	**S**	**08 06 49.0**	**-4.7**
ASAR	**Alice Springs**	**41.69**	**267**	P	**P**	**08 09 28.9**	**+0.9**
	0.2nm,0.3s,baz=102,slow=6.8,SNR=7.0						
WRA	**Warramunga Arr**	**42.62**	**272**	P	**P**	**08 09 36.5**	**+1.0**
	1.0nm,0.4s,baz=110,slow=7.6,SNR=36						
FINES	**FINESS Array B**	**144.03**	**339**	PKP	**PKPab**	**08 21 02.4**	**-2.9**
	0.7nm,0.4s,baz=72,slow=4.5,SNR=12						

*CSEM **24** 08:04:16.4,44.51N×6.36E,h2km,ML1.7/7*
LDG 24 08:04:16.4±0.1,44.51N×6.36E,h2km,Md1.7/3,Ml1.7/7,
Error ellipse: s-maj=1.2km s-min=0.9km az=69.0,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.37**	**53**	*e*Pg	Pg	08 04 23.8	+0.1
MBDF				*e*Sg	Sg	08 04 28.1	-0.5
	5.2nm,0.2s						
MBDF	**Montbardon**	**0.37**	**53**	*e*Pg	Pg	08 04 23.8	+0.1
MBDF				*e*Sg	Sg	08 04 28.1	-0.5
	2.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.54**	**320**	*e*Pg	Pg	08 04 26.8	-0.1
ORIF				*e*Sg	Sg	08 04 33.7	-0.3
	0.6nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.54**	**320**	*e*Pg	Pg	08 04 26.8	-0.1
ORIF				*e*Sg	Sg	08 04 33.7	-0.3
	0.3nm,0.2s						
SMRF	**Simiane la Rot**	**0.78**	**227**	*e*Pg	Pg	08 04 31.1	-0.3
SMRF				*e*Sg	Sg	08 04 40.7	-0.8
	0.5nm,0.2s						
SMRF	**Simiane la Rot**	**0.78**	**227**	*e*Pg	Pg	08 04 31.1	-0.3
SMRF				*e*Sg	Sg	08 04 40.7	-0.8
	0.2nm,0.2s						
FRF	**La Foret Royal**	**0.97**	**168**	*e*Pg	Pg	08 04 34.7	-0.3
FRF				*e*Sg	Sg	08 04 46.5	-1.0
	5.6nm,0.3s						
FRF	**La Foret Royal**	**0.97**	**168**	*e*Pg	Pg	08 04 34.7	-0.3
FRF				*e*Sg	Sg	08 04 46.5	-1.0
	2.8nm,0.3s						
SBF	**Sospel**	**1.00**	**129**	*e*Pg	Pg	08 04 35.3	-0.5
SBF				*e*Sg	Sg	08 04 47.9	-1.0
	3.5nm,0.3s						
SBF	**Sospel**	**1.00**	**129**	*e*Pg	Pg	08 04 35.3	-0.5
SBF				*e*Sg	Sg	08 04 47.9	-1.0
	1.8nm,0.3s						
LPG	**La Plagne**	**1.03**	**15**	*e*Pg	Pg	08 04 36.0	-0.6
LPG				*e*Sg	Sg	08 04 49.5	-0.7
	0.5nm,0.1s						
LPG	**La Plagne**	**1.03**	**15**	*e*Pg	Pg	08 04 36.0	-0.6
LPG				*e*Sg	Sg	08 04 49.5	-0.7
	0.2nm,0.1s						
LPL	**La Plagne**	**1.04**	**14**	*e*Pg	Pg	08 04 36.3	-0.5
LPL				*e*Sg	Sg	08 04 50.1	-0.4
	1.0nm,0.2s						
LPL	**La Plagne**	**1.04**	**14**	*e*Pg	Pg	08 04 36.3	-0.5
LPL				*e*Sg	Sg	08 04 50.1	-0.4
	0.5nm,0.2s						
LMR	**La Mourre**	**1.18**	**175**	*e*Pg	Pg	08 04 38.5	-0.5
LMR				*e*Sg	Sg	08 04 53.5	-0.7
	1.7nm,0.2s						
LMR	**La Mourre**	**1.18**	**175**	*e*Pg	Pg	08 04 38.5	-0.5
LMR				*e*Sg	Sg	08 04 53.5	-0.7
	0.9nm,0.2s						
VIVF	**Saint-Julien-l**	**1.26**	**287**	*e*Pg	Pg	08 04 40.0	-0.6
VIVF				*e*Sg	Sg	08 04 56.1	-0.8
	1.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.26**	**287**	*e*Pg	Pg	08 04 40.0	-0.6
VIVF				*e*Sg	Sg	08 04 56.1	-0.8
	0.6nm,0.3s						
PGF	**Pioggiola**	**2.74**	**135**	*e*Pn	Pn	08 04 59.7	-1.8
PGF				*e*Sn	Sn	08 05 31.5	-3.8
	0.9nm,0.2s						
PGF	**Pioggiola**	**2.74**	**135**	*e*Pn	Pn	08 04 59.7	-1.8
PGF				*e*Sn	Sn	08 05 31.5	-3.8
	0.4nm,0.2s						

*DJA **24** 08:13:46.6±0.4,1.5S×12.8E±*,h10km,M3.7/6,MLv3.7/6*
*IDC **24** 08:13:52.4±2.4,1.73S×128.59E,h0km,mb3.7/2,*
mb1 3.8/3,mb1mx3.5/30,mbtmp3.6/3,ML3.5/1,Error
ellipse: s-maj=186.6km s-min=25.1km az=68.0
ISC 24 08:13:46.9±0.9,0.85S±0.06×128.01E±0.05,h19km,n17,
σ1s87/16,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.74**	**338**	P	**Pn**	**08 14 16.9**	**+0.8**
SANI	**Sanana**	**2.35**	**239**	P	**Pn**	**08 14 25.6**	**+1.2**
NLAI	**Namlea**	**2.54**	**201**	P	**Pn**	**08 14 27.3**	**+0.2**
MSAI	**Masohi**	**2.64**	**160**	P	**Pn**	**08 14 29.0**	**+0.5**
AAI	**Ambon**	**2.82**	**176**	P	**Pn**	**08 14 29.9**	**-1.1**
	baz=1.9,SNR=4.9						
SWI	**Sorong**	**3.25**	**90**	P	**Pg**	**08 14 50.7**	**+1.4**
SWI	**Sorong**	**3.25**	**90**	P	**Pg**	**08 14 50.6**	**+1.4**
	baz=3.3,SNR=10						
SWI				S	**Sg**	**08 15 29.6**	**-1.8**
	baz=3.3,SNR=9.2						
BNDI	**Bandanaira**	**4.11**	**153**	P	**Pb**	**08 15 00.1**	**+1.4**
FAKI	**Fak Fak**	**4.71**	**116**	P	**Pn**	**08 14 56.7**	**-0.3**
FAKI	**Fak Fak**	**4.71**	**116**	P	Pn	08 15 01.6	+4.6
	baz=4.3,SNR=21						
FAKI				S	**Sn**	**08 15 48.0**	**-3.2**
	baz=4.3,SNR=9.0						
LUWI	**Luwuk**	**5.24**	**268**	P	**Pn**	**08 15 05.2**	**+0.9**
LUWI	**Luwuk**	**5.24**	**268**	P	**Pb**	**08 15 16.3**	**-1.7**
	baz=5.3,SNR=3.4						
MTN	**Manton Dam**	**12.31**	**166**	P	**Pn**	**08 16 44.1**	**+2.8**
	baz=12,SNR=3.8						
KDU	**Kakadu**	**12.56**	**160**	P	Pn	08 16 40.6	-4.1
	baz=12,SNR=5.5						
WRA	**Warramunga Arr**	**19.96**	**162**	P	**P**	**08 18 15.3**	**-2.8**
	0.1nm,0.3s,baz=346,slow=12,SNR=13						
WRA				S	S	08 21 37.7	-24
	0.1nm,0.3s,baz=349,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**23.39**	**166**	P	**P**	**08 18 53.0**	**-1.8**
	1.9nm,0.7s,baz=344,slow=10,SNR=21						
ASAR				S	S	08 22 52.6	-15
	0.9nm,0.8s,baz=353,slow=20,SNR=4.7						
MKAR	**Makanchi Array**	**62.04**	**326**	P	P	08 24 21.6	+15
	0.8nm,0.7s,baz=136,slow=5.1,SNR=8.0						

*DJA **24** 08:18:32.0±0.6,1.5S±4×12.8E±*,h207km±7km,M3.7/7,*
mb3.7/1,MLv3.8/7
*IDC **24** 08:18:35.0±2.3,1.83S×128.24E,h0km,mb3.4/2,*
mb1 3.5/3,mb1mx3.3/31,mbtmp3.3/3,ML3.4/1,Error
ellipse: s-maj=185.1km s-min=25.7km az=68.0
ISC 24 08:18:35.3±0.9,1.94S±0.06×128.42E±0.06,h10km,n11,
σ2s71/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.49**	**160**	P	Pg	08 19 12.7	+8.7
LBMI	**Labuha**	**1.58**	**325**	P	**Pg**	**08 19 07.2**	**+1.5**
LBMI				S	**Sg**	**08 19 25.4**	**-0.8**
NLAI	**Namlea**	**1.85**	**225**	P	**Pb**	**08 19 09.4**	**+0.2**
SANI	**Sanana**	**2.43**	**267**	P	**Pn**	**08 19 12.5**	**-2.6**
TNTI	**Ternate**	**2.89**	**339**	P	Pn	08 19 13.5	-7.9
SWI	**Sorong**	**3.04**	**70**	P	**Pb**	**08 19 28.8**	**-0.7**
FAKI	**Fak Fak**	**3.95**	**104**	P	Pb	08 19 41.9	-3.2
KDI	**Kendari**	**6.13**	**251**	P	Pn	08 19 55.9	-10
WRA	**Warramunga Arr**	**18.81**	**162**	P	**Pn**	**08 22 58.1**	**+2.4**
	0.1nm,0.3s,baz=345,slow=12,SNR=5.5						
WRA				S	**Sn**	**08 26 22.0**	**-4.4**
	0.0nm,0.3s,baz=346,slow=21,SNR=2.7						
ASAR	**Alice Springs**	**22.25**	**167**	P	**P**	**08 23 35.5**	**+3.0**
	1.0nm,0.7s,baz=341,slow=9.4,SNR=7.7						
MKAR	**Makanchi Array**	**63.16**	**326**	P	**P**	**08 29 03.4**	**-0.1**
	0.2nm,0.6s,baz=122,slow=5.2,SNR=2.9						

WEL 24 08:41:01.8±0.4,38.48S×175.96E,h159km±3km,ML3.6/12,
14C-1D,Error ellipse: s-maj=1.5km s-min=1.5km az=0.0,
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.66**	**202**	PN	Pn	08 41 25.1	-0.1
TWVZ	**Taurewa**	**0.72**	**214**	PN	Pn	08 41 25.4	-0.1
OTVZ	**Oturere**	**0.72**	**198**	PN	Pn	08 41 25.6	0.0
NGZ	**Ngauruhoe**	**0.75**	**202**	PN	Pn	08 41 25.8	+0.1
COVZ	**Chateau Observ**	**0.79**	**204**	PN	Pn	08 41 25.9	-0.1
OPRZ	**Ohinepanea**	**0.79**	**37**	PN	Pn	08 41 25.6	-0.2
WPVZ	**Whakapapa**	**0.79**	**204**	PN	Pn	08 41 26.0	0.0
BKZ	**Black Stump Fm**	**0.80**	**149**	PN	Pn	08 41 25.9	-0.1
BKZ				SN	Sn	08 41 43.2	-1.4
BKZ				AML	AML	08 41 45.4	
TUVZ	**Tukino**	**0.82**	**197**	PN	P

MTW	**Mount Morrison**	**2.70**	**187**	PN	Pn	08 41 43.5	-2.3
CAW	**Cannon Point**	**2.71**	**194**	PN	Pn	08 41 43.9	-2.0
CAW				AML	AML	08 42 18.0	
CAW				AML	AML	08 42 18.7	
DUWZ	**D'Urville Isla**	**2.80**	**213**	PN	Pn	08 41 44.8	-2.3
TRWZ	**Traveller**	**2.92**	**184**	PN	Pn	08 41 46.4	-2.1
PAWZ	**Paruwai Farm**	**2.93**	**188**	PN	Pn	08 41 46.2	-2.4
MSWZ	**Moikau Station**	**2.98**	**190**	PN	Pn	08 41 46.7	-2.5
MSWZ				AML	AML	08 42 22.3	
MSWZ				AML	AML	08 42 23.5	
TCW	**Tory Channel**	**3.02**	**205**	PN	Pn	08 41 47.3	-2.4
TCW				AML	AML	08 42 24.8	
TCW				AML	AML	08 42 26.4	
BHW	**Baring Head**	**3.04**	**196**	PN	Pn	08 41 47.3	-2.6
PLWZ	**Palliser**	**3.13**	**190**	PN	Pn	08 41 48.4	-2.8
TUWZ	**Tuamarina**	**3.33**	**207**	PN	Pn	08 41 50.8	-2.8
TUWZ				AML	AML	08 42 31.3	
NNZ	**Nelson**	**3.38**	**215**	PN	Pn	08 41 51.3	-2.9
QRZ	**Quartz Range**	**3.54**	**227**	PN	Pn	08 41 51.7	-4.6
BSWZ	**Blackbirch Sta**	**3.60**	**206**	PN	Pn	08 41 54.4	-2.7
THZ	**Tophouse**	**4.03**	**215**	PN	Pn	08 41 59.6	-3.1
KHZ	**Kahutara**	**4.34**	**204**	PN	Pn	08 42 03.7	-3.0
LTZ	**Lake Taylor**	**5.13**	**212**	*e*PN	Pn	08 42 12.7	-4.4
OXZ	**Oxford**	**5.68**	**210**	PN	Pn	08 42 19.6	-4.6
MQZ	**McQueen's Vall**	**5.79**	**204**	PN	Pn	08 42 20.8	-4.9
ODZ	**Otahua Downs**	**7.67**	**209**	*e*PN	Pn	08 42 45.9	-4.7

IDC 24 08:41:59.3±3.3, 5°25S×153°28E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/27, mbtmp3.5/2, Error ellipse: s-maj=144.2km s-min=47.2km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.51**	**230**	P	P	08 47 11.1	-0.1
	0.5nm,0.4s,baz=56,slow=10,SNR=18						
ASAR	**Alice Springs**	**26.14**	**224**	P	P	08 47 35.8	+0.3
	0.3nm,0.5s,baz=60,slow=8.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.89**	**288**	PKPbc	PKPbc	09 01 54.5	-0.5
	0.1nm,0.3s,baz=62,slow=2.8,SNR=5.4						

*IDC **24** 09:14:46.2±0.6, 38°.20S×73°.86W, h0km, mb4.2/10, mb1 4.4/15, mb1mx4.3/22, mbtmp4.2/15, ML4.0/4, MS3.9/3, Ms1 3.9/3, ms1mx3.6/23, Error ellipse: s-maj=20.9km s-min=13.8km az=83.0*

*ISCJB **24** 09:14:47.6±0.3, 38°.14S±0°.05×73°.74W±0°.06, h18km, mb4.5/27, Error ellipse: s-maj=7.0km s-min=6.1km az=136.4*

*BJI **24** 09:14:51.5, 38°.20S×73°.80W, h35km, mB4.6/5, Ms4.9/1, Ms7 4.8/2*

*NEIC **24** 09:14:51.5±0.3, 38°.18S×73°.74W, h35km, mb4.7/12, Error ellipse: s-maj=9.0km s-min=6.1km az=80.0*

NEIC Felt at Concepcion.

*SJA **24** 09:15:49.2±0.4, 34°.45S×70°.79W, h75km±10km, ML3.0*

ISC 24 09:14:49.1±0.4, 38°.19S±0°.06×73°.84W±0°.09, h18km, n159, σ1s08/171, mb4.5/27, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.60**	**136**	Pn	**Pn**	**09 15 44.1**	**+0.1**
	4.3nm,0.3s,baz=306,slow=10,SNR=69						
PLCA				Lg	Lg	09 16 42.5	
	25nm,0.3s,baz=35,slow=15,SNR=7.4						
AAGR	**Agrelo**	**6.53**	**40**	*i* P	**Pn**	**09 16 24.5**	**+0.2**
AAGR				*i* P	**Pn**	**09 16 24.5**	**+0.2**
ARCO	**CERRO ARCO**	**6.67**	**38**	*i* P	**Pn**	**09 16 26.2**	**-0.2**
ARCO				*i* S	Pg	09 16 53.4	-3.4
ARCO				AML	AML	09 16 60.0	
	comp=Z,78nm,0.7s						
ASAL	**Salagasta**	**6.92**	**38**	*i* P	**Pn**	**09 16 29.6**	**-0.1**
AUSP	**Uspallata**	**6.98**	**33**	*i* P	**Pn**	**09 16 30.5**	**-0.2**
RTLS	**Leoncito**	**7.39**	**32**	*i* P	**Pn**	**09 16 36.1**	**-0.2**
CFAA	**Coronel Fontan**	**8.02**	**37**	Pn	**Pn**	**09 16 43.4**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=213,slow=12,SNR=34						
CFAA				Sn	**Sn**	**09 18 13.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=192,slow=8.5,SNR=3.2						
CFAA				Lg	Lg	09 19 06.2	
	comp=Z,0.0nm,0.3s,baz=150,slow=8.2,SNR=5.2						
CFAA				LR	LR	09 19 57.0	
	comp=Z,84nm,19.8s,baz=208,slow=39						
TRQA	**Tornquist**	**9.35**	**93**	*e*Pn	**Pn**	**09 17 04.0**	**+1.0**
LCO	**Las Campanas**	**9.52**	**17**	*e*Pn	**Pn**	**09 17 03.9**	**-1.7**
LVC	**Limon Verde**	**16.09**	**17**	Pn	**Pn**	**09 18 34.6**	**-0.1**
	comp=Z,17nm,0.3s,baz=4.5,slow=9.5,SNR=8.8						
LVC				LR	LR	09 24 00.5	
	comp=Z,2μm,21.7s,baz=197,slow=34						
USHA	**Ushuaia**	**17.05**	**169**	P	**Pn**	**09 18 45.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=288,slow=16,SNR=2.6						
USHA				LR	LR	09 25 14.7	
	comp=Z,890nm,18.8s,baz=270,slow=37						
CPUP	**Villa Florida**	**18.27**	**54**	P	**Pn**	**09 19 01.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=239,slow=9.9,SNR=20						
LPAZ	**La Paz**	**22.39**	**15**	P	**P**	**09 19 48.1**	**+0.9**
	comp=Z,12nm,0.9s,baz=177,slow=7.8,SNR=28						
LPAZ	**La Paz**	**22.39**	**15**	*e*P	**P**	**09 19 48.6**	**+1.4**
SIV	**San Ignacio**	**24.81**	**30**	P	**P**	**09 20 09.6**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=226,slow=10,SNR=9.3						
BDFB	**Brasilia**	**31.97**	**52**	P	**P**	**09 21 13.8**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=190,slow=15,SNR=3.2						
OTAV	**Otavalo**	**38.48**	**353**	*e*P	**P**	**09 22 11.7**	**+1.0**
	comp=Z,10.0nm,1.3s						
SDV	**Santo Domingo**	**46.93**	**4**	*e*P	**P**	**09 23 18.5**	**-0.4**
	comp=Z,3.6nm,0.8s						
SNAA	**Sanae**	**48.30**	**156**	*e*P	**P**	**09 23 29.1**	**+0.2**
	comp=Z,27nm,1.3s						
QSPA	**South Pole Qui**	**52.05**	**180**	P	**P**	**09 23 57.2**	**-0.3**
	comp=Z,9.3nm,0.9s,baz=172,slow=1.3,SNR=25						
QSPA	**South Pole Qui**	**52.05**	**180**	P	**P**	**09 23 57.2**	**-0.3**
	comp=Z,5.8nm,1.0s						
VNDA	**Vanda**	**59.71**	**192**	P	**P**	**09 24 51.5**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=134,slow=12,SNR=3.0						
SYO	**Syowa Base**	**62.52**	**158**	⇑*e*P	**P**	**09 25 08.0**	**-3.1**
833A	**Chaparral WMA,**	**70.36**	**336**	P	**P**	**09 26 02.2**	**+0.5**
	baz=71						
734A	**La Parita Cree**	**70.58**	**337**	P	**P**	**09 26 02.8**	**-0.2**
	baz=71						
636A	**Smothers Creek**	**70.73**	**339**	P	**P**	**09 26 05.3**	**+1.4**
	baz=71						
732A	**Laxson Ranch,**	**70.92**	**336**	P	**P**	**09 26 05.4**	**+0.3**
	baz=71						
632A	**Uvalde**	**71.58**	**336**	P	**P**	**09 26 09.0**	**-0.2**
	baz=72						
533A	**Kerrville**	**71.87**	**337**	P	**P**	**09 26 10.9**	**0.0**
	baz=72						
338A	**Crockett**	**72.03**	**341**	P	**P**	**09 26 12.6**	**+0.8**
	baz=72						
337A	**Centerville**	**72.14**	**340**	P	**P**	**09 26 12.8**	**+0.3**
	baz=72						
532A	**Rocksprings**	**72.20**	**336**	P	**P**	**09 26 13.0**	**+0.2**
	baz=72,SNR=6.3						
434A	**Burnet**	**72.34**	**338**	P	**P**	**09 26 13.8**	**+0.1**
	baz=73,SNR=6.8						
531A	**Rocksprings**	**72.43**	**336**	P	**P**	**09 26 14.8**	**+0.5**
	baz=73,SNR=5.2						
336A	**Riesel**	**72.47**	**339**	P	**P**	**09 26 15.0**	**+0.7**
	baz=73						
JCT	**Junction City**	**72.49**	**337**	P	**P**	**09 26 14.9**	**+0.3**
	baz=73,SNR=6.2						
JCT	**Junction City**	**72.49**	**337**	*e*P	**P**	**09 26 14.9**	**+0.3**
	comp=Z,8.5nm,1.0s						
433A	**Art**	**72.53**	**337**	P	**P**	**09 26 14.2**	**-0.6**
	baz=73,SNR=6.2						
530A	**J-C Ranch, Com**	**72.68**	**335**	P	**P**	**09 26 16.4**	**+0.6**
	baz=73,SNR=5.2						
TXAR	**Lajitas Array**	**72.73**	**333**	P	**P**	**09 26 16.6**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=152,slow=8.3,SNR=17						
334A	**Lometa**	**72.81**	**338**	P	**P**	**09 26 16.5**	**0.0**
	baz=73,SNR=10						
432A	**Menard**	**72.86**	**337**	P	**P**	**09 26 17.0**	**+0.2**
	baz=73						
431A	**Sonora**	**72.93**	**336**	P	**P**	**09 26 17.0**	**-0.2**
	baz=73						
333A	**Richland Sprin**	**73.03**	**338**	P	**P**	**09 26 17.3**	**-0.4**
	baz=73						
430A	**Baggett Ranch,**	**73.23**	**336**	P	**P**	**09 26 19.3**	**+0.2**
	baz=74						
KMSC	**Kings Mountain**	**73.29**	**354**	P	**P**	**09 26 19.0**	**-0.2**
	baz=74						
429A	**Davenport Ranc**	**73.30**	**335**	P	**P**	**09 26 19.6**	**+0.1**
	baz=74						
332A	**Millersview**	**73.31**	**337**	P	**P**	**09 26 19.2**	**-0.2**
	baz=74						
234A	**Clairette**	**73.42**	**339**	P	**P**	**09 26 19.3**	**-0.7**
	baz=74,SNR=6.7						
331A	**San Angelo**	**73.45**	**336**	P	**P**	**09 26 19.8**	**-0.4**
	baz=74						
233A	**Rising Star**	**73.65**	**338**	P	**P**	**09 26 21.2**	**-0.2**
	baz=74						
232A	**Coleman**	**73.75**	**337**	P	**P**	**09 26 21.7**	**-0.4**
	baz=74						
CPCT	**Cooper Cave**	**73.94**	**351**	*e*P	**P**	**09 26 23.0**	**0.0**
231A	**Bronte**	**74.00**	**337**	P	**P**	**09 26 23.2**	**-0.3**
	baz=74						
329A	**Wagon Wheel Ra**	**74.12**	**335**	P	**P**	**09 26 24.2**	**0.0**
	baz=74						
133A	**Hamilton Ranch**	**74.21**	**338**	P	**P**	**09 26 24.5**	**-0.1**
	baz=75						
Z35A	**Perchaven, San**	**74.42**	**340**	P	**P**	**09 26 25.6**	**-0.2**
	baz=75						
ABTX	**Abilene, Hawle**	**74.44**	**338**	P	**P**	**09 26 25.9**	**-0.1**
	baz=75						
ABTX	**Abilene, Hawle**	**74.44**	**338**	*e*P	**P**	**09 26 26.3**	**+0.3**
229A	**Bryant Ranch,**	**74.51**	**336**	P	**P**	**09 26 26.6**	**+0.1**
	baz=75						
MIAR	**Mount Ida**	**74.65**	**343**	*e*P	**P**	**09 26 26.8**	**-0.4**
	comp=Z,1.8nm,0.7s						
131A	**Roby**	**74.71**	**337**	P	**P**	**09 26 27.2**	**-0.4**
	baz=75						
Z33A	**Whitaker Ranch**	**74.80**	**339**	P	**P**	**09 26 27.9**	**-0.1**
	baz=75						
228A	**UT Block 9, Go**	**74.90**	**335**	P	**P**	**09 26 28.6**	**-0.2**
	baz=75						
Z32A	**Haskell**	**75.02**	**338**	P	**P**	**09 26 29.4**	**0.0**
	baz=75,SNR=5.3						
Y34A	**Reagan Ranch,**	**75.14**	**340**	P	**P**	**09 26 29.7**	**-0.3**
	baz=76						
Z31A	**Sharp Cattle R**	**75.23**	**337**	P	**P**	**09 26 29.9**	**-0.7**
	baz=76						
X35A	**Drake**	**75.35**	**340**	P	**P**	**09 26 31.3**	**+0.1**
	baz=76						
X36A	**Centrahoma**	**75.35**	**341**	P	**P**	**09 26 31.2**	**0.0**
	baz=76,SNR=5.9						
W38A	**Poteau**	**75.37**	**343**	P	**P**	**09 26 31.4**	**+0.1**
	baz=76						
Y33A	**Hilltop Ranch,**	**75.43**	**339**	P	**P**	**09 26 31.7**	**+0.1**
	baz=76						
Z30A	**Sanderson Ranc**	**75.51**	**337**	P	**P**	**09 26 31.5**	**-0.7**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.67**	**336**	P	**P**	**09 26 32.7**	**-0.4**
	baz=76,SNR=5.9						
Y31A	**Rekieta Farm,**	**75.87**	**338**	P	**P**	**09 26 34.4**	**+0.2**
	baz=76						
X33A	**Lawton**	**75.90**	**339**	P	**P**	**09 26 33.7**	**-0.6**
	baz=76						
W35A	**Tecumseh**	**76.04**	**341**	P	**P**	**09 26 34.3**	**-0.8**
	baz=76						
PBMO	**Poplar Bluff**	**76.16**	**346**	*e*P	**P**	**09 26 35.4**	**-0.3**
	comp=Z,6.1nm,0.8s						
WMOK	**Wichita Mounta**	**76.16**	**339**	*e*P	**P**	**09 26 36.0**	**+0.2**
	comp=Z,0.2nm,1.4s						
W34A	**Bridge Creek,**	**76.35**	**340**	P	**P**	**09 26 37.5**	**+0.6**
	baz=77						
X31A	**McDonald Ranch**	**76.41**	**338**	P	**P**	**09 26 37.1**	**-0.1**
	baz=77,SNR=6.0						
W33A	**Caddo, Fort Co**	**76.46**	**339**	P	**P**	**09 26 38.0**	**+0.4**
	baz=77,SNR=5.9						
TUL1	**Leonard**	**76.48**	**342**	P	**P**	**09 26 37.3**	**-0.3**
	baz=77,SNR=5.9						
TUL1	**Leonard**	**76.48**	**342**	*e*P	**P**	**09 26 37.3**	**-0.3**
	comp=Z,7.3nm,0.7s						
X30A	**Coker Ranch, T**	**76.50**	**337**	P	**P**	**09 26 38.1**	**+0.2**
	baz=77						
V35A	**Meyer Ranch, C**	**76.60**	**341**	P	**P**	**09 26 37.9**	**-0.4**
	baz=77						
W32A	**Sentinel**	**76.66**	**339**	P	**P**	**09 26 38.7**	**+0.1**
	baz=77,SNR=7.4						
319A	**Douglas**	**76.70**	**329**	P	**P**	**09 26 39.5**	**+0.4**
	baz=77						
V34A	**Guthrie**	**76.85**	**340**	P	**P**	**09 26 39.3**	**-0.4**
	baz=77						
V34A	**Guthrie**	**76.85**	**340**	*e*P	**P**	**09 26 39.5**	**-0.2**
	comp=Z,12nm,0.9s						
V33A	**Lossen Ranch,**	**77.04**	**340**	P	**P**	**09 26 41.0**	**+0.2**
	baz=77						
121A	**Cozes Peak, D**	**77.14**	**331**	P	**P**	**09 26 42.4**	**+0.8**
	baz=78						
AMTX	**Amarillo**	**77.16**	**337**	P	**P**	**09 26 41.8**	**+0.2**
	baz=78						
V32A	**Arapaho**	**77.16**	**339**	P	**P**	**09 26 42.0**	**+0.6**
	baz=78						
U34A	**Anderson Ranch**	**77.42**	**341**	*e*P	**P**	**09 26 43.4**	**+0.5**
	comp=Z,2.8nm,0.6s						
LIC	**Lamto**	**77.48**	**72**	*e*P	**P**	**09 26 43.9**	**+0.1**
	comp=Z,70nm,1.7s						
TIC	**Toumodi**	**77.76**	**71**	*e*P	**P**	**09 26 45.6**	**+0.2**
	comp=Z,14nm,0.2s						
KIC	**Kosan Boka**	**77.78**	**72**	*e*P	**P**	**09 26 45.8**	**+0.3**
	comp=Z,47nm,1.1s						
DBIC	**Dimbokro**	**77.90**	**72**	P	**P**	**09 26 46.8**	**+0.7**
	comp=Z,11nm,1.0s,baz=172,slow=5.2,SNR=6.1						
TUC	**Tucson**	**78.12**	**329**	*e*P	**P**	**09 26 48.2**	**+1.1**
214A	**Organ Pipe Nat**	**78.67**	**327**	P	**P**	**09 26 51.3**	**+1.3**
	baz=79						
214A	**Organ Pipe Nat**	**78.67**	**327**	*e*P	**P**	**09 26 51.9**	**+2.0**
	comp=Z,6.4nm,1.2s						
ANMO	**Albuquerque**	**78.81**	**333**	*e*P	**P**	**09 26 51.6**	**+0.8**
	comp=Z,6.0nm,1.1s						
U27A	**Thompson Grove**	**78.93**	**337**	P	**P**	**09 26 52.1**	**+0.6**
	baz=79						
S31A	**Mullinville**	**79.06**	**340**	P	**P**	**09 26 52.9**	**+0.9**
	baz=79						
T28A	**Walsh**	**79.36**	**337**	P	**P**	**09 26 53.9**	**+0.1**
	baz=80						
R31A	**Burdett**	**79.70**	**340**	P	**P**	**09 26 55.4**	**-0.1**
	baz=80						
T25A	**Trinidad**	**80.09**	**336**	P	**P**	**09 26 58.9**	**+1.0**
	baz=80						
X16A	**Lo Mia Camp, P**	**80.23**	**329**	P	**P**	**09 27 00.1**	**+1.4**
	baz=81						
S26A	**Kim**	**80.23**	**337**	P	**P**	**09 26 58.7**	**+0.2**
	baz=81						
R28A	**Tribune**	**80.39**	**338**	P	**P**	**09 26 59.7**	**+0.3**
	baz=81						
Y14A	**Wickenburg**	**80.46**	**328**	P	**P**	**09 27 00.8**	**+1.1**
	baz=81						
Q30A	**Quinter**	**80.53**	**339**	P	**P**	**09 27 00.5**	**+0.6**
	baz=81						
SDCO	**Great Sand Dun**	**81.00**	**335**	P	**P**	**09 27 03.4**	**+0.6**
	baz=81						
R24A	**Sanders Place,**	**81.32**	**336**	P	**P**	**09 27 05.4**	**+1.1**
	baz=82						
S22A	**4UR Ranch, Cre**	**81.45**	**334**	P	**P**	**09 27 06.0**	**+0.8**
	baz=82						
R23A	**Moffat**	**81.52**	**335**	P	**P**	**09 27 06.0**	**+0.5**
	baz=82						
W13A	**Hualapai Mount**	**81.82**	**328**	P	**P**	**09 27 08.3**	**+1.1**
	baz=82						
U15A	**North Rim**	**82.32**	**330**	P	**P**	**09 27 10.8**	**+1.0**
	baz=83						
PV01	**Paradox Valley**	**82.41**	**333**	*e*P	**P**	**09 27 10.4**	**+0.2**
	comp=Z,198nm,1.0s						
L31A	**Butterfield Fa**	**83.17**	**342**	P	**P**	**09 27 14.6**	**+0.8**
	baz=84						
O23A	**Lake Granby, G**	**83.38**	**336**	P	**P**	**09 27 14.8**	**-0.4**
	baz=84						
O22A	**Kremmling**	**83.53**	**335**	P	**P**	**09 27 15.8**	**-0.3**
	baz=84						
K30A	**Basset**	**83.83**	**341**	P	**P**	**09 27 18.2**	**+1.0**
	baz=84						
ECSD	**EROS Data Cent**	**84.12**	**344**	P	**P**	**09 27 18.4**	**-0.1**
	baz=84						
ECSD	**EROS Data Cent**	**84.12**	**344**	*e*P	**P**	**09 27 18.2**	**-0.4**
	comp=Z,8.9nm,1.0s						
ISA	**Isabella, Lake**	**84.30**	**325**	P	**P**	**09 27 20.5**	**+0.7**
	baz=85						
R11A	**Troy Canyon, C**	**85.31**	**328**	P	**P**	**09 27 25.6**	**+0.7**
	baz=86						
DUG	**Dugway, Tooele**	**85.79**	**331**	P	**P**	**09 27 27.9**	**+0.7**
	baz=86						
NVAR	**Mina Array Bea**	**86.53**	**327**	P	**P**	**09 27 31.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=152,slow=7.6,SNR=3.8						
PDAR	**Pinedale Array**	**86.87**	**334**	P	**P**	**09 27 32.0**	**-0.6**
	comp=Z,1.9nm,1.1s,baz=150,slow=6.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**86.99**	**71**	P	**P**	**09 27 33.5**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=222,slow=5.0,SNR=21						
J19A	**Crowheart**	**87.14**	**335**	P	**P**	**09 27 33.8**	**0.0**
	baz=88						
C30A	**Mose, Pekin**	**88.29**	**344**	P	**P**	**09 27 39.3**	**+0.3**
	baz=89						
AGMN	**Agassiz Nation**	**88.31**	**345**	P	**P**	**09 27 38.5**	**-0.6**
	baz=89						
H18A	**Shoshone NF, C**	**88.60**	**335**	P	**P**	**09 27 41.1**	**+0.3**
	baz=89						
MDND	**Maddock**	**88.69**	**343**	P	**P**	**09 27 41.0**	**+0.1**
	baz=89						
B30A	**Myrvik Farm, E**	**88.97**	**344**	P	**P**	**09 27 42.2**	**0.0**
	baz=89						
HLID	**Hailey**	**89.30**	**332**	P	**P**	**09 27 44.7**	**+0.6**
	baz=90						
A29A	**Manning Farm,**	**89.61**	**344**	P	**P**	**09 27 44.6**	**-0.6**
	baz=90						
GERES	**GERESS Array B**	**116.10**	**47**	PKP	**PKPdf**	**09 33 30.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=355,slow=1.6,SNR=3.9						
BRTR	**Keskin Array B**	**125.06**	**64**	PKP	**PKPdf**	**09 33 48.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=246,slow=2.2,SNR=5.5						
GEYT	**Alibeck**	**142.51**	**75**	PKhKP	PKPpre	09 34 16.9	
	comp=Z,2.5nm,0.7s,baz=271,slow=6.8,SNR=3.9						
AKTO	**Aktyubinsk**	**144.06**	**54**	PKP	PKPbc	09 34 20.8	-0.2
	comp=Z,6.4nm,0.6s,baz=285,slow=2.2,SNR=24						
TIXI	**Tiksi**	**144.51**	**348**	*e*PKPdf	**PKPab**	**09 34 20.4**	**-1.2**
ABKAR	**Akbulak array**	**145.32**	**56**	*e*PKPbc	**PKPbc**	**09 34 25.1**	**0.0**
BVAR	**Borovoye Array**	**151.27**	**47**	PKPbc	**PKPbc**	**09 34 41.5**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=310,slow=3.5,SNR=17						
AAK	**Ala-Archa**	**155.57**	**69**	PKPab	**PKPab**	**09 35 05.9**	**-1.8**
	comp=Z,4.0nm,0.5s,baz=218,slow=2.8,SNR=11						
AAK	**Ala-Archa**	**155.57**	**69**	*e*PKPdf	**PKPdf**	**09 34 41.3**	**-0.3**
AAK				PKPab	**PKPab**	**09 35 05.9**	**-1.8**
AAK				*e*PKPab	PKPab	09 35 07.5	-0.2
KSH	**Kashi**	**156.50**	**77**	PKP	**PKPdf**	**09 34 43.3**	**+0.4**
KSH				*ep*PKP	**pPKPdf**	**09 34 53.9**	**+4.8**
KSH				*e*PP	**PP**	**09 38 54.1**	**+3.8**
KSH				SKKS		09 45 37.3	
KSH				PPMZ			
	comp=Z,86nm,6.7s						
KSH				LZ			
	comp=Z,120nm,6.5s						
ZALV	**Zalesovo Beam**	**158.51**	**36**	PKP	**PKPdf**	**09 34 44.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=158,slow=1.6,SNR=4.0						
ZALV				PKPab	**PKPab**	**09 35 19.6**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=289,slow=5.5,SNR=8.6						
CMAR	**Chiang Mai Arr**	**159.35**	**160**	PKPab	**PKPab**	**09 35 24.4**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=188,slow=5.0,SNR=4.6						
MKAR	**Makanchi Array**	**160.47**	**56**	PKP	**PKPdf**	**09 34 46.4**	**-0.9**
	comp=Z,1.8nm,1.1s,baz=267,slow=4.9,SNR=6.2						
MKAR				PKPab	**PKPab**	**09 35 28.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=274,slow=8.8,SNR=19						
WMQ	**Urumqi**	**164.98**	**62**	*e*PKP	**PKPdf**	**09 34 49.8**	**-2.0**
WMQ				pPKP	**pPKPdf**	**09 35 00.5**	**+2.5**
NJ2	**Nanjing**	**167.94**	**243**	*e*PKP	**PKPdf**	**09 34 53.5**	**-0.9**
SONM	**Songino Array**	**170.36**	**359**	PKPab	**PKPab**	**09 36 12.9**	**+0.9**
	comp=Z,2.1nm,1.0s,baz=338,slow=3.5,SNR=5.6						
CD2	**Chengdu**	**172.47**	**164**	PKP	**PKPdf**	**09 34 56.0**	**-1.1**
GTA	**Gaotai**	**174.90**	**74**	*e*PKP	**PKPdf**	**09 34 57.8**	**0.0**
GTA				pPKP	**pPKPdf**	**09 35 08.5**	**+4.5**
GTA				sPKP		09 35 12.1	
GTA				PKPab	**PKPab**	**09 36 34.3**	**+1.6**
HHC	**Hu-ho-hao-te**	**175.05**	**304**	*e*PKP	**PKPdf**	**09 34 57.1**	**-0.7**
HHC				PP	**PP**	**09 40 28.5**	**+2.5**
HHC				SKS	**SKSdf**	**09 41 54.9**	**-5.0**
HHC				SS	**SS**	**10 01 45.9**	**-3.2**
HHC				PPMZ			
	comp=Z,62nm,8.6s						
HHC				LN			
	comp=Z,130nm,17.9s						
HHC				LE			
	comp=Z,94nm,18.8s						
HHC				LZ			
	comp=Z,78nm,19.7s						
LZH	**Lanzhou**	**177.20**	**138**	*e*PKP	**PKPdf**	**09 34 57.8**	**-0.7**
LZH				pPKP	**pPKPdf**	**09 35 07.4**	**+2.7**
LZH				sPKP		09 35 11.3	

IDC 24 09:21:00.3±3.3, 54°.22N×87°.19E, h0km, mb1 2.7/2, mb1mx2.7/34, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=30.6km s-min=19.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**260**	*i*		09 28 20.0	
	baz=79,slow=331,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.42**	**260**	Pg	Pn	09 21 25.1	-2.4
	1.4nm,0.3s,baz=76,slow=12,SNR=21						
ZALV				Lg	Lg	09 21 46.2	
	0.8nm,0.3s,baz=81,slow=27,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.41**	**239**	Pn	Pn	09 22 36.7	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	09 23 00.1	+1.4
	0.1nm,0.3s,baz=30,slow=14,SNR=5.2						

*IDC **24** 09:21:44.3±2.3, 53°.49N×87°.79E, h0km, mb1 3.5/3, mb1mx3.2/35, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=20.4km s-min=12.7km az=64.0*

*NNC **24** 09:21:46.4±3.0, 53°.47N×87°.49E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.6km s-min=19.3km az=13.0*

**ISC 24 09:21:47.2±3.7, 53°.7N±0°.1×

LUWI	**Luwuk**	**5.34**	**279**	P	Pn	09 32 28.4	-0.5
	26nm,1.0s,3µm0.3nm							
GTOI	**Gorontalo**	**5.63**	**297**	P	Pn	09 32 34.9	+2.0
KDI	**Kendari**	**5.78**	**249**	P	Pn	09 32 34.6	-0.3
	24nm,0.8s,0.1nm							

DJA 24 09:35:24.4±0.4,2°S±2',×12°8E±°,h63km±10km,M3.7/14, mb3.7/3,mB5.1/1,MLv3.7/14,Mw(mB)4.4/1,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.39**	**334**	P	Pn	09 35 47.7	0.0
LBMI				S	Sn	09 36 06.9	+1.7
MSAI	**Masohi**	**1.66**	**150**	P	Pn	09 35 51.3	0.0
MSAI				S	Sn	09 36 12.9	+1.2
NLAI	**Namlea**	**1.66**	**217**	P	Pn	09 35 51.5	+0.1
SANI	**Sanana**	**2.12**	**266**	P	Pn	09 35 57.4	-0.1
TNTI	**Ternate**	**2.75**	**345**	P	Pn	09 36 06.1	-0.1
TNTI				S	Sn	09 36 39.4	+1.1
BNDI	**Bandanaira**	**3.17**	**145**	P	Pn	09 36 11.8	-0.1
BNDI				S	Sn	09 36 48.7	+0.2
SWI	**Sorong**	**3.32**	**72**	P	Pn	09 36 14.0	0.0
SWI				S	Sn	09 36 53.9	+1.6
FAKI	**Fak Fak**	**4.27**	**104**	P	Pn	09 36 27.2	+0.3
KMSI	**Cibinong**	**4.80**	**301**	P	Pn	09 36 34.0	-0.1
LUWI	**Luwuk**	**5.39**	**279**	P	Pn	09 36 42.1	-0.2
	19nm,0.8s,2µm0.1nm							
KDI	**Kendari**	**5.84**	**249**	P	Pn	09 36 48.5	0.0
	16nm,0.9s,0.1nm							

*BJI **24** 09:36:53.6,35°.90N×80°.64E,h5km,ML3.8/6*
*ISCJB **24** 09:36:56.0±0.8,36°.16N±0°.06×80°.84E±0°.10,h10km, mb3.4/5, Error ellipse: s-maj=11.7km s-min=8.4km az=172.3*
*IDC **24** 09:36:55.6±1.0,36°.04N×80°.75E,h0km,mb3.5/5, mb1 3.6/10,mb1mx3.4/39,mbtmp3.5/10,ML3.4/4, Error ellipse: s-maj=33.5km s-min=15.6km az=60.0*
*NNC **24** 09:37:03.0±18.0,36°.37N×80°.36E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=146.2km s-min=134.6km az=54.0*

ISC 24 09:36:57.3±1.1,36°.06N±0°.09×80°.8E±0°.1,h10km,n15, σ1§59/18,mb3.3/5,3C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**5.14**	**314**	Pn	**Pn**	**09 38 15.8**	**+1.4**
KSH				Sn	**Sn**	**09 39 11.9**	**-1.9**
KSH				SMN			
	220nm,0.6s						
KSH				SME			
	270nm,0.7s						
PDGK	**Podgornoye**	**7.33**	**353**	⇑Pn	**Pn**	**09 38 46.9**	**+2.6**
	6.6nm,0.5s						
PDGK				⇓Sn	**Sn**	**09 40 09.7**	**+2.2**
	40nm,0.6s						
AAK	**Ala-Archa**	**8.17**	**325**	⇓Pg	Pg	09 39 28.3	-5.4
	7.9nm,0.8s						
AAK				⇑Lg	Lg	09 41 10.4	
	25nm,0.9s						
AAK	**Ala-Archa**	**8.17**	**325**	Pn	**Pn**	**09 38 58.6**	**+2.6**
	0.5nm,0.3s,baz=135,slow=11,SNR=4.3						
AAK				Pg	Pb	09 39 23.2	+4.2
	0.9nm,0.3s,baz=114,slow=11,SNR=3.5						
AAK				Lg	Lg	09 41 14.3	
	0.8nm,0.3s,baz=309,slow=16,SNR=6.2						
WMQ	**Urumqi**	**9.40**	**32**	*e*P	**Pn**	**09 39 14.6**	**+1.8**
WMQ				SMN			
	32nm,0.8s						
WMQ				SME			
	23nm,0.8s						
MK31	**Makanchi Array**	**10.79**	**6**	Pn	**Pn**	**09 39 31.8**	**+0.1**
	1.3nm,0.5s,baz=190,slow=14,SNR=30						
MK31				⇑Sn	**Sn**	**09 41 30.7**	**-1.8**
	2.9nm,0.6s,baz=196,slow=24,SNR=4.2						
MKAR	**Makanchi Array**	**10.79**	**6**	Pn	**Pn**	**09 39 31.5**	**-0.3**
	0.7nm,0.3s,baz=179,slow=13,SNR=26						
MKAR				Sn	**Sn**	**09 41 31.2**	**-1.3**
	0.9nm,0.3s,baz=201,slow=26,SNR=7.4						
KURBB	**Kurchatov Arra**	**14.65**	**354**	Pn	**Pn**	**09 40 23.9**	**-0.5**
	baz=180,slow=10,SNR=2.1						
ZALV	**Zalesovo Beam**	**18.11**	**8**	P	**Pn**	**09 41 08.1**	**-0.7**
	0.1nm,0.3s,baz=194,slow=11,SNR=2.5						
BVAR	**Borovoye Array**	**18.48**	**340**	P	**P**	**09 41 11.4**	**-1.8**
	0.2nm,0.3s,baz=161,slow=14,SNR=2.9						
AKTO	**Aktyubinsk**	**21.82**	**318**	P	**P**	**09 41 50.5**	**+1.0**
	0.5nm,0.4s,baz=105,slow=15,SNR=2.7						
FINES	**FINESS Array B**	**42.36**	**324**	P	**P**	**09 44 51.0**	**-0.2**
	2.8nm,1.1s,baz=113,slow=11,SNR=2.7						
TORD	**Torodi Ar. Bea**	**73.62**	**274**	P	**P**	**09 48 30.7**	**-0.5**
	0.3nm,0.5s,baz=45,slow=5.3,SNR=5.7						
WRA	**Warramunga Arr**	**75.28**	**129**	P	**P**	**09 48 41.3**	**+0.7**
	0.3nm,1.0s,baz=327,slow=5.7,SNR=3.2						
ASAR	**Alice Springs**	**77.77**	**131**	P	**P**	**09 48 54.3**	**-0.4**
	0.2nm,0.7s,baz=316,slow=5.9,SNR=3.1						

IDC 24 09:40:48.7±3.2,6°.89S×147°.86E,h0km,mb3.3/1, mb1 3.6/2,mb1mx3.3/28,mbtmp3.4/2,ML3.4/1,Error ellipse: s-maj=114.9km s-min=42.9km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.45**	**224**	P	Pn	09 45 04.9	-1.2
	0.1nm,0.3s,baz=50,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**21.40**	**217**	P	P	09 45 38.5	+0.3
	1.0nm,0.5s,baz=47,slow=9.5,SNR=16						
TORD	**Torodi Ar. Bea**	**146.13**	**283**	PKPbc	PKPdf	10 00 31.2	+0.2
	0.6nm,0.6s,baz=80,slow=4.1,SNR=7.8						

*IDC **24** 09:51:20.3±1.0,38°.37N×21°.66E,h0km,mb3.7/8, mb1 3.6/12,mb1mx3.5/36,mbtmp3.5/12,ML3.6/4,Error ellipse: s-maj=18.6km s-min=18.1km az=91.0*
*ISCJB **24** 09:51:22.4±0.3,38°.38N±0°.02×21°.87E±0°.02,h11km±2km, mb3.6/8,Error ellipse: s-maj=2.8km s-min=2.7km az=176.7*
*IASPEI **24** 09:51:22.3±0.8,38°.37N±0°.02×21°.88E±0°.02,h11km±4km, mb3.7/8,Error ellipse: s-maj=2.7km s-min=2.5km az=146.6*
*ATH **24** 09:51:22.6,38°.37N×21°.91E,h16km±1km,MD3.2/22, ML3.4*
*CSEM **24** 09:51:22.6±0.1,38°.35N×21°.89E,h5km,ML3.7,Error ellipse: s-maj=2.9km s-min=2.5km az=75.0*
*THE **24** 09:51:23.0,38°.37N×21°.90E,h2km±1km,MS.3.7/5,Error ellipse: s-maj=1.4km s-min=0.6km az=239.0*

ISC 24 09:51:22.2±0.7,38°.37N±0°.01×21°.88E±0°.01,h12km±4km, n150,σ1§00/179,mb3.7/8,5C-4D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**20**	P	**Pg**	**09 51 24.5**	**-0.2**
EFP				S	**Sg**	**09 51 25.7**	**-0.8**
EFP	**Efpalio**	**0.06**	**20**	P	**Pg**	**09 51 24.5**	**-0.2**
EFP				S	**Sg**	**09 51 25.7**	**-0.8**
UPR	**University Cam**	**0.11**	**221**	P	**Pg**	**09 51 25.6**	**+0.4**
UPR				S	**Sg**	**09 51 27.7**	**+0.4**
UPR	**University Cam**	**0.11**	**221**	P	**Pg**	**09 51 25.6**	**+0.4**
UPR				S	**Sg**	**09 51 27.7**	**+0.4**
KALE	**Kalithea**	**0.21**	**83**	P	**Pg**	**09 51 27.1**	**+0.3**
KALE				S	**Sg**	**09 51 30.1**	**+0.2**
KALE	**Kalithea**	**0.21**	**83**	*e*PB	**Pg**	**09 51 27.2**	**+0.4**
KALE	**Kalithea**	**0.21**	**83**	P	**Pg**	**09 51 27.1**	**+0.3**
KALE				S	**Sg**	**09 51 30.1**	**+0.2**
PVO	**Paravola**	**0.37**	**312**	P	**Pg**	**09 51 29.6**	**-0.1**
PVO	**Paravola**	**0.37**	**312**	P	**Pg**	**09 51 29.6**	**-0.1**
PVO				S	**Sg**	**09 51 34.7**	**0.0**
KLV	**Kalavryta, Ach**	**0.39**	**146**	*e*PB	**Pg**	**09 51 30.6**	**+0.6**
KLV	**Kalavryta, Ach**	**0.39**	**146**	*e*Pb	**Pg**	**09 51 30.6**	**+0.6**
DRO	**Drossia**	**0.43**	**198**	P	**Pg**	**09 51 31.2**	**+0.4**
DRO				S	**Sb**	**09 51 38.1**	**-0.2**
DRO	**Drossia**	**0.43**	**198**	P	**Pg**	**09 51 31.2**	**+0.4**
DRO				S	**Sg**	**09 51 37.5**	**+0.9**
RLS	**Riolos of Patr**	**0.45**	**226**	*e*PB	**Pg**	**09 51 31.6**	**+0.6**
RLS				*e*SB	**Sb**	**09 51 39.2**	**+0.5**
RLS	**Riolos of Patr**	**0.45**	**226**	*e*PB	**Pg**	**09 51 31.6**	**+0.6**
RLS				*e*SB	**Sb**	**09 51 39.1**	**+0.4**
RLS	**Riolos of Patr**	**0.45**	**226**	*e*Pb	**Pg**	**09 51 31.6**	**+0.6**
RLS				*e*Sb	**Sb**	**09 51 39.1**	**+0.4**
EVR	**Evrytania**	**0.55**	**354**	*e*PN	**Pg**	**09 51 32.8**	**-0.2**
EVR				*e*SN	**Sb**	**09 51 41.8**	**0.0**
EVR	**Evrytania**	**0.55**	**354**	*e*Pn	**Pg**	**09 51 32.8**	**-0.2**
EVR				*e*Sn	**Sb**	**09 51 41.8**	**0.0**
GUR	**Goura**	**0.56**	**139**	P	**Pg**	**09 51 33.5**	**+0.2**
GUR				S	**Sg**	**09 51 41.5**	**+0.7**
GUR	**Goura**	**0.56**	**139**	P	**Pg**	**09 51 33.5**	**+0.2**
GUR				S	**Sg**	**09 51 41.5**	**+0.7**
PDO	**Prodromos**	**0.59**	**293**	P	**Pg**	**09 51 33.6**	**-0.2**
PDO				S	**Sb**	**09 51 43.8**	**+0.9**
PDO	**Prodromos**	**0.59**	**293**	P	**Pg**	**09 51 33.6**	**-0.2**
PDO				S	**Sg**	**09 51 41.6**	**0.0**
MAKR	**Makrakomi, Fth**	**0.68**	**17**	P	**Pg**	**09 51 35.3**	**-0.1**
MAKR				S	**Sg**	**09 51 44.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.68**	**17**	*e*PN	**Pg**	**09 51 35.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.68**	**17**	P	**Pg**	**09 51 35.3**	**-0.1**
MAKR				S	**Sg**	**09 51 44.3**	**0.0**
VTN	**Vitineika**	**0.71**	**231**	P	**Pg**	**09 51 35.7**	**-0.2**
VTN	**Vitineika**	**0.71**	**231**	P	**Pg**	**09 51 35.7**	**-0.2**
AXAR	**Agios Charalam**	**0.73**	**57**	P	**Pg**	**09 51 36.0**	**-0.4**
AXAR				S	**Sg**	**09 51 46.7**	**+0.7**
AXAR	**Agios Charalam**	**0.73**	**57**	*e*PN	**Pg**	**09 51 36.2**	**-0.2**
AXAR	**Agios Charalam**	**0.73**	**57**	P	**Pg**	**09 51 36.0**	**-0.4**
AXAR				S	**Sg**	**09 51 45.5**	**-0.5**
AGG	**Agios Georgios**	**0.74**	**28**	P	**Pg**	**09 51 36.0**	**-0.7**
AGG	**Agios Georgios**	**0.74**	**28**	P	**Pg**	**09 51 36.0**	**-0.7**
AMT	**Artemida-Makis**	**0.84**	**189**	P	**Pb**	**09 51 38.9**	**+0.1**
AMT	**Artemida-Makis**	**0.84**	**189**	P	**Pb**	**09 51 38.9**	**+0.1**
KFL	**Anninata**	**0.90**	**254**	P	**Pg**	**09 51 39.5**	**0.0**
KFL	**Anninata**	**0.90**	**254**	P	**Pg**	**09 51 39.5**	**0.0**
KFL				S	**Sg**	**09 51 51.5**	**+0.3**
LKR	**Lokris**	**0.93**	**72**	*e*PN	**Pg**	**09 51 40.1**	**0.0**
LKR	**Lokris**	**0.93**	**72**	*e*Pn	**Pg**	**09 51 40.1**	**0.0**
LTK	**Loutraki**	**0.93**	**111**	P	**Pb**	**09 51 40.6**	**+0.4**
LTK	**Loutraki**	**0.93**	**111**	P	**Pb**	**09 51 40.6**	**+0.4**
DSL	**Palaion Diasel**	**0.98**	**322**	P	**Pg**	**09 51 41.4**	**+0.3**
DSL	**Palaion Diasel**	**0.98**	**322**	P	**Pg**	**09 51 41.4**	**+0.3**
VLS	**Valsamata**	**1.03**	**260**	*e*PB	**Pb**	**09 51 41.4**	**-0.6**
VLS				*e*SN	**Sn**	**09 51 58.4**	**+1.5**
VLS	**Valsamata**	**1.03**	**260**	*e*PN	**Pb**	**09 51 41.2**	**-0.8**
VLS				*e*SN	**Sn**	**09 51 58.4**	**+1.5**
VLS	**Valsamata**	**1.03**	**260**	*e*Pb	**Pb**	**09 51 41.4**	**-0.6**
VLS				*e*Sn	**Sn**	**09 51 58.4**	**+1.5**
VLX	**Vlachokerasia**	**1.07**	**158**	P	**Pb**	**09 51 42.4**	**-0.4**
VLX	**Vlachokerasia**	**1.07**	**158**	P	**Pb**	**09 51 42.4**	**-0.4**
ITM	**Ithomi**	**1.19**	**178**	*e*PN	**Pn**	**09 51 45.0**	**+0.3**
ITM	**Ithomi**	**1.19**	**178**	*e*Pn	**Pn**	**09 51 45.0**	**+0.3**
MRKA	**Markates**	**1.38**	**75**	P	**Pb**	**09 51 48.1**	**+0.1**
MRKA	**Markates**	**1.38**	**75**	P	**Pb**	**09 51 48.1**	**+0.1**
NAIG	**Nisos Aigina**	**1.41**	**115**	*e*PN	**Pg**	**09 51 49.4**	**+0.1**
NAIG	**Nisos Aigina**	**1.41**	**115**	*e*Pn	**Pg**	**09 51 49.4**	**+0.1**
NEO	**Neokhori**	**1.41**	**48**	*e*PN	**Pb**	**09 51 48.8**	**+0.3**
NEO				*e*SN	**Sg**	**09 52 07.8**	**+0.2**
NEO	**Neokhori**	**1.41**	**48**	*e*Pn	**Pb**	**09 51 48.8**	**+0.3**
NEO				*e*Sn	**Sg**	**09 52 07.8**	**+0.2**
XOR	**Xorichti**	**1.43**	**45**	P	**Pb**	**09 51 48.8**	**-0.1**
XOR	**Xorichti**	**1.43**	**45**	P	**Pb**	**09 51 48.8**	**-0.1**
PYL	**PYLOS**	**1.47**	**184**	P	**Pb**	**09 51 49.9**	**+0.4**
PYL	**PYLOS**	**1.47**	**184**	P	**Pb**	**09 51 49.9**	**+0.4**
SKIA	**Skiathos**	**1.48**	**57**	P	**Pn**	**09 51 49.2**	**+0.5**
SKIA	**Skiathos**	**1.48**	**57**	*e*PN	**Pb**	**09 51 49.8**	**+0.2**
SKIA	**Skiathos**	**1.48**	**57**	P	**Pn**	**09 51 49.2**	**+0.5**
SKIA	**Skiathos**	**1.48**	**57**	*e*Pn	**Pb**	**09 51 49.8**	**+0.2**
ATH	**Athens Observa**	**1.50**	**105**	P	**Pb**	**09 51 50.0**	**0.0**
ATH				S	**Sg**	**09 52 10.6**	**0.0**
ATH	**Athens Observa**	**1.50**	**105**	*e*PN	**Pb**	**09 51 50.6**	**+0.6**
ATH				*e*SN	**Sg**	**09 52 10.6**	**0.0**
ATH	**Athens Observa**	**1.50**	**105**	P	**Pb**	**09 51 50.0**	**0.0**
ATH	**Athens Observa**	**1.50**	**105**	*e*Pn	**Pb**	**09 51 50.6**	**+0.6**
ATH				S	**Sg**	**09 52 10.6**	**0.0**
MEV	**Metsovon**	**1.50**	**341**	P	**Pb**	**09 51 50.8**	**+0.6**
MEV	**Metsovon**	**1.50**	**341**	P	**Pb**	**09 51 50.8**	**+0.6**
JAN	**Janina**	**1.52**	**328**	*e*PN	**Pg**	**09 51 51.8**	**+0.5**
JAN	**Janina**	**1.52**	**328**	*e*Pn	**Pg**	**09 51 51.8**	**+0.5**
ATHU	**Athens Univers**	**1.56**	**104**	P	**Pb**	**09 51 51.2**	**+0.2**
ATHU	**Athens Univers**	**1.56**	**104**	P	**Pb**	**09 51 51.2**	**+0.2**
PTL	**Penteli**	**1.60**	**101**	*e*PN	**Pb**	**09 51 52.0**	**+0.3**
PTL	**Penteli**	**1.60**	**101**	*e*Pn	**Pb**	**09 51 52.0**	**+0.3**
IGT	**Igoumenitsa**	**1.68**	**314**	P	**Pb**	**09 51 54.0**	**+1.0**
IGT	**Igoumenitsa**	**1.68**	**314**	P	**Pb**	**09 51 54.0**	**+1.0**
AOS	**Alonnisos**	**1.76**	**62**	P	**Pn**	**09 51 52.8**	**+0.3**
AOS	**Alonnisos**	**1.76**	**62**	P	**Pn**	**09 51 52.8**	**+0.3**
LIT	**Litokhoron**	**1.80**	**15**	P	**Pn**	**09 51 54.1**	**+1.0**
LIT				S	**Sb**	**09 52 18.2**	**+0.6**
LIT	**Litokhoron**	**1.80**	**15**	P	**Pn**	**09 51 54.1**	**+1.0**
LIT				S	**Sb**	**09 52 18.2**	**+0.6**
VLI	**Veliai**	**1.85**	**153**	*e*PB	**Pb**	**09 51 55.2**	**-0.8**
VLI	**Veliai**	**1.85**	**153**	*e*Pb	**Pb**	**09 51 55.2**	**-0.8**
KZN	**Kozani**	**1.94**	**358**	*e*PN	**Pb**	**09 51 57.4**	**-0.2**
KZN	**Kozani**	**1.94**	**358**	*e*Pn	**Pb**	**09 51 57.4**	**-0.2**
PAIG	**Paliouri**	**2.10**	**41**	P	**Pn**	**09 51 57.3**	**+0.2**
PAIG	**Paliouri**	**2.10**	**41**	P	**Pn**	**09 51 57.3**	**+0.2**
KEK	**Kerkira**	**2.10**	**310**	*e*PN	**Pb**	**09 51 59.5**	**-0.8**
KEK	**Kerkira**	**2.10**	**310**	*e*Pn	**Pb**	**09 51 59.5**	**-0.8**
KYTH	**Kithira**	**2.28**	**156**	*e*PN	**Pb**	**09 52 02.9**	**-0.4**
KYTH	**Kithira**	**2.28**	**156**	*e*Pn	**Pb**	**09 52 02.9**	**-0.4**
PLG	**Polygyros**	**2.34**	**31**	*e*PN	**Pn**	**09 52 01.6**	**+1.0**
PLG	**Polygyros**	**2.34**	**31**	*e*Pn	**Pn**	**09 52 01.6**	**+1.0**
HORT	**Hortiatis**	**2.42**	**23**	P	**Pn**	**09 52 02.1**	**+0.4**
HORT	**Hortiatis**	**2.42**	**23**	P	**Pn**	**09 52 02.1**	**+0.4**
FNA	**Florina**	**2.44**	**351**	P	**Pn**	**09 52 03.9**	**+1.9**
FNA	**Florina**	**2.44**	**351**	P	**Pn**	**09 52 03.9**	**+1.9**
SOH	**Sokhos**	**2.70**	**24**	P	**Pn**	**09 52 06.9**	**+1.3**
SOH	**Sokhos**	**2.70**	**24**	P	**Pn**	**09 52 06.9**	**+1.3**
ANKY	**Antikythira Is**	**2.74**	**155**	*e*PB	**Pb**	**09 52 10.2**	**-1.0**
ANKY	**Antikythira Is**	**2.74**	**155**	*e*Pb	**Pb**	**09 52 10.2**	**-1.0**
KNT	**Kendrikon**	**2.90**	**15**	P	**Pn**	**09 52 09.7**	**+1.5**
KNT	**Kendrikon**	**2.90**	**15**	P	**Pn**	**09 52 09.7**	**+1.5**
LIA	**Limnos Island**	**2.99**	**58**	*e*PN	**Pn**	**09 52 10.8**	**+1.4**
LIA	**Limnos Island**	**2.99**	**58**	*e*Pn	**Pn**	**09 52 10.8**	**+1.4**
SRS	**Serrai**	**3.05**	**25**	P	**Pn**	**09 52 11.4**	**+1.1**
SRS	**Serrai**	**3.05**	**25**	P	**Pn**	**09 52 11.4**	**+1.1**
APE	**Apeiranthos**	**3.17**	**113**	*e*PN	**Pn**	**09 52 13.9**	**+1.9**
APE	**Apeiranthos**	**3.17**	**113**	⇑*i*P	**Sn**	**09 52 49.6**	**-0.2**
APE	**Apeiranthos**	**3.17**	**113**	*e*Pn	**Pn**	**09 52 13.9**	**+1.9**
CHOS	**Chios island**	**3.28**	**88**	P	**Pn**	**09 52 15.2**	**+1.6**
CHOS	**Chios island**	**3.28**	**88**	P	**Pn**	**09 52 15.2**	**+1.6**
NVR	**Nevrokopi**	**3.35**	**27**	*e*PN	**Pn**	**09 52 15.9**	**+1.5**
NVR	**Nevrokopi**	**3.35**	**27**	*e*Pn	**Pn**	**09 52 15.9**	**+1.5**
KARN	**Karanos**	**3.38**	**150**	*e*PB	**Pb**	**09 52 20.2**	**-1.9**
KARN	**Karanos**	**3.38**	**150**	*e*Pb	**Pb**	**09 52 20.2**	**-1.9**
IDI	**Anoyia**	**3.91**	**141**	P	**Pn**	**09 52 23.7**	**+1.5**
	1.6nm,0.3s,baz=315,slow=16,SNR=11						
IDI				Sn	**Sn**	**09 53 09.9**	**+1.9**
	3.5nm,0.3s,baz=300,slow=20,SNR=3.0						
BARS	**Barje**	**4.45**	**359**	*e*Pn	**Pn**	**09 52 30.6**	**+1.1**
IVAS	**Ivanjica**	**5.37**	**346**	*e*Pn	**Pn**	**09 52 44.7**	**+2.5**
STON	**Ston**	**5.51**	**326**	*e*Pn	**Pn**	**09 52 45.1**	**+1.1**
STON				Sn	**Sn**	**09 53 46.0**	**-1.2**
STON	**Ston**	**5.51**	**326**	*e*Pn	**Pn**	**09 52 45.1**	**+1.1**
BBLS	**Lazići**	**5.80**	**342**	*e*Pn	**Pn**	**09 52 49.4**	**+1.2**
DIVS	**Divibare**	**5.90**	**347**	⇓*i*P	Pn	09 52 53.6	+4.1
DIVS	**Divibare**	**5.90**	**347**	*e*Pn	**Pn**	**09 52 52.2**	**+2.7**
TRUS	**Trudelj**	**5.96**	**350**	*e*Pn	**Pn**	**09 52 52.2**	**+2.0**
GZR	**Gura Zlata**	**7.05**	**5**	⇑*i*P	Pn	09 53 08.8	+3.5
GZR	**Gura Zlata**	**7.05**	**5**	⇓*i*P	Pn	09 53 08.8	+3.5
VOIR		**7.45**	**17**	⇑*i*P	**Pn**	**09 53 13.7**	**+2.9**
VOIR		**7.45**	**17**	⇓*i*P	**Pn**	**09 53 13.7**	**+2.9**
UDBI	**Udbina**	**7.68**	**325**	*e*Pn	**Pn**	**09 53 15.5**	**+1.6**
UDBI				Sn	**Sn**	**09 54 39.1**	**-1.7**
UDBI	**Udbina**	**7.68**	**325**	*e*Pn	**Pn**	**09 53 15.4**	**+1.6**
MLR	**Muntele Rosu**	**7.74**	**22**	⇓*i*P	Pn	09 53 20.5	+5.7
MLR	**Muntele Rosu**	**7.74**	**22**	Pn	**Pn**	**09 53 17.8**	**+3.0**
	0.2nm,0.3s,baz=182,slow=8.2,SNR=7.0						
PLOR	**Plostina**	**8.28**	**24**	⇑*i*P	Pn	09 53 26.2	+4.1
VRI	**Vrincioaia**	**8.31**	**24**	⇑*i*P	Pn	09 53 27.5	+4.9
BOJS	**Bojanci**	**8.67**	**327**	*i* Pn	Pn	09 53 31.9	+4.5
BOJS				*i* Sn	**Sn**	**09 55 02.9**	**-2.2**
CRES	**Cresnjev**	**8.85**	**329**	*e*Pn	**Pn**	**09 53 31.7**	**+1.8**
CRES	**Cresnjev**	**8.85**	**329**	Pn	**Pn**	**09 53 31.7**	**+1.8**
BRTR	**Keskin Array B**	**9.25**	**78**	Pn	Pn	09 53 39.4	+3.8
	0.3nm,0.3s,baz=250,slow=11,SNR=5.2						
ESDC	**Sonseca Array**	**20.10**	**282**	P	**P**	**09 55 52.7**	**-3.1**
	0.2nm,0.3s,baz=72,slow=12,SNR=3.2						
HFS	**Hagfors**	**22.40**	**349**	P	**P**	**09 56 19.2**	**-1.1**
	1.2nm,0.5s,baz=150,slow=13,SNR=8.3						
FINES	**FINESS Array B**	**23.25**	**5**	P	**P**	**09 56 28.2**	**-1.0**
	0.8nm,0.3s,baz=183,slow=9.5,SNR=6.1						
NB2	**NORSAR Subarra**	**23.66**	**347**	P	**P**	**09 56 32.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=159,slow=9.3						
NB2	**NORSAR Subarra**	**23.66**	**347**	P	**P**	**09 56 32.5**	**-0.8**
	comp=Z,1.1nm,0.7s,SNR=4.6						
NOA	**NORSAR Array B**	**23.66**	**347**	P	**P**	**09 56 33.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=133,slow=8.5,SNR=4.2						
EKA	**Eskdalemuir Ar**	**23.90**	**323**	P	**P**	**09 56 34.4**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=86,slow=9.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**30.86**	**221**	P	**P**	**09 57 38.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=35,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**44.29**	**59**	P	**P**	**09 59 32.7**	**+1.0**
	comp=Z,1.4nm,0.4s,baz=272,slow=11,SNR=44						
ZALV	**Zalesovo Beam**	**44.77**	**48**	P	**P**	**09 59 36.1**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=274,slow=7.4,SNR=5.4						
SONM	**Songino Array**	**59.51**	**51**	P	**P**	**10 01 25.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=309,slow=7.3,SNR=2.8						

*IDC **24** 09:52:56.2±0.7,55°.40S×27°.18W,h0km,mb4.2/6, mb1 4.3/7,mb1mx4.1/22,mbtmp4.2/7,ML3.8/1,MS3.9/8, Ms1 3.9/8,ms1mx3.7/21,Error ellipse: s-maj=27.2km s-min=18.9km az=73.0*
*ISCJB **24** 09:52:58.0±0.7,55°.5S±0°.1×27°.1W±0°.3,h25km,mb4.3/6, MS3.9/7,Error ellipse: s-maj=23.7km s-min=14.8km az=157.7*
*NEIC **24** 09:53:00.4±5.2,55°.42S×27°.21W,h30km±35km,mb4.5/2, Error ellipse: s-maj=15.6km s-min=11.2km az=56.0*

ISC 24 09:52:59.7±0.7,55°.5S±0°.1×27°.2W±0°.2,h25km,n34, σ0§65/23,mb4.5/6,MS3.9/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.29**	**157**	P	**P**	**09 57 21.5**	**-0.8**
	0.3nm,0.3s,baz=284,slow=12,SNR=15						
SNAA				LR	LR	10 02 38.8	
	comp=Z,151nm,21.0s,baz=24,slow=30						
SNAA	**Sanae**	**19.29**	**157**	*e*P	**Pn**	**09 57 22.5**	**-1.0**
PMSA	**Palmer Station**	**20.31**	**228**	LR	LR	10 03 45.5	
	comp=Z,366nm,18.7s,baz=352,slow=32						
USHA	**Ushuaia**	**23.35**	**254**	LR	LR	10 06 26.2	
	comp=Z,334nm,19.0s,baz=60,slow=35						
QSPA	**South Pole Qui**	**34.80**	**180**	P	**P**	**09 59 48.5**	**+0.4**
	3.8nm,0.5s,baz=222,slow=1.5,SNR=33						
QSPA	**South Pole Qui**	**34.80**	**180**	*e*P	**P**	**09 59 48.2**	**+0.1**
	5.8nm,0.6s						
CPUP	**Villa Florida**	**36.42**	**311**	P	**P**	**10 00 02.4**	**+0.3**
	0.5nm,0.8s,baz=265,slow=20,SNR=3.9						
CPUP				LR	LR	10 12 18.5	
	comp=Z,662nm,20.4s,baz=156,slow=32						
BDFB	**Brasilia**	**42.84**	**330**	LR	LR	10 15 17.4	
	comp=Z,79nm,19.6s,baz=174,slow=31						
VNDA	**Vanda**	**47.18**	**183**	P	**P**	**10 01 30.7**	**+1.3**
	1.9nm,0.5s,baz=190,slow=7.2,SNR=25				

ULHL **Ulahol** 5.57 34 P Pn 10 37 38.8 -3.0
SNR=5.2
TKM2 **Tokmak 2** 5.88 26 ⇑P **Pn** **10 37 43.9 -2.2**
7.6nm,0.6s
TKM2 **Tokmak 2** 5.88 26 P **Pn** **10 37 44.2 -1.9**
SNR=16

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*BJI **24** 10:37:31.2,26°.94N×140°.42E,h453km,mB4.6/19, mb4.5/26*
*ISCJB **24** 10:37:34.0±0.3,27°.27N±0°.03×140°.06E±0°.03, h446km±2km,mb4.4/170,Error ellipse: s-maj=4.6km s-min=3.5km az=178.9*
*MOS **24** 10:37:33.3±0.9,27°.24N×140°.04E,h447km,mb4.5/69, Error ellipse: s-maj=8.7km s-min=4.8km az=105.3*
*IDC **24** 10:37:34.0±0.4,27°.21N×140°.14E,h442km±4km,mb4.0/30, mb1 4.1/36,mb1mx4.1/42,mbtmp4.8/36,Error ellipse: s-maj=8.9km s-min=6.3km az=92.0*
*NEIC **24** 10:37:34.2±0.1,27°.23N×140°.04E,mb4.5/106,Error ellipse: s-maj=4.5km s-min=3.8km az=150.0*
*JMA **24** 10:37:35.1±0.3,27°.37N×140°.33E,h449km±5km,M4.8*
ISC 24 10:37:35.0±0.4,27°.25N±0°.04×140°.21E±0°.05,h453km±3km, h452km:pP-P,n672,σ1s10/732,mb4.5/172,121C-129D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.77**	**95**	P	**P**	**10 38 34.0**	**-0.5**
CBIJ				*e*S	**S**	**10 39 19.7**	**-3.1**
CBIJ	**Chichi jima**	**1.77**	**95**	*e*P	**P**	**10 38 34.1**	**-0.4**
CBIJ				S	**S**	**10 39 19.4**	**-3.3**
JCJ	**Chichijima**	**1.77**	**95**	P	**P**	**10 38 34.1**	**-0.4**
	356nm,0.3s,baz=345,slow=20,SNR=334						
JCJ				S	**S**	**10 39 19.4**	**-3.3**
	691nm,0.3s,baz=270,slow=23,SNR=17						
JHHJ	**Haha-jima-NKT**	**1.86**	**109**	P	**P**	**10 38 35.1**	**+0.1**
JHHJ				*e*S	**S**	**10 39 22.5**	**-1.1**
JHCJ	**Hachijojimakas**	**5.81**	**357**	P	**P**	**10 39 07.2**	**-0.2**
JHCJ				*e*S	**S**	**10 40 19.0**	**-3.9**
JHJ2	**Mitsune**	**5.85**	**357**	P	**P**	**10 39 07.8**	**+0.1**
JHJ2				*e*S	**S**	**10 40 19.5**	**-4.1**
TTO1	**TONANKAI O.B.S**	**7.00**	**336**	P	**P**	**10 39 22.5**	**+3.2**
JWZ	**Kozaga**	**7.37**	**329**	P	**P**	**10 39 25.1**	**+1.6**
BSO1	**Boso 1**	**7.41**	**5**	P	**P**	**10 39 23.8**	**+0.5**
BSO1				*e*S	**S**	**10 40 51.1**	**-1.3**
JIE	**Ise**	**7.73**	**338**	P	**P**	**10 39 29.2**	**+1.8**
JOD2	**Odawara 2**	**8.05**	**353**	P	**P**	**10 39 30.4**	**-0.4**
JOD2				*e*S	**S**	**10 41 01.8**	**-4.1**
JMZ	**Minamidaito 2**	**8.17**	**262**	P	**P**	**10 39 32.9**	**+0.6**
JTO	**Tosashimizu**	**8.51**	**313**	P	**P**	**10 39 38.1**	**+2.3**
JRY	**Ryogami san**	**8.81**	**353**	P	**P**	**10 39 38.5**	**-0.6**
JRY				*e*S	**S**	**10 41 17.6**	**-3.5**
MJAR	**Matsushiro Arr**	**9.42**	**350**	P	**P**	**10 39 44.4**	**-1.2**
	7.5nm,0.3s,baz=173,slow=10,SNR=63						
MJAR				S	**S**	**10 41 30.6**	**-2.5**
	1.8nm,0.3s,baz=164,slow=16,SNR=5.9						
MJAR	**Matsushiro Arr**	**9.42**	**350**	P	**P**	**10 39 44.4**	**-1.2**
MJAR				S	**S**	**10 41 30.6**	**-2.5**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MAJO	**Matsushiro**	**9.42**	**350**	*c i*P	**P**	**10 39 45.0**	**-0.6**
MAJO	**Matsushiro**	**9.42**	**350**	*e*P	**P**	**10 39 45.3**	**-0.3**
JAMN	**Amaminishikomi**	**9.82**	**278**	P	**P**	**10 39 52.3**	**+2.2**
JHS	**Saijyo**	**9.82**	**324**	P	**P**	**10 39 52.0**	**+1.9**
JNU	**Nakatsue**	**9.97**	**308**	P	**P**	**10 39 52.0**	**+0.4**
	comp=N,12nm,0.3s,baz=156,slow=5.5,SNR=122						
JSJ	**Shimokoshiki**	**10.15**	**298**	P	**P**	**10 39 55.2**	**+1.5**
JOW	**Kunigami**	**10.65**	**270**	P	**P**	**10 40 01.0**	**+1.9**
JOW	**Kunigami**	**10.65**	**270**	P	**P**	**10 39 58.7**	**-0.4**
	comp=N,4.0nm,0.3s,baz=107,slow=9.4,SNR=63						
JMK	**Ichinoseki**	**11.70**	**4**	P	**P**	**10 40 11.2**	**+0.8**
JTU	**Tsushima**	**11.78**	**311**	P	**P**	**10 40 13.0**	**+1.8**
JKE	**Kume jima 2**	**12.03**	**269**	P	**P**	**10 40 15.5**	**+1.4**
JOT	**Ohata**	**14.12**	**3**	P	**P**	**10 40 37.6**	**+1.2**
TJN	**Taejon**	**14.20**	**313**	*i* P	**P**	**10 40 36.7**	**-0.7**
KSRS	**Korea Array**	**14.52**	**318**	P	**P**	**10 40 40.4**	**-0.4**
	comp=N,0.5nm,0.3s,baz=127,slow=10,SNR=24						
KSRS				S	S	10 43 23.4	+9.0
	comp=N,0.2nm,0.3s,baz=154,slow=17,SNR=8.0						
KSRS				PcP	**PcP**	**10 45 22.7**	**+0.6**
	comp=N,0.2nm,0.3s,baz=204,slow=0.6,SNR=8.7						
KSAR	**Wonju Array Be**	**14.54**	**317**	P	**P**	**10 40 40.4**	**-0.6**
KSAR	**Wonju Array Be**	**14.54**	**317**	P	**P**	**10 40 40.4**	**-0.6**
KSAR				S	S	10 43 23.4	+8.7
KSAR				PcP	**PcP**	**10 45 22.7**	**+0.6**
JKB	**Kayabe**	**14.62**	**2**	P	**P**	**10 40 41.2**	**-0.6**
JOSM	**Okushiri--Mats**	**14.81**	**358**	P	**P**	**10 40 44.5**	**+0.7**
ERM	**Erimo**	**14.93**	**9**	*e*P	**P**	**10 40 46.3**	**+1.3**
ASAJ	**Asahikawa**	**16.94**	**6**	P	**P**	**10 41 07.2**	**+0.8**
	comp=N,1.0nm,0.3s,baz=216,slow=11,SNR=14						
ASAJ	**Asahikawa**	**16.94**	**6**	P	**P**	**10 41 07.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**16.94**	**6**	*e*P	**P**	**10 41 08.3**	**+2.0**
USRK	**Ussuriysk Ar.**	**18.16**	**341**	P	**P**	**10 41 18.1**	**-0.9**
	comp=Z,2.8nm,0.3s,baz=149,slow=8.2,SNR=34						
NJ2	**Nanjing**	**19.16**	**290**	*e*P	**P**	**10 41 28.0**	**-0.5**
NJ2				PMZ			
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**19.77**	**5**	*e*P	**P**	**10 41 34.2**	**+0.4**
	comp=Z,16nm,0.5s						
CN2	**Changchun**	**20.37**	**328**	*e*P	**P**	**10 41 41.8**	**+2.4**
CN2				*e*S	**S**	**10 44 59.8**	**+1.4**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
HABR	**Khabarovsk**	**21.57**	**351**	*e*P	**P**	**10 41 48.8**	**-1.3**
HABR				*e**SP	**sP**	**10 43 52.8**	**-1.5**
HABR				*e*S	**S**	**10 45 16.7**	**-0.7**
HABR				*e*		10 45 32.3	
HABR				*e*		10 52 10.9	
HABR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HABR				MLR	MLR		
	comp=Z,71nm,15.0s						
WHN	**Wuhan**	**22.86**	**284**	P	**P**	**10 42 02.1**	**0.0**
KLR	**Kul'dur**	**22.90**	**346**	*e*P	**P**	**10 42 01.8**	**-0.4**
HHC	**Hu-ho-hao-te**	**27.20**	**307**	*e*P	**P**	**10 42 41.8**	**+1.1**
HHC				sP	**sP**	**10 44 50.8**	**-1.6**
HHC				S	**S**	**10 46 47.8**	**+1.2**
HHC				ScS	**ScS**	**10 52 37.1**	**+1.1**
HHC				PMZ			
	comp=Z,15nm,0.9s						
HHC				PMZ			
	comp=Z,95nm,7.4s						
PETK	**Petropavlovsk-**	**28.92**	**22**	P	**P**	**10 42 55.7**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=211,slow=7.0,SNR=11						
PETK				PcP	**PcP**	**10 45 50.6**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=190,slow=4.0,SNR=5.7						
PETK	**Petropavlovsk-**	**28.92**	**22**	P	**P**	**10 42 55.7**	**+0.2**
PETK						10 45 50.6	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
QIZ	**Qiongzhong**	**29.04**	**260**	P	**P**	**10 42 56.6**	**-0.4**
QIZ				S	**S**	**10 47 15.6**	**0.0**
QIZ				PMZ			
	comp=Z,19nm,1.6s						
CD2	**Chengdu**	**31.97**	**285**	P	**P**	**10 43 22.0**	**-0.4**
LZH	**Lanzhou**	**32.03**	**295**	*e*P	**P**	**10 43 23.0**	**+0.1**
LZH				pP	**pP**	**10 44 45.1**	**+1.8**
LZH				sP	**sP**	**10 45 36.3**	**+0.5**
LZH				PMZ			
	comp=Z,27nm,1.3s						
LZH				PMZ			
	comp=Z,140nm,4.3s						
ULN	**Ulaanbaatar**	**33.01**	**317**	*c i*P	**P**	**10 43 31.5**	**+0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ULN	**Ulaanbaatar**	**33.01**	**317**	*e*P	**P**	**10 43 30.9**	**-0.2**
	comp=Z,3.6nm,0.9s						
SONM	**Songino Array**	**33.39**	**317**	P	**P**	**10 43 33.6**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=132,slow=8.7,SNR=6.9						
SONM				PcP	**PcP**	**10 46 03.4**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=131,slow=3.0,SNR=7.8						
SONM	**Songino Array**	**33.39**	**317**	P	**P**	**10 43 33.6**	**-0.7**
SONM						10 46 03.4	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOD	**Bodaibo**	**35.69**	**336**	*e*P	**P**	**10 43 52.6**	**-0.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZAK	**Zakamensk**	**36.34**	**320**	*e*P	**P**	**10 43 57.9**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SEY	**Seymchan**	**36.57**	**9**	P	**P**	**10 44 01.1**	**+0.5**
	comp=Z,9.4nm,0.6s,baz=192,slow=7.2,SNR=78						
SEY				PcP	**PcP**	**10 46 11.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=199,slow=7.6,SNR=4.1						
SEY	**Seymchan**	**36.57**	**9**	P	**P**	**10 44 01.1**	**+0.5**
SEY						10 46 11.9	
SEY				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CHAI	**Chaiyaphum**	**37.16**	**260**	P	**P**	**10 44 07.4**	**+1.3**
	comp=Z,4.0nm,0.9s						
LOEI	**Loei**	**37.16**	**263**	P	**P**	**10 44 04.2**	**-2.0**
	comp=Z,12nm,0.7s						
UTTA	**Uttaradit**	**37.70**	**264**	P	**P**	**10 44 11.4**	**+0.8**
	comp=Z,3.0nm,0.8s						
PBKT	**Sadao Pong**	**37.78**	**262**	P	**P**	**10 44 12.4**	**+1.2**
	comp=Z,13nm,0.9s						
CMMT	**Chiang Mai**	**38.75**	**266**	P	**P**	**10 44 20.0**	**+0.8**
	comp=Z,7.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**38.88**	**266**	P	**P**	**10 44 19.8**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=55,slow=8.3,SNR=11						
CMAR				PcP	**PcP**	**10 46 20.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=317,slow=0.8,SNR=9.1						
CMAR	**Chiang Mai Arr**	**38.88**	**266**	P	**P**	**10 44 19.8**	**-0.4**
CMAR						10 46 20.5	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SOEI	**Soe**	**39.90**	**205**	*e*P	**P**	**10 44 28.3**	**-0.3**
	comp=Z,26nm,0.9s						
KULM	**Kulim**	**43.51**	**247**	*e*P	**P**	**10 44 57.9**	**+0.6**
	comp=Z,9.5nm,0.7s						
IPM	**Ipoh**	**43.67**	**246**	*e*P	**P**	**10 44 58.7**	**+0.1**
	comp=Z,11nm,0.6s						
BILL	**Bilibino**	**43.71**	**14**	*d i*P	**P**	**10 44 58.4**	**+0.3**
BILL				*e**PP	**pP**	**10 46 27.2**	**+3.4**
BILL				*e*		10 46 34.7	
BILL				pmax	pmax		
	comp=Z,23nm,0.6s						
BILL	**Bilibino**	**43.71**	**14**	*e*P	**P**	**10 44 58.7**	**+0.6**
	comp=Z,32nm,0.9s						
TIXI	**Tiksi**	**44.89**	**355**	*d i*P	**P**	**10 45 06.7**	**-0.4**
TIXI				*i* *PP	**pP**	**10 46 34.1**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TIXI	**Tiksi**	**44.89**	**355**	*e*P	**P**	**10 45 07.1**	**0.0**
	comp=Z,8.3nm,1.0s						
WMQ	**Urumqi**	**45.06**	**306**	P	**P**	**10 45 09.8**	**+0.8**
WMQ				PMZ			
	comp=Z,8.0nm,0.8s						
WMQ				PMZ			
	comp=Z,100nm,5.9s						
PSI	**Prapat**	**46.34**	**246**	P	**P**	**10 45 19.0**	**-0.4**
	comp=Z,12nm,0.7s,baz=26,slow=4.4,SNR=13						
PSI				PcP	**PcP**	**10 46 45.3**	**-0.4**
	comp=Z,6.6nm,0.8s,baz=95,slow=2.8,SNR=4.3						
PSI	**Prapat**	**46.34**	**246**	P	**P**	**10 45 19.0**	**-0.4**
PSI						10 46 45.3	
PSI				pmax	pmax		
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**47.24**	**188**	*e*P	**P**	**10 45 25.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,14nm,0.5s						
WRAB	**Tennant Creek**	**47.24**	**188**	*e*P	**P**	**10 45 25.4**	**-0.5**
	comp=Z,14nm,0.5s						
WB2	**Warramunga Arr**	**47.25**	**188**	*e*P	**P**	**10 45 25.3**	**-0.6**
WRA	**Warramunga Arr**	**47.26**	**188**	P	**P**	**10 45 25.5**	**-0.5**
	comp=Z,7.5nm,0.4s,baz=5.5,slow=7.6,SNR=327						
WRA				PcP	**PcP**	**10 46 49.0**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=2.0,slow=3.8,SNR=11						
WRA				ScP	**ScP**	**10 49 58.1**	**-0.6**
	comp=Z,3.4nm,1.1s,baz=7.0,slow=4.7,SNR=5.6						
WRA				S	**S**	**10 51 41.1**	**-3.9**
	comp=Z,1.6nm,0.9s,baz=7.4,slow=14,SNR=5.8						
WRA				P4KPbc		11 23 01.4	
	comp=Z,0.2nm,0.4s,baz=12,slow=4.6,SNR=5.7						
RAMN	**Ramite**	**47.41**	**283**	*e*P	**P**	**10 45 27.8**	**+0.3**
	comp=Z,24nm,0.8s						
CTA	**Charters Tower**	**47.42**	**172**	P	**P**	**10 45 26.9**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=11,slow=7.5,SNR=6.0						
CTA	**Charters Tower**	**47.42**	**172**	P	**P**	**10 45 26.9**	**-0.3**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JIRN	**Jiri**	**47.60**	**284**	*e*P	**P**	**10 45 29.9**	**+0.8**
	comp=Z,42nm,0.7s						
GUN	**Gumba**	**47.82**	**284**	*e*P	**P**	**10 45 31.3**	**+0.6**
	comp=Z,36nm,0.7s						
ZALV	**Zalesovo Beam**	**48.22**	**319**	P	**P**	**10 45 32.3**	**-0.5**
	comp=Z,7.0nm,0.5s,baz=101,slow=7.3,SNR=42						
ZALV				PcP	**PcP**	**10 46 51.0**	**-0.6**
	comp=Z,11nm,0.6s,baz=110,slow=3.5,SNR=23						
ZALV	**Zalesovo Beam**	**48.22**	**319**	*i* P	**P**	**10 45 32.2**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PKI	**Pulchoki**	**48.30**	**284**	*e*P	**P**	**10 45 34.3**	**0.0**
	comp=Z,25nm,1.0s						
PKIN	**Phulchoki**	**48.31**	**284**	*e*P	**P**	**10 45 33.8**	**-0.5**
	comp=Z,6.3nm,0.5s						
KKN	**Kakani**	**48.36**	**284**	*e*P	**P**	**10 45 34.9**	**+0.3**
MKAR	**Makanchi Array**	**49.02**	**310**	P	**P**	**10 45 38.9**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=91,slow=6.8,SNR=44						
MKAR				PcP	**PcP**	**10 46 54.5**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=76,slow=5.1,SNR=12						
MKAR				ScP	**ScP**	**10 50 05.0**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=94,slow=1.4,SNR=9.9						
NVS	**Novosibirsk**	**49.29**	**320**	*e*P	P	10 45 35.8	-5.0
NVS				*e*		10 46 54.1	
DANN	**Dangsing**	**49.55**	**285**	*e*P	**P**	**10 45 44.2**	**+0.7**
	comp=Z,52nm,0.7s						
TNA	**Tin City**	**49.99**	**25**	*e*P	**P**	**10 45 47.0**	**+1.2**
	comp=Z,6.0nm,0.9s						
AS31	**Alice Springs**	**50.98**	**187**	*e*P	**P**	**10 45 53.1**	**-0.6**
ASAR	**Alice Springs**	**50.98**	**187**	P	**P**	**10 45 53.1**	**-0.6**
	comp=Z,3.5nm,0.4s,baz=0.9,slow=4.8,SNR=86						
ASAR				PcP	**PcP**	**10 47 02.9**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=12,slow=4.4,SNR=8.3						
ASAR				P4KPbc		11 23 17.9	
	comp=Z,0.3nm,0.5s,baz=359,slow=5.0,SNR=5.7						
KURK	**Kurchatov**	**51.62**	**314**	*e*P	**P**	**10 45 57.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,28nm,0.7s						
KURK	**Kurchatov**	**51.62**	**314**	*e*P	**P**	**10 45 57.7**	**-0.3**
	comp=Z,28nm,0.7s						
TKM2	**Tokmak 2**	**53.88**	**305**	P	**P**	**10 46 15.4**	**+0.7**
	SNR=9.0						
TKM2	**Tokmak 2**	**53.88**	**305**	*e*P	**P**	**10 46 15.4**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TKM2	**Tokmak 2**	**53.88**	**305**	*e*P	**P**	**10 46 15.4**	**+0.7**
	comp=Z,6.7nm,0.9s						
KSH	**Kashi**	**53.99**	**301**	P	P	10 46 19.3	+3.9
KSH				pP	pP	10 47 48.8	+2.9
KSH				PP	PP	10 48 28.3	+5.7
KSH				sP	sP	10 48 36.8	+1.3
KSH				PcS	**PcS**	**10 51 15.9**	**+2.0**
KSH				S	**S**	**10 53 19.9**	**+3.6**
KSH				PMZ			
	comp=Z,8.0nm,0.7s						
KSH				PMZ			
	comp=Z,48nm,5.5s						
SVW2	**Sparrevohn**	**54.11**	**33**	*e*P	**P**	**10 46 16.8**	**+1.1**
	comp=Z,8.8nm,0.8s						
KZA	**Kyzart**	**54.23**	**304**	P	**P**	**10 46 18.8**	**+1.4**
	SNR=7.8						
KZA	**Kyzart**	**54.23**	**304**	*i* P	**P**	**10 46 18.8**	**+1.4**
KBK	**Karagaybulak**	**54.39**	**304**	P	**P**	**10 46 19.2**	**+1.0**
	SNR=5.3						
KBK	**Karagaybulak**	**54.39**	**304**	*i* P	**P**	**10 46 19.2**	**+1.0**
AAK	**Ala-Archa**	**54.72**	**305**	*d i*P	**P**	**10 46 20.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AAK	**Ala-Archa**	**54.72**	**305**	*e*P	**P**	**10 46 20.2**	**-0.4**
	comp=Z,4.6nm,0.8s						
UCH	**Uchtor**	**54.75**	**304**	P	**P**	**10 46 22.4**	**+1.2**
	SNR=11						
UCH	**Uchtor**	**54.75**	**304**	*i* P	**P**	**10 46 22.3**	**+1.2**
DZM	**Mont Dzumac**	**55.21**	**150**	P	**P**	**10 46 25.0**	**+0.9**
	comp=Z,8.0nm,0.8s,baz=245,slow=10,SNR=7.5						
EKS2	**Erkin-Say**	**55.24**	**305**	*e*P	**P**	**10 46 24.2**	**0.0**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	**Erkin-Say**	**55.24**	**305**	*e*P	**P**	**10 46 24.2**	**0.0**
	comp=Z,6.0nm,0.8s						
KDAK	**Kodiak Island**	**55.30**	**37**	*e*P	**P**	**10 46 24.2**	**+0.1**
KDAK				*e*		10 47 19.0	
KDAK				pmax	pmax		
	comp=Z,14nm,0.9s						
KDAK	**Kodiak Island**	**55.30**	**37**	*e*P	**P**	**10 46 24.2**	**+0.1**
	comp=Z,14nm,0.9s						
KDAK				*e*PcP	**PcP**	**10 47 19.0**	**+0.8**
AML	**Almayashu**	**55.37**	**304**	P	**P**	**10 46 26.5**	**+1.1**
	SNR=12						
AML	**Almayashu**	**55.37**	**304**	*i* P	**P**	**10 46 26.5**	**+1.1**
RSO	**Redoubt South**	**55.41**	**34**	*e*P	**P**	**10 46 25.5**	**+0.4**
IM04	**Indian Mountai**	**55.69**	**27**	*e*P	**P**	**10 46 27.6**	**+0.8**
PPLA	**Purkeypile**	**55.93**	**31**	*e*P	**P**	**10 46 29.4**	**+0.7**
	comp=Z,7.3nm,0.9s						
CAST	**Castle Rocks**	**56.04**	**30**	*e*P	**P**	**10 46 30.4**	**+1.1**
	comp=Z,11nm,1.0s						
KTH	**Kantishna Hill**	**56.57**	**30**	*e*P	**P**	**10 46 33.9**	**+0.9**
	comp=Z,6.4nm,0.7s						
BRVK	**Borovoye**	**56.80**	**317**	*d i*P	**P**	**10 46 34.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,34nm,0.9s						
BRVK	**Borovoye**	**56.80**	**317**	*e*P	**P**	**10 46 34.7**	**0.0**
	comp=Z,29nm,0.6s						
TRF	**Thorofare Moun**	**56.84**	**30**	*e*P	**P**	**10 46 35.8**	**+0.8**
	comp=Z,11nm,0.7s						
RC01	**Rabbit Creek A**	**56.93**	**33**	*e*P	**P**	**10 46 35.5**	**0.0**
	comp=Z,20nm,1.2s						
SEW	**Seward**	**57.03**	**34**	*e*P	**P**	**10 46 36.0**	**-0.1**
	comp=Z,18nm,1.0s						
PMR	**Palmer**	**57.25**	**32**	*e*P	**P**	**10 46 37.8**	**+0.2**
PMR	**Palmer**	**57.25**	**32**	*e*P	**P**	**10 46 37.8**	**+0.2**
COLD	**Coldfoot**	**57.29**	**26**	*e*P	**P**	**10 46 38.9**	**+1.1**
	comp=Z,11nm,0.9s						
MCK	**McKinley**	**57.47**	**30**	*e*P	**P**	**10 46 39.3**	**+0.2**
MCK				pmax	pmax		
	comp=Z,26nm,0.8s						
MCK	**McKinley**	**57.47**	**30**	*e*P	**P**	**10 46 39.3**	**+0.2**
	comp=Z,26nm,0.8s						
KKAR	**Karatay Array**	**57.56**	**306**	*e*P	**P**	**10 46 40.5**	**+0.3**
KKAR	**Karatay Array**	**57.56**	**306**	*e*P	**P**	**10 46 40.5**	**+0.3**
COLA	**College**	**58.02**	**29**	*e*P	**P**	**10 46 43.7**	**+0.9**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**58.02**	**29**	*e*P	**P**	**10 46 43.7**	**+0.9**
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**58.42**	**29**	P	**P**	**10 46 45.0**	**-0.6**
	comp=Z,3.8nm,0.5s,baz=247,slow=6.1,SNR=62						
ILAR				PcP	**PcP**	**10 47 29.9**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=285,slow=4.7,SNR=7.7						
ILAR	**Eielson Array**	**58.42**	**29**	P	**P**	**10 46 45.0**	**-0.6**
ILAR						10 47 29.9	
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
STKA	**Stephens Creek**	**58.81**	**179**	P	**P**	**10 46 48.4**	**-0.2**
	comp=Z,7.4nm,0.6s,baz=359,slow=6.3,SNR=21						
STKA	**Stephens Creek**	**58.81**	**179**	P	**P**	**10 46 48.4**	**-0.2**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
STKA	**Stephens Creek**	**58.81**	**179**	*e*P	**P**	**10 46 48.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**58.88**	**34**	*e*P	**P**	**10 46 49.8**	**+1.1**
	comp=Z,9.9nm,0.6s						
PAX	**Paxson**	**59.00**	**31**	*e*P	**P**	**10 46 50.3**	**+0.6**
PAX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PAX	**Paxson**	**59.00**	**31**	*e*P	**P**	**10 46 50.3**	**+0.6**
	comp=Z,6.9nm,0.8s						
BMRM	**Bremner River**	**59.43**	**33**	*e*P	**P**	**10 46 53.5**	**+0.9**
	comp=Z,35nm,0.6s						
DOT	**Dot Lake**	**59.64**	**30**	*e*P	**P**	**10 46 53.9**	**+0.1**
	comp=Z,14nm,0.9s						
KBL	**Kabul**	**60.38**	**296**	*e*P	**P**	**10 46 59.5**	**0.0**
KBL				pmax	pmax		
	comp=Z,18nm,0.9s						
KBL	**Kabul**	**60.38**	**296**	*e*P	**P**	**10 46 59.5**	**0.0**
	comp=Z,18nm,0.9s						
EGAK	**Eagle**	**60.88**	**29**	*e*P	**P**	**10 47 02.3**	**+0.3**
	comp=Z,6.4nm,1.0s						
DAWY	**Dawson**	**61.69**	**30**	*e*P	**P**	**10 47 08.3**	**+0.8**
SVE	**Sverdlovsk**	**62.03**	**322**	*e*P	**P**	**10 47 09.0**	**-0.7**
SVE				pmax	pmax		
	comp=Z,20nm,0.9s						
HYT	**Haines Junctio**	**62.90**	**33**	*e*P	**P**	**10 47 16.9**	**+1.4**
ARU	**Arti**	**63.22**	**322**	*d i*P	**P**	**10 47 17.1**	**-0.4**
ARU						10 47 48.3	
ARU						10 49 41.5	
ARU				S	**S**	**10 55 13.1**	**+0.3**
ARU				SS	**SS**	**10 59 24.7**	**-3.9**
ARU				pmax	pmax		
	comp=Z,23nm,0.7s						
ARU	**Arti**	**63.22**	**322**	*e*P	**P**	**10 47 17.2**	**-0.3**
	comp=Z,24nm,0.7s						
INK	**Inuvik**	**63.62**	**24**	P	**P**	**10 47 19.9**	**0.0**
	comp=Z,4.4nm,0.4s,baz=295,slow=6.0,SNR=58						
INK				PcP	**PcP**	**10 47 51.2**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=336,slow=5.2,SNR=6.5						
INK	**Inuvik**	**63.62**	**24**	P	**P**	**10 47 19.9**	**0.0**
INK						10 47 51.3	
INK				pmax	pmax

DAG Danmarks Havn 75.41 355 *i* P P 10 48 29.9 -0.7
DAG Danmarks Havn 75.41 355 *i* P P 10 48 29.9 -0.7
comp=Z,3.4nm,0.7s
TDL Tradedollar La 75.69 45 P P 10 48 34.4 +1.4
IKAZ Kazeroun 75.69 296 *e*P P 10 48 29.7 -3.8
VSR Storozhevoye 75.71 320 *e*P P 10 48 32.5 -0.3
VSR pmax pmax
comp=N,90nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
F04A Amboy 75.73 46 *e*P P 10 48 33.8 +0.8
comp=Z,17nm,0.8s
VORD Divnogorie 75.75 320 *e*P P 10 48 32.6 -0.3
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,9.0nm,0.6s
I03D Drain, OR 76.05 48 ⇓P P 10 48 35.9 +1.1
baz=76
LTY Liberty 76.27 44 *e*P P 10 48 36.9 +0.8
ETW Entiat 76.33 43 P P 10 48 37.4 +0.9
ZEI Tsey 76.33 311 *e*P P 10 48 35.1 -1.6
ZEI pmax pmax
comp=Z,10.0nm,1.0s
L02D Cave Junction, 76.52 49 ⇓P P 10 48 38.5 +1.0
baz=76
KAF Kangasniemi 76.56 334 *e*p P 10 48 36.8 -0.5
comp=Z,35nm,0.5s
KAF Kangasniemi 76.56 334 *e*P P 10 48 36.8 -0.5
KAF pmax pmax
comp=Z,35nm,0.5s
KBZ Khabaz 76.61 312 P P 10 48 38.3 +0.4
comp=Z,16nm,0.8s,baz=236,slow=24,SNR=41
KBZ Khabaz 76.61 312 P P 10 48 38.3 +0.4
KBZ pmax pmax
comp=Z,16nm,0.8s
B08A Colville Reser 76.61 42 *e*P P 10 48 38.2 +0.3
comp=Z,14nm,0.8s
I04A Tendick Farm, 76.63 48 ⇓P P 10 48 39.7 +1.6
baz=77
KIV Kislovodsk 76.65 313 *d*iP P 10 48 39.8 +1.5
KIV *e* 10 48 48.7
KIV *e**PP pP 10 50 16.1 -1.0
KIV *e* 10 51 42.4
KIV *e*S S 10 57 43.4 -3.9
KIV pmax pmax
comp=Z,14nm,0.9s
G05D Wamic, OR 76.72 46 ⇑P P 10 48 39.6 +1.0
baz=77
GNI Garni 76.85 308 *e*P P 10 48 39.9 +0.4
GNI pmax pmax
comp=Z,12nm,1.2s
SAW Saint Andrews 76.86 43 P P 10 48 40.0 +0.7
FINES FINESS Array B 77.03 333 P P 10 48 39.4 -0.4
comp=Z,36nm,0.5s,baz=86,slow=4.9,SNR=451
FINES FINESS Array B 77.03 333 P P 10 48 39.4 -0.4
FINES pmax pmax
comp=Z,36nm,0.5s
J04D Umpqua Nationa 77.06 48 ⇓P P 10 48 42.1 +1.4
baz=77
I05D Terrebonne, OR 77.10 47 ⇑P P 10 48 41.6 +1.0
baz=77
YBH Yreka Blue Hor 77.30 50 P P 10 48 43.1 +1.2
comp=Z,7.5nm,0.7s,baz=354,slow=4.4,SNR=32
YBH Yreka Blue Hor 77.30 50 P P 10 48 43.1 +1.2
YBH pmax pmax
comp=Z,8.0nm,0.7s
M02C Callahan 77.34 50 ⇓P P 10 48 44.0 +1.9
baz=77
HAWA Hanford 77.35 44 *e*P P 10 48 42.7 +0.8
comp=Z,3.5nm,0.4s
OD2 Odessa Site #2 77.41 43 P P 10 48 42.9 +0.6
D08A Wollman Farm, 77.44 43 *e*P P 10 48 43.1 +0.7
comp=Z,16nm,1.1s
C09A Chrisman Ranch 77.50 43 *e*P P 10 48 43.6 +0.9
K04D Chiloquin, OR 77.56 48 ⇑P P 10 48 44.2 +0.9
baz=78
J05D Fort Rock, OR 77.62 48 ⇓P P 10 48 45.1 +1.4
baz=78
N02D Trinity Center 77.62 50 ⇓P P 10 48 44.6 +0.9
baz=78
EDM Edmonton 77.74 36 *e*P P 10 48 44.5 +0.5
EDM Edmonton 77.74 36 *e*P P 10 48 44.5 +0.5
M04C Macdoel 77.87 49 ⇑P P 10 48 46.5 +1.5
baz=78
WDC Whiskeytown Da 77.91 51 *e*P P 10 48 45.9 +0.8
WDC pmax pmax
comp=Z,11nm,1.3s
WDC Whiskeytown Da 77.91 51 *e*P P 10 48 45.9 +0.8
comp=Z,11nm,1.3s
NEW Newport 77.97 42 *e*P P 10 48 46.3 +0.9
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 77.97 42 ⇓P P 10 48 46.0 +0.7
baz=78
NEW Newport 77.97 42 *e*P P 10 48 46.3 +0.9
comp=Z,10.0nm,0.9s
K05A Summer Lake 78.09 48 *e*P P 10 48 46.7 +0.4
comp=Z,18nm,1.0s
E09A Wood Farm, Sta 78.16 44 *e*P P 10 48 47.0 +0.7
comp=Z,13nm,0.9s
I07A Izee 78.40 46 *e*P P 10 48 49.2 +1.4
VSU Vasula 78.40 331 *d*iP P 10 48 47.0 -0.3
VSU pmax pmax
comp=Z,66nm,1.0s
MOD Modoc Plateau 78.84 49 *e*P P 10 48 51.1 +0.8
comp=Z,7.5nm,0.8s
F10A Beach Ranch, E 78.97 44 *e*P P 10 48 51.7 +0.9
BMO Blue Mountains 79.44 45 *e*P P 10 48 54.2 +0.9
comp=Z,10nm,0.6s
WALA Waterton Lakes 79.47 40 *e*P P 10 48 54.5 +1.1
BSMT Bassoo Peak 79.55 41 *e*P P 10 48 55.2 +1.2
WVOR Wild Horse Val 79.71 48 *e*P P 10 48 55.8 +0.9
WVOR pmax pmax
comp=Z,4.0nm,0.7s
WVOR Wild Horse Val 79.71 48 *e*P P 10 48 55.8 +0.9
comp=Z,4.4nm,0.7s
JTMT Jette 79.90 41 *e*P P 10 48 56.7 +0.9
YBMT Yellow Bay 80.00 41 *e*P P 10 48 57.4 +1.1
SWMT Swartz Lake 80.18 41 *e*P P 10 48 57.8 +0.5
SUMG Summit 80.44 360 *e*P P 10 48 58.8 +0.4
SUMG Summit 80.44 360 *e*P P 10 48 58.8 +0.4
comp=Z,375nm,3.0s
SUMG Summit 80.44 360 *i* P P 10 48 58.9 +0.5
comp=Z,9.0nm,0.7s
CMB Columbia Colle 80.53 52 *e*P P 10 48 59.6 +0.4
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 80.53 52 *e*P P 10 48 59.6 +0.4
comp=Z,5.6nm,0.8s
MSO Missoula 80.55 42 ⇓P P 10 48 59.7 +0.5
baz=80
SLMT Seeley Lake 80.61 42 *e*P P 10 49 00.2 +0.7
CHMT Chamberlain Mo 80.92 42 *e*P P 10 49 01.6 +0.3
WAKR Walker 80.98 51 *e*P P 10 49 03.1 +1.4
MFID Camas Ranch 81.06 46 *e*P P 10 49 03.0 +1.1
comp=Z,12nm,0.7s
AKASG Malin Array Be 81.45 323 P P 10 49 02.9 -0.7
comp=Z,7.8nm,0.5s,baz=51,slow=5.3,SNR=55
AKASG Malin Array Be 81.45 323 P P 10 49 02.9 -0.7
AKASG pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 81.46 323 *d*iP P 10 49 02.7 -0.9
NVAR Mina Array Bea 81.80 51 P P 10 49 06.9 +0.9
comp=Z,6.7nm,0.6s,baz=295,slow=5.7,SNR=87
NVAR pP pP 10 50 45.9 -0.3
comp=Z,0.7nm,0.7s,baz=297,slow=4.0,SNR=3.9
HRY Holter Researc 81.86 41 *e*P P 10 49 06.9 +0.9
HLID Hailey 81.89 45 ⇑P P 10 49 07.0 +0.7
baz=82
HLID Hailey 81.89 45 *e*P P 10 49 07.0 +0.7
comp=Z,6.2nm,0.6s
LRM Limekiln Ridge 81.95 42 *e*P P 10 49 07.9 +1.3
MALT Malatya 82.06 309 ⇓*i*P P 10 49 08.2 +1.1
MTUM Tungsten Hills 82.12 52 *e*P P 10 49 08.4 +0.8
RCTC Rector, Farmer 82.14 53 ⇑P P 10 49 07.5 +0.1
baz=82
MCMT McKenzie Canyo 82.22 43 *e*P P 10 49 08.5 +0.5
comp=Z,0.5nm,0.5s
EGMT Eagleton 82.37 40 ⇑P P 10 49 08.7 +0.2
baz=82,SNR=12
EGMT Eagleton 82.37 40 *e*P P 10 49 09.1 +0.6
comp=Z,17nm,0.8s
A19A Klindworth Far 82.45 38 ⇑P P 10 49 09.7 +0.8
baz=82,SNR=23
VES Vestal, Richgr 82.47 54 ⇑P P 10 49 09.2 +0.1
baz=82
FFC Flin Flon 82.53 31 *e*P P 10 49 08.9 -0.2
FFC pmax pmax
comp=Z,14nm,0.9s
FFC Flin Flon 82.53 31 *e*P P 10 49 08.9 -0.2
comp=Z,14nm,0.9s
BOZ Bozeman (W) 82.53 42 *e*P P 10 49 10.2 +0.7
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 82.53 42 *e*P P 10 49 10.2 +0.7
comp=Z,6.6nm,0.9s
B19A Brinkman Farms 82.59 39 ⇑P P 10 49 09.8 +0.2
baz=82,SNR=7.0
TPH Tonopah 82.72 51 *e*P P 10 49 11.5 +0.9
TPH pmax pmax
comp=Z,9.0nm,0.8s
TPH Tonopah 82.72 51 *e*P P 10 49 11.5 +0.9
comp=Z,9.0nm,0.8s
ELK Elko 82.75 48 *e*P P 10 49 11.8 +1.0
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 82.75 48 *e*P P 10 49 11.8 +1.0
comp=Z,5.6nm,0.8s
NB2 NORSAR Subarra 82.81 338 P P 10 49 09.0 -1.4
comp=Z,22nm,0.7s,baz=46,slow=4.8
NB2 NORSAR Subarra 82.81 338 P P 10 49 09.0 -1.4
baz=46,slow=4.8
NOA NORSAR Array B 82.81 338 P P 10 49 09.3 -1.1
comp=Z,22nm,0.6s,baz=46,slow=4.9,SNR=97
NOA NORSAR Array B 82.81 338 P P 10 49 09.3 -1.1
NOA pmax pmax
comp=Z,22nm,0.6s
A20A Cobblestone Ra 82.92 38 ⇓P P 10 49 11.8 +0.5
baz=83,SNR=10
C19A Slack Wire Ran 82.93 40 ⇑P P 10 49 12.1 +0.8
baz=83,SNR=16
ISA Isabella, Lake 82.99 54 *e*P P 10 49 12.1 +0.2
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 82.99 54 ⇓P P 10 49 11.5 -0.4
baz=83
ISA Isabella, Lake 82.99 54 *e*P P 10 49 12.1 +0.2
comp=Z,5.4nm,0.8s
QLMT Earthquake Lak 83.08 43 *e*P P 10 49 13.6 +1.3
B20A Solberg Farm, 83.11 39 ⇓P P 10 49 12.8 +0.5
baz=83
FCC Fort Churchill 83.23 25 *e*P P 10 49 12.0 -0.4
FCC Fort Churchill 83.23 25 *e*P P 10 49 12.0 -0.4
DAC Darwin (Calif) 83.32 53 *e*P P 10 49 14.4 +0.7
DAC pmax pmax
comp=Z,4.0nm,0.7s
DAC Darwin (Calif) 83.32 53 *e*P P 10 49 14.4 +0.7
comp=Z,4.0nm,0.7s
D19A Cripps Ranch, 83.33 40 ⇓P P 10 49 13.9 +0.5
baz=83,SNR=29
A21A Bergtoll Ranch 83.41 38 ⇓P P 10 49 14.2 +0.5
baz=83,SNR=23
YMR Madison River 83.45 43 *e*P P 10 49 15.8 +1.6
comp=Z,19nm,0.8s
RAYN Ar Rayn 83.47 293 *e*P P 10 49 14.8 +0.3
comp=Z,16nm,0.8s
MPMC Manual Prospec 83.50 53 ⇑P P 10 49 14.7 +0.1
baz=84,SNR=8.3
C20A Veseth Ranch, 83.53 39 ⇓P P 10 49 14.5 +0.2
baz=83,SNR=16
YNR Norris Junctio 83.60 43 *e*P P 10 49 16.5 +1.5
comp=Z,11nm,1.1s
LRMC Laurel Mtn Rad 83.64 53 ⇑P P 10 49 16.1 +0.9
baz=84
YFT Old Faithful 83.64 43 *e*P P 10 49 17.9 +2.7
comp=Z,14nm,0.9s
B21A Ellsworth Farm 83.68 38 ⇑P P 10 49 16.0 +1.0
baz=84
R11A Troy Canyon, C 83.71 50 ⇓P P 10 49 16.4 +0.8
baz=84,SNR=14
R11A Troy Canyon, C 83.71 50 *e*P P 10 49 16.4 +0.8
comp=Z,7.3nm,0.8s
EDW2 Edwards Air Fo 83.71 54 ⇑P P 10 49 16.3 +0.8
baz=84,SNR=8.0
FURC Furnace Creek, 83.75 52 ⇓P P 10 49 16.4 +0.9
baz=84,SNR=6.5
DECC Green Verdugo 83.77 55 ⇓P P 10 49 16.8 +1.0
baz=84
E19A Rath Farm, Rou 83.77 40 ⇓P P 10 49 16.4 +0.8
baz=84,SNR=13
D20A Manuel Ranch, 83.80 40 ⇑P P 10 49 16.6 +0.9
baz=84,SNR=29
H17A Grant Village 83.83 43 ⇓P P 10 49 19.2 +3.0
baz=84,SNR=9.4
H17A Grant Village 83.83 43 *e*P P 10 49 17.1 +1.0
comp=Z,19nm,1.2s
HVU Hansel Valley 83.83 46 *e*P P 10 49 17.3 +1.2
HVU pmax pmax
comp=Z,7.0nm,0.6s
HVU Hansel Valley 83.83 46 *e*P P 10 49 17.3 +1.2
comp=Z,7.5nm,0.6s
IMW Indian Meadow 83.87 43 *e*P P 10 49 17.6 +1.2
comp=Z,9.9nm,0.8s
FLWY Flagg Ranch 83.92 43 *e*P P 10 49 17.8 +1.2
comp=Z,11nm,0.8s
TPNV Topopah Spring 83.94 52 *e*P P 10 49 17.4 +0.7
TPNV pmax pmax
comp=Z,12nm,0.8s
TPNV Topopah Spring 83.94 52 ⇑P P 10 49 17.6 +0.8
baz=84,SNR=13
TPNV Topopah Spring 83.94 52 *e*P P 10 49 17.4 +0.7
comp=Z,12nm,0.8s
A22A Carney Farms, 83.95 37 ⇓P P 10 49 16.8 +0.4
baz=84,SNR=24
FXWY Fox Creek 83.96 44 *e*P P 10 49 18.0 +1.2
comp=Z,13nm,1.4s
C21A Desert Coulee 83.97 39 ⇓P P 10 49 17.5 +1.0
baz=84,SNR=18
F19A Roth Farm, Mol 84.01 41 ⇓P P 10 49 17.5 +0.6
baz=84
FMP Fort Macarthur 84.05 55 ⇓P P 10 49 18.3 +1.2
baz=84
TPAW Teton Pass 84.08 44 *e*P P 10 49 18.8 +1.4
comp=Z,8.7nm,0.8s
I17A Pilgrim Ck, 84.08 43 ⇑P P 10 49 19.1 +1.7
baz=84,SNR=9.0
BGU Big Grassy Mou 84.11 47 *e*P P 10 49 18.6 +1.2
E20A Meyer Farm, Mu 84.13 40 ⇓P P 10 49 18.2 +0.8
baz=84,SNR=5.8
REDW Red Top Meadow 84.21 44 *e*P P 10 49 18.9 +0.8
comp=Z,10nm,1.5s
SCI San Clemente I 84.21 56 ⇓P P 10 49 18.8 +0.8
baz=84
RLMT Red Lodge 84.22 42 *e*P P 10 49 18.0 0.0
comp=Z,13nm,0.5s
H18A Shoshone NF, C 84.23 42 ⇓P P 10 49 19.4 +1.3
baz=84,SNR=9.2
LOHW Long Hollow 84.23 44 *e*P P 10 49 18.8 +0.6
comp=Z,4.4nm,0.8s
BFSC Mount Baldy Ra 84.26 54 ⇓P P 10 49 19.2 +0.9
baz=84
B22A Reddig Ranch S 84.31 38 ⇓P P 10 49 18.6 +0.4
baz=84,SNR=6.0
GSC Goldstone, Bar 84.36 53 *e*P P 10 49 19.5 +0.8
GSC pmax pmax
comp=Z,11nm,0.8s
GSC Goldstone, Bar 84.36 53 ⇓P P 10 49 19.4 +0.7
baz=84,SNR=9.2
GSC Goldstone, Bar 84.36 53 *e*P P 10 49 19.5 +0.8
comp=Z,11nm,0.8s
SHOC Shoshone, Teco 84.43 52 ⇓P P 10 49 19.9 +0.9
baz=84
D21A La Casta Ranch 84.46 39 ⇑P P 10 49 19.6 +0.7
baz=84,SNR=8.8
F20A Billings 84.51 41 ⇑P P 10 49 19.9 +0.6
baz=84
A23A Redstone 84.53 37 ⇑P P 10 49 20.1 +0.9
baz=84
BRTR Keskin Array B 84.60 312 P P 10 49 19.1 -0.8
comp=Z,4.1nm,0.7s,baz=87,slow=3.4,SNR=18
BRTR Keskin Array B 84.60 312 P P 10 49 19.1 -0.8
BRTR pmax pmax
comp=Z,4.0nm,0.7s
DUG Dugway, Tooele 84.63 47 *e*P P 10 49 20.9 +0.8
DUG pmax pmax
comp=Z,7.0nm,0.6s
DUG Dugway, Tooele 84.63 47 ⇑P P 10 49 20.9 +0.8
baz=84,SNR=13
DUG Dugway, Tooele 84.63 47 *e*P P 10 49 20.9 +0.8
comp=Z,6.7nm,0.6s
H19A Powell 84.64 42 ⇑P P 10 49 21.3 +1.3
baz=84,SNR=5.6
C22A Vida 84.69 38 ⇓P P 10 49 20.5 +0.4
baz=85,SNR=5.5
E21A Keefer Ranch, 84.71 40 ⇑P P 10 49 21.1 +0.9
baz=85,SNR=5.4
B23A Brockton 84.76 37 ⇓P P 10 49 21.0 +0.6
baz=85,SNR=28
BBRC Big Bear Solar 84.78 54 ⇓P P 10 49 21.7 +0.7
baz=85
G20A Bridger 84.79 41 ⇑P P 10 49 21.1 +0.4
baz=85,SNR=6.4
D22A Cohagen 84.87 39 ⇑P P 10 49 21.8 +0.8
baz=85,SNR=8.8
MURC Murrieta 84.90 55 ⇑P P 10 49 22.1 +0.8
baz=85
TUQ Turquoise Moun 84.92 53 ⇑P P 10 49 22.4 +0.9
baz=85,SNR=5.0
SHPR Sheep Range 84.92 52 *e*P P 10 49 22.4 +0.9
HEC Hector,Ludlow 84.93 53 ⇓P P 10 49 22.5 +0.9
baz=85,SNR=11
I19A Meeteetse 84.98 43 ⇓P P 10 49 22.9 +1.1
baz=85
A24A Westby 85.02 37 ⇑P P 10 49 22.1 +0.4
baz=85,SNR=7.3
C23A Lambert 85.04 38 ⇓P P 10 49 22.5 +0.8
baz=85,SNR=11
F21A Absaloka Mine, 85.09 40 ⇑P P 10 49 22.6 +0.5
baz=85
CFR Carcaliu 85.10 319 ⇓*i*P P 10 49 19.8 -2.2
LAO LASA Array 85.11 39 *e*P P 10 49 22.6 +0.4
comp=Z,12nm,0.9s
DGMT Dagmar 85.18 37 ⇓P P 10 49 22.9 +0.4
baz=85,SNR=5.3
DGMT Dagmar 85.18 37 *e*P P 10 49 22.9 +0.4
comp=Z,15nm,0.7s
JLU Jordanelle 85.30 46 *e*P P 10 49 24.2 +0.8
comp=Z,9.6nm,1.5s
109C Camp Elliot, M 85.32 55 ⇑P P 10 49 24.5 +1.2
baz=85
H20A Greybull 85.33 42 ⇓P P 10 49 24.2 +0.9
baz=85,SNR=7.0
PDAR Pinedale Array 85.33 44 P P 10 49 23.9 +0.4
comp=Z,2.5nm,0.6s,baz=233,slow=2.2,SNR=21
PDAR pP pP 10 51 04.5 -0.4
comp=Z,1.2nm,1.1s,baz=286,slow=3.7,SNR=4.0
BURAR Bucovina Array 85.36 322 ⇓*i*P P 10 49 22.3 -1.1
J19A Crowheart 85.37 43 ⇓P P 10 49 24.4 +0.8
baz=85,SNR=9.1
G21A Lodge Grass 85.38 41 ⇑P P 10 49 24.2 +0.7
baz=85,SNR=7.5
D23A Lindsay 85.39 38 ⇓P P 10 49 24.5 +0.9
baz=85
E22A Miles City 85.41 39 ⇓P P 10 49 24.3 +0.7
baz=85,SNR=8.9
GMRC Granite Mounta 85.43 53 ⇑P P 10 49 24.9 +0.8
baz=85,SNR=8.2
PFO Pinyon Flats O 85.44 55 *e*P P 10 49 24.5 +0.4
PFO pmax pmax
comp=Z,14nm,0.8s
PFO Pinyon Flats O 85.44 55 ⇓P P 10 49 24.9 +0.8
baz=85,SNR=9.6
PFO Pinyon Flats O 85.44 55 *e*P P 10 49 24.5 +0.4
comp=Z,14nm,0.8s
KWP Kalwaria Pacla 85.49 325 ⇑*i*P P 10 49 21.8 -2.1
KWP Kalwaria Pacla 85.49 325 *e*P P 10 49 22.4 -1.5
KWP pmax pmax
comp=Z,19nm,0.8s
KWP Kalwaria Pacla 85.49 325 *e*P P 10 49 22.4 -1.5
comp=Z,19nm,0.8s
TLB Topalu 85.49 318 ⇑*i*P P 10 49 23.7 -0.2
VRI Vrincioaia 85.53 320 ⇓*i*P P 10 49 24.7 +0.5
I20A Worland 85.55 42 ⇓P P 10 49 25.4 +0.9
baz=85,SNR=6.4
BELC Belle Mtn. Jos 85.58 54 ⇑P P 10 49 25.3 +0.5
baz=86,SNR=7.1
PLOR Plostina 85.58 320 ⇓*i*P P 10 49 24.6 +0.1
F22A Rosebud 85.61 40 ⇓P P 10 49 25.4 +0.8
baz=86
C24A Savage 85.62 38 ⇓P P 10 49 25.4 +0.8
baz=86,SNR=5.7
CCUT Cedar City 85.63 50 *e*P P 10 49 26.2 +1.1
comp=Z,21nm,2.3s
SFJD Kangerlussuaq 85.69 4 *i* P P 10 49 24.3 -0.2
SFJD Kangerlussuaq 85.69 4 *i* P P 10 49 24.3 -0.2
comp=Z,14nm,0.8s
E23A Ismay 85.73 39 ⇑P P 10 49 26.0 +0.8
baz=86,SNR=7.7
H21A Big Horn, Sher 85.81 41 ⇑P P 10 49 26.7 +1.0
baz=86,SNR=8.7
MONP Monument Peak, 85.82 55 ⇓P P 10 49 27.1 +1.0
baz=86
B25A Knox Farm, Ray 85.86 37 ⇑P P 10 49 26.6 +0.8
baz=86
J20A Shoshoni 85.91 43 ⇓P P 10 49 26.9 +0.7
baz=86
G22A Birney 85.91 41 ⇑P P 10 49 26.9 +0.7
baz=86,SNR=6.6
D24A Glendive 85.92 38 ⇓P P 10 49 27.2 +1.2
baz=86,SNR=6.8
A26A Wade Farm, Ken 86.07 36 ⇓P P 10 49 27.4 +0.7
baz=86
IRM Iron Mountain 86.10 54 ⇑P P 10 49 28.4 +1.2
baz=86
I21A Big Trails, Te 86.13 42 ⇓P P 10 49 28.0 +0.8
baz=86,SNR=5.7
F23A Volborg 86.13 40 ⇓P P 10 49 27.8 +0.7
baz=86,SNR=5.7
BC3 Big Chuckawall 86.14 54 ⇑P P 10 49 28.3 +0.9
baz=86
C25A Freed Ranch, W 86.14 37 ⇓P P 10 49 28.0 +0.9
baz=86,SNR=5.9
MLR Muntele Rosu 86.19 320 ⇓*i*P P 10 49 27.2 -0.3
DOPR Dopca 86.23 321 ⇓*i*P P 10 49 27.5 -0.1
H22A Clearmont 86.24 41 ⇑P P 10 49 28.3 +0.5
baz=86
E24A Baker 86.25 39 ⇑P P 10 49 28.3 +0.6
baz=86
B26A Jensen Ranch, 86.28 36 ⇑P P 10 49 28.6 +0.8
baz=86
J21A Lysite 86.30 43 ⇑P P 10 49 28.7 +0.5
baz=86
STHS Stebnicka Huta 86.37 325 *e*P P 10 49 28.1 0.0
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 86.37 325 *e*P P 10 49 28.1 0.0
G23A Biddle 86.44 40 ⇓P P 10 49 29.1 +0.4
baz=86,SNR=5.2
D25A Fairfield 86.44 38 ⇓P P 10 49 29.6 +1.0
baz=86
A27A Ledoux Ranch, 86.45 35 ⇓P P 10 49 29.8 +1.3
baz=86
TRPA Tarpa 86.49 324 ⇓*i*P P 10 49 28.1 -0.6
W13A Hualapai Mount 86.53 52 ⇓P P 10 49 30.4 +1.0
baz=86
I22A 9 Mile Ranch, 86.56 42 ⇑P P 10 49 30.1 +0.8
baz=86,SNR=5.5
CRVS Cervenica-Dubn 86.58 325 *e*P P 10 49 28.4 -0.7
CRVS pmax pmax
comp=Z,6.0nm,1.2s
CRVS Cervenica-Dubn 86.58 325 *e*P P 10 49 28.4 -0.7
F24A Ekalaka 86.60 39 ⇑P P 10 49 29.8 +0.4
baz=86
C26A Wahner Farm, P 86.69 37 ⇓P P 10 49 30.1 +0.4
baz=87
SRU San Rafael Swe 86.70 47 *e*P P 10 49 30.8 +0.7
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 86.70 47 *e*P P 10 49 30.8 +0.7
comp=Z,5.5nm,0.9s
VOIR 86.74 320 ⇓*i*P P 10 49 29.6 -0.4
PDMCI Parker Dam,Lak 86.75 53 ⇓P P 10 49 31.6 +1.4
baz=87
Y12C Blythe 86.76 54 ⇓P P 10 49 31.2 +0.9
baz=87
B27A Peters Farms, 86.78 36 ⇓P P 10 49 30.2 +0.1
baz=87
E25A Miller Ranch, 86.79 38 ⇑P P 10 49 30.7 +0.4
baz=87,SNR=5.7
H23A Clabaugh Cattl 86.81 41 ⇑P P 10 49 31.2 +0.7
baz=87
K21A Alcova 86.82 43 ⇓P P 10 49 31.2 +0.5
baz=87,SNR=7.8
J22A Midwest 86.84 42 ⇑P P 10 49 31.2 +0.6
baz=87,SNR=7.4
G24A Alzada 86.92 40 ⇑P P 10 49 31.9 +1.0

	baz=87									
U15A	**North Rim**	86.94	50	⇑P		P	10 49 32.5	+1.1		
	baz=87									
A28A	**Rude Farm, Bot**	86.97	35	⇑P		P	10 49 32.1	+1.1		
	baz=87									
D26A	**Manning**	87.00	37	⇑P		P	10 49 31.6	+0.4		
	baz=87									
ARR	**Arges**	87.01	320	⇓*i*P		P	10 49 31.5	+0.2		
C27A	**Sayler Ranch,**	87.08	37	⇓P		P	10 49 32.2	+0.6		
	baz=87									
F25A	**Bowman**	87.11	39	⇓P		P	10 49 32.7	+0.9		
	baz=87									
I23A	**Meade Ranch, G**	87.12	41	⇑P		P	10 49 33.6	+1.7		
	baz=87									
H24A	**Dirks Ranch, A**	87.19	40	⇑P		P	10 49 32.9	+0.7		
	baz=87									
N20A	**Spencee Gulch,**	87.21	45	⇑P		P	10 49 33.5	+1.0		
	baz=87									
B28A	**Dugan Ranch, T**	87.22	35	⇑P		P	10 49 33.3	+1.2		
	baz=87									
K22A	**Casper**	87.25	43	⇓P		P	10 49 33.4	+0.7		
	baz=87									
E26A	**Carlson Angus**	87.33	38	⇓P		P	10 49 33.7	+1.0		
	baz=87									
D27A	**Center**	87.44	37	⇑P		P	10 49 34.3	+1.1		
	baz=87									
A29A	**Manning Farm,**	87.49	35	⇓P		P	10 49 34.5	+1.1		
	baz=87									
F26A	**Lodgepole**	87.59	39	⇑P		P	10 49 34.9	+0.9		
	baz=88									
O20A	**White River Ci**	87.61	46	⇓P		P	10 49 35.1	+0.7		
	baz=88									
OKC	**Ostrava-Krasne**	87.64	327	*e*P		P	10 49 33.9	-0.2		
OKC	**Ostrava-Krasne**	87.64	327	*e*P		P	10 49 33.9	-0.2		
B29A	**Wagenman Farm,**	87.72	35	⇑P		P	10 49 35.1	+0.6		
	baz=88									
K23A	**Bowen Ranch, D**	87.73	42	⇓P		P	10 49 35.3	+0.5		
	baz=88									
Y14A	**Wickenburg**	87.75	53	⇑P		P	10 49 36.2	+1.2		
	baz=88									
113A	**Mohawk Valley,**	87.81	54	⇓P		P	10 49 36.5	+1.3		
	baz=88									
H25A	**Fruitdale**	87.81	40	⇑P		P	10 49 35.8	+0.7		
	baz=88									
E27A	**Carson**	87.84	38	⇑P		P	10 49 36.0	+0.9		
	baz=88									
RSSD	**Black Hills**	87.86	40	*e*P		P	10 49 36.0	+0.5		
RSSD					pmax	pmax				
	comp=Z,4.0nm,0.8s									
RSSD	**Black Hills**	87.86	40	*e*P		P	10 49 36.0	+0.5		
	comp=Z,3.6nm,0.8s									
KSP	**Ksiaz**	87.86	328	⇓*e*P		P	10 49 34.4	-0.7		
D28A	**Regan**	87.90	37	⇑P		P	10 49 36.3	+0.9		
	baz=88									
M22A	**Cedar Creek Ra**	87.92	44	⇑P		P	10 49 36.8	+0.9		
	baz=88									
F27A	**Lemmon**	87.94	38	⇑P		P	10 49 36.5	+0.9		
	baz=88									
A30A	**Hoffart Farm,**	87.95	34	⇑P		P	10 49 36.4	+0.8		
	baz=88									
J24A	**Dixon Ranch, L**	87.97	41	⇓P		P	10 49 37.0	+1.1		
	baz=88									
G26A	**Maurine**	87.97	39	⇓P		P	10 49 36.2	+0.4		
	baz=88									
MORC	**Moravsky Berou**	87.98	327	⇓*i*P		P	10 49 35.2	-0.5		
MDND	**Maddock**	87.99	36	⇓P		P	10 49 36.6	+0.8		
	baz=88									
PSZ	**Piszkesteto**	88.01	324	*e*P		P	10 49 35.8	-0.2		
PSZ					pmax	pmax				
	comp=Z,10.0nm,0.9s									
PSZ	**Piszkesteto**	88.01	324	*e*P		P	10 49 35.8	-0.2		
	comp=Z,10nm,0.9s									
WUAZ	**Wupatki**	88.06	51	⇑P		P	10 49 36.8	+0.3		
	baz=88									
L23A	**Garrett**	88.06	43	⇑P		P	10 49 37.1	+0.6		
	baz=88									
Z14A	**Wintersburg**	88.09	53	⇓P		P	10 49 37.5	+1.0		
	baz=88									
I25A	**Rochford**	88.10	40	⇑P		P	10 49 36.9	+0.3		
	baz=88,SNR=7.0									
VYHS	**Vyhne**	88.18	325	*e*P		P	10 49 36.4	-0.3		
VYHS					pmax	pmax				
	comp=Z,7.0nm,0.9s									
VYHS	**Vyhne**	88.18	325	*e*P		P	10 49 36.4	-0.3		
DPC	**Dobruska-Polom**	88.18	328	*e*P		P	10 49 36.3	-0.4		
DPC	**Dobruska-Polom**	88.18	328	*e*P		P	10 49 36.5	-0.2		
DPC					pmax	pmax				
	comp=Z,65nm,1.0s									
DPC	**Dobruska-Polom**	88.18	328	*e*P		P	10 49 36.5	-0.2		
	comp=Z,65nm,1.0s									
UPC	**Upice**	88.22	328	*e*P		P	10 49 36.9	+0.1		
UPC	**Upice**	88.22	328	*e*P		P	10 49 36.9	+0.1		
B30A	**Myrvik Farm, E**	88.25	35	⇑P		P	10 49 37.6	+0.6		
	baz=88									
ULM	**Lac du Bonnet**	88.27	32	P		P	10 49 36.1	-0.8		
	comp=Z,2.1nm,0.6s,baz=299,slow=6.2,SNR=5.2									
ULM	**Lac du Bonnet**	88.27	32	P		P	10 49 36.2	-0.8		
ULM					pmax	pmax				
	comp=Z,2.0nm,0.6s									
H26A	**Fairpoint**	88.28	40	⇑P		P	10 49 37.9	+0.7		
	baz=88									
G27A	**Dupree**	88.29	39	⇑P		P	10 49 38.0	+0.8		
	baz=88									
BSEG	**Bad Segeberg**	88.30	333	*e*P		P	10 49 36.3	-0.7		
	comp=Z,7.0nm,0.9s									
N22A	**Wattenberg Ran**	88.35	44	⇑P		P	10 49 38.0	0.0		
	baz=88									
J25A	**Sunshine Ranch**	88.43	41	⇑P		P	10 49 38.8	+0.7		
	baz=88									
X16A	**Lo Mia Camp, P**	88.59	52	⇓P		P	10 49 40.2	+1.1		
	baz=88									
N23A	**Red Feather La**	88.62	44	⇓P		P	10 49 39.8	+0.6		
	baz=88									
C30A	**Mose, Pekin**	88.66	35	⇑P		P	10 49 40.0	+1.1		
	baz=88									
O22A	**Kremmling**	88.66	45	⇑P		P	10 49 39.9	+0.4		
	baz=89,SNR=6.4									
H27A	**Howes**	88.67	39	⇓P		P	10 49 40.0	+0.9		
	baz=88									
E29A	**Napoleon**	88.79	37	⇓P		P	10 49 40.8	+1.2		
	baz=89									
P22A	**Eagle**	88.86	45	⇑P		P	10 49 41.0	+0.7		
	baz=89,SNR=13									
K25A	**Mack Ranch, Ha**	88.86	42	⇓P		P	10 49 41.2	+1.1		
	baz=89									
PVCC	**Panska Ves**	88.88	329	*e*P		P	10 49 39.3	-0.6		
PVCC	**Panska Ves**	88.88	329	*e*P		P	10 49 39.3	-0.6		
J26A	**Sides Ranch, S**	88.90	41	⇑P		P	10 49 41.8	+1.6		
	baz=89									
D30A	**Buchanan**	88.91	36	⇑P		P	10 49 40.9	+0.8		
	baz=89									
214A	**Organ Pipe Nat**	88.92	54	⇑P		P	10 49 41.1	+0.7		
	baz=89									
BRG	**Berggiesshubel**	88.93	329	*e*P		P	10 49 39.2	-0.8		
	comp=Z,5.0nm,0.8s									
BRG	**Berggiesshubel**	88.93	329	*e*P		P	10 49 39.3	-0.8		
BRG					pmax	pmax				
	comp=Z,5.0nm,0.8s									
SMCO	**Snowmass**	88.96	46	*e*P		P	10 49 41.9	+0.9		
	comp=Z,64nm,2.8s									
M24A	**Cheyenne**	88.97	43	⇑P		P	10 49 42.4	+1.7		
	baz=89									
I27A	**Quinn**	89.03	40	⇓P		P	10 49 41.4	+0.6		
	baz=89									
O23A	**Lake Granby, G**	89.03	44	⇓P		P	10 49 42.0	+0.9		
	baz=89									
CLL	**Collm**	89.05	330	*e*P		P	10 49 39.4	-1.2		
	comp=Z,6.0nm,0.7s									
CLL	**Collm**	89.05	330	*e*P		P	10 49 39.7	-0.9		
CLL					pmax	pmax				
	comp=Z,23nm,1.5s									
CLL	**Collm**	89.05	330	*e*P		P	10 49 39.7	-0.9		
	comp=Z,23nm,1.5s									
L25A	**Engebretsen Ra**	89.08	42	⇑P		P	10 49 42.0	+0.9		
	baz=89									
MVCO	**Mesa Verde**	89.08	48	⇓P		P	10 49 42.0	+0.6		
	baz=89									
GOPC	**GO Pecny, Ondr**	89.20	328	*e*P		P	10 49 41.0	-0.4		
K26A	**Motz Farm, Whi**	89.21	41	⇑P		P	10 49 42.2	+0.5		
	baz=89									
E30A	**Jud**	89.22	36	⇑P		P	10 49 42.0	+0.4		
	baz=89									
PRU	**Pruhonice**	89.27	328	*e*P		P	10 49 41.0	-0.7		
PRU	**Pruhonice**	89.27	328	*e*P		P	10 49 41.0	-0.7		
ISCO	**Idaho Springs**	89.46	45	*e*P		P	10 49 44.5	+1.3		
ISCO					pmax	pmax				
	comp=Z,4.0nm,0.8s									
ISCO	**Idaho Springs**	89.46	45	⇑P		P	10 49 44.2	+1.0		
	baz=89									
ISCO	**Idaho Springs**	89.46	45	*e*P		P	10 49 44.5	+1.3		
	comp=Z,3.5nm,0.8s									
VTS	**Vitosha**	89.50	319	⇑*i*P		P	10 49 43.1	0.0		
J27A	**Elkhorn Farm,**	89.56	40	⇓P		P	10 49 44.3	+1.0		
	baz=89									
P23A	**Jefferson**	89.56	45	⇑P		P	10 49 43.8	+0.1		
	baz=90									
I28A	**Midland**	89.57	39	⇑P		P	10 49 43.9	+0.7		
	baz=89									
X18A	**Snowflake**	89.57	51	⇑P		P	10 49 44.4	+0.8		
	baz=90									
F30A	**Leola**	89.58	37	⇓P		P	10 49 43.9	+0.6		
	baz=89									
AGMN	**Agassiz Nation**	89.59	34	⇑P		P	10 49 43.5	+0.3		
	baz=89									
AGMN	**Agassiz Nation**	89.59	34	*e*P		P	10 49 43.1	-0.1		
	comp=Z,8.7nm,1.3s									
O24A	**Longmont**	89.61	44	⇑P		P	10 49 44.4	+0.8		
	baz=90									
L26A	**Underwood Farm**	89.67	42	⇓P		P	10 49 44.3	+0.4		
	baz=90									
H29A	**Onida**	89.71	38	⇑P		P	10 49 44.4	+0.5		
	baz=90									
K27A	**Flueckinger Fa**	89.76	41	⇑P		P	10 49 45.0	+0.8		
	baz=90									
PKSM	**Moragy**	89.77	324	⇑*i*P		P	10 49 43.4	-0.6		
CLZ	**Clausthal**	89.81	332	*e*P		P	10 49 43.5	-0.7		
	comp=Z,6.0nm,0.7s									
Q23A	**Hartsel**	89.84	45	⇑P		P	10 49 46.2	+1.2		
	baz=90									
S22A	**4UR Ranch, Cre**	89.87	47	*e*P		P	10 49 46.5	+1.4		
	comp=Z,11nm,1.5s									
J28A	**Allard Ranch,**	89.89	40	⇓P		P	10 49 45.3	+0.5		
	baz=90									
G30A	**Faulkton**	89.97	38	⇓P		P	10 49 45.5	+0.4		
	baz=90									
M26A	**McRoberts Ranc**	89.98	42	⇓P		P	10 49 45.9	+0.5		
	baz=90									
CONA	**Conrad Observa**	90.04	326	⇓*i*PcP		P	10 49 45.3	-0.1		
	comp=Z,12nm,1.1s									
P24A	**Kohler Place,**	90.07	45	⇓P		P	10 49 46.1	+0.3		
	baz=90									
MOX	**Moxa**	90.14	330	*e*P		P	10 49 44.9	-0.8		
	comp=Z,4.0nm,1.1s									
TUC	**Tucson**	90.19	53	*e*P		P	10 49 47.3	+0.9		
TUC					pmax	pmax				
	comp=Z,3.0nm,0.7s									
TUC	**Tucson**	90.19	53	*e*P		P	10 49 47.3	+0.9		
	comp=Z,2.6nm,0.7s									
Q24A	**Divide**	90.24	45	⇑P		P	10 49 47.2	+0.4		
	baz=90									
K28A	**Ten Mile Ranch**	90.26	40	⇑P		P	10 49 47.0	+0.5		
	baz=90									
R23A	**Moffat**	90.26	46	⇑P		P	10 49 47.5	+0.6		
	baz=90									
KHC	**Kasperske Hory**	90.31	328	*e*P		P	10 49 45.5	-1.1		
KHC	**Kasperske Hory**	90.31	328	*e*P		P	10 49 45.5	-1.1		
J29A	**Okreek**	90.42	39	⇑P		P	10 49 47.8	+0.5		
	baz=90									
GEC2	**GERESS Array S**	90.46	328	*e*P		P	10 49 46.4	-0.9		
	comp=Z,9.0nm,0.9s									
GEC2	**GERESS Array S**	90.46	328	*e*P		P	10 49 46.6	-0.7		
GEC2	**GERESS Array S**	90.46	328	*e*P		P	10 49 46.6	-0.7		
GERES	**GERESS Array B**	90.46	328	P		P	10 49 46.5	-0.9		
	comp=Z,4.7nm,0.7s,baz=45,slow=4.0,SNR=32									
GERES	**GERESS Array B**	90.46	328	P		P	10 49 46.5	-0.9		
GERES					pmax	pmax				
	comp=Z,5.0nm,0.7s									
ROTZ	**Rotzenmuhle**	90.50	329	*e*P		P	10 49 47.3	-0.1		
	comp=Z,7.0nm,0.9s									
P25A	**Willow Gulch B**	90.53	44	⇑P		P	10 49 48.5	+0.5		
	baz=90									
IBBN	**Ibbenburen**	90.54	333	*e*P		P	10 49 46.5	-1.0		
	comp=Z,18nm,0.9s									
I30A	**Cacoma**	90.60	39	⇑P		P	10 49 48.5	+0.5		
	baz=90									
L28A	**Connealy Angus**	90.61	41	⇓P		P	10 49 49.2	+1.0		
	baz=90									
R24A	**Sanders Place,**	90.69	46	⇓P		P	10 49 50.2	+1.4		
	baz=91									
SDCO	**Great Sand Dun**	90.73	46	⇑P		P	10 49 50.1	+1.0		
	baz=91									
SDCO	**Great Sand Dun**	90.73	46	*e*P		P	10 49 49.6	+0.5		
	comp=Z,6.0nm,1.1s									
K29A	**Lazy Trails An**	90.83	40	⇓P		P	10 49 49.6	+0.4		
	baz=91									
J30A	**Dallas**	90.94	39	⇑P		P	10 49 49.9	+0.3		
	baz=91									
GRF	**Grafenberg Arr**	91.00	330	*e*P		P	10 49 49.4	-0.3		
	comp=Z,14nm,1.0s									
GRFO	**Grafenberg**	91.00	330	*e*P		P	10 49 49.5	-0.2		
GRFO					pmax	pmax				
	comp=Z,12nm,1.0s									
GRFO	**Grafenberg**	91.00	330	*e*P		P	10 49 49.5	-0.2		
	comp=Z,12nm,1.0s									
M28A	**Bar X Bar Ranc**	91.08	41	⇓P		P	10 49 50.5	+0.1		
	baz=91									
K30A	**Basset**	91.29	40	⇓P		P	10 49 51.3	+0.1		
	baz=91									
SOKA	**Soboth**	91.31	326	⇑*i*PcP		P	10 49 50.6	-0.7		
	comp=Z,11nm,1.0s									
N28A	**Pribbeno Ranch**	91.42	42	⇓P		P	10 49 52.2	+0.3		
	baz=91									
RJOB	**Jochberg**	91.67	328	*e*P		P	10 49 52.3	-0.6		
	comp=Z,15nm,0.9s									
L30A	**Spencer Herefo**	91.69	40	⇓P		P	10 49 53.4	+0.3		
	baz=92									
ANMO	**Albuquerque**	91.72	49	*c i*P		P	10 49 55.0	+1.4		
ANMO					pmax	pmax				
	comp=Z,20nm,0.9s									
ANMO	**Albuquerque**	91.72	49	*e*P		P	10 49 54.8	+1.2		
	comp=Z,5.5nm,0.7s									
319A	**Douglas**	91.77	53	⇓P		P	10 49 55.4	+1.6		
	baz=92									
KSCO	**Kaye Shedlock'**	91.78	44	⇓P		P	10 49 54.8	+1.1		
	baz=92									
T25A	**Trinidad**	91.78	46	⇑P		P	10 49 54.8	+0.9		
	baz=92									
T25A	**Trinidad**	91.78	46	*e*P		P	10 49 54.7	+0.8		
	comp=Z,7.7nm,1.0s									
P28A	**Saint Francis**	91.97	43	⇓P		P	10 49 55.2	+0.6		
	baz=92									
L31A	**Butterfield Fa**	92.05	40	⇑P		P	10 49 55.3	+0.6		
	baz=92									
FUR	**Furstenfeldbru**	92.08	329	*e*P		P	10 49 54.4	-0.3		
	comp=Z,28nm,0.9s									
R27A	**Eads**	92.12	45	⇑P		P	10 49 56.1	+0.9		
	baz=92									
121A	**Cookes Peak, D**	92.18	52	⇓P		P	10 49 56.6	+0.9		
	baz=92									
ECSD	**EROS Data Cent**	92.26	37	⇓P		P	10 49 56.2	+0.5		
	baz=92									
T26A	**Comanche Natio**	92.29	46	⇑P		P	10 49 56.7	+0.6		
	baz=92									
S27A	**Las Animas**	92.42	45	⇓P		P	10 49 56.8	+0.1		
	baz=92									
P29A	**Atwood**	92.45	43	⇓P		P	10 49 57.1	+0.3		
	baz=92									
ABTA	**Ahfaltersbach**	92.50	327	⇑*i*P		P	10 49 55.0	-1.8		
	comp=Z,8.1nm,0.6s									
Q29A	**Oakley**	92.87	43	⇑P		P	10 49 59.1	+0.4		
	baz=93									
BGNE	**Belgrade**	92.94	40	⇑P		P	10 49 59.0	+0.2		
	baz=93									
R29A	**Marienthal**	93.06	44	⇑P		P	10 49 59.9	+0.3		
	baz=93									
S28A	**Manter**	93.11	45	⇓P		P	10 50 00.2	+0.4		
	baz=93									
WLF	**Walferdange**	93.21	332	*e*P		P	10 49 59.4	-0.5		
	comp=Z,16nm,1.4s									
SPMN	**Marine on St.**	93.23	34	⇑P		P	10 50 00.5	+0.5		
	baz=93									
U27A	**Thompson Grove**	93.23	46	⇓P		P	10 50 01.6	+1.2		
	baz=93									
BFO	**Black Forest**	93.29	330	*e*P		P	10 49 59.3	-1.0		
	comp=Z,9.0nm,1.1s									
BFO	**Black Forest**	93.29	330	*i* P		P	10 49 59.7	-0.6		
BFO	**Black Forest**	93.29	330	*e*P		P	10 49 59.4	-0.9		
	comp=Z,6.9nm,1.0s									
GIVF	**Givet**	93.42	333	*e*P		P	10 49 58.6	-2.2		
GIVF	**Givet**	93.42	333	*e*P		P	10 49 58.6	-2.2		
GIVF	**Givet**	93.42	333	*e*P		P	10 49 58.6	-2.2		
P31A	**Stockton**	93.44	42	⇑P		P	10 50 01.1	-0.1		
	baz=93									
FUORN	**Ofenpass-Fuorn**	93.67	328	*e*P		P	10 50 01.5	-0.8		
	comp=Z,13nm,0.8s									
R30A	**Dighton**	93.68	43	⇓P		P	10 50 02.8	+0.4		
	baz=94									
CDF	**Champ du Feu**	93.69	331	*e*P		P	10 50 00.3	-1.9		
	comp=Z,7.4nm,0.7s									
CDF	**Champ du Feu**	93.69	331	*e*P		P	10 50 00.3	-1.9		
CDF					pmax	pmax				
	comp=Z,7.0nm,0.7s									
CDF	**Champ du Feu**	93.69	331	*e*P		P	10 50 00.3	-1.9		
	comp=Z,7.4nm,0.7s									
BAIF	**Baives**	93.70	333	*e*P		P	10 50 00.0	-2.1		
	comp=Z,11nm,1.0s									
BAIF	**Baives**	93.70	333	*e*P		P	10 50 00.0	-2.1		
BAIF					pmax	pmax				
	comp=Z,11nm,1.0s									
BAIF	**Baives**	93.70	333	*e*P		P	10 50 00.0	-2.1		
	comp=Z,11nm,1.0s									
PAGF	**Fort de Pagny**	94.25	332	*e*P		P	10 50 03.1	-1.5		
	comp=Z,3.0nm,0.5s									
PAGF	**Fort de Pagny**	94.25	332	*e*P		P	10 50 03.1	-1.5		
	comp=Z,3.0nm,0.5s									
HINF	**Hinteralfeld**	94.33	331	*e*P		P	10 50 02.6	-2.5		
HINF	**Hinteralfeld**	94.33	331	*e*P		P	10 50 02.6	-2.5		
HINF	**Hinteralfeld**	94.33	331	*e*P		P	10 50 02.6	-2.5		
HAU	**Haudompre**	94.40	331	*e*P		P	10 50 03.1	-2.3		
HAU	**Haudompre**	94.40	331	*e*P		P	10 50 03.1	-2.3		
HAU	**Haudompre**	94.40	331	*e*P		P	10 50 03.1	-2.3		
R32A	**Long Quarter,**	94.54	42	⇓P		P	10 50 06.3	+0.1		
	baz=94									
S31A	**Mullinville**	94.58	43	⇑P		P	10 50 07.0	+0.6		
	baz=94									
SFTF	**Sexfontaines**	94.81	332	*e*P		P	10 50 05.3	-1.9		
	comp=Z,7.8nm,0.5s									
SFTF	**Sexfontaines**	94.81	332	*e*P		P	10 50 05.3	-1.9		
	comp=Z,7.8nm,0.5s									
KSU1	**Kansas State U**	95.34	41	⇓P		P	10 50 10.5	+0.7		
	baz=95									
CABF	**La Chapelle**	95.59	330	*e*P		P	10 50 09.6	-1.3		
	comp=Z,4.7nm,0.7s									
CABF	**La Chapelle**	95.59	330	*e*P		P	10 50 09.6	-1.3		
CABF					pmax	pmax				
	comp=Z,5.0nm,0.7s									
CABF	**La Chapelle**	95.59	330	*e*P		P	10 50 09.6	-1.3		
	comp=Z,4.7nm,0.7s									
LPL	**La Plagne**	96.13	329	*e*P		P	10 50 11.6	-1.9		
LPL	**La Plagne**	96.13	329	*e*P		P	10 50 11.6	-1.9		
LPL	**La Plagne**	96.13	329	*e*P		P	10 50 11.6	-1.9		
LPG	**La Plagne**	96.14	329	*e*P		P	10 50 11.7	-1.9		
	comp=Z,12nm,0.7s									
LPG	**La Plagne**	96.14	329	*e*P		P	10 50 11.7	-1.9		
LPG					pmax	pmax				
	comp=Z,12nm,0.7s									
LPG	**La Plagne**	96.14	329	*e*P		P	10 50 11.7	-1.9		
	comp=Z,12nm,0.7s									
SSF	**Saint Saulge**	96.35	332	*e*P		P	10 50 12.1	-2.1		
SSF	**Saint Saulge**	96.35	332	*e*P		P	10 50 12.1	-2.1		
SSF	**Saint Saulge**	96.35	332	*e*P		P	10 50 12.1	-2.1		
CEL	**Celeste**	96.56	319	*e*P		P	10 50 15.0	-0.4		
	comp=Z,20nm,0.8s									
LDF	**La Druitiere**	96.57	335	*e*P		P	10 50 12.9	-2.2		
	comp=Z,5.1nm,0.7s									
LDF	**La Druitiere**	96.57	335	*e*P		P	10 50 12.9	-2.2		
LDF					pmax	pmax				
	comp=Z,5.0nm,0.7s									
LDF	**La Druitiere**	96.57	335	*e*P		P	10 50 12.9	-2.2		
	comp=Z,5.1nm,0.7s									
AVF	**Avril sur Loir**	96.63	332	*e*P		P	10 50 13.3	-2.1		
	comp=Z,6.3nm,0.9s									
AVF	**Avril sur Loir**	96.63	332	*e*P		P	10 50 13.3	-2.1		
AVF					pmax	pmax				
	comp=Z,6.0nm,0.9s									
AVF	**Avril sur Loir**	96.63	332	*e*P		P	10 50 13.3	-2.1		
	comp=Z,6.3nm,0.9s									
TXAR	**Lajitas Array**	96.91	52	P		P	10 50 18.1	+0.9		
	comp=Z,2.0nm,0.7s,baz=311,slow=2.7,SNR=29									
TXAR	**Lajitas Array**	96.91	52	P		P	10 50 18.1	+0.9		
TXAR					pmax	pmax				
	comp=Z,2.0nm,0.7s									
GRR	**Gorron**	97.01	335	*e*P		P	10 50 15.2	-1.9		
GRR	**Gorron**	97.01	335	*e*P		P	10 50 15.2	-1.9		
GRR	**Gorron**	97.01	335	*e*P		P	10 50 15.2	-1.9		
VIVF	**Saint-Julien-l**	97.57	330	*e*P		P	10 50 17.7	-2.0		
VIVF	**Saint-Julien-l**	97.57	330	*e*P		P	10 50 17.7	-2.0		
VIVF	**Saint-Julien-l**	97.57	330

s-min=16.3km az=77.0
*ISCJB **24** 10:51:29.0±0.6,52.°03S±0.'08×28.°1E±0.'2,h10km, mb4.0/12,MS3.2/1, Error ellipse: s-maj=21.7km s-min=10.8km az=172.4*
*NEIC **24** 10:51:30.6±0.4,52.°08S×28.°11E,h10km,mb4.7/2, Error ellipse: s-maj=15.8km s-min=8.1km az=81.0*

ISC 24 10:51:30.6±0.7,52.°08S±0.'10×28.°1E±0.'2,h10km,n15, σ0.°74/15,mb3.9/12,South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.39**	**342**	P			**P**	**10 56 08.2**	**+0.6**
	12nm,1.0s,baz=126,slow=12,SNR=3.8								
MAW	**Mawson**	**22.92**	**146**	P			**P**	**10 56 34.7**	**+0.5**
	4.0nm,0.8s,baz=324,slow=8.5,SNR=3.6								
MAW				LR			LR	11 04 41.4	
	comp=Z,87nm,18.8s,baz=244,slow=35								
SNAA	**Sanae**	**23.95**	**204**	P			**P**	**10 56 44.8**	**+0.2**
	1.2nm,0.8s,baz=37,slow=15,SNR=3.0								
LBTB	**Lobatse**	**27.09**	**355**	P			**P**	**10 57 13.3**	**-0.2**
	5.6nm,0.7s,baz=185,slow=8.0,SNR=7.7								
TSUM	**Tsumeb**	**33.83**	**342**	*e*P			**P**	**10 58 13.0**	**-0.1**
	7.4nm,0.7s								
LSZ	**Lusaka**	**36.71**	**0**	*e*P			**P**	**10 58 38.3**	**+0.4**
	6.3nm,0.6s								
RER	**Riviere de l'E**	**37.56**	**45**	*e*P			**P**	**10 58 45.0**	**-0.1**
	118nm,1.2s								
QSPA	**South Pole Qui**	**38.14**	**180**	P			**P**	**10 58 50.3**	**+0.7**
	1.2nm,0.5s,baz=50,slow=2.2,SNR=9.7								
VNDA	**Vanda**	**47.53**	**168**	P			**P**	**11 00 05.6**	**+0.2**
	0.5nm,0.7s,baz=253,slow=8.1,SNR=3.3								
PLCA	**Paso Flores**	**63.84**	**237**	P			**P**	**11 02 02.5**	**-0.6**
	1.9nm,1.0s,baz=41,slow=9.3,SNR=2.4								
TORD	**Torodi Ar. Bea**	**68.86**	**332**	P			**P**	**11 02 35.5**	**+0.2**
	0.7nm,0.9s,baz=174,slow=6.6,SNR=4.2								
ASAR	**Alice Springs**	**80.79**	**117**	P			**P**	**11 03 44.5**	**0.0**
	0.5nm,0.8s,baz=218,slow=4.8,SNR=14								
WRA	**Warramunga Arr**	**84.00**	**115**	P			**P**	**11 03 59.5**	**-1.8**
	0.5nm,1.0s,baz=209,slow=3.9,SNR=3.2								
SEY	**Seymchan**	**149.17**	**48**	PKPbc			**PKPbc**	**11 11 18.4**	**+0.6**
	2.1nm,0.7s,baz=229,slow=3.2,SNR=16								
PDAR	**Pinedale Array**	**150.26**	**269**	PKPbc			**PKPbc**	**11 11 20.4**	**-1.1**
	0.2nm,0.5s,baz=108,slow=2.9,SNR=2.4								

*IDC **24** 11:08:24.5±0.8,2.°62N×97.°08E,h0km,mb4.4/19, mb1 4.5/20,mb1mx4.2/40,mbtmp4.4/20,ML4.2/1,MS3.4/2, Ms1 3.6/2,ms1mx2.9/30,Error ellipse: s-maj=28.0km s-min=13.7km az=43.0*
*BJI **24** 11:08:25.7,2.°20N×96.°44E,h36km,mB4.8/7,mb4.6/10, Ms4.0/3,Ms7 3.6/3*
*ISCJB **24** 11:08:29.4±0.8,2.°51N±0.'04×97.°00E±0.'05,h47km±7km, mb4.4/24,MS3.4/1, Error ellipse: s-maj=9.7km s-min=4.5km az=143.4*
*DJA **24** 11:08:29.8±0.5,2.°N±3.'×9.°7E±.°,h10km,M4.7/13,mb4.8/8, mB6.0/3,MLv4.6/13,Mw(mB)5.6/3*
*NEIC **24** 11:08:30.1±0.4,2.°62N×96.°99E,h35km,mb4.3/8, Error ellipse: s-maj=10.3km s-min=5.3km az=53.0*
*KLM **24** 11:08:43.0,2.°68N×98.°15E,h0km,mb4.4,ML3.9*

ISC 24 11:08:30.2±0.5,2.°52N±0.°04×96.°96E±0.°06,h36km±2km, h36km:pP-P,n98,σ1.°35/110,mb4.3/24,1C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.36**	**153**	*e*Pn			**Pn**	**11 08 55.7**	**+3.0**
TSI	**Tuntungan**	**1.88**	**59**	P			**Pn**	**11 09 01.4**	**+1.6**
TSI				S			**Sn**	**11 09 25.6**	**+3.4**
PSI	**Prapat**	**1.98**	**82**	Pn			**Pn**	**11 08 58.6**	**-2.8**
	35nm,0.3s,baz=255,slow=8.6,SNR=103								
PSI				LR			LR	11 09 58.2	
	comp=Z,1μm,20.0s,baz=270,slow=51								
LHMI	**Lhok Sumawe**	**2.69**	**360**	P			**Pn**	**11 09 13.5**	**+2.5**
LHMI				S			Sn	11 09 49.0	+6.7
LHMI	**Lhok Sumawe**	**2.69**	**360**	P			**Pn**	**11 09 12.6**	**+1.7**
	baz=2.7,SNR=8.8								
LHMI	**Lhok Sumawe**	**2.69**	**360**	Pn			**Pn**	**11 09 10.5**	**-0.5**
MNSI	**Mandailing Nat**	**3.13**	**123**	P			**Pn**	**11 09 18.0**	**+0.9**
BSI	**Banda Aceh**	**3.39**	**331**	P			**Pn**	**11 09 23.2**	**+2.6**
BSI				S			**Sn**	**11 09 59.1**	**-0.4**
IPM	**Ipoh**	**4.50**	**64**	⇓P			**Pn**	**11 09 37.0**	**+1.0**
IPM	**Ipoh**	**4.50**	**64**	*e*Pn			**Pn**	**11 09 36.5**	**+0.5**
IPM				*e*Sn			**Sn**	**11 10 26.9**	**-0.2**
KULM	**Kulim**	**4.60**	**53**	⇓P			**Pn**	**11 09 37.9**	**+0.6**
KULM	**Kulim**	**4.60**	**53**	*e*Pn			**Pn**	**11 09 37.4**	**+0.2**
KULM				Sn			**Sn**	**11 10 27.1**	**-2.4**
BKNI	**Bangkinang**	**4.63**	**118**	*e*Pn			**Pn**	**11 09 38.7**	**+1.0**
FRIM	**Kepong**	**4.72**	**81**	⇓P			**Pn**	**11 09 39.3**	**+0.4**
SDSI	**Sungai Dareh**	**5.64**	**127**	P			**Pn**	**11 09 52.4**	**+0.9**
	29nm,0.6s,0.3nm								
SKLT	**Songkhla**	**5.88**	**38**	P			**Pn**	**11 09 57.1**	**+2.2**
	80nm,0.7s,0.3nm								
KGM	**Kluang**	**6.38**	**94**	⇑P			**Pn**	**11 10 02.6**	**+0.9**
SURT	**Suratani**	**6.65**	**16**	P			**Pn**	**11 10 05.5**	**+0.1**
KTGM	**Kuala Trenggan**	**6.76**	**65**	⇓P			**Pn**	**11 10 06.9**	**-0.1**
MYKOM	**Kota Tinggi**	**6.93**	**96**	*e*Pn			**Pn**	**11 10 10.2**	**+0.9**
MASI	**Maura Aman, Be**	**7.72**	**137**	P			**Pn**	**11 10 21.1**	**+0.9**
	94nm,1.1s,5μm0.5nm								
TPRI	**Tanjung Pinang**	**7.73**	**102**	P			**Pn**	**11 10 21.3**	**+1.0**
	60nm,0.2s,25μm3.3nm								
DSRI	**Dabo**	**8.18**	**111**	P			**Pn**	**11 10 27.4**	**+0.9**
	33nm,0.9s,5μm								
MNAI	**Manna**	**9.09**	**139**	P			**Pn**	**11 10 40.0**	**+1.0**
MNAI	**Manna**	**9.09**	**139**	P			**Pn**	**11 10 40.6**	**+1.6**
	baz=9.1,SNR=9.2								
MNAI				S			**Sn**	**11 12 20.3**	**0.0**
	baz=9.1,SNR=3.5								
MNAI	**Manna**	**9.09**	**139**	*e*Pn			**Pn**	**11 10 40.4**	**+1.3**
MNAI				*e*Sn			**Sn**	**11 12 19.5**	**-0.7**
CHAI	**Chaiyaphum**	**14.19**	**20**	P			**P**	**11 11 55.0**	**-0.7**
	4.2nm,0.9s,91nm								
PBKT	**Sadao Pong**	**14.51**	**16**	P			**P**	**11 11 57.8**	**-1.4**
	20nm,0.8s,574nm								
CISI	**Cisompet, Garu**	**14.75**	**133**	*e*Pn			**Pn**	**11 11 56.5**	**0.0**
KHON	**Khomkaen**	**14.89**	**22**	P			**P**	**11 12 02.9**	**-0.6**
	9.7nm,0.9s,1μm								
SUKH	**Sukhothai**	**15.10**	**10**	P			**P**	**11 12 05.8**	**0.0**
	3.1nm,0.8s								
SBUM	**Sibu**	**15.25**	**90**	*e*P			**P**	**11 12 07.7**	**+0.1**
	16nm,1.4s								
LOEI	**Loei**	**15.48**	**16**	P			**P**	**11 12 10.1**	**0.0**
	15nm,1.2s								
UTTA	**Uttaradit**	**15.53**	**13**	P			**P**	**11 12 10.2**	**-0.4**
	2.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**15.96**	**7**	Pn			**Pn**	**11 12 10.2**	**-1.9**
	0.3nm,0.3s,baz=194,slow=12,SNR=28								
CMAR				LR			LR	11 18 10.4	
	comp=Z,165nm,20.1s,baz=185,slow=37								
CMMT	**Chiang Mai**	**16.31**	**7**	P			**Pn**	**11 12 16.5**	**-0.1**
CHTO	**Chiang Mai**	**16.31**	**7**	*e*Pn			**Pn**	**11 12 16.3**	**-0.3**
	7.1nm,1.1s								
CMAI	**Chiengmai2**	**17.42**	**7**	P			**P**	**11 12 31.6**	**-0.2**
	5.5nm,1.1s,683nm								
CHLP	**Challavanipeta**	**20.30**	**322**	*e*P			**P**	**11 13 01.6**	**-1.5**
SKHT	**Srikalahasti**	**20.37**	**304**	*e*P			**P**	**11 13 03.3**	**-0.6**
ADKI	**Addanki**	**21.33**	**309**	*e*P			**P**	**11 13 13.0**	**-1.3**
ADKI				*e*pP			**pP**	**11 13 21.4**	**-2.4**
NJS	**Nagarjunasagar**	**22.27**	**310**	*e*P			**P**	**11 13 23.6**	**-0.7**
NJS				*e*				11 13 28.4	
KMI	**Kunming**	**23.15**	**13**	P			**P**	**11 13 35.9**	**+2.1**
KMI				pP			**pP**	**11 13 45.3**	**+1.8**
KMI				sP			**sP**	**11 13 50.9**	**+3.0**
KMI				PMZ					
	9.0nm,1.0s								
KMI				LN					
	170nm,23.2s								
KMI				LE					
	90nm,24.0s								
KMI				LZ					
	150nm,20.9s								
HYB	**Hyderabad**	**23.36**	**311**	*i* P			**P**	**11 13 38.0**	**+2.3**
HYBB	**Hyderabad (bro**	**23.36**	**311**	*e*P			**P**	**11 13 36.9**	**+1.1**
RPR	**Rampur**	**23.72**	**314**	*e*P			**P**	**11 13 38.4**	**-0.8**
RPR				*e*pP			**pP**	**11 13 49.1**	**-0.1**
KAPI	**Kappang**	**23.97**	**108**	*e*P			**P**	**11 13 42.0**	**+0.4**
	6.2nm,0.7s								
H08S2	**Diego Garcia H**	**26.41**	**247**	T			T	11 41 03.5	
	baz=69,slow=75,SNR=77								
H08S3	**Diego Garcia H**	**26.42**	**247**	T			T	11 41 32.3	
	baz=69,slow=75,SNR=99								
H08S1	**Diego Garcia H**	**26.43**	**247**	T			T	11 41 14.6	
	baz=69,slow=75,SNR=9.4								
CD2	**Chengdu**	**28.96**	**12**	P			**P**	**11 14 28.5**	**+2.1**
SOEI	**Soe**	**29.81**	**115**	S			S	11 19 36.7	+7.7
	baz=30,SNR=3.3								
LZH	**Lanzhou**	**34.00**	**10**	*e*P			**P**	**11 15 12.5**	**+1.7**
LZH				pP			**pP**	**11 15 20.6**	**-0.6**
LZH				sP			**sP**	**11 15 26.1**	**+0.6**
LZH				PMZ					
	26nm,1.0s								
LZH				PMZ					
	140nm,4.5s								
KNRA	**Kununurra**	**36.28**	**121**	P			**P**	**11 15 29.2**	**-1.3**
	baz=36,SNR=3.4								
GTA	**Gaotai**	**36.81**	**4**	*e*P			**P**	**11 15 34.1**	**-0.8**
GTA				PMZ					
	6.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**40.37**	**17**	*e*P			**P**	**11 16 07.3**	**+2.5**
HHC				PP			**PnPn**	**11 17 44.9**	**+2.8**
HHC				S			**S**	**11 22 14.4**	**+3.8**
HHC				sS			**sS**	**11 22 30.6**	**+2.8**
HHC				SS			**SS**	**11 25 10.0**	**-0.4**
HHC				PMZ					
	23nm,0.5s								
HHC				PMZ					
	90nm,7.4s								
HHC				LN					
	82nm,17.3s								
HHC				LE					
	110nm,14.8s								
HHC				LZ					
	68nm,17.3s								
WRKA	**Warakurna**	**40.92**	**134**	P			**P**	**11 16 09.8**	**+0.3**
	baz=41,SNR=3.8								
WMQ	**Urumqi**	**41.94**	**350**	*e*P			**P**	**11 16 18.4**	**+0.8**
WMQ				pP			**pP**	**11 16 28.5**	**+0.4**
WMQ				PMZ					
	8.0nm,0.6s								
WMQ				PMZ					
	67nm,4.4s								
WRA	**Warramunga Arr**	**42.95**	**123**	P			**P**	**11 16 25.5**	**-0.6**
	5.9nm,0.5s,baz=299,slow=9.3,SNR=80								
WRAB	**Tennant Creek**	**42.95**	**123**	*e*P			**P**	**11 16 25.8**	**-0.4**
	3.2nm,0.5s								
WB2	**Warramunga Arr**	**42.96**	**123**	*e*P			**P**	**11 16 25.5**	**-0.7**
UCH	**Uchtor**	**44.35**	**336**	P			**P**	**11 16 38.5**	**+1.0**
	SNR=9.6								
ASAR	**Alice Springs**	**44.39**	**128**	P			**P**	**11 16 36.6**	**-1.1**
	1.7nm,0.6s,baz=302,slow=7.9,SNR=24								
TKM2	**Tokmak 2**	**44.51**	**338**	P			**P**	**11 16 39.3**	**+0.7**
	SNR=6.7								
TKM2	**Tokmak 2**	**44.51**	**338**	*e*P			**P**	**11 16 38.6**	**0.0**
	4.3nm,0.7s								
KBK	**Karagaybulak**	**44.54**	**337**	P			**P**	**11 16 39.8**	**+1.1**
	SNR=5.6								
AML	**Almayashu**	**44.61**	**335**	P			**P**	**11 16 40.5**	**+1.0**
	SNR=9.0								
AAK	**Ala-Archa**	**44.70**	**336**	P			**P**	**11 16 39.5**	**-0.5**
	1.0nm,0.3s,baz=166,slow=2.9,SNR=5.4								
AAK	**Ala-Archa**	**44.70**	**336**	*e*P			**P**	**11 16 39.5**	**-0.5**
	8.2nm,1.4s								
KSRS	**Korea Array**	**44.91**	**35**	LR			LR	11 36 33.8	
	comp=Z,45nm,19.5s,baz=195,slow=38								
USP	**Ospenovka**	**45.23**	**337**	P			**P**	**11 16 45.2**	**+1.2**
	SNR=5.0								
SONM	**Songino Array**	**45.87**	**9**	P			**P**	**11 16 46.4**	**-2.7**
	1.5nm,0.4s,baz=190,slow=9.8,SNR=9.2								
SONM				PcP			**PcP**	**11 18 25.3**	**-0.7**
	1.3nm,0.9s,baz=337,slow=3.4,SNR=3.6								
MKAR	**Makanchi Array**	**45.91**	**346**	P			**P**	**11 16 48.8**	**-0.6**
	2.5nm,0.4s,baz=179,slow=8.0,SNR=54								
ULN	**Ulaanbatar**	**46.00**	**9**	*e*P			**P**	**11 16 49.4**	**-0.8**
	4.1nm,1.2s								
QIS	**Mount Isa**	**47.68**	**121**	P			**P**	**11 17 03.6**	**0.0**
	baz=48,SNR=4.2								
GEYT	**Alibeck**	**50.05**	**320**	P			**P**	**11 17 21.1**	**-0.5**
	3.4nm,0.3s,baz=142,slow=7.5,SNR=9.4								
KURBB	**Kurchatov Arra**	**50.40**	**345**	P			**P**	**11 17 23.5**	**-0.4**
	3.4nm,0.5s,baz=167,slow=6.8,SNR=14								
KURK	**Kurchatov**	**50.46**	**345**	P			**P**	**11 17 23.5**	**-0.9**
PMG	**Port Moresby**	**51.40**	**104**	P			**P**	**11 17 31.3**	**-0.7**
	baz=51,SNR=5.2								
PMG	**Port Moresby**	**51.40**	**104**	*e*P			**P**	**11 17 31.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**51.77**	**32**	P			**P**	**11 17 33.5**	**-0.8**
	0.4nm,0.4s,baz=241,slow=5.3,SNR=5.5								
ZALV	**Zalesovo Beam**	**52.22**	**351**	P			**P**	**11 17 36.8**	**-0.7**
	11nm,0.5s,baz=175,slow=6.6,SNR=73								
QLP	**Quilpie**	**54.02**	**126**	P			**P**	**11 17 52.5**	**+1.2**
	baz=54,SNR=5.6								
STKA	**Stephens Creek**	**54.42**	**133**	P			**P**	**11 17 53.1**	**-1.0**
	3.9nm,0.9s,baz=320,slow=7.0,SNR=4.2								
ABKAR	**Akbulak array**	**56.24**	**332**	*e*P			**P**	**11 18 06.8**	**0.0**
	6.0nm,0.8s								
CMSA	**Cobar Meteorol**	**57.33**	**130**	P			**P**	**11 18 16.1**	**+1.2**
	baz=57,SNR=9.2								
KBZ	**Khabaz**	**62.92**	**319**	P			**P**	**11 18 53.8**	**+0.8**
	3.9nm,0.9s,baz=236,slow=24,SNR=5.6								
YAK	**Yakutsk**	**64.23**	**16**	P			**P**	**11 18 59.7**	**-1.6**
	16nm,0.5s,baz=299,slow=1.0,SNR=4.9								
BRTR	**Keskin Array B**	**68.05**	**312**	P			**P**	**11 19 25.9**	**-0.5**
	0.8nm,0.6s,baz=134,slow=7.5,SNR=4.7								
SEY	**Seymchan**	**72.65**	**23**	P			**P**	**11 19 52.0**	**-2.0**
	1.4nm,0.5s,baz=253,slow=4.7,SNR=9.9								
AKASG	**Malin Array Be**	**74.07**	**322**	P			**P**	**11 20 02.4**	**-0.1**
	1.7nm,0.5s,baz=88,slow=4.7,SNR=16								
FINES	**FINESS Array B**	**78.72**	**332**	P			**P**	**11 20 27.9**	**-0.7**
	2.6nm,0.8s,baz=90,slow=5.8,SNR=9.4								
ARCES	**ARCESS Array B**	**81.22**	**340**	P			**P**	**11 20 41.7**	**-0.4**
	9.1nm,1.1s,baz=95,slow=6.5,SNR=7.8								
GERES	**GERESS Array B**	**83.66**	**319**	P			**P**	**11 20 55.5**	**+0.1**
	0.6nm,0.7s,baz=150,slow=12,SNR=6.9								
NB2	**NORSAR Subarra**	**85.74**	**331**	P			**P**	**11 21 05.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=95,slow=6.2								
NOA	**NORSAR Array B**	**85.74**	**331**	P			**P**	**11 21 05.1**	**-0.4**
	comp=Z,2.2nm,1.0s,baz=94,slow=5.7,SNR=5.0								
NVAR	**Mina Array Bea**	**127.85**	**35**	PKP			**PKPdf**	**11 27 33.8**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=321,slow=3.8,SNR=3.5								
TXAR	**Lajitas Array**	**142.67**	**30**	PKhKP		PKPpre		11 27 55.0	
	comp=Z,0.2nm,0.4s,baz=90,slow=0.4,SNR=5.5								

*NIED **24** 11:17:00,38.°60N×140.°60E,h8km,Mw3.5 Best double couple: M0.04000×10^14 NP1:φs151.00000°,δ32.00000°, λ62.00000°. NP2:φs4.00000°,δ62.00000°,λ106.00000°.*
*ISCJB **24** 11:17:37.8±0.4,38.°62N±0.'03×140.°64E±0.'04,h24km±4km, mb3.8/6, Error ellipse: s-maj=5.2km s-min=4.2km az=24.9*
*JMA **24** 11:17:38.2,38.°64N×140.°62E,h11km±1km,M3.7*
Broadband fault plane solution: P waves. NP1: φs340.00000°,δ52.00000°,λ64.00000°. NP2: φs199.00000°,δ45.00000°,λ120.00000°. Principal axes: T Plg69.0000°, Azm188.0000°; N Plg21.0000°, Azm356.0000°; P Plg4.0000°, Azm88.0000°;
JMA Felt II J1.
*IDC **24** 11:17:42.3±2.5,38.°62N×140.°57E,h48km±25km,mb3.5/6, mb1 3.6/10,mb1mx3.4/34,mbtmp3.6/10,ML2.9/4 Error ellipse: s-maj=37.4km s-min=16.4km az=104.0*

ISC 24 11:17:37.4±1.2,38.°62N±0.°03×140.°68E±0.°04,h9km±9km, n20,σ0.°84/30,mb3.8/6,3C-4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOU	**Okura**	**0.25**	**183**	⇑P			**Pb**	**11 17 43.8**	**-0.4**
JOU				*e*S			**Sb**	**11 17 47.6**	**-1.0**
JYK	**Kaneyama**	**0.39**	**320**	⇓P			**Pg**	**11 17 45.2**	**0.0**
JYK				S			**Sg**	**11 17 50.1**	**-0.3**
JMK	**Ichinoseki**	**0.54**	**51**	⇓P			**Pb**	**11 17 48.7**	**-0.3**
JMK				*e*S			**Sb**	**11 17 56.4**	**-0.4**
JIO	**Ouri**	**0.55**	**107**	⇓P			**Pb**	**11 17 49.1**	**-0.1**
JIO				S			**Sb**	**11 17 57.0**	**-0.1**
JYS	**Shirataka**	**0.63**	**231**	P			**Pb**	**11 17 49.8**	**-0.7**
JYS				S			**Sg**	**11 17 58.0**	**+0.3**
JMM	**Marumori**	**0.76**	**173**	⇑P			**Pb**	**11 17 52.4**	**-0.3**
JMM				S			**Sb**	**11 18 02.9**	**-0.2**
JYA	**Atsumi**	**0.76**	**268**	⇓P			**Pg**	**11 17 51.7**	**-0.4**
JYA				S			**Sg**	**11 18 01.5**	**-0.5**
JRG	**Rokugo**	**0.78**	**357**	⇑P			**Pb**	**11 17 52.7**	**-0.5**
JRG				*e*S			**Sb**	**11 18 03.6**	**-0.3**
JOM	**Ohasama**	**0.98**	**29**	P			**Pg**	**11 17 56.1**	**-0.1**
JOM				S			**Sb**	**11 18 09.6**	**0.0**
MAT	**Matsushiro**	**2.86**	**224**	P			**Pn**	**11 18 24.3**	**+1.1**
MAT				S			**Sb**	**11 19 04.2**	**+0.6**
MJAR	**Matsushiro Arr**	**2.86**	**224**	P			**Pn**	**11 18 24.9**	**+1.7**
	1.4nm,0.3s,baz=68,slow=14,SNR=21								
ASAJ	**Asahikawa**	**5.68**	**14**	P			**Pn**	**11 19 03.2**	**+1.3**
	0.4nm,0.3s,baz=248,slow=12,SNR=5.6								
USRK	**Ussuriysk Ar.**	**8.59**	**313**	P			**Pn**	**11 19 42.2**	**+0.4**
	0.5nm,0.3s,baz=119,slow=15,SNR=9.1								
KSRS	**Korea Array**	**10.13**	**267**	P			**Pn**	**11 20 05.2**	**+2.1**
	0.3nm,0.3s,baz=76,slow=14,SNR=4.3								
SEY	**Seymchan**	**25.36**	**13**	P			**P**	**11 23 05.6**	**+1.1**
	1.1nm,0.5s,baz=207,slow=7.7,SNR=7.1								
ILAR	**Eielson Array**	**48.48**	**33**	P			**P**	**11 26 19.9**	**-0.1**
	0.6nm,0.9s,baz=262,slow=6.6,SNR=6.0								
WRA	**Warramunga Arr**	**58.55**	**187**	P			**P**	**11 27 33.6**	**-0.7**
	0.6nm,0.7s,baz=3.2,slow=7.2,SNR=9.2								
ASAR	**Alice Springs**	**62.28**	**187**	P			**P**	**11 27 59.3**	**-0.5**
	1.0nm,1.0s,baz=2.7,slow=5.8,SNR=4.6								
FINES	**FINESS Array B**	**67.15**	**332**	P			**P**	**11 28 29.8**	**-1.4**
	1.5nm,0.7s,baz=31,slow=4.4,SNR=3.8								
NOA	**NORSAR Array B**	**72.50**	**337**	P			**P**	**11 29 03.6**	**-0.6**
	0.6nm,0.7s,baz=38,slow=5.9,SNR=3.8								

IDC 24 11:18:51.4±999.0,44.°98N×62.°84E,h0km,Error ellipse: s-maj=788.3km s-min=231.6km az=36.0,Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**16.81**	**50**	*i*				**12 56 50.0**	
	baz=249,slow=325,SNR=2.7								
I45RU	**USSURIYSK INFR**	**47.84**	**65**	*i*				16 14 30.0	
	baz=290,slow=324,SNR=1.1								
I18DK	**QAANAAQ INFRAS**	**54.29**	**349**	*i*				16 51 20.0	
	baz=40,slow=318,SNR=1.2								
I44RU	**PETROPAVLOVSK**	**58.28**	**45**	*i*				17 25 40.0	
	baz=303,slow=337,SNR=0.4								

MEX 24 11:20:55.6±1.0,31.°87N×114.°91W,h5km,MD3.6,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.59**	**335**	*e*P			Pg	11 20 56.4	-10
MBIG				*i* S			Sg	11 21 05.7	-8.8
CBX	**Cerro Bola**	**1.55**	**287**	*e*P			Pn	11 21 19.4	-4.7
CBX				*e*S			Sn	11 21 39.5	-5.3

*KLM **24** 11:28:26.7, 1.°44N×121.°93E,h354km,mb4.4,ML4.4, MS5.7*
*DJA **24** 11:28:36.4±0.4, 1.°N±3.'×12.°1E±.°,h18km±5km,M4.9/54, mb4.9/54,mB5.4/22,MLv5.0/23,Mw(mB)4.8/22*
*NEIC **24** 11:28:38.0±1.4, 0.°82N×120.°60E,h15km±9km,mb4.5/12, Error ellipse: s-maj=9.6km s-min=6.6km az=49.0*
*BJI **24** 11:28:37.7, 0.°60N×120.°62E,h27km,mB4.8/18,mb4.6/32, Ms4.2/7,Ms7 3.9/7*
*ISCJB **24** 11:28:38.4±0.2, 0.°74N±0.°02×120.°50E±0.°02,h32km, mb4.3/30,MS3.5/10,Error ellipse: s-maj=3.5km s-min=3.2km az=135.4*
*IDC **24** 11:28:41.6±4.9, 0.°65N×120.°57E,h45km±48km,mb3.9/15, mb1 4.1/15,mb1mx4.0/28,mbtmp4.2/15,MS3.5/10, Ms1 3.6/10,ms1mx3.3/34,Error ellipse: s-maj=24.3km s-min=13.2km az=69.0*

ISC 24 11:28:40.3±0.4, 0.°77N±0.°04×120.°53E±0.°04,h32km,n128, σ1.°63/130,mb4.3/30,MS3.5/10,3C-2D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TOLI	**Toli-Toli**	**0.44**	**37**	*e*Pg			Pb	11 28 44.0	-5.8
TOLI				*e*Sg			Sb	11 28 49.2	-7.2
MPSI	**Mapaga**	**0.77**	**236**	P			**Pn**	**11 28 52.3**	**-2.5**
MPSI				S			**Sn**	**11 29 02.8**	**-2.5**
MRSI	**Marisa**	**1.44**	**102**	P			**Pn**	**11 29 02.9**	**-1.2**
MRSI				S			**Sn**	**11 29 23.0**	**+1.1**
GTOI	**Gorontalo**	**2.48**	**93**	P			Pn	11 29 14.3	-4.2
LUWI	**Luwuk**	**2.87**	**129**	P			**Pn**	**11 29 24.4**	**+0.5**
LUWI	**Luwuk**	**2.87**	**129**	P			**Pn**	**11 29 25.9**	**+2.0**
	baz=3.0,SNR=309								
LUWI				S			**Sb**	**11 30 05.9**	**+0.3**
	baz=3.0,SNR=12								
LUWI	**Luwuk**	**2.87**	**129**	*e*Pn			**Pn**	**11 29 25.9**	**+2.0**
LUWI				*e*Sn			**Sb**	**11 30 05.5**	**-0.1

UWJI	**Ujung Watu**	**11.94**	**233**	P	**Pn**	**11 31 28.1**	**-0.3**
	85nm,1.2s						
FAKI	**Fak Fak**	**12.27**	**107**	P	**Pn**	**11 31 32.1**	**-0.9**
	36nm,0.9s						
FAKI	**Fak Fak**	**12.27**	**107**	P	**Pn**	**11 31 34.7**	**+1.7**
	baz=12,SNR=8.1						
FAKI				S	**Sn**	**11 33 43.4**	**-5.4**
	baz=12,SNR=4.0						
FAKI	**Fak Fak**	**12.27**	**107**	*e*Pn	**Pn**	**11 31 33.5**	**+0.6**
FAKI				*e*Sn	**Sn**	**11 33 50.6**	**+1.9**
PWJI	**Pagerwojo**	**12.33**	**225**	P	**Pn**	**11 31 35.9**	**+2.2**
	40nm,0.9s						
SMRI	**Semarang**	**12.72**	**232**	P	**Pn**	**11 31 38.8**	**-0.2**
	71nm,1.8s						
PCJI	**Pacitan**	**12.89**	**226**	P	**Pn**	**11 31 41.6**	**+0.2**
	47nm,1.1s						
UGM	**Wanagama**	**13.19**	**229**	P	**Pn**	**11 31 45.4**	**-0.1**
	121nm,1.8s						
TPI	**Tanjungpandan**	**13.34**	**255**	P	**Pn**	**11 31 45.3**	**-2.3**
	22nm,1.4s						
RKPI	**Ransiki, Papua**	**13.83**	**99**	P	**Pn**	**11 31 52.3**	**-1.9**
	43nm,1.1s						
KPJI	**Karang Pucung**	**14.10**	**235**	P	**Pn**	**11 31 57.3**	**-0.6**
	36nm,1.1s						
PPBI	**Pangkal Pinang**	**14.69**	**259**	P	**Pn**	**11 32 03.5**	**-2.4**
	16nm,1.3s,1μm						
CMJI	**Cimerak**	**14.74**	**235**	P	**Pn**	**11 32 06.0**	**-0.7**
KDU	**Kakadu**	**17.86**	**139**	P	**Pn**	**11 32 46.5**	**-0.1**
	baz=18,SNR=11						
KNRA	**Kununurra**	**18.25**	**154**	P	**P**	**11 32 51.1**	**-0.2**
	baz=18,SNR=22						
IPM	**Ipoh**	**19.83**	**281**	*e*Pn	**Pn**	**11 33 10.8**	**+0.5**
	16nm,1.1s						
QIZ	**Qiongzhong**	**20.96**	**331**	P	**P**	**11 33 20.8**	**+0.1**
QIZ				S	Sn	11 37 15.9	-3.6
QIZ				PMZ			
	19nm,1.8s						
PSI	**Prapat**	**21.69**	**276**	P	**P**	**11 33 30.5**	**+1.7**
	5.3nm,0.8s,baz=83,slow=4.2,SNR=5.9						
PSI				LR	LR	11 41 48.6	
	comp=Z,150nm,20.8s,baz=112,slow=36						
GSI	**Gunungsitoli**	**22.96**	**272**	*e*P	**P**	**11 33 42.1**	**-0.1**
	24nm,0.8s						
KHON	**Khomkaen**	**23.32**	**312**	P	**P**	**11 33 47.4**	**+1.6**
	9.3nm,1.0s						
CHAI	**Chaiyaphum**	**23.68**	**310**	P	**P**	**11 33 49.7**	**+0.4**
	6.5nm,0.8s						
WRAB	**Tennant Creek**	**24.64**	**147**	*e*P	**P**	**11 33 56.5**	**-1.6**
	30nm,1.0s						
WRA	**Warramunga Arr**	**24.64**	**147**	P	**P**	**11 33 56.5**	**-1.6**
	21nm,1.0s,baz=335,slow=10.0,SNR=96						
WB2	**Warramunga Arr**	**24.64**	**147**	*e*P	**P**	**11 33 56.8**	**-1.4**
PBKT	**Sadao Pong**	**24.86**	**310**	P	**P**	**11 34 01.9**	**+1.8**
	8.2nm,1.1s						
LOEI	**Loei**	**25.22**	**312**	P	**P**	**11 34 01.9**	**-1.5**
	14nm,1.0s						
WRKA	**Warakurna**	**26.73**	**164**	P	**P**	**11 34 16.1**	**-1.0**
	baz=27,SNR=7.2						
MEEK	**Meekatharra**	**27.31**	**184**	P	**P**	**11 34 24.6**	**+2.4**
	baz=28,SNR=3.5						
CMAR	**Chiang Mai Arr**	**27.54**	**311**	P	**P**	**11 34 24.1**	**-0.3**
	0.5nm,0.3s,baz=138,slow=8.0,SNR=5.0						
CMAR				PcP	**PcP**	**11 37 43.0**	**+0.9**
	1.1nm,0.7s,baz=155,slow=2.4,SNR=5.1						
CMAR				LR	LR	11 47 28.3	
	comp=Z,120nm,18.2s,baz=142,slow=41						
AS31	**Alice Springs**	**27.55**	**153**	*e*P	**P**	**11 34 23.7**	**-0.7**
ASAR	**Alice Springs**	**27.55**	**153**	P	**P**	**11 34 23.5**	**-0.9**
	2.9nm,0.8s,baz=326,slow=7.5,SNR=29						
ASAR				LR	LR	11 46 18.1	
	comp=Z,164nm,19.6s,baz=315,slow=38						
QIS	**Mount Isa**	**28.25**	**140**	P	P	11 34 34.2	+3.5
	baz=28,SNR=3.6						
KMI	**Kunming**	**29.69**	**326**	P	P	11 34 48.3	+4.6
KMI				PMZ			
	6.0nm,0.8s						
KMI				LN			
	100nm,22.4s						
KMI				LE			
	110nm,24.6s						
KMI				LZ			
	120nm,27.6s						
NJ2	**Nanjing**	**31.15**	**357**	*e*P	**P**	**11 34 55.8**	**-0.5**
NJ2				PMZ			
	40nm,0.7s						
CD2	**Chengdu**	**33.94**	**334**	P	P	11 35 23.6	+2.9
CD2				pP	pP	11 35 28.0	-2.1
CD2				sP	sP	11 35 30.6	-3.4
CD2				S	**S**	**11 40 47.5**	**+3.9**
CD2				SS	**SnSn**	**11 42 54.0**	**+2.6**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	100nm,5.2s						
XAN	**Xi'an**	**34.84**	**343**	P	P	11 35 32.3	+3.8
XAN				PMZ			
	2.0nm,0.9s						
KSAR	**Wonju Array Be**	**37.12**	**10**	P	**P**	**11 35 49.5**	**+1.6**
KSRS	**Korea Array**	**37.13**	**10**	P	**P**	**11 35 49.5**	**+1.4**
	2.3nm,0.7s,baz=189,slow=8.7,SNR=12						
KSRS				LR	LR	11 51 09.2	
	comp=Z,50nm,20.6s,baz=205,slow=36						
STKA	**Stephens Creek**	**38.11**	**150**	P	**P**	**11 35 55.7**	**-0.7**
	7.7nm,0.7s,baz=312,slow=9.3,SNR=6.9						
STKA				LR	LR	11 51 45.1	
	comp=Z,111nm,19.7s,baz=218,slow=36						
STKA	**Stephens Creek**	**38.11**	**150**	P	**P**	**11 35 56.0**	**-0.4**
	baz=38,SNR=8.4						
LZH	**Lanzhou**	**38.40**	**338**	*e*P	**P**	**11 35 58.8**	**-0.2**
LZH				PMZ			
	12nm,1.0s						
MJAR	**Matsushiro Arr**	**39.18**	**23**	P	**P**	**11 36 05.5**	**+0.1**
	3.5nm,0.8s,baz=196,slow=9.7,SNR=10						
HHC	**Hu-ho-hao-te**	**40.72**	**350**	*e*P	**P**	**11 36 19.8**	**+1.7**
HHC				PP	**PnPn**	**11 37 57.3**	**+0.7**
HHC				S	**S**	**11 42 29.3**	**+2.8**
HHC				SS	**SS**	**11 45 24.8**	**-3.2**
HHC				PMZ			
	7.0nm,0.9s						
HHC				PMZ			
	60nm,7.4s						
HHC				LN			
	110nm,17.3s						
HHC				LE			
	88nm,16.7s						
HHC				LZ			
	56nm,18.5s						
GTA	**Gaotai**	**42.86**	**336**	*e*P	**P**	**11 36 38.3**	**+2.5**
GTA				pP	**pP**	**11 36 42.6**	**-2.7**
GTA				sP	**sP**	**11 36 45.3**	**-3.8**
GTA				PMZ			
	4.0nm,0.9s						
CN2	**Changchun**	**43.07**	**5**	*e*P	**P**	**11 36 34.3**	**-2.9**
CN2				PMZ			
	10.0nm,0.6s						
MDJ	**Mudanjiang**	**44.39**	**9**	P	P	11 36 50.8	+3.0
MDJ				PMZ			
	12nm,1.2s						
MDJ				PMZ			
	110nm,6.2s						
USRK	**Ussuriysk Ar.**	**44.43**	**12**	P	**P**	**11 36 49.1**	**+1.0**
	3.7nm,0.7s,baz=194,slow=6.9,SNR=8.3						
HYB	**Hyderabad**	**44.47**	**294**	*i* P	**P**	**11 36 51.0**	**+2.1**
ASAJ	**Asahikawa**	**47.41**	**22**	*e*P	**P**	**11 37 12.8**	**+1.1**
	2.4nm,0.8s						
ULN	**Ulaanbaatar**	**48.35**	**348**	*e*P	**P**	**11 37 18.1**	**-0.9**
	11nm,1.2s						
SONM	**Songino Array**	**48.46**	**347**	P	**P**	**11 37 21.1**	**+1.3**
	3.4nm,1.0s,baz=165,slow=8.2,SNR=13						
WMQ	**Urumqi**	**51.88**	**330**	*e*P	**P**	**11 37 44.3**	**-1.5**
WMQ				pP	**pP**	**11 37 52.0**	**-3.5**
WMQ				PMZ			
	8.0nm,0.6s						
WMQ				PMZ			
	77nm,7.2s						
WMQ				LZ			
	130nm,22.8s						
KSH	**Kashi**	**55.97**	**319**	*e*P	**P**	**11 38 17.8**	**+1.9**
KSH				*e*pP	**pP**	**11 38 22.5**	**-3.2**
KSH				*e*PP	**PP**	**11 40 23.9**	**+2.9**
KSH				S	**S**	**11 46 02.5**	**+0.4**
KSH				ScS	**ScS**	**11 48 03.0**	**-0.1**
KSH				SS	**SS**	**11 49 48.3**	**-0.3**
KSH				PMZ			
	4.0nm,0.6s						
KSH				PMZ			
	46nm,4.6s						
KSH				LN			
	450nm,15.5s						
KSH				LE			
	280nm,14.2s						
KSH				LZ			
	150nm,5.0s						
MKAR	**Makanchi Array**	**56.68**	**329**	P	**P**	**11 38 21.7**	**+1.0**
	1.9nm,0.7s,baz=152,slow=5.5,SNR=16						
MKAR				LR	LR	12 04 21.8	
	comp=Z,28nm,19.6s,baz=136,slow=38						
TKM2	**Tokmak 2**	**58.06**	**322**	*e*P	**P**	**11 38 30.5**	**-0.2**
	4.2nm,0.9s						
AAK	**Ala-Archa**	**58.58**	**322**	*e*P	**P**	**11 38 34.3**	**0.0**
	2.5nm,0.6s						
EKS2	**Erkin-Say**	**59.05**	**321**	*e*P	P	11 38 41.2	+3.7
PETK	**Petropavlovsk-**	**60.59**	**25**	LR	LR	12 03 33.4	
	comp=Z,35nm,21.6s,baz=236,slow=34						
KURK	**Kurchatov**	**61.09**	**331**	*e*P	**P**	**11 38 51.8**	**+0.6**
	6.4nm,0.7s						
KKAR	**Karatay Array**	**61.34**	**320**	*e*P	**P**	**11 38 53.9**	**+0.8**
	0.8nm,0.6s						
IMYA	**Miami**	**66.03**	**310**	*e*P	**P**	**11 39 24.6**	**+0.2**
ABKAR	**Akbulak array**	**70.62**	**323**	*e*P	**P**	**11 39 52.7**	**+0.1**
	1.6nm,0.6s						
TIXI	**Tiksi**	**70.97**	**3**	*e*P	**P**	**11 39 55.0**	**+0.8**
	3.1nm,1.0s						
ARU	**Arti**	**74.21**	**329**	*e*P	**P**	**11 40 13.9**	**+0.1**
	15nm,1.1s						
MAW	**Mawson**	**78.89**	**199**	P	P	11 40 49.8	+10
	baz=79,SNR=12						
VNDA	**Vanda**	**81.36**	**172**	P	**P**	**11 40 51.8**	**-1.4**
	1.5nm,0.8s,baz=307,slow=2.9,SNR=5.0						
BRTR	**Keskin Array B**	**87.12**	**310**	P	**P**	**11 41 23.1**	**-0.4**
	0.9nm,0.8s,baz=145,slow=5.3,SNR=4.5						
AKASG	**Malin Array Be**	**90.24**	**321**	P	**P**	**11 41 36.3**	**-1.5**
	0.2nm,0.4s,baz=74,slow=5.2,SNR=5.7						
AKASG				LR	LR	12 25 43.3	
	comp=Z,21nm,21.3s,baz=285,slow=38						
ILAR	**Eielson Array**	**90.41**	**25**	P	**P**	**11 41 37.9**	**-0.5**
	0.2nm,0.7s,baz=178,slow=2.6,SNR=2.7						
FINES	**FINESS Array B**	**91.47**	**331**	P	**P**	**11 41 42.4**	**-0.8**
	2.2nm,0.8s,baz=191,slow=1.4,SNR=2.5						
FINES				LR	LR	12 25 36.4	
	comp=Z,45nm,18.3s,baz=48,slow=37						
NOA	**NORSAR Array B**	**98.59**	**332**	LR	LR	12 29 27.7	
	comp=Z,20nm,21.6s,baz=85,slow=37						
TORD	**Torodi Ar. Bea**	**117.83**	**285**	PKP	**PKPdf**	**11 47 26.0**	**+1.4**
	0.7nm,1.0s,baz=53,slow=1.2,SNR=2.8						

*ISCJB **24** 11:43:02.6±0.4,24˚.60N±0˚.03×121˚.83E±0˚.02,h70km±4km, Error ellipse: s-maj=4.6km s-min=2.6km az=158.5*
*JMA **24** 11:43:02.3±0.2,24˚.54N×121˚.78E,h66km±3km,M3.1*
*TAP **24** 11:43:02.8,24˚.56N×121˚.79E,h65km,ML3.8,B*

ISC 24 11:43:03.3±1.2,24˚.59N±0˚.03×121˚.82E±0˚.02,h66km±6km, n64,σ0s87/105,15C-7D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.04**	**53**	⇓*i*P		**Pn**	**11 43 13.0**	**0.0**
	baz=52							
TWC				*i* S		**Sn**	**11 43 20.4**	**+0.3**
	baz=52							
ENA	**Nanau**	**0.17**	**204**	⇓*i*P		**Pn**	**11 43 13.1**	**-0.3**
	baz=194							
ENA				*e*S		**Sn**	**11 43 20.8**	**+0.1**
	baz=194							
ILA	**Ilan**	**0.19**	**340**	⇓*i*P		**Pn**	**11 43 13.9**	**+0.5**
	baz=343							
ILA				*i* S		**Sn**	**11 43 22.7**	**+1.9**
	baz=343							
TWE	**Neicheng**	**0.19**	**314**	⇓*i*P		**Pn**	**11 43 13.5**	**0.0**
	baz=323							
TWE				S		**Sn**	**11 43 21.2**	**+0.4**
	baz=323							
ENTT	**Nioudou**	**0.23**	**283**	⇑*i*P		**Pn**	**11 43 13.6**	**-0.1**
	baz=293							
ENTT				S		**Sn**	**11 43 21.2**	**-0.1**
	baz=293							
EHP	**Heping Village**	**0.28**	**194**	*e*P		**Pn**	**11 43 14.5**	**+0.4**
	baz=193							
NSK	**Sanguang**	**0.43**	**282**	⇑*i*P		**Pn**	**11 43 14.7**	**-0.5**
	baz=298							
NSK				*i* S		**Sn**	**11 43 22.9**	**-1.0**
	baz=298							
NNS	**Nan Shan**	**0.43**	**250**	⇑*i*P		**Pn**	**11 43 15.1**	**-0.2**
	baz=252							
NNS				S		**Sn**	**11 43 23.4**	**-0.7**
	baz=252							
TWA	**Mucha**	**0.45**	**331**	⇑*i*P		**Pn**	**11 43 15.3**	**0.0**
	baz=327							
TWA				S		**Sn**	**11 43 23.9**	**-0.2**
	baz=327							
TWB1	**Santiao Chiao**	**0.45**	**20**	⇓*i*P		**Pn**	**11 43 15.5**	**+0.2**
	baz=33							
TWB1				S		**Sn**	**11 43 24.3**	**+0.3**
	baz=33							
NWF	**Wu-fen Shan**	**0.48**	**356**	⇓P		**Pn**	**11 43 16.1**	**+0.3**
	baz=352							
NWF				S		**Sn**	**11 43 25.3**	**+0.5**
	baz=352							
TAP1	**Taipei**	**0.52**	**329**	*e*P		**Pn**	**11 43 15.7**	**-0.4**
	baz=325							
TAP1				*e*S		**Sn**	**11 43 25.0**	**-0.3**
	baz=325							
TAP	**Taipei**	**0.53**	**328**	*e*P		**Pn**	**11 43 15.6**	**-0.5**
	baz=325							
TAP				*e*S		**Sn**	**11 43 25.3**	**-0.2**
	baz=325							
TWD	**Chiawan**	**0.55**	**202**	P		**Pn**	**11 43 15.2**	**-1.1**
	baz=209							
TWD				*e*S		**Sn**	**11 43 24.3**	**-1.4**
	baz=209							
TWS1	**Kuangyinshan**	**0.63**	**325**	⇑*i*P		**Pn**	**11 43 17.1**	**0.0**
	baz=322							
TWS1				*i* S		**Sn**	**11 43 27.9**	**+0.6**
	baz=322							
HWA	**Hwalien**	**0.64**	**198**	*e*P		**Pn**	**11 43 16.4**	**-0.9**
	baz=206							
WHF	**Hehuan Shan**	**0.67**	**229**	⇑P		**Pn**	**11 43 17.5**	**-0.5**
	baz=224							
TWT	**Tachien**	**0.67**	**240**	⇑*i*P		**Pn**	**11 43 18.1**	**+0.2**
	baz=236							
TWT				*i* S		**Sn**	**11 43 28.1**	**-0.4**
	baz=236							
NCU	**National Centr**	**0.69**	**304**	P		**Pn**	**11 43 17.3**	**-0.5**
	baz=307							
NCU				S		**Sn**	**11 43 28.4**	**-0.1**
	baz=307							
TWY	**Chenhua**	**0.71**	**344**	⇑*i*P		**Pn**	**11 43 18.4**	**+0.3**
	baz=338							
TWY				*e*S		**Sn**	**11 43 29.8**	**+0.8**
	baz=338							
NSTT	**Nanjuang**	**0.74**	**273**	⇑*i*P		**Pn**	**11 43 18.0**	**-0.4**
	baz=286							
NSTT				*e*S		**Sn**	**11 43 29.1**	**-0.6**
	baz=286							
ESF	**Shoufeng Towns**	**0.77**	**202**	*e*P		**Pn**	**11 43 18.4**	**-0.4**
	baz=207							
HSN	**Hsinchu**	**0.80**	**286**	*e*P		**Pn**	**11 43 18.6**	**-0.6**
	baz=291							
HSN				*e*S		**Sn**	**11 43 30.0**	**-0.8**
	baz=291							
ESL	**Shilin**	**0.85**	**205**	*e*P		**Pn**	**11 43 18.0**	**-1.8**
	baz=203							
NSY	**Sanyi**	**0.98**	**260**	⇑*e*P		**Pn**	**11 43 21.4**	**0.0**
	baz=262							
NSY				*e*S		**Sn**	**11 43 34.9**	**+0.1**
	baz=262							
TWQ1	**Liyutan**	**0.98**	**256**	⇑*i*P		**Pn**	**11 43 21.2**	**-0.2**
	baz=257							
JYNG	**Yonagunijimaku**	**1.04**	**97**	P		**Pn**	**11 43 21.8**	**-0.3**
JYNG				*e*S		**Sn**	**11 43 35.3**	**-0.7**
WDT	**Danda**	**1.04**	**217**	⇑*i*P		**Pn**	**11 43 22.0**	**-0.4**
	baz=210							
WDT				*i* S		**Sn**	**11 43 35.8**	**-0.8**
	baz=210							
PCYT	**Pengchaiyu**	**1.06**	**12**	*e*P		**Pn**	**11 43 21.4**	**-1.0**
	baz=15							
SMLT	**Sun Moon Lake**	**1.09**	**230**	⇑P		**Pn**	**11 43 23.3**	**+0.4**
	baz=225							
SMLT				*e*S		**Sn**	**11 43 39.5**	**+1.9**
	baz=225							
YOJ	**Yonaguni jima**	**1.09**	**96**	P		**Pn**	**11 43 22.5**	**-0.3**
YOJ				*e*S		**Sn**	**11 43 37.0**	**-0.3**
TYC	**Yuchr**	**1.11**	**232**	⇑*i*P		**Pn**	**11 43 23.1**	**+0.1**
	baz=228							
TYC				S		**Sn**	**11 43 38.5**	**+0.7**
	baz=228							
TCU	**Taichung**	**1.13**	**247**	*e*P		**Pn**	**11 43 23.0**	**-0.3**
	baz=248							
EHY	**Hungye**	**1.17**	**203**	*e*P		**Pn**	**11 43 22.0**	**-1.8**
	baz=201							
WNT	**Mingjian**	**1.25**	**236**	*e*P		**Pn**	**11 43 24.8**	**-0.1**
	baz=248							
WNT				*e*S		**Sn**	**11 43 41.6**	**+0.5**
	baz=248							
TWF1	**Yuli**	**1.32**	**201**	*e*P		**Pn**	**11 43 23.5**	**-2.3**
	baz=199							
YUS	**Yu-Shan**	**1.35**	**216**	*e*P		**Pn**	**11 43 26.5**	**-0.1**
	baz=208							
ALS	**Alishan**	**1.42**	**221**	⇑P		**Pn**	**11 43 28.0**	**+0.6**
	baz=232							
ALS				*e*S		**Sn**	**11 43 46.4**	**+1.0**
	baz=232							
CHN5	**Tsauling**	**1.44**	**227**	*e*P		**Pn**	**11 43 27.5**	**+0.1**
	baz=227							
WGK	**Gukeng**	**1.46**	**232**	⇓*i*P		**Pn**	**11 43 28.0**	**+0.4**
	baz=245							
WGK				*e*S		**Sn**	**11 43 46.9**	**+1.1**
	baz=245							
CHKT	**Chengkung**	**1.54**	**196**	*e*P		**Pn**	**11 43 28.1**	**-0.6**
	baz=185							
ELDTW	**Lidau**	**1.57**	**208**	*e*P		**Pn**	**11 43 28.0**	**-1.3**
	baz=200							
WTCT	**Ta-ch'eng**	**1.58**	**243**	*e*P		**Pn**	**11 43 28.7**	**-0.5**
	baz=252							
WTCT				*e*S		**Sn**	**11 43 48.1**	**-0.6**
	baz=252							
CHN4	**Tsaushan**	**1.67**	**223**	*e*P		**Pn**	**11 43 30.8**	**+0.4**
	baz=224							
CHN4				*e*S		**Sn**	**11 43 52.8**	**+1.9**
	baz=224							
CHY	**Chiayi**	**1.67**	**230**	*e*P		**Pn**	**11 43 30.3**	**-0.2**
	baz=240							
STYT	**Tauyuan**	**1.72**	**215**	*e*P		**Pn**	**11 43 31.8**	**+0.6**
	baz=206							
STYT				*e*S		**Sn**	**11 43 55.0**	**+2.8**
	baz=206							
WTP	**Ta-pu**	**1.73**	**220**	*e*P		**Pn**	**11 43 31.7**	**+0.3**
	baz=232							
WSF	**Szhu**	**1.74**	**237**	*e*P		**Pn**	**11 43 30.8**	**-0.5**
	baz=239							
WSF				*e*S		**Sn**	**11 43 52.4**	**-0.1**
	baz=239							
IRIF	**Iriomote-Funau**	**1.76**	**98**	P		**Pn**	**11 43 31.2**	**-0.4**
IRIF				*e*S		**Sn**	**11 43 52.2**	**-0.9**
TWK	**Hsinying**	**1.79**	**223**	*e*P		**Pn**	**11 43 32.9**	**+0.7**
	baz=237							
TWK				*e*S		**Sn**	**11 43 56.1**	**+2.1**
	baz=237							
CHN1	**Nanshi**	**1.83**	**220**	*e*P		**Pn**	**11 43 32.8**	**+0.2**
	baz=233							
SGST	**Jiashian**	**1.88**	**217**	*e*P		**Pn**	**11 43 34.0**	**+0.8**
	baz=230							
SGST				*e*S		**Sn**	**11 43 56.9**	**+0.9**
	baz=230							
TWG	**Pinlang**	**1.89**	**201**	*e*P		**Pn**	**11 43 32.7**	**-0.7**
	baz=192							
HATJ	**Hateruma jima**	**1.89**	**106**	P		**Pn**	**11 43 33.9**	**+0.5**
HATJ				*e*S		**Sn**	**11 43 56.8**	**+0.6**
JKRS	**Kuro-shima**	**2.03**	**99**	P		**Pn**	**11 43 35.4**	**+0.2**
JKRS				*e*S		**Sn**	**11 43 59.5**	**-0.1**
JIJ	**Ishigaki jima**	**2.13**	**96**	P		**Pn**	**11 43 36.3**	**-0.3**
JIJ				*e*S		**Sn**	**11 44 00.7**	**-1.4**
SSD	**Sandimen**	**2.13**	**211**	*e*P		**Pn**	**11 43 37.7**	**+1.0**
	baz=210							
ECL	**Taimali**	**2.13**	**202**	*e*P		**Pn**	**11 43 37.8**	**+1.1**
	baz=193							
JISG	**Ishigakijimahi**	**2.27**	**90**	P		**Pn**	**11 43 38.2**	**-0.3**
JISG				*e*S		**Sn**	**11 44 05.1**	**-0.3**
PNG	**Penghu**	**2.30**	**244**	*e*P		**Pn**	**11 43 37.5**	**-1.5**
	baz=245							
PNG				*e*S		**Sn**	**11 44 03.4**	**-2.9**
	baz=245							
EAST	**Anshuo**	**2.37**	**202**	*e*P		**Pn**	**11 43 40.1**	**+0.2**
	baz=194							
JTJ	**Tarama**	**2.63**	**88**	P		**Pn**	**11 43 43.9**	**+0.5**
JTJ				*e*S		**Sn**	**11 44 14.8**	**+0.7**
JIRB	**Irabujima**	**3.06**	**85**	P		**Pn**	**11 43 50.0**	**+0.7**
KNM	**Kinmen**	**3.09**	**268**	*e*P		**Pn**	**11 43 49.7**	**0.0**
	baz=268							

*ISCJB **24** 11:52:29.6±0.8, 14˚.2S±0˚.2×171˚.5E±0˚.1,h600km,mb3.8/8, Error ellipse: s-maj=26.2km s-min=13.5km az=145.5*
*IDC **24** 11:52:32.1±2.3, 14˚.23S×171˚.40E,h620km±27km,mb3.2/8, mb1 3.4/9,mb1mx3.1/29,mbtmp4.2/9,Error ellipse: s-maj=28.4km s-min=19.2km az=143.0*

ISC 24 11:52:30.7±0.9, 14˚.1S±0˚.2×171˚.5E±0˚.2,h600km,n18, σ0s87/19,mb3.9/8,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.22**	**210**	P		**P**	**11 54 43.2**	**+1.4**
	0.3nm,0.3s,baz=112,slow=19,SNR=4.3							
CTA	**Charters Tower**	**24.80**	**253**	P		**P**	**11 57 06.9**	**-0.4**
	1.8nm,0.5s,baz=86,slow=11,SNR=4.0							
COEN	**Coen**	**27.45**	**267**	P		**P**	**11 57 31.5**	**+0.9**
	baz=28,SNR=4.1							
QLP	**Quilpie**	**28.31**	**240**	P		**P**	**11 57 37.9**	**0.0**
	baz=28,SNR=8.2							
QIS	**Mount Isa**	**31.04**	**254**	P		**P**	**11 58 01.9**	**+0.4**
	baz=31,SNR=5.5							
STKA	**Stephens Creek**	**32.52**	**232**	P		**P**	**11 58 13.4**	**-0.5**
	4.4nm,0.5s,baz=65,slow=8.6,SNR=24							
STKA	**Stephens Creek**	**32.52**	**232**	P		**P**	**11 58 14.2**	**+0.4**
	baz=32,SNR=19							
WRA	**Warramunga Arr**	**35.91**	**256**	P		**P**	**11 58 41.7**	**-0.6**
	2.2nm,0.3s,baz=81,slow=6.1,SNR=89							
ASAR	**Alice Springs**	**36.69**	**249**	P		**P**	**11 58 48.2**	**-0.4**
	6.3nm,0.4s,baz=75,slow=9.4,SNR=83							
ASAR				ScP		**ScP**	**12 03 42.7**	**-2.6**
	0.4nm,0.7s,baz=88,slow=3.9,SNR=6.0							
BBOO	**Buckleboo**	**37.18**	**234**	P		**P**	**11 58 52.6**	**+0.1**
	baz=37,SNR=15							
KDU	**Kakadu**	**37.93**	**267**	P		**P**	**11 58 59.0**	**+0.1**
	baz=38,SNR=11							
KNRA	**Kununurra**	**41.25**	**262**	P		**P**	**11 59 25.1**	**-0.2**
	baz=42,SNR=7.4							
KNRA				S		S	12 05 14.2	+17
	baz=42,SNR=6.4							
WRKA	**Warakurna**	**41.94**	**248**	P		**P**	**11 59 30.7**	**+0.1**
	baz=42,SNR=17							
MEEK	**Meekatharra**	**50.76**	**247**	P		**P**	**12 00 36.8**	**-0.3**
	baz=51,SNR=4.6							
VNDA	**Vanda**	**63.58**	**182**	P		**P**	**12 02 02.4**	**-

COA	**Coachella**	**0.71**	**9**	⇓*iP*	**Pg**	**12 02 58.0**	**-0.8**
YMD	**Yuma Desert**	**0.72**	**57**	⇑*iP*	**Pg**	**12 02 58.2**	**-0.8**
RMX	**La Rumorosa**	**0.82**	**303**	⇑*eP*	**Pg**	**12 03 00.5**	**-0.5**
RMX				*eS*	**Sg**	**12 03 11.4**	**-0.4**
RMX				⇓*e*		12 03 12.6	
RMX				AML	AML	12 03 12.6	
	comp=N,2μm,0.2s						
ZAX	**El Zacaton**	**1.08**	**234**	*eP*	**Pn**	**12 03 05.8**	**-0.1**
ZAX				*eS*	**Sn**	**12 03 20.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.12**	**189**	*eP*	**Pb**	**12 03 06.5**	**0.0**
SPX	**San Pedro Mart**	**1.12**	**189**	*eP*	**Pb**	**12 03 06.5**	**0.0**
SPX				*eS*	**Sn**	**12 03 22.5**	**+0.2**
SPX				AML	AML	12 03 24.3	
	comp=E,518nm,0.5s						
SPX				⇓*e*		12 03 24.3	
SPX	**San Pedro Mart**	**1.12**	**189**	*eP*	**Pb**	**12 03 06.1**	**-0.5**
SPX				*eS*	**Sn**	**12 03 23.4**	**+1.1**
CBX	**Cerro Bola**	**1.20**	**278**	*eP*	**Pn**	**12 03 06.9**	**-0.7**
CBX				*eS*	**Sb**	**12 03 22.8**	**-0.4**
CBX	**Cerro Bola**	**1.20**	**278**	*eP*	**Pn**	**12 03 06.9**	**-0.7**
CBX				*eS*	**Sb**	**12 03 23.1**	**-0.1**
CBX				AML	AML	12 03 27.4	
	comp=E,917nm,0.4s						
CBX				*e*		12 03 27.4	
CBX	**Cerro Bola**	**1.20**	**278**	*eP*	**Pn**	**12 03 07.0**	**-0.7**
CBX				*eS*	**Sb**	**12 03 22.8**	**-0.4**
ECNX	**Esteban Cantu**	**1.24**	**247**	*eP*	**Pb**	**12 03 08.4**	**0.0**
BAR	**Barrett**	**1.30**	**294**	*ePn*	**Pn**	**12 03 08.1**	**-0.9**
BAR				*eSn*	**Sb**	**12 03 25.3**	**-0.8**
PBX	**Punta Banda**	**1.31**	**252**	*eP*	**Pn**	**12 03 09.1**	**0.0**
PFO	**Pinyon Flats O**	**1.76**	**325**	*ePn*	**Pn**	**12 03 15.9**	**+0.5**
PFO				*eSn*	**Sb**	**12 03 39.1**	**-0.2**
214A	**Organ Pipe Nat**	**2.09**	**95**	*ePn*	**Pn**	**12 03 18.0**	**-1.8**
LDFC	**Landfair**	**2.91**	**2**	*ePg*	**Pg**	**12 03 42.1**	**+1.3**
LDFC				*eSn*	**Sn**	**12 04 06.4**	**+0.3**
MWC	**Mount Wilson**	**3.12**	**312**	*ePn*	**Pb**	**12 03 40.3**	**-0.2**
MWC				*eSn*	**Sb**	**12 04 19.8**	**+1.2**
WUAZ	**Wupatki**	**4.65**	**43**	*ePn*	**Pn**	**12 03 55.5**	**+0.4**
WUAZ				*eSg*	**Sg**	**12 05 14.9**	**+0.4**
121A	**Cookes Peak, D**	**6.34**	**85**	*ePn*	**Pn**	**12 04 18.2**	**-0.1**
	comp=E,3.2nm,0.3s						

BJI ***24*** *12:11:52.2,6˚.58S×131˚.17E,h25km,mB4.8/10,mb4.6/19, Ms4.8/5,Ms7 4.8/1*

ISCJB ***24*** *12:11:55.1±0.5,6˚.32S±0˚.03×131˚.19E±0˚.04,h52km±6km, mb4.2/17,MS2.7/1,Error ellipse: s-maj=6.6km s-min=4.2km az=168.2*

NEIC ***24*** *12:11:55.4±0.3,6˚.29S×131˚.05E,h35km,mb4.5/6,Error ellipse: s-maj=8.8km s-min=5.4km az=69.0*

IDC ***24*** *12:12:01.1±0.7,6˚.21S×131˚.02E,h85km±5km,mb4.0/14, mb1 4.1/14,mb1mx3.9/30,mbtmp4.3/14,MS3.1/3, Ms1 3.1/3,ms1mx2.8/24,Error ellipse: s-maj=21.4km s-min=12.5km az=71.0*

DJA ***24*** *12:12:03.9±0.6,6˚S±5˚×13˚1E±˚,h101km±9km,M4.7/11, mb4.9/4,mB5.3/4,MLv4.6/11,Mw(mB)4.8/4*

ISC 24 12:11:56.1±0.4,**6˚26S**±0˚.04×**131˚20E**±0˚.05,**h39**km±2km, **n69,σ1s72**/96,**mb4.3**/17,**1C,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.15**	**323**	P	**Pn**	**12 12 31.2**	**+1.7**
BNDI				S	**Sn**	**12 12 55.2**	**+0.2**
FAKI	**Fak Fak**	**3.48**	**18**	P	**Pn**	**12 12 49.1**	**+1.3**
FAKI				S	**Sn**	**12 13 26.9**	**-0.9**
FAKI	**Fak Fak**	**3.48**	**18**	P	**Pn**	**12 12 49.1**	**+1.3**
	baz=3.6,SNR=132						
FAKI				S	**Sn**	**12 13 27.8**	**0.0**
	baz=3.6,SNR=10						
FAKI	**Fak Fak**	**3.48**	**18**	*ePn*	**Pn**	**12 12 49.1**	**+1.3**
FAKI				*eSn*	**Sn**	**12 13 28.1**	**+0.3**
MSAI	**Masohi**	**3.67**	**322**	P	**Pn**	**12 12 52.8**	**+2.4**
MSAI				S	**Sn**	**12 13 32.6**	**+0.1**
AAI	**Ambon**	**3.94**	**310**	P	**Pn**	**12 12 55.7**	**+1.7**
AAI	**Ambon**	**3.94**	**310**	P	**Pn**	**12 12 55.9**	**+1.9**
	baz=3.9,SNR=8.3						
NLAI	**Namlea**	**5.07**	**306**	P	**Pn**	**12 13 12.3**	**+2.7**
SWI	**Sorong**	**5.36**	**1**	P	**Pn**	**12 13 14.0**	**+0.4**
SWI				S	**Sn**	**12 14 10.3**	**-3.9**
SWI	**Sorong**	**5.36**	**1**	P	**Pn**	**12 13 15.8**	**+2.2**
	baz=5.5,SNR=20						
SWI				S	**Sn**	**12 14 10.2**	**-4.0**
	baz=5.5,SNR=11						
RKPI	**Ransiki, Papua**	**5.58**	**32**	P	**Pn**	**12 13 19.1**	**+2.5**
	296nm,0.6s,23μm4.8nm						
RKPI				S	**Sn**	**12 14 19.7**	**+0.2**
	296nm,0.6s,23μm4.8nm						
KDU	**Kakadu**	**6.51**	**169**	P	**Pn**	**12 13 31.1**	**+1.8**
	baz=6.5,SNR=421						
KDU				S	**Sn**	**12 14 41.8**	**-0.6**
	baz=6.5,SNR=6.7						
SANI	**Sanana**	**6.67**	**309**	P	**Pn**	**12 13 33.7**	**+2.1**
	71nm,0.8s,916nm0.3nm						
LBMI	**Labuha**	**6.69**	**326**	S	**Sn**	**12 14 43.3**	**-3.7**
SOEI	**Soe**	**7.69**	**243**	P	Pn	12 13 49.6	+3.9
SOEI	**Soe**	**7.69**	**243**	P	**Pn**	**12 13 48.7**	**+3.0**
	baz=7.6,SNR=12						
SOEI				S	**Sn**	**12 15 13.4**	**+1.7**
	baz=7.6,SNR=5.9						
SOEI	**Soe**	**7.69**	**243**	Pn	**Pn**	**12 13 44.4**	**-1.3**
SOEI				*eSn*	**Sn**	**12 15 13.1**	**+1.4**
SMPI	**Sarmi**	**8.61**	**61**	P	Pn	12 14 02.6	+4.4
KNRA	**Kununurra**	**9.66**	**194**	P	**Pn**	**12 14 12.7**	**+0.2**
	baz=9.6,SNR=150						
KNRA				S	Sn	12 15 53.7	-6.1
	baz=9.6,SNR=22						
FITZ	**Fitzroy Crossi**	**12.96**	**204**	*ePn*	**Pn**	**12 14 56.9**	**-0.9**
WRAB	**Tennant Creek**	**13.93**	**168**	*ePn*	**Pn**	**12 15 08.6**	**-2.5**
WRAB				*eSn*	Sn	12 17 35.2	-9.3
WRA	**Warramunga Arr**	**13.94**	**168**	P	**Pn**	**12 15 08.5**	**-2.6**
	1.9nm,0.3s,baz=347,slow=14,SNR=90						
WRA				S	Sn	12 17 36.0	-8.7
	12nm,0.3s,baz=344,slow=25,SNR=12						
WRA				LR	LR	12 21 33.9	
	comp=Z,111nm,21.3s,baz=170,slow=41						
WB2	**Warramunga Arr**	**13.94**	**168**	*ePn*	**Pn**	**12 15 08.6**	**-2.6**
WB2				*eSn*	Sn	12 17 34.8	-10
COEN	**Coen**	**14.05**	**124**	*ePn*	**Pn**	**12 15 14.1**	**+1.4**
PMG	**Port Moresby**	**16.12**	**102**	*ePn*	**P**	**12 15 42.3**	**-0.5**
	58nm,1.8s						
MANU	**Manus Island**	**16.66**	**76**	P	**P**	**12 15 49.1**	**+0.3**
	baz=17,SNR=3.2						
AS31	**Alice Springs**	**17.50**	**172**	*eP*	**Pn**	**12 15 56.7**	**-0.6**
AS31				*eS*	Sn	12 19 00.2	-11
ASAR	**Alice Springs**	**17.50**	**172**	P	**Pn**	**12 15 56.2**	**-1.1**
	2.0nm,0.3s,baz=357,slow=13,SNR=124						
ASAR				S	Sn	12 19 03.5	-7.7
	3.0nm,0.3s,baz=354,slow=27,SNR=8.2						
ASAR				LR	LR	12 23 59.2	
	comp=Z,88nm,19.4s,baz=332,slow=41						
CTA	**Charters Tower**	**20.07**	**135**	P	Pn	12 16 28.5	+0.2
	9.9nm,0.6s,baz=311,slow=12,SNR=13						
CTAO	**Charters Tower**	**20.07**	**135**	*ePn*	Pn	12 16 30.4	+2.1
	11nm,0.7s						
SBUM	**Sibu**	**20.83**	**294**	*ePn*	Pn	12 16 36.4	-0.8
QLP	**Quilpie**	**23.72**	**150**	P	**P**	**12 17 07.6**	**+2.9**
	baz=24,SNR=3.4						
STKA	**Stephens Creek**	**27.28**	**160**	P	**P**	**12 17 38.6**	**+1.7**
	1.4nm,0.3s,baz=319,slow=11,SNR=2.7						
NWAO	**Narrogin (SRO)**	**29.54**	**204**	P	**P**	**12 17 56.9**	**-0.2**
	4.9nm,0.5s,baz=31,slow=9.3,SNR=7.8						
QIZ	**Qiongzhong**	**32.78**	**320**	P	**P**	**12 18 26.9**	**+1.2**
QIZ				S	**S**	**12 23 42.6**	**+2.4**
QIZ				PMZ			
	8.0nm,1.2s						
PSI	**Prapat**	**33.46**	**285**	P	**P**	**12 18 30.8**	**-1.1**
	7.9nm,0.8s,baz=100,slow=7.8,SNR=5.0						
NJ2	**Nanjing**	**39.88**	**344**	*eP*	**P**	**12 19 25.8**	**-0.3**
NJ2				PMZ			
	20nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.19**	**308**	P	**P**	**12 19 26.7**	**-2.3**
	2.6nm,0.6s,baz=137,slow=7.5,SNR=16						
CMAR				pP	pP	12 19 48.3	+8.2
	4.3nm,0.5s,baz=134,slow=7.1,SNR=8.1						
CMAR				LR	LR	12 37 06.3	
	comp=Z,12nm,20.5s,baz=235,slow=38						
CHTO	**Chiang Mai**	**40.39**	**309**	*eP*	**P**	**12 19 29.7**	**-0.9**
	6.6nm,0.7s						
MJAR	**Matsushiro Arr**	**43.08**	**8**	P	**P**	**12 19 51.7**	**-0.7**
	1.7nm,0.8s,baz=187,slow=9.7,SNR=6.4						
MJAR				pP	pP	12 20 14.0	+10
	3.2nm,0.8s,baz=185,slow=9.9,SNR=6.0						
KSAR	**Wonju Array Be**	**43.59**	**356**	P	**P**	**12 19 56.7**	**+0.3**
KSRS	**Korea Array**	**43.60**	**356**	P	**P**	**12 19 56.7**	**+0.2**
	0.4nm,0.4s,baz=180,slow=8.4,SNR=3.8						
XAN	**Xi'an**	**45.29**	**334**	P	**P**	**12 20 08.4**	**-1.8**
XAN				pP	**pP**	**12 20 17.6**	**-3.8**
XAN				PMZ			
	3.0nm,1.0s						
CD2	**Chengdu**	**45.34**	**326**	P	**P**	**12 20 12.0**	**+1.4**
CD2				pP	**pP**	**12 20 22.8**	**+0.9**
CD2				sP	**sP**	**12 20 27.0**	**+0.5**
CD2				PP	**PP**	**12 21 59.5**	**+2.2**
CD2				PcS	**PcS**	**12 25 44.3**	**+0.4**
CD2				S	**S**	**12 26 51.0**	**+2.1**
CD2				sS	**sS**	**12 27 08.1**	**+0.6**
CD2				SS	**ScS**	**12 30 06.1**	**+1.6**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
LZH	**Lanzhou**	**49.33**	**331**	*eP*	P	12 20 48.8	+7.0
LZH				pP	pP	12 20 57.9	+4.8
LZH				sP	sP	12 21 01.3	+3.6
LZH				PMZ			
	14nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.23**	**341**	*eP*	**P**	**12 20 51.1**	**+2.7**
HHC				PP	**PP**	**12 22 47.6**	**+3.5**
HHC				S	**S**	**12 28 00.8**	**+2.7**
HHC				sS	**sS**	**12 28 17.4**	**+0.4**
HHC				SS	**SS**	**12 31 31.8**	**-0.4**
HHC				PMZ			
	19nm,0.7s						
HHC				PMZ			
	59nm,8.6s						
HHC				LN			
	82nm,17.3s						
HHC				LE			
	95nm,16.0s						
GTA	**Gaotai**	**53.92**	**330**	*eP*	**P**	**12 21 15.5**	**-0.4**
GTA				pP	**pP**	**12 21 25.6**	**-1.8**
GTA				sP	**sP**	**12 21 29.5**	**-2.5**
GTA				PcP	**PcP**	**12 22 21.6**	**+0.6**
GTA				PMZ			
	4.0nm,1.3s						
ULN	**Ulaanbaatar**	**57.95**	**341**	*eP*	**P**	**12 21 44.0**	**-0.6**
	3.3nm,0.8s						
SONM	**Songino Array**	**58.13**	**341**	P	**P**	**12 21 45.4**	**-0.5**
	1.9nm,0.7s,baz=163,slow=7.4,SNR=9.4						
SONM				pP	pP	12 22 07.6	+10
	1.5nm,0.5s,baz=162,slow=7.8,SNR=5.0						
PETK	**Petropavlovsk-**	**63.26**	**18**	P	**P**	**12 22 20.8**	**+0.2**
	0.4nm,0.4s,baz=205,slow=6.6,SNR=4.0						
WMQ	**Urumqi**	**63.44**	**326**	P	**P**	**12 22 22.8**	**+0.8**
WMQ				pP	**pP**	**12 22 34.3**	**+0.6**
WMQ				PMZ			
	20nm,0.6s						
WMQ				PMZ			
	63nm,5.4s						
MKAR	**Makanchi Array**	**68.27**	**326**	P	**P**	**12 22 52.7**	**-0.4**
	8.6nm,0.5s,baz=115,slow=7.6,SNR=163						
MKAR				pP	**PcP**	**12 23 14.6**	**-4.0**
	4.4nm,0.5s,baz=136,slow=5.0,SNR=7.6						
KSH	**Kashi**	**68.29**	**317**	*eP*	**P**	**12 22 56.0**	**+2.6**
KSH				pP	**pP**	**12 23 06.5**	**+1.3**
KSH				PP	PP	12 25 30.3	+5.7
KSH				S	**S**	**12 31 54.1**	**+2.4**
KSH				sS	**sS**	**12 32 11.0**	**-0.3**
KSH				PMZ			
	33nm,3.5s						
KSH				LN			
	190nm,8.5s						
KSH				LE			
	120nm,8.8s						
KSH				LZ			
	160nm,5.4s						
TKM2	**Tokmak 2**	**70.18**	**320**	*eP*	**P**	**12 23 04.9**	**-0.3**
	4.9nm,0.6s						
AAK	**Ala-Archa**	**70.75**	**319**	*eP*	**P**	**12 23 08.7**	**+0.1**
ZALV	**Zalesovo Beam**	**71.46**	**333**	P	**P**	**12 23 11.1**	**-1.3**
	1.4nm,0.3s,baz=122,slow=5.4,SNR=11						
ZALV				pP	**PcP**	**12 23 33.1**	**+1.4**
	1.0nm,0.4s,baz=108,slow=4.8,SNR=5.0						
KURK	**Kurchatov**	**72.52**	**328**	*eP*	**P**	**12 23 18.1**	**-0.7**
VNDA	**Vanda**	**73.03**	**173**	P	**P**	**12 23 21.8**	**+0.3**
	1.5nm,0.8s,baz=321,slow=6.5,SNR=6.9						
KKAR	**Karatay Array**	**73.58**	**318**	*eP*	**P**	**12 23 25.0**	**-0.4**
TIXI	**Tiksi**	**77.77**	**359**	*eP*	**P**	**12 23 47.5**	**-1.2**
GEYT	**Alibeck**	**80.65**	**310**	P	**P**	**12 24 04.7**	**-0.5**
	2.7nm,0.6s,baz=165,slow=6.2,SNR=4.3						
ABKAR	**Akbulak array**	**82.68**	**321**	*eP*	**P**	**12 24 14.4**	**-1.2**
	0.7nm,0.6s						
SYO	**Syowa Base**	**84.78**	**201**	⇑*eP*	**P**	**12 24 26.7**	**+0.8**
ILAR	**Eielson Array**	**92.18**	**25**	P	**P**	**12 24 59.5**	**-1.8**
	0.4nm,0.7s,baz=282,slow=4.5,SNR=6.5						
ILAR				pP	pP	12 25 22.1	+8.6
	0.7nm,0.6s,baz=273,slow=4.2,SNR=5.6						
YKA	**Yellowknife Ar**	**106.57**	**26**	PKiKP	**PKiKP**	**12 30 16.4**	**-0.2**
	0.4nm,0.4s,baz=296,slow=1.7,SNR=5.9						
GERES	**GERESS Array B**	**112.61**	**321**	PKiKP	**PKiKP**	**12 30 27.7**	**-0.8**
	0.7nm,0.7s,baz=48,slow=2.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**129.83**	**282**	PKP	**PKPdf**	**12 31 01.4**	**-0.9**
	0.7nm,0.8s,baz=107,slow=2.1,SNR=3.2						
CPUP	**Villa Florida**	**146.56**	**166**	PKPbc	**PKPbc**	**12 31 34.6**	**+0.6**
	0.5nm,0.7s,baz=310,slow=3.8,SNR=4.1						
LPAZ	**La Paz**	**150.54**	**140**	PKPbc	**PKPbc**	**12 31 46.1**	**+0.6**
	4.5nm,0.8s,baz=124,slow=1.1,SNR=14						

IDC ***24*** *12:34:26.3±2.1,24˚.46N×122˚.85E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/38,mbtmp3.4/4,MS4.1/1,Ms1 4.1/1, ms1mx2.7/19,Error ellipse: s-maj=157.5km s-min=25.3km az=65.0*

JMA ***24*** *12:34:34.4,23˚.98N×121˚.91E,h47km±1km,M3.6*

ISCJB ***24*** *12:34:35.3±0.2,24˚.03N±0˚.02×121˚.99E±0˚.02,h47km±4km, mb3.2/4,Error ellipse: s-maj=3.4km s-min=2.1km az=151.2*

TAP ***24*** *12:34:35.3,24˚.04N×121˚.93E,h46km,ML4.0,C*

ISC 24 12:34:34.6±0.9,**24˚03N**±0˚.03×**121˚98E**±0˚.02,**h44**km±7km, **n80,σ1s65**/131,**mb3.3**/4,**19C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.34**	**262**	*eP*	**Pn**	**12 34 44.4**	**+0.8**
	baz=260						
HWA				S	**Sn**	**12 34 51.4**	**+1.4**
	baz=260						
TWD	**Chiawan**	**0.35**	**279**	⇓*iP*	**Pn**	**12 34 44.1**	**+0.3**
	baz=279						
TWD				*i* S	**Sn**	**12 34 50.5**	**+0.3**
	baz=279						
EHP	**Heping Village**	**0.35**	**323**	*eP*	**Pn**	**12 34 44.6**	**+0.7**
	baz=321						
EHP				*eS*	**Sn**	**12 34 52.1**	**+1.8**
	baz=321						
ENA	**Nanau**	**0.45**	**332**	⇓*iP*	**Pn**	**12 34 45.6**	**+0.6**
	baz=330						
ENA				S	**Sn**	**12 34 53.0**	**+0.7**
	baz=330						
ESF	**Shoufeng Towns**	**0.46**	**250**	*eP*	**Pn**	**12 34 45.9**	**+0.9**
	baz=248						
ESF				*eS*	**Sn**	**12 34 53.4**	**+1.1**
	baz=248						
TEGC	**Jichi Village**	**0.51**	**232**	*eP*	**Pn**	**12 34 47.0**	**+1.3**
	baz=228						
TEGC				*eS*	**Sn**	**12 34 55.3**	**+1.8**
	baz=228						
ESL	**Shilin**	**0.54**	**247**	⇑P	**Pn**	**12 34 46.2**	**+0.1**
	baz=252						
ESL				*eS*	**Sn**	**12 34 54.5**	**+0.3**
	baz=252						
TWC	**Suao**	**0.59**	**349**	⇓*iP*	**Pn**	**12 34 47.8**	**+1.0**
TWC				S	**Sn**	**12 34 56.3**	**+0.9**
WHF	**Hehuan Shan**	**0.66**	**280**	⇑*iP*	**Pn**	**12 34 48.2**	**+0.1**
	baz=280						
WHF				S	**Sn**	**12 34 57.9**	**+0.3**
	baz=280						
NNS	**Nan Shan**	**0.69**	**307**	⇑*iP*	**Pn**	**12 34 48.5**	**+0.3**
	baz=300						
NNS				*eS*	**Sn**	**12 34 58.1**	**+0.2**
	baz=300						
ENTT	**Nioudou**	**0.72**	**329**	⇑*iP*	**Pn**	**12 34 49.1**	**+0.7**
	baz=331						
ENTT				*i* S	**Sn**	**12 34 59.5**	**+1.1**
	baz=331						
TWE	**Neicheng**	**0.75**	**338**	⇓*iP*	**Pn**	**12 34 49.6**	**+0.8**
	baz=341						
TWE				*eS*	**Sn**	**12 34 59.0**	**0.0**
	baz=341						
TWT	**Tachien**	**0.76**	**287**	⇑*iP*	**Pn**	**12 34 50.1**	**+0.8**
	baz=281						
TWT				S	**Sn**	**12 35 00.1**	**+0.4**
	baz=281						
ILA	**Ilan**	**0.77**	**344**	*eP*	**Pn**	**12 34 49.4**	**+0.4**
	baz=342						
EHY	**Hungye**	**0.79**	**229**	⇑*iP*	**Pn**	**12 34 49.4**	**0.0**
	baz=235						
WDT	**Danda**	**0.82**	**251**	⇑*iP*	**Pn**	**12 34 50.5**	**+0.5**
	baz=241						
WDT				S	**Sn**	**12 35 01.3**	**+0.1**
	baz=241						
NSK	**Sanguang**	**0.86**	**319**	⇑*iP*	**Pn**	**12 34 51.1**	**+0.7**
	baz=313						
NSK				*i* S	**Sn**	**12 35 01.8**	**-0.1**
	baz=313						
TWF1	**Yuli**	**0.92**	**223**	⇑*iP*	**Pn**	**12 34 51.2**	**+0.1**
	baz=230						
TWB1	**Santiao Chiao**	**0.98**	**1**	*eP*	**Pn**	**12 34 52.8**	**+0.8**
	baz=17						
JYNG	**Yonagunijimaku**	**0.98**	**64**	P	**Pn**	**12 34 53.2**	**+1.2**
JYNG				*eS*	**Sn**	**12 35 06.5**	**+1.8**
SMLT	**Sun Moon Lake**	**0.99**	**262**	⇑*iP*	**Pn**	**12 34 53.1**	**+0.8**
	baz=254						
TWA	**Mucha**	**1.01**	**340**	*eP*	**Pn**	**12 34 53.9**	**+1.4**
	baz=330						
TWA				*eS*	**Sn**	**12 35 06.9**	**+1.3**
	baz=330						
TYC	**Yuchr**	**1.03**	**263**	⇑*iP*	**Pn**	**12 34 53.4**	**+0.8**
	baz=255						
YOJ	**Yonaguni jima**	**1.04**	**65**	P	**Pn**	**12 34 54.0**	**+1.2**
YOJ				*eS*	**Sn**	**12 35 07.7**	**+1.5**
NWF	**Wu-fen Shan**	**1.05**	**350**	*eP*	**Pn**	**12 34 54.7**	**+1.6**
	baz=351						
NWF				*eS*	**Sn**	**12 35 08.8**	**+2.1**
	baz=351						
NSTT	**Nanjuang**	**1.07**	**304**	⇑*iP*	**Pn**	**12 34 54.9**	**+1.6**
	baz=300						
NSTT				*i* S	**Sn**	**12 35 08.2**	**+1.2**
	baz=300						
CHKT	**Chengkung**	**1.08**	**211**	*eP*	**Pn**	**12 34 53.0**	**-0.3**
	baz=200						
CHKT				*eS*	**Sn**	**12 35 05.8**	**-1.3**
	baz=200						
YUS	**Yu-Shan**	**1.08**	**241**	P	**Pn**	**12 34 54.8**	**+1.0**
	baz=232						
YUS				*eS*	**Sn**	**12 35 07.5**	**-0.3**
	baz=232						
TWQ1	**Liyutan**	**1.14**	**287**	⇑*iP*	**Pn**	**12 34 55.7**	**+1.5**
	baz=287						
TWQ1				*eS*	**Sn**	**12 35 09.9**	**+1.1**
	baz=287						
NSY	**Sanyi**	**1.17**	**290**	*eP*	**Pn**	**12 34 56.3**	**+1.6**
	baz=290						
NCU	**National Centr**	**1.18**	**323**	*eP*	**Pn**	**12 34 56.0**	**+1.3**
	baz=323						
NCU				*eS*	**Sn**	**12 35 10.9**	**+1.2**
	baz=323						
TWS1	**Kuangyinshan**	**1.18**	**335**	*eP*	**Pn**	**12 34 55.7**	**+0.9**
	baz=335						
TWS1				*eS*	**Sn**	**12 35 11.1**	**+1.4**
	baz=335						
ALS	**Alishan**	**1.19**	**245**	⇑*iP*	**Pn**	**12 34 56.3**	**+1.2**
	baz=237						
ALS				*eS*	**Sn**	**12 35 12.5**	**+2.3**
	baz=237						
WNT	**Mingjian**	**1.19**	**263**	*eP*	**Pn**	**12 34 56.8**	**+1.9**
	baz=263						
WNT				*eS*	**Sn**	**12 35 12.6**	**+2.8**
	baz=263						
TCU	**Taichung**	**1.19**	**276**	*eP*	**Pn**	**12 34 56.6**	**+1.7**
	baz=277						
TCU				*eS*	**Sn**	**12 35 11.8**	**+1.9**
	baz=277						
HSN	**Hsinchu**	**1.20**	**310**	*eP*	**Pn**	**12 34 56.3**	**+1.3**
	baz=313						
HSN				*eS*	**Sn**	**12 35 12.0**	**+1.9**
	baz=313						
ELDTW	**Lidau**	**1.21**	**227**	⇑*iP*	**Pn**	**12 34 55.3**	**0.0**
	baz=224						
CHN5	**Tsauling**	**1.26**	**250**	⇑*iP*	**Pn**	**12 34 57.5**	**+1.5**
	baz=251						
CHN5				S	**Sn**	**12 35 14.0**	**+2.3**
	baz=251						
TWY	**Chenhua**	**1.29**	**345**	*eP*	**Pn**	**12 34 56.6**	**+0.4**
	baz=346						
WGK	**Gukeng**	**1.34**	**256**	*eP*	**Pn**	**12 34 58.7**	**+1.9**
	baz=245						
WGK				*eS*	**Sn**	**12 35 16.5**	**+3.0**
	baz=245						
STYT	**Tauyuan**	**1.41**	**233**	⇑*iP*	**Pn**	**12 34 59.3**	**+1.4**
	baz=225						
STYT				*eS*	**Sn**	**12 35 17.1**	**+1.8**
	baz=225						
CHN4	**Tsaushan**	**1.43**	**242**	*eP*	**Pn**	**12 35 00.1**	**+1.9**
	baz=233						
CHN4				*eS*	**Sn**	**12 35 19.1**	**+3.3**
	baz=233						
CHN2	**Minshiung**	**1.46**	**251**	*eP*	**Pn**	**12 35 00.6**	**+2.1**
	baz=251						
CHN2				*eS*	**Sn**	**12 35 20.4**	**+3.9**
	baz=251						
TWG	**Pinlang**	**1.46**	**215**	*eP*	**Pn**	**12 34 58.2**	**-0.4**
	baz=214						
TWG				*eS*	**Sn**	**12 35 15.2**	**-1.2**
	baz=214						
WTP	**Ta-pu**	**1.47**	**238**	⇑P	**Pn**	**12 35 00.5**	**+1.8**
	baz=237						
WTP				*eS*	**Sn**	**12 35 19.6**	**+2.8**
	baz=237						
CHY	**Chiayi**	**1.52**	**250**	*eP*	**Pn**	**12 35 01.2**	**+1.9**
	baz=250						
CHY				*eS*	**Sn**	**12 35 20.6**	**+2.8**
	baz=250						
WTCT	**Ta-ch'eng**	**1.56**	**264**	*eP*	**Pn**	**12 35 01.6**	**+1.7**
	baz=278						
WTCT				*eS*	**Sn**	**12 35 21.6**	**+2.7**
	baz=278						
TWK	**Hsinying**

	baz=252								
PNG	**Penghu**	**2.26**	**259**	*e*P		**Pn**	**12 35 10.1**	**+0.5**	
	baz=259								
JTJ	**Tarama**	**2.56**	**76**	P		**Pn**	**12 35 15.2**	**+1.5**	
JTJ				*e*S		**Sn**	**12 35 46.1**	**+2.5**	
JIRB	**Irabujima**	**3.02**	**74**	P		**Pn**	**12 35 21.2**	**+1.2**	
JIRB				*e*S		**Sn**	**12 35 56.6**	**+1.6**	
JIKM	**Ikemajima**	**3.11**	**73**	P		**Pn**	**12 35 22.7**	**+1.5**	
KNM	**Kinmen**	**3.26**	**278**	*e*P		**Pn**	**12 35 24.5**	**+1.3**	
	baz=278								
JKE	**Kume jima 2**	**4.92**	**61**	P		**Pn**	**12 35 47.1**	**+1.0**	
JOW	**Kunigami**	**6.34**	**63**	P		**Pn**	**12 36 05.5**	**-0.1**	
JOKE	**Okinoerabujima**	**6.81**	**59**	P		**Pn**	**12 36 11.0**	**-1.1**	
JTK	**Tokunoshima**	**7.31**	**58**	P		**Pn**	**12 36 18.0**	**-0.9**	
JAMN	**Amaminishikomi**	**7.71**	**55**	P		**Pn**	**12 36 23.1**	**-1.3**	
JCJ	**Chichijima**	**18.49**	**76**	LR		LR	12 44 19.7		
	comp=Z,642nm,21.4s,slow=34								
SONM	**Songino Array**	**26.80**	**336**	P		**P**	**12 40 07.1**	**-3.6**	
	0.4nm,0.7s,baz=126,slow=9.1,SNR=2.4								
MKAR	**Makanchi Array**	**38.95**	**316**	P		**P**	**12 41 56.1**	**-0.3**	
	0.1nm,0.4s,baz=102,slow=7.5,SNR=3.5								
ZALV	**Zalesovo Beam**	**40.77**	**327**	P		**P**	**12 42 10.1**	**-1.3**	
	0.3nm,0.3s,baz=122,slow=5.2,SNR=2.1								
WRA	**Warramunga Arr**	**45.33**	**164**	P		**P**	**12 42 47.8**	**-0.8**	
	0.5nm,0.7s,baz=345,slow=8.6,SNR=5.6								

IDC 24 12:35:44.0±18.0, 19.64S×177.79W, h313km±201km, mb3.3/7, mb1 3.6/8, mb1mx3.3/27, mbtmp4.0/8, Error ellipse: s-maj=97.3km s-min=20.3km az=2.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.08**	**192**	P	P	12 39 44.1	-0.3
	0.4nm,0.3s,baz=107,slow=2.8,SNR=5.8						
CTA	**Charters Tower**	**33.78**	**263**	P	P	12 41 57.8	+0.4
	1.9nm,0.3s,baz=84,slow=10,SNR=13						
ASAR	**Alice Springs**	**44.91**	**256**	P	P	12 43 28.7	0.0
	2.8nm,0.7s,baz=91,slow=8.1,SNR=34						
WRA	**Warramunga Arr**	**44.92**	**261**	P	P	12 43 28.2	-0.6
	0.6nm,0.3s,baz=97,slow=6.6,SNR=80						
KDU	**Kakadu**	**48.14**	**270**	P	P	12 43 53.2	-0.3
	baz=13,SNR=3.6						
KNRA	**Kununurra**	**50.92**	**265**	P	P	12 44 13.9	-0.5
	baz=14,SNR=6.0						
FITZ	**Fitzroy Crossi**	**53.34**	**262**	P	P	12 44 32.1	0.0
	baz=16,SNR=4.9						
NVAR	**Mina Array Bea**	**80.26**	**43**	P	P	12 47 20.9	+0.2
	0.6nm,0.6s,baz=223,slow=8.6,SNR=5.2						
TXAR	**Lajitas Array**	**86.42**	**57**	P	P	12 47 52.8	+0.8
	0.3nm,0.7s,baz=224,slow=7.0,SNR=3.5						
ILAR	**Eielson Array**	**87.43**	**13**	P	P	12 47 54.6	-1.2
	0.7nm,0.8s,baz=232,slow=5.0,SNR=7.2						
PDAR	**Pinedale Array**	**88.20**	**43**	P	P	12 48 00.4	+0.1
	0.4nm,0.7s,baz=300,slow=2.0,SNR=2.6						

*ISCJB **24** 12:36:50.0±0.7, 28.87N±0.07×47.62E±0.06, h13km, mb3.7/6, Error ellipse: s-maj=11.1km s-min=5.5km az=37.5*
*IDC **24** 12:36:50.7±2.2, 29.05N×47.54E, h0km, mb3.7/6, mb1 3.6/7, mb1mx3.4/35, mbtmp3.6/7, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/34, Error ellipse: s-maj=48.0km s-min=25.4km az=155.0*
*TEH **24** 12:36:52.0, 28.84N×47.62E, h5km, ML4.1*
*CSEM **24** 12:36:53.2±0.7, 28.88N×47.78E, h10km, ML4.1, Ms4.5, Error ellipse: s-maj=25.1km s-min=8.1km az=43.0*
*ISN **24** 12:37:02.0±1.9, 29.24N×46.64E, h0km±7km, ML4.1*
ISC 24 12:36:51.6±1.0, 28.94N±0.08×47.58E±0.08, h13km, n33, σ1°44/35, mb3.8/6, 1C-2D, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSR	**Nassriya**	**2.42**	**329**	*e*PG	Pg	12 37 42.0	+4.1
NSR				*e*SG	**Sg**	**12 38 09.8**	**+0.5**
NSR	**Nassriya**	**2.42**	**329**	*e*Pg	Pg	12 37 42.0	+4.1
	SNR=90						
NSR				*e*Sg	**Sg**	**12 38 09.8**	**+0.5**
	SNR=90						
IKAZ	**Kazeroun**	**3.81**	**76**	*e*Pn	**Pn**	**12 37 50.8**	**+0.5**
IKAZ				*e*Sn	**Sn**	**12 38 34.4**	**-0.8**
IKAZ				*e*		12 39 12.9	
	comp=Z,4μm,0.4s						
IKAZ	**Kazeroun**	**3.81**	**76**	*e*Pn	**Pn**	**12 37 50.8**	**+0.5**
IKAZ				*e*Sn	**Sn**	**12 38 34.4**	**-0.8**
IBDR	**Badra**	**4.40**	**342**	*e*PN	Pb	12 38 04.2	-4.4
IBDR				*e*SN	**Sn**	**12 38 48.0**	**-1.0**
IKFM	**Kafar-mosalman**	**4.58**	**3**	*e*Pn	**Pn**	**12 38 02.8**	**+2.3**
IKFM				*e*		12 40 05.7	
	comp=Z,99nm,0.6s						
IKFM	**Kafar-mosalman**	**4.58**	**3**	*e*Pn	**Pn**	**12 38 02.8**	**+2.3**
ISRV	**Sarvestan**	**4.86**	**83**	*e*Pn	**Pn**	**12 38 05.3**	**+0.6**
ISRV				*e*		12 39 54.0	
	comp=Z,2μm,0.5s						
ISRV	**Sarvestan**	**4.86**	**83**	*e*Pn	**Pn**	**12 38 05.3**	**+0.6**
IGHG	**Ghaleghazi**	**5.45**	**351**	*e*Pn	**Pn**	**12 38 14.8**	**+2.1**
IGHG				*e*Sn	**Sn**	**12 39 14.6**	**-0.8**
IGHG	**Ghaleghazi**	**5.45**	**351**	*e*Pn	**Pn**	**12 38 14.8**	**+2.1**
IGHG				*e*Sn	**Sn**	**12 39 14.6**	**-0.8**
IZEF	**Zefreh**	**5.67**	**45**	*e*Pn	**Pn**	**12 38 16.8**	**+1.0**
IZEF				*e*		12 39 33.2	
	comp=Z,301nm,0.3s						
IZEF	**Zefreh**	**5.67**	**45**	*e*Pn	**Pn**	**12 38 16.8**	**+1.0**
IDHR	**Dehrash**	**5.84**	**350**	*e*Pn	**Pn**	**12 38 19.5**	**+1.5**
IDHR				*e*		12 39 28.5	
	comp=Z,1μm,0.2s						
IDHR				*e*		12 39 28.9	
	comp=N,3μm,0.2s						
IDHR	**Dehrash**	**5.84**	**350**	*e*Pn	**Pn**	**12 38 19.5**	**+1.5**
IKRK	**Kirkuk**	**7.01**	**338**	*e*PN	Pn	12 38 39.9	+6.0
IKRK				*e*SN	**Sn**	**12 39 49.4**	**-4.0**
ASUD	**Al Ashush, Dub**	**8.14**	**120**	P	**Pn**	**12 38 50.1**	**+0.6**
ASUD	**Al Ashush, Dub**	**8.14**	**120**	‖P	**Pn**	**12 38 50.1**	**+0.6**
BANOM	**Banah**	**8.31**	**109**	P	**Pn**	**12 38 49.5**	**-2.3**
	SNR=30						
BANOM	**Banah**	**8.31**	**109**	↑*i*P	**Pn**	**12 38 49.5**	**-2.3**
	SNR=30						
MSL	**Mosul**	**8.34**	**334**	*e*PN	Pn	12 38 56.7	+4.5
MSL				*e*SN	Sn	12 40 19.5	-6.8
HATD	**Hatta, Dubai**	**8.66**	**116**	P	**Pn**	**12 38 55.7**	**-1.0**
	SNR=12						
HATD	**Hatta, Dubai**	**8.66**	**116**	↓*i*P	**Pn**	**12 38 55.7**	**-1.0**
	SNR=12						
ASHO	**Ashiyiah**	**8.68**	**117**	P	**Pn**	**12 38 56.3**	**-0.6**
	SNR=5.9						
ASHO	**Ashiyiah**	**8.68**	**117**	*i* P	**Pn**	**12 38 56.3**	**-0.6**
	SNR=5.9						
GEYT	**Alibeck**	**12.55**	**42**	LR	LR	12 45 30.4	
	comp=N,82nm,19.1s,baz=235,slow=42						
BRTR	**Keskin Array B**	**15.74**	**317**	Pn	**P**	**12 40 35.6**	**-1.5**
	comp=N,0.1nm,0.3s,baz=104,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**22.88**	**17**	P	**P**	**12 41 54.1**	**-0.6**
	comp=N,1.1nm,0.6s,baz=206,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**25.77**	**333**	P	**P**	**12 42 22.4**	**+0.5**
	comp=N,1.2nm,0.5s,baz=135,slow=9.4,SNR=5.2						
MKAR	**Makanchi Array**	**32.35**	**47**	P	**P**	**12 43 21.8**	**+1.2**
	comp=N,0.5nm,0.6s,baz=243,slow=13,SNR=7.0						
FINES	**FINESS Array B**	**35.51**	**342**	P	**P**	**12 43 47.4**	**-0.4**
	comp=N,1.2nm,0.8s,baz=156,slow=11,SNR=5.1						
ZALV	**Zalesovo Beam**	**36.80**	**37**	P	**P**	**12 43 59.1**	**+0.2**
	comp=N,0.7nm,0.3s,baz=232,slow=9.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**45.32**	**260**	P	**P**	**12 45 10.3**	**+0.7**
	comp=N,1.0nm,0.8s,baz=56,slow=7.4,SNR=5.8						

IDC 24 12:37:27.5±1.7, 21.66S×179.91W, h0km, mb4.1/3, mb1 4.4/4, mb1mx3.8/26, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=59.8km s-min=34.4km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.74**	**188**	Pn	Pn	12 41 23.0	-0.4
	0.7nm,0.3s,baz=51,slow=0.6,SNR=7.7						
ASAR	**Alice Springs**	**42.53**	**258**	P	P	12 45 24.6	-0.6
	1.7nm,0.6s,baz=98,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**42.69**	**264**	P	P	12 45 26.8	+0.3
	2.0nm,0.3s,baz=96,slow=8.4,SNR=48						
TXAR	**Lajitas Array**	**89.18**	**58**	P	P	12 50 25.6	0.0
	0.3nm,0.6s,baz=215,slow=5.8,SNR=4.2						

IDC 24 12:39:07.8±10.0, 14.71S×167.85E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/28, mbtmp4.2/5, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=164.0km s-min=40.5km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.45**	**190**	Pn	Pn	12 40 58.5	+0.6
	3.2nm,0.3s,baz=323,slow=8.4,SNR=22						
DZM				Sn	Sn	12 42 21.9	-1.3
	0.3nm,0.3s,baz=131,slow=19,SNR=2.6						
DZM				LR	LR	12 42 55.6	
	comp=Z,81nm,18.6s,baz=31,slow=31						
RAO	**Raoul Island**	**19.56**	**140**	LR	LR	12 50 08.0	
	comp=Z,158nm,19.6s,baz=122,slow=34						
CTA	**Charters Tower**	**21.28**	**252**	P	P	12 43 57.1	+1.0
	6.1nm,0.4s,baz=88,slow=12,SNR=29						
STKA	**Stephens Creek**	**29.43**	**230**	P	P	12 45 13.8	+0.5
	1.9nm,0.3s,baz=55,slow=8.7,SNR=7.4						
WRA	**Warramunga Arr**	**32.37**	**256**	P	P	12 45 38.8	-0.6
	0.6nm,0.8s,baz=87,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**33.20**	**249**	P	P	12 45 46.0	-0.7
	1.2nm,0.4s,baz=79,slow=8.9,SNR=12						

MAN 24 12:53:09, 12.91N×120.71E, h38km, mb4.7, ML3.6, MS3.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.59**	**138**	*e*P	Pn	12 53 22.6	+1.5
SJMP				*e*S	Sn	12 53 32.4	+2.9
PGP	**Puerto Galera**	**0.64**	**22**	↑*i*P	Pn	12 53 21.4	-5.5
PGP				*i* S	Sn	12 53 21.4	-9.2
LUBP	**Lubang**	**0.94**	**331**	*e*P	Pn	12 53 26.7	+1.0
LUBP				*e*S	Sn	12 53 35.8	-2.2
OTRP	**Odiongan**	**1.39**	**113**	*e*P	Pn	12 53 33.0	+1.1

*ISCJB **24** 13:05:51.5±0.8, 20.78S±0.07×69.70W±0.2, h112km, mb3.6/5, Error ellipse: s-maj=20.4km s-min=9.1km az=9.0*
*IDC **24** 13:05:52.6±0.7, 20.81S×68.99W, h108km±6km, mb3.4/6, mb1 3.6/8, mb1mx3.5/23, mbtmp3.8/8, Error ellipse: s-maj=23.4km s-min=8.0km az=93.0*
ISC 24 13:05:52.7±0.8, 20.87S±0.07×68.9W±0.1, h112km, n11, σ1°19/13, mb3.4/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.74**	**181**	P	**Pn**	**13 06 23.4**	**+0.6**
	2μm,0.3s,baz=358,slow=6.6,SNR=54						
LVC				S	**Sn**	**13 06 46.8**	**+1.1**
	8μm,0.3s,baz=125,slow=18,SNR=39						
LPAZ	**La Paz**	**4.61**	**9**	P	**Pn**	**13 07 02.1**	**+1.2**
	3.6nm,0.3s,baz=198,slow=5.3,SNR=46						
SIV	**San Ignacio**	**8.87**	**58**	P	**Pn**	**13 07 57.2**	**-0.9**
	0.8nm,0.3s,baz=256,slow=14,SNR=8.3						
BDFB	**Brasilia**	**20.49**	**79**	P	**P**	**13 10 23.8**	**+1.7**
	2.4nm,0.3s,baz=288,slow=19,SNR=2.7						
PTGA	**Pitinga**	**21.83**	**25**	P	**P**	**13 10 34.9**	**-1.4**
	4.1nm,0.3s,baz=209,slow=19,SNR=10.0						
TXAR	**Lajitas Array**	**60.12**	**325**	P	**P**	**13 15 48.3**	**-0.3**
	0.3nm,0.9s,baz=115,slow=10.0,SNR=2.6						
SNAA	**Sanae**	**62.87**	**161**	P	**P**	**13 16 06.2**	**-0.3**
	1.1nm,0.9s,baz=294,slow=12,SNR=3.1						
PDAR	**Pinedale Array**	**73.57**	**330**	pP	pP	13 17 37.9	-4.1
	0.3nm,0.7s,baz=153,slow=6.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	**P**	**13 17 35.4**	**+0.9**
	0.3nm,0.5s,baz=248,slow=5.2,SNR=7.8						
TORD				pP	**pP**	**13 18 03.2**	**+0.3**
	0.4nm,0.4s,baz=248,slow=7.6,SNR=2.5						
YKA	**Yellowknife Ar**	**90.60**	**341**	P	**P**	**13 18 41.6**	**-0.3**
	0.1nm,0.5s,baz=128,slow=4.4,SNR=2.4						
YKA				pP	**pP**	**13 19 09.0**	**-2.1**
	0.6nm,0.7s,baz=130,slow=4.8,SNR=6.7						
MKAR	**Makanchi Array**	**145.11**	**35**	PKPbc	**PKPdf**	**13 25 17.7**	**+0.7**
	0.2nm,0.6s,baz=294,slow=1.4,SNR=2.8						
MKAR				pPKPbc	pPKPbc	13 25 45.2	-1.7
	0.3nm,0.6s,baz=316,slow=3.3,SNR=3.4						

*IDC **24** 13:11:23.8±1.0, 54.92N×165.58E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.5/35, mbtmp3.7/7, ML3.2/2, Error ellipse: s-maj=45.0km s-min=19.4km az=153.0*
*KRSC **24** 13:11:28.0±2.7, 55.05N×165.12E, h87km±29km, ML4.1*
*ISCJB **24** 13:11:28.5±0.6, 54.97N±0.03×165.20E±0.06, h35km, mb3.5/5, Error ellipse: s-maj=5.6km s-min=4.2km az=29.4*
*MOS **24** 13:11:29.6±1.1, 55.05N×165.12E, h62km, mb4.0/2, Error ellipse: s-maj=16.7km s-min=12.5km az=144.4*
ISC 24 13:11:28.6±1.0, 55.03N±0.04×165.39E±0.08, h35km, n53, σ1°75/84, mb3.5/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.88**	**310**	*e*P	**Pn**	**13 11 56.0**	**-2.2**
KBTR				*e*S	**Sn**	**13 12 16.6**	**-4.0**
KBTR	**Krutoberegovo**	**1.88**	**310**	PN	**Pn**	**13 11 56.0**	**-2.2**
KBTR				S	**Sn**	**13 12 16.6**	**-4.0**
MKZ	**Mys Kozlova**	**2.17**	**259**	*e*P	**Pn**	**13 12 01.8**	**-0.4**
MKZ				*e*S	**Sn**	**13 12 26.7**	**-1.1**
MKZ	**Mys Kozlova**	**2.17**	**259**	PN	**Pn**	**13 12 01.8**	**-0.4**
MKZ				S	**Sn**	**13 12 26.7**	**-1.1**
SMKR	**Semkarok**	**2.71**	**307**	*e*P	**Pn**	**13 12 09.4**	**-0.3**
SMKR				*e*S	**Sn**	**13 12 39.3**	**-1.9**
BDR	**Baidarnaya**	**2.82**	**305**	P	**Pn**	**13 12 11.6**	**+0.4**
BDR				S	**Sn**	**13 12 43.1**	**-0.9**
SRKR	**Sorokina**	**2.89**	**306**	*e*P	**Pn**	**13 12 12.7**	**+0.6**
SRKR				S	**Sn**	**13 12 45.2**	**-0.4**
KZV	**Kizimen**	**2.93**	**274**	*e*P	**Pn**	**13 12 12.9**	**+0.1**
KLY	**Klyuchi**	**2.98**	**298**	P	**Pn**	**13 12 12.7**	**-0.6**
KLY				S	**Sn**	**13 12 45.1**	**-2.6**
KLY	**Klyuchi**	**2.98**	**298**	PN	**Pn**	**13 12 12.7**	**-0.6**
KLY				S	**Sn**	**13 12 45.1**	**-2.6**
TUMR	**Tumrok**	**3.02**	**277**	*e*P	**Pn**	**13 12 14.8**	**+0.8**
TUMR				S	**Sn**	**13 12 49.1**	**+0.1**
KMNR	**Kamenistaya**	**3.03**	**286**	*e*P	**Pn**	**13 12 15.6**	**+1.5**
KMNR				S	**Sn**	**13 12 49.8**	**+0.6**
KPT	**Kopyto**	**3.09**	**290**	P	**Pn**	**13 12 16.6**	**+1.7**
KOZR	**Kozyr**	**3.29**	**291**	PN	**Pn**	**13 12 19.7**	**+2.1**
KOZ	**Kozyrevsk**	**3.30**	**291**	P	**Pn**	**13 12 19.7**	**+2.0**
SRDR	**Sredinnyy**	**3.46**	**294**	P	**Pn**	**13 12 21.2**	**+1.2**
SRDR				S	**Sn**	**13 13 00.2**	**+0.4**
KII	**Karymskiy**	**3.60**	**256**	*e*P	**Pn**	**13 12 22.8**	**+0.9**
KII				*e*S	**Sn**	**13 13 03.3**	**+0.1**
SPN	**Mys Shipunski**	**3.71**	**241**	*e*P	**Pn**	**13 12 22.7**	**-0.6**
SPN				*e*S	**Sn**	**13 13 02.1**	**-3.6**
SPN	**Mys Shipunski**	**3.71**	**241**	PN	**Pn**	**13 12 22.7**	**-0.6**
SPN				S	**Sn**	**13 13 02.1**	**-3.6**
ESO	**Esso**	**3.91**	**286**	*e*P	**Pn**	**13 12 27.1**	**+1.0**
ESO	**Esso**	**3.91**	**286**	PN	**Pn**	**13 12 27.1**	**+1.0**
NLC	**Nalytchevo**	**4.01**	**245**	*e*P	**Pn**	**13 12 27.4**	**-0.1**
NLC				*e*S	**Sn**	**13 13 10.6**	**-2.6**
NLC	**Nalytchevo**	**4.01**	**245**	PN	**Pn**	**13 12 27.4**	**-0.1**
NLC				S	**Sn**	**13 13 10.6**	**-2.6**
SDLR	**Sedlovina**	**4.21**	**248**	*e*P	**Pn**	**13 12 30.8**	**+0.5**
SDLR				*e*S	**Sn**	**13 13 16.5**	**-1.7**
SMAR	**Somma**	**4.26**	**248**	*e*P	**Pn**	**13 12 32.0**	**+0.9**
SMAR				*e*S	**Sn**	**13 13 18.2**	**-1.4**
KRER	**Koryakskii**	**4.27**	**249**	*e*P	**Pn**	**13 12 32.3**	**+1.1**
KRER				*e*S	**Sn**	**13 13 18.1**	**-1.7**
UGLR	**Uglovaya**	**4.27**	**247**	*e*P	**Pn**	**13 12 32.1**	**+0.9**
UGLR				S	**Sn**	**13 13 17.7**	**-2.1**
AVH	**Avacha**	**4.29**	**248**	*e*P	**Pn**	**13 12 32.5**	**+1.1**
AVH				*e*S	**Sn**	**13 13 19.7**	**-0.5**
KRX	**Arik**	**4.30**	**250**	*e*P	**Pn**	**13 12 32.4**	**+0.9**
KRX				*e*S	**Sn**	**13 13 18.9**	**-1.6**
KOK	**Koryaka**	**4.33**	**249**	*e*P	**Pn**	**13 12 33.1**	**+1.1**
KOK				*e*S	**Sn**	**13 13 19.4**	**-1.9**
OSSR	**Ossora**	**4.42**	**344**	*e*P	**Pn**	**13 12 32.9**	**-0.2**
OSSR				S	**Sn**	**13 13 20.8**	**-2.4**
PET	**Petropavlovsk**	**4.45**	**246**	*e*P	**Pn**	**13 12 32.4**	**-1.1**
PET				*e*S	**Sn**	**13 13 20.4**	**-3.6**
PET	**Petropavlovsk**	**4.45**	**246**	*e*PN	**Pn**	**13 12 33.2**	**-0.3**
PET				*e*S	**Sn**	**13 13 22.3**	**-1.7**
PET				pmax	pmax		
	comp=Z,42nm,0.5s						
PET				smax	smax		
	comp=E,87nm,0.5s						
PET				smax	smax		
	comp=N,128nm,0.5s						
GNL	**Ganaly**	**4.56**	**256**	*e*P	**Pn**	**13 12 36.5**	**+1.4**
RUS	**Russkaya**	**4.84**	**240**	*e*P	**Pn**	**13 12 39.3**	**+0.5**
RUS				S	**Sn**	**13 13 29.9**	**-3.7**
RUS	**Russkaya**	**4.84**	**240**	PN	**Pn**	**13 12 39.3**	**+0.5**
RUS				S	**Sn**	**13 13 29.9**	**-3.7**
PETK	**Petropavlovsk-**	**4.92**	**250**	Pn	**Pn**	**13 12 41.0**	**+1.0**
	comp=N,3.2nm,0.3s,baz=74,slow=18,SNR=116						
PETK				Sn	**Sn**	**13 13 37.1**	**+1.5**
	comp=N,2.9nm,0.3s,baz=282,slow=10,SNR=7.4						
PETK	**Petropavlovsk-**	**4.92**	**250**	PN	**Pn**	**13 12 41.0**	**+1.0**
PETK						13 13 37.1	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,3.0nm,0.3s						
MTVR	**Mutnovka**	**4.98**	**242**	*e*P	**Pn**	**13 12 41.6**	**+0.7**
MTVR				*e*S	**Sn**	**13 13 34.8**	**-2.4**
ASAK	**Asacha**	**5.18**	**242**	*e*P	**Pn**	**13 12 44.9**	**+1.3**
ASAK				*e*S	**Sn**	**13 13 39.6**	**-2.4**
APC	**Apacha**	**5.29**	**250**	*e*P	**Pn**	**13 12 46.8**	**+1.7**
APC				*e*S	**Sn**	**13 13 44.3**	**-0.5**
SKR	**Severo-Kuril's**	**7.10**	**236**	P	**Pn**	**13 13 10.3**	**+0.4**
SKR				*e*S	**Sn**	**13 14 24.5**	**-4.7**
ASAJ	**Asahikawa**	**18.29**	**243**	Pn	**Pn**	**13 15 39.8**	**+0.6**
	comp=N,0.2nm,0.3s,baz=62,slow=13,SNR=3.8						
ILAR	**Eielson Array**	**25.22**	**48**	P	**P**	**13 16 50.8**	**+0.1**
	comp=N,0.8nm,0.8s,baz=263,slow=9.7,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**35.25**	**178**	T	T	13 56 00.5	
	baz=359,slow=76,SNR=134						
H11N3	**WAKE ISLAND Hy**	**35.27**	**178**	T	T	13 56 01.3	
	baz=359,slow=76,SNR=68						
H11N1	**WAKE ISLAND Hy**	**35.27**	**178**	T	T	13 55 57.8	
	baz=359,slow=76,SNR=148						
SONM	**Songino Array**	**36.49**	**284**	P	**P**	**13 18 31.4**	**+1.2**
	comp=N,1.1nm,0.7s,baz=65,slow=7.5,SNR=5.3						
SONM	**Songino Array**	**36.49**	**284**	P	**P**	**13 18 31.4**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**67.03**	**71**	P	**P**	**13 22 18.1**	**0.0**
	comp=Z,0.2nm,0.6s,baz=304,slow=2.4,SNR=3.9						
WRA	**Warramunga Arr**	**79.23**	**210**	P	**P**	**13 23 30.2**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=23,slow=6.1,SNR=3.8						
ASAR	**Alice Springs**	**82.89**	**209**	P	**P**	**13 23 50.0**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=20,slow=6.6,SNR=6.2						
ASAR	**Alice Springs**	**82.89**	**209**	P	**P**	**13 23 50.1**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*SJA **24** 13:53:38.3±0.8, 21.88S×68.61W, h121km±12km, ML2.9*
*ISCJB **24** 13:53:39.2±0.3, 21.91S±0.04×68.57W±0.06, h129km±4km, mb4.0/11, Error ellipse: s-maj=10.2km s-min=4.9km az=145.8*
*NEIC **24** 13:53:39.2±0.5, 22.02S×68.32W, mb4.2/1, Error ellipse: s-maj=13.5km s-min=9.3km az=96.0*
*IDC **24** 13:53:39.4±0.5, 21.98S×68.32W, h111km±5km, mb3.9/11, mb1 4.0/14, mb1mx3.8/30, mbtmp4.3/14, Error ellipse: s-maj=16.6km s-min=10.7km az=121.0*
*GUC **24** 13:53:40.1±0.4, 21.88S×68.80W, h135km±3km, ML4.5*
ISC 24 13:53:39.8±0.6, 21.90S±0.05×68.55W±0.06, h120km±6km, n35, σ1°25/47, mb4.2/11, 1C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**279**	↑*e*P	**Pn**	**13 53 60.0**	**+1.0**
PB09				*e*S	**Sn**	**13 54 15.1**	**+1.7**
PB09				AML	AML	13 54 16.0	
	comp=N,22μm,0.5s						
LVC	**Limon Verde**	**0.78**	**205**	P	**Pn**	**13 54 00.3**	**+0.2**
	comp=N,18μm,0.3s,baz=3.2,slow=9.1,SNR=3040						
LVC				S	**Sn**	**13 54 14.7**	**-0.7**
	baz=273,slow=19						
LVC				LR	LR	13 54 26.2	
	comp=N,376nm,20.1s,baz=289,slow=56						
LVC	**Limon Verde**	**0.78**	**205**	*e*Pn	**Pn**	**13 54 00.4**	**+0.3**
LVC				*e*Sn	**Sn**	**13 54 14.9**	**-0.6**
LVC	**Limon Verde**	**0.78**	**205**	*i* P	**Pn**	**13 53 59.8**	**-0.4**
LVC				*i* S	**Sn**	**13 54 15.1**	**-0.4**
PB04	**IPOC Station P**	**0.94**	**247**	*e*P	Pn	13 54 07.8	+6.6
PB04				*e*S	Sn	13 54 28.4	+11
PB04				AML	AML	13 54 30.0	
	comp=N,4μm,0.1s						
PB07	**IPOC Station P**	**1.25**	**278**	*e*P	**Pn**	**13 54 04.5**	**0.0**
PB07				*e*S	**Sn**	**13 54 23.2**	**-0.2**
PB07				AML	AML	13 54 25.8	
	comp=N,9μm,0.2s						
HMBC	**Humberstone**	**2.04**	**322**	↓*e*P	**Pn**	**13

n31,σ0°83/64, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.21**	**5**	*e*P	**Pg**	**13 57 56.0**	**-0.1**
CPBX				*e*S	**Sg**	**13 57 59.6**	**+0.3**
CPBX				⇓*e*		13 58 00.6	
CPBX				AML	AML	13 58 00.6	
	comp=N,32μm,0.3s						
CPBX	**Cerro Prieto**	**0.21**	**5**	*e*P	**Pg**	**13 57 55.9**	**-0.1**
CPBX				*e*S	Sb	13 58 13.2	+12
MBIG	**Mexicali**	**0.23**	**28**	*e*P	**Pg**	**13 57 56.3**	**0.0**
MBIG				*e*S	**Sg**	**13 57 59.9**	**+0.2**
SGL	**Mount Signal**	**0.56**	**323**	⇓*i*P	**Pg**	**13 58 02.2**	**0.0**
RDX	**Rancho Dawling**	**0.59**	**243**	⇑*e*P	**Pb**	**13 58 03.8**	**+0.3**
RDX				*e*S	**Sb**	**13 58 12.1**	**+0.4**
RDX				⇑*e*		13 58 13.8	
RDX				AML	AML	13 58 13.8	
	comp=N,2μm,0.2s						
YUH	**Yuha Desert**	**0.67**	**312**	⇓*i*P	**Pg**	**13 58 04.2**	**-0.2**
COA	**Coachella**	**0.68**	**15**	⇓*i*P	**Pg**	**13 58 03.9**	**-0.7**
RMX	**La Rumorosa**	**0.75**	**302**	*e*P	**Pg**	**13 58 05.7**	**-0.2**
RMX				*e*S	**Sb**	**13 58 16.0**	**-0.4**
ECBX	**El Chinero**	**0.77**	**162**	*e*P	**Pg**	**13 58 05.4**	**-0.7**
ECBX				*e*S	**Sg**	**13 58 15.9**	**-0.3**
ECBX				⇑*e*		13 58 18.5	
ECBX				AML	AML	13 58 18.5	
	comp=E,2μm,0.3s						
ZAX	**El Zacaton**	**1.06**	**230**	*e*P	**Pb**	**13 58 11.5**	**+0.1**
ZAX				*e*S	**Sn**	**13 58 26.4**	**+0.1**
CBX	**Cerro Bola**	**1.14**	**276**	*e*P	**Pb**	**13 58 12.3**	**-0.4**
CBX				*i* S	**Sb**	**13 58 24.1**	**-3.4**
CBX	**Cerro Bola**	**1.14**	**276**	*e*P	**Pb**	**13 58 12.3**	**-0.4**
CBX				*e*S	**Sg**	**13 58 27.7**	**-0.4**
CBX				⇑*e*		13 58 30.8	
CBX				AML	AML	13 58 30.8	
	comp=E,1μm,0.5s						
CBX	**Cerro Bola**	**1.14**	**276**	*e*P	**Pn**	**13 58 13.0**	**+0.1**
CBX				*e*S	**Sn**	**13 58 28.7**	**+0.4**
SPIG	**San Pedro Mart**	**1.16**	**186**	*e*P	**Pn**	**13 58 12.9**	**-0.5**
SPIG				*i* S	**Sg**	**13 58 30.1**	**+1.3**
SPIG	**San Pedro Mart**	**1.16**	**186**	*e*P	**Pn**	**13 58 12.8**	**-0.5**
SPIG	**San Pedro Mart**	**1.16**	**186**	*e*P	**Pn**	**13 58 12.9**	**-0.5**
SPIG				*e*S	**Sg**	**13 58 30.6**	**+1.8**
SPX	**San Pedro Mart**	**1.16**	**186**	*e*P	**Pn**	**13 58 12.8**	**-0.5**
SPX				*e*S	**Sn**	**13 58 29.6**	**+0.5**
SPX				AML	AML	13 58 31.6	
	comp=N,435nm,0.2s						
SPX				⇓*e*		13 58 32.6	
SPX	**San Pedro Mart**	**1.16**	**186**	*e*P	**Pn**	**13 58 13.4**	**+0.1**
SPX				*e*S	**Sb**	**13 58 28.5**	**+0.2**
ECNX	**Esteban Cantu**	**1.21**	**244**	*e*P	**Pn**	**13 58 13.8**	**0.0**
ECNX				*e*S	**Sg**	**13 58 30.8**	**+0.5**
BAR	**Barrett**	**1.23**	**293**	*e*P	**Pn**	**13 58 13.5**	**-0.6**
BAR	**Barrett**	**1.23**	**293**	*e*Pn	**Pn**	**13 58 13.1**	**-1.0**
BAR				*e*Sn	**Sb**	**13 58 29.8**	**-0.3**
PBX	**Punta Banda**	**1.27**	**249**	*e*P	**Pn**	**13 58 14.8**	**+0.1**
PBX				*e*S	**Sg**	**13 58 32.6**	**+0.2**
PFO	**Pinyon Flats O**	**1.69**	**326**	*e*Pn	**Pn**	**13 58 18.6**	**-1.9**
PFO				*e*Sn	**Sb**	**13 58 44.0**	**+0.6**
214A	**Organ Pipe Nat**	**2.15**	**96**	*e*Pn	**Pn**	**13 58 24.6**	**-2.1**
214A				*e*Pg	**Pg**	**13 58 32.5**	**0.0**
214A				*e*Sn	**Sn**	**13 58 53.4**	**+0.3**
214A				*e*Sg	**Sb**	**13 58 58.0**	**+1.5**
LDFC	**Landfair**	**2.87**	**4**	*e*Pn	**Pn**	**13 58 36.8**	**+0.1**
LDFC				*e*Pg	**Pg**	**13 58 46.8**	**+0.5**
LDFC				*e*Sn	**Sn**	**13 59 12.4**	**+1.2**
LDFC				*e*Sg	**Sg**	**13 59 23.5**	**-0.1**
MWC	**Mount Wilson**	**3.05**	**312**	Pn	**Pn**	**13 58 38.8**	**-0.4**
MWC				*e*Sn	**Sn**	**13 59 16.2**	**+0.6**
MWC				*e*Sg	**Sg**	**13 59 30.1**	**+0.8**
TUC	**Tucson**	**3.85**	**87**	Pn	**Pn**	**13 58 49.1**	**-1.0**
TUC				*e*Pg	**Pg**	**13 59 03.9**	**-1.1**
SHPR	**Sheep Range**	**4.29**	**2**	*e*Pn	**Pn**	**13 58 56.2**	**-0.1**
SHPR				*e*Pg	**Pg**	**13 59 14.6**	**+1.1**
SHPR				*e*Sn	**Sn**	**13 59 47.0**	**+0.7**
WUAZ	**Wupatki**	**4.66**	**44**	*e*Pn	**Pn**	**13 59 02.2**	**+0.9**
WUAZ				*e*Pg	**Pg**	**13 59 20.2**	**-0.3**
WUAZ				*e*Sn	**Sn**	**13 59 55.8**	**+0.5**
WUAZ				*e*Sg	**Sg**	**14 00 20.4**	**-0.6**
W18A	**Petrified Fore**	**5.49**	**57**	*e*Pn	**Pn**	**13 59 13.5**	**+0.6**
W18A				*e*Pg	**Pg**	**13 59 36.2**	**-0.3**
W18A				*e*Sn	**Sn**	**14 00 15.8**	**-0.1**
121A	**Cookes Peak, D**	**6.39**	**85**	*e*Pn	**Pn**	**13 59 24.8**	**-0.3**
	comp=N,5.7nm,0.3s						

*IDC **24** 14:00:01.8±2.2,3°.34S×131°.05E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/27, mbtmp3.8/4, Error ellipse: s-maj=114.7km s-min=29.3km az=70.0*
*ISCJB **24** 14:00:03.5±0.5,3°.49S±0°.04×131°.04E±0°.05, h30km, mb3.6/3, Error ellipse: s-maj=7.3km s-min=6.1km az=18.6*
*DJA **24** 14:00:06.3±0.3,3°.S±3°×13°.1E±°, h10km, M4.0/11, MLv4.0/11*

ISC 24 14:00:05.6±0.7,**3°.35S**±0°.06×**131°.00E**±0°.04,**h30**km,**n22,** σ1.9**97/26, mb3.7/3, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.32**	**71**	P	**Pb**	**14 00 29.5**	**-0.3**
FAKI				S	**Sb**	**14 00 47.9**	**+1.5**
FAKI	**Fak Fak**	**1.32**	**71**	S	**Pb**	**14 00 29.4**	**-0.3**
	baz=0.9,SNR=91						
BNDI	**Bandanaira**	**1.59**	**223**	P	**Pb**	**14 00 34.9**	**+0.5**
BNDI				S	**Sb**	**14 00 58.7**	**+4.5**
MSAI	**Masohi**	**2.06**	**270**	P	**Pn**	**14 00 39.8**	**+1.6**
SWI	**Sorong**	**2.48**	**6**	P	**Pn**	**14 00 44.1**	**+0.1**
SWI				S	**Sn**	**14 01 13.6**	**+0.3**
SWI	**Sorong**	**2.48**	**6**	P	**Pn**	**14 00 44.2**	**+0.1**
	baz=2.6,SNR=29						
AAI	**Ambon**	**2.82**	**263**	P	**Pn**	**14 00 50.1**	**+1.5**
AAI	**Ambon**	**2.82**	**263**	P	**Pb**	**14 00 52.6**	**-2.6**
	baz=3.3,SNR=5.3						
RKPI	**Ransiki, Papua**	**3.67**	**60**	P	**Pn**	**14 01 02.2**	**+1.9**
RKPI				S	**Sn**	**14 01 43.5**	**+1.0**
NLAI	**Namlea**	**3.89**	**272**	P	**Pn**	**14 01 05.2**	**+1.8**
LBMI	**Labuha**	**4.41**	**308**	P	**Pn**	**14 01 11.5**	**+1.0**
SANI	**Sanana**	**5.17**	**284**	P	**Pn**	**14 01 19.8**	**-1.1**
KDU	**Kakadu**	**9.39**	**171**	P	**Pn**	**14 02 15.9**	**-3.0**
	baz=9.3,SNR=18						
KDU				S	Sn	14 03 53.5	-10
	baz=9.3,SNR=5.7						
KNRA	**Kununurra**	**12.45**	**190**	P	**Pn**	**14 02 58.0**	**-2.8**
	baz=12,SNR=11						
FITZ	**Fitzroy Crossi**	**15.57**	**199**	P	**Pn**	**14 03 41.3**	**-1.8**
	baz=16,SNR=10						
COEN	**Coen**	**15.99**	**132**	P	**Pn**	**14 03 47.0**	**-1.4**
	baz=16,SNR=7.1						
WRA	**Warramunga Arr**	**16.81**	**169**	Pn	**Pn**	**14 03 54.6**	**-4.3**
	0.2nm,0.3s,baz=356,slow=13,SNR=10						
ASAR	**Alice Springs**	**20.39**	**172**	P	**P**	**14 04 40.5**	**+0.3**
	4.0nm,0.5s,baz=351,slow=10,SNR=65						
WRKA	**Warakurna**	**21.72**	**187**	P	**P**	**14 04 53.9**	**-0.6**
	baz=22,SNR=20						
CMAR	**Chiang Mai Arr**	**38.29**	**306**	P	**P**	**14 07 24.6**	**+0.9**
	0.6nm,0.7s,baz=139,slow=7.0,SNR=4.6						
MKAR	**Makanchi Array**	**65.77**	**326**	P	**P**	**14 10 48.8**	**+1.0**
	0.5nm,0.8s,baz=134,slow=6.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**68.79**	**333**	P	**P**	**14 11 07.7**	**+1.0**
	0.5nm,0.5s,baz=127,slow=3.8,SNR=3.5						

MEX 24 14:01:17.3±0.7,**32°.16N**×**114°.97W, h10**km,**MD3.6, Western Arizona-Sonora border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.31**	**322**	*e*P	Pg	14 01 22.7	-0.9
MBIG				*e*S	Sg	14 01 28.0	+0.2
SPIG	**San Pedro Mart**	**1.19**	**201**	*e*P	Pb	14 01 36.1	-4.3
SPIG				*i* S	Sb	14 01 51.6	-4.5
CBX	**Cerro Bola**	**1.45**	**277**	*e*P	Pn	14 01 39.7	-4.0
CBX				*e*S	Sn	14 01 56.7	-6.2

IDC 24 14:34:50.5±3.0,**8°.77S**×**157°.23E, h0**km,**mb3.6**/3, **mb1 3.7**/3,**mb1mx3.4**/22,**mbtmp3.6**/3,**Error ellipse: s-maj=721.8km s-min=101.7km az=48.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**241**	P	P	14 40 15.0	+0.9
	0.4nm,0.8s,baz=67,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**26.79**	**234**	P	P	14 40 31.6	-0.8
	0.2nm,0.7s,baz=61,slow=9.8,SNR=5.5						
STKA	**Stephens Creek**	**27.20**	**210**	P	P	14 40 35.9	-0.2
	3.2nm,0.8s,baz=45,slow=5.7,SNR=2.9						

MEX 24 14:37:20.4±1.0,**18°.37N**×**102°.81W, h10**km,**MD3.8, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.51**	**261**	*e*P	Pg	14 37 29.5	-0.9
MMIG				*i* S	Sg	14 37 37.6	+0.4
EZ5V		**1.33**	**326**	*e*S	Sb	14 37 59.0	-4.2
R15V		**1.36**	**306**	*e*P	Pn	14 37 41.1	-4.5
R15V				*i* S	Sb	14 37 58.4	-5.4
ZIIG	**Zihuatanejo**	**1.49**	**120**	*e*P	Pn	14 37 43.7	-3.5
ZIIG				*e*S	Sn	14 38 02.3	-4.5
MOIG	**Morelia**	**2.01**	**49**	*i* P	Pn	14 37 52.1	-2.7
MOIG				*i* S	Sn	14 38 15.0	-5.3
SFJM	**Santa Fe**	**2.12**	**354**	*e*P	Pn	14 37 52.6	-3.6
SFJM				*i* S	Sn	14 38 20.4	-2.3
ARIG	**Puente Sto Nin**	**2.34**	**92**	*e*P	Pn	14 37 56.7	-2.4
ARIG				*i* S	Sn	14 38 23.9	-4.1
PLIG	**Platanillo**	**3.14**	**89**	*e*P	Pn	14 38 07.7	-2.5
PLIG				*i* S	Sn	14 38 45.4	-2.4

*PDG **24** 15:00:56.8±0.2,33°.36N×26°.02E, h11km±1km, MD4.8/1, ML4.8/12, Error ellipse: s-maj=37.9km s-min=19.8km az=90.0*
*SZGRF **24** 15:01:02.7,33°.88N×26°.61E, h10km, mb4.9, MS4.9, Eastern Mediterranean Sea*
*BJI **24** 15:01:03.4,34°.08N×25°.59E, h10km, mB5.3/48, mb5.0/62, Ms5.0/52, Ms7 4.7/45*
*ISCJB **24** 15:01:08.9±0.1,34°.26N±0°.01×26°.05E±0°.01, h20km, mb5.2/237, MS4.9/172, Error ellipse: s-maj=2.0km s-min=1.3km az=27.1*
*CSEM **24** 15:01:08.0±0.1,34°.16N×26°.06E, h10km, mb5.3/94, Ms4.8, Error ellipse: s-maj=3.6km s-min=2.2km az=32.0*
*SFS **24** 15:01:09.0,34°.35N×26°.06E, h10km, ML5.2*
*THE **24** 15:01:10.8,34°.33N×26°.01E, h0km±1km, ML4.9/1, Error ellipse: s-maj=3.2km s-min=0.7km az=179.0*
*IDC **24** 15:01:10.3±1.7,34°.40N×26°.11E, h20km±10km, mb4.9/28, mb1 4.9/39, mb1mx4.9/42, mbtmp4.9/39, ML4.4/8, MS4.8/28, Ms1 4.8/28, ms1mx4.7/35, Error ellipse: s-maj=10.1km s-min=8.5km az=147.0*
*NSSC **24** 15:01:11.8±3.5,34°.26N×26°.61E, h0km±527km, MD2.5, ML4.3*
*MOS **24** 15:01:11.6±1.0,34°.43N×25°.99E, h39km, mb5.4/106, MS4.7/68, Error ellipse: s-maj=4.1km s-min=2.4km az=103.4*
*NEIC **24** 15:01:12.6,34°.45N×26°.01E, h34km, mb5.3/152, MS4.9/121, ML4.7(THE), ML4.7(ATH), After ATH. NEIC Felt at Iraklion, Kolimvari and Koutsouras.*
*ATH **24** 15:01:12.6,34°.45N×26°.01E, h36km±2km, ML4.7*
*GCMT **24** 15:01:12.6±0.2,34°.15N×26°.03E, h20km, MW5.4/108, Moment Tensor Solution. s86,c133; s108,c204; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr1.13±.03; Mθθ-1.33±.02; Mφφ0.20±.02; Mrθ0.56±.04; Mθφ0.01±.02; Mφr0.11±.05; Best double couple: M0 1.35700×10^17^ NP1:φs85.00000°, δ57.00000°, λ83.00000°. NP2:φs277.00000°, δ33.00000°, λ101.00000°. Principal axes: T 1.2630, Plg76.0000°, Azm333.0000°; N 0.1880, Plg6.0000°, Azm88.0000°; P -1.4510, Plg12.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*HLW **24** 15:01:14.4,34°.51N×26°.90E, h33km±34km, Ml4.7*
*DDA **24** 15:01:16.6,34°.82N×26°.67E, h7km, ML4.8*

ISC 24 15:01:10.1±0.3,**34°.24N**±0°.03×**26°.08E**±0°.02,**h20**km±2km, **h20**km:**pP-P,n1902,**σ1**936**/1957,**mb5.3**/238,**MS4.9**/172, **232C-168D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.88**	**7**	*e*PN	**Pb**	**15 01 26.0**	**-0.7**
ZKR				*e*SN	**Sb**	**15 01 37.2**	**-0.8**
ZKR	**Zakros**	**0.88**	**7**	*e*Pn	**Pb**	**15 01 26.0**	**-0.7**
ZKR				*e*Sn	**Sb**	**15 01 37.2**	**-0.8**
LAST	**Lasithi**	**1.04**	**332**	*e*PN	**Pb**	**15 01 28.9**	**-0.7**
LAST				*e*SN	**Sb**	**15 01 41.4**	**-1.4**
LAST	**Lasithi**	**1.04**	**332**	*e*Pn	**Pb**	**15 01 28.9**	**-0.7**
LAST				*e*Sn	**Sb**	**15 01 41.4**	**-1.4**
NPS	**Neapolis**	**1.09**	**339**	P	**Pb**	**15 01 29.6**	**-0.7**
NPS				S	**Sn**	**15 01 45.2**	**+0.4**
NPS	**Neapolis**	**1.09**	**339**	*e*PN	**Pn**	**15 01 29.5**	**-0.7**
NPS				*e*SN	**Sb**	**15 01 41.1**	**-3.0**
NPS	**Neapolis**	**1.09**	**339**	P	**Pn**	**15 01 29.6**	**-0.7**
NPS				S	**Sn**	**15 01 45.2**	**+0.4**
NPS	**Neapolis**	**1.09**	**339**	P	**Pn**	**15 01 29.6**	**-0.7**
NPS				*e*Sn	**Sb**	**15 01 41.1**	**-3.0**
NPS				S	**Sn**	**15 01 45.2**	**+0.4**
NPS	**Neapolis**	**1.09**	**339**	P	**Pn**	**15 01 29.6**	**-0.7**
NPS				S	**Sn**	**15 01 45.2**	**+0.4**
SIVA	**Sivas**	**1.30**	**307**	*e*PN	**Pb**	**15 01 34.2**	**+0.3**
SIVA	**Sivas**	**1.30**	**307**	*e*Pn	**Pb**	**15 01 34.2**	**+0.3**
IDI	**Anoyia**	**1.43**	**317**	Pn	**Pn**	**15 01 35.1**	**+0.1**
	66nm,0.3s,baz=139,slow=16,SNR=160						
KARP	**Karpathos**	**1.58**	**34**	P	**Pb**	**15 01 38.1**	**-0.5**
KARP				S	**Sb**	**15 01 59.6**	**+1.5**
KARP	**Karpathos**	**1.58**	**34**	*e*PN	**Pb**	**15 01 38.4**	**-0.2**
KARP	**Karpathos**	**1.58**	**34**	P	**Pb**	**15 01 38.1**	**-0.5**
KARP	**Karpathos**	**1.58**	**34**	*e*Pn	**Pb**	**15 01 38.4**	**-0.2**
KARP				S	**Sb**	**15 01 59.6**	**+1.5**
KARP	**Karpathos**	**1.58**	**34**	P	**Pb**	**15 01 38.1**	**-0.5**
KARP				S	**Sb**	**15 01 59.6**	**+1.5**
GVD	**Gavdhos**	**1.75**	**290**	*e*PB	**Pb**	**15 01 41.2**	**-0.4**
GVD	**Gavdhos**	**1.75**	**290**	*e*Pn	**Pb**	**15 01 40.9**	**-0.6**
GVD	**Gavdhos**	**1.75**	**290**	*e*Pb	**Pb**	**15 01 41.2**	**-0.4**
GVD				*e*Sn	**Sb**	**15 02 03.6**	**+0.5**
GVD	**Gavdhos**	**1.75**	**290**	*e*Pn	**Pb**	**15 01 40.9**	**-0.6**
GVD				*e*Sn	**Sb**	**15 02 03.6**	**+0.5**
VAM	**Vamos**	**1.94**	**307**	P	**Pn**	**15 01 42.0**	**+0.1**
VAM	**Vamos**	**1.94**	**307**	*e*PN	**Pn**	**15 01 42.4**	**+0.5**
VAM	**Vamos**	**1.94**	**307**	P	**Pn**	**15 01 42.0**	**+0.1**
VAM	**Vamos**	**1.94**	**307**	P	**Pn**	**15 01 42.0**	**+0.1**
VAM	**Vamos**	**1.94**	**307**	*e*Pn	**Pn**	**15 01 42.4**	**+0.5**
VAM	**Vamos**	**1.94**	**307**	P	**Pn**	**15 01 42.0**	**+0.1**
KARN	**Karanos**	**2.12**	**304**	*e*PB	**Pb**	**15 01 46.5**	**-1.4**
KARN	**Karanos**	**2.12**	**304**	*e*Pb	**Pb**	**15 01 46.5**	**-1.4**
THR6	**Thira Island,**	**2.18**	**345**	P	**Pn**	**15 01 46.2**	**+0.9**
THR6	**Thira Island,**	**2.18**	**345**	P	**Pn**	**15 01 46.2**	**+0.9**
THR6	**Thira Island,**	**2.18**	**345**	P	**Pn**	**15 01 46.2**	**+0.9**
THR2	**Thira island,**	**2.26**	**347**	P	**Pn**	**15 01 47.2**	**+0.8**
THR2	**Thira island,**	**2.26**	**347**	P	**Pn**	**15 01 47.2**	**+0.8**
THR2	**Thira island,**	**2.26**	**347**	P	**Pn**	**15 01 47.2**	**+0.8**
ARG	**Arkhangelos**	**2.58**	**40**	P	**Pn**	**15 01 52.6**	**+1.8**
ARG	**Arkhangelos**	**2.58**	**40**	*e*PN	**Pn**	**15 01 53.0**	**+2.2**
ARG	**Arkhangelos**	**2.58**	**40**	P	**Pn**	**15 01 52.6**	**+1.8**
ARG	**Arkhangelos**	**2.58**	**40**	P	**Pn**	**15 01 52.6**	**+1.8**
ARG	**Arkhangelos**	**2.58**	**40**	*e*Pn	**Pn**	**15 01 53.0**	**+2.2**
ARG	**Arkhangelos**	**2.58**	**40**	P	**Pn**	**15 01 52.6**	**+1.8**
ANKY	**Antikythira Is**	**2.80**	**306**	P	**Pn**	**15 01 55.4**	**+1.7**
ANKY	**Antikythira Is**	**2.80**	**306**	*e*PB	**Pn**	**15 01 56.1**	**+2.4**
ANKY	**Antikythira Is**	**2.80**	**306**	P	**Pn**	**15 01 55.4**	**+1.7**
ANKY	**Antikythira Is**	**2.80**	**306**	*e*Pb	**Pn**	**15 01 56.1**	**+2.4**
ANKY	**Antikythira Is**	**2.80**	**306**	P	**Pn**	**15 01 55.4**	**+1.7**
APE	**Apeiranthos**	**2.86**	**351**	P	**Pn**	**15 01 54.9**	**+0.4**
APE	**Apeiranthos**	**2.86**	**351**	*e*PN	**Pn**	**15 01 55.0**	**+0.4**
APE	**Apeiranthos**	**2.86**	**351**	⇑*i*P	**Pn**	**15 01 55.0**	**+0.4**
APE	**Apeiranthos**	**2.86**	**351**	P	**Pn**	**15 01 54.9**	**+0.4**
APE	**Apeiranthos**	**2.86**	**351**	*e*Pn	**Pn**	**15 01 55.0**	**+0.4**
APE	**Apeiranthos**	**2.86**	**351**	P	**Pn**	**15 01 54.9**	**+0.4**
BDRM	**Kayabasi**	**3.03**	**21**	*i* P	**Pn**	**15 01 57.8**	**+0.9**
BDRM	**Kayabasi**	**3.03**	**21**	*i* P	**Pn**	**15 01 57.8**	**+0.9**
KYTH	**Kithira**	**3.22**	**310**	P	**Pn**	**15 02 00.9**	**+1.4**
KYTH	**Kithira**	**3.22**	**310**	*e*PN	**Pn**	**15 02 01.0**	**+1.4**
KYTH	**Kithira**	**3.22**	**310**	P	**Pn**	**15 02 00.9**	**+1.4**
KYTH	**Kithira**	**3.22**	**310**	P	**Pn**	**15 02 00.9**	**+1.4**
TURN	**Turunc**	**3.33**	**37**	*i* P	**Pn**	**15 01 58.1**	**-3.0**
TURN				*i* S	**Sn**	**15 02 38.6**	**-1.5**
TURN	**Turunc**	**3.33**	**37**	*i* P	**Pn**	**15 01 58.1**	**-3.0**
TURN				*i* S	**Sn**	**15 02 38.6**	**-1.5**
AKAS	**Kas**	**3.50**	**54**	*i* P	**Pn**	**15 02 04.3**	**+0.8**
AKAS				*i* S	**Sn**	**15 02 43.6**	**-0.8**
AKAS	**Kas**	**3.50**	**54**	*i* P	**Pn**	**15 02 04.3**	**+0.8**
AKAS				*i* S	**Sn**	**15 02 43.6**	**-0.8**
SMG	**Samos**	**3.51**	**10**	P	**Pn**	**15 02 04.2**	**+0.6**
SMG	**Samos**	**3.51**	**10**	*e*PN	**Pn**	**15 02 04.0**	**+0.4**
SMG	**Samos**	**3.51**	**10**	P	**Pn**	**15 02 04.2**	**+0.6**
SMG	**Samos**	**3.51**	**10**	P	**Pn**	**15 02 04.2**	**+0.6**
VLI	**Veliai**	**3.56**	**315**	P	**Pn**	**15 02 04.6**	**+0.4**
VLI	**Veliai**	**3.56**	**315**	*e*PN	**Pn**	**15 02 04.6**	**+0.4**
VLI	**Veliai**	**3.56**	**315**	P	**Pn**	**15 02 04.6**	**+0.4**
VLI	**Veliai**	**3.56**	**315**	P	**Pn**	**15 02 04.6**	**+0.4**
GCAM	**G?zelcaml?**	**3.58**	**15**	*i* P	**Pn**	**15 02 05.3**	**+0.9**
GCAM	**G?zelcaml?**	**3.58**	**15**	*i* P	**Pn**	**15 02 05.3**	**+0.9**
GCAM				*i* S	Sb	15 02 21.0	+17
AYDN	**Tasoluk**	**3.71**	**23**	*i* P	**Pn**	**15 02 09.2**	**+2.9**
AYDN	**Tasoluk**	**3.71**	**23**	*i* P	**Pn**	**15 02 09.2**	**+2.9**
AYDN				*i* S	Sb	15 03 17.3	+18
NAIG	**Nisos Aigina**	**4.09**	**330**	*e*PN	**Pn**	**15 02 12.5**	**+1.0**
NAIG	**Nisos Aigina**	**4.09**	**330**	*e*Pn	**Pn**	**15 02 12.5**	**+1.0**
GOLH	**Golhisar**	**4.12**	**42**	*i* P	**Pn**	**15 02 13.4**	**+1.5**
GOLH	**Golhisar**	**4.12**	**42**	*i* P	**Pn**	**15 02 13.4**	**+1.5**
GOLH				*i* S	Sb	15 03 21.7	+10
CHOS	**Chios island**	**4.14**	**360**	P	**Pn**	**15 02 12.6**	**+0.4**
CHOS	**Chios island**	**4.14**	**360**	*e*PN	**Pn**	**15 02 13.0**	**+0.8**
CHOS	**Chios island**	**4.14**	**360**	P	**Pn**	**15 02 12.6**	**+0.4**
CHOS	**Chios island**	**4.14**	**360**	*e*Pn	**Pn**	**15 02 13.0**	**+0.8**
CHOS	**Chios island**	**4.14**	**360**	P	**Pn**	**15 02 12.6**	**+0.4**
ATHU	**Athens Univers**	**4.16**	**334**	P	**Pn**	**15 02 13.3**	**+0.9**
ATHU	**Athens Univers**	**4.16**	**334**	P	**Pn**	**15 02 13.3**	**+0.9**
ATHU	**Athens Univers**	**4.16**	**334**	P	**Pn**	**15 02 13.3**	**+0.9**
ATH	**Athens Observa**	**4.19**	**333**	P	**Pn**	**15 02 13.6**	**+0.8**
ATH	**Athens Observa**	**4.19**	**333**	*e*PN	**Pn**	**15 02 14.2**	**+1.4**
ATH	**Athens Observa**	**4.19**	**333**	P	**Pn**	**15 02 13.6**	**+0.8**
ATH	**Athens Observa**	**4.19**	**333**	P	**Pn**	**15 02 13.6**	**+0.8**
ATH	**Athens Observa**	**4.19**	**333**	*e*Pn	**Pn**	**15 02 14.2**	**+1.4**
ATH	**Athens Observa**	**4.19**	**333**	P	**Pn**	**15 02 13.6**	**+0.8**
PTL	**Penteli**	**4.20**	**335**	P	**Pn**	**15 02 14.2**	**+1.1**
PTL	**Penteli**	**4.20**	**335**	*e*PN	**Pn**	**15 02 14.5**	**+1.4**
PTL	**Penteli**	**4.20**	**335**	P	**Pn**	**15 02 14.2**	**+1.1**
PTL	**Penteli**	**4.20**	**335**	*e*Pn	**Pn**	**15 02 14.5**	**+1.4**
PTL	**Penteli**	**4.20**	**335**	P	**Pn**	**15 02 14.2**	**+1.1**
VLX	**Vlachokerasia**	**4.34**	**317**	P	**Pn**	**15 02 15.8**	**+0.8**
VLX	**Vlachokerasia**	**4.34**	**317**	P	**Pn**	**15 02 15.8**	**+0.8**
VLX	**Vlachokerasia**	**4.34**	**317**	P	**Pn**	**15 02 15.8**	**+0.8**
PYL	**PYLOS**	**4.42**	**308**	P	**Pn**	**15 02 15.7**	**-0.3**
PYL	**PYLOS**	**4.42**	**308**	*e*PN	**Pn**	**15 02 15.9**	**-0.1**
PYL	**PYLOS**	**4.42**	**308**	*e*Pn	**Pn**	**15 02 15.9**	**-0.1**
PYL	**PYLOS**	**4.42**	**308**	P	**Pn**	**15 02 15.7**	**-0.3**
KORT	**Korkueli**	**4.43**	**50**	*i* P	**Pn**	**15 02 17.2**	**+0.9**
KORT				*i* S	**Sn**	**15 03 10.5**	**+3.1**
KORT	**Korkueli**	**4.43**	**50**	*i* P	**Pn**	**15 02 17.2**	**+0.9**
KORT				*i* S	**Sn**	**15 03 10.5**	**+3.1**
ITM	**Ithomi**	**4.48**	**312**	P	**Pn**	**15 02 17.6**	**+0.8**
ITM	**Ithomi**	**4.48**	**312**	*e*PN	**Pn**	**15 02 17.8**	**+1.0**
ITM	**Ithomi**	**4.48**	**312**	*e*Pn	**Pn**	**15 02 17.8**	**+1.0**
ITM	**Ithomi**	**4.48**	**312**	P	**Pn**	**15 02 17.6**	**+0.8**
LTK	**Loutraki**	**4.54**	**327**	P	**Pn**	**15 02 18.6**	**+0.9**
LTK	**Loutraki**	**4.54**	**327**	*e*PN	**Pn**	**15 02 18.3**	**+0.6**
LTK	**Loutraki**	**4.54**	**327**	*e*Pn	**Pn**	**15 02 18.3**	**+0.6**
LTK	**Loutraki**	**4.54**	**327**	P	**Pn**	**15 02 18.6**	**+0.9**
LTK	**Loutraki**	**4.54**	**327**	P	**Pn**	**15 02 18.6**	**+0.9**
GUR	**Go

KFL	Anninata	5.77	314	P	Pn	15 02 34.1	-0.4	KEK	Kerkira	7.42	319 ePN Pn 15 02 56.9 -0.4
KFL	Anninata	5.77	314	P	Pn	15 02 34.1	-0.4	KEK	Kerkira	7.42	319 ePn Pn 15 02 56.9 -0.4
EVR	Evrytania	5.80	325	ePN	Pn	15 02 38.4	+3.4	FNA	Florina	7.53	332 ePN Pn 15 02 58.2 -0.5
EVR	Evrytania	5.80	325	ePn	Pn	15 02 38.4	+3.4	FNA	Florina	7.53	332 ePn Pn 15 02 58.2 -0.5
PDO	Prodromos	5.88	319	P	Pn	15 02 38.4	+2.4	ZNM		7.54	128 P Pn 15 02 56.2 -2.7
PDO	Prodromos	5.88	319	ePN	Pn	15 02 38.4	+2.4		baz=133		
PDO	Prodromos	5.88	319	P	Pn	15 02 38.4	+2.4	ZNM		7.54	128 P Pn 15 02 56.2 -2.7
VLS	Valsamata	5.93	313	ePN	Pn	15 02 36.7	-0.1	MMB	Musomiste	7.57	346 ⇑iP Pn 15 03 00.4 +1.1
VLS	Valsamata	5.93	313	ePn	Pn	15 02 36.7	-0.1	MMB	Musomiste	7.57	346 ⇑iP Pn 15 03 00.4 +1.1
BOLV	Bolvadin	5.94	40	*i* P	Pn	15 02 39.0	+1.9	ANTO	Ankara	7.76	42 ⇓iP Pn 15 03 03.8 +1.8
BOLV				*i* S	Sn	15 03 42.2	-2.4	ANTO	Ankara	7.76	42 eP Pn 15 03 01.7 -0.3
BOLV	Bolvadin	5.94	40	*i* P	Pn	15 02 39.0	+1.9	ANTO	Ankara	7.76	42 eP Pn 15 03 01.7 -0.3
BOLV				*i* S	Sn	15 03 42.2	-2.4	ANTO	Ankara	7.76	42 eP Pn 15 03 03.3 +1.2
HMYD	Mayadein	5.97	137	P	Pn	15 02 36.7	-0.7		SNR=7.3		
	baz=143							ANTO	Ankara	7.76	42 ePn Pn 15 03 01.7 -0.3
HMYD	Mayadein	5.97	137	P	Pn	15 02 36.7	-0.7	MMAI	Mount Meron Ar	7.87	96 Pn Pn 15 03 02.1 -1.3
PAIG	Paliouri	5.99	342	P	Pn	15 02 38.6	+1.0		comp=N,28nm,0.3s,baz=274,slow=12,SNR=59		
PAIG	Paliouri	5.99	342	ePN	Pn	15 02 38.7	+1.1	MMAI			Sn Sn 15 04 26.5 -5.5
PAIG	Paliouri	5.99	342	P	Pn	15 02 38.6	+1.0		comp=N,48nm,0.3s,baz=275,slow=20,SNR=5.1		
PAIG	Paliouri	5.99	342	P	Pn	15 02 38.6	+1.0	DQRL	Deir Qamar	7.90	91 eP Pn 15 03 02.7 -1.2
PAIG	Paliouri	5.99	342	P	Pn	15 02 38.6	+1.0	DQRL	Deir Qamar	7.90	91 eP Pn 15 03 02.7 -1.2
HNAT	Natroun	6.00	139	P	Pn	15 02 37.2	-0.5	BHL	Bhannes	7.95	90 eP Pn 15 03 02.8 -1.8
	baz=146							BHL	Bhannes	7.95	90 eP Pn 15 03 02.8 -1.8
HNAT	Natroun	6.00	139	P	Pn	15 02 37.2	-0.5	HNKL	Nakhl	7.96	121 P Pn 15 03 01.6 -3.1
CSS	Prodhromos	6.02	81	ePn	Pn	15 02 37.0	-1.0		baz=125		
CSS	Prodhromos	6.02	81	ePn	Pn	15 02 37.0	-1.0	HNKL			S Sn 15 04 22.1 -12
ERMK	Ermenek	6.07	65	*i* P	Pn	15 02 40.6	+1.7		baz=125		
ERMK				*i* S	Sn	15 03 47.7	-0.1	HNKL	Nakhl	7.96	121 P Pn 15 03 01.6 -3.1
ERMK	Ermenek	6.07	65	*i* P	Pn	15 02 40.6	+1.7	RCY	Rachaya	8.14	93 eP Pn 15 03 05.4 -1.9
ERMK				*i* S	Sn	15 03 47.7	-0.1	RCY	Rachaya	8.14	93 eP Pn 15 03 05.4 -1.9
SQR		6.14	134	P	Pn	15 02 38.5	-1.1	BRTR	Keskin Array B	8.15	46 Pn Pn 15 03 07.2 -0.2
	baz=140								comp=N,1.0nm,0.3s,baz=211,slow=16,SNR=76		
SQR		6.14	134	P	Pn	15 02 38.5	-1.1	BRTR			Sn Sn 15 04 36.9 -2.1
FYM	Al Fayyum	6.19	136	P	Pn	15 02 39.6	-0.7		comp=N,2.6nm,0.3s,baz=209,slow=26,SNR=6.6		
	baz=142							BRTR			ScP ScP 15 13 12.9 +0.6
FYM	Al Fayyum	6.19	136	P	Pn	15 02 39.6	-0.7		comp=N,0.0nm,0.3s,baz=198,slow=2.5,SNR=5.4		
THL	Klokotos Trika	6.23	330	P	Pn	15 02 41.3	+0.4	BRTR	Keskin Array B	8.15	46 P Pn 15 03 07.2 -0.2
THL	Klokotos Trika	6.23	330	ePN	Pn	15 02 42.0	+1.1	BRTR			15 04 36.9
THL	Klokotos Trika	6.23	330	P	Pn	15 02 41.3	+0.4	BRTR			pmax pmax
THL	Klokotos Trika	6.23	330	ePn	Pn	15 02 42.0	+1.1		comp=Z,1.0nm,0.3s		
SMTH	Samothraki Isl	6.24	356	ePN	Pn	15 02 42.4	+1.5	BRTR			smax smax
SMTH	Samothraki Isl	6.24	356	ePn	Pn	15 02 42.4	+1.5		comp=N,3.0nm,0.3s		
AYT	Al 'Ayyat	6.25	135	P	Pn	15 02 40.2	-0.9	HWQ	Hawqa	8.17	87 eP Pn 15 03 06.9 -0.7
	baz=141							HWQ	Hawqa	8.17	87 eP Pn 15 03 06.9 -0.7
AYT	Al 'Ayyat	6.25	135	P	Pn	15 02 40.2	-0.9	JMB	Yambol	8.22	3 ⇓iP Pn 15 03 06.9 -1.3
HLW	Helwan	6.25	133	P	Pn	15 02 40.2	-0.9	JMB	Yambol	8.22	3 ⇓iP Pn 15 03 06.9 -1.3
	baz=139							BRBR	Barbar	8.25	93 eP Pn 15 03 07.4 -1.5
HLW	Helwan	6.25	133	P	Pn	15 02 40.2	-0.9	BRBR			eS Sn 15 04 30.7 -11
OUR	Ouranopolis	6.31	345	P	Pn	15 02 43.3	+1.3	BRBR			AML AML 15 04 43.3
OUR	Ouranopolis	6.31	345	ePN	Pn	15 02 43.2	+1.3		comp=E,271nm,0.6s		
OUR	Ouranopolis	6.31	345	P	Pn	15 02 43.3	+1.3	BRBR			AML AML 15 04 43.6
OUR	Ouranopolis	6.31	345	ePn	Pn	15 02 43.2	+1.3		comp=N,518nm,0.6s		
OUR	Ouranopolis	6.31	345	P	Pn	15 02 43.3	+1.3	ARNB	Al Arnab	8.27	76 eP Pn 15 03 08.6 -0.4
DSL	Palaion Diasel	6.32	322	P	Pn	15 02 42.6	+0.5	YAYL	Yayladag	8.40	75 *i* P Pn 15 03 07.7 -3.1
DSL	Palaion Diasel	6.32	322	ePN	Pn	15 02 42.7	+0.6	YAYL	Yayladag	8.40	75 *i* P Pn 15 03 07.7 -3.1
DSL	Palaion Diasel	6.32	322	ePn	Pn	15 02 42.7	+0.6	YAYL			*i* S Sn 15 04 36.6 -8.6
DSL	Palaion Diasel	6.32	322	P	Pn	15 02 42.6	+0.5	TCHB	Talchebab	8.41	98 eP Pn 15 03 09.8 -1.0
PLG	Polygyros	6.47	342	P	Pn	15 02 45.2	+1.0	BIDA	Albida	8.47	82 eP Pn 15 03 10.2 -1.6
PLG	Polygyros	6.47	342	ePN	Pn	15 02 45.4	+1.2	HAWK	Haweek	8.54	85 eP Pn 15 03 11.3 -1.3
PLG	Polygyros	6.47	342	P	Pn	15 02 45.2	+1.0	HAWK			eS Sn 15 04 39.2 -9.2
PLG	Polygyros	6.47	342	P	Pn	15 02 45.2	+1.0	HAWK			AML AML 15 04 49.1
PLG	Polygyros	6.47	342	P	Pn	15 02 45.2	+1.0		comp=N,250nm,0.4s		
PLG	Polygyros	6.47	342	P	Pn	15 02 45.2	+1.0	FKH	Fakeheh	8.55	87 eP Pn 15 03 12.0 -0.9
KDHN	Kadinhani	6.47	47	*i* P	Pn	15 02 43.8	-0.5	FKH	Fakeheh	8.55	87 eP Pn 15 03 12.0 -0.9
KDHN	Kadinhani	6.47	47	*i* P	Pn	15 02 43.8	-0.5	WRDH	Warideh	8.58	79 eP Pn 15 03 12.4 -0.8
KDHN				*i* S	Sb	15 04 46.6	+27	MARH	Ras Al Marh	8.62	89 eP Pn 15 03 13.3 -0.7
KOT	Kottamia	6.50	130	P	Pn	15 02 43.1	-1.5	MARH			eS Sn 15 04 40.6 -11
	baz=136							MARH			AML AML 15 04 56.6
KOT				S	Sn	15 03 50.2	-8.0		comp=E,293nm,0.5s		
	baz=136							VTS	Vitosha	8.64	346 ⇓iP Pn 15 03 15.1 +1.1
KOT				AMP		15 04 00.0		VTS	Vitosha	8.64	346 ⇓iP Pn 15 03 15.1 +1.1
	comp=N,1010μm,0.5s,logA/T=6.3,baz=136							TOTH	TOTAH	8.65	93 eP Pn 15 03 13.0 -1.2
KOT	Kottamia	6.50	130	P	Pn	15 02 43.1	-1.5	TOTH			eS Sn 15 04 41.1 -10
LIT	Litokhoron	6.51	335	P	Pn	15 02 45.5	+0.7	TOTH			AML AML 15 04 53.5
LIT	Litokhoron	6.51	335	ePN	Pn	15 02 45.3	+0.5		comp=E,238nm,0.7s		
LIT	Litokhoron	6.51	335	P	Pn	15 02 45.5	+0.7	BTCH	Batrach	8.69	75 eP Pn 15 03 14.2 -0.5
LIT	Litokhoron	6.51	335	P	Pn	15 02 45.5	+0.7	TR2		8.76	130 P Pn 15 03 13.1 -2.5
LIT	Litokhoron	6.51	335	P	Pn	15 02 45.5	+0.7		baz=134		
HSAF	As Saff	6.54	133	P	Pn	15 02 43.4	-1.9	TR2		8.76	130 P Pn 15 03 13.1 -2.5
	baz=139							HKAT	Jabal Katrina	8.84	128 P Pn 15 03 14.4 -2.5
HSAF	As Saff	6.54	133	P	Pn	15 02 43.4	-1.9		baz=132		
ALN	Alexandroupoli	6.64	360	P	Pn	15 02 47.5	+1.0	HKAT	Jabal Katrina	8.84	128 P Pn 15 03 14.4 -2.5
ALN	Alexandroupoli	6.64	360	ePN	Pn	15 02 45.6	-0.9	KFRA	Kufra	8.88	81 eP Pn 15 03 16.9 -0.4
ALN	Alexandroupoli	6.64	360	P	Pn	15 02 47.5	+1.0	TIP	Timpagrande	8.96	306 ePn Pn 15 03 16.7 -1.8
ALN	Alexandroupoli	6.64	360	ePn	Pn	15 02 45.6	-0.9	SALA	Sala	9.03	97 eP Pn 15 03 18.7 -0.7
ALN	Alexandroupoli	6.64	360	P	Pn	15 02 47.5	+1.0	SALA			eS Sn 15 04 49.4 -11
ALN	Alexandroupoli	6.64	360	P	Pn	15 02 47.5	+1.0	SALA			AML AML 15 05 04.5
HHAG	Hagoal	6.66	128	P	Pn	15 02 44.7	-2.1		comp=N,263nm,0.6s		
	baz=134							CEL	Celeste	9.15	299 ePn Pn 15 03 20.0 -1.0
HHAG				S	Sn	15 03 53.0	-9.1	CEL	Celeste	9.15	299 ePn Pn 15 03 20.0 -1.0
	baz=134							TR1		9.17	131 P Pn 15 03 19.1 -2.1
HHAG	Hagoal	6.66	128	P	Pn	15 02 44.7	-2.1		baz=135		
GLL	Jalalah	6.67	133	P	Pn	15 02 45.3	-1.7	TR1		9.17	131 P Pn 15 03 19.1 -2.1
	baz=139							BARS	Barje	9.19	340 ⇑iPn Pn 15 03 22.1 +0.6
GLL	Jalalah	6.67	133	P	Pn	15 02 45.3	-1.7	ROOS	tl_alroos	9.28	87 eP Pn 15 03 25.4 +2.5
MEV	Metsovon	6.76	326	P	Pn	15 02 49.0	+0.7	ROOS			eS Sn 15 04 55.9 -11
MEV	Metsovon	6.76	326	P	Pn	15 02 49.0	+0.7	ASF	Jabal al Asfar	9.29	100 Pn Pn 15 03 21.8 -1.2
MEV	Metsovon	6.76	326	P	Pn	15 02 49.0	+0.7		comp=N,2.8nm,0.3s,baz=236,slow=10,SNR=15		
HORT	Hortiatis	6.78	340	P	Pn	15 02 49.7	+1.3	ASF			Sn Sn 15 05 04.8 -2.2
HORT	Hortiatis	6.78	340	ePN	Pn	15 02 50.1	+1.7		comp=N,5.8nm,0.3s,baz=313,slow=19,SNR=3.6		
HORT	Hortiatis	6.78	340	P	Pn	15 02 49.7	+1.3	ASF	Jabal al Asfar	9.29	100 P Pn 15 03 21.8 -1.2
HORT	Hortiatis	6.78	340	ePn	Pn	15 02 50.1	+1.7	ASF			15 05 04.8
HORT	Hortiatis	6.78	340	P	Pn	15 02 49.7	+1.3	ASF			pmax pmax
THE	Thessaloniki	6.84	340	ePN	Pn	15 02 48.4	-0.9		comp=Z,3.0nm,0.3s		
THE	Thessaloniki	6.84	340	ePn	Pn	15 02 48.4	-0.9	ASF			smax smax
HBNS	Bani Suwayf	6.85	139	P	Pn	15 02 49.4	0.0		comp=N,6.0nm,0.3s		
	baz=145							HCB	Kahramanmara˜	9.32	68 *i* P Pn 15 03 23.5 +0.2
HBNS	Bani Suwayf	6.85	139	P	Pn	15 02 49.4	0.0	SHRM		9.36	130 P Pn 15 03 22.0 -1.9
KAVA	Kavala	6.86	350	ePN	Pn	15 02 52.0	+2.5		baz=134		
KAVA	Kavala	6.86	350	ePn	Pn	15 02 52.0	+2.5	SHRM			S Sn 15 04 59.8 -8.8
SOH	Sokhos	6.92	343	ePN	Pn	15 02 51.1	+0.7		baz=134		
SOH	Sokhos	6.92	343	ePn	Pn	15 02 51.1	+0.7	SHRM		9.36	130 P Pn 15 03 22.0 -1.9
KIZK	Mersin	6.95	69	*i* P	Pn	15 02 50.8	0.0	ULC	Ulcinj	9.40	327 ⇓*i*Pn Pn 15 03 24.4 0.0
KIZK	Mersin	6.95	69	*i* P	Pn	15 02 50.8	0.0	ULC			eSn Sn 15 05 14.4 +4.9
KIZK				*i* S	Sn	15 03 57.4	-12	ULC	Ulcinj	9.40	327 ⇓iPn Pn 15 03 24.4 0.0
KZN	Kozani	6.96	332	ePN	Pn	15 02 53.5	+2.5	ZALF	Zalf	9.48	95 eP Pn 15 03 25.7 +0.2
KZN	Kozani	6.96	332	ePn	Pn	15 02 53.5	+2.5	ZALF			eS Sn 15 05 05.5 -6.0
IGT	Igoumenitsa	7.01	321	P	Pn	15 02 51.2	-0.4	PE1	Pezze di Greco	9.50	316 ePn Pn 15 03 24.5 -1.2
IGT	Igoumenitsa	7.01	321	ePN	Pn	15 02 51.6	0.0	HHRG	Al Ghardaqah	9.51	135 P Pn 15 03 24.9 -1.0
IGT	Igoumenitsa	7.01	321	P	Pn	15 02 51.2	-0.4		baz=140		
IGT	Igoumenitsa	7.01	321	P	Pn	15 02 51.2	-0.4	HHRG	Al Ghardaqah	9.51	135 P Pn 15 03 24.9 -1.0
IGT	Igoumenitsa	7.01	321	ePn	Pn	15 02 51.6	0.0	PSN	Preselentsi	9.57	9 ⇑iP Pn 15 03 29.1 +2.5
IGT	Igoumenitsa	7.01	321	P	Pn	15 02 51.2	-0.4	PSN	Preselentsi	9.57	9 ⇑iP Pn 15 03 29.1 +2.5
AMAG	Maghara	7.01	119	P	Pn	15 02 48.4	-3.2	DRME	Dracevica, Mon	9.61	328 ⇑iPn Pn 15 03 26.3 -0.9
	baz=124							DRME			eSn Sn 15 05 19.7 +5.2
AMAG	Maghara	7.01	119	P	Pn	15 02 48.4	-3.2	DRME	Dracevica, Mon	9.61	328 ⇑iPn Pn 15 03 26.3 -0.9
SRS	Serrai	7.14	345	P	Pn	15 02 54.8	+1.4	WDD	Wield Dalam	9.62	283 ePn Pn 15 03 25.7 -1.6
SRS	Serrai	7.14	345	ePN	Pn	15 02 54.8	+1.4		comp=N,313nm,0.7s		
SRS	Serrai	7.14	345	P	Pn	15 02 54.8	+1.4	WDD	Wield Dalam	9.62	283 ePn Pn 15 03 25.7 -1.6
SRS	Serrai	7.14	345	P	Pn	15 02 54.8	+1.4		comp=N,313nm,0.7s		
SRS	Serrai	7.14	345	P	Pn	15 02 54.8	+1.4	PVY	Plav	9.62	332 ⇓iPn Pn 15 03 28.8 +1.3
NBNS	Bani Suef	7.15	140	P	Pn	15 02 52.4	-1.2	PVY			eSn Sn 15 05 19.9 +4.8
	baz=146							PVY	Plav	9.62	332 ⇓iPn Pn 15 03 28.8 +1.3
NBNS	Bani Suef	7.15	140	P	Pn	15 02 52.4	-1.2	PDG	Podgorica	9.77	329 ⇑iPn Pn 15 03 29.4 -0.1
SUZ		7.21	126	P	Pn	15 02 52.0	-2.4	TTG	Podgorica	9.77	329 ⇑iPn Pn 15 03 29.4 -0.1
	baz=131							TTG			eSn Sn 15 05 24.9 +6.3
SUZ		7.21	126	P	Pn	15 02 52.0	-2.4	BUM	Brajici-Budva	9.83	327 ⇑iPn Pn 15 03 30.5 +0.2
RSH		7.23	115	P	Pn	15 02 50.9	-3.7	BUM			eSn Sn 15 05 23.6 +3.5
	baz=119							BUM	Brajici-Budva	9.83	327 ⇑iPn Pn 15 03 30.5 +0.2
NVR	Nevrokopi	7.31	347	ePN	Pn	15 02 57.3	+1.5	BEY	Berane	9.88	332 ⇓iPn Pn 15 03 32.2 +1.1
NVR	Nevrokopi	7.31	347	ePn	Pn	15 02 57.3	+1.5	IVA	Berane	9.88	332 ⇓iPn Pn 15 03 32.2 +1.1
GRG	Griva	7.31	338	P	Pn	15 02 56.4	+0.6	IVA			eSn Sn 15 05 27.2 +5.8
GRG	Griva	7.31	338	ePN	Pn	15 02 56.1	+0.3	MSAB	Monastry St. A	9.93	7 ⇑iP Pn 15 03 33.8 +2.2
GRG	Griva	7.31	338	P	Pn	15 02 56.4	+0.6	MSAB	Monastry St. A	9.93	7 ⇑iP Pn 15 03 33.8 +2.2
GRG	Griva	7.31	338	ePn	Pn	15 02 56.1	+0.3	BAI	Bari	10.01	316 ePn Pn 15 03 31.9 -0.7
GRG	Griva	7.31	338	P	Pn	15 02 56.4	+0.6	CUC	Castrocucco	10.01	308 ePn Pn 15 03 31.3 -1.4
GRG	Griva	7.31	338	P	Pn	15 02 56.4	+0.6	CUC	Castrocucco	10.01	308 ePn Pn 15 03 31.3 -1.4
NEST	Nestorio	7.35	328	P	Pn	15 02 56.1	-0.3	HCY	Herceg Novi	10.13	326 ⇓iPn Pn 15 03 34.4 +0.1
NEST	Nestorio	7.35	328	ePN	Pn	15 02 55.8	-0.6	HCY			eSn Sn 15 05 31.2 +3.9
NEST	Nestorio	7.35	328	ePn	Pn	15 02 55.8	-0.6	HCY	Herceg Novi	10.13	326 ⇓iPn Pn 15 03 34.4 +0.1
NEST	Nestorio	7.35	328	P	Pn	15 02 56.1	-0.3	NKME	Niksic	10.18	329 ⇑iPn Pn 15 03 35.6 +0.5
KNT	Kendrikon	7.36	341	P	Pn	15 02 57.5	+1.2	NKME			eSn Sn 15 05 33.0 +4.4
KNT	Kendrikon	7.36	341	ePN	Pn	15 02 58.2	+1.9	NKME	Niksic	10.18	329 ⇑iPn Pn 15 03 35.6 +0.5
KNT	Kendrikon	7.36	341	P	Pn	15 02 57.5	+1.2	NKY	Niksic	10.20	329 ⇑iPn Pn 15 03 35.9 +0.5
KNT	Kendrikon	7.36	341	P	Pn	15 02 57.5	+1.2	NKY			eSn Sn 15 05 33.8 +4.6
KNT	Kendrikon	7.36	341	ePn	Pn	15 02 58.2	+1.9	NKY	Niksic	10.20	329 ⇑iPn Pn 15 03 35.9 +0.5
KNT	Kendrikon	7.36	341	P	Pn	15 02 57.5	+1.2	HUMR	Humele	10.31	356 ⇑iP Pn 15 03 40.4 +3.6
ZAF		7.40	130	P	Pn	15 02 55.8	-1.1	TIRR	Tirgusor	10.36	9 ⇑iP Pn 15 03 40.6 +3.1
	baz=135							TIRR	Tirgusor	10.36	9 eP Pn 15 03 37.5 0.0
ZAF		7.40	130	P	Pn	15 02 55.8	-1.1	TIRR	Tirgusor	10.36	9 eP Pn 15 03 37.5 0.0
KDZ	Kurdzhali	7.42	356	⇑*i*P	Pn	15 02 59.2	+2.0	TIRR	Tirgusor	10.36	9 ePn Pn 15 03 37.5 0.0
KDZ	Kurdzhali	7.42	356	⇑*i*P	Pn	15 02 59.2	+2.0	TLB	Topalu	10.44	8 ⇑iP Pn 15 03 41.0 +2.4
TLB	Topalu	10.44	8	⇑*i*P	Pn	15 03 41.0	+2.4				
BRY	Bratogost	10.47	328	⇓iPn	Pn	15 03 38.9	-0.2				
BRY				eSn	Sn	15 05 39.4	+3.6				
BRY	Bratogost	10.47	328	⇓iPn	Pn	15 03 38.9	-0.2				
PLE	Pljevlja	10.47	332	⇑*i*Pn	Pn	15 03 40.3	+1.2				
PLE				eSn	Sn	15 05 40.8	+5.0				
PLE	Pljevlja	10.47	332	⇑*i*Pn	Pn	15 03 40.3	+1.2				
GRUS	Gruza	10.50	338	⇑iPn	Pn	15 03 39.9	+0.5				
UPM	Unac-Piva	10.55	330	⇓*i*Pn	Pn	15 03 39.8	-0.6				
UPM				eSn	Sn	15 05 43.9	+5.9				
UPM	Unac-Piva	10.55	330	⇓*i*Pn	Pn	15 03 39.8	-0.6				
KSRV	Kasrt alli	10.71	78	eP	Pn	15 03 40.5	-1.8				
MALT	Malatya	10.76	64	⇓iP	Pn	15 03 42.6	-0.5				
MALT	Malatya	10.76	64	⇓iP	Pn	15 03 42.6	-0.5				
STON	Ston	10.83	325	ePn	Pn	15 03 40.5	-3.4				
STON				Sn	Sn	15 05 32.9	-11				
ISR	Istrita	10.87	2	⇑iP	Pn	15 03 48.3	+3.8				
DIVS	Divibare	10.92	336	⇑iP	Pn	15 03 43.8	-1.4				
DIVS	Divibare	10.92	336	⇑iP	Pn	15 03 43.8	-1.4				
CLTB	Caltabellotta	10.95	291	ePn	Pn	15 03 45.8	+0.1				
CLTB	Caltabellotta	10.95	291	ePn	Pn	15 03 45.8	+0.1				
CFR	Carcaliu	11.04	8	⇑iP	Pn	15 03 48.9	+2.2				
CFR	Carcaliu	11.04	8	⇑iP	Pn	15 03 48.9	+2.2				
TLCR		11.13	10	⇓iP	Pn	15 03 52.6	+4.6				
ARR	Arges	11.17	355	⇓iP	Pn	15 03 50.0	+1.4				
ARR	Arges	11.17	355	⇓iP	Pn	15 03 50.0	+1.4				
VOIR		11.21	356	⇑iP	Pn	15 03 50.4	+1.2				
VOIR		11.21	356	⇑iP	Pn	15 03 50.4	+1.2				
MLR	Muntele Rosu	11.24	360	⇑iP	Pn	15 03 51.6	+2.0				
MLR	Muntele Rosu	11.24	360	Pn	Pn	15 03 48.7	-0.9				
	comp=N,0.1nm,0.3s,baz=202,slow=6.8,SNR=18										
MLR				LR	LR	15 08 35.7					
	comp=N,2μm,22.0s,baz=184,slow=40										
LOT	Lotru	11.33	352	⇑iP	Pn	15 03 52.6	+1.7				
LOT	Lotru	11.33	352	⇑iP	Pn	15 03 52.6	+1.7				
GZR	Gura Zlata	11.42	348	⇑iP	Pn	15 03 53.1	+1.0				
GZR	Gura Zlata	11.42	348	⇑iP	Pn	15 03 53.1	+1.0				
TEKS	Tekeris	11.47	336	ePn	Pn	15 03 51.9	-0.8				
PLOR	Plostina	11.61	2	⇑iP	Pn	15 03 56.2	+1.6				
PLOR	Plostina	11.61	2	⇑iP	Pn	15 03 56.2	+1.6				
VRI	Vrincioaia	11.62	2	⇓iP	Pn	15 03 57.8	+3.0				
VRI	Vrincioaia	11.62	2	⇓iP	Pn	15 03 57.8	+3.0				
DOPR	Dopca	11.72	358	⇑iP	Pn	15 03 58.8	+2.6				
DOPR	Dopca	11.72	358	⇑iP	Pn	15 03 58.8	+2.6				
BZS	Buzias	11.87	345	⇑iP	Pn	15 03 58.0	-0.1				
BZS	Buzias	11.87	345	⇑iP	Pn	15 03 58.0	-0.1				
DEV	Deva	11.88	349	⇑iP	Pn	15 04 00.2	+1.9				
DEV	Deva	11.88	349	⇑iP	Pn	15 04 00.2	+1.9				
SIM	Simferopol'	12.35	28	eP	Pn	15 04 07.0	+2.3				
SIM				eS	Sn	15 06 29.0	+7.3				
SIM				pmax	pmax						
	comp=Z,32nm,0.9s										
SIM				MLR	MLR						
	comp=Z,2μm,4.2s										
SIM	Simferopol'	12.35	28	eP	Pn	15 04 07.0	+2.3				
	comp=Z,32nm,0.9s										
SIRR	Siria	12.48	346	⇓iP	Pn	15 04 06.6	+0.2				
SIRR	Siria	12.48	346	⇓iP	Pn	15 04 06.6	+0.2				
DRGR		12.79	349	⇓iP	P	15 04 17.9	-3.8				
AQU	L'Aquila	12.83	313	eP	Pn	15 04 09.1	-2.2				
AQU				pmax	pmax						
	comp=Z,133nm,1.0s										
AQU	L'Aquila	12.83	313	ePn	Pn	15 04 09.1	-2.2				
	comp=Z,132nm,1.0s										
KIS	Kishinev	12.91	8	eP	Pn	15 04 10.0	-2.3				
KIS	Kishinev	12.91	8	ePP	Pn	15 04 15.0	+2.7				
KIS				eS	Sn	15 06 38.0	+2.7				
KIS				eLi		15 07 28.0					
KIS				eLg1		15 07 53.0					
KIS				eLg2		15 08 17.0					
KIS				eLR	LR	15 08 58.0					
	comp=Z,7μm,12.0s										
KIS	Kishinev	12.91	8	eP	Pn	15 04 10.0	-2.3				
KIS				eS	Sn	15 06 38.0	+2.7				
KIS				MLR	MLR						
	comp=Z,7μm,12.0s										
KIS				MLR	MLR						
	comp=N,7μm,12.0s										
KIS				MLR	MLR						
	comp=Z,7μm,12.0s										
KIS				MLR	MLR						
	comp=E,2μm,11.0s										
UDBI	Udbina	13.00	325	ePn	Pn	15 04 10.7	-2.9				
UDBI				Sn	Sn	15 06 26.5	-11				
PKSM	Moragy	13.23	337	⇑iP	Pn	15 04 15.3	-1.4				
PKSM	Moragy	13.23	337	⇓eP	Pn	15 04 16.5

AKH **Akhalkalaki** 15.49 57 P Pn 15 04 49.4 +1.9
KWP **Kalwaria Pacla** 15.58 352 eP Pn 15 04 50.5 +2.0
KWP **Kalwaria Pacla** 15.58 352 ⇓iP Pn 15 04 49.6 +1.1
KWP **Kalwaria Pacla** 15.58 352 eP Pn 15 04 49.0 +0.5
KWP pmax pmax
comp=Z,70nm,1.0s
KWP **Kalwaria Pacla** 15.58 352 eP Pn 15 04 50.5 +2.0
KWP **Kalwaria Pacla** 15.58 352 ePn Pn 15 04 49.0 +0.5
comp=Z,70nm,1.0s
KWP **Kalwaria Pacla** 15.58 352 eP Pn 15 04 50.5 +2.0
KWP **Kalwaria Pacla** 15.58 352 ePn Pn 15 04 49.0 +0.5
comp=Z,70nm,1.0s
STHS **Stebnicka Huta** 15.58 348 eP Pn 15 04 48.6 +0.1
STHS **Stebnicka Huta** 15.58 348 ePn Pn 15 04 48.6 +0.1
STHS **Stebnicka Huta** 15.58 348 ePN Pn 15 04 48.5 +0.1
LVV **L'vov** 15.64 355 eP P 15 04 55.8 +2.6
LVV MLR MLR
comp=Z,4µm,13.0s
LVV MLR MLR
comp=N,4µm,12.0s
LVV MLR MLR
comp=E,4µm,14.0s
CONA **Conrad Observa** 15.68 334⇑iPn Pn 15 04 47.6 -2.2
comp=E,9.2nm,0.7s
CONA **Conrad Observa** 15.68 334 Pn Pn 15 04 47.6 -2.2
comp=E,9.2nm,0.7s
PGF **Pioggiola** 15.73 307 eP Pn 15 04 49.2 -1.4
comp=E,303nm,1.1s
PGF **Pioggiola** 15.73 307 eP Pn 15 04 49.2 -1.4
PGF pmax pmax
comp=Z,303nm,1.1s
PGF **Pioggiola** 15.73 307 eP Pn 15 04 49.2 -1.4
comp=Z,303nm,1.1s
NIE **Niedzica** 15.76 346 eP Pn 15 04 50.9 +0.1
NIE eS Sn 15 07 14.4 -30
NIE **Niedzica** 15.76 346 eP Pn 15 04 51.4 +0.6
NIE MLR MLR
comp=Z,5µm,18.4s
NIE **Niedzica** 15.76 346 eP Pn 15 04 51.4 +0.6
comp=Z,5µm,18.4s
CAEH **'Ain El Ouahch** 15.87 285 P P 15 04 57.6 +1.7
ONI **Oni** 15.94 53 P Pn 15 04 54.4 +1.1
CKFL **Kef-Lekhel** 15.95 283 P P 15 04 58.6 +1.7
GNI **Garni** 15.98 63 Pn P 15 04 56.0 -1.3
comp=Z,2.5nm,0.3s,baz=271,slow=3.2,SNR=11
GNI **Garni** 15.98 63c iP Pn 15 04 55.3 +1.4
GNI pmax pmax
comp=Z,145nm,2.5s
GNI MLR MLR
comp=Z,4µm,18.0s
GNI **Garni** 15.98 63 ePn Pn 15 04 54.5 +0.6
comp=Z,159nm,1.3s
GNI **Garni** 15.98 63 iP Pn 15 04 55.3 +1.4
comp=Z,4µm,18.0s
GNI **Garni** 15.98 63⇓iP Pn 15 04 55.5 +1.6
SNR=14
GNI **Garni** 15.98 63 P P 15 04 56.5 -0.8
SNR=19
GNI **Garni** 15.98 63 ePn Pn 15 04 54.5 +0.6
comp=Z,159nm,1.3s
KBA **Koelnbreinsper** 16.03 327⇑iPn Pn 15 04 52.3 -2.1
comp=Z,17nm,0.5s,SNR=8.0
KBA **Koelnbreinsper** 16.03 327 Pn Pn 15 04 52.3 -2.1
comp=Z,17nm,0.5s,SNR=8.0
KIV **Kislovodsk** 16.11 48 P P 15 05 00.9 +2.4
comp=Z,2µm,0.9s,SNR=20
KIV **Kislovodsk** 16.11 48ceP Pn 15 04 56.7 +1.4
KIV iS S 15 08 01.4 -5.1
KIV pmax pmax
comp=Z,145nm,0.8s
KIV MLR MLR
comp=Z,2µm,13.0s
KIV **Kislovodsk** 16.11 48 ePn Pn 15 04 55.6 +0.3
comp=Z,304nm,0.8s
KIV **Kislovodsk** 16.11 48 eP Pn 15 04 56.7 +1.4
comp=Z,145nm,0.8s
KIV **Kislovodsk** 16.11 48⇓iP P 15 04 57.1 -1.5
SNR=35
KIV **Kislovodsk** 16.11 48 P P 15 04 57.0 -1.5
SNR=74
KIV **Kislovodsk** 16.11 48 ePn Pn 15 04 55.6 +0.3
comp=Z,304nm,0.8s
KBZ **Khabaz** 16.12 49 Pn P 15 04 57.5 -1.0
comp=Z,0.7nm,0.3s,baz=236,slow=24,SNR=25
KBZ **Khabaz** 16.12 49 P P 15 04 57.6 -1.0
KBZ pmax pmax
comp=Z,1.0nm,0.3s
CASM **Ain Smara** 16.14 283 P P 15 05 00.0 +1.1
CASM **Ain Smara** 16.14 283 P P 15 05 00.0 +1.1
ABTA **Abfaltersbach** 16.18 325⇓iPn Pn 15 04 53.2 -3.0
comp=Z,68nm,0.6s,SNR=44
CTEI **Djebel Teioual** 16.20 282 P P 15 05 03.0 +3.3
MOA **Molln** 16.23 330⇑iPn Pn 15 04 54.6 -2.2
comp=Z,19nm,0.7s
MOA **Molln** 16.23 330 Pn Pn 15 04 54.6 -2.2
comp=Z,19nm,0.7s
ZEI **Tsey** 16.33 53 eP Pn 15 04 59.2 +0.9
ZEI pmax pmax
comp=Z,171nm,1.0s
ZEI **Tsey** 16.33 53 eP Pn 15 04 59.2 +0.9
comp=Z,171nm,1.0s
IMRD **Marand** 16.39 69 eP P 15 05 01.9 0.0
IMRD **Marand** 16.39 69 eP P 15 05 01.9 0.0
NCK **Nalchik** 16.45 51 eP Pn 15 04 58.8 -0.8
NCK **Nalchik** 16.45 51 eP Pn 15 04 58.8 -0.8
TBLG **Delisi** 16.48 58 P Pn 15 05 01.4 +1.3
TBLG **Delisi** 16.48 58 P Pn 15 05 01.4 +1.3
KIEV **Kiev** 16.60 7 eP Pn 15 05 00.8 -0.7
KIEV pmax pmax
comp=Z,119nm,1.0s
KIEV **Kiev** 16.60 7 eP Pn 15 05 00.8 -0.7
comp=Z,119nm,1.0s
KIEV **Kiev** 16.60 7 ePn Pn 15 05 00.8 -0.7
comp=Z,119nm,1.0s
AKASG **Malin Array Be** 16.61 7 Pn Pn 15 05 00.8 -0.7
comp=Z,15nm,0.3s,baz=198,slow=11,SNR=82
AKASG Sn Sn 15 08 07.6 +2.3
comp=Z,0.5nm,0.3s,baz=189,slow=21,SNR=2.5
AKASG LR LR 15 11 47.8
comp=Z,2µm,21.5s,baz=195,slow=39
AKASG ScP ScP 15 13 24.9 +0.4
comp=Z,0.2nm,0.3s,baz=212,slow=1.4,SNR=4.6
AKASG **Malin Array Be** 16.61 7 P Pn 15 05 00.9 -0.7
AKASG 15 08 07.6
AKASG pmax pmax
comp=Z,15nm,0.3s
AKASG smax smax
comp=N,1.0nm,0.3s
AKASG MLR MLR
comp=Z,2µm,21.5s
VRAC **Vranov** 16.61 338⇓iP Pn 15 05 01.1 -0.7
VRAC **Vranov** 16.61 338 Pn Pn 15 05 01.0 -0.7
comp=Z,1.4nm,0.3s,baz=139,slow=11,SNR=11
VRAC **Vranov** 16.61 338 P Pn 15 05 01.0 -0.7
VRAC pmax pmax
comp=Z,1.0nm,0.3s
OJC **Ojcow** 16.62 346 eP Pn 15 05 00.4 -1.4
OJC eS Sn 15 08 06.4 +0.7
DFRA **Djebel Bou Aff** 16.64 284 P P 15 05 06.0 +1.5
DFRA **Djebel Bou Aff** 16.64 284 P P 15 05 06.0 +1.5
OKC **Ostrava-Krasne** 16.65 342 eP Pn 15 05 00.8 -1.3
OKC ex x 15 05 08.0
OKC AMS AMS 15 12 30.0
comp=Z,6µm,12.3s
OKC **Ostrava-Krasne** 16.65 342 eP Pn 15 05 00.8 -1.3
OKC MLR MLR
comp=Z,6µm,12.3s
IDHR **Dehrash** 16.75 83 eP P 15 05 06.7 +0.8
MORC **Moravsky Berou** 16.75 340⇑iP Pn 15 05 02.5 -1.0
MORC **Moravsky Berou** 16.75 340 eP Pn 15 05 00.4 -3.1
MORC pmax pmax
comp=Z,26nm,0.8s
MORC **Moravsky Berou** 16.75 340 ePn Pn 15 05 02.2 -1.3
MORC **Moravsky Berou** 16.75 340⇑iP Pn 15 05 02.5 -1.0
MORC **Moravsky Berou** 16.75 340 ePn Pn 15 05 00.4 -3.1
comp=Z,26nm,0.8s
RJOB **Jochberg** 16.77 327 eP Pn 15 05 01.9 -1.9
comp=Z,38nm,0.8s
DGRG **David-gareji** 16.83 59 P P 15 05 06.3 -0.3
GOF **Gofitskoye** 16.91 45 eP P 15 05 06.8 -0.6
GOF pmax pmax
comp=Z,233nm,1.1s
GOF **Gofitskoye** 16.91 45 eP P 15 05 06.8 -0.6
comp=Z,233nm,1.1s
CKHR **Kef el Ahmar** 16.92 282 P P 15 05 08.0 +0.3
CKHR **Kef el Ahmar** 16.92 282 P P 15 05 08.0 +0.3
IGHG **Ghaleghazi** 16.93 84 eP P 15 05 10.8 +2.8
WTTA **Wattenberg** 16.96 324⇑iPn Pn 15 05 05.4 -0.9
comp=Z,63nm,1.0s,SNR=36
WTTA **Wattenberg** 16.96 324 P Pn 15 05 05.4 -0.9
comp=Z,63nm,1.0s,SNR=36
TREC **Trest** 16.96 336 eP Pn 15 05 03.0 -3.1
TREC ex x 15 05 10.2
TREC AMS AMS 15 13 30.0
comp=Z,4µm,14.0s
TREC **Trest** 16.96 336 eP Pn 15 05 03.0 -3.1
TREC MLR MLR
comp=Z,4µm,14.0s
SET **Setif** 17.02 282 P P 15 05 09.0 +0.3
SET **Setif** 17.02 282 P P 15 05 09.0 +0.3
WATA **Walderalm** 17.04 324⇑iPn Pn 15 05 05.3 -2.0
comp=Z,59nm,0.8s,SNR=18
WATA **Walderalm** 17.04 324 Pn Pn 15 05 05.3 -2.0
comp=Z,59nm,0.8s,SNR=18
FUORN **Ofenpass-Fuorn** 17.22 321 ePn Pn 15 05 09.2 -0.4
comp=Z,271nm,1.3s
FUORN **Ofenpass-Fuorn** 17.22 321 ePn Pn 15 05 09.2 -0.4
comp=Z,271nm,1.3s
FETA **Feichten** 17.25 322⇑iP Pn 15 05 09.2 -0.6
comp=Z,45nm,0.7s,SNR=52
FETA **Feichten** 17.25 322 P Pn 15 05 09.2 -0.6
comp=Z,45nm,0.7s,SNR=52
GEC2 **GERESS Array S** 17.25 331 eP Pn 15 05 09.2 -0.6
comp=Z,46nm,0.9s
GEC2 **GERESS Array S** 17.25 331 eP Pn 15 05 08.2 -1.6
GEC2 **GERESS Array S** 17.25 331 ePn Pn 15 05 08.2 -1.6
GEC2 **GERESS Array S** 17.25 331 eP Pn 15 05 09.2 -0.6
comp=Z,46nm,0.9s
GEC2 **GERESS Array S** 17.25 331 ePn Pn 15 05 08.2 -1.6
GERES **GERESS Array B** 17.25 331 P Pn 15 05 08.4 -1.4
comp=Z,2.1nm,0.3s,baz=147,slow=11,SNR=42
GERES S Sn 15 08 24.1 +3.0
comp=Z,0.2nm,0.3s,baz=146,slow=20,SNR=2.6
GERES PcP PcP 15 09 52.6 +0.3
comp=Z,0.2nm,0.3s,baz=134,slow=2.8,SNR=3.7
GERES ScP ScP 15 13 24.5 -1.5
comp=Z,0.1nm,0.3s,baz=124,slow=0.4,SNR=3.4
GERES LR LR 15 13 31.9
comp=Z,5µm,18.8s,baz=146,slow=43
MOTA **Moosalm** 17.28 324 iP Pn 15 05 09.6 -0.6
comp=Z,82nm,0.8s,SNR=36
MOTA **Moosalm** 17.28 324 P Pn 15 05 09.6 -0.6
comp=Z,82nm,0.8s,SNR=36
SAOF **Saorge** 17.33 310⇑eP Pn 15 05 10.1 -0.6
SBF **Sospel** 17.35 309 eP Pn 15 05 09.2 -1.8
comp=Z,305nm,0.8s
SBF **Sospel** 17.35 309 eP Pn 15 05 09.2 -1.8
SBF pmax pmax
comp=Z,305nm,0.8s
SBF **Sospel** 17.35 309 eP Pn 15 05 09.2 -1.8
comp=Z,152nm,0.8s
SBF **Sospel** 17.35 309 eP Pn 15 05 09.2 -1.8
comp=Z,305nm,0.8s
IHRS **Heris** 17.38 70 eP P 15 05 14.6 +1.8
AUTN **L'Aution** 17.41 310⇑eP Pn 15 05 10.5 -1.5
DAVOX **Davos/Dischmat** 17.53 320 P Pn 15 05 13.7 +0.3
comp=Z,2.3nm,0.3s,baz=140,slow=15,SNR=40
DAVOX S Sn 15 08 30.5 +2.6
comp=Z,0.5nm,0.3s,baz=151,slow=19,SNR=2.4
DAVOX **Davos/Dischmat** 17.53 320 P Pn 15 05 13.7 +0.3
DAVOX S Sn 15 08 30.5 +2.6
DAVOX pmax pmax
comp=Z,2.0nm,0.3s
DAVOX smax smax
comp=N,1.0nm,0.3s
KHC **Kasperske Hory** 17.53 332 eP P 15 05 14.0 -0.2
KHC ex x 15 05 17.5
KHC eXS S 15 09 03.0 +28
KHC **Kasperske Hory** 17.53 332 eP P 15 05 14.0 -0.2
KHC **Kasperske Hory** 17.53 332 eP P 15 05 14.0 -0.2
TOUF **Mont Tournerai** 17.54 309⇑eP Pn 15 05 12.9 -0.6
MVIF **Mont Vial** 17.55 309⇑eP Pn 15 05 12.9 -0.6
RETA **Reutte** 17.55 324⇑iP Pn 15 05 12.3 -1.1
comp=N,14nm,0.4s,SNR=19
RETA **Reutte** 17.55 324 P Pn 15 05 12.3 -1.1
comp=N,14nm,0.4s,SNR=19
DPC **Dobruska-Polom** 17.62 339 eP Pn 15 05 12.5 -1.8
DPC epP pP 15 05 19.1 -1.8
DPC eS Sn 15 08 30.6 +0.7
DPC AMS AMS 15 13 20.0
DPC **Dobruska-Polom** 17.62 339 eP Pn 15 05 12.5 -1.8
DPC eS Sn 15 08 30.6 +0.7
DPC **Dobruska-Polom** 17.62 339 ePn Pn 15 05 12.7 -1.6
comp=N,335nm,0.8s
DPC **Dobruska-Polom** 17.62 339 ePn Pn 15 05 12.7 -1.6
comp=N,335nm,0.8s
CALN **Calern** 17.65 308⇑eP Pn 15 05 14.1 -0.8
LMR **La Mourre** 17.72 307 eP Pn 15 05 13.9 -1.7
comp=N,124nm,1.2s
LMR **La Mourre** 17.72 307 eP Pn 15 05 13.9 -1.7
LMR pmax pmax
comp=Z,124nm,1.2s
LMR **La Mourre** 17.72 307 eP Pn 15 05 13.9 -1.7
comp=Z,62nm,1.2s
LMR **La Mourre** 17.72 307 eP Pn 15 05 13.9 -1.7
comp=Z,124nm,1.2s
IKOM **Komasi** 17.73 84 eP P 15 05 17.6 +1.0
FRF **La Foret Royal** 17.73 307 eP Pn 15 05 14.3 -1.3
comp=Z,105nm,1.0s
FRF **La Foret Royal** 17.73 307 eP Pn 15 05 14.3 -1.3
FRF pmax pmax
comp=Z,105nm,1.0s
FRF **La Foret Royal** 17.73 307 eP Pn 15 05 14.3 -1.3
comp=Z,53nm,1.0s
FRF **La Foret Royal** 17.73 307 eP Pn 15 05 14.3 -1.3
comp=Z,105nm,1.0s
GOPC **GO Pecny, Ondr** 17.73 335 eP Pn 15 05 13.3 -2.4
GOPC ex x 15 05 17.9
GOPC eS Sn 15 08 30.2 -2.4
GOPC AMS AMS 15 14 10.0
comp=Z,6µm,13.5s
GOPC **GO Pecny, Ondr** 17.73 335 P Pn 15 05 13.3 -2.4
FUR **Furstenfeldbru** 17.78 326 eP Pn 15 05 15.1 -1.2
comp=Z,159nm,1.0s
FUR **Furstenfeldbru** 17.78 326 eP Pn 15 05 15.1 -1.2
comp=Z,159nm,1.0s
ISRB **Sarab** 17.81 72 eP P 15 05 21.8 +4.2
WET **Wettzell** 17.82 331 eP Pn 15 05 16.1 -0.7
comp=Z,76nm,1.4s
WET **Wettzell** 17.82 331 eP Pn 15 05 16.1 -0.7
comp=Z,76nm,1.4s
UPC **Upice** 17.85 339 eP Pn 15 05 16.4 -0.7
UPC **Upice** 17.85 339 eP Pn 15 05 16.4 -0.7
UPC **Upice** 17.85 339 eP Pn 15 05 16.4 -0.7
DAVA **Damuels** 17.85 322 iP Pn 15 05 16.8 -0.6
comp=Z,52nm,0.6s,SNR=34
DAVA **Damuels** 17.85 322 P Pn 15 05 16.8 -0.6
comp=Z,52nm,0.6s,SNR=34
PRU **Pruhonice** 17.88 335 eP Pn 15 05 15.2 -2.3
PRU ex x 15 05 20.5
PRU eS Sn 15 08 32.9 -3.2
PRU AMS AMS 15 14 10.0
comp=Z,5µm,14.8s
PRU **Pruhonice** 17.88 335 eP Pn 15 05 15.2 -2.3
PRU eS Sn 15 08 32.9 -3.2
PRU MLR MLR
comp=Z,5µm,14.8s
PRU **Pruhonice** 17.88 335 eP Pn 15 05 15.2 -2.3
PRA **Prague** 17.99 335 eP Pn 15 05 17.4 -1.4
PRA eS Sn 15 08 36.9 -1.8
PRA AMS AMS 15 14 10.0
comp=Z,4µm,14.8s
PRA **Prague** 17.99 335 eP Pn 15 05 17.4 -1.4
PRA eS Sn 15 08 36.9 -1.8
PRA MLR MLR
comp=Z,4µm,14.8s
PRA **Prague** 17.99 335 eP Pn 15 05 17.4 -1.4
comp=Z,4µm,14.8s
BEL **Belsk** 18.00 349 eP P 15 05 19.9 +0.7
BEL **Belsk** 18.00 349 eP P 15 05 20.0 +0.7
BEL **Belsk** 18.00 349 eP P 15 05 20.0 +0.7
SURF **Saint Ours** 18.03 310⇑eP P 15 05 20.0 0.0
KSP **Ksiaz** 18.06 340 eP Pn 15 05 17.6 -2.1
KSP eS Sn 15 08 20.5 -20
KSP **Ksiaz** 18.06 340⇑eP Pn 15 05 17.6 -2.1
KSP eS Sn 15 08 40.5 -0.1
KSP **Ksiaz** 18.06 340 eP Pn 15 05 17.6 -2.1
OG22 **Abries** 18.11 311⇑eP P 15 05 21.0 +0.2
MBDF **Montbardon** 18.17 311 eP Pn 15 05 19.9 -1.4
comp=Z,347nm,0.9s
MBDF **Montbardon** 18.17 311 eP Pn 15 05 19.9 -1.4
MBDF pmax pmax
comp=Z,347nm,0.9s
MBDF **Montbardon** 18.17 311 eP Pn 15 05 19.9 -1.4
comp=Z,174nm,0.9s
MBDF **Montbardon** 18.17 311 eP Pn 15 05 19.9 -1.4
comp=Z,347nm,0.9s
MAHO **Mahon** 18.29 294 iP Pn 15 05 21.1 -1.4
PVCC **Panska Ves** 18.33 336 eP Pn 15 05 22.1 -0.8
PVCC eS Sn 15 08 45.7 -1.3
PVCC AMS AMS 15 14 20.0
comp=Z,5µm,11.7s
PVCC **Panska Ves** 18.33 336 eP Pn 15 05 22.1 -0.8
PVCC eS Sn 15 08 45.7 -1.3
PVCC MLR MLR
comp=Z,5µm,11.7s
PVCC **Panska Ves** 18.33 336 eP Pn 15 05 22.1 -0.8
comp=Z,5µm,11.7s
BNI **Bardonecchia** 18.39 312 eP P 15 05 23.1 -0.7
BNI pmax pmax
comp=Z,58nm,1.1s
BNI **Bardonecchia** 18.39 312 eP P 15 05 23.1 -0.7
comp=Z,58nm,1.1s
BNI **Bardonecchia** 18.39 312 ePn P 15 05 23.1 -0.7
comp=Z,58nm,1.1s
OG25 **Le Caire** 18.45 309⇑eP P 15 05 24.0 -0.5
LPG **La Plagne** 18.57 313 eP P 15 05 24.8 -1.1
comp=Z,53nm,0.6s
LPG **La Plagne** 18.57 313 eP P 15 05 24.8 -1.1
LPG pmax pmax
comp=Z,53nm,0.6s
LPG **La Plagne** 18.57 313 eP P 15 05 24.8 -1.1
comp=Z,26nm,0.6s
LPG **La Plagne** 18.57 313 eP P 15 05 24.8 -1.1
comp=Z,53nm,0.6s
ROTZ **Rotzenmuhle** 18.58 331 eP P 15 05 24.5 -1.2
comp=Z,26nm,0.9s
ROTZ **Rotzenmuhle** 18.58 331 eP P 15 05 24.5 -1.2
comp=Z,26nm,0.9s
LPL **La Plagne** 18.59 313 eP P 15 05 24.3 -1.8
LPL **La Plagne** 18.59 313 eP P 15 05 24.3 -1.8
LPL **La Plagne** 18.59 313 eP P 15 05 24.3 -1.8
LPL **La Plagne** 18.59 313 eP P 15 05 24.3 -1.8
SMRF **Simiane la Rot** 18.61 308 eP P 15 05 26.2 +0.1
comp=Z,144nm,1.1s
SMRF **Simiane la Rot** 18.61 308 eP P 15 05 26.2 +0.1
comp=Z,72nm,1.1s
SMRF **Simiane la Rot** 18.61 308 eP P 15 05 26.2 +0.1
comp=Z,144nm,1.1s
SENIN **Lac Senin/Sane** 18.70 316 eP P 15 05 26.3 -1.0
SENIN **Lac Senin/Sane** 18.70 316 eP P 15 05 26.3 -1.0
GDM **Grand'Maison** 18.81 312⇑eP P 15 05 28.1 -0.4
ORIF **Oris-en-Rattie** 18.82 310 eP P 15 05 27.3 -1.3
comp=Z,212nm,1.1s
ORIF eR
comp=Z,6µm,19.8s
ORIF **Oris-en-Rattie** 18.82 310 eP P 15 05 27.3 -1.3
ORIF pmax pmax
comp=Z,212nm,1.1s
ORIF **Oris-en-Rattie** 18.82 310 eP P 15 05 27.3 -1.3
comp=Z,106nm,1.1s
ORIF **Oris-en-Rattie** 18.82 310 eP P 15 05 27.3 -1.3
comp=Z,212nm,1.1s
BRG **Berggiesshubel** 18.83 336 eP P 15 05 27.7 -0.8
comp=Z,6.5nm,1.0s
BRG *i* 15 05 31.5
comp=Z,21nm,0.7s
BRG S Sn 15 08 56.0 -3.1
comp=N,5µm,12.2s
comp=E,1µm,9.5s
comp=Z,7µm,11.3s
BRG **Berggiesshubel** 18.83 336 eP P 15 05 27.6 -0.9
comp=Z,21nm,0.7s
BRG **Berggiesshubel** 18.83 336 eP P 15 05 27.7 -0.8
BRG S Sn 15 08 56.0 -3.1
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=N,5µm,12.2s
BRG MLR MLR
comp=E,1µm,9.5s
BRG MLR MLR
comp=Z,7µm,11.3s
BRG **Berggiesshubel** 18.83 336 eP P 15 05 27.6 -0.9
comp=Z,21nm,0.7s
MAK **Makhachkala** 18.83 56 eP Pn 15 05 29.5 +0.4
MAK eS Sn 15 08 59.9 +0.6
MAK pmax pmax
comp=Z,302nm,1.0s
MAK MLR MLR
comp=Z,2µm,21.0s
ABA **Alger-Bouzarea** 18.93 284 P P 15 05 29.6 -0.1
ABA **Alger-Bouzarea** 18.93 284 P P 15 05 29.6 -0.1
GRFO **Grafenberg** 18.93 329 eP P 15 05 28.1 -1.5
GRFO pmax pmax
comp=Z,88nm,1.0s
GRFO **Grafenberg** 18.93 329 eP P 15 05 28.1 -1.5
comp=Z,88nm,1.0s
GRFO **Grafenberg** 18.93 329 eP P 15 05 28.1 -1.5
comp=Z,88nm,1.0s
GRA1 **Grafenberg Arr** 18.93 329 eP P 15 05 28.5 -1.1
comp=Z,104nm,1.0s
GRF **Grafenberg Arr** 18.93 329 eP P 15 05 28.5 -1.1
comp=Z,104nm,1.0s
GRF eL L 15 14 27.3
comp=Z,4µm,18.0s
SPAK **Spaichingen-Ko** 18.95 322⇑eP P 15 05 28.9 -1.0
TANN **Tannenbergstha** 18.99 332 eP P 15 05 29.0 -1.3
comp=Z,85nm,1.0s
TANN **Tannenbergstha** 18.99 332 eP P 15 05 29.0 -1.3
comp=Z,85nm,1.0s
EMHD **Djebel Mahouad** 18.99 283 P Pn 15 05 31.5 +0.2
EMHD **Djebel Mahouad** 18.99 283 P Pn 15 05 31.5 +0.2
OG26 **St.-Nazaire-De** 19.04 309⇑eP P 15 05 31.1 +0.2
GRN **Grenoble** 19.06 311⇑eP P 15 05 30.3 -0.8
STU **Stuttgart** 19.19 324 eP P 15 05 31.6 -0.9
comp=Z,74nm,0.7s
STU **Stuttgart** 19.19 324 eP P 15 05 32.1 -0.4
STU pmax pmax
comp=Z,79nm,0.7s
STU **Stuttgart** 19.19 324 eP P 15 05 31.6 -0.9
comp=Z,74nm,0.7s
STU **Stuttgart** 19.19 324 eP P 15 05 32.1 -0.4
comp=Z,79nm,0.7s
FELD **Feldberg im Sc** 19.21 321⇑eP P 15 05 31.5 -1.3
BBS **Basel-Blauen** 19.22 319⇑eP P 15 05 31.8 -1.0
BFO **Black Forest** 19.33 322 Pn P 15 05 33.6 -0.4
comp=Z,333nm,0.5s,SNR=28
BFO **Black Forest** 19.33 322 eP P 15 05 33.0 -1.0
comp=Z,62nm,0.9s
BFO **Black Forest** 19.33 322 eP P 15 05 33.4 -0.6
BFO pmax pmax
comp=Z,97nm,1.1s
BFO **Black Forest** 19.33 322 eP P 15 05 33.0 -1.0
comp=Z,62nm,0.9s
BFO **Black Forest** 19.33 322 eP P 15 05 33.4 -0.6
comp=Z,97nm,1.1s
VSR **Storozhevoye** 19.45 25 eP P 15 05 35.1 -0.1
VSR eS S 15 09 14.0 0.0
VSR pmax pmax
comp=N,310nm,0.7s
VSR pmax pmax
comp=E,40nm,0.7s
VSR pmax pmax
comp=Z,80nm,0.7s
VSR smax smax
comp=N,2µm,2.5s
VSR smax smax
comp=Z,90nm,2.6s
VSR smax smax
comp=E,310nm,2.7s
VSR MLR MLR
comp=N,14µm,15.0s
VSR MLR MLR
comp=E,1µm,15.0s
VSR MLR MLR
comp=Z,3µm,15.0s
VSR **Storozhevoye** 19.45 25 eP P 15 05 35.1 -0.1
MOX **Moxa** 19.50 332 eP P 15 05 34.9 -1.0
comp=Z,36nm,1.0s
MOX eL L 15 14 50.1
comp=Z,7µm,18.3s
MOX **Moxa** 19.50 332 eP P 15 05 34.9 -1.0
comp=Z,36nm,1.0s
CLL **Collm** 19.52 335 eP P 15 05 35.0 -1.0
comp=Z,37nm,0.7s

CLL	**Collm**	**19.52**	**335**	*e*P		**P**	**15 05 35.0**	**-1.0**
	comp=Z,12nm,0.6s							
CLL				*i* Pmax			15 05 37.4	
	comp=Z,44nm,0.9s							
CLL				*i* pP		**pP**	**15 05 43.2**	**+1.4**
CLL				*e*pPP			15 05 56.0	
CLL				*e*S		**S**	**15 09 14.0**	**-1.5**
CLL				*e*			15 12 48.0	
CLL				Lm		MLR	15 15 00.0	
	comp=N,2µm,18.6s							
CLL				Lm		MLR	15 15 00.0	
	comp=E,2µm,20.9s							
CLL				Lmax			15 15 00.0	
CLL	**Collm**	**19.52**	**335**	*e*P		**P**	**15 05 35.5**	**-0.5**
CLL				pmax		pmax		
	comp=Z,52nm,0.9s							
CLL	**Collm**	**19.52**	**335**	*e*P		**P**	**15 05 35.0**	**-1.0**
	comp=Z,37nm,0.7s							
CLL	**Collm**	**19.52**	**335**	*e*P		**P**	**15 05 35.5**	**-0.5**
	comp=Z,52nm,0.9s							
LOMF	**Lomont**	**19.53**	**318**⇑	*e*P		**P**	**15 05 36.6**	**+0.3**
CABF	**La Chapelle**	**19.54**	**315**	*e*P		**P**	**15 05 34.7**	**-1.7**
	comp=Z,139nm,0.9s							
CABF	**La Chapelle**	**19.54**	**315**	*e*P		**P**	**15 05 34.7**	**-1.7**
CABF				pmax		pmax		
	comp=Z,139nm,0.9s							
CABF	**La Chapelle**	**19.54**	**315**	*e*P		**P**	**15 05 34.7**	**-1.7**
	comp=Z,69nm,0.9s							
CABF	**La Chapelle**	**19.54**	**315**	*e*P		**P**	**15 05 34.7**	**-1.7**
	comp=Z,139nm,0.9s							
VIVF	**Saint-Julien-l**	**19.56**	**309**	*e*P		**P**	**15 05 36.0**	**-0.6**
	comp=Z,109nm,1.1s							
VIVF	**Saint-Julien-l**	**19.56**	**309**	*e*P		**P**	**15 05 36.0**	**-0.6**
VIVF				pmax		pmax		
	comp=Z,109nm,1.1s							
VIVF	**Saint-Julien-l**	**19.56**	**309**	*e*P		**P**	**15 05 36.0**	**-0.6**
	comp=Z,55nm,1.1s							
VIVF	**Saint-Julien-l**	**19.56**	**309**	*e*P		**P**	**15 05 36.0**	**-0.6**
	comp=Z,109nm,1.1s							
LIBD	**Limburg**	**19.59**	**321**⇑	*e*P		**P**	**15 05 36.9**	**+0.1**
IRAZ	**Razeghan**	**19.61**	**80**	*e*P		**Pn**	**15 05 40.2**	**+1.5**
MOF	**Molkenrain**	**19.66**	**319**⇑	*e*P		**P**	**15 05 36.9**	**-0.8**
LASF	**Ste Croix**	**19.78**	**306**	*e*P		**P**	**15 05 37.3**	**-1.7**
	comp=Z,116nm,1.0s							
LASF	**Ste Croix**	**19.78**	**306**	*e*P		**P**	**15 05 37.3**	**-1.7**
	comp=Z,58nm,1.0s							
LASF	**Ste Croix**	**19.78**	**306**	*e*P		**P**	**15 05 37.3**	**-1.7**
	comp=Z,116nm,1.0s							
HINF	**Hinteralfeld**	**19.79**	**319**	*e*P		**P**	**15 05 38.0**	**-1.0**
	comp=Z,102nm,0.9s							
HINF	**Hinteralfeld**	**19.79**	**319**	*e*P		**P**	**15 05 38.0**	**-1.0**
HINF				pmax		pmax		
	comp=Z,102nm,0.9s							
HINF	**Hinteralfeld**	**19.79**	**319**	*e*P		**P**	**15 05 38.0**	**-1.0**
	comp=Z,51nm,0.9s							
HINF	**Hinteralfeld**	**19.79**	**319**	*e*P		**P**	**15 05 38.0**	**-1.0**
	comp=Z,102nm,0.9s							
IGZV	**Ghazvin**	**19.80**	**77**	*e*P		**Pn**	**15 05 41.5**	**+0.4**
SSB	**Saint Sauveur**	**19.83**	**310**	*e*P		**P**	**15 05 38.3**	**-1.2**
SSB				pmax		pmax		
	comp=Z,32nm,0.8s							
SSB	**Saint Sauveur**	**19.83**	**310**⇑	*e*P		**P**	**15 05 38.7**	**-0.8**
SSB	**Saint Sauveur**	**19.83**	**310**	*e*P		**P**	**15 05 38.3**	**-1.2**
	comp=Z,32nm,0.8s							
ECH	**Echery**	**19.86**	**320**	*e*P		**P**	**15 05 37.8**	**-2.0**
ECH				pmax		pmax		
	comp=Z,63nm,0.8s							
ECH	**Echery**	**19.86**	**320**⇑	*e*P		**P**	**15 05 39.3**	**-0.5**
ECH	**Echery**	**19.86**	**320**	*e*P		**P**	**15 05 37.8**	**-2.0**
	comp=Z,63nm,0.8s							
SUW	**Suwalki**	**19.87**	**355**	*e*P		**P**	**15 05 39.8**	**0.0**
SUW				*e*S		**S**	**15 09 21.3**	**-1.2**
SUW	**Suwalki**	**19.87**	**355**	*e*P		**P**	**15 05 38.7**	**-1.1**
SUW				pmax		pmax		
	comp=Z,412nm,0.9s							
SUW	**Suwalki**	**19.87**	**355**	*e*P		**P**	**15 05 38.7**	**-1.1**
	comp=Z,412nm,0.9s							
SUW	**Suwalki**	**19.87**	**355**	*e*P		**P**	**15 05 38.7**	**-1.1**
	comp=Z,412nm,0.9s							
VOR	**Voronezh**	**19.89**	**25**	*e*P		**Pn**	**15 05 41.0**	**-0.7**
VOR				pmax		pmax		
	comp=Z,300nm,1.4s							
VOR	**Voronezh**	**19.89**	**25**	*e*P		**Pn**	**15 05 41.0**	**-0.7**
	comp=Z,300nm,1.4s							
CDF	**Champ du Feu**	**19.92**	**321**	*e*P		**P**	**15 05 40.1**	**-0.5**
	comp=Z,508nm,1.2s							
CDF	**Champ du Feu**	**19.92**	**321**	*e*P		**P**	**15 05 40.1**	**-0.5**
CDF				pmax		pmax		
	comp=Z,508nm,1.2s							
CDF	**Champ du Feu**	**19.92**	**321**	*e*P		**P**	**15 05 40.1**	**-0.5**
	comp=Z,254nm,1.2s							
CDF	**Champ du Feu**	**19.92**	**321**	*e*P		**P**	**15 05 40.1**	**-0.5**
	comp=Z,508nm,1.2s							
SJAF	**Saint Jean de**	**19.93**	**301**⇑	*e*P		**P**	**15 05 38.9**	**-1.6**
LANF	**Langenberg**	**20.02**	**323**⇑	*e*P		**P**	**15 05 41.5**	**0.0**
GKP	**Gorka Klasztor**	**20.04**	**344**	*e*P		**P**	**15 05 41.3**	**-0.3**
GKP	**Gorka Klasztor**	**20.04**	**344**	*e*P		**P**	**15 05 41.4**	**-0.2**
GKP	**Gorka Klasztor**	**20.04**	**344**	*e*P		**P**	**15 05 41.4**	**-0.2**
RAYN	**Ar Rayn**	**20.05**	**117**	P		Pn	15 05 43.6	-0.3
	comp=Z,385nm,0.9s,SNR=16							
RAYN	**Ar Rayn**	**20.05**	**117**	*e*P		**P**	**15 05 43.0**	**+0.9**
	comp=Z,52nm,1.1s							
EBNR	**Beni Rached**	**20.14**	**283**	P		Pn	15 05 45.0	+0.1
HAU	**Haudompre**	**20.17**	**319**	*e*P		**P**	**15 05 42.8**	**-0.4**
	comp=Z,194nm,0.9s							
HAU				*e*R				
	comp=Z,6µm,19.2s							
HAU	**Haudompre**	**20.17**	**319**	*e*P		**P**	**15 05 42.8**	**-0.4**
HAU				pmax		pmax		
	comp=Z,194nm,0.9s							
HAU	**Haudompre**	**20.17**	**319**	*e*P		**P**	**15 05 42.8**	**-0.4**
	comp=Z,97nm,0.9s							
HAU	**Haudompre**	**20.17**	**319**	*e*P		**P**	**15 05 42.8**	**-0.4**
	comp=Z,194nm,0.9s							
FILF	**Fillols**	**20.18**	**301**⇑	*e*P		**P**	**15 05 43.9**	**+0.6**
RUE	**Ruedersdorf**	**20.25**	**338**	*e*P		**P**	**15 05 42.0**	**-2.0**
	comp=Z,142nm,1.3s							
RUE	**Ruedersdorf**	**20.25**	**338**	*e*P		**P**	**15 05 42.0**	**-2.0**
	comp=Z,142nm,1.3s							
VRHR	**Novokhopersk**	**20.28**	**29**	*e*P		Pn	15 05 45.9	-0.5
VRHR				*e*S		**S**	**15 09 32.3**	**+1.6**
VRHR				pmax		pmax		
	comp=N,370nm,0.7s							
VRHR				pmax		pmax		
	comp=E,160nm,0.7s							
VRHR				pmax		pmax		
	comp=Z,430nm,0.7s							
VRHR				smax		smax		
	comp=N,280nm,1.8s							
VRHR				smax		smax		
	comp=Z,30nm,1.4s							
VRHR				smax		smax		
	comp=E,270nm,1.8s							
VRHR				MLR		MLR		
	comp=N,450nm,13.0s							
VRHR				MLR		MLR		
	comp=E,560nm,13.0s							
VRHR				MLR		MLR		
	comp=Z,900nm,13.0s							
MNK	**Minsk**	**20.29**	**3**‖	*e*P		**P**	**15 05 42.0**	**-2.4**
MNK				*e*			15 06 10.0	
MNK				*e*S		**S**	**15 09 29.0**	**-1.9**
MNK				*e*SS		**SnSn**	**15 09 52.0**	**+3.1**
MNK				*e*SSS		SSS	15 10 06.0	
MNK				pmax		pmax		
	comp=Z,130nm,1.5s							
MNK				pmax		pmax		
	comp=N,250nm,1.5s							
MNK				MLR		MLR		
	comp=Z,4µm,10.0s							
MNK				MLR		MLR		
	comp=E,5µm,10.0s							
MNK				MLR		MLR		
	comp=N,5µm,10.0s							
MNK	**Minsk**	**20.29**	**3**	*e*P		**P**	**15 05 42.0**	**-2.4**
	comp=N,250nm,1.5s							
UBBA	**Unterbreizbach**	**20.30**	**330**	*e*P		**P**	**15 05 43.0**	**-1.4**
	comp=Z,48nm,1.3s							
UBBA	**Unterbreizbach**	**20.30**	**330**	*e*P		**P**	**15 05 43.0**	**-1.4**
	comp=Z,48nm,1.3s							
MICGM	**Minsk**	**20.30**	**3**‖	*e*P		**P**	**15 05 42.0**	**-2.4**
LRDF	**Laroque-de-Fa**	**20.30**	**302**⇑	*e*P		**P**	**15 05 43.9**	**-0.7**
ETRT	**Tiaret**	**20.37**	**280**	P		**P**	**15 05 46.0**	**+0.4**
ETRT	**Tiaret**	**20.37**	**280**	P		**P**	**15 05 46.0**	**+0.4**
COLF	**Collangettes**	**20.47**	**310**⇑	*e*P		**P**	**15 05 44.6**	**-1.9**
IR3	**Iran Long-Peri**	**20.49**	**79**	*e*P		Pn	15 05 49.3	+0.2
THEF	**They Montfort**	**20.50**	**319**⇑	*e*P		**P**	**15 05 46.5**	**-0.2**
EANR	**'Ain N'Sour**	**20.50**	**282**	P		**P**	**15 05 47.7**	**+0.8**
EANR	**'Ain N'Sour**	**20.50**	**282**	P		**P**	**15 05 47.7**	**+0.8**
VALF	**Valcebollere**	**20.52**	**300**⇑	*e*P		**P**	**15 05 47.4**	**+0.3**
LPSR	**Galich'ya Gora**	**20.53**	**23**	*e*P		**P**	**15 05 47.3**	**+0.3**
LPSR				*e*S		**S**	**15 09 33.2**	**-2.4**
LPSR				pmax		pmax		
	comp=Z,160nm,1.3s							
LPSR				pmax		pmax		
	comp=N,90nm,1.0s							
LPSR				pmax		pmax		
	comp=E,40nm,0.8s							
LPSR				smax		smax		
	comp=E,2µm,9.7s							
LPSR				smax		smax		
	comp=Z,980nm,6.8s							
LPSR				smax		smax		
	comp=N,610nm,6.2s							
LPSR	**Galich'ya Gora**	**20.53**	**23**	*e*P		**P**	**15 05 47.3**	**+0.3**
	comp=N,90nm,1.0s							
CARF	**Carcanieres**	**20.54**	**301**⇑	*e*P		**P**	**15 05 46.4**	**-0.9**
TNS	**Taunus Mts**	**20.55**	**326**	*e*P		**P**	**15 05 46.7**	**-0.6**
	comp=Z,82nm,0.9s							
TNS	**Taunus Mts**	**20.55**	**326**	*e*P		**P**	**15 05 46.7**	**-0.6**
	comp=Z,82nm,0.9s							
LBL	**Lubilhac**	**20.64**	**309**	*e*P		**P**	**15 05 46.5**	**-1.9**
MTLF	**Montolieu**	**20.65**	**303**	*e*P		**P**	**15 05 47.7**	**-0.7**
	comp=Z,137nm,1.1s							
MTLF	**Montolieu**	**20.65**	**303**	*e*P		**P**	**15 05 47.7**	**-0.7**
MTLF				pmax		pmax		
	comp=Z,137nm,1.1s							
MTLF	**Montolieu**	**20.65**	**303**	*e*P		**P**	**15 05 47.7**	**-0.7**
	comp=Z,69nm,1.1s							
MTLF	**Montolieu**	**20.65**	**303**	*e*P		**P**	**15 05 47.7**	**-0.7**
	comp=Z,137nm,1.1s							
NACGM	**Naroch**	**20.67**	**1**	*e*P		**P**	**15 05 45.0**	**-3.4**
PLDF	**La Plantade**	**20.72**	**311**⇑	*e*P		**P**	**15 05 47.0**	**-2.2**
PAGF	**Fort de Pagny**	**20.83**	**319**	*e*P		**P**	**15 05 49.8**	**-0.5**
	comp=Z,56nm,0.8s,baz=134							
PAGF	**Fort de Pagny**	**20.83**	**319**	*e*P		**P**	**15 05 49.8**	**-0.5**
	comp=Z,28nm,0.8s							
PAGF	**Fort de Pagny**	**20.83**	**319**	*e*P		**P**	**15 05 49.8**	**-0.5**
	comp=Z,56nm,0.8s							
RUP	**Ruppelstein**	**20.86**	**324**⇑	*e*P		**P**	**15 05 50.3**	**-0.3**
SMF	**Signal de Mont**	**20.89**	**313**	*e*P		**P**	**15 05 49.4**	**-1.6**
	comp=Z,60nm,0.7s							
SMF	**Signal de Mont**	**20.89**	**313**	*e*P		**P**	**15 05 49.4**	**-1.6**
SMF				pmax		pmax		
	comp=Z,60nm,0.7s							
SMF	**Signal de Mont**	**20.89**	**313**	*e*P		**P**	**15 05 49.4**	**-1.6**
	comp=Z,30nm,0.7s							
SMF	**Signal de Mont**	**20.89**	**313**	*e*P		**P**	**15 05 49.4**	**-1.6**
	comp=Z,60nm,0.7s							
CLZ	**Clausthal**	**20.93**	**332**	*e*P		**P**	**15 05 49.6**	**-1.8**
	comp=Z,47nm,1.0s							
CLZ	**Clausthal**	**20.93**	**332**	*e*P		**P**	**15 05 49.6**	**-1.8**
	comp=Z,47nm,1.0s							
SFTF	**Sexfontaines**	**21.01**	**318**	*e*P		**P**	**15 05 51.7**	**-0.5**
	comp=Z,604nm,1.2s,baz=128							
SFTF	**Sexfontaines**	**21.01**	**318**	*e*P		**P**	**15 05 51.7**	**-0.5**
	comp=Z,302nm,1.2s							
SFTF	**Sexfontaines**	**21.01**	**318**	*e*P		**P**	**15 05 51.7**	**-0.5**
	comp=Z,604nm,1.2s							
PYM	**Petit Puy Mans**	**21.01**	**310**⇑	*e*P		**P**	**15 05 51.8**	**-0.5**
AGO	**Saint Agoulin**	**21.06**	**311**	*e*P		**P**	**15 05 51.7**	**-1.1**
IVRN	**Varamin**	**21.11**	**81**	*e*P		**P**	**15 05 56.0**	**+2.6**
IIGN	**Ignalina**	**21.11**	**0**	*e*P		**P**	**15 05 51.5**	**-1.7**
IIGN					AMB	AMB	15 06 10.5	
	comp=Z,60nm,0.8s							
IIGN	**Ignalina**	**21.11**	**0**	*e*P		**P**	**15 05 51.5**	**-1.7**
	comp=Z,30nm,0.8s							
MEZF	**Maizieres J'vi**	**21.17**	**319**	*e*P		**P**	**15 05 53.6**	**-0.3**
	comp=Z,681nm,1.3s,baz=126							
MEZF	**Maizieres J'vi**	**21.17**	**319**	*e*P		**P**	**15 05 53.6**	**-0.3**
	comp=Z,340nm,1.3s							
MEZF	**Maizieres J'vi**	**21.17**	**319**	*e*P		**P**	**15 05 53.6**	**-0.3**
	comp=Z,681nm,1.3s							
LOR	**Lormes**	**21.19**	**315**	*e*P		**P**	**15 05 53.0**	**-1.2**
	comp=Z,119nm,0.9s,baz=128							
LOR				*e*R				
	comp=Z,6µm,19.0s							
LOR	**Lormes**	**21.19**	**315**	*e*P		**P**	**15 05 53.0**	**-1.2**
LOR				pmax		pmax		
	comp=Z,119nm,0.9s							
LOR	**Lormes**	**21.19**	**315**	*e*P		**P**	**15 05 53.0**	**-1.2**
	comp=Z,59nm,0.9s							
LOR	**Lormes**	**21.19**	**315**	*e*P		**P**	**15 05 53.0**	**-1.2**
	comp=Z,119nm,0.9s							
IKLH	**Kolahrood**	**21.20**	**85**	*e*P		**P**	**15 05 56.3**	**+1.6**
AVF	**Avril sur Loir**	**21.26**	**313**	*e*P		**P**	**15 05 53.9**	**-1.0**
	comp=Z,53nm,0.7s							
AVF	**Avril sur Loir**	**21.26**	**313**	*e*P		**P**	**15 05 53.9**	**-1.0**
AVF				pmax		pmax		
	comp=Z,53nm,0.7s							
AVF	**Avril sur Loir**	**21.26**	**313**	*e*P		**P**	**15 05 53.9**	**-1.0**
	comp=Z,26nm,0.7s							
AVF	**Avril sur Loir**	**21.26**	**313**	*e*P		**P**	**15 05 53.9**	**-1.0**
	comp=Z,53nm,0.7s							
WLF	**Walferdange**	**21.28**	**322**	P		**P**	**15 05 54.9**	**-0.3**
	comp=Z,102nm,1.1s							
WLF	**Walferdange**	**21.28**	**322**	*e*P		**P**	**15 05 55.1**	**-0.1**
	comp=Z,164nm,0.9s							
WLF	**Walferdange**	**21.28**	**322**	*e*P		**P**	**15 05 54.4**	**-0.8**
WLF				pmax		pmax		
	comp=Z,150nm,0.9s							
WLF				MLR		MLR		
	comp=Z,3µm,20.0s							
WLF	**Walferdange**	**21.28**	**322**	*e*P		**P**	**15 05 54.4**	**-0.8**
	comp=Z,150nm,0.9s							
WLF	**Walferdange**	**21.28**	**322**	*e*P		**P**	**15 05 54.4**	**-0.8**
	comp=Z,150nm,0.9s							
WLF				LR		LR		
	comp=Z,3µm,20.0s							
CAF	**Calviac**	**21.29**	**307**	*e*P		**P**	**15 05 54.5**	**-0.8**
	comp=Z,114nm,1.2s							
CAF	**Calviac**	**21.29**	**307**	*e*P		**P**	**15 05 54.5**	**-0.8**
CAF				pmax		pmax		
	comp=Z,114nm,1.2s							
CAF	**Calviac**	**21.29**	**307**	*e*P		**P**	**15 05 54.5**	**-0.8**
	comp=Z,57nm,1.2s							
CAF	**Calviac**	**21.29**	**307**	*e*P		**P**	**15 05 54.5**	**-0.8**
	comp=Z,114nm,1.2s							
SSF	**Saint Saulge**	**21.30**	**314**	*e*P		**P**	**15 05 54.4**	**-0.9**
	comp=Z,199nm,1.1s							
SSF	**Saint Saulge**	**21.30**	**314**	*e*P		**P**	**15 05 54.4**	**-0.9**
SSF				pmax		pmax		
	comp=Z,199nm,1.1s							
SSF	**Saint Saulge**	**21.30**	**314**	*e*P		**P**	**15 05 54.4**	**-0.9**
	comp=Z,100nm,1.1s							
SSF	**Saint Saulge**	**21.30**	**314**	*e*P		**P**	**15 05 54.4**	**-0.9**
	comp=Z,199nm,1.1s							
TAM	**Tamanrasset**	**21.32**	**243**	*e*P		**P**	**15 05 57.5**	**+1.5**
TAM				pmax		pmax		
	comp=Z,69nm,0.8s							
TAM				MLR		MLR		
	comp=Z,2µm,19.0s							
TAM	**Tamanrasset**	**21.32**	**243**	*e*P		**P**	**15 05 57.5**	**+1.5**
	comp=Z,69nm,0.8s							
TAM				LR		LR		
	comp=Z,2µm,19.0s							
ISAL	**Salakas**	**21.33**	**0**	*e*P		**P**	**15 05 53.9**	**-1.7**
ISAL					AMB	AMB	15 06 00.4	
	comp=Z,57nm,1.1s							
ISAL	**Salakas**	**21.33**	**0**	*e*P		**P**	**15 05 53.9**	**-1.7**
	comp=Z,57nm,1.1s							
BGF	**Bois d'Agland**	**21.46**	**312**	*e*P		**P**	**15 05 56.2**	**-0.9**
	comp=Z,175nm,0.6s							
BGF	**Bois d'Agland**	**21.46**	**312**	*e*P		**P**	**15 05 56.2**	**-0.9**
BGF				pmax		pmax		
	comp=Z,175nm,0.6s							
BGF	**Bois d'Agland**	**21.46**	**312**	*e*P		**P**	**15 05 56.2**	**-0.9**
	comp=Z,87nm,0.6s							
BGF	**Bois d'Agland**	**21.46**	**312**	*e*P		**P**	**15 05 56.2**	**-0.9**
	comp=Z,175nm,0.6s							
IPRN	**Peran**	**21.52**	**77**	*e*P		**P**	**15 06 01.1**	**+3.1**
MELF	**Melles**	**21.54**	**301**⇑	*e*P		**P**	**15 05 59.3**	**+1.3**
NRDL	**Niedersach Rie**	**21.54**	**333**	*e*P		**P**	**15 05 56.3**	**-1.5**
	comp=Z,87nm,1.4s							
NRDL	**Niedersach Rie**	**21.54**	**333**	*e*P		**P**	**15 05 56.3**	**-1.5**
	comp=Z,87nm,1.4s							
ODJA	**Bouhanifia**	**21.56**	**280**	P		**P**	**15 06 03.0**	**+4.7**
TCF	**Toulx Ste Croi**	**21.74**	**311**	*e*P		**P**	**15 05 59.5**	**-0.6**
	comp=Z,140nm,1.1s							
TCF	**Toulx Ste Croi**	**21.74**	**311**	*e*P		**P**	**15 05 59.5**	**-0.6**
TCF				pmax		pmax		
	comp=Z,140nm,1.1s							
TCF	**Toulx Ste Croi**	**21.74**	**311**	*e*P		**P**	**15 05 59.5**	**-0.6**
	comp=Z,70nm,1.1s							
TCF	**Toulx Ste Croi**	**21.74**	**311**	*e*P		**P**	**15 05 59.5**	**-0.6**
	comp=Z,140nm,1.1s							
RJF	**Les Rejaudoux**	**21.79**	**308**	*e*P		**P**	**15 06 00.3**	**-0.4**
	comp=Z,194nm,0.9s							
RJF				*e*R				
	comp=Z,4µm,21.8s							
RJF	**Les Rejaudoux**	**21.79**	**308**	*e*P		**P**	**15 06 00.3**	**-0.4**
RJF				pmax		pmax		
	comp=Z,194nm,0.9s							
RJF	**Les Rejaudoux**	**21.79**	**308**	*e*P		**P**	**15 06 00.3**	**-0.4**
	comp=Z,97nm,0.9s							
RJF	**Les Rejaudoux**	**21.79**	**308**	*e*P		**P**	**15 06 00.3**	**-0.4**
	comp=Z,194nm,0.9s							
USTO	**Oran**	**21.85**	**282**	P		**P**	**15 06 05.0**	**+3.6**
EPF	**Esparros**	**21.88**	**301**	*e*P		**P**	**15 06 01.5**	**-0.1**
	comp=Z,343nm,1.6s							
EPF	**Esparros**	**21.88**	**301**	*e*P		**P**	**15 06 01.5**	**-0.1**
EPF				pmax		pmax		
	comp=Z,343nm,1.6s							
EPF	**Esparros**	**21.88**	**301**	*e*P		**P**	**15 06 01.5**	**-0.1**
	comp=Z,172nm,1.6s							
EPF	**Esparros**	**21.88**	**301**	*e*P		**P**	**15 06 01.5**	**-0.1**
	comp=Z,343nm,1.6s							
IFIR	**Firoozkooh**	**21.89**	**79**	*e*P		**P**	**15 06 04.8**	**+2.7**
IZEF	**Zefreh**	**21.89**	**86**	*e*P		**P**	**15 06 04.4**	**+2.2**
IALA	**Alasht**	**21.91**	**78**	*e*P		**P**	**15 06 05.6**	**+3.2**
BUG	**Bochum-Univer**	**21.93**	**327**	*e*P		**P**	**15 06 01.4**	**-0.7**
	comp=Z,156nm,1.5s							
BUG	**Bochum-Univer**	**21.93**	**327**	*e*P		**P**	**15 06 01.4**	**-0.7**
	comp=Z,156nm,1.5s							
MEM	**Membach**	**21.96**	**324**	P		**P**	**15 06 02.6**	**+0.2**
	comp=Z,66nm,0.9s							
MEM	**Membach**	**21.96**	**324**	*e*P		**P**	**15 06 01.3**	**-1.1**
MEM				pmax		pmax		
	comp=Z,118nm,0.8s							
MEM	**Membach**	**21.96**	**324**	*e*P		**P**	**15 06 01.3**	**-1.1**
	comp=Z,118nm,0.8s							
MEM	**Membach**	**21.96**	**324**	*e*P		**P**	**15 06 01.3**	**-1.1**
	comp=Z,118nm,0.8s							
VIEF	**Viey**	**22.06**	**301**	*e*P		**P**	**15 06 03.7**	**0.0**
LABF	**Labassere**	**22.07**	**301**⇑	*e*P		**P**	**15 06 04.3**	**+0.6**
ILAS	**Lasjerd**	**22.08**	**79**	*e*P		**P**	**15 06 06.1**	**+2.0**
HGN	**Heimansgroeve**	**22.10**	**324**	*e*P		**P**	**15 06 03.7**	**-0.1**
	comp=Z,395nm,1.7s							
HGN				*e*S		**S**	**15 10 10.3**	**+3.9**
HGN				*e*L		L	15 16 02.2	
	comp=Z,4µm,21.9s							
OBN	**Obninsk**	**22.11**	**16**	P		**P**	**15 06 02.7**	**-1.3**
	comp=Z,1µm,0.8s,SNR=9.2							
OBN	**Obninsk**	**22.11**	**16**	P		**P**	**15 06 02.9**	**-1.1**
	comp=Z,63nm,0.6s,baz=331,slow=1.1,SNR=18							
OBN				S		**S**	**15 10 02.7**	**-3.9**
	comp=Z,6.7nm,0.3s,baz=348,slow=22,SNR=2.7							
OBN	**Obninsk**	**22.11**	**16***c*	*i* P		**P**	**15 06 02.4**	**-1.6**
OBN				*e*			15 06 31.6	
OBN				*i* S		**S**	**15 10 04.1**	**-2.5**
OBN				pmax		pmax		
	comp=Z,138nm,1.2s							
OBN				MLR		MLR		
	comp=Z,3µm,17.0s							
OBN	**Obninsk**	**22.11**	**16**	*i* P		**P**	**15 06 02.4**	**-1.6**
	comp=Z,138nm,1.2s							
OBN	**Obninsk**	**22.11**	**16**	P		**P**	**15 06 02.9**	**-1.1**
	comp=Z,19nm,0.8s							
OBN				S		**S**	**15 10 02.7**	**-3.9**
OBN				LR		LR		
	comp=Z,3µm,19.0s							
LFF	**La Frestale**	**22.18**	**306**	*e*P		**P**	**15 06 04.2**	**-0.6**
	comp=Z,152nm,0.9s							
LFF	**La Frestale**	**22.18**	**306**	*e*P		**P**	**15 06 04.2**	**-0.6**
LFF				pmax		pmax		
	comp=Z,152nm,0.9s							
LFF	**La Frestale**	**22.18**	**306**	*e*P		**P**	**15 06 04.2**	**-0.6**
	comp=Z,76nm,0.9s							
LFF	**La Frestale**	**22.18**	**306**	*e*P		**P**	**15 06 04.2**	**-0.6**
	comp=Z,152nm,0.9s							
BCLA	**Clavier**	**22.18**	**323**	P		**P**	**15 06 04.4**	**-0.4**
	comp=Z,56nm,1.6s							
BCLA	**Clavier**	**22.18**	**323**	P		**P**	**15 06 04.4**	**-0.4**
	comp=Z,56nm,1.6s							
GIVF	**Givet**	**22.23**	**322**	*e*P		**P**	**15 06 04.4**	**-0.9**
	comp=Z,213nm,0.8s							
GIVF	**Givet**	**22.23**	**322**	*e*P		**P**	**15 06 04.4**	**-0.9**
GIVF				pmax		pmax		
	comp=Z,213nm,0.8s							
GIVF	**Givet**	**22.23**	**322**	*e*P		**P**	**15 06 04.4**	**-0.9**
	comp=Z,106nm,0.8s							
GIVF	**Givet**	**22.23**	**322**	*e*P		**P**	**15 06 04.4**	**-0.9**
	comp=Z,213nm,0.8s							
BEBN	**Eben Emael**	**22.24**	**324**	P		**P**	**15 06 06.2**	**+0.8**
	comp=Z,36nm,1.6s							
BEBN	**Eben Emael**	**22.24

SJPF **Ste Jean** 23.01 301 *e*P **P** 15 06 12.5 -1.1
SJPF pmax pmax
comp=Z,111nm,0.8s
SJPF Ste Jean 23.01 301 *e*P **P** 15 06 12.5 -1.1
comp=Z,56nm,0.8s
SJPF Ste Jean 23.01 301 *e*P **P** 15 06 12.5 -1.1
comp=Z,111nm,0.8s
ISAD Sadrabad 23.22 88 *e*P **P** 15 06 18.7 +2.5
IPAR Pars 23.25 93 *e*P **P** 15 06 18.6 +2.1
MFF Saint Martin d 23.36 310 *e*P **P** 15 06 16.8 -0.3
comp=Z,195nm,1.1s
MFF Saint Martin d 23.36 310 *e*P **P** 15 06 16.8 -0.3
MFF pmax pmax
comp=Z,195nm,1.1s
MFF Saint Martin d 23.36 310 *e*P **P** 15 06 16.8 -0.3
comp=Z,97nm,1.1s
MFF Saint Martin d 23.36 310 *e*P **P** 15 06 16.8 -0.3
comp=Z,195nm,1.1s
COP Copenhagen 23.43 340 *i*P **P** 15 06 15.8 -1.9
COP MLR MLR
comp=Z,1µm,11.0s
COP Copenhagen 23.43 340 *i*P **P** 15 06 15.8 -1.9
comp=Z,1µm,11.0s
COP Copenhagen 23.43 340 *i*P **P** 15 06 15.8 -1.9
comp=Z,20nm,0.8s
comp=Z,1µm,11.0s
ISRV Sarvestan 23.44 94 *e*P **P** 15 06 20.4 +1.9
ICHK Chekchek 23.74 87 *e*P **P** 15 06 23.0 +1.7
LCHF La Chataignera 23.76 310⇓ *e*P **P** 15 06 20.9 -0.1
IMEH Mehriz 24.11 89 *e*P **P** 15 06 26.0 +1.2
LDF La Druitiere 24.17 314 *e*P **P** 15 06 23.8 -1.1
comp=Z,137nm,0.7s
LDF La Druitiere 24.17 314 *e*P **P** 15 06 23.8 -1.1
LDF pmax pmax
comp=Z,137nm,0.7s
LDF La Druitiere 24.17 314 *e*P **P** 15 06 23.8 -1.1
comp=Z,137nm,0.7s
VSU Vasula 24.23 1 *e*P **P** 15 06 24.8 -0.5
VSU MLR MLR
comp=Z,5µm,17.0s
FLN La Foliniere 24.46 314 *e*P **P** 15 06 26.5 -1.0
comp=Z,222nm,0.9s,baz=118
FLN *e*R
comp=Z,6µm,22.5s
FLN La Foliniere 24.46 314 *e*P **P** 15 06 26.5 -1.0
FLN pmax pmax
comp=Z,222nm,0.9s
FLN La Foliniere 24.46 314 *e*P **P** 15 06 26.5 -1.0
comp=Z,222nm,0.9s
GRR Gorron 24.52 313 *e*P **P** 15 06 27.2 -0.9
comp=Z,153nm,0.8s
GRR Gorron 24.52 313 *e*P **P** 15 06 27.2 -0.9
GRR pmax pmax
comp=Z,153nm,0.8s
GRR Gorron 24.52 313 *e*P **P** 15 06 27.2 -0.9
comp=Z,153nm,0.8s
ESDC Sonseca Array 24.55 292 P **P** 15 06 28.2 -0.3
comp=Z,18nm,0.5s,baz=80,slow=9.1,SNR=234
ESDC PcP **PcP** 15 10 06.3 +0.1
comp=Z,2.1nm,0.7s,baz=88,slow=2.0,SNR=6.4
ESDC ScP **ScP** 15 13 45.5 +1.6
comp=Z,0.3nm,0.5s,baz=59,slow=3.2,SNR=5.0
ESDC LR LR 15 17 15.1
comp=Z,1µm,20.1s,baz=125,slow=39
ELSH Elham, Standar 24.75 321 *e*P **P** 15 06 30.3 +0.2
PAB San Pablo 24.84 291 *e*P **P** 15 06 30.8 -0.4
PAB pmax pmax
comp=Z,116nm,1.1s
PAB MLR MLR
comp=Z,901nm,20.0s
PAB San Pablo 24.84 291 *e*P **P** 15 06 30.8 -0.4
comp=Z,116nm,1.1s
PAB LR LR
comp=Z,901nm,20.0s
IBAF Bafgh 24.85 88 *e*P **P** 15 06 32.7 +1.2
MUD Monsted U'grnd 25.06 338 *e*P **P** 15 06 33.0 +0.2
MUD *i*S **S** 15 10 59.4 +3.5
MUD MLR MLR
comp=Z,2µm,12.0s
MUD Monsted U'grnd 25.06 338 *e*P **P** 15 06 33.0 +0.2
MUD Monsted U'grnd 25.06 338 *i*P **P** 15 06 33.0 +0.2
comp=Z,26nm,0.8s
MUD *i*S **S** 15 10 59.4 +3.5
comp=Z,2µm,12.0s
SGMF Saint Gilles 25.50 312 *e*P **P** 15 06 36.0 -1.0
comp=Z,110nm,0.8s
SGMF Saint Gilles 25.50 312 *e*P **P** 15 06 36.0 -1.0
SGMF pmax pmax
comp=Z,110nm,0.8s
SGMF Saint Gilles 25.50 312 *e*P **P** 15 06 36.0 -1.0
comp=Z,110nm,0.8s
MDT Midelt 25.59 275 P **P** 15 06 38.0 -0.1
comp=Z,17nm,0.8s,baz=86,slow=12,SNR=30
DAMY Dhamar 25.64 135 *e*P **P** 15 06 38.9 +0.1
comp=Z,69nm,1.2s
JSA Saint Aubin 25.65 314 *e*P **P** 15 06 37.2 -1.0
JSA AMB AMB 15 06 45.8
comp=Z,67nm,0.9s
JSA *e* 15 11 07.5
JSA AMS AMS 15 17 41.9
comp=Z,3µm,20.8s
QUIF Quistinic 25.76 311 *e*P **P** 15 06 38.5 -0.7
comp=Z,114nm,0.7s
QUIF Quistinic 25.76 311 *e*P **P** 15 06 38.5 -0.7
QUIF pmax pmax
comp=Z,114nm,0.7s
QUIF Quistinic 25.76 311 *e*P **P** 15 06 38.5 -0.7
comp=Z,114nm,0.7s
ROSF Rostrenen 25.98 312 *e*P **P** 15 06 40.2 -1.1
comp=Z,54nm,0.7s
ROSF Rostrenen 25.98 312 *e*P **P** 15 06 40.2 -1.1
ROSF pmax pmax
comp=Z,55nm,0.7s
ROSF Rostrenen 25.98 312 *e*P **P** 15 06 40.2 -1.1
comp=Z,54nm,0.7s
ISFR Sfrayin 26.02 75 *e*P **P** 15 06 44.2 +2.0
GEYT Alibeck 26.08 73 P **P** 15 06 42.6 +0.3
comp=Z,36nm,0.7s,baz=297,slow=6.5,SNR=25
GEYT S S 15 11 21.9 +9.4
comp=Z,0.9nm,0.4s,baz=263,slow=12,SNR=2.4
IAKL Akhelmad 26.66 75 *e*P **P** 15 06 49.1 +1.2
BATH Bath 26.77 319 *e*P **P** 15 06 48.0 -0.3
PBRG Braganca 26.82 296 *e*P **P** 15 06 48.6 -0.4
comp=Z,120nm,1.2s
STRD Stroud 26.84 319 *e*P **P** 15 06 48.3 -0.7
STRD AMB AMB 15 06 58.0
comp=Z,98nm,1.4s
IPAY Payeh 26.87 76 *e*P **P** 15 06 50.7 +1.0
PBAR Barrancos 26.93 288 *e*P **P** 15 06 49.5 -0.5
comp=Z,288nm,1.2s
MVO Moncorvo 26.98 295 *e*P **P** 15 06 50.0 -0.5
comp=Z,105nm,1.1s
MVO *e*S S 15 11 41.9 +15
HFS Hagfors 27.14 346 P **P** 15 06 49.7 -2.0
comp=Z,22nm,0.6s,baz=155,slow=11,SNR=52
HFS Hagfors 27.14 346 P **P** 15 06 49.7 -2.0
HFS pmax pmax
comp=Z,22nm,0.6s
ITEG Tejag 27.19 84 *e*P **P** 15 06 54.6 +2.0
PMRV Marv??o 27.19 291 *e*P **P** 15 06 51.6 -0.8
comp=Z,93nm,1.0s
PMRV *e*S **S** 15 11 27.6 -2.5
DYA Yadsworthy 27.21 316 *e*P **P** 15 06 51.0 -1.4
DYA AMB AMB 15 07 00.1
comp=Z,35nm,1.9s
DYA AMS AMS 15 19 36.6
comp=Z,3µm,17.4s
MONM Monmouth 27.22 319 *e*P **P** 15 06 50.8 -1.6
FINES FINESS Array B 27.22 360 P **P** 15 06 50.3 -2.0
comp=Z,16nm,0.5s,baz=163,slow=12,SNR=66
FINES LR LR 15 18 40.3
comp=Z,2µm,18.4s,baz=170,slow=39
FINES FINESS Array B 27.22 360 P **P** 15 06 50.3 -2.0
FINES pmax pmax
comp=Z,16nm,0.5s
FINES MLR MLR
comp=Z,2µm,18.4s
ISRO Mashad 27.26 76 *e*P **P** 15 06 54.4 +1.2
PCBR Castelo Branco 27.26 292 *e*P **P** 15 06 52.5 -0.5
comp=Z,56nm,1.4s
MTE Manteigas 27.33 293 *e*P **P** 15 06 53.3 -0.4
comp=Z,84nm,1.2s
MTE *e*S S 15 11 47.2 +15
MTE Manteigas 27.33 293 *e*P **P** 15 06 53.3 -0.4
comp=Z,84nm,1.2s
MTE Manteigas 27.33 293 *e*P **P** 15 06 52.9 -0.8
comp=Z,52nm,1.0s
MTE LR LR
comp=Z,2µm,20.0s
PESTR Estremoz 27.35 290 *e*P **P** 15 06 53.1 -0.7
comp=Z,138nm,1.0s
MCH1 Michaelchurch 27.40 319 *e*P **P** 15 06 53.1 -0.9
MCH1 AMB AMB 15 07 00.4
comp=Z,36nm,1.6s
HEX Exmoor 27.41 317 *e*P **P** 15 06 52.6 -1.6
IKOO Kooshah 27.50 84 *e*P **P** 15 06 57.3 +1.8
PVAQ Vaqueiros 27.50 286 *e*P **P** 15 06 54.3 -0.9
comp=Z,140nm,1.1s
PVAQ *e*S **S** 15 11 32.0 -3.0
PVRL Vila Real 27.51 295 *e*P **P** 15 06 55.0 -0.2
comp=Z,77nm,1.4s
POLO Lamas de Olo 27.57 295 *e*P **P** 15 06 55.1 -0.7
comp=Z,39nm,1.3s
HLM1 Long Mynd 27.59 320 *e*P **P** 15 06 54.2 -1.6
HLM1 AMB AMB 15 07 04.1
comp=Z,54nm,3.7s
HLM1 AMS AMS 15 20 04.5
comp=Z,2µm,15.2s
LHO Holmfirth 27.60 323 *e*P **P** 15 06 53.5 -2.3
PVIS Viseu 27.61 294 *e*P **P** 15 06 56.1 0.0
comp=Z,82nm,1.1s
KONO Kongsberg 27.64 342 PFAKE 15 07 10.0 +14
KONO LR LR
comp=Z,1µm,21.0s
EVO Evora 27.68 289⇑ *i*P **P** 15 06 57.2 +0.4
comp=Z,117nm,1.0s
EVO *e*R
comp=Z,2µm,21.0s
EVO Evora 27.68 289 *e*P **P** 15 06 56.6 -0.2
comp=Z,105nm,1.3s
PBDV Barranco-do-Ve 27.68 286 *e*P **P** 15 06 56.3 -0.5
comp=Z,151nm,1.2s
HATD Hatta, Dubai 27.69 102⇓ *i*P **P** 15 06 57.6 +0.6
SNR=9.8
ASHO Ashiyiah 27.70 102 P **P** 15 06 58.5 +1.4
SNR=8.0
UOSS Wadi Hilu 27.70 101 P **P** 15 06 58.0 +1.0
comp=Z,281nm,1.1s,SNR=5.4
HPK Haverah Park 27.72 324 *e*P **P** 15 06 55.5 -1.3
HPK AMB AMB 15 07 05.5
comp=Z,51nm,1.5s
HPK AMS AMS 15 19 51.4
comp=Z,3µm,16.1s
FURI Furi 27.75 152 P **P** 15 06 54.5 -3.4
IMYA Miami 27.77 76 *e*P **P** 15 06 59.3 +1.6
HTL Hartland 27.77 316 *e*P **P** 15 06 56.2 -1.2
HTL AMB AMB 15 07 06.0
comp=Z,39nm,1.8s
HTL AMS AMS 15 20 22.7
comp=Z,4µm,16.8s
PCAB Cabril 27.77 296 *e*P **P** 15 06 57.8 +0.3
comp=Z,122nm,1.1s
EVOP Sao Brissos 27.77 289⇑ *i*P **P** 15 06 57.2 -0.3
EVOP pmax pmax
comp=Z,117nm,1.0s
EVOP Sao Brissos 27.77 289⇑ *i*P **P** 15 06 57.2 -0.3
comp=Z,117nm,1.0s
PMTG Montargil 27.84 290 *e*P **P** 15 06 57.2 -0.9
comp=Z,48nm,1.2s
MESJ Messejana 27.88 287 *e*P **P** 15 06 58.0 -0.5
MESJ AMb AMB 15 07 07.7
comp=Z,54nm,1.4s
MESJ *e*S **S** 15 11 40.4 -0.4
MESJ Messejana 27.88 287 *e*P **P** 15 06 58.0 -0.5
MESJ *e*S **S** 15 11 40.4 -0.4
KAF Kangasniemi 27.89 0 *e*p **P** 15 06 56.3 -2.0
comp=Z,21nm,0.6s
KAF Kangasniemi 27.89 0 *e*P **P** 15 06 56.3 -2.0
KAF pmax pmax
comp=Z,21nm,0.6s
KAF Kangasniemi 27.89 0 *e*P **P** 15 06 56.3 -2.0
comp=Z,21nm,0.6s
FOEL Foel Wylfa 27.95 321 *e*P **P** 15 06 57.6 -1.3
FOEL AMB AMB 15 07 07.5
comp=Z,50nm,1.4s
FOEL AMS AMS 15 20 09.0
comp=Z,2µm,12.4s
PGAV Gavieira, Arco 27.97 296 *e*P **P** 15 06 59.7 +0.3
comp=Z,56nm,1.2s
PGAV *e*S S 15 11 57.8 +15
PTOM Tomar 27.98 291 *e*P **P** 15 06 58.8 -0.6
comp=Z,104nm,1.0s
KLMR Klimovskoe 28.01 14 *e*P **P** 15 06 57.0 -2.4
KLMR S **S** 15 11 38.4 -4.1
KLMR pmax pmax
comp=Z,352nm,1.7s
KLMR MLR MLR
comp=Z,3µm,13.0s
IDAH Dahanechah 28.14 83 *e*P **P** 15 07 03.0 +1.8
PTO Porto 28.17 294 *e*P **P** 15 07 01.8 +0.8
comp=Z,101nm,1.2s
MORF Marmelete 28.25 286 *e*P **P** 15 07 01.3 -0.6
MORF AMb AMB 15 07 53.0
comp=Z,44nm,1.1s
MORF *e*S **S** 15 11 46.4 -0.6
MORF Marmelete 28.25 286 *e*P **P** 15 07 01.3 -0.6
MORF *e*S **S** 15 11 46.3 -0.6
PTEO Sao Teotonio 28.29 287 *e*P **P** 15 07 02.0 -0.2
comp=Z,81nm,1.1s
PACT Alcochete 28.32 289 *e*P **P** 15 07 03.4 +1.0
comp=Z,154nm,1.4s
AKTO Aktyubinsk 28.33 45 P **P** 15 07 02.3 -0.1
comp=Z,29nm,1.0s,baz=250,slow=9.9,SNR=42
AKTO Aktyubinsk 28.33 45 P **P** 15 07 02.3 -0.1
AKTO pmax pmax
comp=Z,29nm,1.0s
PFVI Vila Bisbo 28.41 286 *e*P **P** 15 07 02.7 -0.5
comp=Z,53nm,1.4s
NB2 NORSAR Subarra 28.48 345 P **P** 15 07 02.0 -1.7
comp=Z,14nm,0.8s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.48 345 P **P** 15 07 02.0 -1.7
comp=Z,14nm,0.8s,SNR=9.2
NOA NORSAR Array B 28.48 345 P **P** 15 07 01.5 -2.2
comp=Z,15nm,1.0s,baz=151,slow=8.7,SNR=22
NOA NORSAR Array B 28.48 345 P **P** 15 07 01.5 -2.2
NOA pmax pmax
comp=Z,15nm,1.0s
WPM1 Penmaenmawr 28.50 321 *e*P **P** 15 07 03.2 -0.6
LIS Lisbon 28.57 289 *e*P **P** 15 07 04.5 -0.2
LIS AMb AMB 15 07 13.6
comp=Z,95nm,1.0s
LIS Lisbon 28.57 289 *e*P **P** 15 07 04.4 -0.2
ARQ Araqi 28.70 104 P **P** 15 07 08.1 +2.1
SNR=7.7
WLF1 Llynfaes 28.77 321 *e*P **P** 15 07 05.0 -1.3
KESW Keswick, Cumbr 28.79 324 *e*P **P** 15 07 05.1 -1.3
KESW AMB AMB 15 07 06.4
comp=Z,49nm,2.5s
KESW AMS AMS 15 20 24.3
comp=Z,3µm,19.7s
JOF Joensuu 28.89 5 *e*p **P** 15 07 05.3 -1.9
JOF Joensuu 28.89 5 *e*P **P** 15 07 05.3 -1.9
JOF Joensuu 28.89 5 *e*P **P** 15 07 05.3 -1.9
AB31 Akbulak array 29.09 49 *i*P **P** 15 07 09.8 +0.7
AB31 pmax pmax
comp=Z,8.0nm,0.5s
ABKAR Akbulak array 29.09 49 *e*P **P** 15 07 08.9 -0.3
ECK Cauldkaine Hil 29.13 325 *e*P **P** 15 07 08.4 -1.0
HOQ Hoqain 29.22 103 P **P** 15 07 12.1 +1.5
SNR=12
EKA Eskdalemuir Ar 29.23 325 P **P** 15 07 09.7 -0.6
comp=Z,21nm,0.8s,baz=127,slow=9.6,SNR=55
EKA PcP **PcP** 15 10 17.1 +0.1
comp=Z,1.9nm,0.5s,baz=117,slow=3.1,SNR=3.7
EKA Eskdalemuir Ar 29.23 325 P **P** 15 07 09.7 -0.6
EKA 15 10 17.1
EKA pmax pmax
comp=Z,21nm,0.8s
ESK Eskdalemuir 29.24 325 P **P** 15 07 09.5 -0.9
comp=Z,269nm,1.2s,SNR=10
ESK Eskdalemuir 29.24 325 *e*P **P** 15 07 09.0 -1.4
ESK AMB AMB 15 07 19.4
comp=Z,45nm,1.2s
ESK AMS AMS 15 20 50.8
comp=Z,3µm,15.5s
ESK Eskdalemuir 29.24 325 *e*P **P** 15 07 09.6 -0.9
ESK pmax pmax
comp=Z,43nm,0.8s
ESK MLR MLR
comp=Z,4µm,19.0s
ESK Eskdalemuir 29.24 325 *e*P **P** 15 07 09.0 -1.4
ESK Eskdalemuir 29.24 325 *e*P **P** 15 07 09.6 -0.9
comp=Z,43nm,0.8s
ESK LR LR
comp=Z,4µm,19.0s
ESY Stoneypath 29.31 326 *e*P **P** 15 07 09.8 -1.3
EBL Broad Law 29.42 326 *e*P **P** 15 07 10.9 -1.2
BSY Bisya 29.54 105 P **P** 15 07 14.8 +1.4
SNR=11
GAL1 Galloway 29.73 323 *e*P **P** 15 07 14.0 -0.7
GAL1 AMB AMB 15 07 23.8
comp=Z,56nm,1.5s
GAL1 AMS AMS 15 21 02.6
comp=Z,2µm,16.4s
DRUM Mains of Drumt 29.84 328 *e*P **P** 15 07 14.2 -1.5
DRUM AMB AMB 15 07 20.0
comp=Z,122nm,2.9s
DRUM AMS AMS 15 22 02.5
comp=Z,5µm,14.1s
EDU Dundee 29.86 327 *e*P **P** 15 07 14.5 -1.4
SMDO Samad 30.07 103 P **P** 15 07 19.6 +1.5
SNR=11
PRGR Permogore 30.13 19 *e*P **P** 15 07 16.6 -1.6
PRGR *e*S **S** 15 12 13.6 -2.1
PRGR pmax pmax
comp=Z,99nm,0.8s
EAB Aberfoyle 30.26 326 *e*P **P** 15 07 18.1 -1.3
JMDO Jabal Madar 30.45 104 P **P** 15 07 23.0 +1.5
SNR=10
TORD Torodi Ar. Bea 30.51 232 P **P** 15 07 21.9 -0.1
comp=Z,41nm,0.7s,baz=29,slow=8.3,SNR=118
TORD PcP **PcP** 15 10 21.1 +0.2
comp=Z,6.4nm,1.0s,baz=22,slow=3.4,SNR=4.3
TORD LR LR 15 21 05.8
comp=Z,4µm,20.2s,baz=45,slow=39
MCD Coleburn Disti 30.58 329 *e*P **P** 15 07 20.4 -1.8
TMCR Tamitsa 30.84 10 *e*P **P** 15 07 24.7 +0.3
TMCR *e* 15 08 25.7
TMCR pmax pmax
comp=Z,59nm,1.1s
MDO Dochfour 30.98 328 *e*P **P** 15 07 23.7 -2.1
MLA1 Latheron 31.07 330 *e*P **P** 15 07 25.8 -0.8
MVH1 Achvaich 31.19 329 *e*P **P** 15 07 26.3 -1.2
ARU Arti 31.36 35 P **P** 15 07 29.3 +0.2
comp=Z,122nm,0.5s,SNR=6.9
ARU Arti 31.36 35*c* *i*P **P** 15 07 28.9 -0.2
ARU 15 08 29.6
ARU PPP PPP 15 08 42.6
ARU 15 10 22.4
ARU S **S** 15 12 38.2 +3.1
ARU SS **SnSn** 15 14 20.3 +1.3
ARU SSS SSS 15 14 39.5
ARU pmax pmax
comp=Z,30nm,1.2s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 31.36 35 *e*P **P** 15 07 27.9 -1.2
comp=Z,30nm,1.0s
ARU LR LR
comp=Z,1µm,19.0s
BIGH Upper Bighouse 31.41 330 *e*P **P** 15 07 26.9 -2.6
VAL Valentia 31.46 315 *e*P **P** 15 07 30.0 0.0
KPL Plockton 31.50 327 *e*P **P** 15 07 27.9 -2.4
KPL AMB AMB 15 07 29.9
comp=Z,105nm,2.3s
SVE Sverdlovsk 32.55 35 *e*P **P** 15 07 39.8 +0.3
SVE *e*S **S** 15 12 52.6 -1.0
SVE pmax pmax
comp=Z,47nm,0.9s
SVE MLR MLR
comp=Z,1µm,16.0s
APA Apatity 33.64 5⇓ *i*P **P** 15 07 47.4 -1.5
APA *i* 15 09 04.0
APA *i*S **S** 15 13 06.0 -4.4
APA *i*SS **SnSn** 15 15 18.0 +3.8
APA MLR MLR
comp=Z,3µm,16.0s
DZET Dzherino 34.42 70 P **P** 15 07 57.9 +1.7
DZET pmax pmax
comp=Z,40nm,1.2s
KBL Kabul 35.26 77 *e*P **P** 15 08 04.1 +0.5
KBL pmax pmax
comp=Z,23nm,0.9s
KBL Kabul 35.26 77 *e*P **P** 15 08 04.1 +0.5
comp=Z,23nm,0.9s
ARCES ARCESS Array B 35.35 360 P **P** 15 08 01.9 -1.9
comp=Z,8.3nm,0.4s,baz=177,slow=9.4,SNR=71
ARCES LR LR 15 23 22.7
comp=Z,2µm,19.4s,baz=171,slow=38
ARCES ARCESS Array B 35.35 360 P **P** 15 08 01.9 -1.9
ARCES pmax pmax
comp=Z,8.0nm,0.4s
ARCES MLR MLR
comp=Z,2µm,19.4s
KK31 Karatay Array 35.45 62 *i*P **P** 15 08 05.4 +0.4
KK31 pmax pmax
comp=Z,36nm,0.8s
KKAR Karatay Array 35.45 62 *e*P **P** 15 08 05.4 +0.5
KKAR Karatay Array 35.45 62 *e*P **P** 15 08 05.4 +0.5
KEV Kevo 35.57 1 *e*p **P** 15 08 06.0 +0.4
KEV Kevo 35.57 1 *e*P **P** 15 08 06.0 +0.4
KEV Kevo 35.57 1 *e*P **P** 15 08 06.0 +0.4
KEV Kevo 35.57 1 PFAKE 15 08 20.0 +14
KEV LR LR
comp=Z,2µm,20.0s
BRVK Borovoye 36.39 45 P **P** 15 08 13.7 +0.9
comp=Z,379nm,1.1s,SNR=35
BRVK Borovoye 36.39 45*c* *i*P **P** 15 08 13.1 +0.3
BRVK pmax pmax
comp=Z,65nm,0.9s
BRVK MLR MLR
comp=Z,1µm,19.0s
BRVK Borovoye 36.39 45 P **P** 15 08 14.1 +1.3
SNR=35
BRVK Borovoye 36.39 45 *e*P **P** 15 08 13.3 +0.5
comp=Z,70nm,1.0s
BRVK LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 36.71 161 P **P** 15 08 17.6 +1.4
comp=Z,0.9nm,0.4s,baz=313,slow=12,SNR=2.5
KMBO PcP **PcP** 15 10 40.1 +1.4
comp=Z,3.6nm,0.9s,baz=39,slow=1.2,SNR=4.7
KMBO LR LR 15 24 26.6
comp=Z,2µm,19.1s,baz=300,slow=38
OTUK Ortayu 36.92 54 P **P** 15 08 18.4 +0.9
OTUK pmax pmax
comp=Z,135nm,1.0s
MNAS Manas 36.93 63 P **P** 15 08 19.0 +1.2
MNAS pmax pmax
comp=Z,28nm,1.1s
MSKU Masuku 37.58 201 LR LR 15 27 29.2
comp=Z,3µm,18.1s,baz=10.0,slow=42
AML Almayashu 37.84 64 P P 15 08 29.6 +3.8
SNR=14
EKS2 Erkin-Say 37.86 63 P **P** 15 08 26.6 +1.0
SNR=26
EKS2 Erkin-Say 37.86 63 *e*P **P** 15 08 26.7 +1.0
EKS2 pmax pmax
comp=Z,35nm,0.8s
EKS2 MLR MLR
comp=Z,738nm,20.0s
EKS2 Erkin-Say 37.86 63 *e*P **P** 15 08 26.7 +1.0
comp=Z,36nm,0.8s
EKS2 LR LR
comp=Z,738nm,20.0s
SFK Sufi-Kurgan 37.89 67 P **P** 15 08 26.8 +0.7
SFK pmax pmax
comp=Z,48nm,0.9s
AAK Ala-Archa 38.39 63 P **P** 15 08 31.6 +1.4
comp=Z,306nm,0.8s,SNR=28
AAK Ala-Archa 38.39 63 P **P** 15 08 31.3 +1.1
SNR=30
AAK Ala-Archa 38.39 63*c* *i*P **P** 15 08 31.0 +0.8
AAK pmax pmax
comp=Z,170nm,1.4s
AAK Ala-Archa 38.39 63 P **P** 15 08 31.3 +1.1
SNR=28
AAK Ala-Archa 38.39 63 *e*P **P** 15 08 31.2 +1.1
comp=Z,42nm,0.8s
AAK LR LR
comp=Z,757nm,21.0s
UCH Uchtor 38.44 63 P **P** 15 08 31.7 +0.8
SNR=10
UCH Uchtor 38.44 63 *i*P **P** 15 08 31.6 +0.8
FRU Bishkek 38.47 62 *e*P **P** 15 08 31.5 +0.8
FRU *i* 15 08 44.5
FRU pmax pmax
comp=Z,115nm,1.9s

CHMS Chumysh 38.56 62 P P 15 08 32.6 +1.2
SNR=21
CHMS Chumysh 38.56 62 *i* P P 15 08 32.6 +1.2
KBK Karagaybulak 38.72 63 P P 15 08 34.2 +1.2
SNR=26
KZA Kyzart 38.99 64 P P 15 08 36.9 +1.4
SNR=35
KZA Kyzart 38.99 64 *i* P P 15 08 36.9 +1.4
TKM2 Tokmak 2 39.18 62 P P 15 08 37.5 +0.6
SNR=25
TKM2 Tokmak 2 39.18 62 P P 15 08 37.2 +0.4
TKM2 pmax pmax
comp=Z,24nm,0.8s
TKM2 Tokmak 2 39.18 62 *e*P P 15 08 37.4 +0.6
comp=Z,25nm,0.8s
TKM2 LR LR
comp=Z,475nm,19.0s
DBIC Dimbokro 39.61 233 P P 15 08 40.0 -0.4
comp=Z,8.7nm,0.4s,baz=25,slow=9.1,SNR=24
DBIC S **S** 15 14 39.2 -3.2
comp=Z,4.2nm,0.8s,baz=128,slow=19,SNR=5.2
DBIC LR LR 15 26 29.9
comp=Z,3μm,19.7s,baz=21,slow=38
DBIC Dimbokro 39.61 233 P P 15 08 40.0 -0.4
DBIC S **S** 15 14 39.2 -3.2
DBIC pmax pmax
comp=Z,9.0nm,0.4s
DBIC smax smax
comp=N,4.0nm,0.8s
DBIC MLR MLR
comp=Z,3μm,19.7s
ULHL Ulahol 39.71 63 P P 15 08 42.4 +1.1
SNR=47
ULHL Ulahol 39.71 63 *i* P P 15 08 42.4 +1.1
TIC Toumodi 39.73 233 *e*P P 15 08 41.0 -0.5
comp=Z,20nm,0.2s
KIC Kosan Boka 39.76 233 *e*P P 15 08 41.4 -0.3
comp=Z,54nm,0.5s
KSH Kashi 39.84 67 P P 15 08 41.0 -1.3
KSH pP **pP** 15 08 45.5 -3.1
KSH PP **PnPn** 15 10 16.6 -0.5
KSH PcS **PcS** 15 14 37.8 -0.5
KSH S **S** 15 14 43.9 -2.0
KSH SS SS 15 17 31.5 -11
KSH PMZ
comp=Z,28nm,1.2s
KSH PMZ
comp=Z,180nm,4.8s
KSH LN
comp=Z,260nm,8.0s
KSH LE
comp=Z,270nm,10.2s
KSH LZ
comp=Z,810nm,21.1s
LIC Lamto 40.05 233 *e*P P 15 08 43.5 -0.6
comp=Z,153nm,1.3s,baz=42
LIC *e*R
comp=Z,4μm,22.0s
LIC Lamto 40.05 233 *e*P P 15 08 43.8 -0.3
comp=Z,153nm,1.3s,baz=43
LIC Lamto 40.05 233 *e*P P 15 08 43.5 -0.6
comp=Z,153nm,1.3s
KURK Kurchatov 41.18 50 P P 15 08 53.6 +0.6
comp=Z,344nm,1.0s
KURK Kurchatov 41.18 50 P P 15 08 53.3 +0.3
KURK pmax pmax
comp=Z,72nm,1.1s
KURK Kurchatov 41.18 50 P P 15 08 53.8 +0.8
SNR=46
KURK Kurchatov 41.18 50 *e*P P 15 08 53.4 +0.4
comp=Z,130nm,1.0s
KURK LR LR
comp=Z,621nm,21.0s
PDGK Podgornoye 41.98 61 P P 15 08 59.9 +0.2
PDGK pmax pmax
comp=Z,27nm,0.8s
BHK Bhakra 42.04 79 *e*P P 15 09 01.6 +1.2
NDI New Delhi 43.60 83 *ex* P 15 09 15.0 +2.0
MK31 Makanchi Array 43.65 56 P P 15 09 13.7 +0.4
MK31 pmax pmax
comp=Z,70nm,0.7s
MKAR Makanchi Array 43.65 56 P P 15 09 13.6 +0.3
comp=Z,52nm,0.6s,baz=278,slow=8.5,SNR=361
MKAR S **S** 15 15 40.9 -1.0
comp=Z,0.7nm,0.9s,baz=273,slow=19,SNR=2.3
MKAR LR LR 15 31 27.6
comp=Z,449nm,19.6s,baz=268,slow=42
MKAR Makanchi Array 43.65 56 P P 15 09 13.6 +0.3
MKAR S **S** 15 15 40.9 -1.0
MKAR pmax pmax
comp=Z,52nm,0.6s
MKAR smax smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,449nm,19.6s
NVS Novosibirsk 44.21 44 *i* P P 15 09 18.1 +0.6
NVS *i* 15 11 03.4
NVS *e*S **S** 15 15 50.1 +0.5
NVS pmax pmax
comp=N,22nm,0.7s
NVS pmax pmax
comp=Z,60nm,0.7s
ZALV Zalesovo Beam 45.10 46 P P 15 09 24.4 -0.2
comp=Z,27nm,0.5s,baz=266,slow=8.9,SNR=110
ZALV S **S** 15 16 01.8 -0.8
comp=Z,0.9nm,0.6s,baz=258,slow=12,SNR=3.1
ZALV LR LR 15 33 49.8
comp=Z,505nm,19.2s,baz=250,slow=44
ZALV Zalesovo Beam 45.10 46 *i* P P 15 09 24.3 -0.3
ZALV pmax pmax
comp=Z,27nm,0.5s
KBS Kingsbay 45.18 356 *e*P P 15 09 24.7 -0.3
KBS pmax pmax
comp=Z,7.0nm,0.7s
KBS MLR MLR
comp=Z,2μm,22.0s
KBS Kingsbay 45.18 356 *e*P P 15 09 24.7 -0.3
comp=Z,7.1nm,0.7s
KBS LR LR
comp=Z,2μm,22.0s
DAG Danmarks Havn 47.11 347 *i* P P 15 09 38.6 -1.6
DAG MLR MLR
comp=Z,700nm,19.0s
DAG Danmarks Havn 47.11 347 *i* P P 15 09 38.6 -1.6
comp=Z,17nm,1.0s
comp=Z,670nm,19.0s
MSEY Mahe Island 47.62 139 PFAKE 15 10 00.0 +15
MSEY LR LR
comp=Z,725nm,19.0s
SACV Santiago Islan 48.57 259 PFAKE 15 10 00.0 +7.7
SACV LR LR
comp=Z,1μm,19.0s
DANN Dangsing 49.08 80 *e*P P 15 09 57.3 +0.8
comp=Z,442nm,0.9s
LSZ Lusaka 49.28 177 LR LR 15 31 48.8
comp=Z,2μm,18.7s,baz=285,slow=37
LSZ Lusaka 49.28 177 *e*P P 15 09 58.7 +1.0
LSZ pmax pmax
comp=Z,19nm,1.3s
LSZ Lusaka 49.28 177 *e*P P 15 09 58.7 +1.0
comp=Z,19nm,1.3s
RPR Rampur 49.48 94 *e*P P 15 09 59.4 +0.2
RPR *e* 15 10 07.5
HYBB Hyderabad (bro 49.57 96 *e*P P 15 10 00.9 +0.9
HYBB *e* 15 10 08.2
HYB Hyderabad 49.58 96 *i* P P 15 09 59.0 -1.0
HYB *e* 15 10 27.0
HYB *e*S **S** 15 17 08.0 +0.7
HYB *e* 15 21 06.0
KRAR Krasnoyarsk 49.70 43 ⇓ *i* P P 15 10 00.3 -0.1
KRAR pmax pmax
comp=Z,52nm,1.0s
KRAR MLR MLR
comp=Z,438nm,20.0s
URV Uravakonda 49.79 100 *e*P P 15 10 02.6 +0.9
SUMG Summit 50.11 339 *e*P P 15 10 03.7 0.0
SUMG pmax pmax
comp=Z,47nm,0.9s
SUMG Summit 50.11 339 ⇑ *i* P P 15 10 03.8 0.0
SUMG Summit 50.11 339 *e*P P 15 10 03.7 0.0
comp=Z,47nm,0.9s
SUMG Summit 50.11 339 ⇑ *i* P P 15 10 03.8 0.0
comp=Z,37nm,0.9s
DMN Daman 50.46 81 *e*P P 15 10 07.2 +0.2
comp=Z,172nm,0.9s
KKN Kakani 50.53 80 *e*P P 15 10 07.5 +0.1
comp=Z,76nm,0.6s
PKIN Phulchoki 50.71 80 *e*P P 15 10 08.8 -0.1
comp=Z,163nm,1.1s
PKI Pulchoki 50.73 80 *e*P P 15 10 08.8 -0.2
comp=Z,126nm,0.9s
GUN Gumba 50.98 80 *e*P P 15 10 11.0 +0.1
comp=Z,166nm,0.8s
JIRN Jiri 51.33 80 *e*P P 15 10 13.6 0.0
comp=Z,144nm,0.9s
RAMN Ramite 51.94 81 *e*P P 15 10 17.3 -0.8
comp=Z,125nm,1.2s
SKHT Srikalahasti 52.44 99 *e*P P 15 10 21.8 +0.3
ODAN Odare 52.62 80 *e*P P 15 10 22.9 -0.2
TAPN Taplejung 52.69 80 *e*P P 15 10 23.2 -0.5
comp=Z,167nm,1.2s
CHLP Challavanipeta 53.59 91 *e*P P 15 10 29.9 -0.1
TSUM Tsumeb 53.76 190 *e*P P 15 10 31.4 +0.2
comp=Z,31nm,1.1s
TSUM LR LR
comp=Z,7μm,19.0s
SFJD Kangerlussuaq 53.85 332 *i* P P 15 10 30.3 -0.9
SFJD *i* S **S** 15 18 05.1 +0.3
SFJD MLR MLR
comp=Z,1μm,17.0s
SFJD Kangerlussuaq 53.85 332 PFAKE 15 10 40.0 +8.8
SFJD LR LR
comp=Z,2μm,21.0s
SFJD Kangerlussuaq 53.85 332 *i* P P 15 10 30.3 -0.9
comp=Z,8.4nm,0.7s
SFJD *i* S **S** 15 18 05.1 +0.3
comp=Z,1μm,17.0s
LSA Lhasa 54.55 76 *e*P P 15 10 38.8 +1.3
LSA pmax pmax
comp=Z,24nm,0.8s
LSA MLR MLR
comp=Z,211nm,19.0s
LSA Lhasa 54.55 76 *e*P P 15 10 38.8 +1.3
comp=Z,24nm,0.8s
LSA LR LR
comp=Z,211nm,19.0s
MOY Mondy 55.07 47 *e*P P 15 10 41.8 +1.3
MOY pmax pmax
comp=Z,55nm,2.0s
KULLO Kullorsuaq 55.56 341 *i* P P 15 10 43.8 +0.3
comp=Z,1μm,23.0s
ALE Alert 56.07 351 P P 15 10 46.0 -1.1
comp=Z,193nm,1.1s,SNR=9.0
OPO Ambohidratompo 56.23 156 LR LR 15 37 12.1
comp=Z,1μm,19.4s,baz=342,slow=38
ABPO Ambohimpanom 56.66 156 PFAKE 15 11 10.0 +18
ABPO LR LR
comp=Z,1μm,20.0s
TLY Talaya 56.67 47 P P 15 10 53.5 +1.6
comp=Z,122nm,1.2s,SNR=9.5
TLY Talaya 56.67 47 *e*P P 15 10 53.3 +1.4
TLY *e* 15 20 28.7
TLY pmax pmax
comp=Z,36nm,1.4s
TLY Talaya 56.67 47 P P 15 10 53.5 +1.6
SNR=28
TLY Talaya 56.67 47 *e*P P 15 10 52.5 +0.6
comp=Z,26nm,1.1s
TLY LR LR
comp=Z,507nm,21.0s
ASCN Ascension 56.79 230 PFAKE 15 11 10.0 +17
ASCN LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 56.91 46 *e*P P 15 10 51.6 -1.9
IRK *e*S **S** 15 18 51.6 +5.5
IRK pmax pmax
comp=Z,86nm,1.7s
GTA Gaotai 57.73 62 *e*P P 15 11 00.5 +0.8
GTA pP **pP** 15 11 05.3 -0.9
GTA sP **sP** 15 11 07.6 -1.0
GTA S **S** 15 18 59.3 +1.8
GTA sS **sS** 15 19 06.5 -1.7
GTA SS **SS** 15 22 51.3 +3.6
GTA PMZ
comp=Z,11nm,1.3s
GTA PMZ
comp=Z,260nm,6.9s
GTA LN
comp=Z,640nm,20.0s
GTA LE
comp=Z,600nm,20.4s
GTA LZ
comp=Z,420nm,20.0s
SHEL Horse Pasture 58.40 217 PFAKE 15 11 20.0 +16
SHEL LR LR
comp=Z,906nm,20.0s
LBTB Lobatse 58.93 181 LR LR 15 37 49.6
comp=Z,3μm,19.0s,baz=15,slow=37
LBTB Lobatse 58.93 181 *e*P P 15 11 09.3 +1.3
LBTB pmax pmax
comp=Z,176nm,2.5s
LBTB Lobatse 58.93 181 *e*P P 15 11 09.3 +1.3
comp=Z,176nm,2.5s
SONM Songino Array 59.48 50 P P 15 11 11.9 +0.2
comp=Z,15nm,0.8s,baz=284,slow=8.3,SNR=16
SONM LR LR 15 39 55.7
comp=Z,589nm,19.9s,baz=276,slow=39
SONM Songino Array 59.48 50 P P 15 11 11.9 +0.2
SONM pmax pmax
comp=Z,15nm,0.8s
SONM MLR MLR
comp=Z,589nm,19.9s
ULN Ulaanbaatar 59.89 50 *ce*P P 15 11 15.0 +0.4
ULN pmax pmax
comp=Z,28nm,1.1s
ULN MLR MLR
comp=Z,693nm,22.0s
ULN Ulaanbaatar 59.89 50 P P 15 11 15.4 +0.8
SNR=16
ULN Ulaanbaatar 59.89 50 PFAKE 15 11 30.0 +15
ULN LR LR
comp=Z,614nm,20.0s
BOD Bodaibo 60.71 38 *e*P P 15 11 18.6 -1.2
BOD pmax pmax
comp=Z,24nm,0.9s
DRLN Deer Lake 61.07 312 *e*P P 15 11 22.5 +0.1
comp=Z,58nm,0.9s
TIXI Tiksi 61.76 21 *e*P P 15 11 25.8 -0.9
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI MLR MLR
comp=Z,811nm,19.0s
TIXI Tiksi 61.76 21 *e*P P 15 11 25.8 -0.9
comp=Z,15nm,0.8s
TIXI LR LR
comp=Z,792nm,19.0s
LZH Lanzhou 61.92 64 *e*P P 15 11 30.4 +1.8
LZH pP **pP** 15 11 33.6 -1.5
LZH sP **sP** 15 11 35.1 -2.5
LZH PP **PP** 15 13 46.0 +1.3
LZH *e*S **S** 15 19 53.5 +1.8
LZH SS **SS** 15 23 53.1 -0.5
LZH PMZ
comp=Z,66nm,1.5s
LZH PMZ
comp=Z,220nm,4.4s
LZH LN
comp=Z,360nm,14.8s
LZH LE
comp=Z,330nm,13.2s
LZH LZ
comp=Z,630nm,15.9s
CIT Chita 62.42 44 *e*P P 15 11 31.2 -0.3
CIT *e* 15 11 42.7
CIT *e* 15 12 04.3
CIT pmax pmax
comp=Z,64nm,1.6s
CD2 Chengdu 64.01 69 P P 15 11 44.3 +1.9
CD2 pP **pP** 15 11 48.8 -0.2
CD2 sP **sP** 15 11 51.0 -0.4
CD2 PP **PP** 15 14 06.3 +3.3
CD2 PcS 15 16 21.9
CD2 S **S** 15 20 17.8 +0.1
CD2 SKS **SKKSac** 15 21 35.0 -0.4
CD2 SS **SS** 15 24 27.3 +1.1
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
SCHQ Schefferville 64.38 320 P P 15 11 44.3 -0.1
comp=Z,27nm,0.7s,baz=66,slow=6.2,SNR=57
SCHQ LR LR 15 40 35.7
comp=Z,721nm,18.5s,baz=79,slow=37
SCHQ Schefferville 64.38 320 *e*P P 15 11 44.2 -0.2
comp=Z,31nm,0.7s
BTO Baotou 64.55 57 *e*P P 15 11 47.0 +1.1
MHMT Maesarieng 65.23 84 P P 15 11 50.8 +0.4
comp=Z,26nm,0.9s,comp=Z,549nm
CMAI Chiengmai2 65.28 82 P P 15 11 51.1 +0.1
comp=Z,89nm,0.8s
HHC Hu-ho-hao-te 65.52 56 *e*P P 15 11 53.0 +0.8
HHC PP **PP** 15 14 18.8 +2.7
HHC S **S** 15 20 30.6 -5.6
HHC SS **SS** 15 24 49.1 -0.3
HHC PMZ
comp=Z,32nm,0.5s
HHC PMZ
comp=Z,250nm,7.4s
HHC LN
comp=Z,410nm,18.2s
HHC LE
comp=Z,420nm,20.2s
HHC LZ
comp=Z,550nm,18.4s
CHTO Chiang Mai 65.75 83 *e*P P 15 11 53.4 -0.4
CHTO pmax pmax
comp=Z,22nm,1.0s
CHTO MLR MLR
comp=Z,102nm,20.0s
CHTO Chiang Mai 65.75 83 P P 15 11 53.8 -0.1
SNR=8.8
CHTO Chiang Mai 65.75 83 *e*P P 15 11 53.4 -0.4
comp=Z,22nm,1.0s
CHTO LR LR
comp=Z,102nm,20.0s
CMMT Chiang Mai 65.75 83 P P 15 11 54.1 +0.2
comp=Z,18nm,1.2s,comp=Z,425nm
KMI Kunming 65.81 75 P P 15 11 55.6 +1.2
KMI pP **pP** 15 12 01.6 +0.6
KMI sP **sP** 15 12 04.1 +0.7
KMI PcP **PcP** 15 12 26.8 +1.3
KMI PP **PP** 15 14 20.1 +0.9
KMI S **S** 15 20 37.8 -2.6
KMI SKS **ScS** 15 21 50.8 +1.0
KMI SS **SS** 15 24 55.3 +0.4
KMI PMZ
comp=Z,13nm,0.7s
KMI PMZ
comp=Z,78nm,3.6s
KMI LN
comp=Z,300nm,23.8s
KMI LE
comp=Z,280nm,21.2s
KMI LZ
comp=Z,420nm,23.5s
CMAR Chiang Mai Arr 65.92 83 P P 15 11 54.2 -0.7
comp=Z,9.1nm,0.9s,baz=298,slow=7.7,SNR=57
CMAR LR LR 15 47 53.6
comp=Z,172nm,19.9s,baz=290,slow=42
CRAI Chiangrai 66.22 81 P P 15 11 53.7 -3.2
comp=Z,79nm,1.1s,comp=Z,4μm
YAK Yakutsk 66.29 30 *e*P P 15 11 55.1 -1.5
YAK *e**PP pP 15 12 04.4 +1.2
YAK *e* 15 12 24.0
YAK *e* 15 14 22.4
YAK *e*S **S** 15 20 41.6 -3.0
YAK *e**SS **sS** 15 20 59.5 +4.0
YAK *e* 15 21 49.9
YAK *e*SS **SS** 15 24 58.4 -1.7
YAK *e*SSS SSS 15 28 00.4
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=N,62nm,4.7s
YAK pmax pmax
comp=Z,142nm,4.7s
YAK smax smax
comp=N,124nm,5.4s
YAK smax smax
comp=E,35nm,2.8s
YAK MLR MLR
comp=Z,372nm,19.0s
YAK MLR MLR
comp=N,164nm,15.0s
YAK MLR MLR
comp=E,343nm,16.0s
YAK Yakutsk 66.29 30 *e*P P 15 11 55.4 -1.2
comp=E,36nm,0.7s
YAK LR LR
comp=Z,408nm,19.0s
SUR Sutherland 66.45 185 LR LR 15 40 56.9
comp=Z,726nm,18.2s,baz=22,slow=36
LAMP Lampang 66.45 83 P P 15 11 59.3 +0.9
comp=Z,16nm,0.9s,comp=Z,117nm
CLNS Chul'man 66.53 36 *e*P P 15 11 59.0 +0.7
CLNS *e**PP pP 15 12 08.6 +3.7
CLNS *e* 15 12 24.0
CLNS *e* 15 14 25.8
CLNS *e*PPP PPP 15 15 57.9
CLNS *e*S **S** 15 20 42.2 -5.7
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS pmax pmax
comp=Z,4.0nm,0.7s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS smax smax
comp=E,71nm,13.5s
CLNS smax smax
comp=N,72nm,9.9s
CLNS MLR MLR
comp=E,279nm,17.0s
CLNS MLR MLR
comp=Z,171nm,17.0s
CLNS MLR MLR
comp=N,117nm,13.0s
XAN Xi'an 66.56 64 P P 15 11 58.8 -0.1
XAN pP **pP** 15 12 04.8 -0.7
XAN S **S** 15 20 48.1 -0.8
XAN PMZ
comp=N,4.0nm,0.7s
XAN PMZ
comp=N,54nm,5.1s
XAN LN
comp=N,350nm,21.5s
SUKH Sukhothai 66.97 84 P P 15 12 02.5 +0.8
comp=N,16nm,0.9s,comp=N,112nm
HIA Hailar 67.14 45 *c* *i* P P 15 12 03.0 +0.7
HIA pmax pmax
comp=Z,65nm,1.2s
HIA MLR MLR
comp=Z,316nm,13.0s
HIA Hailar 67.14 45 *e*P P 15 12 02.7 +0.4
comp=Z,42nm,0.9s
HIA LR LR
comp=Z,430nm,21.0s
UTTA Uttaradit 67.60 83 P P 15 12 06.3 +0.7
comp=Z,7.3nm,0.8s,comp=Z,61nm
UTHA Uthaitani 67.80 86 P P 15 12 07.8 +0.9
comp=Z,4.8nm,0.9s,comp=Z,51nm
GYA Guiyang 68.30 72 ⇑ *i* P P 15 12 09.3 -0.8
GYA PP **PP** 15 14 42.8 +2.1
GYA S **S** 15 21 10.6 +0.4
GYA SKS **SKiKP** 15 22 05.4 +1.8
GYA SS **SS** 15 25 33.8 +0.6
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,540nm,19.9s
GYA LE
comp=Z,480nm,20.0s
GYA LZ
comp=Z,520nm,19.6s
LOEI Loei 68.31 83 P P 15 12 12.1 +2.0
comp=Z,12nm,1.3s
PBKT Sadao Pong 68.54 84 P P 15 12 11.8 +0.3

comp=Z,17nm,1.5s,comp=Z,425nm
ENH Enshi 68.70 67 PFAKE 15 12 20.0 +7.5
ENH LR LR
comp=Z,154nm,19.0s
BJT Baijiatuau 69.03 55 PFAKE 15 12 30.0 +16
BJT LR LR
comp=Z,684nm,21.0s
CHAI Chaiyaphum 69.72 84 P **P** **15 12 19.5 +0.6**
comp=Z,9.2nm,0.9s,comp=Z,91nm
PKME Peaks-Kenny Pk 70.02 312 PFAKE 15 12 30.0 +10
PKME LR LR
comp=Z,572nm,19.0s
KHON Khomkaen 70.18 83 P **P** **15 12 22.8 +1.1**
comp=Z,18nm,0.8s
RCBR Riachuelo 70.69 249 PFAKE 15 12 40.0 +15
RCBR LR LR
comp=Z,864nm,20.0s
TIA Tai'an 71.50 59 ⇑P **P** **15 12 29.6 +0.1**
TIA S **S** **15 21 48.4 +1.1**
TIA PMZ
comp=Z,20nm,1.1s
TIA PMZ
comp=Z,280nm,5.6s
TIA LN
comp=Z,370nm,27.1s
TIA LE
comp=Z,320nm,26.5s
TIA LZ
comp=Z,310nm,25.8s
LBNH Lisbon 72.16 312 *e*P **P** **15 12 34.7 +1.4**
LBNH pmax pmax
comp=Z,37nm,1.0s
LBNH MLR MLR
comp=Z,741nm,20.0s
LBNH Lisbon 72.16 312 *e*P **P** **15 12 34.7 +1.4**
comp=Z,37nm,1.0s
LBNH LR LR
comp=Z,741nm,20.0s
WHN Wuhan 72.25 65 P P 15 12 38.5 +4.4
WHN S **S** **15 21 55.6 -0.4**
WHN LZ
comp=Z,810nm,18.7s
HNH Hanover 72.65 311 *e*P **P** **15 12 37.8 +1.6**
HRV Adam Dziewonsk 72.81 310 *e*P **P** **15 12 38.2 +1.0**
HRV pmax pmax
comp=Z,36nm,1.1s
HRV Adam Dziewonsk 72.81 310 *e*P **P** **15 12 38.2 +1.0**
comp=Z,36nm,1.1s
MDV Middlebury 73.06 312 *e*P **P** **15 12 40.2 +1.6**
CN2 Changchun 73.22 48 *e*P **P** **15 12 41.0 +1.4**
CN2 *e*gP **PcP** **15 12 51.3 -4.8**
CN2 *e*S **S** **15 22 04.8 -1.9**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 LN
comp=Z,500nm,17.0s
CN2 LE
comp=Z,500nm,17.0s
CN2 LZ
comp=Z,500nm,12.0s
LONY Lake Ozonia 73.59 313 *e*P **P** **15 12 42.8 +1.0**
comp=Z,52nm,1.3s
LONY LR LR
comp=Z,789nm,20.0s
ACCN Adirondack Com 73.68 312 *e*P **P** **15 12 44.0 +1.6**
comp=Z,29nm,0.8s
NCB Newcomb 73.71 312 *e*P **P** **15 12 45.0 +2.5**
comp=Z,18nm,1.0s
NCB Newcomb 73.71 312 *e*P **P** **15 12 45.0 +2.5**
comp=Z,18nm,1.0s
NCB LR LR
comp=Z,798nm,20.0s
BILL Bilibino 73.76 15 *c i*P **P** **15 12 41.8 -0.6**
BILL *i* 15 12 57.7
BILL *e* 15 15 31.9
BILL *i* S **SKiKP** **15 22 06.1 -4.3**
BILL pmax pmax
comp=Z,16nm,1.2s
BILL MLR MLR
comp=Z,750nm,23.0s
BILL Bilibino 73.76 15 *e*P **P** **15 12 40.5 -1.9**
BILL LR LR
comp=Z,639nm,21.0s
PTN Potsdam (NY) 73.86 313 *e*P **P** **15 12 44.6 +1.3**
PTN pmax pmax
comp=Z,56nm,0.9s
PTN Potsdam (NY) 73.86 313 *e*P **P** **15 12 44.6 +1.3**
comp=Z,56nm,0.9s
PTN Potsdam (NY) 73.86 313 *e*P **P** **15 12 44.6 +1.3**
comp=Z,56nm,0.9s
KLR Kul'dur 73.96 41 *e*P **P** **15 12 41.0 -2.9**
KLR *e*S **S** **15 22 15.0 +0.1**
KLR MLR MLR
comp=E,600nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
GSI Gunungsitoli 74.00 100 P **P** **15 12 45.4 +0.7**
comp=Z,38nm,2.1s
GSI Gunungsitoli 74.00 100 *e*P **P** **15 12 45.3 +0.7**
GSI Gunungsitoli 74.00 100 *e*P **P** **15 12 45.4 +0.7**
TRY Troy 74.02 311 *e*P **P** **15 12 46.2 +1.9**
comp=Z,48nm,1.4s
TRY Troy 74.02 311 *e*P **P** **15 12 46.2 +1.9**
comp=Z,48nm,1.4s
PSI Prapat 74.26 97 P **P** **15 12 46.4 +0.1**
comp=Z,7.8nm,0.4s,baz=276,slow=5.9,SNR=15
PSI Prapat 74.26 97 P **P** **15 12 46.4 +0.1**
PSI pmax pmax
comp=Z,8.0nm,0.4s
KULM Kulim 74.29 94 *e*P **P** **15 12 45.9 -0.4**
KULM Kulim 74.29 94 *e*P **P** **15 12 45.9 -0.4**
QIZ Qiongzhong 74.53 77 P **P** **15 12 47.3 -0.4**
QIZ S **S** **15 22 21.8 -0.4**
QIZ PMZ
comp=Z,41nm,2.4s
QIZ LE
comp=Z,120nm,33.0s
QIZ LZ
comp=Z,320nm,31.7s
QIZ Qiongzhong 74.53 77 PFAKE 15 13 00.0 +12
QIZ LR LR
comp=Z,287nm,19.0s
NJ2 Nanjing 74.82 62 *e*P **P** **15 12 48.4 -0.8**
NJ2 S **SKiKP** **15 22 17.0 +4.0**
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 LN
comp=Z,2μm,26.4s
NJ2 LE
comp=Z,870nm,23.9s
NJ2 LZ
comp=Z,1μm,23.6s
FCC Fort Churchill 74.87 332 *e*P **P** **15 12 49.1 +0.2**
FCC Fort Churchill 74.87 332 *e*P **P** **15 12 49.1 +0.2**
FCC Fort Churchill 74.87 332 *e*P **P** **15 12 49.1 +0.2**
MDJ Mudanjiang 75.30 46 P **P** **15 12 54.8 +3.1**
MDJ pP **pP** **15 12 57.9 -0.5**
MDJ sP **sP** **15 12 59.5 -1.3**
MDJ PcP **PcP** **15 13 04.3 -0.7**
MDJ S **S** **15 22 27.9 -2.0**
MDJ PMZ
comp=Z,6.0nm,0.8s
MDJ PMZ
comp=Z,97nm,6.5s
MDJ LN
comp=Z,490nm,21.1s
MDJ LE
comp=Z,390nm,17.9s
MDJ LZ
comp=Z,440nm,21.1s
MDJ Mudanjiang 75.30 46 PFAKE 15 13 00.0 +8.3
MDJ LR LR
comp=Z,496nm,22.0s
ODNJ Ogdensburg 75.49 310 *e*P **P** **15 12 54.3 +1.4**
comp=Z,21nm,0.9s
ODNJ Ogdensburg 75.49 310 *e*P **P** **15 12 54.3 +1.4**
comp=Z,21nm,0.9s
BINY Binghamton 75.75 311 PFAKE 15 13 10.0 +16
BINY LR LR
comp=Z,661nm,19.0s
MNSI Mandailing Nat 75.93 99 P **P** **15 12 56.9 +1.1**
comp=Z,22nm,1.1s
KSPA Keystone Colle 75.97 311 *e*P **P** **15 12 56.9 +1.3**
comp=Z,36nm,0.9s
KSPA Keystone Colle 75.97 311 *e*P **P** **15 12 56.9 +1.3**
comp=Z,36nm,0.9s
HABR Khabarovsk 76.18 40 *c e*P **P** **15 12 55.8 -0.9**
HABR *e* 15 13 07.4
HABR *e* 15 15 46.7
HABR *e*PPP PPP 15 17 33.2
HABR *e*S **S** **15 22 41.1 +1.6**
HABR *e* 15 23 10.9
HABR *e*SS **SS** **15 27 35.5 +3.3**
HABR pmax pmax
comp=N,23nm,2.8s
HABR pmax pmax
comp=Z,37nm,2.8s
HABR pmax pmax
comp=E,25nm,1.7s
HABR MLR MLR
comp=Z,249nm,21.0s
HABR MLR MLR
comp=E,520nm,18.0s
HABR MLR MLR
comp=N,239nm,18.0s
MMNY Mt. Morris Dam 76.64 313 *e*P **P** **15 13 00.7 +1.3**
comp=N,81nm,0.9s
MMNY Mt. Morris Dam 76.64 313 *e*P **P** **15 13 00.7 +1.3**
comp=N,81nm,0.9s
USRK Ussuriysk Ar. 76.95 45 P **P** **15 13 00.8 -0.3**
comp=N,17nm,0.6s,baz=295,slow=4.9,SNR=59
USRK LR LR 15 51 56.0
comp=N,149nm,18.2s,baz=301,slow=40
SSE Sheshan 77.02 61 P **P** **15 13 00.6 -1.1**
SSE PcP **PcP** **15 13 11.3 -1.4**
SSE S **S** **15 22 49.1 -0.2**
SSE ScS **SKSac** **15 23 11.1 -2.2**
SSE PMZ
comp=N,33nm,0.7s
SSE PMZ
comp=N,150nm,4.7s
SSE LN
comp=N,390nm,34.9s
SSE LE
comp=N,270nm,34.9s
MVL Millersville 77.20 310 *e*P **P** **15 13 04.0 +1.4**
comp=N,22nm,0.8s
MVL Millersville 77.20 310 *e*P **P** **15 13 04.0 +1.4**
comp=N,22nm,0.8s
INCN Inchon 77.37 53 PFAKE 15 13 20.0 +16
INCN LR LR
comp=Z,454nm,19.0s
SSPA Standing Stone 77.81 311 *e*P **P** **15 13 07.0 +1.0**
comp=Z,98nm,1.7s
SSPA Standing Stone 77.81 311 *e*P **P** **15 13 07.0 +1.0**
comp=Z,98nm,1.7s
KSAR Wonju Array Be 78.22 53 P **P** **15 13 08.5 +0.1**
KSAR Wonju Array Be 78.22 53 P **P** **15 13 08.4 +0.1**
KSAR Wonju Array Be 78.22 53 P **P** **15 13 08.4 +0.1**
KSRS Korea Array 78.23 53 P **P** **15 13 08.4 +0.1**
comp=Z,7.7nm,0.7s,baz=312,slow=4.4,SNR=41
KSRS LR LR 15 53 07.5
comp=Z,282nm,19.1s,baz=310,slow=40
ERPA Erie 78.25 313 PFAKE 15 13 20.0 +12
ERPA LR LR
comp=Z,757nm,20.0s
YKA Yellowknife Ar 78.55 343 P **P** **15 13 09.2 -0.5**
comp=Z,8.0nm,0.7s,baz=30,slow=5.5,SNR=69
YKA Yellowknife Ar 78.55 343 P **P** **15 13 09.2 -0.5**
YKA pmax pmax
comp=Z,8.0nm,0.7s
ANWB Willy Bob 78.56 284 *e*P P 15 13 13.9 +3.5
comp=Z,59nm,0.9s
ANWB LR LR
comp=Z,324nm,19.0s
COLD Coldfoot 78.81 359 *e*P **P** **15 13 11.7 +0.6**
COLD Coldfoot 78.81 359 *e*P **P** **15 13 11.7 +0.6**
CBN Corbin Frederi 78.87 309 *e*P **P** **15 13 13.0 +1.1**
comp=Z,51nm,0.9s
CBN Corbin Frederi 78.87 309 *e*P **P** **15 13 13.0 +1.1**
comp=Z,51nm,0.9s
CBN LR LR
comp=Z,790nm,20.0s
MYKOM Kota Tinggi 78.88 95 *e*P **P** **15 13 13.3 +1.0**
MYKOM Kota Tinggi 78.88 95 *e*P **P** **15 13 13.3 +1.0**
JSRW J. Sargeant Re 79.49 308 *e*P **P** **15 13 16.0 +0.7**
JSRW J. Sargeant Re 79.49 308 *e*P **P** **15 13 16.0 +0.7**
FDF Fort de France 79.62 281 PFAKE 15 13 30.0 +14
FDF LR LR
comp=Z,227nm,20.0s
TNA Tin City 79.93 6 *e*P **P** **15 13 16.8 -0.3**
comp=Z,19nm,1.0s
TNA Tin City 79.93 6 *e*P **P** **15 13 16.8 -0.3**
comp=Z,19nm,1.0s
IM04 Indian Mountai 80.11 360 *e*P **P** **15 13 18.4 +0.2**
IM04 Indian Mountai 80.11 360 *e*P **P** **15 13 18.4 +0.2**
AAM Ann Arbor 80.33 315 PFAKE 15 13 30.0 +10
AAM LR LR
comp=Z,760nm,21.0s
YHNB Yeheng 80.62 67 PFAKE 15 13 30.0 +8.2
YHNB LR LR
comp=Z,284nm,20.0s
FFC Flin Flon 80.80 332 P **P** **15 13 22.9 +0.9**
comp=Z,145nm,0.7s,SNR=14
FFC Flin Flon 80.80 332 *e*P **P** **15 13 22.1 0.0**
FFC MLR MLR
comp=Z,1μm,19.0s
FFC Flin Flon 80.80 332 *e*P **P** **15 13 22.0 0.0**
FFC Flin Flon 80.80 332 *e*P **P** **15 13 22.1 0.0**
FFC LR LR
comp=Z,1μm,19.0s
EGAK Eagle 80.80 354 PFAKE 15 13 30.0 +8.1
EGAK LR LR
comp=Z,317nm,22.0s
CNNC Cliffs of the 80.91 306 PFAKE 15 13 30.0 +7.0
CNNC LR LR
comp=Z,703nm,20.0s
EYMN Ely 80.98 323 *e*P **P** **15 13 23.4 +0.2**
comp=Z,11nm,0.9s
EYMN Ely 80.98 323 *e*P **P** **15 13 23.4 +0.2**
comp=Z,11nm,0.9s
EYMN LR LR
comp=Z,913nm,22.0s
COWI Conover 80.99 320 PFAKE 15 13 30.0 +6.7
COWI LR LR
comp=Z,622nm,20.0s
COLA College 81.10 357 *e*P **P** **15 13 24.2 +0.8**
COLA MLR MLR
comp=Z,379nm,20.0s
COLA College 81.10 357 *e*P **P** **15 13 24.2 +0.8**
COLA College 81.10 357 *e*P **P** **15 13 24.2 +0.8**
COLA LR LR
comp=Z,379nm,20.0s
VWCC Virginia Weste 81.10 309 *e*P **P** **15 13 25.0 +1.0**
VWCC Virginia Weste 81.10 309 *e*P **P** **15 13 25.0 +1.0**
ILAR Eielson Array 81.16 357 P **P** **15 13 23.8 0.0**
comp=Z,1.2nm,0.4s,baz=350,slow=3.2,SNR=22
ILAR PKKPbc **PKKPbc** **15 31 58.5 -1.6**
comp=Z,0.6nm,0.9s,baz=249,slow=3.9,SNR=4.1
ILAR LR LR 15 52 05.2
comp=Z,254nm,21.1s,baz=10,slow=38
YSS Yuzh-Sakhalins 81.18 38 ‖ *e*P **P** **15 13 24.0 -0.2**
YSS *e* 15 13 42.0
YSS *e*S **S** **15 23 36.0 +2.9**
YSS Yuzh-Sakhalins 81.18 38 *e*P **P** **15 13 24.8 +0.6**
comp=Z,41nm,1.0s
YSS Yuzh-Sakhalins 81.18 38 *e*P **P** **15 13 24.8 +0.6**
comp=Z,41nm,1.0s
YSS LR LR
comp=Z,272nm,19.0s
ACSO Alum Creek Sta 81.19 313 *e*P **P** **15 13 24.8 +0.4**
comp=Z,43nm,0.9s
ACSO Alum Creek Sta 81.19 313 *e*P **P** **15 13 24.8 +0.4**
comp=Z,43nm,0.9s
ACSO LR LR
comp=Z,606nm,21.0s
GAMB Gambell 81.30 8 *e*P **P** **15 13 24.2 -0.3**
comp=Z,12nm,1.2s
GAMB Gambell 81.30 8 *e*P **P** **15 13 24.2 -0.3**
comp=Z,12nm,1.2s
DAWY Dawson 81.35 354 *e*P **P** **15 13 25.4 +0.5**
DAWY Dawson 81.35 354 *e*P **P** **15 13 25.4 +0.5**
COCO West Island 81.40 111 PFAKE 15 13 40.0 +14
COCO LR LR
comp=Z,484nm,22.0s
BLA Blacksburg 81.41 309 PFAKE 15 13 40.0 +14
BLA LR LR
comp=Z,682nm,19.0s
GRGR Grenville 81.43 279 PFAKE 15 13 40.0 +14
GRGR LR LR
comp=Z,278nm,19.0s
ULM Lac du Bonnet 81.49 327 P **P** **15 13 25.0 -0.8**
comp=Z,8.5nm,0.6s,baz=52,slow=5.2,SNR=18
ULM LR LR 15 49 51.7
comp=Z,667nm,20.5s,baz=52,slow=36
ULM Lac du Bonnet 81.49 327 P **P** **15 13 25.0 -0.8**
ULM pmax pmax
comp=Z,9.0nm,0.6s
ULM MLR MLR
comp=Z,667nm,20.5s
SJG San Juan 81.82 286 PFAKE 15 13 40.0 +12
SJG LR LR
comp=Z,268nm,20.0s
DOT Dot Lake 82.13 356 *e*P **P** **15 13 29.8 +0.8**
comp=Z,14nm,0.8s
DOT Dot Lake 82.13 356 *e*P **P** **15 13 29.8 +0.8**
comp=Z,14nm,0.8s
MCK McKinley 82.28 358 *e*P **P** **15 13 29.6 -0.2**
MCK McKinley 82.28 358 *e*P **P** **15 13 29.5 -0.2**
MCK McKinley 82.28 358 *e*P **P** **15 13 29.6 -0.2**
KTH Kantishna Hill 82.51 359 *e*P **P** **15 13 31.6 +0.6**
comp=Z,28nm,1.3s
KTH Kantishna Hill 82.51 359 *e*P **P** **15 13 31.6 +0.6**
comp=Z,28nm,1.3s
TRF Thorofare Moun 82.60 358 *e*P **P** **15 13 31.6 0.0**
comp=Z,17nm,0.9s
TRF Thorofare Moun 82.60 358 *e*P **P** **15 13 31.6 0.0**
comp=Z,17nm,0.9s
CAST Castle Rocks 82.66 359 *e*P **P** **15 13 32.7 +0.9**
CAST Castle Rocks 82.66 359 *e*P **P** **15 13 32.7 +0.9**
JNU Nakatsue 82.70 55 *e*P **P** **15 13 32.7 +0.2**
JNU Nakatsue 82.70 55 *e*P **P** **15 13 32.7 +0.2**
AGMN Agassiz Nation 82.86 325 *e*P **P** **15 13 32.9 -0.2**
comp=Z,12nm,0.8s
AGMN Agassiz Nation 82.86 325 ‖P **P** **15 13 33.1 0.0**
baz=82
AGMN Agassiz Nation 82.86 325 *e*P **P** **15 13 32.9 -0.2**
comp=Z,12nm,0.8s
AGMN LR LR
comp=Z,1μm,21.0s
PAX Paxson 82.89 356 *e*P **P** **15 13 33.6 +0.6**
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 82.89 356 *e*P **P** **15 13 33.6 +0.6**
comp=Z,7.9nm,1.0s
PAX Paxson 82.89 356 *e*P **P** **15 13 33.6 +0.6**
comp=Z,7.9nm,1.0s
ASAJ Asahikawa 82.98 40 *e*P **P** **15 13 34.0 +0.3**
comp=Z,8.3nm,1.0s
ASAJ Asahikawa 82.98 40 *e*P **P** **15 13 34.0 +0.3**
comp=Z,8.3nm,1.0s
PPLA Purkeypile 83.19 359 *e*P **P** **15 13 34.9 +0.3**
comp=Z,22nm,0.7s
PPLA Purkeypile 83.19 359 *e*P **P** **15 13 34.9 +0.3**
comp=Z,22nm,0.7s
KMSC Kings Mountain 83.24 308 ‖P **P** **15 13 35.9 +0.6**
baz=83
PETK Petropavlovsk- 83.39 27 P **P** **15 13 34.6 -1.1**
comp=Z,3.7nm,0.9s,baz=3.1,slow=8.1,SNR=4.9
PETK LR LR 15 54 52.7
comp=Z,261nm,21.0s,baz=321,slow=39
PETK Petropavlovsk- 83.39 27 P **P** **15 13 34.6 -1.1**
PETK pmax pmax
comp=Z,4.0nm,0.9s
PETK MLR MLR
comp=Z,261nm,21.0s
SPMN Marine on St. 83.49 321 *e*P **P** **15 13 36.6 +0.2**
comp=Z,28nm,1.1s
SPMN Marine on St. 83.49 321 ⇑P **P** **15 13 36.8 +0.5**
baz=83
SPMN Marine on St. 83.49 321 *e*P **P** **15 13 36.6 +0.2**
comp=Z,28nm,1.1s
A30A Hoffart Farm, 83.53 327 ‖P **P** **15 13 36.6 +0.1**
baz=83
CRZF Crozet Islands 83.60 162 S **S** **15 23 54.0 -3.3**
CRZF SS **SS** **15 29 21.0 -3.8**
CRZF R 15 45 00.0
JFWS Jewell Farm 83.68 319 *e*P **P** **15 13 37.5 +0.1**
JFWS pmax pmax
comp=Z,25nm,0.9s
JFWS MLR MLR
comp=Z,673nm,19.0s
JFWS Jewell Farm 83.68 319 *e*P **P** **15 13 37.5 +0.1**
comp=Z,25nm,0.9s
JFWS Jewell Farm 83.68 319 *e*P **P** **15 13 37.5 +0.1**
comp=Z,25nm,0.9s
JFWS LR LR
comp=Z,673nm,19.0s
NHSC New Hope 83.70 306 PFAKE 15 13 50.0 +12
NHSC LR LR
comp=Z,567nm,20.0s
PET Petropavlovsk 83.81 27 *e*P P 15 13 42.5 +4.7
PET *e*S **S** **15 24 02.9 +3.2**
PET Petropavlovsk 83.81 27 PFAKE 15 13 50.0 +12
PET LR LR
comp=Z,394nm,20.0s
GRTK Grand Turk 83.84 292 PFAKE 15 13 50.0 +11
GRTK LR LR
comp=Z,321nm,20.0s
B30A Myrvik Farm, E 83.90 326 ‖P **P** **15 13 38.6 +0.2**
baz=83
A29A Manning Farm, 83.97 327 ⇑P **P** **15 13 38.8 +0.1**
baz=84
BLO Bloomington 83.98 314 *e*P **P** **15 13 39.4 +0.4**
BLO Bloomington 83.98 314 *e*P **P** **15 13 39.4 +0.4**
BLO Bloomington 83.98 314 *e*P **P** **15 13 39.4 +0.4**
HYT Haines Junctio 84.33 352 *e*P **P** **15 13 41.0 +0.5**
HYT Haines Junctio 84.33 352 *e*P **P** **15 13 41.0 +0.5**
B29A Wagenman Farm, 84.36 327 ‖P **P** **15 13 40.6 -0.2**
baz=84
KSM Kuching 84.40 92 PFAKE 15 13 50.0 +8.5
KSM LR LR
comp=Z,385nm,19.0s
PMR Palmer 84.43 358 *e*P **P** **15 13 40.9 +0.1**
PMR Palmer 84.43 358 *e*P **P** **15 13 40.8 +0.1**
PMR Palmer 84.43 358 *e*P **P** **15 13 40.9 +0.1**
WCI Wyandotte Cave 84.45 313 *e*P **P** **15 13 42.0 +0.6**
WCI pmax pmax
comp=Z,39nm,1.0s
WCI Wyandotte Cave 84.45 313 *e*P **P** **15 13 42.0 +0.6**
comp=Z,39nm,1.0s
WCI Wyandotte Cave 84.45 313 *e*P **P** **15 13 42.0 +0.6**
comp=Z,39nm,1.0s
TKL Tuckaleechee C 84.50 310 *e*P **P** **15 13 42.2 +0.5**
TKL Tuckaleechee C 84.50 310 *e*P **P** **15 13 42.2 +0.5**
TKL Tuckaleechee C 84.50 310 *e*P **P** **15 13 42.2 +0.5**
C30A Mose, Pekin 84.52 326 ‖P **P** **15 13 41.8 +0.2**
baz=84
ERM Erimo 84.69 42 PFAKE 15 13 50.0 +7.5
ERM LR LR
comp=Z,410nm,21.0s
HDIL Hopedale 84.71 316 *e*P **P** **15 13 41.6 -1.0**
comp=Z,429nm,0.7s
HDIL Hopedale 84.71 316 *e*P **P** **15 13 41.6 -1.0**
comp=Z,429nm,0.7s
YUK Yuzh-Kuril'sk 84.77 39 P **P** **15 13 44.6 +1.8**
YUK *e*S **S** **15 24 06.5 -3.1**
YUK MLR MLR
comp=N,919nm,22.0s
YUK MLR MLR
comp=E,560nm,22.0s
YUK MLR MLR
comp=Z,489nm,22.0s
BMRM Bremner River 84.83 355 *e*P **P** **15 13 44.4 +1.5**
comp=Z,37nm,1.4s
BMRM Bremner River 84.83 355 *e*P **P** **15 13 44.4 +1.5**
comp=Z,37nm,1.4s
RC01 Rabbit Creek A 84.95 358 *e*P **P** **15 13 43.6 +0.1**
comp=Z,20nm,0.9s
RC01 Rabbit Creek A 84.95 358 *e*P **P** **15 13 43.6 +0.1**
comp=Z,20nm,0.9s
SVW2 Sparrevohn 84.99 1 *e*P **P** **15 13 44.1 +0.4**
comp=Z,12nm,0.9s
SVW2 Sparrevohn 84.99 1 *e*P **P** **15 13 44.1 +0.4**
comp=Z,12nm,0.9s
D30A Buchanan 85.08 326 ‖P **P** **15 13 44.0 -0.4**
baz=85
CPCT Cooper Cave 85.10 310 *e*P **P** **15 13 45.8 +1.1**
CPCT Cooper Cave 85.10 310 *e*P **P** **15 13 45.9 +1.1**
OLIL Olney 85.20 314 *e*P **P** **15 13 45.6 +0.4**
comp=Z,51nm,0.9s
OLIL Olney 85.20 314 *e*P **P** **15 13 45.6 +0.4**
comp=Z,51nm,0.9s
A26A Wade Farm, Ken 85.22 329 ‖P **P** **15 13 46.5 +1.4**
baz=85
EYAK Cordova Ski Ar 85.31 356 *e*P **P** **15 13 48.0 +2.7**
EYAK Cordova Ski Ar 85.31 356 *e*P **P** **15 13 48.0 +2.7**
MAJO Matsushiro 85.37 48 *e*P **P** **15 13 45.8 -0.3**

MAJO pmax pmax
comp=Z,22nm,0.8s
MAJO MLR MLR
comp=Z,582nm,22.0s
MAJO Matsushiro 85.37 48 *eP* **P 15 13 45.8 -0.3**
comp=Z,22nm,0.8s
MAJO Matsushiro 85.37 48 *eP* **P 15 13 45.8 -0.3**
comp=Z,22nm,0.8s
MAJO LR LR
comp=Z,582nm,22.0s
MAT Matsushiro 85.37 48 P **P 15 13 45.7 -0.4**
MAT S **S 15 24 17.4 +1.4**
MJAR Matsushiro Arr 85.37 48 P **P 15 13 46.0 -0.1**
comp=Z,14nm,0.9s,baz=301,slow=4.9,SNR=31
MJAR Matsushiro Arr 85.37 48 P **P 15 13 46.0 -0.1**
MJAR pmax pmax
comp=Z,14nm,0.9s
C28A Hausauer Farms 85.38 327 ⇑P **P 15 13 46.2 +0.3**
baz=85
SDDR Presa de Saban 85.38 290 *eP* **P 15 13 48.2 +1.7**
comp=Z,39nm,1.0s
SDDR Presa de Saban 85.38 290 *eP* **P 15 13 48.2 +1.7**
comp=Z,39nm,1.0s
SDDR LR LR
comp=Z,368nm,20.0s
SBUM Sibu 85.44 90 *eP* **P 15 13 47.4 +0.7**
comp=Z,40nm,1.6s
SBUM Sibu 85.44 90 *eP* **P 15 13 47.4 +0.7**
comp=Z,40nm,1.6s
USIN University of 85.44 313 *eP* **P 15 13 46.5 +0.1**
comp=Z,49nm,1.0s
USIN University of 85.44 313 *eP* **P 15 13 46.5 +0.1**
comp=Z,49nm,1.0s
D29A Pettibone, Tap 85.50 326 ⇑P **P 15 13 47.3 +0.7**
baz=85
E30A Jud 85.59 325 ⇓P **P 15 13 46.8 -0.2**
baz=85
A25A Svangstu Ranch 85.65 329 ⇓P **P 15 13 47.9 +0.7**
baz=85
GOGA Godfrey 85.69 308 *eP* **P 15 13 48.5 +0.8**
GOGA MLR MLR
comp=Z,563nm,21.0s
GOGA Godfrey 85.69 308 *eP* **P 15 13 48.5 +0.8**
GOGA Godfrey 85.69 308 *eP* **P 15 13 48.5 +0.8**
GOGA LR LR
comp=Z,563nm,21.0s
B26A Jensen Ranch, 85.70 328 ⇓P **P 15 13 48.5 +1.0**
baz=85
D28A Regan 85.85 327 ⇑P **P 15 13 48.8 +0.5**
baz=85
C27A Sayler Ranch, 85.88 328 ⇓P **P 15 13 48.7 +0.3**
baz=85
SCIA State Center 85.98 319 *eP* **P 15 13 49.5 +0.5**
comp=Z,32nm,0.8s
SCIA State Center 85.98 319 *eP* **P 15 13 49.5 +0.5**
comp=Z,32nm,0.8s
SCIA LR LR
comp=Z,784nm,20.0s
A24A Westby 86.03 330 ⇓P **P 15 13 49.2 0.0**
baz=86,SNR=8.4
EDM Edmonton 86.04 337 *eP* **P 15 13 48.9 -0.2**
EDM Edmonton 86.04 337 *eP* **P 15 13 48.9 -0.2**
EDM Edmonton 86.04 337 *eP* **P 15 13 48.9 -0.2**
C26A Wahner Farm, P 86.06 328 ⇓P **P 15 13 49.7 +0.4**
baz=86
BDFB Brasilia 86.06 248 P **P 15 13 51.4 +1.6**
comp=Z,16nm,0.9s,baz=51,slow=6.3,SNR=14
BDFB LR LR 15 51 25.2
comp=Z,506nm,21.8s,baz=72,slow=35
BDFB Brasilia 86.06 248 P **P 15 13 51.4 +1.6**
BDFB pmax pmax
comp=Z,16nm,0.9s
BDFB MLR MLR
comp=Z,507nm,21.8s
B25A Knox Farm, Ray 86.18 329 ⇓P **P 15 13 50.7 +0.7**
baz=86
D27A Center 86.35 327 ⇓P **P 15 13 51.7 +1.0**
baz=86
E28A Huff 86.37 326 ⇓P **P 15 13 50.8 -0.1**
baz=86
DGMT Dagmar 86.47 329 ⇑P **P 15 13 52.2 +0.9**
baz=86
DGMT Dagmar 86.47 329 PFAKE 15 14 00.0 +8.7
DGMT LR LR
comp=Z,913nm,22.0s
ECSD EROS Data Cent 86.48 322 *eP* **P 15 13 51.5 +0.1**
comp=Z,132nm,2.1s
ECSD EROS Data Cent 86.48 322 ⇓P **P 15 13 51.9 +0.5**
baz=86
ECSD EROS Data Cent 86.48 322 *eP* **P 15 13 51.5 +0.1**
comp=Z,132nm,2.1s
ECSD LR LR
comp=Z,851nm,19.0s
SLM Saint Louis 86.53 315 *eP* **P 15 13 52.4 +0.7**
SLM pmax pmax
comp=Z,99nm,1.4s
SLM Saint Louis 86.53 315 *eP* **P 15 13 52.4 +0.7**
comp=Z,99nm,1.4s
SLM Saint Louis 86.53 315 *eP* **P 15 13 52.4 +0.7**
comp=Z,99nm,1.4s
SIUC Southern Illin 86.54 314 *eP* **P 15 13 52.1 +0.3**
comp=Z,94nm,1.1s
SIUC Southern Illin 86.54 314 *eP* **P 15 13 52.1 +0.3**
comp=Z,94nm,1.1s
C25A Freed Ranch, W 86.65 328 ⇑P **P 15 13 53.6 +1.3**
baz=86
G30A Faulkton 86.71 325 ⇑P **P 15 13 53.6 +1.0**
baz=86
WVT Waverly 86.74 312 *eP* **P 15 13 52.4 -0.4**
WVT pmax pmax
comp=Z,19nm,0.7s
WVT Waverly 86.74 312 *eP* **P 15 13 52.4 -0.4**
comp=Z,19nm,0.7s
WVT Waverly 86.74 312 *eP* **P 15 13 52.4 -0.4**
comp=Z,19nm,0.7s
KKM Kota Kinabalu 86.75 85 PFAKE 15 14 10.0 +17
KKM LR LR
comp=Z,507nm,22.0s
A22A Carney Farms, 86.77 331 ⇑P **P 15 13 53.4 +0.6**
baz=86,SNR=6.8
B23A Brockton 86.81 330 ⇑P **P 15 13 54.0 +1.0**
baz=86
D26A Manning 86.81 328 ⇑P **P 15 13 54.0 +1.0**
baz=86
E27A Carson 86.88 327 ⇑P **P 15 13 53.8 +0.4**
baz=86
F28A McLaughlin 86.96 326 ⇑P **P 15 13 54.2 +0.4**
baz=86
TIGA Tifton 87.00 306 ⇑P **P 15 13 55.4 +1.2**
baz=87
D25A Fairfield 87.11 328 ⇑P **P 15 13 55.8 +1.3**
baz=87
BRSD Miller 87.13 324 *eP* **P 15 13 55.1 +0.5**
BRSD Miller 87.13 324 ⇓P **P 15 13 55.3 +0.7**
baz=87
BRSD Miller 87.13 324 *eP* **P 15 13 55.1 +0.5**
PTGA Pitinga 87.14 267 *eP* **P 15 13 56.2 +1.1**
comp=Z,20nm,0.9s
PTGA Pitinga 87.14 267 *eP* **P 15 13 56.1 +1.1**
comp=Z,20nm,0.9s
A21A Bergtoll Ranch 87.18 331 ⇑P **P 15 13 55.0 +0.2**
baz=87
E26A Carlson Angus 87.25 327 ⇓P **P 15 13 55.8 +0.6**
baz=87
C24A Savage 87.29 329 ⇓P **P 15 13 56.2 +0.9**
baz=87,SNR=5.1
B22A Reddig Ranch S 87.35 330 ⇑P **P 15 13 56.6 +1.0**
baz=87
C23A Lambert 87.40 330 ⇑P **P 15 13 56.9 +1.0**
baz=87,SNR=5.6
F27A Lemmon 87.50 327 ⇑P **P 15 13 56.9 +0.5**
baz=87
D24A Glendive 87.57 329 ⇓P **P 15 13 56.8 0.0**
baz=87
G28A Parade 87.59 326 ⇑P **P 15 13 57.5 +0.6**
baz=87
E25A Miller Ranch, 87.64 328 ⇓P **P 15 13 57.1 0.0**
baz=87
A20A Cobblestone Ra 87.67 332 ⇓P **P 15 13 58.2 +1.1**
baz=87,SNR=6.5
C22A Vida 87.74 330 ⇑P **P 15 13 58.4 +0.9**
baz=87,SNR=6.6
I30A Oacoma 87.74 324 ⇓P **P 15 13 58.9 +1.3**
baz=87
GTBY Guantanamo Bay 87.80 293 PFAKE 15 14 10.0 +12
GTBY LR LR
comp=Z,295nm,20.0s

F26A Lodgepole 87.81 327 ⇑P **P 15 13 58.0 0.0**
baz=87
G27A Dupree 87.84 326 ⇓P **P 15 13 58.8 +0.8**
baz=87
WRAK Wrangell Islan 87.85 348 *eP* **P 15 13 59.2 +1.5**
comp=Z,37nm,1.1s
WRAK Wrangell Islan 87.85 348 *eP* **P 15 13 59.2 +1.5**
comp=Z,37nm,1.1s
WRAK LR LR
comp=Z,845nm,20.0s
PBMO Poplar Bluff 87.88 314 *eP* **P 15 13 58.6 +0.3**
comp=Z,17nm,0.8s
PBMO Poplar Bluff 87.88 314 *eP* **P 15 13 58.6 +0.3**
comp=Z,17nm,0.8s
D23A Lindsay 87.91 329 ⇓P **P 15 13 58.9 +0.6**
baz=87
H28A Mission Ridge 87.94 325 ⇓P **P 15 13 59.0 +0.4**
baz=87
A19A Klindworth Far 87.94 332 ⇓P **P 15 13 59.0 +0.5**
baz=87
E24A Baker 88.00 328 ⇑P **P 15 13 59.1 +0.4**
baz=88
B20A Solberg Farm, 88.06 331 ⇑P **P 15 13 59.9 +0.8**
baz=88,SNR=11
F25A Bowman 88.11 327 ⇑P **P 15 13 59.4 0.0**
baz=88
C21A Desert Coulee 88.18 331 ⇓P **P 15 13 59.6 0.0**
baz=88
G26A Maurine 88.21 327 ⇑P **P 15 13 59.6 -0.2**
baz=88,SNR=16
J30A Dallas 88.21 324 ⇓P **P 15 14 00.1 +0.3**
baz=88
KDAK Kodiak Island 88.32 359 *eP* **P 15 14 00.4 +0.4**
KDAK pmax pmax
comp=Z,25nm,1.1s
KDAK MLR MLR
comp=Z,688nm,22.0s
KDAK Kodiak Island 88.32 359 *eP* **P 15 14 00.4 +0.4**
comp=Z,25nm,1.1s
KDAK Kodiak Island 88.32 359 *eP* **P 15 14 00.4 +0.4**
comp=Z,25nm,1.1s
KDAK LR LR
comp=Z,688nm,22.0s
D22A Cohagen 88.33 330 ⇑P **P 15 14 01.5 +1.1**
baz=88,SNR=10
B19A Brinkman Farms 88.41 332 ⇓P **P 15 14 01.6 +1.0**
baz=88
H27A Howes 88.47 326 ⇑P **P 15 14 01.3 +0.3**
baz=88
E23A Ismay 88.48 329 ⇑P **P 15 14 01.5 +0.5**
baz=88
I28A Midland 88.52 325 ⇑P **P 15 14 01.2 -0.1**
baz=88
J29A Okreek 88.56 324 ⇓P **P 15 14 02.1 +0.7**
baz=88,SNR=6.8
F24A Ekalaka 88.61 328 ⇑P **P 15 14 02.7 +0.9**
baz=88,SNR=15
C20A Veseth Ranch, 88.63 331 ⇓P **P 15 14 02.8 +1.1**
baz=88,SNR=9.1
G25A Newell 88.66 327 ⇓P **P 15 14 02.4 +0.5**
baz=88
LAO LASA Array 88.72 329 PFAKE 15 14 10.0 +7.8
LAO LR LR
comp=Z,896nm,21.0s
L31A Butterfield Fa 88.73 322 ⇓P **P 15 14 03.1 +0.8**
baz=88
K30A Basset 88.75 323 ⇓P **P 15 14 03.3 +0.9**
baz=88,SNR=13
Q37A Longview Farm, 88.76 318 ⇓P **P 15 14 03.4 +0.9**
baz=88,SNR=6.8
E22A Miles City 88.80 329 ⇓P **P 15 14 02.9 +0.4**
baz=88
H26A Fairpoint 88.81 326 ⇓P **P 15 14 02.8 +0.1**
baz=88
I27A Quinn 88.89 325 ⇓P **P 15 14 03.1 0.0**
baz=88
OHAK Old Harbor 88.89 360 *eP* **P 15 14 02.4 -0.2**
comp=Z,19nm,0.7s
OHAK Old Harbor 88.89 360 *eP* **P 15 14 02.4 -0.2**
comp=Z,19nm,0.7s
BGNE Belgrade 88.94 322 *eP* **P 15 14 04.5 +1.2**
BGNE Belgrade 88.94 322 ⇓P **P 15 14 03.8 +0.4**
baz=88
BGNE Belgrade 88.94 322 *eP* **P 15 14 04.5 +1.2**
J28A Allard Ranch, 88.99 325 ⇓P **P 15 14 04.1 +0.6**
baz=88
G24A Alzada 89.00 328 ⇑P **P 15 14 03.9 +0.3**
baz=88
C19A Slack Wire Ran 89.03 332 ⇓P **P 15 14 04.2 +0.6**
baz=88
K29A Lazy Trails An 89.04 324 ⇑P **P 15 14 04.9 +1.1**
baz=88
EGMT Eagleton 89.07 332 *eP* **P 15 14 04.7 +0.8**
comp=Z,20nm,0.9s
EGMT Eagleton 89.07 332 ⇓P **P 15 14 04.9 +1.0**
baz=88,SNR=9.4
EGMT Eagleton 89.07 332 *eP* **P 15 14 04.7 +0.8**
comp=Z,20nm,0.9s
EGMT LR LR
comp=Z,1µm,21.0s
F23A Volborg 89.13 328 ⇓P **P 15 14 04.5 +0.3**
baz=89,SNR=17
H25A Fruitdale 89.18 327 ⇓P **P 15 14 04.8 +0.4**
baz=89
D20A Manuel Ranch, 89.19 331 ⇑P **P 15 14 05.2 +0.8**
baz=89
E21A Keefer Ranch, 89.19 330 ⇑P **P 15 14 05.5 +1.1**
baz=89
I26A New Underwood 89.29 326 ⇓P **P 15 14 05.7 +0.7**
baz=89
L30A Spencer Herefo 89.34 323 ⇑P **P 15 14 06.2 +1.0**
baz=89
M31A Lambtecht Ranc 89.41 322 ⇑P **P 15 14 06.3 +0.8**
baz=89
F22A Rosebud 89.45 329 ⇓P **P 15 14 06.2 +0.6**
baz=89
N32A Stulken Farm, 89.49 321 ⇓P **P 15 14 06.7 +0.8**
baz=89
H24A Dirks Ranch, A 89.51 327 ⇓P **P 15 14 05.6 -0.4**
baz=89,SNR=8.6
G23A Biddle 89.53 328 ⇑P **P 15 14 06.6 +0.6**
baz=89
K28A Ten Mile Ranch 89.58 324 ⇓P **P 15 14 06.6 +0.2**
baz=89
L29A Maesberg Ranch 89.63 323 ⇓P **P 15 14 07.2 +0.6**
baz=89
E20A Meyer Farm, Mu 89.66 330 ⇓P **P 15 14 06.8 +0.2**
baz=89
I25A Rochford 89.70 326 ⇑P **P 15 14 07.6 +0.6**
baz=89,SNR=12
M30A Dale-Ortello V 89.72 323 ⇓P **P 15 14 07.4 +0.4**
baz=89
R36A Gordon, Harris 89.74 318 ⇑P **P 15 14 06.7 -0.3**
baz=89,SNR=7.6
RSSD Black Hills 89.77 327 *eP* **P 15 14 08.1 +0.7**
RSSD pmax pmax
comp=Z,33nm,1.4s
RSSD Black Hills 89.77 327 *eP* **P 15 14 08.1 +0.7**
comp=Z,34nm,1.4s
RSSD Black Hills 89.77 327 *eP* **P 15 14 08.1 +0.7**
comp=Z,34nm,1.4s
N31A Bailey Ranch, 89.78 322 ⇑P **P 15 14 07.3 +0.1**
baz=89
F21A Absaloka Mine, 89.78 329 ⇓P **P 15 14 07.1 -0.2**
baz=89
KSU1 Kansas State U 89.79 319 *eP* **P 15 14 07.8 +0.5**
comp=Z,35nm,1.2s
KSU1 Kansas State U 89.79 319 ⇑P **P 15 14 07.7 +0.4**
baz=89
KSU1 Kansas State U 89.79 319 *eP* **P 15 14 07.8 +0.5**
comp=Z,35nm,1.2s
KSU1 LR LR
comp=Z,780nm,21.0s
O32A Brockman Farm, 89.84 321 ⇑P **P 15 14 07.9 +0.3**
baz=89
G22A Birney 89.91 329 ⇓P **P 15 14 08.0 +0.2**
baz=89
J26A Sides Ranch, S 89.94 326 ⇓P **P 15 14 09.2 +1.2**
baz=89
E19A Rath Farm, Rou 89.96 331 ⇑P **P 15 14 08.5 +0.4**
baz=89
K27A Flueckinger Fa 90.01 325 ⇑P **P 15 14 09.3 +0.9**
baz=90
H23A Clabaugh Cattl 90.03 328 ⇑P **P 15 14 09.7 +1.2**
baz=90
P33A Williams Farm, 90.13 320 ⇑P **P 15 14 09.6 +0.7**
baz=90
L28A Connealy Angus 90.19 324 ⇑P **P 15 14 10.2 +0.9**
baz=90
S36A Lake Cedric, C 90.21 318 ⇓P **P 15 14 09.2 -0.1**
baz=90,SNR=8.2
J25A Sunshine Ranch 90.22 326 ⇓P **P 15 14 10.3 +0.9**
baz=90,SNR=5.9
F20A Billings 90.23 330 ⇓P **P 15 14 10.7 +1.4**
baz=90
I24A Kuenmerle Ranc 90.24 327 ⇓P **P 15 14 10.2 +0.7**
baz=90,SNR=5.8
G21A Lodge Grass 90.30 329 ⇑P **P 15 14 10.2 +0.5**
baz=90
N30A Hueftle Ranch, 90.39 322 ⇑P **P 15 14 10.5 +0.4**
baz=90
H22A Clearmont 90.43 328 ⇑P **P 15 14 10.3 0.0**
baz=90
K26A Motz Farm, Whi 90.46 325 ⇑P **P 15 14 11.1 +0.7**
baz=90
O31A Woolen Ranch, 90.47 321 ⇓P **P 15 14 11.0 +0.5**
baz=90
P32A Huiting Farm, 90.48 321 ⇑P **P 15 14 11.3 +0.8**
baz=90
F19A Roth Farm, Mol 90.52 330 ⇑P **P 15 14 11.2 +0.5**
baz=90,SNR=7.7
Q33A Connelly Farm, 90.53 320 ⇓P **P 15 14 11.2 +0.5**
baz=90
I23A Meade Ranch, G 90.53 327 ⇓P **P 15 14 11.0 +0.1**
baz=90
SDV Santo Domingo 90.56 281 *eP* **P 15 14 12.1 +0.6**
comp=Z,18nm,0.9s
SDV Santo Domingo 90.56 281 *eP* **P 15 14 12.1 +0.6**
comp=Z,18nm,0.9s
SDV LR LR
comp=Z,216nm,19.0s
M28A Bar X Bar Ranc 90.58 323 ⇑P **P 15 14 12.1 +1.0**
baz=90
N29A Votaw Ranch, W 90.64 323 ⇑P **P 15 14 11.8 +0.5**
baz=90
MTDJ Mount Denham 90.65 293 PFAKE 15 14 20.0 +8.3
MTDJ LR LR
comp=Z,384nm,21.0s
S35A Otter Creek Ra 90.65 318 ⇓P **P 15 14 11.8 +0.5**
baz=90
J24A Dixon Ranch, L 90.66 326 ⇓P **P 15 14 12.1 +0.6**
baz=90
H21A Big Horn, Sher 90.70 329 ⇓P **P 15 14 12.0 +0.4**
baz=90,SNR=5.2
G20A Bridger 90.73 330 ⇑P **P 15 14 12.3 +0.6**
baz=90
BLMT Blacktail Moun 90.79 335 *eP* **P 15 14 13.9 +1.8**
BLMT Blacktail Moun 90.79 335 *eP* **P 15 14 13.9 +1.8**
YBMT Yellow Bay 90.79 334 *eP* **P 15 14 12.5 +0.5**
YBMT Yellow Bay 90.79 334 *eP* **P 15 14 12.5 +0.5**
K25A Mack Ranch, Ha 90.85 326 ⇓P **P 15 14 13.2 +0.8**
baz=90
Q32A Meitler Ranch, 90.92 320 ⇓P **P 15 14 13.5 +0.9**
baz=90
L26A Underwood Farm 90.92 325 ⇑P **P 15 14 13.8 +1.1**
baz=90
HRY Holter Researc 90.95 333 *eP* **P 15 14 14.7 +2.0**
HRY Holter Researc 90.95 333 *eP* **P 15 14 14.7 +2.0**
P31A Stockton 90.96 321 ⇓P **P 15 14 12.7 -0.1**
baz=90
M27A Reverse DX Ran 90.98 324 ⇑P **P 15 14 13.6 +0.7**
baz=90
JTMT Jette 90.99 334 *eP* **P 15 14 13.5 +0.6**
JTMT Jette 90.99 334 *eP* **P 15 14 13.5 +0.6**
J23A Dilts Ranch, B 91.01 327 ⇑P **P 15 14 13.4 +0.3**
baz=90
I22A 9 Mile Ranch, 91.04 328 ⇓P **P 15 14 13.5 +0.3**
baz=90,SNR=9.0
S34A Willow Spring 91.07 318 ⇑P **P 15 14 13.7 +0.4**
baz=91
BSMT Bassoo Peak 91.08 335 *eP* **P 15 14 13.7 +0.3**
BSMT Bassoo Peak 91.08 335 *eP* **P 15 14 13.7 +0.3**
SWMT Swartz Lake 91.09 334 *eP* **P 15 14 13.8 +0.4**
SWMT Swartz Lake 91.09 334 *eP* **P 15 14 13.8 +0.4**
R33A Olander Ranch, 91.11 319 ⇑P **P 15 14 13.8 +0.3**
baz=91
SLMT Seeley Lake 91.13 334 *eP* **P 15 14 14.0 +0.4**
SLMT Seeley Lake 91.13 334 *eP* **P 15 14 14.0 +0.4**
N28A Pribbeno Ranch 91.19 323 ⇑P **P 15 14 14.5 +0.6**
baz=91
H20A Greybull 91.22 329 ⇑P **P 15 14 14.1 +0.1**
baz=91
O29A 4D Ranch, Culb 91.24 322 ⇑P **P 15 14 14.2 +0.1**
baz=91
RLMT Red Lodge 91.24 330 PFAKE 15 14 20.0 +5.8
RLMT LR LR
comp=Z,978nm,20.0s
OGNE Ogallala 91.25 323 ⇓P **P 15 14 13.9 -0.3**
baz=91
OGNE Ogallala 91.25 323 PFAKE 15 14 20.0 +5.8
OGNE LR LR
comp=Z,627nm,20.0s
MIAR Mount Ida 91.27 314 *eP* **P 15 14 15.3 +1.0**
MIAR pmax pmax
comp=Z,12nm,0.9s
MIAR MLR MLR
comp=Z,643nm,20.0s
MIAR Mount Ida 91.27 314 *eP* **P 15 14 15.3 +1.0**
comp=Z,12nm,0.9s
MIAR Mount Ida 91.27 314 *eP* **P 15 14 15.3 +1.0**
comp=Z,12nm,0.9s
MIAR LR LR
comp=Z,643nm,20.0s
CHMT Chamberlain Mo 91.32 333 *eP* **P 15 14 15.4 +0.9**
CHMT Chamberlain Mo 91.32 333 *eP* **P 15 14 15.4 +0.9**
Q31A Ellis 91.35 321 ⇑P **P 15 14 14.5 -0.1**
baz=91
M26A McRoberts Ranc 91.39 324 ⇓P **P 15 14 15.0 +0.1**
baz=91
R32A Long Quarter, 91.42 320 ⇓P **P 15 14 15.0 +0.1**
baz=91
J22A Midwest 91.42 328 ⇓P **P 15 14 14.5 -0.5**
baz=91,SNR=6.1
I21A Big Trails, Te 91.46 328 ⇓P **P 15 14 15.0 -0.2**
baz=91,SNR=14
H19A Powell 91.49 330 ⇑P **P 15 14 16.4 +1.1**
baz=91,SNR=6.3
NEW Newport 91.52 336 *eP* **P 15 14 15.7 +0.4**
NEW pmax pmax
comp=Z,14nm,0.8s
NEW MLR MLR
comp=Z,668nm,20.0s
NEW Newport 91.52 336 *eP* **P 15 14 15.6 +0.4**
comp=Z,14nm,0.8s
NEW Newport 91.52 336 ⇓P **P 15 14 16.1 +0.9**
baz=91
NEW Newport 91.52 336 *eP* **P 15 14 15.7 +0.4**
comp=Z,14nm,0.8s
NEW LR LR
comp=Z,668nm,20.0s
K23A Bowen Ranch, D 91.56 327 ⇓P **P 15 14 15.6 0.0**
baz=91
N27A Anderson Farm, 91.60 324 ⇓P **P 15 14 16.0 +0.2**
baz=91
TUL1 Leonard 91.61 316 *eP* **P 15 14 16.2 +0.4**
comp=Z,42nm,1.4s
TUL1 Leonard 91.61 316 ⇑P **P 15 14 16.2 +0.4**
baz=91
TUL1 Leonard 91.61 316 *eP* **P 15 14 16.2 +0.4**
comp=Z,42nm,1.4s
MSO Missoula 91.64 334 *eP* **P 15 14 16.1 +0.2**
comp=Z,7.7nm,1.0s
MSO Missoula 91.64 334 ⇑P **P 15 14 15.8 -0.1**
baz=91
MSO Missoula 91.64 334 *eP* **P 15 14 16.1 +0.2**
comp=Z,7.7nm,1.0s
P29A Atwood 91.70 322 ⇓P **P 15 14 16.7 +0.5**
baz=91
I20A Worland 91.71 329 ⇑P **P 15 14 16.2 -0.1**
baz=91,SNR=19
O28A Krutsinger Ran 91.73 323 ⇑P **P 15 14 16.4 0.0**
baz=91
BOZ Bozeman (W) 91.76 332 PFAKE 15 14 30.0 +13
BOZ LR LR
comp=Z,845nm,21.0s
H18A Shoshone NF, C 91.77 330 ⇑P **P 15 14 16.9 +0.2**
baz=91,SNR=11
L24A Wheatland 91.79 326 ⇓P **P 15 14 17.3 +0.6**
baz=91
Q30A Quinter 91.80 321 ⇓P **P 15 14 17.5 +0.7**
baz=91
M25A Palm-Egli Farm 91.85 325 ⇓P **P 15 14 17.8 +0.8**
baz=91
J21A Lysite 91.90 328 ⇓P **P 15 14 16.5 -0.8**
baz=91,SNR=6.1

N26A	**Koester Ranch,** baz=91	**91.92**	**324**	⇑P		**P**	**15**	**14**	**17.0 -0.3**
LRM	**Limekiln Ridge**	**91.93**	**332**	*eP*		**P**	**15**	**14**	**17.5 +0.1**
LRM	**Limekiln Ridge**	**91.93**	**332**	*eP*		**P**	**15**	**14**	**17.5 +0.1**
W37A	**Quinton** baz=92	**91.95**	**316**	⇑P		**P**	**15**	**14**	**18.1 +0.8**
R31A	**Burdett** baz=92	**91.95**	**320**	⇓P		**P**	**15**	**14**	**17.9 +0.5**
I19A	**Meeteetse** baz=92,SNR=13	**92.01**	**329**	⇑P		**P**	**15**	**14**	**18.2 +0.5**
K22A	**Casper**	**92.04**	**327**	*eP*		**P**	**15**	**14**	**17.1 -0.8**
K22A	**Casper** baz=92,SNR=8.1	**92.04**	**327**	⇑P		**P**	**15**	**14**	**17.4 -0.6**
K22A	**Casper**	**92.04**	**327**	*eP*		**P**	**15**	**14**	**17.1 -0.8**
S32A	**Newby Ranch, P** baz=92	**92.06**	**319**	⇑P		**P**	**15**	**14**	**18.9 +1.0**
L23A	**Garrett** baz=92,SNR=6.9	**92.09**	**326**	⇑P		**P**	**15**	**14**	**17.6 -0.7**
J20A	**Shoshoni** baz=92,SNR=7.0	**92.17**	**328**	⇓P		**P**	**15**	**14**	**17.8 -0.7**
M24A	**Cheyenne** baz=92	**92.19**	**325**	⇑P		**P**	**15**	**14**	**18.3 -0.3**
U34A	**Anderson Ranch** baz=92	**92.22**	**318**	⇓P		**P**	**15**	**14**	**18.9 +0.2**
Q29A	**Oakley** baz=92	**92.26**	**321**	⇓P		**P**	**15**	**14**	**18.7 -0.1**
X37A	**Clayton** baz=92	**92.30**	**315**	⇓P		**P**	**15**	**14**	**19.9 +0.9**
C09A	**Chrisman Ranch**	**92.31**	**337**	*eP*		**P**	**15**	**14**	**19.8 +1.0**
C09A	**Chrisman Ranch**	**92.31**	**337**	*eP*		**P**	**15**	**14**	**19.8 +1.0**
YMR	**Madison River** comp=Z,11nm,1.0s	**92.31**	**331**	*eP*		**P**	**15**	**14**	**21.1 +1.9**
YMR	**Madison River** comp=Z,11nm,1.0s	**92.31**	**331**	*eP*		**P**	**15**	**14**	**21.1 +1.9**
V35A	**Meyer Ranch, C** baz=92	**92.31**	**317**	⇓P		**P**	**15**	**14**	**19.2 +0.1**
R30A	**Dighton** baz=92	**92.35**	**321**	⇓P		**P**	**15**	**14**	**19.6 +0.4**
H17A	**Grant Village**	**92.38**	**330**	*eP*		**P**	**15**	**14**	**20.0 +0.5**
H17A	**Grant Village**	**92.38**	**330**	*eP*		**P**	**15**	**14**	**20.0 +0.5**
K21A	**Alcova** baz=92,SNR=7.1	**92.38**	**328**	⇑P		**P**	**15**	**14**	**18.9 -0.6**
S31A	**Mullinville** baz=92	**92.42**	**320**	⇑P		**P**	**15**	**14**	**20.0 +0.4**
T32A	**Huddler Ranch,** baz=92	**92.44**	**319**	⇓P		**P**	**15**	**14**	**20.2 +0.5**
L22A	**Ellis Ranch, M** baz=92	**92.49**	**327**	⇓P		**P**	**15**	**14**	**20.8 +0.7**
U33A	**Lingo Farm, Me** baz=92	**92.54**	**318**	⇑P		**P**	**15**	**14**	**20.6 +0.5**
P27A	**Ficken Ranch,** baz=92	**92.57**	**323**	⇓P		**P**	**15**	**14**	**20.7 +0.4**
M23A	**Laramie** baz=92	**92.61**	**326**	⇓P		**P**	**15**	**14**	**21.7 +1.0**
PHWY	**Pilot Hill** comp=Z,23nm,1.0s	**92.62**	**326**	*eP*		**P**	**15**	**14**	**21.2 +0.5**
PHWY	**Pilot Hill** comp=Z,23nm,1.0s	**92.62**	**326**	*eP*		**P**	**15**	**14**	**21.2 +0.5**
J19A	**Crowheart** baz=92	**92.66**	**329**	⇑P		**P**	**15**	**14**	**21.0 +0.2**
FLWY	**Flagg Ranch**	**92.68**	**330**	*eP*		P	15	14	25.1 +4.2
W35A	**Tecumseh** baz=92	**92.77**	**316**	⇓P		**P**	**15**	**14**	**22.1 +1.0**
X36A	**Centrahoma** baz=92	**92.88**	**316**	⇓P		**P**	**15**	**14**	**22.1 +0.4**
O25A	**Wiggins** baz=92	**92.90**	**324**	⇓P		**P**	**15**	**14**	**22.5 +0.6**
S30A	**Montezuma** baz=92	**92.92**	**320**	⇑P		**P**	**15**	**14**	**22.7 +0.7**
IMW	**Indian Meadow**	**92.93**	**330**	*eP*		**P**	**15**	**14**	**23.4 +1.2**
IMW	**Indian Meadow**	**92.93**	**330**	*eP*		**P**	**15**	**14**	**23.4 +1.2**
P26A	**Davis Ranch, A** baz=92	**92.95**	**323**	⇓P		**P**	**15**	**14**	**22.5 +0.3**
LOHW	**Long Hollow**	**93.03**	**330**	*eP*		**P**	**15**	**14**	**23.2 +0.7**
LOHW	**Long Hollow**	**93.03**	**330**	*eP*		**P**	**15**	**14**	**23.2 +0.7**
M22A	**Cedar Creek Ra** baz=93,SNR=9.8	**93.06**	**326**	⇓P		**P**	**15**	**14**	**23.2 +0.4**
V33A	**Lossen Ranch,** baz=93	**93.08**	**318**	⇓P		**P**	**15**	**14**	**22.6 0.0**
R28A	**Tribune** baz=93	**93.10**	**322**	⇓P		**P**	**15**	**14**	**22.8 0.0**
N23A	**Red Feather La** baz=93	**93.16**	**326**	⇑P		**P**	**15**	**14**	**23.9 +0.6**
W34A	**Bridge Creek,** baz=93	**93.22**	**317**	⇓P		**P**	**15**	**14**	**23.5 +0.2**
TPAW	**Teton Pass** comp=Z,7.2nm,0.8s	**93.27**	**330**	*eP*		**P**	**15**	**14**	**24.5 +0.8**
TPAW	**Teton Pass** comp=Z,7.2nm,0.8s	**93.27**	**330**	*eP*		**P**	**15**	**14**	**24.6 +0.8**
BW06	**Boulder Array**	**93.28**	**329**	PFAKE			15	14	30.0 +6.3
BW06	comp=Z,937nm,21.0s			LR	LR				
PDAR	**Pinedale Array** comp=Z,1.9nm,0.7s,baz=62,slow=4.7,SNR=20	**93.28**	**329**	P		**P**	**15**	**14**	**22.8 -1.0**
PDAR	comp=Z,567nm,19.1s,baz=40,slow=38			LR	LR		15	59	33.3
REDW	**Red Top Meadow** comp=Z,5.7nm,1.0s	**93.34**	**330**	*eP*		**P**	**15**	**14**	**24.3 +0.4**
REDW	**Red Top Meadow** comp=Z,5.7nm,1.0s	**93.34**	**330**	*eP*		**P**	**15**	**14**	**24.3 +0.4**
X35A	**Drake** baz=93	**93.36**	**316**	⇑P		**P**	**15**	**14**	**23.3 -0.6**
P25A	**Willow Gulch B** baz=93	**93.39**	**324**	⇑P		**P**	**15**	**14**	**25.0 +0.8**
N22A	**Wattenberg Ran** baz=93	**93.47**	**326**	⇓P		**P**	**15**	**14**	**25.1 +0.4**
F10A	**Beach Ranch, E**	**93.55**	**335**	*eP*		P	15	14	31.5 +6.8
O23A	**Lake Granby, G** baz=93	**93.69**	**325**	⇓P		**P**	**15**	**14**	**26.3 +0.6**
X34A	**Smith Ranch, M** baz=93	**93.71**	**317**	⇓P		**P**	**15**	**14**	**26.7 +1.2**
DAV	**Davao City (W)**	**93.85**	**79**	PFAKE			15	14	40.0 +14
DAV	comp=Z,258nm,20.0s			LR	LR				
NATX	**Nacogdoches**	**93.86**	**313**	PFAKE			15	14	40.0 +14
NATX	comp=Z,1μm,20.0s			LR	LR				
ISCO	**Idaho Springs**	**93.87**	**325**	*eP*		**P**	**15**	**14**	**26.5 -0.1**
ISCO	comp=Z,529nm,19.0s			MLR	MLR				
ISCO	**Idaho Springs**	**93.87**	**325**	*eP*		**P**	**15**	**14**	**26.5 -0.1**
ISCO	**Idaho Springs** baz=93,SNR=5.0	**93.87**	**325**	⇓P		**P**	**15**	**14**	**26.8 +0.2**
ISCO	**Idaho Springs**	**93.87**	**325**	*eP*		**P**	**15**	**14**	**26.5 -0.1**
ISCO	comp=Z,529nm,19.0s			LR	LR				
Q25A	**Bedland, Calha** baz=93	**93.89**	**323**	⇑P		**P**	**15**	**14**	**26.1 -0.5**
AHID	**Auburn Hatcher**	**93.93**	**330**	PFAKE			15	14	40.0 +13
AHID	comp=Z,859nm,22.0s			LR	LR				
HAWA	**Hanford**	**93.95**	**337**	PFAKE			15	14	40.0 +14
HAWA	comp=Z,385nm,20.0s			LR	LR				
V31A	**Spring Creek L** baz=94	**93.97**	**319**	⇓P		**P**	**15**	**14**	**27.2 +0.4**
O22A	**Kremmling** baz=94	**94.02**	**326**	⇑P		**P**	**15**	**14**	**27.3 +0.1**
339A	**Huntington** baz=94	**94.10**	**312**	⇑P		**P**	**15**	**14**	**26.3 -1.0**
X33A	**Lawton** baz=94	**94.13**	**317**	⇑P		**P**	**15**	**14**	**27.3 -0.2**
WMOK	**Wichita Mounta**	**94.15**	**317**	PFAKE			15	14	40.0 +12
WMOK	comp=Z,538nm,19.0s			LR	LR				
N20A	**Spence Gulch,** baz=94,SNR=5.6	**94.28**	**327**	⇓P		**P**	**15**	**14**	**27.8 -0.5**
P23A	**Jefferson** baz=94	**94.31**	**325**	⇑P		**P**	**15**	**14**	**29.3 +0.6**
SAML	**Samuel**	**94.36**	**262**	PFAKE			15	14	40.0 +11
SAML	comp=Z,503nm,20.0s			LR	LR				
NLWA	**Neilton Lookou**	**94.37**	**340**	PFAKE			15	14	40.0 +12
NLWA	comp=Z,980nm,19.0s			LR	LR				
W31A	**Holland Ranch,** baz=94	**94.46**	**318**	⇓P		**P**	**15**	**14**	**29.0 0.0**
S26A	**Kim** baz=94,SNR=6.1	**94.50**	**322**	⇑P		P	15	14	24.2 -5.1
BMO	**Blue Mountains**	**94.55**	**335**	PFAKE			15	14	40.0 +11
BMO	comp=Z,829nm,19.0s			LR	LR				
P22A	**Eagle** baz=94	**94.57**	**325**	⇑P		**P**	**15**	**14**	**29.1 -0.6**
HLID	**Hailey** baz=94	**94.59**	**332**	⇓P		**P**	**15**	**14**	**29.8 +0.2**
HLID	**Hailey**	**94.59**	**332**	PFAKE			15	14	40.0 +10
HLID	comp=Z,802nm,21.0s			LR	LR				
Q23A	**Hartsel** baz=94	**94.67**	**324**	⇑P		**P**	**15**	**14**	**30.2 -0.1**
R24A	**Sanders Place,** baz=94	**94.85**	**324**	⇓P		**P**	**15**	**14**	**31.5 +0.6**
SMCO	**Snowmass** comp=Z,8.6nm,1.4s	**95.00**	**325**	*eP*		**P**	**15**	**14**	**31.3 -0.6**
SMCO	**Snowmass** comp=Z,8.6nm,1.4s	**95.00**	**325**	*eP*		**P**	**15**	**14**	**31.3 -0.6**
438A	**Sam Houston St** baz=95	**95.07**	**313**	⇑P		**P**	**15**	**14**	**32.1 +0.3**
HWUT	**Hardware Ranch**	**95.08**	**330**	PFAKE			15	14	40.0 +8.0
HWUT	comp=Z,798nm,21.0s			LR	LR				
R23A	**Moffat** baz=95	**95.23**	**324**	⇑P		**P**	**15**	**14**	**32.7 -0.2**
MFID	**Camas Ranch** comp=Z,12nm,1.1s	**95.25**	**333**	*eP*		**P**	**15**	**14**	**33.2 +0.6**
MFID	**Camas Ranch** comp=Z,12nm,1.1s	**95.25**	**333**	*eP*		**P**	**15**	**14**	**33.2 +0.6**
T25A	**Trinidad** comp=Z,5.8nm,0.9s	**95.35**	**322**	*eP*		**P**	**15**	**14**	**33.5 +0.2**
T25A	**Trinidad** baz=95	**95.35**	**322**	⇑P		**P**	**15**	**14**	**33.7 +0.4**
T25A	**Trinidad** comp=Z,5.8nm,0.9s	**95.35**	**322**	*eP*		**P**	**15**	**14**	**33.5 +0.2**
SDCO	**Great Sand Dun** comp=Z,8.5nm,1.1s	**95.42**	**323**	*eP*		**P**	**15**	**14**	**33.1 -0.6**
SDCO	**Great Sand Dun** baz=95,SNR=6.0	**95.42**	**323**	⇑P		**P**	**15**	**14**	**33.4 -0.3**
SDCO	**Great Sand Dun** comp=Z,8.5nm,1.1s	**95.42**	**323**	*eP*		**P**	**15**	**14**	**33.1 -0.6**
HVU	**Hansel Valley**	**95.44**	**330**	*eP*		**P**	**15**	**14**	**33.9 +0.3**
HVU	comp=Z,4.0nm,0.9s			pmax	pmax				
HVU	**Hansel Valley** comp=Z,4.4nm,0.9s	**95.44**	**330**	*eP*		**P**	**15**	**14**	**33.8 +0.3**
HVU	**Hansel Valley** comp=Z,4.5nm,0.9s	**95.44**	**330**	*eP*		**P**	**15**	**14**	**33.9 +0.3**
X30A	**Coker Ranch, T** baz=95	**95.52**	**318**	⇑P		**P**	**15**	**14**	**34.2 +0.3**
Z32A	**Haskell** baz=95	**95.59**	**317**	⇑P		**P**	**15**	**14**	**34.9 +0.7**
133A	**Hamilton Ranch** baz=95	**95.78**	**316**	⇑P		**P**	**15**	**14**	**35.3 +0.3**
KAPI	**Kappang**	**95.82**	**92**	PFAKE			15	14	50.0 +15
KAPI	comp=Z,195nm,20.0s			LR	LR				
436A	**Wall Ranch, Ga** baz=95	**95.85**	**313**	⇑P		**P**	**15**	**14**	**35.4 0.0**
ROSC	**El Rosal** comp=Z,138nm,19.4s,baz=26,slow=36	**95.86**	**280**	LR	LR		15	58	33.0
335A	**Moody** baz=95	**95.86**	**314**	⇓P		**P**	**15**	**14**	**35.8 +0.3**
JLU	**Jordanelle**	**95.87**	**329**	*eP*		**P**	**15**	**14**	**35.8 +0.2**
JLU	**Jordanelle**	**95.87**	**329**	*eP*		**P**	**15**	**14**	**35.8 +0.2**
Z31A	**Sharp Cattle R** baz=96	**95.95**	**317**	⇑P		**P**	**15**	**14**	**36.7 +0.8**
X29A	**Tulia** baz=96	**95.98**	**319**	⇑P		**P**	**15**	**14**	**35.7 -0.4**
S22A	**4UR Ranch, Cre** baz=96	**96.07**	**324**	⇑P		**P**	**15**	**14**	**36.8 +0.2**
G03D	**McMinnville, O** baz=96	**96.18**	**339**	⇑P		**P**	**15**	**14**	**36.1 -0.5**
ABTX	**Abilene, Hawle** baz=96	**96.18**	**316**	⇑P		**P**	**15**	**14**	**36.6 -0.4**
X28A	**Dimmitt** baz=96	**96.19**	**319**	⇓P		**P**	**15**	**14**	**37.0 0.0**
BGU	**Big Grassy Mou**	**96.26**	**330**	*eP*		**P**	**15**	**14**	**37.7 +0.4**
BGU	**Big Grassy Mou**	**96.26**	**330**	*eP*		**P**	**15**	**14**	**37.7 +0.4**
536A	**Bastrop** baz=96	**96.51**	**313**	⇓P		**P**	**15**	**14**	**39.8 +1.4**
Z30A	**Sanderson Ranc** baz=96	**96.53**	**318**	⇑P		**P**	**15**	**14**	**38.9 +0.4**
SIV	**San Ignacio** comp=Z,623nm,18.1s,baz=32,slow=37	**96.53**	**255**	LR	LR		16	00	42.2
SRU	**San Rafael Swe**	**96.69**	**327**	*eP*		**P**	**15**	**14**	**39.2 -0.1**
SRU	comp=Z,4.0nm,0.9s			pmax	pmax				
SRU	**San Rafael Swe** comp=Z,3.7nm,0.9s	**96.69**	**327**	*eP*		**P**	**15**	**14**	**39.2 -0.1**
SRU	**San Rafael Swe** comp=Z,3.7nm,0.9s	**96.69**	**327**	*eP*		**P**	**15**	**14**	**39.2 -0.1**
232A	**Coleman** baz=96	**96.72**	**316**	⇑P		**P**	**15**	**14**	**40.8 +1.4**
333A	**Richland Sprin** baz=96	**96.75**	**315**	⇑P		**P**	**15**	**14**	**39.8 +0.2**
DUG	**Dugway, Tooele**	**96.78**	**330**	*eP*		**P**	**15**	**14**	**39.9 +0.3**
DUG	comp=Z,726nm,19.0s			MLR	MLR				
DUG	**Dugway, Tooele**	**96.78**	**330**	*eP*		**P**	**15**	**14**	**39.9 +0.3**
DUG	**Dugway, Tooele** baz=96	**96.78**	**330**	⇑P		**P**	**15**	**14**	**40.1 +0.4**
DUG	**Dugway, Tooele**	**96.78**	**330**	*eP*		**P**	**15**	**14**	**39.9 +0.3**
DUG	comp=Z,726nm,19.0s			LR	LR				
Z29A	**Hungry Hill Ra** baz=96	**96.87**	**318**	⇓P		**P**	**15**	**14**	**43.0 +2.9**
WVOR	**Wild Horse Val**	**97.13**	**334**	PFAKE			15	14	50.0 +8.8
WVOR	comp=Z,1μm,20.0s			LR	LR				
I04A	**Tendick Farm,** baz=97	**97.19**	**338**	⇑P		Pdif	15	14	41.4 0.0
433A	**Art** baz=97,SNR=5.7	**97.23**	**315**	⇓P		Pdif	15	14	48.1 +6.4
J05D	**Fort Rock, OR** baz=97	**97.27**	**337**	⇓P		Pdif	15	14	43.4 +1.6
MVCO	**Mesa Verde**	**97.30**	**325**	PFAKE			15	14	50.0 +7.8
MVCO	comp=Z,781nm,21.0s			LR	LR				
TEIG	**Tepich**	**97.38**	**300**	PFAKE			15	14	50.0 +7.5
TEIG	comp=Z,442nm,20.0s			LR	LR				
BCIP	**Isla Barro Col**	**97.80**	**287**	PFAKE			15	15	00.0 +15
BCIP	comp=Z,272nm,20.0s			LR	LR				
JCT	**Junction City**	**97.85**	**315**	PFAKE			15	15	00.0 +15
JCT	comp=Z,721nm,19.0s			LR	LR				
ANMO	**Albuquerque**	**98.09**	**322**	PFAKE			15	15	00.0 +14
ANMO	comp=Z,840nm,22.0s			LR	LR				
CPUP	**Villa Florida** comp=Z,5μm,20.4s,baz=58,slow=36	**99.31**	**245**	LR	LR		16	01	01.3
U15A	**North Rim** baz=99	**99.69**	**327**	⇑P		**Pdif**	**15**	**14**	**52.8 -0.1**
WUAZ	**Wupatki** baz=100	**100.02**	**326**	⇓P		**Pdif**	**15**	**14**	**53.9 -0.4**
WUAZ	**Wupatki**	**100.02**	**326**	PFAKE			15	15	10.0 +16
WUAZ	comp=Z,617nm,20.0s			LR	LR				
MNTX	**Cornudas Mount** baz=100	**100.06**	**320**	⇓P		**Pdif**	**15**	**14**	**54.8 +0.4**
MNTX	**Cornudas Mount**	**100.06**	**320**	PFAKE			15	15	10.0 +16
MNTX	comp=Z,612nm,22.0s			LR	LR				
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=24,slow=3.7,SNR=6.2	**100.50**	**332**	P		**Pdif**	**15**	**14**	**56.8 +0.3**
NVAR	comp=Z,0.6nm,0.8s,baz=202,slow=5.6,SNR=5.1			PKKPbc	**PKKPbc**		**15**	**31**	**10.2 -1.0**
121A	**Cookes Peak, D** baz=100	**100.67**	**322**	⇑P		**Pdif**	**15**	**14**	**57.3 +0.1**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.9s,baz=99,slow=5.9,SNR=3.3	**100.93**	**317**	P		**Pdif**	**15**	**14**	**58.5 +0.2**
TXAR	**Lajitas Array**	**100.93**	**317**	P		**Pdif**	**15**	**14**	**58.5 +0.2**
TXAR	comp=Z,1.0nm,0.9s			pmax	pmax				
TPNV	**Topopah Spring** baz=100	**100.96**	**330**	⇓P		**Pdif**	**15**	**14**	**59.3 +0.8**
JTS	**JuntasAbangare**	**101.14**	**291**	PFAKE			15	15	10.0 +11
JTS	comp=Z,448nm,21.0s			LR	LR				
OTAV	**Otavalo**	**101.86**	**278**	PFAKE			15	15	10.0 +6.8
OTAV	comp=Z,206nm,19.0s			LR	LR				
TUC	**Tucson**	**102.36**	**324**	PFAKE			15	15	20.0 +15
TUC	comp=Z,730nm,20.0s			LR	LR				
319A	**Douglas** baz=102	**102.36**	**322**	⇑P		**Pdif**	**15**	**15**	**04.7 0.0**
EDW2	**Edwards Air Fo** baz=103	**103.45**	**330**	⇓P		**Pdif**	**15**	**15**	**09.3 -0.2**
PFO	**Pinyon Flats O**	**103.90**	**328**	PFAKE			15	15	20.0 +8.5
PFO	comp=Z,872nm,20.0s			LR	LR				
LVC	**Limon Verde**	**106.31**	**254**	PFAKE			15	19	50.0
LVC	comp=Z,429nm,22.0s			LR	LR				
NNA	**Nana**	**107.27**	**267**	PFAKE			15	19	50.0
NNA	comp=Z,580nm,21.0s			LR	LR				
TRQA	**Tornquist**	**108.77**	**236**	PFAKE			15	19	50.0
TRQA	comp=Z,578nm,20.0s			LR	LR				
LCO	**Las Campanas**	**110.85**	**249**	PFAKE			15	19	50.0
LCO	comp=Z,656nm,21.0s			LR	LR				
WRA	**Warramunga Arr** comp=Z,1.3nm,0.5s,baz=312,slow=1.7,SNR=25	**115.72**	**97**	PKP		**PKPdf**	**15**	**19**	**50.5 -0.9**
WRA	comp=Z,0.7nm,0.8s,baz=117,slow=4.2,SNR=4.1			PKKPab	**PKKPab**		**15**	**30**	**29.0 +1.1**
WRA	**Warramunga Arr**	**115.72**	**97**	PKIKP		**PKPdf**	**15**	**19**	**50.5 -0.9**
WRA								15	30 29.0
WRA	comp=Z,1.0nm,0.5s			pmax	pmax				
PLCA	**Paso Flores** comp=Z,2.3nm,1.1s,baz=42,slow=13,SNR=2.7	**115.90**	**237**	PKP		**PKPdf**	**15**	**19**	**51.7 +0.5**
PLCA	**Paso Flores**	**115.90**	**237**	PKIKP		**PKPdf**	**15**	**19**	**51.7 +0.5**
PLCA	comp=Z,2.0nm,1.1s			pmax	pmax				
ASAR	**Alice Springs** comp=Z,1.6nm,0.6s,baz=311,slow=1.5,SNR=34	**117.13**	**101**	PKP		**PKPdf**	**15**	**19**	**53.2 -0.8**
ASAR	comp=Z,0.4nm,0.6s,baz=121,slow=3.8,SNR=12			PKKPbc	**PKKPbc**		**15**	**30**	**18.4 +0.6**
CASY	**Casey**	**118.67**	**153**	PFAKE			15	20	10.0 +14
CASY	comp=Z,822nm,19.0s			LR	LR				
PMG	**Port Moresby**	**120.86**	**80**	PFAKE			15	20	10.0 +8.5
PMG	comp=Z,224nm,20.0s			LR	LR				
QSPA	**South Pole Qui**	**124.10**	**180**	PFAKE			15	20	20.0 +14
QSPA	comp=Z,1μm,19.0s			LR	LR				
CTA	**Charters Tower** comp=Z,4.6nm,0.8s,baz=302,slow=2.8,SNR=5.4	**125.63**	**91**	PKP		**PKPdf**	**15**	**20**	**10.4 0.0**
CTA	**Charters Tower**	**125.63**	**91**	PKIKP		**PKPdf**	**15**	**20**	**10.5 0.0**
CTA	comp=Z,5.0nm,0.8s			pmax	pmax				
STKA	**Stephens Creek** comp=Z,4.9nm,1.0s,baz=281,slow=2.5,SNR=4.3	**126.72**	**107**	PKP		**PKPdf**	**15**	**20**	**11.9 -0.3**
STKA	**Stephens Creek**	**126.72**	**107**	PKIKP		**PKPdf**	**15**	**20**	**11.9 -0.3**
STKA	comp=Z,5.0nm,1.0s			pmax	pmax				
DRV	**Dumont d'Urvil**	**130.36**	**151**	SS		SS	15	39	49.0 -9.2
DRV				R			16	05	00.0
VNDA	**Vanda** comp=Z,0.9nm,1.0s,baz=307,slow=10,SNR=3.7	**132.52**	**168**	PKP		**PKPdf**	**15**	**20**	**21.2 -0.7**
VNDA	**Vanda**	**132.52**	**168**	PKIKP		**PKPdf**	**15**	**20**	**21.2 -0.7**
VNDA	comp=Z,1.0nm,1.0s			pmax	pmax				
SBA	**Scott Base**	**133.09**	**169**	PFAKE			15	20	40.0 +17
SBA	comp=Z,1μm,21.0s			LR	LR				
DZM	**Mont Dzumac** comp=Z,367nm,23.4s	**143.23**	**81**	*e*LR	LR		16	07	36.8
SNZO	**South Karori**	**154.31**	**115**	PFAKE			15	21	10.0 +1.4
SNZO	comp=Z,1μm,20.0s			LR	LR				
RKT	**Rikitea** comp=Z,338nm,36.5s	**160.06**	**299**	*e*LR	LR		16	15	23.8
PPT2	**Papeete2** comp=Z,440nm,24.2s	**162.97**	**346**	*e*LR	LR		16	16	47.9
TBI	**Tubuai** comp=Z,402nm,24.5s	**168.47**	**339**	*e*LR	LR		16	19	11.7

IDC 24 15:22:06.4±1.7, 56°.69S×142°.34W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/13, mbtmpb3.7/2, MS3.8/3, Ms1 3.8/3, ms1mx3.4/23, Error ellipse: s-maj=236.9km s-min=51.1km az=179.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera** comp=Z,226nm,21.4s,baz=124,slow=31	**32.40**	**287**	LR		LR	LR	15 38 51.7	
QSPA	**South Pole Qui** comp=Z,141nm,21.8s,baz=65,slow=31	**33.46**	**180**	*e*LR		LR	LR	15 39 35.7	
TBI	**Tubuai** 385nm,28.5s	**33.71**	**348**	*e*LR		LR	LR	15 37 31.7	
TBI	**Tubuai** 48nm,0.3s	**33.71**	**348**	*e*T		T	T	16 03 56.2	
RKT	**Rikitea** 275nm,31.2s	**33.97**	**12**	*e*LR		LR	LR	15 37 43.6	
RKT	**Rikitea** 2.8nm,0.3s	**33.97**	**12**	*e*T		T	T	16 04 13.7	
PPT2	**Papeete2** 346nm,26.8s	**39.41**	**349**	*e*LR		LR	LR	15 40 05.7	
PPT	**Papeete** comp=Z,148nm,21.2s,baz=139,slow=28	**39.44**	**349**	LR		LR	LR	15 40 36.8	
ASAR	**Alice Springs** 0.6nm,0.8s,baz=140,slow=6.4,SNR=5.3	**67.18**	**261**	P		P	P	15 33 02.4	+0.2
H01W1	**Cape Leeuwin H** baz=144,slow=76,SNR=15	**68.35**	**239**	T		T	T	16 48 27.2	
H01W2	**Cape Leeuwin H** baz=144,slow=76,SNR=18	**68.35**	**239**	T		T	T	16 48 27.9	
H01W3	**Cape Leeuwin H** baz=144,slow=76,SNR=12	**68.36**	**239**	T		T	T	16 48 30.3	
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=147,slow=5.7,SNR=4.3	**69.93**	**264**	P		P	P	15 33 19.5	+0.1
ESDC	**Sonseca Array** 0.1nm,0.3s,baz=251,slow=2.9,SNR=1.8	**148.06**	**104**	PKPbc		PKPbc	PKPbc	15 41 52.5	-0.7
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=114,slow=2.0,SNR=3.5	**151.14**	**269**	PKPbc		PKPbc	PKPbc	15 42 00.9	+0.3
MKAR	0.9nm,0.8s,baz=131,slow=4.6,SNR=7.2			PKPab		PKPab	PKPab	15 42 06.7	-1.7
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=111,slow=3.6,SNR=2.6	**153.44**	**284**	PKPab		PKPab	PKPab	15 42 17.8	0.0

*CSEM **24** 15:28:30.6, 38°.25N×22°.87E, h92km, ML2.1*
ATH 24 15:28:30.6, 38°.25N×22°.87E, h92km±1km, ML2.1, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.24**	**161**	*eP*		Pn	15	28	44.2 +0.2
LTK	**Loutraki**	**0.24**	**161**	*eP*		Pn	15	28	44.2 +0.2
LKR	**Lokris**	**0.41**	**14**	*eP*		Pn	15	28	45.2 +0.3
LKR				*eS*		Sn	15	28	56.2 +0.6
LKR	**Lokris**	**0.41**	**14**	*eP*		Pn	15	28	45.2 +0.3
LKR				*eS*		Sn	15	28	56.2 +0.6
GUR	**Goura**	**0.52**	**233**	*eP*		Pn	15	28	46.2 +0.3
GUR				*eS*		Sn	15	28	57.6 +0.4
GUR	**Goura**	**0.52**	**233**	*eP*		Pn	15	28	46.2 +0.3
GUR				*eS*		Sn	15	28	57.6 +0.4
AXAR	**Agios Charalam**	**0.54**	**342**	*eP*		Pn	15	28	46.3 +0.4
AXAR				*eS*		Sn	15	28	58.2 +0.9
AXAR	**Agios Charalam**	**0.54**	**342**	*eP*		Pn	15	28	46.3 +0.4
AXAR				*eS*		Sn	15	28	58.2 +0.9
KALE	**Kalithea**	**0.59**	**284**	*eP*		Pn	15	28	46.5 +0.1
KALE				*eS*		Sn	15

RLS				*e*S	Sn	15 29 10.2	+2.4
AMT	**Artemida-Makis**	**1.17**	**232**	*e*P	Pn	15 28 53.6	+1.2
AMT	**Artemida-Makis**	**1.17**	**232**	*e*P	Pn	15 28 53.6	+1.2
ITM	**Ithomi**	**1.30**	**215**	*e*P	Pn	15 28 54.5	+0.4
ITM				*e*S	Sn	15 29 13.8	+2.1
ITM	**Ithomi**	**1.30**	**215**	*e*P	Pn	15 28 54.5	+0.4
ITM				*e*S	Sn	15 29 13.8	+2.1
PDO	**Prodromos**	**1.37**	**285**	*e*P	Pn	15 28 55.7	+0.9
PDO				*e*S	Sn	15 29 15.3	+2.2
PDO	**Prodromos**	**1.37**	**285**	*e*P	Pn	15 28 55.7	+0.9
PDO				*e*S	Sn	15 29 15.3	+2.2
VLI	**Veliai**	**1.53**	**178**	*e*P	Pn	15 28 56.8	0.0
VLI				*e*S	Sn	15 29 17.4	+0.7
VLI	**Veliai**	**1.53**	**178**	*e*P	Pn	15 28 56.8	0.0
VLI				*e*S	Sn	15 29 17.4	+0.7
DSL	**Palaion Diasel**	**1.65**	**303**	*e*P	Pn	15 28 59.1	+0.8
DSL				*e*S	Sn	15 29 20.0	+0.6
DSL	**Palaion Diasel**	**1.65**	**303**	*e*P	Pn	15 28 59.1	+0.8
DSL				*e*S	Sn	15 29 20.0	+0.6
KYTH	**Kithira**	**1.97**	**176**	*e*P	Pn	15 29 02.2	-0.3
KYTH	**Kithira**	**1.97**	**176**	*e*P	Pn	15 29 02.2	-0.3

*ISK **24** 15:29:13.7, 40˚.74N×30˚.64E, h5km, ML3.2*
*IDC **24** 15:29:14.7±2.0, 40˚.92N×31˚.00E, h0km, mb3.0/1, mb1 3.0/4, mb1mx3.0/28, mbtmp2.9/4, ML2.5/2, Error ellipse: s-maj=51.6km s-min=8.1km az=45.0*
*CSEM **24** 15:29:14.3±0.1, 40˚.73N×30˚.63E, h2km, ML3.2, Error ellipse: s-maj=3.5km s-min=2.7km az=27.0*
*DDA **24** 15:29:14.3, 40˚.76N×30˚.65E, h5km, MD3.1*

ISC 24 15:29:14.6±1.0, 40˚.73N±0˚.02×30˚.65E±0˚.02, h9km±8km, n138, σ1§02/160, 11C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTAS	**Taskesti**	**0.31**	**120**	*i* P	**Pg**	**15 29 20.4**	**-0.4**
BTAS	**Taskesti**	**0.31**	**120**	*i* P	**Pg**	**15 29 20.4**	**-0.4**
BTAS				*i* S	Sb	15 30 00.8	+33
GULT	**Gulveren**	**0.31**	**199**	*e*PG	**Pg**	**15 29 20.6**	**-0.2**
GULT				*e*SG	**Sg**	**15 29 25.6**	**+0.6**
GULT	**Gulveren**	**0.31**	**199**	*e*Pg	**Pg**	**15 29 20.6**	**-0.2**
GULT				*e*Sg	**Sg**	**15 29 25.6**	**+0.6**
MDUB	**Mudurnu**	**0.49**	**121**	*e*PG	**Pg**	**15 29 23.9**	**-0.3**
MDUB				*e*SG	**Sg**	**15 29 31.2**	**+0.5**
MDUB	**Mudurnu**	**0.49**	**121**	*e*Pg	**Pg**	**15 29 23.9**	**-0.3**
MDUB				*e*Sg	**Sg**	**15 29 31.2**	**+0.5**
GPA	**Golpazari**	**0.51**	**211**	*e*PG	**Pg**	**15 29 24.1**	**-0.4**
GPA	**Golpazari**	**0.51**	**211**	*e*Pg	**Pg**	**15 29 24.1**	**-0.4**
HRT	**Hereke**	**0.75**	**278**	*e*PG	**Pg**	**15 29 28.6**	**-0.4**
HRT				*e*SG	**Sg**	**15 29 39.2**	**+0.4**
HRT	**Hereke**	**0.75**	**278**	*e*Pg	**Pg**	**15 29 28.6**	**-0.4**
HRT				*e*Sg	**Sg**	**15 29 39.2**	**+0.4**
ADVT	**Abdulvahap**	**0.75**	**247**	*e*PG	**Pg**	**15 29 28.5**	**-0.6**
ADVT				*e*SG	**Sg**	**15 29 39.0**	**+0.1**
ADVT	**Abdulvahap**	**0.75**	**247**	*e*Pg	**Pg**	**15 29 28.5**	**-0.6**
ADVT				*e*Sg	**Sg**	**15 29 39.0**	**+0.1**
CAVI	**Cavuskoy**	**0.81**	**230**	*e*PG	**Pg**	**15 29 29.7**	**-0.4**
CAVI	**Cavuskoy**	**0.81**	**230**	*e*Pg	**Pg**	**15 29 29.7**	**-0.4**
KDZE	**Karadeniz Ereo**	**0.84**	**46**	*e*PG	**Pg**	**15 29 29.9**	**-0.9**
KDZE	**Karadeniz Ereo**	**0.84**	**46**	*e*Pg	**Pg**	**15 29 29.9**	**-0.9**
BORA	**Eskisehir**	**0.86**	**190**	*i* S	**Sb**	**15 29 43.8**	**+0.5**
BORA	**Eskisehir**	**0.86**	**190**	*i* P	**Pg**	**15 29 31.4**	**+0.3**
BORA				*i* S	**Sb**	**15 29 43.8**	**+0.5**
SILT	**Sile**	**0.87**	**300**	*e*PG	**Pg**	**15 29 30.8**	**-0.5**
SILT	**Sile**	**0.87**	**300**	*e*Pg	**Pg**	**15 29 30.8**	**-0.5**
IZI	**Iznik**	**0.97**	**247**	*e*PG	**Pg**	**15 29 32.8**	**-0.5**
IZI	**Iznik**	**0.97**	**247**	*e*Pg	**Pg**	**15 29 32.8**	**-0.5**
GEMT	**Gemlik**	**1.15**	**256**	*e*PN	**Pb**	**15 29 35.4**	**-1.2**
GEMT				*e*SN	**Sn**	**15 29 52.4**	**-0.2**
GEMT	**Gemlik**	**1.15**	**256**	*e*Pn	**Pb**	**15 29 35.4**	**-1.2**
GEMT				*e*Sn	**Sn**	**15 29 52.4**	**-0.2**
BUY	**Buyukada**	**1.17**	**277**	*i* P	**Pb**	**15 29 36.2**	**-0.7**
BUY				*i* S	**Sb**	**15 29 52.4**	**+0.3**
BUY	**Buyukada**	**1.17**	**277**	*i* P	**Pb**	**15 29 36.2**	**-0.7**
BUY				*i* S	**Sb**	**15 29 52.4**	**+0.3**
ESKT	**Eskisehir**	**1.22**	**173**	*e*PN	**Pb**	**15 29 37.7**	**-0.1**
ESKT	**Eskisehir**	**1.22**	**173**	*e*Pn	**Pb**	**15 29 37.7**	**-0.1**
SEYT	**Eskypehyr**	**1.22**	**173**	*i* S	**Sn**	**15 29 55.1**	**+0.6**
SEYT	**Eskypehyr**	**1.22**	**173**	*i* P	**Pb**	**15 29 37.8**	**0.0**
SEYT				*i* S	**Sn**	**15 29 55.1**	**+0.6**
ISK	**Istanbul-Kandi**	**1.25**	**286**	*e*PN	**Pn**	**15 29 37.8**	**-0.4**
ISK	**Istanbul-Kandi**	**1.25**	**286**	*e*Pn	**Pn**	**15 29 37.8**	**-0.4**
ULDT	**Uludag**	**1.29**	**244**	*i* P	**Pn**	**15 29 38.3**	**-0.7**
ULDT	**Uludag**	**1.29**	**244**	*i* P	**Pn**	**15 29 38.3**	**-0.7**
KLYT	**Kilyos**	**1.32**	**294**	*e*PN	**Pn**	**15 29 39.1**	**0.0**
KLYT	**Kilyos**	**1.32**	**294**	*e*Pn	**Pn**	**15 29 39.2**	**0.0**
ARMT	**Armutlu**	**1.37**	**264**	*e*PN	**Pn**	**15 29 39.7**	**-0.1**
ARMT	**Armutlu**	**1.37**	**264**	*e*Pn	**Pn**	**15 29 39.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.39**	**256**	*e*PN	**Pn**	**15 29 40.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.39**	**256**	*e*Pn	**Pn**	**15 29 40.3**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.45**	**152**	*e*PN	**Pn**	**15 29 41.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.45**	**152**	*e*Pn	**Pn**	**15 29 41.5**	**+0.5**
BGKT	**Bogazkoy**	**1.49**	**288**	*e*PN	**Pn**	**15 29 41.6**	**+0.1**
BGKT	**Bogazkoy**	**1.49**	**288**	*e*Pn	**Pn**	**15 29 41.6**	**+0.1**
ORLT	**Orhaneli**	**1.50**	**244**	*e*PN	**Pn**	**15 29 41.9**	**+0.2**
ORLT	**Orhaneli**	**1.50**	**244**	*e*Pn	**Pn**	**15 29 41.9**	**+0.2**
TVSB	**Tavsanli**	**1.57**	**216**	*e*PN	**Pn**	**15 29 42.2**	**-0.5**
TVSB	**Tavsanli**	**1.57**	**216**	*e*Pn	**Pn**	**15 29 42.2**	**-0.5**
SAFT	**Safranbolu**	**1.63**	**71**	*e*PN	**Pn**	**15 29 43.9**	**+0.4**
SAFT	**Safranbolu**	**1.63**	**71**	*e*Pn	**Pn**	**15 29 43.9**	**+0.4**
CTKS	**Kestanelik-??a**	**1.70**	**288**	*e*PN	**Pn**	**15 29 45.2**	**+0.8**
CTKS	**Kestanelik-??a**	**1.70**	**288**	*e*Pn	**Pn**	**15 29 45.2**	**+0.8**
ALT	**Altintas**	**1.72**	**194**	*e*PN	**Pn**	**15 29 45.6**	**+0.8**
ALT	**Altintas**	**1.72**	**194**	*e*Pn	**Pn**	**15 29 45.6**	**+0.8**
ELBA	**Catalca**	**1.73**	**285**	*i* P	**Pg**	**15 29 49.0**	**+1.3**
ELBA				*i* S	**Sg**	**15 30 13.7**	**+2.9**
KCTX	**Karacabey (Bur**	**1.81**	**256**	*e*PN	**Pn**	**15 29 46.6**	**+0.8**
KCTX	**Karacabey (Bur**	**1.81**	**256**	*e*Pn	**Pn**	**15 29 46.7**	**+0.8**
LOD	**Lodumlu**	**1.82**	**117**	*e*PN	**Pn**	**15 29 46.9**	**+0.7**
LOD	**Lodumlu**	**1.82**	**117**	*e*Pn	**Pn**	**15 29 46.9**	**+0.7**
GDZ	**Gediz**	**1.86**	**209**	*i* S	**Sg**	**15 30 15.4**	**+0.9**
GDZ	**Gediz**	**1.86**	**209**	*i* P	**Pb**	**15 29 49.3**	**+0.4**
GDZ				*i* S	**Sg**	**15 30 15.4**	**+0.9**
SLVT	**Silivri**	**1.91**	**286**	*e*PN	**Pn**	**15 29 47.6**	**+0.4**
SLVT	**Silivri**	**1.91**	**286**	*e*Pn	**Pn**	**15 29 47.7**	**+0.4**
SLVT	**Silivri**	**1.91**	**286**	*i* P	**Pb**	**15 29 50.4**	**+0.8**
SLVT				*i* S	**Sg**	**15 30 15.7**	**-0.3**
DST	**Dursunbey**	**1.92**	**235**	*e*PN	**Pn**	**15 29 48.0**	**+0.6**
DST	**Dursunbey**	**1.92**	**235**	*e*Pn	**Pn**	**15 29 48.0**	**+0.6**
CTYL	**Yal??k??y-??at**	**1.93**	**294**	*e*PN	**Pn**	**15 29 48.0**	**+0.4**
CTYL	**Yal??k??y-??at**	**1.93**	**294**	*e*Pn	**Pn**	**15 29 48.0**	**+0.4**
BOLV	**Bolvadin**	**2.02**	**173**	*i* P	**Pn**	**15 29 49.1**	**+0.1**
BOLV	**Bolvadin**	**2.02**	**173**	*i* P	**Pn**	**15 29 49.1**	**+0.1**
BOLV				*i* S	**Sg**	**15 30 20.0**	**+0.5**
EDC	**Edincik**	**2.15**	**261**	*e*PN	**Pn**	**15 29 51.0**	**+0.3**
EDC	**Edincik**	**2.15**	**261**	*e*Pn	**Pn**	**15 29 51.0**	**+0.3**
DEMI	**Demirci**	**2.24**	**222**	*i* P	**Pn**	**15 29 50.9**	**-1.1**
DEMI	**Demirci**	**2.24**	**222**	*i* P	**Pn**	**15 29 50.9**	**-1.1**
DEMI				*i* S	**Sg**	**15 30 27.8**	**+1.1**
AFSR	**Af˘ar-Bala (A**	**2.26**	**124**	*e*PN	**Pn**	**15 29 53.4**	**+1.2**
AFSR	**Af˘ar-Bala (A**	**2.26**	**124**	*e*Pn	**Pn**	**15 29 53.4**	**+1.2**
MRMT	**Marmara Adasi**	**2.32**	**268**	*e*PN	**Pn**	**15 29 54.0**	**+1.0**
MRMT	**Marmara Adasi**	**2.32**	**268**	*e*Pn	**Pn**	**15 29 54.0**	**+1.0**
BALB	**Balikesir**	**2.38**	**244**	*e*PN	**Pn**	**15 29 54.9**	**+1.1**
BALB	**Balikesir**	**2.38**	**244**	*e*Pn	**Pn**	**15 29 54.9**	**+1.1**
BRTR	**Keskin Array B**	**2.50**	**113**	Pn	**Pn**	**15 29 55.4**	**-0.2**
	0.3nm,0.3s,baz=296,slow=11,SNR=16						
BRTR				Pg	**Pb**	**15 29 59.7**	**0.0**
	1.5nm,0.3s,baz=285,slow=14,SNR=20						
BRTR				Sn	**Sn**	**15 30 24.6**	**-1.6**
	1.3nm,0.3s,baz=274,slow=17,SNR=5.9						
BRTR				Lg	Lg	15 30 33.4	
	1.3nm,0.3s,baz=300,slow=25,SNR=5.0						
BALY	**Balya**	**2.52**	**248**	*i* P	**Pn**	**15 29 56.2**	**+0.5**
BALY	**Balya**	**2.52**	**248**	*i* P	**Pn**	**15 29 56.2**	**+0.5**
BALY				*i* S	**Sg**	**15 30 36.7**	**+1.3**
PHSR	**Pinarhisar**	**2.52**	**292**	*e*PN	**Pn**	**15 29 57.1**	**+1.4**
PHSR	**Pinarhisar**	**2.52**	**292**	*e*Pn	**Pn**	**15 29 57.1**	**+1.4**
KRBG	**Karabiga-Canak**	**2.57**	**264**	*e*PN	**Pn**	**15 29 57.2**	**+0.8**
KRBG	**Karabiga-Canak**	**2.57**	**264**	*e*Pn	**Pn**	**15 29 57.2**	**+0.8**
SART	**Tekirdag**	**2.63**	**270**	*i* P	**Pn**	**15 29 57.7**	**+0.4**
SART	**Tekirdag**	**2.63**	**270**	*i* P	**Pn**	**15 29 57.7**	**+0.4**
SART				*i* S	**Sg**	**15 30 38.4**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.64**	**270**	*e*PN	**Pn**	**15 29 57.4**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.64**	**270**	*e*Pn	**Pn**	**15 29 57.4**	**+0.1**
KULA	**Kula-Manisa**	**2.69**	**215**	*e*PN	**Pn**	**15 29 59.4**	**+1.3**
KULA	**Kula-Manisa**	**2.69**	**215**	*e*Pn	**Pn**	**15 29 59.4**	**+1.3**
AKS	**Akhisar**	**2.86**	**231**	*e*PN	**Pn**	**15 30 01.4**	**+1.1**
AKS	**Akhisar**	**2.86**	**231**	*e*Pn	**Pn**	**15 30 01.4**	**+1.1**
LPK	**Lapseki**	**2.98**	**264**	*e*PN	**Pn**	**15 30 03.1**	**+1.1**
LPK	**Lapseki**	**2.98**	**264**	*e*Pn	**Pn**	**15 30 03.1**	**+1.1**
CORM	**Corum**	**3.09**	**99**	*e*PN	**Pn**	**15 30 05.0**	**+1.4**
CORM	**Corum**	**3.09**	**99**	*e*Pn	**Pn**	**15 30 05.0**	**+1.4**
ERIK	**Erikli-Kesan**	**3.14**	**270**	*e*PN	**Pn**	**15 30 05.4**	**+1.2**
ERIK	**Erikli-Kesan**	**3.14**	**270**	*e*Pn	**Pn**	**15 30 05.4**	**+1.2**
EDRB	**Edirne**	**3.15**	**292**	*e*PN	**Pn**	**15 30 04.9**	**+0.6**
EDRB	**Edirne**	**3.15**	**292**	*e*Pn	**Pn**	**15 30 04.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**3.19**	**265**	*e*PN	**Pn**	**15 30 06.1**	**+1.1**
GELI	**Tayfur-Gelibol**	**3.19**	**265**	*e*Pn	**Pn**	**15 30 06.1**	**+1.1**
ROIA	**ROIAK**	**3.40**	**315**	*i* P	**Pn**	**15 30 07.4**	**-0.4**
ROIA	**ROIAK**	**3.40**	**315**	*i* P	**Pn**	**15 30 07.4**	**-0.4**
PSN	**Preselentsi**	**3.47**	**329**	*i* P	**Pb**	**15 30 15.8**	**-0.4**
ALN	**Alexandroupoli**	**3.50**	**274**	*e*PN	**Pn**	**15 30 10.3**	**+1.2**
ALN	**Alexandroupoli**	**3.50**	**274**	*e*Pn	**Pn**	**15 30 10.3**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.50**	**218**	*e*PN	**Pn**	**15 30 10.8**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**3.50**	**218**	*e*Pn	**Pn**	**15 30 10.8**	**+1.5**
JMB	**Yambol**	**3.51**	**301**	*i* P	**Pn**	**15 30 06.6**	**-2.7**
JMB	**Yambol**	**3.51**	**301**	*i* P	**Pn**	**15 30 06.6**	**-2.7**
KDZ	**Kurdzhali**	**4.05**	**285**	⇑*i* P	**Pg**	**15 30 32.2**	**0.0**
KDZ	**Kurdzhali**	**4.05**	**285**	*i* P	**Pn**	**15 30 17.1**	**+0.3**
KDZ	**Kurdzhali**	**4.05**	**285**	*i* P	**Pn**	**15 30 17.1**	**+0.3**
TLB	**Topalu**	**4.31**	**334**	⇑*i* P	**Pn**	**15 30 20.0**	**-0.2**
SZH	**Strazhica**	**4.33**	**307**	*i* P	**Pn**	**15 30 19.8**	**-0.8**
SZH	**Strazhica**	**4.33**	**307**	*i* P	**Pn**	**15 30 19.8**	**-0.8**
HARR	**Harsova**	**4.44**	**334**	⇓*i* P	**Pn**	**15 30 24.4**	**+2.4**
HARR	**Harsova**	**4.44**	**334**	⇓*i* P	**Pn**	**15 30 24.4**	**+2.4**
RZN	**Rozhen**	**4.58**	**284**	*i* P	**Pn**	**15 30 23.5**	**-0.6**
RZN	**Rozhen**	**4.58**	**284**	*i* P	**Pn**	**15 30 23.5**	**-0.6**
CFR	**Carcaliu**	**4.81**	**338**	⇑*i* P	**Pn**	**15 30 27.0**	**-0.2**
MLR	**Muntele Rosu**	**5.87**	**326**	⇑*i* P	Pn	15 30 48.5	+6.6
MLR	**Muntele Rosu**	**5.87**	**326**	Pn	**Pn**	**15 30 42.8**	**+0.9**
	0.1nm,0.3s,baz=139,slow=11,SNR=5.7						
MLR				Sn	**Sn**	**15 31 53.4**	**+4.1**
	0.1nm,0.3s,baz=113,slow=18,SNR=2.1						
VTS	**Vitosha**	**5.87**	**291**	⇑*i* P	**Pn**	**15 30 41.0**	**-0.9**
VTS	**Vitosha**	**5.87**	**291**	⇑*i* P	**Pn**	**15 30 41.0**	**-0.9**
PLOR	**Plostina**	**5.89**	**332**	⇑*i* P	**Pn**	**15 30 44.6**	**+2.5**
PLOR	**Plostina**	**5.89**	**332**	⇑*i* P	**Pn**	**15 30 44.6**	**+2.5**
VOIR		**6.24**	**321**	⇑*i* P	**Pn**	**15 30 49.2**	**+2.3**
VOIR		**6.24**	**321**	⇑*i* P	**Pn**	**15 30 49.2**	**+2.3**
DOPR	**Dopca**	**6.49**	**326**	⇓*i* P	**Pn**	**15 30 50.3**	**+0.1**
DOPR	**Dopca**	**6.49**	**326**	⇓*i* P	**Pn**	**15 30 50.3**	**+0.1**
LOT	**Lotru**	**6.90**	**315**	⇑*i* P	Pn	15 30 51.0	-4.9
AKASG	**Malin Array Be**	**10.03**	**355**	Pn	**Pn**	**15 31 36.0**	**-2.7**
	1.0nm,0.3s,baz=178,slow=11,SNR=6.7						
MKAR	**Makanchi Array**	**37.23**	**63**	P	**P**	**15 36 24.6**	**-1.7**
	0.1nm,0.6s,baz=270,slow=10,SNR=2.0						

*ISCJB **24** 15:45:16.9±0.4, 12˚.47N±0˚.04×89˚.60W±0˚.04, h10km, mb4.1/13, MS3.5/2, Error ellipse: s-maj=7.0km s-min=4.2km az=39.5*
*IDC **24** 15:45:19.1±1.1, 13˚.16N×88˚.76W, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/25, mbtmp3.9/10, ML3.2/2, MS3.5/2, Ms1 3.6/2, ms1mx3.0/26, Error ellipse: s-maj=44.4km s-min=18.0km az=46.0*
*NEIC **24** 15:45:21.0±0.8, 13˚.25N×88˚.66W, h10km, mb4.7/5, Error ellipse: s-maj=22.3km s-min=9.8km az=50.0*
NEIC Felt [II] at San Salvador.
*CASC **24** 15:45:21.7±3.1, 12˚.66N×89˚.50W, h27km±12km, MD4.0, ML3.8*

ISC 24 15:45:20.6±0.8, 12˚.66N±0˚.06×89˚.50W±0˚.06, h10km, n92, σ1§47/87, mb4.2/13, 32C-28D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.04**	**24**	*i* P	**Pg**	**15 45 40.4**	**-0.4**
SNET	**Serv Nac Est T**	**1.05**	**14**	*e*P	**Pg**	**15 45 39.6**	**-1.2**
SNET				AML	AML	15 45 59.4	
	comp=Z,2μm,0.5s						
BOQS	**Boqueron**	**1.09**	**11**	*e*P	**Pb**	**15 45 41.4**	**-0.3**
BOQS				*e*S	**Sb**	**15 45 58.0**	**+2.0**
LBRS	**Las Brisas**	**1.16**	**22**	*e*P	**Pb**	**15 45 42.6**	**-0.2**
SBLS	**San Blas**	**1.18**	**354**	*e*P	**Pb**	**15 45 42.2**	**-1.0**
SBLS				*e*S	**Sg**	**15 46 00.3**	**+1.7**
RTR	**El Retiro**	**1.24**	**353**	*e*P	**Pn**	**15 45 42.7**	**-1.4**
VSM	**San Miguel**	**1.41**	**57**	*e*P	**Pn**	**15 45 46.0**	**-0.7**
RBDL	**Robledal**	**1.45**	**353**	*e*P	**Pn**	**15 45 46.6**	**-0.5**
IXG	**Ixpaco**	**1.77**	**328**	*e*P	**Pn**	**15 45 50.0**	**-1.4**
IXG				*e*S	**Sn**	**15 46 13.8**	**-0.4**
COPN	**Copaltepe**	**2.88**	**99**	*e*P	Pn	15 46 04.0	-2.6
COPN				*e*S	**Sn**	**15 46 38.5**	**-2.8**
JTS	**JuntasAbangare**	**5.04**	**117**	Pn	Pn	15 46 31.0	-5.3
	comp=Z,0.6nm,0.3s,baz=295,slow=19,SNR=2.7						
JTS				Lg	Lg	15 48 03.8	
	comp=Z,1.5nm,0.3s,baz=323,slow=20,SNR=10						
CGA2	**Cerro Gallo 2**	**5.59**	**118**	*e*P	Pn	15 46 47.9	+3.8
CGA2				*e*S	**Sn**	**15 47 48.1**	**-0.3**
URSC	**Urasca**	**6.27**	**116**	*e*P	**Pn**	**15 46 55.5**	**+2.1**
URSC				*e*S	**Sn**	**15 48 05.7**	**+0.3**
BUS	**Buena Vista**	**6.42**	**118**	*e*P	**Pn**	**15 46 58.8**	**+3.1**
BUS				*e*S	Sn	15 48 03.3	-6.1
CMIG	**Matias Romero**	**6.82**	**311**	Pn	Pn	15 47 05.0	+4.2
	comp=Z,0.6nm,0.3s,baz=124,slow=8.3,SNR=8.4						
CMIG				Sn	Sn	15 48 30.2	+12
	comp=Z,0.4nm,0.3s,baz=117,slow=16,SNR=3.2						
TEIG	**Tepich**	**7.61**	**9**	Pn	**Pn**	**15 47 12.8**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=224,slow=5.0,SNR=5.5						
TEIG	**Tepich**	**7.61**	**9**	Pn	Pn	15 47 00.4	-11
434A	**Burnet**	**19.80**	**337**	⇑P	**P**	**15 49 49.9**	**-1.5**
	baz=20						
532A	**Rocksprings**	**19.88**	**333**	⇑P	**P**	**15 49 51.3**	**-0.9**
	baz=20						
335A	**Moody**	**19.92**	**340**	⇑P	**P**	**15 49 51.5**	**-1.1**
	baz=20,SNR=6.9						
433A	**Art**	**20.07**	**335**	⇑P	**P**	**15 49 53.0**	**-1.3**
	baz=20						
JCT	**Junction City**	**20.13**	**333**	⇑P	**P**	**15 49 54.0**	**-1.0**
	baz=20						
334A	**Lometa**	**20.25**	**338**	⇓P	**P**	**15 49 54.9**	**-1.4**
	baz=20,SNR=5.9						
432A	**Menard**	**20.47**	**334**	⇓P	**P**	**15 49 57.5**	**-1.2**
	baz=20						
333A	**Richland Sprin**	**20.53**	**336**	⇑P	**P**	**15 49 57.9**	**-1.4**
	baz=20,SNR=6.9						
WHTX	**Lake Whitney,**	**20.58**	**340**	⇓P	**P**	**15 49 59.2**	**-0.6**
	baz=20						
137A	**Heron Place, G**	**20.66**	**345**	⇑P	**P**	**15 50 00.4**	**-0.2**
	baz=20						
431A	**Sonora**	**20.67**	**332**	⇑P	**P**	**15 50 00.3**	**-0.5**
	baz=21						
234A	**Clairette**	**20.82**	**339**	⇑P	**P**	**15 50 01.4**	**-1.1**
	baz=21						
529A	**Stev Forest Ra**	**21.00**	**328**	⇑P	**P**	**15 50 05.2**	**+0.8**
	baz=21						
233A	**Rising Star**	**21.11**	**337**	⇓P	**P**	**15 50 04.5**	**-1.1**
	baz=21,SNR=5.5						
331A	**San Angelo**	**21.12**	**333**	⇑P	**P**	**15 50 04.7**	**-0.9**
	baz=21						
TXAR	**Lajitas Array**	**21.18**	**324**	P	**P**	**15 50 07.4**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=137,slow=10,SNR=15						
429A	**Davenport Ranc**	**21.23**	**329**	⇓P	**P**	**15 50 06.3**	**-0.6**
	baz=21						
232A	**Coleman**	**21.29**	**336**	⇓P	**P**	**15 50 06.7**	**-0.8**
	baz=21						
134A	**White-Moore Ra**	**21.32**	**340**	⇓P	**P**	**15 50 06.2**	**-1.6**
	baz=21						
330A	**Mertzon**	**21.54**	**332**	⇓P	**P**	**15 50 08.4**	**-1.7**
	baz=22						
231A	**Bronte**	**21.61**	**334**	⇑P	**P**	**15 50 10.1**	**-0.8**
	baz=22						
133A	**Hamilton Ranch**	**21.65**	**338**	⇓P	**P**	**15 50 10.4**	**-1.0**
	baz=22						
ABTX	**Abilene, Hawle**	**21.94**	**337**	⇓P	**P**	**15 50 13.6**	**-0.8**
	baz=22						
MIAR	**Mount Ida**	**22.10**	**351**	P	**P**	**15 50 12.9**	**-3.2**
	comp=Z,7.1nm,0.8s						
Z33A	**Whitaker Ranch**	**22.21**	**339**	⇑P	**P**	**15 50 15.8**	**-1.5**
	baz=22,SNR=6.1						
Z32A	**Haskell**	**22.48**	**338**	⇑P	**P**	**15 50 18.7**	**-1.6**
	baz=22						
Y34A	**Reagan Ranch,**	**22.50**	**342**	⇑P	**P**	**15 50 18.8**	**-1.6**
	baz=22						
Z31A	**Sharp Cattle R**	**22.75**	**336**	⇓P	**P**	**15 50 21.2**	**-1.9**
	baz=23						
W37A	**Quinton**	**23.01**	**347**	⇓P	**P**	**15 50 25.7**	**-0.1**
	baz=23						
Y32A	**R-V Farms, Ver**	**23.10**	**339**	⇓P	**P**	**15 50 26.5**	**-0.2**
	baz=23						
X34A	**Smith Ranch, M**	**23.12**	**342**	⇑P	**P**	**15 50 26.4**	**-0.5**
	baz=23						
Z30A	**Sanderson Ranc**	**23.12**	**335**	⇓P	**P**	**15 50 25.9**	**-1.0**
	baz=23,SNR=6.1						
Y31A	**Rekieta Farm,**	**23.36**	**337**	⇓P	**P**	**15 50 28.2**	**-1.2**
	baz=23,SNR=7.4						
W35A	**Tecumseh**	**23.37**	**345**	⇑P	**P**	**15 50 27.6**	**-1.8**
	baz=23						
Y30A	**Stafford Cattl**	**23.54**	**336**	⇑P	**P**	**15 50 30.0**	**-1.2**
	baz=23						
W34A	**Bridge Creek,**	**23.69**	**343**	⇓P	**P**	**15 50 30.9**	**-1.7**
	baz=24						
W34A	**Bridge Creek,**	**23.69**	**343**	*e*P	**P**	**15 50 30.2**	**-2.5**
	comp=Z,15nm,0.6s						
W33A	**Caddo, Fort Co**	**23.82**	**342**	⇓P	**P**	**15 50 32.5**	**-1.4**
	baz=24						
MNTX	**Cornudas Mount**	**23.93**	**325**	⇓P	**P**	**15 50 34.7**	**-0.3**
	baz=24						
X30A	**Coker Ranch, T**	**24.02**	**336**	⇑P	**P**	**15 50 34.6**	**-1.3**
	baz=24,SNR=9.6						
W32A	**Sentinel**	**24.04**	**340**	⇓P	**P**	**15 50 34.3**	**-1.7**
	baz=24,SNR=5.1						
PCRV	**Puerto La Cruz**	**24.49**	**93**	LR	LR	16 00 04.8	
	comp=Z,193nm,21.2s,baz=80,slow=37						
V32A	**Arapaho**	**24.52**	**341**	⇓P	**P**	**15 50 39.4**	**-1.1**
	baz=24						
V31A	**Spring Creek L**	**24.84**	**340**	⇑P	**P**	**15 50 42.9**	**-0.3**
	baz=25						
W29A	**Amarillo**	**24.92**	**336**	⇓P	**P**	**15 50 44.2**	**+0.1**
	baz=25						
V30A	**Spur Ranch, Mi**	**25.12**	**338**	⇓P	**P**	**15 50 45.8**	**-0.1**
	baz=25						
S36A	**Lake Cedric, C**	**25.55**	**349**	⇓P	**P**	**15 50

mb4.0/3, Error ellipse: s-maj=6.3km s-min=5.4km az=34.4
*DJA **24** 15:56:02.4±0.3,2°S±2°×12°8E±°, h80km±12km, M4.3/13, mb4.7/2, mB4.9/1, MLv4.1/13, Mw(mB)4.2/1*

ISC 24 15:56:01.6±0.7,2°09S±0°04×128°16E±0°04, h33km, n22, σ1§82/33, mb4.1/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSAI	**Masohi**	**1.47**	**148**	P		**Pb**	**15 56 29.0**	**+0.6**
MSAI				S		**Sb**	**15 56 48.9**	**+2.2**
NLAI	**Namlea**	**1.55**	**223**	P		**Pb**	**15 56 29.8**	**0.0**
NLAI				S		**Sb**	**15 56 49.4**	**+0.3**
LBMI	**Labuha**	**1.58**	**336**	P		**Pn**	**15 56 28.1**	**+0.8**
LBMI				S		**Sb**	**15 56 49.3**	**-0.6**
AAI	**Ambon**	**1.59**	**179**	P		**Pb**	**15 56 31.1**	**+0.7**
AAI	**Ambon**	**1.59**	**179**	P		**Pb**	**15 56 31.2**	**+0.8**
	baz=1.5,SNR=49							
SANI	**Sanana**	**2.17**	**271**	P		**Pn**	**15 56 35.3**	**-0.1**
TNTI	**Ternate**	**2.95**	**344**	P		**Pn**	**15 56 46.9**	**+0.8**
BNDI	**Bandanaira**	**2.98**	**144**	P		**Pn**	**15 56 47.7**	**+1.1**
BNDI				S		**Sn**	**15 57 24.8**	**+3.5**
SWI	**Sorong**	**3.33**	**69**	P		**Pn**	**15 56 51.1**	**-0.3**
SWI				S		**Sn**	**15 57 30.7**	**+0.8**
SWI	**Sorong**	**3.33**	**69**	P		**Pn**	**15 56 51.1**	**-0.3**
	baz=3.1,SNR=79							
SWI				S		**Sn**	**15 57 30.7**	**+0.7**
	baz=3.1,SNR=6.8							
FAKI	**Fak Fak**	**4.17**	**101**	P		**Pn**	**15 57 02.6**	**-0.4**
FAKI	**Fak Fak**	**4.17**	**101**	P		**Pn**	**15 57 02.7**	**-0.3**
	baz=3.9,SNR=24							
FAKI				S		**Sn**	**15 57 48.0**	**-2.6**
	baz=3.9,SNR=7.1							
LUWI	**Luwuk**	**5.48**	**281**	P		**Pn**	**15 57 22.3**	**+1.3**
	41nm,0.8s,1µm0.3nm							
LUWI				S		**Sn**	**15 58 22.1**	**-0.8**
	41nm,0.8s,1µm0.3nm							
LUWI	**Luwuk**	**5.48**	**281**	P		**Pn**	**15 57 22.6**	**+1.6**
	baz=5.7,SNR=11							
LUWI				S		**Sn**	**15 58 24.6**	**+1.6**
	baz=5.7,SNR=4.7							
KDU	**Kakadu**	**11.37**	**158**	P		**Pn**	**15 58 41.1**	**-0.6**
	baz=11,SNR=17							
KDU				S		**Sn**	**16 00 45.0**	**-2.6**
	baz=11,SNR=4.4							
KNRA	**Kununurra**	**13.52**	**177**	P		**Pn**	**15 59 12.1**	**+1.0**
	baz=14,SNR=4.7							
FITZ	**Fitzroy Crossi**	**16.10**	**189**	Pn		**Pn**	**15 59 46.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**16.10**	**189**	P		**P**	**15 59 47.9**	**-0.8**
	baz=16,SNR=11							
WRA	**Warramunga Arr**	**18.75**	**162**	P		**P**	**16 00 16.6**	**-1.3**
	0.7nm,0.3s,baz=344,slow=12,SNR=73							
WRA				S		Sn	16 03 38.4	-8.9
	0.1nm,0.3s,baz=342,slow=23,SNR=3.1							
ASAR	**Alice Springs**	**22.16**	**166**	P		**P**	**16 00 55.3**	**+0.4**
	12nm,0.5s,baz=347,slow=12,SNR=258							
ASAR				S		**S**	**16 04 50.9**	**-6.5**
	1.2nm,0.8s,baz=346,slow=21,SNR=7.4							
CTA	**Charters Tower**	**25.15**	**137**	P		**P**	**16 01 26.8**	**+2.7**
	3.6nm,0.7s,baz=329,slow=12,SNR=3.8							
MKAR	**Makanchi Array**	**63.14**	**326**	P		**P**	**16 06 26.4**	**+0.2**
	0.2nm,0.7s,baz=139,slow=6.0,SNR=3.1							

*IDC **24** 16:07:04.0±2.6,0°.67S×133°.10E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=131.9km s-min=25.7km az=74.0*
*ISCJB **24** 16:07:07.2±1.1, 0°.58S±0°.08×133°.26E±0°.06, h33km, mb3.5/2, Error ellipse: s-maj=12.6km s-min=8.0km az=25.3*
*DJA **24** 16:07:08.7±0.5, 1°S±5°×13°3E±°, h10km, M3.9/8, mb4.1/4, MLv3.8/8*

ISC 24 16:07:09.7±1.2, 0°.68S±0°.09×133°.19E±0°.06, h35km, n15, σ1§76/16, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.29**	**130**	P		**Pn**	**16 07 31.2**	**0.0**
RKPI				S		**Sn**	**16 07 51.2**	**+3.9**
SWI	**Sorong**	**1.94**	**264**	P		**Pn**	**16 07 40.9**	**+0.8**
SWI				S		**Sn**	**16 08 05.3**	**+2.0**
SWI	**Sorong**	**1.94**	**264**	S		**Pn**	**16 07 40.7**	**+0.6**
	baz=0.3,SNR=26							
FAKI	**Fak Fak**	**2.42**	**203**	P		**Pn**	**16 07 47.4**	**+0.6**
FAKI				S		Sn	16 08 17.9	+2.7
FAKI	**Fak Fak**	**2.42**	**203**	P		**Pn**	**16 07 47.0**	**+0.2**
	baz=2.1,SNR=13							
FAKI				S		**Sn**	**16 08 16.8**	**+1.6**
	baz=2.1,SNR=5.0							
LBMI	**Labuha**	**5.69**	**270**	P		**Pn**	**16 08 32.6**	**+0.9**
	14nm,2.1s,0.1nm							
LBMI				S		**Sn**	**16 09 37.2**	**+1.3**
	14nm,2.1s,0.1nm							
AAI	**Ambon**	**5.82**	**239**	P		**Pn**	**16 08 33.8**	**+0.3**
	19nm,0.6s,0.1nm							
KDU	**Kakadu**	**11.96**	**183**	P		**Pn**	**16 09 57.2**	**-0.5**
	baz=12,SNR=4.5							
KNRA	**Kununurra**	**15.53**	**196**	P		**Pn**	**16 10 42.8**	**-3.4**
	baz=15,SNR=10							
WRA	**Warramunga Arr**	**19.18**	**177**	P		**P**	**16 11 29.3**	**-1.2**
	0.2nm,0.3s,baz=356,slow=11,SNR=12							
ASAR	**Alice Springs**	**22.86**	**178**	P		**P**	**16 12 09.7**	**-0.6**
	0.9nm,0.3s,baz=359,slow=12,SNR=48							
H11N1	**WAKE ISLAND Hy**	**38.76**	**57**	T		T	16 55 33.5	
	baz=248							
H11N2	**WAKE ISLAND Hy**	**38.77**	**57**	T		T	16 55 34.0	
	baz=248							
H11N3	**WAKE ISLAND Hy**	**38.78**	**57**	T		T	16 55 35.1	
	baz=248							
MKAR	**Makanchi Array**	**64.86**	**324**	P		**P**	**16 17 44.7**	**-0.7**
	0.3nm,0.8s,baz=124,slow=7.8,SNR=2.7							

IDC 24 16:07:36.3±1.3, 4°30S×153°68E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=54.3km s-min=26.2km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**229**	P		P	16 12 57.9	+0.9
	2.3nm,0.5s,baz=54,slow=10.0,SNR=33							
ASAR	**Alice Springs**	**27.11**	**223**	P		P	16 13 20.9	-0.4
	0.3nm,0.4s,baz=55,slow=8.9,SNR=8.2							
STKA	**Stephens Creek**	**29.68**	**201**	P		P	16 13 44.2	+0.1
	1.5nm,0.6s,baz=23,slow=13,SNR=2.8							
VNDA	**Vanda**	**73.30**	**178**	P		P	16 19 09.2	0.0
	0.6nm,0.8s,baz=349,slow=6.1,SNR=5.1							
MKAR	**Makanchi Array**	**80.53**	**319**	P		P	16 19 50.9	+0.3
	0.4nm,1.0s,baz=104,slow=6.1,SNR=2.5							
ILAR	**Eielson Array**	**81.37**	**22**	P		P	16 19 55.6	+0.9
	0.3nm,0.7s,baz=238,slow=5.2,SNR=2.8							
TORD	**Torodi Ar. Bea**	**150.97**	**289**	PKPbc		PKPbc	16 27 30.5	-1.8
	0.8nm,0.7s,baz=61,slow=2.2,SNR=5.3							

IDC 24 17:00:57.2±1.9, 5°26S×150°24E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, Error ellipse: s-maj=132.8km s-min=28.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.27**	**225**	P		P	17 05 44.8	-0.6
	0.5nm,0.4s,baz=51,slow=11,SNR=12							
ASAR	**Alice Springs**	**24.14**	**219**	P		P	17 06 15.8	+0.6
	0.3nm,1.0s,baz=54,slow=9.0,SNR=5.4							
ILAR	**Eielson Array**	**83.55**	**23**	P		P	17 13 26.9	-0.1
	0.1nm,0.4s,baz=242,slow=5.0,SNR=2.6							

*ISCJB **24** 17:22:19.0±0.4, 37°.97N±0°.03×104°.37E±0°.06, h10km, mb3.7/11, MS2.8/1, Error ellipse: s-maj=6.4km s-min=4.9km az=177.2*
*IDC **24** 17:22:19.8±0.8, 38°.03N×104°.20E, h0km, mb3.7/12, mb1 3.8/14, mb1mx3.6/45, mbtmp3.7/14, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/37, Error ellipse: s-maj=30.7km s-min=16.1km az=50.0*
*BJI **24** 17:22:24.0, 37°.95N×104°.25E, h6km, mb4.0/2, ML3.9/21, Ms3.7/3, Ms7 3.5/4*

ISC 24 17:22:20.9±0.6, 38°01N±0°.04×104°39E±0°.04, h10km, n24, σ1§38/31, mb3.6/11, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LZH	**Lanzhou**	**1.97**	**193**	Pg		**Pg**	**17 22 58.5**	**-0.2**
LZH				Sg		**Sg**	**17 23 24.3**	**0.0**
LZH				SMN				
	3µm,0.8s							
LZH				SME				
	2µm,0.9s							
GTA	**Gaotai**	**3.84**	**293**	Pn		**Pn**	**17 23 20.4**	**+0.2**
GTA				Pg		**Pb**	**17 23 28.4**	**-0.4**
GTA				Sn		**Sn**	**17 24 05.4**	**-0.1**
GTA				Sg		**Sb**	**17 24 17.1**	**+1.7**
GTA				SMN				
	1µm,0.5s							
GTA				SME				
	690nm,0.7s							
BTO	**Baotou**	**5.08**	**58**	*e*Pn		**Pn**	**17 23 38.3**	**+1.2**
BTO				Pg		**Pg**	**17 23 56.3**	**-1.8**
BTO				Sn		**Sn**	**17 24 38.6**	**+2.7**
BTO				Sg		**Sg**	**17 25 03.8**	**-0.1**
BTO				SMN				
	28nm,0.4s							
BTO				SME				
	15nm,0.3s							
XAN	**Xi'an**	**5.40**	**136**	Pn		Pb	17 23 49.5	-5.9
XAN				Pg		**Pg**	**17 24 04.3**	**-0.1**
XAN				Sg		**Sg**	**17 25 13.6**	**-0.8**
XAN				SMN				
	81nm,0.7s							
XAN				SME				
	19nm,0.8s							
HHC	**Hu-ho-hao-te**	**6.23**	**61**	*e*Pn		Pn	17 23 58.3	+5.3
HHC				Pg		**Pg**	**17 24 17.9**	**-2.3**
HHC				Sg		**Sg**	**17 25 39.6**	**-1.4**
HHC				SMN				
	130nm,0.4s							
HHC				SME				
	170nm,0.4s							
CD2	**Chengdu**	**7.11**	**184**	Pn		Pn	17 24 10.3	+5.3
CD2				Sn		**Sn**	**17 25 24.6**	**-1.2**
CD2				Sg		**Sg**	**17 26 05.9**	**-3.1**
CD2				SMN				
	30nm,1.1s							
CD2				SME				
	30nm,0.9s							
SONM	**Songino Array**	**9.93**	**8**	Pn		**Pn**	**17 24 45.5**	**+1.9**
	0.6nm,0.3s,baz=188,slow=14,SNR=8.9							
SONM				Lg		Lg	17 27 36.4	
	1.6nm,0.3s,baz=203,slow=30,SNR=5.4							
WMQ	**Urumqi**	**13.88**	**300**	*e*P		Pn	17 25 40.6	+2.9
WMQ				pP		pP	17 25 43.8	
WMQ				sP		sP	17 25 47.0	
WMQ				*e*S		Sn	17 28 21.3	+9.2
WMQ				LN				
	230nm,3.6s							
WMQ				LE				
	180nm,5.0s							
WMQ				LZ				
	240nm,4.6s							
MKAR	**Makanchi Array**	**18.48**	**305**	P		**P**	**17 26 35.4**	**-1.5**
	0.1nm,0.3s,baz=113,slow=9.3,SNR=7.3							
KSRS	**Korea Array**	**18.62**	**84**	P		Pn	17 26 45.7	+7.1
	0.1nm,0.3s,baz=272,slow=9.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**20.06**	**195**	P		Pn	17 27 01.1	+5.0
	0.3nm,0.8s,baz=8.5,slow=13,SNR=2.8							
ZALV	**Zalesovo Beam**	**20.84**	**326**	P		**P**	**17 27 02.0**	**-0.5**
	2.0nm,0.6s,baz=128,slow=10,SNR=10							
KURBB	**Kurchatov Arra**	**22.25**	**313**	P		**P**	**17 27 16.8**	**-1.0**
	2.8nm,0.8s,baz=115,slow=11,SNR=22							
AAK	**Ala-Archa**	**23.19**	**291**	P		**P**	**17 27 28.7**	**+0.7**
	0.5nm,0.3s,baz=122,slow=5.7,SNR=5.7							
AAK				LR		LR	17 38 04.9	
	comp=Z,37nm,19.6s,baz=246,slow=41							
BVAR	**Borovoye Array**	**27.84**	**314**	P		**P**	**17 28 08.1**	**-2.1**
	0.4nm,0.4s,baz=110,slow=8.0,SNR=4.7							
FINES	**FINESS Array B**	**52.07**	**323**	P		**P**	**17 31 30.4**	**-0.1**
	1.8nm,0.5s,baz=96,slow=8.0,SNR=30							
AKASG	**Malin Array Be**	**52.99**	**310**	P		**P**	**17 31 36.6**	**-1.0**
	0.9nm,0.6s,baz=63,slow=8.1,SNR=6.2							
NB2	**NORSAR Subarra**	**59.04**	**325**	P		**P**	**17 32 19.7**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=64,slow=6.9							
NOA	**NORSAR Array B**	**59.04**	**325**	P		**P**	**17 32 19.9**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=54,slow=6.5,SNR=15							
GERES	**GERESS Array B**	**62.99**	**312**	P		**P**	**17 32 48.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=7.4,SNR=2.4							
WRA	**Warramunga Arr**	**64.16**	**149**	P		**P**	**17 32 56.5**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=341,slow=6.7,SNR=3.4							
INK	**Inuvik**	**65.59**	**20**	P		**P**	**17 33 05.5**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=279,slow=19,SNR=3.3							
ASAR	**Alice Springs**	**67.33**	**151**	P		**P**	**17 33 17.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=339,slow=6.1,SNR=3.9							
YKA	**Yellowknife Ar**	**75.04**	**18**	P		**P**	**17 34 02.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=331,slow=5.4,SNR=6.0							

*IDC **24** 17:23:31.8±2.3, 5°.82S×130°.36E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.3/32, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=147.2km s-min=30.3km az=70.0*

ISC 24 17:23:33.6±1.6, 6°.0S±0°.1×130°.2E±0°.2, h10km, n8, σ1§10/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDU	**Kakadu**	**7.03**	**161**	P		Pn	17 25 23.9	+7.2
	baz=5.5,SNR=115							
KDU				S		**Sn**	**17 26 35.0**	**-1.7**
	baz=5.5,SNR=7.6							
LUWI	**Luwuk**	**8.88**	**303**	P		**Pg**	**17 26 23.5**	**-0.2**
	baz=10,SNR=3.4							
KNRA	**Kununurra**	**9.73**	**188**	P		Pn	17 25 60.0	+6.3
	baz=8.4,SNR=28							
KNRA				S		**Sn**	**17 27 42.6**	**-0.4**
	baz=8.4,SNR=5.0							
FITZ	**Fitzroy Crossi**	**12.83**	**200**	P		Pn	17 26 42.3	+6.1
	baz=12,SNR=7.6							
WRA	**Warramunga Arr**	**14.45**	**164**	Pn		**Pn**	**17 26 59.0**	**+0.7**
	0.4nm,0.3s,baz=348,slow=13,SNR=28							
WRA				Sn		Sn	17 29 26.9	-12
	0.3nm,0.3s,baz=341,slow=20,SNR=7.5							
ASAR	**Alice Springs**	**17.94**	**169**	P		**P**	**17 27 44.7**	**+0.8**
	0.1nm,0.3s,baz=345,slow=9.4,SNR=20							
ASAR				S		Sn	17 30 54.9	-8.7
	0.1nm,0.3s,baz=351,slow=29,SNR=4.6							
WRKA	**Warakurna**	**19.02**	**185**	P		**Pn**	**17 27 57.3**	**+0.7**
	baz=18,SNR=5.1							
MKAR	**Makanchi Array**	**67.49**	**327**	P		**P**	**17 34 29.4**	**-0.4**
	0.3nm,0.4s,baz=120,slow=6.2,SNR=9.4							

WEL 24 17:56:45.7±0.3, 45°.05S×167°.49E, h117km±2km, ML3.5/8, 4C-2D, Error ellipse: s-maj=2.6km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.49**	**40**	PN		Pn	17 57 03.2	0.0
MSZ				SN		Sn	17 57 15.9	-0.5
MSZ				AML		AML	17 57 17.2	
MSZ				AML		AML	17 57 17.3	
MSZ				AML		AML	17 57 17.3	
MLZ	**Mavora Lakes**	**0.57**	**122**	⇑PN		Pn	17 57 03.4	-0.4
MLZ				SN		Sn	17 57 16.7	-0.8
MLZ				AML		AML	17 57 17.6	
WHZ	**Wether Hill Ro**	**0.90**	**159**	⇑PN		Pn	17 57 06.3	-0.2
WHZ				AML		AML	17 57 21.9	
WHZ				AML		AML	17 57 22.0	
WKZ	**Wanaka**	**1.11**	**79**	⇑PN		Pn	17 57 08.8	+0.2
WKZ				AML		AML	17 57 26.2	
WKZ				AML		AML	17 57 27.2	
PYZ	**Puysegur Point**	**1.25**	**207**	PN		Pn	17 57 10.0	-0.1
EAZ	**Earnscleugh**	**1.30**	**99**	⇑PN		Pn	17 57 10.6	0.0
EAZ				AML		AML	17 57 29.0	
EAZ				AML		AML	17 57 29.1	
EAZ				AML		AML	17 57 29.1	
EAZ				AML		AML	17 57 29.2	
JCZ	**Jackson Bay**	**1.33**	**43**	PN		Pn	17 57 10.7	-0.5
JCZ				AML		AML	17 57 29.8	
JCZ				AML		AML	17 57 32.3	
TUZ	**Tuapeka**	**1.76**	**122**	⇓PN		Pn	17 57 16.0	0.0
TUZ				SN		Sn	17 57 36.8	-2.3
APZ	**The Paps**	**1.82**	**169**	PN		Pn	17 57 16.3	-0.4
APZ				AML		AML	17 57 41.0	
SYZ	**Scrubby Hill**	**1.88**	**143**	⇓PN		Pn	17 57 17.5	0.0
SYZ				AML		AML	17 57 41.1	
SYZ				AML		AML	17 57 41.1	
SYZ				AML		AML	17 57 41.4	
LBZ	**Lake Benmore**	**2.04**	**72**	PN		Pn	17 57 18.2	-1.3
FOZ	**Fox Glacier**	**2.17**	**48**	PN		Pn	17 57 21.0	-0.1
ODZ	**Otahua Downs**	**2.24**	**91**	PN		Pn	17 57 21.2	-0.8
HHSZ	**Highcliff Hill**	**2.34**	**112**	PN		Pn	17 57 23.0	-0.4
WVZ	**Waitaha Valley**	**3.06**	**51**	*e*PN		Pn	17 57 31.4	-1.3
OXZ	**Oxford**	**3.70**	**64**	*e*PN		Pn	17 57 39.8	-1.3

*IDC **24** 17:57:55.1±2.4, 7°.98S×111°.61E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.8/4, Error ellipse: s-maj=146.4km s-min=22.7km az=50.0*
*ISCJB **24** 17:58:09.9±0.5, 8°.42S±0°.08×111°.50E±0°.04, h134km±6km, mb3.7/4, Error ellipse: s-maj=13.9km s-min=5.8km az=6.5*
*DJA **24** 17:58:11.3±0.7, 8°S±6°×11°2E±°, h114km±5km, M3.2/13, MLv3.2/13*

ISC 24 17:58:10.8±0.8, 8°37S±0°.08×111°.50E±0°.04, h131km±7km, n22, σ0§79/31, mb3.8/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCJI	**Pacitan**	**0.36**	**299**	P		**Pn**	**17 58 29.5**	**+0.2**
PCJI				S		**Sn**	**17 58 42.9**	**-0.4**
PWJI	**Pagerwojo**	**0.46**	**41**	P		**Pn**	**17 58 29.7**	**-0.1**
PWJI				S		**Sn**	**17 58 43.9**	**-0.3**
WOJI	**Wonogiri, Jawa**	**0.78**	**313**	P		**Pn**	**17 58 31.9**	**0.0**
WOJI				S		**Sn**	**17 58 47.6**	**-0.3**
UGM	**Wanagama**	**1.07**	**295**	P		**Pn**	**17 58 33.9**	**-0.6**
UGM				S		**Sn**	**17 58 52.1**	**-0.4**
UGM	**Wanagama**	**1.07**	**295**	P		**Pn**	**17 58 34.2**	**-0.3**
	baz=1.1,SNR=24							
TBJI	**Tambak Boyo**	**1.58**	**13**	P		**Pn**	**17 58 39.9**	**-0.1**
SMRI	**Semarang**	**1.68**	**321**	P		**Pn**	**17 58 41.4**	**+0.3**
SMRI	**Semarang**	**1.68**	**321**	P		**Pn**	**17 58 41.6**	**+0.5**
	baz=1.7,SNR=4.1							
SMRI				S		**Sn**	**17 59 06.3**	**+2.1**
	baz=1.7,SNR=4.9							
GRJI	**Gresik**	**1.74**	**34**	P		**Pn**	**17 58 41.7**	**-0.1**
GRJI				S		**Sn**	**17 59 06.7**	**+1.2**
GMJI	**Gumukmas**	**1.93**	**87**	P		**Pn**	**17 58 44.2**	**+0.2**
GMJI				S		**Sn**	**17 59 09.3**	**-0.1**
UWJI	**Ujung Watu**	**2.01**	**344**	P		**Pn**	**17 58 45.2**	**+0.1**
BLJI	**Banyuglugur**	**2.17**	**74**	P		**Pn**	**17 58 46.6**	**-0.3**
BLJI				S		**Sn**	**17 59 15.0**	**+0.4**
KPJI	**Karang Pucung**	**2.74**	**292**	P		**Pn**	**17 58 54.0**	**-0.2**
KPJI				S		**Sn**	**17 59 28.0**	**+0.4**
KMMI	**Kalianget**	**2.78**	**62**	P		**Pn**	**17 58 54.5**	**-0.1**
CISI	**Cisompet, Garu**	**3.74**	**282**	P		**Pn**	**17 59 08.1**	**+0.9**
	baz=3.8,SNR=4.4							
GIRL	**Giralia**	**14.43**	**170**	P		**P**	**18 01 32.4**	**+0.3**
	baz=15,SNR=5.2							
FITZ	**Fitzroy Crossi**	**16.81**	**127**	P		**Pn**	**18 02 00.0**	**+1.5**
	baz=17,SNR=3.7							
KNRA	**Kununurra**	**18.37**	**115**	P		**P**	**18 02 16.2**	**+0.5**
	baz=18,SNR=6.1							
WRA	**Warramunga Arr**	**24.92**	**120**	P		**P**	**18 03 21.0**	**-1.0**
	0.8nm,0.5s,baz=295,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.30**	**128**	P		**P**	**18 03 34.3**	**-0.1**
	0.5nm,0.4s,baz=305,slow=8.2,SNR=24							
STKA	**Stephens Creek**	**36.45**	**134**	P		**P**	**18 05 03.5**	**+0.3**
	2.1nm,0.8s,baz=299,slow=10,SNR=2.8							
MKAR	**Makanchi Array**	**60.77**	**337**	P		**P**	**18 08 06.6**	**-2.2**
	0.6nm,0.3s,baz=146,slow=8.1,SNR=18							

IDC 24 17:58:29.2±3.1, 26°38S×68°27W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=89.2km s-min=45.5km az=36.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**10.05**	**1**	P		Pn	18 00 55.4	-0.2
	0.2nm,0.3s,baz=179,slow=12,SNR=2.5							
TXAR	**Lajitas Array**	**64.97**	**326**	P		P	18 09 11.0	0.0
	0.3nm,0.5s,baz=154,slow=9.0,SNR=2.5							
TORD	**Torodi Ar. Bea**	**78.49**	**69**	P		P	18 10 32.7	0.0
	0.4nm,0.4s,baz=258,slow=6.0,SNR=8.8							

*ISCJB **24** 18:37:20.6±0.4, 8°.54S±0°.05×108°.53E±0°.03, h104km±5km, mb3.6/8, Error ellipse: s-maj=8.6km s-min=4.9km az=176.3*
*DJA **24** 18:37:23.8±0.5, 9°S±6°×10°9E±°, h50km±9km, M4.1/15, mb4.2/1, MLv4.1/15*
*IDC **24** 18:37:25.1±1.5, 8°.26S×108°.62E, h124km±12km, mb3.4/8, mb1 3.5/8, mb1mx3.3/22, mbtmp3.8/8, Error ellipse: s-maj=78.3km s-min=13.6km az=54.0*

ISC 24 18:37:21.0±0.9, 8°58S±0°05×108°53E±0°03, h92km±8km, n28, σ1§86/44, mb3.9/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMJI	**Cimerak**	**0.79**	**354**	P		**Pn**	**18 37 39.1**	**+0.4**
CMJI				S		**Sn**	**18 37 50.8**	**-1.0**
CISI	**Cisompet, Garu**	**1.24**	**325**	P		**Pn**	**18 37 44.3**	**+0.5**
CISI				S		**Sn**	**18 38 00.0**	**-0.9**
CISI	**Cisompet, Garu**	**1.24**	**325**	P		**Pn**	**18 37 44.3**	**+0.5**
	baz=1.2,SNR=82							
CISI				S		**Sn**	**18 37 58.5**	**-2.4**
	baz=1.2,SNR=14							
KPJI	**Karang Pucung**	**1.30**	**18**	P		**Pn**	**18 37 45.4**	**+1.0**
KPJI				S		**Sn**	**18 38 02.3**	**+0.3**
CNJI	**Cibinong**	**1.88**	**312**	P		**Pn**	**18 37 53.2**	**+1.5**
CNJI				S		**Sn**	**18 38 14.6**	**-0.5**
LEM	**Lembang**	**1.96**	**332**	P		**Pn**	**18 37 55.3**	**+2.3**
LEM				S		**Sn**	**18 38 19.7**	**+2.4**
LEM	**Lembang**	**1.96**	**332**	P		**Pn**	**18 37 55.4**	**+2.3**
	22nm,0.3s,baz=284,slow=21,SNR=12							
LEM				S		**Sn**	**18 38 19.2**	**+1.9**
	58nm,0.3s,baz=343,slow=20,SNR=22							
LEM				LR		LR	18 38 25.6	
	comp

*IDC **24** 18:40:08.8±1.6,3.49S×130.60E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.4/39,mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=86.8km s-min=24.2km az=70.0*
*ISCJB **24** 18:40:10.7±0.5,3.50S±0.04×130.91E±0.04,h30km, mb3.4/4,Error ellipse: s-maj=6.2km s-min=5.5km az=0.0*
*DJA **24** 18:40:12.2±0.3,3.3S±3.13.1E±,h10km,M3.7/11,mb3.9/1, MLv3.6/11*

ISC 24 18:40:11.9±0.7,3.43S±0.06×130.95E±0.04,h30km,n17, σ1.9 75/21,mb3.4/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.40**	**69**	P	**Pn**	**18 40 35.5**	**+0.1**
FAKI				S	**Sb**	**18 40 55.4**	**+0.5**
BNDI	**Bandanaira**	**1.50**	**224**	P	**Pb**	**18 40 40.9**	**+1.7**
BNDI				S	Sb	18 41 04.6	+6.8
MSAI	**Masohi**	**2.02**	**272**	P	**Pb**	**18 40 46.0**	**-1.9**
AAI	**Ambon**	**2.76**	**265**	P	**Pn**	**18 40 56.2**	**+2.1**
RKPI	**Ransiki, Papua**	**3.75**	**59**	P	**Pn**	**18 41 08.2**	**+0.4**
RKPI				S	**Sn**	**18 41 52.3**	**+1.3**
NLAI	**Namlea**	**3.84**	**273**	P	**Pn**	**18 41 11.5**	**+2.4**
LBMI	**Labuha**	**4.42**	**309**	P	**Pn**	**18 41 17.6**	**+0.6**
LBMI				S	**Sn**	**18 42 08.5**	**+0.9**
SANI	**Sanana**	**5.14**	**285**	P	**Pn**	**18 41 26.5**	**-0.4**
SANI				S	**Sn**	**18 42 23.0**	**-2.2**
KDU	**Kakadu** baz=24,SNR=11	**9.32**	**171**	P	**Pn**	**18 42 24.2**	**-0.1**
KNRA	**Kununurra** baz=21,SNR=4.2	**12.36**	**190**	S	**Sn**	**18 45 22.2**	**-0.4**
COEN	**Coen** baz=34,SNR=5.6	**15.97**	**132**	P	**P**	**18 43 57.6**	**-0.3**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=346,slow=11,SNR=8.0	**16.74**	**169**	Pn	**Pn**	**18 44 04.3**	**-0.1**
WRA	0.1nm,0.3s,baz=348,slow=25,SNR=4.8			Sn	Sn	18 47 01.8	-7.7
ASAR	**Alice Springs** 1.0nm,0.4s,baz=351,slow=11,SNR=27	**20.32**	**172**	P	Pn	18 44 47.0	-0.9
ASAR	0.2nm,0.8s,baz=358,slow=21,SNR=3.8			S	**S**	**18 48 26.8**	**-5.3**
CMAR	**Chiang Mai Arr** 0.6nm,1.0s,baz=130,slow=7.3,SNR=4.1	**38.30**	**306**	P	**P**	**18 47 30.6**	**+0.5**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=111,slow=6.3,SNR=2.9	**65.80**	**326**	P	**P**	**18 50 54.4**	**0.0**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=110,slow=6.3,SNR=3.0	**68.84**	**333**	P	**P**	**18 51 14.3**	**+0.9**
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=127,slow=6.0,SNR=5.1	**70.00**	**328**	P	**P**	**18 51 21.1**	**+0.5**

*IDC **24** 18:45:39.9±1.3,6.17N×93.07E,h0km,mb3.8/8, mb1 4.0/10,mb1mx3.6/54,mbtmp3.9/10,ML4.0/2,MS3.4/3, Ms1 3.4/3,ms1mx2.9/33,Error ellipse: s-maj=56.8km s-min=15.7km az=61.0*
*ISCJB **24** 18:45:42.5±0.8,6.2N±0.1×93.2E±0.1,h27km,mb4.0/11, MS4.2/1,Error ellipse: s-maj=21.3km s-min=7.7km az=139.9*
*NEIC **24** 18:45:42.3±3.1,6.16N×93.07E,h18km±20km,mb4.5/3, Error ellipse: s-maj=11.5km s-min=6.3km az=224.0*

ISC 24 18:45:44.7±1.0,6.2N±0.1×93.4E±0.1,h27km,n33, σ1.9 92/27,mb4.2/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 3.2nm,0.3s,baz=333,slow=12,SNR=15	**6.50**	**121**	Pn	Pn	18 47 21.6	+2.9
PSI	comp=Z,265nm,18.1s,baz=282,slow=43			LR	LR	18 50 32.7	
KULM	**Kulim**	**7.32**	**97**	*e*Pn	**Pn**	**18 47 31.1**	**+1.3**
IPM	**Ipoh** 7.1nm,0.3s	**7.83**	**102**	*e*Pn	**Pn**	**18 47 38.7**	**+1.8**
IPM				*e*Sn	**Sn**	**18 49 01.9**	**-2.8**
PALK	**Pallekele**	**12.61**	**276**	*e*Pn	Pn	18 48 36.8	-5.7
PALK				*e*Sn	Sn	18 50 43.9	-18
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=230,slow=14,SNR=28	**13.34**	**24**	Pn	**Pn**	**18 48 54.3**	**+1.9**
CMAR	comp=Z,26nm,18.6s,baz=226,slow=38			LR	LR	18 54 05.6	
ODAN	**Odare** 12nm,0.5s	**21.31**	**345**	*e*P	P	18 50 35.5	+5.7
RAMN	**Ramite** 28nm,0.5s	**21.61**	**343**	*e*P	P	18 50 41.1	+8.1
TAPN	**Taplejung** 13nm,0.6s	**21.71**	**346**	*e*P	**P**	**18 50 34.2**	**+0.1**
JIRN	**Jiri**	**22.40**	**343**	*e*P	**P**	**18 50 43.7**	**+2.1**
PKI	**Pulchoki** 8.8nm,0.4s	**22.55**	**341**	*e*P	**P**	**18 50 47.7**	**+4.5**
PKIN	**Phulchoki** 9.1nm,0.5s	**22.56**	**341**	*e*P	**P**	**18 50 47.7**	**+4.5**
DMN	**Daman**	**22.69**	**341**	*e*P	P	18 50 50.0	+5.5
GUN	**Gumba** 13nm,0.6s	**22.73**	**343**	*e*P	**P**	**18 50 44.8**	**-0.2**
KKN	**Kakani**	**22.80**	**341**	*e*P	**P**	**18 50 48.9**	**+3.2**
LSA	**Lhasa**	**23.46**	**355**	P	**P**	**18 50 51.1**	**-1.6**
DANN	**Dangsing** 12nm,0.6s	**23.83**	**339**	*e*P	**P**	**18 50 57.2**	**+1.2**
H08S3	**Diego Garcia H** baz=56,slow=74,SNR=463	**24.94**	**237**	T	T	19 16 58.0	
H08S2	**Diego Garcia H** baz=56,slow=74,SNR=322	**24.95**	**237**	T	T	19 16 58.1	
H08S1	**Diego Garcia H** baz=56,slow=74,SNR=332	**24.96**	**237**	T	T	19 16 59.3	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=182,slow=7.2,SNR=6.7	**41.55**	**349**	P	**P**	**18 53 28.8**	**-1.1**
SONM	**Songino Array** 0.2nm,0.5s,baz=190,slow=7.3,SNR=2.4	**42.95**	**13**	P	**P**	**18 53 40.5**	**-1.0**
KURBB	**Kurchatov Arra** 0.5nm,0.6s,baz=173,slow=7.1,SNR=15	**45.98**	**347**	P	**P**	**18 54 04.8**	**-0.7**
KURK	**Kurchatov**	**46.04**	**347**	P	**P**	**18 54 04.8**	**-1.2**
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=304,slow=8.9,SNR=20	**47.96**	**124**	P	**P**	**18 54 21.8**	**+0.4**
WRA	0.8nm,1.0s,baz=303,slow=2.8,SNR=3.2			PcP	**PcP**	**18 55 49.7**	**+0.2**
WRAB	**Tennant Creek** 3.4nm,0.7s	**47.96**	**124**	*e*P	**P**	**18 54 22.3**	**+0.9**
ZALV	**Zalesovo Beam** 1.2nm,0.5s,baz=167,slow=9.0,SNR=9.1	**48.11**	**353**	P	**P**	**18 54 21.3**	**-0.7**
AS31	**Alice Springs**	**49.47**	**128**	*e*P	**P**	**18 54 33.8**	**+0.7**
ASAR	**Alice Springs** 2.1nm,0.7s,baz=301,slow=7.6,SNR=44	**49.47**	**128**	P	**P**	**18 54 33.9**	**+0.9**
ASAR	0.9nm,0.7s,baz=309,slow=3.4,SNR=6.7			PcP	**PcP**	**18 55 55.9**	**+0.9**
ABKAR	**Akbulak array** 0.7nm,0.5s	**51.33**	**332**	*e*P	**P**	**18 54 45.6**	**-1.0**
CTA	**Charters Tower** comp=Z,173nm,18.4s,baz=288,slow=40	**58.20**	**118**	LR	LR	19 24 53.0	
STKA	**Stephens Creek** 1.9nm,0.7s,baz=302,slow=14,SNR=3.1	**59.54**	**133**	P	**P**	**18 55 46.2**	**+0.2**
TIXI	**Tiksi** 3.5nm,0.4s	**69.01**	**11**	*e*P	**P**	**18 56 45.7**	**-1.7**
TIXI				*e*		18 56 56.6	
FINES	**FINESS Array B** 2.0nm,1.0s,baz=101,slow=9.9,SNR=3.6	**73.82**	**333**	P	**P**	**18 57 15.3**	**-1.2**

*IDC **24** 18:48:11.7±2.1,2.45N×96.72E,h0km,mb3.5/5,mb1 3.5/7, mb1mx3.3/47,mbtmp3.4/7,ML2.5/2,Error ellipse: s-maj=58.2km s-min=23.0km az=47.0*

ISC 24 18:48:19.2±2.9,2.8N±0.4×97.3E±0.6,h37km,n7,σ0.9 96/6, mb3.6/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.9nm,0.3s,baz=233,slow=5.1,SNR=3.1	**1.66**	**91**	Pn	Pn	18 48 50.1	+4.2
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=197,slow=9.1,SNR=3.7	**15.61**	**6**	Pn	**P**	**18 51 59.3**	**-1.1**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=299,slow=9.3,SNR=2.9	**42.86**	**124**	P	**P**	**18 56 14.1**	**-0.2**
SONM	**Songino Array** 0.7nm,0.8s,baz=194,slow=9.3,SNR=5.1	**45.52**	**9**	P	**P**	**18 56 36.3**	**+1.1**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=163,slow=8.5,SNR=8.0	**45.68**	**346**	P	**P**	**18 56 36.5**	**+0.1**
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=167,slow=7.1,SNR=4.1	**50.18**	**345**	P	**P**	**18 57 10.5**	**-0.5**
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=168,slow=7.4,SNR=4.3	**51.96**	**351**	P	**P**	**18 57 24.5**	**+0.1**

*IDC **24** 18:50:52.9±1.0,16.39S×173.40W,h0km,mb3.8/7, mb1 4.1/7,mb1mx3.8/37,mbtmp3.8/7,MS3.8/4,Ms1 3.8/4, ms1mx3.2/25,Error ellipse: s-maj=50.8km s-min=20.3km az=136.0*
*ISCJB **24** 18:50:56.8±0.9,16.4S±0.2×173.5W±0.2,h35km,mb3.8/7, MS3.9/3,Error ellipse: s-maj=40.0km s-min=17.1km az=44.2*

ISC 24 18:50:58.5±1.2,16.5S±0.3×173.4W±0.3,h35km,n17, σ0.5 59/7,mb3.8/7,MS3.8/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** comp=Z,186nm,19.1s,baz=31,slow=34	**19.81**	**251**	LR	LR	19 02 05.4	
URZ	**Urewera** 3.2nm,0.5s,baz=60,slow=3.2,SNR=9.9	**23.21**	**199**	P	**P**	**18 56 02.5**	**+0.1**
H11S2	**WAKE ISLAND Hy** baz=146	**39.92**	**330**	T	T	19 40 35.4	
H11S3	**WAKE ISLAND Hy** baz=146	**39.93**	**330**	T	T	19 40 39.0	
H11S1	**WAKE ISLAND Hy** baz=146	**39.94**	**330**	T	T	19 40 40.9	
H11N3	**WAKE ISLAND Hy** baz=153,SNR=9.9	**40.88**	**331**	T	T	19 41 46.3	
H11N1	**WAKE ISLAND Hy** baz=153,slow=74,SNR=12	**40.88**	**331**	T	T	19 41 52.0	
H11N2	**WAKE ISLAND Hy** baz=153,slow=74,SNR=10.0	**40.90**	**331**	T	T	19 41 49.7	
STKA	**Stephens Creek** 4.2nm,1.0s,baz=84,slow=9.2,SNR=3.1	**43.49**	**241**	P	**P**	**18 58 58.5**	**-0.2**
STKA	comp=Z,125nm,19.3s,baz=357,slow=34			LR	LR	19 15 45.4	
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=94,slow=7.0,SNR=2.9	**49.60**	**258**	P	**P**	**18 59 46.8**	**0.0**
ASAR	**Alice Springs** 2.1nm,0.7s,baz=89,slow=8.3,SNR=47	**49.78**	**253**	P	**P**	**18 59 48.0**	**-0.1**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=235,slow=6.8,SNR=3.1	**75.15**	**42**	P	**P**	**19 02 37.3**	**-0.3**
PDAR	**Pinedale Array** 0.6nm,0.6s,baz=198,slow=2.7,SNR=3.6	**83.09**	**42**	P	**P**	**19 03 20.7**	**-0.2**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=219,slow=6.6,SNR=4.7	**83.53**	**11**	P	P	19 03 20.8	-1.7
PSI	**Prapat** comp=Z,254nm,21.7s,baz=68,slow=35	**88.56**	**273**	LR	LR	19 42 06.3	
CMAR	**Chiang Mai Arr** comp=Z,7.4nm,18.4s,baz=15,slow=35	**92.97**	**288**	LR	LR	19 45 04.7	
BRTR	**Keskin Array B** 0.7nm,0.9s,baz=64,slow=3.4,SNR=2.8	**147.01**	**320**	PKPbc	**PKPdf**	**19 10 37.1**	**+1.1**

*IDC **24** 18:51:52.4±1.0,34.36N×24.94E,h0km,mb3.8/11, mb1 3.8/15,mb1mx3.7/49,mbtmp3.8/15,ML4.2/3,Error ellipse: s-maj=18.3km s-min=17.2km az=151.0*
*ISCJB **24** 18:51:55.4±0.4,34.20N±0.03×25.04E±0.04,h46km±6km, mb3.6/11,Error ellipse: s-maj=5.8km s-min=3.7km az=153.5*
*CSEM **24** 18:51:55.4±0.2,34.25N×25.00E,h20km,MD3.7,Error ellipse: s-maj=6.1km s-min=3.6km az=60.0*
*ATH **24** 18:51:56.7,34.39N×25.00E,h31km±1km,MD3.7/10*
*HLW **24** 18:51:57.7,34.31N×25.15E,h34km±29km,MI3.3*

ISC 24 18:51:55.5±1.2,34.26N±0.03×25.05E±0.03,h26km±9km, n93,σ1.9 32/108,mb3.7/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.78**	**345**	*e*PN	**Pb**	**18 52 09.9**	**-0.5**
SIVA				*e*SN	**Sb**	**18 52 19.5**	**-1.1**
SIVA	**Sivas**	**0.78**	**345**	*e*Pn	**Pb**	**18 52 09.9**	**-0.5**
LAST	**Lasithi**	**0.96**	**21**	*e*PN	**Pn**	**18 52 13.4**	**0.0**
LAST				*e*SN	**Sn**	**18 52 26.2**	**-0.1**
LAST	**Lasithi**	**0.96**	**21**	*e*Pn	**Pn**	**18 52 13.4**	**0.0**
LAST				*e*Sn	**Sn**	**18 52 26.2**	**-0.1**
GVD	**Gavdhos**	**0.98**	**306**	*e*PN	**Pn**	**18 52 13.7**	**+0.1**
GVD				*e*SN	**Sb**	**18 52 26.3**	**-0.1**
GVD	**Gavdhos**	**0.98**	**306**	*e*Pn	**Pn**	**18 52 13.7**	**+0.1**
GVD				*e*Sn	**Sb**	**18 52 26.3**	**-0.1**
IDI	**Anoyia** 32nm,0.3s,baz=178,slow=12,SNR=234	**1.03**	**353**	Pn	**Pn**	**18 52 14.0**	**-0.3**
IDI	41nm,0.3s,baz=131,slow=20,SNR=9.7			Sn	**Sn**	**18 52 28.7**	**+0.8**
NPS	**Neapolis**	**1.10**	**25**	*e*PN	**Pb**	**18 52 15.6**	**-0.3**
NPS				*e*SN	**Sn**	**18 52 29.0**	**-0.5**
NPS	**Neapolis**	**1.10**	**25**	*e*Pn	**Pb**	**18 52 15.6**	**-0.3**
NPS				*e*Sn	**Sn**	**18 52 29.0**	**-0.5**
ZKR	**Zakros**	**1.28**	**48**	*e*PN	**Pb**	**18 52 19.6**	**+0.6**
ZKR				*e*SN	**Sb**	**18 52 36.3**	**+1.3**
ZKR	**Zakros**	**1.28**	**48**	*e*Pn	**Pb**	**18 52 19.6**	**+0.6**
ZKR				*e*Sn	**Sb**	**18 52 36.3**	**+1.3**
VAM	**Vamos**	**1.34**	**329**	*e*PB	**Pn**	**18 52 18.3**	**-0.2**
VAM	**Vamos**	**1.34**	**329**	*e*Pb	**Pn**	**18 52 18.3**	**-0.2**
KARN	**Karanos**	**1.47**	**321**	*e*PN	**Pb**	**18 52 21.6**	**-0.6**
KARN	**Karanos**	**1.47**	**321**	*e*Pn	**Pb**	**18 52 21.6**	**-0.6**
ANKY	**Antikythira Is**	**2.15**	**319**	*e*PB	**Pn**	**18 52 31.3**	**+1.7**
ANKY	**Antikythira Is**	**2.15**	**319**	*e*Pb	**Pn**	**18 52 31.3**	**+1.7**
KARP	**Karpathos**	**2.16**	**53**	*e*PB	**Pb**	**18 52 33.1**	**-0.7**
KARP	**Karpathos**	**2.16**	**53**	*e*Pb	**Pb**	**18 52 33.1**	**-0.7**
KYTH	**Kithira**	**2.60**	**321**	*e*PN	**Pn**	**18 52 37.5**	**+1.6**
KYTH	**Kithira**	**2.60**	**321**	*e*Pn	**Pn**	**18 52 37.5**	**+1.6**
APE	**Apeiranthos**	**2.83**	**8**	*e*PN	**Pn**	**18 52 39.9**	**+0.9**
APE	**Apeiranthos**	**2.83**	**8**	*e*Pn	**Pn**	**18 52 39.9**	**+0.9**
VLI	**Veliai**	**3.00**	**325**	*e*PN	**Pn**	**18 52 42.5**	**+1.2**
VLI	**Veliai**	**3.00**	**325**	*e*Pn	**Pn**	**18 52 42.5**	**+1.2**
ARG	**Arkhangelos**	**3.18**	**51**	*e*PN	**Pn**	**18 52 45.9**	**+2.1**
ARG	**Arkhangelos**	**3.18**	**51**	*e*Pn	**Pn**	**18 52 45.9**	**+2.1**
DAT	**Datca**	**3.21**	**39**	*e*PN	**Pn**	**18 52 45.6**	**+1.3**
DAT	**Datca**	**3.21**	**39**	*e*Pn	**Pn**	**18 52 45.6**	**+1.3**
BODT	**Bodrum**	**3.34**	**33**	*e*PN	**Pn**	**18 52 47.5**	**+1.5**
BODT	**Bodrum**	**3.34**	**33**	*e*Pn	**Pn**	**18 52 47.5**	**+1.5**
HMAT	**Matruh** baz=152	**3.60**	**151**	P	**Pn**	**18 52 50.8**	**+1.3**
HMAT	baz=152			S	**Sn**	**18 53 30.2**	**-1.0**
HMAT	**Matruh**	**3.60**	**151**	P	**Pn**	**18 52 50.8**	**+1.3**
HMAT				S	**Sn**	**18 53 30.2**	**-1.0**
SMG	**Samos**	**3.73**	**22**	*e*PN	**Pn**	**18 52 52.7**	**+1.3**
SMG	**Samos**	**3.73**	**22**	*e*Pn	**Pn**	**18 52 52.7**	**+1.3**
VLX	**Vlachokerasia**	**3.79**	**326**	*e*PN	**Pn**	**18 52 53.5**	**+1.3**
VLX	**Vlachokerasia**	**3.79**	**326**	*e*Pn	**Pn**	**18 52 53.5**	**+1.3**
DALY	**Dalyan (Mu˘la**	**3.89**	**48**	*e*PN	**Pn**	**18 52 55.6**	**+2.1**
DALY	**Dalyan (Mu˘la**	**3.89**	**48**	*e*Pn	**Pn**	**18 52 55.6**	**+2.1**
YER	**Yerkesik**	**3.89**	**42**	*e*PN	**Pn**	**18 52 55.0**	**+1.4**
YER	**Yerkesik**	**3.89**	**42**	*e*Pn	**Pn**	**18 52 55.0**	**+1.4**
PTL	**Penteli**	**3.90**	**346**	*e*PN	**Pn**	**18 52 54.3**	**+0.6**
PTL	**Penteli**	**3.90**	**346**	*e*Pn	**Pn**	**18 52 54.3**	**+0.6**
FETY	**Fethiye**	**4.05**	**53**	*e*PN	**Pn**	**18 52 57.6**	**+1.8**
FETY	**Fethiye**	**4.05**	**53**	*e*Pn	**Pn**	**18 52 57.6**	**+1.8**
GUR	**Goura**	**4.27**	**330**	*e*PN	**Pn**	**18 53 00.5**	**+1.6**
GUR	**Goura**	**4.27**	**330**	*e*Pn	**Pn**	**18 53 00.5**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**4.33**	**31**	*e*PN	**Pn**	**18 53 01.9**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**4.33**	**31**	*e*Pn	**Pn**	**18 53 01.9**	**+2.1**
ELL	**Elmali**	**4.67**	**57**	*e*PN	**Pn**	**18 53 06.9**	**+2.5**
ELL	**Elmali**	**4.67**	**57**	*e*Pn	**Pn**	**18 53 06.9**	**+2.5**
SWA2	baz=176	**5.02**	**176**	P	**Pn**	**18 53 10.4**	**+1.4**
SWA2	comp=E,50μm,0.2s,logA/T=5.3,baz=176			AMP		18 54 00.0	
SWA2	baz=176			S	**Sn**	**18 54 05.5**	**-0.6**
SWA2		**5.02**	**176**	P	**Pn**	**18 53 10.4**	**+1.4**
SWA2				S	**Sn**	**18 54 05.5**	**-0.6**
HBRG	**Burj al 'Arab** baz=131	**5.47**	**131**	P	**Pn**	**18 53 16.1**	**+0.9**
HNAT	**Natroun** baz=133	**6.61**	**133**	P	**Pn**	**18 53 31.7**	**+0.8**
HNAT	**Natroun**	**6.61**	**133**	P	**Pn**	**18 53 31.7**	**+0.8**
AWBH		**6.78**	**150**	P	**Pn**	**18 53 33.9**	**+0.7**
AWBH	baz=150	**6.78**	**150**	P	**Pn**	**18 53 33.9**	**+0.7**
AWBH		**6.78**	**150**	P	**Pn**	**18 53 33.9**	**+0.7**
GLL	**Jalalah** baz=128	**7.33**	**128**	P	**Pn**	**18 53 41.9**	**+1.0**
GLL	**Jalalah**	**7.33**	**128**	P	**Pn**	**18 53 41.9**	**+1.0**
HHAG	**Hagoal** baz=124	**7.36**	**124**	P	**Pn**	**18 53 41.8**	**+0.5**
HHAG	**Hagoal**	**7.36**	**124**	P	**Pn**	**18 53 41.8**	**+0.5**
HFRF	**Wahat Farafira** baz=158	**7.62**	**158**	P	**Pn**	**18 53 45.7**	**+0.8**
HFRF	**Wahat Farafira**	**7.62**	**158**	P	**Pn**	**18 53 45.7**	**+0.8**
NBNS	**Bani Suef** baz=135	**7.75**	**135**	P	**Pn**	**18 53 48.0**	**+1.5**
NBNS	baz=135			S	**Sn**	**18 55 10.3**	**-3.1**
NBNS	**Bani Suef**	**7.75**	**135**	P	**Pn**	**18 53 48.0**	**+1.5**
AMAG	**Maghara** baz=116	**7.78**	**115**	P	**Pn**	**18 53 47.1**	**+0.1**
AMAG	**Maghara**	**7.78**	**115**	P	**Pn**	**18 53 47.1**	**+0.1**
RSH	baz=112	**8.02**	**112**	P	**Pn**	**18 53 49.9**	**-0.4**
RSH		**8.02**	**112**	P	**Pn**	**18 53 49.9**	**-0.4**
HNKL	**Nakhl** baz=117	**8.72**	**117**	P	**Pn**	**18 54 00.0**	**+0.1**
HNKL	**Nakhl**	**8.72**	**117**	P	**Pn**	**18 54 00.0**	**+0.1**
MMAI	**Mount Meron Ar** comp=E,1.0nm,0.3s,baz=304,slow=10,SNR=3.9	**8.72**	**95**	Pn	**Pn**	**18 54 00.0**	**+0.1**
MMAI	comp=E,3.1nm,0.3s,baz=274,slow=22,SNR=6.0			Sn	**Sn**	**18 55 32.9**	**-4.6**
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=220,slow=14,SNR=5.5	**8.77**	**49**	Pn	Pn	18 54 04.5	+3.9
SHRM	baz=127	**10.04**	**127**	P	**Pn**	**18 54 18.6**	**+0.5**
SHRM		**10.04**	**127**	P	**Pn**	**18 54 18.6**	**+0.5**
ASF	**Jabal al Asfar** comp=E,0.3nm,0.3s,baz=348,slow=1.1,SNR=1.9	**10.14**	**99**	Sn	**Sn**	**18 56 08.0**	**-4.3**
AKASG	**Malin Array Be** comp=E,1.3nm,0.3s,baz=201,slow=11,SNR=12	**16.71**	**9**	Pn	**Pn**	**18 55 46.8**	**-0.8**
KBZ	**Khabaz** comp=E,0.1nm,0.3s,baz=233,slow=20,SNR=2.2	**16.76**	**50**	Pn	**Pn**	**18 55 47.5**	**-0.8**
GERES	**GERESS Array B** comp=E,0.5nm,0.3s,baz=148,slow=11,SNR=18	**16.84**	**333**	Pn	**Pn**	**18 55 48.9**	**-0.5**
ESDC	**Sonseca Array** comp=E,0.1nm,0.3s,baz=88,slow=9.2,SNR=4.7	**23.75**	**292**	P	**P**	**18 57 05.5**	**-0.2**
HFS	**Hagfors** comp=E,0.4nm,0.4s,baz=162,slow=10,SNR=6.1	**26.93**	**347**	P	**P**	**18 57 32.6**	**-1.7**
FINES	**FINESS Array B** comp=E,1.4nm,0.8s,baz=148,slow=15,SNR=3.6	**27.21**	**1**	P	**P**	**18 57 35.9**	**-0.8**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.7s,baz=156,slow=9.3	**28.24**	**346**	P	**P**	**18 57 45.6**	**-0.5**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.7s,baz=156,slow=9.0,SNR=2.9	**28.24**	**346**	P	**P**	**18 57 45.6**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.2nm,0.4s,baz=147,slow=8.7,SNR=6.4	**28.24**	**346**	P	**P**	**18 57 45.1**	**-1.0**
EKA	**Eskdalemuir Ar** comp=Z,0.2nm,0.3s,baz=126,slow=7.3,SNR=5.2	**28.73**	**326**	P	**P**	**18 57 49.0**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.5s,baz=35,slow=8.6,SNR=14	**29.85**	**231**	P	**P**	**18 58 02.5**	**+1.8**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=264,slow=13,SNR=13	**44.35**	**56**	P	**P**	**19 00 04.8**	**+1.4**
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.4s,baz=270,slow=9.2,SNR=13	**45.69**	**46**	P	**P**	**19 00 14.2**	**+0.3**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=275,slow=7.2,SNR=6.1	**60.12**	**50**	P	**P**	**19 02 02.0**	**+1.3**
SCHQ	**Schefferville** comp=Z,2.4nm,0.8s,baz=66,slow=5.1,SNR=6.6	**63.81**	**320**	P	**P**	**19 02 25.4**	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,0.7nm,0.5s,baz=306,slow=4.0,SNR=4.6	**77.54**	**45**	P	**P**	**19 03 49.5**	**+0.7**

*IDC **24** 18:58:25.0±1.4,11.01S×165.56E,h0km,mb3.8/7, mb1 4.1/8,mb1mx3.8/34,mbtmp3.9/8,ML4.2/1,Error ellipse: s-maj=43.4km s-min=24.3km az=123.0*
*ISCJB **24** 18:58:27.2±1.1,11.31S±0.09×165.7E±0.1,h30km, mb3.8/6,Error ellipse: s-maj=21.6km s-min=10.8km az=161.8*

ISC 24 18:58:29.2±1.2,11.2S±0.1×165.7E±0.2,h30km,n15, σ1.9 27/11,mb3.9/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.91**	**287**	P	**Pn**	**18 59 54.0**	**-0.7**
DZM	**Mont Dzumac** 1.9nm,0.3s,baz=301,slow=8.4,SNR=24	**10.82**	**176**	Pn	**Pn**	**19 01 03.1**	**+0.9**
DZM	0.1nm,0.3s,baz=315,slow=18,SNR=2.3			Sn	**Sn**	**19 03 00.1**	**-2.3**
CTA	**Charters Tower** 3.8nm,1.0s,baz=63,slow=14,SNR=2.4	**20.66**	**242**	P	**P**	**19 03 07.5**	**+0.8**
H11S2	**WAKE ISLAND Hy** baz=181,slow=74,SNR=12	**29.54**	**2**	T	T	19 35 06.6	
H11S3	**WAKE ISLAND Hy** baz=181	**29.54**	**2**	T	T	19 35 07.2	
H11S1	**WAKE ISLAND Hy** baz=181,slow=74,SNR=4.4	**29.55**	**2**	T	T	19 35 07.4	
STKA	**Stephens Creek** 3.4nm,1.0s,baz=34,slow=8.9,SNR=3.7	**30.27**	**224**	P	**P**	**19 04 39.3**	**+1.6**
H11N1	**WAKE ISLAND Hy** baz=187	**30.76**	**2**	T	T	19 36 34.8	
H11N3	**WAKE ISLAND Hy** baz=187	**30.76**	**2**	T	T	19 36 34.8	
H11N2	**WAKE ISLAND Hy** baz=187	**30.77**	**2**	T	T	19 36 35.6	
WRA	**Warramunga Arr** 1.7nm,0.8s,baz=82,slow=9.1,SNR=16	**31.36**	**250**	P	**P**	**19 04 47.5**	**0.0**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=65,slow=11,SNR=13	**32.65**	**243**	P	**P**	**19 04 58.0**	**-0.8**
ASAR	0.3nm,0.9s,baz=66,slow=2.7,SNR=3.3			PcP	**PcP**	**19 07 45.8**	**+1.2**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=127,slow=5.8,SNR=5.3	**72.11**	**294**	P	**P**	**19 09 50.2**	**-1.1**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=240,slow=5.3,SNR=9.4	**83.70**	**19**	P	**P**	**19 10 54.4**	**-0.4**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=96,slow=1.4,SNR=2.7	**93.59**	**317**	P	**P**	**19 11 42.7**	**+0.1**

IDC 24 19:00:56.3±1.3,28.27N×101.95E,h0km,mb3.5/3, mb1 3.5/5,mb1mx3.2/38,mbtmp3.3/5,ML3.3/2,MS3.4/3, Ms1 3.4/3,ms1mx2.7/36,Error ellipse: s-maj=53.8km s-min=22.5km az=72.0,Sichuan

| Code | Station Name

KLV				S	Sg	19 22 40.9	+0.8
GUR	**Goura**	0.23	69	P	Pg	19 22 37.8	+0.1
GUR				S	Sg	19 22 40.9	-0.1
GUR	**Goura**	0.23	69	*e*PG	Pg	19 22 37.8	+0.1
GUR				*e*SG	Sg	19 22 40.9	-0.1
GUR	**Goura**	0.23	69	P	Pg	19 22 37.8	+0.1
GUR				S	Sg	19 22 40.9	-0.1
DRO	**Drossia**	0.30	289	P	Pg	19 22 39.0	0.0
DRO				S	Sg	19 22 43.7	+0.6
DRO	**Drossia**	0.30	289	*e*PB	Pg	19 22 39.1	0.0
DRO				*e*SB	Sg	19 22 43.9	+0.8
DRO	**Drossia**	0.30	289	P	Pg	19 22 39.0	0.0
DRO				S	Sg	19 22 43.7	+0.6
AMT	**Artemida-Makis**	0.43	222	P	Pg	19 22 41.7	+0.2
AMT				S	Sg	19 22 48.2	+1.0
AMT	**Artemida-Makis**	0.43	222	*e*PB	Pg	19 22 41.7	+0.2
AMT				*e*SB	Sg	19 22 47.4	+0.2
AMT	**Artemida-Makis**	0.43	222	P	Pg	19 22 41.7	+0.2
AMT				*e*Sb	Sg	19 22 47.4	+0.2
AMT				S	Sg	19 22 48.2	+1.0
UPR	**University Cam**	0.48	332	P	Pg	19 22 42.8	+0.4
UPR	**University Cam**	0.48	332	P	Pg	19 22 42.8	+0.4
RLS	**Riolos of Patr**	0.52	293	P	Pg	19 22 42.6	-0.5
RLS				S	Sg	19 22 50.8	+0.9
RLS	**Riolos of Patr**	0.52	293	*e*PB	Pg	19 22 42.5	-0.5
RLS				*e*SB	Sb	19 22 51.1	-0.6
RLS	**Riolos of Patr**	0.52	293	P	Pg	19 22 42.6	-0.5
RLS				S	Sg	19 22 50.8	+0.9
RLS				*e*Sb	Sb	19 22 51.1	-0.6
KALE	**Kalithea**	0.54	6	P	Pg	19 22 43.6	+0.2
KALE				S	Sb	19 22 51.9	-0.3
KALE	**Kalithea**	0.54	6	*e*PB	Pg	19 22 43.6	+0.2
KALE				*e*SB	Sg	19 22 51.3	+0.8
KALE	**Kalithea**	0.54	6	P	Pg	19 22 43.6	+0.2
KALE				*e*Sb	Sg	19 22 51.3	+0.8
KALE				S	Sb	19 22 51.9	-0.3
VLX	**Vlachokerasia**	0.54	153	P	Pg	19 22 43.3	-0.2
VLX				S	Sg	19 22 50.8	+0.1
VLX	**Vlachokerasia**	0.54	153	*e*PB	Pg	19 22 43.4	-0.1
VLX				*e*SB	Sg	19 22 51.1	+0.4
VLX	**Vlachokerasia**	0.54	153	*e*Pb	Pg	19 22 43.4	-0.1
VLX				S	Sg	19 22 50.8	+0.1
VLX				*e*Sb	Sg	19 22 51.1	+0.4
EFP	**Efpalio**	0.58	347	P	Pg	19 22 44.5	+0.2
EFP				S	Sb	19 22 53.1	-0.4
EFP	**Efpalio**	0.58	347	*e*PB	Pg	19 22 44.5	+0.2
EFP				*e*SB	Sb	19 22 53.2	-0.3
EFP	**Efpalio**	0.58	347	P	Pg	19 22 44.5	+0.2
EFP				*e*Sb	Sb	19 22 53.2	-0.3
ITM	**Ithomi**	0.69	190	P	Pg	19 22 45.8	-0.4
ITM				S	Sb	19 22 56.2	-0.2
ITM	**Ithomi**	0.69	190	*e*PB	Pg	19 22 45.8	-0.4
ITM				*e*SB	Sb	19 22 56.2	-0.2
ITM	**Ithomi**	0.69	190	P	Pg	19 22 45.8	-0.4
ITM				S	Sb	19 22 56.2	-0.2
LTK	**Loutraki**	0.73	77	P	Pg	19 22 46.6	-0.4
LTK	**Loutraki**	0.73	77	*e*PB	Pg	19 22 46.7	-0.3
LTK				*e*SB	Sg	19 22 57.1	+0.6
LTK	**Loutraki**	0.73	77	P	Pg	19 22 46.6	-0.4
LTK				*e*Sb	Sg	19 22 57.1	+0.6
PVO	**Paravola**	0.87	331	P	Pb	19 22 50.1	0.0
PVO	**Paravola**	0.87	331	P	Pb	19 22 50.1	0.0
PYL	**PYLOS**	0.99	195	P	Pg	19 22 51.1	-1.0
PYL				S	Sn	19 23 06.7	-0.2
PYL	**PYLOS**	0.99	195	*e*PG	Pg	19 22 51.3	-0.8
PYL				*e*SB	Sb	19 23 05.6	+0.3
PYL	**PYLOS**	0.99	195	*e*Pg	Pg	19 22 51.3	-0.8
PYL				*e*Sb	Sb	19 23 05.6	+0.3
PYL				S	Sn	19 23 06.7	-0.2
AXAR	**Agios Charalam**	1.02	27	P	Pg	19 22 52.3	-0.3
AXAR				S	Sn	19 23 07.7	+0.1
AXAR	**Agios Charalam**	1.02	27	*e*PB	Pg	19 22 52.2	-0.3
AXAR				*e*SB	Sn	19 23 07.1	-0.5
AXAR	**Agios Charalam**	1.02	27	P	Pg	19 22 52.3	-0.3
AXAR				*e*Sb	Sn	19 23 07.1	-0.5
AXAR				S	Sn	19 23 07.7	+0.1
PDO	**Prodromos**	1.02	317	P	Pg	19 22 52.0	-0.6
PDO	**Prodromos**	1.02	317	*e*PB	Pg	19 22 52.4	-0.2
PDO				*e*SB	Sn	19 23 07.1	-0.5
PDO	**Prodromos**	1.02	317	P	Pg	19 22 52.0	-0.6
PDO	**Prodromos**	1.02	317	*e*Pb	Pg	19 22 52.4	-0.2
PDO				*e*Sb	Sn	19 23 07.1	-0.5
KFL	**Anninata**	1.05	284	P	Pg	19 22 52.5	-0.6
KFL	**Anninata**	1.05	284	P	Pg	19 22 52.5	-0.6
LKR	**Lokris**	1.08	42	P	Pg	19 22 52.9	-0.7
LKR	**Lokris**	1.08	42	*e*PB	Pb	19 22 52.9	-0.7
LKR				*e*SB	Sb	19 23 07.9	+0.2
LKR	**Lokris**	1.08	42	P	Pb	19 22 52.9	-0.7
LKR				*e*Sb	Sb	19 23 07.9	+0.2
EVR	**Evrytania**	1.08	349	P	Pb	19 22 53.7	0.0
EVR	**Evrytania**	1.08	349	*e*PN	Pb	19 22 53.4	-0.3
EVR				*e*SB	Sb	19 23 08.2	+0.3
EVR	**Evrytania**	1.08	349	*e*Pn	Pb	19 22 53.4	-0.3
EVR	**Evrytania**	1.08	349	P	Pb	19 22 53.7	0.0
EVR				*e*Sb	Sb	19 23 08.2	+0.3
MAKR	**Makrakomi, Fth**	1.16	2	P	Pg	19 22 55.3	+0.1
MAKR				S	Sn	19 23 12.1	+1.1
MAKR	**Makrakomi, Fth**	1.16	2	*e*PB	Pg	19 22 55.6	+0.4
MAKR				*e*SB	Sn	19 23 11.3	+0.3
MAKR	**Makrakomi, Fth**	1.16	2	P	Pg	19 22 55.3	+0.1
MAKR	**Makrakomi, Fth**	1.16	2	*e*Pb	Pg	19 22 55.6	+0.4
MAKR				*e*Sb	Sn	19 23 11.3	+0.3
MAKR				S	Sn	19 23 12.1	+1.1
AGG	**Agios Georgios**	1.18	10	P	Pb	19 22 55.1	-0.3
AGG	**Agios Georgios**	1.18	10	*e*P	Pb	19 22 55.4	0.0
AGG	**Agios Georgios**	1.18	10	*e*PB	Pb	19 22 55.5	0.0
AGG				*e*SB	Sn	19 23 12.4	+0.8
AGG	**Agios Georgios**	1.18	10	P	Pb	19 22 55.1	-0.3
AGG	**Agios Georgios**	1.18	10	*e*Pb	Pb	19 22 55.5	0.0
AGG				*e*Sb	Sn	19 23 12.4	+0.8
VLS	**Valsamata**	1.21	286	P	Pn	19 22 55.1	-0.8
VLS	**Valsamata**	1.21	286	*e*PN	Pn	19 22 55.1	-0.8
VLS				*e*SB	Sn	19 23 13.6	+1.2
VLS	**Valsamata**	1.21	286	P	Pn	19 22 55.1	-0.8
VLS				*e*Sb	Sn	19 23 13.6	+1.2
ATH	**Athens Observa**	1.30	84	P	Pg	19 22 58.1	+0.1
ATH				S	Sg	19 23 17.0	+2.0
ATH	**Athens Observa**	1.30	84	*e*PB	Pg	19 22 57.8	-0.2
ATH				*e*SB	Sg	19 23 15.4	+0.4
ATH	**Athens Observa**	1.30	84	*e*Pb	Pg	19 22 57.8	-0.2
ATH	**Athens Observa**	1.30	84	P	Pg	19 22 57.8	-0.1
ATH				*e*Sb	Sg	19 23 15.4	+0.4
ATH				S	Sg	19 23 17.0	+2.0
VLI	**Veliai**	1.33	148	P	Pn	19 22 57.5	0.0
VLI	**Veliai**	1.33	148	*e*PB	Pb	19 22 58.0	+0.1
VLI				*e*SB	Sg	19 23 16.5	+0.8
VLI	**Veliai**	1.33	148	P	Pn	19 22 57.5	0.0
VLI	**Veliai**	1.33	148	*e*Pb	Pb	19 22 58.0	+0.1
VLI				*e*Sb	Sg	19 23 16.5	+0.8
SMIA	**Simia**	1.36	41	*e*PB	Pg	19 22 59.1	+0.1
SMIA	**Simia**	1.36	41	*e*Pb	Pg	19 22 59.1	+0.1
ATHU	**Athens Univers**	1.36	85	P	Pn	19 22 58.1	+0.2
ATHU	**Athens Univers**	1.36	85	P	Pn	19 22 58.1	+0.2
PTL	**Penteli**	1.43	82	P	Pb	19 22 59.5	-0.1
PTL	**Penteli**	1.43	82	*e*PB	Pb	19 22 59.5	-0.1
PTL	**Penteli**	1.43	82	P	Pb	19 22 59.5	-0.1
MRKA	**Markates**	1.46	54	P	Pn	19 22 59.6	+0.2
MRKA	**Markates**	1.46	54	*e*PG	Pn	19 22 59.7	+0.3
MRKA	**Markates**	1.46	54	P	Pn	19 22 59.6	+0.2
DSL	**Palaion Diasel**	1.49	329	P	Pb	19 23 00.7	0.0
DSL	**Palaion Diasel**	1.49	329	*e*PB	Pg	19 23 01.3	-0.2
DSL	**Palaion Diasel**	1.49	329	P	Pb	19 23 00.7	0.0
DSL	**Palaion Diasel**	1.49	329	*e*Pb	Pg	19 23 01.3	-0.2
SKIA	**Skiathos**	1.70	39	*e*PG	Pb	19 23 03.8	-0.5
SKIA	**Skiathos**	1.70	39	*e*Pg	Pb	19 23 03.8	-0.5
NEO	**Neokhori**	1.71	32	*e*PG	Pn	19 23 03.3	+0.6
NEO	**Neokhori**	1.71	32	*e*Pg	Pn	19 23 03.3	+0.6
THL	**Klokotos Trika**	1.71	358	P	Pb	19 23 04.4	+0.1
THL	**Klokotos Trika**	1.71	358	*e*PG	Pb	19 23 04.6	+0.3
THL	**Klokotos Trika**	1.71	358	*e*Pg	Pb	19 23 04.6	+0.3
XOR	**Xorichti**	1.74	30	P	Pn	19 23 03.7	+0.5
XOR	**Xorichti**	1.74	30	*e*PB	Pn	19 23 03.7	+0.5
XOR	**Xorichti**	1.74	30	P	Pn	19 23 03.7	+0.5
KYTH	**Kithira**	1.75	154	*e*PN	Pg	19 23 06.1	-0.4
AOS	**Alonnisos**	1.93	47	P	Pn	19 23 06.3	+0.5
AOS	**Alonnisos**	1.93	47	*e*P	Pn	19 23 04.0	-1.8
AOS	**Alonnisos**	1.93	47	*e*PG	Pn	19 23 06.9	+1.1
AOS	**Alonnisos**	1.93	47	P	Pn	19 23 06.3	+0.5
JAN	**Janina**	2.04	332	*e*PG	Pg	19 23 11.3	-0.7
JAN	**Janina**	2.04	332	*e*Pg	Pg	19 23 11.3	-0.7
IGT	**Igoumenitsa**	2.16	321	*e*P	Pg	19 23 15.7	+1.4
IGT	**Igoumenitsa**	2.16	321	*e*PG	Pb	19 23 13.1	+1.0
IGT	**Igoumenitsa**	2.16	321	*e*Pg	Pb	19 23 13.1	+1.0
ANKY	**Antikythira Is**	2.22	153	*e*PG	Pb	19 23 13.5	+0.5
ANKY	**Antikythira Is**	2.22	153	*e*Pg	Pb	19 23 13.5	+0.5
LIT	**Litokhoron**	2.26	8	*e*PN	Pb	19 23 13.1	-0.8
LIT	**Litokhoron**	2.26	8	*e*Pn	Pb	19 23 13.1	-0.8
NEST	**Nestorio**	2.68	343	*e*PG	Pb	19 23 21.5	+0.6
HORT	**Hortiatis**	2.85	16	*e*P	Pn	19 23 18.5	0.0
HORT	**Hortiatis**	2.85	16	*e*P	Pn	19 23 18.5	0.0
APE	**Apeiranthos**	2.86	105	*e*PB	Pn	19 23 20.3	+1.7
KARN	**Karanos**	2.86	148	*e*PN	Pb	19 23 22.0	-2.1
OUR	**Ouranopolis**	2.89	30	*e*P	Pn	19 23 17.3	-1.6
OUR	**Ouranopolis**	2.89	30	*e*P	Pn	19 23 17.3	-1.6
FNA	**Florina**	2.97	350	*e*P	Pb	19 23 23.7	-2.3
FNA	**Florina**	2.97	350	*e*PN	Pb	19 23 23.5	-2.5
FNA	**Florina**	2.97	350	*e*P	Pb	19 23 23.7	-2.3
GRG	**Griva**	3.11	5	*e*P	Pn	19 23 23.6	+1.6
GRG	**Griva**	3.11	5	*e*PN	Pb	19 23 25.6	-2.6
GRG	**Griva**	3.11	5	*e*P	Pn	19 23 23.6	+1.6
LIA	**Limnos Island**	3.17	49	*e*PB	Pn	19 23 24.9	+2.1
CHOS	**Chios island**	3.19	79	P	Pn	19 23 23.9	+0.8
CHOS	**Chios island**	3.19	79	*e*P	Pn	19 23 21.8	-1.3
CHOS	**Chios island**	3.19	79	P	Pn	19 23 23.9	+0.8
SIGR	**SIGRI**	3.26	64	*e*P	Pn	19 23 22.7	-1.3
SIGR	**SIGRI**	3.26	64	*e*P	Pn	19 23 22.7	-1.3
KNT	**Kendrikon**	3.36	11	*e*P	Pn	19 23 26.3	+0.9
KNT	**Kendrikon**	3.36	11	*e*PB	Pb	19 23 29.7	-2.9
KNT	**Kendrikon**	3.36	11	*e*P	Pn	19 23 26.3	+0.9
SMG	**Samos**	3.78	91	*e*PN	Pn	19 23 33.0	+1.8
SMG	**Samos**	3.78	91	*e*Pn	Pn	19 23 33.0	+1.8
GADA	**Gvkgeada**	3.78	51	*e*P	Pn	19 23 29.3	-1.9
GADA	**Gvkgeada**	3.78	51	*e*P	Pn	19 23 29.3	-1.9
NPS	**Neapolis**	3.85	131	*e*PN	Pn	19 23 35.6	+3.4
GELI	**Tayfur-Gelibol**	4.26	52	*e*P	Pn	19 23 35.9	-1.9
GELI	**Tayfur-Gelibol**	4.26	52	*e*P	Pn	19 23 35.9	-1.9
KARP	**Karpathos**	4.69	118	*e*PN	Pn	19 23 46.2	+2.4
KRBG	**Karabiga-Canak**	4.79	56	*e*P	Pn	19 23 43.8	-1.2
KRBG	**Karabiga-Canak**	4.79	56	*e*P	Pn	19 23 43.8	-1.2
RKY	**Sarkoy-Tekirda**	4.87	53	*e*P	Pn	19 23 44.7	-1.5
RKY	**Sarkoy-Tekirda**	4.87	53	*e*P	Pn	19 23 44.7	-1.5

KRSC 24 19:40:13.8±1.1, 49.15N×156.17E, h41km±15km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	1.54	359	*e*P	Pn	19 40 40.1	+1.4
SKR				*e*S	Sn	19 40 58.8	+1.4
PAU	**Pauzhetka**	2.36	10	*e*S	Sn	19 41 21.1	+3.4
ASAK	**Asacha**	3.42	18	P	Pn	19 41 08.3	+3.6
MTVR	**Mutnovka**	3.58	20	P	Pn	19 41 11.3	+4.4
MTVR				S	Sn	19 41 52.8	+4.8
RUS	**Russkaya**	3.61	23	S	Sn	19 41 54.2	+5.7
UGLR	**Uglovaya**	4.40	21	P	Pn	19 41 23.3	+5.2
SDLR	**Sedlovina**	4.47	21	P	Pn	19 41 23.0	+3.8
SPN	**Mys Shipunski**	4.64	30	P	Pn	19 41 25.2	+3.9
SPN				S	Sn	19 42 18.2	+4.3
GNL	**Ganaly**	4.69	13	P	Pn	19 41 25.8	+3.7
TUMR	**Tumrok**	6.61	20	P	Pn	19 41 53.3	+4.8

*ISCJB **24** 19:45:44.5±0.8, 7.49S±0.08×119.98E±0.07, h417km±8km, Error ellipse: s-maj=14.4km s-min=9.0km az=34.0*
*DJA **24** 19:45:45.9±0.6, 8.5S±4.5×12.0E±∞, h405km±6km, M3.7/17, mb3.7/2, mB4.9/1, MLv3.7/17, Mw(mB)4.2/1*

ISC 24 19:45:45.5±1.3, 7.51S±0.08×120.02E±0.09, h408km±11km, n19, σ1.508/25, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	2.06	127	P	**P**	19 46 42.5	-0.3
EDFI				S	**S**	19 47 29.6	+0.5
WSI	**Waingapu**	2.17	173	P	**P**	19 46 43.2	-0.1
WSI				S	**S**	19 47 29.8	-0.2
WSI	**Waingapu**	2.17	173	P	**P**	19 46 43.5	+0.2
	baz=2.1,SNR=5.8						
WSI				S	**S**	19 47 29.0	-1.0
	baz=2.1,SNR=3.7						
BKSI	**Bulukumba**	2.17	3	P	**P**	19 46 43.4	0.0
WBSI	**Waikabubak, Su**	2.21	196	P	**P**	19 46 43.2	-0.4
MMRI	**Maumere**	2.47	117	P	**P**	19 46 45.6	+0.3
MMRI				S	**S**	19 47 33.1	-0.6
BASI	**Baing, Sumba**	2.75	168	P	**P**	19 46 48.2	+0.8
BASI				S	**S**	19 47 39.1	+1.6
BNSI	**Bone**	3.09	2	P	**P**	19 46 50.4	+0.2
SPSI	**Sidrap Palu**	3.53	356	P	**P**	19 46 54.0	+0.2
BATI	**Baumata**	4.49	127	P	**P**	19 47 03.6	+0.9
BATI				S	**S**	19 48 06.6	+0.9
SOEI	**Soe**	4.76	118	P	**P**	19 47 06.6	+1.2
SOEI				S	**S**	19 48 08.9	-1.8
SOEI	**Soe**	4.76	118	P	**P**	19 47 06.9	+1.4
	baz=5.0,SNR=7.1						
SOEI				S	**S**	19 48 08.0	-2.7
	baz=5.0,SNR=5.0						
IGBI	**Denpasar**	5.00	255	P	**P**	19 47 06.1	-1.6
ABJI	**Asem Bagus**	5.74	267	P	**P**	19 47 15.4	-0.1
	33nm,1.5s,0.2nm						
KMMI	**Kalianget**	6.02	274	P	**P**	19 47 18.7	+0.2
KNRA	**Kununurra**	11.80	134	P	**P**	19 48 23.5	+0.7
	baz=12,SNR=4.8						
CISI	**Cisompet, Garu**	12.10	269	S	S	19 50 46.8	+7.7
	baz=12,SNR=3.7						
MEEK	**Meekatharra**	19.07	184	P	P	19 49 33.7	-7.2
	baz=19,SNR=6.6						
WRKA	**Warakurna**	19.14	157	P	**P**	19 49 41.2	-0.4
	baz=19,SNR=12						

*ISCJB **24** 19:51:58.5±0.9, 7.39S±0.08×128.62E±0.09, h151km, mb3.4/3, Error ellipse: s-maj=12.5km s-min=10.3km az=155.1*
*IDC **24** 19:52:01.9±7.2, 7.49S×128.49E, h167km±80km, mb3.2/3, mb1 3.2/6, mb1mx3.1/20, mbtmp3.7/6, Error ellipse: s-maj=74.5km s-min=25.8km az=39.0*

ISC 24 19:51:59.9±1.1, 7.5S±0.1×128.7E±0.1, h151km, n6, σ2.522/8, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	5.62	241	P	**Pn**	19 53 22.3	+0.7
	15nm,0.3s,baz=305,slow=4.1,SNR=16						
BATI				S	**Sn**	19 54 25.0	-0.6
	9.6nm,0.3s,baz=72,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	13.50	157	P	**Pn**	19 55 06.7	+1.1
	0.1nm,0.3s,baz=330,slow=13,SNR=7.3						
WRA				S	Sn	19 57 29.4	-5.6
	0.4nm,0.3s,baz=336,slow=21,SNR=5.3						
ASAR	**Alice Springs**	16.80	163	P	**Pn**	19 55 49.5	+3.0
	0.1nm,0.3s,baz=342,slow=11,SNR=26						
ASAR				S	**S**	19 58 49.8	-3.5
	0.1nm,0.3s,baz=339,slow=26,SNR=3.5						
SONM	**Songino Array**	58.54	343	P	**P**	20 01 40.5	-0.1
	0.4nm,0.8s,baz=164,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	67.96	328	P	**P**	20 02 41.8	-0.8
	0.4nm,0.4s,baz=124,slow=6.7,SNR=12						
ZALV	**Zalesovo Beam**	71.49	334	P	**P**	20 03 03.3	-0.6
	0.6nm,0.6s,baz=121,slow=5.8,SNR=3.7						

*ISCJB **24** 20:06:36.8±0.4, 37.85N±0.01×22.06E±0.02, h13km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=5.8*
*CSEM **24** 20:06:36.9±0.1, 37.85N×22.07E, h8km, MD3.6, Error ellipse: s-maj=2.5km s-min=2.1km az=78.0*
*ATH **24** 20:06:36.4, 37.85N×22.07E, h18km, MD3.6/35, ML3.2*
*THE **24** 20:06:36.9, 37.84N×22.09E, h4km±1km, ML3.1/8, Error ellipse: s-maj=1.2km s-min=0.4km az=285.0*

ISC 24 20:06:37.1±0.9, 37.85N±0.01×22.07E±0.02, h10km±6km, n130, σ0.969/183, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	0.20	18	P	**Pg**	20 06 40.9	-0.4
KLV	**Kalavryta, Ach**	0.20	18	*e*PB	**Pg**	20 06 41.0	-0.4
KLV				*e*SB	**Sg**	20 06 44.9	+0.6
KLV	**Kalavryta, Ach**	0.20	18	*e*Pb	**Pg**	20 06 41.0	-0.4
KLV				*e*Sb	**Sg**	20 06 44.9	+0.6
GUR	**Goura**	0.23	68	P	**Pg**	20 06 41.3	-0.6
GUR				S	**Sg**	20 06 44.7	-0.4
GUR	**Goura**	0.23	68	P	**Pg**	20 06 41.3	-0.6
DRO	**Drossia**	0.30	289	P	**Pg**	20 06 42.7	-0.4
DRO				S	**Sg**	20 06 47.6	+0.3
DRO	**Drossia**	0.30	289	*e*PB	**Pg**	20 06 42.8	-0.4
DRO				*e*SB	**Sg**	20 06 47.5	+0.3
DRO	**Drossia**	0.30	289	*e*Pb	**Pg**	20 06 42.8	-0.4
DRO				S	**Sg**	20 06 47.6	+0.3
AMT	**Artemida-Makis**	0.43	222	P	**Pg**	20 06 45.3	-0.2
AMT				S	**Sg**	20 06 52.1	+0.9
AMT	**Artemida-Makis**	0.43	222	*e*PB	**Pg**	20 06 45.1	-0.4
AMT				*e*SB	**Sg**	20 06 51.6	+0.4
AMT	**Artemida-Makis**	0.43	222	*e*Pb	**Pg**	20 06 45.1	-0.4
AMT				*e*Sb	**Sg**	20 06 51.6	+0.4
AMT				S	**Sg**	20 06 52.1	+0.9
UPR	**University Cam**	0.49	332	P	**Pg**	20 06 46.5	-0.1
UPR				S	**Sb**	20 06 54.0	-0.9
UPR	**University Cam**	0.49	332	P	**Pg**	20 06 46.5	-0.1
RLS	**Riolos of Patr**	0.52	293	*e*PN	**Pg**	20 06 46.3	-0.9
RLS				*e*SN	**Sg**	20 06 54.5	+0.4
RLS	**Riolos of Patr**	0.52	293	*e*Pn	**Pg**	20 06 46.3	-0.9
RLS				*e*Sn	**Sg**	20 06 54.5	+0.4
VLX	**Vlachokerasia**	0.54	153	P	**Pg**	20 06 47.0	-0.6
VLX				S	**Sg**	20 06 54.4	-0.3
VLX	**Vlachokerasia**	0.54	153	*e*PN	**Pg**	20 06 47.0	-0.6
VLX				*e*SN	**Sg**	20 06 54.8	+0.1
VLX	**Vlachokerasia**	0.54	153	P	**Pg**	20 06 47.0	-0.6
VLX				S	**Sg**	20 06 54.4	-0.3
VLX				*e*Sn	**Sg**	20 06 54.8	+0.1
KALE	**Kalithea**	0.54	6	P	**Pg**	20 06 47.2	-0.4
KALE				S	**Sb**	20 06 55.7	-0.8
KALE	**Kalithea**	0.54	6	*e*PN	**Pg**	20 06 47.2	-0.4
KALE	**Kalithea**	0.54	6	*e*Pn	**Pg**	20 06 47.2	-0.4
KALE				*e*Sn	**Sg**	20 06 55.2	+0.4
KALE				S	**Sb**	20 06 55.7	-0.8
EFP	**Efpalio**	0.59	347	P	**Pg**	20 06 48.1	-0.4
EFP				S	**Sb**	20 06 57.5	-0.3
EFP	**Efpalio**	0.59	347	*e*PN	**Pg**	20 06 48.2	-0.3
EFP				*e*SN	**Sg**	20 06 56.8	+0.5
EFP	**Efpalio**	0.59	347	P	**Pg**	20 06 48.1	-0.4
EFP				*e*Sn	**Sg**	20 06 56.8	+0.5
EFP				S	**Sb**	20 06 57.5	-0.3
ITM	**Ithomi**	0.68	190	P	**Pg**	20 06 49.5	-0.8
ITM				S	**Sg**	20 06 59.8	+0.6
ITM	**Ithomi**	0.68	190	*e*PN	**Pg**	20 06 49.5	-0.8
ITM				*e*SN	**Sg**	20 06 59.3	+0.1
ITM	**Ithomi**	0.68	190	P	**Pg**	20 06 49.5	-0.8
ITM				*e*Sn	**Sg**	20 06 59.3	+0.1
LTK	**Loutraki**	0.73	76	P	**Pg**	20 06 50.3	-0.8
LTK	**Loutraki**	0.73	76	*e*PN	**Pg**	20 06 50.4	-0.7
LTK				*e*SN	**Sg**	20 07 01.0	+0.4
LTK	**Loutraki**	0.73	76	P	**Pg**	20 06 50.3	-0.8
LTK				*e*Sn	**Sg**	20 07 01.0	+0.4
PVO	**Paravola**	0.88	331	P	**Pg**	20 06 53.6	-0.4
PVO	**Paravola**	0.88	331	P	**Pg**	20 06 53.6	-0.4
PYL	**PYLOS**	0.99	196	P	**Pg**	20 06 54.8

CHOS	Chios island	3.19	79	P		Pn	20 07 27.7	+0.5
CHOS	Chios island	3.19	79	*e*PN		Pn	20 07 27.8	+0.5
CHOS	Chios island	3.19	79	P		Pn	20 07 27.7	+0.5
SIGR	SIGRI	3.26	64	P		Pn	20 07 28.9	+0.7
SIGR	SIGRI	3.26	64	*e*PN		Pn	20 07 28.6	+0.4
SIGR	SIGRI	3.26	64	*e*Pn		Pn	20 07 28.6	+0.4
SIGR	SIGRI	3.26	64	P		Pn	20 07 28.9	+0.7
KNT	Kendrikon	3.37	11	*e*PN		Pn	20 07 31.0	+1.4
KNT	Kendrikon	3.37	11	*e*Pn		Pn	20 07 31.0	+1.4
SMTH	Samothraki Isl	3.75	45	*e*PN		Pn	20 07 34.8	-0.1
SMTH	Samothraki Isl	3.75	45	*e*Pn		Pn	20 07 34.8	-0.1
SMG	Samos	3.78	91	*e*PN		Pn	20 07 35.9	+0.6
SMG	Samos	3.78	91	*e*Pn		Pn	20 07 35.9	+0.6
LAST	Lasithi	3.84	133	*e*PN		Pn	20 07 36.8	+0.6
LAST	Lasithi	3.84	133	*e*Pn		Pn	20 07 36.8	+0.6
KARP	Karpathos	4.69	118	*e*PN		Pn	20 07 50.2	+2.3
KARP	Karpathos	4.69	118	*e*Pn		Pn	20 07 50.2	+2.3

*ISCJB **24** 20:06:58.4±0.5, 32°.29N±0°.03×115°.34W±0°.04, h10km±5km, Error ellipse: s-maj=5.2km s-min=5.0km az=39.7*
*MEX **24** 20:06:58.7±0.5, 32°.44N×115°.47W, h10km, MD3.6*
*ECX **24** 20:07:00.4±0.5, 32°.25N×115°.35W, h6km, MD3.0, ML3.2*
*NEIC **24** 20:07:00.0, 32°.26N×115°.32W, h6km, ML2.9(PAS), ML3.1(ECX), After ECX.*

ISC 24 20:06:58.7±1.1, 32°.25N±0°.03×115°.34W±0°.03, h10km±11km, n24, σ1°10/35, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**10**	*e*P	**Pg**	**20 07 00.2**	**-2.2**
CPBX				*e*S	**Pg**	**20 07 03.2**	**+0.9**
CPBX				⇓*e*		20 07 05.6	
CPBX				AML	AML	20 07 05.6	
	comp=N,26μm,0.5s						
CPBX	**Cerro Prieto**	**0.17**	**10**	*e*P	**Pg**	**20 07 03.2**	**+0.9**
MBIG	**Mexicali**	**0.19**	**38**	*e*P	**Pg**	**20 07 03.1**	**+0.3**
MBIG				*i*S	**Sg**	**20 07 06.2**	**+0.6**
SGL	**Mount Signal**	**0.51**	**320**	⇑*i*P	**Pg**	**20 07 09.1**	**+0.3**
RDX	**Rancho Dawling**	**0.61**	**238**	⇑*i*P	**Pg**	**20 07 11.2**	**+0.6**
RDX				*e*S	**Sg**	**20 07 19.4**	**+0.9**
RDX				*e*		20 07 21.6	
RDX				AML	AML	20 07 21.6	
	comp=N,1μm,0.3s						
YUH	**Yuha Desert**	**0.63**	**309**	⇓*i*P	**Pg**	**20 07 11.1**	**+0.1**
COA	**Coachella**	**0.63**	**17**	⇑*i*P	**Pg**	**20 07 11.5**	**+0.5**
RMX	**La Rumorosa**	**0.72**	**299**	*e*P	**Pg**	**20 07 12.7**	**+0.1**
RMX				*e*S	**Sg**	**20 07 22.5**	**+0.5**
RMX				AML	AML	20 07 23.2	
	comp=N,917nm,0.1s						
RMX				⇓*e*		20 07 23.2	
GLA	**Glamis**	**0.91**	**28**	*e*Pg	**Pg**	**20 07 15.0**	**-1.2**
GLA				*e*Sg	**Sg**	**20 07 25.4**	**-2.6**
ZAX	**El Zacaton**	**1.09**	**227**	*e*P	**Pg**	**20 07 19.5**	**-0.1**
ZAX				*e*S	**Sg**	**20 07 33.9**	**+0.2**
ZAX				⇑*e*		20 07 39.7	
ZAX				AML	AML	20 07 39.7	
	comp=E,468nm,0.5s						
CBX	**Cerro Bola**	**1.12**	**273**	*e*P	**Pg**	**20 07 19.8**	**-0.6**
CBX				*i*S	**Sg**	**20 07 33.1**	**-1.9**
CBX	**Cerro Bola**	**1.12**	**273**	*e*P	**Pg**	**20 07 19.9**	**-0.6**
CBX				*e*S	**Sg**	**20 07 35.0**	**-0.1**
CBX				⇑*e*		20 07 37.0	
CBX				AML	AML	20 07 37.0	
	comp=E,618nm,0.4s						
CBX	**Cerro Bola**	**1.12**	**273**	*e*P	**Pg**	**20 07 19.7**	**-0.6**
CBX				*e*S	**Sg**	**20 07 34.6**	**-0.4**
BAR	**Barrett**	**1.21**	**291**	*e*P	**Pg**	**20 07 20.8**	**-1.1**
BAR	**Barrett**	**1.21**	**291**	*e*Pg	**Pg**	**20 07 20.5**	**-1.4**
BAR				*e*Sg	**Sg**	**20 07 36.2**	**-1.4**
SPIG	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pg**	**20 07 20.8**	**-1.2**
SPIG				*e*S	**Sg**	**20 07 38.5**	**+0.8**
SPIG	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pg**	**20 07 21.2**	**-0.8**
SPIG				*e*S	**Sg**	**20 07 38.7**	**+1.0**
SPX	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pg**	**20 07 21.1**	**-0.9**
SPX	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pg**	**20 07 21.1**	**-0.9**
SPX				*e*S	**Sg**	**20 07 37.1**	**-0.6**
ECNX	**Esteban Cantu**	**1.23**	**241**	*e*P	**Pg**	**20 07 21.8**	**-0.5**
PBX	**Punta Banda**	**1.28**	**247**	*e*P	**Pg**	**20 07 22.4**	**-0.3**
PFO	**Pinyon Flats O**	**1.65**	**325**	*e*Pn	Pn	20 07 25.9	-1.9
214A	**Organ Pipe Nat**	**2.16**	**97**	*e*Pn	Pn	20 07 32.8	-2.1
GSC	**Goldstone, Bar**	**3.28**	**338**	Pn	**Pn**	**20 07 52.4**	**+2.2**

*IDC **24** 20:30:59.4±2.5, 14°.01N×90°.53W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/29, mbtmp3.5/6, ML3.9/2, MS2.3/1, Ms1 2.3/1, ms1mx2.0/24, Error ellipse: s-maj=51.8km s-min=44.7km az=15.0*
*ISCJB **24** 20:31:08.3±0.8, 13°.84N±0°.09×91°.36W±0°.05, h76km±8km, mb3.6/4, Error ellipse: s-maj=16.8km s-min=4.3km az=26.1*
*MEX **24** 20:31:08.4±0.4, 13°.52N×91°.65W, h21km±13km, MD4.0*
*CASC **24** 20:31:11.2±1.6, 13°.87N×91°.19W, h28km±7km, MD3.8*

ISC 24 20:31:09.4±1.3, 13°.84N±0°.10×91°.34W±0°.05, h63km±11km, n24, σ1°30/36, mb3.6/4, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.56**	**328**	⇑*e*P	**Pn**	**20 31 23.2**	**+1.0**
FUG	**Fuego 3**	**0.77**	**38**	⇓*e*P	**Pn**	**20 31 24.5**	**-0.4**
PCG	**Pacaya**	**0.90**	**52**	*e*P	**Pn**	**20 31 26.5**	**0.0**
PCG				*e*S	**Sn**	**20 31 38.3**	**-0.9**
IXG	**Ixpaco**	**0.92**	**69**	*e*P	**Pn**	**20 31 25.7**	**-1.0**
NBG	**Las Nubes**	**1.21**	**52**	⇓*e*P	**Pn**	**20 31 31.3**	**+0.6**
NBG				*e*S	**Sn**	**20 31 48.0**	**+1.5**
THIG		**1.39**	**320**	*e*P	**Pn**	**20 31 31.4**	**-1.3**
THIG				*e*S	**Sn**	**20 31 49.1**	**-1.1**
RBDL	**Robledal**	**1.62**	**80**	⇓*i*P	**Pn**	**20 31 35.7**	**-0.3**
RBDL				*e*S	**Sn**	**20 31 54.8**	**-1.3**
RTR	**El Retiro**	**1.64**	**88**	*e*P	**Pn**	**20 31 37.0**	**+0.8**
RTR				*e*S	**Sn**	**20 31 56.1**	**-0.5**
SBLS	**San Blas**	**1.67**	**90**	*e*P	**Pn**	**20 31 36.9**	**+0.2**
SBLS				*e*S	**Sn**	**20 31 56.9**	**-0.3**
MRL	**Marmol**	**2.01**	**52**	*e*P	**Pn**	**20 31 40.4**	**-0.8**
MRL				⇑*e*P	**Pn**	**20 31 41.3**	**+0.2**
LFRS	**El Faro**	**2.22**	**95**	*e*P	**Pn**	**20 31 45.2**	**+1.2**
LFRS				*e*S	**Sn**	**20 32 10.7**	**+0.2**
CCIG	**Comitan**	**2.55**	**342**	*e*P	**Pn**	**20 31 49.4**	**+0.8**
CCIG				*e*S	**Sn**	**20 32 22.2**	**+3.6**
PCIG		**2.60**	**316**	*e*P	**Pn**	**20 31 48.2**	**-0.8**
PCIG				*e*S	**Sn**	**20 32 10.1**	**-1.5**
VSM	**San Miguel**	**3.01**	**97**	*e*P	**Pn**	**20 31 56.6**	**+1.8**
VSM				*e*S	**Sn**	**20 32 31.1**	**+1.3**
TGIG		**3.39**	**330**	*e*P	**Pn**	**20 31 59.8**	**-0.1**
TGIG				*e*S	**Sn**	**20 32 40.9**	**+1.8**
CMIG	**Matias Romero**	**4.71**	**314**	Pn	**Pn**	**20 32 18.1**	**+0.2**
	2.5nm,0.3s,baz=108,slow=10,SNR=14						
CMIG				Sn	**Sn**	**20 33 13.7**	**+2.5**
	5.4nm,0.3s,baz=99,slow=13,SNR=6.2						
CMIG				LR	LR	20 34 41.1	
	comp=Z,33nm,20.6s,baz=228,slow=43						
JTS	**JuntasAbangare**	**7.17**	**119**	Pg	**Pn**	**20 32 52.1**	**+0.4**
	0.5nm,0.3s,baz=292,slow=19,SNR=2.2						
JTS				Lg	Lg	20 34 22.8	
	0.7nm,0.3s,baz=348,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**19.19**	**325**	P	**P**	**20 35 28.1**	**0.0**
	0.1nm,0.3s,baz=143,slow=9.8,SNR=5.8						
TKL	**Tuckaleechee C**	**22.77**	**16**	P	P	20 35 59.8	-6.7
	0.8nm,0.4s,baz=269,slow=3.7,SNR=1.6						
NVAR	**Mina Array Bea**	**34.20**	**321**	P	**P**	**20 37 51.0**	**+1.9**
	0.9nm,0.6s,baz=133,slow=8.1,SNR=6.7						
YKA	**Yellowknife Ar**	**51.33**	**346**	P	**P**	**20 40 05.3**	**-1.7**
	0.4nm,0.6s,baz=148,slow=7.8,SNR=4.6						
ILAR	**Eielson Array**	**63.24**	**337**	P	**P**	**20 41 29.5**	**-1.5**
	0.5nm,0.8s,baz=128,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**135.98**	**256**	PKP	**PKPdf**	**20 50 24.6**	**+0.5**
	0.3nm,0.8s,baz=86,slow=2.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**146.34**	**342**	PKPbc	**PKPdf**	**20 50 42.5**	**-0.2**
	0.9nm,0.6s,baz=332,slow=3.1,SNR=12						

*IDC **24** 20:37:02.2±1.9, 31°.27N×138°.09E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.3/28, mbtmp3.2/6, ML3.2/2, Error ellipse: s-maj=53.5km s-min=23.7km az=73.0*
*ISCJB **24** 20:37:21.3±0.7, 33°.6N±0°.2×138°.5E±0°.1, h358km±14km, mb2.6/3, Error ellipse: s-maj=25.3km s-min=16.8km az=23.5*
*JMA **24** 20:37:21.3±0.3, 33°.29N×138°.43E, h337km, M3.2*

ISC 24 20:37:22.3±1.2, 33°.5N±0°.2×138°.5E±0°.1, h348km±15km, n18, σ0°93/24, mb2.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHMK	**Hamakita**	**1.41**	**335**	P	**Pn**	**20 38 08.7**	**-0.8**
JOD2	**Odawara 2**	**1.80**	**16**	P	**Pn**	**20 38 13.1**	**+1.2**
JNY	**Yasuok**	**1.89**	**345**	P	**Pn**	**20 38 12.7**	**+0.1**
JYN	**Shimodo**	**1.96**	**2**	P	**Pn**	**20 38 13.8**	**+0.7**
BSO3	**Boso 3**	**2.11**	**52**	P	**Pn**	**20 38 13.7**	**0.0**
BSO3				S	**S**	**20 38 55.5**	**+0.4**
BSO4	**Boso 4**	**2.12**	**46**	S	**S**	**20 38 56.5**	**+0.9**
JHU	**Hanno**	**2.41**	**16**	P	**Pn**	**20 38 16.8**	**+0.5**
JHU				S	**S**	**20 38 58.5**	**-1.3**
JRY	**Ryogami san**	**2.50**	**8**	P	**Pn**	**20 38 18.3**	**+1.2**
JRY				S	**S**	**20 39 01.7**	**+0.4**
JAG	**Ashikaga**	**3.00**	**15**	P	**Pn**	**20 38 21.6**	**+0.3**
JAG				S	**S**	**20 39 07.6**	**-1.3**
MJAR	**Matsushiro Arr**	**3.01**	**356**	Pn	**Pn**	**20 38 22.0**	**+0.5**
	1.1nm,0.3s,baz=179,slow=10,SNR=21						
MAT	**Matsushiro**	**3.01**	**356**	P	**Pn**	**20 38 21.8**	**+0.3**
MAT				*e*S	**S**	**20 39 10.3**	**+1.1**
MAT	**Matsushiro**	**3.01**	**356**	P	**Pn**	**20 38 22.2**	**+0.7**
JYT	**Yasato**	**3.04**	**27**	P	**Pn**	**20 38 22.2**	**+0.5**
JYT				S	**S**	**20 39 08.0**	**-1.5**
JHO	**Hitachi**	**3.52**	**29**	P	**Pn**	**20 38 27.0**	**+0.8**
JHO				S	**S**	**20 39 16.0**	**-1.8**
KSRS	**Korea Array**	**9.45**	**297**	Pn	**Pn**	**20 39 33.4**	**-0.2**
	0.2nm,0.3s,baz=119,slow=5.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**38.33**	**257**	P	P	20 44 18.3	+7.3
	0.2nm,0.7s,baz=55,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**53.32**	**185**	P	**P**	**20 46 06.4**	**-0.4**
	0.4nm,0.8s,baz=0.6,slow=7.7,SNR=6.5						
ASAR	**Alice Springs**	**57.05**	**185**	P	**P**	**20 46 33.4**	**+0.3**
	0.2nm,0.7s,baz=11,slow=5.7,SNR=3.4						

*CSEM **24** 20:56:22.4±0.5, 38°.84N×24°.77E, h10km, MD2.4, Error ellipse: s-maj=31.9km s-min=9.5km az=164.0*

ATH 24 20:56:34.8, 38°.85N×25°.90E, h8km±1km, MD2.4/3, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.36**	**355**	*e*PB	Pg	20 56 42.0	+0.1
SIGR				*e*SB	Sg	20 56 47.2	+0.5
SIGR	**SIGRI**	**0.36**	**355**	*e*Pb	Pg	20 56 42.0	+0.1
SIGR				*e*Sb	Sg	20 56 47.2	+0.5
CHOS	**Chios island**	**0.48**	**165**	*e*PB	Pg	20 56 43.9	-0.3
CHOS				*e*SB	Sg	20 56 50.6	0.0
CHOS	**Chios island**	**0.48**	**165**	*e*Pb	Pg	20 56 43.9	-0.3
CHOS				*e*Sb	Sg	20 56 50.6	0.0
PRK	**Paraskevi**	**0.49**	**36**	*e*PB	Pg	20 56 44.3	0.0
PRK	**Paraskevi**	**0.49**	**36**	*e*Pb	Pg	20 56 44.3	0.0

*ISCJB **24** 20:56:52.9±0.4, 37°.84N±0°.02×22°.07E±0°.02, h14km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=14.1*
*ATH **24** 20:56:52.9, 37°.85N×22°.07E, h17km±1km, MD3.1/29, ML2.9*
*THE **24** 20:56:53.2, 37°.85N×22°.08E, h0km±1km, ML2.6/8, Error ellipse: s-maj=1.6km s-min=0.4km az=354.0*
*CSEM **24** 20:56:53.6±0.2, 37°.83N×22°.02E, h20km, MD3.1, Error ellipse: s-maj=4.6km s-min=4.1km az=114.0*

ISC 24 20:56:53.0±0.8, 37°.85N±0°.01×22°.06E±0°.02, h11km±6km, n103, σ0°51/142, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.20**	**19**	P	**Pg**	**20 56 57.3**	**-0.2**
KLV				S	**Sg**	**20 57 00.6**	**+0.1**
KLV	**Kalavryta, Ach**	**0.20**	**19**	*e*PB	**Pg**	**20 56 57.5**	**0.0**
KLV				*e*SB	**Sg**	**20 57 01.2**	**+0.7**
KLV	**Kalavryta, Ach**	**0.20**	**19**	*e*Pb	**Pg**	**20 56 57.5**	**0.0**
KLV				S	**Sg**	**20 57 00.6**	**+0.1**
KLV				*e*Sb	**Sg**	**20 57 01.2**	**+0.7**
KLV	**Kalavryta, Ach**	**0.20**	**19**	P	**Pg**	**20 56 57.3**	**-0.2**
GUR	**Goura**	**0.24**	**69**	P	**Pg**	**20 56 57.8**	**-0.3**
GUR				S	**Sg**	**20 57 01.1**	**-0.3**
GUR	**Goura**	**0.24**	**69**	*e*PB	**Pg**	**20 56 57.9**	**-0.2**
GUR				*e*SB	**Sg**	**20 57 01.7**	**+0.3**
GUR	**Goura**	**0.24**	**69**	P	**Pg**	**20 56 57.8**	**-0.3**
DRO	**Drossia**	**0.30**	**290**	P	**Pg**	**20 56 59.1**	**0.0**
DRO				S	**Sg**	**20 57 03.9**	**+0.7**
DRO	**Drossia**	**0.30**	**290**	*e*PB	**Pg**	**20 56 59.2**	**+0.1**
DRO				*e*SB	**Sg**	**20 57 04.1**	**+0.9**
DRO	**Drossia**	**0.30**	**290**	*e*Pb	**Pg**	**20 56 59.2**	**+0.1**
DRO				S	**Sg**	**20 57 03.9**	**+0.7**
AMT	**Artemida-Makis**	**0.42**	**222**	P	**Pg**	**20 57 01.6**	**+0.2**
AMT				S	**Sb**	**20 57 08.3**	**-0.7**
AMT	**Artemida-Makis**	**0.42**	**222**	*e*PB	**Pg**	**20 57 01.8**	**+0.4**
AMT				*e*SB	**Sg**	**20 57 07.3**	**+0.2**
AMT	**Artemida-Makis**	**0.42**	**222**	P	**Pg**	**20 57 01.6**	**+0.2**
AMT				*e*Sb	**Sg**	**20 57 07.3**	**+0.2**
AMT				S	**Sb**	**20 57 08.3**	**-0.7**
UPR	**University Cam**	**0.48**	**333**	P	**Pg**	**20 57 02.7**	**+0.1**
UPR	**University Cam**	**0.48**	**333**	P	**Pg**	**20 57 02.7**	**+0.1**
RLS	**Riolos of Patr**	**0.52**	**294**	P	**Pg**	**20 57 02.6**	**-0.5**
RLS				S	**Sb**	**20 57 11.0**	**-0.5**
RLS	**Riolos of Patr**	**0.52**	**294**	*e*PN	**Pg**	**20 57 02.7**	**-0.4**
RLS				*e*SN	**Sg**	**20 57 10.8**	**+0.8**
RLS	**Riolos of Patr**	**0.52**	**294**	*e*Pn	**Pg**	**20 57 02.7**	**-0.4**
RLS				*e*Sn	**Sg**	**20 57 10.8**	**+0.8**
VLX	**Vlachokerasia**	**0.54**	**152**	P	**Pg**	**20 57 03.4**	**-0.2**
VLX				S	**Sg**	**20 57 11.4**	**+0.6**
VLX	**Vlachokerasia**	**0.54**	**152**	*e*PN	**Pg**	**20 57 03.5**	**-0.2**
VLX				*e*SN	**Sg**	**20 57 11.6**	**+0.8**
VLX	**Vlachokerasia**	**0.54**	**152**	P	**Pg**	**20 57 03.4**	**-0.2**
KALE	**Kalithea**	**0.54**	**6**	P	**Pg**	**20 57 03.6**	**-0.1**
KALE				S	**Sg**	**20 57 11.7**	**+0.8**
KALE	**Kalithea**	**0.54**	**6**	*e*PN	**Pg**	**20 57 03.8**	**+0.1**
KALE				*e*SN	**Sb**	**20 57 11.9**	**-0.5**
KALE	**Kalithea**	**0.54**	**6**	P	**Pg**	**20 57 03.6**	**-0.1**
KALE				*e*Sn	**Sb**	**20 57 11.9**	**-0.5**
EFP	**Efpalio**	**0.59**	**348**	P	**Pg**	**20 57 04.5**	**0.0**
EFP				S	**Sg**	**20 57 12.7**	**+0.4**
EFP	**Efpalio**	**0.59**	**348**	*e*PN	**Pg**	**20 57 04.6**	**0.0**
EFP				*e*SN	**Sb**	**20 57 13.4**	**-0.3**
EFP	**Efpalio**	**0.59**	**348**	P	**Pg**	**20 57 04.5**	**0.0**
EFP				S	**Sg**	**20 57 12.7**	**+0.4**
EFP				*e*Sn	**Sb**	**20 57 13.4**	**-0.3**
ITM	**Ithomi**	**0.68**	**189**	P	**Pg**	**20 57 06.0**	**-0.1**
ITM				S	**Sb**	**20 57 16.5**	**+0.2**
ITM	**Ithomi**	**0.68**	**189**	*e*PN	**Pg**	**20 57 06.1**	**-0.1**
ITM				*e*SN	**Sb**	**20 57 16.3**	**0.0**
ITM	**Ithomi**	**0.68**	**189**	*e*Pn	**Pg**	**20 57 06.1**	**-0.1**
ITM				*e*Sn	**Sb**	**20 57 16.3**	**0.0**
ITM	**Ithomi**	**0.68**	**189**	P	**Pg**	**20 57 06.0**	**-0.2**
LTK	**Loutraki**	**0.73**	**76**	P	**Pb**	**20 57 06.9**	**-0.9**
LTK				S	**Sb**	**20 57 17.3**	**-0.6**
LTK	**Loutraki**	**0.73**	**76**	*e*PN	**Pb**	**20 57 06.8**	**-1.0**
LTK				*e*SN	**Sb**	**20 57 17.2**	**-0.6**
LTK	**Loutraki**	**0.73**	**76**	P	**Pb**	**20 57 06.9**	**-0.9**
LTK				S	**Sb**	**20 57 17.3**	**-0.6**
PYL	**PYLOS**	**0.99**	**195**	P	**Pb**	**20 57 11.4**	**-0.7**
PYL				S	**Sn**	**20 57 27.0**	**+0.3**
PYL	**PYLOS**	**0.99**	**195**	*e*PN	**Pb**	**20 57 11.6**	**-0.5**
PYL				*e*SN	**Sg**	**20 57 25.3**	**+0.4**
PYL	**PYLOS**	**0.99**	**195**	*e*Pn	**Pb**	**20 57 11.6**	**-0.5**
PYL				*e*Sn	**Sg**	**20 57 25.3**	**+0.4**
PYL				S	**Sn**	**20 57 27.0**	**+0.3**
PYL	**PYLOS**	**0.99**	**195**	P	**Pb**	**20 57 11.4**	**-0.7**
PDO	**Prodromos**	**1.02**	**317**	P	**Pb**	**20 57 12.4**	**-0.3**
PDO				S	**Sn**	**20 57 28.0**	**+0.5**
PDO	**Prodromos**	**1.02**	**317**	*e*PN	**Pb**	**20 57 12.4**	**-0.3**
PDO				*e*SN	**Sg**	**20 57 26.4**	**+0.4**
PDO	**Prodromos**	**1.02**	**317**	P	**Pb**	**20 57 12.4**	**-0.3**
PDO				*e*Sn	**Sg**	**20 57 26.4**	**+0.4**
PDO				S	**Sn**	**20 57 28.0**	**+0.5**
AXAR	**Agios Charalam**	**1.03**	**27**	P	**Pb**	**20 57 12.3**	**-0.5**
AXAR	**Agios Charalam**	**1.03**	**27**	*e*PN	**Pb**	**20 57 12.8**	**-0.6**
AXAR	**Agios Charalam**	**1.03**	**27**	P	**Pb**	**20 57 12.3**	**-0.5**
AXAR	**Agios Charalam**	**1.03**	**27**	*e*Pn	**Pn**	**20 57 12.8**	**-0.6**
KFL	**Anninata**	**1.04**	**285**	P	**Pn**	**20 57 13.0**	**-0.5**
KFL	**Anninata**	**1.04**	**285**	P	**Pn**	**20 57 13.0**	**-0.5**
EVR	**Evrytania**	**1.08**	**349**	P	**Pb**	**20 57 13.4**	**-0.4**
EVR	**Evrytania**	**1.08**	**349**	*e*PN	**Pb**	**20 57 13.5**	**-0.4**
EVR	**Evrytania**	**1.08**	**349**	P	**Pb**	**20 57 13.4**	**-0.4**
LKR	**Lokris**	**1.09**	**42**	P	**Pb**	**20 57 13.0**	**-0.9**
LKR	**Lokris**	**1.09**	**42**	*e*PB	**Pb**	**20 57 12.9**	**-0.9**
LKR	**Lokris**	**1.09**	**42**	P	**Pb**	**20 57 13.0**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.16**	**3**	P	**Pb**	**20 57 15.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.16**	**3**	*e*PN	**Pg**	**20 57 15.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.16**	**3**	P	**Pb**	**20 57 15.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.16**	**3**	*e*Pn	**Pg**	**20 57 15.6**	**+0.2**
AGG	**Agios Georgios**	**1.19**	**10**	P	**Pn**	**20 57 14.7**	**-0.9**
AGG	**Agios Georgios**	**1.19**	**10**	*e*PN	**Pn**	**20 57 15.1**	**-0.5**
AGG	**Agios Georgios**	**1.19**	**10**	P	**Pn**	**20 57 14.7**	**-0.9**
AGG	**Agios Georgios**	**1.19**	**10**	*e*Pn	**Pn**	**20 57 15.1**	**-0.5**
VLS	**Valsamata**	**1.21**	**286**	P	**Pn**	**20 57 15.3**	**-0.6**
VLS	**Valsamata**	**1.21**	**286**	*e*PN	**Pn**	**20 57 15.3**	**-0.6**
VLS	**Valsamata**	**1.21**	**286**	*e*Pn	**Pn**	**20 57 15.3**	**-0.6**
VLS	**Valsamata**	**1.21**	**286**	P	**Pn**	**20 57 15.3**	**-0.6**
ATH	**Athens Observa**	**1.31**	**84**	*e*PN	**Pg**	**20 57 18.4**	**+0.1**
ATH	**Athens Observa**	**1.31**	**84**	*e*Pn	**Pg**	**20 57 18.4**	**+0.1**
SMIA	**Simia**	**1.36**	**41**	P	**Pg**	**20 57 19.3**	**0.0**
SMIA	**Simia**	**1.36**	**41**	*e*PN	**Pg**	**20 57 19.5**	**+0.2**
SMIA	**Simia**	**1.36**	**41**	P	**Pg**	**20 57 19.3**	**0.0**
PTL	**Penteli**	**1.44**	**82**	P	**Pb**	**20 57 19.6**	**-0.2**
PTL	**Penteli**	**1.44**	**82**	*e*PN	**Pb**	**20 57 19.7**	**-0.1**
PTL	**Penteli**	**1.44**	**82**	*e*Pn	**Pb**	**20 57 19.7**	**-0.1**
MRKA	**Markates**	**1.47**	**54**	P	**Pb**	**20 57 20.2**	**-0.2**
MRKA	**Markates**	**1.47**	**54**	*e*PN	**Pb**	**20 57 20.3**	**-0.2**
MRKA	**Markates**	**1.47**	**54**	P	**Pb**	**20 57 20.2**	**-0.2**
DSL	**Palaion Diasel**	**1.49**	**330**	P	**Pb**	**20 57 21.2**	**+0.5**
DSL	**Palaion Diasel**	**1.49**	**330**	*e*PN	**Pg**	**20 57 21.5**	**-0.1**
DSL	**Palaion Diasel**	**1.49**	**330**	P	**Pb**	**20 57 21.2**	**+0.5**
THL	**Klokotos Trika**	**1.71**	**359**	*e*PN	**Pb**	**20 57 24.5**	**0.0**
THL	**Klokotos Trika**	**1.71**	**359**	*e*Pn	**Pb**	**20 57 24.5**	**0.0**
SKIA	**Skiathos**	**1.71**	**40**	*e*PN	**Pb**	**20 57 24.4**	**-0.1**
SKIA	**Skiathos**	**1.71**	**40**	*e*Pn	**Pb**	**20 57 24.4**	**-0.1**
NEO	**Neokhori**	**1.71**	**32**	*e*PN	**Pb**	**20 57 23.5**	**-1.1**
NEO	**Neokhori**	**1.71**	**32**	*e*Pn	**Pb**	**20 57 23.5**	**-1.1**
KYTH	**Kithira**	**1.75**	**153**	*e*PN	**Pg**	**20 57 26.5**	**-0.1**
XOR	**Xorichti**	**1.75**	**30**	P	**Pn**	**20 57 23.8**	**+0.4**
XOR	**Xorichti**	**1.75**	**30**	*e*PN	**Pb**	**20 57 24.0**	**-1.2**
XOR	**Xorichti**	**1.75**	**30**	P	**Pn**	**20 57 23.8**	**+0.4**
AOS	**Alonnisos**	**1.94**	**47**	P	**Pn**	**20 57 26.3**	**+0.4**
AOS	**Alonnisos**	**1.94**	**47**	*e*PB	**Pn**	**20 57 26.3**	**+0.4**
AOS	**Alonnisos**	**1.94**	**47**	P	**Pn**	**20 57 26.3**	**+0.4**
IGT	**Igoumenitsa**	**2.16**	**322**	*e*PN	**Pb**	**20 57 32.3**	**+0.2**
PAIG	**Paliouri**	**2.43**	**31**	P	**Pn**	**20 57 32.8**	**+0.2**
PAIG	**Paliouri**	**2.43**	**31**	*e*PN	**Pn**	**20 57 32.8**	**+0.2**
PAIG	**Paliouri**	**2.43**	**31**	P	**Pn**	**20 57 32.8**	**+0.2**
KEK	**Kerkira**	**2.57**	**317**	*e*PB	**Pb**	**20 57 37.9**	**-1.2**
APE	**Apeiranthos**	**2.87**	**105**	*e*PN	**Pn**	**20 57 39.4**	**+0.7**
APE	**Apeiranthos**	**2.87**	**105**	*e*Pn	**Pn**	**20 57 39.4**	**+0.7**
OUR	**Ouranopolis**	**2.89**	**30**	*e

	9.3nm,0.4s									
AAK					⇑S		Sn	21 19 12.1	0.0	
	33nm,0.5s									
AAK	**Ala-Archa**	**5.43**	**17**	P			**Pn**	**21 18 11.6**	**+2.1**	
	SNR=28									
AAK	**Ala-Archa**	**5.43**	**17**	P			**Pn**	**21 18 11.5**	**+1.9**	
	4.9nm,0.3s,baz=173,slow=5.5,SNR=106									
AAK					S		Sn	21 19 12.9	+0.9	
	5.9nm,0.3s,baz=148,slow=4.4,SNR=6.0									
SARP	**Sargodha**	**5.54**	**177**	P			**Pn**	**21 18 11.8**	**+1.0**	
KBK	**Karagaybulak**	**5.57**	**21**	P			**Pn**	**21 18 14.1**	**+2.7**	
	SNR=12									
ULHL	**Ulahol**	**5.66**	**31**	P			**Pn**	**21 18 14.3**	**+1.8**	
	SNR=7.3									
DLH	**Dalhousie**	**5.76**	**147**	*ex*			x	21 18 51.0		
DLH				*eS*			**Sn**	**21 19 18.0**	**-2.0**	
KK31	**Karatay Array**	**5.80**	**347**	⇓P			**Pn**	**21 18 15.3**	**+1.1**	
	5.2nm,0.2s,baz=158,slow=11,SNR=459									
KK31					⇓S		**Sn**	**21 19 17.3**	**-3.2**	
	23nm,0.3s,baz=159,slow=24,SNR=6.6									
CHMS	**Chumysh**	**5.84**	**18**	P			**Pn**	**21 18 16.6**	**+1.9**	
	SNR=12									
TKM2	**Tokmak 2**	**6.01**	**24**	⇑P			**Pn**	**21 18 18.7**	**+1.6**	
	5.7nm,0.4s									
TKM2					⇑S		**Sn**	**21 19 26.0**	**+0.4**	
	9.0nm,0.6s									
USP	**Osgenovka**	**6.04**	**15**	P			**Pn**	**21 18 18.2**	**+0.9**	
	SNR=6.8									
DHRM	**DHARAMSHALA**	**6.16**	**147**	*eP*			**Pn**	**21 18 20.6**	**+1.5**	
DHRM				*eS*			**Sn**	**21 19 28.0**	**-1.3**	
DHRM					AML		AML	21 19 30.4		
	comp=N,367nm,0.5s									
DHRM					AML		AML	21 19 31.5		
	comp=E,322nm,0.7s									
BHK	**Bhakra**	**6.92**	**149**	*eP*			**Pn**	**21 18 29.0**	**-0.1**	
SDNR	**Sundarnagar**	**7.09**	**146**	*eP*			**Pn**	**21 18 32.6**	**+1.3**	
SDNR				*eS*			**Sn**	**21 19 50.0**	**-1.2**	
SMLA	**Simla**	**7.49**	**146**	*eP*			**Pn**	**21 18 37.0**	**+0.5**	
SMLA				*i S*			**Sn**	**21 19 57.8**	**-3.0**	
SMLA					AML		AML	21 19 59.6		
	comp=N,152nm,0.5s									
SMLA					AML		AML	21 20 00.8		
	comp=E,175nm,0.3s									
KHET	**Khetri**	**9.82**	**162**	*eP*			**Pn**	**21 19 05.6**	**-1.6**	
KHET				*eS*			Sn	21 20 49.3	-7.2	
KUDL	**Kundal**	**9.94**	**158**	*eP*			**Pn**	**21 19 07.4**	**-1.3**	
KUDL				*eS*			Sn	21 20 51.7	-7.6	
GEYT	**Alibeck**	**11.25**	**277**	P			**Pn**	**21 19 25.0**	**-0.7**	
	comp=E,0.4nm,0.3s,baz=98,slow=10,SNR=4.4									
GEYT					S		Sn	21 21 21.2	-9.3	
	comp=E,0.6nm,0.3s,baz=101,slow=15,SNR=3.8									
MK31	**Makanchi Array**	**11.90**	**35**	⇑P			**P**	**21 19 40.0**	**+0.1**	
	comp=E,0.7nm,0.5s,baz=217,slow=12,SNR=14									
MKAR	**Makanchi Array**	**11.90**	**35**	P			**Pn**	**21 19 34.1**	**0.0**	
	comp=E,0.1nm,0.3s,baz=188,slow=9.2,SNR=4.9									
DANN	**Dangsing**	**13.23**	**130**	*eP*			**Pn**	**21 19 50.4**	**-1.0**	
	comp=E,20nm,0.3s									
KURBB	**Kurchatov Arra**	**13.89**	**17**	⇑P			**P**	**21 20 01.8**	**0.0**	
	comp=E,5.5nm,0.6s									
KURBB	**Kurchatov Arra**	**13.89**	**17**	P			**Pn**	**21 19 57.6**	**-1.6**	
	comp=E,0.0nm,0.3s,baz=206,slow=10,SNR=13									
KURK	**Kurchatov**	**14.00**	**17**	⇑P			**P**	**21 20 03.5**	**+0.5**	
	comp=E,4.7nm,0.9s									
KKN	**Kakani**	**14.57**	**128**	*eP*			**Pn**	**21 20 07.7**	**-0.4**	
	comp=E,14nm,0.5s									
DMN	**Daman**	**14.59**	**129**	*eP*			**Pn**	**21 20 07.6**	**-0.8**	
	comp=E,10nm,0.3s									
PKIN	**Phulchoki**	**14.79**	**128**	*eP*			**Pn**	**21 20 10.3**	**-0.6**	
	comp=E,7.3nm,0.3s									
AB31	**Akbulak array**	**14.79**	**327**	⇑P			**Pn**	**21 20 09.7**	**-0.8**	
	comp=E,1.1nm,0.3s,baz=142,slow=14,SNR=11									
AB31					⇓S		Sn	21 22 46.5	-8.8	
	comp=E,2.3nm,0.7s,baz=128,slow=24,SNR=6.0									
PKI	**Pulchoki**	**14.81**	**128**	*eP*			**Pn**	**21 20 10.5**	**-0.6**	
	comp=E,7.3nm,0.2s									
GUN	**Gumba**	**14.87**	**126**	*eP*			**P**	**21 20 12.9**	**-0.4**	
	comp=E,17nm,0.4s									
JIRN	**Jiri**	**15.24**	**126**	*eP*			**Pn**	**21 20 16.4**	**-0.1**	
	comp=E,44nm,0.4s									
BVA0	**Borovoye Array**	**15.62**	**356**	⇓P			**Pn**	**21 20 20.6**	**+0.1**	
	baz=152,slow=5.2,SNR=4.2									
BVAR	**Borovoye Array**	**15.62**	**356**	P			**Pn**	**21 20 19.9**	**-0.6**	
	comp=E,0.9nm,0.3s,baz=164,slow=12,SNR=24									
BRVK	**Borovoye**	**15.66**	**355**	⇓P			**Pn**	**21 20 21.4**	**+0.4**	
	comp=E,9.2nm,0.8s									
RAMN	**Ramite**	**15.99**	**127**	*eP*			**P**	**21 20 25.6**	**0.0**	
	comp=E,29nm,0.6s									
TAPN	**Taplejung**	**16.45**	**123**	*eP*			**Pn**	**21 20 33.0**	**+1.9**	
	comp=E,5.9nm,0.4s									
AKTO	**Aktyubinsk**	**16.51**	**326**	⇓P			**Pn**	**21 20 32.3**	**+1.0**	
	comp=E,3.1nm,0.5s									
AKTO	**Aktyubinsk**	**16.51**	**326**	P			**Pn**	**21 20 32.5**	**+1.1**	
	comp=E,1.3nm,0.3s,baz=123,slow=9.8,SNR=24									
AKTO					S		**S**	**21 23 29.2**	**-4.4**	
	comp=E,0.2nm,0.3s,baz=162,slow=20,SNR=5.5									
ODAN	**Odare**	**16.57**	**125**	*eP*			**Pn**	**21 20 32.9**	**+0.5**	
	comp=E,6.6nm,0.4s									
ZALV	**Zalesovo Beam**	**18.61**	**24**	P			**P**	**21 20 54.4**	**+0.7**	
	comp=E,2.7nm,0.3s,baz=221,slow=10,SNR=66									
BRTR	**Keskin Array B**	**30.14**	**286**	P			**P**	**21 22 44.9**	**+1.5**	
	comp=E,0.6nm,0.5s,baz=93,slow=6.4,SNR=6.7									
NOA	**NORSAR Array B**	**44.24**	**322**	P			**P**	**21 24 41.9**	**+0.4**	
	comp=E,0.4nm,0.5s,baz=93,slow=7.5,SNR=3.7									
ESDC	**Sonseca Array**	**57.93**	**298**	P			**P**	**21 26 23.8**	**+0.2**	
	comp=E,0.5nm,0.6s,baz=54,slow=7.1,SNR=7.9									
TORD	**Torodi Ar. Bea**	**66.78**	**269**	P			**P**	**21 27 21.8**	**-0.9**	
	comp=E,1.8nm,0.4s,baz=47,slow=5.6,SNR=35									
WRA	**Warramunga Arr**	**81.63**	**123**	P			**P**	**21 28 47.5**	**-1.0**	
	comp=E,0.1nm,0.5s,baz=328,slow=4.9,SNR=2.9									
PDAR	**Pinedale Array**	**100.13**	**1**	P			**Pdif**	**21 30 13.8**	**-2.0**	
	comp=E,0.5nm,0.3s,baz=356,slow=10,SNR=3.3									

IDC ***24*** *21:44:45.5±1.1,2.°99S×142.°30E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/28, mbtmp3.8/8, ML4.0/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/19, Error ellipse: s-maj=43.1km s-min=22.7km az=93.0*

ISCJB ***24*** *21:44:47.6±0.9, 3.°01S±0.°10×142.°33E±0.°10, h26km, mb4.0/11, MS3.4/4, Error ellipse: s-maj=14.7km s-min=13.8km az=41.0*

DJA ***24*** *21:44:53.9±3.1,2.°S±11.°×14.°2E±1.°1, h14km±17km, M4.3/11, mb4.6/11, mB5.5/2, MLv4.1/4, Mw(mB)5.0/2*

ISC 24 21:44:49.7±1.0,2.°9S±0.°1×142.°3E±0.°1, h26km, n26, σ1ᵖ44/18, mb4.1/11, MS3.4/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JAY	**Jayapura**	**1.69**	**284**	P		**Pn**	**21 45 14.4**		**-3.1**
GENI	**Genyem**	**2.19**	**279**	P		**Pn**	**21 45 23.6**		**-0.9**
WAMI	**Wamena**	**3.74**	**255**	P		Pb	21 45 48.6		-6.6
SMPI	**Sarmi**	**3.75**	**284**	P		**Pn**	**21 45 44.7**		**-1.1**
FAKI	**Fak Fak**	**10.08**	**270**	P		**Pn**	**21 47 13.3**		**+0.4**
	33nm,0.6s,1μm								
WRA	**Warramunga Arr**	**18.62**	**204**	P		**P**	**21 49 03.6**		**-1.9**
	0.5nm,0.3s,baz=25,slow=12,SNR=15								
WRA					LR	LR	21 56 29.1		
	comp=Z,342nm,19.9s,baz=20,slow=38								
SOEI	**Soe**	**19.19**	**248**	P		**Pn**	**21 49 15.7**		**+2.8**
	45nm,1.1s								
ASAR	**Alice Springs**	**22.17**	**201**	P		**P**	**21 49 42.7**		**-1.3**
	1.5nm,0.8s,baz=25,slow=12,SNR=14								
ASAR					LR	LR	21 57 29.7		
	comp=Z,173nm,20.2s,baz=20,slow=35								
BNSI	**Bone**	**22.23**	**266**	P		P	21 49 48.6		+3.9
	21nm,0.9s								
SPSI	**Sidrap Palu**	**22.55**	**267**	P		**P**	**21 49 49.2**		**+1.1**
	32nm,0.7s								
MPSI	**Mapaga**	**22.67**	**278**	P		**P**	**21 49 50.6**		**+1.3**
	11nm,1.6s								
STKA	**Stephens Creek**	**28.80**	**181**	LR		LR	22 03 25.0		
	comp=Z,239nm,20.0s,baz=1.7,slow=39								
H11N1	**WAKE ISLAND Hy**	**32.99**	**46**	T		T	22 26 11.0		
	baz=230,slow=76,SNR=50								
H11N2	**WAKE ISLAND Hy**	**33.00**	**46**	T		T	22 26 12.9		
	baz=230,slow=76,SNR=33								
H11N3	**WAKE ISLAND Hy**	**33.00**	**46**	T		T	22 26 11.7		
	baz=230,slow=76,SNR=30								
MDSI	**Maura Dua**	**38.11**	**266**	P		**P**	**21 52 06.2**		**-0.7**
	13nm,1.3s,962nm								
MJAR	**Matsushiro Arr**	**39.46**	**355**	LR		LR	22 07 45.5		
	comp=Z,32nm,19.5s,baz=205,slow=35								
CMAR	**Chiang Mai Arr**	**47.72**	**298**	P		**P**	**21 53 24.6**		**-0.2**
	1.0nm,1.1s,baz=98,slow=3.7,SNR=4.5								
USRK	**Ussuriysk Ar.**	**47.83**	**350**	P		**P**	**21 53 26.2**		**+1.1**
	1.9nm,0.8s,baz=180,slow=9.5,SNR=4.0								

PETK	**Petropavlovsk-**	**57.31**	**11**	LR			LR	22 14 38.6		
	comp=Z,26nm,21.8s,baz=215,slow=31									
MKAR	**Makanchi Array**	**72.20**	**321**	P			**P**	**21 56 13.2**	**+0.7**	
	2.0nm,1.1s,baz=134,slow=3.5,SNR=5.6									
ZALV	**Zalesovo Beam**	**73.98**	**329**	P			**P**	**21 56 22.5**	**-0.3**	
	0.4nm,0.3s,baz=134,slow=6.2,SNR=2.1									
BVAR	**Borovoye Array**	**81.58**	**325**	P			**P**	**21 57 04.4**	**-0.8**	
	0.8nm,0.8s,baz=145,slow=5.4,SNR=4.7									
ILAR	**Eielson Array**	**84.55**	**24**	P			**P**	**21 57 20.0**	**-0.3**	
	0.4nm,0.6s,baz=258,slow=4.7,SNR=5.2									
LPAZ	**La Paz**	**144.34**	**123**	PKP			**PKPdf**	**22 04 25.9**	**+0.5**	
	2.7nm,1.0s,baz=182,slow=4.1,SNR=6.6									
SIV	**San Ignacio**	**150.18**	**130**	PKPbc			**PKPbc**	**22 04 39.6**	**+0.1**	
	0.9nm,0.5s,baz=191,slow=5.2,SNR=2.2									

MEX 24 21:59:32.0±0.7, 32.°09N×114.°84W, h10km±12km, MD3.7, Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
MBIG	**Mexicali**	**0.43**	**316**	*i* P		Pg	21 59 39.6		-1.0
MBIG				*i* S		Sg	21 59 46.4		+0.1
SPIG	**San Pedro Mart**	**1.17**	**207**	*eP*		Pb	21 59 51.4		-3.4
SPIG				*eS*		Sb	22 00 05.7		-4.7
CBX	**Cerro Bola**	**1.56**	**279**	*eP*		Pn	21 59 56.7		-3.3
CBX				*eS*		Sn	22 00 14.8		-5.6

DJA 24 22:06:53.3±2.3, 1.°S±19.°×10.°0E±1.°6, h117km±44km, M3.4/5, MLv3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SDSI	**Sungai Dareh**	**1.30**	**102**	P		Pn	22 07 18.5		+0.2
BKNI	**Bangkinang**	**1.33**	**42**	P		Pn	22 07 18.8		+0.2
MNSI	**Mandailing Nat**	**1.56**	**339**	P		Pn	22 07 21.6		+0.3
GSI	**Gunungsitoli**	**3.24**	**307**	P		Pn	22 07 42.5		-0.1
MDSI	**Maura Dua**	**5.53**	**133**	P		Pn	22 08 14.9		+1.5

GUC 24 22:07:24.3±0.5, 34.°05S×72.°06W, h46km±5km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
NICH	**Los Niches**	**1.18**	**144**	⇑*i* P		Pn	22 07 44.9		+0.6
NICH				*i* S		Sn	22 08 00.9		+1.7
CLCH	**Cerro Calan**	**1.43**	**63**	⇑*i* P		Pn	22 07 48.9		+1.0
CLCH				⇑*i* P		Pn	22 07 49.1		+1.2
CLCH				*i* S		Sn	22 08 07.9		+2.4
CLCH				*i* S		Sn	22 08 08.0		+2.5
CLCH					AML	AML	22 08 12.0		
	comp=E,2μm,0.5s								
CLCH					AML	AML	22 08 12.6		
	comp=E,2μm,0.5s								
SJCH	**San Jose de Ma**	**1.48**	**75**	*eP*		Pn	22 07 48.9		+0.3
SJCH				*i* S		Sn	22 08 08.7		+1.9
SJCH					AML	AML	22 08 12.3		
	comp=E,1μm,0.4s								
YECH	**El Yeso**	**1.69**	**78**	*eP*		Pn	22 07 53.5		+1.7
YECH				*i* S		Sn	22 08 15.3		+2.8
YECH					AML	AML	22 08 19.5		
	comp=E,792nm,0.4s								

BJI ***24*** *22:24:06.9, 2.°74S×128.°60E, h46km, mB4.8/6, mb4.5/12*

IDC ***24*** *22:24:09.3±0.6, 1.°97S×127.°89E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/32, mbtmp4.2/14, ML4.7/1, Error ellipse: s-maj=30.5km s-min=12.5km az=77.0*

ISCJB ***24*** *22:24:13.2±0.2, 1.°97S±0.°03×128.°19E±0.°03, h33km, mb4.3/17, Error ellipse: s-maj=4.7km s-min=3.4km az=39.7*

NEIC ***24*** *22:24:14.6±0.5, 1.°95S×128.°25E, h35km, mb4.4/6, Error ellipse: s-maj=13.0km s-min=8.0km az=67.0*

DJA ***24*** *22:24:16.9±0.9, 2.°S±2.°×12.°8E±1.°, h29km±11km, M4.9/15, mb5.1/11, mB5.4/10, MLv5.0/15, Mw(mB)4.8/10*

ISC 24 22:24:14.4±0.4, 1.°97S±0.°04×128.°11E±0.°04, h33km, n72, σ1ᵖ74/75, mb4.2/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
LBMI	**Labuha**	**1.46**	**335**	P		**Pn**	**22 24 39.7**		**+1.3**
LBMI				S		**Sn**	**22 24 59.2**		**0.0**
MSAI	**Masohi**	**1.59**	**149**	P		**Pb**	**22 24 44.3**		**+1.0**
MSAI				S		**Sb**	**22 25 05.4**		**+2.3**
NLAI	**Namlea**	**1.61**	**219**	P		**Pb**	**22 24 43.3**		**-0.2**
SANI	**Sanana**	**2.12**	**268**	P		**Pn**	**22 24 48.0**		**+0.5**
TNTI	**Ternate**	**2.82**	**345**	P		**Pn**	**22 24 59.3**		**+2.1**
TNTI	**Ternate**	**2.82**	**345**	*ePn*		**Pn**	**22 24 59.0**		**+1.8**
TNTI				*eSn*		**Sb**	**22 25 40.0**		**+1.7**
BNDI	**Bandanaira**	**3.11**	**145**	P		**Pn**	**22 25 03.5**		**+2.4**
BNDI				S		**Sn**	**22 25 41.1**		**+4.0**
SWI	**Sorong**	**3.34**	**71**	P		**Pn**	**22 25 06.3**		**+2.0**
SWI				S		**Sn**	**22 25 45.2**		**+2.3**
SWI	**Sorong**	**3.34**	**71**	P		**Pn**	**22 25 06.0**		**+1.7**
	baz=3.4,SNR=137								
SWI				S		**Sn**	**22 25 44.5**		**+1.6**
	baz=3.4,SNR=9.7								
FAKI	**Fak Fak**	**4.25**	**103**	P		**Pn**	**22 25 17.6**		**+0.8**
FAKI				S		**Sn**	**22 26 04.2**		**-1.1**
FAKI	**Fak Fak**	**4.25**	**103**	P		**Pn**	**22 25 17.7**		**+0.8**
	baz=4.2,SNR=53								
FAKI				S		**Sn**	**22 26 04.5**		**-0.8**
	baz=4.2,SNR=8.0								
FAKI	**Fak Fak**	**4.25**	**103**	*ePn*		**Pn**	**22 25 17.5**		**+0.8**
FAKI				*eSn*		**Sn**	**22 26 03.6**		**-1.6**
KMSI	**Cibinong**	**4.84**	**301**	P		Pn	22 25 29.1		+4.2
LUWI	**Luwuk**	**5.41**	**280**	P		**Pn**	**22 25 34.6**		**+1.8**
	123nm,0.6s,4μm1.7nm								
LUWI	**Luwuk**	**5.41**	**280**	P		**Pn**	**22 25 34.8**		**+2.0**
	baz=5.4,SNR=5.3								
LUWI	**Luwuk**	**5.41**	**280**	*ePn*		**Pn**	**22 25 33.7**		**+0.9**
LUWI				*eSn*		**Sn**	**22 26 30.1**		**-3.9**
RKPI	**Ransiki, Papua**	**6.09**	**86**	P		**Pn**	**22 25 44.7**		**+2.6**
	118nm,0.6s,12μm1.7nm								
SGSI	**Sangihe**	**6.18**	**335**	P		**Pn**	**22 25 45.8**		**+2.4**
	202nm,0.4s,16μm1.2nm								
MRSI	**Marisa**	**6.63**	**291**	P		**Pn**	**22 25 52.7**		**+3.2**
	59nm,0.5s,2μm0.6nm								
PCI	**Palu**	**8.33**	**277**	P		Pn	22 26 16.8		+3.8
	87nm,1.0s,806nm								
BNSI	**Bone**	**8.34**	**253**	P		Pn	22 26 18.0		+4.9
	67nm,0.6s,792nm								
MPSI	**Mapaga**	**8.52**	**286**	P		Pn	22 26 19.4		+3.8
	20nm,0.8s								
SPSI	**Sidrap Palu**	**8.56**	**256**	P		Pn	22 26 20.8		+4.7
	69nm,0.6s,1μm								
SPSI				S		**Sn**	**22 27 55.3**		**+3.8**
	69nm,0.6s,1μm								
BKSI	**Bulukumba**	**8.63**	**247**	P		Pn	22 26 23.3		+6.2
	167nm,0.6s,2μm								
BSSI	**Bau Bau, Buton**	**8.65**	**241**	P		Pn	22 26 22.3		+4.9
KAPI	**Kappang**	**8.87**	**250**	*ePn*		Pn	22 26 26.1		+5.7
	34nm,0.4s								
KDU	**Kakadu**	**11.49**	**158**	P		**Pn**	**22 26 55.4**		**-0.9**
	baz=12,SNR=64								
TWSI	**Taliwang, Sumb**	**13.04**	**239**	P		P	22 27 33.7		+6.3
KNRA	**Kununurra**	**13.63**	**177**	P		**Pn**	**22 27 26.1**		**+0.6**
	baz=14,SNR=12								
KNRA				S		**Sn**	**22 29 59.7**		**+3.8**
	baz=14,SNR=3.3								
MMPI	**Merauke**	**13.82**	**118**	S		S	22 30 29.9		+7.9
	baz=14,SNR=5.5								
FITZ	**Fitzroy Crossi**	**16.21**	**188**	P		**P**	**22 28 03.0**		**+0.3**
	baz=16,SNR=7.5								
FITZ	**Fitzroy Crossi**	**16.21**	**188**	*eP*		**Pn**	**22 28 00.7**		**+0.8**
	8.5nm,0.9s								
WRAB	**Tennant Creek**	**18.87**	**162**	*ePn*		**P**	**22 28 31.0**		**-1.0**
	12nm,0.6s								
WRAB				*eS*		Sn	22 31 53.5		-10
WRA	**Warramunga Arr**	**18.87**	**162**	P		**P**	**22 28 30.9**		**-1.2**
	2.2nm,0.3s,baz=335,slow=13,SNR=84								
WRA				S		Sn	22 31 51.4		-12
	0.2nm,0.3s,baz=347,slow=22,SNR=3.6								
WB2	**Warramunga Arr**	**18.88**	**162**	*ePn*		**P**	**22 28 31.0**		**-1.1**
WB2				*eS*		**Sn**	**22 31 59.4**		**-3.9**
COEN	**Coen**	**19.07**	**129**	P		**Pn**	**22 28 35.7**		**+0.5**
	baz=19,SNR=26								
COEN	**Coen**	**19.07**	**129**	*eP*		**P**	**22 28 34.5**		**+0.2**
	13nm,0.6s								
COEN				*eS*		Sn	22 31 51.5		-17
CISI	**Cisompet, Garu**	**20.96**	**254**	S		Sn	22 32 55.0		+1.2
	baz=21,SNR=5.3								

QIS	**Mount Isa**	**21.62**	**150**	P			**P**	**22 29 02.1**	**+0.2**	
	baz=22,SNR=21									
AS31	**Alice Springs**	**22.29**	**166**	*eP*			**P**	**22 29 08.9**	**-0.2**	
ASAR	**Alice Springs**	**22.29**	**166**	P			**P**	**22 29 09.1**	**0.0**	
	21nm,0.6s,baz=344,slow=9.2,SNR=357									
ASAR					S		**S**	**22 33 06.3**	**-6.2**	
	6.2nm,0.9s,baz=347,slow=20,SNR=19									
WRKA	**Warakurna**	**22.93**	**180**	P			**P**	**22 29 16.1**	**+0.2**	
	baz=23,SNR=28									
CTA	**Charters Tower**	**25.27**	**137**	P			**P**	**22 29 39.9**	**+1.9**	
	6.8nm,0.7s,baz=318,slow=13,SNR=7.9									
STKA	**Stephens Creek**	**32.35**	**158**	P			**P**	**22 30 40.4**	**-0.4**	
	1.8nm,0.5s,baz=330,slow=9.9,SNR=5.6									
NWAO	**Narrogin (SRO)**	**32.44**	**197**	P			**P**	**22 30 40.5**	**-1.1**	
	6.2nm,0.8s,baz=84,slow=9.2,SNR=2.8									
CMAR	**Chiang Mai Arr**	**35.15**	**307**	P			**P**	**22 31 03.1**	**-2.3**	
	0.9nm,0.3s,baz=128,slow=8.2,SNR=3.6									
KSAR	**Wonju Array Be**	**39.22**	**360**	P			**P**	**22 31 39.5**	**0.0**	
KSRS	**Korea Array**	**39.23**	**360**	P			**P**	**22 31 39.5**	**-0.1**	
	1.6nm,0.8s,baz=172,slow=9.3,SNR=7.2									
MJAR	**Matsushiro Arr**	**39.46**	**13**	P			**P**	**22 31 40.5**	**-1.1**	
	1.8nm,0.6s,baz=193,slow=8.9,SNR=9.4									
XAN	**Xi'an**	**40.11**	**335**	P			**P**	**22 31 46.6**	**-0.6**	
XAN					pP		pP	22 32 03.6	+6.7	
XAN					PMZ					
	4.0nm,0.7s									
USRK	**Ussuriysk Ar.**	**46.10**	**4**	P			**P**	**22 32 36.0**	**+0.6**	
	3.4nm,0.6s,baz=179,slow=6.8,SNR=14									
LSA	**Lhasa**	**47.31**	**315**	*eP*			**P**	**22 32 46.4**	**+0.6**	
	7.0nm,0.7s									
TAPN	**Taplejung**	**48.59**	**310**	*eP*			**P**	**22 32 56.0**	**+0.5**	
	13nm,0.5s									
ODAN	**Odare**	**48.60**	**309**	*eP*			**P**	**22 32 55.9**	**+0.5**	
	16nm,0.6s									
GTA	**Gaotai**	**48.69**	**331**	*eP*			**P**	**22 32 55.9**	**+0.1**	
GTA					PMZ					
	7.0nm,1.4s									
RAMN	**Ramite**	**49.26**	**309**	*eP*			**P**	**22 33 01.4**	**+0.9**	
	39nm,0.6s									
JIRN	**Jiri**	**49.92**	**309**	*eP*			**P**	**22 33 06.1**	**+0.4**	
	15nm,0.6s									
GUN	**Gumba**	**50.28**	**309**	*eP*			**P**	**22 33 08.9**	**+0.5**	
	28nm,0.6s									
PKI	**Pulchoki**	**50.48**	**309**	*eP*			**P**	**22 33 10.0**	**+0.1**	
PKIN	**Phulchoki**	**50.49**	**309**	*eP*			**P**	**22 33 10.0**	**+0.1**	
	3.3nm,0.4s									
KKN	**Kakani**	**50.69**	**309**	*eP*			**P**	**22 33 11.6**	**+0.3**	
	12nm,0.6s									
DMN	**Daman**	**50.74**	**309**	*eP*			**P**	**22 33 12.2**	**+0.4**	
	17nm,0.8s									
DANN	**Dangsing**	**52.13**	**309**	*eP*			**P**	**22 33 22.7**	**+0.4**	
	43nm,0.6s									
ULN	**Ulaanbaatar**	**52.93**	**342**	*eP*			**P**	**22 33 26.4**	**-1.2**	
	2.5nm,0.8s									
SONM	**Songino Array**	**53.11**	**342**	P			**P**	**22 33 28.8**	**-0.1**	
	1.4nm,0.8s,baz=153,slow=9.0,SNR=11									
PETK	**Petropavlovsk-**	**60.22**	**20**	P			**P**	**22 34 19.3**	**+0.1**	
	1.2nm,0.9s,baz=213,slow=10,SNR=2.9									
MKAR	**Makanchi Array**	**63.02**	**326**	P			**P**	**22 34 38.0**	**-0.2**	
	4.6nm,0.7s,baz=133,slow=5.9,SNR=53					

	comp=Z,388nm,1.3s									
TBI					*e*S	**S**	**22 39 52.2**	**-2.9**		
	comp=Z,6μm,28.5s									
TBI					*e*LR	LR	22 41 00.5			
	comp=Z,5μm,31.2s,baz=291									
OUZ	**Omahuta**	**22.97**	**211**	PN		**P**	**22 35 51.8**	**+0.1**		
OUZ	**Omahuta**	**22.97**	**211**	*e*P		**P**	**22 35 50.9**	**-0.7**		
	comp=Z,647nm,1.4s									
OUZ					LR	LR				
	comp=Z,3μm,21.0s									
MXZ	**Matakaoa Point**	**23.06**	**199**	PN		**P**	**22 35 53.4**	**+0.9**		
XMAS	**Kiritimati**	**23.13**	**41**	*e*P		**P**	**22 35 54.1**	**+0.6**		
	comp=Z,2μm,2.5s									
WCZ	**Waipu Caves**	**23.20**	**209**	PN		**P**	**22 35 54.9**	**+1.0**		
WMGZ	**Waiomatatini S**	**23.26**	**199**	*e*PN		**P**	**22 35 55.9**	**+1.3**		
KUZ	**Kuaotunu**	**23.28**	**205**	*e*PN		**P**	**22 35 56.1**	**+1.4**		
HAZ	**Te Kaha**	**23.41**	**200**	PN		**P**	**22 35 54.6**	**-1.5**		
PMOR	**Pomariorio Ree**	**23.50**	**91**	*e*P		**P**	**22 35 56.2**	**-0.9**		
	comp=Z,268nm,1.3s									
PUZ	**Puketiti**	**23.55**	**199**	PN		**P**	**22 35 58.3**	**+0.9**		
PUZ				*e*SN		**S**	**22 40 06.4**	**-3.2**		
VAH	**Vaihoa**	**23.73**	**92**	*e*P		**P**	**22 35 58.2**	**-1.2**		
	comp=Z,273nm,1.2s									
MWZ	**Matawai**	**24.02**	**200**	PN		**P**	**22 36 04.0**	**+2.1**		
URZ	**Urewera**	**24.09**	**201**	P		**P**	**22 36 02.1**	**-0.4**		
	comp=Z,95nm,0.4s,baz=33,slow=1.9,SNR=48									
URZ					S	**S**	**22 40 22.3**	**+4.0**		
	comp=Z,11nm,0.4s,baz=229,slow=23,SNR=8.9									
URZ	**Urewera**	**24.09**	**201**	*e*PN		**P**	**22 36 02.0**	**-0.5**		
URZ				*e*SN		**S**	**22 40 17.9**	**-0.4**		
URZ	**Urewera**	**24.09**	**201**	*e*P		**P**	**22 36 02.2**	**-0.4**		
URZ				*e*S		**S**	**22 40 21.1**	**+2.9**		
URZ				LR	LR					
	comp=Z,3μm,18.0s									
RIGZ	**Rimuhau**	**24.28**	**199**	*e*PN		**P**	**22 36 06.1**	**+1.8**		
ARHZ	**Aropaoanui**	**25.03**	**200**	*e*PN		P	22 36 16.1	+5.0		
BKZ	**Black Stump Fm**	**25.12**	**201**	PN		**P**	**22 36 13.6**	**+1.7**		
BKZ	**Black Stump Fm**	**25.12**	**201**	*e*P		**P**	**22 36 12.2**	**+0.3**		
	comp=Z,53nm,1.1s									
BKZ				*e*S		**S**	**22 40 31.5**	**-3.5**		
BKZ				LR	LR					
	comp=Z,2μm,18.0s									
HIZ	**Hauiti**	**25.15**	**204**	*e*PN		**P**	**22 36 13.3**	**+1.2**		
BHHZ	**Black Hill Sta**	**25.55**	**201**	*e*PN		**P**	**22 36 15.3**	**-0.6**		
PXZ	**Pawanui**	**25.77**	**199**	PN		**P**	**22 36 19.9**	**+2.1**		
BFZ	**Birch Farm**	**26.56**	**200**	*e*PN		**P**	**22 36 24.5**	**-0.5**		
BFZ	**Birch Farm**	**26.56**	**200**	*e*P		**P**	**22 36 24.5**	**-0.5**		
	comp=Z,76nm,0.5s									
BFZ				LR	LR					
	comp=Z,3μm,18.0s									
SNZO	**South Karori**	**27.65**	**201**	*e*P		**P**	**22 36 34.0**	**-0.6**		
	comp=Z,327nm,1.7s									
SNZO				LR	LR					
	comp=Z,3μm,21.0s									
HNR	**Honiara**	**27.86**	**280**	*e*P		**P**	**22 36 37.5**	**+0.6**		
HNR	**Honiara**	**27.86**	**280**	*e*P		**P**	**22 36 37.5**	**+0.6**		
	comp=Z,1.2nm,1.4s									
HNR				LR	LR					
	comp=Z,300nm,18.0s									
QRZ	**Quartz Range**	**28.06**	**205**	*e*PN		**P**	**22 36 41.1**	**+2.7**		
THZ	**Tophouse**	**28.70**	**204**	*e*PN		**P**	**22 36 43.7**	**-0.4**		
KHZ	**Kahutara**	**29.03**	**202**	*e*P		**P**	**22 36 46.8**	**-0.2**		
	comp=Z,102nm,1.0s									
KHZ				LR	LR					
	comp=Z,3μm,20.0s									
RPZ	**Rata Peaks**	**31.08**	**204**	P		**P**	**22 37 07.3**	**+2.2**		
	comp=Z,11nm,0.5s,baz=16,slow=3.6,SNR=12									
RPZ	**Rata Peaks**	**31.08**	**204**	PN		**P**	**22 37 07.9**	**+2.8**		
RPZ	**Rata Peaks**	**31.08**	**204**	*e*P		**P**	**22 37 05.8**	**+0.6**		
	comp=Z,109nm,0.6s									
RPZ				LR	LR					
	comp=Z,4μm,21.0s									
KWAJ	**Kwajalein Atol**	**31.68**	**320**	PFAKE			22 37 20.0	+9.4		
KWAJ				LR	LR					
	comp=Z,2μm,19.0s									
ODZ	**Otahua Downs**	**32.36**	**203**	*e*P		**P**	**22 37 16.9**	**+0.5**		
	comp=Z,365nm,2.5s									
ODZ				LR	LR					
	comp=Z,3μm,19.0s									
WHZ	**Wether Hill Ro**	**34.12**	**205**	*e*P		**P**	**22 37 31.6**	**-0.1**		
	comp=Z,292nm,1.2s									
WHZ				LR	LR					
	comp=Z,2μm,19.0s									
EIDS	**Eidsvold**	**35.45**	**249**	P		**P**	**22 37 42.0**	**-1.5**		
	baz=36,SNR=6.8									
EIDS	**Eidsvold**	**35.45**	**249**	*e*P		**P**	**22 37 40.6**	**-2.9**		
	comp=Z,20nm,1.1s									
EIDS				LR	LR					
	comp=Z,4μm,18.0s									
RKT	**Rikitea**	**35.77**	**107**	*e*S		**S**	**22 43 23.3**	**+1.5**		
	comp=Z,369nm,28.8s									
RKT				*e*LQ		LQ	22 45 54.1			
	comp=Z,562nm,27.8s									
RKT				*e*LR		LR	22 47 01.2			
	comp=Z,3μm,31.8s,baz=276									
ARMA	**Armidale**	**36.00**	**240**	P		**P**	**22 37 46.5**	**-1.7**		
	baz=36,SNR=7.5									
ARMA	**Armidale**	**36.00**	**240**	*e*P		**P**	**22 37 46.5**	**-1.7**		
	comp=Z,53nm,1.5s									
ARMA				LR	LR					
	comp=Z,2μm,19.0s									
MGCD	**Mangrove Creek**	**37.23**	**236**	P		**P**	**22 37 59.3**	**+0.7**		
	baz=37,SNR=7.5									
RMQ	**Roma**	**37.68**	**247**	P		**P**	**22 38 00.6**	**-1.9**		
	baz=38,SNR=12									
CNB	**Canberra Magne**	**39.28**	**233**	P		**P**	**22 38 15.0**	**-0.9**		
	baz=39,SNR=7.0									
CTA	**Charters Tower**	**39.59**	**258**	P		**P**	**22 38 16.7**	**-1.9**		
	comp=Z,5.2nm,0.5s,baz=91,slow=10,SNR=9.6									
CTA	**Charters Tower**	**39.59**	**258**	P		**P**	**22 38 16.7**	**-1.9**		
CTA				pmax	pmax					
	comp=Z,5.0nm,0.5s									
CTAO	**Charters Tower**	**39.59**	**258**	*e*P		**P**	**22 38 15.8**	**-2.8**		
CTAO				pmax	pmax					
	comp=Z,138nm,2.3s									
CTAO				MLR	MLR					
	comp=Z,2μm,20.0s									
CTAO	**Charters Tower**	**39.59**	**258**	*e*P		**P**	**22 38 15.8**	**-2.8**		
	comp=Z,138nm,2.3s									
CTAO				LR	LR					
	comp=Z,2μm,20.0s									
KIP	**Kipapa**	**39.71**	**21**	*ce*P		**P**	**22 38 20.7**	**+1.3**		
KIP				pmax	pmax					
	comp=Z,164nm,1.2s									
KIP	**Kipapa**	**39.71**	**21**	*e*P		**P**	**22 38 19.1**	**-0.3**		
	comp=Z,122nm,1.0s									
H11S2	**WAKE ISLAND Hy**	**40.03**	**328**	T		T	23 20 59.6			
	baz=145,slow=76,SNR=21									
H11S3	**WAKE ISLAND Hy**	**40.04**	**328**	T		T	23 20 58.6			
	baz=145,slow=76,SNR=19									
H11S1	**WAKE ISLAND Hy**	**40.05**	**328**	T		T	23 21 00.5			
	baz=145,slow=76,SNR=23									
PMG	**Port Moresby**	**40.07**	**274**	*e*P		**P**	**22 38 21.8**	**-0.8**		
PMG				pmax	pmax					
	comp=Z,79nm,1.5s									
PMG				MLR	MLR					
	comp=Z,5μm,18.0s									
PMG	**Port Moresby**	**40.07**	**274**	S		S	22 44 33.4	+6.1		
	baz=40,SNR=3.8									
PMG	**Port Moresby**	**40.07**	**274**	*e*P		**P**	**22 38 21.8**	**-0.8**		
	comp=Z,79nm,1.5s									
PMG				LR	LR					
	comp=Z,5μm,18.0s									
H11N3	**WAKE ISLAND Hy**	**40.96**	**329**	T		T	23 21 58.5			
	baz=146,slow=76,SNR=30									
H11N1	**WAKE ISLAND Hy**	**40.97**	**329**	T		T	23 22 08.6			
	baz=146,slow=76,SNR=17									
H11N2	**WAKE ISLAND Hy**	**40.98**	**329**	T		T	23 22 06.5			
	baz=146,slow=76,SNR=17									
CMSA	**Cobar Meteorol**	**41.22**	**240**	P		**P**	**22 38 30.0**	**-1.9**		
	baz=41,SNR=50									
QLP	**Quilpie**	**41.71**	**248**	P		**P**	**22 38 34.0**	**-2.0**		
	baz=42,SNR=25									
TOO	**Toolangi**	**42.96**	**232**	P		**P**	**22 38 45.5**	**-0.6**		
	baz=43,SNR=5.9									
COEN	**Coen**	**43.04**	**267**	P		**P**	**22 38 45.6**	**-1.4**		
	baz=43,SNR=22									
COEN	**Coen**	**43.04**	**267**	*e*P		**P**	**22 38 45.6**	**-1.4**		
	comp=Z,16nm,1.7s									
TAU	**Tasmania Unive**	**43.65**	**224**	PFAKE			22 39 00.0	+8.5		
TAU				LR	LR					
	comp=Z,4μm,20.0s									
STKA	**Stephens Creek**	**44.71**	**241**	P		**P**	**22 38 58.5**	**-1.6**		
	comp=Z,36nm,0.9s,baz=86,slow=8.3,SNR=38									
STKA				LR	LR		22 55 32.7			
	comp=Z,1μm,18.9s,baz=74,slow=33									
STKA	**Stephens Creek**	**44.71**	**241**	P		**P**	**22 38 58.6**	**-1.6**		
STKA				pmax	pmax					
	comp=Z,36nm,0.9s									
STKA				MLR	MLR					
	comp=Z,1μm,19.0s									
STKA	**Stephens Creek**	**44.71**	**241**	P		**P**	**22 38 58.9**	**-1.4**		
	baz=45,SNR=25									
STKA	**Stephens Creek**	**44.71**	**241**	*e*P		**P**	**22 38 58.3**	**-1.9**		
	comp=Z,15nm,1.0s									
QIS	**Mount Isa**	**45.81**	**257**	P		**P**	**22 39 07.7**	**-1.4**		
	baz=46,SNR=4.6									
BBOO	**Buckleboo**	**49.48**	**240**	P		**P**	**22 39 36.4**	**-1.0**		
	baz=50,SNR=8.0									
BBOO	**Buckleboo**	**49.48**	**240**	*e*P		**P**	**22 39 36.1**	**-1.4**		
	comp=Z,436nm,2.5s									
WRAB	**Tennant Creek**	**50.78**	**257**	P		**P**	**22 39 45.6**	**-1.9**		
	comp=Z,304nm,1.5s,SNR=36									
WRAB	**Tennant Creek**	**50.78**	**257**	*c i*P		**P**	**22 39 45.7**	**-1.8**		
WRAB				pmax	pmax					
	comp=Z,215nm,1.7s									
WRAB	**Tennant Creek**	**50.78**	**257**	*e*P		**P**	**22 39 45.5**	**-1.9**		
	comp=Z,224nm,1.7s									
WRAB				LR	LR					
	comp=Z,2μm,18.0s									
WRA	**Warramunga Arr**	**50.78**	**257**	P		**P**	**22 39 45.2**	**-2.3**		
	comp=Z,23nm,0.9s,baz=94,slow=6.7,SNR=145									
WRA				LR	LR		23 01 06.5			
	comp=Z,2μm,18.3s,baz=100,slow=36									
WRA	**Warramunga Arr**	**50.78**	**257**	P		**P**	**22 39 45.3**	**-2.3**		
WRA				pmax	pmax					
	comp=Z,23nm,0.9s									
WRA				MLR	MLR					
	comp=Z,2μm,18.3s									
AS12	**Alice Springs**	**50.98**	**252**	*e*P		**P**	**22 39 47.5**	**-1.5**		
ASAR	**Alice Springs**	**50.98**	**252**	P		**P**	**22 39 47.5**	**-1.5**		
	comp=Z,42nm,0.5s,baz=84,slow=8.5,SNR=190									
ASAR				LR	LR		23 00 39.6			
	comp=Z,3μm,18.8s,baz=94,slow=35									
ASAR	**Alice Springs**	**50.98**	**252**	P		**P**	**22 39 47.5**	**-1.5**		
ASAR				pmax	pmax					
	comp=Z,42nm,0.5s									
ASAR				MLR	MLR					
	comp=Z,3μm,18.8s									
KDU	**Kakadu**	**53.52**	**266**	P		**P**	**22 40 07.2**	**-0.7**		
	baz=54,SNR=6.3									
MTN	**Manton Dam**	**54.78**	**265**	P		**P**	**22 40 16.1**	**-1.0**		
	baz=55,SNR=6.4									
WRKA	**Warakurna**	**56.03**	**250**	P		**P**	**22 40 24.7**	**-1.4**		
	baz=56,SNR=176									
FORT	**Forrest**	**56.14**	**243**	P		**P**	**22 40 25.2**	**-1.4**		
	baz=56,SNR=34									
FORT	**Forrest**	**56.14**	**243**	*e*P		**P**	**22 40 24.6**	**-2.1**		
	comp=Z,50nm,0.7s									
KNRA	**Kununurra**	**56.57**	**262**	P		**P**	**22 40 28.4**	**-1.5**		
	baz=57,SNR=30									
FITZ	**Fitzroy Crossi**	**59.17**	**258**	P		**P**	**22 40 47.1**	**-1.1**		
	baz=59,SNR=17									
FITZ	**Fitzroy Crossi**	**59.17**	**258**	*e*P		**P**	**22 40 46.5**	**-1.7**		
	comp=Z,36nm,1.3s									
FITZ				LR	LR					
	comp=Z,2μm,20.0s									
DRV	**Dumont d'Urvil**	**59.43**	**200**	S		S	22 48 43.0	-13		
DRV				R			22 58 00.0			
KMBL	**Kambalda**	**61.43**	**243**	P		**P**	**22 41 02.9**	**-0.6**		
	baz=62,SNR=4.7									
TNTI	**Ternate**	**61.85**	**280**	*e*P		**P**	**22 41 05.3**	**-1.2**		
	comp=Z,121nm,1.5s									
TNTI				LR	LR					
	comp=Z,500nm,19.0s									
SOEI	**Soe**	**62.00**	**267**	P		**P**	**22 41 08.4**	**+0.7**		
SOEI	**Soe**	**62.00**	**267**	P		**P**	**22 41 08.4**	**+0.7**		
	baz=62,SNR=12									
SOEI	**Soe**	**62.00**	**267**	*e*P		**P**	**22 41 07.8**	**+0.1**		
	comp=Z,235nm,1.5s									
SOEI				LR	LR					
	comp=Z,1μm,20.0s									
SBA	**Scott Base**	**62.77**	**185**	*e*P		**P**	**22 41 14.0**	**+2.4**		
SBA				pmax	pmax					
	comp=Z,95nm,1.2s									
SBA	**Scott Base**	**62.77**	**185**	*e*P		**P**	**22 41 14.0**	**+2.4**		
	comp=Z,95nm,1.2s									
VNDA	**Vanda**	**62.92**	**186**	P		**P**	**22 41 14.8**	**+2.1**		
	comp=Z,27nm,1.0s,baz=6.3,slow=6.6,SNR=71									
VNDA				LR	LR		23 04 05.4			
	comp=Z,465nm,20.6s,baz=22,slow=32									
VNDA	**Vanda**	**62.92**	**186**	P		**P**	**22 41 14.8**	**+2.1**		
VNDA				pmax	pmax					
	comp=Z,27nm,1.0s									
VNDA				MLR	MLR					
	comp=Z,465nm,20.6s									
VNDA	**Vanda**	**62.92**	**186**	*e*P		**P**	**22 41 14.8**	**+2.1**		
	comp=Z,52nm,1.1s									
MEEK	**Meekatharra**	**64.61**	**248**	P		**P**	**22 41 23.9**	**-0.9**		
	baz=65,SNR=40									
NWAO	**Narrogin (SRO)**	**65.30**	**241**	P		**P**	**22 41 29.3**	**+0.2**		
	baz=65,SNR=8.2									
RKGY	**Rocky Gully**	**65.42**	**239**	P		**P**	**22 41 31.2**	**+1.4**		
	baz=65,SNR=5.7									
DAV	**Davao City (W)**	**65.65**	**286**	PFAKE			22 41 40.0	+8.4		
DAV				LR	LR					
	comp=Z,900nm,18.0s									
BLDU	**Ballidu**	**65.91**	**243**	P		**P**	**22 41 32.5**	**-0.5**		
	baz=66,SNR=17									
MORW	**Morawa**	**66.63**	**245**	P		**P**	**22 41 37.4**	**-0.3**		
	baz=67,SNR=8.4									
BNSI	**Bone**	**67.31**	**272**	P		**P**	**22 41 42.4**	**+0.2**		
BNSI	**Bone**	**67.31**	**272**	P		**P**	**22 41 42.6**	**+0.4**		
KAPI	**Kappang**	**67.49**	**271**	*e*P		**P**	**22 41 42.0**	**-1.3**		
	comp=Z,4.0nm,1.2s									
SPSI	**Sidrap Palu**	**67.75**	**272**	P		**P**	**22 41 44.6**	**-0.4**		
	comp=Z,13nm,0.9s									
SPSI	**Sidrap Palu**	**67.75**	**272**	P		**P**	**22 41 44.6**	**-0.4**		
	comp=Z,13nm,0.9s									
PCI	**Palu**	**68.53**	**275**	P		**P**	**22 41 49.7**	**-0.2**		
	comp=Z,93nm,1.3s,comp=Z,1μm									
MPSI	**Mapaga**	**68.83**	**277**	P		**P**	**22 41 50.9**	**-0.9**		
MPSI	**Mapaga**	**68.83**	**277**	P		**P**	**22 41 51.2**	**-0.6**		
GIRL	**Giralia**	**69.08**	**251**	P		**P**	**22 41 54.3**	**+1.1**		
	baz=69,SNR=7.6									
H06E1	**SOCORRO T-PHAS**	**69.54**	**63**	T		T	23 57 04.9			
	SNR=5.6									
MJAR	**Matsushiro Arr**	**70.09**	**319**	P		**P**	**22 41 58.4**	**-0.7**		
	comp=Z,9.6nm,1.0s,baz=157,slow=6.2,SNR=19									
MJAR				LR	LR		23 08 42.9			
	comp=Z,352nm,20.7s,baz=90,slow=33									
MJAR	**Matsushiro Arr**	**70.09**	**319**	P		**P**	**22 41 58.4**	**-0.7**		
MJAR				pmax	pmax					
	comp=Z,10.0nm,1.0s									
MJAR				MLR	MLR					
	comp=Z,352nm,20.7s									
MAJO	**Matsushiro**	**70.09**	**319**	*e*P		**P**	**22 41 58.4**	**-0.7**		
MAJO				pmax	pmax					
	comp=Z,241nm,2.4s									
MAJO				MLR	MLR					
	comp=Z,700nm,19.0s									
MAJO	**Matsushiro**	**70.09**	**319**	*e*P		**P**	**22 41 58.4**	**-0.7**		
	comp=Z,241nm,2.4s									
MAJO				LR	LR					
	comp=Z,700nm,19.0s									
MAT	**Matsushiro**	**70.09**	**319**	P		**P**	**22 41 58.4**	**-0.7**		
MAT				S		**S**	**22 51 11.6**	**+3.3**		
CASY	**Casey**	**70.34**	**205**	*e*P		**P**	**22 42 01.1**	**+0.9**		
	comp=Z,98nm,1.5s									
CASY				LR	LR					
	comp=Z,900nm,21.0s									
ERM	**Erimo**	**70.85**	**326**	PFAKE			22 42 10.0	+6.5		
ERM				LR	LR					
	comp=Z,1μm,18.0s									
YUK	**Yuzh-Kuril'sk**	**70.91**	**329**	*c i*P		**P**	**22 42 01.2**	**-2.7**		
YUK				*i* PPP		PPP	22 46 26.8			
YUK				MLR	MLR					
	comp=N,398nm,19.0s									
YUK				MLR	MLR					
	comp=Z,527nm,19.0s									
MCCM	**Marconi Confer**	**71.00**	**39**	PFAKE			22 42 20.0	+15		
MCCM				LR	LR					
	comp=Z,2μm,20.0s									
SAO	**San Andreas Ge**	**71.03**	**41**	*e*P		**P**	**22 42 04.8**	**0.0**		
SAO				pmax	pmax					
	comp=Z,55nm,1.3s									
SAO	**San Andreas Ge**	**71.03**	**41**	*e*P		**P**	**22 42 04.8**	**0.0**		
	comp=Z,55nm,1.3s									
CIS	**Catalina Islan**	**71.06**	**46**	⇓P		**P**	**22 42 06.7**	**+1.6**		
	baz=71									
HOPS	**Hopland Field**	**71.43**	**38**	*e*P		**P**	**22 42 07.6**	**+0.5**		
	comp=Z,100nm,1.4s									
HOPS				LR	LR					
	comp=Z,2μm,19.0s									
OSI	**Osito Audit: C**	**71.53**	**44**	*e*P		**P**	**22 42 08.1**	**+0.2**		
	comp=Z,69nm,1.6s									
OSI				LR	LR					
	comp=Z,2μm,19.0s									
109C	**Camp Elliot, M**	**71.67**	**47**	⇓P		**P**	**22 42 11.2**	**+2.5**		
	baz=72									
JOW	**Kunigami**	**71.71**	**306**	P		**P**	**22 42 09.6**	**+0.4**		
	comp=Z,2.7nm,0.8s,baz=84,slow=6.5,SNR=3.9									
JOW	**Kunigami**	**71.71**	**306**	*e*P		**P**	**22 42 09.4**	**+0.3**		
	comp=Z,61nm,1.1s									
MWC	**Mount Wilson**	**71.76**	**45**	*e*P		**P**	**22 42 09.6**	**+0.1**		
MWC	**Mount Wilson**	**71.76**	**45**	*e*P		**P**	**22 42 09.6**	**+0.1**		
KMRM	**Mail Ridge**	**71.85**	**37**	*e*P		**P**	**22 42 10.8**	**+1.1**		
	comp=Z,60nm,1.0s									
SKR	**Severo-Kuril's**	**71.94**	**339**	*e*P		**P**	**22 42 10.0**	**+0.1**		
TSM	**Tawau**	**71.95**	**280**	⇑P		**P**	**22 42 12.1**	**+1.2**		
MURC	**Murrieta**	**72.00**	**46**	⇑P		**P**	**22 42 12.0**	**+1.3**		
	baz=72									
VES	**Vestal, Richgr**	**72.00**	**43**	⇓P		**P**	**22 42 11.8**	**+1.1**		
	baz=72,SNR=11									
BFSC	**Mount Baldy Ra**	**72.04**	**45**	⇓P		**P**	**22 42 12.1**	**+1.0**		
	baz=72									
MONP	**Monument Peak,**	**72.15**	**47**	⇓P		**P**	**22 42 12.9**	**+1.0**		
	baz=72									
EDW2	**Edwards Air Fo**	**72.18**	**45**	⇑P		**P**	**22 42 12.8**	**+1.0**		
	baz=72,SNR=16									
KHMM	**Horse Mountain**	**72.26**	**37**	*e*P		**P**	**22 42 13.2**	**+0.9**		
	comp=Z,32nm,1.2s									
ISA	**Isabella, Lake**	**72.30**	**44**	*e*P		**P**	**22 42 13.3**	**+0.7**		
ISA				pmax	pmax					
	comp=Z,39nm,1.3s									
ISA				MLR	MLR					
	comp=Z,1μm,19.0s									
ISA	**Isabella, Lake**	**72.30**	**44**	⇑P		**P**	**22 42 13.6**	**+1.0**		
	baz=72,SNR=9.9									
ISA	**Isabella, Lake**	**72.30**	**44**	*e*P		**P**	**22 42 13.3**	**+0.7**		
	comp=Z,39nm,1.3s									
ISA				LR	LR					
	comp=Z,1μm,19.0s									
CMB	**Columbia Colle**	**72.48**	**41**	*e*P		**P**	**22 42 13.5**	**0.0**		
CMB				pmax	pmax					
	comp=Z,33nm,1.2s									
CMB				MLR	MLR					
	comp=Z,2μm,20.0s									
CMB	**Columbia Colle**	**72.48**	**41**	*e*P		**P**	**22 42 13.5**	**0.0**		
	comp=Z,32nm,1.2s									
CMB				LR	LR					
	comp=Z,2μm,20.0s									
PFO	**Pinyon Flats O**	**72.52**	**46**	*e*P		**P**	**22 42 14.0**	**0.0**		
PFO				pmax	pmax					
	comp=Z,55nm,1.9s									
PFO	**Pinyon Flats O**	**72.52**	**46**	⇓P		**P**	**22 42 15.0**	**+1.0**		
	baz=73									
PFO	**Pinyon Flats O**	**72.52**	**46**	*e*P		**P**	**22 42 14.0**	**0.0**		
	comp=Z,55nm,1.9s									
SLBS	**Sierra La Lagu**	**72.52**	**58**	*e*P		**P**	**22 42 14.6**	**+0.4**		
	comp=Z,181nm,1.9s									
ASAJ	**Asahikawa**	**72.61**	**328**	*e*P		**P**	**22 42 15.0**	**+0.9**		
	comp=Z,41nm,1.3s									
ASAJ				LR	LR					
	comp=Z,500nm,20.0s									
SWSC	**Sam W. Stewart**	**72.61**	**47**	⇓P		**P**	**22 42 15.4**	**+1.0**		
	baz=73									
BBKI	**Banjar Baru**	**72.62**	**271**	P		P	22 42 18.3	+3.4		
LRMC	**Laurel Mtn Rad**	**72.72**	**44**	⇑P		**P**	**22 42 16.2**	**+1.1**		
	baz=73									
BLJI	**Banyuglugur**	**72.72**	**267**	P		P	22 42 19.3	+3.8		
	comp=Z,59nm,1.5s									
WDC	**Whiskeytown Da**	**72.76**	**37**	*e*P		**P**	**22 42 15.6**	**+0.5**		
WDC				pmax	pmax					
	comp=Z,44nm,1.4s									
WDC				MLR	MLR					
	comp=Z,2μm,21.0s									
WDC	**Whiskeytown Da**	**72.76**	**37**	*e*P		**P**	**22 42 15.6**	**+0.5**		
	comp=Z,44nm,1.4s									
WDC				LR	LR					
	comp=Z,2μm,21.0s									
N02D	**Trinity Center**	**72.92**	**37**	⇑P		**P**	**22 42 17.2**	**+1.1**		
	baz=73,SNR=7.3									
JNU	**Nakatsue**	**73.00**	**313**	*e*P		**P**	**22 42 16.1**	**-0.6**		
	comp=Z,159nm,1.7s									
SDKM	**Sandakan**	**73.02**	**281**	⇓P		**P**	**22 42 18.1**	**+0.8**		
BELC	**Belle Mtn. Jos**	**73.05**	**46**	⇓P		**P**	**22 42 18.0**	**+0.8**		
	baz=73,SNR=9.3									
M02C	**Callahan**	**73.10**	**37**	⇓P		**P**	**

		baz=74								
113A	**Mohawk Valley,**		73.97	48	⇓P		P	22 42 23.5	+1.1	
		baz=74								
NV01	**Mina Array Sit**		74.03	41	*e*P		P	22 42 23.6	+0.7	
NVAR	**Mina Array Bea**		74.03	41	P		P	22 42 23.6	+0.7	
		comp=Z,20nm,0.9s,baz=227,slow=10,SNR=69								
KKM	**Kota Kinabalu**		74.07	281	P		P	22 42 24.7	+1.1	
		baz=74,SNR=3.8								
KKM	**Kota Kinabalu**		74.07	281	⇓P		P	22 42 24.4	+0.9	
214A	**Organ Pipe Nat**		74.24	50	⇓P		P	22 42 25.4	+1.3	
		baz=74,SNR=8.9								
LDFC	**Landfair**		74.25	46	*e*P		P	22 42 24.4	+0.2	
LDFC		comp=Z,148nm,1.5s			LR		LR			
		comp=Z,1μm,20.0s								
I03D	**Drain, OR**		74.32	35	⇑P		P	22 42 26.1	+1.9	
		baz=74								
PWJI	**Pagerwojo**		74.37	266	P		P	22 42 24.4	-0.8	
PDMCI	**Parker Dam,Lak**		74.51	47	⇑P		P	22 42 27.2	+1.7	
		baz=75								
TPNV	**Topopah Spring**		74.51	44	*e*P		P	22 42 25.6	-0.1	
TPNV					pmax		pmax			
		comp=Z,42nm,1.3s								
TPNV					MLR		MLR			
		comp=Z,2μm,19.0s								
TPNV	**Topopah Spring**		74.51	44	⇑P		P	22 42 26.3	+0.6	
		baz=75,SNR=23								
TPNV	**Topopah Spring**		74.51	44	*e*P		P	22 42 25.6	-0.1	
TPNV		comp=Z,42nm,1.3s			LR		LR			
		comp=Z,2μm,19.0s								
TPH	**Tonopah**		74.51	42	*e*P		P	22 42 25.9	+0.2	
TPH					pmax		pmax			
		comp=Z,47nm,1.0s								
TPH					MLR		MLR			
		comp=Z,1μm,20.0s								
TPH	**Tonopah**		74.51	42	*e*P		P	22 42 25.9	+0.2	
TPH		comp=Z,47nm,1.0s			LR		LR			
		comp=Z,1μm,20.0s								
K04D	**Chiloquin, OR**		74.52	36	⇑P		P	22 42 26.6	+1.0	
		baz=75								
YSS	**Yuzh-Sakhalins**		74.53	330	⇓*e*P		P	22 42 25.0	-0.3	
YSS					*e**PP		pP	22 42 34.0	-0.6	
YSS					*e*			22 42 36.0		
YSS					*e**SP		sP	22 42 38.0	0.0	
YSS					*e*			22 45 06.0		
YSS					*e*S		SKiKP	22 51 54.0	+4.4	
YSS					pmax		pmax			
		comp=Z,40nm,1.0s								
YSS					pmax		pmax			
		comp=Z,400nm,4.0s								
YSS					MLR		MLR			
		comp=N,500nm,18.0s								
YSS					MLR		MLR			
		comp=E,300nm,18.0s								
YSS					MLR		MLR			
		comp=Z,500nm,18.0s								
YSS	**Yuzh-Sakhalins**		74.53	330	*e*P		P	22 42 24.5	-0.8	
		comp=Z,50nm,1.1s								
YSS					LR		LR			
		comp=Z,300nm,20.0s								
OHAK	**Old Harbor**		74.62	11	*e*P		P	22 42 25.1	-0.5	
		comp=Z,27nm,0.9s								
J04D	**Umpqua Nationa**		74.71	36	⇑P		P	22 42 28.1	+1.3	
		baz=75,SNR=7.8								
Z14A	**Wintersburg**		74.87	48	⇑P		P	22 42 29.2	+1.6	
		baz=75								
I04A	**Tendick Farm,**		74.90	35	⇓P		P	22 42 28.7	+1.0	
		baz=75,SNR=7.5								
MOD	**Modoc Plateau**		74.90	38	*e*P		P	22 42 27.7	-0.1	
MOD		comp=Z,34nm,1.0s			LR		LR			
		comp=Z,2μm,21.0s								
PCJI	**Pacitan**		74.93	266	P		P	22 42 28.5	+0.1	
SHPR	**Sheep Range**		74.99	44	*e*P		P	22 42 29.2	+0.7	
K05A	**Summer Lake**		75.07	37	*e*P		P	22 42 29.0	+0.1	
		comp=Z,100nm,1.3s								
W13A	**Hualapai Mount**		75.11	46	⇓P		P	22 42 31.3	+2.0	
		baz=75								
Y14A	**Wickenburg**		75.12	48	⇑P		P	22 42 30.6	+1.4	
		baz=75								
J05D	**Fort Rock, OR**		75.23	36	⇓P		P	22 42 31.0	+1.3	
		baz=75,SNR=15								
KDAK	**Kodiak Island**		75.28	11	P		P	22 42 29.3	-0.1	
		comp=Z,371nm,1.0s,SNR=10								
KDAK	**Kodiak Island**		75.28	11	*e*P		P	22 42 29.3	-0.1	
KDAK					pmax		pmax			
		comp=Z,83nm,1.1s								
KDAK					MLR		MLR			
		comp=Z,2μm,21.0s								
KDAK	**Kodiak Island**		75.28	11	*e*P		P	22 42 29.2	-0.1	
		comp=Z,83nm,1.1s								
KDAK					LR		LR			
		comp=Z,2μm,21.0s								
KSBUS	**Busan**		75.37	314	P		P	22 42 31.8	+1.3	
		SNR=5.6								
G03D	**McMinnville, O**		75.37	33	⇑P		P	22 42 31.5	+1.3	
		baz=76								
H04A	**Detroit Lake**		75.60	34	*e*P		P	22 42 31.8	+0.1	
H04A		comp=Z,38nm,1.0s			LR		LR			
		comp=Z,2μm,19.0s								
UGM	**Wanagama**		75.63	266	P		P	22 42 32.8	+0.3	
		baz=76,SNR=13								
R11A	**Troy Canyon, C**		75.73	43	⇓P		P	22 42 33.3	+0.5	
		baz=76,SNR=26								
R11A	**Troy Canyon, C**		75.73	43	*e*P		P	22 42 32.5	-0.2	
R11A		comp=Z,156nm,2.5s			LR		LR			
		comp=Z,2μm,20.0s								
TWG	**Pinlang**		75.76	299	*e*P		P	22 42 30.8	-2.2	
		comp=Z,208nm,1.3s								
KSDAG	**Daegu**		75.79	314	P		P	22 42 34.0	+1.1	
		SNR=5.3								
YULB	**Yu-li**		75.81	300	*e*P		P	22 42 31.9	-1.4	
		comp=Z,302nm,2.5s								
I05D	**Terrebonne, OR**		75.84	35	⇑P		P	22 42 34.6	+1.5	
		baz=76								
TUC	**Tucson**		75.91	50	*e*P		P	22 42 33.1	-0.7	
TUC					pmax		pmax			
		comp=Z,147nm,2.2s								
TUC					MLR		MLR			
		comp=Z,1μm,18.0s								
TUC	**Tucson**		75.91	50	*e*P		P	22 42 33.1	-0.7	
TUC		comp=Z,147nm,2.2s			LR		LR			
		comp=Z,1μm,18.0s								
F04D	**Rainier, OR**		76.08	33	⇓P		P	22 42 35.8	+1.5	
		baz=76								
WVOR	**Wild Horse Val**		76.21	38	*e*P		P	22 42 35.5	+0.2	
WVOR					pmax		pmax			
		comp=Z,32nm,1.1s								
WVOR					MLR		MLR			
		comp=Z,2μm,22.0s								
WVOR	**Wild Horse Val**		76.21	38	*e*P		P	22 42 35.5	+0.2	
WVOR		comp=Z,32nm,1.1s			LR		LR			
		comp=Z,2μm,22.0s								
SSLB	**Suanglung**		76.26	300	*e*P		P	22 42 34.6	-1.2	
		comp=Z,82nm,1.5s								
YHNB	**Yeheng**		76.28	301	*e*P		P	22 42 34.8	-1.1	
		comp=Z,112nm,1.2s								
TPUB	**Ta-pu**		76.33	299	*e*P		P	22 42 34.8	-1.4	
		comp=Z,104nm,1.1s								
G05D	**Wamic, OR**		76.43	34	⇑P		P	22 42 37.7	+1.3	
		baz=77								
X16A	**Lo Mia Camp, P**		76.48	48	⇑P		P	22 42 38.0	+0.9	
		baz=77,SNR=11								
319A	**Douglas**		76.58	52	⇓P		P	22 42 39.0	+1.3	
		baz=77,SNR=8.1								
I07A	**Izee**		76.71	36	*e*P		P	22 42 38.4	+0.3	
CCUT	**Cedar City**		76.77	44	*e*P		P	22 42 40.1	+1.4	
		comp=Z,48nm,1.4s								
SBUM	**Sibu**		76.78	276	⇓P		P	22 42 40.5	+1.5	
SBUM	**Sibu**		76.78	276	*e*P		P	22 42 36.9	-2.1	
		comp=Z,55nm,1.2s								
G06A	**Carlson Farm,**		76.80	35	*e*P		P	22 42 38.5	0.0	
KSKWJ	**Gwangju**		76.81	313	P		P	22 42 40.3	+1.6	
		SNR=7.8								
STKI	**Sintang**		76.82	274	P		P	22 42 41.1	+1.9	
		comp=Z,67nm,1.5s,comp=Z,17μm								
ARUT	**Antelope Range**		76.84	44	*e*P		P	22 42 40.2	+1.1	
ARUT	**Antelope Range**		76.84	44	*e*P		P	22 42 40.1	+1.1	
KNB	**Kanab**		76.85	45	*e*P		P	22 42 38.3	-0.8	
KNB					pmax		pmax			
		comp=Z,164nm,1.8s								
KNB	**Kanab**		76.85	45	*e*P		P	22 42 38.2	-0.8	
		comp=Z,164nm,1.8s								
U15A	**North Rim**		76.91	46	⇑P		P	22 42 41.1	+1.5	
		baz=77,SNR=31								
KSCHJ	**Chungju**		77.00	315	P		P	22 42 41.2	+1.5	
		SNR=8.0								
WUAZ	**Wupatki**		77.08	47	⇑P		P	22 42 41.3	+0.9	
		baz=77,SNR=9.6								
WUAZ	**Wupatki**		77.08	47	*e*P		P	22 42 41.1	+0.7	
		comp=Z,354nm,3.0s								
LON	**Longmire**		77.14	33	*e*P		P	22 42 40.8	+0.4	
LON					pmax		pmax			
		comp=Z,33nm,1.4s								
LON	**Longmire**		77.14	33	*e*P		P	22 42 40.8	+0.4	
		comp=Z,33nm,1.4s								
KSWJU	**Wonju**		77.23	315	P		P	22 42 43.0	+2.0	
		SNR=8.8								
ELK	**Elko**		77.29	41	*e*P		P	22 42 41.1	-0.5	
ELK					pmax		pmax			
		comp=Z,196nm,2.7s								
ELK	**Elko**		77.29	41	*e*P		P	22 42 41.1	-0.5	
		comp=Z,196nm,2.7s								
KPJI	**Karang Pucung**		77.30	266	P		P	22 42 41.7	-0.2	
D05A	**Enumclaw**		77.33	33	*e*P		P	22 42 42.8	+1.4	
		comp=Z,306nm,1.5s								
KSRS	**Korea Array**		77.34	315	P		P	22 42 42.9	+1.3	
		comp=Z,9.1nm,0.9s,baz=123,slow=6.4,SNR=36								
KSRS					LR		LR	23 15 12.0		
		comp=Z,437nm,18.6s,baz=116,slow=35								
KSRS	**Korea Array**		77.34	315	P		P	22 42 42.9	+1.3	
KSRS					pmax		pmax			
		comp=Z,9.0nm,0.9s								
KSRS					MLR		MLR			
		comp=Z,437nm,18.6s								
MIR	**Mirnyy**		77.35	204	*e*P		P	22 42 43.0	+1.8	
KS15	**Wonju Array Si**		77.36	315	*e*P		P	22 42 42.9	+1.1	
KSSKC	**Sokcho**		77.38	316	P		P	22 42 43.5	+1.7	
		SNR=10.0								
KSGUS	**GUNSAN**		77.40	313	P		P	22 42 43.3	+1.4	
		SNR=7.0								
BRLK	**Bradley Lake**		77.45	11	PFAKE			22 42 50.0	+8.3	
BRLK					LR		LR			
		comp=Z,2μm,21.0s								
SEHB	**SEOHWA**		77.55	316	P		P	22 42 45.4	+2.6	
		SNR=7.9								
PGC	**Sidney**		77.56	31	*e*P		P	22 42 42.9	+0.4	
		comp=Z,71nm,1.1s								
KSCHC	**Chuncheon**		77.58	315	P		P	22 42 45.4	+2.4	
		SNR=8.3								
KSICN	**Icheon**		77.60	315	P		P	22 42 45.1	+2.1	
		SNR=14								
X18A	**Snowflake**		77.60	48	⇑P		P	22 42 44.4	+1.0	
		baz=78,SNR=6.6								
G08A	**Pilot Rock**		77.76	35	*e*P		P	22 42 43.5	-0.5	
		comp=Z,283nm,2.5s								
RSO	**Redoubt South**		77.78	10	*e*P		P	22 42 43.6	-0.2	
KSSWO	**Suwon**		77.89	315	P		P	22 42 46.1	+1.4	
		SNR=18								
KSCWO	**Chonwon**		77.94	316	P		P	22 42 47.4	+2.5	
		SNR=13								
SVW2	**Sparrevohn**		77.97	8	*e*P		P	22 42 43.8	-0.8	
KSSES	**Seosan**		78.01	314	P		P	22 42 45.4	0.0	
		SNR=6.4								
SEW	**Seward**		78.03	11	*e*P		P	22 42 44.0	-0.9	
		comp=Z,51nm,1.1s								
SEW					LR		LR			
		comp=Z,1μm,19.0s								
KSSEO	**Seoul**		78.04	315	P		P	22 42 47.4	+1.9	
		SNR=16								
MVU	**Marysvale**		78.04	44	*e*P		P	22 42 47.1	+1.3	
MVU		comp=Z,33nm,1.0s			LR		LR			
		comp=Z,1μm,19.0s								
W18A	**Petrified Fore**		78.05	48	PFAKE			22 43 00.0	+14	
W18A					LR		LR			
		comp=Z,800nm,20.0s								
E07A	**Sunnyside**		78.06	34	*e*P		P	22 42 45.1	-0.4	
LTY	**Liberty**		78.07	33	*e*P		P	22 42 45.5	-0.1	
		comp=Z,237nm,2.6s								
HAWA	**Hanford**		78.13	34	*e*P		P	22 42 46.0	+0.1	
		comp=Z,214nm,2.3s								
HAWA					LR		LR			
		comp=Z,2μm,20.0s								
INCN	**Inchon**		78.23	315	*e*P		P	22 42 45.7	-0.9	
		comp=Z,93nm,1.0s								
INCN					LR		LR			
		comp=Z,700nm,19.0s								
121A	**Cookes Peak, D**		78.25	51	⇓P		P	22 42 48.2	+1.2	
		baz=78,SNR=11								
CISI	**Cisompet, Garu**		78.31	265	PFAKE			22 43 00.0	+12	
CISI					LR		LR			
		comp=Z,600nm,18.0s								
YNCB	**YEONCHEON**		78.32	315	P		P	22 42 48.7	+1.7	
		SNR=16								
KSM	**Kuching**		78.33	275	P		P	22 42 48.7	+1.0	
		baz=78,SNR=28								
KSM	**Kuching**		78.33	275	*e*P		P	22 42 46.1	-1.6	
		comp=Z,202nm,1.2s								
KSMUS	**Musan**		78.36	315	P		P	22 42 49.3	+2.0	
		SNR=14								
BMO	**Blue Mountains**		78.43	36	*e*P		P	22 42 47.4	-0.2	
BMO		comp=Z,187nm,2.4s			LR		LR			
		comp=Z,2μm,19.0s								
MFID	**Camas Ranch**		78.45	38	*e*P		P	22 42 48.0	+0.2	
		comp=Z,28nm,1.1s								
B06A	**Marblemount**		78.46	32	*e*P		P	22 42 47.3	-0.2	
CRAG	**Craig**		78.47	22	*e*P		P	22 42 47.5	+0.1	
A05A	**Maple Falls**		78.47	31	*e*P		P	22 42 46.8	-0.8	
		comp=Z,43nm,1.3s								
KSGAH	**Ganghwa**		78.48	315	P		P	22 42 49.5	+1.6	
		SNR=15								
USRK	**Ussuriysk Ar.**		78.51	323	P		P	22 42 47.9	0.0	
		comp=Z,3.8nm,0.9s,baz=100,slow=7.0,SNR=11								
USRK					LR		LR	23 15 37.9		
		comp=Z,710nm,19.0s,baz=117,slow=34								
DUG	**Dugway, Tooele**		78.54	42	*e*P		P	22 42 48.5	+0.1	
DUG		comp=Z,22nm,1.1s			pmax		pmax			
DUG					MLR		MLR			
		comp=Z,1μm,21.0s								
DUG	**Dugway, Tooele**		78.54	42	⇑P		P	22 42 49.1	+0.7	
		baz=79,SNR=19								
DUG	**Dugway, Tooele**		78.54	42	*e*P		P	22 42 48.5	+0.1	
DUG		comp=Z,22nm,1.1s			LR		LR			
		comp=Z,1μm,21.0s								
LEM	**Lembang**		78.69	266	P		P	22 42 49.7	-0.2	
		comp=Z,138nm,1.7s,comp=Z,3μm								
QZH	**Quanzhou**		78.69	300	⇑*i*P		P	22 42 51.3	+1.9	
QZH					S		S	22 52 46.0	+0.9	
QZH					PMZ					
		comp=Z,260nm,1.4s								
QZH					PMZ					
		comp=Z,1μm,4.0s								
QZH					LZ					
		comp=Z,1μm,12.0s								
BGU	**Big Grassy Mou**		78.79	42	*e*P		P	22 42 49.8	0.0	
		comp=Z,62nm,1.3s								
BGU					LR		LR			
		comp=Z,2μm,22.0s								
D08A	**Wollman Farm,**		78.87	34	*e*P		P	22 42 50.1	+0.2	
RC01	**Rabbit Creek A**		78.89	11	*e*P		P	22 42 49.0	-0.7	
		comp=Z,65nm,1.2s								
RC01					LR		LR			
		comp=Z,900nm,20.0s								
NLU	**North Lily Min**		78.89	43	*e*P		P	22 42 49.6	-0.8	
		comp=Z,25nm,1.2s								
NLU					LR		LR			
		comp=Z,2μm,18.0s								
E09A	**Wood Farm, Sta**		78.96	35	*e*P		P	22 42 49.8	-0.6	
CNJI	**Cibinong**		79.03	265	P		P	22 43 01.9	+10	
TMUT	**Trail Mountain**		79.12	44	*e*P		P	22 42 51.9	0.0	
		comp=Z,71nm,1.2s								
F10A	**Beach Ranch, E**		79.14	36	*e*P		P	22 42 51.1	-0.4	
		comp=Z,33nm,1.0s								
SSE	**Sheshan**		79.18	307	P		P	22 42 52.3	+0.4	
SSE					S		S	22 52 54.3	+4.2	
SSE					SS		SS	22 57 59.3	+2.1	
SSE					PMZ					
		comp=Z,25nm,0.7s								
SSE					PMZ					
		comp=Z,200nm,7.7s								
SSE					LN					
		comp=Z,410nm,28.9s								
SSE					LE					
		comp=Z,240nm,29.4s								
MPU	**Maple Canyon**		79.21	43	*e*P		P	22 42 52.5	+0.3	
		comp=Z,20nm,1.0s								
MPU					LR		LR			
		comp=Z,3μm,19.0s								
HLID	**Hailey**		79.38	39	⇑P		P	22 42 54.0	+1.0	
		baz=80,SNR=28								
HLID	**Hailey**		79.38	39	*e*P		P	22 42 53.3	+0.3	
HLID		comp=Z,32nm,1.0s			LR		LR			
		comp=Z,1μm,20.0s								
HABR	**Khabarovsk**		79.41	327	*de*P		P	22 42 51.4	-1.4	
HABR					*e*			22 42 59.5		
HABR					*e**PP		pP	22 43 01.8	-0.3	
HABR					*e**SP		sP	22 43 05.9	+0.4	
HABR								22 45 51.3		
HABR					*e*PPP		PPP	22 47 39.5		
HABR					*e*S		S	22 52 49.3	-2.5	
HABR					*e*			22 53 02.5		
HABR					*e**SS		SKSac	22 53 07.0	0.0	
HABR					*e*SS		SS	22 57 56.6	-3.3	
HABR					*e*SSS		SSS	23 01 22.3		
HABR					pmax		pmax			
		comp=N,13nm,1.6s								
HABR					pmax		pmax			
		comp=Z,85nm,1.6s								
HABR					pmax		pmax			
		comp=E,12nm,1.1s								
HABR					MLR		MLR			
		comp=Z,348nm,19.0s								
HVU	**Hansel Valley**		79.41	41	*e*P		P	22 42 53.3	+0.1	
HVU					pmax		pmax			
		comp=Z,144nm,2.2s								
HVU					MLR		MLR			
		comp=Z,2μm,21.0s								
HVU	**Hansel Valley**		79.41	41	*e*P		P	22 42 53.3	+0.1	
		comp=Z,144nm,2.2s								
HVU					LR		LR			
		comp=Z,2μm,21.0s								
B08A	**Colville Reser**		79.46	33	*e*P		P	22 42 52.3	-0.8	
		comp=Z,34nm,1.3s								
PMR	**Palmer**		79.47	11	*e*P		P	22 42 51.9	-0.9	
PMR	**Palmer**		79.47	11	*e*P		P	22 42 51.9	-0.9	
WRAK	**Wrangell Islan**		79.48	21	*e*P		P	22 42 53.1	+0.2	
		comp=Z,158nm,2.0s								
SRU	**San Rafael Swe**		79.48	44	*e*P		P	22 42 53.4	-0.3	
SRU					pmax		pmax			
		comp=Z,190nm,2.1s								
SRU					MLR		MLR			
		comp=Z,1μm,21.0s								
SRU	**San Rafael Swe**		79.48	44	*e*P		P	22 42 53.4	-0.3	
		comp=Z,190nm,2.1s								
SRU					LR		LR			
		comp=Z,1μm,21.0s								
GAMB	**Gambell**		79.50	0	*e*P		P	22 42 53.0	+0.1	
CBJI	**Citeko**		79.53	266	P		P	22 42 54.5	+0.2	
		comp=Z,210nm,1.7s								
LAZ	**Ladron**		79.59	50	*e*P		P	22 42 53.7	-0.6	
LENM	**Lemitar**		79.60	50	*e*P		P	22 42 53.6	-0.8	
JLU	**Jordanelle**		79.64	43	*e*P		P	22 42 54.9	+0.3	
		comp=Z,28nm,1.1s								
DAU	**Daniels Canyon**		79.67	43	*e*P		P	22 42 55.2	+0.4	
DAU	**Daniels Canyon**		79.67	43	*e*P		P	22 42 55.2	+0.4	
C09A	**Chrisman Ranch**		79.67	34	*e*P		P	22 42 54.3	0.0	
		comp=Z,172nm,2.1s								
MNTX	**Cornudas Mount**		79.69	53	⇓P		P	22 42 56.1	+1.4	
		baz=80								
MNTX	**Cornudas Mount**		79.69	53	PFAKE			22 43 10.0	+15	
MNTX					LR		LR			
		comp=Z,1μm,21.0s								
DIV	**Divide**		79.71	13	*e*P		P	22 42 53.5	-0.7	
DIV		comp=Z,95nm,1.0s			LR		LR			
		comp=Z,2μm,22.0s								
TPI	**Tanjungpandan**		79.72	270	P		P	22 42 56.1	+0.8	
		comp=Z,63nm,1.4s,comp=Z,974nm								
SML	**Sawmill**		79.82	11	PFAKE			22 43 10.0	+15	
SML					LR		LR			
		comp=Z,200nm,20.0s								
BMRM	**Bremner River**		79.82	13	*e*P		P	22 42 54.3	-0.5	
		comp=Z,145nm,1.2s								
BMRM					LR		LR			
		comp=Z,1μm,20.0s								
MVCO	**Mesa Verde**		79.93	47	⇑P		P	22 42 57.6	+1.4	
		baz=80								
MVCO	**Mesa Verde**		79.93	47	*e*P		P	22 42 55.3	-0.9	
		comp=Z,64nm,1.8s								
PV05	**Paradox Valley**		79.94	46	*e*P		P	22 42 56.8	+0.6	
KLU	**Klutina**		80.01	12	PFAKE			22 43 10.0	+14	
KLU					LR		LR			
		comp=Z,1μm,21.0s								
LTX	**Lajitas**		80.02	56	*e*P		P	22 42 58.0	+1.3	
LTX	**Lajitas**		80.02	56	*e*P		P	22 42 58.0	+1.3	
TXAR	**Lajitas Array**		80.02	56	P		P	22 42 58.0	+1.3	
		comp=Z,28nm,1.1s,baz=220,slow=5.7,SNR=81								
TXAR					LR		LR	23 11 01.6		
		comp=Z,627nm,20.9s,baz=0.0,slow=30								
TXAR	**Lajitas Array**		80.02	56	P		P	22 42 58.0	+1.3	
TXAR					pmax		pmax			
		comp=Z,28nm,1.1s								
TXAR					MLR		MLR			
		comp=Z,627nm,20.9s								
SCM	**Sheep Creek Mo**		80.03	12	PFAKE			22 43 10.0	+14	
SCM					LR		LR			
		comp=Z,1μm,20.0s								
HWUT	**Hardware Ranch**		80.09	42	*e*P		P	22 42 56.6	-0.3	
		comp=Z,27nm,1.2s								
HWUT					LR		LR			
		comp=Z,2μm,20.0s								
PV09	**Paradox Valley**		80.12	45	*e*P		P	22 42 57.8	+0.5	
PV10	**Paradox Valley**		80.12	45	*e*P		P	22 42 57.5	+0.3	
MDJ	**Mudanjiang**		80.15	322	P		P	22 42 57.8	+0.9	
MDJ					pP		PcP	22 43 03.5	-0.6	
MDJ					sP		sP	22 43 06.8	-2.8	
MDJ					S		S	22 53 04.8	+5.0	
MDJ					PMZ					
		comp=Z,16nm,1.5s								
MDJ					PMZ					
		comp=Z,370nm,5.8s								
MDJ					LN					
		comp=Z,690nm,35.0s								
MDJ					LE					
		comp=Z,550nm,29.5s								
MDJ					LZ					
		comp=Z,590nm,19.7s								
MDJ	**Mudanjiang**		80.15	322	PFAKE			22 43 10.0	+13	
MDJ					LR		LR			
		comp=Z,600nm,20.0s								
PPLA	**Purkeypile**

TRF	**Thorofare Moun**	**81.00**	**10**	*e*P		**P**	**22 43 00.3**	**-0.9**
	comp=Z,344nm,2.2s							
TRF				LR		LR		
	comp=Z,2µm,20.0s							
MCMT	**McKenzie Canyo**	**81.02**	**38**	*e*P		**P**	**22 43 02.4**	**+0.5**
RND	**Reindeer**	**81.20**	**10**	PFAKE			22 43 10.0	+7.8
RND				LR		LR		
	comp=Z,2µm,22.0s							
PPBI	**Pangkal Pinang**	**81.34**	**270**	P		**P**	**22 43 05.4**	**+1.4**
	comp=Z,84nm,1.2s,comp=Z,6µm							
S22A	**4UR Ranch, Cre**	**81.36**	**47**	⇑P		**P**	**22 43 05.4**	**+1.5**
	baz=82,SNR=31							
S22A	**4UR Ranch, Cre**	**81.36**	**47**	*e*P		**P**	**22 43 04.9**	**+1.0**
	comp=Z,347nm,2.4s							
TNA	**Tin City**	**81.36**	**2**	*e*P		**P**	**22 43 03.0**	**+0.1**
	comp=Z,119nm,1.6s							
TNA				LR		LR		
	comp=Z,700nm,20.0s							
NJ2	**Nanjing**	**81.39**	**307**	*e*P		**P**	**22 43 05.0**	**+1.2**
NJ2				pP		**PcP**	**22 43 11.0**	**+1.2**
NJ2				sP		**sP**	**22 43 13.8**	**-2.7**
NJ2				S		**S**	**22 53 16.0**	**+2.8**
NJ2				PMZ				
	comp=Z,20nm,0.6s							
NJ2				PMZ				
	comp=Z,650nm,7.8s							
NJ2				LN				
	comp=Z,400nm,15.8s							
NJ2				LE				
	comp=Z,360nm,15.1s							
NJ2				LZ				
	comp=Z,380nm,22.2s							
PAX	**Paxson**	**81.44**	**12**	*e*P		**P**	**22 43 02.6**	**-0.9**
PAX				pmax		pmax		
	comp=Z,45nm,1.2s							
PAX				MLR		MLR		
	comp=Z,1µm,22.0s							
PAX	**Paxson**	**81.44**	**12**	*e*P		**P**	**22 43 02.6**	**-0.9**
	comp=Z,44nm,1.2s							
PAX				LR		LR		
	comp=Z,1µm,22.0s							
HYT	**Haines Junctio**	**81.45**	**16**	*e*P		**P**	**22 43 03.4**	**-0.2**
REDW	**Red Top Meadow**	**81.46**	**40**	*e*P		**P**	**22 43 03.6**	**-0.6**
	comp=Z,242nm,2.3s							
DLMT	**Dillon**	**81.46**	**38**	*e*P		**P**	**22 43 04.2**	**+0.1**
	comp=Z,279nm,2.6s							
TPAW	**Teton Pass**	**81.46**	**40**	*e*P		**P**	**22 43 04.0**	**-0.3**
	comp=Z,137nm,1.9s							
MCK	**McKinley**	**81.49**	**10**	*e*P		**P**	**22 43 03.2**	**-0.5**
MCK				pmax		pmax		
	comp=Z,106nm,1.0s							
MCK				MLR		MLR		
	comp=Z,2µm,22.0s							
MCK	**McKinley**	**81.49**	**10**	*e*P		**P**	**22 43 03.1**	**-0.5**
	comp=Z,106nm,1.0s							
MCK				LR		LR		
	comp=Z,2µm,22.0s							
MSO	**Missoula**	**81.49**	**36**	⇓P		**P**	**22 43 04.6**	**+0.4**
	baz=82,SNR=18							
MSO	**Missoula**	**81.49**	**36**	*e*P		**P**	**22 43 03.8**	**-0.4**
	comp=Z,200nm,2.3s							
MSO				LR		LR		
	comp=Z,2µm,21.0s							
529A	**Stev Forest Ra**	**81.50**	**55**	⇓P		**P**	**22 43 05.5**	**+0.9**
	baz=82,SNR=17							
O20A	**White River Ci**	**81.52**	**44**	⇑P		**P**	**22 43 05.4**	**+0.8**
	baz=82,SNR=8.3							
O20A	**White River Ci**	**81.52**	**44**	*e*P		**P**	**22 43 03.8**	**-0.8**
	comp=Z,273nm,2.6s							
SNOW	**Snow King Moun**	**81.57**	**40**	*e*P		**P**	**22 43 05.0**	**+0.1**
	comp=Z,203nm,2.1s							
BSMT	**Bassoo Peak**	**81.60**	**35**	*e*P		**P**	**22 43 04.3**	**-0.5**
KLR	**Kul'dur**	**81.60**	**327**	*e*P		P	22 43 00.0	-4.5
IMW	**Indian Meadow**	**81.68**	**40**	*e*P		**P**	**22 43 06.1**	**+0.6**
	comp=Z,83nm,1.8s							
LOHW	**Long Hollow**	**81.74**	**40**	*e*P		**P**	**22 43 05.4**	**-0.4**
	comp=Z,257nm,2.7s							
LRM	**Limekiln Ridge**	**81.80**	**38**	*e*P		**P**	**22 43 06.0**	**0.0**
BWN	**Browne**	**81.81**	**10**	PFAKE			22 43 20.0	+15
BWN				LR		LR		
	comp=Z,2µm,21.0s							
DLBC	**Dease Lake**	**81.84**	**21**	*e*P		**P**	**22 43 05.4**	**-0.3**
SWMT	**Swartz Lake**	**81.84**	**36**	*e*P		**P**	**22 43 06.0**	**0.0**
N20A	**Spence Gulch,**	**81.85**	**44**	⇑P		**P**	**22 43 07.1**	**+0.7**
	baz=82,SNR=22							
QLMT	**Earthquake Lak**	**81.87**	**39**	*e*P		**P**	**22 43 06.9**	**+0.5**
I17A	**Pilgrim Ck.**	**81.92**	**40**	⇑P		**P**	**22 43 08.1**	**+1.5**
	baz=82,SNR=8.0							
FLWY	**Flagg Ranch**	**81.92**	**40**	*e*P		**P**	**22 43 07.2**	**+0.5**
	comp=Z,98nm,1.5s							
SMCO	**Snowmass**	**81.92**	**45**	*e*P		**P**	**22 43 07.5**	**+0.5**
	comp=Z,208nm,2.0s							
CHMT	**Chamberlain Mo**	**81.93**	**36**	*e*P		**P**	**22 43 06.2**	**-0.4**
429A	**Davenport Ranc**	**81.95**	**55**	⇓P		**P**	**22 43 07.8**	**+0.8**
	baz=82,SNR=53							
BW06	**Boulder Array**	**81.97**	**41**	*e*P		**P**	**22 43 06.2**	**-0.8**
	comp=Z,223nm,2.6s							
BW06				LR		LR		
	comp=Z,2µm,20.0s							
PD31	**Pinedale Array**	**81.97**	**41**	*e*P		**P**	**22 43 05.9**	**-1.0**
PDAR	**Pinedale Array**	**81.97**	**41**	P		**P**	**22 43 07.0**	**+0.1**
	comp=Z,9.8nm,1.1s,baz=208,slow=2.9,SNR=34							
PDAR				LR		LR	23 13 27.8	
	comp=Z,1µm,19.9s,baz=248,slow=31							
SLMT	**Seeley Lake**	**81.97**	**36**	*e*P		**P**	**22 43 05.7**	**-1.1**
228A	**UT Block 9, Go**	**82.02**	**53**	⇑P		**P**	**22 43 08.3**	**+1.1**
	baz=82,SNR=13							
KASI	**Kota Agung**	**82.02**	**267**	P		**P**	**22 43 07.3**	**-0.3**
	comp=Z,143nm,1.3s,comp=Z,2µm							
YFT	**Old Faithful**	**82.03**	**39**	*e*P		**P**	**22 43 07.3**	**0.0**
	comp=Z,65nm,1.6s							
YFT				LR		LR		
	comp=Z,2µm,21.0s							
YMR	**Madison River**	**82.07**	**39**	*e*P		**P**	**22 43 08.2**	**+0.8**
	comp=Z,144nm,1.7s							
YMR				LR		LR		
	comp=Z,600nm,22.0s							
DDM	**Donnelly Dome**	**82.10**	**11**	PFAKE			22 43 20.0	+13
DDM				LR		LR		
	comp=Z,1µm,20.0s							
H17A	**Grant Village**	**82.16**	**40**	⇓P		**P**	**22 43 09.9**	**+1.9**
	baz=82,SNR=6.3							
H17A	**Grant Village**	**82.16**	**40**	*e*P		**P**	**22 43 09.5**	**+1.5**
	comp=Z,109nm,2.1s							
BOZ	**Bozeman (W)**	**82.19**	**38**	*e*P		**P**	**22 43 08.0**	**+0.1**
BOZ				pmax		pmax		
	comp=Z,78nm,1.6s							
BOZ				MLR		MLR		
	comp=Z,2µm,20.0s							
BOZ	**Bozeman (W)**	**82.19**	**38**	*e*P		**P**	**22 43 08.0**	**+0.1**
	comp=Z,78nm,1.6s							
BOZ				LR		LR		
	comp=Z,2µm,20.0s							
530A	**J-C Ranch, Com**	**82.20**	**56**	⇓P		**P**	**22 43 09.2**	**+0.9**
	baz=82,SNR=27							
329A	**Wagon Wheel Ra**	**82.23**	**54**	⇑P		**P**	**22 43 09.2**	**+0.8**
	baz=82,SNR=28							
CN2	**Changchun**	**82.23**	**320**	*e*P		**P**	**22 43 08.1**	**+0.1**
CN2				*ep*P		**PcP**	**22 43 13.0**	**-0.3**
CN2				*es*P		sP	22 43 15.1	-5.6
CN2				*e*S		**S**	**22 53 21.8**	**+0.3**
CN2				PMZ				
	comp=Z,20nm,0.8s							
CN2				PMZ				
	comp=Z,200nm,5.0s							
CN2				LN				
	comp=Z,600nm,17.0s							
CN2				LE				
	comp=Z,300nm,17.0s							
CN2				LZ				
	comp=Z,600nm,18.0s							
R23A	**Moffat**	**82.26**	**47**	⇑P		**P**	**22 43 09.4**	**+0.7**
	baz=82,SNR=15							
YNR	**Norris Junctio**	**82.27**	**39**	*e*P		**P**	**22 43 09.2**	**+0.7**
	comp=Z,58nm,1.6s							
P22A	**Eagle**	**82.27**	**45**	⇓P		**P**	**22 43 09.3**	**+0.7**
	baz=82,SNR=8.2							
SDCO	**Great Sand Dun**	**82.29**	**47**	⇓P		**P**	**22 43 09.3**	**+0.4**
	baz=82,SNR=25							
128A	**Castleberry Fa**	**82.31**	**53**	⇑P		**P**	**22 43 09.5**	**+0.7**
	baz=82,SNR=24							
WRH	**Wood River Hil**	**82.32**	**10**	PFAKE			22 43 20.0	+12
WRH				LR		LR		
	comp=Z,1µm,22.0s							
DOT	**Dot Lake**	**82.33**	**12**	*e*P		**P**	**22 43 07.3**	**-0.8**
	comp=Z,62nm,1.0s							
DOT				LR		LR		
	comp=Z,2µm,21.0s							
DL2	**Dalian**	**82.37**	**314**	⇑P		P	22 43 12.3	+3.5
DL2				S		**S**	**22 53 28.8**	**+5.7**
DL2				PMZ				
	comp=Z,52nm,1.3s							
DL2				PMZ				
	comp=Z,260nm,5.4s							
DL2				LE				
	comp=Z,260nm,14.7s							
DL2				LZ				
	comp=Z,210nm,16.7s							
MLY	**Manley**	**82.41**	**9**	PFAKE			22 43 20.0	+11
MLY				LR		LR		
	comp=Z,1µm,20.0s							
SNY	**Shenyang**	**82.44**	**317**	⇓P		**P**	**22 43 09.6**	**+0.5**
SNY				PMZ				
	comp=Z,25nm,1.5s							
SNY				PMZ				
	comp=Z,400nm,5.2s							
SNY				LN				
	comp=Z,260nm,15.6s							
SNY				LE				
	comp=Z,290nm,20.4s							
SNY				LZ				
	comp=Z,400nm,16.2s							
PMBI	**Palembang**	**82.45**	**269**	PFAKE			22 43 20.0	+10
PMBI				LR		LR		
	comp=Z,400nm,18.0s							
HDA	**Harding Lake**	**82.46**	**11**	PFAKE			22 43 20.0	+11
HDA				LR		LR		
	comp=Z,800nm,20.0s							
631A	**Perdido Creek**	**82.53**	**57**	⇓P		**P**	**22 43 10.7**	**+0.8**
	baz=83,SNR=35							
CCB	**Clear Creek Bu**	**82.53**	**10**	PFAKE			22 43 20.0	+11
CCB				LR		LR		
	comp=Z,1µm,22.0s							
J19A	**Crowheart**	**82.54**	**41**	⇑P		**P**	**22 43 10.4**	**+0.6**
	baz=83,SNR=21							
430A	**Baggett Ranch,**	**82.54**	**55**	⇑P		**P**	**22 43 10.7**	**+0.7**
	baz=83,SNR=15							
229A	**Bryant Ranch,**	**82.56**	**54**	⇑P		**P**	**22 43 10.8**	**+0.7**
	baz=83,SNR=10							
LWLI	**Liwa**	**82.58**	**267**	P		**P**	**22 43 10.7**	**+0.1**
	comp=Z,83nm,1.5s							
832A	**Faith Ranch, C**	**82.58**	**58**	⇓P		**P**	**22 43 10.6**	**+0.4**
	baz=83,SNR=21							
Q23A	**Hartsel**	**82.58**	**46**	⇑P		**P**	**22 43 11.1**	**+0.7**
	baz=83,SNR=19							
MDSI	**Maura Dua**	**82.60**	**267**	P		**P**	**22 43 09.7**	**-0.9**
	comp=Z,47nm,1.7s,comp=Z,769nm							
SCRK	**Sand Creek**	**82.64**	**12**	PFAKE			22 43 20.0	+10
SCRK				LR		LR		
	comp=Z,1µm,20.0s							
HRY	**Holter Researc**	**82.64**	**37**	*e*P		**P**	**22 43 10.2**	**0.0**
MSTX	**Muleshoe**	**82.65**	**52**	⇑P		**P**	**22 43 11.4**	**+0.8**
	baz=83,SNR=13							
MSTX	**Muleshoe**	**82.65**	**52**	*e*P		**P**	**22 43 10.5**	**-0.1**
	comp=Z,478nm,2.3s							
MSTX				LR		LR		
	comp=Z,2µm,18.0s							
Z28A	**Tucker Farm, M**	**82.66**	**52**	⇓P		**P**	**22 43 11.3**	**+0.7**
	baz=83,SNR=21							
O22A	**Kremmling**	**82.68**	**45**	⇑P		**P**	**22 43 11.5**	**+0.7**
	baz=83,SNR=54							
COLA	**College**	**82.73**	**10**	*e*P		**P**	**22 43 09.4**	**-0.7**
COLA				pmax		pmax		
	comp=Z,121nm,1.0s							
COLA				MLR		MLR		
	comp=Z,1µm,21.0s							
COLA	**College**	**82.73**	**10**	*e*P		**P**	**22 43 09.4**	**-0.7**
	comp=Z,121nm,1.0s							
COLA				LR		LR		
	comp=Z,1µm,21.0s							
MDM	**Murphy Dome**	**82.74**	**10**	PFAKE			22 43 20.0	+10
MDM				LR		LR		
	comp=Z,2µm,20.0s							
WALA	**Waterton Lakes**	**82.76**	**34**	*e*P		**P**	**22 43 10.3**	**-0.5**
	comp=Z,6µm,2.1s							
129A	**Stewart Farms,**	**82.79**	**53**	⇓P		**P**	**22 43 12.2**	**+0.9**
	baz=83,SNR=17							
R24A	**Sanders Place,**	**82.79**	**47**	⇑P		**P**	**22 43 12.2**	**+0.9**
	baz=83,SNR=24							
P23A	**Jefferson**	**82.80**	**46**	⇑P		**P**	**22 43 12.1**	**+0.6**
	baz=83,SNR=11							
T25A	**Trinidad**	**82.80**	**48**	⇑P		**P**	**22 43 12.0**	**+0.6**
	baz=83,SNR=10							
T25A	**Trinidad**	**82.80**	**48**	*e*P		**P**	**22 43 11.5**	**+0.1**
	comp=Z,302nm,2.7s							
ILAR	**Eielson Array**	**82.80**	**11**	P		**P**	**22 43 09.8**	**-0.6**
	comp=Z,17nm,1.0s,baz=209,slow=5.8,SNR=81							
ILAR				LR		LR	23 16 09.3	
	comp=Z,757nm,19.2s,baz=205,slow=33							
ILAR	**Eielson Array**	**82.80**	**11**	P		**P**	**22 43 09.9**	**-0.6**
ILAR				pmax		pmax		
	comp=Z,17nm,1.0s							
ILAR				MLR		MLR		
	comp=Z,757nm,19.2s							
ILB	**Eielson Array**	**82.80**	**11**	*e*P		**P**	**22 43 09.4**	**-1.1**
330A	**Mertzon**	**82.83**	**55**	⇓P		**P**	**22 43 11.9**	**+0.4**
	baz=83,SNR=12							
531A	**Rocksprings**	**82.84**	**56**	⇓P		**P**	**22 43 12.2**	**+0.7**
	baz=83,SNR=38							
H18A	**Shoshone NF, C**	**82.87**	**40**	⇓P		**P**	**22 43 12.4**	**+0.8**
	baz=83,SNR=8.7							
IM04	**Indian Mountai**	**82.88**	**8**	*e*P		**P**	**22 43 11.0**	**+0.1**
933A	**Laredo**	**82.90**	**59**	⇓P		**P**	**22 43 12.5**	**+0.7**
	baz=83,SNR=9.1							
I19A	**Meeteetse**	**82.96**	**40**	⇑P		**P**	**22 43 12.7**	**+0.7**
	baz=83,SNR=13							
431A	**Sonora**	**82.99**	**55**	⇓P		**P**	**22 43 13.0**	**+0.7**
	baz=83,SNR=9.0							
Y28A	**McKinney Farm,**	**83.02**	**52**	⇑P		**P**	**22 43 13.4**	**+0.9**
	baz=83							
N22A	**Wattenberg Ran**	**83.04**	**44**	⇓P		**P**	**22 43 13.3**	**+0.6**
	baz=83,SNR=25							
833A	**Chaparral WMA,**	**83.07**	**58**	⇓P		**P**	**22 43 13.5**	**+0.8**
	baz=83,SNR=8.5							
230A	**Sterling City**	**83.07**	**54**	⇓P		**P**	**22 43 13.7**	**+0.9**
	baz=83,SNR=7.4							
Q24A	**Divide**	**83.09**	**46**	⇑P		**P**	**22 43 13.8**	**+0.8**
	baz=83,SNR=12							
Q24A	**Divide**	**83.09**	**46**	*e*P		**P**	**22 43 12.0**	**-1.0**
	comp=Z,51nm,1.1s							
Q24A				LR		LR		
	comp=Z,900nm,21.0s							
O23A	**Lake Granby, G**	**83.13**	**45**	⇑P		**P**	**22 43 13.8**	**+0.7**
	baz=83,SNR=22							
ISCO	**Idaho Springs**	**83.15**	**45**	*e*P		**P**	**22 43 13.6**	**+0.3**
ISCO				pmax		pmax		
	comp=Z,165nm,2.5s							
ISCO	**Idaho Springs**	**83.15**	**45**	⇑P		**P**	**22 43 13.9**	**+0.7**
	baz=83,SNR=14							
ISCO	**Idaho Springs**	**83.15**	**45**	*e*P		**P**	**22 43 13.6**	**+0.3**
	comp=Z,165nm,2.5s							
DLV	**T Lat**	**83.15**	**284**	*e*P		**P**	**22 43 12.3**	**-1.3**
Z29A	**Hungry Hill Ra**	**83.17**	**53**	⇓P		**P**	**22 43 13.6**	**+0.4**
	baz=83,SNR=13							
034A	**Hebbronville**	**83.18**	**59**	⇑P		**P**	**22 43 14.0**	**+0.6**
	baz=83							
J20A	**Shoshoni**	**83.19**	**41**	⇑P		**P**	**22 43 13.8**	**+0.6**
	baz=83,SNR=29							
632A	**Uvalde**	**83.20**	**57**	⇑P		**P**	**22 43 13.9**	**+0.5**
	baz=83,SNR=17							
M22A	**Cedar Creek Ra**	**83.23**	**44**	⇓P		**P**	**22 43 14.2**	**+0.7**
	baz=83,SNR=15							
H19A	**Powell**	**83.28**	**40**	⇑P		**P**	**22 43 14.6**	**+1.0**
	baz=84,SNR=14							
733A	**Divot King Ran**	**83.30**	**58**	⇓P		**P**	**22 43 14.7**	**+0.8**
	baz=83							
X28A	**Dimmitt**	**83.31**	**51**	⇓P		**P**	**22 43 14.4**	**+0.4**
	baz=84,SNR=8.0							
RLMT	**Red Lodge**	**83.34**	**39**	*e*P		**P**	**22 43 14.0**	**0.0**
	comp=Z,36nm,1.1s							
RLMT				LR		LR		
	comp=Z,1µm,20.0s							
532A	**Rocksprings**	**83.34**	**56**	⇑P		**P**	**22 43 14.9**	**+0.8**
	baz=84,SNR=19							
V27A	**Dan Oppiter Fa**	**83.35**	**50**	⇑P		**P**	**22 43 14.7**	**+0.6**
	baz=84							
SEY	**Seymchan**	**83.36**	**345**	LR		LR	23 16 40.7	
	comp=Z,494nm,19.9s,baz=164,slow=33							
K21A	**Alcova**	**83.38**	**42**	⇑P		**P**	**22 43 14.9**	**+0.6**
	baz=84,SNR=30							
331A	**San Angelo**	**83.38**	**55**	⇑P		**P**	**22 43 14.7**	**+0.4**
	baz=84,SNR=11							
T26A	**Comanche Natio**	**83.40**	**49**	⇓P		**P**	**22 43 15.1**	**+0.6**
	baz=84							
LHSI	**Lahat**	**83.41**	**268**	P		**P**	**22 43 15.1**	**+0.3**
	comp=Z,83nm,1.7s,comp=Z,2µm							
N23A	**Red Feather La**	**83.42**	**44**	⇓P		**P**	**22 43 15.2**	**+0.6**
	baz=84,SNR=13							
N23A	**Red Feather La**	**83.42**	**44**	*e*P		**P**	**22 43 14.2**	**-0.4**
	comp=Z,373nm,2.5s							
GCMT	**Greycliff**	**83.43**	**39**	*e*P		**P**	**22 43 14.7**	**+0.3**
Y29A	**Porterfield Fa**	**83.44**	**52**	⇓P		**P**	**22 43 15.5**	**+0.9**
	baz=84,SNR=5.8							
I20A	**Worland**	**83.46**	**41**	⇓P		**P**	**22 43 15.1**	**+0.6**
	baz=84,SNR=32							
130A	**Snyder**	**83.47**	**54**	⇑P		**P**	**22 43 15.6**	**+0.8**
	baz=84							
035Z	**Hargill**	**83.47**	**60**	⇓P		**P**	**22 43 15.3**	**+0.5**
	baz=84							
P24A	**Kohler Place,**	**83.50**	**46**	⇓P		**P**	**22 43 15.5**	**+0.5**
	baz=84							
934A	**Benavides**	**83.52**	**59**	⇓P		**P**	**22 43 15.8**	**+0.8**
	baz=84							
JCT	**Junction City**	**83.56**	**56**	*e*P		**P**	**22 43 14.6**	**-0.7**
JCT				pmax		pmax		
	comp=Z,204nm,2.8s							
JCT				MLR		MLR		
	comp=Z,800nm,20.0s							
JCT	**Junction City**	**83.56**	**56**	⇑P		**P**	**22 43 15.6**	**+0.4**
	baz=84,SNR=5.6							
JCT	**Junction City**	**83.56**	**56**	*e*P		**P**	**22 43 14.6**	**-0.7**
	comp=Z,204nm,2.8s							
JCT				LR		LR		
	comp=Z,800nm,20.0s							
J21A	**Lysite**	**83.60**	**42**	⇑P		**P**	**22 43 15.9**	**+0.5**
	baz=84,SNR=45							
W28A	**Vega**	**83.61**	**51**	⇓P		**P**	**22 43 15.9**	**+0.4**
	baz=84							
035A	**Encino**	**83.62**	**60**	⇓P		**P**	**22 43 16.1**	**+0.5**
	baz=84							
Z30A	**Sanderson Ranc**	**83.62**	**53**	⇑P		**P**	**22 43 16.2**	**+0.7**
	baz=84,SNR=15							
L22A	**Ellis Ranch, M**	**83.63**	**43**	⇑P		**P**	**22 43 16.0**	**+0.4**
	baz=84,SNR=11							
U27A	**Thompson Grove**	**83.64**	**49**	⇑P		**P**	**22 43 16.2**	**+0.5**
	baz=84							
X29A	**Tulia**	**83.65**	**52**	⇓P		**P**	**22 43 16.1**	**+0.4**
	baz=84,SNR=7.6							
O24A	**Longmont**	**83.66**	**45**	⇓P		**P**	**22 43 16.3**	**+0.6**
	baz=84,SNR=7.5							
633A	**Saathoff Ranch**	**83.67**	**57**	⇑P		**P**	**22 43 16.5**	**+0.7**
	baz=84,SNR=15							
834A	**Tilden**	**83.68**	**59**	⇓P		**P**	**22 43 16.8**	**+0.9**
	baz=84,SNR=20							
S26A	**Kim**	**83.68**	**48**	⇓P		**P**	**22 43 16.5**	**+0.7**
	baz=84							
Q25A	**Bedland, Calha**	**83.69**	**47**	⇑P		**P**	**22 43 16.4**	**+0.4**
	baz=84							
DAWY	**Dawson**	**83.71**	**14**	*e*P		**P**	**22 43 15.0**	**-0.3**
231A	**Bronte**	**83.71**	**54**	⇑P		**P**	**22 43 16.3**	**+0.3**
	baz=84,SNR=11							
432A	**Menard**	**83.72**	**56**	⇑P		**P**	**22 43 16.7**	**+0.6**
	baz=84,SNR=16							
TPRI	**Tanjung Pinang**	**83.73**	**273**	P		**P**	**22 43 18.2**	**+1.8**
	comp=Z,82nm,1.1s,comp=Z,16µm							
V28A	**Channing**	**83.80**	**50**	⇑P		**P**	**22 43 17.6**	**+1.2**
	baz=84							
H20A	**Greybull**	**83.80**	**40**	⇑P		**P**	**22 43 16.8**	**+0.5**
	baz=84,SNR=13							
M23A	**Laramie**	**83.84**	**44**	⇓P		**P**	**22 43 17.5**	**+0.8**
	baz=84,SNR=14							
AMTX	**Amarillo**	**83.85**	**51**	⇓P		**P**	**22 43 17.9**	**+1.2**
	baz=84							
AMTX	**Amarillo**	**83.85**	**51**	PFAKE			22 43 30.0	+13
AMTX				LR		LR		
	comp=Z,2µm,18.0s							
K22A	**Casper**	**83.86**	**43**	⇓P		**P**	**22 43 17.2**	**+0.5**
	baz=84,SNR=7.3							
K22A	**Casper**	**83.86**	**43**	PFAKE			22 43 30.0	+13
K22A				LR		LR		
	comp=Z,2µm,18.0s							
F19A	**Roth Farm, Mol**	**83.90**	**39**	⇓P		**P**	**22 43 17.4**	**+0.7**
	baz=84,SNR=25							
I21A	**Big Trails, Te**	**83.92**	**41**	⇑P		**P**	**22 43 17.4**	**+0.5**
	baz=84,SNR=30							
EGAK	**Eagle**	**83.93**	**13**	*e*P		**P**	**22 43 16.1**	**-0.2**
	comp=Z,44nm,1.1s							
EGAK				LR		LR		
	comp=Z,1µm,20.0s							
PHWY	**Pilot Hill**	**83.94**	**44**	*e*P		**P**	**22 43 16.5**	**-0.8**
	comp=Z,160nm,2.2s							
734A	**La Parita Cree**	**83.94**	**58**	⇓P		**P**	**22 43 18.6**	**+1.4**
	baz=84							
131A	**Roby**	**83.95**	**54**	⇓P		**P**	**22 43 17.7**	**+0.6**
	baz=84,SNR=9.9							
332A	**Millersview**	**83.95**	**55**	⇑P		**P**	**22 43 17.6**	**+0.4**
	baz=84,SNR=8.1							
W29A	**Amarillo**	**83.97**	**51**	⇓P		**P**	**22 43 18.6**	**+1.3**
	baz=84							
T27A	**Campo**	**83.98**	**49**	⇓P		**P**	**22 43 17.9**	**+0.5**
	baz=84							
R26A	**Arlington**	**83.99**	**48**	⇑P		**P**	**22 43 18.2**	**+0.8**
	baz=84,SNR=5.4							
P25A	**Willow Gulch B**	**84.01**	**46**	⇓P		**P**	**22 43 18.2**	**+0.7**
	baz=84,SNR=8.8							
533A	**Kerrville**	**84.02**	**57**	⇑P		**P**	**22 43 18.2**	**+0.6**
	baz=84,SNR=13							
G20A	**Bridger**	**84.03**	**40**	⇓P		**P**	**22 43 18.3**	**+0.9**
	baz=84,SNR=8.7							
Y30A	**Stafford Cattl**	**84.03**	**52**	⇑P		**P**	**22 43 18.4**	**+0.8**
	baz=84							
U28A	**Mallet**	**84.06**	**50**	⇓P		**P**	**22 43 18.3**	**+0.6**
	baz=84							
N24A	**Carr**	**84.11**	**45**	⇓P		**P**	**22 43 18.7**	**+0.7**
	baz=84,SNR=7.6							
QIZ	**Qiongzhong**	**84.14**	**292**	P		**P**	**22 43 19.3**	**+0.9**
QIZ				S		**S**	**22 53 43.8**	**+2.0**
QIZ				PMZ				
	comp=Z,9.0nm,1.2s							
QIZ				PMZ				
	comp=Z,260nm,8.0s							
QIZ				LE				

I22A **9 Mile Ranch,** 84.47 41 ⇓P P 22 43 20.1 +0.4
baz=85,SNR=19
K23A **Bowen Ranch, D** 84.50 43 ⇑P P 22 43 20.4 +0.5
baz=85,SNR=11
ABTX **Abilene, Hawle** 84.51 54 ⇑P P 22 43 20.7 +0.7
baz=85,SNR=18
ABTX **Abilene, Hawle** 84.51 54 *e*P P 22 43 19.7 -0.3
comp=Z,110nm,1.1s
ABTX LR LR
comp=Z,1μm,22.0s
333A **Richland Sprin** 84.53 55 ⇑P P 22 43 20.5 +0.4
baz=85,SNR=12
EGMT **Eagleton** 84.53 37 ⇓P P 22 43 20.4 +0.6
baz=85
EGMT **Eagleton** 84.53 37 *e*P P 22 43 18.6 -1.3
comp=Z,301nm,2.3s
EGMT LR LR
comp=Z,2μm,22.0s
COLD **Coldfoot** 84.55 8 *e*P P 22 43 19.7 +0.3
comp=Z,56nm,1.2s
COLD LR LR
comp=Z,600nm,20.0s
Y31A **Rekieta Farm,** 84.55 53 ⇑P P 22 43 20.7 +0.4
baz=85,SNR=8.3
735A **Kenedy** 84.56 58 ⇑P P 22 43 20.8 +0.5
baz=85
D19A **Cripps Ranch,** 84.60 38 ⇑P P 22 43 21.3 +1.1
baz=85
P26A **Davis Ranch, A** 84.61 46 ⇓P P 22 43 21.2 +0.7
baz=85
MYKOM **Kota Tinggi** 84.62 273 *e*P P 22 43 20.2 -0.7
comp=Z,99nm,1.3s
MYKOM LR LR
comp=Z,300nm,19.0s
L24A **Wheatland** 84.63 44 ⇓P P 22 43 21.3 +0.8
baz=85
G21A **Lodge Grass** 84.65 40 ⇑P P 22 43 21.4 +0.9
baz=85
E20A **Meyer Farm, Mu** 84.72 39 ⇓P P 22 43 21.7 +0.9
baz=85,SNR=8.1
FYU **Fort Yukon** 84.72 11 PFAKE 22 43 30.0 +10
FYU LR LR
comp=Z,900nm,22.0s
635A **Leesville** 84.78 58 ⇓P P 22 43 22.8 +1.4
baz=85
C19A **Slack Wire Ran** 84.79 37 ⇓P P 22 43 22.4 +1.2
baz=85,SNR=24
U29A **Oasis Ranch, S** 84.79 50 ⇓P P 22 43 22.0 +0.6
baz=85
W30A **Crocket Farms** 84.80 51 ⇑P P 22 43 22.1 +0.7
baz=85
S28A **Manter** 84.80 49 ⇓P P 22 43 22.4 +1.0
baz=85
MASI **Maura Aman, Be** 84.82 268 P P 22 43 25.2 +3.1
comp=Z,138nm,1.5s
J23A **Dilts Ranch, B** 84.84 42 ⇑P P 22 43 22.0 +0.4
baz=85
233A **Rising Star** 84.86 55 ⇑P P 22 43 22.6 +0.8
baz=85,SNR=11
KSCO **Kaye Shedlock'** 84.88 47 ⇓P P 22 43 22.7 +0.8
baz=85
H22A **Clearmont** 84.89 41 ⇑P P 22 43 22.5 +0.7
baz=85,SNR=10.0
Z32A **Haskell** 84.90 53 ⇑P P 22 43 22.5 +0.6
baz=85,SNR=55
434A **Burnet** 84.91 56 ⇑P P 22 43 22.6 +0.5
baz=85,SNR=12
O26A **Horse Wrangler** 84.92 46 ⇓P P 22 43 22.9 +0.8
baz=85
M25A **Palm-Egli Farm** 84.94 44 ⇓P P 22 43 23.0 +0.8
baz=85
V30A **Spur Ranch, Mi** 84.94 51 ⇑P P 22 43 22.9 +0.7
baz=85
F21A **Absaloka Mine,** 84.99 40 ⇑P P 22 43 23.3 +1.0
baz=85
D20A **Manuel Ranch,** 85.00 38 ⇓P P 22 43 23.2 +1.0
baz=85,SNR=18
K24A **Anderson Ranch** 85.01 43 ⇑P P 22 43 23.2 +0.7
baz=85
X31A **McDonald Ranch** 85.03 52 ⇓P P 22 43 23.8 +1.2
baz=85
T29A **Hugoton** 85.06 49 ⇑P P 22 43 23.6 +0.8
baz=85
133A **Hamilton Ranch** 85.07 54 ⇑P P 22 43 23.4 +0.5
baz=85,SNR=15
334A **Lometa** 85.12 56 ⇑P P 22 43 23.6 +0.5
baz=85,SNR=18
P27A **Ficken Ranch,** 85.14 47 ⇓P P 22 43 23.5 +0.3
baz=85
I23A **Meade Ranch, G** 85.16 42 ⇓P P 22 43 23.8 +0.6
baz=85
R28A **Tribune** 85.17 48 ⇓P P 22 43 24.2 +0.8
baz=85
Y32A **R-V Farms, Ver** 85.19 53 ⇑P P 22 43 24.7 +1.2
baz=85,SNR=11
736A **Circle Diamond** 85.20 58 ⇓P P 22 43 25.5 +2.0
baz=85
B19A **Brinkman Farms** 85.22 37 ⇑P P 22 43 24.4 +1.1
baz=85
G22A **Birney** 85.22 40 ⇓P P 22 43 24.3 +0.8
baz=85
BILL **Bilibino** 85.23 352 *d* *i*P P 22 43 22.4 -0.4
BILL *e* 22 46 43.3
BILL *i*S S 22 53 47.7 -2.9
BILL pmax pmax
comp=Z,51nm,1.2s
BILL **Bilibino** 85.23 352 *e*P P 22 43 22.3 -0.5
comp=Z,35nm,1.0s
N26A **Koester Ranch,** 85.24 45 ⇓P P 22 43 24.2 +0.6
baz=85
W31A **Holland Ranch,** 85.27 52 ⇑P P 22 43 25.1 +1.2
baz=85,SNR=8.7
U30A **WK&E Inc. Balk** 85.28 50 ⇓P P 22 43 24.4 +0.6
baz=85
L25A **Engebretsen Ra** 85.32 44 ⇑P P 22 43 25.0 +1.0
baz=86
E21A **Keefer Ranch,** 85.37 39 ⇑P P 22 43 25.9 +1.8
baz=86,SNR=7.1
S29A **Ulysses** 85.38 49 ⇑P P 22 43 24.9 +0.6
baz=86
J24A **Dixon Ranch, L** 85.39 43 ⇑P P 22 43 25.4 +1.0
baz=86
C20A **Veseth Ranch,** 85.39 38 ⇓P P 22 43 24.7 +0.6
baz=86,SNR=25
636A **Smothers Creek** 85.40 58 ⇓P P 22 43 24.9 +0.4
baz=86
EDM **Edmonton** 85.41 31 *e*P P 22 43 23.5 -0.6
EDM **Edmonton** 85.41 31 *e*P P 22 43 23.5 -0.6
435B **Jarrell** 85.44 56 ⇓P P 22 43 25.0 +0.2
baz=86
Z33A **Whitaker Ranch** 85.44 54 ⇑P P 22 43 25.4 +0.7
baz=86,SNR=17
234A **Clairette** 85.45 55 ⇓P P 22 43 25.7 +0.9
baz=86,SNR=14
Q28A **Sharon Springs** 85.46 47 ⇓P P 22 43 26.4 +1.6
baz=86
H23A **Clabaugh Cattl** 85.47 41 ⇓P P 22 43 26.6 +1.9
baz=86
X32A **Elmer** 85.47 52 ⇓P P 22 43 25.8 +1.0
baz=86,SNR=14
O27A **Beecher Island** 85.48 46 ⇓P P 22 43 26.5 +1.6
baz=86
F22A **Rosebud** 85.51 40 ⇓P P 22 43 26.3 +1.6
baz=86
T30A **Plains** 85.58 50 ⇓P P 22 43 26.8 +1.5
baz=86
V31A **Spring Creek L** 85.58 51 ⇓P P 22 43 27.0 +1.6
baz=86,SNR=5.3
K25A **Mack Ranch, Ha** 85.58 44 ⇓P P 22 43 27.3 +2.0
baz=86
D21A **La Casta Ranch** 85.67 39 ⇓P P 22 43 27.3 +1.7
baz=86
R29A **Marienthal** 85.69 48 ⇑P P 22 43 27.4 +1.5
baz=86
N27A **Anderson Farm,** 85.70 46 ⇑P P 22 43 28.1 +2.1
baz=86
134A **White-Moore Ra** 85.71 55 ⇓P P 22 43 27.7 +1.7
baz=86,SNR=9.4
P28A **Saint Francis** 85.73 47 ⇓P P 22 43 28.1 +2.0
baz=86
B20A **Solberg Farm,** 85.74 37 ⇑P P 22 43 27.6 +1.7
baz=86
335A **Moody** 85.75 56 ⇓P P 22 43 28.0 +1.8
baz=86,SNR=8.2
G23A **Biddle** 85.78 41 ⇑P P 22 43 27.1 +1.0
baz=86
W32A **Sentinel** 85.78 52 ⇓P P 22 43 27.9 +1.6
baz=86,SNR=17

U31A **Nine Bar Ranch** 85.81 50 ⇑P P 22 43 27.6 +1.1
baz=86
Y33A **Hilltop Ranch,** 85.82 53 ⇑P P 22 43 27.8 +1.2
baz=86,SNR=14
L26A **Underwood Farm** 85.86 44 ⇓P P 22 43 28.6 +1.9
baz=86
S30A **Montezuma** 85.86 49 ⇓P P 22 43 28.1 +1.3
baz=86
LAO **LASA Array** 85.96 39 *e*P P 22 43 27.5 +0.5
comp=Z,132nm,1.8s
LAO LR LR
comp=Z,1μm,20.0s
J25A **Sunshine Ranch** 85.97 43 ⇓P P 22 43 29.2 +1.9
baz=86
C21A **Desert Coulee** 85.98 38 ⇑P P 22 43 28.5 +1.5
baz=86
WMOK **Wichita Mounta** 85.98 52 *e*P P 22 43 26.3 -1.1
WMOK pmax pmax
comp=Z,72nm,1.8s
WMOK MLR MLR
comp=Z,1μm,18.0s
WMOK **Wichita Mounta** 85.98 52 *e*P P 22 43 26.2 -1.1
comp=Z,72nm,1.8s
WMOK LR LR
comp=Z,1μm,18.0s
WHTX **Lake Whitney,** 85.98 55 ⇓P P 22 43 28.7 +1.3
baz=86
WHTX **Lake Whitney,** 85.98 55 *e*P P 22 43 27.5 +0.1
comp=Z,71nm,1.0s
WHTX LR LR
comp=Z,900nm,22.0s
Q29A **Oakley** 85.99 48 ⇓P P 22 43 29.3 +1.9
baz=86
E22A **Miles City** 86.01 39 ⇓P P 22 43 28.5 +1.3
baz=86
F23A **Volborg** 86.01 40 ⇓P P 22 43 28.5 +1.3
baz=86,SNR=5.7
A20A **Cobblestone Ra** 86.01 37 ⇑P P 22 43 28.0 +0.8
baz=86
436A **Wall Ranch, Ga** 86.07 57 ⇑P P 22 43 28.7 +0.9
baz=86
K26A **Motz Farm, Whi** 86.08 44 ⇑P P 22 43 28.9 +1.2
baz=86
H24A **Dirks Ranch, A** 86.10 41 ⇓P P 22 43 28.8 +1.1
baz=86,SNR=16
OGNE **Ogallala** 86.11 46 ⇓P P 22 43 29.8 +1.9
baz=86
M27A **Reverse DX Ran** 86.11 45 ⇑P P 22 43 29.6 +1.6
baz=86
X33A **Lawton** 86.12 53 ⇓P P 22 43 29.1 +1.1
baz=86
Z34A **Collier Ranch,** 86.13 54 ⇓P P 22 43 29.0 +0.9
baz=86
RSSD **Black Hills** 86.15 42 *e*P P 22 43 27.5 -0.7
RSSD pmax pmax
comp=Z,26nm,1.1s
RSSD MLR MLR
comp=Z,1μm,18.0s
RSSD **Black Hills** 86.15 42 *e*P P 22 43 27.5 -0.7
comp=Z,26nm,1.1s
RSSD LR LR
comp=Z,1μm,18.0s
V32A **Arapaho** 86.16 51 ⇑P P 22 43 29.1 +0.9
baz=86
D22A **Cohagen** 86.20 39 ⇑P P 22 43 29.2 +1.1
baz=86
537A **Green Hill Far** 86.21 57 ⇓P P 22 43 29.7 +1.1
baz=86
135A **Vickery Place,** 86.23 55 ⇑P P 22 43 29.9 +1.3
baz=86
336A **Riesel** 86.25 56 ⇓P P 22 43 30.4 +1.7
baz=86
R30A **Dighton** 86.25 49 ⇑P P 22 43 29.8 +1.1
baz=86
I25A **Rochford** 86.30 42 ⇓P P 22 43 29.8 +0.9
baz=86
B21A **Ellsworth Farm** 86.32 37 ⇓P P 22 43 30.0 +1.4
baz=86
738A **Farr-Stevens R** 86.32 59 ⇑P P 22 43 30.8 +1.7
baz=86
N28A **Pribbeno Ranch** 86.34 46 ⇑P P 22 43 30.7 +1.7
baz=86
W33A **Waddo, Fort Co** 86.38 52 ⇑P P 22 43 30.8 +1.6
baz=86
J26A **Sides Ranch, S** 86.42 43 ⇑P P 22 43 30.5 +1.2
baz=87
E23A **Ismay** 86.43 40 ⇑P P 22 43 31.4 +2.1
baz=87
U32A **Winter Ranch,** 86.44 51 ⇓P P 22 43 30.9 +1.3
baz=87
G24A **Alzada** 86.44 41 ⇑P P 22 43 30.6 +1.1
baz=87
Y34A **Reagan Ranch,** 86.47 53 ⇑P P 22 43 30.9 +1.2
baz=87,SNR=8.1
HKT **Hockley** 86.56 58 *e*P P 22 43 30.3 +0.2
HKT pmax pmax
comp=Z,88nm,1.7s
HKT **Hockley** 86.56 58 *e*P P 22 43 30.3 +0.2
comp=Z,88nm,1.7s
S31A **Mullinville** 86.57 49 ⇑P P 22 43 31.5 +1.3
baz=87
Q30A **Quinter** 86.57 48 ⇑P P 22 43 31.3 +1.1
baz=87
437A **Phantom Ranch,** 86.62 57 ⇑P P 22 43 32.2 +1.7
baz=87
O29A **4D Ranch, Culb** 86.62 47 ⇓P P 22 43 31.7 +1.3
baz=87
Z35A **Perchaven, San** 86.63 54 ⇑P P 22 43 31.9 +1.3
baz=87
H25A **Fruitdale** 86.65 42 ⇓P P 22 43 31.4 +0.9
baz=87
X34A **Smith Ranch, M** 86.65 53 ⇓P P 22 43 32.3 +1.7
baz=87,SNR=12
C22A **Vida** 86.66 38 ⇓P P 22 43 32.7 +2.3
baz=87
BJT **Baijiatuau** 86.66 313 *e*P P 22 43 30.3 -0.2
BJT pmax pmax
comp=Z,132nm,1.6s
BJT MLR MLR
comp=Z,300nm,20.0s
BJT **Baijiatuau** 86.66 313 *e*P P 22 43 30.3 -0.2
comp=Z,132nm,1.6s
BJT LR LR
comp=Z,300nm,20.0s
F24A **Ekalaka** 86.66 40 ⇑P P 22 43 32.1 +1.6
baz=87
BJI **Beijing** 86.66 313 P P 22 43 31.4 +0.9
BJI S S 22 54 09.3 +3.5
BJI PMZ
comp=Z,27nm,1.4s
BJI PMZ
comp=Z,560nm,5.3s
BJI LN
comp=Z,200nm,18.7s
BJI LE
comp=Z,240nm,18.7s
P30A **Selden** 86.78 47 ⇑P P 22 43 32.4 +1.2
baz=87
D23A **Lindsay** 86.80 39 ⇓P P 22 43 32.6 +1.5
baz=87
T32A **Huddler Ranch,** 86.81 50 ⇑P P 22 43 33.4 +2.0
baz=87
BKNI **Bangkinang** 86.92 271 *e*P P 22 43 32.4 0.0
comp=Z,212nm,1.1s
BKNI LR LR
comp=Z,500nm,18.0s
W34A **Bridge Creek,** 86.93 52 ⇓P P 22 43 33.7 +1.7
baz=87
W34A **Bridge Creek,** 86.93 52 *e*P P 22 43 32.2 +0.2
comp=Z,172nm,1.8s
UBPT **Khong Chiam** 86.95 287 P P 22 43 34.5 +2.1
comp=Z,40nm,1.5s,comp=Z,1μm
337A **Centerville** 86.99 56 ⇑P P 22 43 34.2 +1.9
baz=87
S32A **Newby Ranch, P** 87.00 50 ⇓P P 22 43 33.7 +1.4
baz=87
J27A **Elkhorn Farm,** 87.09 44 ⇑P P 22 43 33.8 +1.1
baz=87
C23A **Lambert** 87.10 38 ⇓P P 22 43 33.9 +1.3
baz=87
U33A **Lingo Farm, Me** 87.12 51 ⇑P P 22 43 33.9 +1.0
baz=87
X35A **Drake** 87.24 53 ⇓P P 22 43 34.5 +1.0
baz=87,SNR=11
V34A **Guthrie** 87.35 52 *e*P P 22 43 34.0 0.0
comp=Z,39nm,1.4s
V34A LR LR
comp=Z,1μm,18.0s

P31A **Stockton** 87.39 48 ⇓P P 22 43 34.8 +0.6
baz=88
C24A **Savage** 87.44 39 ⇓P P 22 43 35.3 +1.1
baz=88
R32A **Long Quarter,** 87.44 49 ⇓P P 22 43 35.2 +0.8
baz=88,SNR=5.7
U34A **Anderson Ranch** 87.56 51 ⇓P P 22 43 35.8 +0.8
baz=88
U34A **Anderson Ranch** 87.56 51 PFAKE 22 43 50.0 +15
U34A LR LR
comp=Z,2μm,18.0s
MAW **Mawson** 87.59 198 P P 22 43 36.1 +1.5
comp=Z,58nm,1.0s,baz=112,slow=4.3,SNR=33
MAW LR LR 23 20 49.7
comp=Z,1μm,19.7s,baz=90,slow=34
MAW **Mawson** 87.59 198 P P 22 43 36.1 +1.5
MAW pmax pmax
comp=Z,58nm,1.0s
MAW MLR MLR
comp=Z,1μm,19.7s
MAW **Mawson** 87.59 198 P P 22 43 36.1 +1.5
baz=88,SNR=13
MAW **Mawson** 87.59 198 *e*P P 22 43 34.1 -0.4
comp=Z,18nm,1.0s
J28A **Allard Ranch,** 87.68 44 ⇓P P 22 43 36.0 +0.5
baz=88
439A **Center Grove,** 87.71 57 ⇑P P 22 43 36.7 +0.9
baz=88
Q32A **Meitler Ranch,** 87.77 48 ⇓P P 22 43 36.8 +0.8
baz=88
R33A **Olander Ranch,** 87.92 49 ⇓P P 22 43 37.6 +0.9
baz=88
P32A **Huiting Farm,** 87.98 48 ⇑P P 22 43 38.5 +1.5
baz=88
DGMT **Dagmar** 88.00 38 PFAKE 22 43 50.0 +13
DGMT LR LR
comp=Z,2μm,21.0s
G27A **Dupree** 88.04 42 ⇑P P 22 43 37.9 +0.8
baz=88
IPM **Ipoh** 88.07 275 *e*P P 22 43 37.6 -0.4
comp=Z,154nm,1.2s
W36A **Wetumka** 88.08 53 ⇑P P 22 43 38.8 +1.4
baz=88
ENH **Enshi** 88.16 302 *e*P P 22 43 36.4 -1.6
comp=Z,83nm,1.9s
Q33A **Connelly Farm,** 88.29 49 ⇑P P 22 43 39.5 +1.1
baz=88,SNR=5.9
PLCA **Paso Flores** 88.31 132 P P 22 43 40.2 +1.5
comp=Z,7.1nm,1.1s,baz=266,slow=7.4,SNR=5.2
PLCA LR LR 23 15 41.2
comp=Z,538nm,18.9s,baz=228,slow=30
PLCA **Paso Flores** 88.31 132 P P 22 43 40.2 +1.5
PLCA pmax pmax
comp=Z,7.0nm,1.1s
PLCA MLR MLR
comp=Z,538nm,19.0s
PLCA **Paso Flores** 88.31 132 *e*P P 22 43 38.4 -0.3
comp=Z,51nm,1.6s
A24A **Westby** 88.32 38 ⇑P P 22 43 39.6 +1.3
baz=88
S34A **Willow Spring** 88.34 50 ⇑P P 22 43 39.7 +1.1
baz=88
K30A **Basset** 88.46 45 ⇑P P 22 43 40.7 +1.5
baz=89
TIY **Taiyuan** 88.46 310 *e*P P 22 43 40.1 +0.8
TIY *s*P **sP** 22 43 53.6 +1.5
TIY S **S** 22 54 22.1 -1.3
TIY *s*S **sS** 22 54 40.4 +1.4
TIY PMZ
comp=Z,31nm,0.7s
TIY LN
comp=Z,490nm,18.5s
TIY LE
comp=Z,200nm,13.2s
TIY LZ
comp=Z,370nm,12.1s
INK **Inuvik** 88.57 13 *e*P P 22 43 38.0 -1.0
INK pmax pmax
comp=Z,64nm,1.5s
INK **Inuvik** 88.57 13 *e*P P 22 43 38.0 -1.0
comp=Z,64nm,1.5s
KULM **Kulim** 88.65 276 *e*P P 22 43 38.8 -1.9
comp=Z,76nm,1.3s
TUL1 **Leonard** 88.68 52 PFAKE 22 43 50.0 +10
TUL1 LR LR
comp=Z,1μm,18.0s
S35A **Otter Creek Ra** 88.92 50 ⇑P P 22 43 42.7 +1.3
baz=89
BGNE **Belgrade** 88.98 46 ⇓P P 22 43 43.0 +1.4
baz=89
C26A **Wahner Farm, P** 88.98 39 ⇓P P 22 43 42.9 +1.4
baz=89
I30A **Oacoma** 89.08 44 ⇑P P 22 43 43.5 +1.5
baz=89
SKLT **Songkhla** 89.20 278 P P 22 43 46.2 +3.0
comp=Z,162nm,1.5s,comp=Z,4μm
KSU1 **Kansas State U** 89.22 49 ⇑P P 22 43 44.2 +1.5
baz=89
GYA **Guiyang** 89.28 298 P P 22 43 44.0 +0.5
GYA pP **pP** 22 43 55.3 +2.3
GYA PP **PP** 22 47 18.6 +3.9
GYA SKS **SKSac** 22 54 10.0 -2.0
GYA sS **sS** 22 54 45.5 -1.8
GYA SS **SS** 23 00 28.8 +1.8
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,180nm,5.6s
GYA LN
comp=Z,5μm,20.6s
GYA LE
comp=Z,3μm,21.2s
GYA LZ
comp=Z,4μm,20.4s
A26A **Wade Farm, Ken** 89.47 38 ⇓P P 22 43 45.1 +1.3
baz=90
S36A **Lake Cedric, C** 89.47 50 ⇑P P 22 43 45.2 +1.2
baz=90
F29A **Eureka** 89.58 42 ⇑P P 22 43 45.3 +1.0
baz=90
BRSD **Miller** 89.59 43 PFAKE 22 44 00.0 +16
BRSD LR LR
comp=Z,2μm,21.0s
PSI **Prapat** 89.62 273 P P 22 43 45.5 +0.1
comp=Z,59nm,1.1s,baz=176,slow=4.6,SNR=42
PSI **Prapat** 89.62 273 P P 22 43 45.5 +0.1
PSI pmax pmax
comp=Z,59nm,1.1s
SSN **San Juan del S** 89.66 78 PFAKE 22 44 00.0 +15
SSN LR LR
comp=Z,2μm,20.0s
XAN **Xi'an** 89.86 305 P P 22 43 46.5 +0.5
XAN pP **pP** 22 44 00.0 +4.6
XAN PP **PP** 22 47 15.1 -3.9
XAN S **S** 22 54 39.1 +2.5
XAN PMZ
comp=Z,6.0nm,1.9s
XAN PMZ
comp=Z,74nm,6.1s
TEIG **Tepich** 89.96 69 *e*P P 22 43 45.3 -1.3
comp=Z,72nm,1.3s
TEIG LR LR
comp=Z,500nm,21.0s
YAK **Yakutsk** 90.08 336 *e*P P 22 43 43.3 -2.9
YAK pmax pmax
comp=Z,15nm,1.4s
YAK **Yakutsk** 90.08 336 PFAKE 22 44 00.0 +14
YAK LR LR
comp=Z,400nm,21.0s
YKA **Yellowknife Ar** 90.19 23 P P 22 43 46.6 -0.1
comp=Z,13nm,0.9s,baz=234,slow=4.3,SNR=88
YKA **Yellowknife Ar** 90.19 23 P P 22 43 46.6 -0.1
YKA pmax pmax
comp=Z,13nm,0.9s
YKB5 **Yellowknife Ar** 90.19 23 *e*P P 22 43 46.6 -0.1
HHC **Hu-ho-hao-te** 90.22 313 *e*P P 22 43 48.8 +1.2
HHC PP **PP** 22 47 25.3 +3.5
HHC S **S** 22 54 44.6 +4.8
HHC *s*S **sS** 22 54 55.8 +0.3
HHC PMZ
comp=Z,11nm,0.9s
HHC PMZ
comp=Z,290nm,4.9s
HHC LN
comp=Z,220nm,18.6s
HHC LE
comp=Z,790nm,18.6s

JTS JuntasAbangare 90.23 79 P **P** **22 43 49.9 +1.8**
comp=Z,28nm,1.1s,baz=301,slow=7.1,SNR=6.3
JTS JuntasAbangare 90.23 79 P **P** **22 43 49.9 +1.8**
JTS pmax pmax
comp=Z,28nm,1.1s
JTS JuntasAbangare 90.23 79 *e*P **P** **22 43 49.9 +1.8**
comp=Z,70nm,1.3s
CHAI Chaiyaphum 90.34 286 P P 22 43 52.0 +3.5
comp=Z,3.7nm,1.6s
GSI Gunungsitoli 90.51 271 *e*P **P** **22 43 49.9 +0.5**
comp=Z,277nm,1.3s
MDND Maddock 90.52 40 PFAKE 22 44 00.0 +11
MDND LR LR
comp=Z,1μm,20.0s
A28A Rude Farm, Bot 90.54 39 ⇑P **P** **22 43 49.8 +1.0**
baz=91
ECSD EROS Data Cent 90.89 45 ⇓P **P** **22 43 50.4 -0.1**
baz=91
ECSD EROS Data Cent 90.89 45 *e*P **P** **22 43 49.1 -1.4**
comp=Z,120nm,2.7s
ECSD LR LR
comp=Z,900nm,22.0s
BTO Baotou 91.24 312 *e*P P 22 43 45.8 -6.5
LOEI Loei 91.46 288 P **P** **22 43 53.2 -0.5**
comp=Z,72nm,1.6s,comp=Z,8μm
PBKT Sadao Pong 91.47 287 P **P** **22 43 55.3 +1.6**
comp=Z,35nm,1.7s,comp=Z,648nm
FFC Flin Flon 91.98 33 P **P** **22 43 54.5 -0.7**
comp=Z,75nm,1.5s,SNR=7.6
FFC Flin Flon 91.98 33 *e*P **P** **22 43 54.1 -1.1**
FFC pmax pmax
comp=Z,62nm,1.8s
FFC Flin Flon 91.98 33 *e*P **P** **22 43 54.1 -1.1**
comp=Z,62nm,1.8s
UTTA Uttaradit 92.17 288 P **P** **22 43 58.5 +1.6**
comp=Z,5.5nm,1.5s,comp=Z,71nm
VNA3 Neumayer Olymp 92.18 174 P **P** **22 43 57.2 +1.1**
KMI Kunming 92.27 295 P **P** **22 43 59.5 +1.9**
KMI pP **pP** **22 44 08.3 +1.3**
KMI sP **sP** **22 44 12.3 +1.9**
KMI PP **PP** **22 47 41.6 +3.1**
KMI S **S** **22 54 58.8 -0.5**
KMI SS **SS** **23 01 11.1 +0.8**
KMI PMZ
comp=Z,14nm,1.8s
KMI PMZ
comp=Z,320nm,4.8s
KMI LN
comp=Z,260nm,17.0s
KMI LE
comp=Z,280nm,17.6s
KMI LZ
comp=Z,370nm,17.6s
SNAA Sanae 92.27 177 P **P** **22 43 57.6 +1.1**
SNAA Sanae 92.27 177*d* *i*P **P** **22 43 57.2 +0.7**
SNAA pmax pmax
comp=Z,79nm,1.7s
SNAA Sanae 92.27 177 *e*P **P** **22 43 56.6 +0.1**
comp=Z,78nm,1.4s
NANT Nan 92.33 289 P **P** **22 43 58.8 +1.1**
comp=Z,40nm,1.5s,comp=Z,2μm
SRDT SRDT 92.58 284 P **P** **22 44 00.9 +2.0**
comp=Z,110nm,1.5s,comp=Z,5μm
UTHA Uthaitani 92.60 285 P **P** **22 44 00.7 +1.7**
comp=Z,11nm,1.0s,comp=Z,106nm
VNA2 Neumayer--Watz 92.69 175 P **P** **22 43 59.9 +1.5**
baz=190,slow=2.9
VNA1 Neumayer--Stat 92.88 175 P **P** **22 44 00.4 +1.2**
SUKH Sukhothai 92.95 287 P **P** **22 44 02.5 +2.0**
comp=Z,4.1nm,1.0s,comp=Z,61nm
CRAI Chiangrai 93.01 290 P **P** **22 44 00.0 -0.8**
comp=Z,119nm,1.4s
AGMN Agassiz Nation 93.01 41 PFAKE 22 44 10.0 +10
AGMN LR LR
comp=Z,900nm,21.0s
CD2 Chengdu 93.05 301 P **P** **22 44 01.0 +0.2**
CD2 pP **pP** **22 44 10.4 +0.1**
CD2 sP **sP** **22 44 13.8 +0.1**
CD2 PP **PP** **22 47 47.3 +3.0**
CD2 SKS **SKSac** **22 54 31.8 -1.4**
CD2 S **S** **22 55 03.3 -2.4**
CD2 sS **sS** **22 55 18.3 -3.1**
CD2 SS **SS** **23 01 22.3 +1.3**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,330nm,18.6s
CD2 LE
comp=Z,350nm,16.7s
CD2 LZ
comp=Z,340nm,17.6s
KHLT Khaolaem Dam 93.19 284 P **P** **22 44 04.9 +3.2**
comp=Z,14nm,1.4s,comp=Z,312nm
CFAA Coronel Fontan 93.22 124 LR LR 23 17 44.0
comp=Z,53nm,19.6s,slow=30
LAMP Lampang 93.23 288 P P 22 44 05.4 +3.6
comp=Z,6.3nm,1.4s,comp=Z,76nm
NVL N'lazarevskaya 93.43 181 *e*P **P** **22 44 01.7 -0.1**
NVL pmax pmax
comp=Z,29nm,1.1s
PVMO Portageville 93.51 53 PFAKE 22 44 10.0 +7.3
PVMO LR LR
comp=Z,1μm,20.0s
ULM Lac du Bonnet 93.69 39 P **P** **22 44 01.9 -1.3**
comp=Z,9.3nm,1.1s,baz=237,slow=6.3,SNR=7.9
ULM LR LR 23 19 48.1
comp=Z,2μm,21.1s,baz=254,slow=31
ULM Lac du Bonnet 93.69 39 P **P** **22 44 01.9 -1.3**
ULM pmax pmax
comp=Z,9.0nm,1.1s
ULM MLR MLR
comp=Z,2μm,21.1s
OTAV Otavalo 93.73 91 PFAKE 22 44 20.0 +15
OTAV LR LR
comp=Z,200nm,19.0s
SLM Saint Louis 93.76 51 PFAKE 22 44 20.0 +16
SLM LR LR
comp=Z,1μm,21.0s
CM31 Chiang Mai Arr 93.84 288 *e*P **P** **22 44 06.3 +1.6**
CMAR Chiang Mai Arr 93.84 288 P **P** **22 44 06.3 +1.6**
comp=Z,1.9nm,0.4s,baz=118,slow=8.2,SNR=17
CMAR LR LR 23 28 07.1
comp=Z,119nm,18.2s,baz=126,slow=37
CMAR Chiang Mai Arr 93.84 288 P **P** **22 44 06.3 +1.6**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR MLR MLR
comp=Z,119nm,18.2s
CMMT Chiang Mai 93.93 288 P **P** **22 44 06.4 +1.3**
comp=Z,24nm,1.9s,comp=Z,596nm
CHTO Chiang Mai 93.93 288 *e*P **P** **22 44 04.1 -1.0**
CHTO pmax pmax
comp=Z,102nm,2.1s
CHTO Chiang Mai 93.93 288 *e*P **P** **22 44 04.1 -1.0**
comp=Z,102nm,2.1s
CHTO Chiang Mai 93.93 288 P P 22 44 11.1 +6.0
comp=Z,84nm,1.9s,comp=Z,2μm
SPMN Marine on St. 93.97 44 ⇑P **P** **22 44 05.7 +1.1**
baz=94
SPMN Marine on St. 93.97 44 *e*P **P** **22 44 04.0 -0.6**
comp=Z,15nm,1.0s
SPMN LR LR
comp=Z,1μm,22.0s
CMAI Chiengmai2 94.14 289 P **P** **22 44 09.2 +3.0**
comp=Z,26nm,0.7s
LZH Lanzhou 94.45 306 *e*P **P** **22 44 07.8 +0.5**
LZH pP **pP** **22 44 15.1 -1.7**
LZH sP **sP** **22 44 19.6 -0.5**
LZH *e*SKS **SKSac** **22 54 43.0 +2.1**
LZH *e*S **S** **22 55 16.4 -1.6**
LZH sS **sS** **22 55 30.1 -3.6**
LZH SS **SS** **23 01 43.1 +2.0**
LZH PMZ
comp=Z,40nm,1.5s
LZH PMZ
comp=Z,200nm,5.7s
LZH LN
comp=Z,330nm,16.1s
LZH LE
comp=Z,320nm,15.1s
LZH LZ
comp=Z,360nm,16.0s
PAF Port-aux-Franc 94.80 216 PP PP 22 47 54.0 -2.8
PAF L L 23 10 00.0
PAF R 23 15 00.0
WVT Waverly 94.88 54 PFAKE 22 44 20.0 +11
WVT LR LR
comp=Z,999nm,20.0s
BOD Bodaibo 94.99 329 *e*P **P** **22 44 06.7 -2.3**
JFWS Jewell Farm 95.01 47 *e*P **P** **22 44 08.0 -1.5**
JFWS pmax pmax
comp=Z,28nm,1.1s
JFWS MLR MLR
comp=Z,900nm,20.0s
JFWS Jewell Farm 95.01 47 *e*P **P** **22 44 08.0 -1.5**
comp=Z,28nm,1.1s
JFWS LR LR
comp=Z,900nm,20.0s
HDIL Hopedale 95.02 49 PFAKE 22 44 20.0 +10
HDIL LR LR
comp=Z,4μm,21.0s
OLIL Olney 95.39 51 PFAKE 22 44 20.0 +8.7
OLIL LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 95.59 318 *e*P **P** **22 44 10.6 -1.6**
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN MLR MLR
comp=Z,400nm,20.0s
ULN Ulaanbaatar 95.59 318 *e*P **P** **22 44 10.6 -1.6**
comp=Z,7.8nm,1.3s
ULN LR LR
comp=Z,400nm,20.0s
EYMN Ely 95.67 42 PFAKE 22 44 20.0 +7.6
EYMN LR LR
comp=Z,900nm,20.0s
TIXI Tiksi 95.86 344 *e*P **P** **22 44 12.1 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI MLR MLR
comp=Z,539nm,18.0s
TIXI Tiksi 95.86 344 *e*P **P** **22 44 11.0 -1.6**
comp=Z,5.2nm,0.6s
TIXI LR LR
comp=Z,600nm,19.0s
SONA0 Songino Array 96.01 318 *e*P **P** **22 44 13.9 -0.2**
SONA0 *e*PP **PP** **22 48 05.1 -2.0**
SONM Songino Array 96.01 318 P **P** **22 44 13.9 -0.2**
comp=Z,1.2nm,1.1s,baz=116,slow=4.5,SNR=5.0
SONM PP **PP** **22 48 05.1 -2.0**
comp=Z,0.2nm,0.4s,baz=117,slow=5.2,SNR=4.2
SONM LR LR 23 27 52.2
comp=Z,237nm,18.2s,baz=98,slow=36
SFIN Lafayette 96.58 50 PFAKE 22 44 30.0 +13
SFIN LR LR
comp=Z,1μm,18.0s
FCC Fort Churchill 97.51 31 *e*P **P** **22 44 18.7 -1.7**
FCC pmax pmax
comp=Z,14nm,1.2s
FCC Fort Churchill 97.51 31 *e*P **P** **22 44 18.7 -1.7**
comp=Z,14nm,1.2s
TKL Tuckaleechee C 97.94 55 LR LR 23 22 05.2
comp=Z,412nm,21.1s,baz=277,slow=31
GTA Gaotai 98.40 309 *e*P Pdif 22 44 25.8 +0.7
GTA pP pP 22 44 33.8 -0.8
GTA sP sP 22 44 37.8 -0.1
GTA PP **PP** **22 48 29.8 +4.1**
GTA SKS **SKSac** **22 55 01.0 -0.3**
GTA S **S** **22 55 48.8 -3.0**
GTA sS sS 22 56 02.8 -4.8
GTA SS **SS** **23 02 37.8 +1.1**
GTA PMZ
comp=Z,4.0nm,1.3s
GTA PMZ
comp=Z,140nm,5.9s
GTA LN
comp=Z,320nm,17.6s
GTA LE
comp=Z,430nm,18.5s
LPAZ La Paz 98.58 110 P Pdif 22 44 29.2 +2.1
comp=Z,0.7nm,0.8s,baz=270,slow=3.0,SNR=2.9
LPAZ La Paz 98.58 110 P Pdif 22 44 29.2 +2.1
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
ZAK Zakamensk 98.67 320 *e*P P 22 44 19.7 -6.3
ZAK pmax pmax
comp=Z,2.0nm,2.0s
TLY Talaya 98.77 321 *e*P Pdif 22 44 28.3 +1.9
TLY *e* 22 55 46.7
TLY *e*SS SS 23 02 36.2 -4.9
TLY pmax pmax
comp=Z,6.0nm,1.5s
TLY MLR MLR
comp=Z,591nm,19.0s
TLY Talaya 98.77 321 PFAKE 22 44 40.0 +14
TLY LR LR
comp=Z,700nm,19.0s
ROSC Ei Rosal 98.93 87 LR LR 23 19 56.5
comp=Z,143nm,21.5s,baz=226,slow=30
ACSO Alum Creek Sta 99.60 51 PFAKE 22 44 40.0 +10
ACSO LR LR
comp=Z,1μm,18.0s
NHSC New Hope 100.25 58 PFAKE 22 44 40.0 +6.7
NHSC LR LR
comp=Z,700nm,18.0s
BLA Blacksburg 100.92 54 PFAKE 22 44 50.0 +14
BLA LR LR
comp=Z,700nm,20.0s
ERPA Erie 102.19 50 PFAKE 22 44 50.0 +8.2
ERPA LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 102.54 57 PFAKE 22 45 00.0 +17
CNNC LR LR
comp=Z,500nm,19.0s
CBN Corbin Frederi 103.47 54 PFAKE 22 45 00.0 +12
CBN LR LR
comp=Z,1μm,21.0s
SSPA Standing Stone 103.49 51 PFAKE 22 45 00.0 +12
SSPA LR LR
comp=Z,1μm,19.0s
BINY Binghamton 105.14 50 PFAKE 22 49 20.0
BINY LR LR
comp=Z,1μm,18.0s
SDDR Presa de Saban 105.17 74 PFAKE 22 49 20.0
SDDR LR LR
comp=Z,500nm,20.0s
KSPA Keystone Colle 105.21 51 PFAKE 22 49 20.0
KSPA LR LR
comp=Z,1μm,21.0s
ODNJ Ogdensburg 106.02 51 PFAKE 22 49 20.0
ODNJ LR LR
comp=Z,1μm,18.0s
PAL Palisades 106.53 51 PFAKE 22 49 20.0
PAL LR LR
comp=Z,800nm,20.0s
ACCN Adirondack Com 106.98 49 PFAKE 22 49 20.0
ACCN LR LR
comp=Z,800nm,18.0s
WMQ Urumqi 108.07 311 Pdif **Pdif** **22 45 07.5 -0.5**
WMQ PPMZ
comp=Z,140nm,4.8s
WMQ LN
comp=Z,500nm,15.4s
WMQ LE
comp=Z,580nm,13.0s
WMQ LZ
comp=Z,750nm,19.5s
PALK Pallekele 108.30 273 PFAKE 22 49 30.0
PALK LR LR
comp=Z,600nm,20.0s
HRV Adam Dziewonsk 108.44 50 PFAKE 22 49 30.0
HRV LR LR
comp=Z,1μm,19.0s
CRPR Cabo Rojo, PR 108.86 76 PFAKE 22 49 30.0
CRPR LR LR
comp=Z,200nm,18.0s
AOPR Arecibo Observ 109.26 76 PFAKE 22 49 30.0
AOPR LR LR
comp=Z,2μm,19.0s
CBYP Canovanas 110.08 76 PFAKE 22 49 30.0
CBYP LR LR
comp=Z,500nm,22.0s
MTP Monte Pirata 110.33 76 PFAKE 22 49 30.0
MTP LR LR
comp=Z,400nm,22.0s
STVI Saint Thomas 110.94 76 PFAKE 22 49 30.0
STVI LR LR
comp=Z,900nm,21.0s
PTGA Pitinga 111.18 97 PFAKE 22 49 30.0
PTGA LR LR
comp=Z,400nm,18.0s
MK32 Makanchi Array 112.02 314 *e*PP PP 22 50 02.4 -3.8
MKAR Makanchi Array 112.02 314 PP PP 22 50 02.4 -3.8
comp=Z,1.4nm,1.1s,baz=128,slow=9.3,SNR=3.9
KURK Kurchatov 114.30 319 PFAKE 22 49 40.0 +14
KURK LR LR
comp=Z,300nm,19.0s
KSH Kashi 116.70 306 *e*PKP **PKPdf** **22 49 31.5 +0.1**
KSH *es*PKP 22 49 46.1
KSH PP PP 22 50 45.8 +6.2
KSH SKS **SKSdf** **22 56 38.8 -2.9**
KSH SKKS **SKKSac** **22 57 35.1 -3.5**
KSH PPMZ
comp=Z,130nm,4.9s
KSH LN
comp=Z,89nm,5.5s
KSH LE
comp=Z,140nm,5.4s
KSH LZ
comp=Z,140nm,13.3s
AAK Ala-Archa 117.70 310 PFAKE 22 49 40.0 +6.7
AAK LR LR
comp=Z,300nm,20.0s
KBL Kabul 122.39 301 PFAKE 22 49 50.0 +7.4
KBL LR LR
comp=Z,200nm,20.0s
SVE Sverdlovsk 123.20 328 *i* PKIKP **PKPdf** **22 49 42.8 -0.4**
SVE pmax pmax
comp=Z,12nm,1.3s
SVE MLR MLR
comp=Z,619nm,24.0s
ARU Arti 124.41 329 *i* PKIKP **PKPdf** **22 49 45.6 +0.1**
ARU 22 51 31.9
ARU 22 56 45.3
ARU SS SS 23 08 19.0 -2.7
ARU Arti 124.41 329 *e*PKPdf **PKPdf** **22 49 44.4 -1.1**
ARA0 ARCESS Array S 125.33 352 *e*PKPdf **PKPdf** **22 49 46.6 -0.3**
ARCES ARCESS Array B 125.33 352 PKP **PKPdf** **22 49 46.6 -0.3**
comp=Z,2.8nm,0.6s,baz=12,slow=1.4,SNR=16
ARCES ARCESS Array B 125.33 352 PKIKP **PKPdf** **22 49 46.7 -0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
APA Apatity 125.83 348 *i* PKIKP **PKPdf** **22 49 50.0 +2.1**
APA MLR MLR
comp=Z,1μm,14.0s
ABKAR Akbulak array 126.36 320 *e*PKPdf **PKPdf** **22 49 48.1 -1.4**
KLMR Klimovskoe 129.71 340 *e*PKIKP **PKPdf** **22 49 52.6 -2.9**
KLMR *e* 22 52 05.5
KLMR pmax pmax
comp=Z,29nm,1.5s
JOF Joensuu 130.30 346 *e*pkp **PKPdf** **22 49 56.8 +0.3**
JOF Joensuu 130.30 346 *e*PKIKP **PKPdf** **22 49 56.8 +0.3**
GEYT Alibeck 130.73 307 PP PP 22 52 13.2 -0.8
comp=Z,1.2nm,0.7s,baz=38,slow=7.3,SNR=3.5
KAF Kangasniemi 132.08 348 *e*pkp **PKPdf** **22 49 59.3 -0.6**
KAF Kangasniemi 132.08 348 *e*PKIKP **PKPdf** **22 49 59.3 -0.6**
FIA0 FINESS Array S 132.74 348 *e*PKIKP PKPpre 22 49 55.8
FIA0 *e* 22 50 01.6
FIA0 FINESS Array S 132.74 348 *e*PKPpre PKPpre 22 49 55.8
FIA0 *e*PKPdf **PKPdf** **22 50 01.6 +0.4**
FINES FINESS Array B 132.74 348 PKhKP PKPpre 22 49 55.8
comp=Z,3.8nm,0.8s,baz=48,slow=2.8,SNR=14
FINES PKP **PKPdf** **22 50 01.6 +0.4**
comp=Z,2.4nm,0.8s,baz=73,slow=2.7,SNR=7.3
FINES FINESS Array B 132.74 348*c* *i* PKIKP **PKPdf** **22 50 03.0 +1.8**
FINES pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 134.93 358 PKPdf **PKPdf** **22 50 04.5 -0.9**
comp=Z,10nm,1.4s,baz=14,slow=1.8
NB2 NORSAR Subarra 134.93 358 PKPdf **PKPdf** **22 50 04.5 -0.9**
baz=14,slow=1.8
NB200 NORSAR Array S 134.93 358 *e*PKPdf **PKPdf** **22 50 04.9 -0.5**
NOA NORSAR Array B 134.93 358 PKP **PKPdf** **22 50 04.9 -0.5**
comp=Z,1.8nm,0.9s,baz=14,slow=4.0,SNR=4.6
NOA NORSAR Array B 134.93 358 PKIKP **PKPdf** **22 50 04.9 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 135.08 337 ⇓*i* PKIKP **PKPdf** **22 50 06.0 +0.3**
OBN *e* 22 52 43.0
OBN *e* 22 57 10.9
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,360nm,19.0s
MAK Makhachkala 136.76 317 *i* PKIKP **PKPdf** **22 50 06.5 -2.8**
MAK *e*PPP PPP 22 55 48.1
MAK 22 57 16.5
MAK *e*PS **PS** **23 03 08.7 -10**
MAK *e*SS SS 23 11 19.7 +26
MAK pmax pmax
comp=Z,51nm,0.9s
KIV Kislovodsk 139.34 321 ⇑*e*PKIKP PKPdf 22 50 20.6 +6.4
KIV *e* 22 53 07.3
KIV *i* SS SS 23 11 18.0 -6.4
KIV pmax pmax
comp=Z,11nm,1.7s
AKASG Malin Array Be 141.29 338 PKhKP PKPpre 22 50 09.6
comp=Z,1.3nm,0.6s,baz=33,slow=3.2,SNR=5.8
AKASG PKP **PKPdf** **22 50 16.0 -1.3**
comp=Z,0.3nm,0.2s,baz=34,slow=2.3,SNR=8.2
AKASG Malin Array Be 141.29 338 *i* PKHKP PKPpre 22 50 09.6
AKASG 22 50 16.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 141.29 338 *e*PKHKP PKPpre 22 50 09.6
AKBB *e* 22 50 16.0
AKBB Malin Array Si 141.29 338 *e*PKPpre PKPpre 22 50 09.6
AKBB *e*PKPdf **PKPdf** **22 50 16.0 -1.3**
SOC Sochi 141.34 322 *i* PKIKP PKPdf 22 50 23.5 +5.8
SOC *e* 22 53 23.1
SOC *e*SSS SSS 23 17 06.7
ANN Anapa 141.91 325 *e*PKIKP **PKPdf** **22 50 16.9 -1.7**
ANN *e* 22 53 20.8
ANN *e*SS SS 23 11 54.1 +0.4
ANN pmax pmax
comp=Z,58nm,1.4s
LSZ Lusaka 142.96 214 *e*PKIKP **PKPdf** **22 50 18.8 -2.7**
LSZ Lusaka 142.96 214 *e*PKPdf **PKPdf** **22 50 18.8 -2.7**
NRDL Niedersach Rie 143.52 358 *e*PKPbc PKPab 22 50 17.8 +0.3
SIM Simferopol' 143.57 328 *e*PKIKP PKPbc 22 50 19.3 +0.4
SIM pmax pmax
comp=Z,70nm,10.0s
TSUM Tsumeb 143.72 196 *e*PKPdf PKPbc 22 50 20.4 +0.1
LVV L'vov 143.75 342 *e*PKHKP PKPab 22 50 17.3 -1.3
IBBN Ibbenburen 143.76 360 *e*PKPbc PKPbc 22 50 18.9 -0.3
RAYN Ar Rayn 143.76 288 *e*PKPdf PKPbc 22 50 20.3 0.0
RAYN LR LR
comp=Z,400nm,19.0s
WTSB Winterswijk 144.09 1 *e*PKP **PKPab** **22 50 19.6 -0.1**
comp=Z,136nm,2.2s
PTK Pertek 144.10 316 *e*P **PKPab** **22 50 20.5 0.0**
CLZ Clausthal 144.16 357 *e*PKPbc **PKPab** **22 50 20.0 -0.1**
KWP Kalwaria Pacla 144.30 343 *e*PKP **PKPab** **22 50 20.4 -0.3**
KWP Kalwaria Pacla 144.30 343 ⇑*i*P PKPbc 22 50 21.0 0.0
KWP Kalwaria Pacla 144.30 343 *e*PKIKP **PKPab** **22 50 20.4 -0.3**
KIS Kishinev 144.47 335 *e*PKP PKPbc 22 50 22.0 +0.4
KIS *e*L L 23 54 30.0
KIS LRM MLR 23 59 25.0
comp=Z,600nm,20.0s
KIS Kishinev 144.47 335 *e*PKIKP PKPbc 22 50 22.0 +0.4
KIS *e* 22 50 32.0
OJC Ojcow 144.48 347 *e*PKP **PKPab** **22 50 20.8 -0.5**
OJC Ojcow 144.48 347 *e*PKIKP **PKPab** **22 50 20.3 -1.0**
OJC Ojcow 144.48 347 *e*PKPdf **PKPab** **22 50 20.3 -1.0**
CLL Collm 144.50 354 *e*PKPbc **PKPab** **22 50 20.9 -0.5**
CLL Collm 144.50 354 *i* PKPpre **PKPab** **22 50 20.8 -0.6**
comp=Z,10.0nm,0.9s
CLL *i* PKPdf **PKPdf** **22 50 23.1 +0.1**
comp=Z,16nm,1.0s
CLL *i* PKiKP **PKiKP** **22 50 26.8 +0.1**
CLL *i* sPKiKP sPKiKP 22 50 35.4 -4.3
CLL *e* 22 50 51.0
comp=Z,200nm,17.3s
CLL *es*PP 22 53 46.0
CLL *e*PKSbc **PKSbc** **22 54 06.0 +2.8**
CLL Lm MLR 00 02 00.0
comp=Z,400nm,18.6s
CLL Collm 144.50 354 *i* PKIKP **PKPab** **22 50 20.8 -0.6**
CLL *i* 22 50 35.4
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL MLR MLR
comp=Z,400nm,18.6s
CLL Collm 144.50 354 *e*PKPdf **PKPab** **22 50 20.5 -0.9**

CLL LR LR
comp=Z,600nm,18.0s
KSP Ksiaz 144.55 351 *e*PKP **PKPab 22 50 21.3 -0.2**
KSP Ksiaz 144.55 351 *e*PKIKP **PKPab 22 50 21.4 -0.1**
KSP MLR MLR
comp=Z,2µm,20.4s
BUG Bochum--Univer 144.62 1 *e*PKPbc **PKPab 22 50 21.4 -0.4**
DAMY Dhamar 144.65 273 *e*PKPdf **PKPdf 22 50 24.8 +0.1**
DAMY LR LR
comp=Z,500nm,19.0s
BRG Berggiesshubel 144.84 353 *e*PKP **PKPab 22 50 21.9 -0.7**
comp=Z,12nm,1.2s
comp=N,324nm,18.7s
comp=E,185nm,18.8s
comp=Z,306nm,21.6s
BRG Berggiesshubel 144.84 353 *e*PKPbc **PKPab 22 50 21.8 -0.7**
BRG Berggiesshubel 144.84 353 *e*PKIKP **PKPab 22 50 21.9 -0.7**
BRG pmax pmax
comp=Z,12nm,1.2s
BRG MLR MLR
comp=N,324nm,18.7s
BRG MLR MLR
comp=E,185nm,18.8s
BRG MLR MLR
comp=Z,306nm,21.6s
STHS Stebnicka Huta 144.88 345 *e*PKIKP PKPbc 22 50 23.1 +0.2
STHS Stebnicka Huta 144.88 345 *e*PKP PKPbc 22 50 23.1 +0.2
UPC Upice 144.92 351 *i* PKP PKPbc 22 50 23.0 0.0
UPC Upice 144.92 351 *i* PKIKP PKPbc 22 50 23.0 0.0
DPC Dobruska-Polom 145.02 350 *i* PKP **PKPab 22 50 23.4 0.0**
DPC *ex* x 22 50 37.7
DPC AMS AMS 23 50 00.0
DPC Dobruska-Polom 145.02 350 *e*PKIKP **PKPbc 22 50 23.1 -0.3**
DPC Dobruska-Polom 145.02 350 *e*PKPdf **PKPbc 22 50 23.1 -0.3**
MALT Malatya 145.04 316 ⇓*i*P **PKPbc 22 50 23.5 -0.4**
MALT Malatya 145.04 316 ⇓PKIKP **PKPbc 22 50 23.5 -0.4**
KOLS Kolonicke sedl 145.05 343 *e*PKIKP **PKPbc 22 50 23.1 -0.3**
KOLS Kolonicke sedl 145.05 343 *e*PKP **PKPbc 22 50 23.1 -0.3**
PVCC Panska Ves 145.10 352 *i* PKP **PKPab 22 50 23.7 +0.1**
PVCC Panska Ves 145.10 352 *i* PKIKP **PKPab 22 50 23.7 +0.1**
NIE Niedzica 145.11 346 *e*PKP **PKPab 22 50 23.8 +0.1**
NIE Niedzica 145.11 346 *i* PKIKP **PKPab 22 50 23.8 +0.1**
LEOM Leova 145.12 335 ⇑*i*P **PKPbc 22 50 23.0 -0.7**
LEOM Leova 145.12 335 ⇑PKIKP **PKPbc 22 50 23.0 -0.7**
DIKM Dikmen 145.13 323 *e*P **PKPdf 22 50 24.4 0.0**
UCC Uccle 145.16 4 PKP **PKPbc 22 50 23.3 -0.4**
UCC Uccle 145.16 4 PFAKE 22 50 40.0 +16
UCC LR LR
comp=Z,400nm,20.0s
OKC Ostrava-Krasne 145.19 348 *i* PKP **PKPbc 22 50 23.7 -0.1**
OKC *ex* x 22 50 38.0
OKC AMS AMS 23 59 00.0
comp=Z,400nm,17.0s
OKC Ostrava-Krasne 145.19 348 *i* PKIKP **PKPbc 22 50 23.7 -0.1**
OKC *e* 22 50 38.0
OKC MLR MLR
comp=Z,400nm,17.0s
UBBA Unterbreizbach 145.20 357 *e*PKPbc **PKPbc 22 50 23.1 -0.6**
BEBN Eben Emael 145.23 2 PKP **PKPbc 22 50 23.6 -0.3**
HGN Heimansgroeve 145.27 2 *e*PKP **PKPbc 22 50 23.5 -0.5**
comp=Z,129nm,1.8s
HGN *e*PP PP 22 54 17.1 +34
MOX Moxa 145.28 356 *e*PKPbc **PKPbc 22 50 23.7 -0.4**
MOX Moxa 145.28 356 *e*L L 00 02 03.7
comp=Z,436nm,18.8s
CRVS Cervenica-Dubn 145.30 344 *e*PKIKP **PKPbc 22 50 24.2 -0.1**
CRVS Cervenica-Dubn 145.30 344 *e*PKP **PKPbc 22 50 24.2 -0.1**
BURAR Bucovina Array 145.30 339 ⇓*i*P **PKPbc 22 50 21.8 -2.6**
BURAR Bucovina Array 145.30 339 ⇓PKIKP **PKPbc 22 50 21.8 -2.6**
UZH Uzhgorod 145.32 343 ⇑*i*PKIKP **PKPbc 22 50 23.5 -0.8**
UZH *e* 22 50 30.8
UZH *e* 22 50 38.0
MORC Moravsky Berou 145.36 349 ⇑*i*P **PKPbc 22 50 23.3 -1.2**
MORC Moravsky Berou 145.36 349 *e*PKIKP **PKPbc 22 50 23.0 -1.5**
MORC MLR MLR
comp=Z,600nm,19.0s
MORC Moravsky Berou 145.36 349 *e*PKPbc **PKPbc 22 50 23.0 -1.5**
MORC LR LR
comp=Z,600nm,19.0s
MEM Membach 145.43 2 PKP **PKPbc 22 50 24.2 -0.3**
MEM Membach 145.43 2 *e*PKP2 **PKPbc 22 50 22.9 -1.7**
MEM MLR MLR
comp=Z,400nm,20.0s
MEM Membach 145.43 2 *e*PKPbc **PKPbc 22 50 22.9 -1.7**
MEM LR LR
comp=Z,400nm,20.0s
TANN Tannenbergstha 145.44 355 *e*PKPbc **PKPbc 22 50 24.0 -0.7**
SNF Seneffe 145.44 4 PKP **PKPbc 22 50 24.5 -0.1**
PRA Prague 145.57 352 *i* PKP **PKPbc 22 50 25.0 0.0**
PRA *ex* x 22 50 42.1
PRA Prague 145.57 352 *i* PKIKP **PKPbc 22 50 25.0 0.0**
BCLA Clavier 145.59 3 PKP **PKPdf 22 50 24.8 -0.1**
PRU Pruhonice 145.63 352 *i* PKP **PKPdf 22 50 24.9 -0.1**
PRU *ex* x 22 50 42.1
PRU Pruhonice 145.63 352 *i* PKIKP **PKPdf 22 50 24.9 -0.1**
GOPC GO Pecny, Ondr 145.67 352 *i* PKP **PKPdf 22 50 25.2 +0.1**
GOPC *ex* x 22 50 41.4
GOPC AMS AMS 23 59 00.0
comp=Z,500nm,16.8s
TRPA Tarpa 145.70 342 ⇑*i*P **PKPdf 22 50 23.6 -1.5**
TRPA Tarpa 145.70 342 ⇓*e*PKPdf **PKPbc 22 50 25.4 -0.1**
TNS Taunus Mts 145.84 359 *e*PKPbc **PKPdf 22 50 25.5 +0.1**
TNS *ep*PKPbc pPKPbc 22 50 42.2 +6.6
DOU Dourbes 145.88 4 PKP **PKPbc 22 50 26.0 0.0**
GIVF Givet 145.88 3 *e*PKIKP **PKPbc 22 50 25.8 -0.2**
comp=Z,100nm,1.1s
GIVF Givet 145.88 3 *e*PKP2 **PKPbc 22 50 25.8 -0.2**
GIVF Givet 145.88 3 *e*PKPdf **PKPbc 22 50 25.8 -0.2**
BAIF Baives 145.89 4 *e*PKIKP **PKPbc 22 50 26.0 0.0**
comp=Z,143nm,1.1s
BAIF Baives 145.89 4 *e*PKP2 **PKPbc 22 50 26.0 0.0**
BAIF Baives 145.89 4 *e*PKPdf **PKPbc 22 50 26.0 0.0**
KECS Kecovo 145.94 345 *e*PKP2 **PKPbc 22 50 26.2 -0.1**
KECS Kecovo 145.94 345 *e*PKP **PKPbc 22 50 26.2 -0.1**
VRAC Vranov 145.98 350 ⇓*i*P **PKPdf 22 50 22.1 -3.6**
CTKT Corum 146.04 322 *i* P **PKPab 22 50 28.4 +0.7**
ROTZ Rotzenmuhle 146.10 355 *e*PKPbc **PKPbc 22 50 26.9 +0.2**
ROTZ *ep*PKPbc pPKPbc 22 50 43.3 +6.9
PETR Petresti 146.14 335 ⇑*i*P **PKPdf 22 50 25.9 -0.1**
TREC Trest 146.18 351 *i* PKP **PKPdf 22 50 23.8 -2.2**
TREC AMS AMS 23 58 20.0
comp=Z,400nm,18.8s
TREC Trest 146.18 351 *i* PKIKP **PKPdf 22 50 23.8 -2.2**
TREC MLR MLR
comp=Z,400nm,18.8s
CFR Carcaliu 146.21 334 ⇓*i*P **PKPdf 22 50 24.0 -2.1**
CFR Carcaliu 146.21 334 ⇓PKIKP **PKPdf 22 50 24.0 -2.1**
VRI Vrincioaia 146.22 336 *e*P **PKPdf 22 50 26.2 0.0**
VRI Vrincioaia 146.22 336 ⇓*i*P **PKPdf 22 50 26.2 0.0**
VRI Vrincioaia 146.22 336 ⇓PKP2 **PKPdf 22 50 26.2 0.0**
GRF Grafenberg Arr 146.26 356 *e*PKPbc **PKPbc 22 50 27.3 +0.1**
GRF *e*L L 23 51 47.0
comp=Z,366nm,21.4s
GRFO Grafenberg 146.26 356 *e*PKP2 **PKPbc 22 50 26.7 -0.5**
GRFO MLR MLR
comp=Z,400nm,21.0s
GRFO Grafenberg 146.26 356 *e*PKPdf **PKPbc 22 50 26.6 -0.5**
GRFO LR LR
comp=Z,400nm,21.0s
KMBO Kilima Mbogo 146.26 242 PKPbc **PKPbc 22 50 28.2 -0.4**
comp=Z,17nm,1.0s,baz=57,slow=4.0,SNR=18
KMBO Kilima Mbogo 146.26 242 *c* PKP2 **PKPab 22 50 29.6 +0.3**
KMBO pmax pmax
comp=Z,17nm,1.0s
PLOR Plostina 146.27 336 ⇑*i*P **PKPdf 22 50 26.8 +0.5**
PLOR Plostina 146.27 336 ⇑PKP2 **PKPdf 22 50 26.8 +0.5**
VYHS Vyhne 146.32 347 *e*PKP2 **PKPdf 22 50 26.2 -0.1**
VYHS Vyhne 146.32 347 *e*PKP **PKPdf 22 50 26.2 -0.1**
WLF Walferdange 146.38 2 PKP **PKPbc 22 50 27.9 +0.4**
WLF Walferdange 146.38 2 *e*PKPbc **PKPbc 22 50 27.2 -0.3**
WLF Walferdange 146.38 2 *e*PKP2 **PKPdf 22 50 26.3 0.0**
WLF MLR MLR
comp=Z,500nm,22.0s
WLF Walferdange 146.38 2 *e*PKPdf **PKPdf 22 50 26.3 0.0**
WLF LR LR
comp=Z,500nm,22.0s
CORM Corum 146.42 321 *e*P **PKPab 22 50 29.0 0.0**
ROSF Rostrenen 146.48 13 *e*PKIKP **PKPbc 22 50 27.3 -0.6**
comp=Z,72nm,1.3s
ROSF Rostrenen 146.48 13 *e*PKP2 **PKPbc 22 50 27.3 -0.6**
ROSF Rostrenen 146.48 13 *e*PKPdf **PKPbc 22 50 27.3 -0.6**
KMRS Kahramanmaras 146.50 315 *e*P **PKPab 22 50 28.9 -0.4**
HCB Kahramanmara¨ 146.58 315 *i* P **PKPab 22 50 29.4 -0.2**
KHC Kasperske Hory 146.59 353 *e*PKP **PKPbc 22 50 27.5 -0.8**
KHC *ep*PKP **PKPab 22 50 30.0 +0.7**
KHC *ex* x 22 51 14.5
KHC Kasperske Hory 146.59 353 *e*PKP2 **PKPbc 22 50 27.5 -0.8**
PSZ Piszkesteto 146.61 345 ⇑*i*P **PKPdf 22 50 27.1 +0.3**
PSZ Piszkesteto 146.61 345 *e*PKIKP **PKPdf 22 50 26.2 -0.6**
PSZ Piszkesteto 146.61 345 *e*PKPdf **PKPdf 22 50 26.2 -0.6**
PSZ Piszkesteto 146.61 345 ⇓*e*PKPdf **PKPbc 22 50 28.8 +0.4**
FLN La Foliniere 146.62 10 *e*PKIKP **PKPbc 22 50 27.8 -0.5**
comp=Z,81nm,1.1s
FLN *e*R
comp=Z,701nm,23.0s
FLN La Foliniere 146.62 10 *e*PKP2 **PKPbc 22 50 27.8 -0.5**
FLN La Foliniere 146.62 10 *e*PKPdf **PKPbc 22 50 27.8 -0.5**
CJR Cluj-Napoca 146.63 340 ⇓*i*P **PKPdf 22 50 27.3 +0.4**
CJR Cluj-Napoca 146.63 340 ⇓PKP2 **PKPdf 22 50 27.3 +0.4**
DOPR Dopca 146.65 337 ⇑*i*P **PKPbc 22 50 28.4 -0.1**
TIRR Tirgusor 146.66 333 ⇑*i*P **PKPdf 22 50 24.1 -2.8**
TIRR Tirgusor 146.66 333 *e*PKIKP **PKPdf 22 50 27.1 +0.2**
TIRR MLR MLR
comp=Z,500nm,18.0s
TIRR Tirgusor 146.66 333 *e*PKPdf **PKPdf 22 50 27.1 +0.2**
TIRR LR LR
comp=Z,500nm,18.0s
WET Wettzell 146.66 354 *e*PKPbc **PKPdf 22 50 27.3 +0.5**
WET *ep*PKPbc pPKPbc 22 50 45.0 +7.0
HARR Harsova 146.68 333 ⇑*i*P **PKPbc 22 50 28.3 -0.3**
HARR Harsova 146.68 333 ⇑PKP2 **PKPbc 22 50 28.3 -0.3**
SGMF Saint Gilles 146.72 13 *e*PKIKP **PKPbc 22 50 28.0 -0.6**
comp=Z,102nm,1.1s
SGMF Saint Gilles 146.72 13 *e*PKP2 **PKPbc 22 50 28.0 -0.6**
SGMF Saint Gilles 146.72 13 *e*PKPdf **PKPbc 22 50 28.0 -0.6**
TLB Topalu 146.72 333 ⇓*i*P **PKPbc 22 50 28.2 -0.5**
TLB Topalu 146.72 333 ⇓PKP2 **PKPbc 22 50 28.2 -0.5**
KUZU Kuzuini 146.76 314 *i* P **PKPab 22 50 30.1 -0.2**
LDF La Druitiere 146.84 10 *e*PKIKP **PKPbc 22 50 28.3 -0.6**
comp=Z,111nm,1.3s
LDF La Druitiere 146.84 10 *e*PKP2 **PKPbc 22 50 28.3 -0.6**
LDF La Druitiere 146.84 10 *e*PKPdf **PKPbc 22 50 28.3 -0.6**
MLR Muntele Rosu 146.84 336 ⇑*i*P **PKPdf 22 50 26.2 -1.2**
MLR Muntele Rosu 146.84 336 ⇑PKIKP **PKPdf 22 50 26.2 -1.2**
DRGR 146.85 341 ⇑*i*P **PKPdf 22 50 27.9 +0.6**
DRGR 146.85 341 ⇑PKP2 **PKPdf 22 50 27.9 +0.6**
GEC2 GERESS Array S 146.86 353 *e*PKPbc **PKPdf 22 50 27.4 +0.1**
GEC2 GERESS Array S 146.86 353 *e*PKIKP **PKPdf 22 50 27.2 -0.1**
GEC2 GERESS Array S 146.86 353 *e*PKPdf **PKPdf 22 50 27.2 -0.1**
GERES GERESS Array B 146.86 353 PKPbc **PKPdf 22 50 27.2 -0.1**
comp=Z,4.5nm,0.8s,baz=29,slow=3.0,SNR=36
GERES GERESS Array B 146.86 353 PKIKP **PKPdf 22 50 27.2 -0.1**
GERES pmax pmax
comp=Z,5.0nm,0.8s
SAFT Safranbolu 146.86 324 *e*P **PKPbc 22 50 29.3 0.0**
QUIF Quistinic 146.90 13 *e*PKIKP **PKPdf 22 50 28.1 +0.9**
comp=Z,107nm,1.1s
QUIF Quistinic 146.90 13 *e*PKP2 **PKPdf 22 50 28.1 +0.9**
QUIF Quistinic 146.90 13 *e*PKPdf **PKPdf 22 50 28.1 +0.9**
GRR Gorron 146.91 11 *e*PKIKP **PKPbc 22 50 28.8 -0.3**
comp=Z,105nm,1.2s
GRR Gorron 146.91 11 *e*PKP2 **PKPbc 22 50 28.8 -0.3**
GRR Gorron 146.91 11 *e*PKPdf **PKPbc 22 50 28.8 -0.3**
ISR Istrita 146.91 335 ⇑*i*P **PKPbc 22 50 29.4 +0.1**
ISR Istrita 146.91 335 ⇑PKP2 **PKPbc 22 50 29.4 +0.1**
ELDT Eldivan 146.93 323 *i* P **PKPab 22 50 30.9 -0.2**
MSAB Monastry St. A 147.21 333 ⇑*i*P **PKPbc 22 50 29.9 -0.2**
BUD Budapest 147.23 346 ⇓*e* **PKPbc 22 50 30.4 +0.4**
VOIR 147.23 337 ⇑*i*P **PKPbc 22 50 30.2 0.0**
VOIR 147.23 337 ⇑PKP2 **PKPbc 22 50 30.2 0.0**
KOZT Kozan 147.23 316 *e*P **PKPbc 22 50 30.8 +0.4**
STU Stuttgart 147.27 358 *e*PKPbc **PKPdf 22 50 28.8 +1.0**
STU Stuttgart 147.27 358 *e*PKIKP **PKPdf 22 50 27.5 -0.3**
STU Stuttgart 147.27 358 *e*PKPdf **PKPdf 22 50 27.5 -0.3**
BR101 Keskin Array S 147.29 321 *e*PKPbc **PKPbc 22 50 30.6 -0.1**
BRTR Keskin Array B 147.29 321 PKPbc **PKPbc 22 50 30.5 -0.2**
comp=Z,23nm,1.0s,baz=125,slow=1.7,SNR=84
BRTR Keskin Array B 147.29 321 PKP2 **PKPbc 22 50 30.5 -0.2**
BRTR pmax pmax
comp=Z,23nm,1.0s
PSN Preselentsi 147.37 332 ⇑*i*P **PKPbc 22 50 30.1 -0.4**
PSN Preselentsi 147.37 332 ⇑PKP2 **PKPbc 22 50 30.1 -0.4**
PSN Preselentsi 147.37 332 *e*P **PKPdf 22 50 28.7 +0.6**
ARR Arges 147.44 338 ⇑*i*P **PKPbc 22 50 31.3 +0.5**
CONA Conrad Observa 147.44 350 *i* PKPab **PKPbc 22 50 31.0 +0.3**
comp=Z,83nm,1.3s,SNR=39
PKSG 147.46 347 *e* **PKPbc 22 50 30.7 0.0**
PAGF Fort de Pagny 147.47 2 *e*PKIKP **PKPdf 22 50 28.4 +0.2**
PAGF Fort de Pagny 147.47 2 *e*PKPdf **PKPdf 22 50 28.4 +0.2**
CSKK Cs˘tkako 147.51 347 ⇓*e*Sdiff **PKPbc 22 50 30.4 -0.4**
SOP Sopron 147.56 349 ⇓*e*Sdiff **PKPbc 22 50 31.6 +0.7**
PKSN Nyarlorinc 147.56 344 *e*Sdiff **PKPbc 22 50 29.1 -1.9**
PKS7 Kunszentmiklos 147.60 345 *e*Sdiff **PKPbc 22 50 30.1 -1.0**
SIRR Siria 147.64 342 ⇑*i*P **PKPdf 22 50 28.4 -0.1**
PKST T˜˙s 147.66 347 *e*Sdiff **PKPbc 22 50 31.1 -0.2**
ANTO Ankara 147.70 322 ⇑*i*P **PKPbc 22 50 31.5 -0.2**
ANTO Ankara 147.70 322 *e*PKIKP **PKPdf 22 50 28.4 -0.5**
ANTO MLR MLR
comp=Z,300nm,21.0s
ANTO Ankara 147.70 322 *e*PKPdf **PKPdf 22 50 28.4 -0.5**
ANTO LR LR
comp=Z,300nm,21.0s
BFO Black Forest 147.73 359 *e*PKPbc **PKPbc 22 50 31.3 -0.2**
BFO *ep*PKPbc **pPKPbc 22 50 48.3 +7.2**
BFO Black Forest 147.73 359 *e*PKIKP **PKPdf 22 50 28.4 -0.2**
BFO MLR MLR
comp=Z,400nm,20.0s
BFO Black Forest 147.73 359 *e*PKPdf **PKPdf 22 50 28.4 -0.2**
BFO LR LR
comp=Z,400nm,20.0s
MOA Molln 147.76 352 ⇓*i*PKPab **PKPbc 22 50 31.5 -0.1**
comp=Z,32nm,1.1s,SNR=16
FUR Furstenfeldbru 147.77 356 *e*PKPbc **PKPbc 22 50 31.5 -0.1**
FUR *ep*PKPbc **pPKPbc 22 50 48.4 +7.2**
SFTF Sexfontaines 147.79 3 *e*PKIKP **PKPdf 22 50 28.8 +0.1**
SFTF Sexfontaines 147.79 3 *e*PKPdf **PKPdf 22 50 28.8 +0.1**
AFSR Af˘ar-Bala (A 147.81 322 *e*P **PKPbc 22 50 32.2 +0.1**
PKS6 Bocsa 147.92 345 *e*Sdiff **PKPbc 22 50 31.7 -0.2**
RJOB Jochberg 148.06 354 *e*PKPbc **PKPbc 22 50 32.2 -0.2**
GZR Gura Zlata 148.07 340 ⇑*i*P **PKPbc 22 50 31.8 -0.7**
GZR Gura Zlata 148.07 340 ⇑PKIKP **PKPbc 22 50 31.8 -0.7**
PKS2 Kecel 148.11 345 ⇑*e*Sdiff **PKPbc 22 50 33.0 +0.6**
ARSA Arzberg 148.16 350 *i* PKiKP **PKPbc 22 50 32.5 -0.1**
comp=Z,24nm,1.3s,SNR=10
BZS Buzias 148.24 341 *e*P **PKPbc 22 50 32.7 -0.1**
BZS Buzias 148.24 341 ⇑*i*P **PKPbc 22 50 31.6 -1.2**
BZS Buzias 148.24 341 ⇑PKP2 **PKPbc 22 50 31.6 -1.2**
PKS9 Tamasi 148.24 346 *e*Sdiff **PKPbc 22 50 32.7 -0.1**
RETA Reutte 148.48 356 *i* PKiKP **PKPbc 22 50 33.5 0.0**
comp=Z,40nm,1.4s,SNR=20
PKSM Moragy 148.51 345 ⇓*i*P **PKPdf 22 50 28.5 -1.4**
PKSM Moragy 148.51 345 ⇓*e* **PKPbc 22 50 33.5 0.0**
WATA Walderalm 148.57 355 ⇓*i*PKiKP **PKPbc 22 50 33.5 -0.4**
comp=Z,28nm,1.2s,SNR=12
MOTA Moosalm 148.60 356 ⇓*i*PKPbc **PKPdf 22 50 30.8 +0.5**
comp=Z,43nm,1.2s,SNR=18
LOR Lormes 148.63 5 *e*PKIKP **PKPdf 22 50 30.4 +0.3**
comp=Z,14nm,1.0s
LOR *e*R
comp=Z,894nm,20.8s
LOR Lormes 148.63 5 *e*PKIKP **PKPdf 22 50 30.4 +0.3**
LOR Lormes 148.63 5 *e*PKPdf **PKPdf 22 50 30.4 +0.3**
WTTA Wattenberg 148.64 355 *i* PKiKP **PKPbc 22 50 34.0 -0.1**
comp=Z,43nm,1.1s,SNR=16
SZH Strazhica 148.68 334 *e*P **PKPbc 22 50 33.9 -0.2**
DAVA Damuels 148.73 357 *i* PKiKP **PKPbc 22 50 34.3 +0.1**
comp=Z,44nm,1.2s,SNR=14
MFF Saint Martin d 148.77 11 *e*PKIKP **PKPdf 22 50 30.3 0.0**
comp=Z,32nm,1.4s
MFF Saint Martin d 148.77 11 *e*PKIKP **PKPdf 22 50 30.3 0.0**
MFF Saint Martin d 148.77 11 *e*PKPdf **PKPdf 22 50 30.3 0.0**
SOKA Soboth 148.79 350 *i* PKPbc **PKPbc 22 50 33.9 -0.5**
comp=Z,42nm,1.4s,SNR=15
SSF Saint Saulge 148.81 6 *e*PKIKP **PKPdf 22 50 30.6 +0.2**
comp=Z,14nm,1.0s
SSF Saint Saulge 148.81 6 *e*PKIKP **PKPdf 22 50 30.6 +0.2**
SSF Saint Saulge 148.81 6 *e*PKPdf **PKPdf 22 50 30.6 +0.2**
PERS Pernice 148.82 350 *e*PKPdf **PKPbc 22 50 33.7 -0.7**
KIZT Kizilcal 148.88 322 *e*P **PKPdf 22 50 32.8 +1.9**
FETA Feichten 148.95 356 *i* PKiKP **PKPbc 22 50 34.9 +0.1**
comp=Z,47nm,1.4s,SNR=14
KDHN Kadinhani 148.97 321 *i* P **PKPbc 22 50 35.3 +0.1**
FURI Furi 149.01 261 P **PKPbc 22 50 38.1 +1.9**
FURI Furi 149.01 261 *e*PKPbc **PKPdf 22 50 34.0 +1.8**
FURI LR LR
comp=Z,500nm,18.0s
LADK Ladik-KONYA 149.02 320 *e*P **PKPbc 22 50 35.0 -0.3**
BORA Eskisehir 149.03 325 *i* P **PKPbc 22 50 35.3 +0.1**
MYKA Terra Mystica 149.05 352 *i* PKPbc **PKPbc 22 50 34.0 -0.9**
comp=Z,32nm,1.3s,SNR=10
JMB Yambol 149.05 332 ⇓*i*P **PKPdf 22 50 27.8 -3.1**
JMB Yambol 149.05 332 *e*P **PKPdf 22 50 28.1 -2.8**
AVF Avril sur Loir 149.06 6 *e*PKIKP **PKPdf 22 50 30.6 -0.2**
AVF Avril sur Loir 149.06 6 *e*PKIKP **PKPdf 22 50 30.6 -0.2**
AVF Avril sur Loir 149.06 6 *e*PKPdf **PKPdf 22 50 30.6 -0.2**
ABTA Abfaltersbach 149.06 354 ⇑*i*PKPbc **PKPbc 22 50 34.3 -0.7**
comp=Z,35nm,1.0s,SNR=16
SMF Signal de Mont 149.25 5 *e*PKIKP **PKPdf 22 50 31.0 -0.2**
SMF Signal de Mont 149.25 5 *e*PKIKP **PKPdf 22 50 31.0 -0.2**
SMF Signal de Mont 149.25 5 *e*PKPdf **PKPdf 22 50 31.0 -0.2**
FUORN Ofenpass-Fuorn 149.38 357 *e*PKPbc **PKPbc 22 50 36.1 0.0**
FUORN LR LR
comp=Z,400nm,18.0s
PDKS Podkum 149.40 350 *e*PKPdf **PKPbc 22 50 34.7 -1.1**
CABF La Chapelle 149.43 2 *e*PKIKP **PKPdf 22 50 32.2 +0.7**
CABF La Chapelle 149.43 2 *e*PKIKP **PKPdf 22 50 32.2 +0.7**
CABF La Chapelle 149.43 2 *e*PKPdf **PKPdf 22 50 32.2 +0.7**
TCF Toulx Ste Croi 149.43 8 *e*PKIKP **PKPdf 22 50 31.3 -0.2**
comp=Z,20nm,1.2s
TCF Toulx Ste Croi 149.43 8 *e*PKIKP **PKPdf 22 50 31.3 -0.2**
TCF Toulx Ste Croi 149.43 8 *e*PKPdf **PKPdf 22 50 31.3 -0.2**
MPEP Malo Peshtene 149.49 337 *e*P **PKPbc 22 50 36.3 +0.2**
ERMK Ermenek 149.62 317 *i* P **PKPbc 22 50 37.4 +0.4**
VISS Visnje 149.68 350 *i* PKPdf **PKPdf 22 50 32.1 +0.2**
VISS *i* 22 50 35.9
SENIN Lac Senin/Sane 149.70 1 *e*PKPbc **PKPbc 22 50 36.9 +0.1**
JAVS Javornik 149.71 351 *e*PKPdf **PKPdf 22 50 32.0 -0.1**
JAVS *i* 22 50 35.8
TVSB Tavsanli 149.88 325 *e*P **PKPdf 22 50 34.2 +1.7**
BOJS Bojanci 149.90 349 *e*PKPdf **PKPdf 22 50 31.9 -0.3**
BOJS *i* 22 50 36.5
TRI Trieste 149.93 352 *e*PKPbc **PKPbc 22 50 36.1 -1.0**
TRI LR LR
comp=Z,400nm,20.0s
LFK Lefkose 149.98 315 *e*P **PKPbc 22 50 37.6 -0.1**
PGB Panagyrishte 150.01 335 *e*P **PKPbc 22 50 37.3 -0.2**
MMLI Mount Malkishu 150.03 308 *e*P **PKPbc 22 50 38.0 +0.2**
DIVS Divibare 150.10 342 ⇓*i*P **PKPbc 22 50 37.6 -0.1**
GDZ Gediz 150.12 325 *i* P **PKPbc 22 50 38.0 0.0**
PLD Plovdiv 150.16 334 *e*P **PKPbc 22 50 36.9 -0.9**
KDZ Kurdzhali 150.22 333 ⇓*i*P **PKPdf 22 50 33.1 +0.2**
KDZ Kurdzhali 150.22 333 *e*P **PKPbc 22 50 37.3 -0.7**
DST Dursunbey 150.23 326 *e*P **PKPbc 22 50 36.9 -1.2**
GAZI Gazipasa 150.25 317 *i* P **PKPbc 22 50 37.4 -0.8**
CSS Prodhromos 150.29 314 *e*PKPbc **PKPbc 22 50 36.9 -1.4**
CSS LR LR
comp=Z,100nm,19.0s
RJF Les Rejaudoux 150.30 9 *e*PKIKP **PKPdf 22 50 32.8 -0.1**
RJF *e*R
comp=Z,763nm,22.8s
RJF Les Rejaudoux 150.30 9 *e*PKPdf **PKPdf 22 50 32.8 -0.1**
KRBG Karabiga-Canak 150.32 329 *e*P **PKPbc 22 50 37.8 -0.4**
VTS Vitosha 150.35 337 ⇑*i*P **PKPdf 22 50 35.0 +1.8**
VTS Vitosha 150.35 337 *e*P **PKPbc 22 50 35.9 -2.5**
ISP Isparta 150.38 322 *e*PKIKP **PKPbc 22 50 37.5 -1.1**
ISP MLR MLR
comp=Z,300nm,20.0s
ISP Isparta 150.38 322 *e*PKPbc **PKPbc 22 50 37.5 -1.1**
ISP LR LR
comp=Z,300nm,20.0s
ERIK Erikli-Kesan 150.49 330 *e*P **PKPbc 22 50 38.2 -0.4**
RZN Rozhen 150.49 334 *e*P **PKPbc 22 50 37.6 -1.2**
LEF Lefka 150.51 315 *e*P **PKPbc 22 50 38.6 -0.2**
LFF La Frestale 150.53 10 *e*PKIKP **PKPdf 22 50 33.4 +0.2**
LFF La Frestale 150.53 10 *e*PKIKP **PKPdf 22 50 33.4 +0.2**
LFF La Frestale 150.53 10 *e*PKPdf **PKPdf 22 50 33.4 +0.2**
ALN Alexandroupoli 150.54 331 P **PKPbc 22 50 36.2 -2.5**
ALN Alexandroupoli 150.54 331 *e*P **PKPdf 22 50 36.0 +2.7**
ALN Alexandroupoli 150.54 331 *e*P **PKPbc 22 50 37.4 -1.3**
ALN Alexandroupoli 150.54 331 *e*PKIKP **PKPbc 22 50 36.2 -2.5**
ALN Alexandroupoli 150.54 331 *e*PKPdf **PKPbc 22 50 36.2 -2.5**
LPL La Plagne 150.54 1 *e*PKIKP **PKPdf 22 50 34.4 +0.9**
LPL La Plagne 150.54 1 *e*PKIKP **PKPdf 22 50 34.4 +0.9**
LPL La Plagne 150.54 1 *e*PKPdf **PKPdf 22 50 34.4 +0.9**
LPG La Plagne 150.56 1 *e*PKIKP **PKPdf 22 50 34.2 +0.6**
LPG La Plagne 150.56 1 *e*PKIKP **PKPdf 22 50 34.2 +0.6**
LPG La Plagne 150.56 1 *e*PKPdf **PKPdf 22 50 34.2 +0.6**
DEMI Demirci 150.58 325 *i* P **PKPbc 22 50 39.2 +0.2**
LPK Lapseki 150.60 330 *e*P **PKPbc 22 50 38.7 -0.2**
BALY Balya 150.65 328 *i* P **PKPbc 22 50 39.4 +0.3**
PGAV Gavieira, Arco 150.66 25 *e*PKPbc **PKPbc 22 50 39.6 +0.5**
PGAV Gavieira, Arco 150.66 25 *e*LR LR 23 45 49.9
comp=Z,594nm,20.0s
GELI Tayfur-Gelibol 150.72 330 *e*P **PKPbc 22 50 38.5 -0.6**
CAF Calviac 150.75 8 *e*PKIKP **PKPdf 22 50 34.0 +0.4**
comp=Z,11nm,1.1s
CAF Calviac 150.75 8 *e*PKIKP **PKPdf 22 50 34.0 +0.4**
CAF Calviac 150.75 8 *e*PKPdf **PKPdf 22 50 34.0 +0.4**
PCAB Cabril 150.97 25 *e*PKPbc **PKPbc 22 50 40.0 +0.2**
MMB Musomiste 150.99 335 ⇓*i*P **PKPbc 22 50 37.7 -2.1**
MMB Musomiste 150.99 335 ⇓PKIKP **PKPbc 22 50 37.7 -2.1**
MMB Musomiste 150.99 335 *e*P **PKPbc 22 50 38.6 -1.2**
BNI Bardonecchia 151.00 2 *e*PKIKP **PKPdf 22 50 34.4 +0.2**
BNI MLR MLR
comp=Z,600nm,22.0s
BNI Bardonecchia 151.00 2 *e*PKPdf **PKPdf 22 50 34.4 +0.2**
BNI LR LR
comp=Z,600nm,22.0s
KKB Krupnik 151.01 336 *e*P **PKPbc 22 50 39.7 -0.1**
KORT Korkueli 151.02 321 *i* P **PKPbc 22 50 39.9 -0.2**
VIVF Saint-Julien-l 151.10 5 *e*PKIKP **PKPdf 22 50 34.7 +0.6**
comp=Z,16nm,1.2s
VIVF Saint-Julien-l 151.10 5 *e*PKIKP **PKPdf 22 50 34.7 +0.6**
VIVF Saint-Julien-l 151.10 5 *e*PKPdf **PKPdf 22 50 34.7 +0.6**
ORIF Oris-en-Rattie 151.11 3 *e*PKIKP **PKPdf 22 50 34.7 +0.5**
ORIF *e*R
comp=Z,794nm,19.8s
ORIF Oris-en-Rattie 151.11 3 *e*PKIKP **PKPdf 22 50 34.7 +0.5**
ORIF Oris-en-Rattie 151.11 3 *e*PKPdf **PKPdf 22 50 34.7 +0.5**
SMTH Samothraki Isl 151.11 331 P **PKPbc 22 50 38.1 -2.0**
SMTH Samothraki Isl 151.11 331 *e*P **PKPbc 22 50 39.2 -0.9**
SMTH Samothraki Isl 151.11 331 *e*PKPbc **PKPbc 22 50 38.1 -2.0**
NVR Nevrokopi 151.13 334 P **PKPbc 22 50 39.6 -0.6**
NVR Nevrokopi 151.13 334 *e*P **PKPbc 22 50 39.7 -0.5**
NVR Nevrokopi 151.13 334 *e*PKPbc **PKPbc 22 50 39.6 -0.6**
KAVA Kavala 151.15 333 P **PKPbc 22 50 39.8 -0.4**
KAVA Kavala 151.15 333 *e*P **PKPbc 22

OUR	Ouranopolis	151.92	333	P		PKPbc	22 50 40.6	-1.3
OUR	Ouranopolis	151.92	333	*e*P		PKPdf	22 50 38.0	+2.5
OUR	Ouranopolis	151.92	333	*e*P		PKPbc	22 50 40.7	-1.2
OUR	Ouranopolis	151.92	333	*e*PKIKP		PKPbc	22 50 40.6	-1.3
OUR	Ouranopolis	151.92	333	*e*PKPbc		PKPbc	22 50 40.6	-1.3
SIGR	SIGRI	151.94	329	P		PKPbc	22 50 41.0	-1.0
SIGR	SIGRI	151.94	329	*e*P		PKPbc	22 50 41.4	-0.6
SIGR	SIGRI	151.94	329	*e*P		PKPbc	22 50 39.0	-3.0
SIGR	SIGRI	151.94	329	*e*PKPbc		PKPbc	22 50 41.0	-1.0
AYDN	Tasoluk	152.02	324	*i* P		PKPbc	22 50 44.8	+2.4
FETY	Fethiye	152.03	321	*e*P		PKPbc	22 50 39.6	-2.7
SMRF	Simiane la Rot	152.03	3	*e*PKIKP		PKPdf	22 50 36.3	+0.7
	comp=Z,50nm,1.4s							
SMRF	Simiane la Rot	152.03	3	*e*PKPdf		PKPbc	22 50 36.3	+0.7
GRG	Griva	152.06	336	*e*P		PKPbc	22 50 40.5	-1.8
PLG	Polygyros	152.12	334	P		PKPbc	22 50 41.1	-1.4
PLG	Polygyros	152.12	334	*e*P		PKPbc	22 50 40.9	-1.6
PLG	Polygyros	152.12	334	*e*PKIKP		PKPbc	22 50 41.1	-1.4
PLG	Polygyros	152.12	334	*e*PKPbc		PKPbc	22 50 41.1	-1.4
ETSF	Etsaut	152.25	13	*e*PKIKP		PKPdf	22 50 36.7	+0.7
ETSF	Etsaut	152.25	13	*e*PKIKP		PKPdf	22 50 36.7	+0.7
ETSF	Etsaut	152.25	13	*e*PKPdf		PKPdf	22 50 36.7	+0.7
MTE	Manteigas	152.27	26	*e*PKPbc		PKPbc	22 50 43.0	+0.2
MTE	Manteigas	152.27	26	eLR		LR	23 41 36.9	
	comp=Z,456nm,20.0s							
MTE	Manteigas	152.27	26	*e*PKPbc		PKPbc	22 50 42.4	-0.5
EPF	Esparros	152.31	12	*e*PKIKP		PKPdf	22 50 36.4	+0.4
EPF	Esparros	152.31	12	*e*PKIKP		PKPdf	22 50 36.4	+0.4
EPF	Esparros	152.31	12	*e*PKPdf		PKPdf	22 50 36.4	+0.4
MTLF	Montolieu	152.32	9	*e*PKIKP		PKPdf	22 50 36.4	+0.4
	comp=Z,12nm,1.2s							
MTLF	Montolieu	152.32	9	*e*PKIKP		PKPdf	22 50 36.4	+0.4
MTLF	Montolieu	152.32	9	*e*PKPdf		PKPdf	22 50 36.4	+0.4
PAIG	Paliouri	152.39	333	P		PKPbc	22 50 41.6	-1.4
PAIG	Paliouri	152.39	333	*e*PKIKP		PKPbc	22 50 41.6	-1.4
PAIG	Paliouri	152.39	333	*e*PKPbc		PKPbc	22 50 41.6	-1.4
CHOS	Chios island	152.47	328	P		PKPbc	22 50 42.7	-0.7
CHOS	Chios island	152.47	328	*e*P		PKPdf	22 50 38.4	+2.0
CHOS	Chios island	152.47	328	*e*P		PKPbc	22 50 42.5	-0.9
CHOS	Chios island	152.47	328	*e*PKPbc		PKPbc	22 50 42.7	-0.7
FRF	La Foret Royal	152.49	2	*e*PKIKP		PKPdf	22 50 36.0	-0.2
	comp=Z,73nm,1.7s							
FRF	La Foret Royal	152.49	2	*e*PKIKP		PKPdf	22 50 36.0	-0.2
FRF	La Foret Royal	152.49	2	*e*PKPdf		PKPdf	22 50 36.0	-0.2
PTOM	Tomar	152.54	28	*e*PKPdf		PKPdf	22 50 36.6	+0.2
PTOM	Tomar	152.54	28	*e*PKPbc		PKPbc	22 50 43.8	+0.4
SMG	Samos	152.56	326	P		PKPbc	22 50 42.3	-1.2
SMG	Samos	152.56	326	*e*P		PKPbc	22 50 42.7	-0.8
SMG	Samos	152.56	326	*e*PKPbc		PKPbc	22 50 42.3	-1.2
FNA	Florina	152.60	337	P		PKPbc	22 50 42.6	-0.9
FNA	Florina	152.60	337	*e*P		PKPbc	22 50 40.3	-3.3
FNA	Florina	152.60	337	*e*P		PKPbc	22 50 41.4	-2.1
FNA	Florina	152.60	337	*e*PKIKP		PKPbc	22 50 42.6	-0.9
FNA	Florina	152.60	337	*e*PKPbc		PKPbc	22 50 42.6	-0.9
LMR	La Mourre	152.72	2	*e*PKIKP		PKPdf	22 50 36.6	+0.1
	comp=Z,15nm,1.2s							
LMR	La Mourre	152.72	2	*e*PKIKP		PKPdf	22 50 36.6	+0.1
LMR	La Mourre	152.72	2	*e*PKPdf		PKPdf	22 50 36.6	+0.1
LIT	Litokhoron	152.75	335	P		PKPbc	22 50 42.8	-1.1
LIT	Litokhoron	152.75	335	*e*P		PKPbc	22 50 41.0	-2.9
LIT	Litokhoron	152.75	335	*e*PKIKP		PKPbc	22 50 42.8	-1.1
LIT	Litokhoron	152.75	335	*e*PKPbc		PKPbc	22 50 42.8	-1.1
BODT	Bodrum	152.76	324	*e*P		PKPbc	22 50 41.7	-2.3
PCBR	Castelo Branco	152.77	26	*e*PKPdf		PKPdf	22 50 37.9	+1.2
PCBR	Castelo Branco	152.77	26	*e*PKPbc		PKPbc	22 50 43.7	-0.2
DAT	Datca	152.85	323	*e*P		PKPbc	22 50 41.0	-3.3
ARG	Arkhangelos	152.88	322	*e*P		PKPbc	22 50 44.3	+0.1
AOS	Alonnisos	152.91	332	*e*P		PKPdf	22 50 40.6	+3.6
AOS	Alonnisos	152.91	332	*e*P		PKPbc	22 50 42.7	-1.5
NEST	Nestorio	153.04	337	*e*P		PKPbc	22 50 44.0	-0.6
XOR	Xorichti	153.06	333	*e*P		PKPbc	22 50 42.0	-2.6
PMTG	Montargil	153.07	28	*e*PKPdf		PKPdf	22 50 36.5	-0.7
PMTG	Montargil	153.07	28	*e*PKPbc		PKPbc	22 50 44.5	-0.1
NEO	Neokhori	153.10	333	*e*P		PKPbc	22 50 43.6	-1.1
PMRV	Marv??o	153.15	27	*e*PKPdf		PKPdf	22 50 38.0	+0.7
PMRV	Marv??o	153.15	27	*e*PKPbc		PKPbc	22 50 45.0	+0.2
PMRV	Marv??o	153.15	27	eLR		LR	23 42 42.8	
	comp=Z,417nm,22.0s							
AQU	L'Aquila	153.27	351	PFAKE			22 50 50.0	+5.0
AQU				LR		LR		
	comp=Z,400nm,19.0s							
MEV	Metsovon	153.52	336	P		PKPbc	22 50 46.5	+0.8
MEV	Metsovon	153.52	336	*e*PKPbc		PKPbc	22 50 46.5	+0.8
EVOP	Sao Brissos	153.56	29	*e*PKIKP		PKPdf	22 50 36.6	-1.3
EVOP	Sao Brissos	153.56	29	*e*PKPdf		PKPdf	22 50 36.6	-1.3
EVO	Evora	153.61	29	*e*PKIKP		PKPdf	22 50 36.6	-1.4
	comp=Z,10nm,1.0s							
EVO				*e*R				
	comp=Z,957nm,22.5s							
PNCL	Nicolau / Gran	153.70	30	*e*PKPdf		PKPdf	22 50 37.2	-0.9
PNCL	Nicolau / Gran	153.70	30	*e*PKPbc		PKPbc	22 50 45.3	-0.6
AGG	Agios Georgios	153.72	334	*e*P		PKPbc	22 50 44.7	-1.3
MESJ	Messajana	154.06	30	*e*P		PKPdf	22 50 39.0	+0.4
MESJ				AMS		AMS	23 52 54.7	
	comp=Z,436nm,24.5s							
MESJ	Messajana	154.06	30	*e*PKIKP		PKPdf	22 50 39.0	+0.4
PAB	San Pablo	154.25	22	PFAKE			22 50 50.0	+2.8
PAB				LR		LR		
	comp=Z,500nm,19.0s							
ESDC	Sonseca Array	154.27	21	PKP		PKPdf	22 50 39.7	+0.7
	comp=Z,0.8nm,0.8s,baz=339,slow=2.6,SNR=9.4							
ESDC				PKPbc		PKiKP	22 50 47.4	+0.1
	comp=Z,2.9nm,0.9s,baz=341,slow=2.8,SNR=18							
ESDC				PP		PP	22 54 33.5	-1.7
	comp=Z,0.4nm,0.8s,baz=318,slow=7.4,SNR=4.1							
MORF	Marmelete	154.27	31	*e*P		PKPdf	22 50 39.0	0.0
MORF				AMS		AMS	23 58 05.0	
	comp=Z,383nm,15.9s							
MORF	Marmelete	154.27	31	*e*PKIKP		PKPdf	22 50 39.0	0.0
PCVE	Castro Verde	154.31	30	*e*PKPbc		PKPbc	22 50 47.4	+0.1
PBAR	Barrancos	154.34	28	*e*PKPdf		PKPdf	22 50 38.3	-0.7
PBAR	Barrancos	154.34	28	*e*PKPbc		PKPbc	22 50 47.8	+0.5
PVAQ	Vaqueiros	154.65	30	eLR		LR	23 43 09.5	
	comp=Z,272nm,22.0s							
DBIC	Dimbokro	164.58	125	PKP		PKPdf	22 50 50.9	-0.6
	comp=Z,8.4nm,1.1s,baz=349,slow=5.6,SNR=4.1							
DBIC	Dimbokro	164.58	125	PKIKP		PKPdf	22 50 50.9	-0.6
DBIC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
DBIC	Dimbokro	164.58	125	*e*PKPdf		PKPdf	22 50 50.7	-0.8
TOA0	Torodi Ar. Sit	173.50	115	*e*PKPdf		PKPdf	22 50 56.0	-1.1
TOA0				*e*PKPab		PKPab	22 52 24.6	-1.5
TOA0				*e*PP		PP	22 56 16.3	-1.6
TORD	Torodi Ar. Bea	173.50	115	PKP		PKPdf	22 50 56.0	-1.1
	comp=Z,9.4nm,1.1s,baz=307,slow=1.4,SNR=25							
TORD				PKPab		PKPab	22 52 24.6	-1.5
	comp=Z,2.2nm,1.0s,baz=275,slow=2.6,SNR=6.3							
TORD				PP		PP	22 56 16.3	-1.6
	comp=Z,0.8nm,1.1s,baz=220,slow=3.6,SNR=3.7							

*ISCJB **24** 22:50:24.2±0.5, 13°.78N±0°.07×92°.83E±0°.05, h29km, mb4.0/21, Error ellipse: s-maj=9.8km s-min=6.4km az=19.4*

*IDC **24** 22:50:25.6±0.6, 13°.68N×92°.84E, h24km±3km, mb3.8/16, mb1 3.9/17, mb1mx3.8/39, mbtmpg3.9/17, ML4.1/1, Error ellipse: s-maj=22.2km s-min=11.9km az=45.0*

*NEIC **24** 22:50:27.0±0.4, 13°.68N×92°.84E, h35km, mb4.2/3, Error ellipse: s-maj=11.4km s-min=8.2km az=47.0*

ISC 24 22:50:26.2±0.6, 13°.78N±0°.10×92°.87E±0°.06, h29km, n49, σ1s09/54, mb4.0/21, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.46	51	Pn	Pn	22 52 14.0	+0.7
	0.8nm,0.3s,baz=243,slow=15,SNR=7.0						
CMAR				Sn	Sn	22 53 36.3	-0.7
	0.2nm,0.3s,baz=238,slow=25,SNR=3.2						
CHLP	Challavanipeta	9.68	300	*e*Pn	Pn	22 52 42.0	-1.7
CHLP				*e*Sn	Sn	22 54 18.4	-13
VIS	Vishakhapatnam	9.98	294	*i* P	Pn	22 52 52.7	+5.0
VIS				*i* S	Sn	22 54 24.1	-15
ADKI	Addanki	12.64	281	*e*Pn	Pn	22 53 25.5	+1.3
ADKI				*e*Sn	Sn	22 55 27.4	-16
SKHT	Srikalahasti	12.78	271	*e*Sn	Sn	22 55 32.4	-15
NJS	Nagarjunasagar	13.38	284	*e*Pn	Pn	22 53 34.3	+0.1
NJS				*e*Sn	Sn	22 55 47.9	-14
RPR	Rampur	13.97	293	*e*Pn	Pn	22 53 42.0	-0.4
RPR				*e*Sn	Sn	22 56 02.1	-14
ODAN	Odare	13.99	339	*e*P	Pn	22 53 41.8	-1.0
HYB	Hyderabad	14.25	287	*i* P	P	22 53 55.0	+1.8
HYB				*e*		22 56 10.0	
HYB				*e*S	Sn	22 56 22.0	-1.5
TAPN	Taplejung	14.34	341	*e*P	Pn	22 53 45.8	-1.8
RAMN	Ramite	14.36	337	*e*P	Pn	22 53 46.5	-1.3
JIRN	Jiri	15.15	337	*e*P	Pn	22 53 57.7	-0.9
URV	Uravakonda	15.17	276	*e*Sn	Sn	22 56 27.2	-19
PKI	Pulchoki	15.39	334	*e*P	Pn	22 54 00.1	-1.6
PKIN	Phulchoki	15.40	334	*e*P	Pn	22 54 00.6	-1.2
DMN	Daman	15.55	333	*e*P	Pn	22 54 03.1	-0.7
LSA	Lhasa	15.92	355	*e*Pn	P	22 54 11.2	-1.0
	5.4nm,0.6s						
DANN	Dangsing	16.79	331	*e*P	Pn	22 54 19.0	-0.7
H08S3	Diego Garcia H	29.36	225	T	T	23 26 59.5	
	baz=38						
H08S2	Diego Garcia H	29.36	225	T	T	23 27 00.3	
	baz=38						
H08S1	Diego Carcia H	29.37	225	T	T	23 27 03.4	
	baz=38						
MKAR	Makanchi Array	34.09	347	P	P	22 57 09.7	+1.5
	1.3nm,0.8s,baz=185,slow=8.5,SNR=11						
SONM	Songino Array	35.77	16	P	P	22 57 24.1	+1.2
	1.2nm,1.0s,baz=190,slow=9.5,SNR=6.3						
SONM				PcP	PcP	22 59 51.0	+0.7
	0.3nm,0.6s,baz=146,slow=2.8,SNR=3.1						
KSAR	Wonju Array Be	39.05	46	P	P	22 57 49.8	-0.8
KSRS	Korea Array	39.08	46	P	P	22 57 49.8	-1.0
	0.7nm,0.6s,baz=248,slow=6.4,SNR=3.3						
GEYT	Alibeck	39.09	314	P	P	22 57 52.2	+1.2
	1.6nm,0.7s,baz=126,slow=2.5,SNR=4.9						
GEYT				pP	pP	22 58 00.1	+0.5
	3.0nm,0.7s,baz=147,slow=8.3,SNR=6.3						
ZALV	Zalesovo Beam	40.58	353	P	P	22 58 04.1	+1.0
	3.1nm,0.7s,baz=176,slow=8.9,SNR=16						
USRK	Ussuriysk Ar.	45.04	40	P	P	22 58 40.5	+1.1
	0.7nm,0.7s,baz=231,slow=11,SNR=3.5						
WRA	Warramunga Arr	52.80	129	P	P	22 59 39.0	-0.3
	0.9nm,0.6s,baz=309,slow=8.0,SNR=14						
WRA				pP	pP	22 59 45.9	-2.2
	2.7nm,0.6s,baz=308,slow=7.8,SNR=19						
WRA				PcP	PcP	23 00 48.9	+0.4
	0.5nm,0.5s,baz=316,slow=3.2,SNR=8.2						
WRAB	Tennant Creek	52.80	129	*e*P	P	22 59 38.9	-0.4
	1.8nm,0.6s						
WB2	Warramunga Arr	52.81	129	*e*P	P	22 59 38.9	-0.4
ASAR	Alice Springs	54.73	132	P	P	22 59 53.1	-0.2
	1.1nm,0.4s,baz=308,slow=6.7,SNR=31						
ASAR				pP	pP	23 00 00.2	-2.1
	1.8nm,0.5s,baz=308,slow=6.5,SNR=14						
ASAR				PcP	PcP	23 00 55.9	+0.1
	0.4nm,0.6s,baz=311,slow=4.3,SNR=2.9						
BRTR	Keskin Array B	57.72	308	P	P	23 00 14.3	-0.4
	0.8nm,0.7s,baz=137,slow=7.9,SNR=5.2						
BRTR				pP	pP	23 00 20.6	-3.0
	1.1nm,0.9s,baz=144,slow=8.7,SNR=4.3						
FINES	FINESS Array B	66.95	331	P	P	23 01 15.8	0.0
	3.7nm,1.1s,baz=113,slow=5.3,SNR=13						
FINES				pP	pP	23 01 23.7	-1.2
	0.7nm,0.5s,baz=106,slow=10,SNR=1.5						
ARCES	ARCESS Array B	69.32	340	P	P	23 01 31.4	+0.8
	8.3nm,1.0s,baz=90,slow=7.2,SNR=3.7						
GERES	GERESS Array B	72.64	317	P	P	23 01 51.7	+0.4
	1.1nm,0.7s,baz=93,slow=4.5,SNR=10						
GERES				pP	pP	23 02 01.0	+0.5
	0.4nm,0.6s,baz=76,slow=5.3,SNR=2.9						
NOA	NORSAR Array B	74.01	330	P	P	23 01 58.4	-0.6
	0.5nm,0.6s,baz=90,slow=6.0,SNR=3.4						
CDF	Champ du Feu	76.92	317	*e*P	P	23 02 16.1	0.0
	1.7nm,0.7s						
CDF	Champ du Feu	76.92	317	*e*P	P	23 02 16.1	0.0
	1.7nm,0.7s						
LPG	La Plagne	77.61	314	*e*P	P	23 02 20.2	-0.1
	6.1nm,0.8s						
LPG	La Plagne	77.61	314	*e*P	P	23 02 20.2	-0.1
	6.1nm,0.8s						
LPL	La Plagne	77.62	314	*e*P	P	23 02 20.2	-0.1
	5.3nm,0.6s						
LPL	La Plagne	77.62	314	*e*P	P	23 02 20.2	-0.1
	5.3nm,0.6s						
SMF	Signal de Mont	79.46	316	*e*P	P	23 02 29.6	-0.5
	3.1nm,0.6s						
SMF	Signal de Mont	79.46	316	*e*P	P	23 02 29.6	-0.5
	3.1nm,0.6s						
ESDC	Sonseca Array	86.48	310	P	P	23 03 06.7	0.0
	0.2nm,0.4s,baz=65,slow=4.5,SNR=4.2						
TORD	Torodi Ar. Bea	88.04	283	P	P	23 03 14.3	-0.3
	0.8nm,0.9s,baz=95,slow=3.3,SNR=2.8						
ILAR	Eielson Array	89.77	22	P	P	23 03 22.3	+0.6
	0.2nm,0.6s,baz=301,slow=4.3,SNR=3.4						
TXAR	Lajitas Array	134.26	20	PKP	PKPdf	23 09 44.2	+2.1
	0.2nm,0.6s,baz=25,slow=3.0,SNR=2.2						

*ISCJB **24** 22:53:12.0±0.5, 32°.33N±0°.04×115°.32W±0°.04, h13km±6km, Error ellipse: s-maj=6.2km s-min=5.1km az=35.1*

*ECX **24** 22:53:13.3±0.5, 32°.33N×115°.33W, h7km, MD2.9, ML3.1*

*MEX **24** 22:53:13.2±0.6, 32°.47N×115°.15W, h18km±4km, MD3.7*

ISC 24 22:53:11.7±0.9, 32°.32N±0°.04×115°.32W±0°.03, h15km±8km, n19, σ0s26/27, 1C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.10	5	*e*P	Pg	22 53 07.6	-7.4
CPBX				*e*S	Sg	22 53 17.2	+0.1
CPBX				AML	AML	22 53 19.2	
	comp=E,39μm,0.5s						
CPBX				⇓*e*		22 53 19.2	
MBIG	Mexicali	0.13	48	*e*P	Pb	22 53 15.8	-0.2
MBIG				*i* S	Sg	22 53 18.1	+0.3
SGL	Mount Signal	0.48	314	⇓*i*P	Pg	22 53 21.4	+0.1
COA	Coachella	0.57	17	*e*P	Pb	22 53 23.4	-0.1
YUH	Yuha Desert	0.61	303	*e*P	Pg	22 53 23.6	-0.2
COK	Cook Ranch	0.63	327	*e*P	Pg	22 53 24.1	-0.1
RDX	Rancho Dawling	0.66	234	*e*P	Pb	22 53 25.0	-0.1
RDX				*e*S	Sb	22 53 34.0	-0.2
RDX				⇓*e*		22 53 35.6	
RDX				AML	AML	22 53 35.6	
	comp=N,670nm,0.5s						
YMD	Yuma Desert	0.69	70	⇑*i*P	Pg	22 53 25.2	-0.1
RMX	La Rumorosa	0.71	294	*e*P	Pg	22 53 25.2	-0.4
RMX				*e*S	Sg	22 53 34.7	-0.2
ECBX	El Chinero	0.87	165	*e*P	Pb	22 53 28.1	-0.5
ECBX				*e*S	Sg	22 53 40.3	+0.2
ECBX				AML	AML	22 53 44.8	
	comp=N,532nm,0.4s						
ECBX				⇓*e*		22 53 44.8	
CBX	Cerro Bola	1.14	270	*i* P	Pn	22 53 33.2	-0.1
CBX				*e*S	Sb	22 53 48.1	+0.1
CBX	Cerro Bola	1.14	270	*e*P	Pn	22 53 33.3	-0.1
CBX				*e*S	Sb	22 53 48.4	+0.4
CBX				⇓*e*		22 53 50.3	
CBX				AML	AML	22 53 50.3	
	comp=E,440nm,0.7s						
ZAX	El Zacaton	1.14	226	*e*P	Pn	22 53 33.4	0.0
ZAX				*e*S	Sn	22 53 48.9	+0.1
BAR	Barrett	1.20	288	*e*P	Pn	22 53 34.0	-0.1
ECNX	Esteban Cantu	1.27	239	*e*P	Pb	22 53 35.6	+0.1
SPIG	San Pedro Mart	1.27	186	*e*P	Pn	22 53 35.2	-0.1
SPIG				*e*S	Sn	22 53 52.9	+0.6
SPIG	San Pedro Mart	1.27	186	*e*P	Pn	22 53 35.3	-0.1
SPX	San Pedro Mart	1.27	186	*e*P	Pn	22 53 35.3	-0.1
SPX				AML	AML	22 53 55.5	
	comp=E,160nm,0.7s						
SPX				⇓*e*		22 53 55.5	
PBX	Punta Banda	1.33	245	*e*P	Pn	22 53 36.2	+0.4

IDC 24 22:59:50.6±11.0, 16°.05S×174°.65W, h553km±136km, mb3.2/4, mb1 3.5/4, mb1mx2.9/42, mbtmpg4.1/4, Error ellipse: s-maj=67.2km s-min=38.5km az=2.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	23.29	197	P	P	23 04 15.8	-0.1
	4.1nm,0.6s,baz=46,slow=5.2,SNR=4.2						
WRA	Warramunga Arr	48.52	257	P	P	23 07 43.5	-0.6
	1.3nm,0.7s,baz=90,slow=7.1,SNR=21						
ASAR	Alice Springs	48.77	252	P	P	23 07 46.1	+0.3
	8.6nm,0.6s,baz=86,slow=8.1,SNR=161						
ILAR	Eielson Array	83.31	12	P	P	23 11 19.2	0.0
	0.2nm,0.5s,baz=210,slow=5.2,SNR=5.5						
EKA	Eskdalemuir Ar	140.25	8	PKP	PKPdf	23 18 15.0	-1.6
	1.1nm,0.8s,baz=270,slow=2.1,SNR=3.6						
BRTR	Keskin Array B	145.88	319	PKPbc	PKPbc	23 18 28.1	-0.8
	0.4nm,0.8s,baz=15,slow=6.0,SNR=2.7						

MEX 24 23:01:02.4±0.5, 17°.04N×94°.94W, h96km±12km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.69	222	*e*P	Pn	23 01 29.7	-1.2
HUIG				*e*S	Sn	23 01 50.9	-1.6
VHO	Vista Hermosa	1.72	271	*i* P	Pn	23 01 30.6	-0.9
VHO				*i* S	Sn	23 01 51.6	-1.9
TGIG		1.76	98	*i* P	Pn	23 01 30.2	-1.6
TGIG				*i* S	Sn	23 01 52.8	-1.4
PCIG		2.12	129	*i* P	Pn	23 01 38.2	+1.9
PCIG				*i* S	Sn	23 02 03.7	+1.4
TPIG	Tehuac#an	2.69	301	*i* P	Pn	23 01 43.4	-0.8
TPIG				*i* S	Sn	23 02 15.2	-1.0
CCIG	Comitan	2.79	105	*i* P	Pn	23 01 45.2	-0.3
CCIG				*i* S	Sn	23 02 16.9	-1.7
PNIG	Pinotepa	3.12	259	*e*P	Pn	23 01 47.9	-1.8
PNIG				*i* S	Sn	23 02 24.7	-1.6

DJA 24 23:03:17.5±0.4, 1°.S±3°.×12°.4E±°, h10km, M3.7/4, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	1.09	6	P	Pb	23 03 35.5	-3.0
KMSI				S	Sn	23 03 53.9	-0.2
LUWI	Luwuk	1.21	245	P	Pn	23 03 37.8	-2.8
LUWI				S	Sb	23 03 56.2	-0.1
MRSI	Marisa	2.17	297	P	Pg	23 04 04.0	+4.9
SANI	Sanana	2.61	126	P	Pn	23 03 59.2	-0.5
SANI				S	Sb	23 04 34.5	-2.0
LBMI	Labuha	3.63	92	S	Sn	23 04 57.3	+0.5
NLAI	Namlea	4.21	130	P	Pn	23 04 21.7	-0.1

IDC 24 23:07:42.6±23.0, 18°.68S×178°.05W, h483km±155km, mb2.9/4, mb1 3.1/6, mb1mx3.0/22, mbtmpg3.9/6, Error ellipse: s-maj=281.6km s-min=24.1km az=44.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.93	254	P	P	23 10 50.9	-1.6
	0.5nm,0.3s,baz=107,slow=19,SNR=1.5						
URZ	Urewera	19.96	191	P	P	23 11 42.0	+0.3
	1.3nm,0.3s,baz=38,slow=17,SNR=14						
CTA	Charters Tower	33.66	262	P	P	23 13 43.6	+0.9
	1.4nm,0.5s,baz=100,slow=15,SNR=1.6						
WRA	Warramunga Arr	44.83	260	P	P	23 15 12.6	-0.5
	0.9nm,0.5s,baz=97,slow=7.8,SNR=14						
ASAR	Alice Springs	44.92	255	P	P	23 15 13.7	0.0
	0.7nm,0.6s,baz=91,slow=7.8,SNR=13						
VNDA	Vanda	59.71	185	P	P	23 16 58.8	-0.6
	0.4nm,0.6s,baz=22,slow=6.9,SNR=1.9						

*IDC **24** 23:12:50.1±2.1, 6°.89S×129°.25E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=116.6km s-min=32.2km az=68.0*

ISC 24 23:12:51.7±1.4, 7°.07S±0°.07×129°.2E±0°.2, h10km, n7, σ1s83/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	5.12	36	P	Sn	23 15 08.0	+0.3
	baz=6.8,SNR=5.4						
MTN	Manton Dam	6.04	162	P	Pn	23 14 29.1	+8.0
	baz=3.9,SNR=14						
MTN				S	Sn	23 15 31.3	+0.9
	baz=3.9,SNR=7.7						
KDU	Kakadu	6.44	150	P	Pn	23 14 33.0	+6.4
	baz=4.4,SNR=24						
KDU				S	Sn	23 15 40.1	-0.2
	baz=4.4,SNR=10						
KNRA	Kununurra	8.56	183	P	Pn

T25A	Trinidad	8.96	20	ePn	Pn	23 15 26.4	+1.8		
S22A	4UR Ranch, Cre	9.03	7	ePn	Pn	23 15 30.3	+4.6		
KNB	Kanab	9.05	336	ePn	Pn	23 15 27.7	+1.9		
SDCO	Great Sand Dun	9.25	14	ePn	Pn	23 15 31.6	+3.0		
PV05	Paradox Valley	9.30	356	ePn	Pn	23 15 32.6	+3.3		
PV01	Paradox Valley	9.34	359	ePn	Pn	23 15 30.6	+0.8		
PV10	Paradox Valley	9.60	357	ePn	Pn	23 15 35.5	+2.2		
SHPR	Sheep Range	9.63	325	ePn	Pn	23 15 35.6	+1.9		
GSC	Goldstone, Bar	9.71	314	ePn	Pn	23 15 34.9	+0.1		
CCUT	Cedar City	9.72	335	ePn	Pn	23 15 38.1	+3.1		
PV09	Paradox Valley	9.72	356	ePn	Pn	23 15 36.0	+0.9		
ARUT	Antelope Range	9.96	336	Pn	Pn	23 15 37.2	-1.1		
WMOK	Wichita Mounta	10.05	51	ePn	Pn	23 15 37.7	-1.7		
SMCO	Snowmass	10.43	6	ePn	Pn	23 15 44.6	-0.4		
TPNV	Topopah Spring	10.53	323	ePn	Pn	23 15 50.1	+4.0		
DAC	Darwin (Calif)	10.83	316	ePn	Pn	23 15 52.2	+2.0		
ISCO	Idaho Springs	11.22	11	ePn	Pn	23 15 57.9	+2.3		
V34A	Guthrie	11.52	50	ePn	Pn	23 16 00.2	+0.8		
TPH	Tonopah	11.89	324	ePn	Pn	23 16 04.6	0.0		
DUG	Dugway, Tooele	11.98	343	ePn	Pn	23 16 05.6	-0.3		
BGU	Big Grassy Mou	12.72	344	ePn	Pn	23 16 17.1	+1.0		
NV01	Mina Array Sit	12.72	322	ePn	Pn	23 16 19.1	+3.0		
NVAR	Mina Array Bea	12.72	322	Pn	Pn	23 16 19.1	+3.0		
	0.7nm,0.3s,baz=148,slow=14,SNR=19								
TUL1	Leonard	12.74	53	ePn	Pn	23 16 16.6	+0.5		
RWWY	Rawlins	12.91	4	ePn	Pn	23 16 19.0	+0.3		
HWUT	Hardware Ranch	13.07	349	ePn	Pn	23 16 22.6	+1.7		
ELK	Elko	13.22	336	Pn	Pn	23 16 27.1	+4.1		
	baz=151,slow=19,SNR=1.9								
ELK				Lg	Lg	23 20 09.6			
	0.1nm,0.3s,baz=1.1,slow=8.4,SNR=3.0								
MIAR	Mount Ida	13.80	62	ePn	Pn	23 16 31.6	+1.1		
K22A	Casper	13.92	5	ePn	Pn	23 16 29.6	-2.8		
BW06	Boulder Array	14.00	356	ePn	Pn	23 16 37.4	+3.9		
PD31	Pinedale Array	14.00	356	ePn	Pn	23 16 33.9	+0.4		
PDAR	Pinedale Array	14.00	356	Pn	Pn	23 16 34.8	+1.3		
	0.1nm,0.3s,baz=160,slow=11,SNR=4.9								
PDAR				Lg	Lg	23 20 31.9			
	0.1nm,0.3s,baz=180,slow=27,SNR=4.5								
REDW	Red Top Meadow	14.70	353	ePn	Pn	23 16 47.0	+3.9		
TPAW	Teton Pass	14.84	352	ePn	P	23 16 50.7	-0.3		
LOHW	Long Hollow	14.92	354	ePn	Pn	23 16 46.0	-0.1		
FXWY	Fox Creek	14.99	352	ePn	P	23 16 51.0	-1.6		
	17nm,1.6s								
IMW	Indian Meadow	15.24	353	ePn	P	23 16 54.0	-1.4		
	8.8nm,0.8s								
HLID	Hailey	15.55	343	ePn	P	23 16 59.3	+0.5		
	5.0nm,0.9s								
RLMT	Red Lodge	16.33	358	ePn	Pn	23 17 06.2	+1.6		
	6.0nm,1.1s								
MCMT	McKenzie Canyo	16.43	348	ePn	Pn	23 17 05.2	-0.6		
CMIG	Matias Romero	16.95	130	Pn	P	23 17 15.0	+0.7		
	0.5nm,0.3s,baz=342,slow=9.0,SNR=5.8								
ECSD	EROS Data Cent	17.63	29	ePn	P	23 17 22.3	+0.7		
	6.6nm,0.8s								
HDIL	Hopedale	19.52	48	eP	Pn	23 17 44.8	+1.2		
	289nm,0.8s								
JFWS	Jewell Farm	20.27	41	eP	P	23 17 51.1	+0.5		
	13nm,0.7s								
SPMN	Marine on St.	20.50	33	eP	P	23 17 54.2	+1.1		
	35nm,1.6s								
NEW	Newport	20.62	343	P	P	23 17 53.7	-0.7		
	3.4nm,0.6s,baz=145,slow=11,SNR=9.3								
NEW	Newport	20.62	343	eP	P	23 17 54.1	-0.2		
	4.9nm,0.8s								
BLO	Bloomington	20.78	54	eP	P	23 17 55.4	-0.7		
	14nm,0.8s								
TKL	Tuckaleechee C	21.83	65	P	P	23 18 06.3	-1.2		
	6.5nm,0.7s,baz=219,slow=8.9,SNR=11								
ULM	Lac du Bonnet	13.43	20	P	P	23 18 21.9	-2.2		
	4.0nm,0.9s,baz=198,slow=11,SNR=7.7								
ACSO	Alum Creek Sta	23.71	55	eP	P	23 18 25.7	-1.3		
	14nm,1.0s								
YKA	Yellowknife Ar	33.98	355	P	P	23 19 57.2	-1.1		
	0.8nm,0.8s,baz=168,slow=7.9,SNR=9.8								
YKA				PcP	PcP	23 22 35.4	-0.8		
	0.3nm,0.7s,baz=160,slow=4.4,SNR=3.8								
YKB5	Yellowknife Ar	33.98	355	eP	P	23 19 57.2	-1.1		
YKB5				ePcP	PcP	23 22 35.4	-0.8		
SCHQ	Schefferville	39.54	37	P	P	23 20 44.3	-1.6		
	2.3nm,0.7s,baz=256,slow=10.0,SNR=6.4								
SCHQ	Schefferville	39.54	37	eP	P	23 20 46.7	+0.8		
	89nm,2.3s								
DAWY	Dawson	40.48	340	eP	P	23 20 54.3	+0.8		
SDV	Santo Domingo	40.52	112	eP	P	23 20 53.1	-1.6		
	9.2nm,1.0s								
ILAR	Eielson Array	43.38	337	P	P	23 21 17.9	+0.7		
	2.2nm,0.8s,baz=143,slow=7.0,SNR=23								
ILB	Eielson Array	43.38	337	eP	P	23 21 17.5	+0.3		
PPLA	Purkeypile	44.31	333	eP	P	23 21 25.9	+1.0		
	20nm,1.5s								
PEA2	Petropavlovsk-	69.80	320	eP	P	23 24 26.1	+0.7		
PETK	Petropavlovsk-	69.81	320	P	P	23 24 26.1	+0.6		
	2.7nm,0.7s,baz=95,slow=9.3,SNR=3.8								
CFAA	Coronel Fontan	71.13	145	P	P	23 24 34.4	+0.7		
	0.2nm,0.4s,baz=315,slow=7.6,SNR=5.8								
PLCA	Paso Flores	77.52	152	P	P	23 25 10.0	-0.8		
	3.3nm,0.8s,baz=330,slow=9.2,SNR=6.8								
PLCA	Paso Flores	77.52	152	eP	P	23 25 09.4	-1.3		
	122nm,2.9s								
NB200	NORSAR Array S	78.00	26	eP	P	23 25 12.5	-0.8		
NOA	NORSAR Array B	78.00	26	P	P	23 25 12.5	-0.8		
	0.9nm,0.8s,baz=305,slow=5.4,SNR=4.1								
ESDC	Sonseca Array	82.14	49	P	P	23 25 36.0	-0.1		
	0.5nm,0.6s,baz=305,slow=5.3,SNR=7.4								
FIA0	FINESS Array S	82.82	20	eP	P	23 25 37.1	-2.0		
FINES	FINESS Array B	82.82	20	P	P	23 25 37.1	-2.0		
	2.3nm,0.8s,baz=45,slow=1.1,SNR=6.8								
MDT	Midelt	85.22	55	P	P	23 25 52.8	+0.6		
	2.1nm,0.8s,baz=341,slow=7.6,SNR=4.7								
GEC2	GERESS Array S	87.01	34	eP	P	23 25 58.8	-1.8		
GERES	GERESS Array B	87.01	34	P	P	23 25 58.8	-1.8		
	0.3nm,0.5s,baz=30,slow=6.3,SNR=4.0								
SONA0	Songino Array	97.61	337	eP	P	23 26 49.2	-0.6		
SONM	Songino Array	97.61	337	P	P	23 26 49.2	-0.6		
	0.2nm,0.6s,baz=45,slow=2.2,SNR=2.3								
HHC	Hu-ho-hao-te	101.48	330	eP	Pdif	23 27 06.3	-0.9		
HHC				PP	PP	23 31 18.5	+2.5		
HHC	Hu-ho-hao-te	101.48	330	sS	sS	23 38 50.3	-3.3		
HHC	Hu-ho-hao-te	101.48	330	SS	SS	23 45 47.0	-0.5		
HHC				pmax	pmax				
	comp=Z,24nm,0.6s								
HHC				pmax	pmax				
	comp=Z,120nm,7.4s								
HHC				LR	LR				
	comp=N,82nm,18.5s								
HHC				LR	LR				
	comp=E,140nm,18.5s								
HHC				LR	LR				
	comp=Z,44nm,19.7s								
WRA	Warramunga Arr	122.81	264	PKP	PKPdf	23 32 11.4	-0.3		
	comp=Z,0.5nm,0.5s,baz=64,slow=2.2,SNR=6.3								
ASAR	Alice Springs	124.50	260	PKP	PKPdf	23 32 14.4	-0.6		
	comp=Z,0.3nm,0.5s,baz=71,slow=2.7,SNR=4.8								

*IDC **24** 23:27:58.1±1.1,38°.20N×30°.98E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/27, mbtmp3.4/8, ML3.2/4, Error ellipse: s-maj=19.4km s-min=14.8km az=152.0*
*ISK **24** 23:27:58.8,38°.17N×30°.90E, h3km, ML3.5*
*ISCJB **24** 23:27:59.9±0.6,38°.17N±0°.02×30°.90E±0°.02, h10km±5km, mb3.3/4, Error ellipse: s-maj=3.3km s-min=2.8km az=142.0*
*CSEM **24** 23:27:59.9±0.1,38°.17N×30°.91E, h2km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.1km az=48.0*
*DDA **24** 23:28:00.6,38°.18N×30°.97E, h23km, ML3.6*
*NIC **24** 23:28:01.4,38°.33N×31°.15E, h50km, mb4.3, ML4.0*
*ATH **24** 23:28:22.2, 37°.56N×27°.67E, h13km±2km, MD3.2/5*
ISC 24 23:28:00.9±1.0,38°.20N±0°.02×30°.90E±0°.02,h15km±8km, n227,σ1§23/236,mb3.5/4,12C-10D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
ISP	Isparta	0.48	219	ePG		Pg		23 28 08.6	-1.8
ISP	Isparta	0.48	219	ePg		Pg		23 28 08.6	-1.8
BOLV	Bolvadin	0.52	5	iP		Pg		23 28 10.7	-0.6
BOLV				iS		Sg		23 28 18.9	+0.6
BOLV	Bolvadin	0.52	5	iP		Pg		23 28 10.7	-0.6
BOLV				iS		Sg		23 28 18.9	+0.6
BCK	Bucak	0.78	198	ePG		Pg		23 28 14.0	-2.0
BCK	Bucak	0.78	198	ePg		Pg		23 28 14.0	-2.0
KDHN	Kadinhani	1.01	71	iP		Pb		23 28 18.0	-2.2
KDHN				iS		Sn		23 28 36.5	+1.9
KDHN	Kadinhani	1.01	71	iP		Pb		23 28 18.0	-2.2
KDHN				iS		Sn		23 28 36.5	+1.9
KIZT	Kizilcal	1.03	48	ePG		Pb		23 28 19.7	-0.7
KIZT	Kizilcal	1.03	48	ePg		Pb		23 28 19.7	-0.7
KHL	Karahalli	1.09	277	ePN		Pb		23 28 20.3	-1.2
KHL	Karahalli	1.09	277	ePn		Pb		23 28 20.3	-1.2
LADK	Ladik-KONYA	1.16	89	ePn		Pb		23 28 21.6	-1.0
LADK				eSN		Sn		23 28 38.5	+0.3
LADK	Ladik-KONYA	1.16	89	ePn		Pb		23 28 21.6	-1.0
LADK				eSn		Sn		23 28 38.5	+0.3
KONT	Konya--Tatoy	1.18	102	ePN		Pb		23 28 21.6	-1.4
KONT	Konya--Tatoy	1.18	102	ePn		Pb		23 28 21.6	-1.4
KORT	Korkueli	1.27	200	iP		Pn		23 28 23.7	-0.5
KORT	Korkueli	1.27	200	iP		Pg		23 28 23.7	-0.5
KORT				iS		Sg		23 28 46.0	+4.0
ANTB	Antalya	1.31	189	ePN		Pn		23 28 24.1	-0.5
ANTB	Antalya	1.31	189	ePn		Pn		23 28 24.1	-0.5
ESKT	Eskisehir	1.32	358	ePN		Pn		23 28 25.4	+0.5
ESKT	Eskisehir	1.32	358	ePn		Pn		23 28 25.4	+0.5
SEYT	Eskypehyr	1.32	358	iP		Pn		23 28 25.2	+0.3
SEYT				iS		Sb		23 28 42.4	+0.1
SEYT	Eskypehyr	1.32	358	iP		Pn		23 28 25.2	+0.3
SEYT				iS		Sb		23 28 42.4	+0.1
SVRH	Sivrihisar-ESK	1.34	21	ePN		Pn		23 28 25.5	+0.4
SVRH	Sivrihisar-ESK	1.34	21	ePn		Pn		23 28 25.5	+0.4
GDZ	Gediz	1.42	309	iP		Pn		23 28 26.6	+0.3
GDZ				iS		Sg		23 28 49.4	+2.6
GDZ	Gediz	1.42	309	iP		Pn		23 28 26.6	+0.3
GDZ				iS		Sg		23 28 49.4	+2.6
GOLH	Golhisar	1.43	228	iP		Pn		23 28 26.8	+0.4
GOLH				iS		Sg		23 28 49.7	+2.7
GOLH	Golhisar	1.43	228	iP		Pn		23 28 26.8	+0.4
GOLH				iS		Sg		23 28 49.7	+2.7
DENT	Denizli	1.54	254	ePN		Pn		23 28 27.7	-0.1
DENT	Denizli	1.54	254	ePn		Pn		23 28 27.7	-0.1
TVSB	Tavsanli	1.68	319	ePN		Pn		23 28 30.2	+0.5
TVSB	Tavsanli	1.68	319	ePn		Pn		23 28 30.3	+0.5
BORA	Eskisehir	1.72	349	iP		Pn		23 28 31.3	+1.0
BORA				iS		Sg		23 28 56.4	+0.2
BORA	Eskisehir	1.72	349	iP		Pn		23 28 31.3	+1.0
BORA				iS		Sg		23 28 56.4	+0.2
KULA	Kula-Manisa	1.79	281	ePN		Pn		23 28 31.7	+0.4
KULA	Kula-Manisa	1.79	281	ePn		Pn		23 28 31.7	+0.4
DEMI	Demirci	1.91	297	iP		Pn		23 28 33.4	+0.5
DEMI	Demirci	1.91	297	iP		Pn		23 28 33.4	+0.5
SULT	Sultanhani-AKS	2.06	89	ePN		Pn		23 28 35.7	+0.7
SULT	Sultanhani-AKS	2.06	89	ePn		Pn		23 28 35.7	+0.7
AFSR	Af˙ar-Bala (A	2.11	53	ePN		Pn		23 28 36.2	+0.5
AFSR	Af˙ar-Bala (A	2.11	53	ePn		Pn		23 28 36.2	+0.5
FETY	Fethiye	2.12	223	ePN		Pn		23 28 35.7	-0.1
FETY	Fethiye	2.12	223	ePn		Pn		23 28 35.7	-0.1
CAVI	Cavuskoy	2.16	338	ePN		Pn		23 28 37.3	+0.9
CAVI	Cavuskoy	2.16	338	ePn		Pn		23 28 37.3	+0.9
BBAL	Bala	2.20	52	iP		Pn		23 28 37.5	+0.6
BBAL	Bala	2.20	52	iP		Pn		23 28 37.5	+0.6
BBAL				iS		Sg		23 29 13.6	+2.1
AKAS	Kas	2.22	208	iP		Pn		23 28 38.8	+1.6
AKAS	Kas	2.22	208	iP		Pn		23 28 38.8	+1.6
LOD	Lodumlu	2.23	40	ePN		Pn		23 28 37.8	+0.4
LOD	Lodumlu	2.23	40	ePn		Pn		23 28 37.8	+0.4
ANTO	Ankara	2.23	41	ePN		Pn		23 28 38.9	+1.6
ANTO	Ankara	2.23	41	ePn		Pn		23 28 38.9	+1.6
ERMK	Ermenek	2.23	133	iP		Pn		23 28 39.1	+1.6
ERMK				iS		Sb		23 29 09.2	+0.7
ERMK	Ermenek	2.23	133	iP		Pn		23 28 39.1	+1.6
ERMK				iS		Sb		23 29 09.2	+0.7
GULT	Gulveren	2.25	353	ePN		Pn		23 28 38.6	+0.9
GULT	Gulveren	2.25	353	ePn		Pn		23 28 38.6	+0.9
TURN	Turunc	2.25	235	iP		Pg		23 28 43.2	-0.9
DALY	Dalyan (Mu˘la	2.25	233	ePN		Pn		23 28 37.8	+0.2
DALY	Dalyan (Mu˘la	2.25	233	ePn		Pn		23 28 37.8	+0.2
GAZI	Gazipasa	2.26	150	iP		Pn		23 28 39.0	+1.3
GAZI				iS		Sb		23 29 10.2	+1.0
GAZI	Gazipasa	2.26	150	iP		Pn		23 28 39.0	+1.3
GAZI				iS		Sb		23 29 10.2	+1.0
DST	Dursunbey	2.27	309	ePN		Pn		23 28 38.8	+1.0
DST	Dursunbey	2.27	309	ePn		Pn		23 28 38.8	+1.0
MDUB	Mudurnu	2.28	6	ePN		Pn		23 28 39.0	+0.9
MDUB	Mudurnu	2.28	6	ePn		Pn		23 28 39.0	+0.9
YER	Yerkesik	2.33	244	ePN		Pn		23 28 38.9	+0.2
YER	Yerkesik	2.33	244	ePn		Pn		23 28 38.9	+0.2
BTAS	Taskesti	2.37	2	iP		Pb		23 28 42.7	-0.6
BTAS	Taskesti	2.37	2	iP		Pb		23 28 42.7	-0.6
AYDB	Zeytinkoy-Aydi	2.39	265	ePN		Pn		23 28 40.4	+0.9
AYDB	Zeytinkoy-Aydi	2.39	265	ePn		Pn		23 28 40.4	+0.9
IZI	Iznik	2.41	333	ePN		Pn		23 28 40.6	+0.8
IZI	Iznik	2.41	333	ePn		Pn		23 28 40.6	+0.8
ADVT	Abdulvahap	2.41	338	ePN		Pn		23 28 40.8	+1.1
ADVT	Abdulvahap	2.41	338	ePn		Pn		23 28 40.8	+1.1
ORLT	Orhaneli	2.42	320	ePN		Pn		23 28 40.6	+0.7
ORLT	Orhaneli	2.42	320	ePn		Pn		23 28 40.6	+0.7
AYDN	Tasoluk	2.45	258	iP		Pn		23 28 42.7	+2.4
AYDN	Tasoluk	2.45	258	iP		Pn		23 28 42.7	+2.4
AYDN				iS		Sg		23 29 28.7	+9.2
AKHS	Akhisar	2.51	287	iP		Pn		23 28 41.8	+0.6
AKHS	Akhisar	2.51	287	iP		Pn		23 28 41.8	+0.6
AKS	Akhisar	2.51	287	ePN		Pn		23 28 42.0	+0.8
AKS	Akhisar	2.51	287	ePn		Pn		23 28 42.0	+0.8
BRTR	Keskin Array B	2.63	54	Pn		Pn		23 28 43.4	+0.6
	2.0nm,0.3s,baz=247,slow=17,SNR=106								
BRTR				Sn		Sn		23 29 13.9	-0.6
	4.8nm,0.3s,baz=216,slow=16,SNR=8.5								
MDNY	Mudanya-Bursa	2.67	325	ePN		Pn		23 28 44.5	+1.1
MDNY	Mudanya-Bursa	2.67	325	ePn		Pn		23 28 44.5	+1.1
BALB	Balikesir	2.76	302	ePN		Pn		23 28 45.7	+1.2
BALB	Balikesir	2.76	302	ePn		Pn		23 28 45.7	+1.2
HRT	Hereke	2.79	340	ePN		Pn		23 28 46.5	+1.5
HRT	Hereke	2.79	340	ePn		Pn		23 28 46.5	+1.5
ARMT	Armutlu	2.84	327	ePN		Pn		23 28 46.9	+1.2
ARMT	Armutlu	2.84	327	ePn		Pn		23 28 46.9	+1.2
NIG	Nigde	2.93	91	ePN		Pn		23 28 48.0	+0.9
NIG	Nigde	2.93	91	ePn		Pn		23 28 48.0	+0.9
ARG	Arkhangelos	2.97	229	ePB		Pn		23 28 48.4	+1.0
ARG	Arkhangelos	2.97	229	ePb		Pn		23 28 48.4	+1.0
ELDT	Eldivan	3.02	40	iP		Pn		23 28 48.5	+0.3
ELDT	Eldivan	3.02	40	iP		Pn		23 28 48.5	+0.3
BODT	Bodrum	3.06	249	ePN		Pn		23 28 49.5	+0.7
BODT	Bodrum	3.06	249	ePn		Pn		23 28 49.5	+0.7
KIZK	Mersin	3.10	123	iP		Pb		23 28 56.1	+0.3
SILT	Sile	3.11	342	ePN		Pn		23 28 50.7	+1.4
SILT	Sile	3.11	342	ePn		Pn		23 28 50.7	+1.4
MERS	Mersin	3.17	114	ePN		Pn		23 28 50.9	+0.6
MERS	Mersin	3.17	114	ePn		Pn		23 28 50.9	+0.6
EDC	Edincik	3.19	313	ePN		Pn		23 28 51.2	+0.9
EDC	Edincik	3.19	313	ePn		Pn		23 28 51.3	+0.9
ISK	Istanbul-Kandi	3.20	334	ePN		Pn		23 28 51.9	+1.4
ISK	Istanbul-Kandi	3.20	334	ePn		Pn		23 28 51.9	+1.4
ALFC	Alevga	3.33	155	P		Pn		23 28 51.5	-0.9
	baz=340								
ALFC				S		Sn		23 29 31.9	+0.2
ALFC	Alevga	3.33	155	P		Pn		23 28 51.5	-0.9
ALFC				S		Sn		23 29 31.9	+0.2
SAFT	Safranbolu	3.34	24	ePN		Pn		23 28 53.1	+0.6
SAFT	Safranbolu	3.34	24	ePn		Pn		23 28 53.1	+0.6
AKMC	Akamas	3.37	160	⇑P		Pn		23 28 53.2	+0.3
	baz=344								
AKMC	Akamas	3.37	160	⇑P		Pn		23 28 53.2	+0.3
BGKT	Bogazkoy	3.40	332	ePN		Pn		23 28 54.9	+1.5
BGKT	Bogazkoy	3.40	332	ePn		Pn		23 28 54.9	+1.5
KARA	Karaisali	3.43	105	ePN		Pn		23 28 54.6	+0.9
KARA	Karaisali	3.43	105	ePn		Pn		23 28 54.6	+0.9
PPCY	Paphos	3.50	160	P		Pn		23 28 55.5	+0.7
	baz=344								
PPCY	Paphos	3.50	160	P		Pn		23 28 55.5	+0.7
MRMT	Marmara Adasi	3.51	314	ePN		Pn		23 28 56.4	+1.5
MRMT	Marmara Adasi	3.51	314	ePn		Pn		23 28 56.4	+1.5
CORM	Corum	3.51	55	ePN		Pn		23 28 56.4	+1.4
CORM	Corum	3.51	55	ePn		Pn		23 28 56.4	+1.4
MAMC	Mammari	3.55	148	P		Pn		23 28 55.9	+0.5
	baz=332								
MAMC	Mammari	3.55	148	P		Pn		23 28 55.9	+0.5
KRBG	Karabiga-Canak	3.55	309	ePN		Pn		23 28 56.9	+1.5
KRBG	Karabiga-Canak	3.55	309	ePn		Pn		23 28 56.9	+1.5
LFK	Lefkose	3.60	143	ePN		Pn		23 28 56.9	+0.7
LFK	Lefkose	3.60	143	ePn		Pn		23 28 56.9	+0.7
SLVT	Silivri	3.67	326	ePN		Pn		23 28 58.5	+1.5
SLVT	Silivri	3.67	326	ePn		Pn		23 28 58.5	+1.5
YOZ	Yozgat	3.74	66	ePN		Pn		23 28 59.5	+1.4
YOZ	Yozgat	3.74	66	ePn		Pn		23 28 59.5	+1.4
PRK	Paraskevi	3.77	288	ePN		Pn		23 28 57.5	-0.9
PRK	Paraskevi	3.77	288	ePn		Pn		23 28 57.5	-0.9
CSS	Prodhromos	3.78	148	P		Pn		23 28 58.2	-0.3
	baz=333								
CSS	Prodhromos	3.78	148	ePN		Pn		23 28 59.4	+0.8
CSS	Prodhromos	3.78	148	P		Pn		23 28 58.2	-0.3
CSS	Prodhromos	3.78	148	ePn		Pn		23 28 59.4	+0.8
SART	Tekirdag	3.80	312	iP		Pn		23 28 59.9	+0.9
SART	Tekirdag	3.80	312	iP		Pn		23 28 59.9	+0.9
RKY	Sarkoy-Tekirda	3.81	312	ePN		Pn		23 29 00.5	+1.5
RKY	Sarkoy-Tekirda	3.81	312	ePn		Pn		23 29 00.5	+1.5
CRLT	Corlu	3.81	321	ePN		Pn		23 29 00.3	+1.3
CRLT	Corlu	3.81	321	ePn		Pn		23 29 00.3	+1.3
CHIOS	Chios Island	3.81	274	ePB		Pn		23 28 50.7	-8.4
LPK	Lapseki	3.88	305	ePN		Pn		23 29 01.3	+1.4
LPK	Lapseki	3.88	305	ePn		Pn		23 29 01.3	+1.4
KOZT	Kozan	3.97	99	ePN		Pn		23 29 02.5	+1.4
KOZT	Kozan	3.97	99	ePn		Pn		23 29 02.5	+1.4
CEYT	Ceyhan	4.03	106	ePN		Pn		23 29 03.8	+1.8
CEYT	Ceyhan	4.03	106	ePn		Pn		23 29 03.8	+1.8
SIGR	SIGRI	4.07	286	ePN		Pn		23 29 04.4	+1.8
SIGR	SIGRI	4.07	286	ePN		Pn		23 29 00.7	-1.9
SIGR	SIGRI	4.07	286	ePn		Pn		23 29 04.4	+1.8
GELI	Tayfur-Gelibol	4.08	304	ePN		Pn		23 29 04.2	+1.6
GELI	Tayfur-Gelibol	4.08	304	ePn		Pn		23 29 04.2	+1.6
ERIK	Erikli-Kesan	4.20	307	ePN		Pn		23 29 06.1	+1.8
ERIK	Erikli-Kesan	4.20	307	ePn		Pn		23 29 06.1	+1.8
GADA	Gvkgeada	4.36	299	ePN		Pn		23 29 08.2	+1.6
GADA	Gvkgeada	4.36	299	ePn		Pn		23 29 08.2	+1.6
ENEZ	Enez	4.46	306	ePN		Pn		23 29 09.7	+1.8
ENEZ	Enez	4.46	306	ePn		Pn		23 29 09.7	+1.8
ALN	Alexandroupoli	4.62	307	ePN		Pn		23 29 12.5	+2.4
ALN	Alexandroupoli	4.62	307	ePn		Pn		23 29 12.5	+2.4
LIA	Limnos Island	4.76	293	ePB		Pn		23 29 13.4	+1.4
EDRB	Edirne	4.84	320	ePN		Pn		23 29 15.0	+1.8
EDRB	Edirne	4.84	320	ePn		Pn		23 29 15.0	+1.8
JMB	Yambol	5.39	324	⇓iP		Pn		23 29 16.8	-3.9
JMB	Yambol	5.39	324	eP		Pn		23 29 17.2	-

	18nm,1.4s						
034A	**Hebbronville**	42.35	17	P	P	23 41 27.9	+1.1
	baz=42						
035A	**Encino**	42.40	18	P	P	23 41 28.7	+1.5
	baz=42						
933A	**Laredo**	42.70	16	P	P	23 41 30.7	+1.1
	baz=43						
832A	**Faith Ranch, C**	43.16	15	P	P	23 41 33.9	+0.6
	baz=43						
833A	**Chaparral WMA,**	43.34	16	P	P	23 41 36.4	+1.5
	baz=43						
LTX	**Lajitas**	43.38	10	*e*P	P	23 41 35.6	+0.4
TXAR	**Lajitas Array**	43.38	10	P	P	23 41 35.6	+0.4
	3.1nm,1.2s,baz=193,slow=10,SNR=12						
TXAR				LR	LR	23 57 39.0	
	comp=Z,245nm,18.2s,baz=0.0,slow=34						
732A	**Laxson Ranch,**	43.58	15	P	P	23 41 36.9	+0.1
	baz=44						
631A	**Perdido Creek**	44.09	14	P	P	23 41 41.6	+0.8
	baz=44						
632A	**Uvalde**	44.37	15	P	P	23 41 43.6	+0.4
	baz=44						
529A	**Stev Forest Ra**	44.42	12	P	P	23 41 44.3	+0.8
	baz=44						
530A	**J-C Ranch, Com**	44.62	13	P	P	23 41 46.0	+0.8
	baz=45						
319A	**Douglas**	44.78	3	P	P	23 41 47.0	+0.6
	baz=45						
531A	**Rocksprings**	44.82	14	P	P	23 41 47.5	+0.8
	baz=45						
PLCA	**Paso Flores**	44.89	135	P	P	23 41 49.3	+2.0
	1.6nm,0.8s,baz=294,slow=12,SNR=3.5						
PLCA				LR	LR	23 56 00.0	
	comp=Z,2µm,18.5s,baz=256,slow=30						
532A	**Rocksprings**	44.93	14	P	P	23 41 48.5	+0.8
	baz=45						
429A	**Davenport Ranc**	44.97	12	P	P	23 41 48.8	+0.9
	baz=45						
533A	**Kerrville**	45.10	16	P	P	23 41 49.9	+1.0
	baz=45						
534A	**Blanco**	45.21	16	P	P	23 41 50.6	+0.8
	baz=45						
430A	**Baggett Ranch,**	45.26	13	P	P	23 41 51.0	+0.8
	baz=45						
JCT	**Junction City**	45.30	14	P	P	23 41 51.2	+0.7
	baz=45						
JCT	**Junction City**	45.30	14	*e*P	P	23 41 49.5	-1.0
	40nm,1.5s						
431A	**Sonora**	45.30	13	P	P	23 41 51.3	+0.8
	baz=45						
MNTX	**Cornudas Mount**	45.45	8	P	P	23 41 52.0	+0.3
	baz=46						
MNTX	**Cornudas Mount**	45.45	8	*e*P	P	23 41 50.6	-1.1
	17nm,1.4s						
432A	**Menard**	45.68	14	P	P	23 41 54.5	+1.0
	baz=46						
433A	**Art**	45.73	15	P	P	23 41 54.0	+0.1
	baz=46						
329A	**Wagon Wheel Ra**	45.79	12	P	P	23 41 55.0	+0.6
	baz=46						
330A	**Mertzon**	45.87	13	P	P	23 41 55.1	0.0
	baz=46						
331A	**San Angelo**	45.94	13	P	P	23 41 56.0	+0.4
	baz=46						
434A	**Burnet**	46.01	16	P	P	23 41 56.6	+0.5
	baz=46						
121A	**Cookes Peak, D**	46.02	5	P	P	23 41 57.1	+0.7
	baz=46						
332A	**Millersview**	46.17	14	P	P	23 41 58.5	+1.0
	baz=46						
333A	**Richland Sprin**	46.30	15	P	P	23 41 58.7	+0.3
	baz=46						
230A	**Sterling City**	46.35	12	P	P	23 41 58.8	0.0
	baz=46						
SDV	**Santo Domingo**	46.47	64	*e*P	P	23 41 59.1	-1.2
	16nm,1.4s						
334A	**Lometa**	46.51	16	P	P	23 42 00.7	+0.7
	baz=47						
232A	**Coleman**	46.68	14	P	P	23 42 01.6	+0.2
	baz=47						
128A	**Castleberry Fa**	46.80	11	P	P	23 42 02.8	+0.4
	baz=47						
234A	**Clairette**	47.17	16	P	P	23 42 05.9	+0.7
	baz=47						
ABTX	**Abilene, Hawle**	47.39	14	*e*P	P	23 42 05.3	-1.6
	14nm,1.1s						
Z29A	**Hungry Hill Ra**	47.56	11	P	P	23 42 08.4	+0.1
	baz=48						
Z30A	**Sanderson Ranc**	47.70	12	P	P	23 42 09.6	+0.2
	baz=48						
LENM	**Lemitar**	47.71	5	*e*P	P	23 42 10.2	+0.6
134A	**White-Moore Ra**	47.72	16	P	P	23 42 10.0	+0.5
	baz=48						
SAML	**Samuel**	47.73	90	*e*P	P	23 42 08.6	-1.3
	17nm,1.2s						
BNM	**Barren Site**	47.73	6	*e*P	P	23 42 08.1	-1.7
LAZ	**Ladron**	47.93	5	*e*P	P	23 42 10.6	-0.7
MSTX	**Muleshoe**	48.06	10	P	P	23 42 11.5	-0.7
	baz=48						
MSTX	**Muleshoe**	48.06	10	*e*P	P	23 42 09.9	-2.3
	37nm,1.4s						
Z32A	**Haskell**	48.08	14	P	P	23 42 12.0	-0.3
	baz=48						
OSI	**Osito Audit: C**	48.42	352	*e*P	P	23 42 14.8	-0.1
	21nm,1.3s						
W13A	**Hualapai Mount**	48.48	358	P	P	23 42 15.8	+0.2
	baz=49						
W18A	**Petrified Fore**	48.49	2	*e*P	P	23 42 14.3	-1.3
	7.4nm,0.8s						
ANMO	**Albuquerque**	48.53	6	*e*P	P	23 42 13.3	-2.7
	34nm,2.6s						
Y31A	**Rekieta Farm,**	48.53	13	P	P	23 42 16.1	+0.4
	baz=49						
Z35A	**Perchaven, San**	48.66	16	P	P	23 42 16.3	-0.5
	baz=49						
X35A	**Drake**	49.74	16	P	P	23 42 25.4	+0.4
	baz=50						
W32A	**Sentinel**	49.88	13	P	P	23 42 26.3	+0.3
	baz=50						
SHPR	**Sheep Range**	49.95	356	*e*P	P	23 42 25.3	-1.4
KNB	**Kanab**	50.36	359	*e*P	P	23 42 26.6	-3.3
	19nm,1.7s						
V33A	**Lossen Ranch,**	50.76	14	P	P	23 42 32.8	+0.1
	baz=51						
CCUT	**Cedar City**	50.91	358	*e*P	P	23 42 31.4	-2.6
	68nm,2.9s						
T25A	**Trinidad**	50.93	7	P	P	23 42 34.7	+0.5
	baz=51						
V34A	**Guthrie**	50.96	15	P	P	23 42 34.0	-0.2
	baz=51						
T26A	**Comanche Natio**	51.08	8	P	P	23 42 35.6	+0.3
	baz=51						
S22A	**4UR Ranch, Cre**	51.28	5	P	P	23 42 36.3	-0.6
	baz=51						
SDCO	**Great Sand Dun**	51.40	6	P	P	23 42 37.7	-0.1
	baz=52						
SDCO	**Great Sand Dun**	51.40	6	*e*P	P	23 42 37.7	-0.1
	7.9nm,1.2s						
U34A	**Anderson Ranch**	51.53	15	P	P	23 42 38.3	-0.2
	baz=52						
S26A	**Kim**	51.53	8	P	P	23 42 38.2	-0.4
	baz=52						
TPH	**Tonopah**	51.67	354	*e*P	P	23 42 41.4	+1.7
	7.0nm,1.0s						
R11A	**Troy Canyon, C**	51.81	356	*e*P	P	23 42 43.9	+3.1
	9.5nm,1.7s						
NV01	**Mina Array Sit**	52.13	353	*e*P	P	23 42 43.6	+0.4
NVAR	**Mina Array Bea**	52.13	353	P	P	23 42 43.6	+0.4
	1.5nm,0.7s,baz=178,slow=9.8,SNR=9.6						
CPUP	**Villa Florida**	52.29	113	LR	LR	00 00 40.3	
	comp=Z,5µm,21.5s,baz=274,slow=31						
Q23A	**Hartsel**	52.52	6	P	P	23 42 46.5	+0.3
	baz=53						
SMCO	**Snowmass**	52.69	5	*e*P	P	23 42 49.1	+1.6
	33nm,2.5s						
ISCO	**Idaho Springs**	53.43	6	*e*P	P	23 42 53.1	+0.3
	6.7nm,1.4s						
DUG	**Dugway, Tooele**	53.53	359	P	P	23 42 52.7	-0.7
	baz=54						
DUG	**Dugway, Tooele**	53.53	359	*e*P	P	23 42 54.3	+0.9
	7.3nm,1.4s						
O22A	**Kremmling**	53.70	5	P	P	23 42 55.1	+0.2
	baz=54						
N20A	**Spence Gulch,**	54.25	3	P	P	23 42 58.9	+0.1
	baz=54						
CPCT	**Cooper Cave**	55.15	27	*e*P	P	23 43 06.4	+1.2
JSC	**Jenkinsville**	55.72	30	*e*P	P	23 43 10.1	+0.9
K21A	**Alcova**	56.10	4	P	P	23 43 11.2	-0.9
	baz=56						
PD31	**Pinedale Array**	56.12	2	*e*P	P	23 43 10.2	-2.0
PDAR	**Pinedale Array**	56.12	2	P	P	23 43 10.2	-2.0
	0.4nm,0.5s,baz=163,slow=6.8,SNR=4.0						
PDAR				LR	LR	00 03 15.0	
	comp=Z,420nm,19.7s,baz=195,slow=32						
K22A	**Casper**	56.17	5	*e*P	P	23 43 12.4	-0.2
	30nm,0.6s						
J20A	**Shshoni**	56.77	3	P	P	23 43 15.0	-1.8
	baz=57						
J21A	**Lysite**	56.80	4	P	P	23 43 14.7	-2.3
	baz=57						
J22A	**Midwest**	56.94	5	P	P	23 43 17.3	-0.6
	baz=57						
IMW	**Indian Meadow**	57.23	1	*e*P	P	23 43 20.4	+0.3
	14nm,1.6s						
I21A	**Big Trails, Te**	57.28	4	P	P	23 43 19.7	-0.6
	baz=57						
I19A	**Meeteetse**	57.41	2	P	P	23 43 21.1	-0.3
	baz=58						
I25A	**Rochford**	57.80	7	P	P	23 43 24.2	+0.2
	baz=58						
LKWY	**Lake**	57.90	1	*e*P	P	23 43 23.5	-1.4
	18nm,0.8s						
LTY	**Liberty**	61.12	353	*e*P	P	23 43 47.6	+0.8
BDFB	**Brasilia**	61.44	101	LR	LR	00 08 36.0	
	comp=Z,265nm,18.1s,baz=260,slow=34						
ULM	**Lac du Bonnet**	65.08	11	LR	LR	00 09 37.9	
	comp=Z,242nm,19.7s,baz=234,slow=33						
SADO	**Sadowa**	65.18	25	LR	LR	00 12 06.2	
	comp=Z,562nm,18.1s,baz=24,slow=36						
ACCN	**Adirondack Com**	66.51	29	*e*P	P	23 44 23.6	+1.2
	35nm,1.6s						
YKA	**Yellowknife Ar**	75.89	359	P	P	23 45 17.8	-0.8
	0.3nm,0.5s,baz=172,slow=5.0,SNR=5.8						
YKB5	**Yellowknife Ar**	75.89	359	*e*P	P	23 45 17.8	-0.8
VNDA	**Vanda**	76.05	193	LR	LR	00 11 49.5	
	comp=Z,261nm,21.1s,baz=100,slow=30						
QSPA	**South Pole Qui**	76.50	180	*e*P	P	23 45 24.2	+1.8
	14nm,1.3s						
HYT	**Haines Junctio**	76.99	347	*e*P	P	23 45 25.8	+0.6
SCHQ	**Schefferville**	77.98	25	P	P	23 45 31.1	+0.4
	5.3nm,1.1s,baz=243,slow=8.7,SNR=3.3						
SCHQ				LR	LR	00 18 50.8	
	comp=Z,286nm,18.2s,baz=180,slow=35						
SCHQ	**Schefferville**	77.98	25	*e*P	P	23 45 30.4	-0.3
	117nm,2.5s						
MCK	**McKinley**	82.24	344	*e*P	P	23 45 53.4	-0.1
	23nm,1.6s						
TRF	**Thorofare Moun**	82.38	344	*e*P	P	23 45 54.1	-0.3
	26nm,1.6s						
PPLA	**Purkeypile**	82.48	343	*e*P	P	23 45 54.6	-0.3
	35nm,1.6s						
ILAR	**Eielson Array**	82.57	346	P	P	23 45 54.0	-1.2
	0.2nm,0.5s,baz=167,slow=4.5,SNR=3.7						
ILAR				LR	LR	00 15 22.8	
	comp=Z,176nm,19.7s,baz=140,slow=30						
KTH	**Kantishna Hill**	82.63	343	*e*P	P	23 45 55.5	-0.1
	15nm,1.0s						
COLD	**Coldfoot**	85.36	346	*e*P	P	23 46 10.4	+1.0
	14nm,1.5s						
H11S2	**WAKE ISLAND Hy**	86.51	290	T	T	01 21 46.7	
	baz=105,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy**	86.52	290	T	T	01 21 46.3	
	baz=105,slow=75,SNR=85						
H11S3	**WAKE ISLAND Hy**	86.53	290	T	T	01 21 45.7	
	baz=105,slow=75,SNR=88						
H11N3	**WAKE ISLAND Hy**	86.65	291	T	T	01 21 59.8	
	baz=106,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	86.67	291	T	T	01 21 59.7	
	baz=106,slow=75,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	86.67	291	T	T	01 21 57.7	
	baz=106,slow=75,SNR=16						
STKA	**Stephens Creek**	96.62	235	LR	LR	00 22 29.8	
	comp=Z,341nm,21.4s,baz=64,slow=30						
MAW	**Mawson**	98.92	178	LR	LR	00 27 37.2	
	comp=Z,320nm,20.1s,baz=230,slow=33						
NACGM	**Naroch**	127.67	29	*e*LR	LR	23 50 05.0	
NJ2	**Nanjing**	130.41	301	*e*PKP	**PKPdf**	23 52 40.3	-3.4
HHC	**Hu-ho-hao-te**	133.59	314	*e*PKP	**PKPdf**	23 52 50.8	+1.2
HHC				PPMZ			
	61nm,7.4s						
HHC				LN			
	170nm,19.7s						
HHC				LE			
	750nm,21.4s						
HHC				LZ			
	72nm,19.7s						
BRTR	**Keskin Array B**	139.94	43	PKP	**PKPdf**	23 53 00.1	-1.4
	0.7nm,0.9s,baz=216,slow=7.1,SNR=2.2						
CD2	**Chengdu**	143.16	304	PKP	**PKPdf**	23 53 06.0	-1.4
CD2				PP	**PP**	23 56 20.0	+2.4
CD2				PKS	**PKSdf**	23 56 40.5	-2.8
CD2				PPMZ			
	120nm,6.2s						
MKAR	**Makanchi Array**	144.89	343	PKP	**PKPab**	23 53 08.0	-0.9
	0.7nm,0.8s,baz=320,slow=3.8,SNR=5.7						
WMQ	**Urumqi**	145.61	335	*e*PKPbc	**PKPdf**	23 53 06.9	-4.4
WMQ				pPKP	**PKiKP**	23 53 17.5	+2.2
WMQ				*e*PP	**PP**	23 56 31.8	+0.7
WMQ				PPMZ			
	190nm,4.4s						
WMQ				LN			
	170nm,21.4s						
WMQ				LE			
	240nm,22.8s						
WMQ				LZ			
	470nm,22.8s						
KMI	**Kunming**	145.66	295	PKP	**PKPab**	23 53 12.4	-0.3
KMI				pPKP	**PKiKP**	23 53 16.4	+0.2
KMI				sPKP		23 53 18.1	
KMI				LN			
	120nm,23.9s						
KMI				LE			
	170nm,23.1s						
KMI				LZ			
	210nm,21.1s						
CM31	**Chiang Mai Arr**	150.20	283	*e*PKPbc	**PKPbc**	23 53 24.4	-0.2
CMAR	**Chiang Mai Arr**	150.20	283	PKPbc	**PKPbc**	23 53 24.4	-0.2
	1.4nm,0.3s,baz=36,slow=0.9,SNR=8.3						
KSH	**Kashi**	153.32	347	*e*PKPbc	**PKPdf**	23 53 23.5	-0.3
KSH				PKS	**PKSdf**	23 56 56.6	-1.6
KSH				PP	**PP**	23 57 17.8	+2.2
KSH				PPMZ			
	70nm,4.1s						
KSH				LN			
	130nm,7.1s						
KSH				LE			
	90nm,7.2s						
KSH				LZ			
	520nm,21.2s						
GEYT	**Alibeck**	154.13	19	PKPbc	**PKPbc**	23 53 33.0	0.0
	0.5nm,0.4s,baz=289,slow=4.4,SNR=2.2						

CSEM ***25*** *00:12:10.0, 40.73N×30.63E, h19km, MD2.6*

ISK 25 00:12:10.0, 40.73N×30.63E, h19km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULT	**Gulveren**	**0.31**	**196**	*e*PG	Pb	00 12 17.4	+0.2
GULT				*e*SG	Sb	00 12 22.2	+0.3
GULT	**Gulveren**	**0.31**	**196**	*e*Pg	Pb	00 12 17.4	+0.2
GULT				*e*Sg	Sb	00 12 22.3	+0.3
MDUB	**Mudurnu**	**0.51**	**121**	*e*PG	Pb	00 12 20.6	+0.2
MDUB	**Mudurnu**	**0.51**	**121**	*e*Pg	Pb	00 12 20.6	+0.2
HRT	**Hereke**	**0.74**	**277**	*e*PG	Pn	00 12 25.1	-0.3
HRT				*e*SG	Sn	00 12 35.6	-0.6
HRT	**Hereke**	**0.74**	**277**	*e*Pg	Pn	00 12 25.2	-0.3
HRT				*e*Sg	Sn	00 12 35.6	-0.6
ADVT	**Abdulvahap**	**0.74**	**246**	*e*PG	Pg	00 12 24.8	+0.2
ADVT	**Abdulvahap**	**0.74**	**246**	*e*Pg	Pg	00 12 24.8	+0.2
SILT	**Sile**	**0.86**	**300**	*e*PG	Pn	00 12 26.9	-0.1
SILT	**Sile**	**0.86**	**300**	*e*Pg	Pn	00 12 27.0	0.0

ATH ***25*** *00:12:27.4, 40.40N×27.89E, h46km, MD3.6/7*
THE ***25*** *00:12:28.7, 40.41N×27.92E, h31km±21km, ML2.4/4, Error ellipse: s-maj=21.1km s-min=1.0km az=323.0*
ISCJB ***25*** *00:12:28.2±0.3, 40.39N±0.02×27.69E±0.02, h11km±3km, Error ellipse: s-maj=4.1km s-min=2.9km az=25.1*
ISK ***25*** *00:12:28.1, 40.39N×27.68E, h13km, MD2.9*
DDA ***25*** *00:12:28.9, 40.39N×27.67E, h7km, MD2.8*
CSEM ***25*** *00:12:28.6±0.1, 40.40N×27.69E, h12km, MD2.9, Error ellipse: s-maj=1.7km s-min=1.4km az=11.0*

ISC 25 00:12:28.6±0.8, 40.40N±0.02×27.69E±0.02, h12km±6km, n106, σ0.60/126, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNT	**Bandirma**	**0.18**	**104**	*e*PG	**Pg**	**00 12 32.5**	**-0.2**
BNT				*e*SG	**Sg**	**00 12 35.2**	**-0.3**
BNT	**Bandirma**	**0.18**	**104**	*e*Pg	**Pg**	**00 12 32.5**	**-0.2**
BNT				*e*Sg	**Sg**	**00 12 35.2**	**-0.3**
MRMT	**Marmara Adasi**	**0.22**	**340**	*e*PG	**Pg**	**00 12 33.5**	**+0.1**
MRMT				*e*SG	**Sg**	**00 12 36.9**	**+0.2**
MRMT	**Marmara Adasi**	**0.22**	**340**	*e*Pg	**Pg**	**00 12 33.5**	**+0.1**
MRMT				*e*Sg	**Sg**	**00 12 36.9**	**+0.2**
KRBG	**Karabiga-Canak**	**0.30**	**269**	*e*PG	**Pg**	**00 12 34.5**	**-0.3**
KRBG	**Karabiga-Canak**	**0.30**	**269**	*e*Pg	**Pg**	**00 12 34.5**	**-0.3**
SART	**Tekirdag**	**0.49**	**307**	*i* P	**Pg**	**00 12 38.2**	**0.0**
SART				*i* S	**Sg**	**00 12 45.4**	**+0.7**
SART	**Tekirdag**	**0.49**	**307**	*i* P	**Pg**	**00 12 38.2**	**0.0**
SART				*i* S	**Sg**	**00 12 45.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**0.49**	**307**	*e*PG	**Pg**	**00 12 38.2**	**0.0**
RKY				*e*SG	**Sb**	**00 12 45.8**	**-0.5**
RKY	**Sarkoy-Tekirda**	**0.49**	**307**	*e*Pg	**Pg**	**00 12 38.2**	**0.0**
RKY				*e*Sg	**Sb**	**00 12 45.8**	**-0.5**
KCTX	**Karacabey (Bur**	**0.53**	**104**	*e*PG	**Pg**	**00 12 38.3**	**-0.7**
KCTX	**Karacabey (Bur**	**0.53**	**104**	*e*Pg	**Pg**	**00 12 38.3**	**-0.7**
TKR	**Tekirdag**	**0.60**	**349**	*e*PG	**Pg**	**00 12 40.6**	**+0.2**
TKR	**Tekirdag**	**0.60**	**349**	*e*Pg	**Pg**	**00 12 40.6**	**+0.2**
BALY	**Balya**	**0.66**	**185**	*i* S	**Sg**	**00 12 50.2**	**0.0**
BALY	**Balya**	**0.66**	**185**	*i* P	**Pg**	**00 12 41.7**	**+0.2**
BALY				*i* S	**Sg**	**00 12 50.2**	**0.0**
LPK	**Lapseki**	**0.71**	**268**	*e*PG	**Pg**	**00 12 42.0**	**-0.4**
LPK	**Lapseki**	**0.71**	**268**	*e*Pg	**Pg**	**00 12 42.1**	**-0.4**
CRLT	**Corlu**	**0.73**	**3**	*e*PG	**Pb**	**00 12 43.2**	**-0.1**
CRLT	**Corlu**	**0.73**	**3**	*e*Pg	**Pb**	**00 12 43.2**	**-0.1**
BALB	**Balikesir**	**0.77**	**169**	*e*PG	**Pg**	**00 12 43.4**	**-0.2**
BALB	**Balikesir**	**0.77**	**169**	*e*Pg	**Pg**	**00 12 43.4**	**-0.2**
ARMT	**Armutlu**	**0.91**	**79**	*e*PG	**Pb**	**00 12 46.4**	**+0.1**
ARMT	**Armutlu**	**0.91**	**79**	*e*Pg	**Pb**	**00 12 46.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.91**	**91**	*e*PG	**Pb**	**00 12 46.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.91**	**91**	*e*Pg	**Pb**	**00 12 46.4**	**+0.1**
SLVT	**Silivri**	**0.92**	**25**	*e*PG	**Pb**	**00 12 46.6**	**+0.1**
SLVT	**Silivri**	**0.92**	**25**	*i* P	**Pg**	**00 12 44.6**	**-1.8**
SLVT	**Silivri**	**0.92**	**25**	*e*Pg	**Pb**	**00 12 46.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.93**	**270**	*e*PG	**Pg**	**00 12 46.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.93**	**270**	*e*Pg	**Pg**	**00 12 46.1**	**-0.5**
ELBA	**Catalca**	**0.94**	**37**	*i* P	Pn	00 12 51.4	+3.9
ELBA	**Catalca**	**0.94**	**37**	*i* P	Pn	00 12 51.4	+3.9
ELBA				*i* S	**Sn**	**00 13 04.2**	**+3.3**
ERIK	**Erikli-Kesan**	**0.94**	**287**	*e*PG	**Pg**	**00 12 46.1**	**-0.6**
ERIK	**Erikli-Kesan**	**0.94**	**287**	*e*Pg	**Pg**	**00 12 46.1**	**-0.6**
ORLT	**Orhaneli**	**0.99**	**111**	*e*PG	**Pb**	**00 12 47.6**	**0.0**
ORLT	**Orhaneli**	**0.99**	**111**	*e*Pg	**Pb**	**00 12 47.7**	**0.0**
CTKS	**Kestanelik-??a**	**1.04**	**36**	*e*PG	**Pb**	**00 12 48.6**	**+0.1**
CTKS	**Kestanelik-??a**	**1.04**	**36**	*e*Pg	**Pb**	**00 12 48.7**	**+0.1**
DST	**Dursunbey**	**1.07**	**138**	*e*PG	**Pb**	**00 12 48.9**	**-0.1**
DST	**Dursunbey**	**1.07**	**138**	*e*Pg	**Pb**	**00 12 48.9**	**-0.1**
BGKT	**Bogazkoy**	**1.13**	**46**	*e*PN	**Pb**	**00 12 50.1**	**0.0**
BGKT	**Bogazkoy**	**1.13**	**46**	*e*Pn	**Pb**	**00 12 50.1**	**0.0**
EZN	**Ezine**	**1.19**	**242**	*e*PN	**Pn**	**00 12 50.2**	**-0.8**
EZN	**Ezine**	**1.19**	**242**	*e*Pn	**Pn**	**00 12 50.3**	**-0.8**
ENEZ	**Enez**	**1.22**	**287**	*e*PN	**Pn**	**00 12 51.3**	**-0.1**
ENEZ	**Enez**	**1.22**	**287**	*e*Pn	**Pn**	**00 12 51.3**	**-0.1**
ISK	**Istanbul-Kandi**	**1.23**	**57**	*e*PN	**Pn**	**00 12 51.3**	**-0.4**
ISK	**Istanbul-Kandi**	**1.23**	**57**	*e*Pn	**Pn**	**00 12 51.3**	**-0.4**
KLYT	**Kilyos**	**1.33**	**50**	*e*PN	**Pn**	**00 12 52.7**	**-0.3**
KLYT	**Kilyos**	**1.33**	**50**	*e*Pn	**Pn**	**00 12 52.7**	**-0.3**
ALN	**Alexandroupoli**	**1.35**	**292**	P	**Pn**	**00 12 53.0**	**-0.2**
ALN				S	**Sn**	**00 13 11.4**	**+0.4**
ALN	**Alexandroupoli**	**1.35**	**292**	*e*PN	**Pn**	**00 12 53.2**	**0.0**
ALN	**Alexandroupoli**	**1.35**	**292**	*e*P	**Pn**	**00 12 53.0**	**-0.2**
ALN				*e*S	**Sn**	**00 13 11.2**	**+0.2**
ALN	**Alexandroupoli**	**1.35**	**292**	*e*P	**Pn**	**00 12 53.0**	**-0.2**
ALN	**Alexandroupoli**	**1.35**	**292**	*e*Pn	**Pn**	**00 12 53.2**	**0.0**
ALN				*e*S	**Sn**	**00 13 11.2**	**+0.2**
IZI	**Iznik**	**1.36**	**92**	*e*PN	**Pn**	**00 12 53.6**	**+0.1**
IZI	**Iznik**	**1.36**	**92**	*e*Pn	**Pn**	**00 12 53.6**	**+0.1**
GADA	**Gvkgeada**	**1.39**	**262**	*e*PN	**Pn**	**00 12 53.9**	**+0.1**
GADA	**Gvkgeada**	**1.39**	**262**	*e*Pn	**Pn**	**00 12 53.9**	**+0.1**
AKS	**Akhisar**	**1.52**	**176**	*e*PN	**Pn**	**00 12 55.8**	**+0.2**
AKS	**Akhisar**	**1.52**	**176**	*e*Pn	**Pn**	**00 12 55.8**	**+0.2**
ADVT	**Abdulvahap**	**1.56**	**88**	*e*PN	**Pb**	**00 12 57.3**	**-0.2**
ADVT	**Abdulvahap**	**1.56**	**88**	*e*Pn	**Pb**	**00 12 57.3**	**-0.2**
HRT	**Hereke**	**1.56**	**74**	*e*PN	**Pn**	**00 12 56.7**	**+0.5**
HRT	**Hereke**	**1.56**	**74**	*e*Pn	**Pn**	**00 12 56.7**	**+0.5**
PRK	**Paraskevi**	**1.59**	**224**	P	**Pn**	**00 12 56.0**	**-0.5**
PRK				S	**Sn**	**00 13 17.0**	**+0.1**
EDRB	**Edirne**	**1.61**	**334**	*e*PN	**Pn**	**00 12 56.8**	**-0.1**
EDRB	**Edirne**	**1.61**	**334**	*e*Pn	**Pn**	**00 12 56.8**	**-0.1**
SMTH	**Samothraki Isl**	**1.65**	**273**	P	**Pn**	**00 12 56.9**	**-0.5**
SMTH				S	**Sb**	**00 13 19.9**	**+0.2**
SMTH	**Samothraki Isl**	**1.65**	**273**	*e*P	**Pn**	**00 12 57.2**	**-0.2**
SMTH				*e*S	**Sb**	**00 13 19.4**	**-0.3**
SMTH	**Samothraki Isl**	**1.65**	**273**	*e*P	**Pn**	**00 12 57.2**	**-0.2**
SMTH				*e*S	**Sb**	**00 13 19.4**

FINES	**FINESS Array B**	**43.03**	**333**	P		**P**	**00 27 28.5**	**0.0**
	1.1nm,0.7s,baz=163,slow=5.2,SNR=6.0								
TORD	**Torodi Ar. Bea**	**61.63**	**270**	P		**P**	**00 29 45.8**	**-1.4**
	0.8nm,0.8s,baz=57,slow=5.8,SNR=5.6								
WRA	**Warramunga Arr**	**81.09**	**118**	P		**P**	**00 31 44.5**	**-0.1**
	0.5nm,0.7s,baz=314,slow=4.6,SNR=2.5								
ASAR	**Alice Springs**	**82.82**	**121**	P		**P**	**00 31 53.5**	**-0.2**
	0.8nm,0.6s,baz=309,slow=5.2,SNR=11								

GEN ***25*** *00:24:36.3, 43°.95N× 10°.63E, h16km, ML1.7*
CSEM ***25*** *00:24:37.6±0.1, 44°.06N× 10°.59E, h15km, ML1.8/5, Error ellipse: s-maj=3.4km s-min=2.0km az=19.0*
ROM 25 00:24:37.6±0.1, 44°.08N×10°.59E, h7km±2km, Md2.1/10, Ml1.5/6, Error ellipse: s-maj=2.2km s-min=1.4km az=79.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	**Villacollemand**	**0.17**	**297**	Pg	Pg	00 24 41.5	+0.4
VLC				Sg	Sg	00 24 44.6	+1.1
	86nm,0.9s						
VLC	**Villacollemand**	**0.17**	**297**	Pg	Pg	00 24 41.5	+0.4
VLC				Sg	Sg	00 24 44.6	+1.1
	86nm,0.9s						
MAIM	**Mastiano**	**0.18**	**204**	Pg	Pg	00 24 41.7	+0.3
MAIM				Sg	Sg	00 24 45.2	+1.3
	73nm,0.3s						
MAIM	**Mastiano**	**0.18**	**204**	Pg	Pg	00 24 41.7	+0.3
MAIM				Sg	Sg	00 24 45.2	+1.3
	73nm,0.3s						
GSCL	**Gusciola**	**0.27**	**359**	Pg	Pg	00 24 43.7	+0.7
GSCL				Sg	Sb	00 24 48.4	-1.3
	32nm,0.2s						
GSCL	**Gusciola**	**0.27**	**359**	Pg	Pg	00 24 43.7	+0.7
GSCL				Sg	Sb	00 24 48.4	-1.3
	32nm,0.2s						
VINC	**Vinca**	**0.32**	**281**	P	Pg	00 24 44.2	+0.1
VINC				S	Sg	00 24 49.6	+1.2
ERBM	**Eremo**	**0.36**	**339**	Pg	Pg	00 24 45.6	+0.8
ERBM				Sg	Sb	00 24 51.1	-1.3
	174nm,1.7s						
ERBM	**Eremo**	**0.36**	**339**	Pg	Pg	00 24 45.6	+0.8
ERBM				Sg	Sb	00 24 51.1	-1.3
	174nm,1.7s						
ZCCA	**Zocca**	**0.38**	**46**	Pg	Pb	00 24 47.0	+0.2
	63nm,1.0s						
FNVD	**Fontana Vidola**	**0.39**	**77**	Pg	Pg	00 24 46.1	+0.7
FNVD				Sg	Sb	00 24 52.0	-1.3
	96nm,0.5s						
FNVD	**Fontana Vidola**	**0.39**	**77**	Pg	Pg	00 24 46.1	+0.7
FNVD				Sg	Sb	00 24 52.0	-1.3
	96nm,0.5s						
BACM	**Baccana**	**0.42**	**298**	P	Pg	00 24 46.2	+0.3
BACM				S	Sb	00 24 53.1	-1.0
CODM	**Codolo**	**0.62**	**300**	P	Pg	00 24 49.9	+0.3
CODM				S	Sb	00 24 59.6	-0.1
VMG	**Vicchio**	**0.70**	**100**	Pg	Pg	00 24 50.8	-0.3
	3.0nm,0.2s						
VMG	**Vicchio**	**0.70**	**100**	Pg	Pg	00 24 50.8	-0.3
	3.0nm,0.2s						
CSNT	**Castellina Chi**	**0.79**	**140**	Pg	Pb	00 24 53.4	-0.3
	15nm,0.6s						
SC2M	**Scurtabo**	**0.83**	**293**	Pg	Pb	00 24 54.4	0.0
SC2M	**Scurtabo**	**0.83**	**293**	Pg	Pb	00 24 54.4	0.0
ASQU	**Asqua**	**0.91**	**108**	Pg	Pg	00 24 55.4	+0.2
ASQU	**Asqua**	**0.91**	**108**	Pg	Pg	00 24 55.4	+0.2

IDC ***25*** *01:13:54.8±1.2, 38°.09N× 71°.53E, h0km, mb3.6/8, mb1 3.8/14, mb1mx3.6/32, mbtmp3.7/14, ML3.5/5, Error ellipse: s-maj=25.3km s-min=15.5km az=146.0*
ISCJB ***25*** *01:13:57.6±0.8, 38°.36N±0°.06×70°.95E±0°.06, h10km, mb3.6/8, Error ellipse: s-maj=9.8km s-min=6.2km az=153.3*
NNC ***25*** *01:14:03.0±2.2, 38°.65N× 71°.09E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=17.0km s-min=12.0km az=3.0*
ISC 25 01:13:59.0±1.1, 38°.31N±0°.09×71°.02E±0°.07, h10km, n28, σ1§37/33, mb3.8/8, 4C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.33**	**27**	P	**Pn**	**01 15 05.4**	**+0.1**
	SNR=27						
UCH	**Uchtor**	**4.74**	**33**	P	**Pn**	**01 15 11.0**	**+0.1**
	SNR=8.7						
KK31	**Karatay Array**	**4.80**	**356**	⇑Pn	**Pn**	**01 15 12.7**	**+1.3**
	3.9nm,0.4s,baz=180,slow=14,SNR=68						
KK31				⇓Pg	**Pb**	**01 15 24.7**	**+1.4**
	3.3nm,0.3s,baz=171,slow=16,SNR=7.9						
KK31				⇓Sn	**Sn**	**01 16 05.7**	**-1.4**
	5.4nm,0.4s,baz=176,slow=22,SNR=3.8						
KK31				⇓Lg	Lg	01 16 26.3	
	21nm,0.5s,baz=165,slow=24,SNR=4.3						
EKS2	**Erkin-Say**	**4.83**	**25**	P	Pn	01 15 15.4	+3.5
	SNR=11						
KZA	**Kyzart**	**4.96**	**39**	P	Pn	01 15 17.4	+3.4
	SNR=6.0						
AAK	**Ala-Archa**	**5.06**	**30**	⇑Pn	**Pn**	**01 15 16.9**	**+1.8**
	4.3nm,0.3s						
AAK				⇑Pg	**Pb**	**01 15 29.7**	**+1.9**
	19nm,0.7s						
AAK				⇓Sn	**Sn**	**01 16 12.3**	**-1.5**
	18nm,0.7s						
AAK				⇓Lg	Lg	01 16 34.0	
	30nm,1.1s						
AAK	**Ala-Archa**	**5.06**	**30**	P	**Pn**	**01 15 17.2**	**+2.0**
	SNR=14						
AAK	**Ala-Archa**	**5.06**	**30**	Pn	**Pn**	**01 15 14.9**	**-0.3**
	3.2nm,0.3s,baz=166,slow=4.6,SNR=22						
AAK				Sn	**Sn**	**01 16 15.1**	**+1.3**
	1.1nm,0.3s,baz=323,slow=20,SNR=2.8						
CHMS	**Chumysh**	**5.47**	**30**	P	**Pn**	**01 15 22.4**	**+1.7**
	SNR=12						
GEYT	**Alibeck**	**10.18**	**272**	Pn	**Pn**	**01 16 27.2**	**+2.1**
	1.4nm,0.3s,baz=104,slow=11,SNR=10.0						
GEYT				Sn	**Sn**	**01 18 19.9**	**+0.5**
	0.8nm,0.3s,baz=276,slow=32,SNR=6.8						
MK31	**Makanchi Array**	**11.86**	**41**	P	**Pn**	**01 16 46.9**	**-1.3**
	5.5nm,1.0s,baz=227,slow=14,SNR=22						
MKAR	**Makanchi Array**	**11.86**	**41**	Pn	**Pn**	**01 16 46.2**	**-1.9**
	0.2nm,0.3s,baz=239,slow=14,SNR=18						
KURBB	**Kurchatov Arra**	**13.41**	**21**	Pn	Pn	01 17 05.0	-4.3
	0.0nm,0.3s,baz=212,slow=12,SNR=3.5						
KURBB				Lg	Lg	01 20 56.6	
	0.0nm,0.3s,baz=205,slow=29,SNR=4.2						
AB31	**Akbulak array**	**13.54**	**327**	⇑P	**Pn**	**01 17 10.0**	**-1.0**
	0.7nm,0.5s,baz=0.5,slow=14,SNR=25						
AB31				⇓S	**Sn**	**01 19 40.7**	**-0.7**
	2.8nm,0.8s,baz=140,slow=24,SNR=5.7						
BVAR	**Borovoye Array**	**14.72**	**359**	Pn	**Pn**	**01 17 27.0**	**-0.2**
	0.2nm,0.3s,baz=171,slow=11,SNR=6.2						
AKTO	**Aktyubinsk**	**15.24**	**327**	⇓P	**P**	**01 17 37.5**	**-1.7**
	4.8nm,0.7s						
AKTO				⇓S	**Sn**	**01 20 23.6**	**+0.6**
	2.5nm,0.9s						
AKTO	**Aktyubinsk**	**15.24**	**327**	Pn	**Pn**	**01 17 34.0**	**-0.2**
	0.1nm,0.3s,baz=134,slow=11,SNR=2.2						
AKTO				Sn	**Sn**	**01 20 23.8**	**+0.7**
	0.1nm,0.3s,baz=108,slow=20,SNR=2.7						
ZALV	**Zalesovo Beam**	**18.28**	**27**	P	**Pn**	**01 18 09.6**	**-3.0**
	0.4nm,0.3s,baz=215,slow=11,SNR=8.0						
GNI	**Garni**	**20.42**	**283**	P	**P**	**01 18 34.2**	**-2.3**
	2.9nm,0.3s,baz=159,slow=15,SNR=6.5						
FINES	**FINESS Array B**	**36.00**	**325**	P	**P**	**01 21 00.1**	**+0.3**
	1.6nm,0.7s,baz=120,slow=11,SNR=11						
ARCES	**ARCESS Array B**	**39.48**	**337**	P	**P**	**01 21 29.0**	**-0.2**
	1.4nm,0.4s,baz=116,slow=8.3,SNR=3.5						
NB2	**NORSAR Subarra**	**42.95**	**322**	P	**P**	**01 21 58.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**42.95**	**322**	P	**P**	**01 21 58.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=93,slow=8.1,SNR=4.1						
ESDC	**Sonseca Array**	**56.64**	**297**	P	**P**	**01 23 43.7**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=58,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.79**	**268**	P	**P**	**01 24 43.8**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=48,slow=5.8,SNR=15						
ILAR	**Eielson Array**	**73.03**	**16**	P	**P**	**01 25 27.9**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=296,slow=4.9,SNR=3.4						
YKA	**Yellowknife Ar**	**79.44**	**3**	P	**P**	**01 26 05.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=351,slow=5.6,SNR=8.0						
WRA	**Warramunga Arr**	**82.94**	**122**	P	P	01 26 18.5	-5.8
	comp=Z,0.3nm,0.3s,baz=335,slow=6.2,SNR=4.1						

ISK ***25*** *01:30:42.8, 36°.92N× 29°.37E, h5km, ML3.0*
ATH ***25*** *01:30:42.4, 36°.97N× 29°.33E, h9km, MD3.7/7*
CSEM ***25*** *01:30:43.7±0.1, 36°.92N× 29°.37E, h5km, ML3.0, Error ellipse: s-maj=3.9km s-min=3.0km az=178.0*
DDA ***25*** *01:30:43.9, 36°.93N× 29°.30E, h3km, MD3.3*
ISCJB ***25*** *01:30:43.4±0.5, 36°.92N±0°.03× 29°.38E±0°.03, h5km±5km, Error ellipse: s-maj=5.1km s-min=3.9km az=148.0*
THE ***25*** *01:30:45.2, 36°.97N× 29°.36E, h2km±4km, ML2.9/2, Error ellipse: s-maj=8.4km s-min=1.0km az=85.0*
ISC 25 01:30:43.8±1.1, 36°.93N±0°.02× 29°.38E±0°.02, h3km±10km, n81, σ1§00/102, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.34**	**26**	*i* P	**Pg**	**01 30 50.6**	**+0.3**
GOLH				*i* S	**Sb**	**01 30 57.4**	**-1.0**
GOLH	**Golhisar**	**0.34**	**26**	*i* P	**Pg**	**01 30 50.6**	**+0.3**
GOLH				*i* S	**Sb**	**01 30 57.4**	**-1.0**
FETY	**Fethiye**	**0.38**	**218**	*e*PG	**Pg**	**01 30 50.3**	**-0.8**
FETY				*e*SG	**Sg**	**01 30 55.9**	**-0.1**
FETY	**Fethiye**	**0.38**	**218**	*e*Pg	**Pg**	**01 30 50.3**	**-0.8**
FETY				*e*Sg	**Sg**	**01 30 55.9**	**-0.1**
ELL	**Elmali**	**0.47**	**113**	*e*PG	**Pg**	**01 30 52.8**	**0.0**
ELL	**Elmali**	**0.47**	**113**	*e*Pg	**Pg**	**01 30 52.8**	**0.0**
DALY	**Dalyan (Mu˘la**	**0.59**	**259**	*e*PG	**Pg**	**01 30 54.2**	**-0.9**
DALY	**Dalyan (Mu˘la**	**0.59**	**259**	*e*Pg	**Pg**	**01 30 54.2**	**-0.9**
TURN	**Turunc**	**0.62**	**265**	*i* P	**Pn**	**01 30 59.9**	**+0.4**
TURN	**Turunc**	**0.62**	**265**	*i* P	**Pn**	**01 30 59.9**	**+0.4**
TURN				*i* S	**Sn**	**01 31 13.1**	**+3.1**
AKAS	**Kas**	**0.72**	**165**	*i* P	**Pg**	**01 30 57.7**	**0.0**
AKAS	**Kas**	**0.72**	**165**	*i* P	**Pg**	**01 30 57.7**	**0.0**
AKAS				*i* S	**Sn**	**01 31 14.1**	**+1.4**
KORT	**Korkueli**	**0.78**	**85**	*i* P	**Pb**	**01 31 00.5**	**+0.3**
KORT	**Korkueli**	**0.78**	**85**	*i* P	**Pb**	**01 31 00.5**	**+0.3**
KORT				*i* S	**Sn**	**01 31 15.3**	**+1.1**
DENT	**Denizli**	**0.86**	**342**	*e*PG	**Pg**	**01 30 59.5**	**-0.8**
DENT	**Denizli**	**0.86**	**342**	*e*Pg	**Pg**	**01 30 59.5**	**-0.8**
YER	**Yerkesik**	**0.90**	**283**	*e*PG	**Pg**	**01 31 01.1**	**+0.1**
YER	**Yerkesik**	**0.90**	**283**	*e*Pg	**Pg**	**01 31 01.1**	**+0.1**
ANTB	**Antalya**	**1.03**	**92**	*e*PG	**Pg**	**01 31 02.9**	**-0.5**
ANTB	**Antalya**	**1.03**	**92**	*e*Pg	**Pg**	**01 31 02.9**	**-0.5**
BCK	**Bucak**	**1.10**	**61**	*e*PN	**Pg**	**01 31 04.3**	**-0.7**
BCK	**Bucak**	**1.10**	**61**	*e*Pn	**Pg**	**01 31 04.3**	**-0.7**
ARG	**Arkhangelos**	**1.23**	**235**	P	**Pg**	**01 31 06.0**	**-1.5**
ARG				S	**Sn**	**01 31 25.6**	**+0.5**
ARG	**Arkhangelos**	**1.23**	**235**	*e*PB	**Pg**	**01 31 05.6**	**-1.9**
ARG	**Arkhangelos**	**1.23**	**235**	*e*Pb	**Pg**	**01 31 05.6**	**-1.9**
ARG	**Arkhangelos**	**1.23**	**235**	P	**Pg**	**01 31 06.0**	**-1.5**
ARG				S	**Sn**	**01 31 25.6**	**+0.5**
ISP	**Isparta**	**1.27**	**46**	*e*PN	**Pg**	**01 31 08.0**	**-0.2**
ISP	**Isparta**	**1.27**	**46**	⇑*i*P	**Pg**	**01 31 07.9**	**-0.3**
ISP	**Isparta**	**1.27**	**46**	⇑*i*P	**Pg**	**01 31 07.9**	**-0.3**
KHL	**Karahalli**	**1.39**	**5**	*e*PN	**Pn**	**01 31 09.9**	**-0.3**
KHL	**Karahalli**	**1.39**	**5**	*e*Pn	**Pn**	**01 31 09.9**	**-0.3**
AYDN	**Tasoluk**	**1.40**	**302**	*i* P	**Pg**	**01 31 11.7**	**+1.1**
AYDN				*i* S	**Sn**	**01 31 32.2**	**+3.0**
AYDN	**Tasoluk**	**1.40**	**302**	*i* P	**Pg**	**01 31 11.7**	**+1.1**
AYDN				*i* S	**Sn**	**01 31 32.2**	**+3.0**
DAT	**Datca**	**1.46**	**262**	*e*PN	**Pn**	**01 31 10.2**	**-0.9**
DAT	**Datca**	**1.46**	**262**	*e*Pn	**Pn**	**01 31 10.2**	**-0.9**
BDRM	**Kayabasi**	**1.55**	**275**	*i* P	**Pn**	**01 31 12.5**	**+0.1**
BDRM				*i* S	**Sg**	**01 31 34.4**	**+0.7**
BDRM	**Kayabasi**	**1.55**	**275**	*i* P	**Pn**	**01 31 12.5**	**+0.1**
BDRM				*i* S	**Sg**	**01 31 34.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**311**	*e*PN	**Pn**	**01 31 12.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**311**	*e*Pn	**Pn**	**01 31 12.1**	**-0.4**
BODT	**Bodrum**	**1.66**	**275**	*e*PN	**Pn**	**01 31 14.1**	**+0.3**
BODT	**Bodrum**	**1.66**	**275**	*e*Pn	**Pn**	**01 31 14.1**	**+0.3**
KULA	**Kula-Manisa**	**1.68**	**340**	*e*PN	**Pn**	**01 31 14.0**	**-0.1**
KULA	**Kula-Manisa**	**1.68**	**340**	*e*Pn	**Pn**	**01 31 14.0**	**-0.1**
GDZ	**Gediz**	**2.15**	**2**	*i* P	Pn	01 31 15.9	-4.8
GDZ	**Gediz**	**2.15**	**2**	*i* P	Pn	01 31 15.9	-4.8
GDZ				*i* S	**Sn**	**01 31 42.3**	**-5.7**
SMG	**Samos**	**2.17**	**292**	P	**Sn**	**01 31 20.1**	**-0.7**
SMG				S	**Sn**	**01 31 47.5**	**-0.6**
SMG	**Samos**	**2.17**	**292**	*e*PN	**Pn**	**01 31 20.1**	**-0.7**
SMG				*e*SN	**Sn**	**01 31 47.8**	**-0.3**
SMG	**Samos**	**2.17**	**292**	S	**Sn**	**01 31 47.5**	**-0.6**
SMG				*e*Sn	**Sn**	**01 31 47.8**	**-0.3**
DEMI	**Demirci**	**2.17**	**346**	*i* P	**Pn**	**01 31 20.9**	**0.0**
DEMI	**Demirci**	**2.17**	**346**	*i* P	**Pn**	**01 31 20.9**	**0.0**
DEMI				*i* S	**Sg**	**01 31 55.0**	**+1.5**
IZM	**Izmir**	**2.22**	**312**	*e*PN	**Pn**	**01 31 21.2**	**-0.4**
IZM	**Izmir**	**2.22**	**312**	*e*Pn	**Pn**	**01 31 21.2**	**-0.4**
KARP	**Karpathos**	**2.26**	**233**	P	**Pn**	**01 31 22.0**	**-0.1**
KARP				S	**Sn**	**01 31 51.1**	**+0.5**
KARP	**Karpathos**	**2.26**	**233**	*e*PN	**Pn**	**01 31 22.3**	**+0.2**
KARP				*e*SN	**Sn**	**01 31 51.0**	**+0.5**
AKHS	**Akhisar**	**2.30**	**328**	*i* P	**Pn**	**01 31 22.3**	**-0.3**
AKHS	**Akhisar**	**2.30**	**328**	*i* P	**Pn**	**01 31 22.3**	**-0.3**
BLCB	**Balcova**	**2.35**	**309**	*e*PN	**Pn**	**01 31 23.2**	**-0.1**
BLCB	**Balcova**	**2.35**	**309**	*e*Pn	**Pn**	**01 31 23.2**	**-0.1**
CHOS	**Chios island**	**3.01**	**300**	P	**Pn**	**01 31 32.1**	**-0.3**
CHOS	**Chios island**	**3.01**	**300**	*e*PN	**Pn**	**01 31 32.7**	**+0.3**
CHOS	**Chios island**	**3.01**	**300**	*e*PN	**Pn**	**01 31 32.0**	**-0.3**
CHOS	**Chios island**	**3.01**	**300**	P	**Pn**	**01 31 32.1**	**-0.3**
APE	**Apeiranthos**	**3.08**	**274**	P	**Pn**	**01 31 33.6**	**+0.2**
APE				S	**Sn**	**01 32 10.6**	**-0.2**
APE	**Apeiranthos**	**3.08**	**274**	*e*PN	**Pn**	**01 31 33.5**	**+0.1**
APE	**Apeiranthos**	**3.08**	**274**	*e*PB	**Pn**	**01 31 34.3**	**+0.9**
APE				*e*SN	**Sn**	**01 32 10.6**	**-0.2**
APE	**Apeiranthos**	**3.08**	**274**	⇑*i*P	**Pn**	**01 31 33.8**	**+0.4**
APE	**Apeiranthos**	**3.08**	**274**	*e*Pn	**Pn**	**01 31 33.5**	**+0.1**
APE	**Apeiranthos**	**3.08**	**274**	⇑*i*P	**Pn**	**01 31 33.8**	**+0.4**
APE				S	**Sn**	**01 32 10.6**	**-0.2**
PRK	**Paraskevi**	**3.36**	**314**	*e*PN	**Pn**	**01 31 37.0**	**-0.2**
PRK	**Paraskevi**	**3.36**	**314**	*e*Pn	**Pn**	**01 31 37.0**	**-0.2**
LEF	**Lefka**	**3.38**	**121**	*e*PN	**Pn**	**01 31 37.4**	**0.0**
LEF	**Lefka**	**3.38**	**121**	*e*Pn	**Pn**	**01 31 37.4**	**0.0**
NPS	**Neapolis**	**3.47**	**242**	P	**Pn**	**01 31 38.6**	**-0.2**
NPS	**Neapolis**	**3.47**	**242**	*e*PN	**Pn**	**01 31 38.8**	**0.0**
SIGR	**SIGRI**	**3.59**	**310**	*e*PN	**Pn**	**01 31 40.3**	**0.0**
SIGR	**SIGRI**	**3.59**	**310**	*e*Pn	**Pn**	**01 31 40.3**	**0.0**
LAST	**Lasithi**	**3.62**	**242**	*e*PN	**Pn**	**01 31 41.2**	**+0.4**
LFK	**Lefkose**	**3.75**	**115**	*e*PN	**Pn**	**01 31 42.9**	**+0.3**
LFK	**Lefkose**	**3.75**	**115**	*e*Pn	**Pn**	**01 31 42.9**	**+0.3**
CSS	**Prodhromos**	**3.77**	**120**	*e*PN	**Pn**	**01 31 42.8**	**0.0**
CSS	**Prodhromos**	**3.77**	**120**	*e*Pn	**Pn**	**01 31 42.8**	**0.0**

ISCJB ***25*** *01:42:11.1±0.4, 21°.08S±0°.04× 68°.41W±0°.07, h147km±5km, mb4.0/10, Error ellipse: s-maj=10.8km s-min=5.8km az=175.2*
IDC ***25*** *01:42:12.0±0.7, 21°.05S× 68°.23W, h134km±9km, mb3.8/4, mb1 3.9/7, mb1mx3.6/18, mbtmp4.3/7, Error ellipse: s-maj=24.3km s-min=10.1km az=102.0*
NEIC ***25*** *01:42:12.0±0.7, 21°.09S× 68°.21W, h139km±7km, mb4.2/9, Error ellipse: s-maj=12.8km s-min=6.5km az=92.0*
GUC ***25*** *01:42:12.7±0.6, 21°.04S× 68°.60W, h145km±6km, ML4.2*
ISC 25 01:42:11.2±0.7, 21°.08S±0°.04× 68°.28W±0°.07, h134km±7km, n36, σ1§59/47, mb4.1/10, 3C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.12**	**272**	⇓*e*P	**Pn**	**01 42 36.3**	**+0.6**
PB01				*e*S	**Sn**	**01 42 53.8**	**-0.6**
PB01				AML	AML	01 42 55.0	
	comp=N,4μm,0.3s						
PB09	**IPOC Station P**	**1.14**	**231**	⇑*e*P	**Pn**	**01 42 37.8**	**+1.7**
PB09				*e*S	**Sn**	**01 42 56.3**	**+1.4**
PB04	**IPOC Station P**	**1.63**	**223**	⇑*e*P	Pn	01 42 47.5	+6.6
PB04				*e*S	Sn	01 43 13.4	+10
PB04				AML	AML	01 43 15.7	
	comp=E,2μm,0.7s						
PB07	**IPOC Station P**	**1.63**	**246**	⇑*e*P	**Pn**	**01 42 41.7**	**+0.6**
PB07				*e*S	**Sn**	**01 43 03.2**	**-0.9**
LVC	**Limon Verde**	**1.63**	**201**	P	**Pn**	**01 42 43.4**	**+2.1**
	comp=E,7μm,0.3s,baz=25,slow=9.9,SNR=1574						
LVC				S	**Sn**	**01 43 06.1**	**+1.7**
	comp=E,2μm,0.3s,baz=119,slow=19,SNR=20						
LVC	**Limon Verde**	**1.63**	**201**	*e*Pn	**Pn**	**01 42 43.2**	**+1.9**
LVC				*e*Sn	**Sn**	**01 43 05.7**	**+1.3**
HMBC	**Humberstone**	**1.70**	**298**	⇓*e*P	**Pn**	**01 42 41.8**	**-0.2**
HMBC				*e*S	**Sn**	**01 43 04.2**	**-1.3**
HMBC				AML	AML	01 43 06.1	
	comp=E,3μm,0.4s						
PATCX	**Punta Patache**	**1.77**	**278**	⇓*e*P	**Pn**	**01 42 42.7**	**0.0**
PATCX				*e*S	**Sn**	**01 43 05.2**	**-1.5**
PATCX				AML	AML	01 43 06.8	
	comp=N,3μm,0.2s						
PSGC	**Pisagua**	**2.27**	**310**	⇓*e*P	**Pn**	**01 42 47.9**	**-0.9**
MNMC	**Minimini**	**2.30**	**327**	⇓*e*P	**Pn**	**01 42 50.1**	**+0.7**
MNMC				*e*S	**Sn**	**01 43 18.6**	**0.0**
LPAZ	**La Paz**	**4.77**	**2**	P	**Pn**	**01 43 24.1**	**+2.1**
	comp=N,4.8nm,0.3s,baz=197,slow=7.2,SNR=137						
LPAZ				S	**Sn**	**01 44 17.6**	**+0.9**
	comp=N,0.4nm,0.3s,baz=270,slow=20,SNR=2.2						
LPAZ	**La Paz**	**4.77**	**2**	*e*P	**Pn**	**01 43 24.6**	**+2.7**
LPAZ	**La Paz**	**4.77**	**2**	*e*Pn	**Pn**	**01 43 24.0**	**+2.1**
LPAZ				*e*Sn	**Sn**	**01 44 18.7**	**+1.9**
LCO	**Las Campanas**	**8.20**	**195**	*e*Pn	**Pn**	**01 44 04.4**	**-3.1**
	comp=N,21nm,0.5s						
LCO				*e*Sn	**Sn**	**01 45 33.9**	**-4.8**
SIV	**San Ignacio**	**8.51**	**55**	P	**Pn**	**01 44 11.2**	**-0.4**
	comp=N,5.0nm,0.3s,baz=258,slow=12,SNR=55						
SIV				S	**Sn**	**01 45 41.8**	**-4.3**
	comp=N,0.2nm,0.3s,baz=0.0,slow=20,SNR=2.6						
CFAA	**Coronel Fontan**	**10.48**	**180**	P	**Pn**	**01 44 36.5**	**-1.5**
	comp=N,0.1nm,0.3s,baz=350,slow=5.6,SNR=10						
CFAA				S	Sn	01 46 27.1	-6.6
	comp=N,0.1nm,0.3s,baz=201,slow=14,SNR=5.9						
CPUP	**Villa Florida**	**11.31**	**120**	P	**Pn**	**01 44 49.0**	**0.0**
	comp=N,0.1nm,0.3s,baz=298,slow=16,SNR=4.3						
SAML	**Samuel**	**13.03**	**23**	*e*Pn	**Pn**	**01 45 11.8**	**+0.4**
	comp=N,2.6nm,1.0s						
TRQA	**Tornquist**	**17.77**	**164**	*e*Pn	**Pn**	**01 46 10.1**	**-0.1**
PLCA	**Paso Flores**	**19.69**	**185**	P	**Pn**	**01 46 32.2**	**-0.6**
	comp=N,4.9nm,0.3s,baz=2.8,slow=9.7,SNR=15						
PLCA	**Paso Flores**	**19.69**	**185**	*e*P	**P**	**01 46 30.8**	**+0.8**
	comp=N,6.7nm,0.7s						
BDFB	**Brasilia**	**19.98**	**78**	P	**Pn**	**01 46 37.1**	**+0.6**
	comp=N,0.6nm,0.3s,baz=265,slow=7.6,SNR=5.2						
PTGA	**Pitinga**	**21.80**	**23**	P	**P**	**01 46 51.7**	**-1.1**
	comp=N,2.8nm,0.3s,baz=310,slow=20,SNR=6.8						
SDV	**Santo Domingo**	**29.87**	**355**	*e*P	**P**	**01 48 06.3**	**-0.2**
	comp=N,1.7nm,0.5s						
OBIP	**Obispado Ponce**	**38.92**	**3**	*e*P	**P**	**01 49 24.8**	**+0.8**
CBYP	**Canovanas**	**39.18**	**4**	*e*P	**P**	**01 49 26.5**	**+0.1**
SDDR	**Presa de Sabon**	**39.92**	**356**	*e*P	**P**	**01 49 33.1**	**+0.7**
LRAL	**Lakeview Retre**	**56.70**	**341**	*e*P	**P**	**01 51 40.1**	**-0.8**
	comp=N,3.1nm,0.8s						
HKT	**Hockley**	**57.25**	**331**	*e*P	**P**	**01 51 45.1**	**+0.4**
	comp=N,4.2nm,1.0s						
WVT	**Waverly**	**59.83**	**342**	*e*P	**P**	**01 52 01.6**	**-0.9**
	comp=N,1.9nm,0.7s						
QSPA	**South Pole Qui**	**69.11**	**180**	*e*P	**P**	**01 53 04.8**	**+2.0**
	comp=N,2.1nm,0.6s						
ULM	**Lac du Bonnet**	**75.10**	**342**	P	**P**	**01 53 38.2**	**0.0**
	comp=N,1.5nm,0.4s,baz=140,slow=8.0,SNR=7.9						
TORD	**Torodi Ar. Bea**	**76.67**	**70**	P	**P**	**01 53 48.5**	**+0.6**
	comp=N,1.6nm,0.6s,baz=253,slow=5.3,SNR=30						
SUR	**Sutherland**	**78.28**	**120**	*e*P	**P**	**01 53 56.7**	**-0.3**
	comp=N,9.8nm,1.

5.7nm,1.1s
BCIP Isla Barro Col 43.23 349 *e*P **P** **01 57 12.1 -1.5**
6.1nm,0.7s
OBIP Obispado Ponce 51.78 7 *e*P **P** **01 58 20.2 +0.2**
SNAA Sanae 51.97 158 *e*P **P** **01 58 21.0 -0.1**
1.4nm,0.8s
SDDR Presa de Saban 52.42 1 *e*P **P** **01 58 24.9 0.0**
QSPA South Pole Qui 56.51 180 P **P** **01 58 55.0 +0.7**
0.7nm,0.7s,baz=99,slow=2.9,SNR=4.8
QSPA pP pP 01 59 04.7 +6.5
3.6nm,1.0s,baz=117,slow=3.6,SNR=4.3
HKT Hockley 67.08 338 *e*P **P** **02 00 03.4 -2.1**
1.4nm,0.7s
GOGA Godfrey 67.58 350 *e*P **P** **02 00 09.2 +0.5**
1.6nm,0.7s
TXAR Lajitas Array 69.32 331 P **P** **02 00 22.8 +2.9**
0.1nm,0.5s,baz=142,slow=9.1,SNR=3.6
TXAR pP pP 02 00 31.9 +8.2
0.3nm,0.6s,baz=159,slow=8.7,SNR=3.7
WVT Waverly 70.96 347 *e*P **P** **02 00 29.8 +0.2**
1.1nm,0.6s
DBIC Dimbokro 75.42 72 *e*P **P** **02 00 55.9 -0.6**
TSUM Tsumeb 79.63 106 *e*P **P** **02 01 17.8 -2.4**
1.8nm,0.9s
TORD Torodi Ar. Bea 84.45 70 P **P** **02 01 44.7 -0.6**
0.7nm,0.6s,baz=234,slow=4.8,SNR=11
TORD pP **pP** **02 01 53.8 +4.5**
2.3nm,0.8s,baz=247,slow=3.9,SNR=8.6
WRA Warramunga Arr 120.83 210 PKP **PKPdf** **02 08 05.2 0.0**
0.1nm,0.4s,baz=151,slow=1.7,SNR=3.3
H11S2 WAKE ISLAND Hyl 25.42 270 T T 04 27 15.4
baz=123
H11S1 WAKE ISLAND Hyl 25.44 270 T T 04 27 16.5
baz=123
H11S3 WAKE ISLAND Hyl 25.44 270 T T 04 27 16.0
baz=123
KURK Kurchatov 152.91 42 *e*PKPbc **PKPbc** **02 09 09.3 +0.2**
ZALV Zalesovo Beam 154.18 32 PKPbc **PKPbc** **02 09 12.4 +0.7**
1.0nm,0.5s,baz=310,slow=3.2,SNR=5.5

IDC 25 01:50:49.6±2.8, 37°.61S×74°.02W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/14, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=64.2km s-min=45.5km az=7.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**18.05**	**56**	P	P	01 55 02.6	+0.3
	0.0nm,0.3s,baz=236,slow=11,SNR=2.4						
LPAZ	**La Paz**	**21.86**	**15**	P	P	01 55 44.2	-0.6
	1.3nm,0.8s,baz=176,slow=8.3,SNR=3.2						
TXAR	**Lajitas Array**	**72.15**	**333**	P	P	02 02 16.3	+0.2
	0.1nm,0.6s,baz=151,slow=6.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**86.93**	**71**	P	P	02 03 36.5	-0.3
	0.3nm,0.6s,baz=216,slow=5.3,SNR=4.8						

ISCJB ***25*** *02:10:40.3±0.6, 27°.79N±0°.02×97°.79W±0°.03, h6km±5km, mb4.0/8, MS4.1/20, Error ellipse: s-maj=4.5km s-min=3.6km az=33.2*
IDC ***25*** *02:10:40.4±1.4, 27°.62N×97°.98W, h0km, mb3.6/5, mb1 3.9/10, mb1mx3.7/31, mbtmp3.7/10, ML3.9/5, MS4.0/24, Ms1 4.0/24, ms1mx3.8/45, Error ellipse: s-maj=26.5km s-min=16.5km az=20.0*
NEIC ***25*** *02:10:42.8, 27°.71N×97°.85W, h5km, mb3.8/17, MN3.9, Special solution.*
NEIC Felt [III] at Alice. Also felt at Bishop, Brownsville, Corpus Christi, Dickinson, Hondo, Houston, Ingleside, San Antonio and Spring.

ISC 25 02:10:41.9±0.9, 27°.74N±0°.02×97°.82W±0°.03, h11km±6km, n115, σ1s56/122, mb3.9/8, MS4.1/20, 14C-19D, Near coast of Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVTX	**Kingsville**	**0.21**	**198**	⇑*i*Pg	**Pg**	**02 10 46.4**	**+0.1**
KVTX				*e*Sg	**Sg**	**02 10 48.2**	**-1.2**
835A	**Beeville**	**0.54**	**359**	P	**Pn**	**02 10 56.1**	**+0.6**
	baz=0.5						
835A	**Beeville**	**0.54**	**359**	*i* P	**Pn**	**02 10 55.9**	**+0.3**
936A	**North Padre Is**	**0.56**	**125**	*i* P	**Pn**	**02 10 57.4**	**+1.7**
934A	**Benavides**	**0.64**	**257**	P	**Pb**	**02 10 55.2**	**+0.2**
	baz=0.5						
934A	**Benavides**	**0.64**	**257**	*i* P	**Pb**	**02 10 55.2**	**+0.2**
834A	**Tilden**	**0.75**	**301**	⇓P	**Pb**	**02 10 57.5**	**+0.5**
	baz=0.7						
834A	**Tilden**	**0.75**	**301**	*i* P	**Pb**	**02 10 57.2**	**+0.3**
035A	**Encino**	**0.84**	**197**	⇓P	**Pn**	**02 10 59.3**	**-0.4**
	baz=0.8,SNR=71						
035A	**Encino**	**0.84**	**197**	*i* P	**Pn**	**02 11 00.1**	**+0.4**
034A	**Hebbronville**	**1.02**	**229**	⇓P	**Pn**	**02 11 02.0**	**-0.2**
	baz=1.0,SNR=278						
034A				⇓S	**Sg**	**02 11 14.5**	**-0.5**
	baz=1.0						
034A	**Hebbronville**	**1.02**	**229**	*i* P	**Pn**	**02 11 02.1**	**-0.1**
735A	**Kenedy**	**1.11**	**1**	⇑P	**Pn**	**02 11 04.3**	**+0.9**
	baz=1.1,SNR=224						
735A	**Kenedy**	**1.11**	**1**	*i* P	**Pn**	**02 11 04.6**	**+1.3**
734A	**La Parita Cree**	**1.28**	**330**	⇓P	**Pn**	**02 11 05.3**	**-0.3**
	baz=1.2,SNR=26						
734A				⇑S	**Sn**	**02 11 23.2**	**+0.4**
	baz=1.2						
734A	**La Parita Cree**	**1.28**	**330**	*i* P	**Pb**	**02 11 05.8**	**-0.2**
035Z	**Hargill**	**1.29**	**190**	⇑P	**Pn**	**02 11 05.3**	**-0.5**
	baz=1.3						
035Z				⇑S	**Sn**	**02 11 23.9**	**+0.7**
	baz=1.3						
035Z	**Hargill**	**1.29**	**190**	*i* P	**Pn**	**02 11 05.4**	**-0.5**
933A	**Laredo**	**1.30**	**265**	⇓P	**Pn**	**02 11 04.9**	**-1.0**
	baz=1.2,SNR=70						
933A				⇓S	**Sb**	**02 11 22.7**	**-0.3**
	baz=1.2						
933A	**Laredo**	**1.30**	**265**	*i* P	**Pn**	**02 11 04.7**	**-1.3**
736A	**Circle Diamond**	**1.38**	**29**	⇓P	**Pg**	**02 11 08.0**	**-0.3**
	baz=1.4						
833A	**Chaparral WMA,**	**1.51**	**293**	⇑P	**Pn**	**02 11 07.8**	**-1.1**
	baz=1.4,SNR=83						
833A				⇑S	**Sn**	**02 11 28.1**	**-0.3**
	baz=1.4						
833A	**Chaparral WMA,**	**1.51**	**293**	*i* P	**Pn**	**02 11 07.5**	**-1.3**
733A	**Divot King Ran**	**1.62**	**307**	⇑P	**Pn**	**02 11 09.7**	**-0.7**
	baz=1.5,SNR=34						
733A				⇑S	**Sn**	**02 11 31.4**	**0.0**
	baz=1.5						
635A	**Leesville**	**1.64**	**1**	⇑Pb	**Pg**	**02 11 14.6**	**+1.2**
	baz=1.6						
635A				⇑Sb	**Sg**	**02 11 35.4**	**+0.7**
	baz=1.6						
635A	**Leesville**	**1.64**	**1**	*i* P	**Pg**	**02 11 14.2**	**+0.8**
634A	**China Grove, S**	**1.70**	**344**	⇓S	**Sb**	**02 11 34.0**	**-0.5**
	baz=1.7						
634A	**China Grove, S**	**1.70**	**344**	*i* P	**Pg**	**02 11 14.4**	**-0.1**
832A	**Faith Ranch, C**	**1.98**	**286**	⇓P	**Pn**	**02 11 13.6**	**-1.8**
	baz=1.9,SNR=27						
832A				⇑S	**Sn**	**02 11 39.6**	**-0.6**
	baz=1.9						
832A	**Faith Ranch, C**	**1.98**	**286**	*i* P	**Pn**	**02 11 13.5**	**-1.8**
633A	**Saathoff Ranch**	**2.08**	**325**	⇓P	**Pn**	**02 11 15.7**	**-1.1**
	baz=2.0,SNR=21						
633A				⇓S	**Sn**	**02 11 42.1**	**-0.7**
	baz=2.0						
732A	**Laxson Ranch,**	**2.14**	**298**	⇓P	**Pn**	**02 11 15.8**	**-1.7**
	baz=2.0,SNR=5.7						
732A				⇓S	**Sn**	**02 11 43.5**	**-0.5**
	baz=2.0						
534A	**Blanco**	**2.35**	**346**	⇓P	**Pn**	**02 11 20.3**	**-0.1**
	baz=2.3,SNR=18						
632A	**Uvalde**	**2.46**	**316**	⇑P	**Pn**	**02 11 21.1**	**-0.9**
	baz=2.4						
533A	**Kerrville**	**2.55**	**336**	⇓P	**Pn**	**02 11 22.6**	**-0.7**
	baz=2.5						
HKT	**Hockley**	**2.81**	**38**	*e*Pn	**Pn**	**02 11 26.9**	**+0.3**
HKT				*e*Pg	**Pg**	**02 11 35.5**	**-0.2**
HKT				*e*Sn	**Sn**	**02 11 56.2**	**-4.2**
631A	**Perdido Creek**	**2.94**	**305**	P	**Pn**	**02 11 27.1**	**-1.4**
	baz=2.8						
631A				⇓S	**Sn**	**02 12 04.1**	**+0.3**
	baz=2.8						
433A	**Art**	**3.20**	**340**	P	**Pn**	**02 11 32.5**	**+0.4**
	baz=3.2						
JCT	**Junction City**	**3.23**	**328**	⇑P	**Pn**	**02 11 32.5**	**-0.1**
	baz=3.2,SNR=14						
JCT	**Junction City**	**3.23**	**328**	*e*Pn	**Pn**	**02 11 32.7**	**+0.1**
JCT				*e*Pg	**Pb**	**02 11 41.0**	**+1.7**
JCT				*e*Sn	**Sn**	**02 12 10.4**	**-0.7**
530A	**J-C Ranch, Com**	**3.91**	**309**	⇓P	**Pn**	**02 11 41.4**	**-0.4**
	baz=3.8,SNR=19						
WHTX	**Lake Whitney,**	**4.25**	**4**	*e*Pn	**Pn**	**02 11 47.5**	**+1.0**
WHTX				*e*Pb	**Pb**	**02 11 56.4**	**-0.1**
WHTX				*e*Pg	**Pg**	**02 12 02.2**	**-1.0**
529A	**Stev Forest Ra**	**4.53**	**303**	⇓P	**Pn**	**02 11 49.4**	**-1.0**
	baz=4.4,SNR=13						
ABTX	**Abilene, Hawle**	**5.11**	**342**	*e*Pn	**Pn**	**02 11 58.7**	**+0.2**
ABTX				*e*Pg	Pb	02 12 15.2	+3.9
TXAR	**Lajitas Array**	**5.38**	**288**	Pn	**Pn**	**02 12 00.4**	**-1.8**
	1.3nm,0.3s,baz=117,slow=14,SNR=71						
TXAR				Sn	**Sn**	**02 13 03.0**	**-1.2**
	3.3nm,0.3s,baz=125,slow=27,SNR=6.2						
TXAR				Lg	Lg	02 13 40.3	
	4.7nm,0.3s,baz=124,slow=24,SNR=4.6						
WMOK	**Wichita Mounta**	**7.02**	**354**	*e*Pn	**Pn**	**02 12 24.0**	**-0.7**
WMOK				*e*Sn	**Sn**	**02 13 45.5**	**+1.0**
W34A	**Bridge Creek,**	**7.47**	**0**	*e*Pn	**Pn**	**02 12 29.6**	**-1.2**
MSTX	**Muleshoe**	**7.52**	**327**	*e*Pn	**Pn**	**02 12 31.0**	**-0.6**
MSTX				*e*Pg	Pg	02 12 60.0	-6.0
MSTX				*e*Sg	Sg	02 14 34.9	-8.5
MNTX	**Cornudas Mount**	**7.67**	**303**	*e*Pn	**Pn**	**02 12 32.9**	**-0.6**
MNTX				*e*Sg	**Sg**	**02 14 45.0**	**-2.9**
MIAR	**Mount Ida**	**7.69**	**27**	*e*Pn	**Pn**	**02 12 33.5**	**-0.4**
MIAR				*e*Sn	**Sn**	**02 13 57.7**	**-3.3**
AMTX	**Amarillo**	**7.84**	**336**	*e*Pn	**Pn**	**02 12 36.0**	**0.0**
AMTX				*e*Pg	Pb	02 13 03.5	+5.6
AMTX				*e*Sg	**Sg**	**02 14 48.6**	**-5.1**
V34A	**Guthrie**	**8.07**	**2**	*e*Pn	**Pn**	**02 12 36.9**	**-2.1**
V34A				*e*Sg	**Sg**	**02 15 01.4**	**+0.5**
TUL1	**Leonard**	**8.32**	**11**	*e*Pn	**Pn**	**02 12 43.0**	**+0.5**
TUL1				*e*Pg	Pg	02 13 14.7	-6.5
121A	**Cookes Peak, D**	**9.86**	**301**	*e*Pn	**Pn**	**02 13 03.4**	**-0.3**
ANMO	**Albuquerque**	**10.29**	**316**	Pg	Pn	02 13 48.7	+39
	0.2nm,0.3s,baz=121,slow=17,SNR=6.8						
ANMO				Lg	Lg	02 16 09.2	
	0.8nm,0.3s,baz=35,slow=18,SNR=5.9						
ANMO				LR	LR	02 17 26.5	
	comp=Z,2μm,18.9s,baz=158,slow=40						
ANMO	**Albuquerque**	**10.29**	**316**	*e*Pn	**Pn**	**02 13 10.9**	**+1.1**
ANMO				Pg		02 13 48.7	
ANMO				*e*Lg	Lg	02 16 09.0	
ANMO				Lg	Lg	02 16 09.2	
LRAL	**Lakeview Retre**	**10.73**	**58**	*e*Pn	**Pn**	**02 13 13.3**	**-2.2**
LRAL				*e*Sn	**Sn**	**02 15 09.9**	**-5.6**
CMIG	**Matias Romero**	**10.94**	**165**	Pn	**Pn**	**02 13 19.1**	**+0.6**
	0.2nm,0.3s,baz=345,slow=16,SNR=6.1						
CMIG				Sn	Sn	02 15 14.0	-7.0
	0.1nm,0.3s,baz=195,slow=20,SNR=2.0						
CMIG				LR	LR	02 19 21.2	
	comp=Z,247nm,19.3s,baz=9.0,slow=48						
KSU1	**Kansas State U**	**11.37**	**5**	*e*Pn	**Pn**	**02 13 25.1**	**+0.8**
KSU1				*e*Lg	Lg	02 16 44.7	
TEIG	**Tepich**	**11.49**	**129**	Pn	**Pn**	**02 13 25.5**	**-0.5**
	1.7nm,0.3s,baz=258,slow=20,SNR=8.8						
TEIG				Sn	Sn	02 15 26.6	-7.7
	1.6nm,0.3s,baz=133,slow=18,SNR=3.6						
TEIG	**Tepich**	**11.49**	**129**	*e*Pn	**Pn**	**02 13 25.9**	**0.0**
TEIG				*e*Sn	Sn	02 15 22.7	-12
LPIG	**La Paz**	**11.81**	**255**	LR	LR	02 18 28.3	
	comp=Z,571nm,19.3s,baz=82,slow=40						
MVCO	**Mesa Verde**	**13.04**	**319**	Pn	**Pn**	**02 13 48.5**	**+1.2**
ISCO	**Idaho Springs**	**13.65**	**334**	Pn	**Pn**	**02 13 53.9**	**-1.8**
SMCO	**Snowmass**	**13.71**	**329**	Pn	**Pn**	**02 13 58.9**	**+2.2**
TKL	**Tuckaleechee C**	**14.31**	**53**	Sn	**Sn**	**02 16 43.5**	**+0.2**
	0.1nm,0.3s,baz=156,slow=20,SNR=3.5						
PHWY	**Pilot Hill**	**14.91**	**337**	Pn	**P**	**02 14 16.4**	**-2.2**
ECSD	**EROS Data Cent**	**15.98**	**3**	*e*Pn	**Pn**	**02 14 26.9**	**+0.2**
ECSD				*e*P	**P**	**02 14 31.6**	**+1.4**
ECSD				*e*S	**S**	**02 17 36.9**	**-0.9**
MVU	**Marysvale**	**16.12**	**315**	*e*P	**P**	**02 14 34.5**	**+2.5**
	4.1nm,1.0s						
JFWS	**Jewell Farm**	**16.34**	**20**	Pn	**Pn**	**02 14 26.9**	**-4.3**
	10nm,0.8s						
JFWS				*e*S	**S**	**02 17 40.1**	**-4.9**
ARUT	**Antelope Range**	**16.50**	**311**	*e*P	**P**	**02 14 37.8**	**+1.7**
	1.5nm,1.0s						
BW06	**Boulder Array**	**17.76**	**331**	*e*P	**P**	**02 14 51.6**	**+1.4**
	2.3nm,0.8s						
PD31	**Pinedale Array**	**17.76**	**331**	*e*P	**P**	**02 14 50.6**	**+0.4**
PDAR	**Pinedale Array**	**17.76**	**331**	P	**Pn**	**02 14 49.2**	**-0.2**
	0.1nm,0.3s,baz=135,slow=13,SNR=8.1						
PDAR				LR	LR	02 21 18.3	
	comp=Z,163nm,21.7s,baz=163,slow=36						
HWUT	**Hardware Ranch**	**17.83**	**324**	*e*P	**P**	**02 14 51.3**	**+0.4**
	2.8nm,0.9s						
TPNV	**Topopah Spring**	**18.05**	**305**	*e*P	**P**	**02 14 54.2**	**+0.9**
	35nm,2.0s						
AHID	**Auburn Hatcher**	**18.46**	**328**	*e*P	**Pn**	**02 14 58.9**	**+1.0**
REDW	**Red Top Meadow**	**18.81**	**329**	*e*P	**P**	**02 15 01.8**	**+0.1**
	5.8nm,1.1s						
SNOW	**Snow King Moun**	**18.85**	**330**	*e*P	**Pn**	**02 15 04.3**	**+1.7**
	12nm,1.0s						
TPAW	**Teton Pass**	**18.96**	**329**	*e*P	**Pn**	**02 15 05.0**	**+1.0**
	6.0nm,1.0s						
TPH	**Tonopah**	**19.24**	**307**	*e*P	**Pn**	**02 15 08.1**	**+0.7**
	12nm,1.4s						
IMW	**Indian Meadow**	**19.27**	**330**	*e*P	**P**	**02 15 06.7**	**-0.1**
	2.8nm,0.6s						
ELK	**Elko**	**19.33**	**317**	P	**P**	**02 15 07.9**	**+0.5**
	0.1nm,0.3s,baz=181,slow=5.3,SNR=5.0						
ELK				LR	LR	02 23 53.9	
	comp=Z,117nm,20.2s,baz=180,slow=41						
NVAR	**Mina Array Bea**	**20.16**	**307**	P	**P**	**02 15 17.4**	**+1.0**
	0.2nm,0.3s,baz=121,slow=11,SNR=1.8						
AGMN	**Agassiz Nation**	**20.58**	**4**	P	Pn	02 15 21.9	-1.0
	3.1nm,0.7s						
HLID	**Hailey**	**20.70**	**324**	*e*P	Pn	02 15 26.3	+1.7
	2.8nm,1.2s						
JTS	**JuntasAbangare**	**21.17**	**143**	LR	LR	02 26 29.1	
	comp=Z,320nm,20.1s,baz=336,slow=45						
WVOR	**Wild Horse Val**	**22.39**	**316**	*e*P	**P**	**02 15 42.6**	**+2.2**
	3.9nm,1.0s						
ULM	**Lac du Bonnet**	**22.52**	**3**	P	**P**	**02 15 43.6**	**+2.0**
	2.4nm,0.8s,baz=171,slow=8.9,SNR=5.9						
ULM				LR	LR	02 24 27.1	
	comp=Z,185nm,22.0s,baz=188,slow=36						
SADO	**Sadowa**	**22.62**	**36**	P	**P**	**02 15 42.9**	**+0.3**
	4.1nm,0.8s,baz=277,slow=17,SNR=4.8						
YBH	**Yreka Blue Hor**	**24.65**	**311**	LR	LR	02 26 45.9	
	comp=Z,873nm,19.4s,baz=125,slow=39						
SDV	**Santo Domingo**	**31.77**	**121**	P	**P**	**02 17 04.1**	**-2.6**
	4.3nm,0.9s						
ROSC	**El Rosal**	**31.90**	**131**	LR	LR	02 32 00.5	
	comp=Z,121nm,21.6s,baz=287,slow=40						
SCHQ	**Schefferville**	**35.18**	**31**	LR	LR	02 33 46.2	
	comp=Z,495nm,19.9s,baz=171,slow=39						
SCHQ	**Schefferville**	**35.18**	**31**	*e*P	**P**	**02 17 37.7**	**+2.0**
	9.6nm,1.2s						
YKA	**Yellowknife Ar**	**36.48**	**347**	P	**P**	**02 17 47.2**	**+0.5**
	1.2nm,0.8s,baz=149,slow=8.2,SNR=14						
DLBC	**Dease Lake**	**37.97**	**333**	P	**P**	**02 18 01.9**	**+2.3**
INK	**Inuvik**	**45.77**	**342**	LR	LR	02 39 41.1	
	comp=Z,442nm,18.4s,baz=118,slow=38						
ILAR	**Eielson Array**	**48.14**	**334**	P	**P**	**02 19 24.1**	**+2.4**
	1.0nm,1.0s,baz=127,slow=6.9,SNR=6.6						
ILAR				LR	LR	02 41 17.0	
	comp=Z,255nm,20.0s,baz=128,slow=38						
COLA	**College**	**48.56**	**334**	*e*P	**P**	**02 19 27.4**	**+2.6**
	3.3nm,0.9s						
LPAZ	**La Paz**	**52.38**	**143**	LR	LR	02 45 56.5	
	comp=Z,101nm,19.8s,baz=272,slow=40						
BORG	**Borgarnes**	**59.53**	**29**	LR	LR	02 47 06.9	
	comp=Z,199nm,18.1s,baz=156,slow=37						
NOA	**NORSAR Array B**	**74.70**	**28**	LR	LR	02 55 59.7	
	comp=Z,64nm,19.9s,baz=295,slow=36						
ARCES	**ARCESS Array B**	**74.80**	**18**	LR	LR	02 56 02.5	
	comp=Z,69nm,20.5s,baz=333,slow=36						
ESDC	**Sonseca Array**	**75.61**	**53**	LR	LR	02 56 12.6	
	comp=Z,94nm,19.0s,baz=225,slow=36						
PETK	**Petropavlovsk-**	**76.36**	**323**	LR	LR	02 55 43.0	
	comp=Z,47nm,19.9s,baz=77,slow=35						
FINES	**FINESS Array B**	**80.29**	**24**	LR	LR	02 59 20.4	
	comp=Z,210nm,18.0s,baz=280,slow=36						
DAVOX	**Davos/Dischmat**	**81.30**	**41**	LR	LR	02 59 13.6	
	comp=Z,146nm,19.5s,baz=297,slow=36						
GERES	**GERESS Array B**	**82.36**	**38**	LR	LR	03 00 36.6	
	comp=Z,199nm,18.3s,baz=270,slow=36						
AKASG	**Malin Array Be**	**88.98**	**31**	LR	LR	03 02 18.9	
	comp=Z,39nm,21.8s,baz=300,slow=35						
DBIC	**Dimbokro**	**89.55**	**83**	LR	LR	03 02 24.3	
	comp=Z,72nm,19.5s,baz=276,slow=35						
TORD	**Torodi Ar. Bea**	**92.18**	**74**	LR	LR	03 06 54.2	
	comp=Z,26nm,18.6s,baz=240,slow=36						
HHC	**Hu-ho-hao-te**	**106.51**	**337**	Pdif	**Pdif**	**02 24 56.9**	**+0.5**
HHC				PP	**PP**	**02 29 23.6**	**+3.5**
HHC	**Hu-ho-hao-te**	**106.51**	**337**	SKS	**SKSdf**	**02 36 18.0**	**-1.2**
HHC	**Hu-ho-hao-te**	**106.51**	**337**	SS	SS	02 44 23.6	+0.8
HHC				AMB	AMB		
	comp=Z,28nm,7.4s						
HHC				LR	LR		
	comp=N,66nm,19.7s						
HHC				LR	LR		
	comp=E,110nm,17.3s						
HHC				LR	LR		
	comp=Z,69nm,18.5s						

WEL 25 02:15:11.6±0.2, 45°.09S×167°.44E, h103km±2km, ML3.5/7, 3C-6D, Error ellipse: s-maj=2.4km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.55**	**40**	PN	Pn	02 15 28.2	+0.3
MSZ				SN	Sn	02 15 40.0	-0.2
MSZ				AML	AML	02 15 42.0	
MSZ				AML	AML	02 15 42.0	
MSZ				AML	AML	02 15 42.1	
MLZ	**Mavora Lakes**	**0.58**	**116**	⇓PN	Pn	02 15 28.0	-0.4
MLZ				SN	Sn	02 15 39.6	-1.3
MLZ				AML	AML	02 15 40.7	
WHZ	**Wether Hill Ro**	**0.88**	**156**	⇑PN	Pn	02 15 30.7	-0.3
WHZ				SN	Sn	02 15 44.6	-1.0
WHZ				AML	AML	02 15 45.1	
WKZ	**Wanaka**	**1.15**	**77**	⇓PN	Pn	02 15 34.0	0.0
WKZ				AML	AML	02 15 51.8	
WKZ				AML	AML	02 15 55.1	
PYZ	**Puysegur Point**	**1.20**	**206**	PN	Pn	02 15 34.3	-0.1
EAZ	**Earnscleugh**	**1.33**	**97**	⇓PN	Pn	02 15 35.9	-0.1
EAZ				AML	AML	02 15 36.2	
EAZ				AML	AML	02 15 36.2	
EAZ				AML	AML	02 15 36.3	
EAZ				AML	AML	02 15 36.3	
JCZ	**Jackson Bay**	**1.39**	**43**	PN	Pn	02 15 36.3	-0.5
JCZ				AML	AML	02 15 55.5	
JCZ				AML	AML	02 15 59.2	
TUZ	**Tuapeka**	**1.77**	**120**	⇓PN	Pn	02 15 41.1	-0.2
APZ	**The Paps**	**1.78**	**168**	PN	Pn	02 15 41.8	+0.2
APZ				AML	AML	02 16 04.9	
SYZ	**Scrubby Hill**	**1.87**	**141**	PN	Pn	02 15 42.4	-0.2
LBZ	**Lake Benmore**	**2.08**	**71**	⇓PN	Pn	02 15 43.9	-1.5
FOZ	**Fox Glacier**	**2.22**	**47**	⇑PN	Pn	02 15 46.7	-0.4
ODZ	**Otahua Downs**	**2.27**	**90**	⇑PN	Pn	02 15 46.7	-1.1
ODZ				*e*SN	Sn	02 16 12.3	-3.2
HHSZ	**Highcliff Hill**	**2.36**	**111**	⇓PN	Pn	02 15 48.5	-0.4
MQZ	**McQueen's Vall**	**3.98**	**72**	PN	Pn	02 16 08.6	-1.9
LTZ	**Lake Taylor**	**4.18**	**58**	*e*PN	Pn	02 16 10.5	-2.9

DDA ***25*** *02:25:53.4, 34°.43N×32°.58E, h3km, ML3.7*
IDC ***25*** *02:25:55.0±1.1, 34°.72N×32°.31E, h0km, mb3.7/12, mb1 3.8/16, mb1mx3.7/30, mbtmp3.7/16, ML3.8/4, MS2.7/2, Ms1 2.7/2, ms1mx2.2/43, Error ellipse: s-maj=22.8km s-min=17.1km az=24.0*
ISCJB ***25*** *02:25:59.1±0.4, 34°.80N±0°.02×32°.51E±0°.03, h30km±3km, mb3.5/11, MS2.5/1, Error ellipse: s-maj=4.8km s-min=2.8km az=140.6*
NIC ***25*** *02:26:00.4, 34°.87N×32°.63E, h20km, ML3.7*
GII ***25*** *02:26:00.4±0.8, 34°.75N×32°.68E, h10km±6km, MD3.4/9*
CSEM ***25*** *02:26:00.3±0.1, 34°.81N×32°.64E, h15km, ML3.7, Error ellipse: s-maj=5.5km s-min=3.1km az=53.0*
NSSC ***25*** *02:26:05.1±1.4, 34°.76N×33°.04E, h23km±47km, MD1.6, ML3.0*

ISC 25 02:26:00.2±0.8, 34°.81N±0°.03×32°.67E±0°.02, h26km±5km, n108, σ2s03/143, mb3.5/11, 2C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.18**	**108**	P	**Pb**	**02 26 06.4**	**+0.6**
	baz=298						
SZAC				S	**Sb**	**02 26 10.7**	**+1.1**
SZAC	**Souni-Zanaja**	**0.18**	**108**	P	**Pb**	**02 26 06.4**	**+0.6**
SZAC				S	**Sb**	**02 26 10.7**	**+1.1**
PPCY	**Paphos**	**0.28**	**285**	⇑P	**Pb**	**02 26 05.8**	**-1.2**
	baz=94						
PPCY	**Paphos**	**0.28**	**285**	⇑P	**Pb**	**02 26 05.8**	**-1.2**
ALFC	**Alevga**	**0.35**	**350**	P	**Pb**	**02 26 07.1**	**-1.0**
	baz=174						
ALFC				S	**Sb**	**02 26 12.1**	**-1.4**
ALFC	**Alevga**	**0.35**	**350**	P	**Pb**	**02 26 07.1**	**-1.0**
ALFC				S	**Sb**	**02 26 12.1**	**-1.4**
AKMC	**Akamas**	**0.35**	**307**	⇓*i*P	**Pb**	**02 26 07.2**	**-1.0**
	baz=122						
AKMC	**Akamas**	**0.35**	**307**	⇓*i*P	**Pb**	**02 26 07.2**	**-1.0**
CSS	**Prodhromos**	**0.56**	**74**	P	**Pb**	**02 26 11.8**	**+0.3**
	baz=260						
CSS				S	**Sn**	**02 26 22.4**	**+1.4**
CSS	**Prodhromos**	**0.56**	**74**	Pg	**Pb**	**02 26 11.5**	**0.0**
CSS	**Prodhromos**	**0.56**	**74**	P	**Pb**	**02 26 11.8**	**+0.3**
MAMC	**Mammari**	**0.57**	**51**	P	**Pb**	**02 26 11.8**	**+0.1**
	baz=237						
MAMC	**

comp=Z,161nm,0.2s
WRDH AML AML 02 27 33.0
comp=E,167nm,0.4s
WRDH AML AML 02 27 33.1
comp=N,101nm,0.3s
SLTI Sal'it 3.24 142 Pn **Pn 02 26 50.7 +1.3**
SLTI Sn **Sn 02 27 29.2 +2.1**
MARH Ras Al Marh 3.25 103 *eP* **Pn 02 26 51.1 +1.4**
MARH *eS* **Sn 02 27 25.1 -2.5**
MARH AML AML 02 27 32.8
comp=Z,106nm,0.5s
MARH AML AML 02 27 33.3
comp=E,316nm,0.5s
MARH AML AML 02 27 38.0
comp=N,220nm,0.6s
MMLI Mount Malkishu 3.30 135 Pn **Pn 02 26 51.2 +1.0**
BTCH Batrach 3.33 67 *eP* **Pn 02 26 52.9 +2.3**
BTCH *eS* **Sn 02 27 27.0 -2.3**
BTCH AML AML 02 27 43.4
comp=Z,207nm,0.4s
BTCH AML AML 02 27 49.4
comp=N,132nm,0.6s
BTCH AML AML 02 27 55.3
comp=E,192nm,0.6s
KFRA Kufra 3.41 82 *eP* **Pn 02 26 53.0 +1.3**
KFRA *eS* **Sn 02 27 28.3 -3.1**
KFRA AML AML 02 27 36.5
comp=N,651nm,0.5s
KFRA AML AML 02 27 38.7
comp=E,188nm,0.3s
KFRA AML AML 02 27 39.9
comp=Z,420nm,0.3s
TOTH TOTAH 3.44 114 *eP* **Pn 02 26 54.6 +2.5**
TOTH *eS* **Sn 02 27 27.9 -4.1**
TOTH AML AML 02 27 37.3
comp=E,298nm,0.5s
TOTH AML AML 02 27 37.6
comp=N,363nm,0.5s
TOTH AML AML 02 27 44.2
comp=Z,106nm,0.7s
TCHB Talchebab 3.48 127 *eP* **Pn 02 26 54.2 +1.5**
TCHB *eS* **Sn 02 27 30.2 -2.8**
TCHB AML AML 02 27 37.7
comp=N,546nm,0.4s
TCHB AML AML 02 27 42.5
comp=E,443nm,0.5s
TCHB AML AML 02 27 47.1
comp=Z,188nm,0.4s
HMDT Nahal Hemdat 3.49 136 Pn **Pn 02 26 54.5 +1.7**
HMDT Sn **Sn 02 27 36.2 +2.9**
GOLH Golhisar 3.49 315 *iP* **Pn 02 26 55.7 +2.7**
GOLH Golhisar 3.49 315 *iP* **Pn 02 26 55.7 +2.7**
ROOS tl_alroos 3.87 98 *eP* **Pn 02 27 00.4 +2.4**
ROOS *eS* **Sn 02 27 38.0 -4.7**
ROOS AML AML 02 27 49.7
comp=N,2.0nm,0.3s
ROOS AML AML 02 27 50.9
comp=E,1.3nm,0.3s
ROOS AML AML 02 27 52.2
comp=Z,1.9nm,0.4s
TURN Turunc 3.89 303 *iP* **Pn 02 27 01.1 +2.8**
TURN *iS* **Sn 02 27 47.6 +4.5**
TURN Turunc 3.89 303 *iP* **Pn 02 27 01.1 +2.8**
TURN *iS* **Sn 02 27 47.6 +4.5**
DSI Dead Sea 3.95 144 Pn **Pn 02 27 00.6 +1.5**
DSI Dead Sea 3.95 144 Pn **Pn 02 27 00.6 +1.5**
SALA Sala 3.98 121 *eP* **Pn 02 27 02.6 +3.0**
SALA *eS* **Sn 02 27 42.6 -3.0**
SALA AML AML 02 27 53.1
comp=E,20nm,0.5s
SALA AML AML 02 27 54.9
comp=N,150nm,0.4s
SALA AML AML 02 27 56.4
comp=Z,168nm,0.4s
YTIR Yattir 4.00 149 Pn **Pn 02 27 01.9 +1.9**
YTIR Yattir 4.00 149 Pn **Pn 02 27 01.9 +1.9**
KAMA Osmaniye 4.01 53 *iP* **Pn 02 27 02.8 +2.7**
KAMA *iS* **Sn 02 27 51.1 +4.8**
MKRJ Makawir 4.09 142 Pn **Pn 02 27 03.7 +2.5**
RTMI Retamim 4.11 155 Pn **Pn 02 27 02.4 +1.0**
RTMI Sn **Sn 02 27 49.5 +0.8**
RTMI Retamim 4.11 155 Pn **Pn 02 27 02.4 +1.0**
RTMI Sn **Sn 02 27 49.5 +0.8**
KZIT Kziot 4.16 159 Pn **Pn 02 27 02.9 +0.9**
KZIT Kziot 4.16 159 Pn **Pn 02 27 02.9 +0.9**
MZDA Masada 4.16 146 Pn **Pn 02 27 03.6 +1.6**
MZDA Sn **Sn 02 27 52.2 +2.5**
MZDA Masada 4.16 146 Pn **Pn 02 27 03.6 +1.6**
MZDA Sn **Sn 02 27 52.2 +2.5**
HCB Kahramanmara$_{\sim}$ 4.26 52 *iP* **Pn 02 27 06.3 +2.9**
HCB *iS* **Sn 02 27 55.6 +3.3**
ZALF Zalf 4.31 115 *eP* **Pn 02 27 06.6 +2.5**
ZALF *eS* **Sn 02 27 49.1 -4.5**
ZALF AML AML 02 28 03.2
comp=Z,65nm,0.6s
ZALF AML AML 02 28 06.9
comp=N,57nm,1.1s
ZALF AML AML 02 28 12.1
comp=E,68nm,0.5s
ASF Jabal al Asfar 4.40 126 Pn **Pn 02 27 07.9 +2.4**
comp=E,2.5nm,0.3s,baz=272,slow=5.6,SNR=22
ASF Sn **Sn 02 28 01.9 +6.0**
comp=E,7.8nm,0.3s,baz=90,slow=19,SNR=9.3
RMNI Mount Ramon 4.56 157 Pn **Pn 02 27 08.5 +0.9**
RMNI Mount Ramon 4.56 157 Pn **Pn 02 27 08.5 +0.9**
BDRM Kayabasi 4.80 299 *iP* **Pn 02 27 10.6 -0.2**
BDRM *iS* **Sn 02 28 03.5 -2.1**
BDRM Kayabasi 4.80 299 *iP* **Pn 02 27 10.6 -0.2**
BDRM *iS* **Sn 02 28 03.5 -2.1**
AYDN Tasoluk 4.80 308 *iP* **Pn 02 27 12.4 +1.5**
AYDN *iS* **Sn 02 28 04.6 -1.1**
AYDN Tasoluk 4.80 308 *iP* **Pn 02 27 12.4 +1.5**
AYDN *iS* **Sn 02 28 04.6 -1.1**
BRTR Keskin Array B 4.96 9 Pn **Pn 02 27 16.1 +3.0**
comp=E,0.6nm,0.3s,baz=177,slow=16,SNR=26
BRTR Sn **Sn 02 28 14.2 +4.4**
comp=E,0.3nm,0.3s,baz=189,slow=22,SNR=5.2
KRMI Paran Flat 4.99 159 Pn **Pn 02 27 14.3 +0.8**
KRMI Paran Flat 4.99 159 Pn **Pn 02 27 14.3 +0.8**
HRFI Mount Harif 5.17 157 Pn **Pn 02 27 16.8 +0.9**
HRFI Mount Harif 5.17 157 Pn **Pn 02 27 16.8 +0.9**
DEMI Demirci 5.28 324 *iP* **Pn 02 27 17.9 +0.4**
DEMI Demirci 5.28 324 *iP* **Pn 02 27 17.9 +0.4**
MBH Mount Berech 5.35 159 Pn **Pn 02 27 20.2 +1.7**
MBH Mount Berech 5.35 159 Pn **Pn 02 27 20.2 +1.7**
EIL Elat 5.48 159 Pn **Pn 02 27 21.2 +1.1**
EIL Elat 5.48 159 Pn **Pn 02 27 21.2 +1.1**
IDI Anoyia 6.40 276 Pn **Pn 02 27 31.4 -1.5**
comp=E,1.2nm,0.3s,baz=112,slow=18,SNR=17
IDI Sn Sn 02 28 39.0 -6.1
comp=E,2.6nm,0.3s,baz=266,slow=18,SNR=7.5
AKASG Malin Array Be 16.08 352 Pn **Pn 02 29 45.3 +1.0**
comp=E,0.8nm,0.3s,baz=177,slow=10,SNR=27
STHS Stebnicka Huta 16.85 333 *eP* **Pn 02 29 51.9 -2.2**
VYHS Vyhne 17.10 327 *eP* **Pn 02 29 55.5 -1.8**
GERES GERESS Array B 19.83 321 P **P 02 30 28.0 -1.0**
comp=E,0.3nm,0.3s,baz=123,slow=9.8,SNR=9.2
KHC Kasperske Hory 20.07 321 *eP* **P 02 30 31.5 0.0**
OBN Obninsk 20.48 6 LR LR 02 40 12.1
comp=E,21nm,20.5s,baz=275,slow=42
GEYT Alibeck 20.70 74 P Pn 02 30 40.1 -0.8
comp=E,1.2nm,0.4s,baz=268,slow=12,SNR=3.6
AKTO Aktyubinsk 24.15 42 P **P 02 31 13.6 -0.4**
comp=E,0.5nm,0.5s,baz=198,slow=9.6,SNR=3.1
FINES FINESS Array B 26.98 353 P **P 02 31 38.0 -1.5**
comp=E,1.1nm,0.5s,baz=160,slow=12,SNR=14
HFS Hagfors 28.18 340 P **P 02 31 48.6 -1.6**
comp=E,1.4nm,0.8s,baz=145,slow=10,SNR=4.1
ESDC Sonseca Array 29.43 290 P P 02 31 57.6 -4.1
comp=E,0.1nm,0.5s,baz=77,slow=11,SNR=2.9
NB2 NORSAR Subarra 29.64 339 P **P 02 32 01.5 -1.7**
comp=Z,0.4nm,0.6s,baz=141,slow=9.3
NOA NORSAR Array B 29.64 339 P **P 02 32 01.8 -1.5**
comp=Z,0.6nm,0.7s,baz=141,slow=9.0,SNR=4.5
ARCES ARCESS Array B 35.00 356 P **P 02 32 49.0 -1.0**
comp=Z,12nm,1.2s,baz=162,slow=8.4,SNR=6.9
TORD Torodi Ar. Bea 35.35 240 P P 02 32 49.1 -4.5
comp=Z,0.6nm,1.1s,baz=63,slow=9.3,SNR=1.9
KURBB Kurchatov Arra 36.57 50 P **P 02 33 04.4 +0.7**
comp=Z,0.2nm,0.3s,baz=264,slow=8.4,SNR=3.3
MKAR Makanchi Array 38.81 57 P **P 02 33 23.8 +1.0**
comp=Z,0.4nm,0.6s,baz=273,slow=10.0,SNR=3.6
ZALV Zalesovo Beam 40.81 46 P **P 02 33 39.0 -0.2**
comp=Z,0.4nm,0.4s,baz=275,slow=8.2,SNR=3.0

SPITS Spitsbergen Ar 44.03 355 P **P 02 34 05.1 0.0**
comp=Z,2.7nm,0.8s,baz=123,slow=16,SNR=3.6

*ISCJB **25** 02:31:16.9±0.5,27.83N±0.04×103.86E±0.06,h10km, mb3.6/10,Error ellipse: s-maj=7.9km s-min=5.9km az=179.7*
*BJI **25** 02:31:17.9,27.89N×103.82E,h5km,ML3.6/15*
*IDC **25** 02:31:17.2±0.9,27.74N×103.88E,h0km,mb3.6/11, mb1 3.8/11,mb1mx3.6/29,mbtmp3.6/11,MS2.6/1, Ms1 2.8/1,ms1mx2.3/35,Error ellipse: s-maj=34.2km s-min=18.6km az=51.0*
ISC 25 02:31:19.4±0.6,27.90N±0.04×104.08E±0.05,h10km,n17, σ1s56/22,mb3.6/10,1C,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.71**	**121**	Pn		**Pb**		**02 32 06.9**	**-1.2**
GYA				Pg		**Pg**		**02 32 13.3**	**+1.9**
GYA				Sn		**Sb**		**02 32 39.5**	**-1.9**
GYA				Sg		**Sg**		**02 32 47.0**	**+0.5**
GYA	310nm,0.6s			SMN					
GYA	230nm,0.7s			SME					
KMI	**Kunming**	**3.01**	**204**	⇑Pg		**Pb**		**02 32 12.8**	**-0.5**
KMI				Sg		**Sb**		**02 32 53.4**	**+3.2**
KMI	41nm,0.9s			SMN					
KMI	54nm,0.8s			SME					
CD2	**Chengdu**	**3.02**	**355**	Pn		**Pn**		**02 32 06.3**	**-1.0**
CD2				Pg		**Pb**		**02 32 13.8**	**+0.5**
CD2				Sn		Sn		02 32 37.8	-5.8
CD2				Sg		**Sb**		**02 32 50.8**	**+0.6**
CD2	860nm,0.6s			SMN					
CD2	970nm,0.6s			SME					
XAN	**Xi'an**	**7.40**	**33**	Pn		**Pn**		**02 33 09.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**10.51**	**208**	LR		LR		02 38 19.1	
	comp=Z,33nm,20.9s,baz=1.5,slow=41								
SONM	**Songino Array**	**19.99**	**5**	P		**P**		**02 35 53.5**	**+1.4**
	0.6nm,0.5s,baz=189,slow=11,SNR=5.0								
WMQ	**Urumqi**	**20.65**	**325**	P		**P**		**02 35 56.3**	**-2.9**
WMQ				pP		**pP**		**02 36 03.0**	**+0.9**
WMQ				pmax		pmax			
	comp=Z,11nm,0.5s								
KSRS	**Korea Array**	**22.17**	**58**	P		**P**		**02 36 15.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=251,slow=9.4,SNR=3.1								
MKAR	**Makanchi Array**	**25.47**	**324**	P		**P**		**02 36 48.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=142,slow=9.6,SNR=4.5								
KURBB	**Kurchatov Arra**	**29.84**	**326**	P		**P**		**02 37 27.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=131,slow=10,SNR=4.4								
GEYT	**Alibeck**	**39.52**	**297**	P		**P**		**02 38 49.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=126,slow=7.3,SNR=3.0								
WRA	**Warramunga Arr**	**55.85**	**145**	P		**P**		**02 40 56.1**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=335,slow=8.3,SNR=3.8								
ASAR	**Alice Springs**	**58.78**	**148**	P		**P**		**02 41 17.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=328,slow=6.6,SNR=9.8								
HFS	**Hagfors**	**66.43**	**327**	P		**P**		**02 42 08.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=99,slow=7.4,SNR=7.1								
GERES	**GERESS Array B**	**69.79**	**315**	P		P		02 42 27.7	-2.3
	comp=Z,0.1nm,0.3s,baz=70,slow=6.4,SNR=2.9								
DAVOX	**Davos/Dischmat**	**72.93**	**314**	P		**P**		**02 42 47.2**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=76,slow=11,SNR=3.1								
YKA	**Yellowknife Ar**	**84.75**	**17**	P		**P**		**02 43 54.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=326,slow=5.1,SNR=3.0								

*NEIC **25** 02:33:21.9,32.32N×115.40W,h6km,ML3.4(PAS),After PAS.*
*ECX **25** 02:33:22.8±0.7,32.33N×115.41W,h5km,MD3.3,ML3.5*
ISC 25 02:33:22.2±0.9,32.34N±0.02×115.42W±0.02,h10km±7km, n27,σ1s85/51,4C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**51**	*eP*		**Pg**		**02 33 25.0**	**-0.2**
CPBX				*eP*		**Pg**		**02 33 25.1**	**-0.2**
CPBX				*eS*		**Sg**		**02 33 27.8**	**+0.3**
RDX	**Rancho Dawling**	**0.60**	**227**	⇓*e*		**Pg**		**02 33 33.7**	**-0.2**
RDX				*eS*		**Sg**		**02 33 41.8**	**0.0**
RDX				⇓*e*				02 33 43.7	
RDX				AML		AML		02 33 43.7	
	comp=N,2μm,0.3s								
RMX	**La Rumorosa**	**0.61**	**296**	⇑*eP*		**Pg**		**02 33 33.6**	**-0.6**
RMX				*eS*		**Sg**		**02 33 42.0**	**-0.3**
GLA	**Glamis**	**0.87**	**35**	*eP*		**Pg**		**02 33 36.8**	**-2.3**
GLA				*eS*		**Sg**		**02 33 48.9**	**-1.6**
ECBX	**El Chinero**	**0.92**	**160**	⇑*eP*		**Pg**		**02 33 38.9**	**-1.1**
ECBX				*eS*		**Sg**		**02 33 51.3**	**-0.6**
CBX	**Cerro Bola**	**1.05**	**269**	⇑*eP*		**Pg**		**02 33 41.6**	**-0.9**
CBX				*eS*		**Sg**		**02 33 55.5**	**-0.6**
CBX				AML		AML		02 33 58.1	
	comp=N,1μm,0.4s								
CBX				*e*				02 33 58.1	
BAR	**Barrett**	**1.11**	**288**	⇑*eP*		**Pg**		**02 33 41.9**	**-1.7**
BAR	**Barrett**	**1.11**	**288**	*eP*		**Pg**		**02 33 41.6**	**-2.0**
BAR				*eSg*		**Sg**		**02 33 56.4**	**-1.6**
SPIG	**San Pedro Mart**	**1.29**	**182**	⇑*eP*		**Pn**		**02 33 44.8**	**-1.9**
SPX	**San Pedro Mart**	**1.29**	**182**	⇑*eP*		**Pn**		**02 33 44.8**	**-1.9**
PFO	**Pinyon Flats O**	**1.54**	**326**	*eP*		Pn		02 33 47.1	-2.7
PFO				*eSn*		Sn		02 34 05.0	-5.0
214A	**Organ Pipe Nat**	**2.25**	**99**	*eP*		Pn		02 33 56.6	-2.9
214A				*eP*		**Pb**		**02 34 03.9**	**+0.9**
214A				*eSg*		**Sg**		**02 34 32.7**	**-1.8**
LDFC	**Landfair**	**2.75**	**5**	*ePn*		**Pn**		**02 34 05.4**	**-1.2**
LDFC				*eP*		**Pg**		**02 34 14.6**	**-0.3**
MWC	**Mount Wilson**	**2.90**	**311**	*eP*		**Pb**		**02 34 13.6**	**-0.6**
MWC				*eSn*		**Sn**		**02 34 44.3**	**+0.5**
MWC				*eSg*		**Sb**		**02 34 51.2**	**+1.3**
PASC	**Pasadena Art C**	**2.95**	**309**	*ePn*		**Pn**		**02 34 09.4**	**+0.2**
PASC				*ePb*		**Pb**		**02 34 14.9**	**-0.1**
PASC				*eP*		**Pg**		**02 34 18.3**	**-0.5**
PASC				*eSg*		**Sb**		**02 34 52.1**	**+1.1**
TUC	**Tucson**	**3.93**	**89**	*ePn*		**Pn**		**02 34 22.7**	**0.0**
TUC				*eP*		**Pg**		**02 34 35.0**	**-2.5**
TUC				*eSg*		**Sb**		**02 35 23.9**	**+4.7**
SHPR	**Sheep Range**	**4.17**	**3**	*ePn*		**Pn**		**02 34 25.5**	**-0.5**
SHPR				*eP*		**Pg**		**02 34 39.7**	**-2.3**
SHPR				*eSn*		**Sn**		**02 35 15.6**	**+0.7**
SHPR				*eSg*		**Sg**		**02 35 34.4**	**-1.7**
ISA	**Isabella, Lake**	**4.17**	**323**	*ePn*		**Pn**		**02 34 26.9**	**+0.8**
ISA				*eP*		**Pb**		**02 34 38.2**	**+2.3**
ISA				*eSg*		**Sb**		**02 35 28.4**	**+2.0**
WUAZ	**Wupatki**	**4.62**	**46**	*ePn*		**Pn**		**02 34 32.0**	**-0.3**
WUAZ				*eP*		**Pg**		**02 34 48.5**	**-2.3**
WUAZ				*eSn*		**Sn**		**02 35 25.8**	**-0.5**
WUAZ				*eSg*		**Sb**		**02 35 45.0**	**+5.6**
CCUT	**Cedar City**	**5.47**	**17**	*ePn*		**Pn**		**02 34 43.8**	**-0.2**
	comp=N,2.6nm,0.6s								
CCUT				*eP*		**Pb**		**02 35 00.3**	**+2.3**
CCUT				*eSg*		**Sg**		**02 36 12.5**	**-5.4**
ARUT	**Antelope Range**	**5.68**	**16**	*ePg*		Pg		02 35 07.4	-3.6
	comp=N,0.6nm,0.5s								
TPH	**Tonopah**	**5.91**	**346**	*ePn*		**Pn**		**02 34 50.0**	**-0.1**
R11A	**Troy Canyon, C**	**6.00**	**359**	*ePg*		**Pg**		**02 35 16.6**	**-0.6**
	comp=N,1.4nm,0.6s								
121A	**Cookes Peak, D**	**6.46**	**86**	*ePn*		**Pn**		**02 34 55.9**	**-1.7**
	comp=N,2.7nm,0.4s								
MVU	**Marysvale**	**6.69**	**22**	*ePg*		Pg		02 35 27.1	-3.3
CMB	**Columbia Colle**	**6.99**	**326**	*ePn*		**Pn**		**02 35 03.6**	**-1.1**
MVCO	**Mesa Verde**	**7.49**	**48**	*ePn*		**Pn**		**02 35 12.0**	**+0.2**

GUC 25 02:38:25.7±0.6,35.32S×72.56W,h20km±4km,ML3.6,1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.76**	**96**	⇑*iP*		Pb		02 38 39.8	-0.4
TALC				*iS*		Sb		02 38 50.0	-0.1
TALC				AML		AML		02 39 00.0	
	comp=N,10μm,0.1s								
COCH	**Cobquecura**	**0.83**	**193**	*iP*		Pb		02 38 40.7	-0.9
COCH				*iS*		Sb		02 38 52.2	-0.1
NICH	**Los Niches**	**1.13**	**74**	*iP*		Pn		02 38 45.9	-0.5
NICH				*iS*		Sn		02 39 01.1	-0.2
NICH				AML		AML		02 39 01.7	
	comp=N,3μm,0.5s								
CHCH	**Chadas Angostu**	**2.09**	**49**	*iP*		Pn		02 39 00.9	+1.2
CHCH				*iS*		Sb		02 39 27.8	-0.8
CLCH	**Cerro Calan**	**2.54**	**42**	*iP*		Pn		02 39 08.1	+2.2
CLCH				*iS*		Sb		02 39 40.1	-1.6
CLCH				AML		AML		02 39 49.3	
	comp=N,261nm,0.5s								

IDC 25 02:44:43.8±1.8,5.75S×149.18E,h0km,mb3.2/3, mb1 3.6/3,mb1mx3.3/21,mbtmp3.3/3,Error ellipse: s-maj=143.0km s-min=28.7km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.10**	**334**	P		Pg		02 46 53.3	-2.4
	baz=20,SNR=5.7								
PMG	**Port Moresby**	**4.15**	**209**	P		Sn		02 46 36.6	-1.1
	baz=20,SNR=4.9								
WRA	**Warramunga Arr**	**20.18**	**224**	P		Pn		02 49 21.2	-0.9
	0.5nm,0.6s,baz=48,slow=11,SNR=3.0								
WRA				PcP		PcP		02 53 34.4	-0.8
	0.4nm,0.3s,baz=39,slow=2.1,SNR=2.9								
ASAR	**Alice Springs**	**23.10**	**218**	P		P		02 49 51.0	-0.6
	0.2nm,0.5s,baz=52,slow=9.5,SNR=6.5								
ILAR	**Eielson Array**	**84.41**	**23**	P		P		02 57 18.0	+0.1
	0.4nm,0.9s,baz=263,slow=4.5,SNR=3.3								
TORD	**Torodi Ar. Bea**	**147.12**	**285**	PKPbc		PKPbc		03 04 29.4	-0.6
	0.3nm,0.9s,baz=78,slow=3.6,SNR=7.2								

*ISCJB **25** 02:44:58.0±0.6,33.87S±0.05×72.2W±0.1,h19km,mb4.1/9, MS3.8/2,Error ellipse: s-maj=13.7km s-min=7.5km az=179.0*
*IDC **25** 02:44:57.5±0.8,33.94S×72.16W,h0km,mb3.9/6, mb1 4.0/9,mb1mx3.9/19,mbtmp3.9/9,ML3.8/3,MS4.0/3, Ms1 4.0/3,ms1mx3.3/22,Error ellipse: s-maj=33.8km s-min=18.4km az=105.0*
*NEIC **25** 02:45:01.0±2.8,33.87S×72.23W,h25km±19km,mb4.4/7, Error ellipse: s-maj=15.0km s-min=7.2km az=86.0*
ISC 25 02:45:00.2±0.6,33.86S±0.07×72.2W±0.1,h19km,n32, σ0s86/33,mb4.3/9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.03**	**57**	Pn		**Pn**		**02 46 02.5**	**+1.6**
	0.3nm,0.3s,baz=230,slow=12,SNR=41								
CFAA				Lg		Lg		02 47 00.1	
	0.8nm,0.3s,baz=162,slow=20,SNR=7.5								
LCO	**Las Campanas**	**5.00**	**15**	*e*Pn		**Pn**		**02 46 15.0**	**+0.5**
	68nm,0.8s								
LCO				*eSn*		**Sn**		**02 47 10.8**	**-1.2**
PLCA	**Paso Flores**	**6.98**	**170**	Pn		**Pn**		**02 46 41.4**	**-0.1**
	1.4nm,0.3s,baz=338,slow=12,SNR=36								
PLCA				Lg		Lg		02 48 30.5	
	0.5nm,0.3s,baz=292,slow=16,SNR=3.4								
PLCA	**Paso Flores**	**6.98**	**170**	*e*Pn		**Pn**		**02 46 41.0**	**-0.5**
	2.2nm,1.0s								
PLCA				*e*Lg		Lg		02 48 25.4	
TRQA	**Tornquist**	**9.28**	**120**	*e*Pn		**Pn**		**02 47 14.3**	**+1.3**
	7.7nm,0.6s								
TRQA				*e*Lg		Lg		02 49 55.2	
CPUP	**Villa Florida**	**14.89**	**64**	Pn		**Pn**		**02 48 28.4**	**-1.3**
	0.0nm,0.3s,baz=216,slow=16,SNR=2.5								
CPUP				LR		LR		02 54 50.6	
	comp=Z,2μm,18.0s,baz=242,slow=40								
CPUP	**Villa Florida**	**14.89**	**64**	*e*Pn		**Pn**		**02 48 28.9**	**-0.8**
LPAZ	**La Paz**	**17.88**	**13**	P		**P**		**02 49 10.1**	**+1.0**
	0.1nm,0.3s,baz=195,slow=7.4,SNR=11								
LPAZ	**La Paz**	**17.88**	**13**	*e*Pn		**P**		**02 49 09.9**	**+0.8**
	3.4nm,0.8s								
SIV	**San Ignacio**	**20.43**	**32**	P		**P**		**02 49 36.5**	**+0.1**
	1.5nm,0.6s,baz=214,slow=9.6,SNR=4.1								
SAML	**Samuel**	**26.15**	**21**	*e*P		**P**		**02 50 33.6**	**+0.3**
	3.4nm,0.9s								
BDFB	**Brasilia**	**28.37**	**56**	P		**P**		**02 50 53.0**	**-0.4**
	1.7nm,0.7s,baz=212,slow=12,SNR=3.7								
BDFB				LR		LR		03 03 25.4	
	comp=Z,147nm,18.6s,baz=218,slow=39								
OTAV	**Otavalo**	**34.42**	**349**	*e*P		**P**		**02 51 47.3**	**+0.3**
	3.0nm,1.0s								
JTS	**JuntasAbangare**	**45.55**	**342**	*e*P		**P**		**02 53 18.8**	**-0.1**
	14nm,1.2s								
SNAA	**Sanae**	**51.76**	**158**	P		**P**		**02 54 05.7**	**-0.4**
	1.9nm,0.9s,baz=292,slow=5.4,SNR=5.9								
SNAA	**Sanae**	**51.76**	**158**	*e*P		**P**		**02 54 05.5**	**-0.6**
	6.3nm,0.9s								
OBIP	**Obispado Ponce**	**51.89**	**7**	*e*P		**P**		**02 54 07.1**	**-0.4**
CBYP	**Canovanas**	**52.20**	**8**	*e*P		**P**		**02 54 09.4**	**-0.5**
SDDR	**Presa de Saban**	**52.56**	**1**	*e*P		**P**		**02 54 10.8**	**-1.7**
GTBY	**Guantanamo Bay**	**53.56**	**357**	*e*P		**P**		**02 54 18.3**	**-1.5**
QSPA	**South Pole Qui**	**56.37**	**180**	P		**P**		**02 54 40.0**	**+0.1**
	3.4nm,0.9s,baz=155,slow=6.0,SNR=9.5								
QSPA	**South Pole Qui**	**56.37**	**180**	*e*P		**P**		**02 54 40.2**	**+0.3**
	4.8nm,0.9s								
TXAR	**Lajitas Array**	**69.55**	**331**	P		**P**		**02 56 09.4**	**+1.6**
	0.2nm,0.7s,baz=161,slow=8.4,SNR=3.7								
TXAR				LR		LR		03 22 05.3	
	comp=Z,64nm,18.1s,baz=0.0,slow=32								
WVT	**Waverly**	**71.15**	**347**	*e*P		**P**		**02 56 17.6**	**+0.3**
	4.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P		**P**		**02 57 31.1**	**0.0**
	2.3nm,0.8s,baz=247,slow=3.8,SNR=14								
WRA	**Warramunga Arr**	**120.81**	**209**	PKP		**PKPdf**		**03 03 50.6**	**-1.1**
	0.3nm,0.3s,baz=155,slow=1.6,SNR=4.4								
BVAR	**Borovoye Array**	**147.27**	**43**	PKPbc		**PKPbc**		**03 04 42.7**	**+0.8**
	0.8nm,0.5s,baz=306,slow=4.8,SNR=4.4								
AAK	**Ala-Archa**	**152.56**	**62**	PKPbc		**PKPbc**		**03 04 56.4**	**+1.1**
	0.8nm,0.4s,baz=180,slow=4.0,SNR=4.2								
KURBB	**Kurchatov Arra**	**152.86**	**43**	PKPbc		**PKPbc**		**03 04 55.7**	**+0.2**
	0.9nm,0.6s,baz=300,slow=2.9,SNR=15								
KURK	**Kurchatov**	**152.87**	**43**	PKPbc		**PKPbc**		**03 04 55.7**	**+0.2**
ZALV	**Zalesovo Beam**	**154.18**	**32**	PKPbc		**PKPbc**		**03 04 58.5**	**+0.3**
	2.3nm,0.6s,baz=306,slow=3.3,SNR=11								
MKAR	**Makanchi Array**	**156.78**	**49**	PKPab		**PKPab**		**03 05 23.7**	**+0.2**
	0.6nm,0.7s,baz=272,slow=5.3,SNR=3.2								

*BYKL **25** 02:47:09.8±0.3,55.17N×110.55E,h10km,mb4.2/1,Error ellipse: s-maj=64.3km s-min=20.6km az=61.4*
*MOS **25** 02:47:10.4±1.2,55.14N×110.55E,h10km,mb4.2/1,Error ellipse: s-maj=64.3km s-min=20.6km az=61.4*
ISC 25 02:47:09.6±1.2,55.16N±0.02×110.54E±0.02,h2km±10km, n31,σ2s03/67,9C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.46**	**128**	⇓*iPg*		**

SYVR				*e*Pb	**Pb**	**02 47 38.7**	**0.0**	
SYVR				*e*Sg	**Sg**	**02 47 59.0**	**+0.2**	
SYVR				*e*		02 48 02.2		
SYVR				max				
	comp=E,48nm,0.7s							
SYVR				max				
	comp=E,266nm,0.7s							
SYVR	**Suvo**	**1.54**	**192**	*e*PG	**Pn**	**02 47 37.8**	**-0.2**	
SYVR				*e*		02 47 58.3		
SYVR				pmax	pmax			
	comp=Z,48nm,0.7s							
SYVR				smax	smax			
	comp=E,312nm,0.7s							
UKT	**Uakit**	**1.80**	**78**⇑	*i*Pg	**Pn**	**02 47 41.6**	**0.0**	
UKT				*i* Sg	**Sb**	**02 48 05.6**	**-0.6**	
UKT				Pmax				
	comp=E,71nm,0.4s							
UKT				Smax				
	comp=E,370nm,0.6s							
SVKR	**Severomuysk**	**1.96**	**59**⇓	*i*Pn	**Pn**	**02 47 44.5**	**+0.6**	
SVKR				⇑*i*Pg	**Pb**	**02 47 45.7**	**-0.4**	
SVKR				*e*Sg	**Sg**	**02 48 12.5**	**-0.1**	
SVKR				Pmax				
	comp=E,80nm,0.2s							
SVKR				Smax				
	comp=E,880nm,0.5s							
SVKR	**Severomuysk**	**1.96**	**59**	*e*PN	**Pn**	**02 47 44.9**	**+1.0**	
SVKR				*e*		02 48 12.1		
SVKR				pmax	pmax			
	comp=Z,128nm,0.3s							
SVKR				smax	smax			
	comp=N,879nm,0.5s							
MXMB	**Maximikha**	**2.17**	**210**	*e*Pn	**Pn**	**02 47 46.5**	**-0.2**	
MXMB				*e*Pg	**Pb**	**02 47 49.9**	**+0.4**	
MXMB				*e*		02 48 10.2		
MXMB				*i* Sg	**Sg**	**02 48 19.2**	**0.0**	
MXMB				Pmax				
	comp=N,28nm,0.8s							
MXMB				Smax				
	comp=N,214nm,0.8s							
OGRR	**Ongureny**	**2.29**	**230**	*e*Pn	**Pn**	**02 47 49.9**	**+1.5**	
OGRR				*e*Pg	**Pb**	**02 47 50.7**	**-0.9**	
OGRR				*e*Sg	**Sb**	**02 48 21.2**	**+0.8**	
OGRR				Pmax				
	comp=N,23nm,0.3s							
OGRR				Smax				
	comp=N,153nm,0.3s							
OGRR	**Ongureny**	**2.29**	**230**	*e*PN	**Pn**	**02 47 47.1**	**-1.3**	
OGRR				*e*		02 47 50.6		
OGRR				*e*		02 48 21.9		
OGRR				pmax	pmax			
	comp=Z,23nm,0.3s							
OGRR				smax	smax			
	comp=E,170nm,0.7s							
NLYR	**Nelyaty**	**3.21**	**63**	*e*Pn	**Pn**	**02 48 01.5**	**+0.6**	
NLYR				*e*Pg	**Pb**	**02 48 06.7**	**-0.5**	
NLYR				*e*		02 48 11.1		
NLYR				*e*Sn	**Sn**	**02 48 38.2**	**-1.5**	
NLYR				*i* Sg	**Sb**	**02 48 49.0**	**+2.3**	
NLYR				max				
	comp=E,9.0nm,0.2s							
NLYR				Smax				
	comp=E,87nm,1.5s							
BOD	**Bodaibo**	**3.29**	**34**	*e*Pg	**Pb**	**02 48 08.1**	**-0.5**	
BOD				*e*		02 48 11.0		
BOD				*e*Sn	**Sn**	**02 48 41.3**	**-0.4**	
BOD				*e*Sg	**Sb**	**02 48 50.4**	**+1.4**	
BOD				max				
	comp=E,8.0nm,0.3s							
BOD				Smax				
	comp=E,53nm,0.4s							
ZRHB	**Zarechye**	**3.29**	**219**	*e*Pg	**Pb**	**02 48 08.4**	**-0.2**	
ZRHB				*e*		02 48 26.3		
ZRHB				*e*Sg	**Sb**	**02 48 52.0**	**+3.0**	
ZRHB				Pmax				
	comp=E,20nm,0.4s							
ZRHB				Smax				
	comp=E,157nm,1.1s							
TRG	**Tyrgan**	**3.45**	**228**	*e*	Pn	02 47 59.2	-5.1	
TRG				*e*Pg	**Pb**	**02 48 10.2**	**-1.1**	
TRG				*e*		02 48 45.9		
TRG				*e*Sg	**Sb**	**02 48 55.1**	**+1.5**	
TRG				Pmax				
	comp=E,4.0nm,0.3s							
TRG				Smax				
	comp=E,39nm,0.5s							
UUDB	**Ulan-Yde**	**3.72**	**209**	*e*Pg	**Pb**	**02 48 17.8**	**+1.9**	
UUDB				*e*Sg	**Sg**	**02 49 06.7**	**-2.1**	
UUDB				Pmax				
	comp=E,8.0nm,0.8s							
UUDB				Smax				
	comp=E,51nm,1.6s							
KAB	**Kabansk**	**3.88**	**218**	*e*Sg	**Sb**	**02 49 09.6**	**+3.6**	
KAB				*e*		02 49 31.7		
KAB				max				
	comp=E,170nm,1.1s							
HRMR	**Khuramsha**	**4.13**	**213**	*e*Pn	**Pn**	**02 48 13.0**	**-0.7**	
HRMR				*e*Pg	**Pb**	**02 48 24.1**	**+1.1**	
HRMR				*e*Sn	**Sn**	**02 49 00.7**	**-1.9**	
HRMR				*e*Sg	**Sg**	**02 49 18.0**	**-4.3**	
HRMR				*e*		02 49 23.4		
HRMR				Pmax				
	comp=E,19nm,0.5s							
HRMR				max				
	comp=E,152nm,0.8s							
CRS	**Chara**	**4.68**	**65**	*e*	**Pn**	**02 48 22.7**	**+1.6**	
CRS				*e*Pg	**Pb**	**02 48 33.2**	**+1.0**	
CRS				*e*Sn	**Sn**	**02 49 11.1**	**-4.8**	
CRS				*e*Sg	**Sb**	**02 49 34.3**	**+5.4**	
CRS				*e*		02 49 39.4		
CRS				Pmax				
	comp=E,2.0nm,0.4s							
CRS				max				
	comp=E,65nm,1.6s							
CRS	**Chara**	**4.68**	**65**	*e*PN	**Pb**	**02 48 34.7**	**+2.5**	
CRS				*e*		02 49 33.7		
CRS				pmax	pmax			
	comp=Z,20nm,0.5s							
CRS				smax	smax			
	comp=E,63nm,0.5s							
IRK	**Irkutsk**	**4.73**	**234**	*e*Sg	**Sg**	**02 49 37.2**	**-4.2**	
IRK				Smax				
	comp=E,134nm,0.5s							
LSTR	**Listvyanka**	**4.74**	**228**	Pg	**Pb**	**02 48 35.0**	**+1.7**	
LSTR				*e*		02 49 26.4		
LSTR				*e*Sg	**Sb**	**02 49 35.6**	**+4.9**	
LSTR				Smax				
	comp=E,46nm,1.8s							
TLY	**Talaya**	**5.39**	**233**	*e*Pn	**Pn**	**02 48 33.6**	**+2.6**	
TLY				Pg	**Pb**	**02 48 46.8**	**+2.3**	
TLY				*e*		02 48 52.6		
TLY				*e*		02 49 35.3		
TLY				*e*Sg	Sb	02 49 56.0	+6.4	
TLY				max				
	comp=E,3.0nm,0.4s							
TLY				Smax				
	comp=E,19nm,0.8s							
KPC	**Khapcheranga**	**5.58**	**168**	*e*Pn	**Pn**	**02 48 32.6**	**-0.9**	
KPC				*e*		02 48 41.3		
KPC				*e*Pg	**Pb**	**02 48 50.5**	**+2.9**	
KPC				*e*Sn	**Sn**	**02 49 33.9**	**-4.3**	
KPC				*e*Sg	**Sg**	**02 50 03.3**	**-5.3**	
KPC				Pmax				
	comp=E,1.0nm,0.3s							
KPC				Smax				
	comp=E,37nm,0.9s							
ARS	**Arshan**	**5.82**	**239**	*e*Pg	**Pb**	**02 48 53.6**	**+1.8**	
ARS				*e*		02 49 00.7		
ARS				*e*Sg	Sb	02 50 09.4	+7.4	
ARS				max				
	comp=E,7.0nm,0.5s							
ARS				Smax				
	comp=E,70nm,0.6s							
ZAK	**Zakamensk**	**6.50**	**226**	*e*	Pg	02 49 35.3	+21	
ZAK				*e*Sg	Sg	02 50 31.8	-6.3	
ZAK				Smax				
	comp=E,6.0nm,0.9s							
MOY	**Mondy**	**6.69**	**242**	*e*Pn	**Pn**	**02 48 49.2**	**+0.3**	
MOY				*e*		02 48 52.4		
MOY				*e*Pg	**Pb**	**02 49 07.7**	**+1.1**	
MOY				*e*		02 50 06.7		
MOY				*e*Sg	Sb	02 50 33.4	+6.5	
MOY				*e*		02 50 50.8		
MOY				Pmax				
	comp=E,2.0nm,0.4s							
MOY				Smax				
	comp=E,29nm,1.3s							
ORL	**Orlik**	**6.87**	**252**	*i*Pn	**Pn**	**02 48 52.2**	**+0.9**	
ORL				*e*Pg	Pb	02 49 13.4	+3.8	
ORL				*e*		02 49 20.0		
ORL				*i*		02 50 10.9		
ORL				*e*Sg	Sg	02 50 42.6	-7.3	
ORL				max				
	comp=E,3.0nm,0.6s							
ORL				Smax				
	comp=E,22nm,1.7s							
ORL	**Orlik**	**6.87**	**252**	*e*PN	**Pn**	**02 48 52.9**	**+1.6**	
ORL				*e*		02 49 14.6		
ORL				*e*		02 50 42.4		
ORL				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ORL				smax	smax			
	comp=N,21nm,0.6s							

PDG ***25*** *02:48:41.0±0.2, 43°.39N×17°.75E, h4km±1km, ML2.8/12, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
BEO ***25*** *02:48:41.0±0.4, 43°.40N×17°.64E, h6km±2km, ML2.7/9*
CSEM ***25*** *02:48:41.2±0.2, 43°.38N×17°.76E, h2km, ML2.7, Error ellipse: s-maj=4.6km s-min=3.0km az=48.0*

ISC 25 02:48:41.5±1.1, 43°.38N±0°.02×17°.76E±0°.02, h5km±10km, n72, σ1§02/117, 17C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.51**	**185**	*e*Pg	**Pg**	**02 48 50.6**	**-0.7**
STON				Sg	**Sg**	**02 48 59.0**	**+1.0**
STON	**Ston**	**0.51**	**185**	*e*Pg	**Pg**	**02 48 50.3**	**-1.1**
STON	**Ston**	**0.51**	**185**	*e*Pg	**Pg**	**02 48 50.3**	**-1.1**
STON				Sg	**Sg**	**02 48 59.0**	**+1.0**
BRY	**Bratogost**	**0.75**	**130**	⇓*i*Pg	**Pg**	**02 48 54.3**	**-1.6**
BRY				*e*Sg	**Sb**	**02 49 07.1**	**-0.5**
BRY	**Bratogost**	**0.75**	**130**	⇓*i*Pg	**Pg**	**02 48 54.3**	**-1.6**
BRY				*e*Sg	**Sb**	**02 49 07.1**	**-0.5**
UPM	**Unac-Piva**	**0.86**	**102**	⇑*i*Pg	**Pg**	**02 48 56.9**	**-1.1**
UPM				*e*Sg	**Sb**	**02 49 10.2**	**-0.7**
UPM	**Unac-Piva**	**0.86**	**102**	⇑*i*Pg	**Pg**	**02 48 56.9**	**-1.1**
UPM				*e*Sg	**Sb**	**02 49 10.2**	**-0.7**
NKY	**Niksic**	**1.07**	**122**	⇑*i*Pg	**Pg**	**02 49 00.8**	**-1.2**
NKY				*e*Sg	**Sn**	**02 49 18.1**	**-0.4**
NKY	**Niksic**	**1.07**	**122**	⇑*i*Pg	**Pg**	**02 49 00.8**	**-1.2**
NKME	**Niksic**	**1.07**	**125**	⇓*i*Pg	**Pg**	**02 49 00.4**	**-1.6**
NKME				*e*Sg	**Sn**	**02 49 17.9**	**-0.6**
NKME	**Niksic**	**1.07**	**125**	⇓*i*Pg	**Pg**	**02 49 00.4**	**-1.6**
HCY	**Herceg Novi**	**1.08**	**150**	⇑*i*Pg	**Pg**	**02 49 01.0**	**-1.2**
HCY				*e*Sg	**Sn**	**02 49 18.4**	**-0.3**
HCY	**Herceg Novi**	**1.08**	**150**	⇑*i*Pg	**Pg**	**02 49 01.0**	**-1.2**
HAPS	**Han Pijesak,Bl**	**1.11**	**51**	*e*Pg	**Pg**	**02 49 01.6**	**-1.3**
HAPS				*e*Sg	**Sb**	**02 49 18.5**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.11**	**51**	*e*Pg	**Pg**	**02 49 01.6**	**-1.3**
HAPS				*e*Sg	**Sb**	**02 49 18.5**	**+0.3**
PLE	**Pljevlja**	**1.19**	**92**	⇑*i*Pg	**Pg**	**02 49 02.9**	**-1.5**
PLE				*e*Sg	**Sn**	**02 49 21.9**	**+0.3**
PLE	**Pljevlja**	**1.19**	**92**	⇑*i*Pg	**Pg**	**02 49 02.9**	**-1.5**
PLE				*e*Sg	**Sn**	**02 49 21.9**	**+0.3**
BBLS	**Lazići**	**1.29**	**67**	*e*Pg	**Pg**	**02 49 05.7**	**-0.6**
BBLS				*e*Sg	**Sn**	**02 49 24.4**	**+0.4**
BBLS	**Lazići**	**1.29**	**67**	*e*Pg	**Pg**	**02 49 05.7**	**-0.6**
BBLS				*e*Sg	**Sn**	**02 49 24.4**	**+0.4**
BUM	**Brajici-Budva**	**1.37**	**142**	⇓*i*Pg	**Pn**	**02 49 06.6**	**-0.7**
BUM				*e*Sg	**Sn**	**02 49 27.9**	**+2.1**
BUM	**Brajici-Budva**	**1.37**	**142**	⇓*i*Pg	**Pn**	**02 49 06.6**	**-0.7**
BUM				*e*Sg	**Sn**	**02 49 27.9**	**+2.1**
BLY	**Banja Luka**	**1.43**	**343**	*e*Pg	**Pn**	**02 49 07.3**	**-0.8**
BLY				*e*Sg	**Sb**	**02 49 26.5**	**-0.6**
BLY	**Banja Luka**	**1.43**	**343**	*e*Pg	**Pn**	**02 49 07.3**	**-0.8**
BLY				*e*Sg	**Sb**	**02 49 26.5**	**-0.6**
PDG	**Podgorica**	**1.46**	**130**	*e*Pn	**Pg**	**02 49 09.6**	**+0.2**
PDG				*e*Sn	**Sg**	**02 49 29.6**	**+1.3**
PDG	**Podgorica**	**1.46**	**130**	⇓*i*Pg	**Pn**	**02 49 07.9**	**-0.5**
PDG	**Podgorica**	**1.46**	**130**	*e*Pn	**Pg**	**02 49 09.6**	**+0.2**
PDG				*e*Sn	**Sg**	**02 49 29.6**	**+1.3**
PDG				*e*Sg	**Sg**	**02 49 30.8**	**+2.5**
TTG	**Podgorica**	**1.46**	**130**	⇓*i*Pg	**Pn**	**02 49 07.9**	**-0.5**
TTG				*e*Sg	**Sg**	**02 49 30.8**	**+2.5**
DRME	**Dracevica, Mon**	**1.59**	**138**	⇑*i*Pn	**Pb**	**02 49 11.2**	**-0.2**
DRME				*e*Sn	**Sg**	**02 49 34.5**	**+1.9**
DRME	**Dracevica, Mon**	**1.59**	**138**	⇑*i*Pn	**Pb**	**02 49 11.2**	**-0.2**
DRME				*e*Sn	**Sg**	**02 49 34.5**	**+1.9**
SJES	**Sjenica**	**1.62**	**94**	*e*Pn	**Pn**	**02 49 10.8**	**-0.1**
BEY	**Berane**	**1.65**	**107**	⇓*i*Pn	**Pb**	**02 49 11.9**	**-0.5**
BEY				*e*Sn	**Sg**	**02 49 36.4**	**+2.0**
IVA	**Berane**	**1.65**	**107**	⇓*i*Pn	**Pb**	**02 49 11.9**	**-0.5**
IVA				*e*Sn	**Sg**	**02 49 36.4**	**+2.0**
TEKS	**Tekeris**	**1.73**	**47**	*e*Pn	**Pn**	**02 49 12.3**	**0.0**
TEKS				*e*Sg	**Sg**	**02 49 37.3**	**+0.5**
TEKS	**Tekeris**	**1.73**	**47**	*e*Pn	**Pn**	**02 49 12.3**	**0.0**
TEKS				*e*Sg	**Sg**	**02 49 37.6**	**+0.5**
IVAS	**Ivanjica**	**1.75**	**83**	*e*Pn	**Pn**	**02 49 12.7**	**+0.1**
IVAS				*e*Sn	**Sb**	**02 49 36.4**	**-0.2**
IVAS	**Ivanjica**	**1.75**	**83**	*e*Pn	**Pn**	**02 49 12.7**	**+0.1**
IVAS				*e*Sn	**Sb**	**02 49 36.4**	**-0.2**
DIVS	**Divibare**	**1.77**	**65**	*e*Pn	**Pn**	**02 49 13.4**	**+0.5**
DIVS				*e*Sn	**Sb**	**02 49 37.4**	**+0.4**
DIVS	**Divibare**	**1.77**	**65**	*e*Pn	**Pn**	**02 49 13.4**	**+0.5**
DIVS				*e*Sn	**Sb**	**02 49 37.4**	**+0.4**
ULC	**Ulcinj**	**1.79**	**142**	⇑*i*Pn	**Pb**	**02 49 14.0**	**-0.8**
ULC				*e*Sn	**Sg**	**02 49 40.4**	**+1.3**
ULC	**Ulcinj**	**1.79**	**142**	⇑*i*Pn	**Pb**	**02 49 14.0**	**-0.8**
ULC				*e*Sn	**Sg**	**02 49 40.4**	**+1.3**
PVY	**Plav**	**1.80**	**115**	*e*Pn	**Pb**	**02 49 14.8**	**-0.2**
PVY				*e*Sn	**Sg**	**02 49 40.9**	**+1.6**
PVY	**Plav**	**1.80**	**115**	*e*Pn	**Pb**	**02 49 14.8**	**-0.2**
PVY				*e*Sn	**Sg**	**02 49 40.9**	**+1.6**
UDBI	**Udbina**	**1.84**	**309**	*e*Pn	**Pb**	**02 49 15.0**	**-0.6**
UDBI				Sg	**Sg**	**02 49 42.1**	**+1.5**
UDBI	**Udbina**	**1.84**	**309**	*e*Pn	**Pb**	**02 49 15.0**	**-0.6**
UDBI				Sg	**Sg**	**02 49 42.0**	**+1.5**
TRUS	**Trudelj**	**2.09**	**65**	*e*Pn	**Pn**	**02 49 16.9**	**-0.3**
TRUS				*e*Sg	**Sg**	**02 49 50.0**	**+1.2**
TRUS	**Trudelj**	**2.09**	**65**	*e*Pn	**Pn**	**02 49 16.9**	**-0.3**
TRUS				*e*Sg	**Sg**	**02 49 50.0**	**+1.2**
GRUS	**Gruza**	**2.21**	**76**	*e*Pn	**Pn**	**02 49 18.7**	**-0.1**
GRUS				*e*Sn	**Sb**	**02 49 48.0**	**-1.5**
GRUS	**Gruza**	**2.21**	**76**	*e*Pn	**Pn**	**02 49 18.7**	**-0.1**
GRUS				*e*Sn	**Sb**	**02 49 48.0**	**-1.5**
FGSL	**Fruska Gora**	**2.31**	**39**	*e*Pn	**Pn**	**02 49 19.3**	**-0.9**
FRGS	**Fruska Gora**	**2.31**	**39**	*e*Pn	**Pn**	**02 49 19.3**	**-0.9**
NVLJ	**Novalja**	**2.39**	**301**	*e*Pn	**Pn**	**02 49 22.3**	**+1.0**
NVLJ				*e*Sn	**Sb**	**02 49 53.4**	**-1.4**
NVLJ	**Novalja**	**2.39**	**301**	*e*Pn	**Pn**	**02 49 22.3**	**+1.0**
NVLJ				*e*Sn	**Sb**	**02 49 53.4**	**-1.4**
SELS	**Selova**	**2.46**	**93**	*e*Pn	**Pn**	**02 49 22.4**	**+0.1**
SELS	**Selova**	**2.46**	**93**	*e*Pn	**Pn**	**02 49 22.4**	**+0.1**
PKSM	**Moragy**	**2.90**	**12**	⇑*e*	**Pn**	**02 49 27.7**	**-0.6**
PKSM				*e*		02 50 11.4	
BEHE	**Becsehely**	**3.17**	**348**	*e*PKPPKPdiff	**Pg**	**02 49 42.7**	**+0.6**
PKS2	**Kecel**	**3.28**	**18**	⇓*e*PKPPKPdiff	**Pg**	**02 49 43.5**	**-0.8**
ZAPS	**Zavoj**	**3.56**	**90**	*e*Pn	**Pn**	**02 49 38.5**	**+1.1**
SOKA	**Soboth**	**3.82**	**331**	⇑*i*Pn	**Pn**	**02 49 41.2**	**+0.2**
SOKA	**Soboth**	**3.82**	**331**	Pn	**Pn**	**02 49 41.2**	**+0.2**
PKST	**T‾'s**	**3.88**	**3**	⇓*e*Pn	**Pn**	**02 49 41.4**	**-0.4**
PKST	**T‾'s**	**3.88**	**3**	⇓*e*PKPPKPdiff	**Pn**	**02 49 41.4**	**-0.4**
CSKK	**Cs˙‡kako**	**4.00**	**5**	⇓*e*Pn	**Pn**	**02 49 44.3**	**+0.9**
CSKK	**Cs˙‡kako**	**4.00**	**5**	⇓*e*PKPPKPdiff	**Pn**	**02 49 44.3**	**+0.9**
PKSG		**4.03**	**6**	*e*Pn	**Pn**	**02 49 44.4**	**+0.5**
PKSG		**4.03**	**6**	*e*	**Pn**	**02 49 44.4**	**+0.5**
ARSA	**Arzberg**	**4.18**	**339**	⇑*i*Pn	**Pn**	**02 49 45.7**	**-0.2**
ARSA	**Arzberg**	**4.18**	**339**	Pn	**Pn**	**02 49 45.7**	**-0.2**
ABTA	**Abfaltersbach**	**5.01**	**314**	⇑*i*Pn	**Pn**	**02 49 58.1**	**+0.7**
ABTA	**Abfaltersbach**	**5.01**	**314**	Pn	**Pn**	**02 49 58.1**	**+0.7**
MOTA	**Moosalm**	**6.14**	**313**	⇑*i*Pn	**Pn**	**02 50 12.7**	**-0.2**
MOTA	**Moosalm**	**6.14**	**313**	Pn	**Pn**	**02 50 12.7**	**-0.2**

CSEM ***25*** *02:52:11.9, 38°.15N×21°.68E, h24km, MD2.6*

ATH 25 02:52:11.9, 38°.15N×21°.68E, h24km±1km, MD2.6/7, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.19**	**241**	*e*PB	Pb	02 52 17.2	-0.1
RLS				*e*SB	Sb	02 52 21.2	+0.2
RLS	**Riolos of Patr**	**0.19**	**241**	*e*Pb	Pb	02 52 17.2	-0.1
RLS				*e*Sb	Sb	02 52 21.2	+0.2
DRO	**Drossia**	**0.20**	**173**	*e*PB	Pb	02 52 17.4	-0.1
DRO				*e*SB	Sb	02 52 21.8	+0.5
DRO	**Drossia**	**0.20**	**173**	*e*Pb	Pb	02 52 17.4	-0.1
DRO				*e*Sb	Sb	02 52 21.8	+0.5
EFP	**Efpalio**	**0.33**	**33**	*e*PB	Pb	02 52 19.0	-0.3
EFP				*e*SB	Sb	02 52 24.6	+0.3
EFP	**Efpalio**	**0.33**	**33**	*e*Pb	Pb	02 52 19.0	-0.3
EFP				*e*Sb	Sb	02 52 24.6	+0.3
KLV	**Kalavryta, Ach**	**0.39**	**106**	*e*PB	Pb	02 52 20.2	-0.1
KLV				*e*SB	Sb	02 52 26.7	+0.7
KLV	**Kalavryta, Ach**	**0.39**	**106**	*e*Pb	Pb	02 52 20.2	-0.1
KLV				*e*Sb	Sb	02 52 26.7	+0.7
KALE	**Kalithea**	**0.43**	**56**	*e*PB	Pb	02 52 21.0	-0.1
KALE				*e*SB	Sb	02 52 28.1	+0.7
KALE	**Kalithea**	**0.43**	**56**	*e*Pb	Pb	02 52 21.0	-0.1
KALE				*e*Sb	Sb	02 52 28.1	+0.7
GUR	**Goura**	**0.56**	**112**	*e*PN	Pb	02 52 23.1	-0.2
GUR				*e*SN	Sb	02 52 32.0	+0.9
GUR	**Goura**	**0.56**	**112**	*e*Pn	Pb	02 52 23.1	-0.2
GUR				*e*Sn	Sb	02 52 32.0	+0.9
PDO	**Prodromos**	**0.59**	**319**	*e*PN	Pb	02 52 23.7	0.0
PDO				*e*SN	Sn	02 52 33.0	-0.8
PDO	**Prodromos**	**0.59**	**319**	*e*Pn	Pb	02 52 23.7	0.0
PDO				*e*Sn	Sn	02 52 33.0	-0.8
AMT	**Artemida-Makis**	**0.62**	**178**	*e*PN	Pb	02 52 24.6	+0.5
AMT	**Artemida-Makis**	**0.62**	**178**	*e*Pn	Pb	02 52 24.6	+0.5

BJI ***25*** *02:59:40.2, 4°.68N×94°.46E, h55km, mB4.7/21, mb4.8/32, Ms4.2/18, Ms7 3.8/18*
MOS ***25*** *02:59:43.8±0.9, 5°.32N×94°.50E, h43km, mb4.9/49, Error ellipse: s-maj=10.4km s-min=5.3km az=117.2*
ISCJB ***25*** *02:59:44.7±0.6, 5°.22N±0°.03×94°.40E±0°.04, h52km±5km, mb4.5/92, MS3.7/13, Error ellipse: s-maj=6.5km s-min=4.7km az=146.6*
SZGRF ***25*** *02:59:44.6, 5°.65N×94°.96E, h33km, mb4.6, Northern Sumatera, Indonesia*
NEIC ***25*** *02:59:46.7±0.5, 5°.27N×94°.42E, h55km±4km, mb4.7/28, Error ellipse: s-maj=5.5km s-min=3.4km az=224.0*
NEIC Felt [III] at Banda Aceh.
IDC ***25*** *02:59:46.3±0.6, 5°.33N×94°.39E, h47km±4km, mb4.1/25, mb1 4.2/27, mb1mx4.1/32, mbtmp4.3/27, MS3.6/14, Ms1 3.6/14, ms1mx3.4/34, Error ellipse: s-maj=17.9km s-min=9.7km az=43.0*
KLM ***25*** *02:59:47.7, 5°.27N×94°.48E, h53km, mb4.7, ML4.4, MS5.6*
DJA ***25*** *02:59:47.7±1.3, 5°.5N±5°×9°.5E±1°.1, h10km, M4.8/10, mb5.0/5, mB5.2/5, MLv4.7/10, Mw(mB)4.6/5*

ISC 25 02:59:46.2±0.4, 5°.21N±0°.04×94°.38E±0°.04, h53km±2km, h53km:pP-P, n334, σ1§34/380, mb4.6/92, MS3.6/13, 9C-12D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**0.96**	**73**	P	**Pn**	**03 00 02.7**	**-0.8**
BSI				S	**Sn**	**03 00 13.3**	**-2.9**
LHMI	**Lhok Sumawe**	**2.56**	**89**	P	**Pn**	**03 00 26.3**	**+1.0**
LHMI	**Lhok Sumawe** baz=2.5,SNR=20	**2.56**	**89**	P	**Pn**	**03 00 26.2**	**+1.0**
LHMI	**Lhok Sumawe**	**2.56**	**89**	*e*Pn	**Pn**	**03 00 26.1**	**+0.8**
SNSI	**Sinabang, Aceh**	**3.39**	**145**	P	**Pn**	**03 00 36.1**	**-0.6**
KCSI	**Kotacane, Aceh**	**3.77**	**116**	P	**Pn**	**03 00 42.7**	**+0.7**
PKDT	**Phuket**	**4.75**	**56**	P	**Pn**	**03 00 55.5**	**+0.2**
GSI	**Gunungsitoli**	**5.02**	**140**	P	**Pn**	**03 00 59.4**	**+0.3**
GSI	**Gunungsitoli**	**5.02**	**140**	*e*Pn	**Pn**	**03 00 58.9**	**-0.2**
GSI				*e*Sn	**Sn**	**03 01 53.5**	**-2.4**
PSI	**Prapat** 9.4nm,0.3s,baz=310,slow=17,SNR=26	**5.12**	**118**	P	**Pn**	**03 01 02.8**	**+2.2**
PSI	4.5nm,0.3s,baz=342,slow=20,SNR=2.3			S	**Sn**	**03 02 02.4**	**+3.8**
PSI	comp=Z,522nm,19.2s,baz=290,slow=42			LR	LR	03 03 28.4	
SURT	**Suratani**	**5.75**	**49**	P	**Pn**	**03 01 09.5**	**+0.4**
KULM	**Kulim**	**6.25**	**89**	⇑P	**Pn**	**03 01 15.2**	**-0.7**
KULM	**Kulim**	**6.25**	**89**	⇑S	**Sn**	**03 02 25.7**	**-0.3**
KULM	**Kulim**	**6.25**	**89**	*e*Pn	**Pn**	**03 01 16.2**	**+0.3**
KULM				*e*Sn	**Sn**	**03 02 21.7**	**-4.3**
SKLT	**Songkhla** 110nm,0.6s,1μm0.4nm	**6.50**	**72**	P	**Pn**	**03 01 20.8**	**+1.4**
IPM	**Ipoh**	**6.66**	**96**	⇓P	**Pn**	**03 01 22.1**	**+0.5**
IPM	**Ipoh**	**6.66**	**96**	*e*Pn	**Pn**	**03 01 20.9**	**-0.8**
IPM				*e*Sn	**Sn**	**03 02 31.9**	**-4.4**
MNSI	**Mandailing Nat** 94nm,0.8s,6μm0.5nm	**6.79**	**130**	P	**Pn**	**03 01 24.3**	**+0.9**
FRIM	**Kepong**	**7.49**	**105**	⇓P	**Pn**	**03 01 33.7**	**+0.8**
KGM	**Kluang**	**9.47**	**109**	⇓P	**Pn**	**03 02 00.3**	**+0.2**
SRDT	**SRDT** 54nm,0.6s	**10.21**	**27**	P	Pn	03 02 18.0	+7.8
CHBT	**CHBT** 80nm,0.6s,3μm	**10.85**	**46**	P	**Pn**	**03 02 20.6**	**+

KKM **Kota Kinabalu** 21.75 87 *e*P P 03 04 31.2 -2.5
ODAN **Odare** 22.54 344 *e*P P 03 04 40.0 -2.2
comp=Z,26nm,0.5s
RAMN **Ramite** 22.86 342 *e*P P 03 04 43.9 -1.6
comp=Z,33nm,0.5s
TAPN **Taplejung** 22.92 345 *e*P P 03 04 43.5 -2.7
comp=Z,38nm,0.6s
JIRN **Jiri** 23.65 342 *e*P P 03 04 51.5 -1.9
comp=Z,61nm,0.8s
PKI **Pulchoki** 23.82 340 *e*P P 03 04 52.9 -2.0
comp=Z,20nm,0.5s
PKIN **Phulchoki** 23.83 340 *e*P P 03 04 53.0 -1.9
comp=Z,20nm,0.6s
DMN **Daman** 23.96 339 *e*P P 03 04 54.9 -1.2
comp=Z,20nm,0.6s
GUN **Gumba** 23.98 341 *e*P P 03 04 55.0 -1.4
comp=Z,44nm,0.6s
KKN **Kakani** 24.07 340 *e*P P 03 04 55.5 -1.5
comp=Z,24nm,0.6s
LSA **Lhasa** 24.55 353 *e*P P 03 05 01.6 -0.1
LSA pmax pmax
comp=Z,30nm,0.7s
LSA **Lhasa** 24.55 353 *e*P P 03 05 01.6 -0.1
comp=Z,30nm,0.7s
DANN **Dangsing** 25.13 338 *e*P P 03 05 06.3 -0.5
comp=Z,64nm,0.5s
H08S3 **Diego Garcia H** 25.29 240 T T 03 31 07.1
baz=59,slow=75,SNR=585
H08S2 **Diego Garcia H** 25.30 240 T T 03 31 00.7
baz=59,slow=75,SNR=613
H08S1 **Diego Carcia H** 25.31 240 T T 03 31 04.6
baz=59,slow=75,SNR=498
CD2 **Chengdu** 27.05 18 *e*P P 03 05 26.0 +2.2
CD2 pP pP 03 05 40.3 +3.1
CD2 sP sP 03 05 47.3 +3.8
CD2 PP PnPn 03 06 14.1 +5.3
CD2 S S 03 09 58.3 +0.3
CD2 sS sS 03 10 22.4 +1.6
CD2 SS SnSn 03 11 16.3 +7.5
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LE
comp=Z,150nm,19.6s
CD2 LZ
comp=Z,210nm,19.6s
KAPI **Kappang** 27.30 111 *e*P P 03 05 26.9 +0.7
comp=Z,3.4nm,1.3s
ENH **Enshi** 28.71 28 *e*P P 03 05 37.3 -1.3
WHN **Wuhan** 31.44 34 P P 03 06 09.6 +6.8
WHN S S 03 11 41.3 +34
WHN LR LR
comp=Z,510nm,13.1s
XAN **Xi'an** 31.71 23 P P 03 06 03.5 -1.6
XAN pP pP 03 06 19.0 +0.4
XAN PMZ
comp=Z,8.0nm,0.7s
XAN LZ
comp=Z,75nm,19.3s
GTA **Gaotai** 34.40 7 *e*P P 03 06 27.8 -0.8
GTA pP pP 03 06 40.8 -1.4
GTA sP sP 03 06 45.3 -3.2
GTA S S 03 11 52.8 -0.2
GTA SS SnSn 03 14 07.3 -0.1
GTA PMZ
comp=Z,13nm,1.1s
GTA PMZ
comp=Z,75nm,5.7s
GTA LN
comp=Z,680nm,17.6s
GTA LE
comp=Z,800nm,17.6s
GTA LZ
comp=Z,160nm,17.8s
NJ2 **Nanjing** 35.18 38 *e*P P 03 06 35.3 0.0
NJ2 PMZ
comp=Z,20nm,0.6s
KSH **Kashi** 37.99 337 *e*P P 03 07 00.6 +1.3
KSH pP pP 03 07 15.8 +2.8
KSH PP PnPn 03 08 32.3 +3.6
KSH S S 03 12 48.0 +0.1
KSH PcS PcS 03 13 03.4 +0.3
KSH ScS ScS 03 17 04.8 -2.1
KSH PMZ
comp=Z,49nm,4.3s
KSH LN
comp=Z,140nm,4.7s
KSH LE
comp=Z,98nm,5.6s
KSH LZ
comp=Z,210nm,18.3s
FAKI **Fak Fak** 38.68 101 P P 03 07 05.2 -0.1
baz=39,SNR=4.9
FAKI **Fak Fak** 38.68 101 *e*P P 03 07 04.7 -0.6
comp=Z,10nm,0.7s
HHC **Hu-ho-hao-te** 38.69 21 *e*P P 03 07 06.6 +1.5
HHC PP PnPn 03 08 40.4 +3.3
HHC S S 03 12 58.9 +0.5
HHC sS sS 03 13 24.8 +3.2
HHC SS SS 03 15 43.8 -6.7
HHC PMZ
comp=Z,12nm,0.7s
HHC PMZ
comp=Z,90nm,7.4s
HHC LN
comp=Z,190nm,21.0s
HHC LE
comp=Z,97nm,17.3s
HHC LZ
comp=Z,150nm,17.3s
WMQ **Urumqi** 38.91 352 P P 03 07 07.8 +1.0
WMQ PMZ
comp=Z,11nm,0.6s
WMQ PMZ
comp=Z,120nm,4.2s
WMQ LZ
comp=Z,190nm,18.3s
BJI **Beijing** 39.85 26 P P 03 07 15.4 +0.7
BJI sP sP 03 07 35.1 +0.4
BJI S ScP 03 13 08.9 +4.4
BJI ScS ScS 03 17 15.9 -1.5
BJI PMZ
comp=Z,22nm,0.6s
BJI LN
comp=Z,180nm,14.1s
BJI LE
comp=Z,95nm,5.0s
BJI LZ
comp=Z,85nm,29.0s
ULHL **Ulahol** 40.26 339 P P 03 07 17.7 -0.6
SNR=7.8
ULHL **Ulahol** 40.26 339 *i* P P 03 07 17.7 -0.6
MTN **Manton Dam** 40.68 116 P P 03 07 21.2 -0.7
baz=41,SNR=16
UCH **Uchtor** 40.88 337 P P 03 07 24.4 +0.6
SNR=6.0
UCH **Uchtor** 40.88 337 *i* P P 03 07 24.3 +0.6
TKM2 **Tokmak 2** 41.08 339 *e*P P 03 07 24.4 -0.7
TKM2 pmax pmax
comp=Z,5.0nm,0.5s
TKM2 **Tokmak 2** 41.08 339 *e*P P 03 07 24.4 -0.7
comp=Z,5.3nm,0.5s
AML **Almayashu** 41.12 336 P P 03 07 26.4 +0.8
SNR=15
AAK **Ala-Archa** 41.24 338 P P 03 07 27.0 +0.7
comp=Z,2.4nm,0.5s,baz=140,slow=5.2,SNR=8.5
AAK **Ala-Archa** 41.24 338 *e*P P 03 07 27.3 +1.0
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK **Ala-Archa** 41.24 338 *e*P P 03 07 27.1 +0.7
comp=Z,6.7nm,0.8s
EKS2 **Erkin-Say** 41.54 337 P P 03 07 29.7 +1.0
SNR=7.0
EKS2 **Erkin-Say** 41.54 337 *e*P P 03 07 29.7 +1.0
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 **Erkin-Say** 41.54 337 *e*P P 03 07 29.7 +1.0
comp=Z,6.5nm,0.8s
USP **Ospenovka** 41.78 338 P P 03 07 30.6 -0.1
SNR=10
USP **Ospenovka** 41.78 338 *i* P P 03 07 30.5 -0.1
KDU **Kakadu** 41.82 115 P P 03 07 30.9 -0.4
baz=42,SNR=4.6
MKAR **Makanchi Array** 42.73 348 P P 03 07 38.4 +0.1
comp=Z,21nm,0.6s,baz=158,slow=7.9,SNR=217

MKAR **Makanchi Array** 42.73 348 *e*P P 03 07 38.0 -0.2
MKAR pmax pmax
comp=Z,21nm,0.6s
KKAR **Karatay Array** 43.24 334 *e*P P 03 07 42.5 0.0
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR **Karatay Array** 43.24 334 *e*P P 03 07 42.5 0.0
comp=Z,3.4nm,0.6s
SONM **Songino Array** 43.70 12 P P 03 07 45.1 -1.1
comp=Z,4.6nm,0.7s,baz=192,slow=8.8,SNR=21
SONM pP pP 03 07 57.4 -2.8
comp=Z,7.4nm,1.0s,baz=189,slow=7.8,SNR=9.8
SONM PcP PcP 03 09 33.0 +0.5
comp=Z,2.2nm,0.5s,baz=194,slow=3.9,SNR=5.7
ULN **Ulaanbaatar** 43.87 12 *e*P P 03 07 46.4 -1.1
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN **Ulaanbaatar** 43.87 12 *e*P P 03 07 46.5 -1.1
comp=Z,8.2nm,1.2s
ULN *e*pP pP 03 07 58.8 -2.7
JNU **Nakatsue** 43.87 46 P P 03 07 47.6 -0.1
comp=Z,4.8nm,0.7s,baz=270,slow=1.0,SNR=3.9
JNU LR LR 03 28 24.9
comp=Z,71nm,18.7s,slow=39
H01W3 **Cape Leeuwin H** 44.01 156 T T 03 55 05.5
baz=330
H01W2 **Cape Leeuwin H** 44.02 156 T T 03 55 05.5
baz=330
H01W1 **Cape Leeuwin H** 44.02 156 T T 03 55 05.5
baz=330
KSAR **Wonju Array Be** 44.31 39 P P 03 07 51.1 0.0
KSAR **Wonju Array Be** 44.31 39 P P 03 07 51.1 0.0
KSRS **Korea Array** 44.34 39 P P 03 07 51.1 -0.2
comp=Z,1.9nm,0.9s,baz=227,slow=9.3,SNR=7.1
KSRS LR LR 03 27 58.4
comp=Z,67nm,18.5s,baz=242,slow=38
WRKA **Warakurna** 44.62 134 P P 03 07 54.6 +0.8
baz=45,SNR=8.4
ZAK **Zakamensk** 45.64 8 *e*P P 03 07 58.6 -3.0
ZAK pmax pmax
comp=Z,3.0nm,1.6s
GEYT **Alibeck** 46.35 320 P P 03 08 08.2 +0.9
comp=Z,3.9nm,0.6s,baz=142,slow=7.3,SNR=8.7
ISAD **Sadrabad** 46.40 310 *e*P P 03 08 06.7 -1.4
WRA **Warramunga Arr** 46.56 124 P P 03 08 09.7 +0.5
comp=Z,8.0nm,0.7s,baz=302,slow=9.1,SNR=50
WRA PcP PcP 03 09 43.3 +0.5
comp=Z,0.4nm,0.3s,baz=317,slow=3.5,SNR=2.2
WRA **Warramunga Arr** 46.56 124 *i* P P 03 08 09.6 +0.5
WRA pmax pmax
comp=Z,11nm,0.7s
WRAB **Tennant Creek** 46.57 124 *e*P P 03 08 08.3 -0.9
WRAB pmax pmax
comp=Z,36nm,0.8s
WRAB **Tennant Creek** 46.57 124 *e*P P 03 08 10.0 +0.7
comp=Z,13nm,0.7s
WB2 **Warramunga Arr** 46.57 124 *e*P P 03 08 09.6 +0.3
TLY **Talaya** 46.96 8 LR LR 03 29 05.1
comp=Z,66nm,19.1s,baz=180,slow=38
TLY **Talaya** 46.96 8 *e*P P 03 08 11.6 -0.2
TLY pmax pmax
comp=Z,5.0nm,1.4s
KURBB **Kurchatov Arra** 47.17 346 P P 03 08 13.5 +0.1
comp=Z,15nm,0.6s,baz=172,slow=6.9,SNR=206
KURBB pP pP 03 08 25.6 -1.9
comp=Z,20nm,0.9s,baz=168,slow=6.8,SNR=19
KURBB PcP PcP 03 09 44.5 +0.2
comp=Z,0.8nm,0.5s,baz=164,slow=3.1,SNR=2.2
KURK **Kurchatov** 47.24 346 P P 03 08 13.5 -0.5
KURK *PP pP 03 08 25.7 -2.4
KURK 03 09 44.5
KURK **Kurchatov** 47.24 346 P P 03 08 13.5 -0.5
KURK pP pP 03 08 25.6 -2.4
KURK PcP PcP 03 09 44.5 0.0
AS31 **Alice Springs** 48.06 128 *e*P P 03 08 21.2 +0.3
ASAR **Alice Springs** 48.06 128 P P 03 08 21.3 +0.5
comp=Z,1.9nm,0.4s,baz=300,slow=7.7,SNR=45
ASAR PcP PcP 03 09 48.6 +0.5
comp=Z,0.9nm,0.4s,baz=312,slow=2.8,SNR=2.6
ASAR LR LR 03 30 07.9
comp=Z,45nm,20.6s,baz=343,slow=38
ZALV **Zalesovo Beam** 49.21 353 P P 03 08 29.1 -0.1
comp=Z,9.2nm,0.3s,baz=186,slow=7.3,SNR=70
ZALV pP pP 03 08 40.2 -3.1
comp=Z,11nm,0.8s,baz=178,slow=7.4,SNR=7.6
ZALV PcP PcP 03 09 50.9 -0.7
comp=Z,0.5nm,0.3s,baz=141,slow=4.8,SNR=1.5
NVS **Novosibirsk** 50.30 352 *e*P P 03 08 36.5 -0.8
NVS *e* 03 08 48.1
NVS *e*S S 03 15 48.4 +2.3
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=Z,13nm,0.9s
NVS smax smax
comp=E,10.0nm,1.6s
MJAR **Matsushiro Arr** 50.80 46 P P 03 08 42.5 +1.0
comp=E,1.3nm,0.8s,baz=234,slow=7.1,SNR=6.2
MJAR LR LR 03 32 09.7
comp=E,52nm,18.9s,baz=320,slow=38
USRK **Ussuriysk Ar.** 50.94 34 P P 03 08 41.9 -0.5
comp=E,1.4nm,0.5s,baz=236,slow=7.1,SNR=7.1
USRK pP pP 03 08 54.3 -2.3
comp=E,1.4nm,0.6s,baz=247,slow=7.5,SNR=3.6
USRK LR LR 03 32 20.7
comp=E,65nm,19.8s,baz=178,slow=38
QIS **Mount Isa** 51.26 121 P P 03 08 45.8 +0.6
baz=51,SNR=6.1
BVAR **Borovoye Array** 51.58 342 P P 03 08 46.5 -0.5
comp=E,5.0nm,0.6s,baz=138,slow=8.9,SNR=26
BVAR pP pP 03 08 59.4 -1.8
comp=E,10nm,1.0s,baz=149,slow=6.7,SNR=6.1
BRVK **Borovoye** 51.64 342 *e*P P 03 08 47.4 -0.1
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BRVK **Borovoye** 51.64 342 *e*P P 03 08 47.3 -0.2
comp=Z,5.7nm,0.7s
BRVK *e*pP pP 03 09 00.5 -1.3
COEN **Coen** 52.02 112 *e*P P 03 08 50.6 -0.4
KLR **Kul'dur** 54.06 29 *e*P P 03 09 14.0 +8.6
KLR pmax pmax
comp=Z,45nm,2.0s
PMG **Port Moresby** 54.56 105 *e*P P 03 09 09.7 +0.1
PMG pmax pmax
comp=Z,6.0nm,0.8s
PMG **Port Moresby** 54.56 105 *e*P P 03 09 09.7 +0.1
comp=Z,6.5nm,0.8s
BOD **Bodaibo** 54.68 13 *e*P P 03 09 08.7 -1.0
BOD *PP pP 03 09 21.3 -2.8
BOD pmax pmax
comp=Z,6.0nm,1.0s
BOD pmax pmax
comp=Z,9.0nm,1.1s
GNI **Garni** 56.48 316 *e*P P 03 09 22.3 -0.9
GNI **Garni** 56.48 316 *e*P P 03 09 22.3 -0.9
CTAO **Charters Tower** 56.83 118 *e*P P 03 09 25.7 -0.1
CTAO pmax pmax
comp=Z,13nm,1.3s
CTAO **Charters Tower** 56.83 118 *e*P P 03 09 25.7 -0.1
comp=Z,13nm,1.3s
QLP **Quilpie** 57.67 126 P P 03 09 33.0 +1.4
baz=58,SNR=5.0
SVE **Sverdlovsk** 57.95 339 *e*P P 03 09 33.4 +0.3
STKA **Stephens Creek** 58.12 133 P P 03 09 35.2 +0.5
comp=Z,1.5nm,0.7s,baz=315,slow=7.1,SNR=2.5
STKA LR LR 03 38 23.0
comp=Z,39nm,18.6s,baz=22,slow=40
ZEI **Tsey** 58.16 318 *e*P P 03 09 32.5 -2.6
ZEI pmax pmax
comp=Z,4.0nm,0.7s
ARU **Arti** 58.42 338 *d i*P pP 03 09 50.1 -0.8
ARU pmax pmax
comp=Z,21nm,1.2s
ARU **Arti** 58.42 338 *e*P P 03 09 35.7 -0.6
comp=Z,16nm,1.1s
KBZ **Khabaz** 59.22 319 P P 03 09 41.7 -0.4
comp=Z,2.3nm,0.9s,baz=146,slow=2.2
KIV **Kislovodsk** 59.45 319 *e*P P 03 09 43.2 -0.7
KIV pmax pmax
comp=Z,6.0nm,1.0s
CMSA **Cobar Meteorol** 61.01 130 P P 03 09 55.9 +1.3
baz=61,SNR=17
CSS **Prodhromos** 63.42 307 *e*P P 03 10 10.5 -0.3
comp=Z,1.0nm,0.7s
BRTR **Keskin Array B** 64.35 312 P P 03 10 16.3 -0.7
comp=Z,2.0nm,0.7s,baz=121,slow=7.1,SNR=19

PRGR **Permogore** 66.87 337 P P 03 10 30.9 -1.6
PRGR *PP pP 03 10 41.2 -6.1
PRGR *e*SP sP 03 10 45.5 -7.7
PRGR *e* 03 10 57.5
PRGR pmax pmax
comp=Z,5.0nm,0.4s
OBN **Obninsk** 67.75 328 *e*P P 03 10 35.8 -2.4
OBN *i* 03 10 53.0
OBN pmax pmax
comp=Z,8.0nm,1.0s
LSZ **Lusaka** 68.63 251 *e*P P 03 10 45.8 +1.2
LSZ pmax pmax
comp=Z,10.0nm,1.4s
LSZ **Lusaka** 68.63 251 *e*P P 03 10 45.8 +1.2
comp=Z,10nm,1.4s
KLMR **Klimovskoe** 68.95 335 *e*P pP 03 10 58.8 -1.6
KLMR pmax pmax
comp=Z,18nm,1.3s
TIXI **Tiksi** 69.78 11 *e*P P 03 10 49.2 -1.4
TIXI pmax pmax
comp=Z,21nm,1.4s
TIXI **Tiksi** 69.78 11 *e*P P 03 10 49.2 -1.4
comp=Z,21nm,1.4s
PETK **Petropavlovsk-** 70.03 35 LR LR 03 40 46.1
comp=Z,18nm,21.9s,baz=244,slow=35
AKASG **Malin Array Be** 70.39 322 P P 03 10 53.2 -1.5
comp=Z,0.8nm,0.4s,baz=87,slow=5.7,SNR=8.4
KIEV **Kiev** 70.39 322 *e*P P 03 10 53.0 -1.7
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV **Kiev** 70.39 322 *e*P P 03 10 53.0 -1.7
comp=Z,3.4nm,0.6s
VRI **Vrincioaia** 70.78 317 ⇓ *i*P P 03 10 58.3 +1.0
PLOR **Plostina** 70.83 317 ⇓ *i*P P 03 10 58.6 +1.0
MLR **Muntele Rosu** 71.24 316 ⇑ *i*P P 03 11 01.0 +0.8
VOIR 71.85 316 ⇑ *i*P P 03 11 03.8 0.0
MMB **Musomiste** 72.11 312 ⇓ *i*P P 03 11 05.2 -0.2
ARR **Arges** 72.12 316 ⇓ *i*P P 03 11 05.4 0.0
BURAR **Bucovina Array** 72.18 318 ⇓ *i*P P 03 11 06.6 +0.9
VTS **Vitosha** 72.65 313 ⇓ *i*P P 03 11 08.9 +0.2
KWP **Kalwaria Pacla** 74.21 320 ⇓ *i*P P 03 11 18.3 +0.7
KOLS **Kolonicke sedl** 74.36 319 *e*P P 03 11 19.0 +0.5
KOLS **Kolonicke sedl** 74.36 319 *e*P P 03 11 19.0 +0.5
CRVS **Cervenica-Dubn** 74.88 319 *e*P P 03 11 20.8 -0.7
CRVS pmax pmax
comp=Z,12nm,1.6s
CRVS **Cervenica-Dubn** 74.88 319 *e*P P 03 11 20.8 -0.7
STHS **Stebnicka Huta** 75.11 320 *e*P P 03 11 23.9 +1.1
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS **Stebnicka Huta** 75.11 320 *e*P P 03 11 23.9 +1.1
FINES **FINESS Array B** 75.17 332 P P 03 11 22.4 -0.4
comp=Z,1.8nm,0.7s,baz=102,slow=5.3,SNR=17
KAF **Kangasniemi** 75.26 333 *e*p P 03 11 22.4 -0.9
comp=Z,4.5nm,0.8s
KAF **Kangasniemi** 75.26 333 *e*P P 03 11 22.4 -0.9
KAF pmax pmax
comp=Z,5.0nm,0.8s
PSZ **Piszkesteto** 75.76 318 *e*P P 03 11 26.5 -0.2
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ **Piszkesteto** 75.76 318 *e*P P 03 11 26.5 -0.2
comp=Z,4.4nm,0.8s
VYHS **Vyhne** 76.54 319 *e*P P 03 11 30.8 -0.2
VYHS **Vyhne** 76.54 319 *e*P P 03 11 30.8 -0.2
OKC **Ostrava-Krasne** 77.16 320 *e*P P 03 11 34.9 +0.5
OKC **Ostrava-Krasne** 77.16 320 *e*P P 03 11 34.9 +0.5
MORC **Moravsky Berou** 77.54 320 *e*P P 03 11 36.5 -0.1
MORC *e*PP pP 03 11 52.8 +1.1
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC **Moravsky Berou** 77.54 320 *e*P P 03 11 36.5 -0.1
comp=Z,6.9nm,1.1s
MORC *e*pP pP 03 11 52.8 +1.1
ARCES **ARCESS Array B** 77.84 340 P P 03 11 37.8 0.0
comp=Z,1.3nm,0.5s,baz=94,slow=6.6,SNR=11
ARCES pP pP 03 11 53.1 +0.3
comp=Z,2.0nm,0.5s,baz=89,slow=5.5,SNR=1.9
ARCES LR LR 03 48 16.1
comp=Z,43nm,19.1s,baz=126,slow=37
DPC **Dobruska-Polom** 78.39 320 *e*P P 03 11 42.2 +0.9
DPC *ex* x 03 11 44.9
DPC *e*pP pP 03 11 56.5 +0.1
DPC **Dobruska-Polom** 78.39 320 *e*P P 03 11 42.0 +0.7
DPC pmax pmax
comp=Z,61nm,1.4s
DPC **Dobruska-Polom** 78.39 320 *e*P P 03 11 42.0 +0.7
comp=Z,61nm,1.4s
KSP **Ksiaz** 78.46 321 ⇑ *e*P P 03 11 42.4 +0.8
BILL **Bilibino** 78.46 21 *e*P P 03 11 40.5 -0.8
BILL **Bilibino** 78.46 21 *e*P P 03 11 40.5 -0.8
TREC **Trest** 78.83 319 *e*P P 03 11 41.2 -2.5
TREC *ex* x 03 11 55.2
TREC **Trest** 78.83 319 *e*P P 03 11 41.2 -2.5
TREC *e* 03 11 55.2
SOKA **Soboth** 78.92 316 ⇓ *i*P P 03 11 44.7 +0.3
comp=Z,8.6nm,1.2s
GOPC **GO Pecny, Ondr** 79.33 320 *e*P P 03 11 47.1 +0.6
PRU **Pruhonice** 79.50 320 *e*P P 03 11 48.0 +0.7
PRU *e*pP pP 03 12 01.8 -0.6
PRU **Pruhonice** 79.50 320 *e*P P 03 11 48.0 +0.7
PRU *e* 03 12 01.8
AQU **L'Aquila** 79.85 312 *e*P P 03 11 50.1 +0.7
AQU pmax pmax
comp=Z,17nm,1.3s
AQU **L'Aquila** 79.85 312 *e*P P 03 11 50.1 +0.7
comp=Z,17nm,1.3s
BRG **Berggiesshubel** 79.94 321 *e*P P 03 11 50.5 +0.7
comp=Z,3.8nm,0.7s
BRG *e* 03 12 04.5
comp=Z,1.8nm,0.6s
BRG **Berggiesshubel** 79.94 321 *e*P P 03 11 50.4 +0.7
comp=Z,4.0nm,0.7s
BRG **Berggiesshubel** 79.94 321 *e*P P 03 11 50.5 +0.7
BRG *e* 03 12 04.5
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,2.0nm,0.6s
GERES **GERESS Array B** 79.96 319 P P 03 11 50.7 +0.7
comp=Z,4.3nm,0.7s,baz=99,slow=5.3,SNR=54
GERES pP pP 03 12 04.6 -0.5
comp=Z,2.2nm,0.7s,baz=109,slow=5.3,SNR=7.1
KHC **Kasperske Hory** 80.06 319 *e*P P 03 11 51.0 +0.5
KHC *e*pP pP 03 12 05.0 -0.6
KHC **Kasperske Hory** 80.06 319 *e*P P 03 11 51.0 +0.5
KHC *e* 03 12 05.0
WET **Wettzell** 80.52 319 *e*P P 03 11 53.5 +0.6
comp=Z,4.0nm,0.8s
TANN **Tannenbergstha** 80.86 320 *e*P P 03 11 55.2 +0.5
comp=Z,4.0nm,1.1s
MSKU **Masuku** 80.96 268 LR LR 03 44 00.3
comp=Z,61nm,21.3s,baz=122,slow=33
ROTZ **Rotzenmuhle** 80.99 319 *e*P P 03 11 56.4 +1.0
comp=Z,4.0nm,0.7s
WTTA **Wattenberg** 81.27 317 ⇑ *i*P P 03 11 56.9 -0.3
comp=Z,5.0nm,0.6s
MOX **Moxa** 81.41 320 *e*P P 03 11 58.0 +0.4
comp=Z,2.0nm,0.6s
GRF **Grafenberg Arr** 81.63 319 *e*P P 03 11 59.8 +1.0
comp=Z,6.0nm,0.9s
RETA **Reutte** 81.87 317 ⇑ *i*P P 03 12 00.2 0.0
comp=Z,6.4nm,0.5s
NB2 **NORSAR Subarra** 82.16 331 P P 03 12 00.5 -0.8
comp=Z,3.4nm,1.2s,baz=93,slow=6.2
NOA **NORSAR Array B** 82.16 331 P P 03 12 00.9 -0.4
comp=Z,0.4nm,0.7s,baz=98,slow=5.4,SNR=3.0
NOA pP pP 03 12 17.1 +0.6
comp=Z,1.2nm,0.8s,baz=92,slow=5.4,SNR=4.3
NOA LR LR 03 51 31.7
comp=Z,24nm,20.2s,baz=190,slow=38
CLZ **Clausthal** 82.23 321 *e*P P 03 12 02.4 +0.5
comp=Z,8.0nm,1.1s
BSEG **Bad Segeberg** 82.32 324 *e*P P 03 12 02.9 +0.7
comp=Z,6.0nm,0.9s
KEST **Kesra** 82.96 305 P P 03 12 06.0 -0.1
comp=Z,0.7nm,0.6s,baz=275,slow=11,SNR=2.5
KEST **Kesra** 82.96 305 *e*P P 03 12 05.8 -0.3
PGF **Pioggiola** 83.11 312 *e*P P 03 12 06.7 -0.1
PGF **Pioggiola** 83.11 312 *e*P P 03 12 06.7 -0.1
PGF **Pioggiola** 83.11 312 *e*P P 03 12 06.7 -0.1
IBBN **Ibbenburen** 83.85 322 *e*P P 03 12 10.7 +0.5
comp=Z,6.0nm,0.8s
CDF **Champ du Feu** 84.22 318 *e*P P 03 12 12.0 -0.3
comp=Z,3.2nm,0.7s

CDF	**Champ du Feu**	**84.22 318**	*e*P	**P**	**03 12 12.0**	**-0.3**
CDF			pmax	pmax		
	comp=Z,3.0nm,0.7s					
CDF	**Champ du Feu**	**84.22 318**	*e*P	**P**	**03 12 12.0**	**-0.3**
	comp=Z,3.2nm,0.7s					
SBF	**Sospel**	**84.22 313**	*e*P	**P**	**03 12 12.7**	**+0.3**
SBF	**Sospel**	**84.22 313**	*e*P	**P**	**03 12 12.7**	**+0.3**
SBF	**Sospel**	**84.22 313**	*e*P	**P**	**03 12 12.7**	**+0.3**
SENIN	**Lac Senin/Sane**	**84.25 316**	*e*P	**P**	**03 12 13.8**	**+1.1**
LPG	**La Plagne**	**84.66 315**	*e*P	**P**	**03 12 15.2**	**+0.3**
	comp=Z,4.6nm,0.6s					
LPG	**La Plagne**	**84.66 315**	*e*P	**P**	**03 12 15.2**	**+0.3**
LPG			pmax	pmax		
	comp=Z,5.0nm,0.6s					
LPG	**La Plagne**	**84.66 315**	*e*P	**P**	**03 12 15.2**	**+0.3**
	comp=Z,4.6nm,0.6s					
LPL	**La Plagne**	**84.67 315**	*e*P	**P**	**03 12 15.2**	**+0.4**
	comp=Z,9.7nm,0.8s					
LPL	**La Plagne**	**84.67 315**	*e*P	**P**	**03 12 15.2**	**+0.4**
LPL			pmax	pmax		
	comp=Z,10.0nm,0.8s					
LPL	**La Plagne**	**84.67 315**	*e*P	**P**	**03 12 15.2**	**+0.4**
	comp=Z,9.7nm,0.8s					
BNI	**Bardonecchia**	**84.72 315**	*e*P	**P**	**03 12 13.7**	**-1.3**
BNI			pmax	pmax		
	comp=Z,6.0nm,1.1s					
BNI	**Bardonecchia**	**84.72 315**	*e*P	**P**	**03 12 13.7**	**-1.3**
	comp=Z,6.1nm,1.1s					
FRF	**La Foret Royal**	**84.80 313**	*e*P	**P**	**03 12 15.7**	**+0.4**
	comp=Z,4.2nm,0.6s					
FRF	**La Foret Royal**	**84.80 313**	*e*P	**P**	**03 12 15.7**	**+0.4**
FRF			pmax	pmax		
	comp=Z,4.0nm,0.6s					
FRF	**La Foret Royal**	**84.80 313**	*e*P	**P**	**03 12 15.7**	**+0.4**
	comp=Z,4.2nm,0.6s					
HAU	**Haudompre**	**84.85 318**	*e*P	**P**	**03 12 15.3**	**-0.1**
	comp=Z,8.5nm,0.6s					
HAU			*e*R			
	comp=Z,36nm,20.8s					
HAU	**Haudompre**	**84.85 318**	*e*P	**P**	**03 12 15.3**	**-0.1**
HAU			pmax	pmax		
	comp=Z,9.0nm,0.6s					
HAU	**Haudompre**	**84.85 318**	*e*P	**P**	**03 12 15.3**	**-0.1**
	comp=Z,8.5nm,0.6s					
LMR	**La Mourre**	**84.91 313**	*e*P	**P**	**03 12 16.6**	**+0.8**
	comp=Z,4.6nm,0.7s					
LMR	**La Mourre**	**84.91 313**	*e*P	**P**	**03 12 16.6**	**+0.8**
LMR			pmax	pmax		
	comp=Z,5.0nm,0.6s					
LMR	**La Mourre**	**84.91 313**	*e*P	**P**	**03 12 16.6**	**+0.8**
	comp=Z,4.6nm,0.6s					
CABF	**La Chapelle**	**85.08 316**	*e*P	**P**	**03 12 17.0**	**+0.3**
	comp=Z,3.6nm,0.6s					
CABF	**La Chapelle**	**85.08 316**	*e*P	**P**	**03 12 17.0**	**+0.3**
CABF			pmax	pmax		
	comp=Z,4.0nm,0.6s					
CABF	**La Chapelle**	**85.08 316**	*e*P	**P**	**03 12 17.0**	**+0.3**
	comp=Z,3.6nm,0.6s					
PAGF	**Fort de Pagny**	**85.24 318**	*e*P	**P**	**03 12 17.5**	**+0.1**
PAGF	**Fort de Pagny**	**85.24 318**	*e*P	**P**	**03 12 17.5**	**+0.1**
ORIF	**Oris-en-Rattie**	**85.30 315**	*e*P	**P**	**03 12 17.8**	**0.0**
	comp=Z,2.1nm,0.6s					
ORIF			*e*R			
	comp=Z,50nm,19.5s					
ORIF	**Oris-en-Rattie**	**85.30 315**	*e*P	**P**	**03 12 17.8**	**0.0**
ORIF			pmax	pmax		
	comp=Z,2.0nm,0.6s					
ORIF	**Oris-en-Rattie**	**85.30 315**	*e*P	**P**	**03 12 17.8**	**0.0**
	comp=Z,2.1nm,0.6s					
SMRF	**Simiane la Rot**	**85.56 314**	*e*P	**P**	**03 12 19.9**	**+0.8**
SMRF	**Simiane la Rot**	**85.56 314**	*e*P	**P**	**03 12 19.9**	**+0.8**
MEZF	**Maizieres J'vi**	**85.69 318**	*e*P	**P**	**03 12 19.7**	**+0.1**
MEZF	**Maizieres J'vi**	**85.69 318**	*e*P	**P**	**03 12 19.7**	**+0.1**
SFTF	**Sexfontaines**	**85.72 318**	*e*P	**P**	**03 12 19.8**	**+0.1**
	comp=Z,11nm,0.7s					
SFTF	**Sexfontaines**	**85.72 318**	*e*P	**P**	**03 12 19.8**	**+0.1**
	comp=Z,11nm,0.7s					
GIVF	**Givet**	**85.76 320**	*e*P	**P**	**03 12 20.1**	**+0.2**
GIVF	**Givet**	**85.76 320**	*e*P	**P**	**03 12 20.1**	**+0.2**
GIVF	**Givet**	**85.76 320**	*e*P	**P**	**03 12 20.1**	**+0.2**
BAIF	**Baives**	**86.16 320**	*e*P	**P**	**03 12 22.3**	**+0.5**
	comp=Z,6.7nm,0.7s					
BAIF	**Baives**	**86.16 320**	*e*P	**P**	**03 12 22.3**	**+0.5**
BAIF			pmax	pmax		
	comp=Z,7.0nm,0.7s					
BAIF	**Baives**	**86.16 320**	*e*P	**P**	**03 12 22.3**	**+0.5**
	comp=Z,6.7nm,0.7s					
VIVF	**Saint-Julien-l**	**86.16 315**	*e*P	**P**	**03 12 22.3**	**+0.3**
	comp=Z,5.1nm,0.9s					
VIVF	**Saint-Julien-l**	**86.16 315**	*e*P	**P**	**03 12 22.3**	**+0.3**
VIVF			pmax	pmax		
	comp=Z,5.0nm,0.9s					
VIVF	**Saint-Julien-l**	**86.16 315**	*e*P	**P**	**03 12 22.3**	**+0.3**
	comp=Z,5.1nm,0.9s					
LOR	**Lormes**	**86.57 317**	*e*P	**P**	**03 12 24.0**	**0.0**
	comp=Z,4.2nm,0.6s					
LOR			*e*R			
	comp=Z,40nm,18.0s					
LOR	**Lormes**	**86.57 317**	*e*P	**P**	**03 12 24.0**	**0.0**
LOR			pmax	pmax		
	comp=Z,4.0nm,0.6s					
LOR	**Lormes**	**86.57 317**	*e*P	**P**	**03 12 24.0**	**0.0**
	comp=Z,4.2nm,0.6s					
SMF	**Signal de Mont**	**86.62 316**	*e*P	**P**	**03 12 24.2**	**0.0**
	comp=Z,5.7nm,0.7s					
SMF	**Signal de Mont**	**86.62 316**	*e*P	**P**	**03 12 24.2**	**0.0**
SMF			pmax	pmax		
	comp=Z,6.0nm,0.7s					
SMF	**Signal de Mont**	**86.62 316**	*e*P	**P**	**03 12 24.2**	**0.0**
	comp=Z,5.7nm,0.7s					
AVF	**Avril sur Loir**	**86.95 317**	*e*P	**P**	**03 12 25.9**	**+0.1**
AVF	**Avril sur Loir**	**86.95 317**	*e*P	**P**	**03 12 25.9**	**+0.1**
AVF	**Avril sur Loir**	**86.95 317**	*e*P	**P**	**03 12 25.9**	**+0.1**
TAM	**Tamanrasset**	**86.96 292**	*e*P	**P**	**03 12 26.8**	**+0.3**
TAM			pmax	pmax		
	comp=Z,3.0nm,1.1s					
TAM	**Tamanrasset**	**86.96 292**	*e*P	**P**	**03 12 26.8**	**+0.3**
	comp=Z,2.8nm,1.1s					
GAMB	**Gambell**	**87.10 26**	*e*P	**P**	**03 12 26.3**	**+0.2**
	comp=Z,11nm,1.3s					
BGF	**Bois d'Agland**	**87.31 316**	*e*P	**P**	**03 12 28.1**	**+0.5**
	comp=Z,3.8nm,0.5s					
BGF	**Bois d'Agland**	**87.31 316**	*e*P	**P**	**03 12 28.1**	**+0.5**
BGF			pmax	pmax		
	comp=Z,4.0nm,0.5s					
BGF	**Bois d'Agland**	**87.31 316**	*e*P	**P**	**03 12 28.1**	**+0.5**
	comp=Z,3.8nm,0.5s					
TCF	**Toulx Ste Croi**	**87.78 316**	*e*P	**P**	**03 12 30.2**	**+0.4**
	comp=Z,7.2nm,1.2s					
TCF	**Toulx Ste Croi**	**87.78 316**	*e*P	**P**	**03 12 30.2**	**+0.4**
TCF			pmax	pmax		
	comp=Z,7.0nm,1.2s					
TCF	**Toulx Ste Croi**	**87.78 316**	*e*P	**P**	**03 12 30.2**	**+0.4**
	comp=Z,7.2nm,1.2s					
CAF	**Calviac**	**88.00 315**	*e*P	**P**	**03 12 31.6**	**+0.7**
CAF	**Calviac**	**88.00 315**	*e*P	**P**	**03 12 31.6**	**+0.7**
CAF	**Calviac**	**88.00 315**	*e*P	**P**	**03 12 31.6**	**+0.7**
MTLF	**Montolieu**	**88.04 313**	*e*P	**P**	**03 12 31.7**	**+0.6**
MTLF	**Montolieu**	**88.04 313**	*e*P	**P**	**03 12 31.7**	**+0.6**
MTLF	**Montolieu**	**88.04 313**	*e*P	**P**	**03 12 31.7**	**+0.6**
RJF	**Les Rejaudoux**	**88.35 315**	*e*P	**P**	**03 12 32.8**	**+0.2**
RJF			*e*R			
	comp=Z,52nm,18.2s					
RJF	**Les Rejaudoux**	**88.35 315**	*e*P	**P**	**03 12 32.8**	**+0.2**
RJF	**Les Rejaudoux**	**88.35 315**	*e*P	**P**	**03 12 32.8**	**+0.2**
LDF	**La Druitiere**	**89.11 319**	*e*P	**P**	**03 12 36.4**	**+0.4**
LDF	**La Druitiere**	**89.11 319**	*e*P	**P**	**03 12 36.4**	**+0.4**
LDF	**La Druitiere**	**89.11 319**	*e*P	**P**	**03 12 36.4**	**+0.4**
FLN	**La Foliniere**	**89.33 319**	*e*P	**P**	**03 12 37.5**	**+0.5**
FLN			*e*R			
	comp=Z,45nm,22.0s					
FLN	**La Foliniere**	**89.33 319**	*e*P	**P**	**03 12 37.5**	**+0.5**
FLN	**La Foliniere**	**89.33 319**	*e*P	**P**	**03 12 37.5**	**+0.5**
MFF	**Saint Martin d**	**89.36 317**	*e*P	**P**	**03 12 37.6**	**+0.3**
MFF	**Saint Martin d**	**89.36 317**	*e*P	**P**	**03 12 37.6**	**+0.3**
MFF	**Saint Martin d**	**89.36 317**	*e*P	**P**	**03 12 37.6**	**+0.3**
GRR	**Gorron**	**89.62 318**	*e*P	**P**	**03 12 39.2**	**+0.8**
	comp=Z,5.7nm,0.7s					
GRR	**Gorron**	**89.62 318**	*e*P	**P**	**03 12 39.2**	**+0.8**
GRR			pmax	pmax		
	comp=Z,6.0nm,0.7s					
GRR	**Gorron**	**89.62 318**	*e*P	**P**	**03 12 39.2**	**+0.8**
	comp=Z,5.7nm,0.7s					
ESK	**Eskdalemuir**	**90.07 325**	*e*P	**P**	**03 12 40.1**	**-0.2**
ESK			pmax	pmax		
	comp=Z,39nm,1.5s					
ESK	**Eskdalemuir**	**90.07 325**	*e*P	**P**	**03 12 40.1**	**-0.2**
	comp=Z,39nm,1.5s					
VNDA	**Vanda**	**90.29 168**	LR	LR	03 50 19.7	
	comp=Z,43nm,18.1s,baz=148,slow=34					
VNDA	**Vanda**	**90.29 168**	*e*P	**P**	**03 12 42.0**	**+1.1**
VNDA			pmax	pmax		
	comp=Z,1.0nm,1.0s					
VNDA	**Vanda**	**90.29 168**	*e*P	**P**	**03 12 42.0**	**+1.1**
	comp=Z,1.5nm,1.0s					
QUIF	**Quistinic**	**91.22 318**	*e*P	**P**	**03 12 44.9**	**-1.0**
	comp=Z,5.0nm,0.7s					
QUIF	**Quistinic**	**91.22 318**	*e*P	**P**	**03 12 44.9**	**-1.0**
QUIF			pmax	pmax		
	comp=Z,5.0nm,0.7s					
QUIF	**Quistinic**	**91.22 318**	*e*P	**P**	**03 12 44.9**	**-1.0**
	comp=Z,5.0nm,0.7s					
ROSF	**Rostrenen**	**91.22 319**	*e*P	**P**	**03 12 45.6**	**-0.3**
ROSF	**Rostrenen**	**91.22 319**	*e*P	**P**	**03 12 45.6**	**-0.3**
ROSF	**Rostrenen**	**91.22 319**	*e*P	**P**	**03 12 45.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**91.44 283**	P	**P**	**03 12 47.9**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=81,slow=4.1,SNR=2.3					
TORD			PKKPbc	**PKKPbc**	**03 30 08.7**	**+0.5**
	comp=Z,0.7nm,1.1s,baz=282,slow=2.1,SNR=6.5					
ESDC	**Sonseca Array**	**93.11 310**	P	**P**	**03 12 55.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=69,slow=4.2,SNR=5.5					
ILAR	**Eielson Array**	**97.11 22**	P	**P**	**03 13 11.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=305,slow=4.5,SNR=5.4					
ILAR			pP	**pP**	**03 13 27.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=297,slow=4.1,SNR=2.6					
NVAR	**Mina Array Bea**	**127.05 32**	PKP	**PKPdf**	**03 18 46.5**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=323,slow=0.5,SNR=3.1					
PDAR	**Pinedale Array**	**127.54 22**	PKP	**PKPdf**	**03 18 46.2**	**0.0**
	comp=Z,1.4nm,1.0s,baz=48,slow=2.2,SNR=6.3					
TXAR	**Lajitas Array**	**141.53 26**	PKhKP	PKPpre	03 19 06.2	
	comp=Z,0.4nm,0.4s,baz=276,slow=0.4,SNR=14					
CPUP	**Villa Florida**	**145.77 229**	PKPbc	**PKPab**	**03 19 21.1**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=312,slow=15,SNR=2.6					
CPUP	**Villa Florida**	**145.77 229**	*e*PKP2	**PKPdf**	**03 19 19.6**	**-0.2**
CPUP	**Villa Florida**	**145.77 229**	*e*PKPdf	**PKPdf**	**03 19 19.6**	**-0.2**
CPUP			PKPbc	**PKPab**	**03 19 21.1**	**+0.5**
CFAA	**Coronel Fontan**	**149.09 210**	PKPbc	**PKPbc**	**03 19 30.5**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=138,slow=3.4,SNR=8.1					
SAML	**Samuel**	**157.43 259**	*e*PKPdf	**PKPdf**	**03 19 36.8**	**-0.8**
SAML			*e*PKPab	**PKPab**	**03 20 09.2**	**-0.1**

PGC 25 03:08:19.8±0.6, 51.86N×131.59W, h10km, ML3.2/10, Mw3.8, 10D, 155km south of Sandspit, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.73**	**352**	⇓P	Pg	03 08 33.3	-0.7
BNB				⇑S	Sg	03 08 42.1	-1.5
DIB	**Dawson Inlet,**	**1.45**	**338**	Pn	Pn	03 08 44.1	-2.0
DIB				⇓Sn	Sn	03 09 00.9	-4.3
VIB	**Van Inlet**	**1.52**	**338**	Pn	Pn	03 08 45.1	-2.0
VIB				⇑Sn	Sn	03 09 03.1	-3.9
BBB	**Bella Bella**	**2.17**	**80**	⇑Pn	Pn	03 08 53.5	-2.4
BBB				⇑Sn	Sn	03 09 19.0	-3.9
NDB	**Naden**	**2.26**	**339**	⇓Pn	Pn	03 08 55.7	-1.5
HOLB	**Holberg**	**2.49**	**118**	⇓Pn	Pn	03 08 58.7	-1.8
HOLB				⇑Sn	Sn	03 09 28.1	-2.8
PHC	**Port Hardy**	**2.85**	**112**	⇓Pn	Pn	03 09 02.8	-2.5
PHC				⇓Sn	Sn	03 09 36.2	-3.5
BPBC	**Brooks Peninsu**	**2.95**	**124**	⇓Pn	Pn	03 09 05.1	-1.7
BCBC	**Bella Coola**	**3.02**	**78**	⇓Pn	Pn	03 09 05.8	-1.9
MAYB	**Maynard**	**3.14**	**116**	⇑Pn	Pn	03 09 07.5	-2.0
MAYB				⇓Sn	Sn	03 09 44.5	-2.7
TLCB	**Telegraph Cove**	**3.27**	**112**	⇓Pn	Pn	03 09 10.3	-0.7
WOSB	**Woss**	**3.60**	**116**	Pn	Pn	03 09 14.7	-1.0

*CSEM **25** 03:08:37.2, 42.95N×13.14E, h8km, MD1.8/4*
ROM 25 03:08:37.2±0.1, 42.95N×13.14E, h8km±1km, Md1.8/4, Ml1.4/3, Error ellipse: s-maj=1.2km s-min=1.2km az=47.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.09**	**334**	Pg	Pg	03 08 39.7	+0.1
FDMO				Sg	Sg	03 08 41.4	+0.1
FDMO	**Fiordimonte**	**0.09**	**334**	Pg	Pg	03 08 39.7	+0.1
FDMO				Sg	Sg	03 08 41.4	+0.1
NRCA	**Norcia**	**0.12**	**189**	Pg	Pg	03 08 40.5	+0.4
NRCA				Sg	Sg	03 08 43.0	+0.9
	152nm,0.2s						
NRCA	**Norcia**	**0.12**	**189**	Pg	Pg	03 08 40.5	+0.4
NRCA				Sg	Sg	03 08 43.0	+0.9
	152nm,0.2s						
CESI	**CESI - Serrava**	**0.18**	**286**	Pg	Pg	03 08 41.7	+0.6
CESI				Sg	Sg	03 08 45.0	+1.3
	41nm,0.4s						
CESI	**CESI - Serrava**	**0.18**	**286**	Pg	Pg	03 08 41.7	+0.6
CESI				Sg	Sg	03 08 45.0	+1.3
	41nm,0.4s						
SMA1	**SAN MARTINO**	**0.35**	**156**	Pg	Pg	03 08 44.6	+0.3
SMA1				Sg	Sb	03 08 50.7	-1.0
LNSS	**Leonessa**	**0.36**	**192**	Pg	Pg	03 08 44.8	+0.4
LNSS				Sg	Sb	03 08 50.9	-0.9
LNSS	**Leonessa**	**0.36**	**192**	Pg	Pg	03 08 44.8	+0.4
LNSS				Sg	Sb	03 08 50.9	-0.9
TERO	**Teramo**	**0.47**	**134**	Pg	Pg	03 08 46.7	+0.2
TERO				Sg	Sb	03 08 54.6	-0.5
TERO	**Teramo**	**0.47**	**134**	Pg	Pg	03 08 46.7	+0.2
TERO				Sg	Sb	03 08 54.6	-0.5
ARVD	**Arcevia**	**0.56**	**345**	Pg	Pg	03 08 48.4	+0.2
ARVD				Sg	Sb	03 08 57.8	+0.2
ARVD	**Arcevia**	**0.56**	**345**	Pg	Pg	03 08 48.4	+0.2
ARVD				Sg	Sb	03 08 57.8	+0.2
GUMA	**Gualdo di Mace**	**0.59**	**79**	Pg	Pg	03 08 41.8	-6.9
GUMA				Sg	Sg	03 08 44.8	-12
	131nm,0.5s						
GUMA	**Gualdo di Mace**	**0.59**	**79**	Pg	Pg	03 08 41.8	-6.9
GUMA				Sg	Sg	03 08 44.8	-12
	131nm,0.5s						

GUC 25 03:10:13.8±0.6, 34.87S×72.38W, h49km±8km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.81**	**131**	*i* P	Pn	03 10 29.8	+0.9
TALC				*i* S	Sn	03 10 42.3	+2.3
TALC				AML	AML	03 10 52.0	
	comp=N,7μm,0.0s						
NICH	**Los Niches**	**0.95**	**99**	*i* P	Pn	03 10 31.7	+0.8
NICH				*i* S	Sn	03 10 45.5	+2.1
NICH				AML	AML	03 10 51.0	
	comp=N,1μm,0.2s						
LNV	**Longovilo**	**1.21**	**42**	*i* P	Pn	03 10 35.7	+1.4
LNV				*i* S	Sn	03 10 52.3	+2.7
COCH	**Cobquecura**	**1.31**	**195**	*i* P	Pn	03 10 36.6	+0.9
COCH				*i* S	Sn	03 10 54.9	+2.9
CACH	**El Canelo**	**1.65**	**64**	*i* P	Pn	03 10 43.4	+2.9
CACH				*i* S	Sn	03 11 05.8	+5.2
CHCH	**Chadas Angostu**	**1.70**	**57**	*i* P	Pn	03 10 43.2	+2.1
CHCH				*i* S	Sn	03 11 05.2	+3.3

IDC 25 03:17:21.4±33.0, 22.95S×172.99W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.9/4, Error ellipse: s-maj=604.9km s-min=173.8km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.94**	**266**	P	P	03 24 41.0	0.0
	1.4nm,0.3s,baz=83,slow=6.6,SNR=3.8						
STKA	**Stephens Creek**	**41.04**	**247**	P	P	03 25 06.7	-0.1
	1.2nm,0.4s,baz=96,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**48.54**	**258**	P	P	03 26 06.5	-0.2
	0.3nm,0.4s,baz=96,slow=7.5,SNR=8.6						
WRA	**Warramunga Arr**	**48.91**	**263**	P	P	03 26 09.3	-0.2
	0.7nm,0.4s,baz=103,slow=8.2,SNR=4.8						

*IDC **25** 03:20:43.6±2.5, 35.78S×73.28W, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.6/17, mbtmp3.5/5, ML3.5/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/19, Error ellipse: s-maj=58.3km s-min=20.8km az=87.0*

*ISCJB **25** 03:20:46.4±1.5, 35.28S×70.12W±0.2, h33km, mb3.7/2, Error ellipse: s-maj=28.3km s-min=11.9km az=19.7*
ISC 25 03:20:47.5±1.7, 35.28S±0.1×73.52W±0.2, h35km, n7, σ0s92/7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.49**	**156**	Pn	**Pn**	**03 22 06.9**	**0.0**
	0.6nm,0.3s,baz=333,slow=11,SNR=14						
PLCA				Lg	Lg	03 23 34.5	
	1.1nm,0.3s,baz=26,slow=16,SNR=2.9						
CFAA	**Coronel Fontan**	**6.03**	**48**	Pn	**Pn**	**03 22 13.8**	**-0.3**
	0.6nm,0.3s,baz=226,slow=11,SNR=30						
CFAA				Sn	**Sn**	**03 23 22.6**	**+0.7**
	0.2nm,0.3s,baz=37,slow=20,SNR=2.8						
CFAA				Lg	Lg	03 23 48.4	
	0.1nm,0.3s,baz=292,slow=9.0,SNR=3.0						
CPUP	**Villa Florida**	**16.72**	**60**	LR	LR	03 31 30.8	
	comp=Z,368nm,19.2s,baz=218,slow=39						
LPAZ	**La Paz**	**19.96**	**15**	P	**Pn**	**03 25 19.7**	**+0.5**
	0.0nm,0.3s,baz=185,slow=9.2,SNR=5.0						
SIV	**San Ignacio**	**22.59**	**33**	P	**P**	**03 25 43.7**	**-1.3**
	1.6nm,0.8s,baz=209,slow=13,SNR=3.2						
TORD	**Torodi Ar. Bea**	**85.93**	**71**	P	**P**	**03 33 24.2**	**0.0**
	0.6nm,0.9s,baz=217,slow=3.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**156.34**	**33**	PKPab	**PKPab**	**03 41 07.1**	**+0.9**
	0.5nm,0.5s,baz=328,slow=5.1,SNR=2.8						

*NEIC **25** 03:25:42.1, 31.97N×115.17W, h10km, MD3.9(MEX), ML3.8(PAS), After PAS.*
*ECX **25** 03:25:44.8±0.5, 32.08N×115.20W, h6km, MD3.8, ML4.0*
*MEX **25** 03:25:44.9±1.0, 32.13N×115.08W, h5km, MD3.9*
ISC 25 03:25:42.4±1.1, 32.06N±0.02×115.16W±0.02, h4km±10km, n44, σ1s50/86, 7C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.35**	**354**	*e*P	**Pb**	**03 25 50.8**	**-0.3**
MBIG				*i* S	**Sg**	**03 25 53.8**	**+0.2**
CPBX	**Cerro Prieto**	**0.38**	**341**	⇑*e*P	**Pb**	**03 25 51.3**	**-0.3**
CPBX				⇑*e*P	**Pb**	**03 25 51.4**	**-0.3**
CPBX				*e*S	**Sg**	**03 25 56.4**	**+1.8**
CPBX	**Cerro Prieto**	**0.38**	**341**	*e*P	**Pb**	**03 25 51.6**	**-0.1**
CPBX				*i* S	**Sg**	**03 25 55.7**	**+1.1**
ECBX	**El Chinero**	**0.59**	**171**	⇓*e*P	**Pb**	**03 25 55.3**	**0.0**
ECBX				*e*S	**Sb**	**03 26 04.3**	**+0.2**
RDX	**Rancho Dawling**	**0.68**	**259**	⇑*e*P	**Pb**	**03 25 57.4**	**+0.5**
RDX				*e*S	**Sb**	**03 26 06.6**	**-0.2**
YUH	**Yuha Desert**	**0.87**	**312**	⇑*i*P	**Pg**	**03 25 59.0**	**-0.1**
RMX	**La Rumorosa**	**0.95**	**305**	⇑*e*P	**Pg**	**03 26 00.5**	**-0.1**
RMX				AML	AML	03 26 14.4	
	comp=N,5μm,0.3s						
RMX				⇑*e*		03 26 14.4	
SPIG	**San Pedro Mart**	**1.04**	**195**	*e*P	**Pg**	**03 26 03.3**	**+0.9**
SPIG				*e*S	**Sn**	**03 26 19.2**	**-0.2**
SPIG	**San Pedro Mart**	**1.04**	**195**	⇓*e*P	**Pg**	**03 26 03.3**	**+0.9**
SPIG	**San Pedro Mart**	**1.04**	**195**	*e*P	**Pg**	**03 26 03.0**	**+0.6**
SPIG				*e*S	**Sn**	**03 26 19.2**	**-0.2**
SPX	**San Pedro Mart**	**1.04**	**195**	⇓*e*P	**Pg**	**03 26 03.4**	**+1.0**
SPX				⇓*e*		03 26 20.2	
SPX				AML	AML	03 26 21.2	
	comp=N,1μm,0.2s						
SPX	**San Pedro Mart**	**1.04**	**195**	*e*P	**Pg**	**03 26 03.4**	**+1.0**
SPX				*e*S	**Sn**	**03 26 19.3**	**-0.1**
ZAX	**El Zacaton**	**1.09**	**240**	*e*P	**Pg**	**03 26 03.9**	**+0.5**
ECNX	**Esteban Cantu**	**1.29**	**252**	*e*P	**Pn**	**03 26 06.7**	**-0.6**
CBX	**Cerro Bola**	**1.30**	**282**	*e*P	**Pn**	**03 26 06.6**	**-0.9**
CBX				*e*S	**Sb**	**03 26 24.5**	**-0.2**
CBX	**Cerro Bola**	**1.30**	**282**	⇑*e*P	**Pn**	**03 26 06.5**	**-1.0**
CBX				*e*S	**Sb**	**03 26 24.1**	**-0.6**
CBX				⇓*e*		03 26 26.7	
CBX				AML	AML	03 26 26.7	
	comp=E,7μm,0.2s						
CBX	**Cerro Bola**	**1.30**	**282**	*e*P	**Pn**	**03 26 06.6**	**-0.9**
CBX				*e*S	**Sb**	**03 26 24.5**	**-0.2**
PBX	**Punta Banda**	**1.37**	**257**	*e*P	**Pn**	**03 26 07.9**	**-0.5**
BAR	**Barrett**	**1.42**	**296**	*e*P	**Pn**	**03 26 07.8**	**-1.2**
PFO	**Pinyon Flats O**	**1.89**	**325**	*e*Pn	**Pn**	**03 26 13.3**	**-2.3**
PFO				*e*Pg	**Pb**	**03 26 18.1**	**+0.5**
PFO				*e*Sg	**Sg**	**03 26 42.9**	**-0.2**
214A	**Organ Pipe Nat**	**2.00**	**92**	*e*Pn	**Pn**	**03 26 14.9**	**-2.0**
214A				*e*Sg	**Sb**	**03 26 44.6**	**0.0**
LDFC	**Landfair**	**3.01**	**1**	*e*Pn	**Pn**	**03 26 31.3**	**+0.3**
LDFC				*e*Pg	**Pg**	**03 26 40.0**	**-0.1**
LDFC				*e*Sg	**Sg**	**03 27 19.8**	**+0.7**
MWC	**Mount Wilson**	**3.25**	**312**	*e*Pn	**Pn**	**03 26 33.8**	**-0.6**
MWC				*e*Pg	**Pb**	**03 26 43.0**

IDC 25 04:01:25.9±2.6, 3°87S×126°11E, h0km, mb3.3/1, mb1 4.0/2, mb1mx3.4/22, mbtmp3.7/2, ML3.9/1, Error ellipse: s-maj=155.1km s-min=38.6km az=60.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.88**	**154**	P	Pn	04 05 36.0	-0.4
	0.4nm,0.3s,baz=332,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.07**	**160**	P	P	04 06 10.7	-1.3
	0.7nm,0.5s,baz=345,slow=12,SNR=16						
TORD	**Torodi Ar. Bea**	**124.37**	**283**	PKP	PKPdf	04 20 28.7	+0.6
	0.5nm,0.9s,baz=75,slow=2.9,SNR=6.9						

*ISCJB **25** 04:05:19.5±1.3, 10°.0S±0°.2×119°.71E±0°.09, h33km, Error ellipse: s-maj=22.5km s-min=11.7km az=14.3*
*DJA **25** 04:05:20.6±0.6, 10°S±5°×12°0E±°, h61km±10km, M3.7/9, MLv3.7/9*

ISC 25 04:05:21.1±2.0, 10°.0S±0°.1×119°.8E±0°.1, h35km, n9, σ1s80/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.56**	**59**	P	**Pn**	**04 05 34.8**	**+2.2**
WSI	**Waingapu**	**0.56**	**59**	P	Pn	04 05 36.7	+4.1
	baz=1.6,SNR=4.8						
BASI	**Baing, Sumba**	**0.80**	**109**	P	**Pn**	**04 05 37.5**	**+1.6**
EDFI	**Ende, Flores**	**2.21**	**57**	P	**Pn**	**04 05 56.2**	**+0.8**
BATI	**Baumata**	**3.81**	**94**	P	**Pn**	**04 06 16.8**	**-0.5**
SOEI	**Soe**	**4.40**	**88**	P	**Pn**	**04 06 24.5**	**-1.0**
SOEI	**Soe**	**4.40**	**88**	P	**Pn**	**04 06 23.0**	**-2.5**
	baz=5.3,SNR=3.2						
BKSI	**Bulukumba**	**4.62**	**4**	P	**Pn**	**04 06 28.4**	**0.0**
IGBI	**Denpasar**	**4.74**	**283**	P	**Pn**	**04 06 29.2**	**-0.8**

*CSEM **25** 04:05:28.7, 37°.15N×24°.52W, h5km, ML2.5*
PDA 25 04:05:28.7±0.4, 37°.15N×24°.52W, h5km, MD3.8, ML2.5, Error ellipse: s-maj=4.1km s-min=1.6km az=106.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.46**	**252**	*e*P	Pg	04 05 36.8	-0.8
PSMN				*e*S	Sg	04 05 42.9	-0.7
PSMN				A	A	04 05 43.5	
	68nm,0.1s						
PSMN	**Pico do Norte,**	**0.46**	**252**	*e*P	Pg	04 05 36.8	-0.8
PSMN				*e*S	Sg	04 05 42.9	-0.7
PSMA	**Santa Maria**	**0.51**	**253**	*e*P	Pg	04 05 37.5	-1.0
PSMA				*e*S	Sg	04 05 44.0	-1.1
PSMA				A	A	04 05 46.3	
	64nm,0.2s						
BART	**Pico Bartolome**	**0.81**	**321**	*e*P	Pg	04 05 41.9	-2.6
BART				*e*S	Sg	04 05 52.0	-3.2
BART				A	A	04 05 53.9	
	103nm,0.5s						
BART	**Pico Bartolome**	**0.81**	**321**	*e*P	Pg	04 05 41.9	-2.6
BART				*e*S	Sg	04 05 52.0	-3.2
GRON	**Grota Negra**	**1.02**	**308**	*e*P	Pn	04 05 55.6	+5.9
PDA	**Ponta Delgada**	**1.09**	**304**	*e*P	Pg	04 05 45.8	-3.8
PDA				*e*S	Sg	04 05 58.5	-5.2
PDA				A	A	04 06 00.0	
	44nm,0.1s						
PDA	**Ponta Delgada**	**1.09**	**304**	*e*P	Pg	04 05 45.8	-3.8
PDA				*e*S	Sg	04 05 58.5	-5.2

IDC 25 04:06:20.9±2.6, 5°32N×123°30E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.6/3, Error ellipse: s-maj=350.7km s-min=27.8km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.36**	**157**	P	P	04 12 08.1	+0.1
	0.5nm,0.3s,baz=336,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**30.62**	**161**	P	P	04 12 36.9	-0.1
	0.2nm,0.5s,baz=337,slow=6.9,SNR=4.5						
MKAR	**Makanchi Array**	**54.32**	**326**	P	P	04 15 49.2	-0.1
	0.5nm,0.5s,baz=134,slow=6.2,SNR=5.3						

IDC 25 04:16:04.9±2.2, 17°.91N×122°.29E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/26, mbtmp3.6/4, Error ellipse: s-maj=75.9km s-min=24.3km az=49.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.19**	**275**	P	P	04 21 03.0	0.0
	0.7nm,0.4s,baz=95,slow=10.0,SNR=3.6						
WRA	**Warramunga Arr**	**39.44**	**162**	P	P	04 23 36.6	-0.3
	0.3nm,0.4s,baz=342,slow=9.1,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**42.10**	**82**	T	T	05 09 08.4	
	baz=281						
H11S1	**WAKE ISLAND Hy**	**42.11**	**82**	T	T	05 09 07.3	
	baz=281						
H11S2	**WAKE ISLAND Hy**	**42.12**	**82**	T	T	05 09 12.0	
	baz=281						
ASAR	**Alice Springs**	**42.85**	**164**	P	P	04 24 05.2	+0.1
	0.6nm,0.3s,baz=349,slow=8.0,SNR=23						
MKAR	**Makanchi Array**	**43.68**	**320**	P	P	04 24 11.4	-0.2
	0.2nm,0.6s,baz=108,slow=7.7,SNR=2.6						

IDC 25 04:33:47.4±2.6, 7°.29S×115°.55E, h0km, mb2.8/2, mb1 3.2/2, mb1mx3.0/22, mbtmp2.9/2, Error ellipse: s-maj=152.0km s-min=44.3km az=33.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.14**	**126**	P	P	04 38 45.1	+0.2
	0.2nm,0.7s,baz=301,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**23.99**	**135**	P	P	04 39 03.8	-0.2
	0.2nm,0.3s,baz=310,slow=8.6,SNR=4.9						
TXAR	**Lajitas Array**	**137.10**	**54**	PKP	PKPdf	04 53 12.8	-0.6
	0.2nm,0.5s,baz=264,slow=1.8,SNR=4.2						
BDFB	**Brasilia**	**152.00**	**215**	PKPbc	PKPbc	04 53 45.7	-0.1
	2.1nm,0.7s,baz=135,slow=2.9,SNR=3.6						

MEX 25 04:41:58.3±0.8, 16°.56N×94°.69W, h108km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.56**	**341**	*e*P	Pn	04 42 14.6	-0.8
CMIG				*i* S	Sn	04 42 26.3	-1.9
TGIG		**1.52**	**81**	*e*P	Pn	04 42 24.1	-1.2
TGIG				*i* S	Sn	04 42 43.3	-2.6
HUIG	**Huatulco**	**1.57**	**240**	*i* P	Pn	04 42 24.2	-1.6
HUIG				*e*S	Sn	04 42 44.9	-1.8
PCIG		**1.65**	**121**	*e*P	Pn	04 42 26.1	-0.7
PCIG				*e*S	Sn	04 42 47.4	-1.1
VHO	**Vista Hermosa**	**2.02**	**285**	*i* P	Pn	04 42 30.3	-1.4
VHO				*e*S	Sn	04 42 55.8	-1.4
CCIG	**Comitan**	**2.47**	**96**	*e*P	Pn	04 42 37.0	-0.5
CCIG				*i* S	Sn	04 43 06.8	-0.8
PNIG	**Pinotepa**	**3.30**	**268**	*i* P	Pn	04 42 47.6	-0.7
PNIG				*e*S	Sn	04 43 25.0	-1.8

*IDC **25** 04:47:18.1±1.5, 37°.58S×73°.87W, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.6/17, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=35.9km s-min=17.8km az=89.0*
*ISCJB **25** 04:47:21.8±1.0, 37°.57S±0°.07×73°.6W±0°.2, h33km, mb3.9/6, Error ellipse: s-maj=18.3km s-min=10.0km az=11.9*
*NEIC **25** 04:47:23.6±0.7, 37°.54S×73°.64W, h35km, mb4.1/3, Error ellipse: s-maj=15.5km s-min=9.4km az=86.0*

ISC 25 04:47:23.4±1.1, 37°.56S±0°.09×73°.7W±0°.2, h35km, n15, σ0s93/16, mb3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.01**	**143**	Pn	**Pn**	**04 48 22.8**	**+0.4**
	0.9nm,0.3s,baz=312,slow=15,SNR=21						
PLCA				Lg	Lg	04 49 27.8	
	3.4nm,0.3s,baz=284,slow=17,SNR=4.5						
PLCA	**Paso Flores**	**4.01**	**143**	*e*Pn	**Pn**	**04 48 23.0**	**+0.6**
PLCA				*e*Lg	Lg	04 49 32.4	
CFAA	**Coronel Fontan**	**7.47**	**39**	Pn	**Pn**	**04 49 08.8**	**-1.0**
	0.1nm,0.3s,baz=208,slow=14,SNR=47						
CFAA				Sn	**Sn**	**04 50 35.1**	**+1.8**
	0.1nm,0.3s,baz=348,slow=20,SNR=1.8						
CFAA				Lg	Lg	04 51 18.1	

	baz=306,slow=19,SNR=2.5						
TRQA	**Tornquist**	**9.31**	**97**	*e*Pn	**Pn**	**04 49 33.9**	**-1.1**
CPUP	**Villa Florida**	**17.83**	**56**	*e*Pn	**Pn**	**04 51 27.8**	**-0.8**
LPAZ	**La Paz**	**21.76**	**15**	P	**P**	**04 52 13.8**	**+1.2**
	1.8nm,0.7s,baz=180,slow=8.9,SNR=7.9						
LPAZ	**La Paz**	**21.76**	**15**	*e*P	**P**	**04 52 13.3**	**+0.7**
	2.5nm,0.8s						
SIV	**San Ignacio**	**24.22**	**31**	P	**P**	**04 52 37.9**	**+1.0**
	0.6nm,0.4s,baz=209,slow=10,SNR=2.4						
SAML	**Samuel**	**30.04**	**21**	*e*P	**P**	**04 53 28.6**	**-0.4**
	6.3nm,1.4s						
SDV	**Santo Domingo**	**46.29**	**4**	*e*P	**P**	**04 55 45.4**	**-0.5**
	0.7nm,0.3s						
QSPA	**South Pole Qui**	**52.68**	**180**	P	**P**	**04 56 34.0**	**0.0**
	2.1nm,0.8s,baz=169,slow=3.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**86.69**	**71**	P	**P**	**05 00 04.1**	**+0.3**
	0.4nm,0.6s,baz=217,slow=5.8,SNR=5.5						
ABKAR	**Akbulak array**	**144.89**	**156**	*e*PKPdf	**PKPdf**	**05 06 55.4**	**-0.7**
KURK	**Kurchatov**	**156.35**	**47**	*e*PKPab	**PKPab**	**05 07 42.7**	**+0.5**
ZALV	**Zalesovo Beam**	**157.94**	**35**	PKPab	**PKPab**	**05 07 48.4**	**-0.5**
	0.6nm,0.6s,baz=291,slow=4.5,SNR=2.7						

*IDC **25** 04:49:21.0±2.7, 1°.54S×129°.09E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/22, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=197.8km s-min=27.2km az=69.0*
*ISCJB **25** 04:49:29.1±0.7, 1°.90S±0°.05×128°.07E±0°.07, h33km, mb3.4/2, Error ellipse: s-maj=10.5km s-min=6.8km az=162.2*
*DJA **25** 04:49:29.2±0.4, 2°S±3°×12°8E±°, h89km±13km, M3.5/10, MLv3.5/10*

ISC 25 04:49:29.4±1.0, 1°.94S±0°.05×128°.03E±0°.06, h35km, n11, σ2s08/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.40**	**338**	P	**Pn**	**04 49 53.6**	**+1.2**
LBMI				S	**Sn**	**04 50 13.3**	**+3.6**
NLAI	**Namlea**	**1.59**	**216**	P	**Pn**	**04 49 56.1**	**+1.1**
MSAI	**Masohi**	**1.66**	**147**	P	**Pn**	**04 49 57.7**	**+1.7**
MSAI				S	**Sn**	**04 50 18.9**	**+2.8**
AAI	**Ambon**	**1.74**	**175**	P	**Pn**	**04 49 58.4**	**+1.3**
AAI				S	**Sn**	**04 50 20.0**	**+1.9**
SANI	**Sanana**	**2.04**	**267**	P	**Pn**	**04 50 00.8**	**-0.5**
TNTI	**Ternate**	**2.78**	**346**	P	**Pn**	**04 50 11.9**	**+0.5**
SWI	**Sorong**	**3.40**	**72**	P	**Pn**	**04 50 20.7**	**+0.8**
FAKI	**Fak Fak**	**4.33**	**103**	P	**Pn**	**04 50 31.7**	**-1.0**
WRA	**Warramunga Arr**	**18.92**	**161**	P	**P**	**04 53 44.4**	**-2.9**
	0.2nm,0.3s,baz=348,slow=12,SNR=3.2						
WRA				S	Sn	04 57 06.1	-13
	0.2nm,0.3s,baz=341,slow=21,SNR=3.5						
ASAR	**Alice Springs**	**22.33**	**166**	P	**P**	**04 54 22.6**	**-1.7**
	0.7nm,0.7s,baz=345,slow=11,SNR=20						
ASAR				S	S	04 58 17.1	-11
	0.6nm,1.1s,baz=347,slow=20,SNR=3.2						
MKAR	**Makanchi Array**	**62.95**	**326**	P	**P**	**04 59 50.9**	**-1.5**
	0.2nm,0.5s,baz=134,slow=5.8,SNR=4.4						

*ISCJB **25** 04:51:41.5±0.8, 31°.01N±0°.06×138°.8E±0°.1, h394km, mb3.0/6, Error ellipse: s-maj=16.4km s-min=7.7km az=15.8*
*JMA **25** 04:51:43.5±0.6, 31°.01N×138°.91E, h375km, M3.5*
*IDC **25** 04:51:43.5±1.9, 31°.02N×138°.41E, h388km±34km, mb2.9/6, mb1 3.0/7, mb1mx2.8/26, mbtmp3.6/7, Error ellipse: s-maj=76.4km s-min=17.2km az=70.0*

ISC 25 04:51:42.9±1.1, 31°.13N±0°.10×138°.8E±0°.1, h394km, n15, σ1s39/23, mb3.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**3.77**	**326**	P	**Pn**	**04 52 53.1**	**+0.7**
BSO3	**Boso 3**	**3.92**	**21**	P	**Pn**	**04 52 54.2**	**+0.7**
BSO3				S	**S**	**04 53 50.9**	**+0.1**
BSO1	**Boso 1**	**3.95**	**27**	P	**Pn**	**04 52 54.8**	**+1.3**
BSO1				S	**S**	**04 53 51.0**	**+0.2**
BSO4	**Boso 4**	**4.05**	**18**	P	**Pn**	**04 52 56.1**	**+1.2**
BSO4				S	**S**	**04 53 53.5**	**+0.1**
JHU	**Hanno**	**4.72**	**5**	P	**Pn**	**04 53 02.5**	**+0.8**
JHU				S	**S**	**04 54 02.9**	**-2.8**
JRY	**Ryogami san**	**4.87**	**1**	P	**Pn**	**04 53 04.6**	**+1.3**
JRY				S	**S**	**04 54 07.6**	**-1.0**
JYT	**Yasato**	**5.21**	**12**	P	**Pn**	**04 53 06.8**	**+0.1**
JYT				S	**S**	**04 54 11.5**	**-3.4**
MJAR	**Matsushiro Arr**	**5.42**	**355**	P	**Pn**	**04 53 10.2**	**+1.2**
	0.9nm,0.3s,baz=197,slow=7.6,SNR=9.0						
MJAR				S	**S**	**04 54 21.0**	**+1.9**
	0.3nm,0.3s,baz=185,slow=18,SNR=3.4						
MAT	**Matsushiro**	**5.42**	**355**	P	**Pn**	**04 53 10.7**	**+1.7**
MAT				S	**S**	**04 54 19.5**	**+0.4**
SONM	**Songino Array**	**29.79**	**313**	P	**P**	**04 57 14.6**	**-0.7**
	0.2nm,0.4s,baz=133,slow=9.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**44.53**	**317**	P	**P**	**04 59 17.2**	**0.0**
	0.4nm,0.4s,baz=96,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**45.68**	**307**	P	**P**	**04 59 25.2**	**-1.0**
	0.3nm,0.4s,baz=87,slow=8.0,SNR=4.0						
WRA	**Warramunga Arr**	**50.96**	**185**	P	**P**	**05 00 05.2**	**-1.1**
	0.3nm,0.4s,baz=1.7,slow=8.2,SNR=4.2						
ASAR	**Alice Springs**	**54.69**	**186**	P	**P**	**05 00 33.8**	**+0.7**
	0.3nm,0.8s,baz=11,slow=14,SNR=5.7						
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**05 02 31.3**	**+0.6**
	2.5nm,1.0s,baz=64,slow=6.3,SNR=4.4						

*BJI **25** 05:00:46.1, 10°.60S×125°.11E, h10km, mB4.9/17, mb4.6/24, Ms4.7/11, Ms7 4.6/6*
*IDC **25** 05:00:51.3±0.7, 10°.19S×124°.77E, h0km, mb4.2/11, mb1 4.3/13, mb1mx4.1/21, mbtmp4.2/13, ML4.2/2, MS3.0/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=30.0km s-min=15.3km az=70.0*
*NEIC **25** 05:00:53.7±0.4, 10°.14S×124°.91E, h20km, mb4.7/5, Error ellipse: s-maj=14.1km s-min=5.7km az=53.0*
*ISCJB **25** 05:00:53.5±0.2, 10°.26S±0°.04×124°.86E±0°.05, h33km, mb4.3/16, MS2.8/2, Error ellipse: s-maj=8.0km s-min=3.5km az=138.5*
*DJA **25** 05:00:55.1±1.1, 10°S±7°×12°5E±°, h12km±9km, M4.5/10, mb4.8/5, mB5.1/2, MLv4.4/10, Mw(mB)4.5/2*
*AUST **25** 05:00:56.3±1.4, 10°.43S×124°.81E, h26km, Error ellipse: s-maj=1.6km s-min=0.7km az=27.0*

ISC 25 05:00:55.6±0.4, 10°.29S±0°.05×124°.83E±0°.06, h35km, n70, σ2s01/88, mb4.5/16, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.77**	**314**	P	**Pn**	**05 01 08.5**	**-1.6**
SOEI	**Soe**	**0.77**	**314**	P	**Pn**	**05 01 08.8**	**-1.3**
	baz=0.9,SNR=344						
SOEI	**Soe**	**0.77**	**314**	*e*Pn	**Pn**	**05 01 08.7**	**-1.3**
BATI	**Baumata**	**1.15**	**274**	P	**Pn**	**05 01 16.3**	**+1.1**
BATI				S	**Sn**	**05 01 32.0**	**+2.2**
MMRI	**Maumere**	**3.04**	**303**	P	**Pn**	**05 01 42.5**	**+1.3**
MMRI	**Maumere**	**3.04**	**303**	*e*Pn	**Pn**	**05 01 41.6**	**+0.3**
MMRI				*e*Sn	**Sn**	**05 02 10.8**	**-5.6**
EDFI	**Ende, Flores**	**3.46**	**296**	P	**Pn**	**05 01 48.2**	**+1.2**
BASI	**Baing, Sumba**	**4.18**	**271**	P	**Pn**	**05 01 57.5**	**+0.5**
KNRA	**Kununurra**	**6.58**	**145**	P	**Pn**	**05 02 31.0**	**+1.1**
	baz=6.5,SNR=43						
KNRA				S	**Sn**	**05 03 45.8**	**+2.0**
	baz=6.5,SNR=4.4						
MTN	**Manton Dam**	**6.68**	**113**	P	**Pn**	**05 02 33.0**	**+1.8**
	baz=6.6,SNR=54						
BKSI	**Bulukumba**	**6.79**	**316**	P	**Pn**	**05 02 34.4**	**+1.6**
	22nm,0.8s,0.1nm						
KAPI	**Kappang**	**7.27**	**316**	Pn	Pn	05 02 35.8	-3.5
	14nm,1.0s						
BNSI	**Bone**	**7.50**	**321**	P	**Pn**	**05 02 44.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**7.80**	**174**	*e*Pn	Pn	05 02 50.0	+3.4
FITZ				*e*Sn	**Sn**	**05 04 11.8**	**-2.0**
KDU	**Kakadu**	**7.86**	**108**	P	**Pn**	**05 02 48.8**	**+1.3**
	baz=7.8,SNR=14						
LUWI	**Luwuk**	**9.42**	**347**	Pn	Pn	05 03 04.8	-4.1
JAGI	**Jajag, Banyuwa**	**10.69**	**279**	*e*Pn	**Pn**	**05 03 26.3**	**-0.1**
WRA	**Warramunga Arr**	**13.27**	**137**	Pn	**Pn**	**05 04 01.0**	**-0.6**
	1.4nm,0.3s,baz=312,slow=12,SNR=15						
WRA				Sn	**Sn**	**05 06 22.4**	**-5.6**
	2.6nm,0.3s,baz=312,slow=23,SNR=9.6						
WRAB	**Tennant Creek**	**13.27**	**137**	*e*Pn	**Pn**	**05 04 01.8**	**+0.1**
	15nm,0.7s						
WRAB				*e*Sn	Sn	05 06 14.2	-14
WB2	**Warramunga Arr**	**13.28**	**137**	*e*Pn	**Pn**	**05 04 01.5**	**-0.2**
WB2				*e*Sn	Sn	05 06 17.1	-11

UGM	**Wanagama**	**14.32**	**278**	P	**Pn**	**05 04 15.7**	**-0.3**
	baz=14,SNR=3.2						
WRKA	**Warakurna**	**15.03**	**168**	P	**Pn**	**05 04 24.3**	**-1.2**
	baz=15,SNR=32						
WRKA				S	**Sn**	**05 07 07.0**	**-3.9**
	baz=15,SNR=4.8						
AS31	**Alice Springs**	**15.87**	**148**	*e*P	**Pn**	**05 04 35.8**	**-0.7**
AS31				*e*Sn	**Sn**	**05 07 25.5**	**-5.8**
ASAR	**Alice Springs**	**15.87**	**148**	Pn	**Pn**	**05 04 35.9**	**-0.5**
	1.1nm,0.3s,baz=321,slow=12,SNR=84						
ASAR				Sn	**Sn**	**05 07 25.2**	**-6.2**
	1.2nm,0.3s,baz=312,slow=22,SNR=6.2						
ASAR				LR	LR	05 11 38.3	
	comp=Z,82nm,19.4s,baz=348,slow=40						
LEM	**Lembang**	**17.36**	**280**	P	**P**	**05 04 58.3**	**+1.7**
	baz=17,SNR=4.7						
QIS	**Mount Isa**	**17.51**	**127**	P	**Pn**	**05 04 57.1**	**0.0**
	baz=17,SNR=6.8						
COEN	**Coen**	**18.30**	**103**	P	**Pn**	**05 05 07.8**	**+0.9**
	baz=18,SNR=4.7						
BLDU	**Ballidu**	**21.59**	**199**	P	**P**	**05 05 44.7**	**+2.3**
	baz=22,SNR=5.7						
CTA	**Charters Tower**	**22.83**	**118**	P	**P**	**05 05 57.0**	**+1.2**
	3.7nm,1.0s,baz=296,slow=12,SNR=1.8						
NWAO	**Narrogin (SRO)**	**23.59**	**196**	P	**P**	**05 06 04.5**	**+1.4**
	6.9nm,0.9s,baz=40,slow=9.6,SNR=3.8						
MANU	**Manus Island**	**23.84**	**71**	S	Sn	05 10 43.2	-0.3
	baz=24,SNR=6.4						
BBOO	**Buckleboo**	**24.68**	**157**	P	**P**	**05 06 12.8**	**-0.6**
STKA	**Stephens Creek**	**26.50**	**147**	P	**P**	**05 06 31.5**	**+1.7**
	1.8nm,0.7s,baz=315,slow=10.0,SNR=3.5						
PSI	**Prapat**	**28.89**	**295**	LR	LR	05 20 02.2	
	comp=Z,25nm,21.7s,baz=100,slow=40						
QIZ	**Qiongzhong**	**32.67**	**333**	P	**P**	**05 07 24.3**	**-0.3**
QIZ				S	**S**	**05 12 41.5**	**+2.8**
QIZ				PMZ			
	13nm,1.8s						
QIZ				PMZ			
	120nm,3.8s						
LHI	**Lord Howe Isla**	**38.08**	**129**	S	**S**	**05 14 03.7**	**+2.1**
	baz=38,SNR=4.0						
CMAR	**Chiang Mai Arr**	**38.32**	**318**	P	**P**	**05 08 12.8**	**-0.4**
	1.8nm,0.7s,baz=140,slow=7.0,SNR=10						
CMAR				PcP	**PcP**	**05 10 29.8**	**+3.0**
	1.2nm,0.7s,baz=163,slow=2.5,SNR=4.5						
CMAR				LR	LR	05 25 27.3	
	comp=Z,15nm,18.8s,baz=185,slow=39						
NJ2	**Nanjing**	**42.49**	**352**	*e*P	**P**	**05 08 45.3**	**-2.2**
NJ2				PMZ			
	40nm,0.7s						
CD2	**Chengdu**	**45.69**	**334**	*e*P	**P**	**05 09 13.0**	**-0.3**
CD2				pP	pP	05 09 18.0	-5.7
CD2				PP	**PP**	**05 11 01.6**	**+0.8**
CD2				PcS	**PcS**	**05 14 44.6**	**-0.7**
CD2				S	**S**	**05 15 57.0**	**+2.8**
CD2				SS	**SS**	**05 19 13.1**	**-5.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
XAN	**Xi'an**	**46.61**	**342**	P	**P**	**05 09 19.1**	**-1.3**
XAN				pP	pP	05 09 24.9	-5.9
XAN				PMZ			
	4.0nm,0.8s						
KSAR	**Wonju Array Be**	**47.57**	**3**	P	**P**	**05 09 28.3**	**+0.5**
KSRS	**Korea Array**	**47.58**	**3**	P	**P**	**05 09 28.3**	**+0.4**
	1.0nm,0.4s,baz=182,slow=9.3,SNR=7.9						
MJAR	**Matsushiro Arr**	**48.26**	**14**	P	**P**	**05 09 32.8**	**-0.4**
	1.1nm,0.7s,baz=194,slow=9.2,SNR=6.3						
BJI	**Beijing**	**50.72**	**351**	P	**P**	**05 09 51.0**	**-0.8**
BJI				S	**S**	**05 17 07.5**	**+2.7**
BJI				PMZ			
	13nm,0.8s						
BJI				PMZ			
	73nm,7.5s						
BJI				LN			
	55nm,5.8s						
BJI				LE			
	140nm,5.1s						
ODAN	**Odare**	**51.81**	**316**	*e*P	**P**	**05 09 59.9**	**-0.7**
TAPN	**Taplejung**	**51.91**	**317**	*e*P	**P**	**05 10 00.8**	**-0.7**
	10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**52.34**	**347**	*e*P	**P**	**05 10 03.9**	**-0.2**
HHC				PP	**PP**	**05 12 03.8**	**+0.6**
HHC				S	**S**	**05 17 27.8**	**+0.4**
HHC				SS	**SS**	**05 21 03.9**	**-1.9**
HHC				PMZ			
	10.0nm,0.9s						
HHC				PMZ			
	79nm,6.2s						
HHC				LN			
	100nm,19.7s						
HHC				LE			
	290nm,23.4s						
RAMN	**Ramite**	**52.41**	**316**	*e*P	**P**	**05 10 04.4**	**-0.7**
	39nm,0.8s						
JIRN	**Jiri**	**53.14**	**316**	*e*P	**P**	**05 10 09.6**	**-1.0**
	18nm,0.8s						
GUN	**Gumba**	**53.51**	**316**	*e*P	**P**	**05 10 12.4**	**-0.9**
	33nm,0.8s						
PKI	**Pulchoki**	**53.62**	**316**	*e*P	**P**	**05 10 13.0**	**-1.1**
	10nm,0.5s						
PKIN	**Phulchoki**	**53.63**	**316**	*e*P	**P**	**05 10 13.2**	**-0.9**
	9.5nm,0.5s						
DMN	**Daman**	**53.85**	**315**	*e*P	**P**	**05 10 14.9**	**-0.8**
	22nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.62**	**6**	P	**P**	**05 10 21.1**	**+0.4**
	3.2nm,0.5s,baz=192,slow=7.3,SNR=13						
GTA	**Gaotai**	**54.65**	**336**	*e*P	**P**	**05 10 21.3**	**+0.2**
GTA				S	**S**	**05 18 00.1**	**+1.3**
GTA				SS	**SS**	**05 21 42.5**	**+0.2**
GTA				PMZ			
	5.0nm,1.0s						
GTA				PMZ			
	32nm,6.2s						
GTA				LN			
	420nm,16.1s						
GT

*ISCJB **25** 05:11:12.8±0.4, 15°.82N±0°.05×93°.91W±0°.03, h95km±4km, mb3.9/9, Error ellipse: s-maj=8.5km s-min=4.8km az=16.9*
*IDC **25** 05:11:14.6±1.3, 15°.98N×93°.69W, h87km±11km, mb3.6/9, mb1 3.9/10, mb1mx3.6/23, mbtmp4.0/10, Error ellipse: s-maj=9.9km s-min=12.1km az=33.0*
*MEX **25** 05:11:15.2±0.7, 15°.81N×93°.93W, h86km±11km, MD4.2*
ISC 25 05:11:13.9±0.7, 15°.82N±0°.05×93°.88W±0°.04, h88km±6km, n22, σ1°59/36, mb4.1/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.64**	**100**	*i* P	**Pn**	**05 11 29.7**	**+0.1**
PCIG				*e*S	**Sn**	**05 11 41.8**	**+0.4**
TGIG		**1.20**	**37**	*e*P	**Pn**	**05 11 36.2**	**+0.4**
TGIG				*e*S	**Sn**	**05 11 51.7**	**-0.6**
CMIG	**Matias Romero**	**1.59**	**323**	*e*P	**Pn**	**05 11 41.2**	**+0.4**
CMIG				*i* S	**Sn**	**05 12 00.3**	**-0.8**
CMIG	**Matias Romero**	**1.59**	**323**	P	**Pn**	**05 11 41.2**	**+0.4**
	66nm,0.3s,baz=132,slow=14,SNR=266						
CMIG				S	**Sn**	**05 12 01.6**	**+0.6**
	204nm,0.3s,baz=126,slow=12,SNR=65						
CMIG				LR	LR	05 12 02.2	
	comp=Z,46nm,20.4s,baz=162,slow=30						
CCIG	**Comitan**	**1.73**	**74**	*e*P	**Pn**	**05 11 43.2**	**+0.4**
CCIG				*e*S	**Sn**	**05 12 05.0**	**+0.4**
THIG		**1.80**	**120**	*i* P	**Pn**	**05 11 44.4**	**+1.1**
THIG				*i* S	**Sn**	**05 12 06.3**	**+0.5**
HUIG	**Huatulco**	**2.15**	**269**	*e*P	**Pn**	**05 11 46.6**	**-1.4**
HUIG				*i* S	**Sn**	**05 12 12.5**	**-1.6**
TUIG	**Tuzandepetl**	**2.26**	**347**	*i* P	**Pn**	**05 11 49.8**	**+0.3**
TUIG				*i* S	**Sn**	**05 12 16.0**	**-0.8**
VHO	**Vista Hermosa**	**3.01**	**295**	*e*P	**Pn**	**05 11 59.9**	**+0.1**
VHO				*e*S	**Sn**	**05 12 34.1**	**-0.9**
PNIG	**Pinotepa**	**4.12**	**279**	*i* P	**Pn**	**05 12 14.3**	**-0.3**
PNIG				*i* S	**Sn**	**05 13 00.8**	**-0.9**
TEIG	**Tepich**	**6.90**	**50**	P	**Pn**	**05 12 50.8**	**-1.6**
	67nm,0.3s,baz=44,slow=4.2,SNR=199						
TEIG				S	**Sn**	**05 14 04.5**	**-4.9**
	27nm,0.3s,baz=24,slow=20,SNR=7.6						
JTS	**JuntasAbangare**	**10.28**	**121**	P	**Pn**	**05 13 38.8**	**+0.1**
	5.4nm,0.3s,baz=310,slow=17,SNR=12						
JTS				S	**Sn**	**05 15 27.3**	**-4.9**
	0.3nm,0.3s,baz=299,slow=19,SNR=2.1						
TXAR	**Lajitas Array**	**16.19**	**328**	P	**P**	**05 14 59.0**	**+1.1**
	baz=149,slow=14,SNR=2.9						
NVAR	**Mina Array Bea**	**31.12**	**321**	P	**P**	**05 17 26.9**	**+2.5**
	0.7nm,0.6s,baz=132,slow=9.0,SNR=3.7						
ULM	**Lac du Bonnet**	**34.38**	**358**	P	**P**	**05 17 50.3**	**-2.1**
	1.5nm,0.6s,baz=186,slow=11,SNR=4.6						
LPAZ	**La Paz**	**40.78**	**140**	P	**P**	**05 18 50.0**	**+2.5**
	0.6nm,0.7s,baz=311,slow=9.3,SNR=2.9						
YKA	**Yellowknife Ar**	**48.86**	**347**	P	**P**	**05 19 50.1**	**-0.2**
	1.2nm,0.5s,baz=153,slow=7.4,SNR=19						
YKA				pP	**pP**	**05 20 11.4**	**-0.2**
	0.4nm,0.6s,baz=153,slow=7.3,SNR=3.0						
BDFB	**Brasilia**	**55.02**	**122**	P	**P**	**05 20 36.5**	**-0.5**
	1.3nm,0.6s,baz=293,slow=7.7,SNR=3.9						
PLCA	**Paso Flores**	**60.29**	**160**	P	**P**	**05 21 13.2**	**-0.2**
	1.8nm,1.0s,baz=336,slow=10.0,SNR=3.3						
ILAR	**Eielson Array**	**60.46**	**337**	P	**P**	**05 21 14.6**	**+0.4**
	0.2nm,0.7s,baz=117,slow=4.2,SNR=5.3						
ILAR				pP	**pP**	**05 21 37.4**	**+1.2**
	0.2nm,0.5s,baz=142,slow=6.6,SNR=2.8						
NOA	**NORSAR Array B**	**83.42**	**28**	P	**P**	**05 23 31.3**	**-0.1**
	0.4nm,0.7s,baz=298,slow=5.5,SNR=2.9						
ARCES	**ARCESS Array B**	**84.98**	**18**	P	**P**	**05 23 38.5**	**-0.6**
	8.8nm,1.1s,baz=297,slow=6.7,SNR=3.9						

*ISCJB **25** 05:11:45.3±0.8, 32°.23N±0°.02×115°.23W±0°.03, h7km±7km, mb3.0/1, Error ellipse: s-maj=3.9km s-min=3.6km az=172.0*
*IDC **25** 05:11:46.7±3.4, 32°.09N×115°.20W, h0km, mb3.1/1, mb1 3.4/4, mb1mx3.3/32, mbtmp3.1/4, ML3.3/3, Error ellipse: s-maj=71.4km s-min=13.1km az=36.0*
*ECX **25** 05:11:47.7±0.5, 32°.21N×115°.28W, h6km, MD3.8, ML4.0*
*NEIC **25** 05:11:47.0, 32°.23N×115°.25W, h6km, MD3.5(MEX), ML3.8(PAS), ML4.1(ECX), After ECX.*
*MEX **25** 05:11:48.6±0.9, 32°.29N×115°.15W, h15km, MD3.6*
ISC 25 05:11:46.4±1.1, 32°.19N±0°.02×115°.29W±0°.02, h6km±9km, n40, σ1°24/58, 6C-15D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.23**	**358**	⇓*e*P	**Pg**	**05 11 51.4**	**+0.5**
CPBX				⇓*e*P	**Pg**	**05 11 51.4**	**+0.5**
CPBX				*e*S	**Sg**	**05 11 54.9**	**+0.9**
CPBX	**Cerro Prieto**	**0.23**	**358**	*e*P	**Pg**	**05 11 50.7**	**-0.2**
MBIG	**Mexicali**	**0.23**	**21**	*e*P	**Pg**	**05 11 51.2**	**+0.3**
MBIG				*e*S	**Sg**	**05 11 53.9**	**-0.2**
SGL	**Mount Signal**	**0.58**	**321**	⇓*i*P	**Pg**	**05 11 57.9**	**+0.2**
RDX	**Rancho Dawling**	**0.61**	**245**	⇑*e*P	**Pg**	**05 11 58.8**	**+0.6**
RDX				*e*S	**Sb**	**05 12 08.1**	**-0.4**
COA	**Coachella**	**0.69**	**12**	⇓*i*P	**Pg**	**05 11 59.5**	**-0.1**
YUH	**Yuha Desert**	**0.70**	**311**	⇓*i*P	**Pg**	**05 11 59.8**	**-0.1**
YMD	**Yuma Desert**	**0.73**	**60**	⇑*i*P	**Pg**	**05 11 59.8**	**-0.6**
ECBX	**El Chinero**	**0.75**	**164**	⇓*e*P	**Pg**	**05 12 00.4**	**-0.4**
ECBX				*e*S	**Sg**	**05 12 10.8**	**+0.4**
COK	**Cook Ranch**	**0.75**	**331**	⇓*i*P	**Pg**	**05 12 00.8**	**-0.1**
RMX	**La Rumorosa**	**0.78**	**302**	⇓*e*P	**Pg**	**05 12 01.3**	**-0.1**
RMX				*e*S	**Sg**	**05 12 11.9**	**+0.3**
GLA	**Glamis**	**0.94**	**25**	*e*Pg	**Pg**	**05 12 03.3**	**-1.3**
GLA				*e*Sg	**Sg**	**05 12 16.2**	**-0.6**
ZAX	**El Zacaton**	**1.07**	**231**	⇑*e*P	**Pg**	**05 12 06.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.15**	**187**	*e*P	**Pg**	**05 12 07.8**	**-0.7**
SPIG				*e*S	**Sb**	**05 12 24.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.15**	**187**	⇓*e*P	**Pg**	**05 12 07.8**	**-0.7**
SPIG	**San Pedro Mart**	**1.15**	**187**	*e*P	**Pg**	**05 12 08.7**	**+0.1**
SPIG				*e*S	**Sb**	**05 12 24.3**	**+0.1**
SPX	**San Pedro Mart**	**1.15**	**187**	⇓*e*P	**Pg**	**05 12 07.8**	**-0.7**
SPX				⇓*e*		05 12 25.4	
SPX				AML	AML	05 12 25.4	
	comp=E,3μm,0.5s						
SPX				⇓*e*		05 12 27.3	
SPX				AML	AML	05 12 27.3	
	comp=N,1μm,0.6s						
SPX	**San Pedro Mart**	**1.15**	**187**	*e*P	**Pg**	**05 12 08.6**	**0.0**
SPX				*e*S	**Sn**	**05 12 24.7**	**-0.9**
CBX	**Cerro Bola**	**1.17**	**276**	*e*P	**Pg**	**05 12 08.1**	**-0.7**
CBX				*i* S	**Sg**	**05 12 23.6**	**-0.4**
CBX	**Cerro Bola**	**1.17**	**276**	⇑*e*P	**Pg**	**05 12 08.2**	**-0.7**
CBX				*e*S	**Sg**	**05 12 24.2**	**+0.2**
CBX				⇓*e*		05 12 28.4	
	comp=N,6μm,0.5s						
CBX				⇓*e*		05 12 28.9	
	comp=E,4μm,0.4s						
CBX	**Cerro Bola**	**1.17**	**276**	*e*P	**Pg**	**05 12 08.6**	**-0.3**
CBX				*e*S	**Sb**	**05 12 24.7**	**+0.2**
ECNX	**Esteban Cantu**	**1.23**	**245**	⇑*e*P	**Pn**	**05 12 09.5**	**-0.8**
BAR	**Barrett**	**1.26**	**293**	⇓*e*P	**Pn**	**05 12 09.3**	**-1.4**
PBX	**Punta Banda**	**1.30**	**250**	⇑*e*P	**Pn**	**05 12 10.5**	**-0.6**
PFO	**Pinyon Flats O**	**1.72**	**326**	*e*Pn	**Pn**	**05 12 14.7**	**-2.4**
PFO				*e*Sg	**Sg**	**05 12 41.6**	**-0.1**
214A	**Organ Pipe Nat**	**2.12**	**96**	*e*Pn	**Pn**	**05 12 19.6**	**-2.9**
MWC	**Mount Wilson**	**3.08**	**312**	*e*Pn	**Pb**	**05 12 41.3**	**-0.4**
PASC	**Pasadena Art C**	**3.13**	**310**	Pn	**Pb**	**05 12 42.1**	**-0.3**
SHPR	**Sheep Range**	**4.30**	**1**	*e*Pn	**Pn**	**05 12 52.1**	**-0.5**
SHPR				*e*Sg	**Sg**	**05 14 02.2**	**-2.5**
DAC	**Darwin (Calif)**	**4.50**	**336**	Pn	**Pn**	**05 12 54.3**	**-1.0**
WUAZ	**Wupatki**	**4.65**	**43**	*e*Pn	**Pn**	**05 12 57.2**	**-0.2**
WUAZ				*e*Sg	**Sg**	**05 14 12.5**	**-3.4**
CCUT	**Cedar City**	**5.58**	**16**	*e*Pn	**Pn**	**05 13 10.4**	**+0.3**
	comp=E,15nm,0.9s						
121A	**Cookes Peak, D**	**6.36**	**85**	*e*Pn	**Pn**	**05 13 19.4**	**-1.6**
	comp=E,9.9nm,0.3s						
121A				*e*Sg	**Sg**	**05 15 14.7**	**+3.9**
NVAR	**Mina Array Bea**	**6.69**	**339**	Pn	**Pn**	**05 13 28.4**	**+2.9**
	comp=E,0.1nm,0.3s,baz=164,slow=17,SNR=3.9						
NVAR				Pg	**Pg**	**05 13 54.4**	**-0.2**
	comp=E,0.3nm,0.3s,baz=158,slow=18,SNR=6.0						
NVAR				Lg	Lg	05 15 29.0	
	baz=160,slow=19,SNR=2.5						
LAZ	**Ladron**	**7.17**	**70**	*e*Pn	**Pn**	**05 13 31.3**	**-0.8**
	comp=E,1.7nm,0.7s						
MVCO	**Mesa Verde**	**7.51**	**46**	*e*Pn	**Pn**	**05 13 38.3**	**+1.6**
	comp=E,7.0nm,0.5s						
ANMO	**Albuquerque**	**7.87**	**67**	Pn	**Pn**	**05 13 41.9**	**+0.3**
	comp=E,0.2nm,0.3s,baz=247,slow=13,SNR=3.7						
ANMO				Lg	Lg	05 15 50.3	
	comp=E,0.1nm,0.3s,baz=198,slow=19,SNR=3.3						
PV01	**Paradox Valley**	**8.09**	**41**	*e*Pn	**Pn**	**05 13 42.9**	**-1.8**
	comp=E,406nm,0.7s						
TXAR	**Lajitas Array**	**10.40**	**103**	Pn	**Pn**	**05 14 17.3**	**+1.1**
	comp=E,0.3nm,0.3s,baz=287,slow=13,SNR=18						
TXAR				Lg	Lg	05 17 09.4	
	comp=E,0.0nm,0.3s,baz=280,slow=31,SNR=2.1						
ILAR	**Eielson Array**	**37.95**	**339**	P	**P**	**05 19 06.6**	**+2.1**
	comp=E,0.2nm,0.6s,baz=148,slow=8.6,SNR=3.8						

MEX 25 05:44:57.0±0.8, 32°.28N×115°.33W, h6km±16km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.17**	**41**	*i* P	Pg	05 45 00.3	-0.1
MBIG				*i* S	Sg	05 45 02.3	-0.4
CBX	**Cerro Bola**	**1.13**	**272**	*e*P	Pg	05 45 16.0	-2.9
CBX				*e*S	Sg	05 45 29.7	-4.1
SPIG	**San Pedro Mart**	**1.23**	**185**	*e*P	Pg	05 45 17.4	-3.8
SPIG				*e*S	Sg	05 45 33.3	-4.2

*ISCJB **25** 05:49:58.5±0.6, 5°.38S±0°.08×29°.57E±0°.06, h20km, mb3.8/5, MS3.0/1, Error ellipse: s-maj=10.9km s-min=8.9km az=170.7*
*IDC **25** 05:49:58.2±1.2, 5°.34S×29°.48E, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.7/28, mbtmp3.9/9, ML1.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/35, Error ellipse: s-maj=35.9km s-min=20.5km az=105.0*
ISC 25 05:50:00.5±0.7, 5°.46S±0°.07×29°.52E±0°.09, h20km, n10, σ1°72/12, mb3.9/5, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**6.24**	**97**	*i* P	**Pn**	**05 51 32.6**	**+1.0**
DODT				*i* S	**Sn**	**05 52 42.2**	**-0.3**
KMBO	**Kilima Mbogo**	**8.84**	**61**	Pn	**Pn**	**05 52 05.8**	**-1.7**
	1.1nm,0.3s,baz=251,slow=14,SNR=17						
KMBO				Sn	Sn	05 53 40.0	-6.6
	6.2nm,0.3s,baz=285,slow=20,SNR=7.5						
KMBO				Lg	Lg	05 54 34.5	
	8.2nm,0.3s,baz=319,slow=18,SNR=6.9						
LSZ	**Lusaka**	**9.84**	**188**	Pn	**Pn**	**05 52 23.0**	**+1.9**
	1.9nm,0.3s,baz=4.3,slow=12,SNR=12						
LSZ				Sn	**Sn**	**05 54 07.1**	**-4.0**
	1.8nm,0.3s,baz=105,slow=20,SNR=5.7						
LSZ				Lg	Lg	05 55 09.6	
	6.9nm,0.3s,baz=106,slow=19,SNR=14						
TSUM	**Tsumeb**	**17.94**	**219**	P	**P**	**05 54 09.5**	**-0.1**
	0.3nm,0.3s,baz=33,slow=13,SNR=4.9						
TSUM				S	Sn	05 57 12.7	-16
	0.4nm,0.3s,baz=264,slow=19,SNR=3.0						
TSUM				Lg	Lg	05 59 19.2	
	0.4nm,0.3s,baz=332,slow=17,SNR=2.2						
TSUM				LR	LR	06 01 23.8	
	comp=Z,124nm,20.8s,baz=322,slow=38						
LBTB	**Lobatse**	**19.80**	**191**	P	**Pn**	**05 54 32.5**	**+1.0**
	0.3nm,0.3s,baz=27,slow=14,SNR=4.2						
LBTB				Lg	Lg	06 00 25.2	
	0.2nm,0.3s,baz=107,slow=20,SNR=2.1						
TORD	**Torodi Ar. Bea**	**33.25**	**304**	P	**P**	**05 56 36.3**	**-0.4**
	1.9nm,0.7s,baz=111,slow=7.3,SNR=16						
BRTR	**Keskin Array B**	**45.12**	**4**	P	**P**	**05 58 16.9**	**+1.2**
	0.2nm,0.8s,baz=182,slow=7.4,SNR=6.6						
GERES	**GERESS Array B**	**55.82**	**347**	P	**P**	**05 59 36.1**	**-0.3**
	0.1nm,0.3s,baz=178,slow=8.8,SNR=2.4						
GERES				LR	LR	06 27 16.7	
	comp=Z,11nm,18.5s,baz=54,slow=40						
AKASG	**Malin Array Be**	**55.94**	**360**	P	**P**	**05 59 36.7**	**-0.4**
	0.4nm,0.5s,baz=186,slow=6.9,SNR=5.8						
FINES	**FINESS Array B**	**66.76**	**358**	P	**P**	**06 00 50.3**	**+0.2**
	1.9nm,1.0s,baz=153,slow=7.8,SNR=4.9						

*IDC **25** 05:55:34.1±2.1, 38°.89N×74°.81E, h0km, mb3.6/9, mb1 3.7/12, mb1mx3.5/29, mbtmp3.5/12, ML2.9/3, Error ellipse: s-maj=43.4km s-min=24.0km az=127.0*
*KRNET **25** 05:55:38.6±0.1, 39°.17N×74°.61E, h2km, mb3.8*
*NNC **25** 05:55:43.6±1.7, 39°.38N×74°.29E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=13.6km s-min=10.1km az=5.0*
ISC 25 05:55:36.9±2.0, 39°.09N±0°.07×74°.71E±0°.05, h9km±10km, n28, σ1°60/35, mb3.5/9, 3C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.92**	**339**	*e*P	**Pb**	**05 56 11.9**	**-0.3**
	baz=340						
SALK				*e*S	**Sb**	**05 56 37.8**	**+1.5**
	baz=340						
CHVK	**Chauvay**	**2.19**	**299**	*e*P	**Pn**	**05 56 14.9**	**+1.2**
	baz=299						
CHVK				*e*S	**Sb**	**05 56 44.7**	**+0.5**
	baz=299						
DRK	**Karamyk**	**2.29**	**281**	*e*P	**Pb**	**05 56 19.0**	**+0.3**
	baz=279						
DRK				*e*S	**Sg**	**05 56 50.4**	**-0.3**
	baz=279						
NRN	**Naryn**	**2.54**	**22**	*e*P	**Pg**	**05 56 25.6**	**-0.1**
	baz=25						
NRN				*e*S	**Sg**	**05 57 00.0**	**+1.3**
	baz=25						
ARLS	**Aral**	**2.79**	**354**	⇓*i*P	**Pb**	**05 56 28.2**	**+1.2**
	baz=355						
ARLS				⇓*e*S	**Sg**	**05 57 05.2**	**-1.3**
	baz=355						
KZA	**Kyzart**	**3.02**	**8**	P	**Pb**	**05 56 31.8**	**+0.8**
	SNR=25						
AML	**Almayashu**	**3.14**	**346**	P	**Pn**	**05 56 29.8**	**+2.9**
	SNR=17						
UCH	**Uchtor**	**3.14**	**357**	P	**Pb**	**05 56 31.0**	**-2.2**
	SNR=14						
BTK	**Batken**	**3.16**	**289**	*e*P	**Pb**	**05 56 32.6**	**-0.7**
	baz=288						
BTK				*e*S	**Sb**	**05 57 11.6**	**-0.4**
	baz=288						
ULHL	**Ulahol**	**3.36**	**20**	P	**Pg**	**05 56 41.0**	**-0.4**
	SNR=8.8						
AAK	**Ala-Archa**	**3.55**	**357**	⇓Pn	Pn	05 56 35.7	+3.4
AAK				⇑Pg	**Pg**	**05 56 43.5**	**-1.4**
	11nm,0.7s						
AAK				⇓Lg	Lg	05 57 27.0	
	39nm,0.8s						
AAK	**Ala-Archa**	**3.55**	**357**	Pn	Pb	05 56 36.7	-3.2
	1.2nm,0.3s,baz=178,slow=10,SNR=10.0						
AAK				Sn	**Sb**	**05 57 26.1**	**+2.9**
	1.2nm,0.3s,baz=109,slow=18,SNR=5.3						
EKS2	**Erkin-Say**	**3.64**	**349**	P	**Sb**	**05 57 21.2**	**-4.6**
	SNR=6.7						
TKM2	**Tokmak 2**	**3.89**	**10**	P	**Pb**	**05 56 44.4**	**-1.4**
	SNR=16						
KK31	**Karatay Array**	**5.12**	**323**	Pn	**Pn**	**05 56 55.7**	**+2.0**
	0.4nm,0.2s,baz=137,slow=12,SNR=13						
KK31				⇓Pg	**Pb**	**05 57 09.4**	**+2.8**
	1.1nm,0.5s,baz=142,slow=13,SNR=7.4						
KK31				⇑Sn	**Sn**	**05 57 51.4**	**-1.5**
KK31				⇑Lg	Lg	05 58 14.1	
	12nm,0.9s,baz=137,slow=25,SNR=3.6						
KURBB	**Kurchatov Arra**	**11.85**	**12**	Lg	Lg	06 01 52.7	
	0.0nm,0.3s,baz=200,slow=27,SNR=5.7						
BVAR	**Borovoye Array**	**14.26**	**349**	Pn	**Pn**	**05 58 58.4**	**-0.5**
	0.1nm,0.3s,baz=149,slow=14,SNR=2.7						
AKTO	**Aktyubinsk**	**16.37**	**319**	Pn	**P**	**05 59 30.9**	**+1.3**
	0.2nm,0.3s,baz=135,slow=13,SNR=3.2						
ZALV	**Zalesovo Beam**	**16.39**	**22**	Pn	**Pn**	**05 59 26.2**	**-0.8**
	0.2nm,0.3s,baz=26,slow=27,SNR=2.6						
BRTR	**Keskin Array B**	**31.55**	**284**	P	**P**	**06 02 00.6**	**+1.0**
	0.4nm,0.7s,baz=86,slow=11,SNR=3.4						
FINES	**FINESS Array B**	**37.08**	**323**	P	**P**	**06 02 47.0**	**0.0**
	2.0nm,0.9s,baz=115,slow=10.0,SNR=11						
ARCES	**ARCESS Array B**	**39.95**	**336**	P	**P**	**06 03 11.1**	**0.0**
	6.9nm,1.0s,baz=111,slow=9.0,SNR=6.8						
GERES	**GERESS Array B**	**43.90**	**304**	P	**P**	**06 03 44.2**	**+0.5**
	0.3nm,0.4s,baz=62,slow=8.3,SNR=4.5						
NOA	**NORSAR Array B**	**44.15**	**321**	P	**P**	**06 03 44.5**	**-1.0**
	0.4nm,0.5s,baz=91,slow=7.9,SNR=3.3						
ESDC	**Sonseca Array**	**58.85**	**298**	P	**P**	**06 05 34.6**	**-1.3**
	0.1nm,0.3s,baz=58,slow=7.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**68.69**	**270**	P	**P**	**06 06 40.0**	**-1.0**
	0.6nm,0.8s,baz=44,slow=5.3,SNR=4.6						
ILAR	**Eielson Array**	**71.46**	**17**	P	**P**	**06 06 57.1**	**-0.3**
	0.3nm,0.9s,baz=317,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**78.49**	**4**	P	**P**	**06 07 38.3**	**+0.5**
	0.3nm,0.5s,baz=352,slow=5.7,SNR=6.0						

*IDC **25** 06:05:05.8±1.1, 32°.47N×92°.56E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.4/43, mbtmp3.6/9, ML3.2/2, MS3.0/8, Ms1 3.0/8, ms1mx2.8/30, Error ellipse: s-maj=37.0km s-min=21.8km az=61.0*
*BJI **25** 06:05:07.5, 32°.31N×92°.78E, h7km, mb3.6/2, ML3.4/6*
*ISCJB **25** 06:05:10.1±0.7, 32°.68N±0°.07×92°.7E±0°.1, h33km, mb3.6/6, MS3.0/5, Error ellipse: s-maj=15.8km s-min=6.5km az=32.4*
ISC 25 06:05:12.1±0.8, 32°.67N±0°.08×92°.8E±0°.1, h35km, n29, σ1°73/21, mb3.5/6, MS3.1/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.26**	**205**	Pg	**Pn**	**06 06 01.3**	**+0.1**
LSA				Sg	**Sn**	**06 06 43.5**	**+4.4**
LSA				SMN			
	100nm,0.8s						
LSA				SME			
	130nm,1.1s						
TAPN	**Taplejung**	**6.87**	**221**	*e*P	**Pn**	**06 06 47.6**	**-3.1**
SHL	**Shillong**	**7.12**	**186**	*ex*	**Pn**	**06 06 52.0**	**-1.9**
ODAN	**Odare**	**7.43**	**220**	*e*P	Pn	06 06 53.3	-5.0
JIRN	**Jiri**	**7.56**	**230**	*e*P	**Pn**	**06 06 59.5**	**-0.8**
	8.9nm,0.6s						
GUN	**Gumba**	**7.61**	**233**	*e*P	**Pn**	**06 07 01.2**	**+0.4**
RAMN	**Ramite**	**7.81**	**225**	*e*P	Pn	06 06 59.0	-4.6
	5.8nm,0.4s						
KKN	**Kakani**	**8.09**	**235**	*e*P	**Pn**	**06 07 08.3**	**+0.9**
PKI	**Pulchoki**	**8.14**	**233**	*e*P	**Pn**	**06 07 07.6**	**-0.5**
	9.5nm,0.5s						
PKIN	**Phulchoki**	**8.15**	**233**	*e*P	**Pn**	**06 07 07.9**	**-0.3**
	10nm,0.5s						
DMN	**Daman**	**8.32**	**235**	*e*P	**Pn**	**06 07 10.0**	**-0.6**
GTA	**Gaotai**	**8.82**	**38**	*e*P	**Pn**	**06 07 20.3**	**+3.0**
GTA				pP		06 07 30.9	
GTA				PMZ			
	3.0nm,1.5s						
DANN	**Dangsing**	**8.88**	**243**	*e*P	**Pn**	**06 07 19.3**	**+1.1**
	5.1nm,0.4s						
WMQ	**Urumqi**	**11.82**	**342**	P	Pn	06 08 03.9	+5.6
CMAR	**Chiang Mai Arr**	**15.20**	**157**	LR	LR	06 15 06.8	
	comp=Z,47nm,18.0s,baz=330,slow=40						
MKAR	**Makanchi Array**	**16.22**	**333**	Pn	**Pn**	**06 08 55.8**	**-1.6**
	0.1nm,0.3s,baz=148,slow=12,SNR=5.5						
MKAR				LR	LR	06 15 27.9	
	comp=Z,24nm,19.6s,baz=181,slow=38						
AAK	**Ala-Archa**	**17.52**	**310**	LR	LR	06 17 15.7	
	comp=Z,50nm,19.2s,baz=98,slow=42						
SONM	**Songino Array**	**18.34**	**30**	P	**P**	**06 09 23.8**	**+0.2**
	0.1nm,0.3s,baz=203,slow=14,SNR=3.1						
TLY	**Talaya**	**20.60**	**20**	LR	LR	06 18 27.6	
	comp=Z,48nm,20.7s,baz=351,slow=38						
KURBB	**Kurchatov Arra**	**20.79**	**334**	P	**P**	**06 09 49.7**	**-0.4**
	2.6nm,1.0s,baz=140,slow=12,SNR=22						
ZALV	**Zalesovo Beam**	**22.02**	**347**	P	**P**	**06 10 03.1**	**-0.1**
	1.1nm,0.7s,baz=148,slow=8.4,SNR=3.1						
ZALV				LR	LR	06 19 40.3	
	comp=Z,20nm,18.2s,baz=70,slow=40						
BVAR	**Borovoye Array**	**25.94**	**328**	P	**P**	**06 10 40.9**	**-0.1**
	0.2nm,0.3s,baz=147,slow=8.6,SNR=3.1						
GEYT	**Alibeck**	**28.65**	**290**	LR	LR	06 24 19.0	
	comp=Z,52nm,19.8s,baz=140,slow=40						
KBZ	**Khabaz**	**40.17**	**301**	LR	LR	06 34 54.7	
	comp=Z,30nm,19.1s,baz=142,slow=45						
FINES	**FINESS Array B**	**50.84**	**325**	P	**P**	**06 14 08.2**	**-0.7**
	0.5nm,0.6s,baz=114,slow=13,SNR=4.8						
NOA	**NORSAR Array B**	**58.02**	**325**	LR	LR	06 42 17.7	
	comp=Z,13nm,18.5s,baz=30,slow=38						
ASAR	**Alice Springs**	**68.41**	**140**	P	**P**	**06 16 09.8**	**-0.7**
	0.7nm,0.7s,baz=319,slow=6.2,SNR=8.7						
ILAR	**Eielson Array**	**72.38**	**23**	P	**P**	**06 16 34.5**	**+0.3**
	0.4nm,1.0s,baz=297,slow=4.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.91**	**282**	P	**P**	**06 17 36.7**	**-2.1**
	1.9nm,0.7s,baz=50,slow=4.9,SNR=11						

IDC 25 06:12:39.1±2.7, 54°.11N×86°.46E, h0km, mb1 2.8/2, mb1mx2.7/43, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=22.3km s-min=13.1km az=60.0, Southwestern Siberia

| Code | Station Name | Δ° | AZ° | Phase | ID | Time

ML1.5(UPP),Explosion
*NAO **25** 07:00:11.2±1.0,59.72N×24.27E,ML2.2*
*UPP **25** 07:00:15.7,59.79N×23.63E,h0km,ML1.5,Suspected Mining explosion.*

ISC 25 07:00:10.4±0.8,59.71N±0.02×24.22E±0.03,h0km,n73, σ1§20/94,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SRPE	**Suurupi**	**0.26**	**162**	*eP*		**Pg**	**07 00 15.7**	**+0.4**
SRPE				*eS*		**Sg**	**07 00 18.9**	**+0.2**
SRPE	**Suurupi**	**0.26**	**162**	P		**Pg**	**07 00 15.7**	**+0.4**
SRPE				S		**Sg**	**07 00 18.8**	**+0.2**
MEF	**Metsahovi**	**0.52**	**10**	*eP*		**Pg**	**07 00 20.4**	**+0.1**
MEF				*eS*		**Sg**	**07 00 27.1**	**0.0**
MEF	**Metsahovi**	**0.52**	**10**	P		**Pg**	**07 00 20.4**	**+0.1**
MEF				S		**Sg**	**07 00 27.0**	**0.0**
MTSE	**Matsula**	**1.02**	**192**	*eP*		**Pg**	**07 00 29.7**	**-0.2**
MTSE				*eSB*		**Sg**	**07 00 43.4**	**+0.3**
MTSE	**Matsula**	**1.02**	**192**	P		**Pg**	**07 00 29.7**	**-0.2**
MTSE				Sb		**Sg**	**07 00 43.4**	**+0.3**
PVF	**Pernaja**	**1.17**	**44**	*eP*		**Pg**	**07 00 32.2**	**-0.8**
PVF				*eS*		**Sg**	**07 00 47.1**	**-1.1**
PVF	**Pernaja**	**1.17**	**44**	P		**Pg**	**07 00 32.1**	**-0.8**
PVF				S		**Sg**	**07 00 47.0**	**-1.1**
RAF	**Rauma**	**1.80**	**318**	*eP*		**Pn**	**07 00 43.2**	**+0.6**
RAF				*eSN*		**Sn**	**07 01 07.2**	**+1.1**
RAF				MSG			07 01 11.7	
	comp=Z,26nm,0.2s							
RAF	**Rauma**	**1.80**	**318**	P		**Pn**	**07 00 43.2**	**+0.6**
RAF				Sn		**Sn**	**07 01 07.2**	**+1.1**
VSU	**Vasula**	**1.80**	**133**	Pg		**Pn**	**07 00 43.5**	**+0.8**
VSU				Lg		Lg	07 01 09.3	
VSU	**Vasula**	**1.80**	**133**	*ePG*		**Pn**	**07 00 43.4**	**+0.8**
VSU				*eS*		**Sn**	**07 01 05.9**	**-0.3**
VSU	**Vasula**	**1.80**	**133**	Pg		**Pn**	**07 00 43.5**	**+0.8**
VSU				S		**Sn**	**07 01 05.9**	**-0.3**
VSU				Lg		Lg	07 01 09.3	
VJF	**Virojoki**	**1.87**	**62**	*eP*		**Pn**	**07 00 43.8**	**+0.3**
VJF	**Virojoki**	**1.87**	**62**	P		**Pn**	**07 00 43.8**	**+0.3**
FIA0	**FINESS Array S**	**1.97**	**27**	Pn		**Pn**	**07 00 46.1**	**+1.2**
	baz=209,slow=18							
FIA0				Lg		Lg	07 01 12.1	
	baz=201,slow=37							
FIA0	**FINESS Array S**	**1.97**	**27**	*eP*		**Pn**	**07 00 45.8**	**+0.8**
FIA0				*eSG*		**Sn**	**07 01 11.7**	**+1.4**
FIA0				MSG			07 01 14.0	
	comp=Z,17nm,0.2s							
FIA0	**FINESS Array S**	**1.97**	**27**	P		**Pn**	**07 00 45.8**	**+0.8**
FIA0	**FINESS Array S**	**1.97**	**27**	Pn		**Pn**	**07 00 46.1**	**+1.2**
	SNR=843							
FIA0				Lg		Lg	07 01 12.1	
	SNR=6.9							
FINES	**FINESS Array B**	**1.97**	**27**	Pn		**Pn**	**07 00 46.1**	**+1.2**
	comp=Z,7.6nm,0.3s,baz=204,slow=16,SNR=632							
FINES				Sn		**Sb**	**07 01 12.1**	**0.0**
	comp=Z,6.2nm,0.3s,baz=203,slow=26,SNR=25							
AAL	**Aland**	**2.18**	**284**	*eP*		**Pn**	**07 00 48.8**	**+1.0**
AAL				*eS*		**Sn**	**07 01 16.5**	**+1.0**
AAL				*eSB*		**Sb**	**07 01 18.0**	**-0.1**
AAL	**Aland**	**2.18**	**284**	P		**Pn**	**07 00 48.8**	**+1.0**
AAL				S		**Sn**	**07 01 16.4**	**+1.0**
SLIT	**Slitere, Latvi**	**2.32**	**207**	*ePB*		**Pb**	**07 00 51.8**	**-1.2**
KEF	**Keuruu**	**2.49**	**7**	*eSB*		**Sb**	**07 01 26.9**	**-0.1**
KEF				MSG			07 01 30.8	
	comp=Z,14nm,0.2s							
KAF	**Kangasniemi**	**2.62**	**22**	*eSB*		**Sb**	**07 01 30.6**	**-0.2**
KAF				MSG			07 01 34.1	
	comp=Z,7.8nm,0.2s							
NRTU	**Norrtaelje**	**2.83**	**272**	*eP*		**Pn**	**07 00 59.2**	**+2.4**
NRTU	**Norrtaelje**	**2.83**	**272**	P		**Pn**	**07 00 59.2**	**+2.4**
GRAU	**Graesoe**	**2.92**	**285**	*eP*		**Pn**	**07 00 59.0**	**+1.0**
GRAU	**Graesoe**	**2.92**	**285**	P		**Pn**	**07 00 59.0**	**+1.0**
FLYU	**Flymyra**	**3.22**	**280**	*eP*		**Pn**	**07 01 02.7**	**+0.6**
FLYU	**Flymyra**	**3.22**	**280**	P		**Pn**	**07 01 02.7**	**+0.6**
NYNU	**Nynaeshamn**	**3.26**	**260**	*eP*		**Pn**	**07 01 03.6**	**+0.9**
NYNU	**Nynaeshamn**	**3.26**	**260**	P		**Pn**	**07 01 03.6**	**+0.9**
VAF	**Ylistaro**	**3.43**	**348**	*eSB*		**Sb**	**07 01 54.8**	**+0.7**
BACU	**Backbrunna**	**3.60**	**275**	*eP*		**Pn**	**07 01 08.2**	**+0.8**
BACU	**Backbrunna**	**3.60**	**275**	P		**Pn**	**07 01 08.1**	**+0.8**
OSTU	**Oestervaala**	**3.60**	**281**	*eP*		**Pn**	**07 01 08.0**	**+0.6**
OSTU	**Oestervaala**	**3.60**	**281**	P		**Pn**	**07 01 08.0**	**+0.6**
IGGU	**Iggoen**	**3.63**	**292**	*eP*		**Pn**	**07 01 08.4**	**+0.6**
IGGU	**Iggoen**	**3.63**	**292**	P		**Pn**	**07 01 08.4**	**+0.6**
ARNU	**Arnoeviken**	**3.91**	**304**	*eP*		**Pn**	**07 01 12.2**	**+0.6**
ARNU	**Arnoeviken**	**3.91**	**304**	P		**Pn**	**07 01 12.2**	**+0.6**
HEMU	**Hemsoen**	**4.22**	**318**	*eP*		**Pn**	**07 01 17.3**	**+1.4**
HEMU	**Hemsoen**	**4.22**	**318**	P		**Pn**	**07 01 17.3**	**+1.4**
HUSU	**Husum**	**4.36**	**329**	*eP*		**Pn**	**07 01 19.7**	**+1.9**
HUSU	**Husum**	**4.36**	**329**	P		**Pn**	**07 01 19.7**	**+1.9**
JOF	**Joensuu**	**4.70**	**44**	*eP*		**Pn**	**07 01 22.2**	**-0.2**
JOF	**Joensuu**	**4.70**	**44**	P		**Pn**	**07 01 22.2**	**-0.2**
BREU	**Bredtraesk**	**4.98**	**330**	*eP*		**Pn**	**07 01 28.5**	**+2.2**
BREU	**Bredtraesk**	**4.98**	**330**	P		**Pn**	**07 01 28.5**	**+2.2**
BURU	**Burvik**	**5.07**	**346**	*eP*		**Pn**	**07 01 29.6**	**+2.1**
BURU	**Burvik**	**5.07**	**346**	P		**Pn**	**07 01 29.6**	**+2.1**
SVAU	**Svanoeiden**	**5.27**	**338**	*eP*		**Pn**	**07 01 33.2**	**+2.8**
SVAU	**Svanoeiden**	**5.27**	**338**	P		**Pn**	**07 01 33.1**	**+2.8**
HFS	**Hagfors**	**5.31**	**279**	Pn		**Pn**	**07 01 31.5**	**+0.6**
	baz=109,slow=11							
HFS				Sn		**Sn**	**07 02 30.0**	**-2.8**
	baz=98,slow=37							
HFS				Lg		Lg	07 02 53.4	
	baz=97,slow=37							
HFS	**Hagfors**	**5.31**	**279**	Pn		**Pn**	**07 01 31.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=76,slow=14,SNR=23							
HFS				Sn		**Sn**	**07 02 32.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=93,slow=29,SNR=7.3							
HFS				Lg		Lg	07 02 56.7	
	comp=Z,1.0nm,0.3s,baz=94,slow=30,SNR=10							
HFS	**Hagfors**	**5.31**	**279**	Pn		**Pn**	**07 01 31.5**	**+0.6**
	SNR=0.3							
HFS				Sn		**Sn**	**07 02 30.0**	**-2.8**
	SNR=6.9							
HFS				Lg		Lg	07 02 53.4	
	SNR=8.6							
SJUU	**Sjulsmark**	**5.95**	**349**	*eP*		**Pn**	**07 01 40.8**	**+1.3**
SJUU	**Sjulsmark**	**5.95**	**349**	P		**Pn**	**07 01 40.8**	**+1.3**
LILU	**Lilltraesk**	**5.95**	**342**	*eP*		**Pn**	**07 01 41.1**	**+1.5**
LILU	**Lilltraesk**	**5.95**	**342**	P		**Pn**	**07 01 41.1**	**+1.5**
NB2	**NORSAR Subarra**	**6.59**	**287**	Pn		**Pn**	**07 01 47.5**	**-0.9**
	baz=93,slow=14							
NB2	**NORSAR Subarra**	**6.59**	**287**	Pn		**Pn**	**07 01 47.5**	**-0.9**
	SNR=0.5							
NOA	**NORSAR Array B**	**6.59**	**287**	Pn		**Pn**	**07 01 46.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=60,slow=14,SNR=14							
NOA				Sn		**Sn**	**07 03 03.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=39,slow=21,SNR=2.9							
HARU	**Harads**	**6.65**	**349**	*eP*		**Pn**	**07 01 50.2**	**+1.0**
HARU	**Harads**	**6.65**	**349**	P		**Pn**	**07 01 50.2**	**+1.0**
SALU	**Saltoluokta**	**8.11**	**344**	*eP*		**Pn**	**07 02 10.4**	**+1.2**
SALU	**Saltoluokta**	**8.11**	**344**	P		**Pn**	**07 02 10.4**	**+1.2**
APA0	**Apatity Array**	**8.82**	**22**	Pn		**Pn**	**07 02 20.9**	**+1.9**
	baz=220,slow=14							
APA0	**Apatity Array**	**8.82**	**22**	Pn		**Pn**	**07 02 20.9**	**+1.9**
	SNR=2.2							
ARA0	**ARCESS Array S**	**9.88**	**3**	Pn		**Pn**	**07 02 33.0**	**-0.5**
	baz=181,slow=12							
ARA0	**ARCESS Array S**	**9.88**	**3**	Pn		**Pn**	**07 02 33.0**	**-0.5**
	SNR=3.4							
ARCES	**ARCESS Array B**	**9.88**	**3**	Pn		**Pn**	**07 02 33.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=180,slow=12,SNR=22							

*ISCJB **25** 07:06:51.6±0.7,36.27S±0.05×72.5W±0.1,h35km, mb4.2/10,MS3.2/3,Error ellipse: s-maj=13.2km s-min=7.2km az=6.8*
*NEIC **25** 07:06:53.6±0.6,36.27S×72.57W,h35km,mb4.3/6, ML4.7(GUC),Error ellipse: s-maj=14.3km s-min=8.4km az=85.0*
NEIC Felt [V] at Coelemu, [IV] at Chillan and Tome, [III] at Penco and Treguaco and [II] at Cauquenes and Parral.
*IDC **25** 07:06:54.9±1.1,36.38S×72.26W,h50km±9km,mb3.8/6, mb1 4.0/10,mb1mx3.8/22,mbtmp4.1/10,MS3.5/6, Ms1 3.5/6,ms1mx3.2/22,Error ellipse: s-maj=30.2km s-min=15.9km az=108.0*

ISC 25 07:06:53.6±0.8,36.30S±0.07×72.5W±0.1,h35km,n24, σ1§52/25,mb4.2/10,MS3.2/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLCA	**Paso Flores**	**4.69**	**161**	P		**Pn**	**07 08 03.1**	**+1.1**
	6.0nm,0.3s,baz=331,slow=11,SNR=218							
PLCA					LR	LR	07 09 51.5	
	comp=Z,210nm,18.6s,baz=319,slow=39							
PLCA	**Paso Flores**	**4.69**	**161**	*ePn*		**Pn**	**07 08 02.8**	**+0.7**
CFAA	**Coronel Fontan**	**5.88**	**38**	P		**Pn**	**07 08 19.4**	**+1.0**
	0.2nm,0.3s,baz=217,slow=12,SNR=51							
CFAA				S		**Sn**	**07 09 25.9**	**+1.5**
	0.3nm,0.3s,baz=308,slow=19,SNR=2.8							
LCO	**Las Campanas**	**7.42**	**12**	*ePn*		**Pn**	**07 08 39.9**	**+0.2**
LCO				*eSn*		**Sn**	**07 10 01.4**	**-1.5**
TRQA	**Tornquist**	**8.60**	**105**	*ePn*		**Pn**	**07 08 56.1**	**+0.6**
	12nm,0.8s							
LVC	**Limon Verde**	**13.99**	**14**	P		**Pn**	**07 10 11.5**	**+1.9**
	5.1nm,0.3s,baz=236,slow=13,SNR=1.9							
LVC					LR	LR	07 15 34.5	
	comp=Z,351nm,20.9s,baz=195,slow=37							
LVC	**Limon Verde**	**13.99**	**14**	Pn		**Pn**	**07 10 09.7**	**0.0**
CPUP	**Villa Florida**	**16.33**	**57**	LR		LR	07 17 30.9	
	comp=Z,673nm,20.1s,baz=190,slow=39							
CPUP	**Villa Florida**	**16.33**	**57**	Pn		**Pn**	**07 10 40.9**	**+0.8**
USHA	**Ushuaia**	**18.75**	**173**	P		**Pn**	**07 11 10.3**	**+0.3**
	0.4nm,0.3s,baz=300,slow=8.1,SNR=3.4							
LPAZ	**La Paz**	**20.31**	**12**	P		Pn	07 11 29.5	-0.1
	1.6nm,0.7s,baz=188,slow=8.6,SNR=11							
LPAZ	**La Paz**	**20.31**	**12**	P		**P**	**07 11 27.1**	**-0.2**
	6.1nm,0.9s							
SIV	**San Ignacio**	**22.65**	**30**	P		**P**	**07 11 51.0**	**-0.8**
	6.2nm,0.8s,baz=220,slow=9.3,SNR=14							
SIV					pP	**pP**	**07 12 04.3**	**+3.2**
	1.9nm,0.5s,baz=213,slow=10.0,SNR=2.9							
SIV					LR	LR	07 21 41.2	
	comp=Z,62nm,19.9s,baz=246,slow=39							
NNA	**Nana**	**24.52**	**350**	*eP*		**P**	**07 12 10.8**	**+0.9**
	7.0nm,0.3s							
SAML	**Samuel**	**28.52**	**20**	*eP*		**P**	**07 12 45.9**	**0.0**
	2.4nm,0.9s							
BDFB	**Brasilia**	**29.99**	**53**	P		**P**	**07 12 57.2**	**-1.9**
	2.1nm,0.7s,baz=214,slow=11,SNR=3.3							
BDFB					LR	LR	07 26 28.7	
	comp=Z,65nm,21.5s,baz=218,slow=39							
PTGA	**Pitinga**	**37.25**	**21**	*eP*		**P**	**07 14 01.3**	**-0.8**
	12nm,1.3s							
TXAR	**Lajitas Array**	**71.55**	**332**	LR		LR	07 45 02.0	
	comp=Z,23nm,18.4s,baz=0.0,slow=32							
WMOK	**Wichita Mounta**	**74.79**	**338**	*eP*		**P**	**07 18 29.1**	**-1.0**
	3.3nm,1.3s							
U34A	**Anderson Ranch**	**76.00**	**339**	*eP*		**P**	**07 18 34.9**	**-2.1**
	8.2nm,1.4s							
DBIC	**Dimbokro**	**76.29**	**71**	P		**P**	**07 18 37.3**	**-1.9**
	3.4nm,0.6s,baz=194,slow=7.8,SNR=7.5							
DBIC					pP	**PcP**	**07 18 50.9**	**-0.1**
	4.0nm,0.6s,baz=193,slow=5.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**85.36**	**70**	P		**P**	**07 19 25.7**	**-1.9**
	1.1nm,0.8s,baz=259,slow=4.2,SNR=6.5							
NVAR	**Mina Array Bea**	**85.55**	**326**	P		**P**	**07 19 28.9**	**+0.8**
	0.5nm,0.7s,baz=164,slow=6.8,SNR=3.9							
NVAR					pP	**pP**	**07 19 42.5**	**+3.2**
	0.7nm,0.9s,baz=144,slow=6.5,SNR=4.0							
ABKAR	**Akbulak array**	**143.38**	**54**	*e*PKPdf		PKPab	07 26 19.0	-0.9

NNC 25 07:33:15.0±10.0,36.68N×71.02E,h205km±180km,mb2.5, mpv3.6,4C-1D,Error ellipse: s-maj=115.1km s-min=64.4km az=39.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KK31	**Karatay Array**	**6.42**	**357**	P		Pn	07 34 48.8	+1.0
	1.6nm,0.2s,baz=176,slow=12,SNR=84							
KK31					⇑S	S	07 36 01.2	0.0
	2.8nm,0.4s,baz=186,slow=21,SNR=12							
AAK	**Ala-Archa**	**6.52**	**23**		⇓P	Pn	07 34 50.2	+1.0
	1.7nm,0.4s							
AAK					⇑S	S	07 36 05.7	+1.9
	3.1nm,0.6s							
TKM2	**Tokmak 2**	**7.16**	**28**		⇑P	Pn	07 34 53.5	-4.0
	4.5nm,1.1s							
AB31	**Akbulak array**	**14.93**	**331**	P		P	07 36 40.6	+4.1
	0.2nm,0.3s,baz=161,slow=11,SNR=21							
AB31					⇑S	S	07 39 17.8	-3.6
	0.6nm,0.6s,baz=158,slow=23,SNR=2.7							

IDC 25 07:33:43.7±1.7,19.02S×174.54W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/25,mbtmp3.8/4,Error ellipse: s-maj=60.1km s-min=31.0km az=125.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
URZ	**Urewera**	**20.51**	**199**	P		P	07 38 23.0	-0.4
	2.2nm,0.6s,baz=269,slow=5.7,SNR=4.2							
ASAR	**Alice Springs**	**48.04**	**255**	P		P	07 42 25.3	+0.1
	0.7nm,0.5s,baz=93,slow=8.5,SNR=17							
ASAR					PcP	PcP	07 43 53.0	-0.2
	0.2nm,0.6s,baz=110,slow=4.1,SNR=5.7							
WRA	**Warramunga Arr**	**48.05**	**260**	P		P	07 42 24.9	-0.4
	0.5nm,0.4s,baz=96,slow=7.7,SNR=9.2							
WRA					PcP	PcP	07 43 53.5	+0.2
	0.3nm,0.6s,baz=98,slow=2.9,SNR=2.3							
ILAR	**Eielson Array**	**86.18**	**11**	P		P	07 46 26.2	-0.2
	0.5nm,0.6s,baz=230,slow=6.1,SNR=22							

*IDC **25** 08:00:37.5±4.5,36.23N×71.15E,h120km±29km,mb3.5/7, mb1 3.5/13,mb1mx3.2/54,mbtmp3.9/13,Error ellipse: s-maj=47.6km s-min=17.1km az=151.0*
*ISCJB **25** 08:00:43.3±0.6,36.51N±0.05×71.38E±0.09,h200km, mb3.4/6,Error ellipse: s-maj=11.0km s-min=4.7km az=155.0*
*NNC **25** 08:00:49.4±4.2,37.08N×71.24E,h200km±45km,mb3.2, mpv4.3,Error ellipse: s-maj=37.2km s-min=22.9km az=16.0*

ISC 25 08:00:43.6±0.8,36.55N±0.07×71.55E±0.09,h200km,n44, σ1§87/43,mb3.4/6,6C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DLH	**Dalhousie**	**5.41**	**136**	*eP*		**Pn**	**08 02 01.0**	**-2.6**
DLH				*eS*		**Sn**	**08 03 03.0**	**-3.6**
AML	**Almayashu**	**5.81**	**16**	P		**Pn**	**08 02 08.3**	**-0.5**
	SNR=117							
UCH	**Uchtor**	**6.11**	**21**	P		**Pn**	**08 02 12.9**	**+0.2**
	SNR=23							
KZA	**Kyzart**	**6.22**	**26**	P		**Pn**	**08 02 15.0**	**+1.0**
	SNR=16							
EKS2	**Erkin-Say**	**6.34**	**15**	P		**Pn**	**08 02 16.4**	**+1.1**
	SNR=8.2							
AAK	**Ala-Archa**	**6.48**	**20**		⇓P	**Pn**	**08 02 17.7**	**+0.5**
	9.5nm,0.3s							
AAK					⇑S	**Sn**	**08 03 29.3**	**-2.1**
	13nm,0.8s							
AAK	**Ala-Archa**	**6.48**	**20**	P		**Pn**	**08 02 17.8**	**+0.5**
	SNR=28							
AAK	**Ala-Archa**	**6.48**	**20**	P		**Pn**	**08 02 17.5**	**+0.3**
	5.9nm,0.3s,baz=193,slow=6.0,SNR=44							
AAK					S	**Sn**	**08 03 32.6**	**+1.2**
	2.2nm,0.3s,baz=303,slow=23,SNR=16							
KK31	**Karatay Array**	**6.59**	**353**	P		**Pn**	**08 02 16.5**	**-2.0**
	4.8nm,0.3s,baz=186,slow=12,SNR=150							
KK31					⇑S	**Sn**	**08 03 27.8**	**-5.9**
	8.9nm,0.4s,baz=187,slow=24,SNR=14							
KBK	**Karagaybulak**	**6.63**	**22**	P		Pn	08 02 22.8	+3.6
	SNR=6.3							
CHMS	**Chumysh**	**6.89**	**20**	P		**Pn**	**08 02 25.0**	**+2.6**
	SNR=11							
USP	**Ospenovka**	**7.08**	**18**	P		**Pn**	**08 02 27.5**	**+2.7**
	SNR=5.7							
TKM2	**Tokmak 2**	**7.08**	**25**		⇑P	**Pn**	**08 02 25.4**	**+0.4**
	29nm,0.6s							
TKM2					⇓S	**Sn**	**08 03 42.1**	**-3.4**
	8.6nm,1.4s							
TKM2	**Tokmak 2**	**7.08**	**25**	P		Pn	08 02 28.1	+3.1
	SNR=31							
GEYT	**Alibeck**	**10.80**	**281**	P		Pn	08 03 06.2	-6.9
	1.6nm,0.3s,baz=89,slow=7.9,SNR=14							
GEYT					S	Sn	08 05 01.1	-13
	2.3nm,0.3s,baz=122,slow=21,SNR=7.6							
PYUN	**Piuthan**	**12.82**	**128**	*eP*		**Pn**	**08 03 38.5**	**-0.6**
	65nm,0.4s							
MK31	**Makanchi Array**	**12.99**	**35**		⇓P	**P**	**08 03 43.7**	**-0.4**
	0.8nm,0.5s,baz=221,slow=12,SNR=5.1							
MKAR	**Makanchi Array**	**12.99**	**35**	P		**P**	**08 03 43.9**	**-0.3**
	0.1nm,0.3s,baz=230,slow=19,SNR=5.9							
DANN	**Dangsing**	**13.15**	**125**	*eP*		**Pn**	**08 03 43.3**	**0.0**
	28nm,0.4s							
KOLN	**Koldanda**	**13.44**	**127**	*eP*		**Pn**	**08 03 46.7**	**-0.1**
	18nm,0.4s							
GKN	**Gorkha**	**13.96**	**124**	*eP*		**P**	**08 03 54.5**	**-0.7**
	31nm,0.4s							
KKN	**Kakani**	**14.53**	**123**	*eP*		**P**	**08 04 01.2**	**-0.4**
	19nm,0.5s							
DMN	**Daman**	**14.53**	**124**	*eP*		**P**	**08 04 01.7**	**+0.1**
	12nm,0.4s							
PKIN	**Phulchoki**	**14.75**	**123**	*eP*		**P**	**08 04 04.7**	**+0.7**
	22nm,0.5s							
PKI	**Pulchoki**	**14.76**	**123**	*eP*		**P**	**08 04 04.7**	**+0.5**
	22nm,0.5s							
GUN	**Gumba**	**14.86**	**121**	*eP*		**P**	**08 04 06.2**	**+0.8**
	14nm,0.4s							
KURBB	**Kurchatov Arra**	**14.93**	**17**		⇓P	**P**	**08 04 05.3**	**-0.3**
	5.4nm,0.8s							
KURBB	**Kurchatov Arra**	**14.93**	**17**	P		**P**	**08 04 05.8**	**+0.2**
	0.0nm,0.3s,baz=207,slow=10,SNR=7.6							
JIRN	**Jiri**	**15.23**	**121**	*eP*		**P**	**08 04 11.6**	**+2.1**
	59nm,0.4s							
AB31	**Akbulak array**	**15.26**	**330**		⇑P	**P**	**08 04 08.8**	**-0.3**
	1.3nm,0.3s,baz=146,slow=12,SNR=77							
AB31					⇑S	S	08 06 46.8	-11
	3.7nm,0.6s,baz=31,slow=62,SNR=4.2							
RAMN	**Ramite**	**15.97**	**123**	*eP*		**Pn**	**08 04 19.7**	**+1.8**
	22nm,0.5s							
TAPN	**Taplejung**	**16.48**	**119**	*eP*		**Pn**	**08 04 27.4**	**+3.3**
	19nm,0.4s							
BVAR	**Borovoye Array**	**16.49**	**358**	P		**Pn**	**08 04 24.9**	**+1.2**
	0.4nm,0.3s,baz=154,slow=12,SNR=8.4							
BRVK	**Borovoye**	**16.53**	**357**		⇑P	**P**	**08 04 22.9**	**-0.3**
	7.5nm,0.9s							
ODAN	**Odare**	**16.57**	**121**	*eP*		**Pn**	**08 04 28.3**	**+3.3**
	35nm,0.9s							
AKTO	**Aktyubinsk**	**16.96**	**329**		⇓P	**Pn**	**08 04 29.3**	**+0.1**
	4.6nm,1.2s							
AKTO	**Aktyubinsk**	**16.96**	**329**	P		**P**	**08 04 28.1**	**+0.2**
	0.4nm,0.3s,baz=146,slow=9.9,SNR=5.8							
ZALV	**Zalesovo Beam**	**19.68**	**24**	P		**Pn**	**08 05 01.6**	**+0.2**
	5.6nm,0.6s,baz=222,slow=12,SNR=30							
FINES	**FINESS Array B**	**37.69**	**326**	P		**P**	**08 07 42.0**	**+2.6**
	1.8nm,0.9s,baz=134,slow=14,SNR=4.1							
ARCES	**ARCESS Array B**	**41.27**	**337**	P		P	08 08 12.3	+3.5
	4.0nm,1.0s,baz=92,slow=6.6,SNR=4.3							
NOA	**NORSAR Array B**	**44.60**	**323**	P		**P**	**08 08 38.2**	**+2.5**
	0.6nm,0.6s,baz=95,slow=7.8,SNR=3.4							
TORD	**Torodi Ar. Bea**	**66.16**	**269**	P		**P**	**08 11 09.8**	**-0.2**
	0.3nm,0.7s,baz=46,slow=6.4,SNR=3.0							
INK	**Inuvik**	**73.78**	**9**	P		P	08 12 00.5	+5.0
	0.5nm,0.6s,baz=351,slow=5.9,SNR=5.7							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		P	08 12 41.0	+4.6
	0.4nm,0.5s,baz=350,slow=5.5,SNR=6.6							

*IDC **25** 08:05:00.3±1.0,10.39S×118.97E,h0km,mb4.1/5, mb1 4.0/7,mb1mx3.7/39,mbtmp4.0/7,ML3.7/2,Error ellipse: s-maj=45.6km s-min=20.2km az=76.0*
*ISCJB **25** 08:05:04.0±0.5,10.75S±0.04×118.96E±0.06,h41km, mb4.2/5,Error ellipse: s-maj=7.9km s-min=5.7km az=179.5*
*AUST **25** 08:05:07.8,10.49S×118.95E,h100km*
*DJA **25** 08:05:07.7±0.7,11°.5±6'×11°.9E±', h63km±18km,M4.3/12, mb4.6/5,mB4.9/1,MLv4.2/8,MLv4.3/12,Mw(mB)4.2/1*

ISC 25 08:05:06.0±0.7,10.64S±0.07×118.96E±0.05,h41km,n28, σ1§97/28,mb4.2/5,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WSI	**Waingapu**	**1.64**	**54**	P		**Pn**	**08 05 33.4**	**+1.1**
WSI				S		**Sn**	**08 05 53.1**	**+1.0**
WSI	**Waingapu**	**1.64**	**54**	P		**Pn**	**08 05 33.5**	**+1.3**
	baz=1.6,SNR=13							
BASI	**Baing, Sumba**	**1.65**	**75**	P		**Pn**	**08 05 33.3**	**+0.9**
EDFI	**Ende, Flores**	**3.28**	**55**	P		**Pn**	**08 05 54.0**	**-1.1**
MMRI	**Maumere**	**3.80**	**59**	P		**Pn**	**08 06 01.7**	**-0.3**
SBBI	**Singaraja**	**4.49**	**304**	P		Pn	08 06 16.0	+4.5
BSSI	**Bau Bau, Buton**	**4.72**	**19**	P		**Pn**	**08 06 16.3

TWGZ	**Tauwhareparae**	**5.75**	**192**	PN	**Pn**	**08 11 49.7**	**+0.6**
CNGZ	**Carnagh Statio**	**6.02**	**190**	*e*PN	**Pn**	**08 11 53.4**	**+1.2**
URZ	**Urewera**	**6.03**	**199**	P	**Pn**	**08 11 52.8**	**+0.5**
	2.6nm,0.3s,baz=277,slow=2.9,SNR=34						
URZ				S	**S**	**08 13 05.4**	**+0.9**
	0.6nm,0.3s,baz=348,slow=20,SNR=6.9						
URZ	**Urewera**	**6.03**	**199**	*e*PN	**Pn**	**08 11 52.2**	**-0.1**
URZ				*e*SN	**S**	**08 13 05.3**	**+0.8**
RIGZ	**Rimuhau**	**6.31**	**193**	*e*PN	**Pn**	**08 11 55.3**	**-0.4**
KNZ	**Kokohu**	**6.63**	**193**	*e*PN	**Pn**	**08 12 00.2**	**+0.7**
ARHZ	**Aropaoanui**	**7.01**	**197**	*e*PN	**Pn**	**08 12 04.9**	**+0.8**
BKZ	**Black Stump Fm**	**7.05**	**200**	*e*PN	**Pn**	**08 12 05.7**	**+1.0**
KAHZ	**Kahuranaki**	**7.54**	**196**	*e*PN	**Pn**	**08 12 10.6**	**-0.1**
PXZ	**Pawanui**	**7.77**	**195**	*e*PN	**Pn**	**08 12 12.5**	**-0.9**
PXZ				*e*SN	**S**	**08 13 42.2**	**-0.9**
MRZ	**Mangatainoka R**	**8.70**	**200**	*e*PN	**Pn**	**08 12 23.8**	**-0.9**
MRZ				*e*SN	**S**	**08 14 03.2**	**-0.7**
OGWZ	**Otaki Gorge**	**8.96**	**202**	*e*PN	**Pn**	**08 12 26.1**	**-1.9**
THZ	**Tophouse**	**10.61**	**208**	*e*PN	**Pn**	**08 12 47.7**	**-0.5**
ASAR	**Alice Springs**	**40.97**	**271**	P	**P**	**08 17 38.0**	**+0.9**
	0.4nm,0.5s,baz=105,slow=7.7,SNR=6.1						
WRA	**Warramunga Arr**	**42.16**	**276**	P	**P**	**08 17 47.1**	**+0.4**
	0.5nm,0.3s,baz=112,slow=7.9,SNR=9.9						
FINES	**FINESS Array B**	**146.38**	**337**	PKPbc	**PKPdf**	**08 29 24.8**	**-1.1**
	1.6nm,0.9s,baz=72,slow=6.2,SNR=5.5						

NNC ***25*** *08:10:55.2±2.6,50°.17N×73°.08E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=32.7km s-min=11.3km az=29.0*

ISCJB ***25*** *08:10:58.4±0.7,50°.82N±0°.05×73°.77E±0°.09,h10km, mb3.5/1, Error ellipse: s-maj=9.0km s-min=6.6km az=137.1*

IDC ***25*** *08:10:59.6±0.9,51°.02N×73°.67E,h0km,mb3.3/1, mb1 3.2/6,mb1mx3.1/52,mbtmp3.0/6,ML2.5/5, Error ellipse: s-maj=21.3km s-min=7.8km az=26.0*

ISC 25 08:10:59.4±0.8, 50°.93N±0°.07×73°.53E±0°.05, h10km, n12, σ1s50/16, 6C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**2.86**	**318**	⇑Pn	**Pb**	**08 11 49.3**	**-1.2**
BVA0				⇑Sn	**Sg**	**08 12 28.8**	**-2.4**
	0.1nm,0.9s,baz=128,slow=28,SNR=12						
BVAR	**Borovoye Array**	**2.86**	**318**	Pn	**Pn**	**08 11 47.4**	**+2.3**
	1.4nm,0.3s,baz=147,slow=17,SNR=18						
BVAR				Lg	Lg	08 12 27.9	
	1.5nm,0.3s,baz=115,slow=21,SNR=4.6						
BRVK	**Borovoye**	**2.93**	**318**	⇑Pn	**Pb**	**08 11 50.0**	**-1.7**
	9.0nm,0.7s						
BRVK				⇓Sn	**Sb**	**08 12 30.4**	**+2.9**
	89nm,0.8s						
KURBB	**Kurchatov Arra**	**3.19**	**94**	⇓Pn	**Pn**	**08 11 49.3**	**-0.2**
	16nm,0.6s						
KURBB				⇑Sn	**Sb**	**08 12 34.4**	**-0.4**
	87nm,0.7s						
KURBB	**Kurchatov Arra**	**3.19**	**94**	Pn	**Pn**	**08 11 49.5**	**0.0**
	0.2nm,0.3s,baz=279,slow=14,SNR=41						
KURBB				Lg	Lg	08 12 36.2	
	0.8nm,0.3s,baz=270,slow=29,SNR=11						
MK31	**Makanchi Array**	**7.10**	**122**	⇑Pn	Pn	08 12 40.0	-3.4
	0.3nm,0.6s,baz=293,slow=15,SNR=4.2						
MK31				⇓Pg	**Pb**	**08 13 04.2**	**+1.4**
	0.9nm,0.5s,baz=291,slow=17,SNR=6.2						
MK31				⇓Lg	Lg	08 14 37.9	
	10nm,0.7s,baz=296,slow=27,SNR=6.3						
MKAR	**Makanchi Array**	**7.10**	**122**	Pn	**Pn**	**08 12 43.7**	**+0.4**
	0.1nm,0.3s,baz=303,slow=12,SNR=3.4						
MKAR				Sn	**Sn**	**08 14 03.8**	**-0.3**
	0.2nm,0.3s,baz=285,slow=16,SNR=3.1						
MKAR				Lg	Lg	08 14 37.7	
	0.7nm,0.3s,baz=311,slow=27,SNR=6.8						
ZALV	**Zalesovo Beam**	**7.53**	**62**	Pn	**Pn**	**08 12 48.1**	**-1.0**
	0.1nm,0.3s,baz=254,slow=14,SNR=5.3						
ZALV				Sn	**Sn**	**08 14 14.3**	**-0.1**
	0.2nm,0.3s,baz=251,slow=23,SNR=6.2						
AAK	**Ala-Archa**	**8.33**	**175**	Sn	**Sn**	**08 14 33.1**	**-1.2**
	0.3nm,0.3s,baz=180,slow=20,SNR=3.3						
AAK				Lg	Lg	08 15 20.8	
	0.4nm,0.3s,baz=300,slow=10,SNR=4.1						
AB31	**Akbulak array**	**8.90**	**264**	⇓Pn	Pn	08 13 02.2	-5.7
	0.4nm,0.6s,baz=76,slow=11,SNR=5.3						
AB31				⇑Lg	Lg	08 15 28.6	
	4.5nm,1.1s						
AKTO	**Aktyubinsk**	**9.87**	**273**	Pn	**Pn**	**08 13 21.1**	**0.0**
	0.2nm,0.3s,baz=83,slow=11,SNR=4.8						
AKTO				Lg	Lg	08 16 14.8	
	0.1nm,0.3s,baz=339,slow=10.0,SNR=5.7						
ILAR	**Eielson Array**	**60.45**	**19**	P	**P**	**08 21 08.7**	**+0.1**
	0.3nm,0.8s,baz=322,slow=4.5,SNR=6.4						

IDC 25 08:11:06.7±1.7, 3°.71S×142°.95E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/40, mbtmp3.2/3, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/7, Error ellipse: s-maj=380.1km s-min=29.6km az=114.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.19**	**207**	P	P	08 15 21.4	+0.2
	0.1nm,0.3s,baz=27,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**21.68**	**203**	P	P	08 15 59.0	-0.3
	0.4nm,0.8s,baz=34,slow=8.9,SNR=4.0						
DZM	**Mont Dzumac**	**29.20**	**131**	LR	LR	08 27 40.4	
	comp=Z,68nm,19.3s,baz=164,slow=34						
H11S3	**WAKE ISLAND Hy**	**32.15**	**46**	T	T	08 51 32.4	
	baz=231,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**32.16**	**46**	T	T	08 51 31.4	
	baz=231,slow=74,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**32.17**	**46**	T	T	08 51 34.1	
	baz=231,slow=74,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**33.10**	**44**	T	T	08 52 40.8	
	baz=230,slow=76,SNR=44						
H11N2	**WAKE ISLAND Hy**	**33.12**	**44**	T	T	08 52 42.0	
	baz=230,slow=76,SNR=45						
H11N3	**WAKE ISLAND Hy**	**33.12**	**44**	T	T	08 52 42.2	
	baz=230,slow=76,SNR=31						
ILAR	**Eielson Array**	**85.00**	**24**	P	P	08 23 43.8	0.0
	0.1nm,0.5s,baz=242,slow=3.7,SNR=4.0						

MEX 25 08:14:52.8±0.4, 16°.24N×98°.44W, h3km±5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**63**	*e*P	Pg	08 14 58.8	-0.5
PNIG				*e*S	Sg	08 15 03.7	+0.1
TLIG	**Tlapa**	**1.32**	**355**	*e*P	Pn	08 15 14.4	-3.9
TLIG				*i* S	Sg	08 15 31.3	-4.4
ACX	**Acapulco**	**1.50**	**295**	*e*P	Pn	08 15 17.4	-3.3
ACX				*e*S	Sn	08 15 37.0	-3.8
VHO	**Vista Hermosa**	**1.83**	**63**	*e*P	Pn	08 15 22.1	-3.3
VHO				*i* S	Sn	08 15 44.1	-5.1
CAIG	**El Cayaco**	**1.93**	**295**	*e*P	Pn	08 15 23.9	-2.6
CAIG				*i* S	Sn	08 15 46.5	-4.9
MEIG	**Mezcala**	**2.02**	**326**	*i* P	Pn	08 15 25.4	-2.5
HUIG	**Huatulco**	**2.29**	**101**	*e*P	Pn	08 15 27.8	-3.6

IDC ***25*** *08:19:51.6±0.6,38°.14S×73°.62W,h0km,mb4.1/13, mb1 4.2/18,mb1mx4.1/32,mbtmp4.1/18,ML4.0/5,MS4.2/11, Ms1 4.2/11,ms1mx3.8/24, Error ellipse: s-maj=20.0km s-min=12.7km az=82.0*

ISCJB ***25*** *08:19:55.6±0.3,38°.17S±0°.04×73°.14W±0°.09,h22km, mb4.6/38,MS4.1/8, Error ellipse: s-maj=9.7km s-min=6.1km az=5.6*

NEIC ***25*** *08:19:55.1±3.7,38°.13S×73°.60W,h21km±26km,mb4.8/19, Error ellipse: s-maj=19.1km s-min=8.4km az=86.0*

NEIC Felt at Canete.

BJI ***25*** *08:20:00.0,37°.90S×73°.20W,h35km,mB4.9/2,Ms5.1/1, Ms7 4.8/3*

ISC 25 08:19:56.6±0.5, 38°.16S±0°.06×73°.36W±0°.10, h22km, n120, σ2s03/86, mb4.8/38, MS4.0/8, 26C-19D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.37**	**141**	Pn	**Pn**	**08 20 49.4**	**+1.4**
	3.9nm,0.3s,baz=295,slow=10,SNR=38						
PLCA				Lg	Lg	08 21 41.5	
	16nm,0.3s,baz=279,slow=13,SNR=4.6						
PLCA	**Paso Flores**	**3.37**	**141**	*e*Pn	**Pn**	**08 20 48.5**	**+0.6**
PLCA				Lg	Lg	08 21 41.5	
CFAA	**Coronel Fontan**	**7.78**	**34**	Pn	**Pn**	**08 21 47.4**	**-1.1**
	0.4nm,0.3s,baz=211,slow=12,SNR=42						
CFAA				Sn	**Sn**	**08 23 17.2**	**+1.4**
	0.4nm,0.3s,baz=177,slow=14,SNR=3.2						
CFAA				LR	LR	08 24 59.5	
	comp=Z,101nm,18.4s,baz=222,slow=39						
TRQA	**Tornquist**	**8.97**	**93**	*e*Pn	Pn	08 22 08.8	+4.0
TRQA				Sn	Sn	08 23 52.0	+6.7
LCO	**Las Campanas**	**9.39**	**14**	*e*Pn	**Pn**	**08 22 07.8**	**-3.1**
	21nm,0.3s						
LCO				*e*Sn	**Sn**	**08 23 57.4**	**+1.5**
LVC	**Limon Verde**	**15.96**	**15**	Pn	**Pn**	**08 23 38.8**	**-1.3**
	5.8nm,0.3s,baz=185,slow=11,SNR=2.9						
LVC				LR	LR	08 29 36.9	
	comp=Z,2μm,19.5s,baz=192,slow=37						
LVC	**Limon Verde**	**15.96**	**15**	*e*Pn	**Pn**	**08 23 39.2**	**-0.8**
USHA	**Ushuaia**	**17.01**	**170**	P	**Pn**	**08 23 52.8**	**-0.1**
	0.3nm,0.3s,baz=325,slow=5.5,SNR=4.1						
USHA				LR	LR	08 31 21.8	
	comp=Z,836nm,20.4s,baz=354,slow=40						
CPUP	**Villa Florida**	**17.94**	**54**	P	**P**	**08 24 04.8**	**-0.3**
	0.1nm,0.3s,baz=252,slow=15,SNR=9.7						
CPUP				LR	LR	08 31 46.9	
	comp=Z,3μm,20.4s,baz=230,slow=40						
CPUP	**Villa Florida**	**17.94**	**54**	*e*P	**Pn**	**08 24 03.5**	**-1.1**
	0.3nm,1.0s						
LPAZ	**La Paz**	**22.27**	**13**	P	**P**	**08 24 52.9**	**0.0**
	6.0nm,1.0s,baz=167,slow=8.1,SNR=15						
LPAZ	**La Paz**	**22.27**	**13**	*e*P	**P**	**08 24 52.9**	**0.0**
	8.3nm,0.8s						
SIV	**San Ignacio**	**24.60**	**29**	P	**P**	**08 25 13.3**	**-2.0**
	1.5nm,0.6s,baz=222,slow=14,SNR=3.9						
SIV				LR	LR	08 37 00.6	
	comp=Z,502nm,19.0s,baz=223,slow=42						
SAML	**Samuel**	**30.50**	**20**	*e*P	**P**	**08 26 06.9**	**-1.2**
	1.8nm,0.5s						
BDFB	**Brasilia**	**31.66**	**52**	P	**P**	**08 26 18.3**	**-0.1**
	2.0nm,0.8s,baz=151,slow=10,SNR=2.8						
BDFB				LR	LR	08 40 04.3	
	comp=Z,272nm,19.6s,baz=221,slow=38						
OTAV	**Otavalo**	**38.50**	**352**	*e*P	**P**	**08 27 17.9**	**+0.2**
	17nm,1.2s						
PTGA	**Pitinga**	**39.23**	**21**	LR	LR	08 46 43.3	
	comp=Z,233nm,18.2s,baz=188,slow=41						
VNA3	**Neumayer Olymp**	**45.95**	**156**	P	**P**	**08 28 17.0**	**-0.5**
VNA2	**Neumayer--Watz**	**46.64**	**156**	P	**P**	**08 28 22.7**	**-0.1**
	baz=296,slow=7.3						
SDV	**Santo Domingo**	**46.87**	**4**	*e*P	**P**	**08 28 25.6**	**+0.2**
	4.4nm,0.7s						
SNAA	**Sanae**	**48.18**	**156**	P	**P**	**08 28 32.2**	**-2.6**
SNAA	**Sanae**	**48.18**	**156**	P	**P**	**08 28 34.0**	**-0.9**
	3.6nm,0.9s,baz=321,slow=8.2,SNR=8.4						
SNAA	**Sanae**	**48.18**	**156**	*e*P	**P**	**08 28 32.3**	**-2.5**
	21nm,1.1s						
QSPA	**South Pole Qui**	**52.08**	**180**	P	**P**	**08 29 02.6**	**-2.0**
	5.4nm,0.8s,baz=158,slow=3.0,SNR=14						
QSPA	**South Pole Qui**	**52.08**	**180**	P	**P**	**08 29 02.6**	**-2.0**
	20nm,2.4s						
SJG	**San Juan**	**56.38**	**8**	*e*P	P	08 29 32.7	-3.4
VNDA	**Vanda**	**59.82**	**192**	P	**P**	**08 29 59.0**	**-0.7**
	0.7nm,0.9s,baz=111,slow=4.1,SNR=3.0						
PPT	**Papeete**	**68.67**	**264**	LR	LR	08 53 02.1	
	comp=Z,157nm,18.3s,baz=8.5,slow=29						
MAW	**Mawson**	**69.50**	**164**	LR	LR	09 01 41.7	
	comp=Z,210nm,18.2s,baz=240,slow=36						
632A	**Uvalde**	**71.71**	**336**	⇑P	**P**	**08 31 16.4**	**-0.3**
	baz=72						
631A	**Perdido Creek**	**71.88**	**335**	⇓P	P	08 31 21.8	+4.1
	baz=72						
532A	**Rocksprings**	**72.32**	**336**	⇓P	**P**	**08 31 19.2**	**-1.3**
	baz=72,SNR=5.1						
434A	**Burnet**	**72.45**	**338**	⇓P	P	08 31 18.2	-3.0
	baz=73						
531A	**Rocksprings**	**72.56**	**335**	⇓P	P	08 31 26.5	+4.6
	baz=73,SNR=5.2						
JCT	**Junction City**	**72.61**	**336**	⇓P	**P**	**08 31 20.0**	**-2.2**
	baz=73,SNR=7.2						
JCT	**Junction City**	**72.61**	**336**	P	**P**	**08 31 23.8**	**+1.6**
	11nm,1.0s						
433A	**Art**	**72.65**	**337**	⇑P	**P**	**08 31 20.0**	**-2.4**
	baz=73						
530A	**J-C Ranch, Com**	**72.81**	**335**	⇑P	**P**	**08 31 21.6**	**-1.8**
	baz=73,SNR=6.1						
TXAR	**Lajitas Array**	**72.88**	**333**	P	**P**	**08 31 21.5**	**-2.4**
	0.7nm,0.3s,baz=153,slow=8.4,SNR=12						
334A	**Lometa**	**72.93**	**338**	⇑P	**P**	**08 31 21.6**	**-2.4**
	baz=73,SNR=5.4						
432A	**Menard**	**72.98**	**336**	⇓P	**P**	**08 31 22.1**	**-2.2**
	baz=73						
431A	**Sonora**	**73.06**	**336**	⇓P	**P**	**08 31 23.1**	**-1.8**
	baz=73						
333A	**Richland Sprin**	**73.14**	**337**	⇑P	**P**	**08 31 23.8**	**-1.5**
	baz=73						
430A	**Baggett Ranch,**	**73.36**	**335**	⇓P	**P**	**08 31 24.9**	**-1.8**
	baz=74,SNR=6.2						
332A	**Millersview**	**73.43**	**337**	⇑P	**P**	**08 31 30.0**	**+3.0**
	baz=74,SNR=6.2						
429A	**Davenport Ranc**	**73.44**	**335**	⇓P	**P**	**08 31 25.3**	**-1.8**
	baz=74,SNR=5.5						
234A	**Clairette**	**73.53**	**338**	⇓P	**P**	**08 31 25.6**	**-1.9**
	baz=74						
331A	**San Angelo**	**73.58**	**336**	⇑P	P	08 31 25.2	-2.7
	baz=74,SNR=5.4						
233A	**Rising Star**	**73.77**	**338**	⇑P	P	08 31 33.0	+4.1
	baz=74						
232A	**Coleman**	**73.87**	**337**	⇓P	P	08 31 33.9	+4.3
	baz=74						
330A	**Mertzon**	**73.91**	**335**	⇑P	P	08 31 35.1	+5.2
	baz=74						
134A	**White-Moore Ra**	**74.04**	**338**	⇑P	**P**	**08 31 28.3**	**-2.2**
	baz=74						
231A	**Bronte**	**74.13**	**336**	⇓P	P	08 31 36.1	+5.0
	baz=74						
133A	**Hamilton Ranch**	**74.32**	**338**	⇑P	P	08 31 36.9	+4.7
	baz=75						
Z35A	**Perchaven, San**	**74.52**	**339**	⇓P	**P**	**08 31 32.3**	**-1.0**
	baz=75						
ABTX	**Abilene, Hawle**	**74.56**	**337**	⇑P	P	08 31 37.1	+3.6
	baz=75						
ABTX	**Abilene, Hawle**	**74.56**	**337**	*e*P	**P**	**08 31 35.5**	**+1.9**
	18nm,1.3s						
MIAR	**Mount Ida**	**74.73**	**343**	P	**P**	**08 31 36.4**	**+1.9**
	7.5nm,1.3s						
Z33A	**Whitaker Ranch**	**74.91**	**338**	⇑P	**P**	**08 31 33.6**	**-1.9**
	baz=75						
WVT	**Waverly**	**75.12**	**348**	*e*P	**P**	**08 31 38.5**	**+1.9**
	12nm,1.2s						
Z32A	**Haskell**	**75.14**	**338**	⇑P	P	08 31 42.7	+5.8
	baz=75,SNR=5.4						
X37A	**Clayton**	**75.21**	**341**	⇓P	**P**	**08 31 36.0**	**-1.3**
	baz=75						
Y34A	**Reagan Ranch,**	**75.25**	**339**	⇑P	P	08 31 42.2	+4.7
	baz=76						
Z31A	**Sharp Cattle R**	**75.35**	**337**	⇓P	P	08 31 43.6	+5.4
	baz=76						
W38A	**Poteau**	**75.46**	**342**	⇓P	P	08 31 35.9	-2.7
	baz=76						
Y33A	**Hilltop Ranch,**	**75.54**	**339**	⇑P	P	08 31 44.6	+5.4
	baz=76						
MNTX	**Corrundas Mount**	**75.64**	**332**	*e*P	P	08 31 44.1	+4.3
	33nm,2.8s						
Y32A	**R-V Farms, Ver**	**75.78**	**338**	⇑P	P	08 31 46.2	+5.7
	baz=76						
X34A	**Smith Ranch, M**	**75.88**	**339**	⇓P	P	08 31 46.0	+5.0
	baz=76						
Y31A	**Rekieta Farm,**	**75.99**	**337**	⇓P	P	08 31 47.6	+5.9
	baz=76						
X33A	**Lawton**	**76.01**	**339**	⇓P	P	08 31 47.9	+6.1
	baz=76						
X32A	**Elmer**	**76.12**	**338**	⇑P	P	08 31 48.5	+6.1
	baz=76						
W35A	**Tecumseh**	**76.13**	**340**	⇑P	P	08 31 46.8	+4.2
	baz=76						
WMOK	**Wichita Mounta**	**76.27**	**339**	P	**P**	**08 31 45.2**	**+1.8**
	12nm,1.4s						
W34A	**Bridge Creek,**	**76.45**	**340**	⇑P	P	08 31 50.9	+6.5
	baz=77						
X31A	**McDonald Ranch**	**76.52**	**338**	⇑P	P	08 31 50.7	+5.9
	baz=77						
W33A	**Caddo, Fort Co**	**76.57**	**339**	⇑P	P	08 31 51.0	+6.0
	baz=77						
TUL1	**Leonard**	**76.57**	**341**	⇑P	P	08 31 50.0	+5.0
	baz=77						
TUL1	**Leonard**	**76.57**	**341**	*e*P	**P**	**08 31 46.6**	**+1.6**
	9.7nm,0.8s						
V35A	**Meyer Ranch, C**	**76.70**	**341**	⇑P	P	08 31 50.9	+5.2
	baz=77						
W32A	**Sentinel**	**76.77**	**338**	⇑P	P	08 31 51.9	+5.8
	baz=77,SNR=6.4						
MSTX	**Muleshoe**	**76.79**	**335**	*e*P	P	08 31 51.6	+5.2
	17nm,1.4s						
USIN	**University of**	**76.89**	**348**	P	**P**	**08 31 47.7**	**+1.0**
	30nm,1.3s						
LIC	**Lamto**	**77.11**	**71**	*e*PKP2	**P**	**08 31 49.4**	**+0.8**
	65nm,1.4s						
V33A	**Lossen Ranch,**	**77.15**	**339**	⇑P	P	08 31 54.3	+6.0
	baz=77,SNR=5.2						
AMTX	**Amarillo**	**77.28**	**336**	P	**P**	**08 31 51.1**	**+2.0**
	12nm,1.0s						
TIC	**Toumodi**	**77.39**	**71**	*e*PKP2	**P**	**08 31 50.7**	**+0.5**
	20nm,0.2s						
KIC	**Kosan Boka**	**77.42**	**72**	*e*PKP2	**P**	**08 31 50.6**	**+0.3**
	27nm,0.9s						
U34A	**Anderson Ranch**	**77.52**	**340**	*e*P	**P**	**08 31 51.9**	**+1.6**
	9.1nm,0.9s						
DBIC	**Dimbokro**	**77.53**	**71**	P	**P**	**08 31 51.2**	**+0.3**
	7.4nm,0.8s,baz=210,slow=6.2,SNR=6.3						
ACSO	**Alum Creek Sta**	**78.51**	**352**	*e*P	P	08 32 00.5	+4.7
	13nm,0.9s						
ANMO	**Albuquerque**	**78.95**	**333**	P	**P**	**08 31 57.1**	**-1.4**
	0.7nm,0.7s,baz=155,slow=9.4,SNR=4.1						
ANMO	**Albuquerque**	**78.95**	**333**	*e*P	**P**	**08 32 01.3**	**+2.7**
	3.8nm,1.4s						
TSUM	**Tsumeb**	**79.11**	**106**	LR	LR	09 02 19.4	
	comp=Z,97nm,18.7s,baz=158,slow=32						
T25A	**Trinidad**	**80.22**	**335**	*e*P	**P**	**08 32 04.0**	**-1.5**
	12nm,1.1s						
SDCO	**Great Sand Dun**	**81.14**	**335**	*e*P	P	08 32 17.4	+7.0
	2.5nm,1.0s						
LBTB	**Lobatse**	**81.53**	**115**	*e*P	**P**	**08 32 12.4**	**-0.3**
MVCO	**Mesa Verde**	**81.71**	**332**	*e*P	P	08 32 20.1	+6.7
	8.9nm,1.4s						
LONY	**Lake Ozonia**	**82.41**	**359**	P	**P**	**08 32 17.6**	**+1.1**
	14nm,1.3s						
PV01	**Paradox Valley**	**82.56**	**333**	P	**P**	**08 32 19.0**	**+1.2**
	258nm,1.1s						
SADO	**Sadowa**	**82.72**	**356**	P	**P**	**08 32 15.9**	**-2.2**
	2.1nm,0.4s,baz=248,slow=5.4,SNR=2.9						
CCUT	**Cedar City**	**83.89**	**329**	*e*P	P	08 32 31.6	+7.0
ECSD	**EROS Data Cent**	**84.19**	**343**	P	**P**	**08 32 28.3**	**+2.5**
	32nm,1.5s						
DUG	**Dugway, Tooele**	**85.95**	**331**	*e*P	P	08 32 41.0	+6.1
	18nm,1.8s						
TPH	**Tonopah**	**85.95**	**327**	*e*P	P	08 32 42.2	+7.2
TORD	**Torodi Ar. Bea**	**86.62**	**71**	P	**P**	**08 32 37.7**	**-0.9**
	2.1nm,0.9s,baz=215,slow=5.1,SNR=8.4						
NVAR	**Mina Array Bea**	**86.71**	**326**	P	**P**	**08 32 38.0**	**-0.8**
	0.5nm,0.8s,baz=174,slow=4.5,SNR=3.2						
PDAR	**Pinedale Array**	**87.01**	**334**	P	**P**	**08 32 37.6**	**-2.5**
	0.4nm,0.8s,baz=112,slow=1.0,SNR=3.4						
PDAR				LR	LR	09 09 37.4	
	comp=Z,42nm,19.0s,baz=68,slow=34						
MDT	**Midelt**	**95.24**	**52**	LR	LR	09 13 50.7	
	comp=Z,53nm,21.5s,slow=34						
WRA	**Warramunga Arr**	**116.61**	**209**	PKP	**PKPdf**	**08 38 36.1**	**-3.3**
	0.3nm,0.9s,baz=169,slow=1.9,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**124.56**	**267**	T	T	10 55 13.3	
	baz=126,slow=74,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**124.57**	**267**	T	T	10 55 09.1	
	baz=126,slow=74,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**124.58**	**267**	T	T	10 55 08.4	
	baz=126,slow=74,SNR=4.9						
GNI	**Garni**	**132.83**	**67**	*e*PKPdf	**PKPdf**	**08 39 13.6**	**+3.8**
ABKAR	**Akbulak array**	**144.99**	**56**	*e*PKPdf	**PKPab**	**08 39 30.1**	**-0.8**
KSH	**Kashi**	**156.13**	**77**	*e*PKP	**PKPdf**	**08 39 50.5**	**+1.3**
KSH				sPKP		08 40 04.8	
KSH				PKS	**PKSdf**	**08 43 23.3**	**+0.1**
KSH				PP	**PP**	**08 43 55.3**	**+0.3**
KSH				SKS	**SKSdf**	**08 46 51.5**	**-2.7**
KSH				SKKS	**SKKSac**	**08 50 39.0**	**-3.9**
KSH				PPMZ			
	110nm,5.7s						
KSH				LZ			
	130nm,5.8s						
WMQ	**Urumqi**	**164.63**	**62**	*e*PKP	**PKPdf**	**08 40 01.0**	**+2.6**
WMQ				pPKP	**pPKPdf**	**08 40 12.0**	**+6.1**
WMQ				LZ			
	140nm,20.4s						
CD2	**Chengdu**	**172.39**	**161**	PKP	**PKPdf**	**08 40 04.0**	**+0.2**
GTA	**Gaotai**	**174.53**	**75**	*e*PKP	**PKPdf**	**08 40 07.0**	**+2.5**
GTA				pPKP	**pPKPdf**	**08 40 17.5**	**+5.5**
GTA				sPKP		08 40 21.3	
GTA				PKPab	**PKPab**	**08 41 40.0**	**+2.1**
HHC	**Hu-ho-hao-te**	**175.34**	**307**	*e*PKP	**PKPdf**	**08 40 06.3**	**+1.6**
HHC				PP	**PP**	**08 45 38.5**	**+4.3**
HHC				SKS	**SKSdf**	**08 47 04.0**	**-2.4**
HHC				SS	**SS**	**09 06 56.8**	**-1.4**
HHC				PPMZ			
	55nm,7.4s						
HHC				LN			

KBK **Karagaybulak** 1.67 1 *i* P Pn 08 31 12.7 -0.4
KBK **Karagaybulak** 1.67 1 ⇓*i* P Pn 08 31 12.7 -0.4
baz=2.0
KBK ⇓*i* S Sg 08 31 37.6 +0.1
baz=2.0
AAK Ala-Archa 1.67 350 ⇓Pn Pn 08 31 12.6 -0.5
618nm,0.6s
AAK ⇑Lg Lg 08 31 38.9
2μm,0.7s
AAK Ala-Archa 1.67 350 P Pn 08 31 12.5 -0.5
SNR=122
AAK Ala-Archa 1.67 350 Pn Pn 08 31 12.6 -0.5
57nm,0.3s,baz=142,slow=6.0,SNR=326
AAK Sn Sg 08 31 37.6 0.0
253nm,0.3s,baz=318,slow=18,SNR=24
AAK LR LR 08 32 04.0
comp=Z,1μm,21.6s,baz=188,slow=42
AAK Ala-Archa 1.67 350 *e*PN Pn 08 31 12.6 -0.5
AAK *e* 08 31 36.6
AAK Ala-Archa 1.67 350 ⇑*i* P Pn 08 31 12.5 -0.6
baz=351
AAK ⇑*i* S Sg 08 31 38.1 +0.5
baz=351
AAK Ala-Archa 1.67 350 *e*Pn Pn 08 31 12.6 -0.6
AAK *e*Sn Sb 08 31 36.6 +0.8
KSH Kashi 1.69 150 Pg Pg 08 31 15.0 -1.2
KSH Sg Sg 08 31 37.8 -0.2
KSH SMN
2μm,0.5s
KSH SME
2μm,0.5s
BOOM Boomskoye usch 1.69 27 ⇓*i* P Pn 08 31 12.4 -1.0
baz=26
BOOM ⇓*e*S Sn 08 31 36.0 +0.8
baz=26
FRU Bishkek 1.86 354 ⇓*i*PN Pn 08 31 16.0 +0.5
FRU *i* S Sg 08 31 43.0 -0.5
FRU pmax pmax
comp=Z,2μm,1.6s
FRU pmax pmax
comp=N,2μm,1.6s
FRU Bishkek 1.86 354 ⇓*i* P Pn 08 31 16.0 +0.5
baz=354
FRU ⇓*e*S Sb 08 31 41.9 +0.9
baz=354
EKS2 Erkin-Say 1.87 334 P Pn 08 31 16.0 +0.2
SNR=42
EKS2 Erkin-Say 1.87 334 *e*PN Pn 08 31 16.0 +0.2
EKS2 *e* 08 31 40.1
EKS2 Erkin-Say 1.87 334 ⇓*i* P Pn 08 31 15.8 0.0
baz=336
EKS2 ⇓*i* S Sb 08 31 42.2 +0.8
baz=336
EKS2 Erkin-Say 1.87 334 *e*Pn Pn 08 31 16.0 +0.2
EKS2 *e*Sn Sn 08 31 40.1 +0.7
EKS Erkin-Say 1.87 334 *i* P Pn 08 31 15.8 0.0
baz=336
TKM2 Tokmak 2 2.00 15 ⇑Pn Pn 08 31 18.3 +0.6
comp=N,465nm,0.6s
TKM2 ⇓Lg Lg 08 31 48.6
comp=N,1μm,0.6s
TKM2 Tokmak 2 2.00 15 P Pn 08 31 18.3 +0.6
SNR=362
TKM2 Tokmak 2 2.00 15 PN Pn 08 31 18.3 +0.6
TKM2 08 31 48.5
TKM2 pmax pmax
comp=Z,465nm,0.6s
TKM2 pmax pmax
comp=N,1μm,0.6s
TKM2 Tokmak 2 2.00 15 ⇑*i* P Pn 08 31 18.3 +0.6
baz=14
TKM2 ⇑*i* S Sb 08 31 46.6 +1.3
baz=14
TKM2 Tokmak 2 2.00 15 *e*Pn Pn 08 31 18.5 +0.7
TKM2 *e*Sg Sg 08 31 48.3 +0.1
CHMS Chumysh 2.01 357 P Pn 08 31 18.8 +1.1
SNR=88
CHMS Chumysh 2.01 357 *i* PN Pn 08 31 18.8 +1.1
CHMS Chumysh 2.01 357 ⇓*i* P Pn 08 31 18.7 +1.1
baz=357
CHMS ⇓*i* S Sg 08 31 48.2 -0.3
baz=357
KDJ Kajisay 2.06 56 *e*P Pn 08 31 18.0 -0.5
baz=53
KDJ *e*S Sb 08 31 46.6 -0.4
baz=53
CHVK Chauvay 2.21 248 *i* P Pn 08 31 21.0 +0.5
baz=252
CHVK *e*S Sb 08 31 50.8 -0.4
baz=252
USP Ospenovka 2.30 353 P Pn 08 31 23.1 +1.5
SNR=1711
USP Ospenovka 2.30 353 *i* PN Pn 08 31 23.1 +1.5
USP Ospenovka 2.30 353 ⇑*i* P Pn 08 31 23.2 +1.5
baz=353
USP ⇑*i* S Sb 08 31 55.3 +1.7
baz=353
KNDC Almaty 2.71 34 ⇑Pg Pb 08 31 32.5 +0.2
KNDC ⇑Lg Lg 08 32 10.3
AAA Alma-Ata 2.75 33 *i* PN Pb 08 31 31.1 -1.8
AAA *e*S Sb 08 32 08.7 +2.1
AAA pmax pmax
comp=Z,542nm,0.4s
AAA smax smax
comp=N,3μm,1.2s
DRK Karamyk 2.81 239 ⇓*i* P Pn 08 31 29.4 +0.6
baz=241
DRK ⇓*e*S Sb 08 32 06.5 -2.0
baz=241
BTK Batken 3.24 255 *e*P Pn 08 31 32.5 -2.1
baz=257
BTK *e*S Sn 08 32 16.9 +3.7
baz=257
KK31 Karatay Array 3.89 304 ⇑Pn Pn 08 31 43.5 0.0
comp=N,1.4nm,0.3s,baz=116,slow=14,SNR=1370
KK31 Pg Pb 08 31 52.2 -0.1
comp=N,72nm,0.5s,baz=123,slow=16,SNR=193
KK31 ⇓Lg Lg 08 32 43.2
comp=N,505nm,0.4s,baz=127,slow=29,SNR=24
KK31 Karatay Array 3.89 304 *e*PN Pn 08 31 43.2 -0.2
KK31 pmax pmax
comp=Z,50nm,0.3s
KK31 pmax pmax
comp=N,572nm,0.3s
KKAR Karatay Array 3.89 304 *e*PN Pn 08 31 44.5 +1.1
KKAR Karatay Array 3.89 304 *e*Pn Pn 08 31 44.5 +1.1
KKAR *e*Sg Sb 08 32 43.2 +3.8
CHCP Chirah Chowk 7.43 191 P Pn 08 32 33.3 +1.2
CEP Cherat 7.53 199 P Pn 08 32 33.9 +0.3
CEP S Sn 08 33 58.0 -1.1
MK31 Makanchi Array 7.89 40 ⇓Pn Pn 08 32 41.6 +3.2
comp=N,12nm,0.6s,baz=229,slow=17,SNR=44
MK31 ⇓Lg Lg 08 34 54.8
comp=N,120nm,1.4s
MK31 Makanchi Array 7.89 40 *i* P Pn 08 32 45.2 +6.9
MK31 pmax pmax
comp=Z,23nm,0.7s
MKAR Makanchi Array 7.89 40 Pn Pn 08 32 39.5 +1.1
comp=Z,0.1nm,0.3s,baz=236,slow=12,SNR=4.0
KBL Kabul 7.93 218 *e*P Pn 08 32 42.1 +3.0
KBL *e* 08 34 09.7
KBL Kabul 7.93 218 *e*Pn Pn 08 32 42.0 +3.0
KBL *e*Sn Sn 08 34 09.7 +0.9
THW Thamme Wali 8.56 198 P Pn 08 32 47.9 +0.3
WMQ Urumqi 9.88 69 *e*P Pn 08 33 07.8 +2.0
WMQ pP 08 33 11.0
WMQ sP 08 33 13.8
WMQ *e*S Sn 08 34 59.0 +2.3
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,98nm,5.1s
WMQ SMN
comp=Z,38nm,1.4s
WMQ SME
comp=Z,36nm,1.2s
WMQ LN
comp=Z,640nm,13.4s
WMQ LE
comp=Z,410nm,8.5s
WMQ LZ
comp=Z,510nm,13.0s
KURBB Kurchatov Arra 9.96 14 ⇓Pn Pn 08 33 05.7 -1.1
comp=Z,5.6nm,0.7s
KURBB ⇑Lg Lg 08 35 57.1
comp=Z,269nm,0.9s
KURBB Kurchatov Arra 9.96 14 Pn Pn 08 33 06.1 -0.7
comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=15
KURBB Sn Sn 08 35 06.6 +8.2
comp=Z,0.2nm,0.3s,baz=214,slow=16,SNR=4.3
KURBB Lg Lg 08 35 57.2
comp=Z,0.7nm,0.3s,baz=195,slow=28,SNR=14
KURK Kurchatov 10.07 14 P Pn 08 33 06.1 -2.1
KURK 08 35 06.6
KURK Kurchatov 10.07 14 Pn Pn 08 33 06.1 -2.1
KURK Sn Sn 08 35 06.6 +5.6
KURK Lg Lg 08 35 57.2
BVA0 Borovoye Array 12.43 347 ⇓Pn Pn 08 33 39.4 -1.0
BVA0 ⇑Lg Lg 08 37 17.1
comp=Z,0.4nm,1.2s
BVA0 Borovoye Array 12.43 347 *i* P Pn 08 33 39.4 -1.0
BVAR Borovoye Array 12.43 347 Pn Pn 08 33 38.5 -1.9
comp=Z,0.4nm,0.3s,baz=158,slow=13,SNR=11
BVAR Lg Lg 08 37 18.2
comp=Z,1.9nm,0.3s,baz=162,slow=25,SNR=5.3
IMYA Miami 12.45 253 *e*P Pn 08 33 36.9 -4.1
BRVK Borovoye 12.47 347 ⇑Pn Pn 08 33 42.1 +1.0
comp=Z,15nm,0.7s
BRVK ⇓Lg Lg 08 37 16.6
comp=Z,132nm,0.8s
BRVK Borovoye 12.47 347 ⇓*e*P Pn 08 33 41.9 +0.8
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 12.47 347 *e*Pn Pn 08 33 41.4 +0.3
BRVK *e*Sn Sn 08 36 03.4 +3.5
IMOG Moghan 13.11 253 *e*P Pn 08 33 46.1 -4.0
GEYT Alibeck 13.32 262 Pn Pn 08 33 48.0 -4.7
comp=Z,0.9nm,0.3s,baz=81,slow=9.2,SNR=12
GEYT Sn Sn 08 36 14.4 -6.3
comp=Z,1.2nm,0.3s,baz=64,slow=9.8,SNR=3.5
GEYT LR LR 08 39 51.4
comp=Z,310nm,18.3s,baz=55,slow=41
IAKL Akhelmad 13.32 256 *e*P Pn 08 33 49.0 -4.0
AB31 Akbulak array 13.39 313 ⇓Pn Pn 08 33 52.0 -1.5
comp=Z,7.9nm,0.7s,baz=126,slow=13,SNR=40
AB31 ⇓Sn Sn 08 36 24.3 +2.0
comp=Z,3.3nm,0.5s,baz=118,slow=24,SNR=2.6
AB31 Akbulak array 13.39 313 *i* P Pn 08 33 52.1 -1.5
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 13.39 313 *e*Pn Pn 08 33 50.5 -3.0
ISHV Shirvan 13.76 261 *e*P Pn 08 33 55.1 -3.8
PYUN Piuthan 14.47 150 *e*P Pn 08 34 01.3 -7.4
comp=Z,52nm,0.5s
DANN Dangsing 14.55 147 *e*P Pn 08 34 02.8 -7.1
comp=Z,35nm,0.8s
ZALV Zalesovo Beam 14.58 24 Pn Pn 08 34 10.5 +0.7
comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=12
ZALV Sn Sn 08 36 49.5 -1.8
comp=Z,0.1nm,0.3s,baz=232,slow=16,SNR=2.3
ZALV LR LR 08 39 54.8
comp=Z,101nm,20.1s,baz=250,slow=38
NVS Novosibirsk 14.93 19 *i* P P 08 34 19.4 -0.8
NVS *e* 08 37 00.3
KOLN Koldanda 15.00 149 *e*P Pn 08 34 07.3 -8.6
comp=Z,24nm,0.7s
AKTO Aktyubinsk 15.07 314 ⇑Pn Pn 08 34 15.4 -1.2
comp=Z,17nm,0.8s
AKTO ⇓Sn Sn 08 37 05.0 +1.6
comp=Z,7.0nm,0.8s
AKTO Aktyubinsk 15.07 314 Pn Pn 08 34 15.6 -1.0
comp=Z,0.3nm,0.3s,baz=116,slow=13,SNR=9.8
AKTO Lg Lg 08 38 36.0
comp=Z,0.4nm,0.3s,baz=225,slow=20,SNR=2.8
AKTO LR LR 08 40 36.6
comp=Z,203nm,18.0s,baz=131,slow=39
AKTO Aktyubinsk 15.07 314 P Pn 08 34 15.0 -1.6
AKTO pmax pmax
comp=Z,17nm,0.8s
GKN Gorkha 15.23 145 *e*P Pn 08 34 12.4 -6.4
comp=Z,69nm,1.0s
KKN Kakani 15.69 144 *e*P Pn 08 34 18.1 -6.9
comp=Z,20nm,0.6s
DMN Daman 15.77 145 *e*P Pn 08 34 18.5 -7.6
comp=Z,62nm,1.1s
GUN Gumba 15.86 142 *e*P Pn 08 34 21.3 -6.0
comp=Z,30nm,0.6s
PKIN Phulchoki 15.93 144 *e*P Pn 08 34 21.0 -7.1
comp=Z,21nm,0.6s
PKI Pulchoki 15.94 144 *e*P Pn 08 34 20.7 -7.6
comp=Z,53nm,0.9s
JIRN Jiri 16.22 142 *e*P Pn 08 34 25.9 -6.1
comp=Z,92nm,0.9s
RAMN Ramite 17.02 142 *e*P Pn 08 34 34.5 -7.4
comp=Z,56nm,0.8s
TAPN Taplejung 17.22 138 *e*P Pn 08 34 39.5 -5.1
comp=Z,47nm,1.0s
ODAN Odare 17.47 140 *e*P Pn 08 34 42.4 -5.2
comp=Z,96nm,1.3s
SVE Sverdlovsk 18.35 335 *e*P P 08 34 58.6 +0.6
SVE pmax pmax
comp=Z,30nm,1.4s
ARU Arti 18.76 331 *d i*P Pn 08 35 03.2 +0.2
ARU S S 08 38 35.3 -0.4
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 18.76 331 *e*P Pn 08 35 03.0 0.0
comp=Z,12nm,0.8s
GTA Gaotai 19.09 87 P P 08 35 06.5 0.0
GTA pP pP 08 35 10.3 +0.6
GTA sP sP 08 35 13.5 +2.3
GTA S Sn 08 38 41.3 +0.3
GTA sS sS 08 38 47.3 -0.8
GTA PMZ
comp=Z,5.0nm,0.9s
GTA PMZ
comp=Z,85nm,4.5s
GTA LN
comp=Z,670nm,17.1s
GTA LE
comp=Z,840nm,17.1s
GTA LZ
comp=Z,290nm,18.3s
SHL Shillong 20.88 132 *ex* P 08 35 27.0 +0.9
ZAK Zakamensk 21.83 55 *e*P P 08 35 34.8 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 22.41 52 LR LR 08 43 26.5
comp=Z,20nm,19.9s,baz=282,slow=34
TLY Talaya 22.41 52 *e*P P 08 35 35.6 -6.5
TLY *e*S S 08 39 35.7 -12
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,89nm,9.0s
GNI Garni 22.87 278 P P 08 35 47.8 +0.5
comp=Z,2.5nm,0.3s,baz=255,slow=12,SNR=2.9
GNI LR LR 08 46 06.9
comp=Z,92nm,21.2s,baz=96,slow=40
GNI Garni 22.87 278 ⇑*e*P P 08 35 52.4 +5.1
GNI pmax pmax
comp=Z,68nm,1.7s
GNI Garni 22.87 278 P P 08 35 49.0 +1.7
comp=Z,125nm,1.8s
ZEI Tsey 23.08 285 *e*P P 08 35 51.3 +1.8
ZEI pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 23.11 93 *e*P P 08 35 49.0 -0.9
LZH pP pP 08 35 52.5 -0.7
LZH sP sP 08 35 54.5 -0.2
LZH PMZ
comp=Z,17nm,1.0s
LZH PMZ
comp=Z,92nm,4.5s
LZH LN
comp=Z,390nm,12.1s
LZH LE
comp=Z,190nm,10.0s
LZH LZ
comp=Z,190nm,13.4s
NCK Nalchik 23.24 287 ⇑*e*P P 08 35 54.3 +3.4
SONM Songino Array 23.41 62 P P 08 35 51.4 -1.3
comp=Z,1.1nm,0.9s,baz=269,slow=11,SNR=9.0
SONM LR LR 08 45 46.5
comp=Z,284nm,18.8s,baz=256,slow=39
KBZ Khabaz 23.72 287 P P 08 35 57.0 +1.4
comp=Z,1.3nm,0.7s,baz=56,slow=24,SNR=3.7
KBZ LR LR 08 45 59.1
comp=Z,195nm,20.1s,baz=160,slow=38
ULN Ulaanbaatar 23.85 62 ⇓*e*P P 08 35 57.4 +0.3
ULN pmax pmax
comp=Z,10.0nm,2.5s
ULN Ulaanbaatar 23.85 62 *e*P P 08 35 56.6 -0.4
comp=Z,15nm,1.6s
KIV Kislovodsk 23.86 288 *e*P P 08 35 58.1 +1.0
KIV *e*S S 08 40 15.9 +3.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,92nm,14.0s
NEY Neytrino 23.89 286 *e*P P 08 36 00.7 +3.2
NEY pmax pmax
comp=Z,12nm,2.5s
VRHR Novokhopersk 25.01 305 *e*P P 08 36 09.5 +2.1
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
CD2 Chengdu 25.34 104 *e*P P 08 36 11.0 +0.3
CD2 pP pP 08 36 15.8 +1.7
CD2 sP sP 08 36 18.5 +2.9
CD2 PP PnPn 08 36 49.8 +4.5
CD2 S S 08 40 34.3 -2.5
CD2 sS sS 08 40 41.0 -1.6
CD2 SS SnSn 08 41 34.5 +6.4
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LN
comp=Z,170nm,12.0s
CD2 LZ
comp=Z,220nm,10.0s
VSR Storozhevoye 26.55 305 *e*P P 08 36 22.2 +0.8
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,120nm,0.8s
HHC Hu-ho-hao-te 27.59 78 *e*P P 08 36 31.0 +0.1
HHC PP PnPn 08 37 18.3 +2.4
HHC S S 08 41 09.0 -3.2
HHC SS SnSn 08 42 25.8 +3.0
HHC PMZ
comp=N,12nm,0.9s
HHC PMZ
comp=N,47nm,4.9s
HHC LN
comp=N,170nm,18.5s
HHC LE
comp=N,750nm,20.1s
KMI Kunming 28.04 116 P P 08 36 39.5 +4.3
KMI PMZ
comp=N,7.0nm,0.8s
KMI LN
comp=N,82nm,17.7s
KMI LE
comp=N,170nm,18.4s
KMI LZ
comp=N,160nm,14.0s
GYA Guiyang 29.95 109 *e*P P 08 36 52.8 +0.7
GYA PMZ
comp=N,10.0nm,0.8s
BOD Bodaibo 29.97 43 *e*P P 08 36 51.0 -0.8
BOD pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 30.15 244 P P 08 36 55.1 +1.3
comp=Z,1.6nm,0.5s
CMAR Chiang Mai Arr 30.48 130 LR LR 08 49 42.6
comp=Z,33nm,20.6s,baz=285,slow=38
BJI Beijing 31.20 78 P P 08 37 01.5 -1.3
BJI S S 08 42 04.3 -4.3
BJI PMZ
comp=Z,8.0nm,0.5s
BJI PMZ
comp=Z,71nm,4.6s
BJI LN
comp=Z,150nm,12.1s
BJI LE
comp=Z,230nm,12.1s
BRTR Keskin Array B 31.26 281 P P 08 37 02.5 -1.1
comp=Z,1.5nm,0.7s,baz=104,slow=8.1,SNR=8.5
BRTR LR LR 08 52 58.7
comp=Z,38nm,18.6s,baz=40,slow=43
BRTR Keskin Array B 31.26 281 *ce*P P 08 37 05.3 +1.7
BRTR pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 32.79 303 P P 08 37 16.4 -0.3
comp=Z,1.5nm,0.8s,baz=75,slow=8.6,SNR=10.0
KIEV Kiev 32.80 303 ⇑*i* P P 08 37 19.3 +2.5
APA Apatity 34.82 334 *e*P P 08 37 26.4 -7.7
APA MLR MLR
comp=Z,2μm,19.0s
FINES FINESS Array B 35.66 322 P P 08 37 40.5 -0.9
comp=Z,1.0nm,0.6s,baz=112,slow=13,SNR=9.8
FINES LR LR 08 51 45.5
comp=Z,74nm,19.7s,baz=138,slow=35
FINES FINESS Array B 35.66 322 *i* P P 08 37 41.4 0.0
FINES pmax pmax
comp=Z,1.0nm,0.6s
NJ2 Nanjing 36.12 90 *e*P P 08 37 45.0 -0.7
NJ2 PMZ
comp=Z,20nm,0.7s
QIZ Qiongzhong 36.99 116 P P 08 37 53.0 -0.3
QIZ S S 08 43 38.8 +0.3
QIZ PMZ
comp=Z,9.0nm,1.7s
ARCES ARCESS Array B 38.28 334 LR LR 08 54 00.9
comp=Z,98nm,18.2s,baz=116,slow=36
VYHS Vyhne 39.73 300 *e*P P 08 38 18.4 +2.3
VYHS Vyhne 39.73 300 *e*P P 08 38 18.4 +2.3
TIXI Tiksi 40.47 23 ⇑*e*P P 08 38 22.0 +0.2
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 40.47 23 *e*P P 08 38 21.4 -0.5
comp=Z,8.1nm,0.9s
KSRS Korea Array 40.72 77 LR LR 08 58 30.5
comp=Z,78nm,18.5s,baz=290,slow=41
DPC Dobruska-Polom 41.01 304 *e*P P 08 38 28.2 +1.5
DPC *ex* x 08 38 35.9
DPC Dobruska-Polom 41.01 304 *e*P P 08 38 27.6 +0.9
DPC Dobruska-Polom 41.01 304 *e*P P 08 38 27.6 +0.9
comp=Z,240nm,2.6s
UPC Upice 41.18 304 *e*P P 08 38 28.0 0.0
UPC *ex* x 08 38 37.0
UPC Upice 41.18 304 *e*P P 08 38 28.0 0.0
UPC *e* 08 38 37.0
USRK Ussuriysk Ar. 41.43 66 LR LR 08 58 45.4
comp=Z,52nm,18.9s,baz=294,slow=41
BRG Berggiesshubel 42.40 305 *e*P P 08 38 40.5 +2.5
comp=Z,5.7nm,1.1s
BRG Berggiesshubel 42.40 305 *e*P P 08 38 40.5 +2.5
BRG pmax pmax
comp=Z,6.0nm,1.1s
NB2 NORSAR Subarra 42.76 320 P P 08 38 39.2 -1.7
comp=Z,7.9nm,1.2s,baz=89,slow=8.6
NOA NORSAR Array B 42.76 320 P P 08 38 41.2 +0.3
comp=Z,3.4nm,1.0s,baz=90,slow=8.3,SNR=4.7
NOA LR LR 08 56 14.9
comp=Z,48nm,18.7s,baz=115,slow=36
CLL Collm 42.90 306 *e*P P 08 38 44.0 +2.0
comp=Z,10.0nm,1.4s
CLL Collm 42.90 306 *e*P P 08 38 44.0 +2.0
CLL pmax pmax
comp=Z,10.0nm,1.4s
GEC2 GERESS Array S 42.99 302 *e*P P 08 38 45.6 +2.7
GEC2 GERESS Array S 42.99 302 *e*P P 08 38 45.6 +2.7
GERES GERESS Array B 42.99 302 P P 08 38 43.6 +0.7
comp=Z,1.8nm,0.7s,baz=76,slow=7.6,SNR=11
GERES LR LR 08 59 23.4
comp=Z,108nm,18.5s,slow=40
PSI Prapat 43.75 144 LR LR 08 58 54.3
comp=Z,50nm,21.8s,baz=8.0,slow=39
BFO Black Forest 46.56 303 *i* P P 08 39 14.6 +3.3
CDF Champ du Feu 47.21 303 *e*P P 08 39 18.1 +1.6
CDF Champ du Feu 47.21 303 *e*P P 08 39 18.1 +1.6
CDF Champ du Feu 47.21 303 *e*P P 08 39 18.1 +1.6
HINF Hinteralfeld 47.66 302 *e*P P 08 39 19.6 -0.3
comp=Z,10nm,1.0s
HINF Hinteralfeld 47.66 302 *e*P P 08 39 19.6 -0.3
HINF pmax pmax
comp=Z,10.0nm,1.0s
HINF Hinteralfeld 47.66 302 *e*P P 08 39 19.6 -0.3
comp=Z,10nm,1.0s
PGF Pioggiola 48.03 295 *e*P P 08 39 24.1 +1.1

	comp=Z,16nm,0.9s							
PGF	**Pioggiola**	**48.03**	**295**	*e*P		**P**	**08 39 24.1**	**+1.1**
PGF				pmax		pmax		
	comp=Z,17nm,0.9s							
PGF	**Pioggiola**	**48.03**	**295**	*e*P		**P**	**08 39 24.1**	**+1.1**
	comp=Z,16nm,0.9s							
LPG	**La Plagne**	**48.49**	**299**	*e*P		**P**	**08 39 25.8**	**-0.9**
	comp=Z,14nm,1.2s							
LPG	**La Plagne**	**48.49**	**299**	*e*P		**P**	**08 39 25.8**	**-0.9**
LPG				pmax		pmax		
	comp=Z,14nm,1.2s							
LPG	**La Plagne**	**48.49**	**299**	*e*P		**P**	**08 39 25.8**	**-0.9**
	comp=Z,14nm,1.2s							
LPL	**La Plagne**	**48.50**	**299**	*e*P		**P**	**08 39 25.9**	**-0.8**
LPL	**La Plagne**	**48.50**	**299**	*e*P		**P**	**08 39 25.9**	**-0.8**
LPL	**La Plagne**	**48.50**	**299**	*e*P		**P**	**08 39 25.9**	**-0.8**
MJAR	**Matsushiro Arr**	**48.62**	**74**	P		**P**	**08 39 25.4**	**-2.1**
	comp=Z,1.2nm,0.9s,baz=278,slow=9.4,SNR=4.8							
MJAR				LR		LR	09 00 46.2	
	comp=Z,47nm,18.5s,baz=235,slow=37							
SBF	**Sospel**	**48.62**	**297**	*e*P		**P**	**08 39 27.0**	**-0.4**
SBF	**Sospel**	**48.62**	**297**	*e*P		**P**	**08 39 27.0**	**-0.4**
SBF	**Sospel**	**48.62**	**297**	*e*P		**P**	**08 39 27.0**	**-0.4**
BAIF	**Baives**	**48.63**	**306**	*e*P		**P**	**08 39 27.1**	**-0.2**
BAIF	**Baives**	**48.63**	**306**	*e*P		**P**	**08 39 27.1**	**-0.2**
BAIF	**Baives**	**48.63**	**306**	*e*P		**P**	**08 39 27.1**	**-0.2**
BNI	**Bardonecchia**	**48.70**	**299**	*e*P		**P**	**08 39 29.9**	**+1.8**
BNI				pmax		pmax		
	comp=Z,14nm,1.5s							
BNI	**Bardonecchia**	**48.70**	**299**	*e*P		**P**	**08 39 29.9**	**+1.8**
	comp=Z,14nm,1.5s							
MBDF	**Montbardon**	**48.75**	**298**	*e*P		**P**	**08 39 28.8**	**+0.3**
	comp=Z,8.6nm,0.8s							
MBDF	**Montbardon**	**48.75**	**298**	*e*P		**P**	**08 39 28.8**	**+0.3**
MBDF				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MBDF	**Montbardon**	**48.75**	**298**	*e*P		**P**	**08 39 28.8**	**+0.3**
	comp=Z,8.6nm,0.8s							
FRF	**La Foret Royal**	**49.26**	**297**	*e*P		**P**	**08 39 31.8**	**-0.5**
	comp=Z,30nm,1.4s							
FRF	**La Foret Royal**	**49.26**	**297**	*e*P		**P**	**08 39 31.8**	**-0.5**
FRF				pmax		pmax		
	comp=Z,30nm,1.4s							
FRF	**La Foret Royal**	**49.26**	**297**	*e*P		**P**	**08 39 31.8**	**-0.5**
	comp=Z,30nm,1.4s							
LMR	**La Mourre**	**49.44**	**297**	*e*P		**P**	**08 39 33.4**	**-0.2**
	comp=Z,12nm,1.1s							
LMR	**La Mourre**	**49.44**	**297**	*e*P		**P**	**08 39 33.4**	**-0.2**
LMR				pmax		pmax		
	comp=Z,12nm,1.1s							
LMR	**La Mourre**	**49.44**	**297**	*e*P		**P**	**08 39 33.4**	**-0.2**
	comp=Z,12nm,1.1s							
LOR	**Lormes**	**49.76**	**302**	*e*P		**P**	**08 39 35.7**	**-0.3**
LOR	**Lormes**	**49.76**	**302**	*e*P		**P**	**08 39 35.7**	**-0.3**
LOR	**Lormes**	**49.76**	**302**	*e*P		**P**	**08 39 35.7**	**-0.3**
SMRF	**Simiane la Rot**	**49.82**	**298**	*e*P		**P**	**08 39 36.7**	**+0.1**
SMRF	**Simiane la Rot**	**49.82**	**298**	*e*P		**P**	**08 39 36.7**	**+0.1**
SMF	**Signal de Mont**	**49.99**	**302**	*e*P		**P**	**08 39 37.7**	**-0.1**
	comp=Z,5.0nm,0.8s							
SMF	**Signal de Mont**	**49.99**	**302**	*e*P		**P**	**08 39 37.7**	**-0.1**
SMF				pmax		pmax		
	comp=Z,5.0nm,0.8s							
SMF	**Signal de Mont**	**49.99**	**302**	*e*P		**P**	**08 39 37.7**	**-0.1**
	comp=Z,5.0nm,0.8s							
VIVF	**Saint-Julien-l**	**50.10**	**299**	*e*P		**P**	**08 39 38.1**	**-0.6**
	comp=Z,4.0nm,0.6s							
VIVF	**Saint-Julien-l**	**50.10**	**299**	*e*P		**P**	**08 39 38.1**	**-0.6**
VIVF				pmax		pmax		
	comp=Z,4.0nm,0.6s							
VIVF	**Saint-Julien-l**	**50.10**	**299**	*e*P		**P**	**08 39 38.1**	**-0.6**
	comp=Z,4.0nm,0.6s							
AVF	**Avril sur Loir**	**50.25**	**302**	*e*P		**P**	**08 39 38.6**	**-1.1**
	comp=Z,15nm,1.1s							
AVF	**Avril sur Loir**	**50.25**	**302**	*e*P		**P**	**08 39 38.6**	**-1.1**
AVF				pmax		pmax		
	comp=Z,15nm,1.1s							
AVF	**Avril sur Loir**	**50.25**	**302**	*e*P		**P**	**08 39 38.6**	**-1.1**
	comp=Z,15nm,1.1s							
LASF	**Ste Croix**	**50.93**	**299**	*e*P		**P**	**08 39 46.9**	**+1.9**
LASF	**Ste Croix**	**50.93**	**299**	*e*P		**P**	**08 39 46.9**	**+1.9**
CAF	**Calviac**	**51.78**	**300**	*e*P		**P**	**08 39 51.1**	**-0.3**
CAF	**Calviac**	**51.78**	**300**	*e*P		**P**	**08 39 51.1**	**-0.3**
CAF	**Calviac**	**51.78**	**300**	*e*P		**P**	**08 39 51.1**	**-0.3**
FLN	**La Foliniere**	**51.95**	**306**	*e*P		**P**	**08 39 52.6**	**+0.1**
FLN	**La Foliniere**	**51.95**	**306**	*e*P		**P**	**08 39 52.6**	**+0.1**
FLN	**La Foliniere**	**51.95**	**306**	*e*P		**P**	**08 39 52.6**	**+0.1**
RJF	**Les Rejaudoux**	**51.99**	**301**	*e*P		**P**	**08 39 54.3**	**+1.4**
RJF	**Les Rejaudoux**	**51.99**	**301**	*e*P		**P**	**08 39 54.3**	**+1.4**
RJF	**Les Rejaudoux**	**51.99**	**301**	*e*P		**P**	**08 39 54.3**	**+1.4**
MTLF	**Montolieu**	**52.31**	**298**	*e*P		**P**	**08 39 55.0**	**-0.3**
MTLF	**Montolieu**	**52.31**	**298**	*e*P		**P**	**08 39 55.0**	**-0.3**
MTLF	**Montolieu**	**52.31**	**298**	*e*P		**P**	**08 39 55.0**	**-0.3**
MFF	**Saint Martin d**	**52.55**	**303**	*e*P		**P**	**08 39 57.2**	**+0.2**
MFF	**Saint Martin d**	**52.55**	**303**	*e*P		**P**	**08 39 57.2**	**+0.2**
MFF	**Saint Martin d**	**52.55**	**303**	*e*P		**P**	**08 39 57.2**	**+0.2**
BILL	**Bilibino**	**53.23**	**28**	⇓*e*P		**P**	**08 40 01.7**	**0.0**
BILL				pmax		pmax		
	comp=Z,6.0nm,1.7s							
PETK	**Petropavlovsk-**	**54.66**	**47**	LR		LR	09 02 42.8	
	comp=Z,36nm,20.6s,baz=259,slow=35							
ESDC	**Sonseca Array**	**58.10**	**297**	P		**P**	**08 40 37.0**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=43,slow=6.7,SNR=5.5							
KAPI	**Kappang**	**61.45**	**127**	*e*P		P	08 40 55.4	-5.0
	comp=Z,5.5nm,0.6s							
TNA	**Tin City**	**63.24**	**24**	*e*P		**P**	**08 41 14.8**	**+3.1**
	comp=Z,54nm,2.8s							
COLD	**Coldfoot**	**66.81**	**17**	*e*P		**P**	**08 41 35.3**	**+0.4**
	comp=Z,4.4nm,1.1s							
TORD	**Torodi Ar. Bea**	**68.85**	**269**	P		**P**	**08 41 45.6**	**-2.9**
	comp=Z,0.6nm,0.5s,baz=46,slow=5.1,SNR=11							
INK	**Inuvik**	**68.96**	**11**	P		**P**	**08 41 47.0**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=333,slow=8.6,SNR=8.1							
INK	**Inuvik**	**68.96**	**11**	P		**P**	**08 41 47.0**	**-1.4**
COLA	**College**	**69.30**	**18**	⇑*i*P		**P**	**08 41 50.4**	**-0.1**
COLA				pmax		pmax		
	comp=Z,27nm,1.0s							
COLA	**College**	**69.30**	**18**	*e*P		**P**	**08 41 53.4**	**+2.8**
	comp=Z,6.7nm,1.0s							
ILAR	**Eielson Array**	**69.61**	**18**	P		**P**	**08 41 50.1**	**-2.3**
	comp=Z,1.6nm,0.9s,baz=319,slow=3.8,SNR=6.2							
ILAR				LR		LR	09 18 02.7	
	comp=Z,57nm,18.2s,baz=21,slow=41							
PAX	**Paxson**	**71.48**	**18**	*e*P		**P**	**08 42 06.3**	**+2.3**
PAX				pmax		pmax		
	comp=Z,6.0nm,1.1s							
PAX	**Paxson**	**71.48**	**18**	*e*P		**P**	**08 42 06.3**	**+2.3**
	comp=Z,6.0nm,1.1s							
HYT	**Haines Junctio**	**75.14**	**16**	P		**P**	**08 42 25.3**	**-0.5**
YKA	**Yellowknife Ar**	**76.58**	**5**	P		**P**	**08 42 32.2**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=347,slow=5.6,SNR=9.4							
YKA	**Yellowknife Ar**	**76.58**	**5**	P		**P**	**08 42 32.2**	**-1.5**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
WRA	**Warramunga Arr**	**81.92**	**125**	P		P	08 42 59.9	-3.5
	comp=Z,0.7nm,1.0s,baz=324,slow=5.1,SNR=6.9							
ASAR	**Alice Springs**	**84.46**	**128**	P		P	08 43 12.9	-3.6
	comp=Z,0.2nm,0.6s,baz=316,slow=5.4,SNR=6.4							
FFC	**Flin Flon**	**84.62**	**358**	*e*P		**P**	**08 43 17.6**	**+0.6**
FFC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
FFC	**Flin Flon**	**84.62**	**358**	*e*P		**P**	**08 43 17.6**	**+0.6**
	comp=Z,5.8nm,1.1s							
EDM	**Edmonton**	**85.90**	**5**	*e*P		**P**	**08 43 24.4**	**+1.0**
EDM	**Edmonton**	**85.90**	**5**	*e*P		**P**	**08 43 24.4**	**+1.0**
BSMT	**Bassoo Peak**	**91.13**	**7**	*e*P		**P**	**08 43 47.9**	**-0.7**
PDAR	**Pinedale Array**	**96.53**	**3**	LR		LR	09 31 53.3	
	comp=Z,21nm,18.1s,baz=53,slow=38							

JSN 25 08:35:48.2±0.9, 19°.71N×75°.76W, h0km±231km, MD3.9, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJ	**Castle Mountai**	**1.67**	**201**	*i* P	Pn	08 36 17.7	-1.0
GWJ	**Greenwich**	**1.87**	**210**	*i* P	Pn	08 36 19.7	-2.0
STH	**Stony Hill**	**1.90**	**212**	*i* P	Pn	08 36 20.2	-1.8
STH				*i* S	Sn	08 36 44.4	-2.3
HOJ	**Hope**	**1.94**	**209**	*i* P	Pn	08 36 20.3	-2.1
BBJ	**Bamboo Saint A**	**1.94**	**228**	*i* P	Pn	08 36 21.2	-1.4
MCJ	**Malvern**	**2.55**	**226**	*i* P	Pn	08 36 29.7	-1.2

*ISCJB **25** 08:39:46.1±0.8, 9°.72S±0°.04×120°.26E±0°.07, h85km±6km, mb3.6/2, Error ellipse: s-maj=12.1km s-min=7.4km az=173.4*
*DJA **25** 08:39:48.3±0.7, 10°.5S±5°.×12°.0E±°, h47km±11km, M4.0/10, MLv4.0/10*
*IDC **25** 08:40:03.9±4.8, 8°.75S×122°.02E, h231km±49km, mb3.4/2, mb1 3.1/4, mb1mx2.9/27, mbtmp3.7/4, Error ellipse: s-maj=43.2km s-min=14.6km az=56.0*

ISC 25 08:39:47.2±1.0, 9.73S±0°.06×120°.30E±0°.08, h73km±9km, n18, σ1°.85/21, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.06**	**359**	P	**Pn**	**08 39 56.6**	**-1.2**
BASI	**Baing, Sumba**	**0.56**	**150**	P	**Pn**	**08 40 01.9**	**+1.0**
BASI				S	**Sn**	**08 40 12.3**	**+1.4**
EDFI	**Ende, Flores**	**1.68**	**55**	P	**Pn**	**08 40 14.8**	**-0.1**
MMRI	**Maumere**	**2.20**	**61**	P	**Pn**	**08 40 21.8**	**+0.1**
MMRI				S	**Sn**	**08 40 48.8**	**+0.8**
BATI	**Baumata**	**3.35**	**98**	P	**Pn**	**08 40 38.2**	**+0.9**
BSSI	**Bau Bau, Buton**	**3.57**	**3**	P	**Pn**	**08 40 40.0**	**-0.3**
SOEI	**Soe**	**3.91**	**91**	P	**Pn**	**08 40 47.0**	**+2.0**
BKSI	**Bulukumba**	**4.38**	**358**	P	**Pn**	**08 40 51.0**	**-0.4**
LUWI	**Luwuk**	**8.98**	**16**	S	**Sn**	**08 43 35.3**	**+1.6**
	baz=9.1,SNR=3.9						
KNRA	**Kununurra**	**10.15**	**126**	P	**Pn**	**08 42 10.7**	**+0.5**
	baz=10,SNR=7.6						
KNRA				S	**Sn**	**08 43 57.3**	**-5.2**
	baz=10,SNR=4.7						
MTN	**Manton Dam**	**11.07**	**107**	P	**Pn**	**08 42 23.2**	**+0.5**
	baz=11,SNR=7.9						
MTN				S	Sn	08 44 18.0	-6.8
	baz=11,SNR=9.4						
KDU	**Kakadu**	**12.30**	**105**	P	**Pn**	**08 42 41.2**	**+1.7**
	baz=12,SNR=6.0						
KDU				S	**Sn**	**08 44 51.6**	**-3.2**
	baz=12,SNR=3.7						
MEEK	**Meekatharra**	**16.89**	**185**	P	**P**	**08 43 40.6**	**+0.6**
	baz=17,SNR=3.8						
MEEK				S	Sn	08 46 33.0	-13
	baz=17,SNR=8.8						
WRA	**Warramunga Arr**	**16.93**	**128**	P	**Pn**	**08 43 38.9**	**-0.8**
	0.2nm,0.3s,baz=301,slow=14,SNR=14						
WRA				S	Sn	08 46 33.6	-14
	0.1nm,0.3s,baz=314,slow=19,SNR=4.8						
ASAR	**Alice Springs**	**19.00**	**139**	P	**Pn**	**08 44 05.2**	**+0.6**
	0.2nm,0.3s,baz=313,slow=11,SNR=22						
ASAR				S	S	08 47 26.6	-8.6
	0.1nm,0.3s,baz=317,slow=24,SNR=3.3						
COEN	**Coen**	**22.77**	**103**	P	**P**	**08 44 45.8**	**+1.9**
	baz=23,SNR=4.4						
NWAO	**Narrogin (SRO)**	**23.26**	**187**	P	P	08 45 02.3	+14
	2.6nm,0.6s,baz=351,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**65.69**	**332**	P	**P**	**08 50 23.2**	**-0.9**
	0.5nm,0.5s,baz=141,slow=7.0,SNR=6.2						

*KRNET **25** 08:47:19.9±0.1, 40°.92N×74°.86E, h2km, mb3.8*
*ISCJB **25** 08:47:20.8±1.3, 40°.93N±0°.08×74°.86E±0°.06, h7km, Error ellipse: s-maj=12.1km s-min=5.9km az=163.5*
*NNC **25** 08:47:20.9±2.1, 40°.88N×74°.82E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.8km s-min=10.9km az=150.0*

ISC 25 08:47:21.7±1.9, 41°.0N±0°.1×74°.87E±0°.04, h7km, n13, σ0°.96/15, 2C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.80**	**264**	*e*P	Pg	08 47 35.7	-1.4
	baz=267						
SALK				*e*S	**Sg**	**08 47 46.9**	**-0.6**
	baz=267						
NRN	**Naryn**	**0.97**	**61**	*e*P	**Pg**	**08 47 39.3**	**-1.0**
	baz=59						
NRN				*e*S	**Sg**	**08 47 53.2**	**+0.4**
	baz=59						
ARLS	**Aral**	**0.98**	**335**	⇓*i*P	**Pg**	**08 47 39.4**	**-1.0**
	baz=336						
ARLS				⇓*i*S	**Sb**	**08 47 53.2**	**-1.0**
	baz=336						
KZA	**Kyzart**	**1.14**	**14**	P	**Pg**	**08 47 43.3**	**-0.3**
	SNR=11						
UCH	**Uchtor**	**1.28**	**348**	P	**Pb**	**08 47 46.5**	**+0.1**
	SNR=5.9						
AAK	**Ala-Archa**	**1.68**	**350**	⇓Pg	**Pb**	**08 47 53.5**	**+0.4**
	5.9nm,0.2s						
AAK				⇓Lg	Lg	08 48 17.7	
	5.4nm,0.2s						
AAK	**Ala-Archa**	**1.68**	**350**	P	**Pg**	**08 47 53.8**	**-0.1**
	SNR=5.5						
EKS	**Erkin-Say**	**1.88**	**335**	*i* P	**Pb**	**08 47 57.2**	**+0.9**
	baz=336						
TKM2	**Tokmak 2**	**2.02**	**15**	⇓Pg	**Pb**	**08 47 59.6**	**+0.8**
	12nm,0.2s						
TKM2				⇓Lg	Lg	08 48 27.6	
	11nm,0.2s						
TKM2	**Tokmak 2**	**2.02**	**15**	P	**Pb**	**08 47 59.7**	**+0.9**
	SNR=11						
CHMS	**Chumysh**	**2.02**	**358**	P	**Pb**	**08 47 59.6**	**+0.8**
	SNR=6.2						
USP	**Ospenovka**	**2.31**	**353**	P	**Pb**	**08 48 04.9**	**+1.2**
	SNR=11						
KK31	**Karatay Array**	**3.88**	**305**	⇑Pg	**Pb**	**08 48 32.1**	**+1.7**
	0.5nm,0.2s,baz=121,slow=17,SNR=7.4						
KK31				⇑Lg	Lg	08 49 22.9	
	2.6nm,0.3s,baz=125,slow=29,SNR=14						

*MEX **25** 09:12:17.9±0.8, 32°.59N×115°.50W, h10km, MD3.6*
*ISCJB **25** 09:12:19.6±0.6, 32°.31N±0°.04×115°.36W±0°.05, h20km±9km, Error ellipse: s-maj=7.2km s-min=6.2km az=165.3*
*ECX **25** 09:12:20.5±0.6, 32°.28N×115°.36W, h6km, MD2.7, ML2.9*

ISC 25 09:12:19.2±0.9, 32°.28N±0°.03×115°.36W±0°.03, h14km±8km, n16, σ0°.60/21, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**19**	*e*P	**Pg**	**09 12 22.9**	**0.0**
CPBX				*e*S	**Sg**	**09 12 25.7**	**+0.2**
CPBX				AML	AML	09 12 28.1	
	comp=E,13μm,0.2s						
CPBX				⇑*e*		09 12 28.1	
CPBX				AML	AML	09 12 28.9	
	comp=N,10μm,0.3s						
CPBX				⇑*e*		09 12 28.9	
MBIG	**Mexicali**	**0.19**	**47**	*i* P	**Pb**	**09 12 24.1**	**-0.3**
MBIG				*i* S	**Sb**	**09 12 28.7**	**+0.7**
SGL	**Mount Signal**	**0.48**	**320**	⇑*i*P	**Pb**	**09 12 28.9**	**-0.6**
YUH	**Yuha Desert**	**0.60**	**308**	⇑*i*P	**Pg**	**09 12 30.7**	**-0.3**
RDX	**Rancho Dawling**	**0.60**	**235**	*e*P	**Pg**	**09 12 31.3**	**+0.1**
RDX				*e*S	**Sb**	**09 12 39.8**	**-0.4**
COA	**Coachella**	**0.62**	**19**	*e*P	**Pb**	**09 12 31.6**	**-0.2**
COK	**Cook Ranch**	**0.65**	**332**	⇑*i*P	**Pb**	**09 12 32.1**	**-0.2**
YMD	**Yuma Desert**	**0.74**	**68**	⇑*i*P	**Pg**	**09 12 33.5**	**-0.2**
ECBX	**El Chinero**	**0.85**	**162**	⇓*e*P	**Pb**	**09 12 34.9**	**-0.8**
ECBX				*e*S	**Sg**	**09 12 46.9**	**+0.1**
ECBX				AML	AML	09 12 48.3	
	comp=N,358nm,0.3s						
ECBX				⇓*e*		09 12 48.3	
ZAX	**El Zacaton**	**1.09**	**226**	⇑*e*	**Sn**	**09 12 56.1**	**+1.1**
ZAX				AML	AML	09 12 56.1	
	comp=E,214nm,0.5s						
ZAX				AML	AML	09 12 57.8	
	comp=N,314nm,0.8s						
ZAX				⇑*e*		09 12 57.8	
CBX	**Cerro Bola**	**1.10**	**272**	*e*P	**Pn**	**09 12 40.1**	**-0.3**
CBX	**Cerro Bola**	**1.10**	**272**	*e*P	**Pn**	**09 12 40.2**	**-0.2**
BAR	**Barrett**	**1.18**	**290**	⇑*e*P	**Pb**	**09 12 41.1**	**-0.3**
SPIG	**San Pedro Mart**	**1.23**	**184**	*e*P	**Pn**	**09 12 41.9**	**-0.4**
SPIG				*e*S	**Sg**	**09 13 00.6**	**+1.4**
SPIG	**San Pedro Mart**	**1.23**	**184**	⇓*e*P	**Pn**	**09 12 42.0**	**-0.4**
SPX	**San Pedro Mart**	**1.23**	**184**	⇓*e*P	**Pn**	**09 12 42.0**	**-0.4**

KRNET 25 09:24:14.6±0.1, 40°.89N×74°.87E, h2km, mb3.7, 1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.79**	**270**	*e*P	Pg	09 24 30.5	+0.4
	baz=269						
SALK				*e*S	Sb	09 24 41.9	-0.9
	baz=269						
NRN	**Naryn**	**1.02**	**57**	*e*P	Pg	09 24 34.5	-0.1
	baz=57						
NRN				*e*S	Sg	09 24 48.4	+0.3
	baz=57						
ARLS	**Aral**	**1.05**	**337**	*i* P	Pb	09 24 36.1	+0.2
	baz=337						
ARLS				⇓*i*S	Sb	09 24 49.9	-0.5
	baz=337						
BOOM	**Boomskoye usch**	**1.79**	**26**	*e*P	Pg	09 24 49.0	-0.3
	baz=26						
BOOM				*e*S	Sg	09 25 12.3	-0.4
	baz=26						
EKS	**Erkin-Say**	**1.95**	**336**	*i* P	Pg	09 24 53.3	+1.0
	baz=336						
EKS				*e*S	Sg	09 25 19.6	+1.9
	baz=336						

*NNC **25** 09:34:48.4±2.2, 40°.81N×74°.84E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=16.6km s-min=11.6km az=148.0*
*KRNET **25** 09:34:48.0±0.1, 40°.90N×74°.84E, h2km, mb3.4*

ISC 25 09:34:50.9±1.6, 41°.00N±0°.05×74°.84E±0°.03, h0km±11km, n30, σ0°.79/45, 18C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.78**	**262**	*i* P	Pg	09 35 03.4	-2.4
	baz=268						
SALK				*e*S	**Sg**	**09 35 14.8**	**-1.1**
	baz=268						
ARLS	**Aral**	**0.95**	**336**	⇓*i*P	**Pg**	**09 35 07.6**	**-1.4**
	baz=337						
ARLS				⇓*i*S	**Sb**	**09 35 21.9**	**-1.5**
	baz=337						
NRN	**Naryn**	**0.98**	**63**	*e*P	Pg	09 35 07.5	-2.2
	baz=59						
NRN				*e*S	**Sg**	**09 35 21.8**	**-0.6**
	baz=59						
KZA	**Kyzart**	**1.12**	**16**	P	**Pg**	**09 35 12.5**	**+0.1**
	SNR=32						
KZA	**Kyzart**	**1.12**	**16**	⇓*i*P	**Pg**	**09 35 12.4**	**-0.1**
	baz=14						
KZA				⇓*i*S	**Sn**	**09 35 29.1**	**-1.5**
	baz=14						
UCH	**Uchtor**	**1.25**	**349**	P	**Pg**	**09 35 15.2**	**+0.3**
	SNR=22						
UCH	**Uchtor**	**1.25**	**349**	⇑*i*P	**Pg**	**09 35 15.0**	**+0.1**
	baz=350						
UCH				⇑*i*S	**Sn**	**09 35 34.1**	**+0.3**
	baz=350						
AML	**Almayashu**	**1.42**	**323**	P	**Pn**	**09 35 18.2**	**-0.1**
	SNR=19						
AML	**Almayashu**	**1.42**	**323**	⇑*i*P	**Pn**	**09 35 17.9**	**-0.4**
	baz=325						
AML				⇑*i*S	**Sn**	**09 35 37.5**	**-0.4**
	baz=325						
ULHL	**Ulahol**	**1.63**	**40**	P	**Pn**	**09 35 20.9**	**-0.2**
	SNR=31						
ULHL	**Ulahol**	**1.63**	**40**	⇑*i*P	**Pn**	**09 35 20.9**	**-0.2**
	baz=38						
ULHL				⇑*i*S	**Sg**	**09 35 43.2**	**-0.2**
	baz=38						
AAK	**Ala-Archa**	**1.66**	**351**	⇓Pg	**Pg**	**09 35 22.4**	**-0.2**
	23nm,0.5s						
AAK				⇑Lg	Lg	09 35 47.7	
	95nm,0.7s						
AAK	**Ala-Archa**	**1.66**	**351**	P	**Pb**	**09 35 22.2**	**-0.1**
	SNR=35						
AAK	**Ala-Archa**	**1.66**	**351**	⇑*i*P	**Pg**	**09 35 22.5**	**-0.2**
	baz=352						
AAK				⇑*i*S	**Sg**	**09 35 46.6**	**+2.5**
	baz=352						
KBK	**Karagaybulak**	**1.66**	**3**	P	**Pg**	**09 35 22.6**	**-0.1**
	SNR=22						
KBK	**Karagaybulak**	**1.66**	**3**	⇑*i*P	**Pg**	**09 35 22.7**	**-0.1**
	baz=3.0						
KBK				⇑*i*S	**Sg**	**09 35 45.7**	**+1.4**
	baz=3.0						
BOOM	**Boomskoye usch**	**1.71**	**29**	*e*P	**Pn**	**09 35 22.1**	**+0.1**
	baz=27						
BOOM				*e*S	**Sg**	**09 35 45.4**	**-0.3**
	baz=27						
EKS2	**Erkin-Say**	**1.84**	**335**	P	**Pn**	**09 35 23.6**	**-0.3**
	SNR=21						
EKS2	**Erkin-Say**	**1.84**	**335**	⇑*i*P	**Pb**	**09 35 25.6**	**+0.1**
	baz=336						
EKS2				⇑*i*S	**Sg**	**09 35 51.1**	**+1.0**
	baz=336						
FRU	**Bishkek**	**1.84**	**355**	*i* P	**Pb**	**09 35 24.5**	**-1.0**
	baz=355						
FRU				*e*S	**Sg**	**09 35 50.5**	**+0.4**
	baz=355						
CHMS	**Chumysh**	**2.00**	**358**	P	**Pg**	**09 35 28.7**	**-0.5**
	SNR=21						
CHMS	**Chumysh**	**2.00**	**358**	⇑*i*P	**Pg**	**09 35 28.6**	**-0.7**
	baz=358						
CHMS				⇑*i*S	**Sg**	**09 35 55.7**	**+0.5**
	baz=358						
TKM2	**Tokmak 2**	**2.00**	**16**	⇑Pg	**Pb**	**09 35 28.2**	**-0.1**
	22nm,0.5s						
TKM2				⇓Lg	Lg	09 35 57.1	
	75nm,0.4s						
TKM2	**Tokmak 2**	**2.00**	**16**	P	**Pb**	**09 35 28.4**	**0.0**
	SNR=32						
TKM2	**Tokmak 2**	**2.00**	**16**	⇑*i*P	**Pb**	**09 35 28.5**	**+0.2**
	baz=15						
TKM2				⇑*i*S	**Sg**	**09 35 55.3**	**0.0**
	baz=15						
KDJ	**Kajisay**	**2.09**

AFI	**Afiamalu**	**6.59**	**23**	*e*Pn	Pn	09 39 54.3	-6.2
AFI				*e*Sn	Sn	09 41 01.7	-13
MSVF	**Nonsavu**	**7.47**	**287**	Pn	Pn	09 40 20.2	+7.7
	1µm,0.8s,SNR=6.2						
MSVF	**Nonsavu**	**7.47**	**287**	*e*P	Pn	09 40 19.9	+7.4
MSVF	**Nonsavu**	**7.47**	**287**	*e*Pn	Pn	09 40 19.9	+7.4
DZM	**Mont Dzumac**	**17.96**	**260**	*e*P	**Pn**	**09 42 32.8**	**+1.5**
	235nm,1.4s						
DZM				*e*LQ	LQ	09 46 10.9	
	2µm,27.6s						
DZM				*e*LR	LR	09 47 02.1	
	2µm,25.9s						
DZM	**Mont Dzumac**	**17.96**	**260**	P	**Pn**	**09 42 32.5**	**+1.2**
	2.5nm,0.3s,baz=75,slow=16,SNR=20						
DZM				LR	LR	09 48 33.7	
	comp=Z,736nm,20.7s,baz=84,slow=34						
OUZ	**Omahuta**	**18.46**	**212**	*e*P	**Pn**	**09 42 37.2**	**+0.2**
	12nm,0.8s						
HAZ	**Te Kaha**	**18.92**	**199**	*e*PN	**P**	**09 42 38.4**	**-2.9**
PUZ	**Puketiti**	**19.07**	**198**	*e*SN	S	09 45 56.8	-19
MWZ	**Matawai**	**19.53**	**199**	*e*PN	**P**	**09 42 47.4**	**-0.5**
MWZ				*e*SN	S	09 46 07.6	-17
URZ	**Urewera**	**19.59**	**200**	P	**P**	**09 42 46.4**	**-2.2**
	3.8nm,0.3s,baz=34,slow=3.3,SNR=33						
URZ				S	S	09 46 11.1	-15
	1.9nm,0.3s,baz=175,slow=20,SNR=8.7						
URZ	**Urewera**	**19.59**	**200**	*e*PN	**P**	**09 42 46.8**	**-1.8**
URZ				*e*SN	S	09 46 08.7	-17
URZ	**Urewera**	**19.59**	**200**	*e*P	**P**	**09 42 47.5**	**-1.0**
	36nm,0.7s						
URZ				S	S	09 46 11.1	-15
URZ				*e*S	Sn	09 46 13.5	-17
BKZ	**Black Stump Fm**	**20.62**	**200**	*e*PN	**P**	**09 42 59.6**	**-0.2**
BKZ	**Black Stump Fm**	**20.62**	**200**	*e*P	**P**	**09 42 59.8**	**0.0**
	17nm,0.9s						
BHHZ	**Black Hill Sta**	**21.05**	**201**	*e*PN	**P**	**09 43 02.4**	**-2.0**
PXZ	**Pawanui**	**21.29**	**199**	*e*PN	**P**	**09 43 06.2**	**-0.7**
PXZ				*e*SN	S	09 46 46.3	-13
BFZ	**Birch Farm**	**22.07**	**199**	*e*P	**P**	**09 43 15.7**	**+0.4**
	35nm,0.8s						
MRZ	**Mangatainoka R**	**22.27**	**200**	*e*PN	**P**	**09 43 15.0**	**-2.4**
MRZ				*e*SN	S	09 47 06.6	-11
TBI	**Tubuai**	**23.43**	**103**	*e*LQ	LQ	09 47 59.9	
	680nm,29.8s						
TBI				*e*LR	LR	09 48 49.4	
	2µm,31.8s,baz=272						
TBI	**Tubuai**	**23.43**	**103**	*e*T	T	10 07 47.9	
	31nm,0.3s						
QRZ	**Quartz Range**	**23.53**	**205**	*e*PN	**P**	**09 43 29.0**	**-1.1**
NNZ	**Nelson**	**23.54**	**203**	*e*PN	**P**	**09 43 27.4**	**-2.6**
PAE	**Paea**	**23.64**	**88**	*e*T	T	10 07 48.5	
	12nm,0.3s						
PPT2	**Papeete2**	**23.65**	**88**	*e*LQ	LQ	09 48 01.9	
	1µm,25.5s						
PPT2				*e*LR	LR	09 48 51.5	
	2µm,30.0s,baz=257						
PPT2	**Papeete2**	**23.65**	**88**	*e*T	T	10 07 51.1	
	8.6nm,0.3s						
PPT	**Papeete**	**23.66**	**88**	LR	LR	09 50 41.1	
	comp=Z,136nm,21.9s,baz=260,slow=31						
TVO	**Taravao**	**23.93**	**89**	*e*T	T	10 08 09.7	
	3.0nm,0.3s						
THZ	**Tophouse**	**24.18**	**204**	*e*PN	**P**	**09 43 35.4**	**-0.6**
THZ				*e*SN	**S**	**09 47 50.3**	**+1.0**
KHZ	**Kahutara**	**24.53**	**202**	*e*P	**P**	**09 43 38.3**	**-0.7**
	34nm,1.0s						
KHZ				*e*S	**S**	**09 47 59.4**	**+4.7**
MEH	**Mehetia**	**25.02**	**90**	*e*T	T	10 09 34.4	
	90nm,0.2s						
LTZ	**Lake Taylor**	**25.30**	**203**	*e*PN	**P**	**09 43 48.8**	**+2.7**
RPZ	**Rata Peaks**	**26.56**	**204**	P	**P**	**09 44 00.1**	**+2.6**
	16nm,0.7s,baz=331,slow=2.5,SNR=7.6						
RPZ	**Rata Peaks**	**26.56**	**204**	*e*P	**P**	**09 44 01.3**	**+3.8**
	49nm,1.0s						
EIDS	**Eidsvold**	**32.20**	**254**	P	**P**	**09 44 47.0**	**-0.6**
	baz=33,SNR=3.4						
EIDS	**Eidsvold**	**32.20**	**254**	*e*P	**P**	**09 44 46.8**	**-0.9**
	26nm,1.5s						
ARMA	**Armidale**	**32.29**	**245**	P	**P**	**09 44 48.1**	**-0.4**
	baz=33,SNR=7.3						
ARMA	**Armidale**	**32.29**	**245**	*e*P	**P**	**09 44 48.1**	**-0.4**
	9.4nm,0.5s						
MGCD	**Mangrove Creek**	**33.33**	**240**	P	**P**	**09 44 58.0**	**+0.6**
	baz=34,SNR=5.6						
TAOE	**Nuku Hiva Isla**	**34.94**	**76**	*e*T	T	10 21 40.3	
	305nm,0.3s						
CNB	**Canberra Magne**	**35.27**	**237**	P	**P**	**09 45 14.6**	**+0.3**
	baz=36,SNR=7.3						
RKT	**Rikitea**	**36.75**	**102**	*e*LR	LR	09 54 57.4	
	1µm,30.5s,baz=277						
RKT	**Rikitea**	**36.75**	**102**	*e*T	T	10 24 26.9	
	7.4nm,0.3s						
CTA	**Charters Tower**	**36.87**	**263**	P	**P**	**09 45 27.3**	**-0.7**
	14nm,0.4s,baz=89,slow=11,SNR=25						
CTAO	**Charters Tower**	**36.87**	**263**	*e*P	**P**	**09 45 26.9**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,371nm,2.7s						
CTAO	**Charters Tower**	**36.87**	**263**	*e*P	**P**	**09 45 26.9**	**-1.1**
	comp=Z,371nm,2.7s						
CMSA	**Cobar Meteorol**	**37.50**	**244**	P	**P**	**09 45 31.8**	**-1.4**
	baz=38,SNR=16						
QLP	**Quilpie**	**38.39**	**252**	P	**P**	**09 45 40.1**	**-0.8**
	baz=39,SNR=8.8						
PMG	**Port Moresby**	**38.52**	**280**	*e*P	**P**	**09 45 41.6**	**-0.5**
PMG				pmax	pmax		
	comp=Z,57nm,1.0s						
PMG	**Port Moresby**	**38.52**	**280**	P	**P**	**09 45 41.6**	**-0.5**
	baz=39,SNR=7.8						
PMG	**Port Moresby**	**38.52**	**280**	*e*P	**P**	**09 45 41.6**	**-0.5**
	comp=Z,57nm,1.0s						
COEN	**Coen**	**40.90**	**272**	P	**P**	**09 46 00.9**	**-1.0**
	baz=41,SNR=25						
COEN	**Coen**	**40.90**	**272**	*e*P	**P**	**09 46 00.9**	**-1.0**
	comp=Z,5.0nm,0.8s						
STKA	**Stephens Creek**	**41.01**	**244**	P	**P**	**09 46 01.0**	**-1.5**
	comp=Z,6.7nm,0.8s,baz=95,slow=9.2,SNR=17						
STKA				LR	LR	10 00 23.7	
	comp=Z,209nm,21.5s,baz=54,slow=32						
STKA	**Stephens Creek**	**41.01**	**244**	*e*P	**P**	**09 46 01.0**	**-1.5**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STKA	**Stephens Creek**	**41.01**	**244**	P	**P**	**09 46 00.9**	**-1.5**
	baz=41,SNR=12						
STKA	**Stephens Creek**	**41.01**	**244**	*e*P	**P**	**09 46 01.0**	**-1.5**
	comp=Z,3.2nm,1.0s						
QIS	**Mount Isa**	**43.00**	**261**	P	**P**	**09 46 17.8**	**-1.1**
	baz=43,SNR=15						
KIP	**Kipapa**	**44.22**	**22**	*ce*P	**P**	**09 46 27.2**	**-1.3**
KIP				pmax	pmax		
	comp=Z,58nm,1.2s						
BBOO	**Buckleboo**	**45.75**	**243**	P	**P**	**09 46 39.4**	**-1.3**
	baz=46,SNR=12						
AS31	**Alice Springs**	**47.88**	**256**	*e*P	**P**	**09 46 55.7**	**-1.8**
AS31				*e*PP	**PP**	**09 48 45.4**	**-4.6**
ASAR	**Alice Springs**	**47.88**	**256**	P	**P**	**09 46 56.0**	**-1.6**
	comp=Z,16nm,0.6s,baz=91,slow=8.6,SNR=179						
ASAR				S	**S**	**09 53 46.3**	**-3.6**
	comp=Z,0.9nm,0.8s,baz=93,slow=16,SNR=6.9						
ASAR				LR	LR	10 05 48.3	
	comp=Z,158nm,19.3s,baz=100,slow=34						
WB2	**Warramunga Arr**	**47.97**	**261**	*e*P	**P**	**09 46 56.1**	**-2.1**
WRAB	**Tennant Creek**	**47.97**	**261**	P	**P**	**09 46 56.2**	**-2.0**
	comp=Z,150nm,0.9s,SNR=76						
WRAB	**Tennant Creek**	**47.97**	**261**	*ce*P	**P**	**09 46 56.6**	**-1.6**
WRAB				*i* *PP	pP	09 47 21.1	+5.3
WRAB				pmax	pmax		
	comp=Z,109nm,1.8s						
WRAB	**Tennant Creek**	**47.97**	**261**	*e*P	**P**	**09 46 56.6**	**-1.6**
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**47.98**	**261**	P	**P**	**09 46 56.7**	**-1.6**
	comp=Z,10nm,0.3s,baz=96,slow=7.5,SNR=620						
WRA				S	**S**	**09 53 49.1**	**-2.2**
	comp=Z,1.2nm,1.0s,baz=96,slow=14,SNR=4.7						
WRA				LR	LR	10 06 37.2	
	comp=Z,204nm,18.4s,baz=110,slow=35						
KDU	**Kakadu**	**51.29**	**270**	P	**P**	**09 47 21.9**	**-1.6**
	baz=52,SNR=7.7						
MTN	**Manton Dam**	**52.51**	**269**	P	**P**	**09 47 30.7**	**-1.8**
	baz=53,SNR=11						
FORT	**Forrest**	**52.55**	**246**	P	**P**	**09 47 32.1**	**-0.5**
	baz=53,SNR=17						
FORT	**Forrest**	**52.55**	**246**	*e*P	**P**	**09 47 31.3**	**-1.3**
	comp=Z,17nm,0.6s						
WRKA	**Warakurna**	**52.81**	**253**	P	**P**	**09 47 32.7**	**-2.0**
	baz=53,SNR=84						
KNRA	**Kununurra**	**54.03**	**265**	P	**P**	**09 47 42.4**	**-1.3**
	baz=54,SNR=14						
FAKI	**Fak Fak**	**54.67**	**281**	P	**P**	**09 47 48.5**	**+0.1**
	baz=55,SNR=4.2						
FAKI	**Fak Fak**	**54.67**	**281**	*e*P	**P**	**09 47 47.9**	**-0.5**
	comp=Z,24nm,1.0s						
SWI	**Sorong**	**56.38**	**283**	P	**P**	**09 48 00.2**	**-0.4**
	baz=57,SNR=9.5						
SBA	**Scott Base**	**58.59**	**185**	*e*P	**P**	**09 48 17.3**	**+2.2**
SBA				pmax	pmax		
	comp=Z,274nm,2.9s						
SBA	**Scott Base**	**58.59**	**185**	*e*P	**P**	**09 48 17.3**	**+2.2**
	comp=Z,274nm,2.9s						
VNDA	**Vanda**	**58.70**	**186**	P	**P**	**09 48 16.5**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=357,slow=5.8,SNR=8.6						
VNDA	**Vanda**	**58.70**	**186**	*e*P	**P**	**09 48 18.9**	**+3.0**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**58.70**	**186**	*e*P	**P**	**09 48 18.9**	**+3.0**
	comp=Z,3.1nm,0.8s						
SOEI	**Soe**	**59.84**	**270**	P	**P**	**09 48 25.5**	**+0.5**
	baz=60,SNR=19						
SOEI	**Soe**	**59.84**	**270**	*e*P	**P**	**09 48 25.2**	**+0.3**
	comp=Z,145nm,0.9s						
TNTI	**Ternate**	**60.60**	**283**	*e*P	**P**	**09 48 29.4**	**-0.6**
	comp=Z,134nm,0.9s						
MEEK	**Meekatharra**	**61.23**	**250**	P	**P**	**09 48 32.0**	**-2.2**
	baz=62,SNR=7.6						
NWAO	**Narrogin (SRO)**	**61.56**	**243**	P	**P**	**09 48 35.5**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=144,slow=14,SNR=4.4						
BLDU	**Ballidu**	**62.30**	**245**	P	**P**	**09 48 39.9**	**-1.4**
	baz=63,SNR=11						
MORW	**Morawa**	**63.10**	**247**	P	**P**	**09 48 45.5**	**-1.2**
	baz=63,SNR=6.3						
GIRL	**Giralia**	**65.90**	**254**	P	**P**	**09 49 05.5**	**+0.5**
	baz=66,SNR=3.1						
QSPA	**South Pole Qui**	**70.04**	**180**	LR	LR	10 13 56.1	
	comp=Z,56nm,21.6s,baz=24,slow=30						
QSPA	**South Pole Qui**	**70.04**	**180**	*e*P	**P**	**09 49 30.7**	**+0.3**
	comp=Z,15nm,0.9s						
MJAR	**Matsushiro Arr**	**71.87**	**321**	P	**P**	**09 49 40.9**	**-0.8**
	comp=Z,16nm,0.8s,baz=160,slow=6.2,SNR=60						
MJAR				LR	LR	10 17 18.3	
	comp=Z,27nm,21.8s,baz=155,slow=32						
MAJO	**Matsushiro**	**71.87**	**321**	⇓*i*P	**P**	**09 49 41.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,155nm,0.8s						
MAJO	**Matsushiro**	**71.87**	**321**	*e*P	**P**	**09 49 41.1**	**-0.6**
	comp=Z,24nm,0.8s						
MAT	**Matsushiro**	**71.87**	**321**	P	**P**	**09 49 40.3**	**-1.4**
MAT				S	**S**	**09 58 59.2**	**+2.0**
JNU	**Nakatsue**	**74.28**	**315**	P	**P**	**09 49 55.7**	**-0.4**
	comp=Z,18nm,0.8s,baz=79,slow=4.1,SNR=15						
JNU	**Nakatsue**	**74.28**	**315**	*e*P	**P**	**09 49 55.6**	**-0.4**
	comp=Z,9.4nm,0.9s						
ASAJ	**Asahikawa**	**74.96**	**329**	P	**P**	**09 50 00.3**	**+0.6**
	comp=Z,11nm,0.7s,baz=202,slow=5.0,SNR=7.8						
ASAJ	**Asahikawa**	**74.96**	**329**	*e*P	**P**	**09 50 00.5**	**+0.9**
	comp=Z,4.6nm,0.8s						
SBUM	**Sibu**	**75.24**	**278**	*e*P	**P**	**09 50 02.3**	**+0.3**
	comp=Z,15nm,1.0s						
PTRM	**Twissleman Ran**	**75.52**	**43**	*e*P	**P**	**09 50 02.1**	**-1.0**
BAR	**Barrett**	**76.11**	**47**	*e*P	**P**	**09 50 05.2**	**-1.4**
	comp=Z,54nm,0.2s						
NACB	**Ninganchiao**	**76.22**	**302**	*e*P	**P**	**09 50 06.9**	**-0.4**
	comp=Z,56nm,0.9s						
VES	**Vestal, Richgr**	**76.36**	**43**	⇓P	**P**	**09 50 06.6**	**-1.2**
	baz=76,SNR=8.8						
EDW2	**Edwards Air Fo**	**76.50**	**45**	⇑P	**P**	**09 50 07.9**	**-0.9**
	baz=77,SNR=5.6						
TPUB	**Ta-pu**	**76.56**	**301**	*e*P	**P**	**09 50 08.9**	**-0.4**
	comp=Z,19nm,0.4s						
YHNB	**Yeheng**	**76.63**	**303**	*e*P	**P**	**09 50 09.4**	**-0.3**
	comp=Z,25nm,0.8s						
ISA	**Isabella, Lake**	**76.64**	**44**	*e*P	**P**	**09 50 09.0**	**-0.6**
ISA				pmax	pmax		
	comp=Z,20nm,1.6s						
ISA	**Isabella, Lake**	**76.64**	**44**	⇓P	**P**	**09 50 08.6**	**-1.0**
	baz=77,SNR=7.7						
ISA	**Isabella, Lake**	**76.64**	**44**	*e*P	**P**	**09 50 09.0**	**-0.6**
	comp=Z,20nm,1.6s						
KSM	**Kuching**	**76.67**	**277**	P	**P**	**09 50 10.4**	**+0.3**
	baz=77,SNR=12						
KSM	**Kuching**	**76.67**	**277**	*e*P	**P**	**09 50 09.7**	**-0.5**
	comp=Z,28nm,0.8s						
PETK	**Petropavlovsk-**	**76.73**	**343**	P	**P**	**09 50 08.8**	**-0.8**
	comp=Z,16nm,0.7s,baz=124,slow=8.6,SNR=32						
PETK				LR	LR	10 17 20.7	
	comp=Z,63nm,21.4s,baz=135,slow=30						
PFO	**Pinyon Flats O**	**76.79**	**47**	*e*P	**P**	**09 50 09.3**	**-1.2**
PFO	**Pinyon Flats O**	**76.79**	**47**	*e*P	**P**	**09 50 09.3**	**-1.2**
CMB	**Columbia Colle**	**76.88**	**41**	*e*P	**P**	**09 50 10.0**	**-0.8**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CMB	**Columbia Colle**	**76.88**	**41**	*e*P	**P**	**09 50 10.0**	**-0.8**
	comp=Z,8.8nm,1.1s						
YSS	**Yuzh-Sakhalins**	**77.02**	**331**	⇑*i*P	**P**	**09 50 11.9**	**+0.6**
YSS				*e*		09 50 19.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**77.02**	**331**	*e*P	**P**	**09 50 12.2**	**+0.9**
	comp=Z,27nm,0.8s						
WDC	**Whiskeytown Da**	**77.21**	**38**	*e*P	**P**	**09 50 12.0**	**-0.5**
WDC				pmax	pmax		
	comp=Z,19nm,1.5s						
WDC	**Whiskeytown Da**	**77.21**	**38**	*e*P	**P**	**09 50 12.0**	**-0.5**
	comp=Z,19nm,1.5s						
MPMC	**Manual Prospec**	**77.52**	**44**	⇑P	**P**	**09 50 14.2**	**-0.5**
	baz=78,SNR=10						
GSC	**Goldstone, Bar**	**77.53**	**45**	*e*P	**P**	**09 50 13.6**	**-1.0**
GSC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GSC	**Goldstone, Bar**	**77.53**	**45**	*e*P	**P**	**09 50 13.6**	**-1.0**
	comp=Z,10nm,1.3s						
MTUM	**Tungsten Hills**	**77.60**	**42**	*e*P	**P**	**09 50 14.9**	**-0.1**
YBH	**Yreka Blue Hor**	**77.87**	**37**	*e*P	**P**	**09 50 15.8**	**-0.5**
YBH				pmax	pmax		
	comp=Z,13nm,1.1s						
YBH	**Yreka Blue Hor**	**77.87**	**37**	*e*P	**P**	**09 50 15.8**	**-0.5**
	comp=Z,13nm,1.1s						
FURC	**Furnace Creek,**	**78.18**	**44**	⇑P	**P**	**09 50 18.5**	**+0.5**
	baz=78						
TUQ	**Turquoise Moun**	**78.20**	**45**	⇑P	**P**	**09 50 17.7**	**-0.6**
	baz=78						
SHOC	**Shoshone, Teco**	**78.23**	**45**	⇑P	**P**	**09 50 17.8**	**-0.6**
	baz=78						
NVAR	**Mina Array Bea**	**78.42**	**42**	P	**P**	**09 50 18.7**	**-0.9**
	comp=Z,12nm,0.8s,baz=225,slow=9.1,SNR=66						
NVAR				pP	**pP**	**09 50 40.6**	**+2.0**
	comp=Z,3.5nm,0.7s,baz=226,slow=9.1,SNR=5.4						
214A	**Organ Pipe Nat**	**78.43**	**50**	*e*P	**P**	**09 50 18.3**	**-1.3**
KSRS	**Korea Array**	**78.79**	**317**	P	**P**	**09 50 22.2**	**+0.9**
	comp=Z,6.4nm,0.9s,baz=134,slow=5.7,SNR=30						
KSRS				LR	LR	10 21 27.1	
	comp=Z,38nm,19.2s,baz=130,slow=33						
KSAR	**Wonju Array Be**	**78.81**	**317**	P	**P**	**09 50 22.2**	**+0.7**
KSAR	**Wonju Array Be**	**78.81**	**317**	P	**P**	**09 50 22.2**	**+0.7**
TPNV	**Topopah Spring**	**78.85**	**44**	*e*P	**P**	**09 50 21.2**	**-0.7**
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TPNV	**Topopah Spring**	**78.85**	**44**	⇑P	**P**	**09 50 22.3**	**+0.4**
	baz=79,SNR=9.8						
TPNV	**Topopah Spring**	**78.85**	**44**	*e*P	**P**	**09 50 21.2**	**-0.7**
	comp=Z,8.9nm,0.8s						
TPH	**Tonopah**	**78.89**	**43**	*e*P	**P**	**09 50 21.1**	**-1.0**
TPH				pmax	pmax		
	comp=Z,14nm,0.8s						
TPH	**Tonopah**	**78.89**	**43**	*e*P	**P**	**09 50 21.1**	**-1.0**
	comp=Z,14nm,0.8s						
SHPR	**Sheep Range**	**79.31**	**45**	*e*P	**P**	**09 50 24.1**	**-0.4**
MOD	**Modoc Plateau**	**79.35**	**38**	*e*P	**P**	**09 50 23.4**	**-1.2**
	comp=Z,5.7nm,0.8s						
W13A	**Hualapai Mount**	**79.39**	**47**	⇓P	**P**	**09 50 25.1**	**+0.2**
	baz=80,SNR=6.1						
K05A	**Summer Lake**	**79.54**	**37**	*e*P	**P**	**09 50 25.9**	**+0.4**
	comp=Z,18nm,1.0s						
TUC	**Tucson**	**80.08**	**50**	*e*P	**P**	**09 50 28.0**	**-0.6**
TUC				pmax	pmax		
	comp=Z,11nm,1.0s						
TUC	**Tucson**	**80.08**	**50**	*e*P	**P**	**09 50 27.9**	**-0.6**
	comp=Z,11nm,1.0s						
R11A	**Troy Canyon, C**	**80.09**	**43**	*e*P	**P**	**09 50 27.6**	**-1.1**
	comp=Z,3.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**80.50**	**324**	P	**P**	**09 50 29.8**	**-0.7**
	comp=Z,9.3nm,1.1s,baz=104,slow=4.9,SNR=9.3						
USRK				LR	LR	10 19 17.4	
	comp=Z,69nm,21.1s,baz=127,slow=30						
WVOR	**Wild Horse Val**	**80.65**	**38**	*e*P	**P**	**09 50 30.6**	**-0.9**
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WVOR	**Wild Horse Val**	**80.65**	**38**	*e*P	**P**	**09 50 30.6**	**-0.9**
	comp=Z,10nm,1.0s						
CCUT	**Cedar City**	**81.09**	**45**	*e*P	**P**	**09 50 33.7**	**-0.4**
	comp=Z,7.1nm,1.0s						
ARUT	**Antelope Range**	**81.17**	**45**	*e*P	**P**	**09 50 34.6**	**+0.1**
ARUT	**Antelope Range**	**81.17**	**45**	*e*P	**P**	**09 50 34.6**	**+0.1**
	comp=Z,0.7nm,1.0s						
I07A	**Izee**	**81.18**	**37**	*e*P	**P**	**09 50 33.5**	**-0.8**
	comp=Z,5.7nm,0.9s						
U15A	**North Rim**	**81.20**	**46**	⇓P	**P**	**09 50 35.5**	**+0.7**
	baz=81,SNR=13						
WUAZ	**Wupatki**	**81.34**	**47**	⇓P	**P**	**09 50 36.2**	**+0.8**
	baz=82,SNR=5.9						
WUAZ	**Wupatki**	**81.34**	**47**	*e*P	**P**	**09 50 36.2**	**+0.8**
	comp=Z,13nm,1.2s						
ELK	**Elko**	**81.69**	**41**	*e*P	**P**	**09 50 37.5**	**+0.3**
ELK				pmax	pmax		
	comp=Z,53nm,3.0s						
ELK	**Elko**	**81.69**	**41**	*e*P	**P**	**09 50 37.5**	**+0.3**
	comp=Z,53nm,3.0s						
HABR	**Khabarovsk**	**81.73**	**329**	*e*P	**P**	**09 50 35.9**	**-1.0**
HABR				*e**PP	**pP**	**09 50 59.5**	**+3.5**
HABR				*e*		09 53 43.0	
HABR				*e*PPP	PPP	09 55 33.8	
HABR				*e*S	**S**	**10 00 40.9**	**-3.1**
HABR				*e*SS	**SS**	**10 06 00.8**	**-2.9**
HABR				*e*SSS	SSS	10 09 29.4	
HABR				pmax	pmax		
	comp=Z,61nm,2.1s						
X18A	**Snowflake**	**81.82**	**49**	⇓P	**P**	**09 50 37.8**	**-0.1**
	baz=82,SNR=7.4						
MDJ	**Mudanjiang**	**82.10**	**323**	P	**P**	**09 50 40.3**	**+1.4**
MDJ				pP	**PcP**	**09 50 47.0**	**+2.8**
MDJ				sP	sP	09 50 49.3	-16
MDJ				PP	**PP**	**09 53 48.5**	**+0.4**
MDJ				S	**SKKSac**	**10 00 55.3**	**-1.3**
MDJ				PMZ			
	comp=Z,13nm,1.0s						
MDJ				PMZ			
	comp=Z,40nm,4.9s						
MDJ				LN			
	comp=Z,42nm,6.3s						
MDJ				LE			
	comp=Z,71nm,8.1s						
MDJ				LZ			
	comp=Z,94nm,8.1s						
NJ2	**Nanjing**	**82.19**	**308**	*e*P	P	09 50 48.3	+8.6
NJ2				pmax	pmax		
	comp=Z,50nm,0.6s						
G08A	**Pilot Rock**	**82.24**	**36**	*e*P	**P**	**09 50 39.0**	**-0.8**
MVU	**Marysvale**	**82.37**	**44**	*e*P	**P**	**09 50 41.7**	**+0.8**
	comp=Z,13nm,1.2s						
121A	**Cookes Peak, D**	**82.38**	**51**	*e*P	**P**	**09 50 40.5**	**-0.5**
	comp=Z,19nm,1.8s						
MYKOM	**Kota Tinggi**	**82.83**	**275**	*e*P	**P**	**09 50 42.2**	**-1.2**
	comp=Z,82nm,1.7s						
MFID	**Camas Ranch**	**82.89**	**39**	*e*P	**P**	**09 50 42.9**	**-0.4**
	comp=Z,4.2nm,1.0s						
MAW	**Mawson**	**83.12**	**199**	LR	LR	10 24 49.5	
	comp=Z,64nm,21.6s,baz=226,slow=34						
D08A	**Wollman Farm,**	**83.36**	**35**	*e*P	**P**	**09 50 45.6**	**+0.1**
	comp=Z,13nm,0.9s						
TMUT	**Trail Mountain**	**83.46**	**44**	*e*P	**P**	**09 50 47.3**	**+0.8**
	comp=Z,24nm,1.1s						
GAMB	**Gambell**	**83.55**	**1**	*e*P	**P**	**09 50 46.3**	**+0.3**
	comp=Z,51nm,2.2s						
F10A	**Beach Ranch, E**	**83.62**	**36**	*e*P	**P**	**09 50 46.1**	**-0.8**
	comp=Z,15nm,0.9s						
QIZ	**Qiongzhong**	**83.74**	**293**	P	**P**	**09 50 49.0**	**+1.0**
QIZ				S	**S**	**10 01 11.0**	**+5.3**
QIZ				PMZ			
	comp=Z,130nm,6.1s						
MNTX	**Cornudas Mount**	**83.77**	**53**	*e*P	**P**	**09 50 46.8**	**-1.1**
	comp=Z,9.0nm,1.1s						
HVU	**Hansel Valley**	**83.81**	**41**	*e*P	**P**	**09 50 46.9**	**-1.2**
HVU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HVU	**Hansel Valley**	**83.81**	**41**	*e*P	**P**	**09 50 46.9**	**-1.2**
	comp=Z,7.6nm,1.0s						
SRU	**San Rafael Swe**	**83.81**	**45**	*e*P	**P**	**09 50 47.7**	**-0.5**
SRU				pmax	pmax		
	comp=Z,23nm,1.2s						
SRU	**San Rafael Swe**	**83.81**	**45**	*e*P	**P**	**09 50 47.7**	**-0.5**
	comp=Z,23nm,1.2s						
HLID	**Hailey**	**83.81**	**39**	*e*P	**P**	**09 50 47.0**	**-1.1**
	comp=Z,9.8nm,0.9s						
B08A	**Colville Reser**	**83.97**	**33**	*e*P	**P**	**09 50 47.9**	**-0.7**
	comp=Z,6.5nm,0.9s						
JLU	**Jordanelle**	**84.00**	**43**	*e*P	**P**	**09 50 48

baz=86,SNR=7.7
QLMT Earthquake Lak 86.30 39 *e*P **P 09 51 00.8 +0.2**
comp=Z,0.3nm,0.7s
FLWY Flagg Ranch 86.34 40 *e*P **P 09 51 01.1 +0.3**
comp=Z,11nm,1.4s
PDAR Pinedale Array 86.35 42 P **P 09 50 59.3 -1.6**
comp=Z,1.6nm,0.8s,baz=221,slow=4.2,SNR=12
PDAR LR LR 10 21 18.7
comp=Z,48nm,21.2s,baz=243,slow=30
CMIG Matias Romero 86.35 70 LR LR 10 23 01.0
comp=Z,57nm,18.3s,baz=188,slow=31
128A Castleberry Fa 86.38 54 ⇑P **P 09 51 00.6 -0.4**
baz=86,SNR=11
IPM Ipoh 86.40 276 *e*P **P 09 51 02.0 +0.5**
comp=Z,30nm,0.7s
631A Perdido Creek 86.46 57 ⇓P **P 09 51 00.2 -1.2**
baz=87
832A Faith Ranch, C 86.47 58 ⇓P **P 09 51 00.3 -1.2**
baz=87,SNR=8.4
YMR Madison River 86.49 40 *e*P **P 09 51 02.4 +0.9**
comp=Z,20nm,1.7s
430A Baggett Ranch, 86.53 56 ⇑P **P 09 51 00.8 -1.1**
baz=87
SDCO Great Sand Dun 86.54 48 *e*P **P 09 51 01.5 -0.5**
229A Bryant Ranch, 86.60 54 ⇑P **P 09 51 01.5 -0.6**
baz=87
732A Laxson Ranch, 86.65 58 ⇓P **P 09 51 02.2 -0.2**
baz=87
DOT Dot Lake 86.71 13 *e*P **P 09 51 01.3 -0.6**
comp=Z,19nm,1.3s
SEY Seymchan 86.72 345 P **P 09 51 01.2 -0.7**
comp=Z,13nm,0.7s,baz=144,slow=5.7,SNR=67
Z28A Tucker Farm, M 86.75 53 ⇓P **P 09 51 02.3 -0.5**
baz=87
933A Laredo 86.75 59 ⇓P **P 09 51 01.5 -1.4**
baz=87,SNR=7.1
MSTX Muleshoe 86.76 52 ⇓P **P 09 51 02.1 -0.9**
baz=87,SNR=11
MSTX Muleshoe 86.76 52 *e*P **P 09 51 01.3 -1.7**
comp=Z,20nm,0.9s
531A Rocksprings 86.80 56 ⇑P **P 09 51 01.9 -1.2**
baz=87,SNR=10
330A Mertzon 86.85 55 ⇑P **P 09 51 02.0 -1.3**
baz=87
129A Stewart Farms, 86.85 54 ⇓P **P 09 51 02.9 -0.5**
baz=87,SNR=5.9
833A Chaparral WMA, 86.95 59 ⇓P **P 09 51 03.0 -0.8**
baz=87,SNR=6.4
034A Hebbronville 87.00 60 ⇑P **P 09 51 03.4 -0.7**
baz=87
COLA College 87.07 11*c i*P **P 09 51 02.9 -0.6**
COLA pmax pmax
comp=Z,60nm,1.0s
COLA College 87.07 11 *e*P **P 09 51 03.1 -0.3**
comp=Z,17nm,1.1s
230A Sterling City 87.10 55 ⇓P **P 09 51 04.0 -0.6**
baz=87
632A Uvalde 87.12 57 ⇓P **P 09 51 03.8 -0.9**
baz=87,SNR=6.9
Y28A McKinney Farm, 87.12 52 ⇑P **P 09 51 04.5 -0.2**
baz=87,SNR=5.3
PLCA Paso Flores 87.15 132 P **P 09 51 03.5 -1.3**
comp=Z,1.9nm,0.9s,baz=192,slow=3.7,SNR=5.1
ILAR Eielson Array 87.15 11 P **P 09 51 03.1 -0.8**
comp=Z,7.5nm,1.2s,baz=217,slow=4.6,SNR=20
ILAR pP **pP 09 51 24.2 +1.0**
comp=Z,1.7nm,0.7s,baz=232,slow=6.6,SNR=4.4
ILAR LR LR 10 21 26.7
comp=Z,48nm,21.3s,baz=222,slow=30
IM04 Indian Mountai 87.15 8 *e*P **P 09 51 03.5 -0.4**
Z29A Hungry Hill Ra 87.25 53 ⇓P **P 09 51 04.7 -0.6**
baz=87,SNR=8.3
WALA Waterton Lakes 87.25 35 *e*P **P 09 51 04.3 -0.7**
comp=Z,7.1nm,1.1s
532A Rocksprings 87.29 57 ⇓P **P 09 51 05.1 -0.4**
baz=87,SNR=8.4
934A Benavides 87.36 60 ⇑P **P 09 51 04.1 -1.7**
baz=87
331A San Angelo 87.38 55 ⇑P **P 09 51 05.4 -0.5**
baz=88
035A Encino 87.43 60 ⇓P **P 09 51 06.1 -0.1**
baz=88
130A Snyder 87.52 54 ⇑P **P 09 51 06.1 -0.4**
baz=88
JCT Junction City 87.52 56 ⇓P **P 09 51 05.4 -1.2**
baz=88
Y29A Porterfield Fa 87.53 53 ⇓P **P 09 51 06.7 +0.1**
baz=88,SNR=8.6
834A Tilden 87.54 59 ⇑P **P 09 51 06.6 -0.1**
baz=88,SNR=5.6
432A Menard 87.69 56 ⇓P **P 09 51 06.3 -1.2**
baz=88,SNR=7.3
Z30A Sanderson Ranc 87.69 53 ⇓P **P 09 51 07.3 -0.1**
baz=88,SNR=5.9
231A Bronte 87.73 55 ⇓P **P 09 51 06.6 -1.0**
baz=88,SNR=5.7
N23A Red Feather La 87.75 45 *e*P **P 09 51 07.3 -0.4**
comp=Z,5.1nm,1.0s
PSI Prapat 87.79 274 P **P 09 51 07.2 -1.2**
comp=Z,17nm,0.9s,baz=165,slow=2.0,SNR=7.1
BJI Beijing 87.94 314 P **P 09 51 09.5 +1.2**
BJI S S 10 01 52.3 +6.4
BJI PMZ
comp=Z,15nm,0.8s
BJI PMZ
comp=Z,71nm,4.1s
BJI LN
comp=Z,110nm,5.7s
BJI LE
comp=Z,85nm,4.9s
332A Millersview 87.94 56 ⇓P **P 09 51 08.1 -0.5**
baz=88
533A Kerrville 87.95 57 ⇓P **P 09 51 07.6 -1.1**
baz=88,SNR=9.4
131A Roby 87.99 54 ⇓P **P 09 51 08.7 -0.1**
baz=88
DAWY Dawson 88.12 15 *e*P **P 09 51 09.5 +0.8**
comp=Z,8.2nm,1.0s
433A Art 88.19 56 ⇓P **P 09 51 09.0 -0.7**
baz=88,SNR=9.2
232A Coleman 88.23 55 ⇑P **P 09 51 09.3 -0.7**
baz=88
EGAK Eagle 88.33 14 *e*P **P 09 51 09.9 +0.4**
comp=Z,7.1nm,1.1s
SNAA Sanae 88.36 177⇓*e*P **P 09 51 11.4 +1.5**
SNAA pmax pmax
comp=Z,42nm,5.0s
534A Blanco 88.38 57 ⇑P **P 09 51 10.5 -0.1**
baz=88,SNR=5.9
Z31A Sharp Cattle R 88.45 54 ⇑P **P 09 51 11.3 +0.4**
baz=89
333A Richland Sprin 88.51 56 ⇑P **P 09 51 11.2 0.0**
baz=89
ABTX Abilene, Hawle 88.54 55 ⇓P **P 09 51 11.6 +0.2**
baz=89
ABTX Abilene, Hawle 88.54 55 *e*P **P 09 51 11.2 -0.2**
comp=Z,5.8nm,0.9s
ENH Enshi 88.57 303 *e*P **P 09 51 12.8 +1.3**
comp=Z,12nm,0.9s
635A Leesville 88.68 58 ⇑P **P 09 51 11.8 -0.2**
baz=89
434A Burnet 88.86 57 ⇑P **P 09 51 12.7 -0.2**
baz=89
233A Rising Star 88.86 55 ⇑P **P 09 51 14.0 +1.1**
baz=89
BILL Bilibino 88.95 353⇑*e*P **P 09 51 12.3 -0.1**
BILL pmax pmax
comp=Z,30nm,5.2s
BILL Bilibino 88.95 353 *e*P **P 09 51 12.1 -0.3**
comp=Z,3.6nm,0.8s
Z32A Haskell 88.95 54 ⇑P **P 09 51 14.0 +0.7**
baz=89,SNR=7.3
736A Circle Diamond 89.07 59 ⇓P **P 09 51 15.9 +2.0**
baz=89
133A Hamilton Ranch 89.09 55 ⇑P **P 09 51 15.4 +1.5**
baz=89
334A Lometa 89.09 56 ⇑P **P 09 51 14.4 +0.4**
baz=89
GYA Guiyang 89.34 298 P **P 09 51 16.0 +0.6**
GYA pP PcP 09 51 25.5 +8.7
GYA PP **PP 09 54 48.8 +1.4**
GYA SKS **SKSac 10 01 42.3 +2.5**
GYA S **S 10 02 02.0 +1.9**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
EDM Edmonton 89.92 32 *e*P **P 09 51 16.8 -0.6**
comp=Z,19nm,1.5s
SURT Suratani 90.02 279 P **P 09 51 21.8 +3.2**
comp=Z,13nm,1.1s
RSSD Black Hills 90.52 43 *e*P **P 09 51 19.5 -1.1**
RSSD pmax pmax
comp=Z,2.0nm,0.8s
RSSD Black Hills 90.52 43 *e*P **P 09 51 19.5 -1.1**
comp=Z,2.2nm,0.8s
XAN Xi'an 90.53 306 P **P 09 51 22.0 +1.3**
XAN pP pP 09 51 33.0 -7.0
XAN PMZ
comp=Z,3.0nm,1.1s
PBKT Sadao Pong 90.66 287 P **P 09 51 23.5 +2.0**
comp=Z,25nm,1.1s
LOEI Loei 90.73 288 P **P 09 51 21.9 0.0**
comp=Z,9.4nm,1.2s
UTTA Uttaradit 91.44 288 P **P 09 51 27.0 +1.8**
comp=Z,5.9nm,1.0s
HHC Hu-ho-hao-te 91.44 313 *e*P **P 09 51 24.3 -0.5**
HHC PP **PP 09 55 05.8 +2.1**
HHC S **S 10 02 13.5 -5.3**
HHC SS **SS 10 08 25.5 -1.1**
HHC PMZ
comp=Z,11nm,0.7s
HHC PMZ
comp=Z,93nm,7.4s
HHC LN
comp=Z,140nm,18.5s
HHC LE
comp=Z,200nm,17.3s
HHC LZ
comp=Z,62nm,19.7s
SRDT SRDT 91.56 285 P **P 09 51 28.8 +3.0**
comp=Z,66nm,1.2s
NANT Nan 91.68 289 P **P 09 51 28.1 +1.8**
comp=Z,42nm,1.1s
KMI Kunming 92.14 296 P **P 09 51 30.3 +1.8**
KMI pP pP 09 51 38.8 -9.1
KMI sP sP 09 51 42.3 -13
KMI PMZ
comp=Z,14nm,1.1s
KMI PMZ
comp=Z,87nm,4.3s
KMI LN
comp=Z,82nm,21.2s
KMI LE
comp=Z,100nm,21.2s
KMI LZ
comp=Z,100nm,22.5s
KHLT Khaolaem Dam 92.20 285 P **P 09 51 31.5 +2.8**
comp=Z,8.0nm,1.2s
DGMT Dagmar 92.44 39 *e*P **P 09 51 29.7 +0.5**
comp=Z,4.4nm,0.7s
LAMP Lampang 92.53 289 P **P 09 51 32.2 +2.0**
comp=Z,14nm,0.9s
NNA Nana 92.94 104 LR LR 10 24 24.8
comp=Z,82nm,21.9s,baz=184,slow=30
YAK Yakutsk 92.96 337 LR LR 10 29 27.0
comp=Z,30nm,20.7s,baz=89,slow=33
INK Inuvik 92.97 14 P **P 09 51 30.9 -0.2**
comp=Z,3.1nm,0.9s,baz=213,slow=6.3,SNR=9.5
INK Inuvik 92.97 14 *e*P **P 09 51 30.1 -0.9**
INK pmax pmax
comp=Z,18nm,1.8s
INK Inuvik 92.97 14 *e*P **P 09 51 30.1 -0.9**
comp=Z,18nm,1.8s
CMAR Chiang Mai Arr 93.12 288 P **P 09 51 33.9 +0.9**
comp=Z,9.5nm,0.9s,baz=117,slow=2.9,SNR=48
CMAR LR LR 10 30 45.3
comp=Z,16nm,21.3s,baz=136,slow=34
CMAR Chiang Mai Arr 93.12 288 *i*P **P 09 51 34.5 +1.5**
CMAR pmax pmax
comp=Z,12nm,1.0s
ATAH Atahualpa 93.22 99 LR LR 10 22 42.3
comp=Z,64nm,18.9s,baz=223,slow=28
CHTO Chiang Mai 93.25 289 *e*P **P 09 51 34.1 +0.6**
CHTO pmax pmax
comp=Z,18nm,1.1s
CHTO Chiang Mai 93.25 289 *e*P **P 09 51 34.0 +0.6**
comp=Z,18nm,1.1s
CD2 Chengdu 93.37 302 *e*P **P 09 51 34.5 +0.6**
CD2 pP PcP 09 51 43.8 +9.4
CD2 sP sP 09 51 47.3 -14
CD2 PP **PP 09 55 21.5 +2.4**
CD2 SKS **SKSac 10 02 05.0 +2.6**
CD2 S **ScS 10 02 37.5 -0.3**
CD2 sS sS 10 02 53.0 -16
CD2 SS **SS 10 08 58.5 +4.0**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CMAI Chiengmai2 93.53 290 P **P 09 51 36.7 +1.7**
YKA Yellowknife Ar 94.71 24 P **P 09 51 37.7 -1.4**
comp=Z,1.3nm,0.9s,baz=242,slow=4.5,SNR=9.4
YKA pP **pP 09 51 59.3 +0.8**
comp=Z,0.7nm,0.8s,baz=243,slow=4.7,SNR=3.4
LZH Lanzhou 95.16 306 *e*P P 09 51 45.8 +3.7
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,61nm,4.0s
ECSD EROS Data Cent 95.21 45 *e*P **P 09 51 41.0 -1.0**
comp=Z,16nm,1.2s
ULN Ulaanbaatar 97.21 318⇑*e*P Pdif 09 51 51.9 +0.6
ULN pmax pmax
comp=Z,6.0nm,1.7s
SONM Songino Array 97.61 318 P **P 09 51 51.4 -1.5**
comp=Z,0.7nm,0.6s,baz=142,slow=5.1,SNR=5.2
ULM Lac du Bonnet 98.12 39 LR LR 10 29 48.9
comp=Z,84nm,18.6s,baz=231,slow=31
LPAZ La Paz 99.13 111 LR LR 10 26 44.1
comp=Z,75nm,20.2s,baz=179,slow=29
TIXI Tiksi 99.17 344⇑*e*P **Pdif 09 51 58.1 -1.1**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 109.15 311 *e*PKPbc **PKiKP 09 56 49.3 +1.2**
WMQ sPKP 09 57 04.0
WMQ *e*PP PP 09 57 28.5 +11
WMQ PKS PKSdf 10 00 24.5 -0.1
WMQ Urumqi 109.15 311 SS SS 10 13 03.0 +30
WMQ AMB AMB
comp=Z,98nm,5.1s
WMQ LR LR
comp=N,130nm,28.3s
WMQ LR LR
comp=E,220nm,24.6s
WMQ LR LR
comp=Z,200nm,22.4s
ZALV Zalesovo Beam 112.22 321 PKiKP **PKiKP 09 56 52.0 -1.4**
comp=Z,0.8nm,0.5s,baz=159,slow=0.7,SNR=4.5
MKAR Makanchi Array 113.31 313 PKiKP **PKiKP 09 56 54.5 -1.3**
comp=Z,0.5nm,0.6s,baz=256,slow=2.9,SNR=5.1
KURK Kurchatov 115.91 317 PKiKP **PKPdf 09 56 59.4 -1.2**
KURK 09 57 21.3
KURK Kurchatov 115.91 317 PKP **PKPdf 09 56 59.4 -1.2**
KURK pPKP **pPKiKP 09 57 21.3 +0.5**
KURBB Kurchatov Arra 115.97 317 PKP **PKPdf 09 56 59.4 -1.3**
comp=Z,0.7nm,0.5s,baz=108,slow=1.4,SNR=7.2
KURBB pPKP **pPKiKP 09 57 21.3 +0.4**
comp=Z,0.5nm,0.6s,baz=81,slow=1.8,SNR=3.2
KSH Kashi 117.36 305 *e*PKP **PKPdf 09 57 05.3 +1.3**
KSH PP PP 09 58 26.8 +10
KSH PKS **PKSdf 10 00 40.5 -0.3**
KSH SKS **SKSdf 10 04 12.5 +2.3**
KSH SKKS **SKKSac 10 05 15.0 +4.4**
KSH PPMZ
comp=Z,140nm,5.2s
KSH LZ
comp=Z,100nm,6.5s
BVAR Borovoye Array 120.86 320 PKP **PKPdf 09 57 09.4 -0.7**
comp=Z,1.4nm,0.5s,baz=155,slow=0.8,SNR=12
BVAR pPKP **pPKPdf 09 57 31.0 +0.8**
comp=Z,0.6nm,0.4s,baz=45,slow=0.8,SNR=3.6
BRVK Borovoye 120.92 320⇑*i*PKiKP **PKPdf 09 57 10.1 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,2.5s
ARCES ARCESS Array B 129.02 351 PKP **PKPdf 09 57 24.4 -0.9**
comp=Z,2.3nm,0.7s,baz=0.0,slow=0.9,SNR=16
FINES FINESS Array B 136.19 346 PKP **PKPdf 09 57 37.5 -1.5**
comp=Z,1.2nm,0.6s,baz=48,slow=2.8,SNR=7.2
FINES FINESS Array B 136.19 346*c i*PKiKP **PKPdf 09 57 40.0 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 138.83 356 PKP **PKPdf 09 57 44.6 +0.6**
comp=Z,0.7nm,0.7s,baz=11,slow=4.1,SNR=2.9
AKASG Malin Array Be 144.13 334 PKP **PKPab 09 57 50.6 -0.8**
comp=Z,8.4nm,0.7s,baz=40,slow=4.4,SNR=52
KIEV Kiev 144.15 334 *e*PKiKP **PKPab 09 57 51.1 -0.4**
KIEV Kiev 144.15 334 *e*PKPdf **PKPbc 09 57 51.0 -0.4**
BSEG Bad Segeberg 145.95 355 *e*PKPbc **PKPbc 09 57 57.3 -0.2**
MALT Malatya 146.25 310⇓*i*P **PKPab 09 57 59.8 -0.1**
MALT Malatya 146.25 310⇓PKP2 **PKPab 09 57 59.8 -0.1**
LVV L'vov 146.83 338 *e*PKP2 **PKPab 09 58 01.5 -0.1**
NRDL Niedersach Rie 147.40 355 *e*PKPbc **PKPbc 09 58 00.6 -1.0**
IBBN Ibbenburen 147.74 357 *e*PKPbc **PKPbc 09 58 02.6 0.0**
OJC Ojcow 147.82 343 *e*PKP **PKPbc 09 58 03.1 +0.1**
CLZ Clausthal 148.03 354 *e*PKPbc **PKPbc 09 58 03.1 -0.4**
CLZ *e*PKPab **PKPab 09 58 06.4 +0.1**
KSP Ksiaz 148.10 347 *e*PKP **PKPbc 09 58 04.2 +0.5**
KSP Ksiaz 148.10 347 *e*PKP2 **PKPbc 09 58 04.0 +0.3**
STHS Stebnicka Huta 148.10 340 *e*PKP2 **PKPbc 09 58 04.4 +0.6**
STHS Stebnicka Huta 148.10 340 *e*PKP **PKPbc 09 58 04.4 +0.6**
BURAR Bucovina Array 148.19 334⇓*i*P **PKPab 09 58 05.8 -1.4**
BURAR Bucovina Array 148.19 334⇓PKP2 **PKPab 09 58 05.8 -1.4**
KOLS Kolonicke sedl 148.19 339 *e*PKP2 **PKPab 09 58 06.5 -0.6**
KOLS Kolonicke sedl 148.19 339 *e*PKP **PKPab 09 58 06.5 -0.6**
CLL Collm 148.24 351 *e*PKPbc **PKPbc 09 58 03.7 -0.3**
CLL Collm 148.24 351 *e*PKPbc **PKPbc 09 58 03.0 -1.0**
comp=Z,9.0nm,1.1s
CLL *e*PKPab **PKiKP 09 58 06.0 +0.3**
comp=Z,9.0nm,0.7s
CLL *e* 09 58 28.0
CLL Collm 148.24 351 *e*PKIKP **PKPbc 09 58 03.0 -1.0**
CLL *e* 09 58 06.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 148.24 351 *e*PKPbc **PKPbc 09 58 03.6 -0.3**
NIE Niedzica 148.39 342 *e*PKP **PKPbc 09 58 05.1 +0.6**
UZH Uzhgorod 148.44 339⇓*i*PKP2 **PKPbc 09 58 04.6 0.0**
UPC Upice 148.48 347⇑*e*PKP **PKPbc 09 58 05.1 +0.4**
UPC *e*PKPAB **PKPab 09 58 08.1 -0.1**
UPC *ex* x 09 58 28.9
UPC Upice 148.48 347 *e*PKP2 **PKPbc 09 58 05.1 +0.4**
BRG Berggiesshubel 148.51 350 *e*P **PKPbc 09 58 04.8 0.0**
comp=Z,4.1nm,0.8s
BRG *i* 09 58 28.3
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 148.51 350 *e*PKPbc **PKPbc 09 58 04.7 0.0**
BRG Berggiesshubel 148.51 350 *e*PKP2 **PKPbc 09 58 04.8 0.0**
BRG pmax pmax
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 148.56 347⇑*e*PKP **PKPbc 09 58 05.2 +0.2**
DPC *e*PKPAB **PKPab 09 58 08.3 -0.2**
DPC *ep*PKP **pPKPdf 09 58 14.4 -7.0**
DPC *es*PKP 09 58 29.0
DPC *ex* x 09 58 33.7
DPC Dobruska-Polom 148.56 347 *e*PKP2 **PKPbc 09 58 05.2 +0.2**
OKC Ostrava-Krasne 148.61 344⇑*e*PKP **PKPbc 09 58 06.1 +1.1**
OKC Ostrava-Krasne 148.61 344 *e*PKP2 **PKPbc 09 58 06.1 +1.1**
KRLC Kraliky 148.72 346⇑*e*PKP **PKPbc 09 58 05.7 +0.3**
KRLC *e*PKPAB **PKPab 09 58 09.2 0.0**
KRLC *es*PKP 09 58 28.6
KRLC *ex* x 09 58 35.9
KRLC Kraliky 148.72 346 *e*PKP2 **PKPbc 09 58 05.7 +0.3**
CFR Carcaliu 148.73 328⇓*i*P **PKPbc 09 58 05.7 +0.2**
CFR Carcaliu 148.73 328⇓PKP2 **PKPbc 09 58 05.7 +0.2**
PVCC Panska Ves 148.74 349⇑*e*PKP **PKPbc 09 58 05.8 +0.5**
PVCC *e*PKPAB **PKPab 09 58 09.2 0.0**
PVCC *ex* x 09 58 32.3
PVCC Panska Ves 148.74 349 *e*PKP2 **PKPbc 09 58 05.8 +0.5**
MORC Moravsky Berou 148.81 345⇓*i*P **PKPbc 09 58 06.1 +0.5**
MORC Moravsky Berou 148.81 345⇓PKP2 **PKPbc 09 58 06.1 +0.5**
VRI Vrincioaia 148.90 331⇓*i*P **PKPbc 09 58 05.5 -0.4**
VRI Vrincioaia 148.90 331⇓PKP2 **PKPbc 09 58 05.5 -0.4**
BRTR Keskin Array B 148.93 315 PKPbc **PKPbc 09 58 06.1 -0.3**
comp=Z,2.7nm,0.6s,baz=139,slow=4.7,SNR=16
BRTR Keskin Array B 148.93 315*c i*PKP2 **PKPbc 09 58 06.0 -0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
UBBA Unterbreizbach 149.07 355 *e*PKPbc **PKPbc 09 58 05.7 -0.3**
MOX Moxa 149.07 352 *e*PKPbc **PKPbc 09 58 06.0 -0.2**
MOX *e*PKPab **PKPab 09 58 11.2 +0.6**
GRER 149.14 330⇓*i*P **PKPab 09 58 10.3 -0.7**
KECS Kecovo 149.16 340 *e*PKIKP **PKPdf 09 58 04.0 +1.8**
KECS Kecovo 149.16 340 *e*PKP **PKPdf 09 58 04.0 +1.8**
HARR Harsova 149.18 328⇓*i*P **PKPbc 09 58 07.2 +0.6**
HARR Harsova 149.18 328⇓PKP2 **PKPbc 09 58 07.2 +0.6**
TANN Tannenbergstha 149.19 351 *e*PKPbc **PKPbc 09 58 06.5 -0.1**
TANN *ep*PKPbc **pPKPbc 09 58 27.8 +1.2**
PRA Prague 149.20 349⇑*e*PKP **PKPbc 09 58 07.0 +0.5**
PRA Prague 149.20 349 *e*PKP2 **PKPbc 09 58 07.0 +0.5**
TLB Topalu 149.20 328⇓*i*P **PKPbc 09 58 07.2 +0.5**
TLB Topalu 149.20 328⇓PKP2 **PKPbc 09 58 07.2 +0.5**
PRU Pruhonice 149.26 349⇑*e*PKP **PKPbc 09 58 06.3 -0.4**
PRU *es*PKP 09 58 30.8
PRU Pruhonice 149.26 349 *e*PKP2 **PKPbc 09 58 06.3 -0.4**
GOPC GO Pecny, Ondr 149.28 348⇑*e*PKP **PKPbc 09 58 06.4 -0.4**
GOPC *e*PKPAB **PKPab 09 58 10.2 -1.3**
GOPC *es*PKP 09 58 30.8
VRAC Vranov 149.48 346⇓*i*P **PKPbc 09 58 06.6 -0.7**
VRAC Vranov 149.48 346⇓PKIKP **PKPbc 09 58 06.6 -0.7**
MLR Muntele Rosu 149.54 331⇓*i*P **PKPbc 09 58 07.9 +0.2**
MLR Muntele Rosu 149.54 331⇓PKP2 **PKPbc 09 58 07.9 +0.2**
VYHS Vyhne 149.65 342 *e*PKP **PKPbc 09 58 07.2 -0.5**
TREC Trest 149.73 347 *e*PKPDF **PKPdf 09 58 04.9 +1.7**
TNS Taunus Mts 149.78 356 *e*PKPbc **PKPbc 09 58 08.1 +0.1**
TNS *e*PKPab **PKPab 09 58 13.6 +0.1**
DRGR 149.85 336⇓*i*P **PKPbc 09 58 08.1 -0.2**
DRGR 149.85 336⇓PKP2 **PKPbc 09 58 08.1 -0.2**
ROTZ Rotzenmuhle 149.85 351 *e*PKPbc **PKPbc 09 58 08.5 +0.3**
VOIR 149.98 332⇓*i*P **PKPbc 09 58 09.5 +0.8**
VOIR 149.98 332⇓PKP2 **PKPbc 09 58 09.5 +0.8**
GRF Grafenberg Arr 150.06 353 *e*PKPbc **PKPbc 09 58 08.3 -0.4**
GRF *e*PKPab **PKPab 09 58 15.2 +0.6**
ARR Arges 150.22 332⇓*i*P **PKPbc 09 58 09.9 +0.6**
KHC Kasperske Hory 150.26 349 *e*PKPDF **PKPdf 09 58 04.5 +0.5**
KHC ⇑*e*PKP **PKPbc 09 58 09.5 +0.3**
KHC *e*PKPAB **PKPab 09 58 15.5 0.0**
KHC Kasperske Hory 150.26 349 *e*PKIKP **PKPdf 09 58 04.5 +0.5**
KHC *e* 09 58 09.5
KHC *e* 09 58 15.5
WLF Walferdange 150.42 359 *e*PKPbc **PKPbc 09 58 10.0 +0.5**
WLF *e*PKPab **PKPab 09 58 16.8 +0.7**
GERES GERESS Array B 150.51 349 PKPbc **PKPbc 09 58 09.3 -0.6**
comp=Z,1.8nm,0.7s,baz=30,slow=2.3,SNR=12
SIRR Siria 150.68 337⇓*i*P **PKPbc 09 58 09.6 -0.7**
CONA Conrad Observa 150.94 346⇑*i*PKiKP **PKiKP 09 58 11.3 -0.2**
comp=Z,5.9nm,0.8s
GZR Gura Zlata 150.98 335⇓*i*P **PKPbc 09 58 11.0 -0.1**
GZR Gura Zlata 150.98 335⇓PKIKP **PKPbc 09 58 11.0 -0.1**
STU Stuttgart 151.17 355 *e*PKPbc **PKPbc 09 58 11.3 0.0**
BZS Buzias 151.25 336⇓*i*P **PKPbc 09 58 11.3 -0.3**
BZS Buzias 151.25 336⇓PKIKP **PKPbc 09 58 11.3 -0.3**
CSS Prodhromos 151.35 307 *e*PKPdf **PKPdf 09 58 05.8 +1.4**
CSS *e*PKPbc **PKPbc 09 58 11.7 -0.5**
FUR Furstenfeldbru 151.55 352 *e*PKPbc **PKPbc 09 58 12.2 0.0**
BFO Black Forest 151.68 356 *e*PKPbc **PKPbc 09 58 11.4 -1.1**
BFO Black Forest 151.68 356 *e*PKIKP **PKPbc 09 58 12.3 -0.2**
BFO *e* 09 58 19.3
BFO Black Forest 151.68 356 *e*PKPbc **PKPbc 09 58 12.3 -0.2**
BFO *e*PKPab **PKPab 09 58 19.2 -2.1**
RJOB Jochberg 151.74 350 *e*PKPbc **PKPbc 09 58 12.1 -0.6**
PKSM Moragy 151.76 341⇓*i*P **PKPbc 09 58 12.6 -0.1**
PKSM Moragy 151.76 341⇓PKIKP **PKPbc 09 58 12.6 -0.1**
WTTA Wattenberg 152.38 351⇑*i*PKiKP **PKPbc 09 58 14.2 -0.2**
comp=Z,11nm,0.5s
ABTA Abfaltersbach 152.75 350⇑*i*PKPbc **PKPbc 09 58 14.3 -0.8**
comp=Z,6.1nm,0.5s
DIVS Divibare 153.15 337⇓*i*P **PKPdf 09 58 12.0 +3.4**
FUORN Ofenpass-Fuorn 153.20 353 *e*PKPbc **PKPbc 09 58 16.0 -0.3**
MMB Musomiste 153.55 328⇑*i*P **PKPdf 09 58 08.4 -0.8**
MMB Musomiste 153.55 328⇑PKIKP **PKPdf 09 58 08.4 -0.8**
TORD Torodi Ar. Bea 172.22 151 PKPbc pPKPdf 09 58 47.8 -0.2
comp=Z,0.9nm,0.8s,baz=295,slow=1.4,SNR=4.1

MEX 25 09:43:55.8±0.8, 32.12N×114.79W, h10km±10km, MD3.7,
Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MBIG	**Mexicali**	**0.45**	**310**	*e*P		Pg	09 44 03.8	-0.8
MBIG				*e*S		Sg	09 44 10.9	+0.3

SPIG	**San Pedro Mart**	**1.22 209**	*e*P	Pn	09 44 15.4	-4.0
SPIG			*i* S	Sb	09 44 30.4	-5.1
CBX	**Cerro Bola**	**1.60 277**	*e*P	Pn	09 44 20.0	-4.4
CBX			*e*S	Sn	09 44 39.7	-5.6

*IDC **25** 09:58:54.4±0.9, 34˚.01S×72˚.74W, h0km, mb4.1/6, mb1 4.1/9, mb1mx3.9/26, mbtmp4.0/9, ML3.6/2, MS3.8/5, Ms1 3.8/5, ms1mx3.2/24, Error ellipse: s-maj=31.6km s-min=18.8km az=111.0*

*ISCJB **25** 09:58:55.7±0.7, 34˚.23S±0˚.07×72˚.6W±0˚.1, h17km, mb4.1/9, MS3.6/3, Error ellipse: s-maj=13.3km s-min=9.4km az=19.6*

*NEIC **25** 09:59:01.1±0.6, 34˚.20S×72˚.30W, h35km, mb4.5/6, Error ellipse: s-maj=14.3km s-min=8.6km az=91.0*

ISC 25 09:58:58.0±0.7, 34˚.20S±0˚.08×72˚.5W±0˚.1, h17km, n24, σ1s 49/22, mb4.3/9, MS3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.45**	**56**	Pn	**Pn**	**10 00 05.2**	**+0.4**
	0.5nm,0.3s,baz=211,slow=12,SNR=37						
CFAA				Sn	**Sn**	**10 00 58.7**	**+2.6**
	0.5nm,0.3s,baz=227,slow=10,SNR=3.2						
CFAA				LR	LR	10 01 48.5	
	comp=Z,52nm,20.4s,baz=213,slow=39						
LCO	**Las Campanas**	**5.40**	**17**	*e*Pn	**Pn**	**10 00 17.7**	**-0.5**
	43nm,0.7s						
PLCA	**Paso Flores**	**6.71**	**167**	Pn	**Pn**	**10 00 36.5**	**+0.6**
	0.5nm,0.3s,baz=336,slow=13,SNR=9.0						
PLCA				LR	LR	10 03 29.8	
	comp=Z,219nm,19.0s,baz=343,slow=40						
PLCA	**Paso Flores**	**6.71**	**167**	*e*Pn	**Pn**	**10 00 36.9**	**+1.1**
	23nm,1.0s						
TRQA	**Tornquist**	**9.36**	**117**	*e*Pn	**Pn**	**10 01 11.1**	**-1.1**
	5.8nm,0.7s						
LVC	**Limon Verde**	**11.97**	**16**	Pn	Pn	10 01 44.1	-4.2
	9.3nm,0.3s,baz=198,slow=9.6,SNR=3.2						
CPUP	**Villa Florida**	**15.29**	**63**	LR	LR	10 08 49.1	
	comp=Z,2μm,19.2s,baz=241,slow=39						
LPAZ	**La Paz**	**18.27**	**14**	*e*P	**P**	**10 03 13.5**	**+1.9**
	0.3nm,0.3s,baz=189,slow=9.3,SNR=21						
LPAZ	**La Paz**	**18.27**	**14**	*e*P	**P**	**10 03 13.7**	**+2.1**
	8.6nm,1.1s						
SIV	**San Ignacio**	**20.86**	**32**	P	**P**	**10 03 38.8**	**-0.5**
	7.4nm,0.7s,baz=221,slow=9.9,SNR=15						
SIV				LR	LR	10 13 15.8	
	comp=Z,203nm,19.4s,baz=220,slow=41						
SAML	**Samuel**	**26.56**	**21**	*e*P	**P**	**10 04 34.6**	**-0.6**
	3.3nm,0.8s						
BDFB	**Brasilia**	**28.79**	**56**	P	**P**	**10 04 53.3**	**-2.0**
	3.0nm,0.7s,baz=208,slow=9.9,SNR=4.7						
BDFB				LR	LR	10 17 34.0	
	comp=Z,166nm,19.5s,baz=213,slow=39						
PTGA	**Pitinga**	**35.31**	**22**	P	**P**	**10 05 50.2**	**-2.2**
	4.3nm,0.9s,baz=267,slow=6.2,SNR=5.8						
PTGA	**Pitinga**	**35.31**	**22**	*e*P	**P**	**10 05 52.6**	**+0.3**
	6.5nm,1.1s						
JTS	**JuntasAbangare**	**45.79**	**343**	LR	LR	10 22 18.1	
	comp=Z,69nm,19.0s,baz=258,slow=31						
QSPA	**South Pole Qui**	**56.04**	**180**	P	**P**	**10 08 36.6**	**+0.9**
	1.1nm,0.8s,baz=109,slow=0.5,SNR=3.1						
QSPA	**South Pole Qui**	**56.04**	**180**	*e*P	**P**	**10 08 36.6**	**+0.9**
	7.2nm,0.8s						
TXAR	**Lajitas Array**	**69.71**	**331**	P	**P**	**10 10 04.4**	**-2.6**
	0.2nm,0.5s,baz=134,slow=7.7,SNR=2.6						
WVT	**Waverly**	**71.41**	**347**	*e*P	**P**	**10 10 17.6**	**+0.5**
	22nm,1.4s						
ECSD	**EROS Data Cent**	**80.61**	**343**	*e*P	**P**	**10 11 09.8**	**+0.3**
	8.7nm,1.2s						
NVAR	**Mina Array Bea**	**83.81**	**326**	P	**P**	**10 11 28.8**	**+2.2**
	0.1nm,0.4s,baz=155,slow=6.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.66**	**70**	P	**P**	**10 11 30.3**	**-0.9**
	2.2nm,0.9s,baz=261,slow=4.0,SNR=8.0						
WRA	**Warramunga Arr**	**120.39**	**210**	PKP	**PKPdf**	**10 17 48.3**	**-0.7**
	0.2nm,0.6s,baz=167,slow=1.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**154.61**	**32**	PKPbc	**PKPbc**	**10 18 57.4**	**0.0**
	1.5nm,0.7s,baz=280,slow=2.6,SNR=8.6						

*ISCJB **25** 10:02:59.6±0.4, 41˚.41N±0˚.03×141˚.72E±0˚.05, h77km±4km, mb3.5/8, Error ellipse: s-maj=6.8km s-min=4.4km az=30.2*

*JMA **25** 10:03:00.2±0.1, 41˚.43N×141˚.76E, h67km±1km, M3.3*

JMA Felt I J1.

*IDC **25** 10:03:01.7±1.9, 41˚.43N×141˚.81E, h86km±17km, mb3.3/8, mb1 3.3/10, mb1mx3.2/35, mbtmp3.6/10, MS2.3/1, Ms1 2.3/1, ms1mx1.9/18, Error ellipse: s-maj=28.5km s-min=15.0km az=104.0*

ISC 25 10:03:00.2±0.9, 41˚.40N±0˚.04×141˚.73E±0˚.04, h69km±8km, n31, σ0s 75/36, mb3.6/8, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.52**	**268**	⇓P	**Pn**	**10 03 13.2**	**+0.2**
JOT				*e*S	**Sn**	**10 03 22.9**	**+0.4**
JKB	**Kayabe**	**0.71**	**313**	⇓P	**Pn**	**10 03 14.9**	**-0.3**
JKB				*e*S	**Sn**	**10 03 25.9**	**-0.3**
JTM	**Tenmabayashi**	**0.79**	**220**	⇓P	**Pn**	**10 03 16.5**	**+0.4**
JTM				*e*S	**Sn**	**10 03 28.2**	**+0.4**
JSR	**Shiriuchi**	**1.00**	**278**	⇓P	**Pn**	**10 03 18.9**	**+0.3**
JSR				*e*S	**Sn**	**10 03 32.8**	**+0.6**
JANG	**Nango**	**1.04**	**189**	⇑P	**Pn**	**10 03 18.9**	**-0.3**
JANG				*e*S	**Sn**	**10 03 32.4**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.16**	**41**	P	**Pn**	**10 03 20.0**	**-0.7**
JNB	**Noboribetsu**	**1.19**	**334**	⇓P	**Pn**	**10 03 20.5**	**-0.5**
JNB				*e*S	**Sn**	**10 03 35.5**	**-1.0**
JEM	**Erimo**	**1.23**	**60**	P	**Pn**	**10 03 21.7**	**+0.1**
JEM				*e*S	**Sn**	**10 03 37.7**	**+0.2**
JYM2	**Yakumo 2**	**1.25**	**305**	⇓P	**Pn**	**10 03 22.2**	**+0.4**
JYM2				*e*S	**Sn**	**10 03 39.0**	**+1.1**
JBT2	**Biratori 2**	**1.45**	**19**	P	**Pn**	**10 03 25.0**	**+0.5**
JBT2				*e*S	**Sn**	**10 03 43.8**	**+1.0**
JEW	**Eniwo**	**1.45**	**352**	⇓P	**Pn**	**10 03 24.6**	**+0.1**
JEW				*e*S	**Sn**	**10 03 42.5**	**-0.3**
JAH	**Hinai**	**1.47**	**215**	P	**Pn**	**10 03 25.7**	**+1.0**
JAH				*e*S	**Sn**	**10 03 44.8**	**+1.6**
JIW	**Iwasaki**	**1.54**	**239**	P	**Pn**	**10 03 26.2**	**+0.6**
JCH	**Churui**	**1.71**	**45**	P	**Pn**	**10 03 28.8**	**+0.8**
JCH				*e*S	**Sn**	**10 03 50.0**	**+1.0**
ASAJ	**Asahikawa**	**2.79**	**13**	P	**Pn**	**10 03 43.2**	**+0.7**
	1.6nm,0.3s,baz=214,slow=18,SNR=24						
ASAJ				S	**Sn**	**10 04 16.6**	**+1.6**
	3.9nm,0.3s,baz=281,slow=28,SNR=5.1						
MJAR	**Matsushiro Arr**	**5.58**	**211**	P	Pn	10 04 24.3	+3.6
	0.4nm,0.3s,baz=27,slow=11,SNR=6.8						
KSRS	**Korea Array**	**11.38**	**254**	P	Pn	10 05 46.0	+6.2
	0.3nm,0.3s,baz=62,slow=14,SNR=9.0						
KSRS				LR	LR	10 09 33.4	
	comp=Z,17nm,20.4s,baz=115,slow=34						
SONM	**Songino Array**	**25.80**	**296**	P	**P**	**10 08 25.0**	**+0.1**
	0.2nm,0.3s,baz=92,slow=8.2,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**30.40**	**128**	T	T	10 41 40.0	
	baz=321,slow=76,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**30.41**	**128**	T	T	10 41 37.8	
	baz=321,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**30.42**	**128**	T	T	10 41 38.4	
	baz=321,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**31.24**	**129**	T	T	10 42 39.5	
	baz=322,slow=74						
H11S3	**WAKE ISLAND Hy**	**31.24**	**129**	T	T	10 42 36.8	
	baz=322,slow=74,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**31.25**	**129**	T	T	10 42 41.3	
	baz=322						
ZALV	**Zalesovo Beam**	**39.27**	**309**	P	**P**	**10 10 22.2**	**+0.3**
	0.4nm,0.4s,baz=98,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**42.14**	**298**	P	**P**	**10 10 45.9**	**+0.2**
	0.4nm,0.5s,baz=86,slow=14,SNR=9.6						
INK	**Inuvik**	**50.41**	**29**	P	**P**	**10 11 50.7**	**+0.5**
	0.4nm,0.5s,baz=292,slow=7.5,SNR=4.6						
WRA	**Warramunga Arr**	**61.42**	**188**	P	**P**	**10 13 08.3**	**-1.0**
	0.1nm,0.4s,baz=6.5,slow=7.0,SNR=4.2						
FINES	**FINESS Array B**	**65.08**	**331**	P	**P**	**10 13 31.9**	**-1.2**
	1.7nm,0.8s,baz=40,slow=7.3,SNR=11						
NOA	**NORSAR Array B**	**70.27**	**337**	P	**P**	**10 14 05.7**	**0.0**
	0.4nm,0.5s,baz=37,slow=6.1,SNR=2.9						
AKASG	**Malin Array Be**	**71.02**	**322**	P	**P**	**10 14 10.1**	**-0.4**
	0.4nm,0.4s,baz=44,slow=6.7,SNR=5.5						

*IDC **25** 10:12:45.0±0.7, 33˚.95S×71˚.87W, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/32, mbtmp4.1/12, ML4.0/1, MS4.0/6, Ms1 4.0/6, ms1mx3.6/21, Error ellipse: s-maj=28.5km s-min=15.8km az=79.0*

*ISCJB **25** 10:12:46.4±0.5, 33˚.96S±0˚.05×72˚.1W±0˚.1, h19km, mb4.2/15, MS3.8/5, Error ellipse: s-maj=12.1km s-min=7.5km az=1.2*

*NEIC **25** 10:12:50.4±0.4, 33˚.95S×72˚.04W, h35km, mb4.5/7, Error ellipse: s-maj=10.0km s-min=7.6km az=83.0*

ISC 25 10:12:47.9±0.6, 33.94S±0.07×72˚.2W±0˚.1, h19km, n38, σ0s 90/32, mb4.3/15, MS3.9/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.04**	**56**	Pn	**Pn**	**10 13 50.4**	**+1.6**
	1.0nm,0.3s,baz=230,slow=9.3,SNR=46						
CFAA				Lg	Lg	10 14 48.1	
	7.4nm,0.3s,baz=82,slow=11,SNR=5.3						
LCO	**Las Campanas**	**5.07**	**15**	*e*Pn	**Pn**	**10 14 02.7**	**-0.5**
	38nm,0.3s						
LCO				*e*Sn	**Sn**	**10 15 01.0**	**-0.3**
PLCA	**Paso Flores**	**6.90**	**170**	Pn	**Pn**	**10 14 28.1**	**0.0**
	0.7nm,0.3s,baz=333,slow=10,SNR=30						
PLCA				Lg	Lg	10 16 20.6	
	0.8nm,0.3s,baz=267,slow=20,SNR=5.5						
PLCA	**Paso Flores**	**6.90**	**170**	*e*Pn	**Pn**	**10 14 28.0**	**0.0**
	3.7nm,0.3s						
PLCA				*e*Sg	Sg	10 16 20.2	-9.0
PLCA				Lg	Lg	10 16 20.6	
TRQA	**Tornquist**	**9.21**	**119**	*e*Pn	**Pn**	**10 15 00.9**	**+1.1**
	39nm,1.4s						
LVC	**Limon Verde**	**11.64**	**15**	Pn	Pn	10 15 29.0	-4.3
	21nm,0.3s,baz=188,slow=10,SNR=6.3						
CPUP	**Villa Florida**	**14.90**	**63**	Pn	**Pn**	**10 16 17.6**	**+0.1**
	0.1nm,0.3s,baz=256,slow=19,SNR=2.8						
CPUP				LR	LR	10 22 28.8	
	comp=Z,4μm,19.1s,baz=245,slow=40						
LPAZ	**La Paz**	**17.95**	**13**	P	**P**	**10 16 58.5**	**+0.9**
	0.4nm,0.3s,baz=174,slow=8.5,SNR=19						
LPAZ	**La Paz**	**17.95**	**13**	*e*P	**P**	**10 16 58.3**	**+0.7**
	14nm,0.9s						
SIV	**San Ignacio**	**20.48**	**32**	P	**P**	**10 17 23.9**	**-0.8**
	2.2nm,0.7s,baz=230,slow=17,SNR=4.4						
SIV				LR	LR	10 26 45.1	
	comp=Z,464nm,19.5s,baz=228,slow=41						
SAML	**Samuel**	**26.21**	**20**	*e*P	**P**	**10 18 21.8**	**+0.2**
	9.9nm,1.1s						
BDFB	**Brasilia**	**28.38**	**56**	P	**P**	**10 18 38.5**	**-2.8**
	3.7nm,0.8s,baz=200,slow=7.8,SNR=4.5						
BDFB				LR	LR	10 31 12.1	
	comp=Z,457nm,18.8s,baz=226,slow=39						
SNAA	**Sanae**	**51.68**	**158**	P	**P**	**10 21 52.6**	**-0.6**
	2.4nm,1.1s,baz=248,slow=4.8,SNR=7.1						
SNAA	**Sanae**	**51.68**	**158**	*e*P	**P**	**10 21 53.0**	**-0.2**
	8.3nm,1.1s						
TEIG	**Tepich**	**56.01**	**342**	P	**P**	**10 22 25.6**	**+0.3**
	11nm,1.0s,baz=205,slow=19,SNR=4.1						
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**10 22 27.0**	**0.0**
	3.2nm,1.0s,baz=142,slow=5.3,SNR=6.1						
QSPA				LR	LR	10 47 20.1	
	comp=Z,35nm,19.5s,baz=174,slow=37						
VNDA	**Vanda**	**64.14**	**191**	LR	LR	10 49 15.9	
	comp=Z,38nm,18.1s,baz=194,slow=34						
TXAR	**Lajitas Array**	**69.63**	**331**	P	**P**	**10 23 56.9**	**+0.9**
	0.4nm,0.7s,baz=147,slow=8.4,SNR=3.8						
WVT	**Waverly**	**71.23**	**347**	*e*P	**P**	**10 24 05.6**	**+0.1**
	12nm,0.9s						
MAW	**Mawson**	**73.26**	**164**	LR	LR	10 56 44.0	
	comp=Z,100nm,19.1s,baz=238,slow=36						
ANMO	**Albuquerque**	**75.68**	**331**	P	**P**	**10 24 33.5**	**+1.5**
	0.2nm,0.3s,baz=159,slow=8.6,SNR=3.7						
PV10	**Paradox Valley**	**79.69**	**331**	*e*P	**P**	**10 24 54.9**	**+0.5**
	22nm,0.6s						
ECSD	**EROS Data Cent**	**80.46**	**342**	*e*P	**P**	**10 24 58.1**	**0.0**
	5.7nm,1.0s						
PDAR	**Pinedale Array**	**83.67**	**333**	P	**P**	**10 25 15.8**	**+0.5**
	0.7nm,0.9s,baz=160,slow=9.1,SNR=4.3						
NVAR	**Mina Array Bea**	**83.78**	**325**	P	**P**	**10 25 17.1**	**+1.1**
	1.3nm,1.1s,baz=136,slow=6.1,SNR=4.6						
ELK	**Elko**	**84.26**	**329**	P	**P**	**10 25 19.3**	**+1.0**
	1.1nm,0.9s,baz=245,slow=9.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P	**P**	**10 25 18.4**	**-0.4**
	3.5nm,0.9s,baz=248,slow=4.2,SNR=14						
MCMT	**McKenzie Canyo**	**86.67**	**332**	*e*P	**P**	**10 25 31.6**	**+1.3**
	0.6nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**125.67**	**269**	T	T	12 50 20.0	
	baz=123,slow=74,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**125.68**	**269**	T	T	12 50 14.3	
	baz=123,slow=74,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**125.69**	**269**	T	T	12 50 19.9	
	baz=123						
H11N3	**WAKE ISLAND Hy**	**126.08**	**271**	T	T	12 50 47.9	
	baz=180						
H11N1	**WAKE ISLAND Hy**	**126.10**	**271**	T	T	12 50 52.5	
	baz=180,slow=74,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**126.10**	**271**	T	T	12 51 08.1	
	baz=180,slow=74,SNR=5.9						
AAK	**Ala-Archa**	**152.57**	**62**	PKPbc	**PKPbc**	**10 32 43.3**	**+0.3**
	0.4nm,0.3s,baz=169,slow=2.4,SNR=4.5						
AAK	**Ala-Archa**	**152.57**	**62**	*e*PKPbc	**PKPbc**	**10 32 42.8**	**-0.3**
ZALV	**Zalesovo Beam**	**154.23**	**32**	PKP	**PKPdf**	**10 32 37.5**	**-0.4**
	0.3nm,0.3s,baz=76,slow=6.9,SNR=3.5						
ZALV				PKPbc	**PKPbc**	**10 32 45.9**	**-0.2**
	2.0nm,0.8s,baz=304,slow=3.7,SNR=9.6						
ZALV				PKPab	**PKPab**	**10 32 59.8**	**-0.2**
	1.7nm,0.6s,baz=293,slow=5.0,SNR=6.1						
MKAR	**Makanchi Array**	**156.80**	**49**	PKPab	**PKPab**	**10 33 10.1**	**-1.2**
	0.8nm,0.7s,baz=289,slow=8.5,SNR=6.1						

*NNC **25** 10:13:50.8±3.3, 40˚.74N×74˚.87E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=25.5km s-min=14.4km az=134.0*

*KRNET **25** 10:13:51.4±0.1, 40˚.85N×74˚.85E, h0km, mb3.2*

ISC 25 10:13:48.4±1.9, 40.66N±0.08×74˚.81E±0˚.04, h1km±11km, n27, σ0s 81/41, 14C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.78**	**287**	*i* P	**Pn**	**10 14 07.4**	**+0.7**
	baz=272						
SALK				*e*S	**Sn**	**10 14 18.7**	**-0.4**
	baz=272						
NRN	**Naryn**	**1.19**	**49**	⇓*i*P	**Pg**	**10 14 11.6**	**+0.4**
	baz=56						
NRN				⇓*e*S	**Sg**	**10 14 25.4**	**-1.2**
	baz=56						
ARLS	**Aral**	**1.25**	**343**	⇓*i*P	**Pg**	**10 14 12.2**	**-0.2**
	baz=338						
ARLS				⇓*i*S	**Sg**	**10 14 26.5**	**-2.2**
	baz=338						
KZA	**Kyzart**	**1.46**	**13**	P	**Pn**	**10 14 16.1**	**-0.2**
	SNR=24						
KZA	**Kyzart**	**1.46**	**13**	⇑*i*P	**Pn**	**10 14 16.0**	**-0.2**
	baz=14						
KZA				⇑*i*S	**Sg**	**10 14 36.3**	**+1.1**
	baz=14						
UCH	**Uchtor**	**1.58**	**352**	P	**Pb**	**10 14 18.8**	**+0.1**
	SNR=25						
UCH	**Uchtor**	**1.58**	**352**	⇑*i*P	**Pb**	**10 14 18.6**	**-0.1**
	baz=350						
UCH				⇑*i*S	**Sn**	**10 14 38.7**	**-0.6**
	baz=350						
AML	**Almayashu**	**1.69**	**331**	P	**Pg**	**10 14 21.7**	**+0.9**
	SNR=23						
AML	**Almayashu**	**1.69**	**331**	⇓*i*P	**Pg**	**10 14 21.5**	**+0.7**
	baz=326						
AML				⇓*i*S	**Sn**	**10 14 41.4**	**-0.6**
	baz=326						
ULHL	**Ulahol**	**1.92**	**34**	P	**Pb**	**10 14 24.3**	**0.0**
	SNR=17						
ULHL	**Ulahol**	**1.92**	**34**	⇑*i*P	**Pb**	**10 14 24.3**	**0.0**
	baz=36						
ULHL				⇑*i*S	**Sb**	**10 14 48.4**	**-0.4**
	baz=36						
AAK	**Ala-Archa**	**1.98**	**353**	⇓Pg	**Pb**	**10 14 25.8**	**+0.4**
	16nm,0.4s						
AAK				⇓Lg	Lg	10 14 52.6	
	29nm,0.6s						
AAK	**Ala-Archa**	**1.98**	**353**	P	**Pb**	**10 14 25.6**	**+0.2**
	SNR=28						
AAK	**Ala-Archa**	**1.98**	**353**	⇑*i*P	**Pg**	**10 14 26.4**	**0.0**
	baz=352						
AAK				⇑*i*S	**Sb**	**10 14 50.2**	**-0.5**
	baz=352						
KBK	**Karagaybulak**	**2.00**	**3**	P	**Pb**	**10 14 26.2**	**+0.5**
	SNR=16						
KBK	**Karagaybulak**	**2.00**	**3**	⇓*i*P	**Pb**	**10 14 25.5**	**-0.1**
	baz=2.0						
KBK				⇓*i*S	**Sn**	**10 14 49.6**	**+0.4**
	baz=2.0						

BOOM	**Boomskoye usch**	**2.02**	**25**	*e*P	**Pb**	**10 14 26.0**	**0.0**
	baz=26						
BOOM				*e*S	**Sn**	**10 14 49.4**	**-0.3**
	baz=26						
EKS2	**Erkin-Say**	**2.14**	**339**	P	**Pg**	**10 14 31.0**	**+1.6**
	SNR=8.0						
FRU	**Bishkek**	**2.18**	**356**	*i* P	**Pg**	**10 14 31.5**	**+1.4**
	baz=355						
FRU				*e*S	**Sb**	**10 14 57.5**	**+1.4**
	baz=355						
KDJ	**Kajisay**	**2.31**	**50**	*e*P	**Pg**	**10 14 32.5**	**-0.2**
	baz=53						
KDJ				*e*S	**Sb**	**10 15 01.2**	**+1.0**
	baz=53						
TKM2	**Tokmak 2**	**2.33**	**14**	⇑Pg	**Pb**	**10 14 32.0**	**+0.7**
	6.0nm,0.3s						
TKM2				⇑Lg	Lg	10 15 01.4	
	24nm,0.5s						
TKM2	**Tokmak 2**	**2.33**	**14**	P	**Pb**	**10 14 32.1**	**+0.7**
	SNR=27						
TKM2	**Tokmak 2**	**2.33**	**14**	⇑*i*P	**Pb**	**10 14 31.9**	**+0.5**
	baz=15						
TKM2				⇑*i*S	**Sb**	**10 15 00.2**	**-0.6**
	baz=15						
CHMS	**Chumysh**	**2.34**	**359**	P	**Pb**	**10 14 32.3**	**+0.9**
	SNR=14						
CHMS	**Chumysh**	**2.34**	**359**	⇑*i*P	**Pb**	**10 14 31.5**	**+0.2**
	baz=358						
CHMS				⇑*i*S	**Sb**	**10 14 59.7**	**-1.0**
	baz=358						
USP	**Ospenovka**	**2.61**	**355**	P	**Pb**	**10 14 36.8**	**+0.7**
	SNR=31						
KK31	**Karatay Array**	**4.03**	**309**	⇓Pg	**Pg**	**10 15 04.6**	**-1.0**
	0.8nm,0.4s,baz=127,slow=16,SNR=12						
KK31				⇓Lg	Lg	10 15 55.9	
	3.5nm,0.4s,baz=125,slow=29,SNR=13						

*ISCJB **25** 10:20:13.4±0.9, 1˚.29S±0˚.09×99˚.14E±0˚.08, h33km, mb3.9/8, Error ellipse: s-maj=13.8km s-min=10.0km az=34.4*

*IDC **25** 10:20:21.1±4.0, 0˚.77S×99˚.87E, h66km±33km, mb3.6/8, mb1 3.7/9, mb1mx3.4/32, mbtmp3.9/9, ML3.4/1, Error ellipse: s-maj=62.0km s-min=15.2km az=61.0*

*DJA **25** 10:20:22.9±0.6, 1˚.5±6˚×10˚.0E±˚, h47km±17km, M3.9/10, MLv3.9/10*

ISC 25 10:20:15.6±1.0, 1˚.1S±0˚.1×99˚.2E±0˚.1, h35km, n17, σ1s 42/16, mb3.8/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.27**	**80**	P	**Pn**	**10 20 39.1**	**+2.2**
PDSI				S	**Sn**	**10 20 51.4**	**-1.3**
MNSI	**Mandailing Nat**	**1.95**	**11**	P	**Pn**	**10 20 49.1**	**+2.8**
SDSI	**Sungai Dareh**	**2.22**	**85**	P	**Pn**	**10 20 51.8**	**+1.8**
BKNI	**Bangkinang**	**2.33**	**51**	P	**Pn**	**10 20 52.3**	**+0.7**
GSI	**Gunungsitoli**	**2.93**	**326**	P	Pn	10 21 07.1	+7.4
MASI	**Maura Aman, Be**	**3.62**	**123**	P	Pn	10 21 14.9	+5.6
PSI	**Prapat**	**3.92**	**356**	P	**Pn**	**10 21 14.2**	**+0.7**
	3.4nm,0.3s,baz=351,slow=17,SNR=7.4						
KCSI	**Kotacane, Aceh**	**4.85**	**343**	P	Pn	10 21 30.4	+4.2
WRA	**Warramunga Arr**	**39.10**	**121**	P	**P**	**10 27 38.8**	**-1.2**
	1.2nm,0.7s,baz=302,slow=9.1,SNR=15						
WRA				PcP	**PcP**	**10 29 49.6**	**+0.2**
	0.4nm,0.9s,baz=305,slow=2.4,SNR=2.5						
ASAR	**Alice Springs**	**40.39**	**126**	P	**P**	**10 27 50.4**	**-0.3**
	0.5nm,0.3s,baz=302,slow=7.8,SNR=15						
ASAR				PcP	**PcP**	**10 29 54.8**	**+1.3**
	0.2nm,0.6s,baz=329,slow=3.1,SNR=4.1						
KSRS	**Korea Array**	**46.69**	**32**	P	P	10 28 38.2	-2.9
	0.5nm,0.7s,baz=224,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**49.17**	**6**	P	**P**	**10 28 59.4**	**-1.0**
	1.1nm,0.7s,baz=184,slow=9.0,SNR=6.9						
MKAR	**Makanchi Array**	**49.99**	**345**	P	**P**	**10 29 07.5**	**+1.0**
	1.1nm,0.5s,baz=152,slow=9.5,SNR=16						
STKA	**Stephens Creek**	**50.31**	**132**	P	**P**	**10 29 09.6**	**+0.4**
	0.8nm,0.6s,baz=318,slow=10,SNR=5.6						
ZALV	**Zalesovo Beam**	**56.18**	**350**	P	**P**	**10 29 51.9**	**0.0**
	1.7nm,0.3s,baz=184,slow=5.3,SNR=16						
SEY	**Seymchan**	**75.13**	**22**	P	**P**	**10 31 52.3**	**-1.6**
	0.4nm,0.4s,baz=196,slow=15,SNR=3.9						
TXAR	**Lajitas Array**	**144.48**	**36**	PKP	**PKPab**	**10 39 47.4**	**-0.1**
	0.5nm,0.6s,baz=249,slow=1.1,SNR=9.0						

IDC 25 10:49:04.8±2.5, 53.72N×86.83E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=22.5km s-min=13.8km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.21**	**282**	*i*	

σ2$00/70, **10C-7D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.48**	**132**	⇓*i*Pg	**Pg**	**10 55 20.3**	**-0.5**
	106nm,0.5s						
YLYR				⇑*i*Pg	**Pg**	**10 55 20.3**	**-0.5**
	119nm,0.5s						
YLYR				⇑*i*Pg	**Pg**	**10 55 20.3**	**-0.5**
	179µm,0.5s						
YLYR				*i* Sg	**Sg**	**10 55 26.7**	**-0.4**
YLYR				Pmax			
	91nm,0.1s						
YLYR				Smax			
	1µm,0.3s						
YLYR	**Ulyunkhan**	**0.48**	**132**	⇑*i*PG	**Pg**	**10 55 20.4**	**-0.4**
YLYR				*e*		10 55 26.5	
YLYR				pmax	pmax		
	comp=Z,131nm,0.2s						
YLYR				smax	smax		
	comp=E,1µm,0.3s						
KMO	**Kumora**	**0.78**	**28**	⇑*i*Pg	**Pb**	**10 55 26.6**	**-0.4**
KMO				*e*Sg	**Sb**	**10 55 37.8**	**+0.1**
KMO				Pmax			
	comp=E,98nm,0.3s						
KMO				Smax			
	comp=E,413nm,0.9s						
NIZ	**Nizh Angarsk**	**0.81**	**316**	⇓*i*Pg	**Pb**	**10 55 27.6**	**+0.1**
NIZ				*e*Pb	**Pn**	**10 55 30.6**	**+1.8**
NIZ				*e*Sg	**Sb**	**10 55 39.0**	**+0.5**
NIZ				*e*Sb	**Sn**	**10 55 43.3**	**+2.4**
NIZ				max			
	comp=E,30nm,0.2s						
NIZ				Smax			
	comp=E,327nm,0.3s						
NIZ	**Nizh Angarsk**	**0.81**	**316**	*e*PG	**Pb**	**10 55 27.4**	**-0.1**
NIZ				*e*		10 55 38.9	
NIZ				pmax	pmax		
	comp=Z,27nm,0.4s						
NIZ				smax	smax		
	comp=N,317nm,0.3s						
YOA	**Uoyan**	**1.15**	**35**	*e*Pg	**Pn**	**10 55 33.6**	**+0.1**
YOA				*e*		10 55 36.2	
YOA				*e*Sg	**Sn**	**10 55 50.3**	**+1.0**
YOA				max			
	comp=N,207nm,0.3s						
YOA				Smax			
	comp=N,2µm,0.3s						
SYVR	**Suvo**	**1.58**	**192**	*e*Pg	**Pb**	**10 55 39.8**	**-0.8**
SYVR				⇑*i*Pb	**Pg**	**10 55 40.8**	**-0.8**
SYVR				*e*Sg	**Sg**	**10 56 01.0**	**-1.1**
SYVR				max			
	comp=N,101nm,0.7s						
SYVR				Smax			
	comp=N,297nm,0.6s						
SYVR	**Suvo**	**1.58**	**192**	*e*PN	**Pb**	**10 55 39.8**	**-0.8**
SYVR				*e*		10 56 01.3	
SYVR				pmax	pmax		
	comp=Z,101nm,0.6s						
SYVR				smax	smax		
	comp=E,304nm,0.5s						
UKT	**Uakit**	**1.79**	**79**	⇑*i*Pg	**Pb**	**10 55 43.6**	**-0.6**
	comp=E,3.0nm,0.7s						
UKT				⇑*i*Pg	**Pb**	**10 55 43.6**	**-0.6**
	comp=E,91nm,0.7s						
UKT				⇑*i*Pg	**Pb**	**10 55 43.6**	**-0.6**
	comp=E,70nm,0.7s						
UKT				*i* Sg	**Sg**	**10 56 07.6**	**-1.1**
UKT				Pmax			
	comp=E,77nm,0.6s						
UKT				Smax			
	comp=E,214nm,0.4s						
UKT	**Uakit**	**1.79**	**79**	*e*PN	**Pb**	**10 55 43.5**	**-0.6**
UKT				*e*		10 56 07.5	
UKT				pmax	pmax		
	comp=Z,74nm,0.2s						
UKT				smax	smax		
	comp=N,251nm,0.3s						
SVKR	**Severomuysk**	**1.94**	**61**	⇓*i*Pg	**Pg**	**10 55 47.3**	**-1.2**
SVKR				*e*Sg	**Sg**	**10 56 14.3**	**+0.6**
SVKR				*e*		10 56 16.3	
SVKR				Pmax			
	comp=N,77nm,0.3s						
SVKR				max			
	comp=N,1µm,0.6s						
MXMB	**Maximikha**	**2.21**	**209**	⇓*i*Pg	**Pb**	**10 55 51.3**	**-0.1**
MXMB				*e*		10 56 17.8	
MXMB				*e*Sg	**Sb**	**10 56 20.1**	**+1.3**
MXMB				Pmax			
	comp=N,56nm,0.7s						
MXMB				Smax			
	comp=N,427nm,0.5s						
OGRR	**Ongureny**	**2.32**	**229**	⇓*i*Pn	**Pb**	**10 55 51.4**	**-1.8**
OGRR				⇓*i*Pg	**Pg**	**10 55 53.0**	**-2.8**
OGRR				*e*Sg	**Sb**	**10 56 23.5**	**+1.5**
OGRR				Pmax			
	comp=N,30nm,0.3s						
OGRR				Smax			
	comp=N,313nm,0.3s						
OGRR	**Ongureny**	**2.32**	**229**	*e*PN	**Pb**	**10 55 51.5**	**-1.8**
OGRR				*e*		10 55 54.4	
OGRR				*e*		10 56 23.9	
OGRR				pmax	pmax		
	comp=Z,24nm,0.4s						
OGRR				smax	smax		
	comp=N,337nm,0.9s						
NLYR	**Nelyaty**	**3.19**	**64**	⇓*i*Pn	**Pn**	**10 56 03.4**	**+1.9**
NLYR				*e*Pg	**Pb**	**10 56 09.0**	**+1.0**
NLYR				*i*		10 56 41.5	
NLYR				*e*Sg	**Sg**	**10 56 51.2**	**-2.3**
NLYR				Pmax			
	comp=N,18nm,0.6s						
NLYR				Smax			
	comp=N,147nm,1.6s						
BOD	**Bodaibo**	**3.25**	**35**	*e*Pn	**Pn**	**10 56 04.2**	**+1.9**
BOD				*e*Pg	**Pb**	**10 56 09.4**	**+0.3**
BOD				*e*PgPg	**Pg**	**10 56 12.7**	**-0.8**
BOD				*e*Sn	**Sn**	**10 56 42.4**	**+1.4**
BOD				*e*Sg	**Sg**	**10 56 52.1**	**-3.5**
BOD				*e*PgPg	PgPg		
	comp=N,10.0nm,0.3s						
BOD				Smax	PgPg		
	comp=N,56nm,0.8s						
ZRHB	**Zarechye**	**3.33**	**218**	*e*Pg	**Pb**	**10 56 11.9**	**+1.5**
ZRHB				*e*Sg	**Sg**	**10 56 55.6**	**-2.4**
ZRHB				Pmax			
	comp=N,31nm,0.5s						
ZRHB				Smax			
	comp=N,268nm,1.0s						
TRG	**Tyrgan**	**3.48**	**227**	⇑*i*Pn	**Pn**	**10 56 07.3**	**+1.8**
TRG				*e*Pg	**Pb**	**10 56 13.0**	**0.0**
TRG				*e*		10 56 19.0	
TRG				*e*Sg	**Sb**	**10 56 58.3**	**+3.0**
TRG				max			
	comp=N,6.0nm,0.3s						
TRG				Smax			
	comp=N,101nm,0.4s						
UUDB	**Ulan-Yde**	**3.76**	**208**	*e*Pg	**Pb**	**10 56 18.5**	**+0.8**
UUDB				*e*		10 56 27.4	
UUDB				*e*Sg	**Sg**	**10 57 08.4**	**-3.5**
UUDB				Pmax			
	comp=N,16nm,0.7s						
UUDB				Smax			
	comp=N,91nm,1.1s						
KAB	**Kabansk**	**3.92**	**218**	*e*Sg	**Sg**	**10 57 12.8**	**-4.1**
KAB				*e*		10 57 31.7	
KAB				Smax			
	comp=N,239nm,0.8s						
HRMR	**Khuramsha**	**4.17**	**212**	*e*Pn	**Pn**	**10 56 16.8**	**+1.8**
HRMR				*e*		10 56 21.7	
HRMR				*e*Pg	**Pb**	**10 56 26.5**	**+1.7**
HRMR				*e*Sg	**Sg**	**10 57 20.4**	**-4.8**
HRMR				Pmax			
	comp=N,26nm,0.6s						
HRMR				Smax			
	comp=N,229nm,0.9s						
CRS	**Chara**	**4.66**	**65**	*e*Pn	**Pn**	**10 56 20.9**	**-0.8**
CRS				*e*Pg	Pb	10 56 35.8	+2.8
CRS				*e*Sg	**Sg**	**10 57 36.3**	**-4.3**
CRS				Pmax			
	comp=N,15nm,1.2s						
CRS				Smax			
	comp=N,100nm,1.5s						
CRS	**Chara**	**4.66**	**65**	*e*Pn	Pb	10 56 36.0	+3.0
CRS				*e*		10 57 36.2	
CRS				pmax	pmax		
	comp=Z,28nm,0.9s						
CRS				smax	smax		
	comp=E,91nm,1.1s						
IRK	**Irkutsk**	**4.76**	**234**	*e*Sg	**Sg**	**10 57 38.3**	**-5.7**
IRK				Smax			
	comp=E,164nm,0.6s						
LSTR	**Listvyanka**	**4.77**	**228**	*e*Pg	**Pb**	**10 56 36.0**	**+1.1**
LSTR				*e*Sn	**Sn**	**10 57 19.5**	**+1.0**
LSTR				*e*Sg	**Sb**	**10 57 37.4**	**+5.1**
LSTR				Pmax			
	comp=E,2.0nm,0.3s						
LSTR				Smax			
	comp=E,91nm,1.7s						
TLY	**Talaya**	**5.42**	**232**	*e*Pg	**Pb**	**10 56 47.8**	**+1.7**
TLY				*e*		10 57 36.0	
TLY				*e*Sg	Sg	10 57 58.6	-6.7
TLY				Pmax			
	comp=E,5.0nm,0.5s						
TLY				Smax			
	comp=E,32nm,0.8s						
TLY	**Talaya**	**5.42**	**232**	*e*PN	**Pn**	**10 56 33.9**	**+1.7**
TLY				*e*		10 56 48.8	
TLY				*e*S	**Sn**	**10 57 31.9**	**-2.8**
TUP	**Tupik**	**5.50**	**94**	*e*PN	**Pn**	**10 56 34.1**	**+0.8**
TUP				*e*		10 56 50.4	
TUP				*e*S	**Sn**	**10 57 35.9**	**-0.6**
TUP				*e*		10 58 00.7	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				smax	smax		
	comp=N,87nm,1.0s						
KPC	**Khapcheranga**	**5.62**	**168**	*e*Pn	**Pn**	**10 56 35.6**	**+0.6**
KPC				Pg	**Pb**	**10 56 50.7**	**+1.2**
KPC				*e*		10 57 50.3	
KPC				*i* Sg	Sg	10 58 04.5	-7.1
KPC				Pmax			
	comp=N,4.0nm,0.6s						
KPC				Smax			
	comp=N,36nm,0.8s						
ARS	**Arshan**	**5.85**	**239**	Pg	**Pb**	**10 56 54.5**	**+1.2**
ARS				*e*		10 57 46.8	
ARS				*e*Sg	Sb	10 58 10.2	+6.8
ARS				Pmax			
	comp=N,3.0nm,0.1s						
ARS				Smax			
	comp=N,165nm,0.8s						
ZAK	**Zakamensk**	**6.53**	**225**	*e*	Pg	10 57 36.1	+20
ZAK				*e*		10 57 42.9	
ZAK				*e*Sg	Sg	10 58 33.6	-7.2
ZAK				Smax			
	comp=N,16nm,1.6s						
MOY	**Mondy**	**6.71**	**242**	⇑*i*Pn	**Pn**	**10 56 52.1**	**+2.1**
MOY				*e*		10 57 02.2	
MOY				*e*Pg	**Pb**	**10 57 09.8**	**+1.7**
MOY				*e*		10 58 08.3	
MOY				*e*Sg	Sb	10 58 35.9	+7.6
MOY				Pmax			
	comp=N,3.0nm,0.8s						
MOY				Smax			
	comp=N,42nm,0.9s						
MOY	**Mondy**	**6.71**	**242**	*e*PN	**Pn**	**10 56 52.3**	**+2.3**
MOY				*e*		10 57 12.5	
MOY				*e*S	**Sn**	**10 58 06.2**	**-0.3**
ORL	**Orlik**	**6.88**	**252**	*e*Pn	**Pn**	**10 56 55.3**	**+3.0**
ORL				*e*Pg	Pb	10 57 15.7	+4.7
ORL				*e*		10 58 12.7	
ORL				*i* Sg	Sg	10 58 44.9	-7.2
ORL				max			
	comp=N,2.0nm,0.4s						
ORL				Smax			
	comp=N,32nm,0.6s						
ORL	**Orlik**	**6.88**	**252**	*e*PN	**Pn**	**10 56 53.7**	**+1.4**
ORL				*e*		10 57 15.8	
ORL				*e*		10 58 44.8	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ORL				smax	smax		
	comp=N,32nm,0.8s						

*IDC **25** 11:05:51.0±1.6, 7.˚63S×129.˚57E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=104.1km s-min=26.0km az=65.0*

*ISCJB **25** 11:05:53.0±0.6, 7.˚73S±0.˚04×129.˚69E±0.˚06, h10km, mb3.3/2, Error ellipse: s-maj=8.4km s-min=5.8km az=13.0*

ISC 25 11:05:55.3±0.9, 7.˚86S±0.˚05×129.˚69E±0.˚08, h10km, n15, σ3$20/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.15**	**164**	P	Pn	11 07 17.5	+5.0
	baz=5.1,SNR=12						
KDU	**Kakadu**	**5.52**	**151**	P	Pn	11 07 21.4	+3.9
	baz=5.5,SNR=18						
KDU				S	**Sn**	**11 08 22.7**	**+1.5**
	baz=5.5,SNR=5.0						
FAKI	**Fak Fak**	**5.53**	**28**	P	**Pn**	**11 07 18.3**	**+0.5**
	baz=5.7,SNR=12						
FAKI				S	**Sn**	**11 08 16.6**	**-4.9**
	baz=5.7,SNR=25						
SOEI	**Soe**	**5.68**	**250**	P	Pn	11 07 21.8	+1.9
	baz=5.5,SNR=7.4						
SOEI				S	**Sn**	**11 08 25.5**	**+0.1**
	baz=5.5,SNR=9.1						
SWI	**Sorong**	**7.13**	**13**	S	**Sn**	**11 08 59.0**	**-1.8**
	baz=7.3,SNR=3.2						
KNRA	**Kununurra**	**7.82**	**187**	P	**Pn**	**11 07 51.6**	**+2.4**
	baz=7.7,SNR=29						
KNRA				S	**Sn**	**11 09 14.7**	**-3.1**
	baz=7.7,SNR=8.0						
WRA	**Warramunga Arr**	**12.82**	**160**	Pn	**Pn**	**11 09 00.2**	**+2.4**
	0.3nm,0.3s,baz=339,slow=13,SNR=6.8						
WRA				Sn	Sn	11 11 10.5	-10
	0.5nm,0.3s,baz=337,slow=22,SNR=5.3						
COEN	**Coen**	**14.55**	**116**	P	**Pn**	**11 09 23.1**	**+1.6**
	baz=15,SNR=9.1						
COEN				S	Sn	11 11 57.2	-5.8
	baz=15,SNR=4.4						
QIS	**Mount Isa**	**15.85**	**144**	S	**Sn**	**11 12 28.5**	**-6.1**
	baz=16,SNR=3.4						
ASAR	**Alice Springs**	**16.23**	**166**	Pn	**Pn**	**11 09 43.6**	**+0.1**
	0.1nm,0.3s,baz=340,slow=10,SNR=11						
ASAR				Sn	**Sn**	**11 12 40.5**	**-3.3**
	0.2nm,0.3s,baz=358,slow=26,SNR=4.8						
WRKA	**Warakurna**	**17.13**	**184**	P	**P**	**11 09 57.0**	**+0.3**
	baz=17,SNR=5.9						
WRKA				S	**Sn**	**11 13 00.2**	**-5.4**
	baz=17,SNR=4.0						
QLP	**Quilpie**	**23.18**	**145**	P	**P**	**11 11 05.1**	**+2.7**
	baz=23,SNR=3.7						
STKA	**Stephens Creek**	**26.34**	**157**	P	**P**	**11 11 30.5**	**-1.1**
	0.6nm,0.5s,baz=330,slow=14,SNR=3.4						
MILA	**Mila**	**34.02**	**152**	P	**P**	**11 12 41.6**	**+2.0**
	baz=34,SNR=12						
MKAR	**Makanchi Array**	**68.78**	**327**	P	P	11 16 55.5	-4.2
	0.2nm,0.5s,baz=139,slow=6.5,SNR=3.6						

*NIED **25** 11:14:00, 22.˚10N×121.˚60E, h5km, Mw4.6 Best double couple: M0 8.28000×10^15 NP1:ϕs 80.00000°, δ38.00000°, λ-82.00000°. NP2:ϕs 250.00000°, δ52.00000°, λ-96.00000°.*

*ISCJB **25** 11:14:09.9±0.4, 21.˚93N±0.˚01×121.˚65E±0.˚02, h15km±2km, mb4.7/124, MS3.9/24, Error ellipse: s-maj=2.5km s-min=2.2km az=18.2*

*NEIC **25** 11:14:10.7±0.2, 21.˚95N×121.˚56E, h10km, mb4.6/41, ML4.9(TAP), Error ellipse: s-maj=6.4km s-min=4.1km az=85.0*

NEIC Recorded [1 TAP] in P'ing-tung, T'ai-tung and Yun-lin.

*JMA **25** 11:14:10.7±0.2, 22.˚10N×121.˚63E, h4km, M5.0*

*BJI **25** 11:14:11.4, 22.˚00N×121.˚44E, h8km, mB4.6/46, mb4.3/52, ML4.2/7, Ms4.3/59, Ms7 4.2/52*

*IDC **25** 11:14:12.8±2.1, 21.˚94N×121.˚65E, h26km±13km, mb4.4/31, mb1 4.5/33, mb1mx4.4/40, mbtmp4.5/33, ML3.8/2, MS3.7/21, Ms1 3.7/21, ms1mx3.6/32, Error ellipse: s-maj=14.9km s-min=10.6km az=76.0*

*BKK **25** 11:14:12.1±0.5, 22.˚N±5.˚×12.˚2E±.˚, h10km, M4.9/18, mB4.9/6, mb4.4/18, MLv5.5/1, Mw(mB)4.2/6*

*TAP **25** 11:14:12.3, 22.˚01N×121.˚43E, h15km, ML4.9, C*

*MOS **25** 11:14:12.3±1.1, 21.˚91N×121.˚58E, h33km, mb5.0/47, Error ellipse: s-maj=8.6km s-min=4.8km az=113.6*

ISC 25 11:14:12.2±0.4, 21.˚98N±0.˚02×121.˚60E±0.˚02, h19km±1km, n430, σ1$48/505, mb4.8/126, MS3.9/25, 35C-42D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.07**	**324**	⇓*i*P	**Pg**	**11 14 16.1**	**+0.3**
	baz=77						
TSEB	**Hengchuen, Pin**	**0.65**	**263**	⇑P	**Pb**	**11 14 23.7**	**-1.2**
	baz=273						
TSEB				S	**Sb**	**11 14 32.3**	**-1.2**
	baz=273						
TWK1	**Hengchun**	**0.73**	**267**	⇑*i*P	**Pb**	**11 14 24.2**	**-2.2**
	baz=278						
TWK1				S	**Sb**	**11 14 32.3**	**-3.7**
	baz=278						
TAW	**Tawu**	**0.75**	**300**	⇓*i*P	**Pb**	**11 14 24.2**	**-2.4**
	baz=306						
TAW				*i* S	**Sb**	**11 14 32.8**	**-3.7**
	baz=306						
HEN	**Hengchun**	**0.80**	**272**	⇑*i*P	**Pb**	**11 14 25.4**	**-2.1**
	baz=283						
HEN				*i* S	**Sb**	**11 14 34.6**	**-3.2**
	baz=283						
EAST	**Anshuo**	**0.80**	**300**	⇓*i*P	**Pb**	**11 14 25.1**	**-2.4**
	baz=305						
ECL	**Taimali**	**0.85**	**316**	⇓*i*P	**Pb**	**11 14 26.0**	**-2.4**
	baz=324						
TTN	**Taitung**	**0.87**	**332**	⇓*i*P	**Pb**	**11 14 27.9**	**-0.9**
	baz=355						
TTN				*e*S	**Sn**	**11 14 41.5**	**-0.2**
	baz=355						
TWG	**Pinlang**	**0.96**	**330**	⇓*i*P	**Pb**	**11 14 28.0**	**-2.4**
	baz=325						
TWG				*e*S	**Sb**	**11 14 40.3**	**-2.4**
	baz=325						
TWG	**Pinlang**	**0.96**	**330**	*e*Pg	**Pb**	**11 14 27.8**	**-2.6**
SCZT	**Fangliau**	**0.98**	**293**	⇓*e*P	**Pb**	**11 14 28.0**	**-2.6**
	baz=307						
CHKT	**Chengkung**	**1.13**	**349**	⇓*i*P	**Pn**	**11 14 31.1**	**-2.0**
	baz=8.0						
CHKT				S	**Sb**	**11 14 45.1**	**-2.4**
	baz=8.0						
SSD	**Sandimen**	**1.17**	**311**	⇓*i*P	**Pn**	**11 14 31.0**	**-2.6**
	baz=325						
TWP	**Hsiaoliuchiu**	**1.20**	**288**	*e*P	**Pb**	**11 14 34.3**	**-0.1**
	baz=289						
SGLT	**Jiouru**	**1.26**	**306**	*e*P	**Pn**	**11 14 34.2**	**-0.7**
	baz=322						
ELDTW	**Lidau**	**1.31**	**336**	P	**Pn**	**11 14 33.1**	**-2.6**
	baz=343						
KAU	**Kaohsiung**	**1.33**	**296**	*e*P	**Pn**	**11 14 35.7**	**-0.1**
	baz=300						
KAU				*e*S	**Sb**	**11 14 53.0**	**-0.2**
	baz=300						
TWM1	**Shoushan**	**1.37**	**308**	⇓*e*P	**Pn**	**11 14 36.3**	**-0.1**
	baz=323						
TWF1	**Yuli**	**1.39**	**349**	*e*P	**Pn**	**11 14 34.5**	**-2.1**
	baz=6.0						
STYT	**Tauyuan**	**1.41**	**327**	⇓P	**Pn**	**11 14 35.3**	**-1.6**
	baz=344						
YULB	**Yu-li**	**1.43**	**349**	*e*Pn	**Pn**	**11 14 35.2**	**-2.0**
SGST	**Jiashian**	**1.44**	**320**	⇓*i*P	**Pn**	**11 14 36.8**	**-0.5**
	baz=326						
SGST				S	**Sn**	**11 14 55.6**	**-0.1**
	baz=326						
EHY	**Hungye**	**1.54**	**351**	P	**Pn**	**11 14 36.9**	**-1.8**
	baz=5.0						
WTP	**Ta-pu**	**1.55**	**324**	⇓*i*P	**Pn**	**11 14 38.4**	**-0.5**
	baz=343						
WTP				*i* S	**Sn**	**11 14 58.4**	**-0.1**
	baz=343						
CHN1	**Nanshi**	**1.55**	**321**	⇓*i*P	**Pn**	**11 14 39.1**	**+0.2**
	baz=327						
CHN1				*i* S	**Sb**	**11 14 59.4**	**-0.3**
	baz=327						
CHN3	**Shinhua**	**1.57**	**314**	P	**Pb**	**11 14 40.0**	**-0.7**
	baz=319						
CHN3				*e*S	**Sb**	**11 15 00.5**	**+0.2**
	baz=319						
TPUB	**Ta-pu**	**1.59**	**326**	*e*Pn	**Pn**	**11 14 38.8**	**-0.5**
TPUB				*e*Sg	**Sb**	**11 15 00.9**	**+0.2**
YUS	**Yu-Shan**	**1.61**	**339**	*e*P	**Pn**	**11 14 38.6**	**-1.5**
	baz=345						
TWK	**Hsinying**	**1.64**	**322**	P	**Pn**	**11 14 39.8**	**-0.2**
	baz=328						
TWK				*e*S	**Sb**	**11 15 02.3**	**+0.2**
	baz=328						
TAI1	**Yung-k'ang**	**1.65**	**310**	*e*P	**Pn**	**11 14 39.7**	**-0.4**
	baz=313						
CHN4	**Tsaushan**	**1.65**	**326**	⇓*i*P	**Pn**	**11 14 40.2**	**+0.1**
	baz=344						
CHN4				*e*S	**Sb**	**11 15 02.7**	**+0.3**
	baz=344						
ALS	**Alishan**	**1.69**	**335**	⇓*i*P	**Pn**	**11 14 40.3**	**-0.7**
	baz=342						
ALS				*e*S	**Sb**	**11 15 04.7**	**+0.9**
	baz=342						
SCLT	**Jiali**	**1.76**	**313**	*e*P	**Pn**	**11 14 41.4**	**-0.2**
	baz=318						
SCLT				*e*S	**Sn**	**11 15 03.7**	**+0.2**
	baz=318						
CHN5	**Tsauling**	**1.82**	**332**	⇓*i*P	**Pn**	**11 14 42.8**	**+0.2**
	baz=337						
WDT	**Danda**	**1.82**	**347**	⇓*e*P	**Pn**	**11 14 41.6**	**-1.2**
	baz=4.0						
ESL	**Shilin**	**1.83**	**355**	⇓*e*P	**Pn**	**11 14 41.5**	**-1.2**
	baz=350						
CHY	**Chiayi**	**1.86**	**325**	⇓P	**Pn**	**11 14 42.4**	**-0.6**
	baz=331						
CHY				*e*S	**Sb**	**11 15 07.5**	**-0.9**
	baz=331						
CHN2	**Minshiung**	**1.86**	**326**	P	**Pn**	**11 14 43.8**	**+0.7**
	baz=332						
CHN2				*e*S	**Sb**	**11 15 08.5**	**+0.1**
	baz=332						
CHN8	**Yiju**	**1.86**	**317**	*e*P	**Pn**	**11 14 42.5**	**-0.7**
	baz=321						
SSLB	**Suanglung**	**1.89**	**342**	*e*Pn	**Pn**	**11 14 42.9**	**-0.7**
WGK	**Gukeng**	**1.95**	**331**	*e*P	**Pn**	**11 14 44.4**	**+0.2**
	baz=337						
WGK				*e*S	**Sb**	**11 15 10.5**	**-0.4**
	baz=337						
HWA	**Hwalien**	**1.99**	**0**	*e*P	**Pn**	**11 14 43.8**	**-1.0**
	baz=16						
HWA				*e*S	**Sn**	**11 15 09.5**	**+0.3**
	baz=16						
SMLT	**Sun Moon Lake**	**2.00**	**341**	*e*P	**Pn**	**11 14 45.0**	**-0.1**
	baz=348						
SMLT				*e*S	**Sb**	**11 15 11.7**	**-0.9**
	baz=348						
TYC	**Yuchr**	**2.03**	**341**	⇓*i*P	**Pn**	**11 14 46.5**	**+1.1**
	baz=347						
TYC				S	**Sn**	**11 15 11.6**	**+1.4**
	baz=347						
WNT	**Mingjian**	**2.07**	**336**	⇓P	**Pn**	**11 14 46.9**	**+1.0**
	baz=342						
WNT				*e*S	**Sb**	**11 15 13.5**	**-0.9**
	baz=342						
WSF	**Szhu**	**2.08**	**323**	*e*P	**Pn**	**11 14 45.9**	**-0.2**
	baz=328						
WSF				*e*S	**Sn**	**11 15 10.5**	**-0.9**
	baz=328						
TWD	**Chiawan**	**2.09**	**0**	P	**Pn**	**11 14 45.1**	**-1.1**
	baz=15						
TWD				S	**Sn**	**11 15 11.5**	**-0.2**
	baz=15						
WHF	**Hehuan Shan**	**2.17**	**352**	⇓*e*P	**Pn**	**11 14 47.1**	**-0.6**
	baz=358						
WHF				*e*S	**Sn**	**11 15 14.1**	**-0.3**
	baz=358						
NACB	**Ninganchiao**	**2.18**	**360**	*e*Pn	**Pn**	**11 14 46.1**	**-1.4**
NACB				*e*Sn	**Sn**	**11 15 12.7**	**-1.3**
WDGT	**Dungji**	**2.19**	**306**	*e*P	**Pn**	**11 14 45.5**	**-2.1**
	baz=307						
WTCT	**Ta-ch'eng**	**2.23**	**327**	*e*P	**Pn**	**11 14 46.0**	**-2.1**
	baz=332						
TWT	**Tachien**	**2.29**	**350**	⇑P	**Pn**	**11 14 49.5**	**+0.3**
	baz=6.0						
TCU	**Taichung**	**2.32**	**339**	⇓*i*P	**Pn**	**11 14 50.5**	**+1.2**
	baz=330						
TCU				*e*S	**Sn**	**11 15 17.5**	**+0.2**
	baz=330						
ENA	**Nanau**	**2.44**	**3**	*e*P	**Pn**	**11 14 50.3**	**-0.7**
	baz=9.0						
NNS	**Nan Shan**	**2.46**	**355**	⇑*i*P	**Pn**	**11 14 51.7**	**+0.3**
	baz=1.0						

PNG	**Penghu**	**2.46**	**310**	*e*P		**Pn**	**11 14 49.8**	**-1.5**
	baz=314							
PNG				*e*S		**Sn**	**11 15 17.3**	**-3.5**
	baz=314							
TWQ1	**Liyutan**	**2.47**	**342**	P		**Pn**	**11 14 52.9**	**+1.4**
	baz=348							
TWQ1				*e*S		**Sb**	**11 15 24.8**	**-1.4**
	baz=348							
NSY	**Sanyi**	**2.54**	**343**	*e*P		**Pn**	**11 14 54.1**	**+1.7**
	baz=348							
NSY				*e*S		**Sb**	**11 15 26.7**	**-1.4**
	baz=348							
TWC	**Suao**	**2.63**	**5**	*e*P		**Pn**	**11 14 53.6**	**0.0**
	baz=19							
TWC				*e*S		**Sn**	**11 15 26.5**	**+1.5**
	baz=19							
ENTT	**Nioudou**	**2.65**	**359**	*e*P		**Pn**	**11 14 54.0**	**+0.1**
	baz=4.0							
ENTT				*e*S		**Sn**	**11 15 28.2**	**+2.7**
	baz=4.0							
YHNB	**Yeheng**	**2.68**	**356**	*e*Pn		**Pn**	**11 14 55.3**	**+0.8**
YHNB				*e*Sn		**Sb**	**11 15 31.4**	**-0.9**
NSK	**Sanguang**	**2.69**	**355**	⇑*i*P		**Pn**	**11 14 55.6**	**+1.0**
	baz=1.0							
NSK				*e*S		**Sn**	**11 15 29.5**	**+2.8**
	baz=1.0							
NSTT	**Nanjuang**	**2.69**	**348**	*e*P		**Pn**	**11 14 55.6**	**+1.1**
	baz=338							
JYNG	**Yonagunijimaku**	**2.75**	**27**	P		**Pn**	**11 14 55.0**	**-0.4**
JYNG				*e*S		**Sn**	**11 15 27.4**	**-0.7**
ILA	**Ilan**	**2.77**	**3**	*e*P		**Pn**	**11 14 57.3**	**+1.7**
	baz=358							
YOJ	**Yonaguni jima**	**2.79**	**28**	P		**Pn**	**11 14 56.0**	**+0.1**
YOJ				S		**Sn**	**11 15 28.7**	**-0.3**
YOJ	**Yonaguni jima**	**2.79**	**28**	*e*P		**Pn**	**11 14 56.0**	**+0.1**
YOJ	**Yonaguni jima**	**2.79**	**28**	*e*Pn		**Pn**	**11 14 56.0**	**+0.1**
HSN	**Hsinchu**	**2.87**	**349**	*e*P		**Pb**	**11 14 59.8**	**-2.9**
	baz=338							
HATJ	**Hateruma jima**	**2.90**	**44**	P		**Pn**	**11 14 57.6**	**+0.2**
HATJ				S		**Sn**	**11 15 30.3**	**-1.4**
TATO	**Taipei**	**2.98**	**358**	*e*Pn		**Pn**	**11 14 59.6**	**+1.1**
TWA	**Mucha**	**2.98**	**360**	⇑*e*P		**Pn**	**11 14 59.8**	**+1.2**
	baz=4.0							
NCU	**National Centr**	**3.00**	**353**	*e*P		**Pb**	**11 15 02.2**	**-2.8**
	baz=341							
TWB1	**Santiao Chiao**	**3.03**	**7**	*e*P		**Pn**	**11 14 60.0**	**+0.8**
	baz=22							
TAP1	**Taipei**	**3.04**	**359**	*e*P		**Pn**	**11 14 59.3**	**-0.1**
	baz=12							
IRIF	**Iriomote-Funau**	**3.06**	**40**	P		**Pn**	**11 15 00.1**	**+0.6**
IRIF				S		**Sn**	**11 15 34.6**	**-1.0**
NWF	**Wu-fen Shan**	**3.08**	**3**	⇑*e*P		**Pn**	**11 15 01.1**	**+1.1**
	baz=359							
JKRS	**Kuro-shima**	**3.16**	**44**	P		**Pn**	**11 15 01.4**	**+0.5**
JKRS				S		**Sn**	**11 15 36.8**	**-1.3**
TWY	**Chenhua**	**3.28**	**0**	*e*P		**Pn**	**11 15 03.2**	**+0.6**
	baz=4.0							
JIJ	**Ishigaki jima**	**3.33**	**44**	P		**Pn**	**11 15 03.2**	**-0.1**
JIJ				*e*S		**Sn**	**11 15 40.7**	**-1.7**
JISG	**Ishigakijimahi**	**3.60**	**43**	P		**Pn**	**11 15 06.5**	**-0.5**
JISG				*e*S		**Sn**	**11 15 47.5**	**-1.5**
PCYT	**Pengchaiyu**	**3.66**	**7**	*e*P		**Pn**	**11 15 08.5**	**+0.7**
SGCP	**Mt. Cagua**	**3.74**	**173**	*e*P		**Pn**	**11 15 08.6**	**-0.4**
KNM	**Kinmen**	**3.79**	**310**	*e*P		**Pn**	**11 15 09.2**	**-0.4**
	baz=309							
JTJ	**Tarama**	**3.89**	**47**	P		**Pn**	**11 15 11.4**	**+0.4**
JTJ				*e*S		**Sn**	**11 15 55.6**	**-0.6**
QZH	**Quanzhou**	**4.04**	**317**	⇓Pn		**Pn**	**11 15 11.5**	**-1.5**
QZH				Sn		Sn	11 15 53.0	-6.7
QZH				SMN				
	720nm,1.0s							
QZH				SME				
	800nm,0.9s							
QZH				LN				
	1μm,7.4s							
QZH				LE				
	2μm,10.4s							
QZH				LZ				
	4μm,17.8s							
APYP	**Conner**	**4.11**	**185**	*e*P		**Pn**	**11 15 15.6**	**+1.6**
APYP				*e*S		**Pg**	**11 15 31.9**	**+0.9**
JIRB	**Irabujima**	**4.34**	**49**	P		**Pn**	**11 15 17.0**	**-0.2**
JIRB				*e*S		**Sn**	**11 16 05.6**	**-1.6**
ABRA	**Dolores**	**4.39**	**191**	*e*P		**Pn**	**11 15 18.3**	**+0.4**
JMJ	**Miyako jima 2**	**4.42**	**50**	P		**Pn**	**11 15 18.0**	**-0.2**
JMJ				*e*S		**Sn**	**11 16 08.0**	**-1.1**
JIKM	**Ikemajima**	**4.45**	**48**	P		**Pn**	**11 15 18.9**	**+0.2**
JIKM				*e*S		**Sn**	**11 16 08.8**	**-1.2**
JOGS	**Gusukube**	**4.46**	**51**	P		**Pn**	**11 15 19.2**	**+0.4**
JOGS				*e*S		**Sn**	**11 16 10.7**	**+0.4**
BCPH	**Baguio City Da**	**5.65**	**190**	⇓*i*P		**Pn**	**11 15 34.3**	**-1.1**
BALP	**Baler**	**6.21**	**180**	*e*P		**Pn**	**11 15 42.9**	**0.0**
JKE	**Kume jima 2**	**6.42**	**47**	P		**Pn**	**11 15 44.9**	**-0.8**
JIH	**Iheya**	**7.68**	**48**	P		**Pn**	**11 16 03.5**	**+0.5**
GZH	**Guangzhou**	**7.71**	**280**	P		Pn	11 15 58.8	-4.6
GZH				S		Sn	11 17 16.5	-14
GZH				LR		LR		
	comp=N,3μm,16.8s							
GZH				LR		LR		
	comp=E,2μm,17.0s							
JOW	**Kunigami**	**7.77**	**50**	P		**Pn**	**11 16 04.7**	**+0.4**
JOW	**Kunigami**	**7.77**	**50**	*e*Pn		**Pn**	**11 16 04.9**	**+0.6**
JTK	**Tokunoshima**	**8.83**	**48**	P		**Pn**	**11 16 17.0**	**-1.8**
JAMN	**Amaminishikomi**	**9.27**	**46**	P		**Pn**	**11 16 22.0**	**-2.9**
NJ2	**Nanjing**	**10.32**	**347**	*e*P		**Pn**	**11 16 39.5**	**+0.2**
NJ2				S		**Sn**	**11 18 34.0**	**-0.5**
NJ2				PMZ				
	comp=E,50nm,0.6s							
NJ2				LN				
	comp=E,1μm,15.7s							
NJ2				LE				
	comp=E,3μm,11.5s							
NJ2				LZ				
	comp=E,2μm,10.5s							
WHN	**Wuhan**	**10.72**	**324**	P		**Pn**	**11 16 42.5**	**-2.2**
WHN				S		**Sn**	**11 18 45.0**	**+0.8**
WHN				LN				
	comp=E,2μm,10.9s							
WHN				LE				
	comp=E,1μm,9.2s							
WHN				LZ				
	comp=E,2μm,18.3s							
QIZ	**Qiongzhong**	**11.40**	**257**	P		**Pn**	**11 16 51.3**	**-2.8**
QIZ				S		**Sn**	**11 19 00.8**	**-0.2**
QIZ				PMZ				
	comp=E,14nm,2.0s							
QIZ				PMZ				
	comp=E,150nm,4.3s							
QIZ				LN				
	comp=E,1μm,14.4s							
QIZ				LE				
	comp=E,350nm,11.7s							
QIZ				LZ				
	comp=E,1μm,12.5s							
KSGOS	**Gosan**	**11.97**	**19**	⇓P		Px	11 17 35.3	
KSSSP	**Seongsanpo**	**12.29**	**21**	⇓P		P	11 17 33.6	+15
	SNR=7.5							
KSMOK	**Mokpo**	**13.51**	**18**	⇑P		P	11 17 35.6	+3.7
JNU	**Nakatsue**	**13.81**	**35**	Pn		**Pn**	**11 17 26.4**	**-0.6**
	comp=E,0.3nm,0.3s,baz=264,slow=4.8,SNR=3.7							
JNU				LR		LR	11 23 41.7	
	comp=E,383nm,19.2s,baz=213,slow=41							
KSKWJ	**Gwangju**	**13.96**	**19**	⇓P		**P**	**11 17 37.1**	**+0.2**
GYA	**Guiyang**	**14.33**	**291**	*e*P		**Pn**	**11 17 35.0**	**+0.7**
GYA				PMZ				
	comp=E,10.0nm,0.8s							
KSGUS	**GUNSAN**	**14.72**	**17**	P		**P**	**11 17 44.9**	**-0.4**
	SNR=7.2							
KSSWO	**Suwon**	**15.93**	**16**	P		**P**	**11 17 59.8**	**+1.0**
	SNR=7.7							
KSSEO	**Seoul**	**16.12**	**15**	P		**P**	**11 18 01.8**	**+0.8**
	SNR=6.9							
KSAR	**Wonju Array Be**	**16.34**	**18**	P		**P**	**11 18 02.3**	**-1.1**
KSAR	**Wonju Array Be**	**16.34**	**18**	Pn		**P**	**11 18 02.3**	**-1.1**
KSWJU	**Wonju**	**16.35**	**19**	P		**P**	**11 18 03.5**	**0.0**
	SNR=9.1							
KSRS	**Korea Array**	**16.36**	**18**	Pn		**P**	**11 18 02.3**	**-1.3**
	comp=E,0.5nm,0.3s,baz=201,slow=13,SNR=44							
KSRS				LR		LR	11 25 14.3	
	comp=E,80nm,20.7s,baz=190,slow=40							
XAN	**Xi'an**	**16.40**	**320**	P		**P**	**11 18 05.5**	**+1.4**
XAN				PMZ				
	comp=E,3.0nm,1.0s							
XAN				LN				
	comp=E,490nm,16.3s							
XAN				LE				
	comp=E,150nm,19.4s							
XAN				LZ				
	comp=E,300nm,18.4s							
KKM	**Kota Kinabalu**	**16.68**	**199**	*e*P		**Pn**	**11 18 04.7**	**-0.4**
	comp=E,45nm,1.1s							
KSCWO	**Cheorwon**	**16.84**	**16**	P		**P**	**11 18 09.4**	**+0.5**
	SNR=8.8							
DL2	**Dalian**	**16.87**	**0**	*e*P		P	11 18 14.3	+5.1
DL2				PMZ				
	comp=E,47nm,1.6s							
DL2				PMZ				
	comp=E,140nm,6.4s							
DL2				LN				
	comp=E,550nm,11.2s							
DL2				LZ				
	comp=E,510nm,12.8s							
MYLDM	**Lahad Datu**	**16.97**	**191**	*e*Pn		**Pn**	**11 18 08.7**	**+0.1**
	comp=E,62nm,1.2s							
TIY	**Taiyuan**	**17.56**	**335**	*e*P		**P**	**11 18 17.5**	**+0.5**
TIY				PP		**PnPn**	**11 18 32.0**	**+5.5**
TIY				S		**Sn**	**11 21 27.3**	**-3.8**
TIY				PMZ				
	comp=E,250nm,5.0s							
TIY				LN				
	comp=E,1μm,13.6s							
TIY				LE				
	comp=E,890nm,9.1s							
TIY				LZ				
	comp=E,1μm,12.6s							
KMI	**Kunming**	**17.57**	**284**	P		**P**	**11 18 18.5**	**+1.2**
KMI				pP		**pP**	**11 18 23.3**	**+0.6**
KMI				sP		**sP**	**11 18 25.3**	**+0.1**
KMI				S		**Sn**	**11 21 31.5**	**-0.2**
KMI				PMZ				
	comp=E,8.0nm,0.8s							
KMI				LN				
	comp=E,580nm,18.6s							
KMI				LE				
	comp=E,470nm,17.8s							
KMI				LZ				
	comp=E,610nm,17.1s							
CD2	**Chengdu**	**18.26**	**303**	⇑P		**P**	**11 18 25.5**	**+0.7**
CD2				pP		**pP**	**11 18 29.0**	**-1.2**
CD2				sP		**sP**	**11 18 32.5**	**-0.2**
CD2				PP		**PnPn**	**11 18 40.5**	**+4.4**
CD2				S		**Sn**	**11 21 45.8**	**-2.4**
CD2				sS		**S**	**11 21 51.3**	**-1.7**
CD2				SS		**SnSn**	**11 22 09.0**	**+7.0**
CD2				PMZ				
	comp=E,40nm,0.6s							
CD2				PMZ				
	comp=E,100nm,6.6s							
CD2				LN				
	comp=E,860nm,13.3s							
CD2				LE				
	comp=E,550nm,10.0s							
CD2				LZ				
	comp=E,1μm,11.4s							
BJI	**Beijing**	**18.58**	**347**	P		**P**	**11 18 27.8**	**-0.3**
BJI				S		**Sn**	**11 21 56.3**	**+0.6**
BJI				PMZ				
	comp=E,9.0nm,0.5s							
BJI				PMZ				
	comp=E,120nm,4.2s							
BJI				LN				
	comp=E,680nm,14.7s							
BJI				LE				
	comp=E,330nm,14.7s							
BJI				LZ				
	comp=E,260nm,15.4s							
CHAI	**Chaiyaphum**	**19.50**	**255**	P		Pn	11 18 47.2	+7.5
	comp=E,5.5nm,0.8s							
LOEI	**Loei**	**19.64**	**261**	P		**Pn**	**11 18 45.4**	**+4.0**
	comp=E,12nm,1.1s							
CRAI	**Chiangrai**	**19.88**	**269**	P		**Pn**	**11 18 47.1**	**+2.9**
	comp=E,13nm,1.5s,comp=E,783nm							
PBKT	**Sadao Pong**	**20.19**	**258**	P		Pn	11 18 52.1	+4.2
	comp=E,10nm,1.7s							
MAJO	**Matsushiro**	**20.46**	**41**	⇑*e*P		Pn	11 18 50.9	-0.1
MAJO				pmax		pmax		
	comp=Z,518nm,1.7s							
MAJO	**Matsushiro**	**20.46**	**41**	*e*P		Pn	11 18 51.2	+0.2
	comp=Z,50nm,1.0s							
MAT	**Matsushiro**	**20.46**	**41**	P		Pn	11 18 50.7	-0.3
MAT				S		**S**	**11 22 37.4**	**+0.3**
MJAR	**Matsushiro Arr**	**20.46**	**41**	P		Pn	11 18 52.0	+1.1
	comp=Z,28nm,0.9s,baz=233,slow=9.7,SNR=69							
MJAR				LR		LR	11 27 19.6	
	comp=Z,107nm,19.7s,baz=240,slow=38							
HHC	**Hu-ho-hao-te**	**20.64**	**338**	*e*P		Pn	11 18 52.3	-0.8
HHC				PP		**PnPn**	**11 19 13.5**	**+4.8**
HHC				S		**S**	**11 22 37.0**	**-3.6**
HHC				sS		Sn	11 22 43.3	-2.2
HHC				SS		**SnSn**	**11 23 07.8**	**+7.4**
HHC				PMZ				
	comp=Z,10.0nm,0.7s							
HHC				PMZ				
	comp=Z,130nm,6.2s							
HHC				LN				
	comp=Z,880nm,14.4s							
HHC				LE				
	comp=Z,340nm,12.5s							
HHC				LZ				
	comp=Z,700nm,16.7s							
LZH	**Lanzhou**	**20.89**	**316**	*e*P		Pn	11 18 55.0	-1.2
LZH				pP		pP	11 18 58.0	-1.0
LZH				sP		sP	11 18 59.8	-1.7
LZH				PP		**PnPn**	**11 19 18.0**	**+5.8**
LZH				*e*S		**S**	**11 22 43.3**	**-2.5**
LZH				sS		Sn	11 22 50.0	-1.7
LZH				SS		**SnSn**	**11 23 13.5**	**+6.9**
LZH				PMZ				
	comp=Z,20nm,1.0s							
LZH				PMZ				
	comp=Z,110nm,4.0s							
LZH				LN				
	comp=Z,520nm,12.5s							
LZH				LE				
	comp=Z,370nm,11.1s							
LZH				LZ				
	comp=Z,770nm,13.8s							
CMAI	**Chiengmai2**	**21.16**	**269**	P		P	11 19 02.4	+5.8
	comp=Z,7.6nm,1.2s,comp=Z,543nm							
MRSI	**Marisa**	**21.38**	**179**	P		**P**	**11 19 03.5**	**+4.8**
	comp=Z,64nm,1.2s,comp=Z,742nm							
KMSI	**Cibinong**	**21.40**	**173**	P		**P**	**11 19 03.5**	**+4.5**
	comp=Z,116nm,0.9s							
SBUM	**Sibu**	**21.45**	**206**	*e*P		**P**	**11 18 59.2**	**-0.3**
	comp=Z,27nm,1.1s							
CMMT	**Chiang Mai**	**21.46**	**266**	P		P	11 19 04.7	+5.1
	comp=Z,14nm,1.4s							
CHTO	**Chiang Mai**	**21.46**	**266**	*e*P		**P**	**11 18 59.9**	**+0.2**
CHTO				pmax		pmax		
	comp=Z,24nm,1.6s							
CHTO	**Chiang Mai**	**21.46**	**266**	*e*P		**P**	**11 18 59.9**	**+0.2**
	comp=Z,24nm,1.6s							
CMAR	**Chiang Mai Arr**	**21.54**	**265**	P		**P**	**11 19 01.6**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=71,slow=9.1,SNR=18							
CMAR				PcP		**PcP**	**11 23 03.5**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=48,slow=1.2,SNR=13							
CMAR				ScP		**ScP**	**11 26 37.1**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=96,slow=0.9,SNR=4.0							
CMAR				LR		LR	11 27 55.2	
	comp=Z,197nm,20.4s,baz=68,slow=38							
MPSI	**Mapaga**	**21.58**	**185**	P		**P**	**11 19 02.8**	**+1.9**
	comp=Z,42nm,1.1s,comp=Z,2μm							
TNTI	**Ternate**	**21.82**	**164**	P		**P**	**11 19 06.3**	**+2.8**
	comp=Z,97nm,1.0s							
TNTI	**Ternate**	**21.82**	**164**	*e*P		**P**	**11 19 03.5**	**+0.1**
	comp=Z,82nm,0.9s							
UTHA	**Uthaitani**	**21.91**	**257**	P		P	11 19 10.0	+5.5
	comp=Z,4.3nm,0.9s,comp=Z,116nm							
CN2	**Changchun**	**21.99**	**7**	*e*P		**P**	**11 19 05.8**	**+0.7**
MHMT	**Maesarieng**	**22.54**	**265**	P		P	11 19 19.4	+8.2
	comp=Z,11nm,0.9s,comp=Z,638nm							
SRDT	**SRDT**	**22.64**	**254**	P		P	11 19 21.1	+8.7
	comp=Z,51nm,1.1s,comp=Z,11μm							
PCI	**Palu**	**22.81**	**185**	P		**P**	**11 19 18.6**	**+4.5**
	comp=Z,125nm,1.1s,comp=Z,1μm							
KSM	**Kuching**	**23.16**	**210**	*e*P		**P**	**11 19 18.6**	**+1.0**
	comp=Z,22nm,1.0s							
LBMI	**Labuha**	**23.21**	**165**	P		P	11 19 26.6	+8.4
	comp=Z,72nm,1.0s,comp=Z,906nm							
MDJ	**Mudanjiang**	**23.52**	**14**	P		**P**	**11 19 23.3**	**+2.3**
MDJ				pP		**pP**	**11 19 25.5**	**-1.2**
MDJ				sP		**sP**	**11 19 27.5**	**-1.7**
MDJ				S		**S**	**11 23 35.0**	**+1.1**
MDJ				sS		**sS**	**11 23 44.8**	**+1.2**
MDJ				PMZ				
	comp=Z,13nm,0.9s							
MDJ				PMZ				
	comp=Z,120nm,5.8s							
MDJ				LN				
	comp=Z,280nm,13.8s							
MDJ				LE				
	comp=Z,210nm,13.8s							
MDJ				LZ				
	comp=Z,300nm,13.8s							
GUMO	**Guam**	**23.66**	**107**	*e*P		**P**	**11 19 24.9**	**+2.2**
GUMO				pmax		pmax		
	comp=Z,17nm,1.0s							
GUMO	**Guam**	**23.66**	**107**	*e*P		**P**	**11 19 24.9**	**+2.2**
	comp=Z,17nm,1.0s							
MTKI	**Muara Teweh, K**	**23.70**	**197**	P		**P**	**11 19 26.3**	**+3.2**
	comp=Z,74nm,0.9s,comp=Z,19μm							
USRK	**Ussuriysk Ar.**	**23.77**	**19**	P		**P**	**11 19 25.0**	**+1.5**
	comp=Z,4.9nm,0.7s,baz=197,slow=8.7,SNR=12							
USRK				LR		LR	11 29 26.6	
	comp=Z,122nm,19.0s,baz=195,slow=38							
SANI	**Sanana**	**24.27**	**169**	P		**P**	**11 19 29.0**	**+0.7**
	comp=Z,38nm,0.8s							
SWI	**Sorong**	**24.59**	**156**	P		**P**	**11 19 34.6**	**+3.3**
	comp=Z,36nm,0.8s							
TTSI	**Tana Toraja**	**24.93**	**184**	P		**P**	**11 19 37.3**	**+2.9**
	comp=Z,32nm,0.8s							
GTA	**Gaotai**	**25.44**	**318**	P		**P**	**11 19 39.5**	**+0.5**
GTA				pP		**pP**	**11 19 43.8**	**-1.0**
GTA				sP		**sP**	**11 19 46.5**	**-0.7**
GTA				S		**S**	**11 24 06.0**	**+0.9**
GTA				sS		**sS**	**11 24 13.0**	**-1.8**
GTA				PMZ				
	comp=Z,11nm,1.3s							
GTA				PMZ				
	comp=Z,110nm,5.7s							
GTA				LN				
	comp=Z,590nm,19.5s							
GTA				LE				
	comp=Z,870nm,18.3s							
GTA				LZ				
	comp=Z,450nm,18.0s							
SPSI	**Sidrap Palu**	**25.85**	**184**	P		P	11 19 48.9	+6.2
	comp=Z,25nm,0.9s							
MSAI	**Masohi**	**26.17**	**163**	P		**P**	**11 19 47.7**	**+2.0**
	comp=Z,9.1nm,0.8s,comp=Z,438nm							
BNSI	**Bone**	**26.26**	**183**	P		**P**	**11 19 51.0**	**+4.6**
	comp=Z,22nm,1.5s							
AAI	**Ambon**	**26.32**	**165**	P		**P**	**11 19 48.3**	**+1.4**
	comp=Z,44nm,0.6s,comp=Z,3μm							
FAKI	**Fak Fak**	**26.85**	**156**	*e*P		**P**	**11 19 53.2**	**+1.4**
	comp=Z,19nm,1.0s							
ASAJ	**Asahikawa**	**28.08**	**33**	P		**P**	**11 20 03.8**	**+1.2**
	comp=Z,22nm,1.0s,baz=239,slow=6.8,SNR=14							
ASAJ				LR		LR	11 32 31.8	
	comp=Z,159nm,18.5s,baz=322,slow=39							
ASAJ	**Asahikawa**	**28.08**	**33**	*e*P		P	11 20 06.9	+4.3
	comp=Z,10nm,1.0s							
ULN	**Ulaanbaatar**	**28.34**	**339**	*e*P		**P**	**11 20 04.9**	**-0.2**
ULN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ULN	**Ulaanbaatar**	**28.34**	**339**	*e*P		**P**	**11 20 04.9**	**-0.2**
	comp=Z,5.9nm,0.7s							
KLR	**Kul'dur**	**28.36**	**14**	*e*P		**P**	**11 20 03.3**	**-1.7**
KLR				MLR		MLR		
	comp=Z,1μm,13.0s							
HABR	**Khabarovsk**	**28.54**	**19**	*e*P		P	11 20 09.9	+3.3
HABR				*e*PPP		PPP	11 21 03.9	
HABR				*e*			11 23 16.0	
HABR				*e*S		**S**	**11 24 55.3**	**+1.8**
HABR				*e*SS		**SnSn**	**11 26 16.5**	**+3.3**
HABR				pmax		pmax		
	comp=N,13nm,1.9s							
HABR				pmax		pmax		
	comp=E,12nm,0.9s							
HABR				pmax		pmax		
	comp=Z,16nm,1.9s							
SONM	**Songino Array**	**28.54**	**338**	P		**P**	**11 20 06.8**	**0.0**
	comp=Z,5.1nm,0.7s,baz=155,slow=9.5,SNR=41							
SONM				PcP		**PcP**	**11 23 18.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=172,slow=1.8,SNR=4.3							
SONM				ScP		**ScP**	**11 26 57.9**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=192,slow=3.2,SNR=6.5							
SONM				LR		LR	11 33 55.4	
	comp=Z,123nm,18.5s,baz=134,slow=41							
PSI	**Prapat**	**29.13**	**232**	LR		LR	11 31 44.8	
	comp=Z,196nm,18.7s,baz=48,slow=36							
YSS	**Yuzh-Sakhalins**	**30.22**	**29**	⇓*e*P		**P**	**11 20 23.0**	**+1.4**
YSS				*e*			11 20 30.0	
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**30.22**	**29**	*e*P		**P**	**11 20 22.9**	**+1.4**
	comp=Z,38nm,1.2s							
MMRI	**Maumere**	**30.43**	**179**	*e*P		**P**	**11 20 23.6**	**-0.1**
	comp=Z,45nm,0.7s							
EDFI	**Ende, Flores**	**30.54**	**180**	P		**P**	**11 20 24.4**	**-0.3**
	comp=Z,82nm,0.7s							
TAPN	**Taplejung**	**31.19**	**287**	*e*P		**P**	**11 20 29.6**	**-1.1**
MDSI	**Maura Dua**	**31.35**	**215**	P		P	11 20 35.2	+3.5
	comp=Z,19nm,1.3s							
WOJI	**Wonogiri, Jawa**	**31.43**	**201**	P		**P**	**11 20 35.1**	**+2.7**
ZAK	**Zakamensk**	**31.79**	**338**	*e*P		**P**	**11 20 34.4**	**-1.0**
ZAK				*e*			11 23 26.0	
RAMN	**Ramite**	**32.17**	**286**	*e*P		**P**	**11 20 37.9**	**-1.4**
	comp=Z,22nm,0.8s							
TLY	**Talaya**	**32.76**	**339**	P		**P**	**11 20 43.1**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=132,slow=2.2,SNR=4.7							
TLY	**Talaya**	**32.76**	**339**	*e*P		**P**	**11 20 43.2**	**-0.7**
TLY				*e*PPP		PPP	11 22 06.5	
TLY				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TLY				MLR		MLR		
	comp=Z,542nm,14.0s							
TLY	**Talaya**	**32.76**	**339**	*e*P		**P**	**11 20 43.4**	**-0.5**
	comp=Z,3.4nm,0.8s							
GUN	**Gumba**	**32.84**	**288**	*e*P		**P**	**11 20 45.1**	**-0.1**
	comp=Z,31nm,1.0s							
PKI	**Pulchoki**	**33.24**	**287**	*e*P		**P**	**11 20 48.4**	**-0.4**
	comp=Z,4.9nm,0.5s							
PKIN	**Phulchoki**	**33.26**	**287**	*e*P		**P**	**11 20 48.9**	**+0.1**
KKN	**Kakani**	**33.36**	**287**	*e*P		**P**	**11 20 49.2**	**-0.5**
DMN	**Daman**	**33.51**	**287**	*e*P		**P**	**11 20 49.9**	**-1.1**
	comp=Z,4.0nm,0.3s							
GKN	**Gorkha**	**33.94**	**288**	*e*P		**P**	**11 20 54.8**	**+0.2**
DANN	**Dangsing**	**34.72**	**288**	*e*P		**P**	**11 21 00.7**	**-0.9**
	comp=Z,15nm,0.9s							
KOLN	**Koldanda**	**34.85**	**287**

comp=Z,1.7nm,0.9s
PET Petropavlovsk 41.93 33 *e*P **P 11 22 02.9 +1.5**
PET pmax pmax
comp=Z,24nm,0.9s
PET Petropavlovsk 41.93 33 *e*P **P 11 22 02.9 +1.5**
comp=Z,24nm,0.9s
H11N1 WAKE ISLAND Hy 42.28 84 T T 12 07 15.0
baz=282,slow=75,SNR=122
H11N2 WAKE ISLAND Hy 42.28 84 T T 12 07 15.1
baz=282,slow=75,SNR=239
H11N3 WAKE ISLAND Hy 42.29 84 T T 12 07 16.2
baz=282,slow=75,SNR=182
ZALV Zalesovo Beam 42.30 328 P **P 11 22 04.0 -0.6**
comp=Z,8.8nm,0.6s,baz=116,slow=7.9,SNR=52
ZALV PcP **PcP 11 23 56.5 -1.4**
comp=Z,1.5nm,0.5s,baz=127,slow=4.4,SNR=4.1
ZALV ScP **ScP 11 27 46.0 -1.7**
comp=Z,1.1nm,0.7s,baz=116,slow=3.4,SNR=4.6
ZALV LR LR 11 40 41.5
comp=Z,144nm,19.4s,baz=70,slow=38
H11S3 WAKE ISLAND Hy 42.34 86 T T 12 07 19.9
baz=283,slow=74,SNR=605
H11S1 WAKE ISLAND Hy 42.35 86 T T 12 07 20.7
baz=283,slow=74,SNR=505
H11S2 WAKE ISLAND Hy 42.36 86 T T 12 07 21.3
baz=283,slow=74,SNR=339
KSH Kashi 42.44 305 P **P 11 22 08.3 +2.3**
KSH PP PP 11 23 50.0 +5.6
KSH PcS **PcS 11 27 51.5 +0.5**
KSH S **S 11 28 30.3 +3.3**
KSH sS **sS 11 28 37.8 +0.9**
KSH SS **SS 11 31 34.3 -2.1**
KSH PMZ
comp=Z,3.0nm,0.6s
KSH PMZ
comp=Z,130nm,5.3s
KSH LN
comp=Z,140nm,8.5s
KSH LE
comp=Z,130nm,7.7s
KSH LZ
comp=Z,190nm,5.3s
ULHL Ulahol 42.81 309 P **P 11 22 10.0 +0.8**
SNR=9.5
ULHL Ulahol 42.81 309 *i* P **P 11 22 09.9 +0.8**
TKM2 Tokmak 2 43.44 310 P **P 11 22 16.8 +2.7**
SNR=15
TKM2 Tokmak 2 43.44 310 P **P 11 22 14.4 +0.2**
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 43.44 310 *e*P **P 11 22 15.3 +1.1**
comp=Z,12nm,0.8s
WRAB Tennant Creek 43.48 162↓ *e*P **P 11 22 12.5 -1.9**
WRAB pmax pmax
comp=Z,42nm,1.7s
WRAB Tennant Creek 43.48 162 *e*P **P 11 22 12.2 -2.3**
WRA Warramunga Arr 43.49 162 P **P 11 22 12.0 -2.5**
comp=Z,4.9nm,0.8s,baz=345,slow=8.8,SNR=19
KZA Kyzart 43.49 308 P **P 11 22 15.6 +0.7**
SNR=9.3
KZA Kyzart 43.49 308 *i* P **P 11 22 15.5 +0.7**
WB2 Warramunga Arr 43.49 162 *e*P **P 11 22 12.4 -2.2**
NVS Novosibirsk 43.57 329↓ *i*P **P 11 22 13.9 -0.9**
NVS *e*S **S 11 28 41.6 -1.3**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s
NVS smax smax
comp=N,4.0nm,1.0s
NVS smax smax
comp=E,12nm,1.8s
KURK Kurchatov 44.03 321 P **P 11 22 18.9 +0.3**
KURK 11 24 02.9
KURK Kurchatov 44.03 321 P **P 11 22 18.9 +0.3**
KURK PcP **PcP 11 24 02.9 -0.9**
KURBB Kurchatov Arra 44.04 321 P **P 11 22 18.9 +0.2**
comp=E,14nm,0.8s,baz=117,slow=7.5,SNR=81
KURBB PcP **PcP 11 24 02.9 -1.0**
comp=E,1.0nm,0.6s,baz=116,slow=3.3,SNR=4.3
UCH Uchtor 44.06 309 P **P 11 22 21.0 +1.5**
SNR=10
UCH Uchtor 44.06 309 *i* P **P 11 22 20.9 +1.5**
AAK Ala-Archa 44.16 309 LR LR 11 43 30.8
comp=E,155nm,18.6s,baz=80,slow=40
AAK Ala-Archa 44.16 309 *e*P **P 11 22 22.1 +2.2**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 44.16 309 *e*P **P 11 22 22.1 +2.2**
comp=Z,3.4nm,0.8s
AML Almayashu 44.63 308 P **P 11 22 25.6 +1.5**
SNR=13
EKS2 Erkin-Say 44.68 309 *e*P **P 11 22 23.1 -1.0**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 44.68 309 *e*P **P 11 22 23.1 -1.0**
comp=Z,3.7nm,0.7s
SEY Seymchan 45.92 19 P **P 11 22 34.1 +0.7**
comp=Z,1.5nm,0.7s,baz=236,slow=7.8,SNR=6.7
SEY PcP **PcP 11 24 09.8 -0.3**
comp=Z,1.3nm,0.5s,baz=223,slow=5.9,SNR=6.2
AS31 Alice Springs 46.93 164 *e*P **P 11 22 40.2 -1.6**
ASAR Alice Springs 46.93 164 P **P 11 22 40.5 -1.3**
comp=Z,2.2nm,0.6s,baz=352,slow=14,SNR=51
ASAR LR LR 11 45 18.9
comp=Z,50nm,18.2s,baz=348,slow=40
KK31 Karatay Array 47.12 309 *i* P **P 11 22 43.7 +0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.5s
CTA Charters Tower 48.26 148 P **P 11 22 51.7 -0.5**
comp=Z,2.9nm,0.7s,baz=330,slow=10,SNR=6.9
BVAR Borovoye Array 49.62 322 P **P 11 23 02.4 +0.1**
comp=Z,3.6nm,0.4s,baz=112,slow=8.9,SNR=36
BVAR PcP **PcP 11 24 23.8 +0.2**
comp=Z,3.4nm,0.7s,baz=111,slow=4.3,SNR=6.3
BVAR ScP **ScP 11 28 17.6 -0.6**
comp=Z,1.4nm,0.8s,baz=108,slow=3.3,SNR=6.8
BRVK Borovoye 49.69 322 *de*P **P 11 23 02.8 0.0**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 49.69 322 *e*P **P 11 23 03.2 +0.4**
comp=Z,10nm,0.9s
TIXI Tiksi 49.86 3↑ *e*P **P 11 23 03.6 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 49.86 3 *e*P **P 11 23 03.7 -0.1**
comp=Z,2.8nm,0.7s
FORT Forrest 52.82 173 *e*P **P 11 23 24.9 -1.6**
comp=Z,21nm,0.7s
BILL Bilibino 53.62 19↑ *e*P **P 11 23 33.5 +1.5**
BILL *i* 11 23 44.4
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,67nm,18.0s
BILL Bilibino 53.62 19 *e*P **P 11 23 33.2 +1.2**
comp=Z,4.6nm,0.9s
NWAO Narrogin (SRO) 54.76 184 P **P 11 23 40.5 -0.1**
comp=Z,7.9nm,0.7s,baz=351,slow=6.6,SNR=5.3
AB31 Akbulak array 55.26 315 *i* P **P 11 23 44.2 +0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 55.26 315 *e*P **P 11 23 44.3 +0.2**
comp=Z,26nm,1.3s
SVE Sverdlovsk 56.04 325↓ *i*P **P 11 23 50.0 +0.4**
SVE pmax pmax
comp=Z,15nm,1.0s
BBOO Buckleboo 56.21 165 *e*P **P 11 23 50.2 -0.8**
comp=Z,1.4nm,0.8s
GEYT Alibeck 56.25 302 P **P 11 23 51.4 -0.2**
comp=Z,2.2nm,0.7s,baz=38,slow=5.6,SNR=5.4
AKTO Aktyubinsk 56.62 317 P **P 11 23 52.8 -1.1**
AKTO pmax pmax
comp=Z,12nm,1.4s
STKA Stephens Creek 56.88 160 P **P 11 23 54.9 -0.9**
comp=Z,5.8nm,0.6s,baz=336,slow=6.3,SNR=33
STKA Stephens Creek 56.88 160 *e*P **P 11 23 55.0 -0.9**
STKA pmax pmax
comp=Z,13nm,2.1s
STKA Stephens Creek 56.88 160 *e*P **P 11 23 55.0 -0.8**
comp=Z,13nm,2.1s
ARU Arti 57.09 324 *c i*P **P 11 23 57.0 -0.1**
ARU 11 26 02.7
ARU S **S 11 31 54.2 +3.2**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 57.09 324 *e*P **P 11 23 56.6 -0.5**
comp=Z,9.5nm,0.6s
PRGR Permogore 64.25 329 P **P 11 24 44.2 -1.6**
PRGR pmax pmax
comp=Z,18nm,0.7s
GNI Garni 66.37 305↑ *e*P **P 11 25 01.2 +1.0**
GNI pmax pmax
comp=Z,12nm,1.2s
ZEI Tsey 66.58 308 *e*P **P 11 25 00.3 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
VRHR Novokhopersk 67.00 318 *e*P **P 11 25 03.8 +0.1**
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s
KBZ Khabaz 67.16 310 P **P 11 25 05.3 +0.5**
comp=Z,8.9nm,0.9s,baz=53,slow=20,SNR=24
KBZ LR LR 11 58 50.5
comp=Z,104nm,18.4s,baz=138,slow=40
KLMR Klimovskoe 67.22 328 *e*P **P 11 25 03.6 -1.4**
KLMR pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 67.27 310 *e*P **P 11 25 06.5 +0.7**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,55nm,17.0s
KIV Kislovodsk 67.27 310 *e*P **P 11 25 07.5 +1.8**
comp=Z,15nm,0.5s
LPSR Galich'ya Gora 68.46 319 *e*P **P 11 25 12.7 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
LPSR pmax pmax
comp=N,6.0nm,1.0s
LPSR pmax pmax
comp=E,20nm,1.9s
VSR Storozhevoye 68.52 318 *e*P **P 11 25 12.6 -0.7**
VSR pmax pmax
comp=N,140nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
APA Apatity 69.21 336 *e*P **P 11 25 18.0 +0.7**
APA MLR MLR
comp=Z,2µm,11.0s
RAYN Ar Rayn 69.36 288 *e*P **P 11 25 18.7 -0.5**
comp=Z,4.1nm,0.9s
KDAK Kodiak Island 69.48 35 *i* P **P 11 25 21.1 +1.9**
COLA College 70.57 27 *e*P **P 11 25 27.0 +1.3**
COLA pmax pmax
comp=Z,2.0nm,0.8s
COLA College 70.57 27 *e*P **P 11 25 27.0 +1.3**
comp=Z,2.4nm,0.8s
JOF Joensuu 70.81 331 *ep* **P 11 25 26.5 -0.7**
comp=Z,8.8nm,0.4s
JOF Joensuu 70.81 331 *e*P **P 11 25 26.5 -0.7**
JOF pmax pmax
comp=Z,9.0nm,0.4s
ANN Anapa 70.82 311 *e*P **P 11 25 27.7 +0.1**
ANN pmax pmax
comp=Z,51nm,1.1s
ILAR Eielson Array 70.99 27 P **P 11 25 26.9 -1.5**
comp=Z,0.8nm,0.5s,baz=267,slow=4.5,SNR=19
ILAR LR LR 11 58 03.5
comp=Z,23nm,20.3s,baz=180,slow=37
KEV Kevo 71.15 338 *ep* **P 11 25 28.5 -0.7**
comp=Z,14nm,0.5s
KEV Kevo 71.15 338 *e*P **P 11 25 28.5 -0.7**
KEV pmax pmax
comp=Z,14nm,0.5s
MALT Malatya 71.54 305↓ *i*P **P 11 25 32.9 +0.6**
ARCES ARCESS Array B 71.72 338 P **P 11 25 32.0 -0.7**
comp=Z,7.0nm,0.6s,baz=72,slow=8.6,SNR=29
ARCES LR LR 12 01 36.7
comp=Z,58nm,19.1s,baz=58,slow=40
ARCES ARCESS Array B 71.72 338 P **P 11 25 32.0 -0.7**
SIM Simferopol' 73.08 312 *e*P **P 11 25 39.1 -2.1**
SIM pmax pmax
comp=Z,21nm,0.6s
KAF Kangasniemi 73.25 331 *ep* **P 11 25 40.6 -1.3**
comp=Z,6.2nm,0.5s,baz=74,slow=6.4
KAF Kangasniemi 73.25 331 *e*P **P 11 25 40.6 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.5s
FINES FINESS Array B 73.53 330 P **P 11 25 43.6 +0.1**
comp=Z,10.0nm,0.7s,baz=82,slow=5.0,SNR=39
FINES LR LR 12 00 53.1
comp=Z,128nm,20.2s,baz=56,slow=38
KIP Kipapa 73.77 73↓ *e*P **P 11 25 45.8 +0.1**
KIP pmax pmax
comp=Z,96nm,1.7s
AKASG Malin Array Be 74.76 319 P **P 11 25 50.1 -0.9**
comp=Z,6.0nm,0.7s,baz=60,slow=6.2,SNR=16
AKASG LR LR 12 00 14.3
comp=Z,59nm,20.5s,baz=50,slow=37
KIEV Kiev 74.78 319 *e*P **P 11 25 50.0 -1.0**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 74.78 319 *e*P **P 11 25 50.0 -1.0**
comp=Z,8.5nm,0.9s
BRTR Keskin Array B 74.79 307 P **P 11 25 51.5 -0.1**
comp=Z,6.5nm,0.8s,baz=101,slow=6.4,SNR=29
BRTR LR LR 12 01 33.2
comp=Z,17nm,19.5s,baz=66,slow=38
BRTR Keskin Array B 74.79 307 *ce*P **P 11 25 52.9 +1.4**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 75.12 22 P **P 11 25 51.9 -0.8**
comp=Z,1.3nm,0.7s,baz=286,slow=4.6,SNR=16
INK Inuvik 75.12 22 *e*P **P 11 25 51.9 -0.8**
INK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 75.12 22 *e*P **P 11 25 51.9 -0.8**
comp=Z,7.5nm,1.3s
ANTO Ankara 75.37 307↑ *i*P **P 11 25 55.4 +0.6**
ANTO Ankara 75.37 307 *e*P **P 11 25 56.0 +1.2**
ANTO pmax pmax
comp=Z,8.0nm,0.7s
ANTO Ankara 75.37 307 *e*P **P 11 25 56.0 +1.2**
comp=Z,8.3nm,0.7s
CSS Prodhromos 76.39 302 *e*P **P 11 26 02.0 +1.4**
comp=Z,3.2nm,0.8s
TLCR 76.63 313↑ *i*P **P 11 26 02.3 +0.6**
CFR Carcaliu 77.09 314↑ *i*P **P 11 26 04.8 +0.5**
TIRR Tirgusor 77.12 313↑ *i*P **P 11 26 05.0 +0.5**
SUW Suwalki 77.28 323 *e*P **P 11 26 05.1 -0.1**
SUW Suwalki 77.28 323 *e*P **P 11 26 05.0 -0.1**
SUW pmax pmax
comp=Z,36nm,0.8s
SUW Suwalki 77.28 323 *e*P **P 11 26 05.0 -0.1**
comp=Z,36nm,0.8s
TLB Topalu 77.33 313↑ *i*P **P 11 26 06.5 +0.8**
VRI Vrincioaia 77.81 315↑ *i*P **P 11 26 08.9 +0.5**
PLOR Plostina 77.86 315↑ *i*P **P 11 26 08.7 0.0**
BURAR Bucovina Array 78.21 317↑ *i*P **P 11 26 11.4 +0.7**
MLR Muntele Rosu 78.45 314↓ *i*P **P 11 26 12.7 +0.6**
VOIR 79.06 315↑ *i*P **P 11 26 15.8 +0.4**
ARR Arges 79.36 315↑ *i*P **P 11 26 17.9 +0.9**
URZ Urewera 79.39 139 *e*P **P 11 26 18.4 +1.4**
comp=Z,5.9nm,0.8s
BEL Belsk 79.40 322 *e*P **P 11 26 17.3 +0.3**
BEL Belsk 79.40 322 *e*P **P 11 26 17.3 +0.3**
UZH Uzhgorod 79.69 318 *e*P P 11 26 12.0 -6.6
UZH *i* 11 26 23.0
UZH *i* 11 26 27.8
TRPA Tarpa 79.72 318↑ *i*P **P 11 26 19.3 +0.5**
LOT Lotru 79.90 315↑ *i*P **P 11 26 20.9 +0.9**
STHS Stebnicka Huta 80.04 319 *e*P **P 11 26 21.3 +0.7**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 80.04 319 *e*P **P 11 26 21.3 +0.7**
DRGR 80.10 316↓ *i*P **P 11 26 21.6 +0.6**
CRVS Cervenica-Dubn 80.10 319 *e*P **P 11 26 22.5 +1.6**
CRVS pmax pmax
comp=Z,10.0nm,1.5s
CRVS Cervenica-Dubn 80.10 319 *e*P **P 11 26 22.5 +1.6**
NB2 NORSAR Subarra 80.34 332 P **P 11 26 21.0 -1.0**
comp=Z,7.0nm,0.6s,baz=62,slow=5.3
NOA NORSAR Array B 80.34 332 P **P 11 26 20.9 -1.0**
comp=Z,8.2nm,0.6s,baz=64,slow=5.2,SNR=39
NOA LR LR 12 04 50.5
comp=Z,100nm,21.4s,baz=65,slow=38
OJC Ojcow 80.60 320 *e*P **P 11 26 24.0 +0.4**
OJC Ojcow 80.60 320 *e*P **P 11 26 24.0 +0.4**
NIE Niedzica 80.60 320 *e*P **P 11 26 24.5 +0.9**
NIE Niedzica 80.60 320 *e*P **P 11 26 24.6 +0.9**
RES Resolute Bay 80.77 9 P **P 11 26 23.3 -0.7**
comp=Z,1.3nm,0.6s,baz=258,slow=8.4,SNR=8.4
RES Resolute Bay 80.77 9 *e*P **P 11 26 23.2 -0.7**
RES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 80.77 9 *e*P **P 11 26 23.2 -0.7**
comp=Z,2.6nm,1.0s
KECS Kecovo 80.86 319 *e*P **P 11 26 25.1 +0.1**
KECS pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 80.86 319 *e*P **P 11 26 25.1 +0.1**
BSD Bornholm Skovb 81.28 326 *i* P **P 11 26 27.2 +0.2**
BSD Bornholm Skovb 81.28 326 *i* P **P 11 26 27.2 +0.2**
comp=Z,12nm,0.7s
VTS Vitosha 81.32 312↓ *i*P **P 11 26 28.1 +0.4**
MMB Musomiste 81.33 311↓ *i*P **P 11 26 28.1 +0.4**
PSZ Piszkesteto 81.44 318 *e*P **P 11 26 27.7 -0.5**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 81.44 318 *e*P **P 11 26 27.7 -0.5**
comp=Z,6.0nm,0.8s
OKC Ostrava-Krasne 81.73 320 *e*P **P 11 26 30.0 +0.5**
OKC *ex* x 11 26 39.2
OKC Ostrava-Krasne 81.73 320 *e*P **P 11 26 30.0 +0.5**
OKC *e* 11 26 39.2
VYHS Vyhne 81.86 319 *e*P **P 11 26 30.6 +0.3**
VYHS Vyhne 81.86 319 *e*P **P 11 26 30.6 +0.3**
MORC Moravsky Berou 82.11 321 *e*P **P 11 26 31.6 0.0**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 82.11 321 *e*P **P 11 26 31.6 0.0**
comp=Z,3.8nm,0.8s
KSP Ksiaz 82.39 322 *e*P **P 11 26 33.6 +0.6**
KSP Ksiaz 82.39 322↑ *e*P **P 11 26 33.6 +0.6**
KRLC Kraliky 82.43 321 *e*P **P 11 26 33.3 0.0**
KRLC *epP* **PcP 11 26 36.7 -1.8**
KRLC *ex* x 11 26 43.4
KRLC Kraliky 82.43 321 *e*P **P 11 26 33.3 0.0**
KRLC *e* 11 26 43.4
DPC Dobruska-Polom 82.58 321 *e*P **P 11 26 34.3 +0.2**
DPC *epP* **PcP 11 26 36.4 -2.7**
DPC *ex* x 11 26 42.4
DPC Dobruska-Polom 82.58 321 *e*P **P 11 26 34.7 +0.6**
DPC Dobruska-Polom 82.58 321 *e*P **P 11 26 34.7 +0.6**
UPC Upice 82.69 322 *e*P **P 11 26 35.0 +0.4**
UPC Upice 82.69 322 *e*P **P 11 26 35.0 +0.4**
VRAC Vranov 82.87 320↑ *i*P **P 11 26 36.4 +0.8**
DIVS Divibare 82.90 315↓ *i*P **P 11 26 37.0 +1.1**
PKSM Moragy 82.92 317↓ *i*P **P 11 26 36.6 +0.8**
PVCC Panska Ves 83.51 322 *e*P **P 11 26 40.0 +1.2**
PVCC *ex* x 11 26 49.5
PVCC Panska Ves 83.51 322 *e*P **P 11 26 40.0 +1.2**
PVCC *e* 11 26 49.5
TREC Trest 83.53 321 *e*P **P 11 26 36.1 -2.9**
TREC Trest 83.53 321 *e*P **P 11 26 36.1 -2.9**
GOPC GO Pecny, Ondr 83.66 321 *e*P **P 11 26 39.6 0.0**
BRG Berggiesshubel 83.71 323 *e*P **P 11 26 39.8 0.0**
comp=Z,3.9nm,0.7s
BRG Berggiesshubel 83.71 323 *e*P **P 11 26 39.8 0.0**
BRG pmax pmax
comp=Z,4.0nm,0.7s
PRU Pruhonice 83.77 322 *e*P **P 11 26 40.5 +0.3**
PRU *epP* **PcP 11 26 43.0 -1.2**
PRU *ex* x 11 26 49.8
PRU Pruhonice 83.77 322 *e*P **P 11 26 40.5 +0.3**
PRU *e* 11 26 49.8
CONA Conrad Observa 83.91 319↑ *i*pP **P 11 26 42.0 +1.0**
comp=Z,6.2nm,0.8s
CLL Collm 84.03 323 *i* P **P 11 26 41.5 +0.1**
comp=Z,10.0nm,0.6s
CLL Lm MLR 12 08 00.0
comp=Z,200nm,18.6s
CLL Collm 84.03 323 *i* P **P 11 26 41.5 +0.1**
CLL pmax pmax
comp=Z,10.0nm,0.6s
CLL Collm 84.03 323 *e*P **P 11 26 41.6 +0.1**
ARSA Arzberg 84.41 319↑ *i*P **P 11 26 43.9 +0.3**
comp=Z,3.1nm,0.6s
KHC Kasperske Hory 84.72 321 *e*P **P 11 26 44.5 -0.6**
KHC Kasperske Hory 84.72 321 *e*P **P 11 26 44.5 -0.6**
SUMG Summit 84.72 354 *e*P **P 11 26 44.4 -0.7**
SUMG pmax pmax
comp=Z,13nm,1.2s
SUMG Summit 84.72 354 *e*P **P 11 26 44.4 -0.7**
comp=Z,13nm,1.2s
GERES GERESS Array B 84.78 321 P **P 11 26 45.7 +0.3**
comp=Z,5.7nm,0.7s,baz=60,slow=4.9,SNR=52
GERES LR LR 12 07 34.9
comp=Z,86nm,18.0s,baz=69,slow=38
YKA Yellowknife Ar 84.84 23 P **P 11 26 44.8 -0.5**
comp=Z,1.5nm,0.6s,baz=308,slow=5.1,SNR=27
YKA PKKPbc **PKKPbc 11 44 52.1 -3.1**
comp=Z,0.3nm,0.7s,baz=127,slow=2.2,SNR=5.2
MOA Molln 84.90 320↑ *i*PcP **P 11 26 46.6 +0.6**
comp=Z,9.1nm,0.8s
PERS Pernice 84.94 318 *e*P **P 11 26 46.4 +0.2**
SOKA Soboth 84.97 319↑ *i*P **P 11 26 46.6 +0.1**
comp=Z,5.4nm,0.7s
KMBO Kilima Mbogo 85.17 267 P **P 11 26 49.1 +0.9**
comp=Z,0.6nm,0.3s,baz=38,slow=19,SNR=2.7
WTTA Wattenberg 86.75 320↑ *i*P **P 11 26 55.0 -0.4**
comp=Z,7.0nm,0.5s
CDF Champ du Feu 88.69 323 *e*P **P 11 27 03.7 -0.8**
comp=Z,2.7nm,0.6s
HINF Hinteralfeld 89.25 322 *e*P **P 11 27 06.0 -1.1**
HINF Hinteralfeld 89.25 322 *e*P **P 11 27 06.0 -1.1**
HINF Hinteralfeld 89.25 322 *e*P **P 11 27 06.0 -1.1**
BAIF Baives 89.46 325 *e*P **P 11 27 06.1 -1.9**
PAGF Fort de Pagny 89.48 323 *e*P **P 11 27 07.7 -0.4**
comp=Z,1.9nm,0.7s
PAGF Fort de Pagny 89.48 323 *e*P **P 11 27 07.7 -0.4**
comp=Z,1.9nm,0.7s
SFTF Sexfontaines 90.06 323 *e*P **P 11 27 10.1 -0.7**
comp=Z,5.7nm,0.6s
SFTF Sexfontaines 90.06 323 *e*P **P 11 27 10.1 -0.7**
comp=Z,5.7nm,0.6s
CABF La Chapelle 90.34 322 *e*P **P 11 27 11.5 -0.8**
comp=Z,3.9nm,0.8s
CABF La Chapelle 90.34 322 *e*P **P 11 27 11.5 -0.8**
CABF pmax pmax
comp=Z,4.0nm,0.8s
CABF La Chapelle 90.34 322 *e*P **P 11 27 11.5 -0.8**
comp=Z,3.9nm,0.8s
LPG La Plagne 90.56 320 *e*P **P 11 27 13.8 +0.2**
comp=Z,7.8nm,0.6s
LPL La Plagne 90.56 320 *e*P **P 11 27 13.7 +0.2**
comp=Z,7.9nm,0.5s
PGF Pioggiola 90.73 317 *e*P **P 11 27 14.2 0.0**
MBDF Montbardon 90.96 320 *e*P **P 11 27 15.3 0.0**
comp=Z,6.2nm,0.8s
MBDF Montbardon 90.96 320 *e*P **P 11 27 15.3 0.0**
MBDF pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 90.96 320 *e*P **P 11 27 15.3 0.0**
comp=Z,6.2nm,0.8s
SBF Sospel 91.02 319 *e*P **P 11 27 15.1 -0.4**
SBF Sospel 91.02 319 *e*P **P 11 27 15.1 -0.4**
SBF Sospel 91.02 319 *e*P **P 11 27 15.1 -0.4**
ORIF Oris-en-Rattie 91.39 320 *e*P **P 11 27 17.8 +0.6**
comp=Z,4.1nm,0.7s
ORIF Oris-en-Rattie 91.39 320 *e*P **P 11 27 17.8 +0.6**
ORIF pmax pmax
comp=Z,4.0nm,0.7s
ORIF Oris-en-Rattie 91.39 320 *e*P **P 11 27 17.8 +0.6**
comp=Z,4.1nm,0.7s
SMF Signal de Mont 91.61 322 *e*P **P 11 27 17.8 -0.3**
comp=Z,5.3nm,0.7s
SMF Signal de Mont 91.61 322 *e*P **P 11 27 17.8 -0.3**
SMF pmax pmax
comp=Z,5.0nm,0.7s
SMF Signal de Mont 91.61 322 *e*P **P 11 27 17.8 -0.3**
comp=Z,5.3nm,0.7s
FRF La Foret Royal 91.67 319 *e*P **P 11 27 18.1 -0.3**
FRF La Foret Royal 91.67 319 *e*P **P 11 27 18.1 -0.3**
FRF La Foret Royal 91.67 319 *e*P **P 11 27 18.1 -0.3**
AVF Avril sur Loir 91.80 323 *e*P **P 11 27 18.6 -0.3**
comp=Z,5.1nm,0.7s
AVF Avril sur Loir 91.80 323 *e*P **P 11 27 18.6 -0.3**

AVF					pmax		pmax		
	comp=Z,5.0nm,0.7s								
AVF	**Avril sur Loir**	**91.80**	**323**	*e*P		**P**		**11 27 18.6**	**-0.3**
	comp=Z,5.1nm,0.7s								
VIVF	**Saint-Julien-l**	**92.14**	**321**	*e*P		**P**		**11 27 20.1**	**-0.5**
	comp=Z,2.4nm,0.6s								
NEW	**Newport**	**92.59**	**35**	P		**P**		**11 27 22.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=22,slow=5.4,SNR=3.0								
RJF	**Les Rejaudoux**	**93.71**	**322**	*e*P		**P**		**11 27 27.7**	**-0.1**
	comp=Z,6.6nm,0.6s								
TORD	**Torodi Ar. Bea**	**111.51**	**295**	PKiKP		**PKiKP**		**11 32 45.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=92,slow=2.0,SNR=4.4								
TORD				PKKPbc		**PKKPbc**		**11 43 39.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=214,slow=0.8,SNR=3.0								
TORD				PKKPab		**PKKPab**		**11 43 49.5**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=255,slow=3.9,SNR=3.3								
TXAR	**Lajitas Array**	**112.90**	**42**	PKiKP		**PKiKP**		**11 32 48.3**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=211,slow=1.0,SNR=9.0								
DBIC	**Dimbokro**	**120.32**	**292**	PKiKP		**PKPdf**		**11 33 02.6**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=108,slow=3.2,SNR=3.7								
GRGR	**Grenville**	**145.95**	**6**	*e*PKPdf		**PKPbc**		**11 33 51.2**	**-0.2**
SDV	**Santo Domingo**	**147.06**	**23**	*e*PKPdf		**PKPdf**		**11 33 52.5**	**-0.4**
SAML	**Samuel**	**166.25**	**20**	*e*PKPdf		**PKPdf**		**11 34 15.2**	**-1.8**
SAML				*e*PKPab		**PKPab**		**11 35 17.0**	**-0.7**

*BJI **25** 11:21:49.5,5.˚42S×128.˚31E,h393km,mB4.5/19,mb4.1/23*
*ISCJB **25** 11:21:50.5±0.2,5.˚53S±0.˚03×127.˚78E±0.˚03,h400km,*
mb4.2/21,Error ellipse: s-maj=3.6km s-min=3.5km
az=174.5
*KLM **25** 11:21:50.9,5.˚45S×127.˚90E,h403km,mb4.9,MS5.7*
*DJA **25** 11:21:51.4±0.1,6˚S±2˚×12˚8E±˚,h392km±3km,M4.7/48,*
mb4.7/48,mB5.2/28,MLv5.0/16,Mw(mB)4.6/28,Mwp7.3/1
*NEIC **25** 11:21:51.0±0.5,5.˚46S×127.˚80E,h387km±8km,mb5.1/18,*
Error ellipse: s-maj=9.4km s-min=6.3km az=210.0
*IDC **25** 11:21:53.2±2.5,5.˚52S×127.˚77E,h416km±31km,mb3.6/12,*
mb1 3.7/12,mb1mx3.4/28,mbtmp4.4/12,Error ellipse:
s-maj=20.7km s-min=8.1km az=69.0

ISC 25 11:21:51.6±0.3,5.˚53S±0.˚04×127.˚77E±0.˚04,h400km,n120,
σ1s86/150,mb4.2/21,3C-1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAI	**Ambon**	**1.88**	**13**	P		**Pn**	**11 22 45.1**	**-1.8**
AAI	**Ambon**	**1.88**	**13**	P		**Pn**	**11 22 45.3**	**-1.6**
	baz=1.9,SNR=17							
AAI				S		**S**	**11 23 29.9**	**-1.7**
	baz=1.9,SNR=5.3							
BNDI	**Bandanaira**	**2.35**	**65**	P		**Pn**	**11 22 48.2**	**-1.7**
NLAI	**Namlea**	**2.38**	**344**	P		**Pn**	**11 22 49.5**	**-0.6**
MSAI	**Masohi**	**2.46**	**28**	P		Pn	11 22 47.6	-3.1
MSAI				S		S	11 23 31.3	-7.1
SANI	**Sanana**	**3.89**	**333**	P		**Pn**	**11 23 00.0**	**-2.7**
LBMI	**Labuha**	**4.87**	**357**	P		**Pn**	**11 23 11.6**	**-0.8**
FAKI	**Fak Fak**	**5.16**	**60**	P		**Pn**	**11 23 14.1**	**-1.3**
	1μm,0.6s,16μm5.3nm							
FAKI				S		S	11 24 17.0	-6.4
	1μm,0.6s,16μm5.3nm							
FAKI	**Fak Fak**	**5.16**	**60**	P		**Pn**	**11 23 14.0**	**-1.4**
	baz=5.2,SNR=578							
FAKI				S		**S**	**11 24 18.5**	**-5.0**
	baz=5.2,SNR=18							
FAKI	**Fak Fak**	**5.16**	**60**	*e*Pn		**Pn**	**11 23 13.8**	**-1.6**
FAKI				*e*S		**S**	**11 24 19.7**	**-3.7**
SOEI	**Soe**	**5.45**	**219**	P		**Pn**	**11 23 18.0**	**-0.5**
	378nm,0.9s,5μm3.4nm							
SOEI				S		**S**	**11 24 26.5**	**-2.6**
	378nm,0.9s,5μm3.4nm							
SOEI	**Soe**	**5.45**	**219**	P		**Pn**	**11 23 18.1**	**-0.4**
	baz=5.4,SNR=129							
SOEI				S		**S**	**11 24 26.3**	**-2.8**
	baz=5.4,SNR=15							
SOEI	**Soe**	**5.45**	**219**	*e*Pn		**Pn**	**11 23 18.4**	**0.0**
SOEI				*e*S		**S**	**11 24 26.2**	**-2.9**
SWI	**Sorong**	**5.80**	**37**	P		**Pn**	**11 23 21.3**	**-0.8**
	722nm,0.6s,9μm2.7nm							
SWI				S		**S**	**11 24 32.3**	**-3.5**
	722nm,0.6s,9μm2.7nm							
SWI	**Sorong**	**5.80**	**37**	P		**Pn**	**11 23 21.4**	**-0.7**
	baz=5.9,SNR=97							
SWI				S		**S**	**11 24 32.2**	**-3.6**
	baz=5.9,SNR=9.8							
BATI	**Baumata**	**6.17**	**221**	P		**Pn**	**11 23 25.8**	**-0.4**
	243nm,0.8s,6μm3.1nm							
BATI				S		**S**	**11 24 39.5**	**-3.8**
	243nm,0.8s,6μm3.1nm							
TNTI	**Ternate**	**6.28**	**356**	P		**Pn**	**11 23 26.4**	**-0.9**
	93nm,0.7s,3μm0.3nm							
TNTI	**Ternate**	**6.28**	**356**	*e*Pn		Pn	11 23 23.3	-4.0
MMRI	**Maumere**	**6.30**	**240**	P		**Pn**	**11 23 26.7**	**-0.8**
MMRI	**Maumere**	**6.30**	**240**	*e*Pn		**Pn**	**11 23 27.6**	**+0.1**
LUWI	**Luwuk**	**6.70**	**312**	P		**Pn**	**11 23 31.0**	**-0.9**
	167nm,0.8s,3μm0.7nm							
LUWI	**Luwuk**	**6.70**	**312**	P		**Pn**	**11 23 31.1**	**-0.9**
	baz=6.7,SNR=6.4							
LUWI	**Luwuk**	**6.70**	**312**	*e*Pn		**Pn**	**11 23 31.0**	**-0.9**
	111nm,0.7s							
EDFI	**Ende, Flores**	**6.83**	**242**	P		**Pn**	**11 23 32.8**	**-0.7**
KMSI	**Cibinong**	**7.15**	**328**	P		**Pn**	**11 23 36.5**	**-0.5**
BSSI	**Bau Bau, Buton**	**7.27**	**265**	P		**Pn**	**11 23 37.6**	**-0.8**
RKPI	**Ransiki, Papua**	**7.54**	**58**	P		**P**	**11 23 41.9**	**0.0**
	1μm,0.9s,32μm3.6nm							
RKPI				S		**S**	**11 25 12.2**	**+1.0**
	1μm,0.9s,32μm3.6nm							
BKSI	**Bulukumba**	**7.62**	**271**	P		**Pn**	**11 23 41.8**	**-0.5**
BNSI	**Bone**	**7.72**	**278**	P		**P**	**11 23 43.8**	**-0.1**
MTN	**Manton Dam**	**7.99**	**156**	P		**Pn**	**11 23 46.0**	**-0.5**
	baz=8.0,SNR=374							
KAPI	**Kappang**	**8.01**	**273**	*e*Pn		**P**	**11 23 47.3**	**+0.2**
SPSI	**Sidrap Palu**	**8.13**	**281**	P		**P**	**11 23 48.7**	**+0.2**
	41nm,1.5s,516nm							
TTSI	**Tana Toraja**	**8.31**	**287**	P		**P**	**11 23 50.6**	**+0.1**
	65nm,1.2s,759nm							
MRSI	**Marisa**	**8.34**	**316**	P		**Pn**	**11 23 49.5**	**-1.1**
	171nm,1.0s,2μm							
WSI	**Waingapu**	**8.47**	**241**	P		P	11 24 03.2	+11
WSI	**Waingapu**	**8.47**	**241**	P		Pn	11 23 47.5	-4.5
	baz=8.5,SNR=3.1							
WSI				S		**S**	**11 25 30.1**	**-0.6**
	baz=8.5,SNR=4.2							
KDU	**Kakadu**	**8.49**	**147**	P		**Pn**	**11 23 51.9**	**-0.3**
	baz=8.5,SNR=164							
BASI	**Baing, Sumba**	**8.51**	**236**	P		**Pn**	**11 23 50.7**	**-1.8**
	285nm,0.7s,6μm							
PCI	**Palu**	**9.16**	**300**	P		**Pn**	**11 24 01.0**	**+1.0**
	120nm,1.0s,1μm							
SRPI	**Serui, Papua**	**9.20**	**67**	P		**Pn**	**11 24 01.4**	**+1.0**
	546nm,0.6s							
SGSI	**Sangihe**	**9.43**	**346**	P		**P**	**11 24 01.7**	**-1.2**
	252nm,0.6s,12μm							
SGSI				S		**S**	**11 25 45.8**	**-5.2**
	252nm,0.6s,12μm							
TOLI	**Toli-Toli**	**9.61**	**313**	*e*Pn		**P**	**11 24 04.2**	**-0.7**
TOLI				*e*S		**S**	**11 25 52.9**	**-1.7**
MPSI	**Mapaga**	**9.79**	**306**	P		**P**	**11 24 07.1**	**+0.2**
SMPI	**Sarmi**	**11.46**	**73**	P		**Pn**	**11 24 28.1**	**+1.4**
	76nm,0.9s,45μm							
GENI	**Genyem**	**12.70**	**77**	P		**Pn**	**11 24 42.3**	**+1.3**
	84nm,0.6s							
SRBI	**Singaraja**	**12.73**	**258**	P		**P**	**11 24 39.4**	**0.0**
	33nm,0.9s							
IGBI	**Denpasar**	**12.95**	**255**	P		**P**	**11 24 40.0**	**-1.8**
	86nm,0.8s,2μm							
ABJI	**Asem Bagus**	**13.63**	**260**	P		**Pn**	**11 24 51.0**	**-0.8**
	150nm,0.7s							
MTKI	**Muara Teweh, K**	**13.64**	**289**	P		**Pn**	**11 24 51.4**	**-0.5**
KMMI	**Kalianget**	**13.81**	**263**	P		**Pn**	**11 24 54.2**	**+0.4**
	138nm,1.1s							
JAGI	**Jajag, Banyuwa**	**13.83**	**257**	P		**P**	**11 24 50.1**	**-1.4**
	118nm,0.6s,2μm							
JAGI	**Jajag, Banyuwa**	**13.83**	**257**	*e*Pn		**P**	**11 24 49.8**	**-1.7**
TSM	**Tawau**	**13.89**	**314**	⇑P		**P**	**11 24 51.2**	**-0.9**
MYLDM	**Lahad Datu**	**14.11**	**319**	⇑P		**P**	**11 24 56.3**	**+1.8**
MYLDM	**Lahad Datu**	**14.11**	**319**	*e*P		**P**	**11 24 55.1**	**+0.7**
BLJI	**Banyuglugur**	**14.25**	**260**	P		**P**	**11 24 56.8**	**+0.7**
	92nm,0.9s,3μm							
GMJI	**Gumukmas**	**14.48**	**258**	P		**P**	**11 24 57.2**	**-1.4**
	46nm,0.7s							
GRJI	**Gresik**	**15.27**	**264**	P		**P**	**11 25 08.2**	**+1.1**
	85nm,0.8s,883nm							
WRAB	**Tennant Creek**	**15.68**	**157**	P		**P**	**11 25 11.0**	**-0.5**
	3μm,0.4s							
WRAB	**Tennant Creek**	**15.68**	**157**	*e*P		**P**	**11 25 11.6**	**+0.1**
	218nm,0.7s							
WRA	**Warramunga Arr**	**15.68**	**157**	P		**P**	**11 25 11.9**	**+0.4**
	53nm,0.3s,baz=335,slow=11,SNR=349							
WRA				S		**S**	**11 27 52.4**	**-4.6**
	3.5nm,0.3s,baz=331,slow=20,SNR=11							
WB2	**Warramunga Arr**	**15.69**	**157**	*e*P		**P**	**11 25 11.5**	**-0.1**
PWJI	**Pagerwojo**	**16.05**	**260**	P		**P**	**11 25 13.3**	**-2.2**
	28nm,0.8s							
KKM	**Kota Kinabalu**	**16.29**	**315**	⇑P		**P**	**11 25 17.6**	**-0.6**
KKM	**Kota Kinabalu**	**16.29**	**315**	*e*P		**P**	**11 25 17.9**	**-0.4**
	28nm,0.6s							
PCJI	**Pacitan**	**16.69**	**260**	P		**P**	**11 25 19.5**	**-2.8**
	50nm,1.2s							
UGM	**Wanagama**	**17.29**	**261**	*e*P		**P**	**11 25 30.2**	**+1.4**
	599nm,2.0s							
SMRI	**Semarang**	**17.29**	**264**	*e*P		**P**	**11 25 29.5**	**+0.7**
	49nm,0.7s							
COEN	**Coen**	**17.32**	**120**	*e*P		**P**	**11 25 29.3**	**+0.2**
	56nm,0.6s							
SBUM	**Sibu**	**17.44**	**297**	*e*P		**P**	**11 25 32.8**	**+2.4**
	17nm,0.9s							
KSM	**Kuching**	**18.78**	**291**	⇓P		**P**	**11 25 42.9**	**-1.6**
KSM	**Kuching**	**18.78**	**291**	*e*P		**P**	**11 25 43.7**	**-0.9**
	5.4nm,0.7s							
KPJI	**Karang Pucung**	**18.81**	**264**	P		**P**	**11 25 43.9**	**-0.9**
	109nm,0.8s							
ASAR	**Alice Springs**	**18.97**	**162**	P		**P**	**11 25 46.5**	**0.0**
	31nm,0.3s,baz=343,slow=12,SNR=899							
ASAR				S			**11 28 59.1**	**0.0**
	2.6nm,0.3s,baz=329,slow=16,SNR=33							
CMJI	**Cimerak**	**19.32**	**262**	P		**P**	**11 25 48.5**	**-1.4**
	108nm,0.9s							
PMG	**Port Moresby**	**19.60**	**102**	*e*P		**P**	**11 25 53.5**	**+1.0**
	85nm,1.7s							
CISI	**Cisompet, Garu**	**19.93**	**263**	P		**P**	**11 25 54.5**	**-1.1**
	116nm,1.1s,9μm							
CISI	**Cisompet, Garu**	**19.93**	**263**	*e*P		**P**	**11 25 55.7**	**+0.1**
	107nm,0.9s							
LEM	**Lembang**	**20.08**	**265**	P		**P**	**11 25 57.2**	**+0.1**
	46nm,1.1s							
TPI	**Tanjungpandan**	**20.25**	**277**	P		**P**	**11 25 58.6**	**+0.1**
	21nm,1.3s,882nm							
CNJI	**Cibinong**	**20.59**	**264**	P		**P**	**11 25 59.8**	**-1.8**
	154nm,1.3s,1μm							
CBJI	**Citeko**	**20.83**	**267**	P		**P**	**11 26 06.1**	**+2.3**
	171nm,0.9s							
CGJI	**Cibinong**	**21.98**	**266**	P		**P**	**11 26 13.2**	**-1.1**
	43nm,0.8s,2μm							
XMIS	**Christmas Isla**	**22.44**	**256**	*e*P		**P**	**11 26 18.7**	**+0.2**
	40nm,0.8s							
CTA	**Charters Tower**	**23.07**	**131**	P		**P**	**11 26 26.0**	**+1.9**
	9.1nm,0.6s,baz=314,slow=11,SNR=12							
CTAO	**Charters Tower**	**23.07**	**131**	*e*P		**P**	**11 26 25.9**	**+1.9**
	15nm,0.9s							
BBOO	**Buckleboo**	**28.22**	**165**	*e*P		**P**	**11 27 10.5**	**+0.7**
	9.9nm,0.8s							
NWAO	**Narrogin (SRO)**	**28.97**	**199**	P		**P**	**11 27 16.6**	**+0.3**
	5.2nm,0.7s,baz=29,slow=10,SNR=4.3							
STKA	**Stephens Creek**	**29.23**	**155**	P		**P**	**11 27 19.6**	**+1.0**
	20nm,0.5s,baz=334,slow=8.3,SNR=84							
STKA	**Stephens Creek**	**29.23**	**155**	*e*P		**P**	**11 27 19.5**	**+0.9**
	4.1nm,0.6s							
EIDS	**Eidsvold**	**29.79**	**134**	*e*P		**P**	**11 27 23.6**	**-0.1**
	43nm,1.9s							
QIZ	**Qiongzhong**	**30.13**	**325**	P		**P**	**11 27 28.3**	**+1.7**
QIZ				S		**S**	**11 31 59.8**	**+3.9**
QIZ				PMZ				
	17nm,1.6s							
ARMA	**Armidale**	**33.42**	**141**	*e*P		**P**	**11 27 56.7**	**+1.6**
	350nm,2.9s							
CMAR	**Chiang Mai Arr**	**37.10**	**311**	P		**P**	**11 28 26.3**	**+0.2**
	2.1nm,0.6s,baz=136,slow=7.0,SNR=13							
CHTO	**Chiang Mai**	**37.31**	**311**	P		**P**	**11 28 28.0**	**+0.1**
GYA	**Guiyang**	**37.81**	**328**	P		**P**	**11 28 33.8**	**+1.8**
GYA				pP		**pP**	**11 29 49.0**	**+1.3**
GYA				sP		**sP**	**11 30 32.0**	**-1.6**
GYA				PcP		**PcP**	**11 30 41.3**	**+2.3**
GYA				ScP		**ScP**	**11 33 50.5**	**+2.6**
GYA				S		**S**	**11 33 57.8**	**+4.7**
GYA				sS		**sS**	**11 36 10.0**	**-0.9**
GYA				PMZ				
	20nm,0.8s							
GYA				PMZ				
	120nm,4.9s							
NJ2	**Nanjing**	**38.33**	**348**	*e*P		**P**	**11 28 36.0**	**0.0**
NJ2				PMZ				
	10.0nm,0.6s							
KMI	**Kunming**	**39.00**	**322**	P		P	11 28 47.5	+5.6
KMI				PMZ				
	8.0nm,1.0s							
DZM	**Mont Dzumac**	**40.83**	**118**	P		**P**	**11 28 57.5**	**+0.9**
	7.7nm,0.7s,baz=102,slow=2.9,SNR=5.3							
KSRS	**Korea Array**	**42.77**	**0**	P		**P**	**11 29 12.1**	**+0.4**
	2.2nm,0.6s,baz=181,slow=9.8,SNR=15							
CD2	**Chengdu**	**42.90**	**329**	*e*P		**P**	**11 29 15.5**	**+2.5**
CD2				pP		**pP**	**11 30 31.5**	**+0.7**
CD2				PcP		**PcP**	**11 30 58.5**	**+3.1**
CD2				PP		**PP**	**11 31 04.8**	**+2.2**
CD2				sP		**sP**	**11 31 14.3**	**-1.8**
CD2				PcS		**PcS**	**11 34 50.3**	**+1.8**
CD2				S		**S**	**11 35 12.3**	**+4.8**
CD2				sS		**sS**	**11 37 27.3**	**-0.8**
CD2				SS		**ScS**	**11 38 30.8**	**+2.0**
CD2				PMZ				
	20nm,0.5s							
CD2				PMZ				
	160nm,5.4s							
MJAR	**Matsushiro Arr**	**42.98**	**12**	P		**P**	**11 29 11.7**	**-1.8**
	0.5nm,0.3s,baz=191,slow=10.0,SNR=7.0							
XAN	**Xi'an**	**43.21**	**337**	P		**P**	**11 29 14.0**	**-1.4**
XAN				PMZ				
	2.0nm,0.8s							
BJI	**Beijing**	**46.59**	**348**	P		**P**	**11 29 43.5**	**+2.1**
BJI				pP		**pP**	**11 30 59.5**	**-1.2**
BJI				S		S	11 36 06.3	+6.8
BJI				ScS		**ScS**	**11 38 55.8**	**+3.7**
BJI				PMZ				
	5.0nm,0.6s							
BJI				PMZ				
	160nm,9.4s							
LZH	**Lanzhou**	**47.09**	**333**	*e*P		P	11 29 49.8	+4.2
LZH				pP		pP	11 31 07.0	+1.9
LZH				sP		sP	11 31 50.0	+0.1
LZH				PMZ				
	11nm,1.0s							
HHC	**Hu-ho-hao-te**	**48.49**	**344**	*e*P		P	11 29 59.5	+3.5
HHC				pP		pP	11 31 16.5	+0.4
HHC				sP		sP	11 31 57.5	-3.3
HHC				S		**S**	**11 36 31.5**	**+5.2**
HHC				sS		sS	11 38 48.5	-1.7
HHC				PMZ				
	25nm,0.7s							
HHC				PMZ				
	160nm,7.9s							
USRK	**Ussuriysk Ar.**	**49.65**	**4**	P		**P**	**11 30 04.7**	**+0.2**
	1.8nm,0.5s,baz=180,slow=8.2,SNR=7.3							
MDJ	**Mudanjiang**	**49.95**	**2**	P		**P**	**11 30 06.8**	**+0.1**
MDJ				PMZ				
	5.0nm,1.1s							
MDJ				PMZ				
	250nm,8.7s							
GTA	**Gaotai**	**51.64**	**332**	*e*P		**P**	**11 30 19.5**	**+0.1**
GTA				pP		**pP**	**11 31 37.8**	**-2.9**
GTA				sP		sP	11 32 18.8	-6.3
GTA				PMZ				
	7.0nm,1.3s							
BKZ	**Black Stump Fm**	**55.20**	**135**	*e*P		**P**	**11 30 45.5**	**+0.6**
	50nm,1.7s							
BFZ	**Birch Farm**	**55.66**	**136**	*e*P		**P**	**11 30 49.2**	**+1.1**
	461nm,2.4s							
ULN	**Ulaanbaatar**	**56.21**	**343**	*e*P		**P**	**11 30 51.9**	**-0.1**
	3.3nm,1.0s							
SONM	**Songino Array**	**56.38**	**343**	P		**P**	**11 30 53.6**	**+0.6**
	3.2nm,0.8s,baz=176,slow=8.4,SNR=18							
WMQ	**Urumqi**	**60.97**	**328**	*e*P		**P**	**11 31 26.3**	**+2.0**
WMQ				PMZ				
	7.0nm,0.5s							
WMQ				PMZ				
	79nm,3.5s							
CASY	**Casey**	**61.82**	**188**	*e*P		**P**	**11 31 29.4**	**-0.1**
	92nm,2.2s							
KSH	**Kashi**	**65.45**	**318**	*e*P		**P**	**11 31 56.5**	**+2.9**
KSH				sP		**sP**	**11 33 59.5**	**-3.1**
KSH				PP		PP	11 34 29.3	+5.5
KSH				PcS			11 36 28.0	
KSH				S		**S**	**11 40 10.5**	**+4.7**
KSH				sS		**sS**	**11 42 36.0**	**-3.1**
KSH				PMZ				
	96nm,5.8s							
KSH				LN				
	100nm,5.5s							
KSH				LE				
	120nm,4.8s							
KSH				LZ				
	160nm,6.0s							
MKAR	**Makanchi Array**	**65.80**	**328**	P		**P**	**11 31 55.7**	**+0.2**
	1.9nm,0.6s,baz=150,slow=4.6,SNR=22							
AAK	**Ala-Archa**	**68.00**	**320**	P		**P**	**11 32 10.9**	**+1.4**
	1.7nm,0.6s,baz=167,slow=16,SNR=2.7							
ZALV	**Zalesovo Beam**	**69.31**	**334**	P		**P**	**11 32 15.4**	**-1.5**
	1.3nm,0.5s,baz=129,slow=4.7,SNR=7.5							
TORD	**Torodi Ar. Bea**	**126.35**	**282**	PKP		**PKPdf**	**11 40 09.1**	**+0.4**
	0.7nm,0.8s,baz=72,slow=2.0,SNR=5.1							

*IDC **25** 11:29:33.2±1.0,23.˚31N×93.˚78E,h0km,mb3.5/5,*
mb1 3.7/5,mb1mx3.4/31,mbtmp3.5/5,Error ellipse:
s-maj=75.1km s-min=21.9km az=50.0

ISC 25 11:29:45.1±1.1,24.˚0N±0.˚2×94.˚2E±0.˚3,h100km,n8,
σ2s73/7,mb3.5/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMP	**Imphal**	**0.85**	**346**	*e*P		Pn	11 29 59.0	-5.1
IMP				*e*S		**Sn**	**11 30 16.0**	**-2.3**
SHL	**Shillong**	**2.62**	**308**	*e*P		**Pn**	**11 30 24.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**7.06**	**140**	Pn		Pn	11 31 18.6	-7.3
	0.2nm,0.3s,baz=306,slow=14,SNR=2.6							
MKAR	**Makanchi Array**	**24.70**	**340**	P		**P**	**11 35 00.7**	**+3.8**
	0.3nm,0.5s,baz=171,slow=10,SNR=2.4							
WRA	**Warramunga Arr**	**58.62**	**135**	P		**P**	**11 39 30.2**	**-1.9**
	0.2nm,0.3s,baz=315,slow=7.6,SNR=2.8							
ASAR	**Alice Springs**	**61.06**	**138**	P		**P**	**11 39 48.3**	**-0.4**
	0.4nm,0.5s,baz=318,slow=6.6,SNR=6.2							
GERES	**GERESS Array B**	**66.21**	**315**	P		**P**	**11 40 23.9**	**+1.5**
	0.3nm,0.6s,baz=48,slow=8.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**86.96**	**283**	P		**P**	**11 42 20.2**	**+0.5**
	0.4nm,0.8s,baz=50,slow=4.5,SNR=3.0							

WEL 25 12:06:43.0±0.6,34.˚80S×178.˚32E,h33km,ML3.8/2,Error
ellipse: s-maj=10.4km s-min=4.5km az=90.0,South of
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**2.76**	**180**	*e*P*		Pn	12 07 25.5	+0.6
HAZ	**Te Kaha**	**2.98**	**188**	P*		Pn	12 07 28.9	+0.9
WMGZ	**Waiomatatini S**	**3.02**	**179**	*e*PN		Pn	12 07 28.0	-0.4
PUZ	**Puketiti**	**3.27**	**181**	PN		Pn	12 07 31.0	-1.0
PUZ				*e*SN		Sn	12 08 06.9	-2.8
TWGZ	**Tauwhareparae**	**3.38**	**185**	*e*PN		Pn	12 07 32.9	-0.6
MWZ	**Matawai**	**3.59**	**190**	P*		Pn	12 07 36.2	-0.1
MWZ				*e*S*		Sn	12 08 16.2	-1.4
URZ	**Urewera**	**3.59**	**195**	*e*P*		Pn	12 07 35.9	-0.4
URZ				*e*S*		Sn	12 08 17.3	-0.2

*JMA **25** 12:08:04.3±0.1,24.˚13N×122.˚03E,h49km±2km,M3.6*
*TAP **25** 12:08:04.9,24.˚20N×122.˚08E,h42km±1km,ML3.9,D*
*ISCJB **25** 12:08:05.4±0.2,24.˚18N±0.˚02×122.˚10E±0.˚01,h44km±7km,*
Error ellipse: s-maj=3.2km s-min=1.9km az=150.7

ISC 25 12:08:05.1±1.0,24.˚18N±0.˚02×122.˚09E±0.˚02,h28km±11km,
n69,σ0s83/137,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EHP	**Heping Village**	**0.34**	**293**	*e*P		**Pn**	**12 08 15.0**	**+0.7**
	baz=289							
EHP				S		**Sn**	**12 08 22.1**	**+1.8**
	baz=289							
ENA	**Nanau**	**0.41**	**308**	*i* P		**Pn**	**12 08 14.9**	**-0.2**
	baz=306							
ENA				*i* S		**Sn**	**12 08 22.0**	**+0.2**
	baz=306							
TWD	**Chiawan**	**0.46**	**258**	P		**Pb**	**12 08 15.3**	**+0.5**
	baz=254							
TWD				S		**Sn**	**12 08 23.1**	**0.0**
	baz=254							
TWC	**Suao**	**0.48**	**333**	*i* P		**Pn**	**12 08 15.8**	**-0.4**
	baz=333							
TWC				*i* S		**Sn**	**12 08 23.0**	**-0.7**
	baz=333							
HWA	**Hwalien**	**0.48**	**246**	*i* P		**Pn**	**12 08 16.0**	**-0.2**
	baz=242							
HWA				*i* S		**Sn**	**12 08 24.9**	**+1.2**
	baz=242							
ENTT	**Nioudou**	**0.66**	**314**	P		**Pb**	**12 08 18.1**	**-0.1**
	baz=313							
ENTT				S		**Sb**	**12 08 27.3**	**+0.2**
	baz=313							
ILA	**Ilan**	**0.66**	**332**	*e*P		**Pb**	**12 08 18.4**	**+0.2**
	baz=332							
ILA				*e*S		**Sn**	**12 08 28.0**

NCU				*e*S	**Sb**	**12 08 40.7**	**+0.1**
	baz=313						
TYC	**Yuchr**	**1.16**	**257**	*e*P	**Pn**	**12 08 25.3**	**-0.1**
	baz=255						
TYC				*e*S	**Sn**	**12 08 40.1**	**-0.3**
	baz=255						
TWY	**Chenhua**	**1.18**	**338**	*e*P	**Pn**	**12 08 26.2**	**+0.4**
	baz=337						
TWY				*e*S	**Sn**	**12 08 41.3**	**+0.3**
	baz=337						
TWQ1	**Liyutan**	**1.21**	**278**	*e*P	**Pn**	**12 08 26.8**	**+0.5**
	baz=277						
TWQ1				*e*S	**Sb**	**12 08 42.4**	**-0.3**
	baz=277						
NSY	**Sanyi**	**1.23**	**281**	*e*P	**Pb**	**12 08 27.6**	**-0.2**
	baz=280						
NSY				*e*S	**Sn**	**12 08 42.9**	**+0.6**
	baz=280						
YUS	**Yu-Shan**	**1.25**	**237**	P	**Pn**	**12 08 27.2**	**+0.1**
	baz=235						
YUS				S	**Sn**	**12 08 42.9**	**-0.4**
	baz=235						
CHKT	**Chengkung**	**1.26**	**212**	P	**Pn**	**12 08 25.7**	**-1.1**
	baz=210						
CHKT				S	**Sn**	**12 08 41.0**	**-1.9**
	baz=210						
TCU	**Taichung**	**1.29**	**269**	*e*P	**Pn**	**12 08 27.9**	**+0.6**
	baz=267						
TCU				*e*S	**Sn**	**12 08 43.2**	**-0.4**
	baz=267						
WNT	**Mingjian**	**1.32**	**257**	P	**Pb**	**12 08 28.8**	**-0.4**
	baz=255						
WNT				*e*S	**Sb**	**12 08 45.9**	**+0.1**
	baz=255						
ALS	**Alishan**	**1.35**	**241**	*e*P	**Pn**	**12 08 29.0**	**+0.6**
	baz=239						
ALS				*e*S	**Sn**	**12 08 46.0**	**+0.4**
	baz=239						
ELDTW	**Lidau**	**1.39**	**225**	*e*P	**Pn**	**12 08 27.8**	**-0.9**
	baz=223						
ELDTW				*e*S	**Sn**	**12 08 45.7**	**-0.6**
	baz=223						
CHN5	**Tsauling**	**1.42**	**246**	*e*P	**Pn**	**12 08 29.9**	**+0.8**
	baz=245						
CHN5				*e*S	**Sn**	**12 08 47.5**	**+0.7**
	baz=245						
WGK	**Gukeng**	**1.48**	**251**	*e*P	**Pn**	**12 08 31.0**	**+1.1**
	baz=249						
WGK				*e*S	**Sn**	**12 08 49.5**	**+1.1**
	baz=249						
IRIF	**Iriomote-Funau**	**1.51**	**84**	P	**Pn**	**12 08 30.2**	**0.0**
IRIF				*e*S	**Sn**	**12 08 48.8**	**-0.1**
HATJ	**Hateruma jima**	**1.57**	**94**	P	**Pn**	**12 08 31.9**	**+0.8**
HATJ				*e*S	**Sn**	**12 08 51.5**	**+0.9**
STYT	**Tauyuan**	**1.58**	**231**	*i* P	**Pn**	**12 08 32.0**	**+0.6**
	baz=229						
STYT				*e*S	**Sn**	**12 08 51.7**	**+0.8**
	baz=229						
CHN4	**Tsaushan**	**1.60**	**239**	*e*P	**Pn**	**12 08 32.6**	**+1.1**
	baz=238						
CHN4				*e*S	**Sn**	**12 08 52.2**	**+1.0**
	baz=238						
CHN2	**Minshiung**	**1.61**	**247**	*e*P	**Pb**	**12 08 33.3**	**-0.9**
	baz=245						
CHN2				*e*S	**Sb**	**12 08 54.7**	**+0.6**
	baz=245						
WTP	**Ta-pu**	**1.64**	**236**	*e*P	**Pn**	**12 08 33.2**	**+1.0**
	baz=234						
WTP				*e*S	**Sn**	**12 08 52.6**	**+0.3**
	baz=234						
TWG	**Pinlang**	**1.64**	**215**	*e*P	**Pn**	**12 08 31.0**	**-1.1**
	baz=213						
TWG				*e*S	**Sn**	**12 08 51.0**	**-1.3**
	baz=213						
TTN	**Taitung**	**1.66**	**212**	*e*P	**Pn**	**12 08 33.6**	**+1.3**
	baz=210						
TTN				*e*S	**Sn**	**12 08 53.2**	**+0.5**
	baz=210						
CHY	**Chiayi**	**1.67**	**246**	*e*P	**Pn**	**12 08 33.2**	**+0.7**
	baz=245						
CHY				*e*S	**Sn**	**12 08 53.5**	**+0.6**
	baz=245						
WTCT	**Ta-ch'eng**	**1.68**	**260**	*e*P	**Pn**	**12 08 33.5**	**+0.8**
	baz=258						
WTCT				*e*S	**Sn**	**12 08 53.0**	**-0.3**
	baz=258						
TWK	**Hsinying**	**1.73**	**239**	*e*P	**Pn**	**12 08 34.4**	**+1.1**
	baz=237						
TWK				*e*S	**Sb**	**12 08 56.2**	**-1.2**
	baz=237						
CHN1	**Nanshi**	**1.74**	**236**	*e*P	**Pn**	**12 08 34.7**	**+1.2**
	baz=234						
CHN1				*e*S	**Sn**	**12 08 55.6**	**+0.8**
	baz=234						
JKRS	**Kuro-shima**	**1.75**	**88**	P	**Pn**	**12 08 34.3**	**+0.7**
JKRS				*e*S	**Sn**	**12 08 55.8**	**+0.7**
SGST	**Jiashian**	**1.76**	**232**	*e*P	**Pn**	**12 08 35.0**	**+1.3**
	baz=230						
SGST				*e*S	**Sn**	**12 08 56.5**	**+1.2**
	baz=230						
WSF	**Szhu**	**1.79**	**253**	*e*P	**Pn**	**12 08 35.1**	**+0.9**
	baz=251						
WSF				*e*S	**Sn**	**12 08 57.2**	**+1.2**
	baz=251						
JIJ	**Ishigaki jima**	**1.88**	**84**	P	**Pn**	**12 08 35.1**	**-0.3**
JIJ				*e*S	**Sn**	**12 08 57.7**	**-0.6**
ECL	**Taimali**	**1.89**	**214**	*e*P	**Pn**	**12 08 34.9**	**-0.6**
	baz=212						
ECL				*e*S	**Sn**	**12 08 56.7**	**-1.6**
	baz=212						
SSD	**Sandimen**	**1.95**	**224**	*e*P	**Pn**	**12 08 37.4**	**+0.9**
	baz=222						
SSD				*e*S	**Sn**	**12 09 02.0**	**+2.0**
	baz=222						
TWM1	**Shoushan**	**2.04**	**229**	*e*P	**Pn**	**12 08 37.5**	**-0.1**
	baz=227						
TWM1				*e*S	**Sn**	**12 09 02.6**	**+0.4**
	baz=227						
SGLT	**Jiouru**	**2.06**	**226**	*e*P	**Pn**	**12 08 39.0**	**+1.1**
	baz=224						
SGLT				*e*S	**Sn**	**12 09 03.1**	**+0.5**
	baz=224						
JISG	**Ishigakijimahi**	**2.07**	**78**	P	**Pn**	**12 08 37.6**	**-0.3**
JISG				*e*S	**Sn**	**12 09 02.4**	**-0.4**
EAST	**Anshuo**	**2.12**	**213**	*e*P	**Pn**	**12 08 38.4**	**-0.3**
	baz=211						
EAST				*e*S	**Sn**	**12 09 03.9**	**-0.2**
	baz=211						
LAY	**Lan-yu**	**2.19**	**193**	*e*P	**Pn**	**12 08 39.2**	**-0.4**
	baz=192						
LAY				*e*S	**Sn**	**12 09 03.5**	**-2.3**
	baz=192						
SCZT	**Fangliau**	**2.25**	**217**	*e*P	**Pn**	**12 08 42.6**	**+2.1**
	baz=216						
SCZT				*e*S	**Sn**	**12 09 06.9**	**-0.4**
	baz=216						
PNG	**Penghu**	**2.40**	**256**	*e*P	**Pn**	**12 08 42.1**	**-0.4**
	baz=254						
PNG				*e*S	**Sn**	**12 09 09.8**	**-1.2**
	baz=254						
WDGT	**Dungji**	**2.41**	**248**	*e*P	**Pn**	**12 08 44.7**	**+2.1**
	baz=247						
WDGT				*e*S	**Sn**	**12 09 12.4**	**+1.2**
	baz=247						
JTJ	**Tarama**	**2.43**	**78**	P	**Pn**	**12 08 43.3**	**+0.4**
JTJ				*e*S	**Sn**	**12 09 11.4**	**-0.3**
JIRB	**Irabujima**	**2.88**	**76**	P	**Pn**	**12 08 49.4**	**+0.2**
JIRB				*e*S	**Sn**	**12 09 22.7**	**-0.2**
JIKM	**Ikemajima**	**2.97**	**75**	P	**Pn**	**12 08 51.1**	**+0.7**
JIKM				*e*S	**Sn**	**12 09 25.5**	**+0.4**
JOGS	**Gusukube**	**3.08**	**78**	P	**Pn**	**12 08 52.7**	**+0.8**
JOGS				*e*S	**Sn**	**12 09 29.2**	**+1.4**
JKE	**Kume jima 2**	**4.76**	**62**	P	**Pn**	**12 09 15.3**	**+0.3**

*CSEM **25** 12:13:18.0, 38°.05N×26°.31W, h3km, ML2.2*
PDA 25 12:13:18.0±0.7, 38°.05N×26°.31W, h3km±7km, MD3.5, ML2.2, Error ellipse: s-maj=9.7km s-min=2.9km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.52**	**116**	*e*P	Pg	12 13 26.9	-1.1
PSET				*e*S	Sg	12 13 33.9	-0.8
PSET				A	A	12 13 34.9	
	55nm,0.1s						
PSET	**Sete Cidades**	**0.52**	**116**	*e*P	Pg	12 13 26.9	-1.1
PSET				*e*S	Sg	12 13 33.9	-0.8
PDA	**Ponta Delgada**	**0.59**	**121**	*e*P	Pg	12 13 28.3	-1.1
PDA				*e*S	Sg	12 13 36.1	-1.0
PDA				A	A	12 13 37.0	
	49nm,0.1s						
PDA	**Ponta Delgada**	**0.59**	**121**	*e*P	Pg	12 13 28.3	-1.1
PDA				*e*S	Sg	12 13 36.1	-1.0
ADH	**Angra Heroismo**	**0.95**	**310**	*e*S	Sg	12 13 44.6	-3.8
ADH				A	A	12 13 53.8	
	58nm,0.3s						
ADH	**Angra Heroismo**	**0.95**	**310**	*e*S	Sg	12 13 44.6	-3.8
PSMA	**Santa Maria**	**1.41**	**138**	*e*P	Pn	12 13 39.8	-4.8
PSMA				*e*S	Sg	12 13 55.8	-7.6
PSMA				A	A	12 13 58.6	
	13nm,0.2s						
PSMN	**Pico do Norte,**	**1.44**	**136**	*e*S	Sb	12 13 56.7	-7.5
PSMN				A	A	12 13 58.4	
	8.3nm,0.3s						
PSMN	**Pico do Norte,**	**1.44**	**136**	*e*S	Sb	12 13 56.7	-7.5

KRNET 25 12:20:01.6±0.1, 40°.91N×74°.83E, h2km, mb3.6, 6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.77**	**268**	*i* P	Pg	12 20 16.9	+0.2
	baz=268						
SALK				*e*S	Sb	12 20 28.2	-0.9
	baz=268						
NRN	**Naryn**	**1.03**	**59**	*e*P	Pg	12 20 21.6	-0.2
	baz=59						
NRN				*e*S	Sg	12 20 35.9	+0.4
	baz=59						
ARLS	**Aral**	**1.03**	**338**	⇓*i* P	Pg	12 20 21.6	0.0
	baz=338						
ARLS				⇓*i* S	Sb	12 20 35.9	-0.7
	baz=338						
BOOM	**Boomskoye usch**	**1.79**	**27**	⇓*i* P	Pb	12 20 35.5	+0.1
	baz=27						
BOOM				⇓*i* S	Sb	12 20 58.9	+0.4
	baz=27						
EKS	**Erkin-Say**	**1.93**	**336**	*e*P	Pg	12 20 39.8	+1.0
	baz=336						
EKS				*e*S	Sg	12 21 05.6	+1.7
	baz=336						
FRU	**Bishkek**	**1.93**	**355**	⇓*i* P	Pg	12 20 40.0	+1.2
	baz=355						
FRU				⇓*e*S	Sg	12 21 06.0	+2.1
	baz=355						
CHVK	**Chauvay**	**2.14**	**250**	*e*P	Pg	12 20 45.0	+2.1
	baz=250						
CHVK				*e*S	Sg	12 21 14.7	+3.9
	baz=250						
BTK	**Batken**	**3.18**	**256**	*e*P	Pg	12 21 01.7	-1.0
	baz=256						
BTK				*e*S	Sb	12 21 39.8	+1.5
	baz=256						

*NNC **25** 12:21:04.4±3.1, 40°.92N×74°.92E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=24.1km s-min=15.1km az=152.0*
ISC 25 12:21:07.9±2.8, 41°.2N±0°.2×74°.9E±0°.06, h7km, n14, σ0s78/15, 4C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**0.94**	**16**	P	**Pg**	**12 21 25.9**	**-0.2**
	SNR=22						
UCH	**Uchtor**	**1.09**	**345**	P	**Pg**	**12 21 28.6**	**-0.4**
	SNR=16						
AML	**Almayashu**	**1.32**	**317**	P	**Pn**	**12 21 31.3**	**-1.8**
	SNR=47						
ULHL	**Ulahol**	**1.47**	**43**	P	**Pn**	**12 21 34.5**	**-0.6**
	SNR=20						
KBK	**Karagaybulak**	**1.48**	**1**	P	**Pb**	**12 21 36.0**	**+0.1**
	SNR=30						
AAK	**Ala-Archa**	**1.49**	**348**	⇓Pg	**Pn**	**12 21 35.7**	**+0.4**
	20nm,0.4s						
AAK				⇓Lg	Lg	12 22 01.2	
	63nm,0.8s						
AAK	**Ala-Archa**	**1.49**	**348**	P	**Pb**	**12 21 36.3**	**+0.3**
	SNR=41						
EKS2	**Erkin-Say**	**1.71**	**331**	P	**Pg**	**12 21 40.8**	**+0.1**
	SNR=11						
TKM2	**Tokmak 2**	**1.82**	**16**	⇓Pg	**Pb**	**12 21 41.7**	**0.0**
	21nm,0.5s						
TKM2				⇓Lg	Lg	12 22 10.7	
	67nm,0.7s						
TKM2	**Tokmak 2**	**1.82**	**16**	P	**Pb**	**12 21 41.7**	**0.0**
	SNR=53						
CHMS	**Chumysh**	**1.83**	**357**	P	**Pb**	**12 21 41.9**	**+0.2**
	SNR=15						
USP	**Ospenovka**	**2.12**	**352**	P	**Pb**	**12 21 47.2**	**+0.6**
	SNR=44						
KNDC	**Almaty**	**2.56**	**36**	⇑Pg	**Pb**	**12 21 54.7**	**+0.6**
	17nm,0.3s						
KNDC				⇑Lg	Lg	12 22 31.1	
	82nm,0.8s						
KK31	**Karatay Array**	**3.79**	**302**	⇑Pn	**Pn**	**12 22 08.3**	**+1.5**
	0.2nm,0.3s,baz=124,slow=16,SNR=13						
KK31				Pg	**Pb**	**12 22 14.8**	**-0.4**
	1.0nm,0.3s,baz=124,slow=16,SNR=30						
KK31				⇑Lg	Lg	12 23 04.9	
	7.1nm,0.4s,baz=124,slow=29,SNR=13						

*CSEM **25** 12:21:54.8, 39°.28N×27°.75E, h7km, MD2.5, Mining explosion.*
DDA 25 12:21:54.8, 39°.28N×27°.75E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.40**	**173**	*i* P	Pg	12 22 02.9	+0.2
AKHS				*i* S	Sb	12 22 10.7	0.0
AKHS	**Akhisar**	**0.40**	**173**	*i* P	Pg	12 22 02.9	+0.2
AKHS				*i* S	Sb	12 22 10.7	0.0
BALY	**Balya**	**0.47**	**347**	*i* P	Pg	12 22 03.5	-0.5
BALY				*i* S	Sg	12 22 11.5	+1.2
BALY	**Balya**	**0.47**	**347**	*i* P	Pg	12 22 03.5	-0.5
BALY				*i* S	Sg	12 22 11.5	+1.2
DEMI	**Demirci**	**0.79**	**107**	*i* P	Pg	12 22 09.3	-0.7
DEMI				*i* S	Sb	12 22 21.6	-0.3
DEMI	**Demirci**	**0.79**	**107**	*i* P	Pg	12 22 09.3	-0.7
DEMI				*i* S	Sb	12 22 21.6	-0.3
GDZ	**Gediz**	**1.36**	**98**	*i* P	Pn	12 22 20.2	-0.1
GDZ				*i* S	Sg	12 22 40.0	+1.2
GDZ	**Gediz**	**1.36**	**98**	*i* P	Pn	12 22 20.2	-0.1
GDZ				*i* S	Sg	12 22 40.0	+1.2
ULDT	**Uludag**	**1.37**	**51**	*i* P	Pb	12 22 21.0	0.0
ULDT				*i* S	Sg	12 22 40.7	+1.3
ULDT	**Uludag**	**1.37**	**51**	*i* P	Pb	12 22 21.0	-0.1
ULDT				*i* S	Sg	12 22 40.7	+1.4

*DDA **25** 12:22:26.9, 39°.72N×33°.15E, h7km, MD2.7*
*CSEM **25** 12:22:29.5±0.9, 40°.16N×32°.61E, h2km, MD2.7, Error ellipse: s-maj=19.3km s-min=6.5km az=101.0, Mining explosion.*
ISK 25 12:22:29.3, 40°.09N×32°.55E, h5km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.27**	**141**	*e*PG	Pg	12 22 35.1	+0.5
LOD				*e*SG	Sg	12 22 39.3	+1.1
LOD	**Lodumlu**	**0.27**	**141**	*e*Pg	Pg	12 22 35.1	+0.5
LOD				*e*Sg	Sg	12 22 39.3	+1.1
ELDT	**Eldivan**	**0.78**	**59**	*i* P	Pg	12 22 42.7	-1.9
ELDT				*i* S	Sg	12 22 53.6	-1.3
ELDT	**Eldivan**	**0.78**	**59**	*i* P	Pg	12 22 42.7	-1.8
ELDT				*i* S	Sg	12 22 53.6	-1.3
SVRH	**Sivrihisar-ESK**	**1.02**	**231**	*e*PG	Pb	12 22 49.3	-0.3
ILGA	**Ilgaz**	**1.31**	**43**	*i* P	Pn	12 22 53.0	-1.6
ILGA	**Ilgaz**	**1.31**	**43**	*i* P	Pn	12 22 53.0	-1.6
ILGA				*i* S	Sn	12 23 12.8	+0.2
CDAG	**Cicekdag**	**1.48**	**108**	*i* P	Pn	12 22 56.8	0.0
CDAG				*i* S	Sn	12 23 14.7	-1.9
CDAG	**Cicekdag**	**1.48**	**108**	*i* P	Pn	12 22 56.8	0.0
CDAG				*i* S	Sn	12 23 14.7	-1.9
CORM	**Corum**	**1.60**	**86**	*e*PN	Pn	12 22 58.7	+0.3
CORM	**Corum**	**1.60**	**86**	*e*Pn	Pn	12 22 58.7	+0.3
YOZ	**Yozgat**	**2.18**	**101**	*e*PN	Pn	12 23 07.5	+1.0
YOZ	**Yozgat**	**2.18**	**101**	*e*Pn	Pn	12 23 07.5	+1.0

IDC 25 12:29:48.6±6.7, 17°.91S×178°.11W, h427km±74km, mb3.2/11, mb1 3.5/11, mb1mx3.3/28, mbtmp4.0/11, Error ellipse: s-maj=25.3km s-min=19.1km az=40.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.70**	**191**	P	P	12 33 56.7	-0.9
	5.5nm,0.5s,baz=280,slow=2.7,SNR=18						
STKA	**Stephens Creek**	**38.88**	**241**	P	P	12 36 36.4	+0.8
	0.8nm,0.4s,baz=104,slow=5.6,SNR=8.9						
WRA	**Warramunga Arr**	**44.91**	**259**	P	P	12 37 23.1	-0.6
	2.4nm,0.8s,baz=94,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**45.06**	**254**	P	P	12 37 24.8	-0.1
	13nm,0.8s,baz=88,slow=8.2,SNR=201						
VNDA	**Vanda**	**60.47**	**185**	P	P	12 39 15.6	+0.6
	0.9nm,1.0s,baz=6.1,slow=7.5,SNR=4.7						
MJAR	**Matsushiro Arr**	**68.07**	**323**	P	P	12 40 03.2	-1.0
	1.9nm,0.8s,baz=171,slow=6.5,SNR=8.2						
ASAJ	**Asahikawa**	**71.41**	**331**	P	P	12 40 25.6	+1.6
	2.9nm,0.7s,baz=100,slow=6.1,SNR=3.9						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	P	12 41 09.2	+0.8
	0.4nm,0.7s,baz=239,slow=9.0,SNR=4.6						
TXAR	**Lajitas Array**	**85.76**	**58**	P	P	12 41 43.2	+1.5
	0.3nm,0.7s,baz=215,slow=6.0,SNR=5.2						
ILAR	**Eielson Array**	**85.82**	**13**	P	P	12 41 39.9	-1.2
	0.2nm,0.4s,baz=226,slow=5.2,SNR=8.0						
PDAR	**Pinedale Array**	**87.16**	**43**	P	P	12 41 47.1	-1.2
	0.3nm,0.7s,baz=212,slow=5.0,SNR=2.5						
BRTR	**Keskin Array B**	**144.98**	**315**	PKP	PKPdf	12 48 35.1	-1.3
	0.7nm,0.4s,baz=321,slow=0.9,SNR=7.1						
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	PKPbc	12 48 42.9	-1.1
	0.9nm,0.4s,baz=30,slow=2.5,SNR=15						

*MOS **25** 12:39:29.1±1.0, 50°.67N×157°.59E, h101km, mb4.2/1, Error ellipse: s-maj=64.4km s-min=14.2km az=72.4*
*KRSC **25** 12:39:29.1±2.4, 50°.67N×157°.59E, h101km±29km, ML4.0*
*ISCJB **25** 12:39:30.1±1.1, 50°.7N±0°.1×157°.4E±0°.2, h112km±13km, Error ellipse: s-maj=26.3km s-min=8.3km az=40.9*
ISC 25 12:39:28.2±2.4, 50°.6N±0°.1×157°.5E±0°.1, h121km±20km, n32, σ1s78/48, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.85**	**276**	*i* P	**Pn**	**12 39 49.5**	**+0.6**
SKR				*i* S	**Sn**	**12 40 03.1**	**-1.4**
SKR	**Severo-Kuril's**	**0.85**	**276**	⇓*i* PN	Pn	12 39 40.0	-8.9
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,120nm,0.4s						
SKR				pmax	pmax		
	comp=N,80nm,0.2s						
PAU	**Pauzhetka**	**0.95**	**335**	*i* P	**Pn**	**12 39 50.2**	**+0.4**
PAU				S	**Sn**	**12 40 06.2**	**0.0**
PAU	**Pauzhetka**	**0.95**	**335**	PN	**Pn**	**12 39 50.2**	**+0.4**
PAU				S	**Sn**	**12 40 06.2**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.73**	**346**	*i* P	**Pn**	**12 39 57.9**	**-0.5**
ASAK	**Asacha**	**1.80**	**9**	*i* P	**Pn**	**12 40 00.8**	**+1.5**
ASAK				*e*S	**Sn**	**12 40 23.5**	**+0.4**
MTVR	**Mutnovka**	**1.94**	**13**	*e*P	**Pn**	**12 40 02.7**	**+1.7**
MTVR				*e*S	**Sn**	**12 40 26.1**	**0.0**
RUS	**Russkaya**	**1.95**	**19**	*e*P	**Pn**	**12 40 00.5**	**-0.5**
RUS				*e*S	**Sn**	**12 40 25.2**	**-0.9**
RUS	**Russkaya**	**1.95**	**19**	PN	**Pn**	**12 40 00.5**	**-0.5**
RUS				S	**Sn**	**12 40 25.2**	**-0.9**
GRL	**Gorelyy**	**1.99**	**11**	P	**Pn**	**12 40 03.1**	**+1.4**
GRL				*e*S	**Sn**	**12 40 28.3**	**+1.0**
APC	**Apacha**	**2.33**	**356**	*e*P	**Pn**	**12 40 05.6**	**-0.2**
PET	**Petropavlovsk**	**2.54**	**17**	*e*P	**Pn**	**12 40 09.7**	**+1.3**
PET				*e*S	**Sn**	**12 40 38.2**	**-1.1**
PET	**Petropavlovsk**	**2.54**	**17**	*e*PN	**Pn**	**12 40 09.4**	**+1.0**
PET				*e*S	**Sn**	**12 40 38.6**	**-0.7**
PET				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PET				smax	smax		
	comp=N,400nm,2.6s						
PET				smax	smax		
	comp=N,264nm,0.6s						
UGLR	**Uglovaya**	**2.74**	**18**	*i* P	**Pn**	**12 40 13.5**	**+2.3**
AVH	**Avacha**	**2.78**	**16**	*i* P	**Pn**	**12 40 14.0**	**+2.3**
AVH				*e*S	**Sn**	**12 40 45.7**	**+0.5**
KOK	**Koryaka**	**2.79**	**15**	*i* P	**Pn**	**12 40 14.2**	**+2.4**
SMAR	**Somma**	**2.79**	**17**	P	**Pn**	**12 40 13.9**	**+2.0**
KRER	**Koryakskii**	**2.82**	**16**	*i* P	**Pn**	**12 40 14.4**	**+2.1**
SDLR	**Sedlovina**	**2.82**	**18**	*i* P	**Pn**	**12 40 13.9**	**+1.7**
SDLR				S	**Sn**	**12 40 45.7**	**-0.5**
NLC	**Nalytchevo**	**2.83**	**24**	S	**Sn**	**12 40 43.5**	**-2.5**
KRX	**Arik**	**2.86**	**15**	*i* P	**Pn**	**12 40 14.7**	**+2.0**
SPN	**Mys Shipunski**	**2.96**	**32**	*e*P	**Pn**	**12 40 16.1**	**+2.1**
SPN				*e*S	**Sn**	**12 40 48.3**	**-1.0**
SPN	**Mys Shipunski**	**2.96**	**32**	PN	**Pn**	**12 40 16.1**	**+2.1**
SPN				S	**Sn**	**12 40 48.3**	**-1.0**
GNL	**Ganaly**	**3.11**	**5**	*i* P	**Pn**	**12 40 16.6**	**+0.6**
GNL				S	**Sn**	**12 40 50.9**	**-2.0**
MKZ	**Mys Kozlova**	**4.74**	**32**	*i* P	**Pn**	**12 40 38.6**	**+1.1**
MKZ				*e*S	**Sn**	**12 41 27.9**	**-3.6**
MKZ	**Mys Kozlova**	**4.74**	**32**	PN	**Pn**	**12 40 38.6**	**+1.1**
MKZ				S	**Sn**	**12 41 27.9**	**-3.6**
KZV	**Kizimen**	**4.83**	**20**	P	Pn	12 40 42.3	+3.3
TUMR	**Tumrok**	**4.96**	**18**	P	**Pn**	**12 40 43.5**	**+2.8**
KBTR	**Krutoberegovo**	**6.46**	**28**	*e*P	**Pn**	**12 41 01.9**	**+1.1**
KBTR	**Krutoberegovo**	**6.46**	**28**	PN	**Pn**	**12 41 01.9**	**+1.1**
BKI	**Bering**	**6.91**	**45**	*e*P	**Pn**	**12 41 08.9**	**+2.1**
BKI				*e*S	**Sn**	**12 42 19.3**	**-4.5**
BKI	**Bering**	**6.91**	**45**	PN	**Pn**	**12 41 08.9**	**+2.1**

*IDC **25** 12:51:16.9±0.9, 19°.00S×173°.46W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/22, mbtmp3.8/9, Error ellipse: s-maj=45.8km s-min=19.3km az=142.0*
*ISCJB **25** 12:51:19.6±0.8, 19°.1S±0°.2×173°.5W±0°.2, h28km, mb3.8/8, Error ellipse: s-maj=34.2km s-min=16.2km az=136.5*
ISC 25 12:51:21.4±0.9, 18°.9S±0°.3×173°.6W±0°.2, h28km, n10, σ0s91/10, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.91**	**201**	P	**P**	**12 56 01.0**	**-0.6**
	3.2nm,0.5s,baz=219,slow=1.2,SNR=6.2						
STKA	**Stephens Creek**	**42.21**	**243**	P	**P**	**12 59 12.6**	**+0.5**
	0.4nm,0.4s,baz=100,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**48.93**	**255**	P	**P**	**13 00 05.8**	**+0.4**
	1.8nm,0.7s,baz=91,slow=8.4,SNR=36						
ASAR				PcP	**PcP**	**13 01 30.8**	**+1.3**
	0.4nm,0.8s,baz=92,slow=5.7,SNR=4.2						
WRA	**Warramunga Arr**	**48.

0.9nm,0.3s,baz=336,slow=12,SNR=18
WRA S **S** **13 35 09.7 -1.5**
0.1nm,0.3s,baz=336,slow=20,SNR=2.6
COEN Coen 16.21 118 P **Pn** **13 32 55.4 -0.1**
baz=14,SNR=19
QIS Mount Isa 17.61 143 P **Pn** **13 33 09.6 -2.0**
baz=15,SNR=6.9
ASAR Alice Springs 17.80 164 P **P** **13 33 11.1 +1.4**
1.0nm,0.3s,baz=347,slow=12,SNR=95
ASAR S **S** **13 36 15.4 -1.6**
0.0nm,0.3s,baz=332,slow=16,SNR=4.1
WRKA Warakurna 18.39 181 P **P** **13 33 16.8 +0.9**
baz=15,SNR=11
STKA Stephens Creek 28.02 156 P **P** **13 34 45.1 -0.2**
3.3nm,1.2s,baz=317,slow=11,SNR=4.3
MKAR Makanchi Array 67.03 327 P **P** **13 39 40.8 -1.1**
0.4nm,0.6s,baz=120,slow=7.3,SNR=4.8

*IDC **25** 13:42:59.8±14.0, 17°.88S×178°.46W, h504km±149km, mb2.8/4, mb1 3.0/4, mb1mx2.7/31, mbtmp3.7/4, Error ellipse: s-maj=94.9km s-min=32.7km az=28.0*
ISC 25 13:43:03.9±2.0, 17°.9S±0°.2×178°.3W±0°.4, h579km, n6, σ1§57/7, mb3.6/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.68**	**190**	P		**P**	**13 47 03.9**	**-0.6**
	0.8nm,0.4s,baz=241,slow=19,SNR=2.9							
STKA	**Stephens Creek**	**38.76**	**241**	P		**P**	**13 49 40.4**	**+0.7**
	1.3nm,0.7s,baz=86,slow=8.2,SNR=5.3							
WRA	**Warramunga Arr**	**44.77**	**260**	P		**P**	**13 50 25.8**	**-1.4**
	0.2nm,0.5s,baz=85,slow=7.8,SNR=3.1							
ASAR	**Alice Springs**	**44.93**	**254**	P		**P**	**13 50 28.0**	**-0.4**
	1.4nm,0.5s,baz=89,slow=8.1,SNR=47							
ASAR				PcP		**PcP**	**13 51 59.0**	**+1.7**
	0.2nm,0.5s,baz=102,slow=4.2,SNR=4.4							
BRTR	**Keskin Array B**	**144.88**	**315**	PKP		**PKPab**	**14 01 39.0**	**+1.3**
	0.4nm,0.4s,baz=93,slow=2.9,SNR=3.5							
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc		**PKPab**	**14 01 46.8**	**-1.5**
	0.4nm,0.5s,baz=34,slow=3.4,SNR=5.6							

*ISCJB **25** 13:56:08.7±0.5, 24°.04S±0°.05×66°.76W±0°.08, h181km, mb3.6/6, Error ellipse: s-maj=10.5km s-min=6.7km az=168.7*
*SJA **25** 13:56:10.2±0.3, 24°.24S×66°.25W, h262km±17km, ML3.1*
*IDC **25** 13:56:11.0±0.9, 23°.94S×66°.81W, h194km±8km, mb3.5/6, mb1 3.6/12, mb1mx3.4/26, mbtmp4.0/12, Error ellipse: s-maj=15.9km s-min=12.5km az=36.0*
ISC 25 13:56:09.6±0.6, 24°.04S±0°.06×66°.78W±0°.09, h181km, n21, σ1§42/20, mb3.9/6, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.35**	**121**	*i* P		Pn	13 56 46.0	+5.6
SLA				*i* S		Sn	13 57 12.6	+8.3
SLA				AML		AML	13 57 16.6	
	comp=Z,81nm,0.6s							
AZAP	**Zapla**	**1.58**	**97**	*i* P		Pn	13 56 47.6	+4.9
FSA	**Cafayete**	**2.16**	**161**	*i* P		Pn	13 56 53.2	+4.5
LVC	**Limon Verde**	**2.42**	**305**	P		**Pn**	**13 56 54.2**	**+2.5**
	comp=Z,2μm,0.3s,baz=114,slow=9.5,SNR=789							
LVC				S		**Sn**	**13 57 26.1**	**+1.7**
	comp=Z,2μm,0.3s,baz=286,slow=23,SNR=30							
CFAA	**Coronel Fontan**	**7.65**	**189**	P		**Pn**	**13 57 59.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=18,slow=12,SNR=11							
CFAA				S		**Sn**	**13 59 21.7**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=10.0							
LPAZ	**La Paz**	**7.81**	**350**	P		**Pn**	**13 58 01.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=134,slow=4.4,SNR=18							
LPAZ				S		**Sn**	**13 59 26.6**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=346,slow=14,SNR=4.3							
CPUP	**Villa Florida**	**8.86**	**107**	P		**Pn**	**13 58 16.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=290,slow=11,SNR=6.7							
SIV	**San Ignacio**	**9.63**	**35**	P		**Pn**	**13 58 24.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=234,slow=7.4,SNR=8.0							
NNA	**Nana**	**15.32**	**320**	P		**P**	**13 59 37.0**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=176,slow=13,SNR=2.8							
PLCA	**Paso Flores**	**16.95**	**190**	P		**Pn**	**13 59 56.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=12,slow=11,SNR=9.4							
BDFB	**Brasilia**	**19.51**	**68**	P		**P**	**14 00 24.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=243,slow=11,SNR=9.5							
TXAR	**Lajitas Array**	**63.82**	**324**	P		**P**	**14 06 22.6**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=155,slow=9.2,SNR=3.5							
DBIC	**Dimbokro**	**67.62**	**71**	P		**P**	**14 06 47.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=194,slow=6.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P		**P**	**14 07 39.2**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=261,slow=6.0,SNR=27							
PDAR	**Pinedale Array**	**77.28**	**329**	P		**P**	**14 07 43.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=134,slow=3.9,SNR=3.0							
ULM	**Lac du Bonnet**	**78.33**	**341**	P		**P**	**14 07 47.8**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=164,slow=7.4,SNR=3.0							
YKA	**Yellowknife Ar**	**94.23**	**340**	P		**P**	**14 09 07.0**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=134,slow=4.6,SNR=17							
ASAR	**Alice Springs**	**128.51**	**204**	PKP		**PKPdf**	**14 14 55.0**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=128,slow=1.4,SNR=9.9							
WRA	**Warramunga Arr**	**131.69**	**207**	PKP		**PKPdf**	**14 15 01.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=154,slow=1.8,SNR=5.0							
ZALV	**Zalesovo Beam**	**143.33**	**28**	PKP		PKPbc	14 15 19.8	+0.1
	comp=Z,0.4nm,0.4s,baz=298,slow=3.2,SNR=3.7							
MKAR	**Makanchi Array**	**146.42**	**40**	PKPbc		**PKPbc**	**14 15 29.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=279,slow=8.3,SNR=10							

*IDC **25** 14:25:40.2±6.8, 4°.51S×102°.17E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.1/23, mbtmp3.2/2, Error ellipse: s-maj=280.4km s-min=57.0km az=55.0*
*DJA **25** 14:25:40.8±1.5, 5°.5±7°.×10°.2E±°, h22km±15km, M3.6/7, MLv3.6/7*
ISC 25 14:25:42.1±1.8, 4°.8S±0°.1×101°.7E±0°.1, h30km, n12, σ1§29/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.29**	**72**	P		**Pn**	**14 26 02.8**	**-1.3**
MNAI				S		**Sn**	**14 26 19.8**	**-0.6**
MASI	**Maura Aman, Be**	**1.68**	**18**	P		**Pn**	**14 26 09.1**	**-0.4**
LHSI	**Lahat**	**2.02**	**63**	P		**Pn**	**14 26 13.9**	**-0.2**
LWLI	**Liwa**	**2.34**	**97**	P		**Pn**	**14 26 19.7**	**+1.0**
MDSI	**Maura Dua**	**2.46**	**84**	P		**Pn**	**14 26 20.5**	**+0.3**
MDSI				S		**Sn**	**14 26 50.7**	**+1.4**
KASI	**Kota Agung**	**2.87**	**106**	P		**Pn**	**14 26 23.9**	**-1.9**
H08S2	**Diego Garcia H**	**29.19**	**263**	T		T	15 01 57.5	
	baz=85,slow=75,SNR=20							
H08S3	**Diego Garcia H**	**29.20**	**263**	T		T	15 01 57.7	
	baz=85,slow=75,SNR=25							
H08S1	**Diego Garcia H**	**29.21**	**263**	T		T	15 01 58.7	
	baz=85,slow=75,SNR=12							
WRA	**Warramunga Arr**	**35.15**	**118**	P		**P**	**14 32 32.1**	**-1.4**
	0.2nm,0.4s,baz=294,slow=9.1,SNR=0.9							
ASAR	**Alice Springs**	**36.27**	**124**	P		**P**	**14 32 44.5**	**+1.4**
	0.2nm,0.6s,baz=293,slow=7.4,SNR=7.5							
TXAR	**Lajitas Array**	**145.72**	**42**	PKPbc		**PKPbc**	**14 45 19.7**	**+0.8**
	0.1nm,0.6s,baz=297,slow=0.4,SNR=2.4							

*IDC **25** 14:28:27.6±3.3, 36°.27N×70°.87E, h153km±29km, mb3.2/7, mb1 3.3/9, mb1mx3.0/32, mbtmp3.6/9, Error ellipse: s-maj=25.3km s-min=19.6km az=18.0*
*ISCJB **25** 14:28:30.3±0.5, 36°.47N±0°.06×70°.77E±0°.09, h188km, mb3.3/7, Error ellipse: s-maj=12.1km s-min=5.4km az=140.1*
*NNC **25** 14:28:39.1±6.6, 37°.09N×70°.79E, h197km±106km, mb2.4, mpv3.3, Error ellipse: s-maj=70.3km s-min=41.7km az=34.0*
ISC 25 14:28:31.8±0.8, 36°.55N±0°.08×70°.9E±0°.1, h188km, n24, σ1§55/26, mb3.2/7, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.55**	**357**	P		**Pn**	**14 30 06.3**	**+0.3**
	1.0nm,0.3s,baz=190,slow=14,SNR=41							
KK31				S		**Sn**	**14 31 16.3**	**-4.2**
	4.9nm,0.3s,baz=189,slow=23,SNR=25							
AAK	**Ala-Archa**	**6.67**	**23**	⇓P		**Pn**	**14 30 08.9**	**+1.2**
	1.6nm,0.6s							
AAK				⇑S		**Sn**	**14 31 21.1**	**-2.4**
	4.7nm,0.6s							
AAK	**Ala-Archa**	**6.67**	**23**	P		**Pn**	**14 30 08.9**	**+1.2**
	0.6nm,0.3s,baz=136,slow=5.1,SNR=5.5							
AAK				S		**Sn**	**14 31 23.2**	**-0.4**
	0.7nm,0.3s,baz=118,slow=23,SNR=9.6							
GEYT	**Alibeck**	**10.30**	**281**	P		Pn	14 30 51.7	-3.5
	0.5nm,0.3s,baz=112,slow=12,SNR=4.8							
PYUN	**Piuthan**	**13.23**	**126**	*e*P		**Pn**	**14 31 31.7**	**-1.1**
	9.4nm,0.3s							
DANN	**Dangsing**	**13.57**	**123**	*e*P		**Pn**	**14 31 35.8**	**-1.4**
	4.8nm,0.2s							
KOLN	**Koldanda**	**13.85**	**126**	*e*P		**Pn**	**14 31 39.0**	**-1.5**
	4.8nm,0.3s							
GKN	**Gorkha**	**14.38**	**122**	*e*P		**Pn**	**14 31 46.4**	**-0.8**
	8.3nm,0.3s							
KKN	**Kakani**	**14.96**	**122**	*e*P		**Pn**	**14 31 53.4**	**-0.9**
	9.1nm,0.5s							
AB31	**Akbulak array**	**15.01**	**331**	⇑P		**P**	**14 31 56.5**	**+1.1**
	0.3nm,0.3s,baz=162,slow=12,SNR=17							
AB31				⇓S		Sn	14 34 34.7	-7.3
	0.3nm,0.4s,baz=151,slow=24,SNR=4.2							
PKIN	**Phulchoki**	**15.17**	**122**	*e*P		**P**	**14 31 58.1**	**+0.4**
	6.1nm,0.3s							
PKI	**Pulchoki**	**15.19**	**122**	*e*P		**P**	**14 31 58.2**	**+0.3**
GUN	**Gumba**	**15.30**	**120**	*e*P		**Pn**	**14 31 59.3**	**+0.7**
	6.4nm,0.3s							
JIRN	**Jiri**	**15.67**	**120**	*e*P		**Pn**	**14 32 03.4**	**+0.3**
	8.9nm,0.3s							
RAMN	**Ramite**	**16.40**	**121**	*e*P		**Pn**	**14 32 12.9**	**+1.1**
TAPN	**Taplejung**	**16.93**	**118**	*e*P		**Pn**	**14 32 21.2**	**+3.0**
FINES	**FINESS Array B**	**37.40**	**326**	P		**P**	**14 35 27.6**	**+1.3**
	0.5nm,0.6s,baz=119,slow=11,SNR=2.6							
ARCES	**ARCESS Array B**	**41.07**	**339**	P		**P**	**14 35 58.0**	**+1.5**
	5.1nm,1.0s,baz=105,slow=8.0,SNR=3.7							
NB2	**NORSAR Subarra**	**44.30**	**323**	P		**P**	**14 36 23.1**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.30**	**323**	P		**P**	**14 36 22.8**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=97,slow=8.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P		**P**	**14 38 54.7**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=65,slow=5.6,SNR=4.6							
YKA	**Yellowknife Ar**	**81.19**	**3**	P		**P**	**14 40 27.3**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=350,slow=5.5,SNR=6.4							
WRA	**Warramunga Arr**	**82.07**	**122**	P		**P**	**14 40 30.4**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=324,slow=4.4,SNR=7.9							
ASAR	**Alice Springs**	**84.34**	**125**	P		**P**	**14 40 42.0**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=304,slow=4.3,SNR=6.3							

*NIED **25** 14:47:00, 38°.60N×142°.20E, h47km, Mw3.5 Best double couple: M0 1.85000×10^14 NP1:φs 182.00000°, δ24.00000°, λ98.00000°. NP2:φs 354.00000°, δ66.00000°, λ86.00000°.*
*ISCJB **25** 14:47:23.0±1.2, 38°.67N±0°.05×142°.3E±0°.1, h55km±12km, mb3.6/3, Error ellipse: s-maj=18.7km s-min=6.6km az=15.2*
*JMA **25** 14:47:24.4, 38°.65N×142°.17E, h46km±1km, M3.6*
JMA Felt I J1.
*IDC **25** 14:47:25.4±3.9, 38°.66N×142°.45E, h63km±35km, mb3.2/3, mb1 3.4/6, mb1mx3.1/31, mbtmp3.5/6, ML3.2/2, MS2.3/1, Ms1 2.3/1, ms1mx1.9/12, Error ellipse: s-maj=45.5km s-min=18.1km az=114.0*
ISC 25 14:47:23.8±2.1, 38°.63N±0°.06×142°.2E±0°.1, h46km±17km, n23, σ0§50/20, mb3.7/3, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.62**	**316**	⇓P		**Pn**	**14 47 36.5**	**+0.1**
OFUJ				S		**Sn**	**14 47 45.0**	**-0.4**
JIO	**Ouri**	**0.71**	**256**	⇓P		**Pn**	**14 47 37.5**	**+0.1**
JIO				*e*S		**Sn**	**14 47 47.0**	**-0.3**
JMK	**Ichinoseki**	**0.84**	**293**	⇓P		**Pn**	**14 47 39.5**	**+0.2**
JMK				*e*S		**Sn**	**14 47 50.3**	**-0.3**
JOM	**Ohasama**	**1.11**	**320**	⇓P		**Pn**	**14 47 43.3**	**+0.4**
JOM				*e*S		**Sn**	**14 47 57.0**	**0.0**
JOU	**Okura**	**1.25**	**258**	⇓P		**Pn**	**14 47 45.3**	**+0.5**
JOU				S		**Sn**	**14 48 00.7**	**+0.2**
JMM	**Marumori**	**1.36**	**236**	⇓P		**Pn**	**14 47 46.5**	**+0.2**
JRG	**Rokugo**	**1.45**	**302**	P		**Pn**	**14 47 48.2**	**+0.6**
JYK	**Kaneyama**	**1.48**	**282**	⇓P		**Pn**	**14 47 48.5**	**+0.5**
JFK	**Kawauchi**	**1.65**	**220**	P		**Pn**	**14 47 50.7**	**+0.3**
JFK				S		**Sn**	**14 48 10.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.81**	**238**	P		Pn	14 48 22.5	+2.5
	2.2nm,0.3s,baz=39,slow=13,SNR=25							
MJAR				S		Sn	14 49 09.7	+6.2
	0.3nm,0.3s,baz=22,slow=26,SNR=1.9							
MJAR				LR		LR	14 50 01.3	
	comp=Z,36nm,20.6s,baz=35,slow=39							
MAT	**Matsushiro**	**3.81**	**238**	P		Pn	14 48 22.5	+2.6
MAT				S		Sn	14 49 11.4	+7.9
ASAJ	**Asahikawa**	**5.49**	**3**	P		**Pn**	**14 48 43.7**	**+0.8**
	0.5nm,0.3s,baz=203,slow=17,SNR=13							
ASAJ				S		**Sn**	**14 49 43.7**	**-1.0**
	0.2nm,0.3s,baz=326,slow=20,SNR=2.3							
USRK	**Ussuriysk Ar.**	**9.48**	**309**	P		Pn	14 49 42.6	+5.0
	0.1nm,0.3s,baz=119,slow=15,SNR=5.4							
H11N2	**WAKE ISLAND Hy**	**28.47**	**124**	T		T	15 23 52.3	
	baz=317,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**28.48**	**124**	T		T	15 23 48.6	
	baz=317,slow=75,SNR=34							
H11N3	**WAKE ISLAND Hy**	**28.49**	**124**	T		T	15 23 53.0	
	baz=317,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hy**	**29.24**	**126**	T		T	15 24 33.2	
	baz=318,slow=76,SNR=6.3							
H11S3	**WAKE ISLAND Hy**	**29.24**	**126**	T		T	15 24 32.1	
	baz=318,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.26**	**126**	T		T	15 24 44.0	
	baz=318,slow=76,SNR=7.2							
ILAR	**Eielson Array**	**47.81**	**33**	pP		pP	14 56 11.2	+2.3
	0.3nm,0.7s,baz=265,slow=5.6,SNR=2.5							
WRA	**Warramunga Arr**	**58.73**	**189**	P		**P**	**14 57 16.6**	**-0.3**
	0.6nm,0.9s,baz=6.7,slow=6.9,SNR=2.8							
ASAR	**Alice Springs**	**62.46**	**189**	P		**P**	**14 57 43.1**	**+0.8**
	0.2nm,0.9s,baz=9.2,slow=7.5,SNR=1.4							
FINES	**FINESS Array B**	**67.70**	**332**	P		**P**	**14 58 15.7**	**-0.1**
	0.9nm,0.8s,baz=1.0,slow=8.3,SNR=1.5							

*ISCJB **25** 14:54:15.6±0.4, 32°.73N±0°.03×115°.92W±0°.03, h11km±3km, Error ellipse: s-maj=4.7km s-min=3.7km az=2.0*
*MEX **25** 14:54:16.7±0.6, 32°.97N×115°.73W, h15km, MD3.6*
*NEIC **25** 14:54:16.8, 32°.67N×115°.93W, h13km, ML3.0(PAS), After PAS.*
*ECX **25** 14:54:17.3±0.7, 32°.69N×115°.94W, h3km, MD2.9, ML3.1*
ISC 25 14:54:16.3±0.9, 32°.68N±0°.03×115°.91W±0°.02, h12km±6km, n27, σ0§76/41, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.04**	**199**	⇓*i*P		**Pg**	**14 54 18.5**	**-0.1**
SGL	**Mount Signal**	**0.16**	**101**	⇑*i*P		**Pg**	**14 54 20.4**	**+0.4**
RMX	**La Rumorosa**	**0.16**	**241**	⇑*e*P		**Pg**	**14 54 20.3**	**+0.1**
RMX				*e*S		**Sg**	**14 54 22.8**	**-0.1**
RMX				AML		AML	14 54 23.1	
	comp=N,10μm,0.1s							
RMX				⇓*e*			14 54 23.1	
CRR	**Carrizo Plain**	**0.21**	**346**	⇓*i*P		**Pg**	**14 54 21.1**	**+0.2**
COK	**Cook Ranch**	**0.23**	**42**	⇓*i*P		**Pb**	**14 54 21.9**	**-0.5**
CPBX	**Cerro Prieto**	**0.57**	**117**	*e*P		**Pb**	**14 54 28.2**	**-0.1**
CPBX				*e*P		**Pg**	**14 54 28.3**	**+0.8**
CPBX				*e*S		**Sb**	**14 54 36.8**	**+0.4**
CPBX				*e*			14 54 38.3	
CPBX				AML		AML	14 54 38.3	
	comp=N,4μm,0.2s							
CPBX	**Cerro Prieto**	**0.57**	**117**	*i* P		**Pg**	**14 54 28.0**	**+0.4**
CPBX				*e*S		**Sb**	**14 54 37.6**	**+1.3**
BAR	**Barrett**	**0.64**	**270**	⇑*i*P		**Pg**	**14 54 28.7**	**-0.2**
BAR				*e*S		**Sg**	**14 54 36.9**	**-0.5**
BAR	**Barrett**	**0.64**	**270**	*e*Pg		**Pg**	**14 54 28.6**	**-0.2**
BAR				*e*Sg		**Sg**	**14 54 36.1**	**-1.2**
MBIG	**Mexicali**	**0.66**	**114**	*e*P		**Pg**	**14 54 28.2**	**-0.9**
MBIG				*e*S		**Sg**	**14 54 37.5**	**-0.3**
CBX	**Cerro Bola**	**0.73**	**240**	*i* P		**Pg**	**14 54 30.4**	**-0.2**
CBX				*i* S		**Sg**	**14 54 39.9**	**-0.3**
CBX	**Cerro Bola**	**0.73**	**240**	⇑*e*P		**Pg**	**14 54 30.4**	**-0.2**
CBX	**Cerro Bola**	**0.73**	**240**	*i* P		**Pg**	**14 54 30.4**	**-0.2**
CBX				*i* S		**Sg**	**14 54 40.1**	**-0.2**
RDX	**Rancho Dawling**	**0.75**	**182**	⇓*e*P		**Pg**	**14 54 30.3**	**-0.6**
RDX				*e*S		**Sg**	**14 54 40.2**	**-0.6**
RDX				⇓*e*			14 54 41.4	
RDX				AML		AML	14 54 41.4	
	comp=N,389nm,0.3s							
GLA	**Glamis**	**0.98**	**68**	*e*Pg		**Pb**	**14 54 33.9**	**-1.4**
GLA				*e*Sg		**Sb**	**14 54 46.7**	**-1.5**
PFO	**Pinyon Flats O**	**1.03**	**334**	*e*P		**Pb**	**14 54 34.6**	**-1.6**
PFO				*e*Sg		**Sb**	**14 54 48.3**	**-1.4**
ZAX	**El Zacaton**	**1.20**	**195**	AML		AML	14 54 59.7	
	comp=E,252nm,0.5s							
ZAX				⇑*e*			14 54 59.7	
ECBX	**El Chinero**	**1.41**	**149**	AML		AML	14 55 01.4	
	comp=N,134nm,0.2s							
ECBX				*e*			14 55 01.4	
SPIG	**San Pedro Mart**	**1.67**	**167**	*e*P		**Pn**	**14 54 46.1**	**+0.4**
SPIG				*i* S		**Sb**	**14 55 08.3**	**0.0**
SPIG	**San Pedro Mart**	**1.67**	**167**	*e*P		**Pn**	**14 54 46.3**	**+0.6**
SPIG				*e*S		**Sb**	**14 55 08.2**	**-0.1**
SPX	**San Pedro Mart**	**1.67**	**167**	*e*P		**Pn**	**14 54 46.2**	**+0.5**
SPX				*e*S		**Sb**	**14 55 08.4**	**0.0**
MWC	**Mount Wilson**	**2.37**	**311**	Pn		**Pn**	**14 54 56.0**	**+0.9**
MWC				*e*Sg		**Sb**	**14 55 28.5**	**+0.3**
PASC	**Pasadena Art C**	**2.42**	**309**	*e*Pg		**Pb**	**14 54 59.9**	**+0.2**
LDFC	**Landfair**	**2.48**	**15**	*e*Pn		**Pn**	**14 54 57.6**	**+1.0**
GSC	**Goldstone, Bar**	**2.72**	**344**	*e*Pg		**Pb**	**14 55 06.2**	**+1.3**
214A	**Organ Pipe Nat**	**2.72**	**105**	Pn		**Pn**	**14 55 00.0**	**+0.2**
ISA	**Isabella, Lake**	**3.66**	**325**	*e*Pg		**Pb**	**14 55 21.9**	**+1.0**

GUC 25 15:14:44.1±0.6, 33°.96S×71°.79W, h60km±24km, ML3.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.94**	**89**	*i* P		Pn	15 15 02.9	+1.4
CACH	**El Canelo**	**1.00**	**99**	⇓*i*P		Pn	15 15 04.4	+2.1
STL	**Santa Lucia**	**1.09**	**62**	*i* P		Pn	15 15 04.1	+0.7
STL				*i* S		Sn	15 15 19.9	+2.1
NICH	**Los Niches**	**1.14**	**156**	*i* P		Pn	15 15 04.9	+1.0
NICH				*i* S		Sn	15 15 20.6	+1.9
NICH				AML		AML	15 15 26.6	
	comp=E,2μm,0.3s							
FSR	**Penalolen**	**1.16**	**66**	*i* P		Pn	15 15 07.3	+3.0
FSR				*i* S		Sn	15 15 21.9	+2.6
ROCH	**El Roble**	**1.18**	**34**	*i* P		Pn	15 15 06.1	+1.2
CLCH	**Cerro Calan**	**1.19**	**62**	⇓*i*P		Pn	15 15 06.8	+2.1
CLCH				*i* S		Sn	15 15 22.5	+2.4
CLCH				AML		AML	15 15 27.0	
	comp=N,1μm,0.3s							
PEL	**Peldehue**	**1.23**	**49**	*i* P		Pn	15 15 07.4	+2.1
PEL				*i* S		Sn	15 15 23.6	+2.5
PEL				AML		AML	15 15 27.8	
	comp=N,1μm,0.3s							
SJCH	**San Jose de Ma**	**1.24**	**75**	*i* P		Pn	15 15 06.7	+1.3
SJCH				*i* S		Sn	15 15 23.6	+2.3
TALC	**Talca**	**1.44**	**175**	*i* P		Pn	15 15 09.4	+1.4
TALC				*i* S		Sn	15 15 28.2	+2.3
TALC				AML		AML	15 15 29.9	
	comp=N,1μm,0.1s							

*NIED **25** 15:16:00, 25°.00N×122°.40E, h5km, Mw4.1 Best double couple: M0 1.85000×10^15 NP1:φs 263.00000°, δ28.00000°, λ-75.00000°. NP2:φs 66.00000°, δ63.00000°, λ-98.00000°.*
*ISCJB **25** 15:16:47.6±0.6, 25°.09N±0°.02×122°.42E±0°.02, h9km±3km, mb4.1/23, MS3.3/8, Error ellipse: s-maj=3.5km s-min=2.6km az=163.3*
*BJI **25** 15:16:48.0, 25°.01N×122°.28E, h27km, mB4.5/13, mb4.0/16, ML4.2/7, Ms3.9/8, Ms7 3.6/8*
*JMA **25** 15:16:49.4±0.1, 25°.00N×122°.36E, h42km±3km, M3.9*
*TAP **25** 15:16:49.6, 25°.00N×122°.28E, h12km, ML4.3, C*
*NEIC **25** 15:16:49.2±0.6, 24°.92N×122°.32E, h10km, mb4.5/8, Error ellipse: s-maj=12.4km s-min=9.9km az=117.0*
*IDC **25** 15:17:01.1±4.0, 24°.99N×122°.31E, h116km±38km, mb3.6/16, mb1 3.7/18, mb1mx3.6/32, mbtmp3.9/18, MS3.3/10, Ms1 3.3/10, ms1mx3.0/34, Error ellipse: s-maj=18.4km s-min=12.7km az=73.0*
ISC 25 15:16:49.0±1.0, 24°.98N±0°.03×122°.35E±0°.02, h13km±6km, n113, σ1§15/151, mb4.2/23, MS3.4/8, 9C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.33**	**275**	⇓*i*P		**Pg**	**15 16 55.8**	**+0.2**
	baz=272							
TWB1				*i* S		**Sg**	**15 16 59.8**	**-0.4**
	baz=272							
NWF	**Wu-fen Shan**	**0.52**	**280**	⇓*i*P		**Pb**	**15 16 59.8**	**-0.3**
	baz=279							
NWF				*i* S		**Sb**	**15 17 07.0**	**-0.6**
	baz=279							
ILA	**Ilan**	**0.58**	**248**	*e*P		**Pb**	**15 17 01.4**	**+0.3**
	baz=244							
TWC	**Suao**	**0.58**	**231**	⇓*i*P		**Pg**	**15 17 00.5**	**0.0**
	baz=225							
TWC				*i* S		**Sg**	**15 17 08.5**	**+0.2**
	baz=225

ESL	**Shilin**	**1.43**	**216**	*e*P	**Pn**	**15 17 15.1**	**+0.3**
	baz=215						
ESL				*e*S	**Sg**	**15 17 36.8**	**+1.6**
	baz=215						
NSY	**Sanyi**	**1.55**	**249**	*e*P	**Pn**	**15 17 16.8**	**+0.5**
	baz=263						
TWQ1	**Liyutan**	**1.56**	**247**	*e*P	**Pb**	**15 17 17.2**	**-0.6**
	baz=261						
TWQ1				*e*S	**Sg**	**15 17 39.1**	**-0.3**
	baz=261						
HATJ	**Hateruma jima**	**1.62**	**124**	P	**Pn**	**15 17 16.6**	**-0.7**
WDT	**Danda**	**1.65**	**222**⇓	*e*P	**Pb**	**15 17 19.3**	**-0.2**
	baz=205						
WDT				S	**Sb**	**15 17 40.8**	**+0.5**
	baz=205						
JKRS	**Kuro-shima**	**1.69**	**116**	P	**Pn**	**15 17 17.1**	**-1.1**
SMLT	**Sun Moon Lake**	**1.71**	**231**	⇑P	**Pb**	**15 17 20.6**	**+0.2**
	baz=229						
SMLT				*e*S	**Sb**	**15 17 43.0**	**+1.1**
	baz=229						
TYC	**Yuchr**	**1.73**	**232**	*e*P	**Pb**	**15 17 20.8**	**+0.1**
	baz=223						
TYC				*e*S	**Sg**	**15 17 43.5**	**-1.2**
	baz=223						
TCU	**Taichung**	**1.73**	**242**	*e*P	**Pb**	**15 17 19.9**	**-0.8**
	baz=241						
SSLB	**Suanglung**	**1.74**	**227**	*e*Pn	**Pb**	**15 17 20.3**	**-0.6**
SSLB				*e*Sn	**Sb**	**15 17 43.5**	**+0.9**
EHY	**Hungye**	**1.74**	**213**	*e*P	**Pn**	**15 17 18.8**	**-0.3**
	baz=211						
JIJ	**Ishigaki jima**	**1.75**	**110**	P	**Pn**	**15 17 17.7**	**-1.4**
JISG	**Ishigakijimahi**	**1.83**	**102**	P	**Pn**	**15 17 19.3**	**-0.9**
YULB	**Yu-li**	**1.85**	**211**	*e*Pn	**Pn**	**15 17 20.0**	**-0.5**
WNT	**Mingjian**	**1.87**	**234**	*e*P	**Pb**	**15 17 23.6**	**+0.5**
	baz=252						
WNT				*e*S	**Sg**	**15 17 48.5**	**-0.7**
	baz=252						
TWF1	**Yuli**	**1.88**	**211**	*e*P	**Pn**	**15 17 20.6**	**-0.4**
	baz=210						
YUS	**Yu-Shan**	**1.96**	**221**	*e*P	**Pb**	**15 17 24.0**	**-0.9**
	baz=220						
ALS	**Alishan**	**2.03**	**224**	*e*P	**Pb**	**15 17 25.7**	**-0.3**
	baz=206						
CHN5	**Tsauling**	**2.05**	**228**	*e*P	**Pb**	**15 17 25.7**	**-0.6**
	baz=227						
CHN5				*e*S	**Sg**	**15 17 54.4**	**-0.8**
	baz=227						
WGK	**Gukeng**	**2.08**	**232**	*e*P	**Pb**	**15 17 26.1**	**-0.5**
	baz=249						
WGK				*e*S	**Sg**	**15 17 54.5**	**-1.4**
	baz=249						
CHKT	**Chengkung**	**2.08**	**206**	*e*P	**Pn**	**15 17 23.2**	**-0.4**
	baz=188						
ELDTW	**Lidau**	**2.16**	**214**	*e*P	**Pn**	**15 17 25.8**	**+1.0**
	baz=199						
JTJ	**Tarama**	**2.17**	**99**	P	**Pn**	**15 17 25.3**	**+0.4**
WTCT	**Ta-ch'eng**	**2.19**	**240**	*e*P	**Pn**	**15 17 26.4**	**+1.3**
	baz=256						
CHN2	**Minshiung**	**2.24**	**230**	*e*P	**Pb**	**15 17 29.2**	**-0.2**
	baz=247						
CHN2				*e*S	**Sg**	**15 17 59.1**	**-1.8**
	baz=247						
CHN4	**Tsaushan**	**2.28**	**225**⇓	*e*P	**Pb**	**15 17 29.1**	**-1.0**
	baz=211						
CHN4				*e*S	**Sb**	**15 17 59.4**	**+1.2**
	baz=211						
CHY	**Chiayi**	**2.29**	**230**	*e*P	**Pn**	**15 17 27.9**	**+1.3**
	baz=246						
TPUB	**Ta-pu**	**2.29**	**223**	*e*Pn	**Pb**	**15 17 28.9**	**-1.5**
TPUB				*e*Sn	**Sb**	**15 18 00.6**	**+2.0**
STYT	**Tauyuan**	**2.32**	**219**	*e*P	**Pn**	**15 17 28.8**	**+1.7**
	baz=206						
STYT				*e*S	**Sb**	**15 17 58.5**	**-1.0**
	baz=206						
WTP	**Ta-pu**	**2.34**	**223**	*e*P	**Pb**	**15 17 29.7**	**-1.5**
	baz=206						
WSF	**Szhu**	**2.35**	**236**	*e*P	**Pb**	**15 17 30.5**	**-0.8**
	baz=236						
TWK	**Hsinying**	**2.41**	**225**	*e*P	**Pb**	**15 17 30.6**	**-1.7**
	baz=210						
TWK				*e*S	**Sb**	**15 18 02.3**	**+0.3**
	baz=210						
CHN1	**Nanshi**	**2.44**	**223**	*e*P	**Pb**	**15 17 30.9**	**-1.9**
	baz=209						
CHN1				*e*S	**Sb**	**15 18 04.0**	**+1.1**
	baz=209						
TWG	**Pinlang**	**2.45**	**209**	*e*P	**Pn**	**15 17 28.5**	**-0.2**
	baz=209						
TWG	**Pinlang**	**2.45**	**209**	*e*Pn	**Pn**	**15 17 28.3**	**-0.5**
SGST	**Jiashian**	**2.48**	**221**	*e*P	**Pb**	**15 17 31.7**	**-1.9**
	baz=208						
SGST				*e*S	**Sb**	**15 18 04.0**	**-0.2**
	baz=208						
CHN3	**Shinhua**	**2.62**	**224**	*e*P	**Pb**	**15 17 34.3**	**-1.6**
	baz=225						
SCLT	**Jiali**	**2.67**	**228**	*e*P	**Pb**	**15 17 35.1**	**-1.5**
	baz=229						
ECL	**Taimali**	**2.69**	**209**	*e*P	**Pn**	**15 17 31.8**	**-0.3**
	baz=197						
SSD	**Sandimen**	**2.72**	**216**	⇑P	**Pb**	**15 17 35.4**	**-2.2**
	baz=201						
TWM1	**Shoushan**	**2.78**	**220**	*e*P	**Pb**	**15 17 38.9**	**+0.3**
	baz=220						
SGLT	**Jiouru**	**2.82**	**217**	*e*P	**Pn**	**15 17 36.1**	**+2.3**
	baz=219						
EAST	**Anshuo**	**2.93**	**208**	*e*P	**Pn**	**15 17 36.1**	**+0.7**
	baz=196						
WDGT	**Dungji**	**2.99**	**236**	*e*P	**Pb**	**15 17 39.3**	**-2.9**
	baz=236						
LAY	**Lan-yu**	**3.02**	**194**	*e*P	**Pn**	**15 17 35.5**	**-1.1**
	baz=195						
SCZT	**Fangliau**	**3.04**	**212**	*e*P	**Pn**	**15 17 39.9**	**+3.0**
	baz=214						
SCZT				*e*S	**Sb**	**15 18 17.6**	**-2.5**
	baz=214						
TWP	**Hsiaoliuchiu**	**3.19**	**215**	*e*P	**Pb**	**15 17 44.2**	**-1.4**
	baz=236						
HEN	**Hengchun**	**3.31**	**207**	*e*P	**Pn**	**15 17 42.7**	**+2.1**
	baz=196						
TWK1	**Hengchun**	**3.34**	**205**	*e*P	**Pn**	**15 17 43.0**	**+2.0**
	baz=196						
TSEB	**Hengchuen, Pin**	**3.34**	**204**	*e*P	**Pn**	**15 17 42.7**	**+1.6**
	baz=195						
QZH	**Quanzhou**	**3.41**	**270**	*e*Pn	**Pn**	**15 17 40.8**	**-1.1**
QZH				Sn	**Sn**	**15 18 18.0**	**-4.2**
QZH				SMN			
	560nm,0.8s						
QZH				SME			
	250nm,0.6s						
QZH				LN			
	2μm,6.1s						
QZH				LE			
	810nm,3.7s						
QZH				LZ			
	1μm,6.5s						
KNM	**Kinmen**	**3.60**	**262**	*e*P	**Pn**	**15 17 45.3**	**+0.7**
	baz=261						
KSRS	**Korea Array**	**13.31**	**20**	P	**P**	**15 20 07.0**	**-0.4**
	0.9nm,0.3s,baz=198,slow=12,SNR=24						
KSRS				LR	LR	15 25 45.6	
	comp=Z,76nm,18.4s,baz=194,slow=40						
MJAR	**Matsushiro Arr**	**17.82**	**46**	P	**P**	**15 21 01.1**	**+3.5**
	baz=237,slow=5.4,SNR=2.4						
MJAR				LR	LR	15 28 44.3	
	comp=Z,51nm,18.2s,baz=255,slow=39						
MDJ	**Mudanjiang**	**20.45**	**15**	P	Pn	15 21 28.9	+0.5
	8.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**20.72**	**20**	P	Pn	15 21 32.1	+0.5
	4.2nm,0.7s,baz=203,slow=10,SNR=16						
USRK				LR	LR	15 29 51.4	
	comp=Z,65nm,21.9s,baz=165,slow=37						
CMAR	**Chiang Mai Arr**	**22.67**	**258**	P	**P**	**15 21 52.5**	**+2.1**
	1.6nm,0.8s,baz=61,slow=8.4,SNR=14						
CMAR				LR	LR	15 32 26.7	
	comp=Z,29nm,18.7s,baz=90,slow=41						
GTA	**Gaotai**	**23.80**	**313**	P	**P**	**15 22 02.5**	**+0.8**
GTA				pP	pP	15 22 11.5	+5.9
GTA				sP	sP	15 22 15.5	+8.3
GTA				PMZ			
	4.0nm,1.2s						
GTA				PMZ			
	100nm,5.2s						
GTA				LN			
	160nm,13.3s						
GTA				LE			
	110nm,15.2s						
GTA				LZ			
	100nm,15.2s						

SONM	**Songino Array**	**26.07**	**335**	P	**P**	**15 22 23.6**	**+1.2**
	1.6nm,0.7s,baz=140,slow=9.7,SNR=12						
SONM				LR	LR	15 33 12.3	
	comp=Z,95nm,18.2s,baz=91,slow=37						
YSS	**Yuzh-Sakhalins**	**27.30**	**31**	*e*P	**P**	**15 22 36.8**	**+3.5**
	22nm,1.3s						
MKAR	**Makanchi Array**	**38.52**	**315**	P	**P**	**15 24 11.2**	**+0.1**
	3.9nm,0.8s,baz=106,slow=6.8,SNR=18						
MKAR				LR	LR	15 41 09.9	
	comp=Z,25nm,19.8s,baz=151,slow=38						
ZALV	**Zalesovo Beam**	**40.16**	**326**	P	**P**	**15 24 24.4**	**-0.3**
	2.1nm,0.6s,baz=116,slow=6.8,SNR=16						
ZALV				LR	LR	15 42 05.8	
	comp=Z,60nm,20.4s,baz=70,slow=38						
TKM2	**Tokmak 2**	**42.12**	**307**	*e*P	**P**	**15 24 42.5**	**+1.2**
	6.0nm,0.8s						
KURK	**Kurchatov**	**42.17**	**319**	*e*P	**P**	**15 24 41.1**	**-0.2**
	15nm,1.4s						
KURK				*e*		15 24 46.5	
SEY	**Seymchan**	**42.87**	**20**	P	**P**	**15 24 47.8**	**+1.0**
	0.5nm,0.6s,baz=264,slow=11,SNR=4.1						
WRAB	**Tennant Creek**	**46.15**	**164**	*e*P	**P**	**15 25 13.5**	**0.0**
	7.8nm,0.8s						
WRA	**Warramunga Arr**	**46.16**	**164**	P	**P**	**15 25 13.8**	**+0.3**
	4.4nm,0.8s,baz=346,slow=8.3,SNR=16						
WRA				PcP	**PcP**	**15 26 48.6**	**-0.8**
	0.5nm,0.5s,baz=347,slow=3.4,SNR=2.8						
WB2	**Warramunga Arr**	**46.16**	**164**	*e*P	**P**	**15 25 13.6**	**0.0**
TIXI	**Tiksi**	**46.84**	**3**	*e*P	**P**	**15 25 18.1**	**-0.2**
	4.9nm,0.9s						
BRVK	**Borovoye**	**47.81**	**320**	*e*P	**P**	**15 25 23.2**	**-2.9**
	29nm,0.9s						
AS31	**Alice Springs**	**49.64**	**166**	*e*P	**P**	**15 25 40.9**	**+0.3**
ASAR	**Alice Springs**	**49.64**	**166**	P	**P**	**15 25 41.1**	**+0.6**
	1.4nm,0.7s,baz=344,slow=8.2,SNR=20						
ASAR				PcP	**PcP**	**15 27 00.7**	**-1.2**
	0.5nm,0.5s,baz=337,slow=3.1,SNR=5.0						
ABKAR	**Akbulak array**	**53.65**	**314**	*e*P	**P**	**15 26 09.9**	**-0.3**
	2.4nm,0.7s						
GEYT	**Alibeck**	**55.31**	**300**	P	**P**	**15 26 23.5**	**+0.9**
	0.4nm,0.3s,baz=108,slow=4.7,SNR=2.5						
ILAR	**Eielson Array**	**68.02**	**28**	P	**P**	**15 27 46.7**	**-1.1**
	0.1nm,0.6s,baz=283,slow=5.1,SNR=4.7						
JOF	**Joensuu**	**68.53**	**331**	*e*p	**P**	**15 27 49.5**	**-1.5**
	3.7nm,0.5s						
ARCES	**ARCESS Array B**	**69.20**	**338**	P	**P**	**15 27 55.0**	**-0.1**
	5.0nm,0.9s,baz=58,slow=7.8,SNR=6.6						
FINES	**FINESS Array B**	**71.29**	**330**	P	**P**	**15 28 07.8**	**-0.2**
	5.4nm,0.8s,baz=84,slow=5.2,SNR=27						
FINES				LR	LR	16 02 44.0	
	comp=Z,66nm,18.8s,baz=57,slow=38						
AKASG	**Malin Array Be**	**72.98**	**318**	P	**P**	**15 28 17.6**	**-0.8**
	1.2nm,0.6s,baz=56,slow=6.7,SNR=9.1						
BRTR	**Keskin Array B**	**73.55**	**306**	P	**P**	**15 28 22.2**	**+0.1**
	1.8nm,0.9s,baz=111,slow=5.6,SNR=9.7						
NOA	**NORSAR Array B**	**78.01**	**332**	P	**P**	**15 28 45.9**	**-1.2**
	0.4nm,0.7s,baz=44,slow=2.8,SNR=1.7						
YKA	**Yellowknife Ar**	**81.82**	**23**	P	**P**	**15 29 07.1**	**-0.5**
	0.3nm,0.7s,baz=308,slow=5.4,SNR=5.6						
BORG	**Borgarnes**	**86.23**	**345**	LR	LR	16 14 28.0	
	comp=Z,19nm,20.2s,baz=141,slow=40						
FRB	**Frobisher Bay**	**91.15**	**5**	LR	LR	16 14 57.3	
	comp=Z,22nm,19.1s,baz=198,slow=38						

*IDC **25** 15:42:17.2±0.5,37.60S×72.97W,h0km,mb4.7/19, mb1 4.8/22,mb1mx4.7/26,mbtmp4.7/22,ML4.0/2,MS4.0/15, Ms1 4.0/15,ms1mx3.9/23,Error ellipse: s-maj=20.7km s-min=12.0km az=94.0*

*ISCJB **25** 15:42:22.8±0.2,37.48S±0.04×72.74W±0.07,h42km, mb4.9/60,MS4.1/13,Error ellipse: s-maj=8.2km s-min=5.5km az=159.0*

*NEIC **25** 15:42:23.4±0.2,37.53S×72.88W,mb5.0/43,Error ellipse: s-maj=7.2km s-min=4.3km az=82.0*

NEIC Felt [V] at Angol and Curacautin; [IV] at Coronel, Lebu, Lota, Renaico and Temuco; [III] at Curanilahue, Laja and San Rosendo. Also felt at Canete, Chiguayante, Concepcion, Lautaro and Los Angeles.

*BJI **25** 15:42:23.6,37.50S×72.90W,h40km,mB5.0/4,Ms5.0/3, Ms7 5.0/2*

ISC 25 15:42:23.0±0.6,37.57S±0.05×72.94W±0.10,h41km±4km, h41km:pP-P,n458,σt§33/465,mb4.9/60,MS4.0/13, 169C-173D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.66**	**150**	Pn	**Pn**	**Pn**	**15 43 18.9**	**+1.7**
	24nm,0.3s,baz=322,slow=10,SNR=846							
PLCA				Lg	Lg	Lg	15 44 16.4	
	68nm,0.3s,baz=254,slow=20,SNR=6.7							
PLCA				LR	LR	LR	15 44 56.8	
	comp=Z,2μm,21.1s,baz=335,slow=44							
CFAA	**Coronel Fontan**	**7.11**	**34**	Pn	**Pn**	**Pn**	**15 44 04.5**	**+0.1**
	2.0nm,0.3s,baz=4.5,slow=0.1,SNR=77							
CFAA				Sn		Sn	15 45 33.9	+10
	0.7nm,0.3s,baz=37,slow=3.6,SNR=1.9							
CFAA				Lg	Lg	Lg	15 46 03.5	
	baz=318,slow=20,SNR=3.3							
CFAA				LR	LR	LR	15 47 03.3	
	comp=Z,306nm,19.7s,baz=204,slow=40							
TRQA	**Tornquist**	**8.69**	**97**	*e*P	**Pn**	**Pn**	**15 44 28.4**	**+2.2**
	128nm,1.0s							
LCO	**Las Campanas**	**8.74**	**13**	*e*P	**Pn**	**Pn**	**15 44 25.8**	**-1.4**
	200nm,0.8s							
LVC	**Limon Verde**	**15.31**	**14**	Pn	**Pn**	**Pn**	**15 45 54.6**	**-1.9**
	42nm,0.3s,baz=208,slow=9.2,SNR=10							
LVC				Sn		**S**	**15 49 06.0**	**+5.7**
	baz=223,slow=18,SNR=1.8							
LVC	**Limon Verde**	**15.31**	**14**	*e*Pn	**Pn**	**Pn**	**15 45 52.3**	**-4.3**
	45nm,0.8s							
LVC				Sn		**S**	**15 49 06.0**	**+5.7**
CPUP	**Villa Florida**	**17.33**	**54**	P	**Pn**	**Pn**	**15 46 21.8**	**0.0**
	0.2nm,0.3s,baz=233,slow=10.0,SNR=17							
CPUP				Lg	Lg	Lg	15 51 15.1	
	0.1nm,0.3s,baz=269,slow=17,SNR=4.9							
CPUP				LR	LR	LR	15 53 46.9	
	comp=Z,10μm,19.7s,baz=230,slow=40							
CPUP	**Villa Florida**	**17.33**	**54**	*e*P	**Pn**	**Pn**	**15 46 21.4**	**-0.5**
	0.7nm,1.0s							
CPUP				Lg	Lg	Lg	15 51 15.1	
USHA	**Ushuaia**	**17.54**	**171**	P	**P**	**P**	**15 46 25.0**	**+0.1**
	0.5nm,0.3s,baz=339,slow=14,SNR=3.2							
LPAZ	**La Paz**	**21.62**	**13**	P	**P**	**P**	**15 47 11.8**	**+1.4**
	29nm,0.9s,baz=179,slow=8.6,SNR=80							
LPAZ				LR	LR	LR	15 56 07.2	
	comp=Z,397nm,21.0s,baz=170,slow=38							
LPAZ	**La Paz**	**21.62**	**13**	*e*P	**P**	**P**	**15 47 11.5**	**+1.1**
	1.5nm,0.3s							
SIV	**San Ignacio**	**23.92**	**29**	P	**P**	**P**	**15 47 33.0**	**-0.3**
	27nm,0.7s,baz=217,slow=9.3,SNR=77							
SIV				LR	LR	LR	15 58 19.8	
	comp=Z,568nm,20.2s,baz=210,slow=40							
NNA	**Nana**	**25.72**	**351**	P	**P**	**P**	**15 47 49.3**	**-0.3**
	21nm,0.7s,baz=198,slow=10,SNR=12							
NNA				LR	LR	LR	15 55 46.3	
	comp=Z,350nm,21.3s,baz=172,slow=31							
NNA	**Nana**	**25.72**	**351**	*e*P	**P**	**P**	**15 47 49.2**	**-0.5**
	34nm,0.8s							
SAML	**Samuel**	**29.83**	**20**	*e*P	**P**	**P**	**15 48 26.3**	**-0.1**
	19nm,1.1s							
ATAH	**Atahualpa**	**30.70**	**349**	P	**P**	**P**	**15 48 34.5**	**-0.1**
	12nm,0.9s,baz=151,slow=10,SNR=5.5							
ATAH				LR	LR	LR	15 58 48.0	
	comp=Z,237nm,19.4s,baz=130,slow=32							
BDFB	**Brasilia**	**31.03**	**52**	P	**P**	**P**	**15 48 37.3**	**+0.1**
	5.8nm,0.5s,baz=231,slow=9.3,SNR=9.4							
BDFB				LR	LR	LR	16 02 37.2	
	comp=Z,544nm,18.9s,baz=210,slow=39							
OTAV	**Otavalo**	**37.97**	**351**	*e*P	**P**	**P**	**15 49 38.6**	**+1.2**
	34nm,1.1s							
PTGA	**Pitinga**	**38.57**	**21**	P	**P**	**P**	**15 49 41.2**	**-0.8**
	9.0nm,0.7s,baz=200,slow=9.7,SNR=14							
PTGA	**Pitinga**	**38.57**	**21**	*e*P	**P**	**P**	**15 49 41.6**	**-0.4**
ROSC	**El Rosal**	**42.23**	**358**	P	**P**	**P**	**15 50 12.7**	**0.0**
	23nm,0.7s,baz=163,slow=4.4,SNR=12							
ROSC				LR	LR	LR	16 07 51.9	
	comp=Z,141nm,18.1s,baz=228,slow=36							
SDV	**Santo Domingo**	**46.27**	**3**	*e*P	**P**	**P**	**15 50 44.2**	**-0.6**
	24nm,0.8s							
VNA3	**Neumayer Olymp**	**46.36**	**156**	P	**P**	**P**	**15 50 45.5**	**+0.8**
VNA1	**Neumayer--Stat**	**46.70**	**156**	P	**P**	**P**	**15 50 48.3**	**+0.9**
VNA2	**Neumayer--Watz**	**47.03**	**156**	P	**P**	**P**	15 50 38.6	-11
	baz=296,slow=9.5							
PCRV	**Puerto La Cruz**	**48.13**	**11**	P	**P**	**P**	**15 50 59.3**	**+0.2**
	14nm,0.8s,baz=185,slow=4.8,SNR=4.4							

SNAA	**Sanae**	**48.58**	**157**	P	**P**	**15 51 02.9**	**+0.9**
SNAA	**Sanae**	**48.58**	**157**	P	**P**	**15 51 02.3**	**+0.3**
	3.2nm,0.9s,baz=262,slow=7.5,SNR=19						
JTS	**JuntasAbangare**	**48.93**	**344**	P	**P**	**15 51 05.6**	**+0.4**
	10.0nm,0.8s,baz=97,slow=4.0,SNR=6.0						
GRGR	**Grenville**	**50.57**	**14**	*e*P	**P**	**15 51 17.9**	**+0.2**
QSPA	**South Pole Qui**	**52.67**	**180**	P	**P**	**15 51 33.1**	**+0.1**
	8.9nm,0.9s,baz=126,slow=2.1,SNR=23						
RKT	**Rikitea**	**54.54**	**267**	*e*LR	LR	16 07 36.9	
	331nm,25.5s						
CELP	**Cerrillos**	**55.67**	**7**	*e*P	**P**	**15 51 54.1**	**-1.0**
TEIG	**Tepich**	**59.28**	**343**	*e*P	**P**	**15 52 20.4**	**-0.1**
	21nm,0.8s						
SBA	**Scott Base**	**59.44**	**192**	*e*P	**P**	**15 52 22.3**	**+1.3**
	6.4nm,1.0s						
VNDA	**Vanda**	**60.46**	**192**	P	**P**	**15 52 29.2**	**+1.2**
	1.6nm,1.1s,baz=64,slow=2.5,SNR=3.5						
VNDA				LR	LR	16 14 26.9	
	comp=Z,73nm,20.4s,baz=142,slow=32						
TBI	**Tubuai**	**65.83**	**258**	*e*LR	LR	16 12 52.0	
	386nm,26.8s,baz=105						
035Z	**Hargill**	**67.93**	**336**	⇓P	**P**	**15 53 19.7**	**+2.2**
	baz=68						
035A	**Encino**	**68.38**	**336**	⇓P	**P**	**15 53 22.1**	**+1.8**
	baz=69						
936A	**North Padre Is**	**68.58**	**337**	⇓P	**P**	**15 53 23.4**	**+1.9**
	baz=69						
034A	**Hebbronville**	**68.69**	**335**	⇑P	**P**	**15 53 24.0**	**+1.8**
	baz=69,SNR=6.8						
TIAR	**Tiarei**	**68.89**	**264**	*e*T	T	17 07 39.9	
	4.1nm,0.3s						
PPT2	**Papeete2**	**69.05**	**264**	*e*LR	LR	16 14 18.9	
	244nm,26.5s,baz=117						
PPT	**Papeete**	**69.06**	**264**	LR	LR	16 16 36.5	
	comp=Z,211nm,18.2s,baz=16,slow=30						
934A	**Benavides**	**69.14**	**336**	⇓P	**P**	**15 53 26.8**	**+1.8**
	baz=69						
TIGA	**Tifton**	**69.37**	**350**	⇑P	**P**	**15 53 27.0**	**+0.6**
	baz=70						
933A	**Laredo**	**69.39**	**335**	⇓P	**P**	**15 53 28.2**	**+1.6**
	baz=70						
738A	**Farr-Stevens R**	**69.41**	**339**	⇓P	**P**	**15 53 28.1**	**+1.4**
	baz=70						
835A	**Beeville**	**69.55**	**337**	⇓P	**P**	**15 53 30.1**	**+2.6**
	baz=70						
834A	**Tilden**	**69.63**	**336**	⇑P	**P**	**15 53 30.1**	**+2.0**
	baz=70						
736A	**Circle Diamond**	**69.94**	**338**	⇑P	**P**	**15 53 31.4**	**+1.5**
	baz=70						
MAW	**Mawson**	**69.97**	**163**	P	**P**	**15 53 30.2**	**+0.5**
	2.7nm,0.8s,baz=192,slow=3.7,SNR=4.6						
MAW				LR	LR	16 23 20.0	
	comp=Z,383nm,21.6s,baz=241,slow=35						
735A	**Kenedy**	**70.07**	**337**	⇓P	**P**	**15 53 32.5**	**+1.7**
	baz=70						
833A	**Chaparral WMA,**	**70.09**	**335**	⇓P	**P**	**15 53 32.1**	**+1.3**
	baz=70,SNR=9.3						
832A	**Faith Ranch, C**	**70.25**	**335**	⇑P	**P**	**15 53 32.8**	**+0.9**
	baz=70,SNR=5.8						
734A	**La Parita Cree**	**70.30**	**336**	⇑P	**P**	**15 53 33.1**	**+1.0**
	baz=71						
539A	**Cross D Ranch,**	**70.35**	**340**	⇑P	**P**	**15 53 33.8**	**+1.3**
	baz=71						
733A	**Divot King Ran**	**70.42**	**336**	⇓P	**P**	**15 53 34.4**	**+1.5**
	baz=71						
636A	**Smothers Creek**	**70.43**	**338**	⇓P	**P**	**15 53 34.7**	**+1.8**
	baz=71						
635A	**Leesville**	**70.56**	**337**	⇓P	**P**	**15 53 36.3**	**+2.6**
	baz=71						
732A	**Laxson Ranch,**	**70.66**	**335**	⇑P	**P**	**15 53 35.1**	**+0.7**
	baz=71,SNR=11						
538A	**Harpers Horsep**	**70.67**	**339**	⇓P	**P**	**15 53 36.0**	**+1.7**
	baz=71						
LPIG	**La Paz**	**70.70**	**324**	LR	LR	16 17 46.4	
	comp=Z,140nm,18.4s,baz=202,slow=30						
537A	**Green Hill Far**	**70.77**	**339**	⇓P	**P**	**15 53 36.6**	**+1.6**
	baz=71						
439A	**Center Grove,**	**71.01**	**340**	⇑P	**P**	**15 53 38.5**	**+2.1**
	baz=71						
633A	**Saathoff Ranch**	**71.07**	**336**	⇑P	**P**	**15 53 39.2**	**+2.3**
	baz=71						
438A	**Sam Houston St**	**71.16**	**340**	⇑P	**P**	**15 53 39.6**	**+2.3**
	baz=72						
632A	**Uvalde**	**71.31**	**335**	⇓P	**P**	**15 53 39.8**	**+1.5**
	baz=72,SNR=9.5						
340A	**Bronson**	**71.37**	**341**	⇓P	**P**	**15 53 40.2**	**+1.6**
	baz=72						
534A	**Blanco**	**71.37**	**337**	⇑P	**P**	**15 53 40.6**	**+1.9**
	baz=72						
LRAL	**Lakeview Retre**	**71.46**	**348**	*e*P	**P**	**15 53 38.8**	**-0.2**
	12nm,0.9s						
339A	**Huntington**	**71.47**	**341**	⇓P	**P**	**15 53 40.2**	**+1.1**
	baz=72						
631A	**Perdido Creek**	**71.49**	**335**	⇓P	**P**	**15 53 40.3**	**+0.9**
	baz=72,SNR=8.9						
436A	**Wall Ranch, Ga**	**71.56**	**338**	⇓P	**P**	**15 53 40.6**	**+0.9**
	baz=72						
533A	**Kerrville**	**71.59**	**336**	⇓P	**P**	**15 53 40.9**	**+0.9**
	baz=72,SNR=8.3						
338A	**Crockett**	**71.69**	**340**	⇓P	**P**	**15 53 42.2**	**+1.7**
	baz=72						
435B	**Jarrell**	**71.80**	**338**	⇓P	**P**	**15 53 42.9**	**+1.6**
	baz=72						
337A	**Centerville**	**71.81**	**339**	⇑P	**P**	**15 53 42.9**	**+1.7**
	baz=72						
532A	**Rocksprings**	**71.92**	**336**	⇑P	**P**	**15 53 42.9**	**+0.9**
	baz=72,SNR=20					

baz=74,SNR=12
329A Wagon Wheel Ra 73.87 334 ⇑P P 15 53 54.6 +1.0
baz=74,SNR=14
133A Hamilton Ranch 73.91 337 ⇓P P 15 53 54.5 +0.8
baz=74
230A Sterling City 73.94 335 ⇓P P 15 53 54.2 +0.2
baz=74,SNR=7.3
Z35A Perchaven, San 74.09 339 ⇓P P 15 53 55.2 +0.5
baz=74
ABTX Abilene, Hawle 74.15 337 ⇑P P 15 53 55.4 +0.3
baz=74,SNR=5.4
ABTX Abilene, Hawle 74.15 337 eP P 15 53 55.1 0.0
17nm,1.1s
229A Bryant Ranch, 74.25 335 ⇑P P 15 53 56.6 +0.8
baz=75,SNR=7.1
Z34A Collier Ranch, 74.32 338 ⇓P P 15 53 56.7 +0.6
baz=75
131A Roby 74.43 336 ⇓P P 15 53 56.8 0.0
baz=75,SNR=6.8
Z33A Whitaker Ranch 74.49 338 ⇑P P 15 53 57.6 +0.5
baz=75,SNR=5.6
130A Snyder 74.54 336 ⇑P P 15 53 57.9 +0.4
baz=75
WVT Waverly 74.62 348 eP P 15 53 57.2 -0.6
21nm,0.9s
228A UT Block 9, Go 74.65 334 ⇑P P 15 53 58.6 +0.5
baz=75,SNR=9.7
Z32A Haskell 74.73 337 ⇑P P 15 53 59.2 +0.7
baz=75,SNR=7.1
X37A Clayton 74.77 341 ⇓P P 15 53 59.7 +1.1
baz=75
Y34A Reagan Ranch, 74.82 339 ⇑P P 15 53 59.2 +0.2
baz=75
129A Stewart Farms, 74.87 335 ⇑P P 15 53 59.9 +0.5
baz=75
Z31A Sharp Cattle R 74.95 337 ⇑P P 15 54 00.6 +0.9
baz=75,SNR=7.3
W38A Poteau 75.00 342 ⇓P P 15 54 00.5 +0.6
baz=75
X36A Centrahoma 75.01 340 ⇓P P 15 54 00.0 0.0
baz=75,SNR=5.3
X35A Drake 75.02 340 ⇑P P 15 53 59.7 -0.4
baz=75
JSRW J. Sargeant Re 75.03 356 eP P 15 54 00.1 +0.1
128A Castleberry Fa 75.08 334 ⇑P P 15 54 01.3 +0.7
baz=75,SNR=10
Y33A Hilltop Ranch, 75.12 338 ⇓P P 15 54 01.3 +0.6
baz=75
Z30A Sanderson Ranc 75.23 336 ⇓P P 15 54 01.7 +0.3
baz=76,SNR=12
MNTX Cornudas Mount 75.28 332 ⇓P P 15 54 01.5 -0.2
baz=76,SNR=15
MNTX Cornudas Mount 75.28 332 eP P 15 54 01.1 -0.6
7.8nm,0.9s
Y32A R-V Farms, Ver 75.36 337 ⇑P P 15 54 02.7 +0.6
baz=76
Z29A Hungry Hill Ra 75.40 335 ⇑P P 15 54 02.7 +0.3
baz=76,SNR=17
X34A Smith Ranch, M 75.45 339 ⇓P P 15 54 03.1 +0.5
baz=76
W36A Wetumka 75.51 340 ⇓P P 15 54 03.1 +0.2
baz=76
Y31A Rekieta Farm, 75.58 337 ⇓P P 15 54 04.0 +0.7
baz=76
X33A Lawton 75.58 338 ⇓P P 15 54 04.0 +0.6
baz=76
Z28A Tucker Farm, M 75.65 335 ⇑P P 15 54 04.7 +0.8
baz=76
W35A Tecumseh 75.70 340 ⇑P P 15 54 03.9 -0.1
baz=76
Y30A Stafford Cattl 75.70 336 ⇑P P 15 54 04.6 +0.5
baz=76
X32A Elmer 75.70 338 ⇓P P 15 54 04.7 +0.6
baz=76
Y29A Porterfield Fa 75.94 336 ⇓P P 15 54 05.9 +0.4
baz=76,SNR=8.1
W34A Bridge Creek, 76.02 339 ⇓P P 15 54 06.5 +0.6
baz=76
X31A McDonald Ranch 76.11 337 ⇑P P 15 54 06.9 +0.5
baz=76,SNR=7.0
TUL1 Leonard 76.12 341 ⇓P P 15 54 06.5 +0.2
baz=76,SNR=7.3
TUL1 Leonard 76.12 341 eP P 15 54 05.9 -0.5
24nm,0.9s
W33A Caddo, Fort Co 76.14 339 ⇑P P 15 54 07.1 +0.5
baz=76
Y28A McKinney Farm, 76.17 335 ⇑P P 15 54 07.1 +0.3
baz=76
X30A Coker Ranch, T 76.22 337 ⇑P P 15 54 07.6 +0.6
baz=76
V35A Meyer Ranch, C 76.26 340 ⇓P P 15 54 07.3 +0.1
baz=77
W32A Sentinel 76.34 338 ⇓P P 15 54 08.4 +0.7
baz=77,SNR=12
MSTX Muleshoe 76.40 335 ⇑P P 15 54 08.7 +0.6
baz=77,SNR=7.1
MSTX Muleshoe 76.40 335 eP P 15 54 08.1 -0.1
15nm,0.9s
CASY Casey 76.44 181 eP P 15 54 08.4 +0.5
23nm,1.3s
X29A Tulia 76.48 336 ⇑P P 15 54 09.0 +0.4
baz=77
319A Douglas 76.54 329 ⇓P P 15 54 10.3 +1.3
baz=77,SNR=6.0
W31A Holland Ranch, 76.61 338 ⇑P P 15 54 09.6 +0.4
baz=77
X28A Dimmitt 76.71 336 ⇓P P 15 54 10.4 +0.5
baz=77
V33A Lossen Ranch, 76.72 339 ⇓P P 15 54 10.4 +0.6
baz=77,SNR=7.5
V32A Arapaho 76.84 338 ⇑P P 15 54 11.4 +0.9
baz=77
AMTX Amarillo 76.88 336 ⇓P P 15 54 11.6 +0.8
baz=77
AMTX Amarillo 76.88 336 eP P 15 54 10.7 -0.1
26nm,0.9s
121A Cookes Peak, D 76.95 330 ⇑P P 15 54 13.0 +1.7
baz=77,SNR=5.2
121A Cookes Peak, D 76.95 330 eP P 15 54 12.4 +1.1
4.2nm,0.7s
DBIC Dimbokro 77.03 71 P P 15 54 12.8 +0.8
14nm,0.7s,baz=206,slow=5.8,SNR=21
DBIC Dimbokro 77.03 71 eP P 15 54 12.6 +0.6
23nm,0.9s
DBIC epP pP 15 54 23.6 -0.6
U34A Anderson Ranch 77.08 340 ⇑P P 15 54 12.5 +0.7
baz=77
W29A Amarillo 77.08 336 ⇑P P 15 54 12.7 +0.7
baz=77,SNR=6.8
V31A Spring Creek L 77.13 338 ⇑P P 15 54 12.6 +0.5
baz=77
U33A Lingo Farm, Me 77.24 339 ⇓P P 15 54 14.3 +1.6
baz=78
V30A Spur Ranch, Mi 77.37 337 ⇓P P 15 54 15.0 +1.5
baz=78
W28A Vega 77.39 336 ⇑P P 15 54 14.8 +1.1
baz=78
U32A Winter Ranch, 77.44 339 ⇓P P 15 54 14.6 +0.7
baz=78,SNR=5.5
U31A Nine Bar Ranch 77.68 338 ⇑P P 15 54 16.5 +1.3
baz=78
S36A Lake Cedric, C 77.79 342 ⇑P P 15 54 16.7 +1.0
baz=78
V28A Channing 77.85 336 ⇓P P 15 54 17.2 +1.0
baz=78
T33A Patterson Ranc 77.88 340 ⇓P P 15 54 17.4 +1.1
baz=78
S35A Otter Creek Ra 77.94 341 ⇑P P 15 54 17.0 +0.5
baz=78
U30A WK&E Inc. Balk 78.07 337 ⇓P P 15 54 18.7 +1.3
baz=78
S34A Willow Spring 78.16 341 ⇑P P 15 54 18.9 +1.1
baz=78
T32A Huddler Ranch, 78.17 339 ⇓P P 15 54 18.8 +0.9
baz=78
U29A Oasis Ranch, S 78.19 337 ⇓P P 15 54 19.5 +1.4
baz=78
T31A Randall Ranch, 78.31 338 ⇑P P 15 54 19.7 +1.1
baz=79
R36A Gordon, Harris 78.34 342 ⇑P P 15 54 19.8 +1.0
baz=79
U28A Mallet 78.42 336 ⇑P P 15 54 20.3 +0.9
baz=79
T30A Plains 78.52 338 ⇓P P 15 54 20.8 +1.0
baz=79
214A Organ Pipe Nat 78.55 326 ⇓P P 15 54 21.6 +1.5
baz=79,SNR=6.3
214A Organ Pipe Nat 78.55 326 eP P 15 54 20.9 +0.8
11nm,1.2s
ANMO Albuquerque 78.58 332 eP P 15 54 21.3 +0.9
12nm,0.9s
Q37A Longview Farm, 78.61 343 ⇓P P 15 54 21.2 +0.9
baz=79
S32A Newby Ranch, P 78.66 339 ⇓P P 15 54 21.6 +1.1
baz=79
SFIN Lafayette 78.66 349 ⇑P P 15 54 22.2 +1.8
baz=79
U27A Thompson Grove 78.66 336 ⇑P P 15 54 21.8 +1.1
baz=79,SNR=6.1
T29A Hugoton 78.85 337 ⇑P P 15 54 22.3 +0.7
baz=79
R33A Olander Ranch, 78.96 340 ⇑P P 15 54 22.4 +0.2
baz=79
S30A Montezuma 79.04 338 ⇑P P 15 54 23.7 +1.0
baz=79
T28A Walsh 79.07 337 ⇑P P 15 54 23.6 +0.7
baz=79,SNR=11
HDIL Hopedale 79.19 347 eP P 15 54 22.8 -0.5
104nm,0.7s
T27A Campo 79.21 336 ⇑P P 15 54 25.0 +1.3
baz=80
S29A Ulysses 79.22 338 ⇓P P 15 54 24.8 +1.1
baz=80
R32A Long Quarter, 79.27 340 ⇓P P 15 54 24.8 +1.0
baz=80
KSU1 Kansas State U 79.35 341 ⇓P P 15 54 24.9 +0.6
baz=80
R31A Burdett 79.37 339 ⇓P P 15 54 25.4 +0.9
baz=80
S28A Manter 79.43 337 ⇓P P 15 54 25.7 +0.8
baz=80,SNR=6.3
X18A Snowflake 79.56 330 ⇓P P 15 54 26.8 +1.0
baz=80
Q33A Connelly Farm, 79.57 341 ⇑P P 15 54 26.3 +0.8
baz=80
R30A Dighton 79.58 338 ⇑P P 15 54 26.8 +1.1
baz=80
T26A Comanche Natio 79.59 336 ⇓P P 15 54 27.0 +1.1
baz=80,SNR=12
113A Mohawk Valley, 79.66 326 ⇑P P 15 54 26.9 +0.8
baz=80
Q32A Meitler Ranch, 79.76 340 ⇑P P 15 54 27.4 +0.9
baz=80
Z14A Wintersburg 79.81 327 ⇓P P 15 54 28.1 +1.2
baz=80
S27A Las Animas 79.83 336 ⇓P P 15 54 28.3 +1.2
baz=80
T25A Trinidad 79.83 335 ⇓P P 15 54 28.7 +1.5
baz=80,SNR=19
P33A Williams Farm, 79.94 341 ⇓P P 15 54 29.2 +1.7
baz=80
S26A Kim 79.96 336 ⇑P P 15 54 29.3 +1.5
baz=80,SNR=17
R29A Marienthal 79.97 338 ⇑P P 15 54 28.6 +0.9
baz=80
W18A Petrified Fore 79.99 330 ⇓P P 15 54 29.3 +1.3
baz=80
Q31A Ellis 80.00 339 ⇓P P 15 54 28.9 +1.0
baz=80
X16A Lo Mia Camp, P 80.07 329 ⇑P P 15 54 30.1 +1.6
baz=80,SNR=11
R28A Tribune 80.10 337 ⇑P P 15 54 29.5 +1.1
baz=80,SNR=7.0
Q30A Quinter 80.21 339 ⇑P P 15 54 30.2 +1.2
baz=80,SNR=6.0
Y14A Wickenburg 80.32 327 ⇓P P 15 54 31.0 +1.3
baz=81,SNR=6.8
Q29A Oakley 80.35 338 ⇑P P 15 54 30.8 +1.0
baz=81,SNR=5.2
R27A Eads 80.35 337 ⇓P P 15 54 31.0 +1.1
baz=81,SNR=11
P32A Huiting Farm, 80.36 340 ⇓P P 15 54 30.6 +0.9
baz=81
GLA Glamis 80.38 325 ⇓P P 15 54 31.1 +1.0
baz=81
P31A Stockton 80.48 340 ⇑P P 15 54 31.4 +0.9
baz=81
R26A Arlington 80.57 336 ⇑P P 15 54 32.1 +1.0
baz=81,SNR=8.6
ACCN Adirondack Com 80.58 359 eP P 15 54 31.1 +0.3
10.0nm,0.9s
SWSC Sam W. Stewart 80.72 325 ⇓P P 15 54 33.0 +1.2
baz=81
P30A Selden 80.74 339 ⇓P P 15 54 33.0 +1.1
baz=81
SDCO Great Sand Dun 80.75 334 ⇓P P 15 54 33.4 +1.2
baz=81,SNR=13
Q28A Sharon Springs 80.76 338 ⇓P P 15 54 33.0 +0.9
baz=81
Y12C Blythe 80.83 326 ⇓P P 15 54 34.4 +2.1
baz=81,SNR=6.5
O32A Brockman Farm, 80.87 341 ⇓P P 15 54 34.4 +1.9
baz=81
S23A Nye Farm, Mont 80.89 334 ⇓P P 15 54 34.5 +1.5
baz=81
KSCO Kaye Shedlock' 80.96 337 ⇑P P 15 54 34.9 +1.7
baz=81
WUAZ Wupatki 80.99 329 ⇑P P 15 54 35.3 +1.9
baz=81,SNR=8.2
WUAZ Wupatki 80.99 329 eP P 15 54 34.8 +1.4
8.7nm,1.0s
P29A Atwood 81.00 338 ⇓P P 15 54 34.6 +1.4
baz=81
O31A Woolen Ranch, 81.05 340 ⇑P P 15 54 34.9 +1.5
baz=81
R24A Sanders Place, 81.06 335 ⇑P P 15 54 35.6 +1.8
baz=81,SNR=9.4
PDMCI Parker Dam,Lak 81.12 327 ⇑P P 15 54 35.8 +1.9
baz=81
Q26A Hugo 81.16 336 ⇑P P 15 54 35.7 +1.5
baz=82
BC3 Big Chuckawall 81.17 325 ⇑P P 15 54 36.0 +1.7
baz=82,SNR=6.2
MDV Middlebury 81.19 360 eP P 15 54 34.4 +0.4
P28A Saint Francis 81.21 338 ⇑P P 15 54 36.2 +1.8
baz=82
S22A 4UR Ranch, Cre 81.22 333 ⇓P P 15 54 36.3 +1.6
baz=82,SNR=8.3
R23A Moffat 81.26 334 ⇓P P 15 54 36.3 +1.3
baz=82
O30A MW Ranch, Wils 81.28 339 ⇓P P 15 54 36.0 +1.3
baz=82
MVCO Mesa Verde 81.35 332 ⇓P P 15 54 36.9 +1.5
baz=82,SNR=7.0
MVCO Mesa Verde 81.35 332 eP P 15 54 36.4 +1.0
12nm,0.8s
Q25A Bedland, Calha 81.39 336 ⇑P P 15 54 36.8 +1.3
baz=82
O29A 4D Ranch, Culb 81.44 339 ⇓P P 15 54 37.0 +1.4
baz=82
LBNH Lisbon 81.44 1 eP P 15 54 35.8 +0.4
14nm,0.9s
P27A Ficken Ranch, 81.44 337 ⇓P P 15 54 37.7 +2.0
baz=82
IRM Iron Mountain 81.45 326 ⇑P P 15 54 37.6 +1.9
baz=82,SNR=5.1
LBTB Lobatse 81.47 115 eP P 15 54 36.5 +0.1
10nm,0.8s
PFO Pinyon Flats O 81.59 324 ⇑P P 15 54 38.8 +2.2
baz=82,SNR=7.3
P26A Davis Ranch, A 81.69 337 ⇑P P 15 54 38.6 +1.6
baz=82
W13A Hualapai Mount 81.69 327 ⇑P P 15 54 39.3 +2.1
baz=82,SNR=7.9
BELC Belle Mtn. Jos 81.70 325 ⇑P P 15 54 39.3 +2.1
baz=82
O28A Krutsinger Ran 81.73 338 ⇓P P 15 54 38.6 +1.5
baz=82
Q24A Divide 81.73 335 ⇑P P 15 54 39.4 +1.9
baz=82
P25A Willow Gulch B 81.91 336 ⇑P P 15 54 40.0 +1.8
baz=82
Q23A Hartsel 81.91 335 ⇑P P 15 54 40.0 +1.6
baz=82
BGNE Belgrade 81.92 341 ⇓P P 15 54 39.1 +1.1
baz=82
MURC Murrieta 81.92 324 ⇓P P 15 54 40.2 +2.0
baz=82
O27A Beecher Island 82.00 338 ⇓P P 15 54 40.3 +1.8
baz=82
N29A Votaw Ranch, W 82.03 339 ⇓P P 15 54 40.2 +1.5
baz=82
SCI San Clemente I 82.05 323 ⇑P P 15 54 41.3 +2.4
baz=82
M31A Lambtecht Ranc 82.07 341 ⇑P P 15 54 41.7 +2.8
baz=82
P24A Kohler Place, 82.15 336 ⇑P P 15 54 42.0 +2.5
baz=82
U15A North Rim 82.15 329 ⇓P P 15 54 41.4 +1.8
baz=82,SNR=12
PV01 Paradox Valley 82.19 332 eP P 15 54 40.8 +1.0
681nm,0.9s
GMRC Granite Mounta 82.20 326 ⇑P P 15 54 42.0 +2.2
baz=82,SNR=5.9
O26A Horse Wrangler 82.30 337 ⇓P P 15 54 42.0 +1.8
baz=83
P23A Jefferson 82.33 335 ⇓P P 15 54 42.8 +2.2
baz=83
CIS Catalina Islan 82.33 323 ⇑P P 15 54 42.7 +2.3
baz=83
HEC Hector,Ludlow 82.54 325 ⇓P P 15 54 43.8 +2.3
baz=83
OGNE Ogallala 82.56 338 ⇑P P 15 54 43.0 +1.6
baz=83
N27A Anderson Farm, 82.58 338 ⇑P P 15 54 43.2 +1.6
baz=83,SNR=5.1
M29A Burnside Ranch 82.63 339 ⇑P P 15 54 43.6 +1.8
baz=83
ISCO Idaho Springs 82.64 335 ⇓P P 15 54 43.5 +1.3
baz=83,SNR=6.8
BFSC Mount Baldy Ra 82.67 324 ⇑P P 15 54 44.0 +1.7
baz=83,SNR=5.8
L31A Butterfield Fa 82.81 341 ⇑P P 15 54 44.7 +2.0
baz=83
P22A Eagle 82.84 334 ⇑P P 15 54 44.8 +1.7
baz=83
TUQ Turquoise Moun 82.87 326 ⇓P P 15 54 45.2 +2.0
baz=83,SNR=6.9
O23A Lake Granby, G 83.11 335 ⇑P P 15 54 46.4 +1.8
baz=83,SNR=11
L29A Maesberg Ranch 83.15 340 ⇓P P 15 54 45.8 +1.3
baz=84
GSC Goldstone, Bar 83.15 325 ⇓P P 15 54 46.6 +1.9
baz=83
M27A Reverse DX Ran 83.20 338 ⇑P P 15 54 46.4 +1.7
baz=84
O22A Kremmling 83.28 335 ⇓P P 15 54 47.0 +1.5
baz=84,SNR=8.7
N24A Carr 83.33 336 ⇑P P 15 54 47.6 +2.1
baz=84
EDW2 Edwards Air Fo 83.35 324 ⇑P P 15 54 47.5 +1.8
baz=84,SNR=5.8
SHPR Sheep Range 83.43 327 eP P 15 54 47.5 +1.4
6.2nm,0.9s
K30A Basset 83.48 341 ⇑P P 15 54 48.1 +2.0
baz=84
CCUT Cedar City 83.56 329 eP P 15 54 48.7 +1.8
8.1nm,0.9s
M25A Palm-Egli Farm 83.62 337 ⇓P P 15 54 49.0 +2.0
baz=84
LRMC Laurel Mtn Rad 83.70 325 ⇑P P 15 54 49.5 +2.0
baz=84
ECSD EROS Data Cent 83.73 343 ⇑P P 15 54 48.0 +0.7
baz=84
ECSD EROS Data Cent 83.73 343 eP P 15 54 46.2 -1.1
20nm,0.8s
N23A Red Feather La 83.73 335 ⇓P P 15 54 49.0 +1.2
baz=84,SNR=5.5
SRU San Rafael Swe 83.78 331 eP P 15 54 48.5 +0.6
7.9nm,0.8s
ARUT Antelope Range 83.79 329 eP P 15 54 49.7 +1.7
6.4nm,1.3s
N22A Wattenberg Ran 83.82 335 ⇓P P 15 54 50.0 +1.8
baz=84,SNR=5.3
O20A White River Ci 83.84 334 ⇓P P 15 54 49.5 +1.3
baz=84
M24A Cheyenne 83.89 336 ⇓P P 15 54 49.8 +1.3
baz=84
ARVC Arvin 83.94 324 ⇑P P 15 54 49.9 +1.3
baz=84
K28A Ten Mile Ranch 84.00 339 ⇑P P 15 54 50.5 +1.7
baz=84
J30A Dallas 84.06 341 ⇓P P 15 54 50.6 +1.6
baz=84
MPMC Manual Prospec 84.09 325 ⇑P P 15 54 51.3 +1.7
baz=84
FURC Furnace Creek, 84.15 326 ⇑P P 15 54 52.0 +2.4
baz=84
M23A Laramie 84.18 336 ⇓P P 15 54 51.2 +1.3
baz=84
TMUT Trail Mountain 84.20 331 eP P 15 54 49.6 -0.6
6.2nm,0.7s
ISA Isabella, Lake 84.22 324 ⇓P P 15 54 52.1 +2.0
baz=84,SNR=6.0
K27A Flueckinger Fa 84.23 339 ⇓P P 15 54 51.6 +1.6
baz=85
L25A Engebretsen Ra 84.25 337 ⇑P P 15 54 52.1 +1.9
baz=85
TPNV Topopah Spring 84.28 326 ⇑P P 15 54 52.4 +1.9
baz=85,SNR=6.2
SPMN Marine on St. 84.35 346 ⇑P P 15 54 52.8 +2.4
baz=85
J29A Okreek 84.35 340 ⇑P P 15 54 51.8 +1.2
baz=85,SNR=6.2
M22A Cedar Creek Ra 84.41 335 ⇓P P 15 54 52.4 +1.2
baz=85
L24A Wheatland 84.44 337 ⇓P P 15 54 52.9 +1.7
baz=85
N20A Spence Gulch, 84.47 334 ⇓P P 15 54 53.2 +1.8
baz=85
K26A Motz Farm, Whi 84.51 338 ⇑P P 15 54 53.8 +2.4
baz=85
J28A Allard Ranch, 84.62 340 ⇑P P 15 54 53.5 +1.6
baz=85
K25A Mack Ranch, Ha 84.63 338 ⇑P P 15 54 53.5 +1.4
baz=85
VES Vestal, Richgr 84.65 324 ⇑P P 15 54 53.7 +1.6
baz=85
SMMC Simmler 84.65 323 ⇓P P 15 54 54.0 +1.7
baz=85
J27A Elkhorn Farm, 84.67 339 ⇓P P 15 54 54.0 +1.8
baz=85
L23A Garrett 84.75 336 ⇑P P 15 54 55.0 +2.1
baz=85
L22A Ellis Ranch, M 84.92 336 ⇑P P 15 54 55.0 +1.4
baz=85
I29A Vivian Onida 84.92 341 ⇑P P 15 54 55.1 +1.8
baz=85
BRSD Miller 84.97 342 ⇓P P 15 54 55.3 +1.7
baz=85
MPU Maple Canyon 84.99 331 eP P 15 54 54.4 +0.4
8.6nm,0.9s
K24A Anderson Ranch 85.02 337 ⇑P P 15 54 55.8 +1.7
baz=85
J26A Sides Ranch, S 85.04 338 ⇓P P 15 54 55.5 +1.5
baz=85
RCTC Rector, Farmer 85.10 324 ⇑P P 15 54 56.2 +1.8
baz=85
I28A Midland 85.13 340 ⇑P P 15 54 55.5 +1.0
baz=86
R11A Troy Canyon, C 85.16 328 ⇑P P 15 54 56.7 +1.7
baz=86,SNR=14
K23A Bowen Ranch, D 85.31 336 ⇓P P 15 54 56.4 +0.9
baz=86,SNR=6.8
J25A Sunshine Ranch 85.32 338 ⇑P P 15 54 56.5 +1.0
baz=86,SNR=5.8
JLU Jordanelle 85.43 332 eP P 15 54 56.9 +0.7
7.3nm,0.7s
I27A Quinn 85.44 339 ⇓P P 15 54 57.3 +1.3
baz=86
H29A Onida 85.46 341 ⇑P P 15 54 57.1 +1.1
baz=86
K22A Casper 85.50 336 ⇑P P 15 54 57.1 +1.0
baz=86,SNR=6.8
K22A Casper 85.50 336 eP P 15 54 57.0 +0.5
13nm,0.8s
K22A epP pP 15 55 09.3 +0.4
J24A Dixon Ranch, L 85.53 337 ⇓P P 15 54 57.6 +1.1
baz=86
DUG Dugway, Tooele 85.60 330 ⇑P P 15 54 58.4 +1.4
baz=86,SNR=6.6
TPH Tonopah 85.64 326 eP P 15 54 58.4 +1.1
9.5nm,0.9s
G30A Faulkton 85.66 342 ⇓P P 15 54 58.1 +1.1
baz=86
K21A Alcova 85.72 335 ⇑P P 15 54 58.4 +0.8
baz=86,SNR=8.8
TCUT Toone Canyon 85.86 332 eP P 15 54 59.4 +1.0
10nm,0.8s
I25A Rochford 85.88 338 ⇑P P 15 54 59.3 +0.9
baz=86,SNR=11
H27A Howes 85.97 340 ⇑P P 15 54 59.6 +1.0
baz=86
I24A Kuemmerle Ranc 86.00 338 ⇑P P 15 55 00.2 +1.3

baz=86
RSSD Black Hills 86.06 338 *e*P **P** 15 54 59.3 0.0
8.9nm,0.7s
RSSD *ep*P **pP** 15 55 12.7 +1.1
G28A Parade 86.06 341 ⇑P **P** 15 55 00.3 +1.2
baz=86
TORD Torodi Ar. Bea 86.11 70 P **P** 15 55 00.1 +0.2
7.0nm,0.8s,baz=240,slow=4.2,SNR=34
TORD LR LR 16 31 21.5
comp=Z,46nm,19.0s,baz=210,slow=34
H26A Fairpoint 86.15 339 ⇓P **P** 15 55 02.3 +2.8
baz=86
J22A Midwest 86.17 336 ⇓P **P** 15 55 00.2 +0.4
baz=86
HWUT Hardware Ranch 86.34 332 *e*P **P** 15 55 01.1 +0.4
14nm,0.8s
H25A Fruitdale 86.39 339 ⇓P **P** 15 55 01.9 +1.2
baz=87
NVAR Mina Array Bea 86.41 326 P **P** 15 55 02.7 +1.5
4.1nm,0.8s,baz=157,slow=6.2,SNR=34
F29A Eureka 86.48 342 ⇓P **P** 15 55 01.9 +0.8
baz=87
I22A 9 Mile Ranch, 86.60 336 ⇓P **P** 15 55 02.4 +0.5
baz=87,SNR=5.7
G27A Dupree 86.61 340 ⇑P **P** 15 55 02.2 +0.5
baz=87
PDAR Pinedale Array 86.63 334 P **P** 15 55 02.5 +0.3
3.5nm,0.8s,baz=152,slow=5.9,SNR=24
J20A Shoshoni 86.64 335 ⇑P **P** 15 55 03.0 +0.9
baz=87
G26A Maurine 86.72 340 ⇓P **P** 15 55 03.1 +0.8
baz=87
F28A McLaughlin 86.75 341 ⇓P **P** 15 55 03.3 +0.9
baz=87
H24A Dirks Ranch, A 86.78 338 ⇓P **P** 15 55 03.4 +0.7
baz=87
I21A Big Trails, Te 86.79 336 ⇓P **P** 15 55 03.5 +0.7
baz=87
G25A Newell 86.86 339 ⇑P **P** 15 55 03.9 +1.0
baz=87,SNR=5.6
J19A Crowheart 86.89 334 ⇑P **P** 15 55 04.3 +1.0
baz=87,SNR=8.7
HVU Hansel Valley 86.94 331 *e*P **P** 15 55 04.1 +0.4
7.5nm,0.8s
HVU *e* 15 55 17.9
F27A Lemmon 87.09 340 ⇑P **P** 15 55 04.3 +0.2
baz=87
I20A Worland 87.19 335 ⇓P **P** 15 55 05.2 +0.5
baz=88
H22A Clearmont 87.19 337 ⇓P **P** 15 55 04.9 +0.2
baz=88
F26A Lodgepole 87.25 340 ⇑P **P** 15 55 05.7 +0.9
baz=88
E28A Huff 87.39 341 ⇓P **P** 15 55 06.4 +0.9
baz=88
D30A Buchanan 87.42 343 ⇓P **P** 15 55 06.7 +1.2
baz=88
H21A Big Horn, Sher 87.44 336 ⇑P **P** 15 55 06.0 +0.1
baz=88
G23A Biddle 87.44 338 ⇓P **P** 15 55 05.9 +0.1
baz=88
E27A Carson 87.49 341 ⇑P **P** 15 55 07.2 +1.2
baz=88
F25A Bowman 87.54 339 ⇓P **P** 15 55 07.2 +0.9
baz=88
D29A Pettibone, Tap 87.57 342 ⇑P **P** 15 55 07.1 +0.8
baz=88
H20A Greybull 87.62 336 ⇑P **P** 15 55 07.6 +0.8
baz=88
G22A Birney 87.73 337 ⇓P **P** 15 55 06.8 -0.5
baz=88
F24A Ekalaka 87.75 339 ⇓P **P** 15 55 07.8 +0.5
baz=88
E26A Carlson Angus 87.76 340 ⇓P **P** 15 55 07.7 +0.4
baz=88
AGMN Agassiz Nation 87.90 345 ⇓P **P** 15 55 08.6 +0.7
baz=88
C30A Mose, Pekin 87.91 343 ⇓P **P** 15 55 08.7 +0.8
baz=88
F23A Volborg 87.92 338 ⇓P **P** 15 55 08.3 +0.2
baz=88
D28A Regan 87.94 342 ⇑P **P** 15 55 09.1 +1.0
baz=88
I17A Pilgrim Ck. 88.00 334 ⇓P **P** 15 55 10.0 +1.3
baz=88
E25A Miller Ranch, 88.05 339 ⇑P **P** 15 55 09.5 +0.8
baz=88
H19A Powell 88.11 335 ⇑P **P** 15 55 09.6 +0.5
baz=88
F22A Rosebud 88.23 337 ⇓P **P** 15 55 10.1 +0.6
baz=88
D26A Manning 88.27 340 ⇑P **P** 15 55 10.8 +1.1
baz=89
MDND Maddock 88.31 342 ⇓P **P** 15 55 10.8 +1.0
baz=89
H18A Shoshone NF, C 88.34 335 ⇓P **P** 15 55 11.1 +0.8
baz=89
E24A Baker 88.36 339 ⇓P **P** 15 55 11.1 +0.9
baz=89
B30A Myrvik Farm, E 88.58 343 ⇑P **P** 15 55 11.9 +0.8
baz=89
D25A Fairfield 88.62 340 ⇓P **P** 15 55 12.4 +1.0
baz=89
C27A Sayler Ranch, 88.66 341 ⇓P **P** 15 55 12.6 +1.1
baz=89
E22A Miles City 88.73 338 ⇓P **P** 15 55 12.8 +0.9
baz=89
B29A Wagenman Farm, 88.83 343 ⇑P **P** 15 55 13.2 +0.9
baz=89
D24A Glendive 88.87 339 ⇑P **P** 15 55 14.5 +2.0
baz=89
A30A Hoffart Farm, 89.03 344 ⇑P **P** 15 55 15.0 +1.8
baz=89
B28A Dugan Ranch, T 89.06 342 ⇓P **P** 15 55 14.2 +0.9
baz=89
HLID Hailey 89.10 331 ⇑P **P** 15 55 15.8 +2.0
baz=89,SNR=6.3
F19A Roth Farm, Mol 89.14 336 ⇓P **P** 15 55 15.6 +1.7
baz=90
D23A Lindsay 89.17 339 ⇑P **P** 15 55 15.1 +1.1
baz=90
A29A Manning Farm, 89.23 343 ⇑P **P** 15 55 15.5 +1.3
baz=90
C24A Savage 89.28 339 ⇓P **P** 15 55 16.0 +1.6
baz=90
LSZ Lusaka 89.37 109 *e*P **P** 15 55 17.3 +1.5
6.3nm,1.0s
E20A Meyer Farm, Mu 89.46 337 ⇑P **P** 15 55 16.1 +0.8
baz=90
A28A Rude Farm, Bot 89.46 342 ⇑P **P** 15 55 16.2 +1.0
baz=90
B25A Knox Farm, Ray 89.61 340 ⇓P **P** 15 55 16.9 +1.0
baz=90
E19A Rath Farm, Rou 89.63 336 ⇓P **P** 15 55 16.9 +0.8
baz=90
C23A Lambert 89.74 339 ⇓P **P** 15 55 17.5 +1.0
baz=90
ULM Lac du Bonnet 89.76 346 P **P** 15 55 16.6 +0.1
4.7nm,0.8s,baz=207,slow=6.0,SNR=8.8
TAM Tamanrasset 95.01 65 *e*P **P** 15 55 43.0 +1.3
2.2nm,0.7s
DZM Mont Dzumac 98.54 234 *e*LR LR 16 27 59.6
293nm,24.6s
ESDC Sonseca Array 99.56 47 LR LR 16 39 57.9
comp=Z,62nm,19.4s,baz=210,slow=35
ASAR Alice Springs 114.06 207 PKP PKPdf 16 00 57.2 -0.9
0.6nm,0.9s,baz=127,slow=2.2,SNR=6.5
GERES GERESS Array B 115.16 47 PKP **PKPdf** **16 00 59.0 -0.5**
1.0nm,0.8s,baz=264,slow=2.7,SNR=9.7
WRA Warramunga Arr 117.29 209 PKP **PKPdf** **16 01 03.5 -1.0**
0.7nm,0.8s,baz=170,slow=1.2,SNR=5.5
BRTR Keskin Array B 124.15 63 PKP **PKPdf** **16 01 17.4 +0.3**
2.0nm,0.7s,baz=206,slow=2.0,SNR=12
KIEV Kiev 125.09 49 *e*PKPdf **PKPdf** **16 01 17.4 -1.0**
AKASG Malin Array Be 125.11 49 PKP **PKPdf** **16 01 17.6 -0.7**
1.0nm,0.5s,baz=261,slow=2.8,SNR=14
FINES FINESS Array B 126.33 36 PKP **PKPdf** **16 01 20.1 -0.2**
2.2nm,1.1s,baz=180,slow=0.6,SNR=3.4
GEYT Alibeck 141.66 74 PKhKP PKPpre 16 01 45.9
1.4nm,0.7s,baz=225,slow=4.0,SNR=3.7
SEY Seymchan 142.70 328 PKhKP PKPpre 16 01 46.4
2.2nm,0.7s,baz=109,slow=3.4,SNR=9.2
TIXI Tiksi 144.06 348 *e*PKPpre PKPpre 16 01 49.5
ABKAR Akbulak array 144.39 56 *e*PKP PKPbc 16 01 53.0 +0.3
URV Uravakonda 145.29 122 *e*PKPdf **PKPbc** **16 01 56.4 -0.2**
URV *ep*PKPdf **pPKPdf** **16 02 08.9 -0.8**
SKHT Srikalahasti 146.01 127 *e*PKPdf **PKPdf** **16 01 57.4 -0.7**
SKHT *ep*PKPdf **pPKPdf** **16 02 10.2 -0.7**

ADKI Addanki 147.74 125 *e*PKPbc **PKPbc** **16 02 02.6 -1.2**
HYB Hyderabad 147.91 121 *i* PKP **PKPdf** **16 02 02.0 +0.8**
HYB *e* 16 02 15.0
HYBB Hyderabad (bro 147.91 121 *e*PKPbc **PKPbc** **16 02 03.5 -0.8**
KKAR Karatay Array 151.75 67 *e*PKPbc **PKPbc** **16 02 12.8 -0.2**
YAK Yakutsk 151.79 337 PKPbc **PKPbc** **16 02 12.0 -0.3**
26nm,0.7s,baz=243,slow=0.6,SNR=23
YAK Yakutsk 151.79 337 *e*PKPbc **PKPbc** **16 02 11.8 -0.5**
EKS2 Erkin-Say 154.15 68 *e*PKPdf **PKPdf** **16 02 11.1 +0.9**
EKS2 *e*PKPbc **PKiKP** **16 02 19.1 +0.7**
AAK Ala-Archa 154.68 68 *e*PKPdf **PKPdf** **16 02 12.1 +1.1**
AAK *e*PKPbc **PKiKP** **16 02 20.1 +0.6**
AAK *e*PKPab **PKPab** **16 02 34.9 +0.3**
MKAR Makanchi Array 159.53 55 PKPab **PKPab** **16 02 54.9 -0.3**
3.4nm,0.8s,baz=284,slow=7.1,SNR=5.3
MKAR PP **PP** **16 06 37.0 -0.1**
1.0nm,0.8s,baz=293,slow=6.5,SNR=4.0
WMQ Urumqi 164.06 61 *e*PKP **PKPdf** **16 02 21.3 -0.3**
WMQ pPKP **pPKPdf** **16 02 32.0 -2.5**
WMQ sPKP 16 02 35.5
WMQ *e*PP **PP** **16 07 04.0 +2.6**
WMQ PPMZ
78nm,5.7s
WMQ LN
110nm,26.2s
WMQ LE
190nm,26.2s
WMQ LZ
140nm,28.2s
CD2 Chengdu 172.81 157 PKP **PKPdf** **16 02 27.5 -0.3**
CD2 pPKP **pPKPdf** **16 02 40.3 -0.4**
CD2 sPKP 16 02 44.8
CD2 PKS **PKSdf** **16 05 58.3 -1.9**
CD2 PP **PP** **16 07 48.5 +3.7**
CD2 SKS **SKSdf** **16 09 24.5 -3.4**
CD2 SKKS **SKKSac** **16 14 29.5 +0.7**
CD2 PPMZ
120nm,5.4s
GTA Gaotai 174.03 70 pPKP **pPKPdf** **16 02 36.3 -4.7**
GTA sPKP 16 02 40.5
GTA PKPab **PKPab** **16 03 58.0 -1.5**
HHC Hu-ho-hao-te 175.21 314 *e*PKP **PKPdf** **16 02 30.3 +1.9**
HHC sPKP 16 02 46.0
HHC SKS **SKSdf** **16 09 28.0 -0.2**
HHC PPMZ
29nm,8.8s
HHC LN
96nm,17.3s
HHC LE
110nm,17.3s
LZH Lanzhou 177.03 119 *e*PKP **PKPdf** **16 02 31.3 +2.3**
LZH pPKP **pPKPdf** **16 02 41.8 -0.1**
LZH sPKP 16 02 45.5

IDC ***25*** *15:51:45.8±0.4,49.˚91N×178.˚31W,h0km,mb4.7/40, mb1 4.8/41,mb1mx4.8/49,mbtmp4.7/41,ML3.7/1,MS3.5/18, Ms1 3.5/18,ms1mx3.3/33,Error ellipse: s-maj=14.5km s-min=8.7km az=167.0*
ISCJB ***25*** *15:51:46.7±1.0,49.˚96N±0.˚02×178.˚23W±0.˚02,h15km±5km, mb4.8/208,MS3.5/19,Error ellipse: s-maj=4.1km s-min=2.4km az=8.3*
BJI ***25*** *15:51:49.6,50.˚34N×178.˚54W,h31km,mB5.0/28, mb4.9/47,Ms4.5/13,Ms7 4.1/11*
MOS ***25*** *15:51:49.4±0.8,49.˚97N×178.˚30W,h33km,mb5.2/105, Error ellipse: s-maj=7.8km s-min=4.5km az=95.5*
NEIC ***25*** *15:51:50.0,50.˚06N×178.˚09W,h26km,mb4.9/123, ML4.6(AEIC),After AEIC.*
GCMT ***25*** *15:51:50.0±0.4,50.˚05N×178.˚57W,h12km,MW4.9/73, Moment Tensor Solution. s20,c24; s73,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.93±.08; Mθθ=1.96±.07; Mϕϕ=0.02±.08; Mrθ=0.47±.25; Mϕθ=-0.40±.07; Mϕr=1.51±.35; Best double couple: M₀=2.44400×10¹⁶ NP1:ϕs=253.00000°,δ55.00000°,λ=-127.00000°. NP2: ϕs=126.00000°,δ49.00000°,λ=-49.00000°. Principal axes: T 2.0490, Plg3.0000°, Azm9.0000°; N 0.7950, Plg30.0000°, Azm277.0000°; P -2.8380, Plg60.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***25*** *15:51:52.1,50.˚13N×179.˚45W,h33km,mb4.8,MS4.2, Andreanof Islands, Aleutian Islands, United States*

ISC 25 15:51:50.7±0.3,50.˚01N±0.˚05×178.˚29W±0.˚03,h32km±1km, h31km:pP-P,n896,σ0s87/1016,mb4.9/218,MS3.6/20, 187C-219D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
TAFL	**Tanaga Flats**	**1.76**	**8**	P	P	**Pn**	**15 52 17.9**	**-1.1**
TAFL				S	S	**Sn**	**15 52 40.6**	**+0.2**
GALAA	**Gareloi Lava P**	**1.78**	**350**	P	P	**Pn**	**15 52 19.0**	**-0.2**
GAEA	**Gareloi East**	**1.80**	**351**	P	P	**Pn**	**15 52 18.9**	**-0.6**
TASE	**Tanaga Southea**	**1.83**	**5**	P	P	**Pn**	**15 52 19.3**	**-0.7**
TAFP	**Tanaga Falls P**	**1.90**	**6**	P	P	**Pn**	**15 52 20.1**	**-0.9**
TAFP				S	S	**Sn**	**15 52 43.8**	**0.0**
TANO	**Tanaga North**	**1.91**	**3**	P	P	**Pn**	**15 52 20.4**	**-0.6**
KIKV	**Kanaga Island**	**2.00**	**20**	P	P	**Pn**	**15 52 21.2**	**-1.1**
KIRH	**Kanaga Island**	**2.04**	**21**	P	P	**Pn**	**15 52 21.9**	**-0.9**
KINC	**Kanaga Island**	**2.06**	**20**	P	P	**Pn**	**15 52 22.2**	**-0.8**
ADK	**Adak**	**2.13**	**28**	P	P	**Pn**	**15 52 22.4**	**-1.6**
ADK				S	S	**Sn**	**15 52 47.9**	**-1.5**
ADK	**Adak**	**2.13**	**28**	P	P	**Pn**	**15 52 22.4**	**-1.6**
ADK				S	S	**Sn**	**15 52 47.9**	**-1.5**
ETKA	**Kagalaska Isla**	**2.20**	**32**	P	P	**Pn**	**15 52 23.4**	**-1.7**
ETKA				S	S	**Sn**	**15 52 50.1**	**-1.1**
ADAG	**Mount Adagdak**	**2.24**	**28**	P	P	**Pn**	**15 52 24.9**	**-0.7**
GSCK	**Great Sitkin C**	**2.41**	**33**	P	P	**Pn**	**15 52 26.6**	**-1.3**
GSTD	**Great Sitkin T**	**2.45**	**33**	P	P	**Pn**	**15 52 27.4**	**-1.2**
GSTD				S	S	**Sn**	**15 52 56.5**	**-0.9**
GSMY	**Great Sitkin M**	**2.47**	**34**	P	P	**Pn**	**15 52 27.5**	**-1.3**
KOKL	**Mount Kliuchef**	**3.46**	**46**	P	P	**Pn**	**15 52 41.8**	**-0.6**
KOFP	**Korovin Flat P**	**3.48**	**48**	P	P	**Pn**	**15 52 41.7**	**-0.9**
SMY	**Shemya**	**5.49**	**303**	P	P	**Pn**	**15 53 11.4**	**+1.3**
SMY	**Shemya**	**5.49**	**303**	P	P	**Pn**	**15 53 11.4**	**+1.3**
NIKH	**Nikolski High**	**6.59**	**60**	P	P	**Pn**	**15 53 24.6**	**-0.8**
OKFG	**Magazine Ridge**	**7.29**	**58**	P	P	**Pn**	**15 53 34.4**	**-0.5**
MCIR	**Makushin Cirqu**	**8.06**	**56**	P	P	**Pn**	**15 53 45.1**	**-0.5**
MSW	**Makushin Switc**	**8.11**	**57**	P	P	**Pn**	**15 53 45.5**	**-0.6**
MTBL	**Makushin Table**	**8.19**	**57**	P	P	**Pn**	**15 53 46.8**	**-0.4**
UNV	**Unalaska Valle**	**8.23**	**58**	P	P	**Pn**	**15 53 47.4**	**-0.4**
AKRB	**Akutan Reef Bi**	**8.58**	**57**	P	P	**Pn**	**15 53 52.6**	**0.0**
ZRO	**Akutan Zero**	**8.61**	**57**	P	P	**Pn**	**15 53 53.1**	**+0.1**
SPIA	**Saint Paul Isl**	**8.62**	**31**	P	P	**Pn**	**15 53 54.1**	**+1.0**
AKGG	**Akutan Green G**	**8.65**	**56**	P	P	**Pn**	**15 53 52.2**	**-0.3**
AKUT	**Akutan**	**8.74**	**57**	P	P	**Pn**	**15 53 54.7**	**-0.1**
WESE	**West Dahl East**	**9.51**	**57**	P	P	**Pn**	**15 54 04.9**	**-0.6**
SSLW	**Shishaldin Wes**	**9.88**	**56**	P	P	**Pn**	**15 54 09.4**	**-1.0**
FALS	**False Pass**	**10.29**	**56**	P	P	**Pn**	**15 54 15.6**	**-0.4**
SDPT	**Sand Point**	**12.04**	**57**	*e*Pn	P	**Pn**	**15 54 37.1**	**-2.9**
	86nm,0.4s							
GAMB	**Gambell**	**14.25**	**12**	*e*Pn	P	**Pn**	**15 55 09.8**	**-0.1**
	12nm,0.8s							
PET	**Petropavlovsk**	**14.65**	**291**	*e*P	P	**Pn**	**15 55 15.6**	**+0.1**
PET				*e*S	S	**Sn**	**15 57 57.4**	**+0.8**
PET				pmax	pmax			
	comp=Z,31nm,1.1s							
PETK	**Petropavlovsk-**	**15.23**	**291**	Pn	P	**Pn**	**15 55 24.0**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=92,slow=15,SNR=31							
PETK				Sn	S	**Sn**	**15 58 04.1**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=71,slow=28,SNR=1.8							
PETK				LR	LR		16 00 30.2	
	comp=Z,20nm,19.9s,baz=120,slow=34							
TNA	**Tin City**	**16.50**	**15**	*e*P	P	**Pn**	**15 55 39.9**	**+0.4**
	comp=Z,14nm,1.0s							
KDAK	**Kodiak Island**	**16.95**	**53**	*e*P	P	**Pn**	**15 55 41.8**	**-3.3**
KDAK				pmax	pmax			
	comp=Z,68nm,0.6s							
KDAK	**Kodiak Island**	**16.95**	**53**	*e*P	P	**Pn**	**15 55 41.8**	**-3.3**
	comp=Z,68nm,0.6s							
RSO	**Redoubt South**	**17.80**	**44**	*e*P	P	**Pn**	**15 55 55.6**	**-0.3**
	comp=Z,174nm,0.4s							
PPLA	**Purkeypile**	**19.17**	**38**	*e*P	P	**Pn**	**15 56 12.9**	**+0.4**
	comp=Z,82nm,1.0s							
SEW	**Seward**	**19.20**	**47**	*e*P	P	**P**	**15 56 09.0**	**-2.5**
	comp=Z,21nm,0.6s							
BILL	**Bilibino**	**19.64**	**343**	*ce*P	P	**Pn**	**15 56 17.2**	**-0.7**
BILL				*i* S	S	**Sn**	**15 59 58.0**	**+0.9**
BILL				pmax	pmax			
	comp=Z,54nm,1.2s							
BILL				MLR	MLR			
	comp=Z,233nm,18.0s							
BILL	**Bilibino**	**19.64**	**343**	*e*P	P	**Pn**	**15 56 17.1**	**-0.7**
	comp=Z,36nm,0.9s							
KTH	**Kantishna Hill**	**19.99**	**37**	*e*P	P	**P**	**15 56 19.9**	**-0.4**
	comp=Z,139nm,0.9s							
TRF	**Thorofare Moun**	**20.19**	**38**	*e*P	P	**P**	**15 56 21.7**	**-0.9**
	comp=Z,72nm,1.0s							
SEY	**Seymchan**	**20.49**	**320**	P	P	**P**	**15 56 26.7**	**+1.1**
	comp=Z,23nm,0.9s,baz=120,slow=10,SNR=89							
SEY	**Seymchan**	**20.49**	**320**	P	P	**P**	**15 56 26.7**	**+1.1**
SEY				pmax	pmax			
	comp=Z,23nm,0.9s							
MCK	**McKinley**	**20.86**	**38**	*e*P	P	**P**	**15 56 27.5**	**-2.1**
MCK				pmax	pmax			
	comp=Z,30nm,0.9s							
MCK	**McKinley**	**20.86**	**38**	*e*P	P	**P**	**15 56 27.5**	**-2.1**
	comp=Z,30nm,0.9s							
DIV	**Divide**	**21.24**	**46**	*e*P	P	**P**	**15 56 34.2**	**+0.4**
	comp=Z,17nm,0.5s							
BMRM	**Bremner River**	**21.74**	**47**	*e*P	P	**P**	**15 56 40.4**	**+1.2**
	comp=Z,55nm,1.0s							
COLA	**College**	**21.81**	**36**	*de*P	P	**P**	**15 56 40.6**	**+0.8**
COLA				pmax	pmax			
	comp=Z,26nm,0.7s							
COLA	**College**	**21.81**	**36**	*e*P	P	**P**	**15 56 39.8**	**0.0**
	comp=Z,16nm,0.8s							
PAX	**Paxson**	**21.97**	**41**	*e*P	P	**P**	**15 56 41.3**	**-0.4**
PAX				pmax	pmax			
	comp=Z,22nm,0.7s							
PAX	**Paxson**	**21.97**	**41**	*e*P	P	**P**	**15 56 41.3**	**-0.4**
	comp=Z,22nm,0.7s							
ILAR	**Eielson Array**	**22.13**	**36**	P	P	**P**	**15 56 41.8**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=232,slow=7.9,SNR=52							
ILAR				PcP	PcP	**PcP**	**16 00 38.5**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=273,slow=3.7,SNR=5.4							
ILAR				LR	LR		16 07 14.3	
	comp=Z,161nm,18.0s,baz=248,slow=42							
COLD	**Coldfoot**	**22.28**	**29**	*e*P	P	**P**	**15 56 44.3**	**-0.5**
	comp=Z,19nm,0.8s							
DOT	**Dot Lake**	**22.81**	**40**	*e*P	P	**P**	**15 56 49.7**	**-0.8**
	comp=Z,38nm,0.8s							
EGAK	**Eagle**	**24.39**	**39**	*e*P	P	**P**	**15 57 05.1**	**-0.6**
	comp=Z,20nm,0.6s							
HYT	**Haines Junctio**	**25.12**	**49**	*e*P	P	**P**	**15 57 13.5**	**+1.0**
YSS	**Yuzh-Sakhalins**	**25.80**	**278**	⇓*e*P	P	**P**	**15 57 19.1**	**+0.4**
YSS				*e**PP	pP	**pP**	**15 57 28.9**	**+1.1**
YSS				*e**SP	sP	**sP**	**15 57 32.9**	**+1.2**
YSS				*e*S	S	**S**	**16 01 42.0**	**-3.8**
YSS				*e*SS	SnSn	**SnSn**	**16 02 46.0**	**+3.5**
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**25.80**	**278**	*e*P	P	**P**	**15 57 19.3**	**+0.6**
	comp=Z,75nm,1.4s							
SKAG	**Skagway**	**26.10**	**52**	*e*P	P	**P**	**15 57 22.2**	**+1.0**
	comp=Z,27nm,1.1s							
ASAJ	**Asahikawa**	**27.06**	**273**	P	P	**P**	**15 57 30.0**	**0.0**
	comp=Z,20nm,1.1s,baz=97,slow=9.9,SNR=7.5							
ASAJ	**Asahikawa**	**27.06**	**273**	P	P	**P**	**15 57 30.0**	**0.0**
ASAJ				pmax	pmax			
	comp=Z,20nm,1.1s							
ASAJ	**Asahikawa**	**27.06**	**273**	*e*P	P	**P**	**15 57 29.8**	**-0.2**
	comp=Z,13nm,1.2s							
INK	**Inuvik**	**28.41**	**33**	P	P	**P**	**15 57 41.9**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=256,slow=7.6,SNR=10.0							
INK				PcP	PcP	**PcP**	**16 00 53.4**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=307,slow=2.5,SNR=9.3							
INK				LR	LR		16 10 54.7	
	comp=Z,163nm,18.7s,slow=40							
INK	**Inuvik**	**28.41**	**33**	P	P	**P**	**15 57 41.9**	**+0.1**
INK							16 00 53.4	
INK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
INK				MLR	MLR			
	comp=Z,163nm,18.7s							
INK	**Inuvik**	**28.41**	**33**	*e*P	P	**P**	**15 57 40.8**	**-1.0**
	comp=Z,5.5nm,0.5s							
INK				PcP	PcP	**PcP**	**16 00 53.4**	**+0.1**
DLBC	**Dease Lake**	**28.87**	**54**	P	P	**P**	**15 57 47.8**	**+1.7**
	comp=Z,6.3nm,0.8s,baz=260,slow=11,SNR=6.1							
DLBC				LR	LR		16 09 47.5	
	comp=Z,190nm,19.0s,baz=320,slow=37							
DLBC	**Dease Lake**	**28.87**	**54**	*e*P	P	**P**	**15 57 48.2**	**+2.1**
HABR	**Khabarovsk**	**30.12**	**285**	*de*P	P	**P**	**15 57 56.2**	**-1.0**
HABR				*e**PP	pP	**pP**	**15 58 05.7**	**-0.7**
HABR				*e**SP	sP	**sP**	**15 58 09.9**	**-0.4**
HABR				*e*			15 58 53.9	
HABR							16 00 57.4	
HABR				*e*S	S		**16 02 53.3**	**-0.4**
HABR				*e**SS	sS		**16 03 09.4**	**+0.5**
HABR				*e*SS	SnSn		**16 04 28.6**	**+0.9**
HABR				*e*			16 08 32.3	
HABR				pmax	pmax			
	comp=E,33nm,2.4s							
HABR				pmax	pmax			
	comp=N,8.0nm,1.0s							
HABR				pmax	pmax			
	comp=Z,40nm,2.4s							
HABR				MLR	MLR			
	comp=Z,61nm,19.0s							
YAK	**Yakutsk**	**30.58**	**313**	P	P	**P**	**15 58 00.9**	**-0.1**
	comp=Z,9.0nm,0.5s,baz=84,slow=1.9,SNR=13							
YAK	**Yakutsk**	**30.58**	**313**	*e*P	P	**P**	**15 58 00.0**	**-1.1**
YAK				*e*			15 59 02.8	
YAK				*e*			16 00 56.8	
YAK				*e*S	S		**16 02 55.2**	**-5.4**
YAK				*e*SS	ScP		**16 04 43.7**	**+4.9**
YAK				pmax	pmax			
	comp=Z,22nm,1.0s							
YAK				pmax	pmax			
	comp=E,18nm,1.3s							
YAK				pmax	pmax			
	comp=Z,68nm,4.2s							
YAK				pmax	pmax			
	comp=N,71nm,4.8s							
YAK				pmax	pmax			
	comp=E,20nm,2.2s							
YAK				smax	smax			
	comp=N,43nm,1.8s							
YAK				smax	smax			
	comp=E,39nm,1.7s							
YAK	**Yakutsk**	**30.58**	**313**	*e*P	P	**P**	**15 58 00.6**	**-0.5**
	comp=E,17nm,0.8s							
KLR	**Kul'dur**	**31.89**	**288**	*e*P	P		15 58 09.8	-3.0
KLR				pmax	pmax			
	comp=E,38nm,1.2s							
KLR				pmax	pmax			
	comp=Z,50nm,1.2s							
TIXI	**Tiksi**	**31.99**	**332**	⇑*e*P	P	**P**	**15 58 13.3**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
TIXI	**Tiksi**	**31.99**	**332**	*e*P	P	**P**	**15 58 13.1**	**-0.4**
	comp=Z,1.6nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**32.44**	**207**	T	T		16 32 09.0	
	baz=18,slow=74,SNR=33							
H11N3	**WAKE ISLAND Hy**	**32.45**	**207**	T	T		16 32 09.7	
	baz=18,slow=74,SNR=26							
H11N1	**WAKE ISLAND Hy**	**32.46**	**207**	T	T		16 32 11.8	
	baz=18,slow=74,SNR=38							
H11S1	**WAKE ISLAND Hy**	**33.66**	**206**	T	T		16 33 50.4	
	baz=18,slow=76,SNR=7.8							
H11S2	**WAKE ISLAND Hy**	**33.67**	**206**	T	T		16 33 46.6	
	baz=18,slow=76,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**33.67**	**206**	T	T		16 33 52.0	
	baz=18,slow=76,SNR=4.6							
USRK	**Ussuriysk Ar.**	**33.82**	**280**	P	P	**P**	**15 58 29.8**	**+0.1**
	comp=Z,11nm,0.9s,baz=57,slow=8.7,SNR=15							
USRK				PcP	PcP	**PcP**	**16 01 08.9**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=90,slow=2.4,SNR=10.0							
MJAR	**Matsushiro Arr**	**33.92**	**263**	P	P	**P**	**15 58 31.1**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=54,slow=7.0,SNR=13							
MJAR				PcP	PcP	**PcP**	**16 01 07.5**	**-1.1**
	comp=Z,3.1nm,1.0s,baz=172,slow=0.3,SNR=9.0							
MJAR				LR	LR		16 09 21.4	
	comp=Z,38nm,21.9s,baz=55,slow=31							
MAJO	**Matsushiro**	**33.92**	**263**	⇓*i*P	P	**P**	**15 58 30.4**	**-0.3**
MAJO				pmax	pmax			
	comp=Z,119nm,1.2s							
MAT	**Matsushiro**	**33.92**	**263**	P	P	**P**	**15 58 30.2**	**-0.5**
MAT				S	S	**S**	**16 03 53.8**	**+0.6**
MDJ	**Mudanjiang**	**35.14**	**282**	*e*P	P	**P**	**15 58 40.2**	**-0.9**
	comp=Z,8.8nm,0.8s							
YKA	**Yellowknife Ar**	**35.95**	**45**	P	P	**P**	**15 58 49.2**	**+1.3**
	comp=Z,20nm,1.0s,baz=280,slow=7.0,SNR=60							
YKA

YKA 16 01 14.3
YKA pmax pmax
comp=Z,20nm,1.0s
YKA pmax pmax
comp=Z,3.0nm,0.7s
I03D Drain, OR 37.36 78 ⇓P P 15 58 58.8 -1.3
baz=37
G05D Wamic, OR 37.89 75 ⇓P P 15 59 05.2 +0.5
baz=38
I04A Tendick Farm, 37.91 77 ⇑P P 15 59 05.9 +1.1
baz=38
L02D Cave Junction, 37.98 80 ⇓P P 15 59 07.1 +1.7
baz=38
CN2 Changchun 38.15 283 *e*P P 15 59 06.8 0.0
CN2 PMZ
comp=Z,20nm,0.8s
I05D Terrebonne, OR 38.31 76 ⇑P P 15 59 09.6 +1.4
baz=38
J04D Umpqua Nationa 38.37 78 ⇓P P 15 59 10.5 +1.6
baz=38,SNR=5.3
HAWA Hanford 38.46 72 *e*P P 15 59 09.2 -0.2
comp=Z,7.2nm,0.7s
YBH Yreka Blue Hor 38.77 80 P P 15 59 13.7 +1.5
comp=Z,4.6nm,0.8s
YBH Yreka Blue Hor 38.77 80 P P 15 59 13.7 +1.5
YBH pmax pmax
comp=Z,5.0nm,0.8s
M02C Callahan 38.86 81 ⇓P P 15 59 14.8 +1.9
baz=39
J05D Fort Rock, OR 38.90 77 ⇑P P 15 59 15.2 +1.9
baz=39,SNR=7.1
K04D Chiloquin, OR 38.91 79 ⇓P P 15 59 15.2 +1.8
baz=39
BOD Bodaibo 39.07 308 *e*P P 15 59 13.6 -0.7
BOD pmax pmax
comp=Z,15nm,0.9s
NEW Newport 39.07 68 P P 15 59 14.5 0.0
comp=Z,3.3nm,0.5s
NEW Newport 39.07 68 *e*P P 15 59 14.4 -0.1
NEW pmax pmax
comp=Z,10.0nm,0.7s
NEW Newport 39.07 68 ⇑P P 15 59 14.9 +0.4
baz=39,SNR=5.5
NEW Newport 39.07 68 *e*P P 15 59 14.4 -0.1
comp=Z,9.8nm,0.7s
N02D Trinity Center 39.18 81 ⇓P P 15 59 17.0 +1.5
baz=39
EDM Edmonton 39.21 59 *e*P P 15 59 14.7 -0.9
EDM Edmonton 39.21 59 *e*P P 15 59 14.7 -0.9
M04C Macdoel 39.30 80 ⇓P P 15 59 17.9 +1.3
baz=39,SNR=6.5
KSRS Korea Array 40.01 273 P P 15 59 23.1 +0.8
comp=Z,8.7nm,0.8s,baz=58,slow=8.3,SNR=51
KSRS PcP PcP 16 01 27.4 +0.5
comp=Z,1.9nm,0.9s,baz=72,slow=4.2,SNR=6.2
KSRS LR LR 16 14 25.0
comp=Z,10nm,18.5s,baz=70,slow=34
KSAR Wonju Array Be 40.04 273 P P 15 59 23.2 +0.6
KSAR 16 01 27.5
KSAR Wonju Array Be 40.04 273 P P 15 59 23.1 +0.6
KSAR PcP PcP 16 01 27.4 +0.4
MOD Modoc Plateau 40.21 79 *e*P P 15 59 24.8 +0.7
comp=Z,12nm,0.7s
WALA Waterton Lakes 40.62 66 *e*P P 15 59 27.4 -0.1
comp=Z,18nm,0.9s
BSMT Bassoo Peak 40.66 68 *e*P P 15 59 27.9 0.0
comp=Z,7.5nm,0.6s
JNU Nakatsue 40.76 265 P P 15 59 28.8 +0.1
comp=Z,26nm,0.9s
JNU Nakatsue 40.76 265 *e*P P 15 59 29.4 +0.7
comp=Z,17nm,1.1s
BLMT Blacktail Moun 40.83 67 *e*P P 15 59 29.4 0.0
comp=Z,14nm,0.8s
RES Resolute Bay 40.86 24 P P 15 59 29.4 +0.4
comp=Z,0.8nm,0.4s
RES PcP PcP 16 01 28.7 -0.3
comp=Z,2.5nm,0.8s,baz=252,slow=4.4,SNR=4.0
WVOR Wild Horse Val 40.98 77 *e*P P 15 59 31.3 +0.8
WVOR pmax pmax
comp=Z,13nm,0.8s
WVOR Wild Horse Val 40.98 77 *e*P P 15 59 31.3 +0.8
comp=Z,13nm,0.8s
JTMT Jette 41.01 68 *e*P P 15 59 29.9 -0.8
comp=Z,5.2nm,0.9s
YBMT Yellow Bay 41.11 67 *e*P P 15 59 31.2 -0.4
comp=Z,6.2nm,0.6s
YBMT *ep*P pP 15 59 40.8 -0.1
MSO Missoula 41.65 69 ⇑P P 15 59 35.9 0.0
baz=41
SLMT Seeley Lake 41.72 68 *e*P P 15 59 35.8 -0.7
comp=Z,13nm,1.1s
CHMT Chamberlain Mo 42.02 68 *e*P P 15 59 38.1 -1.0
comp=Z,4.6nm,1.0s
CHMT *ep*P pP 15 59 47.5 -1.0
CMB Columbia Colle 42.31 84 *e*P P 15 59 40.9 -0.5
CMB pmax pmax
comp=Z,7.0nm,0.8s
CMB Columbia Colle 42.31 84 *e*P P 15 59 40.9 -0.5
comp=Z,7.4nm,0.8s
WAKR Walker 42.65 82 *e*P P 15 59 44.0 -0.2
comp=Z,3.8nm,0.9s
HLID Hailey 43.01 73 ⇑P P 15 59 47.1 -0.1
baz=43,SNR=7.4
HLID Hailey 43.01 73 *e*P P 15 59 46.7 -0.5
comp=Z,5.3nm,0.9s
MCMT McKenzie Canyo 43.31 71 *e*P P 15 59 49.3 -0.3
comp=Z,3.2nm,0.7s
NVAR Mina Array Bea 43.41 82 P P 15 59 51.1 +0.6
comp=Z,5.2nm,0.9s,baz=289,slow=7.9,SNR=19
NVAR PcP PcP 16 01 38.7 +0.2
comp=Z,2.7nm,0.8s,baz=309,slow=2.9,SNR=5.5
MLAC Mammoth, Mammo 43.54 83 ⇓P P 15 59 52.0 +0.4
baz=43
EGMT Eagleton 43.55 65 ⇓P P 15 59 51.5 +0.2
baz=43,SNR=8.0
EGMT Eagleton 43.55 65 *e*P P 15 59 50.4 -0.9
comp=Z,19nm,0.6s
BOZ Bozeman (W) 43.63 69 *e*P P 15 59 51.4 -0.6
BOZ *e**PP pP 16 00 01.0 -0.5
BOZ pmax pmax
comp=Z,7.0nm,0.6s
BOZ Bozeman (W) 43.63 69 *e*P P 15 59 51.4 -0.6
comp=Z,7.0nm,0.6s
BOZ *ep*P pP 16 00 01.0 -0.5
A19A Klindworth Far 43.70 63 ⇓P P 15 59 52.3 -0.2
baz=43
B19A Brinkman Farms 43.81 64 ⇓P P 15 59 53.7 +0.4
baz=44
ELK Elko 44.03 77 P P 15 59 55.7 +0.2
RCTC Rector, Farmer 44.07 85 ⇓P P 15 59 57.1 +1.5
baz=44
C19A Slack Wire Ran 44.10 65 ⇓P P 15 59 56.4 +0.6
baz=44,SNR=8.7
A20A Cobblestone Ra 44.19 63 ⇑P P 15 59 56.8 +0.3
baz=44
B20A Solberg Farm, 44.35 64 ⇓P P 15 59 57.9 +0.2
baz=44
VES Vestal, Richgr 44.46 85 ⇑P P 15 59 59.0 +0.4
baz=44
D19A Cripps Ranch, 44.49 66 ⇑P P 15 59 59.1 +0.2
baz=44
FFC Flin Flon 44.69 53 *e*P P 16 00 00.3 0.0
FFC *e**PP pP 16 00 09.3 -0.4
FFC pmax pmax
comp=Z,6.0nm,0.6s
FFC Flin Flon 44.69 53 *e*P P 16 00 00.2 0.0
comp=Z,6.0nm,0.6s
FFC *ep*P pP 16 00 09.3 -0.4
A21A Bergtoll Ranch 44.71 63 ⇓P P 16 00 00.8 +0.2
baz=44
C20A Veseth Ranch, 44.73 65 ⇓P P 16 00 00.9 +0.2
baz=44
E19A Rath Farm, Rou 44.91 67 ⇑P P 16 00 02.7 +0.5
baz=45
SBC Santa Barbara 44.91 87 ⇓P P 16 00 02.6 +0.3
baz=45
H17A Grant Village 44.92 70 ⇓P P 16 00 04.0 +1.4
baz=45,SNR=5.1
H17A Grant Village 44.92 70 *e*P P 16 00 04.0 +1.4
comp=Z,7.3nm,0.8s
H17A *ep*P pP 16 00 13.1 +1.1
LKWY Lake 44.94 70 *e*P P 16 00 03.7 +1.0
LKWY pmax pmax
comp=Z,8.0nm,0.7s
LKWY Lake 44.94 70 *e*P P 16 00 03.7 +1.0
comp=Z,7.7nm,0.7s
B21A Ellsworth Farm 44.94 63 ⇑P P 16 00 02.6 +0.2
baz=45
ISA Isabella, Lake 44.96 85 ⇓P P 16 00 02.7 0.0
baz=45,SNR=12
D20A Manuel Ranch, 44.96 65 ⇑P P 16 00 03.2 +0.6
baz=45
HVU Hansel Valley 44.99 74 *e*P P 16 00 02.7 -0.4
HVU *e**PP pP 16 00 12.2 -0.3
HVU pmax pmax
comp=Z,8.0nm,0.6s
HVU Hansel Valley 44.99 74 *e*P P 16 00 02.7 -0.4
comp=Z,7.6nm,0.6s
HVU *ep*P pP 16 00 12.2 -0.3
ARVC Arvin 45.06 86 ⇓P P 16 00 03.7 +0.2
baz=45
F19A Roth Farm, Mol 45.13 67 ⇓P P 16 00 03.4 -0.6
baz=45
DAC Darwin (Calif) 45.15 84 *e*P P 16 00 04.8 +0.4
DAC *e**PP pP 16 00 13.9 +0.1
DAC pmax pmax
comp=Z,7.0nm,0.7s
DAC Darwin (Calif) 45.15 84 *e*P P 16 00 04.8 +0.4
comp=Z,7.4nm,0.7s
DAC *ep*P pP 16 00 13.9 +0.1
I17A Pilgrim Ck. 45.17 71 ⇓P P 16 00 05.0 +0.5
baz=45
R11A Troy Canyon, C 45.19 80 ⇓P P 16 00 05.2 +0.5
baz=45,SNR=13
R11A Troy Canyon, C 45.19 80 *e*P P 16 00 04.4 -0.3
comp=Z,8.3nm,0.8s
R11A *ep*P pP 16 00 13.9 -0.2
BSC Santa Cruz Isl 45.25 88 ⇑P P 16 00 05.9 +0.9
baz=45
E20A Meyer Farm, Mu 45.27 66 ⇑P P 16 00 05.4 +0.3
baz=45
A22A Carney Farms, 45.28 62 ⇓P P 16 00 05.2 +0.1
baz=45
H18A Shoshone NF, C 45.32 69 ⇓P P 16 00 05.6 -0.1
baz=45
RLMT Red Lodge 45.32 68 *e*P P 16 00 05.4 -0.3
comp=Z,13nm,0.9s
RLMT *ep*P pP 16 00 14.8 -0.4
MPMC Manual Prospec 45.35 84 ⇓P P 16 00 06.6 +0.6
baz=45,SNR=9.0
OSI Osito Audit: C 45.45 86 ⇓P P 16 00 07.5 +1.0
baz=45
OSI Osito Audit: C 45.45 86 *e*P P 16 00 07.1 +0.5
comp=Z,11nm,0.3s
OSI *ep*P pP 16 00 16.1 +0.1
FURC Furnace Creek, 45.50 83 ⇑P P 16 00 07.9 +1.0
baz=45
BLG Laguna Peak, P 45.54 87 ⇑P P 16 00 07.7 +0.4
baz=45
LRMC Laurel Mtn Rad 45.58 85 ⇓P P 16 00 08.0 +0.3
baz=45
B22A Reddig Ranch S 45.59 63 ⇑P P 16 00 07.6 +0.1
baz=45
TPNV Topopah Spring 45.60 82 ⇓P P 16 00 08.4 +0.5
baz=45,SNR=14
F20A Billings 45.63 67 ⇑P P 16 00 07.9 -0.1
baz=45
D21A La Casta Ranch 45.65 65 ⇑P P 16 00 08.3 +0.2
baz=45
H19A Powell 45.73 69 ⇑P P 16 00 09.4 +0.5
baz=45
EDW2 Edwards Air Fo 45.75 86 ⇑P P 16 00 09.4 +0.4
baz=46,SNR=8.8
HWUT Hardware Ranch 45.84 74 *e*P P 16 00 09.9 +0.1
comp=Z,3.7nm,0.8s
DUG Dugway, Tooele 45.87 76 *e*P P 16 00 10.1 +0.1
DUG *e**PP pP 16 00 19.4 0.0
DUG pmax pmax
comp=Z,14nm,1.0s
DUG Dugway, Tooele 45.87 76 ⇓P P 16 00 10.4 +0.4
baz=46,SNR=11
DUG Dugway, Tooele 45.87 76 *e*P P 16 00 10.1 +0.1
comp=Z,14nm,1.0s
DUG *ep*P pP 16 00 19.4 0.0
E21A Keefer Ranch, 45.87 66 ⇑P P 16 00 10.3 +0.5
baz=46
G20A Bridger 45.90 68 ⇑P P 16 00 10.5 +0.4
baz=46,SNR=7.6
DECC Green Verdugo 45.93 86 ⇓P P 16 00 10.9 +0.6
baz=46
C22A Vida 45.94 64 ⇓P P 16 00 11.1 +0.7
baz=46
I19A Meeteetse 46.07 70 ⇑P P 16 00 12.2 +0.6
baz=46
D22A Cohagen 46.08 64 ⇓P P 16 00 12.2 +0.7
baz=46
B23A Brockton 46.08 62 ⇑P P 16 00 11.8 +0.3
baz=46
SHOC Shoshone, Teco 46.22 83 ⇑P P 16 00 13.7 +1.1
baz=46
F21A Absaloka Mine, 46.23 66 ⇑P P 16 00 12.4 -0.2
baz=46
GSC Goldstone, Bar 46.25 84 *e*P P 16 00 13.2 +0.2
GSC *e**PP pP 16 00 22.6 +0.1
GSC pmax pmax
comp=Z,16nm,0.7s
GSC Goldstone, Bar 46.25 84 ⇓P P 16 00 13.4 +0.5
baz=46,SNR=13
GSC Goldstone, Bar 46.25 84 *e*P P 16 00 13.2 +0.2
comp=Z,16nm,0.7s
GSC *ep*P pP 16 00 22.6 +0.1
FMP Fort Macarthur 46.29 87 ⇓P P 16 00 13.7 +0.5
baz=46
C23A Lambert 46.31 63 ⇑P P 16 00 13.3 +0.1
baz=46,SNR=9.4
BFSC Mount Baldy Ra 46.37 86 ⇑P P 16 00 14.5 +0.6
baz=46,SNR=12
RRX Edison Barstow 46.39 85 ⇓P P 16 00 14.7 +0.7
baz=46
A24A Westby 46.41 61 ⇓P P 16 00 14.0 +0.1
baz=46,SNR=11
CIS Catalina Islan 46.41 87 ⇓P P 16 00 15.2 +1.0
baz=46
H20A Greybull 46.42 68 ⇑P P 16 00 14.4 +0.2
baz=46
BW06 Boulder Array 46.43 71 *e*P P 16 00 14.2 -0.3
comp=Z,8.7nm,0.7s
BW06 *ep*P pP 16 00 23.3 -0.7
PDAR Pinedale Array 46.43 71 P P 16 00 14.2 -0.3
comp=Z,6.4nm,0.8s,baz=301,slow=3.6,SNR=44
J19A Crowheart 46.46 70 ⇓P P 16 00 15.0 +0.4
baz=46
NLU North Lily Min 46.47 76 *e*P P 16 00 14.8 0.0
comp=Z,4.3nm,0.7s
JLU Jordanelle 46.49 75 *e*P P 16 00 15.3 +0.4
comp=Z,6.4nm,0.7s
JLU *ep*P pP 16 00 24.5 0.0
G21A Lodge Grass 46.50 67 ⇑P P 16 00 15.1 +0.3
baz=46
DGMT Dagmar 46.53 62 ⇓P P 16 00 15.3 +0.3
baz=46
SHPR Sheep Range 46.57 82 P P 16 00 14.6 -0.9
comp=Z,7.0nm,1.3s
E22A Miles City 46.59 65 ⇓P P 16 00 15.9 +0.5
baz=46
SCI San Clemente I 46.59 88 ⇓P P 16 00 16.2 +0.7
baz=46
D23A Lindsay 46.63 64 ⇓P P 16 00 16.1 +0.3
baz=46
I20A Worland 46.64 69 ⇓P P 16 00 16.7 +0.7
baz=46
FCC Fort Churchill 46.68 45 *e*P P 16 00 16.2 +0.3
FCC pmax pmax
comp=Z,14nm,0.8s
FCC Fort Churchill 46.68 45 *e*P P 16 00 16.2 +0.3
comp=Z,14nm,0.8s
TUQ Turquoise Moun 46.73 83 ⇑P P 16 00 17.6 +0.8
baz=46
F22A Rosebud 46.76 66 ⇓P P 16 00 17.1 +0.3
baz=46
BBRC Big Bear Solar 46.83 85 ⇓P P 16 00 18.4 +0.7
baz=47
HEC Hector,Ludlow 46.85 84 ⇑P P 16 00 18.4 +0.7
baz=47
C24A Savage 46.89 63 ⇑P P 16 00 18.5 +0.7
baz=47
A25A Svangstu Ranch 46.90 61 ⇑P P 16 00 18.3 +0.5
baz=47,SNR=7.2
H21A Big Horn, Sher 46.92 68 ⇓P P 16 00 18.2 0.0
baz=47
E23A Ismay 46.93 65 ⇓P P 16 00 18.8 +0.7
baz=47
J20A Shoshoni 47.00 70 ⇓P P 16 00 19.5 +0.7
baz=47
G22A Birney 47.04 67 ⇓P P 16 00 19.1 0.0
baz=47
MURC Murrieta 47.06 86 ⇑P P 16 00 19.4 +0.1
baz=47
TLY Talaya 47.08 304 ⇑*i*P P 16 00 20.5 +1.3
TLY *e*S S 16 07 05.5 -3.4
TLY *e*SS SS 16 10 25.1 -10
TLY pmax pmax
comp=Z,25nm,1.5s
TLY Talaya 47.08 304 *e*P P 16 00 20.1 +0.9
comp=Z,29nm,1.4s
D24A Glendive 47.17 64 ⇑P P 16 00 20.6 +0.7
baz=47
ULN Ulaanbaatar 47.17 298 *d i*P P 16 00 20.7 +0.6
ULN pmax pmax
comp=Z,21nm,1.2s
ULN Ulaanbaatar 47.17 298 *e*P P 16 00 20.6 +0.5
comp=Z,15nm,0.9s
ULN *ep*P pP 16 00 30.2 +0.6
I21A Big Trails, Te 47.22 69 ⇓P P 16 00 20.3 -0.3
baz=47,SNR=6.5
B25A Knox Farm, Ray 47.22 62 ⇑P P 16 00 20.9 +0.6
baz=47
MVU Marysvale 47.23 78 *e*P P 16 00 20.6 -0.2
comp=Z,6.6nm,0.9s
MVU *ep*P pP 16 00 30.6 +0.2
F23A Volborg 47.29 66 ⇓P P 16 00 20.7 -0.3
baz=47
GMRC Granite Mounta 47.31 84 ⇓P P 16 00 21.8 +0.5
baz=47,SNR=5.1
H22A Clearmont 47.35 67 ⇑P P 16 00 21.6 +0.1
baz=47
J21A Lysite 47.39 69 ⇑P P 16 00 21.1 -0.8
baz=47
TMUT Trail Mountain 47.40 76 *e*P P 16 00 21.4 -0.7
comp=Z,5.3nm,0.6s
TMUT *ep*P pP 16 00 31.7 0.0
C25A Freed Ranch, W 47.47 62 ⇓P P 16 00 21.7 -0.5
baz=47
E24A Baker 47.48 64 ⇓P P 16 00 22.3 -0.1
baz=47
A26A Wade Farm, Ken 47.53 60 ⇓P P 16 00 22.6 -0.1
baz=47
PFO Pinyon Flats O 47.54 86 *e*P P 16 00 23.0 -0.1
PFO *e**PP pP 16 00 32.0 -0.6
PFO pmax pmax
comp=Z,5.0nm,0.6s
PFO Pinyon Flats O 47.54 86 ⇓P P 16 00 23.1 0.0
baz=47
PFO Pinyon Flats O 47.54 86 *e*P P 16 00 23.0 -0.1
comp=Z,4.8nm,0.6s
PFO *ep*P pP 16 00 32.0 -0.6
SONM Songino Array 47.56 298 P P 16 00 24.0 +0.9
comp=Z,8.8nm,0.8s,baz=59,slow=7.7,SNR=56
SONM PcP PcP 16 01 52.7 +0.1
comp=Z,4.3nm,0.6s,baz=90,slow=2.2,SNR=9.5
SONM LR LR 16 21 17.6
comp=Z,49nm,19.8s,baz=70,slow=37
SONM Songino Array 47.56 298 P P 16 00 24.0 +0.9
SONM 16 01 52.7
SONM pmax pmax
comp=Z,9.0nm,0.9s
SONM MLR MLR
comp=Z,49nm,19.8s
109C Camp Elliot, M 47.58 87 ⇓P P 16 00 23.4 +0.1
baz=47
BELC Belle Mtn. Jos 47.58 85 ⇑P P 16 00 23.5 0.0
baz=47,SNR=7.1
G23A Biddle 47.59 66 ⇑P P 16 00 22.8 -0.5
baz=47
I22A 9 Mile Ranch, 47.66 68 ⇑P P 16 00 23.5 -0.4
baz=47
B26A Jensen Ranch, 47.69 61 ⇓P P 16 00 22.9 -1.1
baz=47
D25A Fairfield 47.73 63 ⇓P P 16 00 24.1 -0.3
baz=47
F24A Ekalaka 47.79 65 ⇑P P 16 00 24.9 +0.1
baz=48
K21A Alcova 47.91 70 ⇓P P 16 00 25.4 -0.5
baz=48
J22A Midwest 47.93 69 ⇑P P 16 00 26.1 0.0
baz=48
SRU San Rafael Swe 47.94 76 *e*P P 16 00 26.3 +0.1
SRU pmax pmax
comp=Z,12nm,0.7s
SRU San Rafael Swe 47.94 76 *e*P P 16 00 26.3 +0.1
comp=Z,12nm,0.7s
ZAK Zakamensk 47.95 302 ⇑*i*P P 16 00 26.6 +0.6
ZAK pmax pmax
comp=Z,22nm,1.2s
NEE2 Needles Airpor 47.99 83 ⇑P P 16 00 26.7 +0.3
baz=48
BAR Barrett 47.99 87 *e*P P 16 00 26.3 -0.2
BAR *ep*P pP 16 00 35.8 -0.2
MONP Monument Peak, 48.02 86 ⇓P P 16 00 27.3 +0.4
baz=48
IRM Iron Mountain 48.03 84 ⇓P P 16 00 27.6 +0.8
baz=48
E25A Miller Ranch, 48.04 64 ⇓P P 16 00 25.6 -1.2
baz=48
C26A Wahner Farm, P 48.06 62 ⇓P P 16 00 26.8 -0.1
baz=48
G24A Alzada 48.09 66 ⇓P P 16 00 26.3 -0.9
baz=48
BC3 Big Chuckawall 48.15 85 ⇑P P 16 00 27.4 -0.4
baz=48
W13A Hualapai Mount 48.25 82 ⇑P P 16 00 29.0 +0.3
baz=48,SNR=7.0
D26A Manning 48.30 63 ⇓P P 16 00 28.7 -0.1
baz=48
F25A Bowman 48.32 64 ⇓P P 16 00 29.4 +0.4
baz=48
N20A Spence Gulch, 48.33 73 ⇓P P 16 00 29.5 +0.2
baz=48
H24A Dirks Ranch, A 48.33 66 ⇓P P 16 00 28.4 -0.6
baz=48
K22A Casper 48.34 70 ⇑P P 16 00 28.7 -0.5
baz=48
SWSC Sam W. Stewart 48.39 86 ⇑P P 16 00 29.8 +0.3
baz=48
HHC Hu-ho-hao-te 48.39 287 *e*P P 16 00 30.8 +1.2
HHC pP pP 16 00 40.8 +1.7
HHC sP sP 16 00 44.5 +1.6
HHC PP PP 16 02 22.5 +0.4
HHC S S 16 07 27.8 -0.1
HHC sS sS 16 07 43.3 -0.3
HHC SS SS 16 10 51.0 -6.3
HHC PMZ
comp=Z,21nm,1.0s
HHC LN
comp=Z,130nm,14.8s
HHC LE
comp=Z,94nm,14.8s
HHC LZ
comp=Z,43nm,16.5s
U15A North Rim 48.44 80 ⇑P P 16 00 30.6 +0.3
baz=48,SNR=18
C27A Sayler Ranch, 48.46 61 ⇑P P 16 00 29.2 -0.7
baz=48
J23A Dilts Ranch, B 48.49 68 ⇓P P 16 00 30.2 -0.2
baz=48
MOY Mondy 48.50 305 *e*P P 16 00 31.1 +0.8
MOY pmax pmax
comp=Z,20nm,1.8s
A28A Rude Farm, Bot 48.51 59 ⇑P P 16 00 30.0 -0.3
baz=48
PDMCI Parker Dam,Lak 48.59 83 ⇓P P 16 00 31.2 +0.2
baz=48,SNR=6.9
E26A Carlson Angus 48.59 63 ⇓P P 16 00 30.8 -0.2
baz=48
Y12C Blythe 48.69 84 ⇑P P 16 00 32.5 +0.7
baz=48,SNR=12
B28A Dugan Ranch, T 48.70 60 ⇓P P 16 00 32.0 +0.2
baz=48
L22A Ellis Ranch, M 48.75 70 ⇓P P 16 00 32.3 -0.1
baz=48
O20A White River Ci 48.75 73 ⇓P P 16 00 32.1 -0.4
baz=48
O20A White River Ci 48.75 73 *e*P P 16 00 31.6 -0.9
comp=Z,12nm,0.6s
G25A Newell 48.75 65 ⇓P P 16 00 30.8 -1.4
baz=48
D27A Center 48.78 62 ⇑P P 16 00 31.4 -1.0
baz=48
I24A Kuemmerle Ranc 48.79 67 ⇑P P 16 00 32.0 -0.6
baz=48
GLA Glamis 48.94 85 *e*P P 16 00 34.1 +0.3

GLA e*PP pP 16 00 43.4 +0.1
GLA Glamis 48.94 85 ⇓P P 16 00 34.6 +0.8
baz=49,SNR=5.6
GLA Glamis 48.94 85 eP P 16 00 34.1 +0.3
GLA epP pP 16 00 43.4 +0.1
H25A Fruitdale 48.97 66 ⇑P P 16 00 33.8 -0.1
baz=49
M22A Cedar Creek Ra 49.02 71 ⇓P P 16 00 35.0 +0.4
baz=49
J24A Dixon Ranch, L 49.07 68 ⇑P P 16 00 33.6 -1.2
baz=49
A29A Manning Farm, 49.08 59 ⇑P P 16 00 34.4 -0.2
baz=49
E27A Carson 49.13 63 ⇑P P 16 00 34.8 -0.3
baz=49
L23A Garrett 49.15 70 ⇓P P 16 00 35.3 -0.2
baz=49,SNR=5.4
G26A Maurine 49.17 65 ⇓P P 16 00 35.4 -0.1
baz=49
F27A Lemmon 49.18 64 ⇓P P 16 00 36.1 +0.6
baz=49
NJ2 Nanjing 49.20 273 eP P 16 00 36.8 +1.1
NJ2 PMZ
comp=Z,20nm,0.5s
I25A Rochford 49.23 67 ⇓P P 16 00 36.2 +0.2
baz=49
B29A Wagenman Farm, 49.26 60 ⇓P P 16 00 36.2 +0.2
baz=49
D28A Regan 49.28 62 ⇑P P 16 00 36.4 +0.2
baz=49
N22A Wattenberg Ran 49.45 72 ⇓P P 16 00 38.2 +0.3
baz=49
MDND Maddock 49.46 60 ⇓P P 16 00 37.8 +0.3
baz=49
M23A Laramie 49.51 71 ⇑P P 16 00 38.5 +0.2
baz=49
G27A Dupree 49.51 64 ⇑P P 16 00 38.4 +0.3
baz=49
Y14A Wickenburg 49.54 83 ⇑P P 16 00 38.7 +0.2
baz=49,SNR=9.6
E28A Huff 49.55 62 ⇓P P 16 00 38.8 +0.5
baz=49
A30A Hoffart Farm, 49.58 59 ⇓P P 16 00 38.5 +0.1
baz=49
WUAZ Wupatki 49.59 80 ⇑P P 16 00 39.5 +0.6
baz=49,SNR=9.6
WUAZ Wupatki 49.59 80 eP P 16 00 39.2 +0.3
comp=Z,13nm,0.8s
WUAZ epP pP 16 00 48.2 -0.2
KULLO Kullorsuaq 49.67 17 iP P 16 00 40.1 +1.3
comp=Z,11nm,0.9s
N23A Red Feather La 49.71 71 ⇑P P 16 00 40.3 +0.4
baz=49
I26A New Underwood 49.74 66 ⇑P P 16 00 39.4 -0.4
baz=49
PV01 Paradox Valley 49.74 76 eP P 16 00 39.8 -0.3
comp=Z,1μm,0.7s
PV01 epP pP 16 00 49.0 -0.7
O22A Kremmling 49.78 72 ⇓P P 16 00 40.8 +0.4
baz=50
113A Mohawk Valley, 49.80 85 ⇓P P 16 00 40.6 +0.2
baz=50
B30A Myrvik Farm, E 49.84 59 ⇑P P 16 00 40.7 +0.3
baz=50
H27A Howes 49.85 65 ⇑P P 16 00 40.1 -0.5
baz=50
F28A McLaughlin 49.90 63 ⇓P P 16 00 41.2 +0.2
baz=50
D29A Pettibone, Tap 49.90 61 ⇓P P 16 00 40.9 -0.1
baz=50
Z14A Wintersburg 49.95 84 ⇑P P 16 00 41.9 +0.5
baz=50
K25A Mack Ranch, Ha 49.96 68 ⇓P P 16 00 42.0 +0.4
baz=50
P22A Eagle 49.99 73 ⇑P P 16 00 41.8 -0.2
baz=50
M24A Cheyenne 50.05 70 ⇑P P 16 00 42.0 -0.4
baz=50
O23A Lake Granby, G 50.13 72 ⇓P P 16 00 43.4 +0.3
baz=50
E29A Napoleon 50.16 62 ⇓P P 16 00 42.6 -0.3
baz=50
C30A Mose, Pekin 50.17 60 ⇑P P 16 00 42.2 -0.7
baz=50
ULM Lac du Bonnet 50.17 56 P P 16 00 44.5 +1.6
comp=Z,3.1nm,0.6s,baz=314,slow=8.7,SNR=6.3
ULM PcP PcP 16 02 01.5 -0.3
comp=Z,3.2nm,0.8s,baz=327,slow=3.7,SNR=3.5
ULM LR LR 16 21 56.6
comp=Z,72nm,21.5s,baz=322,slow=36
ULM Lac du Bonnet 50.17 56 P P 16 00 44.5 +1.6
ULM 16 02 01.5
ULM pmax pmax
comp=Z,3.0nm,0.6s
ULM MLR MLR
comp=Z,72nm,21.5s
I27A Quinn 50.19 66 ⇑P P 16 00 43.6 +0.3
baz=50
X16A Lo Mia Camp, P 50.24 81 ⇓P P 16 00 44.4 +0.6
baz=50,SNR=11
KRAR Krasnoyarsk 50.24 313 ⇑iP P 16 00 41.8 -1.5
KRAR pmax pmax
comp=Z,37nm,0.8s
G28A Parade 50.28 64 ⇓P P 16 00 44.0 +0.2
baz=50
K26A Motz Farm, Whi 50.32 68 ⇓P P 16 00 44.0 -0.3
baz=50
D30A Buchanan 50.35 61 ⇓P P 16 00 43.9 -0.4
baz=50
MVCO Mesa Verde 50.35 77 ⇑P P 16 00 44.9 +0.1
baz=50,SNR=8.9
MVCO Mesa Verde 50.35 77 eP P 16 00 44.6 -0.2
comp=Z,9.7nm,0.8s
N24A Carr 50.40 71 ⇓P P 16 00 44.7 -0.3
baz=50
H28A Mission Ridge 50.45 65 ⇑P P 16 00 45.1 0.0
baz=50
F29A Eureka 50.47 63 ⇓P P 16 00 44.3 -1.0
baz=50
ISCO Idaho Springs 50.57 72 P P 16 00 46.6 +0.1
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO Idaho Springs 50.57 72 ⇓P P 16 00 46.6 +0.1
baz=50
ISCO Idaho Springs 50.57 72 P P 16 00 46.6 +0.1
comp=Z,2.3nm,0.7s
E30A Jud 50.61 61 ⇓P P 16 00 45.3 -1.0
baz=50
P23A Jefferson 50.69 73 ⇑P P 16 00 47.8 +0.4
baz=50
I28A Midland 50.75 65 ⇓P P 16 00 47.8 +0.3
baz=50
L26A Underwood Farm 50.77 68 ⇓P P 16 00 47.9 +0.2
baz=50
H29A Onida 50.94 64 ⇓P P 16 00 49.4 +0.6
baz=51
214A Organ Pipe Nat 50.95 85 ⇓P P 16 00 49.4 +0.4
baz=51,SNR=14
Q23A Hartsel 50.98 73 ⇑P P 16 00 49.7 +0.1
baz=51
J28A Allard Ranch, 51.05 66 ⇑P P 16 00 49.0 -0.7
baz=51
S22A 4UR Ranch, Cre 51.07 75 ⇑P P 16 00 50.5 +0.3
baz=51,SNR=9.0
M26A McRoberts Ranc 51.07 69 ⇑P P 16 00 49.8 -0.2
baz=51
X18A Snowflake 51.12 80 ⇓P P 16 00 51.2 +0.7
baz=51,SNR=6.3
L27A T5 Ranch, Ells 51.20 68 ⇓P P 16 00 49.8 -1.1
baz=51
G30A Faulkton 51.27 63 ⇑P P 16 00 50.6 -0.7
baz=51
AGMN Agassiz Nation 51.28 58 ⇓P P 16 00 50.3 -0.9
baz=51
AGMN Agassiz Nation 51.28 58 eP P 16 00 50.4 -0.9
comp=Z,8.4nm,0.6s
AGMN epP pP 16 00 59.8 -1.0
O25A Wiggins 51.29 71 ⇑P P 16 00 50.7 -1.0
baz=51
Q24A Divide 51.36 73 ⇓P P 16 00 52.4 -0.1
baz=51
N26A Koester Ranch, 51.41 70 ⇑P P 16 00 51.4 -1.1
baz=51
R23A Moffat 51.42 74 ⇑P P 16 00 53.3 +0.4
baz=51
M27A Reverse DX Ran 51.49 69 ⇓P P 16 00 53.1 0.0
baz=51
J29A Okreek 51.59 65 ⇓P P 16 00 53.7 0.0
baz=51
S23A Nye Farm, Mont 51.61 75 ⇓P P 16 00 53.1 -1.1
baz=51
P25A Willow Gulch B 51.63 72 ⇑P P 16 00 54.9 +0.7
baz=51
O26A Horse Wrangler 51.71 70 ⇑P P 16 00 54.7 0.0
baz=51
SPITS Spitsbergen Ar 51.76 356 P P 16 00 55.2 +0.7
comp=Z,13nm,0.7s,baz=50,slow=5.7,SNR=41
SPITS Spitsbergen Ar 51.76 356 P P 16 00 55.2 +0.7
SPITS pmax pmax
comp=Z,13nm,0.7s
N27A Anderson Farm, 51.84 69 ⇑P P 16 00 56.3 +0.6
baz=52
R24A Sanders Place, 51.84 73 ⇑P P 16 00 56.5 +0.6
baz=52
SDCO Great Sand Dun 51.90 74 ⇓P P 16 00 56.8 +0.4
baz=52,SNR=6.3
Q25A Bedland, Calha 51.95 72 ⇑P P 16 00 56.3 -0.4
baz=52
TUC Tucson 52.02 83 eP P 16 00 57.1 0.0
TUC e*PP pP 16 01 06.7 0.0
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC Tucson 52.02 83 eP P 16 00 57.1 0.0
comp=Z,8.0nm,0.8s
TUC epP pP 16 01 06.7 0.0
OGNE Ogallala 52.05 69 ⇑⇑P P 16 00 57.7 +0.4
baz=52
P26A Davis Ranch, A 52.10 71 ⇓P P 16 00 58.4 +0.7
baz=52
J30A Dallas 52.13 65 ⇓P P 16 00 57.7 -0.1
baz=52
M28A Bar X Bar Ranc 52.18 68 ⇑P P 16 00 58.4 +0.2
baz=52
L29A Maesberg Ranch 52.31 67 ⇓P P 16 00 58.3 -0.8
baz=52
P27A Ficken Ranch, 52.57 71 ⇓P P 16 01 01.2 0.0
baz=52
O28A Krutsinger Ran 52.71 70 ⇓P P 16 01 02.2 0.0
baz=52
R26A Arlington 52.82 72 ⇓P P 16 01 03.3 +0.3
baz=52
DAG Danmarks Havn 52.83 6 iP P 16 01 02.6 +0.2
DAG Danmarks Havn 52.83 6 iP P 16 01 02.6 +0.2
comp=Z,3.1nm,1.1s
T25A Trinidad 52.95 74 ⇓P P 16 01 04.2 0.0
baz=53
N29A Votaw Ranch, W 52.98 68 ⇓P P 16 01 04.6 +0.5
baz=53
LAZ Ladron 52.98 79 eP P 16 01 04.8 +0.4
comp=Z,3.7nm,1.1s
LAZ epP pP 16 01 14.3 +0.3
M30A Dale-Ortello V 52.99 67 ⇑⇑P P 16 01 03.9 -0.3
baz=53
ANMO Albuquerque 53.06 78 ⇑iP P 16 01 05.2 +0.2
ANMO pmax pmax
comp=Z,41nm,1.7s
P28A Saint Francis 53.06 70 ⇑P P 16 01 05.0 +0.2
baz=53
L31A Butterfield Fa 53.21 66 ⇓P P 16 01 06.1 +0.3
baz=53
R27A Eads 53.23 72 ⇓P P 16 01 06.3 +0.2
baz=53
S26A Kim 53.23 73 ⇑P P 16 01 05.8 -0.3
baz=53
O29A 4D Ranch, Culb 53.30 69 ⇓P P 16 01 06.3 -0.2
baz=53
N30A Hueftle Ranch, 53.31 68 ⇑P P 16 01 05.8 -0.7
baz=53
Q28A Sharon Springs 53.33 71 ⇑P P 16 01 06.4 -0.4
baz=53
T26A Comanche Natio 53.44 74 ⇓P P 16 01 06.7 -1.0
baz=53
SSLB Suanglung 53.48 264 eP P 16 01 07.8 -0.2
comp=Z,26nm,1.0s
S27A Las Animas 53.54 73 ⇑P P 16 01 09.3 +0.9
baz=53
P29A Atwood 53.54 70 ⇓P P 16 01 08.4 +0.1
baz=53
ECSD EROS Data Cent 53.55 63 ⇑P P 16 01 07.8 -0.4
baz=53
319A Douglas 53.59 83 ⇑P P 16 01 09.5 +0.7
baz=53
M31A Lambtecht Ranc 53.64 67 ⇑P P 16 01 10.1 +1.2
baz=53
O30A MW Ranch, Wils 53.71 69 ⇑P P 16 01 10.1 +0.6
baz=53
121A Cookes Peak, D 53.78 81 ⇓P P 16 01 10.9 +0.6
baz=54
121A Cookes Peak, D 53.78 81 eP P 16 01 10.5 +0.2
comp=Z,10nm,0.7s
121A epP pP 16 01 19.6 -0.3
R28A Tribune 53.80 71 ⇓P P 16 01 10.5 +0.3
baz=54
N31A Bailey Ranch, 53.97 67 ⇓P P 16 01 12.1 +0.8
baz=54
P30A Selden 53.99 69 ⇑P P 16 01 12.3 +0.8
baz=54
FRB Frobisher Bay 54.03 31 P P 16 01 11.9 +0.6
comp=Z,32nm,0.9s,baz=310,slow=8.8,SNR=40
FRB Frobisher Bay 54.03 31 P P 16 01 11.9 +0.6
FRB pmax pmax
comp=Z,32nm,0.9s
R29A Marienthal 54.16 71 ⇓P P 16 01 12.6 -0.2
baz=54
O31A Woolen Ranch, 54.17 68 ⇑P P 16 01 12.6 -0.2
baz=54
S28A Manter 54.22 72 ⇓P P 16 01 13.4 +0.1
baz=54
XAN Xi'an 54.25 282 P P 16 01 12.8 -0.7
XAN pP pP 16 01 21.8 -1.3
XAN PMZ
comp=Z,3.0nm,1.4s
XAN PMZ
comp=Z,14nm,4.7s
Q30A Quinter 54.37 70 ⇓P P 16 01 13.9 -0.3
baz=54
T28A Walsh 54.38 73 ⇓P P 16 01 14.0 -0.5
baz=54
U27A Thompson Grove 54.39 74 ⇓P P 16 01 14.4 -0.1
baz=54
P31A Stockton 54.53 69 ⇓P P 16 01 15.1 -0.3
baz=54
SUMG Summit 54.55 14 eP P 16 01 16.3 +0.8
SUMG e*PP pP 16 01 26.1 +0.9
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 54.55 14 eP P 16 01 16.3 +0.8
comp=Z,31nm,0.9s
SUMG epP pP 16 01 26.1 +0.9
SUMG Summit 54.55 14 iP P 16 01 16.4 +0.9
comp=Z,18nm,1.0s
SUMG i 16 01 25.8
S29A Ulysses 54.68 72 ⇑P P 16 01 17.2 +0.6
baz=54
R30A Dighton 54.77 70 ⇓P P 16 01 18.4 +1.2
baz=54
U28A Mallet 54.79 73 ⇑P P 16 01 19.1 +1.6
baz=54
V27A Dan Oppiter Fa 54.81 74 ⇑P P 16 01 16.8 -0.8
baz=54
Q31A Ellis 54.85 69 ⇑P P 16 01 17.8 +0.1
baz=54
T29A Hugoton 54.86 72 ⇓P P 16 01 17.8 -0.2
baz=55
P32A Huiting Farm, 54.93 68 ⇓P P 16 01 19.3 +1.0
baz=55
ILULI Ilulissat 54.94 20 iP P 16 01 18.4 +0.6
ILULI i 16 01 27.4
S30A Montezuma 55.06 71 ⇓P P 16 01 19.3 -0.1
baz=55
V28A Channing 55.19 74 ⇓P P 16 01 20.6 +0.2
baz=55
ZALV Zalesovo Beam 55.21 314 P P 16 01 19.7 -0.4
comp=Z,3.0nm,0.7s,baz=42,slow=6.8,SNR=14
ZALV PcP PcP 16 02 20.8 +0.1
comp=Z,4.7nm,0.8s,baz=58,slow=3.9,SNR=6.3
ZALV LR LR 16 26 43.0
comp=Z,43nm,20.3s,baz=70,slow=38
ZALV Zalesovo Beam 55.21 314 P P 16 01 19.7 -0.4
ZALV 16 02 20.8
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV MLR MLR
comp=Z,43nm,20.3s
R31A Burdett 55.22 70 ⇓P P 16 01 20.0 -0.5
baz=55
U29A Oasis Ranch, S 55.33 73 ⇑P P 16 01 21.3 0.0
baz=55
Q32A Meitler Ranch, 55.36 69 ⇓P P 16 01 21.1 -0.3
baz=55
NVS Novosibirsk 55.37 316 ⇓iP P 16 01 20.7 -0.5
NVS i 16 02 21.6
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS pmax pmax
comp=Z,7.0nm,0.7s
NVS pmax pmax
comp=N,2.0nm,0.6s
T30A Plains 55.40 72 ⇑P P 16 01 21.3 -0.5
baz=55
W28A Vega 55.52 74 ⇓P P 16 01 22.6 -0.2
baz=55
P33A Williams Farm, 55.59 68 ⇓P P 16 01 22.8 -0.3
baz=55
R32A Long Quarter, 55.63 69 ⇑P P 16 01 22.8 -0.6
baz=55
U30A WK&E Inc. Balk 55.66 72 ⇓P P 16 01 23.2 -0.5
baz=55
Q33A Connelly Farm, 55.79 68 ⇓P P 16 01 23.9 -0.6
baz=56
MNTX Cornudas Mount 55.86 80 ⇓P P 16 01 25.5 +0.4
baz=56,SNR=17
MNTX Cornudas Mount 55.86 80 eP P 16 01 24.7 -0.4
comp=N,9.2nm,0.8s
MNTX epP pP 16 01 34.4 -0.4
T31A Randall Ranch, 55.89 71 ⇑P P 16 01 25.1 -0.1
baz=56
MSTX Muleshoe 56.01 76 ⇑P P 16 01 26.1 -0.2
baz=56,SNR=6.1
MSTX Muleshoe 56.01 76 eP P 16 01 25.7 -0.6
comp=N,29nm,1.4s
MSTX epP pP 16 01 34.9 -1.1
X28A Dimmitt 56.01 75 ⇑⇑P P 16 01 26.2 0.0
baz=56
LZH Lanzhou 56.09 287 ⇑P P 16 01 28.0 +1.1
LZH pP pP 16 01 37.8 +1.3
LZH sP sP 16 01 41.3 +1.0
LZH PMZ
comp=N,55nm,1.3s
LZH PMZ
comp=N,120nm,4.1s
AMTX Amarillo 56.09 74 ⇓P P 16 01 26.8 -0.1
baz=56
Y28A McKinney Farm, 56.38 76 ⇓P P 16 01 28.2 -0.7
baz=56
GTA Gaotai 56.39 293 ⇓P P 16 01 29.3 +0.4
GTA pP pP 16 01 39.0 +0.4
GTA sP sP 16 01 43.0 +0.7
GTA PcP PcP 16 02 26.0 +0.3
GTA S S 16 09 17.8 +0.4
GTA sS sS 16 09 34.0 +0.7
GTA PMZ
comp=N,17nm,1.3s
GTA PMZ
comp=N,68nm,4.7s
GTA LN
comp=N,110nm,16.9s
GTA LE
comp=N,120nm,16.9s
GTA LZ
comp=N,64nm,15.7s
KSU1 Kansas State U 56.46 67 ⇑P P 16 01 28.9 -0.3
baz=56
Z28A Tucker Farm, M 56.70 76 ⇑P P 16 01 30.6 -0.6
baz=56
Y29A Porterfield Fa 56.77 75 ⇓P P 16 01 31.2 -0.4
baz=56
T33A Patterson Ranc 56.77 70 ⇓P P 16 01 31.1 -0.4
baz=56
SFJD Kangerlussuaq 56.80 22 P P 16 01 31.9 +0.7
comp=N,10nm,0.9s,baz=93,slow=5.0,SNR=4.9
SFJD Kangerlussuaq 56.80 22 eP P 16 01 31.7 +0.5
SFJD pmax pmax
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 56.80 22 eP P 16 01 31.7 +0.5
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 56.80 22 iP P 16 01 32.2 +1.0
comp=Z,14nm,0.8s
X30A Coker Ranch, T 56.88 74 ⇑P P 16 01 31.9 -0.5
baz=57
W31A Holland Ranch, 56.97 73 ⇑P P 16 01 33.4 +0.4
baz=57
128A Castleberry Fa 57.08 77 ⇑P P 16 01 33.7 -0.1
baz=57,SNR=9.9
Z29A Hungry Hill Ra 57.15 76 ⇓P P 16 01 34.0 -0.3
baz=57
V32A Arapaho 57.17 72 ⇓P P 16 01 34.6 +0.2
baz=57
Y30A Stafford Cattl 57.24 75 ⇓P P 16 01 35.4 +0.5
baz=57
X31A McDonald Ranch 57.31 74 ⇑P P 16 01 35.7 +0.3
baz=57
228A UT Block 9, Go 57.35 78 ⇓P P 16 01 35.1 -0.6
baz=57
W32A Sentinel 57.44 73 ⇓P P 16 01 35.7 -0.7
baz=57
129A Stewart Farms, 57.46 77 ⇓P P 16 01 36.3 -0.2
baz=57
Z30A Sanderson Ranc 57.49 76 ⇑P P 16 01 36.7 0.0
baz=57,SNR=5.6
V33A Lossen Ranch, 57.57 71 ⇑P P 16 01 36.8 -0.4
baz=57
Y31A Rekieta Farm, 57.58 74 ⇓P P 16 01 37.1 -0.2
baz=57
R36A Gordon, Harris 57.62 68 ⇑P P 16 01 37.0 -0.5
baz=57
U34A Anderson Ranch 57.63 70 ⇑P P 16 01 37.2 -0.4
baz=57
X32A Elmer 57.88 73 ⇑P P 16 01 38.5 -0.9
baz=58
S36A Lake Cedric, C 57.96 68 ⇓P P 16 01 39.2 -0.7
baz=58
130A Snyder 58.05 76 ⇓P P 16 01 40.6 -0.1
baz=58
Y32A R-V Farms, Ver 58.06 74 ⇓P P 16 01 40.7 0.0
baz=58
Z31A Sharp Cattle R 58.08 75 ⇓P P 16 01 40.6 -0.2
baz=58
329A Wagon Wheel Ra 58.16 78 ⇓P P 16 01 40.8 -0.6
baz=58
X33A Lawton 58.29 73 ⇓P P 16 01 42.1 -0.1
baz=58
131A Roby 58.36 76 ⇓P P 16 01 42.5 -0.3
baz=58
230A Sterling City 58.43 77 ⇓P P 16 01 43.4 0.0
baz=58,SNR=16
Z32A Haskell 58.50 74 ⇑P P 16 01 43.4 -0.3
baz=58,SNR=5.2
TXAR Lajitas Array 58.55 81 P P 16 01 43.7 -0.5
comp=Z,3.9nm,0.8s,baz=300,slow=5.4,SNR=42
TXAR PcP PcP 16 02 34.9 +0.6
comp=Z,4.7nm,0.8s,baz=299,slow=2.7,SNR=8.6
TXAR Lajitas Array 58.55 81 P P 16 01 43.7 -0.5
TXAR 16 02 34.9
TXAR pmax pmax
comp=Z,4.0nm,0.8s
Y33A Hilltop Ranch, 58.56 73 ⇑P P 16 01 44.3 +0.2
baz=58
X34A Smith Ranch, M 58.66 72 ⇓P P 16 01 44.3 -0.5
baz=58
330A Mertzon 58.72 77 ⇓P P 16 01 44.6 -0.7
baz=58
429A Davenport Ranc 58.79 78 ⇓P P 16 01 45.2 -0.7
baz=58
ABTX Abilene, Hawle 58.86 75 ⇑P P 16 01 46.2 -0.1
baz=59
W35A Tecumseh 58.88 71 ⇑P P 16 01 46.1 -0.3
baz=59
231A Bronte 58.90 76 ⇑P P 16 01 46.4 -0.2
baz=59
529A Stev Forest Ra 58.93 79 ⇓P P 16 01 46.4 -0.4
baz=59
Z33A Whitaker Ranch 58.96 74 ⇑P P 16 01 46.9 -0.1
baz=59
TUL1 Leonard 59.03 70 ⇓P P 16 01 47.5 +0.1
baz=59
430A Baggett Ranch, 59.10 78 ⇑P P 16 01 47.6 -0.4
baz=59
KEV Kevo 59.12 350 ep P 16 01 47.3 -0.1
KEV Kevo 59.12 350 eP P 16 01 47.3 -0.1
Y34A Reagan Ranch, 59.13 73 ⇓P P 16 01 48.2 0.0
baz=59

331A	**San Angelo**	59.26	77	⇑P		P		16 01 48.3	-0.7
	baz=59									
W36A	**Wetumka**	59.28	71	⇑P		P		16 01 49.6	+0.5
	baz=59									
X35A	**Drake**	59.32	72	⇑P		P		16 01 49.7	+0.3
	baz=59									
133A	**Hamilton Ranch**	59.32	75	⇓P		P		16 01 49.1	-0.3
	baz=59									
232A	**Coleman**	59.35	76	⇓P		P		16 01 49.2	-0.5
	baz=59									
530A	**J-C Ranch, Com**	59.47	78	⇓P		P		16 01 50.0	-0.5
	baz=59,SNR=14									
ARCES	**ARCESS Array B**	59.49	351	P		P		16 01 50.7	+0.6
	comp=Z,11nm,0.6s,baz=27,slow=8.0,SNR=43									
ARCES				LR		LR		16 30 25.3		
	comp=Z,25nm,18.4s,baz=356,slow=39									
431A	**Sonora**	59.57	77	⇑P		P		16 01 50.6	-0.6
	baz=59,SNR=5.9									
CD2	**Chengdu**	59.58	283	*e*P		P		16 01 52.0	+0.7
CD2				pP		pP		16 02 01.8	+0.7
CD2				sP		sP		16 02 05.5	+0.7
CD2				PP		PP		16 04 05.5	+2.7
CD2				PcS		PcS		16 06 40.0	-0.6
CD2				S		S		16 09 57.8	-1.4
CD2				sS		sS		16 10 13.5	-1.7
CD2				SS		SS		16 13 54.5	+0.1
CD2				PMZ						
	comp=Z,10.0nm,0.5s									
CD2				PMZ						
	comp=Z,120nm,5.4s									
X36A	**Centrahoma**	59.59	71	⇑P		P		16 01 51.2	0.0
	baz=59									
332A	**Millersview**	59.63	76	⇓P		P		16 01 51.1	-0.6
	baz=59									
233A	**Rising Star**	59.73	75	⇓P		P		16 01 52.4	+0.1
	baz=59									
HDIL	**Hopedale**	59.77	62	*e*P		P		16 01 50.4	-2.0
	comp=Z,410nm,1.0s									
LVZ	**Lovozero**	59.85	346	⇓*e*P		P		16 01 53.4	+0.9
LVZ				pmax		pmax				
	comp=Z,86nm,1.7s									
134A	**White-Moore Ra**	59.87	74	⇓P		P		16 01 53.8	+0.6
	baz=60									
Z35A	**Perchaven, San**	59.87	73	⇑P		P		16 01 52.7	-0.4
	baz=60									
432A	**Menard**	59.95	77	⇑P		P		16 01 53.4	-0.4
	baz=60									
531A	**Rocksprings**	59.96	78	⇑P		P		16 01 53.4	-0.5
	baz=60									
333A	**Richland Sprin**	60.15	76	⇑P		P		16 01 54.9	-0.3
	baz=60									
X37A	**Clayton**	60.17	71	⇑P		P		16 01 55.7	+0.4
	baz=60									
JCT	**Junction City**	60.21	77	*e*P		P		16 01 54.3	-1.3
JCT				pmax		pmax				
	comp=Z,8.0nm,1.2s									
JCT	**Junction City**	60.21	77	⇑P		P		16 01 54.8	-0.8
	baz=60									
JCT	**Junction City**	60.21	77	*e*P		P		16 01 54.3	-1.3
	comp=Z,7.9nm,1.2s									
234A	**Clairette**	60.22	75	⇑P		P		16 01 55.8	+0.2
	baz=60									
W38A	**Poteau**	60.37	70	⇑P		P		16 01 56.3	-0.2
	baz=60									
WMQ	**Urumqi**	60.37	304	P		P		16 01 57.8	+1.3
WMQ				pP		pP		16 02 06.8	+0.5
WMQ				sP		sP		16 02 10.8	+0.8
WMQ				ScS		SKKSac		16 11 38.0	-6.5
WMQ				PMZ						
	comp=Z,11nm,1.0s									
WMQ				PMZ						
	comp=Z,64nm,3.5s									
WMQ				LN						
	comp=Z,200nm,26.8s									
WMQ				LE						
	comp=Z,250nm,26.8s									
WMQ				LZ						
	comp=Z,170nm,27.6s									
532A	**Rocksprings**	60.39	77	⇓P		P		16 01 56.6	-0.3
	baz=60									
631A	**Perdido Creek**	60.45	79	⇑P		P		16 01 56.9	-0.3
	baz=60									
433A	**Art**	60.47	76	⇑P		P		16 01 57.2	-0.1
	baz=60									
334A	**Lometa**	60.61	75	⇑P		P		16 01 57.8	-0.5
	baz=60,SNR=9.6									
GYA	**Guiyang**	60.80	277	*e*P		P		16 02 01.0	+1.2
GYA				PMZ						
	comp=Z,10.0nm,1.0s									
632A	**Uvalde**	60.89	78	⇓P		P		16 01 59.9	-0.4
	baz=61									
434A	**Burnet**	60.94	76	⇑P		P		16 02 00.1	-0.5
	baz=61									
533A	**Kerrville**	60.97	77	⇓P		P		16 02 00.7	-0.1
	baz=61									
MK31	**Makanchi Array**	61.15	309	*i* P		P		16 02 00.9	-0.8
MK31				pmax		pmax				
	comp=Z,15nm,0.9s									
MKAR	**Makanchi Array**	61.15	309	P		P		16 02 01.4	-0.4
	comp=Z,7.5nm,0.8s,baz=32,slow=4.7,SNR=68									
MKAR				LR		LR		16 31 15.0		
	comp=Z,32nm,18.8s,baz=2.5,slow=39									
MKAR	**Makanchi Array**	61.15	309	P		P		16 02 01.4	-0.4
MKAR				pmax		pmax				
	comp=Z,8.0nm,0.8s									
MKAR				MLR		MLR				
	comp=Z,32nm,18.8s									
732A	**Laxson Ranch,**	61.31	79	⇓P		P		16 02 02.9	-0.2
	baz=61									
534A	**Blanco**	61.35	77	⇑P		P		16 02 03.0	-0.4
	baz=61									
336A	**Riesel**	61.44	74	⇓P		P		16 02 04.5	+0.6
	baz=61									
832A	**Faith Ranch, C**	61.61	79	⇓P		P		16 02 05.2	+0.1
	baz=61									
733A	**Divot King Ran**	61.74	78	⇓P		P		16 02 06.1	+0.1
	baz=62									
436A	**Wall Ranch, Ga**	61.89	75	⇓P		P		16 02 07.5	+0.5
	baz=62									
833A	**Chaparral WMA,**	61.95	79	⇓P		P		16 02 07.8	+0.4
	baz=62									
238A	**Jacksonville**	62.08	73	⇑P		P		16 02 08.6	+0.4
	baz=62									
734A	**La Parita Cree**	62.12	78	⇓P		P		16 02 09.5	+1.0
	baz=62									
BRVK	**Borovoye**	62.17	321	*d i* P		P		16 02 08.9	+0.4
BRVK				pmax		pmax				
	comp=Z,47nm,1.7s									
BRVK	**Borovoye**	62.17	321	*e*P		P		16 02 08.7	+0.2
	comp=Z,20nm,0.8s									
SADO	**Sadowa**	62.41	53	P		P		16 02 10.5	+0.3
	comp=Z,6.6nm,0.7s,baz=328,slow=11,SNR=5.0									
834A	**Tilden**	62.62	78	⇑P		P		16 02 12.3	+0.4
	baz=62									
TMCR	**Tamitsa**	62.67	343	*e*P		P		16 02 12.1	+0.5
TMCR				*e*				16 04 30.3		
TMCR				pmax		pmax				
	comp=Z,51nm,1.5s									
339A	**Huntington**	62.89	73	⇑P		P		16 02 12.6	-1.1
	baz=63									
SVE	**Sverdlovsk**	62.92	328	⇓*i* P		P		16 02 15.1	+1.7
SVE				pmax		pmax				
	comp=Z,34nm,1.3s									
934A	**Benavides**	63.01	79	⇓P		P		16 02 14.5	0.0
	baz=63									
439A	**Center Grove,**	63.14	73	⇑P		P		16 02 15.0	-0.2
	baz=63									
034A	**Hebbronville**	63.28	79	⇑P		P		16 02 17.1	+0.8
	baz=63									
PRGR	**Permogore**	63.30	338	P		P		16 02 16.1	+0.3
PRGR				pmax		pmax				
	comp=Z,33nm,0.7s									
035A	**Encino**	63.74	79	⇑P		P		16 02 20.6	+1.3
	baz=64									
ARU	**Arti**	63.94	329	*d i* P		P		16 02 20.8	+0.6
ARU								16 02 57.9		
ARU				S		S		16 10 55.0	+1.5
ARU				SS		SS		16 14 58.4	-2.8
ARU				pmax		pmax				
	comp=Z,36nm,1.2s									
ARU	**Arti**	63.94	329	*e*P		P		16 02 20.4	+0.2
	comp=Z,40nm,1.3s									
ARU				*e*pP		pP		16 02 30.1	+0.1
ALLY	**Alegheny Colle**	64.06	56	*e*P		P		16 02 21.6	+0.3
	comp=Z,45nm,1.0s									
KMI	**Kunming**	64.25	279	P		P		16 02 22.8	-0.1
KMI				pP		pP		16 02 32.3	-0.5
KMI				sP		sP		16 02 37.0	+0.5
KMI				PMZ						
	comp=Z,11nm,1.2s									
JOF	**Joensuu**	65.00	346	*e*p		P		16 02 26.6	-0.4
	comp=Z,9.2nm,0.7s									
JOF	**Joensuu**	65.00	346	*e*P		P		16 02 26.6	-0.4
JOF				pmax		pmax				
	comp=Z,9.0nm,0.7s									
KLMR	**Klimovskoe**	65.37	341	*e*P		P		16 02 28.8	-0.6
KLMR				pmax		pmax				
	comp=Z,29nm,1.5s									
BINY	**Binghamton**	65.85	53	*e*P		P		16 02 32.4	-0.5
ACCN	**Adirondack Com**	66.16	50	*e*P		P		16 02 34.5	-0.3
ACCN				*e*pP		pP		16 02 43.9	-0.7
KAF	**Kangasniemi**	66.52	348	*e*p		P		16 02 35.4	-1.4
	comp=Z,6.4nm,0.6s									
KAF	**Kangasniemi**	66.52	348	*e*P		P		16 02 35.4	-1.4
KAF				pmax		pmax				
	comp=Z,6.0nm,0.6s									
FINES	**FINESS Array B**	67.19	348	P		P		16 02 41.1	+0.1
	comp=Z,8.0nm,0.7s,baz=30,slow=7.5,SNR=24									
FINES	**FINESS Array B**	67.19	348	P		P		16 02 41.1	+0.1
FINES				pmax		pmax				
	comp=Z,8.0nm,0.7s									
AAK	**Ala-Archa**	68.00	311	*de*P		P		16 02 47.9	+1.2
AAK				pmax		pmax				
	comp=Z,59nm,1.2s									
KMSC	**Kings Mountain**	68.05	61	⇓P		P		16 02 47.3	+0.3
	baz=68									
LSA	**Lhasa**	68.22	290	*e*P		P		16 02 49.7	+1.1
LSA				pmax		pmax				
	comp=Z,4.0nm,0.6s									
LSA	**Lhasa**	68.22	290	*e*P		P		16 02 49.7	+1.1
	comp=Z,4.4nm,0.6s									
NB2	**NORSAR Subarra**	69.04	355	P		P		16 02 53.4	+0.7
	comp=Z,18nm,1.0s,baz=8.1,slow=6.9									
NB2	**NORSAR Subarra**	69.04	355	P		P		16 02 53.4	+0.7
	baz=8.1,slow=6.9									
NOA	**NORSAR Array B**	69.04	355	P		P		16 02 53.4	+0.7
	comp=Z,15nm,1.0s,baz=6.1,slow=6.3,SNR=31									
NOA				LR		LR		16 31 38.0		
	comp=Z,20nm,21.8s,baz=345,slow=35									
CRAI	**Chiangrai**	69.28	277	P		P		16 02 51.4	-3.4
	comp=Z,60nm,1.3s									
KSH	**Kashi**	69.58	307	P		P		16 03 00.8	+4.2
KSH				sP		sP		16 03 15.0	+4.8
KSH				PP		PP		16 05 37.5	+7.4
KSH				PcS				16 07 27.0		
KSH				S		S		16 12 08.0	+5.6
KSH				SKS		SKSac		16 12 55.0	+0.3
KSH				ScS		ScS		16 12 57.5	+1.7
KSH				pmax		pmax				
	comp=Z,44nm,1.1s									
KSH				pmax		pmax				
	comp=Z,120nm,1.8s									
KSH				LR		LR				
	comp=N,120nm,5.7s									
KSH				LR		LR				
	comp=E,100nm,4.8s									
KSH				LR		LR				
	comp=Z,190nm,5.6s									
VSU	**Vasula**	69.96	346	⇓*e*P		P		16 02 58.7	+0.4
VSU				pmax		pmax				
	comp=Z,52nm,1.2s									
CMAI	**Chiengmai2**	70.34	278	P		P		16 03 01.6	+0.1
	comp=Z,34nm,0.9s,comp=Z,2μm									
MOS	**Moscow**	70.45	339	*e*P		P		16 03 02.1	+0.7
MOS				pmax		pmax				
	comp=Z,51nm,1.0s									
KHON	**Khomkaen**	70.55	272	P		P		16 03 03.0	+0.4
	comp=Z,9.2nm,1.0s,comp=Z,295nm									
LOEI	**Loei**	70.69	274	P		P		16 03 01.3	-2.2
	comp=Z,6.9nm,1.1s,comp=Z,2μm									
SHL	**Shillong**	70.75	287	*e*P		P		16 03 05.0	+1.0
UTTA	**Uttaradit**	70.98	275	P		P		16 03 04.8	-0.4
	comp=Z,4.4nm,0.9s,comp=Z,46nm									
CMMT	**Chiang Mai**	71.22	277	P		P		16 03 06.3	-0.4
	comp=Z,10nm,1.3s									
CHTO	**Chiang Mai**	71.22	277	P		P		16 03 06.0	-0.7
	comp=Z,42nm,3.0s									
OBN	**Obninsk**	71.27	340	*de*P		P		16 03 06.7	+0.4
OBN				*i*				16 03 16.4		
OBN				pmax		pmax				
	comp=Z,59nm,1.2s									
LUWI	**Luwuk**	71.40	245	*e*P		P		16 03 06.2	-1.5
	comp=Z,53nm,0.9s									
CMAR	**Chiang Mai Arr**	71.49	277	P		P		16 03 07.8	-0.5
	comp=Z,3.8nm,0.7s,baz=28,slow=6.5,SNR=35									
CMAR				LR		LR		16 37 07.9		
	comp=Z,7.5nm,18.5s,baz=60,slow=38									
TAPN	**Taplejung**	71.99	291	*e*P		P		16 03 12.2	+0.6
	comp=Z,74nm,1.0s									
ODAN	**Odare**	72.55	291	*e*P		P		16 03 15.3	+0.4
JIRN	**Jiri**	72.68	292	*e*P		P		16 03 16.7	+0.9
	comp=Z,48nm,0.7s									
GUN	**Gumba**	72.68	293	*e*P		P		16 03 16.6	+0.8
	comp=Z,57nm,0.6s									
RAMN	**Ramite**	72.95	292	*e*P		P		16 03 17.8	+0.5
	comp=Z,136nm,0.9s									
LPSR	**Galich'ya Gora**	73.02	337	*e*P		P		16 03 16.9	0.0
LPSR				pmax		pmax				
	comp=Z,20nm,0.9s									
LPSR				pmax		pmax				
	comp=N,10.0nm,1.3s									
LPSR				pmax		pmax				
	comp=E,10.0nm,1.3s									
KKN	**Kakani**	73.12	293	*e*P		P		16 03 19.0	+0.8
	comp=E,20nm,0.5s									
PKI	**Pulchoki**	73.21	293	*e*P		P		16 03 19.3	+0.4
	comp=E,81nm,1.2s									
PKIN	**Phulchoki**	73.21	293	*e*P		P		16 03 19.7	+0.9
	comp=E,14nm,0.7s									
GKN	**Gorkha**	73.35	294	*e*P		P		16 03 20.0	+0.5
	comp=E,42nm,1.0s									
DMN	**Daman**	73.36	293	*e*P		P		16 03 20.5	+0.8
	comp=E,114nm,1.5s									
DANN	**Dangsing**	73.61	295	*e*P		P		16 03 21.9	+0.7
	comp=E,41nm,0.9s									
VRHR	**Novokhopersk**	73.68	335	*e*P		P		16 03 20.2	-0.6
VRHR				pmax		pmax				
	comp=N,10.0nm,0.8s									
VRHR				pmax		pmax				
	comp=E,20nm,0.8s									
VRHR				pmax		pmax				
	comp=Z,30nm,0.8s									
KOLN	**Koldanda**	74.13	294	*e*P		P		16 03 24.4	+0.3
	comp=Z,22nm,0.8s									
VSR	**Storozhevoye**	74.22	337	*e*P		P		16 03 24.4	+0.4
VSR				pmax		pmax				
	comp=Z,20nm,0.6s									
VSR				pmax		pmax				
	comp=N,440nm,0.7s									
VSR				pmax		pmax				
	comp=E,5.0nm,0.4s									
PYUN	**Piuthan**	74.24	295	*e*P		P		16 03 25.2	+0.4
	comp=E,92nm,1.0s									
VORD	**Divnogorie**	74.42	336	*e*P		P		16 03 25.5	+0.4
VORD				pmax		pmax				
	comp=N,20nm,0.8s									
VORD				pmax		pmax				
	comp=E,20nm,0.8s									
VORD				pmax		pmax				
	comp=Z,20nm,0.8s									
BSD	**Bornholm Skovb**	74.66	352	*i* P		P		16 03 26.7	+0.2
BSD	**Bornholm Skovb**	74.66	352	*i* P		P		16 03 26.7	+0.2
	comp=Z,1.2nm,0.4s									
EKA	**Eskdalemuir Ar**	74.95	3	P		P		16 03 29.0	+0.9
	comp=Z,5.1nm,0.7s,baz=358,slow=4.5,SNR=16									
EKA	**Eskdalemuir Ar**	74.95	3	P		P		16 03 29.0	+0.9
EKA				pmax		pmax				
	comp=Z,5.0nm,0.7s									
BSEG	**Bad Segeberg**	76.17	355	*e*P		P		16 03 36.2	+1.1
	comp=Z,10.0nm,0.8s									
BSEG				*e*pP		pP		16 03 45.4	+0.3
KBL	**Kabul**	76.94	309	*e*P		P		16 03 39.9	-0.3
KBL				pmax		pmax				
	comp=Z,37nm,1.1s									
KBL	**Kabul**	76.94	309	*e*P		P		16 03 39.9	-0.3
	comp=Z,37nm,1.1s									
AKASG	**Malin Array Be**	76.95	342	P		P		16 03 39.8	+0.2
	comp=Z,18nm,0.7s,baz=18,slow=5.6,SNR=16									
AKASG				LR		LR		16 39 51.7		
	comp=Z,43nm,21.9s,baz=245,slow=38									
AKASG	**Malin Array Be**	76.95	342	P		P		16 03 39.8	+0.2
AKASG				pmax		pmax				
	comp=Z,18nm,0.7s									
AKASG				MLR		MLR				
	comp=Z,43nm,21.9s									
KIEV	**Kiev**	76.96	342	*d i* P		P		16 03 39.9	+0.2
KIEV	**Kiev**	76.96	342	*e*P		P		16 03 39.9	+0.2
	comp=Z,34nm,1.0s									
KIEV				*e*pP		pP		16 03 49.5	-0.1
KSM	**Kuching**	76.99	257	*e*P		P		16 03 40.3	-0.1
	comp=Z,29nm,1.6s									
NRDL	**Niedersach Rie**	77.62	355	*e*P		P		16 03 43.6	+0.3
	comp=Z,10.0nm,1.2s									
IBBN	**Ibbenburen**	77.93	356	*e*P		P		16 03 46.3	+1.2
	comp=Z,19nm,0.9s									
IBBN				*e*pP		pP		16 03 55.2	+0.1
CLZ	**Clausthal**	78.26	355	*e*P		P		16 03 47.9	+0.9
	comp=Z,11nm,1.0s									
CLL	**Collm**	78.60	353	*e*P		P		16 03 49.2	+0.4
	comp=Z,4.0nm,0.8s									
CLL				*e*pP		pP		16 03 58.4	-0.4
CLL	**Collm**	78.60	353	⇓*i* P		P		16 03 48.7	-0.1
	comp=Z,4.0nm,0.8s									
CLL	**Collm**	78.60	353	⇓*i* P		P		16 03 48.7	-0.1
CLL				pmax		pmax				
	comp=Z,4.0nm,0.8s									
GOF	**Gofitskoye**	78.72	331	*e*P		P		16 03 51.0	+1.4
LVV	**L'vov**	78.72	345	*e*P		P		16 03 49.7	+0.2
BUG	**Bochum--Univer**	78.81	356	*e*P		P		16 03 50.5	+0.5
	comp=Z,10.0nm,1.0s									
BRG	**Berggiesshubel**	78.95	352	*i* P		P		16 03 51.0	+0.2
	comp=Z,8.0nm,1.0s									
BRG	**Berggiesshubel**	78.95	352	*e*P		P		16 03 50.9	+0.2
BRG				*e*pP		pP		16 04 00.7	-0.1
BRG	**Berggiesshubel**	78.95	352	*i* P		P		16 03 51.0	+0.2
BRG				pmax		pmax				
	comp=Z,8.0nm,1.0s									
OJC	**Ojcow**	78.95	348	*e*P		P		16 03 51.7	+0.9
KWP	**Kalwaria Pacla**	79.11	346	⇓*i* P		P		16 03 53.0	+1.3
UPC	**Upice**	79.11	351	*e*P		P		16 03 52.7	+1.0
UPC				*e*pP		pP		16 04 01.2	-0.5
UPC	**Upice**	79.11	351	*e*P		P		16 03 52.7	+1.0
UPC				*e*				16 04 01.2		
DPC	**Dobruska-Polom**	79.24	351	*e*P		P		16 03 53.3	+0.9
DPC				*ex*		x		16 03 55.7		
DPC				*e*pP		PcP		16 03 59.0	-1.6
DPC				*e*sP		sP		16 04 02.4	-3.7
DPC	**Dobruska-Polom**	79.24	351	*e*P		P		16 03 53.3	+0.9
DPC				*e*				16 03 59.0		
DPC				*e*				16 04 02.4		
UBBA	**Unterbreizbach**	79.30	355	*e*P		P		16 03 53.3	+0.8
	comp=Z,15nm,1.9s									
GEYT	**Alibeck**	79.31	318	P		P		16 03 54.1	+1.0
	comp=Z,6.1nm,0.9s,baz=333,slow=5.0,SNR=11									
GEYT				PP		PP		16 06 52.6	+0.2
	comp=Z,3.2nm,0.8s,baz=357,slow=9.2,SNR=6.6									
GEYT				LR		LR		16 43 58.0		
	comp=Z,44nm,18.0s,baz=100,slow=40									
KRLC	**Kraliky**	79.46	350	*e*P		P		16 03 54.0	+0.4
KRLC				*ex*		x		16 03 56.3		
KRLC				*e*pP		pP		16 04 03.7	0.0
KRLC	**Kraliky**	79.46	350	*e*P		P		16 03 54.0	+0.4
KRLC				*e*				16 04 03.7		
TANN	**Tannenbergstha**	79.53	353	*e*P		P		16 03 54.3	+0.3
	comp=Z,7.0nm,1.4s									
OKC	**Ostrava-Krasne**	79.54	349	*e*P		P		16 03 53.1	-0.9
OKC				*e*pP		pP		16 04 03.7	-0.3
OKC	**Ostrava-Krasne**	79.54	349	*e*P		P		16 03 53.1	-0.9
OKC				*e*				16 04 03.7		
STHS	**Stebnicka Huta**	79.54	347	*e*P		P		16 03 56.0	+2.0
STHS				pmax		pmax				
	comp=Z,10.0nm,1.0s									
STHS	**Stebnicka Huta**	79.54	347	*e*P		P		16 03 56.0	+2.0
MORC	**Moravsky Berou**	79.67	350	⇓*i* P		P		16 03 55.1	+0.3
MORC	**Moravsky Berou**	79.67	350	*e*P		P		16 03 54.9	+0.1
MORC				pmax		pmax				
	comp=Z,9.0nm,1.4s									
MORC	**Moravsky Berou**	79.67	350	*e*P		P		16 03 54.9	+0.1
	comp=Z,9.1nm,1.4s									
PRU	**Pruhonice**	79.77	352	*e*P		P		16 03 55.5	+0.2
PRU				*ex*		x		16 03 57.9		
PRU				*e*pP		pP		16 04 04.8	-0.5
PRU	**Pruhonice**	79.77	352	*e*P		P		16 03 55.5	+0.2
PRU				*e*				16 04 04.8		
KIV	**Kislovodsk**	79.82	331	*e*P		P		16 03 56.4	+0.6
KIV				*e*S		S		16 13 58.4	+1.9
KIV				pmax		pmax				
	comp=Z,19nm,1.0s									
KIV				MLR		MLR				
	comp=Z,43nm,19.0s									
KIV	**Kislovodsk**	79.82	331	*e*P		P		16 03 56.8	+1.1
	comp=Z,11nm,0.6s									
GOPC	**GO Pecny, Ondr**	79.82	351	*e*P		P		16 03 56.2	+0.6
GOPC				*e*pP		pP		16 04 05.6	0.0
KOLS	**Kolonicke sedl**	79.86	346	*e*P		P		16 03 56.9	+1.1
KOLS				pmax		pmax				
	comp=Z,8.0nm,1.0s									
KOLS	**Kolonicke sedl**	79.86	346	*e*P		P		16 03 56.8	+1.0
NCK	**Nalchik**	79.95	330	⇓*e*P		P		16 03 57.8	+1.4
KBZ	**Khabaz**	79.96	331	P		P		16 03 57.5	+1.2
	comp=Z,12nm,0.9s,baz=236,slow=24,SNR=22									
KBZ				LR		LR		16 42 39.7		
	comp=Z,53nm,21.8s,baz=163,slow=38									
KBZ	**Khabaz**	79.96	331	P		P		16 03 57.5	+1.2
KBZ				pmax		pmax				
	comp=Z,12nm,0.9s									
KBZ				MLR		MLR				
	comp=Z,53nm,21.8s									
TNS	**Taunus Mts**	79.98	356	*e*P		P		16 03 57.1	+0.7
	comp=Z,10.0nm,1.2s									
CRVS	**Cervenica-Dubn**	80.01	347	*e*P		P		16 03 57.7	+1.1
CRVS	**Cervenica-Dubn**	80.01	347	*e*P		P		16 03 57.7	+1.1
UZH	**Uzhgorod**	80.15	346	*e*P		P		16 03 58.2	+0.9
UZH				*i*			

WRAB Tennant Creek 81.25 224 *de*P P 16 04 01.9 -1.5
WRAB pmax pmax
comp=Z,25nm,1.7s
WRAB Tennant Creek 81.25 224 *e*P P 16 04 01.7 -1.8
comp=Z,5.3nm,0.9s
WB2 Warramunga Arr 81.25 224 *e*P P 16 04 01.9 -1.6
WRA Warramunga Arr 81.26 224 P P 16 04 02.1 -1.4
comp=Z,5.7nm,0.7s,baz=35,slow=6.1,SNR=33
WRA Warramunga Arr 81.26 224 P P 16 04 02.1 -1.4
WRA pmax pmax
comp=Z,6.0nm,0.7s
STU Stuttgart 81.39 355 *e*P P 16 04 04.2 +0.3
comp=Z,10.0nm,0.9s
FLN La Foliniere 81.59 1 *e*P P 16 04 05.0 0.0
comp=Z,42nm,1.1s
FLN *e*R
comp=Z,214nm,22.5s
FLN La Foliniere 81.59 1 *e*P P 16 04 05.0 0.0
FLN pmax pmax
comp=Z,42nm,1.1s
FLN La Foliniere 81.59 1 *e*P P 16 04 05.0 0.0
comp=Z,42nm,1.1s
CONA Conrad Observa 81.68 350 *i* PcP P 16 04 06.9 +1.3
comp=Z,14nm,1.0s,SNR=8.9
PAGF Fort de Pagny 81.75 357 *e*P P 16 04 06.4 +0.5
comp=Z,8.1nm,0.8s
PAGF Fort de Pagny 81.75 357 *e*P P 16 04 06.4 +0.5
comp=Z,8.1nm,0.8s
LDF La Druitiere 81.76 1 *e*P P 16 04 05.7 -0.2
comp=Z,52nm,1.3s
LDF La Druitiere 81.76 1 *e*P P 16 04 05.7 -0.2
LDF pmax pmax
comp=Z,53nm,1.3s
LDF La Druitiere 81.76 1 *e*P P 16 04 05.7 -0.2
comp=Z,52nm,1.3s
CJR Cluj-Napoca 81.81 345 ⇑ *i*P P 16 04 07.3 +1.0
MEZF Maizieres J'vi 81.82 358 *e*P P 16 04 06.5 +0.3
comp=Z,18nm,0.9s
MEZF Maizieres J'vi 81.82 358 *e*P P 16 04 06.5 +0.3
comp=Z,18nm,0.9s
CDF Champ du Feu 81.84 356 *e*P P 16 04 06.3 -0.1
comp=Z,8.2nm,0.9s
CDF Champ du Feu 81.84 356 *e*P P 16 04 06.3 -0.1
CDF pmax pmax
comp=Z,8.0nm,0.9s
CDF Champ du Feu 81.84 356 *e*P P 16 04 06.3 -0.1
comp=Z,8.2nm,0.9s
FUR Furstenfeldbru 81.86 354 *e*P P 16 04 07.0 +0.5
comp=Z,22nm,1.1s
BFO Black Forest 81.87 356 *e*P P 16 04 07.1 +0.6
comp=Z,16nm,1.6s
BFO Black Forest 81.87 356 *e*P P 16 04 06.1 -0.4
BFO pmax pmax
comp=Z,10.0nm,1.4s
BFO Black Forest 81.87 356 *e*P P 16 04 06.1 -0.4
comp=Z,10nm,1.4s
DRGR 81.88 346 ⇑ *i*P P 16 04 07.5 +0.8
ROSF Rostrenen 81.94 3 *e*P P 16 04 07.0 +0.2
comp=Z,16nm,1.0s
ROSF Rostrenen 81.94 3 *e*P P 16 04 07.0 +0.2
ROSF pmax pmax
comp=Z,16nm,1.0s
ROSF Rostrenen 81.94 3 *e*P P 16 04 07.0 +0.2
comp=Z,16nm,1.0s
GRR Gorron 81.95 2 *e*P P 16 04 07.0 +0.1
comp=Z,26nm,0.8s
GRR Gorron 81.95 2 *e*P P 16 04 07.0 +0.1
GRR pmax pmax
comp=Z,26nm,0.8s
GRR Gorron 81.95 2 *e*P P 16 04 07.0 +0.1
comp=Z,26nm,0.8s
ECH Echery 82.04 356 *e*P P 16 04 06.9 -0.5
ECH pmax pmax
comp=Z,5.0nm,1.0s
ECH Echery 82.04 356 *e*P P 16 04 06.9 -0.5
comp=Z,4.8nm,1.0s
SGMF Saint Gilles 82.05 3 *e*P P 16 04 07.6 +0.2
comp=Z,37nm,1.0s
SGMF Saint Gilles 82.05 3 *e*P P 16 04 07.6 +0.2
SGMF pmax pmax
comp=Z,37nm,1.0s
SGMF Saint Gilles 82.05 3 *e*P P 16 04 07.6 +0.2
comp=Z,37nm,1.0s
VRI Vrincioaia 82.06 343 ⇑ *i*P P 16 04 08.1 +0.5
PLOR Plostina 82.09 343 ⇓ *i*P P 16 04 08.5 +0.7
SFTF Sexfontaines 82.12 358 *e*P P 16 04 08.0 +0.2
comp=Z,45nm,1.1s
SFTF Sexfontaines 82.12 358 *e*P P 16 04 08.0 +0.2
comp=Z,45nm,1.1s
RJOB Jochberg 82.16 352 *e*P P 16 04 09.1 +1.0
comp=Z,7.0nm,0.9s
DOPR Dopca 82.22 344 ⇑ *i*P P 16 04 10.2 +1.8
HAU Haudompre 82.28 357 *e*P P 16 04 08.7 0.0
comp=Z,17nm,1.1s
HAU *e*R
comp=Z,146nm,19.2s
HAU Haudompre 82.28 357 *e*P P 16 04 08.7 0.0
HAU pmax pmax
comp=Z,17nm,1.1s
HAU Haudompre 82.28 357 *e*P P 16 04 08.7 0.0
comp=Z,17nm,1.1s
TLCR 82.30 341 ⇑ *i*P P 16 04 09.7 +1.0
QUIF Quistinic 82.36 3 *e*P P 16 04 09.6 +0.6
comp=Z,62nm,1.5s
QUIF Quistinic 82.36 3 *e*P P 16 04 09.6 +0.6
QUIF pmax pmax
comp=Z,62nm,1.5s
QUIF Quistinic 82.36 3 *e*P P 16 04 09.6 +0.6
comp=Z,62nm,1.5s
ARSA Arzberg 82.39 351 ⇑ *i*PcP P 16 04 10.5 +1.2
comp=Z,8.8nm,1.1s
CFR Carcaliu 82.44 341 ⇑ *i*P P 16 04 10.3 +0.8
HINF Hinteralfeld 82.45 357 *e*P P 16 04 09.3 -0.3
HINF Hinteralfeld 82.45 357 *e*P P 16 04 09.3 -0.3
HINF Hinteralfeld 82.45 357 *e*P P 16 04 09.3 -0.3
MLR Muntele Rosu 82.57 343 ⇑ *i*P P 16 04 12.0 +1.6
GNI Garni 82.58 328 ⇑ *e*P P 16 04 11.5 +1.0
GNI pmax pmax
comp=Z,18nm,1.7s
WATA Walderalm 82.66 353 ⇓ *i*PcP P 16 04 11.6 +0.8
comp=Z,16nm,1.2s
MOTA Moosalm 82.69 354 *i* PcP P 16 04 12.0 +1.0
comp=Z,14nm,1.1s,SNR=7.2
WTTA Wattenberg 82.73 353 *i* PcP P 16 04 12.4 +1.2
comp=Z,15nm,1.1s,SNR=5.6
KBA Koelnbreinsper 82.77 352 *i* PcP P 16 04 13.0 +1.5
comp=Z,24nm,0.9s,SNR=12
VOIR 82.79 344 ⇑ *i*P P 16 04 13.1 +1.6
ARR Arges 82.93 344 ⇑ *i*P P 16 04 13.8 +1.6
SOKA Soboth 83.00 351 *i* PcP P 16 04 13.6 +1.1
comp=Z,13nm,0.9s,SNR=8.4
LOT Lotru 83.01 345 ⇑ *i*P P 16 04 13.5 +0.9
FETA Feichten 83.03 354 *i* PcP P 16 04 13.5 +0.7
comp=Z,12nm,0.9s,SNR=7.5
PERS Pernice 83.03 351 *e*P P 16 04 13.7 +1.0
PKSM Moragy 83.04 348 ⇑ *i*P P 16 04 13.2 +0.6
TIRR Tirgusor 83.08 341 ⇓ *i*P P 16 04 13.7 +0.9
LOR Lormes 83.08 359 *e*P P 16 04 12.9 0.0
comp=Z,11nm,0.9s
LOR *e*R
comp=Z,160nm,18.8s
LOR Lormes 83.08 359 *e*P P 16 04 12.9 0.0
LOR pmax pmax
comp=Z,11nm,0.9s
LOR Lormes 83.08 359 *e*P P 16 04 12.9 0.0
comp=Z,11nm,0.9s
ABTA Abfaltersbach 83.17 353 ⇑ *i*PcP P 16 04 14.4 +1.0
comp=Z,8.0nm,1.0s
BZS Buzias 83.19 346 ⇑ *i*P P 16 04 14.3 +0.9
GZR Gura Zlata 83.23 345 ⇑ *i*P P 16 04 14.9 +1.2
SSF Saint Saulge 83.30 359 *e*P P 16 04 14.1 +0.2
SSF Saint Saulge 83.30 359 *e*P P 16 04 14.1 +0.2
SSF Saint Saulge 83.30 359 *e*P P 16 04 14.1 +0.2
DAVOX Davos/Dischmat 83.33 354 P P 16 04 15.6 +1.2
comp=Z,4.0nm,0.6s,baz=308,slow=23,SNR=8.3
DAVOX Davos/Dischmat 83.33 354 P P 16 04 15.6 +1.2
DAVOX pmax pmax
comp=Z,4.0nm,0.6s
RPR Rampur 83.45 291 *e*P P 16 04 15.2 +0.1
AVF Avril sur Loir 83.57 359 *e*P P 16 04 15.4 +0.1
comp=Z,19nm,1.2s
AVF Avril sur Loir 83.57 359 *e*P P 16 04 15.4 +0.1
AVF pmax pmax
comp=Z,19nm,1.2s
AVF Avril sur Loir 83.57 359 *e*P P 16 04 15.4 +0.1
comp=Z,19nm,1.2s

TUE Stuetta 83.67 355 *e*P P 16 04 16.7 +0.6
comp=Z,4.9nm,0.6s
CABF La Chapelle 83.68 357 *e*P P 16 04 16.4 +0.3
comp=Z,33nm,1.2s
CABF La Chapelle 83.68 357 *e*P P 16 04 16.4 +0.3
CABF pmax pmax
comp=Z,33nm,1.2s
CABF La Chapelle 83.68 357 *e*P P 16 04 16.4 +0.3
comp=Z,33nm,1.2s
SMF Signal de Mont 83.71 359 *e*P P 16 04 16.2 +0.1
comp=Z,29nm,1.1s
SMF Signal de Mont 83.71 359 *e*P P 16 04 16.2 +0.1
SMF pmax pmax
comp=Z,29nm,1.1s
SMF Signal de Mont 83.71 359 *e*P P 16 04 16.2 +0.1
comp=Z,29nm,1.1s
MFF Saint Martin d 83.75 1 *e*P P 16 04 16.5 +0.2
comp=Z,48nm,1.2s
MFF Saint Martin d 83.75 1 *e*P P 16 04 16.5 +0.2
MFF pmax pmax
comp=Z,48nm,1.2s
MFF Saint Martin d 83.75 1 *e*P P 16 04 16.5 +0.2
comp=Z,48nm,1.2s
BGF Bois d'Agland 83.81 359 *e*P P 16 04 16.7 +0.1
BGF Bois d'Agland 83.81 359 *e*P P 16 04 16.7 +0.1
BGF Bois d'Agland 83.81 359 *e*P P 16 04 16.7 +0.1
TCF Toulx Ste Croi 84.08 360 *e*P P 16 04 18.0 0.0
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 84.08 360 *e*P P 16 04 18.0 0.0
TCF pmax pmax
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 84.08 360 *e*P P 16 04 18.0 0.0
comp=Z,14nm,1.0s
AS31 Alice Springs 84.70 223 *e*P P 16 04 20.4 -0.8
ASAR Alice Springs 84.70 223 P P 16 04 20.4 -0.8
comp=Z,5.0nm,0.6s,baz=24,slow=5.6,SNR=136
ASAR LR LR 16 35 30.1
comp=Z,43nm,20.6s,baz=88,slow=31
ASAR Alice Springs 84.70 223 P P 16 04 20.5 -0.8
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ASAR MLR MLR
comp=Z,43nm,20.6s
LPL La Plagne 84.75 356 *e*P P 16 04 22.6 +0.9
comp=Z,13nm,1.0s
LPL La Plagne 84.75 356 *e*P P 16 04 22.6 +0.9
LPL pmax pmax
comp=Z,13nm,1.0s
LPL La Plagne 84.75 356 *e*P P 16 04 22.6 +0.9
comp=Z,13nm,1.0s
LPG La Plagne 84.77 356 *e*P P 16 04 22.8 +0.9
comp=Z,27nm,1.2s
LPG La Plagne 84.77 356 *e*P P 16 04 22.8 +0.9
LPG pmax pmax
comp=Z,27nm,1.2s
LPG La Plagne 84.77 356 *e*P P 16 04 22.8 +0.9
comp=Z,27nm,1.2s
DIVS Divibare 84.92 347 ⇑ *i*P P 16 04 23.2 +0.8
HYB Hyderabad 85.00 291 *i* P P 16 04 22.0 -1.1
HYBB Hyderabad (bro 85.00 291 *e*P P 16 04 22.7 -0.4
HYBB *e*pP **pP** 16 04 32.3 -0.9
SSB Saint Sauveur 85.06 358 *e*P P 16 04 23.2 +0.2
SSB *e**PP **pP** 16 04 33.2 +0.1
SSB pmax pmax
comp=Z,3.0nm,0.9s
SSB Saint Sauveur 85.06 358 *e*P P 16 04 23.2 +0.2
comp=Z,3.2nm,0.9s
SSB *e*pP **pP** 16 04 33.2 +0.1
RJF Les Rejaudoux 85.06 0 *e*P P 16 04 22.8 -0.2
comp=Z,27nm,1.3s
RJF *e*R
comp=Z,169nm,20.2s
RJF Les Rejaudoux 85.06 0 *e*P P 16 04 22.8 -0.2
RJF pmax pmax
comp=Z,27nm,1.3s
RJF Les Rejaudoux 85.06 0 *e*P P 16 04 22.8 -0.2
comp=Z,27nm,1.3s
BNI Bardonecchia 85.22 356 *e*P P 16 04 25.5 +1.6
BNI *e**PP **pP** 16 04 34.6 +0.6
BNI pmax pmax
comp=Z,25nm,1.0s
BNI Bardonecchia 85.22 356 *e*P P 16 04 25.5 +1.6
comp=Z,25nm,1.0s
BNI *e*pP **pP** 16 04 34.6 +0.6
ORIF Oris-en-Rattie 85.38 357 *e*P P 16 04 25.1 +0.4
comp=Z,15nm,1.0s
ORIF *e*R
comp=Z,97nm,19.8s
ORIF Oris-en-Rattie 85.38 357 *e*P P 16 04 25.1 +0.4
ORIF pmax pmax
comp=Z,15nm,1.0s
ORIF Oris-en-Rattie 85.38 357 *e*P P 16 04 25.1 +0.4
comp=Z,15nm,1.0s
LFF La Frestale 85.43 1 *e*P P 16 04 24.9 +0.1
comp=Z,19nm,0.8s
LFF La Frestale 85.43 1 *e*P P 16 04 24.9 +0.1
LFF pmax pmax
comp=Z,19nm,0.8s
LFF La Frestale 85.43 1 *e*P P 16 04 24.9 +0.1
comp=Z,19nm,0.8s
CAF Calviac 85.44 360 *e*P P 16 04 25.2 +0.3
comp=Z,36nm,1.3s
CAF Calviac 85.44 360 *e*P P 16 04 25.2 +0.3
CAF pmax pmax
comp=Z,36nm,1.3s
CAF Calviac 85.44 360 *e*P P 16 04 25.2 +0.3
comp=Z,36nm,1.3s
VIVF Saint-Julien-l 85.48 358 *e*P P 16 04 25.4 +0.3
VIVF Saint-Julien-l 85.48 358 *e*P P 16 04 25.4 +0.3
VIVF Saint-Julien-l 85.48 358 *e*P P 16 04 25.4 +0.3
MBDF Montbardon 85.54 356 *e*P P 16 04 26.1 +0.6
comp=Z,9.6nm,0.6s
MBDF Montbardon 85.54 356 *e*P P 16 04 26.1 +0.6
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 85.54 356 *e*P P 16 04 26.1 +0.6
comp=Z,9.6nm,0.6s
VTS Vitosha 85.88 344 ⇑ *i*P P 16 04 27.2 0.0
LASF Ste Croix 86.28 358 *e*P P 16 04 29.2 +0.2
comp=Z,4.1nm,0.8s
LASF Ste Croix 86.28 358 *e*P P 16 04 29.2 +0.2
comp=Z,4.1nm,0.8s
MALT Malatya 86.28 332 ⇓ *i*P P 16 04 30.7 +1.4
BRTR Keskin Array B 86.33 336 P P 16 04 29.9 +0.5
comp=Z,3.3nm,0.8s,baz=36,slow=2.3,SNR=12
BRTR Keskin Array B 86.33 336 P P 16 04 30.0 +0.5
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SMRF Simiane la Rot 86.33 357 *e*P P 16 04 29.1 -0.2
comp=Z,44nm,1.5s
SMRF Simiane la Rot 86.33 357 *e*P P 16 04 29.1 -0.2
comp=Z,44nm,1.5s
SBF Sospel 86.37 356 *e*P P 16 04 29.2 -0.4
comp=Z,24nm,0.9s
SBF Sospel 86.37 356 *e*P P 16 04 29.2 -0.4
SBF pmax pmax
comp=Z,24nm,0.9s
SBF Sospel 86.37 356 *e*P P 16 04 29.2 -0.4
comp=Z,24nm,0.9s
FRF La Foret Royal 86.71 356 *e*P P 16 04 31.0 -0.1
FRF La Foret Royal 86.71 356 *e*P P 16 04 31.0 -0.1
FRF La Foret Royal 86.71 356 *e*P P 16 04 31.0 -0.1
MMB Musomiste 86.76 344 ⇑ *i*P P 16 04 31.4 -0.1
LMR La Mourre 86.94 356 *e*P P 16 04 32.3 0.0
comp=Z,19nm,1.0s
LMR La Mourre 86.94 356 *e*P P 16 04 32.3 0.0
LMR pmax pmax
comp=Z,19nm,1.0s
LMR La Mourre 86.94 356 *e*P P 16 04 32.3 0.0
comp=Z,19nm,1.0s
MTLF Montolieu 87.03 360 *e*P P 16 04 32.3 -0.4
MTLF Montolieu 87.03 360 *e*P P 16 04 32.3 -0.4
MTLF Montolieu 87.03 360 *e*P P 16 04 32.3 -0.4
SKHT Srikalahasti 87.14 288 *e*P P 16 04 34.0 +0.4
EPF Esparros 87.33 1 *e*P P 16 04 33.9 -0.3
EPF Esparros 87.33 1 *e*P P 16 04 33.9 -0.3
EPF Esparros 87.33 1 *e*P P 16 04 33.9 -0.3
ETSF Etsaut 87.45 2 *e*P P 16 04 34.4 -0.4
comp=Z,7.8nm,0.8s
ETSF Etsaut 87.45 2 *e*P P 16 04 34.4 -0.4
ETSF pmax pmax
comp=Z,8.0nm,0.8s
ETSF Etsaut 87.45 2 *e*P P 16 04 34.4 -0.4
comp=Z,7.8nm,0.8s
PGF Pioggiola 87.60 355 *e*P P 16 04 35.2 -0.4
comp=Z,38nm,1.5s

PGF Pioggiola 87.60 355 *e*P P 16 04 35.2 -0.4
PGF pmax pmax
comp=Z,38nm,1.5s
PGF Pioggiola 87.60 355 *e*P P 16 04 35.2 -0.4
comp=Z,38nm,1.5s
URV Uravakonda 87.70 290 *e*P P 16 04 35.6 -0.7
STKA Stephens Creek 88.96 213 P P 16 04 41.8 +0.1
comp=Z,13nm,1.0s,baz=352,slow=5.8,SNR=18
STKA LR LR 16 38 38.1
comp=Z,88nm,20.9s,baz=43,slow=32
STKA Stephens Creek 88.96 213 P P 16 04 41.8 +0.1
STKA pmax pmax
comp=Z,13nm,1.0s
STKA MLR MLR
comp=Z,89nm,20.9s
ESDC Sonseca Array 90.55 4 P P 16 04 49.0 -0.5
comp=Z,0.5nm,0.5s,baz=7.4,slow=2.9,SNR=11
TORD Torodi Ar. Bea 117.11 0 PKP PKPdf 16 10 31.7 -0.9
comp=Z,0.8nm,0.6s,baz=348,slow=3.0,SNR=7.7
DBIC Dimbokro 123.26 8 PKP PKPdf 16 10 43.2 -1.3
comp=Z,5.1nm,1.1s,baz=160,slow=4.7,SNR=3.4
DBIC Dimbokro 123.26 8 PKIKP PKPdf 16 10 43.2 -1.3
DBIC pmax pmax
comp=Z,5.0nm,1.1s
QSPA South Pole Qui 139.76 180 PKPdf PKPdf 16 11 14.4 +0.5
MAW Mawson 145.59 216 PKPbc PKPdf 16 11 23.2 -0.9
comp=Z,30nm,1.0s,baz=70,slow=5.4,SNR=24
MAW Mawson 145.59 216 PKP2 PKPdf 16 11 23.2 -0.9
MAW pmax pmax
comp=Z,30nm,1.0s
LBTB Lobatse 148.93 315 *e*PKP2 PKPbc 16 11 35.0 -0.2
LBTB Lobatse 148.93 315 *e*PKPbc PKPbc 16 11 35.0 -0.2
VNA3 Neumayer Olymp 158.06 170 P PKPab 16 12 15.0 -1.5
SNAA Sanae 158.17 176 P PKPab 16 12 14.7 -2.3
VNA2 Neumayer--Watz 158.59 172 P PKPab 16 12 17.2 -1.6
baz=189,slow=2.1
VNA1 Neumayer--Stat 158.77 171 P PKPab 16 12 17.8 -1.7

MDD ***25*** *15:55:56.7±2.0, 36°.83N×12°.42W, h0km, mb4.0/2, Error ellipse: s-maj=18.9km s-min=16.1km az=12.0, PRXIMO*
INMG ***25*** *15:55:57.3±1.1, 36°.63N×12°.85W, h10km, ML2.1, Error ellipse: s-maj=6.2km s-min=5.3km az=80.0*
CSEM ***25*** *15:55:59.7±0.4, 36°.99N±0°.1×**12°.4W**±0°.2,* **h10km, n64,**
σ1**37**/113**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.87**	**84**	*e*Pn	**Pn**	**15 56 42.4**	**+0.3**
PFVI				*e*Sn	**Sn**	**15 57 17.0**	**+0.3**
PFVI				A	A	15 57 19.6	
	9.5nm,0.4s						
PFVI	**Vila Bisbo**	**2.87**	**84**	P	**Pn**	**15 56 42.4**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**15 57 16.1**	**-0.5**
	6.0nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.87**	**84**	P	**Pn**	**15 56 42.4**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**15 57 16.1**	**-0.5**
	6.0nm,0.2s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**15 57 17.0**	**+0.3**
	9.5nm,0.4s						
PTEO	**Sao Teotonio**	**3.00**	**76**	*e*Pn	**Pn**	**15 56 44.8**	**+0.8**
PTEO				*e*Sn	**Sn**	**15 57 20.2**	**+0.2**
PTEO				A	A	15 57 22.9	
	2.3nm,0.1s						
PTEO	**Sao Teotonio**	**3.00**	**76**	Pn	**Pn**	**15 56 44.8**	**+0.8**
PTEO				Sn	**Sn**	**15 57 20.2**	**+0.2**
	1.2nm,0.1s						
PTEO	**Sao Teotonio**	**3.00**	**76**	*e*Pn	**Pn**	**15 56 44.8**	**+0.8**
PTEO				*e*Sn	**Sn**	**15 57 20.2**	**+0.2**
	2.3nm,0.1s						
MORF	**Marmelete**	**3.02**	**81**	*e*Pn	**Pn**	**15 56 45.0**	**+0.7**
MORF				*e*Sn	**Sn**	**15 57 20.8**	**+0.2**
MORF				A	A	15 57 22.5	
	3.3nm,0.1s						
MORF	**Marmelete**	**3.02**	**81**	Pn	**Pn**	**15 56 45.0**	**+0.7**
MORF				Sn	**Sn**	**15 57 20.8**	**+0.2**
	3.3nm,0.1s						
MORF	**Marmelete**	**3.02**	**81**	*e*Pn	**Pn**	**15 56 45.0**	**+0.7**
MORF				*e*Sn	**Sn**	**15 57 20.8**	**+0.2**
	3.3nm,0.1s						
PNCL	**Nicolau / Gran**	**3.31**	**67**	*e*Pn	**Pn**	**15 56 49.0**	**+0.8**
PNCL				*e*Sn	**Sn**	**15 57 28.5**	**+1.0**
PNCL				A	A	15 57 33.0	
	2.2nm,0.1s						
PNCL	**Nicolau / Gran**	**3.31**	**67**	*e*Pn	**Pn**	**15 56 49.0**	**+0.8**
PNCL				*e*Sn	**Sn**	**15 57 28.5**	**+1.0**
	2.2nm,0.1s						
PACT	**Alcochete**	**3.39**	**55**	*e*Sn	**Sn**	**15 57 33.2**	**+3.7**
PACT				A	A	15 57 35.1	
	9.0nm,0.3s						
PACT	**Alcochete**	**3.39**	**55**	*e*Sn	**Sn**	**15 57 33.2**	**+3.7**
	9.0nm,0.3s						
PCVE	**Castro Verde**	**3.55**	**77**	*e*Pn	**Pn**	**15 56 53.3**	**+1.7**
PCVE				*e*Sn	**Sn**	**15 57 33.1**	**-0.5**
PCVE	**Castro Verde**	**3.55**	**77**	Pn	**Pn**	**15 56 53.3**	**+1.7**
PCVE				Sn	**Sn**	**15 57 33.1**	**-0.5**
PCVE	**Castro Verde**	**3.55**	**77**	*e*Pn	**Pn**	**15 56 53.3**	**+1.7**
PCVE				*e*Sn	**Sn**	**15 57 33.1**	**-0.5**
PBDV	**Barranco-do-Ve**	**3.59**	**83**	*e*Pn	**Pn**	**15 56 54.1**	**+2.0**
PBDV				*e*Sn	**Sn**	**15 57 35.5**	**+1.0**
PBDV				A	A	15 57 40.8	
	1.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.59**	**83**	Pn	**Pn**	**15 56 54.1**	**+2.0**
PBDV				Sn	**Sn**	**15 57 35.5**	**+1.0**
	1.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**3.59**	**83**	*e*Pn	**Pn**	**15 56 54.1**	**+2.0**
PBDV				*e*Sn	**Sn**	**15 57 35.5**	**+1.0**
	1.4nm,0.1s						
PVAQ	**Vaqueiros**	**3.77**	**81**	*e*Pn	**Pn**	**15 56 55.3**	**+0.7**
PVAQ				*e*Sn	**Sn**	**15 57 39.0**	**0.0**
PVAQ				A	A	15 57 43.6	
	2.0nm,0.1s						
PVAQ	**Vaqueiros**	**3.77**	**81**	Pn	**Pn**	**15 56 55.3**	**+0.7**
PVAQ				Sn	**Sn**	**15 57 39.0**	**0.0**
	2.0nm,0.1s						
PVAQ	**Vaqueiros**	**3.77**	**81**	*e*Pn	**Pn**	**15 56 55.3**	**+0.7**
PVAQ				*e*Sn	**Sn**	**15 57 39.0**	**0.0**
	2.0nm,0.1s						
PMTG	**Montargil**	**3.95**	**55**	*e*Pn	**Pn**	**15 56 57.8**	**+0.8**
PMTG				*e*Sn	**Sn**	**15 57 44.1**	**+0.8**
PMTG				A	A	15 57 49.0	
	2.4nm,0.6s						
PMTG	**Montargil**	**3.95**	**55**	*e*Pn	**Pn**	**15 56 57.8**	**+0.8**
PMTG				*e*Sn	**Sn**	**15 57 44.1**	**+0.8**
	2.4nm,0.6s						
EGRO	**El Granado**	**3.97**	**79**	P	**Pn**	**15 56 57.9**	**+0.6**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 57 42.8**	**-1.2**
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.97**	**79**	P	**Pn**	**15 56 57.9**	**+0.6**
	0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**15 57 42.8**	**-1.2**
	1.1nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.28**	**61**	*e*Pn	**Pn**	**15 57 03.8**	**+2.2**
PESTR				*e*Sn	**Sn**	**15 57 51.7**	**0.0**
PESTR				A	A	15 57 54.4	
	1.1nm,0.2s						
PESTR	**Estremoz**	**4.28**	**61**	*e*Pn	**Pn**	**15 57 03.8**	**+2.2**
PESTR				*e*Sn	**Sn**	**15 57 51.7**	**0.0**
	1.1nm,0.2s						
PBAR	**Barrancos**	**4.45**	**72**	*e*Pn	**Pn**	**15 57 05.6**	**+1.8**
PBAR				*e*Sn	**Sn**	**15 57 55.8**	**+0.2**
PBAR				A	A	15 58 00.5	
	2.4nm,0.1s						
PBAR	**Barrancos**	**4.45**	**72**	Pn	**Pn**	**15 57 05.6**	**+1.8**
PBAR				Sn	**Sn**	**15 57 55.8**	**+0.2**
	2.4nm,0.1s						
PBAR	**Barrancos**	**4.45**	**72**	*e*Pn	**Pn**	**15 57 05.6**	**+1.8**
PBAR				*e*Sn	**Sn**	**15 57 55.8**	**+0.2**
	2.4nm,0.1s						
EMIN	**Mina Concepcio**	**4.64**	**77**	P	**Pn**	**15 57 06.9**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 57 58.9**	**-1.6**
	1.0nm,0.2s,SNR=6.5						
EMIN	**Mina Concepcio**	**4.64**	**77**	P	**Pn**	**15 57 06.9**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**15 57 58.9**	**-1.6**
	1.0nm,0.2s,SNR=6.5						
EBAD	**Badajoz**	**4.65**	**65**	P	**Pn**	**15 57 07.4**	**+0.8**
	0.5nm,0.1s,SNR=6.8						
EBAD				S	**Sn**	**15 57 59.4**	**-1.3**

	1.7nm,0.1s,SNR=7.3								
EBAD	**Badajoz**	**4.65**	**65**	P		**Pn**	**15 57 07.4**	**+0.8**	
	0.5nm,0.1s,SNR=6.8								
EBAD				S		**Sn**	**15 57 59.3**	**-1.3**	
	1.7nm,0.1s,SNR=7.3								
PMRV	**Marv??o**	**4.69**	**56**	*e*Pn		**Pn**	**15 57 08.2**	**+1.0**	
PMRV				*e*Sn		**Sn**	**15 58 01.3**	**-0.3**	
PMRV				A		A	15 58 04.0		
	2.0nm,0.2s								
PMRV	**Marv??o**	**4.69**	**56**	Pn		**Pn**	**15 57 08.2**	**+1.0**	
PMRV				Sn		**Sn**	**15 58 01.3**	**-0.3**	
	2.0nm,0.2s								
PMRV	**Marv??o**	**4.69**	**56**	*e*Pn		**Pn**	**15 57 08.2**	**+1.0**	
PMRV				*e*Sn		**Sn**	**15 58 01.3**	**-0.3**	
	2.0nm,0.2s								
ESPR	**Espera**	**5.24**	**88**	P		**Pn**	**15 57 14.6**	**-0.2**	
	0.7nm,0.1s,SNR=4.0								
ESPR				S		**Sn**	**15 58 13.5**	**-1.8**	
	6.2nm,0.3s,SNR=7.9								
ESPR	**Espera**	**5.24**	**88**	P		**Pn**	**15 57 14.6**	**-0.2**	
	0.7nm,0.1s,SNR=4.0								
ESPR				S		**Sn**	**15 58 13.5**	**-1.8**	
	6.2nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**5.67**	**76**	P		**Pn**	**15 57 21.1**	**+0.4**	
	0.4nm,0.1s,SNR=7.9								
ECAB				S		**Sn**	**15 58 23.4**	**-2.5**	
	1.1nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**5.67**	**76**	P		**Pn**	**15 57 21.1**	**+0.4**	
	0.4nm,0.1s,SNR=7.9								
ECAB				S		**Sn**	**15 58 23.4**	**-2.5**	
	1.1nm,0.2s,SNR=7.9								
POLO	**Lamas de Olo**	**5.73**	**37**	*e*Pn		**Pn**	**15 57 22.9**	**+1.3**	
POLO				*e*Sn		**Sn**	**15 58 25.6**	**-1.8**	
POLO				A		A	15 58 28.1		
	0.5nm,0.1s								
POLO	**Lamas de Olo**	**5.73**	**37**	*e*Pn		**Pn**	**15 57 22.9**	**+1.3**	
POLO				*e*Sn		**Sn**	**15 58 25.6**	**-1.8**	
	0.5nm,0.1s								
EPLA	**Plasencia**	**5.88**	**55**	P		**Pn**	**15 57 24.8**	**+1.2**	
	0.6nm,0.2s,SNR=7.9								
EPLA				S		**Sn**	**15 58 29.2**	**-1.9**	
	0.7nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**5.88**	**55**	P		**Pn**	**15 57 24.8**	**+1.2**	
	0.6nm,0.2s,SNR=7.9								
EPLA				S		**Sn**	**15 58 29.2**	**-1.9**	
	0.7nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**5.97**	**43**	P		**Pn**	**15 57 25.9**	**+1.0**	
	0.8nm,0.2s,SNR=7.9								
MVO				S		**Sn**	**15 58 31.7**	**-1.6**	
	0.9nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**5.97**	**43**	P		**Pn**	**15 57 25.9**	**+1.0**	
	0.8nm,0.2s,SNR=7.9								
MVO				S		**Sn**	**15 58 31.7**	**-1.6**	
	0.9nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.99**	**31**	*e*Sn		**Sn**	**15 58 31.8**	**-2.0**	
PGAV				A		A	15 58 36.1		
	1.3nm,0.2s								
PGAV	**Gavieira, Arco**	**5.99**	**31**	*e*Sn		**Sn**	**15 58 31.8**	**-2.0**	
	1.3nm,0.2s								
ELOB	**Lobios**	**6.00**	**33**	P		**Pn**	**15 57 26.7**	**+1.5**	
	0.3nm,0.1s,SNR=7.9								
ELOB				S		**Sn**	**15 58 31.7**	**-2.3**	
	0.7nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**6.00**	**33**	P		**Pn**	**15 57 26.7**	**+1.5**	
	0.3nm,0.1s,SNR=7.9								
ELOB				S		**Sn**	**15 58 31.7**	**-2.3**	
	0.7nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.34**	**76**	P		**Pn**	**15 57 30.2**	**+0.3**	
	0.5nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**15 58 40.1**	**-2.4**	
	1.2nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**6.34**	**76**	P		**Pn**	**15 57 30.2**	**+0.3**	
	0.5nm,0.2s,SNR=7.9								
EADA				S		**Sn**	**15 58 40.1**	**-2.4**	
	1.2nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**6.60**	**22**	S		Sn	15 58 43.4	-5.3	
	1.3nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.68**	**39**	P		**Pn**	**15 57 35.3**	**+0.7**	
	1.2nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**15 58 48.6**	**-2.2**	
	1.2nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**6.68**	**39**	P		**Pn**	**15 57 35.3**	**+0.7**	
	1.2nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**15 58 48.6**	**-2.2**	
	1.2nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**6.87**	**65**	S		**Sn**	**15 58 53.2**	**-2.2**	
	0.3nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**6.87**	**65**	S		**Sn**	**15 58 53.2**	**-2.2**	
	0.3nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**7.19**	**65**	P		**Pn**	**15 57 42.5**	**+0.9**	
	0.6nm,0.1s,baz=250,slow=14,SNR=4.0								
ESDC				S		Sn	15 58 59.7	-3.7	
	0.5nm,0.1s,baz=250,slow=24,SNR=7.9								
ESDC	**Sonseca Array**	**7.19**	**65**	P		**Pn**	**15 57 42.5**	**+0.9**	
	0.6nm,0.1s,baz=251,slow=13,SNR=4.0								
ESDC				S		Sn	15 58 59.7	-3.7	
	0.5nm,0.1s,baz=247,slow=24,SNR=7.9								
GUD	**Guadarrama**	**7.45**	**57**	S		Sn	15 59 07.1	-2.7	
	0.3nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**7.45**	**57**	S		Sn	15 59 07.1	-2.7	
	0.3nm,0.2s,SNR=7.9								
EBER	**Berja**	**7.62**	**87**	S		Sn	15 59 07.5	-6.6	
	0.2nm,0.1s,SNR=4.0								

WEL 25 16:36:34.9±0.1, 42°12′S×173°80′E, h12km, ML3.9/43, 10C-4D, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.35**	**213**	⇓PG	Pb	16 36 43.3	+0.2
KHZ				SG	Sb	16 36 48.1	-0.5
KHZ				AML	AML	16 36 49.9	
BSWZ	**Blackbirch Sta**	**0.41**	**7**	⇑PG	Pg	16 36 43.1	0.0
BSWZ				AML	AML	16 36 50.1	
BSWZ				AML	AML	16 36 50.8	
CMWZ	**Cape Campbell**	**0.48**	**39**	PG	Pb	16 36 45.7	+0.3
CMWZ				AML	AML	16 36 59.2	
CMWZ				AML	AML	16 37 01.5	
TUWZ	**Tuamarina**	**0.70**	**9**	P*	Pg	16 36 48.3	-0.1
TUWZ				AML	AML	16 36 49.1	
TUWZ				SG	Sg	16 36 58.0	+0.4
THZ	**Tophouse**	**0.76**	**298**	P*	Pg	16 36 49.1	-0.7
THZ				SG	Sg	16 36 58.9	-0.9
THZ				AML	AML	16 37 02.3	
NNZ	**Nelson**	**0.96**	**340**	P*	Pg	16 36 52.4	-1.0
NNZ				AML	AML	16 37 07.7	
NNZ				AML	AML	16 37 10.0	
TCW	**Tory Channel**	**0.97**	**21**	⇑P*	Pg	16 36 53.1	-0.6
TCW				AML	AML	16 37 08.6	
TCW				AML	AML	16 37 10.5	
BHW	**Baring Head**	**1.07**	**49**	P*	Pb	16 36 55.4	+0.1
BHW				AML	AML	16 37 14.5	
BHW				AML	AML	16 37 18.5	
WEL	**Wellington**	**1.10**	**41**	P*	Pg	16 36 56.1	-0.1
PLWZ	**Palliser**	**1.22**	**64**	P*	Pn	16 36 57.0	-0.7
MSWZ	**Moikau Station**	**1.29**	**57**	P*	Pn	16 36 58.1	-0.7
MSWZ				AML	AML	16 37 18.5	
MSWZ				AML	AML	16 37 18.6	
LTZ	**Lake Taylor**	**1.31**	**239**	⇑PN	Pn	16 36 58.7	-0.4
LTZ				AML	AML	16 37 19.3	
LTZ				AML	AML	16 37 21.4	
DUWZ	**D'Urville Isla**	**1.32**	**4**	⇓P*	Pn	16 36 58.8	-0.4
DUWZ				AML	AML	16 37 18.4	
DUWZ				AML	AML	16 37 19.4	
CAW	**Cannon Point**	**1.39**	**44**	P*	Pn	16 36 59.7	-0.4
CAW				AML	AML	16 37 18.9	
CAW				AML	AML	16 37 19.2	
PAWZ	**Paruwai Farm**	**1.42**	**59**	⇑P*	Pn	16 36 59.7	-0.8
PAWZ				AML	AML	16 37 31.0	
PAWZ				AML	AML	16 37 31.9	
KIW	**Kapiti Island**	**1.51**	**34**	PN	Pn	16 37 01.7	0.0
KIW				AML	AML	16 37 29.6	
KIW				AML	AML	16 37 29.8	
DSZ	**Denniston Nort**	**1.54**	**283**	⇓PN	Pb	16 37 03.2	-0.2
TRWZ	**Traveller**	**1.58**	**63**	PN	Pn	16 37 01.6	-1.1
TRWZ				AML	AML	16 37 45.4	
TRWZ				AML	AML	16 37 47.0	
MTW	**Mount Morrison**	**1.59**	**53**	PN	Pn	16 37 01.9	-1.1
MTW				AML	AML	16 37 29.0	
MTW				AML	AML	16 37 35.8	
QRZ	**Quartz Range**	**1.61**	**323**	⇓PN	Pn	16 37 03.7	+0.5
QRZ				SN	Sn	16 37 24.0	+0.2
OGWZ	**Otaki Gorge**	**1.66**	**39**	PN	Pn	16 37 03.4	-0.4

CRLZ	**Canterbury Las**	**1.69**	**211**	⇑PN		Pn	16 37 03.1	-1.1	
CRLZ				*e*SN		Sn	16 37 24.5	-1.3	
CRLZ				AML		AML	16 37 27.9		
OXZ	**Oxford**	**1.77**	**227**	⇑PN		Pn	16 37 04.4	-0.9	
HOWZ	**Holdsworth Sta**	**1.77**	**47**	PN		Pn	16 37 04.4	-1.0	
MQZ	**McQueen's Vall**	**1.80**	**208**	⇑PN		Pn	16 37 04.2	-1.5	
TMWZ	**Te Maipa**	**1.86**	**58**	PN		Pn	16 37 05.3	-1.4	
MRZ	**Mangatainoka R**	**1.98**	**43**	⇑PN		Pn	16 37 07.3	-0.9	
MRZ				AML		AML	16 37 33.0		
MRZ				AML		AML	16 37 33.0		
TIWZ	**Tintock**	**2.06**	**50**	AML		AML	16 37 35.5		
TIWZ				AML		AML	16 38 01.1		
PRWZ	**Pori Road**	**2.26**	**47**	PN		Pn	16 37 10.8	-1.3	
POWZ	**Post Office Ro**	**2.27**	**41**	PN		Pn	16 37 11.3	-1.0	
BFZ	**Birch Farm**	**2.33**	**53**	PN		Pn	16 37 11.2	-1.9	
WVZ	**Waitaha Valley**	**2.46**	**246**	*e*PN		Pn	16 37 14.9	+0.2	
WVZ				AML		AML	16 37 55.1		
WAZ	**Wanganui**	**2.53**	**21**	*e*PN		Pn	16 37 17.7	+1.9	
WAZ				AML		AML	16 38 00.0		
WAZ				AML		AML	16 38 02.3		
RPZ	**Rata Peaks**	**2.57**	**231**	⇑PN		Pn	16 37 15.5	-0.9	
RPZ				AML		AML	16 37 47.0		
RPZ				AML		AML	16 37 52.8		
TSZ	**Takapari Road**	**2.63**	**39**	AML		AML	16 38 06.0		
TSZ				AML		AML	16 38 06.1		
LREZ	**Lake Rotokare**	**2.70**	**10**	PN		Pb	16 37 20.7	-2.4	
KHEZ	**Kahui Hut**	**2.83**	**3**	PN		Pn	16 37 22.4	+2.4	
PNHZ	**Pukenui**	**2.85**	**40**	PN		Pn	16 37 18.9	-1.4	
PKE	**Pukeiti**	**2.93**	**3**	PN		Pn	16 37 23.9	+2.7	
PKE				AML		AML	16 38 05.4		
PKE				AML		AML	16 38 20.4		
MTVZ	**Mangateitei**	**3.01**	**25**	AML		AML	16 38 05.5		
MTVZ				AML		AML	16 38 28.1		
MHEZ	**Mangahewa**	**3.07**	**8**	PN		Pb	16 37 26.7	-2.7	
VRZ	**Vera Road**	**3.08**	**14**	PN		Pn	16 37 24.9	+1.6	
VRZ				AML		AML	16 38 19.4		
VRZ				AML		AML	16 38 31.3		
MOVZ	**Moawhango**	**3.09**	**29**	PN		Pb	16 37 26.9	-2.9	
MOVZ				AML		AML	16 38 23.0		
MOVZ				AML		AML	16 38 23.0		
WNVZ	**Wahianoa**	**3.11**	**27**	PN		Pn	16 37 24.3	+0.4	
DRZ	**Dome Shelter**	**3.14**	**26**	PN		Pb	16 37 28.0	-3.1	
DRZ				AML		AML	16 38 20.3		
DRZ				AML		AML	16 38 30.4		
FWVZ	**Far West T-bar**	**3.16**	**25**	PN		Pn	16 37 24.9	+0.2	
FWVZ				AML		AML	16 38 22.9		
FWVZ				AML		AML	16 38 29.3		
TUVZ	**Tukino**	**3.18**	**27**	AML		AML	16 38 30.4		
TUVZ				AML		AML	16 38 31.0		
WPVZ	**Whakapapa**	**3.20**	**25**	PN		Pn	16 37 26.1	+1.0	
WPVZ				AML		AML	16 38 22.9		
WPVZ				AML		AML	16 38 23.3		
COVZ	**Chateau Observ**	**3.21**	**25**	PN		Pn	16 37 26.1	+0.9	
NGZ	**Ngauruhoe**	**3.24**	**26**	PN		Pn	16 37 28.0	+2.2	
NGZ				AML		AML	16 38 32.8		
NGZ				AML		AML	16 38 32.8		
OTVZ	**Oturere**	**3.28**	**26**	PN		Pn	16 37 26.4	+0.2	
OTVZ				AML		AML	16 38 32.0		
OTVZ				AML		AML	16 38 34.7		
WTVZ	**West Tongariro**	**3.29**	**25**	PN		Pn	16 37 28.3	+1.8	
WTVZ				AML		AML	16 38 36.3		
WTVZ				AML		AML	16 38 42.5		
KRVZ	**Karewarewa**	**3.33**	**25**	PN		Pb	16 37 31.4	-2.6	
KRVZ				AML		AML	16 37 42.2		
KRVZ				AML		AML	16 38 35.3		
FOZ	**Fox Glacier**	**3.35**	**243**	PN		Pn	16 37 26.2	-0.9	
FOZ				AML		AML	16 38 24.8		
FOZ				AML		AML	16 38 33.4		
KATZ	**Kakaramea**	**3.46**	**25**	PN		Pb	16 37 34.0	-2.3	
KATZ				AML		AML	16 38 32.6		
KATZ				AML		AML	16 38 38.8		
LBZ	**Lake Benmore**	**3.48**	**228**	PN		Pn	16 37 28.0	-0.8	
LBZ				AML		AML	16 37 55.4		
LBZ				AML		AML	16 38 10.0		
RITZ	**Rihia Road**	**3.51**	**27**	PN		Pb	16 37 33.3	-3.7	
RITZ				AML		AML	16 37 49.8		
RATZ	**Rangitukua**	**3.58**	**25**	PN		Pn	16 37 33.7	+3.4	
RATZ				AML		AML	16 37 45.0		
RATZ				AML		AML	16 37 49.9		
HATZ	**Hinemaiaia**	**3.67**	**29**	PN		Pb	16 37 37.3	-2.4	
HATZ				AML		AML	16 37 43.8		
HATZ				AML		AML	16 37 50.7		
HIZ	**Hauiti**	**3.69**	**13**	PN		Pn	16 37 33.4	+1.7	
HIZ				AML		AML	16 38 33.1		
HIZ				AML		AML	16 38 39.1		
ODZ	**Otahua Downs**	**3.72**	**217**	⇑PN		Pn	16 37 30.7	-1.4	
TLZ	**Tolley Road**	**4.01**	**20**	*e*PN		Pn	16 37 36.7	+0.5	
HHSZ	**Highcliff Hill**	**4.42**	**210**	PN		Pn	16 37 40.5	-1.2	
EAZ	**Earnscleugh**	**4.50**	**225**	PN		Pn	16 37 41.8	-1.1	
EAZ				AML		AML	16 38 37.4		
URZ	**Urewera**	**4.61**	**34**	PN		Pn	16 37 43.4	-1.0	
TUZ	**Tuapeka**	**4.87**	**217**	PN		Pn	16 37 46.5	-1.4	
HAZ	**Te Kaha**	**5.33**	**36**	PN		Pn	16 37 51.9	-2.3	
SYZ	**Scrubby Hill**	**5.54**	**216**	PN		Pn	16 37 56.3	-0.8	
WHZ	**Wether Hill Ro**	**5.66**	**226**	PN		Pn	16 37 56.7	-2.1	
APZ	**The Paps**	**6.28**	**219**	PN		Pn	16 38 05.4	-2.0	

*NEIC **25** 16:41:02.8±0.6, 32°.05N×115°.03W, h10km, ML3.0, Error ellipse: s-maj=8.8km s-min=7.0km az=90.0*
*ISCJB **25** 16:41:03.9±0.8, 32°.08N±0°.04×114°.99W±0°.06, h28km±7km, Error ellipse: s-maj=8.0km s-min=7.1km az=175.8*
*MEX **25** 16:41:05.7±0.7, 32°.09N×114°.96W, h10km, MD3.6*
ISC 25 16:41:04.0±1.2, 32°06′N±0°04′×115°03′W±0°.05, h25km±12km, n15, σ0s77/23, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.38**	**338**	*e*P	**Pb**	**16 41 12.4**	**+0.1**
MBIG				*e*S	**Sb**	**16 41 18.6**	**+0.8**
CPBX	**Cerro Prieto**	**0.43**	**327**	*e*P	**Pb**	**16 41 12.9**	**-0.1**
CPBX				*e*S	**Sb**	**16 41 19.0**	**-0.2**
GLA	**Glamis**	**1.01**	**10**	*e*Pg	**Pb**	**16 41 21.7**	**-1.2**
GLA				*e*Sg	**Sb**	**16 41 34.6**	**-1.1**
SPIG	**San Pedro Mart**	**1.07**	**200**	*e*P	**Pb**	**16 41 23.7**	**-0.4**
SPIG				*e*S	**Sn**	**16 41 38.6**	**+0.6**
SPIG	**San Pedro Mart**	**1.07**	**200**	*e*P	**Pb**	**16 41 23.7**	**-0.4**
SPIG				*e*S	**Sn**	**16 41 38.6**	**+0.6**
SPX	**San Pedro Mart**	**1.07**	**200**	*e*P	**Pb**	**16 41 23.6**	**-0.5**
SPX				*e*S	**Sn**	**16 41 38.3**	**+0.2**
CBX	**Cerro Bola**	**1.41**	**281**	*i* P	**Pn**	**16 41 28.3**	**+0.1**
CBX				*e*S	**Sn**	**16 41 46.0**	**0.0**
CBX	**Cerro Bola**	**1.41**	**281**	*i* P	**Pn**	**16 41 28.3**	**+0.1**
CBX				*e*S	**Sn**	**16 41 46.0**	**0.0**
BAR	**Barrett**	**1.52**	**295**	*e*Pn	**Pn**	**16 41 29.7**	**0.0**
BAR				*e*Sn	**Sb**	**16 41 50.8**	**+0.2**
214A	**Organ Pipe Nat**	**1.89**	**92**	*e*Pn	**Pn**	**16 41 34.5**	**-0.2**
PFO	**Pinyon Flats O**	**1.96**	**323**	*e*Pn	**Pn**	**16 41 34.8**	**-1.0**
MWC	**Mount Wilson**	**3.34**	**311**	Pn	**Pn**	**16 41 54.6**	**-0.2**
GSC	**Goldstone, Bar**	**3.56**	**336**	*e*Pg	Pb	16 42 14.0	+7.6
TUC	**Tucson**	**3.61**	**85**	Pn	**Pn**	**16 41 59.0**	**+0.5**
TUC				*e*Pg	Pb	16 42 16.0	+8.8
SHPR	**Sheep Range**	**4.44**	**359**	Pn	**Pn**	**16 42 12.2**	**+2.3**

*IDC **25** 17:29:11.9±1.7, 36°.16S×73°.22W, h0km, mb3.5/3, mb1 4.0/4, mb1mx3.6/24, mbtmp3.6/4, ML3.3/2, MS3.5/5, Ms1 3.4/5, ms1mx3.1/18, Error ellipse: s-maj=46.5km s-min=32.3km az=82.0*
*ISCJB **25** 17:29:14.2±0.7, 36°.20S±0°.05×73°.0W±0°.1, h28km, mb3.7/2, MS3.5/2, Error ellipse: s-maj=14.1km s-min=5.2km az=26.3*
*GUC **25** 17:29:15.2±0.6, 36°.30S×72°.83W, h41km±28km, ML3.9*
ISC 25 17:29:15.3±0.9, 36°26′S±0°08′×72°9′W±0°.1, h28km, n14, σ0s83/15, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.60**	**193**	*e*P	**Pb**	**17 29 26.5**	**-0.8**
CCSP				*e*S	**Sb**	**17 29 35.3**	**-0.2**
CCSP				AML	AML	17 29 38.1	
	comp=N,13μm,0.3s						
TALC	**Talca**	**1.36**	**51**	*e*P	**Pn**	**17 29 38.2**	**-0.3**
TALC				*e*S	**Sn**	**17 29 55.1**	**-0.5**
NICH	**Los Niches**	**1.87**	**49**	*e*P	**Pn**	**17 29 45.6**	**+0.1**
NICH				*e*S	**Sn**	**17 30 08.7**	**+0.4**
CLCH	**Cerro Calan**	**3.47**	**35**	*e*P	**Pn**	**17 30 08.1**	**+0.5**
PEL	**Peldehue**	**3.62**	**32**	*e*P	**Pn**	**17 30 10.1**	**+0.5**
PEL				*e*S	**Sn**	**17 30 50.6**	**-0.8**
PLCA	**Paso Flores**	**4.85**	**158**	Pn	**Pn**	**17 30 28.5**	**+2.1**
	comp=N,0.6nm,0.3s,baz=334,slow=10,SNR=13						
PLCA				Lg	Lg	17 31 41.8	
	comp=N,1.7nm,0.3s,baz=263,slow=19,SNR=2.6						
PLCA				LR	LR	17 32 38.4	
	comp=N,91nm,21.7s,baz=236,slow=41						
CFAA	**Coronel Fontan**	**6.07**	**41**	Pn	**Pn**	**17 30 43.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=188,slow=5.6,SNR=16						
CFAA				Sn	**Sn**	**17 31 51.2**	**-0.5**
	comp=N,0.1nm,0.3s,baz=220,slow=15,SNR=1.5						
CFAA				LR	LR	17 33 16.5	
	comp=N,21nm,18.2s,baz=224,slow=40						
LVC	**Limon Verde**	**14.04**	**16**	LR	LR	17 38 17.4	
	comp=N,233nm,20.6s,baz=282,slow=39						
CPUP	**Villa Florida**	**16.59**	**58**	LR	LR	17 40 03.7	
	comp=N,771nm,20.9s,baz=198,slow=39						
LPAZ	**La Paz**	**20.34**	**13**	P	**P**	**17 33 50.6**	**+0.4**
	comp=N,0.7nm,0.7s,baz=190,slow=8.4,SNR=2.7						
BDFB	**Brasilia**	**30.24**	**54**	LR	LR	17 50 06.9	
	comp=N,67nm,20.1s,baz=204,slow=41						
TXAR	**Lajitas Array**	**71.36**	**332**	P	**P**	**17 40 32.1**	**-0.6**
	comp=N,0.6nm,0.7s,baz=150,slow=9.1,SNR=6.4						
ANMO	**Albuquerque**	**77.42**	**332**	LR	LR	18 10 29.9	
	comp=N,32nm,19.3s,baz=244,slow=32						
NVAR	**Mina Array Bea**	**85.32**	**326**	P	**P**	**17 41 50.4**	**+0.6**
	comp=N,0.2nm,0.3s,baz=142,slow=7.5,SNR=1.9						

IDC 25 17:45:37.6±9.6, 15°39′S×162°83′E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, ML2.5/1, Error ellipse: s-maj=179.0km s-min=40.8km az=36.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.47**	**153**	Pn	Pn	17 47 27.8	-0.3
	0.1nm,0.3s,baz=107,slow=20,SNR=1.4						
STKA	**Stephens Creek**	**25.38**	**226**	P	P	17 51 06.6	0.0
	1.0nm,0.4s,baz=59,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**27.51**	**256**	P	P	17 51 25.9	-0.1
	0.2nm,0.3s,baz=86,slow=9.6,SNR=6.7						
ASAR	**Alice Springs**	**28.44**	**249**	P	P	17 51 34.5	+0.1
	0.5nm,0.5s,baz=75,slow=9.4,SNR=34						

*ISCJB **25** 18:03:59.7±0.4, 32°.35N±0°.02×115°.32W±0°.02, h9km±2km, mb3.3/3, MS3.2/3, Error ellipse: s-maj=3.6km s-min=2.8km az=5.7*
*NEIC **25** 18:04:01.0, 32°.32N×115°.33W, h6km, ML3.7(PAS), ML3.9(ECX), After ECX.*
*ECX **25** 18:04:01.9±0.5, 32°.32N×115°.33W, h6km, MD3.8, ML4.0*
*MEX **25** 18:04:02.0±0.9, 32°.42N×115°.15W, h16km±5km, MD3.6*
*IDC **25** 18:04:03.4±2.2, 32°.35N×115°.06W, h0km, mb3.3/3, mb1 3.7/8, mb1mx3.4/47, mbtmp3.4/8, ML3.5/5, MS3.3/5, Ms1 3.3/5, ms1mx2.9/21, Error ellipse: s-maj=33.9km s-min=13.8km az=45.0*
ISC 25 18:04:00.5±0.9, 32°29′N±0°02′×115°35′W±0°02, h7km±7km, n53, σ0s86/84, mb3.2/3, MS3.1/3, 11C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**18**	*e*P	**Pg**	**18 04 03.2**	**-0.1**
CPBX				*e*S	**Sg**	**18 04 05.4**	**0.0**
CPBX				⇑*e*		18 04 07.9	
CPBX				AML	AML	18 04 07.9	
	comp=N,191μm,0.4s						
CPBX	**Cerro Prieto**	**0.14**	**18**	*e*P	**Pg**	**18 04 03.3**	**-0.1**
CPBX				*i* S	**Sg**	**18 04 05.8**	**+0.4**
MBIG	**Mexicali**	**0.18**	**48**	*i* P	**Pg**	**18 04 04.4**	**+0.3**
MBIG				*e*S	**Sg**	**18 04 06.6**	**0.0**
SGL	**Mount Signal**	**0.48**	**319**	⇓*i* P	**Pg**	**18 04 10.1**	**+0.3**
YUH	**Yuha Desert**	**0.60**	**307**	⇓*i* P	**Pg**	**18 04 12.2**	**+0.1**
COA	**Coachella**	**0.60**	**19**	⇓*i* P	**Pg**	**18 04 12.1**	**-0.1**
RDX	**Rancho Dawling**	**0.62**	**235**	⇑*e*P	**Pb**	**18 04 13.5**	**-0.2**
RDX				*e*S	**Sb**	**18 04 22.4**	**-0.2**
RDX				⇓*e*		18 04 26.1	
RDX				AML	AML	18 04 26.1	
	comp=N,3μm,0.7s						
COK	**Cook Ranch**	**0.64**	**331**	*e*P	**Pg**	**18 04 12.9**	**0.0**
RMX	**La Rumorosa**	**0.69**	**297**	⇓*e*P	**Pg**	**18 04 14.0**	**+0.2**
RMX				*e*S	**Sg**	**18 04 23.8**	**+1.0**
RMX				AML	AML	18 04 26.0	
	comp=N,6μm,0.5s						
RMX				⇓*e*		18 04 26.0	
YMD	**Yuma Desert**	**0.73**	**69**	⇑*i* P	**Pg**	**18 04 14.0

comp=N,24nm,0.8s
MVU ePg Pg 18 06 08.0 -1.0
MVCO Mesa Verde 7.48 47 ePn Pn 18 05 50.0 -0.1
comp=N,20nm,0.7s
ANMO Albuquerque 7.88 68 Pn Pn 18 05 56.5 +0.9
comp=N,0.1nm,0.3s,baz=281,slow=10,SNR=3.2
ANMO Lg Lg 18 08 04.7
comp=N,0.1nm,0.3s,baz=286,slow=8.0,SNR=2.1
ELK Elko 8.44 1 Pn Pn 18 06 06.8 +3.4
comp=N,0.1nm,0.3s,baz=220,slow=17,SNR=2.5
ELK Lg Lg 18 08 20.0
comp=N,0.0nm,0.3s,baz=201,slow=4.7,SNR=2.5
MNTX Cornudas Mount 8.49 91 Pn Pn 18 06 04.5 +0.7
comp=N,1.7nm,0.4s
TXAR Lajitas Array 10.47 103 Pn Pn 18 06 32.9 +1.8
comp=N,0.4nm,0.3s,baz=283,slow=14,SNR=29
TXAR Lg Lg 18 09 38.6
comp=N,0.1nm,0.3s,baz=287,slow=23,SNR=5.2
TXAR LR LR 18 11 03.3
comp=N,126nm,20.0s,baz=0.0,slow=41
PDAR Pinedale Array 11.42 22 Pn Pn 18 06 50.1 +6.0
comp=N,0.1nm,0.3s,baz=193,slow=10,SNR=3.6
PDAR LR LR 18 11 31.8
comp=N,118nm,19.7s,baz=220,slow=40
NEW Newport 16.01 356 Pn P 18 07 52.1 +2.5
comp=N,0.1nm,0.3s,baz=179,slow=13,SNR=13
BBB Bella Bella 21.95 339 LR LR 18 17 22.4
comp=N,67nm,19.2s,baz=146,slow=36
ULM Lac du Bonnet 23.04 33 P P 18 09 07.8 +1.7
comp=N,1.5nm,0.8s,baz=234,slow=9.9,SNR=3.5
CMIG Matias Romero 23.91 124 LR LR 18 19 20.8
comp=N,75nm,21.1s,baz=1.0,slow=39
DLBC Dease Lake 27.98 344 LR LR 18 21 01.3
comp=N,77nm,18.5s,baz=206,slow=36
YKA Yellowknife Ar 30.22 1 P P 18 10 15.3 +3.9
comp=N,0.3nm,0.7s,baz=189,slow=11,SNR=3.5
ILAR Eielson Array 37.84 339 P P 18 11 21.6 +4.2
comp=N,0.5nm,1.0s,baz=148,slow=7.0,SNR=3.3

MAN 25 18:05:30,9.37N×123.07E,h1km,mb4.1,ML2.9,MS2.6, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.84**	**68**	*e*P		Pg		18 05 46.4	+0.2
TBP				*e*S		Sg		18 05 57.8	+0.7
GUIM	**Jordan**	**1.34**	**339**	*e*P		Pb		18 05 55.9	0.0
GUIM				*e*S		Sn		18 06 15.8	+1.5
MSLP	**Maasin**	**1.92**	**67**	*e*P		Pb		18 06 05.1	-0.7
MSLP				*e*S		Sb		18 06 30.9	+0.7

*IDC **25** 18:06:58.9±0.7,54.93N×163.99E,h0km,mb3.7/14, mb1 4.0/16,mb1mx3.8/49,mbtmp3.8/16,ML3.6/2,MS3.2/9, Ms1 3.2/9,ms1mx3.0/32,Error ellipse: s-maj=24.2km s-min=14.1km az=157.0*
*KRSC **25** 18:06:59.4±1.4,54.83N×163.97E,h60km±22km,ML4.1*
*MOS **25** 18:07:03.2±1.9,54.89N×163.83E,h61km,mb4.1/8,Error ellipse: s-maj=13.5km s-min=10.1km az=60.0*
ISC 25 18:06:59.4±3.4,54.82N±0.04×164.07E±0.05,h8km±22km, n76,σ1§97/90,mb3.9/16,MS3.4/6,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.16**	**70**	*i*P		**Pb**		**18 07 20.6**	**-1.1**
BKI				*e*S		**Sb**		**18 07 34.8**	**-2.1**
BKI	**Bering**	**1.16**	**70**	PN		**Pb**		**18 07 20.6**	**-1.1**
BKI				S		**Sb**		**18 07 34.8**	**-2.1**
MKZ	**Mys Kozlova**	**1.38**	**260**	*e*P		**Pn**		**18 07 23.9**	**-1.0**
MKZ				*e*S		**Sn**		**18 07 39.9**	**-3.5**
MKZ	**Mys Kozlova**	**1.38**	**260**	PN		**Pn**		**18 07 23.9**	**-1.0**
MKZ				S		**Sn**		**18 07 39.9**	**-3.5**
KBTR	**Krutoberegovo**	**1.56**	**333**	*e*P		Pn		18 07 24.8	-2.6
KBTR				*e*S		**Sn**		**18 07 44.3**	**-3.5**
KBTR	**Krutoberegovo**	**1.56**	**333**	PN		Pn		18 07 24.9	-2.5
KBTR				S		**Sn**		**18 07 44.3**	**-3.5**
KZV	**Kizimen**	**2.20**	**279**	P		**Pn**		**18 07 36.3**	**0.0**
SMKR	**Semkarok**	**2.30**	**321**	*e*P		**Pn**		**18 07 37.0**	**-0.6**
SMKR				*e*S		**Sn**		**18 08 02.6**	**-3.5**
TUMR	**Tumrok**	**2.31**	**283**	*e*P		**Pn**		**18 07 38.2**	**+0.5**
TUMR				*e*S		**Sn**		**18 08 05.2**	**-1.1**
KMNR	**Kamenistaya**	**2.38**	**295**	P		**Pn**		**18 07 38.9**	**+0.1**
KMNR				S		**Sn**		**18 08 07.3**	**-0.9**
BDR	**Baidarnaya**	**2.39**	**318**	*e*P		**Pn**		**18 07 38.6**	**-0.2**
BDR				*e*S		**Sn**		**18 08 05.4**	**-2.9**
KLY	**Klyuchi**	**2.45**	**309**	*e*P		Pn		18 07 38.1	-1.5
KLY				*e*S		Sn		18 08 04.8	-4.9
KLY	**Klyuchi**	**2.45**	**309**	PN		Pn		18 07 38.1	-1.5
KLY				S		Sn		18 08 04.8	-4.9
SRKR	**Sorokina**	**2.46**	**319**	*e*P		**Pn**		**18 07 40.0**	**+0.1**
SRKR				*e*S		**Sn**		**18 08 07.1**	**-3.1**
KPT	**Kopyto**	**2.48**	**299**	P		**Pn**		**18 07 40.9**	**+0.8**
KOZR	**Kozyr**	**2.69**	**299**	PN		**Pn**		**18 07 43.7**	**+0.8**
KOZR				S		**Sn**		**18 08 14.1**	**-1.5**
KOZ	**Kozyrevsk**	**2.69**	**299**	P		**Pn**		**18 07 43.7**	**+0.7**
KOZ				*e*S		**Sn**		**18 08 14.1**	**-1.6**
KII	**Karymskiy**	**2.81**	**256**	*e*P		**Pn**		**18 07 45.4**	**+0.7**
KII				*e*S		**Sn**		**18 08 16.5**	**-2.2**
SRDR	**Sredinnyy**	**2.89**	**303**	*e*P		**Pn**		**18 07 46.1**	**+0.3**
SRDR				*e*S		**Sn**		**18 08 17.7**	**-3.0**
SPN	**Mys Shipunski**	**2.95**	**236**	P		Pn		18 07 45.3	-1.2
SPN	**Mys Shipunski**	**2.95**	**236**	PN		Pn		18 07 45.3	-1.2
NLC	**Nalytchevo**	**3.24**	**241**	P		**Pn**		**18 07 50.4**	**-0.1**
NLC				*e*S		**Sn**		**18 08 25.5**	**-3.7**
NLC	**Nalytchevo**	**3.24**	**241**	PN		**Pn**		**18 07 50.4**	**-0.1**
NLC				S		**Sn**		**18 08 25.5**	**-3.7**
ESO	**Esso**	**3.26**	**292**	*e*P		**Pn**		**18 07 49.9**	**-0.9**
ESO				*e*S		Sn		18 08 24.7	-5.0
ESO	**Esso**	**3.26**	**292**	PN		**Pn**		**18 07 49.9**	**-0.9**
ESO				S		Sn		18 08 24.7	-5.0
SDLR	**Sedlovina**	**3.42**	**245**	P		**Pn**		**18 07 53.6**	**+0.5**
SDLR				*e*S		**Sn**		**18 08 31.4**	**-2.5**
SMAR	**Somma**	**3.48**	**245**	P		**Pn**		**18 07 54.0**	**+0.1**
SMAR				*e*S		**Sn**		**18 08 31.9**	**-3.4**
KRER	**Koryakskii**	**3.48**	**246**	P		**Pn**		**18 07 54.4**	**+0.4**
KRER				S		**Sn**		**18 08 31.8**	**-3.7**
UGLR	**Uglovaya**	**3.49**	**245**	P		**Pn**		**18 07 54.6**	**+0.6**
UGLR				*e*S		**Sn**		**18 08 32.6**	**-2.9**
AVH	**Avacha**	**3.51**	**246**	P		**Pn**		**18 07 55.1**	**+0.9**
AVH				*e*S		**Sn**		**18 08 33.0**	**-2.9**
KRX	**Arik**	**3.51**	**248**	*e*P		**Pn**		**18 07 54.5**	**+0.1**
KRX				*e*S		**Sn**		**18 08 32.8**	**-3.3**
KOK	**Koryaka**	**3.55**	**247**	P		**Pn**		**18 07 55.2**	**+0.4**
KOK				*e*S		**Sn**		**18 08 34.5**	**-2.5**
PET	**Petropavlovsk**	**3.67**	**243**	P		**Pn**		**18 07 57.0**	**+0.6**
PET				*e*S		**Sn**		**18 08 36.8**	**-3.0**
PET	**Petropavlovsk**	**3.67**	**243**	*e*PN		**Pn**		**18 07 56.4**	**0.0**
PET				*e*S		**Sn**		**18 08 36.1**	**-3.7**
PET				smax		smax			
	comp=E,400nm,2.7s								
PET				smax		smax			
	comp=N,400nm,2.2s								
PET				smax		smax			
	comp=E,109nm,0.5s								
PET				smax		smax			
	comp=N,134nm,0.7s								
GNL	**Ganaly**	**3.77**	**255**	*e*P		**Pn**		**18 07 58.8**	**+1.0**
RUS	**Russkaya**	**4.08**	**236**	*e*P		**Pn**		**18 08 01.7**	**-0.3**
RUS				S		**Sn**		**18 08 45.9**	**-4.0**
RUS	**Russkaya**	**4.08**	**236**	PN		**Pn**		**18 08 01.7**	**-0.3**
RUS				S		**Sn**		**18 08 45.9**	**-4.0**
PETK	**Petropavlovsk-**	**4.13**	**248**	Pn		**Pn**		**18 08 03.8**	**+1.0**
	comp=N,4.1nm,0.3s,baz=74,slow=15,SNR=45								
PETK				Sn		**Sn**		**18 08 49.1**	**-2.2**
	comp=N,1.8nm,0.3s,baz=97,slow=20,SNR=5.8								
PETK				LR		LR		18 09 55.3	
	comp=N,177nm,19.7s,baz=47,slow=43								
PETK	**Petropavlovsk-**	**4.13**	**248**	PN		**Pn**		**18 08 03.8**	**+1.0**
PETK								18 08 49.1	
PETK				pmax		pmax			
	comp=Z,4.0nm,0.3s								
PETK				smax		smax			
	comp=N,2.0nm,0.3s								
MTVR	**Mutnovka**	**4.21**	**239**	*e*P		**Pn**		**18 08 04.0**	**0.0**
MTVR				*e*S		**Sn**		**18 08 49.6**	**-3.8**
ASAK	**Asacha**	**4.41**	**239**	*e*P		**Pn**		**18 08 07.2**	**+0.5**
ASAK				*e*S		**Sn**		**18 08 54.2**	**-4.0**
APC	**Apacha**	**4.51**	**248**	P		**Pn**		**18 08 08.9**	**+1.0**
APC				S		**Sn**		**18 08 57.9**	**-2.5**
MIPR	**Malaya Ipel'ka**	**5.05**	**243**	P		**Pn**		**18 08 17.4**	**+2.0**
SKR	**Severo-Kuril's**	**6.36**	**233**	*e*PN		Pn		18 08 25.0	-8.3
ASAJ	**Asahikawa**	**17.52**	**241**	P		**Pn**		**18 11 04.5**	**+0.7**
	comp=N,0.6nm,0.3s,baz=70,slow=7.8,SNR=11								
ASAJ				LR		LR		18 17 32.5	
	comp=N,48nm,18.7s,baz=8.5,slow=36								
ASAJ	**Asahikawa**	**17.52**	**241**	P		**Pn**		**18 11 04.5**	**+0.7**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ				MLR		MLR			
	comp=Z,48nm,18.7s								
YAK	**Yakutsk**	**19.20**	**306**	LR		LR		18 18 55.9	
	comp=Z,45nm,19.5s,baz=104,slow=38								
MAT	**Matsushiro**	**25.46**	**235**	P		**P**		**18 12 28.9**	**+1.2**
MJAR	**Matsushiro Arr**	**25.46**	**235**	P		**P**		**18 12 29.0**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=34,slow=8.3,SNR=7.9								
MJAR	**Matsushiro Arr**	**25.46**	**235**	P		**P**		**18 12 29.0**	**+1.3**
MJAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ILAR	**Eielson Array**	**25.92**	**48**	P		**P**		**18 12 31.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=258,slow=8.4,SNR=11								
ILAR	**Eielson Array**	**25.92**	**48**	P		**P**		**18 12 31.5**	**-0.1**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
KSRS	**Korea Array**	**30.03**	**250**	P		P		18 13 12.1	+3.6
	comp=Z,0.3nm,0.3s,baz=53,slow=8.2,SNR=2.3								
KSRS				LR		LR		18 24 59.4	
	comp=Z,25nm,19.8s,baz=54,slow=36								
H11N2	**WAKE ISLAND Hy**	**35.10**	**175**	T		T		18 52 40.8	
	baz=359,slow=76,SNR=84								
H11N3	**WAKE ISLAND Hy**	**35.11**	**175**	T		T		18 52 46.7	
	baz=359,slow=76,SNR=8.5								
H11N1	**WAKE ISLAND Hy**	**35.11**	**175**	T		T		18 52 43.5	
	baz=359,slow=76,SNR=7.1								
SONM	**Songino Array**	**35.79**	**283**	P		**P**		**18 13 59.2**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=50,slow=12,SNR=2.2								
SONM				LR		LR		18 29 18.9	
	comp=Z,54nm,20.1s,baz=116,slow=38								
YKA	**Yellowknife Ar**	**40.29**	**45**	P		**P**		**18 14 36.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=298,slow=8.0,SNR=6.5								
ZALV	**Zalesovo Beam**	**43.81**	**303**	LR		LR		18 33 41.9	
	comp=Z,19nm,19.6s,baz=70,slow=37								
KURK	**Kurchatov**	**48.80**	**303**	P		**P**		**18 15 43.8**	**-0.7**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KURBB	**Kurchatov Arra**	**48.90**	**303**	P		P		18 15 43.8	-1.5
	comp=Z,1.5nm,0.5s,baz=55,slow=7.8,SNR=17								
MKAR	**Makanchi Array**	**49.50**	**297**	P		P		18 15 48.5	-1.5
	comp=Z,0.3nm,0.6s,baz=24,slow=3.3,SNR=2.5								
MKAR				LR		LR		18 37 59.7	
	comp=Z,42nm,18.6s,baz=1.0,slow=38								
BVAR	**Borovoye Array**	**51.13**	**309**	P		**P**		**18 16 01.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=67,slow=8.2,SNR=5.1								
BVAR	**Borovoye Array**	**51.13**	**309**	P		**P**		**18 16 01.9**	**-0.4**
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**52.97**	**74**	P		**P**		**18 16 17.6**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=299,slow=8.4,SNR=7.2								
CMAR	**Chiang Mai Arr**	**60.81**	**261**	P		P		18 17 14.2	+2.2
	comp=Z,0.6nm,0.5s,baz=23,slow=6.9,SNR=4.4								
CMAR				LR		LR		18 44 53.6	
	comp=Z,29nm,19.1s,baz=106,slow=37								
CMAR	**Chiang Mai Arr**	**60.81**	**261**	P		P		18 17 14.2	+2.2
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
CMAR				MLR		MLR			
	comp=Z,29nm,19.1s								
TXAR	**Lajitas Array**	**67.82**	**70**	P		**P**		**18 17 59.0**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=306,slow=4.3,SNR=15								
TXAR	**Lajitas Array**	**67.82**	**70**	P		**P**		**18 17 59.0**	**+1.1**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
GEYT	**Alibeck**	**68.07**	**305**	P		**P**		**18 18 00.7**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=310,slow=9.3,SNR=3.6								
LPIG	**La Paz**	**68.19**	**79**	LR		LR		18 43 34.4	
	comp=Z,23nm,19.9s,baz=42,slow=32								
GERES	**GERESS Array B**	**73.74**	**340**	P		**P**		**18 18 35.0**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=15,slow=5.1,SNR=2.1								
WRA	**Warramunga Arr**	**78.68**	**208**	P		**P**		**18 19 02.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=21,slow=5.8,SNR=6.8								
WRA	**Warramunga Arr**	**78.68**	**208**	P		**P**		**18 19 02.0**	**+0.2**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**82.34**	**208**	P		**P**		**18 19 22.4**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=18,slow=5.8,SNR=22								
ASAR	**Alice Springs**	**82.34**	**208**	P		**P**		**18 19 22.5**	**+1.1**
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								

*IDC **25** 18:26:10.3±2.9,15.49S×177.82W,h432km±31km, mb3.4/12,mb1 3.7/13,mb1mx3.5/28,mbtmp4.2/13,Error ellipse: s-maj=23.6km s-min=11.5km az=144.0*
ISC 25 18:26:11.5±0.7,15.7S±0.1×177.6W±0.1,h450km,n39, σ1§31/35,mb3.9/14,7C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.36**	**245**	P		**P**		**18 29 35.9**	**-1.2**
	comp=N,0.3s,baz=80,slow=18,SNR=1.3								
URZ	**Urewera**	**22.99**	**191**	P		**P**		**18 30 36.0**	**-3.8**
	6.5nm,0.5s,baz=268,slow=0.9,SNR=10.0								
RMQ	**Roma**	**33.06**	**245**	P		P		18 32 11.1	+2.7
	baz=33,SNR=6.6								
MGCD	**Mangrove Creek**	**33.22**	**233**	P		**P**		**18 32 11.4**	**+1.8**
	baz=33,SNR=4.8								
CTA	**Charters Tower**	**34.60**	**257**	P		**P**		**18 32 23.2**	**+1.7**
	5.2nm,0.6s,baz=90,slow=12,SNR=6.9								
CMSA	**Cobar Meteorol**	**36.93**	**238**	P		**P**		**18 32 42.0**	**+1.2**
	baz=37,SNR=7.1								
QLP	**Quilpie**	**37.06**	**247**	P		**P**		**18 32 44.0**	**+2.0**
	baz=37,SNR=6.6								
TOO	**Toolangi**	**39.18**	**229**	P		**P**		**18 33 00.7**	**+1.5**
	baz=39,SNR=6.8								
STKA	**Stephens Creek**	**40.39**	**239**	P		**P**		**18 33 08.9**	**-0.1**
	5.1nm,0.9s,baz=82,slow=8.3,SNR=15								
STKA	**Stephens Creek**	**40.39**	**239**	P		**P**		**18 33 10.8**	**+1.8**
	baz=40,SNR=11								
WRA	**Warramunga Arr**	**45.81**	**257**	P		**P**		**18 33 49.8**	**-2.0**
	1.4nm,0.7s,baz=89,slow=6.6,SNR=16								
ASAR	**Alice Springs**	**46.15**	**252**	P		**P**		**18 33 54.2**	**-0.2**
	14nm,0.6s,baz=86,slow=7.1,SNR=313								
ASAR				S		**S**		**18 40 07.0**	**+0.4**
	0.9nm,1.0s,baz=88,slow=13,SNR=4.3								
KDU	**Kakadu**	**48.38**	**267**	P		P		18 34 16.8	+5.4
	baz=49,SNR=3.8								
MTN	**Manton Dam**	**49.64**	**266**	P		P		18 34 25.5	+4.7
	baz=50,SNR=5.6								
WRKA	**Warakurna**	**51.27**	**250**	P		**P**		**18 34 32.8**	**+0.1**
	baz=51,SNR=55								
KNRA	**Kununurra**	**51.49**	**262**	P		**P**		**18 34 34.9**	**+0.6**
	baz=52,SNR=3.3								
FITZ	**Fitzroy Crossi**	**54.16**	**259**	P		P		18 34 58.7	+5.2
	baz=54,SNR=6.2								
MEEK	**Meekatharra**	**59.94**	**248**	P		P		18 35 37.3	+4.0
	baz=60,SNR=4.4								
VNDA	**Vada**	**62.74**	**185**	P		**P**		**18 35 52.0**	**+1.2**
	0.5nm,0.6s,baz=346,slow=6.9,SNR=9.2								
MJAR	**Matsushiro Arr**	**66.57**	**322**	P		**P**		**18 36 15.0**	**-0.8**
	2.0nm,1.1s,baz=163,slow=6.1,SNR=4.2								
PETK	**Petropavlovsk-**	**71.71**	**345**	P		**P**		**18 36 46.3**	**-0.2**
	2.9nm,0.8s,baz=128,slow=9.5,SNR=4.6								
YBH	**Yreka Blue Hor**	**76.32**	**39**	P		P		**18 37 13.7**	**+0.5**
	3.1nm,0.8s,baz=212,slow=9.5,SNR=4.7								
NVAR	**Mina Array Bea**	**77.30**	**44**	P		**P**		**18 37 19.7**	**+0.9**
	2.1nm,0.7s,baz=229,slow=9.1,SNR=13								
ILAR	**Eielson Array**	**83.54**	**13**	P		**P**		**18 37 49.3**	**-1.3**
	3.3nm,0.9s,baz=224,slow=6.0,SNR=21								
TXAR	**Lajitas Array**	**84.17**	**58**	P		**P**		**18 37 56.4**	**+1.7**
	1.7nm,0.8s,baz=225,slow=5.2,SNR=14								
PDAR	**Pinedale Array**	**85.22**	**43**	P		**P**		**18 37 59.5**	**-0.2**
	0.5nm,0.7s,baz=200,slow=2.7,SNR=4.1								
YKA	**Yellowknife Ar**	**91.99**	**24**	P		**P**		**18 38 30.5**	**-0.1**
	0.5nm,0.8s,baz=249,slow=4.2,SNR=7.2								
BRTR	**Keskin Array B**	**143.68**	**317**	PKP		**PKPdf**		**18 44 54.3**	**-0.4**
	4.7nm,0.8s,baz=90,slow=2.5,SNR=24								
TLB	**Topalu**	**143.90**	**328**	⇓*i*P		**PKPdf**		**18 44 54.4**	**-0.3**
DOPR	**Dopca**	**144.15**	**332**	⇑*i*P		**PKPdf**		**18 44 55.9**	**+0.7**
MLR	**Muntele Rosu**	**144.26**	**331**	⇓*i*P		**PKPdf**		**18 44 56.2**	**+0.7**
DRGR		**144.63**	**336**	⇑*i*P		**PKPab**		**18 44 56.4**	**0.0**
VOIR		**144.71**	**332**	⇑*i*P		**PKPab**		**18 44 57.8**	**+1.1**
GERES	**GERESS Array B**	**145.62**	**347**	PKPbc		**PKPbc**		**18 44 58.6**	**-0.4**
	0.9nm,0.7s,baz=20,slow=4.3,SNR=10								
CONA	**Conrad Observa**	**145.94**	**344**	⇑*i*PKPab		**PKPab**		**18 45 01.0**	**-0.4**
	3.2nm,0.9s								
BZS	**Buzias**	**146.03**	**336**	⇑*i*P		**PKPab**		**18 45 00.8**	**-0.9**
VTS	**Vitosha**	**147.74**	**331**	⇑*i*P		**PKPbc**		**18 45 05.3**	**+0.3**
DIVS	**Divibare**	**147.94**	**336**	⇓*i*P		**PKPdf**		**18 44 59.3**	**-2.4**
MMB	**Musomiste**	**148.25**	**329**	⇑*i*P		**PKPbc**		**18 45 06.7**	**+0.5**

IDC 25 18:34:21.7±27.0,17.63S×173.80W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.7/34,mbtmp4.1/4,Error ellipse: s-maj=505.4km s-min=165.3km az=74.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.82**	**260**	P		P		18 41 40.9	+0.6
	2.4nm,0.6s,baz=83,slow=11,SNR=2.3								
STKA	**Stephens Creek**	**42.62**	**242**	P		P		18 42 20.4	+0.4
	1.1nm,0.7s,baz=100,slow=12,SNR=2.9								
WRA	**Warramunga Arr**	**49.00**	**259**	P		P		18 43 10.1	-0.4
	1.9nm,0.5s,baz=95,slow=7.6,SNR=64								
ASAR	**Alice Springs**	**49.09**	**254**	P		P		18 43 10.7	-0.6
	2.3nm,0.6s,baz=95,slow=8.0,SNR=99								

*ISCJB **25** 18:35:38.2±0.6,32.11N±0.02×115.07W±0.02,h12km±4km, Error ellipse: s-maj=3.8km s-min=3.4km az=150.5*
*MEX **25** 18:35:39.7±0.6,32.14N×114.92W,h15km,MD3.9*
*NEIC **25** 18:35:40.0,32.12N×115.12W,h9km,MD3.6(MEX), ML3.9(PAS),ML4.0(ECX),After ECX.*
*ECX **25** 18:35:40.3±0.5,32.12N×115.12W,h9km,MD3.9,ML4.1*
ISC 25 18:35:38.7±1.0,32.06N±0.02×115.14W±0.03,h9km±9km, n39,σ0§61/65,2C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.35**	**352**	*e*P		**Pg**		**18 35 45.9**	**+0.3**
MBIG				*e*S		**Sg**		**18 35 50.6**	**+0.4**
CPBX	**Cerro Prieto**	**0.38**	**338**	*e*P		**Pb**		**18 35 47.3**	**-0.3**
CPBX				*e*S		**Sg**		**18 35 52.2**	**+1.0**
CPBX				⇓*e*				18 35 54.8	
	comp=N,51μm,0.4s								
CPBX	**Cerro Prieto**	**0.38**	**338**	*e*P		**Pg**		**18 35 46.3**	**+0.1**
CPBX				*e*S		**Sg**		**18 35 51.1**	**-0.1**
ECBX	**El Chinero**	**0.59**	**173**	*e*P		**Pg**		**18 35 50.5**	**+0.2**
ECBX				*e*S		**Sb**		**18 35 59.8**	**0.0**
ECBX				*e*				18 36 01.3	
	comp=N,6μm,0.5s								
RDX	**Rancho Dawling**	**0.70**	**259**	*e*P		**Pb**		**18 35 53.2**	**+0.1**
RDX				*e*S		**Sb**		**18 36 03.4**	**+0.5**
RDX				⇑*e*				18 36 06.2	
	comp=N,8μm,0.6s								
YMD	**Yuma Desert**	**0.70**	**46**	*e*P		**Pg**		**18 35 51.2**	**-1.0**
YUH	**Yuha Desert**	**0.88**	**311**	*e*P		**Pg**		**18 35 55.2**	**-0.6**
RMX	**La Rumorosa**	**0.96**	**304**	*e*P		**Pg**		**18 35 56.8**	**-0.5**
RMX				*e*S		**Sg**		**18 36 10.1**	**+0.3**
RMX				AML		AML		18 36 11.0	
	comp=N,3μm,0.5s								
RMX				⇓*e*				18 36 11.0	
SPIG	**San Pedro Mart**	**1.05**	**196**	*e*P		**Pb**		**18 35 59.0**	**-0.3**
SPIG				*e*S		**Sg**		**18 36 12.3**	**-0.4**
SPIG	**San Pedro Mart**	**1.05**	**196**	*e*P		**Pg**		**18 35 59.3**	**+0.3**
SPIG				*e*S		**Sg**		**18 36 12.7**	**0.0**
SPX	**San Pedro Mart**	**1.05**	**195**	*e*P		**Pn**		**18 35 59.8**	**-0.1**
SPX				*e*S		**Sn**		**18 36 15.3**	**+0.4**
SPX				⇑*e*				18 36 17.3	
	comp=N,3μm,0.6s								
SPX	**San Pedro Mart**	**1.05**	**195**	*e*P		**Pb**		**18 35 58.4**	**-0.9**
SPX				*e*S		**Sg**		**18 36 12.5**	**-0.2**
ZAX	**El Zacaton**	**1.11**	**241**	*e*P		**Pb**		**18 36 00.2**	**+0.1**
ZAX				*e*S		**Sn**		**18 36 15.8**	**-0.2**
ECNX	**Esteban Cantu**	**1.31**	**252**	*e*P		**Pn**		**18 36 03.4**	**+0.2**
ECNX				*e*S		**Sg**		**18 36 21.8**	**+1.0**
CBX	**Cerro Bola**	**1.32**	**281**	*e*P		**Pn**		**18 36 02.6**	**-0.7**
CBX				*i* S		**Sb**		**18 36 20.4**	**-0.4**
CBX	**Cerro Bola**	**1.32**	**281**	*e*P		**Pn**		**18 36 02.7**	**-0.7**
CBX				*e*S		**Sb**		**18 36 20.7**	**0.0**
CBX	**

DZM	**Mont Dzumac**	**4.94**	**308**	*e*P		**Pn**	**18 40 00.2**	**-2.2**
DZM				AMP			18 41 02.1	
	comp=Z,1μm,7.0s							
NOUC	**Port Laguerre**	**5.03**	**307**	*e*P		**Pn**	**18 40 02.0**	**-1.4**
NOUC				AMP			18 41 03.6	
	comp=Z,53nm,0.6s							
MSVF	**Nonsavu**	**10.15**	**44**	Pn		**Pn**	**18 41 11.9**	**-1.9**
OUZ	**Omahuta**	**10.31**	**166**	*e*Pn		**Pn**	**18 41 15.6**	**-0.3**
	comp=Z,36nm,0.8s							
URZ	**Urewera**	**14.13**	**159**	LR		LR	18 46 27.4	
	comp=Z,624nm,20.8s,baz=354,slow=33							
ARMA	**Armidale**	**17.59**	**249**	P		**P**	**18 42 56.2**	**+2.5**
	baz=18,SNR=6.6							
EIDS	**Eidsvold**	**17.68**	**265**	P		**P**	**18 42 56.8**	**+2.1**
	baz=18,SNR=5.6							
RPZ	**Rata Peaks**	**18.47**	**179**	P		**P**	**18 43 02.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=334,slow=4.1,SNR=4.0							
RPZ				LR		LR	18 49 08.0	
	comp=Z,273nm,21.4s,baz=342,slow=34							
RMQ	**Roma**	**19.73**	**262**	P		**Pn**	**18 43 19.9**	**+1.1**
	baz=20,SNR=24							
CMSA	**Cobar Meteorol**	**22.80**	**248**	P		**P**	**18 43 51.4**	**+1.1**
	baz=23,SNR=32							
CTA	**Charters Tower**	**23.05**	**278**	P		**P**	**18 43 53.9**	**+1.0**
	comp=Z,9.7nm,0.6s,baz=97,slow=12,SNR=25							
CTAO	**Charters Tower**	**23.05**	**278**	*e*P		**P**	**18 43 52.0**	**-1.0**
	comp=Z,102nm,1.7s							
QLP	**Quilpie**	**23.77**	**261**	P		**P**	**18 44 00.1**	**+0.2**
	baz=24,SNR=14							
TOO	**Toolangi**	**24.66**	**234**	P		**P**	**18 44 10.0**	**+1.9**
	baz=25,SNR=7.8							
STKA	**Stephens Creek**	**26.31**	**249**	P		**P**	**18 44 23.8**	**+0.9**
	comp=Z,10nm,0.8s,baz=90,slow=10,SNR=21							
STKA	**Stephens Creek**	**26.31**	**249**	P		**P**	**18 44 23.9**	**+0.9**
	baz=27,SNR=15							
BBOO	**Buckleboo**	**31.07**	**248**	P		**P**	**18 45 05.4**	**0.0**
	baz=31,SNR=5.9							
AS31	**Alice Springs**	**33.40**	**265**	*e*P		**P**	**18 45 24.8**	**-1.2**
ASAR	**Alice Springs**	**33.41**	**265**	P		**P**	**18 45 25.9**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=80,slow=7.1,SNR=28							
ASAR				LR		LR	18 59 08.3	
	comp=Z,226nm,18.3s,baz=102,slow=37							
WB2	**Warramunga Arr**	**33.84**	**271**	*e*P		**P**	**18 45 28.7**	**-1.1**
WRAB	**Tennant Creek**	**33.84**	**271**	*e*P		**P**	**18 45 28.7**	**-1.1**
	comp=Z,3.2nm,0.6s							
WRA	**Warramunga Arr**	**33.85**	**271**	P		**P**	**18 45 28.5**	**-1.3**
	comp=Z,2.5nm,0.7s,baz=103,slow=7.9,SNR=18							
TBI	**Tubuai**	**36.34**	**96**	*e*LR		LR	18 55 35.8	
	comp=Z,264nm,32.5s							
PPT2	**Papeete2**	**37.71**	**86**	*e*S		**S**	**18 51 49.4**	**-1.9**
	comp=Z,62nm,24.0s							
PPT2				*e*LR		LR	18 56 11.3	
	comp=Z,400nm,30.2s							
FORT	**Forrest**	**37.83**	**252**	P		**P**	**18 46 03.5**	**-0.4**
	baz=38,SNR=9.1							
KDU	**Kakadu**	**38.04**	**282**	P		**P**	**18 46 05.0**	**-0.7**
	baz=38,SNR=4.8							
WRKA	**Warakurna**	**38.21**	**261**	P		**P**	**18 46 06.8**	**-0.4**
	baz=38,SNR=9.9							
KNRA	**Kununurra**	**40.22**	**275**	P		**P**	**18 46 23.5**	**-0.5**
	baz=41,SNR=4.6							
FITZ	**Fitzroy Crossi**	**42.25**	**270**	*e*P		**P**	**18 46 40.7**	**0.0**
	comp=Z,9.4nm,0.8s							
VNDA	**Vanda**	**52.55**	**182**	P		**P**	**18 47 59.1**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=1.8,slow=4.0,SNR=3.5							
VNDA				LR		LR	19 07 06.6	
	comp=Z,160nm,19.1s,baz=5.5,slow=32							
MJAR	**Matsushiro Arr**	**68.61**	**332**	LR		LR	19 23 12.9	
	comp=Z,25nm,18.0s,baz=210,slow=39							
MAW	**Mawson**	**73.42**	**202**	LR		LR	19 18 49.9	
	comp=Z,58nm,18.9s,baz=239,slow=33							
KSRS	**Korea Array**	**74.14**	**326**	P		**P**	**18 50 24.5**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=163,slow=6.1,SNR=4.4							
KSRS				LR		LR	19 23 37.2	
	comp=Z,24nm,18.1s,baz=120,slow=36							
KSAR	**Wonju Array Be**	**74.15**	**326**	P		**P**	**18 50 24.5**	**+1.2**
PSI	**Prapat**	**74.72**	**281**	LR		LR	19 27 07.6	
	comp=Z,94nm,18.3s,baz=124,slow=39							
PETK	**Petropavlovsk-**	**78.79**	**352**	P		**P**	**18 50 50.0**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=130,slow=8.0,SNR=3.7							
PETK				LR		LR	19 20 09.8	
	comp=Z,61nm,19.6s,baz=139,slow=32							
CMAR	**Chiang Mai Arr**	**82.13**	**295**	P		**P**	**18 51 09.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=138,slow=5.6,SNR=3.0							
CMAR				LR		LR	19 27 48.8	
	comp=Z,23nm,21.5s,baz=154,slow=36							
SONM	**Songino Array**	**92.73**	**323**	P		**P**	**18 52 00.3**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=134,slow=3.9,SNR=4.4							
ILAR	**Eielson Array**	**95.53**	**17**	P		**P**	**18 52 11.1**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=232,slow=6.8,SNR=3.8							
TXAR	**Lajitas Array**	**98.46**	**62**	LR		LR	19 27 34.0	
	comp=Z,14nm,21.4s,baz=0.0,slow=30							
CFR	**Carcaliu**	**143.87**	**313**	⇑*i*P		PKPdf	18 58 35.1	+13
VRI	**Vrincioaia**	**144.53**	**315**	⇓*i*P		**PKPdf**	**18 58 23.3**	**+0.1**
PLOR	**Plostina**	**144.59**	**315**	⇑*i*P		**PKPab**	**18 58 21.8**	**-0.1**
BURAR	**Bucovina Array**	**144.73**	**318**	⇑*i*P		**PKPdf**	**18 58 24.3**	**+0.7**
MLR	**Muntele Rosu**	**145.18**	**315**	⇑*i*P		**PKPdf**	**18 58 25.3**	**+0.9**
DOPR	**Dopca**	**145.34**	**316**	⇑*i*P		PKPab	18 58 30.6	+6.0
VOIR		**145.78**	**315**	⇓*i*P		**PKPab**	**18 58 31.2**	**+4.9**
JMB	**Yambol**	**145.84**	**309**	⇑*i*P		**PKPbc**	**18 58 26.3**	**+0.2**
HUMR	**Humele**	**146.19**	**314**	⇑*i*P		**PKPab**	**18 58 27.9**	**+0.1**
DRGR		**146.62**	**318**	⇑*i*P		**PKPab**	**18 58 29.7**	**+0.2**
BZS	**Buzias**	**147.86**	**317**	⇑*i*P		**PKPab**	**18 58 35.5**	**+1.2**
VTS	**Vitosha**	**148.13**	**311**	⇓*i*P		PKPdf	18 58 22.1	-7.4
MMB	**Musomiste**	**148.14**	**309**	⇑*i*P		**PKPbc**	**18 58 33.1**	**+0.4**
BRG	**Berggiesshubel**	**148.73**	**331**	*e*P		**PKPab**	**18 58 38.5**	**+0.9**
	comp=Z,8.1nm,1.6s							
BRG				*e*			18 58 43.1	
	comp=Z,3.3nm,0.9s							
CLL	**Collm**	**148.81**	**333**	*e*PKPbc		**PKPbc**	**18 58 35.0**	**+1.0**
CLL				*e*PKPab		**PKPab**	**18 58 39.0**	**+1.1**
CLL				*i*			18 58 47.0	
PKSM	**Moragy**	**149.33**	**320**	⇑*i*P		**PKPbc**	**18 58 35.8**	**+0.3**
DIVS	**Divibare**	**149.60**	**316**	⇑*i*P		**PKPbc**	**18 58 37.3**	**+0.9**
GERES	**GERESS Array B**	**150.28**	**329**	PKPbc		**PKPbc**	**18 58 39.0**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=47,slow=2.5,SNR=5.5							
TORD	**Torodi Ar. Bea**	**164.10**	**223**	PKPab		**PKPab**	**18 59 43.0**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=151,slow=3.3,SNR=2.3							

IDC 25 18:41:22.7±2.2, 4.47N×126.14E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.6/4, Error ellipse: s-maj=190.6km s-min=28.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.56**	**162**	P		P	18 46 53.5	-0.1
	1.5nm,0.8s,baz=340,slow=10,SNR=6.3							
ASAR	**Alice Springs**	**28.97**	**165**	P		P	18 47 23.8	-0.4
	0.2nm,0.6s,baz=355,slow=6.7,SNR=1.4							
STKA	**Stephens Creek**	**39.02**	**159**	P		P	18 48 51.4	+0.2
	3.0nm,1.0s,baz=351,slow=6.4,SNR=6.0							
STKA	**Stephens Creek**	**39.02**	**159**	S		P	18 48 51.9	+0.6
	baz=27,SNR=5.3							
MKAR	**Makanchi Array**	**56.62**	**325**	P		P	18 51 07.5	-0.1
	0.2nm,0.4s,baz=140,slow=5.4,SNR=1.8							

*IDC **25** 18:52:33.4±0.8, 21.80N×145.67E, h0km, mb3.8/15, mb1 4.0/17, mb1mx3.9/36, mbtmp3.8/17, ML3.9/2, MS2.8/1, Ms1 3.0/1, ms1mx2.3/29, Error ellipse: s-maj=23.8km s-min=17.5km az=91.0*

*ISCJB **25** 18:52:37.4±0.6, 21.83N±0.0×145.6E±0.1, h36km, mb3.8/17, MS2.8/1, Error ellipse: s-maj=16.2km s-min=12.7km az=174.7*

ISC 25 18:52:39.0±0.8, 21.8N±0.1×145.6E±0.1, h36km, n23, σ1§10/22, mb3.7/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**6.11**	**330**	Pn		**Pn**	**18 54 05.5**	**-1.3**
	9.0nm,0.3s,baz=295,slow=24,SNR=6.7							
MJAR	**Matsushiro Arr**	**16.02**	**338**	Pn		**Pn**	**18 56 20.5**	**-1.2**
	0.1nm,0.3s,baz=162,slow=12,SNR=4.6							
KSRS	**Korea Array**	**21.83**	**319**	P		**P**	**18 57 29.6**	**+1.4**
	1.7nm,0.6s,baz=148,slow=9.0,SNR=24							
ASAJ	**Asahikawa**	**22.39**	**354**	P		**P**	**18 57 36.3**	**+2.2**
	3.1nm,0.7s,baz=187,slow=16,SNR=4.1							
SONM	**Songino Array**	**40.70**	**319**	P		**P**	**19 00 16.4**	**+0.2**
	0.7nm,0.5s,baz=138,slow=7.9,SNR=8.7							
SEY	**Seymchan**	**41.36**	**5**	P		**P**	**19 00 22.8**	**+1.6**
	0.6nm,0.5s,baz=74,slow=23,SNR=6.4							
WRA	**Warramunga Arr**	**42.93**	**196**	P		**P**	**19 00 34.5**	**-0.1**
	2.9nm,0.9s,baz=17,slow=8.9,SNR=10.0							
CMAR	**Chiang Mai Arr**	**43.81**	**274**	P		**P**	**19 00 41.9**	**+0.1**
	0.4nm,0.7s,baz=49,slow=8.5,SNR=4.1							
CMAR				LR		LR	19 18 39.3	
	comp=Z,12nm,21.3s,baz=130,slow=36							
ASAR	**Alice Springs**	**46.62**	**195**	P		**P**	**19 01 03.7**	**-0.2**
	0.7nm,0.7s,baz=16,slow=8.2,SNR=12							
JIRN	**Jiri**	**53.84**	**289**	*e*P		**P**	**19 02 00.0**	**+0.9**
	9.6nm,0.8s							
GUN	**Gumba**	**54.08**	**289**	*e*P		**P**	**19 02 01.7**	**+0.9**
PKIN	**Phulchoki**	**54.55**	**289**	*e*P		P	19 02 07.7	+3.5
	1.7nm,0.5s							
ZALV	**Zalesovo Beam**	**55.52**	**321**	P		**P**	**19 02 09.5**	**-0.9**
	0.8nm,0.6s,baz=117,slow=7.1,SNR=4.6							
DANN	**Dangsing**	**55.87**	**290**	*e*P		**P**	**19 02 14.0**	**+0.3**
	23nm,0.6s							
MKAR	**Makanchi Array**	**56.28**	**312**	P		**P**	**19 02 15.8**	**-0.2**
	0.4nm,0.7s,baz=95,slow=6.5,SNR=4.8							
ILAR	**Eielson Array**	**60.92**	**27**	P		**P**	**19 02 47.8**	**-0.2**
	0.7nm,0.8s,baz=259,slow=5.6,SNR=7.6							
YKA	**Yellowknife Ar**	**75.30**	**28**	P		**P**	**19 04 17.4**	**-0.8**
	0.6nm,0.7s,baz=289,slow=5.5,SNR=6.1							
JOF	**Joursu**	**81.17**	**335**	*ep*		**P**	**19 04 48.7**	**-1.9**
	2.4nm,0.5s							
NVAR	**Mina Array Bea**	**81.31**	**52**	P		**P**	**19 04 52.3**	**+0.1**
	0.2nm,0.5s,baz=268,slow=6.3,SNR=1.1							
KBZ	**Khabaz**	**83.90**	**315**	P		**P**	**19 05 05.9**	**+0.7**
	0.9nm,0.7s,baz=236,slow=24,SNR=3.7							
FINES	**FINESS Array B**	**84.03**	**335**	P		**P**	**19 05 05.0**	**-0.6**
	2.1nm,0.5s,baz=82,slow=4.0,SNR=28							
PDAR	**Pinedale Array**	**85.72**	**46**	P		**P**	**19 05 15.0**	**+0.2**
	0.4nm,0.9s,baz=295,slow=2.6,SNR=2.4							
NOA	**NORSAR Array B**	**89.64**	**340**	P		**P**	**19 05 31.2**	**-1.7**
	0.5nm,0.7s,baz=350,slow=2.2,SNR=3.6							

MEX 25 18:54:11.4±0.5, 15.60N×94.58W, h16km±6km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.31**	**85**	*e*P		Pn	18 54 31.2	-3.8
PCIG				*i* S		Sn	18 54 46.7	-5.5
HUIG	**Huatulco**	**1.49**	**277**	*e*P		Pn	18 54 34.0	-3.5
HUIG				*i* S		Sn	18 54 51.0	-5.6
CMIG	**Matias Romero**	**1.51**	**349**	*e*P		Pn	18 54 34.8	-3.0
CMIG				*e*S		Sn	18 54 51.5	-5.7
TGIG		**1.82**	**50**	*e*P		Pn	18 54 38.8	-3.3
TGIG				*e*S		Sn	18 54 59.9	-5.1
CCIG	**Comitan**	**2.44**	**74**	*e*P		Pn	18 54 48.5	-2.4
CCIG				*e*S		Sn	18 55 16.9	-3.6
VHO	**Vista Hermosa**	**2.54**	**305**	*e*P		Pn	18 54 49.5	-2.7
VHO				*i* S		Sn	18 55 19.1	-3.8
PNIG	**Pinotepa**	**3.50**	**283**	*e*P		Pn	18 55 02.4	-2.9
PNIG				*i* S		Sn	18 55 42.8	-3.8

*ISCJB **25** 19:20:48.1±0.2, 3.32N±0.03×123.94E±0.04, h423km, mb3.8/21, Error ellipse: s-maj=5.8km s-min=4.1km az=148.6*

*IDC **25** 19:20:48.8±1.8, 3.24N×123.82E, h418km±20km, mb3.4/17, mb1 3.5/17, mb1mx3.3/34, mbtmp4.2/17, Error ellipse: s-maj=24.0km s-min=9.5km az=69.0*

*DJA **25** 19:20:48.6±0.3, 3°N±4'×12°4'E±', h416km±4km, M4.4/37, mb4.4/37, mB4.9/11, MLv4.7/14, Mw(mB)4.1/11*

*KLM **25** 19:20:49.9, 3.46N×123.77E, h426km, mb4.5, MS5.4*

ISC 25 19:20:49.2±0.5, 3.32N±0.06×123.89E±0.08, h423km, n95, σ1§18/93, mb3.8/21, 4C-3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**2.73**	**178**	P		**P**	**19 21 50.1**	**-2.1**
GSPH	**General Santos**	**2.94**	**21**	⇑*i*P		**P**	**19 21 53.1**	**-0.8**
GSPH				*i* S		**S**	**19 22 46.2**	**-0.1**
MRSI	**Marisa**	**3.44**	**215**	P		**P**	**19 21 58.3**	**+0.6**
TNTI	**Ternate**	**4.30**	**126**	P		**P**	**19 22 03.0**	**-2.4**
LUWI	**Luwuk**	**4.48**	**195**	P		**P**	**19 22 06.1**	**-1.1**
LUWI	**Luwuk**	**4.48**	**195**	P		**P**	**19 22 04.4**	**-2.8**
	baz=3.6,SNR=58							
LUWI				S		S	19 23 03.5	-7.2
	baz=3.6,SNR=11							
MPSI	**Mapaga**	**4.97**	**233**	P		P	19 22 15.5	+3.5
	8.7nm,0.8s,446nm0.1nm							
LBMI	**Labuha**	**5.34**	**137**	P		**P**	**19 22 14.9**	**-0.8**
	154nm,0.5s,4μm3.9nm							
SANI	**Sanana**	**5.73**	**159**	P		P	19 22 15.8	-4.0
	144nm,0.6s,4μm1.5nm							
PCI	**Palu**	**5.84**	**224**	P		**P**	**19 22 19.6**	**-1.3**
	24nm,0.9s,0.1nm							
TSM	**Tawau**	**6.09**	**279**	⇓P		**P**	**19 22 22.2**	**-1.2**
SDKM	**Sandakan**	**7.06**	**289**	⇑P		**P**	**19 22 32.4**	**-2.1**
TTSI	**Tana Toraja**	**7.52**	**213**	P		**P**	**19 22 41.5**	**+2.1**
	32nm,0.6s,0.1nm							
KKM	**Kota Kinabalu**	**8.12**	**290**	P		**P**	**19 22 45.0**	**-0.9**
	baz=8.3,SNR=13							
KKM	**Kota Kinabalu**	**8.12**	**290**	⇑P		**P**	**19 22 44.9**	**-1.0**
MSAI	**Masohi**	**8.32**	**143**	P		**P**	**19 22 49.3**	**+1.3**
	25nm,0.8s,277nm0.1nm							
SPSI	**Sidrap Palu**	**8.33**	**210**	P		**P**	**19 22 47.5**	**-0.7**
	70nm,0.7s,753nm0.3nm							
BNDI	**Bandanaira**	**9.84**	**142**	P		**P**	**19 23 05.4**	**+0.6**
	344nm,0.7s,3μm							
KBKI	**Kotabaru**	**10.15**	**230**	P		**P**	**19 23 10.7**	**+2.5**
	21nm,0.9s							
FAKI	**Fak Fak**	**10.40**	**127**	P		**P**	**19 23 11.4**	**+0.4**
	baz=10,SNR=18							
BBKI	**Banjar Baru**	**11.28**	**233**	P		P	19 23 28.7	+8.0
	25nm,1.0s							
SBUM	**Sibu**	**11.69**	**266**	⇑P		**P**	**19 23 26.0**	**+0.9**
STKI	**Sintang**	**12.82**	**256**	P		**P**	**19 23 38.3**	**+0.7**
	12nm,2.2s							
SOEI	**Soe**	**13.00**	**178**	P		P	19 23 50.0	+10
SOEI	**Soe**	**13.00**	**178**	P		**P**	**19 23 39.5**	**-0.1**
	baz=12,SNR=16							
BATI	**Baumata**	**13.44**	**181**	P		**P**	**19 23 44.6**	**+0.3**
	72nm,0.5s,806nm							
KSM	**Kuching**	**13.70**	**263**	P		**P**	**19 23 47.3**	**+0.2**
	baz=13,SNR=24							
KSM	**Kuching**	**13.70**	**263**	⇓P		**P**	**19 23 47.5**	**+0.5**
SRBI	**Singaraja**	**14.26**	**217**	P		P	19 23 57.7	+4.5
	37nm,0.8s							
KMMI	**Kalianget**	**14.30**	**224**	P		**P**	**19 23 56.1**	**+2.6**
	71nm,0.7s							
TPI	**Tanjungpandan**	**17.32**	**250**	P		**P**	**19 24 26.9**	**+1.0**
	33nm,0.9s							
MTN	**Manton Dam**	**17.60**	**156**	P		**P**	**19 24 27.7**	**-1.1**
	baz=17,SNR=16							
KDU	**Kakadu**	**18.05**	**152**	P		**P**	**19 24 32.0**	**-1.5**
	baz=17,SNR=88							
KPJI	**Karang Pucung**	**18.30**	**235**	P		**P**	**19 24 37.7**	**+1.5**
	35nm,0.6s,2μm							
PPBI	**Pangkal Pinang**	**18.57**	**253**	P		**P**	**19 24 38.1**	**-0.8**
	14nm,0.7s							
LEM	**Lembang**	**19.12**	**238**	P		**P**	**19 24 45.3**	**+0.8**
	87nm,0.8s,1μm							
LEM	**Lembang**	**19.12**	**238**	P		**P**	**19 24 45.7**	**+1.2**
	baz=18,SNR=7.0							
CISI	**Cisompet, Garu**	**19.34**	**236**	P		**P**	**19 24 45.3**	**-1.2**
	80nm,0.7s							
CISI	**Cisompet, Garu**	**19.34**	**236**	P		**P**	**19 24 44.9**	**-1.6**
	baz=19,SNR=9.3							
KNRA	**Kununurra**	**19.48**	**166**	P		**P**	**19 24 46.1**	**-1.6**
	baz=19,SNR=43							
CBJI	**Citeko**	**19.58**	**240**	P		**P**	**19 24 49.9**	**+1.3**
	163nm,1.2s							
MYKOM	**Kota Tinggi**	**20.08**	**266**	⇓P		**P**	**19 24 52.8**	**-0.4**
BTDF	**Bukit Timah Da**	**20.20**	**265**	P		**P**	**19 24 55.1**	**+0.9**
	baz=20,SNR=3.2							
CGJI	**Cibinong**	**20.68**	**241**	P		**P**	**19 24 58.0**	**-0.6**
	51nm,0.8s							
MDSI	**Maura Dua**	**21.17**	**249**	P		**P**	**19 25 04.3**	**+1.2**
	24nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.36**	**175**	P		**P**	**19 25 03.9**	**-0.8**
	baz=21,SNR=84							
LWLI	**Liwa**	**21.48**	**247**	P		**P**	**19 25 06.8**	**+0.8**
	37nm,0.8s,4μm							
WRA	**Warramunga Arr**	**25.30**	**156**	P		**P**	**19 25 38.6**	**-1.5**
	6.6nm,0.4s,baz=337,slow=10,SNR=156							
WRA				ScP		**ScP**	**19 31 59.4**	**+0.8**
	0.3nm,0.3s,baz=338,slow=2.8,SNR=9.6							
COEN	**Coen**	**25.70**	**132**	P		**P**	**19 25 42.6**	**-1.1**
	baz=25,SNR=3.9							
LOEI	**Loei**	**26.29**	**304**	P		**P**	**19 25 46.8**	**-2.2**
	200nm,1.0s							
QIS	**Mount Isa**	**28.30**	**148**	P		**P**	**19 26 06.5**	**-0.2**
	baz=28,SNR=10							
WRKA	**Warakurna**	**28.51**	**172**	P		**P**	**19 26 08.2**	**-0.4**
	baz=28,SNR=7.7							
ASAR	**Alice Springs**	**28.55**	**161**	P		**P**	**19 26 08.4**	**-0.4**
	4.7nm,0.5s,baz=339,slow=7.2,SNR=143							
ASAR				ScP		**ScP**	**19 32 09.4**	**+1.0**
	0.7nm,0.7s,baz=341,slow=3.4,SNR=6.4							
CMAR	**Chiang Mai Arr**	**28.68**	**303**	P		**P**	**19 26 10.8**	**+0.6**
	0.8nm,0.9s,baz=130,slow=7.7,SNR=6.2							
MEEK	**Meekatharra**	**30.22**	**189**	P		**P**	**19 26 22.6**	**-0.8**
	baz=29,SNR=4.6							
KSRS	**Korea Array**	**34.17**	**6**	P		**P**	**19 26 58.3**	**+1.2**
	0.4nm,0.5s,baz=181,slow=10,SNR=2.2							
MJAR	**Matsushiro Arr**	**35.59**	**20**	P		**P**	**19 27 08.7**	**-0.6**
	0.7nm,0.6s,baz=193,slow=10.0,SNR=3.1							
BBOO	**Buckleboo**	**37.74**	**163**	P		**P**	**19 27 27.2**	**+0.1**
	baz=37,SNR=25							
STKA	**Stephens Creek**	**38.84**	**156**	P		**P**	**19 27 36.3**	**+0.1**
	5.2nm,0.3s,baz=325,slow=8.4,SNR=93							
STKA	**Stephens Creek**	**38.84**	**156**	P		**P**	**19 27 36.8**	**+0.7**
	baz=38,SNR=16							
EIDS	**Eidsvold**	**38.84**	**139**	P		**P**	**19 27 36.6**	**+0.3**
	baz=38,SNR=4.6							
CMSA	**Cobar Meteorol**	**40.40**	**151**	P		**P**	**19 27 50.3**	**+1.5**
	baz=40,SNR=9.3							
TAPN	**Taplejung**	**42.01**	**308**	*e*P		**P**	**19 28 02.8**	**+0.6**
	14nm,0.5s							
ODAN	**Odare**	**42.03**	**307**	*e*P		**P**	**19 28 03.0**	**+0.7**
	19nm,0.6s							
RAMN	**Ramite**	**42.70**	**307**	*e*P		**P**	**19 28 08.6**	**+1.0**
	26nm,0.6s							
ARMA	**Armidale**	**42.75**	**144**	P		**P**	**19 28 10.0**	**+2.3**
	baz=42,SNR=12							
JIRN	**Jiri**	**43.35**	**308**	*e*P		**P**	**19 28 13.1**	**+0.2**
	26nm,0.4s							
GUN	**Gumba**	**43.71**	**308**	*e*P		**P**	**19 28 16.3**	**+0.6**
	46nm,0.4s							
ASAJ	**Asahikawa**	**43.86**	**19**	P		**P**	**19 28 17.1**	**+1.0**
	9.0nm,1.1s,baz=225,slow=11,SNR=6.2							
PKI	**Pulchoki**	**43.93**	**307**	*e*P		**P**	**19 28 17.3**	**-0.1**
	18nm,0.5s							
PKIN	**Phulchoki**	**43.94**	**307**	*e*P		**P**	**19 28 17.3**	**-0.1**
	4.7nm,0.3s							
KKN	**Kakani**	**44.13**	**307**	*e*P		**P**	**19 28 19.1**	**+0.3**
	18nm,0.4s							
DMN	**Daman**	**44.18**	**307**	*e*P		**P**	**19 28 19.7**	**+0.4**
	10.0nm,0.6s							
GKN	**Gorkha**	**44.73**	**307**	*e*P		**P**	**19 28 23.8**	**+0.4**
	11nm,0.4s							
TOO	**Toolangi**	**45.37**	**156**	P		**P**	**19 28 29.7**	**+1.7**
	baz=45,SNR=9.0							
KOLN	**Koldanda**	**45.46**	**306**	*e*P		**P**	**19 28 29.5**	**+0.4**
	65nm,0.5s							
DANN	**Dangsing**	**45.58**	**307**	*e*P		**P**	**19 28 30.3**	**+0.2**
	57nm,0.5s							
PYUN	**Piuthan**	**46.09**	**307**	*e*P		**P**	**19 28 34.3**	**+0.3**
	106nm,0.5s							
SONM	**Songino Array**	**46.84**	**344**	P		**P**	**19 28 39.7**	**+0.4**
	0.7nm,0.6s,baz=163,slow=8.9,SNR=8.7							
TLY	**Talaya**	**51.08**	**344**	P		**P**	**19 29 12.5**	**+1.7**
	1.5nm,0.5s,baz=90,slow=4.6,SNR=3.2							
MKAR	**Makanchi Array**	**56.31**	**327**	P		**P**	**19 29 49.1**	**+0.9**
	0.5nm,0.4s,baz=132,slow=5.9,SNR=6.8							
KZA	**Kyzart**	**58.03**	**319**	P		**P**	**19 30 01.9**	**+1.3**
	SNR=10							
TKM2	**Tokmak 2**	**58.20**	**320**	P		**P**	**19 30 02.6**	**+1.0**
	SNR=8.4							
UCH	**Uchtor**	**58.58**	**319**	P		**P**	**19 30 05.9**	**+1.5**
	SNR=8.3							
USP	**Ospenov

MORF eS Sn **20 24 09.5 +0.3**
MORF A A 20 24 10.9
comp=E,167nm,0.1s
MORF Marmelete 1.06 54 P **Pn 20 23 56.3 +1.9**
MORF S **Sb 20 24 09.1 +1.3**
comp=E,130nm,0.1s
PTEO Sao Teotonio 1.17 43 *i* P **Pn 20 23 57.9 +2.0**
PTEO eS **Sn 20 24 12.4 +0.5**
PTEO A A 20 24 14.0
comp=E,50nm,0.2s
PTEO Sao Teotonio 1.17 43 ⇑P **Pn 20 23 57.9 +2.0**
PTEO S **Sn 20 24 12.4 +0.5**
comp=E,25nm,0.2s
PBDV Barranco-do-Ve 1.54 68 *i* P **Pb 20 24 02.9 +0.8**
PBDV eS **Sn 20 24 20.8 -0.3**
PBDV A A 20 24 22.2
comp=E,50nm,0.4s
PBDV Barranco-do-Ve 1.54 68 ⇑P **Pb 20 24 02.9 +0.8**
PBDV S **Sn 20 24 20.8 -0.3**
comp=E,50nm,0.4s
PCVE Castro Verde 1.64 55 *e*P **Pb 20 24 04.5 +0.7**
PCVE eS **Sn 20 24 23.8 +0.2**
PCVE Castro Verde 1.64 55 ⇑P **Pb 20 24 04.5 +0.7**
PCVE S **Sn 20 24 23.8 +0.2**
MESJ Messejana 1.66 46 *e*P **Pn 20 24 04.5 +1.9**
MESJ eS **Sn 20 24 23.8 -0.2**
MESJ AML AML 20 24 25.5
comp=N,50nm,0.3s
MESJ Messejana 1.66 46 P **Pn 20 24 04.5 +1.9**
MESJ S **Sn 20 24 23.8 -0.2**
comp=N,50nm,0.3s
PNCL Nicolau / Gran 1.71 33 *i* Pn **Pn 20 24 05.1 +1.8**
PNCL eSn **Sn 20 24 25.6 +0.4**
PNCL A A 20 24 25.9
comp=N,23nm,0.2s
PVAQ Vaqueiros 1.75 65 *i* Pn **Pn 20 24 05.8 +1.8**
PVAQ eSn **Sn 20 24 26.3 -0.1**
PVAQ A A 20 24 27.9
comp=N,103nm,0.1s
PVAQ Vaqueiros 1.75 65 ⇑Pn **Pn 20 24 05.8 +1.8**
PVAQ Sn **Sn 20 24 26.3 -0.1**
comp=N,103nm,0.1s
EGRO El Granado 1.98 64 ⇑P **Pn 20 24 08.8 +1.8**
comp=N,0.7nm,0.1s,SNR=18
EGRO S **Sn 20 24 31.7 -0.2**
comp=N,31nm,0.1s,SNR=7.9
EGRO El Granado 1.98 64 P **Pn 20 24 08.8 +1.8**
comp=N,0.7nm,0.1s,SNR=18
EGRO S **Sn 20 24 31.7 -0.2**
comp=N,31nm,0.1s,SNR=7.9
PMST Lisbon--Monsan 2.09 12 *e*Pn **Pn 20 24 10.3 +1.8**
PMST eSn **Sn 20 24 34.5 -0.1**
PMST A A 20 24 37.0
comp=N,38nm,0.2s
PMST Lisbon--Monsan 2.09 12 *e*Pn **Pn 20 24 10.3 +1.8**
PMST eSn **Sn 20 24 34.5 -0.1**
comp=N,38nm,0.2s
PACT Alcochete 2.19 19 *e*Pn **Pb 20 24 12.9 -0.3**
PACT eSn **Sn 20 24 38.7 +1.6**
PACT A A 20 24 41.4
comp=N,18nm,0.1s
PACT Alcochete 2.19 19 *e*Pn **Pb 20 24 12.9 -0.3**
PACT eSn **Sn 20 24 38.7 +1.6**
comp=N,18nm,0.1s
EVOP Sao Brissos 2.23 34 *e*Pn **Pn 20 24 12.1 +1.6**
EVOP eSn **Sn 20 24 36.8 -1.3**
comp=N,10.0nm,0.2s
EVO Evora 2.29 36 *e*Pn **Pn 20 24 12.1 +0.8**
EVO eSn **Sn 20 24 36.8 -2.7**
comp=N,20nm,0.2s
EVO Evora 2.29 36 *e*Pn **Pn 20 24 12.9 +1.6**
EVO eSn **Sn 20 24 38.9 -0.6**
EVO A A 20 24 39.4
comp=N,63nm,0.4s
EVO Evora 2.29 36 Pn **Pn 20 24 12.9 +1.6**
EVO Sn **Sn 20 24 38.9 -0.6**
comp=N,63nm,0.4s
EVO Evora 2.29 36 *e*Pn **Pn 20 24 12.9 +1.6**
EVO eSn **Sn 20 24 38.9 -0.6**
comp=N,63nm,0.4s
PBAR Barrancos 2.60 54 *e*Pn **Pn 20 24 17.2 +1.6**
PBAR eSn **Sn 20 24 46.5 -0.7**
PBAR A A 20 24 49.1
comp=N,47nm,0.5s
PBAR Barrancos 2.60 54 Pn **Pn 20 24 17.2 +1.6**
PBAR Sn **Sn 20 24 46.5 -0.7**
comp=N,47nm,0.5s
PBAR Barrancos 2.60 54 *e*Pn **Pn 20 24 17.2 +1.6**
PBAR eSn **Sn 20 24 46.5 -0.7**
comp=N,47nm,0.5s
PMTG Montargil 2.65 26 *e*Pn **Pn 20 24 18.2 +1.9**
PMTG eSn **Sn 20 24 48.2 -0.4**
PMTG A A 20 24 50.1
comp=N,9.7nm,0.1s
PMTG Montargil 2.65 26 *e*Pn **Pn 20 24 18.2 +1.9**
PMTG eSn **Sn 20 24 48.2 -0.4**
comp=N,9.7nm,0.1s
EMIN Mina Concepcio 2.66 65 ⇓P **Pn 20 24 17.8 +1.4**
comp=N,1.4nm,0.1s,SNR=18
EMIN S **Sn 20 24 47.8 -1.0**
comp=N,12nm,0.1s,SNR=10
EMIN Mina Concepcio 2.66 65 P **Pn 20 24 17.8 +1.4**
comp=N,1.4nm,0.1s,SNR=18
EMIN S **Sn 20 24 47.8 -1.0**
comp=N,12nm,0.1s,SNR=10
PESTR Estremoz 2.75 37 *e*Pn **Pn 20 24 19.0 +1.3**
PESTR eSn **Sn 20 24 50.2 -0.8**
PESTR A A 20 24 51.4
comp=N,7.6nm,0.4s
EBAD Badajoz 2.98 45 ⇑P **Pn 20 24 22.0 +1.2**
comp=N,3.7nm,0.1s,SNR=18
EBAD S **Sn 20 24 55.1 -1.5**
comp=N,12nm,0.0s,SNR=7.9
EBAD Badajoz 2.98 45 P **Pn 20 24 22.0 +1.2**
comp=N,3.7nm,0.1s,SNR=18
EBAD S **Sn 20 24 55.4 -1.1**
comp=N,12nm,0.0s,SNR=7.9
PTOM Tomar 3.10 19 *e*Pn **Pn 20 24 24.2 +1.7**
PTOM eSn **Sn 20 24 58.8 -0.8**
PTOM A A 20 25 02.4
comp=N,12nm,0.3s
PTOM Tomar 3.10 19 Pn **Pn 20 24 24.2 +1.7**
PTOM Sn **Sn 20 24 58.8 -0.8**
comp=N,5.9nm,0.3s
PTOM Tomar 3.10 19 *e*Pn **Pn 20 24 24.2 +1.7**
PTOM eSn **Sn 20 24 58.8 -0.8**
comp=N,12nm,0.3s
ESPR Espera 3.11 86 ⇑P **Pn 20 24 24.1 +1.5**
comp=N,3.0nm,0.1s,SNR=18
ESPR S **Sn 20 24 58.4 -1.4**
comp=N,54nm,0.3s,SNR=5.4
ESPR Espera 3.11 86 P **Pn 20 24 24.1 +1.5**
comp=N,3.0nm,0.1s,SNR=18
ESPR S **Sn 20 24 57.9 -1.9**
comp=N,54nm,0.3s,SNR=5.4
PMRV Marv??o 3.29 33 *e*Pn **Pn 20 24 26.8 +1.6**
PMRV eSn **Sn 20 25 02.7 -1.7**
PMRV A A 20 25 04.7
comp=N,12nm,0.2s
PMRV Marv??o 3.29 33 Pn **Pn 20 24 26.8 +1.6**
PMRV Sn **Sn 20 25 02.7 -1.7**
comp=N,12nm,0.2s
PMRV Marv??o 3.29 33 *e*Pn **Pn 20 24 26.8 +1.6**
PMRV eSn **Sn 20 25 02.7 -1.7**
comp=N,12nm,0.2s
ECAB El Cabril 3.70 67 ⇑P **Pn 20 24 32.3 +1.6**
comp=N,0.5nm,0.1s,SNR=18
ECAB S **Sn 20 25 12.5 -1.8**
comp=N,3.0nm,0.0s,SNR=7.9
ECAB El Cabril 3.70 67 P **Pn 20 24 32.3 +1.6**
comp=N,0.5nm,0.1s,SNR=40
ECAB S **Sn 20 25 12.5 -1.8**
comp=N,3.0nm,0.0s,SNR=7.9
EMIJ Mijas 3.98 90 P **Pn 20 24 35.6 +1.0**
comp=N,0.1nm,0.1s,SNR=6.1
EMIJ S **Sn 20 25 20.5 -0.9**
comp=N,0.4nm,0.1s,SNR=5.9
EMIJ Mijas 3.98 90 P **Pn 20 24 35.6 +1.0**
comp=N,0.1nm,0.1s,SNR=6.1
EMIJ S **Sn 20 25 20.5 -0.9**
comp=N,0.4nm,0.1s,SNR=5.9
MTE Manteigas 4.08 24 *e*Pn **Pn 20 24 37.6 +1.6**
MTE eSn **Sn 20 25 22.8 -1.0**
MTE A A 20 25 25.2
comp=N,4.6nm,0.3s
MTE Manteigas 4.08 24 Pn **Pn 20 24 37.6 +1.6**
MTE Sn **Sn 20 25 22.8 -1.0**
comp=N,2.3nm,0.3s
MTE Manteigas 4.08 24 *e*Pn **Pn 20 24 37.6 +1.6**
MTE eSn **Sn 20 25 22.8 -1.0**
comp=N,4.6nm,0.3s
PVIS Viseu 4.27 19 *e*Pn **Pn 20 24 40.0 +1.5**
PVIS eSn **Sn 20 25 27.0 -1.4**
PVIS A A 20 25 29.9
comp=N,6.7nm,0.1s
PVIS Viseu 4.27 19 Pn **Pn 20 24 40.0 +1.5**
PVIS Sn **Sn 20 25 27.0 -1.4**
comp=N,3.3nm,0.1s
PVIS Viseu 4.27 19 *e*Pn **Pn 20 24 40.0 +1.5**
PVIS eSn **Sn 20 25 27.0 -1.4**
comp=N,6.7nm,0.1s
EADA Adamuz 4.35 69 P **Pn 20 24 41.3 +1.6**
comp=N,0.1nm,0.1s,SNR=27
EADA S **Sn 20 25 27.4 -3.1**
comp=N,1.4nm,0.1s,SNR=9.5
EADA Adamuz 4.35 69 P **Pn 20 24 41.0 +1.3**
comp=N,0.1nm,0.1s,SNR=27
EADA S **Sn 20 25 27.4 -3.1**
comp=N,1.4nm,0.1s,SNR=9.5
EPLA Plasencia 4.42 39 ⇑P **Pn 20 24 42.0 +1.4**
comp=N,1.0nm,0.1s,SNR=18
EPLA S **Sn 20 25 30.0 -2.2**
comp=N,1.7nm,0.1s,SNR=7.9
EPLA Plasencia 4.42 39 P **Pn 20 24 42.0 +1.4**
comp=N,1.0nm,0.1s,SNR=18
EPLA S **Sn 20 25 30.2 -2.0**
comp=N,1.7nm,0.1s,SNR=7.9
ELUQ Luque 4.45 77 S **Sn 20 25 30.5 -2.4**
comp=N,2.0nm,0.1s,SNR=7.9
ELUQ Luque 4.45 77 S **Sn 20 25 30.5 -2.4**
comp=N,2.0nm,0.1s,SNR=7.9
PTO Porto 4.53 11 *e*Pn **Pn 20 24 43.5 +1.4**
PTO eSn **Sn 20 25 33.3 -1.4**
PTO A A 20 25 35.3
comp=N,15nm,0.1s
PTO Porto 4.53 11 Pn **Pn 20 24 43.5 +1.4**
PTO Sn **Sn 20 25 33.3 -1.4**
comp=N,7.4nm,0.1s
PTO Porto 4.53 11 *e*Pn **Pn 20 24 43.5 +1.4**
PTO eSn **Sn 20 25 33.3 -1.4**
comp=N,15nm,0.1s
SELV Sierra Elvira 4.83 82 S **Sn 20 25 42.2 -0.2**
comp=N,0.4nm,0.1s,SNR=7.9
SELV Sierra Elvira 4.83 82 S **Sn 20 25 42.2 -0.2**
comp=N,0.4nm,0.1s,SNR=7.9
PVRL Vila Real 4.84 18 *e*Pn **Pn 20 24 48.0 +1.6**
PVRL eSn **Sn 20 25 40.3 -2.2**
PVRL A A 20 25 43.2
comp=N,10nm,0.5s
PVRL Vila Real 4.84 18 Pn **Pn 20 24 48.0 +1.6**
PVRL Sn **Sn 20 25 40.3 -2.2**
comp=N,5.2nm,0.5s
PVRL Vila Real 4.84 18 *e*Pn **Pn 20 24 48.0 +1.6**
PVRL eSn **Sn 20 25 40.3 -2.2**
comp=N,10nm,0.5s
POLO Lamas de Olo 4.91 17 *e*Pn **Pn 20 24 48.6 +1.1**
POLO eSn **Sn 20 25 41.4 -3.0**
POLO A A 20 25 45.5
comp=N,2.1nm,0.3s
POLO Lamas de Olo 4.91 17 *e*Pn **Pn 20 24 48.6 +1.1**
POLO eSn **Sn 20 25 41.4 -3.0**
comp=N,2.1nm,0.3s
MVO Moncorvo 4.94 24 *e*Pn **Pn 20 24 49.1 +1.3**
MVO eSn **Sn 20 25 42.6 -2.4**
MVO A A 20 25 45.5
comp=N,3.4nm,0.2s
MVO Moncorvo 4.94 24 P **Pn 20 24 49.2 +1.5**
comp=N,2.4nm,0.1s,SNR=18
MVO S **Sn 20 25 42.3 -2.7**
comp=N,0.6nm,0.1s,SNR=7.9
MVO Moncorvo 4.94 24 *e*Pn **Pn 20 24 49.1 +1.3**
MVO Moncorvo 4.94 24 P **Pn 20 24 49.3 +1.5**
comp=N,2.4nm,0.1s,SNR=18
MVO S **Sn 20 25 42.3 -2.7**
comp=N,0.6nm,0.1s,SNR=7.9
MVO *e*Sn **Sn 20 25 42.6 -2.4**
comp=N,3.4nm,0.2s
EGUA Guajares 4.95 87 P **Pn 20 24 49.4 +1.5**
comp=N,0.2nm,0.1s,SNR=7.9
EGUA S **Sn 20 25 43.1 -2.0**
comp=N,5.7nm,0.4s,SNR=7.9
EGUA Guajares 4.95 87 P **Pn 20 24 49.4 +1.5**
comp=N,0.2nm,0.1s,SNR=7.9
EBAN Banos Encina 4.95 71 P **Pn 20 24 49.5 +1.6**
comp=N,1.0nm,0.1s,SNR=7.9
EBAN S **Sn 20 25 40.7 -4.5**
comp=N,3.2nm,0.1s,SNR=7.9
EBAN Banos Encina 4.95 71 P **Pn 20 24 49.5 +1.6**
comp=N,1.0nm,0.1s,SNR=7.9
EBAN S **Sn 20 25 40.7 -4.5**
comp=N,3.2nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 4.96 81 S **Sn 20 25 43.0 -2.7**
comp=N,2.4nm,0.2s,SNR=7.9
KIB El Ksiba 5.11 142 P **Pn 20 24 51.0 +0.9**
KIB S Sn 20 25 43.0 -6.2
KIB El Ksiba 5.11 142 *i* P **Pn 20 24 51.0 +0.9**
PAB San Pablo 5.11 54 ⇓P **Pn 20 24 51.2 +1.1**
comp=N,1.3nm,0.2s,SNR=18
PAB S **Sn 20 25 45.6 -3.6**
comp=N,2.0nm,0.1s,SNR=7.9
PAB San Pablo 5.11 54 P **Pn 20 24 51.2 +1.1**
comp=N,1.3nm,0.2s,SNR=18
PAB S **Sn 20 25 46.2 -3.0**
comp=N,2.0nm,0.1s,SNR=7.9
CIA Chichaoua 5.17 171 P **Pn 20 24 50.0 -1.0**
CIA S Sn 20 25 42.0 -8.8
PCAB Cabril 5.18 14 *e*Pn **Pn 20 24 52.2 +1.1**
PCAB eSn **Sn 20 25 48.0 -3.0**
PCAB A A 20 25 51.4
comp=N,5.3nm,0.1s
PCAB Cabril 5.18 14 Pn **Pn 20 24 52.2 +1.1**
PCAB Sn **Sn 20 25 48.0 -3.0**
comp=N,2.7nm,0.1s
PCAB Cabril 5.18 14 *e*Pn **Pn 20 24 52.2 +1.1**
PCAB eSn **Sn 20 25 48.0 -3.0**
comp=N,5.3nm,0.1s
TZC Tazercounte 5.26 149 P **Pn 20 24 52.0 -0.3**
TZC S Sn 20 25 45.0 -8.3
TZC Tazercounte 5.26 149 *e*P **Pn 20 24 52.0 -0.3**
ELOB Lobios 5.33 13 P **Pn 20 24 54.3 +1.1**
comp=N,0.4nm,0.1s,SNR=47
ELOB S **Sn 20 25 50.5 -4.1**
comp=N,0.8nm,0.1s,SNR=5.5
ELOB Lobios 5.33 13 P **Pn 20 24 54.3 +1.1**
comp=N,0.4nm,0.1s,SNR=47
ELOB S **Sn 20 25 50.5 -4.1**
comp=N,0.8nm,0.1s,SNR=5.5
PGAV Gavieira, Arco 5.39 12 *e*Pn **Pn 20 24 55.4 +1.4**
PGAV eSn **Sn 20 25 53.2 -2.9**
PGAV A A 20 25 59.6
comp=N,3.3nm,1.1s
PGAV Gavieira, Arco 5.39 12 *e*Pn **Pn 20 24 55.4 +1.4**
PGAV eSn **Sn 20 25 53.2 -2.9**
comp=N,3.3nm,1.1s
EQES Quesada 5.42 76 P **Pn 20 24 55.7 +1.2**
comp=N,0.1nm,0.1s,SNR=9.2
EQES S **Sn 20 25 54.2 -2.8**
comp=N,2.5nm,0.1s,SNR=24
EQES Quesada 5.42 76 P **Pn 20 24 55.7 +1.2**
comp=N,0.1nm,0.1s,SNR=9.2
EQES S **Sn 20 25 55.5 -1.5**
comp=N,2.5nm,0.1s,SNR=24
ESDC Sonseca Array 5.43 55 P **Pn 20 24 55.4 +0.9**
comp=N,4.7nm,0.2s,baz=240,slow=13,SNR=123
ESDC S **Sn 20 25 54.0 -3.0**
comp=N,14nm,0.2s,baz=240,slow=24,SNR=7.9
ESDC Sonseca Array 5.43 55 P **Pn 20 24 55.4 +0.9**
comp=N,4.7nm,0.2s,SNR=123
EBER Berja 5.49 86 P **Pn 20 24 58.0 +2.5**
comp=N,0.1nm,0.2s,SNR=4.0
EBER S **Sn 20 25 56.5 -2.2**
comp=N,1.6nm,0.3s,SNR=7.9
EBER Berja 5.49 86 P **Pn 20 24 58.0 +2.5**
comp=N,0.1nm,0.2s,SNR=4.0
PBRG Braganca 5.61 23 *e*Pn **Pn 20 24 58.6 +1.6**
PBRG eSn **Sn 20 25 58.3 -3.2**
PBRG A A 20 26 01.4
comp=N,2.2nm,0.2s
PBRG Braganca 5.61 23 Pn **Pn 20 24 58.6 +1.6**
PBRG Sn **Sn 20 25 58.3 -3.2**
comp=N,2.2nm,0.2s
OUK Oukaimeden 5.68 164 P **Pn 20 24 58.0 -0.2**
OUK S Sn 20 25 56.0 -7.7
ECAL Calabor 5.73 23 P **Pn 20 24 59.9 +1.2**
comp=N,2.3nm,0.2s,SNR=33
ECAL S **Sn 20 26 01.4 -3.2**
comp=N,0.5nm,0.1s,SNR=7.9
ECAL Calabor 5.73 23 P **Pn 20 25 00.1 +1.4**
comp=N,2.3nm,0.2s,SNR=33
ECAL S **Sn 20 26 01.4 -3.2**
comp=N,0.5nm,0.1s,SNR=7.9
EHUE Huescar 5.80 77 P **Pn 20 25 02.7 +3.1**
comp=N,0.5nm,0.1s,SNR=7.9
EHUE S **Sn 20 26 02.5 -3.7**
comp=N,0.8nm,0.1s,SNR=7.9
EHUE Huescar 5.80 77 P **Pn 20 25 02.7 +3.1**
comp=N,0.5nm,0.1s,SNR=7.9
EHUE S **Sn 20 26 02.5 -3.7**
comp=N,0.8nm,0.1s,SNR=7.9
GUD Guadarrama 5.88 46 P **Pn 20 25 01.8 +1.0**
comp=N,0.2nm,0.1s,SNR=51
GUD S **Sn 20 26 04.7 -3.6**
comp=N,0.3nm,0.1s,SNR=9.0
GUD Guadarrama 5.88 46 P **Pn 20 25 01.9 +1.1**
comp=N,0.2nm,0.1s,SNR=51
GUD S **Sn 20 26 04.7 -3.6**
comp=N,0.3nm,0.1s,SNR=9.0
SESP Santiago Espad 5.89 74 P **Pn 20 25 03.1 +2.2**
comp=N,0.4nm,0.1s,SNR=7.9
SESP S **Sn 20 26 04.8 -3.8**
comp=N,5.2nm,0.1s,SNR=7.9
SESP Santiago Espad 5.89 74 S **Sn 20 26 06.4 -2.2**
comp=N,5.2nm,0.1s,SNR=7.9
EVIA Vianos 6.05 69 P **Pn 20 25 04.0 +0.9**
comp=N,0.9nm,0.1s,SNR=7.9
EVIA S Sn 20 26 07.3 -5.1
comp=N,6.3nm,0.1s,SNR=7.9
EVIA Vianos 6.05 69 P **Pn 20 25 04.0 +0.9**
comp=N,0.9nm,0.1s,SNR=7.9
EVIA S **Sn 20 26 09.9 -2.5**
comp=N,6.3nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.23 11 P **Pn 20 25 06.3 +0.8**
comp=N,0.4nm,0.1s,SNR=7.9
EAGO S **Sn 20 26 13.3 -3.5**
comp=N,1.1nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.23 11 P **Pn 20 25 06.3 +0.8**
comp=N,0.4nm,0.1s,SNR=7.9
EAGO S **Sn 20 26 13.3 -3.5**
comp=N,1.1nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.28 5 P **Pn 20 25 06.6 +0.5**
comp=N,2.1nm,0.1s,SNR=12
EMAZ S Sn 20 26 12.4 -5.5
comp=N,4.0nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.28 5 P **Pn 20 25 06.6 +0.5**
comp=N,2.1nm,0.1s,SNR=12
ETOB Tobarra 6.77 71 P **Pn 20 25 13.7 +0.7**
comp=N,0.1nm,0.1s,SNR=10
ETOB S **Sn 20 26 25.4 -4.8**
comp=N,0.2nm,0.1s,SNR=7.9
ETOB Tobarra 6.77 71 P **Pn 20 25 13.7 +0.7**
comp=N,0.1nm,0.1s,SNR=10
ETOB S **Sn 20 26 25.4 -4.8**
comp=N,0.2nm,0.1s,SNR=7.9
EMUR La Murta 6.86 78 S **Sn 20 26 28.9 -3.5**
comp=N,0.2nm,0.1s,SNR=7.9
EMUR La Murta 6.86 78 S **Sn 20 26 28.9 -3.5**
comp=N,0.2nm,0.1s,SNR=7.9
EPON Pontenova 6.92 16 P **Pn 20 25 16.4 +1.5**
comp=N,0.4nm,0.1s,SNR=4.0
EPON Pontenova 6.92 16 P **Pn 20 25 16.4 +1.5**
comp=N,0.4nm,0.1s,SNR=4.0
ETOR Torete 7.27 53 ⇑P **Pn 20 25 21.6 +1.8**
comp=N,10nm,0.2s,SNR=18
ETOR S **Sn 20 26 38.1 -4.4**
comp=N,3.4nm,0.1s,SNR=7.9
ETOR Torete 7.27 53 P **Pn 20 25 21.6 +1.8**
comp=N,10nm,0.2s,SNR=18
ETOR S **Sn 20 26 38.1 -4.4**
comp=N,3.4nm,0.1s,SNR=7.9
EARI Arriondas 7.46 26 P **Pn 20 25 24.6 +2.3**
comp=N,0.1nm,0.1s,SNR=9.1
EARI S **Sn 20 26 45.9 -1.0**
comp=N,0.1nm,0.2s,SNR=7.9
EARI Arriondas 7.46 26 P **Pn 20 25 24.6 +2.3**
comp=N,0.1nm,0.1s,SNR=9.1
EBEN Beniarda 7.79 72 S **Sn 20 26 51.8 -3.5**
comp=N,0.1nm,0.1s,SNR=7.9
EBEN Beniarda 7.79 72 S **Sn 20 26 51.8 -3.5**
comp=N,0.1nm,0.1s,SNR=7.9
EMOS Mosqueruela 8.12 60 P **Pn 20 25 34.8 +3.2**
comp=N,0.5nm,0.2s,SNR=4.0
EMOS S Sn 20 26 58.1 -5.5
comp=N,0.1nm,0.1s,SNR=7.9
EMOS Mosqueruela 8.12 60 P **Pn 20 25 34.8 +3.2**
comp=N,0.5nm,0.2s,SNR=4.0
EMOS S **Sn 20 27 00.0 -3.6**
comp=N,0.1nm,0.1s,SNR=7.9
IELO Elcoad 8.97 44 P **Pn 20 25 44.9 +1.8**
comp=N,0.3nm,0.1s,SNR=7.9
IELO S **Sn 20 27 19.5 -4.7**
comp=N,0.9nm,0.2s,SNR=7.9
IELO Elcoad 8.97 44 P **Pn 20 25 44.9 +1.8**
comp=N,0.3nm,0.1s,SNR=7.9
ELIZ Elizondo 9.02 42 P **Pn 20 25 45.7 +1.9**
comp=N,1.0nm,0.2s,SNR=12
ELIZ Elizondo 9.02 42 P **Pn 20 25 45.7 +1.9**
comp=N,1.0nm,0.2s,SNR=12
EALK Alkurruntz 9.07 42 P **Pn 20 25 46.3 +1.9**
comp=N,0.1nm,0.1s,SNR=4.0
EALK Alkurruntz 9.07 42 P **Pn 20 25 46.3 +1.9**
comp=N,0.1nm,0.1s,SNR=4.0
SJPF Ste Jean 9.15 43 *e*Pn **Pn 20 25 46.9 +1.4**
SJPF *e*Sn Sn 20 27 22.7 -5.9
comp=N,0.7nm,0.4s
SJPF Ste Jean 9.15 43 Pn **Pn 20 25 46.9 +1.4**
SJPF Sn Sn 20 27 22.7 -5.9
comp=N,0.3nm,0.4s
SJPF Ste Jean 9.15 43 *e*Pn **Pn 20 25 46.9 +1.4**
ETSF Etsaut 9.39 46 *e*Pn **Pn 20 25 50.3 +1.5**
ETSF *e*Sn Sn 20 27 28.7 -5.8
comp=N,1.0nm,0.4s
ETSF Etsaut 9.39 46 Pn **Pn 20 25 50.3 +1.5**
ETSF Sn Sn 20 27 28.7 -5.8
comp=N,0.5nm,0.4s
ETSF Etsaut 9.39 46 *e*Pn **Pn 20 25 50.3 +1.5**
ATE Arette 9.42 45 P **Pn 20 25 51.1 +1.8**
SNR=7.9
ATE S Sn 20 27 29.3 -6.0
comp=N,0.6nm,0.2s,SNR=7.9
ATE Arette 9.42 45 P **Pn 20 25 51.1 +1.8**
SNR=7.9
EPF Esparros 9.99 48 *e*Pn **Pn 20 25 59.1 +2.0**
EPF *e*Sn Sn 20 27 43.2 -6.1
comp=N,0.8nm,0.2s
EPF Esparros 9.99 48 Pn **Pn 20 25 59.1 +2.0**
EPF Sn Sn 20 27 43.2 -6.1
comp=N,0.4nm,0.2s
EPF Esparros 9.99 48 *e*Pn **Pn 20 25 59.1 +2.0**
CSOR Sort 10.12 53 P **Pn 20 26 00.2 +1.2**
comp=N,0.4nm,0.2s,SNR=7.9
CSOR Sort 10.12 53 P **Pn 20 26 00.2 +1.2**
SNR=7.9
LFF La Frestale 11.43 41 *e*Pn **Pn 20 26 17.2 +0.5**
LFF La Frestale 11.43 41 Pn **Pn 20 26 17.2 +0.5**
LFF La Frestale 11.43 41 *e*Pn **Pn 20 26 17.2 +0.5**
RJF Les Rejaudoux 12.08 41 *e*Pn **Pn 20 26 25.4 -0.2**
RJF Les Rejaudoux 12.08 41 Pn **Pn 20 26 25.4 -0.2**
RJF Les Rejaudoux 12.08 41 *e*Pn **Pn 20 26 25.4 -0.2**
CAF Calviac 12.13 44 *e*Pn **Pn 20 26 27.0 +0.6**
CAF Calviac 12.13 44 Pn **Pn 20 26 27.0 +0.6**
CAF Calviac 12.13 44 *e*Pn **Pn 20 26 27.0 +0.6**
MFF Saint Martin d 12.21 33 *e*Pn **Pn 20 26 27.9 +0.5**
MFF Saint Martin d 12.21 33 Pn **Pn 20 26 27.9 +0.5**
MFF Saint Martin d 12.21 33 *e*Pn **Pn 20 26 27.9 +0.5**
QUIF Quistinic 12.22 21 *e*Pn **Pn 20 26 27.8 +0.3**
QUIF Quistinic 12.22 21 Pn **Pn 20 26 27.8 +0.3**
QUIF Quistinic 12.22 21 *e*Pn **Pn 20 26 27.8 +0.3**
ROSF Rostrenen 12.57 20 *e*Pn **Pn 20 26 33.2 +0.9**
ROSF Rostrenen 12.57 20 Pn **Pn 20 26 33.2 +0.9**
ROSF Rostrenen 12.57 20 *e*Pn **Pn 20 26 33.2 +0.9**
LASF Ste Croix 12.70 50 *e*Pn **Pn 20 26 34.5 +0.3**
LASF Ste Croix 12.70 50 Pn **Pn 20 26 34.5 +0.3**
LASF Ste Croix 12.70 50 *e*Pn **Pn 20 26 34.5 +0.3**
TCF Toulx Ste Croi 13.10 39 *e*Pn **Pn 20 26 40.0 +0.4**

TCF	**Toulx Ste Croi**	**13.10**	**39**	Pn		**Pn**	**20 26 40.0**	**+0.4**
TCF	**Toulx Ste Croi**	**13.10**	**39**	*e*Pn		**Pn**	**20 26 40.0**	**+0.4**
LDF	**La Druitiere**	**13.82**	**28**	*e*Pn		**Pn**	**20 26 49.7**	**+0.3**
LDF	**La Druitiere**	**13.82**	**28**	*e*Pn		**Pn**	**20 26 49.7**	**+0.3**

*IDC **25** 20:27:06.7±2.1,50˚.12N×114˚.90W, h0km, mb1 3.3/2, mb1mx3.0/46, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=45.9km s-min=9.6km az=117.0*
*NEIC **25** 20:27:08.3±3.0,50˚.09N×114˚.66W, h0km, ML2.3, Error ellipse: s-maj=33.4km s-min=16.2km az=180.0, Suspected Mining explosion.*
NEIC 100 km [65 miles] NE of Cranbrook.
ISC 25 20:27:05.2±1.3,**50˚.25N**±0˚.06×**114˚.69W**±0˚.10, **h0**km, **n12,** σ1§**39**/19, **Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALA	**Waterton Lakes**	**1.29**	**157**	*e*Pg	**Pg**	**20 27 29.1**	**-0.9**
WALA				*e*Sg	**Sg**	**20 27 46.1**	**-0.7**
BSMT	**Bassoo Peak**	**2.40**	**182**	*e*Pn	**Pn**	**20 27 46.2**	**+0.3**
BSMT				*e*Sg	**Sb**	**20 28 20.4**	**+0.8**
YBMT	**Yellow Bay**	**2.43**	**169**	*e*Pn	**Pn**	**20 27 46.4**	**+0.2**
YBMT				*e*Sg	**Sg**	**20 28 22.3**	**-0.9**
JTMT	**Jette**	**2.52**	**174**	*e*Pn	**Pn**	**20 27 48.0**	**+0.5**
JTMT				*e*Sg	**Sg**	**20 28 24.4**	**-1.7**
NEW	**Newport**	**2.55**	**220**	Pn	**Pn**	**20 27 48.8**	**+1.1**
	0.5nm,0.3s,baz=43,slow=15,SNR=12						
NEW				Lg	Lg	20 28 19.7	
	3.0nm,0.3s,baz=219,slow=5.7,SNR=18						
I56US	**NEWPORT INFRAS**	**2.55**	**220**	*i*		20 43 00.0	
	baz=38,slow=320,SNR=2.1						
SWMT	**Swartz Lake**	**2.78**	**170**	*e*Pn	**Pn**	**20 27 52.7**	**+1.7**
SWMT				*e*Sg	**Sb**	**20 28 32.0**	**+1.6**
SLMT	**Seeley Lake**	**3.11**	**165**	*e*Pn	**Pn**	**20 27 57.7**	**+2.0**
SLMT				*e*Pg	**Pg**	**20 28 04.7**	**-0.1**
SLMT				*e*Sg	**Sg**	**20 28 43.8**	**-1.3**
CHMT	**Chamberlain Mo**	**3.47**	**163**	*e*Pn	**Pn**	**20 28 02.9**	**+2.3**
CHMT				*e*Pg	**Pg**	**20 28 11.8**	**+0.1**
CHMT				*e*Sg	**Sg**	**20 28 54.2**	**-2.5**
EGMT	**Eagleton**	**3.93**	**123**	*e*Pn	**Pn**	**20 28 07.9**	**+1.1**
I10CA	**LAC DU BONNET**	**11.96**	**83**	*i*		21 42 30.0	
	baz=274,slow=329,SNR=1.2						
YKA	**Yellowknife Ar**	**12.28**	**0**	Pn	**Pn**	**20 30 00.3**	**-0.8**
	0.1nm,0.3s,baz=180,slow=13,SNR=11						
YKA				Lg	Lg	20 33 33.2	
	0.0nm,0.3s,baz=173,slow=26,SNR=3.3						

IDC 25 20:32:51.3±1.1,**23˚.58S**×**68˚.08W**, **h250**km±42km, **mb2.7**/1, **mb1 2.8**/3, **mb1mx2.7**/25, **mbtmp3.3**/3, **Error ellipse: s-maj=137.5km s-min=18.8km az=100.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.23**	**321**	P	Pn	20 33 27.9	-0.3
	126nm,0.3s,baz=118,slow=6.1,SNR=22						
LVC				S	S	20 33 57.2	+0.2
	655nm,0.3s,baz=98,slow=2.7,SNR=23						
LPAZ	**La Paz**	**7.26**	**360**	P	Pn	20 34 37.5	+1.4
	0.2nm,0.3s,baz=185,slow=1.7,SNR=4.1						
LPAZ				S	S	20 35 58.6	-1.6
	0.1nm,0.3s,baz=8.6,slow=19,SNR=3.3						
PLCA	**Paso Flores**	**17.23**	**186**	P	P	20 36 35.3	-0.2
	0.0nm,0.3s,baz=8.1,slow=14,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.34**	**70**	P	P	20 44 19.0	0.0
	0.2nm,0.8s,baz=250,slow=5.5,SNR=2.6						

*IDC **25** 20:42:09.7±0.9,37˚.53S×73˚.57W, h0km, mb4.1/10, mb1 1.4/14, mb1mx4.1/24, mbtmp4.0/14, ML3.9/3, MS4.3/3, Ms1 4.3/3, ms1mx3.7/18, Error ellipse: s-maj=27.7km s-min=17.2km az=85.0*
*NEIC **25** 20:42:11.0,37˚.17S×74˚.22W, h30km, mb4.4/2, ML4.8(GUC), After GUC.*
NEIC Felt [II] at La Laja.
ISC 25 20:42:14.5±0.7,**37˚.34S**±0˚.06×**73˚.82W**±0˚.10, **h35**km, **n35,** σ2§**25**/32, **mb4.2**/13, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.23**	**144**	Pn	**Pn**	**20 43 13.8**	**-2.8**
	2.8nm,0.3s,baz=320,slow=11,SNR=76						
PLCA				Lg	Lg	20 44 13.8	
	11nm,0.3s,baz=228,slow=23,SNR=4.6						
PLCA	**Paso Flores**	**4.23**	**144**	*e*Pn	**Pn**	**20 43 13.8**	**-2.8**
PLCA				*e*Sn	**Sn**	**20 44 08.4**	**+3.6**
PLCA				Lg	Lg	20 44 13.8	
CFAA	**Coronel Fontan**	**7.35**	**40**	Pn	**Pn**	**20 43 58.5**	**-0.9**
	1.1nm,0.3s,baz=205,slow=8.7,SNR=52						
CFAA				Sn	**Sn**	**20 45 22.8**	**+1.2**
	0.4nm,0.3s,baz=215,slow=16,SNR=2.1						
LCO	**Las Campanas**	**8.71**	**18**	*e*Pn	**Pn**	**20 44 18.3**	**+0.1**
	15nm,0.4s						
LCO				*e*Sn	**Sn**	**20 45 50.3**	**-5.1**
TRQA	**Tornquist**	**9.41**	**98**	*e*Pn	**Pn**	**20 44 25.6**	**-2.0**
	18nm,1.0s						
TRQA				*e*Sn	**Sn**	**20 46 17.6**	**+5.4**
LVC	**Limon Verde**	**15.28**	**17**	Pn	**Pn**	**20 45 49.3**	**+1.4**
	12nm,0.3s,baz=186,slow=10,SNR=3.7						
LVC	**Limon Verde**	**15.28**	**17**	*e*Pn	**Pn**	**20 45 44.4**	**-3.4**
	4.4nm,0.4s						
CPUP	**Villa Florida**	**17.77**	**57**	P	**Pn**	**20 46 17.9**	**-1.2**
	0.1nm,0.3s,baz=256,slow=12,SNR=3.1						
CPUP				LR	LR	20 53 48.4	
	comp=Z,3μm,19.3s,baz=228,slow=39						
LPAZ	**La Paz**	**21.57**	**15**	P	**P**	**20 47 04.9**	**+3.2**
	2.6nm,0.6s,baz=155,slow=9.8,SNR=9.9						
LPAZ	**La Paz**	**21.57**	**15**	*e*P	**P**	**20 47 01.2**	**-0.5**
	8.1nm,0.3s						
SIV	**San Ignacio**	**24.08**	**31**	P	**P**	**20 47 26.9**	**+0.1**
	4.2nm,0.6s,baz=211,slow=8.8,SNR=10						
NNA	**Nana**	**25.39**	**353**	P	**P**	**20 47 42.5**	**+3.8**
	3.0nm,0.4s,baz=205,slow=14,SNR=3.4						
BDFB	**Brasilia**	**31.45**	**53**	P	**P**	**20 48 32.1**	**-0.8**
	2.5nm,0.6s,baz=256,slow=4.2,SNR=3.1						
BDFB				LR	LR	21 02 06.1	
	comp=Z,264nm,19.8s,baz=256,slow=38						
VNA3	**Neumayer Olymp**	**46.85**	**156**	P	**P**	**20 50 39.6**	**-1.0**
VNA2	**Neumayer--Watz**	**47.53**	**156**	P	P	20 50 42.8	-3.1
	baz=319,slow=9.6						
SNAA	**Sanae**	**49.07**	**157**	P	**P**	**20 50 55.8**	**-2.0**
SNAA	**Sanae**	**49.07**	**157**	P	**P**	**20 50 56.6**	**-1.2**
	1.9nm,1.0s,baz=279,slow=7.6,SNR=5.4						
QSPA	**South Pole Qui**	**52.90**	**180**	P	**P**	**20 51 26.3**	**-0.5**
	1.7nm,1.0s,baz=112,slow=7.4,SNR=3.7						
TXAR	**Lajitas Array**	**71.99**	**333**	P	**P**	**20 53 37.4**	**+2.8**
	0.3nm,0.5s,baz=151,slow=8.2,SNR=6.5						
LIC	**Lamto**	**77.20**	**72**	*e*P	**P**	**20 54 05.3**	**+0.2**
	12nm,0.6s						
TIC	**Toumodi**	**77.47**	**72**	*e*P	**P**	**20 54 06.8**	**+0.1**
	3.1nm,0.2s						
KIC	**Kosan Boka**	**77.50**	**72**	*e*P	**P**	**20 54 07.1**	**+0.3**
	34nm,1.3s						
DBIC	**Dimbokro**	**77.61**	**72**	P	**P**	**20 54 07.6**	**+0.2**
	4.1nm,0.6s,baz=207,slow=5.1,SNR=13						
PDAR	**Pinedale Array**	**86.12**	**334**	P	**P**	**20 54 52.0**	**+0.2**
	0.3nm,0.9s,baz=128,slow=5.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**86.69**	**71**	P	**P**	**20 54 54.2**	**-0.7**
	1.2nm,0.7s,baz=224,slow=3.8,SNR=18						
LSZ	**Lusaka**	**90.11**	**109**	LR	LR	21 32 35.5	
	comp=Z,74nm,21.1s,baz=129,slow=34						
H11S2	**WAKE ISLAND Hyl**	**124.23**	**268**	T	T	23 17 53.8	
	baz=126,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hyl**	**124.25**	**268**	T	T	23 17 45.8	
	baz=126,slow=75,SNR=4.0						
H11S3	**WAKE ISLAND Hyl**	**124.25**	**268**	T	T	23 17 47.6	
	baz=126,slow=75,SNR=3.2						
BRTR	**Keskin Array B**	**124.67**	**63**	PKP	**PKPdf**	**21 01 10.1**	**-0.2**
	0.5nm,0.6s,baz=260,slow=3.1,SNR=3.6						
H11N3	**WAKE ISLAND Hyl**	**124.73**	**269**	T	T	23 18 30.6	
	baz=126						
H11N1	**WAKE ISLAND Hyl**	**124.74**	**269**	T	T	23 18 29.3	
	baz=126						
H11N2	**WAKE ISLAND Hyl**	**124.75**	**269**	T	T	23 18 29.8	
	baz=126						
ZALV	**Zalesovo Beam**	**157.81**	**35**	PKP	**PKPdf**	**21 02 06.2**	**-0.5**
	0.6nm,0.7s,baz=339,slow=3.3,SNR=4.3						
ZALV				PKPab	**PKPab**	**21 02 40.1**	**+0.7**
	1.1nm,0.5s,baz=316,slow=3.3,SNR=5.6						
SONM	**Songino Array**	**169.51**	**359**	PKPab	**PKPab**	**21 03 31.9**	**+0.8**
	0.2nm,0.4s,baz=90,slow=1.4,SNR=3.2						

*IDC **25** 20:43:05.6±15.0,5˚.78S×129˚.09E, h229km±175km, mb3.5/1, mb1 3.5/3, mb1mx3.0/31, mbtmp4.0/3, Error ellipse: s-maj=104.8km s-min=61.5km az=73.0*
*ISCJB **25** 20:43:08.3±1.0,5˚.94S±0˚.07×128˚.9E±0˚.1, h264km, mb3.8/1, Error ellipse: s-maj=15.2km s-min=9.4km az=14.8*
ISC 25 20:43:09.1±1.2,**5˚.99S**±0˚.09×**128˚.9E**±0˚.1, **h264**km, **n7,** σ1§**82**/8, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.51**	**48**	P	Pn	20 44 23.4	+3.9
	baz=4.5,SNR=5.8						
FAKI				S	**S**	**20 45 15.3**	**-0.4**
	baz=4.5,SNR=5.1						
SOEI	**Soe**	**5.93**	**231**	P	**Pn**	**20 44 37.6**	**+0.7**
	baz=5.9,SNR=3.2						
MTN	**Manton Dam**	**7.15**	**162**	P	**Pn**	**20 44 53.1**	**+1.2**
	baz=7.5,SNR=3.9						
MTN				S	S	20 46 04.3	-10
	baz=7.5,SNR=5.7						
KDU	**Kakadu**	**7.52**	**152**	P	**Pn**	**20 44 58.2**	**+1.8**
	baz=7.9,SNR=5.4						
WRA	**Warramunga Arr**	**14.84**	**160**	P	**P**	**20 46 26.5**	**+0.1**
	0.3nm,0.3s,baz=341,slow=12,SNR=11						
WRA				S	**S**	**20 49 07.2**	**-3.1**
	0.1nm,0.3s,baz=334,slow=24,SNR=3.8						
ASAR	**Alice Springs**	**18.22**	**165**	P	**P**	**20 47 04.5**	**+1.1**
	0.6nm,0.3s,baz=346,slow=11,SNR=64						
ZALV	**Zalesovo Beam**	**70.21**	**334**	P	**P**	**20 53 52.8**	**-0.6**
	0.9nm,0.5s,baz=116,slow=6.6,SNR=2.9						

*NIED **25** 20:43:00, 24˚.80N×125˚.00E, h44km, Mw4.6 Best double couple: M0 1.06000×10^16 NP1:φ§275.00000°, δ42.00000°, λ38.00000°. NP2:φ§155.00000°, δ66.00000°, λ125.00000°.*
*SZGRF **25** 20:43:50.4, 23˚.29N×126˚.00E, h54km, mb5.1, Southeast of Ryukyu Islands, Japan*
*BJI **25** 20:43:55.2, 24˚.60N×125˚.26E, h60km, mB4.6/42, mb4.5/53, ML4.2/5, Ms4.0/48, Ms7 3.7/43*
*ISCJB **25** 20:43:57.4±0.2, 24˚.75N±0˚.02×125˚.00E±0˚.02, h55km±1km, mb4.9/152, MS3.8/13, Error ellipse: s-maj=3.8km s-min=2.2km az=152.3*
*MOS **25** 20:43:58.2±1.1, 24˚.79N×124˚.96E, h63km, mb5.2/58, Error ellipse: s-maj=7.4km s-min=4.4km az=115.7*
*IDC **25** 20:43:58.7±0.6, 24˚.78N×125˚.00E, h54km±5km, mb4.4/30, mb1 4.6/31, mb1mx4.5/35, mbtmp4.7/31, MS3.5/12, Ms1 3.5/12, ms1mx3.4/33, Error ellipse: s-maj=12.7km s-min=10.0km az=78.0*
*NEIC **25** 20:43:58.7±0.1, 24˚.74N×124˚.93E, mb5.0/69, MW4.6(NIED), Error ellipse: s-maj=4.0km s-min=3.0km az=135.0*
NEIC Recorded [2 JMA] on Ikema-jima, Ishigaki-jima, Miyako-jima and Tarama-shima; [1 JMA] on Iriomote-jima.
*JMA **25** 20:43:58.5±0.1, 24˚.79N×125˚.01E, h53km±1km, M5.1*
JMA Felt II J1.
*MAN **25** 20:45:29, 18˚.47N×121˚.99E, h26km, mb4.7, ML3.6, MS3.5*
ISC 25 20:43:58.9±0.3,**24˚.71N**±0˚.03×**125˚.05E**±0˚.03, **h58**km±2km, **h57**km:**pP-P, n577,** σ1§**30**/648, **mb4.9**/155, **MS3.5**/13, **61C-22D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRB	**Irabujima**	**0.17**	**43**	P	**Pn**	**20 44 06.6**	**-1.3**
JIRB				S	Sn	**20 44 12.7**	**-1.7**
JMJ	**Miyako jima 2**	**0.25**	**64**	P	**Pn**	**20 44 07.5**	**-0.9**
JMJ				S	Sn	**20 44 14.2**	**-1.0**
JIKM	**Ikemajima**	**0.28**	**40**	P	**Pn**	**20 44 07.7**	**-0.9**
JIKM				S	Sn	**20 44 14.1**	**-1.5**
JTJ	**Tarama**	**0.32**	**258**	P	**Pn**	**20 44 08.1**	**-0.8**
JTJ				S	Sn	**20 44 14.9**	**-1.3**
JOGS	**Gusukube**	**0.33**	**81**	P	**Pn**	**20 44 08.4**	**-0.6**
JOGS				S	Sn	**20 44 16.1**	**-0.2**
JISG	**Ishigakijimahi**	**0.68**	**260**	P	**Pn**	**20 44 11.8**	**-1.0**
JIJ	**Ishigaki jima**	**0.89**	**248**	P	**Pn**	**20 44 14.8**	**-0.6**
JIJ				S	Sn	**20 44 27.1**	**-0.5**
JKRS	**Kuro-shima**	**1.05**	**244**	P	**Pn**	**20 44 17.5**	**-0.1**
JKRS				*e*S	Sn	**20 44 32.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.26**	**253**	P	**Pn**	**20 44 19.6**	**-0.6**
IRIF				*e*S	Sn	**20 44 36.1**	**-0.1**
HATJ	**Hateruma jima**	**1.30**	**241**	P	**Pn**	**20 44 20.5**	**-0.4**
HATJ				*e*S	Sn	**20 44 38.0**	**+0.7**
YOJ	**Yonaguni jima**	**1.87**	**263**	P	**Pn**	**20 44 28.1**	**-0.4**
YOJ				S	Sn	**20 44 49.8**	**-1.3**
YOJ	**Yonaguni jima**	**1.87**	**263**	*e*P	**Pn**	**20 44 28.2**	**-0.3**
YOJ				*e*		20 44 49.7	
YOJ	**Yonaguni jima**	**1.87**	**263**	*e*Pn	**Pn**	**20 44 28.2**	**-0.3**
YOJ				*e*Sn	**Sn**	**20 44 49.7**	**-1.3**
JYNG	**Yonagunijimaku**	**1.93**	**263**	P	**Pn**	**20 44 29.1**	**-0.3**
JYNG				S	Sn	**20 44 51.6**	**-0.9**
JKE	**Kume jima 2**	**2.25**	**44**	P	**Pn**	**20 44 32.6**	**-1.1**
JKE				S	Sn	**20 44 58.4**	**-2.0**
JAGN	**Aguni-jima**	**2.73**	**46**	P	**Pn**	**20 44 39.4**	**-0.8**
JAGN				S	Sn	**20 45 11.8**	**-0.2**
JJT2	**Tamagusuku 2**	**2.83**	**59**	P	**Pn**	**20 44 41.6**	**0.0**
NACB	**Ninganchiao**	**3.19**	**261**	*e*Pn	**Pn**	**20 44 45.7**	**-0.9**
NACB				*e*Sn	Sn	**20 45 21.4**	**-2.0**
JNTH	**Nagotoyohara**	**3.23**	**55**	P	**Pn**	**20 44 46.2**	**-1.0**
JNTH				S	Sn	**20 45 25.0**	**+0.5**
TATO	**Taipei**	**3.25**	**275**	*e*Pn	**Pn**	**20 44 49.0**	**+1.7**
TATO				*e*Sn	Sn	**20 45 22.9**	**-1.8**
YHNB	**Yeheng**	**3.34**	**270**	*e*Pn	**Pn**	**20 44 50.2**	**+1.5**
YHNB				*e*Sn	Sn	**20 45 25.6**	**-1.6**
JIH	**Iheya**	**3.51**	**48**	P	**Pn**	**20 44 49.8**	**-1.1**
JOW	**Kunigami**	**3.60**	**53**	P	**Pn**	**20 44 50.8**	**-1.4**
JOW	**Kunigami**	**3.60**	**53**	*e*Pn	**Pn**	**20 44 50.7**	**-1.5**
YULB	**Yu-li**	**3.67**	**250**	*e*Pn	**Pn**	**20 44 50.9**	**-2.3**
YULB				*e*Sn	Sn	**20 45 33.0**	**-2.2**
SSLB	**Suanglung**	**3.85**	**257**	*e*Pn	**Pn**	**20 44 54.6**	**-1.0**
SSLB				*e*Sn	Sn	**20 45 38.2**	**-1.4**
TWG	**Pinlang**	**4.10**	**244**	*e*Pn	**Pn**	**20 44 56.6**	**-2.5**
TWG				*e*Sn	Sn	**20 45 43.7**	**-2.0**
JOKE	**Okinoerabujima**	**4.13**	**49**	P	**Pn**	**20 44 57.1**	**-2.3**
TPUB	**Ta-pu**	**4.28**	**252**	*e*Pn	**Pn**	**20 45 01.2**	**-0.2**
TPUB				*e*Sn	Sn	**20 45 47.8**	**-2.3**
JTK	**Tokunoshima**	**4.66**	**48**	P	**Pn**	**20 45 04.5**	**-2.2**
JAMN	**Amaminishikomi**	**5.11**	**46**	P	**Pn**	**20 45 10.6**	**-2.2**
JAM	**Amami Oshima**	**5.50**	**47**	P	**Pn**	**20 45 16.4**	**-1.8**
JMZ	**Minamidaito 2**	**5.70**	**77**	P	Pn	20 45 16.9	-4.0
JMZ				*e*S	Sn	20 46 16.2	-8.8
JTAJ	**Takarajima**	**5.78**	**39**	P	**Pn**	**20 45 20.6**	**-1.4**
QZH	**Quanzhou**	**5.87**	**274**	P	**Pn**	**20 45 23.3**	**0.0**
QZH				S	**Sn**	**20 46 26.5**	**-2.8**
QZH				SMN			
	920nm,1.2s						
QZH				SME			
	420nm,0.9s						
QZH				LN			
	1μm,6.0s						
QZH				LE			
	680nm,3.5s						
QZH				LZ			
	1μm,9.9s						
JNN	**Nakanoshima**	**6.68**	**39**	P	**Pn**	**20 45 33.9**	**-0.5**
SGCP	**Mt. Cagua**	**7.01**	**204**	*e*P	**Pn**	**20 45 36.4**	**-2.6**
SSE	**Sheshan**	**7.22**	**333**	P	**Pn**	**20 45 40.0**	**-1.8**
SSE				PMZ			
	29nm,0.9s						
SSE				PMZ			
	45nm,4.1s						
SSE				LN			
	250nm,19.9s						
SSE				LE			
	460nm,20.0s						
SSE				LZ			
	200nm,24.0s						
APYP	**Conner**	**7.68**	**208**	*e*P	**Pn**	**20 45 46.3**	**-1.8**
APYP				*e*S	Px	20 45 59.3	
ABRA	**Dolores**	**8.10**	**211**	*e*P	**Pn**	**20 45 53.0**	**-1.0**
NJ2	**Nanjing**	**9.12**	**325**	*e*P	**Pn**	**20 46 05.0**	**-2.8**
NJ2				S	**Sn**	**20 47 47.0**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				smax	smax		
	comp=N,2μm,1.2s						
NJ2				smax	smax		
	comp=E,1μm,1.0s						
NJ2				LR	LR		
	comp=N,2μm,13.8s						
NJ2				LR	LR		
	comp=E,690nm,17.6s						
NJ2				LR	LR		
	comp=Z,720nm,14.5s						
BALP	**Baler**	**9.50**	**201**	*e*P	**Pn**	**20 46 11.7**	**-1.3**
JNU	**Nakatsue**	**9.81**	**30**	P	**Pn**	**20 46 16.5**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=209,slow=7.9,SNR=21						
JNU				LR	LR	20 50 15.6	
	comp=Z,374nm,21.0s,baz=193,slow=39						
JNU	**Nakatsue**	**9.81**	**30**	*e*Pn	**Pn**	**20 46 16.8**	**-0.6**
PCPH	**Palayan**	**9.82**	**203**	↑*e*P	**Pn**	**20 46 16.7**	**-0.8**
SCZP	**Santa Cruz**	**10.11**	**209**	*e*P	**Pn**	**20 46 20.9**	**-0.4**
GZH	**Guangzhou**	**10.83**	**264**	P	Pn	20 46 26.5	-4.7
GZH				S	Sn	20 48 24.8	-6.1
GZH				LR	LR		
	comp=N,1μm,10.0s						
GZH				LR	LR		
	comp=E,730nm,9.8s						
GQP	**Guinayangan**	**11.02**	**193**	↓*e*P	**Pn**	**20 46 32.1**	**-1.7**
WHN	**Wuhan**	**11.12**	**304**	P	**Pn**	**20 46 36.5**	**+1.3**
WHN				S	**Sn**	**20 48 36.5**	**-1.5**
WHN				LN			
	comp=E,570nm,5.8s						
WHN				LE			
	comp=E,570nm,5.7s						
WHN				LZ			
	comp=E,640nm,12.9s						
TJN	**Taejon**	**11.80**	**9**	*i* P	**Pn**	**20 46 47.1**	**+2.7**
KSAR	**Wonju Array Be**	**12.93**	**10**	P	**Pn**	**20 47 01.1**	**+1.4**
KSAR	**Wonju Array Be**	**12.93**	**10**	P	**Pn**	**20 47 01.1**	**+1.4**
KSRS	**Korea Array**	**12.94**	**10**	P	**Pn**	**20 47 01.1**	**+1.1**
	comp=E,0.5nm,0.3s,baz=187,slow=12,SNR=33						
KSRS				LR	LR	20 52 07.9	
	comp=E,219nm,20.4s,baz=188,slow=38						
TIA	**Tai'an**	**13.34**	**331**	↑P	**P**	**20 47 15.5**	**+2.3**
QIZ	**Qiongzhong**	**15.20**	**251**	P	**Pn**	**20 47 27.0**	**-3.1**
QIZ				S	**Sn**	**20 50 15.3**	**-2.1**
QIZ				PMZ			
	comp=E,17nm,2.3s						
QIZ				LE			
	comp=E,220nm,21.6s						
QIZ				LZ			
	comp=E,440nm,21.3s						
JCJ	**Chichijima**	**15.61**	**78**	LR	LR	20 52 56.9	
	comp=E,125nm,19.8s,baz=311,slow=34						
MAJO	**Matsushiro**	**16.33**	**41**	↓*i*P	**P**	**20 47 46.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,264nm,1.7s						
MAJO	**Matsushiro**	**16.33**	**41**	*e*Pn	**Pn**	**20 47 45.2**	**+0.7**
	comp=Z,21nm,0.7s						
MAT	**Matsushiro**	**16.33**	**41**	P	**P**	**20 47 46.7**	**+0.2**
MAT				S	**S**	**20 50 57.0**	**+2.5**
MJAR	**Matsushiro Arr**	**16.33**	**41**	P	**P**	**20 47 47.0**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=220,slow=9.0,SNR=47						
MJAR				LR	LR	20 54 42.9	
	comp=Z,133nm,19.4s,baz=225,slow=40						
MJAR	**Matsushiro Arr**	**16.33**	**41**	P	**P**	**20 47 47.0**	**+0.5**
GYA	**Guiyang**	**16.68**	**280**	P	**Pn**	**20 47 47.5**	**-1.4**
GYA				pP	**pP**	**20 47 58.5**	**-4.5**
GYA				sP	sP	20 48 04.3	-6.0
GYA				SS	**SnSn**	**20 51 10.0**	**+2.9**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,130nm,4.8s						
GYA				LN			
	comp=Z,2μm,15.6s						
GYA				LE			
	comp=Z,2μm,15.8s						
GYA				LZ			
	comp=Z,2μm,15.4s						
XAN	**Xi'an**	**16.84**	**307**	P	**P**	**20 47 52.8**	**+0.7**
XAN				pP	**pP**	**20 48 06.0**	**+1.4**
XAN				S	**Sn**	**20 50 59.3**	**+2.3**
XAN				PMZ			
	comp=Z,3.0nm,0.7s						
XAN				PMZ			
	comp=Z,32nm,5.6s						
XAN				LN			
	comp=Z,170nm,17.5s						
XAN				LZ			
	comp=Z,93nm,13.3s						
BJI	**Beijing**	**17.01**	**336**	P	**Pn**	**20 47 52.0**	**-0.8**
BJI				pP	**pP**	**20 48 06.0**	**-0.4**
BJI				sP	**sP**	**20 48 14.0**	**+0.3**
BJI				S	**Sn**	**20 50 59.5**	**-1.5**
BJI				PMZ			
	comp=Z,13nm,0.8s						
BJI				PMZ			
	comp=Z,120nm,5.2s						
BJI				LN			
	comp=Z,240nm,20.0s						
BJI				LE			
	comp=Z,400nm,20.8s						
BJI				LZ			
	comp=Z,140nm,21.6s						
SNY	**Shenyang**	**17.12**	**356**	↓P	**P**	**20 47 56.3**	**+1.2**
SNY				PMZ			
	comp=Z,44nm,0.7s						
CN2	**Changchun**	**19.05**	**1**	*e*P	**P**	**20 48 15.5**	**-0.8**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
VLA	**Vladivostok**	**19.21**	**15**	↓*i*P	**P**	**20 48 16.2**	**-1.8**
VLA				S	**S**	**20 51 52.1**	**-0.5**
VLA				pmax	pmax		
	comp=Z,19nm,0.7s						
KDM	**Kudat**	**19.36**	**205**	↓P	**P**	**20 48 19.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**19.65**	**328**	*e*P	**Pn**	**20 48 24.0**	**-0.8**
HHC				pP	**pP**	**20 48 36.8**	**+1.2**
HHC				sP	**sP**	**20 48 44.8**	**+1.9**
HHC				S	**S**	**20 51 57.8**	**-3.9**
HHC				sS	sS	20 52 15.0	-7.1
HHC				SS	**SnSn**	**20 52 25.0**	**+4.9**
HHC				PMZ			
	comp=Z,20nm,0.9s						
HHC				LN			
	comp=Z,190nm,13.6s						
HHC				LE			
	comp=Z,110nm,13.6s						
HHC				LZ			
	comp=Z,130nm,13.6s

comp=Z,200nm,13.5s
USRK Ussuriysk Ar. 20.25 15 P **P 20 48 27.2 -2.2**
comp=Z,3.1nm,0.5s,baz=194,slow=9.1,SNR=19
KKM Kota Kinabalu 20.40 206 ⇓P **P 20 48 32.3 +1.0**
KKM Kota Kinabalu 20.40 206 *e*P **P 20 48 31.6 +0.2**
comp=Z,83nm,1.4s
SDKM Sandakan 20.40 203 ⇓P **P 20 48 32.1 +0.8**
MYLDM Lahad Datu 20.41 199 ⇑P Pn 20 48 34.2 +0.4
MYLDM Lahad Datu 20.41 199 *e*Pn Pn 20 48 33.6 -0.2
comp=Z,95nm,1.2s
UBPT Khong Chiam 20.63 247 P Pn 20 48 36.3 -0.2
comp=Z,45nm,1.3s
TSM Tawau 21.44 200 ⇓P **P 20 48 42.8 +0.5**
LZH Lanzhou 21.47 307 *e*P **P 20 48 43.8 +1.0**
LZH pP **pP 20 48 59.0 +3.4**
LZH sP **sP 20 49 05.0 +2.1**
LZH PP **PnPn 20 49 09.5 +4.4**
LZH *e*S **S 20 52 34.0 -4.0**
LZH SS **SnSn 20 53 11.3 +6.5**
LZH PMZ
comp=Z,27nm,1.0s
LZH PMZ
comp=Z,77nm,5.6s
LZH LN
comp=Z,350nm,14.4s
LZH LE
comp=Z,210nm,13.4s
LZH LZ
comp=Z,210nm,11.8s
KHON Khomkaen 22.39 252 P **P 20 48 55.9 +3.2**
comp=Z,9.9nm,0.8s
ERM Erimo 22.87 37⇑ *e*P **P 20 48 56.9 -0.5**
ERM pmax pmax
comp=Z,161nm,1.7s
CRAI Chiangrai 23.22 264 P **P 20 49 00.7 -0.5**
comp=Z,54nm,0.9s
LOEI Loei 23.29 257 P **P 20 48 59.7 -2.2**
comp=Z,229nm,1.2s
CHAI Chaiyaphum 23.31 252 P **P 20 49 02.8 +0.8**
comp=Z,8.4nm,0.8s,comp=Z,91nm
UTTA Uttaradit 23.84 258 P P 20 49 13.2 +6.3
TNTI Ternate 23.90 174 P **P 20 49 10.8 +3.4**
comp=Z,71nm,1.3s
TNTI Ternate 23.90 174 *e*P **P 20 49 07.7 +0.3**
comp=Z,94nm,1.0s
PBKT Sadao Pong 23.92 255 P **P 20 49 09.1 +1.5**
comp=Z,15nm,1.5s
ASAJ Asahikawa 24.08 32 P **P 20 49 06.2 -2.7**
comp=Z,9.1nm,0.4s,baz=235,slow=8.8,SNR=36
ASAJ LR LR 20 59 21.1
comp=Z,138nm,20.6s,baz=134,slow=38
ASAJ Asahikawa 24.08 32 *e*P **P 20 49 06.7 -2.2**
MRSI Marisa 24.27 188 P **P 20 49 15.4 +4.6**
comp=Z,29nm,1.2s,comp=Z,445nm
LAMP Lampang 24.39 260 P **P 20 49 14.6 +2.6**
comp=Z,8.3nm,1.1s,comp=Z,66nm
CMAI Chiengmai2 24.50 264 P **P 20 49 15.7 +2.6**
comp=Z,216nm,1.0s,comp=Z,9µm
MPSI Mapaga 24.73 192 P **P 20 49 16.5 +1.5**
comp=Z,21nm,1.3s
CMMT Chiang Mai 24.92 262 P **P 20 49 17.8 +1.0**
comp=Z,18nm,1.0s
CHTO Chiang Mai 24.92 262 *e*P **P 20 49 16.9 +0.1**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 24.92 262 *e*P **P 20 49 16.9 +0.1**
comp=Z,13nm,1.0s
CHTO Chiang Mai 24.92 262 P P 20 49 24.4 +7.6
HABR Khabarovsk 25.00 16 *e*P **P 20 49 15.8 -1.3**
HABR *e**PP **pP 20 49 30.6 -0.8**
HABR *e**SP **sP 20 49 37.9 -0.3**
HABR *e* 20 49 51.9
HABR *e* 20 52 49.1
HABR *e*S **S 20 53 36.3 -0.6**
HABR *e**SS **sS 20 54 02.1 +1.0**
HABR *e*SS **SnSn 20 54 31.2 +0.6**
HABR *e* 21 00 11.3
HABR pmax pmax
comp=Z,44nm,2.2s
HABR MLR MLR
comp=Z,68nm,17.0s
CMAR Chiang Mai Arr 25.04 261 P **P 20 49 18.9 +1.1**
comp=Z,3.9nm,0.9s,baz=60,slow=8.1,SNR=21
CMAR PcP **PcP 20 52 52.4 +0.8**
comp=Z,0.7nm,0.4s,baz=86,slow=1.1,SNR=4.3
CMAR pPcP 20 53 07.0
comp=Z,1.0nm,0.8s,baz=116,slow=0.5,SNR=5.1
CMAR LR LR 21 00 17.6
comp=Z,114nm,19.8s,baz=76,slow=39
CMAR Chiang Mai Arr 25.04 261 *ce*P **P 20 49 19.2 +1.4**
LBMI Labuha 25.31 174 P P 20 49 28.7 +8.5
comp=Z,45nm,0.9s,comp=Z,769nm
SBUM Sibu 25.36 211 ⇑P **P 20 49 20.7 0.0**
SBUM Sibu 25.36 211 *e*P **P 20 49 21.2 +0.5**
comp=Z,45nm,1.4s
GTA Gaotai 25.82 311 ⇓P **P 20 49 24.3 -0.6**
GTA pP **pP 20 49 38.5 -0.6**
GTA sP **sP 20 49 46.0 +0.1**
GTA S **S 20 53 48.5 -1.9**
GTA sS **sS 20 54 13.8 -0.9**
GTA SS **SnSn 20 54 58.5 +7.7**
GTA PMZ
comp=Z,9.0nm,1.1s
GTA PMZ
comp=Z,51nm,4.7s
GTA LN
comp=Z,160nm,16.6s
GTA LE
comp=Z,130nm,16.9s
GTA LZ
comp=Z,97nm,15.2s
PCI Palu 25.96 192 P **P 20 49 28.2 +2.1**
comp=Z,42nm,1.1s,comp=Z,419nm
MHMT Maesarieng 26.04 261 P pP 20 49 43.6 +2.5
YSS Yuzh-Sakhalins 26.32 28 *e*P **P 20 49 29.0 -0.1**
YSS *e* 20 50 24.0
YSS pmax pmax
comp=Z,20nm,0.8s
SANI Sanana 26.61 178 P **P 20 49 34.3 +2.3**
comp=Z,53nm,1.0s,comp=Z,413nm
KSM Kuching 27.14 214 ⇓P **P 20 49 37.1 +0.3**
KSM Kuching 27.14 214 *e*P **P 20 49 34.7 -2.1**
comp=Z,16nm,1.0s
ULN Ulaanbaatar 27.16 333⇓ *e*P **P 20 49 35.9 -1.0**
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 27.16 333 *e*P **P 20 49 34.7 -2.1**
comp=Z,7.2nm,0.6s
SONM Songino Array 27.41 332 P **P 20 49 37.4 -1.7**
comp=Z,3.8nm,0.4s,baz=153,slow=9.5,SNR=36
SONM PcP **PcP 20 52 57.0 +0.3**
comp=Z,1.1nm,0.8s,baz=157,slow=3.4,SNR=4.2
SONM LR LR 21 01 49.8
comp=Z,125nm,18.2s,baz=107,slow=39
STKI Sintang 27.80 210 P sP 20 50 02.0 -1.8
SURT Suratani 29.52 242 P P 20 50 06.3 +8.3
BBKI Banjar Baru 29.71 201 P **P 20 50 00.8 +1.2**
comp=Z,34nm,1.3s,comp=Z,2µm
SHL Shillong 30.00 279 *e*P **P 20 50 05.0 +2.6**
LSA Lhasa 30.49 287 *e*P **P 20 50 05.0 -2.0**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 30.49 287 *e*P **P 20 50 05.0 -2.0**
comp=Z,4.1nm,0.6s
IPM Ipoh 30.63 233 ⇑P **P 20 50 07.4 -0.5**
ZAK Zakamensk 30.68 332 *e*P **P 20 50 06.0 -2.0**
TLY Talaya 31.52 334 *e*P **P 20 50 13.7 -1.6**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,109nm,19.0s
TLY Talaya 31.52 334 *e*P **P 20 50 13.8 -1.5**
comp=Z,4.4nm,0.7s
MOY Mondy 32.60 332 *e*P **P 20 50 23.5 -1.4**
PSI Prapat 33.30 233 P **P 20 50 31.9 +0.5**
comp=Z,11nm,0.8s,baz=313,slow=3.4,SNR=6.4
PSI pP **pP 20 50 46.2 +0.3**
comp=Z,8.2nm,0.6s,baz=58,slow=5.5,SNR=3.1
TAPN Taplejung 33.58 283 *e*P **P 20 50 35.2 +1.2**
comp=Z,20nm,0.7s
ODAN Odare 33.90 282 *e*P **P 20 50 37.9 +1.2**
comp=Z,17nm,0.6s
MNSI Mandailing Nat 34.23 230 P **P 20 50 40.8 +1.5**
comp=Z,35nm,1.0s
RAMN Ramite 34.59 282 *e*P **P 20 50 44.1 +1.4**
comp=Z,13nm,0.6s

JIRN Jiri 34.90 283 *e*P **P 20 50 47.0 +1.5**
comp=Z,7.1nm,0.3s
GUN Gumba 35.16 284 *e*P **P 20 50 49.0 +1.3**
comp=Z,20nm,0.6s
LHSI Lahat 35.25 219 P **P 20 50 50.4 +2.3**
comp=Z,24nm,0.8s
PKI Pulchoki 35.60 283 *e*P **P 20 50 51.9 +0.4**
comp=Z,7.9nm,0.5s
PKIN Phulchoki 35.61 283 *e*P **P 20 50 51.8 +0.3**
comp=Z,6.6nm,0.5s
LEM Lembang 35.65 211 P **P 20 50 54.8 +3.1**
KKN Kakani 35.69 284 *e*P **P 20 50 52.9 +0.7**
comp=Z,8.8nm,0.6s
DMN Daman 35.86 283 *e*P **P 20 50 54.3 +0.6**
comp=Z,10nm,0.5s
WMQ Urumqi 35.89 311 P **P 20 50 53.5 0.0**
WMQ pP **pP 20 51 07.8 -0.3**
WMQ sP **sP 20 51 16.0 +1.2**
WMQ *e*S S 20 56 35.0 +7.5
WMQ PMZ
comp=Z,9.0nm,0.5s
WMQ PMZ
comp=Z,120nm,5.6s
WMQ LN
comp=Z,220nm,21.8s
WMQ LE
comp=Z,170nm,26.2s
WMQ LZ
comp=Z,200nm,21.0s
GKN Gorkha 36.25 284 *e*P **P 20 50 57.3 +0.5**
comp=Z,8.7nm,0.4s
DANN Dangsing 36.99 285 *e*P **P 20 51 04.3 +1.0**
comp=Z,30nm,0.7s
KOLN Koldanda 37.18 284 *e*P **P 20 51 05.3 +0.5**
comp=Z,13nm,0.7s
YAK Yakutsk 37.44 4 LR LR 21 08 23.2
comp=Z,73nm,18.3s,baz=191,slow=39
PETK Petropavlovsk- 37.50 32 P **P 20 51 06.5 -0.4**
comp=Z,9.9nm,0.6s,baz=218,slow=6.2,SNR=15
PETK LR LR 21 06 17.0
comp=Z,77nm,21.0s,baz=232,slow=36
PYUN Piuthan 37.69 285 *e*P **P 20 51 09.9 +0.8**
comp=Z,20nm,0.5s
PET Petropavlovsk 37.92 33 *e*P **P 20 51 10.0 -0.5**
PET *e*S **S 20 56 57.3 -0.6**
PET *e* 21 01 16.5
PET pmax pmax
comp=Z,69nm,1.0s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 37.92 33 *e*P **P 20 51 10.0 -0.5**
comp=Z,52nm,0.9s
H11N1 WAKE ISLAND Hy 38.95 89 T T 21 33 20.5
baz=284,slow=75,SNR=9.6
H11N2 WAKE ISLAND Hy 38.95 89 T T 21 33 12.9
baz=284,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 38.96 89 T T 21 33 09.3
baz=284,slow=75,SNR=8.9
KRAR Krasnoyarsk 39.08 332⇑ *i*P **P 20 51 18.8 -1.3**
KRAR pmax pmax
comp=Z,5.0nm,0.6s
H11S3 WAKE ISLAND Hy 39.09 91 T T 21 33 31.4
baz=279
H11S1 WAKE ISLAND Hy 39.10 91 T T 21 33 34.4
baz=279,slow=74
H11S2 WAKE ISLAND Hy 39.11 91 T T 21 33 34.4
baz=279,slow=74
MKAR Makanchi Array 40.46 314 P **P 20 51 30.8 -1.1**
comp=Z,6.8nm,0.4s,baz=101,slow=9.2,SNR=73
MKAR PcP **PcP 20 53 34.0 +0.4**
comp=Z,1.7nm,0.7s,baz=122,slow=1.9,SNR=3.6
MKAR pPcP 20 53 47.8
comp=Z,1.3nm,0.7s,baz=191,slow=2.9,SNR=3.6
MKAR LR LR 21 10 12.7
comp=Z,69nm,18.9s,baz=156,slow=39
MKAR Makanchi Array 40.46 314 *i*P **P 20 51 31.1 -0.7**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
MKAR Makanchi Array 40.46 314 P **P 20 51 30.8 -1.1**
MKAR *e*P **P 20 51 31.1 -0.7**
MKAR PcP **PcP 20 53 34.0 +0.4**
MKAR pPcP 20 53 47.8
ZALV Zalesovo Beam 41.78 325 P **P 20 51 40.5 -2.0**
comp=Z,10nm,0.5s,baz=112,slow=8.5,SNR=51
ZALV LR LR 21 10 46.3
comp=Z,64nm,18.0s,baz=68,slow=39
ZALV Zalesovo Beam 41.78 325 *i*P **P 20 51 41.0 -1.5**
ZALV pmax pmax
comp=Z,10.0nm,0.4s
COEN Coen 42.31 153 *e*P **P 20 51 47.3 +0.2**
comp=Z,3.7nm,0.9s
SEY Seymchan 42.33 18 LR LR 21 10 13.7
comp=Z,52nm,21.6s,baz=274,slow=37
FITZ Fitzroy Crossi 42.55 179 *e*P **P 20 51 48.4 -0.7**
comp=Z,7.9nm,0.7s
NVS Novosibirsk 43.01 326 *e*P **P 20 51 50.5 -2.0**
KSH Kashi 43.59 302⇓ *i*P P 20 52 01.0 +3.4
KSH pP pP 20 52 16.3 +3.8
KSH PP **PcP 20 53 45.3 +1.0**
KSH PcS **PcS 20 57 38.8 +1.6**
KSH S **S 20 58 26.8 +3.9**
KSH sS sS 20 58 52.5 +4.4
KSH PMZ
comp=Z,7.0nm,0.7s
KSH PMZ
comp=Z,170nm,5.0s
KSH LN
comp=Z,94nm,5.6s
KSH LE
comp=Z,120nm,4.6s
KSH LZ
comp=Z,240nm,5.2s
ULHL Ulahol 43.68 306 P **P 20 51 58.5 +0.1**
SNR=26
ULHL Ulahol 43.68 306 *i*P **P 20 51 58.4 +0.1**
KURK Kurchatov 43.99 318 P **P 20 51 59.6 -0.9**
comp=Z,112nm,0.4s,SNR=32
KURK Kurchatov 43.99 318 *e*P **P 20 51 59.3 -1.1**
KURK pmax pmax
comp=Z,17nm,0.4s
KURK Kurchatov 43.99 318 *e*P **P 20 51 59.3 -1.1**
comp=Z,17nm,0.4s
TKM2 Tokmak 2 44.24 307 P **P 20 52 03.6 +0.8**
SNR=23
TKM2 Tokmak 2 44.24 307 *e*P **P 20 52 01.4 -1.5**
TKM2 pmax pmax
comp=Z,20nm,0.9s
TKM2 Tokmak 2 44.24 307 *e*P **P 20 52 01.4 -1.5**
comp=Z,20nm,0.9s
KZA Kyzart 44.39 306 P **P 20 52 05.3 +1.0**
SNR=15
KZA Kyzart 44.39 306 *i*P **P 20 52 05.2 +1.0**
CHMS Chumysh 44.87 307 P **P 20 52 08.1 +0.4**
SNR=12
CHMS Chumysh 44.87 307 *i*P **P 20 52 08.0 +0.4**
UCH Uchtor 44.95 306 P **P 20 52 10.3 +1.4**
SNR=27
UCH Uchtor 44.95 306 *i*P **P 20 52 10.2 +1.4**
AAK Ala-Archa 45.01 306 P **P 20 52 09.9 +1.0**
comp=Z,35nm,0.9s,SNR=5.2
AAK Ala-Archa 45.01 306⇓ *e*P **P 20 52 09.4 +0.5**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 45.01 306 *e*P **P 20 52 08.7 -0.3**
comp=Z,4.3nm,0.8s
USP Ospenovka 45.09 307 P **P 20 52 09.8 +0.4**
SNR=7.3
USP Ospenovka 45.09 307 *i*P **P 20 52 09.8 +0.4**
WRAB Tennant Creek 45.29 168 P **P 20 52 11.3 +0.3**
comp=Z,142nm,0.8s,SNR=21
WRAB Tennant Creek 45.29 168 *ce*P **P 20 52 11.1 +0.1**
WRAB pmax pmax
comp=Z,68nm,1.2s
WRAB Tennant Creek 45.29 168 *e*P **P 20 52 10.4 -0.6**
comp=Z,20nm,0.9s
WRA Warramunga Arr 45.29 168 P **P 20 52 11.1 0.0**
comp=Z,16nm,0.6s,baz=349,slow=8.7,SNR=96
WB2 Warramunga Arr 45.30 168 *e*P **P 20 52 10.7 -0.4**
EKS2 Erkin-Say 45.54 306 P **P 20 52 13.8 +0.7**
SNR=6.0
EKS2 Erkin-Say 45.54 306 *e*P **P 20 52 11.8 -1.3**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 45.54 306 *e*P **P 20 52 11.8 -1.3**
comp=Z,4.7nm,0.8s
AML Almayashu 45.55 306 P **P 20 52 47.0 +0.8**
SNR=17

AML Almayashu 45.55 306 *i*P **P 20 52 14.2 +0.8**
TIXI Tiksi 47.02 2⇓ *e*P **P 20 52 21.4 -2.6**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
TIXI Tiksi 47.02 2 *e*P **P 20 52 21.4 -2.6**
comp=Z,2.1nm,0.5s
KKAR Karatay Array 47.97 307 *e*P **P 20 52 32.0 +0.1**
KKAR Karatay Array 47.97 307 *e*P **P 20 52 32.0 +0.1**
AS31 Alice Springs 48.85 169 *e*P **P 20 52 38.9 +0.1**
ASAR Alice Springs 48.85 169 P **P 20 52 39.4 +0.6**
comp=Z,6.3nm,0.6s,baz=355,slow=7.6,SNR=158
ASAR PcP **PcP 20 54 02.4 -0.3**
comp=Z,2.0nm,0.7s,baz=354,slow=4.0,SNR=3.4
ASAR pPcP 20 54 17.9
comp=Z,3.6nm,0.8s,baz=348,slow=3.3,SNR=6.4
CTA Charters Tower 49.08 153 P **P 20 52 41.2 +0.6**
comp=Z,3.4nm,0.6s,baz=354,slow=10,SNR=4.6
KBL Kabul 49.13 295 *e*P **P 20 52 40.4 -0.8**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 49.13 295 *e*P **P 20 52 40.4 -0.8**
comp=Z,12nm,0.8s
BRVK Borovoye 49.60 320 P **P 20 52 43.9 -0.3**
comp=Z,108nm,0.4s,SNR=18
BRVK Borovoye 49.60 320⇓ *i*P **P 20 52 43.7 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 49.60 320 *e*P **P 20 52 43.2 -1.0**
comp=Z,10nm,0.4s
BILL Bilibino 50.02 19 *ce*P **P 20 52 46.8 -0.4**
BILL *i* 20 53 06.3
BILL pmax pmax
comp=Z,7.0nm,0.6s
BILL Bilibino 50.02 19 *e*P **P 20 52 45.6 -1.6**
comp=Z,9.3nm,0.7s
ABKAR Akbulak array 55.61 314 *e*P **P 20 53 28.4 -0.2**
SVE Sverdlovsk 55.72 323⇑ *i*P **P 20 53 29.3 -0.1**
SVE pmax pmax
comp=Z,15nm,1.0s
IMYA Miami 56.20 298 *e*P **P 20 53 33.8 +0.4**
GAMB Gambell 56.34 28 *e*P **P 20 53 34.2 +0.6**
comp=Z,19nm,1.4s
ARU Arti 56.82 323 P **P 20 53 36.8 -0.4**
comp=Z,58nm,0.5s,SNR=5.3
ARU Arti 56.82 323 *d*P **P 20 53 36.5 -0.7**
ARU *PP **pP 20 53 50.7 -1.9**
ARU 20 54 30.5
ARU 20 55 40.5
ARU S **S 21 01 26.5 +0.4**
ARU SS **SS 21 05 12.9 -1.7**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 56.82 323 *e*P **P 20 53 36.6 -0.6**
comp=Z,39nm,1.7s
IKRD Kardeh 57.41 299 *e*P P 20 53 37.6 -4.4
GEYT Alibeck 57.57 300 P **P 20 53 43.7 +0.9**
comp=Z,7.8nm,0.6s,baz=49,slow=2.7,SNR=33
ITEG Tejag 57.84 294 *e*P **P 20 53 45.4 +0.3**
TNA Tin City 58.29 27 *e*P **P 20 53 48.1 +0.7**
comp=Z,13nm,1.0s
STKA Stephens Creek 58.45 163 P **P 20 53 49.1 +0.3**
comp=Z,12nm,0.7s,baz=340,slow=5.9,SNR=43
DZM Mont Dzumac 61.47 136 P **P 20 54 10.6 +0.7**
comp=Z,4.6nm,0.6s,baz=113,slow=20,SNR=5.6
ISAD Sadrabad 62.23 294 *e*P **P 20 54 14.3 -1.0**
IDMV Damavand 62.78 299 *e*P **P 20 54 18.9 +0.1**
IZEF Zefreh 63.13 296 *e*P **P 20 54 20.1 -1.1**
IPAR Pars 63.26 292 *e*P **P 20 54 21.6 -0.5**
ISRV Sarvestan 63.32 292 *e*P P 20 54 18.8 -3.8
SVW2 Sparrevohn 63.59 32 *e*P **P 20 54 24.4 +1.0**
comp=Z,24nm,1.4s
IKLH Kolahrood 63.64 296 *e*P **P 20 54 24.1 -0.5**
IGZV Ghazvin 64.05 300 *e*P **P 20 54 27.3 +0.1**
IM04 Indian Mountai 64.13 27 *e*P **P 20 54 27.8 +1.0**
IRAZ Razeghan 64.50 299 *e*P **P 20 54 30.1 0.0**
PPLA Purkeypile 65.04 30 *e*P **P 20 54 33.3 +0.2**
comp=Z,37nm,1.7s
KDAK Kodiak Island 65.44 36 *i*P **P 20 54 35.4 -0.1**
COLD Coldfoot 65.46 25 *e*P **P 20 54 36.4 +0.9**
comp=Z,13nm,1.1s
KTH Kantishna Hill 65.54 29 *e*P **P 20 54 36.7 +0.5**
comp=Z,44nm,1.8s
MCK McKinley 66.40 29 *e*P **P 20 54 41.7 +0.1**
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 66.40 29 *e*P **P 20 54 41.7 +0.1**
comp=Z,19nm,1.0s
KLMR Klimovskoe 66.60 328 *e*P **P 20 54 41.4 -1.5**
KLMR pmax pmax
comp=Z,13nm,1.4s
COLA College 66.70 28 *c i*P **P 20 54 44.6 +1.1**
COLA pmax pmax
comp=Z,171nm,5.0s
COLA College 66.70 28 *e*P **P 20 54 44.3 +0.8**
comp=Z,9.0nm,0.8s
TMCR Tamitsa 66.77 332 *e*P **P 20 54 44.2 +0.3**
TMCR *e* 20 57 12.2
TMCR pmax pmax
comp=Z,20nm,0.9s
ILAR Eielson Array 67.13 28 P **P 20 54 45.2 -1.0**
comp=Z,2.0nm,0.6s,baz=248,slow=5.0,SNR=42
VRHR Novokhopersk 67.15 317 *e*P **P 20 54 45.3 -1.3**
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
ZEI Tsey 67.39 308 *e*P **P 20 54 46.1 -2.5**
ZEI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 67.40 305 *d i*P **P 20 54 49.8 +1.2**
GNI pmax pmax
comp=Z,18nm,1.7s
NCK Nalchik 67.45 309⇑ *e*P **P 20 54 48.6 -0.1**
GOF Gofitskoye 67.49 311 *e*P **P 20 54 49.4 +0.6**
KBZ Khabaz 67.89 309 P **P 20 54 51.8 +0.4**
comp=Z,13nm,0.8s,baz=232,slow=20
KIV Kislovodsk 67.99 309 P **P 20 54 52.5 +0.4**
comp=Z,197nm,0.7s,SNR=15
KIV Kislovodsk 67.99 309 *e*P **P 20 54 52.5 +0.4**
KIV pmax pmax
comp=Z,39nm,1.1s
KIV Kislovodsk 67.99 309 *e*P **P 20 54 51.9 -0.2**
comp=Z,26nm,0.8s
APA Apatity 68.05 336⇓ *i*P P 20 54 48.0 -3.9
APA MLR MLR
comp=Z,1µm,13.0s
PAX Paxson 68.07 30 *e*P **P 20 54 52.7 +0.4**
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 68.07 30 *e*P **P 20 54 52.7 +0.4**
comp=Z,9.1nm,0.8s
NEY Neytrino 68.13 309⇓ *e*P **P 20 54 53.8 +0.7**
NEY pmax pmax
comp=Z,3.0nm,0.8s
LPSR Galich'ya Gora 68.47 319 *e*P **P 20 54 54.1 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,6.0nm,1.3s
LPSR pmax pmax
comp=E,10.0nm,1.3s
DOT Dot Lake 68.55 29 *e*P **P 20 54 55.1 -0.1**
comp=E,10nm,1.0s
VORD Divnogorie 68.62 317 *e*P **P 20 54 55.0 -0.8**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,5.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 68.64 318 *e*P **P 20 54 55.0 -0.9**
VSR pmax pmax
comp=N,120nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 69.26 322⇑ *e*P **P 20 54 59.1 -0.6**
OBN *i* *PP **pP 20 55 15.9 +0.3**
OBN pmax pmax
comp=Z,34nm,2.5s
EGAK Eagle 69.53 27 *e*P **P 20 55 01.5 +0.4**
comp=Z,9.7nm,0.8s
JOF Joensuu 69.97 331 *ep* **P 20 55 02.8 -1.1**

comp=Z,6.9nm,0.5s
JOF Joensuu 69.97 331 *e*P **P** 20 55 02.8 -1.1
JOF pmax pmax
comp=Z,7.0nm,0.5s
SOC Sochi 70.16 310*c i*P **P** 20 55 04.6 -0.9
SOC *e* 20 57 45.6
SOC *e*S **S** 21 04 11.5 -1.0
SOC pmax pmax
comp=Z,26nm,0.8s
ARCES ARCESS Array B 70.36 338 P **P** 20 55 05.5 -0.7
comp=Z,3.0nm,0.7s,baz=74,slow=7.2,SNR=15
DAWY Dawson 70.45 28 *e*P **P** 20 55 07.2 +0.3
ANN Anapa 71.41 311 *e*P **P** 20 55 12.6 -0.4
ANN pmax pmax
comp=Z,41nm,0.9s
INK Inuvik 71.41 23 P **P** 20 55 12.9 +0.3
comp=Z,7.6nm,0.5s,baz=260,slow=2.8,SNR=29
KBSD Kabsdagh 71.41 303 *e*P P 20 55 09.7 -3.5
HYT Haines Junctio 72.27 31 *e*P **P** 20 55 18.3 +0.2
KAF Kangasniemi 72.43 331 *e*p **P** 20 55 16.6 -2.2
comp=Z,5.5nm,0.7s
KAF Kangasniemi 72.43 331 *e*P **P** 20 55 16.6 -2.2
KAF pmax pmax
comp=Z,6.0nm,0.7s
MNKR ALMNKUR 72.71 302 *e*P P 20 55 15.7 -5.3
FINES FINESS Array B 72.76 330 P **P** 20 55 20.1 -0.7
comp=Z,6.3nm,0.5s,baz=67,slow=5.7,SNR=63
FINES FINESS Array B 72.76 330 *i* P **P** 20 55 20.6 -0.2
FINES pmax pmax
comp=Z,6.0nm,0.5s
VSU Vasula 73.47 327⇑*i*P **P** 20 55 24.5 -0.5
VSU pmax pmax
comp=Z,247nm,5.0s
SIM Simferopol' 73.61 312 *e*P **P** 20 55 25.9 -0.2
SIM pmax pmax
comp=Z,18nm,0.7s
NACGM Naroch 74.71 324 *e* **P** 20 55 30.0 -2.3
AKASG Malin Array Be 74.81 319 P **P** 20 55 31.8 -1.1
comp=Z,5.0nm,0.4s,baz=57,slow=6.7,SNR=31
AKASG pP **pP** 20 55 48.0 -0.9
comp=Z,2.0nm,0.5s,baz=58,slow=6.8,SNR=3.9
ISAL Salakas 74.81 324 *e*P **P** 20 55 32.9 0.0
KIEV Kiev 74.82 319 *e*P **P** 20 55 32.2 -0.8
KIEV pmax pmax
comp=Z,9.0nm,0.5s
KIEV Kiev 74.82 319 *e*P **P** 20 55 32.1 -0.8
comp=Z,9.3nm,0.5s
IIGN Ignalina 74.84 324 *e*P **P** 20 55 33.1 0.0
BRTR Keskin Array B 75.68 307 P **P** 20 55 38.4 0.0
comp=Z,16nm,0.8s,baz=87,slow=4.9,SNR=90
BRTR pP **pP** 20 55 53.2 -1.3
comp=Z,4.7nm,0.8s,baz=99,slow=5.5,SNR=5.1
BRBR Barbar 76.12 301 *e*P **P** 20 55 39.0 -2.1
ANTO Ankara 76.24 308⇑*i*P **P** 20 55 41.8 +0.3
ANTO Ankara 76.24 308 *e*P **P** 20 55 41.1 -0.4
ANTO pmax pmax
comp=Z,23nm,0.7s
ANTO Ankara 76.24 308 *e*P **P** 20 55 41.1 -0.4
comp=Z,23nm,0.7s
DAG Danmarks Havn 76.37 352 *i* P **P** 20 55 40.8 -0.6
DAG Danmarks Havn 76.37 352 *i* P **P** 20 55 40.8 -0.6
comp=Z,5.5nm,0.9s
TCHB Talchebab 76.37 300 *e*P **P** 20 55 42.9 +0.6
DLBC Dease Lake 76.69 31 P **P** 20 55 44.5 +0.8
comp=Z,3.9nm,0.8s,baz=279,slow=2.9,SNR=7.6
SUW Suwalki 76.99 324 *e*P **P** 20 55 45.3 0.0
SUW Suwalki 76.99 324 *e*P **P** 20 55 45.0 -0.3
SUW pmax pmax
comp=Z,46nm,0.8s
SUW Suwalki 76.99 324 *e*P **P** 20 55 45.0 -0.3
comp=Z,46nm,0.8s
TLCR 77.05 314⇑*i*P **P** 20 55 45.8 -0.1
GIUM Giurgiulesti 77.34 314⇑*i*P P 20 55 54.4 +7.0
CFR Carcaliu 77.50 314⇑*i*P **P** 20 55 48.2 -0.2
TIRR Tirgusor 77.59 313⇑*i*P **P** 20 55 49.4 +0.5
CSS Prodhromos 77.60 303 *e*P **P** 20 55 48.3 -0.9
comp=Z,2.9nm,0.7s
TLB Topalu 77.79 313⇑*i*P **P** 20 55 50.2 +0.2
HARR Harsova 77.82 314⇑*i*P **P** 20 55 50.5 +0.3
PETR Petresti 77.88 315⇑*i*P **P** 20 55 51.6 +1.1
PSN Preselentsi 78.04 313 P **P** 20 55 51.9 +0.5
MSAB Monastry St. A 78.12 313⇑*i*P **P** 20 55 52.3 +0.5
VRI Vrincioaia 78.15 315⇑*i*P **P** 20 55 52.3 +0.3
PLOR Plostina 78.20 315⇑*i*P **P** 20 55 53.2 +0.9
LVV L'vov 78.22 319 *e*P **P** 20 55 52.1 -0.2
BURAR Bucovina Array 78.40 317⇑*i*P **P** 20 55 53.5 0.0
ISP Isparta 78.64 306⇑*i*P **P** 20 55 54.4 -0.6
ISP Isparta 78.64 306 *e*P **P** 20 55 53.9 -1.1
ISP pmax pmax
comp=Z,15nm,0.8s
ISP Isparta 78.64 306 *e*P **P** 20 55 53.9 -1.1
comp=Z,15nm,0.8s
MLR Muntele Rosu 78.80 315⇑*i*P **P** 20 55 55.8 0.0
DOPR Dopca 78.96 316⇑*i*P **P** 20 55 57.1 +0.6
KWP Kalwaria Pacla 79.08 320 *e*P **P** 20 55 57.5 +0.4
KWP Kalwaria Pacla 79.08 320⇑*i*P **P** 20 55 57.5 +0.4
KWP Kalwaria Pacla 79.08 320 *e*P **P** 20 55 57.5 +0.4
BEL Belsk 79.22 322 *e*P **P** 20 55 58.3 +0.6
BEL Belsk 79.22 322 *e*P **P** 20 55 58.3 +0.6
NB2 NORSAR Subarra 79.38 333 P **P** 20 55 58.1 -0.4
comp=Z,4.5nm,0.5s,baz=52,slow=5.9
NOA NORSAR Array B 79.38 333 P **P** 20 55 58.1 -0.4
comp=Z,1.0nm,0.4s,baz=69,slow=6.7,SNR=40
VOIR 79.40 315⇑*i*P **P** 20 55 59.2 +0.2
BMR Baia Mare 79.44 318⇑*i*P **P** 20 55 59.7 +0.7
JMB Yambol 79.60 312⇑*i*P P 20 55 54.0 -6.0
ARR Arges 79.69 315⇓*i*P **P** 20 56 01.3 +0.7
SZH Strazhica 79.71 313 P **P** 20 56 00.5 -0.1
UZH Uzhgorod 79.76 319⇓*i*P **P** 20 56 01.3 +0.6
UZH *i* 20 56 03.7
UZH *i* 20 59 09.9
HUMR Humele 79.82 314⇑*i*P **P** 20 56 00.9 -0.2
TRPA Tarpa 79.83 318⇑*i*P **P** 20 56 01.3 +0.2
STHS Stebnicka Huta 80.03 320 *e*P **P** 20 56 02.6 +0.3
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 80.03 320 *e*P **P** 20 56 02.6 +0.3
RPZ Rata Peaks 80.11 148 P **P** 20 56 02.5 0.0
comp=Z,11nm,0.6s,baz=229,slow=2.0,SNR=7.0
DRGR 80.30 317⇑*i*P **P** 20 56 04.1 +0.3
OJC Ojcow 80.51 321 *e*P **P** 20 56 05.1 +0.3
OJC Ojcow 80.51 321 *e*P **P** 20 56 05.1 +0.3
NIE Niedzica 80.58 320 *e*P **P** 20 56 05.9 +0.8
NIE Niedzica 80.58 320 *e*P **P** 20 56 06.0 +0.8
BSD Bornholm Skovb 80.77 327 *i* P **P** 20 56 06.0 0.0
BSD Bornholm Skovb 80.77 327 *i* P **P** 20 56 06.0 0.0
comp=Z,13nm,0.8s
GZR Gura Zlata 80.87 316⇑*i*P **P** 20 56 07.0 +0.1
KECS Kecovo 80.90 319 *e*P **P** 20 56 07.0 +0.1
KECS pmax pmax
comp=Z,3.0nm,0.6s
KECS Kecovo 80.90 319 *e*P **P** 20 56 07.0 +0.1
KULLO Kullorsuaq 80.95 1 *i* P **P** 20 56 06.2 -0.4
comp=Z,21nm,0.9s
ARG Arkhangelos 81.03 306 *e*P **P** 20 56 07.7 -0.1
YKA Yellowknife Ar 81.09 24 P **P** 20 56 07.9 +0.3
comp=Z,8.0nm,0.7s,baz=302,slow=5.3,SNR=97
YKA pP **pP** 20 56 23.1 -0.7
comp=Z,3.2nm,0.6s,baz=301,slow=5.6,SNR=6.7
YKA PKKPbc **PKKPbc** 21 14 42.0 -2.9
comp=Z,0.2nm,0.5s,baz=136,slow=3.7,SNR=6.9
MPEP Malo Peshtene 81.12 314 P **P** 20 56 08.9 +0.7
SMG Samos 81.36 307 *e*P **P** 20 56 09.5 -0.1
BZS Buzias 81.50 316⇑*i*P **P** 20 56 09.7 -0.4
OKC Ostrava-Krasne 81.63 321 *e*P **P** 20 56 11.1 +0.4
OKC Ostrava-Krasne 81.63 321 *e*P **P** 20 56 11.1 +0.4
OKC MLR MLR
comp=Z,800nm,20.9s
VTS Vitosha 81.81 313⇑*i*P **P** 20 56 12.4 +0.4
VTS Vitosha 81.81 313 P **P** 20 56 12.5 +0.4
VYHS Vyhne 81.87 320 *e*P **P** 20 56 12.3 +0.3
VYHS pmax pmax
comp=Z,5.0nm,0.8s
VYHS Vyhne 81.87 320 *e*P **P** 20 56 12.3 +0.3
MMB Musomiste 81.90 312⇑*i*P **P** 20 56 12.6 +0.2
MORC Moravsky Berou 82.00 321⇑*i*P **P** 20 56 13.1 +0.3
KSP Ksiaz 82.18 323 *e*P **P** 20 56 14.1 +0.5
KSP Ksiaz 82.18 323 *e*P **P** 20 56 13.7 +0.1
KSP *e**PP **pP** 20 56 31.1 +1.2
SRS Serrai 82.19 312 *e*P **P** 20 56 13.2 -0.7
KKB Krupnik 82.21 312 P **P** 20 56 13.0 -1.0
KRLC Kraliky 82.29 322 *e*P **P** 20 56 14.4 +0.2
KRLC Kraliky 82.29 322 *e*P **P** 20 56 14.4 +0.2

SUMG Summit 82.32 355 *e*P **P** 20 56 14.6 +0.2
SUMG pmax pmax
comp=Z,32nm,0.7s
SUMG Summit 82.32 355 *e*P **P** 20 56 14.6 +0.2
comp=Z,32nm,0.7s
SUMG Summit 82.32 355⇑*i*P **P** 20 56 14.7 +0.3
comp=Z,29nm,0.8s
DPC Dobruska-Polom 82.41 322 *e*P **P** 20 56 15.4 +0.5
DPC *e*PCP **PcP** 20 56 18.2 -1.7
DPC *e*pP **pP** 20 56 30.4 -0.7
DPC Dobruska-Polom 82.41 322 *e*P **P** 20 56 14.0 -0.9
DPC pmax pmax
comp=Z,22nm,0.7s
DPC Dobruska-Polom 82.41 322 *e*P **P** 20 56 14.0 -0.9
comp=Z,22nm,0.7s
PLG Polygyros 82.62 311 *e*P **P** 20 56 15.5 -0.7
VRAC Vranov 82.77 321⇑*i*P **P** 20 56 17.5 +0.8
MUD Monsted U'grnd 82.80 330⇑*i*P **P** 20 56 17.1 +0.5
MUD Monsted U'grnd 82.80 330⇑*i*P **P** 20 56 17.1 +0.5
comp=Z,18nm,0.7s
PKSM Moragy 83.07 318⇑*i*P **P** 20 56 18.3 0.0
DIVS Divibare 83.22 316⇓*i*P **P** 20 56 18.2 -1.1
PVCC Panska Ves 83.29 323 *e*P **P** 20 56 21.8 +2.5
PVCC Panska Ves 83.29 323 *e*P **P** 20 56 21.8 +2.5
NPS Neapolis 83.29 306 *e*P **P** 20 56 19.4 -0.3
TREC Trest 83.41 322 *e*P **P** 20 56 17.2 -2.8
TREC *e*pP **pP** 20 56 31.9 -4.4
TREC Trest 83.41 322 *e*P **P** 20 56 17.2 -2.8
TREC *e**PP **pP** 20 56 31.9 -4.4
LAST Lasithi 83.43 306 *e*P **P** 20 56 20.4 -0.1
BRG Berggiesshubel 83.45 323 *e*P **P** 20 56 20.4 +0.2
comp=Z,4.0nm,0.9s
BRG *e* 20 56 34.6
comp=Z,4.0nm,1.0s
BRG *e* 21 28 55.6
comp=Z,11nm,1.8s
BRG Berggiesshubel 83.45 323 *e*P **P** 20 56 21.2 +1.0
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 83.45 323 *e*P **P** 20 56 20.4 +0.2
BRG *e* 20 56 34.6
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,1.0s
GOPC GO Pecny, Ondr 83.48 322 *e*P **P** 20 56 21.3 +0.9
GOPC *e*pP **pP** 20 56 36.9 +0.2
PRU Pruhonice 83.58 323 *e*P **P** 20 56 21.1 +0.2
PRU *e*pP **pP** 20 56 37.1 0.0
PRU Pruhonice 83.58 323 *e*P **P** 20 56 21.1 +0.2
PRU *e**PP **pP** 20 56 37.1 0.0
BSEG Bad Segeberg 83.67 327 *e*P **P** 20 56 22.4 +1.2
comp=Z,19nm,1.0s
CLL Collm 83.72 324 *e*P **P** 20 56 21.7 +0.1
comp=Z,5.0nm,0.9s
CLL Collm 83.72 324 *e*P **P** 20 56 21.0 -0.6
comp=Z,5.0nm,0.9s
CLL *i* PcP **PcP** 20 56 25.7 +0.1
CLL Collm 83.72 324 *e*P **P** 20 56 21.0 -0.6
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 83.72 324 *e*P **P** 20 56 21.2 -0.3
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 83.72 324 *e*P **P** 20 56 21.2 -0.3
comp=Z,8.1nm,1.1s
FNA Florina 83.84 312 *e*P **P** 20 56 21.5 -1.0
AXAR Agios Charalam 83.88 310 *e*P **P** 20 56 20.5 -2.1
CONA Conrad Observa 83.88 320⇑*i*PcP **P** 20 56 23.1 +0.5
comp=Z,8.7nm,1.2s
THL Klokotos Trika 83.96 311 *e*P **P** 20 56 20.3 -2.7
AGG Agios Georgios 83.99 310 *e*P **P** 20 56 21.6 -1.6
MAKR Makrakomi, Fth 84.13 310 *e*P **P** 20 56 22.6 -1.4
KALE Kalithea 84.41 310 *e*P **P** 20 56 23.6 -1.8
GUR Goura 84.47 309 *e*P **P** 20 56 23.5 -2.3
KARN Karanos 84.47 306 *e*P **P** 20 56 23.6 -2.1
EFP Efpalio 84.56 310 *e*P **P** 20 56 24.9 -1.1
KLV Kalavryta, Ach 84.56 309 *e*P **P** 20 56 24.0 -2.2
NRDL Niedersach Rie 84.58 326 *e*P **P** 20 56 26.5 +0.7
comp=Z,13nm,1.4s
NRDL *e*pP **pP** 20 56 41.8 -0.3
GEC2 GERESS Array S 84.64 322 *e*P **P** 20 56 26.4 0.0
comp=Z,6.0nm,1.0s
GEC2 *e*pP **pP** 20 56 42.5 -0.3
GEC2 GERESS Array S 84.64 322 *e*P **P** 20 56 26.4 0.0
GEC2 GERESS Array S 84.64 322 *e*P **P** 20 56 26.4 0.0
GERES GERESS Array B 84.64 322 P **P** 20 56 26.6 +0.1
comp=Z,3.2nm,0.7s,baz=58,slow=5.0,SNR=38
GERES pP **pP** 20 56 42.4 -0.3
comp=Z,2.3nm,0.7s,baz=55,slow=5.1,SNR=8.6
GERES PKKPbc **PKKPbc** 21 14 36.6 0.0
comp=Z,0.1nm,0.3s,baz=254,slow=3.8,SNR=3.9
DSL Palaion Diasel 84.79 311 *e*P **P** 20 56 26.5 -0.8
CLZ Clausthal 84.81 326 *e*P **P** 20 56 27.9 +0.8
comp=Z,34nm,1.3s
CLZ *e*pP **pP** 20 56 43.2 -0.3
MOA Molln 84.84 321⇑*i*PcP **P** 20 56 27.8 +0.5
comp=Z,7.7nm,1.0s
DRO Drossia 84.91 309 *e*P **P** 20 56 26.9 -1.0
PERS Pernice 84.97 319 *i* P **P** 20 56 28.0 -0.1
ROTZ Rotzenmuhle 84.98 323 *e*P **P** 20 56 28.8 +0.8
comp=Z,11nm,1.6s
PDO Prodromos 84.98 310 *e*P **P** 20 56 27.3 -0.9
SOKA Soboth 85.00 320⇑*i*PcP **P** 20 56 28.2 0.0
comp=Z,5.7nm,1.1s
AMT Artemida-Makis 85.10 309 *e*P **P** 20 56 28.0 -0.9
ITM Ithomi 85.11 309 *e*P **P** 20 56 27.8 -1.1
IGT Igoumenitsa 85.13 311 *e*P **P** 20 56 28.0 -0.9
PDKS Podkum 85.34 319 *i* P **P** 20 56 30.0 +0.1
GRF Grafenberg Arr 85.56 323 *e*P **P** 20 56 31.6 +0.7
comp=Z,28nm,1.6s
GRFO Grafenberg 85.56 323 *e*P **P** 20 56 31.0 +0.2
GRFO pmax pmax
comp=Z,60nm,2.1s
GRFO Grafenberg 85.56 323 *e*P **P** 20 56 31.0 +0.2
comp=Z,60nm,2.1s
UBBA Unterbreizbach 85.58 325 *e*P **P** 20 56 31.1 +0.3
comp=Z,10.0nm,1.4s
VLS Valsamata 85.59 310 *e*P **P** 20 56 30.7 -0.6
IBBN Ibbenburen 85.87 327 *e*P **P** 20 56 32.6 +0.3
comp=Z,41nm,1.1s
FUR Furstenfeldbru 86.37 322 *e*P **P** 20 56 35.6 +0.7
comp=Z,22nm,0.9s
BUG Bochum--Univer 86.62 326 *e*P **P** 20 56 36.2 +0.2
comp=Z,22nm,1.2s
TNS Taunus Mts 86.73 325 *e*P **P** 20 56 37.0 +0.3
comp=Z,12nm,1.4s
LTY Liberty 87.16 38 *e*P **P** 20 56 39.8 +1.0
comp=Z,6.9nm,0.6s
B08A Colville Reser 87.28 37 *e*P **P** 20 56 39.5 +0.2
comp=Z,12nm,1.4s
EDM Edmonton 87.39 31 *e*P **P** 20 56 39.5 -0.3
EDM Edmonton 87.39 31 *e*P **P** 20 56 39.5 -0.3
I03D Drain, OR 87.52 42 P **P** 20 56 42.2 +1.7
baz=87
MEM Membach 87.76 326 P **P** 20 56 42.8 +1.2
comp=Z,4.1nm,1.2s
FUORN Ofenpass-Fuorn 87.80 321 *e*P **P** 20 56 41.6 -0.6
comp=Z,6.1nm,0.8s
BFO Black Forest 87.90 323 *e*P **P** 20 56 42.1 -0.2
comp=Z,9.0nm,1.4s
BFO Black Forest 87.90 323 *i* P **P** 20 56 43.6 +1.3
G05D Wamic, OR 87.91 40 P **P** 20 56 43.4 +1.0
baz=88
I04A Tendick Farm, 88.04 42 P **P** 20 56 44.2 +1.1
baz=88
C09A Chrisman Ranch 88.18 37 *e*P **P** 20 56 45.0 +1.3
comp=Z,4.2nm,0.8s
D08A Wollman Farm, 88.26 38 *e*P **P** 20 56 44.5 +0.5
comp=Z,5.9nm,0.8s
WLF Walferdange 88.26 325 P **P** 20 56 45.0 +1.1
TUE Stuetta 88.41 321 *e*P **P** 20 56 45.0 0.0
comp=Z,6.5nm,1.0s
CDF Champ du Feu 88.42 324 *e*P **P** 20 56 44.5 -0.4
comp=Z,11nm,0.9s
CDF Champ du Feu 88.42 324 *e*P **P** 20 56 44.5 -0.4
CDF pmax pmax
comp=Z,11nm,0.9s
CDF Champ du Feu 88.42 324 *e*P **P** 20 56 44.5 -0.4
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 88.46 268 P **P** 20 56 45.5 -0.3
comp=Z,1.4nm,0.7s,baz=59,slow=8.7,SNR=4.8
KMBO Kilima Mbogo 88.46 268*c e*P **P** 20 56 46.2 +0.3
KMBO pmax pmax
comp=Z,1.0nm,0.7s
SFJD Kangerlussuaq 88.52 358 *e*P **P** 20 56 43.9 -0.9

SFJD Kangerlussuaq 88.52 358 *i* P **P** 20 56 43.9 -0.9
comp=Z,4.0nm,0.7s
J04D Umpqua Nationa 88.53 42 P **P** 20 56 47.0 +1.3
baz=88
NEW Newport 88.54 36 P **P** 20 56 46.4 +1.0
comp=Z,5.5nm,0.8s,baz=307,slow=2.9,SNR=5.7
NEW Newport 88.54 36 P **P** 20 56 46.5 +1.1
baz=88
NEW Newport 88.54 36 *e*P **P** 20 56 46.5 +1.1
YBH Yreka Blue Hor 88.97 44 P **P** 20 56 48.6 +1.0
comp=Z,0.7nm,0.3s,baz=297,slow=4.5
HINF Hinteralfeld 89.00 324 *e*P **P** 20 56 46.9 -0.7
HINF Hinteralfeld 89.00 324 *e*P **P** 20 56 46.9 -0.7
HINF Hinteralfeld 89.00 324 *e*P **P** 20 56 46.9 -0.7
J05D Fort Rock, OR 89.04 42 P **P** 20 56 49.3 +1.4
baz=89
M04C Macdoel 89.49 43 P **P** 20 56 51.4 +1.3
baz=89
MEZF Maizieres J'vi 89.54 325 *e*P **P** 20 56 49.6 -0.4
MEZF Maizieres J'vi 89.54 325 *e*P **P** 20 56 49.6 -0.4
SENIN Lac Senin/Sane 89.62 322 *e*P **P** 20 56 50.8 +0.1
SFTF Sexfontaines 89.73 325 *e*P **P** 20 56 50.1 -0.8
SFTF Sexfontaines 89.73 325 *e*P **P** 20 56 50.1 -0.8
WALA Waterton Lakes 89.74 34 *e*P **P** 20 56 52.8 +1.7
BSMT Bassoo Peak 90.03 36 *e*P **P** 20 56 53.5 +0.9
JTMT Jette 90.36 35 *e*P **P** 20 56 55.8 +1.8
YBMT Yellow Bay 90.44 35 *e*P **P** 20 56 55.6 +1.2
LPG La Plagne 90.44 322⇑*i*P **P** 20 56 54.7 0.0
comp=Z,12nm,0.6s
LPG La Plagne 90.44 322⇑*i*P **P** 20 56 54.7 0.0
LPG pmax pmax
comp=Z,12nm,0.6s
LPG La Plagne 90.44 322⇑*i*P **P** 20 56 54.7 0.0
comp=Z,12nm,0.6s
LPL La Plagne 90.44 322⇑*i*P **P** 20 56 54.6 0.0
comp=Z,9.2nm,0.6s
LPL La Plagne 90.44 322⇑*i*P **P** 20 56 54.6 0.0
LPL pmax pmax
comp=Z,9.0nm,0.6s
LPL La Plagne 90.44 322⇑*i*P **P** 20 56 54.6 0.0
comp=Z,9.2nm,0.6s
SWMT Swartz Lake 90.66 36 *e*P **P** 20 56 56.1 +0.7
FCC Fort Churchill 90.74 19 *e*P **P** 20 56 55.5 +0.2
FCC Fort Churchill 90.74 19 *e*P **P** 20 56 55.5 +0.2
BNI Bardonecchia 90.75 321 *e*P **P** 20 56 55.5 -0.4
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 90.75 321 *e*P **P** 20 56 55.5 -0.4
comp=Z,6.3nm,0.9s
PGF Pioggiola 90.86 318 *e*P **P** 20 56 56.2 -0.2
PGF Pioggiola 90.86 318 *e*P **P** 20 56 56.2 -0.2
PGF Pioggiola 90.86 318 *e*P **P** 20 56 56.2 -0.2
MBDF Montbardon 90.89 321 *e*P **P** 20 56 55.9 -0.7
comp=Z,5.8nm,0.7s
MBDF Montbardon 90.89 321 *e*P **P** 20 56 55.9 -0.7
MBDF pmax pmax
comp=Z,6.0nm,0.7s
MBDF Montbardon 90.89 321 *e*P **P** 20 56 55.9 -0.7
comp=Z,5.8nm,0.7s
LOR Lormes 90.94 324 *e*P **P** 20 56 56.3 -0.3
LOR Lormes 90.94 324 *e*P **P** 20 56 56.3 -0.3
LOR Lormes 90.94 324 *e*P **P** 20 56 56.3 -0.3
SBF Sospel 91.03 320 *e*P **P** 20 56 56.4 -0.7
comp=Z,12nm,0.6s
SBF Sospel 91.03 320 *e*P **P** 20 56 56.4 -0.7
SBF pmax pmax
comp=Z,12nm,0.6s
SBF Sospel 91.03 320 *e*P **P** 20 56 56.4 -0.7
comp=Z,12nm,0.6s
SLMT Seeley Lake 91.10 36 *e*P **P** 20 56 57.9 +0.4
MSO Missoula 91.12 36 P **P** 20 56 58.5 +1.0
baz=91
MSO Missoula 91.12 36 *e*P **P** 20 56 58.3 +0.7
comp=Z,8.0nm,1.0s
FFC Flin Flon 91.21 25 P **P** 20 56 57.5 -0.1
comp=Z,54nm,0.8s,SNR=5.6
FFC Flin Flon 91.21 25 *e*P **P** 20 56 57.8 +0.2
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 91.21 25 *e*P **P** 20 56 57.8 +0.2
comp=Z,11nm,1.0s
ORIF Oris-en-Rattie 91.28 322 *e*P **P** 20 56 58.2 -0.1
comp=Z,9.9nm,0.8s
ORIF Oris-en-Rattie 91.28 322 *e*P **P** 20 56 58.2 -0.1
ORIF pmax pmax
comp=Z,10.0nm,0.8s
ORIF Oris-en-Rattie 91.28 322 *e*P **P** 20 56 58.2 -0.1
comp=Z,9.9nm,0.8s
SMF Signal de Mont 91.34 324 *e*P **P** 20 56 58.2 -0.3
SMF Signal de Mont 91.34 324 *e*P **P** 20 56 58.2 -0.3
SMF Signal de Mont 91.34 324 *e*P **P** 20 56 58.2 -0.3
CHMT Chamberlain Mo 91.43 36 *e*P **P** 20 56 59.2 0.0
AVF Avril sur Loir 91.51 324 *e*P **P** 20 56 59.0 -0.2
comp=Z,2.9nm,0.7s
AVF Avril sur Loir 91.51 324 *e*P **P** 20 56 59.0 -0.2
AVF pmax pmax
comp=Z,3.0nm,0.7s
AVF Avril sur Loir 91.51 324 *e*P **P** 20 56 59.0 -0.2
comp=Z,2.9nm,0.7s
FRF La Foret Royal 91.67 320⇑*i*P **P** 20 56 59.5 -0.5
comp=Z,5.3nm,0.7s
FRF La Foret Royal 91.67 320⇑*i*P **P** 20 56 59.5 -0.5
FRF pmax pmax
comp=Z,5.0nm,0.7s
FRF La Foret Royal 91.67 320⇑*i*P **P** 20 56 59.5 -0.5
comp=Z,5.3nm,0.7s
LMR La Mourre 91.88 320 *e*P **P** 20 57 00.7 -0.3
comp=Z,18nm,1.2s
LMR La Mourre 91.88 320 *e*P **P** 20 57 00.7 -0.3
LMR pmax pmax
comp=Z,18nm,1.2s
LMR La Mourre 91.88 320 *e*P **P** 20 57 00.7 -0.3
comp=Z,18nm,1.2s
BGF Bois d'Agland 91.93 324 *e*P **P** 20 57 00.8 -0.4
BGF Bois d'Agland 91.93 324 *e*P **P** 20 57 00.8 -0.4
BGF Bois d'Agland 91.93 324 *e*P **P** 20 57 00.8 -0.4
VIVF Saint-Julien-l 92.00 322 *e*P **P** 20 57 01.3 -0.3
VIVF Saint-Julien-l 92.00 322 *e*P **P** 20 57 01.3 -0.3
VIVF Saint-Julien-l 92.00 322 *e*P **P** 20 57 01.3 -0.3
SMRF Simiane la Rot 92.03 321 *e*P **P** 20 57 01.0 -0.7
comp=Z,7.9nm,0.8s
SMRF Simiane la Rot 92.03 321 *e*P **P** 20 57 01.0 -0.7
comp=Z,7.9nm,0.8s
LDF La Druitiere 92.12 327 *e*P **P** 20 57 01.4 -0.6
LDF La Druitiere 92.12 327 *e*P **P** 20 57 01.4 -0.6
LDF La Druitiere 92.12 327 *e*P **P** 20 57 01.4 -0.6
MFID Camas Ranch 92.17 40 *e*P **P** 20 57 02.4 -0.1
comp=Z,14nm,1.2s
EGMT Eagleton 92.51 33 P **P** 20 57 04.5 +0.6
baz=92
LRM Limekiln Ridge 92.56 36 *e*P **P** 20 57 04.9 +0.5
B19A Brinkman Farms 92.62 33 P **P** 20 57 05.4 +1.0
baz=92
DLMT Dillon 92.77 37 *e*P **P** 20 57 07.1 +1.8
comp=Z,12nm,0.8s
HLID Hailey 92.89 39 P **P** 20 57 07.7 +1.8
baz=93
HLID Hailey 92.89 39 *e*P **P** 20 57 06.8 +0.9
comp=Z,8.9nm,0.9s
LASF Ste Croix 92.94 322 *e*P **P** 20 57 05.0 -0.9
LASF Ste Croix 92.94 322 *e*P **P** 20 57 05.0 -0.9
C19A Slack Wire Ran 93.06 33 P **P** 20 57 07.6 +1.1
baz=93
CAF Calviac 93.39 323 *e*P **P** 20 57 07.9 -0.1
CAF Calviac 93.39 323 *e*P **P** 20 57 07.9 -0.1
CAF Calviac 93.39 323 *e*P **P** 20 57 07.9 -0.1
RJF Les Rejaudoux 93.44 324 *e*P **P** 20 57 07.9 -0.3
RJF Les Rejaudoux 93.44 324 *e*P **P** 20 57 07.9 -0.3
RJF Les Rejaudoux 93.44 324 *e*P **P** 20 57 07.9 -0.3
MFF Saint Martin d 93.46 326 *e*P **P** 20 57 07.4 -0.8
MFF Saint Martin d 93.46 326 *e*P **P** 20 57 07.4 -0.8
MFF Saint Martin d 93.46 326 *e*P **P** 20 57 07.4 -0.8
D19A Cripps Ranch, 93.53 34 P **P** 20 57 09.2 +0.6
baz=93
SGMF Saint Gilles 93.54 328 *e*P **P** 20 57 07.8 -0.7
SGMF Saint Gilles 93.54 328 *e*P **P** 20 57 07.8 -0.7
SGMF Saint Gilles 93.54 328 *e*P **P** 20 57 07.8 -0.7
NVAR Mina Array Bea 93.62 45 P **P** 20 57 10.1 +0.7
comp=Z,2.3nm,0.8s,baz=289,slow=3.2,SNR=10
ROSF Rostrenen 93.83 328 *e*P **P** 20 57 09.1 -0.7
ROSF Rostrenen 93.83 328 *e*P **P** 20 57 09.1 -0.7
ROSF Rostrenen 93.83 328 *e*P **P** 20 57 09.1 -0.7
TPH Tonopah 94.52 44 *e*P **P** 20 57 14.8 +1.3
TPH pmax pmax
comp=Z,11nm,1.2s

TPH	**Tonopah**	**94.52**	**44**	*e*P		**P**	**20 57 14.8**	**+1.3**
	comp=Z,11nm,1.2s								
ISA	**Isabella, Lake**	**95.10**	**47**	P		**P**	**20 57 16.0**	**-0.1**
	baz=95								
DAC	**Darwin (Calif)**	**95.33**	**46**	*e*P		**P**	**20 57 18.4**	**+1.1**
DAC					pmax	pmax			
	comp=Z,42nm,2.5s								
DAC	**Darwin (Calif)**	**95.33**	**46**	*e*P		**P**	**20 57 18.4**	**+1.1**
	comp=Z,42nm,2.5s								
MPMC	**Manual Prospec**	**95.52**	**46**	P		**P**	**20 57 19.1**	**+0.9**
	baz=95								
EDW2	**Edwards Air Fo**	**95.88**	**47**	P		**P**	**20 57 20.4**	**+0.8**
	baz=96								
DUG	**Dugway, Tooele**	**95.94**	**41**	P		**P**	**20 57 21.3**	**+1.4**
	baz=96								
PDAR	**Pinedale Array**	**96.13**	**37**	P		**P**	**20 57 21.4**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=299,slow=1.5,SNR=4.7								
GSC	**Goldstone, Bar**	**96.42**	**47**	*e*P		**P**	**20 57 23.5**	**+1.4**
GSC					pmax	pmax			
	comp=Z,6.0nm,1.0s								
GSC	**Goldstone, Bar**	**96.42**	**47**	P		**P**	**20 57 23.1**	**+1.0**
	baz=96								
GSC	**Goldstone, Bar**	**96.42**	**47**	*e*P		**P**	**20 57 23.5**	**+1.4**
	comp=Z,6.3nm,1.0s								
PHWY	**Pilot Hill**	**99.35**	**36**	*e*pP		pP	20 57 54.7	+2.7
SCHQ	**Schefferville**	**100.13**	**7**	P		**Pdif**	**20 57 37.4**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=292,slow=19,SNR=4.3								
TXAR	**Lajitas Array**	**108.75**	**44**	PKiKP		**PKiKP**	**21 02 21.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=0.6,SNR=5.9								
TXAR				PP		PP	21 02 54.8	+6.5
	comp=Z,0.2nm,0.8s,baz=304,slow=6.8,SNR=3.5								
TORD	**Torodi Ar. Bea**	**113.15**	**298**	PKiKP		**PKiKP**	**21 02 29.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=72,slow=1.7,SNR=16								
TORD				pPKiKP		**pPKiKP**	**21 02 45.1**	**-2.6**
	comp=Z,0.2nm,0.4s,baz=77,slow=1.4,SNR=5.6								
TORD				PP		**PP**	**21 03 25.1**	**+4.6**
	comp=Z,0.8nm,0.9s,baz=65,slow=7.0,SNR=3.6								
DBIC	**Dimbokro**	**122.11**	**296**	PKP		**PKPdf**	**21 02 47.1**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=73,slow=4.4,SNR=6.0								
VNA2	**Neumayer--Watz**	**126.47**	**198**	P		**PKPdf**	**21 02 55.0**	**+0.4**
	baz=89,slow=1.6								
VNA3	**Neumayer Olymp**	**126.89**	**197**	P		**PKPdf**	**21 02 55.3**	**-0.1**
ROSC	**El Rosal**	**145.09**	**35**	PKPbc		**PKPdf**	**21 03 31.3**	**+0.1**
	comp=Z,4.9nm,0.5s,baz=303,slow=18,SNR=3.6								
BDFB	**Brasilia**	**168.88**	**323**	PKPab		**PKPab**	**21 05 11.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=63,slow=2.3,SNR=3.4								

ISK ***25*** *20:46:29.8, 37˚.48N×38˚.64E, h3km, MD2.9*
CSEM ***25*** *20:46:31.8±0.3, 37˚.50N×38˚.74E, h5km, MD2.9, Error ellipse: s-maj=6.9km s-min=5.8km az=133.0*
DDA ***25*** *20:46:31.9, 37˚.51N×38˚.70E, h8km, MD2.7*

ISC 25 20:46:31.9±1.1, 37˚.52N±0˚.03×38˚.70E±0˚.02, h4km±10km, n25, σ0s76/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.12**	**127**	*e*PG	**Pg**	**20 46 33.5**	**-0.9**
URFA	**Urfa**	**0.12**	**127**	*e*Pg	**Pg**	**20 46 33.5**	**-0.9**
ATAB	**Bozova**	**0.32**	**262**	*i* P	**Pg**	**20 46 38.7**	**+0.5**
ATAB				*i* S	**Sg**	**20 46 43.5**	**+1.1**
ATAB	**Bozova**	**0.32**	**262**	*i* P	**Pg**	**20 46 38.7**	**+0.5**
ATAB				*i* S	**Sg**	**20 46 43.5**	**+1.1**
MALT	**Malatya**	**0.82**	**345**	*e*PG	**Pg**	**20 46 46.7**	**-1.0**
MALT	**Malatya**	**0.82**	**345**	*e*Pg	**Pg**	**20 46 46.7**	**-1.0**
GZT	**Gaziantep**	**0.92**	**260**	*i* P	**Pg**	**20 46 49.7**	**+0.3**
GZT				*i* S	**Sn**	**20 47 04.7**	**-0.8**
SVRC	**Sivrice-ELAZID**	**0.99**	**29**	*e*PG	**Pg**	**20 46 50.4**	**-0.4**
SVRC				*e*SG	**Sb**	**20 47 05.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.99**	**29**	*e*Pg	**Pg**	**20 46 50.4**	**-0.4**
SVRC				*e*Sg	**Sb**	**20 47 05.9**	**+0.8**
AKCD	**Akcadag**	**0.99**	**322**	*i* P	**Pn**	**20 46 52.5**	**-0.3**
AKCD				*i* S	**Sb**	**20 47 05.8**	**+0.6**
AKCD	**Akcadag**	**0.99**	**322**	*i* P	**Pn**	**20 46 52.5**	**-0.3**
AKCD				*i* S	**Sb**	**20 47 05.8**	**+0.6**
ELZG	**Elazig**	**1.01**	**13**	*i* P	**Pg**	**20 46 50.9**	**-0.3**
ELZG				*i* S	**Sb**	**20 47 06.7**	**+1.0**
ELZG	**Elazig**	**1.01**	**13**	*i* P	**Pg**	**20 46 50.9**	**-0.3**
ELZG				*i* S	**Sb**	**20 47 06.7**	**+1.0**
MAZI	**Mazidag**	**1.39**	**92**	*e*PN	**Pn**	**20 46 58.0**	**-0.3**
MAZI				*e*SN	**Sn**	**20 47 17.6**	**+0.5**
MAZI	**Mazidag**	**1.39**	**92**	*e*Pn	**Pn**	**20 46 58.0**	**-0.3**
MAZI				*e*Sn	**Sn**	**20 47 17.6**	**+0.5**
HCB	**Kahramanmara¯**	**1.44**	**264**	*i* P	**Pn**	**20 46 57.7**	**-1.1**
HCB				*i* S	**Sb**	**20 47 17.3**	**-0.6**
KUZU	**Kuzuini**	**1.49**	**241**	*i* P	**Pg**	**20 47 00.7**	**+0.2**
KUZU				*i* S	**Sg**	**20 47 20.3**	**+0.4**
KUZU	**Kuzuini**	**1.49**	**241**	*i* P	**Pg**	**20 47 00.7**	**+0.2**
KUZU				*i* S	**Sg**	**20 47 20.3**	**+0.4**
KAMA	**Osmaniye**	**1.65**	**259**	*i* P	**Pn**	**20 47 01.1**	**-0.6**
MARD	**Mardin**	**1.67**	**96**	*e*P	**Pg**	**20 47 05.6**	**+1.7**
MARD				*i* S	**Sg**	**20 47 25.6**	**+0.1**
ILIC	**ilic-Erzincan**	**1.94**	**357**	*e*PN	**Pn**	**20 47 05.9**	**+0.2**
ILIC	**ilic-Erzincan**	**1.94**	**357**	*e*Pn	**Pn**	**20 47 05.9**	**+0.2**
BEST	**Besiri**	**2.07**	**79**	*i* P	**Pb**	**20 47 09.3**	**-0.8**
YAYL	**Yayladag**	**2.55**	**235**	*i* P	**Pn**	**20 47 13.1**	**-1.1**
YAYL				*i* S	**Sb**	**20 47 50.9**	**+0.8**
YAYL	**Yayladag**	**2.55**	**235**	*i* P	**Pn**	**20 47 13.1**	**-1.1**
YAYL				*i* S	**Sb**	**20 47 50.9**	**+0.8**

CSEM ***25*** *21:02:07.7, 45˚.92N×15˚.13E, h0km*

LJU 25 21:02:07.7, 45˚.92N×15˚.13E, h5km, ML0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEGS	**Legarje**	**0.14**	**79**	*i* Pg	Pg	21 02 10.6	+0.1
LEGS				*i* Sg	Sg	21 02 12.5	+0.1
LEGS	**Legarje**	**0.14**	**79**	*i* Pg	Pg	21 02 10.6	+0.1
LEGS				*i* Sg	Sg	21 02 12.5	+0.1
PDKS	**Podkum**	**0.16**	**327**	*i* Pg	Pg	21 02 11.1	0.0
PDKS				*i* Sg	Sg	21 02 13.4	+0.1
	comp=Z,3.0nm,0.1s						
PDKS	**Podkum**	**0.16**	**327**	*i* Pg	Pg	21 02 11.1	0.0
PDKS				*i* Sg	Sg	21 02 13.4	0.0
	comp=Z,3.0nm,0.1s						
VISS	**Visnje**	**0.23**	**239**	*i* Pg	Pg	21 02 12.4	+0.1
VISS				*i* Sg	Sg	21 02 15.7	+0.3
	comp=Z,0.0nm,0.1s						
VISS	**Visnje**	**0.23**	**239**	*i* Pg	Pg	21 02 12.4	+0.1
VISS				*i* Sg	Sg	21 02 15.7	+0.3
CRES	**Cresnjev**	**0.25**	**113**	*i* Pg	Pg	21 02 12.6	-0.1
CRES	**Cresnjev**	**0.25**	**113**	*i* Pg	Pg	21 02 12.6	-0.1

ISCJB ***25*** *21:02:05.9±0.8, 34˚.57S±0˚.04×72˚.5W±0˚.1, h10km, mb3.8/4, Error ellipse: s-maj=14.0km s-min=6.2km az=172.2*
IDC ***25*** *21:02:06.3±1.0, 34˚.57S×72˚.71W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=53.4km s-min=24.4km az=81.0*
NEIC ***25*** *21:02:10.8±0.8, 34˚.55S×72˚.68W, h35km, mb4.3/1, Error ellipse: s-maj=25.1km s-min=11.2km az=83.0*

ISC 25 21:02:07.7±0.8, 34˚.59S±0˚.06×72˚.7W±0˚.1, h10km, n16, σ1s34/19, mb4.0/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**5.81**	**17**	*e*Pn	**Pn**	**21 03 33.1**	**-1.0**
	8.3nm,0.5s						
LCO				*e*Sn	**Sn**	**21 04 40.7**	**-0.3**
PLCA	**Paso Flores**	**6.36**	**165**	Pn	**Pn**	**21 03 41.3**	**-0.2**
	0.7nm,0.3s,baz=331,slow=10,SNR=23						
PLCA				Lg	Lg	21 05 20.6	
	baz=255,slow=19,SNR=1.8						
PLCA	**Paso Flores**	**6.36**	**165**	*e*Pn	**Pn**	**21 03 41.1**	**-0.4**
	15nm,1.0s						
PLCA				*e*Sn	**Sn**	**21 04 55.2**	**+1.1**
PLCA				Lg	Lg	21 05 20.6	
TRQA	**Tornquist**	**9.29**	**115**	*e*Pn	**Pn**	**21 04 23.1**	**+1.3**
TRQA				*e*Sn	**Sn**	**21 06 04.6**	**-1.8**
LVC	**Limon Verde**	**12.38**	**16**	*e*Pn	**Pn**	**21 05 02.7**	**-1.6**
LPAZ	**La Paz**	**18.68**	**14**	P	**Pn**	**21 06 30.5**	**+3.6**
	0.1nm,0.3s,baz=188,slow=2.9,SNR=2.4						
LPAZ	**La Paz**	**18.68**	**14**	*e*P	**P**	**21 06 25.9**	**-0.8**
	1.9nm,0.8s						
SNAA	**Sanae**	**51.24**	**158**	P	**P**	**21 11 11.4**	**+0.3**
	0.6nm,0.7s,baz=309,slow=6.5,SNR=4.0						
SNAA	**Sanae**	**51.24**	**158**	*e*P	**P**	**21 11 10.5**	**-0.6**
	2.7nm,0.8s						
TXAR	**Lajitas Array**	**70.00**	**331**	P	**P**	**21 13 19.6**	**0.0**
	0.1nm,0.5s,baz=158,slow=9.7,SNR=4.5						
MAW	**Mawson**	**72.76**	**164**	P	**P**	**21 13 35.6**	**0.0**
	3.8nm,0.8s,baz=263,slow=8.1,SNR=4.0						
DBIC	**Dimbokro**	**75.86**	**72**	*e*P	**P**	**21 13 54.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**84.90**	**70**	P	**P**	**21 14 43.7**	**+0.5**
	0.7nm,0.7s,baz=270,slow=4.0,SNR=8.6						
WRA	**Warramunga Arr**	**119.99**	**210**	PKP	**PKPdf**	**21 20 57.2**	**-1.9**
	0.3nm,0.7s,baz=156,slow=1.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**155.01**	**32**	PKPbc		21 22 09.5	
	0.7nm,0.8s,baz=0.0,slow=1.4,SNR=4.1						
ZALV				PKPab	**PKPab**	**21 22 25.3**	**+0.7**
	0.3nm,0.3s,baz=298,slow=6.1,SNR=2.9						
MKAR	**Makanchi Array**	**157.55**	**50**	PKPab	**PKPab**	**21 22 36.8**	**+1.0**
	0.3nm,0.7s,baz=300,slow=5.8,SNR=2.8						

BJI ***25*** *21:09:44.3, 55˚.60S×27˚.60W, h10km, mB5.5/32, Ms5.6/39, Ms7 5.3/41*
NEIC ***25*** *21:09:44.5±0.2, 55˚.61S×27˚.73W, h7km, mb5.7/28, MS5.4/224, MW5.6, Error ellipse: s-maj=7.8km s-min=6.0km az=204.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁷Nm; Mrr=0.06; Mθθ 0.70; Mϕϕ-0.64; Mrθ-1.95; Mrϕ 2.48; Mθϕ-0.82; Best double couple: M₀3.30000×10¹⁷ NP1:ϕs 183.00000°, δ58.00000°, λ170.00000°. NP2:ϕs 278.00000°, δ82.00000°, λ33.00000°. Principal axes: T 3.7200, Plg28.0000°, Azm145.0000°; N -1.0200, Plg56.0000°, Azm290.0000°; P -2.7000, Plg16.0000°, Azm46.0000°;*
GCMT ***25*** *21:09:44.5±0.1, 55.57S×27.67W, h26km, MW5.7/125, Moment Tensor Solution. s103,c173; s125,c297; Duration: 1s6 Moment tensor: Scale 10¹⁷Nm; Mrr 0.15±.04; Mθθ 1.48±.04; Mϕϕ-1.64±.04; Mrθ-1.69±.10; Mθϕ 2.78±.04; Mrϕ 0.20±.09; Best double couple: M₀3.61500×10¹⁷ NP1:ϕs 285.00000°, δ86.00000°, λ28.00000°. NP2:ϕs 194.00000°, δ62.00000°, λ176.00000°. Principal axes: T 3.6580, Plg22.0000°, Azm153.0000°; N -0.0910, Plg62.0000°, Azm292.0000°; P -3.5730, Plg17.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
AWI ***25*** *21:09:45.0, 55˚.59S×27˚.64W*
ISCJB ***25*** *21:09:46.1±0.2, 55˚.62S±0˚.04×27˚.77W±0˚.08, h26km, mb5.4/61, MS5.4/255, Error ellipse: s-maj=7.1km s-min=4.7km az=144.8*
MOS ***25*** *21:09:47.3±1.1, 55˚.69S×27˚.78W, h33km, mb5.8/19, MS5.3/29, Error ellipse: s-maj=19.6km s-min=10.2km az=100.6*
IDC ***25*** *21:09:50.3±1.1, 55˚.59S×27˚.71W, h50km±8km, mb4.9/29, mb1 4.9/30, mb1mx4.9/31, mbtmp5.1/30, MS5.2/24, Ms1 5.2/24, ms1mx5.2/28, Error ellipse: s-maj=12.8km s-min=9.5km az=33.0*

ISC 25 21:09:47.0±0.2, 55.71S±0˚.05×27˚.91W±0˚.05, h26km, n607, σ1s61/471, mb5.5/59, MS5.4/255, 6C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.14**	**283**	*e*Pn	**Pn**	**21 11 03.3**	**+1.1**
HOPE				*e*Sn	Sn	21 11 53.5	-7.1
VNA1	**Neumayer--Stat**	**17.27**	**158**	P	**P**	**21 13 47.1**	**-0.1**
VNA1	**Neumayer--Stat**	**17.27**	**158**	S	**ScP**	**21 21 58.7**	**-1.6**
VNA3	**Neumayer Olymp**	**17.45**	**160**	P	**P**	**21 13 49.1**	**-0.2**
VNA3	**Neumayer Olymp**	**17.45**	**160**	S	**ScP**	**21 21 58.6**	**-2.1**
VNA2	**Neumayer--Watz**	**17.66**	**158**	P	**P**	**21 13 52.5**	**+0.9**
	baz=312,slow=14						
VNA2	**Neumayer--Watz**	**17.66**	**158**	S	**ScP**	**21 21 59.4**	**-1.8**
	baz=327,slow=5.4						
EFI	**East Falkland**	**18.23**	**270**	*c i*P	**P**	**21 14 00.5**	**+2.6**
EFI				pmax	pmax		
	comp=Z,919nm,1.2s						
EFI				MLR	MLR		
	comp=Z,15μm,19.0s						
EFI	**East Falkland**	**18.23**	**270**	*e*Pn	**P**	**21 14 00.2**	**+2.3**
	comp=Z,440nm,1.3s						
EFI				*e*Sn	Sn	21 17 08.8	-12
SNAA	**Sanae**	**19.22**	**156**	P	**Pn**	**21 14 10.0**	**+0.1**
SNAA	**Sanae**	**19.22**	**156**	S	**ScP**	**21 22 02.6**	**-2.0**
SNAA	**Sanae**	**19.22**	**156**	P	**Pn**	**21 14 09.9**	**0.0**
	comp=Z,9.5nm,0.3s,baz=304,slow=9.5,SNR=834						
SNAA				S	**Sn**	**21 17 43.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=198,slow=19,SNR=2.0						
SNAA				LR	LR	21 20 14.7	
	comp=Z,4μm,22.0s,baz=310,slow=32						
SNAA				ScP	**ScP**	**21 22 02.3**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=308,slow=3.2,SNR=24						
SNAA	**Sanae**	**19.22**	**156**	*c i*P	**Pn**	**21 14 09.7**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,310nm,0.7s						
SNAA	**Sanae**	**19.22**	**156**	P	**Pn**	**21 14 09.9**	**0.0**
SNAA				*e*Pn	**Pn**	**21 14 10.0**	**+0.1**
SNAA				S	**Sn**	**21 17 43.5**	**-0.7**
SNAA				ScP	**ScP**	**21 22 02.3**	**-2.3**
PMSA	**Palmer Station**	**19.82**	**228**	*e*P	**P**	**21 14 13.0**	**-2.3**
	comp=Z,724nm,1.5s						
TRIS	**Tristan da Cun**	**21.43**	**36**	*e*P	**P**	**21 14 33.2**	**+0.3**
	comp=Z,463nm,1.1s						
NVL	**N'lazarevskaya**	**22.77**	**147**	*e*P	**P**	**21 14 45.0**	**-2.0**
NVL				*e*S	**S**	**21 18 50.0**	**-4.0**
NVL				pmax	pmax		
	comp=Z,124nm,1.1s						
NVL				MLR	MLR		
	comp=Z,2μm,12.0s						
USHA	**Ushuaia**	**22.88**	**255**	P	**P**	**21 14 50.0**	**+1.8**
	comp=Z,148nm,1.0s,baz=86,slow=10,SNR=24						
TRQA	**Tornquist**	**28.81**	**293**	*e*P	**P**	**21 15 42.7**	**-0.1**
	comp=Z,144nm,1.2s						
TRQA				LR	LR		
	comp=Z,5μm,20.0s						
PLCA	**Paso Flores**	**31.54**	**280**	P	**P**	**21 16 07.0**	**+0.1**
	comp=Z,24nm,1.0s,baz=140,slow=8.5,SNR=35						
PLCA				ScP	**ScP**	**21 22 37.4**	**-2.8**
	comp=Z,7.6nm,1.0s,baz=160,slow=3.8,SNR=5.4						
PLCA	**Paso Flores**	**31.54**	**280**	*e*P	**P**	**21 16 07.2**	**+0.2**
QSPA	**South Pole Qui**	**34.54**	**180**	ScP	**ScP**	**21 22 46.9**	**-3.4**
	comp=Z,5.1nm,0.5s,baz=291,slow=2.6,SNR=7.6						
QSPA				LR	LR	21 30 01.6	
	comp=Z,10μm,20.2s,baz=190,slow=35						
CPUP	**Villa Florida**	**36.28**	**312**	P	**P**	**21 16 48.0**	**-0.1**
	comp=Z,12nm,0.9s,baz=151,slow=7.7,SNR=48						
CPUP				ScP	**ScP**	**21 22 54.0**	**-2.9**
	comp=Z,10.0nm,1.1s,baz=142,slow=4.0,SNR=10						
CPUP				LR	LR	21 30 15.5	
	comp=Z,37μm,21.9s,baz=150,slow=34						
CFAA	**Coronel Fontan**	**37.05**	**294**	ScP	**ScP**	**21 22 56.0**	**-3.9**
	comp=Z,1.4nm,1.1s,baz=264,slow=1.4,SNR=4.6						
CFAA				LR	LR	21 32 07.8	
	comp=Z,581nm,20.5s,slow=36						
LCO	**Las Campanas**	**40.40**	**293**	*e*P	**P**	**21 17 22.7**	**-0.3**
	comp=Z,197nm,1.0s						
LCO				LR	LR		
	comp=Z,4μm,20.0s						
MAW	**Mawson**	**40.67**	**144**	P	**P**	**21 17 25.2**	**+0.8**
	comp=Z,34nm,0.6s,baz=231,slow=8.2,SNR=55						
MAW				ScP	**ScP**	**21 23 11.0**	**-2.1**
	comp=Z,34nm,1.0s,baz=242,slow=4.2,SNR=14						
MAW				LR	LR	21 32 04.1	
	comp=Z,4μm,21.9s,baz=254,slow=33						
SUR	**Sutherland**	**40.95**	**76**	LR	LR	21 30 45.8	
	comp=Z,2μm,18.7s,baz=220,slow=31						
SUR	**Sutherland**	**40.95**	**76**	*e*P	**P**	**21 17 28.2**	**+0.8**
	comp=Z,76nm,2.1s						
SUR				LR	LR		
	comp=Z,490nm,19.0s						
BDFB	**Brasilia**	**42.86**	**331**	P	**P**	**21 17 43.3**	**+0.2**
	comp=Z,15nm,1.1s,baz=149,slow=7.9,SNR=12						
BDFB				LR	LR	21 32 56.7	
	comp=Z,6μm,21.0s,baz=158,slow=32						
SHEL	**Horse Pasture**	**43.16**	**32**	*e*P	**P**	**21 17 45.5**	**+0.1**
SHEL				pmax	pmax		
	comp=Z,347nm,0.9s						
SHEL	**Horse Pasture**	**43.16**	**32**	*e*P	**P**	**21 17 45.5**	**+0.1**
	comp=Z,347nm,0.9s						
LVC	**Limon Verde**	**44.77**	**301**	ScP	**ScP**	**21 23 28.1**	**-2.6**
	comp=Z,94nm,1.1s,baz=144,slow=3.4,SNR=7.2						
LVC				LR	LR	21 36 03.4	
	comp=Z,9μm,21.9s,baz=166,slow=35						
LVC	**Limon Verde**	**44.77**	**301**	*e*P	**P**	**21 18 00.4**	**+1.8**
	comp=Z,189nm,1.4s						
LVC				ScP	**ScP**	**21 23 28.1**	**-2.6**
LVC				LR	LR		
	comp=Z,2μm,22.0s						
SBA	**Scott Base**	**46.39**	**184**	*e*P	**P**	**21 18 13.0**	**+2.5**
SBA				pmax	pmax		
	comp=Z,327nm,1.3s						
SBA				MLR	MLR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**46.39**	**184**	*e*P	**P**	**21 18 13.0**	**+2.5**
	comp=Z,327nm,1.3s						
SBA				LR	LR		
	comp=Z,2μm,20.0s						
VNDA	**Vanda**	**46.90**	**183**	P	**P**	**21 18 16.4**	**+2.0**
	comp=Z,92nm,0.9s,baz=186,slow=7.1,SNR=273						
VNDA				ScP	**ScP**	**21 23 35.6**	**-2.7**
	comp=Z,5.1nm,1.0s,baz=205,slow=4.1,SNR=3.2						
VNDA				LR	LR	21 36 33.8	
	comp=Z,1μm,19.9s,baz=166,slow=34						
VNDA	**Vanda**	**46.90**	**183**	*e*P	**P**	**21 18 16.4**	**+2.0**
VNDA				pmax	pmax		
	comp=Z,136nm,0.9s						
VNDA	**Vanda**	**46.90**	**183**	*e*P	**P**	**21 18 16.4**	**+2.0**
	comp=Z,136nm,0.9s						
VNDA				ScP	**ScP**	**21 23 35.6**	**-2.7**
SIV	**San Ignacio**	**47.05**	**314**	ScP	**ScP**	**21 23 37.0**	**-2.8**
	comp=Z,14nm,1.1s,baz=146,slow=4.7,SNR=12						
SIV				LR	LR	21 37 02.2	
	comp=Z,3μm,21.7s,baz=162,slow=35						
H10S2	**ASCENSION HYDR**	**47.79**	**18**	T	T	22 09 56.8	
	baz=190,slow=75,SNR=85						
H10S3	**ASCENSION HYDR**	**47.80**	**18**	T	T	22 09 56.8	
	baz=190,slow=75,SNR=83						
H10S1	**ASCENSION HYDR**	**47.81**	**18**	T	T	22 09 56.8	
	baz=190,slow=75,SNR=82						
CRZF	**Crozet Islands**	**48.33**	**114**	P	P	21 18 08.0	-18
CRZF				S	S	21 24 53.0	-31
CRZF				R		21 31 00.0	
H10N1	**ASCENSION HYDR**	**48.91**	**18**	T	T	22 11 16.4	
	baz=189,slow=75,SNR=52						
H10N3	**ASCENSION HYDR**	**48.91**	**18**	T	T	22 11 14.1	
	baz=189,slow=75,SNR=82						
H10N2	**ASCENSION HYDR**	**48.93**	**18**	T	T	22 11 18.1	
	baz=189,slow=75,SNR=49						
LBTB	**Lobatse**	**49.30**	**74**	P	**P**	**21 18 32.7**	**-1.1**
	comp=Z,30nm,0.6s,baz=233,slow=10.0						
LBTB				LR	LR	21 36 03.0	
	comp=Z,2μm,18.8s,baz=214,slow=32						
LBTB	**Lobatse**	**49.30**	**74**	*e*P	**P**	**21 18 33.0**	**-0.8**
LBTB	**Lobatse**	**49.30**	**74**	*e*P	**P**	**21 18 33.0**	**-0.8**
LPAZ	**La Paz**	**49.85**	**306**	P	**P**	**21 18 39.8**	**+1.2**
	comp=Z,64nm,0.9s,baz=141,slow=6.4,SNR=222						
LPAZ				ScP	**ScP**	**21 23 49.2**	**-3.2**
	comp=Z,15nm,1.2s,baz=144,slow=6.2,SNR=6.1						
LPAZ				LR	LR	21 39 20.2	
	comp=Z,1μm,21.7s,baz=166,slow=36						
LPAZ	**La Paz**	**49.85**	**306**	*e*P	**P**	**21 18 39.7**	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,196nm,1.3s						
LPAZ	**La Paz**	**49.85**	**306**	*e*P	**P**	**21 18 39.7**	**+1.2**
	comp=Z,196nm,1.3s						
LPAZ				ScP	**ScP**	**21 23 49.2**	**-3.2**
TSUM	**Tsumeb**	**49.88**	**62**	P	**P**	**21 18 37.1**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=206,slow=8.5,SNR=3.0						
TSUM				LR	LR	21 35 47.4	
	comp=Z,2μm,20.6s,baz=215,slow=31						
TSUM	**Tsumeb**	**49.88**	**62**	*e*P	**P**	**21 18 37.4**	**-0.9**
TSUM				LR	LR		
	comp=Z,2μm,18.0s						
RCBR	**Riachuelo**	**50.15**	**350**	LR	LR	21 35 04.8	
	comp=Z,3μm,21.2s,baz=157,slow=30						
RCBR	**Riachuelo**	**50.15**	**350**	PFAKE		21 18 50.0	+10
RCBR				LR	LR		
	comp=Z,3μm,22.0s						
MIR	**Mirnyy**	**50.27**	**153**	*e*P	**P**	**21 18 40.0**	**-0.5**
SAML	**Samuel**	**54.27**	**315**	*e*P	**P**	**21 19 09.2**	**-1.5**
	comp=Z,44nm,1.2s						
SAML				LR	LR		
	comp=Z,2μm,22.0s						
CASY	**Casey**	**54.37**	**161**	*e*P	**P**	**21 19 12.1**	**+1.2**
	comp=Z,116nm,1.1s						
CASY				*e*PP	**PP**	**21 21 13.3**	**+0.8**
CASY				LR	LR		
	comp=Z,7μm,22.0s						
PAF	**Port-aux-Franc**	**55.15**	**128**	P	P	21 19 03.0	-14
PAF				S	S	21 26 44.0	-14
PAF				L	L	21 32 00.0	
PAF				R		21 35 00.0	
DRV	**Dumont d'Urvil**	**57.61**	**174**	P	P	21 19 02.0	-32
DRV				PP	**PP**	**21 21 38.0**	**-3.3**
DRV				S	S	21 27 17.0	-13
DRV				SS	**SS**	**21 31 19.0**	**-0.1**
DRV				L	L	21 34 00.0	
DRV				R		21 37 00.0	
NNA	**Nana**	**57.73**	**299**	P	**P**	**21 19 36.8**	**+1.2**
	comp=Z,40nm,0.9s,baz=181,slow=9.3,SNR=4.3						
NNA	**Nana**	**57.73**	**299**	*e*P	**P**	**21 19 37.0**	**+1.5**
NNA				MLR	MLR		
	comp=Z,1μm,18.0s						
**

GRGR LR LR
comp=Z,1µm,20.0s
SDV Santo Domingo 73.48 316 eP P 21 21 17.8 +0.4
comp=Z,59nm,0.8s
SDV LR LR
comp=Z,4µm,20.0s
BBGH Gun Hill 73.56 328 PFAKE 21 21 30.0 +12
BBGH LR LR
comp=Z,4µm,20.0s
KMBO Kilima Mbogo 75.30 70 P **P 21 21 28.1 0.0**
comp=Z,0.7nm,0.3s,baz=172,slow=4.5,SNR=6.7
KMBO LR LR 21 53 39.0
comp=Z,3µm,18.4s,baz=218,slow=35
KMBO Kilima Mbogo 75.30 70 *i* P **P 21 21 30.0 +1.9**
KMBO Kilima Mbogo 75.30 70 P **P 21 21 28.1 0.0**
KMBO LR LR
comp=Z,11µm,18.0s
DLPL La Plaine 76.14 327 eP P 21 21 41.7 +9.3
BBL Barber's Block 76.39 327 eP **P 21 21 34.8 +1.0**
TBG Guadaloupe-3 76.75 327 eP **P 21 21 36.9 +1.1**
HMG Houelmont 76.89 327 eP **P 21 21 38.1 +1.4**
PHG Guadaloupe-2 76.90 327 eP **P 21 21 37.8 +0.9**
SCG Saint Claude 76.93 327 eP **P 21 21 38.4 +1.4**
ECG Echelle 76.93 327 eP **P 21 21 38.5 +1.4**
LKG Breislack 76.93 327 eP **P 21 21 38.0 +0.9**
TAG Tarade 76.93 327 eP **P 21 21 38.7 +1.6**
CRG Carmichael 76.94 327 eP **P 21 21 38.6 +1.4**
MLG Mont-d'or 76.97 327 eP **P 21 21 37.2 0.0**
SSG Sans Toucher 76.98 327 eP **P 21 21 38.7 +1.4**
LZG Guadaloupe-1 77.06 327 eP **P 21 21 39.0 +1.4**
SEG Port Louis 77.22 327 eP **P 21 21 39.2 +0.7**
BCIP Isla Barro Col 77.63 307 PFAKE 21 21 50.0 +9.1
BCIP LR LR
comp=Z,800nm,22.0s
ANWB Willy Bob 78.50 327 PFAKE 21 22 00.0 +14
ANWB LR LR
comp=Z,2µm,22.0s
SABA Saba 78.91 326 eP **P 21 21 49.3 +1.4**
comp=Z,133nm,0.9s
RPZ Rata Peaks 79.65 194 P **P 21 21 53.0 +1.2**
comp=Z,11nm,0.7s,baz=196,slow=3.5,SNR=3.1
MTP Monte Pirata 80.11 324 PFAKE 21 22 10.0 +16
MTP LR LR
comp=Z,900nm,21.0s
STVI Saint Thomas 80.15 325 eP **P 21 21 54.8 +0.3**
comp=Z,78nm,0.9s
HUMP Col San Antoni 80.25 324 eP **P 21 21 55.6 +0.5**
comp=Z,48nm,1.0s
HUMP LR LR
comp=Z,1µm,22.0s
RKT Rikitea 80.27 243 eLQ LQ 21 43 34.9
comp=Z,2µm,27.8s
RKT eLR LR 21 47 07.2
comp=Z,1µm,24.5s,baz=145
RKT Rikitea 80.27 243 eT T 22 50 14.8
comp=Z,2.8nm,0.3s
SJG San Juan 80.32 323 eP **P 21 21 55.0 -0.5**
SJG pmax pmax
comp=Z,227nm,1.2s
SJG MLR MLR
comp=Z,7µm,22.0s
SJG San Juan 80.32 323 eP **P 21 21 55.0 -0.5**
comp=Z,226nm,1.2s
SJG LR LR
comp=Z,7µm,22.0s
CBYP Canovanas 80.37 324 eP **P 21 21 55.7 -0.2**
comp=Z,72nm,1.1s
CBYP LR LR
comp=Z,800nm,20.0s
AGP Aguadilla 80.94 323 PFAKE 21 22 10.0 +11
AGP LR LR
comp=Z,800nm,18.0s
JTS JuntasAbangare 80.98 303 P **P 21 21 60.0 +0.7**
comp=Z,28nm,1.0s,baz=221,slow=2.7,SNR=13
JTS JuntasAbangare 80.98 303 *d iP* **P 21 22 00.2 +1.0**
JTS pmax pmax
comp=Z,176nm,1.7s
JTS MLR MLR
comp=Z,2µm,22.0s
JTS JuntasAbangare 80.98 303 eP **P 21 22 00.8 +1.6**
JTS LR LR
comp=Z,800nm,20.0s
SNZO South Karori 81.46 197 PFAKE 21 22 10.0 +8.5
SNZO LR LR
comp=Z,2µm,20.0s
TAU Tasmania Unive 81.67 176 eP **P 21 22 02.7 +0.1**
TAU MLR MLR
comp=Z,2µm,18.0s
TAU Tasmania Unive 81.67 176 eP **P 21 22 02.7 +0.1**
comp=Z,1µm,2.6s
TAU LR LR
comp=Z,2µm,18.0s
BFZ Birch Farm 81.80 198 PFAKE 21 22 20.0 +17
BFZ LR LR
comp=Z,2µm,21.0s
SSN San Juan del S 82.29 303 PFAKE 21 22 20.0 +14
SSN LR LR
comp=Z,700nm,20.0s
MSEY Mahe Island 82.44 87 PFAKE 21 22 20.0 +13
MSEY LR LR
comp=Z,2µm,19.0s
PAPH Port-au-Prince 82.91 318 eP **P 21 22 10.9 +1.7**
SDDR Presa de Saban 82.95 319 eP **P 21 22 09.5 +0.1**
comp=Z,24nm,0.8s
SDDR LR LR
comp=Z,2µm,22.0s
BKZ Black Stump Fm 83.23 199 eP **P 21 22 11.8 +0.9**
comp=Z,65nm,1.5s
BKZ LR LR
comp=Z,2µm,19.0s
URZ Urewera 83.99 200 P **P 21 22 15.6 +0.9**
comp=Z,7.6nm,0.8s,baz=149,slow=8.7
URZ Urewera 83.99 200 P **P 21 22 15.6 +0.9**
URZ LR LR
comp=Z,2µm,21.0s
FURI Furi 84.52 66 PFAKE 21 22 30.0 +12
FURI LR LR
comp=Z,2µm,20.0s
MTDJ Mount Denham 84.71 313 PFAKE 21 22 30.0 +11
MTDJ LR LR
comp=Z,3µm,22.0s
GRTK Grand Turk 85.21 320 PFAKE 21 22 30.0 +9.2
GRTK LR LR
comp=Z,1µm,21.0s
GTBY Guantanamo Bay 85.27 316 PFAKE 21 22 30.0 +8.8
GTBY LR LR
comp=Z,3µm,22.0s
NWAO Narrogin (SRO) 86.83 151 P **P 21 22 29.0 0.0**
comp=Z,7.9nm,0.7s,baz=205,slow=8.0,SNR=4.7
NWAO Narrogin (SRO) 86.83 151 P **P 21 22 29.0 0.0**
TBI Tubuai 86.98 232 eS **S 21 33 10.2 +3.5**
comp=Z,495nm,27.0s
TBI Tubuai 86.98 232 eLR LR 21 50 11.2
comp=Z,823nm,23.5s
OUZ Omahuta 87.58 197 PFAKE 21 22 40.0 +7.5
OUZ LR LR
comp=Z,1µm,18.0s
H08N3 Diego Garcia H 89.80 101 T T 23 02 33.9
baz=216,slow=75,SNR=13
H08N1 Diego Carcia H 89.82 101 T T 23 02 37.8
baz=216,slow=75,SNR=13
H08N2 Diego Garcia H 89.83 101 T T 23 02 33.6
baz=216,slow=75,SNR=15
BBOO Buckleboo 90.77 167 PFAKE 21 23 00.0 +12
BBOO LR LR
comp=Z,3µm,20.0s
TEIG Tepich 91.17 305 P **P 21 22 50.3 +0.9**
comp=Z,25nm,0.8s,baz=352,slow=0.6,SNR=11
TEIG Tepich 91.17 305 eP **P 21 22 50.8 +1.4**
TEIG LR LR
comp=Z,700nm,20.0s
CMIG Matias Romero 91.66 298 P **P 21 22 52.5 +0.7**
comp=Z,4.1nm,0.8s,baz=143,slow=2.4,SNR=8.0
PPT2 Papeete2 92.05 234 eS **S 21 33 56.6 +2.3**
comp=Z,494nm,30.2s
PPT2 Papeete2 92.05 234 eLR LR 21 52 32.0
comp=Z,1µm,23.8s,baz=152
PPT Papeete 92.07 234 LR LR 21 55 30.2
comp=Z,641nm,21.8s,baz=182,slow=30
DAMY Dhamar 92.27 67 PFAKE 21 23 10.0 +15
DAMY LR LR
comp=Z,2µm,19.0s
STKA Stephens Creek 92.31 171 P **P 21 22 56.8 +2.1**
comp=Z,4.9nm,0.6s,baz=183,slow=3.8,SNR=13
STKA PP **PP 21 26 34.2 -0.2**
comp=Z,7.5nm,1.1s,baz=182,slow=8.9,SNR=4.1
STKA LR LR 22 03 53.3
comp=Z,3µm,18.5s,baz=182,slow=35
STKA Stephens Creek 92.31 171 eP **P 21 22 56.1 +1.3**
STKA *e* 21 26 35.0
STKA pmax pmax
comp=Z,20nm,2.3s
STKA Stephens Creek 92.31 171 eP **P 21 22 56.0 +1.3**
comp=Z,20nm,2.3s
STKA ePP **PP 21 26 35.0 +0.6**
BBSR BB Station 93.19 330 PFAKE 21 23 10.0 +12
BBSR LR LR
comp=Z,2µm,21.0s
MORF Marmelete 94.10 15 eP **P 21 23 03.5 +0.9**
comp=Z,45nm,1.2s
ARMA Armidale 94.22 180 PFAKE 21 23 20.0 +16
ARMA LR LR
comp=Z,2µm,21.0s
PTEO Sao Teotonio 94.32 15 eP **P 21 23 02.4 -1.1**
comp=Z,86nm,1.5s
PVAQ Vaqueiros 94.34 16 eSKS **SKSac 21 33 35.1 -1.2**
PVAQ Vaqueiros 94.34 16 eLQ LQ 21 49 31.1
PVAQ eLR LR 21 54 19.1
comp=Z,1µm,24.0s
PCVE Castro Verde 94.51 16 eP **P 21 23 05.4 +1.0**
comp=Z,8.0nm,1.7s
PNCL Nicolau / Gran 94.91 15 eP **P 21 23 07.9 +1.7**
comp=Z,29nm,1.7s
PBAR Barrancos 95.20 16 eP **P 21 23 09.7 +2.2**
comp=Z,69nm,1.5s
PESTR Estremoz 95.79 16 eP **P 21 23 12.7 +2.5**
comp=Z,30nm,1.8s
PMRV Marv??o 96.37 16 eSKS **SKSac 21 33 50.9 +3.8**
PMRV Marv??o 96.37 16 eLQ LQ 21 50 30.0
PMRV eLR LR 21 53 51.7
comp=Z,881nm,22.0s
KEST Kesra 96.48 30 P **P 21 23 13.8 +0.3**
comp=Z,1.1nm,0.7s,baz=128,slow=12,SNR=3.3
KEST PP **PP 21 27 06.8 -1.5**
comp=Z,1.2nm,0.9s,baz=251,slow=15,SNR=3.6
KEST LR 22 02 26.9
comp=Z,651nm,19.7s,baz=174,slow=33
PAB San Pablo 96.99 18 eP **P 21 23 17.3 +1.6**
PAB pmax pmax
comp=Z,15nm,1.3s
PAB MLR MLR
comp=Z,2µm,22.0s
PAB San Pablo 96.99 18 eP **P 21 23 17.3 +1.6**
comp=Z,15nm,1.3s
PAB LR LR
comp=Z,2µm,22.0s
ESDC Sonseca Array 97.18 18 P Pdif 21 23 17.5 +0.9
comp=Z,1.8nm,0.7s,baz=188,slow=4.5,SNR=15
ESDC LR LR 22 01 48.9
comp=Z,1µm,21.8s,baz=145,slow=32
MTE Manteigas 97.30 16 eSKS **SKSac 21 33 54.1 +2.1**
MTE Manteigas 97.30 16 eLQ LQ 21 50 30.2
MTE eLR LR 21 54 34.5
comp=Z,1µm,24.0s
MTE Manteigas 97.30 16 PFAKE 21 23 30.0 +13
MTE LR LR
comp=Z,900nm,18.0s
MVO Moncorvo 98.12 16 eSKS **SKSac 21 34 00.2 +4.0**
MVO Moncorvo 98.12 16 eLQ LQ 21 50 47.9
MVO eLR LR 21 54 35.7
comp=Z,855nm,18.0s
WDD Wield Dalam 98.14 34 PFAKE 21 23 30.0 +9.1
WDD LR LR
comp=Z,2µm,19.0s
PGAV Gavieira, Arco 98.72 15 eSKS **SKSac 21 34 02.3 +3.1**
PGAV Gavieira, Arco 98.72 15 eLQ LQ 21 51 04.7
PGAV eLR LR 21 55 46.5
comp=Z,2µm,20.0s
TIGA Tifton 98.92 314 PFAKE 21 23 40.0 +15
TIGA LR LR
comp=Z,4µm,22.0s
NHSC New Hope 99.06 318 PFAKE 21 23 40.0 +15
NHSC LR LR
comp=Z,2µm,22.0s
EIDS Eidsvold 99.25 179 ePP PP 21 27 30.2 +2.0
EIDS LR LR
comp=Z,2µm,20.0s
CLTB Caltabellotta 99.32 32 PFAKE 21 23 40.0 +14
CLTB LR LR
comp=Z,500nm,20.0s
AS12 Alice Springs 99.44 163 eP **Pdif 21 23 26.4 -1.0**
AS12 ePP **PP 21 27 26.9 -2.9**
AS12 ePKKPbc **PKKPbc 21 39 48.8 +1.2**
ASAR Alice Springs 99.44 163 P **Pdif 21 23 26.4 -1.0**
comp=Z,4.4nm,0.7s,baz=187,slow=4.6,SNR=29
ASAR PP **PP 21 27 26.9 -2.9**
comp=Z,6.2nm,0.9s,baz=185,slow=7.3,SNR=8.5
ASAR PKKP **PKKPbc 21 39 48.8 +1.2**
comp=Z,0.7nm,0.7s,baz=20,slow=2.2,SNR=14
ASAR LR 22 05 36.6
comp=Z,740nm,20.8s,baz=172,slow=34
BRAL Brewton 99.99 312 PFAKE 21 23 40.0 +11
BRAL LR LR
comp=Z,1µm,19.0s
VSL Villasalto 100.01 28 PFAKE 21 23 40.0 +11
VSL LR LR
comp=Z,1µm,22.0s
RAYN Ar Rayn 100.31 63 PFAKE 21 23 40.0 +9.0
RAYN LR LR
comp=Z,1µm,20.0s
GVD Gavdhos 100.50 41 PFAKE 21 23 40.0 +8.5
GVD LR LR
comp=Z,2µm,19.0s
GOGA Godfrey 100.61 315 PFAKE 21 23 40.0 +8.0
GOGA LR LR
comp=Z,1µm,20.0s
CEL Celeste 100.77 34 PFAKE 21 23 40.0 +7.3
CEL LR LR
comp=Z,1µm,20.0s
KMSC Kings Mountain 101.30 318 PFAKE 21 23 50.0 +15
KMSC LR LR
comp=Z,1µm,21.0s
DZM Mont Dzumac 101.57 194 ePdif **Pdif 21 23 38.0 +1.1**
comp=Z,53nm,28.4s
DZM Mont Dzumac 101.57 194 ePP PP 21 27 43.8 -2.2
comp=Z,129nm,24.4s
DZM Mont Dzumac 101.57 194 ePS PS 21 36 52.4 +2.4
comp=Z,285nm,25.9s
DZM eSS SS 21 42 24.0 +7.9
comp=Z,960nm,29.0s
DZM Mont Dzumac 101.57 194 eLR LR 21 56 52.4
comp=Z,3µm,24.8s
LRAL Lakeview Retre 101.72 313 PFAKE 21 23 50.0 +13
LRAL LR LR
comp=Z,1µm,21.0s
CUC Castrocucco 102.33 33 PFAKE 21 23 50.0 +10
CUC LR LR
comp=Z,400nm,20.0s
SANT Santorini 102.37 42 PFAKE 21 23 50.0 +10
SANT LR LR
comp=Z,500nm,18.0s
VBMS Vicksburg 102.51 310 PFAKE 21 23 50.0 +10
VBMS LR LR
comp=Z,1µm,22.0s
WRA Warramunga Arr 103.16 163 Pdiff **Pdif 21 23 42.7 -1.2**
comp=Z,0.9nm,0.6s,baz=195,slow=4.2,SNR=10.0
WRA PP **PP 21 27 58.0 +0.1**
comp=Z,12nm,1.2s,baz=192,slow=6.6,SNR=11
WRA PKKPbc **PKKPbc 21 39 38.3 +1.4**
comp=Z,0.9nm,0.7s,baz=356,slow=2.9,SNR=9.6
WRAB Tennant Creek 103.17 163 ePP PP 21 27 57.8 -0.1
WRAB LR LR
comp=Z,900nm,18.0s
AGG Agios Georgios 103.59 38 PFAKE 21 24 00.0 +15
AGG LR LR
comp=Z,500nm,20.0s
CPNY Central Park 103.78 326 PFAKE 21 24 00.0 +14
CPNY LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 103.78 30 PFAKE 21 24 00.0 +14
AQU LR LR
comp=Z,3µm,21.0s
PAL Palisades 103.96 326 PFAKE 21 24 00.0 +13
PAL LR LR
comp=Z,2µm,22.0s
NATX Nacogdoches 103.97 306 PFAKE 21 24 00.0 +13
NATX LR LR
comp=Z,800nm,22.0s
ODNJ Ogdensburg 104.25 325 PFAKE 21 24 00.0 +12
ODNJ LR LR
comp=Z,2µm,22.0s
CSS Prodhromos 104.28 48 PFAKE 21 24 00.0 +12
CSS LR LR
comp=Z,300nm,20.0s
CTAO Charters Tower 104.34 174 PFAKE 21 24 00.0 +11
CTAO LR LR
comp=Z,4µm,21.0s
BNI Bardonecchia 104.55 25 PFAKE 21 24 00.0 +11
BNI LR LR
comp=Z,3µm,22.0s
HRV Adam Dziewonsk 104.60 328 PFAKE 21 24 00.0 +10
HRV LR LR
comp=Z,2µm,21.0s
VLC Villacollemand 104.63 27 PFAKE 21 24 00.0 +10
VLC LR LR
comp=Z,1µm,22.0s
WVT Waverly 104.73 314 PFAKE 21 24 00.0 +10
WVT LR LR
comp=Z,3µm,22.0s
SSPA Standing Stone 104.94 323 PFAKE 21 24 00.0 +8.9
SSPA LR LR
comp=Z,1µm,22.0s
KSPA Keystone Colle 105.06 325 PFAKE 21 28 20.0
KSPA LR LR
comp=Z,2µm,22.0s
ISP Isparta 105.59 44 PFAKE 21 28 20.0
ISP LR LR
comp=Z,700nm,20.0s
BINY Binghamton 105.71 325 PFAKE 21 28 20.0
BINY LR LR
comp=Z,1µm,21.0s
PVMO Portageville 105.75 312 PFAKE 21 28 20.0
PVMO LR LR
comp=Z,2µm,20.0s
ACCN Adirondack Com 106.04 327 PFAKE 21 28 20.0
ACCN LR LR
comp=Z,2µm,21.0s
TXAR Lajitas Array 106.27 298 Pdiff **Pdif 21 23 57.1 -0.3**
comp=Z,0.2nm,0.8s,baz=155,slow=3.0,SNR=3.2
TXAR PKiKP **PKiKP 21 28 09.2 +0.4**
comp=Z,0.4nm,0.8s,baz=152,slow=4.1,SNR=2.9
TXAR PKKPab **PKKPab 21 39 43.5 +0.2**
comp=Z,0.5nm,1.0s,baz=273,slow=2.1,SNR=3.9
LBNH Lisbon 106.30 329 PFAKE 21 28 20.0
LBNH LR LR
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 106.40 319 PFAKE 21 28 20.0
ACSO LR LR
comp=Z,900nm,19.0s
PALK Pallekele 106.43 101 PFAKE 21 28 20.0
PALK LR LR
comp=Z,900nm,20.0s
PKME Peaks-Kenny Pk 106.48 331 PFAKE 21 28 20.0
PKME LR LR
comp=Z,1µm,21.0s
TUE Stuetta 106.53 26 ePdif **Pdif 21 23 55.8 -2.4**
TUE LR LR
comp=Z,1µm,21.0s
ALLY Alegheny Colle 106.62 322 PFAKE 21 28 20.0
ALLY LR LR
comp=Z,1µm,22.0s
NCB Newcomb 106.75 327 ePdif **Pdif 21 23 59.5 +0.5**
FUORN Ofenpass-Fuorn 106.89 26 PFAKE 21 28 20.0
FUORN LR LR
comp=Z,800nm,20.0s
TRI Trieste 106.97 29 PFAKE 21 28 20.0
TRI LR LR
comp=Z,900nm,21.0s
ERPA Erie 106.98 322 PFAKE 21 28 20.0
ERPA LR LR
comp=Z,1µm,22.0s
CISI Cisompet, Garu 107.10 134 PFAKE 21 28 20.0
CISI LR LR
comp=Z,1µm,22.0s
PQI Presque Isle 107.44 332 ePKiKP **PKiKP 21 28 11.2 +1.0**
LONY Lake Ozonia 107.44 327 PFAKE 21 28 20.0
LONY LR LR
comp=Z,2µm,22.0s
PTN Potsdam (NY) 107.52 327 PFAKE 21 28 20.0
PTN LR LR
comp=Z,4µm,22.0s
TUL1 Leonard 107.96 308 PFAKE 21 28 20.0
TUL1 LR LR
comp=Z,1µm,21.0s
BFO Black Forest 108.02 25 PFAKE 21 28 20.0
BFO LR LR
comp=Z,2µm,22.0s
SFIN Lafayette 108.09 316 PFAKE 21 28 20.0
SFIN LR LR
comp=Z,1µm,22.0s
ANTO Ankara 108.25 45 PFAKE 21 28 20.0
ANTO LR LR
comp=Z,800nm,20.0s
BR101 Keskin Array S 108.47 46 ePP PP 21 28 33.5 -4.9
BRTR Keskin Array B 108.47 46 PP PP 21 28 33.5 -4.9
comp=Z,2.1nm,1.1s,baz=198,slow=7.8,SNR=5.5
STU Stuttgart 108.64 25 PFAKE 21 28 20.0
STU LR LR
comp=Z,2µm,21.0s
WLF Walferdange 108.78 23 PFAKE 21 28 20.0
WLF LR LR
comp=Z,1µm,18.0s
HDIL Hopedale 109.11 315 ePdif **Pdif 21 24 15.2 +5.6**
HDIL LR LR
comp=Z,2µm,20.0s
U34A Anderson Ranch 109.18 307 PFAKE 21 28 30.0
U34A LR LR
comp=Z,1µm,22.0s
UCC Uccle 109.48 21 PFAKE 21 28 30.0
UCC LR LR
comp=Z,1µm,19.0s
MEM Membach 109.64 22 PFAKE 21 28 30.0
MEM LR LR
comp=Z,900nm,18.0s
GEC2 GERESS Array S 109.84 28 ePKiKP **PKiKP 21 28 13.5 -1.3**
GEC2 ePP **PP 21 28 50.1 +2.0**
GERES GERESS Array B 109.84 28 PKiKP **PKiKP 21 28 13.5 -1.3**
comp=Z,0.4nm,0.6s,baz=197,slow=3.1,SNR=4.9
GERES PP **PP 21 28 50.1 +2.0**
comp=Z,0.9nm,0.8s,baz=216,slow=6.6,SNR=4.5
PMBI Palembang 109.96 129 PFAKE 21 28 30.0
PMBI LR LR
comp=Z,1µm,20.0s
GRFO Grafenberg 109.98 26 PFAKE 21 28 30.0
GRFO LR LR
comp=Z,1µm,22.0s
COEN Coen 110.20 171 PFAKE 21 28 30.0
COEN LR LR
comp=Z,2µm,19.0s
GSI Gunungsitoli 110.31 120 PFAKE 21 28 30.0
GSI LR LR
comp=Z,2µm,21.0s
TIRR Tirgusor 110.53 40 PFAKE 21 28 30.0
TIRR LR LR
comp=Z,500nm,20.0s
TREC Trest 110.73 29 AMS AMS 22 10 00.0
comp=Z,2µm,18.7s
PSZ Piszkesteto 110.75 32 PFAKE 21 28 30.0
PSZ LR LR
comp=Z,1µm,22.0s
SOEI Soe 110.77 151 PFAKE 21 28 30.0
SOEI LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 110.97 309 PFAKE 21 28 30.0
KSU1 LR LR
comp=Z,1µm,20.0s
GOPC GO Pecny, Ondr 111.11 28 ePS PS 21 38 32.8 +5.2
GOPC eSS SS 21 44 36.1 +8.6
GOPC AMS AMS 22 09 30.0
comp=Z,2µm,19.7s
PRU Pruhonice 111.11 28 ePS PS 21 38 30.2 +2.7
PRU eSS SS 21 44 34.5 +7.0
PRU AMS AMS 22 10 00.0
comp=Z,2µm,20.0s
BKNI Bangkinang 111.13 124 PFAKE 21 28 30.0
BKNI LR LR
comp=Z,900nm,20.0s
PRA Prague 111.15 28 ePS PS 21 38 28.2 +0.3
PRA AMS AMS 22 09 30.0
comp=Z,2µm,20.9s
MMRI Maumere 111.25 148 PFAKE 21 28 30.0
MMRI LR LR
comp=Z,500nm,22.0s
JFWS Jewell Farm 111.48 316 PFAKE 21 28 30.0
JFWS LR LR
comp=Z,2µm,22.0s
PVCC Panska Ves 111.61 28 ePP PP 21 29 04.4 +3.7

PVCC AMS AMS 22 10 20.0
comp=Z,1µm,18.7s
MORC Moravsky Berou 111.73 30 PFAKE 21 28 30.0
MORC LR LR
comp=Z,1µm,21.0s
KRLC Kraliky 111.79 29 *e*PP PP 21 29 04.2 +2.1
SCIA State Center 111.84 313 PFAKE 21 28 30.0
SCIA LR LR
comp=Z,3µm,22.0s
DPC Dobruska-Polom 111.92 29 *e*PP PP 21 29 03.1 +0.1
DPC *ex* x 21 29 15.9
DPC *e*PS **PS** **21 38 37.0 +1.9**
DPC *e*SS SS 21 44 44.1 +5.7
DPC AMS AMS 22 09 50.0
DPC Dobruska-Polom 111.92 29 PFAKE 21 28 30.0
DPC LR LR
comp=Z,4µm,22.0s
CLL Collm 111.92 26 *e*PP PP 21 29 04.0 +1.1
CLL *e*PS **PS** **21 38 36.0 +1.1**
CLL *e*SS SS 21 44 43.0 +4.8
CLL *e*SSS SSS 21 48 48.0
CLL LmV 22 11 00.0
comp=Z,700nm,21.8s
CLL Collm 111.92 26 *e*P **Pdif** **21 24 20.0 -1.8**
CLL *e* 21 29 04.0
CLL MLR MLR
comp=Z,700nm,21.8s
CLL Collm 111.92 26 PFAKE 21 28 30.0
CLL LR LR
comp=Z,900nm,21.0s
OKC Ostrava-Krasne 111.96 30 *e*PP PP 21 29 00.0 -3.2
OKC AMS AMS 22 08 30.0
comp=Z,800nm,20.9s
ANMO Albuquerque 112.19 300 ⇓*i*PKIKP **PKiKP** **21 28 16.7 -3.1**
ANMO Albuquerque 112.19 300 PFAKE 21 28 30.0
ANMO LR LR
comp=Z,800nm,22.0s
PSI Prapat 112.27 120 PFAKE 21 28 30.0
PSI LR LR
comp=Z,2µm,20.0s
T25A Trinidad 112.95 302 PFAKE 21 28 30.0
T25A LR LR
comp=Z,800nm,20.0s
RUE Ruedersdorf 113.19 26 PFAKE 21 28 30.0
RUE LR LR
comp=Z,900nm,21.0s
LHMI Lhok Sumawe 113.38 117 PFAKE 21 28 30.0
LHMI LR LR
comp=Z,2µm,20.0s
BGNE Belgrade 113.53 309 PFAKE 21 28 30.0
BGNE LR LR
comp=Z,2µm,22.0s
GNI Garni 113.59 53 PFAKE 21 28 30.0
GNI LR LR
comp=Z,1µm,20.0s
KSCO Kaye Shedlock' 113.61 305 PFAKE 21 28 30.0
KSCO LR LR
comp=Z,1µm,20.0s
MYKOM Kota Tinggi 113.73 125 PFAKE 21 28 40.0
MYKOM LR LR
comp=Z,700nm,20.0s
COWI Conover 113.74 318 PFAKE 21 28 30.0
COWI LR LR
comp=Z,900nm,22.0s
KAPI Kappang 113.88 144 PFAKE 21 28 40.0
KAPI LR LR
comp=Z,400nm,19.0s
SDCO Great Sand Dun 113.96 302 PFAKE 21 28 40.0
SDCO LR LR
comp=Z,800nm,22.0s
SPMN Marine on St. 114.43 315 PFAKE 21 28 40.0 +17
SPMN LR LR
comp=Z,1µm,19.0s
SCHQ Schefferville 114.69 336 PKP PKPdf 21 28 22.9 -0.8
comp=Z,2.2nm,0.7s,baz=234,slow=2.6,SNR=4.5
IPM Ipoh 114.75 121 PFAKE 21 28 40.0 +15
IPM LR LR
comp=Z,1µm,21.0s
Q24A Divide 114.76 303 PFAKE 21 28 40.0 +15
Q24A LR LR
comp=Z,900nm,21.0s
ECSD EROS Data Cent 114.77 312 PFAKE 21 28 40.0 +16
ECSD LR LR
comp=Z,3µm,22.0s
HNR Honiara 114.77 189 PFAKE 21 28 40.0 +15
HNR LR LR
comp=Z,65µm,22.0s
PMG Port Moresby 115.00 175 PFAKE 21 28 40.0 +14
PMG LR LR
comp=Z,6µm,20.0s
IGLO Ghaloghah 115.01 62 *e*P **PP** **21 29 23.9 -1.5**
WUAZ Wupatki 115.10 296 *e*PP PP 21 29 27.5 +1.5
KULM Kulim 115.27 121 PFAKE 21 28 40.0 +14
KULM LR LR
comp=Z,2µm,21.0s
STKI Sintang 115.51 134 PKP PKPdf 21 28 17.6 -9.0
BAR Barrett 115.64 291 *e*PKPdf **PKPdf** **21 28 25.5 -0.8**
ISCO Idaho Springs 115.64 303 PFAKE 21 28 40.0 +14
ISCO LR LR
comp=Z,1µm,20.0s
KIV Kislovodsk 115.75 49 *i* PKIKP **PKPdf** **21 28 27.3 +1.1**
KIV *e* 21 29 30.9
KIV *e*PS **PS** **21 39 07.2 -3.2**
KIV *e*SS SS 21 45 32.3 +3.0
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,555nm,20.0s
KIV Kislovodsk 115.75 49 PFAKE 21 28 40.0 +14
KIV LR LR
comp=Z,600nm,21.0s
KIEV Kiev 116.15 37 ⇑*i* PKIKP **PKPdf** **21 28 24.9 -1.7**
AKASG Malin Array Be 116.16 37 PKP **PKPdf** **21 28 24.8 -1.8**
comp=Z,0.6nm,0.6s,baz=236,slow=1.3,SNR=6.4
AKASG SKP 21 31 57.6
comp=Z,0.4nm,0.5s,baz=240,slow=1.2,SNR=4.9
AKBB Malin Array Si 116.16 37 *e*PKIKP **PKPdf** **21 28 24.8 -1.8**
AKBB Malin Array Si 116.16 37 *e*PKPdf **PKPdf** **21 28 24.8 -1.8**
EYMN Ely 116.17 318 PFAKE 21 28 40.0 +13
EYMN LR LR
comp=Z,900nm,22.0s
SNDA J Saunders Pla 116.28 291 *e*PKPdf **PKPdf** **21 28 29.3 +1.7**
KSM Kuching 116.30 132 PFAKE 21 28 40.0 +12
KSM LR LR
comp=Z,500nm,20.0s
BRSD Miller 116.33 311 PFAKE 21 28 40.0 +13
BRSD LR LR
comp=Z,2µm,21.0s
BACC Bachelor Mtn. 116.56 291 *e*PKPdf **PKPdf** **21 28 28.0 -0.1**
HMTC Hemet 116.61 291 *e*PKPdf **PKPdf** **21 28 29.0 +0.9**
N23A Red Feather La 116.66 304 PFAKE 21 28 40.0 +12
N23A LR LR
comp=Z,700nm,22.0s
MAK Makhachkala 117.08 53 P **Pdif** **21 24 44.7 -0.3**
MAK *e* 21 29 37.4
MAK *e* 21 35 18.0
MAK *e* 21 35 40.5
MAK *e*PS **PS** **21 39 24.7 +2.5**
MAK MLR MLR
comp=Z,1µm,18.0s
SRU San Rafael Swe 117.47 300 *e*PKIKP **PKPdf** **21 28 31.7 +1.9**
SRU San Rafael Swe 117.47 300 *e*PKPdf **PKPdf** **21 28 31.7 +1.9**
IPAY Payeh 117.58 65 *e*P **PKPdf** **21 28 25.3 -4.9**
CCUT Cedar City 117.69 297 *e*PKPdf **PKPdf** **21 28 31.6 +1.3**
CCUT LR LR
comp=Z,1µm,21.0s
SHPR Sheep Range 117.80 295 *e*PKPdf **PKPdf** **21 28 31.3 +0.8**
MVU Marysvale 117.84 298 *e*PP PP 21 29 52.5 +7.2
ARUT Antelope Range 117.91 297 *e*PKIKP **PKPdf** **21 28 30.3 -0.4**
ARUT Antelope Range 117.91 297 *e*PKPdf **PKPdf** **21 28 30.3 -0.4**
SBUM Sibu 117.97 134 PFAKE 21 28 40.0 +8.6
SBUM LR LR
comp=Z,800nm,22.0s
EDW2 Edwards Air Fo 118.03 291 P **PKPdf** **21 28 31.2 +0.3**
baz=118
AGMN Agassiz Nation 118.15 315 PFAKE 21 28 40.0 +9.5
AGMN LR LR
comp=Z,1µm,22.0s
GEYT Alibeck 118.27 64 PKP **PKPdf** **21 28 29.5 -1.7**
comp=Z,0.9nm,0.7s,baz=298,slow=3.1,SNR=2.9
K22A Casper 118.30 305 PFAKE 21 28 40.0 +8.7
K22A LR LR
comp=Z,700nm,20.0s
RSSD Black Hills 118.31 307 *e*PKIKP **PKPdf** **21 28 30.9 -0.4**
RSSD *e* 21 28 37.1
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills 118.31 307 *e*PKPdf **PKPdf** **21 28 30.9 -0.4**
RSSD *e*PKiKP PKiKP 21 28 37.0 +5.7
RSSD LR LR
comp=Z,2µm,20.0s
LUWI Luwuk 118.59 146 PFAKE 21 28 40.0 +7.4
LUWI LR LR
comp=Z,400nm,22.0s
TPNV Topopah Spring 118.70 294 *e*PKIKP **PKPdf** **21 28 33.1 +0.9**
TPNV Topopah Spring 118.70 294 P **PKPdf** **21 28 32.7 +0.4**
baz=119
TPNV Topopah Spring 118.70 294 *e*PKPdf **PKPdf** **21 28 33.1 +0.9**
MPU Maple Canyon 118.72 299 PFAKE 21 28 40.0 +7.8
MPU LR LR
comp=Z,1µm,22.0s
KONO Kongsberg 118.83 21 PFAKE 21 28 40.0 +8.5
KONO LR LR
comp=Z,900nm,18.0s
NLU North Lily Min 118.89 299 PFAKE 21 28 40.0 +7.5
NLU LR LR
comp=Z,1µm,21.0s
H24A Dirks Ranch, A 119.03 308 P **PKPdf** **21 28 31.7 -0.8**
baz=119
JLU Jordanelle 119.07 300 *e*PKPdf **PKPdf** **21 28 36.4 +3.5**
I22A 9 Mile Ranch, 119.24 306 P **PKPdf** **21 28 32.3 -0.7**
baz=120
J21A Lysite 119.27 305 P **PKPdf** **21 28 32.3 -0.8**
baz=120
MDND Maddock 119.31 313 PFAKE 21 28 50.0 +17
MDND LR LR
comp=Z,2µm,22.0s
FAKI Fak Fak 119.34 157 PFAKE 21 28 50.0 +16
FAKI LR LR
comp=Z,900nm,19.0s
DUG Dugway, Tooele 119.44 299 *e*PKIKP **PKPdf** **21 28 33.9 +0.4**
DUG Dugway, Tooele 119.44 299 P **PKPdf** **21 28 33.7 +0.2**
baz=120
DUG Dugway, Tooele 119.44 299 *e*PKPdf **PKPdf** **21 28 33.9 +0.4**
J20A Shoshoni 119.57 304 P **PKPdf** **21 28 33.3 -0.3**
baz=120
ULM Lac du Bonnet 119.72 317 PKP **PKPdf** **21 28 32.0 -1.5**
comp=Z,1.6nm,0.5s,baz=94,slow=1.7,SNR=5.4
ULM PP **PP** **21 29 54.9 -2.8**
comp=Z,8.4nm,1.0s,baz=146,slow=6.9,SNR=5.8
ULM Lac du Bonnet 119.72 317 PKP **PKPdf** **21 28 32.0 -1.5**
ULM *e*PP **PP** **21 29 54.8 -2.9**
ULM PP PP 21 29 54.9 -2.8
PD31 Pinedale Array 119.81 303 *e*PKPdf **PKPdf** **21 28 32.4 -1.9**
PDAR Pinedale Array 119.81 303 PKP **PKPdf** **21 28 32.4 -1.9**
comp=Z,1.2nm,0.6s,baz=143,slow=5.6,SNR=8.4
PDAR SKP 21 32 03.9
comp=Z,1.0nm,0.8s,baz=152,slow=4.1,SNR=4.4
HWUT Hardware Ranch 119.90 301 *e*PKPdf **PKPdf** **21 28 33.9 -0.5**
J19A Crowheart 119.96 304 P **PKPdf** **21 28 33.8 -0.6**
baz=120
TOLI Toli-Toli 119.97 143 PFAKE 21 28 50.0 +15
TOLI LR LR
comp=Z,300nm,19.0s
VORD Divnogorie 120.00 42 *e*PKIKP **PKPdf** **21 28 33.9 -0.1**
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,6.0nm,1.0s
BGU Big Grassy Mou 120.10 299 *e*PKPdf **PKPdf** **21 28 35.6 +0.9**
BGU LR LR
comp=Z,900nm,21.0s
HFS Hagfors 120.13 23 PKKPbc PKKPbc 21 38 43.3 +1.5
comp=Z,1.2nm,0.6s,baz=100,slow=6.2,SNR=6.7
VSR Storozhevoye 120.15 42 *e*PKIKP **PKPdf** **21 28 33.9 -0.4**
VSR pmax pmax
comp=N,520nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 120.43 21 PKPdf **PKPdf** **21 28 33.8 -0.7**
comp=Z,15nm,1.7s,baz=202,slow=1.9
NB2 NORSAR Subarra 120.43 21 PKPdf **PKPdf** **21 28 33.8 -0.7**
baz=202,slow=1.9
NB200 NORSAR Array S 120.43 21 *e*PKPdf **PKPdf** **21 28 33.9 -0.7**
NB200 *e*PKKPbc **PKKPbc** **21 38 40.6 -0.2**
NOA NORSAR Array B 120.43 21 PKP **PKPdf** **21 28 33.9 -0.7**
comp=Z,1.3nm,0.7s,baz=207,slow=2.1,SNR=7.9
NOA PKKPbc **PKKPbc** **21 38 40.6 -0.2**
comp=Z,0.7nm,0.6s,baz=27,slow=3.2,SNR=4.0
MLI Malad Range 120.49 301 *e*PKPdf **PKPdf** **21 28 37.8 +2.3**
AHID Auburn Hatcher 120.55 302 PFAKE 21 28 50.0 +14
AHID LR LR
comp=Z,800nm,22.0s
NV01 Mina Array Sit 120.89 294 *e*PKPdf **PKPdf** **21 28 37.0 +0.6**
NVAR Mina Array Bea 120.89 294 PKP **PKPdf** **21 28 37.0 +0.6**
comp=Z,1.7nm,0.7s,baz=130,slow=3.0,SNR=11
NVAR SKP 21 32 07.0
comp=Z,4.0nm,1.1s,baz=158,slow=2.7,SNR=5.1
LOHW Long Hollow 120.95 303 *e*PKPdf **PKPdf** **21 28 36.2 -0.2**
VRHR Novokhopersk 121.00 44 *e*PKIKP **PKPdf** **21 28 34.4 -1.5**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
G20A Bridger 121.05 306 P **PKPdf** **21 28 35.4 -1.0**
baz=121
ELK Elko 121.06 298 *e*PKIKP **PKPdf** **21 28 39.7 +3.0**
ELK Elko 121.06 298 *e*PKPdf **PKPdf** **21 28 39.7 +3.0**
FXWY Fox Creek 121.17 303 *e*PKPdf **PKPdf** **21 28 37.3 +0.4**
JAY Jayapura 121.22 167 PKP **PKPdf** **21 28 42.7 +5.0**
LAO LASA Array 121.27 308 PFAKE 21 28 50.0 +13
LAO LR LR
comp=Z,1µm,21.0s
KBL Kabul 121.46 74 PFAKE 21 28 50.0 +12
KBL LR LR
comp=Z,600nm,21.0s
RLMT Red Lodge 121.47 305 PFAKE 21 28 50.0 +13
RLMT LR LR
comp=Z,1µm,20.0s
H17A Grant Village 121.53 303 PFAKE 21 28 50.0 +12
H17A LR LR
comp=Z,2µm,22.0s
WAKR Walker 121.53 293 *e*PKPdf PKPdf 21 28 44.7 +7.1
LKWY Lake 121.58 304 PFAKE 21 28 50.0 +12
LKWY LR LR
comp=Z,2µm,21.0s
D22A Cohagen 121.60 308 P **PKPdf** **21 28 37.7 +0.4**
baz=122
TNTI Ternate 121.68 151 PFAKE 21 28 50.0 +12
TNTI LR LR
comp=Z,400nm,19.0s
DGMT Dagmar 121.74 311 PFAKE 21 28 50.0 +13
DGMT LR LR
comp=Z,1µm,22.0s
BMN Battle Mountai 121.83 296 *e*PKIKP **PKPdf** **21 28 39.0 +0.9**
BMN Battle Mountai 121.83 296 *e*PKPdf **PKPdf** **21 28 39.0 +0.9**
E20A Meyer Farm, Mu 121.99 307 P **PKPdf** **21 28 37.9 -0.2**
baz=122
QLMT Earthquake Lak 122.26 303 *e*PKPdf **PKPdf** **21 28 42.7 +3.8**
OBN Obninsk 122.32 38 ⇑*i* PKIKP **PKPdf** **21 28 38.1 -0.2**
OBN pmax pmax
comp=Z,28nm,1.5s
OBN MLR MLR
comp=Z,436nm,20.0s
D20A Manuel Ranch, 122.43 307 P **PKPdf** **21 28 38.3 -0.6**
baz=123
HLID Hailey 122.75 300 *e*PKPdf **PKPdf** **21 28 43.1 +3.3**
D19A Cripps Ranch, 122.82 307 P **PKPdf** **21 28 39.1 -0.6**
baz=123
KKM Kota Kinabalu 122.84 136 PFAKE 21 28 50.0 +9.2
KKM LR LR
comp=Z,700nm,22.0s
BOZ Bozeman (W) 122.96 304 PFAKE 21 28 50.0 +10
BOZ LR LR
comp=Z,1µm,20.0s
MOS Moscow 123.19 38 *e*PKIKP **PKPdf** **21 28 40.1 +0.2**
MOS *e* 21 30 22.6
MOS MLR MLR
comp=Z,700nm,19.0s
DLMT Dillon 123.21 303 *e*PKPdf **PKPdf** **21 28 43.8 +3.2**
C19A Slack Wire Ran 123.32 307 P **PKPdf** **21 28 40.9 +0.3**
baz=124
MFID Camas Ranch 123.34 299 *e*PKPdf **PKPdf** **21 28 43.6 +2.7**
LRM Limekiln Ridge 123.48 303 *e*PKPdf **PKPdf** **21 28 42.3 +1.1**
SFJD Kangerlussuaq 123.56 350 PKP **PKPdf** **21 28 39.8 -0.5**
comp=Z,5.2nm,0.6s,baz=260,slow=6.1,SNR=4.4
SFJD Kangerlussuaq 123.56 350 *i* P **PKPdf** **21 28 44.0 +3.7**
comp=Z,8.6nm,0.9s
HRY Holter Researc 123.84 305 *e*PKPdf **PKPdf** **21 28 42.5 +0.8**
EGMT Eagleton 123.86 307 P **PKPdf** **21 28 41.6 0.0**
baz=124
EGMT Eagleton 123.86 307 *e*PKPdf **PKPdf** **21 28 41.8 +0.2**
EGMT LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 124.02 297 *e*PKIKP **PKPdf** **21 28 43.3 +1.1**
WVOR Wild Horse Val 124.02 297 *e*PKPdf **PKPdf** **21 28 43.3 +1.1**
FIA0 FINESS Array S 124.27 28 *e*PKIKP **PKPdf** **21 28 41.2 -0.7**
FIA0 FINESS Array S 124.27 28 *e*PKPdf **PKPdf** **21 28 41.2 -0.7**
FINES FINESS Array B 124.27 28 PKP **PKPdf** **21 28 41.2 -0.7**
comp=Z,7.5nm,0.6s,baz=174,slow=2.7,SNR=48
PYUN Piuthan 124.38 90 *e*P **PKPdf** **21 28 42.0 -1.5**
KOLN Koldanda 124.47 90 *e*P **PKPdf** **21 28 41.5 -2.2**
comp=Z,23nm,0.8s
CHMT Chamberlain Mo 124.66 304 *e*PKPdf **PKPdf** **21 28 43.6 +0.2**
WDC Whiskeytown Da 124.68 293 *e*PKIKP **PKPdf** **21 28 43.4 +0.1**
WDC Whiskeytown Da 124.68 293 *e*PKPdf **PKPdf** **21 28 43.4 +0.1**
KAF Kangasniemi 124.89 28 *e*p **PKPdf** **21 28 41.8 -1.2**
comp=Z,9.4nm,0.6s
KAF Kangasniemi 124.89 28 *e*PKIKP **PKPdf** **21 28 41.8 -1.2**
KAF pmax pmax
comp=Z,9.0nm,0.6s
MSO Missoula 124.92 303 P **PKPdf** **21 28 44.2 +0.4**
baz=125
MSO Missoula 124.92 303 *e*PKPdf **PKPdf** **21 28 44.2 +0.4**
MSO LR LR
comp=Z,1µm,20.0s
DANN Dangsing 125.01 90 *e*P **PKPdf** **21 28 43.3 -1.5**
comp=Z,21nm,0.7s
SLMT Seeley Lake 125.01 304 *e*PKPdf **PKPdf** **21 28 44.0 0.0**
N02D Trinity Center 125.05 293 P **PKPdf** **21 28 44.6 +0.4**
baz=125
BMO Blue Mountains 125.11 300 PFAKE 21 29 00.0 +16
BMO LR LR
comp=Z,1µm,22.0s
M04C Macdoel 125.19 294 P **PKPdf** **21 28 45.1 +0.7**
baz=126
DMN Daman 125.20 92 *e*P **PKPdf** **21 28 44.0 -1.1**
comp=Z,47nm,1.3s
GKN Gorkha 125.24 91 *e*P **PKPdf** **21 28 43.7 -1.4**
comp=Z,23nm,1.0s
PKIN Phulchoki 125.34 92 *e*P **PKPdf** **21 28 44.2 -1.2**
PKI Pulchoki 125.34 92 *e*P **PKPdf** **21 28 44.1 -1.4**
K05A Summer Lake 125.38 296 *e*PKPdf **PKPdf** **21 28 46.0 +1.1**
M02C Callahan 125.43 293 P **PKPdf** **21 28 45.7 +0.8**
baz=126
KKN Kakani 125.44 92 *e*P **PKPdf** **21 28 44.4 -1.1**
RAMN Ramite 125.54 94 *e*P **PKPdf** **21 28 45.3 -0.5**
comp=Z,22nm,0.6s
FFC Flin Flon 125.55 317 *e*PKIKP **PKPdf** **21 28 45.2 +0.7**
FFC MLR MLR
comp=Z,900nm,20.0s
FFC Flin Flon 125.55 317 *e*PKPdf **PKPdf** **21 28 45.2 +0.7**
FFC *e*PP **PP** **21 30 33.8 -3.3**
FFC LR LR
comp=Z,900nm,20.0s
CM31 Chiang Mai Arr 125.57 111 *e*PKPdf **PKPdf** **21 28 45.1 -0.6**
CM31 *e*PP **PP** **21 30 36.5 -0.7**
CMAR Chiang Mai Arr 125.57 111 PKP **PKPdf** **21 28 45.1 -0.6**
comp=Z,2.9nm,0.7s,baz=231,slow=3.8,SNR=27
CMAR PP **PP** **21 30 36.5 -0.7**
comp=Z,2.4nm,1.0s,baz=233,slow=6.2,SNR=5.3
CMAR SKKPbc SKKPbc 21 42 12.2 +4.9
comp=Z,0.6nm,0.7s,baz=23,slow=4.9,SNR=5.0
I07A Izee 125.65 298 *e*PKPdf **PKPdf** **21 28 46.3 +1.0**
YBMT Yellow Bay 125.70 304 *e*PKPdf **PKPdf** **21 28 45.8 +0.5**
JTMT Jette 125.74 304 *e*PKPdf **PKPdf** **21 28 45.4 +0.1**
FCC Fort Churchill 125.76 324 *e*PKIKP **PKPdf** **21 28 43.8 -1.0**
FCC Fort Churchill 125.76 324 *e*PKPdf **PKPdf** **21 28 43.8 -1.0**
JIRN Jiri 125.85 93 *e*P **PKPdf** **21 28 45.3 -1.2**
comp=Z,54nm,1.0s
CHTO Chiang Mai 125.86 111 *e*PKIKP **PKPdf** **21 28 45.8 -0.5**
CHTO *e* 21 30 38.1
CHTO MLR MLR
comp=Z,700nm,20.0s
CHTO Chiang Mai 125.86 111 *e*PKPdf **PKPdf** **21 28 45.8 -0.5**
CHTO *e*PP **PP** **21 30 38.1 -1.1**
CHTO LR LR
comp=Z,700nm,20.0s
GUN Gumba 125.87 92 *e*P **PKPdf** **21 28 45.1 -1.4**
comp=Z,62nm,1.2s
F10A Beach Ranch, E 125.88 301 *e*PKPdf **PKPdf** **21 28 47.3 +1.7**
ODAN Odare 125.92 94 *e*P **PKPdf** **21 28 45.5 -1.0**
comp=Z,66nm,1.3s
J05D Fort Rock, OR 125.96 296 P **PKPdf** **21 28 46.9 +1.0**
baz=126
BSMT Bassoo Peak 126.06 304 *e*PKPdf **PKPdf** **21 28 46.2 +0.2**
G08A Pilot Rock 126.25 299 *e*PKPdf **PKPdf** **21 28 47.2 +0.8**
HUMO Hull Mountain 126.36 294 *e*PKPdf **PKPdf** **21 28 47.8 +1.3**
J04D Umpqua Nationa 126.37 295 P **PKPdf** **21 28 47.6 +0.8**
baz=127
TAPN Taplejung 126.47 94 *e*P **PKPdf** **21 28 46.3 -1.3**
comp=Z,68nm,1.6s
WALA Waterton Lakes 126.51 305 *e*PKPdf **PKPdf** **21 28 46.9 +0.2**
WALA LR LR
comp=Z,2µm,21.0s
E09A Wood Farm, Sta 126.71 301 *e*PKPdf **PKPdf** **21 28 49.5 +2.4**
I05D Terrebonne, OR 126.76 297 P **PKPdf** **21 28 48.4 +1.1**
baz=127
JOF Joensuu 126.90 29 *e*p **PKPdf** **21 28 45.6 -1.2**
comp=Z,11nm,0.6s
JOF Joensuu 126.90 29 *e*PKIKP **PKPdf** **21 28 45.6 -1.2**
JOF pmax pmax
comp=Z,11nm,0.6s
I04A Tendick Farm, 126.92 295 P **PKPdf** **21 28 48.1 +0.5**
baz=127
H04A Detroit Lake 127.43 296 *e*PKPdf **PKPdf** **21 28 51.1 +2.6**
SHL Shillong 127.44 99 *e*P **PKPdf** **21 28 48.0 -1.3**
SHL *ex* x 21 30 49.0
NEW Newport 127.45 303 PFAKE 21 29 00.0 +12
NEW LR LR
comp=Z,1µm,20.0s
D08A Wollman Farm, 127.47 301 *e*PKPdf **PKPdf** **21 28 51.7 +3.2**
ABKAR Akbulak array 127.51 56 *e*PKPdf **PKPdf** **21 28 48.0 -0.4**
KLMR Klimovskoe 127.77 35 *e*PKIKP **PKPdf** **21 28 47.2 -1.4**
KLMR pmax pmax
comp=Z,36nm,1.3s
SUMG Summit 128.20 356 *e*PKIKP **PKPdf** **21 28 49.8 +0.2**
SUMG Summit 128.20 356 *e*PKPdf **PKPdf** **21 28 49.8 +0.2**
SUMG Summit 128.20 356 *i* P **PKPdf** **21 28 50.2 +0.6**
comp=Z,9.2nm,1.0s
SUMG Summit 128.20 356 *i* P PKSab 21 32 08.3 -0.3
comp=Z,22nm,0.9s
LTY Liberty 128.47 300 *e*PKPdf **PKPdf** **21 28 51.3 +0.8**
B08A Colville Reser 128.58 301 *e*PKPdf **PKPdf** **21 28 50.7 +0.1**
LON Longmire 128.68 298 *e*PKIKP **PKPdf** **21 28 51.0 +0.1**
LON Longmire 128.68 298 *e*PKPdf **PKPdf** **21 28 51.0 +0.1**
KSH Kashi 128.87 75 PKP **PKPdf** **21 28 51.0 -0.6**
KSH PKS **PKSdf** **21 32 26.3 -1.8**
KSH SKS **SKSdf** **21 36 01.5 +0.3**
KSH PPMZ
comp=Z,53nm,3.1s
KSH LN
comp=Z,130nm,6.4s
KSH LE
comp=Z,140nm,6.7s
KSH LZ
comp=Z,500nm,20.2s
AML Almayashu 129.47 71 P **PKPdf** **21 28 53.1 +0.1**
SNR=11
B06A Marblemount 129.74 300 PFAKE 21 29 10.0 +17
B06A LR LR
comp=Z,900nm,21.0s
TMCR Tamitsa 129.79 31 *e*PKIKP **PKPdf** **21 28 52.0 -0.3**
TMCR pmax pmax
comp=Z,58nm,1.4s
EKS2 Erkin-Say 129.88 70 P **PKPdf** **21 28 53.4 0.0**
SNR=6.2
EKS2 Erkin-Say 129.88 70 *e*PKIKP PKPpre 21 28 46.3
EKS2 MLR MLR
comp=Z,702nm,20.0s
EKS2 Erkin-Say 129.88 70 *e*PKPdf PKPpre 21 28 46.3
EKS2 LR LR
comp=Z,702nm,20.0s
UCH Uchtor 129.98 71 P **PKPdf** **21 28 54.0 0.0**
SNR=7.3
LSA Lhasa 130.21 95 *e*PKIKP **PKPdf** **21 28 56.0 +1.1**
LSA MLR MLR
comp=Z,1µm,22.0s

LSA	**Lhasa**	**130.21**	**95**	*e*PKPdf	**PKPdf**	**21 28 56.0**	**+1.1**
LSA				LR	LR		
	comp=Z,1μm,22.0s						
AAK	**Ala-Archa**	**130.25**	**71**	P	**PKPdf**	**21 28 54.1**	**-0.1**
	SNR=7.9						
AAK	**Ala-Archa**	**130.25**	**71**	*e*PKIKP	**PKPdf**	**21 28 54.2**	**0.0**
AAK				MLR	MLR		
	comp=Z,700nm,20.0s						
AAK	**Ala-Archa**	**130.25**	**71**	*e*PKPdf	**PKPdf**	**21 28 54.2**	**0.0**
AAK				LR	LR		
	comp=Z,700nm,20.0s						
KZA	**Kyzart**	**130.27**	**72**	P	**PKPdf**	**21 28 54.5**	**0.0**
	SNR=12						
A05A	**Maple Falls**	**130.35**	**300**	*e*PKPdf	**PKPdf**	**21 28 56.8**	**+2.9**
A05A				LR	LR		
	comp=Z,1μm,18.0s						
PRGR	**Permogore**	**130.37**	**37**	*e*PKIKP	**PKPdf**	**21 28 48.8**	**-4.7**
PRGR				pmax	pmax		
	comp=Z,44nm,1.1s						
FRU	**Bishkek**	**130.45**	**71**	*i* PKIKP	**PKPdf**	**21 28 55.0**	**+0.6**
FRU				pmax	pmax		
	comp=Z,50nm,2.0s						
USP	**Ospenovka**	**130.69**	**70**	P	**PKPdf**	**21 28 54.1**	**-0.7**
	SNR=7.5						
ARA0	**ARCESS Array S**	**130.78**	**22**	*e*PKPdf	**PKPdf**	**21 28 53.3**	**-0.8**
ARCES	**ARCESS Array B**	**130.78**	**22**	PKP	**PKPdf**	**21 28 53.3**	**-0.8**
	comp=Z,11nm,0.9s,baz=202,slow=1.0,SNR=22						
PGC	**Sidney**	**130.79**	**299**	*e*SKPbc	**SKPbc**	**21 32 16.4**	**-0.2**
TKM2	**Tokmak 2**	**131.03**	**71**	P	**PKPdf**	**21 28 55.5**	**-0.3**
	SNR=5.2						
TKM2	**Tokmak 2**	**131.03**	**71**	*e*PKIKP	**PKPdf**	**21 28 55.4**	**-0.3**
TKM2				MLR	MLR		
	comp=Z,500nm,19.0s						
TKM2	**Tokmak 2**	**131.03**	**71**	*e*PKPdf	**PKPdf**	**21 28 55.4**	**-0.3**
TKM2				LR	LR		
	comp=Z,500nm,19.0s						
APA	**Apatity**	**131.07**	**27**	*i* PKIKP	**PKPdf**	**21 28 57.0**	**+2.3**
APA				MLR	MLR		
	comp=Z,2μm,18.0s						
QIZ	**Qiongzhong**	**131.57**	**122**	PKP	**PKPdf**	**21 28 56.8**	**-0.4**
QIZ				PP	**PP**	**21 31 16.8**	**+0.3**
QIZ				SS	SS	21 48 51.5	+2.7
QIZ				LN			
	comp=Z,770nm,21.3s						
QIZ				LZ			
	comp=Z,1μm,20.7s						
QIZ	**Qiongzhong**	**131.57**	**122**	PFAKE		21 29 10.0	+13
QIZ				LR	LR		
	comp=Z,1μm,20.0s						
ARU	**Arti**	**131.77**	**48**	*i* PKIKP	**PKPdf**	**21 28 56.2**	**-0.1**
ARU				MLR	MLR		
	comp=Z,647nm,23.0s						
ARU	**Arti**	**131.77**	**48**	*e*PKPdf	**PKPdf**	**21 28 55.9**	**-0.4**
DAG	**Danmarks Havn**	**132.35**	**3**	*e*PKIKP	**PKPdf**	**21 28 56.7**	**-0.2**
DAG	**Danmarks Havn**	**132.35**	**3**	*i* P	**PKPdf**	**21 28 56.7**	**-0.2**
	comp=Z,4.7nm,0.9s						
SVE	**Sverdlovsk**	**132.91**	**49**	⇑*i* PKIKP	**PKPdf**	**21 28 59.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,40nm,1.4s						
SVE				MLR	MLR		
	comp=Z,851nm,21.0s						
KMI	**Kunming**	**133.03**	**110**	PKP	**PKPdf**	**21 29 00.5**	**+0.5**
KMI				sPKP		21 29 08.0	
KMI				SS	SS	21 49 03.5	-3.8
KMI				PPMZ			
	comp=Z,230nm,6.6s						
KMI				LN			
	comp=Z,460nm,21.9s						
KMI				LE			
	comp=Z,210nm,24.7s						
KMI				LZ			
	comp=Z,700nm,21.3s						
BRVK	**Borovoye**	**134.91**	**58**	⇓*i* PKIKP	**PKPdf**	**21 29 02.9**	**+0.6**
BRVK	**Borovoye**	**134.91**	**58**	*e*PKPdf	**PKPdf**	**21 29 02.9**	**+0.6**
BRVK				LR	LR		
	comp=Z,700nm,21.0s						
YKA	**Yellowknife Ar**	**135.64**	**318**	PKhKP	PKPpre	21 28 52.1	
	comp=Z,0.2nm,0.5s,baz=124,slow=3.2,SNR=5.9						
YKA				PKP	**PKPdf**	**21 29 02.7**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=132,slow=2.3,SNR=20						
YKA				PP	**PP**	**21 31 39.9**	**-2.5**
	comp=Z,3.3nm,0.9s,baz=125,slow=6.7,SNR=8.2						
YKA				SKPbc	**SKPbc**	**21 32 29.7**	**-3.0**
	comp=Z,9.9nm,1.1s,baz=119,slow=1.9,SNR=13						
YKA				SKKPbc	**SKKPbc**	**21 41 32.1**	**-2.8**
	comp=Z,2.6nm,1.1s,baz=320,slow=4.1,SNR=4.2						
YKB5	**Yellowknife Ar**	**135.64**	**318**	*e*PKPdf	**PKPdf**	**21 29 02.7**	**-0.7**
YKB5				*e*PP	**PP**	**21 31 39.9**	**-2.5**
YKB5				*e*SKPbc	**SKPbc**	**21 32 29.7**	**-3.0**
GYA	**Guiyang**	**136.18**	**113**	Pdif	**Pdif**	**21 26 10.8**	**+0.3**
GYA				PKP	**PKPdf**	**21 29 05.5**	**-0.3**
GYA				PP	**PP**	**21 31 50.3**	**+4.2**
GYA				PKS	**PKSdf**	**21 32 40.5**	**-1.7**
GYA				SKKS		21 38 40.0	
GYA				SS	**SS**	**21 49 46.8**	**+1.9**
GYA				PPMZ			
	comp=Z,140nm,7.9s						
GYA				LN			
	comp=Z,420nm,22.2s						
GYA				LE			
	comp=Z,240nm,23.0s						
GYA				LZ			
	comp=Z,360nm,22.4s						
MK32	**Makanchi Array**	**137.16**	**72**	*e*PKPpre	PKPpre	21 28 59.5	
MK32				*e*PKPdf	**PKPdf**	**21 29 06.1**	**-0.7**
MKAR	**Makanchi Array**	**137.16**	**72**	PKhKP	PKPpre	21 28 59.5	
	comp=Z,1.2nm,0.6s,baz=236,slow=7.9,SNR=5.1						
MKAR				PKP	**PKPdf**	**21 29 06.1**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=238,slow=4.4,SNR=10						
GUMO	**Guam**	**137.60**	**170**	PFAKE		21 29 20.0	+11
GUMO				LR	LR		
	comp=Z,700nm,21.0s						
KURK	**Kurchatov**	**137.63**	**65**	PFAKE		21 29 20.0	+13
KURK				LR	LR		
	comp=Z,500nm,19.0s						
CD2	**Chengdu**	**138.14**	**106**	PKP	**PKPdf**	**21 29 10.0**	**+0.8**
CD2				PP	**PP**	**21 32 03.3**	**+5.0**
CD2				PKS	**PKSdf**	**21 32 45.3**	**-0.1**
CD2				SKS	**SKSdf**	**21 36 18.3**	**+0.4**
CD2				SKKS	**SKKSac**	**21 38 52.0**	**+1.5**
CD2				SS	**SS**	**21 50 11.5**	**+3.2**
CD2				PPMZ			
	comp=Z,280nm,5.2s						
CD2				LN			
	comp=Z,1μm,18.6s						
CD2				LE			
	comp=Z,400nm,20.6s						
CD2				LZ			
	comp=Z,660nm,20.1s						
WMQ	**Urumqi**	**138.24**	**79**	*e*PKP	**PKPdf**	**21 29 07.0**	**-1.9**
WMQ				PP	**PP**	**21 32 03.3**	**+4.3**
WMQ				SKKS		21 38 45.5	
WMQ				PPMZ			
	comp=Z,200nm,5.8s						
WMQ				LN			
	comp=Z,510nm,21.2s						
WMQ				LE			
	comp=Z,310nm,21.2s						
WMQ				LZ			
	comp=Z,350nm,24.5s						
DLBC	**Dease Lake**	**139.78**	**307**	*e*SKPbc	**SKPbc**	**21 32 43.4**	**-1.6**
TPUB	**Ta-pu**	**140.19**	**131**	PFAKE		21 29 30.0	+17
TPUB				LR	LR		
	comp=Z,600nm,22.0s						
YULB	**Yu-li**	**140.55**	**132**	PFAKE		21 29 30.0	+16
YULB				LR	LR		
	comp=Z,500nm,19.0s						
ENH	**Enshi**	**140.71**	**112**	PFAKE		21 29 30.0	+16
ENH				LR	LR		
	comp=Z,400nm,20.0s						
SSLB	**Suanglung**	**140.75**	**132**	PFAKE		21 29 30.0	+16
SSLB				LR	LR		
	comp=Z,700nm,20.0s						
NACB	**Ninganchiao**	**141.37**	**132**	PFAKE		21 29 30.0	+15
NACB				LR	LR		
	comp=Z,800nm,20.0s						
BESE	**Bessie Mountai**	**142.06**	**305**	PFAKE		21 29 30.0	+15
BESE				LR	LR		
	comp=Z,600nm,20.0s						
LZH	**Lanzhou**	**142.07**	**101**	*e*PKP	**PKPdf**	**21 29 13.0**	**-3.3**
LZH				sPKP		21 29 20.0	
LZH				*e*PP	**PP**	**21 32 22.3**	**-0.3**
LZH				SKKS		21 39 08.8	
LZH				SS	**SS**	**21 50 53.0**	**-1.6**
LZH				PPMZ			
	comp=Z,170nm,6.0s						
LZH				LN			
	comp=Z,550nm,19.1s						
LZH				LE			
	comp=Z,720nm,20.1s						
LZH				LZ			
	comp=Z,520nm,20.5s						
GTA	**Gaotai**	**142.15**	**93**	PKP	**PKPdf**	**21 29 16.5**	**+0.2**
GTA				sPKP		21 29 24.0	
GTA				PP	**PP**	**21 32 26.0**	**+2.9**
GTA				SKS	**SKSdf**	**21 36 25.5**	**+1.3**
GTA				SKKS	**SKKSac**	**21 39 16.0**	**+2.2**
GTA				SS	**SS**	**21 50 58.5**	**+3.0**
GTA				PPMZ			
	comp=Z,140nm,6.9s						
GTA				LN			
	comp=Z,260nm,19.9s						
GTA				LE			
	comp=Z,230nm,20.0s						
GTA				LZ			
	comp=Z,360nm,17.6s						
NVS	**Novosibirsk**	**142.24**	**62**	⇓*i* PKHKP	PKPpre	21 29 11.2	
NVS				pmax	pmax		
	comp=N,7.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,14nm,1.6s						
NVS				pmax	pmax		
	comp=Z,35nm,1.6s						
ZALV	**Zalesovo Beam**	**142.58**	**64**	PKhKP	PKPpre	21 29 11.6	
	comp=Z,3.5nm,0.6s,baz=257,slow=3.2,SNR=14						
ZALV				SKKPbc	SKKPbc	21 41 03.5	-3.4
	comp=Z,2.8nm,0.9s,baz=49,slow=4.9,SNR=6.7						
ZAA1	**Zalesovo Array**	**142.59**	**64**	*e*PKPpre	PKPpre	21 29 11.6	
WHN	**Wuhan**	**143.42**	**118**	PKPbc	PKPab	21 29 10.8	-4.0
WHN				PP	PP	21 32 36.0	+5.6
HYT	**Haines Junctio**	**144.26**	**308**	*e*PKPdf	**PKPdf**	**21 29 18.6**	**-0.6**
INK	**Inuvik**	**145.28**	**321**	PKPbc	**PKPab**	**21 29 20.8**	**+0.1**
	comp=Z,93nm,1.1s,baz=87,slow=3.4,SNR=68						
INK				SKPbc	**SKPbc**	**21 32 55.2**	**-2.9**
	comp=Z,14nm,0.9s,baz=103,slow=3.5,SNR=4.5						
INK	**Inuvik**	**145.28**	**321**	PKIKP	**PKPab**	**21 29 20.8**	**+0.1**
INK				MLR	MLR		
	comp=Z,2μm,21.0s						
INK	**Inuvik**	**145.28**	**321**	PKPbc	**PKPab**	**21 29 20.8**	**+0.1**
INK				SKPbc	**SKPbc**	**21 32 55.2**	**-2.9**
INK				LR	LR		
	comp=Z,2μm,21.0s						
JOW	**Kunigami**	**146.39**	**139**	PKPbc	**PKPbc**	**21 29 25.4**	**+0.2**
	baz=267,slow=2.6						
JOW	**Kunigami**	**146.39**	**139**	PKPbc	**PKPbc**	**21 29 25.4**	**+0.2**
JOW				LR	LR		
	comp=Z,600nm,20.0s						
SSE	**Sheshan**	**147.17**	**126**	PKPbc	**PKPbc**	**21 29 26.8**	**-0.5**
SSE				LN			
	comp=Z,470nm,22.5s						
SSE				LE			
	comp=Z,380nm,22.7s						
SSE				LZ			
	comp=Z,700nm,23.0s						
EGAK	**Eagle**	**147.21**	**313**	*e*PKPdf	**PKPbc**	**21 29 26.2**	**-0.1**
EGAK				LR	LR		
	comp=Z,800nm,22.0s						
BMRM	**Bremner River**	**147.53**	**306**	*e*PKPdf	**PKPbc**	**21 29 26.3**	**-1.1**
DOT	**Dot Lake**	**148.11**	**311**	*e*PKPdf	**PKPbc**	**21 29 27.3**	**-1.6**
DOT				LR	LR		
	comp=Z,1μm,20.0s						
DIV	**Divide**	**148.12**	**306**	*e*PKPdf	**PKPbc**	**21 29 29.8**	**+0.7**
DIV				LR	LR		
	comp=Z,1μm,19.0s						
SCRK	**Sand Creek**	**148.17**	**311**	PFAKE		21 29 40.0	+7.8
SCRK				LR	LR		
	comp=Z,1μm,21.0s						
KLU	**Klutina**	**148.30**	**306**	PFAKE		21 29 40.0	+7.2
KLU				LR	LR		
	comp=Z,1μm,21.0s						
PAX	**Paxson**	**148.54**	**309**	*e*PKP2	**PKPbc**	**21 29 30.5**	**+0.4**
PAX				MLR	MLR		
	comp=Z,899nm,20.0s						
PAX	**Paxson**	**148.54**	**309**	*e*PKPdf	**PKPbc**	**21 29 30.4**	**+0.4**
PAX				LR	LR		
	comp=Z,899nm,20.0s						
BTO	**Baotou**	**148.69**	**101**	*e*PKPbc	**PKPbc**	**21 29 29.8**	**-1.4**
DDM	**Donnelly Dome**	**148.92**	**311**	PFAKE		21 29 40.0	+4.8
DDM				LR	LR		
	comp=Z,1μm,21.0s						
FYU	**Fort Yukon**	**149.26**	**316**	PFAKE		21 29 40.0	+3.6
FYU				LR	LR		
	comp=Z,900nm,22.0s						
TIA	**Tai'an**	**149.32**	**115**	⇑PKPbc	**PKPbc**	**21 29 32.5**	**-0.3**
SML	**Sawmill**	**149.50**	**306**	PFAKE		21 29 40.0	+2.4
SML				LR	LR		
	comp=Z,200nm,20.0s						
SEW	**Seward**	**149.52**	**303**	*e*PKPab	**PKPab**	**21 29 39.0**	**+1.4**
HDA	**Harding Lake**	**149.53**	**312**	PFAKE		21 29 40.0	+2.4
HDA				LR	LR		
	comp=Z,1μm,21.0s						
ILAR	**Eielson Array**	**149.58**	**312**	PKP	**PKPdf**	**21 29 25.7**	**-2.2**
	comp=Z,1.4nm,0.9s,baz=296,slow=0.7,SNR=9.6						
ILAR				PKPbc	**PKPbc**	**21 32 29.4**	**-0.1**
	comp=Z,45nm,0.9s,baz=132,slow=2.4,SNR=185						
ILB	**Eielson Array**	**149.58**	**312**	*e*PKPdf	**PKPdf**	**21 29 25.7**	**-2.2**
ILB				*e*PKPbc	**PKPbc**	**21 29 32.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**149.72**	**102**	*e*PKPbc	**PKPbc**	**21 29 33.0**	**-0.8**
HHC				SKS	**SKSdf**	**21 36 35.5**	**+0.5**
HHC				SKKS	**SKKSac**	**21 40 00.3**	**+3.8**
HHC				SS	**SS**	**21 52 25.8**	**+4.4**
HHC				PPMZ			
	comp=Z,92nm,11.1s						
HHC				LN			
	comp=Z,370nm,22.4s						
HHC				LE			
	comp=Z,560nm,22.6s						
HHC				LZ			
	comp=Z,430nm,20.4s						
CCB	**Clear Creek Bu**	**149.94**	**312**	PFAKE		21 29 40.0	+0.8
CCB				LR	LR		
	comp=Z,700nm,21.0s						
RC01	**Rabbit Creek A**	**149.95**	**304**	*e*PKPdf	**PKPbc**	**21 29 34.3**	**+0.8**
COLA	**College**	**150.01**	**312**	*e*PKIKP	**PKPbc**	**21 29 33.5**	**0.0**
COLA				MLR	MLR		
	comp=Z,900nm,20.0s						
COLA	**College**	**150.01**	**312**	*e*PKPdf	**PKPbc**	**21 29 33.5**	**0.0**
COLA				LR	LR		
	comp=Z,900nm,20.0s						
WRH	**Wood River Hil**	**150.03**	**311**	PFAKE		21 29 40.0	+0.4
WRH				LR	LR		
	comp=Z,700nm,20.0s						
BRLK	**Bradley Lake**	**150.10**	**302**	PFAKE		21 29 40.0	-0.1
BRLK				LR	LR		
	comp=Z,1μm,19.0s						
RND	**Reindeer**	**150.13**	**309**	PFAKE		21 29 40.0	-0.2
RND				LR	LR		
	comp=Z,1μm,22.0s						
MDM	**Murphy Dome**	**150.18**	**312**	PFAKE		21 29 40.0	-0.3
MDM				LR	LR		
	comp=Z,1μm,22.0s						
MCK	**McKinley**	**150.24**	**310**	*e*PKIKP	**PKPbc**	**21 29 34.5**	**+0.3**
MCK				MLR	MLR		
	comp=Z,1μm,22.0s						
MCK	**McKinley**	**150.24**	**310**	*e*PKPdf	**PKPbc**	**21 29 34.5**	**+0.3**
MCK				LR	LR		
	comp=Z,1μm,22.0s						
KDAK	**Kodiak Island**	**150.30**	**297**	*i* PKIKP	**PKPbc**	**21 29 34.8**	**+0.4**
KDAK	**Kodiak Island**	**150.30**	**297**	*e*PKPdf	**PKPbc**	**21 29 35.1**	**+0.7**
OHAK	**Old Harbor**	**150.46**	**296**	*e*PKPdf	**PKPbc**	**21 29 35.2**	**+0.4**
BWN	**Browne**	**150.56**	**311**	PFAKE		21 29 40.0	-1.8
BWN				LR	LR		
	comp=Z,1μm,21.0s						
TRF	**Thorofare Moun**	**150.77**	**309**	*e*PKPdf	**PKPbc**	**21 29 36.1**	**+0.5**
TRF				LR	LR		
	comp=Z,1μm,22.0s						
KTH	**Kantishna Hill**	**151.07**	**309**	*e*PKPdf	**PKPbc**	**21 29 36.2**	**0.0**
KTH				LR	LR		
	comp=Z,1μm,21.0s						
SONA0	**Songino Array**	**151.11**	**86**	*e*PKPbc	**PKPbc**	**21 29 36.5**	**-0.4**
SONM	**Songino Array**	**151.11**	**86**	PKPbc	**PKPbc**	**21 29 36.5**	**-0.4**
	comp=Z,20nm,0.5s,baz=220,slow=3.4,SNR=58						
RSO	**Redoubt South**	**151.20**	**302**	*e*PKPdf	**PKPbc**	**21 29 38.1**	**+1.3**
MLY	**Manley**	**151.25**	**312**	PFAKE		21 29 40.0	+3.5
MLY				LR	LR		
	comp=Z,900nm,21.0s						
COLD	**Coldfoot**	**151.29**	**317**	*e*PKPdf	**PKPbc**	**21 29 37.3**	**+0.7**
COLD				LR	LR		
	comp=Z,899nm,20.0s						
ULN	**Ulaanbaatar**	**151.50**	**87**	PFAKE		21 29 40.0	+2.2
ULN				LR	LR		
	comp=Z,1μm,22.0s						
PPLA	**Purkeypile**	**151.50**	**308**	*e*PKPdf	**PKPbc**	**21 29 37.7**	**+0.4**
PPLA				LR	LR		
	comp=Z,1μm,22.0s						
TLY	**Talaya**	**151.51**	**78**	PKPbc	**PKPbc**	**21 29 36.6**	**-0.9**
	comp=Z,5.7nm,0.5s,baz=254,slow=4.5,SNR=8.7						
TLY	**Talaya**	**151.51**	**78**	*e*PKIKP	**PKPbc**	**21 29 37.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,60nm,1.6s						
TLY	**Talaya**	**151.51**	**78**	PKPbc	**PKPbc**	**21 29 36.6**	**-0.9**
TLY				LR	LR		
	comp=Z,701nm,20.0s						
CAST	**Castle Rocks**	**151.56**	**309**	*e*PKPdf	**PKPbc**	**21 29 37.2**	**-0.1**
BJT	**Baijiatuau**	**151.65**	**108**	*e*PKIKP	**PKPbc**	**21 29 37.8**	**-0.4**
BJT				MLR	MLR		
	comp=Z,700nm,21.0s						
BJT	**Baijiatuau**	**151.65**	**108**	*e*PKPbc	**PKPbc**	**21 29 37.8**	**-0.4**
BJT				LR	LR		
	comp=Z,700nm,21.0s						
BJI	**Beijing**	**151.67**	**108**	PKPbc	**PKPdf**	**21 29 32.5**	**+0.6**
BJI				PP	**PP**	**21 33 16.3**	**-2.5**
BJI				SS	SS	21 52 47.0	+4.3
BJI				PPMZ			
	comp=Z,180nm,6.2s						
BJI				LN			
	comp=Z,450nm,19.0s						
BJI				LE			
	comp=Z,340nm,21.1s						
BJI				LZ			
	comp=Z,470nm,20.8s						
IRK	**Irkutsk**	**152.11**	**77**	*e*PKIKP	**PKPbc**	**21 29 37.0**	**-1.9**
IRK				pmax	pmax		
	comp=Z,71nm,1.6s						
IM04	**Indian Mountai**	**152.61**	**314**	*e*PKPdf	**PKPdf**	**21 29 29.7**	**-2.8**
JNU	**Nakatsue**	**153.02**	**138**	PKPbc	**PKPbc**	**21 29 42.2**	**+0.7**
	comp=Z,10nm,0.9s,baz=337,slow=5.0,SNR=2.4						
JNU	**Nakatsue**	**153.02**	**138**	PKPbc	**PKPbc**	**21 29 42.2**	**+0.7**
JNU				LR	LR		
	comp=Z,400nm,19.0s						
INCN	**Inchon**	**154.97**	**126**	PFAKE		21 29 50.0	+4.4
INCN				LR	LR		
	comp=Z,700nm,20.0s						
KS15	**Wonju Array Si**	**155.50**	**128**	*e*PKPdf	**PKPdf**	**21 29 37.3**	**-0.2**
KS15				*e*PKPdif	PKPdf	21 29 45.8	+8.3
KS15				*e*PKPab	**PKPab**	**21 30 01.2**	**-2.2**
KSAR	**Wonju Array Be**	**155.50**	**128**	PKIKP	**PKPdf**	**21 29 37.3**	**-0.2**
KSAR						21 30 01.2	
KSAR	**Wonju Array Be**	**155.50**	**128**	PKP	**PKPdf**	**21 29 37.3**	**-0.2**
KSAR				PKPab	**PKPab**	**21 30 01.2**	**-2.2**
KSRS	**Korea Array**	**155.53**	**128**	PKP	**PKPdf**	**21 29 37.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=185,slow=3.1,SNR=2.8						
KSRS				PKPab	**PKPab**	**21 30 01.2**	**-2.3**
	comp=Z,6.2nm,1.1s,baz=217,slow=4.5,SNR=7.1						
JHJ2	**Mitsune**	**155.84**	**154**	PFAKE		21 29 50.0	+12
JHJ2				LR	LR		
	comp=Z,900nm,22.0s						
MJAR	**Matsushiro Arr**	**158.63**	**148**	PKPab	**PKPab**	**21 30 18.8**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=187,slow=3.7,SNR=5.8						
MAJO	**Matsushiro**	**158.63**	**148**	*e*PKP2	**PKPab**	**21 30 18.8**	**+1.9**
MAJO				MLR	MLR		
	comp=Z,400nm,22.0s						
MAJO	**Matsushiro**	**158.63**	**148**	*e*PKPab	**PKPab**	**21 30 18.8**	**+1.9**
MAJO				LR	LR		
	comp=Z,400nm,22.0s						
MAT	**Matsushiro**	**158.63**	**148**	P	**PKPab**	**21 30 18.4**	**+1.5**
MAT				S	**pPKPab**	**21 30 25.4**	**0.0**
HIA	**Hailar**	**159.41**	**95**	*e*PKP2	**PKPab**	**21 30 20.6**	**+0.5**
HIA				MLR	MLR		
	comp=Z,800nm,21.0s						
HIA	**Hailar**	**159.41**	**95**	*e*PKPab	**PKPab**	**21 30 20.6**	**+0.5**
HIA				LR	LR		
	comp=Z,800nm,21.0s						
GAMB	**Gambell**	**160.30**	**309**	*e*PKPab	**PKPab**	**21 30 25.0**	**+1.6**
MDJ	**Mudanjiang**	**161.90**	**118**	PKP	**PKPdf**	**21 29 45.0**	**+0.1**
MDJ				pPKP	**pPKPdf**	**21 29 48.8**	**-4.8**
MDJ				sPKP		21 29 50.0	
MDJ				PKS	**PKSdf**	**21 33 18.8**	**+0.9**
MDJ				PP	**PP**	**21 34 14.5**	**-0.8**
MDJ				SKS	**SKSdf**	**21 36 51.0**	**+3.5**
MDJ				PPMZ			
	comp=Z,190nm,7.6s						
MDJ				LN			
	comp=Z,450nm,15.2s						
MDJ				LE			
	comp=Z,280nm,18.5s						
MDJ				LZ			
	comp=Z,740nm,20.2s						
USRK	**Ussuriysk Ar.**	**162.76**	**124**	PKPab	**PKPab**	**21 30 32.7**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=220,slow=5.0,SNR=4.9						
YAK	**Yakutsk**	**166.84**	**52**	PKPab	**PKPbc**	**21 30 53.3**	**+1.1**
	comp=Z,5.9nm,0.4s,baz=279,slow=6.8,SNR=2.7						
YSS	**Yuzh-Sakhalins**	**169.48**	**143**	*e*PKIKP	**PKPdf**	**21 29 50.0**	**-0.9**

NIED ***25*** *21:22:00,38.00N×142.40E,h86km,Mw4.9 Best double couple: M0 2.32000×10^18 NP1:φ=133.00000°,δ=51.00000°, λ=-20.00000°. NP2:φ=236.00000°,δ=75.00000°, λ=-139.00000°.*

MOS ***25*** *21:22:42.7±0.9,37.95N×142.37E,h39km,mb5.1/53,Error ellipse: s-maj=9.1km s-min=4.3km az=102.8*

BJI ***25*** *21:22:47.0,38.00N×142.40E,h67km,mB4.8/10,mb4.7/17, Ms4.2/9,Ms7 3.8/8*

NEIC ***25*** *21:22:47.5±0.5,37.95N×142.42E,h68km±4km,mb4.8/46, MW4.8(NIED),Error ellipse: s-maj=5.3km s-min=4.6km az=143.0*

NEIC Recorded [3 JMA] in Iwate and Miyagi; [2 JMA] in Fukushima and Ibaraki; [1 JMA] in Akita, Aomori, Chiba, Gumma, Saitama, Tochigi and Yamagata.

JMA ***25*** *21:22:47.9±0.1,37.99N×142.39E,h76km±2km,M5.1 Broadband fault plane solution: P waves. NP1: φ=241.00000°,δ=72.00000°,λ=-111.00000°. NP2: φ=112.00000°,δ=28.00000°,λ=-42.00000°. Principal axes: T Plg24.0000°, Azm347.0000°; N Plg20.0000°, Azm248.0000°; P Plg58.0000°, Azm122.0000°;*

JMA Felt III J1.

ISCJB ***25*** *21:22:47.1±0.5,38.05N±0.03×142.48E±0.04,h74km±3km, mb4.6/99 Error ellipse: s-maj=5.6km s-min=3.5km az=135.4*

IDC ***25*** *21:22:48.3±0.6,37.96N×142.40E,h75km±4km,mb4.2/23, mb1 4.4/29,mb1mx4.3/39,mbtmp4.6/29,MS3.5/5, Ms1 3.5/5,ms1mx3.3/33,Error ellipse: s-maj=11.8km s-min=11.4km az=149.0*

SZGRF ***25*** *21:23:08.5,39.28N×143.61E,h33km,mb5.0,Off east coast of Honshu, Japan*

ISC 25 21:22:47.7±0.5,38.01N±0.05×142.54E±0.04,h70km±3km, h69km:pP-P,n375,σ1°27/392,mb4.7/92,20C-32D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JIO	**Ouri**	**1.03**	**296**	⇓P		**Pn**	**21 23 06.3**	**-0.3**
JIO				S		**Sn**	**21 23 19.6**	**-1.1**
OFUJ	**Ofunato**	**1.27**	**328**	⇓P		**Pn**	**21 23 09.7**	**+0.1**
OFUJ				S		**Sn**	**21 23 25.6**	**-0.4**
JMM	**Marumori**	**1.39**

MJAR S **Sn** **21 24 26.2 +0.1**
58nm,0.3s,baz=79,slow=26,SNR=9.7
MAJO Matsushiro 3.75 248 *e*P **Pn** **21 23 43.2 0.0**
MAJO *e* 21 24 26.2
MAJO Matsushiro 3.75 248 *e*Pn **Pn** **21 23 43.2 0.0**
MAJO *e*Sn **Sn** **21 24 26.2 +0.1**
MAT Matsushiro 3.75 248 P **Pn** **21 23 43.4 +0.2**
MAT S **Sn** **21 24 25.6 -0.5**
ERM Erimo 4.03 7*d i*P **Pn** **21 23 46.5 -0.3**
ERM pmax pmax
comp=Z,1μm,1.2s
ERM Erimo 4.03 7 *e*Pn **Pn** **21 23 46.1 -0.7**
ERM *e*Sn **Sn** **21 24 31.5 -1.2**
JHJ2 Mitsune 5.37 205 *e*Pn **Pn** **21 24 03.6 -1.6**
JHJ2 *e*Sn Sn 21 24 53.8 -12
ASAJ Asahikawa 6.10 0 P **Pn** **21 24 15.1 -0.1**
comp=Z,130nm,0.3s,baz=212,slow=13,SNR=661
ASAJ S **Sn** **21 25 20.4 -3.0**
comp=Z,45nm,0.3s,baz=350,slow=26,SNR=8.9
ASAJ Asahikawa 6.10 0 P **Pn** **21 24 15.1 -0.1**
ASAJ S **Sn** **21 25 20.5 -3.0**
ASAJ pmax pmax
comp=Z,131nm,0.3s
ASAJ smax smax
comp=N,45nm,0.3s
YUK Yuzh-Kuril'sk 6.52 22*d i*P **Pn** **21 24 20.0 -0.9**
YUK *i* S **Sn** **21 25 29.0 -4.8**
YUK pmax pmax
comp=N,201nm,0.3s
YUK pmax pmax
comp=Z,803nm,0.3s
YUK pmax pmax
comp=E,234nm,0.1s
YUK pmax pmax
comp=Z,1μm,1.8s
YUK smax smax
comp=N,2μm,0.5s
YUK smax smax
comp=E,3μm,0.5s
YUK smax smax
comp=N,5μm,2.1s
YUK smax smax
comp=E,3μm,2.1s
KUR Kuril'sk 8.24 27 P **Pn** **21 24 43.0 -1.4**
KUR *e*S **Sn** **21 26 11.8 -4.1**
KUR pmax pmax
comp=N,190nm,0.1s
KUR pmax pmax
comp=Z,179nm,0.1s
KUR pmax pmax
comp=E,219nm,0.9s
KUR smax smax
comp=E,434nm,0.4s
KUR smax smax
comp=N,684nm,0.5s
YSS Yuzh-Sakhalins 8.94 1⇑*i*P **Pn** **21 24 53.0 -0.9**
YSS *e*S **Sn** **21 26 30.0 -2.9**
YSS pmax pmax
comp=N,2μm,2.0s
YSS pmax pmax
comp=Z,2μm,2.0s
YSS pmax pmax
comp=N,1μm,1.0s
YSS pmax pmax
comp=Z,1μm,1.0s
YSS smax smax
comp=N,300nm,1.3s
YSS smax smax
comp=E,90nm,1.2s
YSS smax smax
comp=N,500nm,2.0s
YSS Yuzh-Sakhalins 8.94 1 *e*Pn **Pn** **21 24 53.4 -0.5**
VLA Vladivostok 9.57 306⇑*e*P **Pn** **21 25 03.8 +1.2**
VLA *e*S **Sn** **21 26 48.1 -0.4**
USRK Ussuriysk Ar. 10.07 311 P **Pn** **21 25 10.0 +0.6**
comp=N,5.8nm,0.3s,baz=124,slow=14,SNR=95
USRK S **Sn** **21 27 02.2 +1.5**
comp=N,1.2nm,0.3s,baz=123,slow=26,SNR=4.8
USRK LR LR 21 28 50.8
comp=N,362nm,18.8s,baz=112,slow=36
JNU Nakatsue 10.67 246 P **Pn** **21 25 16.6 -1.2**
comp=N,0.6nm,0.3s,baz=41,slow=11,SNR=9.4
KSTBA Taebaek 10.82 269 P **Pn** **21 25 21.6 +1.9**
SNR=6.1
KSTBA Taebaek 10.82 269 P **Pn** **21 25 21.6 +1.9**
SNR=6.1
CBIJ Chichi jima 10.89 182 P Pn 21 25 16.8 -3.9
CBIJ S Sn 21 27 09.5 -11
JCJ Chichijima 10.89 182 P Pn 21 25 16.8 -3.9
comp=N,46nm,0.3s,baz=74,slow=22,SNR=39
JCJ S Sn 21 27 09.5 -11
comp=N,34nm,0.3s,baz=310,slow=22,SNR=6.2
CBI Chichi jima 10.89 182 *e*Pn Pn 21 25 16.8 -3.9
CBI *e*Sn Sn 21 27 09.5 -11
UGL Uglegorsk 11.07 358*ce*P **Pn** **21 25 21.2 -1.7**
UGL S **Sn** **21 27 23.2 -1.7**
SEHB SEOHWA 11.26 276 P **Pn** **21 25 28.6 +2.9**
SNR=14
SEHB SEOHWA 11.26 276 P **Pn** **21 25 28.6 +2.9**
SNR=14
KSIJA INJE 11.38 274 P **Pn** **21 25 28.4 +1.1**
SNR=8.7
KSIJA INJE 11.38 274 P **Pn** **21 25 28.4 +1.1**
SNR=8.7
KSWJU Wonju 11.49 271 P **Pn** **21 25 30.5 +1.6**
SNR=13
KSWJU Wonju 11.49 271 P **Pn** **21 25 30.5 +1.6**
SNR=13
KSRS Korea Array 11.59 272 P **Pn** **21 25 31.4 +1.3**
comp=N,0.9nm,0.3s,baz=84,slow=14,SNR=51
KSRS LR LR 21 29 45.8
comp=N,169nm,18.2s,baz=91,slow=36
KSRS Korea Array 11.59 272 P **Pn** **21 25 31.4 +1.3**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,169nm,18.2s
KS15 Wonju Array Si 11.62 272 *e*Pn **Pn** **21 25 31.4 +0.8**
KSAR Wonju Array Be 11.62 272 P **Pn** **21 25 31.4 +0.8**
KSAR Wonju Array Be 11.62 272 P **Pn** **21 25 31.4 +0.8**
MDJ Mudanjiang 11.75 308 *e*Pn **Pn** **21 25 35.1 +2.8**
HABR Khabarovsk 11.79 335*ce*P **Pn** **21 25 30.3 -2.5**
HABR *e*S **Sn** **21 27 39.1 -3.3**
HABR pmax pmax
comp=Z,135nm,1.3s
HABR pmax pmax
comp=E,96nm,2.0s
HABR pmax pmax
comp=N,105nm,2.0s
HABR MLR MLR
comp=Z,680nm,19.0s
KSCWO Cheorwon 11.85 275 P **Pn** **21 25 34.5 +0.8**
SNR=5.2
KSCWO Cheorwon 11.85 275 P **Pn** **21 25 34.5 +0.8**
SNR=5.2
KSICN Icheon 12.01 271 P **Pn** **21 25 37.0 +1.1**
SNR=6.6
KSCEA Cheonan 12.21 269 P Pn 21 25 42.4 +3.8
SNR=6.1
KSSWO Suwon 12.37 271 P **Pn** **21 25 41.5 +0.8**
SNR=6.2
KLR Kul'dur 13.65 329 *e*P Pn 21 25 52.8 -5.2
KLR pmax pmax
comp=E,48nm,1.4s
KLR pmax pmax
comp=Z,64nm,1.4s
KLR MLR MLR
comp=Z,2μm,12.0s
CN2 Changchun 14.15 300 *e*P **P** **21 26 08.3 -1.7**
CN2 *ep*P pP 21 26 18.3
CN2 *e*S **Sn** **21 28 42.8 +2.8**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 LN
comp=Z,300nm,11.0s
CN2 LE
comp=Z,200nm,11.0s
CN2 LZ
comp=Z,300nm,12.0s
SKR Severo-Kuril's 15.93 33 P Pn 21 26 15.5 -12
SKR *e* 21 29 32.0
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s
PETK Petropavlovsk- 18.39 30 P **Pn** **21 26 58.0 +0.3**
comp=Z,0.4nm,0.3s,baz=203,slow=9.7,SNR=33
PETK Petropavlovsk- 18.39 30 P **Pn** **21 26 58.0 +0.3**
PEA2 Petropavlovsk- 18.40 30 *e*P **Pn** **21 26 58.0 +0.2**
PET Petropavlovsk 18.72 32 *e*P **P** **21 27 00.0 -0.4**
PET *i* 21 30 31.0
PET pmax pmax
comp=Z,37nm,1.1s
HIA Hailar 19.89 312⇓*e*P **P** **21 27 12.4 -0.8**
HIA pmax pmax
comp=Z,9.0nm,0.8s
HIA Hailar 19.89 312 *e*P **P** **21 27 12.6 -0.6**
comp=Z,12nm,0.7s
TIA Tai'an 20.33 273⇑P **P** **21 27 19.0 +0.8**
BJT Baijiatuan 20.57 284 *e*P **P** **21 27 21.0 +0.4**
BJT pmax pmax
comp=Z,36nm,1.0s
BJT Baijiatuan 20.57 284 *e*P **P** **21 27 21.0 +0.4**
comp=Z,36nm,1.0s
CLNS Chul'man 22.18 334 *e*P **P** **21 27 37.1 -0.7**
CLNS pmax pmax
comp=E,24nm,1.3s
CLNS pmax pmax
comp=Z,46nm,1.2s
CLNS pmax pmax
comp=N,49nm,1.2s
HHC Hu-ho-hao-te 24.03 287 *e*P **P** **21 27 55.8 -0.4**
HHC pP **pP** **21 28 10.5 -2.0**
HHC sP **sP** **21 28 16.8 -4.1**
HHC S S 21 31 58.3 -10
HHC PMZ
comp=N,16nm,0.9s
HHC PMZ
comp=N,75nm,4.2s
HHC LN
comp=N,150nm,8.0s
HHC LE
comp=N,160nm,9.8s
HHC LZ
comp=N,140nm,11.3s
WHN Wuhan 24.39 261 P **P** **21 27 58.8 -0.6**
WHN S **S** **21 32 09.0 -5.1**
WHN LZ
comp=N,510nm,20.1s
CIT Chita 24.62 314 *e*P **P** **21 28 01.5 +0.2**
CIT *e* 21 28 15.9
CIT *e* 21 28 34.6
CIT pmax pmax
comp=Z,174nm,1.8s
YAK Yakutsk 25.33 346 P **P** **21 28 07.3 -0.2**
comp=Z,58nm,0.7s,baz=40,slow=0.2,SNR=26
YAK S **S** **21 32 32.8 +4.4**
comp=Z,7.3nm,0.3s,baz=337,slow=23,SNR=8.0
YAK LR LR 21 38 26.4
comp=Z,101nm,18.9s,baz=132,slow=37
YAK Yakutsk 25.33 346 *e*P **P** **21 28 07.1 -0.5**
YAK pmax pmax
comp=Z,83nm,1.1s
YAK pmax pmax
comp=N,36nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
YAK Yakutsk 25.33 346 P **P** **21 28 07.3 -0.2**
YAK S **S** **21 32 32.8 +4.4**
YAK *e*S S 21 32 38.3 +10
SEY Seymchan 25.66 10 P **P** **21 28 11.8 +1.2**
comp=E,39nm,1.0s,baz=195,slow=6.8,SNR=59
SEY Seymchan 25.66 10 P **P** **21 28 11.9 +1.2**
SEY pmax pmax
comp=Z,39nm,1.0s
BOD Bodaibo 27.20 326 *e*P **P** **21 28 24.1 -0.4**
BOD pmax pmax
comp=Z,21nm,1.1s
XAN Xi'an 27.39 272 PKP **P** **21 28 25.3 -1.2**
XAN LR LR
comp=N,190nm,21.6s
XAN LR LR
comp=Z,140nm,21.6s
ULN Ulaanbaatar 27.57 302 *e*P **P** **21 28 26.9 -1.2**
ULN pmax pmax
comp=Z,44nm,2.0s
ULN Ulaanbaatar 27.57 302 *e*P **P** **21 28 26.9 -1.2**
comp=Z,44nm,2.0s
H11N2 WAKE ISLAND Hy 27.91 124 T T 21 59 07.6
baz=316,slow=75,SNR=524
H11N1 WAKE ISLAND Hy 27.92 124 T T 21 59 03.6
baz=316,slow=75,SNR=499
H11N3 WAKE ISLAND Hy 27.93 124 T T 21 59 08.9
baz=316,slow=75,SNR=583
SONA0 Songino Array 28.00 302 *e*P **P** **21 28 31.8 -0.2**
SONA0 *e*ScS ScS 21 39 10.8 -1.6
SONM Songino Array 28.00 302 P **P** **21 28 31.8 -0.2**
comp=Z,5.9nm,1.0s,baz=106,slow=8.8,SNR=36
SONM LR LR 21 39 10.8
comp=Z,100nm,20.6s,baz=108,slow=35
ENH Enshi 28.31 264 *e*P **P** **21 28 35.1 +0.3**
comp=Z,11nm,0.7s
H11S1 WAKE ISLAND Hy 28.68 126 T T 22 00 05.9
baz=318,slow=76,SNR=34
H11S3 WAKE ISLAND Hy 28.68 126 T T 22 00 06.0
baz=318,slow=76,SNR=45
H11S2 WAKE ISLAND Hy 28.69 126 T T 22 00 10.3
baz=318,slow=76,SNR=48
ZAK Zakamensk 30.38 307⇑*i*P **P** **21 28 53.0 0.0**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TLY Talaya 30.38 309 P **P** **21 28 53.5 +0.6**
comp=Z,3.6nm,0.5s,baz=149,slow=6.5,SNR=4.5
TLY Talaya 30.38 309 *e*P **P** **21 28 53.3 +0.4**
TLY pmax pmax
comp=Z,11nm,1.1s
TLY MLR MLR
comp=Z,158nm,17.0s
MOY Mondy 32.01 309 *e*P **P** **21 29 07.0 -0.3**
MOY pmax pmax
comp=Z,117nm,1.8s
BILL Bilibino 32.84 16*d i*P **P** **21 29 14.7 +0.5**
BILL *e*S S 21 34 35.5 +9.3
BILL pmax pmax
comp=Z,25nm,1.7s
BILL Bilibino 32.84 16 *e*P **P** **21 29 14.9 +0.7**
comp=Z,16nm,1.1s
TIXI Tiksi 34.43 352⇑*e*P **P** **21 29 27.2 -0.8**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI Tiksi 34.43 352 *e*P **P** **21 29 27.4 -0.6**
comp=Z,13nm,0.9s
TNA Tin City 39.56 30 *e*PKPab **P** **21 30 12.4 +0.8**
TNA LR LR
comp=Z,700nm,22.0s
TNA Tin City 39.56 30 *e*P **P** **21 30 12.4 +0.8**
comp=Z,17nm,1.1s
CRAI Chiangrai 40.48 256 P pP 21 30 35.8 -1.1
comp=Z,370nm,1.1s
CHAI Chaiyaphum 41.88 250 P pP 21 30 50.0 +1.5
comp=Z,61nmcomp=Z,5.4nm,0.9s
ZAA1 Zalesovo Array 41.92 312 *e*P **P** **21 30 30.6 -0.6**
ZALV Zalesovo Beam 41.92 312 P **P** **21 30 30.6 -0.6**
comp=Z,7.2nm,0.7s,baz=80,slow=7.8,SNR=7.4
ZALV pP **pP** **21 30 49.0 +0.6**
comp=Z,9.3nm,0.8s,baz=86,slow=7.4,SNR=3.6
ZALV Zalesovo Beam 41.92 312 *i* P **P** **21 30 31.1 0.0**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 42.40 256 P pP 21 30 54.9 +2.2
comp=Z,70nm,1.7s
CMAR Chiang Mai Arr 42.61 255 pP pP 21 30 53.6 -0.9
comp=Z,1.8nm,0.8s,baz=45,slow=6.2,SNR=6.7
CMAR Chiang Mai Arr 42.61 255 *i* P **P** **21 30 39.2 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
LSA Lhasa 43.01 275 *e*P **P** **21 30 42.0 +1.1**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA Lhasa 43.01 275 *e*P **P** **21 30 42.0 +1.1**
comp=Z,30nm,1.1s
MK32 Makanchi Array 44.36 301 *e*P **P** **21 30 50.7 -0.3**
MKAR Makanchi Array 44.36 301 P **P** **21 30 50.7 -0.3**
comp=Z,4.5nm,0.7s,baz=85,slow=3.7,SNR=15
MKAR LR LR 21 50 11.1
comp=Z,78nm,18.4s,baz=168,slow=37
MKAR Makanchi Array 44.36 301 *i* P **P** **21 30 50.4 -0.6**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
KDAK Kodiak Island 45.77 43 *i* P **P** **21 31 03.0 +1.1**
KURK Kurchatov 46.04 308 *e*P **P** **21 31 03.6 -0.5**
KURK pmax pmax
comp=Z,31nm,0.7s
KURK Kurchatov 46.04 308 *e*P **P** **21 31 03.6 -0.5**
comp=Z,31nm,0.7s
TAPN Taplejung 46.77 274 *e*P **P** **21 31 13.0 +2.5**
comp=Z,7.1nm,0.5s
ODAN Odare 47.25 273 *e*P **P** **21 31 16.3 +2.1**
JIRN Jiri 47.82 275 *e*P **P** **21 31 20.6 +1.8**
comp=Z,16nm,0.6s
RAMN Ramite 47.83 274 *e*P **P** **21 31 20.4 +1.7**
comp=Z,41nm,0.9s
GUN Gumba 47.95 275 *e*P **P** **21 31 20.8 +1.0**
comp=Z,16nm,0.3s
ILAR Eielson Array 48.19 33 P **P** **21 31 21.4 +0.8**
comp=Z,3.5nm,0.9s,baz=268,slow=7.0,SNR=3.7
ILAR pP **pP** **21 31 40.5 +2.2**
comp=Z,9.2nm,1.0s,baz=279,slow=7.2,SNR=3.0
ILB Eielson Array 48.19 33 *e*P **P** **21 31 21.4 +0.8**
PKI Pulchoki 48.48 275 *e*P **P** **21 31 25.7 +1.9**
comp=Z,12nm,0.6s
KKN Kakani 48.48 276 *e*P **P** **21 31 24.9 +1.2**
comp=Z,18nm,0.5s
PKIN Phulchoki 48.48 275 *e*P **P** **21 31 25.9 +2.1**
comp=Z,11nm,0.8s
DMN Daman 48.70 275 *e*P **P** **21 31 26.7 +1.3**
comp=Z,10.0nm,0.5s
SURT Suratani 48.80 245 P pP 21 31 46.3 +2.7
comp=Z,9.3nm,1.3s
GKN Gorkha 48.88 276 *e*P **P** **21 31 26.6 -0.1**
comp=Z,22nm,0.7s
DANN Dangsing 49.41 277 *e*P **P** **21 31 31.0 +0.1**
comp=Z,65nm,0.6s
KOLN Koldanda 49.81 276 *e*P **P** **21 31 34.9 +1.1**
comp=Z,9.0nm,0.4s
TKM2 Tokmak 2 49.95 298 *e*P **P** **21 31 32.3 -2.4**
TKM2 pmax pmax
comp=Z,13nm,0.6s
TKM2 Tokmak 2 49.95 298 *e*P **P** **21 31 32.3 -2.4**
comp=Z,13nm,0.6s
PYUN Piuthan 50.13 277 *e*P **P** **21 31 35.9 -0.4**
comp=Z,151nm,0.9s
BRVK Borovoye 50.63 312*de*P **P** **21 31 39.4 0.0**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 50.63 312 *e*PP **P** **21 31 39.1 -0.3**
KKAR Karatay Array 53.41 300 *e*P **P** **21 32 00.1 -0.2**
KKAR Karatay Array 53.41 300 *e*P **P** **21 32 00.1 -0.2**
SVE Sverdlovsk 55.01 318⇓*i*P **P** **21 32 12.1 +0.5**
SVE pmax pmax
comp=Z,25nm,0.9s
ARU Arti 56.22 318*d i*P **P** **21 32 17.7 -2.6**
ARU *PP **pP** **21 32 38.5 +0.2**
ARU 21 34 22.6
ARU S **S** **21 40 01.0 -3.4**
ARU pmax pmax
comp=Z,45nm,1.7s
ARU Arti 56.22 318 *e*P **P** **21 32 18.4 -1.9**
comp=Z,26nm,1.1s
ABKAR Akbulak array 57.99 310 *e*P **P** **21 32 32.6 -0.4**
WRAB Tennant Creek 58.15 189⇓*e*P **P** **21 32 33.8 -0.4**
WRAB pmax pmax
comp=Z,47nm,1.3s
WRA Warramunga Arr 58.16 189 P **P** **21 32 33.0 -1.3**
comp=Z,8.1nm,0.7s,baz=6.9,slow=7.3,SNR=52
PRGR Permogore 60.43 327 P **P** **21 32 49.2 -0.3**
PRGR *e**PP **pP** **21 33 07.0 -0.7**
PRGR *e* 21 33 32.1
PRGR pmax pmax
comp=Z,13nm,0.7s
AS12 Alice Springs 61.88 189 *e*P **P** **21 32 59.1 -0.6**
ASAR Alice Springs 61.88 189 P **P** **21 32 59.1 -0.6**
comp=Z,3.2nm,0.7s,baz=10,slow=6.1,SNR=34
TMCR Tamitsa 62.32 331 *e*P **P** **21 33 02.3 +0.1**
TMCR pmax pmax
comp=Z,32nm,1.3s
YKA Yellowknife Ar 62.51 31 P **P** **21 33 04.3 +0.7**
comp=Z,1.0nm,0.6s,baz=302,slow=6.4,SNR=8.8
YKB5 Yellowknife Ar 62.51 31 *e*P **P** **21 33 04.2 +0.7**
KEV Kevo 62.84 339 *e*p P 21 33 09.0 +3.4
KEV Kevo 62.84 339 *e*P P 21 33 09.0 +3.4
ARCES ARCESS Array B 63.40 339 pP pP 21 33 30.1 +2.5
comp=Z,4.1nm,0.6s,baz=55,slow=6.4,SNR=2.4
IMYA Miami 63.53 297 *e*Pn pP 21 33 32.2 +2.9
GEYT Aibetck 64.14 299 P **P** **21 33 14.3 -0.4**
comp=Z,3.6nm,0.8s,baz=46,slow=4.3,SNR=8.6
IKRD Kardeh 64.43 298 *e*Pn P 21 33 13.1 -3.9
DAG Danmarks Havn 64.88 355 *i* P **P** **21 33 17.6 -1.3**
DAG Danmarks Havn 64.88 355 *i* P **P** **21 33 17.6 -1.3**
comp=Z,6.6nm,1.0s
DAG *i* 21 33 39.4
JOF Joensuu 65.52 332 *ep* **P** **21 33 21.8 -1.4**
comp=Z,4.7nm,0.8s
JOF Joensuu 65.52 332 *ep* sP 21 33 46.3 -3.1
JOF Joensuu 65.52 332 *e*P **P** **21 33 21.8 -1.4**
JOF pmax pmax
comp=Z,5.0nm,0.8s
VRHR Novokhopersk 67.56 318 *e*P **P** **21 33 34.8 -1.6**
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 67.85 333 *ep* **P** **21 33 36.1 -1.9**
comp=Z,14nm,0.9s
KAF Kangasniemi 67.85 333 *ep* pP 21 33 56.2 -0.4
KAF Kangasniemi 67.85 333 *e*P **P** **21 33 36.1 -1.9**
KAF pmax pmax
comp=Z,14nm,0.9s
OBN Obninsk 67.85 323⇓*i*P **P** **21 33 38.0 -0.1**
OBN *i* 21 33 58.5
OBN pmax pmax
comp=Z,31nm,2.2s
LPSR Galich'ya Gora 68.12 320 *e*P **P** **21 33 38.9 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=N,9.0nm,1.6s
LPSR pmax pmax
comp=E,4.0nm,0.7s
IANJ Anjilo 68.30 299 *e*Pn **P** **21 33 41.8 +0.1**
FIA0 FINESS Array S 68.36 332 *e*P **P** **21 33 41.0 -0.3**
FIA0 FINESS Array S 68.36 332 *e*P **P** **21 33 41.0 -0.3**
FINES FINESS Array B 68.36 332 P **P** **21 33 41.0 -0.3**
comp=E,13nm,0.8s,baz=64,slow=8.7,SNR=23
FINES FINESS Array B 68.36 332 *i* P **P** **21 33 41.2 -0.1**
FINES pmax pmax
comp=Z,13nm,0.8s
VSR Storozhevoye 68.78 319 *e*P **P** **21 33 43.7 -0.4**
VSR pmax pmax
comp=N,180nm,0.7s
VSR pmax pmax
comp=E,7.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 68.86 319 *e*P **P** **21 33 44.0 -0.6**
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=Z,9.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.6s
ILAS Lasjerd 69.01 299 *e*Pn **P** **21 33 46.4 +0.3**
STKA Stephens Creek 69.54 181 P **P** **21 33 48.3 -0.5**
comp=E,3.1nm,0.8s,baz=350,slow=6.9,SNR=5.8
K05A Summer Lake 69.64 51 *e*P **P** **21 33 51.9 +2.1**
GOF Gofitskoye 70.11 312 *e*P **P** **21 33 52.6 +0.2**
NCK Nalchik 70.65 310⇑*i*P **P** **21 33 56.2 +0.4**
IZEF Zefreh 70.79 297 *e*Pn **P** **21 33 56.4 -0.7**
KIV Kislovodsk 70.94 311 *e*P **P** **21 33 57.7 +0.1**
KIV pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 70.94 311 *e*P **P** **21 33 58.2 +0.6**
comp=Z,41nm,1.2s
KBZ Khabaz 70.94 311 P **P** **21 33 57.6 +0.1**
comp=Z,6.4nm,0.9s,baz=233,slow=20,SNR=16
IKLH Kolahrood 71.08 298 *e*Pn **P** **21 33 58.6 -0.3**
GNI Garni 71.83 307⇑*i*P **P** **21 34 03.5 +0.3**
GNI pmax pmax
comp=Z,8.0nm,1.2s
IPAR Pars 71.96 294 *e*Pn **P** **21 34 03.5 -0.7**
ISAL Salakas 72.23 328 *e*P **P** **21 34 04.0 -1.0**
ISAL AMB AMB 21 34 27.6
comp=Z,12nm,1.2s
IIGN Ignalina 72.34 328 *e*P **P** **21 34 04.4 -1.3**
IIGN AMB AMB 21 34 28.1
comp=Z,7.0nm,1.2s

NACGM **Naroch** 72.40 327 *e* P 21 34 04.0 -2.0
CMB **Columbia Colle** 72.58 55 *e*P P 21 34 08.7 +1.2
CMB pmax pmax
comp=Z,8.0nm,1.3s
CMB **Columbia Colle** 72.58 55 *e*P P 21 34 08.7 +1.2
comp=Z,8.2nm,1.3s
LRM **Limekiln Ridge** 72.82 45 *e*P P 21 34 10.4 +1.3
BOZ **Bozeman (W)** 73.39 45 *e*P P 21 34 13.3 +1.0
BOZ pmax pmax
comp=Z,9.0nm,1.1s
BOZ **Bozeman (W)** 73.39 45 *e*P P 21 34 13.3 +1.0
comp=Z,9.0nm,1.1s
ANN **Anapa** 73.49 314 *e*P P 21 34 11.8 -0.8
ANN pmax pmax
comp=Z,27nm,1.3s
HFS **Hagfors** 73.56 336 P P 21 34 13.0 +0.2
comp=Z,5.3nm,0.9s,baz=46,slow=12
NB2 **NORSAR Subarra** 73.63 338 P P 21 34 12.8 -0.4
comp=Z,18nm,1.1s,baz=38,slow=6.2
NB2 **NORSAR Subarra** 73.63 338 P P 21 34 12.8 -0.4
baz=38,slow=6.2
NB200 **NORSAR Array S** 73.63 338 *e*P P 21 34 12.4 -0.8
NOA **NORSAR Array B** 73.63 338 P P 21 34 12.4 -0.8
comp=Z,6.1nm,0.9s,baz=38,slow=5.8,SNR=14
NOA pP pP 21 34 32.8 +0.8
comp=Z,11nm,1.0s,baz=38,slow=5.9,SNR=11
NV01 **Mina Array Sit** 73.69 54 *e*P P 21 34 15.2 +1.0
NVAR **Mina Array Bea** 73.69 54 P P 21 34 15.2 +0.9
comp=Z,2.7nm,0.9s,baz=282,slow=6.2,SNR=10
AKASG **Malin Array Be** 74.07 323 P P 21 34 15.4 -0.5
comp=Z,5.3nm,0.8s,baz=44,slow=6.2,SNR=32
AKASG pP pP 21 34 35.6 +0.9
comp=Z,1.1nm,0.4s,baz=44,slow=6.4,SNR=6.4
AKBB **Malin Array Si** 74.07 323 *e*P P 21 34 15.4 -0.5
AKBB **Malin Array Si** 74.07 323 *e*P P 21 34 15.4 -0.5
KIEV **Kiev** 74.08 323 *d*↑*i*P P 21 34 15.7 -0.3
KIEV *i* *PP pP 21 34 35.9 +1.2
KIEV **Kiev** 74.08 323 *e*P P 21 34 15.4 -0.6
comp=Z,10nm,1.0s
TPH **Tonopah** 74.59 54 *e*P P 21 34 21.0 +1.5
TPH *e* 21 34 27.5
TPH **Tonopah** 74.59 54 *e*P P 21 34 21.0 +1.5
TPH *e*PcP PcP 21 34 27.5 -6.0
SFJD **Kangerlussuaq** 74.83 5↑*i*P P 21 34 18.6 -1.4
SFJD *i* S PcP 21 34 32.9 -0.9
SFJD **Kangerlussuaq** 74.83 5↑*i*P P 21 34 18.6 -1.4
SFJD *i* S PcP 21 34 32.9 -0.9
FXWY **Fox Creek** 74.96 46 *e*P P 21 34 23.6 +2.0
comp=Z,6.8nm,1.1s
BAKC **Calstate** 74.97 57 *e*P P 21 34 21.8 +0.4
HVU **Hansel Valley** 75.09 48 *e*P P 21 34 24.1 +1.8
HVU pmax pmax
comp=Z,6.0nm,1.0s
HVU **Hansel Valley** 75.09 48 *e*P P 21 34 24.1 +1.8
comp=Z,5.6nm,1.0s
SIM **Simferopol'** 75.25 316 *e*P P 21 34 22.9 0.0
SIM *e* 21 37 12.0
SIM *e*PPP PPP 21 38 56.0
SIM pmax pmax
comp=Z,5.0nm,0.7s
SIM pmax pmax
comp=Z,20nm,13.0s
R11A **Troy Canyon, C** 75.46 53 *e*P P 21 34 25.7 +1.3
comp=Z,6.6nm,1.2s
TPNV **Topopah Spring** 75.88 54 *e*P P 21 34 27.8 +1.0
TPNV pmax pmax
comp=Z,15nm,1.3s
TPNV **Topopah Spring** 75.88 54 *e*P P 21 34 27.8 +1.0
comp=Z,15nm,1.3s
HWUT **Hardware Ranch** 75.91 48 *e*P P 21 34 28.6 +1.7
comp=Z,11nm,1.1s
DUG **Dugway, Tooele** 76.04 50 *e*P P 21 34 29.3 +1.6
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG **Dugway, Tooele** 76.04 50 *e*P P 21 34 29.3 +1.6
comp=Z,9.3nm,1.1s
PD31 **Pinedale Array** 76.34 46 *e*P P 21 34 30.4 +1.0
PDAR **Pinedale Array** 76.34 46 P P 21 34 30.4 +1.0
comp=Z,3.2nm,0.7s,baz=344,slow=0.6,SNR=22
PDAR pP pP 21 34 50.5 +2.2
comp=Z,3.0nm,0.8s,baz=291,slow=2.4,SNR=4.2
MALT **Malatya** 76.87 308 ⇓*i*P P 21 34 33.7 +1.3
MALT **Malatya** 76.87 308 ⇓P P 21 34 33.7 +1.3
BSD **Bornholm Skovb** 77.00 332 *i* P pP 21 34 52.1 +0.6
comp=Z,16nm,0.9s
CCUT **Cedar City** 77.34 52 *e*P P 21 34 36.8 +1.7
comp=Z,5.4nm,1.1s
KWP **Kalwaria Pacla** 77.85 325 *e*P P 21 34 38.2 +0.7
KWP *ep*P pP 21 34 58.3 +1.9
KWP **Kalwaria Pacla** 77.85 325 *e*P P 21 34 38.3 +0.7
KWP *e**PP pP 21 34 58.3 +1.9
KNB **Kanab** 78.00 52 *e*P P 21 34 41.3 +2.5
KNB pmax pmax
comp=Z,13nm,1.4s
KNB **Kanab** 78.00 52 *e*P P 21 34 41.3 +2.5
comp=Z,13nm,1.4s
BURAR **Bucovina Array** 78.09 322 ⇓*i*P P 21 34 39.3 +0.3
BURAR **Bucovina Array** 78.09 322 ⇓P P 21 34 39.3 +0.3
SRU **San Rafael Swe** 78.10 50 *e*P P 21 34 40.6 +1.3
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU **San Rafael Swe** 78.10 50 *e*P P 21 34 40.6 +1.3
comp=Z,9.4nm,1.0s
ULM **Lac du Bonnet** 78.19 34 P P 21 34 39.5 +0.2
comp=Z,1.5nm,0.5s,baz=297,slow=5.8,SNR=3.9
VRI **Vrincioaia** 78.56 320 ⇓*i*P P 21 34 42.9 +1.4
VRI **Vrincioaia** 78.56 320 ⇓P P 21 34 42.9 +1.4
STHS **Stebnicka Huta** 78.67 325 *e*P P 21 34 42.1 +0.1
STHS **Stebnicka Huta** 78.67 325 *e*P P 21 34 42.1 +0.1
OJC **Ojcow** 78.72 327 *e*P P 21 34 43.0 +0.6
OJC *ep*P pP 21 35 02.1 +0.9
OJC **Ojcow** 78.72 327 *e*P P 21 34 42.9 +0.6
OJC pmax pmax
comp=Z,20nm,1.2s
OJC **Ojcow** 78.72 327 *e*P P 21 34 42.9 +0.6
comp=Z,20nm,1.2s
TLB **Topalu** 78.75 318 ⇓*i*P P 21 34 37.3 -5.2
WESC **Westside Schoo** 78.76 57 *e*P P 21 34 46.9 +4.2
BR101 **Keskin Array S** 78.87 312 *e*P P 21 34 42.9 -0.6
BRTR **Keskin Array B** 78.87 312 P P 21 34 42.9 -0.6
comp=Z,2.8nm,1.1s,baz=90,slow=2.5,SNR=8.4
BRTR **Keskin Array B** 78.87 312 *i* P P 21 34 43.7 +0.2
BRTR pmax pmax
comp=Z,3.0nm,1.1s
TRPA **Tarpa** 79.00 324 ↑*i*P P 21 34 44.0 +0.2
NIE **Niedzica** 79.08 326 *e*P P 21 34 44.8 +0.5
NIE *ep*P pP 21 35 05.0 +1.7
MLR **Muntele Rosu** 79.21 320 ⇓*i*P P 21 34 45.8 +0.6
MLR **Muntele Rosu** 79.21 320 ⇓P P 21 34 45.8 +0.6
PV10 **Paradox Valley** 79.46 49 *e*P P 21 34 49.0 +2.2
BSEG **Bad Segeberg** 79.59 334 *e*P pP 21 35 06.9 +1.1
comp=Z,31nm,1.4s
N23A **Red Feather La** 79.61 46 *e*P P 21 34 49.1 +1.5
comp=Z,9.4nm,1.0s
PV05 **Paradox Valley** 79.62 50 *e*P P 21 34 49.2 +1.6
OKC **Ostrava-Krasne** 79.72 327 *e*P P 21 34 48.3 +0.6
OKC *ep*P pP 21 35 09.4 +2.7
OKC **Ostrava-Krasne** 79.72 327 *e*P P 21 34 48.3 +0.6
KSP **Ksiaz** 79.74 329 *e*P P 21 34 47.9 +0.1
KSP *ep*P pP 21 35 09.5 +2.7
KSP **Ksiaz** 79.74 329 *e*P P 21 34 48.1 +0.3
KSP *e**PP pP 21 35 08.0 +1.2
ARR **Arges** 79.96 321 ⇓*i*P P 21 34 50.5 +1.3
MORC **Moravsky Berou** 80.02 327 ⇓*i*P P 21 34 49.7 +0.3
MORC **Moravsky Berou** 80.02 327 *e*P P 21 34 50.0 +0.6
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC **Moravsky Berou** 80.02 327 *e*P P 21 34 50.0 +0.6
comp=Z,10nm,1.1s
DPC **Dobruska-Polom** 80.10 328 *e*P P 21 34 50.7 +0.9
DPC *ep*P pP 21 35 10.1 +1.3
DPC **Dobruska-Polom** 80.10 328 *e*P P 21 34 50.8 +0.9
DPC **Dobruska-Polom** 80.10 328 *e*P P 21 34 50.8 +1.0
comp=Z,143nm,1.7s
UPC **Upice** 80.11 329 *ep*P pP 21 35 09.0 +0.2
KRLC **Kraliky** 80.12 328 *e*P P 21 34 49.9 0.0
KRLC *ep*P pP 21 35 10.2 +1.3
KRLC **Kraliky** 80.12 328 *e*P P 21 34 49.9 0.0
KRLC *e* 21 35 10.2
PSZ **Piszkesteto** 80.38 325 *e*P P 21 34 51.9 +0.5
PSZ pmax pmax
comp=Z,22nm,1.4s
PSZ **Piszkesteto** 80.38 325 *e*P P 21 34 51.9 +0.5
comp=Z,22nm,1.4s

VYHS **Vyhne** 80.42 326 *e*P P 21 34 51.6 0.0
VYHS **Vyhne** 80.42 326 *e*P P 21 34 51.6 0.0
BRG **Berggiesshubel** 80.66 330 *e*P pP 21 35 14.1 +2.3
comp=Z,11nm,1.3s
comp=N,821nm,19.4s
comp=E,848nm,23.5s
comp=Z,963nm,19.0s
PVCC **Panska Ves** 80.68 329 *e*P P 21 34 52.7 -0.2
PVCC *ep*P pP 21 35 13.4 +1.5
PVCC **Panska Ves** 80.68 329 *e*P P 21 34 52.7 -0.2
PVCC *e* 21 35 13.4
CLL **Collm** 80.69 331 *e*P pP 21 35 12.5 +0.7
comp=Z,14nm,1.1s
CLL **Collm** 80.69 331 *e*P P 21 34 53.0 +0.1
comp=Z,6.0nm,1.3s
CLL *i* pP pP 21 35 12.6 +0.7
comp=Z,14nm,1.1s
CLL *i* sP sP 21 35 19.6 +0.1
CLL **Collm** 80.69 331 *e*P P 21 34 51.0 -1.9
CLL pmax pmax
comp=Z,6.0nm,1.3s
GOPC **GO Pecny, Ondr** 81.07 329 *e*P P 21 34 57.2 +2.2
GOPC *ep*P pP 21 35 16.6 +2.6
PRU **Pruhonice** 81.11 329 *e*P P 21 34 55.9 +0.7
PRU *ep*P pP 21 35 16.1 +1.9
PRU **Pruhonice** 81.11 329 *e*P P 21 34 55.9 +0.7
PRU *e* 21 35 16.1
S22A **4UR Ranch, Cre** 81.19 49 *e*P P 21 34 57.9 +1.7
comp=Z,6.3nm,1.1s
CLZ **Clausthal** 81.26 332 *e*P pP 21 35 16.2 +1.2
comp=Z,15nm,1.1s
TREC **Trest** 81.26 328 *e*P P 21 34 53.1 -2.9
TREC *ep*P pP 21 35 13.2 -1.8
TREC **Trest** 81.26 328 *e*P P 21 34 53.1 -2.9
TREC *e* 21 35 13.2
CSNA **Conrad Observa** 82.15 327 ↑*i*P P 21 34 57.8 -3.0
comp=Z,3.9nm,1.2s
KHC **Kasperske Hory** 82.17 329 *e*P P 21 35 06.0 +5.2
KHC *ep*P pP 21 35 21.0 +1.1
KHC **Kasperske Hory** 82.17 329 *e*P P 21 35 06.0 +5.2
KHC *e* 21 35 21.0
PKSM **Moragy** 82.22 324 ⇓*i*P P 21 35 00.7 -0.4
PKSM **Moragy** 82.22 324 ⇓P P 21 35 00.7 -0.4
ROTZ **Rotzenmuhle** 82.22 330 *e*P pP 21 35 21.5 +1.4
comp=Z,15nm,1.4s
UBBA **Unterbreizbach** 82.22 332 *e*P pP 21 35 20.9 +1.0
comp=Z,17nm,1.7s
GEC2 **GERESS Array S** 82.35 329 *e*P P 21 35 01.5 -0.4
GEC2 **GERESS Array S** 82.35 329 *e*P P 21 35 01.4 -0.4
GERES **GERESS Array B** 82.35 329 P P 21 35 01.4 -0.4
comp=Z,0.2nm,0.4s,baz=9.5,slow=4.1,SNR=4.6
GERES pP pP 21 35 21.7 +0.8
comp=Z,2.6nm,0.9s,baz=46,slow=5.8,SNR=8.1
WET **Wettzell** 82.44 329 *e*P pP 21 35 22.6 +1.3
comp=Z,10.0nm,1.3s
GRF **Grenberg Arr** 82.67 331 *e*P pP 21 35 23.8 +1.4
comp=Z,26nm,1.3s
T25A **Trinidad** 83.02 48 *e*P P 21 35 07.0 +1.3
comp=Z,7.7nm,1.0s
ANMO **Albuquerque** 83.28 51↑*e*P P 21 35 08.5 +1.5
ANMO pmax pmax
comp=Z,24nm,1.7s
SOKA **Soboth** 83.48 327 ⇓*i*P P 21 35 07.2 -0.5
comp=Z,5.6nm,1.3s
RJOB **Gerberg** 83.59 329 *e*P pP 21 35 28.7 +1.3
comp=Z,14nm,1.1s
WLF **Walferdange** 84.57 333 *e*P pP 21 35 33.4 +1.2
comp=Z,34nm,2.0s
BFO **Black Forest** 84.88 331 *e*P pP 21 35 34.6 +0.7
comp=Z,19nm,1.2s
BFO **Black Forest** 84.88 331 *i* P P 21 35 15.4 +0.7
BAIF **Baives** 84.92 335 *e*P P 21 35 14.1 -0.7
BAIF **Baives** 84.92 335 *e*P P 21 35 14.1 -0.7
BAIF **Baives** 84.92 335 *e*P P 21 35 14.1 -0.7
CDF **Champ du Feu** 85.21 332 *e*P P 21 35 15.8 -0.7
comp=Z,41nm,1.5s
CDF **Champ du Feu** 85.21 332 *e*P P 21 35 15.8 -0.7
CDF pmax pmax
comp=Z,41nm,1.5s
CDF **Champ du Feu** 85.21 332 *e*P P 21 35 15.8 -0.7
comp=Z,41nm,1.5s
PAGF **Fort de Pagny** 85.66 333 *e*P P 21 35 18.2 -0.4
comp=Z,10.0nm,1.3s
PAGF **Fort de Pagny** 85.66 333 *e*P P 21 35 18.2 -0.4
comp=Z,10.0nm,1.3s
HINF **Hinteralfeld** 85.86 332 *e*P P 21 35 18.7 -0.9
HINF **Hinteralfeld** 85.86 332 *e*P P 21 35 18.7 -0.9
HINF **Hinteralfeld** 85.86 332 *e*P P 21 35 18.7 -0.9
HAU **Haudompre** 85.89 332 *e*P P 21 35 18.8 -1.0
HAU **Haudompre** 85.89 332 *e*P P 21 35 18.8 -1.0
HAU **Haudompre** 85.89 332 *e*P P 21 35 18.8 -1.0
MEZF **Maizieres J'vi** 85.94 333 *e*P P 21 35 19.7 -0.3
MEZF **Maizieres J'vi** 85.94 333 *e*P P 21 35 19.7 -0.3
AMTX **Amarillo** 86.18 48 *e*P P 21 35 22.8 +1.3
comp=Z,8.6nm,0.9s
SFTF **Sexfontaines** 86.20 333 *e*P P 21 35 20.7 -0.5
comp=Z,41nm,1.1s
SFTF **Sexfontaines** 86.20 333 *e*P P 21 35 20.7 -0.5
comp=Z,41nm,1.1s
CABF **La Chapelle** 87.16 332 *e*P P 21 35 25.4 -0.7
comp=Z,35nm,1.6s
CABF **La Chapelle** 87.16 332 *e*P P 21 35 25.4 -0.7
CABF pmax pmax
comp=Z,35nm,1.6s
CABF **La Chapelle** 87.16 332 *e*P P 21 35 25.4 -0.7
comp=Z,35nm,1.6s
LOR **Lormes** 87.42 333 *e*P P 21 35 26.5 -0.7
comp=Z,44nm,1.4s
LOR **Lormes** 87.42 333 *e*P P 21 35 26.5 -0.7
LOR pmax pmax
comp=Z,44nm,1.4s
LOR **Lormes** 87.42 333 *e*P P 21 35 26.5 -0.7
comp=Z,44nm,1.4s
SSF **Saint Saulge** 87.72 333 *e*P P 21 35 28.0 -0.6
comp=Z,14nm,1.1s
SSF **Saint Saulge** 87.72 333 *e*P P 21 35 28.0 -0.6
SSF pmax pmax
comp=Z,14nm,1.1s
SSF **Saint Saulge** 87.72 333 *e*P P 21 35 28.0 -0.6
comp=Z,14nm,1.1s
LPL **La Plagne** 87.83 331 *e*P P 21 35 28.8 -0.7
comp=Z,16nm,1.2s
LPL **La Plagne** 87.83 331 *e*P P 21 35 28.8 -0.7
LPL pmax pmax
comp=Z,16nm,1.2s
LPL **La Plagne** 87.83 331 *e*P P 21 35 28.8 -0.7
comp=Z,16nm,1.2s
LPG **La Plagne** 87.84 331 *e*P P 21 35 29.0 -0.6
comp=Z,5.2nm,0.8s
LPG **La Plagne** 87.84 331 *e*P P 21 35 29.0 -0.6
LPG pmax pmax
comp=Z,5.0nm,0.8s
LPG **La Plagne** 87.84 331 *e*P P 21 35 29.0 -0.6
comp=Z,5.2nm,0.8s
SMF **Signal de Mont** 87.95 333 *e*P P 21 35 29.2 -0.6
comp=Z,33nm,1.5s
SMF **Signal de Mont** 87.95 333 *e*P P 21 35 29.2 -0.6
SMF pmax pmax
comp=Z,33nm,1.5s
SMF **Signal de Mont** 87.95 333 *e*P P 21 35 29.2 -0.6
comp=Z,33nm,1.5s
AVF **Avril sur Loir** 88.00 333 *e*P P 21 35 29.5 -0.5
comp=Z,35nm,1.3s
AVF **Avril sur Loir** 88.00 333 *e*P P 21 35 29.5 -0.5
AVF pmax pmax
comp=Z,35nm,1.3s
AVF **Avril sur Loir** 88.00 333 *e*P P 21 35 29.5 -0.5
comp=Z,35nm,1.3s
GRR **Gron** 88.02 337 *e*P P 21 35 29.7 -0.3
comp=Z,77nm,1.5s
GRR **Gorron** 88.02 337 *e*P P 21 35 29.7 -0.3
GRR **Gorron** 88.02 337 *e*P P 21 35 29.7 -0.3
comp=Z,77nm,1.5s
LTX **Lajitas** 88.82 53 *e*P P 21 35 35.1 +0.8
LTX **Lajitas** 88.82 53 *e*P P 21 35 35.1 +0.8
TXAR **Lajitas Array** 88.82 53 P P 21 35 35.1 +0.8
comp=Z,1.4nm,0.7s,baz=296,slow=2.9,SNR=20
TCF **Toulx Ste Croi** 88.84 334 *e*P P 21 35 33.8 -0.2
TCF **Toulx Ste Croi** 88.84 334 *e*P P 21 35 33.8 -0.2
TCF **Toulx Ste Croi** 88.84 334 *e*P P 21 35 33.8 -0.2
MFF **Saint Martin d** 89.37 335 *e*P P 21 35 36.4 0.0
comp=Z,18nm,1.2s
MFF **Saint Martin d** 89.37 335 *e*P P 21 35 36.4 0.0
MFF pmax pmax
comp=Z,18nm,1.3s
MFF **Saint Martin d** 89.37 335 *e*P P 21 35 36.4 0.0
comp=Z,18nm,1.3s
FRF **La Foret Royal** 89.49 330 *e*P P 21 35 36.1 -1.0
comp=Z,11nm,1.3s
FRF **La Foret Royal** 89.49 330 *e*P P 21 35 36.1 -1.0
FRF pmax pmax
comp=Z,11nm,1.3s
FRF **La Foret Royal** 89.49 330 *e*P P 21 35 36.1 -1.0
comp=Z,11nm,1.3s
RJF **Les Rejaudoux** 89.93 334 *e*P P 21 35 39.0 -0.1
RJF **Les Rejaudoux** 89.93 334 *e*P P 21 35 39.0 -0.1
RJF **Les Rejaudoux** 89.93 334 *e*P P 21 35 39.0 -0.1
H06E1 **SOCORRO T-PHAS** 90.96 65 T T 23 17 26.8
SNR=9.1
MTLF **Montolieu** 91.38 332 *e*P P 21 35 45.9 0.0
comp=Z,12nm,1.3s
MTLF **Montolieu** 91.38 332 *e*P P 21 35 45.9 0.0
MTLF pmax pmax
comp=Z,12nm,1.3s
MTLF **Montolieu** 91.38 332 *e*P P 21 35 45.9 0.0
comp=Z,12nm,1.3s
TORD **Torodi Ar. Bea** 117.26 316 PKP PKPdf 21 41 24.0 -1.5
comp=Z,0.4nm,0.8s,baz=28,slow=3.9,SNR=2.8
VNA2 **Neumayer--Watz** 143.50 196 P PKPbc 21 42 10.5 -0.1
baz=94,slow=2.5
VNA3 **Neumayer Olymp** 143.74 195 P PKPab 21 42 10.6 0.0
VNA1 **Neumayer--Stat** 143.90 196 P PKPbc 21 42 11.6 -0.2
LPAZ **La Paz** 145.43 60 PKPbc PKPdf 21 42 18.6 -0.2
comp=Z,12nm,0.8s,baz=341,slow=4.0,SNR=47
LVC **Limon Verde** 149.00 69 PKPbc PKPbc 21 42 28.3 0.0
comp=Z,22nm,0.8s,baz=230,slow=2.2,SNR=6.2
SIV **San Ignacio** 149.77 50 PKPbc PKPbc 21 42 30.0 -0.1
comp=Z,6.9nm,0.9s,baz=266,slow=4.8,SNR=3.4
SIV PKPab PKPab 21 42 35.3 -0.2
comp=Z,4.7nm,0.9s,baz=272,slow=6.6,SNR=6.0
PLCA **Paso Flores** 154.36 107 PKPbc PKPbc 21 42 40.1 +0.2
comp=Z,4.0nm,1.2s,baz=228,slow=5.4,SNR=3.2
PLCA PKPab PKPab 21 42 55.5 +1.1
comp=Z,4.5nm,0.9s,baz=310,slow=3.1,SNR=7.2

*ISCJB **25** 21:47:33.4±0.4, 41.79N±0.02×23.27E±0.03, h1km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=159.3*
*SKO **25** 21:47:34.8, 41.80N×23.27E, h0km*
*CSEM **25** 21:47:34.2±0.1, 41.77N×23.27E, h5km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.3km az=69.0*
*THE **25** 21:47:34.8, 41.74N×23.29E, h0km±2km, ML2.1/5, Error ellipse: s-maj=2.5km s-min=0.6km az=349.0*
*ATH **25** 21:47:35.2, 41.71N×23.32E, h5km±3km, MD3.0/7*
*BEO **25** 21:47:36.0±0.4, 41.80N×23.24E, h0km, ML1.7/5*
ISC 25 21:47:34.7±1.1, 41.76N±0.02×23.30E±0.02, h6km±9km, n45, σ0s57/82, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.59**	**134**	P		**Pg**		**21 47 45.5**	**-0.4**
NVR				S		**Sg**		**21 47 54.0**	**+0.4**
NVR	**Nevrokopi**	**0.59**	**134**	*e*PB		**Pg**		**21 47 45.9**	**0.0**
NVR				*e*SB		**Sg**		**21 47 53.7**	**+0.1**
NVR	**Nevrokopi**	**0.59**	**134**	P		**Pg**		**21 47 45.5**	**-0.4**
NVR	**Nevrokopi**	**0.59**	**134**	*e*Pb		**Pg**		**21 47 45.9**	**0.0**
NVR				*e*Sb		**Sg**		**21 47 53.7**	**+0.1**
NVR				S		**Sg**		**21 47 54.0**	**+0.4**
KNT	**Kendrikon**	**0.67**	**207**	P		**Pg**		**21 47 47.1**	**-0.4**
KNT				S		**Sg**		**21 47 56.5**	**+0.3**
KNT	**Kendrikon**	**0.67**	**207**	*e*PG		**Pg**		**21 47 47.2**	**-0.3**
KNT				*e*SB		**Sg**		**21 47 56.8**	**+0.6**
KNT	**Kendrikon**	**0.67**	**207**	P		**Pg**		**21 47 47.1**	**-0.4**
KNT				S		**Sg**		**21 47 56.5**	**+0.3**
KNT				*e*Sb		**Sg**		**21 47 56.8**	**+0.6**
SRS	**Serrai**	**0.68**	**161**	P		**Pg**		**21 47 47.6**	**-0.1**
SRS				S		**Sb**		**21 47 57.5**	**-1.1**
SRS	**Serrai**	**0.68**	**161**	*e*PB		**Pg**		**21 47 47.7**	**0.0**
SRS				*e*SB		**Sg**		**21 47 56.6**	**+0.1**
SRS	**Serrai**	**0.68**	**161**	P		**Pg**		**21 47 47.6**	**-0.1**
SRS				*e*Sb		**Sg**		**21 47 56.6**	**+0.1**
SRS				S		**Sb**		**21 47 57.5**	**-1.1**
VAY	**Valandovo**	**0.70**	**232**	*e*Pg		**Pg**		**21 47 48.0**	**-0.2**
VAY	**Valandovo**	**0.70**	**232**	*e*Pg		**Pg**		**21 47 48.5**	**+0.3**
VAY				*i* Sg		**Sb**		**21 47 58.3**	**-0.9**
VAY				*e*Lg		Lg		21 48 02.6	
	comp=N,25nm,0.3s								
VAY				*e*Lg		Lg		21 48 02.7	
	comp=E,46nm,0.3s								
VAY	**Valandovo**	**0.70**	**232**	*e*Pg		**Pg**		**21 47 48.0**	**-0.2**
VTS	**Vitosha**	**0.83**	**355**	*e*Pg		**Pg**		**21 47 49.5**	**-1.2**
VTS				*e*Sg		**Sg**		**21 48 00.5**	**-1.1**
VTS	**Vitosha**	**0.83**	**355**	*e*Pg		**Pg**		**21 47 49.5**	**-1.2**
VTS				*e*Sg		**Sg**		**21 48 00.5**	**-1.1**
SOH	**Sokhos**	**0.94**	**178**	P		**Pg**		**21 47 52.3**	**-0.3**
SOH				S		**Sb**		**21 48 05.7**	**-0.4**
SOH	**Sokhos**	**0.94**	**178**	*e*PB		**Pg**		**21 47 52.5**	**-0.1**
SOH	**Sokhos**	**0.94**	**178**	P		**Pg**		**21 47 52.3**	**-0.3**
SOH				S		**Sb**		**21 48 05.7**	**-0.4**
GRG	**Griva**	**1.05**	**221**	P		**Pg**		**21 47 54.4**	**-0.4**
GRG				S		**Sb**		**21 48 09.3**	**0.0**
GRG	**Griva**	**1.05**	**221**	P		**Pg**		**21 47 54.4**	**-0.4**
GRG				S		**Sb**		**21 48 09.3**	**0.0**
PLD	**Plovdiv**	**1.10**	**71**	*e*Pg		**Pb**		**21 47 56.9**	**+0.8**
PLD				*e*Sg		**Sb**		**21 48 11.6**	**+0.8**
PLD	**Plovdiv**	**1.10**	**71**	*e*Pg		**Pb**		**21 47 56.9**	**+0.8**
PLD				*e*Sg		**Sb**		**21 48 11.6**	**+0.8**
THE	**Thessaloniki**	**1.15**	**193**	*e*PB		**Pg**		**21 47 56.6**	**-0.2**
THE	**Thessaloniki**	**1.15**	**193**	*e*Pb		**Pg**		**21 47 56.6**	**-0.2**
HORT	**Hortiatis**	**1.17**	**188**	P		**Pg**		**21 47 56.8**	**-0.3**
HORT				S		**Sn**		**21 48 13.5**	**-0.5**
HORT	**Hortiatis**	**1.17**	**188**	*e*PB		**Pg**		**21 47 57.0**	**-0.1**
HORT				*e*SB		**Sb**		**21 48 12.4**	**-0.4**
HORT	**Hortiatis**	**1.17**	**188**	P		**Pg**		**21 47 56.8**	**-0.3**
HORT				*e*Sb		**Sb**		**21 48 12.4**	**-0.4**
HORT				S		**Sn**		**21 48 13.5**	**-0.5**
KAVA	**Kavala**	**1.19**	**129**	P		**Pg**		**21 47 57.2**	**-0.2**
KAVA				S		**Sn**		**21 48 14.7**	**+0.4**
KAVA	**Kavala**	**1.19**	**129**	*e*PN		**Pg**		**21 47 56.9**	**-0.5**
KAVA				*e*SB		**Sn**		**21 48 13.7**	**-0.6**
KAVA	**Kavala**	**1.19**	**129**	*e*Pn		**Pg**		**21 47 56.9**	**-0.5**
KAVA	**Kavala**	**1.19**	**129**	P		**Pg**		**21 47 57.2**	**-0.2**
KAVA				*e*Sb		**Sn**		**21 48 13.7**	**-0.6**
KAVA				S		**Sn**		**21 48 14.7**	**+0.4**
PLG	**Polygyros**	**1.39**	**175**	P		**Pn**		**21 48 00.4**	**-0.3**
PLG	**Polygyros**	**1.39**	**175**	*e*PB		**Pg**		**21 48 01.1**	**-0.2**
PLG	**Polygyros**	**1.39**	**175**	P		**Pn**		**21 48 00.4**	**-0.3**
PLG	**Polygyros**	**1.39**	**175**	*e*Pb		**Pg**		**21 48 01.1**	**-0.2**
OUR	**Ouranopolis**	**1.51**	**160**	P		**Pn**		**21 48 01.9**	**-0.4**
OUR				S		**Sg**		**21 48 23.7**	**+0.4**
OUR	**Ouranopolis**	**1.51**	**160**	*e*PG		**Pb**		**21 48 02.8**	**-0.4**
OUR				*e*SB		**Sg**		**21 48 24.0**	**+0.7**
OUR	**Ouranopolis**	**1.51**	**160**	P		**Pn**		**21 48 01.9**	**-0.4**
OUR	**Ouranopolis**	**1.51**	**160**	*e*Pg		**Pb**		**21 48 02.8**	**-0.4**
OUR				S		**Sg**		**21 48 23.7**	**+0.4**
OUR				*e*Sb		**Sg**		**21 48 24.0**	**+0.7**
BARS	**Barje**	**1.53**	**314**	*e*Pg		**Pn**		**21 48 02.5**	**-0.1**
BARS				*e*Sg		**Sn**		**21 48 22.3**	**-0.5**
BARS	**Barje**	**1.53**	**314**	*e*Pg		**Pn**		**21 48 02.5**	**-0.1**
BARS				*e*Sg		**Sn**		**21 48 22.3**	**-0.5**
ZAPS	**Zavoj**	**1.59**	**342**	*e*Pg		**Pn**		**21 48 04.6**	**+1.1**
ZAPS				*e*Sg		**Sn**		**21 48 25.0**	**+0.6**
NEST	**Nestorio**	**2.17**	**232**	*e*PG		**Pb**		**21 48 15.1**	**+0.7**
NEST	**Nestorio**	**2.17**	**232**	*e*Pg		**Pb**		**21 48 15.1**	**+0.7**
SELS	**Selova**	**2.18**	**313**	*e*Pn		**Pn**		**21 48 12.7**	**+1.2**
SELS				*e*Sg		**Sb**		**21 48 42.8**	**+1.0**

*IDC **25** 21:57:27.8±1.8, 37.34S×73.74W, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.6/23, mbtmp3.4/6, ML3.2/2, Error ellipse: s-maj=44.4km s-min=30.6km az=71.0*
*ISCJB **25** 21:57:30.6±1.2, 37.25S±0.09×73.5W±0.2, h23km, mb3.5/4, Error ellipse: s-maj=23.2km s-min=12.2km az=12.5*
ISC 25 21:57:31.7±1.4, 37.3S±0.1×73.7W±0.2, h23km, n6, σ0s86/7, mb3.5/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.20**	**146**	Pn		**Pn**		**21 58 34.9**	**+0.4**
	0.4nm,0.3s,baz=325,slow=12,SNR=6.7								
PLCA				Lg		Lg		21 59 36.6	
	1.5nm,0.3s,baz=51,slow=22,SNR=3.7								
CFAA	**Coronel Fontan**	**7.22**	**40**	Pn		**Pn**		**21 59 15.8**	**-0.1**
	0.2nm,0.3s,baz=222,slow=7.0,SNR=3.2								
CFAA				Sn		**Sn**		**22 00 37.1**	**-0.1**
	0.1nm,0.3s,baz=62,slow=15,SNR=2.2								

LPAZ	**La Paz**	**21.48**	**15**	P		**P**	**22 02 20.8**	**+1.4**
	1.0nm,0.6s,baz=189,slow=8.5,SNR=5.8								
SIV	**San Ignacio**	**23.96**	**31**	P		**P**	**22 02 44.4**	**0.0**
	1.4nm,0.7s,baz=214,slow=12,SNR=4.5								
TXAR	**Lajitas Array**	**72.00**	**333**	P		**P**	**22 08 53.5**	**-0.2**
	0.2nm,0.6s,baz=161,slow=8.6,SNR=2.9								
TORD	**Torodi Ar. Bea**	**86.55**	**71**	P		**P**	**22 10 12.3**	**-0.9**
	0.7nm,1.1s,baz=216,slow=4.5,SNR=3.5								

IDC 25 22:07:51.3±2.1, 9.68S×122.93E, h0km, mb3.8/2, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=210.1km s-min=30.4km az=55.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**8.24**	**137**	P	Pn	22 09 56.6	+4.4
	baz=12.5NR=7.1						
WRA	**Warramunga Arr**	**15.01**	**134**	Pn	Pn	22 11 25.7	+0.7
	0.1nm,0.3s,baz=310,slow=15,SNR=9.6						
WRA				Sn	Sn	22 14 03.6	-8.5
	0.2nm,0.3s,baz=305,slow=22,SNR=5.9						
ASAR	**Alice Springs**	**17.42**	**144**	P	Pn	22 11 55.5	-0.4
	0.1nm,0.3s,baz=319,slow=12,SNR=6.1						
MKAR	**Makanchi Array**	**66.88**	**331**	P	P	22 18 45.4	0.0
	0.3nm,0.5s,baz=136,slow=7.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**71.11**	**337**	P	P	22 19 11.4	0.0
	0.5nm,0.4s,baz=123,slow=5.3,SNR=3.0						

IDC 25 22:08:17.0±1.5, 0.36N×122.20E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/29, mbtmp3.5/4, Error ellipse: s-maj=217.2km s-min=24.5km az=61.0
ISCJB 25 22:08:35.9±0.8, 0.2N±0.1×122.08E±0.09, h202km, mb3.2/4, Error ellipse: s-maj=20.2km s-min=10.0km az=23.7
DJA 25 22:08:38.6±0.8, 0°N±6°×12°2E±°, h158km±7km, M3.2/4, MLv3.2/4
ISC 25 22:08:35.9±1.2, 0.3N±0.1×122.15E±0.09, h202km, n9, σ2°44/11, mb3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.26**	**307**	P	**Pn**	**22 09 00.9**	**-1.7**
MRSI				S	**S**	**22 09 18.7**	**-4.6**
LUWI	**Luwuk**	**1.49**	**155**	P	**Pn**	**22 09 08.6**	**-1.1**
LUWI				S	**S**	**22 09 32.3**	**-3.4**
LUWI	**Luwuk**	**1.49**	**155**	P	**Pn**	**22 09 09.2**	**-0.5**
	baz=6.8,SNR=18						
KMSI	**Cibinong**	**1.85**	**82**	P	**Pn**	**22 09 13.8**	**+0.7**
MPSI	**Mapaga**	**2.25**	**270**	P	**Pn**	**22 09 17.8**	**+0.6**
MPSI				S	**S**	**22 09 47.8**	**-0.8**
WRA	**Warramunga Arr**	**23.42**	**150**	P	**P**	**22 13 28.4**	**+1.3**
	0.7nm,0.7s,baz=326,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**26.44**	**155**	P	**P**	**22 13 55.9**	**+1.5**
	0.3nm,0.5s,baz=343,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**36.94**	**152**	P	**P**	**22 15 27.8**	**+2.1**
	1.1nm,0.9s,baz=331,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**57.89**	**329**	P	P	22 18 10.8	+4.0
	0.2nm,0.4s,baz=138,slow=6.5,SNR=5.0						

ISCJB 25 22:29:57.5±0.4, 42.79S±0.07×42.2E±0.1, h10km, mb4.2/18, MS3.9/9, Error ellipse: s-maj=14.4km s-min=9.2km az=151.1
IDC 25 22:29:57.8±0.6, 42.78S×42.32E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.0/33, mbtmp4.0/15, ML4.0/1, MS3.9/10, Ms1 3.9/10, ms1mx3.6/32, Error ellipse: s-maj=22.8km s-min=14.9km az=65.0
NEIC 25 22:29:59.0±0.3, 42.78S×42.27E, h10km, mb4.8/9, Error ellipse: s-maj=9.7km s-min=6.7km az=55.0
ISC 25 22:29:59.1±0.5, 42.74S±0.09×42.3E±0.1, h10km, n42, σ0°77/37, mb4.3/18, MS3.9/9, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.68**	**310**	*eP*	**Pn**	**22 34 29.1**	**-0.8**
SUR	**Sutherland**	**19.84**	**294**	P	**Pn**	**22 34 31.8**	**0.0**
	0.6nm,0.3s,baz=131,slow=12,SNR=7.0						
SUR				LR	LR	22 40 41.8	
	comp=Z,188nm,20.8s,baz=77,slow=32						
SUR	**Sutherland**	**19.84**	**294**	*eP*	**P**	**22 34 30.1**	**-0.1**
	78nm,2.9s						
LBTB	**Lobatse**	**22.37**	**317**	P	**P**	**22 34 57.4**	**-0.1**
	8.0nm,1.0s,baz=172,slow=11,SNR=6.4						
LBTB				LR	LR	22 42 11.6	
	comp=Z,417nm,21.4s,baz=173,slow=33						
LBTB	**Lobatse**	**22.37**	**317**	*eP*	**P**	**22 34 57.4**	**-0.1**
	20nm,1.3s						
ABPO	**Ambohimpanom**	**24.02**	**12**	*eP*	**P**	**22 35 14.1**	**-0.3**
OPO	**Ambohidratompo**	**24.46**	**11**	P	**P**	**22 35 19.8**	**+1.4**
	12nm,1.2s,baz=143,slow=10,SNR=2.8						
MAW	**Mawson**	**27.27**	**163**	P	**P**	**22 35 44.8**	**+1.5**
	2.8nm,0.7s,baz=332,slow=9.6,SNR=4.1						
MAW				LR	LR	22 44 43.3	
	comp=Z,125nm,18.2s,baz=326,slow=32						
MAW	**Mawson**	**27.27**	**163**	*eP*	**P**	**22 35 44.8**	**+1.5**
	37nm,2.8s						
LSZ	**Lusaka**	**29.92**	**332**	*eP*	**P**	**22 36 06.4**	**-0.9**
	14nm,1.5s						
TSUM	**Tsumeb**	**31.37**	**311**	*eP*	**P**	**22 36 20.0**	**-0.2**
	100nm,2.9s						
SNAA	**Sanae**	**36.29**	**202**	P	**P**	**22 37 01.7**	**-0.7**
	1.0nm,0.8s,baz=110,slow=10,SNR=5.0						
SNAA	**Sanae**	**36.29**	**202**	*eP*	**P**	**22 37 01.7**	**-0.7**
	25nm,1.6s						
KMBO	**Kilima Mbogo**	**41.67**	**352**	LR	LR	22 53 03.9	
	comp=Z,227nm,18.1s,baz=100,slow=33						
QSPA	**South Pole Qui**	**47.47**	**180**	P	**P**	**22 38 32.1**	**-1.8**
	1.0nm,0.6s,baz=239,slow=1.1,SNR=3.3						
QSPA				LR	LR	22 56 01.0	
	comp=Z,300nm,22.0s,baz=259,slow=33						
VNDA	**Vanda**	**54.49**	**167**	P	**P**	**22 39 26.4**	**+0.1**
	0.6nm,0.8s,baz=244,slow=6.2,SNR=5.7						
VNDA				LR	LR	23 01 12.1	
	comp=Z,121nm,19.2s,baz=236,slow=34						
VNDA	**Vanda**	**54.49**	**167**	*eP*	**P**	**22 39 25.8**	**-0.4**
	47nm,2.7s						
H01W2	**Cape Leeuwin H**	**55.01**	**108**	T	T	23 38 58.8	
	baz=240,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**55.02**	**108**	T	T	23 38 56.9	
	baz=240,slow=75,SNR=41						
H01W1	**Cape Leeuwin H**	**55.03**	**108**	T	T	23 38 58.0	
	baz=240,slow=75,SNR=49						
DBIC	**Dimbokro**	**65.16**	**307**	LR	LR	23 06 03.8	
	comp=Z,45nm,20.0s,baz=138,slow=33						
TOA0	**Torodi Ar. Sit**	**66.89**	**316**	P	**P**	**22 40 52.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**66.89**	**316**	P	**P**	**22 40 52.0**	**+0.5**
	0.9nm,0.6s,baz=149,slow=5.2,SNR=11						
TORD				LR	LR	23 08 27.9	
	comp=Z,58nm,19.1s,baz=255,slow=34						
STKA	**Stephens Creek**	**75.31**	**120**	P	**P**	**22 41 42.6**	**0.0**
	1.5nm,0.7s,baz=228,slow=6.8,SNR=4.1						
STKA	**Stephens Creek**	**75.31**	**120**	*eP*	**P**	**22 41 42.6**	**0.0**
	43nm,3.0s						
AS12	**Alice Springs**	**75.50**	**109**	*eP*	**P**	**22 41 43.2**	**-0.6**
ASAR	**Alice Springs**	**75.50**	**109**	P	**P**	**22 41 43.2**	**-0.6**
	0.7nm,0.8s,baz=221,slow=5.0,SNR=5.0						
PLCA	**Paso Flores**	**77.14**	**226**	P	**P**	**22 41 52.8**	**-0.1**
	3.4nm,0.7s,baz=132,slow=7.0,SNR=9.7						
PLCA	**Paso Flores**	**77.14**	**226**	*eP*	**P**	**22 41 52.8**	**-0.1**
	46nm,2.0s						
WRA	**Warramunga Arr**	**78.23**	**106**	P	**P**	**22 41 59.2**	**-0.1**
	0.3nm,0.6s,baz=223,slow=4.7,SNR=5.0						
WRAB	**Tennant Creek**	**78.25**	**106**	*eP*	**P**	**22 41 59.2**	**-0.1**
	40nm,2.0s						
CMAR	**Chiang Mai Arr**	**80.15**	**54**	LR	LR	23 14 09.0	
	comp=Z,46nm,18.2s,baz=155,slow=33						
BR101	**Keskin Array S**	**82.46**	**353**	*eP*	**P**	**22 42 20.9**	**-0.5**
BRTR	**Keskin Array B**	**82.46**	**353**	P	**P**	**22 42 20.9**	**-0.5**
	0.7nm,1.0s,baz=198,slow=8.7,SNR=2.5						
LSA	**Lhasa**	**84.95**	**41**	*eP*	**P**	**22 42 34.6**	**-0.3**
	3.0nm,0.8s						
KKAR	**Karatay Array**	**89.15**	**20**	*eP*	**P**	**22 42 54.0**	**-0.4**
ESDC	**Sonseca Array**	**92.09**	**326**	P	**P**	**22 43 09.2**	**+1.0**
	0.2nm,0.5s,baz=150,slow=3.1,SNR=5.5						
LPAZ	**La Paz**	**93.32**	**244**	P	**P**	**22 43 16.2**	**+0.9**
	1.1nm,0.9s,baz=236,slow=3.6,SNR=3.0						
LPAZ				LR	LR	23 21 02.6	
	comp=Z,54nm,18.4s,baz=312,slow=33						
TXAR	**Lajitas Array**	**149.58**	**255**	PKP	**PKPdf**	**22 49 45.7**	**+1.4**
	0.7nm,0.9s,baz=108,slow=2.9,SNR=5.4						
TXAR				PKPbc	**PKiKP**	**22 49 49.9**	**0.0**
	1.3nm,0.8s,baz=76,slow=5.3,SNR=5.3						
ULM	**Lac du Bonnet**	**150.53**	**299**	PKPbc	**PKPbc**	**22 49 50.2**	**-0.1**
	4.1nm,0.7s,baz=124,slow=3.4,SNR=7.1						
YKA	**Yellowknife Ar**	**155.98**	**333**	PKPab	**PKPab**	**22 50 20.0**	**+0.3**
	0.4nm,0.8s,baz=50,slow=4.4,SNR=4.7						
NVAR	**Mina Array Bea**	**164.61**	**260**	PKPab	**PKPab**	**22 50 59.7**	**+1.3**
	0.3nm,0.3s,baz=134,slow=6.5,SNR=3.4						

MEX 25 22:37:42.7±0.4, 16.22N×98.39W, h11km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30**	**55**	*i* P	Pg	22 37 48.3	-0.6
PNIG				*i* S	Sg	22 37 53.1	0.0
TLIG	**Tlapa**	**1.35**	**353**	*eP*	Pn	22 38 04.0	-3.7
TLIG				*eS*	Sb	22 38 20.3	-5.3
VHO	**Vista Hermosa**	**1.80**	**62**	*eP*	Pn	22 38 11.4	-2.5
VHO				*eS*	Sn	22 38 32.7	-4.3
CAIG	**El Cayaco**	**1.98**	**295**	*eP*	Pn	22 38 13.4	-2.8
CAIG				*eS*	Sn	22 38 37.0	-4.1
HUIG	**Huatulco**	**2.24**	**101**	*eP*	Pn	22 38 15.9	-3.8
HUIG				*eS*	Sn	22 38 42.6	-4.8

IDC 25 22:38:46.2±1.7, 2.89S×118.36E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.3/30, mbtmp3.3/5, Error ellipse: s-maj=151.9km s-min=19.5km az=60.0
DJA 25 22:38:50.7±0.3, 2°S±2°×11°9E±°, h10km, M4.1/4, MLv4.1/4
ISCJB 25 22:38:51.7±0.6, 2.44S±0.05×119.06E±0.06, h33km, mb3.3/5, Error ellipse: s-maj=9.0km s-min=6.7km az=159.1
ISC 25 22:38:52.8±0.9, 2.43S±0.05×119.12E±0.06, h35km, n14, σ1°23/15, mb3.4/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.93**	**131**	P	**Pn**	**22 39 08.8**	**-0.7**
TTSI				S	**Sn**	**22 39 23.4**	**+1.8**
SPSI	**Sidrap Palu**	**1.66**	**157**	P	**Pn**	**22 39 19.7**	**+0.2**
PCI	**Palu**	**1.67**	**25**	P	**Pn**	**22 39 19.4**	**-0.3**
PCI				S	**Sn**	**22 39 42.1**	**+2.2**
BNSI	**Bone**	**2.20**	**153**	P	**Pn**	**22 39 28.3**	**+1.5**
BKB	**Balikpapan**	**2.50**	**298**	P	**Pn**	**22 39 31.6**	**+0.5**
MPSI	**Mapaga**	**2.85**	**16**	P	Pn	22 39 41.4	+5.5
BKSI	**Bulukumba**	**3.05**	**161**	P	**Pn**	**22 39 39.5**	**+0.9**
KBKI	**Kotabaru**	**3.07**	**254**	P	**Pn**	**22 39 39.3**	**+0.4**
LUWI	**Luwuk**	**3.90**	**69**	P	**Pn**	**22 39 50.9**	**+0.6**
WRA	**Warramunga Arr**	**22.90**	**141**	P	**P**	**22 43 52.1**	**-1.6**
	0.6nm,0.8s,baz=314,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**25.51**	**147**	P	**P**	**22 44 17.4**	**-0.9**
	0.1nm,0.4s,baz=324,slow=7.8,SNR=3.4						
STKA	**Stephens Creek**	**36.14**	**147**	P	**P**	**22 45 51.0**	**-0.9**
	1.4nm,0.8s,baz=328,slow=13,SNR=2.8						
SONM	**Songino Array**	**51.28**	**349**	P	**P**	**22 47 54.2**	**+0.8**
	0.2nm,0.4s,baz=148,slow=8.5,SNR=2.7						
MKAR	**Makanchi Array**	**58.74**	**331**	P	**P**	**22 48 46.2**	**-1.1**
	0.4nm,0.9s,baz=150,slow=6.8,SNR=2.7						

ISCJB 25 22:59:25.7±0.6, 16.33S±0.06×72.70W±0.07, h76km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=5.5km az=144.3
GUC 25 22:59:28.0, 16.51S×72.70W, h10km
IDC 25 22:59:28.8±2.2, 16.19S×72.57W, h91km±23km, mb3.5/3, mb1 3.5/7, mb1mx3.3/37, mbtmp3.8/7, Error ellipse: s-maj=33.7km s-min=21.2km az=44.0
ISC 25 22:59:27.2±0.8, 16.36S±0.08×72.71W±0.09, h76km, n17, σ1°62/20, mb3.6/3, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**4.05**	**133**	*i* P	**Pn**	**23 00 28.7**	**+1.6**
PSGC	**Pisagua**	**4.06**	**143**	*i* P	**Pn**	**23 00 28.3**	**+1.4**
PSGC				*i* S	**Sn**	**23 01 11.8**	**-1.5**
LPAZ	**La Paz**	**4.40**	**90**	P	Pn	23 00 35.7	+3.6
	6.8nm,0.3s,baz=287,slow=6.0,SNR=170						
LPAZ				S	**Sn**	**23 01 23.3**	**+0.8**
	baz=342,slow=20,SNR=2.1						
PB11	**IPOC Station P**	**4.46**	**140**	↓P	**Pn**	**23 00 33.9**	**+1.4**
PB11				*i* S	**Sn**	**23 01 21.3**	**-2.1**
HMBC	**Humberstone**	**4.73**	**146**	*i* P	**Pn**	**23 00 37.6**	**+1.4**
HMBC				*i* S	**Sn**	**23 01 28.6**	**-1.2**
PATCX	**Punta Patache**	**5.06**	**152**	*i* P	**Pn**	**23 00 42.0**	**+1.3**
NNA	**Nana**	**5.91**	**317**	P	**Pn**	**23 00 54.1**	**+1.9**
	10nm,0.3s,baz=119,slow=14,SNR=15						
NNA				S	**Sn**	**23 01 56.6**	**-2.0**
	3.7nm,0.3s,baz=193,slow=18,SNR=2.9						
LVC	**Limon Verde**	**7.18**	**151**	P	**Pn**	**23 01 12.0**	**+2.2**
	779nm,0.3s,baz=355,slow=8.9,SNR=149						
LVC				S	**Sn**	**23 02 29.0**	**-1.0**
	370nm,0.3s,baz=71,slow=22,SNR=15						
SIV	**San Ignacio**	**11.19**	**90**	P	**Pn**	**23 02 03.8**	**-0.5**
	0.4nm,0.3s,baz=276,slow=12,SNR=4.9						
CFAA	**Coronel Fontan**	**15.72**	**166**	P	**P**	**23 03 06.5**	**-0.1**
	0.0nm,0.3s,baz=331,slow=12,SNR=4.6						
PTGA	**Pitinga**	**19.98**	**40**	P	**P**	**23 03 51.9**	**-1.6**
	0.5nm,0.3s,baz=163,slow=19,SNR=4.1						
BDFB	**Brasilia**	**23.75**	**92**	P	**P**	**23 04 32.1**	**-0.8**
	1.6nm,0.4s,baz=247,slow=7.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**79.16**	**73**	P	**P**	**23 11 23.8**	**-0.5**
	0.3nm,0.5s,baz=265,slow=6.8,SNR=3.4						
TORD				pP	**pP**	**23 11 47.2**	**+2.6**
	0.4nm,0.6s,baz=253,slow=5.7,SNR=2.3						
YKA	**Yellowknife Ar**	**85.19**	**342**	P	**P**	**23 11 53.5**	**-1.2**
	0.4nm,0.7s,baz=136,slow=5.2,SNR=9.8						
H11S2	**WAKE ISLAND Hyl**	**23.49**	**282**	T	T	01 34 14.3	
	baz=93						
H11S1	**WAKE ISLAND Hyl**	**23.49**	**282**	T	T	01 34 20.3	
	baz=93						
H11S3	**WAKE ISLAND Hyl**	**23.50**	**282**	T	T	01 34 12.6	
	baz=93						

ISCJB 25 23:09:11.2±0.7, 32.27N±0.03×115.33W±0.04, h14km±6km, Error ellipse: s-maj=6.3km s-min=4.4km az=14.6
ECX 25 23:09:12.4±0.6, 32.25N×115.34W, h6km, MD2.8, ML3.0
MEX 25 23:09:13.3±0.7, 32.31N×115.28W, h10km, MD3.5
ISC 25 23:09:10.9±1.1, 32.27N±0.03×115.34W±0.03, h19km±2km, n19, σ0°33/31, 10C-11D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**12**	*eP*	**Pg**	**23 09 15.1**	**-0.2**
CPBX				*eS*	**Sg**	**23 09 18.4**	**+0.2**
CPBX				⇓*e*		23 09 20.5	
CPBX				AML	AML	23 09 20.5	
	comp=N,13μm,0.4s						
CPBX				*e*		23 09 26.1	
CPBX				AML	AML	23 09 26.1	
	comp=E,12μm,0.2s						
CPBX				⇓*e*		23 09 27.0	
CPBX				AML	AML	23 09 27.0	
	comp=E,12μm,0.3s						
CPBX				⇓*e*		23 09 27.3	
CPBX				AML	AML	23 09 27.3	
	comp=N,9μm,0.3s						
MBIG	**Mexicali**	**0.18**	**41**	*eP*	**Pg**	**23 09 16.0**	**+0.3**
MBIG				*eS*	**Sb**	**23 09 17.8**	**+0.2**
SGL	**Mount Signal**	**0.50**	**320**	⇓*i*P	**Pb**	**23 09 21.4**	**+0.2**
RDX	**Rancho Dawling**	**0.61**	**237**	⇑*e*P	**Pg**	**23 09 23.3**	**+0.1**
RDX				*eS*	**Sb**	**23 09 31.5**	**+0.1**
YUH	**Yuha Desert**	**0.62**	**308**	⇑*i*P	**Pb**	**23 09 23.2**	**0.0**
COA	**Coachella**	**0.62**	**17**	⇑*i*P	**Pg**	**23 09 23.8**	**+0.5**
RMX	**La Rumorosa**	**0.71**	**298**	*eP*	**Pb**	**23 09 24.7**	**-0.1**
RMX				*eS*	**Sb**	**23 09 34.3**	**+0.1**
IBP	**Imperial Bould**	**0.75**	**302**	P	**Pg**	**23 09 25.6**	**0.0**
	baz=0.8,SNR=40						
IBP				⇓S	**Sg**	**23 09 36.2**	**+0.6**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.77**	**330**	⇑P	**Pb**	**23 09 25.9**	**+0.1**
	baz=0.9,SNR=11						
SWSC				⇑S	**Sg**	**23 09 37.0**	**+0.6**
	baz=0.9						
GLA	**Glamis**	**0.89**	**29**	⇑P	**Pn**	**23 09 28.3**	**-0.3**
	baz=1.0,SNR=9.6						
GLA				⇓S	**Sg**	**23 09 39.7**	**-0.5**
	baz=1.0						
MONP	**Monument Peak,**	**1.10**	**305**	⇑P	**Pg**	**23 09 32.2**	**-0.1**
	baz=1.2,SNR=30						
MONP				⇑S	**Sb**	**23 09 45.9**	**+0.2**
	baz=1.2						
CBX	**Cerro Bola**	**1.12**	**273**	*eP*	**Pb**	**23 09 32.2**	**+0.4**
CBX				*eS*	**Sb**	**23 09 46.5**	**+0.4**
CBX	**Cerro Bola**	**1.12**	**273**	⇑*eP*	**Pg**	**23 09 32.3**	**-0.4**
BAR	**Barrett**	**1.20**	**290**	*eP*	**Pb**	**23 09 33.5**	**+0.4**
SPIG	**San Pedro Mart**	**1.22**	**185**	*eP*	**Pn**	**23 09 33.2**	**-0.1**
SPIG				*eS*	**Sb**	**23 09 49.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.22**	**185**	⇓*eP*	**Pn**	**23 09 33.4**	**0.0**
SPX	**San Pedro Mart**	**1.22**	**185**	⇓*eP*	**Pn**	**23 09 33.4**	**0.0**
109C	**Camp Elliot, M**	**1.61**	**293**	⇓P	**Pb**	**23 09 40.2**	**+0.1**
	baz=1.7,SNR=5.9						
109C				⇑S	**Sb**	**23 10 00.3**	**+0.2**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.63**	**325**	⇓P	**Pn**	**23 09 38.6**	**-0.3**
	baz=1.7						
PFO				⇓S	**Sn**	**23 09 58.8**	**-0.7**
	baz=1.7						

IDC 25 23:09:46.3±0.5, 6.88S×72.86W, h0km, mb4.4/18, mb1 4.7/23, mb1mx4.6/31, mbtmp4.6/23, ML4.7/5, MS3.8/9, Ms1 3.9/9, ms1mx3.5/27, Error ellipse: s-maj=18.3km s-min=11.2km az=63.0
ISCJB 25 23:09:47.4±1.7, 7.01S±0.04×72.91W±0.04, h19km±12km, mb4.8/93, MS3.8/4, Error ellipse: s-maj=7.5km s-min=4.4km az=139.1
BJI 25 23:09:48.0, 6.90S×72.90W, h10km, mB5.2/7, Ms5.5/6, Ms7 5.3/4
NEIC 25 23:09:50.1±1.2, 6.92S×72.91W, h26km±9km, mb4.9/69, Error ellipse: s-maj=5.7km s-min=3.5km az=48.0
NEIC Felt at Cruzeiro do Sul and Ipixuna. Also felt at Contamana and Pucallpa, Peru.
ISC 25 23:09:49.6±1.2, 7.05S±0.04×72.90W±0.05, h23km±8km, n484, σ1°03/509, mb4.9/93, MS3.7/4, 150C-141D, Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**5.45**	**269**	Pn	**Pn**	**23 11 10.5**	**+0.6**
	5.8nm,0.3s,baz=35,slow=3.9,SNR=44						
ATAH				Sn	**Sn**	**23 12 09.8**	**-2.4**
	18nm,0.3s,baz=72,slow=20,SNR=3.9						
ATAH				Lg	Lg	23 12 33.3	
	32nm,0.3s,baz=188,slow=23,SNR=4.9						
ATAH				LR	LR	23 13 39.6	
	comp=Z,702nm,18.1s,baz=98,slow=42						
NNA	**Nana**	**6.26**	**218**	Pn	**Pn**	**23 11 21.8**	**+1.1**
	12nm,0.3s,baz=15,slow=9.8,SNR=42						
NNA				Sn	**Sn**	**23 12 29.1**	**-2.5**
	43nm,0.3s,baz=154,slow=22,SNR=7.3						
NNA				LR	LR	23 14 15.7	
	comp=Z,761nm,18.4s,baz=24,slow=42						
NNA	**Nana**	**6.26**	**218**	*ePn*	**Pn**	**23 11 21.7**	**+1.1**
NNA				*eSn*	**Sn**	**23 12 30.1**	**-1.5**
OTAV	**Otavalo**	**9.11**	**322**	*ePn*	**Pn**	**23 11 59.8**	**-0.5**
ARE	**Arequipa**	**9.46**	**172**	*eP*	Pn	23 12 14.0	+9.2
SAML	**Samuel**	**9.81**	**102**	*ePn*	**Pn**	**23 12 11.1**	**+1.8**
LPAZ	**La Paz**	**10.30**	**153**	Pn	**Pn**	**23 12 19.1**	**+2.4**
	7.0nm,0.3s,baz=322,slow=7.7,SNR=156						
LPAZ				Sn	**Sn**	**23 14 12.1**	**+0.3**
	3.1nm,0.3s,baz=137,slow=17,SNR=3.7						
LPAZ				Lg	Lg	23 15 14.2	
	3.5nm,0.3s,baz=191,slow=16,SNR=2.6						
ROSC	**El Rosal**	**11.91**	**353**	Pn	**Pn**	**23 12 39.0**	**+0.5**
	3.2nm,0.3s,baz=158,slow=5.6,SNR=15						
ROSC				Sn	**Sn**	**23 14 54.2**	**+3.2**
	3.7nm,0.3s,baz=270,slow=20,SNR=2.2						
ROSC				Lg	Lg	23 16 01.7	
	12nm,0.3s,baz=309,slow=23,SNR=6.4						
ROSC				LR	LR	23 17 09.2	
	comp=Z,237nm,20.0s,baz=192,slow=38						
ROSC	**El Rosal**	**11.91**	**353**	*ePn*	**Pn**	**23 12 38.9**	**+0.3**
PTGA	**Pitinga**	**14.34**	**65**	Pn	**Pn**	**23 13 09.4**	**-2.0**
	3.7nm,0.3s,baz=243,slow=14,SNR=53						
PTGA				Sn	**Sn**	**23 15 46.7**	**-3.2**
	4.6nm,0.3s,baz=343,slow=19,SNR=3.6						
PTGA				Lg	Lg	23 17 22.8	
	5.4nm,0.3s,baz=342,slow=22,SNR=4.8						
PTGA				LR	LR	23 19 28.9	
	comp=Z,245nm,18.8s,baz=245,slow=41						
SIV	**San Ignacio**	**14.60**	**129**	Pn	**Pn**	**23 13 15.6**	**+0.7**
	5.9nm,0.3s,baz=327,slow=12,SNR=56						
SIV				Sn	**Sn**	**23 15 53.5**	**-2.6**
	4.2nm,0.3s,baz=245,slow=23,SNR=4.3						
SIV				Lg	Lg	23 17 26.0	
	5.5nm,0.3s,baz=246,slow=18,SNR=3.9						
LVC	**Limon Verde**	**15.95**	**166**	LR	LR	23 20 16.4	
	comp=Z,1μm,20.0s,baz=326,slow=39						
LVC	**Limon Verde**	**15.95**	**166**	*ePn*	**Pn**	**23 13 30.9**	**-2.0**
	111nm,1.5s						
SDV	**Santo Domingo**	**15.99**	**8**	*ePn*	**Pn**	**23 13 30.8**	**-2.6**
	20nm,0.8s						
PCRV	**Puerto La Cruz**	**18.99**	**26**	P	**Pn**	**23 14 13.1**	**+2.6**
	0.9nm,0.3s,baz=157,slow=15,SNR=3.8						
PCRV				Lg	Lg	23 19 47.8	
	0.9nm,0.3s,baz=134,slow=21,SNR=3.4						
JTS	**Juntas Abangare**	**20.99**	**325**	P	**P**	**23 14 32.3**	**+0.7**
	17nm,0.9s,baz=121,slow=3.5,SNR=6.1						
JTS				LR	LR	23 22 41.0

633A Saathoff Ranch 44.23 326 ⇑P P 23 17 58.0 +0.7
baz=44,SNR=5.3
534A Blanco 44.30 328 ⇑P P 23 17 57.8 0.0
baz=44,SNR=6.8
435B Jarrell 44.43 329 ⇓P P 23 17 59.6 +0.7
baz=44
336A Riesel 44.55 330 ⇓P P 23 18 00.5 +0.7
baz=45
632A Uvalde 44.61 326 ⇓P P 23 18 01.1 +0.7
baz=45,SNR=13
533A Kerrville 44.63 327 ⇓P P 23 18 00.8 +0.2
baz=45,SNR=5.2
335A Moody 44.76 330 ⇓P P 23 18 01.9 +0.4
baz=45,SNR=6.8
138A Matatall Enter 44.78 333 ⇓P P 23 18 02.5 +0.8
baz=45
434A Burnet 44.81 328 ⇑P P 23 18 02.1 +0.1
baz=45,SNR=6.8
631A Perdido Creek 44.98 325 ⇑P P 23 18 03.7 +0.4
baz=45,SNR=5.6
532A Rocksprings 45.15 326 ⇓P P 23 18 05.2 +0.5
baz=45,SNR=10
WVT Waverly 45.18 343 eP P 23 18 02.5 -2.3
35nm,1.5s
433A Art 45.20 328 ⇑P P 23 18 05.2 +0.2
baz=45,SNR=14
334A Lometa 45.21 329 ⇑P P 23 18 05.5 +0.4
baz=45,SNR=12
WHTX Lake Whitney, 45.34 330 ⇓P P 23 18 07.2 +1.1
baz=45
JCT Junction City 45.36 327 ⇓P P 23 18 06.6 +0.3
baz=45
UALR University of 45.47 337 eP P 23 18 05.5 -1.6
22nm,0.8s
531A Rocksprings 45.53 326 ⇑P P 23 18 08.5 +0.7
baz=46
HBAR Harrisburg 45.56 340 eP P 23 18 06.4 -1.3
333A Richland Sprin 45.59 328 ⇑P P 23 18 08.3 +0.2
baz=46,SNR=6.4
432A Menard 45.67 327 ⇑P P 23 18 09.1 +0.4
baz=46
234A Clairette 45.69 330 ⇓P P 23 18 09.5 +0.5
baz=46,SNR=6.8
MIAR Mount Ida 45.76 336 eP P 23 18 07.4 -1.9
4.7nm,0.6s
135A Vickery Place, 45.78 331 ⇓P P 23 18 10.0 +0.4
baz=46
431A Sonora 45.96 326 ⇓P P 23 18 11.7 +0.5
baz=46,SNR=9.6
530A J-C Ranch, Com 45.97 325 ⇑P P 23 18 11.5 +0.3
baz=46
332A Millersview 46.03 328 ⇑P P 23 18 11.9 +0.3
baz=46,SNR=11
233A Rising Star 46.09 329 ⇓P P 23 18 12.5 +0.4
baz=46,SNR=5.9
134A White-Moore Ra 46.12 330 ⇑P P 23 18 12.7 +0.4
baz=46,SNR=6.1
PARMO Parma 46.27 341 eP P 23 18 11.6 -1.7
Z35A Perchaven, San 46.34 331 ⇑P P 23 18 14.7 +0.7
baz=46
331A San Angelo 46.34 327 ⇑P P 23 18 14.5 +0.4
baz=46,SNR=7.6
232A Coleman 46.38 328 ⇓P P 23 18 14.7 +0.3
baz=46,SNR=14
430A Baggett Ranch, 46.39 326 ⇑P P 23 18 14.8 +0.2
baz=46,SNR=8.7
529A Stev Forest Ra 46.46 324 ⇓P P 23 18 15.5 +0.5
baz=46,SNR=6.9
X37A Clayton 46.54 334 ⇓P P 23 18 15.5 0.0
baz=47,SNR=5.5
133A Hamilton Ranch 46.57 329 ⇑P P 23 18 16.5 +0.6
baz=47,SNR=9.9
PBMO Poplar Bluff 46.59 341 eP P 23 18 13.8 -2.1
19nm,0.6s
W38A Poteau 46.59 335 ⇓P P 23 18 16.5 +0.6
baz=47
429A Davenport Ranc 46.64 325 ⇑P P 23 18 16.8 +0.3
baz=47,SNR=13
Z34A Collier Ranch, 46.69 331 ⇓P P 23 18 17.2 +0.4
baz=47
LTX Lajitas 46.74 322 eP P 23 18 17.6 +0.2
LTX ePcP PcP 23 19 51.6 +1.0
TXAR Lajitas Array 46.74 322 P P 23 18 17.6 +0.2
4.1nm,0.8s,baz=145,slow=8.6,SNR=46
TXAR PcP PcP 23 19 51.6 +1.0
0.7nm,0.7s,baz=145,slow=6.5,SNR=3.2
231A Bronte 46.77 327 ⇑P P 23 18 17.7 +0.3
baz=47,SNR=5.8
330A Mertzon 46.83 326 ⇓P P 23 18 18.3 +0.3
baz=47
USIN University of 46.85 344 eP P 23 18 15.8 -2.1
23nm,0.9s
ABTX Abilene, Hawle 46.95 329 ⇑P P 23 18 19.6 +0.7
baz=47,SNR=9.6
ABTX Abilene, Hawle 46.95 329 eP P 23 18 18.7 -0.2
26nm,0.9s
X36A Centrahoma 46.96 333 ⇓P P 23 18 19.0 +0.2
baz=47
Z33A Whitaker Ranch 47.04 330 ⇑P P 23 18 20.1 +0.6
baz=47,SNR=9.8
SIUC Southern Illin 47.06 342 eP P 23 18 17.7 -1.9
37nm,0.6s
X35A Drake 47.09 333 ⇑P P 23 18 20.0 +0.1
baz=47
Y34A Reagan Ranch, 47.09 332 ⇓P P 23 18 20.2 +0.3
baz=47
230A Sterling City 47.16 327 ⇓P P 23 18 20.8 +0.3
baz=47
329A Wagon Wheel Ra 47.34 326 ⇑P P 23 18 22.4 +0.4
baz=47,SNR=7.8
W36A Wetumka 47.38 334 ⇑P P 23 18 21.9 -0.2
baz=48
131A Roby 47.38 328 ⇑P P 23 18 22.5 +0.3
baz=48
Z32A Haskell 47.41 329 ⇑P P 23 18 22.8 +0.4
baz=48,SNR=11
Y33A Hilltop Ranch, 47.55 331 ⇑P P 23 18 24.1 +0.6
baz=48,SNR=16
130A Snyder 47.63 327 ⇓P P 23 18 24.4 +0.3
baz=48,SNR=6.8
X34A Smith Ranch, M 47.66 332 ⇓P P 23 18 24.8 +0.5
baz=48,SNR=6.0
W35A Tecumseh 47.68 333 ⇑P P 23 18 24.0 -0.4
baz=48
Z31A Sharp Cattle R 47.76 329 ⇑P P 23 18 25.6 +0.4
baz=48,SNR=14
TUL1 Leonard 47.85 335 ⇑P P 23 18 25.2 -0.5
baz=48
TUL1 Leonard 47.85 335 eP P 23 18 24.4 -1.3
14nm,0.8s
X33A Lawton 47.92 331 ⇑P P 23 18 26.2 -0.2
baz=48,SNR=13
Y32A R-V Farms, Ver 47.95 330 ⇓P P 23 18 27.2 +0.6
baz=48,SNR=21
129A Stewart Farms, 48.14 327 ⇑P P 23 18 28.7 +0.6
baz=48
228A UT Block 9, Go 48.15 326 ⇑P P 23 18 28.6 +0.3
baz=48
W34A Bridge Creek, 48.15 332 ⇓P P 23 18 27.9 -0.3
baz=48
W34A Bridge Creek, 48.15 332 eP P 23 18 26.8 -1.3
13nm,0.9s
V35A Meyer Ranch, C 48.17 334 ⇑P P 23 18 28.0 -0.2
baz=48
X32A Elmer 48.21 330 ⇓P P 23 18 29.0 +0.4
baz=48,SNR=13
WMOK Wichita Mounta 48.22 331 eP P 23 18 26.9 -1.7
8.7nm,0.8s
Z30A Sanderson Ranc 48.25 328 ⇑P P 23 18 29.4 +0.5
baz=48,SNR=22
Y31A Rekieta Farm, 48.33 329 ⇓P P 23 18 30.2 +0.7
baz=48,SNR=8.7
W33A Caddo, Fort Co 48.41 332 ⇓P P 23 18 30.7 +0.6
baz=48
128A Castleberry Fa 48.47 326 ⇓P P 23 18 30.8 0.0
baz=48,SNR=5.7
Z29A Hungry Hill Ra 48.53 327 ⇓P P 23 18 31.7 +0.6
baz=49
V34A Guthrie 48.53 333 ⇑P P 23 18 31.1 +0.1
baz=49
Y30A Stafford Cattl 48.59 329 ⇑P P 23 18 32.0 +0.4
baz=49,SNR=8.9
X31A McDonald Ranch 48.72 330 ⇓P P 23 18 32.7 +0.2
baz=49,SNR=11
W32A Sentinel 48.76 331 ⇓P P 23 18 32.9 +0.1
baz=49,SNR=18
V33A Lossen Ranch, 48.87 332 ⇓P P 23 18 33.3 -0.3
baz=49,SNR=5.9

Z28A Tucker Farm, M 48.92 327 ⇑P P 23 18 34.0 -0.1
baz=49,SNR=7.5
SFIN Lafayette 48.97 346 ⇑P P 23 18 32.5 -1.8
baz=49,SNR=6.7
SFIN Lafayette 48.97 346 eP P 23 18 32.0 -2.3
25nm,0.6s
Y29A Porterfield Fa 48.98 328 ⇑P P 23 18 34.7 +0.1
baz=49,SNR=13
X30A Coker Ranch, T 49.02 329 ⇓P P 23 18 34.9 +0.1
baz=49,SNR=10
U34A Anderson Ranch 49.05 334 ⇓P P 23 18 34.4 -0.6
baz=49,SNR=5.5
U34A Anderson Ranch 49.05 334 eP P 23 18 34.0 -0.9
20nm,0.7s
V32A Arapaho 49.14 332 ⇑P P 23 18 36.3 +0.5
baz=49
W31A Holland Ranch, 49.14 331 ⇑P P 23 18 35.9 +0.1
baz=49
S36A Lake Cedric, C 49.32 336 ⇑P P 23 18 36.2 -0.8
baz=49
Y28A McKinney Farm, 49.32 327 ⇑P P 23 18 37.5 +0.3
baz=49
X29A Tulia 49.45 328 ⇑P P 23 18 38.1 -0.1
baz=50,SNR=7.6
MNTX Cornudas Mount 49.46 323 ⇓P P 23 18 38.7 +0.5
baz=50,SNR=6.1
V31A Spring Creek L 49.57 331 ⇓P P 23 18 39.7 +0.7
baz=50,SNR=5.6
S35A Otter Creek Ra 49.58 336 ⇓P P 23 18 38.8 -0.2
baz=50
MSTX Muleshoe 49.65 327 ⇑P P 23 18 39.7 0.0
baz=50,SNR=7.6
MSTX Muleshoe 49.65 327 eP P 23 18 38.9 -0.8
14nm,0.8s
U32A Winter Ranch, 49.66 332 ⇓P P 23 18 40.2 +0.5
baz=50,SNR=6.1
HDIL Hopedale 49.72 344 eP P 23 18 38.1 -1.9
885nm,0.6s
X28A Dimmitt 49.76 328 ⇓P P 23 18 41.0 +0.4
baz=50
AMTX Amarillo 49.78 329 ⇑P P 23 18 41.0 +0.3
baz=50
AMTX Amarillo 49.78 329 eP P 23 18 39.8 -0.9
14nm,1.0s
R36A Gordon, Harris 49.80 337 ⇑P P 23 18 40.0 -0.7
baz=50
T33A Patterson Ranc 49.90 333 ⇑P P 23 18 41.4 -0.1
baz=50,SNR=7.6
S34A Willow Spring 49.92 335 ⇑P P 23 18 42.1 +0.4
baz=50
W29A Amarillo 49.94 329 ⇑P P 23 18 42.3 +0.3
baz=50
U31A Nine Bar Ranch 50.05 331 ⇑P P 23 18 43.4 +0.7
baz=50
S33A Kazmaul Farm, 50.22 334 ⇓P P 23 18 44.8 +0.9
baz=50
T32A Huddler Ranch, 50.28 333 ⇑P P 23 18 45.0 +0.5
baz=50
W28A Vega 50.34 329 ⇓P P 23 18 45.6 +0.7
baz=50
T31A Randall Ranch, 50.56 332 ⇑P P 23 18 47.3 +0.8
baz=51
U29A Oasis Ranch, S 50.80 330 ⇑P P 23 18 49.4 +1.0
baz=51
R33A Olander Ranch, 50.81 335 ⇓P P 23 18 48.2 -0.1
baz=51
S31A Mullinville 50.90 333 ⇑P P 23 18 49.6 +0.5
baz=51,SNR=8.1
KSU1 Kansas State U 50.91 336 ⇑P P 23 18 48.7 -0.3
baz=51
KSU1 Kansas State U 50.91 336 eP P 23 18 47.1 -1.9
38nm,1.4s
T30A Plains 50.92 331 ⇓P P 23 18 50.0 +0.7
baz=51
V27A Dan Oppiter Fa 51.05 329 ⇓P P 23 18 51.2 +0.9
baz=51
R32A Long Quarter, 51.22 334 ⇓P P 23 18 51.9 +0.5
baz=51
Q33A Connelly Farm, 51.32 335 ⇓P P 23 18 53.0 +0.8
baz=51
T29A Hugoton 51.37 331 ⇓P P 23 18 53.2 +0.5
baz=52
R31A Burdett 51.47 333 ⇑P P 23 18 53.7 +0.4
baz=52
121A Cookes Peak, D 51.50 322 ⇑P P 23 18 54.7 +0.9
baz=52
U27A Thompson Grove 51.55 329 ⇑P P 23 18 54.4 +0.3
baz=52
Q32A Meitler Ranch, 51.62 335 ⇓P P 23 18 54.3 -0.2
baz=52
S29A Ulysses 51.66 331 ⇓P P 23 18 55.5 +0.7
baz=52
319A Douglas 51.66 320 ⇓P P 23 18 55.6 +0.6
baz=52
T28A Walsh 51.74 330 ⇑P P 23 18 56.0 +0.5
baz=52
R30A Dighton 51.80 333 ⇓P P 23 18 56.4 +0.5
baz=52,SNR=7.6
BNM Barren Site 51.94 324 eP P 23 18 57.2 0.0
Q31A Ellis 52.00 334 ⇓P P 23 18 57.7 +0.5
baz=52
S28A Manter 52.01 331 ⇓P P 23 18 57.7 +0.3
baz=52,SNR=8.6
P32A Huiting Farm, 52.17 335 ⇓P P 23 18 58.7 +0.1
baz=52
R29A Marienthal 52.31 332 ⇓P P 23 19 00.6 +0.9
baz=52
Q30A Quinter 52.34 333 ⇑P P 23 19 00.7 +0.8
baz=52,SNR=11
ANMO Albuquerque 52.41 325 eP P 23 19 00.2 -0.4
6.6nm,0.8s
P31A Stockton 52.42 334 ⇑P P 23 19 00.8 +0.4
baz=52
LAZ Ladron 52.42 324 eP P 23 19 00.2 -0.4
T26A Comanche Natio 52.53 329 ⇓P P 23 19 01.9 +0.4
baz=53
R28A Tribune 52.56 331 ⇑P P 23 19 02.3 +0.8
baz=53
Q29A Oakley 52.61 332 ⇓P P 23 19 02.5 +0.6
baz=53,SNR=7.6
S26A Kim 52.81 330 ⇑P P 23 19 04.3 +0.9
baz=53,SNR=6.9
T25A Trinidad 52.92 328 ⇑P P 23 19 05.0 +0.6
baz=53,SNR=8.6
T25A Trinidad 52.92 328 eP P 23 19 04.0 -0.4
13nm,0.9s
R27A Eads 52.99 331 ⇑P P 23 19 04.9 +0.2
baz=53,SNR=6.8
Q28A Sharon Springs 53.15 332 ⇓P P 23 19 06.5 +0.7
baz=53
P29A Atwood 53.17 333 ⇓P P 23 19 06.4 +0.4
baz=53
TUC Tucson 53.24 320 eP P 23 19 06.1 -0.5
3.1nm,1.0s
O30A MW Ranch, Wils 53.25 334 ⇓P P 23 19 06.8 +0.2
baz=53
R26A Arlington 53.32 330 ⇓P P 23 19 07.3 0.0
baz=53,SNR=7.2
KSCO Kaye Shedlock' 53.48 331 ⇓P P 23 19 09.5 +1.1
baz=54
KSCO Kaye Shedlock' 53.48 331 eP P 23 19 08.3 -0.1
19nm,0.9s
P28A Saint Francis 53.52 332 ⇓P P 23 19 09.9 +1.3
baz=54
O29A 4D Ranch, Culb 53.53 334 ⇑P P 23 19 09.6 +1.0
baz=54
N30A Huettle Ranch, 53.78 335 ⇓P P 23 19 11.5 +1.1
baz=54
Q26A Hugo 53.84 331 ⇓P P 23 19 11.6 +0.5
baz=54
SDCO Great Sand Dun 53.95 328 ⇑P P 23 19 12.4 +0.4
baz=54,SNR=8.0
O28A Krutsinger Ran 53.97 333 ⇑P P 23 19 12.5 +0.6
baz=54
N29A Votaw Ranch, W 54.03 334 ⇑P P 23 19 12.8 +0.6
baz=54
R24A Sanders Place, 54.11 329 ⇓P P 23 19 13.8 +0.7
baz=54
X18A Snowflake 54.18 322 ⇓P P 23 19 14.4 +0.7
baz=54
S23A Nye Farm, Mont 54.18 328 ⇑P P 23 19 14.8 +1.1
baz=54
Q25A Bedland, Calha 54.20 330 ⇓P P 23 19 14.5 +0.8
baz=54
P26A Davis Ranch, A 54.26 331 ⇑P P 23 19 14.5 +0.4
baz=54
N28A Pribbeno Ranch 54.32 333 ⇓P P 23 19 15.0 +0.6
baz=54

214A Organ Pipe Nat 54.34 318 ⇑P P 23 19 15.2 +0.5
baz=54
O27A Beecher Island 54.35 332 ⇑P P 23 19 15.7 +1.1
baz=54
L31A Butterfield Fa 54.41 336 ⇓P P 23 19 15.7 +0.7
baz=54
R23A Moffat 54.45 328 ⇓P P 23 19 16.2 +0.5
baz=54
M29A Burnside Ranch 54.57 335 ⇓P P 23 19 17.4 +1.3
baz=55
P25A Willow Gulch B 54.62 330 ⇑P P 23 19 16.8 +0.1
baz=55
S22A 4UR Ranch, Cre 54.65 327 ⇓P P 23 19 17.5 +0.4
baz=55,SNR=6.7
S22A 4UR Ranch, Cre 54.65 327 eP P 23 19 16.8 -0.4
8.6nm,1.1s
Q24A Divide 54.69 329 ⇓P P 23 19 17.7 +0.3
baz=55
O26A Horse Wrangler 54.78 332 ⇑P P 23 19 18.1 +0.3
baz=55
M28A Bar X Bar Ranc 54.82 334 ⇓P P 23 19 18.3 +0.3
baz=55
P24A Kohler Place, 54.98 330 ⇑P P 23 19 19.9 +0.5
baz=55
L29A Maesberg Ranch 54.99 335 ⇓P P 23 19 20.0 +0.8
baz=55
Q23A Hartsel 54.99 329 ⇑P P 23 19 20.5 +0.9
baz=55
X16A Lo Mia Camp, P 55.03 321 ⇓P P 23 19 20.3 +0.5
baz=55
O25A Wiggins 55.06 331 ⇓P P 23 19 20.6 +0.7
baz=55
K30A Basset 55.14 336 ⇓P P 23 19 21.1 +0.9
baz=55
MVCO Mesa Verde 55.19 326 ⇑P P 23 19 21.2 +0.2
baz=55
MVCO Mesa Verde 55.19 326 eP P 23 19 20.7 -0.3
5.1nm,0.8s
Z14A Wintersburg 55.31 319 ⇓P P 23 19 22.5 +0.9
baz=55
P23A Jefferson 55.34 329 ⇓P P 23 19 22.8 +0.7
baz=55,SNR=6.0
M27A Reverse DX Ran 55.38 333 ⇑P P 23 19 23.0 +0.9
baz=56
L28A Connealy Angus 55.38 334 ⇑P P 23 19 22.8 +0.7
baz=56
113A Mohawk Valley, 55.48 318 ⇓P P 23 19 23.7 +0.9
baz=56
ISCO Idaho Springs 55.55 330 ⇓P P 23 19 24.1 +0.4
baz=56
ISCO Idaho Springs 55.55 330 eP P 23 19 23.4 -0.3
8.6nm,1.5s
M26A McRoberts Ranc 55.67 333 ⇑P P 23 19 25.0 +0.8
baz=56
WUAZ Wupatki 55.71 322 ⇑P P 23 19 25.8 +1.1
baz=56
PV01 Paradox Valley 55.88 326 eP P 23 19 25.8 -0.1
K28A Ten Mile Ranch 55.90 335 ⇑P P 23 19 26.4 +0.6
baz=56
P22A Eagle 55.98 329 ⇓P P 23 19 27.7 +1.1
baz=56
O23A Lake Granby, G 56.02 330 ⇓P P 23 19 27.6 +0.6
baz=56
M25A Palm-Egli Farm 56.06 332 ⇑P P 23 19 28.0 +0.9
baz=56
L26A Underwood Farm 56.09 333 ⇓P P 23 19 28.1 +0.9
baz=56
PV05 Paradox Valley 56.14 326 eP P 23 19 26.9 -0.8
K27A Flueckinger Fa 56.26 334 ⇓P P 23 19 28.9 +0.6
baz=56
O22A Kremmling 56.30 329 ⇓P P 23 19 29.5 +0.5
baz=56,SNR=6.2
J28A Allard Ranch, 56.43 335 ⇓P P 23 19 30.1 +0.6
baz=56,SNR=5.6
M24A Cheyenne 56.45 332 ⇑P P 23 19 30.3 +0.4
baz=56
I29A Vivian Onida 56.55 337 ⇑P P 23 19 30.9 +0.6
baz=57
N23A Red Feather La 56.55 330 ⇑P P 23 19 31.3 +0.6
baz=57
Y12C Blythe 56.58 318 ⇓P P 23 19 31.0 +0.3
baz=57
L25A Engebretsen Ra 56.59 333 ⇓P P 23 19 31.5 +0.7
baz=57
K26A Motz Farm, Whi 56.67 334 ⇑P P 23 19 32.1 +0.8
baz=57
W13A Hualapai Mount 57.00 320 ⇓P P 23 19 35.5 +1.5
baz=57
J26A Sides Ranch, S 57.11 334 ⇑P P 23 19 35.1 +0.7
baz=57,SNR=10
BC3 Big Chuckawall 57.14 318 ⇓P P 23 19 35.9 +1.1
baz=57
EYMN Ely 57.16 345 eP P 23 19 32.6 -1.9
19nm,0.9s
IRM Iron Mountain 57.24 318 ⇓P P 23 19 36.4 +0.9
baz=57
MONP Monument Peak, 57.34 317 ⇓P P 23 19 36.8 +0.4
baz=57
L23A Garrett 57.36 331 ⇑P P 23 19 37.1 +0.7
baz=57
J25A Sunshine Ranch 57.49 334 ⇓P P 23 19 37.7 +0.6
baz=58
KNB Kanab 57.58 323 eP P 23 19 37.2 -0.7
8.8nm,1.2s
I26A New Underwood 57.60 335 ⇑P P 23 19 37.9 0.0
baz=58
SRU San Rafael Swe 57.66 326 eP P 23 19 38.4 -0.1
11nm,1.4s
N20A Spence Gulch, 57.67 329 ⇓P P 23 19 39.0 +0.4
baz=58,SNR=5.5
H27A Howes 57.77 336 ⇓P P 23 19 39.0 +0.1
baz=58
109C Camp Elliot, M 57.81 316 ⇑P P 23 19 39.8 +0.4
baz=58
K23A Bowen Ranch, D 57.82 332 ⇑P P 23 19 40.4 +0.9
baz=58
J24A Dixon Ranch, L 57.83 333 ⇑P P 23 19 40.8 +1.3
baz=58
F29A Eureka 57.89 338 ⇓P P 23 19 40.7 +0.9
baz=58
E30A Jud 58.13 339 ⇓P P 23 19 41.5 +0.1
baz=58
K22A Casper 58.17 331 ⇓P P 23 19 42.2 +0.3
baz=58
K22A Casper 58.17 331 eP P 23 19 40.9 -1.1
5.7nm,0.8s
RSSD Black Hills 58.18 334 eP P 23 19 42.0 -0.1
19nm,0.9s
MVU Marysvale 58.20 324 eP P 23 19 42.0 -0.4
4.9nm,1.0s
CCUT Cedar City 58.25 323 eP P 23 19 41.9 -0.8
4.5nm,1.1s
MURC Murrieta 58.28 317 ⇑P P 23 19 43.7 +0.9
baz=58
H25A Fruitdale 58.39 335 ⇑P P 23 19 43.4 +0.1
baz=58
K21A Alcova 58.50 331 ⇑P P 23 19 44.9 +0.5
baz=59
G26A Maurine 58.52 336 ⇑P P 23 19 44.5 +0.3
baz=59
D30A Buchanan 58.60 340 ⇑P P 23 19 44.7 0.0
baz=59
AGMN Agassiz Nation 58.70 342 ⇑P P 23 19 44.2 -1.1
baz=59,SNR=7.0
AGMN Agassiz Nation 58.70 342 eP P 23 19 43.9 -1.4
8.9nm,0.8s
J22A Midwest 58.73 332 ⇓P P 23 19 45.6 -0.2
baz=59,SNR=17
F27A Lemmon 58.76 337 ⇑P P 23 19 46.4 +0.5
baz=59
H24A Dirks Ranch, A 58.90 334 ⇓P P 23 19 46.9 -0.1
baz=59,SNR=7.3
BFSC Mount Baldy Ra 58.96 317 ⇓P P 23 19 48.1 +0.4
baz=59
F26A Lodgepole 59.00 336 ⇓P P 23 19 47.4 -0.2
baz=59,SNR=5.3
C30A Mose, Pekin 59.02 340 ⇑P P 23 19 47.5 -0.1
baz=59
GSC Goldstone, Bar 59.02 319 ⇑P P 23 19 48.6 +0.7
baz=59
E27A Carson 59.05 337 ⇓P P 23 19 48.8 +0.9
baz=59
I22A 9 Mile Ranch, 59.10 332 ⇑P P 23 19 48.3 0.0
baz=59,SNR=7.0
J21A Lysite 59.13 331 ⇑P P 23 19 49.7 +1.0
baz=59
I21A Big Trails, Te 59.41 332 ⇑P P 23 19 51.1 +0.5
baz=60

E26A	**Carlson Angus**	**59.43**	**337**	⇑P		**P**	**23 19 50.8**	**+0.3**
	baz=60							
J20A	**Shoshoni**	**59.45**	**331**	⇑P		**P**	**23 19 51.2**	**+0.4**
	baz=60							
MDND	**Maddock**	**59.53**	**339**	⇓P		**P**	**23 19 51.7**	**+0.6**
	baz=60							
G23A	**Biddle**	**59.62**	**334**	⇑P		**P**	**23 19 53.1**	**+1.2**
	baz=60							
TPNV	**Topopah Spring**	**59.65**	**320**	⇓P		**P**	**23 19 53.1**	**+0.7**
	baz=60							
TPNV	**Topopah Spring**	**59.65**	**320**	*e*P		**P**	**23 19 51.2**	**-1.2**
	79nm,2.8s							
DUG	**Dugway, Tooele**	**59.68**	**325**	⇑P		**P**	**23 19 52.9**	**+0.4**
	baz=60,SNR=11							
DUG	**Dugway, Tooele**	**59.68**	**325**	*e*P		**P**	**23 19 52.3**	**-0.2**
	7.7nm,0.8s							
F24A	**Ekalaka**	**59.73**	**335**	⇑P		**P**	**23 19 53.2**	**+0.5**
	baz=60							
BW06	**Boulder Array**	**59.74**	**329**	*e*P		**P**	**23 19 51.4**	**-1.6**
	4.6nm,1.1s							
PD31	**Pinedale Array**	**59.74**	**329**	*e*P		**P**	**23 19 51.6**	**-1.4**
PD31				*e*PcP		**PcP**	**23 20 38.9**	**-0.8**
PDAR	**Pinedale Array**	**59.74**	**329**	P		**P**	**23 19 51.6**	**-1.4**
	2.5nm,1.1s,baz=142,slow=7.5,SNR=12							
PDAR				PcP		**PcP**	**23 20 38.9**	**-0.8**
	0.9nm,0.7s,baz=126,slow=4.6,SNR=2.9							
J19A	**Crowheart**	**59.86**	**330**	⇓P		**P**	**23 19 53.6**	**0.0**
	baz=60							
D26A	**Manning**	**59.88**	**337**	⇓P		**P**	**23 19 53.5**	**0.0**
	baz=60,SNR=5.3							
MPMC	**Manual Prospec**	**59.91**	**319**	⇑P		**P**	**23 19 54.9**	**+0.7**
	baz=60							
H21A	**Big Horn, Sher**	**59.92**	**332**	⇑P		**P**	**23 19 54.1**	**+0.1**
	baz=60							
HWUT	**Hardware Ranch**	**59.96**	**327**	*e*P		**P**	**23 19 52.7**	**-1.7**
	6.9nm,0.8s							
B29A	**Wagenman Farm,**	**59.97**	**340**	⇓P		**P**	**23 19 54.2**	**0.0**
	baz=60							
G22A	**Birney**	**60.03**	**333**	⇓P		**P**	**23 19 55.1**	**+0.3**
	baz=60							
F23A	**Volborg**	**60.04**	**334**	⇑P		**P**	**23 19 55.6**	**+0.9**
	baz=60							
R11A	**Troy Canyon, C**	**60.11**	**322**	⇑P		**P**	**23 19 56.7**	**+1.2**
	baz=60							
R11A	**Troy Canyon, C**	**60.11**	**322**	*e*P		**P**	**23 19 54.9**	**-0.7**
	3.3nm,1.0s							
H20A	**Greybull**	**60.26**	**332**	⇓P		**P**	**23 19 56.7**	**+0.4**
	baz=60							
BGU	**Big Grassy Mou**	**60.30**	**326**	*e*P		**P**	**23 19 56.5**	**-0.2**
	7.6nm,1.2s							
A29A	**Manning Farm,**	**60.32**	**340**	⇑P		**P**	**23 19 57.0**	**+0.4**
	baz=60							
D25A	**Fairfield**	**60.33**	**337**	⇑P		**P**	**23 19 57.4**	**+0.7**
	baz=60,SNR=6.9							
I19A	**Meeteetse**	**60.40**	**331**	⇓P		**P**	**23 19 57.9**	**+0.5**
	baz=60							
C26A	**Wahner Farm, P**	**60.41**	**338**	⇓P		**P**	**23 19 57.8**	**+0.6**
	baz=60							
ULM	**Lac du Bonnet**	**60.45**	**343**	P		**P**	**23 19 55.5**	**-1.8**
	9.5nm,0.7s,baz=154,slow=6.8,SNR=19							
ULM				PcP		**PcP**	**23 20 41.6**	**-0.4**
	4.2nm,0.7s,baz=114,slow=2.6,SNR=4.0							
ULM	**Lac du Bonnet**	**60.45**	**343**	*e*P		**P**	**23 19 55.5**	**-1.8**
	6.5nm,0.6s							
ULM				*e*PcP		**PcP**	**23 20 41.6**	**-0.4**
G21A	**Lodge Grass**	**60.45**	**333**	⇓P		**P**	**23 19 58.0**	**+0.4**
	baz=60							
F22A	**Rosebud**	**60.45**	**334**	⇓P		**P**	**23 19 57.8**	**+0.2**
	baz=60							
AHID	**Auburn Hatcher**	**60.53**	**328**	*e*P		**P**	**23 19 57.3**	**-1.1**
	3.2nm,0.8s							
E23A	**Ismay**	**60.61**	**335**	⇓P		**P**	**23 19 59.0**	**+0.4**
	baz=61							
D24A	**Glendive**	**60.70**	**336**	⇓P		**P**	**23 19 59.9**	**+0.7**
	baz=61							
C25A	**Freed Ranch, W**	**60.76**	**337**	⇑P		**P**	**23 20 00.5**	**+0.9**
	baz=61							
E22A	**Miles City**	**60.84**	**334**	⇑P		**P**	**23 20 01.2**	**+1.1**
	baz=61							
VES	**Vestal, Richgr**	**60.84**	**318**	⇑P		**P**	**23 20 00.7**	**+0.4**
	baz=61							
SNOW	**Snow King Moun**	**60.85**	**329**	*e*P		**P**	**23 19 59.5**	**-1.0**
	5.8nm,0.9s							
H19A	**Powell**	**60.86**	**331**	⇑P		**P**	**23 20 00.9**	**+0.4**
	baz=61							
G20A	**Bridger**	**60.91**	**332**	⇑P		**P**	**23 20 00.6**	**-0.2**
	baz=61,SNR=8.2							
B26A	**Jensen Ranch,**	**60.92**	**338**	⇑P		**P**	**23 20 00.6**	**0.0**
	baz=61							
TIN	**Tinemaha, Big**	**60.98**	**319**	⇓P		**P**	**23 20 02.2**	**+0.8**
	baz=61							
C24A	**Savage**	**61.07**	**336**	⇓P		**P**	**23 20 02.9**	**+1.1**
	baz=61							
I17A	**Pilgrim Ck.**	**61.09**	**330**	⇑P		**P**	**23 20 02.8**	**+0.7**
	baz=61							
FXWY	**Fox Creek**	**61.12**	**329**	*e*P		**P**	**23 20 01.6**	**-0.8**
	20nm,1.9s							
B25A	**Knox Farm, Ray**	**61.18**	**337**	⇓P		**P**	**23 20 03.0**	**+0.6**
	baz=61							
H18A	**Shoshone NF, C**	**61.19**	**331**	⇓P		**P**	**23 20 03.2**	**+0.3**
	baz=61							
IMW	**Indian Meadow**	**61.26**	**329**	*e*P		**P**	**23 20 03.2**	**-0.2**
	4.4nm,0.8s							
FLWY	**Flagg Ranch**	**61.27**	**330**	*e*P		**P**	**23 20 03.2**	**-0.1**
	9.7nm,1.0s							
A26A	**Wade Farm, Ken**	**61.28**	**339**	⇓P		**P**	**23 20 04.2**	**+1.1**
	baz=61							
RLMT	**Red Lodge**	**61.33**	**331**	*e*P		**P**	**23 20 03.1**	**-0.7**
	42nm,2.4s							
E21A	**Keefer Ranch,**	**61.41**	**334**	⇓P		**P**	**23 20 05.0**	**+1.0**
	baz=62							
D22A	**Cohagen**	**61.49**	**335**	⇓P		**P**	**23 20 05.2**	**+0.6**
	baz=62,SNR=5.2							
C23A	**Lambert**	**61.60**	**336**	⇓P		**P**	**23 20 05.8**	**+0.5**
	baz=62,SNR=5.7							
YFT	**Old Faithful**	**61.60**	**330**	*e*P		**P**	**23 20 04.9**	**-0.7**
	27nm,1.5s							
A25A	**Svangstu Ranch**	**61.71**	**338**	⇑P		**P**	**23 20 06.6**	**+0.6**
	baz=62							
F19A	**Roth Farm, Mol**	**61.73**	**332**	⇑P		**P**	**23 20 06.6**	**+0.3**
	baz=62							
DGMT	**Dagmar**	**61.74**	**337**	⇑P		**P**	**23 20 06.9**	**+0.7**
	baz=62							
D21A	**La Casta Ranch**	**61.78**	**334**	⇑P		**P**	**23 20 07.3**	**+0.8**
	baz=62							
YMR	**Madison River**	**61.82**	**330**	*e*P		**P**	**23 20 06.1**	**-1.0**
	15nm,1.0s							
C22A	**Vida**	**61.84**	**335**	⇓P		**P**	**23 20 07.4**	**+0.5**
	baz=62							
E20A	**Meyer Farm, Mu**	**61.84**	**333**	⇑P		**P**	**23 20 07.9**	**+0.9**
	baz=62							
NV01	**Mina Array Sit**	**61.84**	**321**	*e*P		**P**	**23 20 07.2**	**-0.1**
NVAR	**Mina Array Bea**	**61.84**	**321**	P		**P**	**23 20 07.2**	**-0.1**
	0.7nm,0.6s,baz=127,slow=6.4,SNR=4.9							
SCHQ	**Schefferville**	**61.86**	**4**	P		**P**	**23 20 05.3**	**-1.6**
	3.1nm,0.5s,baz=212,slow=5.6,SNR=7.2							
SCHQ	**Schefferville**	**61.86**	**4**	*e*P		**P**	**23 20 04.9**	**-2.0**
	176nm,2.8s							
GCMT	**Greycliff**	**62.02**	**332**	*e*P		**P**	**23 20 07.9**	**-0.4**
A24A	**Westby**	**62.04**	**337**	⇑P		**P**	**23 20 09.2**	**+1.0**
	baz=62							
B23A	**Brockton**	**62.05**	**336**	⇓P		**P**	**23 20 09.4**	**+1.1**
	baz=62,SNR=9.4							
E19A	**Rath Farm, Rou**	**62.11**	**333**	⇓P		**P**	**23 20 09.1**	**+0.3**
	baz=62,SNR=5.6							
QLMT	**Earthquake Lak**	**62.17**	**330**	*e*P		**P**	**23 20 09.6**	**+0.1**
D20A	**Manuel Ranch,**	**62.29**	**334**	⇑P		**P**	**23 20 10.2**	**+0.2**
	baz=62,SNR=5.0							
B22A	**Reddig Ranch S**	**62.33**	**336**	⇓P		**P**	**23 20 10.8**	**+0.6**
	baz=62							
C21A	**Desert Coulee**	**62.41**	**335**	⇑P		**P**	**23 20 11.9**	**+1.1**
	baz=62							
HLID	**Hailey**	**62.84**	**327**	⇑P		**P**	**23 20 14.3**	**+0.4**
	baz=63							
HLID	**Hailey**	**62.84**	**327**	*e*P		**P**	**23 20 13.2**	**-0.7**
	6.3nm,1.4s							
B21A	**Ellsworth Farm**	**62.85**	**335**	⇓P		**P**	**23 20 14.7**	**+1.0**
	baz=63							
BOZ	**Bozeman (W)**	**62.85**	**330**	*e*P		**P**	**23 20 12.6**	**-1.3**
	11nm,1.3s							
MCMT	**McKenzie Canyo**	**62.88**	**329**	*e*P		**P**	**23 20 14.1**	**-0.1**
C19A	**Slack Wire Ran**	**63.19**	**334**	⇑P		**P**	**23 20 16.2**	**+0.3**
	baz=63,SNR=7.7							
B20A	**Solberg Farm,**	**63.28**	**335**	⇑P		**P**	**23 20 17.2**	**+0.7**
	baz=63							
LRM	**Limekiln Ridge**	**63.38**	**330**	*e*P		**P**	**23 20 16.3**	**-1.2**
MFID	**Camas Ranch**	**63.51**	**326**	*e*P		**P**	**23 20 17.6**	**-0.7**
	11nm,0.8s							

A20A	**Cobblestone Ra**	**63.58**	**335**	⇑P		**P**	**23 20 18.8**	**+0.3**
	baz=64							
B19A	**Brinkman Farms**	**63.69**	**334**	⇑P		**P**	**23 20 19.5**	**+0.3**
	baz=64,SNR=6.7							
EGMT	**Eagleton**	**63.72**	**333**	⇓P		**P**	**23 20 19.8**	**+0.4**
	baz=64,SNR=5.6							
EGMT	**Eagleton**	**63.72**	**333**	*e*P		**P**	**23 20 19.3**	**-0.2**
	7.4nm,0.7s							
MSO	**Missoula**	**64.83**	**330**	⇑P		**P**	**23 20 27.8**	**+1.0**
	baz=65,SNR=9.0							
MSO	**Missoula**	**64.83**	**330**	*e*P		**P**	**23 20 26.2**	**-0.6**
	12nm,1.1s							
SWMT	**Swartz Lake**	**65.33**	**331**	*e*P		**P**	**23 20 30.3**	**+0.3**
JTMT	**Jette**	**65.63**	**331**	*e*P		**P**	**23 20 32.3**	**+0.2**
BLMT	**Blacktail Moun**	**65.85**	**331**	*e*P		**P**	**23 20 31.9**	**-1.7**
F10A	**Beach Ranch, E**	**65.93**	**328**	*e*P		**P**	**23 20 33.3**	**-0.7**
	9.8nm,1.0s							
BSMT	**Bassoo Peak**	**65.95**	**330**	*e*P		**P**	**23 20 34.5**	**+0.3**
FFC	**Flin Flon**	**66.18**	**342**	*e*P		**P**	**23 20 34.2**	**-1.0**
	27nm,1.6s							
WALA	**Waterton Lakes**	**66.37**	**332**	*e*P		**P**	**23 20 35.4**	**-1.4**
	260nm,1.0s							
K04D	**Chiloquin, OR**	**66.44**	**323**	⇑P		**P**	**23 20 38.9**	**+1.6**
	baz=66							
J05D	**Fort Rock, OR**	**66.51**	**324**	⇓P		**P**	**23 20 38.4**	**+0.6**
	baz=67							
L02D	**Cave Junction,**	**67.30**	**321**	⇑P		**P**	**23 20 43.3**	**+0.6**
	baz=67							
NEW	**Newport**	**67.38**	**330**	⇓P		**P**	**23 20 44.1**	**+0.9**
	baz=67							
C09A	**Chrisman Ranch**	**67.66**	**329**	*e*P		**P**	**23 20 45.0**	**+0.1**
	46nm,2.0s							
FCC	**Fort Churchill**	**67.77**	**348**	*e*P		**P**	**23 20 44.0**	**-1.2**
	5.0nm,0.8s							
B08A	**Colville Reser**	**68.57**	**329**	*e*P		**P**	**23 20 49.6**	**-1.0**
LIC	**Lamto**	**68.99**	**81**	*e*P		**P**	**23 20 54.4**	**+0.6**
	46nm,1.4s							
LIC	**Lamto**	**68.99**	**81**	*e*P		**P**	**23 20 54.9**	**+1.1**
	41nm,1.4s							
LIC	**Lamto**	**68.99**	**81**	*e*P		**P**	**23 20 54.4**	**+0.6**
TIC	**Toumodi**	**69.07**	**80**	*e*P		**P**	**23 20 55.3**	**+0.9**
	23nm,0.9s							
EDM	**Edmonton**	**69.10**	**335**	*e*P		**P**	**23 20 52.5**	**-1.2**
DBIC	**Dimbokro**	**69.23**	**80**	P		**P**	**23 20 56.3**	**+1.0**
	17nm,0.9s,baz=236,slow=5.6,SNR=17							
DBIC	**Dimbokro**	**69.23**	**80**	*e*P		**P**	**23 20 53.3**	**-2.0**
	30nm,1.0s							
KIC	**Kosan Boka**	**69.29**	**81**	*e*P		**P**	**23 20 56.9**	**+1.2**
	77nm,1.3s							
VNA3	**Neumayer Olymp**	**74.93**	**163**	P		**P**	**23 21 29.4**	**+0.9**
VNA2	**Neumayer--Watz**	**75.50**	**162**	P		P	23 21 28.0	-3.7
	baz=290,slow=6.2							
YKA	**Yellowknife Ar**	**76.34**	**341**	P		**P**	**23 21 36.0**	**-0.5**
	3.6nm,0.8s,baz=137,slow=6.2,SNR=50							
YKB5	**Yellowknife Ar**	**76.34**	**341**	*e*P		**P**	**23 21 36.0**	**-0.6**
TOA0	**Torodi Ar. Sit**	**76.75**	**75**	*e*P		**P**	**23 21 40.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.75**	**75**	P		**P**	**23 21 40.2**	**+0.4**
	7.8nm,0.8s,baz=284,slow=5.8,SNR=40							
SNAA	**Sanae**	**77.13**	**162**	P		**P**	**23 21 42.0**	**+0.9**
SNAA	**Sanae**	**77.13**	**162**	P		**P**	**23 21 41.8**	**+0.7**
	1.8nm,0.8s,baz=273,slow=7.0,SNR=11							
SNAA	**Sanae**	**77.13**	**162**	*e*P		**P**	**23 21 40.7**	**-0.4**
	7.5nm,1.0s							
ESDC	**Sonseca Array**	**78.59**	**47**	P		**P**	**23 21 50.3**	**+0.5**
	1.6nm,0.8s,baz=262,slow=6.5,SNR=11							
SJPF	**Ste Jean**	**81.63**	**45**	*e*P		**P**	**23 22 06.6**	**+0.6**
	7.4nm,1.0s							
SJPF	**Ste Jean**	**81.63**	**45**	*e*P		**P**	**23 22 06.6**	**+0.6**
ROSF	**Rostrenen**	**81.97**	**39**	*e*P		**P**	**23 22 08.5**	**+0.9**
ROSF	**Rostrenen**	**81.97**	**39**	*e*P		**P**	**23 22 08.5**	**+0.9**
SUMG	**Summit**	**82.51**	**10**	*e*P		**P**	**23 22 08.5**	**-1.9**
	171nm,2.9s							
EPF	**Esparros**	**82.70**	**45**	*e*P		**P**	**23 22 12.5**	**+0.8**
EPF	**Esparros**	**82.70**	**45**	*e*P		**P**	**23 22 12.5**	**+0.8**
QSPA	**South Pole Qui**	**83.06**	**180**	P		**P**	**23 22 14.7**	**+1.5**
	7.2nm,0.7s,baz=182,slow=1.1,SNR=22							
MFF	**Saint Martin d**	**83.42**	**42**	*e*P		**P**	**23 22 15.1**	**-0.1**
MFF	**Saint Martin d**	**83.42**	**42**	*e*P		**P**	**23 22 15.1**	**-0.1**
LFF	**La Frestale**	**83.53**	**43**	*e*P		**P**	**23 22 15.8**	**0.0**
LFF	**La Frestale**	**83.53**	**43**	*e*P		**P**	**23 22 15.8**	**0.0**
MTLF	**Montolieu**	**84.11**	**45**	*e*P		**P**	**23 22 18.7**	**-0.2**
MTLF	**Montolieu**	**84.11**	**45**	*e*P		**P**	**23 22 18.7**	**-0.2**
RJF	**Les Rejaudoux**	**84.16**	**43**	*e*P		**P**	**23 22 18.9**	**-0.2**
	25nm,1.4s							
RJF	**Les Rejaudoux**	**84.16**	**43**	*e*P		**P**	**23 22 18.9**	**-0.2**
CAF	**Calviac**	**84.43**	**44**	*e*P		**P**	**23 22 20.3**	**-0.2**
	10nm,1.1s							
CAF	**Calviac**	**84.43**	**44**	*e*P		**P**	**23 22 20.3**	**-0.2**
TCF	**Toulx Ste Croi**	**84.89**	**42**	*e*P		**P**	**23 22 23.4**	**+0.6**
TCF	**Toulx Ste Croi**	**84.89**	**42**	*e*P		**P**	**23 22 23.4**	**+0.6**
AVF	**Avril sur Loir**	**85.78**	**42**	*e*P		**P**	**23 22 26.5**	**-0.7**
AVF	**Avril sur Loir**	**85.78**	**42**	*e*P		**P**	**23 22 26.5**	**-0.7**
SMF	**Signal de Mont**	**86.07**	**42**	*e*P		**P**	**23 22 29.5**	**+0.9**
	4.6nm,0.9s							
SMF	**Signal de Mont**	**86.07**	**42**	*e*P		**P**	**23 22 29.5**	**+0.9**
INK	**Inuvik**	**86.11**	**341**	*e*P		**P**	**23 22 27.4**	**-0.9**
	15nm,1.3s							
VIVF	**Saint-Julien-l**	**86.20**	**44**	*e*P		**P**	**23 22 29.8**	**+0.4**
	3.9nm,0.9s							
VIVF	**Saint-Julien-l**	**86.20**	**44**	*e*P		**P**	**23 22 29.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**87.05**	**44**	*e*P		**P**	**23 22 34.3**	**+0.7**
	3.2nm,0.6s							
ORIF	**Oris-en-Rattie**	**87.05**	**44**	*e*P		**P**	**23 22 34.3**	**+0.7**
BAIF	**Baives**	**87.16**	**39**	*e*P		**P**	**23 22 34.9**	**+1.1**
BAIF	**Baives**	**87.16**	**39**	*e*P		**P**	**23 22 34.9**	**+1.1**
EGAK	**Eagle**	**87.28**	**337**	*e*P		**P**	**23 22 33.5**	**-0.6**
	18nm,1.3s							
MEZF	**Maizieres J'vi**	**87.32**	**41**	*e*P		**P**	**23 22 35.7**	**+1.0**
MEZF	**Maizieres J'vi**	**87.32**	**41**	*e*P		**P**	**23 22 35.7**	**+1.0**
LPL	**La Plagne**	**87.77**	**44**	*e*P		**P**	**23 22 37.1**	**-0.1**
	5.3nm,1.0s							
LPL	**La Plagne**	**87.77**	**44**	*e*P		**P**	**23 22 37.1**	**-0.1**
LPG	**La Plagne**	**87.78**	**44**	*e*P		**P**	**23 22 37.2**	**-0.1**
	4.5nm,0.9s							
LPG	**La Plagne**	**87.78**	**44**	*e*P		**P**	**23 22 37.2**	**-0.1**
ILAR	**Eielson Array**	**89.59**	**336**	P		**P**	**23 22 44.6**	**-0.4**
	1.6nm,0.8s,baz=123,slow=3.6,SNR=14							
ILAR				PP		**PP**	**23 26 17.8**	**+0.9**
	1.1nm,1.0s,baz=91,slow=8.1,SNR=5.1							
ILB	**Eielson Array**	**89.59**	**336**	*e*P		**P**	**23 22 44.6**	**-0.4**
ILB				*e*PP		**PP**	**23 26 17.8**	**+0.9**
GEC2	**GERESS Array S**	**93.02**	**41**	*e*P		**P**	**23 22 59.8**	**-1.7**
GERES	**GERESS Array B**	**93.02**	**41**	P		**P**	**23 22 59.8**	**-1.7**
	0.6nm,1.0s,baz=247,slow=6.8,SNR=4.4							
NOA	**NORSAR Array B**	**93.27**	**29**	LR		LR	00 01 27.6	
	comp=Z,26nm,20.9s,baz=90,slow=33							
ZAA1	**Zalesovo Array**	**129.88**	**17**	*e*PKPdf		**PKPdf**	**23 28 57.0**	**-0.2**
ZALV	**Zalesovo Beam**	**129.88**	**17**	PKP		**PKPdf**	**23 28 57.0**	**-0.2**
	0.6nm,0.3s,baz=336,slow=3.3,SNR=8.5							
KSH	**Kashi**	**137.26**	**36**	PKP		**PKPdf**	**23 29 11.5**	**-0.2**
KSH				PP		PP	23 32 02.3	+6.4
KSH				PKS		**PKSdf**	**23 32 46.5**	**-1.5**
KSH				SKS		**SKSdf**	**23 36 17.0**	**-4.5**
KSH				SS		**SS**	**23 50 05.5**	**+4.3**
KSH				PPMZ				
	73nm,6.0s							
KSH				LN				
	79nm,8.8s							
KSH				LE				
	87nm,5.4s							
KSH				LZ				
	180nm,5.5s							
SONA0	**Songino Array**	**139.35**	**1**	*e*PKPdf		**PKPdf**	**23 29 15.9**	**+0.6**
SONM	**Songino Array**	**139.35**	**1**	PKP		**PKPdf**	**23 29 15.9**	**+0.6**
	0.2nm,0.5s,baz=301,slow=0.7,SNR=3.6							
WMQ	**Urumqi**	**139.62**	**22**	*e*PKP		**PKPdf**	**23 29 12.8**	**-3.0**
KSRS	**Korea Array**	**144.30**	**331**	PKP		PKPbc	23 29 23.1	+0.5
	2.0nm,0.7s,baz=29,slow=2.8,SNR=7.3							
KS15	**Wonju Array Si**	**144.33**	**331**	*e*PKPdf		PKPbc	23 29 23.1	+0.4
JNU	**Nakatsue**	**145.95**	**323**	PKPbc		**PKPdf**	**23 29 26.6**	**-0.7**
	12nm,1.0s,baz=140,slow=5.5,SNR=4.5							
JNU	**Nakatsue**	**145.95**	**323**	*e*PKPdf		**PKPdf**	**23 29 26.1**	**-1.2**
HHC	**Hu-ho-hao-te**	**146.11**	**354**	*e*PKPbc		**PKPbc**	**23 29 28.5**	**+0.2**
HHC				PP		PP	23 32 54.3	+5.4
HHC				SKS		**SKSdf**	**23 36 33.0**	**-2.4**
HHC				SKKS		**SKKSac**	**23 39 39.5**	**-1.5**
HHC				SS		**SS**	**23 51 42.5**	**0.0**
HHC				PPMZ				
	79nm,9.0s							
HHC				LN				
	170nm,18.5s							
HHC				LE				
	690nm,21.0s							
BJI	**Beijing**	**146.16**	**347**	PKPbc		**PKPbc**	**23 29 28.0**	**-0.3**
BJI				SKS		**SKSdf**	**23 36 36.5**	**+1.3**
BJI				SS		**SS**	**23 51 44.0**	**+1.1**
BJI				PPMZ				
	160nm,5.3s							
BJI				LN				
	130nm,5.7s							
BJI				LE				
	70nm,4.9s							
GTA	**Gaotai**	**147.12**	**10**	*e*PKPbc		**PKPbc**	**23 29 31.5**	**+0.2**
GTA				sPKP			23 29 38.8	
GTA				PP		PP	23 33 01.3	+6.4
GTA				SKS		**SKSdf**	**23 36 39.3**	**+2.4**
GTA				SKKS		**SKKSac**	**23 39 50.3**	**+3.4**
GTA				SS		**SS**	**23 51 59.0**	**+4.9**
GTA				PPMZ				
	150nm,6.6s							
GTA				LN				
	83nm,16.6s							
GTA				LE				
	83nm,17.3s							
GTA				LZ				
	130nm,15.7s							
LZH	**Lanzhou**	**150.94**	**5**	*e*PKPbc		**PKPdf**	**23 29 31.5**	**-4.0**
LZH				pPKP		PKPbc	23 29 35.5	-5.7
LZH				sPKP			23 29 39.0	
CD2	**Chengdu**	**156.06**	**7**	PKP		**PKPdf**	**23 29 42.5**	**-0.4**
CD2				PKS		**PKSdf**	**23 33 15.5**	**-1.5**
CD2				PP		**PP**	**23 33 49.8**	**+4.0**
CD2				SKS		**SKSdf**	**23 36 45.5**	**-2.7**
CD2				SKKS		**SKKSac**	**23 40 35.0**	**-0.8**
CD2				SS		**SS**	**23 53 33.3**	**+0.8**
CD2				PPMZ				
	140nm,5.6s							
CM31	**Chiang Mai Arr**	**166.15**	**34**	*e*PKPdf		**PKPdf**	**23 29 53.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**166.15**	**34**	PKP		**PKPdf**	**23 29 53.6**	**-0.2**
	1.0nm,0.3s,baz=294,slow=2.5,SNR=4.8							
QIZ	**Qiongzhong**	**167.79**	**348**	PKP		**PKPdf**	**23 29 54.0**	**-1.1**

*ISCJB **25** 23:12:51.4±0.7, 44.4°S±0.2°×39.4°E±0.3°, h10km, mb3.8/8, MS3.5/3, Error ellipse: s-maj=32.1km s-min=13.5km az=139.6*

*IDC **25** 23:12:51.1±0.7, 44.34°S×39.48°E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/39, mbtmp3.9/9, ML3.5/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/33, Error ellipse: s-maj=36.6km s-min=17.4km az=53.0*

ISC 25 23:12:52.7±0.7, 44.4S±0.2°×39.4E±0.2, h10km, n19, σ1s17/12, mb3.9/8, MS3.5/3, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.80**	**303**	P		P	**Pn**	**23 17 12.4**	**-0.5**
	0.2nm,0.3s,baz=181,slow=12,SNR=2.8								
LBTB	**Lobatse**	**22.34**	**325**	P		P	**P**	**23 17 52.4**	**+1.7**
	3.1nm,0.7s,baz=167,slow=7.6,SNR=8.1								
LBTB				LR		LR	LR	23 24 44.7	
	comp=Z,163nm,19.8s,baz=170,slow=32								
QSPA	**South Pole Qui**	**45.84**	**180**	P		P	**P**	**23 21 15.3**	**+0.6**
	1.6nm,0.8s,baz=90,slow=1.6,SNR=7.5								
VNDA	**Vanda**	**53.38**	**167**	P		P	**P**	**23 22 12.4**	**+0.7**
	0.8nm,0.6s,baz=264,slow=5.6,SNR=9.5								
H01W2	**Cape Leeuwin H**	**56.50**	**108**	T		T	T	00 23 59.3	
	baz=241								
H01W3	**Cape Leeuwin H**	**56.51**	**108**	T		T	T	00 24 01.7	
	baz=241								
H01W1	**Cape Leeuwin H**	**56.52**	**108**	T		T	T	00 23 59.5	
	baz=241								
H10S2	**ASCENSION HYDR**	**58.40**	**290**	T		T	T	00 25 32.1	
	baz=137,slow=75,SNR=9.2								
H10S1	**ASCENSION HYDR**	**58.41**	**290**	T		T	T	00 25 31.7	
	baz=137,slow=75,SNR=9.8								
H10S3	**ASCENSION HYDR**	**58.

SOEI	Soe	5.41 239	P	Pn	23 24 46.3	+0.9	
SOEI			S	Sn	23 25 49.3	+1.5	
SOEI	Soe	5.41 239	P	Pn	23 24 44.8	-0.5	
	baz=5.4,SNR=23						
SOEI	Soe	5.41 239	ePn	Pn	23 24 44.2	-1.2	
SANI	Sanana	5.77 329	P	Pn	23 24 48.3	-1.8	
SANI			S	Sn	23 25 50.3	-6.2	
BATI	Baumata	6.15 239	P	Pn	23 24 55.7	+0.3	
MTN	Manton Dam	6.17 160	P	Pn	23 24 57.9	+2.3	
	baz=6.2,SNR=24						
LBMI	Labuha	6.50 347	P	Pn	23 24 59.6	-0.7	
SWI	Sorong	6.51 20	P	Pn	23 25 00.9	+0.5	
SWI			S	Sn	23 26 12.3	-2.5	
SWI	Sorong	6.51 20	P	Pn	23 25 02.3	+1.9	
	baz=6.6,SNR=20						
BBSI	Bau Bau	6.56 283	P	Pn	23 25 00.0	-1.1	
KDU	Kakadu	6.60 149	P	Pn	23 25 02.1	+0.6	
	baz=6.6,SNR=44						
MMRI	Maumere	6.88 256	P	Pn	23 25 06.1	+0.6	
MMRI	Maumere	6.88 256	ePn	Pn	23 25 03.9	-1.6	
EDFI	Ende, Flores	7.44 256	P	Pn	23 25 14.1	+0.9	
RKPI	Ransiki, Papua	7.52 44	P	Pn	23 25 15.5	+1.2	
	287nm,0.7s,10µm3.0nm						
TNTI	Ternate	7.90 348	P	Pn	23 25 18.7	-0.8	
	105nm,0.7s,0.4nm						
TNTI	Ternate	7.90 348	ePn	Pn	23 25 19.1	-0.4	
LUWI	Luwuk	8.58 313	P	Pn	23 25 27.5	-1.3	
	170nm,0.8s,3µm						
LUWI	Luwuk	8.58 313	P	Pn	23 25 28.0	-0.8	
	baz=8.7,SNR=12						
LUWI	Luwuk	8.58 313	ePn	Pn	23 25 27.7	-1.1	
KNRA	Kununurra	8.61 181	P	Pn	23 25 28.6	-0.6	
	baz=8.6,SNR=56						
KNRA			S	Sn	23 27 02.7	-3.8	
	baz=8.6,SNR=7.4						
SRPI	Serui, Papua	8.85 55	P	Pn	23 25 35.3	+2.9	
	137nm,0.4s,9µm						
BASI	Baing, Sumba	8.91 248	P	Pn	23 25 35.1	+1.8	
	161nm,0.8s						
BKSI	Bulukumba	8.98 280	P	Pn	23 25 32.7	-1.5	
	83nm,0.8s,790nm0.2nm						
BNSI	Bone	9.21 286	P	Pn	23 25 36.1	-1.4	
	118nm,0.8s,2µm0.4nm						
KAPI	Kappang	9.40 282	ePn	Pn	23 25 38.3	-1.8	
SPSI	Sidrap Palu	9.67 288	P	Pn	23 25 42.6	-1.1	
	132nm,1.4s,1µm						
TTSI	Tana Toraja	9.95 293	P	Pn	23 25 47.8	+0.2	
WAMI	Wamena	10.16 73	P	Pn	23 25 57.0	+6.5	
	161nm,0.7s						
MRSI	Marisa	10.24 316	P	Pn	23 25 50.6	-1.0	
	36nm,0.9s						
PCI	Palu	10.96 303	P	Pn	23 26 09.2	+7.7	
MPSI	Mapaga	11.65 308	P	Pn	23 26 08.9	-1.9	
WRAB	Tennant Creek	13.86 158	ePn	Pn	23 26 36.3	-4.7	
WRAB			eSn	Sn	23 29 04.4	-11	
WRA	Warramunga Arr	13.86 159	Pn	Pn	23 26 37.3	-3.8	
	2.4nm,0.3s,baz=340,slow=12,SNR=34						
WRA			Sn	Sn	23 29 04.9	-10	
	1.5nm,0.3s,baz=334,slow=22,SNR=14						
BBKI	Banjar Baru	14.53 283	P	Pn	23 26 49.6	-0.6	
COEN	Coen	15.55 117	P	Pn	23 27 04.2	+0.2	
	baz=16,SNR=12						
COEN			S	Sn	23 29 56.1	-0.4	
	baz=16,SNR=4.2						
COEN	Coen	15.55 117	ePn	Pn	23 27 03.9	0.0	
	35nm,0.8s						
COEN			eSn	Sn	23 29 52.9	-3.6	
QIS	Mount Isa	16.94 144	P	Pn	23 27 19.8	-2.0	
	baz=17,SNR=4.4						
AS12	Alice Springs	17.22 165	ePn	Pn	23 27 22.9	-2.3	
AS12			eSn	Sn	23 30 28.1	-8.8	
ASAR	Alice Springs	17.22 165	P	Pn	23 27 22.9	-2.3	
	0.9nm,0.3s,baz=333,slow=9.4,SNR=40						
ASAR			S	Sn	23 30 28.1	-8.8	
	0.8nm,0.3s,baz=349,slow=26,SNR=6.4						
ASAR			LR	LR	23 34 20.3		
	comp=Z,405nm,20.1s,baz=342,slow=38						
PCJI	Pacitan	17.70 265	P	Pn	23 27 27.4	-3.8	
WRKA	Warakurna	17.94 182	P	Pn	23 27 30.6	-3.5	
	baz=18,SNR=56						
PMG	Port Moresby	18.14 99	eP	Pn	23 27 37.0	+0.4	
	45nm,1.0s						
STKI	Sintang	18.84 291	P	P	23 27 44.1	-0.5	
MANU	Manus Island	18.96 76	P	P	23 27 39.3	-6.8	
	baz=19,SNR=3.0						
SBUM	Sibu	19.20 299	eP	P	23 27 43.6	-5.0	
	14nm,0.9s						
KPJI	Karang Pucung	19.91 268	P	Pn	23 27 58.0	0.0	
KSM	Kuching	20.46 294	P	P	23 28 01.8	-0.6	
	baz=20,SNR=6.3						
KSM	Kuching	20.46 294	eP	P	23 28 00.7	-1.8	
	31nm,1.0s						
JCJI	Jatiwangi	20.59 270	P	P	23 28 01.7	-2.1	
CTA	Charters Tower	21.19 130	P	P	23 28 12.1	+1.8	
	10.0nm,0.8s,baz=309,slow=12,SNR=11						
MEEK	Meekatharra	21.88 206	P	P	23 28 18.5	+0.9	
	baz=22,SNR=13						
MEEK			S	Sn	23 32 23.9	-5.4	
	baz=22,SNR=3.1						
TGY	Tagaytay City	22.45 339	LR	LR	23 37 59.6		
	comp=Z,53nm,21.8s,baz=80,slow=39						
CGJI	Cibinong	23.14 270	P	P	23 28 30.9	-0.2	
PPBI	Pangkal Pinang	23.28 281	P	P	23 28 32.2	-0.4	
FORT	Forrest	23.66 182	P	P	23 28 39.4	+3.2	
	baz=24,SNR=7.2						
FORT			S	S	23 32 56.0	+5.0	
	baz=24,SNR=5.4						
FORT	Forrest	23.66 182	eP	P	23 28 34.4	-1.7	
	53nm,0.8s						
QLP	Quilpie	24.27 145	P	P	23 28 44.2	+2.2	
	baz=24,SNR=8.9						
MORW	Morawa	25.11 208	P	P	23 28 53.0	+3.5	
	baz=25,SNR=4.4						
STKA	Stephens Creek	27.39 156	P	P	23 29 10.5	+0.3	
	2.3nm,0.9s,baz=328,slow=10,SNR=5.8						
STKA			LR	LR	23 39 57.8		
	comp=Z,258nm,18.4s,baz=335,slow=36						
STKA	Stephens Creek	27.39 156	eP	P	23 29 10.1	-0.1	
	9.5nm,1.6s						
NWAO	Narrogin (SRO)	28.00 201	P	P	23 29 14.8	-0.8	
	10nm,0.8s,baz=29,slow=10,SNR=4.2						
NWAO	Narrogin (SRO)	28.00 201	eP	P	23 29 12.9	-2.7	
MNSI	Mandailing Nat	30.36 284	P	P	23 29 41.6	+4.9	
PSI	Prapat	31.56 287	P	P	23 29 45.1	-2.4	
	5.3nm,0.4s,baz=142,slow=10,SNR=5.4						
UTTA	Uttaradit	37.34 312	P	P	23 30 44.2	+6.9	
	2.0nm,0.9s						
CM31	Chiang Mai Arr	38.98 311	eP	P	23 30 49.8	-1.5	
CMAR	Chiang Mai Arr	38.98 311	P	P	23 30 49.8	-1.5	
	1.2nm,0.3s,baz=144,slow=7.0,SNR=9.3						
CMAR			LR	LR	23 49 32.4		
	comp=Z,52nm,18.3s,baz=110,slow=40						
CMMT	Chiang Mai	39.19 311	P	P	23 30 52.7	-0.3	
	9.9nm,0.9s						
CHTO	Chiang Mai	39.20 311	eP	P	23 30 51.3	-1.7	
	6.6nm,0.9s						
CHTO	Chiang Mai	39.20 311	P	P	23 31 02.8	+10	
CMAI	Chiengmai2	39.82 313	P	P	23 31 04.8	+6.4	
	44nm,1.2s,9µm						
JNU	Nakatsue	39.95 2	P	P	23 30 56.7	-2.4	
	5.0nm,0.7s,baz=150,slow=4.7,SNR=2.5						
JNU	Nakatsue	39.95 2	eP	P	23 30 57.1	-2.1	
	18nm,1.2s						
NJ2	Nanjing	40.03 347	eP	P	23 31 01.5	+1.8	
NJ2			PMZ				
	20nm,0.6s						
KMI	Kunming	40.91 322	P	P	23 31 09.5	+2.1	
KMI			pP	pP	23 31 15.5	+5.0	
KMI			sP	sP	23 31 18.3	+6.5	
KMI			PMZ				
	7.0nm,1.0s						
MJAR	Matsushiro Arr	44.18 11	P	P	23 31 32.1	-1.5	
	2.6nm,0.8s,baz=185,slow=9.6,SNR=5.7						
MJAR			LR	LR	23 48 15.7		
	comp=Z,42nm,20.7s,baz=240,slow=34						
MAJO	Matsushiro	44.18 11	eP	P	23 31 32.0	-1.5	
	14nm,1.0s						
KS15	Wonju Array Si	44.23 359	eP	P	23 31 34.5	+0.5	
KSRS	Korea Array	44.25 359	P	P	23 31 34.5	+0.4	
	1.2nm,0.6s,baz=183,slow=10.0,SNR=7.3						
KSRS			LR	LR	23 48 23.8		
	comp=Z,56nm,21.9s,baz=185,slow=34						
CD2	Chengdu	44.79 329	eP	P	23 31 41.0	+2.4	
CD2			pP	pP	23 31 47.0	+5.3	
CD2			sP	sP	23 31 49.8	+6.8	
CD2			PP	PP	23 33 27.5	+4.2	
CD2			PcS	PcS	23 37 15.3	+1.0	
CD2			S	S	23 38 19.0	+3.0	
CD2			sS	sS	23 38 28.0	+6.9	
CD2			SS	ScS	23 41 32.3	-4.5	
CD2			PMZ				
	10.0nm,0.5s						
CD2			PMZ				
	140nm,5.4s						
LZH	Lanzhou	48.95 333	eP	P	23 32 17.5	+6.2	
LZH			pP	pP	23 32 21.0	+6.6	
LZH			sP	sP	23 32 24.8	+9.2	
LZH			eS	S	23 39 22.0	+6.4	
LZH			sS	sS	23 39 34.5	+14	
LZH			eSS	SS	23 42 46.0	-0.7	
LZH			PMZ				
	16nm,1.0s						
LZH			PMZ				
	90nm,4.0s						
LZH			LE				
	130nm,14.0s						
LZH			LZ				
	160nm,15.3s						
HHC	Hu-ho-hao-te	50.25 343	eP	P	23 32 23.8	+2.8	
HHC			sP	sP	23 32 32.0	+6.6	
HHC			PP	PP	23 34 20.5	+4.0	
HHC			S	S	23 39 36.8	+3.3	
HHC			sS	sS	23 39 47.5	+8.7	
HHC			ScS	ScS	23 42 10.3	-2.3	
HHC			PMZ				
	15nm,0.6s						
HHC			LN				
	150nm,18.5s						
HHC			LE				
	560nm,17.3s						
HHC			LZ				
	74nm,17.6s						
USRK	Ussuriysk Ar.	51.05 3	P	P	23 32 26.3	-0.5	
	3.1nm,0.7s,baz=184,slow=6.6,SNR=8.5						
RPZ	Rata Peaks	51.84 142	LR	LR	23 54 26.3		
	comp=Z,273nm,20.7s,baz=321,slow=36						
ODAN	Odare	52.52 312	eP	P	23 32 36.7	-1.7	
	31nm,0.9s						
TAPN	Taplejung	52.55 312	eP	P	23 32 37.0	-1.7	
	52nm,1.0s						
RAMN	Ramite	53.15 311	eP	P	23 32 41.8	-1.3	
	116nm,1.2s						
GTA	Gaotai	53.51 332	eP	P	23 32 50.8	+5.4	
GTA			pP	pP	23 32 55.5	+6.9	
GTA			sP	sP	23 32 57.8	+8.0	
GTA			PcP	PcP	23 33 55.5	+3.3	
GTA			S	S	23 40 25.8	+7.4	
GTA			sS	sS	23 40 33.0	+9.3	
GTA			PMZ				
	6.0nm,1.4s						
GTA			PMZ				
	120nm,6.2s						
GTA			LN				
	49nm,14.3s						
GTA			LE				
	87nm,16.4s						
GTA			LZ				
	60nm,15.2s						
JIRN	Jiri	53.84 312	eP	P	23 32 46.8	-1.6	
	34nm,0.8s						
GUN	Gumba	54.21 312	eP	P	23 32 49.1	-1.9	
	59nm,0.9s						
PKI	Pulchoki	54.38 311	eP	P	23 32 50.3	-1.9	
	21nm,0.9s						
PKIN	Phulchoki	54.39 311	eP	P	23 32 50.7	-1.5	
KKN	Kakani	54.59 311	eP	P	23 32 51.9	-1.7	
	33nm,1.0s						
DMN	Daman	54.62 311	eP	P	23 32 52.7	-1.2	
GKN	Gorkha	55.19 311	eP	P	23 32 56.0	-1.9	
	45nm,0.9s						
KOLN	Koldanda	55.84 310	eP	P	23 33 01.0	-1.7	
	33nm,0.7s						
DANN	Dangsing	56.03 311	eP	P	23 33 01.8	-2.3	
	32nm,0.9s						
PYUN	Piuthan	56.48 310	eP	P	23 33 05.5	-1.7	
	82nm,0.8s						
ULN	Ulaanbaatar	57.97 343	eP	P	23 33 16.4	-0.9	
	9.7nm,1.2s						
SONA0	Songino Array	58.14 342	eP	P	23 33 17.2	-1.3	
SONM	Songino Array	58.14 342	P	P	23 33 17.2	-1.2	
	1.1nm,0.7s,baz=176,slow=5.3,SNR=8.1						
WMQ	Urumqi	62.87 328	P	P	23 33 55.8	+5.1	
WMQ			PMZ				
	11nm,0.9s						
	140nm,4.2s						
PETK	Petropavlovsk-	64.65 19	P	P	23 34 00.9	-1.3	
	1.3nm,0.8s,baz=197,slow=4.5,SNR=2.6						
PEA2	Petropavlovsk-	64.65 19	eP	P	23 34 00.9	-1.3	
KSH	Kashi	67.36 318	eP	P	23 34 20.5	+0.4	
KSH			sP	sP	23 34 29.5	+4.9	
KSH			PP	PP	23 36 50.5	+1.8	
KSH			S	S	23 43 12.8	-3.1	
KSH			ScS	SKSac	23 44 13.8	-4.4	
KSH			PMZ				
	5.0nm,0.8s						
KSH			PMZ				
	100nm,4.6s						
KSH			LN				
	82nm,6.3s						
KSH			LE				
	130nm,5.8s						
KSH			LZ				
	170nm,5.7s						
MK32	Makanchi Array	67.69 327	eP	P	23 34 20.9	-1.0	
MKAR	Makanchi Array	67.69 327	P	P	23 34 20.9	-1.0	
	2.9nm,0.6s,baz=121,slow=4.5,SNR=13						
MKAR	Makanchi Array	67.69 327	eP	P	23 34 21.1	-0.9	
TKM2	Tokmak 2	69.36 321	eP	P	23 34 31.3	-1.4	
	4.1nm,0.8s						
AAK	Ala-Archa	69.91 320	P	P	23 34 35.2	-0.8	
	0.5nm,0.4s,baz=131,slow=11,SNR=2.9						
ZALV	Zalesovo Beam	71.16 334	P	P	23 34 40.5	-2.6	
	1.2nm,0.7s,baz=114,slow=6.6,SNR=6.2						
ZAA1	Zalesovo Array	71.16 334	eP	P	23 34 40.5	-2.6	
VNDA	Vanda	72.56 173	P	P	23 34 50.5	-0.8	
	0.5nm,0.5s,baz=287,slow=11,SNR=5.3						
VNDA			LR	LR	00 05 47.3		
	comp=Z,133nm,19.0s,baz=346,slow=35						
KKAR	Karatay Array	72.69 319	eP	P	23 34 51.1	-1.6	
MAW	Mawson	74.57 201	LR	LR	00 06 05.1		
	comp=Z,141nm,18.5s,baz=50,slow=34						
IDAH	Dahanechah	76.54 306	eP	P	23 35 15.4	-0.1	
IMYA	Miami	77.46 310	eP	P	23 35 21.0	+0.4	
ITEG	Tejag	77.48 306	eP	P	23 35 20.7	-0.1	
BVAR	Borovoye Array	77.54 328	P	P	23 35 19.5	-0.9	
	1.0nm,0.7s,baz=132,slow=7.9,SNR=8.6						
BRVK	Borovoye	77.62 328	eP	P	23 35 19.8	-1.1	
	7.5nm,1.3s						
IKRD	Kardeh	78.81 310	eP	P	23 35 24.3	-3.9	
GEYT	Alibeck	79.46 311	P	P	23 35 34.4	+3.0	
	1.0nm,0.7s,baz=151,slow=3.3,SNR=4.2						
GNI	Garni	90.10 310	LR	LR	00 21 56.0		
	comp=Z,10nm,20.5s,baz=100,slow=39						
ILAR	Eielson Array	93.78 25	P	P	23 36 39.2	-2.2	
	0.5nm,1.0s,baz=241,slow=5.3,SNR=4.5						
ILB	Eielson Array	93.78 25	eP	P	23 36 39.2	-2.2	
MMAI	Mount Meron Ar	96.78 302	LR	LR	00 26 56.3		
	comp=Z,18nm,19.6s,baz=170,slow=40						
YKA	Yellowknife Ar	108.20 26	PKiKP	PKiKP	23 41 54.3	+1.8	
	0.2nm,0.6s,baz=300,slow=1.9,SNR=3.0						
TORD	Torodi Ar. Bea	127.83 281	PKP	PKPdf	23 42 29.9	-1.5	
	0.5nm,1.0s,baz=119,slow=1.6,SNR=2.4						
CPUP	Villa Florida	146.29 170	PKPbc	PKPab	23 43 07.0	+0.2	
	0.7nm,0.8s,baz=192,slow=6.2,SNR=3.4						
LPAZ	La Paz	151.31 144	PKPbc	PKPbc	23 43 22.1	+1.9	
	1.9nm,0.8s,baz=160,slow=3.0,SNR=4.8						

IDC 25 23:45:56.9±1.0, 21.67S×68.16W, h117km±15km, mb3.4/2, mb1 3.5/4, mb1mx3.2/22, mbtmp3.7/4, Error ellipse: s-maj=40.9km s-min=21.1km az=119.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	1.17	217	P	Pn	23 46 20.9	+0.2
	3µm,0.3s,baz=31,slow=9.5,SNR=7.6						
LVC				S	Sn	23 46 38.7	-0.1
	2µm,0.3s,baz=90,slow=20,SNR=8.7						
LPAZ	La Paz	5.36	0	P			
	0.4nm,0.3s,baz=186,slow=9.0,SNR=12						
LPAZ				S	Sn	23 48 10.8	-5.7
	0.1nm,0.3s,baz=216,slow=17,SNR=2.5						
SIV	San Ignacio	8.77	51	P	Pn	23 47 60.0	-0.9
	2.3nm,0.3s,baz=250,slow=12,SNR=22						
SIV				S	Sn	23 49 32.9	-5.2
	baz=150,slow=20,SNR=3.9						
TORD	Torodi Ar. Bea	76.75	70	P	P	23 57 36.1	+0.2
	0.5nm,0.8s,baz=255,slow=5.1,SNR=11						
YKA	Yellowknife Ar	91.58	340	P	P	23 58 49.6	-0.4
	0.2nm,0.4s,baz=134,slow=4.6,SNR=7.6						
H11S2	WAKE ISLAND Hyl	28.59	277	T	T	02 25 07.6	
	baz=104						
H11S1	WAKE ISLAND Hyl	28.60	277	T	T	02 25 07.6	
	baz=104						
H11S3	WAKE ISLAND Hyl	28.61	277	T	T	02 25 13.8	
	baz=104						

WEL 25 23:57:45.8±0.7, 35.95S×179.73W, h33km, ML3.5/3, Error ellipse: s-maj=10.2km s-min=9.3km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.25	224	PN	Pn	23 58 20.0	-0.7
MXZ				eSN	Sn	23 58 44.7	-2.7
WMGZ	Waiomatatini S	2.39	218	PN	Pn	23 58 23.4	+0.9
PUZ	Puketiti	2.66	217	PN	Pn	23 58 26.6	+0.2
PUZ				SN	Sn	23 58 56.2	-1.3
HAZ	Te Kaha	2.69	227	ePN	Pn	23 58 26.3	-0.4
HAZ				SN	Sn	23 58 56.6	-1.6
TWGZ	Tauwhareparae	2.88	219	ePN	Pn	23 58 29.1	-0.3
CNGZ	Carnagh Statio	3.02	212	PN	Pn	23 58 31.4	+0.2
MWZ	Matawai	3.24	222	ePN	Pn	23 58 32.4	-1.9
MWZ				SN	Sn	23 59 08.3	-3.5
RIGZ	Rimuhau	3.40	215	ePN	Pn	23 58 35.4	-1.2
KNZ	Kokohu	3.70	213	PN	Pn	23 58 38.6	-2.0
MHGZ	Mahia Peninsul	3.71	210	ePN	Pn	23 58 40.1	-0.6
ARHZ	Aropaoanui	4.21	217	ePN	Pn	23 58 44.7	-2.9
PRHZ	Porangahau	5.18	213	ePN	Pn	23 58 57.9	-3.0
BFZ	Birch Farm	5.69	213	ePN	Pn	23 59 04.0	-3.9
BFZ				eSN	Sn	00 00 02.8	-9.2
MRZ	Mangatainoka R	5.98	217	ePN	Pn	23 59 07.1	-4.8
MRZ				eSN	Sn	00 00 10.2	-9.1
MQZ	McQueen's Vall	9.71	215	eSN	Sn	00 01 34.6	-16

*IDC **26** 00:02:25.4±0.9, 3.38S×131.23E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/27, mbtmp3.8/9, ML3.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/19, Error ellipse: s-maj=49.7km s-min=17.1km az=62.0*

*ISCJB **26** 00:02:28.1±0.4, 3.48S±0.04×131.07E±0.06, h30km, mb3.7/7, MS2.6/1, Error ellipse: s-maj=8.2km s-min=5.3km az=170.4*

*DJA **26** 00:02:31.7±0.5, 3°S±3'×13°1E±', h103km±6km, M4.2/11, mb4.3/3, MLv4.2/11*

ISC 26 00:02:29.8±0.6, 3.42S±0.05×131.18E±0.07, h30km, n29, σ1§63/29, mb3.8/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	1.18	65	P	Pb	00 02 54.7	+3.1
FAKI				S	Sb	00 03 14.3	+7.8
FAKI	Fak Fak	1.18	65	P	Pb	00 02 54.6	+3.0
	baz=1.5,SNR=47						
BNDI	Bandanaira	1.68	229	P	Pb	00 03 00.0	-0.1
BNDI				S	Sb	00 03 24.6	+3.8
MSAI	Masohi	2.25	272	P	Pn	00 03 04.7	-0.3
SWI	Sorong	2.54	2	P	Pn	00 03 09.0	0.0
SWI				S	Sn	00 03 37.9	-1.1
SWI	Sorong	2.54	2	P	Pn	00 03 09.6	+0.6
	baz=2.6,SNR=14						
SWI				S	Sn	00 03 39.1	+0.2
	baz=2.6,SNR=8.1						
RKPI	Ransiki, Papua	3.54	58	P	Pn	00 03 26.4	+3.6
NLAI	Namlea	4.08	272	P	Pn	00 03 29.8	-0.3
LBMI	Labuha	4.60	307	P	Pn	00 03 35.8	-1.5
SANI	Sanana	5.36	285	P	Pn	00 03 45.0	-2.8
	35nm,0.8s,0.2nm						
KDU	Kakadu	9.30	172	P	Pn	00 04 42.4	+0.5
	baz=9.4,SNR=23						
KDU				S	Sn	00 06 25.3	-0.2
	baz=9.4,SNR=7.4						
KDU	Kakadu	9.30	172	P	Sn	00 06 24.1	-1.4
	baz=4.8,SNR=4.8						
SOEI	Soe	9.31	227	P	Pn	00 04 42.4	+0.2
	33nm,1.0s						
MTN	Manton Dam	9.36	180	P	Sn	00 06 25.5	-1.6
	baz=5.0,SNR=4.3						
KNRA	Kunurra	12.41	191	P	Pn	00 05 23.2	-1.3
	baz=12,SNR=7.6						
MANU	Manus Island	16.23	86	P	P	00 06 17.7	-0.9
	baz=17,SNR=3.7						
WRA	Warramunga Arr	16.71	170	Pn	Pn	00 06 20.9	-1.0
	0.2nm,0.3s,baz=344,slow=10,SNR=3.1						
WRA				Sn	Sn	00 09 15.3	-11
	0.2nm,0.3s,baz=358,slow=23,SNR=4.5						
QIS	Mount Isa	18.91	155	P	Pn	00 06 52.9	+3.9
	baz=6.9,SNR=3.1						
ASAR	Alice Springs	20.30	173	P	Pn	00 07 05.1	-0.4
	5.3nm,0.6s,baz=350,slow=10,SNR=88						
ASAR				S	S	00 10 46.0	-3.7
	0.4nm,0.5s,baz=358,slow=27,SNR=2.8						
WRKA	Warakurna	21.67	187	P	P	00 07 19.1	+0.9
	baz=8.8,SNR=13						
CTA	Charters Tower	22.15	140	P	P	00 07 22.1	-1.2
	1.0nm,0.3s,baz=302,slow=13,SNR=3.3						
STKA	Stephens Creek	29.95	162	P	P	00 08 34.8	-0.8
	1.8nm,1.1s,baz=313,slow=18,SNR=2.3						
CMAR	Chiang Mai Arr	38.48	306	P	P	00 09 49.2	-0.3
	0.6nm,0.4s,baz=130,slow=8.4,SNR=9.0						
KSRS	Korea Array	40.78	356	LR	LR	00 28 46.1	
	comp=Z,7.2nm,18.1s,baz=195,slow=39						
MKAR	Makanchi Array	65.93	325	P	P	00 13 13.6	+0.5
	0.6nm,0.7s,baz=151,slow=5.3,SNR=5.7						
ZALV	Zalesovo Beam	68.94	333	P	P	00 13 31.6	-0.3
	0.4nm,0.5s,baz=92,slow=2.8,SNR=4.1						
GEYT	Alibeck	78.83	310	P	P	00 14 30.5	+0.2
	1.1nm,0.6s,baz=111,slow=3.3,SNR=5.4						
ILAR	Eielson Array	89.63	25	P	P	00 15 25.2	+0.7
	0.3nm,0.8s,baz=274,slow=5.6,SNR=3.5						
TORD	Torodi Ar. Bea	129.18	284	PKP	PKPdf	00 21 37.5	+1.4
	0.3nm,0.7s,baz=75,slow=2.2,SNR=2.6						

*IDC **26** 00:16:35.0±3.1, 24.27S×179.93E, h478km±30km, mb3.4/7, mb1 3.7/8, mb1mx3.4/18, mbtmp4.2/8, Error ellipse: s-maj=42.5km s-min=20.8km az=156.0*

*ISCJB **26** 00:16:40.2±1.1, 23.9S±0.3×179.5E±0.2, h537km, mb3.8/7, Error ellipse: s-maj=49.0km s-min=14.3km az=155.3*

ISC 26 00:16:40.3±1.0, 24.0S±0.3×179.6E±0.2, h537km, n21, σ1§36/20, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.24	276	P	P	00 19 19.2	-2.3
	0.1nm,0.3s,baz=59,slow=16,SNR=2.9						
CMSA	Cobar Meteorol

PDAR **Pinedale Array** 93.00 44 P **P** 00 28 56.5 -0.2
0.3nm,0.8s,baz=204,slow=2.0,SNR=2.9
SPITS **Spitsberger Ar** 125.15 356 PKP **PKPdf** 00 34 39.6 +0.7
7.8nm,1.0s,baz=115,slow=5.4,SNR=3.4
ARCES **ARCESS Array B** 131.86 348 PKP **PKPdf** 00 34 52.5 +0.7
3.8nm,1.0s,baz=97,slow=2.8,SNR=5.3
FINES **FINESS Array B** 138.38 341 PKhKP PKPpre 00 34 55.4
0.7nm,0.6s,baz=102,slow=4.7,SNR=5.1
FINES PKP **PKiKP** **00 35 05.4 -1.0**
1.0nm,0.7s,baz=118,slow=3.5,SNR=5.6
AKASG **Malin Array Be** 144.81 327 PKP **PKPab** 00 35 16.4 -0.7
0.3nm,0.3s,baz=42,slow=4.0,SNR=7.2
BRTR **Keskin Array B** 147.30 307 PKPbc **PKPab** 00 35 24.9 -2.7
0.7nm,0.6s,baz=140,slow=4.9,SNR=5.9
TORD **Torodi Ar. Bea** 169.06 191 PKPab **PKPab** 00 36 59.5 -2.2
0.5nm,0.7s,baz=170,slow=4.0,SNR=8.1

WEL 26 00:29:56.4±0.3, 36°59'S×176°76'E, h212km±4km, ML3.5/10, 1C-4D, Error ellipse: s-maj=5.7km s-min=5.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.42**	**145**	PN	Pn	00 30 30.6	+0.2
HAZ				SN	S	00 30 56.8	+0.1
MXZ	**Matakaoa Point**	**1.57**	**129**	PN	Pn	00 30 31.8	+0.2
URZ	**Urewera**	**1.69**	**171**	PN	Pn	00 30 33.0	+0.4
URZ				SN	S	00 31 00.5	-0.3
WMGZ	**Waiomatatini S**	**1.80**	**133**	⇓PN	Pn	00 30 33.7	0.0
WMGZ				SN	S	00 31 02.8	+0.2
MWZ	**Matawai**	**1.84**	**161**	PN	Pn	00 30 34.1	-0.1
TWGZ	**Tauwhareparae**	**1.85**	**149**	PN	Pn	00 30 34.6	+0.2
PUZ	**Puketiti**	**1.90**	**142**	PN	Pn	00 30 34.2	-0.6
CNGZ	**Carnagh Statio**	**2.21**	**149**	PN	Pn	00 30 37.3	-0.6
RIGZ	**Rimuhau**	**2.25**	**160**	PN	Pn	00 30 37.9	-0.4
KNZ	**Kokohu**	**2.53**	**164**	PN	Pn	00 30 39.7	-1.5
KNZ				SN	S	00 31 12.7	-3.3
BKZ	**Black Stump Fm**	**2.58**	**185**	PN	Pn	00 30 40.1	-1.7
FWVZ	**Far West T-bar**	**2.83**	**199**	PN	Pn	00 30 43.8	-1.0
MCHZ	**McNeill Hill**	**2.85**	**181**	PN	Pn	00 30 43.4	-1.4
TRVZ	**Turoa**	**2.87**	**199**	PN	Pn	00 30 44.3	-1.0
WNVZ	**Wahianoa**	**2.88**	**198**	⇓PN	Pn	00 30 44.1	-1.3
KRHZ	**Kereru**	**3.06**	**186**	⇓PN	Pn	00 30 45.0	-2.3
KAHZ	**Kahuranaki**	**3.20**	**178**	PN	Pn	00 30 46.5	-2.4
PNHZ	**Pukenui**	**3.35**	**187**	PN	Pn	00 30 47.5	-3.1
PXZ	**Pawanui**	**3.43**	**179**	PN	Pn	00 30 48.4	-3.2
PXZ				*e*SN	S	00 31 30.0	-4.8
BFZ	**Birch Farm**	**4.10**	**185**	PN	Pn	00 30 55.8	-4.0
MRZ	**Mangatainoka R**	**4.17**	**192**	PN	Pn	00 30 56.3	-4.3
OGWZ	**Otaki Gorge**	**4.40**	**196**	PN	Pn	00 30 59.0	-4.4
HOWZ	**Holdsworth Sta**	**4.41**	**192**	⇑PN	Pn	00 30 59.0	-4.6
KIW	**Kapiti Island**	**4.50**	**198**	PN	Pn	00 31 00.3	-4.4
MTW	**Mount Morrison**	**4.66**	**192**	PN	Pn	00 31 01.9	-4.9
TCW	**Tory Channel**	**5.00**	**202**	PN	Pn	00 31 06.5	-4.5
PLWZ	**Palliser**	**5.11**	**193**	PN	Pn	00 31 06.7	-5.7
TUWZ	**Tuamarina**	**5.31**	**204**	PN	Pn	00 31 10.0	-4.8
NNZ	**Nelson**	**5.32**	**209**	PN	Pn	00 31 10.6	-4.4
QRZ	**Quartz Range**	**5.37**	**217**	PN	Pn	00 31 11.2	-4.5
KHZ	**Kahutara**	**6.33**	**202**	⇓PN	Pn	00 31 22.4	-5.5

MEX 26 00:32:43.2±0.6, 14°69'N×92°46'W, h85km±6km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.29**	**40**	*e*P	Pn	00 32 54.3	-1.6
THIG				*i* S	Sn	00 33 04.0	-1.4
PCIG		**1.25**	**324**	*e*P	Pn	00 33 04.4	-1.2
PCIG				*e*S	Sn	00 33 20.8	-1.7
CCIG	**Comitan**	**1.62**	**11**	*e*P	Pn	00 33 09.7	-0.8
CCIG				*e*S	Sn	00 33 28.9	-2.2
TGIG		**2.18**	**343**	*e*P	Pn	00 33 16.5	-1.2
TGIG				*e*S	Sn	00 33 41.6	-2.4
CMIG	**Matias Romero**	**3.34**	**316**	*e*P	Pn	00 33 32.6	-0.7
CMIG				*e*S	Sn	00 34 10.7	-1.3
HUIG	**Huatulco**	**3.69**	**287**	*e*P	Pn	00 33 37.4	-0.6
HUIG				*e*S	Sn	00 34 19.2	-1.1
VHO	**Vista Hermosa**	**4.75**	**301**	*e*P	Pn	00 33 53.1	+0.4
VHO				*e*S	Sn	00 34 46.0	-0.8

*ISCJB **26** 00:56:52.6±0.4, 18°.06S±0°.04×69°.25W±0°.05, h126km, mb4.3/14, Error ellipse: s-maj=6.9km s-min=5.1km az=153.2*
*IDC **26** 00:56:55.6±0.7, 18°.13S×69°.23W, h138km±4km, mb4.1/10, mb1 4.2/14, mb1mx3.9/32, mbtmp4.6/14, MS2.7/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=13.9km s-min=10.4km az=123.0*
*NEIC **26** 00:56:55.0±0.5, 18°.08S×69°.32W, mb4.1/6, Error ellipse: s-maj=12.8km s-min=10.5km az=70.0*
*SJA **26** 00:57:33.1±0.8, 20°.99S×67°.18W, h311km±105km, ML2.5, MW2.9*
ISC 26 00:56:54.4±0.5, 18°14'S±0°.05×69°28'W±0°.07, h126km, n38, σ1§64/48, mb4.5/14, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.15**	**31**	P	**Pn**	**00 57 33.2**	**+2.6**
	81nm,0.3s,baz=215,slow=2.1,SNR=2.183						
LPAZ				S	**Sn**	**00 58 00.8**	**+2.7**
	17nm,0.3s,baz=95,slow=25,SNR=8.9						
LPAZ				LR	LR	00 58 19.4	
	comp=Z,174nm,18.4s,baz=154,slow=40						
LPAZ	**La Paz**	**2.15**	**31**	*e*Pn	**Pn**	**00 57 33.6**	**+3.0**
LPAZ				*e*Sn	**Sn**	**00 57 60.0**	**+1.8**
ARE	**Arequipa**	**2.69**	**308**	⇑*i*P	**Pn**	**00 57 36.5**	**-0.7**
ARE				*i* S	**Sn**	**00 58 08.3**	**-1.8**
LVC	**Limon Verde**	**4.46**	**176**	P	**Pn**	**00 58 01.4**	**+1.0**
	795nm,0.3s,baz=355,slow=7.3,SNR=185						
LVC				S	**Sn**	**00 58 50.0**	**-1.7**
	558nm,0.3s,baz=12,slow=7.0,SNR=3.1						
AZAP	**Zapla**	**7.21**	**148**	*e*P	**Pn**	**00 58 37.8**	**+0.3**
AZAP				*e*S	Px	00 59 26.6	
AZAP				AML	AML	00 59 28.1	
	comp=Z,3.0nm,0.3s						
ASTB	**Santa Barbara**	**7.31**	**143**	*e*P	**Pn**	**00 58 39.6**	**+1.0**
SLA	**San Lorenzo**	**7.43**	**152**	*e*P	**Pn**	**00 58 41.5**	**+1.2**
SLA				AML	AML	00 59 04.8	
	comp=Z,4.3nm,0.6s						
ALOL	**LOMAS DE OLMED**	**7.51**	**140**	*e*P	**Pn**	**00 58 41.2**	**-0.1**
SIV	**San Ignacio**	**8.13**	**76**	P	**Pn**	**00 58 48.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=255,slow=1.5,SNR=3.3						
SIV				S	**Sn**	**01 00 19.0**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=357,slow=23,SNR=6.2						
FSA	**Cafayete**	**8.47**	**160**	*e*P	**Pn**	**00 58 54.4**	**0.0**
FSA				*e*P	**Pn**	**00 58 54.4**	**0.0**
NNA	**Nana**	**9.53**	**309**	P	Pn	00 59 04.6	-3.9
	comp=Z,2.4nm,0.3s,baz=120,slow=15,SNR=5.0						
NNA				S	Sn	01 00 46.5	-7.5
	comp=Z,1.7nm,0.3s,baz=218,slow=18,SNR=3.7						
SAML	**Samuel**	**10.89**	**34**	*e*Pn	**Pn**	**00 59 24.8**	**-2.0**
SAML				*e*Sn	**Sn**	**01 01 21.1**	**-5.7**
CFAA	**Coronel Fontan**	**13.44**	**176**	P	Pn	00 59 56.5	-3.6
	comp=Z,0.1nm,0.3s,baz=336,slow=8.1,SNR=9.3						
CFAA				S	Sn	01 02 19.6	-8.7
	comp=Z,0.1nm,0.3s,baz=251,slow=18,SNR=5.2						
PTGA	**Pitinga**	**19.57**	**29**	P	**P**	**01 01 11.7**	**-0.9**
	comp=Z,4.1nm,0.3s,baz=211,slow=16,SNR=20						
PTGA	**Pitinga**	**19.57**	**29**	*e*P	**P**	**01 01 11.8**	**-0.8**
	comp=Z,6.5nm,0.4s						
OTAV	**Otavalo**	**20.37**	**333**	*e*P	**P**	**01 01 22.8**	**+1.1**
	comp=Z,1.8nm,0.6s						
BDFB	**Brasilia**	**20.50**	**86**	P	**P**	**01 01 22.8**	**+0.1**
	comp=Z,8.4nm,0.4s,baz=255,slow=9.4,SNR=24						
TRQA	**Tornquist**	**20.84**	**164**	*e*P	**P**	**01 01 26.3**	**+0.2**
	comp=Z,6.3nm,0.8s						
PLCA	**Paso Flores**	**22.54**	**183**	P	**P**	**01 01 43.5**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=7.9,slow=14,SNR=6.4						
PLCA	**Paso Flores**	**22.54**	**183**	*e*P	**P**	**01 01 43.9**	**0.0**
	comp=Z,5.4nm,0.8s						
PCRV	**Puerto La Cruz**	**28.51**	**10**	P	**P**	**01 02 36.7**	**-1.4**
	comp=Z,14nm,0.9s,baz=168,slow=3.1,SNR=2.8						
TEIG	**Tepich**	**42.44**	**333**	P	**P**	**01 04 35.9**	**-1.0**
	comp=Z,4.9nm,0.5s,baz=298,slow=2.8,SNR=5.7						
TXAR	**Lajitas Array**	**57.70**	**324**	P	**P**	**01 06 30.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=137,slow=8.4,SNR=4.3						
LIC	**Lamto**	**67.83**	**75**	*e*P	**P**	**01 07 39.3**	**-0.2**
	comp=Z,32nm,1.2s						
TIC	**Toumodi**	**68.00**	**75**	*e*P	**P**	**01 07 40.4**	**-0.1**
	comp=Z,3.4nm,0.2s						
KIC	**Kosan Boka**	**68.14**	**75**	*e*P	**P**	**01 07 41.5**	**+0.1**
	comp=Z,26nm,0.8s						
DBIC	**Dimbokro**	**68.16**	**75**	P	**P**	**01 07 41.0**	**-0.5**
	comp=Z,7.7nm,0.8s,baz=234,slow=3.9,SNR=24						
DBIC	**Dimbokro**	**68.16**	**75**	*e*P	**P**	**01 07 40.9**	**-0.6**
	comp=Z,7.5nm,1.0s						
ULM	**Lac du Bonnet**	**72.03**	**342**	P	**P**	**01 08 03.8**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=147,slow=6.6,SNR=17						
ULM				pP	**pP**	**01 08 37.4**	**+1.8**
	comp=Z,2.0nm,0.7s,baz=149,slow=8.6,SNR=2.8						
QSPA	**South Pole Qui**	**72.03**	**180**	*e*P	**P**	**01 08 05.9**	**+1.5**
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**72.71**	**1**	P	**P**	**01 08 07.8**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=169,slow=16,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.58**	**71**	P	**P**	**01 08 30.9**	**-0.6**
	comp=Z,4.7nm,0.5s,baz=253,slow=5.4,SNR=100						
ESDC	**Sonseca Array**	**83.70**	**45**	P	**P**	**01 09 09.4**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=245,slow=5.1,SNR=8.2						
YKA	**Yellowknife Ar**	**87.92**	**341**	P	**P**	**01 09 29.7**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=134,slow=4.8,SNR=31						
YKA				pP	**pP**	**01 10 04.6**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=134,slow=4.8,SNR=5.6						
ZALV	**Zalesovo Beam**	**139.05**	**23**	PKP	**PKPdf**	**01 16 06.0**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=262,slow=2.2,SNR=5.5						
ZALV				pPKP	**pPKPdf**	**01 16 42.7**	**+2.9**
	comp=Z,0.8nm,0.7s,baz=211,slow=1.7,SNR=2.4						
TLY	**Talaya**	**146.07**	**8**	PKPbc	**PKPab**	**01 16 20.8**	**+0.5**
	comp=Z,2.5nm,0.5s,baz=329,slow=5.9,SNR=4.3						
USRK	**Ussuriysk Ar.**	**148.47**	**330**	PKPbc	**PKPbc**	**01 16 27.0**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=8.5,slow=2.9,SNR=5.2						
USRK				pPKPbc	**pPKPbc**	**01 17 02.3**	**+2.4**
	comp=Z,2.2nm,0.8s,baz=76,slow=1.1,SNR=4.7						
SONM	**Songino Array**	**150.18**	**6**	PKPbc	**PKPbc**	**01 16 31.8**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=268,slow=1.1,SNR=7.9						
SONM				pPKPbc	**pPKPbc**	**01 17 06.8**	**+2.5**
	comp=Z,1.5nm,0.8s,baz=348,slow=2.1,SNR=3.7						

IDC 26 01:25:00.1±28.0, 6°56S×149°23E, h194km±233km, mb2.7/1, mb1 3.4/2, mb1mx2.9/20, mbtmp3.7/2, ML4.0/1, MS3.2/2, Ms1 3.1/2, ms1mx3.0/4, Error ellipse: s-maj=158.3km s-min=101.2km az=63.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.65**	**226**	P	P	01 29 14.7	+0.4
	0.5nm,0.3s,baz=52,slow=11,SNR=36						
ASAR	**Alice Springs**	**22.50**	**219**	P	P	01 29 43.4	-0.3
	0.6nm,0.6s,baz=57,slow=8.4,SNR=10						
DZM	**Mont Dzumac**	**22.67**	**135**	LR	LR	01 37 15.7	
	comp=Z,80nm,19.1s,baz=212,slow=32						
STKA	**Stephens Creek**	**26.18**	**195**	LR	LR	01 40 43.3	
	comp=Z,33nm,20.1s,baz=34,slow=36						
GERES	**GERESS Array B**	**123.62**	**326**	PKP	PKPdf	01 43 35.6	+0.8
	0.3nm,0.6s,baz=57,slow=3.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.38**	**284**	PKPbc	PKPdf	01 44 20.4	+1.1
	0.7nm,0.5s,baz=61,slow=2.3,SNR=7.1						

MEX 26 01:34:16.6±0.4, 16°86N×100°51W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.29**	**51**	*i* P	Pg	01 34 21.9	-0.4
CAIG				*i* S	Sg	01 34 26.2	0.0
ACX	**Acapulco**	**0.62**	**89**	*e*P	Pg	01 34 24.8	-3.8
ACX				*e*S	Sg	01 34 33.5	-3.2
ZIIG	**Zihuatanejo**	**1.18**	**309**	*e*P	Pg	01 34 36.5	-2.8
ZIIG				*e*S	Sg	01 34 50.9	-3.7
MEIG	**Mezcala**	**1.35**	**38**	*e*P	Pn	01 34 38.6	-3.8
MEIG				*e*S	Sb	01 34 56.0	-4.4
ARIG	**Puente Sto Nin**	**1.42**	**6**	*e*P	Pn	01 34 39.6	-3.5
ARIG				*e*S	Sb	01 34 57.1	-5.0
PLIG	**Platanillo**	**1.80**	**32**	*e*P	Pn	01 34 45.2	-3.2
PLIG				*e*S	Sn	01 35 07.2	-4.5
TLIG	**Tlapa**	**1.98**	**69**	*e*P	Pn	01 34 47.9	-3.1
TLIG				*e*S	Sn	01 35 11.8	-4.5
YAIG	**Yautepec**	**2.42**	**34**	*e*P	Pn	01 34 56.9	-0.1
YAIG				*e*S	Sn	01 35 25.9	-1.2

*ISCJB **26** 01:51:36.5±0.6, 21°.87S±0°.07×68°.3W±0°.1, h115km, mb3.6/7, Error ellipse: s-maj=13.7km s-min=8.9km az=19.9*
*IDC **26** 01:51:36.8±0.8, 21°.79S×68°.37W, h97km±10km, mb3.4/7, mb1 3.6/11, mb1mx3.4/24, mbtmp3.7/11, MS3.6/2, Ms1 3.6/2, ms1mx2.7/14, Error ellipse: s-maj=19.4km s-min=17.1km az=138.0*
*SJA **26** 01:51:37.1±0.7, 21°.71S×68°.67W, h100km±29km, ML2.8, MW3.3*
ISC 26 01:51:37.7±0.7, 21°.93S±0°.07×68°.4W±0°.1, h115km, n19, σ1§09/18, mb3.7/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.84**	**216**	P	**Pn**	**01 51 57.5**	**-0.7**
	3μm,0.3s,baz=45,slow=11,SNR=1001						
LVC				S	**Sn**	**01 52 12.4**	**-1.1**
	6μm,0.3s,baz=128,slow=19,SNR=103						
LVC	**Limon Verde**	**0.84**	**216**	*e*P	**Pn**	**01 51 58.0**	**-0.1**
LVC				*e*P	**Pn**	**01 51 58.0**	**-0.1**
LVC				*e*S	**Sn**	**01 52 13.4**	**-0.1**
AZAP	**Zapla**	**3.81**	**127**	*e*P	Pn	01 52 40.0	+5.1
AZAP				AML	AML	01 52 53.0	
	comp=Z,12nm,0.6s						
SLA	**San Lorenzo**	**3.83**	**137**	*e*P	Pn	01 52 41.0	+5.8
SLA				AML	AML	01 52 49.5	
	comp=Z,7.6nm,0.6s						
FSA	**Cafayete**	**4.67**	**153**	*e*P	Pn	01 52 51.6	+5.2
LPAZ	**La Paz**	**5.62**	**2**	P	**Pn**	**01 52 58.0**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=206,slow=2.6,SNR=20						
SIV	**San Ignacio**	**9.09**	**51**	P	Pn	01 53 42.7	-3.4
	comp=Z,1.4nm,0.3s,baz=251,slow=14,SNR=25						
SIV				S	Sn	01 55 20.2	-6.5
	comp=Z,0.1nm,0.3s,baz=315,slow=18,SNR=2.6						
CFAA	**Coronel Fontan**	**9.64**	**179**	P	**Pn**	**01 53 53.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=4.9,slow=11,SNR=5.7						
CFAA				S	**Sn**	**01 55 37.4**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=267,slow=18,SNR=2.8						
CPUP	**Villa Florida**	**11.00**	**116**	P	**Pn**	**01 54 11.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=283,slow=15,SNR=3.1						
CPUP				LR	LR	01 58 30.4	
	comp=Z,429nm,18.3s,baz=196,slow=37						
PTGA	**Pitinga**	**22.61**	**22**	P	**P**	**01 56 28.1**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=180,slow=19,SNR=3.6						
TXAR	**Lajitas Array**	**61.26**	**325**	P	**P**	**02 01 40.4**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=134,slow=6.4,SNR=3.7						
DBIC	**Dimbokro**	**68.38**	**73**	P	**P**	**02 02 27.7**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=259,slow=5.2,SNR=3.3						
PDAR	**Pinedale Array**	**74.73**	**330**	P	**P**	**02 03 05.8**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=141,slow=15,SNR=3.1						
NVAR	**Mina Array Bea**	**76.13**	**322**	P	**P**	**02 03 14.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=133,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	**P**	**02 03 19.9**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=258,slow=5.7,SNR=19						
ESDC	**Sonseca Array**	**85.79**	**44**	LR	LR	02 41 13.9	
	comp=Z,19nm,18.8s,baz=310,slow=35						
YKA	**Yellowknife Ar**	**91.75**	**340**	P	**P**	**02 04 31.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=133,slow=4.5,SNR=12						
ASAR	**Alice Springs**	**129.76**	**207**	PKP	**PKPdf**	**02 10 35.6**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=168,slow=2.1,SNR=3.3						
MKAR	**Makanchi Array**	**145.68**	**37**	PKPbc	**PKPab**	**02 11 04.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=283,slow=7.4,SNR=5.2						

KRSC 26 01:53:55.3±1.3, 49°93N×157°40E, h41km±19km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.59**	**347**	P	Pn	01 54 22.3	+1.4
PAU				S	Sn	01 54 42.4	+2.2
MIPR	**Malaya Ipel'ka**	**2.39**	**351**	P	Pn	01 54 33.7	+1.8
ASAK	**Asacha**	**2.48**	**7**	P	Pn	01 54 36.7	+3.4
ASAK				S	Sn	01 55 05.8	+3.4
RUS	**Russkaya**	**2.61**	**15**	P	Pn	01 54 37.6	+2.7
RUS				S	Sn	01 55 08.2	+2.9
MTVR	**Mutnovka**	**2.61**	**11**	P	Pn	01 54 38.4	+3.3
MTVR				S	Sn	01 55 09.7	+4.0
AVH	**Avacha**	**3.45**	**14**	P	Pn	01 54 50.8	+4.3
KOK	**Koryaka**	**3.46**	**12**	P	Pn	01 54 51.1	+4.4
KRER	**Koryakskii**	**3.48**	**13**	P	Pn	01 54 51.3	+4.0
KRX	**Arik**	**3.52**	**12**	P	Pn	01 54 52.1	+4.4
SPN	**Mys Shipunski**	**3.57**	**26**	P	Pn	01 54 51.6	+3.4
SPN				S	Sn	01 55 33.3	+4.2
GNL	**Ganaly**	**3.79**	**5**	P	Pn	01 54 54.8	+3.5

*CSEM **26** 02:01:02.1, 37°.85N×22°.10E, h12km, MD2.8*
ATH 26 02:01:02.1, 37°.85N×22°.10E, h12km±4km, MD2.8/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.20**	**12**	*e*PG	Pg	02 01 06.8	+0.2
KLV				*e*SG	Sg	02 01 09.8	+0.2
KLV	**Kalavryta, Ach**	**0.20**	**12**	*e*Pg	Pg	02 01 06.8	+0.2
KLV				*e*Sg	Sg	02 01 09.8	+0.2
GUR	**Goura**	**0.21**	**66**	*e*PG	Pg	02 01 06.8	0.0
GUR				*e*SG	Sg	02 01 10.1	+0.1
GUR	**Goura**	**0.21**	**66**	*e*Pg	Pg	02 01 06.8	0.0
GUR				*e*Sg	Sg	02 01 10.1	+0.1
DRO	**Drossia**	**0.33**	**288**	*e*PB	Pg	02 01 08.8	+0.1
DRO				*e*SB	Sg	02 01 13.7	+0.5
DRO	**Drossia**	**0.33**	**288**	*e*Pb	Pg	02 01 08.8	+0.1
DRO				*e*Sb	Sg	02 01 13.7	+0.5
AMT	**Artemida-Makis**	**0.44**	**224**	*e*PB	Pg	02 01 10.7	-0.2
AMT				*e*SB	Sg	02 01 17.2	+0.3
AMT	**Artemida-Makis**	**0.44**	**224**	*e*Pb	Pg	02 01 10.7	-0.2
AMT				*e*Sb	Sg	02 01 17.2	+0.3
KALE	**Kalithea**	**0.54**	**3**	*e*PB	Pb	02 01 13.7	0.0
KALE				*e*SB	Sb	02 01 21.0	-0.5
KALE	**Kalithea**	**0.54**	**3**	*e*Pb	Pb	02 01 13.7	0.0
KALE				*e*Sb	Sb	02 01 21.0	-0.5
RLS	**Riolos of Patr**	**0.54**	**293**	*e*PB	Pg	02 01 11.9	-0.8
RLS				*e*SB	Sg	02 01 19.6	-0.3
RLS	**Riolos of Patr**	**0.54**	**293**	*e*Pb	Pg	02 01 11.9	-0.8
RLS				*e*Sb	Sg	02 01 19.6	-0.3
EFP	**Efpalio**	**0.60**	**345**	*e*PB	Pg	02 01 13.7	-0.1
EFP	**Efpalio**	**0.60**	**345**	*e*Pb	Pg	02 01 13.7	-0.1

*ISK **26** 02:02:53.4, 37°.06N×29°.25E, h11km, MD2.5*
*CSEM **26** 02:02:55.8±0.5, 36°.96N×29°.26E, h10km, MD2.8, Error ellipse: s-maj=12.2km s-min=11.3km az=148.0*
DDA 26 02:02:56.2, 37°.01N×29°.19E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.37**	**53**	*i* P	Pg	02 03 03.1	-0.5
GOLH				*i* S	Sg	02 03 09.9	+1.3
GOLH	**Golhisar**	**0.37**	**53**	*i* P	Pg	02 03 03.1	-0.5
GOLH				*i* S	Sg	02 03 09.9	+1.3
FETY	**Fethiye**	**0.39**	**193**	*e*PG	Pg	02 03 02.5	-1.2
FETY				*e*SG	Sg	02 03 09.3	+0.4
FETY	**Fethiye**	**0.39**	**193**	*e*Pg	Pg	02 03 02.5	-1.2
FETY				*e*Sg	Sg	02 03 09.3	+0.4
DALY	**Dalyan (Mu¨la**	**0.47**	**246**	*e*PG	Pg	02 03 04.2	-1.1
DALY	**Dalyan (Mu¨la**	**0.47**	**246**	*e*Pg	Pg	02 03 04.2	-1.1
TURN	**Turunc**	**0.49**	**254**	*i* P	Pn	02 03 10.7	+1.1
TURN				*i* S	Sb	02 03 22.6	+8.1
TURN	**Turunc**	**0.49**	**254**	*i* P	Pn	02 03 10.7	+1.1
TURN				*i* S	Sb	02 03 22.6	+8.2
ELL	**Elmali**	**0.63**	**114**	*e*PG	Pg	02 03 05.6	-3.0
ELL	**Elmali**	**0.63**	**114**	*e*Pg	Pg	02 03 05.6	-3.0
AKAS	**Kas**	**0.85**	**157**	*i* P	Pg	02 03 12.8	+0.1
AKAS				*i* S	Sn	02 03 30.6	+3.1
AKAS	**Kas**	**0.85**	**157**	*i* P	Pg	02 03 12.8	+0.1
AKAS				*i* S	Sn	02 03 30.6	+3.1
AYDN	**Tasoluk**	**1.23**	**302**	*i* P	Pg	02 03 20.7	+0.9
AYDN				*i* S	Sn	02 03 39.0	+2.2
AYDN	**Tasoluk**	**1.23**	**302**	*i* P	Pg	02 03 20.7	+0.9
AYDN				*i* S	Sn	02 03 39.0	+2.2
DAT	**Datca**	**1.32**	**258**	*e*PG	Pn	02 03 19.2	-2.0
DAT	**Datca**	**1.32**	**258**	*e*Pg	Pn	02 03 19.2	-2.0
AYDB	**Zeytinkoy-Aydi**	**1.39**	**312**	*e*PG	Pn	02 03 20.0	-2.2
AYDB	**Zeytinkoy-Aydi**	**1.39**	**312**	*e*

KLY	**Klyuchi**	**2.41**	**308**	PN	**Pn**	**02 20 44.3**	**-0.8**
KLY				S	**Sn**	**02 21 11.7**	**-3.2**
KPT	**Kopyto**	**2.45**	**298**	P	**Pn**	**02 20 47.4**	**+1.8**
KOZR	**Kozyr**	**2.66**	**298**	PN	**Pn**	**02 20 50.5**	**+2.1**
KOZR				S	**Sn**	**02 21 22.6**	**+1.6**
KOZ	**Kozyrevsk**	**2.66**	**298**	P	**Pn**	**02 20 50.5**	**+1.9**
KOZ				S	**Sn**	**02 21 22.6**	**+1.4**
KII	**Karymskiy**	**2.82**	**255**	P	**Pn**	**02 20 52.0**	**+1.3**
SRDR	**Sredinnyy**	**2.86**	**302**	*eP*	**Pn**	**02 20 52.6**	**+1.3**
SPN	**Mys Shipunski**	**2.97**	**235**	*eP*	**Pn**	**02 20 52.1**	**-0.7**
SPN				S	**Sn**	**02 21 24.2**	**-4.5**
SPN	**Mys Shipunski**	**2.97**	**235**	PN	**Pn**	**02 20 52.1**	**-0.7**
ESO	**Esso**	**3.23**	**291**	*eP*	**Pn**	**02 20 56.8**	**+0.4**
ESO	**Esso**	**3.23**	**291**	PN	**Pn**	**02 20 56.8**	**+0.4**
NLC	**Nalytchevo**	**3.26**	**240**	*eP*	**Pn**	**02 20 56.4**	**-0.3**
NLC				*eS*	**Sn**	**02 21 31.7**	**-4.1**
NLC	**Nalytchevo**	**3.26**	**240**	PN	**Pn**	**02 20 56.4**	**-0.3**
SDLR	**Sedlovina**	**3.44**	**244**	*eP*	**Pn**	**02 20 59.7**	**+0.4**
SDLR				S	**Sn**	**02 21 37.8**	**-2.7**
SMAR	**Somma**	**3.49**	**245**	*eP*	**Pn**	**02 21 00.6**	**+0.5**
KRER	**Koryakskii**	**3.50**	**245**	*eP*	**Pn**	**02 21 01.2**	**+1.0**
KRER				*eS*	**Sn**	**02 21 40.2**	**-1.8**
UGLR	**Uglovaya**	**3.51**	**244**	*eP*	**Pn**	**02 21 00.8**	**+0.6**
AVH	**Avacha**	**3.52**	**245**	*eP*	**Pn**	**02 21 01.4**	**+1.0**
AVH				*eS*	**Sn**	**02 21 41.1**	**-1.4**
KRX	**Arik**	**3.53**	**247**	*eP*	**Pn**	**02 21 01.4**	**+0.9**
KRX				*eS*	**Sn**	**02 21 40.4**	**-2.2**
KOK	**Koryaka**	**3.57**	**246**	*eP*	**Pn**	**02 21 02.1**	**+1.1**
PET	**Petropavlovsk**	**3.69**	**242**	S	**Sn**	**02 21 43.9**	**-2.5**
PET	**Petropavlovsk**	**3.69**	**242**	*e*PN	**Pn**	**02 21 05.0**	**+2.4**
PET	comp=Z,300nm,14.0s			MLR	MLR		
GNL	**Ganaly**	**3.77**	**254**	*eP*	**Pn**	**02 21 05.4**	**+1.5**
RUS	**Russkaya**	**4.11**	**236**	*eP*	**Pn**	**02 21 08.0**	**-0.3**
RUS				S	**Sn**	**02 21 53.1**	**-3.5**
RUS	**Russkaya**	**4.11**	**236**	PN	**Pn**	**02 21 08.0**	**-0.3**
PETK	**Petropavlovsk-**	**4.15**	**247**	Pn	**Pn**	**02 21 10.4**	**+1.4**
PETK	comp=Z,2.1nm,0.3s,baz=76,slow=16,SNR=25			Sn	**Sn**	**02 21 58.9**	**+1.1**
PETK	comp=Z,3.9nm,0.3s,baz=63,slow=12,SNR=9.1			LR	LR	02 23 01.7	
PETK	**Petropavlovsk-**	**4.15**	**247**	PN	**Pn**	**02 21 10.4**	**+1.4**
PETK	comp=Z,185nm,18.1s,baz=22,slow=42					02 21 58.9	
PETK	comp=Z,2.0nm,0.3s			pmax	pmax		
PETK	comp=N,4.0nm,0.3s			smax	smax		
MTVR	**Mutnovka**	**4.24**	**238**	*eP*	**Pn**	**02 21 10.7**	**+0.4**
MTVR				*eS*	**Sn**	**02 21 57.0**	**-3.1**
ASAK	**Asacha**	**4.43**	**238**	*eP*	**Pn**	**02 21 14.0**	**+1.1**
ASAK				*eS*	**Sn**	**02 22 02.8**	**-2.1**
APC	**Apacha**	**4.52**	**247**	P	**Pn**	**02 21 15.7**	**+1.6**
MIPR	**Malaya Ipel'ka**	**5.07**	**242**	P	**Pn**	**02 21 23.8**	**+2.2**
ASAJ	**Asahikawa**	**17.54**	**241**	P	**P**	**02 24 13.5**	**+2.3**
ASAJ	comp=N,1.0nm,0.3s,baz=66,slow=10.0,SNR=3.5			LR	LR	02 30 28.9	
ASAJ	**Asahikawa**	**17.54**	**241**	P	**P**	**02 24 13.5**	**+2.3**
ASAJ	comp=N,49nm,19.0s,baz=148,slow=35			pmax	pmax		
ASAJ	comp=Z,1.0nm,0.3s			MLR	MLR		
ASAJ	comp=Z,49nm,19.0s						
YAK	**Yakutsk**	**19.17**	**306**	LR	LR	02 32 36.3	
MJAR	comp=Z,55nm,19.3s,baz=59,slow=40 **Matsushiro Arr**	**25.49**	**235**	P	**P**	**02 25 36.7**	**+2.7**
MJAR	comp=Z,0.6nm,0.3s,baz=21,slow=8.2,SNR=3.3 **Matsushiro Arr**	**25.49**	**235**	P	**P**	**02 25 36.7**	**+2.7**
ILAR	comp=Z,1.0nm,0.3s **Eielson Array**	**25.89**	**48**	P	**P**	**02 25 36.2**	**-1.1**
KSRS	comp=Z,0.4nm,0.6s,baz=264,slow=8.1,SNR=4.2 **Korea Array**	**30.05**	**250**	LR	LR	02 40 02.8	
INK	comp=Z,22nm,18.3s,baz=29,slow=40 **Inuvik**	**31.01**	**40**	P	**P**	**02 26 22.9**	**0.0**
INK	comp=Z,0.4nm,0.5s,baz=317,slow=4.2,SNR=5.1 **Inuvik**	**31.01**	**40**	P	**P**	**02 26 23.0**	**0.0**
H11N2	**WAKE ISLAND Hy**	**35.15**	**175**	T	T	03 05 49.1	
H11N3	baz=359,slow=76,SNR=27 **WAKE ISLAND Hy**	**35.16**	**175**	T	T	03 05 49.1	
H11N1	baz=359,slow=76,SNR=17 **WAKE ISLAND Hy**	**35.16**	**175**	T	T	03 05 49.1	
SONM	baz=359,slow=76,SNR=16 **Songino Array**	**35.78**	**283**	LR	LR	02 42 55.6	
YKA	comp=Z,50nm,18.7s,baz=334,slow=38 **Yellowknife Ar**	**40.25**	**45**	P	**P**	**02 27 41.8**	**-0.4**
ZALV	comp=Z,0.3nm,0.5s,baz=299,slow=8.2,SNR=3.8 **Zalesovo Beam**	**43.78**	**303**	P	**P**	**02 28 09.3**	**-1.8**
MKAR	comp=Z,0.4nm,0.4s,baz=69,slow=7.9,SNR=2.8 **Makanchi Array**	**49.48**	**297**	P	**P**	**02 28 54.4**	**-1.5**
NVAR	comp=Z,0.2nm,0.6s,baz=49,slow=5.7,SNR=2.5 **Mina Array Bea**	**52.96**	**74**	P	**P**	**02 29 23.6**	**+1.2**
FINES	comp=Z,0.4nm,0.8s,baz=306,slow=9.6,SNR=3.2 **FINESS Array B**	**59.38**	**338**	P	**P**	**02 30 06.4**	**-1.2**
FINES	comp=Z,1.4nm,0.9s,baz=34,slow=14,SNR=3.5 **FINESS Array B**	**59.38**	**338**	P	**P**	**02 30 06.4**	**-1.2**
FINES	comp=Z,1.0nm,0.9s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**60.81**	**261**	P	**P**	**02 30 20.3**	**+2.2**
CMAR	comp=Z,1.6nm,0.4s,baz=21,slow=7.0,SNR=7.3 **Chiang Mai Arr**	**60.81**	**261**	P	**P**	**02 30 20.3**	**+2.2**
CMAR	comp=Z,2.0nm,0.4s			pmax	pmax		
TXAR	**Lajitas Array**	**67.81**	**70**	P	**P**	**02 31 05.0**	**+1.1**
TXAR	comp=Z,0.5nm,0.8s,baz=288,slow=5.2,SNR=5.8			P	**P**	**02 31 05.0**	**+1.1**
TXAR	comp=Z,1.0nm,0.8s			pmax	pmax		
AKASG	**Malin Array Be**	**68.25**	**331**	P	**P**	**02 31 05.5**	**-0.6**
ASAR	comp=Z,0.1nm,0.3s,baz=30,slow=7.7,SNR=2.7 **Alice Springs**	**82.39**	**208**	P	**P**	**02 32 28.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=21,slow=5.7,SNR=4.4						

IDC 26 02:31:17.2±3.0, 31°.53S×177°.97W, h0km, mb4.2/2, mb1 4.3/3, mb1mx3.8/24, mbtmp4.0/3, ML3.3/1, Error ellipse: s-maj=68.6km s-min=36.0km az=114.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.84**	**210**	Pn	Pn	02 33 12.6	+0.1
URZ	0.4nm,0.3s,baz=76,slow=4.2,SNR=2.3			Sn	Sn	02 34 41.6	-0.2
ASAR	1.2nm,0.3s,baz=142,slow=16,SNR=4.3 **Alice Springs**	**43.08**	**268**	P	P	02 39 19.2	0.0
WRA	0.8nm,0.5s,baz=106,slow=7.5,SNR=19 **Warramunga Arr**	**44.17**	**273**	P	P	02 39 27.9	-0.2
FINES	2.0nm,0.3s,baz=111,slow=8.1,SNR=11 **FINESS Array B**	**146.21**	**339**	PKPbc	PKPdf	02 50 57.9	+0.1
	0.6nm,0.4s,baz=45,slow=4.8,SNR=3.1						

*IDC **26** 02:36:14.9±8.8, 13°.47N×144°.56E, h54km±82km, mb3.6/11, mb1 3.9/11, mb1mx3.6/28, mbtmp3.9/11, MS2.7/1, Ms1 2.7/1, ms1mx2.4/35, Error ellipse: s-maj=28.1km s-min=16.1km az=78.0*

*ISCJB **26** 02:36:21.2±0.6, 13°.38N±0°.09×144°.5E±0°.2, h129km, mb3.7/11, Error ellipse: s-maj=23.2km s-min=13.2km az=174.7*

ISC 26 02:36:22.9±0.7, 13°.4N±0°.1×144°.5E±0°.2, h129km, n20, σ0s97/14, mb3.7/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.93**	**74**	T	T	03 03 42.4	
H11S1	baz=260,slow=75,SNR=12 **WAKE ISLAND Hy**	**21.94**	**74**	T	T	03 03 41.1	
H11S2	baz=260,slow=75,SNR=9.6 **WAKE ISLAND Hy**	**21.95**	**74**	T	T	03 03 44.2	
H11N1	baz=260,slow=75,SNR=8.3 **WAKE ISLAND Hy**	**22.36**	**71**	T	T	03 04 24.5	
H11N2	baz=266 **WAKE ISLAND Hy**	**22.37**	**71**	T	T	03 04 13.7	
H11N3	baz=266 **WAKE ISLAND Hy**	**22.38**	**71**	T	T	03 04 26.4	
MJAR	baz=266 **Matsushiro Arr**	**23.71**	**347**	P	**P**	**02 41 22.8**	**-0.3**
MJAR	1.1nm,0.5s,baz=162,slow=10,SNR=4.5 comp=Z,18nm,21.2s,baz=110,slow=31			LR	LR	02 48 23.8	
WRA	**Warramunga Arr**	**34.61**	**197**	P	**P**	**02 42 59.0**	**-0.8**
ASAR	2.8nm,0.6s,baz=22,slow=9.6,SNR=18 **Alice Springs**	**38.27**	**196**	P	**P**	**02 43 30.6**	**-0.2**
	0.7nm,0.5s,baz=21,slow=13,SNR=41						
DZM	**Mont Dzumac**	**41.32**	**148**	P	**P**	**02 43 56.3**	**+0.2**
CMAR	5.5nm,0.6s,baz=318,slow=8.1,SNR=10 **Chiang Mai Arr**	**43.99**	**283**	P	**P**	**02 44 18.6**	**+0.8**
STKA	0.8nm,0.3s,baz=67,slow=7.7,SNR=4.2 **Stephens Creek**	**45.11**	**183**	P	**P**	**02 44 25.8**	**-0.5**
MKAR	1.4nm,0.4s,baz=359,slow=7.4,SNR=3.7 **Makanchi Array**	**61.36**	**315**	P	**P**	**02 46 25.5**	**+0.3**
ILAR	0.4nm,0.4s,baz=92,slow=9.9,SNR=8.7 **Eielson Array**	**68.89**	**25**	P	**P**	**02 47 11.9**	**-1.5**
BVAR	0.4nm,0.5s,baz=252,slow=5.7,SNR=12 **Borovoye Array**	**69.84**	**322**	P	**P**	**02 47 19.3**	**-0.2**
YKA	0.3nm,0.4s,baz=235,slow=4.6,SNR=3.4 **Yellowknife Ar**	**83.19**	**27**	P	**P**	**02 48 34.5**	**+0.1**
NVAR	0.2nm,0.3s,baz=288,slow=5.1,SNR=3.7 **Mina Array Bea**	**87.32**	**51**	P	**P**	**02 48 56.4**	**+0.6**
PLCA	0.3nm,0.6s,baz=268,slow=5.4,SNR=3.2 **Paso Flores**	**139.05**	**138**	PKP	**PKPdf**	**02 55 35.9**	**+1.2**
DBIC	1.2nm,0.8s,baz=258,slow=3.0,SNR=3.1 **Dimbokro**	**143.60**	**301**	PKP	**PKPdf**	**02 55 42.2**	**-1.2**
LPAZ	0.8nm,0.4s,baz=69,slow=5.7,SNR=3.5 **La Paz**	**148.36**	**99**	PKPbc	**PKPbc**	**02 55 57.5**	**+1.7**
	1.8nm,0.5s,baz=338,slow=1.8,SNR=7.7						

BUC 26 02:45:33.3±0.7, 45°.90N×27°.28E, h66km±5km, MD2.7/3, 2C-4D, Error ellipse: s-maj=9.2km s-min=1.8km az=27.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.39**	**265**	⇓*i*P	Pn	02 45 44.8	0.0
VRI				*i* S	Sn	02 45 53.4	+0.3
VRI	**Vrincioaia**	**0.39**	**265**	⇓*i*P	Pn	02 45 44.8	0.0
PLOR	**Plostina**	**0.45**	**264**	*i* S	Sn	02 45 54.5	+0.5
PLOR	**Plostina**	**0.45**	**264**	*i* S	Sn	02 45 54.5	+0.5
CFR	**Carcaliu**	**0.94**	**140**	⇑*i*P	Pn	02 45 51.0	+0.2
CFR				*i* S	Sn	02 46 03.3	-0.4
CFR	**Carcaliu**	**0.94**	**140**	⇑*i*P	Pn	02 45 51.0	+0.2
MLR	**Muntele Rosu**	**1.02**	**247**	⇓*i*P	Pn	02 45 52.4	+0.3
MLR				*i* S	Sn	02 46 06.7	+0.7
MLR	**Muntele Rosu**	**1.02**	**247**	⇓*i*P	Pn	02 45 52.4	+0.3

DJA 26 02:49:44.7±0.9, 8°.S±6°×10°.7E±°, h19km±7km, M3.6/8, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.77**	**47**	P	Pb	02 49 59.7	+0.1
CISI				S	Sb	02 50 09.8	0.0
CNJI	**Cibinong**	**0.79**	**351**	P	Pb	02 49 59.2	-0.6
CNJI				S	Sb	02 50 09.5	-0.5
CMJI	**Cimerak**	**1.23**	**76**	P	Pn	02 50 06.2	-0.6
CMJI				S	Sb	02 50 20.5	-2.2
LEM	**Lembang**	**1.31**	**16**	P	Pn	02 50 08.1	-0.1
KPJI	**Karang Pucung**	**1.83**	**66**	P	Pn	02 50 15.7	+0.6
CGJI	**Cibinong**	**2.13**	**313**	P	Pn	02 50 18.0	-1.3

*NIED **26** 02:59:00, 22°.20N×123°.80E, h32km, Mw6.5 Best double couple: M0 6.36000×10^18 NP1:φs58.00000°, δ82.00000°, λ179.00000°. NP2:φs148.00000°, δ89.00000°, λ8.00000°.*

*JMA **26** 02:59:49.5±0.4, 22°.21N×123°.83E, h50km, M6.6*

JMA Felt II J1.

*ISCJB **26** 02:59:49.4±0.4, 22°.233N±0°.010×123°.73E±0°.01, h13km±2km, mb5.9/384, MS6.3/332, Error ellipse: s-maj=1.9km s-min=1.6km az=160.5*

*BJI **26** 02:59:50.1, 22°.43N×123°.75E, h12km, mB6.5/59, mb5.9/76, Ms6.7/91, Ms7 6.5/82*

*NEIC **26** 02:59:50.0±0.0, 22°.25N×123°.73E, h15km, Moment Tensor Solution. s32 Moment tensor: Scale 10^18Nm; Mrr=0.15; Mθθ 6.19; Mφφ -6.04; Mrθ -2.42; Mθφ -2.28; Mφr 0.12; Best double couple: M0 6.90000×10^18 NP1:φs234.00000°, δ79.00000°, λ165.00000°. NP2:φs326.00000°, δ75.00000°, λ10.00000°. Principal axes: T 7.3700, Plg17.0000°, Azm189.0000°; N -0.9100, Plg71.0000°, Azm20.0000°; P -6.4700, Plg3.0000°, Azm280.0000°;*

*TAP **26** 02:59:51.0, 22°.15N×123°.75E, h73km±1km, ML6.8, C*

*NEIC **26** 02:59:52.1±0.1, 22°.18N×123°.62E, h22km, mb6.2/199, ME6.8, MS6.3/264, MW6.5, MW6.4, MW6.5, ML6.8(TAP), Error ellipse: s-maj=3.5km s-min=3.2km az=88.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^18Nm; Mrr 0.19; Mθθ 3.54; Mφφ -3.74; Mrθ 1.53; Mθφ -1.56; Mφr -1.09; Best double couple: M0 4.40000×10^18 NP1:φs55.00000°, δ67.00000°, λ172.00000°. NP2:φs148.00000°, δ82.00000°, λ23.00000°. Principal axes: T 4.5500, Plg21.0000°, Azm13.0000°; N -0.3500, Plg65.0000°, Azm164.0000°; P -4.2000, Plg10.0000°, Azm279.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Taipei and [II] at T'ai-chung. Felt in much of Taiwan. Recorded [3 TAP] in Hua-lien, I-lan and T'ai-tung; [2 TAP] in Miao-li, Nan-t'ou, P'ing-tung, T'ai-nan and Yun-lin; [1 TAP] in P'eng-hu. Felt [II] at Quanzhou, Fujian. Felt on Ishigaki-jima, Ryukyu Islands. Recorded [2 JMA] on Hateruma-jima, Iriomote-jima and Yonaguni-jima; [1 JMA] on Ikema-jima, Ishigaki-jima, Miyako-jima and Tarama-shima.

*GCMT **26** 02:59:52.2±0.1, 22°.23N×123°.73E, h24km, MW6.5/135, Moment Tensor Solution. s135,c328; s133,c558; Duration: 4s3 Moment tensor: Scale 10^18Nm; Mrr -0.94±.03; Mθθ 6.59±.03; Mφφ -5.65±.03; Mrθ -0.89±.05; Mθφ -3.02±.03; Mφr 0.19±.05; Best double couple: M0 6.87500×10^18 NP1:φs238.00000°, δ86.00000°, λ175.00000°. NP2:φs328.00000°, δ85.00000°, λ4.00000°. Principal axes: T 7.3950, Plg6.0000°, Azm193.0000°; N -1.0370, Plg84.0000°, Azm15.0000°; P -6.3550, Plg0.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **26** 02:59:52.0±1.0, 22°.26N×123°.89E, h36km, mb6.3/122, MS6.4/112 Error ellipse: s-maj=7.8km s-min=4.8km az=107.9*

*SZGRF **26** 02:59:52.5, 21°.91N×124°.01E, h33km, mb5.9, MS6.6, Southeast of Taiwan*

*IDC **26** 02:59:52.2±1.4, 22°.20N×123°.71E, h22km±8km, mb5.3/50, mb1 5.4/52, mb1mx5.4/53, mbtmp5.4/52, ML5.7/3, MS6.1/28, Ms1 6.1/28, ms1mx5.9/39, Error ellipse: s-maj=8.8km s-min=5.9km az=68.0*

*NEIC **26** 03:00:07.5±0.0, 22°.26N×124°.33E, h30km, Moment Tensor Solution. s86 Moment tensor: Scale 10^18Nm; Mrr -0.92; Mθθ 6.26; Mφφ -5.34; Mrθ 2.94; Mθφ -2.58; Mφr -0.14; Best double couple: M0 6.90000×10^18 NP1:φs149.00000°, δ72.00000°, λ9.00000°. NP2:φs56.00000°, δ82.00000°, λ162.00000°. Principal axes: T 7.7800, Plg18.0000°, Azm11.0000°; N -1.8400, Plg70.0000°, Azm211.0000°; P -5.9400, Plg6.0000°, Azm103.0000°;*

ISC 26 02:59:52.3±0.3, 22°.24N±0°.02×123°.82E±0°.02, h23km±1km, h23km:pP-P, n2247, σ2s19/2267, mb6.0/387, MS6.3/335, 327C-336D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.81**	**360**	⇑P	**Pn**	**03 00 19.8**	**-2.2**
HATJ				S	**Sn**	**03 00 40.5**	**-3.7**
JKRS	**Kuro-shima**	**2.00**	**5**	P	**Pn**	**03 00 22.2**	**-2.4**
JKRS				S	**Sn**	**03 00 46.6**	**-2.2**
IRIF	**Iriomote-Funau**	**2.09**	**358**	⇑P	**Pn**	**03 00 24.0**	**-1.8**
IRIF				S	**Sn**	**03 00 48.0**	**-3.1**
LAY	**Lan-yu**	**2.11**	**265**	⇑*i*P	Pn	03 00 22.8	-3.4
LAY	baz=267			*e*S	**Sn**	**03 00 47.5**	**-4.2**
JIJ	baz=267 **Ishigaki jima**	**2.13**	**8**	⇑P	**Pn**	**03 00 23.9**	**-2.6**
JIJ				S	**Sn**	**03 00 48.6**	**-3.7**
YOJ	**Yonaguni jima**	**2.33**	**342**	⇑P	**Pn**	**03 00 27.6**	**-1.6**
YOJ				S	**Sn**	**03 00 55.1**	**-2.0**
YOJ	**Yonaguni jima**	**2.33**	**342**	*e*P	**Pn**	**03 00 28.8**	**-0.4**
YOJ				*e*		03 00 48.8	
YOJ	**Yonaguni jima**	**2.33**	**342**	*e*Pn	**Pn**	**03 00 28.8**	**-0.4**
YOJ				*e*Sn	Sn	03 00 48.8	-8.3
JYNG	**Yonagunijimaku**	**2.34**	**340**	P	**Pn**	**03 00 27.6**	**-1.7**
JYNG				S	**Sn**	**03 00 55.0**	**-2.4**
JISG	**Ishigakijimahi**	**2.38**	**11**	P	**Pn**	**03 00 27.0**	**-2.9**
JISG				S	**Sn**	**03 00 54.0**	**-4.3**
CHKT	**Chengkung**	**2.42**	**291**	⇑*i*P	**Pn**	**03 00 27.3**	**-3.1**
CHKT	baz=300			*e*S	Sn	03 00 53.1	-6.2
TTN	baz=300 **Taitung**	**2.52**	**282**	*e*P	**Pn**	**03 00 29.0**	**-2.8**
TTN	baz=284			*e*S	**Sn**	**03 00 58.2**	**-3.6**
JTJ	**Tarama**	**2.52**	**19**	⇑P	**Pn**	**03 00 29.1**	**-2.7**
JTJ				S	**Sn**	**03 00 59.3**	**-2.6**
TEGC	**Jichi Village**	**2.56**	**305**	*e*P	**Pn**	**03 00 30.5**	**-1.8**
TEGC	baz=316			*e*S	**Sn**	**03 00 57.8**	**-4.9**
TWF1	baz=316 **Yuli**	**2.57**	**296**	⇑*i*P	**Pn**	**03 00 29.9**	**-2.7**
YULB	baz=305 **Yu-li**	**2.59**	**297**	*e*Pn	**Pn**	**03 00 30.0**	**-2.8**
YULB				*e*Sn	Sn	03 00 54.5	-9.0
TWG	**Pinlang**	**2.60**	**283**	*e*P	**Pn**	**03 00 29.9**	**-3.1**
TWG	baz=280			*e*S	**Sn**	**03 01 00.5**	**-3.3**
TWG	baz=280 **Pinlang**	**2.60**	**283**	*e*Pn	**Pn**	**03 00 30.2**	**-2.7**
TWG				*e*Sn	**Sn**	**03 01 00.6**	**-3.3**
EHY	**Hungye**	**2.62**	**299**	⇑P	**Pn**	**03 00 30.4**	**-2.8**
EHY	baz=301			*e*S	**Sn**	**03 00 58.6**	**-5.7**
HWA	baz=301 **Hwalien**	**2.67**	**311**	P	**Pn**	**03 00 31.4**	**-2.4**
ECL	baz=313 **Taimali**	**2.67**	**278**	*e*P	**Pn**	**03 00 31.3**	**-2.5**
ESF	baz=272 **Shoufeng Towns**	**2.67**	**308**	*e*P	**Pn**	**03 00 32.1**	**-1.8**
ESF	baz=318			*e*S	**Sn**	**03 01 01.2**	**-4.4**
ESL	baz=318 **Shilin**	**2.70**	**306**	⇑*i*P	**Pn**	**03 00 31.4**	**-2.8**
TAW	baz=308 **Tawu**	**2.71**	**273**	⇑*i*P	**Pn**	**03 00 31.9**	**-2.4**
TAW	baz=274			*e*S	**Sn**	**03 01 01.4**	**-5.0**
TSEB	**Hengchuen, Pin**	**2.73**	**263**	*e*P	**Pn**	**03 00 33.4**	**-1.3**
TWD	baz=265 **Chiawan**	**2.74**	**312**	⇑P	**Pn**	**03 00 32.4**	**-2.4**
TWD	baz=314			*e*S	Sn	03 01 01.1	-6.2
ELDTW	baz=314 **Lidau**	**2.75**	**291**	⇑*i*P	**Pn**	**03 00 32.3**	**-2.8**
EAST	baz=284 **Anshuo**	**2.75**	**274**	⇑*i*P	**Pn**	**03 00 32.6**	**-2.4**
NACB	baz=275 **Ninganchiao**	**2.81**	**314**	*e*Pn	**Pn**	**03 00 33.7**	**-2.0**
NACB				*e*Sn	Sn	03 01 02.1	-6.8
EHP	**Heping Village**	**2.81**	**318**	*e*P	**Pn**	**03 00 34.8**	**-1.0**
EHP	baz=319			*e*S	**Sn**	**03 01 05.5**	**-3.5**
TWK1	baz=319 **Hengchun**	**2.81**	**265**	⇑*i*P	**Pn**	**03 00 34.0**	**-1.8**
TWK1	baz=266			*e*S	**Sn**	**03 01 04.8**	**-4.1**
JIRB	baz=266 **Irabujima**	**2.86**	**26**	P	**Pn**	**03 00 34.0**	**-2.5**
JIRB				S	**Sn**	**03 01 07.6**	**-2.6**
HEN	**Hengchun**	**2.86**	**266**	⇓P	**Pn**	**03 00 34.3**	**-2.2**
ENA	baz=267 **Nanau**	**2.89**	**319**	⇑P	**Pn**	**03 00 35.3**	**-1.6**
WDT	baz=321 **Danda**	**2.90**	**302**	⇑*i*P	**Pn**	**03 00 35.2**	**-2.0**
JMJ	baz=304 **Miyako jima 2**	**2.90**	**28**	P	**Pn**	**03 00 34.8**	**-2.2**
JMJ				S	**Sn**	**03 01 08.8**	**-2.3**
JOGS	**Gusukube**	**2.90**	**30**	P	**Pn**	**03 00 34.6**	**-2.4**
JOGS				S	**Sn**	**03 01 08.6**	**-2.6**
YUS	**Yu-Shan**	**2.92**	**296**	⇑*i*P	**Pn**	**03 00 35.9**	**-1.9**
SCZT	baz=297 **Fangliau**	**2.96**	**273**	⇑*i*P	**Pn**	**03 00 36.0**	**-1.9**
TWC	baz=274 **Suao**	**2.97**	**323**	*e*P	**Pn**	**03 00 36.5**	**-1.5**
JIKM	baz=325 **Ikemajima**	**2.98**	**26**	P	**Pn**	**03 00 35.7**	**-2.4**
JIKM				S	**Sn**	**03 01 11.0**	**-2.1**
SSD	**Sandimen**	**2.99**	**280**	*e*P	**Pn**	**03 00 36.1**	**-2.2**
WHF	baz=287 **Hehuan Shan**	**3.02**	**309**	⇑*i*P	**Pn**	**03 00 36.8**	**-2.3**
ALS	baz=311 **Alishan**	**3.05**	**295**	⇑*i*P	**Pn**	**03 00 38.2**	**-1.1**
ALS	baz=302			*e*S	**Sn**	**03 01 11.0**	**-4.4**
SSLB	**Suanglung**	**3.05**	**301**	*e*Pn	**Pn**	**03 00 37.7**	**-1.5**
SSLB				*e*Sn	**Sn**	**03 01 10.0**	**-5.0**
SGST	**Jiashian**	**3.10**	**286**	P	**Pn**	**03 00 39.1**	**-0.8**
SGLT	baz=288 **Jiouru**	**3.11**	**280**	*e*P	**Pn**	**03 00 39.9**	**0.0**
WTP	baz=281 **Ta-pu**	**3.12**	**289**	⇑*i*P	**Pn**	**03 00 39.4**	**-0.7**
TPUB	baz=291 **Ta-pu**	**3.12**	**290**	*e*Pn	**Pn**	**03 00 39.5**	**-0.6**
TPUB				*e*Sn	**Sn**	**03 01 12.8**	**-4.0**
NNS	**Nan Shan**	**3.14**	**315**	⇑*e*P	**Pn**	**03 00 38.7**	**-1.7**
SMLT	baz=323 **Sun Moon Lake**	**3.14**	**302**	⇑*e*P	**Pn**	**03 00 39.1**	**-1.4**
SMLT	baz=303			*e*S	**Sn**	**03 01 16.6**	**-0.8**
TWT	**Tachien**	**3.15**	**310**	*e*P	**Pn**	**03 00 39.3**	**-1.3**
TWT	baz=311			*e*S	**Sn**	**03 01 11.8**	**-5.7**
ILA	baz=311 **Ilan**	**3.15**	**323**	*e*P	**Pn**	**03 00 40.6**	**+0.1**
ILA	baz=325			*e*S	**Sn**	**03 01 15.0**	**-2.3**
ENTT	baz=325 **Nioudou**	**3.16**	**320**	*e*P	**Pn**	**03 00 39.6**	**-1.0**
TWE	baz=321 **Neicheng**	**3.16**	**322**	⇑*i*P	**Pn**	**03 00 39.7**	**-0.9**
CHN4	baz=331 **Tsaushan**	**3.17**	**291**	⇑*i*P	**Pn**	**03 00 40.6**	**-0.2**
CHN1	baz=287 **Nanshi**	**3.18**	**288**	⇑*i*P	**Pn**	**03 00 40.6**	**-0.3**
TYC	baz=289 **Yuchr**	**3.19**	**302**	⇑P	**Pn**	**03 00 39.7**	**-1.3**
TWM1	baz=309 **Shoushan**	**3.19**	**281**	*e*P	**Pn**	**03 00 41.5**	**+0.4**
CHN5	baz=282 **Tsauling**	**3.19**	**296**	⇑*i*P	**Pn**	**03 00 40.7**	**-0.4**
TWP	baz=303 **Hsiaoliuchiu**	**3.20**	**273**	*e*P	**Pn**	**03 00 41.7**	**+0.6**
TWB1	baz=274 **Santiao Chiao**	**3.23**	**329**	*e*P	**Pn**	**03 00 40.2**	**-1.3**
TWB1	baz=339			*e*S	**Sn**	**03 01 14.4**	**-4.7**
TWK	baz=339 **Hsinying**	**3.24**	**289**	⇑*i*P	**Pn**	**

TCU eS Sn 03 01 24.4 -0.5
baz=310
TATO Taipei 3.46 322 P Pn 03 00 45.4 +0.7
SNR=291
TATO Taipei 3.46 322 ePn Pn 03 00 44.2 -0.5
TATO eSn Sn 03 01 13.6 -11
SCLT Jiali 3.47 286 eP Pn 03 00 44.6 -0.3
baz=287
SCLT eS Sn 03 01 23.8 -1.5
baz=287
TAP1 Taipei 3.49 323 eP Pn 03 00 44.8 -0.3
baz=324
TWQ1 Liyutan 3.50 307 eP Pn 03 00 45.5 +0.2
baz=316
TWQ1 eS Sn 03 01 26.0 +0.1
baz=316
TAP Taipei 3.50 323 eP Pn 03 00 45.2 -0.1
baz=324
TAP eS Sn 03 01 22.6 -3.3
baz=324
CHN8 Yiju 3.50 289 eP Pn 03 00 44.9 -0.4
baz=277
CHN8 S Sn 03 01 25.6 -0.4
baz=277
NSTT Nanjuang 3.51 313 eP Pn 03 00 45.4 -0.1
baz=309
NSY Sanyi 3.55 308 P Pn 03 00 46.3 +0.4
baz=316
NSY eS Sn 03 01 25.9 -1.3
baz=316
WSF Szhu 3.59 293 eP Pn 03 00 46.0 -0.6
baz=295
WSF eS Sn 03 01 26.8 -1.4
baz=295
NCU National Centr 3.63 319 eP Pn 03 00 47.1 0.0
baz=320
NCU eS Sn 03 01 27.3 -1.9
baz=320
WTCT Ta-ch'eng 3.63 297 eP Pn 03 00 46.7 -0.4
baz=298
WTCT S Sn 03 01 28.0 -1.3
baz=298
TWY Chenhua 3.64 327 eP Pn 03 00 46.6 -0.6
baz=328
TWY eS Sn 03 01 25.3 -4.2
baz=328
HSN Hsinchu 3.65 315 eP Pn 03 00 47.5 +0.2
baz=317
HSN eS Sn 03 01 28.8 -0.9
baz=317
WDGT Dungji 3.97 286 ⇑P Pn 03 00 50.4 -1.3
baz=277
WDGT eS Sn 03 01 32.8 -4.8
baz=277
PNG Penghu 4.14 289 ⇑iP Pn 03 00 53.1 -1.0
baz=281
PNG eS Sn 03 01 38.2 -3.7
baz=281
SGCP Mt. Cagua 4.31 203 eP Pn 03 00 55.3 -1.2
JKE Kume jima 2 4.89 33 P Pn 03 01 00.7 -3.6
JKE S Sn 03 01 55.1 -5.1
CVP Callao Caves 4.89 203 ⇑iP Pn 03 01 03.8 -0.6
CVP iS Sn 03 02 00.4 +0.1
PIP Pasuquin 4.92 218 ⇓iP Pn 03 01 04.0 -0.8
PIP eS Sn 03 01 59.8 -1.2
APYP Conner 4.98 209 eP Pn 03 01 04.7 -1.0
JJT2 Tamagusuku 2 5.29 42 P Pn 03 01 06.7 -3.1
JJT2 S Sn 03 02 04.6 -5.5
SIPP Brgy, Tapao 5.33 217 ⇑eP Pn 03 01 04.0 -6.4
SIPP eS Sn 03 02 16.0 +4.8
JAGN Aguni-jima 5.34 35 P Pn 03 01 07.1 -3.4
JAGN S Sn 03 02 07.8 -3.5
KNM Kinmen 5.40 295 eP Pn 03 01 11.0 -0.4
baz=294
ABRA Dolores 5.42 213 eP Pn 03 01 10.5 -1.2
QZH Quanzhou 5.50 300 ⇓iPn Pn 03 01 10.8 -1.9
QZH Sn Sn 03 02 09.3 -5.9
QZH LN
947μm,15.7s
QZH LE
468μm,12.6s
QZH LZ
426μm,16.6s
JNTH Nagotoyohara 5.73 41 P Pn 03 01 12.5 -3.4
JNTH S Sn 03 02 13.8 -7.2
JIH Iheya 6.09 38 P Pn 03 01 17.1 -3.7
JIH S Sn 03 02 23.9 -5.9
JOW Kunigami 6.11 41 ⇑P Pn 03 01 17.7 -3.5
JOW S Sn 03 02 23.9 -6.6
JOW Kunigami 6.11 41 LR LR 03 03 44.7
comp=Z,40μm,20.1s,baz=240,slow=38
JOW Kunigami 6.11 41 ePn Pn 03 01 18.1 -3.1
JOW eSn Sn 03 02 22.8 -7.7
BCPH Baguio City Da 6.58 208 ⇑iP Pn 03 01 27.8 0.0
BCPH iS Sn 03 02 46.0 +3.7
JOKE Okinoerabujima 6.68 39 P Pn 03 01 25.5 -3.5
BALP Baler 6.80 199 eP Pn 03 01 30.6 -0.1
BOLP Bolinao 6.89 213 eP Pn 03 01 32.3 +0.3
PCPH Palayan 7.12 202 ⇑eP Pn 03 01 35.5 +0.4
PCPH eS Sn 03 02 54.6 -0.7
JTK Tokunoshima 7.22 39 ⇑P Pn 03 01 31.8 -4.6
JTK S Sn 03 02 48.6 -9.2
SCZP Santa Cruz 7.42 211 eP Pn 03 01 38.6 -0.5
JMZ Minamidaito 2 7.65 61 P Pn 03 01 37.0 -5.3
JMZ S Sn 03 02 56.5 -12
JAMN Amaminishikomi 7.70 38 P Pn 03 01 37.8 -5.1
JAM Amami Oshima 8.07 39 P Pn 03 01 43.3 -4.8
JAM S Sn 03 03 08.4 -10
JZK Kikaishima 8.22 41 P Pn 03 01 46.2 -3.9
GQP Guinayangan 8.39 189 ⇑eP Pn 03 01 52.6 +0.1
JTAJ Takarajima 8.42 34 P Pn 03 01 48.5 -4.4
JTAJ S Sn 03 03 19.3 -8.0
TGY Tagaytay City 8.54 199 ⇓iP Pn 03 01 56.1 +1.4
TGY iS Sn 03 03 23.0 -7.4
HKC Hong Kong Obse 8.93 272 ⇓iP Pn 03 01 59.0 -0.9
AUQP San Andres 8.94 187 eP Pn 03 02 01.6 +1.6
PGP Puerto Galera 9.11 198 ⇑eP Pn 03 02 01.7 -0.7
LUBP Lubang 9.12 202 eP Pn 03 02 01.9 -0.6
SSE Sheshan 9.13 346 P Pn 03 02 01.8 -0.7
SSE S Sn 03 03 45.3 +0.7
SSE PMZ
2μm,1.0s
SSE PMZ
10μm,11.5s
SSE LN
60μm,13.0s
SSE LE
243μm,13.0s
SSE LZ
131μm,15.0s
GZH Guangzhou 9.71 277 P Pn 03 02 06.0 -4.5
GZH S Sn 03 03 50.8 -8.1
GZH LR LR
comp=N,301μm,15.3s
GZH LR LR
comp=E,89μm,15.1s
OTRP Odiongan 9.97 190 eP Pn 03 02 14.1 -0.1
SJMP San Jose 10.06 195 eP Pn 03 02 16.6 +1.2
KALP Kalibo 10.60 188 ⇓eP Pn 03 02 24.0 +1.2
RCP Roxas 10.67 186 ⇓eP Pn 03 02 24.4 +0.6
NJ2 Nanjing 10.72 337 eP Pn 03 02 23.0 -1.4
NJ2 pP 03 02 25.5
NJ2 sP 03 02 27.3
NJ2 S Sn 03 04 16.5 -7.2
NJ2 PMZ
comp=E,80nm,1.0s
NJ2 LN
comp=E,330μm,16.0s
NJ2 LE
comp=E,295μm,13.3s
NJ2 LZ
comp=E,294μm,13.4s
BUSP Coron 10.75 199 eP Pn 03 02 24.9 0.0
PLP Palo 11.07 174 ⇑eP Pn 03 02 27.7 -1.6
OCLP Ormoc 11.15 176 eP Pn 03 02 31.5 +1.1
KSJJU Jeju 11.41 12 ⇓P Pn 03 02 34.0 +0.1
SNR=9.9
GUIM Jordan 11.61 186 eP Pn 03 02 38.8 +2.1
CUYO Cuyo Island 11.64 194 eP Pn 03 02 38.7 +1.6
ENPP El Nido 11.75 202 eP Pn 03 02 38.0 -0.6
WHN Wuhan 11.84 316 ⇑P Pn 03 02 38.0 -1.7
WHN S Sn 03 04 42.3 -8.9
WHN LN
comp=E,458μm,10.0s
WHN LE
comp=E,317μm,9.2s
WHN LZ
comp=E,473μm,13.2s
MSLP Maasin 12.08 175 eP Pn 03 02 43.8 +0.7
KSJDO Jindo 12.38 10 ⇓P Pn 03 02 47.8 +0.7
SNR=83
TBP Tagbilaran 12.48 180 eP Pn 03 02 47.3 -1.3
KSHUK Heuksando 12.48 6 ⇑P Pn 03 02 49.3 +0.9
SNR=78
SCPH Surigao 12.49 172 ⇑eP Pn 03 02 49.6 +0.8
JNU Nakatsue 12.51 28 Pn Pn 03 02 45.7 -3.3
comp=E,17nm,0.3s,baz=209,slow=5.3,SNR=98
JNU Sn Sn 03 05 05.1 -2.5
comp=E,1.9nm,0.3s,baz=195,slow=19,SNR=2.3
JNU Nakatsue 12.51 28 ePn Pn 03 02 44.7 -4.2
JNU eSn Sn 03 05 05.4 -2.2
KSMOK Mokpo 12.74 11 ⇓P Pn 03 02 53.0 +1.0
SNR=76
SNPH Sibulan 12.84 183 eP Pn 03 02 52.9 -0.6
KSKWJ Gwangju 13.17 11 ⇑P Pn 03 02 58.2 +0.3
SNR=264
BUTP Butuan 13.31 172 eP Pn 03 03 01.7 +1.8
QIZ Qiongzhong 13.46 259 P Pn 03 03 00.5 -1.5
QIZ S Sn 03 05 29.3 -1.7
QIZ LN
comp=E,91μm,14.6s
QIZ LE
comp=E,25μm,12.6s
QIZ LZ
comp=E,90μm,14.2s
QIZ Qiongzhong 13.46 259 ePn Pn 03 03 01.2 -0.8
QIZ eSn Sn 03 05 20.1 -11
KSJEU Jeongeup 13.48 11 ⇓P Pn 03 03 02.3 +0.1
SNR=266
DCPH Dipolog City 13.59 182 ⇑eP Pn 03 03 05.5 +1.9
KSBUS Busan 13.76 19 ⇑P Pn 03 03 05.1 -0.9
SNR=37
KSDAG Daegu 14.19 17 ⇓P Pn 03 03 10.4 -1.5
SNR=75
PAGZ Pagadian 14.32 182 eP Pn 03 03 15.3 +1.7
BUKP Musuan 14.33 175 eP Pn 03 03 14.5 +0.6
KSSES Seosan 14.68 8 ⇑P Pn 03 03 18.3 -0.2
SNR=285
CTBH Cotabato--PC H 14.94 178 eP Pn 03 03 22.7 +0.6
TIA Tai'an 15.09 339 ⇑P Pn 03 03 25.3 +1.3
TIA S Sn 03 06 10.5 0.0
TIA PMZ
comp=E,390nm,1.8s
TIA PMZ
comp=E,25μm,10.0s
TIA LN
comp=E,55μm,15.0s
TIA LE
comp=E,143μm,12.0s
TIA LZ
comp=E,134μm,13.1s
ENH Enshi 15.13 305 ePn Pn 03 03 22.5 -2.1
comp=E,626nm,1.1s
ENH eSn Sn 03 06 08.0 -3.6
DAV Davao City (W) 15.18 173 Pn Pn 03 03 25.9 +0.6
SNR=44
INCN Inchon 15.38 8 Pn Pn 03 03 27.5 -0.4
SNR=187
INCN Inchon 15.38 8 ePn Pn 03 03 27.0 -0.9
comp=E,3μm,1.3s
MATI Mati 15.39 171 eP Pn 03 03 27.2 -0.8
KSSEO Seoul 15.43 9 P Pn 03 03 27.3 -1.1
SNR=164
KS15 Wonju Array Si 15.55 12 ePn Pn 03 03 29.4 -0.7
KSRS Korea Array 15.57 12 Pn Pn 03 03 29.4 -0.9
comp=E,40nm,0.3s,baz=193,slow=9.9,SNR=352
KSRS LR LR 03 09 43.9
comp=E,62μm,18.6s,baz=196,slow=38
KSRS Korea Array 15.57 12 P Pn 03 03 29.4 -0.9
KSRS pmax pmax
comp=Z,40nm,0.3s
KSRS MLR MLR
comp=Z,62μm,18.6s
KSGAH Ganghwa 15.58 8 ⇑P Pn 03 03 29.3 -1.1
SNR=286
GSPH General Santos 16.10 176 ⇑iP P 03 03 40.0 -0.5
GYA Guiyang 16.18 288 ⇓iP Pn 03 03 37.5 -0.9
GYA sP sP 03 03 46.8 -4.0
GYA PP pP 03 03 51.5 +3.7
GYA S Sn 03 06 32.5 -4.8
GYA PMZ
comp=Z,1μm,1.0s
GYA PMZ
comp=Z,21μm,12.4s
GYA LN
comp=Z,141μm,12.4s
GYA LE
comp=Z,102μm,15.2s
GYA LZ
comp=Z,164μm,15.2s
KDM Kudat 16.66 205 ⇑P Pn 03 03 44.9 +0.5
DL2 Dalian 16.72 354 ⇑iP Pn 03 03 45.5 +0.6
DL2 PMZ
comp=Z,1μm,1.2s
DL2 PMZ
comp=Z,29μm,11.8s
DL2 LE
comp=Z,226μm,15.1s
DL2 LZ
comp=Z,65μm,11.8s
CBIJ Chichi jima 17.38 70 ePn Pn 03 03 51.9 -1.4
comp=Z,4μm,1.3s
CBIJ eSn Sn 03 06 54.4 -12
JCJ Chichijima 17.38 70 P P 03 03 54.8 +0.2
comp=Z,18nm,0.3s,baz=212,slow=3.8,SNR=30
JCJ LR LR 03 09 11.5
comp=Z,43μm,21.1s,baz=247,slow=32
CBI Chichi jima 17.38 70 ePn P 03 03 54.8 +0.2
XAN Xi'an 17.60 315 P Pn 03 03 56.3 +0.2
XAN sP sP 03 04 05.0 -1.4
XAN PP PnPn 03 04 11.3 +4.6
XAN S Sn 03 07 09.8 -1.8
XAN SS SnSn 03 07 32.3 +7.1
XAN PMZ
comp=Z,4μm,14.1s
XAN LN
comp=Z,118μm,12.7s
XAN LE
comp=Z,31μm,10.3s
XAN LZ
comp=Z,32μm,15.5s
KKM Kota Kinabalu 17.70 206 ⇑P P 03 03 58.3 +0.1
KKM Kota Kinabalu 17.70 206 ePn Pn 03 03 55.5 -2.0
comp=Z,9μm,2.1s
SDKM Sandakan 17.70 202 ⇑P Pn 03 03 57.6 +0.2
JHJ2 Mitsune 17.81 49 ePn Pn 03 03 58.6 0.0
comp=Z,2μm,0.9s
DLV T Lat 17.86 238 ePn P 03 04 01.6 +1.5
TIY Taiyuan 18.28 330 eP P 03 04 05.0 +0.5
TIY PP PnPn 03 04 22.0 +6.0
TIY S Sn 03 07 24.8 -3.1
TIY PMZ
comp=Z,200nm,0.7s
TIY PMZ
comp=Z,19μm,6.2s
TIY LN
comp=Z,162μm,11.7s
TIY LE
comp=Z,42μm,11.5s
TIY LZ
comp=Z,147μm,13.4s
SGSI Sangihe 18.52 175 P P 03 04 07.1 -0.1
UBPT Khong Chiam 18.69 251 P Pn 03 04 11.5 +2.0
comp=Z,684nm,1.8s
TSM Tawau 18.75 199 ⇓P P 03 04 09.7 0.0
BJT Baijiatuau 18.88 342 eP P 03 04 11.0 0.0
BJT pmax pmax
comp=Z,639nm,1.0s
BJT Baijiatuau 18.88 342 eP P 03 04 11.0 0.0
comp=Z,638nm,1.0s
BJI Beijing 18.90 342 P Pn 03 04 11.8 0.0
BJI pP pP 03 04 18.3 +0.8
BJI sP sP 03 04 21.0 +0.5
BJI S Sn 03 07 41.3 -1.4
BJI PMZ
comp=Z,430nm,1.2s
BJI PMZ
comp=Z,9μm,5.8s
BJI LN
comp=Z,75μm,18.1s
BJI LE
comp=Z,293μm,17.6s
BJI LZ
comp=Z,43μm,21.1s
MAJO Matsushiro 18.95 38 ⇓eP P 03 04 10.9 -0.9
MAJO MLR MLR
comp=Z,239μm,14.0s
MAJO Matsushiro 18.95 38 eP Pn 03 04 12.7 +0.1
comp=Z,5μm,1.1s
MAJO eS S 03 07 48.7 +3.1
MAT Matsushiro 18.95 38 P P 03 04 09.0 -2.8
MAT S Sn 03 07 44.2 +0.1
MJAR Matsushiro Arr 18.95 38 P Pn 03 04 13.5 +0.9
comp=Z,20nm,0.3s,baz=226,slow=8.9,SNR=147
MJAR S S 03 07 48.7 +3.1
comp=Z,0.1nm,0.3s,baz=205,slow=21,SNR=2.6
MJAR LR LR 03 11 07.0
comp=Z,36μm,20.5s,baz=225,slow=35
KMI Kunming 19.51 283 P Pn 03 04 20.5 +0.9
KMI pP pP 03 04 25.5 +0.8
KMI PP PnPn 03 04 38.3 +5.2
KMI S Sn 03 07 58.5 +0.3
KMI PMZ
comp=Z,190nm,0.7s
KMI PMZ
comp=Z,36μm,7.2s
KMI LN
comp=Z,168μm,16.8s
KMI LE
comp=Z,47μm,15.4s
KMI LZ
comp=Z,73μm,14.0s
SNY Shenyang 19.53 359 ⇑P P 03 04 17.0 -1.1
SNY S S 03 07 52.0 -5.3
SNY SS SnSn 03 08 19.3 +6.8
SNY PMZ
comp=Z,380nm,2.6s
SNY LN
comp=Z,224μm,13.2s
SNY LE
comp=Z,61μm,11.7s
SNY LZ
comp=Z,208μm,12.9s
CD2 Chengdu 19.89 300 ⇓iP P 03 04 22.5 +0.4
CD2 pP pP 03 04 26.5 -2.0
CD2 sP sP 03 04 29.5 -2.0
CD2 PP PnPn 03 04 41.3 +3.3
CD2 S S 03 08 00.0 -5.0
CD2 sS Sn 03 08 05.5 -1.3
CD2 SS SnSn 03 08 27.5 +6.2
CD2 PMZ
comp=Z,1μm,1.1s
CD2 PMZ
comp=Z,42μm,6.6s
CD2 LN
comp=Z,237μm,13.1s
CD2 LE
comp=Z,160μm,10.8s
CD2 LZ
comp=Z,144μm,10.8s
KHON Khomkaen 20.66 257 P Pn 03 04 32.1 -0.8
comp=Z,185nm,1.0s,comp=Z,2μm
TOLI Toli-Toli 21.20 188 eP P 03 04 35.0 -1.3
comp=Z,1μm,0.9s
TOLI LR LR
comp=Z,56μm,22.0s
HHC Hu-ho-hao-te 21.25 334 eP P 03 04 37.3 +0.5
HHC sP sP 03 04 45.5 -0.8
HHC PP PnPn 03 05 00.3 +3.6
HHC S S 03 08 28.0 -4.0
HHC sS Sn 03 08 37.8 -1.7
HHC SS SnSn 03 09 00.0 +5.2
HHC PMZ
comp=Z,130nm,1.0s
HHC PMZ
comp=Z,12μm,4.2s
HHC LN
comp=Z,109μm,11.9s
HHC LE
comp=Z,65μm,11.8s
KMSI Cibinong 21.54 180 P P 03 04 39.7 -0.3
CN2 Changchun 21.55 3 ⇑iP P 03 04 39.3 -0.6
CN2 epP pP 03 04 45.0 -1.4
CN2 eS S 03 08 32.3 -5.3
CN2 PMZ
comp=Z,26μm,8.0s
BTM Bintulu 21.60 210 ⇑P P 03 04 40.6 -0.1
TNTI Ternate 21.62 170 P P 03 04 41.6 +0.7
TNTI Ternate 21.62 170 ⇑eP P 03 04 40.1 -0.7
comp=Z,7μm,0.8s
MRSI Marisa 21.71 185 P P 03 04 41.8 0.0
BTO Baotou 21.72 331 eP P 03 04 41.8 -0.1
BTO S S 03 08 39.0 -2.2
BTO LN
comp=Z,60μm,15.3s
BTO LE
comp=Z,101μm,16.1s
GUMO Guam 21.78 110 P P 03 04 42.6 0.0
comp=Z,3μm,1.1s,baz=263,slow=2.6,SNR=54
GUMO Guam 21.78 110 eP P 03 04 43.1 +0.4
GUMO pmax pmax
comp=Z,860nm,1.3s
GUMO MLR MLR
comp=Z,5μm,18.0s
GUMO Guam 21.78 110 eP P 03 04 43.1 +0.4
comp=Z,860nm,1.3s
GUMO LR LR
comp=Z,5μm,18.0s
VLA Vladivostok 21.88 16 ⇑P P 03 04 45.3 +1.9
VLA 03 05 06.4
VLA e 03 08 44.8
VLA pmax pmax
comp=Z,980nm,1.0s
CRAI Chiangrai 21.94 269 P P 03 04 42.8 -1.6
comp=Z,484nm,0.9s,comp=Z,20μm
MPSI Mapaga 22.10 190 P P 03 04 45.1 -1.0
LZH Lanzhou 22.18 313 ⇓P P 03 04 48.0 +1.0
LZH pP pP 03 04 56.3 +2.9
LZH sP sP 03 05 00.0 +3.6
LZH S S 03 08 51.0 +0.7
LZH PMZ
comp=Z,970nm,1.5s
LZH PMZ
comp=Z,8μm,5.5s
LZH LN
comp=Z,112μm,13.0s
LZH LE
comp=Z,133μm,15.4s
LZH LZ
comp=Z,123μm,16.0s
PBKT Sadao Pong 22.26 259 P P 03 04 49.0 +1.2
comp=Z,592nm,1.4s,comp=Z,22μm
UTTA Uttaradit 22.30 263 P P 03 04 49.4 +1.1
comp=Z,52nm,1.4s,comp=Z,711nm
SBUM Sibu 22.67 211 ⇑P P 03 04 51.9 -0.2
SBUM Sibu 22.67 211 eP P 03 04 51.2 -1.0
comp=Z,4μm,1.8s
SBUM LR LR
comp=Z,70μm,20.0s
MDJ Mudanjiang 22.82 11 P P 03 04 54.5 +1.0
MDJ pP pP 03 05 01.3 +1.3
MDJ sP sP 03 05 03.5 +0.5
MDJ PMZ
comp=Z,260nm,0.9s
MDJ PMZ
comp=Z,16μm,11.6s
MDJ LN
comp=Z,54μm,16.5s
MDJ LE
comp=Z,146μm,15.7s
MDJ LZ
comp=Z,74μm,18.9s
MDJ Mudanjiang 22.82 11 eP P 03 04 51.1 -2.3
comp=Z,654nm,1.3s
MDJ LR LR
comp=Z,53μm,20.0s
USRK Ussuriysk Ar. 22.92 15 P P 03 04 54.0 -0.5
comp=Z,130nm,0.8s,baz=202,slow=5.8,SNR=68
LAMP Lampang 22.96 265 P P 03 04 57.7 +2.5
comp=Z,153nm,1.4s,comp=Z,1μm
LBMI Labuha 23.02 171 P P 03 04 56.6 +0.8
LUWI Luwuk 23.16 183 P P 03 04 55.7 -1.5
LUWI Luwuk 23.16 183 eP P 03 04 54.0 -3.2
comp=Z,2μm,1.1s
LUWI LR LR
comp=Z,55μm,21.0s

CMAI Chiengmai2 23.22 269 P **P** **03 04 58.9 +0.9**
comp=Z,583nm,1.6s,comp=Z,15µm
PCI Palu 23.33 190 P **P** **03 04 58.5 -0.4**
comp=Z,3µm,1.1s,comp=Z,37µmcomp=Z,27µm
CHTO Chiang Mai 23.53 266 *e*P **P** **03 05 01.1 +0.1**
CHTO pmax pmax
comp=Z,2µm,2.0s
CHTO MLR MLR
comp=Z,70µm,18.0s
CHTO Chiang Mai 23.53 266 P **P** **03 05 00.6 -0.4**
SNR=217
CHTO Chiang Mai 23.53 266 *e*P **P** **03 05 01.1 +0.1**
comp=Z,2µm,2.0s
CHTO LR LR
comp=Z,70µm,18.0s
CM31 Chiang Mai Arr 23.61 265 *e*P **P** **03 05 02.3 +0.5**
CM31 *e*PcP **PcP** **03 08 47.0 +0.6**
CM31 *e*ScP **ScP** **03 12 22.6 -0.7**
CMAR Chiang Mai Arr 23.61 265 P **P** **03 05 02.3 +0.5**
comp=Z,79nm,0.7s,baz=69,slow=6.8,SNR=115
CMAR PcP **PcP** **03 08 47.0 +0.6**
comp=Z,26nm,0.9s,baz=56,slow=0.7,SNR=9.1
CMAR ScP **ScP** **03 12 22.6 -0.7**
comp=Z,2.6nm,0.8s,baz=64,slow=2.1,SNR=3.4
CMAR LR LR 03 14 41.9
comp=Z,57µm,18.0s,baz=79,slow=38
UTHA Uthaitani 23.98 258 P **P** **03 05 05.2 0.0**
comp=Z,130nm,1.3s,comp=Z,1µm
SWI Sorong 24.08 161 P **P** **03 05 05.9 -0.3**
SANI Sanana 24.23 175 P **P** **03 05 04.7 -2.8**
UMPA Umpang Tak 24.30 260 P **P** **03 05 08.5 +0.3**
comp=Z,10nm,0.8s,comp=Z,30µm
BKB Balikpapan 24.32 197 P **P** **03 05 08.4 +0.1**
KSM Kuching 24.47 214 ⇓P **P** **03 05 09.3 -0.4**
KSM Kuching 24.47 214 *e*P **P** **03 05 08.5 -1.2**
comp=Z,846nm,1.1s
KSM LR LR
comp=Z,73µm,20.0s
MHMT Maesarieng 24.61 265 P **P** **03 05 12.3 +1.3**
comp=Z,258nm,1.4s,comp=Z,7µm
MTKI Muara Teweh, K 24.63 202 P **P** **03 05 11.2 0.0**
SRDT SRDT 24.70 256 P **P** **03 05 11.9 +0.1**
comp=Z,836nm,1.5s,comp=Z,23µm
KHLT Khaolaem Dam 25.02 257 P **P** **03 05 15.2 +0.5**
comp=Z,125nm,1.7s,comp=Z,4µm
STKI Sintang 25.11 210 P **P** **03 05 15.2 -0.3**
TTSI Tana Toraja 25.43 189 P **P** **03 05 18.5 +0.1**
ERM Erimo 25.52 35 P **P** **03 05 21.7 +2.7**
comp=Z,10µm,0.9s,SNR=15
ERM Erimo 25.52 35 *de*P **P** **03 05 19.0 0.0**
ERM pmax pmax
comp=Z,2µm,1.2s
ERM Erimo 25.52 35 *e*P **P** **03 05 19.5 +0.5**
comp=Z,2µm,1.0s
NLAI Namlea 25.53 172 P **P** **03 05 19.6 +0.3**
RKPI Ransiki, Papua 25.68 155 P **P** **03 05 21.6 +0.9**
MSAI Masohi 25.92 168 P **P** **03 05 23.4 +0.6**
AAI Ambon 26.12 170 P **P** **03 05 25.2 +0.5**
KTGM Kuala Trenggan 26.13 233 ⇓P **P** **03 05 25.4 +0.6**
FAKI Fak Fak 26.33 161 P **P** **03 05 25.7 -0.9**
FAKI Fak Fak 26.33 161 *e*P **P** **03 05 25.4 -1.1**
comp=Z,516nm,1.0s
SPSI Sidrap Palu 26.34 189 P **P** **03 05 26.4 -0.3**
KBKI Kotabaru 26.46 197 P **P** **03 05 27.4 -0.3**
GTA Gaotai 26.66 315 ⇓P **P** **03 05 29.8 +0.2**
GTA pP **pP** **03 05 34.0 -2.5**
GTA sP **sP** **03 05 36.8 -2.6**
GTA S **S** **03 10 05.0 +1.4**
GTA sS **sS** **03 10 11.8 -3.3**
GTA PMZ
comp=Z,4µm,6.2s
GTA LN
comp=Z,70µm,19.7s
GTA LE
comp=Z,49µm,20.9s
GTA LZ
comp=Z,84µm,18.1s
BNSI Bone 26.73 188 P **P** **03 05 29.7 -0.4**
ASAJ Asahikawa 26.77 31 P **P** **03 05 30.1 -0.2**
comp=Z,185nm,0.7s,baz=229,slow=12,SNR=57
ASAJ LR LR 03 17 49.7
comp=Z,52µm,18.2s,baz=232,slow=40
ASAJ Asahikawa 26.77 31 P **P** **03 05 30.1 -0.2**
ASAJ pmax pmax
comp=Z,185nm,0.7s
ASAJ MLR MLR
comp=Z,52µm,18.2s
ASAJ Asahikawa 26.77 31 *e*P **P** **03 05 31.8 +1.5**
comp=Z,3µm,1.5s
ASAJ LR LR
comp=Z,62µm,20.0s
SRPI Serui, Papua 26.86 152 P **P** **03 05 32.2 +0.8**
SKLT Songkhla 26.91 240 P **P** **03 05 32.5 +0.6**
comp=Z,327nm,1.5s
BBKI Banjar Baru 27.01 200 P **P** **03 05 32.3 -0.4**
HIA Hailar 27.16 354 *e*P **P** **03 05 33.0 -0.8**
HIA pmax pmax
comp=Z,1µm,1.5s
HIA MLR MLR
comp=Z,73µm,19.0s
HIA Hailar 27.16 354 *e*P **P** **03 05 33.0 -0.8**
comp=Z,1µm,1.5s
HIA LR LR
comp=Z,73µm,19.0s
BNDI Bandanaira 27.26 167 P **P** **03 05 33.8 -1.1**
KAPI Kappang 27.38 189 P **P** **03 05 35.8 -0.2**
comp=Z,2µm,1.9s,SNR=84
KAPI Kappang 27.38 189 P **P** **03 05 35.0 -1.0**
SNR=76
KAPI Kappang 27.38 189 *e*P **P** **03 05 34.3 -1.7**
comp=Z,117nm,1.3s
KAPI LR LR
comp=Z,8µm,21.0s
SURT Suratani 27.42 245 P **P** **03 05 36.6 +0.2**
comp=Z,131nm,1.4s,comp=Z,2µm
PBKI Pangkalan Bun 27.49 207 P **P** **03 05 38.0 +1.0**
IMP Imphal 27.49 281 *ex* **P** **03 05 41.0 +3.9**
BBSI Bau Bau 27.58 183 P **P** **03 05 38.7 +0.9**
BKSI Bulukumba 27.63 188 P **P** **03 05 38.2 0.0**
KLR Kul'dur 27.66 11 *d*iP **P** **03 05 35.0 -3.2**
KLR *e*S **S** **03 10 14.0 -4.8**
KLR pmax pmax
comp=E,300nm,1.6s
KLR pmax pmax
comp=Z,840nm,1.6s
KLR pmax pmax
comp=E,3µm,6.5s
KLR pmax pmax
comp=Z,14µm,6.5s
HABR Khabarovsk 27.67 16 *c*iP **P** **03 05 37.1 -1.2**
HABR *e*PPP PPP 03 06 30.5
HABR *e* 03 08 53.6
HABR *e*S **S** **03 10 20.4 +1.4**
HABR *e*SS **SnSn** **03 11 33.1 +1.6**
HABR *e*SSS SSS 03 11 47.1
HABR *e* 03 16 25.2
HABR pmax pmax
comp=Z,368nm,1.7s
HABR pmax pmax
comp=E,159nm,1.7s
HABR pmax pmax
comp=N,125nm,1.7s
HABR pmax pmax
comp=Z,13µm,5.5s
HABR MLR MLR
comp=N,49µm,13.0s
HABR MLR MLR
comp=E,85µm,13.0s
HABR MLR MLR
comp=Z,75µm,15.0s
KULM Kulim 28.03 236 ⇑P **P** **03 05 42.2 +0.3**
KULM Kulim 28.03 236 *e*P **P** **03 05 41.3 -0.6**
comp=Z,2µm,2.4s
KULM LR LR
comp=Z,42µm,19.0s
MYKOM Kota Tinggi 28.11 226 ⇑P **P** **03 05 42.7 +0.1**
MYKOM Kota Tinggi 28.11 226 *e*P **P** **03 05 42.2 -0.4**
comp=Z,815nm,1.5s
MYKOM LR LR
comp=Z,53µm,18.0s
SMPI Sarmi 28.13 147 P **P** **03 05 42.9 +0.1**
IPM Ipoh 28.26 235 ⇑P **P** **03 05 43.3 -0.7**
IPM Ipoh 28.26 235 *e*P **P** **03 05 43.0 -1.0**
comp=Z,268nm,0.9s
IPM LR LR
comp=Z,37µm,19.0s

KGM Kluang 28.30 228 ⇑P **P** **03 05 44.4 +0.1**
TPRI Tanjung Pinang 28.31 224 P **P** **03 05 44.2 -0.2**
YUK Yuzh-Kuril'sk 28.35 35 *c*iP **P** **03 05 43.4 -1.1**
YUK *i* 03 06 31.5
YUK *i*S **S** **03 10 29.3 -0.5**
YUK *i*SSS SSS 03 12 10.8
YUK MLR MLR
comp=N,32µm,23.0s
YUK MLR MLR
comp=E,20µm,23.0s
YUK MLR MLR
comp=Z,43µm,23.0s
PKDT Phuket 28.37 244 P **P** **03 05 45.6 +0.7**
comp=Z,252nm,1.5s,comp=Z,4µm
BSSI Bau Bau, Buton 28.40 187 P P 03 05 51.5 +6.4
FRIM Kepong 28.64 232 ⇓P **P** **03 05 46.8 -0.6**
ULN Ulaanbaatar 28.89 336 *de*P **P** **03 05 48.8 -0.6**
ULN pmax pmax
comp=Z,320nm,2.5s
ULN MLR MLR
comp=Z,43µm,13.0s
ULN Ulaanbaatar 28.89 336 P **P** **03 05 49.4 0.0**
SNR=448
ULN Ulaanbaatar 28.89 336 *e*P **P** **03 05 49.1 -0.3**
comp=Z,756nm,1.2s
ULN LR LR
comp=Z,54µm,20.0s
YSS Yuzh-Sakhalins 29.02 27 α *i*P **P** **03 05 50.0 -0.3**
YSS *e**SP **sP** **03 05 56.0 -4.2**
YSS *e* 03 06 38.0
YSS *e*PPP PPP 03 06 58.0
YSS *e* 03 09 06.0
YSS *e*S **S** **03 10 37.0 -3.2**
YSS *e*SSS SSS 03 12 22.0
YSS pmax pmax
comp=Z,190nm,1.8s
YSS MLR MLR
comp=E,35µm,18.0s
YSS MLR MLR
comp=Z,66µm,18.0s
YSS Yuzh-Sakhalins 29.02 27 *e*P **P** **03 05 52.6 +2.3**
comp=Z,3µm,0.9s
SONA0 Songino Array 29.11 336 *e*P **P** **03 05 50.9 -0.4**
SONA0 *e*S **S** **03 10 44.8 +2.8**
SONM Songino Array 29.11 336 P **P** **03 05 50.9 -0.4**
comp=Z,128nm,1.0s,baz=147,slow=9.2,SNR=109
SONM S **S** **03 10 44.8 +2.8**
comp=Z,9.9nm,1.2s,baz=111,slow=3.2,SNR=1.8
SONM LR LR 03 17 49.2
comp=Z,74µm,19.2s,baz=144,slow=37
SONM Songino Array 29.11 336 P **P** **03 05 50.9 -0.4**
SONM S **S** **03 10 44.8 +2.8**
SONM pmax pmax
comp=Z,129nm,1.0s
SONM smax smax
comp=N,10.0nm,1.2s
SONM MLR MLR
comp=Z,74µm,19.2s
SHL Shillong 29.34 283 ⇓*i*P **P** **03 05 52.0 -1.7**
comp=Z,51nm,1.2s
SHL AMB AMB 03 05 59.1
comp=Z,359nm,2.1s
SHL *i*PCP **PcP** **03 09 01.0 +1.1**
SHL *i*x x 03 10 40.0
GENI Genyem 29.40 145 P **P** **03 05 57.2 +3.1**
TPI Tanjungpandan 29.44 214 P **P** **03 05 54.2 -0.2**
comp=Z,352nm,1.2s,comp=Z,4µmcomp=Z,42µm
JAY Jayapura 29.62 144 P **P** **03 05 56.6 +0.5**
comp=Z,18nm,1.0s,baz=321,slow=4.3,SNR=3.8
JAY LR LR 03 16 32.1
comp=Z,23µm,20.2s,baz=349,slow=34
JAY Jayapura 29.62 144 P **P** **03 05 56.6 +0.5**
JAY pmax pmax
comp=Z,18nm,1.0s
JAY MLR MLR
comp=Z,23µm,20.2s
PPBI Pangkal Pinang 29.77 218 P **P** **03 05 57.0 -0.3**
KUR Kuril'sk 30.22 35 *c*iP **P** **03 05 59.0 -2.0**
KUR *i*S **S** **03 10 57.4 -1.7**
KUR pmax pmax
comp=N,108nm,1.2s
KUR pmax pmax
comp=E,228nm,1.2s
KUR pmax pmax
comp=Z,2µm,1.2s
KUR pmax pmax
comp=Z,10µm,5.3s
LSA Lhasa 30.22 291 P **P** **03 06 03.0 +1.2**
LSA pP **pP** **03 06 11.5 +2.8**
LSA S **S** **03 10 59.3 -1.1**
LSA sS **sS** **03 11 14.8 +2.9**
LSA LN
comp=Z,44µm,22.9s
LSA LE
comp=Z,52µm,17.9s
LSA LZ
comp=Z,62µm,20.9s
LSA Lhasa 30.22 291 *e*P **P** **03 06 03.3 +1.5**
LSA pmax pmax
comp=Z,1µm,1.8s
LSA MLR MLR
comp=Z,65µm,19.0s
LSA Lhasa 30.22 291 *e*P **P** **03 06 03.3 +1.5**
comp=Z,1µm,1.8s
LSA LR LR
comp=Z,65µm,19.0s
KMMI Kalianget 30.67 199 P **P** **03 06 05.9 +0.7**
DGPR DIGLIPUR 30.72 258 *e*P **P** **03 06 03.3 -2.4**
MMRI Maumere 30.72 183 P **P** **03 06 05.1 -0.6**
MMRI Maumere 30.72 183 *e*P **P** **03 06 04.7 -1.1**
comp=Z,720nm,1.0s
CIT Chita 30.77 348 *e*P **P** **03 06 04.8 -1.1**
CIT *e* 03 06 16.8
CIT *e* 03 07 14.8
CIT *e* 03 07 26.7
CIT *e* 03 11 06.4
CIT pmax pmax
comp=Z,828nm,2.0s
JMBI JAMBI 30.84 222 P **P** **03 06 08.8 +2.0**
EDFI Ende, Flores 30.87 184 P **P** **03 06 05.6 -1.5**
PSI Prapat 30.94 235 LR LR 03 18 55.6
comp=Z,30µm,18.2s,baz=46,slow=37
PSI Prapat 30.94 235 PFAKE 03 06 20.0 +12
PSI LR LR
comp=Z,31µm,18.0s
LHMI Lhok Sumawe 31.00 241 P **P** **03 06 09.7 +1.4**
LHMI Lhok Sumawe 31.00 241 *e*P **P** **03 06 08.3 0.0**
comp=Z,519nm,0.9s
LHMI LR LR
comp=Z,25µm,20.0s
GRJI Gresik 31.03 202 P P 03 06 14.8 +6.4
comp=Z,135nm,0.8s,comp=Z,2µm
BKNI Bangkinang 31.09 229 P **P** **03 06 09.0 0.0**
BKNI Bangkinang 31.09 229 *e*P **P** **03 06 08.4 -0.6**
comp=Z,864nm,1.2s
BKNI LR LR
comp=Z,35µm,18.0s
TBJI Tambak Boyo 31.17 203 P **P** **03 06 09.9 +0.2**
PMBI Palembang 31.18 219 P **P** **03 06 10.6 +0.8**
ABJI Asem Bagus 31.29 199 P **P** **03 06 11.3 +0.6**
SRBI Singaraja 31.30 197 P **P** **03 06 12.9 +2.1**
KCSI Kotacane, Aceh 31.37 237 P **P** **03 06 10.4 -1.1**
BLJI Banyuglugur 31.44 200 P **P** **03 06 11.5 -0.5**
PBA Port Blair 31.47 256 *e*P P 03 06 10.4 -1.9
SDSI Sungai Dareh 31.74 226 P **P** **03 06 15.2 +0.5**
MNSI Mandailing Nat 31.80 231 P **P** **03 06 15.0 -0.2**
SOEI Soe 31.80 179 P **P** **03 06 12.9 -2.4**
SOEI Soe 31.80 179 *e*P **P** **03 06 12.3 -3.0**
comp=Z,382nm,0.7s
DNP Denpasar 31.86 196 P **P** **03 06 16.0 +0.2**
WSI Waingapu 31.90 187 P **P** **03 06 14.7 -1.4**
SMRI Semarang 31.92 206 P **P** **03 06 17.0 +0.7**
SMRI Semarang 31.92 206 *e*P **P** **03 06 16.0 -0.3**
comp=Z,2µm,2.0s
JAGI Jajag, Banyuwa 31.96 198 P **P** **03 06 15.8 -0.8**
JAGI Jajag, Banyuwa 31.96 198 *e*P **P** **03 06 14.8 -1.8**
comp=Z,4µm,2.7s
GMJI Gumukmas 31.98 200 P **P** **03 06 16.2 -0.6**
IGBI Denpasar 32.02 196 P **P** **03 06 15.0 -2.1**
BATI Baumata 32.25 180 P **P** **03 06 16.0 -3.2**
BATI Baumata 32.25 180 P **P** **03 06 16.4 -2.7**
comp=Z,550nm,0.7s,baz=349,slow=0.3,SNR=100
PWJI Pagerwojo 32.30 203 P **P** **03 06 18.2 -1.4**
ZAK Zakamensk 32.38 335 *e*P **P** **03 06 19.3 -0.8**
ZAK *e* 03 09 09.4

ZAK pmax pmax
comp=Z,108nm,1.4s
PDSI Padang 32.38 228 P **P** **03 06 19.7 -0.7**
BASI Baing, Sumba 32.41 186 P **P** **03 06 20.4 -0.2**
WOJI Wonogiri, Jawa 32.45 204 P **P** **03 06 20.4 -0.5**
CMBY CAMPBELL BAY 32.55 247 *e*P **P** **03 06 20.5 -1.3**
CMBY AMB AMB 03 06 29.7
comp=Z,220nm,0.7s
LHSI Lahat 32.63 220 P **P** **03 06 22.9 +0.3**
UGM Wanagama 32.68 205 P **P** **03 06 23.3 +0.3**
UGM Wanagama 32.68 205 *e*P **P** **03 06 22.4 -0.5**
comp=Z,890nm,1.6s
UGM LR LR
comp=Z,28µm,19.0s
PCJI Pacitan 32.69 204 P P 03 06 19.2 -3.8
KLI Kotabumi 32.71 217 P **P** **03 06 23.0 -0.2**
MDSI Maura Dua 32.78 218 P **P** **03 06 23.3 -0.6**
KPJI Karang Pucung 32.81 208 P **P** **03 06 24.6 +0.5**
MASI Maura Aman, Be 32.88 223 P **P** **03 06 24.8 0.0**
BLSI Bandar Lampung 32.91 216 P **P** **03 06 25.2 +0.2**
GSI Gunungsitoli 32.93 234 P **P** **03 06 24.3 -0.9**
GSI Gunungsitoli 32.93 234 *e*P **P** **03 06 23.5 -1.7**
comp=Z,170nm,0.7s
GSI LR LR
comp=Z,27µm,20.0s
LEM Lembang 32.96 211 P **P** **03 06 26.4 +0.8**
LEM Lembang 32.96 211 P **P** **03 06 24.9 -0.7**
comp=Z,91nm,0.9s,baz=61,slow=8.6,SNR=18
LEM Lembang 32.96 211 P **P** **03 06 24.9 -0.7**
LEM pmax pmax
comp=Z,91nm,0.9s
SBJI Serang 33.08 214 P **P** **03 06 26.5 0.0**
TAPN Taplejung 33.09 286 *e*P **P** **03 06 28.2 +1.3**
comp=Z,4µm,1.3s
SNSI Sinabang, Aceh 33.19 237 P **P** **03 06 26.7 -0.7**
LWLI Liwa 33.28 218 P **P** **03 06 28.3 -0.1**
TLY Talaya 33.29 337 P **P** **03 06 28.5 +0.5**
comp=Z,3µm,1.6s
TLY Talaya 33.29 337 P **P** **03 06 28.1 +0.1**
comp=Z,37nm,0.6s,baz=199,slow=4.4,SNR=38
TLY S **S** **03 11 48.4 +1.4**
comp=Z,11nm,1.1s,baz=135,slow=19,SNR=2.7
TLY LR LR 03 20 35.4
comp=Z,36µm,18.6s,baz=142,slow=37
TLY Talaya 33.29 337 *d*iP **P** **03 06 27.4 -0.6**
TLY *e* 03 07 33.8
TLY *e*PPP PPP 03 07 52.3
TLY *e*S **S** **03 11 42.6 -4.4**
TLY pmax pmax
comp=Z,1µm,1.8s
TLY MLR MLR
comp=Z,50µm,14.0s
TLY Talaya 33.29 337 P **P** **03 06 28.0 +0.1**
SNR=512
TLY Talaya 33.29 337 *e*P **P** **03 06 28.4 +0.4**
comp=Z,1µm,1.4s
TLY *e*S **S** **03 11 48.4 +1.4**
TLY LR LR
comp=Z,45µm,19.0s
ODAN Odare 33.38 285 *e*P **P** **03 06 30.3 +1.0**
comp=Z,2µm,1.2s
MNAI Manna 33.40 220 P **P** **03 06 29.6 +0.3**
MNAI Manna 33.40 220 *e*P **P** **03 06 28.7 -0.5**
comp=Z,843nm,0.9s
MNAI LR LR
comp=Z,38µm,19.0s
KASI Kota Agung 33.45 217 P **P** **03 06 28.3 -1.4**
CISI Cisompet, Garu 33.51 210 P **P** **03 06 29.0 -1.3**
CISI Cisompet, Garu 33.51 210 *e*P **P** **03 06 28.8 -1.5**
comp=Z,428nm,1.2s
CISI LR LR
comp=Z,30µm,19.0s
IRK Irkutsk 33.53 338 *e*P **P** **03 06 32.3 +2.3**
IRK *e*S **S** **03 11 48.6 -2.0**
IRK pmax pmax
comp=Z,1µm,1.6s
CNJI Cibinong 33.61 211 P **P** **03 06 29.5 -1.6**
CGJI Cibinong 33.73 214 P **P** **03 06 29.9 -2.2**
RAMN Ramite 34.08 286 *e*P **P** **03 06 36.4 +0.9**
comp=Z,3µm,1.3s
JIRN Jiri 34.45 287 *e*P **P** **03 06 39.7 +0.9**
comp=Z,4µm,1.5s
CLNS Chul'man 34.56 1 *e*P **P** **03 06 39.7 +0.7**
CLNS *e**PP **pP** **03 06 47.4 +1.4**
CLNS *e* 03 07 50.7
CLNS *e* 03 09 16.3
CLNS *e*S **S** **03 12 03.3 -3.3**
CLNS *e*SSS SSS 03 14 37.0
CLNS pmax pmax
comp=Z,194nm,1.2s
CLNS pmax pmax
comp=N,125nm,1.1s
CLNS pmax pmax
comp=E,79nm,1.1s
CLNS pmax pmax
comp=Z,50nm,0.9s
CLNS pmax pmax
comp=N,93nm,1.1s
CLNS pmax pmax
comp=E,60nm,1.0s
CLNS smax smax
comp=E,3µm,10.2s
CLNS smax smax
comp=N,12µm,11.5s
CLNS MLR MLR
comp=E,55µm,12.0s
CLNS MLR MLR
comp=N,60µm,16.0s
CLNS MLR MLR
comp=Z,75µm,16.0s
GUN Gumba 34.73 287 *e*P **P** **03 06 42.0 +0.9**
comp=Z,4µm,1.5s
BOK Bokaro 34.88 280 *e*P **P** **03 06 40.0 -2.1**
BOK AMB AMB 03 06 48.8
comp=Z,364nm,0.7s
PKI Pulchoki 35.14 287 *e*P **P** **03 06 44.9 +0.2**
comp=Z,2µm,1.5s
PKIN Phulchoki 35.15 287 *e*P **P** **03 06 45.1 +0.4**
comp=Z,731nm,1.2s
KKN Kakani 35.26 287 *e*P **P** **03 06 46.1 +0.5**
comp=Z,1µm,1.4s
DMN Daman 35.41 287 *e*P **P** **03 06 47.3 +0.4**
comp=Z,2µm,1.4s
GKN Gorkha 35.83 287 *e*P **P** **03 06 50.7 +0.3**
comp=Z,1µm,1.3s
BOD Bodaibo 36.25 351 *e*P **P** **03 06 52.3 -1.1**
DANN Dangsing 36.60 288 *e*P **P** **03 06 57.6 +0.4**
comp=Z,2µm,1.4s
WMQ Urumqi 36.74 314 ⇓*i*P **P** **03 06 58.8 +0.9**
WMQ sP **sP** **03 07 07.0 -0.8**
WMQ PP **PP** **03 08 24.0 +2.3**
WMQ S **S** **03 12 39.0 -1.4**
WMQ sS **sS** **03 12 50.8 -1.2**
WMQ PMZ
comp=Z,320nm,1.3s
WMQ PMZ
comp=Z,3µm,5.2s
WMQ LN
comp=Z,81µm,14.0s
WMQ LE
comp=Z,63µm,14.8s
WMQ LZ
comp=Z,76µm,16.6s
KOLN Koldanda 36.74 287 *e*P **P** **03 06 58.8 +0.5**
comp=Z,380nm,0.7s
XMIS Christmas Isla 37.08 211 *e*P **P** **03 06 59.2 -1.7**
comp=Z,386nm,1.6s
XMIS LR LR
comp=Z,12µm,22.0s
PYUN Piuthan 37.28 288 *e*P **P** **03 07 03.4 +0.5**
comp=Z,777nm,0.8s
CHLP Challavanipeta 37.38 272 *e*P **P** **03 07 04.4 +0.8**
CHLP IAmb IAmb 03 07 13.2
comp=Z,316nm,1.1s
CHLP *e* 03 08 34.4
CHLP *e*S **S** **03 12 51.4 +0.8**
CHLP *e*SS **SS** **03 15 42.3 +7.5**
CHLP IVMs_BB IVMs_BB 03 26 29.4
comp=Z,8µm,15.1s
SKR Severo-Kuril's 37.95 34 ⇑*i*P P 03 06 59.0 -8.9
SKR *e* 03 09 28.0
SKR pmax pmax
comp=Z,670nm,1.0s
SKR pmax pmax
comp=N,800nm,1.5s
SKR pmax pmax

	comp=E,720nm,1.5s								
SKR					pmax	pmax			
	comp=N,7µm,12.0s								
SKR					pmax	pmax			
	comp=E,8µm,12.0s								
SKR					pmax	pmax			
	comp=Z,15µm,12.0s								
SKR					MLR	MLR			
	comp=N,26µm,20.0s								
SKR					MLR	MLR			
	comp=E,26µm,20.0s								
SKR					MLR	MLR			
	comp=Z,57µm,20.0s								
VIS	**Vishakhapatnam**	**38.24**	**271**	*e*P		**P**		**03 07 08.9**	**-1.8**
VIS				AMB		AMB		03 07 20.0	
	comp=Z,281nm,0.3s								
PMG	**Port Moresby**	**38.90**	**141**	*e*P		**P**		**03 07 16.0**	**-0.3**
PMG				pmax		pmax			
	comp=Z,220nm,1.1s								
PMG				MLR		MLR			
	comp=Z,27µm,18.0s								
PMG	**Port Moresby**	**38.90**	**141**	*e*P		**P**		**03 07 16.0**	**-0.3**
	comp=Z,220nm,1.1s								
PMG				LR		LR			
	comp=Z,27µm,18.0s								
PTH	**Pithoragarh**	**39.71**	**290**	*e*P		**P**		**03 07 22.2**	**-1.1**
YAK	**Yakutsk**	**39.97**	**4**	P		**P**		**03 07 23.4**	**-1.2**
	comp=Z,225nm,0.7s,baz=201,slow=2.0,SNR=16								
YAK				S		**S**		**03 13 30.9**	**+2.4**
	comp=Z,8.6nm,0.4s,baz=180,slow=19,SNR=3.0								
YAK	**Yakutsk**	**39.97**	**4***c*	*i*P		**P**		**03 07 24.1**	**-0.5**
YAK				*e**PP		**pP**		**03 07 34.4**	**+2.7**
YAK				*e*				03 09 00.6	
YAK				*e*				03 09 33.9	
YAK				*e*S		**S**		**03 13 24.7**	**-3.8**
YAK				*e*				03 17 32.6	
YAK				pmax		pmax			
	comp=E,102nm,1.5s								
YAK				pmax		pmax			
	comp=N,293nm,1.1s								
YAK				pmax		pmax			
	comp=Z,478nm,1.0s								
YAK				pmax		pmax			
	comp=E,388nm,1.4s								
YAK				pmax		pmax			
	comp=Z,838nm,3.2s								
YAK				pmax		pmax			
	comp=N,1µm,2.5s								
YAK				smax		smax			
	comp=E,8µm,7.3s								
YAK				smax		smax			
	comp=N,10µm,6.8s								
YAK				MLR		MLR			
	comp=N,51µm,16.0s								
YAK				MLR		MLR			
	comp=E,40µm,15.0s								
YAK				MLR		MLR			
	comp=Z,63µm,14.0s								
YAK	**Yakutsk**	**39.97**	**4**	*e*P		**P**		**03 07 24.2**	**-0.5**
	comp=Z,1µm,1.2s								
YAK				*e*S		**S**		**03 13 30.9**	**+2.4**
YAK				LR		LR			
	comp=Z,43µm,21.0s								
WAKE	**Wake Island**	**40.07**	**86**	PFAKE				03 07 40.0	+14
WAKE				LR		LR			
	comp=Z,15µm,20.0s								
PETK	**Petropavlovsk-**	**40.19**	**31**	P		**P**		**03 07 27.4**	**+0.8**
	comp=Z,118nm,1.0s,baz=229,slow=5.0,SNR=27								
PETK				S		**S**		**03 13 34.4**	**+2.3**
	comp=Z,4.6nm,1.1s,baz=114,slow=18,SNR=2.8								
PETK				LR		LR		03 25 31.5	
	comp=Z,13µm,20.1s,baz=231,slow=38								
PETK	**Petropavlovsk-**	**40.19**	**31**	P		**P**		**03 07 27.5**	**+0.8**
PETK				S		**S**		**03 13 34.4**	**+2.3**
PETK				pmax		pmax			
	comp=Z,118nm,1.0s								
PETK				smax		smax			
	comp=N,5.0nm,1.1s								
PETK				MLR		MLR			
	comp=Z,13µm,20.1s								
PEA2	**Petropavlovsk-**	**40.19**	**31**	*e*P		**P**		**03 07 27.4**	**+0.8**
PEA2				*e*S		**S**		**03 13 34.4**	**+2.3**
H11N1	**WAKE ISLAND Hy**	**40.20**	**85**	T		T		03 51 45.5	
	baz=283,slow=74,SNR=25								
H11N2	**WAKE ISLAND Hy**	**40.20**	**85**	T		T		03 51 45.5	
	baz=283,slow=74,SNR=18								
H11N3	**WAKE ISLAND Hy**	**40.22**	**85**	T		T		03 51 45.5	
	baz=283,slow=74,SNR=24								
PET	**Petropavlovsk**	**40.60**	**32**⇑	*e*P		**P**		**03 07 30.0**	**0.0**
PET				*e*				03 09 09.1	
PET				*e*S		**S**		**03 13 39.1**	**+0.9**
PET				pmax		pmax			
	comp=Z,960nm,1.2s								
PET				pmax		pmax			
	comp=Z,14µm,6.1s								
PET				pmax		pmax			
	comp=Z,11µm,8.2s								
PET				pmax		pmax			
	comp=Z,4µm,11.5s								
PET				smax		smax			
	comp=E,23µm,18.4s								
PET				MLR		MLR			
	comp=Z,41µm,20.0s								
PET				MLR		MLR			
	comp=Z,32µm,19.0s								
PET	**Petropavlovsk**	**40.60**	**32**	*e*P		**P**		**03 07 30.3**	**+0.2**
	comp=Z,997nm,1.1s								
PET				LR		LR			
	comp=Z,39µm,21.0s								
COEN	**Coen**	**40.67**	**150**	*e*P		**P**		**03 07 31.2**	**+0.2**
	comp=Z,364nm,1.0s								
KRAR	**Krasnoyarsk**	**40.74**	**334**⇓	*i*P		**P**		**03 07 31.1**	**-0.1**
KRAR				pmax		pmax			
	comp=Z,486nm,2.5s								
KRAR				MLR		MLR			
	comp=Z,58µm,19.0s								
MK31	**Makanchi Array**	**41.41**	**316**	*i* P		**P**		**03 07 37.2**	**+0.3**
MK31				pmax		pmax			
	comp=Z,760nm,1.3s								
MK32	**Makanchi Array**	**41.41**	**316**	*e*P		**P**		**03 07 37.2**	**+0.3**
MK32				*e*S		**S**		**03 13 50.7**	**+0.2**
MKAR	**Makanchi Array**	**41.41**	**316**	P		**P**		**03 07 37.2**	**+0.3**
	comp=Z,158nm,0.9s,baz=120,slow=6.3,SNR=317								
MKAR				S		**S**		**03 13 50.7**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=5.7,slow=2.9,SNR=1.7								
MKAR				LR		LR		03 24 54.3	
	comp=Z,41µm,19.5s,baz=105,slow=36								
MKAR	**Makanchi Array**	**41.41**	**316**	P		**P**		**03 07 37.2**	**+0.3**
MKAR				S		**S**		**03 13 50.7**	**+0.2**
MKAR				pmax		pmax			
	comp=Z,158nm,0.9s								
MKAR				smax		smax			
	comp=N,3.0nm,0.9s								
MKAR				MLR		MLR			
	comp=Z,41µm,19.5s								
MKAR	**Makanchi Array**	**41.41**	**316**	*e*P		**P**		**03 07 37.0**	**+0.1**
NGP	**Nagpur**	**41.49**	**277**	*e*P		**P**		**03 07 36.3**	**-1.6**
NGP				*e*S		**S**		**03 13 52.0**	**-0.4**
DDI	**Dehra Dun**	**41.59**	**291**	*e*P		**P**		**03 07 37.4**	**-1.2**
DDI				AMB		AMB		03 07 46.9	
	comp=Z,964nm,0.5s								
RPR	**Rampur**	**41.72**	**274**	*e*P		**P**		**03 07 40.1**	**+0.4**
RPR				IAmb		IAmb		03 07 42.9	
	comp=Z,233nm,1.3s								
RPR				*e*				03 09 25.1	
RPR				*e*S		**S**		**03 13 56.4**	**+0.7**
RPR				*e*SnSn		**SnSn**		**03 17 08.6**	**-4.0**
RPR				IVMs_BB		IVMs_BB		03 27 49.9	
	comp=Z,8µm,16.5s								
AGRA	**Agra**	**41.78**	**286**	*e*P		**P**		**03 07 38.9**	**-1.3**
AGRA				AMB		AMB		03 07 47.6	
	comp=Z,282nm,1.6s								
NDI	**New Delhi**	**42.35**	**289**	*i* P		**P**		**03 07 44.5**	**-0.3**
NDI				*i* S		**S**		**03 14 04.0**	**-0.9**
SMLA	**Simla**	**42.35**	**292**	*i* P		**P**		**03 07 44.5**	**-0.2**
SMLA				AMB		AMB		03 07 54.9	
	comp=Z,1µm,1.0s								
SMLA				*i* x		x		03 13 48.0	
AYAN	**Aya Nagar**	**42.44**	**288**	*e*P		**P**		**03 07 44.8**	**-0.7**
AYAN				AMB		AMB		03 07 53.2	
	comp=Z,306nm,1.4s								
SDNR	**Sundarnagar**	**42.53**	**293**	*e*P		**P**		**03 07 47.0**	**+0.8**
BHGR	**Bahadurgarh**	**42.60**	**289**	*e*P		**P**		**03 07 44.6**	**-2.1**
BHGR				AMB		AMB		03 07 54.9	
	comp=Z,621nm,1.2s								
BHPL	**Bhopal**	**42.66**	**281**	*e*P		**P**		**03 07 46.2**	**-1.2**
BHPL				AMB		AMB		03 07 49.1	
	comp=Z,166nm,1.8s								
KKR	**Kurukshetra**	**42.66**	**291**	*e*P		**P**		**03 07 46.1**	**-1.2**
KKR				AMB		AMB		03 07 53.4	
	comp=Z,1µm,1.7s								
SKHT	**Srikalahasti**	**42.67**	**266**	*e*P		**P**		**03 07 48.2**	**+0.7**
SKHT				IAmb		IAmb		03 07 57.1	
	comp=Z,593nm,1.1s								
SKHT				*e*PP		**PP**		**03 09 31.0**	**+4.4**
SKHT				*e*S		**S**		**03 14 10.9**	**+1.1**
SKHT				*e*SnSn		**SnSn**		**03 17 34.7**	**-0.8**
SKHT				IVMs_BB		IVMs_BB		03 22 03.5	
	comp=Z,4µm,28.5s								
HYB	**Hyderabad**	**42.73**	**272**	*i* P		**P**		**03 07 48.0**	**0.0**
	comp=Z,1µm,2.0s								
HYB				*e*pP		**pP**		**03 07 53.0**	**-2.1**
HYB				*e*PP		**PP**		**03 09 24.0**	**-3.4**
HYB				*e*PcP		**PcP**		**03 09 43.0**	**+3.4**
HYB				*e*S		**S**		**03 14 10.0**	**-0.7**
HYB				*e*ScS		**ScS**		**03 17 44.0**	**-4.4**
HYB				LR		LR		03 26 56.0	
	comp=Z,22nm,12.0s								
HYB	**Hyderabad**	**42.73**	**272**	*e*P		**P**		**03 07 46.5**	**-1.5**
HYB				AMB		AMB		03 07 55.8	
	comp=Z,215nm,1.0s								
HYBB	**Hyderabad (bro**	**42.73**	**272**	*e*P		**P**		**03 07 48.4**	**+0.3**
HYBB				IAmb		IAmb		03 07 56.9	
	comp=Z,395nm,1.5s								
HYBB				*e*PnPn		**PP**		**03 09 30.9**	**+3.6**
HYBB				*e*S		**S**		**03 14 12.1**	**+1.4**
HYBB				*e*SS		**SS**		**03 17 22.2**	**+0.4**
HYBB				IVMs_BB		IVMs_BB		03 22 12.8	
	comp=Z,6µm,27.6s								
BHK	**Bhakra**	**43.00**	**293**	*e*P		**P**		**03 07 50.0**	**-0.1**
KUDL	**Kundal**	**43.02**	**288**	*e*P		**P**		**03 07 49.3**	**-0.9**
KUDL				AMB		AMB		03 07 57.8	
	comp=Z,201nm,1.4s								
DHRM	**DHARAMSHALA**	**43.11**	**294**	*e*P		**P**		**03 07 51.3**	**+0.1**
DHRM				AMB		AMB		03 07 59.6	
	comp=Z,905nm,2.1s								
WRAB	**Tennant Creek**	**43.16**	**165**	P		**P**		**03 07 50.9**	**-0.4**
	comp=Z,2µm,1.1s,SNR=70								
WRAB	**Tennant Creek**	**43.16**	**165***c*	*i*P		**P**		**03 07 50.2**	**-1.1**
WRAB				pmax		pmax			
	comp=Z,779nm,1.2s								
WRAB	**Tennant Creek**	**43.16**	**165**	*e*P		**P**		**03 07 50.0**	**-1.3**
	comp=Z,405nm,1.1s								
WRAB				LR		LR			
	comp=Z,19µm,18.0s								
WRA	**Warramunga Arr**	**43.17**	**165**	P		**P**		**03 07 50.6**	**-0.8**
	comp=Z,227nm,1.0s,baz=347,slow=8.7,SNR=160								
WRA				S		**S**		**03 14 12.0**	**-4.8**
	comp=Z,4.0nm,1.0s,baz=349,slow=15,SNR=4.5								
WRA	**Warramunga Arr**	**43.17**	**165**	P		**P**		**03 07 50.6**	**-0.8**
WRA				S		**S**		**03 14 12.0**	**-4.8**
WRA				pmax		pmax			
	comp=Z,227nm,1.0s								
WRA				smax		smax			
	comp=N,4.0nm,1.0s								
ZALV	**Zalesovo Beam**	**43.18**	**327**	P		**P**		**03 07 50.2**	**-1.0**
	comp=N,56nm,0.6s,baz=112,slow=7.3,SNR=178								
ZALV				S		**S**		**03 14 14.9**	**-1.4**
	comp=N,1.3nm,0.5s,baz=180,slow=10,SNR=2.9								
ZALV				LR		LR		03 27 15.8	
	comp=N,31µm,18.6s,baz=132,slow=38								
ZALV	**Zalesovo Beam**	**43.18**	**327**	P		**P**		**03 07 50.2**	**-1.0**
ZALV				S		**S**		**03 14 15.0**	**-1.4**
ZALV				pmax		pmax			
	comp=Z,56nm,0.6s								
ZALV				smax		smax			
	comp=N,1.0nm,0.5s								
ZALV				MLR		MLR			
	comp=Z,31µm,18.6s								
ZAA1	**Zalesovo Array**	**43.19**	**327**	*e*P		**P**		**03 07 50.2**	**-1.0**
ZAA1				*e*S		**S**		**03 14 14.9**	**-1.5**
COCO	**West Island**	**43.25**	**220**	*i* P		**P**		**03 07 53.1**	**+1.0**
COCO	**West Island**	**43.25**	**220**	PFAKE				03 08 00.0	+7.9
COCO				LR		LR			
	comp=Z,12µm,19.0s								
DLH	**Dalhousie**	**43.40**	**294**	*e*P		**P**		**03 07 53.0**	**-0.5**
DLH				*ex*		x		03 09 40.0	
AAA	**Alma-Ata**	**43.97**	**310**	*i* P		**P**		**03 07 57.5**	**-0.3**
AAA				*e*S		**S**		**03 14 28.1**	**-0.3**
AAA				pmax		pmax			
	comp=Z,5µm,4.8s								
AAA				smax		smax			
	comp=E,19µm,11.0s								
AAA				MLR		MLR			
	comp=Z,39µm,13.0s								
KSH	**Kashi**	**43.99**	**304**⇓	*i*P		P		03 08 01.8	+3.8
KSH				pP		pP		03 08 07.5	+2.3
KSH				PP		**PcP**		**03 09 46.3**	**+2.7**
KSH				PcS		**PcS**		**03 13 38.8**	**+2.1**
KSH				S		**S**		**03 14 33.8**	**+5.0**
KSH				SS		**SS**		**03 17 43.5**	**-2.4**
KSH				PMZ					
	comp=Z,500nm,1.3s								
KSH				PMZ					
	comp=Z,4µm,3.9s								
KSH				LN					
	comp=Z,35µm,12.5s								
KSH				LE					
	comp=Z,33µm,13.6s								
KSH				LZ					
	comp=Z,37µm,18.9s								
PALK	**Pallekele**	**44.09**	**257**	P		**P**		**03 07 59.2**	**+0.2**
	comp=Z,584nm,1.2s,SNR=7.0								
PALK	**Pallekele**	**44.09**	**257**	*e*P		**P**		**03 07 58.8**	**-0.2**
PALK				*e*				03 09 45.4	
PALK				pmax		pmax			
	comp=Z,70nm,1.1s								
PALK				MLR		MLR			
	comp=Z,16µm,20.0s								
PALK	**Pallekele**	**44.09**	**257**⇑	*i*P		**P**		**03 07 59.9**	**+0.8**
	SNR=11								
PALK	**Pallekele**	**44.09**	**257**	P		P		03 08 06.1	+7.0
	SNR=9.7								
PALK	**Pallekele**	**44.09**	**257**	*e*P		**P**		**03 07 58.8**	**-0.2**
	comp=Z,70nm,1.1s								
PALK				*e*PP		**PcP**		**03 09 45.4**	**+1.2**
PALK				LR		LR			
	comp=Z,16µm,20.0s								
KWAJ	**Kwajalein Atol**	**44.10**	**101**	*e*P		**P**		**03 07 59.7**	**+0.6**
KWAJ				pmax		pmax			
	comp=Z,664nm,1.3s								
KWAJ				MLR		MLR			
	comp=Z,9µm,18.0s								
KWAJ	**Kwajalein Atol**	**44.10**	**101**	*e*P		**P**		**03 07 59.6**	**+0.6**
	comp=Z,664nm,1.3s								
KWAJ				LR		LR			
	comp=Z,9µm,18.0s								
ULHL	**Ulahol**	**44.26**	**308**	P		**P**		**03 08 01.8**	**+1.4**
	SNR=15								
ULHL	**Ulahol**	**44.26**	**308**	*i* P		**P**		**03 08 01.7**	**+1.4**
LATR	**Latur**	**44.34**	**274**	*ex*		P		03 08 05.0	+4.1
NVS	**Novosibirsk**	**44.44**	**327**⇓	*i*P		**P**		**03 08 00.8**	**-0.4**
NVS				*i*				03 09 48.2	
NVS				*i* S		**S**		**03 14 31.7**	**-3.0**
NVS				*i* SSS		SSS		03 17 58.6	
NVS				pmax		pmax			
	comp=N,433nm,1.9s								
NVS				pmax		pmax			
	comp=E,576nm,1.9s								
NVS				pmax		pmax			
	comp=Z,768nm,1.9s								
NVS				pmax		pmax			
	comp=N,77nm,1.4s								
NVS				pmax		pmax			
	comp=E,102nm,1.4s								
NVS				pmax		pmax			
	comp=Z,197nm,1.4s								
NVS				smax		smax			
	comp=N,6µm,4.4s								
NVS				smax		smax			
	comp=E,867nm,3.1s								
URV	**Uravakonda**	**44.58**	**269**	*e*P		**P**		**03 08 03.2**	**+0.2**
URV				IAmb		IAmb		03 08 11.3	
	comp=Z,420nm,1.3s								
URV				*e*PP		**PP**		**03 09 49.7**	**+2.5**
URV				*e*S		**S**		**03 14 36.0**	**-1.8**
URV				*e*SS		**ScS**		**03 18 00.4**	**+0.4**
URV				IVMs_BB		IVMs_BB		03 23 02.9	
	comp=Z,6µm,28.8s								
AJM	**Ajmer**	**44.78**	**286**	*ex*		**P**		**03 08 04.0**	**-0.5**
TKM2	**Tokmak 2**	**44.86**	**309**	P		**P**		**03 08 05.5**	**+0.5**
	SNR=98								
TKM2	**Tokmak 2**	**44.86**	**309**	P		**P**		**03 08 05.6**	**+0.5**
TKM2				pmax		pmax			
	comp=Z,233nm,0.8s								
TKM2	**Tokmak 2**	**44.86**	**309**	*e*P		**P**		**03 08 06.0**	**+0.9**
	comp=Z,224nm,0.8s								
TKM2				LR		LR			
	comp=Z,35µm,19.0s								
KZA	**Kyzart**	**44.95**	**308**	P		**P**		**03 08 07.7**	**+1.6**
	SNR=100								
KZA	**Kyzart**	**44.95**	**308**	*i* P		**P**		**03 08 07.6**	**+1.6**
SEY	**Seymchan**	**45.02**	**18**	P		**P**		**03 08 06.8**	**+1.1**
	comp=Z,84nm,0.9s,baz=222,slow=5.7,SNR=85								
SEY	**Seymchan**	**45.02**	**18**	P		**P**		**03 08 06.9**	**+1.1**
SEY				pmax		pmax			
	comp=Z,84nm,1.0s								
KURK	**Kurchatov**	**45.13**	**320**	P		**P**		**03 08 07.9**	**+1.1**
	comp=Z,809nm,0.9s,SNR=73								
KURK	**Kurchatov**	**45.13**	**320**	P		**P**		**03 08 06.4**	**-0.4**
KURK				S		**S**		**03 14 47.7**	**+2.9**
KURK				pmax		pmax			
	comp=Z,51nm,0.8s								
KURK				smax		smax			
	comp=N,3.0nm,1.0s								
KURK	**Kurchatov**	**45.13**	**320**	P		**P**		**03 08 06.4**	**-0.4**
	SNR=284								
KURK	**Kurchatov**	**45.13**	**320**	*e*P		**P**		**03 08 06.4**	**-0.4**
	comp=N,537nm,1.2s								
KURK				LR		LR			
	comp=Z,43µm,21.0s								
KURBB	**Kurchatov Arra**	**45.15**	**320**	P		**P**		**03 08 06.3**	**-0.6**
	comp=Z,51nm,0.8s,baz=113,slow=8.3,SNR=195								
KURBB				S		**S**		**03 14 47.7**	**+2.6**
	comp=Z,3.4nm,1.0s,baz=122,slow=7.0,SNR=3.3								
KBK	**Karagaybulak**	**45.28**	**309**	P		**P**		**03 08 09.7**	**+1.3**
	SNR=8.0								
KBK	**Karagaybulak**	**45.28**	**309**	*i* P		**P**		**03 08 09.7**	**+1.3**
CHMS	**Chumysh**	**45.49**	**309**	P		**P**		**03 08 10.5**	**+0.7**
	SNR=43								
CHMS	**Chumysh**	**45.49**	**309**	*i* P		**P**		**03 08 10.5**	**+0.7**
UCH	**Uchtor**	**45.52**	**308**	P		**P**		**03 08 12.2**	**+1.6**
	SNR=116								
UCH	**Uchtor**	**45.52**	**308**	*i* P		**P**		**03 08 12.2**	**+1.6**
FRU	**Bishkek**	**45.55**	**309**⇓	*i*P		**P**		**03 08 10.8**	**+0.4**
FRU				pmax		pmax			
	comp=Z,370nm,2.2s								
AAK	**Ala-Archa**	**45.60**	**308**	P		**P**		**03 08 11.9**	**+1.0**
	comp=Z,342nm,0.8s,SNR=28								
AAK	**Ala-Archa**	**45.60**	**308**	P		**P**		**03 08 12.1**	**+1.1**
	SNR=26								
AAK	**Ala-Archa**	**45.60**	**308**	P		**P**		**03 08 10.3**	**-0.6**
	comp=Z,19nm,0.8s,baz=121,slow=5.2,SNR=54								
AAK	**Ala-Archa**	**45.60**	**308***d*	*i*P		**P**		**03 08 11.6**	**+0.7**
AAK				pmax		pmax			
	comp=Z,317nm,1.6s								
AAK				MLR		MLR			
	comp=Z,83µm,14.0s								
AAK	**Ala-Archa**	**45.60**	**308**	P		**P**		**03 08 12.3**	**+1.3**
	SNR=64								
AAK	**Ala-Archa**	**45.60**	**308**	*e*P		**P**		**03 08 11.4**	**+0.4**
	comp=Z,125nm,0.8s								
AAK				*e*PcP		**PcP**		**03 09 46.6**	**-2.5**
AAK				*e*PP		**PP**		**03 10 00.9**	**+3.1**
AAK				LR		LR			
	comp=Z,43µm,19.0s								
AML	**Almayashu**	**46.10**	**308**	P		**P**		**03 08 16.4**	**+1.3**
	SNR=77								
AML	**Almayashu**	**46.10**	**308**	*i* P		**P**		**03 08 16.4**	**+1.3**
EKS2	**Erkin-Say**	**46.13**	**308**	P		**P**		**03 08 15.9**	**+0.8**
	SNR=37								
EKS2	**Erkin-Say**	**46.13**	**308**	*e*P		**P**		**03 08 15.7**	**+0.7**
EKS2				pmax		pmax			
	comp=Z,674nm,2.1s								
EKS2				MLR		MLR			
	comp=Z,34µm,19.0s								
EKS2	**Erkin-Say**	**46.13**	**308**	*e*P		**P**		**03 08 15.7**	**+0.7**
	comp=Z,674nm,2.1s								
EKS2				LR		LR			
	comp=Z,34µm,19.0s								
AS12	**Alice Springs**	**46.67**	**167**	*e*P		**P**		**03 08 18.7**	**-0.6**
AS12				*e*S		**S**		**03 15 10.9**	**+3.3**
ASAR	**Alice Springs**	**46.67**	**167**	P		**P**		**03 08 18.7**	**-0.6**
	comp=Z,85nm,1.0s,baz=352,slow=7.7,SNR=148								
ASAR				S		**S**		**03 15 10.9**	**+3.3**
	comp=Z,3.3nm,1.0s,baz=356,slow=23,SNR=3.7								
ASAR				PKPPKP		**P'P'df**		**03 39 35.0**	**-0.9**
	comp=Z,3.0nm,1.1s,baz=178,slow=0.8,SNR=4.7								
ASAR				P4KPbc				03 46 03.9	
	comp=Z,1.0nm,0.8s,baz=0.2,slow=4.6,SNR=8.7								
POO	**Poona**	**46.82**	**275**	*e*P		**P**		**03 08 19.2**	**-1.5**
POO				AMB		AMB		03 08 23.5	
	comp=Z,188nm,0.5s								
POO				*i* PCP		**PcP**		**03 09 52.0**	**-1.6**
HNR	**Honiara**	**47.39**	**128**	*e*P		**P**		**03 08 24.5**	**-0.5**
HNR	**Honiara**	**47.39**	**128**	*e*P		**P**		**03 08 24.5**	**-0.5**
	comp=Z,2.5nm,1.1s								
MNGI	**Mangalore**	**47.44**	**267**	*ex*		P		03 08 15.3	-10
MNGI				*ex*		S		03 15 07.7	-11
CTA	**Charters Tower**	**47.44**	**151**	P		**P**		**03 08 24.8**	**-0.5**
	comp=Z,131nm,0.9s,baz=332,slow=10,SNR=84								
CTA				S		**S**		**03 15 18.3**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=135,slow=20,SNR=2.2								
CTA	**Charters Tower**	**47.44**	**151**	P		**P**		**03 08 24.8**	**-0.5**
CTA				S		**S**		**03 15 18.3**	**-0.2**
CTA				pmax		pmax			
	comp=Z,131nm,0.9s								
CTA				smax		smax			
	comp=N,3.0nm,0.9s								
CTAO	**Charters Tower**	**47.44**	**151**	*e*P		**P**		**03 08 25.8**	**+0.5**
CTAO				pmax		pmax			
	comp=Z,195nm,1.0s								
CTAO	**Charters Tower**	**47.44**	**151**	*e*P		**P**		**03 08 25.8**	**+0.5**
	comp=Z,195nm,1.0s								
GOA	**Goa**	**47.61**	**271**	*e*P		**P**		**03 08 26.2**	**-0.5**
BOM	**Bombay**	**47.69**	**276**	*ex*		P		03 08 22.1	-5.2
BOM				*ex*		**S**		**03 15 17.2**	**-5.1**
KK31	**Karatay Array**	**48.57**	**308**	*i* P		**P**		**03 08 33.5**	**-0.4**
KK31				pmax		pmax			
	comp=Z,65nm,0.8s								
KKAR	**Karatay Array**	**48.57**	**308**	*e*P		**P**		**03 08 33.7**	**-0.2**
KKAR				*e*				03 09 56.7	
KKAR	**Karatay Array**	**48.57**	**308**	*e*P		**P**		**03 08 33.7**	**-0.2**
KKAR				*e*PcP		**PcP**		**03 09 56.6**	**-2.8**
SMY	**Shemya**	**48.79**	**38**	*e*P		**P**		**03 08 35.9**	**+0.5**
SMY				pmax		pmax			
	comp=Z,721nm,1.6s								
SMY	**Shemya**	**48.79**	**38**	*e*P		**P**		**03 08 35.9**	**+0.5**
	comp=Z,721nm,1.6s								
KBL	**Kabul**	**49.19**	**297**	*e*P		**P**		**03 08 39.4**	**+0.4**

comp=Z,1µm,0.9s,SNR=54
BRVK Borovoye 50.77 321 *d* iP P 03 08 50.3 -0.2
BRVK pmax pmax
comp=Z,134nm,1.0s
BRVK MLR MLR
comp=Z,50µm,22.0s
BRVK Borovoye 50.77 321 P P 03 08 50.2 -0.3
SNR=156
BRVK Borovoye 50.77 321 *e*P P 03 08 50.6 +0.1
comp=Z,228nm,0.9s
BRVK LR LR
comp=Z,46µm,21.0s
TARA Tarawa 52.03 107 *e*P P 03 09 00.4 -0.1
comp=Z,231nm,0.9s
TARA LR LR
comp=Z,8µm,20.0s
BILL Bilibino 52.71 19 *c* iP P 03 09 04.6 -0.1
BILL *i* 03 11 10.1
BILL *i* S S 03 16 34.5 +3.5
BILL pmax pmax
comp=Z,63nm,0.7s
BILL MLR MLR
comp=Z,27µm,18.0s
BILL Bilibino 52.71 19 *e*P P 03 09 05.1 +0.4
comp=Z,290nm,1.1s
BILL LR LR
comp=Z,32µm,22.0s
FORT Forrest 52.87 175 *e*P P 03 09 05.4 -0.8
comp=Z,307nm,0.8s
ADK Adak 54.07 41 *e*P P 03 09 17.8 +2.9
ADK pmax pmax
comp=Z,261nm,1.4s
ADK MLR MLR
comp=Z,10µm,20.0s
ADK Adak 54.07 41 *e*P P 03 09 17.8 +2.9
comp=Z,261nm,1.4s
ADK LR LR
comp=Z,10µm,20.0s
EIDS Eidsvold 54.22 149 *e*P P 03 09 15.8 -0.5
comp=Z,76nm,0.8s
EIDS LR LR
comp=Z,15µm,18.0s
BBOO Buckleboo 55.98 168 *e*P P 03 09 28.8 0.0
comp=Z,134nm,1.1s
IMYA Miami 56.41 300 *e*P P 03 09 33.2 +0.9
STKA Stephens Creek 56.44 162 P P 03 09 31.6 -0.6
comp=Z,96nm,0.9s,baz=340,slow=7.7,SNR=95
STKA PKP2ab 03 40 05.2
comp=Z,3.2nm,1.1s,baz=246,slow=4.4,SNR=2.8
STKA Stephens Creek 56.44 162 *e*P P 03 09 31.7 -0.5
comp=Z,25nm,0.9s
AB31 Akbulak array 56.52 315 *i* P P 03 09 32.4 -0.3
AB31 pmax pmax
comp=Z,546nm,1.5s
ABKAR Akbulak array 56.52 315 *e*P P 03 09 32.4 -0.3
ISRO Mashad 56.92 300 *e*P P 03 09 36.3 +0.5
IDAH Dahanechah 56.94 295 *e*P P 03 09 36.7 +0.4
SVE Sverdlovsk 57.03 324 *c* iP P 03 09 36.0 -0.2
SVE *e* 03 11 44.9
SVE *e*PPP PPP 03 13 06.5
SVE *e*S S 03 17 28.1 -1.2
SVE *e* 03 19 17.8
SVE *e*SS SS 03 21 24.2 +6.4
SVE *e*SSS SSS 03 23 30.2
SVE pmax pmax
comp=Z,385nm,1.4s
SVE pmax pmax
comp=Z,2µm,16.0s
SVE MLR MLR
comp=Z,27µm,18.0s
IMOG Moghan 57.04 299 *e*P P 03 09 37.7 +0.8
IPAY Payeh 57.29 300 *e*P P 03 09 39.9 +1.3
IAKL Akhelmad 57.47 300 *e*P P 03 09 40.6 +0.7
IKRD Kardeh 57.65 300 *e*P P 03 09 37.6 -3.6
IKOO Kooshah 57.70 295 *e*P P 03 09 41.1 -0.6
AKTO Aktyubinsk 57.85 316 P P 03 09 42.0 0.0
comp=Z,48nm,1.0s,baz=95,slow=8.1,SNR=63
AKTO Aktyubinsk 57.85 316 P P 03 09 41.3 -0.7
AKTO pmax pmax
comp=Z,180nm,1.2s
ITEG Tejag 57.86 296 *e*P P 03 09 42.8 +0.1
GEYT Alibeck 57.87 302 P P 03 09 42.5 +0.1
comp=Z,56nm,0.8s,baz=52,slow=2.4,SNR=91
GEYT ScP **ScP** 03 14 30.6 -3.0
comp=Z,4.7nm,0.3s,baz=57,slow=1.2,SNR=5.6
GEYT LR LR 03 37 55.4
comp=Z,30µm,20.4s,baz=90,slow=40
ISFR Sfrayin 58.03 301 *e*P P 03 09 44.4 +0.5
ARU Arti 58.10 324 P P 03 09 43.9 +0.2
comp=Z,858nm,0.7s,SNR=17
ARU Arti 58.10 324 *d* iP P 03 09 43.1 -0.6
ARU 03 10 32.5
ARU 03 11 51.4
ARU PPP PPP 03 13 13.0
ARU S S 03 17 45.6 +2.2
ARU 03 19 28.9
ARU pmax pmax
comp=Z,150nm,1.7s
ARU pmax pmax
comp=Z,2µm,12.4s
ARU MLR MLR
comp=Z,34µm,18.0s
ARU Arti 58.10 324 *e*P P 03 09 43.1 -0.6
comp=Z,170nm,0.9s
ARU LR LR
comp=Z,36µm,18.0s
ISHV Shirvan 58.23 301 *e*P P 03 09 46.4 +1.2
DGAR Diego Garcia 58.30 246 PFAKE 03 09 50.0 +4.3
DGAR LR LR
comp=Z,10µm,22.0s
ARMA Armidale 58.78 152 *e*P P 03 09 50.0 +1.1
comp=Z,124nm,1.2s
ARMA LR LR
comp=Z,22µm,21.0s
NIKH Nikolski High 58.96 41 *e*P P 03 09 49.8 +0.1
comp=Z,250nm,1.2s
GAMB Gambell 59.04 28 *e*P P 03 09 51.0 +1.0
comp=Z,496nm,1.7s
WBK Wadi Bani Khal 59.49 284 P P 03 09 55.0 +1.1
SNR=20
SMDO Samad 60.21 285 P P 03 09 59.8 +0.8
SNR=30
JMDO Jabal Madar 60.32 284 P P 03 10 00.2 +0.5
SNR=24
UNV Unalaska Valle 60.41 40 *e*P P 03 09 59.6 -0.1
comp=Z,123nm,1.2s
DZM Mont Dzumac 60.55 134 *e*P P 03 10 01.5 +0.4
comp=Z,252nm,1.5s
DZM *e*S S 03 18 12.7 -3.2
comp=Z,27µm,27.9s
DZM *e*LQ LQ 03 25 16.9
comp=Z,40µm,26.9s
DZM *e*LR LR 03 27 51.1
comp=Z,38µm,26.6s
DZM Mont Dzumac 60.55 134 P P 03 10 01.8 +0.7
comp=Z,15nm,0.7s,baz=328,slow=10,SNR=6.5
DZM LR LR 03 34 02.8
comp=Z,12µm,19.1s,baz=328,slow=34
IBAF Bafgh 60.71 295 *e*P P 03 10 02.2 -0.1
HOQ Hoqain 60.75 285 P P 03 10 03.2 +0.6
SNR=91
TNA Tin City 60.99 26 *e*P P 03 10 04.7 +1.2
comp=Z,723nm,1.8s
TNA LR LR
comp=Z,19µm,19.0s
BSY Bisya 61.05 284 P P 03 10 05.2 +0.6
SNR=30
BANOM Banah 61.14 288⇑ *i*P P 03 10 06.2 +1.0
SNR=6.0
IGLO Ghaloghah 61.42 300 *e*P P 03 10 08.3 +1.1
UOSS Wadi Hilu 61.43 287 P P 03 10 08.5 +1.3
comp=Z,204nm,1.3s,SNR=6.9
ARQ Aragi 61.51 285 P P 03 10 08.2 +0.5
SNR=40
HATD Hatta, Dubai 61.52 287⇑ *i*P P 03 10 07.7 -0.1
SNR=16
IMEH Mehriz 61.55 295 *e*P P 03 10 07.1 -1.1
ICHK Chekchek 61.58 296 *e*P P 03 10 08.4 0.0
ASHO Ashiyiah 61.62 287 *i* P P 03 10 08.9 +0.5
SNR=19
ASHO *i* P P 03 10 09.1 +0.6
SNR=17
ASHO Ashiyiah 61.62 287 P P 03 10 11.1 +2.6
SNR=23
NAZ Nazwa, Dubai 61.90 287⇑ *i*P P 03 10 10.5 +0.1
SNR=16
FAQ Al Faqa, Dubai 62.02 287⇑ *i*P P 03 10 11.4 +0.2
SNR=10
ISAD Sadrabad 62.24 295 *e*P P 03 10 12.3 -0.6
FALS False Pass 62.24 39 *e*P P 03 10 12.0 -0.1
ASUD Al Ashush, Dub 62.28 287⇑ *i*P P 03 10 13.7 +0.8
SNR=6.1
IALA Alasht 62.29 300 *e*P P 03 10 14.1 +1.0
IPRN Peran 62.65 300 *e*P P 03 10 15.6 +0.3
SHAO Shalim 63.69 280 P P 03 10 24.1 +1.7
SNR=10
SDPT Sand Point 63.93 38 *e*P P 03 10 23.8 +0.5
comp=Z,206nm,0.7s
PRGR Permogore 65.09 329⇑ *i*P P 03 10 30.4 -0.3
PRGR *i* S S 03 19 10.0 -1.7
PRGR pmax pmax
comp=Z,178nm,0.9s
RBK Rabkut 65.13 280 P P 03 10 34.1 +2.3
SNR=66
MAK Makhachkala 65.39 308 *e*P P 03 10 33.2 +0.2
MAK *e*S S 03 19 15.1 -0.9
MAK pmax pmax
comp=Z,243nm,1.5s
MAK pmax pmax
comp=N,346nm,2.0s
MAK pmax pmax
comp=Z,4µm,7.2s
MAK pmax pmax
comp=E,480nm,2.2s
MAK smax smax
comp=E,5µm,8.1s
MAK smax smax
comp=N,8µm,8.2s
MAK MLR MLR
comp=N,33µm,17.0s
MAK MLR MLR
comp=Z,27µm,15.0s
MAK MLR MLR
comp=E,25µm,13.0s
ABTO Aybut 66.00 280 P P 03 10 37.3 -0.2
SNR=70
SVW2 Sparrevohn 66.27 32 *e*P P 03 10 40.4 +2.0
MSVF Nonsavu 66.29 122 P P 03 10 40.3 +1.1
comp=E,745nm,1.1s,SNR=6.4
MSVF Nonsavu 66.29 122 *e*P P 03 10 40.3 +1.1
MSVF pmax pmax
comp=Z,386nm,1.4s
MSVF MLR MLR
comp=Z,12µm,21.0s
MSVF Nonsavu 66.29 122 *e*P P 03 10 40.3 +1.1
comp=Z,386nm,1.4s
MSVF LR LR
comp=Z,12µm,21.0s
IM04 Indian Mountai 66.83 26 *e*P P 03 10 42.9 +1.0
DGRG David-gareji 67.19 307 P P 03 10 45.8 +1.1
TBLG Delisi 67.61 307 *e*P P 03 10 47.2 -0.1
TBLG Delisi 67.61 307 P P 03 10 47.2 -0.1
KNTN Kanton 67.62 103 *e*P P 03 10 48.6 +0.9
comp=Z,290nm,1.3s
KNTN LR LR
comp=Z,10µm,20.0s
CAST Castle Rocks 67.73 29 *e*P P 03 10 48.8 +1.1
comp=Z,143nm,1.1s
CAST LR LR
comp=Z,8µm,18.0s
PPLA Purkeypile 67.73 29 *e*P P 03 10 49.9 +2.0
comp=Z,233nm,1.1s
GNI Garni 67.90 306 P P 03 10 49.1 -0.2
comp=Z,16nm,0.7s,baz=162,slow=3.0,SNR=40
GNI Garni 67.90 306 *d* iP P 03 10 49.4 +0.1
GNI pmax pmax
comp=Z,236nm,1.7s
GNI Garni 67.90 306⇑ *i*P P 03 10 50.1 +0.8
SNR=40
GNI Garni 67.90 306 P P 03 10 50.2 +0.9
SNR=86
GNI Garni 67.90 306 *e*P P 03 10 49.9 +0.6
comp=Z,301nm,1.2s
KZR Kazreti 67.91 307 P P 03 10 49.5 +0.2
ZEI Tsey 68.03 309 *e*P P 03 10 48.5 -1.7
ZEI *e*S S 03 19 46.3 -2.2
ZEI pmax pmax
comp=Z,197nm,1.0s
ZEI pmax pmax
comp=N,230nm,0.9s
ZEI pmax pmax
comp=E,216nm,0.8s
ZEI pmax pmax
comp=Z,733nm,7.4s
ZEI MLR MLR
comp=Z,22µm,18.0s
ZEI MLR MLR
comp=N,4µm,12.0s
ZEI MLR MLR
comp=E,19µm,17.0s
KLMR Klimovskoe 68.09 328 *d* iP P 03 10 48.0 -1.9
KLMR *e*S S 03 19 44.4 -3.6
KLMR pmax pmax
comp=Z,428nm,1.5s
KLMR pmax pmax
comp=Z,306nm,1.5s
KLMR MLR MLR
comp=Z,31µm,17.0s
KDAK Kodiak Island 68.09 35 P P 03 10 55.6 +5.6
comp=Z,1µm,1.6s,SNR=6.9
KDAK Kodiak Island 68.09 35 *e*P P 03 10 52.3 +2.3
KDAK pmax pmax
comp=Z,1µm,1.7s
KDAK MLR MLR
comp=Z,10µm,20.0s
KDAK Kodiak Island 68.09 35 *e*P P 03 10 52.2 +2.3
comp=Z,1µm,1.7s
KDAK LR LR
comp=Z,10µm,20.0s
NCK Nalchik 68.12 309⇓ *e*P P 03 10 50.1 -0.4
MLY Manley 68.16 27 PFAKE 03 11 00.0 +10
MLY LR LR
comp=Z,12µm,20.0s
COLD Coldfoot 68.17 25 *e*P P 03 10 51.5 +1.2
comp=Z,200nm,1.2s
COLD LR LR
comp=Z,10µm,21.0s
VRHR Novokhopersk 68.19 318 *e*P P 03 10 49.8 -1.0
VRHR *e* 03 13 17.0
VRHR *e*S S 03 19 45.6 -4.1
VRHR pmax pmax
comp=N,100nm,1.0s
VRHR pmax pmax
comp=E,200nm,1.0s
VRHR pmax pmax
comp=Z,260nm,1.0s
VRHR pmax pmax
comp=N,210nm,1.1s
VRHR pmax pmax
comp=E,400nm,1.1s
VRHR pmax pmax
comp=Z,210nm,1.1s
VRHR pmax pmax
comp=N,240nm,2.0s
VRHR pmax pmax
comp=E,350nm,2.0s
VRHR pmax pmax
comp=Z,240nm,2.0s
VRHR smax smax
comp=N,3µm,4.8s
VRHR smax smax
comp=Z,600nm,4.8s
VRHR smax smax
comp=E,2µm,4.1s
VRHR MLR MLR
comp=N,6µm,16.0s
VRHR MLR MLR
comp=E,10µm,16.0s
VRHR MLR MLR
comp=Z,15µm,16.0s
GOF Gofitskoye 68.24 311 *e*P P 03 10 51.1 -0.1
GOF pmax pmax
comp=Z,120nm,1.0s
KTH Kantishna Hill 68.24 29 *e*P P 03 10 52.1 +1.2
comp=Z,437nm,1.7s
TAU Tasmania Unive 68.35 162 *e*P P 03 10 53.2 +1.6
TAU pmax pmax
comp=Z,274nm,1.5s
TAU MLR MLR
comp=Z,15µm,19.0s
TAU Tasmania Unive 68.35 162 *e*P P 03 10 53.2 +1.6
comp=Z,274nm,1.5s
TAU LR LR
comp=Z,15µm,19.0s
ONI Oni 68.39 308 P P 03 10 52.1 -0.1
TMCR Tamitsa 68.40 332 *e*P P 03 10 51.5 -0.3
TMCR *e*S S 03 19 57.4 +5.8
TMCR pmax pmax
comp=Z,291nm,1.5s
TRF Thorofare Moun 68.53 29 *e*P P 03 10 55.4 +2.5
comp=Z,385nm,1.6s
TRF LR LR
comp=Z,11µm,21.0s
KBZ Khabaz 68.58 310 P P 03 10 53.6 +0.3
comp=Z,79nm,0.9s,baz=236,slow=24,SNR=124
KBZ LR LR 03 45 01.9
comp=Z,18µm,18.0s,baz=230,slow=40
KBZ Khabaz 68.58 310 P P 03 10 53.6 +0.3
KBZ pmax pmax
comp=Z,79nm,0.9s
KBZ MLR MLR
comp=Z,18µm,18.0s
AKH Akhalkalaki 68.58 307 *e*P P 03 10 55.7 +2.0
AKH Akhalkalaki 68.58 307 P P 03 10 54.8 +1.1
EAK Akyaka 68.64 306 *i* P P 03 10 54.4 +0.4
KIV Kislovodsk 68.69 310 P P 03 10 54.8 +0.7
comp=Z,2µm,0.9s,SNR=49
KIV Kislovodsk 68.69 310 *e*P P 03 10 55.0 +0.9
KIV Kislovodsk 68.69 310 *e*P P 03 10 54.1 0.0
KIV *e* 03 11 19.0
KIV *e* 03 13 26.6
KIV *e*S S 03 19 56.4 +0.4
KIV *e*SS SS 03 24 23.0 +2.6
KIV pmax pmax
comp=Z,317nm,1.1s
KIV pmax pmax
comp=Z,383nm,5.5s
KIV MLR MLR
comp=Z,23nm,17.0s
KIV Kislovodsk 68.69 310 *i* P P 03 10 53.8 -0.3
SNR=86
KIV *i* P P 03 10 54.2 +0.1
SNR=56
KIV Kislovodsk 68.69 310 P P 03 10 53.8 -0.3
SNR=148
KIV Kislovodsk 68.69 310 *e*P P 03 10 54.2 +0.1
comp=Z,304nm,1.0s
KIV LR LR
comp=Z,27µm,20.0s
NEY Neytrino 68.79 309 *i* P P 03 10 55.2 +0.3
NEY pmax pmax
comp=Z,14nm,0.7s
BWN Browne 68.81 28 PFAKE 03 11 10.0 +16
BWN LR LR
comp=Z,19µm,19.0s
DYDN Diyadin 68.81 305 *i* P P 03 10 55.1 -0.1
DIGO Kars 68.87 306 *i* P P 03 10 55.9 +0.4
KARS Kars 69.05 306 *e*P P 03 10 58.0 +1.5
MCK McKinley 69.10 28 *e*P P 03 10 57.2 +1.0
MCK pmax pmax
comp=Z,391nm,1.2s
MCK MLR MLR
comp=Z,18µm,20.0s
MCK McKinley 69.10 28 *e*P P 03 10 57.2 +1.0
comp=Z,391nm,1.2s
MCK LR LR
comp=Z,18µm,20.0s
RC01 Rabbit Creek A 69.10 31 *e*P P 03 10 58.6 +2.3
comp=Z,146nm,1.2s
RC01 LR LR
comp=Z,10µm,20.0s
RND Reindeer 69.18 29 PFAKE 03 11 10.0 +13
RND LR LR
comp=Z,11µm,18.0s
HAKT HAKKARI 69.21 303 *i* P P 03 10 57.5 -0.2
MDM Murphy Dome 69.23 27 PFAKE 03 11 10.0 +13
MDM LR LR
comp=Z,10µm,18.0s
TVAN Van 69.24 304 *i* P P 03 10 57.5 -0.3
LVZ Lovozero 69.30 336⇑ *e*P P 03 10 58.3 +0.9
LVZ pmax pmax
comp=Z,146nm,2.5s
LVZ MLR MLR
comp=Z,20µm,17.0s
LVZ Lovozero 69.30 336 *e*P P 03 10 58.5 +1.1
comp=Z,148nm,1.1s
LVZ LR LR
comp=Z,25µm,22.0s
PMR Palmer 69.31 31 *e*P P 03 10 58.0 +0.5
PMR pmax pmax
comp=Z,486nm,1.7s
PMR Palmer 69.31 31 *e*P P 03 10 58.0 +0.5
comp=Z,486nm,1.7s
AGRB Hanur-Agry 69.33 305 *e*P P 03 10 59.4 +1.1
CUKT Cukurca 69.36 303 *e*P P 03 10 58.7 +0.2
WRH Wood River Hil 69.36 28 PFAKE 03 11 10.0 +12
WRH LR LR
comp=Z,14µm,19.0s
SEW Seward 69.38 32 *e*P P 03 10 59.4 +1.4
comp=Z,462nm,1.2s
COLA College 69.40 27⇓ *i*P P 03 10 58.9 +0.9
COLA pmax pmax
comp=Z,153nm,1.7s
COLA MLR MLR
comp=Z,29µm,16.0s
COLA College 69.40 27 *e*P P 03 11 00.1 +2.1
comp=Z,143nm,1.0s
COLA LR LR
comp=Z,9µm,19.0s
CCB Clear Creek Bu 69.45 27 PFAKE 03 11 10.0 +12
CCB LR LR
comp=Z,10µm,20.0s
TUTA Tutak 69.50 305 *i* P P 03 10 57.2 -2.2
GEVA Gevas 69.55 304 *i* P P 03 10 59.4 -0.3
VOR Voronezh 69.59 319 *e*P P 03 10 59.0 -0.4
VOR pmax pmax
comp=Z,300nm,1.6s
LPSR Galich'ya Gora 69.60 320 *e*P P 03 10 58.8 -0.7
LPSR *e*S S 03 20 05.6 -0.7
LPSR pmax pmax
comp=Z,180nm,0.9s
LPSR pmax pmax
comp=N,60nm,1.5s
LPSR pmax pmax
comp=E,120nm,1.5s
LPSR smax smax
comp=N,3µm,4.7s
LPSR smax smax
comp=Z,240nm,2.9s
LPSR smax smax
comp=E,2µm,5.4s
EATA Eleskirt 69.65 306 *i* P P 03 11 00.8 +0.4
VORD Divnogorie 69.67 318 *e*P P 03 10 58.9 -1.0
VORD *e*S S 03 20 03.6 -3.5
VORD pmax pmax
comp=N,20nm,1.1s
VORD pmax pmax
comp=E,150nm,1.1s
VORD pmax pmax
comp=Z,120nm,1.1s
VORD smax smax
comp=N,4µm,5.2s
VORD smax smax
comp=E,1µm,5.2s
VORD smax smax
comp=Z,560nm,5.2s
VORD MLR MLR
comp=N,4µm,18.0s
VORD MLR MLR
comp=E,8µm,18.0s
VORD MLR MLR
comp=Z,12µm,18.0s
VSR Storozhevoye 69.70 318 *e*P P 03 10 59.3 -0.8
VSR *e* 03 13 28.9
VSR *e*S S 03 20 03.2 -4.3
VSR pmax pmax
comp=N,320nm,1.0s
VSR pmax pmax
comp=E,130nm,1.0s
VSR pmax pmax
comp=Z,200nm,1.0s
VSR pmax pmax
comp=N,1µm,1.8s
VSR pmax pmax
comp=Z,300nm,1.8s
VSR pmax pmax
comp=E,70nm,1.0s
VSR smax smax
comp=N,5µm,3.7s

VSR smax smax
comp=Z,240nm,3.6s
VSR smax smax
comp=E,1μm,4.3s
VSR MLR MLR
comp=N,22μm,15.0s
VSR MLR MLR
comp=E,5μm,15.0s
VSR MLR MLR
comp=Z,12μm,15.0s
ARTV Artvin 69.78 307 *i* P **P 03 11 00.9 -0.2**
MOS Moscow 69.81 323 *e*P **P 03 10 58.3 -2.4**
MOS *i* 03 11 21.1
MOS *i* S **S 03 20 05.1 -3.5**
MOS *e*SS **SS 03 24 30.6 -6.3**
MOS pmax pmax
comp=Z,600nm,1.9s
MOS pmax pmax
comp=Z,278nm,1.2s
MOS smax smax
comp=E,2μm,5.2s
MOS smax smax
comp=N,9μm,5.4s
MOS MLR MLR
comp=Z,26μm,17.0s
MOS MLR MLR
comp=E,20μm,17.0s
DAGI Agillar 69.82 307 *i* P **P 03 11 01.4 +0.2**
APA Apatity 69.82 336⇑ *i*P **P 03 11 02.2 +1.6**
APA *i* S **S 03 20 08.0 -0.4**
APA *i* 03 20 59.0
APA pmax pmax
comp=Z,254nm,1.4s
APA MLR MLR
comp=Z,23μm,17.0s
ILAR Eielson Array 69.83 27 P **P 03 10 59.8 -0.9**
comp=Z,8.8nm,0.7s,baz=272,slow=5.1,SNR=49
ILAR PKP2bc 03 39 05.8
comp=Z,2.1nm,1.1s,baz=198,slow=1.3,SNR=8.1
ILAR LR LR 03 44 05.3
comp=Z,8μm,19.0s,baz=284,slow=38
ILB Eielson Array 69.83 27 *e*P **P 03 10 59.8 -0.9**
ILB ⇑*e* 03 39 05.8
HDA Harding Lake 69.86 28 PFAKE 03 11 10.0 +9.1
HDA LR LR
comp=Z,13μm,20.0s
DBOC Borcka 69.94 307 *i* P **P 03 11 01.9 +0.1**
BCA Borcka 69.95 308 *e*P **P 03 11 02.3 +0.4**
DDEM Demirkent 69.98 307 *i* P **P 03 11 02.1 -0.1**
HOMI Horasan 70.05 306 *i* P **P 03 11 03.2 +0.4**
TATV Tatvan 70.11 304 *i* P **P 03 11 03.5 +0.3**
SCM Sheep Creek Mo 70.12 30 PFAKE 03 11 10.0 +7.4
SCM LR LR
comp=Z,10μm,21.0s
FYU Fort Yukon 70.20 25 PFAKE 03 11 10.0 +7.1
FYU LR LR
comp=Z,7μm,19.0s
SIRT Sirnak 70.21 303 *e*P **P 03 11 04.2 +0.5**
SIRN S¨–rnak 70.23 303 *i* P **P 03 11 03.4 -0.4**
DDM Donnelly Dome 70.44 28 PFAKE 03 11 20.0 +15
DDM LR LR
comp=Z,16μm,18.0s
ERZM Erzurum 70.48 306 *i* P **P 03 11 05.9 +0.4**
OBN Obninsk 70.51 323 P **P 03 11 04.2 -0.8**
comp=Z,784nm,1.2s,SNR=7.5
OBN Obninsk 70.51 323 P **P 03 11 04.6 -0.4**
comp=Z,27nm,0.4s,baz=36,slow=3.1,SNR=23
OBN Obninsk 70.51 323*d* P **P 03 11 03.7 -1.3**
OBN *i* 03 11 25.5
OBN *i* S **S 03 20 11.6 -5.2**
OBN *i* SS **SS 03 24 45.7 -2.0**
OBN pmax pmax
comp=Z,231nm,1.7s
OBN MLR MLR
comp=Z,16μm,19.0s
OBN Obninsk 70.51 323 *e*P **P 03 11 05.2 +0.2**
comp=Z,504nm,1.5s
OBN LR LR
comp=Z,18μm,21.0s
HOPEN Hopen 70.58 346 *e*P **P 03 11 07.1 +2.1**
HOPEN *e*S **S 03 20 16.8 -0.2**
HOPEN IVMs_BB IVMs_BB 03 47 19.0
comp=Z,18μm,13.4s
PAX Paxson 70.76 29 *e*P **P 03 11 07.6 +1.0**
PAX pmax pmax
comp=Z,574nm,1.8s
PAX MLR MLR
comp=Z,14μm,20.0s
PAX Paxson 70.76 29 *e*P **P 03 11 07.6 +1.0**
comp=Z,574nm,1.8s
PAX LR LR
comp=Z,14μm,20.0s
KLU Klutina 70.84 31 PFAKE 03 11 20.0 +13
KLU LR LR
comp=Z,10μm,22.0s
BNGL BINGOL 70.86 305 *i* P **P 03 11 08.1 +0.4**
SOC Sochi 70.87 310*d i*P **P 03 11 06.8 -0.6**
SOC *e* 03 11 27.0
SOC *e* 03 13 43.6
SOC *e*PPP PPP 03 15 28.1
SOC *i* S **S 03 20 24.2 +2.8**
SOC *e* 03 21 09.4
SOC pmax pmax
comp=Z,584nm,2.0s
SOC pmax pmax
comp=Z,100nm,0.8s
SOC MLR MLR
comp=Z,22μm,17.0s
DIV Divide 70.99 31 *e*P **P 03 11 09.2 +1.3**
comp=Z,246nm,1.0s
DIV LR LR
comp=Z,19μm,22.0s
SVAN Silvan-Diyarba 71.01 304 *e*P **P 03 11 09.6 +1.1**
KOPT Kop Dagi 71.11 306 *i* P **P 03 11 09.1 -0.2**
BNGB Bing¨ll 71.21 305 *e*P **P 03 11 11.1 +1.3**
SCRK Sand Creek 71.21 28 PFAKE 03 11 20.0 +11
SCRK LR LR
comp=Z,13μm,19.0s
RAYN Ar Rayn 71.24 288 P **P 03 11 10.6 +0.5**
comp=Z,1μm,1.3s,SNR=48
RAYN Ar Rayn 71.24 288 *e*P **P 03 11 09.5 -0.6**
comp=Z,156nm,1.2s
RAYN LR LR
comp=Z,7μm,20.0s
DOT Dot Lake 71.25 28 *e*P **P 03 11 09.7 +0.3**
comp=Z,274nm,1.3s
DOT LR LR
comp=Z,12μm,20.0s
BAYT Ayd¨–ntepe-Bay 71.28 307 *e*P **P 03 11 10.3 +0.1**
KTUT Trabzon 71.42 307 *e*P **P 03 11 09.6 -1.2**
MACK Trabzon 71.43 307 *i* P **P 03 11 10.8 -0.2**
MARD Mardin 71.54 303 *i* P **P 03 11 11.3 -0.4**
JOF Joensuu 71.57 331 *e*p **P 03 11 11.1 -0.2**
comp=Z,5.1nm,0.3s
JOF Joensuu 71.57 331 *e*P **P 03 11 11.1 -0.2**
JOF pmax pmax
comp=Z,5.0nm,0.3s
BMRM Bremner River 71.58 31 *e*P **P 03 11 13.6 +2.1**
comp=Z,194nm,1.0s
BMRM LR LR
comp=Z,10μm,20.0s
OPA Opana 71.65 74 *e*P **P 03 11 13.4 +0.9**
OPA Opana 71.65 74 *e*P **P 03 11 13.4 +0.9**
KEV Kevo 71.67 339 *e*p **P 03 11 10.7 -1.0**
comp=Z,4.8nm,0.3s
KEV Kevo 71.67 339 *e*P **P 03 11 10.7 -1.0**
KEV pmax pmax
comp=Z,5.0nm,0.3s
KEV Kevo 71.67 339 *e*P **P 03 11 12.3 +0.6**
comp=Z,69nm,0.8s
KEV LR LR
comp=Z,29μm,18.0s
KIP Kipapa 71.72 74*d i*P **P 03 11 15.0 +2.0**
KIP pmax pmax
comp=Z,147nm,1.7s
KIP Kipapa 71.72 74 *e*P **P 03 11 14.8 +1.9**
comp=Z,153nm,1.1s
KIP LR LR
comp=Z,13μm,20.0s
MAZI Mazidag 71.76 304 *e*P **P 03 11 13.5 +0.4**
EUZM Uzumlu 71.78 306 *i* P **P 03 11 13.5 +0.3**
KBSD Kabsdagh 71.80 303 *e*P **P 03 11 12.2 -1.0**
KBSD Kabsdagh 71.80 303 *e*P **P 03 11 13.5 +0.3**
SPA0 Spitsbergen Ar 71.88 348 *e*P **P 03 11 14.4 +1.4**
SPA0 IAmb IAmb 03 11 19.8
comp=Z,1μm,1.6s
SPA0 *e*S **S 03 20 30.1 -2.0**
SPA0 IVMs_BB IVMs_BB 03 44 09.0
comp=Z,11μm,18.7s
SPA0 Spitsbergen Ar 71.88 348 *e*P **P 03 11 12.5 -0.5**
SPITS Spitsbergen Ar 71.88 348 P **P 03 11 12.5 -0.5**
comp=Z,49nm,0.7s,baz=90,slow=8.8,SNR=10
SPITS Spitsbergen Ar 71.88 348 P **P 03 11 12.5 -0.5**
SPITS pmax pmax
comp=Z,49nm,0.7s
DIYA Diyarbakir 71.89 304 *i* P **P 03 11 13.9 +0.1**
MSEY Mahe Island 71.91 257 *e*P **P 03 11 14.0 -0.2**
MSEY pmax pmax
comp=Z,215nm,1.4s
MSEY Mahe Island 71.91 257 *e*P **P 03 11 14.0 -0.2**
comp=Z,215nm,1.4s
KELT Kelkit 72.00 307 *i* P **P 03 11 15.0 +0.4**
ANN Anapa 72.19 312 *i* P **P 03 11 14.6 -0.7**
ANN *e**PP **pP 03 11 25.1 +2.3**
ANN *e* 03 11 40.0
ANN *e* 03 13 56.9
ANN *i* S **S 03 20 34.2 -2.4**
ANN pmax pmax
comp=N,197nm,1.6s
ANN pmax pmax
comp=Z,536nm,1.6s
ANN smax smax
comp=N,7μm,7.2s
ANN smax smax
comp=Z,3μm,7.3s
ANN MLR MLR
comp=N,17μm,22.0s
ANN MLR MLR
comp=Z,22μm,22.0s
ESPY Espiye-Giresun 72.20 308 *e*P **P 03 11 15.1 -0.4**
PTK Pertek 72.21 305 *e*P **P 03 11 16.3 +0.5**
EGAK Eagle 72.23 27 *e*P **P 03 11 16.1 +0.9**
comp=Z,173nm,1.0s
EGAK LR LR
comp=Z,6μm,18.0s
ARA0 ARCESS Array S 72.23 339 *e*P **P 03 11 14.9 -0.3**
ARCES ARCESS Array B 72.23 339 P **P 03 11 14.9 -0.3**
comp=Z,38nm,1.0s,baz=70,slow=5.1,SNR=36
ARCES LR LR 03 46 59.8
comp=Z,15μm,20.8s,baz=76,slow=39
ARCES ARCESS Array B 72.23 339 P **P 03 11 14.9 -0.3**
ARCES pmax pmax
comp=Z,38nm,1.0s
ARCES MLR MLR
comp=Z,15μm,20.8s
ARE0 ARCESS Array S 72.23 339 *e*P **P 03 11 15.8 +0.6**
ARE0 *e*S **S 03 20 35.3 -1.1**
SFNV Sufian 72.28 303 *e*P **P 03 11 17.8 +1.6**
KBS Kingsbay 72.39 349 *e*P **P 03 11 17.3 +1.3**
KBS IAmb IAmb 03 11 32.2
comp=Z,194nm,1.1s
KBS *e*S **S 03 20 37.7 -0.2**
KBS IVMs_BB IVMs_BB 03 48 28.0
comp=Z,16μm,17.2s
KBS Kingsbay 72.39 349 *e*P **P 03 11 17.4 +1.4**
KBS pmax pmax
comp=Z,49nm,1.0s
KBS MLR MLR
comp=Z,40μm,18.0s
KBS Kingsbay 72.39 349 *e*P **P 03 11 17.4 +1.4**
comp=Z,49nm,1.0s
KBS LR LR
comp=Z,40μm,18.0s
SVRC Sivrice-ELAZID 72.40 305 *e*P **P 03 11 17.8 +0.8**
HSPB Hornsund (broa 72.50 347 *e*P P 03 11 22.8 +6.2
HSPB *e*S **S 03 20 40.5 +1.4**
HSPB IVMs_BB IVMs_BB 03 48 55.7
comp=Z,16μm,18.5s
GRSN GIRESUNGRSN 72.54 308 *i* P **P 03 11 16.4 -1.2**
BJO Bjornoya 72.57 344 *e*P P 03 11 22.9 +5.8
BJO *e*S **S 03 20 40.2 +0.2**
BJO IVMs_BB IVMs_BB 03 45 18.0
comp=Z,11μm,17.0s
ELZG Elazig 72.61 305 *i* P **P 03 11 18.7 +0.4**
AFI Afiamalu 72.62 113 *e*P **P 03 11 19.8 +1.4**
AFI pmax pmax
comp=Z,160nm,1.3s
AFI MLR MLR
comp=Z,2μm,19.0s
AFI Afiamalu 72.62 113 *e*P **P 03 11 19.8 +1.4**
comp=Z,160nm,1.3s
AFI LR LR
comp=Z,2μm,19.0s
ILIC ilic-Erzincan 72.69 306 *e*P P 03 11 24.5 +5.9
SUSE Susehri 72.77 307 *i* P **P 03 11 17.9 -1.3**
PUL Pulkovo 72.78 328⇑ *e*P **P 03 11 20.2 +1.6**
PUL pmax pmax
comp=Z,109nm,0.7s
PUL MLR MLR
comp=Z,36μm,23.0s
MNKR ALMNKUR 73.06 302 *e*P **P 03 11 21.9 +1.2**
MNKR ALMNKUR 73.06 302 *e*P **P 03 11 21.2 +0.5**
MALT Malatya 73.09 305 *e*P **P 03 11 21.9 +0.9**
MALT Malatya 73.09 305‖ *i*P **P 03 11 21.4 +0.4**
DAWY Dawson 73.15 27 *e*P **P 03 11 21.5 +0.7**
KTK1 Kautokeino 73.16 338 *e*S **S 03 20 44.5 -2.4**
KSRV Kasrt alli 73.29 302 *e*P **P 03 11 21.6 -0.5**
KSRV Kasrt alli 73.29 302 *e*P **P 03 11 22.2 +0.1**
RSDY Resadiye-TOKAT 73.36 307 *e*P **P 03 11 23.1 +0.6**
ATAB Bozova 73.41 304 *i* P **P 03 11 22.9 +0.1**
AKCD Akcadag 73.47 305 *i* P **P 03 11 23.9 +0.6**
AIS Amsterdam Isla 73.86 217 P P 03 11 14.0 -11
AIS S SKiKP 03 20 35.0 -18
AIS SS **SS 03 25 37.0 -3.5**
AIS R 03 33 00.0
GZT Gaziantep 74.00 304 *i* P **P 03 11 26.5 0.0**
TOKA Tokat 74.01 307 *i* P **P 03 11 25.7 -0.6**
KAF Kangasniemi 74.03 331 *e*p **P 03 11 24.4 -1.5**
comp=Z,15nm,0.7s
KAF Kangasniemi 74.03 331 *e*P **P 03 11 24.4 -1.5**
KAF pmax pmax
comp=Z,15nm,0.7s
SLMH Al Salmeh 74.03 303 *e*P **P 03 11 26.6 +0.1**
SLMH Al Salmeh 74.03 303 *e*P **P 03 11 26.8 +0.3**
INK Inuvik 74.11 22 P **P 03 11 25.1 -1.2**
comp=Z,9.0nm,0.6s,baz=304,slow=6.1,SNR=36
INK LR LR 03 48 02.9
comp=Z,14μm,18.2s,baz=275,slow=39
INK Inuvik 74.11 22 *e*P **P 03 11 26.5 +0.2**
INK pmax pmax
comp=Z,441nm,1.4s
INK MLR MLR
comp=Z,16μm,20.0s
INK Inuvik 74.11 22 *e*P **P 03 11 26.4 +0.2**
comp=Z,441nm,1.4s
INK LR LR
comp=Z,16μm,20.0s
OUZ Omahuta 74.11 139 *e*P **P 03 11 29.5 +2.8**
comp=Z,98nm,1.8s
OUZ LR LR
comp=Z,14μm,21.0s
KVT Kavak 74.12 308 *e*P **P 03 11 27.1 +0.2**
FIA0 FINESS Array S 74.33 330 *e*P **P 03 11 26.8 -0.9**
FIA0 FINESS Array S 74.33 330 *e*P **P 03 11 26.8 -0.9**
FINES FINESS Array B 74.33 330 P **P 03 11 26.8 -0.9**
comp=Z,27nm,0.8s,baz=86,slow=5.9,SNR=46
FINES LR LR 03 47 51.0
comp=Z,29μm,18.4s,baz=76,slow=39
FINES FINESS Array B 74.33 330 P **P 03 11 26.8 -0.9**
FINES pmax pmax
comp=Z,27nm,0.8s
FINES MLR MLR
comp=Z,29μm,18.5s
HAVZ Havza 74.36 308 *i* P **P 03 11 28.0 -0.3**
TRO Tromso 74.39 339 *e*P **P 03 11 28.2 +0.4**
TRO *e*S **S 03 21 00.2 -0.4**
TRO IVMs_BB IVMs_BB 03 51 21.7
comp=Z,16μm,19.7s
SIM Simferopol' 74.43 313*de*P **P 03 11 28.1 -0.5**
SIM *e*S **S 03 20 59.0 -3.1**
SIM pmax pmax
comp=Z,114nm,0.8s
SIM pmax pmax
comp=Z,800nm,10.0s
SIM MLR MLR
comp=Z,21μm,22.0s
POHA Pohakuloa 74.44 75 *e*P **P 03 11 30.9 +1.5**
comp=Z,176nm,1.0s
KMRS Kahramanmaras 74.47 304 *e*P **P 03 11 28.5 -0.5**
HCB Kahramanmara¨ 74.51 304 *i* P **P 03 11 28.8 -0.4**
PINB Pinarbasi 74.52 306 *i* P **P 03 11 28.8 -0.8**
DIKM Dikmen 74.54 309 *e*P **P 03 11 29.4 +0.2**
KUZU Kuzuini 74.54 304 *i* P **P 03 11 29.1 -0.4**
KAMA Osmaniye 74.73 304 *i* P **P 03 11 30.0 -0.6**
BOYT Boyabat 74.86 309 *i* P **P 03 11 30.7 -0.5**
VSU Vasula 74.92 327*ce*P **P 03 11 31.9 +0.8**
VSU pmax pmax
comp=Z,320nm,1.7s
VSU MLR MLR
comp=Z,68μm,17.0s
HYT Haines Junctio 74.96 30 *e*P **P 03 11 33.2 +1.7**
DAMY Dhamar 75.00 280 *e*P **P 03 11 34.2 +1.4**
comp=Z,390nm,1.3s
DAMY LR LR
comp=Z,9μm,21.0s
CTKT Corum 75.16 308 *i* P **P 03 11 33.6 +0.5**
KFRA Kufra 75.20 302 *e*P **P 03 11 36.4 +3.1**
BTCH Batrach 75.22 303 *e*P **P 03 11 32.7 -0.8**
KOZT Kozan 75.29 305 *e*P **P 03 11 34.2 +0.4**
BZK Bozkurt 75.35 310 *e*P **P 03 11 34.2 +0.2**
ALE Alert 75.40 1 P **P 03 11 34.2 +0.6**
comp=Z,1μm,1.3s,SNR=12
CORM Corum 75.41 308 *e*P **P 03 11 36.7 +2.1**
WRDH Warideh 75.41 303 *e*P **P 03 11 34.3 -0.2**
WRDH Warideh 75.41 303 *e*P **P 03 11 35.1 +0.6**
ZALF Zalf 75.44 300 *e*P **P 03 11 35.7 +1.0**
ZALF Zalf 75.44 300 *e*P **P 03 11 35.9 +1.2**
CEYT Ceyhan 75.49 304 *e*P **P 03 11 35.7 +0.8**
YAYL Yayladag 75.50 303 *i* P **P 03 11 32.4 -2.7**
MICGM Minsk 75.53 323‖ *e*P **P 03 11 33.0 -1.7**
MNK Minsk 75.56 323‖ *e*P **P 03 11 33.0 -1.9**
MNK *e*S **S 03 21 10.0 -4.3**
MNK *e*SS **SS 03 26 02.0 -2.8**
MNK *e*SSS SSS 03 29 24.0
MNK pmax pmax
comp=E,150nm,1.6s
MNK pmax pmax
comp=Z,130nm,1.5s
MNK smax smax
comp=N,8μm,6.0s
MNK MLR MLR
comp=Z,47μm,16.0s
MNK MLR MLR
comp=E,19μm,12.0s
BIDA Albida 75.63 302 *e*P **P 03 11 35.3 -0.5**
ARNB Al Arnab 75.65 303 *e*P P 03 11 39.5 +3.6
TRBA At Turbah 75.71 279 *e*P **P 03 11 37.1 +0.4**
HAWK Haweek 75.71 302 *e*P **P 03 11 35.9 -0.4**
HAWK Haweek 75.71 302 *e*P **P 03 11 36.6 +0.3**
CDAG Cicekdag 75.76 307 *i* P **P 03 11 35.7 -0.9**
FKH Fakeheh 75.79 301 *e*P **P 03 11 36.4 -0.4**
MARH Ras Al Marh 75.80 301 *e*P **P 03 11 37.2 +0.2**
MARH Ras Al Marh 75.80 301 *e*P **P 03 11 37.8 +0.7**
ILGA Ilgaz 75.82 309 *i* P **P 03 11 36.5 -0.4**
AKASG Malin Array Be 75.92 319 P **P 03 11 35.2 -1.8**
comp=E,26nm,0.8s,baz=59,slow=6.0,SNR=98
AKASG LR LR 03 45 55.0
comp=E,19μm,20.2s,baz=50,slow=36
AKASG Malin Array Be 75.92 319 P **P 03 11 35.2 -1.8**
AKASG pmax pmax
comp=Z,26nm,0.8s
AKASG MLR MLR
comp=Z,19μm,20.3s
AKBB Malin Array Si 75.92 319 *e*P **P 03 11 35.2 -1.8**
AKBB Malin Array Si 75.92 319 *e*P **P 03 11 35.2 -1.8**
KIEV Kiev 75.93 319 *e*P **P 03 11 35.5 -1.6**
KIEV pmax pmax
comp=Z,340nm,1.8s
KIEV MLR MLR
comp=Z,18μm,19.0s
KIEV Kiev 75.93 319 *e*P **P 03 11 35.5 -1.6**
comp=Z,340nm,1.8s
KIEV LR LR
comp=Z,18μm,19.0s
KARA Karaisali 75.94 305 *e*P **P 03 11 37.2 -0.3**
SALA Sala 75.99 300 *e*P **P 03 11 35.3 -2.8**
SALA Sala 75.99 300 *e*P **P 03 11 39.4 +1.3**
NACGM Naroch 76.01 324 *e*P **P 03 11 36.0 -1.5**
ASF Jabal al Asfar 76.02 299 P **P 03 11 38.9 +0.8**
comp=Z,35nm,0.8s,baz=25,slow=1.9,SNR=50
ASF Jabal al Asfar 76.02 299 P **P 03 11 38.9 +0.8**
ASF pmax pmax
comp=Z,35nm,0.8s
CANT Cankiri 76.02 308 *e*P **P 03 11 38.6 +0.7**
TOTH TOTAH 76.03 301 *e*P **P 03 11 38.3 +0.2**
TOTH TOTAH 76.03 301 *e*P **P 03 11 38.0 -0.1**
QASN Qassioun 76.11 301 *e*P **P 03 11 40.6 +2.0**
HWQ Hawqa 76.14 302 *e*P **P 03 11 38.8 0.0**
ISAL Salakas 76.15 325 *e*P **P 03 11 38.6 +0.3**
ISAL AMB AMB 03 12 01.1
comp=Z,55nm,1.5s
IIGN Ignalina 76.17 324 *e*P **P 03 11 38.7 +0.3**
IIGN AMB AMB 03 12 01.2
comp=Z,54nm,1.7s
ELDT Eldivan 76.20 308 *i* P **P 03 11 38.1 -1.0**
BR101 Keskin Array S 76.27 307 *e*P **P 03 11 38.5 -1.0**
BRTR Keskin Array B 76.27 307 P **P 03 11 38.5 -1.0**
comp=Z,78nm,1.0s,baz=132,slow=3.1,SNR=117
BRTR LR LR 03 51 21.9
comp=Z,5μm,18.6s,baz=46,slow=40
STEI Steigen 76.30 338 *e*P **P 03 11 40.1 +1.3**
BRBR Barbar 76.40 301 *e*P **P 03 11 42.1 +1.7**
SKAG Skagway 76.44 31 *e*P **P 03 11 40.6 +0.8**
comp=Z,416nm,1.4s
RCY Rachaya 76.47 301 *e*P **P 03 11 40.5 -0.2**
MERS Mersin 76.47 304 *e*P **P 03 11 40.4 -0.1**
BHL Bhannes 76.49 301 *e*P **P 03 11 40.7 -0.1**
TCHB Talchebab 76.61 300 *e*P **P 03 11 40.5 -0.9**
TCHB Talchebab 76.61 300 *e*P **P 03 11 41.8 +0.4**
DQRL Deir Qamar 76.61 301 *e*P **P 03 11 41.9 +0.4**
BBAL Bala 76.70 307 *i* P **P 03 11 40.8 -1.1**
AFSR Af¨ar-Bala (A 76.77 307 *e*P **P 03 11 41.5 -0.8**
SULT Sultanhani-AKS 76.83 306 *e*P **P 03 11 42.7 +0.1**
ANTO Ankara 76.85 308 *e*P **P 03 11 42.9 +0.3**
ANTO Ankara 76.85 308‖ *i*P **P 03 11 42.0 -0.6**
ANTO Ankara 76.85 308 *e*P **P 03 11 42.2 -0.4**
ANTO pmax pmax
comp=Z,99nm,0.9s
ANTO Ankara 76.85 308 P **P 03 11 42.7 +0.1**
SNR=40
ANTO Ankara 76.85 308 *e*P **P 03 11 42.2 -0.4**
comp=Z,99nm,0.9s
LOD Lodumlu 76.86 308 *e*P **P 03 11 42.8 +0.1**
KIZK Mersin 76.88 304 *i* P **P 03 11 41.3 -1.5**
MMAI Mount Meron Ar 76.96 300 P **P 03 11 43.7 +0.3**
comp=Z,43nm,1.0s,baz=78,slow=7.8,SNR=36
BESE Bessie Mountai 76.98 32 PFAKE 03 11 50.0 +7.0
BESE LR LR
comp=Z,4μm,18.0s
MMLI Mount Malkishu 77.12 300 *e*P **P 03 11 46.3 +2.0**
SIT Sitka 77.30 33 *e*P **P 03 11 47.1 +2.4**
SIT pmax pmax
comp=Z,302nm,1.1s
SIT Sitka 77.30 33 *e*P **P 03 11 47.1 +2.4**
comp=Z,302nm,1.1s
MRIV Mauritius Mete 77.32 242 *e*P **P 03 11 45.2 -0.3**
KIS Kishinev 77.34 316‖ *i*P **P 03 11 43.0 -2.2**
comp=Z,600nm,4.0s
KIS Kishinev 77.34 316 *e*PcP **PcP 03 11 54.0 -1.7**
KIS Kishinev 77.34 316 *e*PP PP 03 14 50.0 +11
KIS Kishinev 77.34 316 *e*PsP 03 17 16.0
KIS *i* S **S 03 21 36.0 +1.9**
comp=Z,4μm,13.0s
KIS Kishinev 77.34 316*d i*P **P 03 11 43.0 -2.2**
KIS *e* 03 11 54.0
KIS *e*PPP PPP 03 16 22.0
KIS *i* S **S 03 21 36.0 +1.9**
KIS *i* PS PnS 03 22 04.0 -11
KIS pmax pmax
comp=Z,600nm,4.0s
KIS smax smax
comp=N,4μm,13.0s
KIS MLR MLR
comp=Z,18μm,16.0s
KIS MLR MLR
comp=N,16μm,14.0s
KIS MLR MLR
comp=Z,22μm,20.0s
LADK Ladik-KONYA 77.69 306 *e*P **P 03 11 46.5 -0.9**
LFK Lefkose 77.72 303 *e*P **P 03 11 47.6 -0.1**
ERMK Ermenek 77.77 305 *i* P **P 03 11 47.2 -0.8**
KDHN Kadinhani 77.77 307 *i* P **P 03 11 45.8 -2.1**
KONT Konya--Tatoy 77.77 306 *e*P **P 03 11 46.4 -1.4**

STOK Stokkvaagen 77.79 337 e S 03 21 42.5 +4.3
MDUB Mudurnu 77.82 309 eP P 03 11 48.0 -0.1
LEOM Leova 77.89 315 eP P 03 11 46.9 -1.3
LEOM Leova 77.89 315⇓iP P 03 11 48.0 -0.2
SVRH Sivrihisar-ESK 77.91 308 eP P 03 11 47.9 -0.7
BTAS Taskesti 77.93 309 i P P 03 11 47.8 -0.8
TLCR 77.94 314⇓iP P 03 11 47.5 -1.0
CSS Prodhromos 77.98 303 eP P 03 11 48.6 -0.4
CSS Prodhromos 77.98 303 eP P 03 11 48.1 -0.9
comp=Z,38nm,0.8s
CSS LR LR
comp=Z,2µm,20.0s
HRFI Mount Harif 78.20 298 eP P 03 11 50.0 -0.4
URZ Urewera 78.24 140 P P 03 11 51.3 +1.2
comp=Z,22nm,0.8s,baz=39,slow=4.0,SNR=9.6
URZ Urewera 78.24 140 eP P 03 11 51.1 +1.0
comp=Z,436nm,2.2s
GIUM Giurgiulesti 78.24 314⇓iP P 03 11 48.5 -1.7
LEF Lefka 78.27 303 eP P 03 11 50.5 -0.1
SUW Suwalki 78.30 324 eP P 03 11 49.7 -0.6
SUW eS S 03 21 40.8 -3.3
SUW LMZ LR 03 43 28.9
SUW Suwalki 78.30 324 eP P 03 11 49.7 -0.6
SUW eS S 03 21 40.8 -3.3
SUW Suwalki 78.30 324 eP P 03 11 49.9 -0.4
comp=Z,470nm,1.1s
SUW LR LR
comp=Z,25µm,21.0s
GULT Gulveren 78.32 309 eP P 03 11 50.8 -0.1
GAZI Gazipasa 78.35 304 i P P 03 11 49.2 -1.9
SEYT Eskypehyr 78.38 308 i P P 03 11 49.9 -1.4
EIL Elat 78.39 297 eP P 03 11 51.4 +0.1
CFR Carcaliu 78.39 314⇓iP P 03 11 50.4 -0.6
TIRR Tirgusor 78.45 313 eP P 03 11 49.2 -2.2
TIRR Tirgusor 78.45 313⇓iP P 03 11 50.9 -0.5
TIRR Tirgusor 78.45 313 eP P 03 11 51.1 -0.3
TIRR pmax pmax
comp=Z,690nm,2.5s
TIRR MLR MLR
comp=Z,20µm,22.0s
TIRR Tirgusor 78.45 313 eP P 03 11 51.1 -0.3
comp=Z,690nm,2.5s
TIRR LR LR
comp=Z,20µm,22.0s
BKZ Black Stump Fm 78.47 141 eP P 03 11 52.7 +1.2
comp=Z,497nm,2.2s
BORA Eskisehir 78.55 308 i P P 03 11 50.8 -1.4
BOLV Bolvadin 78.57 307 i P P 03 11 51.3 -1.0
RPZ Rata Peaks 78.64 147 P P 03 11 53.5 +1.2
comp=Z,68nm,0.9s,baz=9.1,slow=6.1,SNR=16
RPZ Rata Peaks 78.64 147 eP P 03 11 52.3 0.0
comp=Z,146nm,1.0s
TLB Topalu 78.66 314⇓iP P 03 11 52.2 -0.3
HARR Harsova 78.70 314⇑iP P 03 11 51.9 -0.8
XMAS Kiritimati 78.81 92 eP P 03 11 53.2 -0.7
comp=Z,377nm,1.4s
XMAS LR LR
comp=Z,8µm,21.0s
PETR Petresti 78.81 315⇓iP P 03 11 54.9 +1.6
PSN Preselentsi 78.87 313⇑iP P 03 11 54.4 +0.7
PSN Preselentsi 78.87 313 eP P 03 11 53.0 -0.7
SNZO South Karori 78.88 143 PFAKE 03 12 00.0 +6.4
SNZO LR LR
comp=Z,10µm,20.0s
CAVI Cavuskoy 78.88 309 eP P 03 11 54.2 +0.3
MSAB Monastry St. A 78.97 313⇓iP P 03 11 55.1 +0.8
KHZ Kahutara 79.01 145 eP P 03 11 54.1 -0.1
comp=Z,98nm,1.1s
KHZ LR LR
comp=Z,9µm,20.0s
NSS Namsos 79.03 336 eP P 03 11 53.1 -1.0
NSS IVMs_BB IVMs_BB 03 50 46.4
comp=Z,15µm,15.5s
CRAG Craig 79.04 34 eP P 03 11 55.1 +0.7
WRAK Wrangell Islan 79.06 33 PFAKE 03 12 10.0 +16
WRAK LR LR
comp=Z,7µm,18.0s
ALT Altintas 79.08 308 eP P 03 11 54.9 -0.2
VRI Vrincioaia 79.09 315⇓iP P 03 11 55.9 +1.0
GRER 79.09 315⇓iP P 03 11 54.3 -0.6
PLOR Plostina 79.14 315⇓iP P 03 11 55.5 +0.3
ISP Isparta 79.18 306 eP P 03 11 55.1 -0.6
ISP Isparta 79.18 306⇑iP P 03 11 54.6 -1.1
ISP Isparta 79.18 306 eP P 03 11 54.3 -1.4
ISP pmax pmax
comp=Z,182nm,0.9s
ISP Isparta 79.18 306 eP P 03 11 54.3 -1.4
comp=Z,182nm,0.9s
BFZ Birch Farm 79.32 142 eP P 03 11 55.9 -0.2
comp=Z,255nm,1.0s
LVV L'vov 79.36 319 dP P 03 11 57.0 +0.7
LVV iS S 03 22 00.0 +4.4
LVV MLR MLR
comp=Z,11µm,18.0s
DLBC Dease Lake 79.37 31 P P 03 11 58.8 +2.5
comp=Z,11nm,1.0s,baz=324,slow=4.7,SNR=26
DLBC Dease Lake 79.37 31 eP P 03 11 58.0 +1.8
ULDT Uludag 79.41 309 i P P 03 11 56.3 -0.8
TVSB Tavsanli 79.42 308 eP P 03 11 57.0 +0.1
ARMT Armutlu 79.47 309 eP P 03 11 56.3 -0.7
GDZ Gediz 79.52 308 i P P 03 11 56.5 -1.1
PRD Provadia 79.57 312 eP P 03 11 57.6 +0.1
PRD Provadia 79.57 312 i P P 03 11 58.9 +1.4
KORT Korkueli 79.59 306 i P P 03 11 56.3 -1.6
MLR Muntele Rosu 79.73 315⇑iP P 03 11 58.5 -0.1
MLR Muntele Rosu 79.73 315 P P 03 11 58.4 -0.1
comp=Z,6.4nm,0.9s,baz=334,slow=8.1,SNR=41
SULR 79.82 314⇓iP P 03 12 00.2 +1.3
DOPR Dopca 79.92 316⇓iP P 03 12 00.3 +0.8
DEMI Demirci 80.10 308 i P P 03 11 59.5 -1.1
GOLH Golhisar 80.10 306 i P P 03 11 59.4 -1.3
RES Resolute Bay 80.17 10 P P 03 11 60.0 -0.2
comp=Z,19nm,0.9s,baz=307,slow=4.8,SNR=64
RES Resolute Bay 80.17 10 eP P 03 12 00.2 0.0
RES pmax pmax
comp=Z,540nm,1.4s
RES Resolute Bay 80.17 10 eP P 03 12 00.2 0.0
comp=Z,540nm,1.4s
KWP Kalwaria Pacla 80.22 320 eP P 03 12 01.0 +0.1
KWP ePP PP 03 14 54.4 -8.8
KWP eS S 03 22 01.4 -3.4
KWP eSKSac SKSac 03 22 10.3 -7.0
KWP LMZ LR 03 45 41.9
KWP Kalwaria Pacla 80.22 320⇓iP P 03 12 00.6 -0.4
KWP Kalwaria Pacla 80.22 320 eP P 03 12 01.1 +0.1
KWP eS S 03 22 01.5 -3.4
KWP e 03 22 10.4
KWP Kalwaria Pacla 80.22 320 PFAKE 03 12 10.0 +9.0
KWP LR LR
comp=Z,22µm,19.0s
KULA Kula-Manisa 80.32 308 eP P 03 12 03.0 +1.1
TBLU Trondheim 80.33 335 eS S 03 22 02.5 -2.9
TBLU IAMs_20 IAMs_20 03 47 37.5
comp=Z,31µm,21.5s
VOIR 80.34 315⇓iP P 03 12 02.2 +0.4
JMB Yambol 80.40 312⇓iP P 03 11 55.1 -6.9
MANT Manisa 80.41 308 i P P 03 12 01.5 -1.0
AKAS Kas 80.42 305 i P P 03 12 00.7 -1.8
HFS Hagfors 80.43 332 P P 03 12 00.6 -1.3
comp=Z,21nm,0.8s,baz=79,slow=7.7,SNR=36
HFS Hagfors 80.43 332 P P 03 12 00.6 -1.3
HFS pmax pmax
comp=Z,21nm,0.8s
BEL Belsk 80.47 322 eP P 03 12 01.8 -0.4
BEL eS S 03 22 04.9 -2.4
BEL eSKSac SKSac 03 22 12.3 -6.6
BEL LMZ LR 03 47 41.8
BEL Belsk 80.47 322 eP P 03 12 01.8 -0.4
BEL eS S 03 22 04.9 -2.4
BEL e 03 22 12.4
BEL MLR MLR
comp=Z,21µm,21.8s
BMR Baia Mare 80.49 318⇓iP P 03 12 02.8 +0.4
SZH Strazhica 80.55 313 eP P 03 12 01.2 -1.7
SZH Strazhica 80.55 313 i P P 03 12 02.5 -0.4
ARR Arges 80.64 315⇓iP P 03 12 03.5 +0.1
BALY Balya 80.65 309 i P P 03 12 02.2 -1.3
HUMR Humele 80.72 314⇓iP P 03 12 03.1 -0.7
KOLS Kolonicke sedl 80.75 319 eP P 03 12 03.4 -0.5
KOLS pmax pmax
comp=Z,26nm,1.4s
KOLS Kolonicke sedl 80.75 319 eP P 03 12 03.4 -0.5
CJR Cluj-Napoca 80.79 317⇓iP P 03 12 03.0 -1.2
AKHS Akhisar 80.81 308 iP P 03 12 03.3 -1.1
UZH Uzhgorod 80.86 319 dP P 03 12 04.0 -0.4
UZH ePPP PPP 03 17 02.8
UZH iS S 03 22 07.0 -4.5
UZH MLR MLR
comp=Z,4µm,16.0s
TRPA Tarpa 80.91 318⇓iP P 03 12 03.9 -0.7
TRPA Tarpa 80.91 318⇓eP P 03 12 04.3 -0.3
DALY Dalyan (Mu¨la 80.93 306 eP P 03 12 04.4 -0.6
TURN Turunc 80.95 306 iP P 03 12 05.8 +0.7
NB2 NORSAR Subarra 81.06 333 P P 03 12 03.6 -1.7
comp=Z,62nm,0.8s,baz=60,slow=5.1
NB2 NORSAR Subarra 81.06 333 P P 03 12 03.6 -1.7
baz=60,slow=5.1
NB200 NORSAR Array S 81.06 333 eP P 03 12 03.5 -1.7
NB200 ePKKPbc PKKPbc 03 30 40.3 -3.0
NOA NORSAR Array B 81.06 333 P P 03 12 03.5 -1.7
comp=Z,63nm,1.0s,baz=61,slow=5.0,SNR=50
NOA PKKPbc PKKPbc 03 30 40.3 -3.0
comp=Z,2.0nm,0.8s,baz=243,slow=2.3,SNR=5.6
NOA LR LR 03 50 48.3
comp=Z,26µm,20.1s,baz=75,slow=38
NC602 NORSAR Array S 81.07 333 eP P 03 12 05.3 0.0
NC602 IVMs_BB IVMs_BB 03 50 45.2
comp=Z,14µm,17.7s
AYDB Zeytinkoy-Aydi 81.09 307 eP P 03 12 06.2 +0.1
YER Yerkesik 81.09 306 eP P 03 12 05.8 -0.1
LOT Lotru 81.17 315 eP P 03 12 08.2 +1.9
LOT Lotru 81.17 315⇑iP P 03 12 06.9 +0.6
STHS Stebnicka Huta 81.18 320 eP P 03 12 06.5 +0.4
STHS pmax pmax
comp=Z,17nm,1.0s
STHS Stebnicka Huta 81.18 320 eP P 03 12 06.5 +0.4
AYDN Tasoluk 81.20 307 iP P 03 12 07.2 +0.6
CRVS Cervenica-Dubn 81.26 319 eP P 03 12 07.3 +0.7
CRVS pmax pmax
comp=Z,122nm,1.8s
CRVS Cervenica-Dubn 81.26 319 eP P 03 12 07.3 +0.7
DIM Dimitrovgrad 81.27 312 eP P 03 12 06.5 -0.2
DIM Dimitrovgrad 81.27 312 iP P 03 12 06.7 0.0
JMIC Jan Mayen 81.31 346 eP P 03 12 13.5 +7.2
DRGR 81.33 317⇓iP P 03 12 06.2 -0.8
ALN Alexandroupoli 81.34 311 P P 03 12 06.5 -0.6
ALN Alexandroupoli 81.34 311 eP P 03 12 06.0 -1.1
AYVA Ayvalik 81.47 309 iP P 03 12 07.1 -0.8
KDZ Kurdzhali 81.50 311⇓iP P 03 12 08.0 0.0
KDZ Kurdzhali 81.50 311 iP P 03 12 09.0 +1.0
ARG Arkhangelos 81.54 306 P P 03 12 07.4 -0.9
ARG Arkhangelos 81.54 306 eP P 03 12 07.4 -0.9
DEV Deva 81.56 316⇓iP P 03 12 09.0 +0.8
GCAM G?zelcaml? 81.67 307 iP P 03 12 08.1 -0.8
OJC Ojcow 81.71 321 eP P 03 12 08.6 -0.3
OJC eS S 03 22 16.3 -3.9
OJC eSKSac SKSac 03 22 24.6 -2.8
OJC LMZ LR 03 51 46.2
OJC Ojcow 81.71 321⇓iP P 03 12 08.0 -0.9
OJC iS S 03 22 16.5 -3.7
OJC i 03 22 23.9
OJC MLR MLR
comp=Z,24µm,18.4s
OJC Ojcow 81.71 321 eP P 03 12 08.7 -0.1
comp=Z,137nm,1.1s
BOZC Bozcaada 81.73 310 iP P 03 12 09.6 +0.4
NIE Niedzica 81.74 320 eP P 03 12 08.9 -0.2
NIE eS S 03 22 17.9 -2.8
NIE eSKSac SKSac 03 22 26.5 -1.3
NIE LMZ LR 03 48 28.0
NIE Niedzica 81.74 320⇓iP P 03 12 08.7 -0.4
NIE iS S 03 22 18.2 -2.5
NIE i 03 22 26.1
BDRM Kayabasi 81.74 307 iP P 03 12 08.0 -1.3
PRK Paraskevi 81.80 309 P P 03 12 08.6 -0.9
PRK Paraskevi 81.80 309 eP P 03 12 08.2 -1.3
OSL Oslo 81.83 332 eP P 03 12 08.6 -0.6
OSL IVMs_BB IVMs_BB 03 52 28.6
comp=Z,16µm,17.5s
GKP Gorka Klasztor 81.83 324 eP P 03 12 09.5 +0.1
GKP eS S 03 22 17.8 -3.5
GKP eSKSac SKSac 03 22 26.8 -1.3
GKP LMZ LR 03 46 05.3
GKP Gorka Klasztor 81.83 324 eP P 03 12 09.6 +0.1
GKP eS S 03 22 17.9 -3.4
GKP e 03 22 26.8
GZR Gura Zlata 81.83 316⇑iP P 03 12 10.0 +0.3
BODT Bodrum 81.84 307 eP P 03 12 09.1 -0.8
SMG Samos 81.96 307 P P 03 12 08.4 -2.1
SMG Samos 81.96 307 eP P 03 12 09.3 -1.2
RZN Rozhen 81.98 312 iP P 03 12 09.3 -1.4
MPEP Malo Peshtene 82.00 314 eP P 03 12 10.5 -0.1
MPEP Malo Peshtene 82.00 314 iP P 03 12 10.7 +0.1
KECS Kecovo 82.02 319 eP P 03 12 10.6 0.0
KECS pmax pmax
comp=Z,26nm,1.5s
KECS Kecovo 82.02 319 eP P 03 12 10.6 0.0
PGB Panagyurishte 82.02 313 eP P 03 12 10.6 -0.2
PGB Panagyurishte 82.02 313 iP P 03 12 10.9 -0.1
AKN Aaknes 82.17 335 eP P 03 12 16.8 +5.7
AKN IAmb IAmb 03 12 18.1
comp=Z,445nm,1.7s
AKN IVMs_BB IVMs_BB 03 53 20.9
comp=Z,14µm,11.5s
SIRR Siria 82.20 317⇓iP P 03 12 12.1 +0.5
BSD Bornholm Skovb 82.21 327⇑iP P 03 12 12.0 +0.6
BSD iS S 03 22 21.8 -3.3
BSD pmax pmax
comp=Z,300nm,1.3s
BSD MLR MLR
comp=Z,28µm,13.0s
BSD Bornholm Skovb 82.21 327⇑iP P 03 12 12.0 +0.6
comp=Z,304nm,1.4s
BSD Bornholm Skovb 82.21 327 iS S 03 22 21.8 -3.3
comp=Z,28µm,13.0s
FURI Furi 82.22 276 P P 03 12 14.1 +1.5
FURI S S 03 22 30.2 +2.9
FURI Furi 82.22 276 eP P 03 12 11.3 -1.3
comp=Z,331nm,1.5s
FURI LR LR
comp=Z,7µm,21.0s
CHOS Chios island 82.28 308 eP P 03 12 12.5 +0.3
KAVA Kavala 82.38 311 eP P 03 12 12.9 +0.3
KONO Kongsberg 82.46 332 eP P 03 12 13.0 +0.4
KONO eS S 03 22 27.3 -0.3
KONO IVMs_BB IVMs_BB 03 51 27.5
comp=Z,16µm,17.1s
KONO Kongsberg 82.46 332 eP P 03 12 13.6 +1.0
KONO pmax pmax
comp=Z,662nm,2.6s
KONO MLR MLR
comp=Z,43µm,19.0s
KONO Kongsberg 82.46 332 eP P 03 12 13.6 +1.0
comp=Z,662nm,2.6s
KONO LR LR
comp=Z,43µm,19.0s
BZS Buzias 82.49 316 eP P 03 12 11.0 -2.1
BZS Buzias 82.49 316⇓iP P 03 12 12.2 -0.9
KARP Karpathos 82.52 305 P P 03 12 11.6 -1.9
KARP Karpathos 82.52 305 eP P 03 12 12.1 -1.4
PSZ Piszkesteto 82.62 319⇓iP P 03 12 14.0 +0.2
PSZ Piszkesteto 82.62 319 eP P 03 12 14.3 +0.5
PSZ pmax pmax
comp=Z,218nm,1.3s
PSZ MLR MLR
comp=Z,20µm,21.0s
PSZ Piszkesteto 82.62 319 eP P 03 12 14.3 +0.5
comp=Z,218nm,1.3s
PSZ LR LR
comp=Z,20µm,21.0s
PSZ Piszkesteto 82.62 319⇓eP P 03 12 10.6 -3.2
VTS Vitosha 82.66 313⇑iP P 03 12 13.8 -0.4
VTS Vitosha 82.66 313 eP P 03 12 13.4 -0.8
VTS Vitosha 82.66 313 iP P 03 12 13.6 -0.6
MMB Musomiste 82.70 312⇓iP P 03 12 13.7 -0.6
MMB Musomiste 82.70 312 eP P 03 12 14.0 -0.3
MMB Musomiste 82.70 312 iP P 03 12 12.3 -2.0
RAC Raciborz 82.70 321 eP P 03 12 13.8 -0.2
RAC eS S 03 22 27.6 -2.8
RAC MLR MLR
comp=Z,21µm,19.2s
NVR Nevrokopi 82.70 312 P P 03 12 13.0 -1.3
NVR Nevrokopi 82.70 312 eP P 03 12 13.8 -0.5
OKC Ostrava-Krasne 82.83 321 eP P 03 12 16.1 +1.3
OKC ex x 03 12 29.6
OKC eS S 03 22 29.3 -2.5
OKC eXS SKKSac 03 22 38.0 -0.9
OKC eSS SS 03 27 58.0 +4.1
OKC AMS AMS 03 53 40.0
comp=Z,12µm,17.0s
OKC Ostrava-Krasne 82.83 321 eP P 03 12 16.1 +1.3
OKC e 03 12 29.6
OKC e 03 22 29.3
OKC eSS SS 03 27 58.0 +4.1
OKC MLR MLR
comp=Z,12µm,17.0s
SRS Serrai 82.98 311 P P 03 12 14.1 -1.6
SRS Serrai 82.98 311 eP P 03 12 14.2 -1.5
VYHS Vyhne 83.01 320 eP P 03 12 15.8 +0.1
VYHS pmax pmax
comp=Z,75nm,1.4s
VYHS Vyhne 83.01 320 eP P 03 12 15.8 +0.1
OUR Ouranopolis 83.01 311 eP P 03 12 15.6 -0.3
KKB Krupnik 83.03 312 i P P 03 12 15.7 -0.3
HYA Hoyanger 83.06 334 eP P 03 12 16.7 +1.1
HYA IAmb IAmb 03 12 22.7
comp=Z,717nm,2.0s
PKSN Nyarlorinc 83.06 318⇓eP P 03 12 18.3 +2.3
APE Apeiranthos 83.16 307 eP P 03 12 14.2 -2.6
APE Apeiranthos 83.16 307⇓iP P 03 12 14.8 -2.0
APE Apeiranthos 83.16 307⇓eP P 03 12 15.0 -1.8
APE pmax pmax
comp=Z,20nm,0.6s
APE MLR MLR
comp=Z,6µm,17.0s
COP Copenhagen 83.17 328 iP P 03 12 18.2 +1.8
COP iS S 03 22 33.0 -2.0
COP pmax pmax
comp=Z,60nm,1.0s
COP MLR MLR
comp=Z,16µm,17.0s
COP Copenhagen 83.17 328 iP P 03 12 18.2 +1.8
comp=Z,65nm,1.9s
COP Copenhagen 83.17 328 iS S 03 22 33.0 -2.0
comp=Z,16µm,18.0s
MORC Moravsky Berou 83.21 321⇓iP P 03 12 16.9 +0.1
MORC Moravsky Berou 83.21 321 eP P 03 12 18.3 +1.5
MORC e 03 15 28.1
MORC pmax pmax
comp=Z,187nm,1.6s
MORC MLR MLR
comp=Z,14µm,19.0s
MORC Moravsky Berou 83.21 321 eP P 03 12 18.3 +1.5
comp=Z,187nm,1.6s
MORC ePP PP 03 15 28.1 +0.3
MORC LR LR
comp=Z,14µm,19.0s
SOH Sokhos 83.26 311 eP P 03 12 17.1 -0.1
FOO Floro 83.26 335 eP P 03 12 17.6 +0.8
FOO IVMs_BB IVMs_BB 03 55 11.8
comp=Z,4µm,15.2s
RGN Rugen 83.29 327 PFAKE 03 12 30.0 +13
RGN LR LR
comp=Z,29µm,19.0s
BUD Budapest 83.33 319⇓eP P 03 12 16.9 -0.5
PLG Polygyros 83.37 311 eP P 03 12 15.8 -2.0
PKS6 Bocsa 83.38 318⇓eP P 03 12 19.7 +2.1
PAIG Paliouri 83.39 310 eP P 03 12 18.2 +0.4
ZKR Zakros 83.39 305 eP P 03 12 16.6 -1.4
KULLO Kullorsuaq 83.41 0 iP P 03 12 18.8 +1.5
comp=Z,931nm,1.5s
KULLO Kullorsuaq 83.41 0 iS S 03 22 34.9 -1.9
comp=Z,14µm,16.0s
PKS7 Kunszentmiklos 83.44 318⇑eP P 03 12 19.5 +1.6
KNT Kendrikon 83.44 312 P P 03 12 17.4 -0.7
KNT Kendrikon 83.44 312 eP P 03 12 16.9 -1.2
KNT Kendrikon 83.44 312 eP P 03 12 16.6 -1.5
KSP Ksiaz 83.44 323 eP P 03 12 17.5 -0.4
KSP eS S 03 22 34.8 -3.2
KSP eSKSac SKSac 03 22 42.8 -0.7
KSP LMZ LR 03 52 55.6
KSP Ksiaz 83.44 323⇓eP P 03 12 17.3 -0.6
KSP e 03 12 32.7
KSP e 03 15 31.0
KSP eS S 03 22 34.0 -4.0
SANT Santorini 83.48 307 eP P 03 12 15.2 -3.3
SANT Santorini 83.48 307 eP P 03 12 16.7 -1.8
comp=Z,260nm,1.2s
HORT Hortiatis 83.53 311 P P 03 12 16.6 -2.1
HORT Hortiatis 83.53 311 eP P 03 12 16.9 -1.8
ODD1 Odda 83.58 333 eP P 03 12 18.8 +0.3
ODD1 IAmb IAmb 03 12 32.1
comp=Z,350nm,1.6s
THE Thessaloniki 83.61 311 P P 03 12 17.5 -1.4
THE Thessaloniki 83.61 311 eP P 03 12 18.2 -0.7
PKS2 Kecel 83.64 318⇓eP P 03 12 21.0 +2.0
DPC Dobruska-Polom 83.65 322 eP P 03 12 19.0 -0.1
DPC ex x 03 12 34.1
DPC eS S 03 22 36.4 -3.8
DPC eXS SKKSac 03 22 46.8 +1.6
DPC eSS SS 03 28 08.7 +2.5
DPC AMS AMS 03 54 20.0
DPC Dobruska-Polom 83.65 322 eP P 03 12 19.0 -0.1
DPC e 03 12 34.1
DPC e 03 22 36.4
DPC eSS SS 03 28 08.7 +2.5
DPC Dobruska-Polom 83.65 322 eP P 03 12 19.3 +0.3
comp=Z,1µm,1.6s
DPC LR LR
comp=Z,101µm,20.0s
HOMB Homborsund 83.68 331 eP P 03 12 19.1 +0.2
HOMB IAmb IAmb 03 12 25.4
comp=Z,308nm,1.8s
HOMB IVMs_BB IVMs_BB 03 53 25.5
comp=Z,19µm,16.5s
SUE Sulen 83.69 335 eP P 03 12 20.1 +1.2
SUE IVMs_BB IVMs_BB 03 49 46.1
comp=Z,11µm,17.1s
UPC Upice 83.76 322 eP P 03 12 21.0 +1.5
UPC ex x 03 12 34.6
UPC Upice 83.76 322 eP P 03 12 21.0 +1.5
UPC e 03 12 34.6
PKSG 83.76 319⇑eP P 03 12 21.1 +1.5
NPS Neapolis 83.79 305 eP P 03 12 18.3 -1.7
YKA Yellowknife Ar 83.80 23 P P 03 12 19.8 +0.4
comp=Z,7.3nm,0.7s,baz=303,slow=5.0,SNR=63
YKA PKKPbc PKKPbc 03 30 33.7 -3.3
comp=Z,1.7nm,0.5s,baz=131,slow=2.6,SNR=31
YKA PKPPKP P'P'df 03 38 41.6 -3.8
comp=Z,0.7nm,0.9s,baz=150,slow=2.7,SNR=5.6
YKB5 Yellowknife Ar 83.80 23 eP P 03 12 19.8 +0.4
YKB5 ePKKPbc PKKPbc 03 30 33.7 -3.3
YKB5 eP'P'df P'P'df 03 38 41.6 -3.8
RUND Rundenannen 83.82 334 eP P 03 12 18.8 -0.9
SMOL Smolenice 83.84 320 eP P 03 12 21.8 +1.8
SMOL Smolenice 83.84 320 eP P 03 12 21.8 +1.8
ASK Askoy 83.85 334 eP P 03 12 19.8 +0.1
BER Bergen 83.85 334 eP P 03 12 24.8 +5.1
BER IVMs_BB IVMs_BB 03 55 11.6
comp=Z,11µm,14.5s
CSKK Cs˙‡kako 83.85 319⇑eP P 03 12 20.8 +0.7
BLS5 Blasjo 83.93 333 eP P 03 12 19.5 -0.7
BLS5 IAmb IAmb 03 12 27.1
comp=Z,77nm,0.7s
LAST Lasithi 83.93 305 eP P 03 12 19.6 -1.2
VRAC Vranov 83.97 321⇓iP P 03 12 21.2 +0.5
VRAC Vranov 83.97 321 P P 03 12 20.6 -0.1
comp=Z,36nm,1.0s,baz=66,slow=5.1,SNR=58
VRAC Vranov 83.97 321 P P 03 12 20.6 -0.1
VRAC pmax pmax
comp=Z,36nm,1.0s
PTL Penteli 84.00 309 eP P 03 12 16.0 -5.1
PKST T˜s 84.04 319⇓eP P 03 12 21.7 +0.7
RUE Ruedersdorf 84.05 325 eP P 03 12 22.0 +1.0
comp=Z,120nm,1.1s
RUE ePP PP 03 15 36.2 +1.7
RUE LR LR
comp=Z,39µm,21.0s
PKSM Moragy 84.12 318⇓iP P 03 12 20.6 -0.9
PKSM Moragy 84.12 318⇓eP P 03 12 21.3 -0.2
SMIA Simia 84.14 310 eP P 03 12 21.4 -0.3
DIVS Divibare 84.18 315⇑iP P 03 12 20.7 -1.2
PKS9 Tamasi 84.18 318⇑eP P 03 12 23.2 +1.4
SNART Snartemo 84.21 332 eP P 03 12 21.8 +0.1
SNART IAmb IAmb 03 12 28.2
comp=Z,90nm,0.9s
IDI Anoyia 84.33 306 P P 03 12 22.9 +0.1
comp=Z,11nm,0.4s,baz=47,slow=4.4,SNR=11
MUD Monsted U'grnd 84.34 330⇑iP P 03 12 23.8 +1.5

MUD pmax pmax
comp=Z,220nm,1.1s
MUD MLR MLR
comp=Z,33µm,15.0s
MUD Monsted U'grnd 84.34 330⇑ *iP* **P 03 12 23.8 +1.5**
comp=Z,225nm,1.2s
comp=Z,33µm,15.0s
LKR Lokris 84.38 309 *eP* **P 03 12 21.8 -1.1**
SIVA Sivas 84.50 305 *eP* P 03 12 15.2 -8.4
KMY Karmoy 84.56 333 *eP* **P 03 12 24.0 +0.6**
KMY IAmb IAmb 03 12 29.8
comp=Z,208nm,1.4s
PVCC Panska Ves 84.56 323 *eP* **P 03 12 25.2 +1.6**
PVCC *ex* x 03 12 38.4
PVCC *eS* **S 03 22 47.7 -1.5**
PVCC *eXS* **ScS 03 22 58.7 -1.9**
PVCC AMS AMS 03 53 50.0
comp=Z,25µm,16.7s
PVCC Panska Ves 84.56 323 *eP* **P 03 12 25.2 +1.6**
PVCC *e* 03 12 38.4
PVCC *e* 03 22 47.7
PVCC MLR MLR
comp=Z,25µm,16.7s
KZN Kozani 84.57 311 P **P 03 12 22.5 -1.5**
KZN Kozani 84.57 311 *eP* **P 03 12 22.8 -1.2**
AXAR Agios Charalam 84.58 310 P **P 03 12 21.9 -2.1**
TREC Trest 84.62 321 *eP* **P 03 12 21.3 -2.7**
TREC *eSKS* S 03 22 43.9 -6.0
TREC *ex* x 03 22 54.9
TREC *eSS* **SS 03 28 23.1 +2.6**
TREC AMS AMS 03 56 00.0
comp=Z,18µm,15.6s
TREC Trest 84.62 321 *eP* **P 03 12 21.3 -2.7**
TREC *e* 03 22 43.9
TREC *eS* **S 03 22 54.9 +5.0**
TREC *eSS* **SS 03 28 23.1 +2.6**
TREC MLR MLR
comp=Z,18µm,15.6s
FNA Florina 84.64 312 P **P 03 12 22.5 -1.8**
FNA Florina 84.64 312 *eP* P 03 12 18.1 -6.2
FNA Florina 84.64 312 *eP* **P 03 12 23.5 -0.8**
LTK Loutraki 84.66 309 *eP* P 03 12 20.6 -3.8
SUMG Summit 84.67 355 *eP* **P 03 12 24.3 +0.1**
SUMG *e* 03 15 41.3
SUMG pmax pmax
comp=Z,501nm,1.5s
SUMG MLR MLR
comp=Z,14µm,20.0s
SUMG Summit 84.67 355 *eP* **P 03 12 24.3 +0.1**
comp=Z,501nm,1.5s
SUMG *ePP* **PP 03 15 41.3 +1.9**
SUMG LR LR
comp=Z,14µm,20.0s
SUMG Summit 84.67 355 *i* P P 03 12 27.7 +3.5
comp=Z,514nm,1.5s
SUMG Summit 84.67 355 *i* S **S 03 22 50.7 +0.4**
SUMG *i* 03 28 19.9
comp=Z,14µm,17.0s
AGG Agios Georgios 84.70 310 P P 03 12 21.2 -3.4
AGG Agios Georgios 84.70 310 *eP* **P 03 12 22.5 -2.1**
AGG Agios Georgios 84.70 310 PFAKE 03 12 30.0 +5.4
AGG LR LR
comp=Z,11µm,22.0s
THL Klokotos Trika 84.71 311 *eP* **P 03 12 22.2 -2.3**
GOPC GO Pecny, Ondr 84.73 322 *eP* **P 03 12 26.1 +1.6**
GOPC *ex* x 03 12 39.3
GOPC *eSKS* **S 03 22 46.3 -4.7**
GOPC *eXS* **ScS 03 22 59.5 -2.6**
GOPC *ex* x 03 28 14.6
GOPC AMS AMS 03 51 40.0
comp=Z,19µm,18.1s
SOP Sopron 84.74 320⇓ *eP* **P 03 12 24.4 -0.2**
BRG Berggiesshubel 84.74 323 *eP* **P 03 12 25.0 +0.5**
comp=Z,68nm,1.5s
BRG *i* 03 12 26.8
comp=Z,117nm,1.8s
BRG *ePP* **PP 03 15 43.9 +3.7**
comp=Z,51nm,1.6s
BRG S **S 03 22 51.0 0.0**
BRG SS **SS 03 28 15.0 -7.1**
comp=N,27µm,15.5s
comp=E,26µm,21.2s
comp=Z,23µm,22.8s
BRG Berggiesshubel 84.74 323 *eP* **P 03 12 25.6 +1.1**
comp=Z,153nm,1.6s
BRG *eS* **S 03 22 47.2 -3.8**
BRG Berggiesshubel 84.74 323 *eP* **P 03 12 25.0 +0.5**
BRG *e* 03 15 43.9
BRG S **S 03 22 51.0 0.0**
BRG SS **SS 03 28 15.0 -7.1**
BRG pmax pmax
comp=Z,68nm,1.5s
BRG pmax pmax
comp=Z,51nm,1.6s
BRG MLR MLR
comp=N,27µm,15.5s
BRG MLR MLR
comp=E,26µm,21.2s
BRG MLR MLR
comp=Z,23µm,22.8s
IVA Berane 84.77 314⇓ *iP* **P 03 12 24.3 -0.6**
VAM Vamos 84.80 306 P **P 03 12 23.0 -2.1**
PRU Pruhonice 84.83 322 *eP* **P 03 12 25.3 +0.3**
PRU *ex* x 03 12 39.7
PRU *eSKS* **S 03 22 46.1 -5.8**
PRU *eXS* **ScS 03 22 59.5 -3.4**
PRU *eSS* **SS 03 28 17.1 -6.4**
PRU AMS AMS 03 51 50.0
comp=Z,21µm,17.9s
PRU Pruhonice 84.83 322 *eP* **P 03 12 25.3 +0.3**
PRU *e* 03 12 39.7
PRU *e* 03 22 46.1
PRU *eSS* SS 03 28 17.1 -6.4
PRU MLR MLR
comp=Z,21µm,17.9s
PVY Plav 84.84 314⇓ *iP* **P 03 12 26.1 +0.7**
MAKR Makrakomi, Fth 84.85 310 P **P 03 12 23.0 -2.4**
MAKR Makrakomi, Fth 84.85 310 *eP* **P 03 12 23.2 -2.2**
PRA Prague 84.86 322 *eP* **P 03 12 27.0 +1.9**
PRA *ex* x 03 12 39.8
PRA *eS* **S 03 22 49.5 -2.6**
PRA *eXS* **ScS 03 23 00.4 -2.7**
PRA *eSS* **SS 03 28 16.9 -6.9**
PRA AMS AMS 03 54 40.0
comp=Z,21µm,16.5s
PRA Prague 84.86 322 *eP* **P 03 12 27.0 +1.9**
PRA *e* 03 12 39.8
PRA *e* 03 22 49.5
PRA *eSS* SS 03 28 16.9 -6.9
PRA MLR MLR
comp=Z,21µm,16.5s
PLE Pljevlja 84.90 315⇓ *iP* **P 03 12 26.3 +0.7**
PHP Peshkopia 84.91 313 P **P 03 12 24.6 -1.0**
KARN Karanos 85.01 306 *eP* **P 03 12 25.1 -1.1**
NEST Nestorio 85.03 312 P **P 03 12 24.7 -1.6**
NEST Nestorio 85.03 312 *eP* **P 03 12 25.0 -1.3**
CONA Conrad Observa 85.04 320⇓ *i* PcP **P 03 12 26.6 +0.4**
comp=Z,147nm,1.4s,SNR=32
CLL Collm 85.05 324 *eP* **P 03 12 26.8 +0.8**
comp=Z,95nm,1.1s
CLL *eS* **S 03 22 49.0 -5.0**
CLL Collm 85.05 324 *i* P **P 03 12 25.5 -0.5**
comp=Z,62nm,1.2s
CLL *i* sP **sP 03 12 33.0 -3.4**
CLL *i* 03 12 40.8
CLL *i* 03 12 47.7
CLL *eP*max 03 12 53.0
CLL *eP*P **PP 03 15 46.0 +3.3**
CLL *eP*PP PPP 03 18 00.0
CLL *eS* **SKKSac 03 22 56.0 +0.5**
comp=N,7µm,30.9s
CLL *eS* **SKKSac 03 22 56.0 +0.5**
comp=E,4µm,31.9s
CLL *eSP* **SPn 03 23 44.0 -3.1**
CLL *ePPS* PPS 03 24 28.0
CLL *eSS* **SS 03 28 23.0 -3.5**
CLL *eP*KKPbc **PKKPbc 03 30 34.0 +0.2**
CLL *es*PKKPbc 03 30 40.0
CLL LmV 03 51 00.0
comp=Z,31µm,18.9s
CLL LmH 03 53 00.0
comp=N,30µm,20.6s
CLL LmH 03 53 00.0
comp=E,26µm,21.7s
CLL LmH 03 53 00.0
comp=Z,24µm,20.7s
CLL Collm 85.05 324 *i* P **P 03 12 25.5 -0.5**
CLL *i* 03 12 33.0
CLL *i* 03 12 40.8
CLL *eS* **S 03 22 49.0 -5.0**
CLL pmax pmax
comp=Z,62nm,1.2s
CLL MLR MLR
comp=Z,31µm,18.9s
CLL Collm 85.05 324 *eP* **P 03 12 25.5 -0.5**
comp=Z,83nm,0.9s
CLL *eP*P **PP 03 15 46.6 +4.0**
CLL LR LR
comp=Z,37µm,18.0s
KALE Kalithea 85.10 309 P P 03 12 23.3 -3.4
KALE Kalithea 85.10 309 *eP* **P 03 12 24.2 -2.5**
GVD Gavdhos 85.11 306 *eP* **P 03 12 23.7 -3.0**
GVD Gavdhos 85.11 306 *eP* **P 03 12 24.8 -1.9**
comp=Z,349nm,0.9s
GVD LR LR
comp=Z,17µm,22.0s
EVR Evrytania 85.12 310 P **P 03 12 24.1 -2.7**
EVR Evrytania 85.12 310 *eP* **P 03 12 25.1 -1.7**
KBN Korca 85.12 312 P **P 03 12 25.4 -1.3**
BSEG Bad Segeberg 85.12 327 *eP* **P 03 12 27.8 +1.5**
comp=Z,225nm,1.5s
BSEG *eS* **S 03 22 49.4 -5.1**
GUR Goura 85.14 309 *eP* **P 03 12 25.5 -1.4**
BEHE Becsehely 85.16 318⇓ *eP* **P 03 12 27.7 +1.0**
KLV Kalavryta, Ach 85.24 309 P **P 03 12 25.2 -2.2**
KLV Kalavryta, Ach 85.24 309 *eP* **P 03 12 25.0 -2.4**
EFP Efpalio 85.25 310 P **P 03 12 25.2 -2.1**
EFP Efpalio 85.25 310 *eP* **P 03 12 25.4 -1.9**
UPM Unac-Piva 85.27 315⇓ *iP* **P 03 12 26.8 -0.8**
ANKY Antikythira Is 85.28 307 *eP* **P 03 12 25.5 -2.0**
KYTH Kithira 85.31 307 *eP* **P 03 12 26.1 -1.6**
ABPO Ambohimpanom 85.33 247 *eP* **P 03 12 27.9 -0.3**
ABPO pmax pmax
comp=Z,187nm,1.3s
ABPO Ambohimpanom 85.33 247 *eP* **P 03 12 27.9 -0.3**
comp=Z,187nm,1.3s
VLX Vlachokerasia 85.35 308 P **P 03 12 28.3 +0.3**
VLX Vlachokerasia 85.35 308 *eP* **P 03 12 27.0 -1.0**
TTG Podgorica 85.38 314⇓ *iP* **P 03 12 27.5 -0.4**
NKY Niksic 85.39 314⇓ *iP* **P 03 12 28.6 +0.5**
NKME Niksic 85.43 314⇓ *iP* **P 03 12 28.6 +0.4**
JAN Janina 85.48 311 *eP* **P 03 12 27.7 -0.8**
DSL Palaion Diasel 85.53 310 P **P 03 12 26.6 -2.2**
DSL Palaion Diasel 85.53 310 *eP* **P 03 12 27.3 -1.5**
DRME Dracevica, Mon 85.53 314⇓ *iP* **P 03 12 28.4 -0.3**
ARSA Arzberg 85.56 320⇑ *i* PcP **P 03 12 29.8 +1.1**
comp=Z,68nm,1.6s,SNR=13
DRO Drossia 85.59 309 P **P 03 12 26.7 -2.4**
DRO Drossia 85.59 309 *eP* **P 03 12 27.3 -1.8**
ULC Ulcinj 85.59 314 *eP* **P 03 12 29.3 +0.3**
BRY Bratogost 85.65 315⇓ *iP* **P 03 12 28.7 -0.7**
PDO Prodromos 85.70 310 P **P 03 12 27.4 -2.1**
PDO Prodromos 85.70 310 *eP* **P 03 12 27.6 -1.9**
PAF Port-aux-Franc 85.71 212 P P 03 12 15.0 -14
PAF PP PP 03 15 38.0 -11
PAF S S 03 22 37.0 -23
PAF SS SS 03 28 06.0 -32
PAF L L 03 34 00.0
PAF R 03 39 00.0
RLS Riolos of Patr 85.72 309 P **P 03 12 27.9 -1.7**
RLS Riolos of Patr 85.72 309 *eP* **P 03 12 28.0 -1.7**
ITM Ithomi 85.76 308 P **P 03 12 27.5 -2.4**
ITM Ithomi 85.76 308 *eP* **P 03 12 28.4 -1.5**
AMT Artemida-Makis 85.77 309 P **P 03 12 28.6 -1.4**
AMT Artemida-Makis 85.77 309 *eP* **P 03 12 28.2 -1.8**
TANN Tannenbergstha 85.79 323 *eP* **P 03 12 30.9 +1.0**
comp=Z,193nm,1.9s
TANN *eS* **S 03 22 56.1 -5.4**
KHC Kasperske Hory 85.80 322 *eP* **P 03 12 30.5 +0.6**
KHC *ex* x 03 12 44.5
KHC *ex* x 03 12 54.0
KHC Kasperske Hory 85.80 322 *eP* **P 03 12 30.5 +0.6**
KHC *e* 03 12 44.5
GEC2 GERESS Array S 85.87 322 *eP* **P 03 12 31.3 +1.0**
comp=Z,79nm,1.4s
GEC2 *eS* **S 03 22 56.8 -5.6**
GEC2 GERESS Array S 85.87 322 *eP* **P 03 12 30.4 0.0**
GEC2 *e* 03 15 50.8
GEC2 GERESS Array S 85.87 322 *eP* **P 03 12 30.4 0.0**
GEC2 *eP*P **PP 03 15 50.8 +1.3**
GEC2 *eP*KKPbc **PKKPbc 03 30 31.4 -0.5**
GEC2 *eP*'P'df **P'P'df 03 38 37.9 -3.9**
GEC2 ⇑*e* 03 53 13.9
GERES GERESS Array B 85.87 322 P **P 03 12 30.6 +0.2**
comp=Z,5.8nm,0.8s,baz=54,slow=5.0,SNR=32
GERES PKKPbc **PKKPbc 03 30 31.4 -0.5**
comp=Z,2.4nm,0.8s,baz=222,slow=1.8,SNR=17
GERES PKPPKP **P'P'df 03 38 37.9 -3.9**
comp=Z,0.3nm,0.6s,baz=202,slow=1.4,SNR=4.3
GERES LR LR 03 53 13.9
comp=Z,16µm,19.8s,baz=52,slow=37
SISC Sisak 85.87 318 P **P 03 12 30.8 +0.5**
HCY Herceg Novi 85.88 314⇓ *iP* **P 03 12 31.1 +0.7**
IGT Igoumenitsa 85.90 311 P **P 03 12 28.2 -2.3**
IGT Igoumenitsa 85.90 311 *eP* **P 03 12 28.6 -1.9**
NRDL Niedersach Rie 85.98 326 *eP* **P 03 12 32.1 +1.5**
comp=Z,376nm,1.7s
NRDL *eS* **S 03 22 57.5 -5.5**
PYL PYLOS 86.01 308 P **P 03 12 28.6 -2.5**
PYL PYLOS 86.01 308 *eP* **P 03 12 28.9 -2.2**
MOA Molln 86.02 320⇓ *i* PcP **P 03 12 31.8 +0.8**
comp=Z,72nm,1.2s,SNR=14
PERS Pernice 86.10 319 *eP* **P 03 12 30.6 -0.9**
PERS *eS* **S 03 23 00.1 -4.5**
PERS *eSS* **SS 03 28 46.7 +4.3**
SOKA Soboth 86.13 319 *i* PcP **P 03 12 32.1 +0.5**
comp=Z,94nm,1.9s,SNR=12
KFL Anninata 86.19 310 P **P 03 12 32.6 +0.6**
CLZ Clausthal 86.19 325 *eP* **P 03 12 33.3 +1.5**
comp=Z,504nm,1.8s
CLZ *eS* S 03 22 58.3 -7.0
KEK Kerkira 86.19 311 *eP* P 03 12 28.3 -3.7
WET Wettzell 86.19 322 *eP* **P 03 12 33.3 +1.5**
comp=Z,94nm,1.6s
WET *eS* S 03 22 59.4 -6.0
STON Ston 86.21 315 P P 03 12 28.6 -3.4
ROTZ Rotzenmuhle 86.26 323 *eP* **P 03 12 33.7 +1.6**
comp=Z,204nm,1.9s
ROTZ *eS* **S 03 23 00.9 -5.1**
VLS Valsamata 86.30 310 P **P 03 12 31.2 -1.4**
VLS Valsamata 86.30 310 *eP* **P 03 12 30.2 -2.4**
BOJS Bojanci 86.55 318 *eP* **P 03 12 32.2 -1.4**
BOJS *eS* **S 03 23 05.9 -3.1**
BOJS *eSS* **SS 03 28 54.1 +5.2**
VISS Visnje 86.67 318 *eP* **P 03 12 32.5 -1.7**
VISS *eS* S 03 23 03.8 -6.3
VISS *eSS* **SS 03 28 52.8 +2.2**
UDBI Udbina 86.69 317 P **P 03 12 32.9 -1.6**
GRF Grafenberg Arr 86.85 323 *eP* **P 03 12 36.5 +1.5**
comp=Z,299nm,1.8s
GRF *eS* S 03 23 04.2 -7.5
GRF *eL* L 03 55 43.7
comp=Z,28µm,21.4s
GRFO Grafenberg 86.85 323 *eP* **P 03 12 36.9 +1.9**
GRFO pmax pmax
comp=Z,176nm,1.4s
GRFO MLR MLR
comp=Z,29µm,22.0s
GRFO Grafenberg 86.85 323 *eP* **P 03 12 36.9 +1.9**
comp=Z,176nm,1.4s
GRFO LR LR
comp=Z,29µm,22.0s
UBBA Unterbreizbach 86.93 324 *eP* **P 03 12 36.5 +1.3**
comp=Z,138nm,1.6s
UBBA *eS* S 03 23 04.5 -7.7
RJOB Jochberg 86.94 321 *eP* **P 03 12 36.2 +0.6**
comp=Z,35nm,0.9s
RJOB *eS* **S 03 23 07.9 -4.9**
KBA Koelnbreinsper 86.95 320⇑ *iP* **P 03 12 34.8 -0.9**
comp=Z,41nm,1.1s
JAVS Javornik 87.10 319 *eP* **P 03 12 35.4 -1.0**
JAVS *eS* **S 03 23 12.5 -2.0**
JAVS *eSS* SS 03 29 06.1 +9.0
KMBO Kilima Mbogo 87.24 268 P **P 03 12 38.1 +0.2**
comp=Z,13nm,0.9s,baz=40,slow=5.7,SNR=30
KMBO LR LR 03 50 03.2
comp=Z,4µm,22.0s,baz=50,slow=35
KMBO Kilima Mbogo 87.24 268 P **P 03 12 38.1 +0.2**
KMBO pmax pmax
comp=Z,13nm,0.9s
KMBO MLR MLR
comp=Z,4µm,22.0s
KMBO Kilima Mbogo 87.24 268 *eP* **P 03 12 38.3 +0.5**
comp=Z,140nm,1.4s
KMBO *eP*P **PP 03 16 04.2 +2.2**
KMBO LR LR
comp=Z,5µm,20.0s
NVLJ Novalja 87.24 317 P **P 03 12 33.9 -3.1**
IBBN Ibbenburen 87.30 326 *eP* **P 03 12 38.2 +1.1**
comp=Z,191nm,1.3s
IBBN *eS* S 03 23 07.5 -8.4
TRI Trieste 87.37 319 *eP* **P 03 12 37.6 0.0**
TRI pmax pmax
comp=Z,30nm,1.0s
TRI MLR MLR
comp=Z,20µm,19.0s
TRI Trieste 87.37 319 *eP* **P 03 12 37.6 0.0**
comp=Z,30nm,1.0s
TRI *eP*P PP 03 15 51.5 -10
TRI LR LR
comp=Z,20µm,19.0s
PGC Sidney 87.46 38 *eP* **P 03 12 40.3 +2.4**
comp=Z,5µm,1.5s
FUR Furstenfeldbru 87.61 322 *eP* **P 03 12 40.3 +1.6**
comp=Z,369nm,1.8s
FUR *eS* S 03 23 12.3 -6.8
ABTA Abfaltersbach 87.61 320⇑ *iP* **P 03 12 37.3 -1.6**
comp=Z,28nm,1.0s,SNR=6.7
WTTA Wattenberg 87.86 321⇑ *iP* **P 03 12 38.7 -1.5**
comp=Z,66nm,1.6s
NLWA Neilton Lookou 87.87 39 *eP* **P 03 12 41.7 +1.7**
comp=Z,404nm,1.7s
NLWA LR LR
comp=Z,5µm,18.0s
BUG Bochum--Univer 88.03 326 *eP* **P 03 12 41.5 +0.9**
comp=Z,83nm,1.4s
BUG *eS* **SKSac 03 23 11.4 +3.7**
A05A Maple Falls 88.05 37 *eP* **P 03 12 42.2 +1.4**
TNS Taunus Mts 88.08 324 *eP* **P 03 12 42.1 +1.1**
comp=Z,79nm,1.6s
TNS *eS* **SKSac 03 23 10.8 +2.5**
MOTA Moosalm 88.13 321⇓ *iP* **P 03 12 40.1 -1.3**
comp=Z,26nm,1.2s
STU Stuttgart 88.46 323 *eP* **P 03 12 43.6 +0.8**
comp=Z,37nm,1.0s
STU *eS* **SKSac 03 23 13.0 +2.5**
STU Stuttgart 88.46 323 PFAKE 03 12 50.0 +7.2
STU LR LR
comp=Z,21µm,22.0s
FETA Feichten 88.52 321⇑ *i* PcP **P 03 12 42.6 -0.7**
comp=Z,28nm,1.0s
B06A Marblemount 88.64 37 *eP* **P 03 12 45.1 +1.5**
comp=Z,1µm,2.3s
B06A *eP*P **PP 03 16 10.6 -1.0**
ILULI Ilulissat 88.73 358 *i* P P 03 12 47.9 +4.3
comp=Z,215nm,1.4s
comp=Z,13µm,19.0s
CUC Castrocucco 88.80 313 *eP* **P 03 12 44.5 -0.1**
comp=Z,107nm,1.8s
CUC LR LR
comp=Z,13µm,22.0s
F03A Seaside 88.81 40 *eP* **P 03 12 45.6 +1.2**
comp=Z,867nm,2.0s
CASY Casey 88.82 185 *eP* **P 03 12 43.8 +0.1**
comp=Z,117nm,1.1s
DAVA Damuels 88.87 322⇑ *i* PcP **P 03 12 44.2 -0.7**
comp=Z,38nm,1.1s,SNR=5.5
FUORN Ofenpass-Fuorn 89.00 321 *eP* **P 03 12 44.7 -0.9**
comp=Z,226nm,1.6s
FUORN *eP*P **PP 03 16 12.6 -2.4**
FUORN LR LR
comp=Z,22µm,20.0s
F04D Rainier, OR 89.06 40⇓ P P 03 12 51.8 +6.2
baz=89
MCD Coleburn Disti 89.07 335 *eP* **P 03 12 44.4 -1.0**
D05A Enumclaw 89.07 38 *eP* **P 03 12 48.5 +2.9**
comp=Z,1µm,2.0s
MEM Membach 89.16 326 P **P 03 12 46.6 +0.6**
comp=Z,30nm,2.1s
MEM Membach 89.16 326 *eP* **P 03 12 46.6 +0.6**
MEM *e* 03 16 11.7
MEM pmax pmax
comp=Z,250nm,2.3s
MEM MLR MLR
comp=Z,28µm,20.0s
MEM Membach 89.16 326 *eP* **P 03 12 46.5 +0.6**
comp=Z,250nm,2.3s
MEM *eP*P **PP 03 16 11.7 -4.1**
MEM LR LR
comp=Z,28µm,20.0s
BFO Black Forest 89.18 323 P P 03 12 46.1 -0.1
comp=Z,75nm,1.5s,SNR=5.3
BFO Black Forest 89.18 323 *eP* **P 03 12 46.7 +0.5**
comp=Z,60nm,1.6s
BFO *eS* **SKSac 03 23 18.9 +4.0**
BFO Black Forest 89.18 323 *eP* **P 03 12 46.5 +0.3**
BFO *e* 03 16 11.6
BFO pmax pmax
comp=Z,53nm,1.3s
BFO MLR MLR
comp=Z,24µm,18.0s
BFO Black Forest 89.18 323 *eP* **P 03 12 46.5 +0.3**
comp=Z,53nm,1.3s
BFO *eP*P **PP 03 16 11.6 -4.5**
BFO LR LR
comp=Z,24µm,18.0s
BORG Borgarnes 89.21 346 PFAKE 03 13 00.0 +14
BORG LR LR
comp=Z,14µm,21.0s
DRUM Mains of Drumt 89.21 334 AMS AMS 03 54 47.6
comp=Z,24µm,19.4s
BEBN Eben Emael 89.22 326 P **P 03 12 47.1 +0.9**
AQU L'Aquila 89.25 316 *eP* **P 03 12 46.5 -0.2**
AQU pmax pmax
comp=Z,117nm,1.0s
AQU MLR MLR
comp=Z,15µm,19.0s
AQU L'Aquila 89.25 316 *eP* **P 03 12 46.5 -0.2**
comp=Z,117nm,1.0s
AQU LR LR
comp=Z,15µm,19.0s
G03D McMinnville, O 89.36 41⇓ P P 03 12 53.2 +6.2
baz=89
DRV Dumont d'Urvil 89.47 174 P P 03 12 29.0 -18
DRV PP PP 03 16 04.0 -15
DRV S S 03 22 59.0 -36
DRV SS SS 03 28 55.0 -37
DRV L L 03 36 00.0
DRV R 03 42 00.0
F04A Amboy 89.49 40 *eP* **P 03 12 49.5 +1.9**
comp=Z,125nm,1.0s
CEL Celeste 89.56 311 *eP* **P 03 12 47.7 -0.5**
comp=Z,241nm,1.2s
CEL *eP*P **PP 03 16 22.6 +3.2**
CEL LR LR
comp=Z,11µm,22.0s
TUE Stuetta 89.61 321 PFAKE 03 13 00.0 +12
TUE LR LR
comp=Z,24µm,19.0s
WLF Walferdange 89.62 325 P **P 03 12 49.4 +1.2**
comp=Z,71nm,1.9s
WLF Walferdange 89.62 325 *eP* **P 03 12 49.4 +1.2**
comp=Z,77nm,1.2s
WLF *eS* **SKSac 03 23 20.8 +3.5**
WLF Walferdange 89.62 325 *eP* **P 03 12 49.1 +0.9**
WLF pmax pmax
comp=Z,72nm,1.0s
WLF MLR MLR
comp=Z,31µm,22.0s
WLF Walferdange 89.62 325 *eP* **P 03 12 49.1 +0.9**
comp=Z,72nm,1.0s
WLF LR LR
comp=Z,31µm,22.0s
BCLA Clavier 89.64 326 P **P 03 12 49.4 +1.1**
comp=Z,33nm,2.1s
COR Corvallis 89.66 41 *eP* **P 03 12 50.5 +2.0**
COR pmax pmax
comp=Z,537nm,1.7s
COR Corvallis 89.66 41 *eP* **P 03 12 50.5 +2.0**
comp=Z,537nm,1.7s
EDU Dundee 89.67 334 *eP* **P 03 12 48.7 +0.4**
CDF Champ du Feu 89.72 323 *eP* **P 03 12 47.1 -1.7**
comp=Z,149nm,1.2s

CDF **Champ du Feu** 89.72 323 *e*P **P** 03 12 47.1 -1.7
CDF **Champ du Feu** 89.72 323 *e*P **P** 03 12 47.1 -1.7
LTY **Liberty** 89.79 38 *e*P **P** 03 12 50.7 +1.6
comp=Z,201nm,1.4s
UCC **Uccle** 89.90 326 P **P** 03 12 49.9 +0.4
comp=Z,54nm,2.1s
UCC **Uccle** 89.90 326 PFAKE 03 13 00.0 +11
UCC LR LR
comp=Z,28µm,20.0s
B08A **Colville Reser** 89.93 37 *e*P **P** 03 12 50.8 +1.1
comp=Z,1µm,2.3s
GIVF **Givet** 90.07 326 *e*P **P** 03 12 48.4 -1.9
comp=Z,191nm,1.6s
GIVF **Givet** 90.07 326 *e*P **P** 03 12 48.4 -1.9
GIVF **Givet** 90.07 326 *e*P **P** 03 12 48.4 -1.9
EDM **Edmonton** 90.08 30 *e*P **P** 03 12 51.7 +1.4
EDM *e* 03 16 31.7
EDM **Edmonton** 90.08 30 *e*P **P** 03 12 51.7 +1.4
EDM *e*PP PP 03 16 31.7 +8.7
I03D **Drain, OR** 90.10 42 ⇑P P 03 12 57.4 +6.9
baz=90,SNR=10
SNF **Seneffe** 90.11 326 P **P** 03 12 50.5 0.0
EDI **Edinburgh** 90.16 333 PFAKE 03 13 00.0 +9.5
EDI LR LR
comp=Z,16µm,19.0s
DOU **Dourbes** 90.19 326 P **P** 03 12 51.2 +0.4
EBL **Broad Law** 90.20 333 *e*P **P** 03 12 50.2 -0.5
LCP **Cassop** 90.22 332 *e*P **P** 03 12 51.2 +0.4
VLC **Villacollemand** 90.22 319 *e*P **P** 03 12 51.8 +0.6
comp=Z,56nm,1.2s
VLC *e*PP **PP** 03 16 22.3 -2.2
VLC LR LR
comp=Z,17µm,21.0s
H04A **Detroit Lake** 90.29 41 *e*P **P** 03 12 53.1 +1.6
comp=Z,369nm,1.8s
HINF **Hinteralfeld** 90.29 323 *e*P **P** 03 12 49.2 -2.2
comp=Z,85nm,1.3s
HINF **Hinteralfeld** 90.29 323 *e*P **P** 03 12 49.2 -2.2
HINF **Hinteralfeld** 90.29 323 *e*P **P** 03 12 49.2 -2.2
BAIF **Baives** 90.42 326 *e*P **P** 03 12 50.3 -1.6
comp=Z,91nm,1.5s
BAIF **Baives** 90.42 326 *e*P **P** 03 12 50.3 -1.6
BAIF **Baives** 90.42 326 *e*P **P** 03 12 50.3 -1.6
EAB **Aberfoyle** 90.46 334 *e*P **P** 03 12 52.1 +0.2
HAU **Haudompre** 90.47 323 *e*P **P** 03 12 50.1 -2.1
comp=Z,102nm,1.2s
HAU *e*R
comp=Z,31µm,19.2s
HAU **Haudompre** 90.47 323 *e*P **P** 03 12 50.1 -2.1
HAU **Haudompre** 90.47 323 *e*P **P** 03 12 50.1 -2.1
PAGF **Fort de Pagny** 90.49 324 *e*P **P** 03 12 50.7 -1.6
comp=Z,92nm,1.6s
PAGF **Fort de Pagny** 90.49 324 *e*P **P** 03 12 50.7 -1.6
G05D **Wamic, OR** 90.51 40 ⇑P P 03 12 58.7 +6.2
baz=90
LMK **Market Rasen** 90.53 330 *e*P **P** 03 12 51.3 -1.0
LMK AMB AMB 03 12 58.5
comp=Z,175nm,1.2s
ESK **Eskdalemuir** 90.58 333 P **P** 03 12 53.5 +1.0
comp=Z,267nm,1.8s,SNR=5.3
ESK **Eskdalemuir** 90.58 333 *e*P **P** 03 12 51.8 -0.8
ESK AMB AMB 03 12 57.7
comp=Z,94nm,2.0s
ESK AMS AMS 03 58 34.0
comp=Z,26µm,17.3s
ESK **Eskdalemuir** 90.58 333 *e*P **P** 03 12 52.9 +0.4
ESK *e* 03 16 31.1
ESK pmax pmax
comp=Z,267nm,1.9s
ESK MLR MLR
comp=Z,32µm,20.0s
ESK **Eskdalemuir** 90.58 333 *i* P **P** 03 12 53.7 +1.2
ESK **Eskdalemuir** 90.58 333 *e*P **P** 03 12 52.9 +0.4
comp=Z,267nm,1.9s
ESK *e*PP **PP** 03 16 31.1 +4.2
ESK LR LR
comp=Z,32µm,20.0s
I04A **Tendick Farm,** 90.63 42 ⇑P P 03 12 59.2 +6.2
baz=90,SNR=16
ECK **Cauldkaine Hil** 90.64 333 *e*P **P** 03 12 52.8 0.0
E07A **Sunnyside** 90.64 38 *e*P **P** 03 12 54.2 +1.1
comp=Z,832nm,2.0s
L02D **Cave Junction,** 90.74 43 ⇑P P 03 13 00.4 +6.8
baz=91,SNR=7.0
HPK **Haverah Park** 90.80 331 *e*P **P** 03 12 52.7 -0.9
HPK AMS AMS 03 55 57.0
comp=Z,21µm,20.6s
C09A **Chrisman Ranch** 90.83 37 *e*P **P** 03 12 55.8 +1.9
C09A LR LR
comp=Z,5µm,19.0s
SENIN **Lac Senin/Sane** 90.86 322 *e*P **P** 03 12 53.8 -0.5
SENIN *e*PP **PP** 03 16 31.3 +1.7
MEZF **Maizieres J'vi** 90.89 324 *e*P **P** 03 12 52.6 -1.5
comp=Z,248nm,1.5s
MEZF **Maizieres J'vi** 90.89 324 *e*P **P** 03 12 52.6 -1.5
D08A **Wollman Farm,** 90.89 37 *e*P **P** 03 12 55.7 +1.6
HUMO **Hull Mountain** 90.91 43 *e*P **P** 03 12 56.2 +1.8
comp=Z,323nm,1.9s
G06A **Carlson Farm,** 90.92 40 *e*P **P** 03 12 56.5 +2.1
comp=Z,560nm,1.8s
SFJD **Kangerlussuaq** 90.94 358 *e*P **P** 03 12 54.2 +0.3
SFJD *e* 03 16 30.1
SFJD pmax pmax
comp=Z,216nm,1.5s
SFJD MLR MLR
comp=Z,15µm,18.0s
SFJD **Kangerlussuaq** 90.94 358 *e*P **P** 03 12 54.2 +0.3
comp=Z,216nm,1.5s
SFJD *e*PP **PP** 03 16 30.1 +0.8
SFJD LR LR
comp=Z,15µm,18.0s
SFJD **Kangerlussuaq** 90.94 358 *i* P P 03 12 58.2 +4.3
comp=Z,190nm,1.5s
comp=Z,14µm,18.0s
I05D **Terrebonne, OR** 90.99 41 ⇓P P 03 13 01.1 +6.4
baz=91,SNR=15
KESW **Keswick, Cumbr** 91.03 332 *e*P **P** 03 12 54.0 -0.6
KESW AMS AMS 04 00 37.5
comp=Z,25µm,15.8s
SFTF **Sexfontaines** 91.07 324 *e*P **P** 03 12 53.1 -1.9
comp=Z,348nm,1.4s
SFTF **Sexfontaines** 91.07 324 *e*P **P** 03 12 53.1 -1.9
J04D **Umpqua Nationa** 91.11 42 ⇓P P 03 13 01.3 +5.8
baz=91,SNR=33
LHO **Holmfirth** 91.17 331 *e*P **P** 03 12 55.5 +0.2
NEW **Newport** 91.19 36 *e*P **P** 03 12 56.5 +0.9
NEW pmax pmax
comp=Z,223nm,1.4s
NEW MLR MLR
comp=Z,5µm,20.0s
NEW **Newport** 91.19 36 ⇓P P 03 13 01.3 +5.8
baz=91
NEW **Newport** 91.19 36 *e*P **P** 03 12 56.5 +0.9
comp=Z,223nm,1.4s
NEW LR LR
comp=Z,5µm,20.0s
KBI1 **Birley Grange** 91.22 331 *e*P **P** 03 12 55.3 -0.2
KBI1 *e*P **P** 03 12 55.3 -0.2
CABF **La Chapelle** 91.41 322 *e*P **P** 03 12 54.8 -1.9
comp=Z,203nm,1.6s
CABF **La Chapelle** 91.41 322 *e*P **P** 03 12 54.8 -1.9
CABF **La Chapelle** 91.41 322 *e*P **P** 03 12 54.8 -1.9
MIR **Mirnyy** 91.51 192 *e*P **P** 03 12 56.0 -0.3
GAL1 **Galloway** 91.52 333 *e*P **P** 03 12 57.1 +0.3
GAL1 AMS AMS 03 59 04.1
comp=Z,27µm,16.8s
YBH **Yreka Blue Hor** 91.53 43 *e*P **P** 03 12 59.3 +2.0
YBH pmax pmax
comp=Z,189nm,1.7s
YBH **Yreka Blue Hor** 91.53 43 *e*P **P** 03 12 59.3 +2.0
comp=Z,189nm,1.7s
M02C **Callahan** 91.61 44 ⇓P P 03 13 04.0 +6.2
baz=92,SNR=16
J05D **Fort Rock, OR** 91.62 41 ⇓P P 03 13 04.1 +6.2
baz=92,SNR=40
STNC **Stoke** 91.63 331 *e*P **P** 03 12 57.4 0.0
STNC AMB AMB 03 13 03.7
comp=Z,114nm,1.5s
E09A **Wood Farm, Sta** 91.64 38 *e*P **P** 03 12 58.8 +1.2
comp=Z,278nm,1.4s
K04D **Chiloquin, OR** 91.66 42 ⇓P P 03 13 03.5 +5.5
baz=92
LPG **La Plagne** 91.66 321 *e*P **P** 03 12 56.7 -1.4
comp=Z,76nm,0.8s
LPG **La Plagne** 91.66 321 *e*P **P** 03 12 56.7 -1.4
comp=Z,88nm,1.0s
LPL **La Plagne** 91.66 321 *e*P **P** 03 12 56.5 -1.6
LPL **La Plagne** 91.66 321 *e*P **P** 03 12 56.5 -1.6
LPL **La Plagne** 91.66 321 *e*P **P** 03 12 56.5 -1.6
KMRM **Mail Ridge** 91.67 45 *e*P **P** 03 12 57.1 -0.9
comp=Z,161nm,1.7s
CLTB **Caltabellotta** 91.75 312 PFAKE 03 13 10.0 +12
CLTB LR LR
comp=Z,7µm,22.0s
G08A **Pilot Rock** 91.87 39 *e*P **P** 03 13 01.0 +2.1
G08A LR LR
comp=Z,4µm,19.0s
HMNX **Herstmonceux** 91.88 328 AMS AMS 03 55 40.9
comp=Z,25µm,19.5s
N02D **Trinity Center** 91.93 44 ⇑P P 03 13 05.3 +6.1
baz=92,SNR=12
PGF **Pioggiola** 91.94 318 *e*P **P** 03 12 57.6 -1.6
comp=Z,187nm,1.2s
PGF **Pioggiola** 91.94 318 *e*P **P** 03 12 57.6 -1.6
PGF **Pioggiola** 91.94 318 *e*P **P** 03 12 57.6 -1.6
BNI **Bardonecchia** 91.95 321 *e*P **P** 03 12 59.9 +0.6
BNI *e* 03 16 41.5
BNI pmax pmax
comp=Z,65nm,1.1s
BNI MLR MLR
comp=Z,36µm,22.0s
BNI **Bardonecchia** 91.95 321 *e*P **P** 03 12 59.9 +0.6
comp=Z,65nm,1.1s
BNI *e*PP **PP** 03 16 41.5 +3.2
BNI LR LR
comp=Z,36µm,22.0s
M04C **Macdoel** 92.05 43 ⇑P P 03 13 05.6 +5.8
baz=92,SNR=14
MBDF **Montbardon** 92.08 321 *e*P **P** 03 12 57.6 -2.3
comp=Z,100nm,1.4s
MBDF **Montbardon** 92.08 321 *e*P **P** 03 12 57.6 -2.3
MBDF **Montbardon** 92.08 321 *e*P **P** 03 12 57.6 -2.3
K05A **Summer Lake** 92.14 42 *e*P **P** 03 13 01.7 +1.4
comp=Z,314nm,1.6s
SBF **Sospel** 92.17 320 *e*P **P** 03 12 58.1 -2.2
comp=Z,82nm,0.9s
SBF **Sospel** 92.17 320 *e*P **P** 03 12 58.1 -2.2
SBF **Sospel** 92.17 320 *e*P **P** 03 12 58.1 -2.2
FOEL **Foel Wylfa** 92.21 331 *e*P **P** 03 13 00.8 +0.7
FOEL AMB AMB 03 13 06.5
comp=Z,91nm,1.6s
FOEL AMS AMS 04 01 21.8
comp=Z,18µm,14.4s
I07A **Izee** 92.23 40 *e*P **P** 03 13 01.7 +1.1
comp=Z,198nm,1.6s
I07A LR LR
comp=Z,4µm,22.0s
WDC **Whiskeytown Da** 92.24 44 *e*P **P** 03 13 02.2 +1.6
WDC pmax pmax
comp=Z,164nm,1.8s
WDC **Whiskeytown Da** 92.24 44 *e*P **P** 03 13 02.2 +1.6
comp=Z,164nm,1.8s
LOR **Lormes** 92.26 324 *e*P **P** 03 12 58.5 -2.0
comp=Z,222nm,1.7s
LOR *e*R
comp=Z,25µm,21.8s
LOR **Lormes** 92.26 324 *e*P **P** 03 12 58.5 -2.0
LOR **Lormes** 92.26 324 *e*P **P** 03 12 58.5 -2.0
WPM1 **Penmaenmawr** 92.28 332 *e*P **P** 03 12 59.8 -0.7
HLM1 **Long Mynd** 92.32 331 *e*P **P** 03 13 00.8 +0.2
HLM1 AMB AMB 03 13 05.7
comp=Z,51nm,1.9s
HLM1 AMS AMS 04 01 08.8
comp=Z,23µm,15.2s
WME **Myndd Eilian** 92.36 332 *e*P **P** 03 13 00.8 +0.1
WALA **Waterton Lakes** 92.41 34 *e*P **P** 03 13 03.0 +1.6
comp=Z,9µm,1.4s
WALA LR LR
comp=Z,10µm,20.0s
F10A **Beach Ranch, E** 92.47 38 *e*P **P** 03 13 03.8 +2.2
comp=Z,547nm,2.2s
WLF1 **Llynfaes** 92.47 332 *e*P **P** 03 13 01.8 +0.5
YLL **Llanberis** 92.47 332 *e*P **P** 03 13 01.8 +0.5
GMM **Mts of Mourne** 92.48 333 *e*P **P** 03 13 01.3 0.0
STRD **Stroud** 92.48 330 *e*P **P** 03 13 01.0 -0.4
STRD AMB AMB 03 13 07.2
comp=Z,113nm,1.6s
ORIF **Oris-en-Rattie** 92.50 321 *e*P **P** 03 13 00.0 -1.8
comp=Z,334nm,1.6s
ORIF *e*R
comp=Z,21µm,20.8s
ORIF **Oris-en-Rattie** 92.50 321 *e*P **P** 03 13 00.0 -1.8
ORIF **Oris-en-Rattie** 92.50 321 *e*P **P** 03 13 00.0 -1.8
SSF **Saint Saulge** 92.58 324 *e*P **P** 03 12 59.9 -2.1
comp=Z,63nm,1.2s
SSF **Saint Saulge** 92.58 324 *e*P **P** 03 12 59.9 -2.1
SSF **Saint Saulge** 92.58 324 *e*P **P** 03 12 59.9 -2.1
SMF **Signal de Mont** 92.64 323 *e*P **P** 03 13 00.4 -1.9
comp=Z,122nm,0.9s
SMF **Signal de Mont** 92.64 323 *e*P **P** 03 13 00.4 -1.9
SMF **Signal de Mont** 92.64 323 *e*P **P** 03 13 00.4 -1.9
YRE **Yr Eifl** 92.69 332 *e*P **P** 03 13 02.6 +0.2
YRE *e*P **P** 03 13 02.6 +0.2
MCH1 **Michaelchurch** 92.72 330 *e*P **P** 03 13 01.9 -0.5
MCH1 AMB AMB 03 13 09.1
comp=Z,72nm,1.4s
FRF **La Foret Royal** 92.81 320 *e*P **P** 03 13 01.1 -2.0
comp=Z,49nm,1.0s
FRF **La Foret Royal** 92.81 320 *e*P **P** 03 13 01.1 -2.0
FRF **La Foret Royal** 92.81 320 *e*P **P** 03 13 01.1 -2.0
BLMT **Blacktail Moun** 92.82 35 *e*P **P** 03 13 03.9 +0.6
BLMT *e*PP **PP** 03 16 45.4 +0.4
AVF **Avril sur Loir** 92.83 324 *e*P **P** 03 13 01.2 -1.9
comp=Z,318nm,1.7s
AVF **Avril sur Loir** 92.83 324 *e*P **P** 03 13 01.2 -1.9
AVF **Avril sur Loir** 92.83 324 *e*P **P** 03 13 01.2 -1.9
HYF **Humbligny** 92.93 324 *e*P **P** 03 13 02.0 -1.6
HYF **Humbligny** 92.93 324 *e*P **P** 03 13 02.0 -1.6
MOD **Modoc Plateau** 92.95 42 *e*P **P** 03 13 05.1 +1.1
comp=Z,208nm,1.6s
MOD *e*PP **PP** 03 16 48.9 +2.7
JTMT **Jette** 93.02 35 *e*P **P** 03 13 05.7 +1.5
LMR **La Mourre** 93.03 320 *e*P **P** 03 13 02.3 -1.8
comp=Z,110nm,1.4s
LMR **La Mourre** 93.03 320 *e*P **P** 03 13 02.3 -1.8
LMR **La Mourre** 93.03 320 *e*P **P** 03 13 02.3 -1.8
MBAR **Mbarara** 93.08 271 *e*P **P** 03 13 05.4 +0.3
MBAR **Mbarara** 93.08 271 *e*P **P** 03 13 05.4 +0.3
BMO **Blue Mountains** 93.08 39 *e*P **P** 03 13 05.4 +0.9
BMO pmax pmax
comp=Z,175nm,1.6s
BMO MLR MLR
comp=Z,4µm,20.0s
BMO **Blue Mountains** 93.08 39 *e*P **P** 03 13 05.4 +0.9
comp=Z,175nm,1.6s
BMO LR LR
comp=Z,4µm,20.0s
YBMT **Yellow Bay** 93.09 35 *e*P **P** 03 13 06.0 +1.5
SMRF **Simiane la Rot** 93.22 320 *e*P **P** 03 13 03.5 -1.5
comp=Z,168nm,1.7s
SMRF **Simiane la Rot** 93.22 320 *e*P **P** 03 13 03.5 -1.5
VIVF **Saint-Julien-l** 93.23 322 *e*P **P** 03 13 03.2 -1.9
comp=Z,96nm,1.3s
VIVF **Saint-Julien-l** 93.23 322 *e*P **P** 03 13 03.2 -1.9
VIVF **Saint-Julien-l** 93.23 322 *e*P **P** 03 13 03.2 -1.9
BGF **Bois d'Agland** 93.25 324 *e*P **P** 03 13 03.1 -2.0
comp=Z,99nm,1.5s
BGF **Bois d'Agland** 93.25 324 *e*P **P** 03 13 03.1 -2.0
BGF **Bois d'Agland** 93.25 324 *e*P **P** 03 13 03.1 -2.0
SWMT **Swartz Lake** 93.32 35 *e*P **P** 03 13 06.9 +1.4
SWMT *e*PP **PP** 03 16 51.5 +2.6
VSL **Villasalto** 93.34 315 *e*P **P** 03 13 06.4 +0.7
comp=Z,52nm,1.0s
VSL *e*PP **PP** 03 16 48.6 -0.5
VSL LR LR
comp=Z,7µm,19.0s
DSB **Dublin** 93.36 333 *e*P **P** 03 13 05.2 -0.2
comp=Z,28nm,0.9s
DSB LR LR
comp=Z,21µm,22.0s
FCC **Fort Churchill** 93.43 19 *e*P **P** 03 13 06.6 +1.0
FCC *e* 03 16 50.3
FCC **Fort Churchill** 93.43 19 *e*P **P** 03 13 06.5 +1.0
comp=Z,2µm,0.9s
FCC *e*PP **PP** 03 16 50.3 +1.2
PPT **Papeete** 93.47 107 LR LR 03 47 21.8
comp=Z,3µm,22.0s,baz=283,slow=30
PPT2 **Papeete2** 93.48 107 *e*S S 03 24 07.1 -7.0
comp=Z,8µm,26.2s
PPT2 **Papeete2** 93.48 107 *e*PS PS 03 25 24.7 -5.5
comp=Z,9µm,26.2s
PPT2 *e*SS SS 03 30 33.1 +1.4
comp=Z,6µm,25.5s
PPT2 *e*LQ LQ 03 39 12.8
comp=Z,8µm,27.8s
PPT2 *e*LR LR 03 43 09.3
comp=Z,23µm,32.0s,baz=294
LDF **La Druitiere** 93.55 327 *e*P **P** 03 13 03.9 -2.5
comp=Z,59nm,1.3s
LDF **La Druitiere** 93.55 327 *e*P **P** 03 13 03.9 -2.5
LDF **La Druitiere** 93.55 327 *e*P **P** 03 13 03.9 -2.5
FLN **La Foliniere** 93.63 327 *e*P **P** 03 13 04.9 -1.9
comp=Z,77nm,1.4s
FLN *e*R
comp=Z,28µm,22.5s
FLN **La Foliniere** 93.63 327 *e*P **P** 03 13 04.9 -1.9
FLN **La Foliniere** 93.63 327 *e*P **P** 03 13 04.9 -1.9
WVOR **Wild Horse Val** 93.68 41 *e*P **P** 03 13 08.9 +1.6
WVOR pmax pmax
comp=Z,159nm,1.5s
WVOR **Wild Horse Val** 93.68 41 *e*P **P** 03 13 08.9 +1.6
comp=Z,159nm,1.5s
SLMT **Seeley Lake** 93.76 35 *e*P **P** 03 13 09.0 +1.4
TCF **Toulx Ste Croi** 93.76 324 *e*P **P** 03 13 05.8 -1.7
comp=Z,238nm,1.8s
TCF **Toulx Ste Croi** 93.76 324 *e*P **P** 03 13 05.8 -1.7
TCF **Toulx Ste Croi** 93.76 324 *e*P **P** 03 13 05.8 -1.7
MSO **Missoula** 93.77 36 ⇑P P 03 13 12.8 +5.2
baz=94
MSO **Missoula** 93.77 36 *e*P **P** 03 13 09.0 +1.3
comp=Z,55nm,1.1s
MSO LR LR
comp=Z,8µm,20.0s
FFC **Flin Flon** 93.91 25 P **P** 03 13 08.2 +0.3
comp=Z,334nm,2.3s,SNR=10
FFC **Flin Flon** 93.91 25 *e*P **P** 03 13 08.7 +0.8
FFC *e* 03 16 53.2
FFC pmax pmax
comp=Z,554nm,2.3s
FFC MLR MLR
comp=Z,8µm,19.0s
FFC **Flin Flon** 93.91 25 *e*P **P** 03 13 08.7 +0.8
comp=Z,554nm,2.3s
FFC *e*PP **PP** 03 16 53.2 +0.2
FFC LR LR
comp=Z,8µm,19.0s
GRR **Gorron** 94.06 327 *e*P **P** 03 13 06.3 -2.5
comp=Z,58nm,1.3s
GRR **Gorron** 94.06 327 *e*P **P** 03 13 06.3 -2.5
GRR **Gorron** 94.06 327 *e*P **P** 03 13 06.3 -2.5
CHMT **Chamberlain Mo** 94.09 35 *e*P **P** 03 13 09.3 0.0
LASF **Ste Croix** 94.16 321 *e*P **P** 03 13 07.7 -1.7
comp=Z,115nm,1.5s
LASF **Ste Croix** 94.16 321 *e*P **P** 03 13 07.7 -1.7
JSA **Saint Aubin** 94.20 328 AMS AMS 03 57 15.4
comp=Z,19µm,18.2s
CRZF **Crozet Islands** 94.20 221 S S 03 24 02.0 -17
CRZF SS SS 03 30 16.0 -25
CRZF L L 03 39 00.0
CRZF R 03 45 00.0
DYA **Yadsworthy** 94.21 330 AMS AMS 03 57 19.4
comp=Z,23µm,18.1s
DYA **Yadsworthy** 94.21 330 PFAKE 03 13 20.0 +11
DYA LR LR
comp=Z,30µm,21.0s
CAF **Calviac** 94.67 323 *e*P **P** 03 13 10.4 -1.3
comp=Z,110nm,1.2s
CAF **Calviac** 94.67 323 *e*P **P** 03 13 10.4 -1.3
CAF **Calviac** 94.67 323 *e*P **P** 03 13 10.4 -1.3
RJF **Les Rejaudoux** 94.75 323 *e*P **P** 03 13 10.7 -1.3
comp=Z,105nm,1.0s
RJF *e*R
comp=Z,32µm,20.2s
RJF **Les Rejaudoux** 94.75 323 *e*P **P** 03 13 10.7 -1.3
RJF **Les Rejaudoux** 94.75 323 *e*P **P** 03 13 10.7 -1.3
MFID **Camas Ranch** 94.79 39 *e*P **P** 03 13 14.0 +1.6
comp=Z,112nm,1.1s
MFID LR LR
comp=Z,5µm,21.0s
MFF **Saint Martin d** 94.83 325 *e*P **P** 03 13 11.2 -1.2
comp=Z,92nm,1.5s
MFF **Saint Martin d** 94.83 325 *e*P **P** 03 13 11.2 -1.2
MFF **Saint Martin d** 94.83 325 *e*P **P** 03 13 11.2 -1.2
HRY **Holter Researc** 94.97 35 *e*P **P** 03 13 13.9 +0.8
SAO **San Andreas Ge** 95.00 47 *e*P **P** 03 13 13.6 +0.3
SAO pmax pmax
comp=Z,35nm,1.8s
SAO **San Andreas Ge** 95.00 47 *e*P **P** 03 13 13.6 +0.3
comp=Z,35nm,1.8s
SGMF **Saint Gilles** 95.01 327 *e*P **P** 03 13 10.8 -2.3
comp=Z,50nm,1.1s
SGMF **Saint Gilles** 95.01 327 *e*P **P** 03 13 10.8 -2.3
SGMF **Saint Gilles** 95.01 327 *e*P **P** 03 13 10.8 -2.3
CMB **Columbia Colle** 95.02 46 *e*P **P** 03 13 14.3 +0.8
CMB pmax pmax
comp=Z,83nm,1.4s
CMB **Columbia Colle** 95.02 46 *e*P **P** 03 13 14.3 +0.8
comp=Z,83nm,1.4s
A19A **Klindworth Far** 95.08 32 ⇓P P 03 13 19.1 +5.6
baz=95,SNR=12
EGMT **Eagleton** 95.19 33 ⇓P P 03 13 19.4 +5.3
baz=95,SNR=23
EGMT **Eagleton** 95.19 33 *e*P **P** 03 13 15.6 +1.5
comp=Z,567nm,2.5s
EGMT *e*PP **PP** 03 17 06.1 +2.8
EGMT LR LR
comp=Z,7µm,22.0s
LRM **Limekiln Ridge** 95.21 36 *e*P **P** 03 13 17.1 +2.6
B19A **Brinkman Farms** 95.30 32 ⇑P P 03 13 19.9 +5.3
baz=95,SNR=15
ROSF **Rostrenen** 95.31 328 *e*P **P** 03 13 12.1 -2.4
comp=Z,128nm,1.6s
ROSF **Rostrenen** 95.31 328 *e*P **P** 03 13 12.1 -2.4
ROSF **Rostrenen** 95.31 328 *e*P **P** 03 13 12.1 -2.4
KEST **Kesra** 95.36 312 P **P** 03 13 16.2 +1.1
comp=Z,3.5nm,1.0s,baz=213,slow=1.1,SNR=6.6
KEST LR LR 04 01 06.0
comp=Z,4µm,21.7s,baz=335,slow=38
WAKR **Walker** 95.38 45 *e*P **P** 03 13 16.9 +1.6
LFF **La Frestale** 95.40 323 *e*P **P** 03 13 13.7 -1.3
comp=Z,187nm,1.7s
LFF **La Frestale** 95.40 323 *e*P **P** 03 13 13.7 -1.3
LFF **La Frestale** 95.40 323 *e*P **P** 03 13 13.7 -1.3
DLMT **Dillon** 95.42 36 *e*P **P** 03 13 17.6 +2.3
comp=Z,142nm,1.5s
A20A **Cobblestone Ra** 95.51 31 ⇓P P 03 13 20.6 +5.1
baz=95,SNR=12
HLID **Hailey** 95.52 38 ⇓P P 03 13 21.5 +5.7
baz=95
HLID **Hailey** 95.52 38 *e*P **P** 03 13 18.2 +2.4
comp=Z,246nm,1.8s
HLID LR LR
comp=Z,6µm,18.0s
QUIF **Quistinic** 95.53 327 *e*P **P** 03 13 12.9 -2.6
comp=Z,81nm,1.4s
QUIF **Quistinic** 95.53 327 *e*P **P** 03 13 12.9 -2.6
QUIF **Quistinic** 95.53 327 *e*P **P** 03 13 12.9 -2.6
MTLF **Montolieu** 95.56 321 *e*P **P** 03 13 14.0 -1.7
comp=Z,83nm,1.4s
MTLF **Montolieu** 95.56 321 *e*P **P** 03 13 14.0 -1.7
MTLF **Montolieu** 95.56 321 *e*P **P** 03 13 14.0 -1.7
MCMT **McKenzie Canyo** 95.62 37 *e*P **P** 03 13 18.2 +1.9
TBI **Tubuai** 95.72 113 *e*SKSac **SKSac** 03 23 49.1 -2.8
comp=Z,2µm,34.2s
TBI *e*S S 03 24 26.2 -7.0
comp=Z,6µm,26.8s
TBI **Tubuai** 95.72 113 *e*PS PS 03 25 52.7 -1.8
comp=Z,5µm,30.5s
TBI **Tubuai** 95.72 113 *e*LQ LQ 03 40 09.9
comp=Z,9µm,31.8s
TBI *e*LR LR 03 44 04.7
comp=Z,14µm,33.5s,baz=290
C19A **Slack Wire Ran** 95.73 33 ⇓P P 03 13 21.8 +5.3
baz=96,SNR=16
BOZ **Bozeman (W)** 95.76 35 PFAKE 03 13 30.0 +13
BOZ LR LR
comp=Z,9µm,20.0s
B20A **Solberg Farm,** 95.77 32 ⇑P P 03 13 21.8 +5.2
baz=96
A21A **Bergtoll Ranch** 95.91 31 ⇓P P 03 13 22.4 +5.1
baz=96
VAL **Valentia** 95.93 333 *e*P P 03 13 22.7 +5.5
VAL *e*PP **PP** 03 17 13.8 +5.1
VAL **Valentia** 95.93 333 ⇓ *i* S **S** 03 24 38.8 +4.7
VAL *e*SS **SS** 03 31 07.9 +4.7

NV01 **Mina Array Sit** **96.16** **44** *e*P **P** **03 13 20.1 +1.2**
NV01 *e*PKKPdf **PKKPdf** **03 30 06.1 0.0**
NVAR **Mina Array Bea** **96.16** **44** P **P** **03 13 20.1 +1.2**
comp=Z,5.9nm,0.8s,baz=296,slow=4.4,SNR=29
NVAR PKKP **PKKPdf** **03 30 06.1 0.0**
comp=Z,1.6nm,0.8s,baz=131,slow=2.4,SNR=7.0
D19A **Cripps Ranch,** **96.20** **33** ⇑P P 03 13 24.0 +5.3
baz=96,SNR=17
B21A **Ellsworth Farm** **96.26** **31** ⇓P P 03 13 23.3 +4.4
baz=96
MLAC **Mammoth, Mammo** **96.27** **45** ⇓P P 03 13 24.5 +5.1
baz=96
C20A **Veseth Ranch,** **96.27** **32** ⇓P P 03 13 24.1 +5.2
baz=96,SNR=13
A22A **Carney Farms,** **96.39** **30** ⇑P P 03 13 23.9 +4.4
baz=96,SNR=11
D20A **Manuel Ranch,** **96.63** **33** ⇓P P 03 13 25.7 +5.1
baz=96,SNR=10
C21A **Desert Coulee** **96.64** **32** ⇓P P 03 13 25.3 +4.6
baz=96
GCMT **Greycliff** **96.71** **34** *e*P **P** **03 13 21.8 +0.6**
E19A **Rath Farm, Rou** **96.72** **34** ⇓P P 03 13 26.1 +5.0
baz=97,SNR=12
RCTC **Rector, Farmer** **96.73** **46** ⇓P P 03 13 26.0 +4.8
baz=97
ELK **Elko** **96.74** **41** *e*P **P** **03 13 23.3 +1.8**
ELK *e* 03 17 11.7
ELK pmax pmax
comp=Z,156nm,2.1s
ELK **Elko** **96.74** **41** *e*P **P** **03 13 23.3 +1.8**
comp=Z,156nm,2.1s
ELK *e*PP **PP** **03 17 11.7 -4.0**
YMR **Madison River** **96.75** **36** PFAKE 03 13 30.0 +8.5
YMR LR LR
comp=Z,11µm,19.0s
SMMC **Simmler** **96.77** **48** ⇑P P 03 13 26.7 +5.2
baz=97
EPF **Esparros** **96.83** **322** *e*P **P** **03 13 19.9 -1.7**
comp=Z,61nm,1.5s
EPF **Esparros** **96.83** **322** *e*P **P** **03 13 19.9 -1.7**
EPF **Esparros** **96.83** **322** *e*P **P** **03 13 19.9 -1.7**
B22A **Reddig Ranch S** **96.84** **31** ⇓P P 03 13 26.5 +5.0
baz=97
YNR **Norris Junctio** **96.88** **36** PFAKE 03 13 30.0 +7.9
YNR LR LR
comp=Z,13µm,20.0s
A23A **Redstone** **96.90** **30** ⇓P P 03 13 26.8 +5.0
baz=97
YFT **Old Faithful** **96.97** **36** PFAKE 03 13 30.0 +7.6
YFT LR LR
comp=Z,24µm,19.0s
TIN **Tinemaha, Big** **96.99** **45** ⇓P P 03 13 28.0 +5.5
baz=97
E20A **Meyer Farm, Mu** **97.03** **33** ⇓P Pdif 03 13 27.8 +5.2
baz=97,SNR=7.5
F19A **Roth Farm, Mol** **97.05** **34** ⇓P Pdif 03 13 27.8 +5.1
baz=97,SNR=8.0
TPH **Tonopah** **97.06** **44** *e*P Pdif 03 13 25.1 +2.0
TPH pmax pmax
comp=Z,138nm,1.5s
TPH **Tonopah** **97.06** **44** *e*P Pdif 03 13 25.1 +2.0
comp=Z,138nm,1.5s
VES **Vestal, Richgr** **97.10** **47** ⇓P Pdif 03 13 27.4 +4.4
baz=97,SNR=11
H17A **Grant Village** **97.14** **36** PFAKE 03 13 30.0 +6.6
H17A LR LR
comp=Z,8µm,18.0s
CTEI **Djebel Teioual** **97.18** **314** P **PP** **03 17 24.0 +4.8**
B23A **Brockton** **97.20** **30** ⇓P Pdif 03 13 28.4 +5.2
baz=97
D21A **La Casta Ranch** **97.21** **32** ⇑P Pdif 03 13 28.5 +5.1
baz=97,SNR=9.5
IMW **Indian Meadow** **97.27** **37** *e*P Pdif 03 13 26.1 +2.1
comp=Z,77nm,1.8s
FLWY **Flagg Ranch** **97.28** **36** *e*P Pdif 03 13 25.9 +1.9
comp=Z,168nm,2.0s
C22A **Vida** **97.28** **31** ⇑P Pdif 03 13 28.5 +4.9
baz=97
A24A **Westby** **97.32** **30** ⇑P Pdif 03 13 29.0 +5.3
baz=97
RLMT **Red Lodge** **97.37** **35** *e*P Pdif 03 13 25.8 +1.5
comp=Z,123nm,1.9s
RLMT *e*PP **PP** **03 17 22.6 +2.2**
RLMT LR LR
comp=Z,6µm,19.0s
FXWY **Fox Creek** **97.39** **37** *e*P Pdif 03 13 26.1 +1.7
comp=Z,67nm,2.0s
ETSF **Etsaut** **97.42** **322** *e*P **P** **03 13 23.0 -1.3**
comp=Z,92nm,1.8s
ETSF **Etsaut** **97.42** **322** *e*P **P** **03 13 23.0 -1.3**
ETSF **Etsaut** **97.42** **322** *e*P **P** **03 13 23.0 -1.3**
SBC **Santa Barbara** **97.44** **48** ⇑P Pdif 03 13 30.3 +5.8
baz=97
H18A **Shoshone NF, C** **97.45** **35** ⇓P Pdif 03 13 30.1 +5.4
baz=97,SNR=9.4
I17A **Pilgrim Ck.** **97.45** **36** ⇓P Pdif 03 13 31.2 +6.6
baz=97,SNR=10
F20A **Billings** **97.50** **34** ⇑P Pdif 03 13 29.6 +5.0
baz=97
TPAW **Teton Pass** **97.52** **37** *e*P Pdif 03 13 28.2 +3.1
comp=Z,31nm,1.4s
E21A **Keefer Ranch,** **97.53** **33** ⇓P Pdif 03 13 30.0 +5.3
baz=97
D22A **Cohagen** **97.56** **32** ⇓P Pdif 03 13 30.2 +5.4
baz=97
DGMT **Dagmar** **97.56** **30** ⇓P Pdif 03 13 30.0 +5.2
baz=97
DGMT **Dagmar** **97.56** **30** *e*P Pdif 03 13 26.6 +1.8
comp=Z,49nm,1.0s
DGMT LR LR
comp=Z,9µm,18.0s
HVU **Hansel Valley** **97.57** **39** *e*P Pdif 03 13 29.3 +4.1
HVU pmax pmax
comp=Z,113nm,1.9s
HVU MLR MLR
comp=Z,5µm,21.0s
HVU **Hansel Valley** **97.57** **39** *e*P Pdif 03 13 29.3 +4.1
comp=Z,113nm,1.9s
HVU *e*PP PP 03 17 12.7 -9.3
HVU LR LR
comp=Z,5nm,21.0s
C23A **Lambert** **97.58** **31** ⇑P Pdif 03 13 29.8 +4.9
baz=97
GRAC **Grapevine Rang** **97.58** **45** ⇑P Pdif 03 13 31.3 +6.1
baz=98,SNR=6.4
ISA **Isabella, Lake** **97.61** **47** *e*P **P** **03 13 25.3 0.0**
ISA pmax pmax
comp=Z,53nm,1.7s
ISA **Isabella, Lake** **97.61** **47** ⇑P Pdif 03 13 30.1 +4.7
baz=98,SNR=6.1
ISA **Isabella, Lake** **97.61** **47** *e*P **P** **03 13 25.3 0.0**
comp=Z,53nm,1.7s
SJPF **Ste Jean** **97.66** **323** *e*P **P** **03 13 24.1 -1.2**
comp=Z,38nm,1.3s
SJPF **Ste Jean** **97.66** **323** *e*P **P** **03 13 24.1 -1.2**
SJPF **Ste Jean** **97.66** **323** *e*P **P** **03 13 24.1 -1.2**
REDW **Red Top Meadow** **97.66** **37** *e*P Pdif 03 13 25.8 +0.2
comp=Z,97nm,2.0s
REDW *e*PP PP 03 17 11.3 -11
ARVC **Arvin** **97.67** **47** ⇓P Pdif 03 13 30.8 +5.3
baz=98
A25A **Svangstu Ranch** **97.72** **29** ⇓P Pdif 03 13 30.8 +5.3
baz=98
BSC **Santa Cruz Isl** **97.74** **49** ⇑P Pdif 03 13 31.3 +5.4
baz=98
SET **Setif** **97.78** **314** P **PP** **03 17 26.0 +2.3**
H19A **Powell** **97.82** **35** ⇓P Pdif 03 13 32.2 +6.0
baz=98,SNR=6.8
DAC **Darwin (Calif)** **97.85** **46** *e*P Pdif 03 13 27.9 +1.3
DAC pmax pmax
comp=Z,69nm,1.6s
DAC **Darwin (Calif)** **97.85** **46** *e*P Pdif 03 13 27.9 +1.3
comp=Z,69nm,1.6s
G20A **Bridger** **97.85** **34** ⇑P Pdif 03 13 31.0 +4.7
baz=98,SNR=5.3
LAO **LASA Array** **97.86** **32** *e*P Pdif 03 13 27.3 +1.1
comp=Z,99nm,1.7s
LAO *e*PP PP 03 17 14.8 -9.1
LAO LR LR
comp=Z,7µm,20.0s
AHID **Auburn Hatcher** **97.91** **37** PFAKE 03 13 40.0 +13
AHID LR LR
comp=Z,6µm,20.0s
R11A **Troy Canyon, C** **97.95** **43** ⇑P Pdif 03 13 32.4 +5.4
baz=98,SNR=12
R11A **Troy Canyon, C** **97.95** **43** *e*P Pdif 03 13 29.3 +2.3
comp=Z,129nm,2.0s
BGU **Big Grassy Mou** **97.95** **40** PFAKE 03 13 40.0 +13
BGU LR LR
comp=Z,4µm,19.0s
F21A **Absaloka Mine,** **98.00** **33** ⇓P Pdif 03 13 31.9 +5.0
baz=98
D23A **Lindsay** **98.01** **31** ⇑P Pdif 03 13 32.3 +5.4
baz=98
OSI **Osito Audit: C** **98.02** **48** ⇓P Pdif 03 13 32.7 +5.5
baz=98
OSI **Osito Audit: C** **98.02** **48** *e*P **P** **03 13 27.1 -0.1**
MPMC **Manual Prospec** **98.04** **46** ⇑P Pdif 03 13 33.0 +5.5
baz=98,SNR=14
BLG **Laguna Peak, P** **98.07** **48** ⇑P Pdif 03 13 32.9 +5.5
baz=98
C24A **Savage** **98.13** **31** ⇑P Pdif 03 13 32.3 +4.9
baz=98
E22A **Miles City** **98.17** **32** ⇓P Pdif 03 13 33.1 +5.5
baz=98
B25A **Knox Farm, Ray** **98.18** **30** ⇓P Pdif 03 13 33.0 +5.4
baz=98
FURC **Furnace Creek,** **98.22** **45** ⇓P Pdif 03 13 34.0 +6.1
baz=98,SNR=18
A26A **Wade Farm, Ken** **98.23** **29** ⇓P Pdif 03 13 33.2 +5.4
baz=98
I19A **Meeteetse** **98.23** **35** ⇓P Pdif 03 13 33.2 +5.1
baz=98
LRMC **Laurel Mtn Rad** **98.24** **46** ⇑P Pdif 03 13 33.9 +5.6
baz=98,SNR=6.5
TPNV **Topopah Spring** **98.35** **45** *e*P Pdif 03 13 32.8 +4.1
TPNV pmax pmax
comp=Z,115nm,1.6s
TPNV **Topopah Spring** **98.35** **45** ⇓P Pdif 03 13 34.0 +5.3
baz=98,SNR=24
TPNV **Topopah Spring** **98.35** **45** *e*P Pdif 03 13 32.8 +4.1
comp=Z,115nm,1.6s
G21A **Lodge Grass** **98.37** **34** ⇑P Pdif 03 13 33.8 +5.2
baz=98
EDW2 **Edwards Air Fo** **98.38** **47** ⇑P Pdif 03 13 34.6 +5.8
baz=98,SNR=8.9
HWUT **Hardware Ranch** **98.38** **39** *e*P Pdif 03 13 31.1 +2.2
comp=Z,123nm,1.8s
HWUT LR LR
comp=Z,8µm,20.0s
E23A **Ismay** **98.44** **32** ⇑P Pdif 03 13 34.4 +5.6
baz=98
SBI **Santa Barbara** **98.44** **49** *e*P Pdif 03 13 29.7 +0.7
H20A **Greybull** **98.46** **35** ⇓P Pdif 03 13 34.6 +5.6
baz=98
F22A **Rosebud** **98.47** **33** ⇓P Pdif 03 13 34.2 +5.2
baz=98
D24A **Glendive** **98.47** **31** ⇓P Pdif 03 13 34.6 +5.6
baz=98
DECC **Green Verdugo** **98.50** **48** ⇓Pdiff Pdif 03 13 34.6 +5.4
baz=98
B26A **Jensen Ranch,** **98.53** **29** ⇓P Pdif 03 13 34.5 +5.4
baz=98
DUG **Dugway, Tooele** **98.54** **40** *e*P Pdif 03 13 31.7 +2.2
DUG *e* 03 17 25.3
DUG pmax pmax
comp=Z,123nm,2.1s
DUG **Dugway, Tooele** **98.54** **40** ⇑Pdiff Pdif 03 13 34.2 +4.7
baz=98
DUG **Dugway, Tooele** **98.54** **40** *e*P Pdif 03 13 31.7 +2.2
comp=Z,123nm,2.1s
DUG *e*PP **PP** **03 17 25.3 -4.2**
C25A **Freed Ranch, W** **98.55** **30** ⇑P Pdif 03 13 34.6 +5.4
baz=98
PASC **Pasadena Art C** **98.64** **48** *e*P Pdif 03 13 31.0 +1.1
comp=Z,26nm,1.1s
PASC LR LR
comp=Z,7µm,20.0s
ATAF **Djebel Tarf** **98.71** **314** P **PP** **03 17 31.6 +0.7**
J19A **Crowheart** **98.72** **36** ⇓Pdiff Pdif 03 13 35.9 +5.6
baz=99
I20A **Worland** **98.76** **35** ⇓Pdiff Pdif 03 13 36.0 +5.7
baz=99
BW06 **Boulder Array** **98.77** **37** *e*P Pdif 03 13 33.2 +2.6
comp=Z,13nm,1.3s
BW06 *e*PP **PP** **03 17 33.0 +1.8**
BW06 *e*PKKPbc **PKKPbc** **03 29 58.5 -0.5**
BW06 LR LR
comp=Z,7µm,20.0s
PD31 **Pinedale Array** **98.77** **37** *e*P Pdif 03 13 32.2 +1.7
PD31 *e*PKKPbc **PKKPbc** **03 29 56.9 -2.1**
PDAR **Pinedale Array** **98.77** **37** P Pdif 03 13 32.2 +1.7
comp=Z,1.6nm,0.8s,baz=301,slow=0.9,SNR=11
PDAR PKKP **PKKPbc** **03 29 56.9 -2.1**
comp=Z,2.6nm,0.9s,baz=123,slow=3.7,SNR=9.8
FMP **Fort Macarthur** **98.82** **48** ⇓Pdiff Pdif 03 13 36.1 +5.5
baz=99
G22A **Birney** **98.84** **33** ⇑Pdiff Pdif 03 13 36.1 +5.4
baz=99
H21A **Big Horn, Sher** **98.87** **34** ⇑Pdiff Pdif 03 13 36.1 +5.3
baz=99
E24A **Baker** **98.88** **31** ⇓Pdiff Pdif 03 13 36.2 +5.5
baz=99
D25A **Fairfield** **98.92** **30** ⇓Pdiff Pdif 03 13 35.8 +4.9
baz=99
GSC **Goldstone, Bar** **98.93** **46** *e*P Pdif 03 13 33.0 +1.7
GSC *e* 03 17 31.0
GSC pmax pmax
comp=Z,151nm,1.8s
GSC MLR MLR
comp=Z,6µm,21.0s
GSC **Goldstone, Bar** **98.93** **46** ⇑Pdiff Pdif 03 13 36.8 +5.5
baz=99
GSC **Goldstone, Bar** **98.93** **46** *e*P Pdif 03 13 33.0 +1.7
comp=Z,151nm,1.8s
GSC *e*PP **PP** **03 17 31.0 -1.6**
GSC LR LR
comp=Z,6µm,21.0s
B27A **Peters Farms,** **98.94** **29** ⇓Pdiff Pdif 03 13 36.5 +5.5
baz=99
F23A **Volborg** **98.94** **32** ⇑Pdiff Pdif 03 13 36.5 +5.5
baz=99
BFSC **Mount Baldy Ra** **98.96** **47** ⇓Pdiff Pdif 03 13 37.1 +5.6
baz=99
A28A **Rude Farm, Bot** **98.99** **28** ⇑Pdiff Pdif 03 13 36.4 +5.2
baz=99
C26A **Wahner Farm, P** **98.99** **29** ⇓Pdiff Pdif 03 13 37.0 +5.8
baz=99
RRX **Edison Barstow** **99.04** **47** ⇑Pdiff **Pdif** **03 13 37.5 +5.8**
baz=99
SCI **San Clemente I** **99.05** **49** ⇑Pdiff **Pdif** **03 13 37.0 +5.3**
baz=99
NLU **North Lily Min** **99.13** **40** *e*P **Pdif** **03 13 33.8 +1.5**
comp=Z,220nm,3.0s
J20A **Shoshoni** **99.18** **36** ⇑Pdiff **Pdif** **03 13 37.7 +5.4**
baz=99
H22A **Clearmont** **99.25** **34** ⇑Pdiff **Pdif** **03 13 37.9 +5.4**
baz=99
I21A **Big Trails, Te** **99.29** **35** ⇓Pdiff **Pdif** **03 13 38.0 +5.2**
baz=99
B28A **Dugan Ranch, T** **99.30** **28** ⇑Pdiff **Pdif** **03 13 38.2 +5.6**
baz=99
G23A **Biddle** **99.31** **33** ⇑Pdiff **Pdif** **03 13 38.2 +5.4**
baz=99
SHPR **Sheep Range** **99.31** **44** *e*P **Pdif** **03 13 34.9 +1.8**
F24A **Ekalaka** **99.33** **32** ⇑Pdiff **Pdif** **03 13 38.5 +5.7**
baz=99
C27A **Sayler Ranch,** **99.35** **29** ⇓Pdiff **Pdif** **03 13 38.3 +5.5**
baz=99
MPU **Maple Canyon** **99.35** **40** *e*P **Pdif** **03 13 35.0 +1.8**
comp=Z,115nm,2.2s
E25A **Miller Ranch,** **99.36** **31** ⇑Pdiff **Pdif** **03 13 38.4 +5.5**
baz=99
A29A **Manning Farm,** **99.42** **27** ⇑Pdiff **Pdif** **03 13 38.2 +5.1**
baz=99
D26A **Manning** **99.42** **30** ⇓Pdiff **Pdif** **03 13 38.9 +5.7**
baz=99
TUQ **Turquoise Moun** **99.44** **46** ⇑Pdiff **Pdif** **03 13 39.4 +5.8**
baz=99
BBRC **Big Bear Solar** **99.45** **47** ⇓Pdiff **Pdif** **03 13 39.5 +5.7**
baz=99
HEC **Hector,Ludlow** **99.52** **46** ⇓Pdiff **Pdif** **03 13 39.3 +5.4**
baz=99
J21A **Lysite** **99.53** **35** ⇑Pdiff **Pdif** **03 13 39.2 +5.3**
baz=99
MURC **Murrieta** **99.64** **48** ⇓Pdiff **Pdif** **03 13 40.2 +5.9**
baz=100
I22A **9 Mile Ranch,** **99.66** **34** ⇑Pdiff **Pdif** **03 13 39.3 +4.9**
baz=100
G24A **Alzada** **99.71** **32** ⇓Pdiff **Pdif** **03 13 39.8 +5.3**
baz=100
B29A **Wagenman Farm,** **99.72** **28** ⇓Pdiff **Pdif** **03 13 39.5 +5.1**
baz=100
ULM **Lac du Bonnet** **99.74** **25** P **Pdif** **03 13 35.8 +1.4**
comp=Z,6.0nm,0.8s,baz=332,slow=2.8,SNR=6.7
ULM LR LR 04 03 39.5
comp=Z,9µm,18.0s,baz=338,slow=38
ULM **Lac du Bonnet** **99.74** **25** *e*P **Pdif** **03 13 35.7 +1.3**
ULM pmax pmax
comp=Z,167nm,2.6s
ULM **Lac du Bonnet** **99.74** **25** *e*Pdif **Pdif** **03 13 35.7 +1.3**
comp=Z,167nm,2.6s
F25A **Bowman** **99.75** **31** ⇓Pdiff **Pdif** **03 13 40.5 +5.8**
baz=100
H23A **Clabaugh Cattl** **99.76** **33** ⇑Pdiff **Pdif** **03 13 40.2 +5.4**
baz=100
D27A **Center** **99.79** **30** ⇑Pdiff **Pdif** **03 13 40.5 +5.7**
baz=100
A30A **Hoffart Farm,** **99.80** **27** ⇑Pdiff **Pdif** **03 13 40.1 +5.4**
baz=100
E26A **Carlson Angus** **99.82** **30** ⇓Pdiff **Pdif** **03 13 40.5 +5.6**
baz=100
C28A **Hausauer Farms** **99.84** **29** ⇑Pdiff **Pdif** **03 13 40.6 +5.6**
baz=100
MVU **Marysvale** **99.95** **41** *e*Pdif **Pdif** **03 13 36.8 +0.8**
J22A **Midwest** **100.00** **35** ⇑Pdiff **Pdif** **03 13 41.0 +5.1**
baz=100
GMRC **Granite Mounta** **100.00** **46** ⇑Pdiff **Pdif** **03 13 42.0 +5.9**
baz=100
H24A **Dirks Ranch, A** **100.05** **33** ⇓Pdiff **Pdif** **03 13 41.5 +5.4**
baz=100
MDND **Maddock** **100.09** **28** ⇑Pdiff **Pdif** **03 13 41.8 +5.7**
baz=100
MDND **Maddock** **100.09** **28** PFAKE 03 13 50.0 +14
MDND LR LR
comp=Z,10µm,21.0s
109C **Camp Elliot, M** **100.11** **48** ⇑Pdiff **Pdif** **03 13 42.4 +6.0**
baz=100
K21A **Alcova** **100.12** **36** ⇓Pdiff **Pdif** **03 13 42.0 +5.4**
baz=100
PFO **Pinyon Flats O** **100.14** **47** *e*P **Pdif** **03 13 37.5 +0.8**
PFO MLR MLR
comp=Z,8µm,21.0s
PFO **Pinyon Flats O** **100.14** **47** ⇑Pdiff **Pdif** **03 13 42.4 +5.7**
baz=100
PFO **Pinyon Flats O** **100.14** **47** *e*Pdif **Pdif** **03 13 37.5 +0.8**
PFO LR LR
comp=Z,8µm,21.0s
I23A **Meade Ranch, G** **100.15** **34** ⇓Pdiff **Pdif** **03 13 41.7 +5.1**
baz=100
D28A **Regan** **100.16** **29** ⇓Pdiff **Pdif** **03 13 41.9 +5.5**
baz=100
B30A **Myrvik Farm, E** **100.17** **27** ⇑Pdiff **Pdif** **03 13 41.5 +5.1**
baz=100
F26A **Lodgepole** **100.18** **31** ⇓Pdiff **Pdif** **03 13 42.0 +5.4**
baz=100
BELC **Belle Mtn. Jos** **100.23** **47** ⇑Pdiff **Pdif** **03 13 42.6 +5.4**
baz=100
E27A **Carson** **100.27** **30** ⇓Pdiff **Pdif** **03 13 42.6 +5.7**
baz=100
G25A **Newell** **100.30** **32** ⇑Pdiff **Pdif** **03 13 42.4 +5.3**
baz=100
F27A **Lemmon** **100.47** **31** ⇑Pdiff **Pdif** **03 13 43.4 +5.6**
baz=100
J23A **Dilts Ranch, B** **100.49** **34** ⇓Pdiff **Pdif** **03 13 43.4 +5.3**
baz=100
K22A **Casper** **100.50** **35** ⇑Pdiff **Pdif** **03 13 43.4 +5.2**
baz=100
K22A **Casper** **100.50** **35** *e*Pdif **Pdif** **03 13 40.1 +1.9**
K22A LR LR
comp=Z,5µm,19.0s
KNB **Kanab** **100.50** **43** *e*P **Pdif** **03 13 40.9 +2.6**
KNB **Kanab** **100.50** **43** *e*Pdif **Pdif** **03 13 40.9 +2.6**
E28A **Huff** **100.56** **29** ⇓Pdiff **Pdif** **03 13 43.3 +5.1**
baz=100
MONP **Monument Peak,** **100.58** **48** ⇓Pdiff **Pdif** **03 13 44.0 +5.2**
baz=100
SRU **San Rafael Swe** **100.59** **40** *e*P **Pdif** **03 13 41.8 +3.1**
SRU MLR MLR
comp=Z,5µm,19.0s
SRU **San Rafael Swe** **100.59** **40** *e*Pdif **Pdif** **03 13 41.8 +3.1**
SRU LR LR
comp=Z,5µm,19.0s
H25A **Fruitdale** **100.62** **32** ⇑Pdiff **Pdif** **03 13 44.1 +5.5**
baz=100
G26A **Maurine** **100.62** **31** ⇑Pdiff **Pdif** **03 13 44.1 +5.6**
baz=100
I24A **Kuemmerle Ranc** **100.65** **33** ⇑Pdiff **Pdif** **03 13 44.0 +5.2**
baz=100
C30A **Mose, Pekin** **100.68** **28** ⇑Pdiff **Pdif** **03 13 43.9 +5.2**
baz=100
D29A **Pettibone, Tap** **100.69** **29** ⇓Pdiff **Pdif** **03 13 44.0 +5.2**
baz=100
NEE2 **Needles Airpor** **100.70** **46** ⇑Pdiff **Pdif** **03 13 44.9 +5.9**
baz=101
IRM **Iron Mountain** **100.70** **46** ⇑Pdiff **Pdif** **03 13 45.3 +6.2**
baz=101
LSZ **Lusaka** **100.73** **258** *e*P **Pdif** **03 13 38.0 -1.6**
LSZ MLR MLR
comp=Z,6µm,18.0s
LSZ **Lusaka** **100.73** **258** *e*Pdif **Pdif** **03 13 38.0 -1.6**
LSZ LR LR
comp=Z,6µm,18.0s
RSSD **Black Hills** **100.76** **33** *e*P **Pdif** **03 13 43.3 +3.9**
RSSD MLR MLR
comp=Z,6µm,20.0s
RSSD **Black Hills** **100.76** **33** *e*Pdif **Pdif** **03 13 43.2 +3.9**
RSSD LR LR
comp=Z,6µm,20.0s
N20A **Spence Gulch,** **100.77** **38** ⇑Pdiff **Pdif** **03 13 45.4 +5.9**
baz=101
BC3 **Big Chuckawall** **100.80** **47** ⇑Pdiff **Pdif** **03 13 45.3 +5.7**
baz=101
G27A **Dupree** **100.88** **31** ⇓Pdiff **Pdif** **03 13 45.1 +5.4**
baz=101
K23A **Bowen Ranch, D** **100.90** **35** ⇑Pdiff **Pdif** **03 13 45.3 +5.3**
baz=101
L22A **Ellis Ranch, M** **100.97** **36** ⇓Pdiff **Pdif** **03 13 45.7 +5.4**
baz=101
SWSC **Sam W. Stewart** **100.98** **48** ⇓Pdiff **Pdif** **03 13 45.9 +5.6**
baz=101
W13A **Hualapai Mount** **100.98** **45** ⇓Pdiff **Pdif** **03 13 46.3 +5.7**
baz=101
I25A **Rochford** **100.98** **33** ⇓Pdiff **Pdif** **03 13 45.6 +5.3**
baz=101
J24A **Dixon Ranch, L** **101.00** **34** ⇓Pdiff **Pdif** **03 13 45.7 +5.3**
baz=101
D30A **Buchanan** **101.02** **28** ⇓Pdiff **Pdif** **03 13 45.3 +5.1**
baz=101
F28A **McLaughlin** **101.06** **30** ⇓Pdiff **Pdif** **03 13 46.0 +5.6**
baz=101
U15A **North Rim** **101.20** **43** ⇑Pdiff **Pdif** **03 13 46.5 +5.0**
baz=101
O20A **White River Ci** **101.25** **38** ⇓Pdiff **Pdif** **03 13 46.8 +5.1**
baz=101
O20A **White River Ci** **101.25** **38** PFAKE 03 13 50.0 +8.3
O20A LR LR
comp=Z,4µm,20.0s
PDMCI **Parker Dam,Lak** **101.30** **46** ⇓Pdiff **Pdif** **03 13 47.3 +5.6**
baz=101
AGMN **Agassiz Nation** **101.30** **26** ⇓Pdiff **Pdif** **03 13 46.5 +5.1**
baz=101
AGMN **Agassiz Nation** **101.30** **26** *e*Pdif **Pdif** **03 13 45.1 +3.7**
AGMN LR LR
comp=Z,13µm,18.0s
L23A **Garrett** **101.31** **35** ⇓Pdiff **Pdif** **03 13 47.1 +5.2**
baz=101
M22A **Cedar Creek Ra** **101.32** **36** ⇑Pdiff **Pdif** **03 13 46.5 +4.6**
baz=101
K24A **Anderson Ranch** **101.35** **34** ⇓Pdiff **Pdif** **03 13 47.4 +5.4**
baz=101
H27A **Howes** **101.36** **32** ⇑Pdiff **Pdif** **03 13 47.1 +5.3**
baz=101
Y12C **Blythe** **101.37** **46** ⇑Pdiff **Pdif** **03 13 48.0 +6.0**
baz=101
J25A **Sunshine Ranch** **101.40** **33** ⇓Pdiff **Pdif** **03 13 47.5 +5.3**
baz=101
I26A **New Underwood** **101.41** **32** ⇓Pdiff **Pdif** **03 13 47.5 +5.4**
baz=101
E30A **Jud** **101.42** **29** ⇑Pdiff **Pdif** **03 13 47.3 +5.3**
baz=101
ESDC **Sonseca Array** **101.46** **322** P **Pdif** **03 13 42.8 +0.3**
comp=Z,0.4nm,0.8s,baz=35,slow=5.4,SNR=4.3
ESDC PP **PP** **03 17 53.5 +2.0**
comp=Z,7.3nm,1.0s,baz=45,slow=7.4,SNR=8.5
ESDC PKKPbc **PKKPbc** **03 29 50.6 -0.3**
comp=Z,1.7nm,1.0s,baz=234,slow=2.3,SNR=7.2
F29A **Eureka** **101.52** **30** ⇓Pdiff **Pdif** **03 13 47.8 +5.3**
baz=101
PBRG **Braganca** **101.56** **325** *e*PP PP 03 17 52.1 -0.1
GLA **Glamis** **101.57** **47** ⇓Pdiff **Pdif** **03 13 49.2 +6.2**
baz=102

G28A	Parade	101.58	31	⇓Pdiff	Pdif	03 13 48.5	+5.7			
	baz=101									
M23A	Laramie	101.75	36	⇑Pdiff	Pdif	03 13 49.4	+5.6			
	baz=102									
L24A	Wheatland	101.77	35	⇑Pdiff	Pdif	03 13 49.2	+5.4			
	baz=102									
PAB	San Pablo	101.77	322	PFAKE		03 13 50.0	+6.2			
PAB				LR	LR					
	comp=Z,19µm,22.0s									
I27A	Quinn	101.78	32	⇑Pdiff	Pdif	03 13 49.2	+5.5			
	baz=102									
N22A	Wattenberg Ran	101.81	37	⇑Pdiff	Pdif	03 13 49.3	+5.1			
	baz=102									
PV09	Paradox Valley	101.81	40	*e*Pdif	Pdif	03 13 44.3	0.0			
J26A	Sides Ranch, S	101.83	33	⇑Pdiff	Pdif	03 13 48.7	+4.8			
	baz=102									
H28A	Mission Ridge	101.83	31	⇓Pdiff	Pdif	03 13 49.3	+5.4			
	baz=102									
K25A	Mack Ranch, Ha	101.92	34	⇑Pdiff	Pdif	03 13 50.0	+5.5			
	baz=102									
G29A	Hoven	101.96	30	⇓Pdiff	Pdif	03 13 49.9	+5.4			
	baz=102									
PHWY	Pilot Hill	102.00	36	*e*Pdif	Pdif	03 13 44.9	-0.2			
N23A	Red Feather La	102.02	36	⇓Pdiff	Pdif	03 13 50.9	+5.8			
	baz=102									
N23A	Red Feather La	102.02	36	*e*Pdif	Pdif	03 13 44.9	-0.2			
N23A				LR	LR					
	comp=Z,6µm,19.0s									
VNDA	Vanda	102.04	172	P	Pdif	03 13 43.8	0.0			
	comp=Z,1.8nm,1.0s,baz=288,slow=2.9,SNR=3.0									
VNDA				PP	PP	03 17 54.4	-1.4			
	comp=Z,11nm,1.0s,baz=323,slow=8.3,SNR=10									
VNDA				PKKPbc	PKKPbc	03 29 48.7	-2.0			
	comp=Z,2.3nm,0.7s,baz=205,slow=2.3,SNR=9.5									
VNDA	Vanda	102.04	172	P	Pdif	03 13 43.8	0.0			
VNDA						03 17 54.4				
VNDA				pmax	pmax					
	comp=Z,2.0nm,1.0s									
VNDA				pmax	pmax					
	comp=Z,11nm,1.0s									
VNDA	Vanda	102.04	172	*e*Pdif	Pdif	03 13 45.0	+1.1			
VNDA				*e*PP	PP	03 17 53.9	-1.9			
VNDA				*e*PKKPbc	PKKPbc	03 29 48.7	-2.0			
MVO	Moncorvo	102.17	324	*e*PP	PP	03 17 54.3	-2.4			
MVO	Moncorvo	102.17	324	*e*SS	SS	03 32 41.9	+11			
MVO	Moncorvo	102.17	324	*e*LQ	LQ	03 44 46.3				
MVO				*e*LR	LR	03 50 17.5				
	comp=Z,19µm,18.0s									
L25A	Engebretsen Ra	102.20	34	⇓Pdiff	Pdif	03 13 51.0	+5.3			
	baz=102									
K26A	Motz Farm, Whi	102.21	33	⇓Pdiff	Pdif	03 13 50.4	+4.7			
	baz=102									
M24A	Cheyenne	102.23	35	⇓Pdiff	Pdif	03 13 50.7	+4.7			
	baz=102									
H29A	Onida	102.25	31	⇑Pdiff	Pdif	03 13 51.0	+5.3			
	baz=102									
I28A	Midland	102.26	31	⇑Pdiff	Pdif	03 13 51.1	+5.3			
	baz=102									
PGAV	Gavieira, Arco	102.26	326	*e*PP	PP	03 18 00.6	+3.1			
PGAV	Gavieira, Arco	102.26	326	*e*SS	SS	03 32 43.1	+10			
PGAV	Gavieira, Arco	102.26	326	*e*LQ	LQ	03 45 17.5				
PGAV				*e*LR	LR	03 50 03.0				
	comp=Z,17µm,20.0s									
Y14A	Wickenburg	102.26	45	⇑Pdiff	Pdif	03 13 51.6	+5.5			
	baz=102									
PCAB	Cabril	102.32	325	*e*PP	PP	03 18 00.9	+3.1			
WUAZ	Wupatki	102.35	43	⇓Pdiff	Pdif	03 13 52.0	+5.5			
	baz=102									
WUAZ	Wupatki	102.35	43	*e*Pdif	Pdif	03 13 48.2	+1.6			
J27A	Elkhorn Farm,	102.40	32	⇑Pdiff	Pdif	03 13 51.8	+5.2			
	baz=102									
POLO	Lamas de Olo	102.43	325	*e*PP	PP	03 18 01.1	+2.4			
P22A	Eagle	102.46	38	⇑Pdiff	Pdif	03 13 52.7	+5.7			
	baz=102									
113A	Mohawk Valley,	102.46	47	⇑Pdiff	Pdif	03 13 52.8	+6.0			
	baz=102									
O23A	Lake Granby, G	102.51	37	⇑Pdiff	Pdif	03 13 52.9	+5.6			
	baz=102									
SMCO	Snowmass	102.62	38	*e*Pdif	Pdif	03 13 47.6	-0.3			
N24A	Carr	102.65	36	⇑PKiKP	PKiKP	03 18 03.3	-5.4			
	baz=102									
Z14A	Wintersburg	102.65	46	⇑PKiKP	PKiKP	03 18 04.9	-3.8			
	baz=102									
J28A	Allard Ranch,	102.66	32	⇓Pdiff	Pdif	03 13 53.3	+5.6			
	baz=102									
I29A	Vivian Onida	102.66	31	⇓Pdiff	Pdif	03 13 52.9	+5.3			
	baz=102									
M25A	Palm-Egli Farm	102.66	35	⇓PKiKP	PKiKP	03 18 03.7	-5.0			
	baz=102									
K27A	Flueckinger Fa	102.69	33	⇑PKiKP	PKiKP	03 18 04.3	-4.3			
	baz=102									
SCHQ	Schefferville	102.70	6	PP	PP	03 17 57.0	-3.0			
	comp=Z,11nm,1.0s,baz=3.2,slow=10,SNR=4.2									
SCHQ				PKKPbc	PKKPbc	03 29 43.6	-4.2			
	comp=Z,7.2nm,1.0s,baz=154,slow=4.6,SNR=5.3									
SCHQ	Schefferville	102.70	6	*e*Pdif	Pdif	03 13 47.0	-0.5			
SBA	Scott Base	102.95	171	PFAKE		03 14 00.0	+12			
SBA				LR	LR					
	comp=Z,6µm,20.0s									
ISCO	Idaho Springs	102.96	37	*e*P	Pdif	03 13 49.5	+0.1			
ISCO				MLR	MLR					
	comp=Z,7µm,20.0s									
ISCO	Idaho Springs	102.96	37	⇑PKiKP	PKiKP	03 18 06.4	-3.1			
	baz=103									
ISCO	Idaho Springs	102.96	37	*e*Pdif	Pdif	03 13 49.5	+0.1			
ISCO				LR	LR					
	comp=Z,7µm,20.0s									
BRSD	Miller	102.98	30	PFAKE		03 14 00.0	+11			
BRSD				LR	LR					
	comp=Z,7µm,19.0s									
MTE	Manteigas	102.98	324	*e*PP	PP	03 18 01.4	-1.4			
MTE	Manteigas	102.98	324	*e*SS	SS	03 32 56.8	+14			
MTE	Manteigas	102.98	324	*e*LQ	LQ	03 44 42.1				
MTE				*e*LR	LR	03 48 34.4				
	comp=Z,19µm,22.0s									
MTE	Manteigas	102.98	324	PFAKE		03 14 00.0	+11			
MTE				LR	LR					
	comp=Z,19µm,18.0s									
X16A	Lo Mia Camp, P	102.99	44	⇑PKiKP	PKiKP	03 18 06.1	-3.4			
	baz=103									
O24A	Longmont	103.04	36	⇑PKiKP	PKiKP	03 18 06.9	-2.5			
	baz=103									
MVCO	Mesa Verde	103.04	40	⇑PKiKP	PKiKP	03 18 05.9	-3.7			
	baz=103									
MVCO	Mesa Verde	103.04	40	*e*Pdif	Pdif	03 13 50.0	+0.3			
N25A	Grover	103.09	35	⇓PKiKP	PKiKP	03 18 06.9	-2.6			
	baz=103									
L27A	T5 Ranch, Ells	103.10	33	⇓PKiKP	PKiKP	03 18 07.1	-2.3			
	baz=103									
J29A	Okreek	103.11	31	⇑PKiKP	PKiKP	03 18 06.6	-2.7			
	baz=103									
K28A	Ten Mile Ranch	103.12	32	⇑PKiKP	PKiKP	03 18 07.2	-2.2			
	baz=103									
M26A	McRoberts Ranc	103.12	34	⇑PKiKP	PKiKP	03 18 06.5	-3.0			
	baz=103									
P23A	Jefferson	103.13	37	⇓PKiKP	PKiKP	03 18 07.4	-2.5			
	baz=103									
I30A	Oacoma	103.16	31	⇓PKiKP	PKiKP	03 18 06.2	-3.2			
	baz=103									
EYMN	Ely	103.28	24	PFAKE		03 14 00.0	+10			
EYMN				LR	LR					
	comp=Z,10µm,20.0s									
Q23A	Hartsel	103.45	38	⇓PKiKP	PKiKP	03 18 06.2	-4.2			
	baz=103									
M27A	Reverse DX Ran	103.47	34	⇑PKiKP	PKiKP	03 18 05.5	-4.6			
	baz=103									
N26A	Koester Ranch,	103.53	35	⇓PKiKP	PKiKP	03 18 06.5	-3.7			
	baz=103									
P24A	Kohler Place,	103.55	37	⇑PKiKP	PKiKP	03 18 08.1	-2.3			
	baz=103									
L28A	Connealy Angus	103.56	33	⇓PKiKP	PKiKP	03 18 09.0	-1.3			
	baz=103									
O25A	Wiggins	103.56	36	⇑PKiKP	PKiKP	03 18 09.2	-1.1			
	baz=103									
PMRV	Marv??o	103.57	323	*e*SS	SS	03 32 57.3	+6.6			
PMRV	Marv??o	103.57	323	*e*LQ	LQ	03 45 01.2				
PMRV				*e*LR	LR	03 49 24.0				
	comp=Z,14µm,24.0s									
J30A	Dallas	103.58	31	⇓PKiKP	PKiKP	03 18 05.9	-4.2			
	baz=103									
214A	Organ Pipe Nat	103.59	47	⇓PKiKP	PKiKP	03 18 07.9	-2.6			
	baz=104									
K29A	Lazy Trails An	103.60	32	⇑PKiKP	PKiKP	03 18 09.1	-1.1			
	baz=103									
W18A	Petrified Fore	103.63	43	⇓PKiKP	PKiKP	03 18 08.8	-1.9			
	baz=104									
S22A	4UR Ranch, Cre	103.67	39	⇑PKiKP	PKiKP	03 18 09.0	-1.8			
	baz=104									
S22A	4UR Ranch, Cre	103.67	39	PFAKE		03 14 00.0	+7.4			
S22A				LR	LR					
	comp=Z,7µm,20.0s									
Q24A	Divide	103.80	37	⇑PKiKP	PKiKP	03 18 09.6	-1.5			
	baz=104									
Q24A	Divide	103.80	37	PFAKE		03 14 00.0	+6.8			
Q24A				LR	LR					
	comp=Z,6µm,19.0s									
X18A	Snowflake	103.87	43	⇓PKiKP	PKiKP	03 18 11.2	0.0			
	baz=104									
O26A	Horse Wrangler	103.91	35	⇓PKiKP	PKiKP	03 18 09.8	-1.2			
	baz=104									
N27A	Anderson Farm,	103.91	34	⇓PKiKP	PKiKP	03 18 10.6	-0.4			
	baz=104									
R23A	Moffat	103.95	38	⇑PKiKP	PKiKP	03 18 11.2	-0.1			
	baz=104									
P25A	Willow Gulch B	103.96	36	⇓PKiKP	PKiKP	03 18 11.4	+0.2			
	baz=104									
K30A	Basset	104.01	32	⇓PKiKP	PKiKP	03 18 12.3	+1.3			
	baz=104									
L29A	Maesberg Ranch	104.04	32	⇑PKiKP	PKiKP	03 18 11.9	+0.8			
	baz=104									
PESTR	Estremoz	104.07	323	*e*PP	PP	03 18 09.8	-1.2			
OGNE	Ogallala	104.08	34	⇑PKiKP	PKiKP	03 18 11.9	+0.7			
	baz=104									
M28A	Bar X Bar Ranc	104.09	33	⇓PKiKP	PKiKP	03 18 12.3	+1.1			
	baz=104									
S23A	Nye Farm, Mont	104.18	39	⇑PKiKP	PKiKP	03 18 13.0	+1.3			
	baz=104									
PBAR	Barrancos	104.24	322	*e*PP	PP	03 18 06.6	-5.6			
PMTG	Montargil	104.29	323	*e*PP	PP	03 18 10.9	-1.6			
R24A	Sanders Place,	104.33	38	⇑PKiKP	PKiKP	03 18 12.9	+1.0			
	baz=104									
Q25A	Bedland, Calha	104.34	37	⇑PKiKP	PKiKP	03 18 12.9	+1.0			
	baz=104									
P26A	Davis Ranch, A	104.38	36	⇓PKiKP	PKiKP	03 18 12.7	+0.8			
	baz=104									
O27A	Beecher Island	104.39	35	⇑PKiKP	PKiKP	03 18 13.3	+1.4			
	baz=104									
M29A	Burnside Ranch	104.40	33	⇑PKiKP	PKiKP	03 18 13.1	+1.3			
	baz=104									
SDCO	Great Sand Dun	104.44	38	⇑PKiKP	PKiKP	03 18 13.6	+1.4			
	baz=104									
SDCO	Great Sand Dun	104.44	38	PFAKE		03 14 10.0	+14			
SDCO				LR	LR					
	comp=Z,7µm,19.0s									
L30A	Spencer Herefo	104.50	32	⇑PKiKP	PKiKP	03 18 13.7	+1.8			
	baz=104									
N28A	Pribbeno Ranch	104.52	34	⇑PKiKP	PKiKP	03 18 13.8	+1.8			
	baz=104									
EVO	Evora	104.55	323	*e*PP	PP	03 18 15.3	+0.8			
ECSD	EROS Data Cent	104.59	29	⇓PKiKP	PKiKP	03 18 14.2	+2.3			
	baz=104									
ECSD	EROS Data Cent	104.59	29	PFAKE		03 14 10.0	+14			
ECSD				LR	LR					
	comp=Z,6µm,20.0s									
TUC	Tucson	104.73	46	*e*P	Pdif	03 13 58.0	+0.9			
TUC				MLR	MLR					
	comp=Z,9µm,21.0s									
TUC	Tucson	104.73	46	*e*Pdif	Pdif	03 13 58.0	+0.9			
TUC				LR	LR					
	comp=Z,9µm,21.0s									
Q26A	Hugo	104.73	36	⇑PKiKP	PKiKP	03 18 15.4	+2.8			
	baz=105									
M30A	Dale-Ortello V	104.73	32	⇑PKiKP	PKiKP	03 18 15.7	+3.3			
	baz=105									
L31A	Buterfield Fa	104.76	31	⇓PKiKP	PKiKP	03 18 15.6	+3.2			
	baz=105									
P27A	Ficken Ranch,	104.79	35	⇑PKiKP	PKiKP	03 18 15.8	+3.2			
	baz=105									
O28A	Krutsinger Ran	104.81	35	⇑PKiKP	PKiKP	03 18 15.3	+2.7			
	baz=105									
N29A	Votaw Ranch, W	104.89	33	⇓PKiKP	PKiKP	03 18 14.9	+2.2			
	baz=105									
SPMN	Marine on St.	105.03	26	⇑PKiKP	PKiKP	03 18 14.6	+1.9			
	baz=105									
SPMN	Marine on St.	105.03	26	PFAKE		03 18 20.0				
SPMN				LR	LR					
	comp=Z,16µm,18.0s									
PNCL	Nicolau / Gran	105.13	323	*e*PP	PP	03 18 14.8	-4.0			
KSCO	Kaye Shedlock'	105.16	36	⇑PKiKP	PKiKP	03 18 15.4	+2.1			
	baz=105									
KSCO	Kaye Shedlock'	105.16	36	PFAKE		03 18 20.0				
KSCO				LR	LR					
	comp=Z,8µm,19.0s									
PVAQ	Vaqueiros	105.16	322	*e*LQ	LQ	03 44 22.5				
PVAQ				*e*LR	LR	03 51 40.5				
	comp=Z,19µm,20.0s									
N30A	Hueftle Ranch,	105.17	33	⇑PKiKP	PKiKP	03 18 14.6	+1.4			
	baz=105									
R26A	Arlington	105.21	37	⇑PKiKP	PP	03 18 20.6	+1.0			
	baz=105									
P28A	Saint Francis	105.22	35	⇑PKiKP	PP	03 18 22.3	+2.8			
	baz=105									
O29A	4D Ranch, Culb	105.31	34	⇓PKiKP	PP	03 18 19.0	-1.1			
	baz=105									
M31A	Lambtecht Ranc	105.32	32	⇓PKiKP	PP	03 18 19.0	-1.1			
	baz=105									
T25A	Trinidad	105.49	38	⇑PKiKP	PP	03 18 19.4	-2.4			
	baz=105									
T25A	Trinidad	105.49	38	PFAKE		03 18 20.0				
T25A				LR	LR					
	comp=Z,6µm,20.0s									
Q28A	Sharon Springs	105.55	35	⇑PKiKP	PKiKP	03 18 17.7	+3.7			
	baz=105									
R27A	Eads	105.58	36	⇓PKiKP	PP	03 18 21.3	-1.0			
	baz=105									
P29A	Atwood	105.63	34	⇓PKiKP	PKiKP	03 18 16.1	+2.0			
	baz=106									
O30A	MW Ranch, Wils	105.66	33	⇓PKiKP	PKiKP	03 18 19.6	+5.6			
	baz=106									
BGNE	Belgrade	105.68	31	⇑PKiKP	PP	03 18 21.4	-1.3			
	baz=106									
BGNE	Belgrade	105.68	31	PFAKE		03 18 20.0				
BGNE				LR	LR					
	comp=Z,6µm,18.0s									
S26A	Kim	105.68	37	⇑PKiKP	PKiKP	03 18 19.7	+5.4			
	baz=106									
COWI	Conover	105.70	23	PFAKE		03 18 20.0				
COWI				LR	LR					
	comp=Z,13µm,20.0s									
N31A	Bailey Ranch,	105.73	32	⇑PKiKP	PP	03 18 23.2	+0.1			
	baz=106									
ANMO	Albuquerque	105.78	41	PKKPab	PKKPab	03 29 56.1	-0.8			
	comp=Z,1.3nm,0.6s,baz=151,slow=6.2,SNR=3.9									
ANMO	Albuquerque	105.78	41	*e*P	Pdif	03 14 07.9	+6.0			
ANMO				MLR	MLR					
	comp=Z,6µm,18.0s									
ANMO	Albuquerque	105.78	41	*e*Pdif	Pdif	03 14 07.9	+6.0			
ANMO				*e*PKKPab	PKKPab	03 29 56.1	-0.8			
ANMO				LR	LR					
	comp=Z,6µm,18.0s									
T26A	Comanche Natio	105.93	38	⇓PKiKP	PP	03 18 21.9	-3.0			
	baz=106									
S27A	Las Animas	105.96	37	⇓PKiKP	PP	03 18 22.0	-3.1			
	baz=106									
P30A	Selden	106.03	34	⇓PKiKP	PP	03 18 23.8	-1.6			
	baz=106									
O31A	Woolen Ranch,	106.05	33	⇑PKiKP	PP	03 18 23.8	-1.7			
	baz=106									
R28A	Tribune	106.08	36	⇓PKiKP	PP	03 18 22.0	-3.9			
	baz=106									
N32A	Stulken Farm,	106.10	32	⇓PKiKP	PP	03 18 22.2	-3.7			
	baz=106									
Q29A	Oakley	106.13	35	⇓PKiKP	PP	03 18 19.2	-7.0			
	baz=106									
319A	Douglas	106.31	45	⇓PKiKP	PP	03 18 22.7	-5.3			
	baz=106									
R29A	Marienthal	106.38	35	⇑PKiKP	PP	03 18 22.7	-5.4			
	baz=106									
Q30A	Quinter	106.46	34	⇓PKiKP	PP	03 18 22.9	-5.8			
	baz=106									
O32A	Brockman Farm,	106.49	32	⇓PKiKP	PP	03 18 24.7	-4.1			
	baz=106									
P31A	Stockton	106.50	34	⇓PKiKP	PP	03 18 22.0	-6.8			
	baz=106									
T27A	Campo	106.50	37	⇑PKiKP	PP	03 18 23.0	-6.1			
	baz=106									
121A	Cookes Peak, D	106.54	44	⇑PKiKP	PP	03 18 26.6	-3.1			
	baz=106									
S28A	Manter	106.58	36	⇑PKiKP	PP	03 18 23.1	-6.5			
	baz=106									
T28A	Walsh	106.80	37	⇑PKiKP	PP	03 18 27.0	-4.2			
	baz=107									
P32A	Huiting Farm,	106.81	33	⇑PKiKP	PP	03 18 27.0	-4.1			
	baz=107									
Q31A	Ellis	106.87	34	⇑PKiKP	PP	03 18 27.1	-4.5			
	baz=107									
U27A	Thompson Grove	106.89	38	⇓PKiKP	PP	03 18 22.8	-9.2			
	baz=107									
R30A	Dighton	106.95	35	⇑PKiKP	PP	03 18 27.3	-4.9			
	baz=107									
S29A	Ulysses	106.98	36	⇓PKiKP	PP	03 18 27.3	-5.2			
	baz=107									
T29A	Hugoton	107.22	36	⇓PKiKP	PP	03 18 23.4	-11			
	baz=107									
U28A	Mallet	107.26	37	⇑PKiKP	PP	03 18 27.9	-6.8			
	baz=107									
Q32A	Meitler Ranch,	107.31	33	⇓PKiKP	PP	03 18 27.9	-6.9			
	baz=107									
S30A	Montezuma	107.32	35	⇑PKiKP	PP	03 18 31.5	-3.5			
	baz=107									
R31A	Burdett	107.34	34	⇓PKiKP	PP	03 18 33.2	-1.8			
	baz=107									
V27A	Dan Oppiter Fa	107.36	38	⇓PKiKP	PP	03 18 32.5	-2.9			
	baz=107									
P33A	Williams Farm,	107.41	33	⇓PKiKP	PP	03 18 31.6	-3.9			
	baz=107									
SCIA	State Center	107.56	28	PFAKE		03 18 30.0				
SCIA				LR	LR					
	comp=Z,8µm,21.0s									
R32A	Long Quarter,	107.66	34	⇓PKiKP	PP	03 18 32.1	-5.3			
	baz=108									
Q33A	Connelly Farm,	107.67	33	⇑PKiKP	PP	03 18 37.3	-0.1			
	baz=108									
V28A	Channing	107.71	38	⇑PKiKP	PP	03 18 30.5	-7.5			
	baz=108									
T30A	Plains	107.72	36	⇑PKiKP	PP	03 18 33.9	-4.0			
	baz=108									
U29A	Oasis Ranch, S	107.75	37	⇑PKiKP	PP	03 18 28.8	-9.4			
	baz=108									
S31A	Mullinville	107.86	35	⇓PKiKP	PP	03 18 32.4	-6.4			
	baz=108									
JFWS	Jewell Farm	107.97	26	PFAKE		03 18 30.0				
JFWS				LR	LR					
	comp=Z,11µm,18.0s									
V29A	Stinnett	108.02	37	⇓PKiKP	PP	03 18 34.5	-5.7			
	baz=108									
U30A	WK&E Inc. Balk	108.03	36	⇑PKiKP	PP	03 18 34.5	-5.7			
	baz=108									
W28A	Vega	108.07	38	⇓PKiKP	PP	03 18 36.1	-4.6			
	baz=108									
S32A	Newby Ranch, P	108.09	35	⇑PKiKP	PP	03 18 33.1	-7.4			
	baz=108									
R33A	Olander Ranch,	108.12	33	⇓PKiKP	PP	03 18 36.4	-4.3			
	baz=108									
T31A	Randall Ranch,	108.14	35	⇓PKiKP	PP	03 18 36.9	-4.0			
	baz=108									
KSU1	Kansas State U	108.20	32	⇑PKiKP	PP	03 18 38.5	-2.8			
	baz=108									
KSU1	Kansas State U	108.20	32	PFAKE		03 18 30.0				
KSU1				LR	LR					
	comp=Z,7µm,18.0s									
RKT	Rikitea	108.23	108	*e*PP	PP	03 18 41.0	-1.9			
	comp=Z,562nm,31.2s									
RKT				*e*SKSac	SKSac	03 24 46.9	-4.6			
	comp=Z,694nm,30.1s									
RKT				*e*Sdif	Sdif	03 26 03.2	-15			
	comp=Z,2µm,30.2s									
RKT				*e*SP	SP	03 27 57.9	-6.3			
	comp=Z,7µm,33.0s									
RKT				*e*SS	SS	03 33 54.3	-2.3			
	comp=Z,4µm,33.0s									
RKT	Rikitea	108.23	108	*e*LQ	LQ	03 44 45.8				
	comp=Z,6µm,40.2s									
RKT				*e*LR	LR	03 49 46.6				
	comp=Z,11µm,30.5s,baz=291									
T32A	Huddler Ranch,	108.48	35	⇓PKiKP	PP	03 18 40.6	-2.9			
	baz=108									
W29A	Amarillo	108.49	38	⇓PKiKP	PP	03 18 40.6	-3.0			
	baz=108									
V30A	Spur Ranch, Mi	108.57	37	⇑PKiKP	PP	03 18 39.0	-5.2			
	baz=108									
U31A	Nine Bar Ranch	108.59	36	⇓PKiKP	PP	03 18 42.5	-1.7			
	baz=108									
X28A	Dimmitt	108.60	39	⇓PKiKP	PP	03 18 40.8	-3.7			
	baz=108									
MNTX	Cornudas Mount	108.62	43	⇑PKiKP	PP	03 18 40.9	-3.8			
	baz=108									
MNTX	Cornudas Mount	108.62	43	PFAKE		03 18 30.0				
MNTX				LR	LR					
	comp=Z,6µm,20.0s									
AMTX	Amarillo	108.64	38	⇑PKiKP	PP	03 18 37.4	-7.3			
	baz=108									
AMTX	Amarillo	108.64	38	PFAKE		03 18 30.0				
AMTX				LR	LR					
	comp=Z,5µm

baz=110
HDIL Hopedale 110.34 26 PFAKE 03 18 30.0
HDIL LR LR
comp=Z,12µm,21.0s
WMOK Wichita Mounta 110.38 36 PFAKE 03 18 30.0
WMOK LR LR
comp=Z,9µm,20.0s
Y32A R-V Farms, Ver 110.55 37 ⇑PKiKP **PP 03 18 57.7 -0.8**
baz=110
W34A Bridge Creek, 110.56 35 ⇓PKiKP **PP 03 18 56.2 -2.3**
baz=110
W34A Bridge Creek, 110.56 35 PFAKE 03 18 30.0
W34A LR LR
comp=Z,6µm,19.0s
SLBS Sierra La Lagu 110.60 52 PFAKE 03 18 30.0
SLBS LR LR
comp=Z,6µm,19.0s
229A Bryant Ranch, 110.64 40 ⇑PKiKP **PP 03 18 54.9 -4.4**
baz=110
Z31A Sharp Cattle R 110.65 38 ⇓PKiKP **PP 03 19 00.4 +1.1**
baz=110
X33A Lawton 110.68 36 ⇓PKiKP **PP 03 19 00.4 +1.0**
baz=110
130A Snyder 110.69 39 ⇓PKiKP **PP 03 19 00.5 +0.8**
baz=111
329A Wagon Wheel Ra 110.87 41 ⇑PKiKP **PP 03 18 59.8 -1.2**
baz=111
AAM Ann Arbor 110.94 21 PFAKE 03 18 30.0
AAM LR LR
comp=Z,12µm,19.0s
131A Roby 110.97 39 ⇑PKiKP **PP 03 19 00.7 -0.9**
baz=111
X34A Smith Ranch, M 111.00 36 ⇓PKiKP **PP 03 19 01.5 -0.2**
baz=111
Y33A Hilltop Ranch, 111.00 37 ⇓PKiKP **PP 03 19 00.7 -1.0**
baz=111
Z32A Haskell 111.04 38 ⇑PKiKP **PP 03 19 01.1 -1.0**
baz=111
TUL1 Leonard 111.08 34 ⇑PKiKP **PP 03 19 04.6 +2.4**
baz=111
TUL1 Leonard 111.08 34 PFAKE 03 18 30.0
TUL1 LR LR
comp=Z,9µm,18.0s
W35A Tecumseh 111.10 35 ⇑PKiKP **PP 03 19 02.9 +0.6**
baz=111
230A Sterling City 111.11 40 ⇑PKiKP **PP 03 19 06.5 +3.8**
baz=111
LTX Lajitas 111.30 44 *e*P **Pdif 03 14 25.6 -0.9**
LTX *i* 03 18 25.4
LTX Lajitas 111.30 44 *e*Pdif **Pdif 03 14 25.6 -0.9**
LTX *e*PKiKP **PKiKP 03 18 25.4 +0.3**
LTX *e*PKKPbc **PKKPbc 03 29 20.5 -0.1**
LTX *e*PKKPab **PKKPab 03 29 28.9 -3.3**
TXAR Lajitas Array 111.30 44 Pdiff **Pdif 03 14 25.5 -0.9**
comp=Z,0.2nm,0.8s,baz=297,slow=0.6,SNR=2.7
TXAR PKiKP **PKiKP 03 18 25.4 +0.3**
comp=Z,2.5nm,0.7s,baz=178,slow=1.4,SNR=19
TXAR PKKPbc **PKKPbc 03 29 20.5 0.0**
comp=Z,1.6nm,0.8s,baz=151,slow=4.3,SNR=10
TXAR PKKPab **PKKPab 03 29 28.9 -3.3**
comp=Z,3.8nm,0.9s,baz=152,slow=8.2,SNR=16
PTN Potsdam (NY) 111.33 14 PFAKE 03 18 30.0
PTN LR LR
comp=Z,16µm,19.0s
SFIN Lafayette 111.37 25 ⇑PKiKP **PP 03 19 03.3 -0.6**
baz=111
SFIN Lafayette 111.37 25 PFAKE 03 18 30.0
SFIN LR LR
comp=Z,9µm,19.0s
LONY Lake Ozonia 111.37 14 *e*PKiKP **PKiKP 03 18 27.1 +2.5**
LONY *e*PP PP 03 19 10.0 +6.3
LONY LR LR
comp=Z,6µm,20.0s
330A Mertzon 111.41 40 ⇓PKiKP **PP 03 19 07.1 +2.2**
baz=111
ABTX Abilene, Hawle 111.44 39 ⇓PKiKP **PP 03 19 03.6 -1.4**
baz=111
ABTX Abilene, Hawle 111.44 39 *e*PKiKP **PKiKP 03 18 25.6 +0.6**
ABTX *e*PP **PP 03 19 05.1 +0.1**
ABTX LR LR
comp=Z,8µm,21.0s
W36A Wetumka 111.45 35 ⇓PKiKP **PP 03 19 03.6 -1.3**
baz=111
Z33A Whitaker Ranch 111.46 38 ⇑PKiKP **PP 03 19 03.6 -1.4**
baz=111
Y34A Reagan Ranch, 111.52 36 ⇑PKiKP **PP 03 19 07.2 +1.8**
baz=111
429A Davenport Ranc 111.53 42 ⇓PKiKP **PP 03 19 05.5 -0.2**
baz=111
SLM Saint Louis 111.54 28 PFAKE 03 18 40.0
SLM LR LR
comp=Z,12µm,19.0s
231A Bronte 111.55 40 ⇓PKiKP **PP 03 19 03.8 -2.0**
baz=111
TSUM Tsumeb 111.58 257 PFAKE 03 18 40.0
TSUM LR LR
comp=Z,6µm,22.0s
X35A Drake 111.62 36 ⇓PKiKP **PP 03 19 07.4 +1.3**
baz=112
529A Stev Forest Ra 111.67 42 ⇓PKiKP PP 03 19 00.6 -6.2
baz=112
PKME Peaks-Kenny Pk 111.77 10 PFAKE 03 18 40.0
PKME LR LR
comp=Z,8µm,21.0s
430A Baggett Ranch, 111.81 41 ⇑PKiKP **PP 03 19 03.8 -4.0**
baz=112
X36A Centrahoma 111.82 35 ⇓PKiKP PP 03 19 00.8 -6.7
baz=112
133A Hamilton Ranch 111.87 38 ⇓PKiKP **PP 03 19 06.2 -1.9**
baz=112
Z34A Collier Ranch, 111.87 37 ⇓PKiKP **PP 03 19 06.1 -1.8**
baz=112
331A San Angelo 111.93 40 ⇑PKiKP **PP 03 19 08.0 -0.5**
baz=112
232A Coleman 111.98 39 ⇓PKiKP **PP 03 19 04.6 -4.2**
baz=112
QSPA South Pole Qui 112.04 180 PKiKP **PKiKP 03 18 25.2 +0.1**
comp=Z,8.5nm,1.0s,baz=170,slow=0.2,SNR=9.7
QSPA South Pole Qui 112.04 180 *e*PKiKP **PKiKP 03 18 25.2 +0.1**
QSPA LR LR
comp=Z,5µm,22.0s
NCB Newcomb 112.07 14 PFAKE 03 18 40.0
NCB LR LR
comp=Z,7µm,20.0s
SUR Sutherland 112.15 243 PFAKE 03 18 40.0
SUR LR LR
comp=Z,8µm,21.0s
530A J-C Ranch, Com 112.20 42 ⇑PKiKP **PP 03 19 06.8 -3.8**
baz=112
431A Sonora 112.27 41 ⇑PKiKP **PP 03 19 06.9 -4.1**
baz=112
Z35A Perchaven, San 112.27 36 ⇓PKiKP **PP 03 19 08.6 -2.1**
baz=112
332A Millersview 112.28 40 ⇑PKiKP **PP 03 19 10.4 -0.6**
baz=112
ERPA Erie 112.29 19 PFAKE 03 18 40.0
ERPA LR LR
comp=Z,9µm,18.0s
LBNH Lisbon 112.29 12 PFAKE 03 18 40.0
LBNH LR LR
comp=Z,13µm,20.0s
233A Rising Star 112.31 39 ⇑PKiKP **PP 03 19 14.0 +2.7**
baz=112
MMNY Mt. Morris Dam 112.32 17 PFAKE 03 18 40.0
MMNY LR LR
comp=Z,19µm,19.0s
X37A Clayton 112.32 34 ⇑PKiKP **PP 03 19 07.0 -4.1**
baz=112
134A White-Moore Ra 112.38 38 ⇓PKiKP **PP 03 19 12.3 +0.7**
baz=112
W38A Poteau 112.39 33 ⇑PKiKP **PP 03 19 15.1 +3.6**
baz=112
432A Menard 112.62 40 ⇑PKiKP **PP 03 19 12.8 -0.7**
baz=112
BLO Bloomington 112.63 25 PFAKE 03 18 40.0
BLO LR LR
comp=Z,12µm,19.0s
ALLY Alegheny Colle 112.67 19 PFAKE 03 18 40.0
ALLY LR LR
comp=Z,10µm,19.0s
531A Rocksprings 112.67 41 ⇓PKiKP **PP 03 19 11.4 -2.5**
baz=112
ACCN Adirondack Com 112.75 14 PFAKE 03 18 40.0
ACCN LR LR
comp=Z,11µm,21.0s
SIUC Southern Illin 112.75 28 *e*PKiKP **PKiKP 03 18 24.6 -2.8**
SIUC *e*PP **PP 03 19 18.3 +4.4**
SIUC LR LR
comp=Z,13µm,20.0s
135A Vickery Place, 112.76 37 ⇑PKiKP **PP 03 19 13.1 -1.2**
baz=113
234A Clairette 112.76 38 ⇓PKiKP **PP 03 19 14.8 +0.4**
baz=113
333A Richland Sprin 112.77 39 ⇑PKiKP **PP 03 19 11.4 -3.1**
baz=113
JCT Junction City 112.90 40 ⇓PKiKP **PP 03 19 11.9 -3.5**
baz=113
JCT Junction City 112.90 40 *e*PKiKP **PKiKP 03 18 27.9 0.0**
JCT *e*PP **PP 03 19 14.7 -0.8**
JCT LR LR
comp=Z,8µm,22.0s
PBMO Poplar Bluff 112.99 29 *e*PKiKP **PKiKP 03 18 26.2 -1.7**
PBMO *e*PP **PP 03 19 19.8 +4.2**
ACSO Alum Creek Sta 113.02 22 PFAKE 03 18 40.0
ACSO LR LR
comp=Z,13µm,19.0s
532A Rocksprings 113.09 41 ⇑PKiKP **PP 03 19 13.7 -3.1**
baz=113
433A Art 113.12 40 ⇓PKiKP **PP 03 19 13.8 -3.2**
baz=113
WHTX Lake Whitney, 113.16 38 ⇓PKiKP **PP 03 19 15.6 -1.6**
baz=113
WHTX Lake Whitney, 113.16 38 PFAKE 03 18 40.0
WHTX LR LR
comp=Z,8µm,18.0s
631A Perdido Creek 113.19 42 ⇓PKiKP **PP 03 19 16.0 -1.5**
baz=113
334A Lometa 113.20 39 ⇓PKiKP **PP 03 19 15.7 -1.9**
baz=113
USIN University of 113.20 27 PFAKE 03 18 40.0
USIN LR LR
comp=Z,11µm,19.0s
TOA0 Torodi Ar. Sit 113.25 296 *e*Pdif **Pdif 03 14 35.1 -0.1**
TOA0 *e*PKiKP **PKiKP 03 18 28.3 -0.6**
TOA0 *e*PKKPbc **PKKPbc 03 29 14.8 +1.2**
TOA0 *e*PKKPab **PKKPab 03 29 24.2 +1.5**
TORD Torodi Ar. Bea 113.25 296 Pdiff **Pdif 03 14 35.1 -0.1**
comp=Z,0.6nm,1.1s,baz=190,slow=7.3,SNR=2.6
TORD PKiKP **PKiKP 03 18 28.3 -0.6**
comp=Z,5.6nm,1.0s,baz=36,slow=2.1,SNR=9.7
TORD PKKPbc **PKKPbc 03 29 14.8 +1.2**
comp=Z,2.9nm,0.8s,baz=250,slow=1.4,SNR=15
TORD PKKPab **PKKPab 03 29 24.2 +1.5**
comp=Z,3.0nm,0.8s,baz=252,slow=1.4,SNR=8.8
MIAR Mount Ida 113.28 33 *e*PKiKP **PKiKP 03 18 29.9 +1.4**
MIAR *e*PP **PP 03 19 15.4 -2.4**
MIAR LR LR
comp=Z,7µm,18.0s
BINY Binghamton 113.32 16 PFAKE 03 18 40.0
BINY LR LR
comp=Z,15µm,20.0s
PARMO Parma 113.39 29 *e*PKiKP **PKiKP 03 18 27.8 -0.8**
PARMO *e*PP **PP 03 19 19.8 +1.3**
434A Burnet 113.56 39 ⇓PKiKP **PP 03 19 19.8 -0.3**
baz=113
PGRA Graciosa 113.58 336 *e*PKS PP 03 19 26.4 +6.7
PGRA Graciosa 113.58 336 *e*LR LR 03 53 36.4
comp=Z,930nm,19.4s
632A Uvalde 113.61 41 ⇓PKiKP PP 03 19 14.7 -5.8
baz=114
PVMO Portageville 113.62 29 PFAKE 03 18 40.0
PVMO LR LR
comp=Z,15µm,20.0s
137A Heron Place, G 113.64 36 ⇑PKiKP **PP 03 19 19.0 -1.5**
baz=114
533A Kerrville 113.65 40 ⇑PKiKP **PP 03 19 16.1 -4.7**
baz=114
335A Moody 113.70 38 ⇓PKiKP **PP 03 19 18.4 -2.7**
baz=114
PSET Sete Cidades 113.74 334 *e*PKS **PP 03 19 25.8 +4.8**
PSET Sete Cidades 113.74 334 *e*LR LR 03 53 14.0
comp=Z,562nm,24.7s
ROSA Rosais 113.94 336 *e*PKS PP 03 19 28.3 +6.0
ROSA Rosais 113.94 336 *e*LR LR 03 53 55.2
comp=Z,313nm,23.7s
336A Riesel 113.96 38 ⇑PKiKP **PP 03 19 22.3 -0.5**
baz=114
138A Matatall Enter 113.96 35 ⇓PKiKP **PP 03 19 20.6 -2.2**
baz=114
KSPA Keystone Colle 113.98 16 PFAKE 03 18 40.0
KSPA LR LR
comp=Z,14µm,19.0s
435B Jarrell 113.98 39 ⇓PKiKP **PP 03 19 22.4 -0.7**
baz=114
633A Saathoff Ranch 114.01 41 ⇓PKiKP **PP 03 19 19.0 -4.3**
baz=114
534A Blanco 114.02 40 ⇑PKiKP **PP 03 19 22.5 -0.9**
baz=114
HRV Adam Dziewonsk 114.03 12 PFAKE 03 18 40.0 +10
HRV LR LR
comp=Z,13µm,21.0s
732A Laxson Ranch, 114.05 42 ⇑PKiKP **PP 03 19 22.5 -1.1**
baz=114
237A Washetta, Mont 114.07 36 ⇓PKiKP **PP 03 19 22.5 -1.1**
baz=114
PSMN Pico do Norte, 114.17 333 *e*PKS **PP 03 19 23.9 -0.1**
PSMN Pico do Norte, 114.17 333 *e*LR LR 03 53 15.5
comp=Z,493nm,17.8s
SSPA Standing Stone 114.27 18 PFAKE 03 18 40.0 +10
SSPA LR LR
comp=Z,10µm,19.0s
832A Faith Ranch, C 114.36 42 ⇑PKiKP **PP 03 19 23.1 -2.7**
baz=114
238A Jacksonville 114.44 36 ⇓PKiKP **PP 03 19 23.2 -3.0**
baz=114
436A Wall Ranch, Ga 114.44 38 ⇑PKiKP **PP 03 19 21.5 -4.8**
baz=114
733A Dixon King Ran 114.47 41 ⇑PKiKP PP 03 19 19.9 -6.7
baz=114
337A Centerville 114.55 37 ⇑PKiKP PP 03 19 20.0 -7.0
baz=114
535A Dale 114.55 39 ⇑PKiKP PP 03 19 20.8 -6.3
baz=114
634A China Grove, S 114.56 40 ⇓PKiKP **PP 03 19 25.2 -2.0**
baz=114
WVT Waverly 114.68 28 *e*PKiKP PKPdf 03 18 30.7 -0.4
WVT MLR MLR
comp=Z,12µm,19.0s
WVT Waverly 114.68 28 *e*PKiKP **PKiKP 03 18 30.7 -0.4**
WVT *e*PP PP 03 19 21.5 -6.1
WVT LR LR
comp=Z,12µm,19.0s
833A Chaparral WMA, 114.69 42 ⇓PKiKP PP 03 19 22.0 -6.1
baz=115
ODNJ Ogdensburg 114.72 15 PFAKE 03 18 40.0 +8.9
ODNJ LR LR
comp=Z,10µm,21.0s
437A Phantom Ranch, 114.77 37 ⇓PKiKP PP 03 19 34.3 +5.7
baz=115
239A Gary 114.78 35 ⇓PKiKP **PP 03 19 29.1 +0.5**
baz=115
734A La Parita Cree 114.82 41 ⇓PKiKP **PP 03 19 31.0 +1.9**
baz=115
338A Crockett 114.83 37 ⇓PKiKP **PP 03 19 29.2 +0.2**
baz=115
635A Leesville 114.90 40 ⇓PKiKP **PP 03 19 28.8 -0.7**
baz=115
PAL Palisades 114.96 15 PFAKE 03 18 40.0 +8.5
PAL LR LR
comp=Z,13µm,20.0s
CPNY Central Park 115.15 15 PFAKE 03 18 40.0 +8.1
CPNY LR LR
comp=Z,8µm,22.0s
438A Sam Houston St 115.20 37 ⇓PKiKP PP 03 19 36.9 +5.3
baz=115
537A Green Hill Far 115.23 38 ⇓PKiKP **PP 03 19 35.2 +3.3**
baz=115
636A Smothers Creek 115.25 39 ⇓PKiKP **PP 03 19 31.7 -0.3**
baz=115
339A Huntington 115.27 36 ⇑PKiKP **PP 03 19 37.0 +5.0**
baz=115
735A Kenedy 115.27 40 ⇑PKiKP **PP 03 19 31.8 -0.4**
baz=115
933A Laredo 115.27 42 ⇑PKiKP **PP 03 19 35.3 +3.0**
baz=115
MVL Millersville 115.29 17 PFAKE 03 18 40.0 +7.8
MVL LR LR
comp=Z,14µm,20.0s
834A Tilden 115.35 41 ⇑PKiKP **PP 03 19 37.2 +4.4**
baz=115
340A Bronson 115.56 35 ⇑PKiKP PP 03 19 39.3 +5.2
baz=115
439A Center Grove, 115.56 37 ⇑PKiKP **PP 03 19 35.8 +1.7**
baz=115
538A Harpers Horsep 115.60 37 ⇓PKiKP **PP 03 19 37.6 +3.3**
baz=116
HKT Hockley 115.61 38 *e*PKiKP **PKPdf 03 18 31.0 -2.0**
HKT *e* 03 19 36.2
HKT MLR MLR
comp=Z,6µm,20.0s
HKT Hockley 115.61 38 *e*PKPdf **PKPdf 03 18 31.0 -2.0**
HKT *e*PP **PP 03 19 36.2 +1.8**
HKT LR LR
comp=Z,6µm,20.0s
736A Circle Diamond 115.63 40 ⇓PKiKP **PP 03 19 36.0 +1.3**
baz=116
835A Beeville 115.67 41 ⇓PKiKP **PP 03 19 36.1 +1.1**
baz=116
934A Benavides 115.75 42 ⇓PKiKP **PP 03 19 39.7 +4.1**
baz=116
034A Hebbronville 116.03 42 ⇑PKiKP **PP 03 19 38.5 +0.9**
baz=116
SWET Sewanee 116.27 27 *e*PKPdf **PKPdf 03 18 37.8 +3.5**
SWET *e*PP **PP 03 19 38.3 -0.5**
035A Encino 116.48 42 ⇑PKiKP **PP 03 19 41.1 +0.4**
baz=116
738A Farr-Stevens R 116.55 39 ⇑PKiKP **PP 03 19 41.2 +0.1**
baz=116
BLA Blacksburg 116.61 22 PFAKE 03 18 50.0 +15
BLA LR LR
comp=Z,8µm,20.0s
936A North Padre Is 116.61 41 ⇓PKiKP **PP 03 19 41.4 -0.3**
baz=116
CBN Corbin Frederi 116.67 19 PFAKE 03 18 50.0 +15
CBN LR LR
comp=Z,11µm,20.0s
VBMS Vicksburg 116.67 32 PFAKE 03 18 50.0 +15
VBMS LR LR
comp=Z,12µm,18.0s
TKL Tuckaleechee C 116.76 25 *e*PKiKP **PKPdf 03 18 34.3 -0.9**
TKL Tuckaleechee C 116.76 25 *e*PKPdf **PKPdf 03 18 34.3 -0.9**
TKL *e*PP PP 03 19 35.9 -6.3
035Z Hargill 116.84 42 ⇓PKiKP **PP 03 19 43.6 +0.3**
baz=117
LRAL Lakeview Retre 117.66 29 *e*PKPdf **PKPdf 03 18 36.3 -0.6**
LRAL *e*PP **PP 03 19 50.9 +2.4**
LRAL LR LR
comp=Z,10µm,20.0s
NVL N'lazarevskaya 118.03 200 *e*PKiKP **PKPdf 03 18 36.5 +0.1**
NVL *e*PPP PPP 03 25 18.2
NVL *e*S **PS 03 29 38.7 +1.6**
NVL *e*SP SP 03 31 02.9 +90
NVL pmax pmax
comp=Z,11nm,0.8s
NVL MLR MLR
comp=Z,2µm,15.0s
KMSC Kings Mountain 118.14 23 ⇑PKiKP **PP 03 19 50.4 -1.4**
baz=118
KMSC Kings Mountain 118.14 23 PFAKE 03 18 50.0 +12
KMSC LR LR
comp=Z,12µm,19.0s
GOGA Godfrey 118.85 26 PFAKE 03 18 50.0 +11
GOGA LR LR
comp=Z,13µm,19.0s
CNNC Cliffs of the 119.24 20 PFAKE 03 18 50.0 +10
CNNC LR LR
comp=Z,12µm,20.0s
BRAL Brewton 119.33 30 PFAKE 03 18 50.0 +10
BRAL LR LR
comp=Z,8µm,19.0s
NHSC New Hope 120.39 23 PFAKE 03 18 50.0 +7.8
NHSC LR LR
comp=Z,12µm,19.0s
TIGA Tifton 120.51 27 ⇑PKiKP PP 03 20 02.6 -5.6
baz=120
TIGA Tifton 120.51 27 PFAKE 03 18 50.0 +7.5
TIGA LR LR
comp=Z,10µm,18.0s
DBIC Dimbokro 122.12 294 PKP **PKPdf 03 18 45.1 -0.8**
comp=Z,9.3nm,0.9s,baz=91,slow=3.9,SNR=7.1
DBIC PP **PP 03 20 20.6 +0.1**
comp=Z,20nm,1.2s,baz=52,slow=7.2,SNR=4.8
DBIC PKKPab **PKKPab 03 28 43.5 -0.3**
comp=Z,4.0nm,0.9s,baz=223,slow=5.8,SNR=3.9
DBIC Dimbokro 122.12 294 PKiKP **PKPdf 03 18 45.1 -0.8**
DBIC 03 20 20.6
DBIC pmax pmax
comp=Z,9.0nm,0.9s
DBIC pmax pmax
comp=Z,20nm,1.2s
DBIC Dimbokro 122.12 294 *e*PKPdf **PKPdf 03 18 44.2 -1.7**
DBIC *e*PP **PP 03 20 17.9 -2.6**
SNAA Sanae 122.14 197 P **PKPdf 03 18 43.7 -0.7**
SNAA Sanae 122.14 197 *e*PKiKP **PKPdf 03 18 44.3 -0.1**
SNAA *e* 03 20 17.2
SNAA MLR MLR
comp=Z,5µm,21.0s
SNAA Sanae 122.14 197 *e*PKPdf **PKPdf 03 18 44.3 -0.1**
SNAA *e*PP **PP 03 20 17.2 -2.3**
SNAA LR LR
comp=Z,5µm,21.0s
KIC Kosan Boka 122.18 293 *e*P **PKPdf 03 18 44.5 -1.6**
comp=Z,104nm,1.3s
TIC Toumodi 122.27 294 *e*P **PKPdf 03 18 45.7 -0.6**
comp=Z,24nm,0.6s
LIC Lamto 122.49 293 *e*PKiKP **PKPdf 03 18 46.5 -0.2**
comp=Z,65nm,1.1s
LIC *e*R
comp=Z,10µm,23.0s
LIC Lamto 122.49 293 *e*P **PKPdf 03 18 46.8 +0.1**
comp=Z,75nm,1.1s
LIC Lamto 122.49 293 *e*PKPdf **PKPdf 03 18 46.5 -0.2**
VNA2 Neumayer--Watz 123.78 197 P **PKPdf 03 18 48.0 +0.5**
baz=67,slow=1.2
VNA1 Neumayer--Stat 124.18 197 P **PKPdf 03 18 48.1 -0.1**
VNA3 Neumayer Olymp 124.22 196 P **PKPdf 03 18 46.8 -1.6**
BBSR BB Station 125.09 9 PFAKE 03 19 00.0 +8.8
BBSR LR LR
comp=Z,8µm,20.0s
CMIG Matias Romero 125.56 47 PKP **PKPdf 03 18 51.1 -1.4**
comp=Z,10nm,0.7s,baz=326,slow=2.6,SNR=16
TEIG Tepich 127.43 39 PFAKE 03 19 10.0 +14
TEIG LR LR
comp=Z,6µm,21.0s
SACV Santiago Islan 131.15 316 PFAKE 03 19 10.0 +6.8
SACV LR LR
comp=Z,8µm,22.0s
GRTK Grand Turk 134.13 20 PFAKE 03 19 20.0 +11
GRTK LR LR
comp=Z,8µm,21.0s
GTBY Guantanamo Bay 134.19 25 PFAKE 03 19 20.0 +11
GTBY LR LR
comp=Z,7µm,20.0s
MTDJ Mount Denham 134.68 29 PFAKE 03 19 20.0 +10
MTDJ LR LR
comp=Z,6µm,20.0s
SSN San Juan del S 135.75 44 PFAKE 03 19 20.0 +8.1
SSN LR LR
comp=Z,10µm,19.0s
SDDR Presa de Saban 136.45 21 PFAKE 03 19 20.0 +6.9
SDDR LR LR
comp=Z,15µm,21.0s
JTS JuntasAbangare 137.09 44 PKP **PKPdf 03 19 14.2 -0.2**
comp=Z,9.9nm,0.8s,baz=243,slow=7.7,SNR=4.9
JTS JuntasAbangare 137.09 44 PKiKP **PKPdf 03 19 14.2 -0.2**
JTS pmax pmax
comp=Z,10.0nm,0.8s
ASCN Ascension 137.35 283 PFAKE 03 19 20.0 +5.2
ASCN LR LR
comp=Z,7µm,22.0s
AGP Aguadilla 138.20 16 PFAKE 03 19 30.0 +14
AGP LR LR
comp=Z,7µm,21.0s
CRPR Cabo Rojo, PR 138.60 16 PFAKE 03 19 30.0 +13
CRPR LR LR
comp=Z,3µm,20.0s
CBYP Canovanas 138.64 14 PFAKE 03 19 30.0 +13
CBYP LR LR
comp=Z,6µm,20.0s
SJG San Juan 138.73 14 PFAKE 03 19 30.0 +13
SJG LR LR
comp=Z,27µm,20.0s
STVI Saint Thomas 138.75 13 PFAKE 03 19 30.0 +13
STVI LR LR
comp=Z,6µm,22.0s
HUMP Col San Antoni 138.77 14 PFAKE 03 19 30.0 +13
HUMP LR LR
comp=Z,8µm,22.0s
MTP Monte Pirata 138.88 14 PFAKE 03 19 30.0 +12

MTP					LR	LR		
	comp=Z,7μm,22.0s							
ANWB	**Willy Bob**	**139.96**	**8**	*eP*	**PP**	**03 22 19.2 +5.0**		
ANWB	**Willy Bob**	**139.96**	**8**	PFAKE		03 19 30.0 +10		
ANWB				LR	LR			
	comp=Z,6μm,21.0s							
BCIP	**Isla Barro Col**	**141.12**	**39**	*e*PKPpre	PKPpre	03 19 18.3		
BCIP				LR	LR			
	comp=Z,6μm,20.0s							
FDF	**Fort de France**	**142.93**	**8**	*eP*	**PP**	**03 22 36.7 +4.3**		
HOPE	**Hope Point**	**144.72**	**200**	*e*PKPdf	PKPbc	03 19 25.9 +0.2		
GRW	**Mount Saint Ca**	**145.39**	**9**	*e*	**PKPdf**	**03 19 30.5 +1.2**		
GRGR	**Grenville**	**145.42**	**9**	*e*PKPdf	**PKPbc**	**03 19 28.4 -0.7**		
GRGR				LR	LR			
	comp=Z,6μm,21.0s							
SDV	**Santo Domingo**	**145.98**	**26**	*e*PKPdf	**PKPdf**	**03 19 30.8 +0.3**		
SDV				LR	LR			
	comp=Z,6μm,21.0s							
USHA	**Ushuaia**	**146.18**	**167**	PKPbc	**PKPab**	**03 19 30.8 -0.2**		
	comp=Z,153nm,1.0s,baz=174,slow=5.6,SNR=23							
BOT	**Bacolet**	**146.50**	**8**	*e*	**PKPab**	**03 19 35.4 +2.0**		
PCRV	**Puerto La Cruz**	**146.74**	**15**	PKPbc	**PKPdf**	**03 19 31.8 +0.2**		
	comp=Z,22nm,0.6s,baz=40,slow=1.9,SNR=17							
TRN	**Trinidad (W)**	**146.92**	**9**	*e*	**PKPbc**	**03 19 34.1 +0.5**		
TBH	**Brigand Hill**	**147.13**	**9**	*e*	**PKPab**	**03 19 37.1 +1.2**		
TPP	**Pointe-a-Pierr**	**147.24**	**10**	*e*	**PKPab**	**03 19 36.6 +0.4**		
ROSC	**El Rosal**	**147.74**	**36**	PKPbc	**PKPdf**	**03 19 34.5 +0.7**		
	comp=Z,12nm,0.7s,baz=96,slow=4.7,SNR=10							
ROSC	**El Rosal**	**147.74**	**36**	*e*PKPbc	**PKPbc**	**03 19 36.5 0.0**		
OTAV	**Otavalo**	**148.85**	**47**	*e*PKPbc	**PKPbc**	**03 19 40.0 +0.4**		
OTAV				LR	LR			
	comp=Z,6μm,21.0s							
EFI	**East Falkland**	**150.58**	**178**	*e*PKIKP	**PKPbc**	**03 19 41.3 -0.7**		
EFI	**East Falkland**	**150.58**	**178**	*e*PKPbc	**PKPbc**	**03 19 41.2 -0.7**		
RCBR	**Riachuelo**	**154.50**	**307**	PKPbc	**PKPbc**	**03 19 51.8 -0.2**		
	comp=Z,15nm,1.0s,baz=322,slow=4.6,SNR=4.4							
RCBR	**Riachuelo**	**154.50**	**307**	*e*PKPbc	**PKPbc**	**03 19 51.8 -0.2**		
RCBR				LR	LR			
	comp=Z,8μm,22.0s							
NNA	**Nana**	**157.81**	**66**	PKP	**PKPdf**	**03 19 48.5 +0.6**		
	comp=Z,10nm,0.9s,baz=256,slow=10,SNR=3.8							
NNA	**Nana**	**157.81**	**66**	PKIKP	**PKPdf**	**03 19 48.5 +0.6**		
NNA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
NNA	**Nana**	**157.81**	**66**	*e*PKPdf	**PKPdf**	**03 19 48.6 +0.7**		
NNA				LR	LR			
	comp=Z,4μm,20.0s							
PLCA	**Paso Flores**	**157.92**	**150**	PKP	**PKPdf**	**03 19 47.5 +0.1**		
	comp=Z,6.4nm,1.1s,baz=266,slow=4.0,SNR=6.3							
PLCA	**Paso Flores**	**157.92**	**150**	PKIKP	**PKPdf**	**03 19 47.5 +0.1**		
PLCA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
PLCA	**Paso Flores**	**157.92**	**150**	*e*PKPdf	**PKPdf**	**03 19 48.6 +1.2**		
PTGA	**Pitinga**	**158.31**	**10**	PKP	**PKPdf**	**03 19 49.3 +0.8**		
	comp=Z,4.9nm,0.5s,baz=168,slow=3.4,SNR=4.9							
PTGA				PKPab	PKPab	03 20 24.2 +1.7		
	comp=Z,15nm,0.2s,baz=359,slow=4.2,SNR=14							
PTGA	**Pitinga**	**158.31**	**10**	*e*PKPdf	**PKPdf**	**03 19 49.5 +0.9**		
PTGA				*e*PKPab	**PKPab**	**03 20 26.5 +4.0**		
PTGA				LR	LR			
	comp=Z,5μm,20.0s							
TRQA	**Tornquist**	**163.47**	**164**	*e*PKPdf	**PKPdf**	**03 19 53.6 +0.2**		
TRQA				*e*PKPab	**PKPab**	**03 20 44.6 +0.1**		
SAML	**Samuel**	**165.17**	**28**	*e*PKPdf	**PKPdf**	**03 19 56.1 +0.5**		
SAML				*e*PKPab	**PKPab**	**03 20 54.6 +2.2**		
LCO	**Las Campanas**	**165.28**	**120**	*e*PKPdf	**PKPdf**	**03 19 56.2 +0.6**		
LCO				*e*PKPab	**PKPab**	**03 20 55.4 +2.1**		
CFAA	**Coronel Fontan**	**165.78**	**134**	PKP	**PKPdf**	**03 19 56.3 +0.6**		
	comp=Z,0.9nm,1.0s,baz=329,slow=2.3,SNR=6.2							
CFAA				PKPab	**PKPab**	**03 20 57.0 +2.1**		
	comp=Z,0.9nm,0.8s,baz=259,slow=4.7,SNR=3.8							
LPAZ	**La Paz**	**167.26**	**64**	PKP	**PKPdf**	**03 19 59.0 +1.0**		
	comp=Z,12nm,1.1s,baz=11,slow=2.9,SNR=30							
LPAZ				PKPab	**PKPab**	**03 21 04.6 +2.0**		
	comp=Z,7.7nm,0.8s,baz=9.2,slow=7.3,SNR=4.0							
LPAZ	**La Paz**	**167.26**	**64**	*e*PKIKP	**PKPdf**	**03 19 58.9 +1.0**		
LPAZ				*e*		03 21 02.1		
LPAZ	**La Paz**	**167.26**	**64**	*e*PKPdf	**PKPdf**	**03 19 58.9 +0.9**		
LPAZ				*e*PKPab	**PKPab**	**03 21 02.1 -0.6**		
LVC	**Limon Verde**	**168.22**	**94**	PKP	**PKPdf**	**03 19 59.3 +1.3**		
	comp=Z,53nm,1.1s,baz=227,slow=2.6,SNR=8.0							
LVC				PKPab	**PKPab**	**03 21 08.5 +2.1**		
	comp=Z,46nm,1.0s,baz=297,slow=9.0,SNR=1.9							
LVC	**Limon Verde**	**168.22**	**94**	*e*PKPdf	**PKPdf**	**03 19 59.6 +1.7**		
LVC				*e*PKPab	**PKPab**	**03 21 08.5 +2.1**		
BDFB	**Brasilia**	**169.86**	**309**	PKP	**PKPdf**	**03 19 58.3 -0.7**		
	comp=Z,10nm,0.9s,baz=126,slow=2.8,SNR=13							
BDFB				PKPab	**PKPab**	**03 21 14.8 +1.4**		
	comp=Z,12nm,0.9s,baz=118,slow=6.0,SNR=5.4							
BDFB	**Brasilia**	**169.86**	**309**	*e*PKPdf	**PKPdf**	**03 19 58.7 -0.3**		
BDFB				*e*PKPab	**PKPab**	**03 21 13.6 +0.1**		
SIV	**San Ignacio**	**172.26**	**37**	PKP	**PKPdf**	**03 20 00.2 0.0**		
	comp=Z,4.6nm,0.8s,baz=194,slow=1.8,SNR=16							
SIV				PKPab	**PKPab**	**03 21 25.6 +1.8**		
	comp=Z,18nm,1.2s,baz=329,slow=5.8,SNR=5.1							
CPUP	**Villa Florida**	**175.80**	**166**	PKP	**PKPdf**	**03 20 00.6 -0.4**		
	comp=Z,1.6nm,1.0s,baz=207,slow=8.9,SNR=4.1							
CPUP				PKPab	**PKPab**	**03 21 40.4 +1.2**		
	comp=Z,4.7nm,0.9s,baz=168,slow=4.3,SNR=9.3							
CPUP	**Villa Florida**	**175.80**	**166**	*e*PKPdf	**PKPdf**	**03 20 00.9 -0.1**		
CPUP				*e*PKPab	**PKPab**	**03 21 39.9 +0.7**		

LJU 26 03:11:15.3, 46°00N×14°24E, h6km, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRNS	**Crni Vrh**	**0.08**	**9**	*i* Pg	Pg	03 11 17.3	+0.1
CRNS				*i* Sg	Sg	03 11 18.6	0.0
JAVS	**Javornik**	**0.17**	**229**	*i* Sg	Sg	03 11 21.2	+0.1
VOJS	**Vojsko**	**0.25**	**277**	*i* Pg	Pg	03 11 20.3	-0.1
VOJS				*i* Sg	Sg	03 11 24.2	+0.4
CEY	**Cerknica**	**0.29**	**154**	*i* Sg	Sg	03 11 25.4	+0.4

GUC 26 03:21:42.8±0.6, 34°31S×72°09W, h36km±4km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.99**	**134**	*i* P	Pn	03 22 00.8	+0.7
NICH				*i* S	Sn	03 22 14.1	+1.2
NICH				AML	AML	03 22 17.0	
	comp=E,4μm,0.7s						
TALC	**Talca**	**1.15**	**161**	*i* P	Pn	03 22 03.2	+0.9
TALC				*i* S	Sn	03 22 18.3	+1.5
TALC				AML	AML	03 22 22.0	
	comp=E,8μm,0.1s						
CLCH	**Cerro Calan**	**1.58**	**55**	*i* P	Pn	03 22 10.0	+1.6
CLCH				*i* S	Sn	03 22 30.8	+3.0
CLCH				AML	AML	03 22 42.1	
	comp=E,719nm,0.4s						
ROCH	**El Roble**	**1.61**	**34**	*i* P	Pn	03 22 10.4	+1.4
ROCH				*i* S	Sn	03 22 32.6	+3.9
ROCH				AML	AML	03 22 38.6	
	comp=E,669nm,0.5s						
PEL	**Peldehue**	**1.65**	**46**	*i* P	Pn	03 22 11.1	+1.7
PEL				*i* S	Sn	03 22 33.0	+3.6
PEL				AML	AML	03 22 43.0	
	comp=N,993nm,0.4s						
YECH	**El Yeso**	**1.79**	**69**	*i* P	Pn	03 22 14.0	+2.4
YECH				*i* S	Sn	03 22 37.3	+4.0
YECH				AML	AML	03 22 43.5	
	comp=N,559nm,0.4s						

*IDC **26** 03:23:42.1±0.8, 22°17N×123°73E, h0km, mb3.7/10, mb1 4.0/12, mb1mx3.8/36, mbtmp3.9/12, ML4.1/2, Error ellipse: s-maj=23.5km s-min=15.5km az=79.0*
*ISCJB **26** 03:23:43.8±0.3, 22°27N±0°02×123°83E±0°03, h33km, mb4.0/14, Error ellipse: s-maj=4.4km s-min=3.1km az=34.2*
*NEIC **26** 03:23:43.1±0.5, 22°23N×123°74E, h10km, mb4.6/5, Error ellipse: s-maj=9.3km s-min=8.4km az=47.0*
*JMA **26** 03:23:45.0±0.4, 22°32N×123°70E, h63km, M4.2*
ISC 26 03:23:46.1±0.7, 22°26N±0°05×123°82E±0°04, h35km, n56, σ2s03/77, mb3.7/14, 1D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.79**	**360**	P	**Pn**	**03 24 13.9**	**-0.6**
HATJ				S	**Sn**	**03 24 34.0**	**-2.0**
JKRS	**Kuro-shima**	**1.98**	**5**	P	**Pn**	**03 24 16.7**	**-0.4**
JKRS				S	**Sn**	**03 24 39.2**	**-1.4**
IRIF	**Iriomote-Funau**	**2.07**	**358**	P	**Pn**	**03 24 18.0**	**-0.3**
IRIF				S	**Sn**	**03 24 41.1**	**-1.8**
JIJ	**Ishigaki jima**	**2.12**	**8**	P	**Pn**	**03 24 18.0**	**-1.0**
JIJ				S	**Sn**	**03 24 41.3**	**-2.8**
YOJ	**Yonaguni jima**	**2.32**	**341**	P	**Pn**	**03 24 21.5**	**-0.2**
YOJ				S	**Sn**	**03 24 46.1**	**-2.9**
YOJ	**Yonaguni jima**	**2.32**	**341**	*e*Pn	**Pn**	**03 24 21.3**	**-0.4**
YOJ				*e*S	**Sn**	**03 24 46.0**	**-2.9**
JYNG	**Yonagunijimaku**	**2.33**	**340**	P	**Pn**	**03 24 21.4**	**-0.5**
JYNG				S	**Sn**	**03 24 46.7**	**-2.5**
JISG	**Ishigakijimahi**	**2.36**	**11**	P	**Pn**	**03 24 21.2**	**-1.1**
JTJ	**Tarama**	**2.51**	**19**	P	**Pn**	**03 24 23.5**	**-0.8**
JTJ				S	**Sn**	**03 24 53.0**	**-0.7**
YULB	**Yu-li**	**2.59**	**296**	*e*Pn	**Pn**	**03 24 23.1**	**-2.4**
YULB				*e*S	**Sn**	**03 24 54.8**	**-0.9**
TWG	**Pinlang**	**2.60**	**283**	*e*Pn	**Pn**	**03 24 23.3**	**-2.3**
TWG				*e*S	**Sn**	**03 24 53.5**	**-2.5**
NACB	**Ninganchiao**	**2.80**	**313**	*e*Pn	**Pn**	**03 24 26.6**	**-1.7**
NACB				*e*S	**Sn**	**03 24 55.0**	**-5.8**
JIRB	**Irabujima**	**2.84**	**26**	P	**Pn**	**03 24 28.3**	**-0.7**
JIRB				S	**Sn**	**03 25 00.5**	**-1.5**
JMJ	**Miyako jima 2**	**2.88**	**28**	P	**Pn**	**03 24 29.4**	**-0.1**
JMJ				S	**Sn**	**03 25 02.2**	**-0.8**
JOGS	**Gusukube**	**2.89**	**30**	P	**Pn**	**03 24 29.2**	**-0.3**
JOGS				S	**Sn**	**03 25 02.4**	**-0.6**
JIKM	**Ikemajima**	**2.96**	**26**	P	**Pn**	**03 24 30.5**	**-0.1**
JIKM				S	**Sn**	**03 25 04.0**	**-0.9**
SSLB	**Suanglung**	**3.05**	**301**	*e*Pn	**Pn**	**03 24 30.5**	**-1.4**
SSLB				*e*S	Sn	03 24 59.0	-8.1
TPUB	**Ta-pu**	**3.12**	**290**	*e*Pn	**Pn**	**03 24 32.6**	**-0.2**
TPUB				*e*S	**Sn**	**03 25 08.4**	**-0.5**
YHNB	**Yeheng**	**3.29**	**317**	*e*Pn	**Pn**	**03 24 34.5**	**-0.7**
YHNB				*e*S	Sn	03 25 04.3	-8.7
TATO	**Taipei**	**3.45**	**322**	*e*Pn	**Pn**	**03 24 36.3**	**-1.0**
TATO				*e*S	Sn	03 25 05.0	-12
SGCP	**Mt. Cagua**	**4.33**	**203**	*e*P	**Pn**	**03 24 48.2**	**-1.2**
SGCP				*e*S	Sn	03 24 53.6	-45
JKE	**Kume jima 2**	**4.87**	**33**	P	**Pn**	**03 24 55.3**	**-1.6**
JKE				S	**Sn**	**03 25 48.6**	**-3.4**
PIP	**Pasuquin**	**4.93**	**218**	⇓*i*P	**Pn**	**03 24 56.5**	**-1.2**
APYP	**Conner**	**5.00**	**209**	*e*P	**Pn**	**03 24 57.5**	**-1.1**
JAGN	**Aguni-jima**	**5.32**	**35**	P	**Pn**	**03 25 01.5**	**-1.5**
JAGN				S	**Sn**	**03 26 01.6**	**-1.5**
JNTH	**Nagotoyohara**	**5.72**	**41**	P	**Pn**	**03 25 07.0**	**-1.5**
JNTH				S	**Sn**	**03 26 08.4**	**-4.4**
JIH	**Iheya**	**6.07**	**38**	P	**Pn**	**03 25 11.4**	**-1.9**
JOW	**Kunigami**	**6.10**	**41**	P	**Pn**	**03 25 12.4**	**-1.3**
JOW				S	**Sn**	**03 26 18.0**	**-4.3**
JOW	**Kunigami**	**6.10**	**41**	Pn	**Pn**	**03 25 12.1**	**-1.6**
	baz=243,slow=18						
JOW				Sn	**Sn**	**03 26 17.1**	**-5.3**
	baz=253,slow=20						
JOW	**Kunigami**	**6.10**	**41**	*e*Pn	**Pn**	**03 25 12.3**	**-1.5**
	23nm,0.5s						
JOW				*e*S	**Sn**	**03 26 18.6**	**-3.8**
JOKE	**Okinoerabujima**	**6.67**	**39**	P	**Pn**	**03 25 19.4**	**-2.1**
BALP	**Baler**	**6.82**	**198**	*e*P	**Pn**	**03 25 23.8**	**+0.1**
JTK	**Tokunoshima**	**7.21**	**39**	P	**Pn**	**03 25 26.4**	**-2.6**
JAMN	**Amaminishikomi**	**7.68**	**38**	P	**Pn**	**03 25 32.3**	**-3.1**
JAM	**Amami Oshima**	**8.06**	**39**	P	**Pn**	**03 25 37.6**	**-3.0**
JNU	**Nakatsue**	**12.49**	**28**	Pn	**Pn**	**03 26 39.2**	**-2.2**
	1.0nm,0.3s,baz=38,slow=2.7,SNR=4.4						
KSAR	**Wonju Array Be**	**15.54**	**12**	Pn	**Pn**	**03 27 22.7**	**+0.2**
KSRS	**Korea Array**	**15.55**	**12**	Pn	**Pn**	**03 27 22.7**	**0.0**
	0.6nm,0.3s,baz=190,slow=13,SNR=22						
MAJO	**Matsushiro**	**18.93**	**38**	*e*P	**Pn**	**03 28 04.7**	**-0.1**
	13nm,0.8s						
MAT	**Matsushiro**	**18.93**	**38**	P	**Pn**	**03 28 06.8**	**+1.9**
MJAR	**Matsushiro Arr**	**18.93**	**38**	P	**Pn**	**03 28 06.7**	**+1.9**
	0.7nm,0.3s,baz=230,slow=9.7,SNR=33						
TNTI	**Ternate**	**21.63**	**170**	*e*P	**P**	**03 28 33.6**	**+0.2**
	28nm,0.4s						
USRK	**Ussuriysk Ar.**	**22.90**	**15**	P	**P**	**03 28 48.5**	**+1.8**
	0.9nm,0.5s,baz=188,slow=8.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**23.62**	**265**	P	**P**	**03 28 55.4**	**+1.3**
	1.2nm,0.4s,baz=66,slow=8.1,SNR=10.0						
ERM	**Erimo**	**25.51**	**35**	*e*P	**P**	**03 29 14.9**	**+3.8**
	6.6nm,0.5s						
ASAJ	**Asahikawa**	**26.75**	**31**	P	**P**	**03 29 25.2**	**+2.8**
	3.5nm,0.5s,baz=191,slow=10,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**29.00**	**27**	*e*P	P	03 29 49.0	+6.6
	11nm,0.3s						
MKAR	**Makanchi Array**	**41.40**	**316**	P	**P**	**03 31 29.7**	**+0.7**
	1.1nm,0.8s,baz=162,slow=5.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**43.17**	**327**	P	**P**	**03 31 44.9**	**+1.6**
	0.4nm,0.5s,baz=116,slow=6.8,SNR=5.3						
WRAB	**Tennant Creek**	**43.18**	**165**	*e*P	**P**	**03 31 42.0**	**-1.6**
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**43.18**	**165**	P	**P**	**03 31 43.4**	**-0.3**
	0.5nm,0.4s,baz=344,slow=9.2,SNR=5.7						
KURK	**Kurchatov**	**45.12**	**320**	P	**P**	**03 32 00.3**	**+1.5**
KURBB	**Kurchatov Arra**	**45.13**	**320**	P	**P**	**03 32 00.3**	**+1.3**
	0.8nm,0.8s,baz=112,slow=8.1,SNR=5.6						
ASAR	**Alice Springs**	**46.69**	**167**	P	**P**	**03 32 12.6**	**+1.0**
	0.5nm,0.5s,baz=349,slow=11,SNR=14						
BVAR	**Borovoye Array**	**50.69**	**321**	P	**P**	**03 32 42.4**	**+0.4**
	0.3nm,0.4s,baz=101,slow=2.9,SNR=2.1						
STKA	**Stephens Creek**	**56.46**	**162**	P	**P**	**03 33 25.4**	**+0.9**
	1.4nm,0.8s,baz=318,slow=15,SNR=2.4						

JMA 26 03:24:53.2±0.5, 22°36N×123°81E, h50km, M4.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.69**	**360**	P	Pn	03 25 21.1	+0.8
HATJ				S	Sn	03 25 41.3	+0.5
JKRS	**Kuro-shima**	**1.88**	**6**	P	Pn	03 25 24.2	+1.3
JKRS				S	Sn	03 25 46.5	+1.1
IRIF	**Iriomote-Funau**	**1.97**	**358**	P	Pn	03 25 25.6	+1.5
IRIF				S	Sn	03 25 48.2	+0.6
JIJ	**Ishigaki jima**	**2.02**	**9**	P	Pn	03 25 25.3	+0.5
JIJ				S	Sn	03 25 48.4	-0.4
YOJ	**Yonaguni jima**	**2.22**	**341**	P	Pn	03 25 29.6	+2.1
YOJ				S	Sn	03 25 54.0	+0.3
JYNG	**Yonagunijimaku**	**2.23**	**339**	P	Pn	03 25 29.5	+1.8
JYNG				S	Sn	03 25 54.3	+0.3
JISG	**Ishigakijimahi**	**2.26**	**12**	P	Pn	03 25 28.8	+0.6
JISG				S	Sn	03 25 55.0	+0.1
JTJ	**Tarama**	**2.41**	**20**	P	Pn	03 25 30.9	+0.7
JTJ				S	Sn	03 25 59.2	+0.6
JIRB	**Irabujima**	**2.76**	**27**	P	Pn	03 25 36.1	+1.2
JIRB				S	Sn	03 26 00.6	+0.6
JMJ	**Miyako jima 2**	**2.80**	**29**	P	Pn	03 25 37.3	+1.8
JOGS	**Gusukube**	**2.80**	**31**	P	Pn	03 25 36.2	+0.7
JOGS				S	Sn	03 26 09.2	+1.1

*MEX **26** 03:26:50.2±1.1, 32°23N×114°89W, h15km, MD3.7*
*NEIC **26** 03:26:51.3, 32°16N×115°22W, h7km, ML3.0(PAS), ML3.5(ECX), After ECX.*
*ECX **26** 03:26:51.1±0.6, 32°15N×115°21W, h7km, MD2.9, ML3.1*
ISC 26 03:26:48.5±1.1, 32°12N±0°02×115°16W±0°02, h5km±11km, n31, σ1s12/51, 6C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.29**	**354**	*i* P	**Pb**	**03 26 56.2**	**0.0**
MBIG				*i* S	**Sb**	**03 27 01.5**	**+0.2**
CPBX	**Cerro Prieto**	**0.32**	**338**	⇓eP	**Pb**	**03 26 56.2**	**-0.6**
CPBX				⇓eP	**Pb**	**03 26 56.2**	**-0.6**
CPBX				*e*S	**Sg**	**03 27 00.6**	**+1.5**
CPBX	**Cerro Prieto**	**0.32**	**338**	*i* P	**Pb**	**03 26 56.1**	**-0.6**
CPBX				*i* S	**Sb**	**03 27 01.2**	**-1.1**
YMD	**Yuma Desert**	**0.68**	**50**	⇑*i*P	**Pg**	**03 27 02.8**	**+1.3**
RDX	**Rancho Dawling**	**0.69**	**254**	⇑eP	**Pb**	**03 27 02.9**	**-0.1**
RDX				*e*S	**Sg**	**03 27 11.6**	**+0.9**
RDX				⇓*e*		03 27 13.4	
RDX				AML	AML	03 27 13.4	
	comp=N,927nm,0.6s						
SGL	**Mount Signal**	**0.71**	**318**	⇓*i*P	**Pg**	**03 27 02.4**	**+0.2**
COA	**Coachella**	**0.74**	**3**	⇑*i*P	**Pg**	**03 27 03.2**	**+0.4**
YUH	**Yuha Desert**	**0.83**	**310**	⇓*i*P	**Pg**	**03 27 04.2**	**-0.3**
RMX	**La Rumorosa**	**0.91**	**302**	⇑eP	**Pg**	**03 27 06.2**	**+0.1**
RMX				AML	AML	03 27 18.8	
	comp=N,606nm,0.3s						
RMX				⇓*e*		03 27 18.8	
GLA	**Glamis**	**0.97**	**17**	*e*Pg	**Pg**	**03 27 06.6**	**-0.6**
GLA				*e*S	**Sg**	**03 27 18.7**	**-1.1**
SPIG	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pg**	**03 27 09.4**	**-0.2**
SPIG				*i* S	**Sn**	**03 27 26.4**	**-0.1**
SPIG	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pb**	**03 27 10.4**	**+0.3**
SPIG	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pb**	**03 27 10.3**	**+0.2**
SPIG				*e*S	**Sb**	**03 27 25.2**	**+0.3**
SPX	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pb**	**03 27 10.4**	**+0.3**
SPX				⇓*e*		03 27 27.4	
SPX				AML	AML	03 27 27.4	
	comp=E,204nm,0.3s						
SPX	**San Pedro Mart**	**1.10**	**194**	*e*P	**Pg**	**03 27 09.7**	**+0.1**
SPX				*e*S	**Sb**	**03 27 25.2**	**+0.3**
ZAX	**El Zacaton**	**1.12**	**238**	⇑eP	**Pb**	**03 27 10.9**	**+0.5**
ZAX				⇑*e*		03 27 27.4	
ZAX				AML	AML	03 27 27.4	
	comp=N,582nm,0.5s						
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pg**	**03 27 12.0**	**-1.2**
CBX				*i* S	**Sg**	**03 27 29.2**	**-0.7**
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pg**	**03 27 12.5**	**-0.7**
CBX				*e*S	**Sg**	**03 27 29.3**	**-0.7**
CBX	**Cerro Bola**	**1.29**	**279**	*e*P	**Pg**	**03 27 12.0**	**-1.2**
CBX				*i* S	**Sg**	**03 27 29.1**	**-0.8**
ECNX	**Esteban Cantu**	**1.30**	**250**	*e*P	**Pg**	**03 27 13.7**	**+0.2**
PBX	**Punta Banda**	**1.38**	**255**	*e*P	**Pn**	**03 27 14.8**	**+0.5**
BAR	**Barrett**	**1.40**	**294**	*e*P	**Pn**	**03 27 14.6**	**0.0**
BAR	**Barrett**	**1.40**	**294**	*e*Pn	**Pn**	**03 27 13.3**	**-1.3**
BAR				*e*S	**Sg**	**03 27 31.5**	**-1.9**
PFO	**Pinyon Flats O**	**1.84**	**324**	*e*Pn	**Pn**	**03 27 18.6**	**-2.3**
214A	**Organ Pipe Nat**	**2.00**	**94**	*e*Pn	**Pn**	**03 27 21.9**	**-1.0**
214A				*e*S	**Sg**	**03 27 53.8**	**+1.0**
MWC	**Mount Wilson**	**3.21**	**312**	*e*Pn	**Pn**	**03 27 41.7**	**+1.9**
MWC				*e*S	**Sb**	**03 28 27.0**	**+1.5**
GSC	**Goldstone, Bar**	**3.46**	**337**	*e*Pn	**Pn**	**03 27 44.7**	**+1.6**
GSC				*e*Pg	**Pg**	**03 27 55.7**	**+0.9**
GSC				*e*S	**Sb**	**03 28 35.0**	**+2.4**
TUC	**Tucson**	**3.72**	**86**	Pn	**Pn**	**03 27 46.3**	**-0.3**
TUC				*e*S	**Sg**	**03 28 46.2**	**-1.7**
SHPR	**Sheep Range**	**4.38**	**0**	*e*Pn	**Pn**	**03 27 56.9**	**+1.2**
SHPR				*e*S	**Sg**	**03 29 07.1**	**-2.0**
WUAZ	**Wupatki**	**4.63**	**42**	*e*Pn	**Pn**	**03 28 00.8**	**+1.5**
121A	**Cookes Peak, D**	**6.26**	**84**	*e*Pn	**Pn**	**03 28 22.1**	**+0.5**
	comp=N,2.9nm,0.6s						
121A				*e*S	**Sb**	**03 29 50.9**	**-2.3**

*ISCJB **26** 03:28:56.5±1.3, 21°2S±0°1×70°7W±0°2, h37km, mb3.6/3, Error ellipse: s-maj=25.1km s-min=12.7km az=144.1*
*IDC **26** 03:29:03.2±2.9, 21°32S×70°43W, h80km±24km, mb3.4/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.7/4, Error ellipse: s-maj=36.7km s-min=21.2km az=66.0*
ISC 26 03:28:59.1±1.4, 21°3S±0°1×70°7W±0°2, h37km, n13, σ2s47/7, mb3.5/3, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.12**	**128**	P	**Pn**	**03 29 34.5**	**+2.2**
	5μm,0.3s,baz=324,slow=9.1,SNR=1061						
LVC				S	**Sn**	**03 29 58.1**	**+0.6**
	5μm,0.3s,baz=317,slow=7.5,SNR=22						
LVC				LR	LR	03 30 23.6	
	comp=Z,4μm,20.1s,baz=120,slow=42						
LPAZ	**La Paz**	**5.55**	**27**	P	**Pn**	**03 30 22.3**	**+2.6**
	1.3nm,0.3s,baz=212,slow=5.6,SNR=20						
CFAA	**Coronel Fontan**	**10.50**	**168**	P	**Pn**	**03 31 27.9**	**+0.9**
	0.0nm,0.3s,baz=356,slow=14,SNR=7.4						

CASC 26 03:57:26.2±2.6, 13°.35N×90°.16W, h37km±126km, MD3.8, ML4.2,5C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.71**	**47**	*i*P	Pn	03 57 40.6	+0.4
SBLS				*e*S	Sn	03 57 50.3	+0.2
RTR	**El Retiro**	**0.74**	**43**	*i*P	Pn	03 57 41.0	+0.6
RBDL	**Robledal**	**0.89**	**31**	*i*P	Pn	03 57 43.0	+0.6
RBDL				*e*S	Sn	03 57 54.8	+0.6
BOQS	**Boqueron**	**0.94**	**66**	*i*P	Pn	03 57 43.7	+0.5
BOQS				*e*S	Sn	03 57 56.3	+0.7
SNET	**Serv Nac Est T**	**0.96**	**70**	*e*P	Pn	03 57 43.6	+0.2
SNET				AML	AML	03 57 45.5	
	comp=Z,6μm,0.3s						
LFRS	**El Faro**	**1.10**	**76**	*e*P	Pn	03 57 45.4	+0.1
LFRS				*e*S	Sn	03 57 59.5	+0.1
PCG	**Pacaya**	**1.12**	**337**	*e*P	Pn	03 57 45.2	-0.6
LBRS	**Las Brisas**	**1.15**	**70**	*i*P	Pn	03 57 46.8	+0.9
LBRS				*e*S	Sn	03 58 00.5	0.0
NBG	**Las Nubes**	**1.24**	**352**	*e*P	Pn	03 57 48.7	+1.3
NBG				*e*S	Sn	03 58 06.1	+3.0
FUG	**Fuego 3**	**1.28**	**329**	*e*P	Pn	03 57 46.6	-1.1
SNVI	**San Vicente**	**1.31**	**78**	*e*P	Pn	03 57 49.0	+0.8
SNVI				*e*S	Sn	03 58 04.6	0.0
JAT	**Jato**	**1.73**	**304**	*e*P	Pn	03 57 52.5	-1.1
MRL	**Marmol**	**1.77**	**15**	*i*P	Pn	03 57 55.3	+0.8
MRL				*e*P	Pn	03 57 56.2	+1.8
VSM	**San Miguel**	**1.84**	**87**	*e*P	Pn	03 57 56.4	+0.8
VSM				*e*S	Sn	03 58 17.8	-0.1
CAHU	**Cacacuatique**	**1.94**	**77**	*e*P	Pn	03 57 57.6	+0.7
CNCH	**Conchagua**	**2.27**	**92**	*e*P	Pn	03 58 01.7	+0.4
CNCH				*e*S	Sn	03 58 27.6	-0.5

JMA 26 03:59:10.5±0.5, 22°.32N×123°.77E, h55km, M4.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.73**	**1**	P	Pn	03 59 39.1	+0.9
HATJ				*e*S	Sn	03 59 59.1	-0.1
JKRS	**Kuro-shima**	**1.92**	**7**	P	Pn	03 59 42.1	+1.3
JKRS				*e*S	Sn	04 00 04.3	+0.4
IRIF	**Iriomote-Funau**	**2.01**	**359**	P	Pn	03 59 43.3	+1.3
IRIF				*e*S	Sn	04 00 05.7	-0.2
JIJ	**Ishigaki jima**	**2.06**	**9**	P	Pn	03 59 43.3	+0.5
JIJ				*e*S	Sn	04 00 06.2	-1.1
YOJ	**Yonaguni jima**	**2.24**	**342**	P	Pn	03 59 46.9	+1.7
YOJ				*e*S	Sn	04 00 12.4	+0.7
JYNG	**Yonagunijimaku**	**2.25**	**341**	P	Pn	03 59 47.1	+1.8
JYNG				*e*S	Sn	04 00 12.7	+0.7
JISG	**Ishigakijimahi**	**2.31**	**12**	P	Pn	03 59 46.4	+0.3
JTJ	**Tarama**	**2.46**	**20**	P	Pn	03 59 48.7	+0.5
JTJ				*e*S	Sn	04 00 17.4	+0.3
JMJ	**Miyako jima 2**	**2.85**	**29**	P	Pn	03 59 54.9	+1.4
JMJ				*e*S	Sn	04 00 27.4	+0.8
JOGS	**Gusukube**	**2.86**	**31**	P	Pn	03 59 54.3	+0.7
JOGS				*e*S	Sn	04 00 27.0	+0.2
JKE	**Kume jima 2**	**4.84**	**34**	P	Pn	04 00 20.9	0.0
JNTH	**Nagotoyohara**	**5.70**	**42**	P	Pn	04 00 32.2	-0.4
JOW	**Kunigami**	**6.08**	**41**	P	Pn	04 00 37.8	-0.1

BJI ***26*** *04:09:44.1, 22°.11N×123°.87E, h8km, mB5.2/10, mb4.5/35, Ms4.8/11, Ms7 4.6/11*
IDC ***26*** *04:09:45.1±0.6, 22°.23N×123°.83E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.3/31, mbtmp4.3/22, ML4.4/2, Error ellipse: s-maj=17.0km s-min=12.8km az=74.0*
NEIC ***26*** *04:09:46.8±0.3, 22°.24N×123°.78E, h10km, mb4.5/14, Error ellipse: s-maj=5.6km s-min=5.0km az=64.0*
MOS ***26*** *04:09:48.5±0.9, 22°.25N×123°.82E, h33km, mb4.6/15, Error ellipse: s-maj=13.5km s-min=7.7km az=103.3*
JMA ***26*** *04:09:48.7±0.5, 22°.30N×123°.72E, h58km, M4.7*
ISC 26 04:09:48.5±0.6, 22°.29N±0°.04×123°.83E±0°.03, h20km±3km, n146, σ1§55/172, mb4.4/50, 7C-4D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.76**	**359**	P	**Pn**	**04 10 17.8**	**-0.1**
HATJ				S	**Sn**	**04 10 38.0**	**-1.7**
JKRS	**Kuro-shima**	**1.95**	**5**	P	**Pn**	**04 10 20.5**	**+0.1**
JKRS				S	**Sn**	**04 10 43.1**	**-1.2**
IRIF	**Iriomote-Funau**	**2.04**	**357**	P	**Pn**	**04 10 21.9**	**+0.2**
IRIF				*e*S	**Sn**	**04 10 44.9**	**-1.7**
JIJ	**Ishigaki jima**	**2.09**	**8**	P	**Pn**	**04 10 21.9**	**-0.4**
JIJ				S	**Sn**	**04 10 45.1**	**-2.6**
YOJ	**Yonaguni jima**	**2.29**	**341**	P	**Pn**	**04 10 25.4**	**+0.3**
YOJ				*e*S	**Sn**	**04 10 50.3**	**-2.5**
YOJ	**Yonaguni jima**	**2.29**	**341**	*e*P	**Pn**	**04 10 25.4**	**-0.3**
YOJ				*e*S	Sn	04 10 43.9	-8.9
YOJ	**Yonaguni jima**	**2.29**	**341**	*e*Pn	**Pn**	**04 10 25.4**	**+0.3**
YOJ				*e*S	Sn	04 10 43.9	-8.9
JYNG	**Yonagunijimaku**	**2.30**	**339**	P	**Pn**	**04 10 25.5**	**+0.2**
JYNG				*e*S	**Sn**	**04 10 50.4**	**-2.6**
JISG	**Ishigakijimahi**	**2.33**	**11**	P	**Pn**	**04 10 25.0**	**-0.7**
JISG				*e*S	**Sn**	**04 10 52.2**	**-1.6**
JTJ	**Tarama**	**2.48**	**19**	P	**Pn**	**04 10 27.4**	**-0.3**
JTJ				*e*S	**Sn**	**04 10 55.7**	**-1.6**
YULB	**Yu-li**	**2.58**	**296**	*e*Pn	**Pn**	**04 10 27.2**	**-2.0**
YULB				*e*S	Sn	04 10 52.7	-7.3
TWG	**Pinlang**	**2.60**	**282**	*e*Pn	**Pn**	**04 10 27.0**	**-2.4**
TWG				*e*S	**Sn**	**04 10 55.9**	**-4.7**
NACB	**Ninganchiao**	**2.78**	**313**	*e*Pn	**Pn**	**04 10 30.4**	**-1.5**
NACB				*e*S	Sn	04 11 00.2	-4.7
JIRB	**Irabujima**	**2.81**	**26**	P	**Pn**	**04 10 32.2**	**-0.1**
JIRB				*e*S	**Sn**	**04 11 03.7**	**-2.0**
JMJ	**Miyako jima 2**	**2.85**	**28**	P	**Pn**	**04 10 32.9**	**0.0**
JMJ				*e*S	**Sn**	**04 11 05.6**	**-1.0**
JOGS	**Gusukube**	**2.85**	**30**	P	**Pn**	**04 10 32.9**	**0.0**
JOGS				*e*S	**Sn**	**04 11 05.4**	**-1.3**
JIKM	**Ikemajima**	**2.93**	**26**	*e*S	**Sn**	**04 11 07.9**	**-0.6**
SSLB	**Suanglung**	**3.04**	**300**	*e*Pn	**Pn**	**04 10 34.4**	**-1.1**
SSLB				*e*S	Sn	04 11 05.2	-6.2
TPUB	**Ta-pu**	**3.12**	**289**	*e*Pn	**Pn**	**04 10 36.6**	**0.0**
TPUB				*e*S	**Sn**	**04 11 12.5**	**-0.8**
YHNB	**Yeheng**	**3.27**	**317**	*e*Pn	**Pn**	**04 10 38.8**	**0.0**
YHNB				*e*S	**Sn**	**04 11 14.2**	**-2.8**
TATO	**Taipei**	**3.43**	**322**	*e*Pn	**Pn**	**04 10 41.7**	**+0.8**
TATO				*e*S	Sn	04 11 08.0	-13
SGCP	**Mt. Cagua**	**4.36**	**203**	*e*P	**Pn**	**04 10 52.3**	**-1.3**
JKE	**Kume jima 2**	**4.84**	**33**	P	**Pn**	**04 10 58.9**	**-1.3**
JKE				*e*S	**Sn**	**04 11 51.5**	**-4.2**
CVP	**Callao Caves**	**4.94**	**203**	*e*P	**Pn**	**04 11 01.2**	**-1.6**
PIP	**Pasuquin**	**4.96**	**218**	*i*P	**Pn**	**04 11 01.2**	**-0.7**
APYP	**Conner**	**5.03**	**209**	*e*P	**Pn**	**04 11 01.5**	**-1.3**
APYP				*e*S	Pb	04 11 19.0	+3.1
JAGN	**Aguni-jima**	**5.29**	**35**	P	**Pn**	**04 11 05.4**	**-1.0**
QZH	**Quanzhou**	**5.48**	**300**	*i*Pn	**Pn**	**04 11 08.5**	**-0.5**
QZH				Sn	Sn	04 12 06.3	-5.2
JNTH	**Nagotoyohara**	**5.69**	**41**	P	**Pn**	**04 11 10.7**	**-1.1**
JNTH				*e*S	Sn	04 12 10.9	-5.7
JIH	**Iheya**	**6.04**	**38**	P	**Pn**	**04 11 15.4**	**-1.3**
JIH				*e*S	Sn	04 12 19.6	-5.7
JOW	**Kunigami**	**6.07**	**41**	P	**Pn**	**04 11 16.0**	**-1.1**
JOW				*e*S	Sn	04 12 20.7	-5.3
JOW	**Kunigami**	**6.07**	**41**	Pn	**Pn**	**04 11 16.3**	**-0.8**
	baz=205,slow=13						
JOW	**Kunigami**	**6.07**	**41**	*e*Pn	**Pn**	**04 11 16.1**	**-1.1**
JOW				*e*S	Sn	04 12 21.0	-5.0
JOKE	**Okinoerabujima**	**6.64**	**39**	P	**Pn**	**04 11 23.2**	**-1.7**
BALP	**Baler**	**6.85**	**199**	*e*P	**Pn**	**04 11 27.9**	**0.0**
BOLP	**Bolinao**	**6.94**	**213**	*e*P	**Pn**	**04 11 30.0**	**+0.9**
JTK	**Tokunoshima**	**7.18**	**39**	P	**Pn**	**04 11 30.2**	**-2.1**
JTK				*e*S	Sn	04 12 45.3	-8.0
JMZ	**Minamidaito 2**	**7.61**	**61**	P	Pn	04 11 35.4	-2.9
JMZ				*e*S	Sn	04 12 54.3	-10
JAMN	**Amaminishikomi**	**7.65**	**38**	P	Pn	04 11 36.0	-2.8
JAM	**Amami Oshima**	**8.03**	**39**	P	**Pn**	**04 11 41.9**	**-2.1**
GZH	**Guangzhou**	**9.71**	**277**	P	Pn	04 12 03.3	-3.8
GZH				SMN			
	88nm,0.8s						
GZH				SME			
	75nm,0.8s						
NJ2	**Nanjing**	**10.68**	**337**	*e*P	**Pn**	**04 12 21.0**	**+0.6**
JNU	**Nakatsue**	**12.46**	**29**	Pn	**Pn**	**04 12 43.2**	**-1.6**
	1.8nm,0.3s,baz=133,slow=4.6,SNR=5.5						
QIZ	**Qiongzhong**	**13.49**	**259**	P	**Pn**	**04 12 57.0**	**-1.8**
QIZ				S	**Sn**	**04 15 26.3**	**-1.9**
	15nm,1.8s			PMZ			
KSAR	**Wonju Array Be**	**15.50**	**12**	P	**Pn**	**04 13 25.3**	**-0.7**
KSAR	**Wonju Array Be**	**15.50**	**12**	Pn	**Pn**	**04 13 25.2**	**-0.7**
KSRS	**Korea Array**	**15.52**	**12**	Pn	**Pn**	**04 13 25.2**	**-0.9**
	1.3nm,0.3s,baz=189,slow=12,SNR=72						
GYA	**Guiyang**	**16.18**	**288**	*i*P	**P**	**04 13 39.8**	**+1.8**
GYA				PMZ			
	20nm,0.8s						
UBPT	**Khong Chiam**	**18.72**	**251**	P	**Pn**	**04 14 09.5**	**+3.1**
	36nm,1.6s						
MAJO	**Matsushiro**	**18.90**	**38**	*ce*P	**Pn**	**04 14 10.2**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,475nm,1.7s						
MAJO	**Matsushiro**	**18.90**	**38**	*e*Pn	**Pn**	**04 14 09.9**	**+1.3**
	comp=Z,34nm,0.8s						
MAT	**Matsushiro**	**18.90**	**38**	P	**Pn**	**04 14 10.2**	**+1.6**
MJAR	**Matsushiro Arr**	**18.91**	**38**	P	**Pn**	**04 14 10.6**	**+2.0**
	comp=Z,1.7nm,0.3s,baz=228,slow=10,SNR=70						
KMI	**Kunming**	**19.52**	**282**	P	**Pn**	**04 14 17.5**	**+1.3**
KMI				PMZ			
	comp=Z,14nm,0.5s						
CD2	**Chengdu**	**19.87**	**300**	*e*P	**P**	**04 14 19.3**	**+0.7**
CD2				pP	**pP**	**04 14 23.3**	**-1.0**
CD2				sP	**sP**	**04 14 26.3**	**-0.6**
CD2				PP	**PnPn**	**04 14 38.0**	**+3.6**
CD2				S	**S**	**04 17 57.0**	**-4.6**
CD2				sS	**Sn**	**04 18 02.5**	**-0.7**
CD2				SS	**SnSn**	**04 18 24.5**	**+6.8**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.4s						
KHON	**Khomkaen**	**20.68**	**257**	P	Pn	04 14 29.4	-0.4
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**21.21**	**334**	*e*P	**P**	**04 14 37.0**	**+3.9**
HHC				S	**S**	**04 18 26.5**	**-1.6**
HHC				PMZ			
	comp=Z,17nm,0.6s						
HHC				PMZ			
	comp=Z,1μm,5.0s						
CHAI	**Chaiyaphum**	**21.58**	**257**	P	**P**	**04 14 37.5**	**+0.4**
	comp=Z,13nm,0.7s						
TNTI	**Ternate**	**21.66**	**170**	P	**P**	**04 14 38.4**	**+0.5**
	comp=Z,114nm,0.9s						
TNTI	**Ternate**	**21.66**	**170**	*e*P	**P**	**04 14 37.8**	**-0.1**
	comp=Z,96nm,0.9s						
MPSI	**Mapaga**	**22.15**	**190**	P	**P**	**04 14 45.4**	**+2.2**
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**22.16**	**313**	*e*P	**P**	**04 14 45.0**	**+1.7**
LZH				pP	**pP**	**04 14 47.8**	**-1.2**
LZH				sP	**sP**	**04 14 51.3**	**-0.3**
LZH				PMZ			
	comp=Z,30nm,1.2s						
LZH				PMZ			
	comp=Z,160nm,5.0s						
PBKT	**Sadao Pong**	**22.28**	**259**	P	**P**	**04 14 45.6**	**+1.0**
	comp=Z,36nm,0.8s						
UTTA	**Uttaradit**	**22.32**	**263**	P	**P**	**04 14 47.1**	**+2.0**
	comp=Z,4.1nm,0.7s						
SBUM	**Sibu**	**22.72**	**211**	*e*P	**P**	**04 14 48.3**	**-1.0**
	comp=Z,22nm,0.9s						
MDJ	**Mudanjiang**	**22.77**	**11**	P	**P**	**04 14 51.8**	**+2.2**
MDJ				PMZ			
	comp=Z,17nm,0.9s						
MDJ				PMZ			
	comp=Z,1μm,12.7s						
MDJ	**Mudanjiang**	**22.77**	**11**	*e*P	**P**	**04 14 50.8**	**+1.2**
	comp=Z,25nm,1.2s						
USRK	**Ussuriysk Ar.**	**22.87**	**15**	P	**P**	**04 14 52.3**	**+1.7**
	comp=Z,14nm,0.7s,baz=198,slow=8.9,SNR=30						
LAMP	**Lampang**	**22.98**	**265**	P	**P**	**04 14 53.6**	**+1.6**
	comp=Z,6.6nm,0.8s						
CMAI	**Chiengmai2**	**23.23**	**269**	P	**P**	**04 14 55.5**	**+0.7**
	comp=Z,25nm,1.3s						
CMMT	**Chiang Mai**	**23.55**	**266**	P	**P**	**04 14 58.0**	**+0.3**
	comp=Z,22nm,1.3s						
CMAR	**Chiang Mai Arr**	**23.63**	**265**	P	**P**	**04 14 58.8**	**+0.3**
	comp=Z,11nm,0.7s,baz=68,slow=7.5,SNR=52						
CMAR	**Chiang Mai Arr**	**23.63**	**265**	*i* P	**P**	**04 14 59.2**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,11nm,0.7s						
UTHA	**Uthaitani**	**24.00**	**258**	P	**P**	**04 15 03.5**	**+1.5**
	comp=Z,11nm,0.9s						
SANI	**Sanana**	**24.28**	**175**	P	**P**	**04 15 03.3**	**-1.3**
	comp=Z,27nm,0.9s						
MHMT	**Maesarieng**	**24.63**	**265**	P	**P**	**04 15 08.8**	**+1.0**
	comp=Z,28nm,1.0s						
KHLT	**Khaolaem Dam**	**25.04**	**257**	P	**P**	**04 15 14.5**	**+3.0**
TTSI	**Tana Toraja**	**25.48**	**189**	P	**P**	**04 15 18.9**	**+3.4**
	comp=Z,18nm,1.0s						
GTA	**Gaotai**	**26.64**	**315**	*e*P	**P**	**04 15 28.3**	**+2.3**
GTA				pP	**pP**	**04 15 32.5**	**+0.4**
GTA				sP	**sP**	**04 15 35.3**	**+0.7**
GTA				PMZ			
	comp=Z,3.0nm,1.6s						
ASAJ	**Asahikawa**	**26.72**	**31**	P	**P**	**04 15 27.5**	**+1.0**
	comp=Z,20nm,0.6s,baz=240,slow=16,SNR=16						
ASAJ	**Asahikawa**	**26.72**	**31**	*e*P	**P**	**04 15 27.4**	**+1.0**
	comp=Z,9.4nm,0.6s						
KLR	**Kul'dur**	**27.61**	**11**	*e*P	**P**	**04 15 31.7**	**-2.7**
ULN	**Ulaanbaatar**	**28.85**	**336**	*i*P	**P**	**04 15 46.7**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YSS	**Yuzh-Sakhalins**	**28.97**	**27**	*i*eP	P	04 15 52.9	+6.3
SONM	**Songino Array**	**29.07**	**335**	P	**P**	**04 15 48.9**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=145,slow=8.7,SNR=4.9						
JAY	**Jayapura**	**29.66**	**144**	P	**P**	**04 15 53.3**	**+0.3**
	comp=Z,3.5nm,0.3s,baz=179,slow=23,SNR=13						
WSI	**Waingapu**	**31.95**	**187**	P	**P**	**04 16 11.4**	**-1.7**
	comp=Z,802nm,0.5s,comp=Z,29μm						
TAPN	**Taplejung**	**33.09**	**286**	*e*P	**P**	**04 16 24.5**	**+1.0**
	comp=Z,52nm,0.9s						
ODAN	**Odare**	**33.38**	**285**	*e*P	**P**	**04 16 26.6**	**+0.7**
	comp=Z,65nm,1.2s						
RAMN	**Ramite**	**34.08**	**285**	*e*P	**P**	**04 16 33.0**	**+0.9**
	comp=Z,56nm,1.3s						
JIRN	**Jiri**	**34.45**	**287**	*e*P	**P**	**04 16 35.9**	**+0.5**
	comp=Z,37nm,1.0s						
GUN	**Gumba**	**34.72**	**287**	*e*P	**P**	**04 16 38.4**	**+0.6**
	comp=Z,41nm,0.9s						
PKI	**Puhoki**	**35.14**	**287**	*e*P	**P**	**04 16 41.5**	**+0.2**
	comp=Z,10.0nm,0.7s						
PKIN	**Phulchoki**	**35.15**	**287**	*e*P	**P**	**04 16 42.1**	**+0.7**
KKN	**Kakani**	**35.25**	**287**	*e*P	**P**	**04 16 42.5**	**+0.3**
DMN	**Daman**	**35.41**	**287**	*e*P	**P**	**04 16 44.1**	**+0.5**
GKN	**Gorkha**	**35.82**	**287**	*e*P	**P**	**04 16 46.7**	**-0.3**
	comp=Z,19nm,0.8s						
DANN	**Dangsing**	**36.60**	**288**	*e*P	**P**	**04 16 54.2**	**+0.4**
	comp=Z,34nm,1.1s						
WMQ	**Urumqi**	**36.72**	**314**	*e*P	**P**	**04 16 55.5**	**+1.2**
WMQ				pP	**pP**	**04 17 04.0**	**+3.5**
WMQ				PMZ			
	comp=Z,6.0nm,0.5s						
KOLN	**Koldanda**	**36.74**	**287**	*e*P	**P**	**04 16 55.2**	**+0.3**
	comp=Z,20nm,0.8s						
PYUN	**Piuthan**	**37.28**	**287**	*e*P	**P**	**04 16 59.6**	**+0.1**
	comp=Z,28nm,0.8s						
PETK	**Petropavlovsk-**	**40.14**	**31**	P	**P**	**04 17 23.6**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=211,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**41.38**	**316**	P	**P**	**04 17 34.2**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=101,slow=9.7,SNR=18						
ZALV	**Zalesovo Beam**	**43.15**	**327**	P	**P**	**04 17 47.7**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=113,slow=7.1,SNR=13						
ZALV	**Zalesovo Beam**	**43.15**	**327**	*i* P	**P**	**04 17 48.2**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRAB	**Tennant Creek**	**43.20**	**165**	*i*eP	**P**	**04 17 50.5**	**+2.2**
WRAB				pmax	pmax		
	comp=Z,40nm,2.5s						
WRAB	**Tennant Creek**	**43.20**	**165**	*e*P	**P**	**04 17 48.6**	**+0.3**
	comp=Z,1.1nm,0.4s						
WRA	**Warramunga Arr**	**43.21**	**165**	P	**P**	**04 17 46.9**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=345,slow=9.1,SNR=23						
WB2	**Warramunga Arr**	**43.21**	**165**	*e*P	**P**	**04 17 47.7**	**-0.7**
KSH	**Kashi**	**43.97**	**304**	*e*P	**P**	**04 17 53.8**	**-0.8**
KSH				*e*pP	**pP**	**04 17 58.3**	**-2.5**
KSH				PcS	**PcS**	**04 23 33.0**	**-0.3**
KSH				S	**S**	**04 24 22.0**	**-3.5**
KSH				PMZ			
	comp=Z,1μm,13.3s						
KSH				LN			
	comp=Z,860nm,14.5s						
KSH				LE			
	comp=Z,1μm,13.6s						
KSH				LZ			
	comp=Z,830nm,15.6s						
TKM2	**Tokmak 2**	**44.84**	**309**	*e*P	**P**	**04 18 02.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TKM2	**Tokmak 2**	**44.84**	**309**	*e*P	**P**	**04 18 02.1**	**+0.6**
	comp=Z,5.9nm,0.9s						
KURK	**Kurchatov**	**45.10**	**320**	*e*P	**P**	**04 18 02.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**45.10**	**320**	*e*P	**P**	**04 18 02.8**	**-0.4**
	comp=Z,2.2nm,0.8s						
AAK	**Ala-Archa**	**45.59**	**308**	*i*eP	**P**	**04 18 08.5**	**+1.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ASAR	**Alice Springs**	**46.72**	**167**	P	**P**	**04 18 15.5**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=352,slow=7.3,SNR=9.5						
KKAR	**Karatay Array**	**48.55**	**308**	*e*P	**P**	**04 18 30.3**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**48.55**	**308**	*e*P	**P**	**04 18 30.3**	**-0.1**
	comp=Z,0.9nm,0.6s						
TIXI	**Tiksi**	**49.47**	**2**	*i*eP	**P**	**04 18 36.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BRVK	**Borovoye**	**50.74**	**321**	*i*eP	**P**	**04 18 48.7**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	**Bilibino**	**52.66**	**19**	*e*P	**P**	**04 19 01.5**	**+0.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL	**Bilibino**	**52.66**	**19**	*e*P	**P**	**04 19 01.5**	**+0.5**
	comp=Z,4.1nm,0.8s						
IMYA	**Miami**	**56.39**	**300**	*e*P	**P**	**04 19 27.8**	**-1.1**
STKA	**Stephens Creek**	**56.48**	**162**	P	**P**	**04 19 28.6**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=344,slow=10,SNR=2.0						
ABKAR	**Akbulak array**	**56.50**	**315**	*e*P	**P**	**04 19 29.3**	**+0.2**
	comp=Z,1.5nm,0.5s						
GEYT	**Alibeck**	**57.85**	**302**	P	**P**	**04 19 40.3**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=74,slow=6.2,SNR=7.5						
ISFR	**Sfrayin**	**58.02**	**301**	*e*P	**P**	**04 19 41.2**	**+0.7**
ZEI	**Tsey**	**68.01**	**309**	*e*P	**P**	**04 20 45.7**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	**Khabaz**	**68.56**	**310**	P	**P**	**04 20 50.0**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=56,slow=24,SNR=9.0						
KBZ	**Khabaz**	**68.56**	**310**	P	**P**	**04 20 50.0**	**+0.2**
KIV	**Kislovodsk**	**68.67**	**310**	*e*P	**P**	**04 20 50.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ILAR	**Eielson Array**	**69.78**	**27**	P	**P**	**04 20 56.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=282,slow=5.8,SNR=15						
RAYN	**Ar Rayn**	**71.24**	**288**	*e*P	**P**	**04 21 06.6**	**-0.2**
	comp=Z,6.0nm,1.0s						
DAWY	**Dawson**	**73.11**	**27**	*e*P	**P**	**04 21 18.1**	**+0.9**
INK	**Inuvik**	**74.06**	**22**	*e*P	**P**	**04 21 23.2**	**+0.6**
INK				pmax	pmax		
	comp=Z,11nm,1.6s						
INK	**Inuvik**	**74.06**	**22**	*e*P	**P**	**04 21 23.2**	**+0.6**
	comp=Z,11nm,1.6s						
FINES	**FINESS Array B**	**74.30**	**330**	P	**P**	**04 21 23.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=56,slow=7.1,SNR=8.7						
AKASG	**Malin Array Be**	**75.89**	**319**	P	**P**	**04 21 32.6**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=57,slow=6.3,SNR=3.6						
BRTR	**Keskin Array B**	**76.25**	**307**	P	**P**	**04 21 35.7**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=119,slow=5.9,SNR=12						
BRTR	**Keskin Array B**	**76.25**	**307**	*ce*P	**P**	**04 21 35.5**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
RES	**Resolute Bay**	**80.12**	**10**	*e*P	**P**	**04 21 56.6**	**0.0**
RES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
RES	**Resolute Bay**	**80.12**	**10**	*e*P	**P**	**04 21 56.6**	**0.0**
	comp=Z,5.1nm,1.1s						
NOA	**NORSAR Array B**	**81.02**	**333**	P	**P**	**04 22 01.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=59,slow=5.1,SNR=3.1						
YKA	**Yellowknife Ar**	**83.75**	**23**	P	**P**	**04 22 16.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=307,slow=4.7,SNR=15						
NVAR	**Mina Array Bea**	**96.12**	**44**	P	**P**	**04 23 15.1**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=297,slow=4.4,SNR=5.1						
SDV	**Santo Domingo**	**145.93**	**26**	*e*PKPdf	**PKPdf**	**04 29 27.3**	**+0.2**

JMA 26 04:31:10.0±0.5, 22°.37N×123°.80E, h49km, M3.5, Southeast of Taiwan

| Code

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.41**	**84**	*eP*	**Pn**	**04 43 16.0**	**+0.7**
ARE				*eS*	**Sn**	**04 43 43.6**	**-0.3**
NNA	**Nana**	**5.47**	**329**	Pn	**Pn**	**04 43 55.6**	**-1.7**
	10nm,0.3s,baz=138,slow=14,SNR=25						
NNA				Sn	**Sn**	**04 44 56.4**	**-2.9**
	20nm,0.3s,baz=271,slow=16,SNR=3.0						
NNA	**Nana**	**5.47**	**329**	Pn	**Pn**	**04 43 54.4**	**-2.9**
NNA				*eS*	**Sn**	**04 44 58.2**	**-1.2**
LPAZ	**La Paz**	**5.63**	**86**	Pn	**Pn**	**04 43 59.6**	**-0.3**
	0.5nm,0.3s,baz=272,slow=11,SNR=13						
LPAZ				Sn	**Sn**	**04 45 06.1**	**+2.1**
	baz=311,slow=20,SNR=1.0						
LPAZ	**La Paz**	**5.63**	**86**	*e*Pn	Pn	04 44 03.4	+3.4
LVC	**Limon Verde**	**7.55**	**142**	Pn	**Pn**	**04 44 27.1**	**+1.2**
	79nm,0.3s,baz=318,slow=10.0,SNR=18						
LVC				Sn	**Sn**	**04 45 46.9**	**-3.8**
	136nm,0.3s,baz=93,slow=18,SNR=12						
LVC	**Limon Verde**	**7.55**	**142**	*e*Pn	**Pn**	**04 44 27.0**	**+1.0**
LVC				*eS*	**Sn**	**04 45 47.7**	**-3.0**
SIV	**San Ignacio**	**12.42**	**88**	Pn	**Pn**	**04 45 31.5**	**-1.0**
	0.9nm,0.3s,baz=262,slow=14,SNR=8.8						
CFAA	**Coronel Fontan**	**15.70**	**162**	Pn	**P**	**04 46 20.5**	**0.0**
	0.0nm,0.3s,baz=338,slow=13,SNR=7.0						
PTGA	**Pitinga**	**21.06**	**42**	P	**P**	**04 47 17.7**	**-1.9**
	12nm,0.7s,baz=225,slow=11,SNR=19						
PTGA	**Pitinga**	**21.06**	**42**	*eP*	**P**	**04 47 18.2**	**-1.4**
	12nm,0.8s						
ROSC	**El Rosal**	**21.46**	**359**	P	**P**	**04 47 22.3**	**-1.9**
	1.7nm,0.5s,baz=112,slow=19,SNR=2.6						
PLCA	**Paso Flores**	**24.09**	**174**	P	**P**	**04 47 52.6**	**+1.9**
	4.2nm,0.8s,baz=347,slow=9.8,SNR=11						
BDFB	**Brasilia**	**24.96**	**91**	P	**P**	**04 47 57.5**	**-1.4**
	1.8nm,0.7s,baz=243,slow=11,SNR=2.8						
SDV	**Santo Domingo**	**25.67**	**8**	*eP*	**P**	**04 48 02.4**	**-3.0**
	7.9nm,1.3s						
CMIG	**Matias Romero**	**39.42**	**328**	P	**P**	**04 50 05.0**	**-0.1**
	2.1nm,0.7s,baz=96,slow=11,SNR=5.2						
035Z	**Hargill**	**48.91**	**331**	⇓P	**P**	**04 51 22.5**	**+1.5**
	baz=49						
035A	**Encino**	**49.33**	**331**	⇓P	**P**	**04 51 25.1**	**+0.9**
	baz=49						
034A	**Hebbronville**	**49.70**	**331**	⇓P	**P**	**04 51 28.1**	**+1.0**
	baz=50						
934A	**Benavides**	**50.09**	**331**	⇑P	**P**	**04 51 31.2**	**+1.1**
	baz=50						
835A	**Beeville**	**50.36**	**332**	⇑P	**P**	**04 51 33.3**	**+1.2**
	baz=50						
933A	**Laredo**	**50.45**	**331**	⇑P	**P**	**04 51 33.4**	**+0.6**
	baz=51						
834A	**Tilden**	**50.55**	**332**	⇑P	**P**	**04 51 34.4**	**+0.9**
	baz=51						
736A	**Circle Diamond**	**50.61**	**334**	⇓P	**P**	**04 51 35.2**	**+1.2**
	baz=51						
636A	**Smothers Creek**	**51.06**	**334**	⇓P	**P**	**04 51 38.5**	**+1.1**
	baz=51						
833A	**Chaparral WMA,**	**51.10**	**331**	⇓P	**P**	**04 51 38.0**	**+0.3**
	baz=51,SNR=6.0						
537A	**Green Hill Far**	**51.28**	**335**	⇑P	**P**	**04 51 39.9**	**+0.9**
	baz=51						
832A	**Faith Ranch, C**	**51.34**	**330**	⇑P	**P**	**04 51 40.5**	**+1.0**
	baz=52						
733A	**Divot King Ran**	**51.39**	**331**	⇓P	**P**	**04 51 40.3**	**+0.4**
	baz=52						
438A	**Sam Houston St**	**51.54**	**336**	⇑P	**P**	**04 51 42.3**	**+1.3**
	baz=52						
732A	**Laxson Ranch,**	**51.72**	**331**	⇓P	**P**	**04 51 42.6**	**+0.3**
	baz=52						
633A	**Saathoff Ranch**	**51.97**	**332**	⇓P	**P**	**04 51 44.2**	**+0.1**
	baz=52,SNR=10						
534A	**Blanco**	**52.15**	**333**	⇓P	**P**	**04 51 45.3**	**-0.2**
	baz=52						
632A	**Uvalde**	**52.29**	**331**	⇑P	**P**	**04 51 46.9**	**+0.3**
	baz=52,SNR=9.1						
435B	**Jarrell**	**52.42**	**334**	⇑P	**P**	**04 51 47.4**	**-0.1**
	baz=52						
533A	**Kerrville**	**52.43**	**332**	⇑P	**P**	**04 51 47.6**	**-0.1**
	baz=52						
631A	**Perdido Creek**	**52.57**	**331**	⇑P	**P**	**04 51 48.2**	**-0.5**
	baz=53,SNR=9.8						
434A	**Burnet**	**52.73**	**334**	⇓P	**P**	**04 51 49.8**	**0.0**
	baz=53						
335A	**Moody**	**52.79**	**335**	⇓P	**P**	**04 51 50.5**	**+0.3**
	baz=53						
532A	**Rocksprings**	**52.87**	**332**	⇑P	**P**	**04 51 51.4**	**+0.5**
	baz=53						
433A	**Art**	**53.04**	**333**	⇓P	**P**	**04 51 52.0**	**-0.1**
	baz=53,SNR=6.7						
138A	**Matatall Enter**	**53.11**	**338**	⇑P	**P**	**04 51 53.3**	**+0.8**
	baz=53						
334A	**Lometa**	**53.17**	**334**	⇓P	**P**	**04 51 53.1**	**0.0**
	baz=53						
531A	**Rocksprings**	**53.19**	**331**	⇓P	**P**	**04 51 53.2**	**-0.1**
	baz=53,SNR=6.0						
137A	**Heron Place, G**	**53.30**	**337**	⇑P	**P**	**04 51 54.4**	**+0.5**
	baz=53						
WHTX	**Lake Whitney,**	**53.42**	**335**	⇓P	**P**	**04 51 55.5**	**+0.6**
	baz=54						
432A	**Menard**	**53.45**	**332**	⇓P	**P**	**04 51 55.5**	**+0.3**
	baz=54						
333A	**Richland Sprin**	**53.48**	**333**	⇓P	**P**	**04 51 55.0**	**-0.4**
	baz=54						
530A	**J-C Ranch, Com**	**53.55**	**330**	⇓P	**P**	**04 51 56.1**	**+0.1**
	baz=54,SNR=7.5						
431A	**Sonora**	**53.66**	**331**	⇓P	**P**	**04 51 56.4**	**-0.3**
	baz=54,SNR=6.9						
234A	**Clairette**	**53.71**	**334**	⇓P	**P**	**04 51 57.1**	**0.0**
	baz=54						
332A	**Millersview**	**53.86**	**333**	⇓P	**P**	**04 51 58.0**	**-0.1**
	baz=54,SNR=5.8						
529A	**Stev Forest Ra**	**53.95**	**330**	⇑P	**P**	**04 51 59.0**	**+0.1**
	baz=54,SNR=8.7						
TXAR	**Lajitas Array**	**54.03**	**328**	P	**P**	**04 51 59.7**	**+0.2**
	4.6nm,0.8s,baz=152,slow=8.9,SNR=51						
430A	**Baggett Ranch,**	**54.04**	**331**	⇓P	**P**	**04 51 59.3**	**-0.2**
	baz=54						
233A	**Rising Star**	**54.04**	**334**	⇑P	**P**	**04 51 59.2**	**-0.2**
	baz=54,SNR=7.3						
331A	**San Angelo**	**54.10**	**332**	⇓P	**P**	**04 51 59.5**	**-0.4**
	baz=54						
134A	**White-Moore Ra**	**54.19**	**335**	⇓P	**P**	**04 52 00.4**	**0.0**
	baz=54						
429A	**Davenport Ranc**	**54.21**	**330**	⇑P	**P**	**04 52 00.8**	**0.0**
	baz=54,SNR=8.4						
232A	**Coleman**	**54.25**	**333**	⇑P	**P**	**04 52 00.9**	**-0.1**
	baz=54,SNR=6.0						
Z35A	**Perchaven, San**	**54.52**	**336**	⇓P	**P**	**04 52 03.0**	**+0.1**
	baz=55						
330A	**Mertzon**	**54.53**	**331**	⇑P	**P**	**04 52 03.0**	**-0.1**
	baz=55						
133A	**Hamilton Ranch**	**54.56**	**334**	⇑P	**P**	**04 52 03.1**	**-0.1**
	baz=55						
231A	**Bronte**	**54.59**	**332**	⇓P	**P**	**04 52 02.9**	**-0.5**
	baz=55						
ABTX	**Abilene, Hawle**	**54.88**	**333**	⇑P	**P**	**04 52 05.6**	**0.0**
	baz=55,SNR=5.3						
ABTX	**Abilene, Hawle**	**54.88**	**333**	*eP*	**P**	**04 52 05.8**	**+0.3**
	6.8nm,0.7s						
X37A	**Clayton**	**54.95**	**338**	⇓P	**P**	**04 52 06.1**	**+0.2**
	baz=55						
329A	**Wagon Wheel Ra**	**54.97**	**331**	⇓P	**P**	**04 52 06.2**	**-0.1**
	baz=55						
Z33A	**Whitaker Ranch**	**55.09**	**335**	⇓P	**P**	**04 52 07.1**	**+0.1**
	baz=55,SNR=5.1						
W38A	**Poteau**	**55.09**	**339**	⇑P	**P**	**04 52 07.6**	**+0.6**
	baz=55						
131A	**Roby**	**55.25**	**333**	⇑P	**P**	**04 52 08.3**	**+0.1**
	baz=55						
Y34A	**Reagan Ranch,**	**55.27**	**336**	⇑P	**P**	**04 52 09.1**	**+0.8**
	baz=55						
229A	**Bryant Ranch,**	**55.29**	**331**	⇑P	**P**	**04 52 08.8**	**+0.2**
	baz=55						
X35A	**Drake**	**55.36**	**337**	⇓P	**P**	**04 52 08.7**	**-0.2**
	baz=56						
Z32A	**Haskell**	**55.40**	**334**	⇓P	**P**	**04 52 09.3**	**+0.1**
	baz=56						
Y33A	**Hilltop Ranch,**	**55.66**	**335**	⇓P	**P**	**04 52 11.0**	**-0.1**
	baz=56						
Z31A	**Sharp Cattle R**	**55.69**	**333**	⇑P	**P**	**04 52 11.1**	**-0.3**
	baz=56,SNR=5.4						
W36A	**Wetumka**	**55.75**	**338**	⇑P	**P**	**04 52 11.0**	**-0.7**
	baz=56						
228A	**UT Block 9, Go**	**55.78**	**331**	⇑P	**P**	**04 52 12.0**	**-0.1**
	baz=56						
X34A	**Smith Ranch, M**	**55.87**	**336**	⇓P	**P**	**04 52 12.7**	**+0.1**
	baz=56						
129A	**Stewart Farms,**	**55.87**	**332**	⇓P	**P**	**04 52 12.7**	**-0.1**
	baz=56						
Y32A	**R-V Farms, Ver**	**55.99**	**334**	⇑P	**P**	**04 52 13.6**	**+0.1**
	baz=56						
W35A	**Tecumseh**	**55.99**	**337**	⇓P	**P**	**04 52 12.9**	**-0.6**
	baz=56						
Z30A	**Sanderson Ranc**	**56.09**	**333**	⇓P	**P**	**04 52 13.8**	**-0.5**
	baz=56,SNR=8.5						
128A	**Castleberry Fa**	**56.15**	**331**	⇑P	**P**	**04 52 14.7**	**-0.1**
	baz=56						
X32A	**Elmer**	**56.29**	**335**	⇓P	**P**	**04 52 15.6**	**0.0**
	baz=56						
TUL1	**Leonard**	**56.29**	**339**	⇑P	**P**	**04 52 15.7**	**+0.1**
	baz=56						
TUL1	**Leonard**	**56.29**	**339**	*eP*	**P**	**04 52 15.4**	**-0.2**
	8.0nm,0.8s						
Y31A	**Rekieta Farm,**	**56.30**	**334**	⇓P	**P**	**04 52 15.6**	**0.0**
	baz=56						
Z29A	**Hungry Hill Ra**	**56.33**	**332**	⇑P	**P**	**04 52 16.0**	**0.0**
	baz=56						
W33A	**Caddo, Fort Co**	**56.60**	**336**	⇓P	**P**	**04 52 18.1**	**+0.3**
	baz=57						
X31A	**McDonald Ranch**	**56.75**	**334**	⇑P	**P**	**04 52 18.5**	**-0.4**
	baz=57						
MNTX	**Cornudas Mount**	**56.81**	**328**	⇑P	**P**	**04 52 18.8**	**-0.6**
	baz=57,SNR=8.2						
MNTX	**Cornudas Mount**	**56.81**	**328**	*eP*	**P**	**04 52 19.1**	**-0.3**
	4.6nm,0.8s						
Y29A	**Porterfield Fa**	**56.82**	**332**	⇑P	**P**	**04 52 19.0**	**-0.5**
	baz=57						
V34A	**Guthrie**	**56.84**	**337**	⇑P	**P**	**04 52 19.1**	**-0.4**
	baz=57						
W32A	**Sentinel**	**56.88**	**335**	⇑P	**P**	**04 52 19.5**	**-0.4**
	baz=57,SNR=6.9						
X30A	**Coker Ranch, T**	**56.97**	**334**	⇑P	**P**	**04 52 19.9**	**-0.6**
	baz=57						
V33A	**Lossen Ranch,**	**57.12**	**337**	⇑P	**P**	**04 52 21.1**	**-0.3**
	baz=57						
Y28A	**McKinney Farm,**	**57.12**	**332**	⇓P	**P**	**04 52 21.1**	**-0.5**
	baz=57						
W31A	**Holland Ranch,**	**57.22**	**335**	⇑P	**P**	**04 52 21.5**	**-0.8**
	baz=57						
X29A	**Tulia**	**57.33**	**333**	⇓P	**P**	**04 52 22.9**	**-0.1**
	baz=58						
MSTX	**Muleshoe**	**57.41**	**332**	⇓P	**P**	**04 52 24.0**	**+0.3**
	baz=58						
MSTX	**Muleshoe**	**57.41**	**332**	*eP*	**P**	**04 52 24.6**	**+0.9**
	7.4nm,1.1s						
X28A	**Dimmitt**	**57.61**	**332**	⇑P	**P**	**04 52 24.7**	**-0.4**
	baz=58						
AMTX	**Amarillo**	**57.69**	**333**	⇑P	**P**	**04 52 24.0**	**-1.6**
	baz=58						
S36A	**Lake Cedric, C**	**57.86**	**340**	⇓P	**P**	**04 52 26.4**	**-0.2**
	baz=58						
S35A	**Otter Creek Ra**	**58.07**	**339**	⇑P	**P**	**04 52 28.0**	**-0.1**
	baz=58						
R36A	**Gordon, Harris**	**58.38**	**340**	⇑P	**P**	**04 52 29.9**	**-0.3**
	baz=58						
319A	**Douglas**	**58.63**	**325**	⇑P	**P**	**04 52 33.1**	**+0.8**
	baz=59,SNR=9.5						
V28A	**Channing**	**58.66**	**333**	⇓P	**P**	**04 52 32.6**	**+0.1**
	baz=59						
121A	**Cookes Peak, D**	**58.71**	**327**	⇑P	**P**	**04 52 33.9**	**+1.0**
	baz=59,SNR=7.4						
U27A	**Thompson Grove**	**59.48**	**333**	⇑P	**P**	**04 52 38.2**	**0.0**
	baz=60						
R32A	**Long Quarter,**	**59.57**	**338**	⇑P	**P**	**04 52 38.5**	**-0.1**
	baz=60						
R31A	**Burdett**	**59.76**	**337**	⇑P	**P**	**04 52 39.8**	**0.0**
	baz=60						
S29A	**Ulysses**	**59.79**	**335**	⇑P	**P**	**04 52 40.2**	**0.0**
	baz=60						
ANMO	**Albuquerque**	**59.94**	**329**	*eP*	**P**	**04 52 41.7**	**+0.2**
	4.3nm,1.2s						
T27A	**Campo**	**59.98**	**334**	⇑P	**P**	**04 52 41.3**	**-0.2**
	baz=60						
Q32A	**Meitler Ranch,**	**60.02**	**338**	⇑P	**P**	**04 52 41.7**	**0.0**
	baz=60						
S28A	**Manter**	**60.08**	**335**	⇑P	**P**	**04 52 42.1**	**-0.2**
	baz=60						
Q31A	**Ellis**	**60.34**	**337**	⇑P	**P**	**04 52 44.3**	**+0.5**
	baz=60						
T26A	**Comanche Natio**	**60.45**	**333**	⇑P	**P**	**04 52 45.2**	**+0.3**
	baz=61						
Q30A	**Quinter**	**60.62**	**337**	⇓P	**P**	**04 52 46.0**	**+0.2**
	baz=61						
S26A	**Kim**	**60.77**	**333**	⇑P	**P**	**04 52 47.0**	**0.0**
	baz=61						
T25A	**Trinidad**	**60.78**	**332**	⇑P	**P**	**04 52 47.0**	**-0.1**
	baz=61						
P31A	**Stockton**	**60.78**	**338**	⇑P	**P**	**04 52 46.6**	**-0.2**
	baz=61						
214A	**Organ Pipe Nat**	**61.07**	**322**	⇓P	**P**	**04 52 50.3**	**+1.3**
	baz=61						
SDCO	**Great Sand Dun**	**61.77**	**332**	⇓P	**P**	**04 52 54.5**	**+0.6**
	baz=62,SNR=9.0						
SDCO	**Great Sand Dun**	**61.77**	**332**	*eP*	**P**	**04 52 54.7**	**+0.8**
	5.1nm,0.8s						
R24A	**Sanders Place,**	**61.99**	**333**	⇓P	**P**	**04 52 56.4**	**+1.1**
	baz=62						
X16A	**Lo Mia Camp, P**	**62.11**	**325**	⇑P	**P**	**04 52 57.4**	**+1.3**
	baz=62,SNR=6.3						
113A	**Mohawk Valley,**	**62.21**	**322**	⇓P	**P**	**04 52 57.8**	**+1.2**
	baz=62						
R23A	**Moffat**	**62.28**	**332**	⇓P	**P**	**04 52 58.2**	**+0.8**
	baz=62						
S22A	**4UR Ranch, Cre**	**62.38**	**331**	⇑P	**P**	**04 52 58.7**	**+0.7**
	baz=62						
Y14A	**Wickenburg**	**62.62**	**324**	⇑P	**P**	**04 53 00.4**	**+1.0**
	baz=63						
P25A	**Willow Gulch B**	**62.66**	**334**	⇑P	**P**	**04 53 00.6**	**+0.9**
	baz=63						
MVCO	**Mesa Verde**	**62.74**	**329**	⇓P	**P**	**04 53 01.1**	**+0.7**
	baz=63						
ISCO	**Idaho Springs**	**63.51**	**333**	⇓P	**P**	**04 53 05.9**	**+0.4**
	baz=64						
PV01	**Paradox Valley**	**63.51**	**330**	*eP*	**P**	**04 53 06.0**	**+0.6**
	57nm,0.6s						
SMCO	**Snowmass**	**63.60**	**332**	*eP*	**P**	**04 53 07.2**	**+0.9**
	17nm,1.6s						
ECSD	**EROS Data Cent**	**63.65**	**342**	⇓P	**P**	**04 53 05.5**	**-0.4**
	baz=64						
ECSD	**EROS Data Cent**	**63.65**	**342**	*eP*	**P**	**04 53 05.2**	**-0.7**
	7.1nm,1.0s						
BC3	**Big Chuckawall**	**63.83**	**322**	⇑P	**P**	**04 53 08.9**	**+1.4**
	baz=64						
W13A	**Hualapai Mount**	**63.97**	**324**	⇓P	**P**	**04 53 09.9**	**+1.3**
	baz=64						
K29A	**Lazy Trails An**	**63.97**	**339**	⇑P	**P**	**04 53 08.9**	**+0.7**
	baz=64						
O23A	**Lake Granby, G**	**63.98**	**333**	⇓P	**P**	**04 53 09.2**	**+0.6**
	baz=64						
SPMN	**Marine on St.**	**64.00**	**345**	⇑P	**P**	**04 53 07.5**	**-0.7**
	baz=64,SNR=6.8						
SPMN	**Marine on St.**	**64.00**	**345**	*eP*	**P**	**04 53 07.7**	**-0.5**
	14nm,0.9s						
IRM	**Iron Mountain**	**64.01**	**323**	⇑P	**P**	**04 53 10.1**	**+1.5**
	baz=64						
U15A	**North Rim**	**64.08**	**326**	⇑P	**P**	**04 53 10.5**	**+1.2**
	baz=64						
O22A	**Kremmling**	**64.22**	**333**	⇑P	**P**	**04 53 10.5**	**+0.4**
	baz=64						
PFO	**Pinyon Flats O**	**64.40**	**321**	⇑P	**P**	**04 53 13.0**	**+1.8**
	baz=64						
J29A	**Okreek**	**64.54**	**339**	⇑P	**P**	**04 53 12.2**	**+0.4**
	baz=65						
GMRC	**Granite Mounta**	**64.75**	**323**	⇑P	**P**	**04 53 14.7**	**+1.2**
	baz=65						
O20A	**White River Ci**	**64.95**	**332**	⇑P	**P**	**04 53 16.2**	**+1.3**
	baz=65						
HEC	**Hector,Ludlow**	**65.17**	**322**	⇓P	**P**	**04 53 17.9**	**+1.6**
	baz=65						
J26A	**Sides Ranch, S**	**65.45**	**337**	⇑P	**P**	**04 53 18.6**	**+0.8**
	baz=66						
L23A	**Garrett**	**65.47**	**335**	⇑P	**P**	**04 53 18.8**	**+0.6**
	baz=66						
N20A	**Spence Gulch,**	**65.52**	**332**	⇑P	**P**	**04 53 19.1**	**+0.6**
	baz=66						
SHPR	**Sheep Range**	**65.70**	**324**	*eP*	**P**	**04 53 21.4**	**+1.7**
GSC	**Goldstone, Bar**	**65.78**	**322**	⇑P	**P**	**04 53 21.7**	**+1.5**
	baz=66						
K23A	**Bowen Ranch, D**	**65.97**	**335**	⇓P	**P**	**04 53 22.1**	**+0.7**
	baz=66						
J24A	**Dixon Ranch, L**	**66.07**	**336**	⇑P	**P**	**04 53 23.3**	**+1.4**
	baz=66						
EDW2	**Edwards Air Fo**	**66.19**	**321**	⇑P	**P**	**04 53 23.9**	**+1.1**
	baz=66						
G28A	**Parade**	**66.22**	**339**	⇓P	**P**	**04 53 24.7**	**+2.0**
	baz=66						
K22A	**Casper**	**66.25**	**334**	⇓P	**P**	**04 53 23.9**	**+0.7**
	baz=66						
I25A	**Rochford**	**66.30**	**337**	⇑P	**P**	**04 53 23.8**	**+0.4**
	baz=66,SNR=5.2						
BLG	**Laguna Peak, P**	**66.32**	**320**	⇑P	**P**	**04 53 24.7**	**+1.1**
	baz=66						
LRMC	**Laurel Mtn Rad**	**66.42**	**322**	⇑P	**P**	**04 53 26.0**	**+1.7**
	baz=67						
K21A	**Alcova**	**66.54**	**334**	⇑P	**P**	**04 53 25.7**	**+0.7**
	baz=67						
TPNV	**Topopah Spring**	**66.62**	**324**	⇑P	**P**	**04 53 27.0**	**+1.3**
	baz=67						
TPNV	**Topopah Spring**	**66.62**	**324**	*eP*	**P**	**04 53 27.7**	**+2.1**
	3.7nm,0.9s						
FURC	**Furnace Creek,**	**66.63**	**323**	⇑P	**P**	**04 53 27.1**	**+1.7**
	baz=67						
MPMC	**Manual Prospec**	**66.71**	**323**	⇑P	**P**	**04 53 27.8**	**+1.6**
	baz=67						
F28A	**McLaughlin**	**66.86**	**340**	⇓P	**P**	**04 53 27.1**	**+0.3**
	baz=67						
J22A	**Midwest**	**66.86**	**335**	⇑P	**P**	**04 53 26.9**	**-0.1**
	baz=67						
ISA	**Isabella, Lake**	**67.02**	**322**	*eP*	**P**	**04 53 28.5**	**+0.4**
	3.3nm,0.9s						
DUG	**Dugway, Tooele**	**67.19**	**329**	⇑P	**P**	**04 53 30.2**	**+1.1**
	baz=67,SNR=7.3						
DUG	**Dugway, Tooele**	**67.19**	**329**	*eP*	**P**	**04 53 30.8**	**+1.6**
	8.9nm,1.1s						
J21A	**Lysite**	**67.21**	**334**	⇓P	**P**	**04 53 29.6**	**+0.3**
	baz=67						
H24A	**Dirks Ranch, A**	**67.23**	**337**	⇓P	**P**	**04 53 29.2**	**0.0**
	baz=67						
R11A	**Troy Canyon, C**	**67.26**	**326**	⇓P	**P**	**04 53 31.2**	**+1.5**
	baz=67						
R11A	**Troy Canyon, C**	**67.26**	**326**	*eP*	**P**	**04 53 31.6**	**+1.9**
	2.9nm,0.9s						
I22A	**9 Mile Ranch,**	**67.26**	**335**	⇓P	**P**	**04 53 29.3**	**-0.2**
	baz=67						
D30A	**Buchanan**	**67.34**	**342**	⇑P	**P**	**04 53 29.9**	**+0.1**
	baz=68						
J20A	**Shoshoni**	**67.48**	**334**	⇓P	**P**	**04 53 30.8**	**-0.1**
	baz=68						
F26A	**Lodgepole**	**67.49**	**339**	⇑P	**P**	**04 53 30.9**	**+0.1**
	baz=68						
VES	**Vestal, Richgr**	**67.50**	**321**	⇓P	**P**	**04 53 32.7**	**+1.7**
	baz=68						
I21A	**Big Trails, Te**	**67.53**	**335**	⇑P	**P**	**04 53 30.9**	**-0.4**
	baz=68,SNR=5.2						
AGMN	**Agassiz Nation**	**67.62**	**344**	⇓P	**P**	**04 53 31.2**	**-0.3**
	baz=68						
AGMN	**Agassiz Nation**	**67.62**	**344**	*eP*	**P**	**04 53 31.3**	**-0.2**
	58nm,2.4s						
PDAR	**Pinedale Array**	**67.65**	**332**	P	**P**	**04 53 32.0**	**-0.1**
	0.5nm,0.6s,baz=151,slow=6.2,SNR=4.5						
C30A	**Mose, Pekin**	**67.80**	**342**	⇓P	**P**	**04 53 32.9**	**+0.2**
	baz=68						
J19A	**Crowheart**	**67.83**	**333**	⇓P	**P**	**04 53 33.6**	**+0.4**
	baz=68						
G23A	**Biddle**	**67.93**	**337**	⇓P	**P**	**04 53 33.5**	**-0.1**
	baz=68						
E26A	**Carlson Angus**	**67.96**	**339**	⇑P	**P**	**04 53 34.1**	**+0.4**
	baz=68						
D28A	**Regan**	**67.97**	**341**	⇓P	**P**	**04 53 34.1**	**+0.3**
	baz=68						
I20A	**Worland**	**67.99**	**334**	⇓P	**P**	**04 53 34.1**	**0.0**
	baz=68						
F24A	**Ekalaka**	**68.12**	**338**	⇑P	**P**	**04 53 34.9**	**0.0**
	baz=68						
MDND	**Maddock**	**68.26**	**342**	⇓P	**P**	**04 53 35.9**	**+0.4**
	baz=68						
G22A	**Birney**	**68.29**	**336**	⇓P	**P**	**04 53 35.8**	**-0.1**
	baz=68						
H20A	**Greybull**	**68.37**	**334**	⇑P	**P**	**04 53 36.3**	**-0.2**
	baz=68						
F23A	**Volborg**	**68.37**	**337**	⇑P	**P**	**04 53 36.3**	**-0.1**
	baz=68						
I19A	**Meeteetse**	**68.42**	**334**	⇓P	**P**	**04 53 37.5**	**+0.6**
	baz=68						
B30A	**Myrvik Farm, E**	**68.43**	**343**	⇑P	**P**	**04 53 36.6**	**0.0**
	baz=68,SNR=6.7						
G21A	**Lodge Grass**	**68.66**	**335**	⇓P	**P**	**04 53 38.2**	**0.0**
	baz=69						
E24A	**Baker**	**68.68**	**338**	⇑P	**P**	**04 53 38.5**	**+0.2**
	baz=69						
B29A	**Wagenman Farm,**	**68.74**	**342**	⇓P	**P**	**04 53 38.5**	**0.0**
	baz=69,SNR=8.3						
F22A	**Rosebud**	**68.75**	**336**	⇓P	**P**	**04 53 38.8**	**+0.1**
	baz=69						
NVAR	**Mina Array Bea**	**68.82**	**324**	P	**P**	**04 53 40.2**	**+0.6**
	1.2nm,0.8s,baz=150,slow=7.7,SNR=10						
D25A	**Fairfield**	**68.84**	**339**	⇑P	**P**	**04 53 39.8**	**+0.5**
	baz=69						
A30A	**Hoffart Farm,**	**68.87**	**343**	⇓P	**P**	**04 53 39.2**	**-0.1**
	baz=69						
FXWY	**Fox Creek**	**69.00**	**332**	*eP*	**P**	**04 53 41.3**	**+0.7**
	26nm,2.3s						
I17A	**Pilgrim Ck.**	**69.02**	**333**	⇓P	**P**	**04 53 40.6**	**0.0**
	baz=69						
C26A	**Wahner Farm, P**	**69.02**	**340**	⇑P	**P**	**04 53 40.6**	**+0.3**
	baz=69						
G20A	**Bridger**	**69.06**	**335**	⇓P	**P**	**04 53 40.9**	**+0.2**
	baz=69						
A29A	**Manning Farm,**	**69.12**	**342**	⇑P	**P**	**04 53 40.5**	**-0.4**

	14nm,1.4s							
MSO	**Missoula**	**72.77**	**333**	⇑P		**P**	**04 54 04.7**	**+1.4**
	baz=73							
M04C	**Macdoel**	**73.09**	**325**	⇑P		**P**	**04 54 06.3**	**+1.1**
	baz=73							
M02C	**Callahan**	**73.40**	**324**	⇓P		**P**	**04 54 08.0**	**+1.0**
	baz=74							
J05D	**Fort Rock, OR**	**73.78**	**326**	⇓P		**P**	**04 54 10.6**	**+1.3**
	baz=74							
J04D	**Umpqua Nationa**	**74.22**	**326**	⇓P		**P**	**04 54 13.2**	**+1.2**
	baz=74							
G05D	**Wamic, OR**	**75.15**	**327**	⇓P		**P**	**04 54 19.4**	**+2.3**
	baz=75							
I03D	**Drain, OR**	**75.19**	**325**	⇑P		**P**	**04 54 18.7**	**+1.4**
	baz=75							
NEW	**Newport**	**75.27**	**332**	⇓P		**P**	**04 54 18.6**	**+0.9**
	baz=75							
D05A	**Enumclaw**	**76.83**	**329**	*e*P		**P**	**04 54 28.0**	**+1.5**
EDM	**Edmonton**	**77.48**	**337**	*e*P		**P**	**04 54 30.0**	**-0.2**
	9.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**80.43**	**73**	P		**P**	**04 54 47.0**	**-0.2**
	4.3nm,0.8s,baz=259,slow=5.5,SNR=54							
YKA	**Yellowknife Ar**	**85.17**	**342**	P		**P**	**04 55 10.5**	**-0.1**
	4.6nm,0.8s,baz=136,slow=5.1,SNR=82							
ESDC	**Sonseca Array**	**85.95**	**47**	P		**P**	**04 55 14.8**	**-0.4**
	0.4nm,0.4s,baz=255,slow=5.4,SNR=6.9							
SUMG	**Summit**	**92.18**	**10**	*e*P		**P**	**04 55 45.4**	**+1.1**
	279nm,3.0s							
ILAR	**Eielson Array**	**97.92**	**336**	P		Pdif	04 56 11.6	+1.3
	0.3nm,0.9s,baz=134,slow=3.9,SNR=4.3							
H11N3	**WAKE ISLAND Hyl**	**22.35**	**283**	T		T	07 15 31.1	
	baz=99							
H11N2	**WAKE ISLAND Hyl**	**22.36**	**283**	T		T	07 15 33.3	
	baz=99							
H11N1	**WAKE ISLAND Hyl**	**22.37**	**283**	T		T	07 15 35.0	
	baz=99							
H11S2	**WAKE ISLAND Hyl**	**22.37**	**282**	T		T	07 15 50.5	
	baz=99,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hyl**	**22.38**	**282**	T		T	07 15 46.1	
	baz=99,slow=75,SNR=6.9							
H11S3	**WAKE ISLAND Hyl**	**22.39**	**282**	T		T	07 15 51.0	
	baz=99,slow=75,SNR=12							
ASAR	**Alice Springs**	**131.47**	**215**	PKP		**PKPdf**	**05 01 48.8**	**+0.7**
	0.3nm,0.6s,baz=114,slow=1.4,SNR=5.1							
AS31	**Alice Springs**	**131.47**	**215**	*e*Pdif		**Pdif**	**04 58 43.0**	**+2.4**
ZALV	**Zalesovo Beam**	**139.37**	**19**	PKP		**PKPdf**	**05 02 02.9**	**+1.1**
	1.0nm,0.5s,baz=286,slow=1.8,SNR=6.3							
MJAR	**Matsushiro Arr**	**145.35**	**311**	PKPbc		**PKPab**	**05 02 13.1**	**+0.1**
	1.4nm,0.5s,baz=86,slow=3.8,SNR=3.3							
KSH	**Kashi**	**145.39**	**43**	*e*PKPbc		**PKPab**	**05 02 14.5**	**+1.3**
KSH				PP		**PP**	**05 05 32.3**	**-0.5**
KSH				PKS		**PKSdf**	**05 05 48.8**	**+0.1**
KSH				SKKS			05 12 21.0	
KSH				PPMZ				
	99nm,6.1s							
KSH				LZ				
	190nm,11.7s							
WMQ	**Urumqi**	**148.86**	**26**	*e*PKPbc		**PKPdf**	**05 02 18.3**	**-0.4**
WMQ				pPKP		**pPKPdf**	**05 02 32.5**	**+3.8**
WMQ				LZ				
	180nm,27.2s							
SONM	**Songino Array**	**148.99**	**360**	PKPbc		**PKPbc**	**05 02 24.2**	**+1.2**
	2.7nm,0.6s,baz=323,slow=3.1,SNR=7.6							
HHC	**Hu-ho-hao-te**	**155.50**	**350**	*e*PKP		**PKPdf**	**05 02 28.3**	**-0.5**
HHC				pPKP		**pPKPdf**	**05 02 37.0**	**-1.7**
HHC				sPKP			05 02 45.8	
HHC				PKS		**PKSdf**	**05 05 58.3**	**-4.6**
HHC				PP		**PP**	**05 06 34.5**	**+4.6**
HHC				SKKS			05 13 12.5	
HHC				SS		**SS**	**05 26 15.5**	**+2.3**
HHC				PPMZ				
	260nm,9.3s							
HHC				LN				
	210nm,22.0s							
HHC				LE				
	220nm,22.0s							
HHC				LZ				
	270nm,21.4s							
NJ2	**Nanjing**	**160.81**	**325**	*e*PKP		**PKPdf**	**05 02 36.5**	**+1.2**
CD2	**Chengdu**	**165.74**	**8**	PKP		**PKPdf**	**05 02 40.0**	**-0.1**

*IDC **26** 04:43:20.9±1.1, 1°.94N×96°.59E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/41, mbtmp4.0/8, ML4.4/1, Error ellipse: s-maj=25.8km s-min=16.6km az=25.0*
*DJA **26** 04:43:24.6±0.7, 2°.5×9°.7E±°, h47km±7km, M3.9/8, mb4.1/3, mB5.4/1, MLv3.8/8, Mw(mB)4.8/1*
ISC 26 04:43:25.3±0.9, 2.07N±0.08×96.68E±0.09, h28km, n21, σ0.92/18, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.48**	**314**	P	**Pn**	**04 43 36.7**	**+0.3**
SNSI				S	**Sn**	**04 43 45.5**	**+1.6**
GSI	**Gunungsitoli**	**1.18**	**130**	P	**Pn**	**04 43 45.6**	**-0.3**
GSI				S	**Sn**	**04 44 31.1**	**0.0**
KCSI	**Kotacane, Aceh**	**1.81**	**37**	P	**Pn**	**04 43 56.0**	**+1.4**
PSI	**Prapat**	**2.36**	**72**	Pn	**Pn**	**04 44 01.4**	**-1.0**
	0.7nm,0.3s,baz=267,slow=5.8,SNR=7.0						
PSI				Lg	Lg	04 44 39.5	
	2.9nm,0.3s,baz=256,slow=23,SNR=3.5						
MNSI	**Mandailing Nat**	**3.17**	**114**	P	**Pn**	**04 44 11.9**	**-1.4**
BSI	**Banda Aceh**	**3.67**	**338**	P	**Pn**	**04 44 19.2**	**-1.1**
BSI				S	**Sn**	**04 45 01.9**	**-0.8**
MDSI	**Maura Dua**	**9.93**	**131**	P	**Pn**	**04 45 46.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.44**	**8**	Pn	**Pn**	**04 47 13.2**	**-1.0**
	0.5nm,0.3s,baz=195,slow=12,SNR=9.5						
H08S2	**Diego Garcia H**	**25.98**	**248**	T	T	05 15 43.4	
	baz=68,slow=75,SNR=400						
H08S3	**Diego Garcia H**	**25.99**	**248**	T	T	05 15 40.2	
	baz=68,slow=75,SNR=411						
H08S1	**Diego Carcia H**	**26.00**	**248**	T	T	05 15 41.4	
	baz=68,slow=75,SNR=536						
H01W3	**Cape Leeuwin H**	**40.24**	**158**	T	T	05 33 49.0	
	baz=333,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**40.26**	**158**	T	T	05 33 49.9	
	baz=333,slow=76,SNR=21						
H01W1	**Cape Leeuwin H**	**40.26**	**158**	T	T	05 33 45.7	
	baz=333,slow=76,SNR=17						
WRA	**Warramunga Arr**	**42.94**	**122**	P	**P**	**04 51 21.7**	**-0.4**
	1.4nm,0.7s,baz=300,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**44.34**	**127**	P	**P**	**04 51 33.2**	**-0.1**
	0.5nm,0.8s,baz=300,slow=7.8,SNR=5.2						
MKAR	**Makanchi Array**	**46.28**	**346**	P	**P**	**04 51 49.1**	**+0.8**
	2.1nm,0.7s,baz=176,slow=8.4,SNR=20						
KURBB	**Kurchatov Arra**	**50.76**	**345**	P	**P**	**04 52 23.8**	**+1.0**
	0.9nm,0.7s,baz=166,slow=6.7,SNR=11						
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	**P**	**04 52 37.3**	**+0.7**
	2.4nm,0.5s,baz=179,slow=6.8,SNR=12						
FINES	**FINESS Array B**	**78.99**	**333**	P	**P**	**04 55 26.8**	**+0.4**
	1.1nm,0.7s,baz=108,slow=12,SNR=2.7						
ARCES	**ARCESS Array B**	**81.55**	**340**	P	**P**	**04 55 40.1**	**0.0**
	5.1nm,1.1s,baz=99,slow=5.6,SNR=3.6						

*DJA **26** 04:54:08.8±0.3, 9°.5±5°×11°.8E±°, h10km, M4.4/13, mb4.6/2, mB4.9/1, MLv4.3/13, Mw(mB)4.2/1*
*ISCJB **26** 04:54:09.1±0.5, 9°.75S±0.09×118°.34E±0.04, h48km, Error ellipse: s-maj=13.1km s-min=5.4km az=13.0*
ISC 26 04:54:10.6±1.1, 9.6S±0.1×118.38E±0.07, h48km, n18, σ1.14/18, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.89**	**91**	P	**Pn**	**04 54 40.1**	**-0.4**
WSI	**Waingapu**	**1.89**	**91**	P	**Pn**	**04 54 40.1**	**-0.4**
	baz=2.0,SNR=8.8						
BASI	**Baing, Sumba**	**2.24**	**105**	P	**Pn**	**04 54 46.4**	**+1.1**
IGBI	**Denpasar**	**3.29**	**284**	P	**Pn**	**04 55 00.2**	**+0.5**
IGBI				S	**Sn**	**04 55 37.6**	**-0.1**
EDFI	**Ende, Flores**	**3.38**	**75**	P	**Pn**	**04 55 01.8**	**+0.7**
SRBI	**Singaraja**	**3.48**	**296**	P	**Pn**	**04 55 03.2**	**+0.8**
MMRI	**Maumere**	**3.93**	**76**	P	**Pn**	**04 55 09.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**4.33**	**285**	P	**Pn**	**04 55 14.4**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.33**	**285**	P	**Pn**	**04 55 13.8**	**-0.2**
	baz=4.3,SNR=11						
ABJI	**Asem Bagus**	**4.48**	**294**	P	**Pn**	**04 55 16.7**	**+0.6**
BKSI	**Bulukumba**	**4.61**	**22**	P	**Pn**	**04 55 18.4**	**+0.6**
BATI	**Baumata**	**5.24**	**97**	P	**Pn**	**04 55 25.9**	**-0.6**
	36nm,0.5s,0.2nm						
SOEI	**Soe**	**5.80**	**92**	P	**Pn**	**04 55 36.2**	**+1.8**
SOEI	**Soe**	**5.80**	**92**	P	**Pn**	**04 55 34.3**	**-0.1**
	baz=5.9,SNR=6.1						
KNRA	**Kununurra**	**11.78**	**122**	P	**Pn**	**04 56 57.7**	**+1.6**
	baz=12,SNR=5.4						
MTN	**Manton Dam**	**12.91**	**106**	P	**Pn**	**04 57 08.8**	**-2.7**
	baz=13,SNR=12						
GIRL	**Giralia**	**13.54**	**197**	P	Pn	04 57 15.4	-4.7
	baz=13,SNR=3.5						
GIRL				S	Sn	04 59 35.8	-13
	baz=13,SNR=3.9						
WRKA	**Warakurna**	**18.00**	**150**	P	**P**	**04 58 17.1**	**-0.3**
	baz=18,SNR=5.4						

*IDC **26** 04:56:37.1±1.2, 22°.18N×123°.76E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/30, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=29.4km s-min=22.4km az=92.0*
*JMA **26** 04:56:39.6±0.5, 22°.34N×123°.69E, h51km, M4.1*
*ISCJB **26** 04:56:41.9±0.9, 22°.46N±0°.05×123°.75E±0°.07, h33km, mb3.5/7, Error ellipse: s-maj=9.8km s-min=7.1km az=25.1*
ISC 26 04:56:43.8±1.5, 22.5N±0.1×123.76E±0.08, h35km, n21, σ1.04/27, mb3.6/7, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.57**	**2**	P	**Pn**	**04 57 08.2**	**-0.9**
HATJ				S	**Sn**	**04 57 28.3**	**+0.1**
JKRS	**Kuro-shima**	**1.76**	**7**	P	**Pn**	**04 57 10.7**	**-1.1**
JKRS				S	**Sn**	**04 57 33.6**	**+0.6**
IRIF	**Iriomote-Funau**	**1.84**	**359**	P	**Pn**	**04 57 12.4**	**-0.5**
IRIF				S	**Sn**	**04 57 34.8**	**-0.2**
JIJ	**Ishigaki jima**	**1.90**	**11**	P	**Pn**	**04 57 12.3**	**-1.5**
JIJ				S	**Sn**	**04 57 35.6**	**-0.9**
YOJ	**Yonaguni jima**	**2.08**	**341**	P	**Pn**	**04 57 15.8**	**-0.4**
YOJ				S	**Sn**	**04 57 40.5**	**-0.5**
JYNG	**Yonagunijimaku**	**2.10**	**339**	P	**Pn**	**04 57 15.9**	**-0.5**
JYNG				S	**Sn**	**04 57 40.7**	**-0.6**
JISG	**Ishigakijimahi**	**2.15**	**13**	P	**Pn**	**04 57 15.5**	**-1.7**
JISG				S	**Sn**	**04 57 42.3**	**-0.4**
JTJ	**Tarama**	**2.31**	**22**	P	**Pn**	**04 57 17.7**	**-1.7**
JTJ				S	**Sn**	**04 57 47.1**	**+0.5**
JIRB	**Irabujima**	**2.67**	**29**	P	**Pn**	**04 57 23.9**	**-0.4**
JOGS	**Gusukube**	**2.72**	**33**	*e*S	**Sn**	**04 57 57.5**	**+0.8**
JKE	**Kume jima 2**	**4.71**	**35**	P	**Pn**	**04 57 50.3**	**-2.1**
KSRS	**Korea Array**	**15.35**	**13**	Pn	**Pn**	**05 00 17.9**	**+0.2**
	0.3nm,0.3s,baz=194,slow=14,SNR=6.2						
MAT	**Matsushiro**	**18.79**	**39**	P	**Pn**	**05 01 02.0**	**+1.2**
MJAR	**Matsushiro Arr**	**18.79**	**39**	P	**Pn**	**05 01 02.1**	**+1.3**
	0.4nm,0.3s,baz=225,slow=9.9,SNR=14						
USRK	**Ussuriysk Ar.**	**22.70**	**15**	P	**P**	**05 01 43.5**	**+1.1**
	1.5nm,0.6s,baz=184,slow=5.8,SNR=5.2						
CMAR	**Chiang Mai Arr**	**23.58**	**265**	P	**P**	**05 01 50.5**	**-0.9**
	1.3nm,0.7s,baz=70,slow=8.8,SNR=6.4						
SONM	**Songino Array**	**28.87**	**335**	P	**P**	**05 02 40.7**	**+1.5**
	1.5nm,0.7s,baz=169,slow=8.1,SNR=2.9						
MKAR	**Makanchi Array**	**41.20**	**316**	P	**P**	**05 04 24.2**	**-0.9**
	0.5nm,0.6s,baz=114,slow=6.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**42.95**	**327**	P	**P**	**05 04 39.1**	**-0.1**
	0.5nm,0.4s,baz=101,slow=7.5,SNR=2.4						
WRA	**Warramunga Arr**	**43.41**	**165**	P	P	05 04 39.0	-4.3
	0.6nm,0.8s,baz=345,slow=9.1,SNR=2.8						
YKA	**Yellowknife Ar**	**83.60**	**23**	P	P	05 09 11.5	+3.3
	0.1nm,0.8s,baz=312,slow=5.3,SNR=2.9						

*IDC **26** 05:06:21.6±1.1, 9°.68S×123°.45E, h0km, mb4.2/6, mb1 4.2/8, mb1mx4.0/25, mbtmp4.1/8, ML3.7/2, Error ellipse: s-maj=48.8km s-min=24.8km az=58.0*
*AUST **26** 05:06:25.6, 10°.00S×123°.51E, h0km*
*ISCJB **26** 05:06:28.7±0.4, 9°.94S±0°.05×123°.45E±0°.05, h86km±4km, mb4.1/9, Error ellipse: s-maj=10.0km s-min=4.6km az=138.1*
*NEIC **26** 05:06:29.4±1.1, 9°.94S×123°.46E, h67km±10km, mb4.2/2, Error ellipse: s-maj=28.9km s-min=8.7km az=50.0*
*DJA **26** 05:06:31.3±0.9, 10°.5±6°×12°.3E±°, h10km±12km, M4.4/9, mb4.6/5, mB4.8/2, MLv4.3/9, Mw(mB)4.0/2*
ISC 26 05:06:29.2±0.8, 9.98S±0.06×123.31E±0.05, h72km±7km, n40, σ1.79/43, mb4.2/9, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.42**	**123**	P	**Pn**	**05 06 42.1**	**+0.5**
BATI				S	**Sn**	**05 06 52.5**	**+1.8**
SOEI	**Soe**	**0.97**	**77**	P	**Pn**	**05 06 47.8**	**+0.2**
SOEI				S	**Sn**	**05 07 00.5**	**-0.8**
SOEI	**Soe**	**0.97**	**77**	S	Pn	**05 06 48.2**	**+0.6**
	baz=0.8,SNR=60						
SOEI	**Soe**	**0.97**	**77**	*e*Pg	**Pn**	**05 06 47.3**	**-0.4**
SOEI				*e*Sg	**Sn**	**05 07 00.1**	**-1.2**
MMRI	**Maumere**	**1.70**	**322**	P	**Pn**	**05 06 56.9**	**-0.1**
MMRI				S	**Sn**	**05 07 17.1**	**-0.9**
MMRI	**Maumere**	**1.70**	**322**	*e*Pn	**Pn**	**05 06 56.5**	**-0.5**
MMRI				*e*Sn	**Sn**	**05 07 14.0**	**-4.0**
EDFI	**Ende, Flores**	**2.01**	**307**	P	**Pn**	**05 07 01.2**	**0.0**
EDFI				S	**Sn**	**05 07 26.8**	**+1.3**
BASI	**Baing, Sumba**	**2.70**	**265**	P	Pn	05 07 16.6	+6.2
BBSI	**Bau Bau**	**4.52**	**351**	P	Pn	05 07 31.0	-4.3
BKSI	**Bulukumba**	**5.60**	**325**	P	**Pn**	**05 07 51.6**	**+1.6**
	90nm,0.7s,871nm0.3nm						
KAPI	**Kappang**	**6.06**	**324**	*e*Pn	**Pn**	**05 07 58.9**	**+2.6**
	17nm,0.6s						
BNSI	**Bone**	**6.39**	**330**	P	**Pn**	**05 08 03.3**	**+2.5**
	74nm,1.3s,672nm0.2nm						
SPSI	**Sidrap Palu**	**6.93**	**329**	P	**Pn**	**05 08 10.1**	**+1.9**
	12nm,0.8s,0.1nm						
KNRA	**Kununurra**	**7.77**	**137**	P	**Pn**	**05 08 20.7**	**+1.1**
	baz=7.6,SNR=17						
KNRA				S	**Sn**	**05 09 44.1**	**-2.0**
	baz=7.6,SNR=18						
MTN	**Manton Dam**	**8.18**	**111**	P	**Pn**	**05 08 26.1**	**+0.8**
	baz=8.0,SNR=9.6						
MTN				S	**Sn**	**05 09 52.7**	**-3.6**
	baz=8.0,SNR=4.8						
SANI	**Sanana**	**8.32**	**19**	P	**Pn**	**05 08 27.0**	**-0.2**
KDU	**Kakadu**	**9.38**	**108**	P	**Pn**	**05 08 41.8**	**0.0**
	baz=9.2,SNR=16						
WRA	**Warramunga Arr**	**14.54**	**134**	Pn	**Pn**	**05 09 48.9**	**-2.5**
	0.3nm,0.3s,baz=309,slow=14,SNR=13						
WRA				Sn	Sn	05 12 21.6	-10
	0.9nm,0.3s,baz=306,slow=24,SNR=8.2						
WRAB	**Tennant Creek**	**14.54**	**134**	*e*Pn	**Pn**	**05 09 50.0**	**-1.4**
WB2	**Warramunga Arr**	**14.55**	**134**	*e*Pn	**Pn**	**05 09 49.5**	**-1.9**
WRKA	**Warakurna**	**15.71**	**163**	P	**P**	**05 10 08.2**	**-0.8**
	baz=16,SNR=6.1						
AS31	**Alice Springs**	**16.96**	**145**	*e*Pn	**P**	**05 10 22.9**	**+0.1**
ASAR	**Alice Springs**	**16.96**	**145**	P	**P**	**05 10 22.6**	**-0.3**
	0.3nm,0.3s,baz=318,slow=12,SNR=22						
ASAR				S	Sn	05 13 22.5	-7.5
	0.3nm,0.3s,baz=321,slow=23,SNR=8.4						
MEEK	**Meekatharra**	**17.15**	**194**	S	**Sn**	**05 13 32.0**	**-2.6**
	baz=17,SNR=3.3						
QIS	**Mount Isa**	**18.90**	**126**	P	**Pn**	**05 10 49.0**	**+3.5**
	baz=19,SNR=3.3						
CTAO	**Charters Tower**	**24.30**	**117**	*e*P	**P**	**05 11 38.7**	**-1.5**
	5.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.10**	**320**	P	**P**	**05 13 33.5**	**+0.6**
	0.7nm,0.4s,baz=143,slow=6.6,SNR=5.5						
MJAR	**Matsushiro Arr**	**48.35**	**16**	P	**P**	**05 15 02.5**	**-1.3**
	1.1nm,0.5s,baz=189,slow=7.0,SNR=3.3						
USRK	**Ussuriysk Ar.**	**54.50**	**8**	P	**P**	**05 15 49.1**	**-0.3**
	2.1nm,0.5s,baz=204,slow=7.3,SNR=6.1						
SONM	**Songino Array**	**59.49**	**347**	P	**P**	**05 16 24.8**	**-0.1**
	2.6nm,0.5s,baz=160,slow=5.8,SNR=6.3						
MKAR	**Makanchi Array**	**67.32**	**331**	P	**P**	**05 17 17.1**	**+0.5**
	3.0nm,0.7s,baz=160,slow=5.4,SNR=29						
AAK	**Ala-Archa**	**68.75**	**323**	*e*P	**P**	**05 17 27.5**	**+1.8**
	2.1nm,0.5s						
ZALV	**Zalesovo Beam**	**71.53**	**337**	P	**P**	**05 17 41.6**	**-0.6**
	1.3nm,0.4s,baz=135,slow=4.0,SNR=7.8						
ABKAR	**Akbulak array**	**80.83**	**324**	*e*P	**P**	**05 18 35.8**	**+0.6**
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**118.32**	**52**	PKP	**PKPdf**	**05 25 10.6**	**+1.5**
	0.1nm,0.4s,baz=236,slow=1.6,SNR=3.5						
DYA	**Yadsworthy**	**120.90**	**324**	PFAKE		05 25 30.0	+17
DYA				LR	LR		
	comp=Z,700nm,19.7s						
DSB	**Dublin**	**121.04**	**327**	PFAKE		05 25 30.0	+17
DSB				LR	LR		
	comp=Z,600nm,18.6s						
TORD	**Torodi Ar. Bea**	**122.81**	**279**	PKP	**PKPdf**	**05 25 20.9**	**+2.9**
	comp=Z,0.7nm,0.7s,baz=73,slow=1.7,SNR=7.4						
PDAR	**Pinedale Array**	**123.67**	**45**	PKP	**PKPdf**	**05 25 22.5**	**+3.3**
	comp=Z,0.3nm,0.6s,baz=45,slow=1.4,SNR=3.1						
MTE	**Manteigas**	**127.10**	**314**	PFAKE		05 25 40.0	+14
MTE				LR	LR		
	comp=Z,700nm,19.1s						

MEX 26 05:51:16.9±0.6, 16.47N×93.58W, h150km±7km, MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.54**	**55**	*e*P	Pn	05 51 37.3	-1.3
TGIG				*i* S	Sn	05 51 52.6	-2.5
PCIG		**0.84**	**155**	*i* P	Pn	05 51 38.8	-1.6
PCIG				*i* S	Sn	05 51 56.8	-1.6
CMIG	**Matias Romero**	**1.39**	**296**	*i* P	Pn	05 51 44.4	-1.0
CMIG				*i* S	Sn	05 52 05.3	-1.9
CCIG	**Comitan**	**1.40**	**98**	*e*P	Pn	05 51 44.4	-1.3
CCIG				*e*S	Sn	05 52 05.8	-1.9
THIG		**2.01**	**141**	*e*P	Pn	05 51 50.9	-1.3
THIG				*e*S	Sn	05 52 17.4	-1.8
HUIG	**Huatulco**	**2.53**	**254**	*e*P	Pn	05 51 55.3	-3.1
HUIG				*i* S	Sn	05 52 27.0	-3.3

*IDC **26** 05:58:25.4±0.9, 22°.29N×123°.84E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/34, mbtmp3.8/12, ML3.9/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/31, Error ellipse: s-maj=22.8km s-min=17.1km az=81.0*
*ISCJB **26** 05:58:26.0±0.6, 22°.44N±0°.04×123°.76E±0°.03, h11km, mb3.7/11, MS3.9/1, Error ellipse: s-maj=5.7km s-min=4.2km az=149.9*
*NEIC **26** 05:58:26.9±0.7, 22°.34N×123°.69E, h10km, mb4.0/2, Error ellipse: s-maj=12.5km s-min=9.9km az=179.0*
*JMA **26** 05:58:27.4±0.5, 22°.35N×123°.72E, h52km, M4.5*
ISC 26 05:58:26.7±0.8, 22.39N±0.07×123.81E±0.04, h11km, n41, σ1.97/58, mb3.8/11, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.66**	**360**	P	**Pb**	**05 58 55.7**	**-1.6**
HATJ				S	**Sn**	**05 59 15.5**	**-1.5**
JKRS	**Kuro-shima**	**1.84**	**6**	P	**Pn**	**05 58 58.4**	**+0.1**
JKRS				S	**Sn**	**05 59 20.6**	**-1.1**
IRIF	**Iriomote-Funau**	**1.94**	**358**	P	**Pb**	**05 58 59.9**	**-2.1**
IRIF				*e*S	**Sn**	**05 59 22.3**	**-1.6**
JIJ	**Ishigaki jima**	**1.98**	**9**	P	**Pn**	**05 58 59.8**	**-0.5**
JIJ				S	**Sn**	**05 59 22.6**	**-2.5**
YOJ	**Yonaguni jima**	**2.19**	**340**	P	**Pn**	**05 59 03.4**	**+0.4**
YOJ				S	**Sn**	**05 59 28.8**	**-1.3**
YOJ	**Yonaguni jima**	**2.19**	**340**	*e*Pn	**Pn**	**05 59 03.5**	**+0.5**
YOJ				*e*Sn	**Sn**	**05 59 28.4**	**-1.7**
JYNG	**Yonagunijimaku**	**2.20**	**339**	P	**Pn**	**05 59 03.4**	**+0.2**
JYNG				S	**Sn**	**05 59 29.0**	**-1.4**
JISG	**Ishigakijimahi**	**2.23**	**12**	P	**Pn**	**05 59 03.0**	**-0.7**
JISG				*e*S	**Sn**	**05 59 29.0**	**-2.2**
JTJ	**Tarama**	**2.38**	**20**	P	**Pn**	**05 59 05.4**	**-0.3**
JTJ				*e*S	**Sn**	**05 59 34.1**	**-0.8**
YULB	**Yu-li**	**2.52**	**294**	*e*Pn	**Pn**	**05 59 05.6**	**-2.1**
YULB				*e*Sn	**Sn**	**05 59 36.7**	**-1.8**
TWG	**Pinlang**	**2.57**	**280**	*e*Pn	**Pn**	**05 59 05.5**	**-2.8**
TWG				*e*Sn	**Sn**	**05 59 34.7**	**-4.9**
NACB	**Ninganchiao**	**2.70**	**311**	*e*Pn	**Pn**	**05 59 08.7**	**-1.4**
NACB				*e*Sn	**Sn**	**05 59 37.3**	**-5.5**
JOGS	**Gusukube**	**2.77**	**32**	*e*S	**Sn**	**05 59 43.9**	**-0.7**
SSLB	**Suanglung**	**2.98**	**298**	*e*Pn	**Pn**	**05 59 12.9**	**-1.0**
SSLB				*e*Sn	**Sn**	**05 59 47.1**	**-2.5**
TPUB	**Ta-pu**	**3.07**	**288**	*e*Pn	**Pn**	**05 59 14.8**	**-0.5**
TPUB				*e*Sn	**Sn**	**05 59 50.3**	**-1.6**
TPUB				*e*Sn	**Sn**	**05 59 50.4**	**-1.6**
YHNB	**Yeheng**	**3.18**	**316**	*e*Pn	**Pn**	**05 59 17.0**	**+0.1**
YHNB				*e*Sn	Sn	05 59 48.5	-6.4
TATO	**Taipei**	**3.34**	**321**	*e*Pn	**Pn**	**05 59 18.5**	**-0.4**
TATO				*e*Sn	**Sn**	**05 59 57.8**	**-0.7**
JKE	**Kume jima 2**	**4.76**	**34**	P	**Pn**	**05 59 37.6**	**-0.9**
JKE				*e*S	**Sn**	**06 00 30.6**	**-3.1**
JNTH	**Nagotoyohara**	**5.62**	**42**	P	**Pn**	**05 59 48.9**	**-1.3**
JNTH				*e*S	**Sn**	**06 00 49.2**	**-5.6**
JOW	**Kunigami**	**6.00**	**42**	P	**Pn**	**05 59 54.2**	**-1.3**
JOW	**Kunigami**	**6.00**	**42**	Pn	**Pn**	**05 59 54.3**	**-1.2**
	baz=198,slow=13						
JOW				Sn	Sn	06 00 55.4	-8.9
	baz=261,slow=19						
JTK	**Tokunoshima**	**7.11**	**40**	P	**Pn**	**06 00 08.4**	**-2

SANI				S	**S**	06 23 32.3	-5.9	
MSAI	**Masohi**	**5.40**	**175**	P	**Pn**	06 22 47.0	-0.2	
	6.5nm,0.7s,836nm0.0nm							
FAKI	**Fak Fak**	**6.22**	**143**	P	**Pn**	06 22 57.9	+0.4	
	39nm,0.9s,0.1nm							
FAKI	**Fak Fak**	**6.22**	**143**	P	**Pn**	06 22 57.8	+0.2	
	baz=6.1,SNR=7.3							
FAKI	**Fak Fak**	**6.22**	**143**	*e*Pn	**Pn**	06 22 57.7	+0.2	
	17nm,0.8s							
LUWI	**Luwuk**	**6.49**	**242**	P	**Pn**	06 22 59.4	-1.4	
	150nm,0.6s,3µm1.1nm							
LUWI	**Luwuk**	**6.49**	**242**	P	**Pn**	06 23 01.3	+0.5	
	baz=6.5,SNR=15							
LUWI				S	**S**	06 24 20.3	+3.9	
	baz=6.5,SNR=3.8							
LUWI	**Luwuk**	**6.49**	**242**	*e*Pn	**Pn**	06 23 00.3	-0.5	
	95nm,0.4s							
MRSI	**Marisa**	**6.73**	**256**	P	**Pn**	06 23 04.1	+0.3	
	71nm,0.5s,1µm0.4nm							
APSI	**Ampana**	**7.44**	**247**	P	**Pn**	06 23 12.9	0.0	
	107nm,0.8s,4µm0.5nm							
MPSI	**Mapaga**	**8.75**	**259**	P	**Pn**	06 23 30.9	+1.5	
	8.4nm,1.1s							
TTSI	**Tana Toraja**	**10.04**	**240**	P	**Pn**	06 23 46.6	+0.9	
	48nm,0.7s,1µm							
BNSI	**Bone**	**10.55**	**232**	P	**Pn**	06 23 54.1	+2.0	
	14nm,1.0s							
SPSI	**Sidrap Palu**	**10.57**	**235**	P	**P**	06 23 56.7	-0.6	
	24nm,0.7s							
BKSI	**Bulukumba**	**11.12**	**229**	P	**P**	06 24 01.5	-1.9	
JAY	**Jayapura**	**13.04**	**110**	P	**P**	06 24 25.5	+0.6	
	1.1nm,0.3s,baz=217,slow=7.0,SNR=4.6							
MTN	**Manton Dam**	**15.05**	**170**	P	**Pn**	06 24 47.9	+0.5	
	baz=15,SNR=5.7							
KDU	**Kakadu**	**15.19**	**165**	P	**P**	06 24 48.5	0.0	
	baz=15,SNR=22							
KNRA	**Kununurra**	**17.63**	**179**	P	**P**	06 25 16.3	+1.0	
	baz=18,SNR=31							
COEN	**Coen**	**21.58**	**138**	P	**P**	06 25 56.0	-0.9	
	baz=22,SNR=9.3							
WRAB	**Tennant Creek**	**22.61**	**166**	*e*P	**P**	06 26 06.1	-0.2	
	16nm,0.5s							
WRA	**Warramunga Arr**	**22.62**	**166**	P	**P**	06 26 06.1	-0.2	
	5.8nm,0.3s,baz=345,slow=11,SNR=84							
WRA				ScP	**ScP**	06 33 05.3	+0.6	
	0.6nm,0.7s,baz=344,slow=3.1,SNR=6.1							
WB2	**Warramunga Arr**	**22.62**	**166**	*e*P	**P**	06 26 06.3	0.0	
QIS	**Mount Isa**	**24.99**	**155**	P	**P**	06 26 28.0	+0.1	
	baz=25,SNR=12							
ASAR	**Alice Springs**	**26.12**	**169**	P	**P**	06 26 38.1	+0.2	
	4.5nm,0.6s,baz=355,slow=8.0,SNR=92							
ASAR				PcP	**PcP**	06 29 59.0	+0.5	
	1.2nm,0.6s,baz=348,slow=2.1,SNR=7.6							
ASAR				ScP	**ScP**	06 33 15.2	+0.8	
	0.8nm,0.6s,baz=339,slow=2.8,SNR=9.6							
WRKA	**Warakurna**	**26.95**	**180**	P	**P**	06 26 45.7	+0.4	
	baz=27,SNR=21							
MEEK	**Meekatharra**	**30.09**	**198**	P	**P**	06 27 12.9	-0.1	
	baz=30,SNR=6.5							
BLDU	**Ballidu**	**34.38**	**198**	P	**P**	06 27 50.4	+0.2	
	baz=34,SNR=6.2							
KSAR	**Wonju Array Be**	**35.21**	**359**	P	**P**	06 27 57.4	+0.2	
KSRS	**Korea Array**	**35.22**	**359**	P	**P**	06 27 57.4	+0.1	
	1.6nm,0.5s,baz=178,slow=9.7,SNR=4.6							
BBOO	**Buckleboo**	**35.42**	**169**	P	**P**	06 27 59.4	+0.3	
	baz=35,SNR=66							
MJAR	**Matsushiro Arr**	**35.46**	**14**	P	**P**	06 27 57.1	-2.3	
	3.3nm,0.6s,baz=186,slow=9.6,SNR=8.2							
STKA	**Stephens Creek**	**35.98**	**161**	P	**P**	06 28 04.2	+0.3	
	6.9nm,0.3s,baz=335,slow=7.7,SNR=74							
STKA	**Stephens Creek**	**35.98**	**161**	P	**P**	06 28 04.2	+0.3	
	baz=36,SNR=37							
NWAO	**Narrogin (SRO)**	**36.40**	**196**	P	**P**	06 28 07.8	+0.5	
	6.5nm,1.0s,baz=24,slow=8.8,SNR=4.4							
RKGY	**Rocky Gully**	**38.05**	**195**	P	**P**	06 28 22.9	+1.7	
	baz=38,SNR=9.6							
USRK	**Ussuriysk Ar.**	**42.07**	**4**	P	**P**	06 28 53.4	-0.6	
	1.2nm,0.5s,baz=194,slow=7.7,SNR=4.4							
SONM	**Songino Array**	**49.43**	**341**	P	**P**	06 29 51.1	-0.3	
	0.9nm,0.5s,baz=157,slow=7.8,SNR=3.8							
PETK	**Petropavlovsk-**	**56.33**	**21**	P	**P**	06 30 42.0	+0.5	
	2.4nm,0.6s,baz=193,slow=5.9,SNR=7.3							
PETK	**Petropavlovsk-**	**56.33**	**21**	P	**P**	06 30 42.0	+0.5	
MKAR	**Makanchi Array**	**59.91**	**325**	P	**P**	06 31 06.8	+0.4	
	2.8nm,0.4s,baz=115,slow=7.5,SNR=38							
ZALV	**Zalesovo Beam**	**62.85**	**333**	P	**P**	06 31 25.2	-0.7	
	0.6nm,0.3s,baz=134,slow=6.2,SNR=3.2							
ABKAR	**Akbulak array**	**74.53**	**321**	*e*P	**P**	06 32 37.6	-0.3	
	0.3nm,0.3s							
VNDA	**Vanda**	**81.57**	**173**	P	**P**	06 33 16.6	+0.7	
	1.4nm,0.5s,baz=317,slow=6.5,SNR=10.0							

*JMA **26** 06:44:25.9±0.1,29°.33N×130°.55E,h61km±5km,M3.4*
*ISCJB **26** 06:44:26.6±0.7,29°.34N±0°.04×130°.53E±0°.09,h55km±5km, mb3.7/14,MS3.1/1,Error ellipse: s-maj=13.4km s-min=4.4km az=21.7*
*IDC **26** 06:44:26.9±0.8,29°.32N×130°.37E,h40km±7km,mb3.5/14, mb1 3.7/16,mb1mx3.6/31,mbtmp3.7/16,ML3.1/2,MS3.0/4, Ms1 3.1/4,ms1mx2.8/32,Error ellipse: s-maj=23.4km s-min=11.4km az=90.0*
ISC 26 06:44:27.2±0.8,29°.34N±0°.05×130°.52E±0°.08,h45km±7km, n29,σ0s86/38,mb3.7/14,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.76**	**312**	P	**Pn**	06 44 40.8	-0.7
JNN				S	**Sn**	06 44 52.9	+1.0
JYAK	**Yakushimahirau**	**0.90**	**359**	P	**Pn**	06 44 42.8	-0.7
JYAK				S	**Sn**	06 44 56.1	+0.8
JZK	**Kikaishima**	**1.13**	**206**	P	**Pn**	06 44 46.2	-0.4
JKC	**Kuchinoerabu**	**1.16**	**346**	P	**Pn**	06 44 47.0	0.0
JKC				S	**Sn**	06 45 02.1	+0.5
JTAJ	**Takarajima**	**1.17**	**261**	P	**Pn**	06 44 47.3	+0.2
JAM	**Amami Oshima**	**1.22**	**221**	P	**Pn**	06 44 47.0	-0.9
JAM				S	**Sn**	06 45 04.5	+1.3
JTN	**Tanegashima 3**	**1.37**	**17**	P	**Pn**	06 44 49.2	-0.7
JTN				S	**Sn**	06 45 07.8	+0.9
JAMN	**Amaminishikomi**	**1.61**	**228**	P	**Pn**	06 44 52.3	-0.8
JAMN				S	**Sn**	06 45 13.9	+1.2
JTSR	**Tashiro 2**	**1.86**	**11**	P	**Pn**	06 44 56.3	-0.3
JTK	**Tokunoshima**	**2.07**	**222**	P	**Pn**	06 44 59.3	-0.2
JTK				S	**Sn**	06 45 24.9	+0.7
JSU	**Suzuyama**	**2.16**	**358**	P	**Pn**	06 45 00.3	-0.5
JNU	**Nakatsue**	**3.79**	**5**	P	**Pn**	06 45 23.7	+0.6
	2.9nm,0.3s,baz=185,slow=17,SNR=12						
JNU				S	**Sn**	06 46 07.3	+0.9
	2.5nm,0.3s,baz=221,slow=20,SNR=4.1						
JNU				LR	LR	06 46 23.0	
	comp=Z,36nm,21.5s,baz=168,slow=30						
KSRS	**Korea Array**	**8.38**	**346**	P	**Pn**	06 46 26.7	+0.6
	0.1nm,0.3s,baz=165,slow=14,SNR=4.9						
KSRS				LR	LR	06 50 00.3	
	comp=Z,186nm,18.3s,baz=208,slow=40						
USRK	**Ussuriysk Ar.**	**14.88**	**4**	LR	LR	06 53 24.4	
	comp=Z,122nm,18.3s,baz=192,slow=36						
SONM	**Songino Array**	**26.22**	**321**	P	**P**	06 49 56.8	-1.1
	0.9nm,0.6s,baz=141,slow=9.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.75**	**256**	LR	LR	07 03 47.7	
	comp=Z,41nm,20.1s,baz=90,slow=38						
SEY	**Seymchan**	**36.47**	**17**	P	**P**	06 51 28.0	+0.4
	1.2nm,0.6s,baz=191,slow=6.0,SNR=6.6						
MKAR	**Makanchi Array**	**41.08**	**309**	P	**P**	06 52 07.0	+0.5
	0.4nm,0.5s,baz=90,slow=9.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**41.10**	**320**	P	**P**	06 52 05.4	-1.0
	0.3nm,0.4s,baz=91,slow=7.4,SNR=3.9						
WRA	**Warramunga Arr**	**49.13**	**175**	P	**P**	06 53 10.1	-0.4
	1.3nm,1.1s,baz=351,slow=8.3,SNR=4.3						
WRA				pP	**pP**	06 53 21.6	-1.5
	0.7nm,1.0s,baz=354,slow=8.6,SNR=3.6						
ASAR	**Alice Springs**	**52.80**	**176**	P	**P**	06 53 38.8	+0.7
	0.3nm,0.8s,baz=15,slow=12,SNR=5.3						
ILAR	**Eielson Array**	**60.75**	**29**	P	**P**	06 54 34.7	+0.7
	0.4nm,0.6s,baz=289,slow=6.6,SNR=5.9						
FINES	**FINESS Array B**	**71.17**	**331**	P	**P**	06 55 39.7	-1.2
	1.4nm,0.9s,baz=45,slow=4.1,SNR=3.6						
AKASG	**Malin Array Be**	**74.49**	**320**	P	**P**	06 56 00.7	-0.1
	1.4nm,0.6s,baz=59,slow=6.3,SNR=3.1						
YKA	**Yellowknife Ar**	**74.86**	**26**	P	**P**	06 56 03.0	+0.3
	0.5nm,0.8s,baz=301,slow=5.7,SNR=5.9						
YKA				pP	**PcP**	06 56 14.8	-1.7
	0.4nm,0.8s,baz=309,slow=6.1,SNR=3.6						
BRTR	**Keskin Array B**	**76.73**	**308**	P	**P**	06 56 14.0	-0.1
	1.2nm,0.7s,baz=86,slow=5.1,SNR=5.1						
NOA	**NORSAR Array B**	**77.42**	**334**	P	**P**	06 56 16.9	-0.5
	0.5nm,0.7s,baz=51,slow=5.5,SNR=2.7						
NVAR	**Mina Array Bea**	**86.90**	**47**	P	**P**	06 57 08.4	+0.7
	0.5nm,0.8s,baz=285,slow=6.9,SNR=4.2						
PDAR	**Pinedale Array**	**89.48**	**40**	P	**P**	06 57 21.3	+1.4
	0.2nm,0.7s,baz=319,slow=2.6,SNR=2.9						
PDAR				pP	**pP**	06 57 34.1	+0.8
	0.5nm,0.5s,baz=56,slow=2.0,SNR=4.1						

*ISCJB **26** 06:47:05.3±0.8,46°.62N±0°.09×147°.3E±0°.2,h300km, mb3.0/5,Error ellipse: s-maj=19.0km s-min=9.0km az=-34.4*
*IDC **26** 06:47:07.5±1.6,46°.87N×146°.93E,h318km±17km,mb2.8/5, mb1 3.1/8,mb1mx2.9/30,mbtmp3.6/8,Error ellipse: s-maj=29.0km s-min=17.2km az=124.0*
*JMA **26** 06:47:07.0±0.5,46°.26N×147°.70E,h320km,M3.6*
ISC 26 06:47:07.4±1.4,46°.4N±0°.1×147°.3E±0°.1,h300km,n17, σ2s03/20,mb3.0/5,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.23**	**201**	P	**Pn**	06 48 06.4	+0.9
NEM2				*e*S	**S**	06 48 52.9	+1.0
JTKR	**Abashiri--Toko**	**3.41**	**226**	P	**Pn**	06 48 09.8	+2.5
JAK	**Akkeshi**	**3.87**	**210**	P	**Pn**	06 48 13.2	+0.9
JAK				*e*S	**S**	06 49 05.1	+0.9
JAR	**Ashorobuto**	**3.99**	**220**	P	**Pn**	06 48 15.8	+2.3
ASAJ	**Asahikawa**	**4.03**	**237**	P	**Pn**	06 48 16.2	+2.3
	3.3nm,0.3s,baz=89,slow=11,SNR=22						
ASAJ				S	**S**	06 49 10.6	+3.4
	baz=121,slow=19,SNR=2.2						
JKK2	**Kamakawa 2**	**4.09**	**234**	P	**Pn**	06 48 17.2	+2.5
JCH	**Churui**	**4.71**	**218**	P	**Pn**	06 48 22.3	+0.6
JCH				*e*S	**S**	06 49 20.3	-1.0
JNBK	**Urakawa-nobuka**	**5.25**	**220**	P	**Pn**	06 48 27.8	-0.1
JKB	**Kayabe**	**6.37**	**227**	P	**Pn**	06 48 40.7	-0.5
JKB				*e*S	**S**	06 49 52.0	-4.8
JOT	**Ohata**	**6.75**	**224**	P	**Pn**	06 48 44.9	-0.8
USRK	**Ussuriysk Ar.**	**11.01**	**264**	P	**Pn**	06 49 37.0	-0.8
	0.4nm,0.3s,baz=70,slow=12,SNR=7.5						
KSRS	**Korea Array**	**16.93**	**245**	P	**P**	06 50 44.6	-0.9
	0.3nm,0.3s,baz=51,slow=12,SNR=2.8						
ILAR	**Eielson Array**	**39.31**	**38**	P	P	06 54 04.1	-3.5
	0.5nm,0.7s,baz=253,slow=6.2,SNR=9.4						
MKAR	**Makanchi Array**	**43.50**	**295**	P	P	06 54 36.1	-5.5
	0.4nm,0.6s,baz=73,slow=4.8,SNR=4.2						
WRA	**Warramunga Arr**	**67.06**	**193**	P	**P**	06 57 29.4	+0.6
	0.2nm,0.6s,baz=10,slow=6.7,SNR=2.8						
ASAR	**Alice Springs**	**70.78**	**193**	P	**P**	06 57 52.5	+1.0
	0.1nm,0.3s,baz=8.1,slow=6.5,SNR=5.5						
TXAR	**Lajitas Array**	**81.10**	**57**	P	**P**	06 58 47.9	-1.8
	0.4nm,0.7s,baz=283,slow=3.6,SNR=6.1						

IDC 26 07:26:03.2±18.0,26°.32S×70°.37E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/34,mbtmp3.4/3,MS3.1/1,Ms1 3.3/1, ms1mx2.8/17,Error ellipse: s-maj=588.0km s-min=43.0km az=50.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**18.68**	**7**	T	T	07 49 08.1	
	baz=185,slow=76,SNR=9.7						
H08S2	**Diego Garcia H**	**18.69**	**7**	T	T	07 49 08.1	
	baz=185,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**18.70**	**7**	T	T	07 49 15.0	
	baz=185,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**38.38**	**114**	T	T	08 13 37.9	
	baz=271,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**38.38**	**114**	T	T	08 13 38.1	
	baz=271,slow=75,SNR=18						
H01W1	**Cape Leeuwin H**	**38.39**	**114**	T	T	08 13 39.3	
	baz=271,slow=75,SNR=18						
CMAR	**Chiang Mai Arr**	**52.46**	**35**	LR	LR	07 55 27.2	
	comp=Z,19nm,18.3s,baz=340,slow=34						
ASAR	**Alice Springs**	**57.13**	**102**	P	P	07 35 51.9	-0.1
	0.2nm,0.5s,baz=249,slow=6.9,SNR=7.3						
WRA	**Warramunga Arr**	**58.66**	**98**	P	P	07 36 02.9	0.0
	0.2nm,0.5s,baz=250,slow=7.1,SNR=3.9						
MKAR	**Makanchi Array**	**73.57**	**9**	P	P	07 37 37.9	0.0
	0.5nm,0.7s,baz=217,slow=7.9,SNR=4.4						

IDC 26 07:28:53.8±2.4,54°.15N×86°.31E,h0km,mb1 2.9/2, mb1mx2.8/38,mbtmp2.9/2,ML2.7/2,Error ellipse: s-maj=18.8km s-min=11.4km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**258**	*i*		07 35 10.0	
	baz=77,slow=317,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	07 29 09.7	-1.5
	2.0nm,0.3s,baz=74,slow=17,SNR=18						
ZALV				Lg	Lg	07 29 24.2	
	13nm,0.3s,baz=77,slow=31,SNR=35						
KURBB	**Kurchatov Arra**	**5.93**	**237**	Pn	Pn	07 30 24.0	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Lg	Lg	07 32 02.9	
	baz=54,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	07 30 49.5	+0.9
	0.2nm,0.3s,baz=354,slow=11,SNR=7.4						
MKAR				Lg	Lg	07 33 00.1	
	0.1nm,0.3s,baz=14,slow=24,SNR=6.2						

*ISCJB **26** 07:36:43.0±0.9,13°.7S±0°.1×76°.3W±0°.2,h55km,mb3.7/3, Error ellipse: s-maj=30.9km s-min=6.5km az=150.9*
*IDC **26** 07:36:45.4±2.1,13°.51S×76°.22W,h58km±17km,mb3.5/3, mb1 3.9/5,mb1mx3.5/20,mbtmp4.0/5,MS3.2/2,Ms1 3.2/2, ms1mx2.7/20,Error ellipse: s-maj=49.9km s-min=12.2km az=58.0*
ISC 26 07:36:44.4±0.9,13°.6S±0°.1×76°.3W±0°.2,h55km,n9, σ1s29/11,mb3.7/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.67**	**342**	P	**Pn**	07 37 11.1	-0.2
	14nm,0.3s,baz=158,slow=16,SNR=41						
NNA				S	**Sn**	07 37 31.9	+0.2
	65nm,0.3s,baz=227,slow=19,SNR=13						
ATAH	**Atahualpa**	**6.72**	**342**	P	Pn	07 38 23.8	+2.8
	1.0nm,0.3s,baz=127,slow=1.7,SNR=5.6						
ATAH				S	Sn	07 39 54.5	+18
	1.0nm,0.3s,baz=26,slow=16,SNR=4.1						
LPAZ	**La Paz**	**8.36**	**110**	P	**Pn**	07 38 44.6	+1.0
	1.2nm,0.3s,baz=281,slow=9.4,SNR=31						
LVC	**Limon Verde**	**11.41**	**143**	P	**Pn**	07 39 25.9	+0.9
	13nm,0.3s,baz=317,slow=14,SNR=5.0						
LVC				S	**Sn**	07 41 29.2	-1.9
	14nm,0.3s,baz=73,slow=20,SNR=4.1						
LVC				LR	LR	07 43 58.2	
	comp=Z,170nm,20.6s,baz=294,slow=38						
SIV	**San Ignacio**	**14.94**	**101**	LR	LR	07 45 21.9	
	comp=Z,69nm,20.8s,baz=278,slow=35						
CFAA	**Coronel Fontan**	**19.41**	**159**	P	**P**	07 41 07.1	+0.9
	0.0nm,0.3s,baz=332,slow=11,SNR=7.3						
NVAR	**Mina Array Bea**	**64.96**	**325**	P	**P**	07 47 20.1	+1.3
	0.7nm,0.9s,baz=130,slow=17,SNR=2.2						
NVAR				pP	**pP**	07 47 33.4	-0.6
	1.0nm,0.8s,baz=146,slow=8.5,SNR=4.3						
YKA	**Yellowknife Ar**	**81.51**	**343**	P	**P**	07 48 55.4	-0.2
	0.3nm,0.7s,baz=148,slow=4.5,SNR=6.3						
YKA				pP	**pP**	07 49 09.0	-2.2
	0.7nm,0.8s,baz=138,slow=5.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**81.73**	**74**	P	**P**	07 48 57.6	-0.2
	1.5nm,0.8s,baz=256,slow=5.0,SNR=6.4						

*ISCJB **26** 07:40:01.0±0.6,31°.89N±0°.02×114°.95W±0°.02,h10km±4km, Error ellipse: s-maj=3.4km s-min=3.3km az=16.8*
*NEIC **26** 07:40:02.0,31°.86N×114°.97W,h9km,MD3.6(MEX), ML3.4(PAS),ML3.6(ECX),After ECX.*
*ECX **26** 07:40:03.0±0.7,31°.86N×114°.97W,h9km,MD3.4,ML3.6*
*MEX **26** 07:40:04.0±0.7,31°.86N×114°.92W,h10km,MD3.6*
ISC 26 07:40:02.2±1.0,31°.85N±0°.02×115°.01W±0°.03,h15km±8km, n43,σ1s13/71,6C-5D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.38**	**185**	*i*P	**Pg**	07 40 09.8	-0.1
ECBX				*e*S	**Sg**	07 40 15.7	+0.5
MBIG	**Mexicali**	**0.58**	**344**	*e*P	**Pb**	07 40 14.0	-0.1
MBIG				*e*S	**Sb**	07 40 22.0	-0.1
CPBX	**Cerro Prieto**	**0.62**	**336**	*e*P	**Pb**	07 40 14.8	0.0
CPBX				*e*S	**Sg**	07 40 22.3	-0.4
CPBX	**Cerro Prieto**	**0.62**	**336**	*e*P	**Pb**	07 40 14.8	0.0
CPBX				*e*S	**Sg**	07 40 22.9	+0.1
RDX	**Rancho Dawling**	**0.80**	**276**	*e*P	**Pb**	07 40 18.1	+0.2
RDX				*e*S	**Sg**	07 40 29.2	+0.8
RDX				⇓*e*		07 40 31.4	
RDX				AML	AML	07 40 31.4	
	comp=N,2µm,0.3s						
YMD	**Yuma Desert**	**0.81**	**29**	⇑*i*P	**Pb**	07 40 16.6	-1.4
SPX	**San Pedro Mart**	**0.89**	**206**	⇓*e*P	**Pb**	07 40 18.9	-0.7
SPX	**San Pedro Mart**	**0.89**	**206**	*e*P	**Pb**	07 40 18.8	-0.7
SPX				*e*S	**Sb**	07 40 31.0	-0.4
SPIG	**San Pedro Mart**	**0.89**	**206**	*e*P	**Pb**	07 40 19.8	+0.3
SPIG				*e*S	**Sg**	07 40 32.1	+0.7
SPIG	**San Pedro Mart**	**0.89**	**206**	⇓*e*P	**Pb**	07 40 18.9	-0.6
SPIG	**San Pedro Mart**	**0.89**	**206**	*e*P	**Pb**	07 40 19.8	+0.3
SPIG				*e*S	**Sg**	07 40 32.1	+0.7
SGL	**Mount Signal**	**1.00**	**323**	*e*P	**Pb**	07 40 20.3	-0.9
COA	**Coachella**	**1.02**	**355**	⇑*i*P	**Pb**	07 40 20.1	-1.4
ZAX	**El Zacaton**	**1.13**	**253**	⇓*e*P	**Pn**	07 40 23.3	-0.2
RMX	**La Rumorosa**	**1.18**	**310**	AML	AML	07 40 49.0	
	comp=N,680nm,0.5s						
RMX				⇑*e*		07 40 49.0	
ECNX	**Esteban Cantu**	**1.37**	**262**	⇑*e*P	**Pn**	07 40 26.7	-0.1
PBX	**Punta Banda**	**1.46**	**266**	*e*P	**Pn**	07 40 28.6	+0.4
CBX	**Cerro Bola**	**1.48**	**289**	*e*P	**Pn**	07 40 28.0	-0.4
CBX				*e*S	**Sn**	07 40 46.9	-0.6
CBX	**Cerro Bola**	**1.48**	**289**	*e*P	**Pn**	07 40 28.2	-0.2
CBX				*e*S	**Sb**	07 40 48.1	0.0
CBX				⇑*e*		07 40 51.8	
CBX				⇓*e*		07 40 52.6	
CBX				AML	AML	07 40 52.6	
	comp=N,1µm,0.4s						
CBX	**Cerro Bola**	**1.48**	**289**	*e*P	**Pn**	07 40 28.0	-0.4
CBX				*e*S	**Sn**	07 40 46.9	-0.6
BAR	**Barrett**	**1.63**	**301**	*e*Pn	**Pn**	07 40 29.9	-0.5
BAR				*e*Sn	**Sb**	07 40 52.7	+0.2
214A	**Organ Pipe Nat**	**1.87**	**86**	*e*Pn	**Pn**	07 40 31.6	-2.1
214A				*e*Sn	**Sn**	07 40 57.2	+0.1
PFO	**Pinyon Flats O**	**2.14**	**326**	*e*Pn	**Pn**	07 40 36.6	-0.9
PFO				*e*Sn	**Sn**	07 41 03.1	-0.7
LDFC	**Landfair**	**3.22**	**359**	*e*Pn	**Pn**	07 40 52.7	+0.3
LDFC				*e*Sn	**Sn**	07 41 32.7	+2.2
TUC	**Tucson**	**3.62**	**82**	*e*Pn	**Pn**	07 40 57.4	-0.4
TUC				*e*Sn	**Sn**	07 41 40.9	+0.7
GSC	**Goldstone, Bar**	**3.76**	**337**	Pn	**Pn**	07 40 60.0	+0.3
GSC				*e*Pg	**Pg**	07 41 13.6	-0.6
GSC				*e*Sg	**Sg**	07 42 03.2	+0.3
SHPR	**Sheep Range**	**4.65**	**359**	*e*Pn	**Pn**	07 41 13.0	+1.0
SHPR				*e*Sg	**Sg**	07 42 30.9	-0.6
WUAZ	**Wupatki**	**4.75**	**39**	*e*Pn	**Pn**	07 41 13.9	+0.5
WUAZ				*e*Sn	**Sn**	07 42 10.0	+1.7
ISA	**Isabella, Lake**	**4.78**	**324**	*e*Pn	**Pn**	07 41 15.2	+1.5
ISA				*e*Sn	**Sn**	07 42 09.4	+0.6
DAC	**Darwin (Calif)**	**4.91**	**335**	*e*Pn	**Pn**	07 41 15.7	0.0
DAC				*e*Sn	**Sn**	07 42 16.0	+3.7
W18A	**Petrified Fore**	**5.48**	**52**	*e*Pn	**Pn**	07 41 24.4	+0.8
	comp=N,22nm,0.3s						
W18A				*e*Sn	**Sn**	07 42 25.5	-0.9
CCUT	**Cedar City**	**5.85**	**13**	*e*Pn	**Pn**	07 41 29.9	+1.3
	comp=N,7.6nm,0.6s						
CCUT				*e*Sg	**Sg**	07 43 10.3	+0.3
ARUT	**Antelope Range**	**6.07**	**12**	*e*Pn	**Pn**	07 41 32.4	+0.9
	comp=N,1.9nm,0.5s						
ARUT				*e*Sn	**Sn**	07 42 38.3	-2.4
121A	**Cookes Peak, D**	**6.16**	**82**	*e*Pn	**Pn**	07 41 32.4	-0.4
	comp=N,10nm,0.3s						
121A				*e*Sn	**Sn**	07 42 42.9	-0.3
TPH	**Tonopah**	**6.47**	**344**	*e*Pn	**Pn**	07 41 37.0	-0.1
R11A	**Troy Canyon, C**	**6.50**	**356**	*e*Pn	**Pn**	07 41 38.1	+0.6

SHPR	**Sheep Range**	**4.29**	**1**	*e*Pn	**Pn**	**07 45 09.6**	**+2.0**
SHPR				*e*Sn	**Sn**	**07 45 58.2**	**+0.6**
ISA	**Isabella, Lake**	**4.36**	**323**	*e*Pn	**Pn**	**07 45 11.2**	**+2.9**
ISA				*e*Sn	**Sn**	**07 46 00.1**	**+1.1**
DAC	**Darwin (Calif)**	**4.49**	**335**	*e*Pn	**Pn**	**07 45 11.2**	**+0.9**
DAC				*e*Sn	**Sn**	**07 46 00.0**	**-2.6**
TPH	**Tonopah**	**6.07**	**345**	Pn	**Pn**	**07 45 33.0**	**+1.0**
TPH				*e*Sg	**Sg**	**07 47 16.4**	**-0.8**

GUC 26 07:49:34.9±0.6, 34°76'S×72°48'W, h29km±6km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.05**	**104**	*i* P	Pb	07 49 54.5	-0.1
NICH				*i* S	Sb	07 50 09.7	+1.7
NICH				AML	AML	07 50 11.9	
	comp=E,6μm,0.3s						
COCH	**Cobquecura**	**1.39**	**190**	*i* P	Pb	07 49 60.0	-0.3
COCH				*i* S	Sb	07 50 18.8	+1.2
COCH				AML	AML	07 50 20.6	
	comp=N,491nm,0.5s						
SJCH	**San Jose de Ma**	**2.09**	**58**	*i* P	Pb	07 50 10.7	-1.5
SJCH				*i* S	Sb	07 50 37.6	-0.2
CLCH	**Cerro Calan**	**2.11**	**50**	*i* P	Pb	07 50 11.1	-1.5
CLCH				*i* S	Sb	07 50 38.4	0.0
CLCH				AML	AML	07 50 52.3	
	comp=E,668nm,0.6s						
ROCH	**El Roble**	**2.16**	**35**	*i* P	Pb	07 50 12.1	-1.6
ROCH				*i* S	Sb	07 50 40.5	+0.1
ROCH				AML	AML	07 50 48.3	
	comp=N,267nm,0.5s						
PEL	**Peldehue**	**2.20**	**43**	*i* P	Pb	07 50 12.4	-1.6
PEL				*i* S	Sb	07 50 40.6	-0.3
PEL				AML	AML	07 50 54.7	
	comp=N,582nm,0.6s						

DDA 26 08:01:47.7, 37°16N×37°16E, h7km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara˜**	**0.27**	**313**	*i* P	Pg	08 01 53.0	-0.1
KAMA	**Osmaniye**	**0.39**	**274**	*i* P	Pg	08 01 55.8	+0.4
KAMA				*i* S	Sb	08 02 02.4	-1.0
KUZU	**Kuzuini**	**0.39**	**190**	*i* P	Pg	08 01 55.3	-0.1
KUZU				*i* S	Sb	08 02 03.6	+0.3
AKCD	**Akcadag**	**1.29**	**28**	*i* P	Pn	08 02 11.4	-0.9
AKCD				*i* S	Sg	08 02 29.6	+0.2

*IDC **26** 08:04:20.8±1.0, 22°28N×123°71E, h0km, mb3.4/5, mb1 3.7/8, mb1mx3.5/39, mbtmp3.7/8, ML3.3/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/23, Error ellipse: s-maj=32.9km s-min=19.2km az=76.0*

*ISCJB **26** 08:04:21.1±0.7, 22°32N±0°04×123°99E±0°06, h11km, mb3.3/5, Error ellipse: s-maj=7.8km s-min=5.7km az=176.5*

*JMA **26** 08:04:23.4±0.4, 22°27N×123°84E, h56km, M4.0*

ISC 26 08:04:22.4±1.1, 22°34N±0°07×124°01E±0°06, h11km, n27, σ1s55/42, mb3.3/5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.72**	**354**	P	**Pn**	**08 04 52.8**	**+0.6**
HATJ				S	**Sn**	**08 05 13.6**	**-0.5**
JKRS	**Kuro-shima**	**1.89**	**0**	P	**Pn**	**08 04 55.4**	**+0.9**
JKRS				S	**Sb**	**08 05 18.4**	**-2.0**
IRIF	**Iriomote-Funau**	**2.00**	**353**	P	**Pn**	**08 04 57.1**	**+1.0**
IRIF				S	**Sn**	**08 05 20.5**	**-0.6**
JIJ	**Ishigaki jima**	**2.02**	**4**	P	**Pn**	**08 04 56.8**	**+0.5**
JIJ				S	**Sn**	**08 05 19.8**	**-1.7**
JISG	**Ishigakijimahi**	**2.25**	**7**	P	**Pn**	**08 05 00.5**	**+0.9**
JISG				S	**Sn**	**08 05 26.7**	**-0.6**
YOJ	**Yonaguni jima**	**2.30**	**337**	P	**Pn**	**08 05 00.9**	**+0.7**
YOJ				S	**Sn**	**08 05 27.0**	**-1.5**
JYNG	**Yonagunijimaku**	**2.31**	**335**	P	**Pn**	**08 05 00.9**	**+0.5**
JYNG				S	**Sn**	**08 05 27.2**	**-1.7**
JTJ	**Tarama**	**2.38**	**15**	P	**Pn**	**08 05 02.1**	**+0.8**
JTJ				S	**Sn**	**08 05 30.3**	**-0.1**
JIRB	**Irabujima**	**2.69**	**23**	P	**Pn**	**08 05 06.8**	**+1.1**
JIRB				S	**Sn**	**08 05 39.0**	**+0.7**
JOGS	**Gusukube**	**2.73**	**28**	P	**Pn**	**08 05 07.7**	**+1.6**
JOGS				S	**Sn**	**08 05 40.3**	**+1.2**
JMJ	**Miyako jima 2**	**2.73**	**25**	P	**Pn**	**08 05 07.2**	**+1.1**
JMJ				S	**Sn**	**08 05 40.9**	**+1.8**
JKE	**Kume jima 2**	**4.71**	**32**	P	**Pn**	**08 05 33.7**	**+0.4**
JKE				S	**Sn**	**08 06 25.9**	**-2.0**
JNTH	**Nagotoyohara**	**5.54**	**41**	P	**Pn**	**08 05 45.2**	**+0.4**
JNTH				S	**Sn**	**08 06 45.2**	**-3.2**
JOW	**Kunigami**	**5.92**	**40**	P	**Pn**	**08 05 50.6**	**+0.5**
JOW				S	**Sn**	**08 06 56.3**	**-1.6**
JOW	**Kunigami**	**5.92**	**40**	Pn	**Pn**	**08 05 50.8**	**+0.7**
	0.8nm,0.3s,baz=192,slow=14,SNR=11						
JOW				Sn	**Sn**	**08 06 55.1**	**-2.9**
	0.3nm,0.3s,baz=133,slow=19,SNR=4.6						
JOKE	**Okinoerabujima**	**6.49**	**39**	P	**Pn**	**08 05 58.4**	**+0.5**
JTK	**Tokunoshima**	**7.03**	**39**	P	**Pn**	**08 06 04.9**	**-0.4**
JMZ	**Minamidaito 2**	**7.45**	**61**	P	**Pn**	**08 06 09.3**	**-1.7**
JMZ				S	Sn	08 07 28.4	-7.0
JAM	**Amami Oshima**	**7.88**	**39**	P	**Pn**	**08 06 16.7**	**-0.3**
KSRS	**Korea Array**	**15.44**	**12**	Pn	**Pn**	**08 08 02.0**	**+1.9**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.8						
KSRS				LR	LR	08 13 11.9	
	comp=Z,30nm,21.4s,baz=207,slow=34						
MAT	**Matsushiro**	**18.76**	**38**	P	**Pn**	**08 08 45.7**	**+3.8**
MJAR	**Matsushiro Arr**	**18.76**	**38**	P	**Pn**	**08 08 45.5**	**+3.6**
	0.3nm,0.3s,baz=222,slow=9.8,SNR=9.6						
MKAR	**Makanchi Array**	**41.46**	**316**	P	**P**	**08 12 08.6**	**-0.6**
	0.4nm,0.5s,baz=109,slow=6.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.19**	**327**	P	**P**	**08 12 22.9**	**-0.3**
	0.4nm,0.3s,baz=95,slow=4.8,SNR=2.6						
WRA	**Warramunga Arr**	**43.22**	**166**	P	**P**	**08 12 23.6**	**-0.2**
	0.3nm,0.5s,baz=345,slow=8.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.18**	**320**	P	**P**	**08 12 36.9**	**-2.2**
	0.1nm,0.3s,baz=114,slow=6.7,SNR=5.2						
ASAR	**Alice Springs**	**46.74**	**168**	P	**P**	**08 12 52.0**	**+0.3**
	0.2nm,0.7s,baz=358,slow=8.0,SNR=3.3						

*ISCJB **26** 08:04:38.2±0.4, 32°23N±0°03×115°20W±0°03, h21km±5km, Error ellipse: s-maj=4.8km s-min=4.4km az=13.5*

*ECX **26** 08:04:39.6±0.6, 32°20N×115°25W, h6km, MD2.6, ML2.7*

*MEX **26** 08:04:40.1±0.5, 32°30N×115°07W, h15km, MD3.6*

ISC 26 08:04:38.0±1.0, 32°21N±0°03×115°22W±0°03, h16km±8km, n25, σ0s67/35, 12C-16D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.19**	**6**	*e*P	**Pb**	**08 04 43.7**	**+0.5**
MBIG				*e*S	**Sg**	**08 04 45.9**	**0.0**
CPBX	**Cerro Prieto**	**0.21**	**342**	||*e*P	**Pb**	**08 04 43.4**	**-0.1**
CPBX				||*e*P	**Pb**	**08 04 43.5**	**-0.1**
CPBX				*e*S	**Sb**	**08 04 47.0**	**-0.3**
SGL	**Mount Signal**	**0.61**	**316**	||*i*P	**Pb**	**08 04 50.1**	**-0.1**
RDX	**Rancho Dawling**	**0.67**	**245**	||*e*P	**Pg**	**08 04 51.1**	**-0.2**
RDX				*e*S	**Sg**	**08 05 00.0**	**-0.3**
RDX				AML	AML	08 05 03.0	
	comp=N,240nm,0.5s						
RDX				↑*e*		08 05 03.0	
YUH	**Yuha Desert**	**0.73**	**306**	||*i*P	**Pb**	**08 04 52.0**	**-0.4**
ECBX	**El Chinero**	**0.75**	**169**	||*e*P	**Pb**	**08 04 52.3**	**-0.5**
ECBX				*e*S	**Sg**	**08 05 02.7**	**0.0**
RMX	**La Rumorosa**	**0.82**	**298**	↑|*e*P	**Pb**	**08 04 53.7**	**-0.3**
RMX				*e*S	**Sg**	**08 05 05.2**	**+0.3**
RMX				*e*		08 05 06.5	
RMX				AML	AML	08 05 06.5	
	comp=N,330nm,0.2s						
SWSC	**Sam W. Stewart**	**0.87**	**326**	||P	**Pb**	**08 04 54.1**	**-0.6**
	baz=0.9,SNR=21						
GLA	**Glamis**	**0.90**	**22**	↑|P	**Pb**	**08 04 54.9**	**-0.4**
	baz=0.9,SNR=17						
GLA				||S	**Sb**	**08 05 06.9**	**-0.1**
	baz=0.9						
ZAX	**El Zacaton**	**1.13**	**232**	↑|*e*	**Sg**	**08 05 17.6**	**+2.8**
ZAX				AML	AML	08 05 17.6	
	comp=N,253nm,0.5s						
SPIG	**San Pedro Mart**	**1.18**	**190**	*e*P	**Pn**	**08 04 59.7**	**-0.4**
SPIG				*e*S	**Sn**	**08 05 16.4**	**+0.3**
SPIG	**San Pedro Mart**	**1.18**	**190**	||*e*P	**Pn**	**08 04 59.8**	**-0.4**
SPX	**San Pedro Mart**	**1.18**	**190**	||*e*P	**Pn**	**08 04 59.8**	**-0.4**
SPX				↑|*e*		08 05 18.1	
SPX				↑|*e*		08 05 18.2	
MONP	**Monument Peak,**	**1.22**	**304**	||P	**Pn**	**08 05 00.5**	**-0.1**
	baz=1.2							
MONP				↑S		**Sb**	**08 05 16.4**	**+0.1**
	baz=1.2							
CBX	**Cerro Bola**	**1.22**	**275**	*e*P		**Pn**	**08 05 00.5**	**0.0**
CBX				*e*S		**Sn**	**08 05 16.7**	**-0.2**
CBX	**Cerro Bola**	**1.22**	**275**	*e*P		**Pn**	**08 05 00.6**	**0.0**
CBX				↑|*e*		08 05 19.2	
CBX				AML	AML		08 05 19.2	
	comp=E,168nm,0.3s							
BAR	**Barrett**	**1.31**	**291**	||*e*P	**Pb**	**08 05 01.9**	**-0.4**
113A	**Mohawk Valley,**	**1.35**	**65**	↑|P	**Pn**	**08 05 01.9**	**-0.3**
	baz=1.3,SNR=28							
BC3	**Big Chuckawall**	**1.45**	**352**	↑|P	**Pn**	**08 05 03.0**	**-0.7**
	baz=1.4,SNR=29							
109C	**Camp Elliot, M**	**1.73**	**293**	||Sb	**Sb**	**08 05 31.5**	**+0.7**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.73**	**324**	↑|P	**Pn**	**08 05 06.9**	**-0.7**
	baz=1.7							
214A	**Organ Pipe Nat**	**2.06**	**97**	||P	**Pn**	**08 05 11.4**	**-0.6**
	baz=2.1							
Z14A	**Wintersburg**	**2.23**	**59**	||P	**Pn**	**08 05 14.7**	**+0.3**
	baz=2.2,SNR=8.6							
Y14A	**Wickenburg**	**2.54**	**47**	↑|P	**Pn**	**08 05 18.8**	**+0.3**
	baz=2.5,SNR=12							
X16A	**Lo Mia Camp, P**	**3.85**	**54**	||P	**Pn**	**08 05 38.1**	**+1.2**
	baz=3.8,SNR=6.0							

*ISCJB **26** 08:24:02.0±0.5, 49°.12S±0°.09×124°.2E±0°.5, h10km, mb4.0/8, MS3.5/7, Error ellipse: s-maj=44.1km s-min=9.6km az=13.1*

*IDC **26** 08:24:02.2±0.9, 49°.12S×123°.93E, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/28, mbtmp4.0/6, MS3.6/7, Ms1 3.6/7, ms1mx3.3/25, Error ellipse: s-maj=58.2km s-min=19.5km az=93.0*

*NEIC **26** 08:24:03.9±0.5, 49°.11S×123°.99E, h10km, mb4.6/3, Error ellipse: s-maj=29.0km s-min=9.4km az=101.0*

ISC 26 08:24:03.9±0.7, 49°.1S±0°.1×124°.1E±0°.3, h10km, n31, σ0s81/22, mb4.0/8, MS3.6/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.00**	**329**	T	T	08 44 00.1	
	baz=158,slow=77,SNR=73						
H01W2	**Cape Leeuwin H**	**16.00**	**329**	T	T	08 44 00.5	
	baz=158,slow=77,SNR=93						
H01W3	**Cape Leeuwin H**	**16.02**	**329**	T	T	08 43 57.6	
	baz=158,slow=77,SNR=82						
CASY	**Casey**	**18.59**	**197**	*e*P	**P**	**08 28 20.4**	**-0.5**
	37nm,1.3s						
STKA	**Stephens Creek**	**21.67**	**44**	LR	LR	08 35 52.8	
	comp=Z,70nm,21.3s,baz=210,slow=33						
ASAR	**Alice Springs**	**26.55**	**20**	P	**P**	**08 29 41.8**	**-0.1**
	1.7nm,0.9s,baz=187,slow=9.2,SNR=8.7						
ASAR				LR	LR	08 39 09.7	
	comp=Z,175nm,20.5s,baz=196,slow=34						
WRA	**Warramunga Arr**	**30.25**	**19**	P	**P**	**08 30 14.3**	**-0.5**
	0.6nm,0.9s,baz=194,slow=11,SNR=3.2						
WB2	**Warramunga Ar**	**30.25**	**19**	*e*P	**P**	**08 30 14.0**	**-0.9**
WRAB	**Tennant Creek**	**30.26**	**19**	*e*P	**P**	**08 30 15.9**	**+0.9**
	12nm,1.7s						
VNDA	**Vanda**	**31.91**	**165**	P	**P**	**08 30 28.0**	**-1.0**
	1.6nm,1.0s,baz=309,slow=10,SNR=5.6						
VNDA				LR	LR	08 41 49.4	
	comp=Z,231nm,21.3s,baz=342,slow=33						
BATI	**Baumata**	**38.79**	**359**	LR	LR	08 47 35.1	
	comp=Z,177nm,18.2s,baz=170,slow=36						
QSPA	**South Pole Qui**	**41.00**	**180**	P	**P**	**08 31 47.0**	**+0.2**
	6.0nm,1.0s,baz=336,slow=4.7,SNR=8.5						
QSPA	**South Pole Qui**	**41.00**	**180**	*e*P	**P**	**08 31 47.6**	**+0.7**
LEM	**Lembang**	**44.39**	**336**	LR	LR	08 47 26.6	
	comp=Z,72nm,20.7s,baz=230,slow=32						
JAY	**Jayapura**	**48.55**	**22**	LR	LR	08 53 14.8	
	comp=Z,48nm,18.3s,baz=342,slow=36						
SNAA	**Sanae**	**53.83**	**198**	P	**P**	**08 33 27.1**	**+0.7**
SNAA	**Sanae**	**53.83**	**198**	*e*P	**P**	**08 33 26.7**	**+0.3**
	21nm,1.0s						
VNA2	**Neumayer--Watz**	**55.33**	**197**	P	**P**	**08 33 37.8**	**+0.7**
	baz=142,slow=6.2						
VNA3	**Neumayer Olymp**	**55.51**	**196**	P	**P**	**08 33 38.9**	**+0.4**
VNA1	**Neumayer--Stat**	**55.72**	**197**	P	**P**	**08 33 40.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**70.90**	**335**	P	**P**	**08 35 20.6**	**-0.5**
	0.5nm,0.3s,baz=188,slow=5.7,SNR=6.7						
CMAR				LR	LR	09 06 27.3	
	comp=Z,18nm,19.1s,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**86.20**	**11**	P	**P**	**08 36 45.8**	**+0.8**
	0.5nm,0.5s,baz=188,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**120.89**	**253**	PKP	**PKPdf**	**08 42 55.7**	**-0.9**
	0.5nm,0.9s,baz=180,slow=3.6,SNR=2.5						
GAMB	**Gambell**	**123.25**	**29**	*e*PKPdf	PKPdf	08 42 53.8	-5.7
TXAR	**Lajitas Array**	**138.85**	**101**	PKhKP	PKPpre	08 43 26.6	
	0.2nm,0.8s,baz=161,slow=5.7,SNR=3.6						
WMOK	**Wichita Mounta**	**145.49**	**98**	*e*PKPbc	**PKPab**	**08 43 43.0**	**+0.8**
YKA	**Yellowknife Ar**	**145.70**	**45**	PKPbc	**PKPab**	**08 43 42.3**	**+0.3**
	0.6nm,0.7s,baz=269,slow=3.1,SNR=9.7						
RSSD	**Black Hills**	**147.01**	**80**	*e*PKPbc	**PKPab**	**08 43 47.6**	**-0.4**
KSU1	**Kansas State U**	**149.43**	**94**	*e*PKPbc	**PKPbc**	**08 43 54.3**	**+1.6**
RES	**Resolute Bay**	**149.59**	**19**	PKPbc	**PKPbc**	**08 43 51.2**	**-0.8**
	4.7nm,1.4s,baz=351,slow=4.5,SNR=4.0						
NCB	**Newcomb**	**166.38**	**105**	*e*PKPab	**PKPab**	**08 45 09.4**	**-1.0**

*BJI **26** 08:27:38.4, 36°.83N×70°.16E, h181km, mB4.3/1, mb4.1/7*

*IDC **26** 08:27:39.9±3.0, 36°.26N×70°.67E, h180km±27km, mb3.7/14, mb1 3.9/19, mb1mx3.6/52, mbtmp4.3/19, Error ellipse: s-maj=18.8km s-min=12.6km az=27.0*

*MOS **26** 08:27:41.5±0.9, 36°.50N×70°.67E, h195km, mb4.1/17, Error ellipse: s-maj=13.3km s-min=5.2km az=76.1*

*ISCJB **26** 08:27:41.2±0.2, 36°.49N±0°.02×70°.79E±0°.04, h188km, mb4.0/20, Error ellipse: s-maj=4.6km s-min=2.5km az=161.7*

*NEIC **26** 08:27:42.8±0.6, 36°.59N×70°.61E, h182km±7km, mb4.2/8, Error ellipse: s-maj=10.9km s-min=7.9km az=91.0*

*NNC **26** 08:27:45.5±1.6, 36°.80N×70°.66E, h185km±16km, mb3.7, mpv4.9, Error ellipse: s-maj=13.3km s-min=10.2km az=17.0*

ISC 26 08:27:42.1±0.4, 36°.52N±0°.04×70°.75E±0°.05, h188km, n131, σ1s61/146, mb4.0/20, 10C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.41**	**216**	*e*PN	**Pn**	**08 28 24.5**	**0.0**
KBL				*e*		08 28 55.7	
KBL	**Kabul**	**2.41**	**216**	*e*Pn	**Pn**	**08 28 24.5**	**0.0**
KBL				*e*Sn	**Sn**	**08 28 55.7**	**-1.7**
CEP	**Cherat**	**2.85**	**160**	↑|P	**Pn**	**08 28 30.4**	**+0.9**
CEP				S	**Sn**	**08 29 06.0**	**-0.4**
CHCP	**Chirah Chowk**	**3.52**	**143**	↑|P	**Pn**	**08 28 38.7**	**+1.2**
THW	**Thamme Wali**	**3.80**	**167**	||P	**Pn**	**08 28 41.4**	**+0.4**
KSH	**Kashi**	**5.10**	**52**	P	Pn	08 28 54.0	-3.5
KSH				S	Sn	08 29 46.5	-11
KSH				SMN			
	370nm,0.8s						
KSH				SME			
	300nm,0.6s						
DLH	**Dalhousie**	**5.85**	**131**	*e*P	**Pn**	**08 29 05.0**	**-2.5**
DLH				*e*S	**Sn**	**08 30 11.0**	**-3.7**
AML	**Almayashu**	**6.05**	**21**	P	**Pn**	**08 29 10.7**	**+0.5**
	SNR=928						
AML	**Almayashu**	**6.05**	**21**	*i* PN	**Pn**	**08 29 10.7**	**+0.5**
DHRM	**DHARAMSHALA**	**6.25**	**131**	*e*P	**Pn**	**08 29 12.5**	**-0.2**
DHRM				*e*S	**Sn**	**08 30 21.7**	**-2.5**
DHRM				AML	AML	08 30 24.2	
	comp=N,913nm,0.4s						
DHRM				AML	AML	08 30 26.2	
	comp=E,606nm,0.3s						
PONG	**Pong**	**6.26**	**135**	*e*S	**Sn**	**08 30 20.5**	**-3.6**
UCH	**Uchtor**	**6.41**	**26**	P	**Pn**	**08 29 15.5**	**+0.6**
	SNR=84						
UCH	**Uchtor**	**6.41**	**26**	*i* PN	**Pn**	**08 29 15.4**	**+0.6**
KZA	**Kyzart**	**6.56**	**31**	P	**Pn**	**08 29 16.9**	**+0.1**
	SNR=40						
KZA	**Kyzart**	**6.56**	**31**	*i* PN	**Pn**	**08 29 16.8**	**+0.1**
EKS2	**Erkin-Say**	**6.57**	**20**	P	**Pn**	**08 29 17.2**	**+0.6**
	SNR=51						
EKS2	**Erkin-Say**	**6.57**	**20**	*e*PN	**Pn**	**08 29 17.4**	**+0.8**
EKS2	**Erkin-Say**	**6.57**	**20**	*e*Pn	**Pn**	**08 29 17.4**	**+0.8**
EKS2				*e*Sn	**Sn**	**08 30 29.8**	**-1.5**
KK31	**Karatay Array**	**6.58**	**358**	||P	**Pn**	**08 29 16.9**	**+0.2**
	comp=E,30nm,0.3s,baz=177,slow=11,SNR=725						
KK31				↑S	**Sn**	**08 30 28.3**	**-3.3**
	comp=E,27nm,0.4s,baz=184,slow=20,SNR=16						
KKAR	**Karatay Array**	**6.58**	**358**	*e*PN	**Pn**	**08 29 16.9**	**+0.2**
KKAR	**Karatay Array**	**6.58**	**358**	*e*Pn	**Pn**	**08 29 16.9**	**+0.2**
KKAR				*e*Sn	**Sn**	**08 30 28.5**	**-3.1**
AAK	**Ala-Archa**	**6.76**	**24**	↑|P	**Pn**	**08 29 19.8**	**+0.7**
	comp=E,29nm,0.4s						
AAK				↑S	**Sn**	**08 30 35.0**	**-0.9**
	comp=E,118nm,0.7s						
AAK	**Ala-Archa**	**6.76**	**24**	P	**Pn**	**08 29 20.1**	**+0.9**
	SNR=79						
AAK	**Ala-Archa**	**6.76**	**24**	P	**Pn**	**08 29 20.0**	**+0.9**
	comp=E,18nm,0.3s,baz=193,slow=6.9,SNR=140						
AAK				S	**Sn**	**08 30 35.6**	**-0.3**
	comp=E,6.6nm,0.3s,baz=321,slow=22,SNR=22						
BHK	**Bhakra**	**6.93**	**136**	*e*P	**Pn**	**08 29 20.8**	**-0.5**
KBK	**Karagaybulak**	**6.94**	**27**	P	**Pn**	**08 29 22.6**	**+1.1**
	SNR=25						
KBK	**Karagaybulak**	**6.94**	**27**	*i* PN	**Pn**	**08 29 22.6**	**+1.1**
FRU	**Bishkek**	**6.98**	**24**	||*i*PN	**Pn**	**08 29 22.6**	**+0.7**
FRU				pmax	pmax		
	comp=Z,45nm,1.8s						
ULHL	**Ulahol**	**7.13**	**35**	P	**Pn**	**08 29 24.1**	**0.0**
	SNR=14						
ULHL	**Ulahol**	**7.13**	**35**	*i* PN	**Pn**	**08 29 24.0**	**0.0**
CHMS	**Chumysh**	**7.17**	**24**	P	**Pn**	**08 29 24.7**	**+0.2**
	SNR=36						
CHMS	**Chumysh**	**7.17**	**24**	*i* PN	**Pn**	**08 29 24.6**	**+0.2**
SDNR	**Sundarnagar**	**7.19**	**132**	*e*S	**Sn**	**08 30 41.0**	**-5.0**
USP	**Ospenovka**	**7.33**	**22**	P	**Pn**	**08 29 26.7**	**+0.1**
	SNR=30						
USP	**Ospenovka**	**7.33**	**22**	*i* PN	**Pn**	**08 29 26.6**	**+0.1**
TKM2	**Tokmak 2**	**7.41**	**29**	||P	**Pn**	**08 29 28.3**	**+0.6**
	comp=Z,54nm,0.5s						
TKM2				↑S	**Sn**	**08 30 49.6**	**-1.7**
	comp=Z,34nm,0.9s						
TKM2	**Tokmak 2**	**7.41**	**29**	P	**Pn**	**08 29 28.4**	**+0.6**
	SNR=122						
TKM2	**Tokmak 2**	**7.41**	**29**	*e*PN	**Pn**	**08 29 27.8**	**+0.1**
TKM2	**Tokmak 2**	**7.41**	**29**	*e*Pn	**Pn**	**08 29 27.8**	**+0.1**
TKM2				*e*Sn	**Sn**	**08 30 50.3**	**-1.0**
SMLA	**Simla**	**7.57**	**133**	*i* P	**Pn**	**08 29 29.0**	**-0.7**
SMLA				*i* S	**Sn**	**08 30 50.0**	**-5.0**
SMLA				*i* S	**Sn**	**08 30 50.0**	**-5.0**
SMLA				AML	AML	08 30 52.5	
	comp=E,277nm,0.3s						
SMLA				AML	AML	08 30 53.1	
	comp=N,382nm,0.4s						
IMYA	**Miami**	**8.59**	**272**	*e*P	**Pn**	**08 29 43.0**	**-0.2**
IPAY	**Payeh**	**9.47**	**273**	*e*P	**Pn**	**08 29 53.0**	**-1.8**
NDI	**New Delhi**	**9.52**	**143**	*e*P	**Pn**	**08 29 54.0**	**-1.3**
IKRD	**Kardeh**	**9.84**	**275**	*e*P	Pn	08 29 52.1	-7.5
ISFR	**Sfrayin**	**10.24**	**277**	*e*P	**Pn**	**08 30 07.2**	**+2.3**
AJM	**Ajmer**	**10.54**	**161**	*e*P	**Pn**	**08 30 09.0**	**+0.4**
AJM				*ex*	x	08 31 58.0	
PYUN	**Piuthan**	**13.31**	**126**	*e*P	**Pn**	**08 30 42.7**	**-1.4**
	comp=N,40nm,0.5s						
MK31	**Makanchi Array**	**13.40**	**36**	P	**Pn**	**08 30 45.1**	**+0.3**
	comp=N,12nm,0.8s,baz=230,slow=14,SNR=55						
MKAR	**Makanchi Array**	**13.40**	**36**	P	**Pn**	**08 30 45.5**	**+0.6**
	comp=N,0.5nm,0.3s,baz=234,slow=12,SNR=38						
MKAR	**Makanchi Array**	**13.40**	**36**	*ce*P	**Pn**	**08 30 46.0**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
DANN	**Dangsing**	**13.66**	**123**	*e*P	**Pn**	**08 30 46.9**	**-1.7**
	comp=Z,16nm,0.5s						
DANN				*e*S	Sn	08 33 10.4	-11
KOLN	**Koldanda**	**13.94**	**125**	*e*P	**Pn**	**08 30 50.7**	**-1.2**
BHPL	**Bhopal**	**14.43**	**155**	*e*P	**Pn**	**08 30 58.4**	**+0.5**
BHPL				*ex*	x	08 33 25.2	
GKN	**Gorkha**	**14.48**	**122**	*e*P	**Pn**	**08 30 57.8**	**-0.8**
	comp=Z,15nm,0.3s						
AB31	**Akbulak array**	**14.97**	**332**	P	**Pn**	**08 31 03.2**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=144,slow=12,SNR=63						
AB31				||S	**Sn**	**08 33 47.4**	**-4.1**
	comp=Z,1.0nm,0.5s,baz=156,slow=23,SNR=2.6						
ABKAR	**Akbulak array**	**14.97**	**332**	*e*Pn	**Pn**	**08 31 03.3**	**-1.0**
ABKAR				*e*Sn	**Sn**	**08 33 47.6**	**-3.9**
DMN	**Daman**	**15.05**	**122**	*e*P	**Pn**	**08 31 04.4**	**-1.3**
	comp=Z,20nm,0.7s						
KKN	**Kakani**	**15.06**	**121**	*e*P	**Pn**	**08 31 05.2**	**-0.5**
	comp=Z,24nm,0.5s						
KURBB	**Kurchatov Arra**	**15.17**	**19**	||P	**Pn**	**08 31 07.9**	**+1.2**
	comp=Z,2.9nm,0.3s						

ARU					pmax	pmax			
	comp=Z,22nm,1.7s								
ARU	**Arti**	**21.55**	**341**	*eP*	**P**		**08 32 17.2**	**+0.7**	
	comp=Z,8.4nm,0.8s								
GTA	**Gaotai**	**23.05**	**74**	*eP*	**P**		**08 32 33.3**	**+2.3**	
GTA				PMZ					
	comp=Z,7.0nm,1.6s								
SKHT	**Srikalahasti**	**24.06**	**158**	*eP*	**P**		**08 32 40.4**	**+0.2**	
SONM	**Songino Array**	**28.49**	**55**	P	**P**		**08 33 20.4**	**+0.6**	
	comp=Z,2.2nm,0.8s,baz=268,slow=8.5,SNR=5.9								
SONM	**Songino Array**	**28.49**	**55**	P	**P**		**08 33 20.4**	**+0.6**	
SONM				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ULN	**Ulaanbaatar**	**28.93**	**55**	*iP*	**P**		**08 33 25.3**	**+1.6**	
ULN				pmax	pmax				
	comp=Z,2.0nm,1.1s								
ULN	**Ulaanbaatar**	**28.93**	**55**	*eP*	**P**		**08 33 25.1**	**+1.4**	
	comp=Z,1.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.64**	**118**	P	**P**		**08 33 38.7**	**-0.1**	
	comp=Z,0.7nm,0.3s,baz=292,slow=7.6,SNR=4.8								
CMAR	**Chiang Mai Arr**	**30.64**	**118**	P	**P**		**08 33 38.7**	**-0.1**	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG	**Malin Array Be**	**32.78**	**309**	P	**P**		**08 33 56.9**	**-0.3**	
	comp=Z,1.1nm,0.4s,baz=79,slow=7.7,SNR=5.1								
AKASG	**Malin Array Be**	**32.78**	**309**	P	**P**		**08 33 56.9**	**-0.3**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BOD	**Bodaibo**	**35.46**	**39**	*eP*	P		08 34 10.8	-9.4	
JOF	**Joensuu**	**35.76**	**330**	*ep*	**P**		**08 34 22.9**	**+0.3**	
	comp=Z,3.8nm,0.6s								
JOF	**Joensuu**	**35.76**	**330**	*eP*	**P**		**08 34 22.9**	**+0.3**	
JOF				pmax	pmax				
	comp=Z,4.0nm,0.6s								
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**		**08 34 36.6**	**+0.5**	
	comp=Z,3.3nm,0.6s,baz=117,slow=12,SNR=13								
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**		**08 34 36.7**	**+0.5**	
FINES				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KAF	**Kangasniemi**	**37.51**	**327**	*ep*	P		08 34 34.7	-2.7	
	comp=Z,1.8nm,0.6s								
KAF	**Kangasniemi**	**37.51**	**327**	*eP*	P		08 34 34.7	-2.7	
KAF				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**		**08 35 07.5**	**+0.8**	
	comp=Z,3.3nm,0.7s,baz=108,slow=4.0,SNR=8.5								
ARCES	**ARCESS Array B**	**41.05**	**338**	P	**P**		**08 35 07.5**	**+0.8**	
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.7s								
NB2	**NORSAR Subarra**	**44.25**	**323**	P	**P**		**08 35 31.8**	**-0.7**	
	comp=Z,2.4nm,0.7s,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**		**08 35 32.2**	**-0.3**	
	comp=Z,3.4nm,0.7s,baz=96,slow=7.8,SNR=13								
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**		**08 35 32.2**	**-0.3**	
NOA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
TIXI	**Tiksi**	**45.84**	**22**	*iP*	**P**		**08 35 45.3**	**+0.5**	
TIXI				pmax	pmax				
	comp=Z,9.0nm,0.8s								
TIXI	**Tiksi**	**45.84**	**22**	*eP*	**P**		**08 35 45.2**	**+0.5**	
	comp=Z,10nm,0.9s								
YOJ	**Yonaguni jima**	**46.11**	**90**	*eP*	**P**		**08 35 50.3**	**+2.7**	
YOJ				pmax	pmax				
	comp=Z,52nm,1.2s								
YOJ	**Yonaguni jima**	**46.11**	**90**	*eP*	**P**		**08 35 50.3**	**+2.7**	
	comp=Z,52nm,1.2s								
SEY	**Seymchan**	**54.52**	**34**	P	**P**		**08 36 50.5**	**+0.5**	
	comp=Z,2.5nm,0.7s,baz=276,slow=6.3,SNR=12								
SEY	**Seymchan**	**54.52**	**34**	P	**P**		**08 36 50.5**	**+0.5**	
SEY				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BILL	**Bilibino**	**58.68**	**26**	*eP*	**P**		**08 37 20.2**	**+0.9**	
BILL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
BILL	**Bilibino**	**58.68**	**26**	*eP*	**P**		**08 37 20.5**	**+1.2**	
	comp=Z,4.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**65.52**	**268**	P	**P**		**08 38 03.2**	**-2.4**	
	comp=Z,2.7nm,0.6s,baz=51,slow=5.8,SNR=41								
INK	**Inuvik**	**73.92**	**9**	P	**P**		**08 38 56.8**	**+0.8**	
	comp=Z,2.8nm,0.5s,baz=351,slow=6.4,SNR=45								
INK	**Inuvik**	**73.92**	**9**	P	**P**		**08 38 56.8**	**+0.8**	
INK				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ILAR	**Eielson Array**	**74.82**	**16**	P	**P**		**08 39 00.6**	**-0.7**	
	comp=Z,1.1nm,0.9s,baz=277,slow=5.7,SNR=10								
ILAR	**Eielson Array**	**74.82**	**16**	P	**P**		**08 39 00.6**	**-0.7**	
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**		**08 39 36.6**	**0.0**	
	comp=Z,0.8nm,0.5s,baz=346,slow=5.3,SNR=17								
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**		**08 39 36.6**	**0.0**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**82.17**	**122**	P	**P**		**08 39 39.7**	**-2.4**	
	comp=Z,1.4nm,0.7s,baz=322,slow=4.9,SNR=21								
WRA	**Warramunga Arr**	**82.17**	**122**	P	**P**		**08 39 39.7**	**-2.4**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**84.43**	**125**	P	**P**		**08 39 51.8**	**-1.8**	
	comp=Z,0.9nm,0.7s,baz=310,slow=5.1,SNR=19								
ASAR	**Alice Springs**	**84.43**	**125**	P	**P**		**08 39 51.8**	**-1.8**	
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								

JMA 26 08:30:36.5±0.5, 22°37N×123°75E, h57km, M3.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.68**	**2**	P		Pn	08 31 04.5	+0.9
HATJ				S		Sn	08 31 24.3	+0.3
JKRS	**Kuro-shima**	**1.87**	**7**	P		Pn	08 31 07.4	+1.2
JKRS				S		Sn	08 31 29.4	+0.7
IRIF	**Iriomote-Funau**	**1.96**	**359**	P		Pn	08 31 08.6	+1.3
IRIF				S		Sn	08 31 31.0	+0.3
JIJ	**Ishigaki jima**	**2.02**	**10**	P		Pn	08 31 08.6	+0.4
JIJ				S		Sn	08 31 31.4	-0.9
YOJ	**Yonaguni jima**	**2.19**	**342**	P		Pn	08 31 12.0	+1.5
YOJ				S		Sn	08 31 37.3	+0.8
JYNG	**Yonagunijimaku**	**2.20**	**341**	P		Pn	08 31 12.4	+1.8
JYNG				S		Sn	08 31 37.8	+1.1
JISG	**Ishigakijimahi**	**2.27**	**13**	P		Pn	08 31 11.9	+0.3
JISG				S		Sn	08 31 38.2	-0.1
JTJ	**Tarama**	**2.42**	**21**	P		Pn	08 31 14.0	+0.3
JTJ				S		Sn	08 31 42.4	+0.2
JIRB	**Irabujima**	**2.77**	**28**	P		Pn	08 31 19.2	+0.7
JIRB				S		Sn	08 31 51.3	+0.5
JOW	**Kunigami**	**6.06**	**42**	S		Sn	08 33 06.9	-4.6
JTK	**Tokunoshima**	**7.16**	**40**	P		Pn	08 32 16.7	-1.9

*ISCJB **26** 08:44:29.1±0.5, 37°.43S±0°.03×72°.82W±0°.06, h46km±4km, mb4.7/58, MS4.0/9, Error ellipse: s-maj=7.9km s-min=4.4km az=173.9*

*NEIC **26** 08:44:29.0, 37°.41S×73°.19W, h56km, mb4.6/40, After GUC.*

NEIC Felt [IV] at Angol, Coelemu, Collipulli, Concepcion, La Laja, Los Angeles, Los Sauces, Puren, Renaico and Treguaco; [III] at Coronel and Lota. Also felt at Chillan, Talcahuano and Temuco.

*GUC **26** 08:44:29.3±0.3, 37°.41S×73°.19W, h56km±4km, ML4.8*

*IDC **26** 08:44:29.2±0.6, 37°.49S×72°.82W, h35km±4km, mb4.3/17, mb1 4.4/22, mb1mx4.4/25, mbtmp4.5/22, ML4.2/4, MS3.9/12, Ms1 3.9/12, ms1mx3.8/24, Error ellipse: s-maj=18.7km s-min=12.2km az=80.0*

*BJI **26** 08:44:30.6, 37°.40S×72°.80W, h35km, mB5.0/4, Ms7 4.4/1*

ISC 26 08:44:29.4±0.4, 37°.45S±0°.04×73°.02W±0°.06, h43km±3km, h43km:pP-P,n162,σ1§49/198, mb4.7/58, MS3.9/9, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.61**	**353**	*eP*		**Pn**	**08 44 42.0**	**+0.3**
CCSP				*eS*		**Sn**	**08 44 51.4**	**+1.0**
CCSP					AML	AML	08 44 54.2	
	comp=E,105μm,0.5s							
TALC	**Talca**	**2.33**	**29**	*eP*		**Pn**	**08 45 06.2**	**+1.0**
TALC				*eS*		**Sn**	**08 45 32.9**	**+0.2**
VLCH	**Valdivia**	**2.36**	**184**	*eP*		**Pn**	**08 45 06.5**	**+0.9**
VLCH				*eS*		**Sn**	**08 45 34.6**	**+1.3**
NICH	**Los Niches**	**2.84**	**31**	*eP*		**Pn**	**08 45 13.2**	**+1.0**
OSCH	**Osorno**	**3.12**	**182**	*eP*		**Pn**	**08 45 17.0**	**+0.9**
PLCA	**Paso Flores**	**3.80**	**150**	Pn		**Pn**	**08 45 25.5**	**+0.1**
	comp=E,17nm,0.3s,baz=324,slow=11,SNR=605							
PLCA					LR	LR	08 47 03.1	
	comp=E,2μm,19.7s,baz=329,slow=42							
PLCA	**Paso Flores**	**3.80**	**150**	*eP*		**Pn**	**08 45 26.8**	**+1.3**
PLCA				*eP*		**Pn**	**08 45 26.8**	**+1.3**
PLCA	**Paso Flores**	**3.80**	**150**	*ePn*		**Pn**	**08 45 27.0**	**+1.5**
PLCA				*eSn*		**Sn**	**08 46 08.9**	**0.0**
YECH	**El Yeso**	**4.47**	**33**	*eP*		**Pn**	**08 45 36.3**	**+1.4**
LACH	**Col Las Americ**	**4.47**	**28**	*eP*		**Pn**	**08 45 34.5**	**-0.2**
CLCH	**Cerro Calan**	**4.52**	**27**	*eP*		**Pn**	**08 45 35.6**	**+0.2**
IHA	**Instituto Hidr**	**4.55**	**15**	*eP*		**Pn**	**08 45 35.4**	**-0.3**
PEL	**Peldehue**	**4.70**	**25**	*eP*		**Pn**	**08 45 38.0**	**+0.2**
ROCH	**El Roble**	**4.76**	**21**	*eP*		**Pn**	**08 45 38.8**	**0.0**
CFAA	**Coronel Fontan**	**7.04**	**35**	Pn		**Pn**	**08 46 09.4**	**-0.5**
	comp=E,1.3nm,0.3s,baz=191,slow=2.9,SNR=62							
CFAA					LR	LR	08 49 03.5	
	comp=E,94nm,21.7s,baz=218,slow=39							
CFAA	**Coronel Fontan**	**7.04**	**35**	Pn		**Pn**	**08 46 09.4**	**-0.5**
COYC	**Coyhaique**	**8.15**	**175**	*eP*		**Pn**	**08 46 23.6**	**-1.3**
LCO	**Las Campanas**	**8.64**	**14**	*eP*		**Pn**	**08 46 31.0**	**-1.0**
LCO	**Las Campanas**	**8.64**	**14**	*ePn*		**Pn**	**08 46 31.3**	**-0.7**
LCO				*eSn*		**Sn**	**08 48 06.6**	**-1.6**
TRQA	**Tornquist**	**8.77**	**97**	*eP*		**Pn**	**08 46 35.4**	**+1.9**
TRQA	**Tornquist**	**8.77**	**97**	*ePn*		**Pn**	**08 46 34.9**	**+1.4**
TRQA				*eSn*		**Sn**	**08 48 12.8**	**+1.8**
CHRN	**Cochrane**	**9.69**	**179**	*eP*		**Pn**	**08 46 48.4**	**+2.3**
LVC	**Limon Verde**	**15.21**	**15**	Pn		**Pn**	**08 47 59.6**	**-1.8**
	comp=E,23nm,0.3s,baz=215,slow=5.4,SNR=7.4							
LVC					LR	LR	08 54 53.9	
	comp=E,553nm,19.5s,baz=203,slow=41							
LVC	**Limon Verde**	**15.21**	**15**	*ePn*		**Pn**	**08 47 59.1**	**-2.3**
	comp=E,13nm,0.7s							
LVC				*eSn*		**Sn**	**08 50 46.4**	**-2.4**
PB01	**IPOC Station P**	**16.63**	**12**	*eP*		**Pn**	**08 48 18.8**	**-0.7**
CPUP	**Villa Florida**	**17.30**	**55**	P		**Pn**	**08 48 26.7**	**-1.1**
	comp=E,0.2nm,0.3s,baz=225,slow=12,SNR=8.6							
CPUP					LR	LR	08 55 48.2	
	comp=E,6μm,19.2s,baz=226,slow=40							
CPUP	**Villa Florida**	**17.30**	**55**	*ePn*		**Pn**	**08 48 27.8**	**0.0**
	comp=E,0.2nm,0.7s							
HMBC	**Humberstone**	**17.33**	**10**	*eP*		**P**	**08 48 32.0**	**+2.8**
USHA	**Ushuaia**	**17.67**	**171**	P		**Pn**	**08 48 31.0**	**-1.0**
	comp=E,0.3nm,0.3s,baz=360,slow=11,SNR=2.1							
USHA					LR	LR	08 56 22.7	
	comp=E,424nm,18.2s,baz=37,slow=40							
USHA	**Ushuaia**	**17.67**	**171**	P		**Pn**	**08 48 31.0**	**-1.0**
PSGC	**Pisagua**	**17.97**	**9**	*eP*		**P**	**08 48 38.8**	**+2.6**
MNMC	**Minimini**	**18.50**	**10**	*eP*		**Pn**	**08 48 43.6**	**+0.9**
LPAZ	**La Paz**	**21.52**	**13**	P		**P**	**08 49 16.5**	**+1.1**
	comp=E,13nm,1.0s,baz=169,slow=11,SNR=27							
LPAZ	**La Paz**	**21.52**	**13**	*eP*		**P**	**08 49 17.6**	**+2.2**
LPAZ	**La Paz**	**21.52**	**13**	*eP*		**P**	**08 49 13.7**	**-1.7**
	comp=E,16nm,0.8s							
SIV	**San Ignacio**	**23.84**	**30**	P		**P**	**08 49 37.7**	**-1.0**
	comp=E,9.5nm,0.8s,baz=222,slow=8.7,SNR=30							
SIV					LR	LR	09 00 39.1	
	comp=E,276nm,18.7s,baz=232,slow=41							
SIV	**San Ignacio**	**23.84**	**30**	P		**P**	**08 49 37.7**	**-1.0**
NNA	**Nana**	**25.59**	**351**	P		**P**	**08 49 55.1**	**+0.6**
	comp=E,9.0nm,0.8s,baz=223,slow=12,SNR=2.8							
NNA	**Nana**	**25.59**	**351**	P		**P**	**08 49 55.1**	**+0.6**
SAML	**Samuel**	**29.74**	**20**	*eP*		**P**	**08 50 31.2**	**-0.5**
	comp=E,3.8nm,0.8s							
BDFB	**Brasilia**	**31.00**	**52**	P		**P**	**08 50 42.1**	**-0.9**
	comp=E,4.0nm,0.6s,baz=230,slow=8.7,SNR=6.0							
BDFB					LR	LR	09 04 28.4	
	comp=E,430nm,19.2s,baz=200,slow=39							
BDFB	**Brasilia**	**31.00**	**52**	P		**P**	**08 50 42.1**	**-0.9**
OTAV	**Otavalo**	**37.84**	**351**	*eP*		**P**	**08 51 41.9**	**-0.6**
	comp=E,17nm,1.2s							
OTAV				*ep*	P	**pP**	**08 51 56.6**	**+2.4**
PTGA	**Pitinga**	**38.47**	**21**	P		**P**	**08 51 46.9**	**-0.4**
	comp=E,1.2nm,0.3s,baz=329,slow=20,SNR=2.2							
PTGA	**Pitinga**	**38.47**	**21**	P		**P**	**08 51 46.9**	**-0.4**
ROSC	**El Rosal**	**42.11**	**358**	P		**P**	**08 52 19.9**	**+2.1**
	comp=E,5.4nm,0.5s,baz=143,slow=5.0,SNR=9.5							
ROSC	**El Rosal**	**42.11**	**358**	*eP*		**P**	**08 52 20.6**	**+2.8**
SDV	**Santo Domingo**	**46.15**	**3**	*eP*		P	08 52 47.3	-2.6
	comp=E,7.9nm,1.0s							
SDV				*ep*	P	pP	08 53 01.3	-0.6
RCBR	**Riachuelo**	**46.17**	**56**	LR		LR	09 13 34.5	
	comp=E,928nm,18.5s,baz=192,slow=38							
VNA3	**Neumayer Olymp**	**46.49**	**157**	P		**P**	**08 52 53.0**	**+1.1**
VNA1	**Neumayer--Stat**	**46.84**	**156**	P		**P**	**08 52 56.3**	**+1.7**
VNA2	**Neumayer--Watz**	**47.17**	**156**	P		**P**	**08 52 58.3**	**+1.2**
	baz=294,slow=10							
SNAA	**Sanae**	**48.72**	**157**	P		**P**	**08 53 10.4**	**+1.2**
SNAA	**Sanae**	**48.72**	**157**	P		**P**	**08 53 09.6**	**+0.4**
	comp=E,8.3nm,0.9s,baz=277,slow=4.7,SNR=5.7							
SNAA	**Sanae**	**48.72**	**157**	P		**P**	**08 53 09.6**	**+0.4**
JTS	**JuntasAbangare**	**48.79**	**344**	LR		LR	09 09 18.1	
	comp=E,43nm,20.0s,baz=180,slow=30							
RKT	**Rikitea**	**54.49**	**267**	*eLR*		LR	09 09 54.9	
	comp=E,327nm,28.0s,baz=117							
VNDA	**Vanda**	**60.57**	**192**	P		**P**	**08 54 35.3**	**+0.4**
	comp=E,1.4nm,1.1s,baz=138,slow=6.2,SNR=4.6							
VNDA	**Vanda**	**60.57**	**192**	P		**P**	**08 54 35.3**	**+0.4**
TBI	**Tubuai**	**65.79**	**258**	*eLR*		LR	09 15 02.8	
	comp=E,270nm,27.2s							
PPT2	**Papeete2**	**69.00**	**264**	*eLR*		LR	09 16 33.3	
	comp=E,249nm,25.2s							
MAW	**Mawson**	**70.11**	**164**	P		**P**	**08 55 36.6**	**0.0**
	comp=E,11nm,0.8s,baz=176,slow=1.8,SNR=5.6							
MAW	**Mawson**	**70.11**	**164**	P		**P**	**08 55 36.6**	**0.0**
JCT	**Junction City**	**72.08**	**336**	*eP*		P	08 55 45.1	-3.9
	comp=E,2.1nm,0.6s							
JCT				*ep*	P	pP	08 56 01.2	-0.4
TXAR	**Lajitas Array**	**72.38**	**332**	P		**P**	**08 55 52.6**	**+1.7**
	comp=E,1.3nm,0.7s,baz=151,slow=8.7,SNR=22							
TXAR				*pP*		**pP**	**08 56 03.4**	**-0.2**
	comp=E,4.0nm,0.9s,baz=154,slow=8.2,SNR=20							
TXAR					LR	LR	09 23 11.8	
	comp=E,65nm,18.1s,baz=0.0,slow=32							
TXAR	**Lajitas Array**	**72.38**	**332**	P		**P**	**08 55 52.6**	**+1.7**
TXAR					pP	**pP**	**08 56 03.4**	**-0.2**
SUR	**Sutherland**	**73.88**	**118**	P		**P**	**08 55 60.0**	**-0.1**
	comp=E,13nm,0.8s,baz=228,slow=4.6,SNR=7.9							
SUR	**Sutherland**	**73.88**	**118**	P		**P**	**08 55 60.0**	**-0.1**
WVT	**Waverly**	**74.49**	**348**	*eP*		**P**	**08 56 03.6**	**+0.6**
	comp=E,8.3nm,0.8s							
WVT				*ep*	P	**pP**	**08 56 14.5**	**-1.2**
MNTX	**Cornudas Mount**	**75.14**	**332**	*eP*		**P**	**08 56 07.9**	**+0.9**
	comp=E,4.8nm,0.9s							
PBMO	**Poplar Bluff**	**75.60**	**346**	*eP*		**P**	**08 56 10.8**	**+1.4**
	comp=E,7.4nm,0.8s							
TUL1	**Leonard**	**75.99**	**341**	*eP*		P	08 56 07.6	-4.1
	comp=E,15nm,0.8s							
TUL1				*ep*	P	pP	08 56 23.2	-1.2
MSTX	**Muleshoe**	**76.26**	**335**	*eP*		P	08 56 16.6	+3.2
	comp=E,6.9nm,1.0s							
V34A	**Guthrie**	**76.38**	**340**	*eP*		P	08 56 09.7	-4.2
	comp=E,9.4nm,0.9s							
V34A				*ep*	P	pP	08 56 25.2	-1.5
LIC	**Lamto**	**76.62**	**71**	*eP*		**P**	**08 56 16.0**	**+0.2**
	comp=E,30nm,0.6s							
TIC	**Toumodi**	**76.90**	**71**	*eP*		**P**	**08 56 17.7**	**+0.3**
	comp=E,12nm,0.4s							
KIC	**Kosan Boka**	**76.93**	**71**	*eP*		**P**	**08 56 18.0**	**+0.4**
	comp=E,34nm,0.6s							
DBIC	**Dimbokro**	**77.04**	**71**	P		**P**	**08 56 18.7**	**+0.5**
	comp=E,12nm,0.6s,baz=201,slow=5.4,SNR=27							
DBIC					pP	**PcP**	**08 56 29.4**	**+0.4**
	comp=E,14nm,0.6s,baz=200,slow=4.9,SNR=8.9							
DBIC					LR	LR	09 27 37.8	
	comp=E,70nm,19.2s,baz=174,slow=34							
DBIC	**Dimbokro**	**77.04**	**71**	*eP*		**P**	**08 56 17.2**	**-1.0**
	comp=E,16nm,0.6s							
DBIC				*ep*	P	**PcP**	**08 56 38.4**	**+0.4**
LAZ	**Ladron**	**78.22**	**332**	*eP*		**P**	**08 56 22.3**	**-2.2**
	comp=E,5.6nm,1.2s							
LAZ				*ep*	P	**pP**	**08 56 37.6**	**+0.4**
ANMO	**Albuquerque**	**78.44**	**332**	*eP*		P	08 56 23.0	-2.8
	comp=E,8.4nm,1.0s							
ANMO				*ep*	P	pP	08 56 38.6	+0.1
HDIL	**Hopedale**	**79.05**	**347**	*eP*		**P**	**08 56 29.8**	**+1.2**
	comp=E,29nm,1.0s							
T25A	**Trinidad**	**79.69**	**335**	*eP*		**P**	**08 56 35.3**	**+2.7**
	comp=E,14nm,0.9s							
SDCO	**Great Sand Dun**	**80.61**	**334**	*eP*		**P**	**08 56 39.8**	**+2.2**
	comp=E,4.0nm,1.0s							
MDV	**Middlebury**	**81.07**	**360**	*eP*		P	08 56 36.5	-2.9
S22A	**4UR Ranch, Cre**	**81.08**	**333**	*eP*		**P**	**08 56 43.0**	**+2.9**
	comp=E,90nm,2.7s							
LBTB	**Lobatse**	**81.58**	**115**	P		**P**	**08 56 43.0**	**0.0**
	comp=E,14nm,0.7s,baz=248,slow=4.9,SNR=10.0							
LBTB	**Lobatse**	**81.58**	**115**	*eP*		**P**	**08 56 43.1**	**+0.1**
	comp=E,11nm,0.6s							
LBTB				*epP*		**pP**	**08 56 58.4**	**+2.5**
LBTB				*esP*		sP	08 57 03.8	+3.2
PV01	**Paradox Valley**	**82.05**	**332**	*eP*		P	08 56 42.1	-3.1
	comp=E,432nm,0.9s							
PV01				*epP*		pP	08 56 58.1	+0.1
PV01				*esP*		sP	08 57 04.4	+1.6
SMCO	**Snowmass**	**82.41**	**334**	*eP*		**P**	**08 56 49.7**	**+2.5**
	comp=E,8.9nm,1.1s							
ISCO	**Idaho Springs**	**82.50**	**335**	*eP*		P	**08 56 50.0**	**+2.4**
	comp=E,2.6nm,0.8s							
SHPR	**Sheep Range**	**83.29**	**327**	*eP*		P	08 56 48.5	-3.0
	comp=E,4.0nm,1.0s							
SHPR				*epP*		pP	08 57 05.1	+0.7
SHPR				*esP*		sP	08 57 09.9	+0.7
CCUT	**Cedar City**	**83.42**	**329**	*eP*		P	08 56 56.0	+3.7
	comp=E,9.3nm,1.2s							
ECSD	**EROS Data Cent**	**83.59**	**343**	*eP*		P	08 56 49.6	-3.1
	comp=E,5.4nm,0.7s							
ECSD				*ePcP*		**PcP**	**08 56 53.9**	**-2.9**
ECSD				*epP*		pP	08 57 04.6	-1.0
ECSD				*esP*		sP	08 57 11.9	+1.5
SRU	**San Rafael Swe**	**83.64**	**332**	*eP*		P	**08 56 51.3**	**-2.0**
	comp=E,0.8nm,0.3s							
SRU				*epP*		**pP**	**08 57 05.9**	**-0.3**
SRU				*esP*		**sP**	**08 57 12.3**	**+1.4**
ARUT	**Antelope Range**	**83.65**	**329**	*eP*		P	**08 56 51.8**	**-1.5**
	comp=E,0.4nm,0.9s							
ARUT				*epP*		**pP**	**08 57 07.1**	**+0.9**
TPNV	**Topopah Spring**	**84.14**	**327**	*eP*		P	**08 56 58.9**	**+3.1**
	comp=E,4.9nm,1.0s							
TPNV				*epP*		**pP**	**08 57 09.6**	**+0.9**
DAC	**Darwin (Calif)**	**84.18**	**325**	*eP*		P	**08 56 59.2**	**+3.0**
	comp=E,7.4nm,1.1s							
R11A	**Troy Canyon, C**	**85.02**	**328**	*eP*		P	**08 57 03.1**	**+2.8**
	comp=E,3.7nm,0.9s							
R11A				*epP*		**pP**	**08 57 13.7**	**+0.5**
K22A	**Casper**	**85.36**	**336**	*eP*		P	08 56 58.0	-3.9
	comp=E,5.1nm,1.2s							
K22A				*ePcP*		**PcP**	**08 57 02.9**	**-2.0**
K22A				*epP*		pP	08 57 14.5	-0.3
DUG	**Dugway, Tooele**	**85.46**	**331**	*eP*		P	**08 57 00.3**	**-2.1**
	comp=E,9.2nm,1.4s							
DUG				*epP*		**pP**	**08 57 15.5**	**+0.2**
TPH	**Tonopah**	**85.50**	**326**	*eP*		P	08 56 59.4	-3.3
	comp=E,9.3nm,1.0s							
TPH				*ePcP*		**PcP**	**08 57 05.2**	**-0.5**
TPH				*epP*		pP	08 57 16.0	+0.3
RSSD	**Black Hills**	**85.92**	**338**	*eP*		P	08 57 01.2	-3.5
	comp=E,7.3nm,0.9s							
RSSD				*ePcP*		**PcP**	**08 57 06.0**	**-1.4**
RSSD				*epP*		pP	08 57 16.8	-0.8
TORD	**Torodi Ar. Bea**	**86.13**	**70**	P		P	**08 57 06.0**	**-0.1**
	comp=E,6.7nm,0.9s,baz=220,slow=5.3,SNR=30							
TORD	**Torodi Ar. Bea**	**86.13**	**70**	P		**P**	**08 57 06.0**	**-0.1**
NVAR	**Mina Array Bea**	**86.27**	**326**	P		**P**	**08 57 08.7**	**+2.1**
	comp=E,0.7nm,0.7s,baz=161,slow=7.0,SNR=8.8							
NVAR					pP	**pP**	**08 57 19.8**	**+0.3**
	comp=E,2.8nm,0.8s,baz=157,slow=5.9,SNR=19							
NVAR	**Mina Array Bea**	**86.27**	**326**	P		**P**	**08 57 08.7**	**+2.1**
NVAR					pP	**pP**	**08 57 19.8**	**+0.3**
PDAR	**Pinedale Array**

	comp=E,2.4nm,0.9s,baz=284,slow=6.1,SNR=11								
MKAR					PKPab	**PKPab**	**09 05 01.3**	**+0.1**	
	comp=E,2.8nm,0.8s,baz=280,slow=7.1,SNR=11								
MKAR	**Makanchi Array**	**159.51**	**55**		PKP	**PKPdf**	**09 04 22.9**	**0.0**	
MKAR					PKPab	**PKPab**	**09 05 01.3**	**+0.1**	
NACB	**Ninganchiao**	**161.79**	**228**	*e*	PKPab	**PKPab**	**09 05 09.8**	**-1.8**	
WMQ	**Urumqi**	**164.05**	**60**	*e*	PKPdf	**PKPdf**	**09 04 29.8**	**+2.1**	
WMQ					pPKP	**pPKPdf**	**09 04 40.8**	**-0.3**	
CN2	**Changchun**	**164.62**	**300**	*e*	PKP	**PKPdf**	**09 04 30.0**	**+1.9**	
NJ2	**Nanjing**	**168.85**	**245**	*e*	PKP	**PKPdf**	**09 04 34.3**	**+2.7**	
BJI	**Beijing**	**172.37**	**293**		PKP	**PKPdf**	**09 04 35.0**	**+1.7**	
BJI					SS	SS	09 30 57.0	-0.8	
BJI					PPMZ				
	comp=E,110nm,8.7s								
CD2	**Chengdu**	**172.95**	**157**		PKP	**PKPdf**	**09 04 34.0**	**+0.1**	
GTA	**Gaotai**	**174.04**	**69**	*e*	PKP	**PKPdf**	**09 04 34.8**	**+0.6**	
GTA					pPKP	**pPKPdf**	**09 04 45.8**	**-1.8**	
GTA					sPKP		09 04 49.3		
GTA					PKPab	**PKPab**	**09 06 07.5**	**+1.8**	
HHC	**Hu-ho-hao-te**	**175.08**	**315**	*e*	PKP	**PKPdf**	**09 04 33.8**	**-0.6**	
HHC					sPKP		09 04 48.8		
HHC					PKS	**PKSdf**	**09 08 04.0**	**-2.6**	
HHC					SKS	**SKSdf**	**09 11 30.3**	**-3.7**	
HHC					SS	**SS**	**09 31 26.3**	**+3.0**	
HHC					PPMZ				
	comp=E,43nm,10.0s								
HHC					LZ				
	comp=E,85nm,21.3s								

*ISCJB **26** 08:46:30.5±0.3,54˚.32S±0˚.05×23˚.00W±0˚.08,h10km, mb4.8/32,MS3.8/6, Error ellipse: s-maj=8.2km s-min=6.2km az=25.2*
*IDC **26** 08:46:30.4±0.5,54˚.36S×22˚.90W,h0km,mb4.6/19, mb1 4.6/20,mb1mx4.5/30,mbtmp4.6/20,ML4.1/1,MS3.8/7, Ms1 3.8/7,ms1mx3.7/19, Error ellipse: s-maj=16.0km s-min=12.9km az=39.0*
*MOS **26** 08:46:34.3±1.4,54˚.37S×22˚.94W,h33km,mb5.1/8, Error ellipse: s-maj=25.1km s-min=15.1km az=97.4*
*BJI **26** 08:46:34.0,54˚.30S×22˚.90W,h26km,mB5.3/8,Ms5.4/6, Ms7 5.0/10*
*AWI **26** 08:46:35.1,54˚.44S×23˚.07W*
*NEIC **26** 08:46:35.8±0.2,54˚.36S×22˚.95W,h35km,mb5.0/14, Error ellipse: s-maj=7.0km s-min=5.4km az=196.0*
ISC 26 08:46:31.9±0.3,54˚.31S±0˚.07×22˚.93W±0˚.05,h10km,n106, σ1°61/114,mb5.0/31,MS3.8/6,2C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.94**	**265**	Pn	**Pn**	**08 48 27.1**	**-0.1**
	3µm,0.8s,SNR=37						
HOPE	**Hope Point**	**7.94**	**265**	*e*Pn	**Pn**	**08 48 27.5**	**+0.3**
	463nm,0.8s						
HOPE				*e*Sn	**Sn**	**08 49 56.2**	**-0.7**
VNA1	**Neumayer--Stat**	**17.64**	**164**	P	**P**	**08 50 39.4**	**+1.1**
VNA3	**Neumayer Olymp**	**17.96**	**166**	P	**Pn**	**08 50 41.4**	**+0.1**
VNA2	**Neumayer--Watz**	**18.03**	**163**	P	**P**	**08 50 43.3**	**+0.7**
	baz=324,slow=16						
SNAA	**Sanae**	**19.47**	**161**	P	**Pn**	**08 50 59.2**	**-0.5**
SNAA	**Sanae**	**19.47**	**161**	P	**P**	**08 50 58.9**	**+0.4**
	0.6nm,0.3s,baz=321,slow=9.8,SNR=79						
SNAA				LR	LR	08 56 49.1	
	comp=Z,232nm,19.7s,baz=342,slow=32						
SNAA	**Sanae**	**19.47**	**161**	*i*P	**Pn**	**08 50 59.2**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,21nm,0.8s						
SNAA	**Sanae**	**19.47**	**161**	*e*P	**P**	**08 50 58.8**	**+0.4**
	comp=Z,20nm,0.4s						
EFI	**East Falkland**	**21.18**	**263**	*e*P	**P**	**08 51 17.4**	**+0.3**
EFI				pmax	pmax		
	comp=Z,106nm,0.7s						
EFI	**East Falkland**	**21.18**	**263**	*e*P	**P**	**08 51 17.4**	**+0.3**
	comp=Z,106nm,0.7s						
NVL	**N'lazarevskaya**	**22.47**	**150**	*e*P	P	08 51 42.7	+12
NVL				*e*S	S	08 55 21.1	-16
NVL				pmax	pmax		
	comp=Z,26nm,1.1s						
PMSA	**Palmer Station**	**22.88**	**226**	*e*P	**P**	**08 51 35.6**	**+0.5**
	comp=Z,170nm,1.6s						
USHA	**Ushuaia**	**26.03**	**250**	P	**P**	**08 52 05.1**	**+0.2**
	comp=Z,12nm,1.0s,baz=101,slow=10,SNR=3.2						
TRQA	**Tornquist**	**31.06**	**285**	*e*P	**P**	**08 52 50.5**	**+0.7**
PLCA	**Paso Flores**	**34.22**	**273**	P	**P**	**08 53 18.2**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=164,slow=12,SNR=1.9						
PLCA				LR	LR	09 05 57.7	
	comp=Z,133nm,21.3s,baz=142,slow=34						
QSPA	**South Pole Qui**	**35.94**	**180**	P	**P**	**08 53 32.6**	**+0.4**
	comp=Z,22nm,1.0s,baz=210,slow=4.1,SNR=34						
QSPA	**South Pole Qui**	**35.94**	**180**	*e*P	**P**	**08 53 33.1**	**+0.9**
CPUP	**Villa Florida**	**37.69**	**304**	P	**P**	**08 53 47.3**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=121,slow=5.6,SNR=3.5						
CPUP	**Villa Florida**	**37.69**	**304**	*e*P	**P**	**08 53 47.4**	**+0.2**
SUR	**Sutherland**	**37.81**	**73**	P	**P**	**08 53 48.8**	**+0.4**
	comp=Z,12nm,1.1s,baz=223,slow=8.5,SNR=5.6						
SUR	**Sutherland**	**37.81**	**73**	*e*P	**P**	**08 53 50.1**	**+1.7**
CFAA	**Coronel Fontan**	**39.27**	**287**	P	**P**	**08 54 00.3**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=146,slow=7.9,SNR=14						
MAW	**Mawson**	**40.10**	**144**	P	**P**	**08 54 07.1**	**+0.1**
	comp=Z,8.4nm,0.7s,baz=256,slow=9.5,SNR=7.8						
MAW				LR	LR	09 08 32.8	
	comp=Z,246nm,18.9s,baz=244,slow=33						
LCO	**Las Campanas**	**42.62**	**287**	*e*P	**P**	**08 54 29.0**	**+0.5**
	comp=Z,32nm,1.3s						
H10S2	**ASCENSION HYDR**	**45.72**	**11**	T	T	09 43 47.7	
	baz=187,slow=75,SNR=19						
H10S3	**ASCENSION HYDR**	**45.72**	**11**	T	T	09 43 56.5	
	baz=187,slow=75,SNR=19						
H10S1	**ASCENSION HYDR**	**45.73**	**11**	T	T	09 43 58.3	
	baz=187,slow=75,SNR=15						
LBTB	**Lobatse**	**46.14**	**71**	P	**P**	**08 54 56.7**	**+0.2**
	comp=Z,13nm,0.8s,baz=232,slow=7.6,SNR=22						
LBTB	**Lobatse**	**46.14**	**71**	*e*P	**P**	**08 54 56.6**	**+0.1**
LVC	**Limon Verde**	**46.69**	**294**	P	**P**	**08 55 01.4**	**+0.4**
	comp=Z,20nm,0.7s,baz=81,slow=1.3,SNR=5.3						
LVC	**Limon Verde**	**46.69**	**294**	*e*P	**P**	**08 55 03.0**	**+2.0**
TSUM	**Tsumeb**	**46.69**	**58**	*e*P	**P**	**08 55 01.7**	**+0.8**
H10N1	**ASCENSION HYDR**	**46.83**	**12**	T	T	09 45 15.3	
	baz=181,slow=72,SNR=12						
H10N3	**ASCENSION HYDR**	**46.84**	**11**	T	T	09 45 23.9	
	baz=181,slow=72,SNR=13						
H10N2	**ASCENSION HYDR**	**46.85**	**11**	T	T	09 45 17.4	
	baz=181,slow=72,SNR=18						
SBA	**Scott Base**	**47.96**	**183**	*e*P	**P**	**08 55 11.2**	**+1.2**
SBA				pmax	pmax		
	comp=Z,12nm,0.7s						
SBA	**Scott Base**	**47.96**	**183**	*e*P	**P**	**08 55 11.2**	**+1.2**
	comp=Z,12nm,0.7s						
SIV	**San Ignacio**	**48.31**	**307**	P	**P**	**08 55 14.5**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=158,slow=11,SNR=3.6						
VNDA	**Vanda**	**48.40**	**181**	P	**P**	**08 55 13.9**	**+0.6**
	comp=Z,7.2nm,0.9s,baz=187,slow=7.4,SNR=15						
VNDA				LR	LR	09 14 13.2	
	comp=Z,106nm,20.5s,baz=188,slow=34						
VNDA	**Vanda**	**48.40**	**181**	*e*P	**P**	**08 55 14.3**	**+1.0**
VNDA	**Vanda**	**48.40**	**181**	*e*P	**P**	**08 55 14.3**	**+1.0**
LPAZ	**La Paz**	**51.51**	**299**	P	**P**	**08 55 39.2**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=103,slow=5.0,SNR=5.8						
LPAZ				LR	LR	09 16 42.8	
	comp=Z,132nm,21.7s,baz=123,slow=35						
LPAZ	**La Paz**	**51.51**	**299**	*e*P	**P**	**08 55 39.3**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LPAZ	**La Paz**	**51.51**	**299**	*e*P	**P**	**08 55 39.3**	**+0.9**
	comp=Z,2.8nm,0.5s						
CASY	**Casey**	**54.69**	**159**	*e*P	**P**	**08 56 00.8**	**+0.3**
	comp=Z,18nm,1.1s						
LSZ	**Lusaka**	**55.45**	**66**	*e*P	**P**	**08 56 06.9**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,20nm,1.4s						
LSZ	**Lusaka**	**55.45**	**66**	*e*P	**P**	**08 56 06.9**	**+0.1**
	comp=Z,20nm,1.4s						
SAML	**Samuel**	**55.46**	**309**	*e*P	**P**	**08 56 07.2**	**+0.6**
	comp=Z,22nm,1.1s						
PTGA	**Pitinga**	**61.45**	**317**	P	**P**	**08 56 48.9**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=322,slow=20,SNR=3.2						
DBIC	**Dimbokro**	**62.62**	**20**	P	**P**	**08 56 57.0**	**+0.7**
	comp=Z,12nm,0.7s,baz=199,slow=6.7,SNR=4.2						
DBIC				LR	LR	09 18 41.8	
	comp=Z,60nm,19.1s,baz=177,slow=31						
DBIC	**Dimbokro**	**62.62**	**20**	P	**P**	**08 56 57.0**	**+0.7**
ABPO	**Ambohimpanom**	**63.21**	**85**	*e*P	**P**	**08 57 00.0**	**-0.5**
ABPO				pmax	pmax		
	comp=Z,15nm,1.1s						
ABPO	**Ambohimpanom**	**63.21**	**85**	*e*P	**P**	**08 56 60.0**	**-0.5**
	comp=Z,15nm,1.1s						
RER	**Riviere de l'E**	**66.53**	**94**	*e*P	**P**	**08 57 24.0**	**+2.0**
	comp=Z,33nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.38**	**26**	P	**P**	**08 57 46.4**	**+0.6**
	comp=Z,15nm,0.8s,baz=200,slow=6.4,SNR=24						
OTAV	**Otavalo**	**70.83**	**299**	*e*P	**P**	**08 57 49.2**	**-0.1**
	comp=Z,12nm,1.5s						
ROSC	**El Rosal**	**72.78**	**305**	LR	LR	09 29 57.7	
	comp=Z,45nm,21.4s,baz=235,slow=36						
PCRV	**Puerto La Cruz**	**73.24**	**317**	P	**P**	**08 58 04.5**	**+1.4**
	comp=Z,5.2nm,0.7s,baz=146,slow=7.3,SNR=2.2						
SDV	**Santo Domingo**	**74.62**	**311**	*e*P	**P**	**08 58 11.3**	**-0.1**
	comp=Z,16nm,1.1s						
SNZO	**South Karori**	**83.56**	**193**	*e*P	**P**	**08 58 59.9**	**+0.1**
	comp=Z,24nm,0.9s						
URZ	**Urewera**	**86.19**	**196**	P	**P**	**08 59 11.6**	**-1.6**
	comp=Z,11nm,1.0s,baz=180,slow=2.0,SNR=4.3						
URZ	**Urewera**	**86.19**	**196**	*e*P	**P**	**08 59 11.8**	**-1.4**
H08N3	**Diego Garcia H**	**87.18**	**97**	T	T	10 35 53.5	
	baz=217,slow=75,SNR=4.2						
H08N1	**Diego Carcia H**	**87.20**	**97**	T	T	10 36 04.1	
	baz=217,slow=75,SNR=4.5						
H08N2	**Diego Garcia H**	**87.20**	**97**	T	T	10 35 58.1	
	baz=217,slow=75,SNR=5.1						
STKA	**Stephens Creek**	**93.13**	**167**	P	**P**	**08 59 44.2**	**-1.8**
	comp=Z,3.9nm,1.1s,baz=155,slow=8.3,SNR=3.2						
ASAR	**Alice Springs**	**99.81**	**159**	P	**Pdif**	**09 00 15.1**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=181,slow=4.2,SNR=4.1						
COEN	**Coen**	**110.98**	**166**	*e*PKPdf	**PKiKP**	**09 05 04.9**	**-0.6**
VSU	**Vasula**	**119.34**	**27**	*i* PKiKP	**PKPdf**	**09 05 22.9**	**+2.9**
PDAR	**Pinedale Array**	**121.53**	**300**	PKP	**PKPdf**	**09 05 23.6**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=128,slow=5.8,SNR=2.2						
FINES	**FINESS Array B**	**121.73**	**25**	PKP	**PKPdf**	**09 05 23.6**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=160,slow=3.5,SNR=18						
KAF	**Kangasniemi**	**122.36**	**25**	*e*p	**PKPdf**	**09 05 23.1**	**-2.6**
	comp=Z,3.5nm,0.6s						
KAF	**Kangasniemi**	**122.36**	**25**	*e*PKIKP	**PKPdf**	**09 05 23.1**	**-2.6**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
JOF	**Joensuu**	**124.32**	**27**	*e*p	**PKPdf**	**09 05 28.1**	**-1.3**
	comp=Z,4.6nm,0.6s						
JOF	**Joensuu**	**124.32**	**27**	*e*PKIKP	**PKPdf**	**09 05 28.1**	**-1.3**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSH	**Kashi**	**125.71**	**70**	*e*PKP	**PKPdf**	**09 05 33.0**	**-0.1**
KSH				PP	**PP**	**09 07 22.3**	**-3.6**
KSH				PKS	**PKSdf**	**09 09 08.3**	**-1.4**
KSH				SKS	**SKSdf**	**09 12 43.3**	**-1.4**
KSH				SKKS	SKKSac	09 14 14.3	-9.0
KSH				LN			
	comp=Z,140nm,5.4s						
KSH				LE			
	comp=Z,96nm,6.4s						
KSH				LZ			
	comp=Z,150nm,6.3s						
AAK	**Ala-Archa**	**127.06**	**67**	*e*PKIKP	**PKPdf**	**09 05 35.4**	**-0.2**
ARCES	**ARCESS Array B**	**128.45**	**20**	PKP	**PKPdf**	**09 05 36.7**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=176,slow=0.9,SNR=20						
ARU	**Arti**	**128.73**	**45**	*i* PKIKP	**PKPdf**	**09 05 39.0**	**+0.9**
ARU						09 07 44.8	
ARU						09 12 45.8	
ARU				SS	SS	09 24 56.9	-6.0
GYA	**Guiyang**	**133.94**	**106**	Pdif	**Pdif**	**09 02 48.3**	**+0.3**
GYA				PKP	**PKPdf**	**09 05 49.0**	**-0.1**
GYA				PP	**PP**	**09 08 23.5**	**+4.1**
GYA				PKS	**PKSdf**	**09 09 23.3**	**-2.4**
GYA				SKKS		09 15 13.8	
GYA				PPMZ			
	comp=Z,120nm,7.8s						
GYA				LN			
	comp=Z,130nm,21.8s						
GYA				LE			
	comp=Z,120nm,22.4s						
GYA				LZ			
	comp=Z,140nm,21.6s						
MKAR	**Makanchi Array**	**133.99**	**67**	PKP	**PKPdf**	**09 05 49.0**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=262,slow=7.3,SNR=2.7						
MKAR	**Makanchi Array**	**133.99**	**67**	PKIKP	**PKPdf**	**09 05 49.0**	**+0.6**
WMQ	**Urumqi**	**135.11**	**74**	*e*PKP	**PKPdf**	**09 05 47.5**	**-3.2**
WMQ				LZ			
	comp=Z,210nm,21.8s						
CD2	**Chengdu**	**135.65**	**100**	PKP	**PKPdf**	**09 05 53.0**	**+0.9**
CD2				sPKP		09 06 07.5	
CD2				PP	**PP**	**09 08 35.0**	**+4.8**
CD2				PKS	**PKSdf**	**09 09 28.0**	**-0.4**
CD2				SKS	**SKSdf**	**09 13 01.3**	**-1.6**
CD2				SKKS	**SKKSac**	**09 15 24.8**	**-0.1**
CD2				SS	**SS**	**09 26 30.3**	**+2.6**
CD2				PPMZ			
	comp=Z,120nm,5.4s						
YKA	**Yellowknife Ar**	**136.53**	**318**	PKhKP	PKPpre	09 05 48.2	
	comp=Z,0.3nm,0.6s,baz=115,slow=2.2,SNR=4.0						
YKA				PP	**PP**	**09 08 36.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=113,slow=6.9,SNR=5.0						
GTA	**Gaotai**	**139.28**	**87**	*e*PKP	**PKPdf**	**09 06 01.3**	**+2.7**
GTA				sPKP		09 06 08.8	
LZH	**Lanzhou**	**139.41**	**94**	*e*PKP	**PKPdf**	**09 05 56.0**	**-3.0**
LZH				PP	**PP**	**09 08 55.0**	**+1.2**
LZH				*e*SKKS		09 15 40.8	
LZH				*e*SS	**SS**	**09 27 06.0**	**-6.6**
LZH				PPMZ			
	comp=Z,130nm,5.8s						
LZH				LN			
	comp=Z,390nm,17.7s						
LZH				LE			
	comp=Z,340nm,17.1s						
LZH				LZ			
	comp=Z,360nm,20.0s						
NJ2	**Nanjing**	**144.97**	**114**	*e*PKPbc	**PKPdf**	**09 06 09.3**	**+0.5**
INK	**Inuvik**	**145.99**	**322**	*e*PKP2	**PKPdf**	**09 06 09.6**	**+0.3**
INK	**Inuvik**	**145.99**	**322**	*e*PKPdf	**PKPdf**	**09 06 09.6**	**+0.3**
MOY	**Mondy**	**146.89**	**71**	*e*PKP2	**PKPbc**	**09 06 13.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**147.09**	**95**	*e*PKPbc	**PKPbc**	**09 06 14.0**	**-0.4**
HHC				PKS	**PP**	**09 09 43.5**	**+3.5**
HHC				PP	PP	09 09 44.5	+4.5
HHC				SKS	**SKSdf**	**09 13 20.5**	**-0.3**
HHC				SS	**SS**	**09 28 44.5**	**+3.5**
HHC				PPMZ			
	comp=Z,61nm,9.4s						
HHC				LN			
	comp=Z,120nm,20.9s						
HHC				LE			
	comp=Z,140nm,21.2s						
HHC				LZ			
	comp=Z,110nm,22.0s						
ZAK	**Zakamensk**	**147.58**	**74**	*e*PKP2	**PKPbc**	**09 06 14.6**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SONM	**Songino Array**	**148.10**	**81**	PKPbc	**PKPbc**	**09 06 16.7**	**-0.3**
	comp=Z,12nm,0.8s,baz=206,slow=2.7,SNR=25						
ULN	**Ulaanbaatar**	**148.50**	**81**	*e*PKIKP	**PKPdf**	**09 06 14.0**	**-0.4**
ULN				*e*		09 06 21.6	
ULN	**Ulaanbaatar**	**148.50**	**81**	*e*PKPdf	**PKPdf**	**09 06 14.0**	**-0.4**
ULN				*e*PKPbc	**PKPbc**	**09 06 17.0**	**-1.0**
ULN				*e*PKPab	**PKPab**	**09 06 21.6**	**+0.1**
ILAR	**Eielson Array**	**150.74**	**313**	PKPbc	**PKPbc**	**09 06 22.1**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=127,slow=4.4,SNR=32						
COLA	**College**	**151.16**	**313**	*e*PKIKP	**PKPbc**	**09 06 23.2**	**-0.6**
COLA				*e*		09 06 32.0	
COLA	**College**	**151.16**	**313**	*e*PKPbc	**PKPbc**	**09 06 23.2**	**-0.6**
COLA				*e*PKPab	**PKPab**	**09 06 32.0**	**+0.3**
KSAR	**Wonju Array Be**	**153.86**	**118**	PKPab	**PKPab**	**09 06 40.0**	**-3.8**
KSRS	**Korea Array**	**153.89**	**118**	PKPab	**PKPab**	**09 06 40.0**	**-3.9**
	comp=Z,2.2nm,0.7s,baz=210,slow=5.1,SNR=6.0						
BOD	**Bodaibo**	**156.01**	**64**	*e*PKIKP	PKPdf	09 06 32.5	+7.5
BOD				*e*		09 06 50.9	
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CN2	**Changchun**	**156.95**	**104**	*e*PKP	**PKPdf**	**09 06 23.8**	**-2.9**
MJAR	**Matsushiro Arr**	**157.96**	**136**	PKPab	**PKPab**	**09 07 01.0**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=185,slow=4.7,SNR=7.8						
BILL	**Bilibino**	**165.56**	**346**	*i* PKP2	**PKPab**	**09 07 32.4**	**-1.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						

*BEO **26** 08:47:11.4±1.0,39˚.72N×23˚.53E,h0km, ML3.0/3*
*ISCJB **26** 08:47:13.3±0.4,39˚.99N±0˚.01×23˚.74E±0˚.03,h6km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=11.4*
*ATH **26** 08:47:13.9,39˚.98N×23˚.71E,h10km±2km, MD3.0/22*
*CSEM **26** 08:47:13.8±0.1,39˚.97N×23˚.72E,h10km, MD3.0, Error ellipse: s-maj=2.3km s-min=1.6km az=104.0*

*SOF **26** 08:47:14.3,40˚.07N×23˚.86E,h6km,MD2.6*
*THE **26** 08:47:14.2,39˚.99N×23˚.70E,h9km,ML3.2/11, Error ellipse: s-maj=0.6km s-min=0.3km az=250.0*
ISC 26 08:47:14.1±0.8,39˚.98N±0˚.01×23˚.72E±0˚.02,h10km±4km, n133,σ0°58/178,9C-8D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.06**	**210**	P	**Pg**	**08 47 16.2**	**0.0**
PAIG				S	**Sg**	**08 47 17.6**	**-0.2**
PAIG	**Paliouri**	**0.06**	**210**	*e*PG	**Pg**	**08 47 16.2**	**0.0**
PAIG				*e*SG	**Sg**	**08 47 17.5**	**-0.2**
PAIG	**Paliouri**	**0.06**	**210**	P	**Pg**	**08 47 16.2**	**0.0**
PAIG				*e*Sg	**Sg**	**08 47 17.5**	**-0.2**
OUR	**Ouranopolis**	**0.41**	**30**	P	**Pg**	**08 47 22.4**	**+0.3**
OUR				S	**Sg**	**08 47 28.4**	**+0.8**
OUR	**Ouranopolis**	**0.41**	**30**	*e*PG	**Pg**	**08 47 21.8**	**-0.3**
OUR				*e*SG	**Sg**	**08 47 27.5**	**-0.1**
OUR	**Ouranopolis**	**0.41**	**30**	*e*PB	**Pg**	**08 47 22.6**	**+0.5**
OUR				*e*SB	**Sg**	**08 47 28.0**	**+0.4**
OUR	**Ouranopolis**	**0.41**	**30**	*e*Pg	**Pg**	**08 47 21.8**	**-0.3**
OUR	**Ouranopolis**	**0.41**	**30**	P	**Pg**	**08 47 22.4**	**+0.3**
OUR	**Ouranopolis**	**0.41**	**30**	*e*Pb	**Pg**	**08 47 22.6**	**+0.5**
OUR				*e*Sg	**Sg**	**08 47 27.5**	**-0.1**
OUR				*e*Sb	**Sg**	**08 47 28.0**	**+0.4**
OUR				S	**Sg**	**08 47 28.4**	**+0.8**
PLG	**Polygyros**	**0.45**	**332**	*e*PB	**Pg**	**08 47 22.4**	**-0.5**
PLG	**Polygyros**	**0.45**	**332**	*e*Pb	**Pg**	**08 47 22.4**	**-0.5**
XOR	**Xorichti**	**0.73**	**214**	P	**Pg**	**08 47 28.3**	**+0.1**
XOR				S	**Sb**	**08 47 39.2**	**+0.2**
XOR	**Xorichti**	**0.73**	**214**	*e*PB	**Pb**	**08 47 28.8**	**-0.1**
XOR				*e*SB	**Sb**	**08 47 38.8**	**-0.2**
XOR	**Xorichti**	**0.73**	**214**	P	**Pg**	**08 47 28.3**	**+0.1**
XOR	**Xorichti**	**0.73**	**214**	*e*Pb	**Pb**	**08 47 28.8**	**-0.1**
XOR				*e*Sb	**Sb**	**08 47 38.8**	**-0.2**
XOR				S	**Sb**	**08 47 39.2**	**+0.2**
NEO	**Neokhori**	**0.77**	**210**	P	**Pb**	**08 47 29.2**	**-0.3**
NEO				S	**Sb**	**08 47 40.0**	**-0.1**
NEO	**Neokhori**	**0.77**	**210**	*e*PB	**Pb**	**08 47 29.3**	**-0.3**
NEO				*e*SB	**Sb**	**08 47 39.8**	**-0.3**
NEO	**Neokhori**	**0.77**	**210**	P	**Pb**	**08 47 29.2**	**-0.3**
NEO				*e*Sb	**Sb**	**08 47 39.8**	**-0.3**
HORT	**Hortiatis**	**0.78**	**323**	P	**Pg**	**08 47 28.2**	**-0.9**
HORT				S	**Sg**	**08 47 39.5**	**+0.2**
HORT	**Hortiatis**	**0.78**	**323**	*e*PG	**Pb**	**08 47 29.8**	**+0.1**
HORT				*e*SG	**Sb**	**08 47 40.7**	**+0.3**
HORT	**Hortiatis**	**0.78**	**323**	*e*PG	**Pg**	**08 47 28.3**	**-0.9**
HORT				*e*SB	**Sg**	**08 47 39.2**	**-0.1**
HORT	**Hortiatis**	**0.78**	**323**	*e*Pg	**Pg**	**08 47 28.3**	**-0.9**
HORT				*e*Sb	**Sg**	**08 47 39.2**	**-0.1**
HORT				S	**Sg**	**08 47 39.5**	**+0.2**
HORT				*e*Sg	**Sb**	**08 47 40.7**	**+0.3**
AOS	**Alonnisos**	**0.82**	**171**	P	**Pg**	**08 47 29.8**	**0.0**
AOS				S	**Sb**	**08 47 41.6**	**+0.3**
AOS	**Alonnisos**	**0.82**	**171**	*e*PG	**Pb**	**08 47 30.4**	**+0.2**
AOS	**Alonnisos**	**0.82**	**171**	*e*PB	**Pg**	**08 47 29.9**	**+0.1**
AOS				*e*SB	**Sg**	**08 47 40.8**	**+0.4**
AOS	**Alonnisos**	**0.82**	**171**	P	**Pg**	**08 47 29.8**	**0.0**
AOS	**Alonnisos**	**0.82**	**171**	*e*Pg	**Pb**	**08 47 30.5**	**+0.2**
AOS				*e*Sb	**Sg**	**08 47 40.3**	**+0.4**
AOS				S	**Sb**	**08 47 41.6**	**+0.3**
SKIA	**Skiathos**	**0.83**	**194**	P	**Pb**	**08 47 30.3**	**-0.3**
SKIA				S	**Sb**	**08 47 42.4**	**+0.6**
SKIA	**Skiathos**	**0.83**	**194**	*e*PB	**Pb**	**08 47 30.4**	**-0.2**
SKIA				*e*SB	**Sg**	**08 47 40.8**	**-0.2**
SKIA	**Skiathos**	**0.83**	**194**	P	**Pb**	**08 47 30.3**	**-0.3**
SKIA				*e*Sb	**Sg**	**08 47 40.8**	**-0.2**
SKIA				S	**Sb**	**08 47 42.4**	**+0.6**
THE	**Thessaloniki**	**0.87**	**319**	P	**Pg**	**08 47 30.4**	**-0.4**
THE				S	**Sb**	**08 47 42.4**	**-0.5**
THE	**Thessaloniki**	**0.87**	**319**	*e*PB	**Pg**	**08 47 30.5**	**-0.4**
THE	**Thessaloniki**	**0.87**	**319**	*e*Pb	**Pg**	**08 47 30.5**	**-0.4**
THE				S	**Sb**	**08 47 42.4**	**-0.5**
SOH	**Sokhos**	**0.89**	**342**	P	**Pg**	**08 47 30.4**	**-0.8**
SOH				S	**Sb**	**08 47 43.

LPK	**Lapseki**	**2.36**	**79**	*e*PN	**Pn**	**08 47 52.1**	**-0.7**
LPK	**Lapseki**	**2.36**	**79**	*e*Pn	**Pn**	**08 47 52.1**	**-0.7**
VTS	**Vitosha**	**2.64**	**352**	*e*Pn	**Pn**	**08 47 57.9**	**+1.1**
VTS				*e*Sn	**Sb**	**08 48 34.7**	**+0.7**
VTS	**Vitosha**	**2.64**	**352**	⇑*i*P	**Pn**	**08 47 57.8**	**+0.9**
VTS	**Vitosha**	**2.64**	**352**	*i* P	**Pn**	**08 47 57.7**	**+0.9**
VTS	**Vitosha**	**2.64**	**352**	*i* P	**Pn**	**08 47 57.7**	**+0.9**
EDRB	**Edirne**	**2.96**	**50**	*e*PN	**Pn**	**08 48 01.2**	**+0.2**
EDRB	**Edirne**	**2.96**	**50**	*e*Pn	**Pn**	**08 48 01.2**	**+0.2**
BARS	**Barje**	**3.18**	**334**	⇓*i*Pn	**Pn**	**08 48 04.5**	**+0.4**
BARS	**Barje**	**3.18**	**334**	⇓*i*Pn	**Pn**	**08 48 04.5**	**+0.4**
JMB	**Yambol**	**3.29**	**40**	⇑*i*P	Pn	08 48 09.1	+3.4
JMB	**Yambol**	**3.29**	**40**	⇑*i*P	Pn	08 48 09.1	+3.4
MPEP	**Malo Peshtene**	**3.38**	**0**	*i* P	**Pn**	**08 48 07.0**	**+0.2**
ZAPS	**Zavoj**	**3.39**	**346**	*e*Pn	**Pn**	**08 48 07.6**	**+0.6**
SELS	**Selova**	**3.78**	**330**	⇓*i*Pn	**Pn**	**08 48 12.5**	**+0.1**
IVAS	**Ivanjica**	**4.48**	**325**	*e*Pn	**Pn**	**08 48 22.9**	**+0.9**
IVAS	**Ivanjica**	**4.48**	**325**	*e*Pn	**Pn**	**08 48 22.9**	**+0.9**
DIVS	**Divibare**	**4.96**	**327**	*e*Pn	**Pn**	**08 48 29.0**	**+0.3**
DIVS	**Divibare**	**4.96**	**327**	⇑*i*P	**Pn**	**08 48 29.5**	**+0.8**
DIVS	**Divibare**	**4.96**	**327**	*e*Pn	**Pn**	**08 48 29.0**	**+0.3**
DIVS	**Divibare**	**4.96**	**327**	⇑*i*P	**Pn**	**08 48 29.5**	**+0.8**
ARR	**Arges**	**5.43**	**7**	⇓*i*P	**Pn**	**08 48 35.6**	**+0.5**
ARR	**Arges**	**5.43**	**7**	⇓*i*P	**Pn**	**08 48 35.6**	**+0.5**
VOIR		**5.54**	**10**	⇓*i*P	**Pn**	**08 48 37.6**	**+1.0**
VOIR		**5.54**	**10**	⇓*i*P	**Pn**	**08 48 37.6**	**+1.0**
MLR	**Muntele Rosu**	**5.75**	**16**	⇑*i*P	**Pn**	**08 48 41.8**	**+2.3**
PLOR	**Plostina**	**6.25**	**19**	⇑*i*P	**Pn**	**08 48 48.8**	**+2.5**

KRSC 26 08:51:44.3±3.1, 49°.65N×157°.25E, h15^{km}±7^{km}, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.27**	**325**	*e*P	Pn	08 52 06.3	-1.1
SKR				*e*S	Sb	08 52 19.7	-4.2
PAU	**Pauzhetka**	**1.84**	**351**	*e*P	Pb	08 52 16.9	-0.7
PAU				*e*S	Sb	08 52 40.2	-0.3
ASAK	**Asacha**	**2.77**	**8**	P	Pb	08 52 31.2	-2.3
MTVR	**Mutnovka**	**2.90**	**11**	P	Pb	08 52 34.1	-1.7
MTVR				S	Sb	08 53 08.7	-2.5
UGLR	**Uglovaya**	**3.70**	**15**	P	Pb	08 52 45.6	-3.8
AVH	**Avacha**	**3.74**	**14**	P	Pb	08 52 45.8	-4.3
SMAR	**Somma**	**3.74**	**14**	P	Pn	08 52 45.9	+4.1
KOK	**Koryaka**	**3.75**	**13**	P	Pn	08 52 45.9	+4.2
SDLR	**Sedlovina**	**3.77**	**15**	P	Pn	08 52 45.2	+3.1
KRER	**Koryakskii**	**3.78**	**14**	P	Pn	08 52 46.0	+3.8
KRX	**Arik**	**3.81**	**13**	*e*P	Pn	08 52 46.4	+3.7
GNL	**Ganaly**	**4.07**	**6**	P	Pn	08 52 49.6	+3.4
MKZ	**Mys Kozlova**	**5.63**	**28**	P	Pn	08 53 10.3	+2.9
KBTR	**Krutoberegovo**	**7.38**	**25**	P	Pn	08 53 34.9	+3.6

*KRNET **26** 09:17:28.8±0.1, 39°.23N×74°.48E, h10^{km}, mb3.4*
*NNC **26** 09:17:37.5±1.6, 39°.69N×74°.79E, h9^{km}±7^{km}, mb3.5, mpv3.1, Error ellipse: s-maj=11.8km s-min=8.1km az=170.0*
ISC 26 09:17:27.9±3.0, 39°.2N±0°.1×74°.52E±0°.08, h4^{km}±16^{km}, n9, σ1^{s}91/17, 3C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.79**	**343**	*e*P	**Pb**	**09 18 00.6**	**-0.8**
	baz=343						
SALK				*e*S	**Sb**	**09 18 22.9**	**-1.3**
	baz=343						
CHVK	**Chauvay**	**2.02**	**299**	*e*P	**Pb**	**09 18 04.1**	**-1.2**
	baz=298						
CHVK				*e*S	**Sb**	**09 18 30.3**	**-0.6**
	baz=298						
DRK	**Karamyk**	**2.13**	**279**	*e*P	**Pn**	**09 18 05.5**	**+0.9**
	baz=278						
DRK				*e*S	**Sb**	**09 18 33.2**	**-0.9**
	baz=278						
NRN	**Naryn**	**2.53**	**26**	*e*P	**Pn**	**09 18 10.8**	**+0.7**
	baz=27						
NRN				*e*S	**Sn**	**09 18 42.4**	**+0.9**
	baz=27						
ARLS	**Aral**	**2.69**	**357**	⇓*i*P	**Pn**	**09 18 13.7**	**+1.5**
	baz=357						
ARLS				⇓*i*S	**Sb**	**09 18 49.7**	**-0.5**
	baz=357						
BTK	**Batken**	**2.99**	**288**	*e*P	**Pn**	**09 18 17.0**	**+0.8**
	baz=287						
BTK				*e*S	**Sb**	**09 18 57.3**	**-1.4**
	baz=287						
AAK	**Ala-Archa**	**3.46**	**360**	⇓Pn	**Pn**	**09 18 24.9**	**+2.1**
	7.0nm,0.6s						
AAK				⇑Lg	Lg	09 19 10.9	
	22nm,1.1s						
TKM2	**Tokmak 2**	**3.83**	**12**	⇑Pn	**Pn**	**09 18 29.4**	**+1.5**
	9.1nm,0.5s						
TKM2				⇑Sn	**Sn**	**09 19 09.3**	**-4.2**
	11nm,0.5s						
KK31	**Karatay Array**	**4.96**	**324**	Pn	Pn	09 18 47.5	+4.4
	0.6nm,0.5s,baz=138,slow=29,SNR=9.5						
KK31				Pg	**Pg**	**09 19 03.3**	**+0.4**
	1.6nm,0.6s,baz=140,slow=15,SNR=4.9						
KK31				⇓Sn	**Sn**	**09 19 44.2**	**+3.2**
	3.5nm,0.6s						
KK31				⇓Lg	Lg	09 20 06.0	
	2.7nm,0.5s,baz=127,slow=28,SNR=5.4						

*IDC **26** 09:25:27.5±0.6, 11°.06S×162°.37E, h0^{km}, mb4.2/19, mb1 4.4/21, mb1mx4.2/40, mbtmp4.3/21, ML4.6/2, MS3.9/18, Ms1 3.9/18, ms1mx3.8/28, Error ellipse: s-maj=21.1km s-min=15.2km az=128.0*
*ISCJB **26** 09:25:32.2±0.4, 11°.19S±0°.05×162°.46E±0°.05, h46^{km}, mb4.5/32, MS4.0/17, Error ellipse: s-maj=7.8km s-min=6.5km az=140.1*
*NEIC **26** 09:25:34.0±1.7, 11°.16S×162°.35E, h48^{km}±16^{km}, mb5.0/8, Error ellipse: s-maj=12.6km s-min=8.6km az=180.0*
ISC 26 09:25:34.3±0.5, 11°.16S±0°.06×162°.43E±0°.07, h46^{km}, n95, σ1^{s}70/68, mb4.4/32, MS3.9/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.98**	**305**	LR	LR	09 27 37.1	
	comp=Z,1μm,18.4s,slow=45						
HNR	**Honiara**	**2.98**	**305**	*i* P	Pn	09 26 16.0	-3.1
HNR				*i* S	**Sn**	**09 26 55.5**	**+1.8**
DZM	**Mont Dzumac**	**11.51**	**161**	*e*Pn	**Pn**	**09 28 17.9**	**+1.7**
	8.7nm,0.3s						
DZM				*e*Sn	Sn	09 30 07.0	-17
	7.0nm,0.3s						
DZM				*e*LR	LR	09 30 56.5	
	1μm,23.4s						
DZM	**Mont Dzumac**	**11.51**	**161**	Pn	**Pn**	**09 28 15.9**	**-0.3**
	2.0nm,0.3s,baz=6.1,slow=9.5,SNR=39						
DZM				Sn	**Sn**	**09 30 22.0**	**-1.5**
	0.6nm,0.3s,baz=240,slow=20,SNR=3.6						
DZM				LR	LR	09 32 07.4	
	comp=Z,676nm,19.1s,baz=326,slow=34						
PMG	**Port Moresby**	**15.13**	**275**	*e*Pn	**Pn**	**09 29 04.1**	**-1.0**
	36nm,1.1s						
MANU	**Manus Island**	**17.48**	**300**	S	**Sn**	**09 32 49.8**	**+1.1**
	baz=17,SNR=4.7						
EIDS	**Eidsvold**	**17.76**	**216**	P	**P**	**09 29 40.0**	**+1.4**
	baz=16,SNR=8.6						
EIDS	**Eidsvold**	**17.76**	**216**	*e*Pn	**Pn**	**09 29 37.7**	**-0.5**
	24nm,1.0s						
CTA	**Charters Tower**	**17.92**	**238**	P	**Pn**	**09 29 39.2**	**-1.1**
	2.1nm,0.3s,baz=69,slow=14,SNR=26						
CTA				LR	LR	09 36 09.1	
	comp=Z,426nm,20.2s,baz=64,slow=36						
CTAO	**Charters Tower**	**17.92**	**238**	*e*Pn	**Pn**	**09 29 39.9**	**-0.3**
	88nm,1.0s						
COEN	**Coen**	**19.00**	**260**	P	**Pn**	**09 29 53.9**	**+0.5**
	baz=17,SNR=11						
COEN	**Coen**	**19.00**	**260**	*e*P	**P**	**09 29 50.4**	**-1.9**
	50nm,1.1s						
RMQ	**Roma**	**19.97**	**218**	P	**Pn**	**09 30 05.1**	**+0.2**
	baz=19,SNR=28						
ARMA	**Armidale**	**21.64**	**206**	P	**P**	**09 30 22.3**	**+1.4**
	baz=21,SNR=5.0						
QLP	**Quilpie**	**23.02**	**226**	P	**P**	**09 30 35.1**	**-0.3**
	baz=22,SNR=7.1						
JAY	**Jayapura**	**23.20**	**290**	P	**P**	**09 30 37.0**	**-0.4**
	14nm,0.9s,baz=184,slow=13,SNR=3.5						
QIS	**Mount Isa**	**23.84**	**244**	P	**P**	**09 30 43.3**	**-0.1**
	baz=22,SNR=8.7						
SMPI	**Sarmi**	**25.24**	**289**	P	**P**	**09 30 59.5**	**+3.3**
	42nm,1.0s,2μm						
AFI	**Afiamalu**	**25.32**	**99**	P	**P**	**09 30 56.6**	**-0.5**
STKA	**Stephens Creek**	**28.20**	**220**	P	**P**	**09 31 23.1**	**+0.4**
	1.9nm,0.5s,baz=9.6,slow=13,SNR=6.2						
STKA				LR	LR	09 42 33.9	
	comp=Z,568nm,18.3s,baz=60,slow=36						
STKA	**Stephens Creek**	**28.20**	**220**	P	**P**	**09 31 24.0**	**+1.3**
	baz=27,SNR=4.4						
WRAB	**Tennant Creek**	**28.39**	**249**	*e*P	**P**	**09 31 22.6**	**-2.0**
	11nm,1.0s						
WB2	**Warramunga Arr**	**28.39**	**249**	*e*P	**P**	**09 31 22.7**	**-1.8**
WRA	**Warramunga Arr**	**28.40**	**249**	P	**P**	**09 31 22.6**	**-2.1**
	0.9nm,0.4s,baz=78,slow=9.1,SNR=27						
WRA				PcP	**PcP**	**09 34 35.9**	**-0.5**
	0.8nm,0.6s,baz=83,slow=3.2,SNR=6.9						
WRA				LR	LR	09 42 41.4	
	comp=Z,891nm,18.7s,baz=70,slow=36						
KDU	**Kakadu**	**29.35**	**264**	P	**P**	**09 31 31.1**	**-2.0**
	baz=28,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**29.76**	**8**	T	T	10 02 23.6	
	baz=188,slow=76,SNR=1823						
H11S3	**WAKE ISLAND Hy**	**29.76**	**8**	T	T	10 02 23.7	
	baz=188,slow=76,SNR=1440						
H11S1	**WAKE ISLAND Hy**	**29.77**	**8**	T	T	10 02 28.7	
	baz=188,slow=76,SNR=1129						
AS31	**Alice Springs**	**29.86**	**242**	*e*P	P	09 31 34.2	-3.4
ASAR	**Alice Springs**	**29.86**	**242**	P	**P**	**09 31 35.4**	**-2.2**
	2.7nm,0.8s,baz=65,slow=10,SNR=38						
ASAR				PcP	**PcP**	**09 34 39.2**	**-0.8**
	0.4nm,0.5s,baz=83,slow=2.9,SNR=4.2						
ASAR				LR	LR	09 42 52.6	
	comp=Z,305nm,20.5s,baz=68,slow=35						
URZ	**Urewera**	**30.02**	**157**	LR	LR	09 42 08.5	
	comp=Z,258nm,19.9s,baz=352,slow=33						
H11N1	**WAKE ISLAND Hy**	**30.99**	**8**	T	T	10 03 55.8	
	baz=188,slow=76,SNR=762						
H11N3	**WAKE ISLAND Hy**	**30.99**	**8**	T	T	10 04 01.2	
	baz=188,slow=76,SNR=635						
H11N2	**WAKE ISLAND Hy**	**31.00**	**8**	T	T	10 03 57.2	
	baz=188,slow=76,SNR=838						
BBOO	**Buckleboo**	**32.43**	**224**	P	**P**	**09 31 59.7**	**-0.4**
	baz=31,SNR=11						
BNDI	**Bandanaira**	**32.87**	**279**	P	P	09 32 08.0	+3.9
KNRA	**Kununurra**	**33.03**	**258**	P	**P**	**09 32 03.8**	**-1.7**
	baz=32,SNR=16						
WRKA	**Warakurna**	**35.14**	**242**	P	**P**	**09 32 22.0**	**-1.8**
	baz=34,SNR=5.9						
FITZ	**Fitzroy Crossi**	**36.21**	**255**	P	**P**	**09 32 31.2**	**-1.8**
	baz=35,SNR=9.2						
FITZ	**Fitzroy Crossi**	**36.21**	**255**	*e*P	**P**	**09 32 30.7**	**-2.3**
	5.5nm,0.6s						
SANI	**Sanana**	**37.27**	**281**	P	P	09 32 46.0	+3.9
SOEI	**Soe**	**37.54**	**268**	P	P	09 32 41.6	-2.9
	baz=36,SNR=3.3						
BATI	**Baumata**	**38.09**	**268**	P	P	09 32 54.7	+5.7
BATI	**Baumata**	**38.09**	**268**	P	**P**	**09 32 48.7**	**-0.4**
	18nm,0.6s,baz=122,slow=9.5,SNR=3.1						
BATI				LR	LR	09 48 41.8	
	comp=Z,154nm,20.0s,baz=101,slow=37						
MMRI	**Maumere**	**39.66**	**270**	P	P	09 33 06.5	+4.4
MMRI	**Maumere**	**39.66**	**270**	*e*P	**P**	**09 33 02.4**	**+0.3**
	74nm,0.9s						
WSI	**Waingapu**	**41.44**	**268**	P	P	09 33 29.5	+13
WSI	**Waingapu**	**41.44**	**268**	P	P	09 33 29.8	+13
	baz=40,SNR=5.2						
BKSI	**Bukukumba**	**42.24**	**274**	P	P	09 33 28.8	+5.4
BNSI	**Bone**	**42.43**	**276**	P	P	09 33 29.0	+4.0
KAPI	**Kappang**	**42.66**	**275**	*e*P	**P**	**09 33 26.2**	**-0.6**
	42nm,1.4s						
SPSI	**Sidrap Palu**	**42.85**	**276**	P	**P**	**09 33 31.1**	**+2.7**
MEEK	**Meekatharra**	**43.99**	**243**	P	**P**	**09 33 36.7**	**-0.7**
	baz=42,SNR=10						
PPT	**Papeete**	**46.83**	**104**	LR	LR	09 49 06.1	
	comp=Z,122nm,21.9s,baz=284,slow=30						
PPT2	**Papeete2**	**46.83**	**104**	*e*S	S	09 40 56.6	+8.9
	49nm,25.0s						
PPT2				*e*LQ	LQ	09 45 17.4	
	338nm,28.2s						
PPT2				*e*LR	LR	09 47 10.9	
	365nm,26.0s						
TBI	**Tubuai**	**47.31**	**111**	*e*LR	LR	09 47 20.2	
	221nm,34.2s						
JAGI	**Jajag, Banyuwa**	**47.61**	**269**	P	**P**	**09 34 09.3**	**+3.2**
	52nm,1.1s,1μm						
JAGI	**Jajag, Banyuwa**	**47.61**	**269**	P	P	09 34 09.5	+3.4
	baz=46,SNR=3.0						
PWJI	**Pagerwojo**	**49.97**	**269**	P	**P**	**09 34 27.3**	**+3.0**
	33nm,0.8s						
PCJI	**Pacitan**	**50.56**	**269**	P	**P**	**09 34 28.4**	**-0.3**
	117nm,1.1s						
KPJI	**Karang Pucung**	**52.89**	**269**	P	P	09 34 50.8	+4.7
	26nm,0.8s,2μm						
LEM	**Lembang**	**54.25**	**270**	P	P	09 35 03.9	+7.6
CGJI	**Cibinong**	**56.17**	**269**	P	**P**	**09 35 12.9**	**+2.9**
	80nm,0.9s						
ASAJ	**Asahikawa**	**57.89**	**343**	P	**P**	**09 35 21.0**	**-0.5**
	7.3nm,0.8s,baz=107,slow=7.8,SNR=5.8						
ASAJ				LR	LR	09 58 56.5	
	comp=Z,64nm,20.4s,baz=174,slow=35						
ASAJ	**Asahikawa**	**57.89**	**343**	*e*P	**P**	**09 35 21.7**	**+0.2**
MDSI	**Maura Dua**	**58.01**	**272**	P	P	09 35 26.3	+3.3
	9.0nm,1.2s						
KSRS	**Korea Array**	**58.19**	**328**	LR	LR	09 58 19.9	
	comp=Z,75nm,19.6s,baz=133,slow=34						
QIZ	**Qiongzhong**	**59.89**	**300**	P	P	09 35 29.3	-6.5
QIZ				S	**S**	**09 43 41.5**	**-3.3**
QIZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,110nm,3.7s						
QIZ				LR	LR		
	comp=Z,270nm,24.9s						
RKT	**Rikitea**	**60.60**	**110**	*e*LR	LR	09 53 25.4	
	comp=Z,404nm,28.5s,baz=281						
USRK	**Ussuriysk Ar.**	**61.64**	**336**	P	**P**	**09 35 47.8**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=142,slow=7.3,SNR=5.9						
USRK				LR	LR	09 58 13.7	
	comp=Z,55nm,21.5s,baz=152,slow=32						
MNSI	**Mandailing Nat**	**63.57**	**276**	P	P	09 36 09.2	+8.4
PETK	**Petropavlovsk-**	**64.13**	**357**	P	**P**	**09 36 02.0**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=183,slow=11,SNR=2.5						
PETK				LR	LR	10 00 35.7	
	comp=Z,37nm,20.7s,baz=142,slow=33						
VNDA	**Vanda**	**66.35**	**180**	P	**P**	**09 36 19.2**	**+1.4**
	comp=Z,2.0nm,1.1s,baz=300,slow=7.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**69.19**	**295**	P	**P**	**09 36 36.0**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=124,slow=5.6,SNR=6.7						
CMAR				LR	LR	10 06 39.3	
	comp=Z,22nm,19.7s,baz=150,slow=36						
HHC	**Hu-ho-hao-te**	**69.84**	**321**	*e*P	**P**	**09 36 38.0**	**-2.4**
HHC				sP	sP	09 36 47.5	-11
HHC				PP	**PP**	**09 39 16.0**	**+0.5**
HHC				S	**S**	**09 45 48.8**	**+2.0**
HHC	**Hu-ho-hao-te**	**69.84**	**321**	SS	SS	09 50 20.0	+3.4
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,77nm,4.7s						
HHC				LR	LR		
	comp=N,87nm,16.0s						
HHC				LR	LR		
	comp=E,420nm,12.3s						
HHC				LR	LR		
	comp=Z,110nm,15.4s						
SONM	**Songino Array**	**76.86**	**325**	P	**P**	**09 37 21.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=157,slow=7.8,SNR=3.5						
SONM				LR	LR	10 13 12.4	
	comp=Z,56nm,18.2s,baz=230,slow=37						
ILAR	**Eielson Array**	**84.67**	**19**	P	**P**	**09 38 02.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=241,slow=5.6,SNR=12						
YBH	**Yreka Blue Hor**	**86.31**	**46**	P	**P**	**09 38 11.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=294,slow=1.3,SNR=5.0						
NVAR	**Mina Array Bea**	**88.59**	**51**	P	**P**	**09 38 23.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=240,slow=5.6,SNR=7.8						
HMDM	**Hanimaadhoo**	**90.56**	**277**	P	P	09 38 38.6	+6.3
	baz=89,SNR=3.8						
MKAR	**Makanchi Array**	**91.39**	**317**	P	**P**	**09 38 33.8**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=151,slow=3.1,SNR=2.3						
ELK	**Elko**	**91.46**	**49**	P	**P**	**09 38 35.7**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=170,slow=4.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**91.75**	**325**	P	**P**	**09 38 35.6**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=85,slow=6.1,SNR=2.2						
ZALV				LR	LR	10 18 16.4	
	comp=Z,66nm,21.5s,baz=336,slow=35						
AAK	**Ala-Archa**	**95.95**	**312**	P	**P**	**09 38 55.9**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=199,slow=14,SNR=4.8						
PDAR	**Pinedale Array**	**96.02**	**48**	LR	LR	10 16 39.0	
	comp=Z,55nm,18.4s,baz=281,slow=32						
YKA	**Yellowknife Ar**	**96.57**	**28**	P	**P**	**09 38 57.5**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=195,slow=19,SNR=4.1						
TXAR	**Lajitas Array**	**98.74**	**62**	LR	LR	10 15 43.2	
	comp=Z,66nm,20.3s,baz=0.0,slow=30						
ARCES	**ARCESS Array B**	**115.60**	**345**	PKP	**PKPdf**	**09 44 09.4**	**-1.4**
	comp=Z,4.8nm,1.1s,baz=93,slow=3.6,SNR=4.2						
AKASG	**Malin Array Be**	**125.14**	**325**	PKP	**PKPdf**	**09 44 30.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=57,slow=1.6,SNR=2.8						
BRTR	**Keskin Array B**	**126.62**	**312**	PKP	**PKPdf**	**09 44 36.6**	**+3.5**
	comp=Z,0.6nm,0.7s,baz=151,slow=3.3,SNR=4.6						
VYHS	**Vyhne**	**131.98**	**328**	*e*PKP	**PKPdf**	**09 44 41.3**	**-1.5**
KEST	**Kesra**	**145.46**	**319**	PKPbc	**PKPab**	**09 45 12.1**	**+4.0**
	comp=Z,4.2nm,0.9s,baz=308,slow=6.2,SNR=9.1						
KEST	**Kesra**	**145.46**	**319**	*e*PKPbc	**PKPdf**	**09 45 08.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**161.06**	**278**	PKP	**PKPdf**	**09 45 34.3**	**+3.7**
	comp=Z,0.8nm,0.9s,baz=41,slow=1.3,SNR=3.5						

*IDC **26** 09:33:14.6±0.8, 2°.34S×139°.91E, h0^{km}, mb3.9/5, mb1 4.1/8, mb1mx3.9/31, mbtmp4.0/8, ML4.1/3, Error ellipse: s-maj=19.7km s-min=15.0km az=25.0*
*NEIC **26** 09:33:15.8±0.5, 2°.35S×139°.96E, h10^{km}, mb4.0/1, Error ellipse: s-maj=8.7km s-min=7.6km az=225.0*
*ISCJB **26** 09:33:17.1±0.6, 2°.46S±0°.06×139°.87E±0°.04, h25^{km}, mb3.8/5, Error ellipse: s-maj=8.1km s-min=6.2km az=167.0*
*DJA **26** 09:33:18.0±0.9, 2°S±42°×14°0E±°, h33^{km}±37^{km}, M3.7/3, MLv3.7/3*
ISC 26 09:33:18.6±0.7, 2°.44S±0°.07×140°.00E±0°.06, h25^{km}, n29, σ1^{s}93/34, mb3.8/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.23**	**133**	P	**Pb**	**09 33 24.6**	**-0.1**
GENI				S	**Sb**	**09 33 30.1**	**+1.4**
JAY	**Jayapura**	**0.70**	**96**	P	**Pb**	**09 33 30.8**	**-1.6**
JAY	**Jayapura**	**0.70**	**96**	Pg	**Pb**	**09 33 30.4**	**-1.9**
	109nm,0.3s,baz=271,slow=7.3,SNR=471						
SMPI	**Sarmi**	**1.37**	**289**	P	**Pn**	**09 33 42.4**	**+0.3**
SMPI				S	**Sb**	**09 34 01.3**	**+0.7**
KDU	**Kakadu**	**12.62**	**216**	P	**Pn**	**09 36 14.7**	**-2.0**
	baz=10,SNR=18						
KDU				S	**Sn**	**09 38 34.5**	**-2.0**
	baz=10,SNR=3.6						
KDU	**Kakadu**	**12.62**	**216**	S	**Pn**	**09 36 14.7**	**-2.1**
	baz=28,SNR=31						
MTN	**Manton Dam**	**13.56**	**220**	P	**Pn**	**09 36 29.3**	**-0.4**
	baz=12,SNR=9.2						
MTN				S	**Sn**	**09 38 58.5**	**-1.2**
	baz=12,SNR=3.7						
KNRA	**Kununurra**	**17.20**	**219**	P	**Pn**	**09 37 16.8**	**-0.5**
	baz=15,SNR=12						
SOEI	**Soe**	**17.25**	**244**	P	**P**	**09 37 23.4**	**+4.0**
	baz=16,SNR=3.2						
BATI	**Baumata**	**17.97**	**244**	P	**Pn**	**09 37 26.6**	**-0.5**
	2.5nm,0.3s,baz=342,slow=5.4,SNR=1.7						
QIS	**Mount Isa**	**18.02**	**181**	P	**P**	**09 37 29.4**	**+1.6**
	baz=16,SNR=4.4						
WRAB	**Tennant Creek**	**18.25**	**197**	*e*Pn	**Pn**	**09 37 30.0**	**-0.3**
	9.0nm,0.8s						
WB2	**Warramunga Arr**	**18.25**	**197**	*e*Pn	**Pn**	**09 37 30.2**	**-0.2**
WRA	**Warramunga Arr**	**18.26**	**197**	P	**Pn**	**09 37 29.8**	**-0.6**
	0.5nm,0.3s,baz=22,slow=12,SNR=28						
WRA				S	Sn	09 40 41.6	-12
	0.1nm,0.3s,baz=15,slow=22,SNR=3.1						
CTA	**Charters Tower**	**18.58**	**161**	P	**Pn**	**09 37 34.8**	**+0.4**
	0.2nm,0.3s,baz=358,slow=9.9,SNR=2.7						
CTAO	**Charters Tower**	**18.58**	**161**	P	**Pn**	**09 37 34.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.00**	**221**	P	**P**	**09 37 59.9**	**-0.5**
	baz=19,SNR=3.2						
AS31	**Alice Springs**	**21.91**	**195**	*e*P	**P**	**09 38 09.9**	**-0.4**
ASAR	**Alice Springs**	**21.91**	**195**	P	**P**	**09 38 09.8**	**-0.5**
	3.2nm,0.8s,baz=26,slow=12,SNR=22						
ASAR				S	**S**	**09 42 04.7**	**-6.6**
	0.3nm,1.0s,baz=6.1,slow=27,SNR=2.4						
WRKA	**Warakurna**	**25.15**	**206**	P	**P**	**09 38 43.9**	**+1.9**
	baz=23,SNR=7.1						
EIDS	**Eidsvold**	**25.17**	**156**	P	**P**	**09 38 45.8**	**+3.6**
	baz=24,SNR=5.5						
KKM	**Kota Kinabalu**	**25.20**	**290**	P	**P**	**09 38 41.3**	**-1.5**
STKA	**Stephens Creek**	**29.32**	**177**	P	**P**

0.2nm,0.6s,baz=338,slow=7.0,SNR=5.7
ASAR Alice Springs 66.85 143 P P 10 27 47.9 +0.6
0.1nm,0.4s,baz=324,slow=6.7,SNR=4.6

JMA 26 10:25:09.3±0.5, 22°36N×123°73E, h59km, M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.69**	**2**	P	Pn	10 25 37.6	+1.1
HATJ				S	Sn	10 25 57.6	+0.5
JKRS	**Kuro-shima**	**1.89**	**8**	P	Pn	10 25 40.2	+1.0
JKRS				S	Sn	10 26 02.5	+0.6
IRIF	**Iriomote-Funau**	**1.97**	**0**	P	Pn	10 25 41.7	+1.4
IRIF				S	Sn	10 26 04.1	+0.3
JIJ	**Ishigaki jima**	**2.03**	**11**	P	Pn	10 25 41.6	+0.4
JIJ				S	Sn	10 26 04.5	-0.9
YOJ	**Yonaguni jima**	**2.19**	**343**	P	Pn	10 25 45.2	+1.8
YOJ				S	Sn	10 26 09.9	+0.5
JYNG	**Yonagunijimaku**	**2.20**	**341**	P	Pn	10 25 45.2	+1.7
JYNG				S	Sn	10 26 10.7	+1.1
JISG	**Ishigakijimahi**	**2.28**	**13**	P	Pn	10 25 44.8	+0.2
JISG				S	Sn	10 26 10.0	-1.5
JTJ	**Tarama**	**2.44**	**21**	P	Pn	10 25 46.9	+0.2
JTJ				S	Sn	10 26 15.6	+0.2
JKE	**Kume jima 2**	**4.83**	**35**	P	Pn	10 26 19.5	0.0

DDA ***26*** *10:26:42.6, 34°38N×26°11E, h24km, ML4.4*
BJI ***26*** *10:26:48.2, 34°90N×26°50E, h10km, mB4.9/8, mb4.7/15, Ms4.5/3, Ms7 4.4/4*
IDC ***26*** *10:26:48.6±0.5, 35°07N×26°36E, h0km, mb4.3/29, mb1 4.3/39, mb1mx4.2/57, mbtmp4.2/39, ML3.7/9, MS3.4/22, Ms1 3.4/22, ms1mx3.3/49, Error ellipse: s-maj=14.1km s-min=9.0km az=177.0*
NEIC ***26*** *10:26:50.2±0.4, 34°95N×26°35E, h10km, mb4.4/47, ML4.2(THE), ML4.3(ATH), Error ellipse: s-maj=7.3km s-min=3.8km az=186.0*
CSEM ***26*** *10:26:50.1±0.1, 34°89N×26°34E, h10km, mb4.4/47, Ms3.0, Error ellipse: s-maj=4.6km s-min=3.0km az=12.0*
MOS ***26*** *10:26:51.1±1.1, 35°03N×26°28E, h26km, mb4.5/44, Error ellipse: s-maj=5.5km s-min=3.9km az=115.4*
ISCJB ***26*** *10:26:51.1±0.5, 34°85N±0°02×26°36E±0°02, h33km±4km, mb4.3/63, MS3.5/17, Error ellipse: s-maj=3.5km s-min=2.2km az=15.0*
ISK ***26*** *10:26:52.3, 35°17N×26°45E, h6km, ML4.0*
NIC ***26*** *10:26:52.1, 34°59N×26°47E, h66km, mb4.7, ML4.2*
THE ***26*** *10:26:53.2, 35°12N×26°32E, h0km±1km, ML4.2/5, Error ellipse: s-maj=4.7km s-min=1.0km az=171.0*
ATH ***26*** *10:26:53.0, 35°12N×26°30E, h21km±1km, MD3.6/22, ML4.2*
HLW ***26*** *10:26:56.7, 34°77N×26°56E, h33km±27km, Ml3.8*
ISC 26 10:26:50.8±0.5, 34°91N±0°03×26°40E±0°02, h16km±2km, h15km:pP-P,n558,σ1§33/598, mb4.4/63, MS3.5/17, 2C-9D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.25**	**324**	*e*PB	**Pb**	**10 26 56.7**	**-0.3**
ZKR				*e*SB	**Sg**	**10 27 00.0**	**-0.1**
ZKR	**Zakros**	**0.25**	**324**	*e*Pb	**Pb**	**10 26 56.7**	**-0.3**
ZKR				*e*Sb	**Sg**	**10 27 00.0**	**-0.1**
NPS	**Neapolis**	**0.73**	**299**	P	**Pg**	**10 27 04.8**	**-0.3**
NPS				S	**Sb**	**10 27 14.7**	**-0.4**
NPS	**Neapolis**	**0.73**	**299**	*e*PN	**Pb**	**10 27 05.1**	**-0.1**
NPS				*e*SN	**Sg**	**10 27 12.4**	**-2.4**
NPS	**Neapolis**	**0.73**	**299**	P	**Pg**	**10 27 04.8**	**-0.3**
NPS				S	**Sb**	**10 27 14.7**	**-0.4**
NPS	**Neapolis**	**0.73**	**299**	P	**Pg**	**10 27 04.8**	**-0.3**
NPS	**Neapolis**	**0.73**	**299**	*e*Pn	**Pb**	**10 27 05.1**	**-0.1**
NPS				S	**Sb**	**10 27 14.7**	**-0.4**
NPS	**Neapolis**	**0.73**	**299**	P	**Pg**	**10 27 04.8**	**-0.3**
NPS				S	**Sb**	**10 27 14.7**	**-0.4**
LAST	**Lasithi**	**0.80**	**289**	*e*PN	**Pg**	**10 27 05.9**	**-0.4**
LAST				*e*SN	**Sg**	**10 27 16.2**	**-0.6**
LAST	**Lasithi**	**0.80**	**289**	*e*Pn	**Pg**	**10 27 05.9**	**-0.4**
LAST				*e*Sn	**Sg**	**10 27 16.2**	**-0.6**
KARP	**Karpathos**	**0.89**	**44**	P	**Pb**	**10 27 07.8**	**-0.1**
KARP				S	**Sn**	**10 27 21.8**	**+0.4**
KARP	**Karpathos**	**0.89**	**44**	*e*PN	**Pb**	**10 27 08.1**	**+0.2**
KARP				*e*SN	**Sn**	**10 27 21.3**	**-0.1**
KARP	**Karpathos**	**0.89**	**44**	P	**Pb**	**10 27 07.8**	**-0.1**
KARP	**Karpathos**	**0.89**	**44**	*e*Pn	**Pb**	**10 27 08.1**	**+0.2**
KARP				*e*Sn	**Sn**	**10 27 21.3**	**-0.1**
KARP				S	**Sn**	**10 27 21.8**	**+0.4**
KARP	**Karpathos**	**0.89**	**44**	P	**Pb**	**10 27 07.8**	**-0.1**
KARP				S	**Sn**	**10 27 21.8**	**+0.4**
IDI	**Anoyia**	**1.29**	**287**	Pn	**Pb**	**10 27 14.6**	**-0.2**
	427nm,0.3s,baz=115,slow=14,SNR=5.48						
IDI				Sn	**Sg**	**10 27 32.8**	**+0.2**
	394nm,0.3s,baz=15,slow=20,SNR=14						
SIVA	**Sivas**	**1.31**	**275**	*e*PN	**Pg**	**10 27 15.6**	**-0.4**
SIVA				*e*SN	**Sg**	**10 27 32.7**	**-0.3**
SIVA	**Sivas**	**1.31**	**275**	*e*Pn	**Pg**	**10 27 15.6**	**-0.4**
SANT	**Santorini**	**1.65**	**333**	*e*PN	**Pn**	**10 27 19.6**	**+0.5**
SANT	**Santorini**	**1.65**	**333**	*e*Pn	**Pn**	**10 27 19.6**	**+0.5**
SANT	**Santorini**	**1.65**	**333**	*e*Pn	**Pn**	**10 27 19.0**	**-0.1**
THR1	**Thera Island**	**1.65**	**333**	PN	**Pn**	**10 27 19.8**	**+0.7**
THR1	**Thera Island**	**1.65**	**333**	*i* Pn	**Pn**	**10 27 19.8**	**+0.7**
VAM	**Vamos**	**1.87**	**286**	P	**Pb**	**10 27 23.5**	**-1.0**
VAM				S	**Sb**	**10 27 47.4**	**-0.3**
VAM	**Vamos**	**1.87**	**286**	*e*PN	**Pb**	**10 27 23.9**	**-0.6**
VAM	**Vamos**	**1.87**	**286**	P	**Pb**	**10 27 23.5**	**-1.0**
VAM				S	**Sb**	**10 27 47.4**	**-0.3**
VAM	**Vamos**	**1.87**	**286**	P	**Pb**	**10 27 23.5**	**-1.0**
VAM	**Vamos**	**1.87**	**286**	*e*Pn	**Pb**	**10 27 23.9**	**-0.6**
VAM				S	**Sb**	**10 27 47.4**	**-0.3**
VAM	**Vamos**	**1.87**	**286**	P	**Pb**	**10 27 23.5**	**-1.0**
VAM				S	**Sb**	**10 27 47.4**	**-0.3**
GVD	**Gavdhos**	**1.90**	**269**	*e*PN	**Pb**	**10 27 25.8**	**+0.7**
GVD	**Gavdhos**	**1.90**	**269**	*e*Pn	**Pb**	**10 27 25.4**	**+0.3**
GVD	**Gavdhos**	**1.90**	**269**	*e*Pn	**Pb**	**10 27 25.4**	**+0.3**
ARG	**Arkhangelos**	**1.92**	**47**	P	**Pb**	**10 27 25.9**	**+0.5**
ARG				S	**Sb**	**10 27 49.2**	**0.0**
ARG	**Arkhangelos**	**1.92**	**47**	*e*PN	**Pb**	**10 27 26.1**	**+0.7**
ARG	**Arkhangelos**	**1.92**	**47**	P	**Pb**	**10 27 25.9**	**+0.5**
ARG				S	**Sb**	**10 27 49.2**	**0.0**
ARG	**Arkhangelos**	**1.92**	**47**	P	**Pb**	**10 27 25.9**	**+0.5**
ARG				S	**Sb**	**10 27 49.2**	**0.0**
ARG	**Arkhangelos**	**1.92**	**47**	P	**Pb**	**10 27 25.9**	**+0.5**
ARG				S	**Sb**	**10 27 49.2**	**0.0**
DAT	**Datca**	**2.05**	**28**	*e*PN	**Pn**	**10 27 24.7**	**-0.1**
DAT	**Datca**	**2.05**	**28**	*e*Pn	**Pn**	**10 27 24.7**	**-0.1**
KARN	**Karanos**	**2.09**	**284**	*e*PN	**Pb**	**10 27 28.4**	**0.0**
APE	**Apeiranthos**	**2.27**	**342**	P	**Pn**	**10 27 28.0**	**+0.3**
APE				S	**Sn**	**10 27 54.2**	**-1.1**
APE	**Apeiranthos**	**2.27**	**342**	*e*PN	**Pn**	**10 27 28.1**	**+0.5**
APE				*e*SN	**Sn**	**10 27 54.0**	**-1.3**
APE	**Apeiranthos**	**2.27**	**342**	*e*PN	**Pn**	**10 27 28.4**	**+0.7**
APE	**Apeiranthos**	**2.27**	**342**	||*i*P	**Pn**	**10 27 28.6**	**+0.9**
APE				S	**Sn**	**10 27 55.1**	**-0.2**
APE	**Apeiranthos**	**2.27**	**342**	P	**Pn**	**10 27 28.0**	**+0.3**
APE				S	**Sn**	**10 27 54.2**	**-1.1**
APE	**Apeiranthos**	**2.27**	**342**	P	**Pn**	**10 27 28.0**	**+0.3**
APE				S	**Sn**	**10 27 54.2**	**-1.1**
APE	**Apeiranthos**	**2.27**	**342**	P	**Pn**	**10 27 28.0**	**+0.3**
APE				S	**Sn**	**10 27 54.2**	**-1.1**
BODT	**Bodrum**	**2.27**	**19**	*e*PN	**Pn**	**10 27 27.9**	**+0.2**
BODT				*e*SN	**Sn**	**10 27 53.7**	**-1.7**
BODT	**Bodrum**	**2.27**	**19**	*e*Pn	**Pn**	**10 27 27.9**	**+0.2**
BODT				*e*Sn	**Sn**	**10 27 53.7**	**-1.7**
BDRM	**Kayabasi**	**2.31**	**21**	*i* P	**Pn**	**10 27 29.5**	**+1.2**
BDRM				*i* S	**Sb**	**10 28 00.1**	**-0.4**
BDRM	**Kayabasi**	**2.31**	**21**	*i* P	**Pn**	**10 27 29.5**	**+1.2**
BDRM				*i* S	**Sb**	**10 28 00.1**	**-0.4**
DALY	**Dalyan (Mu¨la**	**2.64**	**43**	*e*PN	**Pn**	**10 27 33.8**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.64**	**43**	*e*Pn	**Pn**	**10 27 33.8**	**+1.0**
TURN	**Turunc**	**2.65**	**42**	*i* P	**Pn**	**10 27 30.9**	**-2.0**
TURN				*i* S	**Sn**	**10 28 05.3**	**+0.6**
TURN	**Turunc**	**2.65**	**42**	*i* P	**Pn**	**10 27 30.9**	**-2.0**
TURN				*i* S	**Sn**	**10 28 05.3**	**+0.6**
YER	**Yerkesik**	**2.69**	**34**	*e*PN	**Pn**	**10 27 34.2**	**+0.6**
YER	**Yerkesik**	**2.69**	**34**	*e*Pn	**Pn**	**10 27 34.2**	**+0.6**
ANKY	**Antikythira Is**	**2.70**	**292**	*e*PB	**Pb**	**10 27 36.2**	**-2.6**
SMG	**Samos**	**2.82**	**7**	*e*PN	**Pn**	**10 27 36.1**	**+0.9**
SMG	**Samos**	**2.82**	**7**	*e*Pn	**Pn**	**10 27 36.1**	**+0.9**
GCAM	**G?zelcaml?**	**2.87**	**13**	*i* P	**Pb**	**10 27 39.3**	**-2.2**
GCAM				*i* S	**Sn**	**10 28 10.7**	**+0.7**
GCAM	**G?zelcaml?**	**2.87**	**13**	*i* P	**Pb**	**10 27 39.3**	**-2.2**
GCAM				*i* S	**Sn**	**10 28 10.7**	**+0.7**
AKAS	**Kas**	**2.93**	**62**	*i* P	**Pn**	**10 27 36.1**	**-0.7**
AKAS	**Kas**	**2.93**	**62**	*i* P	**Pn**	**10 27 36.1**	**-0.7**
AKAS				*i* S	Sg	10 28 37.2	+12
AYDN	**Tasoluk**	**3.00**	**23**	*i* P	**Pn**	**10 27 38.0**	**+0.3**
AYDN	**Tasoluk**	**3.00**	**23**	*i* P	**Pn**	**10 27 38.0**	**+0.3**
KYTH	**Kithira**	**3.06**	**297**	*e*PN	**Pn**	**10 27 40.5**	**+1.9**
KYTH	**Kithira**	**3.06**	**297**	*e*Pn	**Pn**	**10 27 40.5**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**21**	*e*PN	**Pn**	**10 27 42.6**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**21**	*e*Pn	**Pn**	**10 27 42.6**	**+1.2**
ZEY	**˙zmir**	**3.32**	**1**	*i* P	**Pn**	**10 27 42.9**	**+0.8**
ZEY				*i* S	**Sb**	**10 28 32.0**	**+2.5**
VLI	**Veliai**	**3.34**	**304**	P	**Pn**	**10 27 43.1**	**+0.7**
VLI				S	**Sn**	**10 28 22.5**	**+0.7**
VLI	**Veliai**	**3.34**	**304**	*e*PN	**Pn**	**10 27 43.4**	**+1.0**
VLI	**Veliai**	**3.34**	**304**	P	**Pn**	**10 27 43.1**	**+0.7**
VLI	**Veliai**	**3.34**	**304**	*e*Pn	**Pn**	**10 27 43.4**	**+1.0**
VLI				S	**Sn**	**10 28 22.5**	**+0.7**
VLI	**Veliai**	**3.34**	**304**	P	**Pn**	**10 27 43.1**	**+0.7**
VLI				S	**Sn**	**10 28 22.5**	**+0.7**
ELL	**Elmali**	**3.39**	**56**	*e*PN	**Pn**	**10 27 45.4**	**+2.2**
ELL	**Elmali**	**3.39**	**56**	*e*Pn	**Pn**	**10 27 45.4**	**+2.2**
GOLH	**Golhisar**	**3.46**	**47**	*i* P	**Pn**	**10 27 47.0**	**+2.9**
GOLH	**Golhisar**	**3.46**	**47**	*i* P	**Pn**	**10 27 47.0**	**+2.9**
GOLH				*i* S	**Sg**	**10 28 39.3**	**-2.6**
CHOS	**Chios island**	**3.48**	**356**	*e*PN	**Pn**	**10 27 45.0**	**+0.6**
CHOS	**Chios island**	**3.48**	**356**	*e*Pn	**Pn**	**10 27 45.0**	**+0.6**
BLCB	**Balcova**	**3.51**	**8**	*e*PN	**Pn**	**10 27 45.2**	**+0.6**
BLCB	**Balcova**	**3.51**	**8**	*e*Pn	**Pn**	**10 27 45.3**	**+0.6**
DENT	**Denizli**	**3.55**	**36**	*e*PN	**Pn**	**10 27 45.8**	**+0.6**
DENT	**Denizli**	**3.55**	**36**	*e*Pn	**Pn**	**10 27 45.8**	**+0.6**
NAIG	**Nisos Aigina**	**3.69**	**321**	*e*PN	**Pn**	**10 27 49.2**	**+2.1**
NAIG	**Nisos Aigina**	**3.69**	**321**	*e*Pn	**Pn**	**10 27 49.2**	**+2.1**
ATH	**Athens Observa**	**3.74**	**326**	*e*PN	**Pn**	**10 27 50.6**	**+2.7**
HMAT	**Matruh**	**3.85**	**171**	P	**Pn**	**10 27 51.1**	**+1.7**
	baz=172						
HMAT				AMP		10 28 00.0	
	comp=E,410μm,0.7s,logA/T=5.7,baz=172						
HMAT				S	**Sn**	**10 28 31.8**	**-2.5**
	baz=172						
HMAT	**Matruh**	**3.85**	**171**	P	**Pn**	**10 27 51.1**	**+1.7**
HMAT				S	**Sn**	**10 28 31.8**	**-2.5**
ANTB	**Antalya**	**3.98**	**59**	*e*PN	**Pn**	**10 27 53.6**	**+2.4**
ANTB	**Antalya**	**3.98**	**59**	*e*Pn	**Pn**	**10 27 53.6**	**+2.4**
VLX	**Vlachokerasia**	**4.08**	**308**	P	**Pn**	**10 27 54.4**	**+1.9**
VLX				S	**Sn**	**10 28 40.6**	**+0.6**
VLX	**Vlachokerasia**	**4.08**	**308**	*e*PN	**Pn**	**10 27 54.5**	**+1.9**
VLX	**Vlachokerasia**	**4.08**	**308**	P	**Pn**	**10 27 54.4**	**+1.9**
VLX				S	**Sn**	**10 28 40.6**	**+0.6**
VLX	**Vlachokerasia**	**4.08**	**308**	P	**Pn**	**10 27 54.4**	**+1.9**
VLX				S	**Sn**	**10 28 40.6**	**+0.6**
AKS	**Akhisar**	**4.12**	**16**	*e*PN	**Pn**	**10 27 54.0**	**+0.9**
AKS	**Akhisar**	**4.12**	**16**	*e*Pn	**Pn**	**10 27 54.0**	**+0.9**
LTK	**Loutraki**	**4.16**	**319**	*e*PN	**Pn**	**10 27 56.2**	**+2.6**
LTK	**Loutraki**	**4.16**	**319**	*e*Pn	**Pn**	**10 27 56.2**	**+2.6**
BCK	**Bucak**	**4.24**	**52**	*e*PN	**Pn**	**10 27 56.2**	**+1.4**
BCK	**Bucak**	**4.24**	**52**	*e*Pn	**Pn**	**10 27 56.2**	**+1.4**
PYL	**PYLOS**	**4.27**	**299**	P	**Pn**	**10 27 56.0**	**+0.9**
PYL				S	**Sn**	**10 28 45.8**	**+1.2**
PYL	**PYLOS**	**4.27**	**299**	*e*PN	**Pn**	**10 27 56.1**	**+0.9**
PYL	**PYLOS**	**4.27**	**299**	P	**Pn**	**10 27 56.0**	**+0.9**
PYL				S	**Sn**	**10 28 45.8**	**+1.2**
ITM	**Ithomi**	**4.27**	**303**	P	**Pn**	**10 27 56.9**	**+1.7**
ITM	**Ithomi**	**4.27**	**303**	*e*PN	**Pn**	**10 27 57.1**	**+1.9**
ITM	**Ithomi**	**4.27**	**303**	P	**Pn**	**10 27 56.9**	**+1.7**
ITM	**Ithomi**	**4.27**	**303**	P	**Pn**	**10 27 56.9**	**+1.7**
SIGR	**SIGRI**	**4.32**	**354**	*e*PN	**Pn**	**10 27 56.5**	**+0.8**
SIGR	**SIGRI**	**4.32**	**354**	*e*PN	**Pn**	**10 27 56.2**	**+0.4**
SIGR	**SIGRI**	**4.32**	**354**	*e*Pn	**Pn**	**10 27 56.2**	**+0.4**
MRKA	**Markates**	**4.41**	**330**	*e*PN	**Pn**	**10 27 59.5**	**+2.4**
MRKA	**Markates**	**4.41**	**330**	*e*Pn	**Pn**	**10 27 59.5**	**+2.4**
ISP	**Isparta**	**4.42**	**48**	*e*PN	**Pn**	**10 27 58.9**	**+1.6**
ISP	**Isparta**	**4.42**	**48**	*e*P	Pn	10 28 00.6	+3.3
ISP	**Isparta**	**4.42**	**48**	*e*Pn	**Pn**	**10 27 58.9**	**+1.6**
ISP	**Isparta**	**4.42**	**48**	*e*P	Pn	10 28 00.6	+3.3
ISP	**Isparta**	**4.42**	**48**	*e*Pn	Pn	10 28 00.6	+3.3
LKR	**Lokris**	**4.62**	**325**	*e*PN	**Pn**	**10 28 02.5**	**+2.5**
LKR	**Lokris**	**4.62**	**325**	*e*Pn	**Pn**	**10 28 02.5**	**+2.5**
KLV	**Kalavryta, Ach**	**4.64**	**314**	*e*PN	**Pn**	**10 28 01.4**	**+1.2**
KLV	**Kalavryta, Ach**	**4.64**	**314**	*e*Pn	**Pn**	**10 28 01.4**	**+1.2**
DRO	**Drossia**	**4.85**	**310**	*e*PN	**Pn**	**10 28 05.9**	**+2.8**
SKIA	**Skiathos**	**4.85**	**332**	*e*PN	Pn	10 28 06.3	+3.1
AKMC	**Akamas**	**4.87**	**87**	P	**Pn**	**10 28 03.5**	**0.0**
	baz=266						
AKMC	**Akamas**	**4.87**	**87**	P	**Pn**	**10 28 03.5**	**0.0**
KALE	**Kalithea**	**4.88**	**317**	*e*PN	Pn	10 28 07.1	+3.5
AXAR	**Agios Charalam**	**4.88**	**323**	*e*PN	Pn	10 28 06.8	+3.3
PPCY	**Paphos**	**4.89**	**89**	P	**Pn**	**10 28 03.3**	**-0.3**
	baz=268						
PPCY	**Paphos**	**4.89**	**89**	P	**Pn**	**10 28 03.3**	**-0.3**
EZN	**Ezine**	**4.91**	**359**	*e*PN	**Pn**	**10 28 05.1**	**+1.2**
EZN	**Ezine**	**4.91**	**359**	*e*Pn	**Pn**	**10 28 05.1**	**+1.2**
GAZI	**Gazipasa**	**5.00**	**73**	*i* P	**Pn**	**10 28 03.8**	**-1.4**
GAZI	**Gazipasa**	**5.00**	**73**	*i* P	**Pn**	**10 28 03.8**	**-1.4**
GAZI				*i* S	**Sn**	**10 28 58.6**	**-4.1**
EFP	**Efpalio**	**5.04**	**316**	*e*PN	**Pn**	**10 28 08.7**	**+3.1**
ALFC	**Alevga**	**5.09**	**85**	P	**Pn**	**10 28 07.0**	**+0.5**
	baz=265						
ALFC				S	**Sn**	**10 29 05.0**	**0.0**
ALFC	**Alevga**	**5.09**	**85**	P	**Pn**	**10 28 07.0**	**+0.5**
ALFC				S	**Sn**	**10 29 05.0**	**0.0**
AGG	**Agios Georgios**	**5.24**	**323**	*e*PN	**Pn**	**10 28 11.5**	**+3.0**
GADA	**Gvkgeada**	**5.29**	**356**	*e*PN	**Pn**	**10 28 10.6**	**+1.5**
GADA	**Gvkgeada**	**5.29**	**356**	*e*Pn	**Pn**	**10 28 10.6**	**+1.5**
SZAC	**Souni-Zanaja**	**5.34**	**90**	P	**Pn**	**10 28 10.1**	**+0.3**
	baz=270						
SZAC	**Souni-Zanaja**	**5.34**	**90**	P	**Pn**	**10 28 10.1**	**+0.3**
LPK	**Lapseki**	**5.46**	**3**	*e*PN	**Pn**	**10 28 13.1**	**+1.6**
LPK	**Lapseki**	**5.46**	**3**	*e*Pn	**Pn**	**10 28 13.1**	**+1.6**
KONT	**Konya--Tatoy**	**5.68**	**56**	*e*PN	Pn	10 28 18.0	+3.4
KONT	**Konya--Tatoy**	**5.68**	**56**	*e*Pn	Pn	10 28 18.0	+3.4
CSS	**Prodhromos**	**5.70**	**87**	P	**Pn**	**10 28 14.7**	**0.0**
	baz=268						
CSS	**Prodhromos**	**5.70**	**87**	*e*Pn	**Pn**	**10 28 14.8**	**0.0**
CSS	**Prodhromos**	**5.70**	**87**	*e*Pn	**Pn**	**10 28 14.8**	**0.0**
SWA2		**5.71**	**188**	P	**Pn**	**10 28 16.4**	**+1.5**
	baz=190						
SWA2		**5.71**	**188**	P	**Pn**	**10 28 16.4**	**+1.5**
ERIK	**Erikli-Kesan**	**5.75**	**1**	*e*PN	**Pn**	**10 28 17.0**	**+1.5**
ERIK	**Erikli-Kesan**	**5.75**	**1**	*e*Pn	**Pn**	**10 28 17.0**	**+1.5**
MRMT	**Marmara Adasi**	**5.76**	**9**	*e*PN	**Pn**	**10 28 17.3**	**+1.6**
MRMT	**Marmara Adasi**	**5.76**	**9**	*e*Pn	**Pn**	**10 28 17.3**	**+1.6**
LADK	**Ladik-KONYA**	**5.82**	**54**	*e*PN	**Pn**	**10 28 19.0**	**+2.5**
LADK	**Ladik-KONYA**	**5.82**	**54**	*e*Pn	**Pn**	**10 28 19.0**	**+2.5**
KIZT	**Kizilcal**	**5.92**	**46**	*e*PN	**Pn**	**10 28 20.3**	**+2.4**
ALN	**Alexandroupoli**	**5.98**	**357**	*e*PN	**Pn**	**10 28 20.2**	**+1.5**
ALN	**Alexandroupoli**	**5.98**	**357**	*e*Pn	**Pn**	**10 28 20.2**	**+1.5**
SVRH	**Sivrihisar-ESK**	**6.10**	**41**	*e*PN	**Pn**	**10 28 22.4**	**+2.0**
SVRH	**Sivrihisar-ESK**	**6.10**	**41**	*e*Pn	**Pn**	**10 28 22.4**	**+2.0**
KOT	**Kottamia**	**6.76**	**136**	P	**Pn**	**10 28 30.9**	**+1.4**
	baz=135						
KOT	**Kottamia**	**6.76**	**136**	P	**Pn**	**10 28 30.9**	**+1.4**
RZN	**Rozhen**	**6.89**	**349**	*e*P	Pn	10 28 35.6	+4.2
GLL	**Jalalah**	**6.96**	**138**	P	**Pn**	**10 28 33.4**	**+1.2**
	baz=138						
GLL	**Jalalah**	**6.96**	**138**	P	**Pn**	**10 28 33.4**	**+1.2**
MMB	**Musomiste**	**6.99**	**343**	||*i*P	Pn	10 28 37.5	+4.9
MMB	**Musomiste**	**6.99**	**343**	*e*P	Pn	10 28 37.3	+4.7
VAY	**Valandovo**	**7.08**	**336**	*e*Pn	Pn	10 28 38.1	+4.5
ANTO	**Ankara**	**7.10**	**44**	||*i*P	Pn	10 28 42.4	+8.3
ANTO	**Ankara**	**7.10**	**44**	*e*P	**Pn**	**10 28 35.6**	**+1.5**
ANTO				pmax	pmax		
	comp=Z,30nm,0.9s						
ANTO	**Ankara**	**7.10**	**44**	*e*P	**Pn**	**10 28 35.6**	**+1.5**
	comp=Z,30nm,0.9s						
ANTO	**Ankara**	**7.10**	**44**	*e*Pn	**Pn**	**10 28 35.6**	**+1.5**
	comp=Z,30nm,0.9s						
RSH		**7.31**	**121**	P	**Pn**	**10 28 37.1**	**+0.2**
	baz=120						
RSH		**7.31**	**121**	P	**Pn**	**10 28 37.1**	**+0.2**
KKB	**Krupnik**	**7.42**	**340**	*e*P	Pn	10 28 43.3	+4.9
SUZ		**7.43**	**131**	P	**Pn**	**10 28 39.6**	**+1.0**
	baz=131						
SUZ		**7.43**	**131**	P	**Pn**	**10 28 39.6**	**+1.0**
BRTR	**Keskin Array B**	**7.51**	**48**	Pn	**Pn**	**10 28 41.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=8.8						
BRTR				LR	LR	10 32 28.0	
	comp=Z,530nm,21.4s,baz=211,slow=46						
BRTR	**Keskin Array B**	**7.51**	**48**	*i* P	**Pn**	**10 28 41.2**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**7.51**	**48**	*i* P	**Pn**	**10 28 41.2**	**+1.5**
	comp=Z,1.0nm,0.5s						
OHR	**Ohrid**	**7.61**	**326**	*e*Pn	**Pn**	**10 28 43.1**	**+2.1**
OHR	**Ohrid**	**7.61**	**326**	*e*Pn	**Pn**	**10 28 43.1**	**+2.1**
MMAI	**Mount Meron Ar**	**7.72**	**102**	Pn	**Pn**	**10 28 41.9**	**-0.6**
	comp=Z,7.5nm,0.3s,baz=280,slow=10,SNR=14						
MMAI				Sn	**Sn**	**10 30 10.4**	**+0.7**
	comp=Z,5.0nm,0.3s,baz=315,slow=20,SNR=5.1						
ARNB	**Al Arnab**	**7.88**	**80**	*i* P	**Pn**	**10 28 45.8**	**+1.0**
HFRF	**Wahat Farafira**	**7.91**	**168**	P	**Pn**	**10 28 46.5**	**+1.4**
	baz=168						
HFRF				S	**Sn**	**10 30 09.4**	**-4.9**
	baz=168						
HFRF	**Wahat Farafira**	**7.91**	**168**	P	**Pn**	**10 28 46.5**	**+1.4**
VTS	**Vitosha**	**8.06**	**343**	||*i*P	Pn	10 28 51.1	+3.7
VTS	**Vitosha**	**8.06**	**343**	*e*P	Pn	10 28 51.8	+4.4
HNKL	**Nakhl**	**8.11**	**126**	P	**Pn**	**10 28 49.1**	**+1.2**
	baz=125						
HNKL				S	**Sn**	**10 30 14.4**	**-4.9**
	baz=125						
HNKL	**Nakhl**	**8.11**	**126**	P	**Pn**	**10 28 49.1**	**+1.2**
BIDA	**Albida**	**8.15**	**86**	*i* P	**Pn**	**10 28 47.7**	**-0.8**
HAWK	**Haweek**	**8.25**	**90**	*i* P	**Pn**	**10 28 47.6**	**-2.3**
BTCH	**Batrach**	**8.29**	**79**	*i* P	Pn	10 28 45.2	-5.2
MARH	**Ras Al Marh**	**8.37**	**93**	*i* P	**Pn**	**10 28 49.0**	**-2.8**
MPEP	**Malo Peshtene**	**8.68**	**347**	*e*P	Pn	10 29 02.0	+6.3
TIP	**Timpagrande**	**8.80**	**302**	*e*P	**Pn**	**10 28 56.5**	**-1.0**
TIP	**Timpagrande**	**8.80**	**302**	*e*Pn	**Pn**	**10 28 56.5**	**-1.0**
EIL	**Elat**	**8.93**	**123**	Pn	**Pn**	**10 29 00.3**	**+1.2**
	comp=Z,1.3nm,0.3s,baz=0.0,slow=3.4,SNR=13						
EIL				Sn	**Sn**	**10 30 37.5**	**-1.9**
	comp=Z,2.8nm,0.3s,baz=329,slow=22,SNR=6.2						
CEL	**Celeste**	**9.08**	**295**	*e*Pn	**Pn**	**10 29 03.5**	**+2.2**
CEL	**Celeste**	**9.08**	**295**	*e*Pn	**Pn**	**10 29 03.5**	**+2.2**
ASF	**Jabal al Asf

SBF Sospel 17.14 307 *e*P P 10 30 48.1 -1.6
comp=Z,30nm,0.9s
DAVOX **Davos/Dischmat** 17.19 319 P P 10 30 57.7 +5.8
comp=Z,0.4nm,0.3s,baz=141,slow=7.6,SNR=4.6
DAVOX LR LR 10 40 10.7
comp=Z,94nm,19.7s,baz=85,slow=47
GOPC GO Pecny, Ondr 17.24 334 *e*P P 10 30 50.7 -0.1
GOPC *ep*P P 10 30 53.1 +0.8
GOPC *ex* x 10 31 00.2
GOPC GO Pecny, Ondr 17.24 334 P P 10 30 50.7 -0.1
TUE Stuetta 17.30 317 *e*Pn P 10 30 54.1 +1.0
comp=Z,436nm,0.5s
PRU Pruhonice 17.39 334 *e*P P 10 30 52.8 +0.1
PRU Pruhonice 17.39 334 *e*P P 10 30 52.8 +0.1
PRU Pruhonice 17.39 334 *e*P P 10 30 52.8 +0.1
PRA Prague 17.50 334 *e*P P 10 30 53.0 -1.0
PRA Prague 17.50 334 *e*P P 10 30 53.0 -1.0
PRA Prague 17.50 334 *e*P P 10 30 53.0 -1.0
DAVA Damuels 17.50 320 ǁ *i*P P 10 30 54.7 +0.5
comp=Z,3.3nm,0.5s
DAVA Damuels 17.50 320 P P 10 30 54.7 +0.5
comp=Z,3.3nm,0.5s
FRF La Foret Royal 17.54 305 *e*P P 10 30 52.8 -1.8
comp=Z,14nm,1.0s
FRF La Foret Royal 17.54 305 *e*P P 10 30 52.8 -1.8
FRF pmax pmax
comp=Z,14nm,1.0s
FRF La Foret Royal 17.54 305 *e*P P 10 30 52.8 -1.8
comp=Z,6.9nm,1.0s
FRF La Foret Royal 17.54 305 *e*P P 10 30 52.8 -1.8
comp=Z,14nm,1.0s
LMR La Mourre 17.55 305 *e*P P 10 30 53.2 -1.4
comp=Z,10nm,0.8s
LMR La Mourre 17.55 305 *e*P P 10 30 53.2 -1.4
LMR pmax pmax
comp=Z,10.0nm,0.8s
LMR La Mourre 17.55 305 *e*P P 10 30 53.2 -1.4
comp=Z,5.2nm,0.8s
LMR La Mourre 17.55 305 *e*P P 10 30 53.2 -1.4
comp=Z,10nm,0.8s
MBDF Montbardon 17.94 309 *e*P P 10 30 58.4 -1.3
comp=Z,15nm,0.8s
MBDF Montbardon 17.94 309 *e*P P 10 30 58.4 -1.3
MBDF pmax pmax
comp=Z,15nm,0.8s
MBDF Montbardon 17.94 309 *e*P P 10 30 58.4 -1.3
comp=Z,7.4nm,0.8s
MBDF Montbardon 17.94 309 *e*P P 10 30 58.4 -1.3
comp=Z,15nm,0.8s
BNI Bardonecchia 18.15 310 *e*P P 10 31 05.7 +3.2
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 18.15 310 *e*Pn P 10 31 05.7 +3.2
comp=Z,6.0nm,0.9s
LPG La Plagne 18.31 311 *e*P P 10 31 04.0 -0.4
comp=Z,13nm,0.7s
LPG La Plagne 18.31 311 *e*P P 10 31 04.0 -0.4
LPG pmax pmax
comp=Z,13nm,0.7s
LPG La Plagne 18.31 311 *e*P P 10 31 04.0 -0.4
comp=Z,6.3nm,0.7s
LPG La Plagne 18.31 311 *e*P P 10 31 04.0 -0.4
comp=Z,13nm,0.7s
LPL La Plagne 18.33 311 *e*P P 10 31 04.1 -0.4
comp=Z,9.5nm,0.5s
LPL La Plagne 18.33 311 *e*P P 10 31 04.1 -0.4
LPL pmax pmax
comp=Z,10.0nm,0.5s
LPL La Plagne 18.33 311 *e*P P 10 31 04.1 -0.4
comp=Z,4.8nm,0.5s
LPL La Plagne 18.33 311 *e*P P 10 31 04.1 -0.4
comp=Z,9.5nm,0.5s
BRG Berggiesshubel 18.34 334 *e*P P 10 31 03.6 -0.7
comp=Z,3.8nm,1.0s
BRG *e* 10 31 06.7
comp=Z,4.3nm,0.7s
BRG Berggiesshubel 18.34 334 *e*P P 10 31 03.6 -0.7
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 18.34 334 *e*P P 10 31 03.6 -0.7
comp=Z,4.0nm,1.0s
SENIN Lac Senin/Sane 18.41 314 *e*P P 10 31 05.2 -0.3
SENIN Lac Senin/Sane 18.41 314 *e*P P 10 31 05.2 -0.3
SMRF Simiane la Rot 18.42 306 *e*P P 10 31 04.9 -0.4
comp=Z,35nm,1.3s
SMRF Simiane la Rot 18.42 306 *e*P P 10 31 04.9 -0.4
comp=Z,18nm,1.3s
SMRF Simiane la Rot 18.42 306 *e*P P 10 31 04.9 -0.4
comp=Z,35nm,1.3s
ORIF Oris-en-Rattie 18.60 309 *e*P P 10 31 07.2 -0.2
comp=Z,4.2nm,0.5s
ORIF *e*R
comp=Z,152nm,22.8s
ORIF Oris-en-Rattie 18.60 309 *e*P P 10 31 07.2 -0.2
ORIF pmax pmax
comp=Z,4.0nm,0.5s
ORIF Oris-en-Rattie 18.60 309 *e*P P 10 31 07.2 -0.2
comp=Z,2.1nm,0.5s
ORIF Oris-en-Rattie 18.60 309 *e*P P 10 31 07.2 -0.2
comp=Z,4.2nm,0.5s
VSR Storozhevoye 18.73 26 *e*P Pn 10 31 13.8 +4.7
VSR pmax pmax
comp=N,340nm,0.7s
VSR pmax pmax
comp=E,5.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
BFO Black Forest 18.97 320 P Pn 10 31 13.8 +1.7
BFO Black Forest 18.97 320 P Pn 10 31 13.8 +1.7
CLL Collm 19.03 334 *e*P P 10 31 12.0 0.0
CLL *es*P sP 10 31 16.0 -2.5
CLL *e* 10 31 20.0
CLL *e*PPP PPP 10 31 31.0
CLL Collm 19.03 334 *e*P P 10 31 12.0 0.0
CLL Collm 19.03 334 *e*P P 10 31 12.0 0.0
CABF La Chapelle 19.26 313 *e*P P 10 31 13.5 -1.1
comp=Z,37nm,0.8s
CABF La Chapelle 19.26 313 *e*P P 10 31 13.5 -1.1
CABF pmax pmax
comp=Z,37nm,0.8s
CABF La Chapelle 19.26 313 *e*P P 10 31 13.5 -1.1
comp=Z,19nm,0.8s
CABF La Chapelle 19.26 313 *e*P P 10 31 13.5 -1.1
comp=Z,37nm,0.8s
VIVF Saint-Julien-l 19.35 307 *e*P P 10 31 15.1 -0.5
comp=Z,7.2nm,0.7s
VIVF Saint-Julien-l 19.35 307 *e*P P 10 31 15.1 -0.5
VIVF pmax pmax
comp=Z,7.0nm,0.7s
VIVF Saint-Julien-l 19.35 307 *e*P P 10 31 15.1 -0.5
comp=Z,3.6nm,0.7s
VIVF Saint-Julien-l 19.35 307 *e*P P 10 31 15.1 -0.5
comp=Z,7.2nm,0.7s
HINF Hinteralfeld 19.46 317 *e*P P 10 31 15.4 -1.4
comp=Z,8.5nm,0.8s
HINF Hinteralfeld 19.46 317 *e*P P 10 31 15.4 -1.4
HINF pmax pmax
comp=Z,9.0nm,0.8s
HINF Hinteralfeld 19.46 317 *e*P P 10 31 15.4 -1.4
comp=Z,4.2nm,0.8s
HINF Hinteralfeld 19.46 317 *e*P P 10 31 15.4 -1.4
comp=Z,8.5nm,0.8s
VRHR Novokhopersk 19.57 30 *e*P Pn 10 31 23.4 +4.2
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
CDF Champ du Feu 19.58 319 *e*P P 10 31 17.7 -0.4
comp=Z,7.0nm,0.5s
CDF Champ du Feu 19.58 319 *e*P P 10 31 17.7 -0.4
CDF pmax pmax
comp=Z,7.0nm,0.5s
CDF Champ du Feu 19.58 319 *e*P P 10 31 17.7 -0.4
comp=Z,3.5nm,0.5s
CDF Champ du Feu 19.58 319 *e*P P 10 31 17.7 -0.4
comp=Z,7.0nm,0.5s
HAU Haudompre 19.85 317 *e*P P 10 31 20.0 -1.0
comp=Z,12nm,0.7s
HAU *e*R
comp=Z,110nm,23.0s
HAU Haudompre 19.85 317 *e*P P 10 31 20.0 -1.0
HAU pmax pmax
comp=Z,12nm,0.7s
HAU Haudompre 19.85 317 *e*P P 10 31 20.0 -1.0
comp=Z,5.8nm,0.7s
HAU Haudompre 19.85 317 *e*P P 10 31 20.0 -1.0
comp=Z,12nm,0.7s
PAGF Fort de Pagny 20.50 318 *e*P P 10 31 27.2 -0.8
comp=Z,3.1nm,0.6s
PAGF Fort de Pagny 20.50 318 *e*P P 10 31 27.2 -0.8
comp=Z,1.5nm,0.6s
PAGF Fort de Pagny 20.50 318 *e*P P 10 31 27.2 -0.8
comp=Z,3.1nm,0.6s
MTLF Montolieu 20.51 301 *e*P P 10 31 26.7 -1.5
comp=Z,11nm,1.0s
MTLF Montolieu 20.51 301 *e*P P 10 31 26.7 -1.5
MTLF pmax pmax
comp=Z,11nm,1.0s
MTLF Montolieu 20.51 301 *e*P P 10 31 26.7 -1.5
comp=Z,5.4nm,1.0s
MTLF Montolieu 20.51 301 *e*P P 10 31 26.7 -1.5
comp=Z,11nm,1.0s
SMF Signal de Mont 20.64 311 *e*P P 10 31 28.6 -1.0
comp=Z,10nm,0.5s
SMF Signal de Mont 20.64 311 *e*P P 10 31 28.6 -1.0
SMF pmax pmax
comp=Z,10.0nm,0.5s
SMF Signal de Mont 20.64 311 *e*P P 10 31 28.6 -1.0
comp=Z,5.1nm,0.5s
SMF Signal de Mont 20.64 311 *e*P P 10 31 28.6 -1.0
comp=Z,10nm,0.5s
SFTF Sexfontaines 20.69 316 *e*P P 10 31 29.1 -1.0
comp=Z,48nm,1.0s
SFTF Sexfontaines 20.69 316 *e*P P 10 31 29.1 -1.0
comp=Z,24nm,1.0s
SFTF Sexfontaines 20.69 316 *e*P P 10 31 29.1 -1.0
comp=Z,48nm,1.0s
MEZF Maizieres J'vi 20.85 317 *e*P P 10 31 30.5 -1.3
comp=Z,14nm,0.4s,baz=134
MEZF Maizieres J'vi 20.85 317 *e*P P 10 31 30.5 -1.3
comp=Z,11nm,0.4s
MEZF Maizieres J'vi 20.85 317 *e*P P 10 31 30.5 -1.3
comp=Z,14nm,0.4s
LOR Lormes 20.91 313 *e*P P 10 31 30.9 -1.6
comp=Z,11nm,0.7s,baz=129
LOR *e*R
comp=Z,93nm,22.8s
LOR Lormes 20.91 313 *e*P P 10 31 30.9 -1.6
LOR pmax pmax
comp=Z,11nm,0.7s
LOR Lormes 20.91 313 *e*P P 10 31 30.9 -1.6
comp=Z,5.6nm,0.7s
LOR Lormes 20.91 313 *e*P P 10 31 30.9 -1.6
comp=Z,11nm,0.7s
AVF Avril sur Loir 21.00 311 *e*P P 10 31 32.3 -1.2
comp=Z,21nm,1.0s
AVF Avril sur Loir 21.00 311 *e*P P 10 31 32.3 -1.2
AVF pmax pmax
comp=Z,21nm,1.0s
AVF Avril sur Loir 21.00 311 *e*P P 10 31 32.3 -1.2
comp=Z,11nm,1.0s
AVF Avril sur Loir 21.00 311 *e*P P 10 31 32.3 -1.2
comp=Z,21nm,1.0s
SSF Saint Saulge 21.03 312 *e*P P 10 31 32.4 -1.4
comp=Z,56nm,1.0s
SSF Saint Saulge 21.03 312 *e*P P 10 31 32.4 -1.4
SSF pmax pmax
comp=Z,56nm,1.0s
SSF Saint Saulge 21.03 312 *e*P P 10 31 32.4 -1.4
comp=Z,28nm,1.0s
SSF Saint Saulge 21.03 312 *e*P P 10 31 32.4 -1.4
comp=Z,56nm,1.0s
CAF Calviac 21.10 306 *e*P P 10 31 34.1 -0.5
comp=Z,3.9nm,0.6s
CAF Calviac 21.10 306 *e*P P 10 31 34.1 -0.5
CAF pmax pmax
comp=Z,4.0nm,0.6s
CAF Calviac 21.10 306 *e*P P 10 31 34.1 -0.5
comp=Z,2.0nm,0.6s
CAF Calviac 21.10 306 *e*P P 10 31 34.1 -0.5
comp=Z,3.9nm,0.6s
OBN Obninsk 21.40 16 LR LR 10 40 17.7
comp=Z,129nm,20.9s,baz=294,slow=38
TCF Toulx Ste Croi 21.51 309 *e*P P 10 31 38.1 -0.9
TCF Toulx Ste Croi 21.51 309 *e*P P 10 31 38.1 -0.9
TCF Toulx Ste Croi 21.51 309 *e*P P 10 31 38.1 -0.9
TCF Toulx Ste Croi 21.51 309 *e*P P 10 31 38.1 -0.9
MEM Membach 21.58 323 P P 10 31 42.2 +2.6
MEM Membach 21.58 323 *e*P P 10 31 40.0 +0.4
MEM pmax pmax
comp=Z,12nm,0.8s
MEM Membach 21.58 323 *e*P P 10 31 40.0 +0.4
comp=Z,12nm,0.8s
MEM Membach 21.58 323 *e*P P 10 31 40.0 +0.4
comp=Z,12nm,0.8s
RJF Les Rejaudoux 21.60 306 *e*P P 10 31 38.2 -1.7
comp=Z,14nm,0.8s
RJF *e*R
comp=Z,87nm,22.5s
RJF Les Rejaudoux 21.60 306 *e*P P 10 31 38.2 -1.7
RJF pmax pmax
comp=Z,14nm,0.8s
RJF Les Rejaudoux 21.60 306 *e*P P 10 31 38.2 -1.7
comp=Z,6.8nm,0.8s
RJF Les Rejaudoux 21.60 306 *e*P P 10 31 38.2 -1.7
comp=Z,14nm,0.8s
EPF Esparros 21.76 300 *e*P P 10 31 41.7 0.0
EPF Esparros 21.76 300 *e*P P 10 31 41.7 0.0
EPF Esparros 21.76 300 *e*P P 10 31 41.7 0.0
EPF Esparros 21.76 300 *e*P P 10 31 41.7 0.0
BCLA Clavier 21.81 322 P P 10 31 43.5 +1.3
BCLA Clavier 21.81 322 P P 10 31 43.4 +1.3
TAM Tamanrasset 21.86 242 *e*P P 10 31 45.2 +2.1
TAM pmax pmax
comp=Z,21nm,0.9s
TAM Tamanrasset 21.86 242 *e*P P 10 31 45.1 +2.1
comp=Z,21nm,0.9s
GIVF Givet 21.87 321 *e*P P 10 31 41.7 -1.1
GIVF Givet 21.87 321 *e*P P 10 31 41.7 -1.1
GIVF Givet 21.87 321 *e*P P 10 31 41.7 -1.1
GIVF Givet 21.87 321 *e*P P 10 31 41.7 -1.1
LFF La Frestale 22.00 305 *e*P P 10 31 43.5 -0.7
LFF La Frestale 22.00 305 *e*P P 10 31 43.5 -0.7
LFF La Frestale 22.00 305 *e*P P 10 31 43.5 -0.7
LFF La Frestale 22.00 305 *e*P P 10 31 43.5 -0.7
ETSF Etsaut 22.38 299 *e*P P 10 31 47.2 -1.2
comp=Z,7.6nm,0.6s
ETSF Etsaut 22.38 299 *e*P P 10 31 47.2 -1.2
ETSF pmax pmax
comp=Z,8.0nm,0.6s
ETSF Etsaut 22.38 299 *e*P P 10 31 47.2 -1.2
comp=Z,3.8nm,0.6s
ETSF Etsaut 22.38 299 *e*P P 10 31 47.2 -1.2
comp=Z,7.6nm,0.6s
SJPF Ste Jean 22.90 299 *e*P P 10 31 53.0 -0.8
comp=Z,26nm,1.0s
SJPF Ste Jean 22.90 299 *e*P P 10 31 53.0 -0.8
SJPF pmax pmax
comp=Z,26nm,1.0s
SJPF Ste Jean 22.90 299 *e*P P 10 31 53.0 -0.8
comp=Z,13nm,1.0s
SJPF Ste Jean 22.90 299 *e*P P 10 31 53.0 -0.8
comp=Z,26nm,1.0s
MFF Saint Martin d 23.14 308 *e*P P 10 31 54.9 -1.3
comp=Z,14nm,0.7s
MFF Saint Martin d 23.14 308 *e*P P 10 31 54.9 -1.3
MFF pmax pmax
comp=Z,14nm,0.7s
MFF Saint Martin d 23.14 308 *e*P P 10 31 54.9 -1.3
comp=Z,6.8nm,0.7s
MFF Saint Martin d 23.14 308 *e*P P 10 31 54.9 -1.3
comp=Z,14nm,0.7s
LDF La Druitiere 23.90 313 *e*P P 10 32 02.1 -1.6
comp=Z,8.3nm,0.6s
LDF La Druitiere 23.90 313 *e*P P 10 32 02.1 -1.6
LDF pmax pmax
comp=Z,8.0nm,0.6s
LDF La Druitiere 23.90 313 *e*P P 10 32 02.1 -1.6
comp=Z,4.2nm,0.6s
LDF La Druitiere 23.90 313 *e*P P 10 32 02.1 -1.6
comp=Z,8.3nm,0.6s
FLN La Foliniere 24.19 313 *e*P P 10 32 04.4 -2.0
comp=Z,15nm,0.6s,baz=116
FLN *e*R
comp=Z,101nm,21.2s
FLN La Foliniere 24.19 313 *e*P P 10 32 04.4 -2.0
FLN pmax pmax
comp=Z,15nm,0.6s
FLN La Foliniere 24.19 313 *e*P P 10 32 04.4 -2.0
comp=Z,7.4nm,0.6s
FLN La Foliniere 24.19 313 *e*P P 10 32 04.4 -2.0
comp=Z,15nm,0.6s
GRR Gorron 24.26 312 *e*P P 10 32 05.2 -1.9
comp=Z,16nm,0.6s
GRR Gorron 24.26 312 *e*P P 10 32 05.2 -1.9
GRR pmax pmax
comp=Z,16nm,0.6s
GRR Gorron 24.26 312 *e*P P 10 32 05.2 -1.9
comp=Z,7.9nm,0.6s
GRR Gorron 24.26 312 *e*P P 10 32 05.2 -1.9
comp=Z,16nm,0.6s
ESDC Sonseca Array 24.55 290 P P 10 32 09.3 -0.5
comp=Z,4.4nm,0.7s,baz=83,slow=9.5,SNR=28
SGMF Saint Gilles 25.26 311 *e*P P 10 32 15.2 -0.9
comp=Z,14nm,0.7s
SGMF Saint Gilles 25.26 311 *e*P P 10 32 15.2 -0.9
SGMF pmax pmax
comp=Z,14nm,0.7s
SGMF Saint Gilles 25.26 311 *e*P P 10 32 15.2 -0.9
comp=Z,7.0nm,0.7s
SGMF Saint Gilles 25.26 311 *e*P P 10 32 15.2 -0.9
comp=Z,14nm,0.7s
ISHV Shirvan 25.33 75 *e*P P 10 32 19.7 +2.5
ISHV Shirvan 25.33 75 *e*P P 10 32 19.7 +2.5
QUIF Quistinic 25.52 310 *e*P P 10 32 17.3 -1.2
comp=Z,12nm,0.7s
QUIF Quistinic 25.52 310 *e*P P 10 32 17.3 -1.2
QUIF pmax pmax
comp=Z,13nm,0.7s
QUIF Quistinic 25.52 310 *e*P P 10 32 17.3 -1.2
comp=Z,6.2nm,0.7s
QUIF Quistinic 25.52 310 *e*P P 10 32 17.3 -1.2
comp=Z,12nm,0.7s
ISFR Sfrayin 25.60 76 *e*P P 10 32 21.8 +2.1
ISFR Sfrayin 25.60 76 *e*P P 10 32 21.8 +2.1
GEYT Alibeck 25.64 74 P P 10 32 20.0 +0.3
comp=Z,13nm,0.8s,baz=280,slow=12,SNR=21
ROSF Rostrenen 25.73 310 *e*P P 10 32 19.4 -1.0
comp=Z,14nm,0.8s
ROSF Rostrenen 25.73 310 *e*P P 10 32 19.4 -1.0
ROSF pmax pmax
comp=Z,15nm,0.8s
ROSF Rostrenen 25.73 310 *e*P P 10 32 19.4 -1.0
comp=Z,7.2nm,0.8s
ROSF Rostrenen 25.73 310 *e*P P 10 32 19.4 -1.0
comp=Z,14nm,0.8s
MDT Midelt 25.79 274 P P 10 32 21.2 0.0
comp=Z,5.9nm,0.9s,baz=84,slow=10,SNR=6.1
MDT LR LR 10 45 16.1
comp=Z,170nm,19.3s,baz=136,slow=43
IAKL Akhelmad 26.25 77 *e*P P 10 32 27.1 +1.6
FINES FINESS Array B 26.55 360 P P 10 32 25.1 -2.6
comp=Z,2.5nm,0.8s,baz=165,slow=11,SNR=4.1
FINES LR LR 10 42 52.1
comp=Z,50nm,20.2s,baz=174,slow=36
FINES FINESS Array B 26.55 360 P P 10 32 25.1 -2.6
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES MLR MLR
comp=Z,50nm,20.2s
HFS Hagfors 26.56 346 P P 10 32 26.3 -1.4
comp=Z,1.3nm,0.5s,baz=140,slow=12,SNR=6.8
HFS LR LR 10 44 25.9
comp=Z,75nm,18.3s,baz=123,slow=40
HFS Hagfors 26.56 346 P P 10 32 26.3 -1.4
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS MLR MLR
comp=Z,75nm,18.3s
PBRG Braganca 26.77 295 *e*P P 10 32 29.0 -0.9
comp=Z,16nm,1.2s
PBRG Braganca 26.77 295 *e*P P 10 32 29.0 -0.9
comp=Z,16nm,1.2s
MVO Moncorvo 26.95 293 *e*P P 10 32 31.7 +0.2
comp=Z,20nm,0.9s
MVO Moncorvo 26.95 293 *e*P P 10 32 31.7 +0.2
comp=Z,20nm,0.9s
PBAR Barrancos 26.98 287 *e*P P 10 32 31.1 -0.7
comp=Z,39nm,1.9s
PBAR Barrancos 26.98 287 *e*P P 10 32 31.1 -0.7
comp=Z,39nm,1.9s
IMYA Miami 27.36 77 *e*P P 10 32 36.6 +1.3
IMYA Miami 27.36 77 *e*P P 10 32 36.7 +1.3
PVAQ Vaqueiros 27.57 285 *e*P P 10 32 36.1 -1.0
comp=Z,46nm,1.6s
PVAQ Vaqueiros 27.57 285 *e*P P 10 32 36.1 -1.0
comp=Z,46nm,1.6s
AKTK Aktyubinsk 27.68 46 P P 10 32 36.8 -1.2
comp=Z,9.0nm,1.1s
AKTO Aktyubinsk 27.68 46 P P 10 32 37.3 -0.7
comp=Z,5.8nm,1.0s,baz=242,slow=10,SNR=13
AKTO LR LR 10 46 40.8
comp=Z,65nm,18.4s,baz=273,slow=43
AKTO Aktyubinsk 27.68 46 P P 10 32 36.8 -1.2
AKTO pmax pmax
comp=Z,9.0nm,1.1s
PBDV Barranco-do-Ve 27.76 285 *e*P P 10 32 37.9 -0.9
comp=Z,76nm,1.7s
PBDV Barranco-do-Ve 27.76 285 *e*P P 10 32 37.9 -0.9
comp=Z,76nm,1.7s
NOA NORSAR Array B 27.91 344 P P 10 32 39.7 -0.2
comp=Z,0.6nm,0.7s,baz=155,slow=8.4,SNR=2.6
NOA LR LR 10 45 38.9
comp=Z,35nm,19.7s,baz=50,slow=41
NOA NORSAR Array B 27.91 344 P P 10 32 39.7 -0.2
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,35nm,19.7s
AB31 Akbulak array 28.46 49 *i*P P 10 32 44.4 -0.5
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 28.46 49 *i*P P 10 32 44.4 -0.5
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 28.46 49 *e*P P 10 32 45.0 +0.1
ABKAR Akbulak array 28.46 49 *e*P P 10 32 45.0 +0.1
EKA Eskdalemuir Ar 28.83 324 P P 10 32 47.1 -1.0
comp=Z,1.8nm,0.5s,baz=125,slow=11,SNR=8.7
EKA Eskdalemuir Ar 28.83 324 P P 10 32 47.1 -1.0
EKA pmax pmax
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 31.12 232 P P 10 33 09.4 +0.7
comp=Z,22nm,0.6s,baz=36,slow=8.7,SNR=193
TORD LR LR 10 48 18.4
comp=Z,86nm,18.2s,baz=325,slow=41
ARCES ARCESS Array B 34.68 359 P P 10 33 36.4 -3.0
comp=Z,4.5nm,0.9s,baz=179,slow=8.5,SNR=8.4
ARCES ARCESS Array B 34.68 359 P P 10 33 36.4 -3.0
ARCES pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 34.91 63 *i*P P 10 33 42.3 +0.6
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KK31 Karatay Array 34.91 63 *i*P P 10 33 42.3 +0.6
comp=Z,1.0nm,0.5s
KKAR Karatay Array 34.91 63 *e*P P 10 33 42.7 +1.0
KKAR Karatay Array 34.91 63 *e*P P 10 33 42.7 +1.0
KKAR Karatay Array 34.91 63 *e*P P 10 33 42.7 +1.0
BRVK Borovoye 35.73 46 ǁ *i*P P 10 33 48.8 +0.2
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 35.73 46 *i*P P 10 33 48.8 +0.2
comp=Z,9.0nm,1.2s
BRVK Borovoye 35.73 46 *e*P P 10 33 49.1 +0.6
comp=Z,7.0nm,1.1s
BVA0 Borovoye Array 35.79 46 *i*P P 10 33 49.1 0.0
BVA0 pmax pmax
comp=Z,9.0nm,1.2s
BVA0 Borovoye Array 35.79 46 *i*P P 10 33 49.1 0.0
comp=Z,9.0nm,1.2s
BVAR Borovoye Array 35.79 46 P P 10 33 49.3 +0.2
comp=Z,3.3nm,0.9s,baz=256,slow=6.0,SNR=19
BVAR Borovoye Array 35.79 46 P P 10 33 49.3 +0.2
BVAR pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 37.86 64 P P 10 34 07.6 +0.5
comp=Z,1.5nm,0.6s,baz=257,slow=16,SNR=5.0
AAK LR LR 10 51 20.1
comp=Z,66nm,18.8s,baz=244,slow=39
AAK Ala-Archa 37.86 64 *i*P P 10 34 08.1 +1.1
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 37.86 64 *i*P P 10 34 08.1 +1.1
comp=Z,15nm,1.3s
AAK Ala-Archa 37.86 64 *e*P P 10 34 08.5 +1.4
comp=Z,6.4nm,1.2s
TKM2 Tokmak 2 38.64 63 *e*P P 10 34 15.2 +1.5
TKM2 pmax pmax

comp=Z,18nm,2.0s
TKM2 Tokmak 2 38.64 63 *e*P **P** 10 34 15.2 +1.5
comp=Z,18nm,2.0s
TKM2 Tokmak 2 38.64 63 *e*P **P** 10 34 15.2 +1.5
comp=Z,18nm,2.0s
KSH Kashi 39.35 68 *e*P **P** 10 34 18.8 -0.7
KSH sP **sP** 10 34 25.8 -0.6
KSH PP **PnPn** 10 35 52.5 0.0
KSH S **ScP** 10 40 17.0 +1.2
KSH SS S 10 43 00.3 -14
KSH ScS **ScS** 10 44 26.0 -1.8
KSH PMZ
comp=Z,84nm,4.3s
KSH LN
comp=Z,120nm,6.8s
KSH LE
comp=Z,120nm,6.7s
KSH LZ
comp=Z,160nm,5.4s
DBIC Dimbokro 40.22 233 P **P** 10 34 26.9 +0.2
comp=Z,11nm,0.5s,baz=24,slow=9.0,SNR=20
DBIC LR LR 10 55 04.6
comp=Z,118nm,18.2s,baz=76,slow=42
DBIC Dimbokro 40.22 233 P **P** 10 34 26.9 +0.2
DBIC pmax pmax
comp=Z,11nm,0.5s
DBIC MLR MLR
comp=Z,119nm,18.2s
DBIC Dimbokro 40.22 233 *e*P **P** 10 34 27.0 +0.2
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 40.49 51 P **P** 10 34 28.8 +0.1
comp=Z,4.5nm,0.2s,baz=277,slow=8.8,SNR=48
KURBB PcP **PcP** 10 36 31.2 +0.1
comp=Z,0.6nm,0.5s,baz=266,slow=4.1,SNR=4.2
KURK Kurchatov 40.55 51 P **P** 10 34 28.8 -0.4
KURK 10 36 31.2
KURK pmax pmax
comp=Z,5.0nm,0.2s
KURK Kurchatov 40.55 51 *e*P **P** 10 34 29.6 +0.4
comp=Z,15nm,1.0s
KURK Kurchatov 40.55 51 PcP **PcP** 10 36 31.2 -0.1
KURK Kurchatov 40.55 51 *e*P **P** 10 34 29.6 +0.4
comp=Z,15nm,1.0s
KURK PcP **PcP** 10 36 31.2 -0.1
LIC Lamto 40.66 233 *e*P **P** 10 34 29.9 -0.6
comp=Z,66nm,1.2s,baz=42
LIC *e*R
comp=Z,193nm,21.8s
LIC Lamto 40.66 233 *e*P **P** 10 34 29.9 -0.6
comp=Z,33nm,1.2s
LIC Lamto 40.66 233 *e*P **P** 10 34 29.9 -0.6
comp=Z,66nm,1.2s
MK31 Makanchi Array 43.06 56 *i* P **P** 10 34 50.3 +0.4
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 43.06 56 *i* P **P** 10 34 50.3 +0.4
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 43.06 56 P **P** 10 34 50.5 +0.6
comp=Z,7.1nm,0.9s,baz=278,slow=8.3,SNR=30
MKAR Makanchi Array 43.06 56 P **P** 10 34 50.5 +0.6
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 43.06 56 *e*P **P** 10 34 50.8 +0.9
NVS Novosibirsk 43.55 45 *e*P **P** 10 34 53.8 +0.2
NVS *e*S S 10 41 28.9 +7.0
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS smax smax
comp=N,6.0nm,0.7s
NVS Novosibirsk 43.55 45 *e*P **P** 10 34 53.8 +0.2
comp=N,10.0nm,1.0s
SPITS Spitsbergen Ar 43.59 357 P **P** 10 34 51.6 -2.0
comp=N,5.1nm,0.8s,baz=143,slow=14,SNR=5.9
SPITS Spitsbergen Ar 43.59 357 P **P** 10 34 51.6 -2.0
SPITS pmax pmax
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 44.45 46 P **P** 10 35 00.6 -0.2
comp=Z,3.6nm,0.6s,baz=268,slow=9.8,SNR=20
ZALV LR LR 10 55 51.0
comp=Z,45nm,20.0s,baz=250,slow=39
ZALV Zalesovo Beam 44.45 46 P **P** 10 35 00.6 -0.2
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV MLR MLR
comp=Z,45nm,20.0s
WMQ Urumqi 47.25 60 *e*P **P** 10 35 26.0 +2.8
WMQ pP **pP** 10 35 29.8 +1.6
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,130nm,4.6s
WMQ LZ
comp=Z,210nm,21.8s
TLY Talaya 56.03 47 LR LR 11 03 51.1
comp=Z,42nm,20.6s,baz=334,slow=40
ZAK Zakamensk 56.15 49 *e*P **P** 10 36 28.4 -1.2
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ZAK Zakamensk 56.15 49 *e*P **P** 10 36 28.4 -1.2
comp=Z,4.0nm,1.0s
GTA Gaotai 57.18 62 *e*P **P** 10 36 38.0 +0.8
GTA pP **pP** 10 36 42.5 +0.3
GTA sP **sP** 10 36 45.0 +0.9
GTA PMZ
comp=Z,4.0nm,1.0s
SONM Songino Array 58.86 51 P **P** 10 36 49.8 +1.0
comp=Z,2.5nm,0.7s,baz=265,slow=8.9,SNR=9.7
SONM Songino Array 58.86 51 P **P** 10 36 49.8 +1.0
SONM pmax pmax
comp=Z,3.0nm,0.7s
BOD Bodaibo 60.02 38 *e*P P 10 36 53.2 -3.3
BOD pmax pmax
comp=Z,2.0nm,1.1s
TIXI Tiksi 61.04 21 *e*P **P** 10 37 02.0 -1.2
comp=Z,4.1nm,0.9s
TIXI Tiksi 61.04 21 *e*P **P** 10 37 02.0 -1.2
comp=Z,4.1nm,0.9s
LZH Lanzhou 61.39 64 *e*P **P** 10 37 06.8 +0.4
LZH pP **pP** 10 37 09.8 -1.7
LZH PMZ
comp=Z,10.0nm,1.0s
CD2 Chengdu 63.53 70 *e*P **P** 10 37 22.3 +1.7
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,100nm,5.4s
SCHQ Schefferville 64.03 320 P **P** 10 37 22.9 -0.6
comp=Z,4.0nm,0.6s,baz=67,slow=5.0,SNR=15
HHC Hu-ho-hao-te 64.93 57 *e*P **P** 10 37 30.3 +0.6
HHC S **S** 10 46 07.0 -3.8
HHC PMZ
comp=Z,36nm,1.2s
HHC PMZ
comp=Z,120nm,6.9s
CMAR Chiang Mai Arr 65.59 84 P **P** 10 37 34.7 +0.5
comp=Z,1.3nm,0.4s,baz=294,slow=6.8,SNR=15
CMAR LR LR 11 11 34.6
comp=Z,21nm,19.6s,baz=215,slow=41
CMAR Chiang Mai Arr 65.59 84 P **P** 10 37 34.7 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,21nm,19.6s
CN2 Changchun 72.58 49 *e*P **P** 10 38 16.0 -1.2
INK Inuvik 76.00 352 P **P** 10 38 35.4 -1.3
comp=Z,1.2nm,1.0s,baz=5.2,slow=8.5,SNR=6.5
INK Inuvik 76.00 352 P **P** 10 38 35.4 -1.3
INK pmax pmax
comp=Z,1.0nm,1.0s
USRK Uesuriysk Ar. 76.30 45 P **P** 10 38 38.6 -0.2
comp=Z,3.8nm,0.8s,baz=284,slow=4.8,SNR=7.7
KSAR Wonju Array Be 77.61 53 P **P** 10 38 46.1 -0.2
KSAR Wonju Array Be 77.61 53 P **P** 10 38 46.1 -0.2
KSAR Wonju Array Be 77.61 53 P **P** 10 38 46.1 -0.2
KSRS Korea Array 77.62 53 P **P** 10 38 46.1 -0.3
comp=Z,2.1nm,0.9s,baz=297,slow=4.0,SNR=5.3
KSRS LR LR 11 16 30.3
comp=Z,37nm,18.7s,baz=310,slow=38
KSRS Korea Array 77.62 53 P **P** 10 38 46.1 -0.3
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,37nm,18.7s
YKA Yellowknife Ar 77.99 343 P **P** 10 38 47.2 -0.8
comp=Z,0.4nm,0.5s,baz=38,slow=5.1,SNR=8.8
ILAR Eielson Array 80.51 357 P **P** 10 39 01.4 -0.3
comp=Z,0.9nm,0.7s,baz=337,slow=3.2,SNR=15
ILAR Eielson Array 80.51 357 P **P** 10 39 01.4 -0.3
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ULM Lac du Bonnet 81.08 327 P **P** 10 39 04.1 -0.9
comp=Z,1.6nm,0.8s,baz=36,slow=8.4,SNR=4.2
ULM Lac du Bonnet 81.08 327 P **P** 10 39 04.1 -0.9
ULM pmax pmax
comp=Z,2.0nm,0.8s
ASAJ Asahikawa 82.31 41 LR LR 11 22 32.4
comp=Z,36nm,18.1s,baz=8.0,slow=41
PETK Petropavlovsk- 82.67 27 LR LR 11 20 37.1
comp=Z,18nm,18.1s,baz=271,slow=39
MJAR Matsushiro Arr 84.73 49 P **P** 10 39 24.5 +0.2
comp=Z,2.6nm,1.0s,baz=311,slow=4.1,SNR=4.8
MJAR Matsushiro Arr 84.73 49 P **P** 10 39 24.5 +0.2
MJAR pmax pmax
comp=Z,3.0nm,1.0s
BDFB Brasilia 86.55 248 P **P** 10 39 35.3 +1.7
comp=Z,3.6nm,0.7s,baz=66,slow=8.4,SNR=4.3
BDFB Brasilia 86.55 248 P **P** 10 39 35.3 +1.7
BDFB pmax pmax
comp=Z,4.0nm,0.7s
JTMT Jette 90.50 335 *e*P **P** 10 39 52.2 +0.2
comp=Z,10nm,1.7s
JTMT Jette 90.50 335 *e*P **P** 10 39 52.1 +0.2
comp=Z,10nm,1.7s
PDAR Pinedale Array 92.84 329 P **P** 10 40 01.9 -1.2
comp=Z,0.5nm,0.8s,baz=66,slow=3.7,SNR=4.0
PDAR LR LR 11 26 14.6
comp=Z,47nm,18.5s,baz=58,slow=38
CPUP Villa Florida 99.83 245 LR LR 11 27 34.4
comp=Z,198nm,19.6s,baz=148,slow=36
WRA Warramunga Arr 115.55 97 PKP **PKPdf** 10 45 33.1 +0.5
comp=Z,0.2nm,0.7s,baz=310,slow=1.3,SNR=3.9
ASAR Alice Springs 117.00 101 PKP **PKPdf** 10 45 35.1 -0.1
comp=Z,0.3nm,0.7s,baz=296,slow=1.2,SNR=6.8

IDC ***26*** *10:30:47.5±0.7,35°.07N×26°.37E, h0km, mb4.1/18, mb1 4.1/23,mb1mx4.0/36, mbtmp4.0/23,ML4.0/5,Error ellipse: s-maj=18.6km s-min=10.7km az=176.0*
ISCJB ***26*** *10:30:49.4±0.6,34°.83N±0°.02×26°.41E±0°.02, h27km±4km, mb4.1/22,Error ellipse: s-maj=3.9km s-min=3.0km az=12.5*
CSEM ***26*** *10:30:50.3±0.3,34°.91N×26°.38E, h10km,MD3.4, Error ellipse: s-maj=6.8km s-min=4.7km az=178.0*
ATH ***26*** *10:30:51.5,35°.10N×26°.34E, h24km± 1km, MD3.4/15*
THE ***26*** *10:30:52.0,35°.09N×26°.34E, h3km±2km, ML3.8/4, Error ellipse: s-maj=4.4km s-min=1.1km az=168.0*
HLW ***26*** *10:30:55.6,34°.81N×26°.66E, h34km±26km, Ml3.3*
DDA ***26*** *10:30:55.7,35°.29N×26°.95E, h3km, ML4.2*
NSSC ***26*** *10:31:33.7±1.2,34°.71N×30°.50E, h2km±999km*
ISC 26 10:30:50.1±1.0,**34°.92N**±0°.04×**26°.38E**±0°.02,**h16**km±6km, **n175,σ1$30/174,mb4.2/22,Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ZKR	**Zakros**	**0.24**	**326**	*e*PB		**Pg**	**10 30 55.5**	**-0.1**
ZKR				*e*SB		**Sg**	**10 30 59.1**	**-0.1**
ZKR	**Zakros**	**0.24**	**326**	*e*Pb		**Pg**	**10 30 55.5**	**-0.1**
ZKR				*e*Sb		**Sg**	**10 30 59.1**	**-0.1**
NPS	**Neapolis**	**0.72**	**299**	P		**Pg**	**10 31 03.4**	**-0.8**
NPS				S		**Sg**	**10 31 14.0**	**+0.3**
NPS	**Neapolis**	**0.72**	**299**	*e*PN		**Pg**	**10 31 04.0**	**-0.2**
NPS				*e*SN		**Sg**	**10 31 12.7**	**-1.0**
NPS	**Neapolis**	**0.72**	**299**	*e*Pn		**Pg**	**10 31 04.0**	**-0.2**
NPS				*e*Sn		**Sg**	**10 31 12.7**	**-1.0**
LAST	**Lasithi**	**0.78**	**289**	*e*PN		**Pg**	**10 31 05.0**	**-0.4**
LAST				*e*SN		**Sb**	**10 31 16.5**	**+0.8**
LAST	**Lasithi**	**0.78**	**289**	*e*Pn		**Pg**	**10 31 05.0**	**-0.4**
LAST				*e*Sn		**Sb**	**10 31 16.5**	**+0.8**
KARP	**Karpathos**	**0.90**	**45**	P		**Pg**	**10 31 06.5**	**-1.1**
KARP				S		**Sg**	**10 31 20.0**	**+0.6**
KARP	**Karpathos**	**0.90**	**45**	*e*PN		**Pg**	**10 31 06.9**	**-0.7**
KARP				*e*SN		**Sg**	**10 31 19.1**	**-0.3**
KARP	**Karpathos**	**0.90**	**45**	*e*Pn		**Pg**	**10 31 06.9**	**-0.7**
KARP				*e*Sn		**Sg**	**10 31 19.1**	**-0.3**
IDI	**Anoyia**	**1.28**	**287**	Pn		**Pn**	**10 31 13.7**	**+0.3**
	110nm,0.3s,baz=132,slow=9.2,SNR=17							
IDI				Sn		**Sg**	**10 31 32.2**	**+0.8**
	196nm,0.3s,baz=2.8,slow=17,SNR=8.9							
SIVA	**Sivas**	**1.29**	**275**	*e*PN		**Pg**	**10 31 15.2**	**+0.1**
SIVA	**Sivas**	**1.29**	**275**	*e*Pn		**Pg**	**10 31 15.2**	**+0.1**
SANT	**Santorini**	**1.63**	**333**	*e*PN		**Pn**	**10 31 18.4**	**+0.2**
SANT	**Santorini**	**1.63**	**333**	*e*Pn		**Pn**	**10 31 18.4**	**+0.2**
THR1	**Thera Island**	**1.63**	**333**	*e*PN		**Pn**	**10 31 18.2**	**0.0**
THR1	**Thera Island**	**1.63**	**333**	*e*Pn		**Pn**	**10 31 18.2**	**0.0**
VAM	**Vamos**	**1.85**	**286**	P		**Pn**	**10 31 22.5**	**+1.3**
VAM				S		**Sn**	**10 31 45.3**	**+1.0**
VAM	**Vamos**	**1.85**	**286**	*e*PN		**Pn**	**10 31 22.8**	**+1.6**
VAM	**Vamos**	**1.85**	**286**	*e*Pn		**Pn**	**10 31 22.8**	**+1.6**
VAM				S		**Sn**	**10 31 45.3**	**+1.0**
ARG	**Arkhangelos**	**1.93**	**47**	P		**Pn**	**10 31 24.3**	**+2.1**
ARG				S		**Sn**	**10 31 46.5**	**+0.4**
ARG	**Arkhangelos**	**1.93**	**47**	*e*PN		**Pn**	**10 31 24.4**	**+2.2**
ARG	**Arkhangelos**	**1.93**	**47**	P		**Pn**	**10 31 24.3**	**+2.1**
ARG				S		**Sn**	**10 31 46.5**	**+0.4**
DAT	**Datca**	**2.06**	**28**	*e*PN		**Pn**	**10 31 24.8**	**+0.7**
DAT	**Datca**	**2.06**	**28**	*e*Pn		**Pn**	**10 31 24.8**	**+0.7**
KARN	**Karanos**	**2.08**	**284**	*e*PN		**Pb**	**10 31 27.0**	**-0.4**
KARN	**Karanos**	**2.08**	**284**	*e*Pn		**Pb**	**10 31 27.0**	**-0.4**
APE	**Apeiranthos**	**2.26**	**342**	P		**Pn**	**10 31 26.9**	**+0.1**
APE				S		**Sn**	**10 31 53.5**	**-0.8**
APE	**Apeiranthos**	**2.26**	**342**	*e*PN		**Pn**	**10 31 27.3**	**+0.5**
APE	**Apeiranthos**	**2.26**	**342**	*e*PB		**Pn**	**10 31 26.9**	**+0.1**
APE	**Apeiranthos**	**2.26**	**342**	*e*Pb		**Pn**	**10 31 26.9**	**+0.1**
APE				S		**Sn**	**10 31 53.5**	**-0.8**
BODT	**Bodrum**	**2.27**	**19**	*e*PN		**Pn**	**10 31 27.4**	**+0.4**
BODT	**Bodrum**	**2.27**	**19**	*e*Pn		**Pn**	**10 31 27.4**	**+0.4**
BDRM	**Kayabasi**	**2.31**	**22**	*i* P		**Pn**	**10 31 27.1**	**-0.5**
BDRM				*i* S		**Sn**	**10 31 56.4**	**+0.7**
BDRM	**Kayabasi**	**2.31**	**22**	*i* P		**Pn**	**10 31 27.1**	**-0.5**
BDRM				*i* S		**Sn**	**10 31 56.4**	**+0.7**
DALY	**Dalyan (Mu¨la**	**2.65**	**44**	*e*PN		**Pn**	**10 31 33.5**	**+1.4**
DALY	**Dalyan (Mu¨la**	**2.65**	**44**	*e*Pn		**Pn**	**10 31 33.5**	**+1.4**
TURN	**Turunc**	**2.66**	**42**	*i* P		Pn	10 31 29.6	-2.7
TURN	**Turunc**	**2.66**	**42**	*i* P		Pn	10 31 29.6	-2.7
TURN				*i* S		**Sn**	**10 32 02.6**	**-1.6**
ANKY	**Antikythira Is**	**2.69**	**292**	*e*PN		**Pn**	**10 31 34.6**	**+1.9**
ANKY	**Antikythira Is**	**2.69**	**292**	*e*Pn		**Pn**	**10 31 34.6**	**+1.9**
YER	**Yerkesik**	**2.70**	**34**	*e*PN		**Pn**	**10 31 33.8**	**+0.9**
YER	**Yerkesik**	**2.70**	**34**	*e*Pn		**Pn**	**10 31 33.8**	**+0.9**
SMG	**Samos**	**2.81**	**7**	P		**Pn**	**10 31 34.2**	**-0.1**
SMG				S		**Sn**	**10 32 06.9**	**-1.1**
SMG	**Samos**	**2.81**	**7**	*e*PN		**Pn**	**10 31 34.3**	**-0.1**
SMG	**Samos**	**2.81**	**7**	*e*Pn		**Pn**	**10 31 34.3**	**-0.1**
SMG				S		**Sn**	**10 32 06.9**	**-1.1**
GCAM	**G?zelcaml?**	**2.86**	**14**	*i* P		Pn	10 31 38.5	+3.5
AKAS	**Kas**	**2.94**	**63**	*i* P		**Pn**	**10 31 36.7**	**+0.4**
AKAS				*i* S		**Sn**	**10 32 14.1**	**+2.8**
AKAS	**Kas**	**2.94**	**63**	*i* P		**Pn**	**10 31 36.7**	**+0.4**
AKAS				*i* S		**Sn**	**10 32 14.1**	**+2.8**
AYDN	**Tasoluk**	**3.00**	**23**	*i* P		**Pn**	**10 31 40.0**	**+3.0**
AYDN				*i* S		**Sn**	**10 32 16.0**	**+3.4**
AYDN	**Tasoluk**	**3.00**	**23**	*i* P		**Pn**	**10 31 40.0**	**+3.0**
AYDN				*i* S		**Sn**	**10 32 16.0**	**+3.4**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**21**	*e*PN		**Pn**	**10 31 41.4**	**+0.7**
VLI	**Veliai**	**3.33**	**304**	P		**Pn**	**10 31 42.0**	**+0.5**
VLI				S		**Sn**	**10 32 20.1**	**-0.5**
VLI	**Veliai**	**3.33**	**304**	*e*PN		**Pn**	**10 31 42.5**	**+1.0**
VLI	**Veliai**	**3.33**	**304**	P		**Pn**	**10 31 42.0**	**+0.5**
VLI	**Veliai**	**3.33**	**304**	*e*Pn		**Pn**	**10 31 42.5**	**+1.0**
VLI				S		**Sn**	**10 32 20.1**	**-0.5**
ELL	**Elmali**	**3.40**	**56**	*e*PN		**Pn**	**10 31 43.9**	**+1.3**
ELL	**Elmali**	**3.40**	**56**	*e*Pn		**Pn**	**10 31 43.9**	**+1.3**
GOLH	**Golhisar**	**3.46**	**47**	*i* P		**Pn**	**10 31 44.4**	**+0.9**
GOLH	**Golhisar**	**3.46**	**47**	*i* P		**Pn**	**10 31 44.4**	**+0.9**
GOLH				*i* S		**Sb**	**10 32 32.9**	**-0.2**
CHOS	**Chios island**	**3.47**	**356**	P		**Pn**	**10 31 43.5**	**-0.1**
CHOS	**Chios island**	**3.47**	**356**	*e*PN		**Pn**	**10 31 44.2**	**+0.6**
CHOS	**Chios island**	**3.47**	**356**	*e*PN		**Pn**	**10 31 44.2**	**+0.6**
CHOS	**Chios island**	**3.47**	**356**	P		**Pn**	**10 31 43.5**	**-0.1**
CHOS	**Chios island**	**3.47**	**356**	*e*Pn		**Pn**	**10 31 44.2**	**+0.6**
DENT	**Denizli**	**3.55**	**36**	*e*PN		**Pn**	**10 31 44.9**	**+0.3**
DENT	**Denizli**	**3.55**	**36**	*e*Pn		**Pn**	**10 31 44.9**	**+0.3**
PTL	**Penteli**	**3.73**	**328**	*e*PN		**Pn**	**10 31 48.7**	**+1.7**
PTL	**Penteli**	**3.73**	**328**	*e*Pn		**Pn**	**10 31 48.7**	**+1.7**
HMAT	**Matruh**	**3.86**	**171**	AMP			10 32 00.0	
	comp=E,100μm,0.6s,logA/T=5.2,baz=174							
KULA	**Kula-Manisa**	**4.03**	**26**	*e*PN		**Pn**	**10 31 52.4**	**+1.2**
KULA	**Kula-Manisa**	**4.03**	**26**	*e*Pn		**Pn**	**10 31 52.4**	**+1.2**
AKS	**Akhisar**	**4.12**	**16**	*e*PN		**Pn**	**10 31 53.4**	**+1.0**
AKS	**Akhisar**	**4.12**	**16**	*e*Pn		**Pn**	**10 31 53.4**	**+1.0**
KHL	**Karahalli**	**4.24**	**36**	*e*PN		**Pn**	**10 31 55.3**	**+1.3**
BCK	**Bucak**	**4.25**	**52**	*e*PN		**Pn**	**10 31 55.3**	**+1.1**
BCK	**Bucak**	**4.25**	**52**	*e*Pn		**Pn**	**10 31 55.3**	**+1.1**
ITM	**Ithomi**	**4.26**	**303**	*e*PN		**Pn**	**10 31 57.0**	**+2.7**
ITM	**Ithomi**	**4.26**	**303**	*e*Pn		**Pn**	**10 31 57.0**	**+2.7**
SIGR	**SIGRI**	**4.31**	**355**	*e*PN		**Pn**	**10 31 56.1**	**+1.1**
SIGR	**SIGRI**	**4.31**	**355**	*e*PN		**Pn**	**10 31 55.0**	**+0.1**
SIGR	**SIGRI**	**4.31**	**355**	*e*Pn		**Pn**	**10 31 55.0**	**+0.1**
MRKA	**Markates**	**4.40**	**330**	*e*PN		**Pn**	**10 31 58.1**	**+1.9**
MRKA	**Markates**	**4.40**	**330**	*e*Pn		**Pn**	**10 31 58.1**	**+1.9**
LKR	**Lokris**	**4.61**	**325**	*e*PN		**Pn**	**10 32 00.8**	**+1.7**
LKR	**Lokris**	**4.61**	**325**	*e*Pn		**Pn**	**10 32 00.8**	**+1.7**
KLV	**Kalavryta, Ach**	**4.62**	**314**	*e*PN		**Pn**	**10 32 00.9**	**+1.6**
KLV	**Kalavryta, Ach**	**4.62**	**314**	*e*Pn		**Pn**	**10 32 00.9**	**+1.6**
DRO	**Drossia**	**4.83**	**310**	*e*PN		**Pn**	**10 32 05.0**	**+2.8**
DRO	**Drossia**	**4.83**	**310**	*e*Pn		**Pn**	**10 32 05.0**	**+2.8**
EZN	**Ezine**	**4.90**	**360**	*e*PN		**Pn**	**10 32 04.0**	**+0.9**
EZN	**Ezine**	**4.90**	**360**	*e*Pn		**Pn**	**10 32 04.0**	**+0.9**
GADA	**Gvkgeada**	**5.28**	**356**	*e*PN		**Pn**	**10 32 10.0**	**+1.7**
GADA	**Gvkgeada**	**5.28**	**356**	*e*Pn		**Pn**	**10 32 10.0**	**+1.7**
GELI	**Tayfur-Gelibol**	**5.47**	**1**	*e*PN		**Pn**	**10 32 12.6**	**+1.6**
GELI	**Tayfur-Gelibol**	**5.47**	**1**	*e*Pn		**Pn**	**10 32 12.6**	**+1.6**
KRBG	**Karabiga-Canak**	**5.52**	**7**	*e*PN		**Pn**	**10 32 13.2**	**+1.7**
KRBG	**Karabiga-Canak**	**5.52**	**7**	*e*Pn		**Pn**	**10 32 13.2**	**+1.7**
KONT	**Konya--Tatoy**	**5.69**	**56**	*e*PN		**Pn**	**10 32 17.0**	**+3.0**
KONT	**Konya--Tatoy**	**5.69**	**56**	*e*Pn		**Pn**	**10 32 17.0**	**+3.0**
SWA2		**5.71**	**188**	P		Pn	10 32 16.0	+1.8
	baz=191							
SWA2				S		**Sn**	**10 33 18.0**	**-1.4**
	baz=191							
SWA2		**5.71**	**188**	P		**Pn**	**10 32 16.0**	**+1.8**
SWA2				S		**Sn**	**10 33 18.0**	**-1.4**
LADK	**Ladik-KONYA**	**5.83**	**54**	*e*PN		**Pn**	**10 32 18.3**	**+2.4**
LADK	**Ladik-KONYA**	**5.83**	**54**	*e*Pn		**Pn**	**10 32 18.3**	**+2.4**
ALN	**Alexandroupoli**	**5.98**	**358**	*e*PN		**Pn**	**10 32 19.9**	**+2.0**
ALN	**Alexandroupoli**	**5.98**	**358**	*e*Pn		**Pn**	**10 32 19.9**	**+2.0**
HHAG	**Hagoal**	**6.92**	**134**	S		Sn	10 33 42.9	-6.3
	baz=135							
GLL	**Jalalah**	**6.98**	**138**	P		**Pn**	**10 32 32.2**	**+0.5**
	baz=139							
LOD	**Lodumlu**	**7.10**	**44**	*e*PN		**Pn**	**10 32 35.7**	**+2.3**
LOD	**Lodumlu**	**7.10**	**44**	*e*Pn		**Pn**	**10 32 35.7**	**+2.3**
AMAG	**Maghara**	**7.16**	**125**	P		**Pn**	**10 32 33.6**	**-0.6**
	baz=125							
AMAG	**Maghara**	**7.16**	**125**	P		**Pn**	**10 32 33.6**	**-0.6**
RSH		**7.32**	**121**	P		**Pn**	**10 32 36.2**	**-0.2**
	baz=121							
RSH		**7.32**	**121**	P		**Pn**	**10 32 36.2**	**-0.2**
SUZ		**7.44**	**131**	P		**Pn**	**10 32 37.5**	**-0.5**
	baz=131							
BRTR	**Keskin Array B**	**7.51**	**48**	Pn		**Pn**	**10 32 39.7**	**+0.5**
	comp=E,0.4nm,0.3s,baz=215,slow=13,SNR=7.1							
MMAI	**Mount Meron Ar**	**7.73**	**102**	Pn		**Pn**	**10 32 40.8**	**-1.3**
	comp=E,12nm,0.3s,baz=288,slow=11,SNR=11							
MMAI				Sn		**Sn**	**10 34 11.3**	**+2.0**
	comp=E,3.8nm,0.3s,baz=300,slow=23,SNR=3.7							
ARNB	**Al Arnab**	**7.89**	**80**	*i* P		**Pn**	**10 32 45.0**	**+0.8**
BRBR	**Barbar**	**8.07**	**98**	*i* P		**Pn**	**10 32 46.5**	**-0.4**
HNKL	**Nakhl**	**8.12**	**126**	P		**Pn**	**10 32 47.5**	**+0.1**
	baz=126							
HNKL				S		Sn	10 34 11.8	-7.1
	baz=126							
BIDA	**Albida**	**8.16**	**86**	*i* P		**Pn**	**10 32 46.3**	**-1.7**
HAWK	**Haweek**	**8.27**	**90**	*i* P		**Pn**	**10 32 48.6**	**-0.8**
TCHB	**Talchebab**	**8.29**	**103**	*i* P		**Pn**	**10 32 49.8**	**+0.1**
BTCH	**Batrach**	**8.30**	**79**	*i* P		**Pn**	**10 32 50.5**	**+0.6**
MARH	**Ras Al Marh**	**8.39**	**93**	*i* P		**Pn**	**10 32 50.7**	**-0.6**
TOTH	**TOTAH**	**8.47**	**98**	*i* P		**Pn**	**10 32 51.2**	**-1.1**
EIL	**Elat**	**8.94**	**123**	Pn		**Pn**	**10 32 58.9**	**+0.3**
	comp=E,1.2nm,0.3s,baz=298,slow=1.5,SNR=9.9							
EIL				Sn		Sn	10 34 33.9	-5.1
	comp=E,1.8nm,0.3s,baz=329,slow=18,SNR=4.3							
ASF	**Jabal al Asfar**	**9.20**	**104**	Pn		**Pn**	**10 33 00.5**	**-1.7**
	comp=E,0.8nm,0.3s,baz=247,slow=7.7,SNR=4.2							
VYHS	**Vyhne**	**14.68**	**340**	*e*PG			11 02 13.6	
VYHS				*e*SG			11 02 14.9	
KBZ	**Khabaz**	**15.50**	**50**	Pn		**P**	**10 34 32.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=53,slow=20,SNR=6.2							
PGF	**Pioggiola**	**15.54**	**305**	*e*P		Pn	10 34 20.6	-8.0
	comp=E,18nm,1.3s							
AKASG	**Malin Array Be**	**15.91**	**7**	Pn		**Pn**	**10 34 34.4**	**+1.2**
	comp=E,0.8nm,0.3s,baz=197,slow=11,SNR=2.8							
GERES	**GERESS Array B**	**16.78**	**330**	Pn		**Pn**	**10 34 44.1**	**-0.3**
	comp=E,0.3nm,0.3s,baz=134,slow=11,SNR=3.1							
SBF	**Sospel**	**17.12**	**307**	*e*P		Pn	10 34 38.0	-11
	comp=E,13nm,0.7s							
MBDF	**Montbardon**	**17.93**	**309**	*e*P		Pn	10 34 49.7	-9.2
	comp=E,6.9nm,0.7s							
CABF	**La Chapelle**	**19.25**	**314**	*e*P		P	10 35 07.1	-6.6
	comp=E,7.5nm,0.7s							
CDF	**Champ du Feu**	**19.56**	**319**	*e*P		P	10 35 11.2	-6.0
	comp=E,4.3nm,0.6s							
CDF	**Champ du Feu**	**19.56**	**319**	*e*P		P	10 35 11.2	-6.0
	comp=E,2.2nm,0.6s							
SMF	**Signal de Mont**	**20.62**	**311**	*e*P		P	10 35 23.1	-5.6
	comp=E,9.8nm,0.9s							
SMF	**Signal de Mont**	**20.62**	**311**	*e*P		P	10 35 23.1	-5.6
	comp=E,4.9nm,0.9s							
MEZF	**Maizieres J'vi**	**20.83**	**317**	*e*P		P	10 35 23.4	-7.5
MEZF	**Maizieres J'vi**	**20.83**	**317**	*e*P		P	10 35 23.4	-7.5
LOR	**Lormes**	**20.90**	**313**	*e*P		P	10 35 25.6	-6.1
	comp=E,8.0nm,0.8s							
LOR	**Lormes**	**20.90**	**313**	*e*P		P	10 35 25.6	-6.1
	comp=E,4.0nm,0.8s							
AVF	**Avril sur Loir**	**20.99**	**311**	*

*LDG **26** 10:37:36.0±0.2,34°.84N×75°.00E,h10km,Mb4.3/17,Error ellipse: s-maj=7.8km s-min=5.5km az=175.0*
*IDC **26** 10:37:37.1±0.6,35°.12N×75°.20E,h0km,mb4.2/20, mb1 4.3/24,mb1mx4.2/32,mbtmp4.2/24,ML4.1/4,MS2.7/1, Ms1 2.7/1,ms1mx2.3/38,Error ellipse: s-maj=18.0km s-min=12.8km az=31.0*
*ISCJB **26** 10:37:40.9±0.2,35°.23N±0°.02×75°.21E±0°.05,h33km, mb4.3/39,Error ellipse: s-maj=5.7km s-min=2.8km az=161.0*
*NEIC **26** 10:37:43.9±0.8,35°.16N×75°.18E,h48km±6km,mb4.6/20, Error ellipse: s-maj=7.4km s-min=5.6km az=173.0*
*MOS **26** 10:37:43.3±0.7,35°.20N×75°.10E,h56km,mb4.6/29,Error ellipse: s-maj=11.7km s-min=6.2km az=112.1*
*BJI **26** 10:37:47.6,35°.15N×75°.57E,h74km,mB4.3/4,mb4.3/7*
*NNC **26** 10:37:51.4±4.3,35°.56N×74°.36E,h68km±46km,mb4.2, mpv4.2,Error ellipse: s-maj=31.4km s-min=25.8km az=29.0*

ISC 26 10:37:42.9±0.4,35°29N±0°.04×75°30E±0°.05,h35km,n157, σ1§60/163,mb4.3/39,16C-2D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHCP	**Chirak Chowk**	**2.34**	**227**	P		**Pn**	**10 38 20.6**	**+1.8**
JMU	**Jammu**	**2.58**	**187**	*e*P		**Pn**	**10 38 25.0**	**+2.8**
JMU				*e*S		**Sn**	**10 38 56.5**	**+4.2**
DLH	**Dalhousie**	**2.79**	**168**	*e*P		**Pn**	**10 38 27.0**	**+1.7**
DLH				*e*S		**Sn**	**10 39 00.0**	**+2.2**
DHRM	**DHARAMSHALA**	**3.14**	**164**	*e*P		Pn	10 38 33.6	+3.5
DHRM				*e*S		**Sn**	**10 39 11.1**	**+4.6**
DHRM	comp=N,2μm,0.1s			AML		AML	10 39 22.2	
DHRM	comp=E,2μm,0.1s			AML		AML	10 39 23.2	
CEP	**Cherat**	**3.15**	**243**	⇑P		**Pn**	**10 38 30.6**	**+0.4**
CEP				S		**Sn**	**10 39 11.0**	**+4.3**
PONG	**Pong**	**3.37**	**171**	*ex*		Pn	10 38 40.5	+7.6
PONG				*ex*		x	10 39 30.0	
THW	**Thamme Wali**	**3.86**	**231**	⇑P		**Pn**	**10 38 39.9**	**+0.1**
BHK	**Bhakra**	**3.97**	**166**	*ex*		x	10 38 51.0	
BHK				*ex*		**Sn**	**10 39 32.0**	**+5.4**
SDNR	**Sundarnagar**	**4.03**	**159**	*e*P		**Pn**	**10 38 44.0**	**+1.9**
SDNR				*e*S		**Sn**	**10 39 30.0**	**+2.0**
KSH	**Kashi**	**4.26**	**7**	P		**Pn**	**10 38 47.3**	**+2.0**
KSH	comp=E,130nm,0.4s			SMN				
KSH	comp=E,120nm,0.8s			SME				
SMLA	**Simla**	**4.43**	**159**	*i* P		**Pn**	**10 38 49.0**	**+1.4**
SMLA				*i* S		**Sn**	**10 39 40.2**	**+2.3**
SMLA				*i* S		**Sn**	**10 39 40.3**	**+2.3**
SMLA	comp=N,1μm,0.2s			AML		AML	10 39 42.4	
SMLA	comp=E,1μm,0.3s			AML		AML	10 39 43.7	
KBL	**Kabul**	**5.19**	**264**	*e*P		**Pn**	**10 38 57.9**	**-0.4**
KBL	comp=Z,36nm,0.7s			pmax		pmax		
KBL	**Kabul**	**5.19**	**264**	*e*Pn		**Pn**	**10 38 57.9**	**-0.4**
	comp=Z,36nm,0.7s							
DDI	**Dehra Dun**	**5.47**	**154**	*e*P		**Pn**	**10 39 03.5**	**+1.7**
DDI				*e*S		**Sn**	**10 40 03.2**	**-0.4**
DDI	comp=N,745nm,1.2s			AML		AML	10 40 08.7	
DDI	comp=E,546nm,0.6s			AML		AML	10 40 09.6	
NDI	**New Delhi**	**6.78**	**166**	*e*P		**Pn**	**10 39 22.5**	**+2.6**
NDI				*e*S		**Sn**	**10 40 34.0**	**-1.9**
LGTI	**Lohaghat**	**7.17**	**143**	*e*P		**Pn**	**10 39 27.1**	**+2.0**
LGTI				*ex*		**Sn**	**10 40 43.2**	**-2.1**
SONA	**Sohna**	**7.18**	**167**	*e*P		**Pn**	**10 39 25.5**	**+0.2**
SONA				*e*S		**Sn**	**10 40 42.6**	**-3.0**
SONA				*e*S		**Sn**	**10 40 45.1**	**-0.4**
AAK	**Ala-Archa**	**7.36**	**355**	⇑P		Pn	10 39 32.6	+4.6
AAK	comp=E,13nm,0.8s			⇑S		**Sn**	**10 40 53.0**	**+2.6**
AAK	**Ala-Archa**	**7.36**	**355**	Pn		**Pn**	**10 39 30.7**	**+2.7**
AAK	comp=E,1.3nm,0.3s,baz=146,slow=6.1,SNR=8.6			Sn		**Sn**	**10 40 55.0**	**+4.6**
AAK	comp=E,0.7nm,0.3s,baz=342,slow=20,SNR=2.8			LR		LR	10 42 41.5	
AAK	comp=E,52nm,20.3s,baz=156,slow=40 **Ala-Archa**	**7.36**	**355**	*ce*P		Pn	10 39 33.1	+5.1
AAK	comp=Z,21nm,1.0s			pmax		pmax		
AAK	**Ala-Archa**	**7.36**	**355**	*e*Pn		**Pn**	**10 39 30.0**	**+2.0**
AAK	comp=Z,11nm,0.8s			Sn		**Sn**	**10 40 55.0**	**+4.6**
EKS2	**Erkin-Say**	**7.46**	**351**	P		Pn	10 39 33.1	+3.8
EKS2	comp=Z,5.0nm,0.6s			pmax		pmax		
EKS2	**Erkin-Say**	**7.46**	**351**	Pn		Pn	10 39 33.1	+3.8
	comp=Z,5.0nm,0.6s							
TKM2	**Tokmak 2**	**7.63**	**2**	⇑P		Pn	10 39 35.8	+4.1
TKM2	comp=Z,12nm,1.1s			⇑S		**Sn**	**10 40 59.2**	**+2.3**
TKM2	comp=Z,10nm,0.6s **Tokmak 2**	**7.63**	**2**	*e*P		Pn	10 39 35.4	+3.7
TKM2	comp=Z,11nm,0.8s			pmax		pmax		
TKM2	**Tokmak 2**	**7.63**	**2**	*e*Pn		Pn	10 39 35.4	+3.7
	comp=Z,11nm,0.8s							
AGRA	**Agra**	**8.34**	**164**	*e*S		**Sn**	**10 41 11.9**	**-2.3**
AGRA	comp=N,89nm,0.3s			AML		AML	10 42 16.4	
AGRA	comp=E,161nm,0.4s			AML		AML	10 42 17.1	
KK31	**Karatay Array**	**8.64**	**336**	⇑P		**Pn**	**10 39 46.2**	**+0.8**
KK31	comp=E,6.3nm,0.4s,baz=150,slow=12,SNR=160			S		**Sn**	**10 41 19.6**	**-2.1**
KKAR	comp=E,16nm,0.6s,baz=159,slow=24,SNR=12 **Karatay Array**	**8.64**	**336**	*e*P		**Pn**	**10 39 46.4**	**+1.0**
KKAR	comp=Z,13nm,0.4s			pmax		pmax		
KKAR	**Karatay Array**	**8.64**	**336**	*e*Pn		**Pn**	**10 39 46.4**	**+1.0**
	comp=Z,13nm,0.4s							
AJM	**Ajmer**	**8.80**	**184**	*ex*		**Pn**	**10 39 49.0**	**+1.4**
AJM				*ex*		**Sn**	**10 41 21.0**	**-4.5**
PYUN	**Piuthan**	**9.70**	**135**	*e*P		**Pn**	**10 39 58.8**	**-1.4**
KOLN	comp=Z,106nm,0.4s **Koldanda**	**10.31**	**134**	*e*P		**Pn**	**10 40 07.4**	**-1.0**
GKN	comp=Z,29nm,0.3s **Gorkha**	**10.77**	**130**	*e*P		**Pn**	**10 40 13.2**	**-1.5**
KKN	comp=Z,60nm,0.3s **Kakani**	**11.32**	**129**	*e*P		**Pn**	**10 40 20.5**	**-1.9**
DMN	comp=Z,128nm,0.6s **Daman**	**11.34**	**130**	*e*P		**Pn**	**10 40 20.8**	**-1.8**
PKIN	comp=Z,48nm,0.3s **Phulchoki**	**11.54**	**129**	*e*P		**Pn**	**10 40 23.3**	**-2.1**
PKI	comp=Z,41nm,0.3s **Pulchoki**	**11.56**	**129**	*e*P		**Pn**	**10 40 23.5**	**-2.2**
GUN	comp=Z,109nm,0.6s **Gumba**	**11.63**	**126**	*e*P		**Pn**	**10 40 24.2**	**-2.5**
JIRN	comp=Z,77nm,0.4s **Jiri**	**12.00**	**126**	*e*P		**Pn**	**10 40 29.2**	**-2.6**
MK31	comp=Z,150nm,0.4s **Makanchi Array**	**12.64**	**22**	P		**P**	**10 40 51.4**	**+0.3**
MKAR	comp=Z,1.4nm,0.4s,baz=216,slow=14,SNR=10 **Makanchi Array**	**12.64**	**22**	Pn		**Pn**	**10 40 42.8**	**+2.6**
MKAR	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=3.4 **Makanchi Array**	**12.64**	**22**	*i* P		**P**	**10 40 52.0**	**+1.0**
MKAR	comp=Z,1.0nm,0.5s			pmax		pmax		
RAMN	**Ramite**	**12.75**	**128**	*e*P		Pn	10 40 38.0	-3.9
TAPN	comp=Z,21nm,0.2s **Taplejung**	**13.22**	**123**	*e*P		Pn	10 40 44.7	-3.7
ODAN	**Odare**	**13.33**	**126**	*e*P		Pn	10 40 46.1	-3.7
KURBB	comp=Z,27nm,0.4s **Kurchatov Arra**	**15.51**	**8**	⇑P		**P**	**10 41 23.1**	**+0.3**
KURBB	comp=Z,18nm,0.7s **Kurchatov Arra**	**15.51**	**8**	Pn		**P**	**10 41 22.8**	**+0.1**
KURBB	comp=Z,0.0nm,0.3s,baz=197,slow=11,SNR=8.5			Sn		**S**	**10 44 22.0**	**-2.1**
KURK	baz=185,slow=20,SNR=10 **Kurchatov**	**15.61**	**8**	⇓P		**P**	**10 41 24.2**	**+0.3**
KURK	comp=Z,11nm,0.6s **Kurchatov**	**15.61**	**8**	*e*P		**P**	**10 41 23.5**	**-0.4**
KURK							10 44 22.0	
KURK	**Kurchatov**	**15.61**	**8**	*e*Pn		**P**	**10 41 23.5**	**-0.4**
KURK				Sn		**S**	**10 44 22.0**	**-4.2**
AB31	**Akbulak array**	**17.95**	**326**	P		**Pn**	**10 41 47.2**	**-2.3**
AB31	comp=Z,4.0nm,0.6s,baz=136,slow=13,SNR=86			S		Sn	10 44 58.3	-10
ABKAR	comp=Z,3.2nm,0.7s,baz=135,slow=24,SNR=5.5 **Akbulak array**	**17.95**	**326**	*e*Pn		**Pn**	**10 41 47.6**	**-1.9**
HYB	comp=Z,5.9nm,0.6s **Hyderabad**	**18.03**	**170**	*i* P		**P**	**10 41 53.0**	**+2.0**
HYB				*e*S		Sn	10 44 55.0	-16
BVAR	**Borovoye Array**	**18.07**	**350**	P		**P**	**10 41 52.5**	**+1.3**
BVAR	comp=Z,2.0nm,0.3s,baz=161,slow=11,SNR=56 **Borovoye Array**	**18.07**	**350**	P		**P**	**10 41 52.5**	**+1.3**
BVAR	comp=Z,2.0nm,0.3s			pmax		pmax		
BRVK	**Borovoye**	**18.12**	**350**	⇑P		**P**	**10 41 52.7**	**+1.1**
BRVK	comp=Z,17nm,0.6s **Borovoye**	**18.12**	**350**	*ce*P		**P**	**10 41 53.0**	**+1.3**
BRVK	comp=Z,13nm,0.7s			pmax		pmax		
BRVK	**Borovoye**	**18.12**	**350**	*e*P		**P**	**10 41 52.6**	**+0.9**
AKTO	comp=Z,15nm,0.7s **Aktyubinsk**	**19.67**	**326**	⇑P		**P**	**10 42 09.0**	**+0.3**
AKTO	comp=Z,20nm,0.7s **Aktyubinsk**	**19.67**	**326**	P		**P**	**10 42 09.0**	**+0.3**
AKTO	comp=Z,2.9nm,0.3s,baz=122,slow=10,SNR=46 **Aktyubinsk**	**19.67**	**326**	P		**P**	**10 42 09.0**	**+0.3**
AKTO	comp=Z,3.0nm,0.3s			pmax		pmax		
ZALV	**Zalesovo Beam**	**19.82**	**17**	P		**P**	**10 42 10.2**	**0.0**
ZALV	comp=Z,3.5nm,0.3s,baz=211,slow=10,SNR=17 **Zalesovo Beam**	**19.82**	**17**	*i* P		**P**	**10 42 10.1**	**-0.1**
ZALV	comp=Z,5.0nm,0.5s			pmax		pmax		
GTA	**Gaotai**	**19.90**	**71**	*e*P		Pn	10 42 19.0	+5.7
GTA	comp=Z,7.0nm,1.4s			PMZ				
ARU	**Arti**	**24.02**	**337**	*c i*P		**P**	**10 42 54.9**	**+0.7**
ARU							10 43 23.6	
ARU				S		**S**	**10 47 05.0**	**-3.8**
ARU	comp=Z,10.0nm,1.0s			pmax		pmax		
ARU	**Arti**	**24.02**	**337**	*e*P		**P**	**10 42 54.8**	**+0.5**
ZAK	comp=Z,6.1nm,0.8s **Zakamensk**	**25.27**	**45**	*e*P		**P**	**10 43 06.7**	**+0.9**
ZAK	comp=Z,2.0nm,1.0s			pmax		pmax		
SONM	**Songino Array**	**26.24**	**52**	P		**P**	**10 43 16.5**	**+1.8**
SONM	comp=Z,2.1nm,0.6s,baz=250,slow=10,SNR=6.9 **Songino Array**	**26.24**	**52**	P		**P**	**10 43 16.5**	**+1.8**
SONM	comp=Z,2.0nm,0.6s			pmax		pmax		
CMAR	**Chiang Mai Arr**	**26.83**	**123**	P		**P**	**10 43 19.4**	**-0.7**
CMAR	comp=Z,5.5nm,0.8s,baz=304,slow=9.5,SNR=11 **Chiang Mai Arr**	**26.83**	**123**	*ce*P		**P**	**10 43 22.7**	**+2.6**
CMAR	comp=Z,6.0nm,0.8s			pmax		pmax		
RAYN	**Ar Rayn**	**28.37**	**254**	*e*P		**P**	**10 43 32.3**	**-1.6**
BRTR	comp=Z,1.7nm,0.6s **Keskin Array B**	**33.13**	**290**	P		**P**	**10 44 15.7**	**-0.2**
BRTR	comp=Z,1.6nm,0.6s,baz=105,slow=9.3,SNR=11 **Keskin Array B**	**33.13**	**290**	*ce*P		P	10 44 21.2	+5.4
BRTR	comp=Z,1.0nm,0.6s			pmax		pmax		
AKASG	**Malin Array Be**	**36.42**	**310**	P		**P**	**10 44 43.9**	**0.0**
FINES	comp=Z,0.4nm,0.4s,baz=105,slow=9.2,SNR=4.8 **FINESS Array B**	**40.44**	**326**	P		**P**	**10 45 18.2**	**+0.7**
FINES	comp=Z,1.3nm,0.3s,baz=124,slow=11,SNR=18 **FINESS Array B**	**40.44**	**326**	P		**P**	**10 45 18.2**	**+0.7**
FINES	comp=Z,1.0nm,0.3s			pmax		pmax		
ARCES	**ARCESS Array B**	**43.61**	**337**	P		**P**	**10 45 44.2**	**+0.9**
ARCES	comp=Z,3.3nm,0.6s,baz=108,slow=8.0,SNR=18 **ARCESS Array B**	**43.61**	**337**	P		**P**	**10 45 44.2**	**+0.9**
ARCES	comp=Z,3.0nm,0.6s			pmax		pmax		
MORC	**Moravsky Berou**	**43.88**	**308**	*e*P		**P**	**10 45 46.2**	**+0.4**
MORC	comp=Z,4.0nm,0.8s			pmax		pmax		
MORC	**Moravsky Berou**	**43.88**	**308**	*e*P		**P**	**10 45 46.2**	**+0.4**
TIXI	comp=Z,3.6nm,0.8s **Tiksi**	**45.63**	**21**	⇓ *i*P		**P**	**10 46 00.0**	**+0.7**
TIXI	comp=Z,7.0nm,2.5s			pmax		pmax		
HFS	**Hagfors**	**46.17**	**322**	P		**P**	**10 46 04.1**	**+0.4**
HFS	comp=Z,2.7nm,0.5s,baz=99,slow=9.5,SNR=17 **Hagfors**	**46.17**	**322**	P		**P**	**10 46 04.1**	**+0.4**
HFS	comp=Z,3.0nm,0.5s			pmax		pmax		
NB2	**NORSAR Subarra**	**47.44**	**324**	P		**P**	**10 46 13.5**	**-0.2**
NOA	comp=Z,1.3nm,0.4s,baz=93,slow=7.9 **NORSAR Array B**	**47.44**	**324**	P		**P**	**10 46 13.9**	**+0.1**
NOA	comp=Z,1.0nm,0.5s,baz=101,slow=7.2,SNR=12 **NORSAR Array B**	**47.44**	**324**	P		**P**	**10 46 13.9**	**+0.1**
NOA	comp=Z,1.0nm,0.5s			pmax		pmax		
DAVOX	**Davos/Dischmat**	**49.34**	**305**	P		**P**	**10 46 28.1**	**-0.7**
DAVOX	comp=Z,1.8nm,0.5s,baz=37,slow=10,SNR=3.7 **Davos/Dischmat**	**49.34**	**305**	P		**P**	**10 46 28.1**	**-0.7**
DAVOX	comp=Z,2.0nm,0.5s			pmax		pmax		
MJAR	**Matsushiro Arr**	**50.14**	**69**	P		**P**	**10 46 35.2**	**+0.4**
MJAR	comp=Z,1.7nm,0.8s,baz=293,slow=9.9,SNR=6.4 **Matsushiro Arr**	**50.14**	**69**	P		**P**	**10 46 35.2**	**+0.4**
MJAR	comp=Z,2.0nm,0.8s			pmax		pmax		
KMBO	**Kilima Mbogo**	**50.73**	**233**	*ce*P		P	10 46 44.0	+4.2
KMBO	comp=Z,2.0nm,0.6s			pmax		pmax		
HINF	**Hinteralfeld**	**51.14**	**306**	*e*P		**P**	**10 46 41.8**	**-0.4**
HINF	comp=Z,4.6nm,0.7s **Hinteralfeld**	**51.14**	**306**	*e*P		**P**	**10 46 41.8**	**-0.4**
HINF	comp=Z,5.0nm,0.7s			pmax		pmax		
HINF	**Hinteralfeld**	**51.14**	**306**	*e*P		**P**	**10 46 41.8**	**-0.4**
SBF	comp=Z,4.6nm,0.7s **Sospel**	**51.68**	**301**	*e*P		**P**	**10 46 46.1**	**-0.2**
SBF	comp=Z,9.4nm,0.6s **Sospel**	**51.68**	**301**	*e*P		**P**	**10 46 46.1**	**-0.2**
SBF	comp=Z,9.0nm,0.6s			pmax		pmax		
SBF	**Sospel**	**51.68**	**301**	*e*P		**P**	**10 46 46.1**	**-0.2**
LPG	comp=Z,9.4nm,0.6s **La Plagne**	**51.74**	**304**	*e*P		**P**	**10 46 47.0**	**0.0**
LPG	comp=Z,8.5nm,0.8s **La Plagne**	**51.74**	**304**	*e*P		**P**	**10 46 47.0**	**0.0**
LPG	comp=Z,9.0nm,0.8s			pmax		pmax		
LPG	**La Plagne**	**51.74**	**304**	*e*P		**P**	**10 46 47.0**	**0.0**
LPL	comp=Z,8.5nm,0.8s **La Plagne**	**51.75**	**304**	*e*P		**P**	**10 46 47.0**	**0.0**
LPL	comp=Z,7.7nm,0.9s **La Plagne**	**51.75**	**304**	*e*P		**P**	**10 46 47.0**	**0.0**
LPL	comp=Z,8.0nm,0.9s			pmax		pmax		
LPL	**La Plagne**	**51.75**	**304**	*e*P		**P**	**10 46 47.0**	**0.0**
KEST	comp=Z,7.7nm,0.9s **Kesra**	**52.73**	**291**	P		**P**	**10 46 54.2**	**0.0**
SMF	comp=Z,0.8nm,0.4s,baz=230,slow=1.7,SNR=4.3 **Signal de Mont**	**53.41**	**306**	*e*P		**P**	**10 46 58.6**	**-0.5**
SMF	comp=Z,9.0nm,0.9s **Signal de Mont**	**53.41**	**306**	*e*P		**P**	**10 46 58.6**	**-0.5**
SMF	comp=Z,9.0nm,0.9s			pmax		pmax		
SMF	**Signal de Mont**	**53.41**	**306**	*e*P		**P**	**10 46 58.6**	**-0.5**
SSF	comp=Z,9.0nm,0.9s **Saint Saulge**	**53.53**	**306**	*e*P		**P**	**10 46 59.4**	**-0.5**
SSF	**Saint Saulge**	**53.53**	**306**	*e*P		**P**	**10 46 59.4**	**-0.5**
SSF	**Saint Saulge**	**53.53**	**306**	*e*P		**P**	**10 46 59.4**	**-0.5**
AVF	**Avril sur Loir**	**53.70**	**306**	*e*P		**P**	**10 47 00.7**	**-0.4**
AVF	comp=Z,6.1nm,0.7s **Avril sur Loir**	**53.70**	**306**	*e*P		**P**	**10 47 00.7**	**-0.4**
AVF	comp=Z,6.0nm,0.7s			pmax		pmax		
AVF	**Avril sur Loir**	**53.70**	**306**	*e*P		**P**	**10 47 00.7**	**-0.4**
TCF	comp=Z,6.2nm,0.7s **Toulx Ste Croi**	**54.59**	**306**	*e*P		**P**	**10 47 07.6**	**-0.1**
TCF	comp=Z,2.6nm,0.5s **Toulx Ste Croi**	**54.59**	**306**	*e*P		**P**	**10 47 07.6**	**-0.1**
TCF	comp=Z,3.0nm,0.5s			pmax		pmax		
TCF	**Toulx Ste Croi**	**54.59**	**306**	*e*P		**P**	**10 47 07.6**	**-0.1**
CAF	comp=Z,2.6nm,0.5s **Calviac**	**55.08**	**304**	*e*P		**P**	**10 47 11.3**	**0.0**
CAF	**Calviac**	**55.08**	**304**	*e*P		**P**	**10 47 11.3**	**0.0**
CAF	**Calviac**	**55.08**	**304**	*e*P		**P**	**10 47 11.3**	**0.0**
MTLF	**Montolieu**	**55.46**	**302**	*e*P		**P**	**10 47 13.7**	**-0.3**
MTLF	comp=Z,2.0nm,0.5s **Montolieu**	**55.46**	**302**	*e*P		**P**	**10 47 13.7**	**-0.3**
MTLF	comp=Z,2.0nm,0.4s			pmax		pmax		
MTLF	**Montolieu**	**55.46**	**302**	*e*P		**P**	**10 47 13.7**	**-0.3**
LDF	comp=Z,2.0nm,0.4s **La Druitiere**	**55.48**	**309**	*e*P		**P**	**10 47 13.4**	**-0.6**
LDF	comp=Z,5.8nm,0.8s **La Druitiere**	**55.48**	**309**	*e*P		**P**	**10 47 13.4**	**-0.6**
LDF	comp=Z,6.0nm,0.8s			pmax		pmax		
LDF	**La Druitiere**	**55.48**	**309**	*e*P		**P**	**10 47 13.4**	**-0.6**
GRR	comp=Z,5.8nm,0.8s **Gorron**	**56.00**	**309**	*e*P		**P**	**10 47 17.2**	**-0.6**
GRR	comp=Z,7.1nm,0.7s **Gorron**	**56.00**	**309**	*e*P		**P**	**10 47 17.2**	**-0.6**
GRR	comp=Z,7.0nm,0.7s			pmax		pmax		
GRR	**Gorron**	**56.00**	**309**	*e*P		**P**	**10 47 17.2**	**-0.6**
EPF	comp=Z,7.1nm,0.7s **Esparros**	**56.86**	**302**	*e*P		**P**	**10 47 23.4**	**-0.7**
EPF	comp=Z,3.3nm,0.7s **Esparros**	**56.86**	**302**	*e*P		**P**	**10 47 23.4**	**-0.7**
EPF	comp=Z,3.0nm,0.7s			pmax		pmax		
EPF	**Esparros**	**56.86**	**302**	*e*P		**P**	**10 47 23.4**	**-0.7**
ETSF	comp=Z,3.3nm,0.7s **Etsaut**	**57.53**	**302**	*e*P		**P**	**10 47 28.7**	**-0.1**
ETSF	comp=Z,2.6nm,0.5s **Etsaut**	**57.53**	**302**	*e*P		**P**	**10 47 28.7**	**-0.1**
ETSF	comp=Z,3.0nm,0.5s			pmax		pmax		
ETSF	**Etsaut**	**57.53**	**302**	*e*P		**P**	**10 47 28.7**	**-0.1**
ROSF	comp=Z,2.6nm,0.5s **Rostrenen**	**57.55**	**309**	*e*P		**P**	**10 47 28.4**	**-0.4**
ROSF	comp=Z,1.6nm,0.4s **Rostrenen**	**57.55**	**309**	*e*P		**P**	**10 47 28.4**	**-0.4**
ROSF	comp=Z,2.0nm,0.4s			pmax		pmax		
ROSF	**Rostrenen**	**57.55**	**309**	*e*P		**P**	**10 47 28.4**	**-0.4**
QUIF	comp=Z,1.6nm,0.4s **Quistinic**	**57.62**	**309**	*e*P		**P**	**10 47 28.6**	**-0.6**
QUIF	comp=Z,4.3nm,0.6s **Quistinic**	**57.62**	**309**	*e*P		**P**	**10 47 28.6**	**-0.6**
QUIF	comp=Z,4.0nm,0.6s			pmax		pmax		
QUIF	**Quistinic**	**57.62**	**309**	*e*P		**P**	**10 47 28.6**	**-0.6**
BILL	comp=Z,4.3nm,0.6s **Bilibino**	**58.16**	**26**	P		**P**	**10 47 29.8**	**-2.9**
ESDC	comp=Z,3.1nm,0.3s **Sonseca Array**	**61.10**	**300**	P		**P**	**10 47 52.8**	**-0.7**
TORD	comp=Z,0.8nm,0.4s,baz=56,slow=7.3,SNR=11 **Torodi Ar. Bea**	**69.21**	**272**	P		**P**	**10 48 44.6**	**-1.8**
ILAR	comp=Z,1.8nm,0.5s,baz=49,slow=5.9,SNR=23 **Eielson Array**	**74.94**	**17**	P		**P**	**10 49 19.9**	**0.0**
ILAR	comp=Z,1.0nm,0.7s,baz=311,slow=4.5,SNR=14 **Eielson Array**	**74.94**	**17**	P		**P**	**10 49 19.9**	**0.0**
ILAR	comp=Z,1.0nm,0.7s			pmax		pmax		
DBIC	**Dimbokro**	**78.15**	**270**	P		**P**	**10 49 37.9**	**-1.0**
DBIC	comp=Z,1.1nm,0.4s,baz=124,slow=3.6,SNR=3.4 **Dimbokro**	**78.15**	**270**	P		**P**	**10 49 37.9**	**-1.0**
DBIC	comp=Z,1.0nm,0.4s			pmax		pmax		
WRA	**Warramunga Arr**	**78.41**	**125**	P		**P**	**10 49 40.1**	**0.0**
WRA	comp=Z,1.4nm,0.6s,baz=325,slow=5.6,SNR=46 **Warramunga Arr**	**78.41**	**125**	*i* P		**P**	**10 49 40.0**	**0.0**
WRA	comp=Z,2.0nm,0.5s			pmax		pmax		
ASAR	**Alice Springs**	**80.72**	**128**	P		**P**	**10 49 52.5**	**-0.1**
ASAR	comp=Z,2.7nm,0.7s,baz=316,slow=5.3,SNR=11 **Alice Springs**	**80.72**	**128**	P		**P**	**10 49 52.5**	**-0.1**
ASAR	comp=Z,1.0nm,0.7s			pmax		pmax		
YKA	**Yellowknife Ar**	**82.23**	**5**	P		**P**	**10 50 00.3**	**+0.3**
SCHQ	comp=Z,1.3nm,0.4s,baz=346,slow=5.1,SNR=27 **Schefferville**	**84.53**	**339**	P		**P**	**10 50 12.2**	**+0.1**
PLCA	comp=Z,4.1nm,1.1s,baz=236,slow=18,SNR=3.2 **Paso Flores**	**152.66**	**248**	PKPbc		**PKPbc**	**10 57 34.8**	**-0.9**
PLCA	comp=Z,1.7nm,0.7s,baz=332,slow=5.0,SNR=5.0 **Paso Flores**	**152.66**	**248**	PKIKP		**PKPbc**	**10 57 34.8**	**-0.9**
PLCA	comp=Z,2.0nm,0.7s			pmax		pmax		

*SJA **26** 10:42:15.4±0.6,24°.33S×67°.12W,h198km±21km,ML3.0*
*ISCJB **26** 10:42:16.6±0.7,24°.35S±0°.08×67°.23W±0°.08,h169km, mb3.2/3,Error ellipse: s-maj=13.7km s-min=7.6km az=39.5*
*IDC **26** 10:42:16.4±1.8,24°.34S×67°.15W,h175km±17km,mb3.1/3, mb1 3.4/4,mb1mx3.2/15,mbtmp3.6/4,Error ellipse: s-maj=37.7km s-min=19.4km az=75.0*

ISC 26 10:42:16.2±0.9,24°33S±0°.10×67°20W±0°.08,h169km,n14, σ1§40/17,mb3.4/3,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.59**	**105**	*e*P		**Pn**	**10 42 50.2**	**+1.8**
SLA				*e*S		**Sn**	**10 43 15.3**	**+2.2**
SLA	comp=Z,73nm,0.8s			AML		AML	10 43 18.1	
AZAP	**Zapla**	**1.95**	**87**	*e*P		**Pn**	**10 42 53.2**	**+1.0**
AZAP	comp=Z,69nm,0.6s			AML		AML	10 43 24.0	
FSA	**Cafayete**	**2.06**	**149**	*e*P		**Pn**	**10 42 55.1**	**+1.7**
FSA				*e*P		**Pn**	**10 42 55.1**	**+1.7**
LVC	**Limon Verde**	**2.32**	**317**	P		**Pn**	**10 42 58.4**	**+1.8**
LVC	comp=Z,1μm,0.3s,baz=134,slow=5.4,SNR=681			S		**Sn**	**10 43 29.6**	**+1.9**
ASTB	comp=Z,1μm,0.3s,baz=301,slow=22,SNR=25 **Santa Barbara**	**2.51**	**82**	*e*P		**Pn**	**10 42 59.5**	**+1.0**
ALOL	**LOMAS DE OLMED**	**2.99**	**81**	*e*P		**Pn**	**10 43 04.7**	**+0.3**
CFAA	**Coronel Fontan**	**7.31**	**187**	P		**Pn**	**10 44 00.4**	**0.0**
LPAZ	comp=Z,0.1nm,0.3s,baz=19,slow=16,SNR=13 **La Paz**	**8.05**	**354**	P		**Pn**	**10 44 11.1**	**+0.2**
TXAR	comp=Z,1.0nm,0.3s,baz=166,slow=9.3,SNR=25 **Lajitas Array**	**63.84**	**325**	P		**P**	**10 52 30.1**	**-0.7**
TORD	comp=Z,0.1nm,0.7s,baz=156,slow=6.9,SNR=2.6 **Torodi Ar. Bea**	**76.85**	**69**	P		**P**	**10 53 48.7**	**-1.3**
YKA	comp=Z,0.3nm,0.4s,baz=257,slow=5.0,SNR=4.9 **Yellowknife Ar**	**94.37**	**340**	P		**P**	**10 55 15.5**	**-0.6**
ASAR	comp=Z,0.1nm,0.2s,baz=132,slow=5.3,SNR=4.5 **Alice Springs**	**128.08**	**205**	PKP		**PKPdf**	**11 01 01.8**	**-1.2**
WRA	comp=Z,0.3nm,1.0s,baz=149,slow=2.0,SNR=3.0 **Warramunga Arr**	**131.25**	**207**	PKP		**PKPdf**	**11 01 08.3**	**-0.7**
MKAR	comp=Z,0.6nm,1.1s,baz=165,slow=1.5,SNR=5.0 **Makanchi

s-maj=16.8km s-min=11.1km az=51.0

ISC 26 11:05:04.4±4.5, 54.0°N×0.3°×85.6E±0.2, h10km, n8, σ0.99/99/7, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.45**	**261**	*i*		11 10 20.0	
	baz=69,slow=312,SNR=1.7						
ZALV	**Zalesovo Beam**	**0.45**	**261**	Pg	**Pg**	**11 05 12.7**	**-0.5**
	1.5nm,0.3s,baz=64,slow=16,SNR=16						
ZALV				Lg	Lg	11 05 25.8	
	9.3nm,0.3s,baz=73,slow=30,SNR=44						
KURK	**Kurchatov**	**5.39**	**235**	⇓Pn	Pn	11 06 27.7	+2.9
	1.0nm,0.9s						
KURK				⇑Lg	Lg	11 08 07.2	
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**5.50**	**235**	⇑Pn	**Pn**	**11 06 27.4**	**+1.1**
	2.2nm,0.6s						
KURBB				⇓Lg	Lg	11 08 09.0	
	8.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.50**	**235**	Pn	**Pn**	**11 06 27.4**	**+1.1**
	0.2nm,0.3s,baz=52,slow=14,SNR=16						
KURBB				Lg	Lg	11 08 04.7	
	0.1nm,0.3s,baz=52,slow=30,SNR=5.5						
MK31	**Makanchi Array**	**7.53**	**197**	⇑Pn	**Pn**	**11 06 54.2**	**0.0**
	1.4nm,0.6s,baz=29,slow=14,SNR=24						
MK31				⇑Lg	Lg	11 09 04.0	
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**7.53**	**197**	Pn	**Pn**	**11 06 54.4**	**+0.1**
	0.6nm,0.3s,baz=10,slow=11,SNR=25						
MKAR				Lg	Lg	11 09 08.2	
	0.1nm,0.3s,baz=28,slow=28,SNR=3.7						
BVAR	**Borovoye Array**	**9.10**	**270**	Pn	**Pn**	**11 07 16.6**	**+0.9**
	0.3nm,0.3s,baz=70,slow=14,SNR=4.5						
BVAR				Sn	**Sn**	**11 08 57.5**	**-0.6**
	0.3nm,0.3s,baz=72,slow=25,SNR=4.9						

IDC 26 11:05:26.0±45.0, 17.80S×173.01W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/28, mbtmp4.0/3, Error ellipse: s-maj=861.8km s-min=169.7km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.21**	**242**	P	P	11 13 29.1	+0.1
	4.6nm,1.1s,baz=94,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**49.70**	**259**	P	P	11 14 19.4	-0.9
	0.3nm,0.5s,baz=97,slow=6.7,SNR=9.6						
ASAR	**Alice Springs**	**49.77**	**254**	P	P	11 14 21.1	+0.4
	1.8nm,0.4s,baz=90,slow=8.5,SNR=85						

IDC 26 11:18:52.6±1.1, 11.86N×143.51E, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.4/46, mbtmp3.5/5, Error ellipse: s-maj=54.3km s-min=23.3km az=104.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**23.79**	**68**	T	T	11 49 03.1	
	baz=259						
H11N2	**WAKE ISLAND Hy**	**23.80**	**68**	T	T	11 49 00.4	
	baz=259						
H11N3	**WAKE ISLAND Hy**	**23.81**	**68**	T	T	11 49 06.0	
	baz=259						
WRA	**Warramunga Arr**	**32.87**	**196**	P	P	11 25 28.2	-0.3
	1.0nm,0.9s,baz=19,slow=9.8,SNR=9.4						
ASAR	**Alice Springs**	**36.54**	**195**	P	P	11 26 00.2	-0.1
	0.2nm,0.5s,baz=26,slow=12,SNR=6.2						
KURBB	**Kurchatov Arra**	**65.09**	**320**	P	P	11 29 35.2	+0.1
	0.3nm,0.6s,baz=105,slow=6.8,SNR=4.7						
ILAR	**Eielson Array**	**70.69**	**25**	P	P	11 30 09.2	-0.9
	0.3nm,0.5s,baz=252,slow=5.6,SNR=7.3						
NVAR	**Mina Array Bea**	**89.03**	**51**	P	P	11 31 51.8	+1.5
	0.3nm,0.6s,baz=261,slow=6.4,SNR=4.0						

*ISCJB **26** 11:24:37.1±0.6, 59.28N±0.03×27.26E±0.08, h0km, Error ellipse: s-maj=6.2km s-min=3.5km az=19.1*
*BER **26** 11:24:38.8±1.5, 59.33N×27.16E, h0km, ML2.5(NAO), Suspected explosion*
*CSEM **26** 11:24:38.7±0.5, 59.29N×27.16E, h2km, ML2.5, Error ellipse: s-maj=13.1km s-min=7.2km az=111.0, Mining explosion.*
*HEL **26** 11:24:39.2±0.2, 59.30N×27.15E, h0km, ML1.7, Explosion*
*NAO **26** 11:24:39.6±1.4, 59.26N×26.94E, ML2.5*
*IDC **26** 11:24:40.9±1.1, 59.43N×27.04E, h0km, mb1 3.1/5, mb1mx3.0/40, mbtmp3.1/5, ML2.7/4, Error ellipse: s-maj=13.2km s-min=10.6km az=80.0*

ISC 26 11:24:38.6±0.7, 59.32N±0.02×27.03E±0.03, h0km, n60, σ1.9/40/90, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.87**	**190**	Pg	**Pg**	**11 24 55.0**	**-0.2**
VSU				Lg	Lg	11 25 06.6	
VSU	**Vasula**	**0.87**	**190**	Pg	**Pg**	**11 24 55.0**	**-0.2**
VSU				Lg	Lg	11 25 06.6	
VSU	**Vasula**	**0.87**	**190**	PG	**Pg**	**11 24 55.1**	**-0.2**
VSU				SB	**Sg**	**11 25 06.2**	**-0.3**
VSU	**Vasula**	**0.87**	**190**	*e*P	**Pg**	**11 24 55.0**	**-0.2**
VSU				*e*SB	**Sg**	**11 25 06.2**	**-0.3**
VSU	**Vasula**	**0.87**	**190**	Pg	**Pg**	**11 24 55.1**	**-0.2**
	SNR=89						
VSU				Sb	**Sg**	**11 25 06.2**	**-0.3**
	SNR=63						
VSU				Lg	Lg	11 25 06.6	
VJF	**Virojoki**	**1.25**	**12**	PG	**Pg**	**11 25 01.7**	**-0.9**
	baz=185						
VJF				SG	**Sg**	**11 25 18.1**	**-0.7**
VJF	**Virojoki**	**1.25**	**12**	*e*P	**Pg**	**11 25 01.6**	**-0.9**
VJF				*e*S	**Sg**	**11 25 18.1**	**-0.7**
VJF				MSG		11 25 18.9	
	comp=Z,12nm,0.2s						
VJF	**Virojoki**	**1.25**	**12**	P	**Pg**	**11 25 01.6**	**-0.9**
VJF				Sg	**Sg**	**11 25 18.1**	**-0.7**
	SNR=89						
SRPE	**Suurupi**	**1.36**	**277**	*e*P	**Pb**	**11 25 05.0**	**+0.1**
SRPE				*e*SB	**Sn**	**11 25 23.8**	**+0.3**
SRPE	**Suurupi**	**1.36**	**277**	P	**Pb**	**11 25 05.0**	**+0.1**
SRPE				Sb	**Sn**	**11 25 23.8**	**+0.3**
PVF	**Pernaja**	**1.36**	**335**	PG	**Pg**	**11 25 04.5**	**-0.2**
	baz=148						
PVF				SG	**Sg**	**11 25 22.4**	**+0.1**
PVF	**Pernaja**	**1.36**	**335**	*e*P	**Pg**	**11 25 04.5**	**-0.2**
PVF				*e*S	**Sg**	**11 25 22.4**	**+0.1**
PVF				MSG		11 25 22.8	
	comp=Z,9.0nm,0.2s						
PVF	**Pernaja**	**1.36**	**335**	P	**Pg**	**11 25 04.5**	**-0.2**
PVF				S	**Sg**	**11 25 22.4**	**+0.1**
MEF	**Metsahovi**	**1.61**	**305**	PG	**Pb**	**11 25 09.3**	**+0.2**
MEF				SG	**Sg**	**11 25 30.9**	**+0.8**
MEF				MSG		11 25 30.9	
	comp=Z,8.3nm,0.2s						
MEF	**Metsahovi**	**1.61**	**305**	*e*P	**Pb**	**11 25 09.3**	**+0.2**
MEF				MSG	**Sg**	**11 25 30.9**	**+0.8**
	comp=Z,8.3nm,0.2s						
MEF				*e*S	**Sg**	**11 25 30.9**	**+0.8**
MEF	**Metsahovi**	**1.61**	**305**	P	**Pb**	**11 25 09.2**	**+0.2**
MEF				S	**Sg**	**11 25 30.9**	**+0.8**
MTSE	**Matsula**	**1.77**	**251**	PG	**Pb**	**11 25 11.6**	**-0.2**
	baz=66						
MTSE				SN	**Sb**	**11 25 35.3**	**+0.8**
MTSE	**Matsula**	**1.77**	**251**	*e*P	**Pb**	**11 25 11.6**	**-0.2**
MTSE				*e*S	**Sb**	**11 25 35.3**	**+0.8**
MTSE	**Matsula**	**1.77**	**251**	P	**Pb**	**11 25 11.6**	**-0.2**
MTSE				S	**Sb**	**11 25 35.3**	**+0.8**
FINES	**FINESS Array B**	**2.18**	**348**	Pn	**Pn**	**11 25 16.8**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=164,slow=16,SNR=64						
FINES				Sn	**Sb**	**11 25 46.2**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=170,slow=28,SNR=20						
KAF	**Kangasniemi**	**2.83**	**353**	PB	**Pn**	**11 25 26.6**	**+1.7**
	baz=169						
KAF				SN	**Sn**	**11 26 01.3**	**+1.7**
KAF				MSG		11 26 01.3	
	comp=Z,1.8nm,0.2s						
KAF	**Kangasniemi**	**2.83**	**353**	*e*P	**Pn**	**11 25 26.2**	**+1.2**
KAF				*e*PB	**Pb**	**11 25 28.7**	**-1.1**
KAF				MSG	**Sn**	**11 26 01.3**	**+1.7**
	comp=Z,1.8nm,0.2s						
KAF				*e*S	**Sn**	**11 26 01.3**	**+1.7**
KAF	**Kangasniemi**	**2.83**	**353**	P	**Pn**	**11 25 26.1**	**+1.2**
KAF	**Kangasniemi**	**2.83**	**353**	Pb	**Pn**	**11 25 26.6**	**+1.7**
	SNR=63						
KAF				S	**Sn**	**11 26 01.3**	**+1.7**
SLIT	**Slitere, Latvi**	**3.01**	**238**	*e*SG	**Sb**	**11 26 12.2**	**+1.9**
SLIT	**Slitere, Latvi**	**3.01**	**238**	Sg	**Sb**	**11 26 12.1**	**+1.9**
KEF	**Keuruu**	**3.05**	**341**	PG	**Pb**	**11 25 33.1**	**-0.5**
KEF	**Keuruu**	**3.05**	**341**	*e*P	**Pn**	**11 25 30.3**	**+2.3**
KEF				*e*PB	**Pb**	**11 25 33.0**	**-0.7**
KEF	**Keuruu**	**3.05**	**341**	P	**Pn**	**11 25 30.3**	**+2.3**
RAF	**Rauma**	**3.14**	**305**	PB	**Pn**	**11 25 31.9**	**+2.8**
	baz=117						
RAF	**Rauma**	**3.14**	**305**	*e*P	**Pn**	**11 25 31.8**	**+2.6**
RAF	**Rauma**	**3.14**	**305**	P	**Pn**	**11 25 31.7**	**+2.6**
SUF	**Sumiainen**	**3.44**	**353**	PN	**Pn**	**11 25 34.7**	**+1.4**
SUF				SG	**Sb**	**11 26 24.5**	**+1.9**
SUF				MSG		11 26 24.5	
	comp=Z,1.4nm,0.2s						
SUF	**Sumiainen**	**3.44**	**353**	*e*P	**Pn**	**11 25 34.7**	**+1.4**
SUF				*e*SB	**Sb**	**11 26 23.9**	**+1.3**
SUF				MSG		11 26 24.5	
	comp=Z,1.4nm,0.2s						
SUF	**Sumiainen**	**3.44**	**353**	P	**Pn**	**11 25 34.6**	**+1.3**
SUF				Sb	**Sb**	**11 26 23.9**	**+1.3**
SUF				Sg	**Sb**	**11 26 24.5**	**+1.9**
	comp=Z,1.4nm,0.2s,SNR=88						
AAL	**Aland**	**3.66**	**287**	SG	**Sg**	**11 26 35.1**	**-1.0**
AAL	**Aland**	**3.66**	**287**	*e*SG	**Sg**	**11 26 35.0**	**-1.0**
AAL	**Aland**	**3.66**	**287**	Sg	**Sg**	**11 26 35.1**	**-1.0**
	SNR=88						
ISAL	**Salakas**	**3.79**	**188**	*e*P	Pg	11 25 55.7	+4.6
ISAL				AML	AML	11 26 52.5	
	comp=Z,8.4nm,0.4s						
IIGN	**Ignalina**	**4.00**	**187**	*e*P	Pg	11 25 59.1	+3.9
IIGN				AML	AML	11 26 51.9	
	comp=Z,7.7nm,0.3s						
JOF	**Joensuu**	**4.17**	**28**	MSG	**Sb**	**11 26 45.4**	**+2.0**
	comp=Z,0.7nm,0.2s						
JOF				SG	**Sb**	**11 26 45.4**	**+2.0**
JOF	**Joensuu**	**4.17**	**28**	*e*P	**Pn**	**11 25 43.8**	**+0.5**
JOF				*e*S	**Sn**	**11 26 32.2**	**-0.4**
JOF	**Joensuu**	**4.17**	**28**	P	**Pn**	**11 25 43.8**	**+0.5**
JOF				S	**Sn**	**11 26 32.2**	**-0.4**
VAF	**Ylistaro**	**4.29**	**332**	PN	Pn	11 25 48.5	+3.5
VAF				SG	**Sg**	**11 26 53.8**	**-2.4**
VAF	**Ylistaro**	**4.29**	**332**	*e*P	**Pn**	**11 25 47.4**	**+2.4**
VAF				*e*SG	**Sg**	**11 26 53.8**	**-2.4**
VAF				MSG		11 26 54.3	
	comp=Z,2.0nm,0.3s						
VAF	**Ylistaro**	**4.29**	**332**	P	**Pn**	**11 25 47.4**	**+2.4**
VAF	**Ylistaro**	**4.29**	**332**	Pn	Pn	11 25 48.5	+3.5
	SNR=46						
HFS	**Hagfors**	**6.79**	**283**	Sn	**Sn**	**11 27 33.6**	**-3.7**
	baz=87,slow=28						
HFS				Lg	Lg	11 28 09.9	
	baz=98,slow=28						
HFS	**Hagfors**	**6.79**	**283**	Sn	**Sn**	**11 27 33.6**	**-3.7**
	baz=87,slow=28						
HFS				Lg	Lg	11 28 09.9	
	baz=98,slow=28						
HFS	**Hagfors**	**6.79**	**283**	Pn	**Pn**	**11 26 18.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=15,SNR=3.7						
HFS				Sn	**Sn**	**11 27 35.2**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=94,slow=28,SNR=6.8						
HFS				Lg	Lg	11 28 11.8	
	comp=Z,1.0nm,0.3s,baz=95,slow=32,SNR=9.2						
HFS	**Hagfors**	**6.79**	**283**	Lg	Lg	11 28 09.9	
	SNR=7.5						
NB2	**NORSAR Subarra**	**8.07**	**289**	Pn	**Pn**	**11 26 35.9**	**-1.0**
NB2	**NORSAR Subarra**	**8.07**	**289**	Pn	**Pn**	**11 26 35.9**	**-1.0**
NB2	**NORSAR Subarra**	**8.07**	**289**	Pn	**Pn**	**11 26 35.9**	**-1.0**
NOA	**NORSAR Array B**	**8.07**	**289**	Pn	**Pn**	**11 26 36.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=92,slow=12,SNR=5.2						
AKASG	**Malin Array Be**	**8.73**	**171**	Pn	**Pn**	**11 26 44.8**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=356,slow=13,SNR=3.2						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**11 27 05.7**	**-1.4**
	baz=170,slow=14						
ARA0				Sn	Sn	11 28 55.2	-7.7
	baz=175,slow=28						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**11 27 05.7**	**-1.4**
	baz=170,slow=14						
ARA0				Sn	Sn	11 28 55.2	-7.7
	baz=175,slow=28						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**11 27 05.7**	**-1.4**
	SNR=6.4						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**11 27 05.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=172,slow=14,SNR=5.9						

*ISCJB **26** 11:33:43.4±1.7, 38.50N±0.08×38.02E±0.08, h5km±9km, Error ellipse: s-maj=16.7km s-min=5.6km az=145.1*
*CSEM **26** 11:33:43.2±0.2, 38.18N×38.06E, h13km±1km, MD2.6, Error ellipse: s-maj=14.9km s-min=3.2km az=170.0*
*DDA **26** 11:33:44.5, 38.40N×38.07E, h7km, MD2.6*

ISC 26 11:33:44.8±1.2, 38.37N±0.08×38.11E±0.05, h8km±10km, n12, σ0.48/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.16**	**243**	*i* P	**Pg**	**11 33 48.2**	**-0.1**
AKCD				*i* S	**Sg**	**11 33 50.9**	**+0.2**
AKCD	**Akcadag**	**0.16**	**243**	*i* P	**Pg**	**11 33 48.2**	**-0.1**
AKCD				*i* S	**Sg**	**11 33 50.9**	**+0.2**
MALT	**Malatya**	**0.26**	**103**	*e*PG	**Pg**	**11 33 49.8**	**-0.2**
MALT				*e*SG	**Sb**	**11 33 56.0**	**-0.4**
MALT	**Malatya**	**0.26**	**103**	*e*Pg	**Pg**	**11 33 49.8**	**-0.2**
ELZG	**Elazig**	**0.70**	**79**	*i* P	**Pg**	**11 33 58.7**	**+0.4**
ELZG				*i* S	**Sb**	**11 34 09.6**	**+0.3**
ELZG	**Elazig**	**0.70**	**79**	*i* P	**Pg**	**11 33 58.7**	**+0.4**
ELZG				*i* S	**Sb**	**11 34 09.6**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.94**	**89**	*e*PN	**Pg**	**11 34 03.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.94**	**89**	*e*Pn	**Pg**	**11 34 03.2**	**+0.3**
GZT	**Gaziantep**	**1.10**	**203**	*i* P	**Pg**	**11 34 06.2**	**+0.2**
GZT				*i* S	**Sb**	**11 34 21.9**	**+1.1**
PTK	**Pertek**	**1.13**	**62**	*e*PN	**Pg**	**11 34 06.8**	**+0.3**
PTK	**Pertek**	**1.13**	**62**	*e*Pn	**Pg**	**11 34 06.8**	**+0.3**
HCB	**Kahramanmara¯**	**1.40**	**223**	*i* P	**Pn**	**11 34 09.8**	**-0.9**
HCB				*i* S	**Sb**	**11 34 29.8**	**+0.6**

GUC 26 11:34:59.7±0.6, 34.93S×71.78W, h42km±8km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.46**	**99**	*i* P	Pn	11 35 10.6	+0.6
NICH				*i* S	Sn	11 35 18.7	+1.4
NICH				AML	AML	11 35 19.4	
	comp=N,9μm,0.1s						
TALC	**Talca**	**0.48**	**166**	*i* P	Pn	11 35 10.9	+0.6
TALC				*i* S	Sn	11 35 18.1	+0.4
COCH	**Cobquecura**	**1.45**	**214**	*i* P	Pn	11 35 25.0	+1.6
COCH				*i* S	Sn	11 35 44.4	+3.2
CLCH	**Cerro Calan**	**1.85**	**34**	*i* P	Pn	11 35 31.0	+2.0
CLCH				*i* S	Sn	11 35 55.2	+3.9
CLCH				AML	AML	11 35 59.0	
	comp=E,384nm,0.3s						
PEL	**Peldehue**	**2.00**	**27**	*i* P	Pn	11 35 33.5	+2.3
PEL				*i* S	Sn	11 35 59.3	+4.3
ROCH	**El Roble**	**2.06**	**18**	*i* P	Pn	11 35 34.4	+2.2
ROCH				*i* S	Sn	11 36 01.4	+4.6
ROCH				AML	AML	11 36 07.7	
	comp=E,396nm,0.5s						

*ISCJB **26** 11:35:12.8±0.6, 34.40N±0.08×136.84E±0.09, h357km±4km, mb3.1/6, Error ellipse: s-maj=14.1km s-min=11.2km az=150.8*
*JMA **26** 11:35:13.9±0.1, 34.46N×136.76E, h352km±2km, M2.4*
*IDC **26** 11:35:13.1±0.8, 34.39N×136.95E, h349km±10km, mb2.9/6, mb1 3.1/11, mb1mx2.9/33, mbtmp3.7/11, Error ellipse: s-maj=19.7km s-min=14.5km az=68.0*

ISC 26 11:35:13.6±0.9, 34.44N±0.10×136.83E±0.08, h353km±7km, n23, σ0.80/30, mb3.1/6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.43**	**309**	P	**Pn**	**11 35 58.5**	**+0.6**
TSUJ				*e*S	**S**	**11 36 33.2**	**-0.3**
HMMJ	**Hamamatsu 2**	**0.85**	**60**	S	**S**	**11 36 34.4**	**-1.1**
JAO	**Obara**	**0.90**	**23**	P	**Pn**	**11 35 59.8**	**+0.6**
TK02	**Tokai 2**	**0.92**	**122**	P	**Pn**	**11 36 00.2**	**+1.1**
JNY	**Yasuok**	**1.25**	**43**	P	**Pn**	**11 36 01.1**	**+0.4**
JNY				S	**S**	**11 36 38.8**	**+0.2**
JGM	**Miyama**	**1.26**	**356**	P	**Pn**	**11 36 01.3**	**+0.6**
JWT	**Wachi**	**1.44**	**306**	P	**Pn**	**11 36 01.9**	**+0.3**
JWT				S	**S**	**11 36 38.9**	**-1.3**
JKG	**Kaga**	**1.88**	**348**	P	**Pn**	**11 36 04.5**	**+0.3**
JOD2	**Odawara 2**	**2.04**	**66**	P	**Pn**	**11 36 06.3**	**+1.0**
JRY	**Ryogami san**	**2.32**	**47**	P	**Pn**	**11 36 08.0**	**+0.6**
JRY				S	**S**	**11 36 51.0**	**+0.3**
MJAR	**Matsushiro Arr**	**2.38**	**28**	P	**Pn**	**11 36 08.4**	**+0.5**
	4.4nm,0.3s,baz=207,slow=9.0,SNR=58						
MJAR				S	**S**	**11 36 50.2**	**-1.3**
	baz=295,slow=12,SNR=4.8						
MAT	**Matsushiro**	**2.38**	**28**	P	**Pn**	**11 36 08.3**	**+0.4**
MAT				S	**S**	**11 36 49.9**	**-1.7**
MAT	**Matsushiro**	**2.38**	**28**	P	**Pn**	**11 36 08.3**	**+0.4**
MAT				S	**S**	**11 36 51.2**	**-0.4**
JNU	**Nakatsue**	**5.12**	**257**	P	**Pn**	**11 36 34.9**	**+0.2**
	0.4nm,0.3s,baz=201,slow=5.0,SNR=3.8						
KSRS	**Korea Array**	**7.82**	**295**	P	**Pn**	**11 37 06.8**	**+1.3**
	0.7nm,0.3s,baz=107,slow=13,SNR=14						
USRK	**Ussuriysk Ar.**	**10.44**	**340**	P	**P**	**11 37 37.9**	**+0.3**
	0.2nm,0.3s,baz=145,slow=11,SNR=2.7						
ASAJ	**Asahikawa**	**10.64**	**23**	P	**Pn**	**11 37 39.5**	**+0.5**
	0.7nm,0.3s,baz=217,slow=11,SNR=7.5						
SONM	**Songino Array**	**26.34**	**310**	P	**P**	**11 40 19.6**	**+1.0**
	0.3nm,0.5s,baz=120,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**42.40**	**304**	P	**P**	**11 42 34.5**	**-0.1**
	0.5nm,0.6s,baz=96,slow=5.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**44.71**	**310**	P	**P**	**11 42 53.2**	**+0.5**
	0.5nm,0.4s,baz=90,slow=6.6,SNR=6.8						
WRA	**Warramunga Arr**	**54.13**	**183**	P	**P**	**11 44 02.7**	**-0.8**
	1.0nm,0.4s,baz=0.2,slow=7.6,SNR=32						
ASAR	**Alice Springs**	**57.85**	**183**	P	**P**	**11 44 29.2**	**-0.4**
	0.5nm,0.5s,baz=0.3,slow=5.2,SNR=17						
PDAR	**Pinedale Array**	**82.12**	**43**	P	**P**	**11 46 55.2**	**-0.7**
	0.4nm,0.9s,baz=325,slow=1.1,SNR=2.7						

IDC 26 11:42:30.6±1.4, 13.02N×145.07E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/31, mbtmp3.5/4, Error ellipse: s-maj=228.0km s-min=22.6km az=111.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**21.50**	**73**	T	T	12 10 08.0	
	baz=260,slow=75,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**21.52**	**73**	T	T	12 10 08.3	
	baz=260,slow=75,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**21.52**	**73**	T	T	12 10 11.1	
	baz=260,slow=75,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**21.96**	**69**	T	T	12 10 39.1	
	baz=256,slow=75,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**21.97**	**69**	T	T	12 10 30.1	
	baz=256,slow=75,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**21.98**	**69**	T	T	12 10 29.2	
	baz=256,slow=75,SNR=6.4						
WRA	**Warramunga Arr**	**34.41**	**198**	P	P	11 49 19.7	-0.2
	0.5nm,0.8s,baz=21,slow=9.1,SNR=6.2						
ASAR	**Alice Springs**	**38.06**	**197**	P	P	11 49 51.1	-0.1
	0.3nm,0.7s,baz=21,slow=12,SNR=11						
ILAR	**Eielson Array**	**69.00**	**25**	P	P	11 53 36.9	-0.8
	0.5nm,0.7s,baz=254,slow=5.8,SNR=8.3						
YKA	**Yellowknife Ar**	**83.27**	**27**	P	P	11 55 00.0	+1.0
	0.2nm,0.4s,baz=287,slow=4.7,SNR=4.0						
H06S1	**SOCORRO T**	**98.72**	**68**	T	T	13 46 39.6	
	SNR=8.4						

*BJI **26** 11:54:30.8, 5.17S×35.14E, h14km, mB5.1/14, mb4.9/27, Ms4.9/8, Ms7 4.7/8*
*ISCJB **26** 11:54:32.0±1.4, 5.33S±0.04×35.83E±0.05, h5km±9km, mb4.7/60, MS3.9/18, Error ellipse: s-maj=8.9km s-min=6.9km az=4.9*
*MOS **26** 11:54:32.0±1.0, 5.40S×35.88E, h10km, mb5.1/26, Error ellipse: s-maj=13.4km s-min=6.8km az=82.0*
*IDC **26** 11:54:32.6±0.5, 5.41S×35.93E, h0km, mb4.5/21, mb1 4.6/24, mb1mx4.5/33, mbtmp4.6/24, ML4.8/3, MS3.8/18, Ms1 3.8/18, ms1mx3.6/31, Error ellipse: s-maj=15.8km s-min=13.3km az=119.0*
*NEIC **26** 11:54:34.1±0.3, 5.44S×35.88E, h10km, mb5.0/19, Error ellipse: s-maj=9.0km s-min=6.8km az=106.0*
NEIC Felt [II] at Arusha. Also felt at Dodoma, Kondoa, Morogoro and Moshi.

ISC 26 11:54:35.3±0.5, 5.41S±0.04×35.86E±0.06, h16km±2km, h15km:pP-P, n179, σ1.9/38/205, mb4.9/60, MS3.8/18, 4C-2D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**0.79**	**188**	*i* P	**Pb**	**11 54 49.9**	**-0.9**
DODT				*i* S	**Sb**	**11 55 01.1**	**-0.2**
MAUS	**Longido**	**2.78**	**18**	*i* P	**Pn**	**11 55 17.7**	**-1.7**
MAUS				*i* S	**Sb**	**11 55 56.5**	**-2.1**
KMBO	**Kilima Mbogo**	**4.47**	**18**	Pn	**Pn**	**11 55 40.1**	**-2.7**
	99nm,0.3s,baz=195,slow=14,SNR=289						
KMBO				LR	LR	11 56 38.3	
	comp=Z,203nm,20.9s,baz=171,slow=28						
KMBO				Lg	Lg	11 56 45.2	
	414nm,0.3s,baz=259,slow=16,SNR=11						
KMBO	**Kilima Mbogo**	**4.47**	**18**	*i* P	**Pn**	**11 55 40.0**	**-2.7**
KMBO				pmax	pmax		
	comp=Z,258nm,0.3s						
LSZ	**Lusaka**	**12.37**	**217**	Pn	**Pn**	**11 57 29.8**	**-1.3**
	comp=Z,3.1nm,0.3s,baz=44,slow=11,SNR=16						
LSZ				Sn	**Sn**	**11 59 47.5**	**-1.3**
	comp=Z,2.8nm,0.3s,baz=109,slow=11,SNR=3.7						
LSZ				Lg	Lg	12 00 54.3	
	comp=Z,10.0nm,0.3s,baz=69,slow=9.9,SNR=6.7						
OPO	**Ambohidratompo**	**17.13**	**141**

comp=Z,157nm,19.1s,baz=215,slow=39
KEST Kesra 47.90 331 LR LR 12 25 30.3
comp=Z,69nm,19.8s,baz=280,slow=39
KEST Kesra 47.90 331 *e*P P 12 03 00.5 -13
ZEI Tsey 48.52 8 *e*P **P** **12 03 18.5 +0.6**
ZEI pmax pmax
comp=Z,21nm,1.5s
KBZ Khabaz 49.32 7 P **P** **12 03 24.0 +0.3**
comp=Z,7.7nm,1.0s,baz=236,slow=24,SNR=8.6
KIV Kislovodsk 49.52 6 *e*P **P** **12 03 25.7 +0.3**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,70nm,16.0s
KIEV Kiev 56.17 355 *e*P **P** **12 04 14.6 +0.4**
KIEV pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 56.17 355 *e*P **P** **12 04 14.6 +0.4**
comp=Z,11nm,0.9s
AKASG Malin Array Be 56.18 355 P **P** **12 04 14.1 -0.2**
comp=Z,8.7nm,0.9s,baz=176,slow=6.3,SNR=21
MBDF Montbardon 56.32 335 *e*P **P** **12 04 16.3 +0.6**
comp=Z,11nm,0.8s
MBDF Montbardon 56.32 335 *e*P **P** **12 04 16.3 +0.6**
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 56.32 335 *e*P **P** **12 04 16.3 +0.6**
comp=Z,11nm,0.8s
VSR Storozhevoye 56.47 2 *e*P **P** **12 04 17.2 +0.8**
VSR pmax pmax
comp=N,390nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.9s
VRHR Novokhopersk 56.50 4 *e*P **P** **12 04 17.2 +0.6**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
TUE Stuetta 56.76 338 *e*P **P** **12 04 20.9 +2.0**
LPG La Plagne 56.96 336 *e*P **P** **12 04 19.0 -1.4**
LPG La Plagne 56.96 336 *e*P **P** **12 04 19.0 -1.4**
LPG La Plagne 56.96 336 *e*P **P** **12 04 19.0 -1.4**
GEC2 GERESS Array S 57.39 343 *e*P **P** **12 04 24.4 +1.3**
GEC2 GERESS Array S 57.39 343 *e*P **P** **12 04 24.4 +1.3**
GERES GERESS Array B 57.39 343 P **P** **12 04 22.2 -0.9**
comp=Z,1.6nm,0.7s,baz=167,slow=4.9,SNR=7.7
KKAR Karatay Array 57.58 30 *e*P **P** **12 04 24.2 -0.3**
KKAR Karatay Array 57.58 30 *e*P **P** **12 04 24.2 -0.3**
ESDC Sonseca Array 57.95 324 P **P** **12 04 28.0 +0.8**
comp=Z,3.5nm,0.8s,baz=136,slow=7.3,SNR=13
ESDC PcP **PcP** **12 05 20.1 +0.8**
comp=Z,0.3nm,0.3s,baz=132,slow=3.7,SNR=4.5
ESDC LR LR 12 28 38.1
comp=Z,63nm,18.8s,baz=150,slow=35
KSH Kashi 58.02 36 P P 12 04 24.0 -3.7
KSH sP sP 12 04 31.3 -3.5
KSH PP **PP** **12 06 32.5 -4.0**
KSH PcS **PcS** **12 09 17.5 -3.6**
KSH S S 12 12 17.3 -11
KSH ScS ScS 12 14 09.0 -8.1
KSH PMZ
comp=Z,140nm,6.2s
KSH LN
comp=Z,82nm,5.6s
KSH LE
comp=Z,140nm,6.9s
KSH LZ
comp=Z,200nm,7.0s
DPC Dobruska-Polom 58.05 345 *e*P **P** **12 04 28.2 +0.6**
DPC *e*pP **pP** **12 04 32.5 -0.2**
DPC Dobruska-Polom 58.05 345 *e*P **P** **12 04 28.2 +0.6**
DPC *e* 12 04 32.5
CABF La Chapelle 58.13 336 *e*P **P** **12 04 28.4 0.0**
comp=Z,5.0nm,0.7s
CABF La Chapelle 58.13 336 *e*P **P** **12 04 28.4 0.0**
CABF pmax pmax
comp=Z,5.0nm,0.6s
CABF La Chapelle 58.13 336 *e*P **P** **12 04 28.4 0.0**
comp=Z,5.0nm,0.6s
ETSF Etsaut 58.32 329 *e*P **P** **12 04 30.2 +0.5**
comp=Z,12nm,0.8s
ETSF Etsaut 58.32 329 *e*P **P** **12 04 30.2 +0.5**
ETSF pmax pmax
comp=Z,12nm,0.8s
ETSF Etsaut 58.32 329 *e*P **P** **12 04 30.2 +0.5**
comp=Z,12nm,0.8s
ABKAR Akbulak array 58.34 18 *e*P **P** **12 04 30.9 +1.3**
PBDV Barranco-do-Ve 58.86 320 *e*P **P** **12 04 32.1 -1.5**
comp=Z,73nm,2.0s
EKS2 Erkin-Say 58.92 32 *e*P **P** **12 04 34.0 0.0**
EKS2 pmax pmax
comp=Z,26nm,1.8s
EKS2 Erkin-Say 58.92 32 *e*P **P** **12 04 34.0 0.0**
comp=Z,26nm,1.8s
CDF Champ du Feu 59.16 338 *e*P **P** **12 04 34.1 -1.4**
comp=Z,9.1nm,0.6s
CDF Champ du Feu 59.16 338 *e*P **P** **12 04 34.1 -1.4**
CDF pmax pmax
comp=Z,9.0nm,0.6s
CDF Champ du Feu 59.16 338 *e*P **P** **12 04 34.1 -1.4**
comp=Z,9.1nm,0.6s
HAU Haudompre 59.17 337 *e*P **P** **12 04 34.4 -1.1**
comp=Z,11nm,0.6s
HAU Haudompre 59.17 337 *e*P **P** **12 04 34.4 -1.1**
HAU pmax pmax
comp=Z,11nm,0.6s
HAU Haudompre 59.17 337 *e*P **P** **12 04 34.4 -1.1**
comp=Z,11nm,0.6s
AAK Ala-Archa 59.28 32⇑ *e*P **P** **12 04 35.8 -0.8**
AAK pmax pmax
comp=Z,23nm,1.6s
AAK Ala-Archa 59.28 32 *e*P **P** **12 04 38.8 +2.2**
AVF Avril sur Loir 59.41 335 *e*P **P** **12 04 35.7 -1.4**
comp=Z,8.2nm,0.9s
AVF Avril sur Loir 59.41 335 *e*P **P** **12 04 35.7 -1.4**
AVF pmax pmax
comp=Z,8.0nm,0.9s
AVF Avril sur Loir 59.41 335 *e*P **P** **12 04 35.7 -1.4**
comp=Z,8.2nm,0.9s
PMRV Marv??o 59.84 322 *e*P **P** **12 04 41.2 +0.9**
comp=Z,17nm,1.9s
SFTF Sexfontaines 59.84 337 *e*P **P** **12 04 39.6 -0.5**
comp=Z,24nm,0.7s
SFTF Sexfontaines 59.84 337 *e*P **P** **12 04 39.6 -0.5**
comp=Z,24nm,0.7s
TKM2 Tokmak 2 60.07 33 *e*P **P** **12 04 41.6 -0.4**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 60.07 33 *e*P **P** **12 04 41.6 -0.4**
comp=Z,7.3nm,0.8s
MVO Moncorvo 60.70 324 *e*P **P** **12 04 47.0 +0.8**
comp=Z,28nm,1.4s
POLO Lamas de Olo 61.28 324 *e*P **P** **12 04 51.3 +1.1**
comp=Z,13nm,1.7s
ARU Arti 64.38 14 *d i*P **P** **12 05 09.6 -0.7**
ARU S **S** **12 13 50.5 +2.5**
ARU SS **SS** **12 17 57.3 -1.0**
ARU pmax pmax
comp=Z,43nm,1.7s
ARU Arti 64.38 14 *e*P **P** **12 05 09.9 -0.5**
comp=Z,20nm,0.9s
BRVK Borovoye 65.10 22 *ce*P **P** **12 05 14.2 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 65.10 22 *e*P **P** **12 05 17.7 +2.6**
comp=Z,4.2nm,1.0s
SVE Sverdlovsk 65.24 15 *e*P **P** **12 05 15.1 -0.9**
SVE pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 66.12 2 *e*P **P** **12 05 19.8 -1.8**
KLMR pmax pmax
comp=Z,34nm,1.5s
MKAR Makanchi Array 66.20 33 P **P** **12 05 21.8 -0.7**
comp=Z,9.5nm,0.8s,baz=246,slow=9.1,SNR=38
MKAR LR LR 12 38 33.0
comp=Z,53nm,18.2s,baz=246,slow=40
CMAR Chiang Mai Arr 66.52 67 P **P** **12 05 24.8 -0.2**
comp=Z,5.2nm,0.8s,baz=259,slow=7.8,SNR=30
CMAR LR LR 12 32 02.2
comp=Z,24nm,21.2s,baz=262,slow=34
CHTO Chiang Mai 66.61 67 *e*P **P** **12 05 24.8 -0.8**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 66.61 67 *e*P **P** **12 05 24.8 -0.8**
comp=Z,9.9nm,1.0s
CHTO Chiang Mai 66.61 67 P **P** **12 05 24.6 -1.0**
comp=Z,50nm,1.0s
CMMT Chiang Mai 66.62 67 P **P** **12 05 25.0 -0.6**
comp=Z,14nm,0.9s
KURBB Kurchatov Arra 66.79 28 PP PP 12 07 54.1 +0.8
comp=Z,0.3nm,0.7s,baz=224,slow=9.2,SNR=4.6
KURK Kurchatov 66.89 28 *e*P **P** **12 05 26.1 -0.6**
KURK 12 07 54.1
KURK pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 66.89 28 *e*P **P** **12 05 26.1 -0.6**
comp=Z,16nm,1.3s
KURK PP **PP** **12 07 54.1 -0.1**
CMAI Chiengmai2 66.99 66 P **P** **12 05 30.3 +2.1**
comp=Z,14nm,1.1s
FINES FINESS Array B 67.08 355 P **P** **12 05 27.3 -0.4**
comp=Z,3.5nm,1.0s,baz=90,slow=1.9,SNR=4.8
LAMP Lampang 67.17 67 P **P** **12 05 29.4 +0.2**
comp=Z,5.3nm,0.9s,comp=Z,56nm
PRGR Permogore 67.27 5 *e*P P 12 05 25.3 -3.6
PRGR pmax pmax
comp=Z,54nm,1.4s
WMQ Urumqi 67.62 38 P **P** **12 05 31.8 +0.2**
WMQ pP **pP** **12 05 35.8 -1.0**
WMQ sP **sP** **12 05 38.0 -0.7**
WMQ PcP **PcP** **12 05 59.0 +0.4**
WMQ PcS 12 10 05.0
WMQ S **S** **12 14 23.5 -4.7**
WMQ SS **SS** **12 18 53.0 +3.6**
WMQ PMZ
comp=Z,7.0nm,0.9s
WMQ PMZ
comp=Z,130nm,4.2s
WMQ LN
comp=Z,270nm,25.6s
WMQ LE
comp=Z,180nm,27.8s
WMQ LZ
comp=Z,200nm,22.2s
UTTA Uttaradit 67.83 68 P P 12 05 36.8 +3.5
comp=Z,4.2nm,1.2s
PBKT Sadao Pong 67.95 70 P **P** **12 05 34.3 +0.2**
comp=Z,20nm,1.4s,comp=Z,1μm
CRAI Chiangrai 68.27 66 P **P** **12 05 33.5 -2.6**
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 68.98 347 P **P** **12 05 39.2 -0.5**
comp=Z,2.6nm,0.8s,baz=153,slow=6.2
NOA NORSAR Array B 68.98 347 P **P** **12 05 39.6 -0.1**
comp=Z,1.9nm,0.8s,baz=153,slow=6.0,SNR=4.5
NOA LR LR 12 39 29.5
comp=Z,17nm,18.7s,baz=180,slow=39
SNAA Sanae 70.45 192 P **P** **12 05 50.7 +2.0**
SNAA Sanae 70.45 192 *e*P **P** **12 05 49.8 +1.1**
VNA2 Neumayer--Watz 70.93 194 P **P** **12 05 53.3 +1.8**
baz=32,slow=6.1
KMI Kunming 71.64 61 P **P** **12 05 59.8 +2.8**
KMI PMZ
comp=Z,11nm,0.8s
VNA3 Neumayer Olymp 71.69 194 P **P** **12 05 58.0 +1.8**
NVS Novosibirsk 71.72 27 *e*P **P** **12 05 55.6 -0.9**
NVS pmax pmax
comp=Z,19nm,1.2s
NVS pmax pmax
comp=N,8.0nm,1.3s
ZALV Zalesovo Beam 71.88 28 P **P** **12 05 56.5 -1.1**
comp=N,1.5nm,0.6s,baz=238,slow=5.1,SNR=6.6
ZALV PP **PP** **12 08 37.0 -0.3**
comp=N,3.0nm,1.0s,baz=263,slow=6.8,SNR=4.9
ZALV LR LR 12 41 40.7
comp=N,88nm,18.5s,baz=250,slow=39
APA Apatity 72.82 359 *e*P **P** **12 06 05.0 +2.1**
APA MLR MLR
comp=Z,900nm,16.0s
GTA Gaotai 73.77 46 P **P** **12 06 09.3 0.0**
GTA pP **pP** **12 06 14.0 -0.5**
GTA sP **sP** **12 06 16.3 -0.1**
GTA PMZ
comp=Z,5.0nm,1.2s
CD2 Chengdu 74.09 56 *e*P **P** **12 06 11.8 +0.6**
CD2 pP **pP** **12 06 16.5 +0.1**
CD2 sP **sP** **12 06 18.8 +0.5**
CD2 PP **PP** **12 08 59.0 +2.2**
CD2 S **S** **12 15 43.5 -0.4**
CD2 SKS **SKSac** **12 16 14.5 -4.0**
CD2 SS **SS** **12 20 30.8 +1.5**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
GYA Guiyang 75.40 61 *e*P **P** **12 06 20.0 +1.0**
GYA PP **PP** **12 09 10.5 +2.4**
GYA S **S** **12 15 58.8 -0.1**
GYA SKS **SKSac** **12 16 25.3 -3.4**
GYA SS **SS** **12 20 51.0 +1.4**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.2s
GYA LN
comp=Z,480nm,19.8s
GYA LE
comp=Z,380nm,20.4s
GYA LZ
comp=Z,440nm,19.6s
LZH Lanzhou 75.67 51 *e*P **P** **12 06 22.5 +2.1**
LZH pP **pP** **12 06 27.8 +2.2**
LZH sP **sP** **12 06 30.5 +3.0**
LZH PMZ
comp=Z,26nm,1.0s
LZH PMZ
comp=Z,130nm,4.3s
QIZ Qiongzhong 76.73 69 P **P** **12 06 27.0 +0.5**
QIZ S **S** **12 16 13.5 0.0**
QIZ PMZ
comp=Z,28nm,2.4s
QIZ PMZ
comp=Z,140nm,3.5s
NWAO Narrogin (SRO) 79.85 122 P **P** **12 06 42.2 -1.4**
comp=Z,12nm,0.9s,baz=276,slow=6.9,SNR=4.4
ZAK Zakamensk 80.05 37 *e*P **P** **12 06 43.7 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.8s
SONM Songino Array 81.12 40 P **P** **12 06 51.2 +1.0**
comp=Z,5.9nm,0.8s,baz=241,slow=5.1,SNR=19
SONM LR LR 12 44 59.3
comp=Z,40nm,21.8s,baz=254,slow=37
ULN Ulaanbaatar 81.55 40‖ *e*P **P** **12 06 52.7 +0.2**
ULN pmax pmax
comp=Z,10.0nm,1.4s
ULN Ulaanbaatar 81.55 40 *e*P **P** **12 06 52.5 0.0**
comp=Z,8.1nm,1.0s
BDFB Brasilia 82.68 255 LR LR 12 40 13.8
comp=Z,78nm,19.9s,baz=68,slow=33
HHC Hu-ho-hao-te 82.79 48 *e*P **P** **12 07 00.5 +1.4**
HHC sP **sP** **12 07 06.8 +0.5**
HHC PP **PP** **12 10 13.5 +4.1**
HHC S **S** **12 17 15.8 -1.2**
HHC SS **SS** **12 22 43.0 +3.1**
HHC PMZ
comp=Z,23nm,1.3s
HHC LN
comp=Z,92nm,17.2s
HHC LE
comp=Z,110nm,17.6s
HHC LZ
comp=Z,110nm,17.8s
BKSI Bulukumba 83.81 95 P **P** **12 07 05.4 +0.6**
comp=Z,8.8nm,1.0s
MPSI Mapaga 84.09 89 P **P** **12 07 06.2 -0.1**
QSPA South Pole Qui 84.65 180 *e*P **P** **12 07 07.2 -1.0**
comp=Z,18nm,1.1s
BJI Beijing 86.06 49 P **P** **12 07 16.3 +0.7**
BJI PMZ
comp=Z,11nm,0.9s
NJ2 Nanjing 86.92 58 *e*P **P** **12 07 20.8 +0.8**
NJ2 PMZ
comp=Z,40nm,0.7s
CPUP Villa Florida 90.48 244 LR LR 12 42 09.7
comp=Z,357nm,21.3s,baz=178,slow=32
VNDA Vanda 92.06 170 LR LR 12 47 14.3
comp=Z,76nm,19.0s,baz=212,slow=34
CN2 Changchun 93.40 46 *e*P **P** **12 07 49.5 -0.6**
ASAR Alice Springs 95.18 114 P **P** **12 07 57.9 -0.9**
comp=Z,1.1nm,0.9s,baz=265,slow=4.2,SNR=11
TIXI Tiksi 96.04 19⇑ *e*P **P** **12 08 03.5 +1.9**
TIXI pmax pmax
comp=Z,2.0nm,1.5s
WRA Warramunga Arr 96.10 111 P **P** **12 08 01.9 -1.2**
comp=Z,1.6nm,0.9s,baz=268,slow=2.7,SNR=21
MDJ Mudanjiang 96.42 46 P **P** **12 08 03.0 -0.9**
MDJ PMZ
comp=Z,11nm,1.3s
MDJ PMZ
comp=Z,80nm,6.4s
PLCA Paso Flores 98.80 228 LR LR 12 44 43.4
comp=Z,124nm,22.0s,baz=136,slow=30
CFAA Coronel Fontan 99.10 237 LR LR 12 47 11.4
comp=Z,16nm,21.4s,slow=32
YKA Yellowknife Ar 119.02 345 PKP **PKPdf** **12 13 22.2 -0.9**
comp=Z,0.4nm,0.7s,baz=47,slow=2.1,SNR=4.7
ILAR Eielson Array 120.72 1 PKKPbc PKKPbc 12 23 31.3 -2.1
comp=Z,0.4nm,0.8s,baz=186,slow=3.5,SNR=5.6
ECSD EROS Data Cent 123.49 320 P **PKPdf** **12 13 32.2 -0.1**
baz=124
A20A Cobblestone Ra 126.91 331 P **PKPdf** **12 13 39.6 +0.8**
baz=127
C21A Desert Coulee 127.20 329 P **PKPdf** **12 13 41.1 +1.8**
baz=127
B19A Brinkman Farms 127.70 331 P **PKPdf** **12 13 41.3 +1.0**
baz=128
I25A Rochford 127.72 324 P **PKPdf** **12 13 41.9 +1.3**
baz=128
H24A Dirks Ranch, A 127.77 325 P **PKPdf** **12 13 41.1 +0.5**
baz=128
P30A Selden 127.89 317 P **PKPdf** **12 13 42.4 +1.5**
baz=128
J25A Sunshine Ranch 128.12 323 P **PKPdf** **12 13 42.5 +1.2**
baz=128
D20A Manuel Ranch, 128.22 329 P **PKPdf** **12 13 43.1 +1.8**
baz=128
C19A Slack Wire Ran 128.24 330 P **PKPdf** **12 13 42.4 +1.1**
baz=128
EGMT Eagleton 128.38 331 P **PKPdf** **12 13 42.8 +1.1**
baz=128
R30A Dighton 128.51 316 P **PKPdf** **12 13 43.2 +1.1**
baz=128
D19A Cripps Ranch, 128.55 330 P **PKPdf** **12 13 43.6 +1.6**
baz=128
E20A Meyer Farm, Mu 128.61 329 P **PKPdf** **12 13 43.8 +1.8**
baz=128
J24A Dixon Ranch, L 128.66 324 P **PKPdf** **12 13 43.1 +0.8**
baz=129
Q29A Oakley 128.70 317 P **PKPdf** **12 13 43.1 +0.6**
baz=129
H22A Clearmont 128.88 326 P **PKPdf** **12 13 44.0 +1.2**
baz=129
E19A Rath Farm, Rou 128.97 329 P **PKPdf** **12 13 44.0 +1.2**
baz=129
F19A Roth Farm, Mol 129.46 329 P **PKPdf** **12 13 44.9 +1.1**
baz=129
G20A Bridger 129.50 327 P **PKPdf** **12 13 44.6 +0.7**
baz=129
J22A Midwest 129.68 325 P **PKPdf** **12 13 45.3 +1.0**
baz=130
H20A Greybull 129.86 327 P **PKPdf** **12 13 45.9 +1.3**
baz=130
I21A Big Trails, Te 129.89 326 P **PKPdf** **12 13 46.0 +1.2**
baz=130
X31A McDonald Ranch 129.94 311 P **PKPdf** **12 13 46.2 +1.3**
baz=130
133A Hamilton Ranch 129.95 309 P **PKPdf** **12 13 46.1 +1.2**
baz=130
P26A Davis Ranch, A 129.95 319 P **PKPdf** **12 13 46.1 +1.1**
baz=130
S28A Manter 129.97 316 P **PKPdf** **12 13 46.0 +1.0**
baz=130
L23A Garrett 130.00 323 P **PKPdf** **12 13 46.1 +1.0**
baz=130
333A Richland Sprin 130.49 307 P **PKPdf** **12 13 46.7 +0.7**
baz=130
P25A Willow Gulch B 130.51 319 P **PKPdf** **12 13 47.6 +1.5**
baz=130
H18A Shoshone NF, C 130.63 328 P **PKPdf** **12 13 47.2 +1.0**
baz=131
J20A Shoshoni 130.63 326 P **PKPdf** **12 13 47.6 +1.5**
baz=131
R26A Arlington 130.67 317 P **PKPdf** **12 13 47.6 +1.3**
baz=131
433A Art 130.78 306 P **PKPdf** **12 13 47.5 +0.9**
baz=131
332A Millersview 131.07 307 P **PKPdf** **12 13 47.9 +0.8**
baz=131
MSO Missoula 131.22 333 P **PKPdf** **12 13 48.1 +1.1**
baz=131
J19A Crowheart 131.23 326 P **PKPdf** **12 13 48.3 +1.0**
baz=131
PDAR Pinedale Array 131.83 326 PKP **PKPdf** **12 13 49.3 +0.8**
comp=Z,0.7nm,0.7s,baz=122,slow=2.3,SNR=6.9
TXAR Lajitas Array 134.99 307 PKhKP PKPpre 12 13 48.1
comp=Z,0.5nm,0.8s,baz=253,slow=1.3,SNR=4.4
TXAR PKP **PKiKP** **12 13 55.9 -0.2**
comp=Z,0.6nm,0.8s,baz=134,slow=3.6,SNR=5.8
MNTX Cornudas Mount 135.29 311 P **PKPdf** **12 13 56.1 +1.0**
baz=135
121A Cookes Peak, D 136.67 313 P **PKPdf** **12 13 59.0 +1.2**
baz=137
U15A North Rim 137.51 321 P **PKPdf** **12 13 59.9 +0.5**
baz=138
NVAR Mina Array Bea 139.62 328 PKhKP PKPpre 12 13 56.4
comp=Z,0.9nm,0.7s,baz=60,slow=3.0,SNR=7.8
NVAR PKP **PKPdf** **12 14 04.6 +1.4**
comp=Z,3.1nm,0.8s,baz=106,slow=0.8,SNR=15

CSEM ***26*** *11:54:43.0, 34.˚02N×25.˚75E, h27km, MD3.6*
ATH 26 11:54:43.0, 34.˚02N×25.˚75E, h27km±4km, MD3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.16**	**19**	*e*PN	Pb	11 55 05.3	+0.9
ZKR	**Zakros**	**1.16**	**19**	*e*Pn	Pb	11 55 05.3	+0.9
LAST	**Lasithi**	**1.16**	**349**	*e*PN	Pb	11 55 04.9	+0.4
LAST	**Lasithi**	**1.16**	**349**	*e*Pn	Pb	11 55 04.9	+0.4
SIVA	**Sivas**	**1.26**	**322**	*e*PN	Pb	11 55 06.7	+0.6
SIVA	**Sivas**	**1.26**	**322**	*e*Pn	Pb	11 55 06.7	+0.6
GVD	**Gavdhos**	**1.60**	**301**	*e*PN	Pb	11 55 12.1	+0.2
GVD	**Gavdhos**	**1.60**	**301**	*e*Pn	Pb	11 55 12.1	+0.2
KARP	**Karpathos**	**1.92**	**37**	*e*PB	Pn	11 55 15.5	+1.6
KARP				*e*SN	Sb	11 55 40.3	-0.6
KARP	**Karpathos**	**1.92**	**37**	*e*Pb	Pn	11 55 15.5	+1.6
KARP				*e*Sn	Sb	11 55 40.3	-0.6
KARN	**Karanos**	**2.04**	**313**	*e*PB	Pb	11 55 18.5	-1.0
KARN				*e*SN	Sb	11 55 43.1	-1.4
KARN	**Karanos**	**2.04**	**313**	*e*Pb	Pb	11 55 18.5	-1.0
KARN				*e*Sn	Sb	11 55 43.1	-1.4
VLI	**Veliai**	**3.54**	**320**	*e*PN	Pn	11 55 37.6	+1.4
VLI	**Veliai**	**3.54**	**320**	*e*Pn	Pn	11 55 37.6	+1.4

IDC ***26*** *11:57:04.9±1.1, 34.˚04S×71.˚94W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.8/20, mbtmp3.5/4, ML3.7/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/19, Error ellipse: s-maj=55.8km s-min=22.0km az=83.0*
ISCJB ***26*** *11:57:08.4±1.1, 34.˚14S±0.˚04×72.˚4W±0.˚1, h53km±12km, mb3.6/3, MS3.3/1, Error ellipse: s-maj=15.0km s-min=6.7km az=13.6*
GUC ***26*** *11:57:08.2±0.6, 34.˚10S×72.˚34W, h32km±2km, ML4.1*
ISC 26 11:57:11.3±1.7, 34.˚17S±0.˚05×72.˚2W±0.˚1, h57km±16km, n23, σ1°42/26, mb3.5/3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.71**	**73**	*e*P	Pn	11 57 22.8	-2.8
NICH	**Los Niches**	**1.18**	**136**	*e*P	**Pn**	**11 57 30.9**	**-0.7**
NICH				*e*S	**Sn**	**11 57 47.8**	**+1.2**
IHA	**Instituto Hidr**	**1.24**	**24**	*e*P	Pn	11 57 29.4	-3.0
TALC	**Talca**	**1.32**	**158**	*e*P	**Pn**	**11 57 32.7**	**-0.9**
TALC				*e*S	**Sn**	**11 57 51.2**	**+1.0**
CHCH	**Chadas Angostu**	**1.33**	**80**‖	*e*P	**Pn**	**11 57 32.7**	**-1.0**
CACH	**El Canelo**	**1.35**	**88**‖	*e*P	**Pn**	**11 57 33.8**	**-0.3**
ROCH	**El Roble**	**1.57**	**41**	*e*P	**Pn**	**11 57 35.5**	**-1.6**
ROCH				*e*S	**Sn**	**11 57 56.6**	**+0.2**
FSR	**Penalolen**	**1.57**	**65**	*e*P	**Pn**	**11 57 38.0**	**+1.0**
CLCH	**Cerro Calan**	**1.61**	**62**	*e*P	**Pn**	**11 57 36.8**	**-0.6**
CLCH				*e*S	**Sn**	**11 57 58.0**	**+0.9**
CLCH				AML	AML	11 58 07.1	

comp=E,4μm,0.8s

PEL	**Peldehue**	**1.64**	**52**	*e*P		**Pn**	**11 57 36.9**	**-1.1**
PEL				*e*S		**Sn**	**11 57 59.1**	**+1.0**
YECH	**El Yeso**	**1.85**	**75**	*e*P		**Pn**	**11 57 41.3**	**+0.2**
YECH				*e*S		**Sn**	**11 58 05.5**	**+2.0**
CFAA	**Coronel Fontan**	**4.22**	**54**	Pn		**Pn**	**11 58 13.9**	**+0.7**
	comp=E,0.7nm,0.3s,baz=230,slow=12,SNR=29							
CFAA				Lg		Lg	11 59 15.4	
	comp=E,1.8nm,0.3s,baz=9.5,slow=7.2,SNR=9.1							
CFAA				LR		LR	11 59 22.3	
	comp=E,10nm,20.0s,baz=224,slow=35							
PLCA	**Paso Flores**	**6.69**	**169**	Pn		**Pn**	**11 58 47.4**	**+0.3**
	comp=E,0.3nm,0.3s,baz=336,slow=14,SNR=8.2							
PLCA				Lg		Lg	12 00 39.1	
	comp=E,0.3nm,0.3s,baz=77,slow=23,SNR=5.9							
PLCA				LR		LR	12 01 34.9	
	comp=E,254nm,21.2s,baz=18,slow=40							
LVC	**Limon Verde**	**11.87**	**15**	LR		LR	12 04 59.8	
	comp=E,830nm,18.2s,baz=218,slow=41							
CPUP	**Villa Florida**	**15.05**	**63**	Pn		**Pn**	**12 00 40.7**	**+0.1**
	comp=E,0.0nm,0.3s,baz=246,slow=18,SNR=2.1							
CPUP				LR		LR	12 07 10.2	
	comp=E,975nm,18.9s,baz=223,slow=41							
LPAZ	**La Paz**	**18.18**	**13**	P		**Pn**	**12 01 20.4**	**+0.1**
	comp=E,0.1nm,0.3s,baz=173,slow=9.0,SNR=8.3							
SIV	**San Ignacio**	**20.70**	**32**	P		**P**	**12 01 44.0**	**-2.9**
	comp=E,1.3nm,0.6s,baz=211,slow=9.2,SNR=5.1							
SIV				LR		LR	12 11 18.4	
	comp=E,125nm,19.8s,baz=156,slow=42							
VNA1	**Neumayer--Stat**	**49.59**	**157**	P		**P**	**12 05 54.5**	**-1.8**
TXAR	**Lajitas Array**	**69.80**	**331**	P		**P**	**12 08 17.4**	**+1.6**
	comp=E,0.2nm,0.5s,baz=152,slow=7.9,SNR=2.9							
NVAR	**Mina Array Bea**	**83.93**	**325**	P		**P**	**12 09 37.3**	**+2.0**
	comp=E,0.5nm,0.9s,baz=165,slow=3.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P		**P**	**12 09 35.6**	**-2.4**
	comp=E,0.9nm,0.8s,baz=274,slow=6.1,SNR=4.2							
WRA	**Warramunga Arr**	**120.54**	**209**	PKP		**PKPdf**	**12 15 58.3**	**+1.1**
	comp=E,0.1nm,0.6s,baz=174,slow=1.6,SNR=3.1							
ZALV	**Zalesovo Beam**	**154.45**	**32**	PKPbc		**PKPbc**	**12 17 06.7**	**+1.8**
	comp=E,1.7nm,0.7s,baz=269,slow=2.7,SNR=6.7							

*IDC **26** 12:02:30.1±1.6,2.42N×95.66E,h0km,mb4.1/7,mb1 4.1/9, mb1mx3.8/40,mbtmp4.0/9,ML3.9/2,Error ellipse: s-maj=52.9km s-min=18.1km az=54.0*
*ISCJB **26** 12:02:32.0±0.5,2.39N±0.05×95.68E±0.04,h25km, mb4.1/9,Error ellipse: s-maj=8.6km s-min=4.7km az=35.0*
*DJA **26** 12:02:33.3±0.9,2.1N±4.4×9.6E±.1,h19km±5km,M4.4/11, mb4.7/3,mB5.2/2,MLv4.3/11,Mw(mB)4.6/2*
*NEIC **26** 12:02:35.5±0.5,2.47N×95.82E,h35km,mb4.2/2,Error ellipse: s-maj=10.8km s-min=6.0km az=224.0*

ISC 26 12:02:34.0±0.8,2.45N±0.06×95.73E±0.07,h25km,n41, σ0s80/40,mb4.2/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.60**	**94**	P		**Pb**	**12 02 45.9**	**0.0**
SNSI				S		**Sb**	**12 02 54.5**	**+0.5**
GSI	**Gunungsitoli**	**2.17**	**122**	P		**Pn**	**12 03 08.9**	**+0.3**
GSI				S		**Sn**	**12 03 36.6**	**+1.9**
GSI	**Gunungsitoli**	**2.17**	**122**	P		**Pn**	**12 03 09.2**	**+0.6**
GSI	**Gunungsitoli**	**2.17**	**122**	*e*Pn		**Pn**	**12 03 08.3**	**-0.3**
GSI				*e*Sn		**Sn**	**12 03 33.8**	**-0.9**
KCSI	**Kotacane, Aceh**	**2.30**	**62**	P		**Pn**	**12 03 10.2**	**-0.2**
KCSI				S		**Sn**	**12 03 39.8**	**+1.8**
LHMI	**Lhok Sumawe**	**3.02**	**24**	P		**Pn**	**12 03 19.8**	**-0.4**
TSI	**Tuntungan**	**3.02**	**70**	P		**Pn**	**12 03 20.2**	**-0.1**
BSI	**Banda Aceh**	**3.06**	**352**	P		**Pn**	**12 03 20.2**	**-0.6**
BSI				S		**Sn**	**12 03 57.8**	**+1.2**
PSI	**Prapat**	**3.21**	**84**	Pn		**Pn**	**12 03 23.1**	**0.0**
	3.4nm,0.3s,baz=278,slow=5.9,SNR=17							
MNSI	**Mandailing Nat**	**4.19**	**113**	P		**Pn**	**12 03 36.6**	**+0.3**
MNSI	**Mandailing Nat**	**4.19**	**113**	P		**Pn**	**12 03 36.8**	**+0.5**
IPM	**Ipoh**	**5.66**	**69**	*e*Pn		**Pn**	**12 03 56.2**	**-0.4**
	42nm,0.4s							
KULM	**Kulim**	**5.66**	**60**	*e*Pn		**Pn**	**12 03 55.8**	**-0.9**
	63nm,0.8s							
KSM	**Kuching**	**14.60**	**94**	Pn		**Pn**	**12 05 58.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**16.22**	**11**	Pn		**Pn**	**12 06 21.4**	**+1.1**
	0.4nm,0.3s,baz=202,slow=11,SNR=10							
KKM	**Kota Kinabalu**	**20.74**	**79**	P		**P**	**12 07 11.7**	**-1.4**
KAPI	**Kappang**	**25.12**	**107**	*e*P		**P**	**12 07 56.3**	**-1.0**
H08S2	**Diego Garcia H**	**25.26**	**246**	T		T	12 34 12.6	
	baz=66,slow=75,SNR=72							
H08S3	**Diego Garcia H**	**25.26**	**246**	T		T	12 34 12.6	
	baz=66,slow=75,SNR=83							
H08S1	**Diego Garcia H**	**25.28**	**246**	T		T	12 34 11.2	
	baz=66,slow=75,SNR=46							
ODAN	**Odare**	**25.55**	**343**	*e*P		**P**	**12 08 02.2**	**+0.9**
	15nm,0.6s							
RAMN	**Ramite**	**25.88**	**341**	*e*P		**P**	**12 08 05.8**	**+1.5**
	26nm,0.6s							
TAPN	**Taplejung**	**25.92**	**344**	*e*P		**P**	**12 08 05.6**	**+0.9**
JIRN	**Jiri**	**26.68**	**341**	*e*P		**P**	**12 08 12.3**	**+0.7**
	31nm,0.7s							
GUN	**Gumba**	**27.01**	**341**	*e*P		**P**	**12 08 15.3**	**+0.7**
	22nm,0.8s							
KOLN	**Koldanda**	**27.72**	**336**	*e*P		**P**	**12 08 21.3**	**+0.5**
	14nm,0.6s							
PYUN	**Piuthan**	**28.26**	**336**	*e*P		**P**	**12 08 26.0**	**+0.4**
	12nm,0.7s							
H01W3	**Cape Leeuwin H**	**40.96**	**157**	T		T	12 53 52.0	
	baz=332,slow=76,SNR=68							
H01W2	**Cape Leeuwin H**	**40.97**	**157**	T		T	12 53 53.0	
	baz=332,slow=76,SNR=54							
H01W1	**Cape Leeuwin H**	**40.98**	**157**	T		T	12 53 53.2	
	baz=332,slow=76,SNR=64							
WRA	**Warramunga Arr**	**43.94**	**122**	P		**P**	**12 10 39.0**	**-0.4**
	0.9nm,0.6s,baz=299,slow=9.2,SNR=14							
WRAB	**Tennant Creek**	**43.95**	**122**	*e*P		**P**	**12 10 39.2**	**-0.2**
	12nm,1.7s							
WB2	**Warramunga Arr**	**43.95**	**122**	P		**P**	**12 10 39.0**	**-0.5**
ASAR	**Alice Springs**	**45.32**	**127**	P		**P**	**12 10 50.9**	**+0.5**
	0.4nm,0.5s,baz=302,slow=7.9,SNR=18							
MKAR	**Makanchi Array**	**45.69**	**347**	P		**P**	**12 10 53.2**	**+0.3**
	1.6nm,0.5s,baz=178,slow=8.0,SNR=15							
SONM	**Songino Array**	**46.14**	**10**	P		**P**	**12 10 56.0**	**-0.6**
	1.7nm,0.7s,baz=188,slow=9.2,SNR=12							
KURBB	**Kurchatov Arra**	**50.16**	**346**	P		**P**	**12 11 27.7**	**+0.4**
	2.3nm,0.2s,baz=169,slow=6.7,SNR=6.1							
KURK	**Kurchatov**	**50.22**	**346**	P		**P**	**12 11 27.7**	**-0.1**
ZALV	**Zalesovo Beam**	**52.11**	**352**	P		**P**	**12 11 41.8**	**-0.2**
	1.5nm,0.4s,baz=175,slow=7.6,SNR=9.8							
ABKAR	**Akbulak array**	**55.73**	**332**	*e*P		**P**	**12 12 08.5**	**0.0**
	0.8nm,0.6s							
ARCES	**ARCESS Array B**	**80.87**	**340**	P		**P**	**12 14 45.7**	**+0.1**
	2.5nm,0.8s,baz=69,slow=5.9,SNR=4.2							

GUC 26 12:36:37.0±0.4,35.82S×73.44W,h42km±3km,ML3.9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.61**	**121**	*i* P		Pn	12 36 49.9	+0.6
COCH				*i* S		Sn	12 36 59.7	+1.6
CCSP	**San Pedro de C**	**1.06**	**166**	*i* S		Sn	12 37 11.3	+2.4
CCSP				AML		AML	12 37 17.3	
	comp=E,4μm,0.4s							
TALC	**Talca**	**1.53**	**75**	*i* P		Pn	12 37 02.4	+0.6
TALC				*i* S		Sn	12 37 25.0	+4.5

*ISCJB **26** 12:42:30.9±1.3,36.70S±0.08×73.82W±0.10,h10km, mb3.9/1,Error ellipse: s-maj=12.2km s-min=10.2km az=139.8*
*IDC **26** 12:42:31.0±2.7,36.79S×73.72W,h0km,mb3.6/2, mb1 3.7/4,mb1mx3.6/16,mbtmp3.6/4,ML3.7/2,MS4.1/1, Ms1 4.1/1,ms1mx2.9/21,Error ellipse: s-maj=45.6km s-min=20.3km az=89.0*
*GUC **26** 12:42:35.2±0.3,36.93S×73.63W,h22km±3km,ML4.1*

ISC 26 12:42:33.2±1.5,36.69S±0.05×73.8W±0.1,h10km,n9, σ1s02/13,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.57**	**106**	*i* P		**Pg**	**12 42 43.7**	**-0.5**
CCSP				*i* S		**Sg**	**12 42 50.2**	**-1.5**
CCSP				AML		AML	12 42 51.3	
	comp=E,38μm,0.5s							
COCH	**Cobquecura**	**0.98**	**56**	*i* P		**Pg**	**12 42 52.5**	**+0.5**
COCH				*i* S		**Sn**	**12 43 07.9**	**+1.0**
COCH				AML		AML	12 43 10.8	
	comp=E,6μm,0.4s							
AGCH	**Angol**	**1.42**	**142**	*i* P		**Pg**	**12 43 02.0**	**+1.6**
AGCH				*i* S		**Sg**	**12 43 19.1**	**+0.3**
TALC	**Talca**	**2.17**	**54**	*i* P		**Pb**	**12 43 12.6**	**0.0**
TALC				*i* S		**Sb**	**12 43 40.9**	**+1.3**
PLCA	**Paso Flores**	**4.76**	**149**	Pn		**Pn**	**12 43 44.4**	**-0.7**
	comp=E,1.3nm,0.3s,baz=329,slow=13,SNR=18							
PLCA				Lg		Lg	12 44 57.3	
	comp=E,2.9nm,0.3s,baz=64,slow=20,SNR=3.9							
CFAA	**Coronel Fontan**	**6.85**	**44**	Pn		**Pn**	**12 44 13.8**	**0.0**
	comp=E,0.5nm,0.3s,baz=214,slow=12,SNR=12							
CFAA				Sn		**Sn**	**12 45 32.7**	**+0.9**
	comp=E,0.2nm,0.3s,baz=288,slow=16,SNR=2.1							
CFAA				Lg		Lg	12 46 10.7	
	comp=E,0.1nm,0.3s,baz=294,slow=16,SNR=6.6							
CPUP	**Villa Florida**	**17.40**	**58**	LR		LR	12 53 54.6	
	comp=E,640nm,19.5s,baz=216,slow=39							
LPAZ	**La Paz**	**20.93**	**15**	P		**P**	**12 47 16.3**	**-0.5**
	comp=E,1.0nm,0.7s,baz=183,slow=7.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**86.46**	**71**	P		**P**	**12 55 15.6**	**-0.8**
	comp=E,0.5nm,0.6s,baz=221,slow=5.3,SNR=5.4							

*IDC **26** 12:45:42.8±1.5,29.74S×177.36W,h229km±11km,mb3.1/3, mb1 3.7/4,mb1mx3.2/30,mbtmp4.0/4,Error ellipse: s-maj=42.3km s-min=28.6km az=148.0*

ISC 26 12:45:45.0±1.5,29.7S±0.2×177.5W±0.3,h250km,n21, σ1s75/11,mb3.4/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.57**	**320**	P		Pn	12 46 14.2	-4.0
	258nm,0.3s,baz=174,slow=21,SNR=5.0							
MXZ	**Matakaoa Point**	**8.59**	**203**	*e*PN		**Pn**	**12 47 47.7**	**+2.0**
MXZ				*e*SN		S	12 48 54.5	-29
WMGZ	**Waiomatatini S**	**8.79**	**202**	*e*PN		Pn	12 47 51.0	+2.8
HAZ	**Te Kaha**	**8.95**	**205**	*e*PN		**Pn**	**12 47 50.9**	**+0.7**
HAZ				*e*SN		S	12 49 01.3	-30
PUZ	**Puketiti**	**9.07**	**202**	PN		**Pn**	**12 47 53.7**	**+1.9**
PUZ				*e*SN		S	12 49 04.3	-30
MWZ	**Matawai**	**9.56**	**204**	*e*PN		**Pn**	**12 47 57.8**	**-0.2**
MWZ				*e*SN		S	12 49 12.5	-33
URZ	**Urewera**	**9.65**	**206**	P		**Pn**	**12 47 57.5**	**-1.5**
	11nm,0.3s,baz=262,slow=4.2,SNR=166							
URZ	**Urewera**	**9.65**	**206**	*e*PN		**Pn**	**12 47 55.8**	**-3.2**
URZ				*e*SN		S	12 49 12.2	-35
RIGZ	**Rimuhau**	**9.81**	**202**	*e*PN		**Pn**	**12 48 01.0**	**-0.2**
KNZ	**Kokohu**	**10.12**	**202**	*e*PN		**Pn**	**12 48 03.6**	**-1.5**
KNZ				*e*SN		S	12 49 25.8	-33
BKZ	**Black Stump Fm**	**10.67**	**206**	*e*PN		Pn	12 48 07.3	-4.7
MCHZ	**McNeill Hill**	**10.84**	**205**	*e*PN		Pn	12 48 10.4	-3.6
WNVZ	**Wahianoa**	**11.17**	**209**	*e*PN		Pn	12 48 12.1	-6.2
PXZ	**Pawanui**	**11.30**	**203**	*e*PN		Pn	12 48 15.7	-4.1
PXZ				*e*SN		S	12 49 45.1	-41
TSZ	**Takapari Road**	**11.65**	**206**	*e*PN		Pn	12 48 16.9	-7.3
TSZ				*e*SN		S	12 49 51.6	-43
BFZ	**Birch Farm**	**12.10**	**203**	*e*PN		Pn	12 48 24.9	-4.8
BFZ				*e*SN		S	12 50 03.0	-41
MRZ	**Mangatainoka R**	**12.32**	**205**	*e*PN		Pn	12 48 25.7	-6.7
MRZ				*e*SN		S	12 50 04.3	-45
NNZ	**Nelson**	**13.68**	**210**	*e*PN		Pn	12 48 38.8	-10
ASAR	**Alice Springs**	**43.59**	**266**	P		**P**	**12 53 24.6**	**-0.3**
	0.3nm,0.5s,baz=108,slow=8.2,SNR=15							
WRA	**Warramunga Arr**	**44.51**	**271**	P		**P**	**12 53 33.5**	**+1.2**
	0.6nm,0.3s,baz=112,slow=8.0,SNR=25							
TXAR	**Lajitas Array**	**91.64**	**57**	P		**P**	**12 58 23.7**	**-0.4**
	0.2nm,0.4s,baz=208,slow=3.6,SNR=4.2							

MAN 26 12:52:39,13.50N×120.54E,h48km,mb4.1,ML2.9,MS2.6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**1.18**	**151**	*e*P		Pn	12 53 01.1	+2.0
SJMP				*e*S		Sn	12 53 16.3	+2.3
BUSP	**Coron**	**1.53**	**193**	*e*P		Pn	12 53 04.9	+1.0

IDC 26 13:15:44.1±2.8,14.68S×175.09W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.6/19,mbtmp3.5/4,Error ellipse: s-maj=159.5km s-min=25.8km az=146.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.42**	**256**	P		P	13 24 28.9	+0.4
	0.2nm,0.6s,baz=93,slow=7.7,SNR=7.0							
ASAR	**Alice Springs**	**48.78**	**251**	P		P	13 24 30.9	-0.4
	1.1nm,0.5s,baz=89,slow=7.7,SNR=37							
NVAR	**Mina Array Bea**	**74.91**	**43**	P		P	13 27 27.7	+0.5
	0.3nm,0.5s,baz=232,slow=10,SNR=3.2							
ILAR	**Eielson Array**	**82.07**	**12**	P		P	13 28 05.3	-0.6
	0.2nm,0.3s,baz=215,slow=5.2,SNR=8.0							

GUC 26 13:17:52.7±0.5,36.17S×72.77W,h40km±6km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.72**	**202**	*i* P		Pn	13 18 06.4	-0.1
CCSP				*i* S		Sn	13 18 16.8	+0.4
CCSP				AML		AML	13 18 21.6	
	comp=E,6μm,0.3s							
NICH	**Los Niches**	**1.71**	**48**	*i* P		Pn	13 18 21.4	+1.3
NICH				*i* S		Sn	13 18 43.8	+3.1
NICH				AML		AML	13 18 46.7	
	comp=E,2μm,0.1s							

*IDC **26** 13:35:10.1±1.5,34.83S×72.22W,h0km,mb3.4/3, mb1 3.8/5,mb1mx3.7/22,mbtmp3.6/5,ML4.0/2,MS3.1/1, Ms1 3.1/1,ms1mx2.6/13,Error ellipse: s-maj=42.9km s-min=20.7km az=87.0*
*ISCJB **26** 13:35:12.5±1.0,34.81S±0.09×72.2W±0.2,h29km,mb3.4/3, Error ellipse: s-maj=21.2km s-min=10.8km az=26.6*

ISC 26 13:35:14.5±1.3,34.8S±0.1×72.2W±0.2,h29km,n12, σ0s54/7,mb3.5/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.62**	**48**	Pn		**Pn**	**13 36 22.0**	**-0.4**
	0.2nm,0.3s,baz=224,slow=13,SNR=8.4							
CFAA				Sn		**Sn**	**13 37 15.9**	**+0.8**
	baz=214,slow=16,SNR=2.6							
PLCA	**Paso Flores**	**6.07**	**168**	Pn		**Pn**	**13 36 42.5**	**+0.1**
	1.2nm,0.3s,baz=337,slow=10.0,SNR=18							
PLCA				Lg		Lg	13 38 20.7	
	0.4nm,0.3s,baz=259,slow=19,SNR=3.4							
PLCA				LR		LR	13 39 05.9	
	comp=Z,145nm,18.1s,baz=172,slow=39							
LPAZ	**La Paz**	**18.80**	**12**	P		**P**	**13 39 31.9**	**-0.4**
	0.1nm,0.3s,baz=182,slow=7.3,SNR=7.6							
SIV	**San Ignacio**	**21.24**	**31**	P		**P**	**13 39 58.0**	**-0.3**
	0.9nm,0.6s,baz=207,slow=12,SNR=3.1							
TXAR	**Lajitas Array**	**70.35**	**331**	P		**P**	**13 46 26.1**	**+0.4**
	0.2nm,0.4s,baz=160,slow=10,SNR=5.2							
TORD	**Torodi Ar. Bea**	**84.63**	**70**	P		**P**	**13 47 45.5**	**-0.1**
	0.3nm,0.7s,baz=234,slow=5.2,SNR=3.2							
H11S2	**WAKE ISLAND Hyl**	**25.60**	**269**	T		T	16 12 28.6	
	baz=113							
H11S1	**WAKE ISLAND Hyl**	**25.61**	**269**	T		T	16 12 29.6	
	baz=113							
H11S3	**WAKE ISLAND Hyl**	**25.61**	**269**	T		T	16 12 30.5	
	baz=122,slow=79,SNR=5.6							
H11N3	**WAKE ISLAND Hyl**	**26.03**	**270**	T		T	16 12 54.4	
	baz=122,slow=79,SNR=5.1							
H11N1	**WAKE ISLAND Hyl**	**26.04**	**270**	T		T	16 12 53.7	
	baz=122,slow=79,SNR=5.1							
H11N2	**WAKE ISLAND Hyl**	**26.05**	**270**	T		T	16 12 55.2	
	baz=122,slow=79,SNR=7.1							

*ISCJB **26** 13:36:14.2±1.2,40.36N±0.05×39.99E±0.06,h5km±30km, Error ellipse: s-maj=8.8km s-min=6.5km az=44.1*
*DDA **26** 13:36:14.1,40.35N×39.99E,h7km,MD2.7*
*CSEM **26** 13:36:14.1±0.2,40.36N×40.01E,h2km,MD2.7,Error ellipse: s-maj=5.7km s-min=4.2km az=19.0*

ISC 26 13:36:13.9±1.2,40.37N±0.04×40.03E±0.03,h8km±9km, n10,σ0s42/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BAYT	**Ayd¨--ntepe-Bay**	**0.09**	**72**	*e*PG		**Pg**	**13 36 16.0**	**-0.3**
BAYT				*e*SG		**Sg**	**13 36 18.7**	**+0.6**
BAYT	**Ayd¨--ntepe-Bay**	**0.09**	**72**	*e*Pg		**Pg**	**13 36 16.0**	**-0.3**
GUMT	**Gumushane**	**0.43**	**283**	*e*PG		**Pg**	**13 36 22.5**	**+0.2**
GUMT	**Gumushane**	**0.43**	**283**	*e*Pg		**Pg**	**13 36 22.5**	**+0.2**
KOPT	**Kop Dagi**	**0.50**	**134**	*i* P		**Pg**	**13 36 24.1**	**+0.4**
KOPT				*i* S		**Sb**	**13 36 32.2**	**-0.5**
KOPT	**Kop Dagi**	**0.50**	**134**	*i* P		**Pg**	**13 36 24.1**	**+0.4**
KOPT				*i* S		**Sb**	**13 36 32.2**	**-0.5**
MACK	**Trabzon**	**0.61**	**341**	*i* P		**Pg**	**13 36 26.0**	**+0.3**
MACK				*i* S		**Sb**	**13 36 35.2**	**-0.4**
MACK	**Trabzon**	**0.61**	**341**	*i* P		**Pg**	**13 36 26.0**	**+0.3**
MACK				*i* S		**Sb**	**13 36 35.2**	**-0.4**
KELT	**Kelkit**	**0.63**	**250**	*i* P		**Pg**	**13 36 25.9**	**-0.2**
KELT				*i* S		**Sg**	**13 36 34.6**	**+0.2**
KELT	**Kelkit**	**0.63**	**250**	*i* P		**Pg**	**13 36 25.9**	**-0.2**
KELT				*i* S		**Sg**	**13 36 34.6**	**+0.2**

IDC 26 13:38:25.3±3.2,29.08S×177.53W,h64km±10km,mb3.5/3, mb1 3.7/3,mb1mx3.4/23,mbtmp3.8/3,Error ellipse: s-maj=48.6km s-min=17.1km az=62.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.38**	**244**	P		Pn	13 38 37.1	+0.7
	187nm,0.3s,baz=63,slow=23,SNR=7.2							
RAO				S		Sn	13 38 47.1	+2.6
	331nm,0.3s,baz=112,slow=16,SNR=7.6							
STKA	**Stephens Creek**	**35.19**	**255**	P		P	13 45 12.8	-0.5
	6.2nm,1.2s,baz=84,slow=10,SNR=4.0							
ASAR	**Alice Springs**	**43.60**	**265**	P		P	13 46 23.2	-0.3
	0.3nm,0.5s,baz=103,slow=7.3,SNR=12							
WRA	**Warramunga Arr**	**44.48**	**271**	P		P	13 46 30.6	+0.1
	0.3nm,0.3s,baz=110,slow=8.1,SNR=19							
FINES	**FINESS Array B**	**144.05**	**341**	PKP		PKPdf	13 57 54.0	+1.1
	1.2nm,0.8s,baz=29,slow=3.2,SNR=4.6							

IDC 26 13:46:06.4±26.0,23.27S×173.67W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.8/24,mbtmp4.1/4,Error ellipse: s-maj=483.8km s-min=141.0km az=79.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.30**	**267**	P		P	13 53 21.5	+0.9
	2.3nm,0.3s,baz=86,slow=14,SNR=3.3							
STKA	**Stephens Creek**	**40.34**	**248**	P		P	13 53 44.7	-1.3
	2.4nm,1.1s,baz=94,slow=12,SNR=5.8							
ASAR	**Alice Springs**	**47.86**	**259**	P		P	13 54 46.2	-0.3
	0.4nm,0.3s,baz=94,slow=7.2,SNR=42							
WRA	**Warramunga Arr**	**48.25**	**264**	P		P	13 54 49.6	+0.1
	1.0nm,0.3s,baz=101,slow=8.4,SNR=52							

IDC 26 13:53:20.5±8.2,21.29S×166.11E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/16,mbtmp3.7/3,Error ellipse: s-maj=243.1km s-min=34.5km az=140.0,New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.74**	**267**	P		P	13 59 29.0	+0.1
	0.4nm,0.6s,baz=97,slow=7.8,SNR=16							
ASAR	**Alice Springs**	**29.82**	**259**	P		P	13 59 29.4	-0.2
	0.6nm,0.8s,baz=95,slow=7.8,SNR=9.2							
PETK	**Petropavlovsk-**	**74.44**	**355**	P		P	14 05 00.4	+0.1
	0.5nm,0.4s,baz=133,slow=8.5,SNR=10							

IDC 26 13:59:44.0±494.0,57.19N×29.77E,h0km,Error ellipse: s-maj=193.2km s-min=86.7km az=95.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 4.10**		**93**	*i*			14 23 52.3	
	baz=279,slow=320,SNR=1.4							
I26DE	**FREYUNG INFRAS12.75**		**236**	*i*			15 21 20.0	
	baz=41,slow=335,SNR=0.4							
I46RU	**ZALESOVO INFRA30.57**		**72**	*i*			17 08 00.0	
	baz=300,slow=328,SNR=0.7							

*CSEM **26** 14:05:56.1,37.11N×31.33E,h7km,MD2.8*

DDA 26 14:05:56.1,37.11N×31.33E,h7km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KORT	**Korkueli**	**0.79**	**262**	*i* P		Pg	14 06 11.8	+0.3
KORT				*i* S		Sn	14 06 27.6	+1.5
KORT	**Korkueli**	**0.79**	**262**	*i* P		Pg	14 06 11.8	+0.3
KORT				*i* S		Sn	14 06 27.6	+1.5
GAZI	**Gazipasa**	**1.18**	**137**	*i* P		Pg	14 06 18.0	-0.9
GAZI				*i* S		Sn	14 06 36.1	+0.6
GAZI	**Gazipasa**	**1.18**	**137**	*i* P		Pg	14 06 18.0	-0.9
GAZI				*i* S		Sn	14 06 36.1	+0.6
ERMK	**Ermenek**	**1.36**	**110**	*i* P		Pn	14 06 21.2	-0.6
ERMK				*i* S		Sg	14 06 41.6	+1.4
ERMK	**Ermenek**	**1.36

SEYT	Eskypehyr	1.40	73	*i* P	Pn	14 06 54.3	-0.2
SEYT				*i* S	Sb	14 07 12.0	-1.1
ARMT	Armutlu	1.45	352	*e*PN	Pg	14 06 56.2	0.0
ARMT	Armutlu	1.45	352	*e*Pn	Pg	14 06 56.2	0.0
GPA	Golpazari	1.48	38	*e*Pn	Pg	14 06 56.6	-0.1
GPA	Golpazari	1.48	38	*e*Pn	Pg	14 06 56.7	-0.1
AYDB	Zeytinkoy-Aydi	1.52	219	*e*PN	Pg	14 06 57.4	-0.2
AYDB	Zeytinkoy-Aydi	1.52	219	*e*Pn	Pg	14 06 57.4	-0.2
EDC	Edincik	1.55	322	*e*PN	Pb	14 06 57.4	0.0
EDC	Edincik	1.55	322	*e*Pn	Pb	14 06 57.4	0.0
IZM	Izmir	1.62	244	*e*PN	Pb	14 06 58.5	-0.2
IZM	Izmir	1.62	244	*e*Pn	Pb	14 06 58.5	-0.2
GULT	Gulveren	1.69	39	*e*Pn	Pb	14 06 59.6	-0.3
GULT	Gulveren	1.69	39	*e*Pn	Pb	14 06 59.6	-0.3
ISP	Isparta	1.71	139	*e*PN	Pg	14 07 01.0	-0.3
ISP	Isparta	1.71	139	*e*Pn	Pg	14 07 01.0	-0.3
HRT	Hereke	1.74	14	*e*PN	Pb	14 07 00.8	0.0
HRT	Hereke	1.74	14	*e*Pn	Pb	14 07 00.8	0.0
BLCB	Balcova	1.78	246	*e*PN	Pb	14 07 01.0	-0.4
BLCB	Balcova	1.78	246	*e*Pn	Pb	14 07 01.0	-0.4
SPNC	Sapanca-Adapaz	1.80	30	*e*PN	Pb	14 07 01.2	-0.6
SPNC	Sapanca-Adapaz	1.80	30	*e*Pn	Pb	14 07 01.2	-0.6
MRMT	Marmara Adasi	1.88	322	*e*PN	Pb	14 07 02.2	-0.9
MRMT	Marmara Adasi	1.88	322	*e*Pn	Pb	14 07 02.2	-0.9
KRBG	Karabiga-Canak	1.88	313	*e*PN	Pb	14 07 02.4	-0.7
KRBG	Karabiga-Canak	1.88	313	*e*Pn	Pb	14 07 02.4	-0.7
SVRH	Sivrihisar-ESK	1.90	80	*e*PN	Pb	14 07 02.7	-0.7
SVRH	Sivrihisar-ESK	1.90	80	*e*Pn	Pb	14 07 02.7	-0.7
ISK	Istanbul-Kandi	1.93	359	*e*PN	Pb	14 07 03.1	-0.8
ISK	Istanbul-Kandi	1.93	359	*e*Pn	Pb	14 07 03.1	-0.8
BGKT	Bogazkoy	2.06	353	*e*PN	Pb	14 07 05.4	-0.8
BGKT	Bogazkoy	2.06	353	*e*Pn	Pb	14 07 05.4	-0.8
MDUB	Mudurnu	2.09	50	*e*PN	Pb	14 07 05.4	-1.3
MDUB	Mudurnu	2.09	50	*e*Pn	Pb	14 07 05.4	-1.3
YER	Yerkesik	2.10	198	*e*PN	Pb	14 07 05.5	-1.3
YER	Yerkesik	2.10	198	*e*Pn	Pb	14 07 05.5	-1.3
KLYT	Kilyos	2.12	359	*e*PN	Pb	14 07 06.3	-0.8
KLYT	Kilyos	2.12	359	*e*Pn	Pb	14 07 06.3	-0.8
CTKS	Kestanelik-??a	2.15	348	*e*PN	Pb	14 07 06.3	-1.4
CTKS	Kestanelik-??a	2.15	348	*e*Pn	Pb	14 07 06.3	-1.4
KIZT	Kizilcal	2.17	96	*e*PN	Pb	14 07 07.1	-1.0
KIZT	Kizilcal	2.17	96	*e*Pn	Pb	14 07 07.1	-1.0
LPK	Lapseki	2.20	305	*e*PN	Pn	14 07 06.7	+1.4
LPK	Lapseki	2.20	305	*e*Pn	Pn	14 07 06.7	+1.4
SLVT	Silivri	2.21	342	*e*PN	Pb	14 07 06.9	-1.7
SLVT	Silivri	2.21	342	*e*Pn	Pb	14 07 06.9	-1.7
GELI	Tayfur-Gelibol	2.40	303	*e*PN	Pn	14 07 09.5	+1.5
GELI	Tayfur-Gelibol	2.40	303	*e*Pn	Pn	14 07 09.5	+1.5
CTYL	Yal??k??y-??at	2.42	345	*e*PN	Pn	14 07 10.0	+1.6
CTYL	Yal??k??y-??at	2.42	345	*e*Pn	Pn	14 07 10.0	+1.6
ERIK	Erikli-Kesan	2.52	308	*e*PN	Pn	14 07 11.4	+1.6
ERIK	Erikli-Kesan	2.52	308	*e*Pn	Pn	14 07 11.4	+1.6
GADA	Gvkgeada	2.70	294	*e*PN	Pn	14 07 14.1	+2.0
GADA	Gvkgeada	2.70	294	*e*Pn	Pn	14 07 14.1	+1.9
ALN	Alexandroupoli	2.94	308	*e*PN	Pn	14 07 17.5	+2.0
ALN	Alexandroupoli	2.94	308	*e*Pn	Pn	14 07 17.5	+2.0

IDC **26** *14:20:54.7±0.8,38˚.40N×22˚.13E,h0km,mb3.8/14, mb1 3.9/17,mb1mx3.8/31,mbtmp3.8/17,ML3.6/3,MS2.7/7, Ms1 2.7/7,ms1mx2.4/47,Error ellipse: s-maj=18.7km s-min=14.4km az=47.0*

BEO **26** *14:20:54.8±1.2,38˚.15N×21˚.99E,h0km,ML3.8/3*

ATH **26** *14:20:55.8,38˚.39N×22˚.02E,h15km±1km,MD3.2/36, ML3.7*

ISCJB **26** *14:20:56.1±0.3,38˚.38N±0˚.01×22˚.03E±0˚.02,h13km±2km, mb3.8/13,MS2.6/3,Error ellipse: s-maj=2.3km s-min=2.1km az=173.9*

CSEM **26** *14:20:56.1±0.1,38˚.37N×22˚.04E,h2km,MD3.2,Error ellipse: s-maj=2.6km s-min=2.3km az=95.0*

THE **26** *14:20:56.4,38˚.38N×22˚.02E,h0km±1km,ML3.8/10,Error ellipse: s-maj=1.4km s-min=0.4km az=239.0*

NEIC **26** *14:21:02.5±0.7,38˚.37N×22˚.23E,h62km±8km,mb4.2/3, Error ellipse: s-maj=10.3km s-min=6.7km az=208.0*

ISC 26 14:20:56.4±0.7,38˚.38N±0˚.01×22˚.01E±0˚.01,h10km±4km, n273,σ1§17/322,mb4.0/13,MS2.5/3,25C-7D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.10**	**300**			**P**	**Pg**	**14 20 58.8**	**-0.1**
EFP						S	Sg	14 21 00.6	-0.2
EFP	**Efpalio**	**0.10**	**300**	*e*PB		**Pg**	**Pg**	**14 20 58.8**	**-0.1**
EFP				*e*SB		Sg	Sg	14 21 00.7	-0.1
EFP	**Efpalio**	**0.10**	**300**	P		**Pg**	**Pg**	**14 20 58.8**	**-0.1**
EFP				S		Sg	Sg	14 21 00.6	-0.2
KALE	**Kalithea**	**0.10**	**83**	P		**Pg**	**Pg**	**14 20 59.2**	**+0.2**
KALE				S		Sg	Sg	14 21 01.2	-0.1
KALE	**Kalithea**	**0.10**	**83**	*e*PB		**Pg**	**Pg**	**14 20 59.3**	**+0.2**
KALE				*e*SB		Sg	Sg	14 21 00.9	-0.1
KALE	**Kalithea**	**0.10**	**83**	P		**Pg**	**Pg**	**14 20 59.2**	**+0.2**
KALE				S		Sg	Sg	14 21 01.0	-0.1
UPR	**University Cam**	**0.20**	**242**	P		**Pg**	**Pg**	**14 21 00.8**	**+0.2**
UPR	**University Cam**	**0.20**	**242**	P		**Pg**	**Pg**	**14 21 00.8**	**+0.2**
UPR				S		Sg	Sg	14 21 03.2	-0.3
KLV	**Kalavryta, Ach**	**0.35**	**162**	P		**Pg**	**Pg**	**14 21 03.1**	**-0.3**
KLV				S		Sg	Sg	14 21 08.7	+0.6
KLV	**Kalavryta, Ach**	**0.35**	**162**	*e*PB		**Pg**	**Pg**	**14 21 03.2**	**-0.2**
KLV				*e*SB		Sg	Sg	14 21 08.9	+0.8
KLV	**Kalavryta, Ach**	**0.35**	**162**	*e*Pb		**Pg**	**Pg**	**14 21 03.2**	**-0.2**
KLV				S		Sg	Sg	14 21 08.7	+0.6
PVO	**Paravola**	**0.45**	**302**	P		**Pg**	**Pg**	**14 21 05.1**	**-0.1**
PVO	**Paravola**	**0.45**	**302**	P		**Pg**	**Pg**	**14 21 05.1**	**-0.1**
PVO				S		Sg	Sg	14 21 12.1	+1.0
DRO	**Drossia**	**0.49**	**209**	P		**Pg**	**Pg**	**14 21 05.7**	**-0.1**
DRO				S		Sb	Sb	14 21 13.8	-0.4
DRO	**Drossia**	**0.49**	**209**	*e*PN		**Pg**	**Pg**	**14 21 05.8**	**-0.1**
DRO				*e*SN		Sg	Sg	14 21 12.8	+0.5
DRO	**Drossia**	**0.49**	**209**	*e*Pn		**Pg**	**Pg**	**14 21 05.8**	**-0.1**
DRO				*e*Sn		Sg	Sg	14 21 12.8	+0.5
DRO				S		Sb	Sb	14 21 13.8	-0.4
GUR	**Goura**	**0.51**	**149**	P		**Pg**	**Pg**	**14 21 05.9**	**-0.5**
GUR	**Goura**	**0.51**	**149**	*e*PN		**Pg**	**Pg**	**14 21 06.1**	**-0.3**
GUR	**Goura**	**0.51**	**149**	*e*Pn		**Pg**	**Pg**	**14 21 06.1**	**-0.3**
RLS	**Riolos of Patr**	**0.54**	**233**	P		**Pg**	**Pg**	**14 21 06.7**	**0.0**
RLS				S		Sg	Sg	14 21 14.1	+0.2
RLS	**Riolos of Patr**	**0.54**	**233**	*e*PN		**Pg**	**Pg**	**14 21 06.8**	**0.0**
RLS				*e*SN		Sg	Sg	14 21 14.5	+0.6
RLS	**Riolos of Patr**	**0.54**	**233**	*e*Pn		**Pg**	**Pg**	**14 21 06.8**	**0.0**
RLS				S		Sg	Sg	14 21 14.1	+0.2
RLS				*e*Sn		Sg	Sg	14 21 14.5	+0.6
EVR	**Evrytania**	**0.56**	**344**	P		**Pg**	**Pg**	**14 21 06.9**	**-0.3**
EVR				S		Sg	Sg	14 21 15.0	+0.3
EVR	**Evrytania**	**0.56**	**344**	*e*PN		**Pg**	**Pg**	**14 21 07.0**	**-0.3**
EVR				*e*SN		Sg	Sg	14 21 14.7	+0.0
EVR	**Evrytania**	**0.56**	**344**	*e*Pn		**Pg**	**Pg**	**14 21 07.0**	**-0.3**
EVR				*e*Sn		Sg	Sg	14 21 14.7	0.0
AXAR	**Agios Charalam**	**0.64**	**53**	P		**Pg**	**Pg**	**14 21 08.1**	**-0.6**
AXAR	**Agios Charalam**	**0.64**	**53**	*e*PN		**Pg**	**Pg**	**14 21 08.3**	**-0.4**
AXAR	**Agios Charalam**	**0.64**	**53**	*e*Pn		**Pg**	**Pg**	**14 21 08.3**	**-0.4**
AXAR				S		Sb	Sb	14 21 19.2	+0.7
MAKR	**Makrakomi, Fth**	**0.64**	**8**	P		**Pg**	**Pg**	**14 21 08.5**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.64**	**8**	*e*Pn		**Pg**	**Pg**	**14 21 08.7**	**-0.1**
MAKR				*e*SN		Sg	Sg	14 21 16.8	-0.4
MAKR	**Makrakomi, Fth**	**0.64**	**8**	P		**Pg**	**Pg**	**14 21 08.5**	**-0.3**
MAKR				*e*Sn		Sg	Sg	14 21 16.8	-0.4
MAKR				S		Sb	Sb	14 21 18.9	+0.3
PDO	**Prodromos**	**0.69**	**289**	P		**Pg**	**Pg**	**14 21 09.1**	**-0.5**
PDO	**Prodromos**	**0.69**	**289**	*e*PN		**Pg**	**Pg**	**14 21 09.5**	**-0.1**
PDO	**Prodromos**	**0.69**	**289**	P		**Pg**	**Pg**	**14 21 09.1**	**-0.5**
PDO	**Prodromos**	**0.69**	**289**	*e*Pn		**Pg**	**Pg**	**14 21 09.5**	**-0.1**
PDO				S		Sb	Sb	14 21 20.6	+0.7
AGG	**Agios Georgios**	**0.69**	**21**	*e*PN		**Pg**	**Pg**	**14 21 09.0**	**-0.7**
AGG	**Agios Georgios**	**0.69**	**21**	*e*Pn		**Pg**	**Pg**	**14 21 09.0**	**-0.7**
VTN	**Vitineika**	**0.80**	**235**	P		**Pg**	**Pg**	**14 21 12.1**	**+0.3**
VTN				S		Sb	Sb	14 21 24.0	+0.9
VTN	**Vitineika**	**0.80**	**235**	P		**Pg**	**Pg**	**14 21 12.1**	**+0.3**
LKR	**Lokris**	**0.82**	**70**	P		**Pg**	**Pg**	**14 21 11.8**	**-0.4**
LKR	**Lokris**	**0.82**	**70**	*e*PB		**Pg**	**Pg**	**14 21 11.1**	**-1.1**
LKR				*e*SN		Sg	Sg	14 21 22.7	-0.2
LKR	**Lokris**	**0.82**	**70**	*e*Pb		**Pg**	**Pg**	**14 21 11.1**	**-1.1**
LKR	**Lokris**	**0.82**	**70**	P		**Pg**	**Pg**	**14 21 11.8**	**-0.4**
LKR				*e*Sn		Sg	Sg	14 21 22.7	-0.2
LTK	**Loutraki**	**0.83**	**115**	P		**Pg**	**Pg**	**14 21 12.3**	**-0.1**
LTK				S		Sb	Sb	14 21 24.7	+0.6
LTK	**Loutraki**	**0.83**	**115**	*e*PN		**Pg**	**Pg**	**14 21 12.5**	**+0.1**
LTK	**Loutraki**	**0.83**	**115**	P		**Pg**	**Pg**	**14 21 12.3**	**-0.1**
LTK				S		Sb	Sb	14 21 24.7	+0.6
AMT	**Artemida-Makis**	**0.88**	**196**	P		**Pg**	**Pg**	**14 21 13.1**	**-0.2**
AMT	**Artemida-Makis**	**0.88**	**196**	*e*PN		**Pg**	**Pg**	**14 21 12.9**	**-0.4**
AMT	**Artemida-Makis**	**0.88**	**196**	P		**Pg**	**Pg**	**14 21 13.1**	**-0.2**
AMT				S		Sg	Sg	14 21 25.2	+0.5
KFL	**Anninata**	**1.00**	**255**	P		**Pg**	**Pg**	**14 21 14.9**	**-0.7**
KFL				S		Sb	Sb	14 21 29.9	+1.0
KFL	**Anninata**	**1.00**	**255**	P		**Pg**	**Pg**	**14 21 14.9**	**-0.7**
KFL				S		Sb	Sb	14 21 29.9	+1.0
DSL	**Palaion Diasel**	**1.04**	**317**	P		**Pg**	**Pg**	**14 21 16.3**	**0.0**
DSL				S		Sn	Sn	14 21 31.9	+0.3
DSL	**Palaion Diasel**	**1.04**	**317**	*e*PN		**Pg**	**Pg**	**14 21 15.2**	**-1.1**
DSL	**Palaion Diasel**	**1.04**	**317**	P		**Pg**	**Pg**	**14 21 16.3**	**0.0**
DSL				S		Sn	Sn	14 21 31.9	+0.3
VLX	**Vlachokerasia**	**1.05**	**164**	P		**Pg**	**Pg**	**14 21 15.6**	**-0.9**
VLX				S		Sn	Sn	14 21 32.2	+0.3
VLX	**Vlachokerasia**	**1.05**	**164**	*e*PN		**Pg**	**Pg**	**14 21 15.6**	**-0.9**
VLX	**Vlachokerasia**	**1.05**	**164**	P		**Pg**	**Pg**	**14 21 15.6**	**-0.9**
VLX				S		Sn	Sn	14 21 32.2	+0.3
VLS	**Valsamata**	**1.14**	**260**	P		**Pg**	**Pb**	**14 21 16.7**	**-1.3**
VLS				S		Sn	Sn	14 21 34.9	+1.0
VLS	**Valsamata**	**1.14**	**260**	*e*PB		**Pg**	**Pb**	**14 21 16.8**	**-1.3**
VLS	**Valsamata**	**1.14**	**260**	*e*Pb		**Pg**	**Pb**	**14 21 16.8**	**-1.3**
VLS				S		Sn	Sn	14 21 34.9	+1.0
ITM	**Ithomi**	**1.20**	**183**	P		**Pg**	**Pb**	**14 21 18.4**	**-0.7**
ITM				S		Sn	Sn	14 21 36.3	+0.8
ITM	**Ithomi**	**1.20**	**183**	*e*PN		**Pg**	**Pb**	**14 21 18.2**	**-0.9**
ITM	**Ithomi**	**1.20**	**183**	P		**Pg**	**Pb**	**14 21 18.4**	**-0.7**
ITM				S		Sn	Sn	14 21 36.3	+0.8
MRKA	**Markates**	**1.28**	**75**	P		**Pg**	**Pb**	**14 21 20.6**	**+0.1**
MRKA	**Markates**	**1.28**	**75**	*e*PN		**Pg**	**Pb**	**14 21 20.6**	**+0.1**
MRKA	**Markates**	**1.28**	**75**	P		**Pg**	**Pb**	**14 21 20.6**	**+0.1**
NAIG	**Nisos Aigina**	**1.32**	**118**	*e*PN		**Pg**	**Pg**	**14 21 21.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.32**	**118**	*e*Pn		**Pg**	**Pg**	**14 21 21.5**	**-0.2**
NEO	**Neokhori**	**1.32**	**45**	*e*PN		**Pn**	**Pn**	**14 21 20.2**	**-0.7**
NEO	**Neokhori**	**1.32**	**45**	*e*Pn		**Pn**	**Pn**	**14 21 20.2**	**-0.7**
XOR	**Xorichti**	**1.35**	**43**	P		**Pn**	**Pn**	**14 21 21.6**	**+0.3**
XOR				S		Sg	Sg	14 21 40.7	+0.9
XOR	**Xorichti**	**1.35**	**43**	*e*PN		**Pn**	**Pn**	**14 21 21.5**	**+0.3**
XOR	**Xorichti**	**1.35**	**43**	P		**Pn**	**Pn**	**14 21 21.6**	**+0.3**
XOR				S		Sg	Sg	14 21 40.7	+0.9
SKIA	**Skiathos**	**1.38**	**55**	P		**Pn**	**Pn**	**14 21 21.8**	**+0.1**
SKIA				S		Sg	Sg	14 21 42.2	+1.4
SKIA	**Skiathos**	**1.38**	**55**	*e*PN		**Pn**	**Pn**	**14 21 21.9**	**+0.2**
SKIA	**Skiathos**	**1.38**	**55**	P		**Pn**	**Pn**	**14 21 21.8**	**+0.1**
SKIA				S		Sg	Sg	14 21 42.2	+1.4
ATH	**Athens Observa**	**1.40**	**106**	*e*PN		**Pb**	**Pb**	**14 21 22.7**	**+0.1**
ATH	**Athens Observa**	**1.40**	**106**	*e*Pn		**Pb**	**Pb**	**14 21 22.7**	**+0.1**
PTL	**Penteli**	**1.50**	**102**	P		**Pb**	**Pb**	**14 21 24.0**	**-0.2**
PTL	**Penteli**	**1.50**	**102**	*e*PN		**Pb**	**Pb**	**14 21 24.0**	**-0.2**
PTL	**Penteli**	**1.50**	**102**	P		**Pb**	**Pb**	**14 21 24.0**	**-0.2**
PYL	**PYLOS**	**1.50**	**188**	P		**Pn**	**Pn**	**14 21 23.4**	**+0.2**
PYL				S		Sg	Sg	14 21 46.0	+1.5
PYL	**PYLOS**	**1.50**	**188**	*e*PN		**Pn**	**Pn**	**14 21 23.4**	**+0.2**
PYL	**PYLOS**	**1.50**	**188**	P		**Pn**	**Pn**	**14 21 23.4**	**+0.2**
JAN	**Janina**	**1.56**	**325**	*e*PN		**Pg**	**Pg**	**14 21 26.6**	**+0.2**
JAN	**Janina**	**1.56**	**325**	*e*Pn		**Pg**	**Pg**	**14 21 26.6**	**+0.2**
AOS	**Alonnisos**	**1.66**	**61**	P		**Pn**	**Pn**	**14 21 25.3**	**-0.2**
AOS	**Alonnisos**	**1.66**	**61**	*e*PN		**Pn**	**Pn**	**14 21 25.3**	**-0.2**
AOS	**Alonnisos**	**1.66**	**61**	P		**Pn**	**Pn**	**14 21 25.3**	**-0.2**
LIT	**Litokhoron**	**1.76**	**12**	P		**Pn**	**Pn**	**14 21 27.3**	**+0.4**
LIT				S		Sb	Sb	14 21 51.3	+0.5
LIT	**Litokhoron**	**1.76**	**12**	*e*PN		**Pn**	**Pn**	**14 21 27.5**	**+0.6**
LIT	**Litokhoron**	**1.76**	**12**	*e*Pn		**Pn**	**Pn**	**14 21 27.5**	**+0.6**
LIT				S		Sb	Sb	14 21 51.3	+0.5
VLI	**Veliai**	**1.81**	**156**	*e*PB		**Pn**	**Pn**	**14 21 28.1**	**+0.5**
KZN	**Kozani**	**1.93**	**355**	P		**Pn**	**Pn**	**14 21 30.3**	**+1.0**
KZN	**Kozani**	**1.93**	**355**	*e*PN		**Pn**	**Pn**	**14 21 31.6**	**-0.1**
KZN	**Kozani**	**1.93**	**355**	P		**Pn**	**Pn**	**14 21 30.3**	**+1.0**
KZN	**Kozani**	**1.93**	**355**	*e*Pn		**Pn**	**Pn**	**14 21 31.6**	**-0.1**
PAIG	**Paliouri**	**2.02**	**39**	P		**Pn**	**Pn**	**14 21 30.2**	**-0.2**
PAIG	**Paliouri**	**2.02**	**39**	*e*PB		**Pn**	**Pn**	**14 21 30.0**	**-0.4**
PAIG	**Paliouri**	**2.02**	**39**	P		**Pn**	**Pn**	**14 21 30.2**	**-0.2**
KEK	**Kerkira**	**2.18**	**308**	*e*PN		**Pb**	**Pb**	**14 21 35.5**	**-0.3**
KEK	**Kerkira**	**2.18**	**308**	*e*Pn		**Pb**	**Pb**	**14 21 35.5**	**-0.3**
KYTH	**Kithira**	**2.25**	**158**	*e*PN		**Pb**	**Pb**	**14 21 36.2**	**-0.8**
KYTH	**Kithira**	**2.25**	**158**	*e*Pn		**Pb**	**Pb**	**14 21 36.2**	**-0.8**
PLG	**Polygyros**	**2.28**	**29**	P		**Pn**	**Pn**	**14 21 34.1**	**0.0**
PLG	**Polygyros**	**2.28**	**29**	*e*PB		**Pn**	**Pn**	**14 21 34.1**	**0.0**
PLG	**Polygyros**	**2.28**	**29**	P		**Pn**	**Pn**	**14 21 34.1**	**0.0**
HORT	**Hortiatis**	**2.37**	**20**	P		**Pn**	**Pn**	**14 21 35.8**	**+0.5**
HORT	**Hortiatis**	**2.37**	**20**	*e*PB		**Pn**	**Pn**	**14 21 35.6**	**+0.3**
HORT	**Hortiatis**	**2.37**	**20**	P		**Pn**	**Pn**	**14 21 35.6**	**+0.5**
FNA	**Florina**	**2.45**	**349**	P		**Pn**	**Pn**	**14 21 37.9**	**+1.5**
FNA	**Florina**	**2.45**	**349**	*e*PN		**Pn**	**Pn**	**14 21 38.0**	**+1.5**
FNA	**Florina**	**2.45**	**349**	P		**Pn**	**Pn**	**14 21 37.9**	**+1.5**
OUR	**Ouranopolis**	**2.48**	**37**	*e*PB		**Pn**	**Pn**	**14 21 36.9**	**+0.2**
SOH	**Sokhos**	**2.65**	**23**	P		**Pn**	**Pn**	**14 21 40.3**	**+1.1**
SOH	**Sokhos**	**2.65**	**23**	*e*PN		**Pn**	**Pn**	**14 21 40.2**	**+1.1**
SOH	**Sokhos**	**2.65**	**23**	*e*Pn		**Pn**	**Pn**	**14 21 40.2**	**+1.1**
KNT	**Kendrikon**	**2.86**	**14**	P		**Pn**	**Pn**	**14 21 42.9**	**+0.9**
KNT	**Kendrikon**	**2.86**	**14**	*e*PN		**Pn**	**Pn**	**14 21 43.4**	**+1.4**
KNT	**Kendrikon**	**2.86**	**14**	P		**Pn**	**Pn**	**14 21 42.9**	**+0.9**
KNT	**Kendrikon**	**2.86**	**14**	*e*Pn		**Pn**	**Pn**	**14 21 43.4**	**+1.4**
OHR	**Ohrid**	**2.88**	**341**	*e*Pn		**Pn**	**Pn**	**14 21 44.4**	**+2.0**
OHR				*e*Sn		**Sb**	**Sb**	**14 22 20.7**	**-2.5**
OHR	**Ohrid**	**2.88**	**341**	*e*Pn		**Pn**	**Pn**	**14 21 44.3**	**+2.0**
OHR				*e*Sn		**Sb**	**Sb**	**14 22 20.7**	**-2.5**
LIA	**Limnos Island**	**2.90**	**57**	*e*PN		**Pn**	**Pn**	**14 21 42.6**	**+0.2**
LIA	**Limnos Island**	**2.90**	**57**	*e*Pn		**Pn**	**Pn**	**14 21 42.6**	**+0.2**
VAY	**Valandovo**	**2.97**	**8**	*e*Pn		**Pn**	**Pn**	**14 21 44.4**	**+0.9**
VAY				*e*SN		**Sn**	**Sn**	**14 22 21.3**	**+2.2**
VAY	**Valandovo**	**2.97**	**8**	*e*Pn		**Pn**	**Pn**	**14 21 44.4**	**+0.9**
VAY				*e*Sn		**Sn**	**Sn**	**14 22 21.3**	**+2.2**
SRS	**Serrai**	**2.99**	**24**	P		**Pn**	**Pn**	**14 21 44.2**	**+0.4**
SRS	**Serrai**	**2.99**	**24**	*e*PN		**Pn**	**Pn**	**14 21 44.3**	**+0.4**
SRS	**Serrai**	**2.99**	**24**	*e*Pn		**Pn**	**Pn**	**14 21 44.3**	**+0.4**
APE	**Apeiranthos**	**3.08**	**114**	*e*PN		**Pn**	**Pn**	**14 21 46.1**	**+1.0**
APE	**Apeiranthos**	**3.08**	**114**	ǁ*i*P		**Pn**	**Pn**	**14 21 46.0**	**+1.0**
APE	**Apeiranthos**	**3.08**	**114**	S		**Sn**	**Sn**	**14 22 20.9**	**-1.1**
APE	**Apeiranthos**	**3.08**	**114**	ǁ*i*P		**Pn**	**Pn**	**14 21 46.0**	**+1.0**
CHOS	**Chios island**	**3.18**	**89**	*e*PN		**Pn**	**Pn**	**14 21 47.6**	**+1.2**
CHOS	**Chios island**	**3.18**	**89**	*e*Pn		**Pn**	**Pn**	**14 21 47.6**	**+1.2**
KAVA	**Kavala**	**3.25**	**36**	*e*PN		**Pn**	**Pn**	**14 21 48.2**	**+0.9**
KAVA	**Kavala**	**3.25**	**36**	*e*Pn		**Pn**	**Pn**	**14 21 48.2**	**+0.9**
NVR	**Nevrokopi**	**3.29**	**25**	P		**Pn**	**Pn**	**14 21 48.3**	**+0.4**
NVR	**Nevrokopi**	**3.29**	**25**	*e*PN		**Pn**	**Pn**	**14 21 49.2**	**+1.3**
NVR	**Nevrokopi**	**3.29**	**25**	P		**Pn**	**Pn**	**14 21 48.3**	**+0.4**
NVR	**Nevrokopi**	**3.29**	**25**	*e*Pn		**Pn**	**Pn**	**14 21 49.2**	**+1.3**
SANT	**Santorini**	**3.40**	**125**	*e*PN		**Pn**	**Pn**	**14 21 50.8**	**+1.4**
SANT	**Santorini**	**3.40**	**125**	*e*Pn		**Pn**	**Pn**	**14 21 50.8**	**+1.4**
MMB	**Musomiste**	**3.47**	**22**	ǁ*i*P		**Pn**	**Pn**	**14 21 50.9**	**+0.6**
MMB	**Musomiste**	**3.47**	**22**	S		**Sn**	**Sn**	**14 22 30.9**	**-0.5**
MMB	**Musomiste**	**3.47**	**22**	ǁ*i*P		**Pn**	**Pn**	**14 21 50.9**	**+0.6**
SKO	**Skopje**	**3.62**	**353**	*e*PN		**Pn**	**Pn**	**14 21 53.8**	**+1.4**
SKO	**Skopje**	**3.62**	**353**	*e*Pn		**Pn**	**Pn**	**14 21 53.7**	**+1.4**
IDI	**Anoyia**	**3.85**	**142**	Pn		**Pn**	**Pn**	**14 21 55.4**	**-0.3**
	4.0nm,0.3s,baz=318,slow=19,SNR=20								
IDI						Sn	**Sn**	**14 22 39.7**	**-1.4**
	6.1nm,0.3s,baz=315,slow=18,SNR=2.5								
IDI						LR	LR	14 23 24.6	
	comp=Z,48nm,18.7s,baz=292,slow=39								
GVD	**Gavdhos**			**3.91**	**154**	*e*Pn	Pn	14 22 00.1	+3.7
GVD	**Gavdhos**			**3.91**	**154**	*e*Pn	Pn	14 22 00.1	+3.7
TIP	**Timpagrande**			**4.18**	**283**	*e*PN	**Pn**	**14 22 01.5**	**+1.3**
TIP	**Timpagrande**			**4.18**	**283**	*e*Pn	**Pn**	**14 22 01.5**	**+1.3**
KDZ	**Kurdzhali**			**4.18**	**38**	ǁ*i*P	**Pn**	**14 21 59.7**	**-0.5**
KDZ	**Kurdzhali**			**4.18**	**38**	S	**Sn**	**14 22 49.0**	**-0.1**
KDZ	**Kurdzhali**			**4.18**	**38**	ǁ*i*P	**Pn**	**14 21 59.7**	**-0.5**
VTS	**Vitosha**			**4.30**	**12**	*e*Pn	**Pn**	**14 22 04.1**	**+2.1**
VTS	**Vitosha**			**4.30**	**12**	ǁ*i*P	**Pn**	**14 22 04.1**	**+2.1**
VTS	**Vitosha**			**4.30**	**12**	S	**Sn**	**14 22 54.7**	**+2.4**
VTS	**Vitosha**			**4.30**	**12**	ǁ*i*P	**Pn**	**14 22 04.1**	**+2.1**
PDG	**Podgorica**			**4.56**	**333**	*e*Pn	**Pn**	**14 22 07.0**	**+1.7**
PDG	**Podgorica**			**4.56**	**333**	*e*Pn	**Pn**	**14 22 07.0**	**+1.7**
SG1	**Sgolgore (BA)**			**4.79**	**302**	*e*Pn	**Pn**	**14 22 10.6**	**+2.0**
SELS	**Selova**			**4.88**	**352**	ǁ*i*Pn	**Pn**	**14 22 12.0**	**+2.2**
ZAPS	**Zavoj**			**4.91**	**5**	ǁ*i*Pn	**Pn**	**14 22 12.6**	**+2.4**
CUC

ILAR	**Eielson Array**	**76.81**	**355**	P	**P**	**14 32 48.7**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=0.9,slow=3.1,SNR=2.6						
KSAR	**Wonju Array Be**	**78.28**	**51**	P	**P**	**14 32 55.5**	**-0.9**
KSAR	**Wonju Array Be**	**78.28**	**51**	P	**P**	**14 32 55.5**	**-0.9**
KSRS	**Korea Array**	**78.29**	**51**	P	**P**	**14 32 55.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=344,slow=6.7,SNR=3.8						
ASAR	**Alice Springs**	**121.03**	**97**	PKP	**PKPdf**	**14 39 47.7**	**-1.7**
	comp=Z,0.3nm,0.9s,baz=315,slow=1.5,SNR=3.7						

IDC 26 14:23:55.5±4.6, 11°.73S×165°.53E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=209.1km s-min=37.2km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**32.30**	**244**	P	P	14 30 26.1	-0.3
	0.6nm,0.8s,baz=63,slow=9.9,SNR=6.9						
ILAR	**Eielson Array**	**84.23**	**19**	P	P	14 36 28.2	-0.3
	0.3nm,0.5s,baz=247,slow=4.7,SNR=9.6						
MKAR	**Makanchi Array**	**93.88**	**317**	P	P	14 37 15.8	+0.8
	0.5nm,0.8s,baz=120,slow=3.9,SNR=4.8						

*IDC **26** 15:06:38.9±0.8, 36°.99N×85°.06E, h0km, mb3.5/10, mb1 3.8/15, mb1mx3.6/33, mbtmp3.6/15, ML3.6/5, MS2.9/4, Ms1 2.9/4, ms1mx2.5/32, Error ellipse: s-maj=23.8km s-min=14.4km az=46.0*

*ISCJB **26** 15:06:39.1±0.5, 37°.08N±0°.05×85°.02E±0°.06, h10km, mb3.4/11, MS2.8/3, Error ellipse: s-maj=8.4km s-min=6.0km az=27.7*

*BJI **26** 15:06:40.4, 37°.03N×85°.02E, h7km, mb3.7/1, ML4.0/9*

*NNC **26** 15:06:47.4±6.5, 37°.19N×84°.85E, h50km±47km, mb3.9, Error ellipse: s-maj=56.3km s-min=44.7km az=144.0*

ISC 26 15:06:40.4±0.7, 37°.06N±0°.08×85°.11E±0°.07, h10km, n29, σ1§08/30, mb3.5/11, MS2.8/3, 10C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**7.03**	**15**	Pn	**Pn**	**15 08 25.0**	**+1.5**
WMQ				Sn	**Sn**	**15 09 45.3**	**+1.8**
WMQ				SMN			
	51nm,0.8s						
WMQ				SME			
	62nm,0.7s						
KSH	**Kashi**	**7.59**	**292**	Pn	Pn	15 08 35.3	+4.1
KSH				Sn	**Sn**	**15 09 59.0**	**+1.6**
KSH				SMN			
	54nm,0.5s						
KSH				SME			
	41nm,0.7s						
TKM2	**Tokmak 2**	**9.35**	**312**	⇓Pn	**Pn**	**15 08 55.5**	**+0.1**
	1.6nm,0.4s						
TKM2				⇓Sn	**Sn**	**15 10 39.9**	**-0.8**
	7.6nm,0.7s						
TKM2				⇑Lg	Lg	15 11 35.7	
	32nm,1.1s						
AAK	**Ala-Archa**	**9.87**	**308**	⇑Pn	**Pn**	**15 09 01.9**	**-0.6**
	2.4nm,0.9s						
AAK				⇑Lg	Lg	15 11 52.7	
	18nm,1.4s						
AAK	**Ala-Archa**	**9.87**	**308**	Pn	**Pn**	**15 09 02.5**	**-0.1**
	0.3nm,0.3s,baz=136,slow=7.2,SNR=5.1						
AAK				Pg		15 09 40.7	
	0.5nm,0.3s,baz=104,slow=12,SNR=4.6						
AAK				LR	LR	15 13 57.9	
	comp=Z,41nm,18.8s,baz=74,slow=44						
MK31	**Makanchi Array**	**9.95**	**349**	⇑Pn	**Pn**	**15 09 04.0**	**+0.6**
	2.4nm,0.6s,baz=167,slow=14,SNR=67						
MK31				⇑Sn	**Sn**	**15 10 52.5**	**-2.6**
	1.5nm,0.4s,baz=178,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**9.95**	**349**	Pn	**Pn**	**15 09 03.4**	**0.0**
	0.9nm,0.3s,baz=163,slow=14,SNR=43						
MKAR				Sn	**Sn**	**15 10 53.4**	**-1.6**
	1.7nm,0.3s,baz=170,slow=27,SNR=4.7						
GTA	**Gaotai**	**11.80**	**74**	*e*P	Pn	15 09 33.3	+4.4
GTA				pP		15 09 36.8	
GTA				sP		15 09 39.3	
GTA				PMZ			
	3.0nm,1.7s						
KURBB	**Kurchatov Arra**	**14.35**	**343**	⇑P	**P**	**15 10 09.9**	**-0.7**
	3.4nm,0.5s						
KURBB	**Kurchatov Arra**	**14.35**	**343**	Pn	P	15 10 07.2	-3.5
	0.2nm,0.3s,baz=160,slow=11,SNR=8.2						
KURK	**Kurchatov**	**14.42**	**343**	⇑P	**P**	**15 10 10.1**	**-1.3**
	1.6nm,0.8s						
CD2	**Chengdu**	**16.63**	**106**	*e*P	**P**	**15 10 34.5**	**-1.6**
ZALV	**Zalesovo Beam**	**16.89**	**359**	Pn	**P**	**15 10 38.2**	**-0.5**
	0.3nm,0.3s,baz=182,slow=12,SNR=3.9						
SONM	**Songino Array**	**18.98**	**49**	P	**Pn**	**15 11 04.0**	**+1.3**
	0.1nm,0.3s,baz=239,slow=10.0,SNR=3.0						
BVA0	**Borovoye Array**	**18.99**	**332**	⇑P	**Pn**	**15 11 02.1**	**-0.5**
	2.5nm,0.5s,baz=136,slow=12,SNR=13						
BVAR	**Borovoye Array**	**18.99**	**332**	P	**Pn**	**15 11 02.5**	**-0.2**
	1.2nm,0.3s,baz=136,slow=12,SNR=22						
BRVK	**Borovoye**	**19.05**	**332**	⇑P	**Pn**	**15 11 03.2**	**-0.2**
	8.1nm,0.7s						
GEYT	**Alibeck**	**21.41**	**281**	P	**P**	**15 11 29.7**	**+1.3**
	1.8nm,0.6s,baz=91,slow=10,SNR=4.7						
GEYT				LR	LR	15 21 42.0	
	comp=Z,43nm,18.5s,baz=25,slow=42						
AB31	**Akbulak array**	**21.92**	**312**	⇑P	**P**	**15 11 33.5**	**-0.2**
	1.1nm,0.5s,baz=109,slow=11,SNR=23						
CMAR	**Chiang Mai Arr**	**22.17**	**143**	P	**P**	**15 11 35.9**	**-0.7**
	0.2nm,0.3s,baz=323,slow=10,SNR=2.6						
AKTO	**Aktyubinsk**	**23.54**	**313**	P	**P**	**15 11 49.8**	**-0.9**
	0.4nm,0.3s,baz=109,slow=9.6,SNR=3.2						
AKTO				LR	LR	15 22 10.2	
	comp=Z,33nm,18.0s,baz=135,slow=40						
BRTR	**Keskin Array B**	**39.98**	**290**	P	**P**	**15 14 15.9**	**+0.6**
	0.8nm,0.8s,baz=69,slow=8.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**42.05**	**74**	LR	LR	15 35 15.9	
	comp=Z,8.4nm,18.2s,baz=165,slow=41						
GERES	**GERESS Array B**	**51.76**	**307**	P	**P**	**15 15 48.8**	**+0.7**
	0.8nm,0.7s,baz=95,slow=8.0,SNR=6.8						
ILAR	**Eielson Array**	**70.66**	**21**	P	**P**	**15 17 56.5**	**+0.6**
	0.6nm,0.8s,baz=317,slow=5.5,SNR=4.4						
WRA	**Warramunga Arr**	**73.27**	**132**	P	**P**	**15 18 12.3**	**+0.2**
	0.3nm,0.7s,baz=320,slow=5.2,SNR=3.5						
ASAR	**Alice Springs**	**75.90**	**135**	P	**P**	**15 18 27.2**	**-0.2**
	0.4nm,1.0s,baz=46,slow=29,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.00**	**277**	P	**P**	**15 18 32.7**	**-1.1**
	0.2nm,0.5s,baz=49,slow=5.0,SNR=3.8						
YKA	**Yellowknife Ar**	**79.52**	**9**	P	**P**	**15 18 47.2**	**+0.2**
	0.3nm,0.6s,baz=338,slow=5.3,SNR=5.0						

*ISCJB **26** 15:14:21.4±0.5, 32°.24N±0°.02×115°.20W±0°.03, h15km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=155.4*

*NEIC **26** 15:14:23.5, 32°.22N×115°.28W, h19km, MD3.8(MEX), ML3.9(PAS), ML4.0(ECX), After ECX.*

*ECX **26** 15:14:23.6±0.6, 32°.22N×115°.28W, h10km, MD3.8, ML4.0*

*MEX **26** 15:14:24.1±0.5, 32°.23N×115°.25W, h5km±7km, MD3.8*

ISC 26 15:14:21.7±1.1, 32°.15N±0°.03×115°.25W±0°.03, h9km±9km, n39, σ1§06/67, 7C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.26**	**10**	*i* P	**Pb**	**15 14 27.6**	**-0.9**
MBIG				*i* S	**Sg**	**15 14 29.9**	**-0.5**
CPBX	**Cerro Prieto**	**0.27**	**351**	⇓*e*P	**Pg**	**15 14 27.6**	**+0.4**
CPBX				*e*S	**Sg**	**15 14 30.9**	**+0.2**
CPBX				⇓*e*		15 14 34.3	
CPBX				AML	AML	15 14 34.3	
	comp=E,74μm,0.3s						
CPBX	**Cerro Prieto**	**0.27**	**351**	*i* P	**Pg**	**15 14 27.5**	**+0.4**
CPBX				*e*S	**Sg**	**15 14 30.1**	**-0.7**
RDX	**Rancho Dawling**	**0.63**	**249**	⇑*e*P	**Pb**	**15 14 35.2**	**+0.3**
RDX				*e*S	**Sb**	**15 14 43.8**	**0.0**
SGL	**Mount Signal**	**0.64**	**321**	⇑*i*P	**Pg**	**15 14 33.6**	**-0.4**
COA	**Coachella**	**0.72**	**9**	⇓*i*P	**Pg**	**15 14 34.9**	**-0.6**
YUH	**Yuha Desert**	**0.75**	**311**	⇑*i*P	**Pg**	**15 14 35.5**	**-0.7**
RMX	**La Rumorosa**	**0.83**	**303**	⇑*e*P	**Pg**	**15 14 37.3**	**-0.4**
RMX				*e*S	**Sg**	**15 14 47.8**	**-0.7**
GLA	**Glamis**	**0.96**	**22**	*e*P	**Pg**	**15 14 38.4**	**-1.9**
GLA				*e*S	**Sg**	**15 14 52.3**	**-0.6**
ZAX	**El Zacaton**	**1.08**	**234**	⇓*e*P	**Pb**	**15 14 42.8**	**+0.3**
ZAX				*e*S	**Sg**	**15 14 57.6**	**+1.2**
SPIG	**San Pedro Mart**	**1.12**	**189**	*i* P	**Pb**	**15 14 43.7**	**+0.3**
SPIG				*e*S	**Sn**	**15 14 59.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.12**	**189**	*i* P	**Pb**	**15 14 43.7**	**+0.3**
SPIG				*e*S	**Sn**	**15 14 59.5**	**+0.1**
SPX	**San Pedro Mart**	**1.12**	**189**	⇓*e*P	**Pb**	**15 14 43.7**	**+0.3**
SPX				AML	AML	15 15 02.6	
	comp=N,1μm,0.5s						
SPX				⇓*e*		15 15 02.6	
SPX	**San Pedro Mart**	**1.12**	**189**	*i* P	**Pb**	**15 14 43.7**	**+0.3**
SPX				*e*S	**Sn**	**15 14 59.5**	**+0.1**
CBX	**Cerro Bola**	**1.21**	**278**	*i* P	**Pn**	**15 14 43.6**	**-1.2**
CBX				*e*S	**Sb**	**15 14 59.0**	**-1.4**
CBX	**Cerro Bola**	**1.21**	**278**	⇑*e*P	**Pn**	**15 14 43.6**	**-1.2**
CBX				*e*S	**Sb**	**15 14 59.5**	**-0.9**
CBX				⇓*e*		15 15 01.3	
	comp=E,5μm,0.5s						
CBX	**Cerro Bola**	**1.21**	**278**	*i* P	**Pn**	**15 14 43.6**	**-1.2**
CBX				*e*S	**Sb**	**15 14 59.0**	**-1.4**
ECNX	**Esteban Cantu**	**1.25**	**247**	⇑*e*P	**Pn**	**15 14 45.2**	**-0.1**
ECNX				*e*S	**Sb**	**15 15 02.3**	**+0.7**
BAR	**Barrett**	**1.31**	**294**	*e*Pn	**Pn**	**15 14 44.6**	**-1.6**
BAR				*e*S	**Sb**	**15 15 01.6**	**-1.8**
PBX	**Punta Banda**	**1.32**	**252**	⇑*e*P	**Pn**	**15 14 46.1**	**-0.2**
PBX				*e*S	**Sb**	**15 15 03.9**	**+0.3**
PFO	**Pinyon Flats O**	**1.77**	**325**	*e*Pn	**Pn**	**15 14 49.9**	**-2.7**
PFO				*e*Pg	**Pg**	**15 14 55.3**	**-0.3**
PFO				*e*Sg	**Sb**	**15 15 16.6**	**-0.1**
214A	**Organ Pipe Nat**	**2.08**	**95**	*e*Pn	**Pn**	**15 14 55.2**	**-1.6**
214A				*e*Pg	**Pg**	**15 15 01.4**	**-0.2**
LDFC	**Landfair**	**2.92**	**2**	Pn	**Pn**	**15 15 08.1**	**-0.3**
LDFC				*e*Pg	**Pg**	**15 15 15.9**	**-1.8**
MWC	**Mount Wilson**	**3.13**	**312**	*e*Pg	**Pb**	**15 15 18.1**	**+0.5**
PASC	**Pasadena Art C**	**3.18**	**310**	Pn	**Pn**	**15 15 12.0**	**+0.2**
PASC				*e*Pg	**Pb**	**15 15 18.4**	**+0.1**
PASC				*e*Sg	**Sb**	**15 15 58.5**	**+1.4**
GSC	**Goldstone, Bar**	**3.40**	**338**	Pn	**Pn**	**15 15 16.2**	**+1.3**
GSC				*e*Pg	**Pg**	**15 15 26.1**	**-0.7**
TUC	**Tucson**	**3.79**	**86**	*e*Pn	**Pn**	**15 15 18.7**	**-1.6**
OSI	**Osito Audit: C**	**3.80**	**311**	*e*Pg	**Pb**	**15 15 30.0**	**+1.0**
SHPR	**Sheep Range**	**4.34**	**1**	*e*Pn	**Pn**	**15 15 27.8**	**-0.2**
SHPR				*e*Pg	**Pg**	**15 15 44.6**	**-0.3**
ISA	**Isabella, Lake**	**4.41**	**323**	*e*Pn	**Pn**	**15 15 28.5**	**-0.3**
ISA				*e*Pg	**Pb**	**15 15 42.2**	**+2.9**
ISA				*e*Sg	**Sb**	**15 16 35.0**	**+2.4**
DAC	**Darwin (Calif)**	**4.55**	**335**	*e*Pn	**Pn**	**15 15 30.5**	**-0.3**
WUAZ	**Wupatki**	**4.66**	**43**	*e*Pn	**Pn**	**15 15 33.1**	**+0.8**
W18A	**Petrified Fore**	**5.47**	**56**	*e*Pn	**Pn**	**15 15 44.2**	**+0.8**
	comp=E,22nm,0.8s						
W18A				*e*Sg	**Sg**	**15 17 19.0**	**+1.6**
CCUT	**Cedar City**	**5.60**	**16**	*e*Pn	**Pn**	**15 15 43.9**	**-1.5**
	comp=E,22nm,0.9s						
TPH	**Tonopah**	**6.12**	**345**	Pn	**Pn**	**15 15 53.5**	**+1.1**
	comp=E,2.2nm,0.3s						
R11A	**Troy Canyon, C**	**6.19**	**358**	*e*Pn	**Pn**	**15 15 53.1**	**-0.2**
	comp=E,3.9nm,0.6s						
R11A				*e*Pg	**Pg**	**15 16 20.4**	**+0.2**
121A	**Cookes Peak, D**	**6.33**	**85**	*e*Pn	**Pn**	**15 15 54.9**	**-0.5**
	comp=E,15nm,0.8s						
MVCO	**Mesa Verde**	**7.51**	**46**	Pn	**Pn**	**15 16 13.3**	**+1.8**
MNTX	**Cornudas Mount**	**8.40**	**90**	*e*Pn	**Pn**	**15 16 23.4**	**-0.2**
	comp=E,1.8nm,0.6s						

*NIED **26** 15:21:00, 22°.60N×123°.80E, h5km, Mw4.0 Best double couple: Mo1.16000×10^15 NP1:φs68.00000°, δ33.00000°, λ-161.00000°. NP2:φs322.00000°, δ80.00000°, λ-58.00000°.*

*IDC **26** 15:21:19.7±0.9, 22°.49N×123°.89E, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.5/32, mbtmp3.5/10, ML3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.6/36, Error ellipse: s-maj=26.0km s-min=19.0km az=83.0*

*ISCJB **26** 15:21:20.8±0.7, 22°.68N±0°.04×123°.87E±0°.06, h11km, mb3.4/8, MS3.3/2, Error ellipse: s-maj=7.6km s-min=5.7km az=24.4*

*JMA **26** 15:21:21.6±0.4, 22°.59N×123°.78E, h63km, M4.0*

ISC 26 15:21:22.1±1.0, 22°.71N±0°.07×123°.89E±0°.06, h11km, n24, σ1§04/34, mb3.5/8, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.34**	**357**	P	**Pn**	**15 21 46.6**	**-0.1**
HATJ				S	**Sb**	**15 22 04.1**	**-0.3**
JKRS	**Kuro-shima**	**1.52**	**4**	P	**Pn**	**15 21 49.4**	**+0.2**
JKRS				S	**Sb**	**15 22 09.3**	**-0.3**
IRIF	**Iriomote-Funau**	**1.62**	**355**	P	**Pn**	**15 21 50.7**	**+0.1**
IRIF				S	**Sn**	**15 22 10.8**	**-0.7**
JIJ	**Ishigaki jima**	**1.66**	**8**	P	**Pn**	**15 21 50.8**	**-0.3**
JIJ				S	**Sn**	**15 22 11.2**	**-1.2**
JISG	**Ishigakijimahi**	**1.90**	**11**	P	**Pn**	**15 21 54.0**	**-0.5**
JISG				S	**Sn**	**15 22 17.6**	**-0.9**
YOJ	**Yonaguni jima**	**1.92**	**335**	P	**Pn**	**15 21 54.5**	**-0.2**
YOJ				S	**Sn**	**15 22 17.7**	**-1.2**
JYNG	**Yonagunijimaku**	**1.94**	**333**	P	**Pn**	**15 21 54.6**	**-0.4**
JYNG				S	**Sn**	**15 22 18.0**	**-1.3**
JTJ	**Tarama**	**2.06**	**21**	P	**Pn**	**15 21 56.3**	**-0.3**
JTJ				S	**Sn**	**15 22 22.6**	**+0.3**
JIRB	**Irabujima**	**2.41**	**29**	P	**Pn**	**15 22 01.3**	**-0.2**
JIRB				S	**Sn**	**15 22 30.5**	**-0.5**
JMJ	**Miyako jima 2**	**2.45**	**31**	S	**Sn**	**15 22 32.7**	**+0.6**
JOGS	**Gusukube**	**2.46**	**34**	P	**Pn**	**15 22 01.9**	**-0.3**
JOGS				S	**Sb**	**15 22 34.7**	**-2.1**
JIKM	**Ikemajima**	**2.53**	**29**	P	**Pn**	**15 22 03.9**	**+0.8**
JIKM				S	**Sn**	**15 22 34.3**	**+0.5**
JKE	**Kume jima 2**	**4.46**	**36**	P	**Pn**	**15 22 29.0**	**-0.6**
JKE				*e*S	**Sn**	**15 23 19.4**	**-2.1**
KSRS	**Korea Array**	**15.10**	**12**	Pn	**Pn**	**15 24 55.4**	**+0.1**
	0.2nm,0.3s,baz=196,slow=11,SNR=3.2						
KSRS				LR	LR	15 30 29.8	
	comp=Z,37nm,21.6s,baz=188,slow=36						
MJAR	**Matsushiro Arr**	**18.54**	**39**	P	**Pn**	**15 25 40.5**	**+1.6**
	0.2nm,0.3s,baz=235,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**23.73**	**264**	P	**P**	**15 26 34.7**	**+0.3**
	0.3nm,0.5s,baz=81,slow=8.3,SNR=2.8						
ASAJ	**Asahikawa**	**26.33**	**31**	P	**P**	**15 27 00.2**	**+2.3**
	2.0nm,0.7s,baz=242,slow=8.1,SNR=4.4						
ASAJ				LR	LR	15 39 03.6	
	comp=Z,21nm,18.0s,baz=272,slow=40						
SONM	**Songino Array**	**28.71**	**335**	P	**P**	**15 27 21.2**	**+1.8**
	0.6nm,0.6s,baz=149,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**41.12**	**316**	P	**P**	**15 29 06.3**	**+0.1**
	0.5nm,0.7s,baz=110,slow=6.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.83**	**327**	P	**P**	**15 29 19.5**	**-0.5**
	1.0nm,0.5s,baz=107,slow=7.9,SNR=6.0						
WRA	**Warramunga Arr**	**43.60**	**166**	P	P	15 29 23.1	-3.5
	0.6nm,1.1s,baz=347,slow=8.7,SNR=4.8						
ASAR	**Alice Springs**	**47.12**	**167**	P	**P**	**15 29 52.4**	**-2.0**
	0.2nm,0.7s,baz=349,slow=7.2,SNR=8.2						
GNI	**Garni**	**67.68**	**306**	LR	LR	16 02 21.2	
	comp=Z,84nm,21.3s,slow=36						
YKA	**Yellowknife Ar**	**83.34**	**23**	P	**P**	**15 33 49.0**	**+0.1**
	0.3nm,0.7s,baz=303,slow=4.8,SNR=3.9						

*ISCJB **26** 15:47:37.9±0.3, 14°.03N±0°.04×90°.55W±0°.03, h118km±2km, mb4.2/15, Error ellipse: s-maj=7.2km s-min=3.3km az=36.8*

*NEIC **26** 15:47:38.0±0.8, 13°.99N×90°.52W, h116km±8km, mb4.2/11, MD4.4(SNET), MD4.2(MEX), Error ellipse: s-maj=14.7km s-min=9.1km az=212.0*

NEIC Felt [II] at Ahuachapan, El Salvador.

*CASC **26** 15:47:39.0±1.4, 13°.94N×90°.55W, h100km±5km, MD4.2, ML4.3, mb4.2(NEIC)*

*MEX **26** 15:47:39.9±0.3, 13°.87N×90°.83W, h141km±11km, MD4.2*

*IDC **26** 15:47:42.3±2.6, 14°.20N×90°.24W, h149km±22km, mb3.8/7, mb1 4.1/10, mb1mx3.7/25, mbtmp4.3/10, MS2.9/4, Ms1 2.9/4, ms1mx2.6/33, Error ellipse: s-maj=29.5km s-min=18.7km az=69.0*

ISC 26 15:47:37.0±0.7, 13°.89N±0°.06×90°.57W±0°.04, h113km±6km, n189, σ1§33/198, mb4.0/15, 56C-75D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.30**	**21**	⇓*i*P	**Pn**	**15 47 53.0**	**-0.3**
IXG				*e*S	**Sn**	**15 48 05.0**	**-0.5**
PCG	**Pacaya**	**0.50**	**355**	⇑*e*P	**Pn**	**15 47 55.1**	**+0.7**
PCG				*e*S	**Sn**	**15 48 08.4**	**+0.8**
FUG	**Fuego 3**	**0.62**	**334**	⇑*e*P	**Pn**	**15 47 55.6**	**+0.4**
NBG	**Las Nubes**	**0.72**	**17**	⇑*e*P	**Pn**	**15 47 57.5**	**+1.3**
NBG				*e*S	**Sn**	**15 48 12.1**	**+1.5**
RBDL	**Robledal**	**0.88**	**75**	⇓*i*P	**Pn**	**15 47 58.1**	**+0.7**
RTR	**El Retiro**	**0.89**	**89**	*e*P	**Pn**	**15 47 58.5**	**+1.0**
SBLS	**San Blas**	**0.92**	**93**	*e*P	**Pn**	**15 47 58.8**	**+1.0**
SBLS				*e*S	**Sn**	**15 48 14.3**	**+0.8**
SNJE	**San Jose**	**0.93**	**91**	*e*P	**Pn**	**15 47 58.8**	**+0.9**
JAT	**Jato**	**1.12**	**292**	⇓*i*P	**Pn**	**15 48 01.1**	**+1.5**
BOQS	**Boqueron**	**1.26**	**97**	*e*P	**Pn**	**15 48 02.7**	**+1.3**
MTO2	**Montecristo 2**	**1.27**	**66**	⇓*i*P	**Pn**	**15 48 02.3**	**+0.7**
MTO2				*e*S	**Sn**	**15 48 21.0**	**+0.9**
SNET	**Serv Nac Est T**	**1.31**	**99**	*e*P	**Pn**	**15 48 03.3**	**+1.5**
SNET				AML	AML	15 48 27.6	
	comp=Z,5μm,0.4s						
MRL	**Marmol**	**1.44**	**36**	⇑*i*P	**Pn**	**15 48 04.6**	**+1.1**
MRL				*e*S	**Sn**	**15 48 23.6**	**+0.1**
LFRS	**El Faro**	**1.48**	**100**	⇓*i*P	**Pn**	**15 48 05.2**	**+1.3**
LBRS	**Las Brisas**	**1.49**	**96**	⇓*i*P	**Pn**	**15 48 05.4**	**+1.6**
SNVI	**San Vicente**	**1.70**	**99**	*e*P	**Pn**	**15 48 08.3**	**+1.8**
THIG		**1.93**	**302**	*e*P	**Pn**	**15 48 10.0**	**+0.8**
THIG				*e*S	**Sn**	**15 48 33.6**	**-0.2**
THIG		**1.93**	**302**	*e*P	**Pn**	**15 48 10.0**	**+0.8**
THIG				*e*S	**Sn**	**15 48 33.6**	**-0.2**
VSM	**San Miguel**	**2.27**	**101**	⇓*e*P	Pn	15 48 15.8	+2.0
CAHU	**Cacacuatique**	**2.29**	**93**	⇓*e*P	**Pn**	**15 48 15.7**	**+1.7**
CNCH	**Conchagua**	**2.73**	**103**	⇓*e*P	Pn	15 48 21.6	+2.0
CCIG	**Comitan**	**2.82**	**328**	*i* P	**Pn**	**15 48 22.1**	**+1.2**
CCIG				*i* S	**Sn**	**15 48 55.2**	**+0.6**
CCIG	**Comitan**	**2.82**	**328**	*i* P	**Pn**	**15 48 22.1**	**+1.2**
CCIG				*i* S	**Sn**	**15 48 55.2**	**+0.6**
PCIG		**3.14**	**305**	*e*P	**Pn**	**15 48 25.2**	**+0.3**
PCIG				*i* S	**Sn**	**15 48 59.4**	**-2.4**
PCIG		**3.14**	**305**	*e*P	**Pn**	**15 48 25.2**	**+0.3**
PCIG				*i* S	**Sn**	**15 48 59.4**	**-2.4**
TGIG		**3.79**	**320**	*i* P	**Pn**	**15 48 34.2**	**+0.6**
TGIG				*e*S	**Sn**	**15 49 15.7**	**-1.6**
TGIG		**3.79**	**320**	*i* P	**Pn**	**15 48 34.2**	**+0.6**
TGIG				*e*S	**Sn**	**15 49 15.7**	**-1.6**
CMIG	**Matias Romero**	**5.24**	**308**	P	**Pn**	**15 48 53.0**	**-0.1**
	comp=Z,20nm,0.3s,baz=108,slow=11,SNR=171						
CMIG				S	**Sn**	**15 49 48.4**	**-4.0**
	comp=Z,3.5nm,0.3s,baz=54,slow=18,SNR=4.0						
CMIG				LR	LR	15 51 27.7	
	comp=Z,58nm,21.5s,baz=51,slow=42						
HUIG	**Huatulco**	**5.68**	**290**	*e*P	**Pn**	**15 48 57.8**	**-1.2**
HUIG				*i* S	Sn	15 49 56.5	-6.4
HUIG	**Huatulco**	**5.68**	**290**	*e*P	**Pn**	**15 48 57.8**	**-1.2**
HUIG				*e*S	Sn	15 49 54.6	-6.4
GBS2	**Las Lilas**	**5.84**	**121**	*i* P	Pn	15 49 04.2	+2.9
LAPC	**Finca la Perla**	**5.90**	**121**	*i* P	Pn	15 49 05.0	+3.0
LAPC				*i* S	**Sn**	**15 50 05.0**	**-3.4**
GB1A	**Borinquen Arri**	**5.90**	**121**	*i* P	Pn	15 49 05.4	+3.3
BUEV	**Buena Vista**	**5.90**	**121**	*i* P	Pn	15 49 05.7	+3.5
LIM1	**Limonal**	**6.08**	**121**	*i* P	Pn	15 49 07.1	+2.5
VCR	**Vista de Mar**	**6.11**	**127**	⇓*i*P	Pn	15 49 08.7	+3.8
VCR				*e*S	**Sn**	**15 50 08.7**	**-4.8**
JTS	**JuntasAbangare**	**6.55**	**122**	P	Pn	15 49 14.2	+3.3
	comp=Z,38nm,0.3s,baz=311,slow=14,SNR=89						
JTS				LR	LR	15 52 06.2	
	comp=Z,74nm,21.0s,baz=226,slow=41						
JTS	**JuntasAbangare**	**6.55**	**122**	*e*Pn	Pn	15 49 13.8	+2.9
	comp=Z,116nm,0.3s						
TEIG	**Tepich**	**6.67**	**19**	P	**Pn**	**15 49 12.7**	**+0.3**
	comp=Z,8.9nm,0.3s,baz=31,slow=5.9,SNR=61						
TEIG				S	**Sn**	**15 50 24.3**	**-2.7**
	baz=38,slow=19,SNR=3.2						
TEIG	**Tepich**	**6.67**	**19**	*e*Pn	**Pn**	**15 49 12.8**	**+0.3**
	comp=Z,66nm,0.6s						
TEIG				S	**Sn**	**15 50 24.3**	**-2.7**
JCR	**Jicaral**	**6.68**	**126**	⇓*e*P	Pn	15 49 16.8	+4.1
JCR				*e*S	**Sn**	**15 50 23.6**	**-3.8**
CGA2	**Cerro Gallo 2**	**7.10**	**122**	*e*P	Pn	15 49 22.2	+3.8
CGA2				*e*S	**Sn**	**15 50 35.1**	**-2.7**
BUS	**Buena Vista**	**7.94**	**122**	*e*P	Pn	15 49 34.1	+4.0
BUS				*e*S	**Sn**	**15 50 57.5**	**-1.0**

	baz=21,SNR=10.0								
Z31A	**Sharp Cattle R**	**21.21**	**337**	⇓P		**P**	**15 52 14.6**	**+0.8**
	baz=21								
228A	**UT Block 9, Go**	**21.22**	**331**	⇓P		**P**	**15 52 15.0**	**+1.1**
	baz=21								
X35A	**Drake**	**21.23**	**345**	⇓P		**P**	**15 52 14.6**	**+0.7**
	baz=21								
X36A	**Centrahoma**	**21.25**	**347**	⇑P		**P**	**15 52 15.4**	**+1.4**
	baz=21,SNR=5.2								
129A	**Stewart Farms,**	**21.32**	**333**	⇑P		**P**	**15 52 16.2**	**+1.3**
	baz=21								
Y33A	**Hilltop Ranch,**	**21.32**	**341**	⇓P		**P**	**15 52 15.9**	**+1.0**
	baz=21								
W38A	**Poteau**	**21.39**	**351**	⇓P		**P**	**15 52 16.3**	**+0.8**
	baz=21								
128A	**Castleberry Fa**	**21.59**	**332**	⇓P		**P**	**15 52 19.3**	**+1.5**
	baz=22								
W37A	**Quinton**	**21.61**	**349**	⇑P		**P**	**15 52 18.2**	**+0.3**
	baz=22								
W36A	**Wetumka**	**21.77**	**347**	⇓P		**P**	**15 52 18.9**	**-0.6**
	baz=22,SNR=12								
Z29A	**Hungry Hill Ra**	**21.79**	**334**	⇑P		**P**	**15 52 20.4**	**+0.5**
	baz=22								
Y31A	**Rekieta Farm,**	**21.84**	**338**	⇓P		**P**	**15 52 20.4**	**+0.1**
	baz=22								
W35A	**Teumsseh**	**21.92**	**346**	⇑P		**P**	**15 52 20.5**	**-0.8**
	baz=22,SNR=9.5								
Y30A	**Stafford Cattl**	**22.00**	**337**	⇑P		**P**	**15 52 22.8**	**+0.7**
	baz=22								
W34A	**Bridge Creek,**	**22.23**	**344**	⇑P		**P**	**15 52 24.3**	**-0.1**
	baz=22								
WVT	**Waverly**	**22.28**	**6**	*e*P		**P**	**15 52 24.8**	**-0.1**
	comp=Z,4.4nm,0.6s								
MNTX	**Cornudas Mount**	**22.33**	**325**	⇓P		**P**	**15 52 27.0**	**+1.4**
	baz=22								
W33A	**Caddo, Fort Co**	**22.34**	**343**	⇑P		**P**	**15 52 26.2**	**+0.7**
	baz=22								
TUL1	**Leonard**	**22.43**	**349**	⇓P		**P**	**15 52 25.4**	**-1.0**
	baz=22								
TUL1	**Leonard**	**22.43**	**349**	*e*P		**P**	**15 52 25.2**	**-1.2**
	comp=Z,20nm,0.6s								
X30A	**Coker Ranch, T**	**22.49**	**337**	⇑P		**P**	**15 52 27.7**	**+0.5**
	baz=22								
V35A	**Meyer Ranch, C**	**22.50**	**347**	⇓P		**P**	**15 52 26.3**	**-0.9**
	baz=22								
TKL	**Tuckaleechee C**	**22.52**	**15**	P		**P**	**15 52 27.9**	**+0.5**
	comp=Z,12nm,0.5s,baz=201,slow=13,SNR=18								
W32A	**Sentinel**	**22.55**	**341**	⇑P		**P**	**15 52 28.3**	**+0.6**
	baz=22								
V34A	**Guthrie**	**22.73**	**345**	⇑P		**P**	**15 52 29.1**	**-0.4**
	baz=23								
KMSC	**Kings Mountain**	**22.74**	**20**	⇓P		**P**	**15 52 29.4**	**-0.2**
	baz=23								
X29A	**Tulia**	**22.81**	**336**	⇓P		**P**	**15 52 30.0**	**-0.4**
	baz=23								
MSTX	**Muleshoe**	**22.85**	**333**	⇓P		**P**	**15 52 31.5**	**+0.7**
	baz=23								
V33A	**Lossen Ranch,**	**22.91**	**344**	⇑P		**P**	**15 52 31.3**	**0.0**
	baz=23								
V32A	**Arapaho**	**23.04**	**342**	⇑P		**P**	**15 52 31.9**	**-0.6**
	baz=23								
AMTX	**Amarillo**	**23.19**	**336**	⇓P		**P**	**15 52 33.7**	**-0.3**
	baz=23								
U34A	**Anderson Ranch**	**23.30**	**346**	⇑P		**P**	**15 52 34.4**	**-0.5**
	baz=23								
W29A	**Amarillo**	**23.39**	**337**	⇓P		**P**	**15 52 35.7**	**-0.1**
	baz=23								
USIN	**University of**	**24.12**	**6**	*e*P		**P**	**15 52 43.7**	**+1.5**
	comp=Z,22nm,0.7s								
S36A	**Lake Cedric, C**	**24.16**	**350**	⇓P		**P**	**15 52 42.6**	**0.0**
	baz=24,SNR=6.0								
S35A	**Otter Creek Ra**	**24.24**	**349**	⇑P		**P**	**15 52 43.4**	**0.0**
	baz=24,SNR=6.1								
121A	**Cookes Peak, D**	**24.32**	**323**	⇓P		**P**	**15 52 45.8**	**+1.4**
	baz=24								
121A	**Cookes Peak, D**	**24.32**	**323**	P		**P**	**15 52 44.2**	**-0.2**
	comp=Z,5.6nm,0.9s								
T32A	**Huddler Ranch,**	**24.36**	**344**	⇑P		**P**	**15 52 45.7**	**+1.2**
	baz=24								
S34A	**Willow Spring**	**24.42**	**347**	⇓P		**P**	**15 52 45.6**	**+0.6**
	baz=24								
319A	**Douglas**	**24.45**	**318**	⇓P		**P**	**15 52 48.8**	**+3.2**
	baz=24								
R36A	**Gordon, Harris**	**24.73**	**351**	⇑P		**P**	**15 52 49.5**	**+1.7**
	baz=25								
S31A	**Mullinville**	**24.93**	**343**	⇑P		**P**	**15 52 52.9**	**+3.2**
	baz=25								
U27A	**Thompson Grove**	**24.98**	**336**	⇓P		**P**	**15 52 53.5**	**+3.2**
	baz=25								
R33A	**Olander Ranch,**	**25.20**	**346**	⇓P		**P**	**15 52 53.7**	**+1.6**
	baz=25								
Q32A	**Meitler Ranch,**	**25.98**	**346**	⇓P		**P**	**15 53 00.6**	**+1.4**
	baz=26								
214A	**Organ Pipe Nat**	**27.16**	**315**	⇓P		**P**	**15 53 11.5**	**+1.6**
	baz=27								
P23A	**Jefferson**	**28.73**	**335**	⇓P		**P**	**15 53 25.1**	**+1.0**
	baz=29								
M27A	**Reverse DX Ran**	**29.40**	**342**	⇑P		**P**	**15 53 30.6**	**+0.9**
	baz=29								
U15A	**North Rim**	**29.70**	**323**	⇑P		**P**	**15 53 34.0**	**+1.3**
	baz=30								
BC3	**Big Chuckawall**	**29.96**	**315**	⇑P		**P**	**15 53 36.3**	**+1.5**
	baz=30								
IRM	**Iron Mountain**	**30.05**	**316**	⇑P		**P**	**15 53 36.4**	**+0.9**
	baz=30								
ECSD	**EROS Data Cent**	**30.19**	**351**	⇓P		**P**	**15 53 36.8**	**+0.2**
	baz=30								
MONP	**Monument Peak,**	**30.21**	**313**	⇑P		**P**	**15 53 37.8**	**+0.7**
	baz=30								
PFO	**Pinyon Flats O**	**30.62**	**314**	⇓P		**P**	**15 53 42.7**	**+2.0**
	baz=31								
GMRC	**Granite Mounta**	**30.75**	**317**	⇑P		**P**	**15 53 43.7**	**+1.8**
	baz=31								
SPMN	**Marine on St.**	**31.29**	**357**	⇑P		**P**	**15 53 45.5**	**-0.7**
	baz=31								
CIS	**Catalina Islan**	**31.89**	**312**	⇑P		**P**	**15 53 53.9**	**+2.1**
	baz=32								
H27A	**Howes**	**32.17**	**344**	⇑P		**P**	**15 53 53.4**	**-0.6**
	baz=32								
EDW2	**Edwards Air Fo**	**32.38**	**315**	⇑P		**P**	**15 53 57.9**	**+1.9**
	baz=32								
LRMC	**Laurel Mtn Rad**	**32.51**	**316**	⇓P		**P**	**15 53 59.1**	**+1.9**
	baz=32								
MPMC	**Manual Prospec**	**32.71**	**317**	⇑P		**P**	**15 54 00.8**	**+1.8**
	baz=33								
PDAR	**Pinedale Array**	**33.11**	**334**	P		**P**	**15 54 03.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=139,slow=8.4,SNR=3.1								
F26A	**Lodgepole**	**33.46**	**345**	⇓P		**P**	**15 54 06.2**	**+0.9**
	baz=34								
VES	**Vestal, Richgr**	**33.66**	**316**	⇓P		**P**	**15 54 09.2**	**+2.2**
	baz=34								
D30A	**Buchanan**	**33.82**	**350**	⇓P		**P**	**15 54 07.9**	**-0.3**
	baz=34								
D28A	**Regan**	**34.24**	**348**	⇑P		**P**	**15 54 12.7**	**+0.7**
	baz=34								
E24A	**Baker**	**34.56**	**343**	⇓P		**P**	**15 54 14.8**	**+0.1**
	baz=35								
AGMN	**Agassiz Nation**	**34.59**	**354**	⇓P		**P**	**15 54 14.5**	**-0.4**
	baz=35,SNR=6.9								
AGMN	**Agassiz Nation**	**34.59**	**354**	*e*P		**P**	**15 54 13.9**	**-1.0**
	comp=Z,12nm,0.7s								
NVAR	**Mina Array Bea**	**34.64**	**320**	P		P	15 54 18.8	+3.0
	comp=Z,3.7nm,0.6s,baz=134,slow=7.8,SNR=42								
NVAR				PcP		**PcP**	**15 56 49.2**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=110,slow=3.9,SNR=5.2								
MDND	**Maddock**	**34.68**	**349**	⇑P		**P**	**15 54 15.7**	**0.0**
	baz=35								
H18A	**Shoshone NF, C**	**34.73**	**336**	⇓P		**P**	**15 54 16.9**	**+0.5**
	baz=35								
B29A	**Wagenman Farm,**	**35.23**	**350**	⇑P		**P**	**15 54 20.6**	**+0.1**
	baz=35								
B28A	**Dugan Ranch, T**	**35.40**	**349**	⇓P		**P**	**15 54 21.8**	**-0.1**
	baz=35								
SAML	**Samuel**	**35.40**	**128**	*e*P		**P**	**15 54 22.9**	**+0.6**
	comp=Z,2.1nm,1.1s								
F19A	**Roth Farm, Mol**	**35.44**	**338**	⇓P		**P**	**15 54 22.9**	**+0.5**
	baz=35								
D22A	**Cohagen**	**35.64**	**342**	⇑P		**P**	**15 54 24.2**	**+0.2**
	baz=36								
A29A	**Manning Farm,**	**35.66**	**350**	⇑P		**P**	**15 54 23.8**	**-0.3**
	baz=36								
HLID	**Hailey**	**35.95**	**330**	*e*P		**P**	**15 54 27.5**	**+0.6**
	comp=Z,0.8nm,0.8s								
A26A	**Wade Farm, Ken**	**36.17**	**347**	⇓P		**P**	**15 54 28.6**	**+0.2**
	baz=36								
MCMT	**McKenzie Canyo**	**36.19**	**333**	*e*P		**P**	**15 54 30.9**	**+2.0**
	comp=Z,2.7nm,1.1s								
DGMT	**Dagmar**	**36.28**	**345**	⇑P		**P**	**15 54 30.1**	**+0.7**
	baz=36								

ULM	**Lac du Bonnet**	**36.52**	**354**	P		**P**	**15 54 30.0**	**-1.4**
	comp=Z,9.4nm,0.6s,baz=170,slow=9.6,SNR=16								
C19A	**Slack Wire Ran**	**37.09**	**339**	⇓P		**P**	**15 54 37.4**	**+1.1**
	baz=37								
EGMT	**Eagleton**	**37.58**	**339**	⇑P		**P**	**15 54 41.1**	**+0.6**
	baz=38								
A20A	**Cobblestone Ra**	**37.72**	**341**	⇑P		**P**	**15 54 42.5**	**+0.9**
	baz=38								
YBH	**Yreka Blue Hor**	**39.32**	**321**	LR		LR	16 14 08.9		
	comp=Z,42nm,20.4s,slow=40								
SCHQ	**Schefferville**	**44.85**	**19**	P		**P**	**15 55 39.0**	**-0.8**
	comp=Z,8.7nm,0.4s,baz=218,slow=6.5,SNR=37								
SCHQ				LR		LR	16 14 02.6		
	comp=Z,28nm,19.7s,baz=80,slow=36								
YKA	**Yellowknife Ar**	**51.46**	**346**	P		**P**	**15 56 28.4**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=143,slow=6.7,SNR=21								
YKA				PcP		**PcP**	**15 57 43.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=153,slow=4.0,SNR=5.1								
ILAR	**Eielson Array**	**63.49**	**337**	P		**P**	**15 57 53.8**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.5,SNR=11								
HHC	**Hu-ho-hao-te**	**121.80**	**340**	*e*PKP		**PKPdf**	**16 06 15.3**	**-3.0**
CD2	**Chengdu**	**133.38**	**343**	PKP		**PKPdf**	**16 06 38.0**	**-2.5**
WRA	**Warramunga Arr**	**136.72**	**256**	PKP		**PKPdf**	**16 06 48.5**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=85,slow=2.7,SNR=7.3								
ASAR	**Alice Springs**	**136.94**	**250**	PKP		**PKPdf**	**16 06 49.5**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=109,slow=2.8,SNR=7.5								
CMAR	**Chiang Mai Arr**	**146.52**	**343**	PKPbc		**PKPbc**	**16 07 05.5**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=344,slow=3.4,SNR=27								

*IDC **26** 15:58:22.5±2.9, 33°.67S×178°.91W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/31, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=71.5km s-min=44.6km az=124.0*

ISC 26 15:58:28.5±2.3, 34°.0S±0°.1×178°.8W±0°.3, h50km, n16, σ2.5°04/22, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.39**	**210**	*e*PN		**Pn**	**15 59 34.3**	**+1.7**
HAZ	**Te Kaha**	**4.63**	**216**	*e*PN		**Pn**	**15 59 37.0**	**+1.2**
HAZ				*e*SN		**Sn**	**16 00 32.0**	**+3.8**
PUZ	**Puketiti**	**4.67**	**210**	*e*PN		**Pn**	**15 59 37.3**	**+0.8**
PUZ				*e*SN		**Sn**	**16 00 30.5**	**+1.1**
TWGZ	**Tauwhareparae**	**4.88**	**211**	*e*PN		**Pn**	**15 59 41.7**	**+2.4**
CNGZ	**Carnagh Statio**	**5.05**	**208**	*e*PN		**Pn**	**15 59 43.0**	**+1.4**
MWZ	**Matawai**	**5.21**	**214**	*e*PN		**Pn**	**15 59 44.5**	**+0.6**
MWZ				*e*SN		**Sn**	**16 00 44.3**	**+1.7**
URZ	**Urewera**	**5.35**	**217**	Pn		**Pn**	**15 59 46.3**	**+0.5**
	1.3nm,0.3s,baz=339,slow=18,SNR=14							
URZ				Sn		**Sn**	**16 00 45.5**	**-0.6**
	1.4nm,0.3s,baz=288,slow=19,SNR=4.1							
URZ	**Urewera**	**5.35**	**217**	*e*PN		**Pn**	**15 59 46.8**	**+1.1**
RIGZ	**Rimuhau**	**5.42**	**210**	*e*PN		**Pn**	**15 59 48.7**	**+2.0**
KNZ	**Kokohu**	**5.72**	**209**	*e*PN		**Pn**	**15 59 50.5**	**-0.3**
KNZ				*e*SN		**Sn**	**16 00 55.1**	**0.0**
BKZ	**Black Stump Fm**	**6.36**	**215**	*e*PN		**Pn**	**16 00 00.0**	**+0.4**
BFZ	**Birch Farm**	**7.71**	**209**	*e*SN		**Sn**	**16 01 40.1**	**-3.9**
MRZ	**Mangatainoka R**	**7.98**	**212**	*e*PN		**Pn**	**16 00 20.1**	**-1.7**
MRZ				*e*SN		**Sn**	**16 01 46.1**	**-4.5**
ASAR	**Alice Springs**	**42.37**	**271**	P		**P**	**16 06 18.9**	**+0.9**
	0.3nm,0.6s,baz=113,slow=7.2,SNR=6.8							
WRA	**Warramunga Arr**	**43.69**	**276**	P		**P**	**16 06 27.1**	**-1.6**
	0.7nm,0.8s,baz=116,slow=7.4,SNR=7.3							
FINES	**FINESS Array B**	**148.28**	**337**	PKPbc		**PKPbc**	**16 18 08.3**	**0.0**
	0.4nm,0.4s,baz=270,slow=1.4,SNR=3.1							

*KRSC **26** 16:09:29.4±1.9, 52°.02N×157°.59E, h151km±16km, ML4.1*
*ISCJB **26** 16:09:31.3±0.4, 52°.02N±0°.06×157°.5E±0°.1, h142km±3km, mb3.5/8, Error ellipse: s-maj=13.9km s-min=4.9km az=40.1*
*MOS **26** 16:09:31.1±1.1, 52°.28N×157°.26E, h143km, mb3.9/4, Error ellipse: s-maj=31.1km s-min=9.6km az=57.7*
*IDC **26** 16:09:33.0±0.8, 52°.31N×157°.06E, h146km±6km, mb3.3/9, mb1 3.6/10, mb1mx3.3/29, mbtmp3.8/10, Error ellipse: s-maj=27.1km s-min=13.2km az=138.0*

ISC 26 16:09:32.2±0.7, 52°.05N±0°.06×157°.59E±0°.06, h142km±5km, n54, σ1.9°28/79, mb3.5/8, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAK	**Asacha**	**0.39**	**29**	*i* P		**Pn**	**16 09 51.9**	**-0.4**
ASAK				*e*S		**Sn**	**16 10 07.0**	**-0.5**
MIPR	**Malaya Ipel'ka**	**0.56**	**295**	*e*P		**Pn**	**16 09 52.2**	**-0.8**
MIPR				*e*S		**Sn**	**16 10 07.3**	**-1.6**
MTVR	**Mutnovka**	**0.57**	**39**	*i* P		**Pn**	**16 09 52.8**	**-0.4**
MTVR				S		**Sn**	**16 10 09.6**	**+0.4**
GRL	**Gorelyy**	**0.59**	**30**	*i* P		**Pn**	**16 09 53.5**	**+0.2**
RUS	**Russkaya**	**0.69**	**55**	*i* P		**Pn**	**16 09 53.2**	**-0.6**
RUS				*e*S		**Sn**	**16 10 09.3**	**-0.9**
RUS	**Russkaya**	**0.69**	**55**	PN		**Pn**	**16 09 53.2**	**-0.6**
RUS				S		**Sn**	**16 10 09.3**	**-0.9**
PAU	**Pauzhetka**	**0.76**	**220**	*i* P		**Pn**	**16 09 53.8**	**-0.5**
PAU				*i* S		**Sn**	**16 10 10.4**	**-0.6**
PAU	**Pauzhetka**	**0.76**	**220**	PN		**Pn**	**16 09 53.8**	**-0.5**
PAU				S		**Sn**	**16 10 10.4**	**-0.6**
APC	**Apacha**	**0.92**	**343**	*i* P		**Pn**	**16 09 55.2**	**-0.3**
APC				*i* S		**Sn**	**16 10 12.2**	**-1.1**
PETK	**Petropavlovsk-**	**1.07**	**3**	P		**Pn**	**16 09 56.7**	**-0.2**
	33nm,0.3s,baz=162,slow=10,SNR=3393							
PETK				S		**Sn**	**16 10 14.7**	**-1.0**
	4.8nm,0.3s,baz=228,slow=19,SNR=6.3							
PETK				LR		LR	16 10 21.2	
	comp=Z,17nm,19.5s,baz=137,slow=54							
PETK	**Petropavlovsk-**	**1.07**	**3**	PN		**Pn**	**16 09 56.7**	**-0.2**
PETK				S		**Sn**	**16 10 14.7**	**-1.0**
PETK				pmax	pmax			
	comp=Z,33nm,0.3s							
PETK				smax	smax			
	comp=N,5.0nm,0.3s							
PET	**Petropavlovsk**	**1.18**	**33**	*i* P		**Pn**	**16 09 57.6**	**-0.3**
PET				*i* S		**Sn**	**16 10 17.4**	**0.0**
PET	**Petropavlovsk**	**1.18**	**33**	*i* PN		**Pn**	**16 09 57.5**	**-0.3**
PET				*e*S		**Sn**	**16 10 17.1**	**-0.3**
PET				pmax	pmax			
	comp=Z,93nm,0.6s							
PET				smax	smax			
	comp=E,387nm,0.6s							
PET				smax	smax			
	comp=N,364nm,0.4s							
UGLR	**Uglovaya**	**1.39**	**32**	*i* P		**Pn**	**16 10 00.7**	**+0.6**
UGLR				*i* S		**Sn**	**16 10 22.5**	**+1.1**
KOK	**Koryaka**	**1.40**	**27**	*i* P		**Pn**	**16 10 00.9**	**+0.7**
KOK				*e*S		**Sn**	**16 10 23.1**	**+1.4**
AVH	**Avacha**	**1.41**	**29**	*i* P		**Pn**	**16 10 01.2**	**+0.9**
AVH				*e*S		**Sn**	**16 10 23.2**	**+1.5**
SMAR	**Somma**	**1.43**	**31**	*i* P		**Pn**	**16 10 01.3**	**+0.7**
SMAR				*e*S		**Sn**	**16 10 23.4**	**+1.1**
KRER	**Koryakskii**	**1.44**	**29**	*i* P		**Pn**	**16 10 01.3**	**+0.5**
KRER				*e*S		**Sn**	**16 10 23.8**	**+1.2**
SDLR	**Sedlovina**	**1.46**	**32**	*i* P		**Pn**	**16 10 01.2**	**+0.3**
SDLR				*e*S		**Sn**	**16 10 23.6**	**+0.7**
KRX	**Arik**	**1.47**	**26**	*i* P		**Pn**	**16 10 01.3**	**+0.4**
KRX				*e*S		**Sn**	**16 10 23.9**	**+1.0**
NLC	**Nalytchevo**	**1.55**	**43**	*i* P		**Pn**	**16 10 00.9**	**-0.8**
NLC				*e*S		**Sn**	**16 10 21.9**	**-2.4**
NLC	**Nalytchevo**	**1.55**	**43**	PN		**Pn**	**16 10 00.9**	**-0.8**
NLC				S		**Sn**	**16 10 21.9**	**-2.4**
SKR	**Severo-Kuril's**	**1.65**	**215**	*i* P		**Pn**	**16 10 02.4**	**-0.4**
SKR				*i* S		**Sn**	**16 10 25.4**	**-0.7**
SKR	**Severo-Kuril's**	**1.65**	**215**	*i* PN		Pn	16 09 52.5	-10
SKR				pmax	pmax			
	comp=N,40nm,0.5s							
SKR				pmax	pmax			
	comp=E,40nm,0.5s							
SKR				pmax	pmax			
	comp=Z,40nm,0.5s							
GNL	**Ganaly**	**1.67**	**7**	*i* P		**Pn**	**16 10 03.0**	**-0.1**
SPN	**Mys Shipunski**	**1.82**	**54**	*e*P		**Pn**	**16 10 04.7**	**0.0**
SPN				*e*S		**Sn**	**16 10 28.9**	**-0.8**
SPN	**Mys Shipunski**	**1.82**	**54**	PN		**Pn**	**16 10 04.7**	**0.0**
SPN				S		**Sn**	**16 10 28.9**	**-0.8**
MKZ	**Mys Kozlova**	**3.53**	**43**	*e*P		**Pn**	**16 10 25.5**	**-0.5**
MKZ				*e*S		**Sn**	**16 11 04.5**	**-3.3**
MKZ	**Mys Kozlova**	**3.53**	**43**	PN		**Pn**	**16 10 25.5**	**-0.5**
MKZ				S		**Sn**	**16 11 04.5**	**-3.3**
TUMR	**Tumrok**	**3.58**	**24**	*e*P		**Pn**	**16 10 28.2**	**+1.4**
SMKR	**Semkarok**	**5.08**	**25**	P		**Pn**	**16 10 46.1**	**-0.4**
KBTR	**Krutoberegovo**	**5.18**	**34**	*e*P		**Pn**	**16 10 47.4**	**-0.4**
KBTR				*e*S		**Sn**	**16 11 42.6**	**-4.1**
KBTR	**Krutoberegovo**	**5.18**	**34**	PN		**Pn**	**16 10 47.4**	**-0.4**
KBTR				S		**Sn**	**16 11 42.6**	**-4.1**

BKI	**Bering**	**5.91**	**54**	*i* P		**Pn**	**16 10 56.8**	**-0.6**
BKI				*i* S		Sn	16 11 57.1	-6.9
BKI	**Bering**	**5.91**	**54**	PN		**Pn**	**16 10 56.8**	**-0.6**
ASAJ	**Asahikawa**	**12.77**	**237**	P		**Pn**	**16 12 29.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=77,slow=14,SNR=5.3							
ERM	**Erimo**	**14.03**	**230**	*i* P		**Pn**	**16 12 43.2**	**-1.4**
MJA0	**Matsu Arr-Jizo**	**20.68**	**229**	*e*P		Pn	16 14 03.3	-1.6
MJAR	**Matsushiro Arr**	**20.70**	**229**	P		**P**	**16 14 00.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=29,slow=8.8,SNR=7.4							
ILAR	**Eielson Array**	**30.63**	**44**	P		**P**	**16 15 32.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=265,slow=7.9,SNR=21							
ILAR	**Eielson Array**	**30.63**	**44**	*e*P		**P**	**16 15 32.8**	**+0.3**
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**44.96**	**41**	P		**P**	**16 17 33.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=297,slow=8.3,SNR=7.9							
YKA	**Yellowknife Ar**	**44.96**	**41**	P		**P**	**16 17 33.4**	**+0.9**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**47.22**	**295**	P		**P**	**16 17 47.7**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=338,slow=1.5,SNR=4.6							
MKAR	**Makanchi Array**	**47.22**	**295**	*i* P		**P**	**16 17 48.5**	**-2.0**
BVAR	**Borovoye Array**	**49.83**	**308**	P		P	16 18 06.9	-3.4
	comp=Z,0.4nm,0.5s,baz=54,slow=7.3,SNR=3.8							
PDAR	**Pinedale Array**	**59.37**	**59**	P		**P**	**16 19 21.0**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=10.0,slow=2.2,SNR=5.7							
BORG	**Borgarnes**	**63.54**	**359**	*i* P		**P**	**16 19 46.8**	**+0.1**
TXAR	**Lajitas Array**	**72.46**	**65**	P		**P**	**16 20 44.7**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=295,slow=5.0,SNR=7.0							
TXAR	**Lajitas Array**	**72.46**	**65**	P		**P**	**16 20 44.7**	**+1.5**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**74.50**	**203**	P		**P**	**16 20 55.1**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=15,slow=6.0,SNR=6.0							
WRA	**Warramunga Arr**	**74.50**	**203**	*e*P		**P**	**16 20 55.3**	**+0.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**78.19**	**202**	P		**P**	**16 21 16.9**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=16,slow=5.1,SNR=64							
ASAR	**Alice Springs**	**78.19**	**202**	P		**P**	**16 21 16.9**	**+1.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							

*MEX **26** 16:10:51.4±1.1, 32°.74N×115°.33W, h15km, MD3.6*
*ISCJB **26** 16:10:52.5±0.4, 32°.48N±0°.02×115°.54W±0°.03, h13km±4km, Error ellipse: s-maj=4.4km s-min=3.7km az=39.2*
*ECX **26** 16:10:54.5±0.5, 32°.43N×115°.56W, h5km, MD3.3, ML3.5*
*NEIC **26** 16:10:54.1, 32°.43N×115°.56W, h0km, MD3.6(MEX), ML3.4(PAS), ML3.7(ECX), After ECX.*

ISC 26 16:10:53.0±0.9, 32°.41N±0°.03×115°.56W±0°.02, h16km±7km, n35, σ1.9°07/51, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**89**	*e*P		**Pb**	**16 10 58.2**	**-0.3**
CPBX				*e*P		**Pb**	**16 10 58.2**	**-0.3**
CPBX				*e*S		**Sg**	**16 11 01.8**	**+0.6**
CPBX				*e*			16 11 04.0	
CPBX				AML		AML	16 11 04.0	
	comp=E,29μm,0.3s							
CPBX				⇑*e*			16 11 06.4	
CPBX				AML		AML	16 11 06.4	
	comp=N,20μm,0.3s							
CPBX	**Cerro Prieto**	**0.21**	**89**	*e*P		**Pb**	**16 10 58.2**	**-0.3**
CPBX				*e*S		**Sb**	**16 11 04.0**	**+1.

9.2nm,0.5s
TKM2 ⇑Lg Lg 17 00 52.6
92nm,0.8s
TKM2 Tokmak 2 4.09 8 P Pn 16 59 55.0 +2.9
SNR=34
KK31 Karatay Array 5.32 324 Pn **Pn** **17 00 08.8 0.0**
1.1nm,0.4s,baz=128,slow=13,SNR=29
KK31 ⇑Pg **Pb** **17 00 24.1 +1.6**
2.9nm,0.5s,baz=130,slow=16,SNR=4.4
KK31 ⇓Sn **Sn** **17 01 09.4 -0.8**
10nm,0.8s,baz=134,slow=16,SNR=4.3
KK31 ⇑Lg Lg 17 01 29.3
12nm,0.6s,baz=143,slow=26,SNR=4.0
MK31 Makanchi Array 9.64 32 Pn Pn 17 01 13.1 +5.0
6.8nm,1.2s,baz=230,slow=19,SNR=5.5
MK31 ⇑Lg Lg 17 03 50.2
6.5nm,1.2s,baz=206,slow=27,SNR=4.0
MKAR Makanchi Array 9.64 32 Pn **Pn** **17 01 08.5 +0.4**
0.0nm,0.3s,baz=202,slow=38,SNR=2.7
MKAR Lg Lg 17 03 53.9
0.1nm,0.3s,baz=215,slow=30,SNR=3.3
MKAR LR LR 17 05 01.6
comp=Z,64nm,18.6s,baz=214,slow=39
BVAR Borovoye Array 14.48 349 Pn **Pn** **17 02 13.1 -1.0**
baz=164,slow=16,SNR=2.4
AB31 Akbulak array 14.86 319 ⇓P **Pn** **17 02 20.1 +0.8**
2.0nm,0.8s,baz=131,slow=14,SNR=8.4
ZALV Zalesovo Beam 16.56 21 Pn **Pn** **17 02 41.7 +0.2**
0.1nm,0.3s,baz=200,slow=10,SNR=3.9
AKTO Aktyubinsk 16.57 320 ⇑P **P** **17 02 45.0 +0.9**
5.3nm,1.2s
AKTO Aktyubinsk 16.57 320 Pn **Pn** **17 02 40.3 -1.3**
0.1nm,0.3s,baz=132,slow=15,SNR=2.4
BRTR Keskin Array B 31.66 285 P **P** **17 05 13.5 +0.6**
0.9nm,0.7s,baz=94,slow=8.2,SNR=4.2
FINES FINESS Array B 37.28 323 P **P** **17 06 00.0 -1.0**
0.5nm,0.3s,baz=119,slow=16,SNR=4.1
ARCES ARCESS Array B 40.16 336 P **P** **17 06 23.1 -2.1**
2.7nm,0.9s,baz=108,slow=8.0,SNR=2.9
GERES GERESS Array B 44.06 304 P **P** **17 06 56.8 -0.6**
0.3nm,0.6s,baz=88,slow=6.0,SNR=4.0
NOA NORSAR Array B 44.35 321 P **P** **17 06 58.8 -0.6**
0.9nm,0.8s,baz=93,slow=7.8,SNR=2.9
TORD Torodi Ar. Bea 68.75 270 P **P** **17 09 53.6 -0.1**
0.5nm,1.0s,baz=49,slow=5.1,SNR=3.5
YKA Yellowknife Ar 78.70 4 P **P** **17 10 50.9 -0.4**
0.2nm,0.7s,baz=347,slow=5.6,SNR=5.9

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*MOS **26** 17:04:48.9±1.0,56.08S×27.95W,h97km,mb5.4/6,Error ellipse: s-maj=24.2km s-min=12.0km az=100.8*
*BJI **26** 17:04:49.2,56.00S×27.80W,h97km,mB5.4/11*
*AWI **26** 17:04:50.0,55.99S×27.78W*
*ISCJB **26** 17:04:51.0±0.3,56.07S±0.05×27.90W±0.10,h121km, mb5.0/37,Error ellipse: s-maj=8.3km s-min=6.1km az=144.7*
*GCMT **26** 17:04:52.7±0.2,56.25S×27.42W,h116km±2km,MW5.1/84, Moment Tensor Solution. s49,c59; s84,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.55±.20; $M_{\theta\theta}$2.47±.23; $M_{\phi\phi}$-3.02±.21; $M_{r\theta}$-4.04±.13; $M_{\theta\phi}$0.38±.22; $M_{r\phi}$2.46±.13; Best double couple: M_o5.46300×10^{16} NP1:ϕ_s309.00000°,δ87.00000°,λ59.00000°. NP2: ϕ_s214.00000°,δ31.00000°,λ174.00000°. Principal axes: T 5.8430, Plg40.0000°, Azm191.0000°; N -0.7600, Plg31.0000°, Azm311.0000°; P -5.0840, Plg35.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 17:04:52.7±0.9,56.07S×27.94W,h122km±7km,mb5.3/16 Error ellipse: s-maj=7.2km s-min=5.5km az=222.0*
*IDC **26** 17:04:53.2±0.9,56.09S×27.97W,h125km±6km,mb4.6/19, mb1 4.7/20,mb1mx4.6/24,mbtmp5.0/20,MS3.7/12, Ms1 3.7/12,ms1mx3.7/16,Error ellipse: s-maj=10.9km s-min=9.1km az=41.0*
ISC 26 17:04:52.3±0.2,56.10S±0.06×27.99W±0.06,h121km, n210,σ1^{S}25/255,mb5.1/35,1C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.20**	**287**	Pn		**Pn**	**17 06 07.1**	**-0.7**
	3µm,0.6s,SNR=33							
HOPE	**Hope Point**	**5.20**	**287**	*e*Pn		**Pn**	**17 06 06.8**	**-0.9**
	262nm,0.6s							
VNA1	**Neumayer--Stat**	**16.92**	**157**	P		**Pn**	**17 08 41.0**	**-0.3**
VNA1	**Neumayer--Stat**	**16.92**	**157**	ScP		**ScP**	**17 16 43.8**	**+0.4**
VNA3	**Neumayer Olymp**	**17.10**	**160**	P		**P**	**17 08 42.6**	**-0.7**
VNA3	**Neumayer Olymp**	**17.10**	**160**	ScP		**ScP**	**17 16 43.6**	**-0.3**
VNA2	**Neumayer--Watz**	**17.32**	**157**	P		**P**	**17 08 45.6**	**-0.2**
	baz=316,slow=13							
VNA2	**Neumayer--Watz**	**17.32**	**157**	ScP		**ScP**	**17 16 42.9**	**-1.4**
	baz=142,slow=6.2							
EFI	**East Falkland**	**18.19**	**271**	*e*P		**Pn**	**17 08 56.9**	**+0.2**
EFI				pmax	pmax			
	comp=Z,306nm,1.6s							
EFI	**East Falkland**	**18.19**	**271**	*e*P		**Pn**	**17 08 56.8**	**+0.1**
SNAA	**Sanae**	**18.88**	**155**	P		**P**	**17 09 03.3**	**+0.4**
SNAA	**Sanae**	**18.88**	**155**	ScP		**ScP**	**17 16 47.4**	**-0.4**
SNAA	**Sanae**	**18.88**	**155**	P		**P**	**17 09 03.0**	**0.0**
	comp=Z,38nm,0.3s,baz=309,slow=11,SNR=2357							
SNAA				LR		LR	17 14 43.5	
	comp=Z,114nm,22.0s,baz=334,slow=31							
SNAA				ScP		**ScP**	**17 16 47.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=332,slow=2.5,SNR=14							
SNAA	**Sanae**	**18.88**	**155**	*c i*P		**P**	**17 09 03.1**	**+0.2**
SNAA				pmax	pmax			
	comp=Z,330nm,1.1s							
SNAA	**Sanae**	**18.88**	**155**	*e*P		**P**	**17 09 02.9**	**0.0**
	comp=Z,244nm,0.4s							
SNAA				ScP		**ScP**	**17 16 47.3**	**-0.4**
PMSA	**Palmer Station**	**19.53**	**229**	*e*P		**Pn**	**17 09 12.8**	**+0.5**
	comp=Z,263nm,1.1s							
NVL	**N'lazarevskaya**	**22.47**	**146**	*e*P		**P**	**17 09 39.9**	**-1.1**
NVL				pmax	pmax			
	comp=Z,13nm,0.6s							
USHA	**Ushuaia**	**22.74**	**256**	P		**P**	**17 09 44.4**	**+0.7**
	comp=Z,27nm,0.9s,baz=98,slow=6.5,SNR=6.6							
USHA				LR		LR	17 16 37.8	
	comp=Z,216nm,18.2s,baz=89,slow=31							
TRQA	**Tornquist**	**28.93**	**294**	*e*P		**P**	**17 10 40.0**	**+0.2**
	comp=Z,6.9nm,0.6s							
PLCA	**Paso Flores**	**31.57**	**281**	P		**P**	**17 11 02.3**	**-0.8**
	comp=Z,4.7nm,0.8s,baz=138,slow=8.5,SNR=9.1							
PLCA				PcP		**PcP**	**17 13 53.3**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=131,slow=4.2,SNR=6.1							
PLCA				ScP		**ScP**	**17 17 22.4**	**-1.9**
	comp=Z,6.9nm,0.9s,baz=154,slow=3.6,SNR=11							
PLCA				LR		LR	17 23 30.9	
	comp=Z,145nm,20.4s,baz=129,slow=35							
QSPA	**South Pole Qui**	**34.15**	**180**	P		**P**	**17 11 26.9**	**+1.4**
	comp=Z,181nm,0.6s,baz=201,slow=3.1,SNR=1122							
QSPA				ScP		**ScP**	**17 17 31.0**	**-1.9**
	comp=Z,4.1nm,0.6s,baz=196,slow=1.8,SNR=6.9							
CPUP	**Villa Florida**	**36.51**	**312**	P		**P**	**17 11 46.0**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=139,slow=10,SNR=8.1							
CPUP				PcP		**PcP**	**17 14 08.7**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=249,slow=4.8,SNR=4.7							
CPUP				ScP		**ScP**	**17 17 41.4**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=144,slow=4.9,SNR=9.8							
CPUP				LR		LR	17 26 10.4	
	comp=Z,358nm,18.6s,baz=163,slow=35							
CPUP	**Villa Florida**	**36.51**	**312**	*e*P		**P**	**17 11 45.3**	**-0.4**
CPUP							17 14 08.7	
CPUP	**Villa Florida**	**36.51**	**312**	*e*P		**P**	**17 11 45.3**	**-0.4**
	comp=Z,0.2nm,0.9s							
CPUP				PcP		**PcP**	**17 14 08.7**	**+1.9**
CPUP				ScP		**ScP**	**17 17 41.4**	**-0.4**
CFAA	**Coronel Fontan**	**37.17**	**294**	P		**P**	**17 11 50.4**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=154,slow=9.5,SNR=42							
CFAA				PcP		**PcP**	**17 14 08.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=150,slow=2.9,SNR=6.8							
MAW	**Mawson**	**40.38**	**144**	P		**P**	**17 12 18.1**	**+0.5**
	comp=Z,14nm,0.5s,baz=248,slow=6.8,SNR=18							
MAW				ScP		**ScP**	**17 17 56.3**	**+0.4**
	comp=Z,24nm,0.9s,baz=238,slow=4.3,SNR=9.9							
SUR	**Sutherland**	**41.09**	**76**	P		**P**	**17 12 24.9**	**+0.8**
	comp=Z,113nm,0.9s,SNR=5.4							
SUR	**Sutherland**	**41.09**	**76**	P		**P**	**17 12 24.4**	**+0.3**
	comp=Z,8.4nm,0.6s,baz=212,slow=11,SNR=12							
BDFB	**Brasilia**	**43.18**	**331**	P		**P**	**17 12 41.4**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=174,slow=7.8,SNR=6.2							
BDFB				LR		LR	17 30 44.3	
	comp=Z,86nm,18.9s,baz=170,slow=36							
LVC	**Limon Verde**	**44.94**	**301**	P		**P**	**17 12 56.4**	**+1.1**
	comp=Z,118nm,0.7s,baz=132,slow=7.3,SNR=41							
LVC				PcP		**PcP**	**17 14 36.1**	**+1.5**
	comp=Z,28nm,0.7s,baz=123,slow=5.4,SNR=2.4							
LVC				ScP		**ScP**	**17 18 14.7**	**-0.7**
	comp=Z,18nm,0.7s,baz=260,slow=3.8,SNR=6.7							
LVC	**Limon Verde**	**44.94**	**301**	*e*P		**P**	**17 12 56.3**	**+1.1**
	comp=Z,34nm,0.8s							
LVC				PcP		**PcP**	**17 14 36.1**	**+1.5**
LVC				ScP		**ScP**	**17 18 14.7**	**-0.7**
SBA	**Scott Base**	**46.00**	**184**	*e*P		**P**	**17 13 04.5**	**+1.8**
SBA				pmax	pmax			
	comp=Z,71nm,0.9s							
SBA	**Scott Base**	**46.00**	**184**	*e*P		**P**	**17 13 04.5**	**+1.8**
	comp=Z,71nm,0.9s							
VNDA	**Vanda**	**46.50**	**183**	P		**P**	**17 13 08.3**	**+1.7**
	comp=Z,107nm,0.6s,baz=186,slow=6.2,SNR=717							
VNDA				ScP		**ScP**	**17 18 20.2**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=203,slow=3.8,SNR=5.7							
VNDA				LR		LR	17 30 23.2	
	comp=Z,120nm,20.3s,baz=207,slow=33							
VNDA	**Vanda**	**46.50**	**183**	*e*P		**P**	**17 13 07.9**	**+1.3**
VNDA				pmax	pmax			
	comp=Z,65nm,0.5s							
VNDA	**Vanda**	**46.50**	**183**	*e*P		**P**	**17 13 07.9**	**+1.3**
	comp=Z,65nm,0.5s							
VNDA				ScP		**ScP**	**17 18 20.2**	**-0.6**
SIV	**San Ignacio**	**47.28**	**314**	P		**P**	**17 13 14.6**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=162,slow=10,SNR=7.7							
SIV				PcP		**PcP**	**17 14 43.4**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=146,slow=3.5,SNR=3.6							
SIV				ScP		**ScP**	**17 18 24.4**	**-0.6**
	comp=Z,6.5nm,0.8s,baz=180,slow=3.0,SNR=12							
H10S2	**ASCENSION HYDR**	**48.18**	**18**	T		T	18 05 34.1	
	baz=190,slow=74,SNR=8.8							
H10S3	**ASCENSION HYDR**	**48.18**	**18**	T		T	18 05 34.2	
	baz=190,slow=74,SNR=7.2							
H10S1	**ASCENSION HYDR**	**48.20**	**18**	T		T	18 05 33.5	
	baz=190,slow=74,SNR=7.0							
LBTB	**Lobatse**	**49.45**	**74**	P		**P**	**17 13 29.4**	**-0.6**
	comp=Z,50nm,0.7s,baz=227,slow=8.0,SNR=100							
LBTB				ScP		**ScP**	**17 18 34.9**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=250,slow=5.2,SNR=4.7							
LBTB	**Lobatse**	**49.45**	**74**	*e*P		**P**	**17 13 29.2**	**-0.9**
LBTB				pmax	pmax			
	comp=Z,50nm,0.8s							
LPAZ	**La Paz**	**50.04**	**306**	P		**P**	**17 13 36.2**	**+1.0**
	comp=Z,8.2nm,0.3s,baz=140,slow=5.1,SNR=40							
LPAZ				ScP		**ScP**	**17 18 37.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=112,slow=4.2,SNR=4.4							
LPAZ				LR		LR	17 36 08.8	
	comp=Z,30nm,19.2s,baz=176,slow=38							
LPAZ	**La Paz**	**50.04**	**306**	*e*P		**P**	**17 13 36.2**	**+1.0**
LPAZ				pmax	pmax			
	comp=Z,16nm,0.6s							
LPAZ	**La Paz**	**50.04**	**306**	*e*P		**P**	**17 13 36.2**	**+1.0**
	comp=Z,16nm,0.6s							
LPAZ				ScP		**ScP**	**17 18 37.5**	**+0.1**
TSUM	**Tsumeb**	**50.10**	**62**	P		**P**	**17 13 34.6**	**-0.5**
	comp=Z,20nm,0.8s,baz=211,slow=7.6,SNR=50							
RCBR	**Riachuelo**	**50.52**	**350**	P		**P**	**17 13 39.5**	**+1.4**
	comp=Z,8.6nm,0.6s,baz=170,slow=9.1,SNR=6.1							
CASY	**Casey**	**54.01**	**161**	*e*P		**P**	**17 14 04.2**	**+1.0**
	comp=Z,37nm,1.0s							
SAML	**Samuel**	**54.52**	**316**	*e*P		**P**	**17 14 07.6**	**+0.1**
	comp=Z,5.5nm,0.6s							
LSZ	**Lusaka**	**58.81**	**70**	*e*P		**P**	**17 14 37.3**	**-0.7**
LSZ				pmax	pmax			
	comp=Z,39nm,0.8s							
LSZ	**Lusaka**	**58.81**	**70**	*e*P		**P**	**17 14 37.3**	**-0.7**
	comp=Z,39nm,0.8s							
PTGA	**Pitinga**	**60.94**	**323**	ScP		**ScP**	**17 19 23.9**	**-0.5**
	comp=Z,4.1nm,0.7s,baz=144,slow=3.6,SNR=4.5							
LIC	**Lamto**	**64.93**	**25**	*e*P		**P**	**17 15 18.8**	**+0.1**
	comp=Z,147nm,0.7s							
KIC	**Kosan Boka**	**65.13**	**26**	*e*P		**P**	**17 15 20.0**	**0.0**
	comp=Z,111nm,0.8s							
TIC	**Tomodi**	**65.34**	**25**	*e*P		**P**	**17 15 21.3**	**-0.1**
	comp=Z,102nm,0.6s							
DBIC	**Dimbokro**	**65.40**	**25**	P		**P**	**17 15 21.9**	**+0.1**
	comp=Z,38nm,0.7s,baz=164,slow=7.7,SNR=53							
DBIC				LR		LR	17 38 56.4	
	comp=Z,57nm,19.3s,baz=158,slow=31							
OTAV	**Otavalo**	**69.31**	**304**	*e*P		**P**	**17 15 48.0**	**+0.9**
	comp=Z,52nm,1.4s							
TORD	**Torodi Ar. Bea**	**73.32**	**30**	P		**P**	**17 16 10.8**	**+0.4**
	comp=Z,96nm,0.6s,baz=200,slow=6.6,SNR=714							
SDV	**Santo Domingo**	**73.73**	**316**	*e*P		**P**	**17 16 13.7**	**+0.6**
	comp=Z,15nm,0.8s							
KMBO	**Kilima Mbogo**	**75.48**	**70**	P		**P**	**17 16 24.4**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=215,slow=4.1,SNR=6.6							
KMBO				LR		LR	17 47 32.8	
	comp=Z,92nm,19.2s,baz=94,slow=34							
KMBO	**Kilima Mbogo**	**75.48**	**70**	*i* P		**P**	**17 16 26.3**	**+2.9**
RPZ	**Rata Peaks**	**79.26**	**194**	P		**P**	**17 16 43.3**	**-0.5**
	comp=Z,42nm,1.0s,baz=344,slow=1.0,SNR=6.0							
TAU	**Tasmania Unive**	**81.28**	**177**	P		**P**	**17 16 55.5**	**+0.9**
	comp=Z,484nm,0.8s,SNR=5.9							
TAM	**Tamanrasset**	**83.56**	**31**	*e*P		**P**	**17 17 08.6**	**+1.9**
TAM				pmax	pmax			
	comp=Z,15nm,1.1s							
TAM	**Tamanrasset**	**83.56**	**31**	*e*P		**P**	**17 17 08.6**	**+1.9**
	comp=Z,15nm,1.1s							
TAM				*e*			17 17 20.0	
URZ	**Urewera**	**83.61**	**200**	P		**P**	**17 17 07.0**	**+0.2**
	comp=Z,15nm,0.8s,baz=210,slow=8.1,SNR=4.6							
TBI	**Tubuai**	**86.70**	**232**	*e*LR		LR	17 45 03.2	
	comp=Z,200nm,31.2s							
TEIG	**Tepich**	**91.36**	**305**	*e*P		**P**	**17 17 44.9**	**+0.7**
	comp=Z,66nm,1.3s							
PPT2	**Papeete2**	**91.79**	**234**	*e*LR		LR	17 47 25.2	
	comp=Z,291nm,32.8s							
PPT	**Papeete**	**91.80**	**234**	LR		LR	17 53 13.8	
	comp=Z,48nm,18.3s,baz=160,slow=32							
STKA	**Stephens Creek**	**91.93**	**171**	P		**P**	**17 17 47.0**	**+0.2**
	comp=Z,7.6nm,0.7s,baz=184,slow=5.5,SNR=18							
KEST	**Kesra**	**96.84**	**30**	LR		LR	17 54 03.8	
	comp=Z,22nm,21.8s,baz=284,slow=30							
ESDC	**Sonseca Array**	**97.57**	**18**	P		Pdif	17 18 14.0	+1.8
	comp=Z,0.5nm,0.5s,baz=183,slow=5.8,SNR=4.4							
ASAR	**Alice Springs**	**99.08**	**163**	P		**Pdif**	**17 18 19.0**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=192,slow=3.9,SNR=33							
ASAR				PP		**PP**	**17 22 17.0**	**-5.2**
	comp=Z,2.8nm,1.1s,baz=189,slow=6.2,SNR=6.8							
ASAR				PKKP		**PKKPdf**	**17 34 43.3**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=14,slow=1.8,SNR=6.5							
ASAR				LR		LR	18 03 19.4	
	comp=Z,47nm,18.4s,baz=186,slow=35							
AS31	**Alice Springs**	**99.08**	**163**	*e*P		**Pdif**	**17 18 18.4**	**-1.2**
DZM	**Mont Dzumac**	**101.18**	**194**	*e*LR		LR	17 51 47.5	
	comp=Z,139nm,29.1s							
WRA	**Warramunga Arr**	**102.80**	**163**	P		**Pdif**	**17 18 35.2**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=193,slow=4.2,SNR=12							
WRA				PP		**PP**	**17 22 45.8**	**-4.5**
	comp=Z,2.0nm,0.9s,baz=189,slow=5.6,SNR=7.0							
WRA				PKKPbc		**PKKPbc**	**17 34 32.8**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=356,slow=2.8,SNR=12							
TXAR	**Lajitas Array**	**106.42**	**298**	Pdiff		**Pdif**	**17 18 52.8**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=132,slow=6.6,SNR=3.7							
TXAR				PKiKP		**PKiKP**	**17 23 02.1**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=143,slow=3.2,SNR=4.1							
CLL	**Collm**	**112.29**	**26**	*e*PS		PS	17 33 42.0	+7.6
CLL				*e*PPS		PPS	17 34 34.0	
CLL				*e*SS		SS	17 40 00.0	+30
ANN	**Anapa**	**114.56**	**45**	*i* PKIKP		PKPdf	17 23 23.5	+6.5
ANN				pmax	pmax			
	comp=Z,60nm,1.4s							
SCHQ	**Schefferville**	**115.03**	**336**	PKP		**PKPdf**	**17 23 17.3**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=236,slow=3.6,SNR=4.2							
AKASG	**Malin Array Be**	**116.50**	**37**	PKP		**PKPdf**	**17 23 19.5**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=230,slow=1.9,SNR=5.8							
AKASG				SKP			17 26 42.8	
	comp=Z,0.8nm,0.6s,baz=226,slow=1.2,SNR=4.9							
AKASG				PKKPab		**PKKPab**	**17 33 51.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=36,slow=3.8,SNR=4.9							
SHPR	**Sheep Range**	**117.92**	**294**	*e*PKPdf		**PKPdf**	**17 23 25.5**	**+1.4**
EDW2	**Edwards Air Fo**	**118.13**	**291**	P		**PKPdf**	**17 23 24.5**	**+0.2**
	baz=118							
LRMC	**Laurel Mtn Rad**	**118.43**	**292**	P		**PKPdf**	**17 23 24.9**	**-0.1**
	baz=119							
H25A	**Fruitdale**	**118.71**	**308**	P		**PKPdf**	**17 23 24.5**	**-0.7**
	baz=119							
MPMC	**Manual Prospec**	**118.78**	**292**	P		**PKPdf**	**17 23 25.8**	**0.0**
	baz=119							
TPNV	**Topopah Spring**	**118.82**	**294**	P		**PKPdf**	**17 23 26.5**	**+0.7**
	baz=119							
ISA	**Isabella, Lake**	**118.98**	**291**	P		**PKPdf**	**17 23 26.7**	**+0.7**
	baz=119							
J22A	**Midwest**	**119.06**	**305**	P		**PKPdf**	**17 23 25.2**	**-0.8**
	baz=119							
H24A	**Dirks Ranch, A**	**119.23**	**307**	P		**PKPdf**	**17 23 26.2**	**0.0**
	baz=120							
J21A	**Lysite**	**119.45**	**305**	P		**PKPdf**	**17 23 26.6**	**-0.2**
	baz=120							
R11A	**Troy Canyon, C**	**119.56**	**295**	P		**PKPdf**	**17 23 26.7**	**-0.5**
	baz=120							
DUG	**Dugway, Tooele**	**119.58**	**299**	*e*PKIKP		**PKPdf**	**17 23 27.8**	**+0.7**
DUG	**Dugway, Tooele**	**119.58**	**299**	P		**PKPdf**	**17 23 27.2**	**+0.1**
	baz=120							
DUG	**Dugway, Tooele**	**119.58**	**299**	*e*PKPdf		**PKPdf**	**17 23 27.8**	**+0.7**
I21A	**Big Trails, Te**	**119.74**	**305**	P		**PKPdf**	**17 23 27.4**	**+0.1**
	baz=120							
J20A	**Shoshoni**	**119.75**	**304**	P		**PKPdf**	**17 23 27.4**	**+0.1**
	baz=120							
ULM	**Lac du Bonnet**	**119.97**	**317**	PKP		**PKPdf**	**17 23 26.5**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=66,slow=4.7,SNR=3.9							
PDAR	**Pinedale Array**	**119.99**	**303**	PKP		**PKPdf**	**17 23 27.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=136,slow=5.6,SNR=9.5							
PDAR				SKP			17 26 51.2	
	comp=Z,0.9nm,0.9s,baz=132,slow=1.3,SNR=5.3							
HWUT	**Hardware Ranch**	**120.06**	**301**	*e*PKPdf		**PKPdf**	**17 23 28.4**	**+0.4**
HFS	**Hagfors**	**120.50**	**23**	PKKPbc	PKKPbc		17 33 32.8	-1.2
	comp=Z,1.3nm,0.5s,baz=29,slow=3.3,SNR=8.0							
NB2	**NORSAR Subarra**	**120.81**	**21**	PKPdf		**PKPdf**	**17 23 27.9**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=202,slow=1.9							
NOA	**NORSAR Array B**	**120.81**	**21**	PKP		**PKPdf**	**17 23 28.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=205,slow=2.0,SNR=6.0							
NOA				PKKPbc		**PKKPbc**	**17 33 33.2**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=26,slow=3.2,SNR=5.1							
D24A	**Glendive**	**120.97**	**309**	P		**PKPdf**	**17 23 29.5**	**+0.1**
	baz=121							
NVAR	**Mina Array Bea**	**121.00**	**294**	PKP		**PKPdf**	**17 23 31.2**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=134,slow=2.6,SNR=18							
NVAR				SKP			17 26 52.8	
	comp=Z,0.6nm,0.7s,baz=141,slow=3.1,SNR=5.3							
G20A	**Bridger**	**121.24**	**305**	P		**PKPdf**	**17 23 30.1**	**0.0**
	baz=122							
H18A	**Shoshone NF, C**	**121.50**	**304**	P		**PKPdf**	**17 23 30.4**	**-0.4**
	baz=122							
E19A	**Rath Farm, Rou**	**122.45**	**306**	P		**PKPdf**	**17 23 32.4**	**+0.1**
	baz=123							
D20A	**Manuel Ranch,**	**122.63**	**307**	P		**PKPdf**	**17 23 33.5**	**+0.9**
	baz=123							
D19A	**Cripps Ranch,**	**123.02**	**307**	P		**PKPdf**	**17 23 34.1**	**+0.8**
	baz=123							
C20A	**Veseth Ranch,**	**123.04**	**307**	P		**PKPdf**	**17 23 34.0**	**+0.6**
	baz=123							
C19A	**Slack Wire Ran**	**123.52**	**307**	P		**PKPdf**	**17 23 35.0**	**+0.7**
	baz=124							
A20A	**Cobblestone Ra**	**123.88**	**308**	P		**PKPdf**	**17 23 36.0**	**+1.1**
	baz=124							
B19A	**Brinkman Farms**	**124.01**	**308**	P		**PKPdf**	**17 23 36.2**	**+1.0**
	baz=124							
EGMT	**Eagleton**	**124.06**	**307**	P		**PKPdf**	**17 23 36.2**	**+0.9**
	baz=124							
PYUN	**Piuthan**	**124.43**	**90**	*e*P		**PKPdf**	**17 23 36.8**	**-0.1**
	comp=Z,19nm,0.6s							
KOLN	**Koldanda**	**124.51**	**91**	*e*P		**PKPdf**	**17 23 36.5**	**-0.5**
	comp=Z,12nm,0.5s							
FINES	**FINESS Array B**	**124.64**	**28**	PKP		**PKPdf**	**17 23 35.5**	**-0.4**
	comp=Z,7.6nm,0.5s,baz=250,slow=2.0,SNR=61							
FINES				SKP			17 26 58.3	
	comp=Z,0.7nm,0.6s,baz=178,slow=3.9,SNR=4.2							
MSO	**Missoula**	**125.10**	**303**	P		**PKPdf**	**17 23 38.3**	**+0.9**
	baz=125							
N02D	**Trinity Center**	**125.16**	**293**	P		**PKPdf**	**17 23 38.2**	**+0.5**
	baz=125							
DMN	**Daman**	**125.23**	**92**	*e*P		**PKPdf**	**17 23 37.6**	**-0.9**
	comp=Z,18nm,1.1s							
KAF	**Kangasniemi**	**125.26**	**28**	*e*p		**PKPdf**	**17 23 36.1**	**-0.9**
	comp=Z,9.5nm,0.6s							
KAF	**Kangasniemi**	**125.26**	**28**	*e*PKIKP		**PKPdf**	**17 23 36.1**	**-0.9**
KAF				pmax	pmax			
	comp=Z,10.0nm,0.6s		

	comp=Z,11nm,1.2s								
BRVK	**Borovoye**	**135.16**	**58**	*i*	PKIKP	**PKPdf**	**17 23 57.9**	**+1.8**
BVAR	**Borovoye Array**	**135.19**	**58**		PKP	**PKPdf**	**17 23 56.7**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=222,slow=1.9,SNR=16								
BVAR					PP	**PP**	**17 26 32.6**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=212,slow=5.1,SNR=4.5								
BVAR					SKPbc	**SKPbc**	**17 27 14.7**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=233,slow=3.2,SNR=13								
YKA	**Yellowknife Ar**	**135.91**	**318**		PKP	**PKPdf**	**17 23 55.8**	**-1.4**
	comp=Z,3.8nm,0.7s,baz=128,slow=2.0,SNR=4.3								
YKA					SKPbc	**SKPbc**	**17 27 16.1**	**-1.3**
	comp=Z,7.2nm,0.9s,baz=124,slow=2.4,SNR=30								
GYA	**Guiyang**	**136.06**	**113**		Pdif	**Pdif**	**17 21 04.8**	**+0.9**
GYA					PKP	**PKPdf**	**17 23 59.0**	**+0.1**
GYA					sPKP		17 24 37.5	
GYA					PP	**PP**	**17 26 44.5**	**+4.7**
GYA					PKS	**PKSdf**	**17 27 34.5**	**-0.8**
GYA					SKKS		17 33 25.0	
GYA					SS	**SS**	**17 44 32.0**	**+2.1**
GYA					PPMZ			
	comp=Z,180nm,7.8s								
GYA					LN				
	comp=Z,180nm,21.2s								
GYA					LE				
	comp=Z,140nm,22.0s								
GYA					LZ				
	comp=Z,160nm,21.9s								
MKAR	**Makanchi Array**	**137.33**	**72**		PKhKP	PKPpre	17 23 48.2		
	comp=Z,0.4nm,0.6s,baz=258,slow=5.1,SNR=4.2								
MKAR					PKP	**PKPdf**	**17 23 57.5**	**-2.9**
	comp=Z,0.4nm,0.5s,baz=242,slow=9.4,SNR=4.1								
MKAR					SKPbc	**SKPbc**	**17 27 20.6**	**-1.7**
	comp=Z,2.5nm,0.7s,baz=252,slow=5.1,SNR=13								
KURBB	**Kurchatov Arra**	**137.73**	**65**		PKhKP	PKPpre	17 23 51.9		
	comp=Z,1.4nm,0.7s,baz=233,slow=3.3,SNR=10								
KURBB					SKPbc	**SKPbc**	**17 27 22.3**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=235,slow=3.4,SNR=26								
KURK	**Kurchatov**	**137.83**	**65**		PKHKP	PKPpre	17 23 51.9		
KURK	**Kurchatov**	**137.83**	**65**		PKPpre	PKPpre	17 23 51.9		
KURK					SKPbc	**SKPbc**	**17 27 22.3**	**-1.2**
CD2	**Chengdu**	**138.08**	**106**		PKP	**PKPdf**	**17 24 03.0**	**+0.7**
CD2					sPKP		17 24 41.0	
CD2					PP	**PP**	**17 26 56.8**	**+4.4**
CD2					PKS	**PKSdf**	**17 27 37.8**	**-0.8**
CD2					SKS	**SKSdf**	**17 31 01.8**	**+0.2**
CD2					SKKS	**SKKSac**	**17 33 35.8**	**+1.3**
CD2					SS	**SS**	**17 44 57.0**	**+3.2**
CD2					PPMZ			
	comp=Z,160nm,5.4s								
LZH	**Lanzhou**	**142.04**	**101**	*e*	PKP	**PKPdf**	**17 24 10.8**	**+1.3**
LZH					sPKP		17 24 49.3	
GTA	**Gaotai**	**142.17**	**94**		PKP	**PKPdf**	**17 24 08.5**	**-1.1**
GTA					pPKP	**pPKPdf**	**17 24 35.0**	**-7.2**
GTA					sPKP		17 24 46.0	
NVS	**Novosibirsk**	**142.47**	**62**	*e*	PKHKP	PKPpre	17 24 05.5		
NVS					pmax	pmax			
	comp=Z,12nm,1.1s								
ZALV	**Zalesovo Beam**	**142.79**	**64**		PKhKP	PKPpre	17 24 06.2		
	comp=Z,4.0nm,0.5s,baz=226,slow=4.3,SNR=25								
ZALV					PP	**PP**	**17 27 20.5**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=256,slow=6.0,SNR=6.6								
ZALV					SKPbc	**SKPbc**	**17 27 34.9**	**-1.7**
	comp=Z,2.5nm,0.7s,baz=240,slow=3.1,SNR=5.9								
HYT	**Haines Junctio**	**144.46**	**307**	*e*	PKPdf	**PKPdf**	**17 24 12.8**	**-0.2**
INK	**Inuvik**	**145.55**	**321**	*e*	PKP2	**PKPab**	**17 24 15.3**	**0.0**
INK							17 27 42.0	
INK	**Inuvik**	**145.55**	**321**	*e*	PKPdf	**PKPab**	**17 24 15.3**	**0.0**
INK					SKPbc	**SKPbc**	**17 27 42.0**	**-0.6**
DAWY	**Dawson**	**146.49**	**312**	*e*	PKPdf	**PKPbc**	**17 24 17.6**	**-0.2**
EGAK	**Eagle**	**147.44**	**313**	*e*	PKPdf	**PKPbc**	**17 24 19.5**	**-0.9**
DIV	**Divide**	**148.31**	**305**	*e*	PKPbc	**PKPbc**	**17 24 23.3**	**+0.3**
DOT	**Dot Lake**	**148.33**	**310**	*e*	PKPbc	**PKPbc**	**17 24 23.3**	**+0.5**
PAX	**Paxson**	**148.75**	**309**	*e*	PKP2	**PKPbc**	**17 24 24.1**	**+0.1**
PAX	**Paxson**	**148.75**	**309**	*e*	PKPbc	**PKPbc**	**17 24 24.1**	**+0.1**
HHC	**Hu-ho-hao-te**	**149.67**	**103**	*e*	PKPbc	**PKPdf**	**17 24 22.0**	**-0.2**
HHC					pPKP	**pPKPdf**	**17 24 49.3**	**-5.6**
HHC					sPKP		17 24 57.3	
HHC					PKS	**PKSdf**	**17 27 55.5**	**-1.6**
HHC					PP	**PP**	**17 28 02.8**	**+0.9**
HHC					SKS	**SKSdf**	**17 31 16.3**	**-2.5**
HHC					PPMZ			
	comp=Z,65nm,10.0s								
HHC					LN				
	comp=Z,140nm,21.2s								
HHC					LE				
	comp=Z,98nm,20.9s								
HHC					LZ				
	comp=Z,91nm,21.8s								
ILAR	**Eielson Array**	**149.81**	**312**		PKP	**PKPdf**	**17 24 20.4**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=140,slow=0.6,SNR=11								
ILAR					PKPbc	**PKiKP**	**17 24 27.4**	**0.0**
	comp=Z,29nm,0.9s,baz=133,slow=1.6,SNR=98								
RC01	**Rabbit Creek A**	**150.13**	**304**	*e*	PKPbc	**PKPbc**	**17 24 27.9**	**+0.6**
MOY	**Mondy**	**150.18**	**77**	*e*	PKIKP	**PKPbc**	**17 24 28.4**	**+0.5**
COLA	**College**	**150.24**	**312**	*e*	PKIKP	**PKPbc**	**17 24 27.6**	**+0.2**
COLA	**College**	**150.24**	**312**	*e*	PKPbc	**PKPbc**	**17 24 27.6**	**+0.2**
KDAK	**Kodiak Island**	**150.44**	**297**	*e*	PKIKP	**PKPbc**	**17 24 29.0**	**+0.9**
KDAK	**Kodiak Island**	**150.44**	**297**	*e*	PKPbc	**PKPbc**	**17 24 29.0**	**+0.9**
MCK	**McKinley**	**150.45**	**309**	*e*	PKIKP	**PKPbc**	**17 24 28.5**	**+0.4**
MCK	**McKinley**	**150.45**	**309**	*e*	PKPbc	**PKPbc**	**17 24 28.5**	**+0.4**
ZAK	**Zakamensk**	**150.80**	**80**	*e*	PKIKP	**PKPbc**	**17 24 28.6**	**-0.8**
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.0s								
TRF	**Thorofare Moun**	**150.98**	**308**	*e*	PKPbc	**PKPbc**	**17 24 30.0**	**+0.5**
SONM	**Songino Array**	**151.18**	**87**		PKPbc	**PKPbc**	**17 24 30.4**	**0.0**
	comp=Z,17nm,0.5s,baz=221,slow=3.7,SNR=57								
KTH	**Kantishna Hill**	**151.28**	**309**	*e*	PKPbc	**PKPbc**	**17 24 30.3**	**+0.2**
RSO	**Redoubt South**	**151.37**	**302**	*e*	PKPbc	**PKPbc**	**17 24 30.8**	**+0.3**
COLD	**Coldfoot**	**151.54**	**316**	*e*	PKPbc	**PKPbc**	**17 24 31.3**	**+0.8**
ULN	**Ulaanbaatar**	**151.56**	**88**	*e*	PKIKP	**PKPbc**	**17 24 30.8**	**-0.5**
ULN	**Ulaanbaatar**	**151.56**	**88**	*e*	PKPbc	**PKPbc**	**17 24 30.8**	**-0.5**
PPLA	**Purkeypile**	**151.70**	**307**	*e*	PKPbc	**PKPbc**	**17 24 31.1**	**0.0**
KSAR	**Wonju Array Be**	**155.29**	**129**		PKP2	**PKPab**	**17 24 57.1**	**+0.8**
KSAR	**Wonju Array Be**	**155.29**	**129**		PKPab	**PKPab**	**17 24 57.0**	**+0.8**
KSRS	**Korea Array**	**155.32**	**129**		PKPab	**PKPab**	**17 24 57.0**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=232,slow=3.6,SNR=5.1								
MJAR	**Matsushiro Arr**	**158.32**	**149**		PKPab	**PKPab**	**17 25 09.3**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=188,slow=5.0,SNR=6.7								
BOD	**Bodaibo**	**159.38**	**69**	*e*	PKIKP	**PKPdf**	**17 24 33.1**	**-1.8**
BOD					*PP	**PKPab**	**17 25 12.6**	**-0.8**
BOD					pmax	pmax			
	comp=Z,3.0nm,1.1s								
BOD					pmax	pmax			
	comp=Z,6.0nm,1.0s								
PETK	**Petropavlovsk-**	**175.54**	**230**		PKP	**PKPdf**	**17 24 45.8**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=124,slow=2.6,SNR=8.5								
PETK					PKPab	**PKPab**	**17 26 25.0**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=112,slow=7.4,SNR=30								

WEL 26 17:18:16.8±0.4, 38°.83S×179°.54E, h33km, ML4.1/24, 7C-2D, Error ellipse: s-maj=3.8km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
CNGZ	**Carnagh Statio**	**1.10**	**288**		PN	Pn	17 18 35.4	-0.4
PUZ	**Puketiti**	**1.26**	**306**		PN	Pn	17 18 36.9	-1.2
PUZ					AML	AML	17 19 02.0	
PUZ					AML	AML	17 19 06.3	
PRGZ	**Paritu Road**	**1.30**	**265**		PN	Pn	17 18 37.8	-0.9
MHGZ	**Mahia Peninsul**	**1.32**	**255**		PN	Pn	17 18 38.0	-0.9
WMGZ	**Waiomatatini S**	**1.34**	**318**	⇑	PN	Pn	17 18 38.4	-0.8
TKGZ	**Te Karaka**	**1.38**	**286**		PN	Pn	17 18 39.4	-0.4
TKGZ					SN	Sn	17 18 56.8	-0.1
TWGZ	**Tauwhareparae**	**1.39**	**297**	⇑	PN	Pn	17 18 39.3	-0.6
RIGZ	**Rimuhau**	**1.40**	**274**		PN	Pn	17 18 39.4	-0.6
KNZ	**Kokohu**	**1.47**	**262**		PN	Pn	17 18 39.9	-1.1
KNZ					SN	Sn	17 18 57.2	-1.8
MXZ	**Matakaoa Point**	**1.60**	**322**	⇑	PN	Pn	17 18 42.4	-0.2
MXZ					AML	AML	17 19 03.4	
MXZ					AML	AML	17 19 13.8	
MXZ					AML	AML	17 19 13.9	
MWZ	**Matawai**	**1.66**	**287**	⇑	PN	Pn	17 18 42.8	-0.8
MWZ				*e*	SN	Sn	17 19 03.0	-0.7
MWZ					AML	AML	17 19 05.1	
MWZ					AML	AML	17 19 05.1	
MWZ					AML	AML	17 19 06.3	
RAGZ	**Rawiri**	**1.70**	**281**		PN	Pn	17 18 43.6	-0.6
SNGZ	**Shannon Statio**	**1.72**	**271**		PN	Pn	17 18 44.1	-0.4
HAZ	**Te Kaha**	**1.75**	**307**		PN	Pn	17 18 44.1	-0.7
HAZ				*e*	SN	Sn	17 19 05.6	-0.4
WHHZ	**Waihua**	**1.82**	**261**		PN	Pn	17 18 45.8	+0.1
RAHZ	**Arahi**	**1.92**	**267**		PN	Pn	17 18 47.0	-0.3
URZ	**Urewera**	**1.99**	**286**	⇑	PN	Pn	17 18 47.9	-0.2
URZ					AML	AML	17 19 13.7	
URZ					AML	AML	17 19 14.6	
ARHZ	**Aropaoanui**	**2.03**	**257**		PN	Pn	17 18 48.4	-0.2
CKHZ	**Cape Kidnapper**	**2.09**	**246**		PN	Pn	17 18 47.9	-1.6
NMHZ	**Naumai**	**2.15**	**262**		PN	Pn	17 18 50.2	-0.3
KAHZ	**Kahuranaki**	**2.28**	**244**		PN	Pn	17 18 50.8	-1.4
MCHZ	**McNeill Hill**	**2.30**	**254**		PN	Pn	17 18 51.8	-0.5
PXZ	**Pawanui**	**2.40**	**239**		PN	Pn	17 18 51.4	-2.3
PXZ				*e*	SN	Sn	17 19 20.1	-1.8
PXZ					AML	AML	17 19 26.5	
PXZ					AML	AML	17 19 28.0	
PXZ					AML	AML	17 19 28.0	
BKZ	**Black Stump Fm**	**2.40**	**261**	⇑	PN	Pn	17 18 53.2	-0.7
BKZ				*e*	SN	Sn	17 19 20.0	-2.2
BKZ					AML	AML	17 19 22.2	
RRRZ	**Republican Roa**	**2.42**	**281**	*e*	PN	Pn	17 18 53.8	-0.3
TARZ	**Mount Tarawera**	**2.46**	**283**		PN	Pn	17 18 54.7	+0.1
OPRZ	**Ohinepanea**	**2.55**	**292**		PN	Pn	17 18 55.0	-0.8
KRHZ	**Kereru**	**2.60**	**251**		PN	Pn	17 18 55.5	-1.0
PRHZ	**Porangahau**	**2.67**	**237**		PN	Pn	17 18 55.3	-2.2
HATZ	**Hinemaiaia**	**2.70**	**268**		PN	Pn	17 18 57.4	-0.5
HATZ					AML	AML	17 19 30.3	
HATZ					AML	AML	17 19 33.6	
WPHZ	**Waipukurau**	**2.70**	**242**		PN	Pn	17 18 55.9	-2.0
BHHZ	**Black Hill Sta**	**2.79**	**255**		PN	Pn	17 18 58.2	-1.0
TGRZ	**Tauranga**	**2.81**	**292**		PN	Pn	17 18 58.6	-0.7
PNHZ	**Pukenui**	**2.81**	**246**		PN	Pn	17 18 57.9	-1.6
KUTZ	**Kaahu Road**	**2.93**	**275**		PN	Pn	17 19 00.6	-0.5
DVHZ	**Dannevirke**	**3.00**	**240**		PN	Pn	17 18 59.8	-2.2
MOVZ	**Moawhango**	**3.01**	**258**		PN	Pn	17 19 02.0	-0.1
MOVZ					AML	AML	17 19 36.9	
MOVZ					AML	AML	17 19 38.0	
TSZ	**Takapari Road**	**3.04**	**245**	⇑	PN	Pn	17 19 00.6	-1.9
TSZ					SN	Sn	17 19 35.2	-2.6
TSZ					AML	AML	17 19 39.8	
KRVZ	**Karewarewa**	**3.05**	**264**		PN	Pn	17 19 02.8	-0.1
KRVZ					AML	AML	17 19 38.7	
KRVZ					AML	AML	17 19 42.1	
WNVZ	**Wahianoa**	**3.11**	**260**	⇓	PN	Pn	17 19 03.6	-0.2
WPVZ	**Whakapapa**	**3.14**	**262**		PN	Pn	17 19 04.0	-0.1
WPVZ					AML	AML	17 19 41.0	
WPVZ					AML	AML	17 19 41.5	
FWVZ	**Far West T-bar**	**3.14**	**261**	*e*	PN	Pn	17 19 03.8	-0.4
FWVZ					AML	AML	17 19 42.6	
FWVZ					AML	AML	17 19 42.6	
COVZ	**Chateau Observ**	**3.14**	**262**		PN	Pn	17 19 03.9	-0.2
BFZ	**Birch Farm**	**3.14**	**233**		PN	Pn	17 19 00.3	-3.7
BFZ				*e*	SN	Sn	17 19 34.0	-6.4
MTVZ	**Mangateitei**	**3.22**	**259**		AML	AML	17 19 47.9	
MTVZ					AML	AML	17 19 49.0	
PRWZ	**Pori Road**	**3.25**	**237**		PN	Pn	17 19 03.2	-2.3
POWZ	**Post Office Ro**	**3.31**	**241**		PN	Pn	17 19 04.1	-2.2
TIWZ	**Tintock**	**3.42**	**234**		PN	Pn	17 19 04.3	-3.6
TIWZ					AML	AML	17 19 48.1	
TIWZ					AML	AML	17 19 54.5	
MRZ	**Mangatainoka R**	**3.56**	**238**	⇓	PN	Pn	17 19 06.6	-3.1
MRZ					SN	Sn	17 19 46.5	-4.2
MRZ					AML	AML	17 19 51.3	
TMWZ	**Te Maipa**	**3.61**	**230**		PN	Pn	17 19 07.0	-3.5
WAZ	**Wanganui**	**3.66**	**254**		PN	Pn	17 19 10.4	-0.7
WAZ					AML	AML	17 19 59.6	
KUZ	**Kuaotunu**	**3.67**	**303**	*e*	PN	Pn	17 19 10.0	-1.3
HOWZ	**Holdsworth Sta**	**3.73**	**235**		PN	Pn	17 19 08.3	-3.8
MTW	**Mount Morrison**	**3.88**	**232**		PN	Pn	17 19 10.6	-3.5
MTW					AML	AML	17 19 57.4	
MTW					AML	AML	17 19 58.3	
PAWZ	**Paruwai Farm**	**4.06**	**230**		PN	Pn	17 19 12.2	-4.4
PAWZ					AML	AML	17 20 00.4	
PAWZ					AML	AML	17 20 06.9	
CAW	**Cannon Point**	**4.12**	**235**		PN	Pn	17 19 14.1	-3.4
CAW					AML	AML	17 20 01.9	
CAW					AML	AML	17 20 04.5	
MSWZ	**Moikau Station**	**4.18**	**231**		PN	Pn	17 19 13.9	-4.5
MSWZ					AML	AML	17 20 04.8	
PLWZ	**Palliser**	**4.28**	**229**		PN	Pn	17 19 16.2	-3.4
BHW	**Baring Head**	**4.41**	**233**		PN	Pn	17 19 17.5	-3.9
BHW					AML	AML	17 20 07.8	
BHW					AML	AML	17 20 10.0	
TCW	**Tory Channel**	**4.69**	**238**		PN	Pn	17 19 21.7	-3.6
TCW					AML	AML	17 20 18.0	
TCW					AML	AML	17 20 20.0	
TUWZ	**Tuamarina**	**5.02**	**237**		PN	Pn	17 19 26.7	-3.0
CTZ	**Chatham Island**	**5.69**	**151**		PN	Pn	17 19 38.5	-0.5
THZ	**Tophouse**	**5.86**	**238**		PN	Pn	17 19 37.6	-3.8
THZ					AML	AML	17 19 50.5	
THZ					AML	AML	17 20 44.6	
LTZ	**Lake Taylor**	**6.79**	**232**		AML	AML	17 21 05.8	
MQZ	**McQueen's Vall**	**7.12**	**225**		PN	Pn	17 19 54.6	-4.0
ODZ	**Otahua Downs**	**9.08**	**224**		PN	Pn	17 20 22.9	-2.6

*ISCJB **26** 17:25:16.1±1.2, 44°.5N±0°.1×148°.0E±0°.2, h122km±9km, Error ellipse: s-maj=26.4km s-min=8.0km az=42.1*
*SKHL **26** 17:25:17.8±0.3, 44°.51N×148°.10E, h110km±1km, mb4.5/3, msh5.2/3*
*JMA **26** 17:25:17.9±0.5, 44°.28N×148°.02E, h115km, M3.4*
ISC 26 17:25:15.5±1.9, 44°.4N±0°.1×148°.1E±0°.1, h129km±13km, n13, σ1s66/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**0.87**	**349**	*e*	P	**Pn**	**17 25 36.3**	**-0.8**
KUR					AMB	AMB	17 25 36.6	
	81nm,0.3s							
KUR				*e*	S	**Sn**	**17 25 50.0**	**-3.5**
KUR					A	A	17 25 51.0	
	340nm,0.4s							
KUR					A	A	17 25 51.0	
	53nm,0.4s							
SHO	**Shikotan**	**1.05**	**242**	*e*	P	**Pn**	**17 25 40.1**	**+1.4**
SHO				*e*	S	**Sn**	**17 25 56.8**	**+0.5**
SHO					A	A	17 25 57.2	
	241nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.65**	**259**	*e*	P	**Pn**	**17 25 46.3**	**+1.1**
YUK					AMB	AMB	17 25 46.4	
	102nm,0.2s							
YUK				*e*	S	**Sn**	**17 26 07.9**	**+0.1**
YUK					A	A	17 26 11.9	
	470nm,0.2s							
YUK					A	A	17 26 11.9	
	84nm,0.2s							
NEM2	**Nemuro 2**	**1.99**	**240**		P	**Pn**	**17 25 50.1**	**+0.9**
NEM2				*e*	S	**Sn**	**17 26 14.7**	**-0.2**
JRA	**Rausu**	**2.19**	**259**		P	**Pn**	**17 25 52.7**	**+1.0**
JNK	**Nakash**	**2.57**	**253**		P	**Pn**	**17 25 57.6**	**+1.1**
JAK	**Akkeshi**	**2.83**	**242**		P	**Pn**	**17 26 00.7**	**+0.9**
JAK				*e*	S	**Sn**	**17 26 33.6**	**-0.4**
JAR	**Ashorobuto**	**3.32**	**253**		P	**Pn**	**17 26 07.9**	**+1.7**
JCH	**Churui**	**3.88**	**245**		P	**Pn**	**17 26 14.3**	**+0.8**
JCH				*e*	S	**Sn**	**17 26 57.2**	**-1.3**
JNBK	**Urakawa-nobuka**	**4.43**	**244**		P	**Pn**	**17 26 21.1**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.55**	**306**	*e*	P	**Pn**	**17 26 24.5**	**+2.1**
YSS					AMB	AMB	17 26 26.0	
	59nm,0.9s							
JKB	**Kayabe**	**5.74**	**247**		P	**Pn**	**17 26 38.6**	**+0.1**
JKB				*e*	S	**Sn**	**17 27 39.7**	**-3.5**
SKR	**Severo-Kuril's**	**8.31**	**38**	*e*	P	**Pn**	**17 27 14.5**	**+1.5**

*ISCJB **26** 17:30:24.1±1.1, 38°.29N±0°.10×38°.83E±0°.05, h11km, Error ellipse: s-maj=14.8km s-min=4.4km az=166.1*
*DDA **26** 17:30:24.1, 38°.30N×38°.83E, h7km, MD2.7*
*CSEM **26** 17:30:24.0±0.2, 38°.32N×38°.83E, h10km, MD2.7, Error ellipse: s-maj=17.3km s-min=2.9km az=171.0*
ISC 26 17:30:23.7±1.4, 38°.27N±0°.09×38°.84E±0°.03, h11km, n8, σ0s33/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ELZG	**Elazig**	**0.26**	**26**	*i*	P	**Pg**	**17 30 29.2**	**+0.1**
ELZG				*i*	S	**Sg**	**17 30 32.8**	**+0.1**
ELZG	**Elazig**	**0.26**	**26**	*i*	P	**Pg**	**17 30 29.2**	**+0.1**
ELZG				*i*	S	**Sg**	**17 30 32.8**	**+0.1**
MALT	**Malatya**	**0.33**	**278**	*e*	PG	**Pg**	**17 30 30.1**	**-0.2**
MALT				*e*	SG	**Sg**	**17 30 35.1**	**+0.3**
MALT	**Malatya**	**0.33**	**278**	*e*	Pg	**Pg**	**17 30 30.2**	**-0.2**
MALT				*e*	Sg	**Sg**	**17 30 35.1**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.38**	**73**	*e*	PG	**Pg**	**17 30 31.6**	**+0.3**
SVRC				*e*	SG	**Sb**	**17 30 37.9**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.38**	**73**	*e*	Pg	**Pg**	**17 30 31.6**	**+0.3**
SVRC				*e*	Sg	**Sb**	**17 30 37.9**	**-0.6**
AKCD	**Akcadag**	**0.72**	**273**	*i*	P	**Pg**	**17 30 37.8**	**+0.1**
AKCD				*i*	S	**Sb**	**17 30 48.3**	**-0.1**
AKCD	**Akcadag**	**0.72**	**273**	*i*	P	**Pg**	**17 30 37.8**	**+0.1**
AKCD				*i*	S	**Sb**	**17 30 48.3**	**-0.1**

*ISCJB **26** 17:35:33.0±0.7, 24°.8N±0°.1×94°.9E±0°.1, h82km, mb3.4/6, Error ellipse: s-maj=20.8km s-min=10.7km az=135.9*
*IDC **26** 17:35:35.7±3.9, 24°.46N×94°.33E, h100km±37km, mb3.3/6, mb1 3.3/7, mb1mx3.1/40, mbtmp3.5/7, MS3.4/2, Ms1 3.4/2, ms1mx2.6/22, Error ellipse: s-maj=103.0km s-min=14.1km az=60.0*
ISC 26 17:35:34.9±0.9, 24°.8N±0°.2×94°.7E±0°.1, h82km, n11, σ1s71/12, mb3.5/6, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
IMP	**Imphal**	**0.72**	**269**	*e*	P	**Pn**	**17 35 50.5**	**-0.5**
IMP				*e*	S	**Sn**	**17 36 06.5**	**+3.5**
SHL	**Shillong**	**2.68**	**287**	⇑ *i*	PN	**Pn**	**17 36 16.0**	**-0.2**
SHL				*i*	SN	**Sn**	**17 36 45.0**	**-2.9**
CMAR	**Chiang Mai Arr**	**7.43**	**147**		P	**Pn**	**17 37 20.5**	**-0.2**
	0.1nm,0.3s,baz=318,slow=13,SNR=5.9							
MKAR	**Makanchi Array**	**24.09**	**339**		P	**P**	**17 40 43.8**	**+1.0**
	1.4nm,0.5s,baz=172,slow=8.0,SNR=26							
KURBB	**Kurchatov Arra**	**28.66**	**338**		P	**P**	**17 41 24.2**	**+0.4**
	0.3nm,0.5s,baz=147,slow=9.3,SNR=7.2							
ZALV	**Zalesovo Beam**	**30.04**	**348**		P	**P**	**17 41 36.4**	**+0.4**
	0.3nm,0.5s,baz=167,slow=9.1,SNR=3.7							
BVAR	**Borovoye Array**	**33.63**	**333**		P	**P**	**17 42 08.4**	**+0.9**
	0.2nm,0.4s,baz=150,slow=9.4,SNR=2.4							
LEM	**Lembang**	**33.85**	**157**		LR	LR	17 58 34.6	
	comp=Z,48nm,18.1s,slow=41							
FINES	**FINESS Array B**	**58.34**	**328**		LR	LR	18 10 22.5	
	comp=Z,44nm,20.8s,baz=194,slow=36							
WRA	**Warramunga Arr**	**58.85**	**136**		P	**P**	**17 45 24.0**	**-1.3**
	0.2nm,0.3s,baz=317,slow=7.9,SNR=30							
ASAR	**Alice Springs**	**61.35**	**139**		P	**P**	**17 45 41.4**	**-1.0**
	0.2nm,0.4s,baz=316,slow=6.8,SNR=10							
ASAR					pP	**pP**	**17 46 03.8**	**+0.5**
	0.3nm,0.6s,baz=318,slow=6.9,SNR=3.1							

FUNV 26 17:48:47.0, 6°.86N×73°.14W, h163km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
CAPV	**Capacho**	**1.29**	**39**	*e*	P	Pn	17 49 15.4	-0.5
CAPV				*e*	S	Sn	17 49 35.8	-2.4
VIGV	**El Vigia**	**2.64**	**42**	*e*	P	Pn	17 49 29.5	-1.1
VIGV				*e*	S	Sn	17 50 00.6	-3.7
SOCV	**Socops**	**2.67**	**58**	*e*	P	Pn	17 49 30.2	-0.7
SOCV				*e*	S	Sn	17 50 01.7	-3.2
VIRV	**Villa del Rosa**	**3.69**	**11**	*e*	P	Pn	17 49 41.9	-1.9
VIRV				*e*	S	Sn	17 50 23.9	-4.1

*ISCJB **26** 17:48:56.8±0.4, 47°.03N±0°.05×152°.44E±0°.06, h100km, mb4.0/29, Error ellipse: s-maj=8.4km s-min=3.3km az=138.6*
*BJI **26** 17:48:57.0, 46°.90N×152°.60E, h120km, mB4.5/6, mb4.4/8*
*JMA **26** 17:48:57.1±0.5, 47°.08N×152°.47E, h30km, M4.1*
*SKHL **26** 17:48:59.1±0.8, 46°.92N×152°.58E, h136km±8km, mb5.1/4, Ms4.5/1, msh5.5/4*
*MOS **26** 17:49:01.4±0.9, 47°.21N×152°.14E, h139km, mb3.9/10, Error ellipse: s-maj=10.5km s-min=9.1km az

PETK	**Petropavlovsk-**	**6.99**	**27**	P	**Pn**	**17 50 41.0**	**+3.1**
	comp=Z,2.1nm,0.3s,baz=201,slow=16,SNR=66						
PETK				S	**Sn**	**17 51 58.3**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=20,SNR=2.0						
PETK	**Petropavlovsk-**	**6.99**	**27**	PN	**Pn**	**17 50 41.0**	**+3.1**
PETK				S	**Sn**	**17 51 58.3**	**+2.5**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JMP	**Maruseppu**	**7.08**	**249**	P	Pn	17 50 42.2	+3.1
JAR	**Ashorobuto**	**7.18**	**242**	P	**Pn**	**17 50 41.7**	**+1.1**
JAR				*e*S	**Sn**	**17 51 59.9**	**-0.7**
PET	**Petropavlovsk**	**7.24**	**31**	‖ *i*PN	**Pn**	**17 50 41.4**	**+0.2**
PET	**Petropavlovsk**	**7.24**	**31**	*e*P	**Pn**	**17 50 41.3**	**+0.1**
UGL	**Uglegorsk**	**7.31**	**291**	*e*PN	**Pn**	**17 50 42.0**	**-0.2**
UGL				*e*S	**Sn**	**17 52 05.1**	**+1.6**
ASAJ	**Asahikawa**	**7.52**	**251**	P	**Pn**	**17 50 47.7**	**+2.6**
ASAJ	**Asahikawa**	**7.52**	**251**	P	Pn	17 50 48.0	+2.9
	comp=Z,1.3nm,0.3s,baz=89,slow=10,SNR=32						
ASAJ				LR	LR	17 54 07.7	
	comp=Z,21nm,19.8s,baz=342,slow=41						
JKK2	**Kamakawa 2**	**7.53**	**249**	P	**Pn**	**17 50 47.3**	**+2.0**
JCH	**Churui**	**7.82**	**239**	P	**Pn**	**17 50 48.6**	**-0.7**
JCH				*e*S	**Sn**	**17 52 10.5**	**-5.7**
ERM	**Erimo**	**8.32**	**237**	‖ *e*PN	**Pn**	**17 50 56.3**	**+0.3**
ERM	**Erimo**	**8.32**	**237**	*e*P	**Pn**	**17 50 56.3**	**+0.3**
JKB	**Kayabe**	**9.65**	**242**	P	**Pn**	**17 51 12.1**	**-2.0**
HABR	**Khabarovsk**	**11.85**	**284**	*e*PN	**Pn**	**17 51 43.5**	**-0.3**
HABR				*e*S	**Sn**	**17 53 56.7**	**+2.8**
HABR				pmax	pmax		
	comp=N,12nm,1.7s						
HABR				pmax	pmax		
	comp=E,13nm,1.7s						
HABR				pmax	pmax		
	comp=Z,17nm,1.5s						
KLR	**Kul'dur**	**14.05**	**287**	*e*P	**Pn**	**17 52 12.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**14.62**	**267**	P	**Pn**	**17 52 20.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=63,slow=11,SNR=17						
MJAR	**Matsushiro Arr**	**14.89**	**231**	P	**P**	**17 52 25.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=27,slow=10,SNR=4.0						
SEY	**Seymchan**	**15.99**	**360**	P	**Pn**	**17 52 36.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=166,slow=14,SNR=25						
SEY	**Seymchan**	**15.99**	**360**	P	**Pn**	**17 52 36.9**	**-0.2**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**15.99**	**360**	*e*P	**Pn**	**17 52 36.6**	**-0.5**
CN2	**Changchun**	**19.23**	**270**	*e*P	**P**	**17 53 14.5**	**+0.1**
YAK	**Yakutsk**	**19.91**	**328**	P	**P**	**17 53 20.5**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=116,slow=3.2,SNR=16						
YAK	**Yakutsk**	**19.91**	**328**	*e*P	**P**	**17 53 19.9**	**-1.6**
YAK				pmax	pmax		
	comp=E,12nm,1.3s						
YAK				pmax	pmax		
	comp=Z,27nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
KSRS	**Korea Array**	**20.47**	**251**	P	**P**	**17 53 29.2**	**+1.4**
	comp=N,1.7nm,0.7s,baz=50,slow=11,SNR=5.4						
TIK	**Tiksi**	**27.12**	**344**	*e*P	**P**	**17 54 31.8**	**+0.4**
TIXI	**Tiksi**	**27.14**	**344**	*de*P	**P**	**17 54 31.8**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**29.61**	**152**	T	T	18 26 24.8	
	baz=340,slow=75,SNR=386						
H11N1	**WAKE ISLAND Hy**	**29.63**	**152**	T	T	18 26 20.8	
	baz=340,slow=75,SNR=222						
H11N3	**WAKE ISLAND Hy**	**29.63**	**152**	T	T	18 26 39.5	
	baz=340,slow=75,SNR=209						
H11S1	**WAKE ISLAND Hy**	**30.70**	**153**	T	T	18 27 54.0	
	baz=341,slow=76,SNR=147						
H11S3	**WAKE ISLAND Hy**	**30.70**	**153**	T	T	18 27 46.5	
	baz=341,slow=76,SNR=111						
H11S2	**WAKE ISLAND Hy**	**30.71**	**153**	T	T	18 27 48.2	
	baz=341,slow=76,SNR=85						
TLY	**Talaya**	**31.70**	**297**	LR	LR	18 08 23.0	
	comp=N,28nm,18.9s,baz=83,slow=37						
ILAR	**Eielson Array**	**36.64**	**39**	P	**P**	**17 55 55.5**	**+0.9**
	comp=N,0.5nm,0.5s,baz=259,slow=7.0,SNR=10						
GTA	**Gaotai**	**38.52**	**278**	*e*P	**P**	**17 56 10.3**	**-0.6**
GTA				PMZ			
	comp=N,3.0nm,1.3s						
ZALV	**Zalesovo Beam**	**42.14**	**305**	P	**P**	**17 56 38.2**	**-2.2**
	comp=N,0.3nm,0.4s,baz=64,slow=6.7,SNR=2.3						
ZALV				PcP	**PcP**	**17 58 32.5**	**-0.4**
	comp=N,0.5nm,0.5s,baz=103,slow=3.1,SNR=4.4						
MKAR	**Makanchi Array**	**46.47**	**297**	P	**P**	**17 57 12.6**	**-2.4**
	comp=N,1.1nm,0.7s,baz=46,slow=3.7,SNR=13						
MKAR				PcP	**PcP**	**17 58 47.4**	**-0.6**
	comp=N,0.4nm,0.5s,baz=244,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**46.47**	**297**	*ce*P	**P**	**17 57 13.3**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**46.47**	**297**	*e*P	**P**	**17 57 13.3**	**-1.7**
KURK	**Kurchatov**	**46.89**	**303**	‖ *i*P	**P**	**17 57 16.0**	**-2.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**46.89**	**303**	*e*P	**P**	**17 57 16.0**	**-2.2**
BRVK	**Borovoye**	**50.43**	**309**	*ce*P	**P**	**17 57 43.2**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRVK	**Borovoye**	**50.43**	**309**	*e*P	**P**	**17 57 43.2**	**-2.1**
RES	**Resolute Bay**	**50.76**	**18**	P	**P**	**17 57 47.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=348,slow=8.1,SNR=9.6						
YKA	**Yellowknife Ar**	**50.99**	**37**	P	**P**	**17 57 50.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=298,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**50.99**	**37**	*e*P	P	17 57 46.5	-2.8
CMAR	**Chiang Mai Arr**	**52.02**	**256**	P	**P**	**17 57 58.5**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=34,slow=8.0,SNR=10						
CMAR	**Chiang Mai Arr**	**52.02**	**256**	P	**P**	**17 57 58.5**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**53.36**	**296**	*ce*P	**P**	**17 58 05.5**	**-1.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AAK	**Ala-Archa**	**53.36**	**296**	*e*P	**P**	**17 58 05.5**	**-1.9**
TAPN	**Taplejung**	**53.67**	**273**	*e*P	**P**	**17 58 09.3**	**-0.7**
	comp=Z,6.7nm,0.7s						
ODAN	**Odare**	**54.20**	**272**	*e*P	**P**	**17 58 13.2**	**-0.6**
JIRN	**Jiri**	**54.51**	**274**	*e*P	**P**	**17 58 15.6**	**-0.6**
	comp=Z,12nm,0.6s						
GUN	**Gumba**	**54.56**	**274**	*e*P	**P**	**17 58 16.4**	**-0.1**
	comp=Z,11nm,0.5s						
RAMN	**Ramite**	**54.68**	**273**	*e*P	**P**	**17 58 16.3**	**-1.0**
	comp=Z,10nm,0.7s						
KKN	**Kakani**	**55.05**	**275**	*e*P	**P**	**17 58 19.5**	**-0.4**
	comp=Z,8.8nm,0.5s						
PKI	**Pulchoki**	**55.10**	**274**	*e*P	**P**	**17 58 19.1**	**-1.3**
PKIN	**Phulchoki**	**55.11**	**274**	*e*P	**P**	**17 58 20.1**	**-0.2**
	comp=Z,6.3nm,0.6s						
DMN	**Daman**	**55.28**	**275**	*e*P	**P**	**17 58 20.4**	**-1.2**
	comp=Z,5.0nm,0.5s						
GKN	**Gorkha**	**55.35**	**275**	*e*P	**P**	**17 58 21.7**	**-0.3**
	comp=Z,6.3nm,0.5s						
KOLN	**Koldanda**	**56.21**	**276**	*e*P	**P**	**17 58 28.0**	**-0.1**
	comp=Z,5.4nm,0.7s						
PYUN	**Piuthan**	**56.41**	**277**	*e*P	**P**	**17 58 28.5**	**-1.1**
NVAR	**Mina Array Bea**	**62.70**	**62**	P	**P**	**17 59 14.8**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=296,slow=7.5,SNR=5.9						
FINES	**FINESS Array B**	**63.66**	**334**	P	**P**	**17 59 16.7**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=36,slow=6.6,SNR=15						
FINES	**FINESS Array B**	**63.66**	**334**	*i* P	**P**	**17 59 17.1**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.66**	**334**	*e*P	**P**	**17 59 17.0**	**-1.2**
NOA	**NORSAR Array B**	**67.88**	**341**	P	**P**	**17 59 44.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=28,slow=6.5,SNR=5.1						
NOA	**NORSAR Array B**	**67.88**	**341**	P	**P**	**17 59 44.2**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**68.59**	**198**	P	**P**	**17 59 51.5**	**+1.2**
	comp=Z,0.9nm,1.0s,baz=27,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**68.59**	**198**	P	**P**	**17 59 51.5**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AKASG	**Malin Array Be**	**71.13**	**326**	P	**P**	**18 00 02.7**	**-2.8**
	comp=Z,1.6nm,0.5s,baz=33,slow=6.1,SNR=9.9						
AKASG	**Malin Array Be**	**71.13**	**326**	P	**P**	**18 00 02.7**	**-2.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**72.29**	**198**	P	**P**	**18 00 15.2**	**+2.4**
	comp=Z,1.5nm,0.7s,baz=11,slow=5.4,SNR=21						
ASAR	**Alice Springs**	**72.29**	**198**	P	**P**	**18 00 15.2**	**+2.4**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DPC	**Dobruska-Polom**	**75.93**	**333**	*e*P	**P**	**18 00 30.9**	**-2.9**
DPC	**Dobruska-Polom**	**75.93**	**333**	*e*P	**P**	**18 00 30.9**	**-2.9**
TXAR	**Lajitas Array**	**77.75**	**60**	P	**P**	**18 00 45.4**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=294,slow=4.9,SNR=14						
TXAR	**Lajitas Array**	**77.75**	**60**	P	**P**	**18 00 45.4**	**+1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**78.07**	**334**	P	**P**	**18 00 44.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=16,slow=7.4,SNR=2.7						
LOR	**Lormes**	**82.22**	**339**	*e*P	**P**	**18 01 06.5**	**-1.6**
	comp=Z,8.2nm,0.9s						
CABF	**La Chapelle**	**82.26**	**337**	*e*P	**P**	**18 01 07.2**	**-1.2**
SSF	**Saint Saulge**	**82.50**	**339**	*e*P	**P**	**18 01 07.9**	**-1.6**
	comp=Z,5.7nm,0.8s						
SGMF	**Saint Gilles**	**82.70**	**343**	*e*P	**P**	**18 01 09.3**	**-1.2**
	comp=Z,5.3nm,0.6s						
ROSF	**Rostrenen**	**82.75**	**344**	*e*P	**P**	**18 01 09.5**	**-1.3**
	comp=Z,8.7nm,0.8s						
AVF	**Avril sur Loir**	**82.79**	**339**	*e*P	**P**	**18 01 09.6**	**-1.4**
SMF	**Signal de Mont**	**82.81**	**339**	*e*P	**P**	**18 01 09.7**	**-1.4**
	comp=Z,4.0nm,0.6s						
LPL	**La Plagne**	**83.10**	**337**	*e*P	**P**	**18 01 11.9**	**-1.0**
LPG	**La Plagne**	**83.11**	**337**	*e*P	**P**	**18 01 12.1**	**-1.0**
	comp=Z,6.6nm,1.0s						
TCF	**Toulx Ste Croi**	**83.53**	**340**	*e*P	**P**	**18 01 13.7**	**-1.2**
MBDF	**Montbardon**	**83.82**	**336**	*e*P	**P**	**18 01 15.2**	**-1.3**
	comp=Z,2.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**83.88**	**337**	*e*P	**P**	**18 01 15.1**	**-1.7**
	comp=Z,7.0nm,0.8s						
VIVF	**Saint-Julien-l**	**84.26**	**338**	*e*P	**P**	**18 01 17.7**	**-0.9**
SBF	**Sospel**	**84.43**	**335**	*e*P	**P**	**18 01 18.0**	**-1.5**
	comp=Z,9.9nm,0.8s						
CAF	**Calviac**	**84.85**	**339**	*e*P	**P**	**18 01 21.0**	**-0.6**
	comp=Z,4.0nm,0.7s						
PGF	**Pioggiola**	**85.17**	**334**	*e*P	**P**	**18 01 21.6**	**-1.7**
	comp=Z,3.9nm,0.7s						
LMR	**La Mourre**	**85.17**	**336**	*e*P	**P**	**18 01 22.2**	**-1.0**
	comp=Z,3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**114.69**	**328**	PKP	PKPdf	18 07 26.0	-1.1
	comp=Z,0.3nm,0.6s,baz=18,slow=2.1,SNR=3.3						
PLCA	**Paso Flores**	**148.64**	**94**	PKPbc	**PKPbc**	**18 08 34.2**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=336,slow=5.0,SNR=5.5						
PLCA	**Paso Flores**	**148.64**	**94**	PKP2	**PKPbc**	**18 08 34.2**	**+0.9**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*ISCJB **26** 17:49:51.2±0.8, 12°.63S×0°.07×76°.8W±0°.1, h44km, mb4.0/6, MS3.9/1, Error ellipse: s-maj=17.0km s-min=7.3km az=153.8*
*IDC **26** 17:49:52.9±0.9, 12°.45S×76°.82W, h47km±6km, mb3.8/6, mb1 4.1/9, mb1mx3.8/23, mbtmp4.1/9, MS2.7/3, Ms1 2.8/3, ms1mx2.7/21, Error ellipse: s-maj=25.6km s-min=10.2km az=72.0*
*NEIC **26** 17:49:54.1±1.0, 12°.53S×76°.78W, h62km±9km, mb4.4/1, Error ellipse: s-maj=17.9km s-min=8.7km az=55.0*
NEIC Felt [III] at Chilca, Lima and San Vicente de Canete; [II] at Chincha Alta. Also felt at Ica and Pisco.

ISC 26 17:49:52.2±0.8, 12°.67S±0°.08×76°.9W±0°.1, h44km, n30, σ1s59/24, mb4.2/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.68**	**2**	P		**Pn**		**17 50 05.1**	**-0.5**
	215nm,0.3s,baz=163,slow=12,SNR=327								
NNA				S		**Sn**		**17 50 13.6**	**-1.6**
	2μm,0.3s,baz=291,slow=17,SNR=148								
ATAH	**Atahualpa**	**5.71**	**345**	P		**Pn**		**17 51 17.2**	**+2.3**
	8.2nm,0.3s,baz=154,slow=6.5,SNR=21								
ATAH				S		Sn		17 52 26.6	+7.3
	16nm,0.3s,baz=119,slow=19,SNR=6.1								
ATAH				LR		LR		17 53 13.0	
	comp=Z,41nm,21.9s,baz=181,slow=36								
ARE	**Arequipa**	**6.43**	**127**	*e*P		Pn		17 51 33.0	+8.3
ARE				*e*S		Sn		17 52 53.0	+16
LPAZ	**La Paz**	**9.20**	**114**	P		**Pn**		**17 52 06.0**	**+3.1**
	2.1nm,0.3s,baz=296,slow=11,SNR=29								
LPAZ				S		Sn		17 53 36.1	-10
	0.2nm,0.3s,baz=36,slow=19,SNR=2.1								
LPAZ				LR		LR		17 55 09.1	
	comp=Z,40nm,18.5s,baz=303,slow=34								
LPAZ	**La Paz**	**9.20**	**114**	*e*P		Pn		17 52 06.7	+3.7
LPAZ				S		Sn		17 53 36.1	-10
LVC	**Limon Verde**	**12.46**	**144**	P		**Pn**		**17 52 50.3**	**+3.1**
	72nm,0.3s,baz=325,slow=11,SNR=10								
LVC				S		**Sn**		**17 55 02.5**	**-2.3**
	14nm,0.3s,baz=299,slow=19,SNR=2.4								
LVC	**Limon Verde**	**12.46**	**144**	*e*Pn		**Pn**		**17 52 49.2**	**+2.0**
	7.8nm,0.6s								
LVC				S		**Sn**		**17 55 02.5**	**-2.3**
OTAV	**Otavalo**	**12.92**	**353**	*e*Pn		**Pn**		**17 52 55.6**	**+1.8**
	11nm,0.9s								
SAML	**Samuel**	**13.95**	**76**	*e*P		Pn		17 53 04.9	-2.4
	0.4nm,0.3s								
SIV	**San Ignacio**	**15.66**	**104**	P		**Pn**		**17 53 30.3**	**+0.3**
	0.1nm,0.3s,baz=295,slow=12,SNR=2.0								
ROSC	**El Rosal**	**17.60**	**8**	LR		LR		18 01 24.8	
	comp=Z,59nm,18.5s,baz=223,slow=40								
CFAA	**Coronel Fontan**	**20.45**	**158**	P		Pn		17 54 28.8	+0.2
	0.2nm,0.4s,baz=0.0,slow=12,SNR=3.3								
PTGA	**Pitinga**	**20.53**	**56**	P		**P**		**17 54 26.1**	**-1.1**
	5.8nm,0.5s,baz=240,slow=13,SNR=11								
SDV	**Santo Domingo**	**22.30**	**16**	*e*P		**P**		**17 54 46.7**	**+0.4**
	14nm,1.0s								
CPUP	**Villa Florida**	**22.84**	**129**	LR		LR		18 03 57.1	
	comp=Z,494nm,21.1s,baz=306,slow=37								
TXAR	**Lajitas Array**	**49.12**	**329**	P		**P**		**17 58 35.4**	**-0.4**
	0.4nm,0.7s,baz=139,slow=8.3,SNR=4.3								
NVAR	**Mina Array Bea**	**63.91**	**325**	P		**P**		**18 00 21.5**	**+0.5**
	1.0nm,0.7s,baz=138,slow=7.0,SNR=8.1								
ULM	**Lac du Bonnet**	**64.83**	**347**	P		**P**		**18 00 25.2**	**-1.3**
	6.0nm,1.1s,baz=150,slow=8.1,SNR=4.0								
YKA	**Yellowknife Ar**	**80.49**	**343**	P		**P**		**18 01 57.9**	**-1.3**
	0.5nm,0.8s,baz=144,slow=5.1,SNR=8.7								
TORD	**Torodi Ar. Bea**	**82.00**	**75**	P		**P**		**18 02 07.4**	**-0.9**
	2.7nm,0.7s,baz=262,slow=5.2,SNR=15								
TORD				sP		**sP**		**18 02 27.6**	**+1.3**
	3.0nm,1.1s,baz=258,slow=4.9,SNR=3.8								
H11N3	**WAKE ISLAND Hy**	**118.64**	**286**	T		T		20 18 49.2	
	baz=96								
H11N2	**WAKE ISLAND Hy**	**118.65**	**286**	T		T		20 18 51.2	
	baz=96								
H11N1	**WAKE ISLAND Hy**	**118.66**	**286**	T		T		20 18 50.7	
	baz=96								
H11S2	**WAKE ISLAND Hy**	**118.74**	**284**	T		T		20 17 59.4	
	baz=94								
H11S1	**WAKE ISLAND Hy**	**118.75**	**284**	T		T		20 17 59.7	
	baz=94								
H11S3	**WAKE ISLAND Hy**	**118.76**	**284**	T		T		20 18 06.5	
	baz=94								
ASAR	**Alice Springs**	**132.99**	**220**	PKP		**PKPdf**		**18 09 03.0**	**-0.7**
	0.3nm,0.8s,baz=111,slow=1.6,SNR=3.3								
ASAR				pPKP		**pPKPdf**		**18 09 17.9**	**+0.5**
	0.3nm,0.6s,baz=123,slow=2.2,SNR=2.8								
WRA	**Warramunga Arr**	**135.34**	**224**	PKP		**PKPdf**		**18 09 07.7**	**-0.5**
	0.7nm,0.8s,baz=133,slow=2.1,SNR=5.5								
WRA				pPKP		**pPKPdf**		**18 09 22.1**	**+0.2**
	0.7nm,0.7s,baz=125,slow=2.1,SNR=4.6								
ULN	**Ulaanbaatar**	**144.76**	**355**	*e*P		**PKPab**		**18 09 23.6**	**+0.1**
SONM	**Songino Array**	**144.84**	**356**	PKP		**PKPab**		**18 09 23.8**	**0.0**
	2.7nm,0.8s,baz=353,slow=3.4,SNR=5.0								

KRSC 26 17:56:56.5±1.6, 48°.65N×155°.41E, h155km±21km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.09**	**12**	*e*P		Pn		17 57 34.5	+1.7
SKR				*e*S		Sn		17 58 01.4	+0.4
PAU	**Pauzhetka**	**2.97**	**17**	*e*P		Pn		17 57 45.0	+1.5
PAU				*e*S		Sn		17 58 21.8	+1.8
ASAK	**Asacha**	**4.07**	**22**	*e*P		Pn		17 57 59.9	+2.2
MTVR	**Mutnovka**	**4.23**	**24**	P		Pn		17 58 01.9	+2.0
MTVR				S		Sn		17 58 50.8	+1.4
RUS	**Russkaya**	**4.28**	**26**	*e*P		Pn		17 58 01.8	+1.5
RUS				S		Sn		17 58 50.7	+0.6
APC	**Apacha**	**4.43**	**14**	P		Pn		17 58 02.9	+0.6
UGLR	**Uglovaya**	**5.05**	**24**	*e*P		Pn		17 58 12.8	+2.1
KOK	**Koryaka**	**5.08**	**22**	*e*P		Pn		17 58 13.9	+2.9
AVH	**Avacha**	**5.08**	**23**	*e*P		Pn		17 58 14.0	+3.0
KRER	**Koryakskii**	**5.12**	**23**	*e*P		Pn		17 58 14.2	+2.5
SDLR	**Sedlovina**	**5.13**	**24**	P		Pn		17 58 13.6	+1.8
KRX	**Arik**	**5.14**	**22**	*e*P		Pn		17 58 14.4	+2.4
GNL	**Ganaly**	**5.30**	**16**	*e*P		Pn		17 58 15.0	+1.0
SPN	**Mys Shipunski**	**5.33**	**31**	*e*P		Pn		17 58 16.2	+2.0
MKZ	**Mys Kozlova**	**7.11**	**31**	*e*P		Pn		17 58 39.2	+1.4
TUMR	**Tumrok**	**7.26**	**22**	P		Pn		17 58 42.6	+2.6

*IDC **26** 17:59:48.2±1.5, 22°.28N×123°.80E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/27, mbtmp3.4/5, ML3.3/2, MS2.7/1, Ms1 2.9/1, ms1mx2.1/21, Error ellipse: s-maj=33.2km s-min=27.1km az=140.0*
*JMA **26** 17:59:50.9±0.5, 22°.30N×123°.75E, h56km, M3.6*

ISC 26 17:59:50.2±3.7, 22°.36N±0°.08×123°.90E±0°.07, h16km±24km, n19, σ1s25/33, mb3.1/3, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.69**	**357**	P		Pn		**18 00 19.9**	**+0.7**
HATJ				S		**Sn**		**18 00 39.7**	**-0.8**
JKRS	**Kuro-shima**	**1.87**	**3**	S		**Pb**		**18 00 22.9**	**-1.2**
JKRS				S		**Sn**		**18 00 45.4**	**+0.4**
IRIF	**Iriomote-Funau**	**1.97**	**356**	P		**Pn**		**18 00 24.3**	**+1.3**
IRIF				S		**Sn**		**18 00 47.1**	**-0.3**
JIJ	**Ishigaki jima**	**2.01**	**6**	P		**Pn**		**18 00 24.1**	**+0.6**
JIJ				S		**Sn**		**18 00 47.1**	**-1.2**
YOJ	**Yonaguni jima**	**2.25**	**339**	P		**Pn**		**18 00 27.6**	**+0.8**
YOJ				S		**Sn**		**18 00 52.6**	**-1.6**
JISG	**Ishigakijimahi**	**2.25**	**10**	P		**Pn**		**18 00 27.3**	**+0.5**
JISG				S		**Sn**		**18 00 54.7**	**+0.4**
JYNG	**Yonagunijimaku**	**2.26**	**337**	P		**Pn**		**18 00 27.8**	**+0.8**
JYNG				S		**Sn**		**18 00 53.3**	**-1.2**
JTJ	**Tarama**	**2.39**	**18**	P		**Pn**		**18 00 29.5**	**+0.8**
JTJ				S		**Sn**		**18 00 58.0**	**+0.3**
JIRB	**Irabujima**	**2.72**	**25**	P		**Pn**		**18 00 34.1**	**+0.8**
JIRB				S		**Sn**		**18 01 05.3**	**-0.6**
JMJ	**Miyako jima 2**	**2.76**	**27**	P		**Pn**		**18 00 35.0**	**+1.2**
JMJ				S		**Sn**		**18 01 08.1**	**+1.2**
JOGS	**Gusukube**	**2.76**	**30**	P		**Pn**		**18 00 34.9**	**+1.0**
JOGS				S		**Sn**		**18 01 08.2**	**+1.3**
JIKM	**Ikemajima**	**2.84**	**26**	P		**Pn**		**18 00 36.0**	**+1.1**
JIKM				S		**Sn**		**18 01 10.2**	**+1.4**
JKE	**Kume jima 2**	**4.75**	**33**	P		**Pn**		**18 01 01.3**	**+0.1**
JKE				S		**Sn**		**18 01 53.2**	**-2.7**
JNTH	**Nagotoyohara**	**5.59**	**41**	P		**Pn**		**18 01 12.7**	**-0.1**
JOW	**Kunigami**	**5.97**	**41**	Pn		**Pn**		**18 01 18.1**	**0.0**
	1.0nm,0.3s,baz=218,slow=18,SNR=21								
JOW				Sn		**Sn**		**18 02 22.9**	**-3.3**
	0.4nm,0.3s,baz=105,slow=20,SNR=4.3								
MJAR	**Matsushiro Arr**	**18.81**	**38**	P		**Pn**		**18 04 11.5**	**+1.8**
	0.2nm,0.3s,baz=230,slow=9.9,SNR=4.9								
CMAR	**Chiang Mai Arr**	**23.70**	**265**	P		**P**		**18 05 00.6**	**-1.0**
	0.6nm,0.7s,baz=67,slow=8.1,SNR=6.6								
CMAR				LR		LR		18 15 43.6	
	comp=Z,17nm,18.2s,baz=225,slow=40								
MKAR	**Makanchi Array**	**41.38**	**316**	P		**P**		**18 07 36.3**	**+0.6**
	0.2nm,0.5s,baz=103,slow=9.7,SNR=4.5								
WRA	**Warramunga Arr**	**43.26**	**166**	P		**P**		**18 07 51.2**	**0.0**
	0.2nm,0.7s,baz=345,slow=8.9,SNR=2.9								

*NIED **26** 18:07:00, 43°.30N×146°.20E, h38km, Mw3.6 Best double couple: M0.05000×10^14 NP1:φs260.00000°, δ23.00000°, λ92.00000°. NP2:φs78.00000°, δ67.00000°, λ89.00000°.*
*ISCJB **26** 18:07:12.3±0.9, 43°.32N±0°.07×146°.33E±0°.07, h48km±8km, mb3.6/4, Error ellipse: s-maj=13.9km s-min=5.2km az=149.5*
*JMA **26** 18:07:13.7±0.1, 43°.30N×146°.23E, h45km±1km, M3.5*

IGHG	**Ghaleghazi**	**3.80**	**326**	*e*Pn		**Pn**	**18 19 11.6**	**+1.6**
IGHG				*e*			18 20 40.7	
	comp=Z,2μm,0.4s							
IGHG	**Ghaleghazi**	**3.80**	**326**	*e*Pn		**Pn**	**18 19 11.6**	**+1.6**
ISRV	**Sarvestan**	**3.88**	**117**	*e*Pn		**Pn**	**18 19 13.0**	**+1.8**
ISRV				*e*			18 20 42.7	
	comp=Z,6μm,0.5s							
ISRV	**Sarvestan**	**3.88**	**117**	*e*Pn		**Pn**	**18 19 13.0**	**+1.8**
ISAD	**Sadrabad**	**3.94**	**78**	*e*Pn		**Pn**	**18 19 13.1**	**+1.1**
ISAD				*e*			18 20 35.5	
	comp=Z,4μm,0.4s							
ISAD	**Sadrabad**	**3.94**	**78**	*e*Pn		**Pn**	**18 19 13.1**	**+1.1**
IDHR	**Dehrash**	**4.19**	**327**	*e*Pn		**Pn**	**18 19 16.1**	**+0.7**
IDHR				*e*			18 20 45.3	
	comp=Z,770nm,0.2s							
IDHR	**Dehrash**	**4.19**	**327**	*e*Pn		**Pn**	**18 19 16.1**	**+0.7**
IRAZ	**Razeghan**	**4.25**	**9**	*e*Pn		**Pn**	**18 19 17.3**	**+1.1**
IRAZ				*e*			18 20 47.3	
	comp=Z,1μm,0.5s							
IRAZ	**Razeghan**	**4.25**	**9**	*e*Pn		**Pn**	**18 19 17.3**	**+1.1**
IVRN	**Varamin**	**4.37**	**29**	*e*Pn		**Pn**	**18 19 18.2**	**+0.6**
IVRN				*e*			18 21 06.3	
	comp=Z,2μm,0.6s							
IVRN	**Varamin**	**4.37**	**29**	*e*Pn		**Pn**	**18 19 18.2**	**+0.6**
BHD	**Baghdad**	**4.53**	**298**	*e*PN		x	18 19 41.3	
BHD				*e*SN		x	18 20 22.1	
BHD	**Baghdad**	**4.53**	**298**	*e*Pn		x	18 19 41.3	
	SNR=39							
BHD				*e*Sn		x	18 20 22.1	
	SNR=39							
IMEH	**Mehriz**	**4.69**	**86**	*e*Pn		**Pn**	**18 19 23.3**	**+1.1**
IMEH				*e*			18 20 21.1	
	comp=Z,839nm,0.3s							
IMEH	**Mehriz**	**4.69**	**86**	*e*Pn		**Pn**	**18 19 23.3**	**+1.1**
IDMV	**Damavand**	**4.99**	**28**	*e*Pn		**Pn**	**18 19 27.3**	**+0.9**
IDMV				*e*			18 21 09.6	
	comp=Z,2μm,0.8s							
IDMV	**Damavand**	**4.99**	**28**	*e*Pn		**Pn**	**18 19 27.3**	**+0.9**
ILAS	**Lasjerd**	**5.26**	**36**	*e*Pn		**Pn**	**18 19 30.2**	**+0.1**
ILAS				*e*			18 21 23.3	
	comp=Z,394nm,0.3s							
ILAS	**Lasjerd**	**5.26**	**36**	*e*Pn		**Pn**	**18 19 30.2**	**+0.1**
IFIR	**Firoozkooh**	**5.37**	**33**	*e*Pn		**Pn**	**18 19 31.9**	**+0.4**
IFIR				*e*			18 20 03.2	
	comp=Z,212nm,0.2s							
IFIR	**Firoozkooh**	**5.37**	**33**	*e*Pn		**Pn**	**18 19 31.9**	**+0.4**
IBAF	**Bafgh**	**5.51**	**84**	*e*Pn		**Pn**	**18 19 33.9**	**+0.5**
IBAF				*e*			18 21 22.3	
	comp=Z,827nm,0.6s							
IBAF	**Bafgh**	**5.51**	**84**	*e*Pn		**Pn**	**18 19 33.9**	**+0.5**
RTB	**Rutbah**	**7.71**	**286**	*e*PN		x	18 20 26.6	
RTB				*e*SN		x	18 21 38.1	
RTB	**Rutbah**	**7.71**	**286**	*e*Pn		x	18 20 26.6	
	SNR=39							
RTB				*e*Sn		x	18 21 38.1	
	SNR=39							
GEYT	**Alibeck**	**9.99**	**45**	Pn		**Pn**	**18 20 36.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=243,slow=13,SNR=19							
GEYT				LR		LR	18 25 08.9	
	comp=Z,284nm,18.9s,baz=240,slow=42							
MMAI	**Mount Meron Ar**	**11.79**	**282**	LR		LR	18 26 38.7	
	comp=Z,48nm,21.6s,baz=110,slow=44							
EIL	**Elat**	**12.34**	**267**	LR		LR	18 26 53.6	
	comp=Z,118nm,21.4s,baz=77,slow=43							
BRTR	**Keskin Array B**	**15.21**	**308**	Pn		**Pn**	**18 21 46.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=2.5							
BRTR				LR		LR	18 28 31.8	
	comp=Z,50nm,18.2s,baz=110,slow=42							
AKTO	**Aktyubinsk**	**20.33**	**16**	P		**P**	**18 22 47.3**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=207,slow=9.0,SNR=4.0							
IDI	**Anoyia**	**20.67**	**288**	P		**P**	**18 22 51.9**	**+0.6**
	comp=Z,12nm,0.8s,baz=51,slow=9.4,SNR=3.9							
IDI				LR		LR	18 33 16.7	
	comp=Z,37nm,20.7s,baz=82,slow=44							
AAK	**Ala-Archa**	**23.18**	**53**	P		**P**	**18 23 20.2**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=192,slow=8.6,SNR=3.8							
AAK				LR		LR	18 33 54.8	
	comp=Z,80nm,20.4s,baz=244,slow=41							
AKASG	**Malin Array Be**	**24.48**	**328**	P		**P**	**18 23 29.3**	**-0.9**
	comp=Z,0.1nm,0.2s,baz=134,slow=9.2,SNR=4.9							
BVAR	**Borovoye Array**	**26.72**	**29**	P		**P**	**18 23 50.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=223,slow=9.9,SNR=5.7							
KURBB	**Kurchatov Arra**	**29.20**	**40**	P		**P**	**18 24 12.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=240,slow=9.4,SNR=3.9							
MKAR	**Makanchi Array**	**29.84**	**49**	LR		LR	18 38 17.9	
	comp=Z,65nm,18.2s,baz=204,slow=40							
GKN	**Gorkha**	**30.95**	**87**	*e*P		**P**	**18 24 29.6**	**+0.9**
	comp=Z,12nm,0.9s							
DMN	**Daman**	**31.45**	**87**	*e*P		**P**	**18 24 32.3**	**-0.9**
KKN	**Kakani**	**31.55**	**87**	*e*P		**P**	**18 24 33.6**	**-0.5**
	comp=Z,15nm,0.9s							
PKI	**Pulchoki**	**31.72**	**87**	*e*P		**P**	**18 24 34.8**	**-0.9**
GUN	**Gumba**	**32.03**	**86**	*e*P		**P**	**18 24 38.1**	**-0.3**
	comp=Z,27nm,1.0s							
JIRN	**Jiri**	**32.37**	**87**	*e*P		**P**	**18 24 40.6**	**-0.8**
RAMN	**Ramite**	**32.91**	**88**	*e*P		P	18 24 41.8	-4.2
	comp=Z,54nm,1.7s							
ODAN	**Odare**	**33.61**	**88**	*e*P		P	18 24 47.0	-5.1
	comp=Z,14nm,1.2s							
FINES	**FINESS Array B**	**33.81**	**340**	P		**P**	**18 24 51.8**	**-1.4**
	comp=Z,2.2nm,1.0s,baz=151,slow=9.5,SNR=3.1							
ZALV	**Zalesovo Beam**	**34.19**	**38**	P		**P**	**18 24 55.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=254,slow=8.4,SNR=3.0							
ZALV				LR		LR	18 39 30.9	
	comp=Z,41nm,18.5s,baz=250,slow=38							
LPG	**La Plagne**	**35.75**	**306**	*e*P		**P**	**18 25 09.9**	**-0.6**
	comp=Z,8.8nm,1.2s							
LPL	**La Plagne**	**35.77**	**306**	*e*P		**P**	**18 25 09.9**	**-0.7**
	comp=Z,12nm,1.2s							
HFS	**Hagfors**	**37.29**	**331**	P		P	18 25 20.2	-2.9
	comp=Z,1.5nm,0.8s,baz=120,slow=8.7,SNR=4.5							
NOA	**NORSAR Array B**	**38.81**	**331**	P		**P**	**18 25 34.4**	**-1.6**
	comp=Z,1.4nm,1.0s,baz=124,slow=8.3,SNR=2.6							
TLY	**Talaya**	**44.51**	**46**	LR		LR	18 46 38.9	
	comp=Z,45nm,19.6s,baz=268,slow=38							
CMAR	**Chiang Mai Arr**	**46.59**	**94**	P		**P**	**18 26 41.7**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=288,slow=8.5,SNR=8.4							
CMAR				LR		LR	18 49 35.6	
	comp=Z,14nm,18.4s,baz=200,slow=40							
TORD	**Torodi Ar. Bea**	**47.08**	**259**	P		**P**	**18 26 43.9**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=53,slow=8.3,SNR=16							
TORD				LR		LR	18 46 39.7	
	comp=Z,48nm,21.0s,baz=135,slow=36							
DBIC	**Dimbokro**	**55.95**	**256**	LR		LR	18 54 07.0	
	comp=Z,55nm,19.5s,baz=82,slow=39							
KSRS	**Korea Array**	**63.59**	**61**	LR		LR	18 59 54.5	
	comp=Z,26nm,20.0s,baz=325,slow=39							
USRK	**Ussuriysk Ar.**	**64.23**	**52**	LR		LR	18 57 34.4	
	comp=Z,38nm,18.9s,baz=328,slow=37							
YKA	**Yellowknife Ar**	**85.73**	**353**	P		**P**	**18 30 48.7**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=12,slow=4.8,SNR=4.6							

*IDC **26** 18:28:58.0±0.8, 2°.32N×126°.59E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.8/50, mbtmp4.0/10, MS2.9/2, Ms1 2.9/2, ms1mx2.4/33, Error ellipse: s-maj=61.0km s-min=14.2km az=66.0*

*ISCJB **26** 18:29:03.2±0.6, 2°.59N±0°.05×127°.11E±0°.05, h53km, mb3.9/10, MS2.8/2, Error ellipse: s-maj=7.8km s-min=6.2km az=149.3*

*DJA **26** 18:29:05.4±1.0, 3°.N±4'×12°.7E±', h23km±17km, M4.0/11, mb4.2/5, mB4.6/4, MLv4.0/11, Mw(mB)3.8/4*

ISC 26 18:29:04.9±0.7, 2°.57N±0°.06×127°.10E±0°.07, h53km, n21, σ1°05/25, mb3.9/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.81**	**172**	P	**Pn**	**18 29 33.2**	**-0.4**
TNTI				S	**Sn**	**18 29 57.0**	**+1.6**
SGSI	**Sangihe**	**1.92**	**305**	P	**Pn**	**18 29 35.3**	**+0.1**
SGSI				S	**Sn**	**18 29 58.4**	**+0.1**
LBMI	**Labuha**	**3.21**	**173**	P	**Pn**	**18 29 53.8**	**+0.9**
KMSI	**Cibinong**	**3.69**	**238**	P	**Pn**	**18 29 59.8**	**+0.3**
KMSI				S	**Sn**	**18 30 41.6**	**-0.2**
SANI	**Sanana**	**4.72**	**194**	P	**Pn**	**18 30 13.5**	**-0.1**
MRSI	**Marisa**	**5.56**	**248**	P	**Pn**	**18 30 25.2**	**+0.1**
	39nm,0.5s,422nm0.1nm						
MRSI				S	**Sn**	**18 31 28.7**	**+0.9**
	39nm,0.5s,422nm0.1nm						
LUWI	**Luwuk**	**5.62**	**230**	P	**Pn**	**18 30 26.2**	**+0.2**
	39nm,1.2s,529nm0.2nm						
APSI	**Ampana**	**6.46**	**238**	P	**Pn**	**18 30 38.9**	**+1.5**
	34nm,0.9s,0.1nm						
MPSI	**Mapaga**	**7.53**	**253**	P	**Pn**	**18 30 53.2**	**+1.0**
LEM	**Lembang**	**21.57**	**244**	LR	LR	18 43 20.9	
	comp=Z,52nm,21.5s,baz=228,slow=41						
WRA	**Warramunga Arr**	**23.47**	**163**	P	**P**	**18 34 08.3**	**-1.6**
	1.4nm,0.3s,baz=340,slow=11,SNR=98						
WRA				PcP	**PcP**	**18 37 55.1**	**+0.3**
	0.5nm,1.1s,baz=344,slow=2.0,SNR=3.0						
ASAR	**Alice Springs**	**26.91**	**166**	P	**P**	**18 34 40.1**	**-1.1**
	0.7nm,0.7s,baz=339,slow=8.2,SNR=16						
ASAR				PcP	**PcP**	**18 38 03.0**	**+0.6**
	0.6nm,0.8s,baz=352,slow=2.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**31.78**	**302**	P	**P**	**18 35 22.6**	**-2.0**
	0.5nm,0.8s,baz=118,slow=7.2,SNR=4.6						
KSRS	**Korea Array**	**34.72**	**1**	P	**P**	**18 35 52.5**	**+2.6**
	1.0nm,0.5s,baz=180,slow=10,SNR=4.3						
HNR	**Honiara**	**34.83**	**110**	LR	LR	18 49 57.1	
	comp=Z,11nm,18.7s,slow=36						
STKA	**Stephens Creek**	**36.92**	**159**	P	**P**	**18 36 08.3**	**-0.5**
	6.4nm,0.7s,baz=336,slow=10,SNR=27						
MKAR	**Makanchi Array**	**58.71**	**325**	P	**P**	**18 38 56.9**	**-0.3**
	0.6nm,0.4s,baz=125,slow=6.2,SNR=23						
KURBB	**Kurchatov Arra**	**62.91**	**328**	P	**P**	**18 39 25.4**	**-0.2**
	2.2nm,0.2s,baz=128,slow=6.6,SNR=6.5						
BVAR	**Borovoye Array**	**68.49**	**327**	P	**P**	**18 40 01.9**	**+0.3**
	0.3nm,0.3s,baz=95,slow=4.1,SNR=4.8						
AKTO	**Aktyubinsk**	**74.79**	**322**	P	**P**	**18 40 38.8**	**-0.7**
	0.7nm,0.4s,baz=101,slow=5.2,SNR=3.7						
VNDA	**Vanda**	**82.24**	**173**	P	**P**	**18 41 20.2**	**+0.2**
	0.8nm,0.7s,baz=317,slow=6.1,SNR=6.3						

IDC 26 18:34:07.2±328.0, 56°.55N×31°.15E, h0km, Error ellipse: s-maj=135.7km s-min=73.0km az=89.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.36**	**85**	*i*		18 54 40.0	
	baz=269,slow=319,SNR=2.7						
I26DE	**FREYUNG INFRAS**	**13.05**	**241**	*i*		19 51 10.0	
	baz=45,slow=335,SNR=0.6						
I48TN	**KESRA INFRASON**	**25.46**	**225**	*i*		21 12 00.0	
	baz=27,slow=314,SNR=0.4						

*IDC **26** 18:34:15.5±5.2, 26°.75N×126°.21E, h77km±59km, mb3.4/4, mb1 3.6/5, mb1mx3.1/58, mbtmp3.7/5, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/22, Error ellipse: s-maj=57.3km s-min=16.7km az=69.0*

*ISCJB **26** 18:34:17.4±0.4, 26°.93N±0°.06×126°.72E±0°.06, h126km±6km, mb3.7/4, Error ellipse: s-maj=12.6km s-min=3.4km az=141.4*

*JMA **26** 18:34:19.5±0.3, 26°.98N×126°.76E, h116km±4km, M3.9*

ISC 26 18:34:18.6±0.9, 26°.90N±0°.07×126°.78E±0°.06, h131km±7km, n29, σ1°38/46, mb3.7/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.52**	**127**	P	**Pn**	**18 34 37.8**	**-0.1**
JAGN				S	**Sn**	**18 34 51.3**	**-1.1**
JKE	**Kume jima 2**	**0.57**	**180**	P	**Pn**	**18 34 38.0**	**-0.2**
JKE				*e*S	**Sn**	**18 34 52.7**	**-0.4**
JIH	**Iheya**	**1.07**	**82**	P	**Pn**	**18 34 42.5**	**+0.3**
JIH				S	**Sn**	**18 34 59.3**	**-0.8**
JJT2	**Tamagusuku 2**	**1.15**	**131**	P	**Pn**	**18 34 44.2**	**+1.1**
JJT2				*e*S	**Sn**	**18 35 02.0**	**+0.4**
JNTH	**Nagotoyohara**	**1.17**	**109**	P	**Pn**	**18 34 43.8**	**+0.5**
JNTH				S	**Sn**	**18 35 01.0**	**-1.0**
JOW	**Kunigami**	**1.34**	**93**	P	**Pn**	**18 34 45.3**	**+0.3**
JOW				S	**Sn**	**18 35 03.7**	**-1.4**
JOW	**Kunigami**	**1.34**	**93**	P	**Pn**	**18 34 45.4**	**+0.4**
	baz=270,slow=8.1						
JOKE	**Okinoerabujima**	**1.66**	**74**	P	**Pn**	**18 34 48.6**	**0.0**
JOKE				*e*S	**Sn**	**18 35 09.6**	**-1.9**
JTK	**Tokunoshima**	**2.12**	**65**	P	**Pn**	**18 34 53.9**	**-0.2**
JOGS	**Gusukube**	**2.46**	**210**	S	**Sn**	**18 35 29.1**	**+0.1**
JMJ	**Miyako jima 2**	**2.47**	**213**	P	**Pn**	**18 34 57.1**	**-1.4**
JMJ				S	**Sn**	**18 35 28.0**	**-1.1**
JAMN	**Amaminishikomi**	**2.51**	**57**	P	**Pn**	**18 34 58.5**	**-0.5**
JAMN				*e*S	**Sn**	**18 35 28.4**	**-1.6**
JIRB	**Irabujima**	**2.52**	**215**	P	**Pn**	**18 34 59.0**	**-0.1**
JIRB				S	**Sn**	**18 35 28.7**	**-1.5**
JAM	**Amami Oshima**	**2.92**	**58**	P	**Pn**	**18 35 03.9**	**-0.3**
JAM				S	**Sn**	**18 35 37.4**	**-2.0**
JTJ	**Tarama**	**2.93**	**220**	P	**Pn**	**18 35 04.2**	**-0.1**
JTJ				S	**Sn**	**18 35 38.6**	**-1.0**
JZK	**Kikaishima**	**3.16**	**63**	P	**Pn**	**18 35 07.1**	**-0.3**
JZK				S	**Sn**	**18 35 44.6**	**-0.4**
JISG	**Ishigakijimahi**	**3.20**	**225**	P	**Pn**	**18 35 07.6**	**-0.3**
JISG				S	**Sn**	**18 35 44.6**	**-1.4**
JIJ	**Ishigaki jima**	**3.47**	**224**	P	**Pn**	**18 35 10.6**	**-0.8**
JIJ				S	**Sn**	**18 35 49.5**	**-2.7**
JKRS	**Kuro-shima**	**3.65**	**224**	P	**Pn**	**18 35 13.4**	**-0.3**
JKRS				*e*S	**Sn**	**18 35 54.0**	**-2.3**
IRIF	**Iriomote-Funau**	**3.75**	**228**	P	**Pn**	**18 35 14.3**	**-0.8**
IRIF				S	**Sn**	**18 35 56.7**	**-2.2**
JMZ	**Minamidaito 2**	**4.13**	**104**	P	**Pn**	**18 35 19.0**	**-1.0**
JMZ				S	**Sn**	**18 36 03.0**	**-4.7**
YOJ	**Yonaguni jima**	**4.18**	**235**	P	**Pn**	**18 35 21.3**	**+0.6**
JSU	**Suzuyama**	**5.60**	**34**	P	**Pn**	**18 35 40.3**	**+0.5**
JNU	**Nakatsue**	**7.15**	**29**	P	**Pn**	**18 36 02.0**	**+1.5**
	1.1nm,0.3s,baz=216,slow=12,SNR=12						
JNU				S	Sn	18 37 28.1	+7.8
	0.1nm,0.3s,baz=77,slow=18,SNR=2.4						
JCJ	**Chichijima**	**13.74**	**86**	LR	LR	18 41 33.0	
	comp=Z,405nm,21.2s,baz=134,slow=31						
MKAR	**Makanchi Array**	**40.12**	**312**	P	**P**	**18 41 41.6**	**+0.2**
	0.3nm,0.5s,baz=97,slow=9.0,SNR=8.0						
ZALV	**Zalesovo Beam**	**40.93**	**323**	P	**P**	**18 41 48.0**	**+0.1**
	0.5nm,0.4s,baz=115,slow=9.9,SNR=3.5						
WRA	**Warramunga Arr**	**47.14**	**170**	P	**P**	**18 42 39.4**	**+1.7**
	1.1nm,0.6s,baz=353,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**50.74**	**172**	P	**P**	**18 43 07.3**	**+2.1**
	0.7nm,0.6s,baz=359,slow=15,SNR=32						

IDC 26 18:35:48.7±6.4, 19°.37S×176°.98W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, Error ellipse: s-maj=173.3km s-min=103.0km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.15**	**243**	P	P	18 43 17.1	-1.2
	1.3nm,0.6s,baz=80,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**45.72**	**261**	P	P	18 44 12.7	+0.6
	0.3nm,0.3s,baz=94,slow=7.7,SNR=30						
ASAR	**Alice Springs**	**45.72**	**256**	P	P	18 44 11.9	-0.1
	0.7nm,0.6s,baz=90,slow=8.3,SNR=17						
AKASG	**Malin Array Be**	**142.48**	**333**	PKP	PKPdf	18 55 22.6	-0.8
	0.3nm,0.3s,baz=39,slow=4.1,SNR=6.0						

*KRNET **26** 19:01:40.9±0.1, 39°.48N×73°.21E, h2km, mb3.6*

*NNC **26** 19:01:48.5±3.9, 39°.63N×73°.18E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=31.0km s-min=17.2km az=176.0*

ISC 26 19:01:41.5±2.4, 39°.5N±0°.1×73°.20E±0°.06, h16km±12km, n16, σ1°68/24, 5C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVK	**Chauvay**	**0.99**	**310**	*e*P	**Pb**	**19 02 00.6**	**+0.3**
	baz=311						
CHVK				*e*S	**Sn**	**19 02 15.4**	**+0.8**
	baz=311						
DRK	**Karamyk**	**1.08**	**270**	*e*P	**Pb**	**19 02 02.0**	**0.0**
	baz=270						
DRK				*e*S	**Sn**	**19 02 18.0**	**+0.9**
	baz=270						
SALK	**Salom-Alik**	**1.46**	**19**	*e*P	**Pb**	**19 02 09.0**	**+0.6**
	baz=18						
SALK				*e*S	**Sg**	**19 02 30.0**	**+1.3**
	baz=18						
BTK	**Batken**	**1.92**	**288**	*e*P	**Pb**	**19 02 17.0**	**+0.9**
	baz=288						
BTK				*e*S	**Sg**	**19 02 44.2**	**+0.9**
	baz=288						
ARLS	**Aral**	**2.51**	**19**	⇓*i*P	**Pg**	**19 02 28.7**	**-1.0**
	baz=19						
ARLS				⇓*i*S	**Sg**	**19 03 03.4**	**+1.1**
	baz=19						
AML	**Almayashu**	**2.66**	**8**	P	**Pg**	**19 02 31.3**	**-1.2**
	SNR=42						
UCH	**Uchtor**	**2.91**	**20**	P	**Pb**	**19 02 35.3**	**+2.1**
	SNR=10.0						
KZA	**Kyzart**	**3.01**	**30**	P	**Pb**	**19 02 37.0**	**+2.1**
	SNR=11						
EKS2	**Erkin-Say**	**3.19**	**8**	P	**Pb**	**19 02 39.3**	**+1.4**
	SNR=7.3						
AAK	**Ala-Archa**	**3.29**	**17**	⇑Pn	**Pb**	**19 02 40.6**	**+1.1**
	9.4nm,0.5s						
AAK				⇑Sn	**Sb**	**19 03 22.0**	**+2.8**
	8.0nm,0.5s						
AAK	**Ala-Archa**	**3.29**	**17**	P	**Pb**	**19 02 40.5**	**+1.1**
	SNR=20						
CHMS	**Chumysh**	**3.69**	**18**	P	**Pb**	**19 02 45.9**	**-0.3**
	SNR=17						
TKM2	**Tokmak 2**	**3.87**	**27**	⇑Pn	**Pb**	**19 02 48.2**	**-1.2**
	1.1nm,0.4s						
TKM2				⇓Sn	**Sb**	**19 03 32.4**	**-3.7**
	0.9nm,0.4s						
TKM2				⇓Lg	Lg	19 03 48.0	
	3.0nm,0.5s						
TKM2	**Tokmak 2**	**3.87**	**27**	P	**Pb**	**19 02 48.6**	**-0.9**
	SNR=6.1						
USP	**Ospenovka**	**3.89**	**14**	P	**Pb**	**19 02 48.4**	**-1.3**
	SNR=6.0						
KK31	**Karatay Array**	**4.14**	**332**	⇓Pn	Pb	19 02 50.7	-3.1
	0.3nm,0.2s,baz=129,slow=13,SNR=27						
KK31				⇑Pg	**Pg**	**19 03 00.3**	**-0.4**
	1.0nm,0.4s,baz=136,slow=13,SNR=8.0						
KK31				⇑Sn	**Sb**	**19 03 40.6**	**-3.0**
	3.1nm,0.6s,baz=146,slow=15,SNR=5.4						
KK31				⇓Lg	Lg	19 03 54.2	
	4.4nm,0.5s,baz=151,slow=11,SNR=4.1						

MAN 26 19:14:36, 16°.30N×120°.78E, h37km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.20**	**292**	⇑*i*P	Pn	19 14 45.2	-0.3
BCPH				*i*S	Sn	19 14 51.2	-3.5
BALP	**Baler**	**0.95**	**126**	*e*P	Pn	19 14 54.2	+1.4
BALP				*e*S	Sn	19 15 04.4	-0.8
ABRA	**Dolores**	**1.34**	**357**	*e*P	Pn	19 14 59.7	+1.6
ABRA				*e*S	Sn	19 15 12.8	-1.9
APYP	**Conner**	**1.61**	**16**	*e*P	Pn	19 15 03.3	+1.4
APYP				*e*S	Sn	19 15 19.0	-2.5

*ATH **26** 19:20:04.0, 41°.36N×20°.03E, h10km±2km, MD3.3/9*

*SKO **26** 19:20:06.4, 41°.10N×20°.19E, h10km*

*BEO **26** 19:20:06.6±0.7, 41°.06N×20°.15E, h0km, ML2.7/1*

*PDG **26** 19:20:07.3±0.2, 41°.17N×20°.04E, h16km, ML3.0/12, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*

*THE **26** 19:20:07.1, 41°.20N×20°.22E, h0km±2km, ML2.8/5, Error ellipse: s-maj=2.1km s-min=0.8km az=8.0*

*CSEM **26** 19:20:07.1±0.1, 41°.18N×20°.17E, h2km, ML2.8, Error ellipse: s-maj=4.2km s-min=2.6km az=59.0*

*TIR **26** 19:20:07.0±2.4, 41°.21N×20°.14E, h9km±82km, ML2.8*

ISC 26 19:20:07.2±1.0, 41°.18N±0°.01×20°.14E±0°.02, h9km±8km, n114, σ1°30/194, 17C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.27**	**309**	*i* PG	**Pg**	**19 20 12.8**	**+0.2**
TIR				*i* SG	**Sb**	**19 20 17.7**	**-1.2**
TIR	**Tirane**	**0.27**	**309**	P	**Pg**	**19 20 12.8**	**+0.2**
TIR				S	**Sg**	**19 20 17.4**	**+1.2**
TIR	**Tirane**	**0.27**	**309**	P	**Pg**	**19 20 12.8**	**+0.2**
TIR				*i* Sg	**Sb**	**19 20 17.7**	**-1.2**
	SNR=97						
OHR	**Ohrid**	**0.50**	**98**	*i* Pg	**Pg**	**19 20 15.2**	**-1.7**
OHR				*i* Sg	**Sg**	**19 20 23.1**	**-0.4**
OHR	**Ohrid**	**0.50**	**98**	*i* Pg	**Pg**	**19 20 15.2**	**-1.7**
OHR				*i* Sg	**Sg**	**19 20 23.0**	**-0.4**
PHP	**Peshkopia**	**0.55**	**24**	*i* PG	**Pg**	**19 20 17.4**	**-0.5**
PHP	**Peshkopia**	**0.55**	**24**	*i* Pg	**Pg**	**19 20 17.4**	**-0.5**
	SNR=94						
KBN	**Korca**	**0.74**	**138**	*i* PG	**Pg**	**19 20 21.1**	**-0.3**
KBN				*i* SG	**Sb**	**19 20 32.4**	**-0.1**
KBN	**Korca**	**0.74**	**138**	*i* Pg	**Pg**	**19 20 21.1**	**-0.3**
	SNR=92						
KBN				*i* Sg	**Sb**	**19 20 32.4**	**-0.1**
	SNR=92						
VLO	**Vlora**	**0.86**	**215**	*i* PG	**Pn**	**19 20 25.8**	**+0.3**
VLO				*i* SG	**Sn**	**19 20 40.9**	**+2.6**
VLO	**Vlora**	**0.86**	**215**	*i* Pg	**Pn**	**19 20 25.8**	**+0.3**
	SNR=92						
PUK	**Puka**	**0.88**	**348**	*i* PG	**Pg**	**19 20 23.1**	**-1.1**
PUK				*

IGT				S	Sg	19 21 00.0	-0.2
IGT				*e*Sn	Sg	19 21 00.4	+0.2
BEY	**Berane**	**1.70**	**354**	⇑*i*Pn	Pn	19 20 37.4	+0.2
BEY				*e*Sn	Sb	19 21 01.0	+0.7
IVA	**Berane**	**1.70**	**354**	⇑*i*Pn	Pn	19 20 37.4	+0.2
IVA				*e*Sn	Sb	19 21 01.0	+0.7
HCY	**Herceg Novi**	**1.77**	**316**	⇑*i*Pn	Pn	19 20 37.8	-0.2
HCY				*e*Sn	Sb	19 21 01.6	-0.5
HCY	**Herceg Novi**	**1.77**	**316**	⇑*i*Pn	Pn	19 20 37.8	-0.2
HCY				*e*Sn	Sb	19 21 01.6	-0.5
NKME	**Niksic**	**1.82**	**331**	⇑*i*Pn	Pn	19 20 38.9	+0.2
NKME				*e*Sn	Sb	19 21 03.1	-0.5
NKME	**Niksic**	**1.82**	**331**	⇑*i*Pn	Pn	19 20 38.9	+0.2
NKME				*e*Sn	Sb	19 21 03.1	-0.5
VAY	**Valandovo**	**1.83**	**85**	*e*Pg	Pn	19 20 39.3	+0.4
VAY				*e*Sg	Sb	19 21 04.4	+0.3
VAY	**Valandovo**	**1.83**	**85**	*e*Pg	Pn	19 20 39.3	+0.4
VAY				*e*Sg	Sb	19 21 04.3	+0.3
NKY	**Niksic**	**1.84**	**333**	⇓*i*Pn	Pn	19 20 39.4	+0.3
NKY				*e*Sn	Sb	19 21 04.1	-0.3
NKY	**Niksic**	**1.84**	**333**	⇓*i*Pn	Pn	19 20 39.4	+0.3
NKY				*e*Sn	Sb	19 21 04.1	-0.3
BARS	**Barje**	**2.06**	**37**	*e*Pn	Pb	19 20 43.9	-0.8
BARS				*e*Sn	Sb	19 21 11.6	+1.2
KNT	**Kendrikon**	**2.08**	**90**	P	Pn	19 20 42.0	-0.2
KNT				S	Sn	19 21 08.9	+0.6
KNT	**Kendrikon**	**2.08**	**90**	*e*PN	Pn	19 20 42.1	-0.2
KNT	**Kendrikon**	**2.08**	**90**	P	Pn	19 20 42.0	-0.2
KNT				S	Sn	19 21 08.9	+0.6
SJES	**Sjenica**	**2.08**	**357**	*e*Pn	Pb	19 20 45.0	-0.2
SJES				*e*Sn	Sb	19 21 12.4	+1.1
LIT	**Litokhoron**	**2.09**	**120**	P	Pn	19 20 42.4	0.0
LIT	**Litokhoron**	**2.09**	**120**	P	Pn	19 20 42.4	0.0
BRY	**Bratogost**	**2.10**	**326**	⇓*i*Pn	Pn	19 20 42.8	+0.2
BRY				*e*Sn	Sn	19 21 09.7	+0.8
BRY	**Bratogost**	**2.10**	**326**	⇓*i*Pn	Pn	19 20 42.8	+0.2
BRY				*e*Sn	Sn	19 21 09.7	+0.8
SELS	**Selova**	**2.16**	**19**	*e*Pn	Pb	19 20 45.2	-1.3
SELS				*e*Sn	Sb	19 21 13.2	-0.3
PLE	**Pljevlja**	**2.22**	**346**	⇑*i*Pn	Pn	19 20 45.2	+0.9
PLE				*e*Sn	Sn	19 21 13.4	+1.4
PLE	**Pljevlja**	**2.22**	**346**	⇑*i*Pn	Pn	19 20 45.2	+0.9
PLE				*e*Sn	Sn	19 21 13.4	+1.4
UPM	**Unac-Piva**	**2.22**	**336**	*e*Pn	Pn	19 20 44.4	0.0
UPM				*e*Sn	Sn	19 21 13.0	+0.9
UPM	**Unac-Piva**	**2.22**	**336**	*e*Pn	Pn	19 20 44.4	0.0
UPM				*e*Sn	Sn	19 21 13.0	+0.9
IVAS	**Ivanjica**	**2.40**	**0**	*e*Pn	Pn	19 20 48.3	+1.6
IVAS	**Ivanjica**	**2.40**	**0**	*e*Pn	Pn	19 20 48.3	+1.6
STON	**Ston**	**2.48**	**314**	*e*Pn	Pn	19 20 47.7	-0.2
STON				Sn	Sn	19 21 14.9	-3.4
STON	**Ston**	**2.48**	**314**	*e*Pn	Pn	19 20 47.6	-0.2
PLG	**Polygyros**	**2.63**	**107**	P	Pn	19 20 50.6	+0.6
PLG	**Polygyros**	**2.63**	**107**	*e*PN	Pn	19 20 50.5	+0.6
PLG	**Polygyros**	**2.63**	**107**	*e*Pn	Pn	19 20 50.5	+0.6
VTS	**Vitosha**	**2.69**	**57**	*e*Pn	Pn	19 20 51.5	+0.7
VTS				*e*Sn	Sn	19 21 25.0	+1.4
VTS	**Vitosha**	**2.69**	**57**	*e*Pn	Pn	19 20 51.5	+0.7
VTS				*e*Sn	Sn	19 21 25.0	+1.4
PDO	**Prodromos**	**2.70**	**162**	P	Pn	19 20 51.8	+1.0
PDO	**Prodromos**	**2.70**	**162**	P	Pn	19 20 51.8	+1.0
AGG	**Agios Georgios**	**2.73**	**141**	*e*PN	Pn	19 20 52.5	+1.2
AGG	**Agios Georgios**	**2.73**	**141**	*e*Pn	Pn	19 20 52.5	+1.2
GRUS	**Gruza**	**2.74**	**9**	*e*Pn	Pn	19 20 53.3	+2.0
GRUS				*e*Sn	Sb	19 21 29.0	-1.0
GRUS	**Gruza**	**2.74**	**9**	*e*Pn	Pn	19 20 53.3	+2.0
GRUS				*e*Sn	Sb	19 21 29.0	-1.0
ZAPS	**Zavoj**	**2.79**	**41**	*e*Pn	Pn	19 20 54.2	+2.1
ZAPS				*e*Sn	Sn	19 21 28.6	+2.6
ZAPS	**Zavoj**	**2.79**	**41**	*e*Pn	Pn	19 20 54.2	+2.1
ZAPS				*e*Sn	Sn	19 21 28.6	+2.6
NVR	**Nevrokopi**	**2.81**	**85**	*e*PB	Pn	19 20 52.9	+0.6
NVR	**Nevrokopi**	**2.81**	**85**	*e*Pn	Pn	19 20 52.9	+0.6
DIVS	**Divibare**	**2.92**	**358**	*e*Pn	Pn	19 20 56.0	+2.1
DIVS				*e*Sn	Sb	19 21 33.4	-1.9
DIVS	**Divibare**	**2.92**	**358**	⇑*i*P	Pg	19 21 02.8	-0.3
DIVS	**Divibare**	**2.92**	**358**	S	Sn	19 21 32.0	+2.8
DIVS	**Divibare**	**2.92**	**358**	*e*Pn	Pn	19 20 56.0	+2.1
DIVS				*e*Sn	Sb	19 21 33.4	-1.9
BOLS	**Boljevac**	**2.97**	**26**	*e*Pn	Pn	19 20 57.0	+2.5
BOLS				*e*Sn	Sn	19 21 33.1	+2.9
BOLS	**Boljevac**	**2.97**	**26**	*e*Pn	Pn	19 20 57.0	+2.5
BOLS				*e*Sn	Sn	19 21 33.1	+2.9
HAPS	**Han Pijesak,Bl**	**3.04**	**344**	*e*Pn	Pn	19 20 56.7	+1.2
HAPS	**Han Pijesak,Bl**	**3.04**	**344**	*e*Pn	Pn	19 20 56.7	+1.2
TRUS	**Trudelj**	**3.05**	**4**	*e*Pn	Pn	19 20 58.3	+2.7
TRUS				*e*Sn	Sb	19 21 35.6	-3.3
TRUS	**Trudelj**	**3.05**	**4**	*e*Pn	Pn	19 20 58.3	+2.7
TRUS				*e*Sn	Sb	19 21 35.6	-3.3
SVIS	**Svilajnac**	**3.18**	**14**	*e*Pn	Pn	19 20 58.9	+1.5
BZS	**Buzias**	**4.56**	**13**	⇑*i*P	Pn	19 21 16.8	+0.4
BZS	**Buzias**	**4.56**	**13**	⇑*i*P	Pn	19 21 16.8	+0.4
BZS				S	Sn	19 22 10.1	+0.6
GZR	**Gura Zlata**	**4.63**	**24**	⇑*i*P	Pn	19 21 18.6	+1.2
GZR	**Gura Zlata**	**4.63**	**24**	⇑*i*P	Pn	19 21 18.6	+1.2
UDBI	**Udbina**	**4.64**	**318**	*e*Pn	Pn	19 21 18.1	+0.5
UDBI				Sn	Sn	19 22 06.7	-4.9
UDBI	**Udbina**	**4.64**	**318**	*e*Pn	Pn	19 21 18.0	+0.5
LOT	**Lotru**	**5.02**	**31**	⇑*i*P	Pn	19 21 23.1	+0.3
LOT	**Lotru**	**5.02**	**31**	⇑*i*P	Pn	19 21 23.1	+0.3
NVLJ	**Novalja**	**5.14**	**313**	*e*Pn	Pn	19 21 23.4	-1.0
NVLJ				Sn	Sn	19 22 18.9	-4.8
NVLJ	**Novalja**	**5.14**	**313**	*e*Pn	Pn	19 21 23.3	-1.0
PKSM	**Moragy**	**5.15**	**348**	⇓*i*P	Pn	19 21 27.7	+3.3
PKSM	**Moragy**	**5.15**	**348**	⇓*i*P	Pn	19 21 27.7	+3.3

*CSEM **26** 19:39:33.5±0.5, 37.°22N×28.°56E, h10km, MD2.4, Error ellipse: s-maj=8.9km s-min=7.7km az=20.0*
*DDA **26** 19:39:36.0, 37.°00N×28.°38E, h7km, MD2.6*

ISK 26 19:39:35.6, 37.°03N×28.°43E, h6km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.16**	**312**	Pg	Pg	19 39 39.0	0.0
YER				*e*SG	Sg	19 39 42.2	+1.1
YER	**Yerkesik**	**0.16**	**312**	*i* Pg	Pg	19 39 39.0	+0.1
YER				*e*Sg	Sg	19 39 42.2	+1.1
TURN	**Turunc**	**0.21**	**138**	*i* P	Pg	19 39 41.0	+1.3
TURN				*i* S	Sg	19 39 45.4	+2.9
TURN	**Turunc**	**0.21**	**138**	*i* P	Pg	19 39 41.0	+1.3
TURN				*i* S	Sg	19 39 45.4	+2.8
DALY	**Dalyan (Mu¨la**	**0.28**	**139**	*e*PG	Pg	19 39 41.7	+0.7
DALY	**Dalyan (Mu¨la**	**0.28**	**139**	*e*Pg	Pg	19 39 41.7	+0.7
DAT	**Datca**	**0.74**	**247**	*e*PG	Pg	19 39 49.9	-0.2
DAT	**Datca**	**0.74**	**247**	*e*Pg	Pg	19 39 49.9	-0.2
BDRM	**Kayabasi**	**0.79**	**273**	*i* P	Pg	19 39 50.4	-0.4
BDRM				*i* S	Sb	19 40 03.4	+0.7
BDRM	**Kayabasi**	**0.79**	**273**	*i* P	Pg	19 39 50.4	-0.4
BDRM				*i* S	Sb	19 40 03.4	+0.7
BODT	**Bodrum**	**0.90**	**272**	*e*PG	Pb	19 39 54.1	+0.6
BODT	**Bodrum**	**0.90**	**272**	*e*Pg	Pb	19 39 54.1	+0.5

*ISCJB **26** 19:41:36.9±1.1, 11.°02N±0.°04×60.°40W±0.°09, h69km±7km, Error ellipse: s-maj=14.7km s-min=5.6km az=11.0*
*TRN **26** 19:41:37.0, 11.°11N×60.°28W, h39km, MD3.5*
*FUNV **26** 19:41:42.2, 10.°70N×60.°48W, h36km, MW2.9*

ISC 26 19:41:36.0±1.8, 10.°97N±0.°05×60.°3W±0.°1, h61km±12km, n17, σ1°61/26, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOT	**Bacolet**	**0.48**	**294**	⇑*i*P	Pn	19 41 47.8	0.0
BOT				*e*S	Sn	19 41 56.1	-0.4
TPR	**Prospect**	**0.55**	**294**	⇑*i*P	Pn	19 41 48.7	+0.2
TPR				*e*S	Sn	19 41 57.3	-0.3
TBH	**Brigand Hill**	**0.92**	**239**	*e*P	Pn	19 41 55.7	+2.7
TRN	**Trinidad (W)**	**1.16**	**254**	*e*P	Pn	19 41 58.6	+2.5
GRW	**Mount Saint Ca**	**1.81**	**311**	*e*P	Pn	19 42 06.2	+1.2
GRW				*e*S	Sn	19 42 25.9	-1.0
GUIV	**Guiria**	**1.95**	**261**	*e*P	Pn	19 42 08.2	+1.4
GUIV				*e*S	Sn	19 42 28.4	-1.7
FCV	**Fort Charlotte**	**2.38**	**336**	*e*P	Pn	19 42 14.2	+1.6
FCV				*e*S	Sn	19 42 40.5	-0.2
SVB	**Belmont**	**2.49**	**337**	*e*P	Pn	19 42 14.9	+0.8
SVB				*e*S	Sn	19 42 42.2	-1.1
SSV	**Crater Summit**	**2.52**	**339**	*e*S	Sn	19 42 43.0	-1.1
SVV	**Soufriere Volc**	**2.52**	**338**	*e*P	Pn	19 42 16.0	+1.5
SVV				*e*S	Sn	19 42 42.7	-1.4
GUNV	**Guanoco**	**2.75**	**253**	*e*P	Pn	19 42 20.0	+2.4
GUNV				*e*S	Sn	19 42 46.0	-3.6
MCLT	**Moule a Chique**	**2.81**	**347**	*e*P	Pn	19 42 19.4	+0.9
MCLT				*e*S	Sn	19 42 49.8	-1.4
ORIV	**Oritupano**	**3.62**	**239**	*e*P	Pn	19 42 31.1	+1.5
GURV	**El Guri**	**4.23**	**221**	*e*P	Pn	19 42 37.9	-0.1
LUEV	**Luepa**	**5.22**	**193**	*e*P	Pn	19 42 52.1	+0.3
CUPV	**Cœpira**	**5.50**	**261**	*e*P	Pn	19 42 56.8	+1.3
BAUV	**El Baul**	**7.92**	**256**	*e*P	Pn	19 43 28.7	+0.2
BAUV				*e*S	Sn	19 44 48.2	-8.4

GUC 26 20:24:47.9±0.4, 33.°95S×72.°39W, h22km±6km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.81**	**91**	*e*P	Pb	20 25 03.6	+0.3
ROCH	**El Roble**	**1.51**	**50**	*e*P	Pb	20 25 15.6	+0.1
ROCH				*e*S	Sb	20 25 36.6	+2.2
PEL	**Peldehue**	**1.63**	**61**	*e*P	Pb	20 25 17.3	-0.1
PEL				*e*S	Sb	20 25 39.5	+1.8
PEL				AML	AML	20 25 48.0	
	comp=E,3μm,0.4s						
CLCH	**Cerro Calan**	**1.64**	**71**	*e*P	Pb	20 25 17.1	-0.5
CLCH				*e*S	Sb	20 25 39.6	+1.7
CLCH				AML	AML	20 25 50.2	
	comp=N,1μm,0.5s						

SKO 26 20:32:20.1, 40.°92N×19.°93E, h8km, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.69**	**74**	*i* Pg	Pg	20 32 32.9	-0.5
OHR				*i* Sg	Sg	20 32 43.0	+0.7

*ISCJB **26** 20:44:40.0±0.6, 32.°32N±0.°03×115.°39W±0.°05, h22km±7km, Error ellipse: s-maj=6.8km s-min=5.0km az=151.6*
*ECX **26** 20:44:40.9±0.6, 32.°30N×115.°38W, h8km, MD2.8, ML3.0*
*NEIC **26** 20:44:40.4, 32.°31N×115.°40W, h15km, ML3.0(PAS), After PAS.*
*MEX **26** 20:44:42.9±0.8, 32.°36N×115.°34W, h15km, MD3.5*

ISC 26 20:44:39.7±0.9, 32.°29N±0.°03×115.°40W±0.°03, h13km±8km, n19, σ0°44/29, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**34**	*e*P	**Pg**	**20 44 43.4**	**0.0**
CPBX				*e*S	**Sg**	**20 44 45.7**	**-0.2**
CPBX				⇑*e*		20 44 52.8	
CPBX				AML	AML	20 44 52.8	
	comp=N,12μm,0.3s						
CPBX				AML	AML	20 44 52.8	
	comp=E,14μm,0.3s						
CPBX	**Cerro Prieto**	**0.15**	**34**	*i* P	**Pb**	**20 44 45.3**	**+0.9**
CPBX				*e*S	**Sb**	**20 44 48.4**	**+0.9**
MBIG	**Mexicali**	**0.21**	**56**	*e*P	**Pb**	**20 44 45.3**	**0.0**
MBIG				*i* S	**Sb**	**20 44 49.0**	**-0.2**
SGL	**Mount Signal**	**0.45**	**323**	⇓*i*P	**Pg**	**20 44 48.5**	**0.0**
RDX	**Rancho Dawling**	**0.58**	**232**	⇓*e*P	**Pg**	**20 44 51.7**	**+0.6**
RDX				*e*S	**Sg**	**20 44 59.9**	**+1.0**
COA	**Coachella**	**0.62**	**22**	*e*P	**Pg**	**20 44 51.6**	**-0.2**
COK	**Cook Ranch**	**0.62**	**334**	⇑*i*P	**Pb**	**20 44 52.0**	**-0.4**
RMX	**La Rumorosa**	**0.65**	**299**	*e*P	**Pg**	**20 44 51.9**	**-0.5**
RMX				*e*S	**Sg**	**20 45 00.8**	**-0.2**
ECBX	**El Chinero**	**0.87**	**160**	⇓*e*P	**Pb**	**20 44 55.8**	**-0.8**
ECBX				*e*S	**Sb**	**20 45 08.4**	**+0.3**
ECBX				AML	AML	20 45 08.8	
	comp=N,415nm,0.2s						
ECBX				⇑*e*		20 45 08.8	
CBX	**Cerro Bola**	**1.07**	**272**	*i* P	**Pb**	**20 44 60.0**	**-0.1**
CBX				*i* S	**Sg**	**20 45 14.5**	**+0.3**
CBX	**Cerro Bola**	**1.07**	**272**	⇑*e*P	**Pb**	**20 45 00.1**	**-0.1**
CBX	**Cerro Bola**	**1.07**	**272**	*i* P	**Pb**	**20 44 60.0**	**-0.1**
CBX				*i* S	**Sg**	**20 45 14.5**	**+0.3**
ZAX	**El Zacaton**	**1.07**	**224**	AML	AML	20 45 18.8	
	comp=N,322nm,0.4s						
ZAX				⇓*e*		20 45 18.8	
BAR	**Barrett**	**1.14**	**290**	⇓*e*P	**Pb**	**20 45 01.0**	**-0.3**
SPIG	**San Pedro Mart**	**1.24**	**182**	*e*P	**Pn**	**20 45 02.7**	**-0.3**
SPIG				*e*S	**Sb**	**20 45 19.4**	**+0.2**
SPIG	**San Pedro Mart**	**1.24**	**182**	⇓*e*P	**Pn**	**20 45 02.8**	**-0.3**
SPIG	**San Pedro Mart**	**1.24**	**182**	*e*P	**Pn**	**20 45 02.7**	**-0.3**
SPIG				*e*S	**Sb**	**20 45 19.4**	**+0.2**
SPX	**San Pedro Mart**	**1.24**	**182**	⇓*e*P	**Pn**	**20 45 02.8**	**-0.3**
SPX	**San Pedro Mart**	**1.24**	**182**	*e*P	**Pn**	**20 45 02.7**	**-0.3**
SPX				*e*S	**Sb**	**20 45 19.5**	**+0.3**

*ISCJB **26** 20:53:54.6±0.5, 23.°08N±0.°02×121.°58E±0.°02, h11km±3km, Error ellipse: s-maj=2.9km s-min=2.5km az=152.4*
*JMA **26** 20:53:54.0±0.1, 23.°09N×121.°60E, h8km±3km, M3.1*
*TAP **26** 20:53:56.2, 23.°13N×121.°43E, h12km, ML3.6, C*

ISC 26 20:53:54.5±1.0, 23.°09N±0.°02×121.°54E±0.°02, h10km±8km, n68, σ0°81/109, 11C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.16**	**275**	⇓*i*P	**Pb**	**20 53 59.2**	**-0.4**
CHKT	baz=242			*i* S	**Sg**	**20 54 01.0**	**+0.4**
TWF1	**Yuli**	**0.35**	**320**	⇓*i*P	**Pg**	**20 54 02.1**	**+0.6**
TWF1	baz=331			*i* S	**Sg**	**20 54 06.7**	**+0.6**
EHY	**Hungye**	**0.47**	**334**	⇓*i*P	**Pb**	**20 54 04.5**	**-0.2**
EHY	baz=344			*i* S	**Sb**	**20 54 11.2**	**-0.5**
TTN	**Taitung**	**0.49**	**228**	P	**Pb**	**20 54 05.5**	**+0.3**
TTN	baz=204			*i* S	**Sb**	**20 54 13.1**	**+0.7**
ELDTW	**Lidau**	**0.49**	**282**	⇑*i*P	**Pg**	**20 54 04.1**	**-0.1**
ELDTW	baz=279			*e*S	**Sg**	**20 54 09.5**	**-1.2**
TWG	**Pinlang**	**0.51**	**239**	P	**Pb**	**20 54 05.3**	**-0.2**
TWG	baz=242			*i* S	**Sb**	**20 54 12.1**	**-0.8**
TEGC	**Jichi Village**	**0.62**	**360**	*e*P	**Pn**	**20 54 08.6**	**-0.7**
YUS	**Yu-Shan**	**0.68**	**307**	⇑*i*P	**Pg**	**20 54 08.0**	**+0.3**
YUS	baz=299			S	**Sg**	**20 54 15.5**	**-1.1**
STYT	**Tauyuan**	**0.73**	**276**	⇑*i*P	**Pg**	**20 54 08.4**	**-0.1**
STYT	baz=273			*i* S	**Sg**	**20 54 17.2**	**-0.9**
ECL	**Taimali**	**0.73**	**228**	P	**Pg**	**20 54 08.7**	**+0.1**
ESL	**Shilin**	**0.73**	**352**	*e*P	**Pg**	**20 54 08.9**	**+0.3**
ESL	baz=346			*e*S	**Sg**	**20 54 18.9**	**+0.7**
WDT	**Danda**	**0.77**	**331**	⇓*i*P	**Pg**	**20 54 09.7**	**+0.3**
WDT	baz=335			*i* S	**Sg**	**20 54 19.4**	**0.0**
ESF	**Shoufeng Towns**	**0.78**	**358**	*e*P	**Pn**	**20 54 11.4**	**-0.1**
ALS	**Alishan**	**0.80**	**302**	⇑*i*P	**Pb**	**20 54 10.2**	**-0.4**
ALS	baz=295			*e*S	**Sg**	**20 54 19.4**	**-1.0**
WTP	**Ta-pu**	**0.87**	**281**	⇑*i*P	**Pg**	**20 54 11.4**	**+0.2**
WTP	baz=279			*i* S	**Sg**	**20 54 22.3**	**-0.3**
SGST	**Jiashian**	**0.88**	**270**	P	**Pb**	**20 54 11.8**	**-0.1**
SGST	baz=267			*e*S	**Sb**	**20 54 23.2**	**-0.6**
HWA	**Hwalien**	**0.89**	**4**	*e*P	**Pb**	**20 54 12.5**	**+0.5**
HWA	baz=352			*e*S	**Sb**	**20 54 24.9**	**+1.0**
SSD	**Sandimen**	**0.91**	**248**	P	**Pg**	**20 54 11.3**	**-0.6**
SSD	baz=243			*e*S	**Sg**	**20 54 20.3**	**-3.4**
CHN4	**Tsaushan**	**0.91**	**287**	⇑*i*P	**Pb**	**20 54 12.4**	**+0.1**
CHN4	baz=292			*i* S	**Sb**	**20 54 24.0**	**-0.6**
TAW	**Tawu**	**0.94**	**220**	*e*P	**Pg**	**20 54 12.2**	**-0.4**
CHN1	**Nanshi**	**0.94**	**276**	⇑*i*P	**Pb**	**20 54 13.0**	**+0.1**
CHN1	baz=274			*e*S	**Sb**	**20 54 25.0**	**-0.4**
CHN5	**Tsauling**	**0.94**	**303**	⇑*i*P	**Pb**	**20 54 13.2**	**+0.2**
CHN5	baz=304			*e*S	**Sb**	**20 54 25.6**	**0.0**
EAST	**Anshuo**	**0.95**	**223**	*e*P	**Pg**	**20 54 12.6**	**-0.2**
TWK	**Hsinying**	**0.99**	**281**	⇑*i*P	**Pg**	**20 54 13.4**	**-0.1**
TWK	baz=279			*e*S	**Sb**	**20 54 26.6**	**-0.2**
SMLT	**Sun Moon Lake**	**0.99**	**323**	⇓*i*P	**Pg**	**20 54 13.5**	**0.0**
SMLT	baz=326			*e*S	**Sg**	**20 54 25.5**	**-1.0**
TWD	**Chiawan**	**0.99**	**3**	*e*P	**Pg**	**20 54 13.4**	**-0.2**
TYC	**Yuchr**	**1.03**	**322**	⇓P	**Pb**	**20 54 14.1**	**-0.2**
TYC	baz=337			*e*S	**Sn**	**20 54 29.1**	**-0.3**
SGLT	**Jiouru**	**1.03**	**250**	*e*P	**Pn**	**20 54 16.3**	**+1.3**
LAY	**Lan-yu**	**1.04**	**180**	*e*P	**Pb**	**20 54 13.6**	**-1.0**
TWM1	**Shoushan**	**1.06**	**256**	⇑*i*P	**Pn**	**20 54 16.3**	**+0.8**
CHN2	**Minshiung**	**1.08**	**295**	*e*P	**Pn**	**20 54 16.0**	**+0.4**
CHN2	baz=295			*e*S	**Sn**	**20 54 30.3**	**-0.3**
WGK	**Gukeng**	**1.08**	**304**	P	**Pn**	**20 54 15.9**	**+0.3**
WGK	baz=304			S	**Sn**	**20 54 30.5**	**-0.2**
CHN3	**Shinhua**	**1.08**	**270**	*e*P	**Pn**	**20 54 16.8**	**+1.1**
CHN3	baz=278			*e*S	**Sn**	**20 54 33.6**	**+2.8**
WHF	**Hehuan Shan**	**1.08**	**346**	P	**Pb**	**20 54 15.0**	**-0.6**
WHF	baz=2.0			*e*S	**Sb**	**20 54 29.3**	**-0.6**
CHY	**Chiayi**	**1.11**	**292**	⇑P	**Pn**	**20 54 16.2**	**+0.3**
CHY	baz=292			S	**Sn**	**20 54 30.8**	**-0.5**
SCZT	**Fangliau**	**1.11**	**230**	*e*P	**Pb**	**20 54 15.2**	**-0.5**
WNT	**Mingjian**	**1.12**	**315**	*e*P	**Pn**	**20 54 16.4**	**+0.3**
WNT	baz=317			S	**Sn**	**20 54 31.6**	**+0.1**
TWT	**Tachien**	**1.21**	**344**	P	**Pn**	**20 54 17.6**	**0.0**
TWT	baz=345			*e*S	**Sb**	**20 54 32.8**	**-0.6**
TAI1	**Yung-k'ang**	**1.21**	**268**	*e*P	**Pg**	**20 54 18.5**	**+0.8**
SCLT	**Jiali**	**1.25**	**274**	*e*P	**Pn**	**20 54 16.4**	**-1.4**
SCLT	baz=273			*e*S	**Sg**	**20 54 36.6**	**+2.0**
HEN	**Hengchun**	**1.31**	**215**	*e*P	**Pg**	**20 54 20.1**	**+0.5**
TWP	**Hsiaoliuchiu**	**1.31**	**236**	*e*P	**Pg**	**20 54 22.6**	**+2.8**
TSEB	**Hengchuen, Pin**	**1.32**	**207**	*e*P	**Pg**	**20 54 20.7**	**+0.9**
TSEB	baz=192			*e*S	**Sn**	**20 54 36.8**	**+0.3**
TCU	**Taichung**	**1.32**	**323**	*e*P	**Pb**	**20 54 19.6**	**+0.2**
TCU	baz=325			*e*S	**Sg**	**20 54 38.3**	**+1.2**
TWK1	**Hengchun**	**1.33**	**211**	*e*P	**Pn**	**20 54 18.7**	**-0.3**
WSF	**Szhu**	**1.33**	**295**	*e*P	**Pb**	**20 54 19.6**	**0.0**
WSF	baz=295			*e*S	**Sg**	**20 54 37.0**	**-0.5**
ENA	**Nanau**	**1.35**	**8**	*e*P	**Pn**	**20 54 18.8**	**-0.5**
NNS	**Nan Shan**	**1.36**	**353**	P	**Pn**	**20 54 19.3**	**-0.2**
NNS	baz=355			*e*S	**Sb**	**20 54 35.9**	**-1.6**
WTCT	**Ta-ch'eng**	**1.39**	**304**	*e*P	**Pb**	**20 54 20.7**	**+0.1**
TWQ1	**Liyutan**	**1.44**	**331**	*e*P	**Pg**	**20 54 22.0**	**-0.1**
TWQ1	baz=332			*e*S	**Sg**	**20 54 41.6**	**+0.7**
NSY	**Sanyi**	**1.51**	**332**	*e*P	**Pg**	**20 54 23.3**	**-0.1**
NSY	baz=333			*e*S	**Sg**	**20 54 43.5**	**+0.5**
TWC	**Suao**	**1.54**	**10**	*e*P	**Pn**	**20 54 22.7**	**+0.7**
ENTT	**Nioudou**	**1.55**	**1**	*e*P	**Pn**	**20 54 22.5**	**+0.4**
NSK	**Sanguang**	**1.59**	**354**	*e*P	**Pn**	**20 54 23.0**	**+0.2**
NSK	baz=356			*e*S	**Sn**	**20 54 43.2**	**-0.2**
NSTT	**Nanjuang**	**1.62**	**342**	*e*P	**Pb**	**20 54 24.4**	**0.0**
NSTT	baz=345			*e*S	**Sb**	**20 54 45.1**	**+0.3**
WDGT	**Dungji**	**1.74**	**276**	*e*P	**Pb**	**20 54 25.7**	**-0.8**
JYNG	**Yonagunijimaku**	**1.87**	**43**	*e*S	**Sn**	**20 54 49.7**	**-0.4**
YOJ	**Yonaguni jima**	**1.92**	**44**	P	**Pn**	**20 54 26.5**	**-0.7**
YOJ				*e*S	**Sn**	**20 54 51.0**	**-0.4**
TWB1	**Santiao Chiao**	**1.96**	**12**	*e*P	**Pn**	**20 54 27.9**	**+0.3**
NWF	**Wu-fen Shan**	**1.99**	**6**	*e*P	**Pn**	**20 54 28.6**	**+0.4**
TWS1	**Kuangyinshan**	**2.01**	**357**	*e*P	**Pn**	**20 54 28.8**	**+0.4**
HATJ	**Hateruma jima**	**2.29**	**65**	*e*S	**Sn**	**20 54 59.9**	**-0.6**
IRIF	**Iriomote-Funau**	**2.36**	**58**	P	**Pn**	**20 54 34.4**	**+1.2**
IRIF				*e*S	**Sn**	**20 55 03.3**	**+1.1**
JKRS	**Kuro-shima**	**2.54**	**

CSEM ***26*** *20:59:29.5±0.6,34.°61N×31.°28E,h20km,ML3.5,Error ellipse: s-maj=16.5km s-min=5.7km az=7.0*
NIC ***26*** *20:59:32.1,35.°17N×31.°27E,h36km,ML3.5*
ISC 26 20:59:27.9±1.7,34.°66N±0.°09×31.°28E±0.°04,h13km±12km, n50,σ1ᵍ34/62,2C-2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos** baz=288	**0.90**	**75**	⇓*i*P	Pn	20 59 48.7	+2.4
PPCY				S	**Sn**	**21 00 01.5**	**+2.3**
PPCY	**Paphos**	**0.90**	**75**	⇓*i*P	Pn	20 59 48.7	+2.4
PPCY				S	**Sn**	**21 00 01.5**	**+2.3**
AKMC	**Akamas** baz=279	**0.94**	**66**	⇑P	**Pn**	**20 59 47.8**	**+1.0**
AKMC				S	**Sn**	**20 59 59.9**	**-0.2**
AKMC	**Akamas**	**0.94**	**66**	⇑P	**Pn**	**20 59 47.8**	**+1.0**
AKMC				S	**Sn**	**20 59 59.9**	**-0.2**
ALFC	**Alevga** baz=271	**1.19**	**65**	P	**Pg**	**20 59 51.0**	**+0.2**
ALFC				S	**Sb**	**21 00 05.6**	**-0.1**
ALFC	**Alevga**	**1.19**	**65**	P	**Pg**	**20 59 51.0**	**+0.2**
ALFC				S	**Sb**	**21 00 05.6**	**-0.1**
SZAC	**Souni-Zanaja** baz=287	**1.32**	**85**	P	**Pg**	**20 59 55.1**	**+1.8**
LEF	**Lefka**	**1.40**	**70**	*e*PG	**Pn**	**20 59 52.5**	**-0.6**
LEF				*e*SG	**Sb**	**21 00 11.6**	**0.0**
LEF	**Lefka**	**1.40**	**70**	*e*Pg	**Pn**	**20 59 52.5**	**-0.6**
LEF				*e*Sg	**Sb**	**21 00 11.6**	**0.0**
AKDN	**Akdeniz- K¯–br**	**1.52**	**65**	*e*PG	**Pn**	**20 59 54.9**	**+0.1**
AKDN	**Akdeniz- K¯–br**	**1.52**	**65**	*e*Pg	**Pn**	**20 59 54.9**	**+0.1**
MAMC	**Mammari** baz=270	**1.67**	**72**	P	**Pg**	**20 59 58.8**	**-1.1**
MAMC	**Mammari**	**1.67**	**72**	P	**Pg**	**20 59 58.8**	**-1.1**
CSS	**Prodhromos** baz=277	**1.71**	**79**	P	**Pg**	**20 59 59.6**	**-1.1**
CSS	**Prodhromos**	**1.71**	**79**	*e*PG	**Pn**	**20 59 57.1**	**-0.2**
CSS	**Prodhromos**	**1.71**	**79**	*e*Pg	**Pn**	**20 59 57.2**	**-0.2**
CSS	**Prodhromos**	**1.71**	**79**	P	**Pg**	**20 59 59.6**	**-1.1**
LFK	**Lefkose**	**1.95**	**71**	*e*PG	**Pn**	**21 00 01.2**	**+0.5**
LFK	**Lefkose**	**1.95**	**71**	*e*Pg	**Pn**	**21 00 01.2**	**+0.5**
ERMK	**Ermenek**	**2.38**	**33**	*i* P	**Pn**	**21 00 07.2**	**+0.4**
ERMK				*i* S	**Sn**	**21 00 35.6**	**-0.5**
ERMK	**Ermenek**	**2.38**	**33**	*i* P	**Pn**	**21 00 07.2**	**+0.4**
ERMK				*i* S	**Sn**	**21 00 35.6**	**-0.5**
KORT	**Korkueli**	**2.46**	**342**	*i* P	**Pg**	**21 00 15.2**	**+0.1**
EREN	**Erenkoy**	**2.52**	**69**	*e*PG	**Pn**	**21 00 08.8**	**+0.3**
EREN	**Erenkoy**	**2.52**	**69**	*e*Pg	**Pn**	**21 00 08.8**	**+0.3**
KIZK	**Mersin**	**2.96**	**51**	*i* P	**Pn**	**21 00 15.4**	**+0.9**
KIZK				*i* S	**Sn**	**21 00 47.4**	**-2.5**
KIZK	**Mersin**	**2.96**	**51**	*i* P	**Pn**	**21 00 15.4**	**+0.9**
KIZK				*i* S	**Sn**	**21 00 47.4**	**-2.5**
DALY	**Dalyan (Mu¯la**	**3.04**	**316**	*e*PG	**Pn**	**21 00 16.7**	**+1.1**
DALY	**Dalyan (Mu¯la**	**3.04**	**316**	*e*Pg	**Pn**	**21 00 16.7**	**+1.1**
TURN	**Turunc**	**3.10**	**316**	*i* P	**Pb**	**21 00 22.4**	**-0.5**
TURN				*i* S	**Sb**	**21 00 58.7**	**-2.0**
TURN	**Turunc**	**3.10**	**316**	*i* P	**Pb**	**21 00 22.4**	**-0.5**
TURN				*i* S	**Sb**	**21 00 58.7**	**-2.0**
KONT	**Konya--Tatoy**	**3.40**	**15**	*e*PG	**Pn**	**21 00 22.8**	**+2.2**
KONT	**Konya--Tatoy**	**3.40**	**15**	*e*Pg	**Pn**	**21 00 22.8**	**+2.2**
MERS	**Mersin**	**3.44**	**49**	*e*PG	**Pn**	**21 00 22.6**	**+1.4**
MERS	**Mersin**	**3.44**	**49**	*e*Pg	**Pn**	**21 00 22.6**	**+1.4**
LADK	**Ladik-KONYA**	**3.64**	**14**	*e*PG	**Pn**	**21 00 25.9**	**+1.8**
LADK	**Ladik-KONYA**	**3.64**	**14**	*e*Pg	**Pn**	**21 00 25.9**	**+1.8**
DAT	**Datca**	**3.66**	**306**	*e*PG	**Pn**	**21 00 25.5**	**+1.2**
DAT	**Datca**	**3.66**	**306**	*e*Pg	**Pn**	**21 00 25.5**	**+1.2**
SULT	**Sultanhani-AKS**	**3.97**	**26**	*e*PG	**Pn**	**21 00 30.6**	**+2.1**
SULT	**Sultanhani-AKS**	**3.97**	**26**	*e*Pg	**Pn**	**21 00 30.6**	**+2.1**
KARA	**Karaisali**	**4.01**	**49**	*e*PG	**Pn**	**21 00 30.6**	**+1.6**
KARA	**Karaisali**	**4.01**	**49**	*e*Pg	**Pn**	**21 00 30.6**	**+1.6**
BODT	**Bodrum**	**4.02**	**308**	*e*PG	**Pn**	**21 00 30.6**	**+1.4**
BODT	**Bodrum**	**4.02**	**308**	*e*Pg	**Pn**	**21 00 30.6**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**4.28**	**321**	*e*PG	**Pn**	**21 00 34.2**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**4.28**	**321**	*e*Pg	**Pn**	**21 00 34.2**	**+1.4**
NIG	**Nigde**	**4.37**	**37**	*e*PG	**Pn**	**21 00 35.6**	**+1.5**
NIG	**Nigde**	**4.37**	**37**	*e*Pg	**Pn**	**21 00 35.6**	**+1.5**
KOZT	**Kozan**	**4.63**	**51**	*e*PG	**Pn**	**21 00 39.4**	**+1.8**
KOZT	**Kozan**	**4.63**	**51**	*e*Pg	**Pn**	**21 00 39.4**	**+1.8**

IDC ***26*** *21:04:56.3±0.5,15.°15S×173.°66W,h0km,mb4.3/19, mb1 4.5/19,mb1mx4.3/38,mbtmp4.3/19,MS3.6/17, Ms1 3.6/17,ms1mx3.5/35,Error ellipse: s-maj=22.8km s-min=14.1km az=139.0*
ISCJB ***26*** *21:04:59.1±0.4,15.°23S±0.°09×173.°75W±0.°10,h30km, mb4.3/25,MS3.6/16,Error ellipse: s-maj=16.8km s-min=9.7km az=43.8*
NEIC ***26*** *21:04:59.4±6.9,15.°25S×173.°66W,h21km±47km,mb4.6/5, Error ellipse: s-maj=12.7km s-min=9.9km az=130.0*
ISC 26 21:05:00.8±0.5,15.°3S±0.°1×173.°7W±0.°1,h30km,n76, σ0ᵍ91/59,mb4.4/25,MS3.8/16,13C-6D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**55**	*e*Pn	Pn	21 05 30.4	-6.5
AFI				*e*Sn	Sn	21 05 50.4	-14
DZM	**Mont Dzumac** 50nm,1.4s	**19.97**	**247**	*e*P	Pn	21 09 39.0	+6.3
DZM				*e*LR	LR	21 14 43.3	
DZM	**Mont Dzumac** 621nm,26.4s	**19.97**	**247**	P	**Pn**	**21 09 32.9**	**+0.2**
DZM				LR	LR	21 16 18.4	
PPT	**Papeete** comp=Z,220nm,18.5s,baz=254,slow=30	**23.27**	**99**	LR	LR	21 16 31.8	
PPT2	**Papeete2** 189nm,26.8s	**23.27**	**99**	*e*LR	LR	21 15 26.9	
TBI	**Tubuai** 137nm,26.8s	**24.25**	**113**	*e*LR	LR	21 16 03.2	
URZ	**Urewera** 6.4nm,0.5s,baz=343,slow=18,SNR=3.1	**24.31**	**198**	P	**P**	**21 10 13.3**	**-2.5**
URZ				LR	LR	21 18 26.3	
URZ	**Urewera** comp=Z,292nm,21.8s,baz=32,slow=33	**24.31**	**198**	*e*P	**P**	**21 10 14.6**	**-1.2**
HNR	**Honiara** comp=Z,22nm,21.8s,slow=33	**26.35**	**280**	LR	LR	21 19 30.2	
RPZ	**Rata Peaks** 20nm,1.0s,baz=58,slow=19,SNR=2.3	**31.20**	**202**	P	**P**	**21 11 15.4**	**-2.0**
RPZ				LR	LR	21 22 32.9	
H11S2	**WAKE ISLAND Hy 38.68** baz=146,slow=76,SNR=9.8	**329**		T	T	21 53 06.7	
H11S3	**WAKE ISLAND Hy 38.69** baz=146,slow=76,SNR=11	**329**		T	T	21 53 08.8	
H11S1	**WAKE ISLAND Hy 38.70** baz=146,slow=76,SNR=16	**329**		T	T	21 53 08.0	
H11N3	**WAKE ISLAND Hy 39.63** baz=148,slow=76,SNR=7.9	**331**		T	T	21 54 12.4	
H11N1	**WAKE ISLAND Hy 39.64** baz=148,slow=76,SNR=6.7	**331**		T	T	21 54 14.7	
H11N2	**WAKE ISLAND Hy 39.65** baz=148,slow=76,SNR=8.1	**331**		T	T	21 54 15.2	
STKA	**Stephens Creek** 5.3nm,0.8s,baz=94,slow=9.2,SNR=7.7	**43.84**	**240**	P	**P**	**21 13 04.4**	**-0.1**
STKA				LR	LR	21 29 27.9	
WRAB	**Tennant Creek** 9.6nm,1.1s	**49.57**	**257**	*e*P	**P**	**21 13 49.6**	**0.0**
WRA	**Warramunga Arr** 2.0nm,0.4s,baz=95,slow=7.2,SNR=73	**49.58**	**257**	P	**P**	**21 13 49.4**	**-0.2**
WRA				PcP	**PcP**	**21 15 11.1**	**0.0**
AS31	**Alice Springs**	**49.86**	**252**	*e*P	**P**	**21 13 51.6**	**-0.2**
ASAR	**Alice Springs** 12nm,0.6s,baz=86,slow=8.3,SNR=181	**49.86**	**252**	P	**P**	**21 13 51.6**	**-0.1**
ASAR				LR	LR	21 33 43.2	
VNDA	**Vanda** 4.9nm,0.8s,baz=14,slow=6.1,SNR=20	**63.49**	**186**	P	**P**	**21 15 29.3**	**+1.6**
MJAR	**Matsushiro Arr** 1.0nm,0.7s,baz=140,slow=5.9,SNR=3.7	**66.63**	**320**	P	**P**	**21 16 00.9**	**-0.4**
MJAR				LR	LR	21 40 55.8	
ASAJ	**Asahikawa** comp=Z,20nm,21.7s,baz=125,slow=32	**71.25**	**328**	P	**P**	**21 16 17.8**	**+0.6**
ASAJ				LR	LR	21 40 50.5	
PETK	**Petropavlovsk-** 2.4nm,0.7s,baz=139,slow=7.9,SNR=3.9	**72.40**	**342**	P	**P**	**21 16 24.6**	**+0.7**
PETK				LR	LR	21 43 35.7	
LPIG	**La Paz** comp=Z,14nm,20.6s,baz=135,slow=32	**73.22**	**59**	LR	LR	21 40 06.4	
	comp=Z,70nm,18.4s,baz=247,slow=29						
YBH	**Yreka Blue Hor** 6.4nm,0.8s,baz=271,slow=1.5,SNR=7.7	**73.67**	**37**	P	**P**	**21 16 31.2**	**-0.5**
NVAR	**Mina Array Bea** 3.4nm,0.8s,baz=228,slow=10,SNR=22	**74.43**	**42**	P	**P**	**21 16 35.9**	**-0.5**
QSPA	**South Pole Qui** 12nm,0.8s	**74.79**	**180**	*e*P	**P**	**21 16 38.7**	**+0.6**
MOD	**Modoc Plateau** 5.3nm,0.9s	**75.20**	**38**	*e*P	**P**	**21 16 40.3**	**-0.4**
KSRS	**Korea Array** comp=Z,9.9nm,21.8s,baz=90,slow=32	**75.84**	**316**	LR	LR	21 44 53.4	
ELK	**Elko** 1.0nm,0.7s,baz=179,slow=2.6,SNR=5.4	**77.68**	**42**	P	**P**	**21 16 54.2**	**-0.8**
HVU	**Hansel Valley** 4.4nm,1.1s	**79.80**	**42**	*e*P	**P**	**21 17 05.8**	**-0.7**
TXAR	**Lajitas Array** 1.2nm,0.9s,baz=232,slow=6.2,SNR=9.5	**80.79**	**56**	P	**P**	**21 17 11.2**	**-0.8**
TXAR				LR	LR	21 46 45.1	
ANMO	**Albuquerque** 2.0nm,0.9s,baz=199,slow=9.1,SNR=3.7	**80.94**	**50**	P	**P**	**21 17 13.0**	**+0.1**
MCMT	**McKenzie Canyo** 2.6nm,1.0s	**81.33**	**39**	*e*P	**P**	**21 17 14.9**	**+0.2**
ILAR	**Eielson Array** 0.9nm,0.8s,baz=231,slow=7.2,SNR=9.7	**82.36**	**11**	P	**P**	**21 17 18.6**	**-0.8**
ILAR				LR	LR	21 46 43.1	
PDAR	**Pinedale Array** 1.6nm,0.8s,baz=224,slow=3.9,SNR=12	**82.36**	**42**	P	**P**	**21 17 19.6**	**-0.6**
PDAR				LR	LR	21 47 13.3	
MAW	**Mawson** 5.9nm,0.6s,baz=134,slow=6.6,SNR=5.6	**87.83**	**199**	P	**P**	**21 17 46.9**	**-0.1**
INK	**Inuvik** comp=Z,218nm,21.4s,baz=287,slow=30	**88.20**	**14**	LR	LR	21 48 48.7	
PLCA	**Paso Flores** 1.6nm,0.9s,baz=333,slow=10,SNR=5.0	**89.84**	**132**	P	**P**	**21 17 58.3**	**+1.2**
YKA	**Yellowknife Ar** 0.5nm,0.7s,baz=240,slow=4.3,SNR=9.3	**90.08**	**23**	P	**P**	**21 17 57.4**	**0.0**
CMAR	**Chiang Mai Arr** 0.3nm,0.7s,baz=85,slow=2.2,SNR=2.8	**92.28**	**288**	P	**P**	**21 18 09.5**	**+0.8**
ULM	**Lac du Bonnet** comp=Z,102nm,19.9s,baz=271,slow=32	**94.01**	**39**	LR	LR	21 54 40.5	
KURK	**Kurchatov**	**112.83**	**319**	*e*PKiKP	**PKiKP**	**21 23 33.8**	**-0.8**
KURBB	**Kurchatov Arra** 0.4nm,0.9s,baz=98,slow=1.2,SNR=4.4	**112.89**	**319**	PKiKP	**PKiKP**	**21 23 35.3**	**+0.6**
FINES	**FINESS Array B** 1.3nm,0.8s,baz=323,slow=3.5,SNR=2.6	**131.73**	**347**	PKP	**PKPdf**	**21 24 09.7**	**-0.8**
DPC	**Dobruska-Polom**	**144.06**	**349**	*e*PKP	PKPbc	21 24 31.5	0.0
DPC				*ep*PKP	**PKiKP**	**21 24 39.7**	**+2.6**
DPC				*ex*	x	21 24 48.3	
TRPA	**Tarpa**	**144.57**	**341**	⇓*i*P	PKPbc	21 24 33.3	+0.2
PRA	**Prague**	**144.65**	**351**	*e*PKP	**PKPdf**	**21 24 34.3**	**-0.2**
PRU	**Pruhonice**	**144.71**	**351**	*e*PKP	PKPbc	21 24 33.9	+0.4
GOPC	**GO Pecny, Ondr**	**144.74**	**350**	*e*PKP	**PKPdf**	**21 24 34.7**	**0.0**
GOPC				*ex*	x	21 24 51.4	
VRI	**Vrincioaia**	**144.98**	**335**	⇑*i*P	**PKPab**	**21 24 34.3**	**-0.2**
TREC	**Trest**	**145.22**	**349**	*e*PKP	**PKPbc**	**21 24 32.3**	**-2.9**
TLB	**Topalu**	**145.43**	**332**	⇑*i*P	**PKPab**	**21 24 36.1**	**-0.1**
DOPR	**Dopca**	**145.43**	**336**	⇓*i*P	**PKPab**	**21 24 37.0**	**+0.8**
MLR	**Muntele Rosu**	**145.60**	**335**	⇑*i*P	**PKPab**	**21 24 37.5**	**+0.5**
ISR	**Istrita**	**145.66**	**334**	⇓*i*P	**PKPab**	**21 24 37.2**	**+0.1**
KHC	**Kasperske Hory**	**145.69**	**351**	*e*PKP	**PKPdf**	**21 24 36.0**	**-0.4**
DRGR		**145.69**	**340**	⇑*i*P	**PKPbc**	**21 24 36.6**	**-0.3**
BRTR	**Keskin Array B** 5.2nm,0.7s,baz=108,slow=2.6,SNR=27	**145.85**	**321**	PKPbc	**PKPab**	**21 24 38.0**	**-0.2**
GERES	**GERESS Array B** 1.7nm,0.8s,baz=29,slow=3.0,SNR=17	**145.95**	**351**	PKPbc	**PKPbc**	**21 24 37.2**	**-0.4**
VOIR		**146.01**	**336**	⇓*i*P	**PKPab**	**21 24 38.7**	**+0.3**
ARR	**Arges**	**146.22**	**336**	⇑*i*P	**PKPab**	**21 24 39.6**	**+0.3**
CONA	**Conrad Observa** 5.3nm,0.9s	**146.47**	**348**	⇑*i*PKPab	**PKPbc**	**21 24 39.4**	**+0.2**
MOA	**Molln** 4.7nm,0.9s	**146.83**	**350**	⇑*i*PKPab	**PKPbc**	**21 24 39.9**	**-0.3**
GZR	**Gura Zlata**	**146.89**	**339**	⇓*i*P	**PKPbc**	**21 24 40.1**	**-0.4**
BZS	**Buzias**	**147.09**	**340**	⇑*i*P	**PKPbc**	**21 24 40.5**	**-0.4**
PKSM	**Moragy**	**147.44**	**344**	⇑*i*P	**PKPdf**	**21 24 37.5**	**-1.9**
SOKA	**Soboth** 6.0nm,1.0s	**147.82**	**349**	⇑*i*PKPbc	**PKPbc**	**21 24 42.4**	**-0.6**
ABTA	**Abfaltersbach** 7.1nm,1.0s	**148.17**	**352**	⇑*i*PKPbc	**PKPbc**	**21 24 43.1**	**-0.9**
MMAI	**Mount Meron Ar** 5.5nm,0.9s,baz=60,slow=4.0,SNR=5.9	**148.24**	**309**	PKPbc	**PKPbc**	**21 24 45.1**	**+0.5**
DIVS	**Divibare**	**148.97**	**341**	⇑*i*P	**PKPbc**	**21 24 45.2**	**-0.9**
VTS	**Vitosha**	**149.11**	**335**	⇑*i*P	**PKPbc**	**21 24 46.7**	**+0.1**
MMB	**Musomiste**	**149.72**	**334**	⇓*i*P	**PKPbc**	**21 24 47.6**	**-0.4**
BNI	**Bardonecchia**	**150.29**	**359**	*e*PKPbc	**PKPbc**	**21 24 49.7**	**+0.3**

ISCJB ***26*** *21:15:37.6±1.0,36.°18N±0.°07×71.°6E±0.°1,h119km,Error ellipse: s-maj=18.5km s-min=6.7km az=152.6*
NNC ***26*** *21:15:46.8±5.8,36.°71N×71.°05E,h126km±94km,mb3.1, mpv3.8,Error ellipse: s-maj=51.7km s-min=40.5km az=44.0*
ISC 26 21:15:37.5±1.4,36.°2N±0.°1×71.°5E±0.°2,h119km,n16, σ2ᵍ07/17,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.15**	**133**	*e*P	**Sn**	**21 17 54.0**	**+2.8**
AAK	**Ala-Archa** 2.7nm,0.9s	**6.87**	**19**	⇑P	Pn	21 17 19.5	+3.8
AAK				⇓S	**Sn**	**21 18 32.7**	**+0.2**
KK31	**Karatay Array** 3.4nm,0.8s,baz=177,slow=12,SNR=436	**6.98**	**354**	P	**Pn**	**21 17 18.9**	**+1.8**
KK31				S	**Sn**	**21 18 32.1**	**-2.9**
PYUN	**Piuthan** 5.9nm,0.6s,baz=182,slow=23,SNR=12	**12.61**	**126**	*e*P	**Pn**	**21 18 33.3**	**+0.5**
KOLN	**Koldanda** 12nm,0.3s	**13.23**	**126**	*e*P	**Pn**	**21 18 38.3**	**-2.6**
GKN	**Gorkha** 2.9nm,0.3s	**13.77**	**122**	*e*P	**P**	**21 18 49.8**	**-2.6**
GKN				*e*S	Sn	21 21 13.3	-6.5
DMN	**Daman** 4.7nm,0.2s	**14.34**	**123**	*e*P	**Pn**	**21 18 53.9**	**-1.4**
KKN	**Kakani** 4.4nm,0.3s	**14.34**	**122**	*e*P	**P**	**21 18 57.0**	**-1.8**
PKIN	**Phulchoki** 5.2nm,0.5s	**14.56**	**122**	*e*P	**Pn**	**21 18 58.1**	**+0.1**
PKI	**Pulchoki** 3.6nm,0.4s	**14.56**	**122**	*e*P	**Pn**	**21 18 58.6**	**+0.3**
GUN	**Gumba** 3.7nm,0.4s	**14.57**	**122**	*e*P	**Pn**	**21 18 58.6**	**+0.3**
JIRN	**Jiri** 3.9nm,0.3s	**14.69**	**120**	*e*P	**P**	**21 19 04.4**	**+1.7**
	15nm,0.6s	**15.06**	**120**	*e*P	**P**	**21 19 06.6**	**-0.3**
AB31	**Akbulak array** 0.3nm,0.3s	**15.59**	**331**	⇑P	**P**	**21 19 10.9**	**-1.2**
AB31				S	Sn	21 21 52.3	-11
RAMN	**Ramite** 0.2nm,0.3s,baz=163,slow=22,SNR=2.9	**15.78**	**121**	*e*P	**Pn**	**21 19 10.2**	**-3.2**
ODAN	**Odare** 3.9nm,0.5s	**16.39**	**120**	*e*P	**Pn**	**21 19 19.2**	**-1.6**
AKTO	**Aktyubinsk** 2.7nm,1.0s	**17.29**	**330**	⇑P	**Pn**	**21 19 33.6**	**+2.3**

IDC 26 21:24:56.7±65.0,15.°87S×167.°80E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/38,mbtmp3.7/3,Error ellipse: s-maj=1105.0km s-min=120.0km az=68.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.8s,baz=60,slow=8.1,SNR=3.6	**28.67**	**232**	P	P	21 30 55.1	-0.4
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=89,slow=9.1,SNR=7.8	**32.07**	**258**	P	P	21 31 25.7	+0.1
ASAR	**Alice Springs** 0.4nm,0.5s,baz=78,slow=9.3,SNR=9.1	**32.77**	**251**	P	P	21 31 31.9	+0.1

IDC 26 21:26:32.0±46.0,16.°34S×177.°16W,h0km,mb4.1/3, mb1 4.2/3,mb1mx3.7/41,mbtmp4.1/3,Error ellipse: s-maj=849.2km s-min=150.6km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.4s,baz=89,slow=6.7,SNR=9.9	**40.44**	**240**	P	P	21 34 12.6	+0.3
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=94,slow=7.7,SNR=27	**46.11**	**258**	P	P	21 34 58.1	-0.3
ASAR	**Alice Springs** 5.3nm,0.5s,baz=89,slow=8.2,SNR=87	**46.38**	**253**	P	P	21 35 00.2	-0.3

IDC 26 21:32:09.4±7.5,7.°19S×120.°57E,h397km±31km,mb2.9/2, mb1 2.9/4,mb1mx2.6/41,mbtmp3.6/4,Error ellipse: s-maj=210.4km s-min=85.0km az=43.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 0.9nm,0.3s,baz=286,slow=7.4,SNR=3.6	**4.29**	**135**	P	Pn	21 33 24.8	+0.6
BATI				S	S	21 34 24.5	-0.2
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=314,slow=11,SNR=11	**18.42**	**135**	P	P	21 35 58.7	0.0
ASAR	**Alice Springs** 0.6nm,0.5s,baz=311,slow=8.5,SNR=9.1	**20.80**	**143**	P	P	21 36 21.4	-0.1
STKA	**Stephens Creek** 0.6nm,0.3s,baz=326,slow=7.7,SNR=9.0	**31.43**	**144**	P	P	21 37 55.9	0.0

NIED ***26*** *21:35:00,46.°90N×153.°10E,h32km,Mw3.9 Best double couple: M₀7.63000×10¹⁴ NP1:φ₀214.00000°,δ61.00000°, λ151.00000°. NP2:φ₀318.00000°,δ65.00000°,λ32.00000°.*
JMA ***26*** *21:35:56.4±0.7,46.°92N×153.°09E,h30km,M4.2*
ISCJB ***26*** *21:35:57.0±0.9,46.°8N±0.°2×153.°0E±0.°2,h40km,mb3.6/9, MS3.5/5,Error ellipse: s-maj=27.7km s-min=7.0km az=143.6*
IDC ***26*** *21:36:03.1±3.1,46.°99N×152.°70E,h78km±27km,mb3.3/9, mb1 3.6/12,mb1mx3.4/29,mbtmp3.7/12,MS3.5/5, Ms1 3.5/5,ms1mx3.0/20,Error ellipse: s-maj=42.8km s-min=17.8km az=156.0*
ISC 26 21:35:58.4±1.1,46.°7N±0.°2×153.°0E±0.°2,h40km,n31, σ1ᵍ64/18,mb3.6/9,MS3.5/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**6.09**	**240**	P	**Pn**	**21 37 26.2**	**+0.4**
NEM2				*e*S	**Sn**	**21 38 32.8**	**-1.4**
JRA	**Rausu**	**6.17**	**247**	P	Pn	21 37 30.7	+3.8
JNK	**Nakash**	**6.60**	**245**	P	**Pn**	**21 37 35.0**	**+2.2**
JAK	**Akkeshi**	**6.93**	**241**	P	**Pn**	**21 37 37.7**	**+0.4**
JAK				*e*S	**Sn**	**21 38 52.5**	**-2.3**
JTKR	**Abashiri--Toko**	**6.93**	**250**	P	**Pn**	**21 37 40.5**	**+3.2**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=189,slow=17,SNR=3.4	**7.13**	**24**	P	**Pn**	**21 37 41.5**	**+1.4**
JAR	**Ashorobuto**	**7.34**	**246**	P	**Pn**	**21 37 45.3**	**+2.3**
JKK2	**Kamakawa 2**	**7.73**	**253**	P	Pn	21 37 51.9	+3.6
ASAJ	**Asahikawa**	**7.73**	**254**	P	Pn	21 37 52.6	+4.3
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=77,slow=18,SNR=10	**7.73**	**254**	P	Pn	21 37 52.0	+3.7
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=75,slow=14,SNR=4.2	**14.93**	**268**	P	**Pn**	**21 39 27.3**	**+0.8**
H11N2	**WAKE ISLAND Hy 29.19** baz=340,slow=76,SNR=116	**152**		T	T	22 13 20.4	
H11N1	**WAKE ISLAND Hy 29.21** baz=340,slow=76,SNR=77	**152**		T	T	22 13 19.2	
H11N3	**WAKE ISLAND Hy 29.21** baz=340,slow=76,SNR=70	**152**		T	T	22 13 22.0	
H11S1	**WAKE ISLAND Hy 30.28** baz=341,slow=76,SNR=139	**153**		T	T	22 14 43.5	
H11S3	**WAKE ISLAND Hy 30.29** baz=341,slow=76,SNR=97	**153**		T	T	22 14 44.6	
H11S2	**WAKE ISLAND Hy 30.30** baz=341,slow=76,SNR=91	**153**		T	T	22 14 44.7	
ILAR	**Eielson Array** 0.3nm,1.0s,baz=276,slow=8.1,SNR=4.6	**36.67**	**38**	P	**P**	**21 43 00.9**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,58nm,18.7s,baz=70,slow=38	**42.58**	**306**	LR	LR	22 02 56.0	
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=56,slow=5.2,SNR=2.4	**46.89**	**297**	P	P	21 44 22.1	-2.4
MKAR				LR	LR	22 05 13.5	
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=299,slow=7.1,SNR=6.2	**51.05**	**37**	P	**P**	**21 44 56.2**	**+0.1**
CMAR	**Chiang Mai Arr** 0.6nm,0.8s,baz=33,slow=7.7,SNR=5.1	**52.25**	**256**	P	**P**	**21 45 06.0**	**+0.4**
AAK	**Ala-Archa** comp=Z,36nm,18.5s,baz=31,slow=37	**53.78**	**296**	LR	LR	22 08 45.4	
ARCES	**ARCESS Array B** comp=Z,24nm,18.6s,baz=257,slow=39	**57.90**	**341**	LR	LR	22 13 47.6	
AKTO	**Aktyubinsk** comp=Z,65nm,18.0s,baz=69,slow=38	**58.71**	**312**	LR	LR	22 13 22.5	
FINES	**FINESS Array B** 1.2nm,0.6s,baz=38,slow=7.1,SNR=11	**64.07**	**335**	P	**P**	**21 46 25.9**	**-1.8**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=316,slow=5.0,SNR=2.7	**64.88**	**54**	P	**P**	**21 46 33.4**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,6.9nm,1.2s,baz=30,slow=6.5	**68.27**	**341**	P	**P**	**21 46 53.5**	**-1.2**
NOA	**NORSAR Array B** comp=Z,1.9nm,1.0s,baz=27,slow=6.4,SNR=3.5	**68.27**	**341**	P	**P**	**21 46 53.2**	**-1.5**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.4s,baz=32,slow=6.5,SNR=5.0	**71.56**	**326**	P	**P**	**21 47 13.4**	**-1.5**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=321,slow=3.8,SNR=3.2	**77.62**	**60**	P	**P**	**21 47 50.7**	**+0.1**

IDC ***26*** *21:43:38.1±1.2,22.°18N×123.°91E,h0km,mb3.5/5, mb1 3.8/8,mb1mx3.6/28,mbtmp3.7/8,ML3.7/2,Error ellipse: s-maj=28.1km s-min=22.1km az=115.0*
ISCJB ***26*** *21:43:40.9±0.7,22.°31N±0.°04×124.°07E±0.°05,h33km, mb3.3/5,Error ellipse: s-maj=6.7km s-min=5.7km az=37.7*
JMA ***26*** *21:43:41.3±0.5,22.°34N×123.°70E,h52km,M4.1*
**ISC 26 21:43:42.4±1

IDC 26 21:56:20.3±4.0, 49°05'×124°46'E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, Error ellipse: s-maj=118.5km s-min=70.3km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.06**	**328**	T	T	22 16 55.7	
	baz=153,slow=75,SNR=7.1						
H01W2	**Cape Leeuwin H**	**16.06**	**328**	T	T	22 16 55.2	
	baz=153,slow=75,SNR=7.3						
H01W3	**Cape Leeuwin H**	**16.08**	**328**	T	T	22 16 57.5	
	baz=153,slow=75,SNR=8.6						
STKA	**Stephens Creek**	**21.46**	**43**	P	P	22 01 10.2	+0.1
	2.0nm,0.9s,baz=197,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**26.40**	**20**	P	P	22 01 59.0	+0.4
	0.9nm,0.8s,baz=191,slow=9.4,SNR=6.6						
WRA	**Warramunga Arr**	**30.10**	**19**	P	P	22 02 31.1	-0.4
	0.6nm,1.1s,baz=190,slow=9.3,SNR=2.7						
H08S2	**Diego Garcia H**	**59.91**	**296**	T	T	23 12 45.4	
	baz=142						
H08S1	**Diego Garcia H**	**59.92**	**296**	T	T	23 12 46.1	
	baz=142						
H08S3	**Diego Garcia H**	**59.93**	**296**	T	T	23 12 47.0	
	baz=142						
YKA	**Yellowknife Ar**	**145.49**	**45**	PKPbc	PKPdf	22 15 58.1	-0.9
	0.2nm,0.6s,baz=270,slow=4.0,SNR=5.0						

*IDC **26** 22:08:53.0±1.3, 4°03'S×98°60'E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/56, mbtmp3.9/11, ML3.1/1, MS3.0/3, Ms1 3.1/3, ms1mx2.7/37, Error ellipse: s-maj=37.1km s-min=23.8km az=45.0*

*ISCJB **26** 22:08:54.8±0.7, 4°02'S±0°06'×99°01'E±0°05, h35km, mb3.9/10, MS2.9/1, Error ellipse: s-maj=9.6km s-min=6.1km az=39.6*

*DJA **26** 22:08:57.7±0.8, 4°S±8"×9°9E±1°0, h233km±20km, M4.3/10, mb4.2/4, mB4.8/3, MLv4.5/10, Mw(mB)4.0/3*

ISC 26 22:08:56.8±1.0, 4°03'S±0°09'×99°01'E±0°09, h35km, n29, σ1§38/24, mb4.0/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDSI	**Sungai Dareh**	**3.91**	**38**	P	**Pn**	**22 09 53.8**	**-0.5**
SDSI				S	**Sn**	**22 10 40.0**	**+1.0**
MNAI	**Manna**	**3.95**	**95**	P	**Pn**	**22 09 57.1**	**+2.2**
LHSI	**Lahat**	**4.50**	**88**	P	**Pn**	**22 10 03.1**	**+0.5**
MNSI	**Mandailing Nat**	**4.82**	**7**	P	**Pn**	**22 10 05.9**	**-1.1**
MNSI				S	**Sn**	**22 11 01.7**	**+0.1**
LWLI	**Liwa**	**5.12**	**101**	P	**Pn**	**22 10 11.3**	**+0.1**
LWLI				S	**Sn**	**22 11 10.2**	**+0.9**
MDSI	**Maura Dua**	**5.17**	**95**	P	**Pn**	**22 10 11.3**	**-0.4**
MDSI				S	**Sn**	**22 11 07.6**	**-2.6**
KASI	**Kota Agung**	**5.66**	**105**	P	**Pn**	**22 10 18.4**	**-0.1**
	40nm,0.9s,2µm0.4nm						
PSI	**Prapat**	**6.78**	**359**	Pn	**Pn**	**22 10 31.6**	**-2.5**
	0.4nm,0.3s,baz=178,slow=13,SNR=3.9						
PSI				LR	LR	22 13 19.6	
	comp=Z,104nm,19.9s,baz=112,slow=40						
CGJI	**Cibinong**	**7.13**	**111**	P	**Pn**	**22 10 36.8**	**-1.9**
	46nm,0.8s,1µm0.2nm						
PPBI	**Pangkal Pinang**	**7.35**	**76**	P	Pn	22 10 37.1	-4.6
	7.8nm,0.7s,1µm0.1nm						
CNJI	**Cibinong**	**8.71**	**112**	P	**Pn**	**22 10 57.5**	**-2.9**
LEM	**Lembang**	**9.01**	**108**	Pn	**Pn**	**22 11 06.2**	**+1.7**
	5.4nm,0.3s,baz=216,slow=9.0,SNR=6.3						
LEM				LR	LR	22 15 08.5	
	comp=Z,90nm,18.9s,baz=218,slow=40						
CMAR	**Chiang Mai Arr**	**22.34**	**360**	P	**P**	**22 13 52.7**	**+0.9**
	1.9nm,0.8s,baz=185,slow=10,SNR=16						
CMAR				LR	LR	22 23 36.2	
	comp=Z,41nm,18.2s,baz=190,slow=40						
H08S2	**Diego Garcia H**	**26.62**	**261**	T	T	22 42 06.7	
	baz=87						
H08S3	**Diego Garcia H**	**26.63**	**261**	T	T	22 42 07.2	
	baz=87						
H08S1	**Diego Garcia H**	**26.64**	**261**	T	T	22 42 11.6	
	baz=87						
H01W3	**Cape Leeuwin H**	**33.76**	**157**	T	T	22 51 04.5	
	baz=335						
H01W2	**Cape Leeuwin H**	**33.77**	**157**	T	T	22 51 05.6	
	baz=335						
H01W1	**Cape Leeuwin H**	**33.77**	**157**	T	T	22 51 06.3	
	baz=335						
WRA	**Warramunga Arr**	**37.88**	**118**	P	P	22 16 14.9	+4.1
	0.8nm,0.8s,baz=296,slow=8.7,SNR=6.2						
MKAR	**Makanchi Array**	**52.72**	**346**	P	**P**	**22 18 09.1**	**+1.1**
	1.1nm,0.8s,baz=179,slow=7.3,SNR=13						
GEYT	**Alibeck**	**56.39**	**322**	P	**P**	**22 18 34.4**	**-0.5**
	0.9nm,0.4s,baz=152,slow=6.4,SNR=5.7						
USRK	**Ussuriysk Ar.**	**56.40**	**28**	P	P	22 18 37.7	+3.0
	0.9nm,0.7s,baz=200,slow=3.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**57.22**	**345**	P	**P**	**22 18 41.2**	**+0.8**
	0.3nm,0.6s,baz=165,slow=6.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**58.98**	**350**	P	**P**	**22 18 53.5**	**+0.9**
	1.4nm,0.6s,baz=188,slow=5.7,SNR=8.4						
BVAR	**Borovoye Array**	**61.75**	**341**	P	**P**	**22 19 11.8**	**+0.1**
	0.9nm,0.7s,baz=160,slow=11,SNR=5.6						
EIL	**Elat**	**69.79**	**303**	P	**P**	**22 20 03.5**	**-0.5**
	0.7nm,0.3s,baz=99,slow=8.3,SNR=3.9						
BRTR	**Keskin Array B**	**73.97**	**313**	P	**P**	**22 20 28.9**	**-0.1**
	1.5nm,0.7s,baz=132,slow=8.5,SNR=8.6						
TXAR	**Lajitas Array**	**146.90**	**38**	PKPbc	**PKPab**	**22 28 38.2**	**+0.5**
	0.5nm,0.9s,baz=207,slow=0.8,SNR=4.8						

*ISCJB **26** 22:15:56.2±0.5, 31°20'N±0°04'×103°62'E±0°07, h16km, mb3.7/9, MS2.6/2, Error ellipse: s-maj=8.8km s-min=5.2km az=169.6*

*BJI **26** 22:15:57.3, 31°17'N×103°44'E, h19km, mB4.1/1, mb3.8/3, ML3.7/23, Ms3.4/4, Ms7 3.2/4*

*IDC **26** 22:16:07.7±5.0, 31°24'N×103°72'E, h104km±49km, mb3.4/10, mb1 3.6/11, mb1mx3.4/29, mbtmp3.8/11, MS2.8/2, Ms1 2.8/2, ms1mx2.4/28, Error ellipse: s-maj=28.5km s-min=14.0km az=55.0*

ISC 26 22:15:57.7±0.6, 31°16'N±0°04'×103°61'E±0°08, h16km, n17, σ1§51/23, mb3.6/10, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.28**	**152**	*i*Pg	**Pg**	**22 16 04.0**	**+0.3**
CD2				Sg	**Sg**	**22 16 08.8**	**+1.0**
CD2				SMN			
	29µm,0.5s						
CD2				SME			
	19µm,0.6s						
LZH	**Lanzhou**	**4.92**	**2**	*e*Pg	**Pg**	**22 17 33.0**	**+1.0**
LZH				Sg	**Sg**	**22 18 36.5**	**+0.7**
LZH				smax	smax		
	comp=N,53nm,0.5s						
LZH				smax	smax		
	comp=E,50nm,0.5s						
LZH				LR	LR		
	comp=N,680nm,4.5s						
LZH				LR	LR		
	comp=E,690nm,7.9s						
LZH				LR	LR		
	comp=Z,410nm,8.8s						
XAN	**Xi'an**	**5.33**	**56**	Pn	**Pn**	**22 17 16.5**	**-0.1**
XAN				Pg	Pg	22 17 35.5	-4.2
XAN				Sn	**Sn**	**22 18 17.8**	**+0.1**
XAN				Sg	Sg	22 18 42.5	-6.2
XAN				SMN			
	comp=Z,110nm,0.7s						
XAN				SME			
	comp=Z,42nm,0.7s						
GYA	**Guiyang**	**5.39**	**149**	Pn	**Pn**	**22 17 18.3**	**+0.7**
GYA				Pg	Pg	22 17 37.3	-3.7
GYA				Sn	**Sn**	**22 18 21.8**	**+2.3**
GYA				Sg	**Sg**	**22 18 48.0**	**-2.9**
GYA				SMN			
	comp=Z,130nm,0.8s						
GYA				SME			
	comp=Z,120nm,0.7s						
KMI	**Kunming**	**6.06**	**187**	Pn	**Pn**	**22 17 27.3**	**+0.4**
KMI				Sn	**Sn**	**22 18 37.0**	**+1.0**
KMI				SMN			
	comp=Z,18nm,1.0s						
KMI				SME			
	comp=Z,21nm,0.8s						
KMI				LN			
	comp=Z,190nm,7.5s						
KMI				LE			
	comp=Z,210nm,8.3s						
KMI				LZ			
	comp=Z,170nm,13.0s						
CMAR	**Chiang Mai Arr**	**13.33**	**200**	P	**P**	**22 19 16.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=8.2,slow=9.1,SNR=30						
WMQ	**Urumqi**	**17.83**	**320**	*e*P	**Pn**	**22 20 00.8**	**-4.4**
WMQ				PMZ			
	comp=Z,14nm,0.5s						
KSRS	**Korea Array**	**21.02**	**66**	P	**P**	**22 20 41.1**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=262,slow=10.0,SNR=7.4						
MKAR	**Makanchi Array**	**22.66**	**320**	P	**P**	**22 21 00.3**	**+2.0**
	comp=Z,2.0nm,1.1s,baz=133,slow=7.1,SNR=9.1						
MKAR				LR	LR	22 29 40.5	
	comp=Z,14nm,21.8s,baz=141,slow=36						
AAK	**Ala-Archa**	**25.82**	**304**	P	**P**	**22 21 30.4**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=197,slow=19,SNR=1.9						
AAK				LR	LR	22 33 42.5	
	comp=Z,31nm,18.0s,baz=44,slow=41						
ZALV	**Zalesovo Beam**	**26.49**	**335**	P	**P**	**22 21 33.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=142,slow=7.2,SNR=3.4						
KURBB	**Kurchatov Arra**	**26.94**	**323**	P	**P**	**22 21 38.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=127,slow=9.9,SNR=6.7						
BVAR	**Borovoye Array**	**32.49**	**322**	P	**P**	**22 22 27.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=125,slow=7.2,SNR=2.0						
FINES	**FINESS Array B**	**57.29**	**326**	P	**P**	**22 25 44.0**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=108,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**58.75**	**146**	P	**P**	**22 25 54.5**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=337,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**61.76**	**148**	P	**P**	**22 26 15.4**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=332,slow=6.7,SNR=7.7						
YKA	**Yellowknife Ar**	**81.77**	**17**	P	**P**	**22 28 15.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=330,slow=5.3,SNR=8.5						

*ISCJB **26** 22:16:56.4±0.6, 11°93S±0°06'×117°42E±0°07, h33km, mb3.7/4, Error ellipse: s-maj=9.6km s-min=7.9km az=155.5*

*IDC **26** 22:16:56.5±2.8, 10°94S×118°23E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/43, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=203.2km s-min=24.0km az=47.0*

*AUST **26** 22:16:60.0, 11°98S×117°41E, h60km*

ISC 26 22:16:58.7±0.8, 11°85S±0°08'×117°47E±0°09, h35km, n17, σ1§65/17, mb3.8/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**7.00**	**73**	P	**Pn**	**22 18 39.9**	**+1.0**
	baz=7.1,SNR=3.2						
UGM	**Wanagama**	**7.88**	**299**	P	**Pn**	**22 18 50.8**	**-0.2**
	baz=7.9,SNR=5.1						
FITZ	**Fitzroy Crossi**	**10.04**	**129**	P	**Pn**	**22 19 20.7**	**+0.1**
	baz=10.0,SNR=15						
GIRL	**Giralia**	**11.16**	**196**	P	**Pn**	**22 19 36.8**	**+0.9**
	baz=11,SNR=6.3						
GIRL				S	**Sn**	**22 21 37.0**	**-2.5**
	baz=11,SNR=4.4						
KNRA	**Kununurra**	**11.61**	**110**	P	**Pn**	**22 19 44.3**	**+2.2**
	baz=12,SNR=5.0						
MEEK	**Meekatharra**	**14.75**	**176**	P	**Pn**	**22 20 24.2**	**-0.6**
	baz=15,SNR=17						
MEEK				S	Sn	22 22 56.3	-11
	baz=15,SNR=7.6						
WRKA	**Warakurna**	**16.64**	**143**	P	**Pn**	**22 20 48.4**	**-1.0**
	baz=17,SNR=10						
MORW	**Morawa**	**17.18**	**184**	P	**P**	**22 20 57.3**	**-0.1**
	baz=17,SNR=4.3						
MORW				S	Sn	22 23 52.8	-13
	baz=17,SNR=5.8						
WRA	**Warramunga Arr**	**18.10**	**118**	P	**Pn**	**22 21 06.7**	**-0.8**
	0.3nm,0.3s,baz=291,slow=14,SNR=22						
WRA				S	Sn	22 24 15.3	-13
	0.1nm,0.3s,baz=287,slow=25,SNR=6.0						
BLDU	**Ballidu**	**18.68**	**182**	P	**Pn**	**22 21 16.1**	**+1.5**
	baz=19,SNR=7.6						
ASAR	**Alice Springs**	**19.55**	**129**	P	**Pn**	**22 21 26.9**	**+1.9**
	0.4nm,0.3s,baz=307,slow=12,SNR=26						
ASAR				S	S	22 24 53.4	-9.2
	0.0nm,0.3s,baz=301,slow=20,SNR=3.4						
PMG	**Port Moresby**	**29.28**	**88**	S	**S**	**22 27 45.0**	**-3.9**
	baz=29,SNR=3.7						
MANU	**Manus Island**	**31.20**	**74**	S	S	22 28 29.4	+10
	baz=31,SNR=6.9						
MKAR	**Makanchi Array**	**66.33**	**334**	P	**P**	**22 27 44.1**	**+0.3**
	0.3nm,0.4s,baz=138,slow=7.3,SNR=7.1						
AAK	**Ala-Archa**	**66.99**	**327**	P	**P**	**22 27 49.3**	**+1.1**
	0.3nm,0.2s,baz=163,slow=11,SNR=3.8						
KURBB	**Kurchatov Arra**	**70.87**	**335**	P	**P**	**22 28 11.8**	**-0.2**
	0.5nm,0.7s,baz=138,slow=6.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**71.18**	**340**	P	**P**	**22 28 13.1**	**-0.6**
	0.9nm,0.7s,baz=145,slow=5.4,SNR=4.7						

*IDC **26** 22:17:32.1±1.1, 39°10'N×20°09'E, h0km, mb3.7/11, mb1 3.7/14, mb1mx3.6/57, mbtmp3.6/14, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.4/50, Error ellipse: s-maj=19.5km s-min=17.6km az=1.0*

*ATH **26** 22:17:35.8, 39°36'N×20°39'E, h28km±2km, MD3.1/8*

*CSEM **26** 22:17:36.6±0.2, 39°33'N×20°36'E, h2km, MD3.1, Error ellipse: s-maj=5.5km s-min=3.2km az=55.0*

*ISCJB **26** 22:17:36.7±0.5, 39°36'N±0°02'×20°24'E±0°03, h21km±4km, mb3.6/11, MS3.3/2, Error ellipse: s-maj=4.8km s-min=2.4km az=143.4*

*THE **26** 22:17:36.9, 39°36'N×20°40'E, h0km±2km, ML3.4/9, Error ellipse: s-maj=2.7km s-min=0.9km az=251.0*

*PDG **26** 22:17:41.7±0.3, 39°62'N×20°43'E, h28km±2km, ML3.3/11, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0*

ISC 26 22:17:36.5±0.8, 39°36'N±0°02'×20°36'E±0°02, h13km±5km, n159, σ1§29/206, mb3.7/11, 19C-11D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.17**	**354**	P	**Pg**	**22 17 39.8**	**-0.8**
IGT				S	**Sg**	**22 17 43.4**	**+0.1**
IGT	**Igoumenitsa**	**0.17**	**354**	*e*PB	**Pg**	**22 17 40.8**	**+0.2**
IGT				*e*SB	**Sb**	**22 17 45.4**	**+0.4**
IGT	**Igoumenitsa**	**0.17**	**354**	P	**Pg**	**22 17 39.8**	**-0.8**
IGT	**Igoumenitsa**	**0.17**	**354**	*e*Pb	**Pg**	**22 17 40.8**	**+0.2**
IGT				S	**Sg**	**22 17 43.4**	**+0.1**
IGT				*e*Sb	**Sb**	**22 17 45.4**	**+0.4**
JAN	**Janina**	**0.48**	**52**	P	**Pg**	**22 17 44.8**	**-1.3**
JAN				S	**Sg**	**22 17 53.0**	**+0.4**
JAN	**Janina**	**0.48**	**52**	*e*PB	**Pg**	**22 17 44.8**	**-1.3**
JAN				*e*SB	**Sg**	**22 17 52.9**	**+0.4**
JAN	**Janina**	**0.48**	**52**	P	**Pg**	**22 17 44.8**	**-1.3**
JAN				*e*Sb	**Sg**	**22 17 52.9**	**+0.4**
KEK	**Kerkira**	**0.56**	**309**	P	**Pb**	**22 17 48.1**	**0.0**
KEK				S	**Sb**	**22 17 56.9**	**+0.9**
KEK	**Kerkira**	**0.56**	**309**	*e*PN	**Pb**	**22 17 48.1**	**0.0**
KEK				*e*SN	**Sb**	**22 17 56.5**	**+0.5**
KEK	**Kerkira**	**0.56**	**309**	P	**Pb**	**22 17 48.1**	**0.0**
KEK				*e*Sn	**Sb**	**22 17 56.5**	**+0.5**
KEK				S	**Sb**	**22 17 56.9**	**+0.9**
DSL	**Palaion Diasel**	**0.62**	**111**	P	**Pg**	**22 17 46.8**	**-1.8**
DSL				S	**Sb**	**22 17 57.8**	**0.0**
DSL	**Palaion Diasel**	**0.62**	**111**	*e*PN	**Pg**	**22 17 47.7**	**-0.9**
DSL				*e*SN	**Sb**	**22 17 57.8**	**0.0**
DSL	**Palaion Diasel**	**0.62**	**111**	P	**Pg**	**22 17 46.8**	**-1.8**
DSL	**Palaion Diasel**	**0.62**	**111**	*e*Pn	**Pg**	**22 17 47.7**	**-0.9**
DSL				S	**Sb**	**22 17 57.8**	**0.0**
MEV	**Metsovon**	**0.80**	**58**	P	**Pg**	**22 17 50.7**	**-1.3**
MEV	**Metsovon**	**0.80**	**58**	P	**Pg**	**22 17 50.7**	**-1.3**
PDO	**Prodromos**	**1.00**	**139**	P	**Pb**	**22 17 54.3**	**-1.4**
PDO				S	**Sb**	**22 18 08.0**	**-0.7**
PDO	**Prodromos**	**1.00**	**139**	*e*PN	**Pb**	**22 17 54.6**	**-1.1**
PDO				*e*SN	**Sn**	**22 18 09.7**	**-0.5**
PDO	**Prodromos**	**1.00**	**139**	P	**Pb**	**22 17 54.3**	**-1.4**
PDO				S	**Sb**	**22 18 08.0**	**-0.7**
PVO	**Paravola**	**1.18**	**129**	P	**Pn**	**22 17 57.6**	**-1.1**
PVO				S	**Sn**	**22 18 16.5**	**+1.9**
PVO	**Paravola**	**1.18**	**129**	P	**Pn**	**22 17 57.6**	**-1.1**
PVO				S	**Sn**	**22 18 16.5**	**+1.9**
NEST	**Nestorio**	**1.18**	**27**	P	**Pn**	**22 17 58.8**	**0.0**
NEST				S	**Sg**	**22 18 16.9**	**+2.3**
NEST	**Nestorio**	**1.18**	**27**	*e*PN	**Pn**	**22 17 58.1**	**-0.7**
NEST	**Nestorio**	**1.18**	**27**	P	**Pn**	**22 17 58.8**	**0.0**
NEST				S	**Sg**	**22 18 16.9**	**+2.3**
VLS	**Valsamata**	**1.20**	**171**	P	**Pg**	**22 17 59.6**	**0.0**
VLS				S	**Sg**	**22 18 16.7**	**+1.5**
VLS	**Valsamata**	**1.20**	**171**	*e*PN	**Pn**	**22 17 58.6**	**-0.4**
VLS	**Valsamata**	**1.20**	**171**	*e*Pn	**Pn**	**22 17 58.6**	**-0.4**
VLS	**Valsamata**	**1.20**	**171**	P	**Pg**	**22 17 59.6**	**0.0**
VLS				S	**Sg**	**22 18 16.7**	**+1.5**
EVR	**Evrytania**	**1.22**	**111**	P	**Pn**	**22 17 58.1**	**-1.2**
EVR	**Evrytania**	**1.22**	**111**	*e*PN	**Pn**	**22 17 58.3**	**-1.0**
EVR	**Evrytania**	**1.22**	**111**	P	**Pn**	**22 17 58.1**	**-1.2**
KFL	**Anninata**	**1.30**	**165**	P	**Pg**	**22 18 01.6**	**+0.1**
KFL	**Anninata**	**1.30**	**165**	P	**Pg**	**22 18 01.6**	**+0.1**
THL	**Klokotos Trika**	**1.30**	**81**	P	**Pn**	**22 17 59.3**	**-1.1**
THL	**Klokotos Trika**	**1.30**	**81**	P	**Pn**	**22 17 59.3**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.42**	**104**	P	**Pn**	**22 18 02.1**	**0.0**
MAKR				S	**Sg**	**22 18 22.8**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.42**	**104**	P	**Pn**	**22 18 02.1**	**0.0**
MAKR				S	**Sg**	**22 18 22.8**	**+0.4**
KZN	**Kozani**	**1.44**	**49**	P	**Pb**	**22 18 03.4**	**+0.1**
KZN				S	**Sg**	**22 18 23.0**	**0.0**
KZN	**Kozani**	**1.44**	**49**	P	**Pb**	**22 18 03.4**	**+0.1**
KZN				S	**Sg**	**22 18 23.0**	**0.0**
EFP	**Efpalio**	**1.53**	**127**	P	**Pb**	**22 18 04.8**	**+0.1**
EFP	**Efpalio**	**1.53**	**127**	P	**Pb**	**22 18 04.8**	**+0.1**
AGG	**Agios Georgios**	**1.57**	**102**	P	**Pn**	**22 18 04.4**	**+0.2**
AGG	**Agios Georgios**	**1.57**	**102**	P	**Pn**	**22 18 04.4**	**+0.2**
FNA	**Florina**	**1.62**	**29**	P	**Pb**	**22 18 06.7**	**+0.3**
FNA	**Florina**	**1.62**	**29**	P	**Pb**	**22 18 06.7**	**+0.3**
KALE	**Kalithea**	**1.70**	**124**	P	**Pb**	**22 18 08.1**	**+0.5**
KALE				S	**Sb**	**22 18 29.5**	**+0.6**
KALE	**Kalithea**	**1.70**	**124**	P	**Pb**	**22 18 08.1**	**+0.5**
KALE				S	**Sb**	**22 18 29.5**	**+0.6**
DRO	**Drossia**	**1.76**	**143**	P	**Pb**	**22 18 07.7**	**-1.0**
DRO	**Drossia**	**1.76**	**143**	P	**Pb**	**22 18 07.7**	**-1.0**
OHR	**Ohrid**	**1.78**	**11**	*e*Pn	**Pb**	**22 18 09.5**	**+0.4**
OHR				*e*Sn	**Sg**	**22 18 36.0**	**+2.1**
OHR	**Ohrid**	**1.78**	**11**	*e*Pn	**Pb**	**22 18 09.5**	**+0.4**
OHR				*e*Sn	**Sg**	**22 18 36.0**	**+2.1**
OHR	**Ohrid**	**1.78**	**11**	*e*Pn	**Pb**	**22 18 09.4**	**+0.3**
OHR				*e*Sn	**Sg**	**22 18 35.9**	**+2.1**
LIT	**Litokhoron**	**1.80**	**65**	P	**Pb**	**22 18 09.2**	**-0.2**
LIT				S	**Sb**	**22 18 32.4**	**+0.4**
LIT	**Litokhoron**	**1.80**	**65**	P	**Pb**	**22 18 09.2**	**-0.2**
LIT				S	**Sb**	**22 18 32.4**	**+0.4**
AXAR	**Agios Charalam**	**1.89**	**108**	P	**Pb**	**22 18 11.6**	**+0.7**
AXAR	**Agios Charalam**	**1.89**	**108**	P	**Pb**	**22 18 11.6**	**+0.7**
KLV	**Kalavryta, Ach**	**1.93**	**133**	P	**Pb**	**22 18 10.4**	**-1.1**
KLV	**Kalavryta, Ach**	**1.93**	**133**	P	**Pb**	**22 18 10.4**	**-1.1**
GUR	**Goura**	**2.11**	**132**	P	**Pb**	**22 18 13.7**	**-1.0**
GUR	**Goura**	**2.11**	**132**	P	**Pb**	**22 18 13.7**	**-1.0**
AMT	**Artemida-Makis**	**2.11**	**149**	P	**Pb**	**22 18 13.6**	**-1.1**
AMT	**Artemida-Makis**	**2.11**	**149**	P	**Pb**	**22 18 13.6**	**-1.1**
LKR	**Lokris**	**2.18**	**108**	P	**Pb**	**22 18 16.1**	**+0.3**
LKR	**Lokris**	**2.18**	**108**	P	**Pb**	**22 18 16.1**	**+0.3**
XOR	**Xorichti**	**2.20**	**89**	P	**Pn**	**22 18 14.4**	**+1.6**
XOR				S	**Sn**	**22 18 41.2**	**+1.3**
XOR	**Xorichti**	**2.20**	**89**	P	**Pn**	**22 18 14.4**	**+1.6**
XOR				S	**Sn**	**22 18 41.2**	**+1.3**
VAY	**Valandovo**	**2.59**	**40**	*e*Pn	**Pn**	**22 18 20.0**	**+1.9**
VAY				*e*Sn	**Sn**	**22 18 51.7**	**+2.3**
VAY	**Valandovo**	**2.59**	**40**	*e*Pn	**Pn**	**22 18 20.0**	**+1.9**
VAY				*e*Sn	**Sn**	**22 18 51.7**	**+2.3**
VAY	**Valandovo**	**2.59**	**40**	*e*Pn	**Pn**	**22 18 20.0**	**+1.9**
VAY				*e*Sn	**Sn**	**22 18 51.6**	**+2.2**
ULC	**Ulcinj**	**2.73**	**342**	*e*Pn	**Pn**	**22 18 22.0**	**+1.9**
ULC				*e*Sn	**Sn**	**22 18 52.0**	**-1.0**
ULC	**Ulcinj**	**2.73**	**342**	*e*Pn	**Pn**	**22 18 22.0**	**+1.9**
ULC				*e*Sn	**Sn**	**22 18 52.0**	**-1.0**
SKO	**Skopje**	**2.73**	**17**	*e*Pn	**Pb**	**22 18 23.2**	**-2.1**
SKO				*e*Sn	**Sb**	**22 18 56.6**	**-2.1**
SKO	**Skopje**	**2.73**	**17**	*e*Pn	**Pb**	**22 18 23.2**	**-2.1**
SKO				*e*Sn	**Sb**	**22 18 56.6**	**-2.1**
SKO	**Skopje**	**2.73**	**17**	*e*Pn	**Pb**	**22 18 23.1**	**-2.2**
SKO				*e*Sn	**Sb**	**22 18 56.6**	**-2.1**
DRME	**Dracevica, Mon**	**2.96**	**343**	*e*Pn	**Pn**	**22 18 25.0**	**+1.8**
DRME				*e*Sn	**Sn**	**22 18 57.7**	**-0.9**
DRME	**Dracevica, Mon**	**2.96**	**343**	*e*Pn	**Pn**	**22 18 25.0**	**+1.8**
DRME				*e*Sn	**Sn**	**22 18 57.7**	**-0.9**
BUM	**Brajici-Budva**	**3.14**	**340**	⇑*i*Pn	**Pn**	**22 18 26.9**	**+1.2**
BUM				*e*Sn	**Sn**	**22 19 01.9**	**-1.2**
BUM	**Brajici-Budva**	**3.14**	**340**	⇑*i*Pn	**Pn**	**22 18 26.9**	**+1.2**
BUM				*e*Sn	**Sn**	**22 19 01.9**	**-1.2**
PDG	**Podgorica**	**3.18**	**345**	⇑*i*Pn	**Pn**	**22 18 28.3**	**+2.1**
PDG				*e*Sn	**Sn**	**22 19 03.4**	**-0.5**
TTG	**Podgorica**	**3.18**	**345**	⇑*i*Pn	**Pn**	**22 18 28.3**	**+2.1**
TTG				*e*Sn	**Sn**	**22 19 03.4**	**-0.5**
PVY	**Plav**	**3.24**	**355**	*e*Pn	**Pn**	**22 18 27.8**	**+0.6**
PVY				*e*Sn	**Sn**	**22 19 04.1**	**-1.7**
PVY	**Plav**	**3.24**	**355**	*e*Pn	**Pn**	**22 18 27.8**	**+0.6**
KKB	**Krupnik**	**3.25**	**39**	P	**Pn**	**22 18 29.6**	**+2.4**
KKB	**Krupnik**	**3.25**	**39**	P	**Pn**	**22 18 29

MOTA	**Moosalm**	**10.44**	**323**	⇑*i*Pn	**Pn**	**22 20 07.8**	**+1.9**	
MOTA	**Moosalm**	**10.44**	**323**	Pn	**Pn**	**22 20 07.8**	**+1.9**	
GERES	**GERESS Array B**	**10.61**	**335**	Pn	**Pn**	**22 20 08.7**	**+0.3**	
	0.2nm,0.3s,baz=154,slow=13,SNR=7.6							
GERES				LR	LR	22 25 24.4		
	comp=Z,42nm,19.5s,baz=1.0,slow=44							
MMAI	**Mount Meron Ar**	**13.70**	**113**	Pn	Pn	22 20 45.8	-4.7	
	0.1nm,0.3s,baz=302,slow=14,SNR=3.0							
ILIC	**Ilic-Erzincan**	**14.09**	**84**	*e*PN	**Pn**	**22 20 56.4**	**+0.6**	
ESDC	**Sonseca Array**	**18.76**	**279**	P	P	22 21 49.9	-5.3	
	0.1nm,0.3s,baz=56,slow=11,SNR=4.4							
HFS	**Hagfors**	**21.21**	**351**	P	**P**	**22 22 21.6**	**-0.1**	
	1.5nm,0.8s,baz=156,slow=11,SNR=6.0							
FINES	**FINESS Array B**	**22.39**	**7**	P	**P**	**22 22 34.4**	**0.0**	
	2.9nm,1.0s,baz=202,slow=10,SNR=2.9							
EKA	**Eskdalemuir Ar**	**22.39**	**323**	P	**P**	**22 22 34.7**	**+0.2**	
	2.4nm,0.9s,baz=118,slow=10,SNR=5.4							
NB2	**NORSAR Subarra**	**22.43**	**348**	P	**P**	**22 22 34.4**	**-0.5**	
	comp=Z,2.8nm,1.0s,baz=153,slow=10							
NB2	**NORSAR Subarra**	**22.43**	**348**	P	**P**	**22 22 34.4**	**-0.5**	
	comp=Z,2.8nm,1.0s,SNR=6.0							
NOA	**NORSAR Array B**	**22.43**	**348**	P	**P**	**22 22 34.4**	**-0.5**	
	comp=Z,1.3nm,0.7s,baz=165,slow=11,SNR=4.4							
AKTO	**Aktyubinsk**	**28.59**	**55**	P	**P**	**22 23 32.0**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=246,slow=3.5,SNR=4.0							
GEYT	**Alibeck**	**29.39**	**81**	P	**P**	**22 23 40.0**	**+0.5**	
	comp=Z,0.7nm,0.4s,baz=284,slow=5.8,SNR=2.6							
ARCES	**ARCESS Array B**	**30.36**	**4**	P	**P**	**22 23 47.2**	**-0.5**	
	comp=Z,3.2nm,0.9s,baz=190,slow=9.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**30.88**	**217**	P	P	22 23 47.3	-5.4	
	comp=Z,0.1nm,0.4s,baz=32,slow=9.0,SNR=2.2							
TORD				LR	LR	22 37 55.6		
	comp=Z,36nm,18.1s,baz=95,slow=40							
KURBB	**Kurchatov Arra**	**41.64**	**55**	P	**P**	**22 25 23.9**	**-0.4**	
	comp=Z,0.4nm,0.3s,baz=285,slow=9.2,SNR=4.7							
MKAR	**Makanchi Array**	**44.80**	**59**	P	**P**	**22 25 50.0**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=272,slow=12,SNR=11							
ZALV	**Zalesovo Beam**	**45.01**	**49**	P	**P**	**22 25 51.6**	**+0.2**	
	comp=Z,1.7nm,0.5s,baz=276,slow=9.0,SNR=11							
TXAR	**Lajitas Array**	**94.06**	**313**	LR	LR	23 12 26.3		
	comp=Z,20nm,18.7s,baz=0.0,slow=35							

*ISCJB **26** 22:20:28.3±0.6,38°.02N±0°.03×37°.92E±0°.04,h4km±6km, Error ellipse: s-maj=5.6km s-min=4.7km az=152.6*
*ISK **26** 22:20:28.7,38°.03N×37°.94E,h8km,MD3.0*
*CSEM **26** 22:20:28.3±0.2,38°.03N×37°.93E,h5km,ML3.5,Error ellipse: s-maj=6.0km s-min=4.2km az=155.0*
*DDA **26** 22:20:28.0,38°.04N×37°.92E,h7km,MD3.2,ML3.5*
ISC 26 22:20:28.0±1.2,38°.01N±0°.03×37°.90E±0°.03,h3km±11km, n25,σ0°.36/33,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.29**	**3**	*i* P			**Pg**	**22 20 33.3**	**-0.3**
AKCD				*i* S			**Sg**	**22 20 37.5**	**+0.1**
AKCD	**Akcadag**	**0.29**	**3**	*i* P			**Pg**	**22 20 33.3**	**-0.3**
AKCD				*i* S			**Sg**	**22 20 37.5**	**+0.1**
MALT	**Malatya**	**0.52**	**53**	PG			**Pg**	**22 20 38.2**	**+0.3**
MALT				*e*SG			**Sg**	**22 20 45.2**	**+0.6**
MALT	**Malatya**	**0.52**	**53**	*i* Pg			**Pg**	**22 20 38.2**	**+0.3**
GZT	**Gaziantep**	**0.70**	**202**	*i* P			**Pb**	**22 20 43.0**	**0.0**
URFA	**Urfa**	**0.92**	**128**	*e*PG			**Pb**	**22 20 46.6**	**-0.1**
URFA				*e*SG			**Sb**	**22 20 59.6**	**+0.2**
URFA	**Urfa**	**0.92**	**128**	*e*Pg			**Pb**	**22 20 46.6**	**-0.1**
KMRS	**Kahramanmaras**	**0.94**	**238**	*e*PG			**Pn**	**22 20 47.9**	**-0.2**
KMRS	**Kahramanmaras**	**0.94**	**238**	*e*Pg			**Pn**	**22 20 47.9**	**-0.2**
ELZG	**Elazig**	**0.98**	**60**	*i* P			**Pg**	**22 20 46.4**	**-0.5**
ELZG	**Elazig**	**0.98**	**60**	*i* P			**Pg**	**22 20 46.4**	**-0.5**
HCB	**Kahramanmara¯**	**1.03**	**230**	*i* P			**Pb**	**22 20 48.7**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.17**	**71**	*e*PN			**Pb**	**22 20 51.0**	**0.0**
SVRC				*e*SN			**Sn**	**22 21 07.8**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.17**	**71**	*e*Pn			**Pb**	**22 20 51.0**	**0.0**
SVRC				*e*Sn			**Sn**	**22 21 07.8**	**-0.1**
KAMA	**Osmaniye**	**1.28**	**230**	*i* P			**Pg**	**22 20 52.6**	**+0.1**
PINB	**Pinarbasi**	**1.35**	**300**	*i* P			**Pn**	**22 20 53.9**	**-0.2**
PINB				*i* S			**Sn**	**22 21 13.1**	**+0.4**
PINB	**Pinarbasi**	**1.35**	**300**	*i* P			**Pn**	**22 20 53.9**	**-0.2**
PINB				*i* S			**Sn**	**22 21 13.1**	**+0.4**
KUZU	**Kuzuini**	**1.40**	**208**	*i* P			**Pg**	**22 20 55.0**	**+0.2**
KUZU	**Kuzuini**	**1.40**	**208**	*i* P			**Pg**	**22 20 55.0**	**+0.2**
PTK	**Pertek**	**1.47**	**52**	*e*PN			**Pn**	**22 20 55.6**	**+0.1**
PTK	**Pertek**	**1.47**	**52**	*e*Pn			**Pn**	**22 20 55.6**	**+0.1**
DYBB	**Diyarbakir**	**1.77**	**91**	*e*PN			**Pn**	**22 21 00.0**	**+0.4**
DIY	**Diyarbakir**	**1.84**	**93**	*e*Pn			**Pn**	**22 21 00.0**	**-0.6**
YAYL	**Yayladag**	**2.44**	**217**	*i* P			**Pn**	**22 21 08.0**	**-0.8**
YAYL	**Yayladag**	**2.44**	**217**	*i* P			**Pn**	**22 21 08.0**	**-0.8**

*SZGRF **26** 22:27:34.7,18°.89S×179°.32W,h33km,Fiji Islands region*
*ISCJB **26** 22:28:34.9±0.1,17°.18S±0°.05×179°.14W±0°.04,h533km, mb4.5/88,Error ellipse: s-maj=7.5km s-min=4.0km az=144.3*
*IDC **26** 22:28:36.7±1.4,17°.16S×179°.14W,h548km±15km, mb3.8/25,mb1 4.0/26,mb1mx4.0/31,mbtmp4.7/26,Error ellipse: s-maj=13.7km s-min=8.6km az=138.0*
*NEIC **26** 22:28:39.1±0.5,17°.15S×179°.15W,h572km±5km,mb4.6/65, Error ellipse: s-maj=7.0km s-min=4.0km az=144.0*
ISC 26 22:28:35.4±0.3,17°.09S±0°.07×179°.09W±0°.07,h533km, n427,σ1s00/428,mb4.4/88,109C-107D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.81**	**256**	*e*P			P	22 29 54.5	+6.5
AFI	**Afiamalu**	**7.73**	**67**	*e*P			**P**	**22 30 29.6**	**-0.5**
NIUE	**Niue**	**8.93**	**104**	P			**P**	**22 30 43.3**	**+1.1**
	baz=8.7,SNR=6.3								
DZM	**Mont Dzumac**	**14.50**	**248**	P			**P**	**22 31 41.4**	**+1.2**
	3.1nm,0.3s,baz=70,slow=18,SNR=27								
KNTN	**Kanton**	**15.96**	**28**	*e*P			**P**	**22 31 54.9**	**-0.3**
	105nm,1.2s								
OUZ	**Omahuta**	**19.20**	**198**	*e*P			**P**	**22 32 28.4**	**+3.5**
	48nm,0.7s								
TARA	**Tarawa**	**19.95**	**336**	*e*P			**P**	**22 32 33.3**	**+1.2**
	189nm,1.4s								
URZ	**Urewera**	**21.35**	**188**	P			**P**	**22 32 40.9**	**-3.5**
	20nm,0.6s,baz=358,slow=11,SNR=13								
URZ				S			**S**	**22 36 08.2**	**+2.5**
	15nm,0.8s,baz=306,slow=19,SNR=4.1								
BKZ	**Black Stump Fm**	**22.33**	**189**	*e*P			**P**	**22 32 50.4**	**-2.9**
	87nm,1.8s								
BFZ	**Birch Farm**	**23.85**	**189**	*e*P			**P**	**22 33 05.2**	**-1.5**
	314nm,2.6s								
KHZ	**Kahutara**	**26.02**	**193**	*e*P			**P**	**22 33 23.2**	**-2.6**
	267nm,1.9s								
RPZ	**Rata Peaks**	**27.82**	**195**	P			**P**	**22 33 40.4**	**-1.4**
	18nm,0.7s,baz=48,slow=3.6,SNR=7.2								
EIDS	**Eidsvold**	**28.95**	**248**	*e*P			**P**	**22 33 51.7**	**-0.1**
	19nm,1.3s								
ODZ	**Otahua Downs**	**29.17**	**195**	*e*P			**P**	**22 33 52.1**	**-1.4**
	202nm,1.9s								
ARMA	**Armidale**	**29.80**	**238**	*e*P			**P**	**22 34 00.8**	**+1.4**
	227nm,2.9s								
WHZ	**Wether Hill Ro**	**30.69**	**198**	*e*P			**P**	**22 34 06.6**	**+0.1**
	50nm,0.7s								
RMQ	**Roma**	**31.21**	**247**	P			**P**	**22 34 13.0**	**+1.6**
	baz=31,SNR=8.1								
CTA	**Charters Tower**	**32.95**	**259**	P			**P**	**22 34 25.8**	**-0.4**
	9.4nm,0.7s,baz=84,slow=11,SNR=6.7								
CTAO	**Charters Tower**	**32.95**	**259**	*e*P			**P**	**22 34 26.6**	**+0.3**
	15nm,0.9s								
PMG	**Port Moresby**	**33.69**	**279**	*e*P			**P**	**22 34 35.2**	**+2.6**
	139nm,0.8s								
CMSA	**Cobar Meteorol**	**35.00**	**239**	P			**P**	**22 34 44.2**	**+1.0**
	baz=35,SNR=6.2								
QLP	**Quilpie**	**35.23**	**248**	P			**P**	**22 34 45.9**	**+0.7**
	baz=35,SNR=10								
COEN	**Coen**	**36.46**	**270**	P			**P**	**22 34 57.5**	**+1.9**
	baz=37,SNR=12								
COEN	**Coen**	**36.46**	**270**	*e*P			**P**	**22 34 57.5**	**+1.9**
	18nm,0.8s								
STKA	**Stephens Creek**	**38.46**	**240**	P			**P**	**22 35 12.2**	**+0.4**
	7.1nm,0.8s,baz=84,slow=9.5,SNR=11								
STKA	**Stephens Creek**	**38.46**	**240**	P			**P**	**22 35 12.9**	**+1.1**
	baz=39,SNR=7.3								
BBOO	**Buckleboo**	**43.24**	**240**	P			**P**	**22 35 50.5**	**+0.7**
	baz=43,SNR=5.2								
BBOO	**Buckleboo**	**43.24**	**240**	*e*P			**P**	**22 35 48.8**	**-1.0**
	44nm,1.4s								
WRAB	**Tennant Creek**	**44.14**	**259**	*e*P			**P**	**22 35 56.9**	**-0.1**
	9.4nm,0.8s								
WRA	**Warramunga Arr**	**44.15**	**259**	P			**P**	**22 35 56.9**	**-0.2**
	9.0nm,0.8s,baz=93,slow=7.1,SNR=133								
WRA				PcP			PcP	**22 37 30.2**	**-0.3**
	0.8nm,0.6s,baz=82,slow=3.1,SNR=3.4								
WRA				ScP			ScP	**22 40 30.8**	**-0.9**
	0.4nm,0.7s,baz=131,slow=4.1,SNR=3.6								
WRA				S			S	**22 41 46.4**	**-5.1**
	0.5nm,0.7s,baz=95,slow=14,SNR=5.5								
AS12	**Alice Springs**	**44.39**	**253**	*e*P			**P**	**22 35 59.5**	**+0.6**
AS12				*e*PcP			**PcP**	**22 37 29.5**	**-1.8**
AS12				*e*ScP			**ScP**	**22 40 32.5**	**-0.2**
AS12				*e*S			**S**	**22 41 51.7**	**-3.2**
ASAR	**Alice Springs**	**44.39**	**253**	P			**P**	**22 35 59.5**	**+0.6**
	52nm,0.7s,baz=87,slow=8.1,SNR=456								
ASAR				PcP			**PcP**	**22 37 29.5**	**-1.8**
	0.9nm,0.6s,baz=103,slow=5.8,SNR=3.4								
ASAR				ScP			**ScP**	**22 40 32.5**	**-0.2**
	1.4nm,0.7s,baz=102,slow=4.5,SNR=10								
ASAR				S			**S**	**22 41 51.7**	**-3.2**
	2.9nm,0.9s,baz=88,slow=15,SNR=17								
KDU	**Kakadu**	**46.93**	**268**	P			**P**	**22 36 15.8**	**-2.5**
	baz=47,SNR=4.6								
FORT	**Forrest**	**49.77**	**244**	*e*P			**P**	**22 36 39.0**	**-0.3**
	30nm,1.0s								
KNRA	**Kununurra**	**49.93**	**264**	P			**P**	**22 36 41.4**	**+0.8**
	baz=50,SNR=4.0								
FITZ	**Fitzroy Crossi**	**52.52**	**260**	P			**P**	**22 37 00.6**	**+1.2**
	baz=53,SNR=6.0								
FITZ	**Fitzroy Crossi**	**52.52**	**260**	*e*P			**P**	**22 36 59.8**	**+0.4**
	32nm,1.9s								
SOEI	**Soe**	**55.42**	**270**	*e*P			**P**	**22 37 22.5**	**+2.4**
SBA	**Scott Base**	**61.19**	**183**	*e*P			**P**	**22 37 59.5**	**+1.6**
	14nm,1.0s								
VNDA	**Vanda**	**61.20**	**185**	P			**P**	**22 37 57.7**	**-0.2**
	3.6nm,0.9s,baz=351,slow=7.1,SNR=13								
VNDA	**Vanda**	**61.20**	**185**	*e*P			**P**	**22 37 58.6**	**+0.7**
CASY	**Casey**	**66.60**	**205**	*e*P			**P**	**22 38 32.4**	**-0.1**
MJAR	**Matsushiro Arr**	**66.87**	**324**	P			**P**	**22 38 35.1**	**+0.5**
	2.8nm,0.6s,baz=161,slow=6.2,SNR=8.5								
MAJO	**Matsushiro**	**66.87**	**324**	*e*P			**P**	**22 38 35.1**	**+0.5**
	97nm,2.4s								
MAT	**Matsushiro**	**66.87**	**324**	P			**P**	**22 38 35.5**	**+0.9**
UGM	**Wanagama**	**69.03**	**268**	*e*P			**P**	**22 38 48.6**	**+0.3**
	129nm,1.3s								
ASAJ	**Asahikawa**	**70.25**	**332**	*e*P			**P**	**22 38 56.8**	**+1.9**
	5.0nm,0.7s								
PEA2	**Petropavlovsk-**	**72.73**	**346**	*e*P			**P**	**22 39 09.9**	**+0.8**
PETK	**Petropavlovsk-**	**72.73**	**346**	P			**P**	**22 39 09.9**	**+0.8**
	5.7nm,0.9s,baz=145,slow=8.2,SNR=8.5								
QSPA	**South Pole Qui**	**72.96**	**180**	P			**P**	**22 39 10.4**	**-0.2**
	19nm,0.9s,baz=323,slow=0.6,SNR=60								
ARVC	**Arvin**	**77.20**	**47**	⇓P			**P**	**22 39 36.0**	**+1.5**
	baz=77								
MWC	**Mount Wilson**	**77.28**	**48**	*e*P			**P**	**22 39 35.8**	**+0.5**
	15nm,0.8s								
BFSC	**Mount Baldy Ra**	**77.57**	**48**	⇓P			**P**	**22 39 37.6**	**+0.8**
	baz=78								
MURC	**Murrieta**	**77.57**	**49**	⇓P			**P**	**22 39 37.4**	**+0.7**
	baz=78								
EDW2	**Edwards Air Fo**	**77.66**	**47**	⇑P			**P**	**22 39 38.0**	**+0.8**
	baz=78,SNR=13								
ISA	**Isabella, Lake**	**77.73**	**47**	⇓P			**P**	**22 39 38.4**	**+0.8**
	baz=78,SNR=9.2								
ISA	**Isabella, Lake**	**77.73**	**47**	*e*P			**P**	**22 39 38.6**	**+1.1**
MONP	**Monument Peak,**	**77.78**	**50**	⇑P			**P**	**22 39 38.8**	**+0.7**
	baz=78,SNR=13								
N02D	**Trinity Center**	**77.87**	**40**	⇓P			**P**	**22 39 39.1**	**+0.8**
	baz=78								
M02C	**Callahan**	**78.02**	**40**	⇑P			**P**	**22 39 40.6**	**+1.6**
	baz=78								
YUH	**Yuha Desert**	**78.03**	**50**	*e*P			**P**	**22 39 40.4**	**+1.2**
PFO	**Pinyon Flats O**	**78.11**	**49**	⇑P			**P**	**22 39 40.6**	**+0.9**
	baz=78								
LRMC	**Laurel Mtn Rad**	**78.18**	**47**	⇑P			**P**	**22 39 40.7**	**+0.7**
	baz=78								
SWSC	**Sam W. Stewart**	**78.27**	**50**	⇑P			**P**	**22 39 41.3**	**+0.9**
	baz=78								
YBH	**Yreka Blue Hor**	**78.31**	**40**	P			**P**	**22 39 41.4**	**+0.9**
	8.7nm,0.9s,baz=257,slow=1.5,SNR=9.9								
YBH	**Yreka Blue Hor**	**78.31**	**40**	*e*P			**P**	**22 39 41.9**	**+1.4**
MLAC	**Mammoth, Mammo**	**78.51**	**45**	⇓P			**P**	**22 39 42.3**	**+0.4**
	baz=79								
MTUM	**Tungsten Hills**	**78.55**	**45**	*e*P			**P**	**22 39 43.0**	**+0.9**
WAKR	**Walker**	**78.58**	**44**	*e*P			**P**	**22 39 43.1**	**+0.9**
MPMC	**Manual Prospec**	**78.61**	**47**	⇑P			**P**	**22 39 42.9**	**+0.4**
	baz=79,SNR=10								
TIN	**Tinemaha, Big**	**78.62**	**45**	⇓P			**P**	**22 39 43.4**	**+1.0**
	baz=79								
BELC	**Belle Mtn. Jos**	**78.64**	**49**	⇑P			**P**	**22 39 43.4**	**+0.8**
	baz=79,SNR=5.8								
DAC	**Darwin (Calif)**	**78.66**	**46**	*e*P			**P**	**22 39 43.6**	**+0.9**
	23nm,1.7s								
GSC	**Goldstone, Bar**	**78.71**	**48**	⇓P			**P**	**22 39 43.9**	**+1.0**
	baz=79								
GSC	**Goldstone, Bar**	**78.71**	**48**	*e*P			**P**	**22 39 43.7**	**+0.9**
	17nm,1.6s								
SLBS	**Sierra La Lagu**	**78.73**	**61**	*e*P			**P**	**22 39 41.3**	**-1.9**
	51nm,1.8s								
HEC	**Hector,Ludlow**	**78.81**	**48**	⇑P			**P**	**22 39 44.3**	**+0.9**
	baz=79								
BC3	**Big Chuckawall**	**78.86**	**50**	⇓P			**P**	**22 39 44.9**	**+1.1**
	baz=79								
M04C	**Macdoel**	**78.87**	**40**	⇓P			**P**	**22 39 44.6**	**+1.0**
	baz=79								
GLA	**Glamis**	**79.03**	**50**	⇓P			**P**	**22 39 45.6**	**+1.1**
	baz=79								
GLA	**Glamis**	**79.03**	**50**	*e*P			P	22 39 40.3	-4.2
GRAC	**Grapevine Rang**	**79.18**	**46**	⇑P			**P**	**22 39 46.5**	**+1.2**
	baz=79,SNR=7.8								
FURC	**Furnace Creek,**	**79.26**	**47**	⇓P			**P**	**22 39 46.7**	**+1.2**
	baz=80								
GMRC	**Granite Mounta**	**79.27**	**49**	⇑P			**P**	**22 39 47.1**	**+1.2**
	baz=80								
NV01	**Mina Array Sit**	**79.29**	**44**	*e*P			**P**	**22 39 46.6**	**+0.6**
NVAR	**Mina Array Bea**	**79.29**	**44**	P			**P**	**22 39 46.6**	**+0.6**
	8.3nm,0.7s,baz=226,slow=9.1,SNR=53								
IRM	**Iron Mountain**	**79.33**	**49**	⇓P			**P**	**22 39 47.1**	**+1.0**
	baz=80,SNR=7.6								
TUQ	**Turquoise Moun**	**79.40**	**48**	⇓P			**P**	**22 39 47.5**	**+0.9**
	baz=80,SNR=7.1								
Y12C	**Blythe**	**79.59**	**50**	⇓P			**P**	**22 39 48.4**	**+1.0**
	baz=80								
113A	**Mohawk Valley,**	**79.69**	**51**	⇑P			**P**	**22 39 49.2**	**+1.3**
	baz=80								
I04A	**Tendick Farm,**	**79.69**	**38**	⇑P			**P**	**22 39 48.2**	**+0.5**
	baz=80								
LDFC	**Landfair**	**79.81**	**48**	*e*P			**P**	**22 39 50.0**	**+1.3**
TPH	**Tonopah**	**79.83**	**45**	*e*P			**P**	**22 39 49.5**	**+0.6**
MOD	**Modoc Plateau**	**79.89**	**40**	*e*P			**P**	**22 39 49.2**	**+0.2**
	9.0nm,0.7s								
TPNV	**Topopah Spring**	**79.93**	**46**	⇓P			**P**	**22 39 50.2**	**+0.9**
	baz=80,SNR=7.8								
TPNV	**Topopah Spring**	**79.93**	**46**	*e*P			**P**	**22 39 50.0**	**+0.7**
	5.6nm,0.8s								
BRLK	**Bradley Lake**	**79.94**	**14**	*e*P			**P**	**22 39 48.7**	**0.0**
	365nm,2.2s								
K05A	**Summer Lake**	**79.98**	**39**	*e*P			**P**	**22 39 50.5**	**+1.0**
214A	**Organ Pipe Nat**	**80.03**	**52**	⇓P			**P**	**22 39 50.7**	**+0.9**
	baz=80,SNR=5.3								
J05D	**Fort Rock, OR**	**80.09**	**39**	⇓P			**P**	**22 39 51.0**	**+0.9**
	baz=80								
PDMCI	**Parker Dam,Lak**	**80.13**	**50**	⇑P			**P**	**22 39 51.5**	**+1.2**
	baz=80,SNR=6.0								
RSO	**Redoubt South**	**80.16**	**13**	*e*P			**P**	**22 39 49.9**	**-0.1**
SHPR	**Sheep Range**	**80.47**	**47**	*e*P			**P**	**22 39 53.3**	**+1.1**
Z14A	**Wintersburg**	**80.57**	**51**	⇑P			**P**	**22 39 54.0**	**+1.5**
	baz=81								
W13A	**Hualapai Mount**	**80.69**	**49**	⇓P			**P**	**22 39 54.3**	**+0.8**
	baz=81,SNR=5.9								
Y14A	**Wickenburg**	**80.79**	**50**	⇓P			**P**	**22 39 54.5**	**+0.8**
	baz=81								
BMN	**Battle Mountain**	**81.05**	**43**	*e*P			**P**	**22 39 55.9**	**+0.8**
	13nm,0.9s								
R11A	**Troy Canyon, C**	**81.08**	**45**	⇑P			**P**	**22 39 55.9**	**+0.6**
	baz=81								
R11A	**Troy Canyon, C**	**81.08**	**45**	*e*P			**P**	**22 39 55.7**	**+0.3**
SHW	**Mount Saint He**	**81.19**	**36**	*e*P			**P**	**22 39 54.9**	**-0.7**
I07A	**Izee**	**81.58**	**39**	*e*P			**P**	**22 39 58.5**	**+0.8**
	9.1nm,0.8s								
TUC	**Tucson**	**81.72**	**53**	*e*P			**P**	**22 40 00.0**	**+1.4**
X16A	**Lo Mia Camp, P**	**82.17**	**51**	⇑P			**P**	**22 40 02.0**	**+1.0**
	baz=82,SNR=17								
CCUT	**Cedar City**	**82.23**	**47**	*e*P			**P**	**22 40 02.7**	**+1.4**
KNB	**Kanab**	**82.36**	**48**	*e*P			**P**	**22 40 03.0**	**+1.1**
	9.5nm,0.9s								
U15A	**North Rim**	**82.46**	**48**	⇑P			**P**	**22 40 03.8**	**+1.3**
	baz=83,SNR=24								
319A	**Douglas**	**82.47**	**54**	⇓P			**P**	**22 40 04.1**	**+1.6**
	baz=83,SNR=10								
ELK	**Elko**	**82.51**	**43**	P			**P**	**22 40 03.1**	**+0.5**
	7.5nm,0.8s,baz=208,slow=3.2,SNR=30								
BMRM	**Bremner River**	**82.56**	**16**	*e*P			**P**	**22 40 02.1**	**-0.1**
	176nm,2.0s								
G08A	**Pilot Rock**	**82.57**	**38**	*e*P			**P**	**22 40 00.5**	**-2.2**
LTY	**Liberty**	**82.69**	**36**	*e*P			**P**	**22 40 03.5**	**+0.3**
	16nm,1.2s								
WUAZ	**Wupatki**	**82.71**	**50**	⇑P			**P**	**22 40 04.6**	**+0.9**
	baz=83,SNR=13								
WUAZ	**Wupatki**	**82.71**	**50**	*e*P			**P**	**22 40 05.0**	**+1.3**
	14nm,1.0s								
CAST	**Castle Rocks**	**82.97**	**12**	*e*P			**P**	**22 40 03.1**	**-1.0**
X18A	**Snowflake**	**83.32**	**51**	⇑P			**P**	**22 40 08.0**	**+1.2**
	baz=84								
BMO	**Blue Mountains**	**83.32**	**39**	*e*P			**P**	**22 40 06.7**	**+0.3**
	3.8nm,0.9s								
MVU	**Marysvale**	**83.48**	**47**	*e*P			**P**	**22 40 09.0**	**+1.5**
MFID	**Camas Ranch**	**83.48**	**41**	*e*P			**P**	**22 40 07.5**	**+0.3**
	11nm,1.1s								
D08A	**Wollman Farm,**	**83.56**	**37**	*e*P			**P**	**22 40 08.3**	**+0.9**
	12nm,1.0s								
BESE	**Bessie Mountai**	**83.68**	**22**	*e*P			**P**	**22 40 06.0**	**-1.8**
	31nm,1.4s								
W18A	**Petrified Fore**	**83.73**	**51**	⇑P			**P**	**22 40 09.9**	**+1.1**
	baz=84								
DUG	**Dugway, Tooele**	**83.86**	**45**	⇑P			**P**	**22 40 10.1**	**+0.8**
	baz=84								
MCK	**McKinley**	**83.89**	**13**	*e*P			**P**	**22 40 08.5**	**-0.2**
	46nm,0.6s								
F10A	**Beach Ranch, E**	**83.96**	**38**	*e*P			**P**	**22 40 09.6**	**0.0**
	18nm,1.0s								
B08A	**Colville Reser**	**84.05**	**35**	*e*P			**P**	**22 40 09.7**	**-0.2**
	7.3nm,0.8s								
121A	**Cookes Peak, D**	**84.11**	**54**	⇓P			**P**	**22 40 12.0**	**+1.2**
	baz=84								
MAW	**Mawson**	**84.40**	**200**	P			**P**	**22 40 10.3**	**-1.0**
	7.6nm,0.9s,baz=145,slow=12,SNR=3.7								
HLID	**Hailey**	**84.45**	**41**	⇑P			**P**	**22 40 13.5**	**+1.3**
	baz=85,SNR=10								
HLID	**Hailey**	**84.45**	**41**	*e*P			**P**	**22 40 13.0**	**+0.9**
	7.2nm,0.8s								
HVU	**Hansel Valley**	**84.64**	**43**	*e*P			**P**	**22 40 13.9**	**+0.9**
	4.7nm,0.8s								
SRU	**San Rafael Swe**	**84.93**	**47**	*e*P			**P**	**22 40 15.3**	**+0.7**
CCB	**Clear Creek Bu**	**84.94**	**13**	*e*P			**P**	**22 40 13.1**	**-0.7**
	6.0nm,0.6s								
DOT	**Dot Lake**	**84.95**	**15**	*e*P			**P**	**22 40 14.1**	**+0.2**
	34nm,1.5s								
IM04	**Indian Mountai**	**84.98**	**10**	*e*P			**P**

O23A	Lake Granby, G	88.61	47	⇑P	P	22 40 32.6	+0.4
	baz=89						
M22A	Cedar Creek Ra	88.63	46	⇑P	P	22 40 32.5	+0.4
	baz=89						
631A	Perdido Creek	88.66	59	⇑P	P	22 40 33.2	+0.9
	baz=89						
I20A	Worland	88.66	43	⇑P	P	22 40 32.6	+0.5
	baz=89						
ISCO	Idaho Springs	88.66	48	⇑P	P	22 40 33.1	+0.7
	baz=89						
Q24A	Divide	88.66	49	⇑P	P	22 40 33.3	+0.9
	baz=89						
K21A	Alcova	88.69	45	⇑P	P	22 40 32.6	+0.3
	baz=89,SNR=5.9						
129A	Stewart Farms,	88.76	55	⇓P	P	22 40 33.8	+1.1
	baz=89						
832A	Faith Ranch, C	88.76	60	⇓P	P	22 40 33.2	+0.5
	baz=89,SNR=5.9						
J21A	Lysite	88.86	44	⇓P	P	22 40 33.8	+0.7
	baz=89,SNR=6.9						
330A	Mertzon	88.87	57	⇑P	P	22 40 33.9	+0.6
	baz=89						
N23A	Red Feather La	88.87	47	⇑P	P	22 40 33.9	+0.6
	baz=89,SNR=5.2						
N23A	Red Feather La	88.87	47	*eP*	P	22 40 34.0	+0.8
	11nm,1.0s						
732A	Laxson Ranch,	88.92	60	⇓P	P	22 40 34.8	+1.3
	baz=89						
531A	Rocksprings	88.94	58	⇑P	P	22 40 34.8	+1.2
	baz=89,SNR=8.9						
F19A	Roth Farm, Mol	88.96	41	⇓P	P	22 40 33.8	+0.4
	baz=89						
H20A	Greybull	88.98	43	⇓P	P	22 40 33.9	+0.4
	baz=89						
L22A	Ellis Ranch, M	88.99	45	⇓P	P	22 40 34.7	+0.9
	baz=89						
933A	Laredo	89.12	61	⇓P	P	22 40 35.4	+1.0
	baz=89						
I21A	Big Trails, Te	89.15	43	⇑P	P	22 40 34.6	+0.2
	baz=89,SNR=5.8						
K22A	Casper	89.19	45	⇓P	P	22 40 35.0	+0.5
	baz=89						
K22A	Casper	89.19	45	*eP*	P	22 40 31.0	-3.6
	12nm,1.4s						
833A	Chaparral WMA,	89.26	60	⇓P	P	22 40 36.1	+1.1
	baz=89						
632A	Uvalde	89.33	59	⇑P	P	22 40 36.2	+0.8
	baz=90,SNR=5.5						
S26A	Kim	89.37	50	⇓P	P	22 40 36.1	+0.6
	baz=90						
034A	Hebbronville	89.43	62	⇑P	P	22 40 37.1	+1.2
	baz=90						
331A	San Angelo	89.43	57	⇓P	P	22 40 36.7	+0.9
	baz=90						
532A	Rocksprings	89.45	58	⇑P	P	22 40 36.7	+0.7
	baz=90						
733A	Divot King Ran	89.47	60	⇓P	P	22 40 36.8	+0.8
	baz=90						
L23A	Garrett	89.53	45	⇓P	P	22 40 36.4	+0.1
	baz=90,SNR=7.0						
J22A	Midwest	89.53	44	⇓P	P	22 40 36.7	+0.6
	baz=90						
Z30A	Sanderson Ranc	89.57	55	⇓P	P	22 40 36.5	+0.1
	baz=90						
D19A	Cripps Ranch,	89.58	40	⇑P	P	22 40 36.9	+0.7
	baz=90						
P25A	Willow Gulch B	89.58	48	⇓P	P	22 40 37.3	+0.8
	baz=90						
N24A	Carr	89.58	47	⇑P	P	22 40 36.9	+0.4
	baz=90						
CMIG	Matias Romero	89.60	72	P	P	22 40 37.3	+0.5
	1.6nm,0.6s,baz=34,slow=18,SNR=3.5						
JCT	Junction City	89.65	58	⇓P	P	22 40 37.4	+0.5
	baz=90						
AMTX	Amarillo	89.71	53	⇓P	P	22 40 37.9	+0.8
	baz=90						
T27A	Campo	89.71	51	⇓P	P	22 40 37.9	+0.7
	baz=90						
I22A	9 Mile Ranch,	89.72	44	⇑P	P	22 40 37.6	+0.6
	baz=90						
C19A	Slack Wire Ran	89.72	39	⇑P	P	22 40 37.7	+0.8
	baz=90						
231A	Bronte	89.74	57	⇑P	P	22 40 37.2	0.0
	baz=90,SNR=5.4						
E20A	Meyer Farm, Mu	89.75	41	⇓P	P	22 40 38.1	+1.1
	baz=90						
432A	Menard	89.80	58	⇑P	P	22 40 37.8	+0.2
	baz=90,SNR=6.6						
633A	Saathoff Ranch	89.82	59	⇑P	P	22 40 38.9	+1.3
	baz=90						
K23A	Bowen Ranch, D	89.83	45	⇑P	P	22 40 37.7	+0.1
	baz=90						
M24A	Cheyenne	89.87	46	⇑P	P	22 40 38.6	+0.8
	baz=90						
035A	Encino	89.88	62	⇑P	P	22 40 39.8	+1.9
	baz=90						
834A	Tilden	89.89	61	⇑P	P	22 40 39.2	+1.2
	baz=90						
Y30A	Stafford Cattl	89.96	55	⇓P	P	22 40 38.6	+0.3
	baz=90						
D20A	Manuel Ranch,	90.00	40	⇑P	P	22 40 39.2	+1.1
	baz=90						
332A	Millersview	90.01	57	⇑P	P	22 40 39.1	+0.6
	baz=90,SNR=8.1						
533A	Kerrville	90.14	59	⇓P	P	22 40 39.6	+0.5
	baz=90,SNR=6.8						
232A	Coleman	90.26	57	⇓P	P	22 40 40.1	+0.5
	baz=90						
C20A	Veseth Ranch,	90.35	40	⇓P	P	22 40 40.7	+1.0
	baz=91						
Z31A	Sharp Cattle R	90.35	55	⇑P	P	22 40 40.4	+0.4
	baz=91						
ABTX	Abilene, Hawle	90.51	56	⇓P	P	22 40 41.4	+0.6
	baz=91						
ABTX	Abilene, Hawle	90.51	56	*eP*	P	22 40 41.4	+0.6
	9.3nm,0.8s						
534A	Blanco	90.58	59	⇑P	P	22 40 41.8	+0.6
	baz=91,SNR=7.6						
B20A	Solberg Farm,	90.65	39	⇑P	P	22 40 42.4	+1.3
	baz=91						
R28A	Tribune	90.85	50	⇑P	P	22 40 43.1	+0.8
	baz=91						
Z32A	Haskell	90.87	55	⇑P	P	22 40 43.2	+0.7
	baz=91,SNR=5.2						
A20A	Cobblestone Ra	90.89	39	⇓P	P	22 40 42.7	+0.5
	baz=91						
233A	Rising Star	90.90	57	⇓P	P	22 40 43.2	+0.6
	baz=91						
635A	Leesville	90.95	60	⇓P	P	22 40 44.0	+1.2
	baz=91						
G23A	Biddle	90.96	43	⇑P	P	22 40 42.9	+0.3
	baz=91						
434A	Burnet	91.01	58	⇑P	P	22 40 43.5	+0.4
	baz=91,SNR=7.9						
LAO	LASA Array	91.03	41	*eP*	P	22 40 44.4	+1.5
	14nm,0.8s						
M26A	McRoberts Ranc	91.04	47	⇑P	P	22 40 44.0	+0.8
	baz=91						
133A	Hamilton Ranch	91.08	56	⇑P	P	22 40 43.8	+0.4
	baz=91						
W31A	Holland Ranch,	91.15	54	⇓P	P	22 40 44.1	+0.5
	baz=91						
334A	Lometa	91.20	58	⇑P	P	22 40 44.6	+0.6
	baz=91						
D22A	Cohagen	91.24	41	⇑P	P	22 40 44.8	+1.0
	baz=92						
INK	Inuvik	91.28	15	P	P	22 40 43.2	-0.1
	1.3nm,0.4s,baz=219,slow=9.9,SNR=6.7						
H24A	Dirks Ranch, A	91.33	43	⇓P	P	22 40 44.6	+0.3
	baz=92						
X32A	Elmer	91.40	54	⇓P	P	22 40 44.9	+0.1
	baz=92						
SNAA	Sanae	91.42	179	P	P	22 40 43.3	-1.0
SNAA	Sanae	91.42	179	P	P	22 40 43.1	-1.2
	0.9nm,0.7s,baz=199,slow=10,SNR=8.7						
V31A	Spring Creek L	91.43	53	⇑P	P	22 40 46.0	+1.1
	baz=92						
Z33A	Whitaker Ranch	91.43	56	⇓P	P	22 40 45.2	+0.2
	baz=92						
RSSD	Black Hills	91.43	44	*eP*	P	22 40 44.8	-0.2
	8.1nm,1.1s						
VNA3	Neumayer Olymp	91.59	177	P	P	22 40 44.4	-0.6
I25A	Rochford	91.60	44	⇑P	P	22 40 45.7	0.0
	baz=92						
U31A	Nine Bar Ranch	91.62	52	⇓P	P	22 40 46.9	+1.0
	baz=92						
C22A	Vida	91.67	40	⇑P	P	22 40 46.6	+0.8
	baz=92						
W32A	Sentinel	91.67	54	⇓P	P	22 40 47.0	+1.0
	baz=92						
L27A	T5 Ranch, Ells	91.84	46	⇑P	P	22 40 47.5	+0.7
	baz=92						
T31A	Randall Ranch,	92.00	52	⇑P	P	22 40 48.6	+1.1
	baz=92						
V32A	Arapaho	92.02	53	⇓P	P	22 40 48.7	+1.1
	baz=92						
VNA2	Neumayer--Watz	92.02	177	P	P	22 40 46.5	-0.5
	baz=195,slow=3.0						
C23A	Lambert	92.12	40	⇓P	P	22 40 49.0	+1.2
	baz=92						
537A	Green Hill Far	92.37	59	⇑P	P	22 40 50.4	+1.0
	baz=93						
D24A	Glendive	92.39	41	⇑P	P	22 40 49.5	+0.4
	baz=93						
Y34A	Reagan Ranch,	92.44	55	⇑P	P	22 40 50.1	+0.5
	baz=93						
C24A	Savage	92.49	41	⇑P	P	22 40 50.3	+0.8
	baz=93						
B23A	Brockton	92.50	40	⇑P	P	22 40 50.5	+0.9
	baz=93						
SONA0	Songino Array	92.51	319	*eP*	P	22 40 48.1	-1.6
SONM	Songino Array	92.51	319	P	P	22 40 48.1	-1.6
	0.6nm,0.4s,baz=111,slow=3.2,SNR=2.6						
T32A	Huddler Ranch,	92.60	52	⇑P	P	22 40 51.5	+1.2
	baz=93						
D25A	Fairfield	93.04	41	⇓P	P	22 40 52.7	+0.6
	baz=93						
T33A	Patterson Ranc	93.08	52	⇑P	P	22 40 53.1	+0.7
	baz=93						
R32A	Long Quarter,	93.17	51	⇑P	P	22 40 53.9	+1.0
	baz=93						
O31A	Woolen Ranch,	93.29	49	⇓P	P	22 40 54.1	+0.8
	baz=94						
F27A	Lemmon	93.41	43	⇑P	P	22 40 54.6	+0.7
	baz=94						
U34A	Anderson Ranch	93.41	53	⇑P	P	22 40 55.0	+1.0
	baz=94						
Q32A	Meitler Ranch,	93.46	50	⇑P	P	22 40 55.2	+1.0
	baz=94						
K29A	Lazy Trails An	93.47	46	⇑P	P	22 40 55.1	+1.0
	baz=94						
B25A	Knox Farm, Ray	93.56	40	⇓P	P	22 40 55.4	+1.0
	baz=94						
D26A	Manning	93.56	42	⇑P	P	22 40 55.1	+0.6
	baz=94						
R33A	Olander Ranch,	93.67	51	⇑P	P	22 40 56.3	+1.1
	baz=94						
YKA	Yellowknife Ar	93.87	25	P	P	22 40 55.0	-0.4
	2.4nm,0.7s,baz=242,slow=4.5,SNR=37						
YKB5	Yellowknife Ar	93.87	25	*eP*	P	22 40 55.0	-0.3
I29A	Vivian Onida	93.91	45	⇑P	P	22 40 56.5	+0.4
	baz=94						
Q33A	Connelly Farm,	94.00	51	⇑P	P	22 40 57.7	+1.0
	baz=94						
C26A	Wahner Farm, P	94.06	41	⇓P	P	22 40 57.6	+0.9
	baz=94						
S35A	Otter Creek Ra	94.72	52	⇑P	P	22 41 00.7	+0.7
	baz=95						
ZALV	Zalesovo Beam	107.19	322	PKiKP	PKiKP	22 45 59.0	-1.7
	0.5nm,0.5s,baz=82,slow=2.2,SNR=3.1						
ZAA1	Zalesovo Array	107.19	322	*ePKiKP*	PKiKP	22 45 59.0	-1.7
MK32	Makanchi Array	108.10	314	*ePKiKP*	PKiKP	22 46 01.6	-1.1
MKAR	Makanchi Array	108.10	314	PKiKP	PKiKP	22 46 01.6	-1.1
	0.3nm,0.5s,baz=254,slow=5.8,SNR=7.1						
ARA0	ARCESS Array S	125.40	350	*ePKPdf*	PKPdf	22 46 34.1	-1.0
ARCES	ARCESS Array B	125.40	350	PKP	PKPdf	22 46 34.1	-1.0
	4.7nm,1.0s,baz=126,slow=1.6,SNR=7.6						
GEYT	Alibeck	126.05	305	PKP	PKPdf	22 46 36.0	-1.4
	2.2nm,0.9s,baz=338,slow=1.6,SNR=3.6						
FIA0	FINESS Array S	132.23	344	*ePKPdf*	PKPdf	22 46 47.8	-0.6
FIA0				*ePP*	SKPbc	22 49 24.2	-1.0
FINES	FINESS Array B	132.23	344	PKP	PKPdf	22 46 47.8	-0.6
	1.1nm,0.6s,baz=90,slow=1.9,SNR=7.2						
FINES				SKPbc	SKPbc	22 49 24.2	-1.0
	1.9nm,0.8s,baz=5.7,slow=1.9,SNR=5.5						
NB2	NORSAR Subarra	135.49	353	PKP	PKPdf	22 46 55.6	+1.0
	comp=Z,0.5nm,0.5s,baz=10,slow=2.5						
NB200	NORSAR Array S	135.49	353	*ePKPdf*	PKPdf	22 46 54.5	-0.1
NOA	NORSAR Array B	135.49	353	PKP	PKPdf	22 46 54.5	-0.1
	comp=Z,0.8nm,0.6s,baz=13,slow=4.1,SNR=3.2						
AKASG	Malin Array Be	139.54	332	PKP	PKPdf	22 47 01.3	-0.9
	comp=Z,0.3nm,0.3s,baz=46,slow=2.8,SNR=4.8						
AKBB	Malin Array Si	139.54	332	*ePKPdf*	PKPdf	22 47 01.3	-0.9
KWP	Kalwaria Pacla	143.07	336	⇑*iP*	PKPbc	22 47 07.1	+0.4
WRDH	Warideh	143.53	307	*i P*	PKPdf	22 47 09.7	-0.2
BURAR	Bucovina Array	143.59	332	⇑*iP*	PKPbc	22 47 09.1	+0.6
OJC	Ojcow	143.62	339	*ePKPbc*	PKPab	22 47 08.1	-0.1
ZALF	Zalf	143.64	303	*i P*	PKPbc	22 47 09.6	+0.6
TESR	Tescani	143.73	330	⇓*iP*	PKPab	22 47 09.3	+0.5
BR101	Keskin Array S	143.75	315	*ePKPbc*	PKPbc	22 47 09.3	+0.1
BRTR	Keskin Array B	143.75	315	PKP	PKPbc	22 47 09.3	+0.1
	comp=Z,2.7nm,0.8s,baz=145,slow=4.5,SNR=14						
BIDA	Albida	143.77	306	*i P*	PKPab	22 47 10.1	+0.6
KOLS	Kolonicke sedl	143.80	336	*ePKP*	PKPab	22 47 09.4	+0.4
HAWK	Haweek	143.87	306	*i P*	PKPab	22 47 10.2	+0.4
CFR	Carcaliu	143.90	327	⇑*iP*	PKPab	22 47 09.9	+0.5
NRDL	Niedersach Rie	143.94	350	*ePKPbc*	PKPbc	22 47 09.3	+0.2
MARH	Ras Al Marh	143.98	305	*i P*	PKPdf	22 47 11.5	+0.4
CRVS	Cervenica-Dubn	144.13	337	*ePKP*	PKPbc	22 47 10.3	+0.3
VRI	Vrticoaia	144.15	329	⇑*iP*	PKPdf	22 47 10.8	+0.2
PLOR	Plostina	144.20	329	⇓*iP*	PKPbc	22 47 09.8	-0.5
TRPA	Tarpa	144.34	335	⇑*iP*	PKPab	22 47 11.1	+0.1
TLB	Topalu	144.35	326	⇑*iP*	PKPdf	22 47 11.1	+0.2
IBBN	Ibbenburen	144.45	353	*ePKPbc*	PKPdf	22 47 11.1	+0.2
OKC	Ostrava-Krasne	144.49	341	⇓*ePKP*	PKPbc	22 47 11.4	+0.3
CLZ	Clausthal	144.53	350	*ePKPbc*	PKPdf	22 47 11.2	+0.1
UPC	Upice	144.53	343	⇓*ePKP*	PKPab	22 47 11.7	+0.1
CLL	Collm	144.53	347	*ePKPbc*	PKPdf	22 47 11.2	+0.2
CLL	Collm	144.53	347	⇓*iPKPbc*	PKPbc	22 47 11.3	+0.2
	comp=Z,30nm,1.0s						
CLL				*ePKPab*	PKiKP	22 47 14.0	-1.0
	comp=Z,5.0nm,0.8s						
CLL	Collm	144.53	347	*ePKPdf*	PKPdf	22 47 11.2	+0.1
DPC	Dobruska-Polom	144.58	343	⇓*iPKP*	PKPab	22 47 12.1	+0.1
DPC				*ex*	x	22 47 19.8	
DPC	Dobruska-Polom	144.58	343	*ePKPdf*	PKPab	22 47 12.0	+0.1
BRG	Berggiesshubel	144.72	346	*ePKP*	PKPdf	22 47 11.7	+0.3
	comp=Z,20nm,1.5s						
BRG	Berggiesshubel	144.72	346	*ePKPbc*	PKPdf	22 47 11.7	+0.3
DOPR	Dopca	144.73	330	⇑*iP*	PKPab	22 47 13.2	+0.6
MORC	Moravsky Berou	144.74	341	⇓*iP*	PKPbc	22 47 12.4	+0.5
MORC	Moravsky Berou	144.74	341	*ePKPdf*	PKPdf	22 47 11.3	-0.2
TCHB	Talchebab	144.81	303	*i P*	PKPab	22 47 13.4	+0.1
KECS	Kecovo	144.85	337	*ePKP*	PKPbc	22 47 12.5	+0.3
PVCC	Panska Ves	144.89	345	⇓*ePKP*	PKPbc	22 47 12.8	+0.6
VOIR		145.28	330	⇑*iP*	PKPbc	22 47 14.0	+0.3
DRGR		145.32	333	⇑*iP*	PKPbc	22 47 14.2	+0.4
PRA	Prague	145.34	345	⇓*ePKP*	PKPbc	22 47 14.1	+0.5
PRA				*ex*	x	22 47 15.4	
PRU	Pruhonice	145.39	344	⇓*ePKP*	PKPbc	22 47 13.7	-0.1
PRU				*ex*	x	22 47 15.7	
GOPC	GO Pecny, Ondr	145.40	344	⇓*ePKP*	PKPbc	22 47 14.2	+0.4
GOPC				*ex*	x	22 47 15.6	
VYHS	Vyhne	145.43	339	*ePKP*	PKPbc	22 47 14.3	+0.4
VRAC	Vranov	145.44	342	⇑*iP*	PKPbc	22 47 14.6	+0.7
TANN	Tannenbergstha	145.49	347	*ePKPbc*	PKPbc	22 47 14.1	0.0
ARR	Arges	145.53	330	⇑*iP*	PKPab	22 47 15.6	-0.2
TREC	Trest	145.77	343	⇓*ePKP*	PKPdf	22 47 12.3	-1.0
TREC				*ex*	x	22 47 14.0	
ROTZ	Rotzenmuhle	146.15	347	*ePKPbc*	PKPbc	22 47 16.0	+0.1
TNS	Taunus Mts	146.40	351	*ePKPbc*	PKPbc	22 47 16.8	+0.1
TNS				*ePKPab*	PKPab	22 47 19.5	+0.5
KHC	Kasperske Hory	146.43	345	⇓*ePKP*	PKPdf	22 47 14.5	+0.1
KHC				*ex*	x	22 47 20.0	
GRF	Grafenberg Arr	146.43	348	*ePKPbc*	PKPbc	22 47 16.5	-0.2
GRF				*ePKPab*	PKPab	22 47 19.6	+0.5
BCLA	Clavier	146.57	355	E	PKPab	22 47 19.3	+2.3
WET	Wettzell	146.58	346	*ePKPbc*	PKPbc	22 47 17.0	-0.2
WET				*ePKPab*	PKPab	22 47 20.3	+0.5
GEC2	GERESS Array S	146.66	345	*ePKPbc*	PKPbc	22 47 17.4	-0.1
GEC2	GERESS Array S	146.66	345	*ePKPdf*	PKPdf	22 47 15.3	+0.4
GERES	GERESS Array B	146.66	345	PKPbc	PKPdf	22 47 15.3	+0.4
	comp=Z,4.0nm,0.7s,baz=26,slow=3.0,SNR=38						
BZS	Buzias	146.72	333	⇑*iP*	PKPbc	22 47 17.8	+0.2
CONA	Conrad Observa	146.89	341	⇓*iPKiKP*	PKPbc	22 47 18.7	+0.6
	comp=Z,9.1nm,0.5s,SNR=7.2						
DOU	Dourbes	146.94	356	E	PKPbc	22 47 18.1	+0.1
WLF	Walferdange	147.23	354	E	PKPbc	22 47 19.2	+0.3
WLF	Walferdange	147.23	354	*ePKPbc*	PKPbc	22 47 19.6	+0.7
WLF	Walferdange	147.23	354	*ePKPbc*	PKPbc	22 47 19.2	+0.3
MOA	Molln	147.42	343	⇓*iPKPbc*	PKPbc	22 47 19.5	+0.1
	comp=Z,3.3nm,0.6s						
PKSM	Moragy	147.43	337	⇓*iP*	PKPbc	22 47 19.5	0.0
STU	Stuttgart	147.69	350	*ePKPbc*	PKPbc	22 47 20.2	+0.1
KDZ	Kurdzhali	147.73	324	⇓*iP*	PKPbc	22 47 19.7	-0.7
FUR	Furstenfeldbru	147.87	347	*ePKPbc*	PKPbc	22 47 20.5	-0.1
FUR				*ePKPab*	PKPab	22 47 25.5	+0.5
RJOB	Jochberg	147.91	345	*ePKPbc*	PKPbc	22 47 20.5	-0.3
RJOB				*ePKPab*	PKPab	22 47 26.0	+0.8
VTS	Vitosha	148.26	328	⇑*iP*	PKPbc	22 47 22.3	+0.4
BFO	Black Forest	148.26	351	*ePKPbc*	PKPbc	22 47 21.6	0.0
BFO	Black Forest	148.26	351	*ePKPbc*	PKPbc	22 47 21.6	+0.1
SOKA	Soboth	148.26	341	⇓*iPKPbc*	PKPbc	22 47 21.2	-0.5
	comp=Z,3.7nm,0.6s						
KBA	Koelnbreinsper	148.38	344	⇓*iPKPbc*	PKPbc	22 47 21.3	-0.8
	comp=Z,6.6nm,0.5s,SNR=6.7						
OBKA	Obir	148.56	342	⇓*iPKPbc*	PKPbc	22 47 21.6	-0.9
	comp=Z,2.0nm,0.6s						
WATA	Walderalm	148.58	346	⇓*iPKPbc*	PKPbc	22 47 22.2	-0.3
	comp=Z,4.9nm,0.4s						
RETA	Reutte	148.62	347	⇓*iPKiKP*	PKPbc	22 47 22.5	-0.1
	comp=Z,4.6nm,0.5s,SNR=5.4						
DIVS	Divibare	148.62	333	⇓*iP*	PKPbc	22 47 22.6	-0.1
WTTA	Wattenberg	148.64	346	⇓*iPKiKP*	PKPbc	22 47 22.7	-0.1
	comp=Z,15nm,0.5s,SNR=8.1						
MOTA	Moosalm	148.68	347	⇓*iPKPbc*	PKPbc	22 47 22.4	-0.4
	comp=Z,4.6nm,0.6s,SNR=7.6						
MMB	Musomiste	148.70	326	⇓*iP*	PKPbc	22 47 22.9	0.0
MYKA	Terra Mystica	148.71	343	⇓*iPKPbc*	PKPbc	22 47 22.0	-0.8
	comp=Z,7.3nm,0.5s,SNR=6.5						
ABTA	Abfaltersbach	148.91	344	⇓*iPKPbc*	PKPbc	22 47 22.7	-0.6
	comp=Z,12nm,0.6s,SNR=7.1						
DAVA	Damuels	148.99	348	⇓*iPKiKP*	PKPbc	22 47 23.5	-0.1
	comp=Z,12nm,1.1s						
FETA	Feichten	149.07	347	⇓*iPKiKP*	PKPbc	22 47 23.8	0.0
	comp=Z,5.5nm,0.6s						
DAVOX	Davos/Dischmat	149.48	348	PKPbc	PKPbc	22 47 25.0	+0.2
	comp=Z,22nm,0.6s,baz=67,slow=11,SNR=62						
FUORN	Ofenpass-Fuorn	149.55	347	*ePKPbc*	PKPbc	22 47 25.4	+0.4
SENIN	Lac Senin/Sane	150.33	351	*ePKPbc*	PKPbc	22 47 27.0	+0.2
BNI	Bardonecchia	151.71	351	*ePKPbc*	PKPbc	22 47 29.8	-0.1
ESDC	Sonseca Array	157.10	10	PKPab	PKPab	22 48 03.9	-0.4
	comp=Z,1.2nm,0.8s,baz=341,slow=3.2,SNR=6.6						
TOA0	Torodi Ar. Sit	176.01	191	*ePKPdf*	PKPdf	22 47 43.9	-1.4
TOA0				*ePKPab*	PKPab	22 49 27.5	-0.7
TORD	Torodi Ar. Bea	176.01	191	PKP	PKPdf	22 47 43.9	-1.4
	comp=Z,0.5nm,0.6s,baz=221,slow=0.3,SNR=2.9						
TORD				PKPab	PKPab	22 49 27.5	-0.7
	comp=Z,1.0nm,1.0s,baz=175,slow=4.5,SNR=3.8						

*IDC **26** 22:33:44.6±0.9, 36.˚20S×72.˚82W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML4.0/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=33.3km s-min=18.4km az=94.0*

*ISCJB **26** 22:33:48.1±0.5, 36.˚20S±0.˚05×72.˚63W±0.˚08, h35km, mb4.1/8, MS3.3/2, Error ellipse: s-maj=9.4km s-min=6.4km az=168.5*

*NEIC **26** 22:33:48.0, 36.˚18S×72.˚92W, h40km, mb4.4/3, After GUC. NEIC Felt [III] at Chanco and Retiro; [II] at Linares, Parral and Treguaco.*

ISC 26 22:33:49.7±0.7, 36.˚15S±0.˚06×72.˚7W±0.˚1, h35km, n27, σ1ŝ43/25, mb4.2/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	4.88	160	Pn	Pn	22 35 01.1	+0.5
	3.9nm,0.3s,baz=329,slow=11,SNR=37						
PLCA				Lg	Lg	22 36 15.1	
	1.7nm,0.3s,baz=291,slow=11,SNR=2.9						
PLCA				LR	LR	22 37 12.7	
	comp=Z,213nm,21.3s,baz=331,slow=43						
PLCA	Paso Flores	4.88	160	Pn	Pn	22 35 01.1	+0.5
PLCA				*e*Sn	Sn	22 35 54.0	-2.0
PLCA				Lg	Lg	22 36 15.1	
CFAA	Coronel Fontan	5.87	41	Pn	Pn	22 35 13.0	-1.2
	0.4nm,0.3s,baz=198,slow=11,SNR=22						
CFAA				Sn	Sn	22 36 23.1	+2.9
	0.5nm,0.3s,baz=238,slow=12,SNR=3.6						
LCO	Las Campanas	7.32	14	*e*Pn	Pn	22 35 33.4	-1.0
LCO				*e*Sn	Sn	22 36 52.3	-4.0
TRQA	Tornquist	8.79	106	*e*Pn	Pn	22 35 58.7	+4.4
TRQA				*e*Sn	Sn	22 37 32.4	+0.

PNCL					A	A	22 51 22.8		
	1.0nm,0.1s								
PNCL	**Nicolau / Gran**	**4.06**	**78**	*e*Pn		**Pn**	**22 50 31.4**	**+2.2**	
PNCL				*e*Sn		**Sn**	**22 51 15.6**	**-1.2**	
	1.0nm,0.1s								
PCVE	**Castro Verde**	**4.40**	**85**	*e*Sn		**Sn**	**22 51 22.8**	**-2.4**	
PCVE				A		A	22 51 26.3		
	0.3nm,0.7s								
PCVE	**Castro Verde**	**4.40**	**85**	Sn		**Sn**	**22 51 22.8**	**-2.4**	
	0.3nm,0.7s								
PCVE	**Castro Verde**	**4.40**	**85**	*e*Sn		**Sn**	**22 51 22.8**	**-2.4**	
	0.3nm,0.7s								
PBDV	**Barranco-do-Ve**	**4.49**	**90**	*e*Pn		**Pn**	**22 50 38.0**	**+2.9**	
PBDV				*e*Sn		**Sn**	**22 51 25.1**	**-2.4**	
PBDV	**Barranco-do-Ve**	**4.49**	**90**	Pn		**Pn**	**22 50 38.0**	**+2.9**	
PBDV				Sn		**Sn**	**22 51 25.1**	**-2.4**	
PBDV	**Barranco-do-Ve**	**4.49**	**90**	*e*Pn		**Pn**	**22 50 38.0**	**+2.9**	
PBDV				*e*Sn		**Sn**	**22 51 25.1**	**-2.4**	
PMTG	**Montargil**	**4.54**	**66**	*e*Pn		**Pn**	**22 50 38.6**	**+2.9**	
PMTG				*e*Sn		**Sn**	**22 51 30.9**	**+2.4**	
PMTG				A		A	22 51 33.4		
	1.1nm,0.3s								
PMTG	**Montargil**	**4.54**	**66**	*e*Pn		**Pn**	**22 50 38.6**	**+2.9**	
PMTG				*e*Sn		**Sn**	**22 51 30.9**	**+2.4**	
	1.1nm,0.3s								
PVAQ	**Vaqueiros**	**4.66**	**88**	*e*Pn		**Pn**	**22 50 39.6**	**+2.2**	
PVAQ				*e*Sn		**Sn**	**22 51 29.2**	**-2.3**	
PVAQ				A		A	22 51 33.6		
	1.3nm,0.1s								
PVAQ	**Vaqueiros**	**4.66**	**88**	Pn		**Pn**	**22 50 39.6**	**+2.2**	
PVAQ				Sn		**Sn**	**22 51 29.2**	**-2.3**	
	1.3nm,0.1s								
PVAQ	**Vaqueiros**	**4.66**	**88**	*e*Pn		**Pn**	**22 50 39.6**	**+2.2**	
PVAQ				*e*Sn		**Sn**	**22 51 29.2**	**-2.3**	
	1.3nm,0.1s								
EGRO	**El Granado**	**4.84**	**86**	P		**Pn**	**22 50 41.4**	**+1.5**	
	0.1nm,0.1s,SNR=4.0								
EGRO				S		**Sn**	**22 51 34.1**	**-2.0**	
	0.5nm,0.1s,SNR=4.2								
EGRO	**El Granado**	**4.84**	**86**	P		**Pn**	**22 50 41.4**	**+1.5**	
	0.1nm,0.1s,SNR=4.0								
EGRO				S		**Sn**	**22 51 34.1**	**-2.0**	
	0.5nm,0.1s,SNR=4.2								
PESTR	**Estremoz**	**4.95**	**70**	*e*Sn		**Sn**	**22 51 39.6**	**+1.0**	
PESTR				A		A	22 51 42.1		
	0.6nm,0.1s								
PESTR	**Estremoz**	**4.95**	**70**	*e*Sn		**Sn**	**22 51 39.6**	**+1.0**	
	0.6nm,0.1s								
PBAR	**Barrancos**	**5.24**	**79**	*e*Sn		**Sn**	**22 51 44.5**	**-1.2**	
PBAR				A		A	22 51 47.1		
	1.0nm,0.1s								
PBAR	**Barrancos**	**5.24**	**79**	Sn		**Sn**	**22 51 44.5**	**-1.2**	
	1.0nm,0.1s								
PBAR	**Barrancos**	**5.24**	**79**	*e*Sn		**Sn**	**22 51 44.5**	**-1.2**	
	1.0nm,0.1s								
EBAD	**Badajoz**	**5.36**	**73**	P		**Pn**	**22 50 49.6**	**+2.7**	
	0.1nm,0.0s,SNR=4.0								
EBAD				S		**Sn**	**22 51 47.2**	**-1.4**	
	0.3nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**5.36**	**73**	P		**Pn**	**22 50 49.6**	**+2.7**	
	0.1nm,0.0s,SNR=4.0								
EBAD				S		**Sn**	**22 51 47.2**	**-1.4**	
	0.3nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.49**	**84**	P		**Pn**	**22 50 50.3**	**+1.5**	
	0.1nm,0.1s,SNR=4.0								
EMIN				S		**Sn**	**22 51 50.1**	**-1.9**	
	0.3nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.49**	**84**	P		**Pn**	**22 50 50.3**	**+1.5**	
	0.1nm,0.1s,SNR=4.0								
EMIN				S		**Sn**	**22 51 50.1**	**-1.9**	
	0.3nm,0.1s,SNR=7.9								
ESPR	**Espera**	**6.18**	**92**	S		**Sn**	**22 52 06.5**	**-2.5**	
	0.4nm,0.1s,SNR=7.9								
ESPR	**Espera**	**6.18**	**92**	S		**Sn**	**22 52 06.5**	**-2.5**	
	0.4nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**6.19**	**42**	S		**Sn**	**22 52 07.7**	**-1.6**	
	0.4nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**6.19**	**42**	S		**Sn**	**22 52 07.7**	**-1.6**	
	0.4nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**6.45**	**63**	S		**Sn**	**22 52 14.3**	**-1.3**	
	0.8nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**6.45**	**63**	S		**Sn**	**22 52 14.3**	**-1.3**	
	0.8nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**6.50**	**81**	P		**Pn**	**22 51 04.3**	**+1.6**	
	0.1nm,0.1s,SNR=7.9								
ECAB				S		**Sn**	**22 52 14.9**	**-2.0**	
	0.1nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**6.50**	**81**	P		**Pn**	**22 51 04.3**	**+1.6**	
	0.1nm,0.1s,SNR=7.9								
ECAB				S		**Sn**	**22 52 14.9**	**-2.0**	
	0.1nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**6.59**	**31**	S		**Sn**	**22 52 15.5**	**-3.7**	
	0.2nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**6.59**	**31**	S		**Sn**	**22 52 15.5**	**-3.7**	
	0.2nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.87**	**36**	S		**Sn**	**22 52 21.9**	**-4.0**	
	0.2nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**6.87**	**36**	S		**Sn**	**22 52 21.9**	**-4.0**	
	0.2nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.98**	**47**	S		**Sn**	**22 52 25.5**	**-3.2**	
	0.1nm,0.1s,SNR=4.0								
ECAL	**Calabor**	**6.98**	**47**	S		**Sn**	**22 52 25.5**	**-3.2**	
	0.1nm,0.1s,SNR=4.0								
EADA	**Adamuz**	**7.17**	**81**	S		**Sn**	**22 52 30.7**	**-2.6**	
	0.2nm,0.1s,SNR=4.0								
EADA	**Adamuz**	**7.17**	**81**	S		**Sn**	**22 52 30.7**	**-2.6**	
	0.2nm,0.1s,SNR=4.0								

JMA ***26*** *22:59:30.2±0.2,24°.82N×121°.94E,h114km±2km,M3.0*
ISCJB ***26*** *22:59:31.4±0.5,24°.87N±0°.03×122°.00E±0°.02,*
h103km±4km,Error ellipse: s-maj=4.6km s-min=2.9km
az=156.2
TAP ***26*** *22:59:31.6,24°.89N×121°.97E,h103km,ML3.8,D*
ISC 26 22:59:31.5±1.6,24°.88N±0°.05×121°.99E±0°.03,h104km±8km,
n54,σ0s51/107,1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.13**	**358**	*i* P	**Pn**	**22 59 46.0**	**0.0**
	baz=11						
TWB1				*i* S	**Sn**	**22 59 56.7**	**-0.2**
	baz=11						
ILA	**Ilan**	**0.25**	**243**	*e*P	**Pn**	**22 59 46.8**	**+0.4**
	baz=236						
ILA				*e*S	**Sn**	**22 59 57.6**	**+0.2**
	baz=236						
NWF	**Wu-fen Shan**	**0.27**	**315**	P	**Pn**	**22 59 46.5**	**0.0**
	baz=315						
NWF				*e*S	**Sn**	**22 59 57.1**	**-0.7**
	baz=315						
TWC	**Suao**	**0.30**	**206**	P	**Pn**	**22 59 46.8**	**+0.2**
	baz=199						
TWC				*i* S	**Sn**	**22 59 57.8**	**0.0**
	baz=199						
TWA	**Mucha**	**0.38**	**285**	P	**Pn**	**22 59 47.3**	**+0.3**
	baz=283						
TWA				S	**Sn**	**22 59 57.9**	**-0.7**
	baz=283						
ENTT	**Nioudou**	**0.46**	**239**	⇓ *i* P	**Pn**	**22 59 47.9**	**+0.4**
	baz=234						
ENTT				*e*S	**Sn**	**22 59 59.2**	**-0.2**
	baz=234						
TAP1	**Taipei**	**0.46**	**291**	P	**Pn**	**22 59 47.6**	**+0.2**
	baz=289						
TAP1				S	**Sn**	**22 59 58.6**	**-0.6**
	baz=289						
TAP	**Taipei**	**0.47**	**290**	*e*P	**Pn**	**22 59 47.6**	**+0.1**
	baz=289						
TAP				*e*S	**Sn**	**22 59 59.1**	**-0.4**
	baz=289						
ENA	**Nanau**	**0.50**	**207**	*i* P	**Pn**	**22 59 48.2**	**+0.4**
	baz=203						
ENA				*e*S	**Sn**	**22 59 59.9**	**0.0**
	baz=203						
TWY	**Chenhua**	**0.53**	**318**	*e*P	**Pn**	**22 59 48.1**	**+0.2**
	baz=318						
TWY				*e*S	**Sn**	**22 59 59.8**	**-0.4**
	baz=318						
TWS1	**Kuangyinshan**	**0.57**	**293**	P	**Pn**	**22 59 48.5**	**+0.4**
	baz=292						
TWS1				*e*S	**Sn**	**23 00 00.7**	**0.0**
	baz=292						
NSK	**Sanguang**	**0.61**	**251**	*i* P	**Pn**	**22 59 48.3**	**-0.3**
	baz=248						
NSK				*i* S	**Sn**	**23 00 01.4**	**-0.1**
	baz=248						
NNS	**Nan Shan**	**0.71**	**232**	P	**Pn**	**22 59 49.6**	**0.0**
	baz=229						
NNS				*e*S	**Sn**	**23 00 03.5**	**+0.4**
	baz=229						
NCU	**National Centr**	**0.74**	**277**	*e*P	**Pn**	**22 59 49.5**	**-0.1**
	baz=275						
NCU				*e*S	**Sn**	**23 00 03.3**	**+0.1**
	baz=275						
PCYT	**Pengchaiyu**	**0.75**	**5**	P	**Pn**	**22 59 50.0**	**+0.2**
	baz=7.0						
PCYT				*e*S	**Sn**	**23 00 03.6**	**+0.1**
	baz=7.0						
TWD	**Chiawan**	**0.87**	**204**	*e*P	**Pn**	**22 59 50.5**	**-0.4**
	baz=202						
TWD				*e*S	**Sn**	**23 00 05.1**	**-0.4**
	baz=202						
HSN	**Hsinchu**	**0.93**	**266**	*e*P	**Pn**	**22 59 51.5**	**0.0**
	baz=265						
HSN				*e*S	**Sn**	**23 00 06.1**	**-0.4**
	baz=265						
NSTT	**Nanjuang**	**0.93**	**255**	P	**Pn**	**22 59 51.4**	**-0.2**
	baz=253						
NSTT				*e*S	**Sn**	**23 00 06.0**	**-0.7**
	baz=253						
HWA	**Hwalien**	**0.96**	**202**	*e*P	**Pn**	**22 59 51.9**	**+0.1**
	baz=199						
HWA				*e*S	**Sn**	**23 00 08.0**	**+0.8**
	baz=199						
JYNG	**Yonagunijimaku**	**0.97**	**116**	P	**Pn**	**22 59 52.0**	**+0.1**
JYNG				*e*S	**Sn**	**23 00 07.6**	**+0.4**
TWT	**Tachien**	**0.97**	**230**	*i* P	**Pn**	**22 59 52.6**	**+0.5**
	baz=229						
TWT				S	**Sn**	**23 00 08.3**	**+0.7**
	baz=229						
WHF	**Hehuan Shan**	**0.99**	**222**	P	**Pn**	**22 59 52.7**	**+0.1**
	baz=220						
WHF				S	**Sn**	**23 00 08.0**	**-0.3**
	baz=220						
YOJ	**Yonaguni jima**	**1.02**	**114**	P	**Pn**	**22 59 52.4**	**0.0**
YOJ				*e*S	**Sn**	**23 00 08.2**	**+0.1**
ESL	**Shilin**	**1.18**	**206**	*e*P	**Pn**	**22 59 52.9**	**-1.3**
	baz=204						
ESL				*e*S	**Sn**	**23 00 11.7**	**+0.4**
	baz=204						
NSY	**Sanyi**	**1.21**	**248**	*e*P	**Pn**	**22 59 54.8**	**+0.2**
	baz=246						
NSY				*e*S	**Sn**	**23 00 11.8**	**-0.3**
	baz=246						
TWQ1	**Liyutan**	**1.23**	**245**	*e*P	**Pn**	**22 59 54.6**	**-0.2**
	baz=243						
TWQ1				*e*S	**Sn**	**23 00 11.9**	**-0.5**
	baz=243						
WDT	**Danda**	**1.36**	**215**	*e*P	**Pn**	**22 59 56.7**	**0.0**
	baz=213						
WDT				*e*S	**Sn**	**23 00 15.8**	**+0.1**
	baz=213						
TCU	**Taichung**	**1.40**	**239**	P	**Pn**	**22 59 56.7**	**-0.1**
	baz=237						
TCU				*e*S	**Sn**	**23 00 16.3**	**+0.3**
	baz=237						
SMLT	**Sun Moon Lake**	**1.41**	**225**	P	**Pn**	**22 59 57.2**	**+0.3**
	baz=223						
SMLT				*e*S	**Sn**	**23 00 16.9**	**+0.7**
	baz=223						
TYC	**Yuchr**	**1.42**	**227**	*e*P	**Pn**	**22 59 57.0**	**0.0**
	baz=225						
TYC				*e*S	**Sn**	**23 00 16.0**	**-0.3**
	baz=225						
EHY	**Hungye**	**1.50**	**204**	*e*P	**Pn**	**22 59 59.2**	**+1.3**
	baz=203						
EHY				*e*S	**Sn**	**23 00 17.9**	**-0.1**
	baz=203						
WNT	**Mingjian**	**1.55**	**230**	*e*P	**Pn**	**22 59 58.7**	**0.0**
	baz=229						
WNT				*e*S	**Sn**	**23 00 18.8**	**-0.4**
	baz=229						
TWF1	**Yuli**	**1.65**	**203**	*e*P	**Pn**	**22 59 59.1**	**-0.7**
	baz=201						
TWF1				*e*S	**Sn**	**23 00 21.2**	**-0.1**
	baz=201						
IRIF	**Iriomote-Funau**	**1.67**	**109**	P	**Pn**	**23 00 00.0**	**-0.1**
IRIF				*e*S	**Sn**	**23 00 21.3**	**-0.5**
YUS	**Yu-Shan**	**1.68**	**215**	P	**Pn**	**23 00 01.8**	**+1.1**
	baz=213						
YUS				*e*S	**Sn**	**23 00 23.7**	**+1.0**
	baz=213						
ALS	**Alishan**	**1.74**	**219**	*e*P	**Pn**	**23 00 01.7**	**+0.4**
	baz=217						
ALS				*e*S	**Sn**	**23 00 24.1**	**+0.2**
	baz=217						
CHN5	**Tsauling**	**1.75**	**224**	*e*P	**Pn**	**23 00 01.2**	**0.0**
	baz=222						
CHN5				*e*S	**Sn**	**23 00 23.4**	**-0.3**
	baz=222						
HATJ	**Hateruma jima**	**1.84**	**116**	P	**Pn**	**23 00 02.6**	**+0.4**
HATJ				*e*S	**Sn**	**23 00 25.5**	**-0.2**
CHKT	**Chengkung**	**1.86**	**198**	*e*P	**Pn**	**23 00 02.1**	**-0.4**
	baz=197						
CHKT				*e*S	**Sn**	**23 00 24.6**	**-1.5**
	baz=197						
ELDTW	**Lidau**	**1.90**	**208**	*e*P	**Pn**	**23 00 03.3**	**+0.2**
	baz=207						
ELDTW				*e*S	**Sn**	**23 00 27.0**	**-0.3**
	baz=207						
CHN2	**Minshiung**	**1.93**	**226**	*e*P	**Pn**	**23 00 04.0**	**+0.7**
	baz=225						
CHN2				*e*S	**Sn**	**23 00 27.9**	**+0.4**
	baz=225						
JKRS	**Kuro-shima**	**1.94**	**109**	P	**Pn**	**23 00 03.8**	**+0.3**
JKRS				*e*S	**Sn**	**23 00 27.9**	**0.0**
CHY	**Chiayi**	**1.98**	**226**	*e*P	**Pn**	**23 00 04.3**	**+0.3**
	baz=225						
CHY				*e*S	**Sn**	**23 00 28.2**	**-0.7**
	baz=225						
CHN4	**Tsaushan**	**1.99**	**220**	*e*P	**Pn**	**23 00 04.6**	**+0.5**
	baz=219						
CHN4				*e*S	**Sn**	**23 00 29.4**	**+0.4**
	baz=219						
JIJ	**Ishigaki jima**	**2.02**	**104**	P	**Pn**	**23 00 04.6**	**+0.1**
JIJ				*e*S	**Sn**	**23 00 28.9**	**-0.9**
STYT	**Tauyuan**	**2.05**	**214**	*e*P	**Pn**	**23 00 05.9**	**+0.9**
	baz=212						
STYT				*e*S	**Sn**	**23 00 30.9**	**+0.4**
	baz=212						
WTP	**Ta-pu**	**2.06**	**218**	*e*P	**Pn**	**23 00 05.3**	**+0.3**
	baz=216						
WTP				*e*S	**Sn**	**23 00 30.3**	**-0.3**
	baz=216						
TWK	**Hsinying**	**2.11**	**221**	*e*P	**Pn**	**23 00 05.9**	**+0.1**
	baz=219						
TWK				*e*S	**Sn**	**23 00 32.4**	**+0.5**
	baz=219						
JISG	**Ishigakijimahi**	**2.13**	**97**	P	**Pn**	**23 00 06.1**	**+0.2**
JISG				*e*S	**Sn**	**23 00 32.0**	**-0.2**
CHN1	**Nanshi**	**2.15**	**219**	*e*P	**Pn**	**23 00 06.4**	**+0.2**
	baz=217						
CHN1				*e*S	**Sn**	**23 00 32.2**	**-0.7**
	baz=217						
SGST	**Jiashian**	**2.21**	**216**	*e*P	**Pn**	**23 00 08.4**	**+1.5**
	baz=214						
SGST				*e*S	**Sn**	**23 00 34.0**	**0.0**
	baz=214						
TWG	**Pinlang**	**2.21**	**203**	*e*P	**Pn**	**23 00 06.7**	**-0.4**
	baz=201						
TWG				*e*S	**Sn**	**23 00 33.1**	**-1.1**
	baz=201						
JTJ	**Tarama**	**2.48**	**95**	*e*S	**Sn**	**23 00 40.6**	**+0.4**
EAST	**Anshuo**	**2.70**	**203**	*e*P	**Pn**	**23 00 13.7**	**+0.3**
	baz=202						
EAST				*e*S	**Sn**	**23 00 44.1**	**-1.5**
	baz=202						

CSEM ***26*** *23:00:47.9,43°.49N×12°.40E,h8km,ML2.0/24*
ROM 26 23:00:47.9±0.1,43°.49N×12°.40E,h8km,Ml2.0/24,4C,
Error ellipse: s-maj=0.8km s-min=0.6km az=28.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**176**	Pg	Pg	23 00 49.8	+0.2
ATPI				Sg	Sg	23 00 51.0	+0.2
	4µm,0.1s						
ATPI	**Pietralunga -**	**0.04**	**176**	Pg	Pg	23 00 49.8	+0.2
ATPI				Sg	Sg	23 00 51.0	+0.2
	4µm,0.1s						
ATPC	**Poggio Castell**	**0.04**	**107**	Pg	Pg	23 00 49.9	+0.3
ATPC				Sg	Sg	23 00 51.2	+0.4
	7µm,0.2s						
ATPC	**Poggio Castell**	**0.04**	**107**	Pg	Pg	23 00 49.9	+0.3
ATPC				Sg	Sg	23 00 51.2	+0.4
	7µm,0.2s						
PIEI	**Pieia**	**0.11**	**67**	Pg	Pg	23 00 50.9	+0.4
PIEI				Sg	Sg	23 00 53.2	+0.9
	1µm,0.2s						
PIEI	**Pieia**	**0.11**	**67**	Pg	Pg	23 00 50.9	+0.4
PIEI				Sg	Sg	23 00 53.2	+0.9
	1µm,0.2s						
ATVO	**AVT- Monte Val**	**0.11**	**177**	Pg	Pg	23 00 51.0	+0.5
ATVO				Sg	Sg	23 00 53.1	+0.8
	2µm,0.3s						
ATVO	**AVT- Monte Val**	**0.11**	**177**	Pg	Pg	23 00 51.0	+0.5
ATVO				Sg	Sg	23 00 53.1	+0.8
	2µm,0.3s						
BADI	**Badiali**	**0.11**	**278**	Pg	Pg	23 00 51.0	+0.5
BADI				Sg	Sg	23 00 53.2	+0.9
	2µm,0.2s						
BADI	**Badiali**	**0.11**	**278**	Pg	Pg	23 00 51.0	+0.5
BADI				Sg	Sg	23 00 53.2	+0.9
	2µm,0.2s						
CDCA	**Citt' di Caste**	**0.12**	**253**	Pg	Pg	23 00 51.2	+0.6
CDCA				Sg	Sg	23 00 53.6	+1.1
	655nm,0.3s						
CDCA	**Citt' di Caste**	**0.12**	**253**	Pg	Pg	23 00 51.2	+0.6
CDCA				Sg	Sg	23 00 53.6	+1.1
	655nm,0.3s						
ATFO	**Monte Foce - G**	**0.18**	**135**	Pg	Pg	23 00 52.1	+0.4
ATFO				Sg	Sg	23 00 55.2	+0.9
	476nm,0.2s						
ATFO	**Monte Foce - G**	**0.18**	**135**	Pg	Pg	23 00 52.1	+0.4
ATFO				Sg	Sg	23 00 55.2	+0.9
	476nm,0.2s						
PARC	**Parchiule**	**0.19**	**323**	⇑ *i* Pg	Pg	23 00 52.5	+0.6
PARC				Sg	Sg	23 00 56.0	+1.3
	331nm,0.4s						
PARC	**Parchiule**	**0.19**	**323**	⇑ *i* Pg	Pg	23 00 52.5	+0.6
PARC				Sg	Sg	23 00 56.0	+1.3
	331nm,0.4s						
MURB	**Monte Urbino**	**0.25**	**158**	Pg	Pg	23 00 53.4	+0.4
MURB				Sg	Sg	23 00 57.8	+1.4
	1µm,0.3s						
MURB	**Monte Urbino**	**0.25**	**158**	Pg	Pg	23 00 53.4	+0.4
MURB				Sg	Sg	23 00 57.8	+1.4
	1µm,0.3s						
FSSB	**Fossombrone**	**0.34**	**54**	Pg	Pg	23 00 55.0	+0.3
FSSB				Sg	Sb	23 01 00.9	-1.0
FSSB	**Fossombrone**	**0.34**	**54**	Pg	Pg	23 00 55.0	+0.3
FSSB				Sg	Sb	23 01 00.9	-1.0
CRE	**Caprese Michel**	**0.35**	**291**	Pg	Pg	23 00 55.2	+0.3
CRE				Sg	Sg	23 01 00.9	+1.2
	71nm,0.2s						
CRE	**Caprese Michel**	**0.35**	**291**	Pg	Pg	23 00 55.2	+0.3
CRE				Sg	Sg	23 01 00.9	+1.2
	71nm,0.2s						
CAFI	**Castiglion Fio**	**0.35**	**243**	Pg	Pg	23 00 55.4	+0.5
CAFI	**Castiglion Fio**	**0.35**	**243**	Pg	Pg	23 00 55.4	+0.5
ARVD	**Arcevia**	**0.40**	**89**	⇑ *i* Pg	Pg	23 00 56.0	+0.3
ARVD				Sg	Sb	23 01 02.5	-1.0
	81nm,0.1s						
ARVD	**Arcevia**	**0.40**	**89**	⇑ *i* Pg	Pg	23 00 56.0	+0.3
ARVD				Sg	Sb	23 01 02.5	-1.0
	81nm,0.1s						
RSM	**Repubblica di**	**0.44**	**5**	Pg	Pb	23 00 57.8	-0.2
	81nm,0.9s						
RSM	**Repubblica di**	**0.44**	**5**	Pg	Pb	23 00 57.8	-0.2
	81nm,0.9s						
ASQU	**Asqua**	**0.54**	**305**	Pg	Pg	23 00 59.0	+0.6
ASQU				Sg	Sb	23 01 07.5	-0.2
ASQU	**Asqua**	**0.54**	**305**	Pg	Pg	23 00 59.0	+0.6
ASQU				Sg	Sb	23 01 07.5	-0.2
PESA	**Pesaro**	**0.55**	**36**	Pg	Pg	23 00 59.2	+0.6
	84nm,0.1s						
PESA	**Pesaro**	**0.55**	**36**	Pg	Pg	23 00 59.2	+0.6
	84nm,0.1s						
SFI	**Santa Sofia**	**0.57**	**316**	Pg	Pg	23 00 59.2	+0.1
SFI				Sg	Sb	23 01 08.4	-0.2
	22nm,0.3s						
SFI	**Santa Sofia**	**0.57**	**316**	Pg	Pg	23 00 59.2	+0.1
SFI				Sg	Sb	23 01 08.4	-0.2
	22nm,0.3s						
CING	**Cingoli**	**0.59**	**101**	Pg	Pg	23 00 59.6	+0.2
CING				Sg	Sb	23 01 09.4	+0.2
	41nm,0.3s						
CING	**Cingoli**	**0.59**	**101**	Pg	Pg	23 00 59.6	+0.2
CING				Sg	Sb	23 01 09.4	+0.2
	41nm,0.3s						
CESI	**CESI - Serrava**	**0.61**	**143**	Pg	Pg	23 01 00.1	+0.2
CESI				Sg	Sb	23 01 10.0	+0.1
	12nm,0.2s						
CESI	**CESI - Serrava**	**0.61**	**143**	Pg	Pg	23 01 00.1	+0.2
CESI				Sg	Sb	23 01 10.0	+0.1
	12nm,0.2s						
MGAB	**Montegabbione**	**0.62**	**200**	Pg	Pg	23 01 00.0	+0.1
MGAB				Sg	Sb	23 01 09.8	-0.1
	172nm,0.4s						
MGAB	**Montegabbione**	**0.62**	**200**	Pg	Pg	23 01 00.0	+0.1
MGAB				Sg	Sb	23 01 09.8	-0.1
	172nm,0.4s						
FDMO	**Fiordimonte**	**0.68**	**132**	Pg	Pg	23 01 01.0	-0.1
FDMO				Sg	Sb	23 01 12.1	+0.4
	27nm,0.2s						
FDMO	**Fiordimonte**	**0.68**	**132**	Pg	Pg	23 01 01.0	-0.1
FDMO				Sg	Sb	23 01 12.1	+0.4
	27nm,0.2s						
SACS	**San Casciano d**	**0.74**	**209**	Pg	Pg	23 01 02.3	+0.1
	57nm,0.5s						
CSNT	**Castellina Chi**	**0.81**	**269**	Pg	Pg	23 01 03.8	+0.3
	36nm,0.7s						
CSNT	**Castellina Chi**	**0.81**	**269**	Pg	Pg	23 01 03.8	+0.3
	36nm,0.7s						
NRCA	**Norcia**	**0.84**	**141**	Pg	Pg	23 01 04.0	-0.2
	39nm,0.1s						
NRCA	**Norcia**	**0.84**	**141**	Pg	Pg	23 01 04.0	-0.2
	39nm,0.1s						
AOI	**Ancona**	**0.88**	**86**	Pg	Pg	23 01 05.1	+0.3
	27nm,0.3s						
AOI	**Ancona**	**0.88**	**86**	Pg	Pg	23 01 05.1	+0.3
	27nm,0.3s						
ARCI	**Arcidosso**	**0.93**	**227**	Pg	Pg	23 01 05.6	-0.4
	17nm,0.6s						
ARCI	**Arcidosso**	**0.93**	**227**	Pg	Pg	23 01 05.6	-0.4
	17nm,0.6s						
LATE	**Laterza**	**0.98**	**207**	Pg	Pb	23 01 07.2	0.0

	187nm,0.3s						
PIEI	**Pieia**	**0.11**	**62**	Pg	Pg	23 01 17.8	+0.4
PIEI				Sg	Sg	23 01 19.9	+0.5
	181nm,0.2s						
PIEI	**Pieia**	**0.11**	**62**	Pg	Pg	23 01 17.8	+0.4
PIEI				Sg	Sg	23 01 19.9	+0.5
	181nm,0.2s						
BADI	**Badiali**	**0.12**	**282**	Pg	Pg	23 01 18.0	+0.5
BADI				Sg	Sg	23 01 20.2	+0.7
	181nm,0.2s						
BADI	**Badiali**	**0.12**	**282**	Pg	Pg	23 01 18.0	+0.5
BADI				Sg	Sg	23 01 20.2	+0.7
	181nm,0.2s						
CDCA	**Citt' di Caste**	**0.13**	**257**	Pg	Pg	23 01 18.3	+0.7
CDCA				Sg	Sg	23 01 20.6	+1.0
	37nm,0.3s						
CDCA	**Citt' di Caste**	**0.13**	**257**	Pg	Pg	23 01 18.3	+0.7
CDCA				Sg	Sg	23 01 20.6	+1.0
	37nm,0.3s						
ATFO	**Monte Foce - G**	**0.17**	**134**	Pg	Pg	23 01 19.2	+0.7
	91nm,0.2s						
ATFO	**Monte Foce - G**	**0.17**	**134**	Pg	Pg	23 01 19.2	+0.7
	91nm,0.2s						
PARC	**Parchiule**	**0.20**	**324**	Pg	Pg	23 01 20.2	+1.2
PARC				Sg	Sg	23 01 23.3	+1.4
	116nm,0.4s						
PARC	**Parchiule**	**0.20**	**324**	Pg	Pg	23 01 20.2	+1.2
PARC				Sg	Sg	23 01 23.3	+1.4
	116nm,0.4s						
FSSB	**Fossombrone**	**0.34**	**53**	Pg	Pg	23 01 22.1	+0.6
FSSB	**Fossombrone**	**0.34**	**53**	Pg	Pg	23 01 22.1	+0.6
CAFI	**Castiglion Fio**	**0.35**	**244**	Pg	Pg	23 01 22.5	+0.7
CAFI				Sg	Sb	23 01 27.8	-1.2
CAFI	**Castiglion Fio**	**0.35**	**244**	Pg	Pg	23 01 22.5	+0.7
CAFI				Sg	Sb	23 01 27.8	-1.2
CRE	**Caprese Michel**	**0.35**	**292**	Pg	Pg	23 01 22.6	+0.7
	34nm,0.2s						
CRE	**Caprese Michel**	**0.35**	**292**	Pg	Pg	23 01 22.6	+0.7
	34nm,0.2s						
ARVD	**Arcevia**	**0.39**	**88**	Pg	Pg	23 01 23.0	+0.5
	27nm,0.1s						
ARVD	**Arcevia**	**0.39**	**88**	Pg	Pg	23 01 23.0	+0.5
	27nm,0.1s						

CSEM ***26*** *23:04:04.7, 42°.39N×13°.42E, h10km, ML1.6/9*
ROM 26 23:04:04.7±0.1, 42°.39N×13°.42E, h10km, MI1.6/9, 1C, Error ellipse: s-maj=1.1km s-min=1.0km az=125.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.07**	**240**	Pg	Pg	Pg	23 04 07.3	+0.3
T0104				Sg	Sg	Sg	23 04 08.9	+0.2
T0106	**Roio Piano**	**0.09**	**196**	⇑*i*Pg	Pg	Pg	23 04 07.7	+0.3
T0106				Sg	Sg	Sg	23 04 09.9	+0.6
	364nm,0.2s							
FAGN	**Fagnano**	**0.18**	**136**	Pg	Pg	Pg	23 04 09.4	+0.8
	184nm,0.2s							
FAGN	**Fagnano**	**0.18**	**136**	Pg	Pg	Pg	23 04 09.4	+0.8
	184nm,0.2s							
SMA1	**SAN MARTINO**	**0.24**	**346**	Pg	Pg	Pg	23 04 10.5	+0.6
	71nm,0.3s							
FIAM	**Fiamignano**	**0.26**	**241**	Pg	Pg	Pg	23 04 10.6	+0.5
FIAM				Sg	Sg	Sg	23 04 14.8	+1.1
	49nm,0.4s							
FIAM	**Fiamignano**	**0.26**	**241**	Pg	Pg	Pg	23 04 10.6	+0.5
FIAM				Sg	Sg	Sg	23 04 14.8	+1.1
	49nm,0.4s							
TERO	**Teramo**	**0.27**	**31**	Pg	Pg	Pg	23 04 10.7	+0.5
TERO				Sg	Sg	Sg	23 04 14.9	+0.9
	82nm,0.5s							
TERO	**Teramo**	**0.27**	**31**	Pg	Pg	Pg	23 04 10.7	+0.5
TERO				Sg	Sg	Sg	23 04 14.9	+0.9
	82nm,0.5s							
VCEL	**Villa Celiera**	**0.31**	**90**	Pg	Pg	Pg	23 04 11.7	+0.5
	75nm,0.3s							
VCEL	**Villa Celiera**	**0.31**	**90**	Pg	Pg	Pg	23 04 11.7	+0.5
	75nm,0.3s							
T0110	**Collepietro**	**0.32**	**122**	Pg	Pg	Pb	23 04 12.1	-0.5
LNSS	**Leonessa**	**0.35**	**307**	Pg	Pg	Pb	23 04 12.6	-0.6
	45nm,0.4s							
LNSS	**Leonessa**	**0.35**	**307**	Pg	Pg	Pb	23 04 12.6	-0.6
	45nm,0.4s							
PTQR	**Pietraquaria**	**0.37**	**182**	Pg	Pg	Pg	23 04 12.6	+0.4
PTQR				Sg	Sb	Sg	23 04 18.4	-1.1
PTQR	**Pietraquaria**	**0.37**	**182**	Pg	Pg	Pg	23 04 12.6	+0.4
PTQR				Sg	Sb	Sg	23 04 18.4	-1.1
NRCA	**Norcia**	**0.49**	**333**	Pg	Pg	Pg	23 04 14.8	+0.3
NRCA				Sg	Sb	Sg	23 04 22.6	-0.4
	41nm,0.1s							
NRCA	**Norcia**	**0.49**	**333**	Pg	Pg	Pg	23 04 14.8	+0.3
NRCA				Sg	Sb	Sg	23 04 22.6	-0.4
	41nm,0.1s							
INTR	**Introdacqua**	**0.53**	**136**	Pg	Pg	Pg	23 04 15.6	+0.5
	35nm,0.6s							
INTR	**Introdacqua**	**0.53**	**136**	Pg	Pg	Pg	23 04 15.6	+0.5
	35nm,0.6s							
CERT	**Cerreto**	**0.55**	**216**	Pg	Pg	Pg	23 04 15.7	+0.2
CERT	**Cerreto**	**0.55**	**216**	Pg	Pg	Pg	23 04 15.7	+0.2
CESI	**CESI - Serrava**	**0.72**	**328**	Pg	Pb	Pg	23 04 19.1	-0.3
CESI	**CESI - Serrava**	**0.72**	**328**	Pg	Pb	Pb	23 04 19.1	-0.3

IDC ***26*** *23:10:46.0±1.4, 28°.47S×71°.17W, h0km, mb4.3/2, mb1 4.1/3, mb1mx3.7/16, mbtmp4.1/3, ML4.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/21, Error ellipse: s-maj=70.7km s-min=28.4km az=111.0*
ISCJB ***26*** *23:10:50.3±1.9, 28°.12S±0°.08×71°.4W±0°.3, h28km, mb3.9/2, Error ellipse: s-maj=37.7km s-min=10.0km az=170.9*
SJA ***26*** *23:10:52.9±1.3, 28°.40S×71°.33W, h28km±14km, ML3.3*
ISC 26 23:10:51.9±1.3, 28°.2S±0°.1×71°.4W±0°.2, h28km, n16, σ2§13/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.01**	**142**	*e*P		**Pn**	**23 11 09.5**	**-1.1**
LCO				*e*S		**Sn**	**23 11 21.4**	**-2.6**
AGUA	**GUANDACOL**	**2.86**	**117**	*e*P		**Pn**	**23 11 38.3**	**+2.5**
AMOG	**MOGNA**	**3.72**	**137**	*e*P		**Pn**	**23 11 49.6**	**+1.9**
RTLS	**Leoncito**	**4.02**	**153**	*e*P		**Pn**	**23 11 54.1**	**+2.2**
RTLS				*e*P		**Pn**	**23 11 54.1**	**+2.2**
RTLL	**Cerro Villicun**	**4.02**	**141**	*e*P		**Pn**	**23 11 53.3**	**+1.6**
CFAA	**Coronel Fontan**	**4.36**	**141**	*e*P		**Pn**	**23 11 57.3**	**+0.9**
AUSP	**Uspallata**	**4.36**	**157**	*e*P		**Pn**	**23 11 58.5**	**+1.9**
ASAL	**Salagasta**	**4.90**	**154**	*e*P		**Pn**	**23 12 05.3**	**+1.5**
CYA	**Choya**	**4.96**	**94**	AML		AML	23 13 03.3	
	comp=N,24nm,0.6s							
LVC	**Limon Verde**	**6.02**	**23**	Pn		**Pn**	**23 12 19.0**	**-0.4**
	comp=N,4.3nm,0.3s,baz=259,slow=10,SNR=4.2							
LVC				Sn		Sn	23 13 38.7	+11
	comp=N,64nm,0.3s,baz=180,slow=20,SNR=3.7							
LVC				Lg		Lg	23 14 01.9	
	comp=N,231nm,0.3s,baz=123,slow=17,SNR=10							
LVC				LR		LR	23 14 36.8	
	comp=N,103nm,19.6s,baz=210,slow=37							
DBIC	**Dimbokro**	**72.88**	**72**	P		P	23 22 16.1	-2.7
	comp=N,5.7nm,1.0s,baz=240,slow=8.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**81.76**	**70**	P		**P**	**23 23 06.9**	**-1.6**
	comp=N,0.3nm,0.8s,baz=227,slow=5.7,SNR=11							
WRA	**Warramunga Arr**	**126.03**	**210**	PKP		**PKPdf**	**23 29 50.5**	**-1.7**
	comp=N,0.2nm,0.4s,baz=153,slow=1.6,SNR=5.2							
KURBB	**Kurchatov Arra**	**148.12**	**37**	PKPbc		**PKPdf**	**23 30 33.6**	**+2.2**
	comp=N,0.6nm,0.4s,baz=304,slow=2.9,SNR=5.8							
ZALV	**Zalesovo Beam**	**148.96**	**28**	PKPbc		**PKPbc**	**23 30 35.9**	**-0.8**
	comp=N,1.3nm,0.7s,baz=300,slow=3.8,SNR=6.1							
MKAR	**Makanchi Array**	**152.29**	**41**	PKPbc		**PKPdf**	**23 30 41.5**	**+3.3**
	comp=N,0.2nm,0.5s,baz=280,slow=3.6,SNR=3.6							

DJA 26 23:23:01.9±1.0, 2°.7N±2°.×12°.6E±°, h12km±7km, M3.7/6, MLv3.7/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**137**	P		P	23 23 24.6	-1.9
TNTI				S		Sb	23 23 43.5	-0.7
SGSI	**Sangihe**	**2.12**	**334**	P		Pn	23 23 37.2	0.0
SGSI				S		Sn	23 24 04.3	+0.7
LBMI	**Labuha**	**2.60**	**156**	P		Pn	23 23 44.1	+0.2
LBMI				S		Sn	23 24 16.5	+1.1
KMSI	**Cibinong**	**2.73**	**245**	P		Pn	23 23 46.3	+0.6
KMSI				S		Sn	23 24 19.3	+0.6
SANI	**Sanana**	**3.81**	**187**	P		Pn	23 24 00.3	-0.2
SANI				S		Sn	23 24 46.6	+1.3

NIED ***26*** *23:23:00, 33°.70N×137°.10E, h380km, Mw5.1 Best double couple: M0 5.36000×1016 NP1:φs49.00000°, δ57.00000°, λ-173.00000°. NP2:φs315.00000°, δ84.00000°, λ-33.00000°.*
BJI ***26*** *23:23:48.1, 33°.68N×137°.10E, h362km, mB4.7/40, mb5.3/79*
JMA ***26*** *23:23:49.4±0.2, 33°.75N×137°.08E, h377km±2km, M5.2 Broadband fault plane solution: P waves. NP1: φs140.00000°, δ82.00000°, λ34.00000°. NP2:φs45.00000°, δ56.00000°, λ170.00000°. Principal axes: T Plg30.0000°, Azm8.0000°; N Plg55.0000°, Azm152.0000°; P Plg17.0000°, Azm268.0000°;*
JMA Felt II J1.
MOS ***26*** *23:23:49.4±0.9, 33°.70N×137°.08E, h360km, mb4.9/69 Error ellipse: s-maj=7.1km s-min=4.2km az=105.4*
IDC ***26*** *23:23:50.6±0.5, 33°.71N×137°.05E, h363km±4km, mb4.3/31, mb1 4.5/36, mb1mx4.5/40, mbtmp5.1/36, Error ellipse: s-maj=7.2km s-min=5.9km az=72.0*
NEIC ***26*** *23:23:50.2±0.3, 33°.65N×136°.98E, h356km±3km, mb4.9/111, MW5.1(NIED), Error ellipse: s-maj=4.0km s-min=2.5km az=139.0*
NEIC Felt at Hiroshima and Tokyo. Recorded [2 JMA] in Fukushima and Ibaraki; [1 JMA] in Chiba, Gumma, Iwate, Kanagawa, Miyagi, Saitama, Tochigi and Tokyo.
ISCJB ***26*** *23:23:50.3±0.1, 33°.62N±0°.02×136°.99E±0°.02, h368km±1km, mb4.8/189, Error ellipse: s-maj=3.0km s-min=2.0km az=158.9*
ISC 26 23:23:50.6±0.3, 33°.72N±0°.03×137°.02E±0°.03, h360km±2km, h360km:pP-P, n1014, σ1§01/1130, mb4.9/192, 185C-195D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.01**	**15**	P		**Pn**	**23 24 36.6**	**+1.6**
TTO2				S		**S**	**23 25 15.0**	**+4.2**
TTO1	**TONANKAI O.B.S**	**0.22**	**244**	⇑P		**Pn**	**23 24 36.6**	**+1.4**
TTO1				S		**S**	**23 25 14.1**	**+3.0**
TTO3	**TONANKAI O.B.S**	**0.34**	**66**	P		**Pn**	**23 24 37.0**	**+1.5**
TTO3				S		**S**	**23 25 14.6**	**+3.0**
TK01	**Tokai 1**	**0.47**	**85**	S		**S**	**23 25 13.6**	**+2.0**
TTO4	**TONANKAI O.B.S**	**0.52**	**56**	P		**Pn**	**23 24 36.9**	**+1.3**
TTO4				S		**S**	**23 25 14.1**	**+2.2**
TK02	**Tokai 2**	**0.65**	**70**	P		**Pn**	**23 24 37.2**	**+1.2**
TK02				S		**S**	**23 25 15.6**	**+3.1**
JIE	**Ise**	**0.72**	**339**	P		**Pn**	**23 24 37.4**	**+1.0**
JIE				S		**S**	**23 25 13.8**	**+0.5**
TTO5	**TONANKAI O.B.S**	**0.78**	**47**	⇓P		**Pn**	**23 24 37.7**	**+1.3**
TTO5				S		**S**	**23 25 15.6**	**+2.3**
JWZ	**Kozaga**	**1.11**	**260**	⇑P		**Pn**	**23 24 38.3**	**+0.4**
JWZ				S		**S**	**23 25 16.0**	**+0.1**
JWY	**Kouya**	**1.29**	**293**	⇑P		**Pn**	**23 24 39.9**	**+1.2**
JWY				S		**S**	**23 25 17.8**	**+0.4**
JGM	**Miyama**	**1.99**	**353**	P		**Pn**	**23 24 43.7**	**+1.0**
JGM				S		**S**	**23 25 25.3**	**+0.6**
JWT	**Wachi**	**2.05**	**320**	⇑P		**Pn**	**23 24 44.2**	**+1.1**
JWT				S		**S**	**23 25 26.3**	**+0.9**
JAI	**Aioi**	**2.14**	**273**	⇑P		**Pn**	**23 24 44.8**	**+1.0**
JAI				S		**S**	**23 25 27.0**	**+0.4**
JYN	**Shimob**	**2.17**	**35**	⇓P		**Pn**	**23 24 43.9**	**-0.2**
JOD2	**Odawara 2**	**2.30**	**47**	⇓P		**Pn**	**23 24 44.7**	**-0.2**
JOD2				S		**S**	**23 25 28.4**	**-0.3**
JHJ2	**Mitsune**	**2.41**	**104**	P		**Pn**	**23 24 45.2**	**-0.7**
JHJ2	**Mitsune**	**2.41**	**104**	*e*Pn		**Pn**	**23 24 44.9**	**-1.0**
MAJO	**Matsushiro**	**2.98**	**19**	*d*⇓P		**Pn**	**23 24 50.5**	**0.0**
MAJO	**Matsushiro**	**2.98**	**19**	*e*Pn		**Pn**	**23 24 50.0**	**-0.5**
MAT	**Matsushiro**	**2.98**	**19**	P		**Pn**	**23 24 50.3**	**-0.2**
MAT				S		**S**	**23 25 37.5**	**-1.2**
MJAR	**Matsushiro Arr**	**2.98**	**19**	P		**Pn**	**23 24 50.2**	**-0.3**
	94nm,0.3s,baz=191,slow=9.9,SNR=931							
MJAR				S		**S**	**23 25 36.5**	**-2.2**
	43nm,0.3s,baz=192,slow=16,SNR=9.9							
MJAR	**Matsushiro Arr**	**2.98**	**19**	P		**Pn**	**23 24 50.2**	**-0.3**
MJAR				S		**S**	**23 25 36.6**	**-2.2**
MJAR				pmax		pmax		
	comp=Z,94nm,0.3s							
MJAR				smax		smax		
	comp=N,43nm,0.3s							
JNU	**Nakatsue**	**5.17**	**265**	P		**Pn**	**23 25 13.8**	**+1.2**
	comp=N,39nm,0.3s,baz=88,slow=4.3,SNR=324							
JNU				S		**S**	**23 26 20.7**	**+1.7**
	baz=70,slow=19,SNR=7.2							
KSPHA	**Pohang**	**6.75**	**294**	P		**P**	**23 25 31.8**	**+0.3**
	SNR=12							
KSPHA	**Pohang**	**6.75**	**294**	P		**P**	**23 25 31.8**	**+0.3**
	SNR=12							
KSULJ	**Uljin**	**6.91**	**298**	P		**P**	**23 25 33.3**	**0.0**
	SNR=15							
KSULJ	**Uljin**	**6.91**	**298**	P		**P**	**23 25 33.3**	**0.0**
	SNR=15							
KSTBA	**Taebaek**	**7.41**	**300**	P		**P**	**23 25 39.9**	**+0.7**
	SNR=7.9							
KSTBA	**Taebaek**	**7.41**	**300**	P		**P**	**23 25 39.9**	**+0.7**
	SNR=7.9							
KSYOW	**Yeongwol**	**7.79**	**299**	P		**P**	**23 25 44.3**	**+0.8**
	SNR=6.9							
KSCPR	**CHUPUNGNYEONG**	**7.84**	**291**	P		**P**	**23 25 45.0**	**+1.0**
	SNR=21							
CBIJ	**Chichi jima**	**7.96**	**145**	*e*Pn		Pn	23 25 38.5	-6.0
CBIJ				S		S	23 27 05.2	-12
JCJ	**Chichijima**	**7.97**	**145**	P		Pn	23 25 38.6	-6.0
	comp=N,39nm,0.3s,baz=352,slow=20,SNR=32							
JCJ				S		S	23 27 05.2	-12
	baz=287,slow=19							
KSCHJ	**Chungju**	**8.04**	**296**	P		**P**	**23 25 47.3**	**-0.4**
	SNR=8.9							
KSCHJ	**Chungju**	**8.04**	**296**	P		**P**	**23 25 47.3**	**-0.4**
	SNR=8.9							
KSBON	**Boeun**	**8.05**	**293**	P		**P**	**23 25 47.6**	**-0.3**
	SNR=7.7							
KSBON	**Boeun**	**8.05**	**293**	P		**P**	**23 25 47.6**	**-0.3**
	SNR=7.7							
KSWJU	**Wonju**	**8.18**	**299**	P		**P**	**23 25 49.0**	**-0.2**
	SNR=9.0							
KSRS	**Korea Array**	**8.29**	**299**	P		**P**	**23 25 50.0**	**-0.5**
	comp=N,13nm,0.3s,baz=112,slow=12,SNR=259							
KSRS				S		**S**	**23 27 25.5**	**+1.1**
	baz=110,slow=18,SNR=5.7							
KSRS	**Korea Array**	**8.29**	**299**	P		**P**	**23 25 50.0**	**-0.5**
KSRS				S		**S**	**23 27 25.5**	**+1.1**
KSRS				pmax		pmax		
	comp=Z,13nm,0.3s							
KSAR	**Wonju Array Be**	**8.32**	**299**	P		**P**	**23 25 50.0**	**-0.8**
KSAR				S		**S**	**23 27 25.5**	**+0.6**
KSAR	**Wonju Array Be**	**8.32**	**299**	P		**P**	**23 25 50.0**	**-0.8**
KSAR				S		**S**	**23 27 25.5**	**+0.6**
TJN	**Taejon**	**8.35**	**291**	*i*P		**P**	**23 25 50.7**	**-0.5**
KSKWJ	**Gwangju**	**8.41**	**283**	P		**P**	**23 25 52.2**	**+0.4**
	SNR=17							
KSJEU	**Jeongeup**	**8.51**	**285**	P		**P**	**23 25 52.8**	**-0.1**
	SNR=19							
KSCEA	**Cheonan**	**8.56**	**294**	P		**P**	**23 25 53.7**	**+0.2**
	SNR=9.2							
KSMOK	**Mokpo**	**8.58**	**280**	P		**P**	**23 25 53.8**	**0.0**
	SNR=6.4							
KSWAN	**Wando**	**8.59**	**277**	P		**P**	**23 25 54.0**	**+0.2**
	SNR=5.7							
KSICN	**Icheon**	**8.60**	**297**	P		**P**	**23 25 54.0**	**0.0**
	SNR=13							
KSHAN	**Haenam**	**8.71**	**279**	P		**P**	**23 25 55.4**	**+0.2**
	SNR=7.4							
KSGUS	**GUNSAN**	**8.73**	**288**	P		**P**	**23 25 55.6**	**+0.3**
	SNR=18							
KSJJU	**Jeju**	**8.75**	**271**	P		**P**	**23 25 56.2**	**+0.5**
	SNR=5.8							
KSCWO	**Cheorwon**	**8.85**	**302**	P		**P**	**23 25 57.5**	**+0.7**
	SNR=8.0							
KSJDO	**Jindo**	**8.91**	**278**	P		**P**	**23 25 57.6**	**+0.2**
	SNR=5.9							
KSSWO	**Suwon**	**8.93**	**296**	P		**P**	**23 25 57.8**	**+0.2**
	SNR=23							
KSSEO	**Seoul**	**9.04**	**297**	P		**P**	**23 25 59.8**	**+0.9**
	SNR=5.6							
KSDDC	**Dongducheon**	**9.10**	**300**	P		**P**	**23 26 00.4**	**+0.9**
	SNR=8.1							
INCN	**Inchon**	**9.26**	**297**	Pn		**P**	**23 26 01.6**	**+0.3**
	SNR=21							
INCN	**Inchon**	**9.26**	**297**	*e*Pn		**P**	**23 26 01.6**	**+0.3**
YNCB	**YEONCHEON**	**9.26**	**301**	P		**P**	**23 26 01.8**	**+0.7**
	SNR=20							
KSMUS	**Musan**	**9.31**	**299**	P		**P**	**23 26 02.4**	**+0.6**
	SNR=26							
KSGAH	**Ganghwa**	**9.47**	**298**	P		**P**	**23 26 05.0**	**+1.4**
	SNR=25							
ERM	**Erimo**	**9.59**	**29**	Pn		**Pn**	**23 26 01.6**	**-1.9**
	comp=Z,3μm,0.7s,SNR=60							
ERM	**Erimo**	**9.59**	**29**	*d*⇓P		**Pn**	**23 26 01.7**	**-1.8**
ERM				pmax		pmax		
	comp=Z,466nm,1.0s							
ERM	**Erimo**	**9.59**	**29**	*e*Pn		**Pn**	**23 26 01.4**	**-2.2**
KSHUK	**Heuksando**	**9.63**	**279**	P		**P**	**23 26 06.0**	**+0.5**
	SNR=6.5							
VLA	**Vladivostok**	**10.21**	**338**	⇑*i*P		**P**	**23 26 12.1**	**+0.4**
JOW	**Kunigami**	**10.21**	**230**	P		**P**	**23 26 11.8**	**-0.2**
	baz=355,slow=9.3							
JOW	**Kunigami**	**10.21**	**230**	*e*P		**P**	**23 26 11.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**11.17**	**341**	P		**P**	**23 26 22.8**	**+0.4**
	comp=Z,47nm,0.3s,baz=152,slow=10,SNR=545							
USRK				S		**S**	**23 28 25.6**	**-1.2**
	baz=196,slow=9.9,SNR=1.8							
ASAJ	**Asahikawa**	**11.25**	**21**	P		**Pn**	**23 26 21.8**	**-1.3**
	comp=Z,65nm,0.3s,baz=229,slow=12,SNR=115							
ASAJ				S		S	23 28 20.9	-7.7
	comp=Z,6.7nm,0.3s,baz=288,slow=20,SNR=6.3							
ASAJ	**Asahikawa**	**11.25**	**21**	P		**Pn**	**23 26 21.8**	**-1.3**
ASAJ				S		S	23 28 20.9	-7.7
ASAJ				pmax		pmax		
	comp=Z,65nm,0.3s							
ASAJ				smax		smax		
	comp=N,7.0nm,0.3s							
ASAJ	**Asahikawa**	**11.25**	**21**	*e*Pn		**Pn**	**23 26 21.2**	**-1.9**
ASAJ				S		S	23 28 20.9	-7.7
MDJ	**Mudanjiang**	**12.31**	**334**	P		**Pn**	**23 26 35.8**	**+0.2**
MDJ				S		**S**	**23 28 49.3**	**-1.9**
MDJ				ScP		**ScP**	**23 34 38.0**	**-4.8**
MDJ				ScS		**ScS**	**23 38 20.0**	**+1.1**
MDJ				PMZ				
	comp=N,170nm,0.8s							
MDJ				PMZ				
	comp=N,380nm,5.6s							
MDJ				LN				
	comp=N,270nm,13.7s							
MDJ				LE				
	comp=N,330nm,11.9s							
MDJ				LZ				
	comp=N,510nm,12.8s							
YUK	**Yuzh-Kuril'sk**	**12.38**	**31**	*c i*P		**Pn**	**23 26 36.8**	**+0.3**
YUK				*i*S		S	23 28 45.7	-6.9
YUK				pmax		pmax		
	comp=N,74nm,0.4s							
YUK				pmax		pmax		
	comp=Z,566nm,0.4s							
YUK				pmax		pmax		
	comp=E,137nm,0.4s							
YUK				pmax		pmax		
	comp=Z,2μm,2.0s							
YUK				smax		smax		
	comp=N,5μm,2.0s							
YUK				smax		smax		
	comp=E,4μm,2.0s							
SNY	**Shenyang**	**13.35**	**311**	⇓P		**Pn**	**23 26 48.8**	**+0.9**
SNY				sP			23 28 11.5	
SNY				S		**S**	**23 29 12.0**	**-0.3**
SNY				PMZ				
	comp=E,26nm,0.8s							
SNY				LN				
	comp=E,250nm,12.6s							
SNY				LE				
	comp=E,350nm,10.8s							
SNY				LZ				
	comp=E,230nm,7.8s							
CN2	**Changchun**	**13.51**	**322**	*e*P		**P**	**23 26 48.3**	**+0.1**
CN2				*e*S		**S**	**23 29 12.0**	**-3.4**
CN2				PMZ				
	comp=E,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**13.91**	**17**	*α i*P		**Pn**	**23 26 53.8**	**-0.6**
YSS				*e*S		**S**	**23 29 18.6**	**-4.9**
YSS				pmax		pmax		
	comp=Z,3μm,1.0s							
YSS				pmax		pmax		
	comp=Z,2μm,1.0s							
YSS				smax		smax		
	comp=N,700nm,4.0s							
YSS				smax		smax		
	comp=N,290nm,1.0s							
YSS				MLR		MLR		
	comp=Z,400nm,16.0s							
YSS	**Yuzh-Sakhalins**	**13.91**	**17**	*e*P		**Pn**	**23 26 53.8**	**-0.6**
KUR	**Kuril'sk**	**14.21**	**33**	⇓*i*P		**P**	**23 26 56.4**	**+0.6**
KUR				*i*S		**S**	**23 29 34.1**	**+4.7**
KUR				pmax		pmax		
	comp=N,81nm,0.9s							
KUR				pmax		pmax		
	comp=E,62nm,0.9s							
KUR				pmax		pmax		
	comp=Z,209nm,0.9s							
HABR	**Khabarovsk**	**14.81**	**355**	*c e*P		**P**	**23 27 02.2**	**-0.2**
HABR				*e*S		**S**	**23 29 42.8**	**+1.4**
HABR				pmax		pmax		
	comp=E,35nm,1.1s							
HABR				pmax		pmax		
	comp=N,26nm,1.1s							
HABR				pmax		pmax		
	comp=Z,67nm,1.1s							
HABR				MLR		MLR		
	comp=Z,109nm,14.0s							
YOJ	**Yonaguni jima**	**15.32**	**237**	*e*P		**P**	**23 27 06.6**	**-1.7**
YOJ				pmax		pmax		
	comp=Z,107nm,0.7s							
YOJ	**Yonaguni jima**	**15.32**	**237**	*e*P		**P**	**23 27 06.6**	**-1.7**
	comp=Z,107nm,0.7s							
NJ2	**Nanjing**	**15.36**	**269**	*e*P		**P**	**23 27 09.8**	**+1.2**
NJ2				S		**S**	**23 29 52.0**	**-0.8**
NJ2				PMZ				
	comp=Z,1μm,1.2s							
NJ2				PMZ				
	comp=Z,2μm,6.4s							
NJ2				LN				
	comp=Z,710nm,11.7s							
NJ2				LE				

TPUB	**Ta-pu**	**17.73**	**238**	*e*P		**P**	**23**	**27**	**31.5 -2.8**
	comp=Z,142nm,0.8s								
BJI	**Beijing**	**17.81**	**297**	P		**P**	**23**	**27**	**34.5 -0.4**
BJI				sP		**sP**	**23**	**29**	**10.0 -2.6**
BJI				S		**S**	**23**	**30**	**39.3 -1.5**
BJI				PMZ					
	comp=Z,29nm,1.0s								
BJI				LN					
	comp=Z,380nm,6.8s								
BJI				LE					
	comp=Z,160nm,4.4s								
BJI				LZ					
	comp=Z,94nm,17.3s								
QZH	**Quanzhou**	**18.28**	**246**	⇓*i*P		**P**	**23**	**27**	**37.8 -2.2**
QZH				S		**S**	**23**	**30**	**47.5 -2.7**
QZH				PMZ					
	comp=Z,820nm,1.6s								
QZH				LZ					
	comp=Z,490nm,3.9s								
WHN	**Wuhan**	**19.45**	**267**	⇓*i*P		**P**	**23**	**27**	**52.0 -0.4**
WHN				S		**S**	**23**	**31**	**09.3 -2.1**
WHN				PMZ					
	comp=Z,990nm,0.8s								
WHN				LN					
	comp=Z,540nm,7.0s								
WHN				LE					
	comp=Z,420nm,7.9s								
WHN				LZ					
	comp=Z,660nm,16.2s								
TIY	**Taiyuan**	**20.34**	**288**	*e*P		**P**	**23**	**27**	**59.5 -1.6**
TIY				S		**S**	**23**	**31**	**26.0 +0.3**
TIY				PMZ					
	comp=Z,310nm,4.8s								
TIY				LN					
	comp=Z,170nm,5.5s								
TIY				LE					
	comp=Z,120nm,5.9s								
TIY				LZ					
	comp=Z,160nm,13.5s								
GUMO	**Guam**	**21.27**	**159**	*e*P		**P**	**23**	**28**	**10.1 +0.5**
GUMO	**Guam**	**21.27**	**159**	*e*P		**P**	**23**	**28**	**10.1 +0.5**
	comp=Z,671nm,1.4s								
HHC	**Hu-ho-hao-te**	**21.42**	**297**	*e*P		**P**	**23**	**28**	**10.8 0.0**
HHC				sP		**sP**	**23**	**29**	**52.0 -0.6**
HHC				S		**S**	**23**	**31**	**44.0 +0.7**
HHC				PcP		**PcP**	**23**	**32**	**03.0 +3.5**
HHC				ScP		**ScP**	**23**	**35**	**04.8 +3.2**
HHC				PcS		**PcS**	**23**	**35**	**40.8 +2.8**
HHC				PMZ					
	comp=Z,74nm,0.9s								
HHC				PMZ					
	comp=Z,360nm,3.8s								
BTO	**Baotou**	**22.54**	**296**	*e*P		**P**	**23**	**28**	**19.5 -1.4**
XAN	**Xi'an**	**23.31**	**279**	P		**P**	**23**	**28**	**27.5 -0.5**
XAN				sP		**sP**	**23**	**30**	**10.3 -2.6**
XAN				S		**S**	**23**	**32**	**11.5 -1.8**
XAN				PMZ					
	comp=Z,51nm,0.8s								
XAN				PMZ					
	comp=Z,57nm,5.2s								
GZH	**Guangzhou**	**23.32**	**249**	P		**P**	**23**	**28**	**23.3 -4.8**
GZH				S		S	23	32	05.3 -8.2
GZH				PMZ					
	comp=Z,320nm,3.6s								
PETK	**Petropavlovsk-**	**24.36**	**31**	P		**P**	**23**	**28**	**37.4 +0.3**
	comp=Z,44nm,0.9s,baz=216,slow=4.8,SNR=71								
PETK	**Petropavlovsk-**	**24.36**	**31**	P		**P**	**23**	**28**	**37.4 +0.3**
PETK				pmax	pmax				
	comp=Z,44nm,0.9s								
CLNS	**Chul'man**	**24.57**	**344**	*e*P		**P**	**23**	**28**	**39.7 +0.7**
CLNS				*e*			23	32	12.7
CLNS				pmax	pmax				
	comp=Z,91nm,0.9s								
CLNS				pmax	pmax				
	comp=N,62nm,1.0s								
CLNS				pmax	pmax				
	comp=E,16nm,0.8s								
PET	**Petropavlovsk**	**24.72**	**32**	*e*P		**P**	**23**	**28**	**40.1 -0.2**
PET				*e**SP		**sP**	**23**	**30**	**25.4 -2.5**
PET				*e*S		**S**	**23**	**32**	**35.0 0.0**
PET				pmax	pmax				
	comp=Z,40nm,0.9s								
PET				MLR	MLR				
	comp=Z,200nm,16.0s								
PET	**Petropavlovsk**	**24.72**	**32**	*e*P		**P**	**23**	**28**	**40.2 -0.1**
	comp=Z,29nm,0.8s								
ULN	**Ulaanbaatar**	**26.53**	**311**	*d*iP		**P**	**23**	**28**	**58.2 +1.5**
ULN				pmax	pmax				
	comp=Z,34nm,1.3s								
ULN	**Ulaanbaatar**	**26.53**	**311**	P		**P**	**23**	**28**	**58.6 +1.9**
	SNR=16								
ULN	**Ulaanbaatar**	**26.53**	**311**	*e*P		**P**	**23**	**28**	**57.1 +0.4**
	comp=Z,20nm,0.9s								
SONM	**Songino Array**	**26.93**	**311**	P		**P**	**23**	**29**	**01.4 +1.2**
	comp=Z,20nm,0.7s,baz=112,slow=8.8,SNR=20								
SONM				ScP		**ScP**	**23**	**35**	**16.2 -0.5**
	comp=Z,4.7nm,0.9s,baz=148,slow=4.0,SNR=5.5								
SONM	**Songino Array**	**26.93**	**311**	P		**P**	**23**	**29**	**01.4 +1.2**
SONM				pmax	pmax				
	comp=Z,20nm,0.7s								
SONM				pmax	pmax				
	comp=N,5.0nm,0.9s								
GYA	**Guiyang**	**27.18**	**263**	P		**P**	**23**	**29**	**02.8 +0.1**
GYA				pP		**pP**	**23**	**30**	**07.5 -0.9**
GYA				sP		**sP**	**23**	**30**	**48.5 -2.6**
GYA				PcP		**PcP**	**23**	**32**	**14.0 +1.6**
GYA				S		**S**	**23**	**33**	**13.8 -0.8**
GYA				ScP		**ScP**	**23**	**35**	**19.5 +1.6**
GYA				ScS		**ScS**	**23**	**39**	**10.3 +0.2**
GYA				PMZ					
	comp=N,20nm,0.9s								
GYA				PMZ					
	comp=N,130nm,4.8s								
LZH	**Lanzhou**	**27.24**	**284**	⇑P		**P**	**23**	**29**	**03.3 +0.1**
LZH				pP		**pP**	**23**	**30**	**08.5 -0.5**
LZH				sP		**sP**	**23**	**30**	**53.0 +1.4**
LZH				PcP		**PcP**	**23**	**32**	**12.3 -0.2**
LZH				S		**S**	**23**	**33**	**15.0 -0.5**
LZH				sS		sS	23	35	11.5 -6.1
LZH				PMZ					
	comp=N,62nm,1.0s								
LZH				PMZ					
	comp=N,240nm,4.0s								
CD2	**Chengdu**	**28.18**	**274**	⇓P		**P**	**23**	**29**	**11.8 +0.4**
CD2				pP		**pP**	**23**	**30**	**15.8 -2.2**
CD2				sP		**sP**	**23**	**30**	**56.5 -3.6**
CD2				PcP		**PcP**	**23**	**32**	**15.3 +0.5**
CD2				S		**S**	**23**	**33**	**29.0 -1.2**
CD2				sS		**ScP**	**23**	**35**	**25.5 +4.6**
CD2				ScS		**ScS**	**23**	**39**	**13.3 -1.1**
CD2				PMZ					
	comp=N,80nm,0.5s								
CD2				PMZ					
	comp=N,150nm,5.0s								
CD2				LN					
	comp=N,270nm,11.7s								
CD2				LE					
	comp=N,400nm,13.1s								
CD2				LZ					
	comp=N,350nm,11.0s								
QIZ	**Qiongzhong**	**28.30**	**246**	P		**P**	**23**	**29**	**12.5 0.0**
QIZ				S		**S**	**23**	**33**	**31.0 -1.0**
QIZ				sS		**sS**	**23**	**35**	**34.5 0.0**
QIZ				PMZ					
	comp=N,49nm,0.9s								
QIZ				PMZ					
	comp=N,280nm,3.7s								
BOD	**Bodaibo**	**28.68**	**334**	*e*P		**P**	**23**	**29**	**14.9 -0.5**
BOD				pmax	pmax				
	comp=Z,14nm,1.0s								
YAK	**Yakutsk**	**28.71**	**353**	P		**P**	**23**	**29**	**14.6 -1.0**
	comp=Z,64nm,0.6s,baz=125,slow=1.7,SNR=20								
YAK	**Yakutsk**	**28.71**	**353**	*c*iP		**P**	**23**	**29**	**15.2 -0.4**
YAK				*e*			23	32	14.2
YAK				*e*S		**S**	**23**	**33**	**34.0 -3.5**
YAK				*e*			23	39	11.3
YAK				pmax	pmax				
	comp=Z,83nm,0.9s								
YAK				pmax	pmax				
	comp=N,27nm,0.9s								
YAK				pmax	pmax				
	comp=E,4.0nm,0.9s								
YAK				smax	smax				
	comp=E,62nm,1.5s								
YAK				smax	smax				
	comp=N,40nm,1.2s								
YAK	**Yakutsk**	**28.71**	**353**	*e*P		**P**	**23**	**29**	**15.6 +0.1**
ZAK	**Zakamensk**	**29.75**	**314**	*e*P		**P**	**23**	**29**	**25.7 +0.7**
ZAK				*e*			23	30	32.6
ZAK				*e*			23	33	53.6
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.3s								
H11N2	**WAKE ISLAND Hy**	**29.98**	**110**	T		T	00	01	36.0
	baz=313,slow=75,SNR=2.5								
H11N1	**WAKE ISLAND Hy**	**29.98**	**110**	T		T	00	01	35.4
	baz=313,slow=75,SNR=3.9								
H11N3	**WAKE ISLAND Hy**	**29.99**	**110**	T		T	00	01	38.3
	baz=313,slow=75,SNR=11								
TLY	**Talaya**	**30.03**	**317**	P		**P**	**23**	**29**	**28.3 +0.9**
	comp=Z,4.9nm,0.7s,baz=157,slow=5.4,SNR=2.5								
TLY				ScP		**ScP**	**23**	**35**	**25.4 -1.0**
	comp=Z,3.6nm,0.7s,baz=139,slow=19,SNR=5.6								
TLY	**Talaya**	**30.03**	**317**	*e*P		**P**	**23**	**29**	**30.3 +2.9**
TLY				pmax	pmax				
	comp=Z,9.0nm,1.0s								
TLY				MLR	MLR				
	comp=Z,88nm,14.0s								
TLY	**Talaya**	**30.03**	**317**	P		**P**	**23**	**29**	**28.3 +0.9**
TLY				ScP		**ScP**	**23**	**35**	**25.4 -1.0**
TLY				*e*ScP		**ScP**	**23**	**35**	**25.5 -0.8**
GTA	**Gaotai**	**30.27**	**292**	⇓P		**P**	**23**	**29**	**29.8 +0.1**
GTA				pP		**pP**	**23**	**30**	**35.8 -1.0**
GTA				sP		**sP**	**23**	**31**	**16.0 -2.8**
GTA				S		**S**	**23**	**34**	**02.8 +0.1**
GTA				ScP		**ScP**	**23**	**35**	**28.3 +0.8**
GTA				sS		sS	23	36	00.3 -5.3
GTA				SS		SS	23	36	19.5 -11
GTA				ScS		**ScS**	**23**	**39**	**22.8 -1.5**
GTA				PMZ					
	comp=Z,39nm,1.6s								
GTA				PMZ					
	comp=Z,190nm,5.5s								
H11S3	**WAKE ISLAND Hy**	**30.51**	**112**	T		T	00	02	22.6
	baz=314,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy**	**30.52**	**112**	T		T	00	02	22.9
	baz=314,slow=76,SNR=9.3								
H11S2	**WAKE ISLAND Hy**	**30.53**	**112**	T		T	00	02	22.0
	baz=314,slow=76,SNR=4.1								
SEY	**Seymchan**	**30.79**	**14**	P		**P**	**23**	**29**	**34.3 +0.5**
	comp=Z,33nm,0.7s,baz=208,slow=7.1,SNR=121								
SEY	**Seymchan**	**30.79**	**14**	P		**P**	**23**	**29**	**34.3 +0.5**
SEY				pmax	pmax				
	comp=Z,33nm,0.7s								
KMI	**Kunming**	**30.95**	**263**	P		**P**	**23**	**29**	**35.5 -0.5**
KMI				pP		**pP**	**23**	**30**	**41.3 -2.0**
KMI				PP		**PnPn**	**23**	**30**	**57.8 +1.8**
KMI				S		**S**	**23**	**34**	**14.8 +1.1**
KMI				ScP		**ScP**	**23**	**35**	**30.5 +0.4**
KMI				sS		**sS**	**23**	**36**	**20.0 +3.1**
KMI				PMZ					
	comp=Z,70nm,1.2s								
KMI				PMZ					
	comp=Z,240nm,3.1s								
KMI				LZ					
	comp=Z,130nm,19.0s								
MOY	**Mondy**	**31.56**	**316**	*e*P		**P**	**23**	**29**	**42.6 +1.8**
KDM	**Kudat**	**32.57**	**220**	⇑P		**P**	**23**	**29**	**49.9 +0.1**
SDKM	**Sandakan**	**33.46**	**218**	⇑P		**P**	**23**	**29**	**57.0 -0.5**
DLV	**T Lat**	**33.88**	**237**	*e*P		P	23	29	56.8 -4.5
UBPT	**Khong Chiam**	**33.88**	**245**	P		**P**	**23**	**30**	**01.3 +0.3**
	comp=Z,253nm,0.9s,comp=Z,2µm								
TSM	**Tawau**	**34.28**	**216**	⇑P		**P**	**23**	**30**	**04.0 -0.4**
SWI	**Sorong**	**34.83**	**190**	P		**P**	**23**	**30**	**08.4 -0.6**
KMSI	**Cibinong**	**35.17**	**203**	P		**P**	**23**	**30**	**10.9 -1.0**
KHON	**Khomkaen**	**35.28**	**249**	P		**P**	**23**	**30**	**12.8 -0.1**
	comp=Z,84nm,0.8s,comp=Z,904nm								
SMPI	**Sarmi**	**35.56**	**177**	P		**P**	**23**	**30**	**15.3 +0.2**
MRSI	**Marisa**	**35.97**	**206**	P		**P**	**23**	**30**	**18.0 -0.7**
CHAI	**Chaiyaphum**	**36.19**	**249**	P		**P**	**23**	**30**	**20.0 -0.5**
	comp=Z,114nm,0.8s,comp=Z,1µm								
JAY	**Jayapura**	**36.21**	**174**	P		**P**	**23**	**30**	**20.7 0.0**
	comp=Z,27nm,0.8s,baz=284,slow=5.8,SNR=5.9								
JAY	**Jayapura**	**36.21**	**174**	P		**P**	**23**	**30**	**20.7 0.0**
JAY				pmax	pmax				
	comp=Z,27nm,0.9s								
GENI	**Genyem**	**36.24**	**175**	P		**P**	**23**	**30**	**20.9 0.0**
PBKT	**Sadao Pong**	**36.60**	**251**	P		**P**	**23**	**30**	**23.8 -0.1**
	comp=Z,296nm,0.9s,comp=Z,2µm								
PHIT	**Phitsanulok**	**36.69**	**253**	P		**P**	**23**	**30**	**25.3 +0.6**
	comp=Z,72nm,1.1s								
FAKI	**Fak Fak**	**36.72**	**188**	*e*P		**P**	**23**	**30**	**23.9 -1.0**
	comp=Z,27nm,1.0s								
MPSI	**Mapaga**	**36.90**	**209**	P		**P**	**23**	**30**	**25.5 -0.9**
CMMT	**Chiang Mai**	**37.00**	**256**	P		**P**	**23**	**30**	**27.0 -0.3**
	comp=Z,195nm,0.9s,comp=Z,2µm								
CHTO	**Chiang Mai**	**37.01**	**256**	*e*P		**P**	**23**	**30**	**27.5 +0.2**
CHTO				*e*			23	35	52.6
CHTO				pmax	pmax				
	comp=Z,108nm,0.8s								
CHTO	**Chiang Mai**	**37.01**	**256**	P		**P**	**23**	**30**	**27.8 +0.5**
	SNR=39								
CHTO	**Chiang Mai**	**37.01**	**256**	*e*P		**P**	**23**	**30**	**27.5 +0.2**
	comp=Z,108nm,0.8s								
CHTO				*e*ScP		**ScP**	**23**	**35**	**52.6 +1.0**
SANI	**Sanana**	**37.07**	**199**	P		**P**	**23**	**30**	**26.7 -1.1**
LUWI	**Luwuk**	**37.09**	**204**	P		**P**	**23**	**30**	**27.1 -0.9**
LUWI	**Luwuk**	**37.09**	**204**	*e*P		P	23	30	24.3 -3.7
	comp=Z,47nm,0.8s								
CMAR	**Chiang Mai Arr**	**37.19**	**256**	P		**P**	**23**	**30**	**28.7 -0.2**
	comp=Z,58nm,0.7s,baz=48,slow=7.0,SNR=289								
CMAR				ScP		**ScP**	**23**	**35**	**52.5 +0.3**
	comp=Z,4.5nm,0.9s,baz=27,slow=2.8,SNR=14								
CMAR	**Chiang Mai Arr**	**37.19**	**256**	*ce*P		**P**	**23**	**30**	**29.2 +0.3**
CMAR				pmax	pmax				
	comp=Z,62nm,0.7s								
APSI	**Ampana**	**37.36**	**206**	P		**P**	**23**	**30**	**29.3 -1.0**
BTM	**Bintulu**	**37.70**	**221**	⇓P		**P**	**23**	**30**	**32.9 -0.2**
PCI	**Palu**	**38.05**	**209**	P		**P**	**23**	**30**	**35.2 -0.8**
	comp=Z,87nm,1.3s,comp=Z,878nm								
MHMT	**Maesarieng**	**38.16**	**256**	P		**P**	**23**	**30**	**37.8 +0.9**
	comp=Z,38nm,0.9s,comp=Z,620nm								
BILL	**Bilibino**	**38.23**	**17**	*c*iP		**P**	**23**	**30**	**37.0 +0.2**
BILL				pmax	pmax				
	comp=Z,153nm,0.9s								
BILL	**Bilibino**	**38.23**	**17**	*e*P		**P**	**23**	**30**	**36.9 +0.2**
	comp=Z,191nm,0.6s								
TIXI	**Tiksi**	**38.24**	**356**	*c*iP		**P**	**23**	**30**	**36.3 -0.5**
TIXI				pmax	pmax				
	comp=Z,95nm,1.0s								
TIXI	**Tiksi**	**38.24**	**356**	*e*P		**P**	**23**	**30**	**36.3 -0.5**
	comp=Z,83nm,0.8s								
TIXI				*e*ScP		**ScP**	**23**	**35**	**54.8 -0.4**
LSA	**Lhasa**	**38.99**	**277**	P		**P**	**23**	**30**	**44.8 +0.7**
LSA				PMZ					
	comp=Z,20nm,1.0s								
WMQ	**Urumqi**	**39.24**	**300**	P		**P**	**23**	**30**	**46.8 +1.2**
WMQ				pP		**pP**	**23**	**31**	**57.5 +2.0**
WMQ				PP		**PP**	**23**	**32**	**28.0 +3.4**
WMQ				PcP		**PcP**	**23**	**32**	**50.0 +3.7**
WMQ				S		**S**	**23**	**36**	**20.0 +1.3**
WMQ				PcS		PcS	23	36	29.8 -6.8
WMQ				PMZ					
	comp=Z,48nm,0.8s								
WMQ				PMZ					
	comp=Z,180nm,5.2s								
SRDT	**SRDT**	**39.33**	**250**	P		**P**	**23**	**30**	**46.7 +0.2**
	comp=Z,366nm,1.1s,comp=Z,12µm								
KHLT	**Khaolaem Dam**	**39.49**	**251**	P		**P**	**23**	**30**	**48.4 +0.6**
	comp=Z,44nm,1.2s,comp=Z,495nm								
BKB	**Balikpapan**	**39.62**	**213**	P		**P**	**23**	**30**	**47.0 -1.8**
SHL	**Shillong**	**39.81**	**271**	*e*P		**P**	**23**	**30**	**48.0 -2.6**
SHL				*ex*		x	23	36	03.5
MTKI	**Muara Teweh, K**	**40.27**	**216**	P		**P**	**23**	**30**	**54.3 +0.1**
KSM	**Kuching**	**40.68**	**224**	⇓P		**P**	**23**	**30**	**57.6 +0.1**
KSM	**Kuching**	**40.68**	**224**	*e*P		**P**	**23**	**30**	**57.0 -0.5**
	comp=Z,140nm,0.7s								
SPSI	**Sidrap Palu**	**40.88**	**207**	P		**P**	**23**	**30**	**58.6 -0.4**
BNSI	**Bone**	**41.15**	**206**	P		**P**	**23**	**31**	**01.8 +0.5**
	comp=Z,56nm,1.1s								
STKI	**Sintang**	**41.18**	**221**	P		**P**	**23**	**31**	**02.4 +0.9**
	comp=Z,93nm,1.2s,comp=Z,42µm								
ZALV	**Zalesovo Beam**	**41.61**	**315**	P		**P**	**23**	**31**	**05.0 +0.5**
	comp=Z,4.9nm,0.5s,baz=94,slow=7.8,SNR=22								
ZALV				PcP		**PcP**	**23**	**32**	**53.2 -0.5**
	comp=Z,3.6nm,0.6s,baz=116,slow=3.1,SNR=6.1								
ZALV				ScP		**ScP**	**23**	**36**	**07.5 -1.3**
	comp=Z,5.4nm,0.7s,baz=122,slow=3.6,SNR=8.6								
ZALV				S		**S**	**23**	**36**	**52.9 -0.2**
	comp=Z,3.6nm,1.0s,baz=109,slow=13,SNR=4.2								
ZALV	**Zalesovo Beam**	**41.61**	**315**	P		**P**	**23**	**31**	**05.0 +0.5**
ZALV							23	32	53.2
ZALV				S		**S**	**23**	**36**	**52.9 -0.2**
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.6s								
ZALV				smax	smax				
	comp=N,4.0nm,1.0s								
KBKI	**Kotaparu**	**41.76**	**212**	P		**P**	**23**	**31**	**04.8 -1.3**
	comp=N,32nm,1.0s,comp=N,1µm								
KAPI	**Kappang**	**41.85**	**206**	P		**P**	**23**	**31**	**06.6 -0.3**
	comp=N,435nm,0.6s,SNR=14								
KAPI	**Kappang**	**41.85**	**206**	P		**P**	**23**	**31**	**06.8 -0.1**
	SNR=17								
KAPI	**Kappang**	**41.85**	**206**	*e*P		**P**	**23**	**31**	**06.2 -0.6**
	comp=N,19nm,1.0s								
BKSI	**Bulukumba**	**42.00**	**206**	P		**P**	**23**	**31**	**07.4 -0.6**
	comp=N,25nm,0.7s								
BBKI	**Banjar Baru**	**42.50**	**214**	P		**P**	**23**	**31**	**10.8 -1.3**
	comp=N,165nm,0.9s,comp=N,4µm								
TAPN	**Taplejung**	**42.62**	**275**	*e*P		**P**	**23**	**31**	**13.3 -0.1**
	comp=N,100nm,0.4s								
NVS	**Novosibirsk**	**42.65**	**316**	*e*P		**P**	**23**	**31**	**12.8 +0.1**
NVS				*e**PP		**pP**	**23**	**32**	**23.6 -0.2**
NVS				*e*S		**S**	**23**	**37**	**07.8 -0.2**
NVS				*e*SS		**SS**	**23**	**40**	**28.3 -3.2**
NVS				pmax	pmax				
	comp=Z,20nm,1.5s								
NVS				pmax	pmax				
	comp=E,22nm,1.6s								
NVS				smax	smax				
	comp=E,95nm,1.9s								
NVS				smax	smax				
	comp=N,31nm,1.8s								
SKLT	**Songkhla**	**42.76**	**240**	P		**P**	**23**	**31**	**14.7 +0.5**
	comp=N,213nm,1.0s								
MKAR	**Makanchi Array**	**42.93**	**305**	P		**P**	**23**	**31**	**15.6 +0.4**
	comp=N,12nm,0.6s,baz=86,slow=8.9,SNR=196								
MKAR				ScP		**ScP**	**23**	**36**	**12.8 -1.6**
	comp=N,6.1nm,0.9s,baz=83,slow=2.0,SNR=7.5								
MKAR				S		**S**	**23**	**37**	**12.8 +0.3**
	comp=N,4.1nm,1.1s,baz=95,slow=15,SNR=5.3								
MKAR	**Makanchi Array**	**42.93**	**305**	P		**P**	**23**	**31**	**15.6 +0.4**
MKAR				S		**S**	**23**	**37**	**12.8 +0.3**
MKAR				pmax	pmax				
	comp=Z,12nm,0.6s								
MKAR				smax	smax				
	comp=N,4.0nm,1.1s								
ODAN	**Odare**	**43.07**	**275**	*e*P		**P**	**23**	**31**	**16.7 -0.1**
	comp=N,124nm,0.4s								
GAMB	**Gambell**	**43.39**	**30**	*e*P		**P**	**23**	**31**	**19.4 +1.0**
	comp=N,22nm,0.8s								
PBKI	**Pangkalan Bun**	**43.41**	**218**	P		**P**	**23**	**31**	**19.2 -0.1**
	comp=N,136nm,1.2s								
RAMN	**Ramite**	**43.69**	**275**	*e*P		**P**	**23**	**31**	**21.7 0.0**
	comp=N,253nm,0.6s								
JIRN	**Jiri**	**43.77**	**276**	*e*P		**P**	**23**	**31**	**22.9 +0.4**
	comp=N,332nm,0.6s								
GUN	**Gumba**	**43.94**	**277**	*e*P		**P**	**23**	**31**	**24.0 +0.2**
	comp=N,152nm,0.7s								
PKDT	**Phuket**	**43.96**	**243**	P		**P**	**23**	**31**	**24.2 +0.6**
	comp=N,351nm,0.9s,comp=N,3µm								
KULM	**Kulim**	**44.04**	**238**	*e*P		**P**	**23**	**31**	**24.4 +0.1**
IPM	**Ipoh**	**44.34**	**237**	*e*P		**P**	**23**	**31**	**25.9 -0.8**
	comp=N,134nm,0.7s								
MYKOM	**Kota Tinggi**	**44.40**	**231**	*e*P		**P**	**23**	**31**	**26.6 -0.5**
	comp=N,86nm,1.3s								
MMRI	**Maumere**	**44.40**	**201**	P		**P**	**23**	**31**	**27.2 +0.1**
	comp=N,58nm,1.1s								
MMRI	**Maumere**	**44.40**	**201**	*e*P		**P**	**23**	**31**	**26.2 -0.9**
	comp=N,42nm,0.8s								
PKI	**Pulchoki**	**44.45**	**276**	*e*P		**P**	**23**	**31**	**27.4 -0.4**
	comp=N,82nm,0.8s								
PKIN	**Phulchoki**	**44.46**	**277**	*e*P		**P**	**23**	**31**	**27.9 +0.1**
	comp=N,40nm,0.5s								
KKN	**Kakani**	**44.48**	**277**	*e*P		**P**	**23**	**31**	**27.8 -0.1**
	comp=N,131nm,0.8s								
TPRI	**Tanjung Pinang**	**44.63**	**230**	P		**P**	**23**	**31**	**29.4 +0.5**
	comp=N,156nm,0.9s								
EDFI	**Ende, Flores**	**44.68**	**202**	P		**P**	**23**	**31**	**31.9 +2.6**
DMN	**Daman**	**44.69**	**277**	*e*P		**P**	**23**	**31**	**29.3 -0.3**
	comp=N,123nm,0.9s								
GKN	**Gorkha**	**44.94**	**277**	*e*P		**P**	**23**	**31**	**31.3 -0.1**
	comp=N,141nm,0.7s								
KURK	**Kurchatov**	**45.24**	**310**	P		**P**	**23**	**31**	**33.8 +0.6**
	comp=N,250nm,1.0s,SNR=64								
KURK	**Kurchatov**	**45.24**	**310**	P		**P**	**23**	**31**	**33.6 +0.4**
KURK				S		**S**	**23**	**37**	**44.9 -0.4**
KURK				pmax	pmax				
	comp=Z,29nm,0.6s								
KURK				smax	smax				
	comp=N,4.0nm,1.1s								
KURK	**Kurchatov**	**45.24**	**310**	P		**P**	**23**	**31**	**33.5 +0.4**
	SNR=22								
KURK	**Kurchatov**	**45.24**	**310**	*e*P		**P**	**23**	**31**	**33.0 -0.2**
	comp=N,58nm,0.7s								
KURK				ScP		**ScP**	**23**	**36**	**22.3 -1.4**
KURK				S		**S**	**23**	**37**	**44.9 -0.4**
KURBB	**Kurchatov Arra**	**45.30**	**310**	P		**P**	**23**	**31**	**33.6 -0.1**
	comp=N,29nm,0.6s,baz=89,slow=7.0,SNR=211								
KURBB				ScP		**ScP**	**23**	**36**	**22.3 -1.6**
	comp=N,2.6nm,1.1s,baz=96,slow=3.2,SNR=4.3								
KURBB				S		**S**	**23**	**37**	**44.9 -1.2**
	comp=N,4.3nm,1.1s,baz=91,slow=13,SNR=10								
TNA	**Tin City**	**45.48**	**29**	*e*P		**P**	**23**	**31**

comp=Z,130nm,5.3s
KSH LE
comp=Z,120nm,4.9s
KSH LZ
comp=Z,180nm,6.3s
KBK Karagaybulak 48.62 300 P **P** **23 32 00.0 +0.5**
SNR=20
KBK Karagaybulak 48.62 300 *i* P **P** **23 32 00.0 +0.5**
KPJI Karang Pucung 48.76 218 P **P** **23 31 59.4 -1.1**
LHSI Lahat 48.94 227 P **P** **23 32 01.7 -0.2**
AAK Ala-Archa 48.96 300 P **P** **23 32 02.9 +0.9**
comp=Z,71nm,0.5s,SNR=7.7
AAK Ala-Archa 48.96 300 P **P** **23 32 02.2 +0.2**
SNR=8.8
AAK Ala-Archa 48.96 300 P **P** **23 32 02.1 +0.1**
comp=Z,6.8nm,0.6s,baz=102,slow=5.9,SNR=35
AAK ScP **ScP** **23 36 38.7 -1.1**
comp=Z,3.7nm,0.9s,baz=167,slow=3.7,SNR=6.0
KLI Kotabumi 48.97 225 P **P** **23 32 01.7 -0.4**
GSI Gunungsitoli 49.01 237 P **P** **23 32 01.5 -1.0**
GSI Gunungsitoli 49.01 237 *eP* **P** **23 32 01.8 -0.7**
comp=Z,417nm,0.8s
LEM Lembang 49.02 220 P **P** **23 32 02.1 -0.6**
comp=Z,342nm,0.8s,comp=Z,3µm
UCH Uchtor 49.02 299 P **P** **23 32 03.6 +0.8**
SNR=7.2
UCH Uchtor 49.02 299 *i* P **P** **23 32 03.6 +0.8**
MDSI Maura Dua 49.07 226 P **P** **23 32 01.8 -1.0**
BLSI Bandar Lampung 49.15 224 P **P** **23 32 02.4 -1.1**
CHLP Challavanipeta 49.41 266 *eP* **P** **23 32 06.2 +0.8**
EKS2 Erkin-Say 49.47 300 P **P** **23 32 06.0 +0.2**
SNR=8.1
EKS2 Erkin-Say 49.47 300 *eP* **P** **23 32 06.0 +0.2**
EKS2 pmax pmax
comp=Z,7.0nm,1.1s
EKS2 Erkin-Say 49.47 300 *eP* **P** **23 32 06.0 +0.2**
comp=Z,7.3nm,1.1s
CISI Cisompet, Garu 49.53 219 P **P** **23 32 04.5 -1.9**
LWLI Liwa 49.56 225 P **P** **23 32 05.2 -1.5**
AML Almayashu 49.64 299 P **P** **23 32 08.2 +0.8**
SNR=33
AML Almayashu 49.64 299 *i* P **P** **23 32 08.2 +0.8**
KASI Kota Agung 49.71 225 P **P** **23 32 05.5 -2.1**
CGJI Cibinong 49.91 222 P **P** **23 32 06.4 -2.7**
BVAR Borovoye Array 50.20 314 P **P** **23 32 11.0 +0.1**
comp=Z,9.7nm,0.7s,baz=97,slow=7.6,SNR=41
BVAR ScP **ScP** **23 36 43.5 -1.2**
comp=Z,5.5nm,0.8s,baz=103,slow=6.5,SNR=8.6
BVAR S **S** **23 38 53.3 -1.3**
comp=Z,8.1nm,0.9s,baz=94,slow=12,SNR=17
BVAR Borovoye Array 50.20 314 P **P** **23 32 11.0 +0.1**
BVAR S **S** **23 38 53.3 -1.3**
BVAR pmax pmax
comp=Z,10.0nm,0.7s
BVAR smax smax
comp=N,8.0nm,0.9s
BRVK Borovoye 50.27 314 P **P** **23 32 11.9 +0.6**
comp=N,108nm,1.5s,SNR=8.8
BRVK Borovoye 50.27 314 ⇑ *i* P **P** **23 32 12.1 +0.8**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 50.27 314 P **P** **23 32 12.1 +0.8**
SNR=7.5
BRVK Borovoye 50.27 314 *eP* **P** **23 32 11.7 +0.3**
comp=Z,27nm,1.2s
SVW2 Sparrevohn 50.31 36 *eP* **P** **23 32 12.9 +1.3**
DLH Dalhousie 50.47 287 *eP* **P** **23 32 12.0 -1.4**
KKR Kurukshetra 50.65 283 *eP* **P** **23 32 14.5 -0.1**
AGRA Agra 50.74 279 *eP* **P** **23 32 14.4 -0.8**
NDI New Delhi 50.79 281 *ex* P 23 32 20.0 +4.4
AYAN Aya Nagar 50.94 281 *eP* **P** **23 32 16.2 -0.4**
BHGR Bahadurgarh 51.02 282 *eP* **P** **23 32 17.0 -0.3**
IM04 Indian Mountai 51.29 29 *eP* **P** **23 32 19.2 +0.5**
KUDL Kundal 51.59 281 *eP* **P** **23 32 21.1 -0.4**
KUDL AMB AMB 23 32 22.0
comp=Z,48nm,0.9s
RSO Redoubt South 51.70 36 *eP* **P** **23 32 22.7 +0.7**
KKAR Karatay Array 51.72 301 *eP* **P** **23 32 22.3 +0.1**
KKAR Karatay Array 51.72 301 *eP* **P** **23 32 22.3 +0.1**
PPLA Purkeypile 51.92 33 *eP* **P** **23 32 24.8 +1.3**
comp=Z,51nm,0.6s
KDAK Kodiak Island 51.95 40 P **P** **23 32 23.3 -0.2**
comp=Z,502nm,0.5s,SNR=23
KDAK Kodiak Island 51.95 40 *eP* **P** **23 32 23.4 -0.2**
KDAK pmax pmax
comp=Z,60nm,0.8s
KDAK Kodiak Island 51.95 40 *eP* **P** **23 32 23.4 -0.2**
comp=Z,60nm,0.8s
CAST Castle Rocks 51.96 33 *eP* **P** **23 32 24.9 +1.2**
comp=Z,17nm,0.8s
KTH Kantishna Hill 52.48 32 *eP* **P** **23 32 28.2 +0.8**
comp=Z,35nm,1.0s
FITZ Fitzroy Crossi 52.66 194 *eP* **P** **23 32 28.8 -0.5**
comp=Z,16nm,0.6s
TRF Thorofare Moun 52.77 33 *eP* **P** **23 32 30.3 +0.6**
comp=Z,112nm,2.2s
COLD Coldfoot 52.77 28 *eP* **P** **23 32 30.4 +1.0**
comp=Z,15nm,0.8s
XMIS Christmas Isla 53.13 220 *eP* **P** **23 32 30.8 -2.0**
comp=Z,75nm,0.8s
RC01 Rabbit Creek A 53.15 36 *eP* **P** **23 32 32.5 +0.2**
comp=Z,93nm,1.2s
RPR Rampur 53.21 269 *eP* **P** **23 32 33.1 -0.2**
MCK McKinley 53.36 32 *eP* **P** **23 32 34.1 +0.3**
MCK pmax pmax
comp=Z,125nm,1.6s
MCK McKinley 53.36 32 *eP* **P** **23 32 34.1 +0.3**
comp=Z,125nm,1.6s
SEW Seward 53.37 37 *eP* **P** **23 32 34.1 +0.3**
comp=Z,57nm,0.7s
PMR Palmer 53.40 35 *eP* **P** **23 32 33.3 -0.7**
PMR pmax pmax
comp=Z,85nm,1.0s
PMR Palmer 53.40 35 *eP* **P** **23 32 33.3 -0.7**
comp=Z,85nm,1.0s
WRAB Tennant Creek 53.41 183 P **P** **23 32 33.7 -1.0**
comp=Z,254nm,0.3s
WRAB Tennant Creek 53.41 183 *c i* P **P** **23 32 33.7 -1.0**
WRAB S pmax pmax
comp=Z,34nm,1.0s
WRAB Tennant Creek 53.41 183 *eP* **P** **23 32 33.6 -1.1**
WRA Warramunga Arr 53.42 183 P **P** **23 32 33.6 -1.1**
comp=Z,20nm,0.3s,baz=360,slow=7.6,SNR=694
WRA ScP **ScP** **23 36 58.9 -0.1**
comp=Z,1.6nm,0.8s,baz=360,slow=4.7,SNR=3.0
WRA S **S** **23 39 35.6 -3.1**
comp=Z,1.6nm,0.7s,baz=0.3,slow=12,SNR=7.9
COLA College 53.77 31 ⇓ *i* P **P** **23 32 37.5 +0.9**
COLA pmax pmax
comp=Z,79nm,0.8s
COLA College 53.77 31 *eP* **P** **23 32 37.3 +0.6**
comp=Z,24nm,0.8s
ADKI Addanki 54.11 266 *eP* **P** **23 32 39.6 -0.2**
ILAR Eielson Array 54.19 31 P **P** **23 32 39.2 -0.4**
comp=Z,10nm,0.8s,baz=246,slow=5.9,SNR=75
ILAR Eielson Array 54.19 31 P **P** **23 32 39.3 -0.4**
ILAR pmax pmax
comp=Z,10.0nm,0.8s
NJS Nagarjunasagar 54.31 267 *eP* **P** **23 32 41.3 0.0**
HYB Hyderabad 54.51 268 *i* P **P** **23 32 42.0 -0.8**
HYB *eP cP* **PcP** **23 33 43.0 +1.9**
HYBB Hyderabad (bro 54.51 268 *eP* **P** **23 32 42.7 -0.1**
PAX Paxson 54.98 33 *eP* **P** **23 32 46.0 +0.5**
PAX pmax pmax
comp=Z,19nm,1.0s
PAX Paxson 54.98 33 *eP* **P** **23 32 46.0 +0.5**
comp=Z,19nm,1.0s
DIV Divide 55.06 35 *eP* **P** **23 32 46.9 +0.8**
comp=Z,64nm,0.7s
EYAK Cordova Ski Ar 55.15 36 *eP* **P** **23 32 47.8 +1.3**
comp=Z,80nm,1.2s
KBL Kabul 55.26 291 *eP* **P** **23 32 47.3 -0.8**
KBL pmax pmax
comp=Z,29nm,0.8s
KBL Kabul 55.26 291 *eP* **P** **23 32 47.3 -0.8**
comp=Z,29nm,0.8s
SVE Sverdlovsk 55.29 319 ⇑ *i* P **P** **23 32 48.8 +1.2**
SVE *eS* **S** **23 40 05.3 +2.7**
SVE pmax pmax
comp=Z,15nm,0.9s
SKHT Srikalahasti 55.40 263 *eP* **P** **23 32 49.9 +0.8**
DOT Dot Lake 55.53 32 *eP* **P** **23 32 49.3 +0.1**
comp=Z,34nm,0.8s
BMRM Bremner River 55.65 35 *eP* **P** **23 32 51.1 +0.9**
comp=Z,106nm,0.8s
ARU Arti 56.49 319 P **P** **23 32 56.7 +0.7**
comp=Z,87nm,0.7s,SNR=7.3
ARU Arti 56.49 319 *d i* P **P** **23 32 56.1 +0.1**
ARU 23 33 48.7
ARU *PP **pP** **23 34 12.3 +0.4**
ARU 23 35 06.9
ARU S **S** **23 40 17.4 -0.9**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 56.49 319 *eP* **P** **23 32 56.2 +0.1**
comp=Z,8.9nm,0.7s
JASL Jaisalmer 56.62 282 *eP* **P** **23 32 57.2 -0.3**
EGAK Eagle 56.63 31 *eP* **P** **23 32 56.7 -0.2**
comp=Z,87nm,2.0s
URV Uravakonda 56.82 266 *eP* **P** **23 32 58.2 -0.8**
ASAR Alice Springs 57.15 183 P **P** **23 33 00.1 -0.9**
comp=Z,7.3nm,0.4s,baz=357,slow=4.8,SNR=137
ASAR ScP **ScP** **23 37 14.4 -0.9**
comp=Z,0.7nm,0.6s,baz=359,slow=4.8,SNR=2.7
ASAR S **S** **23 40 26.5 -1.1**
comp=Z,1.7nm,0.9s,baz=12,slow=22,SNR=7.0
ASAR PKP2bc 00 02 57.9
comp=Z,0.6nm,1.0s,baz=165,slow=2.7,SNR=6.5
ABKAR Akbulak array 57.35 311 *eP* **P** **23 33 01.9 -0.2**
DAWY Dawson 57.51 31 *eP* **P** **23 33 03.7 +0.7**
POO Poona 57.90 272 ⇑ *i* P **P** **23 33 06.0 -0.4**
comp=Z,20nm,1.0s
PALK Pallekele 58.13 256 P **P** **23 33 08.2 +0.1**
comp=Z,310nm,0.8s,SNR=11
PALK Pallekele 58.13 256 *eP* **P** **23 33 08.4 +0.3**
PALK pmax pmax
comp=Z,20nm,0.8s
PALK Pallekele 58.13 256 ⇓ *i* P **P** **23 33 08.5 +0.3**
SNR=18
PALK Pallekele 58.13 256 P **P** **23 33 08.8 +0.7**
SNR=5.0
PALK Pallekele 58.13 256 *eP* **P** **23 33 08.3 +0.3**
comp=Z,20nm,0.8s
AKTO Aktyubinsk 58.23 312 S **S** **23 40 42.1 +1.0**
comp=Z,1.1nm,0.8s,baz=150,slow=20,SNR=5.9
HYT Haines Junctio 59.07 35 *eP* **P** **23 33 15.3 +1.3**
SKAG Skagway 60.49 36 *eP* **P** **23 33 24.4 +1.1**
IMYA Miami 61.42 296 *eP* **P** **23 33 31.1 +0.9**
PRGR Permogore 61.59 327 *eP* P 23 33 26.9 -3.6
PRGR *PP pP 23 34 48.5 +0.6
PRGR pmax pmax
comp=Z,22nm,1.0s
IPAY Payeh 62.21 297 *eP* **P** **23 33 35.5 +0.1**
GEYT Alibeck 62.29 299 P **P** **23 33 35.6 -0.1**
comp=Z,13nm,0.9s,baz=29,slow=3.4,SNR=29
IKRD Kardeh 62.44 297 *eP* P 23 33 33.0 -4.0
IDAH Dahanechah 63.03 293 *eP* **P** **23 33 41.2 +0.3**
ALE Alert 63.61 3 P **P** **23 33 44.3 +0.8**
comp=Z,268nm,0.8s,SNR=14
ITEG Tejag 63.82 293 *eP* **P** **23 33 45.8 -0.1**
IKOO Kooshah 63.82 293 *eP* **P** **23 33 45.9 -0.1**
KLMR Klimovskoe 64.62 328 *eP* **P** **23 33 48.9 -1.4**
KLMR pmax pmax
comp=Z,9.0nm,0.4s
FORT Forrest 64.71 189 *eP* **P** **23 33 50.7 -0.5**
comp=Z,31nm,0.7s
KEV Kevo 65.25 339 *ep* **P** **23 33 51.4 -2.7**
comp=Z,14nm,0.7s
KEV Kevo 65.25 339 *eP* **P**
KEV pmax pmax **23 33 51.4 -2.7**
comp=Z,14nm,0.7s
STKA Stephens Creek 65.39 176 P **P** **23 33 55.3 -0.2**
comp=Z,4.4nm,0.7s,baz=345,slow=7.4,SNR=8.9
STKA Stephens Creek 65.39 176 P **P** **23 33 55.3 -0.2**
STKA pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 65.81 339 P **P** **23 33 58.0 +0.2**
comp=Z,22nm,0.8s,baz=66,slow=8.5,SNR=58
ARCES ARCESS Array B 65.81 339 P **P** **23 33 58.0 +0.2**
ARCES pmax pmax
comp=Z,23nm,0.8s
IGLO Ghaloghah 65.99 299 *eP* **P** **23 34 00.0 +0.3**
IBAF Bafgh 66.81 293 *eP* **P** **23 34 04.6 -0.3**
IFIR Firoozkooh 67.15 298 *eP* **P** **23 34 07.3 +0.2**
JOF Joensuu 67.17 331 *ep* **P** **23 34 04.8 -1.6**
comp=Z,11nm,0.6s
JOF Joensuu 67.17 331 *eP* **P** **23 34 04.8 -1.6**
JOF pmax pmax
comp=Z,11nm,0.6s
IPRN Peran 67.19 299 *eP* **P** **23 34 07.2 +0.1**
IMEH Mehriz 67.63 294 *eP* **P** **23 34 09.3 -0.8**
IDMV Damavand 67.70 299 *eP* **P** **23 34 11.2 +0.6**
ISAD Sadrabad 68.10 294 *eP* **P** **23 34 13.1 0.0**
IVRN Varamin 68.19 298 *eP* **P** **23 34 13.7 +0.5**
WBK Wadi Bani Khal 68.24 283 P **P** **23 34 14.8 +1.0**
SNR=6.5
YKA Yellowknife Ar 68.44 28 P **P** **23 34 14.1 -0.1**
comp=Z,14nm,0.8s,baz=298,slow=6.0,SNR=155
YKA PKP2bc 00 02 22.3
comp=Z,0.3nm,0.8s,baz=124,slow=3.3,SNR=5.2
LPSR Galich'ya Gora 68.51 320 *eP* **P** **23 34 15.0 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=N,9.0nm,1.3s
LPSR pmax pmax
comp=E,10.0nm,1.7s
OBN Obninsk 68.57 323 *eP* **P** **23 34 15.0 -0.1**
OBN pmax pmax
comp=Z,10.0nm,0.5s
IGZV Ghazvin 68.66 300 *eP* **P** **23 34 17.1 +0.7**
IZEF Zefreh 68.68 296 *eP* **P** **23 34 17.2 +0.6**
DAG Danmarks Havn 68.73 354 *i* P **P** **23 34 15.9 +0.2**
DAG pmax pmax
comp=Z,24nm,0.8s
DAG Danmarks Havn 68.73 354 *i* P **P** **23 34 15.9 +0.2**
comp=Z,32nm,0.8s
VSR Storozhevoye 69.03 318 *eP* **P** **23 34 18.0 0.0**
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,7.0nm,0.7s
VSR pmax pmax
comp=Z,8.0nm,0.7s
IKLH Kolahrood 69.05 297 *eP* **P** **23 34 19.5 +0.7**
VORD Divnogorie 69.07 318 *eP* **P** **23 34 18.0 -0.3**
VORD pmax pmax
comp=N,2.0nm,0.6s
VORD pmax pmax
comp=E,2.0nm,0.6s
VORD pmax pmax
comp=Z,4.0nm,0.6s
HOQ Hoqain 69.12 285 P **P** **23 34 19.8 +0.7**
SNR=9.1
IRAZ Razeghan 69.31 299 *eP* **P** **23 34 20.8 +0.4**
HATD Hatta, Dubai 69.47 287 ⇑ *i* P **P** **23 34 21.7 +0.5**
SNR=8.3
IPAR Pars 69.54 293 *eP* **P** **23 34 21.7 -0.2**
KAF Kangasniemi 69.57 332 *ep* **P** **23 34 19.7 -1.4**
comp=Z,20nm,0.5s
KAF Kangasniemi 69.57 332 *eP* **P** **23 34 19.7 -1.4**
KAF pmax pmax
comp=Z,20nm,0.5s
GOF Gofitskoye 69.58 311 *eP* **P** **23 34 22.1 +0.6**
GOF pmax pmax
comp=Z,30nm,1.3s
ASHO Ashiyiah 69.60 287 ⇓ *i* P **P** **23 34 22.4 +0.4**
SNR=7.7
BSY Bisya 69.61 284 P **P** **23 34 22.5 +0.4**
SNR=14
ISRV Sarvestan 69.70 292 *eP* **P** **23 34 22.6 -0.4**
ISRB Sarab 69.83 302 *eP* **P** **23 34 23.8 +0.4**
ARQ Araqi 69.87 285 P **P** **23 34 24.5 +0.8**
SNR=11
FAQ Al Faqa, Dubai 69.94 287 *i* P **P** **23 34 23.9 -0.1**
SNR=7.4
NCK Nalchik 69.96 309 ⇑ *i* P **P** **23 34 24.4 +0.6**
FINES FINESS Array B 70.03 331 P **P** **23 34 23.9 -0.1**
comp=Z,24nm,0.7s,baz=69,slow=5.3,SNR=220
FINES FINESS Array B 70.03 331 *i* P **P** **23 34 23.8 -0.1**
FINES pmax pmax
comp=Z,24nm,0.7s
IHRS Heris 70.04 303 *eP* **P** **23 34 24.8 +0.1**
ZEI Tsey 70.09 309 *eP* **P** **23 34 23.5 -1.4**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
KBZ Khabaz 70.30 310 P **P** **23 34 26.3 +0.5**
comp=Z,18nm,0.8s,baz=56,slow=24,SNR=58
KBZ S **S** **23 43 03.3 -4.6**
comp=Z,1.3nm,0.3s,baz=53,slow=20,SNR=11
KBZ Khabaz 70.30 310 P **P** **23 34 26.3 +0.5**
KBZ S **S** **23 43 03.3 -4.6**
KBZ pmax pmax
comp=Z,18nm,0.8s
KBZ smax smax
comp=N,1.0nm,0.3s
KIV Kislovodsk 70.33 310 P **P** **23 34 27.2 +1.1**
comp=N,177nm,0.9s,SNR=6.0
KIV Kislovodsk 70.33 310 *eP* **P** **23 34 26.8 +0.7**
KIV *e*PP **pP** **23 35 46.7 +0.8**
KIV *e*S **S** **23 43 08.7 +0.2**
KIV *e*SS **SS** **23 47 51.0 +4.4**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,31nm,18.0s
KIV Kislovodsk 70.33 310 ⇓ *i* P **P** **23 34 26.6 +0.4**
SNR=17
KIV Kislovodsk 70.33 310 P **P** **23 34 27.5 +1.3**
SNR=7.4
KIV Kislovodsk 70.33 310 *eP* **P** **23 34 24.9 -1.3**
comp=Z,24nm,0.8s
IKAZ Kazeroun 70.49 293 *eP* **P** **23 34 26.4 -1.4**
NEY Neytrino 70.64 309 ⇑ *eP* **P** **23 34 29.0 +0.9**
GNI Garni 70.76 306 ⇑ *i* P **P** **23 34 30.0 +1.1**
GNI pmax pmax
comp=Z,31nm,1.5s
GNI Garni 70.76 306 ⇓ *i* P **P** **23 34 30.0 +1.1**
SNR=12
GNI Garni 70.76 306 P **P** **23 34 30.9 +2.0**
SNR=6.2
GNI Garni 70.76 306 *eP* **P** **23 34 30.2 +1.2**
comp=Z,30nm,1.2s
IMRD Marand 70.78 304 *eP* **P** **23 34 29.1 0.0**
IAZR Azarshahr 71.08 303 *eP* **P** **23 34 31.8 +0.8**
IBZA Bozab 71.25 299 *eP* **P** **23 34 32.1 0.0**
VSU Vasula 71.45 329 ⇓ *eP* **P** **23 34 32.7 +0.3**
VSU pmax pmax
comp=Z,41nm,1.0s
KULLO Kullorsuaq 71.56 4 *i* P **P** **23 34 32.5 -0.3**
comp=Z,42nm,0.8s
A05A Maple Falls 71.81 43 *eP* **P** **23 34 35.6 +0.8**
comp=Z,31nm,1.0s
IDHR Dehrash 72.21 300 *eP* **P** **23 34 36.5 -1.2**
IGHG Ghaleghazi 72.26 300 *eP* **P** **23 34 36.4 -1.6**
B06A Marblemount 72.40 43 *eP* **P** **23 34 39.2 +1.0**
comp=Z,43nm,0.8s
F04D Rainier, OR 72.76 46 ⇑ P **P** **23 34 41.3 +0.9**
baz=73
LON Longmire 73.13 45 *eP* **P** **23 34 43.8 +1.2**
LON Longmire 73.13 45 *eP* **P** **23 34 43.8 +1.2**
F04A Amboy 73.19 46 *eP* **P** **23 34 44.0 +1.2**
comp=Z,40nm,0.9s
TWW Teanaway 73.48 44 P **P** **23 34 45.9 +1.3**
LTY Liberty 73.53 44 *eP* **P** **23 34 45.2 +0.3**
comp=Z,10nm,1.0s
ETW Entiat 73.54 44 P **P** **23 34 45.6 +0.6**
B08A Colville Reser 73.70 42 *eP* **P** **23 34 46.4 +0.5**
comp=Z,27nm,0.9s
WTV Waterville 73.70 43 P **P** **23 34 46.3 +0.4**
I03D Drain, OR 73.78 48 ⇓ P **P** **23 34 47.2 +0.9**
baz=74,SNR=10.0
SUMG Summit 73.94 359 *i* P **P** **23 34 48.1 +0.9**
SUMG pmax pmax
comp=Z,39nm,0.7s
SUMG Summit 73.94 359 *eP* **P** **23 34 48.3 +1.1**
SUMG Summit 73.94 359 *i* P **P** **23 34 48.1 +0.9**
comp=Z,39nm,0.7s
H04A Detroit Lake 73.98 47 *eP* **P** **23 34 48.5 +1.0**
comp=Z,31nm,0.8s
SAW Saint Andrews 74.02 43 P **P** **23 34 48.2 +0.5**
VFP Flag Point 74.08 46 P **P** **23 34 49.3 +1.1**
EDM Edmonton 74.15 36 *eP* **P** **23 34 48.6 +0.3**
EDM Edmonton 74.15 36 *eP* **P** **23 34 48.6 +0.3**
G05D Wamic, OR 74.21 46 ⇑ P **P** **23 34 49.5 +0.7**
baz=74
I04A Tendick Farm, 74.31 48 ⇓ P **P** **23 34 50.0 +0.6**
baz=74,SNR=8.4
L02D Cave Junction, 74.42 50 ⇓ P **P** **23 34 51.3 +1.2**
baz=74
C09A Chrisman Ranch 74.60 43 *eP* **P** **23 34 51.5 +0.6**
comp=Z,27nm,0.8s
G06A Carlson Farm, 74.62 46 *eP* **P** **23 34 49.8 -1.4**
comp=Z,29nm,1.1s
D08A Wollman Farm, 74.64 43 *eP* **P** **23 34 52.1 +0.9**
comp=Z,23nm,1.0s
HAWA Hanford 74.65 44 *eP* **P** **23 34 52.0 +0.7**
comp=Z,31nm,1.2s
RBK Rabkut 74.66 281 P **P** **23 34 51.7 -0.1**
SNR=5.1
AKASG Malin Array Be 74.67 321 P **P** **23 34 50.9 -0.3**
comp=Z,1.6nm,0.4s,baz=51,slow=6.0,SNR=14
AKASG Malin Array Be 74.67 321 *i* P **P** **23 34 52.5 +1.3**
KIEV Kiev 74.68 321 *eP* **P** **23 34 50.5 -0.8**
KIEV pmax pmax
comp=Z,141nm,3.0s
KIEV Kiev 74.68 321 *eP* **P** **23 34 50.5 -0.8**
comp=Z,141nm,3.0s
I05D Terrebonne, OR 74.68 47 ⇓ P **P** **23 34 52.6 +1.0**
baz=74
H2OWA Water 74.71 44 P **P** **23 34 52.6 +1.0**
NEW Newport 74.99 42 *eP* **P** **23 34 53.8 +0.6**
NEW pmax pmax
comp=Z,27nm,0.9s
NEW Newport 74.99 42 ⇑ P **P** **23 34 53.4 +0.2**
baz=75
NEW Newport 74.99 42 *eP* **P** **23 34 53.8 +0.6**
comp=Z,27nm,0.9s
YBH Yreka Blue Hor 75.21 50 *eP* **P** **23 34 56.1 +1.5**
YBH pmax pmax
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 75.21 50 *eP* **P** **23 34 56.1 +1.5**
comp=Z,18nm,0.9s
M02C Callahan 75.30 50 ⇑ P **P** **23 34 56.3 +1.1**
baz=75,SNR=7.3
J05D Fort Rock, OR 75.31 48 ⇑ P **P** **23 34 56.3 +1.0**
baz=75,SNR=10.0
LAMM Antelope Mount 75.33 50 P **P** **23 34 56.6 +1.2**
ABTO Aybut 75.47 281 P **P** **23 34 56.4 0.0**
SNR=5.9
G08A Pilot Rock 75.59 45 *eP* **P** **23 34 57.4 +0.7**
comp=Z,25nm,1.4s
N02D Trinity Center 75.62 50 ⇑ P **P** **23 34 57.9 +1.0**
baz=76,SNR=7.5
M04C Macdoel 75.74 49 ⇑ P **P** **23 34 58.2 +0.6**
baz=76,SNR=14
SFNV Sufian 75.78 304 *i* P **P** **23 34 60.0 +2.1**
NB2 NORSAR Subarra 75.80 336 P **P** **23 34 57.3 -0.2**
comp=Z,18nm,0.8s,baz=44,slow=5.9
NB2 NORSAR Subarra 75.80 336 P **P** **23 34 57.3 -0.2**
baz=44,slow=5.9
NOA NORSAR Array B 75.80 336 P **P** **23 34 57.1 -0.4**
comp=Z,11nm,0.7s,baz=44,slow=5.6,SNR=42
NOA PP **PP** **23 37 53.0 +0.5**
comp=Z,4.3nm,1.1s,baz=43,slow=7.9,SNR=3.9
NOA S **S** **23 44 08.1 -0.8**
comp=Z,2.5nm,1.0s,baz=82,slow=9.4,SNR=3.4
NOA NORSAR Array B 75.80 336 P **P** **23 34 57.1 -0.4**
NOA 23 37 53.0
NOA S **S** **23 44 08.1 -0.8**
NOA pmax pmax
comp=Z,11nm,0.7s
NOA smax smax
comp=N,3.0nm,1.0s
K05A Summer Lake 75.82 48 *eP* **P** **23 34 59.5 +1.3**
comp=N,49nm,0.9s
MALT Malatya 75.93 307 ⇓ *i* P **P** **23 35 00.3 +1.6**
MALT Malatya 75.93 307 ⇓ P **P** **23 35 00.3 +1.6**
I07A Izee 75.93 46 *eP* **P** **23 34 59.9 +1.2**
comp=N,18nm,1.0s
WDC Whiskeytown Da 75.93 51 *eP* **P** **23 34 59.5 +0.9**
WDC pmax pmax
comp=Z,30nm,1.3s
WDC Whiskeytown Da 75.93 51 *eP* **P** **23 34 59.5 +0.9**
comp=Z,30nm,1.3s
F10A Beach Ranch, E 76.22 44 *eP* **P** **23 35 01.0 +0.8**
comp=Z,9.4nm,0.7s
LTIM Timbered Crate 76.28 50 P **P** **23 35 01.8 +1.1**
WALA Waterton Lakes 76.28 40 *eP* **P** **23 35 01.2 +0.7**
BSMT Bassoo Peak 76.52 41 *eP* **P** **23 35 02.9 +0.9**
MOD Modoc Plateau 76.64 48 *eP* **P** **23 35 03.5 +0.8**
BLMT Blacktail Moun 76.65 41 *eP* **P** **23 35 03.6 +0.9**
KSRV Kasrt alli 76.83 304 *i* P **P** **23 35 04.6 +0.9**
JTMT Jette 76.85 41 *eP* **P** **23 35 04.5 +0.8**
YBMT Yellow Bay 76.93 41 *eP* **P** **23 35 05.0 +0.8**
SWMT Swartz Lake 77.15 41 *eP* **P** **23 35 05.8 +0.5**
ILULI Ilulissat 77.20 3 *i* P **P** **23 35 05.4 +0.4**

OHCM Honcut 77.29 51 *e*P P 23 35 06.5 +0.4
WVOR Wild Horse Val 77.37 47 *e*P P 23 35 07.5 +0.8
WVOR pmax pmax
comp=Z,14nm,0.8s
WVOR Wild Horse Val 77.37 47 *e*P P 23 35 07.5 +0.8
comp=Z,14nm,0.8s
MSO Missoula 77.58 42 ⇑P P 23 35 07.8 0.0
baz=77
MSO Missoula 77.58 42 *e*P P 23 35 07.8 0.0
comp=Z,17nm,1.2s
SLMT Seeley Lake 77.58 41 *e*P P 23 35 08.0 +0.2
CHMT Chamberlain Mo 77.91 41 *e*P P 23 35 09.6 -0.1
BRTR Keskin Array B 78.29 310 P P 23 35 12.4 +0.6
comp=Z,6.1nm,0.8s,baz=104,slow=4.5,SNR=36
BRTR Keskin Array B 78.29 310 *i* P P 23 35 12.3 +0.5
BRTR pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 78.40 31 P P 23 35 11.3 -0.6
comp=Z,140nm,0.9s,SNR=12
FFC Flin Flon 78.40 31 *e*P P 23 35 11.7 -0.2
FFC pmax pmax
comp=Z,25nm,1.0s
FFC Flin Flon 78.40 31 *e*P P 23 35 11.7 -0.2
comp=Z,25nm,1.0s
MFID Camas Ranch 78.50 45 *e*P P 23 35 13.7 +0.8
comp=Z,170nm,2.5s
TESR Tescani 78.51 319 ⇓*i*P P 23 35 12.7 0.0
RAYN Ar Rayn 78.52 291 P P 23 35 13.9 +0.7
comp=Z,314nm,0.6s,SNR=47
RAYN Ar Rayn 78.52 291 *e*P P 23 35 13.3 +0.1
comp=Z,19nm,0.8s
FCC Fort Churchill 78.53 24 *e*P P 23 35 12.4 -0.1
FCC Fort Churchill 78.53 24 *e*P P 23 35 12.4 -0.1
BURAR Bucovina Array 78.61 320 ⇑*i*P P 23 35 14.2 +0.9
BURAR Bucovina Array 78.61 320 ⇑P P 23 35 14.2 +0.9
KWP Kalwaria Pacla 78.66 323 *e*P P 23 35 14.6 +1.2
KWP Kalwaria Pacla 78.66 323 ⇓*i*P P 23 35 13.7 +0.3
KWP Kalwaria Pacla 78.66 323 ⇓P P 23 35 13.7 +0.3
CMB Columbia Colle 78.72 52 *e*P P 23 35 14.2 +0.2
CMB pmax pmax
comp=Z,38nm,1.5s
CMB Columbia Colle 78.72 52 *e*P P 23 35 14.2 +0.2
comp=Z,38nm,1.5s
SAO San Andreas Ge 78.72 53 *e*P P 23 35 14.6 +0.6
SAO San Andreas Ge 78.72 53 *e*P P 23 35 14.6 +0.6
HRY Holter Researc 78.81 41 *e*P P 23 35 15.2 +0.7
RABH Abou Rabah 78.84 304 *i*P P 23 35 16.0 +1.2
VRI Vrincioaia 78.86 318 ⇑*i*P P 23 35 16.0 +1.5
VRI Vrincioaia 78.86 318 ⇑P P 23 35 16.1 +1.5
LRM Limekiln Ridge 79.01 42 *e*P P 23 35 16.3 +0.6
A19A Klindworth Far 79.06 38 ⇓P P 23 35 16.2 +0.5
baz=79,SNR=8.3
WAKR Walker 79.08 51 *e*P P 23 35 16.8 +0.7
EGMT Eagleton 79.11 39 ⇓P P 23 35 16.1 +0.1
baz=79,SNR=19
EGMT Eagleton 79.11 39 *e*P P 23 35 16.4 +0.5
comp=Z,68nm,0.9s
BIDA Albida 79.13 305 *i*P P 23 35 16.6 +0.3
DLMT Dillon 79.21 42 *e*P P 23 35 17.3 +0.7
HLID Hailey 79.25 45 ⇓P P 23 35 17.9 +0.9
baz=79
HLID Hailey 79.25 45 *e*P P 23 35 17.7 +0.8
comp=Z,12nm,0.8s
B19A Brinkman Farms 79.26 38 ⇓P P 23 35 16.7 0.0
baz=79,SNR=5.3
HAWK Haweek 79.34 304 *i*P P 23 35 17.6 +0.1
BMN Battle Mountai 79.38 48 *e*P P 23 35 13.4 -4.3
BMN pmax pmax
comp=Z,16nm,0.8s
BMN Battle Mountai 79.38 48 *e*P P 23 35 13.4 -4.3
comp=Z,16nm,0.8s
SFJD Kangerlussuaq 79.43 3 *i*P P 23 35 17.2 0.0
SFJD pmax pmax
comp=Z,23nm,0.8s
SFJD Kangerlussuaq 79.43 3 *e*P P 23 35 17.1 -0.1
SFJD Kangerlussuaq 79.43 3 *i*P P 23 35 17.2 0.0
comp=Z,23nm,0.8s
A20A Cobblestone Ra 79.51 37 ⇓P P 23 35 18.4 +0.4
baz=79,SNR=12
STHS Stebnicka Huta 79.53 323 *e*P P 23 35 20.2 +2.1
STHS Stebnicka Huta 79.53 323 *e*P P 23 35 20.2 +2.1
DOPR Dopca 79.53 319 ⇓*i*P P 23 35 19.8 +1.6
MARH Ras Al Marh 79.56 304 *i*P P 23 35 13.3 -5.6
ZALF Zalf 79.58 303 *i*P P 23 35 16.8 -1.9
C19A Slack Wire Ran 79.66 39 ⇑P P 23 35 19.4 +0.5
baz=80,SNR=41
TRPA Tarpa 79.70 322 ⇑*i*P P 23 35 19.7 +0.7
OJC Ojcow 79.72 325 *e*P P 23 35 19.4 +0.3
B20A Solberg Farm, 79.74 38 ⇓P P 23 35 19.4 +0.1
baz=80,SNR=6.2
CRVS Cervenica-Dubn 79.75 323 *e*P P 23 35 20.1 +0.8
CRVS Cervenica-Dubn 79.75 323 *e*P P 23 35 20.1 +0.8
NVAR Mina Array Bea 79.85 51 P P 23 35 20.9 +0.6
comp=Z,16nm,0.8s,baz=290,slow=5.1,SNR=62
NVAR pP pP 23 36 43.3 +1.0
comp=Z,1.4nm,0.4s,baz=270,slow=6.0,SNR=4.4
MLAC Mammoth, Mammo 79.96 51 ⇑P P 23 35 21.4 +0.5
baz=80
TOTH TOTAH 79.97 303 *i*P P 23 35 20.1 -0.7
D19A Cripps Ranch, 80.11 39 ⇑P P 23 35 21.8 +0.4
baz=80,SNR=18
QLMT Earthquake Lak 80.19 42 *e*P P 23 35 23.1 +1.1
C20A Veseth Ranch, 80.22 38 ⇑P P 23 35 22.2 +0.4
baz=80,SNR=22
ARR Arges 80.32 319 ⇑*i*P P 23 35 23.1 +0.6
ELK Elko 80.42 47 *e*P P 23 35 24.4 +1.1
ELK Elko 80.42 47 *e*P P 23 35 24.4 +1.1
A22A Carney Farms, 80.44 36 ⇑P P 23 35 22.9 -0.1
baz=80,SNR=19
SMMC Simmler 80.51 54 ⇓P P 23 35 23.7 +0.1
baz=80
YMR Madison River 80.55 42 *e*P P 23 35 25.4 +1.6
D20A Manuel Ranch, 80.55 39 ⇓P P 23 35 24.3 +0.7
baz=80,SNR=19
E19A Rath Farm, Rou 80.61 40 ⇓P P 23 35 24.5 +0.6
baz=80,SNR=44
C21A Desert Coulee 80.61 38 ⇑P P 23 35 24.0 +0.1
baz=80,SNR=6.0
TCHB Talchebab 80.67 303 *i*P P 23 35 23.8 -0.7
YNR Norris Junctio 80.68 42 *e*P P 23 35 26.7 +2.2
comp=Z,24nm,1.1s
TIN Tinemaha, Big 80.69 52 ⇓P P 23 35 25.0 +0.4
baz=80
TPH Tonopah 80.75 50 *e*P P 23 35 25.4 +0.4
TPH Tonopah 80.75 50 *e*P P 23 35 25.4 +0.4
YFT Old Faithful 80.75 42 *e*P P 23 35 27.8 +2.8
comp=Z,20nm,0.8s
VES Vestal, Richgr 80.82 53 ⇓P P 23 35 25.2 +0.1
baz=81
B22A Reddig Ranch S 80.86 37 ⇑P P 23 35 25.6 +0.3
baz=81
F19A Roth Farm, Mol 80.91 40 ⇑P P 23 35 25.9 +0.3
baz=81,SNR=18
E20A Meyer Farm, Mu 80.93 39 ⇑P P 23 35 26.3 +0.7
baz=81,SNR=16
H17A Grant Village 80.94 42 ⇑P P 23 35 28.3 +2.3
baz=81,SNR=43
H17A Grant Village 80.94 42 *e*P P 23 35 28.6 +2.7
KSP Ksiaz 80.95 327 *e*P P 23 35 25.6 0.0
KSP Ksiaz 80.95 327 *e*P P 23 35 26.0 +0.4
A23A Redstone 80.98 36 ⇑P P 23 35 26.2 +0.4
baz=81
IMW Indian Meadow 81.04 43 *e*P P 23 35 27.9 +1.3
FLWY Flagg Ranch 81.06 42 *e*P P 23 35 28.3 +1.7
MORC Moravsky Berou 81.09 325 ⇓*i*P P 23 35 26.1 -0.3
MORC Moravsky Berou 81.09 325 ⇓P P 23 35 26.1 -0.3
FXWY Fox Creek 81.15 43 *e*P P 23 35 28.2 +1.1
comp=Z,25nm,1.3s
D21A La Casta Ranch 81.16 38 ⇓P P 23 35 27.4 +0.6
baz=81,SNR=16
CSS Prodhromos 81.19 306 *e*P P 23 35 27.4 +0.2
I17A Pilgrim Ck. 81.23 43 ⇓P P 23 35 29.0 +1.5
baz=81,SNR=38
B23A Brockton 81.25 36 ⇓P P 23 35 27.5 +0.2
baz=81,SNR=14
H18A Shoshone NF, C 81.27 42 ⇑P P 23 35 28.0 +0.3
baz=81,SNR=18
DPC Dobruska-Polom 81.28 326 *e*P P 23 35 28.0 +0.7
DPC *e*PCP PcP 23 35 30.9 -1.5
DPC *ex* x 23 36 58.4
DPC *ex* x 23 37 15.9
DPC Dobruska-Polom 81.28 326 *e*P P 23 35 28.0 +0.7
DPC Dobruska-Polom 81.28 326 *e*P P 23 35 28.3 +1.0
C22A Vida 81.28 37 ⇓P P 23 35 27.4 0.0
baz=81,SNR=5.4
HVU Hansel Valley 81.28 45 *e*P P 23 35 28.8 +1.1
HVU pmax pmax
comp=Z,18nm,0.6s
HVU Hansel Valley 81.28 45 *e*P P 23 35 28.8 +1.1
comp=Z,18nm,0.6s
TPAW Teton Pass 81.29 43 *e*P P 23 35 28.9 +1.1
UPC Upice 81.31 326 *e*P P 23 35 28.0 +0.5
UPC *e*PCP PcP 23 35 30.4 -2.1
UPC Upice 81.31 326 *e*P P 23 35 28.0 +0.5
ISA Isabella, Lake 81.33 53 ⇓P P 23 35 27.3 -0.7
baz=81
VYHS Vyhne 81.33 324 *e*P P 23 35 28.1 +0.5
VYHS Vyhne 81.33 324 *e*P P 23 35 28.1 +0.5
F20A Billings 81.37 40 ⇓P P 23 35 28.0 0.0
baz=81,SNR=7.9
ARVC Arvin 81.40 54 ⇓P P 23 35 28.4 +0.2
baz=81
LOHW Long Hollow 81.41 43 *e*P P 23 35 29.4 +1.0
REDW Red Top Meadow 81.42 43 *e*P P 23 35 29.3 +0.8
E21A Keefer Ranch, 81.46 39 ⇓P P 23 35 28.7 +0.3
baz=81,SNR=5.9
D22A Cohagen 81.53 38 ⇓P P 23 35 28.9 +0.2
baz=81,SNR=13
DAC Darwin (Calif) 81.56 52 *e*P P 23 35 29.2 -0.1
DAC Darwin (Calif) 81.56 52 *e*P P 23 35 29.2 -0.1
C23A Lambert 81.60 37 ⇓P P 23 35 28.9 -0.2
baz=81,SNR=10
R11A Troy Canyon, C 81.63 49 ⇓P P 23 35 29.8 +0.2
baz=82,SNR=36
R11A Troy Canyon, C 81.63 49 *e*P P 23 35 30.0 +0.4
DGMT Dagmar 81.64 36 ⇑P P 23 35 29.4 +0.1
baz=81
DGMT Dagmar 81.64 36 *e*P P 23 35 29.8 +0.5
comp=Z,35nm,0.7s
H19A Powell 81.64 41 ⇑P P 23 35 29.7 +0.2
baz=82,SNR=10
BGU Big Grassy Mou 81.66 46 *e*P P 23 35 30.2 +0.6
comp=Z,5.4nm,0.5s
G20A Bridger 81.71 40 ⇑P P 23 35 29.7 -0.2
baz=82,SNR=14
MPMC Manual Prospec 81.75 52 ⇑P P 23 35 30.4 +0.2
baz=82,SNR=18
A25A Svangstu Ranch 81.85 35 ⇓P P 23 35 30.6 +0.2
baz=82,SNR=6.7
VRAC Vranov 81.87 325 ⇓*i*P P 23 35 31.0 +0.6
VRAC Vranov 81.87 325 ⇓P P 23 35 31.0 +0.6
F21A Absaloka Mine, 81.90 39 ⇑P P 23 35 30.8 0.0
baz=82
FURC Furnace Creek, 81.92 51 ⇓P P 23 35 31.1 +0.2
baz=82,SNR=9.4
PVCC Panska Ves 81.96 327 *e*P P 23 35 32.6 +1.8
PVCC *e*PCP PcP 23 35 35.8 +0.5
PVCC Panska Ves 81.96 327 *e*P P 23 35 32.6 +1.8
LRMC Laurel Mtn Rad 81.96 53 ⇑P P 23 35 31.3 0.0
baz=82
D23A Lindsay 82.01 38 ⇓P P 23 35 31.5 +0.3
baz=82
TPNV Topopah Spring 82.04 51 *e*P P 23 35 32.1 +0.4
TPNV pmax pmax
comp=Z,29nm,0.8s
TPNV Topopah Spring 82.04 51 ⇓P P 23 35 32.0 +0.4
baz=82,SNR=28
TPNV Topopah Spring 82.04 51 *e*P P 23 35 32.0 +0.4
comp=Z,29nm,0.8s
I19A Meeteetse 82.04 42 ⇑P P 23 35 32.1 +0.5
baz=82,SNR=11
CLL Collm 82.10 328 *e*P P 23 35 31.1 -0.4
comp=Z,16nm,1.6s
CLL Collm 82.10 328 ⇑*i*P P 23 35 31.2 -0.3
comp=Z,43nm,2.4s
CLL *i* PcP PcP 23 35 34.6 -1.3
CLL *e* 23 37 05.0
CLL *eS* S 23 45 15.0 -0.1
CLL *eSS* SS 23 50 42.0 -0.5
CLL Collm 82.10 328 *e*P P 23 35 31.4 -0.1
CLL Collm 82.10 328 *e*P P 23 35 31.4 -0.1
EDW2 Edwards Air Fo 82.11 53 ⇓P P 23 35 32.1 +0.2
baz=82,SNR=9.0
E22A Miles City 82.11 38 ⇑P P 23 35 31.7 -0.1
baz=82,SNR=12
C24A Savage 82.16 37 ⇑P P 23 35 32.1 +0.1
baz=82
FBE Freiberg 82.22 328 *e*P P 23 35 32.4 +0.3
comp=Z,11nm,1.0s
DUG Dugway, Tooele 82.23 47 *e*P P 23 35 33.5 +0.9
DUG pmax pmax
comp=Z,44nm,1.2s
DUG Dugway, Tooele 82.23 47 ⇑P P 23 35 33.3 +0.7
baz=82,SNR=28
DUG Dugway, Tooele 82.23 47 *e*P P 23 35 33.5 +0.9
comp=Z,44nm,1.2s
G21A Lodge Grass 82.25 40 ⇑P P 23 35 32.8 +0.2
baz=82,SNR=12
B25A Knox Farm, Ray 82.28 36 ⇓P P 23 35 33.2 +0.6
baz=82,SNR=7.7
GOPC GO Pecny, Ondr 82.29 327 *e*P P 23 35 32.7 +0.2
GOPC *e*PCP PcP 23 35 35.5 -1.3
H20A Greybull 82.30 41 ⇓P P 23 35 33.1 +0.2
baz=82,SNR=11
PRA Prague 82.34 327 *e*P P 23 35 32.1 -0.7
PRA *ex* x 23 35 34.8
PRA Prague 82.34 327 *e*P P 23 35 32.1 -0.7
PRU Pruhonice 82.35 327 *e*P P 23 35 33.1 +0.3
PRU *e*PCP PcP 23 35 35.4 -1.6
PRU Pruhonice 82.35 327 *e*P P 23 35 33.1 +0.3
F22A Rosebud 82.39 39 ⇑P P 23 35 33.0 -0.2
baz=82
A26A Wade Farm, Ken 82.39 35 ⇓P P 23 35 33.0 -0.1
baz=82
TREC Trest 82.40 326 *e*P P 23 35 30.3 -2.8
TREC *ex* x 23 35 33.2
TREC Trest 82.40 326 *e*P P 23 35 30.3 -2.8
E23A Ismay 82.41 38 ⇑P P 23 35 33.7 +0.4
baz=82,SNR=14
D24A Glendive 82.49 37 ⇓P P 23 35 34.4 +0.7
baz=82,SNR=9.7
J19A Crowheart 82.50 42 ⇓P P 23 35 34.8 +0.8
baz=82,SNR=31
PDAR Pinedale Array 82.54 43 P P 23 35 34.2 0.0
comp=Z,20nm,0.8s,baz=295,slow=1.9,SNR=140
PDAR pP pP 23 36 57.8 +1.0
comp=Z,1.0nm,0.7s,baz=287,slow=3.7,SNR=2.5
I20A Worland 82.58 41 ⇑P P 23 35 35.2 +1.0
baz=82,SNR=14
SHOC Shoshone, Teco 82.64 52 ⇓P P 23 35 34.4 -0.2
baz=82,SNR=5.8
GSC Goldstone, Bar 82.64 52 *e*P P 23 35 34.9 +0.1
GSC Goldstone, Bar 82.64 52 ⇓P P 23 35 35.0 +0.3
baz=82,SNR=20
GSC Goldstone, Bar 82.64 52 *e*P P 23 35 34.9 +0.1
B26A Jensen Ranch, 82.66 35 ⇓P P 23 35 34.8 +0.3
baz=82
BFSC Mount Baldy Ra 82.70 54 ⇑P P 23 35 34.6 -0.5
baz=83,SNR=6.3
NEUB Neuenburg 82.70 329 *e*P P 23 35 34.3 -0.3
H21A Big Horn, Sher 82.73 40 ⇑P P 23 35 35.3 +0.2
baz=82,SNR=11
G22A Birney 82.74 40 ⇓P P 23 35 34.9 -0.1
baz=83
JLU Jordanelle 82.80 46 *e*P P 23 35 36.7 +1.1
NLU North Lily Min 82.83 46 *e*P P 23 35 36.6 +0.9
comp=Z,20nm,1.1s
SCI San Clemente I 82.83 55 ⇓P P 23 35 35.5 -0.1
baz=83
VTS Vitosha 82.87 317 ⇓*i*P P 23 35 39.5 +3.7
VTS Vitosha 82.87 317 ⇓P P 23 35 39.5 +3.7
F23A Volborg 82.87 39 ⇑P P 23 35 35.5 -0.2
baz=83,SNR=10
E24A Baker 82.88 38 ⇑P P 23 35 35.8 +0.2
baz=83,SNR=8.0
PKSM Moragy 82.96 322 ⇓*i*P P 23 35 35.5 -0.5
PKSM Moragy 82.96 322 ⇓P P 23 35 35.5 -0.5
D25A Fairfield 82.97 37 ⇑P P 23 35 36.4 +0.3
baz=83
J20A Shoshoni 82.99 42 ⇓P P 23 35 36.5 +0.1
baz=83,SNR=25
SHPR Sheep Range 83.00 51 *e*P P 23 35 37.3 +0.7
MPU Maple Canyon 83.05 46 *e*P P 23 35 37.8 +0.9
comp=Z,46nm,1.2s
GUNZ Gunzen 83.08 328 *e*P P 23 35 38.0 +1.4
comp=Z,8.0nm,1.2s
C26A Wahner Farm, P 83.11 36 ⇑P P 23 35 36.9 +0.1
baz=83
H22A Clearmont 83.12 40 ⇓P P 23 35 36.9 -0.2
baz=83,SNR=5.3
I21A Big Trails, Te 83.13 41 ⇑P P 23 35 37.3 +0.2
baz=83,SNR=6.8
TUQ Turquoise Moun 83.14 52 ⇑P P 23 35 37.3 0.0
baz=83,SNR=21
CONA Conrad Observa 83.17 325 ⇑*i*PcP P 23 35 38.3 +1.1
comp=Z,3.1nm,0.7s
A28A Rude Farm, Bot 83.22 34 ⇑P P 23 35 37.5 +0.2
baz=83,SNR=8.6
G23A Biddle 83.23 39 ⇑P P 23 35 37.4 -0.1
baz=83,SNR=7.5
HEC Hector,Ludlow 83.24 53 ⇓P P 23 35 37.9 +0.1
baz=83,SNR=21
F24A Ekalaka 83.29 38 ⇑P P 23 35 37.8 0.0
baz=83,SNR=11
J21A Lysite 83.35 42 ⇓P P 23 35 38.5 +0.2
baz=83,SNR=31
MURC Murrieta 83.38 54 ⇓P P 23 35 38.3 -0.1
baz=83
KHC Kasperske Hory 83.40 327 *e*P P 23 35 38.0 -0.2
KHC Kasperske Hory 83.40 327 *e*P P 23 35 38.0 -0.2
C27A Sayler Ranch, 83.47 35 ⇑P P 23 35 38.9 +0.3
baz=83
D26A Manning 83.49 36 ⇑P P 23 35 38.7 -0.1
baz=83,SNR=7.6
B28A Dugan Ranch, T 83.50 34 ⇑P P 23 35 38.7 0.0
baz=83,SNR=6.9
CCUT Cedar City 83.51 49 *e*P P 23 35 39.9 +0.6
comp=Z,7.5nm,0.8s
I22A 9 Mile Ranch, 83.51 41 ⇑P P 23 35 39.2 +0.2
baz=83,SNR=11
GERES GERESS Array B 83.55 326 P P 23 35 38.8 -0.3
comp=Z,2.0nm,0.6s,baz=42,slow=5.5,SNR=22
GERES GERESS Array B 83.55 326 P P 23 35 38.8 -0.3
GERES pmax pmax
comp=Z,2.0nm,0.6s
MVU Marysvale 83.64 48 *e*P P 23 35 41.1 +1.1
G24A Alzada 83.65 39 ⇓P P 23 35 39.4 -0.3
baz=84
A29A Manning Farm, 83.69 33 ⇓P P 23 35 39.7 +0.1
baz=84,SNR=5.7
GMRC Granite Mounta 83.71 52 ⇑P P 23 35 40.3 +0.1
baz=84,SNR=20
F25A Bowman 83.74 38 ⇑P P 23 35 39.4 -0.6
baz=84
TMUT Trail Mountain 83.76 46 *e*P P 23 35 41.6 +1.1
J22A Midwest 83.83 41 ⇑P P 23 35 40.5 -0.2
baz=84,SNR=44
E26A Carlson Angus 83.87 37 ⇓P P 23 35 40.4 -0.2
baz=84
PFO Pinyon Flats O 83.88 54 P P 23 35 41.0 -0.1
comp=Z,209nm,0.8s,SNR=16
PFO Pinyon Flats O 83.88 54 ⇓P P 23 35 40.9 -0.2
baz=84,SNR=24
D27A Center 83.89 36 ⇓P P 23 35 40.8 +0.1
baz=84
K21A Alcova 83.92 42 ⇑P P 23 35 41.4 +0.2
baz=84,SNR=54
BELC Belle Mtn. Jos 83.95 53 ⇓P P 23 35 40.9 -0.5
baz=84,SNR=24
B29A Wagenman Farm, 83.96 34 ⇑P P 23 35 41.0 0.0
baz=84,SNR=5.0
H24A Dirks Ranch, A 83.97 39 ⇑P P 23 35 41.6 +0.3
baz=84,SNR=15
C28A Hausauer Farms 84.01 35 ⇑P P 23 35 41.0 -0.3
baz=84
A30A Hoffart Farm, 84.10 33 ⇓P P 23 35 41.4 -0.3
baz=84
F26A Lodgepole 84.19 37 ⇑P P 23 35 42.1 -0.2
baz=84
DAMY Dhamar 84.20 284 *e*P P 23 35 44.6 +1.5
ULM Lac du Bonnet 84.21 31 P P 23 35 41.9 -0.3
comp=Z,12nm,0.9s,baz=310,slow=4.7,SNR=15
ULM Lac du Bonnet 84.21 31 P P 23 35 41.9 -0.3
ULM pmax pmax
comp=Z,12nm,0.9s
G25A Newell 84.26 38 ⇓P P 23 35 42.6 -0.1
baz=84
BAR Barrett 84.28 54 *e*P P 23 35 43.3 +0.3
MDND Maddock 84.28 34 ⇑P P 23 35 42.9 +0.2
baz=84
SRU San Rafael Swe 84.29 46 *e*P P 23 35 43.7 +0.6
SRU pmax pmax
comp=Z,32nm,0.8s
SRU San Rafael Swe 84.29 46 *e*P P 23 35 43.7 +0.6
comp=Z,32nm,0.8s
D28A Regan 84.29 35 ⇓P P 23 35 42.8 +0.1
baz=84
K22A Casper 84.31 42 ⇑P P 23 35 43.0 -0.1
baz=84,SNR=13
K22A Casper 84.31 42 *e*P P 23 35 43.5 +0.4
MONP Monument Peak, 84.33 54 ⇓P P 23 35 43.2 -0.3
baz=84,SNR=11
E27A Carson 84.34 36 ⇑P P 23 35 43.3 +0.3
baz=84,SNR=8.1
IRM Iron Mountain 84.42 52 ⇓P P 23 35 44.1 +0.5
baz=84,SNR=16
PERS Pernice 84.44 324 *i*P P 23 35 43.4 -0.1
SOKA Soboth 84.45 324 ⇓*i*PcP P 23 35 43.9 +0.3
comp=Z,1.6nm,0.5s
F27A Lemmon 84.50 37 ⇓P P 23 35 43.9 0.0
baz=84
N20A Spence Gulch, 84.52 44 ⇓P P 23 35 44.9 +0.7
baz=84,SNR=31
BC3 Big Chuckawall 84.52 53 ⇑P P 23 35 44.5 +0.2
baz=84,SNR=15
H25A Fruitdale 84.56 39 ⇑P P 23 35 44.3 +0.1
baz=84
G26A Maurine 84.61 38 ⇑P P 23 35 44.4 0.0
baz=84,SNR=9.9
RSSD Black Hills 84.67 39 *e*P P 23 35 44.9 0.0
RSSD Black Hills 84.67 39 *e*P P 23 35 44.9 0.0
W13A Hualapai Mount 84.68 51 ⇑P P 23 35 45.1 0.0
baz=84,SNR=16
IBP Imperial Bould 84.69 54 ⇑P P 23 35 45.2 +0.2
baz=84
SWSC Sam W. Stewart 84.72 54 ⇓P P 23 35 45.0 -0.1
baz=85
K23A Bowen Ranch, D 84.74 41 ⇑P P 23 35 44.6 -0.6
baz=85
L22A Ellis Ranch, M 84.77 42 ⇑P P 23 35 45.9 +0.4
baz=85,SNR=12
J24A Dixon Ranch, L 84.87 40 ⇓P P 23 35 45.7 -0.1
baz=85
U15A North Rim 84.88 49 ⇓P P 23 35 46.8 +0.6
baz=85,SNR=23
G27A Dupree 84.89 37 ⇓P P 23 35 45.8 0.0
baz=85,SNR=6.5
I25A Rochford 84.90 39 ⇓P P 23 35 45.9 -0.2
baz=85,SNR=12
C30A Mose, Pekin 84.92 34 ⇓P P 23 35 46.1 +0.3
baz=85
O20A White River Ci 84.98 44 ⇓P P 23 35 46.7 +0.2
baz=85,SNR=11
H26A Fairpoint 84.99 38 ⇑P P 23 35 46.0 -0.2
baz=85
PDMCI Parker Dam,Lak 85.00 52 ⇑P P 23 35 46.1 -0.4
baz=85,SNR=13
Y12C Blythe 85.08 52 ⇑P P 23 35 46.9 0.0
baz=85,SNR=6.4
M22A Cedar Creek Ra 85.10 43 ⇑P P 23 35 47.0 -0.1
baz=85,SNR=20
L23A Garrett 85.12 42 ⇑P P 23 35 47.1 -0.1
baz=85,SNR=37
F28A McLaughlin 85.13 36 ⇓P P 23 35 47.2 +0.3
baz=85
VISS Visnje 85.16 324 *i*P P 23 35 47.0 0.0
K24A Anderson Ranch 85.20 41 ⇑P P 23 35 47.4 -0.1
baz=85
D30A Buchanan 85.22 35 ⇑P P 23 35 47.0 -0.3
baz=85
J25A Sunshine Ranch 85.29 40 ⇓P P 23 35 47.9 +0.1
baz=85
GLA Glamis 85.30 53 ⇑P P 23 35 48.3 +0.3
baz=85,SNR=7.8
H27A Howes 85.34 38 ⇓P P 23 35 48.0 0.0
baz=85,SNR=7.6
I26A New Underwood 85.35 39 ⇓P P 23 35 48.7 +0.6
baz=85
M23A Laramie 85.54 42 ⇓P P 23 35 49.6 +0.3
baz=85,SNR=16
N22A Wattenberg Ran 85.58 43 ⇓P P 23 35 50.4 +0.8
baz=85,SNR=20
E30A Jud 85.58 35 ⇓P P 23 35 49.3 +0.2
baz=85,SNR=5.6
L24A Wheatland 85.60 41 ⇑P P 23 35 49.8 +0.4
baz=85
G28A Parade 85.62 37 ⇓P P 23 35 49.5 +0.1
baz=85

F29A	Eureka	85.62	36	⇑P		P		23 35 49.2	-0.1	
	baz=85									
AGMN	Agassiz Nation	85.67	32	⇓P		P		23 35 49.4	0.0	
	baz=86									
J26A	Sides Ranch, S	85.73	39	⇓P		P		23 35 49.9	0.0	
	baz=86,SNR=16									
K25A	Mack Ranch, Ha	85.79	40	⇓P		P		23 35 50.7	+0.4	
	baz=86									
N23A	Red Feather La	85.80	43	⇑P		P		23 35 51.3	+0.7	
	baz=86,SNR=20									
PHWY	Pilot Hill	85.80	42	eP		P		23 35 51.3	+0.7	
O22A	Kremmling	85.95	43	⇑P		P		23 35 51.7	+0.3	
	baz=86,SNR=23									
Y14A	Wickenburg	85.96	52	⇓P		P		23 35 52.0	+0.8	
	baz=86									
WUAZ	Wupatki	86.03	49	⇑P		P		23 35 51.8	+0.1	
	baz=86,SNR=11									
WUAZ	Wupatki	86.03	49	eP		P		23 35 52.5	+0.8	
	comp=Z,12nm,0.9s									
M24A	Cheyenne	86.04	42	⇓P		P		23 35 52.4	+0.7	
	baz=86,SNR=16									
L25A	Engebretsen Ra	86.05	41	⇓P		P		23 35 51.5	-0.1	
	baz=86									
K26A	Motz Farm, Whi	86.10	40	⇑P		P		23 35 51.7	-0.1	
	baz=86,SNR=8.1									
113A	Mohawk Valley,	86.18	53	⇓P		P		23 35 52.2	0.0	
	baz=86,SNR=9.1									
P22A	Eagle	86.20	44	⇑P		P		23 35 53.3	+0.8	
	baz=86,SNR=38									
I28A	Midland	86.25	38	⇓P		P		23 35 52.4	0.0	
	baz=86									
O23A	Lake Granby, G	86.27	43	⇓P		P		23 35 54.0	+1.1	
	baz=86,SNR=23									
H29A	Onida	86.29	37	⇑P		P		23 35 53.0	+0.4	
	baz=86									
J27A	Elkhorn Farm,	86.33	39	⇑P		P		23 35 53.1	+0.2	
	baz=86,SNR=12									
SMCO	Snowmass	86.35	44	eP		P		23 35 54.2	+0.8	
N24A	Carr	86.44	42	⇑P		P		23 35 53.8	+0.2	
	baz=86,SNR=5.8									
G30A	Faulkton	86.46	36	⇓P		P		23 35 53.1	-0.2	
	baz=86,SNR=9.1									
M25A	Palm-Egli Farm	86.49	41	⇑P		P		23 35 53.8	0.0	
	baz=86									
K27A	Flueckinger Fa	86.60	39	⇓P		P		23 35 54.0	-0.2	
	baz=86									
J28A	Allard Ranch,	86.62	38	⇑P		P		23 35 54.4	+0.2	
	baz=86,SNR=6.4									
I29A	Vivian Onida	86.67	37	⇓P		P		23 35 55.2	+0.8	
	baz=86,SNR=5.4									
X16A	Lo Mia Camp, P	86.68	50	⇑P		P		23 35 55.2	+0.3	
	baz=86,SNR=7.5									
ISCO	Idaho Springs	86.72	43	eP		P		23 35 55.8	+0.7	
ISCO				pmax		pmax				
	comp=Z,14nm,0.8s									
ISCO	Idaho Springs	86.72	43	⇑P		P		23 35 55.6	+0.5	
	baz=86,SNR=16									
ISCO	Idaho Springs	86.72	43	eP		P		23 35 55.8	+0.7	
	comp=Z,14nm,0.8s									
MVCO	Mesa Verde	86.73	47	⇓P		P		23 35 55.6	+0.5	
	baz=87									
CDF	Champ du Feu	86.73	329	eP		P		23 35 54.8	+0.1	
	comp=Z,4.0nm,0.8s									
CDF	Champ du Feu	86.73	329	eP		P		23 35 54.8	+0.1	
CDF				pmax		pmax				
	comp=Z,4.0nm,0.8s									
CDF	Champ du Feu	86.73	329	eP		P		23 35 54.8	+0.1	
	comp=Z,4.0nm,0.8s									
FUORN	Ofenpass-Fuorn	86.76	326	eP		P		23 35 54.9	-0.2	
O24A	Longmont	86.81	43	⇓P		P		23 35 55.9	+0.6	
	baz=87									
P23A	Jefferson	86.88	44	⇓P		P		23 35 56.9	+1.0	
	baz=87,SNR=17									
M26A	McRoberts Ranc	86.97	41	⇑P		P		23 35 56.9	+0.9	
	baz=87									
BRSD	Miller	87.04	36	⇓P		P		23 35 56.2	0.0	
	baz=87									
K28A	Ten Mile Ranch	87.05	39	⇓P		P		23 35 57.1	+0.8	
	baz=87									
J29A	Okreek	87.10	38	⇓P		P		23 35 56.5	0.0	
	baz=87,SNR=6.6									
I30A	Oacoma	87.19	37	⇓P		P		23 35 56.9	0.0	
	baz=87,SNR=5.0									
Q23A	Hartsel	87.19	44	⇓P		P		23 35 58.1	+0.8	
	baz=87,SNR=13									
TUE	Stuetta	87.29	327	eP		P		23 35 57.5	-0.1	
214A	Organ Pipe Nat	87.32	53	⇓P		P		23 35 58.3	+0.5	
	baz=87									
P24A	Kohler Place,	87.32	43	⇓P		P		23 35 58.4	+0.7	
	baz=87									
O25A	Wiggins	87.36	42	⇑P		P		23 35 58.1	+0.2	
	baz=87									
N26A	Koester Ranch,	87.36	41	⇑P		P		23 35 58.0	+0.1	
	baz=87									
S22A	4UR Ranch, Cre	87.38	45	⇑P		P		23 35 59.0	+0.8	
	baz=87,SNR=8.0									
Q24A	Divide	87.55	44	⇑P		P		23 35 59.3	+0.3	
	baz=87,SNR=11									
X18A	Snowflake	87.56	50	⇓P		P		23 35 59.7	+0.7	
	baz=87									
K29A	Lazy Trails An	87.56	38	⇑P		P		23 35 58.8	+0.1	
	baz=87									
J30A	Dallas	87.58	38	⇑P		P		23 35 59.2	+0.5	
	baz=87									
R23A	Moffat	87.68	45	⇑P		P		23 36 00.4	+0.8	
	baz=88,SNR=15									
O26A	Horse Wrangler	87.72	42	⇓P		P		23 35 59.8	+0.2	
	baz=88									
P25A	Willow Gulch B	87.74	43	⇑P		P		23 35 59.9	+0.2	
	baz=88,SNR=5.6									
EYMN	Ely	87.83	30	eP		P		23 36 00.1	+0.3	
	comp=Z,25nm,1.0s									
K30A	Basset	87.99	38	⇓P		P		23 36 00.6	0.0	
	baz=88,SNR=5.2									
R24A	Sanders Place,	88.07	44	⇑P		P		23 36 01.9	+0.5	
	baz=88,SNR=18									
Q25A	Bedland, Calha	88.10	43	⇓P		P		23 36 01.4	-0.1	
	baz=88,SNR=14									
SDCO	Great Sand Dun	88.17	45	⇓P		P		23 36 02.6	+0.7	
	baz=88,SNR=11									
SDCO	Great Sand Dun	88.17	45	eP		P		23 36 02.6	+0.7	
	comp=Z,15nm,1.4s									
P26A	Davis Ranch, A	88.17	42	⇑P		P		23 36 02.2	+0.5	
	baz=88,SNR=6.2									
N28A	Pribbeno Ranch	88.38	40	⇓P		P		23 36 03.1	+0.5	
	baz=88									
TUC	Tucson	88.43	52	eP		P		23 36 02.6	-0.4	
TUC	Tucson	88.43	52	eP		P		23 36 02.6	-0.4	
L30A	Spencer Herefo	88.45	39	⇑P		P		23 36 02.2	-0.7	
	baz=88									
Q26A	Hugo	88.51	43	⇑P		P		23 36 03.2	-0.2	
	baz=88									
P27A	Ficken Ranch,	88.60	42	⇓P		P		23 36 04.3	+0.6	
	baz=88									
CABF	La Chapelle	88.64	329	eP		P		23 36 04.0	+0.3	
	comp=Z,2.5nm,0.6s									
CABF	La Chapelle	88.64	329	eP		P		23 36 04.0	+0.3	
CABF				pmax		pmax				
	comp=Z,3.0nm,0.6s									
CABF	La Chapelle	88.64	329	eP		P		23 36 04.0	+0.3	
	comp=Z,2.5nm,0.6s									
O28A	Krutsinger Ran	88.65	41	⇑P		P		23 36 04.0	+0.2	
	baz=88									
M30A	Dale-Ortello V	88.67	39	⇑P		P		23 36 03.8	-0.1	
	baz=88									
ECSD	EROS Data Cent	88.71	36	⇓P		P		23 36 04.0	0.0	
	baz=88									
ECSD	EROS Data Cent	88.71	36	eP		P		23 36 04.0	0.0	
	comp=Z,20nm,1.0s									
L31A	Butterfield Fa	88.74	38	⇓P		P		23 36 04.3	+0.1	
	baz=88									
N29A	Votaw Ranch, W	88.78	40	⇑P		P		23 36 04.6	+0.2	
	baz=89									
KSCO	Kaye Shedlock'	88.95	42	⇑P		P		23 36 05.7	+0.3	
	baz=89									
R26A	Arlington	88.98	43	⇑P		P		23 36 05.7	+0.2	
	baz=89,SNR=20									
P28A	Saint Francis	89.04	41	⇓P		P		23 36 06.0	+0.3	
	baz=89									
LOR	Lormes	89.06	330	eP		P		23 36 06.8	+1.2	
	comp=Z,6.7nm,0.9s									
LOR	Lormes	89.06	330	eP		P		23 36 06.8	+1.2	
LOR				pmax		pmax				
	comp=Z,7.0nm,0.9s									
LOR	Lormes	89.06	330	eP		P		23 36 06.8	+1.2	
	comp=Z,6.7nm,0.9s									
O29A	4D Ranch, Culb	89.18	40	⇓P		P		23 36 06.5	+0.2	
	baz=89									
LPL	La Plagne	89.20	328	eP		P		23 36 05.8	-0.7	
	comp=Z,2.9nm,0.5s									
LPL	La Plagne	89.20	328	eP		P		23 36 05.8	-0.7	
LPL				pmax		pmax				
	comp=Z,3.0nm,0.5s									
LPL	La Plagne	89.20	328	eP		P		23 36 05.8	-0.7	
	comp=Z,2.9nm,0.5s									
LPG	La Plagne	89.20	328	eP		P		23 36 06.0	-0.6	
	comp=Z,6.0nm,0.8s									
LPG	La Plagne	89.20	328	eP		P		23 36 06.0	-0.6	
LPG				pmax		pmax				
	comp=Z,6.0nm,0.8s									
LPG	La Plagne	89.20	328	eP		P		23 36 06.0	-0.6	
	comp=Z,6.0nm,0.8s									
T25A	Trinidad	89.22	45	⇑P		P		23 36 07.2	+0.5	
	baz=89,SNR=11									
R27A	Eads	89.36	43	⇑P		P		23 36 07.1	-0.1	
	baz=89									
Q28A	Sharon Springs	89.36	42	⇑P		P		23 36 07.4	+0.1	
	baz=89									
SPMN	Marine on St.	89.37	33	⇑P		P		23 36 07.4	+0.4	
	baz=89									
S26A	Kim	89.43	44	⇓P		P		23 36 07.6	0.0	
	baz=89									
SCHQ	Schefferville	89.44	14	P		P		23 36 06.7	-0.5	
	comp=Z,7.4nm,0.9s,baz=10,slow=3.7,SNR=10.0									
SCHQ				PKKPbc		PKKPdf		23 53 33.0	-0.8	
	comp=Z,2.3nm,0.9s,baz=197,slow=6.2,SNR=2.7									
ANMO	Albuquerque	89.46	47⇑	eP		P		23 36 09.0	+1.1	
ANMO				pmax		pmax				
	comp=Z,25nm,1.2s									
ANMO	Albuquerque	89.46	47	eP		P		23 36 08.5	+0.5	
LDF	La Druitiere	89.56	333	eP		P		23 36 08.6	+0.8	
LDF	La Druitiere	89.56	333	eP		P		23 36 08.6	+0.8	
LDF	La Druitiere	89.56	333	eP		P		23 36 08.6	+0.8	
BGNE	Belgrade	89.65	38	⇓P		P		23 36 09.3	+0.8	
	baz=90									
AVF	Avril sur Loir	89.65	330	eP		P		23 36 08.8	+0.5	
	comp=Z,7.8nm,1.0s									
AVF	Avril sur Loir	89.65	330	eP		P		23 36 08.8	+0.5	
AVF				pmax		pmax				
	comp=Z,8.0nm,1.0s									
AVF	Avril sur Loir	89.65	330	eP		P		23 36 08.8	+0.5	
	comp=Z,7.8nm,1.0s									
T26A	Comanche Natio	89.67	44	⇓P		P		23 36 09.2	+0.4	
	baz=90,SNR=7.1									
LPM	Los Pinos Moun	89.78	48	eP		P		23 36 09.0	-0.3	
MBDF	Montbardon	89.79	327	eP		P		23 36 09.1	-0.1	
MBDF	Montbardon	89.79	327	eP		P		23 36 09.1	-0.1	
MBDF	Montbardon	89.79	327	eP		P		23 36 09.1	-0.1	
R28A	Tribune	89.87	42	⇓P		P		23 36 09.9	+0.2	
	baz=90,SNR=5.3									
P30A	Selden	89.89	41	⇑P		P		23 36 09.5	-0.1	
	baz=90									
Q29A	Oakley	89.95	41	⇑P		P		23 36 10.0	0.0	
	baz=90									
GRR	Gorron	90.01	333	eP		P		23 36 09.7	-0.2	
GRR	Gorron	90.01	333	eP		P		23 36 09.7	-0.2	
GRR	Gorron	90.01	333	eP		P		23 36 09.7	-0.2	
319A	Douglas	90.01	52	⇓P		P		23 36 10.9	+0.5	
	baz=90									
R29A	Marienthal	90.19	42	⇑P		P		23 36 11.6	+0.5	
	baz=90									
T27A	Campo	90.25	44	⇓P		P		23 36 12.0	+0.6	
	baz=90									
Q30A	Quinter	90.31	41	⇑P		P		23 36 11.7	+0.2	
	baz=90									
S28A	Manter	90.35	43	⇑P		P		23 36 12.1	+0.2	
	baz=90,SNR=7.1									
P31A	Stockton	90.37	40	⇑P		P		23 36 11.9	+0.1	
	baz=90									
T28A	Walsh	90.56	43	⇓P		P		23 36 12.8	0.0	
	baz=90									
U27A	Thompson Grove	90.63	44	⇑P		P		23 36 13.4	+0.2	
	baz=90									
P32A	Huiting Farm,	90.72	40	⇓P		P		23 36 13.6	+0.2	
	baz=90									
SGMF	Saint Gilles	90.75	334	eP		P		23 36 13.1	-0.2	
SGMF	Saint Gilles	90.75	334	eP		P		23 36 13.1	-0.2	
SGMF	Saint Gilles	90.75	334	eP		P		23 36 13.1	-0.2	
R30A	Dighton	90.77	41	⇓P		P		23 36 14.1	+0.4	
	baz=91									
ROSF	Rostrenen	90.93	335	eP		P		23 36 14.0	-0.2	
	comp=Z,17nm,1.0s									
ROSF	Rostrenen	90.93	335	eP		P		23 36 14.0	-0.2	
ROSF				pmax		pmax				
	comp=Z,17nm,1.0s									
ROSF	Rostrenen	90.93	335	eP		P		23 36 14.0	-0.2	
	comp=Z,17nm,1.0s									
V27A	Dan Oppiter Fa	91.08	45	⇓P		P		23 36 16.0	+0.7	
	baz=91									
S30A	Montezuma	91.12	42	⇓P		P		23 36 16.0	+0.6	
	baz=91									
R31A	Burdett	91.18	41	⇑P		P		23 36 15.8	+0.2	
	baz=91									
MFF	Saint Martin d	91.22	332	eP		P		23 36 15.4	-0.1	
	comp=Z,7.5nm,0.9s									
MFF	Saint Martin d	91.22	332	eP		P		23 36 15.4	-0.1	
MFF				pmax		pmax				
	comp=Z,8.0nm,0.9s									
MFF	Saint Martin d	91.22	332	eP		P		23 36 15.4	-0.1	
	comp=Z,7.5nm,0.9s									
V28A	Channing	91.45	44	⇓P		P		23 36 17.1	+0.1	
	baz=91									
T30A	Plains	91.50	42	⇑P		P		23 36 17.2	0.0	
	baz=91									
U29A	Oasis Ranch, S	91.51	43	⇓P		P		23 36 17.1	-0.1	
	baz=91									
R32A	Long Quarter,	91.53	40	⇑P		P		23 36 16.5	-0.7	
	baz=91									
Q33A	Connelly Farm,	91.58	40	⇓P		P		23 36 17.2	-0.2	
	baz=91									
RJF	Les Rejaudoux	91.61	330	eP		P		23 36 17.1	-0.3	
	comp=Z,5.3nm,0.8s									
RJF	Les Rejaudoux	91.61	330	eP		P		23 36 17.1	-0.3	
RJF				pmax		pmax				
	comp=Z,5.0nm,0.8s									
RJF	Les Rejaudoux	91.61	330	eP		P		23 36 17.1	-0.3	
	comp=Z,5.3nm,0.8s									
S31A	Mullinville	91.68	41	⇓P		P		23 36 17.7	-0.2	
	baz=92									
CAF	Calviac	91.69	330	eP		P		23 36 17.8	0.0	
CAF	Calviac	91.69	330	eP		P		23 36 17.8	0.0	
CAF	Calviac	91.69	330	eP		P		23 36 17.8	0.0	
W28A	Vega	91.80	45	⇓P		P		23 36 19.7	+1.1	
	baz=92									
U30A	WK&E Inc. Balk	91.80	43	⇑P		P		23 36 18.3	-0.3	
	baz=92									
T31A	Randall Ranch,	91.95	42	⇓P		P		23 36 19.7	+0.5	
	baz=92									
R33A	Olander Ranch,	92.00	40	⇓P		P		23 36 19.8	+0.4	
	baz=92									
KSU1	Kansas State U	92.15	39	⇓P		P		23 36 20.3	+0.3	
	baz=92									
KSU1	Kansas State U	92.15	39	eP		P		23 36 20.2	+0.3	
	comp=Z,19nm,0.6s									
LFF	La Frestale	92.22	331	eP		P		23 36 20.2	0.0	
	comp=Z,8.1nm,0.6s									
LFF	La Frestale	92.22	331	eP		P		23 36 20.2	0.0	
LFF				pmax		pmax				
	comp=Z,8.0nm,0.6s									
LFF	La Frestale	92.22	331	eP		P		23 36 20.2	0.0	
	comp=Z,8.1nm,0.6s									
MNTX	Cornudas Mount	92.30	49	⇓P		P		23 36 20.6	-0.3	
	baz=92									
T32A	Huddler Ranch,	92.31	41	⇑P		P		23 36 20.8	0.0	
	baz=92									
MSTX	Muleshoe	92.36	46	⇓P		P		23 36 21.3	+0.1	
	baz=92									
AMTX	Amarillo	92.37	45	⇓P		P		23 36 21.6	+0.3	
	baz=92									
AMTX	Amarillo	92.37	45	eP		P		23 36 21.9	+0.7	
S33A	Kaszmaul Farm,	92.51	41	⇓P		P		23 36 22.1	+0.4	
	baz=92									
GDL2	Guadalupe Moun	92.60	48	eP		P		23 36 23.2	+0.8	
X29A	Tulia	92.66	45	⇑P		P		23 36 23.0	+0.4	
	baz=92									
Y28A	McKinney Farm,	92.71	46	⇓P		P		23 36 23.0	+0.2	
	baz=92									
V31A	Spring Creek L	92.80	43	⇓P		P		23 36 24.0	+0.9	
	baz=93									
S34A	Willow Spring	92.91	40	⇑P		P		23 36 23.6	0.0	
	baz=93									
Z28A	Tucker Farm, M	93.06	46	⇓P		P		23 36 24.5	+0.1	
	baz=93									
W31A	Holland Ranch,	93.16	43	⇓P		P		23 36 24.9	+0.1	
	baz=93									
V32A	Arapaho	93.29	43	⇑P		P		23 36 25.9	+0.5	
	baz=93									
U33A	Lingo Farm, Me	93.30	42	⇑P		P		23 36 25.4	0.0	
	baz=93									
R36A	Gordon, Harris	93.30	39	⇑P		P		23 36 24.8	-0.5	
	baz=93									
S35A	Otter Creek Ra	93.35	40	⇓P		P		23 36 25.5	-0.1	
	baz=93									
128A	Castleberry Fa	93.46	47	⇑P		P		23 36 26.2	-0.1	
	baz=93									
Z29A	Hungry Hill Ra	93.49	46	⇑P		P		23 36 26.8	+0.4	
	baz=93									
Y30A	Stafford Cattl	93.54	45	⇓P		P		23 36 26.9	+0.3	
	baz=93									
X31A	McDonald Ranch	93.54	44	⇑P		P		23 36 26.3	-0.2	
	baz=93									
W32A	Sentinel	93.61	43	⇓P		P		23 36 27.6	+0.7	
	baz=93									
U34A	Anderson Ranch	93.61	41	⇑P		P		23 36 26.9	+0.1	
	baz=93									
V33A	Lossen Ranch,	93.64	42	⇑P		P		23 36 26.8	-0.1	
	baz=94									
S36A	Lake Cedric, C	93.70	39	⇓P		P		23 36 27.4	+0.3	
	baz=94									
228A	UT Block 9, Go	93.75	47	⇑P		P		23 36 28.0	+0.4	
	baz=94									
Z30A	Sanderson Ranc	93.82	45	⇑P		P		23 36 28.1	+0.2	
	baz=94									
Y31A	Rekieta Farm,	93.85	44	⇓P		P		23 36 28.6	+0.6	
	baz=94									
W33A	Caddo, Fort Co	94.03	43	⇓P		P		23 36 29.5	+0.7	
	baz=94									
V34A	Guthrie	94.06	42	⇑P		P		23 36 29.0	+0.1	
	baz=94									
X32A	Elmer	94.09	44	⇓P		P		23 36 29.1	+0.1	
	baz=94									
Y32A	R-V Farms, Ver	94.30	44	⇓P		P		23 36 30.2	+0.2	
	baz=94									
229A	Bryant Ranch,	94.33	47	⇑P		P		23 36 30.5	+0.3	
	baz=94									
Z31A	Sharp Cattle R	94.38	45	⇓P		P		23 36 30.0	-0.4	
	baz=94									
130A	Snyder	94.40	46	⇑P		P		23 36 30.2	-0.3	
	baz=94									
V35A	Meyer Ranch, C	94.49	41	⇑P		P		23 36 30.5	-0.3	
	baz=94									
329A	Wagon Wheel Ra	94.56	47	⇑P		P		23 36 31.2	-0.1	
	baz=94									
131A	Roby	94.69	45	⇓P		P		23 36 32.1	+0.3	
	baz=94									
Z32A	Haskell	94.77	44	⇓P		P		23 36 32.3	+0.1	
	baz=95									
W35A	Tecumseh	94.92	42	⇓P		P		23 36 32.4	-0.4	
	baz=95									
TUL1	Leonard	94.95	40	⇓P		P		23 36 32.6	-0.3	
	baz=95									
TXAR	Lajitas Array	94.99	50	P		P		23 36 33.7	+0.4	
	comp=Z,6.5nm,0.8s,baz=290,slow=3.4,SNR=66									
TXAR				pP		pP		23 37 58.5	+0.9	
	comp=Z,3.3nm,1.1s,baz=270,slow=2.5,SNR=5.7									
TXAR				PKKPbc		PKKPbc		23 53 26.9	+1.1	
	comp=Z,0.3nm,0.8s,baz=152,slow=5.7,SNR=3.4									
TXAR	Lajitas Array	94.99	50	P		P		23 36 33.7	+0.4	
TXAR				*PP		pP		23 37 58.5	+0.9	
TXAR				pmax		pmax				
	comp=Z,7.0nm,0.8s									
TXAR				pmax		pmax				
	comp=Z,3.0nm,1.1s									
330A	Mertzon	95.11	47	⇓P		P		23 36 33.6	-0.2	
	baz=95									
W36A	Wetumka	95.28	41	⇓P		P		23 36 34.4	0.0	
	baz=95									
529A	Stev Forest Ra	95.36	48	⇓P		P		23 36 35.2	+0.3	
	baz=95									
X35A	Drake	95.42	42	⇑P		P		23 36 35.0	0.0	
	baz=95									
430A	Baggett Ranch,	95.50	47	⇑P		P		23 36 35.6	0.0	
	baz=95									
Z34A	Collier Ranch,	95.63	43	⇓P		P		23 36 36.2	+0.2	
	baz=95									
X36A	Centrahoma	95.64	42	⇑P		P		23 36 36.1	+0.1	
	baz=95									
232A	Coleman	95.69	46	⇑P		P		23 36 36.3	-0.1	
	baz=96									
530A	J-C Ranch, Com	95.89	48	⇑P		P		23 36 37.4	0.0	
	baz=96									
431A	Sonora	95.96	47	⇑P		P		23 36 37.7	0.0	
	baz=96									
332A	Millersview	95.99	46	⇓P		P		23 36 37.8	0.0	
	baz=96									
233A	Rising Star	96.04	45	⇑P		P		23 36 38.0	0.0	
	baz=96									
Z35A	Perchaven, San	96.04	43	⇓P		P		23 36 37.8	-0.1	
	baz=96									
432A	Menard	96.32	46	⇓P		P		23 36 39.4	+0.1	
	baz=96									
531A	Rocksprings	96.36	47	⇓P		P		23 36 39.6	+0.1	
	baz=96									
333A	Richland Sprin	96.48	46	⇑P		P		23 36 40.2	+0.3	
	baz=96									
135A	Vickery Place,	96.51	44	⇓P		P		23 36 39.8	-0.2	
	baz=96									
532A	Rocksprings	96.78	47	⇑P		P		23 36 41.2	-0.1	
	baz=97									

67nm,0.3s,baz=275,slow=18,SNR=10
NNA Nana 4.18 205 P **Pn** 23 31 47.0 -0.8
43nm,0.3s,baz=17,slow=8.3,SNR=47
NNA S **Sn** 23 32 33.9 -2.4
235nm,0.3s,baz=294,slow=20,SNR=20
NNA Nana 4.18 205 *e*Pn **Pn** 23 31 47.0 -0.8
NNA *e*Sn **Sn** 23 32 31.7 -4.6
OTAV Otavalo 9.02 338 *e*Pn **Pn** 23 32 53.9 +0.9
OTAV *e*Sn Sn 23 34 11.1 -23
LPAZ La Paz 10.52 141 P **Pn** 23 33 13.2 +0.1
0.8nm,0.3s,baz=327,slow=10,SNR=35
LPAZ La Paz 10.52 141 *e*Pn **Pn** 23 33 12.9 -0.1
LPAZ *e*Sn **Sn** 23 35 06.8 -2.7
SAML Samuel 11.75 95 *e*Pn **Pn** 23 33 27.3 -1.5
SAML *e*Sn Sn 23 35 28.8 -10
ROSC El Rosal 12.96 3 P **Pn** 23 33 44.0 -0.9
1.1nm,0.3s,baz=190,slow=6.1,SNR=2.4
ROSC El Rosal 12.96 3 *e*Pn **Pn** 23 33 44.0 -0.9
ROSC *e*Sn **Sn** 23 36 05.5 -2.9
LVC Limon Verde 15.52 158 P **P** 23 34 18.1 -0.3
28nm,0.3s,baz=319,slow=14,SNR=7.3
SIV San Ignacio 15.71 121 P **P** 23 34 20.5 +0.2
6.3nm,0.3s,baz=302,slow=12,SNR=37
PTGA Pitinga 16.74 65 P **Pn** 23 34 32.7 +0.9
14nm,0.3s,baz=246,slow=16,SNR=68
PTGA Pitinga 16.74 65 *e*Pn **Pn** 23 34 33.3 +1.5
43nm,0.4s
SDV Santo Domingo 17.51 15 *e*P **Pn** 23 34 44.7 +3.5
8.2nm,0.7s
SDV *e*S **S** 23 37 52.2 -3.6
CFAA Coronel Fontan 24.16 166 P **P** 23 35 50.1 +1.3
0.2nm,0.4s,baz=307,slow=6.1,SNR=5.3
GRGR Grenville 24.17 34 *e*P **P** 23 35 48.7 -0.2
190nm,1.2s
CPUP Villa Florida 24.68 139 P **P** 23 35 53.5 0.0
0.4nm,0.6s,baz=45,slow=20,SNR=2.6
LGNH LØogne 26.62 5 *e*P **P** 23 36 09.9 -1.2
32nm,0.6s
BDFB Brasilia 27.44 108 P **P** 23 36 18.6 0.0
9.0nm,0.6s,baz=265,slow=11,SNR=12
HUMP Col San Antoni 27.68 19 *e*P **P** 23 36 18.0 -2.5
24nm,1.2s
MTP Monte Pirata 27.73 20 *e*P **P** 23 36 21.1 +0.1
27nm,1.2s
TRQA Tornquist 32.01 160 *e*P **P** 23 36 59.3 +0.7
58nm,2.6s
PLCA Paso Flores 32.67 174 P **P** 23 37 04.5 +0.1
5.3nm,0.9s,baz=358,slow=9.8,SNR=10
RCBR Riachuelo 38.91 89 *e*P **P** 23 37 56.7 -1.3
91nm,2.0s
LPM Los Pinos Moun 51.78 326 *e*P **P** 23 39 40.1 +0.9
COWI Conover 55.48 348 *e*P **P** 23 40 03.8 -2.0
53nm,1.9s
ULM Lac du Bonnet 60.94 345 P **P** 23 40 43.6 0.0
1.4nm,0.6s,baz=135,slow=1.4,SNR=2.5
ULM pP **pP** 23 41 13.8 -2.8
2.1nm,0.4s,baz=154,slow=9.4,SNR=4.1
NV01 Mina Array Sit 61.40 322 *e*P **P** 23 40 48.5 +1.2
NVAR Mina Array Bea 61.40 322 P **P** 23 40 48.5 +1.2
0.2nm,0.5s,baz=129,slow=8.6,SNR=2.2
NVAR ScP **PcP** 23 41 28.8 +0.7
0.8nm,0.6s,baz=125,slow=8.3,SNR=3.7
LIC Lamto 71.26 81 *e*P P 23 41 54.2 +3.9
50nm,1.6s
TIC Toumodi 71.35 80 *e*P **P** 23 41 52.3 +1.5
9.1nm,0.3s
DBIC Dimbokro 71.51 80 P **P** 23 41 53.0 +1.2
2.4nm,0.4s,baz=242,slow=5.0,SNR=10
KIC Kosan Boka 71.57 81 *e*P **P** 23 41 52.9 +0.8
15nm,0.4s
VNA3 Neumayer Olymp 74.51 162 P **P** 23 42 09.8 +1.4
VNA1 Neumayer--Stat 74.73 161 P **P** 23 42 11.7 +2.1
VNA2 Neumayer--Watz 75.10 162 P **P** 23 42 13.2 +1.5
baz=300,slow=6.3
SNAA Sanae 76.72 162 P **P** 23 42 22.6 +1.6
SNAA Sanae 76.72 162 P **P** 23 42 22.4 +1.4
3.5nm,0.9s,baz=277,slow=9.0,SNR=19
YKA Yellowknife Ar 76.75 342 P **P** 23 42 21.4 +0.3
0.9nm,0.7s,baz=143,slow=6.0,SNR=18
YKA pP **pP** 23 42 53.5 -1.9
1.1nm,0.6s,baz=140,slow=5.9,SNR=8.3
YKA sP **sP** 23 43 07.3 -2.9
0.3nm,0.5s,baz=136,slow=5.6,SNR=2.8
TORD Torodi Ar. Bea 79.08 75 P **P** 23 42 35.7 +0.6
1.9nm,0.6s,baz=262,slow=4.7,SNR=18
TORD pP **pP** 23 43 09.3 -0.3
1.6nm,0.7s,baz=290,slow=4.3,SNR=3.0
QSPA South Pole Qui 81.94 180 P **P** 23 42 51.0 +1.6
5.1nm,0.5s,baz=260,slow=0.6,SNR=28
SUMG Summit 83.98 10 *i* P pP 23 43 37.2 +2.2
26nm,1.2s
VNDA Vanda 88.84 191 P **P** 23 43 24.9 +1.5
0.8nm,0.7s,baz=154,slow=4.1,SNR=5.2
ILAR Eielson Array 89.74 336 P **P** 23 43 28.4 +0.8
0.3nm,0.7s,baz=76,slow=4.7,SNR=4.4
ILAR pP **pP** 23 44 03.1 +0.3
3.2nm,0.9s,baz=126,slow=3.1,SNR=19
DAG Dannmarks Havn 90.64 11 *i* P pP 23 44 07.9 +1.0
5.6nm,1.0s
MKAR Makanchi Array 136.91 23 PKP **PKPdf** 23 49 52.6 +0.7
0.3nm,0.8s,baz=284,slow=5.8,SNR=3.1
ASAR Alice Springs 137.56 221 PKhKP PKPpre 23 49 43.2
0.1nm,0.2s,baz=114,slow=1.6,SNR=3.1
ASAR PKP **PKPdf** 23 49 53.9 +0.1
0.3nm,0.5s,baz=148,slow=2.4,SNR=5.1
WRA Warramunga Arr 139.79 226 PKhKP PKPpre 23 49 48.5
0.4nm,0.5s,baz=137,slow=2.5,SNR=16
WRA PKP **PKiKP** 23 50 00.2 -0.1
0.8nm,0.6s,baz=118,slow=2.2,SNR=15
PYUN Piuthan 151.31 44 *e*P PKPab 23 50 37.6 +5.5
32nm,0.6s
KOLN Koldanda 151.94 43 *e*P **PKPab** 23 50 39.1 +4.4
GKN Gorkha 152.48 42 *e*P **PKPab** 23 50 40.2 +3.3
KKN Kakani 153.04 41 *e*P **PKPab** 23 50 41.0 +1.6
DMN Daman 153.05 42 *e*P **PKPab** 23 50 41.7 +2.2
PKIN Phulchoki 153.26 41 *e*P **PKPab** 23 50 42.3 +1.9
PKI Pulchoki 153.28 41 *e*P **PKPab** 23 50 42.4 +1.9
8.2nm,0.6s
GUN Gumba 153.35 40 *e*P **PKPab** 23 50 42.6 +1.8
13nm,0.8s
JIRN Jiri 153.72 40 *e*P **PKPab** 23 50 43.8 +1.4
5.1nm,0.3s
RAMN Ramite 154.47 41 *e*P **PKPab** 23 50 45.6 +0.1
9.9nm,0.4s
TAPN Taplejung 154.89 38 *e*P **PKPab** 23 50 46.8 -0.5
7.8nm,0.5s
ODAN Odare 155.04 40 *e*P **PKPab** 23 50 46.9 -1.0
8.5nm,0.6s
CMAR Chiang Mai Arr 168.22 29 PKP **PKPdf** 23 50 36.9 +0.4
0.8nm,0.3s,baz=186,slow=30,SNR=2.7
CMAR pPKPab **pPKPab** 23 52 19.1 -1.6
0.7nm,0.3s,baz=315,slow=6.1,SNR=2.6

*ISCJB **26** 23:31:28.9±1.4, 7.2°S±0.3°, 72.5°W±0.2, h350km, mb4.0/21, Error ellipse: s-maj=40.7km s-min=16.0km az=22.2*
*IDC **26** 23:31:32.5±8.7, 7.05°S, 72.38°W, h365km±74km, mb3.4/10, mb1 3.6/11, mb1mx3.5/21, mbtmp4.1/11, Error ellipse: s-maj=58.4km s-min=16.5km az=21.0*
ISC 26 23:31:30.3±1.3, 7.2°S±0.2°, 72.4°W±0.2, h350km, n35, σ0≤66/35, mb4.3/21, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCRV	**Puerto La Cruz**	**18.91**	**24**	P		**P**	**23 35 27.6**	**+0.5**
	3.5nm,0.3s,baz=287,slow=0.5,SNR=11							
TXAR	**Lajitas Array**	**47.16**	**322**	P		**P**	**23 39 30.1**	**+1.0**
	0.9nm,0.8s,baz=145,slow=9.0,SNR=4.4							
PDAR	**Pinedale Array**	**60.12**	**329**	P		**P**	**23 41 03.0**	**+0.8**
	0.5nm,0.5s,baz=129,slow=9.9,SNR=4.6							
ULM	**Lac du Bonnet**	**60.73**	**343**	P		**P**	**23 41 04.2**	**-1.6**
	1.6nm,0.3s,baz=130,slow=5.1,SNR=6.1							
SCHQ	**Scheffervlle**	**61.97**	**4**	P		**P**	**23 41 12.7**	**-1.3**
	2.7nm,0.9s,baz=214,slow=11,SNR=4.9							
NVAR	**Mina Array Bea**	**62.27**	**320**	P		**P**	**23 41 16.1**	**-0.5**
	0.2nm,0.5s,baz=141,slow=5.8,SNR=2.0							
LIC	**Lamto**	**68.52**	**80**	*e*P		**P**	**23 41 55.9**	**-0.6**
	6.1nm,0.5s,baz=242							
DBIC	**Dimbokro**	**68.77**	**80**	P		**P**	**23 41 58.4**	**+0.3**
	11nm,0.4s,baz=245,slow=5.4,SNR=42							
TORD	**Torodi Ar. Bea**	**76.31**	**75**	P		**P**	**23 42 42.1**	**0.0**
	2.1nm,0.3s,baz=261,slow=5.4,SNR=24							
YKA	**Yellowknife Ar**	**76.64**	**341**	P		**P**	**23 42 43.1**	**+0.2**
	1.5nm,0.6s,baz=138,slow=5.5,SNR=20							
ESDC	**Sonseca Array**	**78.33**	**47**	P		**P**	**23 42 53.5**	**+0.7**
	0.9nm,0.7s,baz=257,slow=6.5,SNR=10							
ROSF	**Rostrenen**	**81.77**	**39**	*e*P		**P**	**23 43 10.7**	**0.0**
SGMF	**Saint Gilles**	**82.19**	**39**	*e*P		**P**	**23 43 13.2**	**+0.3**
MFF	**Saint Martin d**	**83.20**	**41**	*e*P		**P**	**23 43 18.0**	**-0.1**
	10nm,0.9s							
GRR	**Gorron**	**83.30**	**40**	*e*P		**P**	**23 43 18.0**	**-0.6**
	8.9nm,0.7s							
FLN	**La Foliniere**	**83.66**	**39**	*e*P		**P**	**23 43 20.6**	**+0.2**
	8.7nm,0.7s							
LDF	**La Druitiere**	**83.83**	**40**	*e*P		**P**	**23 43 21.4**	**+0.2**
	9.5nm,0.9s							
RJF	**Les Rejaudoux**	**83.92**	**43**	*e*P		**P**	**23 43 22.2**	**+0.4**
CAF	**Calviac**	**84.19**	**43**	*e*P		**P**	**23 43 23.1**	**-0.1**
	7.1nm,0.8s							
TCF	**Toulx Ste Croi**	**84.67**	**42**	*e*P		**P**	**23 43 25.6**	**+0.1**
SMF	**Signal de Mont**	**85.85**	**42**	*e*P		**P**	**23 43 30.4**	**-0.9**
VIVF	**Saint-Julien-l**	**85.96**	**44**	*e*P		**P**	**23 43 31.8**	**-0.1**
INK	**Inuvik**	**86.40**	**341**	P		**P**	**23 43 34.2**	**+0.8**
	1.0nm,0.7s,baz=124,slow=4.1,SNR=2.9							
ORIF	**Oris-en-Rattie**	**86.81**	**44**	*e*P		**P**	**23 43 36.2**	**+0.1**
	5.6nm,0.7s							
SFTF	**Sexfontaines**	**87.03**	**41**	*e*P		**P**	**23 43 37.0**	**+0.1**
FRF	**La Foret Royal**	**87.04**	**46**	*e*P		**P**	**23 43 36.7**	**-0.4**
CABF	**La Chapelle**	**87.34**	**43**	*e*P		**P**	**23 43 38.6**	**+0.1**
GIVF	**Givet**	**87.36**	**39**	*e*P		**P**	**23 43 37.8**	**-0.6**
KEST	**Kesra**	**87.50**	**54**	P		**P**	**23 43 40.6**	**+1.1**
	1.6nm,1.0s,baz=279,slow=6.4,SNR=4.5							
LPL	**La Plagne**	**87.53**	**44**	*e*P		**P**	**23 43 39.7**	**+0.1**
	5.2nm,0.7s							
LPG	**La Plagne**	**87.54**	**44**	*e*P		**P**	**23 43 39.9**	**+0.1**
	6.0nm,0.7s							
CDF	**Champ du Feu**	**88.53**	**41**	*e*P		**P**	**23 43 43.1**	**-1.0**
	5.2nm,0.7s							
ZALV	**Zalesovo Beam**	**129.87**	**17**	PKP		**PKPdf**	**23 49 59.5**	**+1.0**
	3.7nm,0.7s,baz=286,slow=2.4,SNR=15							
MKAR	**Makanchi Array**	**134.97**	**25**	PKP		**PKPdf**	**23 50 08.8**	**+0.4**
	0.6nm,0.7s,baz=286,slow=4.9,SNR=6.9							
WRA	**Warramunga Arr**	**142.32**	**224**	PKP		**PKPdf**	**23 50 21.7**	**-0.9**
	0.3nm,0.4s,baz=119,slow=2.1,SNR=4.7							

ROM 26 23:32:31.6±0.0, 42.56N×13.04E, h10km, Md1.6/3, Ml0.8/2, Error ellipse: s-maj=0.3km s-min=0.1km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNSS	**Leonessa**	**0.04**	**357**	Pg		Pg	23 32 33.8	+0.1
LNSS				Sg		Sg	23 32 35.4	+0.2
	182nm,0.3s							
SMA1	**SAN MARTINO**	**0.23**	**71**	Pg		Pg	23 32 37.1	+0.7
SMA1				Sg		Sg	23 32 41.0	+1.3
	19nm,0.5s							
NRCA	**Norcia**	**0.28**	**11**	Pg		Pg	23 32 38.1	+0.7
NRCA				Sg		Sb	23 32 42.8	-1.0
	10.0nm,0.5s							

*ISCJB **26** 23:58:53.8±0.7, 6.93N±0.07°×73.07W±0.08, h166km, mb3.5/1, Error ellipse: s-maj=13.4km s-min=6.2km az=36.5*
*FUNV **26** 23:58:54.9, 6.83N×73.11W, h168km, MW3.4*
*IDC **26** 23:58:56.9±6.8, 6.75N×75.74W, h130km±81km, mb3.2/1, mb1 3.5/2, mb1mx2.9/30, mbtmp3.7/2, Error ellipse: s-maj=177.1km s-min=37.9km az=80.0*
ISC 26 23:58:54.6±1.1, 6.90N±0.08×73.04W±0.09, h166km, n15, σ0≤91/20, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**1.19**	**37**	⇓*i*P		**Pn**	**23 59 23.4**	**+0.7**
CAPV				*e*S		**Sn**	**23 59 44.4**	**-0.1**
ROSC	**El Rosal**	**2.41**	**212**	P		**Pn**	**23 59 35.5**	**-0.3**
	34nm,0.3s,baz=321,slow=1.3,SNR=130							
ROSC				S		**Sn**	**00 00 06.2**	**-1.5**
	47nm,0.3s,baz=253,slow=19,SNR=15							
VIGV	**El Vigia**	**2.54**	**41**	*e*P		**Pn**	**23 59 37.9**	**+0.9**
VIGV				*e*S		**Sn**	**00 00 09.6**	**-0.3**
SOCV	**Socops**	**2.56**	**57**	*e*P		**Pn**	**23 59 38.3**	**+1.0**
SOCV				*e*S		**Sn**	**00 00 09.5**	**-0.9**
ELOV	**Elorza**	**3.53**	**88**	*e*P		**Pn**	**23 59 49.8**	**+0.6**
VIRV	**Villa del Rosa**	**3.63**	**10**	*e*P		**Pn**	**23 59 50.3**	**-0.2**
VIRV				*e*S		**Sn**	**00 00 32.2**	**-2.0**
SANV	**Sanarito**	**4.32**	**53**	*e*P		**Pn**	**23 59 59.7**	**+0.2**
CURV	**Curarigua**	**4.34**	**44**	*e*P		**Pn**	**00 00 00.2**	**+0.5**
SIQV	**Siquisique**	**4.90**	**40**	*e*P		**Pn**	**00 00 07.3**	**+0.2**
BAUV	**El Baul**	**5.35**	**67**	*e*P		**Pn**	**00 00 11.7**	**-1.1**
MAPV	**Macapo**	**5.38**	**57**	*e*P		**Pn**	**00 00 13.6**	**+0.2**
TURV	**Turiamo**	**6.23**	**55**	*e*P		**Pn**	**00 00 24.0**	**-0.5**
BIRV	**Birongo**	**7.57**	**62**	*e*P		**Pn**	**00 00 41.3**	**-1.0**
YKA	**Yellowknife Ar**	**63.21**	**340**	P		**P**	**00 09 06.0**	**+1.2**
	0.4nm,0.5s,baz=133,slow=6.7,SNR=14							
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		**PKPbc**	**00 18 27.3**	**-0.1**
	0.3nm,0.7s,baz=106,slow=2.4,SNR=3.2							

*LDG **27** 00:07:09.9±0.1, 39.36N×73.83E, h10km, Mb4.5/32, Ms3.4/7, Error ellipse: s-maj=6.4km s-min=5.6km az=37.0*
*IDC **27** 00:07:10.4±0.6, 39.46N×73.91E, h0km, mb4.3/19, mb1 4.5/25, mb1mx4.3/44, mbtmp4.3/25, ML4.1/6, MS3.5/19, Ms1 3.5/19, ms1mx3.4/43, Error ellipse: s-maj=11.3km s-min=10.7km az=127.0*
*BJI **27** 00:07:10.9, 39.70N×73.78E, h9km, mB4.6/15, mb4.4/22, ML4.5/5, Ms4.3/15, Ms7 3.8/14*
*ISCJB **27** 00:07:13.9±0.9, 39.55N±0.02×73.93E±0.03, h15km±6km, mb4.5/99, MS3.6/21, Error ellipse: s-maj=3.8km s-min=2.8km az=153.7*
*KRNET **27** 00:07:14.0±0.1, 39.78N×73.86E, h2km, mb5.0*
*NNC **27** 00:07:15.1±1.1, 39.80N×73.90E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=10.5km s-min=4.6km az=16.0*
*MOS **27** 00:07:16.8±0.9, 39.61N×73.96E, h56km, mb4.7/55, Error ellipse: s-maj=5.6km s-min=3.5km az=113.3*
*NEIC **27** 00:07:17.4±0.6, 39.60N×73.92E, h45km±5km, mb4.8/17, Error ellipse: s-maj=6.0km s-min=4.3km az=188.0*
*SZGRF **27** 00:07:46.1, 41.83N×70.45E, h33km, mb4.4, Kyrgyzstan*
ISC 27 00:07:13.7±0.5, 39.73N±0.02×73.91E±0.02, h8km±2km, n416, σ1≥38/398, mb4.5/99, MS3.6/21, 48C-42D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.42**	**313**	⇓P		**Pg**	**00 07 22.3**	**+0.4**
	2µm,0.3s							
SFK				⇓S		**Sg**	**00 07 27.9**	**+0.4**
	8µm,0.3s							
SFK	**Sufi-Kurgan**	**0.42**	**313**	P		**Pg**	**00 07 22.3**	**+0.4**
SFK				pmax	pmax			
	comp=Z,2µm,0.3s							
SALK	**Salom-Alik**	**1.15**	**357**	*i* P		**Pg**	**00 07 34.4**	**-1.4**
	baz=358							
SALK				*e*S		**Sb**	**00 07 51.1**	**0.0**
	baz=358							
CHVK	**Chauvay**	**1.36**	**288**	*e*P		**Pg**	**00 07 38.8**	**-1.0**
	baz=286							
CHVK				*e*S		**Sn**	**00 07 58.6**	**+1.1**
	baz=286							
KSH	**Kashi**	**1.61**	**97**	⇑*i*Pg		Pn	00 07 37.0	-5.6
KSH				Sg		Sn	00 07 54.3	-9.4
KSH				SMN				
	comp=Z,4µm,0.6s							
KSH				SME				
	comp=Z,5µm,0.9s							
DRK	**Karamyk**	**1.65**	**262**	⇓*i*P		**Pb**	**00 07 45.0**	**+0.5**
	baz=260							
DRK				⇓*e*S		**Sg**	**00 08 08.4**	**+1.8**
	baz=260							
ARLS	**Aral**	**2.15**	**8**	⇓*i*P		**Pb**	**00 07 53.0**	**0.0**
	baz=9.0							
ARLS				⇓*i*S		**Sg**	**00 08 21.2**	**-1.7**
	baz=9.0							
NRN	**Naryn**	**2.33**	**42**	⇓*i*P		**Pn**	**00 07 55.2**	**+2.5**
	baz=44							
NRN				⇓*e*S		**Sb**	**00 08 26.8**	**+1.5**
	baz=44							
BTK	**Batken**	**2.40**	**279**	*i* P		**Pb**	**00 07 57.0**	**-0.2**
	baz=278							
BTK				*e*S		**Sb**	**00 08 27.8**	**+0.9**
	baz=278							
AML	**Almayashu**	**2.40**	**356**	P		**Pb**	**00 07 56.6**	**-0.9**
	SNR=187							
AML	**Almayashu**	**2.40**	**356**	*i* PN		**Pb**	**00 07 56.6**	**-0.9**
UCH	**Uchtor**	**2.54**	**10**	P		**Pb**	**00 07 59.0**	**-0.8**
	SNR=1426							
UCH	**Uchtor**	**2.54**	**10**	*i* PN		**Pb**	**00 07 58.9**	**-0.8**
ARK	**Arkit**	**2.54**	**325**	*e*P		**Pb**	**00 07 58.9**	**-0.7**
	baz=325							
ARK				*e*S		**Sb**	**00 08 31.5**	**+0.5**
	baz=325							
KZA	**Kyzart**	**2.56**	**23**	P		**Pn**	**00 07 58.7**	**+2.8**
	SNR=90							
KZA	**Kyzart**	**2.56**	**23**	*i* PN		**Pn**	**00 07 58.6**	**+2.8**
EKS2	**Erkin-Say**	**2.93**	**358**	P		**Pb**	**00 08 04.4**	**-1.9**
	SNR=104							
EKS2	**Erkin-Say**	**2.93**	**358**	*e*PN		**Pb**	**00 08 04.0**	**-2.3**
EKS2	**Erkin-Say**	**2.93**	**358**	*e*Pn		**Pb**	**00 08 04.0**	**-2.3**
EKS2				*e*Sn		**Sn**	**00 08 37.2**	**+1.0**
AAK	**Ala-Archa**	**2.94**	**9**	⇓Pn		**Pb**	**00 08 04.6**	**-1.7**
	comp=Z,393nm,0.6s							
AAK				⇑Lg		Lg	00 08 46.1	
	comp=Z,2µm,0.8s							
AAK	**Ala-Archa**	**2.94**	**9**	P		**Pb**	**00 08 04.7**	**-1.7**
	SNR=61							
AAK	**Ala-Archa**	**2.94**	**9**	Pn		**Pb**	**00 08 04.7**	**-1.7**
	comp=Z,76nm,0.3s,baz=159,slow=6.4,SNR=324							
AAK				Sn		**Sg**	**00 08 45.7**	**-2.2**
	comp=Z,74nm,0.3s,baz=238,slow=14,SNR=7.0							
AAK				LR		LR	00 09 07.0	
	comp=Z,189nm,19.3s,baz=44,slow=36							
AAK	**Ala-Archa**	**2.94**	**9**	PN		**Pb**	**00 08 04.6**	**-1.7**
AAK							00 08 45.7	
AAK				pmax	pmax			
	comp=Z,393nm,0.6s							
AAK				pmax	pmax			
	comp=N,2µm,1.0s							
AAK	**Ala-Archa**	**2.94**	**9**	Pn		**Pb**	**00 08 04.7**	**-1.7**
AAK				*e*Sn		**Sn**	**00 08 38.0**	**+1.6**
MNAS	**Manas**	**2.95**	**339**	⇑Pn		**Pn**	**00 08 03.5**	**+2.5**
	comp=N,217nm,0.5s							
MNAS				⇓Sn		**Sn**	**00 08 35.2**	**-1.5**
	comp=N,1µm,0.6s							
MNAS	**Manas**	**2.95**	**339**	PN		**Pn**	**00 08 03.5**	**+2.5**
MNAS							00 08 42.7	
MNAS				pmax	pmax			
	comp=Z,216nm,0.5s							
MNAS				pmax	pmax			
	comp=N,1µm,0.6s							
KBK	**Karagaybulak**	**3.03**	**15**	P		**Pb**	**00 08 05.7**	**-2.3**
	SNR=281							
KBK	**Karagaybulak**	**3.03**	**15**	*i* PN		**Pb**	**00 08 05.7**	**-2.3**
ULHL	**Ulahol**	**3.07**	**34**	P		**Pn**	**00 08 05.7**	**+2.9**
	SNR=161							
ULHL	**Ulahol**	**3.07**	**34**	*i* PN		**Pn**	**00 08 05.6**	**+2.9**
FRU	**Bishkek**	**3.15**	**10**	⇓*i*PN		Pn	00 08 07.0	+3.4
FRU				*i* S		**Sg**	**00 08 55.0**	**+0.2**
FRU				pmax	pmax			
	comp=Z,1µm,1.8s							
FRU				smax	smax			
	comp=E,3µm,1.8s							
FRU	**Bishkek**	**3.15**	**10**	⇓*i*P		Pn	00 08 07.0	+3.4
	baz=10.0							
BOOM	**Boomskoye usch**	**3.16**	**28**	⇓*i*P		Pn	00 08 07.0	+3.1
	baz=30							
BOOM				⇓*e*S		**Sb**	**00 08 47.7**	**-1.2**
	baz=30							
CHMS	**Chumysh**	**3.33**	**11**	P		Pn	00 08 09.7	+3.6
	SNR=111							
CHMS	**Chumysh**	**3.33**	**11**	*i* PN		Pn	00 08 09.7	+3.6
TKM2	**Tokmak 2**	**3.43**	**21**	⇑Pn		**Pn**	**00 08 10.7**	**+3.0**
	comp=E,91nm,0.3s							
TKM2				⇓Lg		Lg	00 09 02.3	
	comp=E,524nm,0.7s							
TKM2	**Tokmak 2**	**3.43**	**21**	P		Pn	00 08 11.2	+3.5
	SNR=190							
TKM2	**Tokmak 2**	**3.43**	**21**	PN		**Pn**	**00 08 10.7**	**+3.0**
TKM2							00 09 02.3	
TKM2				pmax	pmax			
	comp=Z,296nm,0.9s							
TKM2				pmax	pmax			
	comp=N,524nm,0.7s							
TKM2	**Tokmak 2**	**3.43**	**21**	*e*Pn		Pn	00 08 11.2	+3.5
TKM2				*e*Sn		**Sn**	**00 08 48.4**	**-0.3**
KDJ	**Kajisay**	**3.45**	**45**	⇓*i*P		Pn	00 08 12.0	+4.1
	baz=46							
USP	**Ospenovka**	**3.56**	**7**	P		Pn	00 08 13.0	+3.7
	SNR=57							
USP	**Ospenovka**	**3.56**	**7**	*i* PN		Pn	00 08 13.0	+3.7
DZET	**Dzherino**	**4.05**	**258**	⇑Pn		**Pn**	**00 08 17.6**	**+1.5**
	comp=N,81nm,0.4s							
DZET				⇑Pg		**Pb**	**00 08 26.8**	**+1.5**
	comp=N,745nm,0.6s							
DZET				⇑Lg		Lg	00 09 24.1	
	comp=N,2µm,0.5s							
DZET	**Dzherino**	**4.05**	**258**	PN		**Pn**	**00 08 17.5**	**+1.5**
DZET				pmax	pmax			
	comp=Z,81nm,0.4s							
KNDC	**Almaty**	**4.17**	**32**	⇑Pn		Pn	00 08 21.8	+4.1
	comp=Z,443nm,0.6s							
KNDC				⇑Lg		Lg	00 09 28.0	
	comp=Z,2µm,0.7s							
AAA	**Alma-Ata**	**4.21**	**32**	*e*PN		**Pb**	**00 08 30.3**	**+2.2**
AAA				pmax	pmax			
	comp=Z,563nm,0.5s							
KK31	**Karatay Array**	**4.23**	**324**	Pn		**Pn**	**00 08 20.9**	**+2.5**
	comp=Z,15nm,0.3s,baz=134,slow=13,SNR=652							
KK31				⇑Pg		**Pg**	**00 08 31.9**	**-2.7**
	comp=Z,97nm,0.6s,baz=142,slow=15,SNR=13							
KK31				⇓Sn		**Sn**	**00 09 12.8**	**+4.8**
	comp=Z,127nm,0.4s,baz=136,slow=24,SNR=2.8							
KK31				⇓Lg		Lg	00 09 28.6	
	comp=Z,344nm,0.5s,baz=129,slow=28,SNR=4.7							
KK31	**Karatay Array**	**4.23**	**324**	PN		**Pn**	**00 08 20.9**	**+2.5**
KK31				*e*			00 09 11.3	
KK31				pmax	pmax			
	comp=Z,23nm,0.2s							
KK31				smax	smax			
	comp=N,238nm,0.4s							
KKAR	**Karatay Array**	**4.23**	**324**	*e*PN		Pn	00 08 21.4	+3.0
KKAR	**Karatay Array**	**4.23**	**324**	*e*Pn		Pn	00 08 21.4	+3.0
KKAR				*e*Sn		**Sn**	**00 09 08.5**	**+0.5**
PDGK	**Podgornoye**	**5.52**	**48**	⇑Pn		Pn	**00 08 38.4**	**+2.2**
	comp=N,56nm,0.7s							
PDGK				⇑Pg		**Pb**	**00 08 51.7**	**+1.5**
	comp=N,225nm,0.7s							
PDGK				⇓Lg		Lg	00 10 07.4	
	comp=N,837nm,1.0s							
PDGK	**Podgornoye**	**5.52**	**48**	PN		**Pn**	**00 08 38.3**	**+2.2**
PDGK				pmax	pmax			
	comp=Z,56nm,0.7s							
CHCP	**Chirah Chowk**	**6.08**	**185**	⇓P		**P

comp=N,0.9nm,0.3s,baz=232,slow=32,SNR=5.3
WMQ Urumqi 11.08 64 *e*P Pn 00 09 56.8 +4.4
WMQ pP 00 10 00.0
WMQ *e*S Sn 00 12 05.0 +8.5
WMQ PMZ
comp=N,20nm,0.8s
WMQ PMZ
comp=N,140nm,6.4s
WMQ LN
comp=N,860nm,8.7s
WMQ LE
comp=N,710nm,7.9s
WMQ LZ
comp=N,580nm,7.9s
NDI New Delhi 11.35 165 *e*P **Pn 00 09 55.0 -1.2**
NDI *ex* Sn 00 11 58.0 -5.3
KURBB Kurchatov Arra 11.37 15 ⇓Pn Pn 00 10 00.3 +4.0
comp=N,8.6nm,0.8s
KURBB ⇑Lg Lg 00 13 13.7
comp=N,142nm,0.7s
KURBB Kurchatov Arra 11.37 15 Pn **Pn 00 09 56.1 -0.2**
comp=N,0.1nm,0.3s,baz=206,slow=13,SNR=8.7
KURBB Lg Lg 00 13 10.7
comp=N,0.3nm,0.3s,baz=200,slow=28,SNR=7.2
KURK Kurchatov 11.47 15 ⇑Pn Pn 00 10 01.9 +4.1
comp=N,4.3nm,1.0s
KURK ⇑Lg Lg 00 13 13.0
comp=N,53nm,0.9s
KURK Kurchatov 11.47 15 P Pn 00 10 02.7 +5.0
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 11.47 15 *e*Pn Pn 00 10 01.4 +3.7
KURK Lg Lg 00 13 10.7
AYAN Aya Nagar 11.53 166 *e*P Pn 00 09 56.2 -2.4
AYAN *ex* x 00 11 56.3
KUDL Kundal 11.75 169 *e*P Pn 00 09 58.5 -3.1
KUDL *ex* x 00 11 58.2
GEYT Alibeck 12.45 267 Pn Pn 00 10 08.0 -3.1
comp=Z,3.3nm,0.3s,baz=92,slow=7.4,SNR=45
GEYT Sn **Sn 00 12 25.9 -4.0**
comp=Z,5.0nm,0.3s,baz=94,slow=15,SNR=7.1
GEYT LR LR 00 15 45.3
comp=Z,264nm,19.2s,baz=75,slow=41
AGRA Agra 12.91 164 *e*P Pn 00 10 13.9 -3.5
AGRA *e*S Sn 00 12 23.2 -18
AGRA AML AML 00 12 41.0
comp=N,77nm,0.1s
AGRA AML AML 00 12 45.0
comp=E,73nm,0.7s
AJM Ajmer 13.23 177 *ex* Pn 00 10 18.0 -3.9
AJM *ex* Sn 00 12 39.0 -10
BVA0 Borovoye Array 13.52 351 Pn **Pn 00 10 25.1 -0.6**
comp=E,21nm,0.8s,baz=160,slow=14,SNR=65
BVA0 ⇓Sn **Sn 00 13 01.4 +5.4**
comp=E,15nm,1.1s,baz=167,slow=23,SNR=3.5
BVA0 ⇓Lg Lg 00 14 21.2
comp=E,89nm,1.1s
BVA0 Borovoye Array 13.52 351 *i* P **Pn 00 10 25.0 -0.6**
BVA0 pmax pmax
comp=Z,21nm,0.9s
BVAR Borovoye Array 13.52 351 Pn **Pn 00 10 25.0 -0.6**
comp=Z,1.6nm,0.3s,baz=160,slow=13,SNR=24
BVAR Sn Sn 00 13 02.7 +6.8
comp=Z,0.5nm,0.3s,baz=159,slow=20,SNR=2.6
BVAR Lg Lg 00 14 20.2
comp=Z,0.9nm,0.3s,baz=170,slow=25,SNR=3.7
BVAR Borovoye Array 13.52 351 P **Pn 00 10 25.0 -0.6**
BVAR 00 13 02.7
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BRVK Borovoye 13.56 351 ⇑Pn **Pn 00 10 25.2 -1.0**
comp=N,35nm,0.9s
BRVK ⇑Sn **Sn 00 12 57.7 +0.7**
comp=N,11nm,0.7s
BRVK ⇑Lg Lg 00 14 24.3
comp=N,76nm,0.9s
BRVK Borovoye 13.56 351 ⇑*e*P Pn 00 10 29.3 +3.1
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 13.56 351 *e*Pn **Pn 00 10 25.8 -0.4**
AB31 Akbulak array 13.76 318 ⇓Pn **Pn 00 10 28.1 -1.0**
comp=Z,18nm,0.8s
AB31 ⇓Sn **Sn 00 13 00.9 -1.1**
comp=Z,11nm,0.6s
AB31 Akbulak array 13.76 318 P **Pn 00 10 28.0 -1.0**
AB31 00 12 58.5
AB31 pmax pmax
comp=Z,8.0nm,0.4s
AB31 smax smax
comp=N,7.0nm,0.4s
ABKAR Akbulak array 13.76 318 *e*Pn **Pn 00 10 28.3 -0.7**
PYUN Piuthan 13.82 144 *e*P Pn 00 10 24.8 -5.4
comp=N,178nm,0.7s
KOLN Koldanda 14.39 143 *e*P Pn 00 10 32.3 -5.6
comp=N,39nm,0.6s
KOLN *e*S Sn 00 13 11.7 -6.0
GKN Gorkha 14.69 140 *e*P Pn 00 10 37.0 -5.0
comp=N,42nm,0.5s
KKN Kakani 15.19 138 *e*P Pn 00 10 43.6 -5.2
comp=N,28nm,0.7s
DMN Daman 15.25 139 *e*P Pn 00 10 43.6 -6.0
comp=N,35nm,0.9s
GUN Gumba 15.41 136 *e*P Pn 00 10 45.3 -6.4
comp=N,22nm,0.4s
PKIN Phulchoki 15.42 138 *e*P Pn 00 10 46.6 -6.3
comp=N,31nm,0.6s
PKI Pulchoki 15.44 138 *e*P Pn 00 10 46.0 -6.1
comp=N,35nm,0.6s
AKTO Aktyubinsk 15.47 319 ⇑Pn **Pn 00 10 51.8 -0.4**
comp=N,21nm,0.8s
AKTO ⇓Sn **Sn 00 13 44.8 +1.2**
comp=N,23nm,1.2s
AKTO Aktyubinsk 15.47 319 Pn **Pn 00 10 51.5 -0.6**
comp=N,0.8nm,0.3s,baz=139,slow=15,SNR=18
AKTO Sn **Sn 00 13 38.7 -5.0**
comp=N,0.3nm,0.3s,baz=165,slow=20,SNR=3.6
AKTO Lg Lg 00 15 25.1
comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=2.3
AKTO LR LR 00 17 14.0
comp=N,296nm,18.4s,baz=136,slow=38
AKTO Aktyubinsk 15.47 319 P **Pn 00 10 51.7 -0.4**
AKTO pmax pmax
comp=Z,33nm,1.1s
JIRN Jiri 15.77 136 *e*P Pn 00 10 50.3 -6.2
comp=Z,43nm,0.4s
ZALV Zalesovo Beam 16.03 24 Pn **Pn 00 11 00.3 +1.0**
comp=Z,0.4nm,0.3s,baz=204,slow=11,SNR=12
ZALV Sn **S 00 14 09.0 -2.1**
comp=Z,0.1nm,0.3s,baz=218,slow=18,SNR=2.1
ZALV Lg Lg 00 15 38.1
comp=Z,0.1nm,0.3s,baz=218,slow=21,SNR=3.5
ZALV LR LR 00 17 49.2
comp=Z,29nm,19.5s,baz=46,slow=39
ZAA1 Zalesovo Array 16.04 24 *e*Pn **Pn 00 11 00.3 +0.9**
ZAA1 *e*S **S 00 14 09.0 -2.1**
NVS Novosibirsk 16.36 19 *e*P **Pn 00 11 03.2 -0.4**
NVS *e* 00 14 10.4
RAMN Ramite 16.56 137 *e*P Pn 00 11 00.3 -6.2
comp=Z,36nm,0.5s
BHPL Bhopal 16.71 169 *e*P **Pn 00 11 07.1 -1.1**
BHPL *ex* x 00 13 58.9
TAPN Taplejung 16.85 133 *e*P Pn 00 11 05.2 -5.1
comp=Z,31nm,0.7s
ODAN Odare 17.06 135 *e*P Pn 00 11 06.5 -6.3
comp=Z,32nm,0.5s
LSA Lhasa 17.33 120 *e*P **Pn 00 11 14.6 -1.8**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 17.33 120 *e*Pn **Pn 00 11 14.6 -1.8**
comp=Z,6.0nm,0.8s
SVE Sverdlovsk 19.19 337 *e*P **Pn 00 11 39.8 +1.2**
ARU Arti 19.52 334 *d*/P **P 00 11 42.4 +1.1**
ARU S **S 00 15 22.9 +1.1**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 19.52 334 *e*P **P 00 11 41.6 +0.3**
comp=Z,12nm,0.8s
GTA Gaotai 19.96 83 *e*P **P 00 11 48.3 +1.9**
GTA pP **Pn 00 11 52.5 +4.5**
GTA sP sP 00 11 55.3 +5.6
GTA S **Sn 00 15 35.5 +2.9**
GTA PMZ
comp=Z,5.0nm,1.2s
GTA PMZ
comp=Z,110nm,5.0s
GTA LN
comp=Z,200nm,15.7s
GTA LE
comp=Z,240nm,15.2s
GTA LZ
comp=Z,240nm,15.2s
MAK Makhachkala 20.05 288 *e*P **P 00 11 46.9 -0.3**
MAK *e* 00 12 02.2
MAK *e*PPP PPP 00 12 10.7
MAK S **S 00 15 30.4 -2.2**
MAK pmax pmax
comp=Z,16nm,1.1s
MAK MLR MLR
comp=Z,253nm,12.0s
RPR Rampur 21.32 166 *e*P **P 00 11 59.2 -1.8**
DGRG David-gareji 21.70 284 P **P 00 12 05.0 -0.1**
TBLG Delisi 22.15 285 P **P 00 12 12.0 +2.1**
MOY Mondy 22.23 49 *e*P **P 00 12 12.8 +2.1**
MOY pmax pmax
comp=Z,26nm,2.0s
GNI Garni 22.33 280 P **P 00 12 13.0 +1.0**
comp=Z,4.8nm,0.5s,baz=109,slow=3.0,SNR=8.1
GNI LR LR 00 22 17.8
comp=Z,74nm,18.8s,baz=78,slow=40
GNI Garni 22.33 280 ⇓*i*P **P 00 12 13.5 +1.6**
GNI pmax pmax
comp=Z,17nm,1.0s
HYBB Hyderabad (bro 22.59 168 *e*P **P 00 12 12.2 -2.5**
HYBB *e* 00 12 20.9
HYB Hyderabad 22.60 168 *i* P **P 00 12 12.5 -2.3**
ZEI Tsey 22.70 288 *e*P **P 00 12 16.9 +0.9**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
NCK Nalchik 22.91 289 ⇑*e*P **P 00 12 19.2 +1.3**
ONI Oni 23.05 287 P **P 00 12 20.2 +0.8**
ZAK Zakamensk 23.18 53 *e*P **P 00 12 20.5 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
GOF Gofitskoye 23.32 293 *e*P **P 00 12 22.8 +0.7**
KBZ Khabaz 23.41 290 P **P 00 12 21.3 -1.7**
comp=Z,2.0nm,0.8s,baz=56,slow=24,SNR=2.4
NEY Neytrino 23.55 289 ⇓*e*P **P 00 12 25.2 +0.6**
KIV Kislovodsk 23.56 291 *e*P **P 00 12 24.7 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,70nm,14.0s
NJS Nagarjunasagar 23.57 167 *e*P **P 00 12 22.2 -2.5**
NJS *e* 00 12 26.4
TLY Talaya 23.78 50 P **P 00 12 31.1 +4.4**
comp=Z,3.0nm,0.7s,baz=214,slow=5.7,SNR=4.1
TLY LR LR 00 21 15.9
comp=Z,52nm,18.4s,baz=251,slow=35
TLY Talaya 23.78 50 *e*P **P 00 12 24.9 -1.7**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY MLR MLR
comp=Z,50nm,10.0s
SONA0 Songino Array 24.67 60 *e*P **P 00 12 35.6 +0.6**
SONM Songino Array 24.67 60 P **P 00 12 35.6 +0.5**
comp=Z,3.4nm,0.8s,baz=260,slow=10,SNR=4.2
SONM Songino Array 24.67 60 P **P 00 12 35.6 +0.5**
SONM pmax pmax
comp=Z,3.0nm,0.8s
URV Uravakonda 24.86 172 *e*P **P 00 12 35.2 -1.6**
ULN Ulaanbaatar 25.12 60 ⇓*e*P **P 00 12 37.5 -1.6**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 25.12 60 *e*P **P 00 12 40.8 +1.7**
comp=Z,5.6nm,0.9s
CD2 Chengdu 25.80 101 *e*P **P 00 12 43.5 -1.8**
CD2 pP **pP 00 12 47.5 -0.2**
CD2 sP **sP 00 12 50.5 +1.7**
CD2 PP **PnPn 00 13 24.0 +2.0**
CD2 S **S 00 17 10.8 -4.2**
CD2 sS **sS 00 17 17.3 -1.7**
CD2 SS **SnSn 00 18 15.5 +5.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,440nm,16.8s
CD2 LE
comp=Z,230nm,15.8s
CD2 LZ
comp=Z,240nm,15.5s
VSR Storozhevoye 26.68 307 *e*P **P 00 12 51.8 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=E,6.0nm,0.6s
LPSR Galich'ya Gora 27.14 310 *e*P **P 00 12 56.3 -0.8**
LPSR pmax pmax
comp=E,9.0nm,1.4s
LPSR pmax pmax
comp=Z,10.0nm,1.4s
LPSR pmax pmax
comp=N,7.0nm,1.9s
HHC Hu-ho-hao-te 28.61 75 *e*P **P 00 13 11.0 +0.5**
HHC PP **PnPn 00 14 03.3 +3.1**
HHC S **S 00 17 56.5 -2.6**
HHC sS **sS 00 18 06.0 +2.9**
HHC SS **SnSn 00 19 21.0 +2.6**
HHC PMZ
comp=N,11nm,0.9s
HHC PMZ
comp=N,58nm,4.1s
HHC LN
comp=N,190nm,12.3s
HHC LE
comp=N,520nm,15.4s
HHC LZ
comp=N,130nm,12.3s
RAYN Ar Rayn 28.92 245 *e*P **P 00 13 12.7 -0.7**
KLMR Klimovskoe 29.93 326 P **P 00 13 20.2 -1.6**
KLMR pmax pmax
comp=Z,13nm,1.5s
CM31 Chiang Mai Arr 30.28 127 *e*P P 00 13 22.0 -3.4
CMAR Chiang Mai Arr 30.28 127 P P 00 13 22.0 -3.4
comp=Z,1.4nm,0.4s,baz=317,slow=7.8,SNR=2.9
CMAR LR LR 00 26 30.6
comp=Z,82nm,21.1s,baz=328,slow=38
CMAR Chiang Mai Arr 30.28 127 P P 00 13 22.0 -3.4
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,82nm,21.1s
BR101 Keskin Array S 30.79 283 *e*P **P 00 13 29.5 -0.4**
BRTR Keskin Array B 30.79 283 P **P 00 13 29.5 -0.4**
comp=Z,1.9nm,0.8s,baz=86,slow=7.6,SNR=9.9
BRTR LR LR 00 27 47.6
comp=Z,51nm,18.5s,baz=82,slow=40
BRTR Keskin Array B 30.79 283 *ce*P **P 00 13 30.2 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BOD Bodaibo 31.41 41 *e*P P 00 13 29.9 -5.0
AKASG Malin Array Be 32.86 304 P **P 00 13 46.9 -0.8**
comp=Z,0.9nm,0.4s,baz=82,slow=7.2,SNR=14
AKASG LR LR 00 28 26.8
comp=Z,135nm,20.1s,baz=80,slow=39
AKASG Malin Array Be 32.86 304 P **P 00 13 46.9 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,135nm,20.1s
AKBB Malin Array Si 32.86 304 *e*P **P 00 13 46.9 -0.8**
AKBB Malin Array Si 32.86 304 *e*P **P 00 13 46.9 -0.8**
JOF Joensuu 34.32 327 *ep* **P 00 13 59.4 -1.0**
comp=Z,4.1nm,0.6s
JOF Joensuu 34.32 327 *e*P **P 00 13 59.4 -1.0**
JOF pmax pmax
comp=Z,4.0nm,0.6s
TESR Tescani 34.73 297 ⇑*i*P **P 00 14 04.0 -0.1**
PLOR Plostina 34.80 296 ⇑*i*P **P 00 14 05.4 +0.6**
PLOR Plostina 34.80 296 ⇑P **P 00 14 05.4 +0.6**
MLR Muntele Rosu 35.34 295 ⇑*i*P **P 00 14 10.5 +1.0**
MLR Muntele Rosu 35.34 295 ⇑P **P 00 14 10.5 +1.0**
BURAR Bucovina Array 35.59 299 ⇑*i*P **P 00 14 11.5 -0.1**
BURAR Bucovina Array 35.59 299 ⇑P **P 00 14 11.5 -0.1**
VOIR 35.97 295 ⇑*i*P **P 00 14 14.7 -0.2**
VOIR 35.97 295 ⇑P **P 00 14 14.7 -0.2**
FIA0 FINESS Array S 36.19 323 *e*P **P 00 14 16.4 0.0**
FIA0 FINESS Array S 36.19 323 *e*P **P 00 14 16.4 0.0**
FINES FINESS Array B 36.19 323 P **P 00 14 16.4 0.0**
comp=Z,4.7nm,0.5s,baz=115,slow=9.5,SNR=64
FINES LR LR 00 29 33.7
comp=Z,97nm,18.1s,baz=128,slow=37
FINES FINESS Array B 36.19 323 P **P 00 14 16.4 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES MLR MLR
comp=Z,97nm,18.1s
KAF Kangasniemi 36.26 324 *ep* **P 00 14 16.2 -0.8**
comp=Z,2.2nm,0.5s
KAF Kangasniemi 36.26 324 *e*P **P 00 14 16.2 -0.8**
KAF pmax pmax
comp=Z,2.0nm,0.5s
ARR Arges 36.27 295 ⇑*i*P **P 00 14 18.0 +0.6**
LOT Lotru 36.86 296 ⇓*i*P **P 00 14 23.2 +0.7**
KWP Kalwaria Pacla 37.07 303 ⇑*i*P **P 00 14 24.8 +0.6**
KWP Kalwaria Pacla 37.07 303 *e*P **P 00 14 24.9 +0.8**
KWP Kalwaria Pacla 37.07 303 *e*P **P 00 14 24.9 +0.8**
comp=Z,262nm,2.9s
QIZ Qiongzhong 37.15 113 P P 00 14 20.8 -4.3
QIZ S S 00 20 04.5 -7.4
QIZ PMZ
comp=Z,9.0nm,1.8s
QIZ LZ
comp=Z,230nm,17.0s
TRPA Tarpa 37.33 300 ⇑*i*P **P 00 14 27.2 +0.9**
DRGR 37.38 298 ⇑*i*P **P 00 14 27.2 +0.3**
DRGR 37.38 298 ⇑P **P 00 14 27.2 +0.3**
KOLS Kolonicke sedl 37.42 302 *e*P **P 00 14 27.3 +0.2**
KOLS Kolonicke sedl 37.42 302 *e*P **P 00 14 27.3 +0.2**
UZH Uzhgorod 37.43 301 *e*P P 00 14 23.5 -3.7
UZH *e* 00 14 44.7
GZR Gura Zlata 37.56 296 ⇑*i*P **P 00 14 28.5 +0.1**
VTS Vitosha 37.81 291 ⇓*i*P **P 00 14 31.7 +1.0**
VTS Vitosha 37.81 291 ⇓P **P 00 14 31.7 +1.0**
STHS Stebnicka Huta 38.04 303 *e*P **P 00 14 31.7 -0.7**
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 38.04 303 *e*P **P 00 14 31.7 -0.7**
BZS Buzias 38.32 296 ⇑*i*P **P 00 14 35.0 +0.3**
BZS Buzias 38.32 296 ⇑P **P 00 14 35.1 +0.3**
KECS Kecovo 38.64 301 *e*P **P 00 14 37.7 +0.3**
KECS Kecovo 38.64 301 *e*P **P 00 14 37.7 +0.3**
NIE Niedzica 38.64 303 *e*P **P 00 14 38.1 +0.6**
KEV Kevo 38.72 336 *ep* P 00 14 48.5 +11
comp=Z,5.6nm,0.8s
KEV Kevo 38.72 336 *e*P **P 00 14 38.6 +0.9**
KEV Kevo 38.72 336 *e*P **P 00 14 38.6 +0.9**
comp=Z,505nm,2.6s
OJC Ojcow 38.89 304 *e*P **P 00 14 39.1 -0.4**
OJC pmax pmax
comp=Z,8.0nm,0.7s
OJC Ojcow 38.89 304 *e*P **P 00 14 39.1 -0.4**
comp=Z,8.0nm,0.7s
ARA0 ARCESS Array S 39.10 335 *e*P **P 00 14 41.3 +0.3**
ARCES ARCESS Array B 39.10 335 P **P 00 14 41.3 +0.3**
comp=Z,4.2nm,0.4s,baz=109,slow=8.5,SNR=27
ARCES LR LR 00 33 04.1
comp=Z,59nm,18.4s,baz=186,slow=40
ARCES ARCESS Array B 39.10 335 P **P 00 14 41.3 +0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.4s
ARCES MLR MLR
comp=Z,59nm,18.4s
AGG Agios Georgios 39.42 286 *e*P **P 00 14 42.4 -1.7**
AGG Agios Georgios 39.42 286 *e*P **P 00 14 42.4 -1.7**
comp=Z,329nm,2.7s
VYHS Vyhne 39.73 301 *e*P **P 00 14 46.5 0.0**
VYHS Vyhne 39.73 301 *e*P **P 00 14 46.5 0.0**
DIVS Divibare 39.76 294 ⇑*i*P **P 00 14 47.2 +0.3**
PKSM Moragy 40.25 298 ⇓*i*P **P 00 14 50.8 0.0**
PKSM Moragy 40.25 298 ⇓P **P 00 14 50.8 0.0**
MORC Moravsky Berou 40.39 304 ⇓*i*P **P 00 14 52.1 +0.1**
MORC Moravsky Berou 40.39 304 *e*P **P 00 14 52.3 +0.3**
MORC pmax pmax
comp=Z,13nm,1.5s
MORC Moravsky Berou 40.39 304 *e*P **P 00 14 52.3 +0.3**
comp=Z,13nm,1.5s
KSP Ksiaz 41.04 305 *e*P **P 00 14 57.3 -0.1**
DPC Dobruska-Polom 41.09 305 *e*P **P 00 14 57.9 +0.1**
DPC *ex* x 00 15 01.7
DPC *ex* x 00 15 04.9
DPC AMS AMS 00 34 50.0
DPC Dobruska-Polom 41.09 305 *e*P **P 00 14 57.9 +0.1**
DPC Dobruska-Polom 41.09 305 *e*P **P 00 14 57.9 +0.1**
comp=Z,31nm,0.6s
UPC Upice 41.27 305 *e*P **P 00 14 59.1 -0.1**
UPC *ex* x 00 15 06.1
UPC Upice 41.27 305 *e*P **P 00 14 59.1 -0.1**
KS15 Wonju Array Si 41.72 75 *e*P **P 00 15 05.4 +2.3**
KSAR Wonju Array Be 41.72 75 P **P 00 15 05.4 +2.3**
KSAR Wonju Array Be 41.72 75 P **P 00 15 05.4 +2.3**
KSRS Korea Array 41.75 75 P **P 00 15 05.4 +2.1**
comp=Z,1.2nm,0.6s,baz=288,slow=7.9,SNR=3.9
KSRS LR LR 00 34 16.6
comp=Z,58nm,18.8s,baz=288,slow=39
KSRS Korea Array 41.75 75 P **P 00 15 05.4 +2.1**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS MLR MLR
comp=Z,58nm,18.8s
CONA Conrad Observa 41.78 301 ⇑*i*P **P 00 15 03.5 -0.1**
comp=Z,3.9nm,0.6s
TREC Trest 41.79 303 *e*P P 00 15 00.7 -2.8
TREC AMS AMS 00 36 00.0
comp=Z,200nm,12.4s
TREC Trest 41.79 303 *e*P P 00 15 00.7 -2.8
TREC MLR MLR
comp=Z,200nm,12.4s
TIXI Tiksi 41.92 23 ⇓*i*P **P 00 15 04.0 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 41.92 23 *e*P **P 00 15 02.9 -1.4**
comp=Z,7.5nm,0.4s
GOPC GO Pecny, Ondr 42.13 304 AMS AMS 00 35 40.0
PVCC Panska Ves 42.17 305 *e*P **P 00 15 06.7 +0.1**
PVCC *ex* x 00 15 13.8
PVCC Panska Ves 42.17 305 *e*P **P 00 15 06.7 +0.1**
PRU Pruhonice 42.28 304 *e*P **P 00 15 07.2 -0.3**
PRU *ex* x 00 15 11.3
PRU *ex* x 00 15 14.8
PRU AMS AMS 00 35 40.0
comp=Z,200nm,17.7s
PRU Pruhonice 42.28 304 *e*P **P 00 15 07.2 -0.3**
PRU MLR MLR
comp=Z,200nm,17.7s
PRA Prague 42.33 304 *e*P **P 00 15 08.0 +0.1**
PRA *ex* x 00 15 15.2
PRA Prague 42.33 304 *e*P **P 00 15 08.0 +0.1**
BRG Berggiesshubel 42.51 306 *e*P **P 00 15 09.4 0.0**
comp=Z,7.2nm,0.7s
BRG *e* 00 15 16.6
comp=Z,4.5nm,0.8s
comp=N,130nm,14.2s
comp=E,170nm,11.3s
comp=Z,283nm,23.0s
BRG Berggiesshubel 42.51 306 *e*P **P 00 15 09.7 +0.3**
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 42.51 306 *e*P **P 00 15 09.4 0.0**
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG MLR MLR
comp=N,130nm,14.2s
BRG MLR MLR
comp=E,170nm,11.3s
BRG MLR MLR
comp=Z,283nm,23.0s
SOKA Soboth 42.59 299 ⇓*i*P **P 00 15 09.9 -0.3**
comp=Z,5.8nm,1.3s
USRK Ussurivsk Ar. 42.65 64 LR LR 00 34 06.5
comp=Z,102nm,19.9s,baz=269,slow=38
MOA Molln 42.85 301 ⇑*i*P **P 00 15 11.9 -0.4**

comp=Z,3.3nm,0.9s
FBE Freiberg 42.87 306 *e*P P 00 15 12.8 +0.5
comp=Z,15nm,0.6s
GEC2 GERESS Array S 43.02 303 *e*P P 00 15 14.1 +0.4
comp=Z,6.0nm,0.8s
GERES GERESS Array B 43.02 303 P P 00 15 14.0 +0.4
comp=Z,4.7nm,0.6s,baz=64,slow=8.2,SNR=59
GERES LR LR 00 36 14.0
comp=Z,103nm,18.1s,baz=74,slow=40
GERES GERESS Array B 43.02 303 P P 00 15 14.0 +0.4
GERES pmax pmax
comp=Z,5.0nm,0.6s
GERES MLR MLR
comp=Z,103nm,18.1s
CLL Collm 43.03 307 *e*P P 00 15 13.0 -0.6
comp=Z,6.0nm,0.6s
CLL LmV 00 34 00.0
comp=Z,200nm,19.8s
CLL Collm 43.03 307 *e*P P 00 15 13.0 -0.6
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL MLR MLR
comp=Z,200nm,19.8s
CLL Collm 43.03 307 *e*P P 00 15 13.4 -0.2
comp=Z,6.9nm,0.6s
KHC Kasperske Hory 43.05 303 *e*P P 00 15 13.0 -0.8
KHC Kasperske Hory 43.05 303 *e*P P 00 15 13.0 -0.8
NB2 NORSAR Subarra 43.25 321 P P 00 15 14.5 -0.7
comp=Z,5.0nm,0.6s,baz=90,slow=8.6
NB200 NORSAR Array S 43.25 321 *e*P P 00 15 14.6 -0.7
NOA NORSAR Array B 43.25 321 P P 00 15 14.6 -0.7
comp=Z,5.7nm,0.6s,baz=91,slow=8.0,SNR=32
NOA LR LR 00 34 13.4
comp=Z,80nm,19.4s,baz=135,slow=37
NOA NORSAR Array B 43.25 321 P P 00 15 14.6 -0.7
NOA pmax pmax
comp=Z,6.0nm,0.6s
NOA MLR MLR
comp=Z,81nm,19.4s
WET Wettzell 43.49 303 *e*P P 00 15 17.7 +0.3
comp=Z,5.0nm,0.8s
TANN Tannenbergstha 43.52 305 *e*P P 00 15 17.8 +0.2
comp=Z,3.0nm,0.6s
GUNZ Gunzen 43.61 305 *e*P P 00 15 18.6 +0.3
comp=Z,4.0nm,0.6s
WERD Werda 43.61 305 *e*P P 00 15 18.4 +0.1
comp=Z,5.0nm,0.8s
PLN Plauen 43.70 305 *e*P P 00 15 19.2 +0.2
comp=Z,11nm,1.7s
MANZ Manzenberg 43.82 305 *e*P P 00 15 20.3 +0.3
comp=Z,3.0nm,0.7s
KONO Kongsberg 44.09 319 *e*P P 00 15 21.0 -1.0
KONO Kongsberg 44.09 319 *e*P P 00 15 21.0 -1.0
comp=Z,199nm,2.5s
ABTA Abfaltersbach 44.27 300⇑*i*P P 00 15 23.0 -0.7
comp=Z,1.9nm,0.6s
GRF Grafenberg Arr 44.44 305 *e*P P 00 15 26.0 +1.0
comp=Z,16nm,1.4s
CLZ Clausthal 44.56 308 *e*P P 00 15 25.9 0.0
comp=Z,5.0nm,0.8s
NRDL Niedersach Rie 44.61 309 *e*P P 00 15 26.6 +0.5
comp=Z,6.0nm,0.8s
FUR Furstenfeldbru 44.74 302 *e*P P 00 15 28.0 +0.6
comp=Z,10.0nm,1.0s
FUORN Ofenpass-Fuorn 45.79 301 *e*P P 00 15 35.4 -0.6
comp=Z,3.7nm,0.6s
DAVA Damuels 45.87 302⇑*i*P P 00 15 35.3 -1.3
comp=Z,7.8nm,0.6s
KBS Kingsbay 46.00 346 *e*P P 00 15 37.0 +0.1
KBS pmax pmax
comp=Z,11nm,1.4s
KBS Kingsbay 46.00 346 *e*P P 00 15 37.0 +0.1
comp=Z,11nm,1.4s
BFO Black Forest 46.61 303*ce*P P 00 15 42.5 +0.3
CDF Champ du Feu 47.27 304 *e*P P 00 15 46.8 -0.6
comp=Z,7.1nm,0.7s
CDF Champ du Feu 47.27 304 *e*P P 00 15 46.8 -0.6
CDF pmax pmax
comp=Z,7.0nm,0.7s
CDF Champ du Feu 47.27 304 *e*P P 00 15 46.8 -0.6
comp=Z,7.1nm,0.7s
HINF Hinteralfeld 47.70 303 *e*P P 00 15 50.0 -0.7
comp=Z,3.2nm,0.5s
HINF Hinteralfeld 47.70 303 *e*P P 00 15 50.0 -0.7
HINF pmax pmax
comp=Z,3.0nm,0.5s
HINF Hinteralfeld 47.70 303 *e*P P 00 15 50.0 -0.7
comp=Z,3.2nm,0.5s
HAU Haudompre 47.98 303 *e*P P 00 15 52.2 -0.6
comp=Z,7.0nm,0.6s
HAU *e*R
comp=Z,85nm,20.2s
HAU Haudompre 47.98 303 *e*P P 00 15 52.2 -0.6
HAU pmax pmax
comp=Z,7.0nm,0.6s
HAU Haudompre 47.98 303 *e*P P 00 15 52.2 -0.6
comp=Z,7.0nm,0.6s
PAGF Fort de Pagny 48.22 304 *e*P P 00 15 54.6 -0.1
comp=Z,1.6nm,0.7s
PAGF Fort de Pagny 48.22 304 *e*P P 00 15 54.6 -0.1
comp=Z,1.6nm,0.7s
GIVF Givet 48.37 306 *e*P P 00 15 55.1 -0.7
GIVF Givet 48.37 306 *e*P P 00 15 55.1 -0.7
GIVF Givet 48.37 306 *e*P P 00 15 55.1 -0.7
LPG La Plagne 48.46 300 *e*P P 00 15 56.7 -0.2
comp=Z,11nm,0.7s
LPG La Plagne 48.46 300 *e*P P 00 15 56.7 -0.2
LPG pmax pmax
comp=Z,11nm,0.7s
LPG La Plagne 48.46 300 *e*P P 00 15 56.7 -0.2
comp=Z,11nm,0.7s
LPL La Plagne 48.47 300 *e*P P 00 15 56.4 -0.5
comp=Z,5.4nm,0.5s
LPL La Plagne 48.47 300 *e*P P 00 15 56.4 -0.5
LPL pmax pmax
comp=Z,5.0nm,0.5s
LPL La Plagne 48.47 300 *e*P P 00 15 56.4 -0.5
comp=Z,5.4nm,0.5s
SBF Sospel 48.52 298 *e*P P 00 15 55.9 -1.3
SBF Sospel 48.52 298 *e*P P 00 15 55.9 -1.3
SBF Sospel 48.52 298 *e*P P 00 15 55.9 -1.3
CABF La Chapelle 48.56 302 *e*P P 00 15 56.5 -0.9
comp=Z,4.0nm,0.5s
CABF La Chapelle 48.56 302 *e*P P 00 15 56.5 -0.9
CABF pmax pmax
comp=Z,4.0nm,0.5s
CABF La Chapelle 48.56 302 *e*P P 00 15 56.5 -0.9
comp=Z,4.0nm,0.5s
MEZF Maizieres J'vi 48.67 304 *e*P P 00 15 58.0 -0.1
comp=Z,11nm,0.8s
MEZF Maizieres J'vi 48.67 304 *e*P P 00 15 58.0 -0.1
comp=Z,11nm,0.8s
MBDF Montbardon 48.69 299 *e*P P 00 15 57.4 -1.2
comp=Z,11nm,0.8s
MBDF Montbardon 48.69 299 *e*P P 00 15 57.4 -1.2
MBDF pmax pmax
comp=Z,11nm,0.8s
MBDF Montbardon 48.69 299 *e*P P 00 15 57.4 -1.2
comp=Z,11nm,0.8s
BAIF Baives 48.76 306 *e*P P 00 15 58.7 -0.1
comp=Z,6.0nm,0.5s
BAIF Baives 48.76 306 *e*P P 00 15 58.7 -0.1
BAIF pmax pmax
comp=Z,6.0nm,0.5s
BAIF Baives 48.76 306 *e*P P 00 15 58.7 -0.1
comp=Z,6.0nm,0.5s
SFTF Sexfontaines 48.76 304 *e*P P 00 15 58.3 -0.6
comp=Z,5.2nm,0.6s
SFTF Sexfontaines 48.76 304 *e*P P 00 15 58.3 -0.6
comp=Z,5.2nm,0.6s
ORIF Oris-en-Rattie 49.23 300 *e*P P 00 16 03.4 +0.8
comp=Z,7.1nm,0.8s
ORIF *e*R
comp=Z,107nm,23.0s
ORIF Oris-en-Rattie 49.23 300 *e*P P 00 16 03.4 +0.8
ORIF pmax pmax
comp=Z,7.0nm,0.8s
ORIF Oris-en-Rattie 49.23 300 *e*P P 00 16 03.4 +0.8
comp=Z,7.1nm,0.8s
MAJO Matsushiro 49.70 72 *e*P P 00 16 04.9 -1.3
MAJO pmax pmax
comp=Z,38nm,1.8s
MAJO Matsushiro 49.70 72 *e*P P 00 16 04.9 -1.3
comp=Z,38nm,1.8s
MJAR Matsushiro Arr 49.71 72 P P 00 16 04.9 -1.4
comp=Z,2.4nm,0.6s,baz=287,slow=9.2,SNR=6.3
MJAR Matsushiro Arr 49.71 72 P P 00 16 04.9 -1.4
MJAR pmax pmax
comp=Z,2.0nm,0.6s
SMRF Simiane la Rot 49.75 298 *e*P P 00 16 06.0 -0.5
comp=Z,11nm,0.9s
SMRF Simiane la Rot 49.75 298 *e*P P 00 16 06.0 -0.5
comp=Z,11nm,0.9s
LOR Lormes 49.80 303 *e*P P 00 16 05.5 -1.4
comp=Z,4.7nm,0.6s
LOR *e*R
comp=Z,82nm,23.0s
LOR Lormes 49.80 303 *e*P P 00 16 05.5 -1.4
LOR pmax pmax
comp=Z,5.0nm,0.6s
LOR Lormes 49.80 303 *e*P P 00 16 05.5 -1.4
comp=Z,4.7nm,0.6s
ASAJ Asahikawa 49.95 61 LR LR 00 38 32.7
comp=Z,78nm,18.0s,baz=356,slow=38
SMF Signal de Mont 50.02 302 *e*P P 00 16 07.4 -1.1
comp=Z,4.3nm,0.6s
SMF Signal de Mont 50.02 302 *e*P P 00 16 07.4 -1.1
SMF pmax pmax
comp=Z,4.0nm,0.6s
SMF Signal de Mont 50.02 302 *e*P P 00 16 07.4 -1.1
comp=Z,4.3nm,0.6s
VIVF Saint-Julien-l 50.06 300 *e*P P 00 16 08.2 -0.7
comp=Z,5.5nm,0.6s
VIVF Saint-Julien-l 50.06 300 *e*P P 00 16 08.2 -0.7
VIVF pmax pmax
comp=Z,6.0nm,0.6s
VIVF Saint-Julien-l 50.06 300 *e*P P 00 16 08.2 -0.7
comp=Z,5.5nm,0.6s
SSF Saint Saulge 50.10 303 *e*P P 00 16 08.0 -1.1
comp=Z,3.7nm,0.6s
SSF Saint Saulge 50.10 303 *e*P P 00 16 08.0 -1.1
SSF pmax pmax
comp=Z,4.0nm,0.6s
SSF Saint Saulge 50.10 303 *e*P P 00 16 08.0 -1.1
comp=Z,3.7nm,0.6s
AVF Avril sur Loir 50.28 303 *e*P P 00 16 09.6 -0.9
comp=Z,15nm,0.8s
AVF Avril sur Loir 50.28 303 *e*P P 00 16 09.6 -0.9
AVF pmax pmax
comp=Z,15nm,0.8s
AVF Avril sur Loir 50.28 303 *e*P P 00 16 09.6 -0.9
comp=Z,15nm,0.8s
BGF Bois d'Agland 50.69 302 *e*P P 00 16 12.5 -1.1
comp=Z,5.9nm,0.7s
BGF Bois d'Agland 50.69 302 *e*P P 00 16 12.5 -1.1
BGF pmax pmax
comp=Z,6.0nm,0.7s
BGF Bois d'Agland 50.69 302 *e*P P 00 16 12.5 -1.1
comp=Z,5.9nm,0.7s
LASF Ste Croix 50.88 299 *e*P P 00 16 14.6 -0.4
comp=Z,13nm,0.9s
LASF Ste Croix 50.88 299 *e*P P 00 16 14.6 -0.4
comp=Z,13nm,0.9s
TCF Toulx Ste Croi 51.20 302 *e*P P 00 16 16.9 -0.5
TCF Toulx Ste Croi 51.20 302 *e*P P 00 16 16.9 -0.5
TCF Toulx Ste Croi 51.20 302 *e*P P 00 16 16.9 -0.5
CAF Calviac 51.77 301 *e*P P 00 16 21.5 -0.2
comp=Z,7.3nm,0.8s
CAF Calviac 51.77 301 *e*P P 00 16 21.5 -0.2
CAF pmax pmax
comp=Z,7.0nm,0.8s
CAF Calviac 51.77 301 *e*P P 00 16 21.5 -0.2
comp=Z,7.3nm,0.8s
LDF La Druitiere 51.91 306 *e*P P 00 16 21.5 -1.1
comp=Z,8.4nm,0.5s
LDF La Druitiere 51.91 306 *e*P P 00 16 21.5 -1.1
LDF pmax pmax
comp=Z,8.0nm,0.5s
LDF La Druitiere 51.91 306 *e*P P 00 16 21.5 -1.1
comp=Z,8.4nm,0.5s
RJF Les Rejaudoux 52.00 301 *e*P P 00 16 23.1 -0.3
comp=Z,5.6nm,0.7s
RJF *e*R
comp=Z,82nm,18.8s
RJF Les Rejaudoux 52.00 301 *e*P P 00 16 23.1 -0.3
RJF pmax pmax
comp=Z,6.0nm,0.7s
RJF Les Rejaudoux 52.00 301 *e*P P 00 16 23.1 -0.3
comp=Z,5.6nm,0.7s
FLN La Foliniere 52.07 306 *e*P P 00 16 23.0 -0.9
FLN *e*R
comp=Z,214nm,19.8s
FLN La Foliniere 52.07 306 *e*P P 00 16 23.0 -0.9
FLN La Foliniere 52.07 306 *e*P P 00 16 23.0 -0.9
MTLF Montolieu 52.25 299 *e*P P 00 16 24.1 -1.2
MTLF Montolieu 52.25 299 *e*P P 00 16 24.1 -1.2
MTLF Montolieu 52.25 299 *e*P P 00 16 24.1 -1.2
GRR Gorron 52.44 306 *e*P P 00 16 25.4 -1.2
comp=Z,7.9nm,0.6s
GRR Gorron 52.44 306 *e*P P 00 16 25.4 -1.2
GRR pmax pmax
comp=Z,8.0nm,0.6s
GRR Gorron 52.44 306 *e*P P 00 16 25.4 -1.2
comp=Z,7.9nm,0.6s
SGMF Saint Gilles 53.54 306 *e*P P 00 16 33.8 -0.9
comp=Z,11nm,0.6s
SGMF Saint Gilles 53.54 306 *e*P P 00 16 33.8 -0.9
SGMF pmax pmax
comp=Z,11nm,0.6s
SGMF Saint Gilles 53.54 306 *e*P P 00 16 33.8 -0.9
comp=Z,11nm,0.6s
EPF Esparros 53.64 299 *e*P P 00 16 35.5 -0.1
EPF Esparros 53.64 299 *e*P P 00 16 35.5 -0.1
EPF Esparros 53.64 299 *e*P P 00 16 35.5 -0.1
ROSF Rostrenen 53.96 306 *e*P P 00 16 36.6 -1.2
comp=Z,5.8nm,0.5s
ROSF Rostrenen 53.96 306 *e*P P 00 16 36.6 -1.2
ROSF pmax pmax
comp=Z,6.0nm,0.5s
ROSF Rostrenen 53.96 306 *e*P P 00 16 36.6 -1.2
comp=Z,5.8nm,0.5s
QUIF Quistinic 54.05 306 *e*P P 00 16 37.2 -1.2
comp=Z,7.7nm,0.6s
QUIF Quistinic 54.05 306 *e*P P 00 16 37.2 -1.2
QUIF pmax pmax
comp=Z,8.0nm,0.6s
QUIF Quistinic 54.05 306 *e*P P 00 16 37.2 -1.2
comp=Z,7.7nm,0.6s
ETSF Etsaut 54.30 299 *e*P P 00 16 39.9 -0.6
ETSF Etsaut 54.30 299 *e*P P 00 16 39.9 -0.6
ETSF Etsaut 54.30 299 *e*P P 00 16 39.9 -0.6
BILL Bilibino 54.70 27 *e*P P 00 16 43.2 +0.3
BILL *e* 00 17 44.8
BILL *e* 00 18 46.9
BILL pmax pmax
comp=Z,2.0nm,1.1s
PET Petropavlovsk 56.63 46 *e*P P 00 16 56.1 -0.9
PET Petropavlovsk 56.63 46 *e*P P 00 16 56.0 -0.9
comp=Z,72nm,2.1s
SMRI Semarang 57.49 136 *e*P P 00 17 00.6 -2.9
comp=Z,609nm,2.8s
ESDC Sonseca Array 58.00 297 P P 00 17 05.9 -1.0
comp=Z,1.2nm,0.6s,baz=57,slow=7.2,SNR=16
RES Resolute Bay 65.63 357 P P 00 17 57.0 -0.6
comp=Z,2.3nm,1.1s,baz=45,slow=8.4,SNR=3.2
RES Resolute Bay 65.63 357 P P 00 17 57.0 -0.6
RES pmax pmax
comp=Z,2.0nm,1.1s
TOA0 Torodi Ar. Sit 68.07 269 *e*P P 00 18 11.8 -2.3
TORD Torodi Ar. Bea 68.07 269 P P 00 18 11.8 -2.3
comp=Z,7.3nm,0.6s,baz=48,slow=5.6,SNR=47
TORD LR LR 00 52 53.4
comp=Z,36nm,18.9s,baz=10.0,slow=40
COLD Coldfoot 68.23 17 *e*P P 00 18 14.1 -0.3
comp=Z,5.3nm,1.0s
INK Inuvik 70.34 10 P P 00 18 26.6 -0.7
comp=Z,3.2nm,0.9s,baz=3.7,slow=5.3,SNR=7.1
INK Inuvik 70.34 10 P P 00 18 26.6 -0.7
INK pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 71.04 17 P P 00 18 29.8 -1.9
comp=Z,1.5nm,0.9s,baz=319,slow=5.2,SNR=14
ILAR Eielson Array 71.04 17 P P 00 18 29.8 -1.9
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILB Eielson Array 71.04 17 *e*P P 00 18 29.8 -1.9
DBIC Dimbokro 77.13 268 P P 00 19 06.1 -2.0
comp=Z,5.7nm,0.6s,baz=16,slow=8.1,SNR=10
DBIC Dimbokro 77.13 268 P P 00 19 06.1 -2.0
DBIC pmax pmax
comp=Z,6.0nm,0.6s
KIC Kosan Boka 77.23 268 *e*P P 00 19 06.8 -1.9
comp=Z,125nm,1.7s
TIC Toumodi 77.27 268 *e*P P 00 19 06.9 -2.0
comp=Z,5.1nm,0.2s
LIC Lamto 77.54 268⇑*i*P P 00 19 08.3 -2.1
comp=Z,11nm,0.7s
LIC Lamto 77.54 268 *e*P P 00 19 08.4 -2.0
comp=Z,93nm,2.2s
LIC Lamto 77.54 268⇑*i*P P 00 19 08.3 -2.1
comp=Z,11nm,0.7s
YKA Yellowknife Ar 77.89 4 P P 00 19 10.3 -1.3
comp=Z,2.0nm,0.7s,baz=348,slow=5.7,SNR=29
YKA Yellowknife Ar 77.89 4 P P 00 19 10.3 -1.3
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKB5 Yellowknife Ar 77.89 4 *e*P P 00 19 10.3 -1.3
WRA Warramunga Arr 81.83 124 P P 00 19 30.9 -2.6
comp=Z,3.0nm,0.7s,baz=325,slow=5.0,SNR=31
WRA Warramunga Arr 81.83 124 P P 00 19 30.9 -2.6
WRA pmax pmax
comp=Z,3.0nm,0.7s
AS12 Alice Springs 84.29 127 *e*P P 00 19 43.5 -2.6
ASAR Alice Springs 84.29 127 P P 00 19 43.5 -2.6
comp=Z,1.6nm,0.6s,baz=316,slow=5.1,SNR=18
ASAR Alice Springs 84.29 127 P P 00 19 43.6 -2.6
ASAR pmax pmax
comp=Z,2.0nm,0.6s
PDAR Pinedale Array 97.83 3 LR LR 01 09 12.6
comp=Z,18nm,19.1s,baz=56,slow=38

NEIC ***27*** *00:08:15.6,36.˚62S×177.˚09E,h5km,ML4.2(WEL),After WEL.*
WEL 27 00:08:15.8±0.4,36.˚66S×177.˚07E,h5km,ML4.1/6,1D, Error ellipse: s-maj=3.4km s-min=2.2km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.87**	**174**	P*		Pg		00 08 32.0	-0.6
WIZ				*e*S*		Sg		00 08 42.1	-1.9
WIZ	**White Island**	**0.87**	**174**	P*		Pg		00 08 32.0	-0.6
MYRZ	**Mayor Island**	**0.91**	**227**	P*		Pg		00 08 33.6	+0.2
MYRZ				S*		Sg		00 08 45.4	+0.2
KUZ	**Kuaotunu**	**1.09**	**265**	P*		Pg		00 08 36.4	-0.3
KUZ				S*		Sg		00 08 49.9	-1.1
KUZ					AML	AML		00 08 51.4	
KUZ					AML	AML		00 08 52.8	
KUZ					AML	AML		00 08 52.8	
KUZ	**Kuaotunu**	**1.09**	**265**	P*		Pg		00 08 36.4	-0.3
KUZ				S*		Sg		00 08 49.9	-1.0
KUZ				S*		Sb		00 08 50.3	-1.3
HAZ	**Te Kaha**	**1.23**	**153**	⇓P*		Pg		00 08 37.1	-2.4
OPRZ	**Ohinepanea**	**1.25**	**199**	P*		Pg		00 08 38.0	-1.9
MXZ	**Matakaoa Point**	**1.34**	**133**	P*		Pn		00 08 38.9	-2.3
MXZ					AML	AML		00 08 56.1	
MXZ					AML	AML		00 09 05.3	
MXZ	**Matakaoa Point**	**1.34**	**133**	P*		Pn		00 08 39.0	-2.3
MXZ				S*		Sb		00 08 56.0	-2.9
WMGZ	**Waiomatatini S**	**1.58**	**138**	PN		Pn		00 08 44.3	-0.2
MKAZ	**Moumakai**	**1.59**	**253**	PN		Pn		00 08 44.3	-0.4
MKAZ					AML	AML		00 09 06.9	
MKAZ					AML	AML		00 09 07.2	
MKAZ	**Moumakai**	**1.59**	**253**	PN		Pn		00 08 44.3	-0.4
URZ	**Urewera**	**1.60**	**179**	P*		Pn		00 08 42.6	-2.2
URZ					AML	AML		00 09 08.5	
URZ					AML	AML		00 09 11.6	
URZ	**Urewera**	**1.60**	**179**	P*		Pn		00 08 42.6	-2.2
TOZ	**Tahuroa Road**	**1.65**	**229**	P*		Pn		00 08 44.8	-0.6
TOZ	**Tahuroa Road**	**1.65**	**229**	P*		Pn		00 08 44.8	-0.6
PUZ	**Puketiti**	**1.70**	**147**	*e*PN		Pn		00 08 45.3	-0.9
PUZ					AML	AML		00 09 12.8	
PUZ					AML	AML		00 09 15.9	
MWZ	**Matawai**	**1.71**	**168**	P*		Pn		00 08 44.5	-1.9
MWZ					AML	AML		00 09 15.1	
MWZ					AML	AML		00 09 16.4	
MWZ	**Matawai**	**1.71**	**168**	P*		Pn		00 08 44.5	-1.9
RIGZ	**Rimuhau**	**2.12**	**165**	PN		Pn		00 08 52.6	+0.6

IDC ***27*** *00:09:45.3±2.2,32.˚13N×115.˚56W,h0km,mb3.6/1, mb1 3.6/4,mb1mx3.4/41,mbtmp3.2/4,ML3.1/3,MS3.4/2, Ms1 3.5/2,ms1mx2.7/38,Error ellipse: s-maj=40.6km s-min=9.1km az=36.0*
ISCJB ***27*** *00:09:46.4±0.3,32.˚27N±0.˚02×115.˚32W±0.˚02,h10km, mb3.6/1,MS3.8/1,Error ellipse: s-maj=3.2km s-min=2.6km az=36.0*
NEIC ***27*** *00:09:48.0,32.˚27N×115.˚36W,h6km,MD4.0(MEX), ML4.0(PAS),ML4.1(ECX),After ECX.*
ECX ***27*** *00:09:48.1±0.6,32.˚27N×115.˚36W,h6km,MD3.9,ML4.1*
MEX ***27*** *00:09:49.2±0.9,32.˚32N×115.˚29W,h10km,MD4.0*
ISC 27 00:09:47.3±0.7,32.˚24N±0.˚02×115.˚36W±0.˚02,h10km,n47, σ1§22/62,7C-12D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**15**	⇑*e*P		**Pg**		**00 09 50.7**	**-0.5**
CPBX				*e*S		**Sg**		**00 09 54.0**	**+0.1**
CPBX				⇓*e*				00 09 57.1	
CPBX					AML	AML		00 09 57.1	
	comp=E,183μm,0.4s								
CPBX	**Cerro Prieto**	**0.18**	**15**	*i* P		**Pg**		**00 09 50.7**	**-0.5**
CPBX				*i* S		**Sg**		**00 09 54.2**	**+0.3**
MBIG	**Mexicali**	**0.21**	**40**	*i* P		**Pg**		**00 09 51.8**	**0.0**
MBIG				*e*S		**Sg**		**00 09 53.8**	**-1.0**
SGL	**Mount Signal**	**0.51**	**323**	⇓*i*P		**Pg**		**00 09 56.6**	**-0.6**
RDX	**Rancho Dawling**	**0.58**	**238**	⇑*e*P		**Pg**		**00 09 58.9**	**+0.1**
RDX				*e*S		**Sg**		**00 10 07.2**	**+0.7**
RDX				⇑*e*				00 10 09.3	
	comp=E,11μm,0.4s								
RDX				⇓*e*				00 10 11.8	
	comp=N,4μm,0.4s								
YUH	**Yuha Desert**	**0.62**	**310**	⇓*i*P		**Pg**		**00 09 58.5**	**-0.9**
COA	**Coachella**	**0.65**	**18**	⇑*i*P		**Pg**		**00 09 59.2**	**-0.7**
COK	**Cook Ranch**	**0.68**	**333**	⇓*i*P		**Pg**		**00 09 59.9**	**-0.6**
RMX	**La Rumorosa**	**0.71**	**301**	⇓*e*P		**Pg**		**00 10 00.2**	**-0.8**
RMX				*e*S		**Sg**		**00 10 10.3**	**0.0**
RMX				⇑*e*				00 10 12.0	
	comp=E,10μm,0.5s								
YMD	**Yuma Desert**	**0.76**	**65**	⇑*e*P		**Pg**		**00 10 00.9**	**-1.0**
ECBX	**El Chinero**	**0.81**	**161**	*e*P		**Pg**		**00 10 01.6**	**-1.4**
ECBX				*e*S		**Sg**		**00 10 12.8**	**-0.8**
CRR	**Carrizo Plain**	**0.82**	**321**	⇓*e*P		**Pg**		**00 10 02.0**	**-1.2**
GLA	**Glamis**	**0.92**	**29**	*e*P		**Pg**		**00 10 03.0**	**-2.1**
GLA				*e*S		**Sg**		**00 10 14.1**	**-3.1**
ZAX	**El Zacaton**	**1.06**	**227**	*e*P		**Pg**		**00 10 07.4**	**-0.4**
ZAX					AML	AML		00 10 28.3	
	comp=N,4μm,0.7s								
ZAX				⇓*e*				00 10 28.3	
CBX	**Cerro Bola**	**1.11**	**274**	*e*P		**Pb**		**00 10 07.8**	**-0.9**
CBX				*i* S		**Sg**		**00 10 22.2**	**-0.8**
CBX	**Cerro Bola**	**1.11**	**274**	⇓*e*P		**Pb**		**00 10 07.6**	**-1.0**
CBX				*e*S		**Sg**		**00 10 22.2**	**-0.8**
CBX					AML	AML		00 10 24.9	
	comp=E,5μm,0.7s								
CBX				⇑*e*				00 10 24.9	
CBX	**Cerro Bola**	**1.11**	**274**	*e*P		**Pb**		**00 10 07.8**	**-0.9**
CBX				*i* S		**Sg**		**00 10 22.2**	**-0.8**
BAR	**Barrett**	**1.19**	**292**	⇓*e*P		**Pb**		**00 10 08.4**	**-1.7**
SPIG	**San Pedro Mart**	**1.20**	**184**	*e*P		**Pb**		**00 10 09.4**	**-0.9**
SPIG				*e*S		**Sb**		**00 10 26.0**	**+0.1**
SPIG	**San Pedro Mart**	**1.20**	**184**	⇓*e*P		**Pb**		**00 10 09.2**	**-1.0**
SPIG	**San Pedro Mart**	**1.20**	**184**	*e*P		**Pb**		**00 10 09.4**	**-0.9**
SPIG				*e*S		**Sb**		**00 10 26.0**	**+0.1**
SPX	**San Pedro Mart**	**1.20**	**184**	⇓*e*P		**Pb**		**00 10 09.2**	**-1.1**
SPX	**San Pedro Mart**	**1.20**	**184**	*e*P		**Pb**		**00 10 09.5**	**-0.8**
SPX				*i* S		**Sb**		**00 10 25.0**	**-0.9**
ECNX	**Esteban Cantu**	**1.20**	**241**	*e*P		**Pb**		**00 10 09.8**	**-0.4**
ECNX				*e*S		**Sb**		**00 10 25.7**	**-0.2**
PBX	**Punta Banda**	**1.26**	**247**	*e*P		**Pn**		**00 10 10.5**	**-0.6**
PBX				*e*S		**Sg**		**00 10 27.5**	**-0.5**
PFO	**Pinyon Flats O**	**1.65**	**326**	Pn		**Pn**		**00 10 13.8**	**-2.6**

comp=E,25nm,0.3s,baz=146,slow=12,SNR=215

PFO					Lg	Lg	00 10 37.4	
	comp=E,113nm,0.3s,baz=110,slow=12,SNR=17							
PFO					LR	LR	00 10 53.2	
	comp=E,86nm,19.0s,baz=344,slow=41							
MWC	**Mount Wilson**	**3.00**	**312**	*e*Pn		**Pn**	**00 10 35.4**	**+0.2**
PASC	**Pasadena Art C**	**3.05**	**310**	*e*Pn		**Pn**	**00 10 36.7**	**+1.1**
GSC	**Goldstone, Bar**	**3.28**	**339**	*e*Pn		**Pn**	**00 10 40.1**	**+1.3**
OSI	**Osito Audit: C**	**3.67**	**311**	*e*Pn		**Pn**	**00 10 44.0**	**-0.2**
TUC	**Tucson**	**3.88**	**88**	*e*P		**Pn**	**00 10 44.2**	**-2.9**
TUC				*e*S		Sn	00 11 24.0	-8.7
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn		**Pn**	**00 10 52.2**	**-0.2**
ISA	**Isabella, Lake**	**4.28**	**324**	*e*Pn		**Pn**	**00 10 53.7**	**+1.1**
DAC	**Darwin (Calif)**	**4.43**	**336**	*e*Pn		**Pn**	**00 10 55.8**	**+1.0**
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn		**Pn**	**00 10 57.6**	**-0.2**
CCUT	**Cedar City**	**5.54**	**17**	*e*Pn		**Pn**	**00 11 10.4**	**+0.3**
	comp=E,18nm,0.7s							
R11A	**Troy Canyon, C**	**6.10**	**358**	*e*Pn		**Pn**	**00 11 17.6**	**0.0**
	comp=E,4.9nm,0.6s							
121A	**Cookes Peak, D**	**6.41**	**85**	*e*Pn		**Pn**	**00 11 21.8**	**-0.3**
	comp=E,10nm,0.6s							
NVAR	**Mina Array Bea**	**6.62**	**340**	Pn		**Pn**	**00 11 26.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=170,slow=16,SNR=2.5							
NVAR					Pg	**Pg**	**00 11 53.3**	**-0.9**
	comp=E,0.2nm,0.3s,baz=160,slow=18,SNR=14							
NVAR					Lg	Lg	00 13 19.9	
	baz=149,slow=16,SNR=2.3							
MVU	**Marysvale**	**6.75**	**21**	*e*Pn		**Pn**	**00 11 27.0**	**+0.2**
	comp=E,21nm,0.9s							
LAZ	**Ladron**	**7.21**	**70**	*e*Pn		**Pn**	**00 11 31.4**	**-1.6**
	comp=E,3.4nm,1.0s							
MVCO	**Mesa Verde**	**7.51**	**47**	*e*Pn		**Pn**	**00 11 38.3**	**+1.1**
	comp=E,27nm,0.9s							
MVCO				*e*Sg		Sb	00 13 36.5	+8.9
ANMO	**Albuquerque**	**7.90**	**68**	Pn		**Pn**	**00 11 44.1**	**+1.7**
	comp=E,0.1nm,0.3s,baz=259,slow=10,SNR=4.5							
ANMO				Sn		Sn	00 13 18.6	+6.6
	comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=1.4							
TXAR	**Lajitas Array**	**10.46**	**103**	Pn		**Pn**	**00 12 19.0**	**+1.5**
	comp=E,0.3nm,0.3s,baz=282,slow=12,SNR=14							
TXAR				Sn		**Sn**	**00 14 19.1**	**+4.1**
	comp=E,0.0nm,0.3s,baz=312,slow=19,SNR=2.1							
TXAR					Lg	Lg	00 15 19.3	
	comp=E,0.1nm,0.3s,baz=263,slow=30,SNR=5.5							
PDAR	**Pinedale Array**	**11.47**	**22**	LR		LR	00 16 58.8	
	comp=E,85nm,19.4s,baz=214,slow=37							
ILAR	**Eielson Array**	**37.88**	**339**	P		**P**	**00 17 05.8**	**+1.7**
	comp=E,0.8nm,0.7s,baz=151,slow=7.1,SNR=7.5							
LPAZ	**La Paz**	**66.13**	**130**	LR		LR	00 47 10.1	
	comp=E,55nm,18.3s,baz=141,slow=34							

PGC 27 00:18:36.5±7.1, 48°99'N×129°84'W, h10km, ML3.0/3, Mw3.6,2D,258km southwest of Pt. Hardy, Bc Vancouver Island Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAYB	**Maynard**	**2.24**	**50**	⇓	Pn	Pn	Pn	00 19 11.5	-2.4
PHC	**Port Hardy**	**2.32**	**41**	⇑	Pn	Pn	Pn	00 19 13.6	-1.2
PHC				⇑	Sn	Sn	Sn	00 19 39.9	-3.4
WOSB	**Woss**	**2.43**	**60**	⇑	Pn	Pn	Pn	00 19 14.8	-1.6
BBB	**Bella Bella**	**3.38**	**18**	⇓	Pn	Pn	Pn	00 19 28.7	-0.7
BBB				⇑	Sn	Sn	Sn	00 20 05.8	-3.8

*ISCJB **27** 00:19:01.4±0.5, 32°.28N±0°.02×115°.34W±0°.03, h13km±4km, Error ellipse: s-maj=4.1km s-min=3.9km az=152.2*
*NEIC **27** 00:19:02.0, 32°.27N×115°.35W, h3km, MD3.4,ML3.6 MEX **27** 00:19:02.4±0.6, 32°.27N×115°.35W, h3km, MD3.4, ML3.6 MEX **27** 00:19:03.5±0.8, 32°.32N×115°.30W, h10km, MD3.7*

ISC 27 00:19:01.2±0.9, 32°26N±0°.03×115°37W±0°.03, h12km±7km, n24, σ 0°60/44, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.17**	**19**	⇑	*e*P	**Pg**		**00 19 05.0**	**0.0**
CPBX					*e*S	**Sg**		**00 19 08.2**	**+0.3**
CPBX				⇓	*e*			00 19 12.7	
	comp=E,47μm,0.3s								
CPBX	**Cerro Prieto**	**0.17**	**19**		*e*P	**Pg**		**00 19 05.1**	**0.0**
CPBX					*i* S	**Sg**		**00 19 08.1**	**+0.3**
MBIG	**Mexicali**	**0.21**	**44**		*i* P	**Pg**		**00 19 06.2**	**+0.5**
MBIG					*e*S	**Sg**		**00 19 08.2**	**-0.6**
SGL	**Mount Signal**	**0.49**	**322**	⇓	*i*P	**Pg**		**00 19 11.1**	**+0.2**
RDX	**Rancho Dawling**	**0.59**	**236**	⇑	*e*P	**Pb**		**00 19 13.3**	**-0.2**
RDX					*e*S	**Sb**		**00 19 21.6**	**-0.2**
RDX				⇓	*e*			00 19 24.2	
RDX					AML	AML		00 19 24.2	
	comp=N,3μm,0.3s								
YUH	**Yuha Desert**	**0.61**	**310**	⇓	*i*P	**Pg**		**00 19 13.1**	**0.0**
COA	**Coachella**	**0.64**	**19**	⇑	*i*P	**Pg**		**00 19 13.6**	**0.0**
RMX	**La Rumorosa**	**0.69**	**300**		*e*P	**Pg**		**00 19 14.6**	**0.0**
RMX					*e*S	**Sb**		**00 19 24.9**	**+0.1**
RMX				⇑	*e*			00 19 26.4	
RMX					AML	AML		00 19 26.4	
	comp=N,3μm,0.6s								
RMX				⇑	*e*			00 19 26.4	
	comp=E,2μm,0.2s								
YMD	**Yuma Desert**	**0.76**	**67**	⇑	*i*P	**Pg**		**00 19 15.3**	**-0.6**
ECBX	**El Chinero**	**0.83**	**161**		*e*P	**Pg**		**00 19 17.2**	**0.0**
ECBX					*e*S	**Sb**		**00 19 28.5**	**-0.1**
ZAX	**El Zacaton**	**1.07**	**226**		*e*P	**Pb**		**00 19 21.8**	**+0.2**
ZAX					*e*S	**Sb**		**00 19 36.3**	**+0.7**
ZAX					AML	AML		00 19 38.9	
	comp=E,2μm,0.5s								
ZAX				⇓	*e*			00 19 38.9	
CBX	**Cerro Bola**	**1.10**	**273**		*e*P	**Pb**		**00 19 22.0**	**-0.1**
CBX					*e*S	**Sb**		**00 19 36.4**	**-0.1**
CBX	**Cerro Bola**	**1.10**	**273**		*e*P	**Pb**		**00 19 22.1**	**-0.1**
CBX					*e*S	**Sg**		**00 19 36.9**	**+0.2**
CBX				⇓	*e*			00 19 41.7	
CBX					AML	AML		00 19 41.7	
	comp=N,2μm,0.3s								
CBX	**Cerro Bola**	**1.10**	**273**		*e*P	**Pb**		**00 19 22.0**	**-0.1**
CBX					*e*S	**Sb**		**00 19 36.4**	**-0.1**
BAR	**Barrett**	**1.18**	**291**		*e*P	**Pb**		**00 19 22.7**	**-0.8**
BAR					*e*S	**Sb**		**00 19 38.5**	**-0.3**
ECNX	**Esteban Cantu**	**1.20**	**240**		*e*P	**Pb**		**00 19 24.2**	**+0.2**
ECNX					*e*S	**Sn**		**00 19 40.7**	**+0.5**
SPIG	**San Pedro Mart**	**1.21**	**184**		*e*P	**Pn**		**00 19 23.7**	**-0.5**
SPIG					*e*S	**Sg**		**00 19 40.3**	**0.0**
SPIG	**San Pedro Mart**	**1.21**	**184**		*e*P	**Pn**		**00 19 23.7**	**-0.5**
SPIG					*e*S	**Sg**		**00 19 40.3**	**0.0**
SPX	**San Pedro Mart**	**1.21**	**184**		*e*P	**Pn**		**00 19 23.7**	**-0.5**
SPX					*e*S	**Sn**		**00 19 41.0**	**+0.2**
SPX	**San Pedro Mart**	**1.21**	**184**		*e*P	**Pn**		**00 19 23.6**	**-0.6**
SPX					*e*S	**Sb**		**00 19 40.1**	**+0.1**
PBX	**Punta Banda**	**1.26**	**246**		*e*P	**Pn**		**00 19 24.8**	**+0.1**
PBX					*e*S	**Sn**		**00 19 41.8**	**+0.3**
PFO	**Pinyon Flats O**	**1.63**	**326**		*e*Pn	**Pn**		**00 19 28.2**	**-1.6**
PFO					*e*Sn	**Sb**		**00 19 52.8**	**+1.0**
214A	**Organ Pipe Nat**	**2.19**	**97**		*e*Pn	**Pn**		**00 19 35.9**	**-1.5**
214A					*e*Sn	**Sn**		**00 20 06.3**	**+1.8**
WUAZ	**Wupatki**	**4.65**	**45**		*e*Pn	**Pn**		**00 20 11.8**	**+0.4**
WUAZ					*e*Sn	**Sn**		**00 21 06.3**	**+1.0**

*IDC **27** 00:30:36.2±2.2, 5°.33S×130°.89E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=97.4km s-min=33.4km az=71.0*

ISC 27 00:30:38.4±1.7, 5°.6S±0°.1×130°.6E±0°.3, h10km, n9, σ 1°78/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**7.27**	**176**		P	P	Pn	00 32 33.1	+8.3
	baz=4.9,SNR=4.2								
MTN					S		**Sn**	**00 33 45.7**	**-1.7**
	baz=4.9,SNR=9.1								
KDU	**Kakadu**	**7.33**	**166**		P	Pn	Pn	00 32 34.2	+8.7
	baz=5.1,SNR=12								
KDU					S		**Sn**	**00 33 47.6**	**-1.3**
	baz=5.1,SNR=5.5								
SOEI	**Soe**	**7.55**	**236**		P	Pn	Pn	00 32 37.6	+8.8
	baz=6.4,SNR=3.2								
KNRA	**Kununurra**	**10.23**	**190**		P	Pn	Pn	00 33 10.6	+5.2
	baz=7.9,SNR=3.3								
KNRA					S	Sn	Pn	00 34 53.0	-7.3
	baz=7.9,SNR=9.0								
FITZ	**Fitzroy Crossi**	**13.39**	**201**		P	**Pn**	**Pn**	**00 33 50.3**	**+1.6**
	baz=11,SNR=3.5								
FITZ					S	Sn	Pn	00 36 05.2	-13
	baz=11,SNR=5.7								
WRA	**Warramunga Arr**	**14.76**	**166**		Pn	**Pn**	**Pn**	**00 34 09.3**	**+1.9**
	0.1nm,0.3s,baz=348,slow=12,SNR=5.8								
WRA					Sn	Sn	Pn	00 36 42.9	-8.4
	0.2nm,0.3s,baz=332,slow=24,SNR=6.1								
ASAR	**Alice Springs**	**18.29**	**170**		Pn	**Pn**	**Pn**	**00 34 53.0**	**+0.5**
	0.2nm,0.3s,baz=347,slow=9.3,SNR=10.0								
ASAR					Sn	Sn	Pn	00 38 09.2	-7.8
	baz=348,slow=26,SNR=4.5								
WRKA	**Warakurna**	**19.51**	**186**		P	**P**	**P**	**00 35 04.9**	**-1.1**
	baz=17,SNR=8.5								
MKAR	**Makanchi Array**	**67.36**	**326**		P	**P**	**P**	**00 41 33.2**	**-0.7**
	0.2nm,0.5s,baz=127,slow=8.1,SNR=4.0								

*ISCJB **27** 00:39:13.5±0.4, 22°.34S±0°.05×68°.59W±0°.06, h121km±4km, mb3.8/7, Error ellipse: s-maj=11.1km s-min=6.4km az=139.9*
*IDC **27** 00:39:13.5±0.6, 22°.36S×68°.44W, h102km±6km, mb3.7/8, mb1 3.7/12, mb1mx3.6/22, mbtmp3.9/12, MS2.0/1, Ms1 2.0/1, ms1mx2.0/22, Error ellipse: s-maj=18.5km s-min=17.0km az=37.0*
*GUC **27** 00:39:14.1±0.6, 22°.35S×68°.70W, h112km±4km, ML4.4*
*SJA **27** 00:39:50.3±0.5, 24°.21S×65°.60W, h146km±6km, ML1.8, MW2.9*

ISC 27 00:39:14.2±0.7, 22°44S±0°.05×68°68W±0°.06, h117km±6km, n30, σ 1°75/37, mb4.0/7, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.28**	**232**		P	**Pn**	**Pn**	**00 39 31.5**	**+0.5**
	baz=38,slow=4.1								
LVC					S	**Sn**	**Pn**	**00 39 43.7**	**+0.1**
	89μm,0.3s,baz=223,slow=19,SNR=145								
SPCH	**San Pedro de A**	**0.64**	**137**	⇑	*i*P	**Pn**		**00 39 33.9**	**+0.8**
SPCH					*i* S	**Sn**		**00 39 48.4**	**+1.0**
PB04	**IPOC Station P**	**0.77**	**283**	⇑	*i*P	Pn		00 39 40.7	+6.9
PB04					*i* S	Sn		00 40 00.4	+12
PB04					AML	AML		00 40 02.4	
	comp=N,4μm,0.4s								
PB09	**IPOC Station P**	**0.83**	**321**	⇑	*i*P	**Pn**		**00 39 34.8**	**+0.3**
PB09					*i* S	**Sn**		**00 39 49.6**	**-0.3**
PB09					AML	AML		00 39 50.8	
	comp=N,33μm,0.5s								
PB07	**IPOC Station P**	**1.33**	**302**	⇑	*i*P	**Pn**		**00 39 40.0**	**+0.3**
PB07					*i* S	**Sn**		**00 39 58.6**	**-0.3**
PB07					AML	AML		00 39 59.2	
	comp=N,17μm,0.3s								
PB01	**IPOC Station P**	**1.58**	**331**	⇑	*i*P	**Pn**		**00 39 42.0**	**-0.4**
PB01					*i* S	**Sn**		**00 40 02.5**	**-1.5**
PB01					AML	AML		00 40 03.8	
	comp=E,5μm,0.3s								
CEN1	**Los Morros**	**1.69**	**236**	⇓	*i*P	Pn		00 39 47.0	+3.2
CEN1					*i* S	Sn		00 40 12.9	+6.5
ANCH	**Antofagasta**	**2.02**	**232**	⇓	*i*P	Pn		00 39 44.1	-3.5
ANCH					*i* S	**Sn**		**00 40 10.2**	**-3.2**
PB10	**IPOC Station P**	**2.03**	**238**	⇑	*i*P	**Pn**		**00 39 48.5**	**+0.7**
PB10					AML	AML		00 40 21.4	
	comp=E,3μm,0.2s								
PATCX	**Punta Patache**	**2.12**	**319**	⇓	*i*P	**Pn**		**00 39 48.4**	**-0.7**
PATCX					*i* S	**Sn**		**00 40 15.0**	**-0.7**
PATCX					AML	AML		00 40 21.3	
	comp=E,3μm,0.3s								
HMBC	**Humberstone**	**2.43**	**332**	⇓	*i*P	**Pn**		**00 39 51.8**	**-1.3**
HMBC					*i* S	**Sn**		**00 40 20.8**	**-2.1**
HMBC					AML	AML		00 40 23.5	
	comp=N,1μm,0.3s								
SLA	**San Lorenzo**	**3.69**	**129**		*e*P	**Pn**		**00 40 12.4**	**+2.7**
SLA					*e*S	Px		00 40 28.2	
SLA					AML	AML		00 40 37.0	
	comp=Z,15nm,0.6s								
AZAP	**Zapla**	**3.76**	**119**		*e*P	**Pn**		**00 40 12.0**	**+1.3**
AZAP					*e*S	Px		00 40 28.5	
AZAP					AML	AML		00 40 37.2	
	comp=Z,14nm,0.7s								
ALOL	**LOMAS DE OLMED**	**4.54**	**108**		*e*P	**Pn**		**00 40 20.5**	**-0.4**
ALOL					*e*P	**Pn**		**00 40 20.5**	**-0.4**
LPAZ	**La Paz**	**6.14**	**5**		P	**Pn**		**00 40 43.0**	**-0.1**
	comp=Z,3.5nm,0.3s,baz=186,slow=5.1,SNR=55								
CFAA	**Coronel Fontan**	**9.14**	**178**		P	**Pn**		**00 41 21.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=358,slow=14,SNR=10								
CFAA					S	**Sn**		**00 42 58.1**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=3.5								
CFAA					LR	LR		00 45 41.3	
	comp=Z,11nm,21.7s,baz=26,slow=42								
CPUP	**Villa Florida**	**11.04**	**113**		P	**Pn**		**00 41 46.3**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=291,slow=19,SNR=2.3								
PLCA	**Paso Flores**	**18.31**	**185**		P	**Pn**		**00 43 20.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=356,slow=14,SNR=3.7								
BDFB	**Brasilia**	**20.66**	**75**		P	**P**		**00 43 43.1**	**-1.8**
	comp=Z,8.3nm,0.6s,baz=255,slow=13,SNR=17								
PTGA	**Pitinga**	**23.18**	**23**		P	**P**		**00 44 08.4**	**-2.3**
	comp=Z,11nm,0.7s,baz=204,slow=16,SNR=19								
TXAR	**Lajitas Array**	**61.52**	**325**		P	**P**		**00 49 20.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=155,slow=8.6,SNR=4.7								
DBIC	**Dimbokro**	**68.80**	**73**		P	**P**		**00 50 05.8**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=225,slow=7.0,SNR=6.0								
PDAR	**Pinedale Array**	**75.03**	**330**		P	**P**		**00 50 44.6**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=133,slow=6.3,SNR=2.7								
NVAR	**Mina Array Bea**	**76.36**	**322**		P	**P**		**00 50 52.0**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=138,slow=6.8,SNR=3.0								
TORD	**Torodi Ar. Bea**	**77.47**	**70**		P	**P**		**00 50 56.9**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=256,slow=5.3,SNR=43								
YKA	**Yellowknife Ar**	**92.14**	**340**		P	**P**		**00 52 11.0**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=134,slow=4.4,SNR=15								
ASAR	**Alice Springs**	**129.18**	**207**		PKP	**PKPdf**		**00 58 11.1**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=153,slow=2.1,SNR=8.0								
WRA	**Warramunga Arr**	**132.25**	**210**		PKP	**PKPdf**		**00 58 16.9**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=149,slow=1.6,SNR=11								
ZALV	**Zalesovo Beam**	**142.71**	**26**		PKP	**PKPdf**		**00 58 35.6**	**+2.4**
	comp=Z,1.0nm,0.6s,baz=280,slow=2.3,SNR=4.4								
MKAR	**Makanchi Array**	**146.26**	**37**		PKPbc	**PKPdf**		**00 58 40.3**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=261,slow=7.5,SNR=7.3								

*NIED **27** 00:39:00, 28°.60N×142°.30E, h5km, Mw4.1 Best double couple: M0 1.40000×10^15 NP1:φs 183.00000°, δ 42.00000°, λ 113.00000°. NP2:φs 333.00000°, δ 52.00000°, λ 70.00000°.*
*IDC **27** 00:39:20.1±1.1, 28°.05N×141°.59E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/26, mbtmp3.8/7, ML4.0/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/35, Error ellipse: s-maj=38.9km s-min=19.6km az=60.0*
*ISCJB **27** 00:39:22.8±0.9, 28°.1N±0°.1×141°.5E±0°.2, h33km, mb3.9/6, MS3.5/3, Error ellipse: s-maj=32.4km s-min=15.1km az=150.7*

ISC 27 00:39:24.9±1.1, 28°.0N±0°.2×141°6E±0°.3, h35km, n14, σ 1°45/7, mb3.9/6, MS3.5/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.99**	**149**		Pn	**Pn**		**00 39 42.3**	**0.0**
	18nm,0.3s,baz=344,slow=22,SNR=12								
MJAR	**Matsushiro Arr**	**9.04**	**342**		Pn	Pn		00 41 28.0	-4.9
	1.6nm,0.3s,baz=177,slow=10,SNR=7.6								
MAT	**Matsushiro**	**9.04**	**342**		P	Pn		00 41 24.2	-8.7
JNU	**Nakatsue**	**10.59**	**302**		LR	LR		00 45 56.8	
	comp=Z,62nm,18.6s,baz=40,slow=38								
KSRS	**Korea Array**	**14.91**	**313**		LR			00 48 35.4	
	comp=Z,58nm,18.1s,baz=120,slow=37								
ASAJ	**Asahikawa**	**16.15**	**3**		LR			00 50 15.9	
	comp=Z,67nm,19.8s,baz=304,slow=41								
ZALV	**Zalesovo Beam**	**48.51**	**319**		P	**P**		**00 48 03.1**	**-1.1**
	0.9nm,0.3s,baz=96,slow=7.8,SNR=6.6								
ZALV					LR	LR		01 07 51.6	
	comp=Z,26nm,19.0s,baz=250,slow=35								
MKAR	**Makanchi Array**	**49.54**	**309**		P	**P**		**00 48 11.3**	**-1.0**
	0.6nm,0.7s,baz=76,slow=6.5,SNR=7.2								
ILAR	**Eielson Array**	**57.21**	**29**		P	**P**		**00 49 08.1**	**-0.1**
	0.8nm,1.0s,baz=263,slow=5.0,SNR=4.1								
INK	**Inuvik**	**62.46**	**25**		P	**P**		**00 49 45.0**	**+0.8**
	0.8nm,0.6s,baz=273,slow=5.8,SNR=3.4								
DLBC	**Dease Lake**	**65.80**	**35**		LR	LR		01 20 51.1	
	comp=Z,35nm,18.5s,baz=304,slow=38								
YKA	**Yellowknife Ar**	**71.63**	**28**		P	**P**		**00 50 41.4**	**-1.1**
	0.4nm,0.8s,baz=296,slow=6.2,SNR=3.7								
FINES	**FINESS Array B**	**76.96**	**334**		P	**P**		**00 51 15.7**	**+2.1**
	2.3nm,0.9s,baz=61,slow=7.0,SNR=6.8								
NOA	**NORSAR Array B**	**82.63**	**338**		LR	LR		01 32 13.4	
	comp=Z,20nm,18.2s,baz=0.0,slow=38								

IDC 27 00:41:28.6±16.0, 15°.69N×145°.01E, h388km±190km, mb3.0/8, mb1 3.2/8, mb1mx3.0/35, mbtmp3.7/8, Error ellipse: s-maj=38.4km s-min=28.4km az=51.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.93**	**197**		P	P		00 48 02.6	+0.1
	1.1nm,0.4s,baz=13,slow=8.7,SNR=17								
ASAR	**Alice Springs**	**40.59**	**196**		P	P		00 48 32.1	-0.5
	0.2nm,0.3s,baz=8.2,slow=7.1,SNR=3.2								
ZALV	**Zalesovo Beam**	**60.01**	**324**		P	P		00 50 56.1	+0.3
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.5								
MKAR	**Makanchi Array**	**60.09**	**315**		P	P		00 50 56.2	-0.4
	0.1nm,0.3s,baz=92,slow=12,SNR=6.3								
ILAR	**Eielson Array**	**66.63**	**26**		P	P		00 51 38.0	-0.5
	0.5nm,0.5s,baz=250,slow=6.4,SNR=8.9								
INK	**Inuvik**	**72.39**	**23**		P	P		00 52 14.1	+0.9
	0.6nm,0.6s,baz=240,slow=8.1,SNR=3.5								
YKA	**Yellowknife Ar**	**80.95**	**28**		P	P		00 53 00.8	+0.2
	0.3nm,0.5s,baz=286,slow=5.3,SNR=5.1								
FINES	**FINESS Array B**	**89.33**	**335**		P	P		00 53 41.5	-0.3
	1.2nm,0.7s,baz=76,slow=8.0,SNR=4.4								

MEX 27 00:45:11.6±0.5, 18°36N×102°01W, h16km±8km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.91**	**145**		*e*P		Pb	00 45 25.5	-3.4
ZIIG					*e*S		Sb	00 45 36.8	-3.9
MMIG	**Aquila**	**1.27**	**267**		*e*P		Pn	00 45 30.5	-4.3
MMIG					*e*S		Sb	00 45 46.4	-5.0
ARIG	**Puente Sto Nin**	**1.58**	**92**		*e*P		Pn	00 45 36.1	-2.9
ARIG					*e*S		Sn	00 45 53.5	-5.7
EZ5V		**1.88**	**307**		*e*P		Pn	00 45 40.0	-3.4
EZ5V					*e*S		Sn	00 46 01.7	-5.4
R15V		**2.04**	**294**		*e*P		Pn	00 45 41.8	-3.6
R15V					*e*S		Sn	00 46 06.1	-4.5

*NEIC **27** 01:30:17.8, 38°.71S×175°.78E, h112km, MG4.0(WEL), After WEL.*

WEL 27 01:30:18.0±0.2, 38°71S×175°81E, h110km±2km, ML4.0/19, 26C-11D, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.06**	**273**	⇓	PN	Pn		01 30 33.1	-0.1
WATZ	**Wairara**	**0.06**	**273**		Pn	Pn		01 30 33.1	-0.1
RATZ	**Rangitukua**	**0.16**	**190**	⇓	PN	Pn		01 30 33.2	-0.3
RATZ	**Rangitukua**	**0.16**	**190**		Pn	Pn		01 30 33.2	-0.3
KUTZ	**Kaahu Road**	**0.22**	**4**	⇓	PN	Pn		01 30 33.6	0.0
HATZ	**Hinemaiaia**	**0.29**	**129**	⇓	PN	Pn		01 30 33.5	-0.3
HATZ					*e*SN	Sn		01 30 45.5	-0.1
HATZ	**Hinemaiaia**	**0.29**	**129**		Pn	Pn		01 30 33.5	-0.3
HATZ					Sn	Sn		01 30 45.2	-0.4
WPRZ	**Whakapapatarin**	**0.34**	**55**	⇓	PN	Pn		01 30 33.8	-0.2
KRVZ	**Karewarewa**	**0.40**	**198**		PN	Pn		01 30 34.4	-0.1
KRVZ	**Karewarewa**	**0.40**	**198**		Pn	Pn		01 30 33.2	-1.3
TLZ	**Tolley Road**	**0.44**	**331**	⇓	PN	Pn		01 30 34.4	-0.1
WTVZ	**West Tongariro**	**0.44**	**203**	*e*	PN	Pn		01 30 34.6	-0.1
WTVZ						SN		01 30 47.4	+0.3
WTVZ	**West Tongariro**	**0.44**	**203**			Sn		01 30 33.8	-0.8
WTVZ						Sn		01 30 47.5	+0.3
ALRZ	**Allen Road**	**0.45**	**71**	⇓	PN	Pn		01 30 34.4	-0.2
ALRZ	**Allen Road**	**0.45**	**71**		Pn	Pn		01 30 34.4	-0.2
TWVZ	**Taurewa**	**0.46

CNGZ	**Carnagh Statio**	**1.90**	**84**	PN	Pn	01 30 49.6	0.0
CNGZ	**Carnagh Statio**	**1.90**	**84**	Pn	Pn	01 30 49.6	0.0
MRZ	**Mangatainoka R**	**1.96**	**185**	⇑PN	Pn	01 30 49.0	-1.4
MRZ				SN	Sn	01 31 12.0	-3.3
MRZ				AML	AML	01 31 14.8	
MRZ	**Mangatainoka R**	**1.96**	**185**	Pn	Pn	01 30 49.0	-1.4
BFZ	**Birch Farm**	**2.00**	**170**	PN	Pn	01 30 49.7	-1.2
BFZ	**Birch Farm**	**2.00**	**170**	Pn	Pn	01 30 49.8	-1.2
WTAZ	**Waiatarua**	**2.03**	**331**	PN	Pn	01 30 51.2	-0.1
PUZ	**Puketiti**	**2.03**	**72**	PN	Pn	01 30 50.6	-0.8
PUZ				AML	AML	01 31 30.5	
PUZ				AML	AML	01 31 31.1	
PUZ	**Puketiti**	**2.03**	**72**	Pn	Pn	01 30 50.6	-0.8
TIWZ	**Tintock**	**2.06**	**178**	PN	Pn	01 30 50.4	-1.4
TIWZ	**Tintock**	**2.06**	**178**	Pn	Pn	01 30 50.4	-1.4
OGWZ	**Otaki Gorge**	**2.16**	**193**	⇑PN	Pn	01 30 51.6	-1.4
OGWZ	**Otaki Gorge**	**2.16**	**193**	Pn	Pn	01 30 51.6	-1.4
HOWZ	**Holdsworth Sta**	**2.19**	**186**	PN	Pn	01 30 51.7	-1.8
HOWZ	**Holdsworth Sta**	**2.19**	**186**	Pn	Pn	01 30 51.7	-1.8
CPWZ	**Castlepoint**	**2.21**	**172**	⇑PN	Pn	01 30 52.8	-0.9
WMGZ	**Waiomatatini S**	**2.24**	**67**	PN	Pn	01 30 53.2	-0.9
KIW	**Kapiti Island**	**2.25**	**198**	⇑PN	Pn	01 30 52.4	-1.8
KIW				AML	AML	01 30 52.8	
KIW				AML	AML	01 31 22.7	
KIW	**Kapiti Island**	**2.25**	**198**	Pn	Pn	01 30 52.4	-1.8
MXZ	**Matakaoa Point**	**2.28**	**61**	PN	Pn	01 30 54.2	-0.4
MXZ				AML	AML	01 31 32.6	
MXZ				AML	AML	01 31 32.6	
MXZ				AML	AML	01 31 33.7	
MXZ	**Matakaoa Point**	**2.28**	**61**	Pn	Pn	01 30 54.2	-0.4
TMWZ	**Te Maipa**	**2.39**	**178**	⇑PN	Pn	01 30 54.2	-1.9
TMWZ	**Te Maipa**	**2.39**	**178**	Pn	Pn	01 30 54.2	-1.9
MTW	**Mount Morrison**	**2.46**	**185**	⇑PN	Pn	01 30 54.6	-2.2
MTW				AML	AML	01 31 24.7	
MTW				AML	AML	01 31 25.1	
MTW	**Mount Morrison**	**2.46**	**185**	Pn	Pn	01 30 54.6	-2.2
DUWZ	**D'Urville Isla**	**2.54**	**214**	PN	Pn	01 30 56.0	-2.1
DUWZ	**D'Urville Isla**	**2.54**	**214**	Pn	Pn	01 30 56.0	-2.1
PAWZ	**Paruwai Farm**	**2.68**	**186**	⇑PN	Pn	01 30 57.3	-2.5
PAWZ				AML	AML	01 31 29.9	
PAWZ				AML	AML	01 31 52.5	
PAWZ	**Paruwai Farm**	**2.68**	**186**	Pn	Pn	01 30 57.3	-2.5
TRWZ	**Traveller**	**2.69**	**182**	PN	Pn	01 30 57.4	-2.4
TRWZ				AML	AML	01 31 30.3	
TRWZ				AML	AML	01 31 30.4	
TRWZ	**Traveller**	**2.69**	**182**	Pn	Pn	01 30 57.4	-2.4
WEL	**Wellington**	**2.69**	**197**	PN	Pn	01 30 57.4	-2.5
WEL				AML	AML	01 31 31.0	
WEL	**Wellington**	**2.69**	**197**	Pn	Pn	01 30 57.4	-2.5
SNZO	**South Karori**	**2.73**	**198**	*e*Pn	Pn	01 30 56.8	-3.6
SNZO				*e*S	Sn	01 31 39.4	-3.5
MSWZ	**Moikau Station**	**2.73**	**189**	⇑PN	Pn	01 30 57.9	-2.6
MSWZ				AML	AML	01 31 30.3	
MSWZ				AML	AML	01 31 31.9	
MSWZ	**Moikau Station**	**2.73**	**189**	Pn	Pn	01 30 57.9	-2.6
TCW	**Tory Channel**	**2.76**	**205**	⇑PN	Pn	01 30 58.3	-2.5
TCW				AML	AML	01 31 32.8	
TCW				AML	AML	01 31 38.6	
TCW	**Tory Channel**	**2.76**	**205**	Pn	Pn	01 30 58.3	-2.5
BHW	**Baring Head**	**2.79**	**195**	⇑PN	Pn	01 30 58.5	-2.7
BHW				AML	AML	01 30 59.0	
BHW				AML	AML	01 31 31.9	
BHW	**Baring Head**	**2.79**	**195**	Pn	Pn	01 30 58.5	-2.7
PLWZ	**Palliser**	**2.89**	**188**	⇑PN	Pn	01 30 59.6	-3.0
PLWZ	**Palliser**	**2.89**	**188**	Pn	Pn	01 30 59.6	-3.0
TUWZ	**Tuamarina**	**3.07**	**207**	PN	Pn	01 31 02.0	-2.9
TUWZ				AML	AML	01 31 37.9	
TUWZ				AML	AML	01 31 39.1	
TUWZ	**Tuamarina**	**3.07**	**207**	Pn	Pn	01 31 02.0	-2.9
NNZ	**Nelson**	**3.12**	**216**	Pn	Pn	01 31 03.3	-2.3
QRZ	**Quartz Range**	**3.29**	**229**	PN	Pn	01 31 05.7	-2.1
QRZ	**Quartz Range**	**3.29**	**229**	Pn	Pn	01 31 05.7	-2.1
BSWZ	**Blackbirch Sta**	**3.34**	**206**	PN	Pn	01 31 05.5	-3.1
BSWZ				AML	AML	01 31 45.6	
BSWZ	**Blackbirch Sta**	**3.34**	**206**	Pn	Pn	01 31 05.5	-3.1
THZ	**Tophouse**	**3.77**	**215**	PN	Pn	01 31 11.6	-2.7
THZ	**Tophouse**	**3.77**	**215**	Pn	Pn	01 31 11.6	-2.7
KHZ	**Kahutara**	**4.08**	**204**	⇑PN	Pn	01 31 14.8	-3.6
KHZ				AML	AML	01 32 03.6	
KHZ	**Kahutara**	**4.08**	**204**	*e*Pn	Pn	01 31 14.9	-3.5
KHZ				*e*S	Sn	01 31 59.4	-5.9
LTZ	**Lake Taylor**	**4.87**	**212**	PN	Pn	01 31 21.4	-7.7
LTZ	**Lake Taylor**	**4.87**	**212**	Pn	Pn	01 31 21.4	-7.7
MQZ	**McQueen's Vall**	**5.53**	**204**	Pn	Pn	01 31 32.2	-5.7
MQZ	**McQueen's Vall**	**5.53**	**204**	Pn	Pn	01 31 32.2	-5.7
RPZ	**Rata Peaks**	**6.15**	**214**	PN	Pn	01 31 42.3	-4.1
ODZ	**Otahua Downs**	**7.41**	**210**	PN	Pn	01 31 58.0	-5.4
ODZ	**Otahua Downs**	**7.41**	**210**	Pn	Pn	01 31 58.0	-5.4
CTZ	**Chatham Island**	**7.60**	**134**	*e*Pn	Pn	01 32 03.8	-2.2

*ISCJB **27** 01:38:37.7±0.4, 1.92S±0.03×128.11E±0.03, h70km±8km, mb4.1/2, Error ellipse: s-maj=5.5km s-min=4.3km az=32.1*
*DJA **27** 01:38:37.8±0.3, 2.2°S±2°×12.8E±°, h72km±8km, M4.4/15, mb4.8/3, mB5.4/2, MLv4.2/15, Mw(mB)4.9/2*
*IDC **27** 01:38:44.8±3.9, 2.12S×128.27E, h115km±37km, mb3.8/2, mb1 3.9/3, mb1mx3.4/35, mbtmp4.1/3, MS3.1/1, Mss 1.3/1, ms1mx2.4/31, Error ellipse: s-maj=153.4km s-min=13.7km az=68.0*

ISC 27 01:38:38.5±0.9, 1.94S±0.04×128.10E±0.04, h85km±13km, n19, σ1°20/33, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.42**	**335**	P	**Pn**	**01 39 03.6**	**+0.5**
LBMI				S	**Sn**	**01 39 20.8**	**-0.8**
MSAI	**Masohi**	**1.63**	**149**	P	**Pn**	**01 39 05.3**	**-0.4**
MSAI				S	**Sn**	**01 39 25.7**	**-0.6**
NLAI	**Namlea**	**1.63**	**218**	P	**Pn**	**01 39 05.8**	**0.0**
NLAI				S	**Sn**	**01 39 25.9**	**-0.5**
AAI	**Ambon**	**1.74**	**177**	P	**Pn**	**01 39 08.2**	**+1.0**
AAI				S	**Sn**	**01 39 28.8**	**-0.1**
AAI	**Ambon**	**1.74**	**177**	P	**Pn**	**01 39 08.2**	**+1.0**
	baz=1.8,SNR=8.8						
SANI	**Sanana**	**2.11**	**267**	P	**Pn**	**01 39 11.5**	**-0.5**
SANI				S	**Sn**	**01 39 36.0**	**-1.6**
TNTI	**Ternate**	**2.79**	**345**	P	**Pn**	**01 39 20.7**	**-0.5**
TNTI				S	**Sn**	**01 39 53.6**	**-0.3**
BNDI	**Bandanaira**	**3.14**	**145**	P	**Pn**	**01 39 25.7**	**-0.1**
BNDI				S	**Sn**	**01 40 02.6**	**+0.3**
SWI	**Sorong**	**3.34**	**71**	P	**Pn**	**01 39 27.8**	**-0.7**
SWI				S	**Sn**	**01 40 08.0**	**+0.9**
SWI	**Sorong**	**3.34**	**71**	P	**Pn**	**01 39 29.1**	**+0.5**
	baz=3.3,SNR=34						
SWI				S	**Sn**	**01 40 08.0**	**+0.9**
	baz=3.3,SNR=6.8						
FAKI	**Fak Fak**	**4.26**	**103**	P	**Pn**	**01 39 40.1**	**-1.0**
FAKI				S	**Sn**	**01 40 30.0**	**+0.3**
FAKI	**Fak Fak**	**4.26**	**103**	P	**Pn**	**01 39 40.2**	**-0.9**
	baz=4.2,SNR=16						
FAKI				S	**Sn**	**01 40 26.4**	**-3.2**
	baz=4.2,SNR=11						
LUWI	**Luwuk**	**5.40**	**279**	P	**Pn**	**01 39 58.9**	**+2.3**
	baz=5.4,SNR=3.6						
LUWI				S	**Sn**	**01 40 58.6**	**+1.1**
	baz=5.4,SNR=4.6						
RKPI	**Ransiki, Papua**	**6.09**	**86**	P	**Pn**	**01 40 04.9**	**-1.1**
	41nm,0.7s,8μm0.4nm						
RKPI				S	**Sn**	**01 41 15.1**	**+0.7**
	41nm,0.7s,8μm0.4nm						
APSI	**Ampana**	**6.53**	**279**	P	**Pn**	**01 40 11.5**	**-0.5**
APSI				S	**Sn**	**01 41 25.4**	**+0.4**
WRA	**Warramunga Arr**	**18.91**	**162**	P	**Pn**	**01 42 53.8**	**-0.3**
	0.5nm,0.3s,baz=342,slow=13,SNR=20						
WRA				S	**S**	**01 46 21.0**	**-2.1**
	0.2nm,0.3s,baz=342,slow=17,SNR=6.1						
ASAR	**Alice Springs**	**22.32**	**166**	P	**P**	**01 43 31.8**	**+2.4**
	6.3nm,0.7s,baz=344,slow=9.7,SNR=68						
ASAR				S	**S**	**01 47 28.8**	**-0.7**
	2.4nm,0.9s,baz=350,slow=21,SNR=11						
CMAR	**Chiang Mai Arr**	**35.12**	**307**	LR	LR	02 02 27.7	
	comp=Z,27nm,19.4s,baz=180,slow=40						
MKAR	**Makanchi Array**	**62.98**	**326**	P	P	01 49 00.9	+4.4
	1.6nm,0.7s,baz=146,slow=5.1,SNR=19						

*IDC **27** 01:46:05.1±6.3, 33.92S×179.33E, h148km±46km, mb3.3/3, mb1 3.5/4, mb1mx3.3/31, mbtmp3.8/4, Error ellipse: s-maj=58.5km s-min=26.1km az=51.0*
*ISCJB **27** 01:46:08.0±1.2, 34.15S±0.08×178.4E±0.2, h200km, mb3.4/3, Error ellipse: s-maj=18.4km s-min=11.2km az=2.4*

ISC 27 01:46:07.2±2.1, 34.15S±0.1×178.6E±0.2, h200km, n39, σ1°45/47, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.48**	**184**	PN	**Pn**	**01 47 02.1**	**-0.3**
MXZ				SN	**Sn**	**01 47 45.0**	**-1.0**
HAZ	**Te Kaha**	**3.73**	**190**	PN	**Pn**	**01 47 07.7**	**+2.2**
HAZ				*e*SN	**Sn**	**01 47 53.7**	**+2.4**
WMGZ	**Waiomatatini S**	**3.73**	**182**	*e*PN	**Pn**	**01 47 06.1**	**+0.6**
WMGZ				SN	**Sn**	**01 47 51.0**	**-0.5**
PUZ	**Puketiti**	**3.99**	**184**	*e*PN	**Pn**	**01 47 08.3**	**-0.5**
PUZ				SN	**Sn**	**01 47 55.3**	**-2.0**
TWGZ	**Tauwhareparae**	**4.12**	**187**	PN	**Pn**	**01 47 11.3**	**+1.0**
TWGZ				SN	**Sn**	**01 48 01.0**	**+0.8**
MWZ	**Matawai**	**4.33**	**191**	PN	**Pn**	**01 47 13.8**	**+0.8**
MWZ				SN	**Sn**	**01 48 07.0**	**+1.9**
URZ	**Urewera**	**4.34**	**196**	P	**Pn**	**01 47 16.1**	**+3.0**
	5.0nm,0.3s,baz=267,slow=4.4,SNR=40						
URZ				S	**Sn**	**01 48 07.3**	**+2.2**
	19nm,0.3s,baz=14,slow=17,SNR=36						
URZ	**Urewera**	**4.34**	**196**	PN	**Pn**	**01 47 14.6**	**+1.5**
URZ				SN	**Sn**	**01 48 06.9**	**+1.7**
CNGZ	**Carnagh Statio**	**4.40**	**184**	*e*PN	**Pn**	**01 47 14.4**	**+0.4**
RAGZ	**Rawiri**	**4.51**	**192**	*e*PN	**Pn**	**01 47 17.6**	**+2.3**
RIGZ	**Rimuhau**	**4.66**	**188**	*e*PN	**Pn**	**01 47 18.0**	**+0.8**
KNZ	**Kokohu**	**4.99**	**188**	*e*PN	**Pn**	**01 47 20.6**	**-0.6**
MHGZ	**Mahia Peninsul**	**5.09**	**186**	PN	**Pn**	**01 47 23.1**	**+0.4**
WHHZ	**Waihua**	**5.11**	**192**	*e*PN	**Pn**	**01 47 23.4**	**+0.6**
WHHZ				SN	**Sn**	**01 48 24.5**	**+1.9**
ARHZ	**Aropaoanui**	**5.33**	**194**	*e*PN	**Pn**	**01 47 26.2**	**+0.5**
BKZ	**Black Stump Fm**	**5.35**	**198**	*e*PN	**Pn**	**01 47 28.0**	**+2.0**
MCHZ	**McNeill Hill**	**5.57**	**195**	PN	**Pn**	**01 47 30.7**	**+1.9**
BHHZ	**Black Hill Sta**	**5.77**	**200**	*e*PN	**Pn**	**01 47 33.4**	**+2.0**
KAHZ	**Kahuranaki**	**5.87**	**193**	*e*PN	**Pn**	**01 47 33.3**	**+0.6**
PXZ	**Pawanui**	**6.10**	**193**	*e*PN	**Pn**	**01 47 34.1**	**-1.5**
PXZ				*e*SN	Sn	01 48 40.8	-4.9
PNHZ	**Pukenui**	**6.13**	**198**	*e*PN	**Pn**	**01 47 36.4**	**+0.3**
BFZ	**Birch Farm**	**6.85**	**195**	*e*PN	**Pn**	**01 47 45.1**	**-0.2**
MRZ	**Mangatainoka R**	**7.00**	**199**	*e*PN	**Pn**	**01 47 46.5**	**-0.7**
MRZ				SN	**Sn**	**01 49 03.7**	**-3.1**
HOWZ	**Holdsworth Sta**	**7.23**	**199**	*e*PN	**Pn**	**01 47 49.8**	**-0.6**
OGWZ	**Otaki Gorge**	**7.26**	**201**	*e*PN	**Pn**	**01 47 49.6**	**-1.0**
TMWZ	**Te Maipa**	**7.34**	**196**	*e*PN	**Pn**	**01 47 50.5**	**-1.2**
KIW	**Kapiti Island**	**7.38**	**202**	*e*PN	**Pn**	**01 47 52.4**	**+0.2**
CAW	**Cannon Point**	**7.55**	**201**	*e*PN	**Pn**	**01 47 53.9**	**-0.6**
TCW	**Tory Channel**	**7.90**	**205**	*e*PN	**Pn**	**01 47 58.6**	**-0.4**
PLWZ	**Palliser**	**7.93**	**199**	*e*PN	**Pn**	**01 47 57.9**	**-1.5**
TUWZ	**Tuamarina**	**8.21**	**205**	*e*PN	**Pn**	**01 48 02.8**	**-0.2**
THZ	**Tophouse**	**8.89**	**209**	*e*PN	**Pn**	**01 48 12.1**	**+0.1**
THZ				*e*SN	**Sn**	**01 49 50.0**	**-1.7**
KHZ	**Kahutara**	**9.22**	**204**	*e*PN	**Pn**	**01 48 15.5**	**-0.7**
OXZ	**Oxford**	**10.56**	**207**	*e*PN	**Pn**	**01 48 32.2**	**-1.2**
OXZ				*e*SN	Sn	01 50 22.0	-9.2
MQZ	**McQueen's Vall**	**10.67**	**204**	*e*PN	**Pn**	**01 48 32.8**	**-2.1**
MQZ				*e*SN	Sn	01 50 25.0	-8.8
ASAR	**Alice Springs**	**40.23**	**273**	P	P	01 53 32.6	+8.1
	0.5nm,0.6s,baz=112,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**41.57**	**278**	P	P	01 53 42.8	+7.3
	0.6nm,0.7s,baz=117,slow=7.7,SNR=5.6						
QSPA	**South Pole Qui**	**56.03**	**180**	P	P	01 55 29.6	+4.7
	2.3nm,0.7s,baz=34,slow=3.2,SNR=11						
FINES	**FINESS Array B**	**147.47**	**336**	PKPbc	**PKPab**	**02 05 29.1**	**-0.1**
	0.9nm,0.6s,baz=27,slow=3.4,SNR=6.1						

IDC 27 01:55:27.2±2.3, 7.57S×130.22E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/26, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=127.4km s-min=33.4km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.93**	**162**	Pn	Pn	01 58 32.0	-0.5
	0.1nm,0.3s,baz=345,slow=13,SNR=7.1						
WRA				Sn	Sn	02 00 50.0	-7.2
	0.2nm,0.3s,baz=351,slow=20,SNR=3.0						
ASAR	**Alice Springs**	**16.39**	**168**	Pn	Pn	01 59 19.4	+0.5
	0.1nm,0.3s,baz=355,slow=9.7,SNR=4.2						
MKAR	**Makanchi Array**	**68.82**	**327**	P	P	02 06 33.5	0.0
	0.2nm,0.4s,baz=122,slow=7.8,SNR=4.1						

*ISCJB **27** 02:30:24.4±0.6, 5.64S±0.07×151.39E±0.10, h35km, mb4.5/20, MS3.4/11, Error ellipse: s-maj=15.3km s-min=7.5km az=29.7*
*IDC **27** 02:30:24.6±3.5, 5.68S×151.43E, h26km±21km, mb4.1/11, mb1 4.4/12, mb1mx4.2/19, mbtmp4.3/12, ML4.0/1, MS3.3/12, Ms1 3.3/12, ms1mx3.2/25, Error ellipse: s-maj=24.9km s-min=17.0km az=113.0*
*NEIC **27** 02:30:31.2±1.7, 5.79S×151.32E, h80km±14km, mb4.5/6, Error ellipse: s-maj=11.4km s-min=10.0km az=85.0*

ISC 27 02:30:26.1±0.6, 5.65S±0.08×151.6E±0.1, h35km, n88, σ1°01/78, mb4.4/20, MS3.2/11, 4C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.56**	**22**	P	Pn	02 30 57.8	+6.4
	baz=1.8,SNR=127						
PMG	**Port Moresby**	**5.75**	**229**	P	**Pn**	**02 31 51.4**	**+2.4**
	baz=5.6,SNR=47						
PMG	**Port Moresby**	**5.75**	**229**	*e*Pn	**Pn**	**02 31 51.2**	**+2.2**
	302nm,0.8s						
PMG				*e*S	**Sn**	**02 32 53.3**	**-0.5**
HNR	**Honiara**	**9.12**	**115**	LR	LR	02 35 52.0	
	comp=Z,43nm,21.6s,slow=36						
JAY	**Jayapura**	**11.27**	**286**	LR	LR	02 37 04.3	
	comp=Z,116nm,18.1s,baz=15,slow=36						
COEN	**Coen**	**11.68**	**224**	P	**Pn**	**02 33 11.3**	**+0.8**
	baz=12,SNR=6.3						
CTA	**Charters Tower**	**15.26**	**199**	Pn	**Pn**	**02 33 59.1**	**+0.1**
	0.5nm,0.3s,baz=47,slow=15,SNR=3.7						
QIS	**Mount Isa**	**18.83**	**217**	P	**P**	**02 34 43.5**	**+0.4**
	baz=19,SNR=5.7						
KDU	**Kakadu**	**20.10**	**248**	P	**P**	**02 34 55.6**	**-1.3**
	baz=20,SNR=20						
RMQ	**Roma**	**20.90**	**187**	P	**P**	**02 35 06.8**	**+1.2**
	baz=21,SNR=8.1						
WRAB	**Tennant Creek**	**21.95**	**228**	*e*P	**P**	**02 35 15.5**	**-1.4**
	23nm,0.6s						
WRAB				*e*PcP	PcP	02 39 10.4	-4.8
WB2	**Warramunga Arr**	**21.96**	**228**	*e*P	**P**	**02 35 15.5**	**-1.6**
WB2				*e*PcP	PcP	02 39 10.7	-4.5
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**	**02 35 15.1**	**-2.1**
	17nm,0.4s,baz=53,slow=9.9,SNR=93						
WRA				PcP	**PcP**	**02 39 14.7**	**-0.5**
	2.6nm,0.6s,baz=49,slow=2.0,SNR=9.3						
WRA				ScP	**ScP**	**02 42 50.0**	**0.0**
	1.2nm,1.0s,baz=48,slow=2.6,SNR=4.9						
WRA				LR	LR	02 44 57.9	
	comp=Z,60nm,20.4s,baz=250,slow=40						
KNRA	**Kununurra**	**24.50**	**244**	P	**P**	**02 35 40.8**	**-1.5**
	baz=24,SNR=10						
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**02 35 43.0**	**-1.3**
	3.3nm,0.5s,baz=56,slow=8.9,SNR=60						
ASAR				PcP	**PcP**	**02 39 20.5**	**-0.4**
	0.6nm,0.5s,baz=61,slow=2.3,SNR=4.1						
ASAR				ScP	**ScP**	**02 42 58.0**	**+0.7**
	0.5nm,0.9s,baz=56,slow=3.5,SNR=4.5						
ASAR				LR	LR	02 45 13.7	
	comp=Z,78nm,19.1s,baz=93,slow=36						
SOEI	**Soe**	**27.35**	**260**	*e*P	**P**	**02 36 07.9**	**-0.4**
	30nm,0.6s						
STKA	**Stephens Creek**	**27.72**	**198**	P	**P**	**02 36 09.7**	**-1.6**
	2.0nm,0.8s,baz=38,slow=14,SNR=3.1						
STKA				LR	LR	02 46 39.6	
	comp=Z,99nm,19.9s,baz=343,slow=35						
BATI	**Baumata**	**28.00**	**259**	P	**P**	**02 36 13.2**	**-0.9**
	44nm,0.5s,baz=97,slow=5.3,SNR=8.8						
FITZ	**Fitzroy Crossi**	**28.18**	**242**	P	**P**	**02 36 13.8**	**-1.8**
	baz=28,SNR=35						
FITZ	**Fitzroy Crossi**	**28.18**	**242**	*e*P	**P**	**02 36 13.7**	**-1.9**
	30nm,0.8s						
WRKA	**Warakurna**	**29.49**	**227**	P	**P**	**02 36 25.0**	**-2.1**
	baz=29,SNR=11						
RAO	**Raoul Island**	**37.18**	**133**	LR	LR	02 50 50.9	
	comp=Z,358nm,18.2s,baz=129,slow=33						
MEEK	**Meekatharra**	**37.72**	**233**	P	**P**	**02 37 36.9**	**-1.8**
	baz=38,SNR=7.8						
GIRL	**Giralia**	**39.78**	**241**	P	P	02 37 59.3	+3.3
	baz=40,SNR=3.4						
MORW	**Morawa**	**40.86**	**231**	P	P	02 38 02.7	-2.1
	baz=41,SNR=3.7						
CISI	**Cisompet, Garu**	**43.49**	**265**	P	P	02 38 24.5	-2.1
	baz=43,SNR=4.1						
CISI				S	S	02 44 40.5	-13
	baz=43,SNR=3.8						
CISI	**Cisompet, Garu**	**43.49**	**265**	*e*P	P	02 38 24.3	-2.3
	64nm,0.5s						
KSRS	**Korea Array**	**48.21**	**335**	LR	LR	02 57 00.9	
	comp=Z,16nm,21.8s,baz=70,slow=33						
ASAJ	**Asahikawa**	**50.19**	**352**	LR	LR	02 58 36.8	
	comp=Z,25nm,21.2s,baz=154,slow=34						
CMAR	**Chiang Mai Arr**	**57.13**	**296**	P	**P**	**02 40 09.8**	**0.0**
	1.1nm,0.4s,baz=108,slow=4.6,SNR=4.4						
CMAR				LR	LR	03 01 20.0	
	comp=Z,9.4nm,21.1s,baz=175,slow=32						
PETK	**Petropavlovsk-**	**58.76**	**4**	LR	LR	03 01 44.7	
	comp=Z,18nm,20.3s,baz=154,slow=32						
HHC	**Hu-ho-hao-te**	**59.03**	**325**	*e*P	P	02 40 27.3	+4.6
HHC				PP	PP	02 42 40.5	+7.0
HHC				S	**S**	**02 48 28.5**	**+1.3**
HHC	**Hu-ho-hao-te**	**59.03**	**325**	SS	SS	02 52 25.8	+4.0
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,83nm,5.2s						
HHC				LR	LR		
	comp=N,240nm,18.5s						
HHC				LR	LR		
	comp=E,640nm,16.0s						
HHC				LR	LR		
	comp=Z,67nm,16.0s						
SONM	**Songino Array**	**66.39**	**329**	P	**P**	**02 41 11.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=136,slow=9.2,SNR=2.8						
YAK	**Yakutsk**	**69.56**	**349**	LR	LR	03 11 24.7	
	comp=Z,60nm,19.9s,baz=104,slow=35						
VNDA	**Vanda**	**72.04**	**178**	P	**P**	**02 41 45.6**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=323,slow=6.8,SNR=7.9						
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**02 42 32.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=116,slow=2.8,SNR=9.5						
MKAR				LR	LR	03 16 35.6	
	comp=Z,19nm,21.9s,baz=192,slow=35						
ZALV	**Zalesovo Beam**	**81.17**	**327**	P	P	02 42 36.6	-1.5
	comp=Z,1.5nm,0.5s,baz=115,slow=6.2,SNR=6.0						
ILAR	**Eielson Array**	**83.40**	**22**	P	**P**	**02 42 49.1**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=248,slow=5.3,SNR=32						
TKM2	**Tokmak 2**	**83.63**	**314**	*e*P	**P**	**02 42 50.9**	**-0.6**
	comp=Z,1.6nm,0.5s						
KURK	**Kurchatov**	**83.68**	**322**	P	P	02 42 49.7	-1.5
	comp=Z,5.0nm,1.1s						
AAK	**Ala-Archa**	**84.36**	**314**	*e*P	**P**	**02 42 54.7**	**-0.4**
	comp=Z,2.3nm,0.9s						
NVAR	**Mina Array Bea**	**93.57**	**52**	P	**P**	**02 43 41.0**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=248,slow=7.1,SNR=7.7						
YKA	**Yellowknife Ar**	**96.74**	**28**	P	**P**	**02 43 53.6**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=268,slow=4.7,SNR=19						
YKA				PKKPbc	PKKPbc	03 00 33.1	-4.9
	comp=Z,0.1nm,0.7s,baz=93,slow=2.8,SNR=4.2						
PDAR	**Pinedale Array**	**100.32**	**48**	P	**Pdif**	**02 44 10.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=272,slow=2.6,SNR=2.6						
ARR	**Arges**	**119.40**	**320**	⇑*i*P	**PKPdf**	**02 49 12.8**	**+0.6**
BZS	**Buzias**	**121.21**	**321**	⇑*i*P	**PKPdf**	**02 49 14.9**	**-0.7**
PKSM	**Moragy**	**122.75**	**323**	⇑*i*P	**PKPdf**	**02 49 17.9**	**-0.6**
DIVS	**Divibare**	**122.93**	**320**	⇑*i*P	**PKPdf**	**02 49 17.4**	**-1.6**
CLL	**Collm**	**122.98**	**330**	*e*PKPdf	**PKPdf**	**02 49 18.0**	**-0.8**
CONA	**Conrad Observa**	**123.46**	**326**	⇓*i*PKiKP	**PKPdf**	**02 49 19.8**	**-0.1**
	comp=Z,2.6nm,0.7s						
GERES	**GERESS Array B**	**124.12**	**328**	PKP	**PKPdf**	**02 49 20.8**	**-0.4**
	com

0.3nm,0.4s,baz=124,slow=7.8,SNR=7.9

ISCJB ***27*** *03:33:55.5±0.5, 32°.26N±0°.02×115°.33W±0°.03, h11km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=14.7*
NEIC ***27*** *03:33:56.9, 32°.26N×115°.33W, h6km, ML2.8(PAS), ML3.1(ECX), After ECX.*
ECX ***27*** *03:33:56.8±0.6, 32°.26N×115°.34W, h6km, MD2.9, ML3.1*
MEX ***27*** *03:33:57.5±0.7, 32°.35N×115°.18W, h20km, MD3.5*

ISC 27 03:33:55.4±0.9, 32°23N±0°.02×115°33W±0°.02, h13km±7km, n29, σ0°86/48, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**8**	*eP*		**Pg**		**03 33 59.5**	**-0.1**
CPBX				*eS*		**Sg**		**03 34 02.7**	**0.0**
CPBX				⇓*e*				03 34 07.1	
	comp=E,13μm,0.3s								
CPBX	**Cerro Prieto**	**0.19**	**8**	*eP*		**Pg**		**03 33 59.6**	**-0.1**
CPBX				*i* S		**Sg**		**03 34 02.6**	**0.0**
MBIG	**Mexicali**	**0.21**	**33**	*i* P		**Pg**		**03 34 00.6**	**+0.6**
MBIG				*eS*		**Sg**		**03 34 02.8**	**-0.4**
SGL	**Mount Signal**	**0.53**	**322**	⇓*iP*		**Pg**		**03 34 05.6**	**-0.2**
RDX	**Rancho Dawling**	**0.60**	**240**	*eP*		**Pb**		**03 34 07.8**	**0.0**
RDX				*eS*		**Sb**		**03 34 16.0**	**-0.2**
RDX				⇓*e*				03 34 16.6	
	comp=N,695nm,0.3s								
YUH	**Yuha Desert**	**0.65**	**310**	⇑*iP*		**Pg**		**03 34 07.6**	**-0.5**
COA	**Coachella**	**0.66**	**16**	⇓*iP*		**Pg**		**03 34 08.0**	**-0.2**
COK	**Cook Ranch**	**0.70**	**332**	*eP*		**Pg**		**03 34 08.7**	**-0.3**
RMX	**La Rumorosa**	**0.73**	**301**	⇑*eP*		**Pg**		**03 34 09.2**	**-0.4**
YMD	**Yuma Desert**	**0.74**	**64**	⇑*iP*		**Pg**		**03 34 09.5**	**-0.3**
ECBX	**El Chinero**	**0.79**	**162**	*eP*		**Pg**		**03 34 10.8**	**+0.1**
ECBX				*eS*		**Sb**		**03 34 22.1**	**+0.4**
ECBX				*e*				03 34 23.1	
	comp=E,444nm,0.3s								
CRR	**Carrizo Plain**	**0.85**	**321**	⇑*eP*		**Pg**		**03 34 11.3**	**-0.5**
GLA	**Glamis**	**0.93**	**27**	*eP*	g	**Pg**		**03 34 11.9**	**-1.4**
GLA				*eS*		**Sg**		**03 34 23.5**	**-1.9**
ZAX	**El Zacaton**	**1.07**	**229**	*eP*		**Pg**		**03 34 15.9**	**-0.1**
CBX	**Cerro Bola**	**1.13**	**275**	*eP*		**Pg**		**03 34 16.5**	**-0.7**
CBX				*i* S		**Sb**		**03 34 31.9**	**+0.4**
CBX	**Cerro Bola**	**1.13**	**275**	*eP*		**Pg**		**03 34 16.7**	**-0.4**
CBX				*eS*		**Sb**		**03 34 31.9**	**+0.4**
CBX	**Cerro Bola**	**1.13**	**275**	*eP*		**Pg**		**03 34 16.9**	**-0.7**
CBX				*i* S		**Sb**		**03 34 31.9**	**+0.4**
SPIG	**San Pedro Mart**	**1.18**	**185**	*eP*		**Pb**		**03 34 17.9**	**0.0**
SPIG				*eS*		**Sn**		**03 34 34.2**	**0.0**
SPIG	**San Pedro Mart**	**1.18**	**185**	*eP*		**Pb**		**03 34 17.9**	**0.0**
SPIG				*eS*		**Sn**		**03 34 34.2**	**0.0**
SPX	**San Pedro Mart**	**1.19**	**185**	*eP*		**Pb**		**03 34 17.9**	**0.0**
SPX				*eS*		**Sn**		**03 34 34.3**	**+0.2**
SPX	**San Pedro Mart**	**1.19**	**185**	*eP*		**Pb**		**03 34 17.9**	**0.0**
SPX				*eS*		**Sg**		**03 34 33.7**	**0.0**
ECNX	**Esteban Cantu**	**1.22**	**242**	*eP*		**Pn**		**03 34 17.8**	**-0.4**
BAR	**Barrett**	**1.22**	**292**	*eP*	n	**Pb**		**03 34 17.7**	**-0.6**
BAR				*eS*		**Sb**		**03 34 32.8**	**-1.1**
PBX	**Punta Banda**	**1.28**	**248**	*eP*		**Pn**		**03 34 19.4**	**+0.4**
PFO	**Pinyon Flats O**	**1.67**	**326**	*eP*	n	**Pn**		**03 34 22.7**	**-1.7**
PFO				*eS*		**Sn**		**03 34 46.6**	**+0.8**
214A	**Organ Pipe Nat**	**2.16**	**97**	*eP*	n	**Pn**		**03 34 29.8**	**-1.3**
214A				*eS*		**Sb**		**03 35 02.9**	**+1.0**
LDFC	**Landfair**	**2.85**	**4**	*P*	n	**Pn**		**03 34 43.4**	**+2.7**
MWC	**Mount Wilson**	**3.03**	**312**	*P*	n	**Pn**		**03 34 45.5**	**+2.3**
MWC				*eS*		**Sb**		**03 35 27.5**	**+1.2**
TUC	**Tucson**	**3.85**	**88**	*eP*	n	**Pn**		**03 34 55.3**	**+0.8**
TUC				*eP*	g	**Pg**		**03 35 08.4**	**-0.8**
TUC				*eS*		**Sg**		**03 35 58.4**	**-0.8**

MEX 27 04:13:35.8±0.6, 17°.16N×100°.26W, h40km±5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.11**	**184**	*iP*			Pn	04 13 41.0	-1.5
CAIG				*i* S			Sn	04 13 45.5	-1.7
ACP2	**Acapulco**	**0.45**	**128**	*eP*			Pn	04 13 44.3	-1.7
ACP2				*eS*			Sn	04 13 51.2	-1.9
ACX	**Acapulco**	**0.48**	**126**	*iP*			Pn	04 13 50.0	+3.6
ACX				*i* S			Sn	04 13 57.3	+3.5
MEIG	**Mezcala**	**0.98**	**38**	*eP*			Pn	04 13 51.0	-2.2
MEIG				*eS*			Sn	04 14 03.1	-2.9
ARIG	**Puente Sto Nin**	**1.12**	**356**	*eP*			Pn	04 13 53.4	-1.7
ARIG				*eS*			Sn	04 14 07.4	-2.0
ZIIG	**Zihuatanejo**	**1.23**	**291**	*eP*			Pn	04 13 55.4	-1.2
ZIIG				*eS*			Sn	04 14 09.9	-2.1
PLIG	**Platanillo**	**1.43**	**30**	*eP*			Pn	04 13 58.3	-1.1
PLIG				*eS*			Sn	04 14 14.9	-2.1
TLIG	**Tlapa**	**1.67**	**76**	*eP*			Pn	04 14 01.4	-1.3
TLIG				*eS*			Sn	04 14 21.3	-1.7
MAVM	**Malinalco, Edo**	**1.93**	**22**	*eP*			Pn	04 14 04.8	-1.7
MAVM				*eS*			Sn	04 14 28.1	-1.7
YAIG	**Yautepec**	**2.04**	**34**	*eP*			Pn	04 14 06.7	-1.2
YAIG				*eS*			Sn	04 14 30.8	-1.5
PNIG	**Pinotepa**	**2.18**	**110**	*eP*			Pn	04 14 08.3	-1.3
PNIG				*eS*			Sn	04 14 33.6	-1.8
MZVM		**2.25**	**26**	*eP*			Pn	04 14 09.6	-1.0
MZVM				*eS*			Sn	04 14 34.5	-2.5

MEX 27 04:15:25.4±0.5, 16°.31N×94°.72W, h88km±10km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**349**	*iP*			Pn	04 15 41.5	-1.2
CMIG				*i* S			Sn	04 15 53.8	-1.7
HUIG	**Huatulco**	**1.44**	**248**	*eP*			Pn	04 15 48.6	-1.7
HUIG				*eS*			Sn	04 16 07.5	-1.6
PCIG		**1.57**	**112**	*eP*			Pn	04 15 50.8	-1.1
PCIG				*i* S			Sn	04 16 10.7	-1.3
TGIG		**1.60**	**73**	*eP*			Pn	04 15 51.0	-1.4
TGIG				*i* S			Sn	04 16 10.7	-2.3
VHO	**Vista Hermosa**	**2.07**	**292**	*eP*			Pn	04 16 00.2	+1.5
VHO				*eS*			Sn	04 16 25.2	+1.1
CCIG	**Comitan**	**2.48**	**90**	*eP*			Pn	04 16 03.7	-0.5
CCIG				*eS*			Sn	04 16 32.2	-1.8
PNIG	**Pinotepa**	**3.27**	**272**	*eP*			Pn	04 16 13.9	-0.6
PNIG				*i* S			Sn	04 16 52.1	-0.4

KRSC 27 04:33:10.1±1.3, 54°.77N×164°.07E, h48km±18km, ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.18**	**68**	*P*			Pn	04 33 32.0	+1.9
BKI				*S*			Sn	04 33 46.4	+1.4
MKZ	**Mys Kozlova**	**1.38**	**262**	*P*			Pn	04 33 35.3	+2.4
MKZ				*S*			Sn	04 33 52.0	+2.1
KBTR	**Krutoberegovo**	**1.61**	**334**	*P*			Pn	04 33 36.5	+0.4
KBTR				*S*			Sn	04 33 55.3	-0.3
KZV	**Kizimen**	**2.21**	**281**	*P*			Pn	04 33 47.4	+2.9
KZV				*S*			Sn	04 34 13.7	+3.0
TUMR	**Tumrok**	**2.32**	**284**	*P*			Pn	04 33 49.4	+3.5
TUMR				*S*			Sn	04 34 17.6	+4.3
SMKR	**Semkarok**	**2.34**	**322**	*P*			Pn	04 33 48.6	+2.4
SMKR				*S*			Sn	04 34 15.8	+2.0
KMNR	**Kamenistaya**	**2.41**	**296**	*P*			Pn	04 33 50.9	+3.8
KMNR				*S*			Sn	04 34 19.7	+4.2
BDR	**Baidarnaya**	**2.43**	**319**	*P*			Pn	04 33 51.1	+3.7
BDR				*S*			Sn	04 34 19.6	+3.7
KLY	**Klyuchi**	**2.48**	**310**	*P*			Pn	04 33 49.3	+1.3
KLY				*S*			Sn	04 34 18.0	+0.9
SRKR	**Sorokina**	**2.50**	**320**	*P*			Pn	04 33 51.1	+2.7
SRKR				*S*			Sn	04 34 19.6	+1.8
KPT	**Kopyto**	**2.50**	**300**	*P*			Pn	04 33 52.3	+3.9
KPT				*S*			Sn	04 34 21.7	+3.9
KOZ	**Kozyrevsk**	**2.72**	**300**	*P*			Pn	04 33 55.4	+4.1
KOZ				*S*			Sn	04 34 27.3	+4.3
SRDR	**Sredinnyy**	**2.92**	**304**	*P*			Pn	04 33 58.0	+3.9
SRDR				*S*			Sn	04 34 31.8	+3.8
SPN	**Mys Shipunski**	**2.92**	**237**	*P*			Pn	04 33 57.0	+3.0
SPN				*S*			Sn	04 34 29.3	+1.4
NLC	**Nalytchevo**	**3.22**	**242**	*S*			Sn	04 34 38.3	+3.2
SDLR	**Sedlovina**	**3.41**	**246**	*P*			Pn	04 34 04.9	+4.0
SDLR				*S*			Sn	04 34 43.6	+3.5
SMAR	**Somma**	**3.46**	**246**	*P*			Pn	04 34 05.7	+4.0
SMAR				*S*			Sn	04 34 45.3	+3.7
KRER	**Koryakskii**	**3.47**	**247**	*P*			Pn	04 34 06.0	+4.2
KRER				*S*			Sn	04 34 45.7	+4.0
UGLR	**Uglovaya**	**3.47**	**245**	*P*			Pn	04 34 05.8	+4.1
UGLR				*S*			Sn	04 34 45.3	+3.6
AVH	**Avacha**	**3.49**	**247**	*P*			Pn	04 34 06.5	+4.6
AVH				*S*			Sn	04 34 46.3	+4.2
KRX	**Arik**	**3.50**	**248**	*P*			Pn	04 34 06.3	+4.2
KRX				*S*			Sn	04 34 45.2	+2.9
KOK	**Koryaka**	**3.53**	**247**	*P*			Pn	04 34 07.1	+4.5
KOK				*S*			Sn	04 34 47.4	+4.3
PET	**Petropavlovsk**	**3.65**	**244**	*S*			Sn	04 34 47.9	+2.1
GNL	**Ganaly**	**3.76**	**256**	*P*			Pn	04 34 10.1	+4.5
RUS	**Russkaya**	**4.06**	**237**	*P*			Pn	04 34 13.5	+3.9
RUS				*S*			Sn	04 34 58.3	+2.6
MTVR	**Mutnovka**	**4.19**	**239**	*P*			Pn	04 34 14.2	+2.6
MTVR				*S*			Sn	04 35 00.2	+0.8
ASAK	**Asacha**	**4.39**	**240**	*P*			Pn	04 34 19.2	+4.9
ASAK				*S*			Sn	04 35 07.7	+3.6
APC	**Apacha**	**4.49**	**249**	*P*			Pn	04 34 20.5	+4.9
APC				*S*			Sn	04 35 11.1	+4.6
MIPR	**Malaya Ipel'ka**	**5.03**	**243**	*P*			Pn	04 34 28.7	+5.7

IDC ***27*** *04:36:41.7±4.0, 58°.14S×24°.27W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=138.3km s-min=37.0km az=164.0*

ISC 27 04:36:40.6±2.3, 59°.2S±0°.4×24°.4W±0°.5, h10km, n9, σ1°46/8, mb3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.27**	**156**	*P*			Pn	**04 39 48.1**	**-0.6**
VNA1	**Neumayer--Stat**	**13.27**	**156**	*S*			**S**	**04 42 42.1**	**+1.6**
VNA3	**Neumayer Olymp**	**13.48**	**159**	*P*			Pn	**04 39 50.6**	**-1.0**
VNA2	**Neumayer--Watz**	**13.66**	**156**	*P*			Pn	**04 39 53.0**	**-1.1**
	baz=319,slow=15								
SNAA	**Sanae**	**15.21**	**154**	*P*			Pn	**04 40 13.9**	**-1.3**
PLCA	**Paso Flores**	**34.11**	**282**	*P*			**P**	**04 43 25.6**	**+0.3**
	0.3nm,0.5s,baz=162,slow=3.2,SNR=3.6								
LPAZ	**La Paz**	**53.45**	**304**	*P*			**P**	**04 46 00.4**	**-0.9**
	0.5nm,0.8s,baz=149,slow=5.9,SNR=2.1								
TORD	**Torodi Ar. Bea**	**75.16**	**26**	*P*			P	04 48 19.6	-3.2
	1.3nm,0.7s,baz=202,slow=6.3,SNR=21								
ILAR	**Eielson Array**	**153.31**	**306**	PKPbc			**PKPbc**	**04 56 39.0**	**+1.8**
	0.1nm,0.6s,baz=99,slow=0.7,SNR=4.1								

ISCJB ***27*** *04:52:19.2±0.3, 66°.92N±0°.03×8°.07E±0°.07, h10km, mb3.4/6, Error ellipse: s-maj=4.3km s-min=3.1km az=45.0*
NAO ***27*** *04:52:20.4±1.4, 66°.90N×8°.43E, ML3.1*
IDC ***27*** *04:52:20.8±0.9, 66°.95N×7°.96E, h0km, mb3.5/6, mb1 3.7/13, mb1mx3.6/41, mbtmp3.6/13, ML3.7/7, Error ellipse: s-maj=14.7km s-min=11.5km az=68.0*
CSEM ***27*** *04:52:21.2±0.2, 66°.92N×7°.93E, h10km, ML3.5, Error ellipse: s-maj=4.3km s-min=3.3km az=123.0*
HEL ***27*** *04:52:22.1±0.2, 66°.92N×8°.15E, h10km, ML3.5, ML2.9(BER), ML2.7(UPP)*
BER ***27*** *04:52:23.0, 66°.93N×8°.05E, h10km, MD3.0, ML2.9, ML3.1(NAO)*
UPP ***27*** *04:52:25.3, 66°.93N×8°.72E, h0km, ML2.7*
KOLA ***27*** *04:52:26.9, 67°.50N×8°.80E, h0km*

ISC 27 04:52:21.6±0.6, 66°.94N±0°.04×8°.15E±0°.05, h10km, n202, σ1°96/271, mb3.5/6, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**2.02**	**100**	*eP*			Pn	**04 52 56.3**	**+0.6**
KONS				*eS*			**Sn**	**04 53 19.9**	**-1.0**
KONS					IAML			04 53 22.0	
	comp=Z,218nm,0.1s								
KONS	**Konsvik**	**2.02**	**100**	*eP*			Pn	**04 52 56.3**	**+0.6**
KONS				*eS*			**Sn**	**04 53 19.9**	**-1.0**
KONS					IAML			04 53 22.0	
	comp=Z,218nm,0.1s								
KONS	**Konsvik**	**2.02**	**100**	*P*			Pn	**04 52 56.2**	**+0.6**
KONS				*eS*			**Sn**	**04 53 19.9**	**-1.0**
	SNR=50								
STOK	**Stokkvaagen**	**2.03**	**105**	*eP*			Pn	**04 52 56.5**	**+0.7**
STOK				*eS*			**Sn**	**04 53 20.2**	**-1.0**
STOK					IAML			04 53 23.8	
	comp=N,292nm,0.3s								
STOK	**Stokkvaagen**	**2.03**	**105**	*eP*			Pn	**04 52 56.5**	**+0.7**
STOK				*eS*			**Sn**	**04 53 20.2**	**-1.0**
STOK					IAML			04 53 23.8	
	comp=N,292nm,0.3s								
STOK	**Stokkvaagen**	**2.03**	**105**	*P*			Pn	**04 52 56.4**	**+0.7**
STOK				*eS*			**Sn**	**04 53 20.2**	**-1.0**
	SNR=50								
FLOS	**Flostrand**	**2.17**	**104**	*eP*			Pn	**04 52 59.5**	**+1.9**
FLOS				*eS*			**Sn**	**04 53 25.1**	**+0.7**
FLOS					IAML			04 53 28.3	
	comp=Z,292nm,0.2s								
FLOS	**Flostrand**	**2.17**	**104**	*eP*			Pn	**04 52 59.5**	**+1.9**
FLOS				*eS*			**Sn**	**04 53 25.1**	**+0.7**
FLOS					IAML			04 53 28.3	
	comp=Z,292nm,0.2s								
FLOS	**Flostrand**	**2.17**	**104**	*P*			Pn	**04 52 59.5**	**+1.9**
FLOS				*S*			**Sn**	**04 53 25.1**	**+0.7**
LOF	**Lofoten**	**2.39**	**58**	*eP*			Pn	**04 53 00.1**	**-0.6**
LOF				*eS*			**Sn**	**04 53 26.3**	**-3.7**
LOF					IAML			04 53 33.8	
	comp=Z,118nm,0.3s								
LOF	**Lofoten**	**2.39**	**58**	*eP*			Pn	**04 53 00.1**	**-0.6**
LOF				*eS*			**Sn**	**04 53 26.3**	**-3.7**
LOF					IAML			04 53 33.8	
	comp=Z,118nm,0.3s								
LOF	**Lofoten**	**2.39**	**58**	*P*			Pn	**04 53 00.1**	**-0.6**
LOF				*eS*			**Sn**	**04 53 26.3**	**-3.7**
	SNR=50								
MOR8	**Moi Rana**	**2.63**	**104**	*eP*			Pn	**04 53 06.3**	**+2.3**
MOR8				*eS*			**Sn**	**04 53 37.4**	**+1.4**
MOR8					IAML			04 53 41.4	
	comp=Z,283nm,0.1s								
MOR8	**Moi Rana**	**2.63**	**104**	*eP*			Pn	**04 53 06.3**	**+2.3**
MOR8				*eS*			**Sn**	**04 53 37.4**	**+1.4**
MOR8					IAML			04 53 41.4	
	comp=Z,283nm,0.1s								
MOR8	**Moi Rana**	**2.63**	**104**	*P*			Pn	**04 53 06.3**	**+2.3**
MOR8				*S*			**Sn**	**04 53 37.3**	**+1.4**
NSS	**Namsos**	**2.89**	**145**	*eP*			Pn	**04 53 08.3**	**+0.8**
NSS				*eS*			**Sn**	**04 53 41.5**	**-0.7**
NSS					IAML			04 53 43.3	
	comp=Z,154nm,0.2s								
NSS	**Namsos**	**2.89**	**145**	*eP*			Pn	**04 53 08.3**	**+0.8**
NSS				*eS*			**Sn**	**04 53 41.5**	**-0.7**
NSS					IAML			04 53 43.3	
	comp=Z,154nm,0.2s								
NSS	**Namsos**	**2.89**	**145**	*P*			Pn	**04 53 08.3**	**+0.8**
NSS				*S*			**Sn**	**04 53 41.5**	**-0.7**
STEI	**Steigen**	**2.91**	**67**	*eP*			Pn	**04 53 08.4**	**+0.6**
STEI				*eS*			**Sn**	**04 53 39.9**	**-2.8**
STEI					IAML			04 53 41.3	
	comp=Z,49nm,0.2s								
STEI	**Steigen**	**2.91**	**67**	*eP*			Pn	**04 53 08.4**	**+0.6**
STEI				*eS*			**Sn**	**04 53 39.9**	**-2.8**
STEI					IAML			04 53 41.3	
	comp=Z,49nm,0.2s								
STEI	**Steigen**	**2.91**	**67**	*P*			Pn	**04 53 08.3**	**+0.6**
STEI				*S*			**Sn**	**04 53 39.9**	**-2.8**
TBLU	**Trondheim**	**3.81**	**165**	*eP*			Pn	**04 53 19.2**	**-1.0**
TBLU				*eS*			Sn	04 53 58.2	-6.8
TBLU					IAML			04 54 00.6	
	comp=Z,108nm,0.2s								
TBLU	**Trondheim**	**3.81**	**165**	*eP*			Pn	**04 53 19.2**	**-1.0**
	SNR=50								
SALU	**Saltoluokta**	**4.06**	**79**	*eP*			Pn	**04 53 24.9**	**+1.3**
SALU				*eS*			**Sn**	**04 54 10.0**	**-1.2**
SALU	**Saltoluokta**	**4.06**	**79**	*P*			Pn	**04 53 24.9**	**+1.3**
SALU				*S*			**Sn**	**04 54 10.0**	**-1.2**
SALU	**Saltoluokta**	**4.06**	**79**	*P*			Pn	**04 53 24.9**	**+1.3**
SALU				*S*			**Sn**	**04 54 10.0**	**-1.2**
NIKU	**Nikkaluokta**	**4.30**	**73**	*eP*			Pn	**04 53 28.5**	**+1.5**
NIKU				*eS*			**Sn**	**04 54 15.5**	**-1.6**
NIKU	**Nikkaluokta**	**4.30**	**73**	*P*			Pn	**04 53 28.4**	**+1.5**
NIKU				*S*			**Sn**	**04 54 15.5**	**-1.6**
NIKU	**Nikkaluokta**	**4.30**	**73**	*P*			Pn	**04 53 28.5**	**+1.5**
NIKU				*S*			**Sn**	**04 54 15.5**	**-1.6**
MOL	**Molde**	**4.40**	**184**	*eP*			Pn	**04 53 27.5**	**-0.7**
MOL				*eS*			Sn	04 54 13.1	-6.3
MOL					IAML			04 54 16.6	
	comp=Z,89nm,0.5s								
MOL	**Molde**	**4.40**	**184**	*eP*			Pn	**04 53 27.5**	**-0.7**
MOL				*eS*			Sn	04 54 13.1	-6.3
MOL					IAML			04 54 16.6	
	comp=Z,89nm,0.5s								
MOL	**Molde**	**4.40**	**184**	*P*			Pn	**04 53 27.5**	**-0.7**
MOL				*eS*			Sn	04 54 13.1	-6.3
	SNR=49								
KUA	**Kurravaara**	**4.80**	**72**	*eP*			Pn	**04 53 35.6**	**+1.7**
KUA				*eS*			**Sn**	**04 54 26.9**	**-2.5**
KUA	**Kurravaara**	**4.80**	**72**	*P*			Pn	**04 53 35.5**	**+1.7**
KUA	**Kurravaara**	**4.80**	**72**	*P*			Pn	**04 53 35.6**	**+1.7**
KUA				*S*			**Sn**	**04 54 26.9**	**-2.5**
AKN	**Aaknes**	**4.81**	**186**	*Pn*			Pn	**04 53 33.3**	**-0.6**
AKN				*Sn*			Sn	04 54 23.1	-6.5
AKN	**Aaknes**	**4.81**	**186**	*Pn*			Pn	**04 53 33.3**	**-0.6**
AKN				*Sn*			Sn	04 54 23.1	-6.5
AKN	**Aaknes**	**4.81**	**186**	*eP*			Pn	**04 53 33.3**	**-0.6**
AKN				*e*				04 54 23.1	
AKN	**Aaknes**	**4.81**	**186**	*P*			Pn	**04 53 33.3**	**-0.6**
AKN				*Sn*			Sn	04 54 23.1	-6.5
	SNR=50								
DUNU	**Dundret**	**4.87**	**82**	*eP*			Pn	**04 53 35.5**	**+0.8**
DUNU				*eS*			**Sn**	**04 54 28.3**	**-2.8**
DUNU	**Dundret**	**4.87**	**82**	*P*			Pn	**04 53 35.5**	**+0.8**
DUNU				*S*			**Sn**	**04 54 28.3**	**-2.8**
DUNU	**Dundret**	**4.87**	**82**	*P*			Pn	**04 53 35.5**	**+0.8**
DUNU				*S*			**Sn**	**04 54 28.3**	**-2.8**
DOMB	**Dombas**	**4.93**	**175**	*eP*			Pn	**04 53 35.4**	**-0.3**
DOMB				*e*				04 54 28.6	
DOMB					IAML			04 54 32.4	
	comp=Z,30nm,0.3s								
DOMB	**Dombas**	**4.93**	**175**	*eP*			Pn	**04 53 35.4**	**-0.3**
DOMB				*eS*			**Sn**	**04 54 28.6**	**-4.2**
DOMB					IAML			04 54 32.4	
	comp=Z,30nm,0.3s								
DOMB	**Dombas**	**4.93**	**175**	*P*			Pn	**04 53 35.4**	**-0.3**
LILU	**Lilltraesk**	**5.04**	**104**	*eP*			Pn	**04 53 38.3**	**+1.3**
LILU				*eS*			**Sn**	**04 54 33.3**	**-1.9**
LILU	**Lilltraesk**	**5.04**	**104**	*P*			Pn	**04 53 38.3**	**+1.3**
LILU				*S*			**Sn**	**04 54 33.3**	**-1.9**
LILU	**Lilltraesk**	**5.04**	**104**	*P*			Pn	**04 53 38.3**	**+1.3**
LILU				*S*			**Sn**	**04 54 33.3**	**-1.9**
HARU	**Harads**	**5.18**	**93**	*eP*			Pn	**04 53 40.2**	**+1.2**
HARU	**Harads**	**5.18**	**93**	*P*			Pn	**04 53 40.1**	**+1.2**
HARU	**Harads**	**5.18**	**93**	*P*			Pn	**04 53 40.2**	**+1.2**
KIF	**Kilpisjarvi**	**5.19**	**61**	*eP*			Pn	**04 53 41.8**	**+2.6**
KIF				*eS*			**Sn**	**04 54 34.7**	**-4.3**
KIF	**Kilpisjarvi**	**5.19**	**61**	*P*			Pn	**04 53 41.7**	**+2.6**
KIF				*S*			**Sn**	**04 54 34.6**	**-4.3**
SVAU	**Svanoeiden**	**5.31**	**112**	*eP*			Pn	**04 53 41.8**	**+0.9**
SVAU	**Svanoeiden**	**5.31**	**112**	*P*			Pn	**04 53 41.7**	**+0.9**
SVAU	**Svanoeiden**	**5.31**	**112**	*P*			Pn	**04 53 41.8**	**+0.9**
BREU	**Bredtraesk**	**5.32**	**120**	*eP*			Pn	**04 53 42.9**	**+2.0**
BREU	**Bredtraesk**	**5.32**	**120**	*P*			Pn	**04 53 42.9**	**+2.0**
BREU	**Bredtraesk**	**5.32**	**120**	*P*			Pn	**04 53 42.9**	**+2.0**
SOLU	**Sollefteaa**	**5.34**	**130**	*eP*			Pn	**04 53 42.9**	**+1.7**
SOLU	**Sollefteaa**	**5.34**	**130**	*P*			Pn	**04 53 42.8**	**+1.7**
SOLU	**Sollefteaa**	**5.34**	**130**	*P*			Pn	**04 53 42.9**	**+1.7**
MASU	**Masugnsbyn**	**5.41**	**78**	*eP*			Pn	**04 53 43.1**	**+0.9**
MASU				*eS*			**Sn**	**04 54 40.7**	**-3.7**
MASU	**Masugnsbyn**	**5.41**	**78**	*P*			Pn	**04 53 43.1**	**+0.9**
MASU	**Masugnsbyn**	**5.41**	**78**	*P*			Pn	**04 53 43.1**	**+0.9**
MASU				*S*			**Sn**	**04 54 40.7**	**-3.7**
LANU	**Lannavaara**	**5.43**	**72**	*eP*			Pn	**04 53 44.6**	**+2.1**
LANU				*eS*			**Sn**	**04 54 41.4**	**-3.5**
LANU	**Lannavaara**	**5.43**	**72**	*P*			Pn	**04 53 43.9**	**+1.4**
LANU	**Lannavaara**	**5.43**	**72**	*P*			Pn	**04 53 43.9**	**+1.4**

ARA0 ARCESS Array S 6.95 60 Pn **Pn** 04 54 03.3 0.0
baz=246,slow=14
ARA0 Sn **Sn** 04 55 17.2 -5.0
baz=243,slow=22
ARA0 ARCESS Array S 6.95 60 *e*P **Pn** 04 54 03.3 0.0
ARA0 *e*S **Sn** 04 55 17.2 -5.0
ARA0 ARCESS Array S 6.95 60 Pn **Pn** 04 54 03.3 0.0
SNR=50
ARCES ARCESS Array B 6.95 60 Pn **Pn** 04 54 03.3 +0.1
comp=Z,0.5nm,0.3s,baz=246,slow=13,SNR=20
ARCES Sn **Sn** 04 55 17.6 -4.6
comp=Z,2.0nm,0.3s,baz=242,slow=22,SNR=7.7
ARE0 ARCESS Array S 6.95 60 *e*P **Pn** 04 54 04.0 +0.8
ARE0 *e*S **Sn** 04 55 17.0 -5.2
ARE0 ARCESS Array S 6.95 60 P **Pn** 04 54 04.0 +0.8
SGF Sodankyl 7.16 78 *e*P **Pn** 04 54 06.3 +0.2
SGF *e*S **Sn** 04 55 22.0 -5.3
SGF Sodankyl 7.16 78 P **Pn** 04 54 06.2 +0.2
JNE Jan Mayen East 7.16 312 *e*P **Pn** 04 54 05.2 -0.9
JNE Jan Mayen East 7.16 312 *e*P **Pn** 04 54 05.2 -0.9
JNE Jan Mayen East 7.16 312 P **Pn** 04 54 05.2 -0.9
JMIC Jan Mayen 7.22 312 Pn **Pn** 04 54 05.3 -1.6
JMIC Jan Mayen 7.22 312 *e*P **Pn** 04 54 05.3 -1.6
JMIC Pn **Pn** 04 54 05.3 -1.6
JMIC Jan Mayen 7.22 312 Pn **Pn** 04 54 05.4 -1.6
comp=Z,31nm,0.3s,baz=92,slow=2.6,SNR=16
JMIC Jan Mayen 7.22 312 *e*P **Pn** 04 54 05.3 -1.6
JMIC *e* 04 54 05.3
JMIC Jan Mayen 7.22 312 P **Pn** 04 54 05.3 -1.6
HFS Hagfors 7.26 158 Pn **Pn** 04 54 07.6 0.0
baz=350,slow=14
HFS Sn **Sn** 04 55 25.5 -4.5
baz=348,slow=22
HFS Hagfors 7.26 158 Pn **Pn** 04 54 07.6 0.0
baz=350,slow=14
HFS Sn **Sn** 04 55 25.5 -4.5
baz=348,slow=22
HFS Hagfors 7.26 158 Pn **Pn** 04 54 07.8 +0.2
comp=Z,5.1nm,0.3s,baz=349,slow=12,SNR=134
HFS Sn **Sn** 04 55 25.5 -4.5
comp=Z,7.2nm,0.3s,baz=357,slow=24,SNR=12
HFS Hagfors 7.26 158 *e*P **Pn** 04 54 07.6 0.0
HFS *e*S **Sn** 04 55 25.5 -4.5
JMI Jan Mayen 7.26 311 *e* **Pn** 04 54 06.4 -1.1
JMI Jan Mayen 7.26 311 *e*P **Pn** 04 54 06.4 -1.1
JMI Jan Mayen 7.26 311 P **Pn** 04 54 06.4 -1.1
VAF Ylistaro 7.28 116 *e*P **Pn** 04 54 09.1 +1.2
VAF *e*S **Sn** 04 55 27.3 -3.1
VAF MSN 04 55 32.9
comp=Z,22nm,0.3s
VAF Ylistaro 7.28 116 P **Pn** 04 54 09.0 +1.2
KONO Kongsberg 7.35 174 *e*P **Pn** 04 54 07.3 -1.5
KONO *e* 04 55 20.6
KONO Kongsberg 7.35 174 *e*P **Pn** 04 54 07.3 -1.5
KONO *e* 04 55 20.6
KONO Kongsberg 7.35 174 *e*P **Pn** 04 54 07.3 -1.5
SNR=47
OUL Oulu 7.46 96 *e*P **Pn** 04 54 11.3 +1.0
OUL *e*S **Sn** 04 55 29.8 -5.0
OUL Oulu 7.46 96 P **Pn** 04 54 11.2 +1.0
KEV Kevo 7.51 59 *e*P **Pn** 04 54 12.4 +1.5
KEV *e*S Sn 04 55 29.4 -6.5
KEV MSN 04 55 35.0
comp=Z,4.6nm,0.3s
KEV Kevo 7.51 59 P **Pn** 04 54 12.4 +1.5
BLS5 Blasjo 7.58 187 *e*P **Pn** 04 54 12.2 +0.1
BLS5 *e*S Sn 04 55 30.8 -7.2
BLS5 Blasjo 7.58 187 *e*P **Pn** 04 54 12.2 +0.1
BLS5 *e*S Sn 04 55 30.8 -7.2
BLS5 Blasjo 7.58 187 P **Pn** 04 54 12.1 +0.1
KMY Karmoy 7.87 191 *e*P **Pn** 04 54 15.6 -0.3
KMY *e* 04 55 38.0
KMY Karmoy 7.87 191 *e*P **Pn** 04 54 15.6 -0.3
KMY *e*S Sn 04 55 38.0 -6.8
KMY Karmoy 7.87 191 P **Pn** 04 54 15.5 -0.3
VRF Varrio 8.31 75 *e*P **Pn** 04 54 22.4 +0.5
VRF *e*S Sn 04 55 49.2 -6.4
VRF Varrio 8.31 75 P **Pn** 04 54 22.4 +0.5
RAF Rauma 8.41 128 *e*P **Pn** 04 54 24.6 +1.3
RAF *e*S **Sn** 04 55 53.7 -4.5
RAF Rauma 8.41 128 P **Pn** 04 54 24.6 +1.3
RAF S **Sn** 04 55 53.7 -4.5
MSF Maaselka 8.42 87 *e*P **Pn** 04 54 23.5 0.0
MSF *e*S Sn 04 55 52.6 -5.9
MSF Maaselka 8.42 87 P **Pn** 04 54 23.5 0.0
KJN Kajaani 8.60 100 *e*P **Pn** 04 54 26.9 +1.0
KJN *e*S Sn 04 55 56.5 -6.3
KJN MSN 04 55 59.9
comp=Z,14nm,0.3s
KJN Kajaani 8.60 100 P **Pn** 04 54 26.8 +1.0
KEF Keuruu 8.63 116 *e*P **Pn** 04 54 27.4 +1.2
KEF *e*S Sn 04 55 57.6 -5.8
KEF MSN 04 56 01.5
comp=Z,11nm,0.3s
KEF Keuruu 8.63 116 P **Pn** 04 54 27.4 +1.2
SNART Snartemo 8.64 183 *e*P **Pn** 04 54 25.4 -1.0
SNART Snartemo 8.64 183 *e*P **Pn** 04 54 25.4 -1.0
SNART Snartemo 8.64 183 *e*P **Pn** 04 54 25.5 -1.0
SNR=47
HOMB Homborsund 8.71 179 *e*P **Pn** 04 54 26.2 -1.1
HOMB *e*S Sn 04 55 55.0 -10
HOMB IAML 04 56 00.3
comp=Z,3.5nm,0.3s
HOMB Homborsund 8.71 179 *e*P **Pn** 04 54 26.2 -1.1
HOMB *e*S Sn 04 55 55.0 -10
HOMB IAML 04 56 00.3
comp=Z,3.5nm,0.3s
HOMB Homborsund 8.71 179 *e*P **Pn** 04 54 26.2 -1.1
SNR=47
KU6 Riekki 8.73 86 *e*P **Pn** 04 54 27.4 -0.2
KU6 *e*S Sn 04 55 57.7 -8.2
KU6 MSN 04 56 04.4
comp=Z,8.9nm,0.4s
KU6 Riekki 8.73 86 P **Pn** 04 54 27.4 -0.2
SUF Sumiainen 8.74 110 *e*P **Pn** 04 54 28.5 +0.7
SUF *e*S **Sn** 04 56 02.1 -4.2
SUF Sumiainen 8.74 110 P **Pn** 04 54 28.5 +0.7
KAF Kangasniemi 9.18 113 *e*P **Pn** 04 54 34.7 +0.9
KAF *e*S **Sn** 04 56 11.5 -5.4
KAF MSN 04 56 14.3
comp=Z,8.8nm,0.3s
KAF Kangasniemi 9.18 113 P **Pn** 04 54 34.6 +0.9
FINES FINESS Array B 9.54 117 Pn **Pn** 04 54 39.5 +0.8
comp=Z,1.9nm,0.3s,baz=316,slow=12,SNR=58
FINES Sn **Sn** 04 56 20.5 -5.3
comp=Z,3.3nm,0.3s,baz=318,slow=20,SNR=12
FINES Lg Lg 04 57 12.2
comp=Z,2.1nm,0.3s,baz=319,slow=26,SNR=9.5
APA0 Apatity Array 9.61 75 Pn **Pn** 04 54 39.9 +0.2
baz=284,slow=12
APA0 Apatity Array 9.61 75 Pn **Pn** 04 54 39.9 +0.2
baz=284,slow=12
APA0 Apatity Array 9.61 75 *e*P **Pn** 04 54 39.9 +0.2
APA0 Apatity Array 9.61 75 P **Pn** 04 54 39.9 +0.2
APA0 Apatity Array 9.61 75 P **Pn** 04 54 38.5 -1.2
APA0 S Sn 04 56 17.7 -10
APA Apatity 9.77 75 P **Pn** 04 54 40.0 -1.9
APA S Sn 04 56 20.5 -11
SPA0 Spitsbergen Ar 11.54 8 Pn **Pn** 04 55 05.6 -0.5
baz=180,slow=12
SPA0 Spitsbergen Ar 11.54 8 Pn **Pn** 04 55 05.6 -0.5
baz=180,slow=12
SPA0 Spitsbergen Ar 11.54 8 *e*P **Pn** 04 55 05.6 -0.5
SPA0 Spitsbergen Ar 11.54 8 P **Pn** 04 55 05.6 -0.5
SPITS Spitsbergen Ar 11.54 8 Pn **Pn** 04 55 06.1 0.0
baz=170,slow=15,SNR=9.0
KBS Kingsbay 12.10 3 *e*P **Pn** 04 55 16.4 +2.8
KBS Kingsbay 12.10 3 *e*P **Pn** 04 55 16.4 +2.8
KBS Kingsbay 12.10 3 P **Pn** 04 55 16.4 +2.8
BSD Bornholm Skovb 12.30 161 *i* P **Pn** 04 55 14.7 -1.8
SNR=46
BSD Bornholm Skovb 12.30 161 *i* P **Pn** 04 55 14.6 -1.9
EKA Eskdalemuir Ar 12.83 210 Pn **Pn** 04 55 22.5 -1.3
baz=19,slow=12,SNR=3.4
GERES GERESS Array B 18.37 168 P **P** 04 56 37.2 +1.0
comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=4.6
AKTO Aktyubinsk 29.66 99 P **P** 04 58 28.7 +1.8
comp=Z,0.4nm,0.3s,baz=324,slow=13,SNR=4.3
MKAR Makanchi Array 42.11 80 P **P** 05 00 15.2 +1.8
comp=Z,0.4nm,0.9s,baz=308,slow=6.0,SNR=3.6
YKA Yellowknife Ar 44.35 326 P **P** 05 00 30.6 -0.6
comp=Z,0.1nm,0.5s,baz=289,slow=21,SNR=4.1
ILAR Eielson Array 47.36 346 P **P** 05 00 55.9 +0.9
comp=Z,0.2nm,0.7s,baz=13,slow=5.6,SNR=2.9
SONM Songino Array 50.12 60 P **P** 05 01 18.7 +2.2
comp=Z,1.3nm,0.5s,baz=322,slow=9.1,SNR=2.3
TORD Torodi Ar. Bea 53.91 188 P **P** 05 01 45.3 +0.4
comp=Z,0.7nm,0.7s,baz=5.4,slow=7.0,SNR=11

*ISCJB **27** 05:21:48.8±0.4,31°.93N±0°.04×104°.52E±0°.07,h15km, mb3.9/13,MS3.0/1,Error ellipse: s-maj=8.2km s-min=5.2km az=179.9*
*IDC **27** 05:21:48.6±0.8,31°.95N×104°.56E,h0km,mb3.8/11, mb1 4.1/12,mb1mx3.8/37,mbtmp3.8/12,ML4.0/1,MS3.1/2, Ms1 3.2/2,ms1mx2.7/28,Error ellipse: s-maj=39.3km s-min=16.2km az=59.0*
*BJI **27** 05:21:50.9,32°.00N×104°.52E,h12km,mb3.4/1,ML3.9/23, Ms3.8/5,Ms7 3.4/5*
*NEIC **27** 05:21:53.9±0.4,31°.92N×104°.43E,h35km,mb4.2/2,Error ellipse: s-maj=9.1km s-min=7.1km az=222.0*

ISC 27 05:21:50.7±0.5,31°.96N±0°.04×104°.48E±0°.05,h15km,n27, σ1§99/36,mb3.9/13,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.22**	**211**	Pg	**Pn**	**05 22 13.5**	**+0.3**
CD2				Sg	**Sb**	**05 22 29.3**	**+0.3**
CD2				SMN			
	8μm,0.7s						
CD2				SME			
	3μm,0.5s						
LZH	**Lanzhou**	**4.15**	**353**	*e*Pn	Pb	05 22 59.0	-4.5
LZH				Pg	**Pg**	**05 23 08.5**	**-1.7**
LZH				Sn	**Sn**	**05 23 46.5**	**+4.5**
LZH				Sg	**Sg**	**05 23 59.8**	**-4.2**
LZH				smax	smax		
	comp=N,360nm,1.0s						
LZH				smax	smax		
	comp=E,320nm,0.7s						
LZH				LR	LR		
	comp=N,730nm,5.6s						
LZH				LR	LR		
	comp=E,840nm,4.7s						
LZH				LR	LR		
	comp=Z,600nm,6.9s						
LZH	**Lanzhou**	**4.15**	**353**	Pg	**Pg**	**05 23 08.5**	**-1.7**
LZH				Sn	**Sn**	**05 23 46.5**	**+4.5**
LZH				Sg	**Sg**	**05 23 59.8**	**-4.2**
LZH				SMN			
	comp=Z,360nm,1.0s						
LZH				SME			
	comp=Z,320nm,0.7s						
LZH				LN			
	comp=Z,730nm,5.6s						
LZH				LE			
	comp=Z,840nm,4.7s						
LZH				LZ			
	comp=Z,600nm,6.9s						
XAN	**Xi'an**	**4.27**	**60**	Pg	**Pb**	**05 23 04.5**	**-1.0**
XAN				Sg	**Sb**	**05 23 55.5**	**-1.3**
XAN				SMN			
	comp=Z,300nm,0.8s						
XAN				SME			
	comp=Z,130nm,0.8s						
ENH	**Enshi**	**4.61**	**110**	*e*Pn	**Pn**	**05 23 03.0**	**+3.1**
GYA	**Guiyang**	**5.80**	**160**	Pn	**Pn**	**05 23 16.8**	**+0.4**
GYA				Sn	**Sn**	**05 24 22.3**	**-0.5**
GYA				Sg	**Sg**	**05 24 53.0**	**-4.1**
GYA				SMN			
	comp=Z,170nm,0.7s						
GYA				SME			
	comp=Z,260nm,0.8s						
GTA	**Gaotai**	**8.35**	**334**	*e*P	**Pn**	**05 23 49.8**	**-1.4**
GTA				PMZ			
	comp=Z,2.0nm,1.2s						
LSA	**Lhasa**	**11.68**	**262**	Pn	**Pn**	**05 24 37.0**	**-0.3**
BJT	**Baijiatuan**	**12.41**	**46**	Pn	**Pn**	**05 24 47.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**14.35**	**202**	Pn	**Pn**	**05 25 14.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=11,slow=12,SNR=9.8						
CMAR				LR	LR	05 31 27.6	
	comp=Z,52nm,19.9s,baz=160,slow=40						
WMQ	**Urumqi**	**17.73**	**317**	*e*P	**Pn**	**05 25 57.0**	**0.0**
WMQ				pP	**P**	**05 26 00.0**	**+2.2**
WMQ				LZ			
	comp=Z,180nm,17.0s						
MKAR	**Makanchi Array**	**22.56**	**317**	P	**P**	**05 26 52.3**	**+2.1**
	comp=Z,1.4nm,0.9s,baz=120,slow=7.4,SNR=7.9						
MKAR				LR	LR	05 36 43.7	
	comp=Z,54nm,18.7s,baz=125,slow=40						
TKM2	**Tokmak 2**	**25.29**	**304**	*e*P	**P**	**05 27 17.2**	**+0.4**
	comp=Z,4.0nm,1.8s						
ZALV	**Zalesovo Beam**	**26.10**	**333**	P	**P**	**05 27 24.2**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=152,slow=9.8,SNR=1.3						
EKS2	**Erkin-Say**	**26.52**	**302**	P	**P**	**05 27 28.2**	**+0.4**
KURBB	**Kurchatov Arra**	**26.76**	**322**	P	**P**	**05 27 30.9**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=130,slow=8.4,SNR=4.5						
KURK	**Kurchatov**	**26.76**	**322**	P	**P**	**05 27 30.9**	**+1.2**
ARCES	**ARCESS Array B**	**56.61**	**336**	Pn	**P**	**05 31 32.6**	**0.0**
	comp=Z,5.4nm,0.9s,baz=82,slow=8.7,SNR=6.7						
AKASG	**Malin Array Be**	**57.04**	**313**	P	**P**	**05 31 35.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=67,slow=7.6,SNR=2.2						
FINES	**FINESS Array B**	**57.04**	**326**	P	**P**	**05 31 36.1**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=192,slow=34,SNR=1.8						
WRAB	**Tennant Creek**	**59.01**	**147**	*e*P	**P**	**05 31 49.3**	**-0.7**
	comp=Z,3.3nm,0.5s						
WRA	**Warramunga Arr**	**59.01**	**147**	P	**P**	**05 31 49.9**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=339,slow=7.4,SNR=15						
WB2	**Warramunga Arr**	**59.02**	**147**	*e*P	**P**	**05 31 49.4**	**-0.6**
ASAR	**Alice Springs**	**62.06**	**149**	P	**P**	**05 32 10.8**	**0.0**
	comp=Z,1.1nm,0.6s,baz=330,slow=6.0,SNR=14						
GERES	**GERESS Array B**	**67.18**	**314**	P	**P**	**05 32 44.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=35,slow=6.0,SNR=2.0						
ILAR	**Eielson Array**	**68.93**	**26**	P	**P**	**05 32 56.1**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=289,slow=4.2,SNR=1.9						
YKA	**Yellowknife Ar**	**80.78**	**17**	P	**P**	**05 34 03.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=329,slow=5.2,SNR=12						

*ISCJB **27** 05:25:00.2±0.8,23°.23S±0°.06×69°.1W±0°.1,h94km,mb3.9/6, Error ellipse: s-maj=18.7km s-min=8.1km az=176.4*
*IDC **27** 05:25:01.6±1.2,23°.11S×69°.19W,h88km±5km,mb3.8/6, mb1 3.7/8,mb1mx3.6/22,mbtmp3.9/8,Error ellipse: s-maj=33.2km s-min=22.2km az=28.0*

ISC 27 05:25:01.5±0.8,23°.18S±0°.08×69°.2W±0°.1,h94km,n15, σ1§08/18,mb4.0/6,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.60**	**21**	P	**Pn**	**05 25 17.6**	**-0.2**
	16μm,0.3s,baz=151,slow=5.9,SNR=4798						
LVC				S	**Sn**	**05 25 28.3**	**-1.6**
	44μm,0.3s,baz=326,slow=23,SNR=39						
LPAZ	**La Paz**	**6.92**	**8**	P	**Pn**	**05 26 40.9**	**0.0**
	0.6nm,0.3s,baz=203,slow=6.6,SNR=25						
CFAA	**Coronel Fontan**	**8.44**	**175**	P	Pn	05 26 55.8	-5.1
	0.0nm,0.3s,baz=1.0,slow=22,SNR=19						
CFAA				S	**Sn**	**05 28 33.8**	**-0.7**
	0.0nm,0.3s,baz=39,slow=6.4,SNR=1.0						
CPUP	**Villa Florida**	**11.19**	**109**	P	**Pn**	**05 27 37.9**	**-0.5**
	0.0nm,0.3s,baz=77,slow=17,SNR=1.7						
BDFB	**Brasilia**	**21.28**	**73**	P	**P**	**05 29 41.4**	**+0.8**
	3.5nm,0.5s,baz=236,slow=11,SNR=7.9						
PTGA	**Pitinga**	**24.03**	**23**	P	**P**	**05 30 08.2**	**+0.4**
	2.2nm,0.3s,baz=234,slow=9.0,SNR=2.4						
PDAR	**Pinedale Array**	**75.45**	**330**	P	**P**	**05 36 36.9**	**+1.5**
	0.2nm,0.5s,baz=126,slow=9.1,SNR=2.1						
ULM	**Lac du Bonnet**	**76.84**	**343**	P	**P**	**05 36 42.6**	**-0.2**
	1.1nm,0.4s,baz=171,slow=5.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**78.12**	**70**	P	**P**	**05 36 52.2**	**+1.4**
	1.7nm,0.5s,baz=256,slow=5.4,SNR=26						
TORD				pP	**pP**	**05 37 15.8**	**+0.6**
	2.6nm,0.6s,baz=253,slow=5.2,SNR=8.7						
TORD				sP	**sP**	**05 37 25.2**	**-0.1**
	1.4nm,0.7s,baz=248,slow=5.3,SNR=3.7						
YKA	**Yellowknife Ar**	**92.69**	**341**	P	**P**	**05 38 02.7**	**+0.3**
	0.8nm,0.6s,baz=139,slow=4.3,SNR=23						
YKA				pP	**pP**	**05 38 26.6**	**-0.8**
	0.1nm,0.5s,baz=132,slow=3.9,SNR=2.2						
YKA				sP	**sP**	**05 38 35.9**	**-1.5**
	0.3nm,0.7s,baz=151,slow=3.7,SNR=3.8						
H11S2	**WAKE ISLAND Hyd**	**27.85**	**276**	T	T	08 04 02.6	
	baz=105,slow=75,SNR=4.0						
H11S1	**WAKE ISLAND Hyd**	**27.86**	**276**	T	T	08 04 06.3	
	baz=105,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hyd**	**27.87**	**276**	T	T	08 04 05.9	
	baz=105,slow=75,SNR=4.2						
WRA	**Warramunga Arr**	**131.40**	**210**	PKhKP	PKPpre	05 43 59.7	
	0.8nm,1.2s,baz=157,slow=1.8,SNR=3.5						
WRA				PKP	**PKiKP**	**05 44 04.8**	**+0.2**
	0.3nm,0.5s,baz=157,slow=2.1,SNR=4.6						
MKAR	**Makanchi Array**	**147.10**	**37**	PKPbc	**PKPbc**	**05 44 33.1**	**-0.4**
	0.7nm,0.7s,baz=291,slow=6.5,SNR=7.6						
MKAR				pPKPbc	**pPKPbc**	**05 44 57.0**	**-2.4**
	0.5nm,0.6s,baz=289,slow=6.2,SNR=4.3						

*IDC **27** 05:37:16.9±0.7,34°.20S×71°.95W,h0km,mb4.2/9, mb1 4.5/11,mb1mx4.3/20,mbtmp4.3/11,ML4.7/2,MS3.8/8, Ms1 3.8/8,ms1mx3.6/16,Error ellipse: s-maj=29.6km s-min=18.8km az=80.0*
*ISCJB **27** 05:37:18.2±0.4,34°.36S±0°.03×71°.99W±0°.05,h19km, mb4.5/20,MS3.8/4,Error ellipse: s-maj=5.5km s-min=3.7km az=10.2*
*GUC **27** 05:37:18.2±0.5,34°.35S×71°.95W,h25km±3km,ML4.8*
*NEIC **27** 05:37:18.0,34°.35S×71°.95W,h25km,mb4.9/12, ML4.8(GUC),After GUC.*
NEIC Felt [IV] at Bucalemu and Pichilemu; [III] at San Fernando; [II] at Navidad, Rancagua and Santiago. Also felt at Concepcion and Talca.
*BJI **27** 05:37:20.5,34°.20S×71°.90W,h20km,mB5.1/3,Ms5.6/3, Ms7 5.5/3*

ISC 27 05:37:20.0±0.4,34°.28S±0°.04×71°.83W±0°.06,h19km,n62, σ1§61/67,mb4.6/20,MS3.8/4,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.88**	**146**	↑*i*P	**Pb**	**05 37 34.4**	**-2.2**
NICH				*i* S	**Sb**	**05 37 46.2**	**-1.8**
TALC	**Talca**	**1.13**	**172**	↓*i*P	Pn	05 37 37.1	-3.7
TALC				*i* S	**Sb**	**05 37 52.0**	**-3.2**
IHA	**Instituto Hidr**	**1.26**	**7**	*i* P	**Pn**	**05 37 41.5**	**-1.1**
IHA				*i* S	**Sg**	**05 37 59.5**	**-1.4**
FSR	**Penalolen**	**1.35**	**54**	↑*i*P	**Pg**	**05 37 44.8**	**-1.3**
FSR				*i* S	**Sg**	**05 38 04.5**	**+0.8**
LACH	**Col Las Americ**	**1.36**	**53**	↑*i*P	**Pn**	**05 37 43.9**	**-0.2**
LACH				*i* S	**Sg**	**05 38 03.5**	**-0.6**
CLCH	**Cerro Calan**	**1.39**	**51**	↓*i*P	**Pb**	**05 37 44.8**	**-0.7**
CLCH				*i* S	**Sg**	**05 38 04.8**	**-0.3**
CLCH				AML	AML	05 38 19.8	
	comp=E,23μm,1.0s						
ROCH	**El Roble**	**1.47**	**28**	*i* P	**Pn**	**05 37 44.9**	**-0.9**
ROCH				*i* S	**Sg**	**05 38 05.9**	**-1.8**
ROCH				AML	AML	05 38 13.6	
	comp=N,22μm,0.5s						
PEL	**Peldehue**	**1.48**	**41**	↑*i*P	**Pb**	**05 37 46.0**	**-1.0**
PEL				*i* S	**Sg**	**05 38 06.9**	**-1.1**
YECH	**El Yeso**	**1.58**	**68**	↑*i*P	**Pb**	**05 37 48.3**	**-0.5**
YECH				*i* S	**Sg**	**05 38 10.6**	**-0.5**
YECH				AML	AML	05 38 12.1	
	comp=N,19μm,0.4s						
CFAA	**Coronel Fontan**	**4.03**	**50**	Pn	Pn	05 38 23.6	+2.9
	comp=N,1.0nm,0.3s,baz=224,slow=12,SNR=69						
CFAA				Lg	Lg	05 39 25.8	
	comp=N,7.1nm,0.3s,baz=26,slow=7.0,SNR=5.9						
CFAA				LR	LR	05 40 11.1	
	comp=N,127nm,18.8s,baz=232,slow=43						
LCO	**Las Campanas**	**5.34**	**11**	*e*Pn	**Pn**	**05 38 38.2**	**-0.8**
PLCA	**Paso Flores**	**6.52**	**171**	Pn	**Pn**	**05 38 54.6**	**-0.4**
	comp=N,4.2nm,0.3s,baz=343,slow=9.4,SNR=156						
PLCA				Lg	Lg	05 40 33.7	
	baz=250,slow=23,SNR=2.4						
PLCA				LR	LR	05 41 24.7	
	comp=N,947nm,18.0s,baz=348,slow=38						
TRQA	**Tornquist**	**8.81**	**118**	*e*Pn	**Pn**	**05 39 28.6**	**+2.2**
LVC	**Limon Verde**	**11.90**	**13**	Pn	Pn	05 40 04.1	-4.9
	comp=N,16nm,0.3s,baz=209,slow=13,SNR=6.4						
LVC				LR	LR	05 44 59.1	
	comp=N,2μm,20.1s,baz=214,slow=39						
LVC	**Limon Verde**	**11.90**	**13**	*e*Pn	Pn	05 40 03.6	-5.4
CPUP	**Villa Florida**	**14.81**	**62**	Lg	Lg	05 45 05.6	
	comp=N,0.1nm,0.3s,baz=18,slow=20,SNR=3.1						
CPUP				LR	LR	05 46 12.3	
	comp=N,812nm,19.4s,baz=240,slow=36						
LPAZ	**La Paz**	**18.22**	**11**	P	**P**	**05 41 33.2**	**+0.5**
	comp=N,0.8nm,0.3s,baz=193,slow=7.9,SNR=70						
LPAZ	**La Paz**	**18.22**	**11**	*e*P	**P**	**05 41 33.1**	**+0.3**
	comp=N,46nm,1.3s						
USHA	**Ushuaia**	**20.69**	**174**	P	**P**	**05 41 58.3**	**-0.5**
	comp=N,17nm,0.8s,baz=16,slow=6.3,SNR=4.5						
SAML	**Samuel**	**26.43**	**19**	*e*P	**P**	**05 42 55.0**	**-0.8**
	comp=N,2.7nm,0.8s						
BDFB	**Brasilia**	**28.35**	**55**	P	**P**	**05 43 14.7**	**+1.5**
	comp=N,6.8nm,0.9s,baz=231,slow=7.2,SNR=6.8						
BDFB				LR	LR	05 56 43.0	
	comp=N,228nm,18.7s,baz=226,slow=41						
OTAV	**Otavalo**	**34.89**	**348**	*e*P	**P**	**05 44 12.1**	**+1.1**
	comp=N,71nm,2.9s						
ROSC	**El Rosal**	**39.00**	**356**	LR	LR	06 00 12.4	
	comp=N,63nm,19.1s,baz=292,slow=35						
VNA3	**Neumayer Olymp**	**49.04**	**158**	P	**P**	**05 46 05.8**	**+0.5**
VNA2	**Neumayer-Watz**	**49.69**	**157**	P	**P**	**05 46 07.3**	**-3.0**
	baz=24,slow=38						
SNAA	**Sanae**	**51.26**	**158**	P	**P**	**05 46 24.7**	**+2.4**
SNAA	**Sanae**	**51.26**	**158**	P	**P**	**05 46 24.2**	**+2.0**
	comp=N,4.2nm,0.9s,baz=290,slow=8.2,SNR=12						
SNAA	**Sanae**	**51.26**	**158**	*e*P	**P**	**05 46 24.6**	**+2.4**
VNDA	**Vanda**	**63.86**	**191**	P	**P**	**05 47 53.5**	**+2.7**
	comp=N,1.5nm,0.9s,baz=146,slow=6.9,SNR=7.0						
H06E1	**SOCORRO T-PHAS**	**64.57**	**319**	T	T	06 57 34.7	
	SNR=6.0						
TXAR	**Lajitas Array**	**70.06**	**331**	P	**P**	**05 48 30.8**	**0.0**
	comp=N,0.6nm,0.6s,baz=147,slow=8.4,SNR=4.4						
WVT	**Waverly**	**71.62**	**346**	*e*P	**P**	**05 48 39.6**	**-0.4**
	comp=N,12nm,0.8s						
CBN	**Corbin Frederi**	**72.30**	**355**	*e*P	**P**	**05 48 44.9**	**+0.9**
	comp=N,19nm,0.6s						
MAW	**Mawson**	**72.86**	**163**	LR	LR	06 23 14.8	
	comp=N,112nm,18.2s,baz=238,slow=38						
DBIC	**Dimbokro**	**75.11**	**71**	P	**P**	**05 49 00.8**	**-0.3**
	comp=N,2.5nm,0.6s,baz=248,slow=6.6,SNR=5.5						
DBIC				LR	LR	06 19 48.0	
	comp=N,42nm,19.4s,baz=204,slow=34						
T25A	**Trinidad**	**77.26**	**334**	*e*P	**P**	**05 49 14.1**	**+1.0**
	comp=N,29nm,1.8s						
SMCO	**Snowmass**	**80.00**	**333**	*e*P	**P**	**05 49 29.8**	**+1.4**
	comp=N,18nm,2.1s						
ECSD	**EROS Data Cent**	**80.87**	**342**	*e*P	**P**	**05 49 32.2**	**-0.2**
	comp=N,5.4nm,0.8s						
MVU	**Marysvale**	**81.53**	**329**	*e*P	**P**	**05 49 36.9**	**+0.5**
	comp=N,14nm,1.9s						
LBTB	**Lobatse**	**82.03**	**115**	*e*P	**P**	**05 49 39.3**	**-0.1**
	comp=N,73nm,2.3s						
PDAR	**Pinedale Array**	**84.09**	**333**	P	**P**	**05 49 49.0**	**-0.6**
	comp=N,0.7nm,0.6s,baz=174,slow=4.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**84.15**	**70**	P	**P**	**05 49 49.7**	**-0.5**
	comp=N,2.5nm,0.8s,baz=266,slow=4.1,SNR=12						
NVAR	**Mina

	comp=N,220nm,6.1s								
ZALV	**Zalesovo Beam**	**154.37**	**33**	PKP	**PKPdf**	**05 57 12.3**	**+2.1**		
	comp=N,0.8nm,0.3s,baz=342,slow=2.3,SNR=1.7								
ZALV				PKPbc	**PKPbc**	**05 57 17.8**	**-0.7**		
	comp=N,1.0nm,0.3s,baz=309,slow=7.1,SNR=7.3								
MKAR	**Makanchi Array**	**156.82**	**50**	PKPbc	PKPdf	05 57 26.4	+13		
	comp=N,0.6nm,0.9s,baz=265,slow=6.1,SNR=4.4								
MKAR				PKPab	**PKPab**	**05 57 42.8**	**-0.7**		
	comp=N,0.5nm,0.7s,baz=280,slow=7.0,SNR=4.3								
WMQ	**Urumqi**	**161.50**	**53**	*e*PKP	**PKPdf**	**05 57 17.5**	**-1.9**		
WMQ				pPKP	**pPKPdf**	**05 57 28.0**	**+2.1**		
NJ2	**Nanjing**	**170.77**	**259**	*e*PKP	**PKPdf**	**05 57 28.0**	**+1.0**		
HHC	**Hu-ho-hao-te**	**172.91**	**339**	*e*PKP	**PKPdf**	**05 57 23.5**	**-4.4**		
HHC				PP	**PP**	**06 02 43.8**	**-1.6**		
HHC				PPMZ					
	comp=N,81nm,5.5s								
HHC				LN					
	comp=N,150nm,17.3s								
HHC				LE					
	comp=N,530nm,16.0s								
HHC				LZ					
	comp=N,100nm,14.8s								
CD2	**Chengdu**	**174.99**	**131**	PKP	**PKPdf**	**05 57 28.0**	**-0.8**		
CD2				PKS	**PKSdf**	**06 00 59.8**	**-1.3**		
CD2				PP	**PP**	**06 02 59.8**	**+3.5**		
CD2				SKS	**SKSdf**	**06 04 29.3**	**-1.7**		
CD2				SKKS	**SKKSac**	**06 09 43.5**	**+1.6**		
CD2				SS	**SS**	**06 24 20.0**	**+1.2**		
CD2				PPMZ					
	comp=N,120nm,5.4s								
LZH	**Lanzhou**	**176.03**	**62**	*e*PKP	**PKPdf**	**05 57 27.0**	**-2.1**		
LZH				pPKP	**pPKPdf**	**05 57 37.0**	**+1.3**		
LZH				sPKP		05 57 41.0			

***IDC 27** 06:05:07.3±7.0,**20°.95S**×**65°.22W**,**h124**km±66km,**mb3.5**/1,*
mb1 3.0**/3,**mb1mx2.9**/18,**mbtmp3.4**/3,**Error ellipse:
s-maj=338.1km s-min=22.3km az=52.0,Southern
Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.39**	**329**	P	Pn	06 06 26.0	-0.3
	0.2nm,0.3s,baz=147,slow=8.0,SNR=7.7						
LPAZ				S	Sn	06 07 28.1	+0.2
	0.0nm,0.3s,baz=270,slow=12,SNR=1.1						
CPUP	**Villa Florida**	**9.00**	**128**	P	Pn	06 07 14.3	0.0
	0.0nm,0.3s,baz=293,slow=13,SNR=2.7						
TORD	**Torodi Ar. Bea**	**73.94**	**69**	P	P	06 16 29.5	+0.1
	0.4nm,0.4s,baz=255,slow=5.9,SNR=12						

*CSEM **27** 06:29:16.1,43°.49N×12°.39E,h7km,MD1.3/5*
***ROM 27 06:29:16.1**±0.1,**43°.49N**×**12°.39E**,**h7**km,**Md1.3**/5,**Ml0.7**/3,*
Error ellipse: s-maj=0.6km s-min=0.4km az=174.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**171**	Pg	Pg	06 29 17.8	+0.2
ATPI				Sg	Sg	06 29 18.9	+0.2
	53nm,0.2s						
ATPI	**Pietralunga -**	**0.04**	**171**	Pg	Pg	06 29 17.8	+0.2
ATPI				Sg	Sg	06 29 18.9	+0.2
	53nm,0.2s						
ATPC	**Poggio Castell**	**0.05**	**102**	Pg	Pg	06 29 17.9	+0.2
ATPC				Sg	Sg	06 29 19.2	+0.3
	78nm,0.1s						
ATPC	**Poggio Castell**	**0.05**	**102**	Pg	Pg	06 29 17.9	+0.2
ATPC				Sg	Sg	06 29 19.2	+0.3
	78nm,0.1s						
ATVO	**AVT- Monte Val**	**0.11**	**175**	Pg	Pg	06 29 18.9	+0.3
ATVO				Sg	Sg	06 29 21.1	+0.8
	21nm,0.2s						
ATVO	**AVT- Monte Val**	**0.11**	**175**	Pg	Pg	06 29 18.9	+0.3
ATVO				Sg	Sg	06 29 21.1	+0.8
	21nm,0.2s						
BADI	**Badiali**	**0.11**	**280**	Pg	Pg	06 29 18.9	+0.3
BADI				Sg	Sg	06 29 21.0	+0.7
	31nm,0.4s						
BADI	**Badiali**	**0.11**	**280**	Pg	Pg	06 29 18.9	+0.3
BADI				Sg	Sg	06 29 21.0	+0.7
	31nm,0.4s						
PIEI	**Pieia**	**0.11**	**66**	Pg	Pg	06 29 18.8	+0.1
PIEI				Sg	Sg	06 29 21.1	+0.6
	18nm,0.2s						
PIEI	**Pieia**	**0.11**	**66**	Pg	Pg	06 29 18.8	+0.1
PIEI				Sg	Sg	06 29 21.1	+0.6
	18nm,0.2s						

*IDC **27** 06:29:40.1±1.2,35°.59N×22°.82E,h0km,mb3.7/8,*
mb1 3.7/11,mb1mx3.6/41,mbtmp3.6/11,ML3.7/3,MS3.6/2,
Ms1 3.6/2,ms1mx2.6/45,Error ellipse: s-maj=24.5km
s-min=19.8km az=17.0
*CSEM **27** 06:29:42.4±0.3,35°.24N×22°.87E,h10km,MD3.5,Error*
ellipse: s-maj=7.5km s-min=3.4km az=25.0
*ATH **27** 06:29:44.1,35°.37N×22°.88E,h30km±2km,MD3.5/9*
*THE **27** 06:29:44.0,35°.29N×22°.97E,h13km±2km,ML3.7/2,Error*
ellipse: s-maj=3.4km s-min=1.7km az=32.0
*ISCJB **27** 06:29:45.6±0.9,35°.42N±0°.08×22°.97E±0°.08,h67km±6km,*
mb3.5/8,Error ellipse: s-maj=15.2km s-min=6.6km
az=37.0
*DDA **27** 06:30:15.6,36°.00N×25°.63E,h21km,MD3.6*
***ISC 27 06:29:45.6**±1.2,**35°.40N**±0°.07×**23°.02E**±0°.06,**h52**km±10km,*
n57**,σ1°**94**/66,**mb3.7**/8,**2C**,**Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.52**	**26**	P	**Pn**	**06 29 56.7**	**-0.6**
ANKY				S	**Sn**	**06 30 05.4**	**-0.3**
ANKY	**Antikythira Is**	**0.52**	**26**	*e*PN	**Pn**	**06 29 56.8**	**-0.6**
ANKY				*e*SN	**Sn**	**06 30 05.4**	**-0.3**
ANKY	**Antikythira Is**	**0.52**	**26**	P	**Pn**	**06 29 56.7**	**-0.6**
ANKY				S	**Sn**	**06 30 05.4**	**-0.3**
KARN	**Karanos**	**0.73**	**89**	*e*PN	**Pn**	**06 30 01.3**	**+1.4**
KARN				*e*SN	**Sn**	**06 30 13.9**	**+3.6**
KARN	**Karanos**	**0.73**	**89**	*e*Pn	**Pn**	**06 30 01.3**	**+1.4**
KARN				*e*Sn	**Sn**	**06 30 13.9**	**+3.6**
KYTH	**Kithira**	**0.88**	**1**	P	**Pn**	**06 30 02.0**	**+0.1**
KYTH	**Kithira**	**0.88**	**1**	*e*PN	**Pn**	**06 30 02.0**	**+0.1**
KYTH	**Kithira**	**0.88**	**1**	P	**Pn**	**06 30 02.0**	**+0.1**
VAM	**Vamos**	**0.96**	**89**	P	**Pn**	**06 30 03.3**	**+0.4**
VAM				S	**Sn**	**06 30 16.9**	**+1.2**
VAM	**Vamos**	**0.96**	**89**	*e*PB	**Pn**	**06 30 03.4**	**+0.5**
VAM				*e*SN	**Sn**	**06 30 18.9**	**+3.2**
VAM	**Vamos**	**0.96**	**89**	P	**Pn**	**06 30 03.3**	**+0.4**
VAM				S	**Sn**	**06 30 16.9**	**+1.2**
VAM				*e*Sn	Sn	06 30 18.9	+3.2
VLI	**Veliai**	**1.32**	**357**	P	**Pn**	**06 30 09.0**	**+1.2**
VLI				S	**Sn**	**06 30 28.4**	**+4.1**
VLI	**Veliai**	**1.32**	**357**	*e*PN	**Pn**	**06 30 09.2**	**+1.4**
VLI				*e*SN	**Sn**	**06 30 27.4**	**+3.1**
VLI	**Veliai**	**1.32**	**357**	*e*Pn	**Pn**	**06 30 09.2**	**+1.4**
VLI				*e*Sn	**Sn**	**06 30 27.4**	**+3.1**
VLI				S	**Sn**	**06 30 28.4**	**+4.1**
IDI	**Anoyia**	**1.53**	**93**	Pn	**Pn**	**06 30 13.3**	**+2.6**
	11nm,0.3s,baz=262,slow=8.5,SNR=63						
IDI				Lg	Lg	06 30 41.8	
	26nm,0.3s,baz=238,slow=9.1,SNR=8.9						
PYL	**PYLOS**	**1.82**	**326**	P	**Pn**	**06 30 14.4**	**-0.1**
PYL	**PYLOS**	**1.82**	**326**	P	**Pn**	**06 30 14.4**	**-0.1**
ITM	**Ithomi**	**1.99**	**334**	*e*PN	**Pn**	**06 30 17.4**	**+0.6**
ITM	**Ithomi**	**1.99**	**334**	*e*Pn	**Pn**	**06 30 17.4**	**+0.6**
LAST	**Lasithi**	**2.02**	**96**	*e*PB	**Pn**	**06 30 20.4**	**+3.0**
APE	**Apeiranthos**	**2.63**	**50**	i*P*	**Pn**	**06 30 27.8**	**+2.2**
APE	**Apeiranthos**	**2.63**	**50**	i*P*	**Pn**	**06 30 27.8**	**+2.2**
KLV	**Kalavryta, Ach**	**2.73**	**345**	*e*PN	**Pn**	**06 30 28.8**	**+1.7**
KLV	**Kalavryta, Ach**	**2.73**	**345**	*e*Pn	**Pn**	**06 30 28.8**	**+1.7**
KALE	**Kalithea**	**3.07**	**347**	*e*PN	**Pn**	**06 30 32.7**	**+1.0**
KALE	**Kalithea**	**3.07**	**347**	*e*Pn	**Pn**	**06 30 32.7**	**+1.0**
MRKA	**Markates**	**3.34**	**8**	*e*PN	**Pn**	**06 30 37.2**	**+1.9**
MRKA	**Markates**	**3.34**	**8**	*e*Pn	**Pn**	**06 30 37.2**	**+1.9**
VLS	**Valsamata**	**3.39**	**326**	*e*PN	**Pn**	**06 30 35.5**	**-0.6**
VLS	**Valsamata**	**3.39**	**326**	*e*Pn	**Pn**	**06 30 35.5**	**-0.6**
SMIA	**Simia**	**3.48**	**2**	*e*PN	**Pn**	**06 30 39.2**	**+1.9**
SMIA	**Simia**	**3.48**	**2**	*e*Pn	**Pn**	**06 30 39.2**	**+1.9**
MAKR	**Makrakomi, Fth**	**3.68**	**349**	*e*PN	**Pn**	**06 30 41.8**	**+1.8**
MAKR	**Makrakomi, Fth**	**3.68**	**349**	*e*Pn	**Pn**	**06 30 41.8**	**+1.8**
SKIA	**Skiathos**	**3.78**	**5**	*e*PN	**Pn**	**06 30 43.4**	**+2.0**
SKIA	**Skiathos**	**3.78**	**5**	*e*Pn	**Pn**	**06 30 43.4**	**+2.0**
TURN	**Turunc**	**4.75**	**70**	*i*P	**Pn**	**06 30 52.6**	**-2.1**
TURN				*i*S	Px	06 31 20.2	
AKAS	**Kas**	**5.42**	**79**	*i*P	**Pn**	**06 31 04.6**	**+0.6**
AKAS	**Kas**	**5.42**	**79**	*i*P	**Pn**	**06 31 04.6**	**+0.6**
AKAS				*i*S	**Sn**	**06 32 02.3**	**-2.8**
GOLH	**Golhisar**	**5.59**	**69**	*i*P	**Pn**	**06 31 08.9**	**+2.6**
GOLH	**Golhisar**	**5.59**	**69**	*i*P	**Pn**	**06 31 08.9**	**+2.6**
GOLH				*i*S	Px	06 31 50.3	
STON	**Ston**	**8.53**	**333**	*e*Pn	Pn	06 31 42.7	-3.7
STON					Sn	06 33 09.9	-11
BRTR	**Keskin Array B**	**9.47**	**60**	Pn	**Pn**	**06 32 02.3**	**+2.8**
	0.1nm,0.3s,baz=222,slow=15,SNR=3.4						
KECS	**Keavo**	**13.21**	**353**	*e*PN	Pn	06 32 45.4	-5.0
GERES	**GERESS Array B**	**15.10**	**336**	Pn	**Pn**	**06 33 11.4**	**-4.1**
	0.2nm,0.3s,baz=149,slow=12,SNR=1.6						
AKASG	**Malin Array Be**	**15.95**	**14**	Pn	**Pn**	**06 33 23.5**	**-2.9**
	0.7nm,0.3s,baz=206,slow=12,SNR=2.3						
GNI	**Garni**	**17.80**	**68**	LR	LR	06 41 49.8	
	comp=Z,34nm,18.6s,baz=279,slow=41						
HFS	**Hagfors**	**25.48**	**349**	P	**P**	**06 35 08.1**	**-0.6**
	1.2nm,0.4s,baz=155,slow=11,SNR=9.9						
FINES	**FINESS Array B**	**26.14**	**3**	P	**P**	**06 35 13.6**	**-0.9**
	3.0nm,1.0s,baz=167,slow=9.4,SNR=3.6						
NOA	**NORSAR Array B**	**26.75**	**347**	P	**P**	**06 35 19.3**	**-0.9**
	1.2nm,0.8s,baz=129,slow=19,SNR=2.6						
EKA	**Eskdalemuir Ar**	**26.85**	**326**	P	**P**	**06 35 20.5**	**-0.6**
	0.4nm,0.3s,baz=121,slow=9.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**29.34**	**226**	P	**P**	**06 35 44.7**	**+1.1**
	0.2nm,0.4s,baz=31,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**45.10**	**56**	P	**P**	**06 37 56.6**	**0.0**
	0.5nm,0.3s,baz=276,slow=8.5,SNR=17						
ZALV	**Zalesovo Beam**	**46.11**	**46**	P	**P**	**06 38 03.7**	**-0.7**
	0.7nm,0.4s,baz=260,slow=8.9,SNR=4.0						
YKA	**Yellowknife Ar**	**76.67**	**341**	P	**P**	**06 41 31.5**	**+0.9**
	0.4nm,0.5s,baz=31,slow=5.3,SNR=9.6						
JNU	**Nakatsue**	**84.07**	**53**	LR	LR	07 24 49.7	
	comp=Z,193nm,19.4s,baz=302,slow=39						

*IDC **27** 07:21:31.8±0.6,1°.47N×126°.19E,h0km,mb4.3/16,*
mb1 4.4/16,mb1mx4.2/34,mbtmp4.3/16,MS3.1/3,
Ms1 3.2/3,ms1mx2.7/35,Error ellipse: s-maj=36.9km
s-min=13.0km az=77.0
*BJI **27** 07:21:36.9,1°.17N×126°.46E,h61km,mB4.9/9,mb4.7/17,*
Ms4.7/3,Ms7 4.2/4
*ISCJB **27** 07:21:37.2±0.2,1°.53N±0°.03×126°.47E±0°.04,h47km,*
mb4.5/33,MS3.0/3,Error ellipse: s-maj=5.6km
s-min=3.6km az=152.0
*DJA **27** 07:21:38.8±1.6,2°.N±3°×12°.7E±°,h38km±21km,M4.5/14,*
mb4.8/10,mB5.1/5,MLv4.4/14,Mw(mB)4.5/5
*NEIC **27** 07:21:40.2±0.8,1°.50N±126°.50E,h63km±7km,mb4.5/19,*
Error ellipse: s-maj=9.4km s-min=5.5km az=55.0
***ISC 27 07:21:39.0**±0.3,**1°.52N**±0°.05×**126°.47E**±0°.05,**h47**km,**n91**,*
*σ1°**47**/102,**mb4.5**/33,**MS3.0**/3,**Northern Molucca Sea***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**130**	P	**Pn**	**07 21 58.2**	**-0.8**
TNTI				S	**Sn**	**07 22 14.2**	**+0.4**
TNTI	**Ternate**	**1.17**	**130**	*e*Pn	**Pn**	**07 21 58.2**	**-0.8**
SGSI	**Sangihe**	**2.34**	**336**	P	**Pn**	**07 22 14.0**	**-1.1**
SGSI				S	**Sn**	**07 22 42.0**	**-0.7**
LBMI	**Labuha**	**2.38**	**154**	P	**Pn**	**07 22 16.1**	**+0.5**
KMSI	**Cibinong**	**2.66**	**249**	P	**Pn**	**07 22 20.2**	**+0.8**
SANI	**Sanana**	**3.58**	**188**	P	**Pn**	**07 22 32.6**	**+0.5**
LUWI	**Luwuk**	**4.49**	**235**	P	**Pn**	**07 22 47.3**	**+2.8**
LUWI	**Luwuk**	**4.49**	**235**	P	Pn	07 22 49.4	+4.8
	baz=4.9,SNR=3.1						
LUWI	**Luwuk**	**4.49**	**235**	*e*Pn	**Pn**	**07 22 47.4**	**+2.9**
MRSI	**Marisa**	**4.64**	**257**	P	**Pn**	**07 22 47.3**	**+0.6**
NLAI	**Namlea**	**4.77**	**172**	P	**Pn**	**07 22 48.8**	**+0.3**
SWI	**Sorong**	**5.35**	**116**	P	**Pn**	**07 22 55.9**	**-0.5**
	30nm,0.7s,0.1nm						
APSI	**Ampana**	**5.39**	**243**	P	**Pn**	**07 22 58.8**	**+1.9**
	253nm,1.0s,3μm1.1nm						
MSAI	**Masohi**	**5.43**	**153**	P	**Pn**	**07 23 00.4**	**+2.9**
	20nm,0.8s,4μm0.1nm						
MPSI	**Mapaga**	**6.67**	**260**	P	**Pn**	**07 23 15.0**	**+0.4**
	57nm,1.0s,0.2nm						
FAKI	**Fak Fak**	**7.27**	**127**	P	**Pn**	**07 23 24.5**	**+1.7**
	baz=7.2,SNR=6.9						
FAKI	**Fak Fak**	**7.27**	**127**	*e*Pn	**Pn**	**07 23 25.1**	**+2.2**
TTSI	**Tana Toraja**	**8.05**	**236**	P	**Pn**	**07 23 34.1**	**+0.7**
	52nm,0.7s,804nm						
SPSI	**Sidrap Palu**	**8.63**	**231**	P	**Pn**	**07 23 41.9**	**+0.5**
	52nm,0.4s,811nm						
BNSI	**Bone**	**8.66**	**227**	P	**Pn**	**07 23 42.2**	**+0.4**
	47nm,0.7s,608nm						
BKSI	**Bulukumba**	**9.29**	**223**	P	**Pn**	**07 23 51.1**	**+0.6**
	26nm,0.6s						
KAPI	**Kappang**	**9.34**	**226**	*e*Pn	**Pn**	**07 23 52.0**	**+0.9**
KKM	**Kota Kinabalu**	**11.17**	**294**	*e*Pn	**Pn**	**07 24 17.8**	**+1.5**
SOEI	**Soe**	**11.41**	**191**	P	Pn	07 24 28.1	+8.4
	baz=12,SNR=4.8						
SOEI	**Soe**	**11.41**	**191**	*e*Pn	Pn	07 24 25.7	+6.1
	46nm,0.9s						
KDU	**Kakadu**	**15.32**	**157**	P	**P**	**07 25 17.2**	**+0.9**
	baz=16,SNR=13						
KSM	**Kuching**	**16.15**	**270**	*e*P	**P**	**07 25 25.8**	**+0.2**
	15nm,0.9s						
KNRA	**Kununurra**	**17.24**	**173**	P	**Pn**	**07 25 36.2**	**-0.3**
	baz=18,SNR=9.4						
FITZ	**Fitzroy Crossi**	**19.52**	**182**	P	**P**	**07 26 01.0**	**-1.6**
	baz=20,SNR=12						
FITZ	**Fitzroy Crossi**	**19.52**	**182**	*e*P	**P**	**07 26 01.2**	**-1.4**
	59nm,2.3s						
MANU	**Manus Island**	**21.19**	**100**	S	**S**	**07 30 15.7**	**+1.5**
	baz=21,SNR=5.3						
PMBI	**Palembang**	**22.13**	**258**	P	P	07 26 40.2	+9.2
	baz=22,SNR=9.6						
PMBI				S	**S**	**07 30 27.7**	**-4.6**
	baz=22,SNR=4.8						
YULB	**Yu-li**	**22.31**	**347**	*e*P	**P**	**07 26 31.4**	**-1.4**
	8.4nm,0.7s						
COEN	**Coen**	**22.60**	**133**	P	**P**	**07 26 36.2**	**+0.3**
	baz=23,SNR=9.0						
COEN	**Coen**	**22.60**	**133**	*e*P	**P**	**07 26 35.8**	**-0.2**
	31nm,1.6s						
WRAB	**Tennant Creek**	**22.68**	**160**	*e*P	**P**	**07 26 35.1**	**-1.6**
	22nm,0.6s						
WRA	**Warramunga Arr**	**22.69**	**160**	P	**P**	**07 26 35.0**	**-1.8**
	16nm,0.5s,baz=339,slow=11,SNR=117						
WB2	**Warramunga Arr**	**22.69**	**160**	*e*P	**P**	**07 26 35.3**	**-1.6**
QIZ	**Qiongzhong**	**23.83**	**318**	P	**P**	**07 26 48.5**	**+0.5**
QIZ				S	**S**	**07 31 01.5**	**+0.6**
QIZ				PMZ			
	13nm,1.9s						
QIZ				PMZ			
	55nm,3.8s						
QIS	**Mount Isa**	**25.44**	**150**	P	**P**	**07 27 03.4**	**+0.8**
	baz=26,SNR=9.9						
AS31	**Alice Springs**	**26.06**	**164**	*e*P	**P**	**07 27 07.4**	**-0.9**
ASAR	**Alice Springs**	**26.06**	**164**	P	**P**	**07 27 07.8**	**-0.6**
	5.4nm,0.6s,baz=346,slow=7.6,SNR=72						
WRKA	**Warakurna**	**26.46**	**176**	P	**P**	**07 27 11.8**	**-0.1**
	baz=27,SNR=30						
MEEK	**Meekatharra**	**29.00**	**195**	P	**P**	**07 27 34.0**	**-0.6**
	baz=30,SNR=4.0						
NJ2	**Nanjing**	**31.20**	**347**	*e*P	**P**	**07 27 53.3**	**-0.7**
NJ2				PMZ			
	80nm,0.6s						
GYA	**Guiyang**	**31.26**	**324**	*e*P	**P**	**07 27 56.8**	**+2.1**
GYA				PMZ			
	10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.81**	**304**	LR	LR	07 40 15.6	
	comp=Z,37nm,21.7s,baz=190,slow=36						
FORT	**Forrest**	**32.16**	**177**	*e*P	**P**	**07 28 02.1**	**-0.3**
	10.0nm,0.7s						
BBOO	**Buckleboo**	**35.33**	**166**	P	**P**	**07 28 29.3**	**-0.6**
	baz=36,SNR=13						
BBOO	**Buckleboo**	**35.33**	**166**	*e*P	**P**	**07 28 29.4**	**-0.5**
	4.4nm,0.4s						
NWAO	**Narrogin (SRO)**	**35.36**	**193**	P	**P**	**07 28 29.1**	**-1.1**
	3.2nm,0.6s,baz=30,slow=8.1,SNR=1.3						
EIDS	**Eidsvold**	**35.81**	**140**	*e*P	**P**	**07 28 34.4**	**+0.3**
	6.5nm,1.0s						
STKA	**Stephens Creek**	**36.18**	**158**	P	**P**	**07 28 36.7**	**-0.5**
	4.8nm,0.6s,baz=330,slow=8.1,SNR=23						
STKA	**Stephens Creek**	**36.18**	**158**	P	**P**	**07 28 36.8**	**-0.5**
	baz=36,SNR=14						
STKA	**Stephens Creek**	**36.18**	**158**	*e*P	**P**	**07 28 36.8**	**-0.5**
	7.8nm,1.8s						
CD2	**Chengdu**	**36.29**	**326**	*e*P	**P**	**07 28 40.0**	**+1.8**
MJAR	**Matsushiro Arr**	**36.50**	**16**	P	**P**	**07 28 39.8**	**-0.1**
	3.4nm,0.9s,baz=181,slow=9.5,SNR=4.9						
MJAR				LR	LR	07 42 21.1	
	comp=Z,15nm,21.6s,baz=185,slow=34						
ARMA	**Armidale**	**39.80**	**145**	*e*P	**P**	**07 29 08.7**	**+0.8**
	63nm,1.8s						
LZH	**Lanzhou**	**40.28**	**331**	*e*P	**P**	**07 29 14.3**	**+2.4**
LZH				pP	**pP**	**07 29 29.5**	**+5.0**
LZH				sP	sP	07 29 36.8	+6.7
LZH				PMZ			
	17nm,1.0s						
HHC	**Hu-ho-hao-te**	**41.41**	**343**	*e*P	**P**	**07 29 22.5**	**+1.5**
HHC				PP	**PnPn**	**07 31 02.0**	**-0.3**
HHC				S	**S**	**07 35 31.5**	**-1.3**
HHC				sS	sS	07 35 59.8	+5.7
HHC				SS	**SS**	**07 38 35.0**	**-3.4**
HHC				PMZ			
	18nm,0.7s						
HHC				PMZ			
	99nm,3.8s						
HHC				LN			
	180nm,12.3s						
HHC				LE			
	380nm,12.3s						
USRK	**Ussuriysk Ar.**	**42.78**	**6**	P	**P**	**07 29 32.2**	**+0.2**
	2.4nm,0.7s,baz=188,slow=5.9,SNR=6.0						
SONM	**Songino Array**	**49.30**	**342**	P	**P**	**07 30 23.5**	**0.0**
	1.1nm,0.5s,baz=142,slow=7.3,SNR=3.1						
WMQ	**Urumqi**	**54.38**	**326**	*e*P	**P**	**07 31 02.8**	**+1.4**
WMQ				pP	**pP**	**07 31 17.5**	**+3.0**
WMQ				PMZ			
	7.0nm,0.6s						
WMQ				PMZ			
	93nm,3.8s						
WMQ				LZ			
	160nm,14.6s						
PETK	**Petropavlovsk-**	**57.56**	**22**	P	**P**	**07 31 24.5**	**+0.7**
	2.1nm,0.4s,baz=179,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**59.22**	**326**	P	**P**	**07 31 34.4**	**-1.2**
	1.4nm,0.3s,baz=137,slow=5.9,SNR=25						
MKAR				PcP	**PcP**	**07 32 22.9**	**-0.7**
	2.1nm,0.7s,baz=168,slow=2.4,SNR=6.4						
MKAR				LR	LR	07 57 27.8	
	comp=Z,30nm,20.8s,baz=100,slow=36						
MKAR	**Makanchi Array**	**59.22**	**326**	*e*P	**P**	**07 31 33.9**	**-1.7**
MKAR				PcP	**PcP**	**07 32 22.9**	**-0.7**
MKAR				*e*S	**S**	**07 39 40.5**	**+0.3**
KSH	**Kashi**	**59.43**	**316**	*e*P	**P**	**07 31 39.0**	**+1.7**
KSH				sP	sP	07 32 02.0	+6.1
KSH				PP	**PP**	**07 33 52.5**	**+3.6**
KSH				PcS	**PcS**	**07 36 26.5**	**-0.3**
KSH				S	**S**	**07 39 41.8**	**-1.5**
KSH				sS	**sS**	**07 40 08.5**	**+3.1**
KSH				PMZ			
	130nm,5.5s						
KSH				LN			
	73nm,5.9s						
KSH				LE			
	120nm,5.4s						
KSH				LZ			
	190nm,6.2s						
BKZ	**Black Stump Fm**	**61.14**	**137**	*e*P	**P**	**07 31 48.1**	**-0.8**
	102nm,1.9s						
TKM2	**Tokmak 2**	**61.23**	**319**	*e*P	**P**	**07 31 49.7**	**+0.1**
	1.9nm,0.7s						
EKS2	**Erkin-Say**	**62.30**	**319**	*e*P	**P**	**07 31 56.5**	**-0.3**
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**62.43**	**334**	P	**P**	**07 31 55.5**	**-1.6**
	0.7nm,0.5s,baz=99,slow=9.1,SNR=2.3						
KBL	**Kabul**	**62.66**	**308**	*e*P	**P**	**07 31 58.9**	**-0.5**
	5.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.45**	**328**	P	**P**	**07 32 03.2**	**-0.8**
	6.4nm,0.8s,baz=126,slow=6.2,SNR=27						
KURK	**Kurchatov**	**63.46**	**328**	*e*P	**P**	**07 32 02.8**	**-1.2**
	11nm,0.8s						
KKAR	**Karatay Array**	**64.67**	**318**	*e*P	**P**	**07 32 12.1**	**-0.1**
	1.1nm,0.7s						
CASY	**Casey**	**68.61**	**187**	*e*P	**P**	**07 32 36.4**	**-0.4**
	20nm,1.6s						
BRVK	**Borovoye**	**69.09**	**328**	*e*P	**P**	**07 32 39.6**	**-0.6**
	3.0nm,0.9s						
ABKAR	**Akbulak array**	**73.69**	**321**	*e*P	**P**	**07 33 06.8**	**-1.1**
	3.4nm,0.8s						
IPAR	**Pars**	**74.88**	**300**	*e*P	**P**	**07 33 14.0**	**-1.6**
RAYN	**Ar Rayn**	**81.11**	**293**	*e*P	**P**	**07 33 49.2**	**-0.8**
	2.5nm,0.8s						
VNDA	**Vanda**	**81.28**	**173**	P	**P**	**07 33 49.7**	**-0.1**
	1.9nm,0.7s,baz=307,slow=6.3,SNR=9.7						
VNDA	**Vanda**	**81.28**	**173**	*e*P	**P**	**07 33 49.2**	**-0.7**
	2.1nm,0.8s						
IM04	**Indian Mountai**	**84.44**	**24**	*e*P	**P**	**07 34 07.6**	**+1.1**
ILAR	**Eielson Array**	**87.20**	**25**	P	**P**	**07 34

LACH				*e*S		Sn	07 33 55.1	+1.5
CLCH	**Cerro Calan**	**1.98**	**38**	*e*P		Pn	07 33 31.2	+0.6
CLCH				*e*S		Sn	07 33 56.3	+1.6
CLCH				AML		AML	07 34 07.1	
	comp=N,1μm,0.6s							
PEL	**Peldehue**	**2.13**	**31**	*e*P		Pn	07 33 33.3	+0.8
PEL				*e*S		Sb	07 34 01.0	-1.6
PEL				AML		AML	07 34 06.8	
	comp=N,2μm,0.6s							
ROCH	**El Roble**	**2.16**	**22**	*e*P		Pn	07 33 33.9	+0.6
ROCH				*e*S		Sb	07 34 04.8	+0.9

IDC ***27*** *07:45:14.7±1.4,2°.54S×121°.07E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/33, mbtmp3.6/5, MS3.0/2, Ms1 3.1/2, ms1mx2.5/25, Error ellipse: s-maj=158.8km s-min=20.6km az=62.0*
ISCJB ***27*** *07:45:19.5±0.5,2°.37S±0°.05×121°.15E±0°.06, h53km, mb3.6/5, MS2.8/1, Error ellipse: s-maj=9.7km s-min=5.1km az=32.8*
DJA ***27*** *07:45:20.3±1.6,2°.5±2°×12° 1E±°, h37km±20km, M4.2/12, MLv4.2/12*

ISC 27 07:45:20.8±0.9**, 2°.33S**±0°.05×**121°.11E**±0°.06**, h53**km**, n16,** σ1§**40/17, mb3.9/5, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.47**	**241**	P	**Pn**	**07 45 43.9**	**-1.0**
TTSI				S	**Sn**	**07 46 03.8**	**+0.8**
APSI	**Ampana**	**1.51**	**21**	P	**Pn**	**07 45 44.8**	**-0.8**
APSI				S	**Sn**	**07 46 05.2**	**+1.0**
PCI	**Palu**	**1.90**	**318**	P	**Pn**	**07 45 50.2**	**-0.7**
SPSI	**Sidrap Palu**	**2.10**	**219**	P	**Pn**	**07 45 52.6**	**-0.9**
SPSI				S	**Sn**	**07 46 19.7**	**+1.2**
LUWI	**Luwuk**	**2.10**	**52**	P	**Pn**	**07 45 53.2**	**-0.4**
LUWI				S	**Sn**	**07 46 20.7**	**+2.1**
BNSI	**Bone**	**2.28**	**206**	P	**Pn**	**07 45 55.3**	**-0.7**
MRSI	**Marisa**	**2.91**	**17**	P	**Pn**	**07 46 02.1**	**-2.6**
MPSI	**Mapaga**	**2.92**	**336**	P	**Pn**	**07 46 03.9**	**-0.8**
BKSI	**Bulukumba**	**3.13**	**198**	P	**Pn**	**07 46 07.2**	**-0.4**
LEM	**Lembang**	**14.16**	**251**	LR	LR	07 54 50.4	
	comp=Z,85nm,19.3s,baz=228,slow=41						
WRA	**Warramunga Arr**	**21.76**	**144**	P	**P**	**07 50 06.0**	**-2.1**
	0.7nm,0.8s,baz=324,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**24.56**	**151**	P	**P**	**07 50 34.6**	**-1.3**
	0.7nm,0.9s,baz=325,slow=8.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**30.05**	**314**	LR	LR	08 04 50.8	
	comp=Z,19nm,18.8s,baz=125,slow=39						
STKA	**Stephens Creek**	**35.16**	**149**	P	**P**	**07 52 10.1**	**+0.4**
	2.5nm,0.7s,baz=309,slow=12,SNR=1.9						
SONM	**Songino Array**	**51.59**	**347**	P	P	07 54 25.7	+3.9
	0.5nm,0.4s,baz=152,slow=6.5,SNR=1.9						
MKAR	**Makanchi Array**	**59.63**	**330**	P	**P**	**07 55 21.0**	**+1.5**
	0.7nm,0.6s,baz=145,slow=5.3,SNR=10						

IDC ***27*** *07:48:42.2±2.1,24°.14S×179°.99E, h491km±22km, mb3.7/10, mb1 3.9/11, mb1mx3.6/33, mbtmp4.5/11, Error ellipse: s-maj=22.5km s-min=16.7km az=178.0*
ISCJB ***27*** *07:48:43.4±0.7,24°.29S±0°.08×179°.9E±0°.1, h517km, mb4.1/10, Error ellipse: s-maj=12.4km s-min=11.2km az=167.5*

ISC 27 07:48:44.3±0.7**, 24°.4S**±0°.1×**180°.0E**±0°.1**, h517**km**, n28,** σ1§**28/31, mb4.2/10, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.07**	**189**	P	**P**	**07 51 44.0**	**-0.3**
	0.9nm,0.3s,baz=263,slow=3.2,SNR=5.8						
URZ				S	**S**	**07 54 10.3**	**-2.5**
	0.9nm,0.3s,baz=186,slow=15,SNR=8.2						
ARMA	**Armidale**	**25.84**	**250**	P	**P**	**07 53 36.3**	**+1.9**
	baz=34,SNR=5.4						
EIDS	**Eidsvold**	**26.21**	**262**	P	**P**	**07 53 38.3**	**+0.8**
	baz=34,SNR=5.3						
RMQ	**Roma**	**28.24**	**259**	P	**P**	**07 53 57.1**	**+1.7**
	baz=36,SNR=5.6						
CMSA	**Cobar Meteorol**	**31.02**	**249**	P	**P**	**07 54 20.1**	**+0.7**
	baz=39,SNR=22						
CTA	**Charters Tower**	**31.45**	**271**	P	**P**	**07 54 24.1**	**+0.8**
	28nm,0.4s,baz=94,slow=11,SNR=55						
QLP	**Quilpie**	**32.28**	**258**	P	**P**	**07 54 30.9**	**+0.7**
	baz=40,SNR=3.3						
STKA	**Stephens Creek**	**34.53**	**249**	P	**P**	**07 54 49.7**	**+0.5**
	5.0nm,0.5s,baz=90,slow=9.6,SNR=13						
STKA	**Stephens Creek**	**34.53**	**249**	P	**P**	**07 54 49.9**	**+0.7**
	baz=43,SNR=9.7						
COEN	**Coen**	**36.16**	**280**	P	**P**	**07 55 03.7**	**+0.7**
	baz=44,SNR=4.0						
QIS	**Mount Isa**	**37.41**	**268**	P	**P**	**07 55 14.7**	**+1.5**
	baz=45,SNR=3.1						
BBOO	**Buckleboo**	**39.24**	**247**	P	**P**	**07 55 27.6**	**-0.4**
	baz=47,SNR=21						
ASAR	**Alice Springs**	**41.94**	**261**	P	**P**	**07 55 49.5**	**-0.1**
	4.2nm,0.5s,baz=93,slow=6.6,SNR=64						
ASAR				ScP	**ScP**	**08 00 36.3**	**+2.0**
	1.7nm,0.9s,baz=116,slow=4.1,SNR=7.7						
WRA	**Warramunga Arr**	**42.35**	**267**	P	**P**	**07 55 52.3**	**-0.6**
	12nm,0.4s,baz=98,slow=8.4,SNR=436						
WRA				ScP	**ScP**	**08 00 39.3**	**+3.3**
	3.7nm,0.9s,baz=103,slow=4.3,SNR=14						
JAY	**Jayapura**	**43.67**	**294**	P	**P**	**07 56 02.0**	**-1.4**
	20nm,0.7s,baz=152,slow=1.2,SNR=7.5						
KDU	**Kakadu**	**46.30**	**276**	P	**P**	**07 56 22.6**	**-0.9**
	baz=54,SNR=12						
WRKA	**Warakurna**	**46.71**	**258**	P	**P**	**07 56 26.3**	**-0.3**
	baz=55,SNR=22						
KNRA	**Kununurra**	**48.66**	**270**	P	**P**	**07 56 41.2**	**0.0**
	baz=56,SNR=14						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P	**P**	**07 56 56.9**	**+0.2**
	baz=59,SNR=15						
VNDA	**Vanda**	**53.92**	**185**	P	**P**	**07 57 19.5**	**+1.1**
	0.7nm,0.8s,baz=9.7,slow=7.7,SNR=5.4						
MEEK	**Meekatharra**	**54.96**	**254**	P	**P**	**07 57 25.8**	**-0.8**
	baz=63,SNR=5.4						
MORW	**Morawa**	**56.70**	**250**	P	**P**	**07 57 38.3**	**-0.2**
	baz=65,SNR=3.2						
PLCA	**Paso Flores**	**87.97**	**134**	P	**P**	**08 00 40.6**	**+1.4**
	2.2nm,1.1s,baz=236,slow=8.2,SNR=3.7						
TXAR	**Lajitas Array**	**90.69**	**58**	P	**P**	**08 00 52.7**	**+0.7**
	2.1nm,0.7s,baz=205,slow=7.2,SNR=12						
ILAR	**Eielson Array**	**92.48**	**14**	P	**P**	**08 00 57.4**	**-1.8**
	0.4nm,1.0s,baz=224,slow=5.3,SNR=2.4						
PDAR	**Pinedale Array**	**93.04**	**44**	P	**P**	**08 01 02.3**	**-0.3**
	0.7nm,0.8s,baz=204,slow=2.6,SNR=5.5						
BRTR	**Keskin Array B**	**147.83**	**307**	PKPbc	**PKPbc**	**08 07 30.5**	**-0.7**
	0.2nm,0.5s,baz=201,slow=35,SNR=1.4						
EKA	**Eskdalemuir Ar**	**148.97**	**3**	PKPbc	**PKPbc**	**08 07 32.3**	**-1.0**
	0.8nm,0.5s,baz=359,slow=4.2,SNR=5.7						

SJA 27 08:13:16.2±0.8**, 31°.23S**×**68°.07W, h109**km±5km**, ML3.6, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.36**	**254**	*e*P	Pn	08 13 32.5	+0.3
RTLL				*e*S	Sn	08 13 45.0	+0.8
CFAA	**Coronel Fontan**	**0.40**	**201**	*e*P	Pn	08 13 32.9	+0.5
AMOG	**MOGNA**	**0.46**	**308**	*e*P	Pn	08 13 33.5	+0.6
SJA	**San Juan**	**0.51**	**234**	*e*P	Pn	08 13 33.9	+0.8
SJA				AML	AML	08 13 48.7	
	comp=Z,1μm,0.2s						
RTCV	**Cerro Valdivia**	**0.75**	**212**	*e*P	Pn	08 13 35.6	+0.6
RTLS	**Leoncito**	**1.19**	**241**	*e*P	Pn	08 13 41.1	+1.4
ACAN	**Cantantal**	**1.28**	**145**	*e*P	Pn	08 13 41.8	+1.3
AUSP	**Uspallata**	**1.50**	**228**	*e*P	Pn	08 13 44.5	+1.2
ASAL	**Salagasta**	**1.51**	**205**	*e*P	Pn	08 13 44.2	+1.0
ARCO	**CERRO ARCO**	**1.77**	**204**	*e*P	Pn	08 13 47.6	+1.1
ARCO				AML	AML	08 14 13.9	
	comp=Z,405nm,0.3s						
AGUA	**GUANDACOL**	**1.77**	**348**	*e*P	Pn	08 13 47.9	+1.4
AAGR	**Agrelo**	**1.96**	**199**	*e*P	Pn	08 13 49.5	+0.7

IDC 27 08:59:08.6±43.0**, 17°.77S**×**172°.14W, h0**km**, mb4.1/3, mb1 4.2/3, mb1mx3.6/41, mbtmp4.1/3, Error ellipse: s-maj=838.3km s-min=181.6km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.96**	**242**	P	P	09 07 17.4	-0.3
	0.7nm,0.5s,baz=88,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**50.52**	**259**	P	P	09 08 08.8	-0.4
	0.7nm,0.3s,baz=96,slow=6.8,SNR=29						
ASAR	**Alice Springs**	**50.57**	**254**	P	P	09 08 09.8	+0.2
	3.3nm,0.6s,baz=89,slow=8.4,SNR=62						

CSEM ***27*** *09:05:50.1±0.4,35°.31N×22°.88E, h5km, ML3.4, Error ellipse: s-maj=11.6km s-min=4.5km az=35.0*
ATH ***27*** *09:05:50.9, 35°.35N×22°.83E, h31km±4km, MD3.5/9*
THE ***27*** *09:05:52.9, 35°.35N×23°.03E, h11km±2km, ML3.4/3, Error ellipse: s-maj=3.7km s-min=1.1km az=59.0*
ISCJB ***27*** *09:05:55.7±0.8, 35°.66N±0°.07×23°.28E±0°.07, h51km, Error ellipse: s-maj=11.7km s-min=4.8km az=34.6*
DDA ***27*** *09:06:11.5, 35°.23N×24°.91E, h21km, MD3.4*

ISC 27 09:05:55.6±1.5**, 35°.50N**±0°.07×**23°.12E**±0°.06**, h51**km**, n49,** σ1§**60/57, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.40**	**22**	P	**Pn**	**09 06 04.1**	**-1.7**
ANKY				S	**Sn**	**09 06 11.6**	**-1.4**
ANKY	**Antikythira Is**	**0.40**	**22**	*e*PN	**Pn**	**09 06 04.1**	**-1.7**
ANKY	**Antikythira Is**	**0.40**	**22**	*e*Pn	**Pn**	**09 06 04.1**	**-1.7**
ANKY				S	**Sn**	**09 06 11.6**	**-1.4**
KARN	**Karanos**	**0.66**	**98**	*e*PN	**Pn**	**09 06 08.3**	**-0.6**
KARN	**Karanos**	**0.66**	**98**	*e*Pn	**Pn**	**09 06 08.3**	**-0.6**
KYTH	**Kithira**	**0.78**	**355**	P	**Pn**	**09 06 09.3**	**-1.2**
KYTH	**Kithira**	**0.78**	**355**	*e*PN	**Pn**	**09 06 09.4**	**-1.1**
KYTH	**Kithira**	**0.78**	**355**	P	**Pn**	**09 06 09.3**	**-1.2**
VAM	**Vamos**	**0.89**	**96**	P	**Pn**	**09 06 10.5**	**-1.3**
VAM				S	**Sn**	**09 06 25.5**	**+1.8**
VAM	**Vamos**	**0.89**	**96**	*e*PB	**Pn**	**09 06 10.9**	**-0.9**
VAM	**Vamos**	**0.89**	**96**	P	**Pn**	**09 06 10.5**	**-1.3**
VAM	**Vamos**	**0.89**	**96**	*e*Pb	**Pn**	**09 06 10.9**	**-0.9**
VAM				S	**Sn**	**09 06 25.5**	**+1.8**
GVD	**Gavdhos**	**1.03**	**129**	*e*PN	**Pn**	**09 06 13.0**	**-0.7**
GVD	**Gavdhos**	**1.03**	**129**	*e*Pn	**Pn**	**09 06 13.0**	**-0.7**
VLI	**Veliai**	**1.23**	**353**	P	**Pn**	**09 06 16.4**	**0.0**
VLI				S	**Sn**	**09 06 35.5**	**+3.6**
VLI	**Veliai**	**1.23**	**353**	*e*PN	**Pn**	**09 06 16.3**	**-0.1**
VLI	**Veliai**	**1.23**	**353**	*e*Pn	**Pn**	**09 06 16.3**	**-0.1**
VLI				S	**Sn**	**09 06 35.5**	**+3.6**
SIVA	**Sivas**	**1.46**	**109**	*e*PB	**Pn**	**09 06 19.6**	**0.0**
SIVA	**Sivas**	**1.46**	**109**	*e*Pb	**Pn**	**09 06 19.6**	**0.0**
PYL	**PYLOS**	**1.79**	**322**	P	**Pn**	**09 06 23.9**	**-0.1**
PYL				S	**Sn**	**09 06 48.6**	**+3.1**
PYL	**PYLOS**	**1.79**	**322**	*e*PN	**Pn**	**09 06 21.2**	**-2.8**
PYL	**PYLOS**	**1.79**	**322**	*e*Pn	**Pn**	**09 06 21.2**	**-2.8**
PYL	**PYLOS**	**1.79**	**322**	P	**Pn**	**09 06 23.9**	**-0.1**
PYL				S	**Sn**	**09 06 48.6**	**+3.1**
ITM	**Ithomi**	**1.93**	**330**	P	**Pn**	**09 06 26.2**	**+0.1**
ITM	**Ithomi**	**1.93**	**330**	*e*PN	**Pn**	**09 06 24.2**	**-1.9**
ITM	**Ithomi**	**1.93**	**330**	*e*Pn	**Pn**	**09 06 24.2**	**-1.9**
ITM	**Ithomi**	**1.93**	**330**	P	**Pn**	**09 06 26.2**	**+0.1**
LAST	**Lasithi**	**1.96**	**99**	*e*PN	**Pn**	**09 06 27.5**	**+1.1**
LAST	**Lasithi**	**1.96**	**99**	*e*Pn	**Pn**	**09 06 27.5**	**+1.1**
ZKR	**Zakros**	**2.56**	**98**	*e*PN	**Pn**	**09 06 35.8**	**+1.2**
ZKR	**Zakros**	**2.56**	**98**	*e*Pn	**Pn**	**09 06 35.8**	**+1.2**
KLV	**Kalavryta, Ach**	**2.66**	**343**	*e*PN	**Pn**	**09 06 36.0**	**0.0**
KLV	**Kalavryta, Ach**	**2.66**	**343**	*e*Pn	**Pn**	**09 06 36.0**	**0.0**
KALE	**Kalithea**	**2.99**	**345**	*e*PN	**Pn**	**09 06 40.0**	**-0.6**
KALE	**Kalithea**	**2.99**	**345**	*e*Pn	**Pn**	**09 06 40.0**	**-0.6**
LKR	**Lokris**	**3.15**	**358**	*e*PN	**Pn**	**09 06 42.3**	**-0.4**
LKR	**Lokris**	**3.15**	**358**	*e*Pn	**Pn**	**09 06 42.3**	**-0.4**
KARP	**Karpathos**	**3.30**	**88**	P	**Pn**	**09 06 44.4**	**-0.3**
KARP	**Karpathos**	**3.30**	**88**	P	**Pn**	**09 06 44.4**	**-0.3**
VLS	**Valsamata**	**3.36**	**324**	*e*PN	**Pn**	**09 06 42.6**	**-2.9**
VLS	**Valsamata**	**3.36**	**324**	*e*Pn	**Pn**	**09 06 42.6**	**-2.9**
AGG	**Agios Georgios**	**3.57**	**350**	*e*PN	**Pn**	**09 06 48.1**	**-0.4**
AGG	**Agios Georgios**	**3.57**	**350**	*e*Pn	**Pn**	**09 06 48.1**	**-0.4**
DSL	**Palaion Diasel**	**3.97**	**337**	*e*PN	**Pn**	**09 06 52.8**	**-1.2**
DSL	**Palaion Diasel**	**3.97**	**337**	*e*Pn	**Pn**	**09 06 52.8**	**-1.2**
TURN	**Turunc**	**4.64**	**71**	*i* P	Pn	09 06 59.7	-3.4
TURN				*i* S	Sn	09 07 46.4	-9.3
AKAS	**Kas**	**5.32**	**80**	*i* P	**Pn**	**09 07 11.4**	**-1.2**
AKAS				*i* S	**Sn**	**09 08 09.9**	**-2.6**
GOLH	**Golhisar**	**5.48**	**70**	*i* P	**Pn**	**09 07 15.7**	**+1.0**
GOLH				*i* S	**Sn**	**09 08 14.4**	**-2.1**
STON	**Ston**	**8.48**	**332**	*e*Pn	Pn	09 07 50.0	-5.7
STON				Sn	Sn	09 09 15.2	-15

IDC ***27*** *09:24:43.3±0.5, 8°.42S×157°.31E, h0km, mb4.8/24, mb1 4.8/26, mb1mx4.8/36, mbtmp4.7/26, ML4.0/2, MS3.9/14, Ms1 3.9/14, ms1mx3.7/23, Error ellipse: s-maj=19.4km s-min=13.4km az=104.0*
MOS ***27*** *09:24:47.7±1.0, 8°.31S×157°.07E, h33km, mb5.2/23, Error ellipse: s-maj=9.3km s-min=7.9km az=114.6*
ISCJB ***27*** *09:24:49.5±1.1, 8°.45S±0°.04×157°.18E±0°.04, h51km±10km, mb4.9/62, MS3.9/13, Error ellipse: s-maj=7.3km s-min=6.1km az=138.4*
NEIC ***27*** *09:24:51.0±1.2, 8°.44S×157°.15E, h53km±11km, mb4.9/23, Error ellipse: s-maj=8.8km s-min=7.4km az=149.0*
BJI ***27*** *09:24:57.6, 8°.01S×157°.26E, h110km, mB5.1/30, mb5.0/51*
DJA ***27*** *09:25:06.3±3.0, 9°.S±10°×15°.6E±2°.0, h117km±21km, M4.8/20, mb4.8/20, mB5.5/3, Mw(mB)4.9/3*

ISC 27 09:24:49.1±0.7**, 8°.38S**±0°.05×**157°.13E**±0°.05**, h33**km**±3km, n180,** σ1§**63/189, mb4.9/62, MS3.9/13, 6C-2D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.98**	**111**	*e*P	**Pn**	**09 25 35.2**	**+1.1**
HNR				*e*		09 26 17.7	
HNR	**Honiara**	**2.98**	**111**	*e*Pn	**Pn**	**09 25 35.2**	**+1.1**
HNR				*e*Sn	**Sb**	**09 26 17.7**	**+0.2**
RABL	**Rabaul**	**6.45**	**310**	P	Pb	09 26 35.2	-5.4
	baz=6.5,SNR=4.9						
COEN	**Coen**	**14.77**	**247**	P	P	09 28 26.7	+5.4
	baz=14,SNR=4.6						
COEN	**Coen**	**14.77**	**247**	*e*Pn	Pn	09 28 18.5	+2.8
COEN				*e*Sn	**Sn**	**09 30 59.2**	**+0.9**
CTA	**Charters Tower**	**15.69**	**221**	Pn	**Pn**	**09 28 26.4**	**-1.5**
	0.5nm,0.3s,baz=49,slow=16,SNR=6.2						
CTA				LR	LR	09 34 16.2	
	comp=Z,770nm,19.8s,baz=62,slow=36						
CTAO	**Charters Tower**	**15.69**	**221**	*e*P	**Pn**	**09 28 26.8**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,33nm,0.9s						
CTAO	**Charters Tower**	**15.69**	**221**	*e*Pn	**Pn**	**09 28 26.8**	**-1.1**
	comp=Z,33nm,0.9s						
DZM	**Mont Dzumac**	**16.30**	**148**	*e*Pn	**Pn**	**09 28 35.7**	**-0.1**
	comp=Z,140nm,1.4s						
DZM				*e*LR	LR	09 32 20.0	
	comp=Z,330nm,26.4s						
JAY	**Jayapura**	**17.35**	**289**	P	P	09 28 55.3	+5.3
	comp=Z,30nm,0.9s,comp=Z,3μm						
JAY	**Jayapura**	**17.35**	**289**	P	**Pn**	**09 28 49.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=286,slow=8.3,SNR=8.7						
JAY				LR	LR	09 36 03.2	
	comp=Z,420nm,19.5s,baz=2.5,slow=39						
GENI	**Genyem**	**17.82**	**288**	P	P	09 29 01.7	+6.4
	comp=Z,68nm,1.0s						
EIDS	**Eidsvold**	**17.86**	**198**	P	**P**	**09 28 55.7**	**+0.2**
	baz=18,SNR=9.0						
EIDS	**Eidsvold**	**17.86**	**198**	*e*Pn	**P**	**09 28 55.5**	**0.0**
	comp=Z,72nm,1.3s						
EIDS				*e*Sn	**Sn**	**09 32 09.1**	**-4.1**
SMPI	**Sarmi**	**19.40**	**288**	P	**Pn**	**09 29 13.6**	**-0.3**
	comp=Z,123nm,1.3s						
RMQ	**Roma**	**19.69**	**203**	P	**P**	**09 29 16.2**	**+0.6**
	baz=20,SNR=10.0						
QIS	**Mount Isa**	**20.82**	**233**	P	**P**	**09 29 28.7**	**+0.7**
	baz=21,SNR=22						
QLP	**Quilpie**	**21.85**	**212**	P	**P**	**09 29 38.8**	**-0.2**
	baz=22,SNR=23						
MSVF	**Nonsavu**	**22.38**	**117**	*e*P	**P**	**09 29 46.2**	**+1.3**
MSVF				pmax	pmax		
	comp=Z,81nm,1.3s						
MSVF	**Nonsavu**	**22.38**	**117**	*e*P	**P**	**09 29 46.2**	**+1.3**
	comp=Z,81nm,1.3s						
ARMA	**Armidale**	**22.52**	**192**	P	**P**	**09 29 46.3**	**-0.1**
	baz=22,SNR=6.9						
ARMA	**Armidale**	**22.52**	**192**	*e*P	**P**	**09 29 46.0**	**-0.3**
	comp=Z,36nm,0.9s						
KDU	**Kakadu**	**24.61**	**258**	S	**S**	**09 34 30.8**	**+4.9**
	baz=24,SNR=3.3						
WRAB	**Tennant Creek**	**24.86**	**240**	*d* iP	**P**	**09 30 08.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,74nm,0.8s						
WRAB	**Tennant Creek**	**24.86**	**240**	*e*P	**P**	**09 30 08.7**	**-0.2**
	comp=Z,32nm,0.9s						
WRAB				*e*PcP	**PcP**	**09 33 45.2**	**+0.6**
WRA	**Warramunga Arr**	**24.87**	**240**	P	**P**	**09 30 08.6**	**-0.4**
	comp=Z,27nm,0.9s,baz=65,slow=9.6,SNR=46						
WRA				PcP	**PcP**	**09 33 44.9**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=65,slow=2.6,SNR=14						
WRA				LR	LR	09 39 15.3	
	comp=Z,576nm,20.8s,baz=45,slow=35						
MGCD	**Mangrove Creek**	**25.33**	**192**	P	**P**	**09 30 14.8**	**+1.8**
	baz=25,SNR=7.2						
FAKI	**Fak Fak**	**25.33**	**281**	P	**P**	**09 30 15.9**	**+2.7**
	comp=Z,32nm,0.9s,comp=Z,642nm						
FAKI	**Fak Fak**	**25.33**	**281**	P	**P**	**09 30 15.2**	**+2.0**
	baz=25,SNR=9.1						
FAKI	**Fak Fak**	**25.33**	**281**	*e*P	**P**	**09 30 14.1**	**+0.9**
	comp=Z,27nm,0.9s						
FAKI				*e*PcP	**PcP**	**09 33 46.5**	**+0.8**
CMSA	**Cobar Meteorol**	**25.39**	**203**	P	**P**	**09 30 12.8**	**-0.7**
	baz=25,SNR=16						
AS31	**Alice Springs**	**26.94**	**233**	*e*P	**P**	**09 30 26.4**	**-1.3**
ASAR	**Alice Springs**	**26.94**	**233**	P	**P**	**09 30 26.5**	**-1.2**
	comp=Z,5.5nm,0.9s,baz=62,slow=9.3,SNR=28						
ASAR				PcP	**PcP**	**09 33 49.3**	**0.0**
	comp=Z,1.9nm,0.9s,baz=42,slow=3.8,SNR=5.5						
ASAR				LR	LR	09 40 30.1	
	comp=Z,522nm,20.2s,baz=53,slow=35						
STKA	**Stephens Creek**	**27.49**	**210**	P	**P**	**09 30 32.1**	**-0.3**
	comp=Z,16nm,0.9s,baz=47,slow=14,SNR=46						
STKA				LR	LR	09 41 25.4	
	comp=Z,306nm,18.2s,baz=25,slow=36						
STKA	**Stephens Creek**	**27.49**	**210**	*e*P	**P**	**09 30 34.1**	**+1.6**
STKA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
STKA	**Stephens Creek**	**27.49**	**210**	P	**P**	**09 30 33.2**	**+0.8**
	baz=27,SNR=32						
STKA	**Stephens Creek**	**27.49**	**210**	*e*P	**P**	**09 30 34.1**	**+1.6**
	comp=Z,7.3nm,0.7s						
CNB	**Canberra Magne**	**27.74**	**194**	P	P	09 30 41.4	+6.6
	baz=28,SNR=5.5						
LBMI	**Labuha**	**30.50**	**283**	P	**P**	**09 31 01.9**	**+2.5**
	comp=Z,83nm,1.4s,comp=Z,1μm						
BBOO	**Buckleboo**	**31.17**	**216**	P	**P**	**09 31 07.1**	**+1.9**
	baz=31,SNR=5.8						
BBOO	**Buckleboo**	**31.17**	**216**	*e*P	**P**	**09 31 04.1**	**-1.1**
	comp=Z,21nm,2.5s						
FITZ	**Fitzroy Crossi**	**32.09**	**249**	P	P	09 31 16.8	+3.4
	baz=32,SNR=4.1						
WRKA	**Warakurna**	**32.09**	**235**	P	**P**	**09 31 11.9**	**-1.5**
	baz=32,SNR=8.6						
FORT	**Forrest**	**35.11**	**227**	*e*P	**P**	**09 31 39.2**	**-0.4**
	comp=Z,31nm,0.9s						
KMBL	**Kambalda**	**39.99**	**230**	P	**P**	**09 32 20.6**	**-0.3**
	baz=40,SNR=4.8						
MEEK	**Meekatharra**	**40.75**	**239**	P	**P**	**09 32 26.8**	**-0.5**
	baz=40,SNR=5.0						
MJAR	**Matsushiro Arr**	**48.09**	**339**	P	**P**	**09 33 24.2**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=167,slow=8.9,SNR=7.1						
MAJO	**Matsushiro**	**48.09**	**339**	*e*P	**P**	**09 33 24.7**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,72nm,1.3s						
JNU	**Nakatsue**	**48.24**	**330**	P	**P**	**09 33 27.0**	**0.0**
	comp=Z,9.2nm,0.8s,baz=139,slow=7.0,SNR=3.9						
LEM	**Lembang**	**49.07**	**268**	P	**P**	**09 33 35.5**	**+1.7**
	comp=Z,39nm,0.8s,baz=71,slow=1.6,SNR=9.3						
PPT	**Papeete**	**52.59**	**106**	LR	LR	09 52 02.0	
	comp=Z,54nm,20.4s,baz=281,slow=31						
PPT2	**Papeete2**	**52.59**	**106**	*e*P	**P**	**09 33 58.9**	**-1.3**
	comp=Z,39nm,1.1s						
PPT2	**Papeete2**	**52.59**	**106**	*e*LR	LR	09 49 04.0	
	comp=Z,185nm,27.5s						
TIAR	**Tiarei**	**52.81**	**106**	*e*P	**P**	**09 34 00.5**	**-1.3**
	comp=Z,12nm,1.0s						
TVO	**Taravao**	**52.91**	**106**	*e*P	**P**	**09 34 01.5**	**-1.0**
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**53.15**	**331**	P	**P**	**09 34 04.8**	**+0.9**
	comp=Z,13nm,1.0s,baz=149,slow=8.2,SNR=20						
KSRS				LR	LR	09 55 19.3	
	comp=Z,62nm,19.9s,baz=140,slow=34						
KSAR	**Wonju Array Be**	**53.16**	**331**	P	**P**	**09 34 04.8**	**+0.8**
KSAR	**Wonju Array Be**	**53.16**	**331**	P	**P**	**09 34 04.8**	**+0.8**
INCN	**Inchon**	**53.80**	**330

CD2					PMZ			
	comp=Z,10.0nm,0.5s							
CD2					PMZ			
	comp=Z,120nm,5.4s							
HHC	**Hu-ho-hao-te**	**64.45**	**323**	*e*P	P	09 35 25.5	+2.9
HHC				sP	sP	09 36 05.0	+28
HHC				S	**S**	**09 43 55.8**	**-3.6**
HHC				sS	sS	09 44 42.5	+26
HHC				PMZ			
	comp=Z,16nm,0.8s						
HHC				PMZ			
	comp=Z,130nm,4.6s						
HIA	**Hailar**	**66.07**	**334**	*e*P	**P**	**09 35 33.4**	**+0.7**
HIA				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH	**Lanzhou**	**66.78**	**315**	*e*P	**P**	**09 35 39.0**	**+1.3**
LZH				pP	**PcP**	**09 36 08.3**	**+1.8**
LZH				sP	sP	09 36 21.3	+30
LZH				PMZ			
	comp=Z,120nm,1.5s						
LZH				PMZ			
	comp=Z,170nm,4.2s						
VNDA	**Vanda**	**69.16**	**179**	P	**P**	**09 35 51.9**	**+0.1**
	comp=Z,8.9nm,0.9s,baz=339,slow=6.3,SNR=29						
VNDA				LR	LR	10 00 33.4	
	comp=Z,121nm,19.4s,baz=350,slow=31						
CLNS	**Chul'man**	**70.18**	**342**	*e*P	**P**	**09 35 58.6**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,20nm,1.1s						
CLNS				pmax	pmax		
	comp=N,11nm,1.5s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.3s						
GTA	**Gaotai**	**71.19**	**316**	⇑P	**P**	**09 36 06.5**	**+1.5**
GTA				pP	PcP	09 36 31.5	+6.6
GTA				sP	sP	09 36 42.0	+23
GTA				S	**S**	**09 45 15.5**	**-4.6**
GTA				sS	**SKSac**	**09 45 59.3**	**-6.5**
GTA				PMZ			
	comp=E,20nm,1.6s						
GTA				PMZ			
	comp=E,130nm,5.7s						
GTA				LN			
	comp=E,310nm,20.4s						
GTA				LE			
	comp=E,370nm,19.0s						
GTA				LZ			
	comp=E,82nm,20.9s						
SEY	**Seymchan**	**71.19**	**358**	P	**P**	**09 36 03.8**	**-0.5**
	comp=E,8.9nm,1.1s,baz=156,slow=6.9,SNR=18						
ULN	**Ulaanbaatar**	**71.30**	**327**	*c i*P	**P**	**09 36 06.5**	**+0.9**
ULN				pmax	pmax		
	comp=Z,24nm,1.2s						
ULN	**Ulaanbaatar**	**71.30**	**327**	*e*P	**P**	**09 36 06.8**	**+1.2**
	comp=Z,18nm,1.1s						
SONM	**Songino Array**	**71.64**	**327**	P	**P**	**09 36 08.8**	**+1.2**
	comp=Z,11nm,0.9s,baz=133,slow=5.9,SNR=22						
SHL	**Shillong**	**71.81**	**300**	*e*P	**P**	**09 36 10.5**	**+1.4**
YAK	**Yakutsk**	**73.36**	**347**	P	**P**	**09 36 17.4**	**+0.1**
	comp=Z,12nm,0.4s,baz=327,slow=1.5,SNR=8.8						
YAK	**Yakutsk**	**73.36**	**347**	*c i*P	**P**	**09 36 17.1**	**-0.2**
YAK				*e*		09 36 32.4	
YAK				*e*		09 39 03.7	
YAK				*e*PPP	PPP	09 40 49.0	
YAK				*e*S	**S**	**09 45 40.1**	**-3.6**
YAK				*e*		09 46 19.1	
YAK				*e**SS	**ScS**	**09 46 28.6**	**+5.3**
YAK				*e*SS	**SS**	**09 50 32.5**	**+5.9**
YAK				pmax	pmax		
	comp=Z,34nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,89nm,3.4s						
YAK				pmax	pmax		
	comp=N,31nm,3.5s						
YAK				pmax	pmax		
	comp=E,29nm,3.5s						
YAK				smax	smax		
	comp=E,59nm,2.8s						
YAK				smax	smax		
	comp=N,27nm,2.8s						
LSA	**Lhasa**	**73.79**	**304**	P	**P**	**09 36 22.5**	**+1.3**
LSA				PMZ			
	comp=N,20nm,1.3s						
LSA	**Lhasa**	**73.79**	**304**	*e*P	**P**	**09 36 22.4**	**+1.3**
LSA				pmax	pmax		
	comp=Z,40nm,1.4s						
LSA	**Lhasa**	**73.79**	**304**	*e*P	**P**	**09 36 22.4**	**+1.3**
	comp=Z,40nm,1.4s						
BOD	**Bodaibo**	**74.68**	**338**	*e*P	**P**	**09 36 24.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s						
ZAK	**Zakamensk**	**74.78**	**328**	*e*P	**P**	**09 36 26.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TLY	**Talaya**	**75.32**	**329**	P	**P**	**09 36 29.4**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=156,slow=5.2,SNR=11						
TLY	**Talaya**	**75.32**	**329**	*e*P	**P**	**09 36 30.0**	**+1.0**
TLY				pmax	pmax		
	comp=Z,11nm,1.1s						
TAPN	**Taplejung**	**75.92**	**301**	*e*P	**P**	**09 36 34.3**	**+1.0**
	comp=Z,54nm,1.0s						
ODAN	**Odare**	**76.05**	**300**	*e*P	**P**	**09 36 35.0**	**+1.0**
	comp=Z,79nm,1.0s						
BILL	**Bilibino**	**76.50**	**4**	*c i*P	**P**	**09 36 35.0**	**-0.4**
BILL				*e*		09 36 49.9	
BILL				*e*		09 39 28.3	
BILL				pmax	pmax		
	comp=Z,21nm,1.2s						
BILL	**Bilibino**	**76.50**	**4**	*e*P	**P**	**09 36 35.3**	**-0.1**
	comp=Z,18nm,1.1s						
MOY	**Mondy**	**76.69**	**328**	*e*P	**P**	**09 36 38.0**	**+1.0**
RAMN	**Ramite**	**76.75**	**300**	*e*P	**P**	**09 36 38.8**	**+0.8**
	comp=Z,68nm,1.4s						
JIRN	**Jiri**	**77.30**	**301**	*e*P	**P**	**09 36 42.0**	**+0.8**
	comp=Z,76nm,1.5s						
GUN	**Gumba**	**77.64**	**301**	*e*P	**P**	**09 36 43.9**	**+0.8**
	comp=Z,58nm,0.9s						
PALK	**Pallekele**	**77.75**	**279**	*e*P	**P**	**09 36 44.5**	**+0.9**
PALK				pmax	pmax		
	comp=Z,19nm,1.1s						
PALK	**Pallekele**	**77.75**	**279**	*e*P	**P**	**09 36 44.5**	**+0.9**
	comp=Z,19nm,1.1s						
PKI	**Pulchoki**	**77.94**	**300**	*e*P	**P**	**09 36 45.3**	**+0.5**
	comp=Z,70nm,1.1s						
PKIN	**Phulchoki**	**77.95**	**300**	*e*P	**P**	**09 36 45.8**	**+1.0**
	comp=Z,14nm,0.7s						
KKN	**Kakani**	**78.11**	**301**	*e*P	**P**	**09 36 46.1**	**+0.5**
DMN	**Daman**	**78.21**	**300**	*e*P	**P**	**09 36 47.1**	**+0.9**
	comp=Z,89nm,1.0s						
GKN	**Gorkha**	**78.72**	**301**	*e*P	**P**	**09 36 49.4**	**+0.6**
	comp=Z,115nm,1.2s						
KOLN	**Koldanda**	**79.54**	**300**	*e*P	**P**	**09 36 53.6**	**+0.2**
	comp=Z,44nm,0.8s						
PYUN	**Piuthan**	**80.15**	**300**	*e*P	**P**	**09 36 56.6**	**-0.1**
	comp=Z,98nm,1.0s						
WMQ	**Urumqi**	**81.27**	**317**	P	**P**	**09 37 03.8**	**+1.6**
WMQ				pP	pP	09 37 32.3	+20
WMQ				PMZ			
	comp=Z,21nm,1.4s						
WMQ				PMZ			
	comp=Z,170nm,4.0s						
WMQ				LN			
	comp=Z,230nm,18.4s						
WMQ				LE			
	comp=Z,280nm,20.9s						
WMQ				LZ			
	comp=Z,200nm,20.8s						
QSPA	**South Pole Qui**	**81.61**	**180**	*e*P	**P**	**09 37 03.3**	**-0.4**
	comp=Z,41nm,1.0s						
TRF	**Thorofare Moun**	**81.90**	**21**	*e*P	**P**	**09 37 03.8**	**-1.4**
	comp=Z,7.9nm,0.8s						
TIXI	**Tiksi**	**82.02**	**351**	*e*P	**P**	**09 37 04.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,15nm,1.7s						
TIXI	**Tiksi**	**82.02**	**351**	*e*P	**P**	**09 37 05.1**	**-0.3**
	comp=Z,6.7nm,1.2s						
MCK	**McKinley**	**82.56**	**21**	*e*P	**P**	**09 37 07.6**	**-0.8**
MCK				pmax	pmax		
	comp=Z,38nm,1.0s						
MCK	**McKinley**	**82.56**	**21**	*e*P	**P**	**09 37 07.6**	**-0.8**
	comp=Z,38nm,1.0s						
COLA	**College**	**83.61**	**21**	*e*P	**P**	**09 37 12.6**	**-1.1**
COLA				pmax	pmax		
	comp=Z,18nm,0.9s						
COLA	**College**	**83.61**	**21**	*e*P	**P**	**09 37 12.6**	**-1.1**
	comp=Z,18nm,0.9s						
ILAR	**Eielson Array**	**83.89**	**21**	P	**P**	**09 37 13.5**	**-1.8**
	comp=Z,5.4nm,1.0s,baz=264,slow=4.6,SNR=33						
ILAR				LR	LR	10 11 12.2	
	comp=Z,68nm,19.3s,baz=251,slow=33						
MKAR	**Makanchi Array**	**85.83**	**318**	P	**P**	**09 37 25.7**	**+0.2**
	comp=Z,6.5nm,0.9s,baz=106,slow=3.9,SNR=50						
EGAK	**Eagle**	**85.98**	**22**	*e*P	**P**	**09 37 26.2**	**+0.5**
	comp=Z,12nm,1.2s						
SKAG	**Skagway**	**86.07**	**28**	*e*P	**P**	**09 37 26.1**	**-0.1**
	comp=Z,12nm,1.0s						
ZALV	**Zalesovo Beam**	**86.50**	**326**	P	**P**	**09 37 27.2**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=101,slow=4.7,SNR=9.8						
ZALV	**Zalesovo Beam**	**86.50**	**326**	*i*P	**P**	**09 37 28.0**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**87.66**	**326**	*e*P	**P**	**09 37 33.7**	**-0.5**
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,13nm,1.5s						
KSH	**Kashi**	**88.51**	**310**	P	**P**	**09 37 40.5**	**+1.8**
KSH				pP	pP	09 38 09.8	+21
KSH				PP	PP	09 41 13.3	+6.0
KSH				SKS	SKSac	09 47 57.5	-8.3
KSH				S	**SKKSac**	**09 48 16.3**	**-0.4**
KSH				SS	**SS**	**09 54 14.0**	**0.0**
KSH				PMZ			
	comp=Z,22nm,1.4s						
KSH				PMZ			
	comp=Z,150nm,4.5s						
KSH				LN			
	comp=Z,84nm,5.6s						
KSH				LE			
	comp=Z,140nm,7.4s						
KSH				LZ			
	comp=Z,200nm,6.0s						
KURK	**Kurchatov**	**89.22**	**321**	P	**P**	**09 37 40.4**	**-1.2**
KURK	**Kurchatov**	**89.22**	**321**	P	**P**	**09 37 40.4**	**-1.2**
KURBB	**Kurchatov Arra**	**89.25**	**321**	P	**P**	**09 37 40.4**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=106,slow=3.7,SNR=6.3						
TKM2	**Tokmak 2**	**89.49**	**313**	*e*P	**P**	**09 37 43.8**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TKM2	**Tokmak 2**	**89.49**	**313**	*e*P	**P**	**09 37 43.8**	**+0.4**
	comp=Z,5.3nm,1.0s						
AAK	**Ala-Archa**	**90.23**	**313**	P	**P**	**09 37 47.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=180,slow=21,SNR=6.3						
AAK	**Ala-Archa**	**90.23**	**313**	*e*P	**P**	**09 37 46.8**	**0.0**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NVAR	**Mina Array Bea**	**90.92**	**51**	P	**P**	**09 37 50.0**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=242,slow=7.0,SNR=12						
TPH	**Tonopah**	**91.70**	**52**	*e*P	**P**	**09 37 54.2**	**+0.4**
TPH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TPH	**Tonopah**	**91.70**	**52**	*e*P	**P**	**09 37 54.2**	**+0.4**
	comp=Z,3.3nm,0.8s						
SHPR	**Sheep Range**	**93.09**	**54**	*e*P	**P**	**09 38 01.6**	**+1.4**
	comp=Z,9.2nm,1.4s						
BVAR	**Borovoye Array**	**94.66**	**323**	P	**P**	**09 38 05.7**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=126,slow=4.0,SNR=7.7						
BRVK	**Borovoye**	**94.73**	**323**	*e*P	**P**	**09 38 06.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
YKA	**Yellowknife Ar**	**96.56**	**28**	P	**P**	**09 38 14.8**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=264,slow=4.7,SNR=24						
PDAR	**Pinedale Array**	**98.05**	**48**	P	**P**	**09 38 22.1**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=298,slow=3.2,SNR=5.3						
PDAR				LR	LR	10 16 08.7	
	comp=Z,46nm,20.2s,baz=288,slow=32						
OBN	**Obninsk**	**114.05**	**327**	*e*PKIKP	PKPdf	09 43 23.4	-1.3
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
FINES	**FINESS Array B**	**116.05**	**336**	PKP	**PKPdf**	**09 43 26.9**	**-1.6**
	comp=Z,3.5nm,1.0s,baz=52,slow=10,SNR=4.1						
FINES	**FINESS Array B**	**116.05**	**336**	*c i*PKIKP	**PKPdf**	**09 43 28.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANN	**Anapa**	**116.78**	**316**	*i*PKIKP	**PKPdf**	**09 43 30.6**	**+0.3**
ANN				*e*PPP	PPP	09 47 06.2	
AKASG	**Malin Array Be**	**119.88**	**325**	PKP	**PKPdf**	**09 43 34.3**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=56,slow=2.3,SNR=4.1						
BRTR	**Keskin Array B**	**120.88**	**311**	PKP	**PKPdf**	**09 43 37.4**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=341,slow=3.1,SNR=2.5						
NB2	**NORSAR Subarra**	**121.69**	**341**	PKPdf	**PKPdf**	**09 43 38.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**121.69**	**341**	PKP	**PKPdf**	**09 43 37.3**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=56,slow=1.8,SNR=4.6						
KIS	**Kishinev**	**121.69**	**321**	*e*		09 46 09.0	
KOLS	**Kolonicke sedl**	**124.68**	**325**	*e*PKIKP	**PKPdf**	**09 43 44.2**	**-1.2**
KOLS	**Kolonicke sedl**	**124.68**	**325**	*e*PKP	**PKPdf**	**09 43 44.2**	**-1.2**
BRG	**Berggiesshubel**	**127.87**	**331**	*e*P	**PKPdf**	**09 43 51.7**	**+0.3**
	comp=Z,4.5nm,0.8s						
BRG	**Berggiesshubel**	**127.87**	**331**	*e*PKIKP	**PKPdf**	**09 43 51.7**	**+0.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ	**La Paz**	**128.94**	**119**	PKP	**PKPdf**	**09 43 54.4**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=21,slow=1.3,SNR=8.3						
GERES	**GERESS Array B**	**129.31**	**329**	PKP	**PKPdf**	**09 43 53.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=33,slow=3.2,SNR=6.4						
POLO	**Lamas de Olo**	**144.52**	**340**	*e*PKPdf	PKPbc	09 44 21.7	+0.5
ESDC	**Sonseca Array**	**144.53**	**334**	PKP	**PKPab**	**09 44 21.1**	**0.0**
	comp=Z,0.3nm,0.4s,baz=26,slow=3.6,SNR=9.4						
PVIS	**Viseu**	**145.14**	**340**	*e*PKPab	**PKPdf**	**09 44 24.2**	**+0.5**
MTE	**Manteigas**	**145.30**	**339**	*e*PKPdf	**PKPab**	**09 44 23.8**	**-0.1**
BDFB	**Brasilia**	**145.51**	**134**	PKPbc	**PKPdf**	**09 44 23.8**	**-1.3**
	comp=Z,35nm,1.1s,baz=159,slow=3.0,SNR=11						
PCBR	**Castelo Branco**	**145.78**	**339**	*e*PKPab	**PKPab**	**09 44 25.8**	**+0.3**
PMRV	**Marv??o**	**146.11**	**338**	*e*PKPab	**PKPab**	**09 44 27.0**	**+0.2**
PTOM	**Tomar**	**146.30**	**340**	*e*PKPab	**PKPab**	**09 44 27.6**	**+0.1**
PBAR	**Barrancos**	**147.07**	**337**	*e*PKPab	**PKPab**	**09 44 29.9**	**-0.6**
PNCL	**Nicolau / Gran**	**147.69**	**339**	*e*PKPab	**PKPbc**	**09 44 31.6**	**+0.9**
TAM	**Tamanrasset**	**149.20**	**301**	*e*PKP2	**PKPbc**	**09 44 37.5**	**+2.2**
TAM	**Tamanrasset**	**149.20**	**301**	*e*PKPbc	**PKPbc**	**09 44 37.5**	**+2.2**
TAM				*e*PKPab	**PKPab**	**09 44 40.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**155.41**	**283**	PKP	**PKPdf**	**09 44 37.8**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=48,slow=2.1,SNR=2.3						

GUC 27 09:27:46.4±0.3, 35.04S×72.89W, h21km±7km, ML3.7,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.09**	**110**	*e*P	Pb	09 28 06.8	+0.2
TALC				*e*S	Sn	09 28 22.4	+1.5
COCH	**Cobquecura**	**1.10**	**176**	*e*P	Pb	09 28 06.7	+0.1
COCH				*e*S	Sn	09 28 22.4	+1.4
NICH	**Los Niches**	**1.37**	**89**	*e*P	Pb	09 28 11.4	+0.1
NICH				*e*S	Sb	09 28 30.2	+1.9

*ISCJB **27** 09:31:11.6±0.7, 32.20N±0.04×115.22W±0.06, h14km±9km,*
Error ellipse: s-maj=9.5km s-min=5.3km az=146.2
*MEX **27** 09:31:13.6±0.4, 32.22N×115.17W, h10km, MD3.6*
*ECX **27** 09:31:13.1±0.6, 32.19N×115.25W, h8km, MD2.9, ML3.1*
ISC 27 09:31:11.1±1.1, 32.17N±0.03×115.23W±0.04,
h13km±10km, n14, σ09s27/22, 3C-2D, California-Baja
California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.23**	**7**	*i*P	**Pb**	**09 31 17.4**	**+0.1**
MBIG				*e*S	**Sg**	**09 31 19.6**	**+0.1**
SGL	**Mount Signal**	**0.63**	**319**	⇑*i*P	**Pb**	**09 31 24.0**	**-0.1**
RDX	**Rancho Dawling**	**0.65**	**248**	*e*P	**Pb**	**09 31 24.8**	**+0.3**
RDX				*e*S	**Sb**	**09 31 33.5**	**0.0**
RDX				⇓*e*		09 31 35.7	
RDX				AML	AML	09 31 35.7	
	comp=N,1μm,0.6s						
YMD	**Yuma Desert**	**0.69**	**57**	⇓*i*P	**Pg**	**09 31 24.7**	**0.0**
ECBX	**El Chinero**	**0.71**	**168**	*e*P	**Pg**	**09 31 25.1**	**0.0**
ECBX				*e*S	**Sb**	**09 31 35.4**	**+0.2**
YUH	**Yuha Desert**	**0.75**	**309**	⇑*i*P	**Pg**	**09 31 25.6**	**-0.1**
RMX	**La Rumorosa**	**0.83**	**301**	*e*P	**Pg**	**09 31 27.4**	**+0.1**
RMX				*e*S	**Sg**	**09 31 38.5**	**+0.1**
ZAX	**El Zacaton**	**1.10**	**234**	*e*P	**Pb**	**09 31 32.2**	**+0.1**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**09 31 32.6**	**-0.3**
SPIG				*e*S	**Sb**	**09 31 47.8**	**-0.1**
SPX	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**09 31 32.7**	**-0.3**
SPX				*e*S	**Sn**	**09 31 49.3**	**+0.4**
CBX	**Cerro Bola**	**1.22**	**277**	*e*P	**Pn**	**09 31 33.6**	**-0.5**
CBX				*i*S	**Sb**	**09 31 49.6**	**-0.4**
CBX	**Cerro Bola**	**1.22**	**277**	*e*P	**Pn**	**09 31 33.6**	**-0.5**
CBX				*e*S	**Sb**	**09 31 50.3**	**+0.3**
CBX				⇑*e*		09 31 54.8	
CBX				AML	AML	09 31 54.8	
	comp=N,365nm,0.4s						
ECNX	**Esteban Cantu**	**1.27**	**246**	*e*P	**Pn**	**09 31 34.8**	**0.0**
PBX	**Punta Banda**	**1.34**	**252**	*e*P	**Pn**	**09 31 35.8**	**+0.1**

IDC 27 09:41:54.5±2.3, 1.92N×96.25E, h0km, mb3.6/3, mb1 3.6/4,
mb1mx3.4/35, mbtmp3.5/4, ML2.7/1, Error ellipse:
s-maj=65.2km s-min=27.0km az=47.0, Off west coast of
northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.81**	**72**	Pn	Pn	09 42 40.5	-0.4
	1.2nm,0.3s,baz=280,slow=8.8,SNR=4.3						
H08S2	**Diego Garcia H**	**25.54**	**248**	T	T	10 14 11.8	
	baz=68,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**25.54**	**248**	T	T	10 14 02.4	
	baz=68,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**25.54**	**248**	T	T	10 14 09.7	
	baz=68,slow=75,SNR=12						
WRA	**Warramunga Arr**	**43.22**	**122**	P	P	09 49 57.7	-0.1
	0.4nm,0.9s,baz=300,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**46.33**	**347**	P	P	09 50 22.1	-0.2
	0.3nm,0.4s,baz=170,slow=9.2,SNR=5.7						
ZALV	**Zalesovo Beam**	**52.71**	**352**	P	P	09 51 10.7	-0.1
	0.8nm,0.4s,baz=179,slow=7.0,SNR=4.5						

KRSC 27 10:00:19.8±1.3, 53.93N×163.53E, h58km±17km, ML3.5,
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.23**	**301**	P	Pn	10 00 43.3	+2.6
MKZ				S	Sn	10 00 58.7	+2.3
BKI	**Bering**	**1.91**	**47**	P	Pn	10 00 52.2	+2.2
BKI				S	Sn	10 01 13.8	+0.9
KZV	**Kizimen**	**2.23**	**303**	P	Pn	10 00 57.2	+2.7
KZV				S	Sn	10 01 23.3	+2.3
SPN	**Mys Shipunski**	**2.25**	**250**	P	Pn	10 00 57.3	+2.6
SPN				S	Sn	10 01 22.5	+1.2
KBTR	**Krutoberegovo**	**2.32**	**350**	P	Pn	10 00 57.1	+1.5
KBTR				S	Sn	10 01 24.1	+1.2
TUMR	**Tumrok**	**2.39**	**306**	P	Pn	10 01 00.0	+3.3
TUMR				S	Sn	10 01 27.6	+2.7
NLC	**Nalytchevo**	**2.61**	**255**	P	Pn	10 01 02.6	+3.1
NLC				S	Sn	10 01 31.7	+1.8
KMNR	**Kamenistaya**	**2.64**	**315**	P	Pn	10 01 03.3	+3.2
SDLR	**Sedlovina**	**2.84**	**259**	P	Pn	10 01 06.1	+3.2
SDLR				S	Sn	10 01 38.3	+2.3
SMAR	**Somma**	**2.89**	**259**	P	Pn	10 01 06.9	+3.2
UGLR	**Uglovaya**	**2.90**	**257**	P	Pn	10 01 07.0	+3.4
UGLR				S	Sn	10 01 39.4	+2.1
SMKR	**Semkarok**	**2.91**	**337**	S	Sn	10 01 41.7	+4.2
KRER	**Koryakskii**	**2.91**	**259**	P	Pn	10 01 07.6	+3.6
KRER				S	Sn	10 01 40.1	+2.1
AVH	**Avacha**	**2.93**	**259**	P	Pn	10 01 07.7	+3.7
AVH				S	Sn	10 01 40.8	+2.7
BDR	**Baidarnaya**	**2.96**	**334**	S	Sn	10 01 42.7	+4.0
KRX	**Arik**	**2.96**	**261**	P	Pn	10 01 07.8	+3.3
KRX				S	Sn	10 01 40.6	+1.7
KOK	**Koryaka**	**2.98**	**260**	P	Pn	10 01 08.4	+3.6
KOK				S	Sn	10 01 41.4	+2.0
PET	**Petropavlovsk**	**3.05**	**255**	S	Sn	10 01 43.4	+2.6
SRDR	**Sredinnyy**	**3.24**	**319**	P	Pn	10 01 11.6	+3.4
GNL	**Ganaly**	**3.32**	**268**	P	Pn	10 01 13.5	+4.1
GNL				S	Sn	10 01 51.8	+4.1
RUS	**Russkaya**	**3.37**	**246**	P	Pn	10 01 13.0	+3.1
RUS				S	Sn	10 01 50.9	+2.3
MTVR	**Mutnovka**	**3.52**	**248**	P	Pn	10 01 15.8	+3.5
MTVR				S	Sn	10 01 54.6	+1.8
ASAK	**Asacha**	**3.73**	**248**	P	Pn	10 01 19.1	+4.2
ASAK				S	Sn	10 02 00.7	+3.1

*ISCJB **27** 10:03:44.8±0.6, 2.35S±0.08×139.52E±0.04, h27km,*
mb3.6/3, Error ellipse: s-maj=11.0km s-min=6.1km az=4.7
*DJA **27** 10:03:45.7±0.7, 2.2°S±11.4°×14.0E±1.4°, h10km, M4.3/5,*
MLv4.3/5
*IDC **27** 10:03:47.0±3.0, 2.43S×139.63E, h39km±28km, mb3.4/3,*
mb1 4.0/5, mb1mx3.6/19, mbtmp4.0/5, ML4.4/2, Error
ellipse: s-maj=25.2km s-min=15.9km az=108.0
ISC 27 10:03:45.8±0.8, 2.26S±0.09×139.60E±0.04, h27km, n27,
σ1s69/26, mb3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.66**	**120**	P	**Pn**	**10 01 59.6**	**+0.3**
SMPI	**Sarmi**	**0.93**	**287**	P	**Pn**	**10 04 01.6**	**-1.4**
SMPI				S	**Sn**	**10 04 16.7**	**+1.3**
JAY	**Jayapura**	**1.14**	**103**	P	**Pn**	**10 04 05.4**	**-0.5**
JAY				S	**Sb**	**10 04 22.9**	**+1.7**
JAY	**Jayapura**	**1.14**	**103**	Pn	**Pn**	**10 04 05.1**	**-0.8**
	46nm,0.3s,baz=258,slow=9.6,SNR=377						
JAY				Sn	**Sb**	**10 04 21.2**	**0.0**
	118nm,0.3s,baz=149,slow=19,SNR=30						
JAY				LR	LR	10 04 48.6	
	comp=Z,258nm,19.6s,baz=238,slow=57						
WAMI	**Wamena**	**1.84**	**209**	P	**Pb**	**10 04 21.0**	**+2.3**
SRPI	**Serui, Papua**	**3.38**	**277**	P	**Pn**	**10 04 38.8**	**+2.1**
FAKI	**Fak Fak**	**7.37**	**265**	P	**Pn**	**10 05 31.9**	**+0.3**
	baz=7.3,SNR=8.1						
FAKI				S	**Sn**	**10 06 51.3**	**-3.1**
	baz=7.3,SNR=

KZV				S	Sn	10 29 56.9	+1.2		
TUMR	**Tumrok**	**1.73**	**303**	*i* P	Pn	10 29 41.0	+2.4		
TUMR				S	Sn	10 30 01.8	+2.3		
KBTR	**Krutoberegovo**	**1.85**	**3**	*i* P	Pn	10 29 41.5	+1.4		
KBTR				S	Sn	10 30 03.2	+0.9		
KII	**Karymskiy**	**1.92**	**262**	*i* P	Pn	10 29 43.6	+2.4		
KII				S	Sn	10 30 06.4	+2.2		
KMNR	**Kamenistaya**	**1.98**	**316**	P	Pn	10 29 45.0	+3.0		
KMNR				S	Sn	10 30 09.3	+3.7		
SPN	**Mys Shipunski**	**2.02**	**232**	P	Pn	10 29 44.5	+2.1		
SPN				S	Sn	10 30 08.0	+1.6		
BKI	**Bering**	**2.09**	**65**	P	Pn	10 29 45.9	+2.6		
BKI				S	Sn	10 30 10.2	+2.2		
KLY	**Klyuchi**	**2.27**	**330**	P	Pn	10 29 48.2	+2.4		
KLY				S	Sn	10 30 14.7	+2.2		
NLC	**Nalytchevo**	**2.31**	**240**	*i* P	Pn	10 29 48.9	+2.6		
NLC				S	Sn	10 30 16.8	+3.4		
SMKR	**Semkarok**	**2.33**	**343**	P	Pn	10 29 49.7	+3.0		
SMKR				S	Sn	10 30 17.1	+2.9		
KOZ	**Kozyrevsk**	**2.34**	**318**	P	Pn	10 29 49.9	+3.1		
KOZ				S	Sn	10 30 17.5	+3.2		
BDR	**Baidarnaya**	**2.36**	**340**	*i* P	Pn	10 29 50.4	+3.2		
BDR				S	Sn	10 30 18.6	+3.5		
SRKR	**Sorokina**	**2.45**	**340**	P	Pn	10 29 51.7	+3.3		
SRKR				S	Sn	10 30 20.4	+3.2		
SDLR	**Sedlovina**	**2.50**	**246**	P	Pn	10 29 52.1	+3.0		
SDLR				S	Sn	10 30 21.2	+2.8		
SMAR	**Somma**	**2.55**	**246**	P	Pn	10 29 52.8	+2.9		
SMAR				S	Sn	10 30 22.3	+2.4		
KRER	**Koryakskii**	**2.56**	**247**	*i* P	Pn	10 29 53.5	+3.5		
KRER				S	Sn	10 30 23.3	+3.2		
UGLR	**Uglovaya**	**2.56**	**245**	*i* P	Pn	10 29 53.7	+3.7		
UGLR				S	Sn	10 30 23.4	+3.5		
AVH	**Avacha**	**2.58**	**246**	*i* P	Pn	10 29 54.0	+3.8		
AVH				S	Sn	10 30 24.1	+3.7		
KRX	**Arik**	**2.59**	**249**	*i* P	Pn	10 29 53.7	+3.3		
KRX				S	Sn	10 30 24.1	+3.4		
SRDR	**Sredinnyy**	**2.59**	**320**	*i* P	Pn	10 29 52.8	+2.5		
SRDR				S	Sn	10 30 24.8	+4.3		
KOK	**Koryaka**	**2.62**	**248**	P	Pn	10 29 54.0	+3.2		
KOK				S	Sn	10 30 25.0	+3.5		
PET	**Petropavlovsk**	**2.74**	**242**	P	Pn	10 29 55.6	+3.3		
PET				S	Sn	10 30 27.6	+3.5		
ESO	**Esso**	**2.77**	**306**	P	Pn	10 29 55.6	+2.9		
ESO				S	Sn	10 30 27.2	+2.3		
GNL	**Ganaly**	**2.87**	**258**	*i* P	Pn	10 29 58.1	+3.9		
GNL				S	Sn	10 30 31.1	+3.5		
RUS	**Russkaya**	**3.15**	**234**	P	Pn	10 30 00.9	+3.0		
RUS				S	Sn	10 30 36.8	+2.6		
MTVR	**Mutnovka**	**3.28**	**237**	P	Pn	10 30 03.4	+3.5		
MTVR				S	Sn	10 30 41.2	+3.4		
ASAK	**Asacha**	**3.48**	**237**	P	Pn	10 30 06.8	+4.3		
ASAK				S	Sn	10 30 46.9	+4.4		
APC	**Apacha**	**3.58**	**249**	P	Pn	10 30 08.2	+4.4		
APC				S	Sn	10 30 49.8	+4.9		

JMA 27 10:30:29.3±0.6, 22°37N×123°73E, h56km, M3.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.68**	**2**	P	Pn	10 30 57.3	+0.9
HATJ				S	Sn	10 31 16.7	-0.1
JKRS	**Kuro-shima**	**1.88**	**8**	P	Pn	10 31 00.2	+1.2
JKRS				S	Sn	10 31 22.5	+0.9
IRIF	**Iriomote-Funau**	**1.96**	**0**	P	Pn	10 31 01.4	+1.3
IRIF				S	Sn	10 31 23.6	+0.1
JIJ	**Ishigaki jima**	**2.02**	**11**	P	Pn	10 31 01.7	+0.7
JIJ				*eS*	Sn	10 31 24.5	-0.6
YOJ	**Yonaguni jima**	**2.18**	**343**	P	Pn	10 31 05.2	+2.0
YOJ				S	Sn	10 31 30.7	+1.6
JYNG	**Yonagunijimaku**	**2.19**	**341**	P	Pn	10 31 05.1	+1.7
JYNG				S	Sn	10 31 30.6	+1.3
JISG	**Ishigakijimahi**	**2.27**	**13**	P	Pn	10 31 04.8	+0.4
JISG				S	Sn	10 31 31.0	-0.2
JTJ	**Tarama**	**2.43**	**21**	P	Pn	10 31 06.9	+0.3
JTJ				*eS*	Sn	10 31 35.5	+0.4
JIRB	**Irabujima**	**2.78**	**28**	*eS*	Sn	10 31 43.7	-0.1

SKHL 27 10:38:01.5±0.1, 45°34N×148°19E, h4km±1km, mb4.5/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.25**	**245**	*eP*	Pg	10 38 07.2	+0.8
KUR				AMB	AMB	10 38 08.5	
	1μm,0.2s						
KUR				*eS*	Sb	10 38 11.5	-1.8
KUR				A	A	10 38 13.7	
	2μm,0.2s						
KUR				A	A	10 38 13.7	
	3μm,0.2s						
SHO	**Shikotan**	**1.76**	**214**	*eP*	Pn	10 38 32.0	-0.8
SHO				AMB	AMB	10 38 32.8	
	137nm,0.9s						
SHO				*eS*	Sn	10 38 54.8	-0.8
SHO				A	A	10 38 55.4	
	3μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.11**	**233**	*eP*	Pn	10 38 38.0	+0.4
YUK				AMB	AMB	10 38 45.9	
	46nm,0.5s						
YUK				*eS*	Sn	10 39 05.5	+1.3
YUK				A	A	10 39 11.2	
	84nm,0.7s						
YUK				A	A	10 39 11.2	
	740nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.11**	**295**	*eP*	Pn	10 39 05.6	+0.6
SKR	**Severo-Kuril's**	**7.54**	**42**	*eP*	Pn	10 39 53.0	+1.0

*SJA **27** 10:49:27.3±0.7, 23°.84S×66°.69W, h234km±8km, ML3.4*
*ISCJB **27** 10:49:28.3±0.3, 23°.84S±0°.04×66°.76W±0°.04, h200km, mb3.9/8, Error ellipse: s-maj=6.3km s-min=3.6km az=139.0*
*IDC **27** 10:49:28.7±0.9, 23°.84S×66°.65W, h202km±8km, mb3.8/6, mb1 3.8/10, mb1mx3.7/19, mbtmp4.2/10, Error ellipse: s-maj=15.5km s-min=12.0km az=44.0*
*NEIC **27** 10:49:28.7±0.6, 23.87S×66.66W, h203km±6km, mb4.0/4, Error ellipse: s-maj=11.0km s-min=7.4km az=83.0*
*GUC **27** 10:49:30.2±0.2, 23°.61S×67°.10W, h230km, ML4.8*
ISC 27 10:49:28.2±0.5, 23°.91S±0°.05×66°.77W±0°.05, h200km, n43, σ1§88/58, mb4.0/8, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.41**	**125**	*eP*	**Pn**	**10 50 04.1**	**+2.8**
SLA				*eS*	**Sn**	**10 50 31.1**	**+4.1**
SLA				AML	AML	10 50 32.2	
	comp=Z,235nm,0.6s						
AZAP	**Zapla**	**1.58**	**102**	*eP*	**Pn**	**10 50 05.0**	**+2.0**
AZAP				AML	AML	10 50 38.0	
	comp=Z,111nm,0.7s						
YJA	**Yavi**	**2.08**	**34**	*eP*	**Pn**	**10 50 09.5**	**+1.4**
ASTB	**Santa Barbara**	**2.09**	**91**	*eP*	**Pn**	**10 50 09.6**	**+1.7**
FSA	**Cafayete**	**2.27**	**163**	*eP*	**Pn**	**10 50 12.3**	**+2.5**
FSA				AML	AML	10 50 46.2	
	comp=Z,130nm,0.7s						
LVC	**Limon Verde**	**2.36**	**303**	P	**Pn**	**10 50 13.3**	**+2.4**
	comp=Z,3μm,0.3s,baz=113,slow=8.7,SNR=501						
LVC				S	**Sn**	**10 50 46.2**	**+2.2**
	comp=Z,4μm,0.3s,baz=272,slow=23,SNR=21						
LVC	**Limon Verde**	**2.36**	**303**	*ePn*	**Pn**	**10 50 13.1**	**+2.2**
LVC				*eSn*	**Sn**	**10 50 45.9**	**+1.9**
LVC	**Limon Verde**	**2.36**	**303**	*eP*	**Pn**	**10 50 13.2**	**+2.4**
ALOL	**LOMAS DE OLMED**	**2.56**	**88**	*eP*	**Pn**	**10 50 13.9**	**+1.1**
ALOL				*eP*	**Pn**	**10 50 13.9**	**+1.1**
PB04	**IPOC Station P**	**2.99**	**303**	*eP*	Pn	10 50 24.8	+7.0
PB04				*eS*	Sn	10 51 06.2	+10
PB04				AML	AML	10 51 12.1	
	comp=N,901nm,0.6s						
AHML	**Horco Molle**	**3.14**	**156**	*eP*	**Pn**	**10 50 21.6**	**+2.0**
CEN1	**Los Morros**	**3.19**	**279**	⇓*eP*	**Pn**	**10 50 23.1**	**+2.8**
CEN1				*eS*	**Sn**	**10 51 03.4**	**+2.5**
ANCH	**Antofagasta**	**3.34**	**273**	⇑*eP*	**Pn**	**10 50 19.3**	**-2.7**
ANCH				*eS*	**Sn**	**10 50 60.0**	**-4.1**
PB10	**IPOC Station P**	**3.49**	**276**	⇑*eP*	**Pn**	**10 50 25.6**	**+1.8**
PB10				*eS*	**Sn**	**10 51 07.6**	**+0.3**
PB10				AML	AML	10 51 10.9	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**3.61**	**306**	*eP*	**Pn**	**10 50 26.0**	**+0.6**
PB07				*eS*	**Sn**	**10 51 08.4**	**-1.7**
PB07				AML	AML	10 51 11.2	
	comp=N,710nm,0.3s						
PB01	**IPOC Station P**	**3.81**	**318**	⇑*eP*	**Pn**	**10 50 28.1**	**+0.3**
PB01				*eS*	**Sn**	**10 51 12.2**	**-2.3**
PB01				AML	AML	10 51 15.6	
	comp=E,523nm,0.2s						
PATCX	**Punta Patache**	**4.39**	**314**	*eP*	**Pn**	**10 50 35.6**	**+0.5**
PATCX				*eS*	**Sn**	**10 51 25.3**	**-2.3**
PATCX				AML	AML	10 51 33.9	
	comp=E,332nm,0.4s						
HMBC	**Humberstone**	**4.63**	**321**	*eP*	**Pn**	**10 50 38.6**	**+0.4**
HMBC				*eS*	**Sn**	**10 51 30.7**	**-2.4**
MNMC	**Minimini**	**5.44**	**331**	*eP*	**Pn**	**10 50 49.3**	**+0.7**
MNMC				*eS*	**Sn**	**10 51 49.8**	**-2.2**
LCO	**Las Campanas**	**6.18**	**214**	*ePn*	**Pn**	**10 50 58.2**	**+0.2**
LPAZ	**La Paz**	**7.69**	**350**	P	**Pn**	**10 51 18.4**	**+0.2**
	comp=E,1.6nm,0.3s,baz=175,slow=6.9,SNR=40						
LPAZ				S	**Sn**	**10 52 43.4**	**-2.1**
	comp=E,0.1nm,0.3s,baz=239,slow=24,SNR=1.4						
LPAZ	**La Paz**	**7.69**	**350**	*ePn*	**Pn**	**10 51 18.4**	**+0.2**
	comp=E,3.2nm,0.3s						
LPAZ				*eSn*	**Sn**	**10 52 45.5**	**0.0**
CFAA	**Coronel Fontan**	**7.77**	**189**	P	**Pn**	**10 51 19.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=34,slow=16,SNR=22						
CFAA				S	**Sn**	**10 52 42.2**	**-4.1**
	comp=E,0.7nm,0.3s,baz=287,slow=21,SNR=17						
CPUP	**Villa Florida**	**8.88**	**108**	P	**Pn**	**10 51 32.3**	**-0.7**
	comp=E,0.1nm,0.3s,baz=290,slow=12,SNR=12						
CPUP	**Villa Florida**	**8.88**	**108**	*ePn*	**Pn**	**10 51 32.4**	**-0.7**
CPUP				*eSn*	**Sn**	**10 53 08.2**	**-4.5**
TRQA	**Tornquist**	**14.68**	**165**	*ePn*	**P**	**10 52 47.0**	**-0.5**
TRQA				*eS*	**S**	**10 55 27.7**	**-1.9**
PLCA	**Paso Flores**	**17.07**	**190**	P	**Pn**	**10 53 15.6**	**+0.3**
	comp=E,0.3nm,0.3s,baz=347,slow=8.6,SNR=4.6						
BDFB	**Brasilia**	**19.46**	**68**	P	**P**	**10 53 39.6**	**-0.5**
	comp=E,1.2nm,0.3s,baz=241,slow=11,SNR=17						
PTGA	**Pitinga**	**23.97**	**17**	*eP*	**P**	**10 54 23.8**	**-0.8**
	comp=E,2.0nm,0.6s						
TEIG	**Tepich**	**48.62**	**333**	P	**P**	**10 57 51.9**	**-0.1**
	comp=E,3.5nm,0.6s,baz=176,slow=5.9,SNR=8.8						
SNAA	**Sanae**	**59.36**	**161**	P	**P**	**10 59 11.1**	**+2.0**
	comp=E,4.9nm,1.0s						
TXAR	**Lajitas Array**	**63.73**	**324**	P	**P**	**10 59 39.8**	**+0.9**
	comp=E,0.7nm,0.6s,baz=150,slow=7.3,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.34**	**69**	P	**P**	**11 00 54.6**	**-1.1**
	comp=E,1.3nm,0.5s,baz=257,slow=5.5,SNR=26						
ULM	**Lac du Bonnet**	**78.21**	**341**	P	**P**	**11 01 05.4**	**+0.1**
	comp=E,5.6nm,1.0s,baz=173,slow=5.1,SNR=5.7						
SCHQ	**Schefferville**	**78.42**	**360**	P	**P**	**11 01 06.2**	**-0.2**
	comp=E,2.5nm,0.8s,baz=242,slow=2.7,SNR=4.7						
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**11 02 23.5**	**+0.1**
	comp=E,0.6nm,0.6s,baz=132,slow=4.6,SNR=12						
ASAR	**Alice Springs**	**128.62**	**204**	PKP	**PKPdf**	**11 08 12.5**	**+0.3**
	comp=E,0.8nm,0.7s,baz=133,slow=1.6,SNR=9.8						
WRA	**Warramunga Arr**	**131.80**	**207**	PKP	**PKPdf**	**11 08 19.0**	**+0.7**
	comp=E,0.5nm,0.5s,baz=155,slow=1.8,SNR=14						
WRAB	**Tennant Creek**	**131.80**	**207**	*e*PKPdf	**PKPdf**	**11 08 19.4**	**+1.0**
KURK	**Kurchatov**	**142.18**	**36**	*e*PKPdf	**PKPdf**	**11 08 36.4**	**0.0**
ZALV	**Zalesovo Beam**	**143.22**	**28**	PKP	PKPbc	11 08 35.5	-0.2
	comp=E,0.9nm,0.5s,baz=312,slow=5.4,SNR=5.6						
MKAR	**Makanchi Array**	**146.32**	**40**	PKPbc	**PKPbc**	**11 08 44.6**	**-0.8**
	comp=E,1.1nm,0.5s,baz=287,slow=5.9,SNR=15						
SONM	**Songino Array**	**155.51**	**11**	PKPab	**PKPab**	**11 09 24.9**	**+0.2**
	comp=E,0.5nm,0.6s,baz=13,slow=3.3,SNR=3.0						

*BJI **27** 10:55:31.5, 32°.70N×115°.80W, h4km, mB5.6/5, mb5.3/4, Ms5.2/2*
*ISCJB **27** 10:55:34.5±0.3, 32°.72N±0°.01×115°.81W±0°.01, h12km±2km, mb4.0/8, MS4.0/26, Error ellipse: s-maj=2.4km s-min=1.9km az=10.9*
*IASPEI **27** 10:55:34.8±0.9, 32°.71N±0°.02×115°.85W±0°.02, h16km±6km, mb4.1/8, MS4.0/26, Error ellipse: s-maj=3.5km s-min=2.9km az=152.4*
*IDC **27** 10:55:35.9±1.1, 32°.86N×115°.70W, h0km, mb3.9/6, mb1 4.1/13, mb1mx3.9/33, mbtmp3.9/13, ML3.5/7, MS3.9/31, Ms1 3.9/31, ms1mx3.8/52, Error ellipse: s-maj=19.8km s-min=8.3km az=37.0*
*NEIC **27** 10:55:35.4, 32°.68N×115°.84W, h14km, mb4.4/16, ML4.7(PAS), ML4.9(ECX), After PAS.*
NEIC Felt [III] at El Centro, Imperial, San Diego and Spring Valley; [II] at Alpine, Brawley, Chula Vista, Coronado, El Cajon, Escondido, Fallbrook, Jamul, La Jolla, La Mesa, Lakeside, National City, Pine Valley, Poway, Ramona, Santee and Temecula. Felt in much of San Diego County and in parts of Imperial, Los Angeles, Orange, Riverside and San Bernardino Counties. Felt [III] at Mexicali, Baja California. Also felt at Maneadero, Tecate and Tijuana.
*MEX **27** 10:55:35.1±0.8, 32°.94N×115°.82W, h15km, MD4.0*
*ECX **27** 10:55:36.1±0.7, 32°.70N×115°.86W, h3km, ML4.8*
ISC 27 10:55:35.5±0.8, 32°.70N±0°.02×115°.84W±0°.02, h9km±5km, n219, σ1§50/250, mb4.1/8, MS4.0/26, 60C-43D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.09**	**237**	⇑*iP*	**Pg**	**10 55 37.4**	**-0.4**
SGL	**Mount Signal**	**0.10**	**117**	⇑*iP*	**Pg**	**10 55 37.7**	**-0.3**
COK	**Cook Ranch**	**0.18**	**31**	⇑*iP*	**Pg**	**10 55 39.6**	**+0.3**
IBP	**Imperial Bould**	**0.22**	**261**	⇑P	**Pg**	**10 55 40.0**	**-0.1**
	baz=0.2						
IBP				⇓S	**Sg**	**10 55 42.8**	**-0.3**
	baz=0.2						
CRR	**Carrizo Plain**	**0.22**	**329**	⇓*iP*	**Pg**	**10 55 40.0**	**-0.1**
RMX	**La Rumorosa**	**0.23**	**246**	⇑*eP*	**Pg**	**10 55 39.9**	**-0.3**
RMX				*eS*	**Sg**	**10 55 43.3**	**0.0**
SWSC	**Sam W. Stewart**	**0.25**	**8**	⇑P	**Pg**	**10 55 40.2**	**-0.3**
	baz=0.3						
SWSC				⇑S	**Sg**	**10 55 44.3**	**+0.4**
	baz=0.3						
CPBX	**Cerro Prieto**	**0.53**	**122**	⇓*eP*	**Pg**	**10 55 46.0**	**+0.3**
CPBX				⇑*eP*	**Pg**	**10 55 46.1**	**+0.3**
CPBX				⇑*e*		10 56 03.1	
CPBX				AML	AML	10 56 03.1	
	comp=N,213μm,0.5s						
CPBX				⇑*e*		10 56 03.4	
CPBX				AML	AML	10 56 03.4	
	comp=E,212μm,0.5s						
CPBX	**Cerro Prieto**	**0.53**	**122**	*eP*	**Pg**	**10 55 45.9**	**+0.2**
CPBX				*i* S	**Sb**	**10 55 55.1**	**+0.4**
MONP	**Monument Peak,**	**0.53**	**292**	⇑P	**Pg**	**10 55 45.3**	**-0.5**
	baz=0.5						
MONP				⇑S	**Sg**	**10 55 52.8**	**-0.1**
	baz=0.5						
MBIG	**Mexicali**	**0.61**	**118**	*i* P	**Pg**	**10 55 47.5**	**+0.2**
MBIG				*eS*	**Sg**	**10 55 56.4**	**+1.1**
COA	**Coachella**	**0.62**	**74**	⇑*iP*	**Pg**	**10 55 47.5**	**-0.1**
BAR	**Barrett**	**0.71**	**269**	⇑*eP*	**Pg**	**10 55 48.6**	**-0.5**
BAR	**Barrett**	**0.71**	**269**	*ePg*	**Pg**	**10 55 48.6**	**-0.5**
BAR				*eSg*	**Sg**	**10 55 58.0**	**-0.4**
RDX	**Rancho Dawling**	**0.77**	**187**	⇓*iP*	**Pg**	**10 55 49.4**	**-1.0**
RDX				*eS*	**Sg**	**10 56 00.3**	**-0.1**
CBX	**Cerro Bola**	**0.80**	**242**	*i* P	**Pg**	**10 55 50.2**	**-0.7**
CBX				*i* S	**Sg**	**10 56 01.0**	**-0.3**
CBX	**Cerro Bola**	**0.80**	**242**	⇑*eP*	**Pg**	**10 55 50.4**	**-0.5**
CBX				*eS*	**Sg**	**10 56 00.9**	**-0.4**
CBX	**Cerro Bola**	**0.80**	**242**	*i* P	**Pg**	**10 55 50.2**	**-0.7**
CBX				*i* S	**Sg**	**10 56 01.0**	**-0.3**
GLA	**Glamis**	**0.92**	**67**	⇑P	**Pg**	**10 55 52.0**	**-1.2**
	baz=0.9						
GLA				⇓S	**Sg**	**10 56 04.3**	**-0.9**
	baz=0.9						
GLA	**Glamis**	**0.92**	**67**	*ePg*	**Pg**	**10 55 51.8**	**-1.4**
GLA				*eSg*	**Sg**	**10 56 04.6**	**-0.6**
BC3	**Big Chuckawall**	**1.01**	**18**	⇓P	**Pg**	**10 55 53.4**	**-1.5**
	baz=1.0						
BC3				⇑S	**Sg**	**10 56 07.9**	**-0.1**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.05**	**330**	Pg	**Pg**	**10 55 54.6**	**-1.1**
	comp=E,308nm,0.3s,baz=148,slow=12,SNR=2196						
PFO				Lg	Lg	10 56 08.0	
	comp=E,928nm,0.3s,baz=69,slow=16,SNR=38						
PFO	**Pinyon Flats O**	**1.05**	**330**	⇑P	**Pg**	**10 55 54.2**	**-1.5**
	baz=1.1						
PFO				⇑S	**Sg**	**10 56 08.8**	**-0.5**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.05**	**330**	*ePg*	**Pg**	**10 55 54.1**	**-1.5**
PFO				Lg	Lg	10 56 08.0	
PFO				*eSg*	**Sg**	**10 56 08.3**	**-1.0**

109C	**Camp Elliot, M**	**1.09**	**281**	⇓P	**Pg**	**10 55 55.1**	**-1.3**
	baz=1.1						
109C				⇑S	**Sg**	**10 56 08.9**	**-1.7**
	baz=1.1						
PBX	**Punta Banda**	**1.22**	**219**	⇑*eP*	**Pb**	**10 55 57.6**	**-1.1**
ECNX	**Esteban Cantu**	**1.22**	**212**	⇑*eP*	**Pn**	**10 55 57.6**	**-1.3**
ZAX	**El Zacaton**	**1.24**	**198**	*eP*	**Pn**	**10 55 57.8**	**-1.3**
BELC	**Belle Mtn. Jos**	**1.31**	**354**	⇓P	**Pn**	**10 55 58.0**	**-2.2**
	baz=1.3						
ECBX	**El Chinero**	**1.39**	**151**	⇓*eP*	Pn	10 55 56.7	-4.4
ECBX				*eS*	**Sb**	**10 56 15.7**	**-3.8**
ECBX				⇑*e*		10 56 19.0	
ECBX				AML	AML	10 56 19.0	
	comp=E,11μm,0.6s						
ECBX				⇓*e*		10 56 31.2	
ECBX				AML	AML	10 56 31.2	
	comp=N,11μm,0.8s						
MURC	**Murrieta**	**1.46**	**309**	⇑P	**Pn**	**10 56 00.2**	**-1.9**
	baz=1.5						
Y12C	**Blythe**	**1.52**	**46**	⇑P	**Pn**	**10 56 00.9**	**-2.1**
	baz=1.5						
IRM	**Iron Mountain**	**1.57**	**21**	⇓P	**Pn**	**10 56 01.7**	**-1.9**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.68**	**169**	*eP*	**Pn**	**10 56 04.0**	**-1.3**
SPIG				*i* S	**Sn**	**10 56 27.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.68**	**169**	*eP*	**Pn**	**10 56 05.1**	**-0.2**
SPIG	**San Pedro Mart**	**1.68**	**169**	*eP*	**Pn**	**10 56 03.9**	**-1.5**
SPIG				*eS*	**Sb**	**10 56 28.4**	**+0.3**
SPX	**San Pedro Mart**	**1.68**	**169**	*eP*	**Pn**	**10 56 05.1**	**-0.3**
SPX				⇓*e*		10 56 31.1	
SPX				AML	AML	10 56 31.1	
	comp=E,7μm,0.7s						
SPX				AML	AML	10 56 35.0	
	comp=N,4μm,0.6s						
SPX				⇑*e*		10 56 35.0	
SPX	**San Pedro Mart**	**1.68**	**169**	*i* P	**Pn**	**10 56 04.1**	**-1.3**
SPX				*eS*	**Sn**	**10 56 26.9**	**-0.3**
113A	**Mohawk Valley,**	**1.75**	**87**	⇓P	**Pn**	**10 56 04.0**	**-2.0**
	baz=1.8						
GMRC	**Granite Mounta**	**2.08**	**4**	⇓P	**Pn**	**10 56 09.2**	**-1.6**
	baz=2.1						
PDMCI	**Parker Dam,Lak**	**2.14**	**41**	⇑P	**Pn**	**10 56 10.0**	**-1.4**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.17**	**316**	⇓P	**Pn**	**10 56 10.5**	**-1.4**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.17**	**349**	⇑P	**Pn**	**10 56 10.3**	**-1.6**
	baz=2.2						
CIS	**Catalina Islan**	**2.27**	**289**	⇑P	**Pn**	**10 56 12.3**	**-1.0**
	baz=2.3						
CIS				⇓S	**Sn**	**10 56 42.3**	**+0.8**
	baz=2.3						
FMP	**Fort Macarthur**	**2.30**	**297**	⇓P	**Pn**	**10 56 13.3**	**-0.3**
	baz=2.3						
SCI	**San Clemente I**	**2.30**	**278**	⇓P	**Pn**	**10 56 13.4**	**-0.3**
	baz=2.3						
SCI				⇑S	**Sn**	**10 56 42.5**	**+0.4**
	baz=2.3						
RRX	**Edison Barstow**	**2.38**	**336**	⇑P	**Pn**	**10 56 13.5**	**-1.3**
	baz=2.4						
MWC	**Mount Wilson**	**2.40**	**310**	*ePn*	**Pn**	**10 56 15.9**	**+0.7**
MWC				*eSn*	**Sn**	**10 56 45.3**	**+0.3**
LDFC	**Landfair**	**2.45**	**14**	*ePn*	**Pn**	**10 56 15.6**	**-0.3**
PASC	**Pasadena Art C**	**2.46**	**307**	*ePn*	**Pn**	**10 56 15.4**	**-0.5**
PASC				*eSn*	**Sn**	**10 56 46.1**	**+0.1**
Z14A	**Wintersburg**	**2.52**	**74**	⇓P	**Pn**	**10 56 14.8**	**-1.8**
	baz=2.5						
Z14A				⇓Sb	**Sg**	**10 56 54.9**	**-1.5**
	baz=2.5						
DECC	**Green Verdugo**	**2.60**	**307**	⇓Pb	**Pb**	**10 56 21.7**	**-0.7**
	baz=2.6						
DECC				⇓Sb	**Sb**	**10 56 56.1**	**+1.7**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.66**	**105**	⇑P	**Pn**	**10 56 16.2**	**-2.5**
	baz=2.7						
214A	**Organ Pipe Nat**	**2.66**	**105**	*ePn*	**Pn**	**10 56 16.0**	**-2.7**
214A				*eSn*	**Sn**	**10 56 48.2**	**-2.9**
Y14A	**Wickenburg**	**2.67**	**62**	⇑P	**Pn**	**10 56 17.3**	**-1.6**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.72**	**343**	⇑P	**Pn**	**10 56 18.2**	**-1.4**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.72**	**343**	*ePn*	**Pn**	**10 56 18.1**	**-1.4**
GSC				*eSn*	**Sn**	**10 56 52.9**	**+0.2**
TUQ	**Turquoise Moun**	**2.73**	**358**	⇑P	**Pn**	**10 56 18.4**	**-1.4**
	baz=2.8						
EDW2	**Edwards Air Fo**	**2.82**	**321**	⇑P	**Pn**	**10 56 19.7**	**-1.2**
	baz=2.8						
W13A	**Hualapai Mount**	**2.89**	**34**	⇑P	**Pn**	**10 56 20.9**	**-1.1**
	baz=2.9						
BLG	**Laguna Peak, P**	**3.05**	**298**	⇓P	**Pn**	**10 56 23.2**	**-0.7**
	baz=3.0						
OSI	**Osito Audit: C**	**3.08**	**309**

MVCO	**Mesa Verde**	**7.52**	**51**	*e*Pn		**Pn**	**10 57 26.9**	**+1.3**
MVCO				*e*Sn		Sn	10 58 43.9	-7.2
LENM	**Lemitar**	**7.55**	**76**	*e*Pn		**Pn**	**10 57 25.9**	**-0.1**
TMUT	**Trail Mountain**	**7.58**	**28**	*e*Pn		**Pn**	**10 57 24.7**	**-1.8**
Y22D	**IRIS PASSCAL I**	**7.58**	**77**	⇑P		**Pn**	**10 57 26.8**	**+0.4**
	baz=7.6							
SRU	**San Rafael Swe**	**7.71**	**32**	*e*Pn		**Pn**	**10 57 30.0**	**+1.8**
NLU	**North Lily Min**	**7.85**	**22**	*e*Pn		**Pn**	**10 57 28.8**	**-1.4**
NLU				*e*Sn		**Sn**	**10 58 56.9**	**-2.4**
LPM	**Los Pinos Moun**	**7.85**	**76**	*e*Pn		**Pn**	**10 57 30.0**	**-0.1**
LPM				*e*Sn		**Sn**	**10 58 56.7**	**-2.6**
DUG	**Dugway, Tooele**	**7.87**	**17**	*e*Pn		**Pn**	**10 57 30.4**	**0.0**
DUG				*e*Sn		**Sn**	**10 58 59.1**	**-0.5**
PV01	**Paradox Valley**	**8.04**	**46**	*e*Pn		**Pn**	**10 57 34.0**	**+1.3**
ELK	**Elko**	**8.05**	**3**	Pn		**Pn**	**10 57 33.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=178,slow=14,SNR=4.5							
ELK				Pg		**Pg**	**10 58 09.2**	**-0.3**
	comp=N,0.4nm,0.3s,baz=182,slow=14,SNR=12							
ELK				Lg		Lg	10 59 50.3	
	comp=N,0.7nm,0.3s,baz=4.1,slow=5.9,SNR=2.7							
ELK				LR		LR	11 00 33.4	
	comp=N,820nm,19.4s,baz=180,slow=38							
MPU	**Maple Canyon**	**8.05**	**24**	*e*Pn		**Pn**	**10 57 32.8**	**0.0**
ANMO	**Albuquerque**	**8.12**	**71**	Pn		**Pn**	**10 57 34.0**	**+0.1**
	comp=N,0.6nm,0.3s,baz=259,slow=12,SNR=68							
ANMO				Pg		**Pg**	**10 58 11.2**	**+0.2**
	comp=N,0.7nm,0.3s,baz=264,slow=16,SNR=10							
ANMO				Lg		Lg	10 59 51.0	
	comp=N,0.3nm,0.3s,baz=217,slow=22,SNR=1.7							
ANMO				LR		LR	11 00 47.7	
	comp=N,1μm,20.7s,baz=291,slow=39							
ANMO	**Albuquerque**	**8.12**	**71**	*e*Pn		**Pn**	**10 57 32.9**	**-0.9**
ANMO				Pg		**Pg**	**10 58 11.2**	**+0.2**
ANMO				*e*Sn		**Sn**	**10 59 03.0**	**-2.9**
ANMO				Lg		Lg	10 59 51.0	
JLU	**Jordanelle**	**8.64**	**23**	*e*Pn		**Pn**	**10 57 40.5**	**-0.5**
MNTX	**Cornudas Mount**	**8.91**	**94**	⇓P		**Pn**	**10 57 44.2**	**-0.3**
	baz=8.9							
MNTX	**Cornudas Mount**	**8.91**	**94**	*e*Pn		**Pn**	**10 57 43.8**	**-0.8**
MNTX				*e*Sn		**Sn**	**10 59 24.1**	**-1.0**
S22A	**4UR Ranch, Cre**	**8.92**	**53**	⇑P		**Pn**	**10 57 45.9**	**+1.0**
	baz=8.9							
TCUT	**Toone Canyon**	**9.12**	**22**	*e*Pn		**Pn**	**10 57 48.1**	**+0.5**
TCUT				*e*Sn		**Sn**	**10 59 33.8**	**+3.3**
S23A	**Nye Farm, Mont**	**9.47**	**55**	⇑P		**Pn**	**10 57 53.7**	**+1.3**
	baz=9.5							
HWUT	**Hardware Ranch**	**9.52**	**20**	*e*Pn		Pn	10 57 57.2	+4.1
O20A	**White River Ci**	**9.62**	**37**	⇑P		**Pn**	**10 57 56.3**	**+2.0**
	baz=9.6							
O20A	**White River Ci**	**9.62**	**37**	*e*Pn		**Pn**	**10 57 54.8**	**+0.4**
O20A				*e*Sn		**Sn**	**10 59 37.5**	**-5.1**
R23A	**Moffat**	**9.83**	**53**	⇑P		**Pn**	**10 57 59.0**	**+1.6**
	baz=9.8							
SDCO	**Great Sand Dun**	**9.84**	**56**	⇑P		**Pn**	**10 57 58.1**	**+0.6**
	baz=9.8							
P22A	**Eagle**	**10.06**	**44**	⇓P		**Pn**	**10 58 02.3**	**+1.9**
	baz=10							
N20A	**Spence Gulch,**	**10.14**	**35**	⇓P		**Pn**	**10 58 03.9**	**+2.4**
	baz=10							
Q23A	**Hartsel**	**10.21**	**50**	⇑P		**Pn**	**10 58 05.1**	**+2.5**
	baz=10							
R24A	**Sanders Place,**	**10.34**	**55**	⇑P		**Pn**	**10 58 05.7**	**+1.4**
	baz=10							
T25A	**Trinidad**	**10.37**	**62**	⇑P		**Pn**	**10 58 07.3**	**+2.6**
	baz=10							
P23A	**Jefferson**	**10.48**	**48**	⇑P		**Pn**	**10 58 09.3**	**+3.0**
	baz=10							
YBH	**Yreka Blue Hor**	**10.55**	**331**	Pn		**Pn**	**10 58 08.4**	**+1.4**
	comp=N,0.0nm,0.3s,baz=272,slow=16,SNR=2.0							
O22A	**Kremmling**	**10.55**	**42**	⇑P		**Pn**	**10 58 09.7**	**+2.4**
	baz=11							
Q24A	**Divide**	**10.69**	**51**	⇑P		**Pn**	**10 58 11.4**	**+2.3**
	baz=11							
AHID	**Auburn Hatcher**	**10.72**	**19**	*e*Pn		**Pn**	**10 58 08.2**	**-1.3**
ISCO	**Idaho Springs**	**10.87**	**46**	⇓P		**Pn**	**10 58 14.4**	**+2.7**
	baz=11							
ISCO	**Idaho Springs**	**10.87**	**46**	*e*Pn		**Pn**	**10 58 11.6**	**-0.1**
HLID	**Hailey**	**10.91**	**5**	⇑P		Pn	10 58 15.9	+3.9
	baz=11							
HLID	**Hailey**	**10.91**	**5**	*e*Pn		**Pn**	**10 58 11.9**	**0.0**
O23A	**Lake Granby, G**	**10.95**	**44**	⇑P		**Pn**	**10 58 13.2**	**+0.5**
	baz=11							
TXAR	**Lajitas Array**	**10.96**	**105**	Pn		**Pn**	**10 58 13.0**	**+0.2**
	comp=N,0.3nm,0.3s,baz=283,slow=11,SNR=11							
TXAR				Lg		Lg	11 01 12.1	
	baz=298,slow=25,SNR=3.8							
TXAR				LR		LR	11 02 36.7	
	comp=N,563nm,20.2s,baz=0.0,slow=39							
T26A	**Comanche Natio**	**10.99**	**63**	⇑P		**Pn**	**10 58 16.0**	**+2.8**
	baz=11							
MSTX	**Muleshoe**	**11.00**	**80**	⇑P		**Pn**	**10 58 14.9**	**+1.7**
	baz=11							
MSTX	**Muleshoe**	**11.00**	**80**	*e*Pn		**Pn**	**10 58 14.4**	**+1.2**
N22A	**Wattenberg Ran**	**11.04**	**40**	⇑P		**Pn**	**10 58 15.9**	**+2.0**
	baz=11							
BW06	**Boulder Array**	**11.21**	**24**	*e*Pn		**Pn**	**10 58 14.2**	**-2.0**
PDAR	**Pinedale Array**	**11.21**	**24**	Pn		**Pn**	**10 58 18.0**	**+1.8**
	comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=17							
PDAR				LR		LR	11 02 08.7	
	comp=N,125nm,19.7s,baz=212,slow=36							
228A	**UT Block 9, Go**	**11.21**	**89**	⇑P		**Pn**	**10 58 17.8**	**+1.7**
	baz=11							
S26A	**Kim**	**11.25**	**61**	⇓P		**Pn**	**10 58 18.5**	**+1.9**
	baz=11							
128A	**Castleberry Fa**	**11.25**	**87**	⇓P		**Pn**	**10 58 17.9**	**+1.2**
	baz=11							
AMTX	**Amarillo**	**11.98**	**76**	*e*Pn		**Pn**	**10 58 26.4**	**-0.1**
AMTX				*e*Sn		**Sn**	**11 00 38.3**	**-2.1**
MCMT	**McKenzie Canyo**	**12.33**	**10**	*e*Pn		**Pn**	**10 58 30.2**	**-1.3**
K22A	**Casper**	**12.37**	**34**	*e*Pn		**Pn**	**10 58 31.2**	**-0.7**
KSCO	**Kaye Shedlock'**	**12.42**	**56**	*e*Pn		**Pn**	**10 58 33.3**	**+0.6**
YMR	**Madison River**	**12.54**	**16**	*e*Pn		**Pn**	**10 58 33.2**	**-1.2**
BOZ	**Bozeman (W)**	**13.34**	**13**	Pn		**Pn**	**10 58 43.0**	**-2.1**
LRM	**Limekiln Ridge**	**13.37**	**10**	*e*Pn		P	10 58 51.2	-4.1
ABTX	**Abilene, Hawle**	**13.64**	**86**	*e*Pn		**Pn**	**10 58 47.1**	**-2.2**
JCT	**Junction City**	**13.85**	**95**	*e*Pn		**Pn**	**10 58 53.8**	**+1.7**
HRY	**Holter Researc**	**14.33**	**11**	*e*Pn		**Pn**	**10 58 58.3**	**-0.4**
CHMT	**Chamberlain Mo**	**14.34**	**7**	*e*Pn		**Pn**	**10 59 00.6**	**+1.7**
WMOK	**Wichita Mounta**	**14.34**	**77**	*e*Pn		**Pn**	**10 58 59.6**	**+0.8**
SLMT	**Seeley Lake**	**14.64**	**6**	*e*Pn		**Pn**	**10 59 05.0**	**+2.1**
RSSD	**Black Hills**	**14.67**	**36**	*e*Pn		**Pn**	**10 59 02.5**	**-0.9**
RSSD				*e*Sn		**Sn**	**11 01 43.6**	**-2.6**
LON	**Longmire**	**14.76**	**344**	*e*Pn		**Pn**	**10 59 04.6**	**+0.1**
SWMT	**Swartz Lake**	**14.86**	**5**	*e*Pn		**Pn**	**10 59 05.9**	**0.0**
JTMT	**Jette**	**15.08**	**4**	*e*Pn		**Pn**	**10 59 09.1**	**+0.2**
	comp=N,12nm,1.0s							
BSMT	**Bassoo Peak**	**15.16**	**3**	*e*Pn		**Pn**	**10 59 09.8**	**-0.2**
	comp=N,8.6nm,0.9s							
YBMT	**Yellow Bay**	**15.21**	**5**	*e*Pn		**Pn**	**10 59 09.0**	**-1.6**
	comp=N,11nm,1.1s							
U34A	**Anderson Ranch**	**15.53**	**71**	*e*P		**Pn**	**10 59 15.3**	**+0.6**
	comp=N,61nm,1.3s							
WHTX	**Lake Whitney,**	**15.55**	**88**	*e*Pn		**Pn**	**10 59 15.4**	**+0.3**
	comp=N,105nm,1.3s							
NEW	**Newport**	**15.58**	**357**	Pn		**P**	**10 59 17.6**	**-2.1**
	comp=N,0.1nm,0.3s,baz=170,slow=10,SNR=14							
NEW				LR		LR	11 05 25.0	
	comp=N,611nm,18.8s,baz=180,slow=38							
NEW	**Newport**	**15.58**	**357**	*e*P		**P**	**10 59 17.8**	**-1.9**
LAO	**LASA Array**	**15.79**	**25**	*e*P		**P**	**10 59 20.9**	**-1.2**
	comp=N,31nm,1.2s							
WALA	**Waterton Lakes**	**16.41**	**4**	*e*P		**P**	**10 59 28.6**	**-0.4**
	comp=N,39nm,1.4s							
KSU1	**Kansas State U**	**16.82**	**62**	*e*P		**P**	**10 59 33.0**	**-0.5**
	comp=N,60nm,1.3s							
TUL1	**Leonard**	**16.87**	**74**	*e*Pn		**Pn**	**10 59 31.0**	**-0.9**
	comp=N,48nm,1.3s							
HKT	**Hockley**	**17.31**	**94**	*e*P		**Pn**	**10 59 36.4**	**-1.0**
	comp=N,40nm,1.5s							
DGMT	**Dagmar**	**18.03**	**26**	*e*P		**Pn**	**10 59 46.3**	**-0.1**
	comp=N,14nm,1.0s							
MIAR	**Mount Ida**	**18.63**	**78**	*e*P		**Pn**	**10 59 54.6**	**+0.9**
	comp=N,35nm,1.2s							
ECSD	**EROS Data Cent**	**18.65**	**48**	*e*P		**Pn**	**10 59 55.4**	**+1.4**
	comp=N,8.9nm,1.0s							
EDM	**Edmonton**	**20.59**	**4**	*e*P		**P**	**11 00 14.8**	**0.0**
	comp=N,61nm,1.3s							
BBB	**Bella Bella**	**21.42**	**339**	LR		LR	11 09 19.2	
	comp=N,864nm,18.3s,baz=161,slow=39							
AGMN	**Agassiz Nation**	**21.66**	**38**	*e*P		**P**	**11 00 27.8**	**+1.4**
	comp=N,41nm,1.3s							
SPMN	**Marine on St.**	**21.76**	**48**	*e*P		**P**	**11 00 29.6**	**+2.3**
	comp=N,41nm,1.5s							
HDIL	**Hopedale**	**22.64**	**62**	*e*P		**P**	**11 00 36.5**	**-0.4**
ULM	**Lac du Bonnet**	**22.93**	**34**	P		**P**	**11 00 40.1**	**+0.3**
	comp=N,7.0nm,0.9s,baz=224,slow=11,SNR=8.8							
ULM				LR		LR	11 09 45.8	
	comp=N,332nm,20.1s,baz=230,slow=37							
CMIG	**Matias Romero**	**24.48**	**124**	P		**P**	**11 00 57.6**	**+2.5**
	comp=N,2.8nm,0.8s,baz=317,slow=8.6,SNR=5.9							
CMIG				LR		LR	11 09 45.0	
	comp=N,445nm,19.9s,baz=284,slow=35							
TKL	**Tuckaleechee C**	**26.63**	**75**	LR		LR	11 12 38.3	
	comp=N,545nm,18.7s,baz=272,slow=39							
DLBC	**Dease Lake**	**27.48**	**344**	P		**P**	**11 01 23.8**	**+1.8**
	comp=N,2.8nm,0.9s,baz=183,slow=5.1,SNR=4.1							
DLBC				LR		LR	11 13 07.6	
	comp=N,674nm,19.6s,baz=160,slow=38							
YKA	**Yellowknife Ar**	**29.82**	**1**	P		**P**	**11 01 44.5**	**+1.8**
	comp=N,0.2nm,0.5s,baz=180,slow=7.9,SNR=4.3							
SADO	**Sadowa**	**30.80**	**56**	LR		LR	11 14 03.3	
	comp=N,366nm,20.9s,baz=311,slow=36							
INK	**Inuvik**	**37.09**	**349**	LR		LR	11 18 22.0	
	comp=N,451nm,19.1s,baz=170,slow=37							
ILAR	**Eielson Array**	**37.31**	**339**	P		**P**	**11 02 50.1**	**+2.4**
	comp=N,0.9nm,0.8s,baz=156,slow=6.5,SNR=10							
ILAR				LR		LR	11 19 22.2	
	comp=N,194nm,19.2s,baz=159,slow=38							
SCHQ	**Schefferville**	**40.66**	**42**	LR		LR	11 20 37.6	
	comp=N,218nm,19.4s,baz=243,slow=37							
FRB	**Frobisher Bay**	**42.62**	**29**	LR		LR	11 21 35.8	
	comp=N,357nm,20.9s,baz=246,slow=37							
RES	**Resolute Bay**	**43.32**	**8**	LR		LR	11 22 02.1	
	comp=N,294nm,19.3s,baz=209,slow=37							
ROSC	**El Rosal**	**47.59**	**117**	LR		LR	11 27 33.5	
	comp=N,80nm,18.5s,baz=1.5,slow=40							
PPT	**Papeete**	**59.50**	**218**	LR		LR	11 26 06.3	
	comp=N,108nm,18.3s,baz=6.0,slow=31							
PPT2	**Papeete2**	**59.52**	**218**	*e*LR		LR	11 23 04.2	
	comp=N,161nm,25.2s							
PETK	**Petropavlovsk-**	**62.60**	**317**	P		**P**	**11 06 02.9**	**+2.9**
	comp=N,3.2nm,0.8s,baz=97,slow=12,SNR=7.7							
LPAZ	**La Paz**	**66.73**	**129**	LR		LR	11 35 31.4	
	comp=N,63nm,18.9s,baz=319,slow=36							
ARCES	**ARCESS Array B**	**74.23**	**13**	LR		LR	11 42 28.6	
	comp=N,103nm,18.6s,baz=3.5,slow=38							
NOA	**NORSAR Array B**	**77.15**	**23**	LR		LR	11 40 48.5	
	comp=N,49nm,20.9s,baz=330,slow=35							
CFAA	**Coronel Fontan**	**78.18**	**140**	LR		LR	11 36 21.8	
	comp=N,9.4nm,18.3s,slow=31							
BDFB	**Brasília**	**80.64**	**115**	LR		LR	11 48 56.3	
	comp=N,93nm,18.2s,baz=292,slow=40							
FINES	**FINESS Array B**	**81.22**	**17**	LR		LR	11 43 19.9	
	comp=N,71nm,19.2s,baz=340,slow=35							
MJAR	**Matsushiro Arr**	**82.41**	**309**	LR		LR	11 38 09.5	
	comp=N,23nm,21.5s,baz=120,slow=31							
PLCA	**Paso Flores**	**84.18**	**147**	LR		LR	11 38 54.0	
	comp=N,108nm,18.0s,baz=248,slow=31							
GERES	**GERESS Array B**	**87.19**	**31**	LR		LR	11 48 01.6	
	comp=N,114nm,19.3s,baz=321,slow=36							
ZALV	**Zalesovo Beam**	**91.88**	**348**	LR		LR	11 53 53.5	
	comp=N,28nm,21.4s,baz=70,slow=38							
DZM	**Mont Dzumac**	**91.98**	**245**	*e*LR		LR	11 38 04.2	
	comp=N,178nm,23.8s							
HHC	**Hu-ho-hao-te**	**94.74**	**326**	*e*P		**P**	**11 08 56.0**	**-1.7**
HHC				S		S	11 20 04.5	-7.0
HHC				PMZ				
	comp=N,23nm,0.9s							
HHC				PMZ				
	comp=N,74nm,7.3s							
HHC				LN				
	comp=N,130nm,14.8s							
HHC				LE				
	comp=N,210nm,16.0s							
KEST	**Kesra**	**94.74**	**42**	LR		LR	11 51 18.1	
	comp=N,26nm,18.1s,baz=272,slow=35							
AKTO	**Aktyubinsk**	**97.05**	**4**	LR		LR	11 56 31.9	
	comp=N,23nm,22.0s,slow=38							
NJ2	**Nanjing**	**97.47**	**316**	*e*P		**P**	**11 09 08.5**	**-1.5**
MKAR	**Makanchi Array**	**99.20**	**347**	LR		LR	12 01 08.7	
	comp=N,57nm,18.1s,baz=350,slow=40							
WMQ	**Urumqi**	**100.87**	**343**	*e*P		**Pdif**	**11 09 27.0**	**+1.8**
LZH	**Lanzhou**	**102.14**	**328**	*e*P		**Pdif**	**11 09 29.0**	**-2.1**
LZH				pP			11 09 34.8	
LZH				sP			11 09 37.0	
LZH				PMZ				
	comp=N,21nm,1.0s							
LZH				PMZ				
	comp=N,110nm,5.0s							
CD2	**Chengdu**	**106.48**	**325**	Pdif		**Pdif**	**11 09 50.0**	**-0.3**
CD2				S		**Sdif**	**11 21 46.0**	**-4.7**
CD2				SS		**SS**	**11 29 16.5**	**-0.6**
CD2				PPMZ				
	comp=N,100nm,5.6s							
KSH	**Kashi**	**107.32**	**350**	*e*Pdif		**Pdif**	**11 09 58.3**	**+4.3**
KSH				*e*PP		PP	11 14 30.0	+10
KSH				S		**Sdif**	**11 22 01.0**	**+3.4**
KSH				SS		SS	11 29 39.5	+12
KSH				PPMZ				
	comp=N,140nm,5.5s							
KSH				LN				
	comp=N,160nm,6.2s							
KSH				LE				
	comp=N,150nm,6.9s							
ASAR	**Alice Springs**	**118.84**	**259**	PKP		**PKPdf**	**11 14 26.1**	**+1.3**
	comp=N,0.5nm,0.8s,baz=90,slow=2.8,SNR=4.3							

*IDC **27** 11:04:34.7±2.0,46°.53N×149°.88E,h194km±18km, mb3.8/27,mb1 3.9/34,mb1mx3.8/50,mbtmp4.3/34,MS2.5/1, Ms1 2.5/1,ms1mx2.1/41,Error ellipse: s-maj=11.5km s-min=8.0km az=126.0*

ISC 27 11:04:30.8±0.4,46°.32N±0°.05×150°.06E±0°.05,h162km, n255,σ1§56/269,mb4.3/62,4C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.88**	**235**	⇓*i*	PN	**Pn**	**11 05 07.8**	**+2.5**
KUR				*e*S		**Sn**	**11 05 35.4**	**+3.5**
KUR				pmax		pmax		
	comp=E,55nm,0.5s							
KUR				pmax		pmax		
	comp=Z,466nm,0.5s							
KUR				pmax		pmax		
	comp=N,85nm,0.3s							
KUR				pmax		pmax		
	comp=Z,39μm,0.6s							
KUR				smax		smax		
	comp=N,3μm,2.3s							
KUR				smax		smax		
	comp=E,542nm,0.5s							
KUR				smax		smax		
	comp=N,726nm,0.6s							
KUR	**Kuril'sk**	**1.88**	**235**	*e*P		**Pn**	**11 05 07.8**	**+2.5**
KUR				AMB		AMB	11 05 08.2	
	comp=N,39μm,0.6s							
KUR				AMB		AMB	11 05 08.4	
	comp=N,466nm,0.5s							
KUR				*e*S		**Sn**	**11 05 35.4**	**+3.5**
KUR				A		A	11 05 40.0	
	comp=N,3μm,2.3s							
KUR				A		A	11 05 41.5	
	comp=N,542nm,0.5s							
KUR				A		A	11 05 41.5	
	comp=N,726nm,0.5s							
SHO	**Shikotan**	**3.35**	**224**	*e*P		**Pn**	**11 05 23.6**	**+0.5**
SHO				AMB		AMB	11 05 23.8	
	comp=N,313nm,0.3s							
SHO				*e*S		**Sn**	**11 06 04.1**	**+0.5**
SHO				A		A	11 06 05.2	
	comp=N,395nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**3.75**	**234**	*c i*	PN	**Pn**	**11 05 30.1**	**+2.0**
YUK				*i* S		**Sn**	**11 06 14.7**	**+2.1**
YUK				pmax		pmax		
	comp=N,71nm,0.4s							
YUK				pmax		pmax		
	comp=E,90nm,0.4s							
YUK				pmax		pmax		
	comp=Z,997nm,0.4s							
YUK				smax		smax		
	comp=N,393nm,0.7s							
YUK				smax		smax		
	comp=E,244nm,0.7s							
YUK				smax		smax		
	comp=E,646nm,2.1s							
YUK				smax		smax		
	comp=N,377nm,2.6s							
YUK	**Yuzh-Kuril'sk**	**3.75**	**234**	*e*P		**Pn**	**11 05 30.1**	**+2.0**
YUK				AMB		AMB	11 05 30.5	
	comp=N,997nm,0.4s							
YUK				*e*S		**Sn**	**11 06 14.7**	**+2.1**
YUK				A		A	11 06 19.7	
	comp=N,244nm,0.7s							
YUK				A		A	11 06 19.7	
	comp=N,393nm,0.7s							
YUK				A		A	11 06 21.9	
	comp=N,650nm,2.1s							
YUK				A		A	11 06 21.9	
	comp=N,380nm,2.1s							
JRA	**Rausu**	**4.23**	**237**	P		**Pn**	**11 05 35.8**	**+1.5**
NEM2	**Nemuro 2**	**4.26**	**228**	P		**Pn**	**11 05 34.4**	**-0.4**
NEM2				*e*S		**Sn**	**11 06 21.5**	**-3.1**
JNK	**Nakash**	**4.67**	**236**	P		**Pn**	**11 05 41.5**	**+1.4**
JTKR	**Abashiri--Toko**	**4.95**	**244**	P		**Pn**	**11 05 46.1**	**+2.4**
JTKR				*e*S		**Sn**	**11 06 43.5**	**+2.9**
JAK	**Akkeshi**	**5.07**	**231**	P		**Pn**	**11 05 45.2**	**-0.1**
JAK				*e*S		**Sn**	**11 06 40.8**	**-2.7**
YSS	**Yuzh-Sakhalins**	**5.07**	**280**	*e*PN		**Pn**	**11 05 48.0**	**+2.7**
YSS				pmax		pmax		
	comp=Z,40nm,1.0s							
YSS	**Yuzh-Sakhalins**	**5.07**	**280**	*e*P		**Pn**	**11 05 48.0**	**+2.7**
YSS				*e*S		**Sn**	**11 06 48.2**	**+4.7**
YSS	**Yuzh-Sakhalins**	**5.07**	**280**	*e*Pn		Pn	11 05 48.5	+3.2
YSS				*e*Sn		**Sn**	**11 06 42.5**	**-1.0**
JMP	**Maruseppu**	**5.27**	**246**	P		**Pn**	**11 05 50.5**	**+2.5**
JAR	**Ashorobuto**	**5.40**	**238**	P		**Pn**	**11 05 51.6**	**+1.9**
JOB	**Onbets**	**5.61**	**235**	P		**Pn**	**11 05 53.2**	**+0.8**
JOB				*e*S		**Sn**	**11 06 53.7**	**-2.5**
HRK	**Horoka**	**5.69**	**242**	*e*P		**Pn**	**11 05 55.9**	**+2.3**
ASAJ	**Asahikawa**	**5.71**	**250**	P		Pn	11 05 57.4	+3.6
ASAJ	**Asahikawa**	**5.71**	**250**	P		Pn	11 05 57.5	+3.6
	comp=Z,6.0nm,0.3s,baz=74,slow=14,SNR=90							
ASAJ				LR		LR	11 07 45.6	
	comp=Z,42nm,18.6s,baz=154,slow=34							
ASAJ	**Asahikawa**	**5.71**	**250**	*e*Pn		**Pn**	**11 05 54.8**	**+1.0**
JKK2	**Kamakawa 2**	**5.72**	**247**	P		**Pn**	**11 05 57.0**	**+3.0**
SKR	**Severo-Kuril's**	**5.94**	**40**	*e*PN		Pn	11 05 45.9	-11
SKR				pmax		pmax		
	comp=N,80nm,0.5s							
SKR				pmax		pmax		
	comp=E,30nm,0.5s							
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR	**Severo-Kuril's**	**5.94**	**40**	*e*P		**Pn**	**11 05 57.0**	**+0.4**
SKR				*e*S		**Sn**	**11 07 02.2**	**-1.7**
JCH	**Churui**	**6.06**	**235**	P		**Pn**	**11 05 58.3**	**-0.1**
JCH				*e*S		**Sn**	**11 07 03.9**	**-3.1**
UGL	**Uglegorsk**	**6.06**	**300**	*e*PN		**Pn**	**11 05 58.0**	**-0.3**
UGL				*e*S		**Sn**	**11 07 07.6**	**+0.8**
JFR	**Furan**	**6.18**	**242**	P		**Pn**	**11 06 02.3**	**+2.3**
MYR	**Moyori**	**6.31**	**233**	*e*P		**Pn**	**11 06 01.0**	**-0.7**
ERM	**Erimo**	**6.57**	**231**	*c i*	PN	**Pn**	**11 06 06.2**	**+1.1**
ERM	**Erimo**	**6.57**	**231**	*e*P		**Pn**	**11 06 06.2**	**+1.1**
ERM	**Erimo**	**6.57**	**231**	*e*Pn		**Pn**	**11 06 05.7**	**+0.6**
ERM				*e*Sn		**Sn**	**11 07 16.5**	**-2.7**
JNBK	**Urakawa-nobuka**	**6.62**	**235**	P		**Pn**	**11 06 04.7**	**-1.1**
JNBK				*e*S		**Sn**	**11 07 16.8**	**-3.5**
JNB	**Noboribetsu**	**7.52**	**242**	P		**Pn**	**11 06 19.5**	**+1.7**
JNB				*e*S		**Sn**	**11 07 39.5**	**-2.4**
JKB	**Kayabe**	**7.86**	**239**	P		**Pn**	**11 06 21.3**	**-1.0**
JKB				*e*S		Sn	11 07 43.1	-7.0
JYM2	**Yakumo 2**	**8.13**	**242**	P		**Pn**	**11 06 26.4**	**+0.6**
PETK	**Petropavlovsk-**	**8.40**	**33**	P		**Pn**	**11 06 28.2**	**-1.1**
	comp=Z,2.4nm,0.3s,baz=199,slow=11,SNR=67							
PETK	**Petropavlovsk-**	**8.40**	**33**	PN		**Pn**	**11 06 28.3**	**-1.1**
PETK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
JSR	**Shiriuchi**	**8.45**	**239**	P		**Pn**	**11 06 27.8**	**-2.2**
JTM	**Tenmabayashi**	**8.55**	**233**	P		**Pn**	**11 06 29.0**	**-2.5**
JTM				*e*S		Sn	11 07 57.5	-9.2
JANG	**Nango**	**8.61**	**229**	P		**Pn**	**11 06 29.7**	**-2.5**
PET	**Petropavlovsk**	**8.71**	**37**	*e*PN		**Pn**	**11 06 32.5**	**-1.0**
PET	**Petropavlovsk**	**8.71**	**37**	*e*P		**Pn**	**11 06 32.4**	**-1.0**
JTH	**Tanohata**	**8.75**	**226**	*e*S		Sn	11 08 03.0	-8.4
JRG	**Rokugo**	**9.78**	**228**	P		**Pn**	**11 06

	comp=Z,0.0nm,0.3s,baz=121,slow=3.4,SNR=8.1								
YAK	**Yakutsk**	**19.60**	**331**	*e*P		**P**	**11 08 45.3**	**-0.9**
YAK				*e*S		**S**	**11 12 17.0**	**-1.3**
YAK				pmax	pmax				
	comp=Z,28nm,0.9s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.0s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.0s								
YAK				smax	smax				
	comp=N,58nm,3.4s								
YAK				smax	smax				
	comp=E,18nm,1.4s								
YAK	**Yakutsk**	**19.60**	**331**	*e*P		**P**	**11 08 46.0**	**-0.2**
YAK	**Yakutsk**	**19.60**	**331**	*e*P		**P**	**11 08 45.7**	**-0.6**
	comp=E,36nm,0.8s								
JNU	**Nakatsue**	**19.72**	**235**	P		**Pn**	**11 08 50.1**	**-1.0**
	comp=E,0.6nm,0.3s,baz=63,slow=2.3,SNR=5.0								
BILL	**Bilibino**	**23.32**	**15**	*e*P		**P**	**11 09 22.5**	**-1.5**
BILL				*e**PP		**pP**	**11 09 59.4**	**+4.8**
BILL				*e*			11 13 04.0		
BILL				pmax	pmax				
	comp=Z,3.0nm,1.3s								
BILL	**Bilibino**	**23.32**	**15**	*e*P		**P**	**11 09 22.5**	**-1.5**
BILL	**Bilibino**	**23.32**	**15**	*e*P		**P**	**11 09 23.5**	**-0.4**
	comp=Z,7.1nm,1.3s								
TIXI	**Tiksi**	**27.32**	**346**	*e*P		**P**	**11 09 57.3**	**-2.6**
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.7s								
TIXI	**Tiksi**	**27.32**	**346**	*e*P		**P**	**11 09 57.3**	**-2.6**
	comp=Z,6.4nm,0.6s								
NJ2	**Nanjing**	**27.86**	**250**	*e*P		**P**	**11 10 05.5**	**+0.3**
NJ2				PMZ					
	comp=Z,50nm,0.5s								
HHC	**Hu-ho-hao-te**	**28.21**	**273**	*e*P		**P**	**11 10 08.5**	**+0.1**
HHC				PP		PnPn	11 10 56.3	-9.4	
HHC				PMZ					
	comp=Z,19nm,0.9s								
HHC				PMZ					
	comp=Z,110nm,3.3s								
ULN	**Ulaanbaatar**	**29.04**	**289**	*e*P		**P**	**11 10 15.8**	**+0.1**
ULN				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ULN	**Ulaanbaatar**	**29.04**	**289**	*e*P		**P**	**11 10 15.8**	**+0.1**
SONM	**Songino Array**	**29.48**	**289**	P		**P**	**11 10 19.1**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=63,slow=8.4,SNR=4.0								
SONM	**Songino Array**	**29.48**	**289**	P		**P**	**11 10 19.1**	**-0.5**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**29.91**	**147**	T		T	11 41 39.7		
	baz=337,slow=76,SNR=91								
H11N1	**WAKE ISLAND Hy**	**29.93**	**147**	T		T	11 41 43.7		
	baz=337,slow=76,SNR=74								
H11N3	**WAKE ISLAND Hy**	**29.93**	**147**	T		T	11 41 41.0		
	baz=337,slow=76,SNR=60								
H11S1	**WAKE ISLAND Hy**	**30.96**	**148**	T		T	11 43 00.9		
	baz=337,slow=76,SNR=97								
H11S3	**WAKE ISLAND Hy**	**30.97**	**148**	T		T	11 43 04.3		
	baz=337,slow=76,SNR=78								
H11S2	**WAKE ISLAND Hy**	**30.98**	**148**	T		T	11 43 02.9		
	baz=337,slow=76,SNR=86								
IM04	**Indian Mountai**	**35.34**	**36**	*e*P		**P**	**11 11 10.2**	**+0.1**
LZH	**Lanzhou**	**35.79**	**270**	*e*P		**P**	**11 11 16.5**	**+2.0**
LZH				pP		pP	11 11 20.5	-29	
LZH				sP		sP	11 11 22.8	-45	
LZH				PMZ					
	comp=Z,18nm,1.0s								
COLD	**Coldfoot**	**36.87**	**34**	*e*P		**P**	**11 11 23.6**	**+0.4**
	comp=Z,5.1nm,1.0s								
GTA	**Gaotai**	**36.95**	**278**	*e*P		**P**	**11 11 25.3**	**+1.0**
GTA				pP		pP	11 11 29.8	-29	
GTA				sP		sP	11 11 32.3	-45	
GTA				PMZ					
	comp=Z,7.0nm,1.2s								
COLA	**College**	**37.78**	**38**	*c i*P		**P**	**11 11 29.6**	**-1.1**
COLA				pmax	pmax				
	comp=Z,21nm,0.9s								
COLA	**College**	**37.78**	**38**	*e*P		**P**	**11 11 29.6**	**-1.1**
COLA	**College**	**37.78**	**38**	*e*P		**P**	**11 11 31.6**	**+0.9**
	comp=Z,14nm,0.5s								
ILAR	**Eielson Array**	**38.19**	**38**	P		**P**	**11 11 34.1**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=265,slow=7.6,SNR=20								
ILAR	**Eielson Array**	**38.19**	**38**	P		**P**	**11 11 34.1**	**-0.2**
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
CD2	**Chengdu**	**38.74**	**263**	*e*P		**P**	**11 11 40.0**	**+0.7**
CD2				pP		pP	11 11 45.0	-29	
CD2				sP		sP	11 11 47.3	-45	
CD2				PP		**PP**	**11 13 12.0**	**+0.7**
CD2				S		S	11 17 35.0	+11	
CD2				sS		ScP	11 17 42.0	+22	
CD2				SS		**SS**	**11 20 14.3**	**-7.3**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
EGAK	**Eagle**	**40.64**	**38**	*e*P		**P**	**11 11 54.5**	**+0.1**
ZALV	**Zalesovo Beam**	**41.14**	**305**	P		**P**	**11 11 56.5**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=46,slow=8.4,SNR=3.9								
QIZ	**Qiongzhong**	**42.75**	**244**	P		P	11 12 15.5	+3.3	
QIZ				S		S	11 18 39.0	+15	
QIZ				PMZ					
	comp=Z,16nm,1.4s								
HYT	**Haines Junctio**	**43.04**	**43**	*e*P		**P**	**11 12 16.0**	**+1.9**
KMI	**Kunming**	**43.09**	**257**	P		**P**	**11 12 16.3**	**+1.2**
KMI				pP		pP	11 12 22.0	-29	
KMI				sP		sP	11 12 25.5	-43	
KMI				PMZ					
	comp=Z,8.0nm,0.7s								
WMQ	**Urumqi**	**43.10**	**290**	*e*P		**P**	**11 12 13.0**	**-1.8**
WMQ				pP		pP	11 12 19.3	-31	
WMQ				PMZ					
	comp=Z,6.0nm,0.5s								
WMQ				PMZ					
	comp=Z,92nm,5.0s								
INK	**Inuvik**	**43.13**	**32**	P		**P**	**11 12 15.1**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=305,slow=10,SNR=55								
INK	**Inuvik**	**43.13**	**32**	P		**P**	**11 12 15.1**	**+0.5**
INK				pmax	pmax				
	comp=Z,3.0nm,0.4s								
MKAR	**Makanchi Array**	**45.25**	**296**	P		**P**	**11 12 31.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=34,slow=2.8,SNR=19								
MKAR	**Makanchi Array**	**45.25**	**296**	P		**P**	**11 12 31.2**	**-0.6**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KURK	**Kurchatov**	**45.83**	**303**	*e*P		**P**	**11 12 35.0**	**-1.3**
KURK				*e**PP		pP	11 13 17.8	+5.6	
KURK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KURK	**Kurchatov**	**45.83**	**303**	*e*P		**P**	**11 12 35.4**	**-0.9**
KURK	**Kurchatov**	**45.83**	**303**	*e*P		**P**	**11 12 35.0**	**-1.3**
	comp=Z,7.9nm,0.9s								
KURK				*e*pP		pP	11 13 17.8	+5.6	
DLBC	**Dease Lake**	**47.39**	**45**	P		**P**	**11 12 50.1**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=0.0,slow=4.0,SNR=3.0								
BRVK	**Borovoye**	**49.53**	**309**	*i*P		**P**	**11 13 03.7**	**-1.0**
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.3s								
BRVK	**Borovoye**	**49.53**	**309**	*e*P		**P**	**11 13 03.7**	**-1.0**
CHTO	**Chiang Mai**	**49.97**	**254**	*e*P		**P**	**11 13 10.6**	**+2.2**
CHTO	**Chiang Mai**	**49.97**	**254**	*e*P		**P**	**11 13 10.6**	**+2.2**
CMAR	**Chiang Mai Arr**	**50.22**	**254**	P		**P**	**11 13 11.0**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=37,slow=7.0,SNR=12								
CMAR	**Chiang Mai Arr**	**50.22**	**254**	P		**P**	**11 13 11.0**	**+0.7**
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**50.22**	**254**	P		**P**	**11 13 11.0**	**+0.7**
RES	**Resolute Bay**	**51.90**	**18**	P		**P**	**11 13 21.3**	**-0.8**
	comp=Z,15nm,0.8s,baz=333,slow=9.9,SNR=65								
RES	**Resolute Bay**	**51.90**	**18**	P		**P**	**11 13 21.3**	**-0.8**
RES				pmax	pmax				
	comp=Z,15nm,0.8s								
RES	**Resolute Bay**	**51.90**	**18**	*e*P		**P**	**11 13 21.1**	**-1.0**
	comp=Z,18nm,0.9s								
AAK	**Ala-Archa**	**52.12**	**295**	*d i*P		**P**	**11 13 24.5**	**+0.1**
AAK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
AAK	**Ala-Archa**	**52.12**	**295**	*e*P		**P**	**11 13 24.5**	**+0.1**
AAK	**Ala-Archa**	**52.12**	**295**	*e*P		**P**	**11 13 24.5**	**+0.1**
	comp=Z,3.4nm,0.8s								
YKA	**Yellowknife Ar**	**52.51**	**36**	P		**P**	**11 13 26.7**	**0.0**
	comp=Z,2.4nm,0.7s,baz=300,slow=7.0,SNR=21								
YKA				pP		**pP**	**11 14 08.5**	**+4.9**	
	comp=Z,0.8nm,0.9s,baz=302,slow=7.0,SNR=4.0								
YKA	**Yellowknife Ar**	**52.51**	**36**	P		**P**	**11 13 26.7**	**0.0**
YKA				*PP		**pP**	**11 14 08.5**	**+4.9**	
YKA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ODAN	**Odare**	**52.54**	**271**	*e*P		**P**	**11 13 29.4**	**+1.6**
EKS2	**Erkin-Say**	**52.55**	**296**	*e*P		**P**	**11 13 28.1**	**+0.6**
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.7s								
EKS2	**Erkin-Say**	**52.55**	**296**	*e*P		**P**	**11 13 28.1**	**+0.6**
	comp=Z,4.7nm,0.7s								
SVE	**Sverdlovsk**	**52.69**	**316**	*e*P		**P**	**11 13 27.1**	**-1.1**
SVE				pmax	pmax				
	comp=Z,15nm,0.7s								
KSH	**Kashi**	**52.85**	**291**	*e*P		P	11 13 34.5	+4.7	
KSH				sP		sP	11 13 41.5	-43	
KSH				*e*PP		**PP**	**11 15 35.3**	**+4.7**	
KSH				S		S	11 21 01.5	+16	
KSH				PMZ					
	comp=Z,100nm,7.8s								
KSH				LN					
	comp=Z,160nm,6.2s								
KSH				LE					
	comp=Z,120nm,5.2s								
KSH				LZ					
	comp=Z,220nm,5.3s								
JIRN	**Jiri**	**52.87**	**273**	*e*P		**P**	**11 13 31.9**	**+1.6**
	comp=Z,22nm,0.7s								
GUN	**Gumba**	**52.93**	**273**	*e*P		**P**	**11 13 31.7**	**+1.0**
	comp=Z,9.1nm,0.5s								
RAMN	**Ramite**	**53.03**	**272**	*e*P		**P**	**11 13 32.8**	**+1.4**
	comp=Z,17nm,0.6s								
KKN	**Kakani**	**53.42**	**274**	*e*P		**P**	**11 13 35.0**	**+0.8**
PKI	**Pulchoki**	**53.46**	**273**	*e*P		**P**	**11 13 35.5**	**+0.8**
	comp=Z,12nm,0.7s								
GKN	**Gorkha**	**53.73**	**274**	*e*P		**P**	**11 13 37.4**	**+1.0**
	comp=Z,22nm,0.8s								
ARU	**Arti**	**53.89**	**317**	*d i*P		**P**	**11 13 35.2**	**-1.7**
ARU							11 15 36.2		
ARU				S		**S**	**11 20 57.5**	**-1.6**
ARU				SS		**SS**	**11 24 37.5**	**-4.2**
ARU				pmax	pmax				
	comp=Z,17nm,1.0s								
ARU	**Arti**	**53.89**	**317**	*e*P		**P**	**11 13 35.1**	**-1.7**
	comp=Z,13nm,0.9s								
KKAR	**Karatay Array**	**54.34**	**298**	*e*P		**P**	**11 13 40.0**	**-0.4**
KKAR	**Karatay Array**	**54.34**	**298**	*e*P		**P**	**11 13 40.0**	**-0.4**
KOLN	**Koldanda**	**54.59**	**275**	*e*P		**P**	**11 13 44.1**	**+1.4**
	comp=Z,14nm,0.8s								
PYUN	**Piuthan**	**54.81**	**275**	*e*P		**P**	**11 13 45.0**	**+0.8**
	comp=Z,42nm,0.9s								
ARCES	**ARCESS Array B**	**57.55**	**340**	P		**P**	**11 14 01.2**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=14,slow=5.5,SNR=4.5								
ARCES	**ARCESS Array B**	**57.55**	**340**	P		**P**	**11 14 01.2**	**-1.6**
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SUMG	**Summit**	**61.25**	**3**	*e*P		**P**	**11 14 27.8**	**-0.8**
SUMG	**Summit**	**61.25**	**3**	*e*P		**P**	**11 14 27.8**	**-0.8**
FCC	**Fort Churchill**	**62.76**	**32**	*e*P		**P**	**11 14 37.8**	**-0.4**
FCC				pmax	pmax				
	comp=Z,3.0nm,0.5s								
FCC	**Fort Churchill**	**62.76**	**32**	*e*P		**P**	**11 14 37.8**	**-0.4**
	comp=Z,3.3nm,0.5s								
FINES	**FINESS Array B**	**63.50**	**334**	P		**P**	**11 14 41.1**	**-2.0**
	comp=Z,7.2nm,0.5s,baz=43,slow=6.8,SNR=41								
FINES	**FINESS Array B**	**63.50**	**334**	P		**P**	**11 14 41.1**	**-2.0**
FINES				pmax	pmax				
	comp=Z,7.0nm,0.5s								
BMN	**Battle Mountai**	**63.86**	**58**	*e*P		P	11 14 54.0	+7.9	
BMN				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BMN	**Battle Mountai**	**63.86**	**58**	*e*P		P	11 14 54.0	+7.9	
	comp=Z,5.3nm,0.6s								
OBN	**Obninsk**	**64.44**	**324**	*e*P		**P**	**11 14 46.7**	**-2.7**
OBN				*e*			11 15 23.6		
OBN				*e**SP		**sP**	**11 15 49.8**	**+4.6**	
OBN				*e*			11 17 10.6		
OBN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
NVAR	**Mina Array Bea**	**64.49**	**60**	P		**P**	**11 14 51.2**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=304,slow=6.4,SNR=3.4								
GEYT	**Alibeck**	**64.99**	**299**	P		**P**	**11 14 53.9**	**+0.5**
	comp=Z,4.3nm,0.5s,baz=46,slow=4.3,SNR=6.2								
SFJD	**Kangerlussuaq**	**65.92**	**9**	P		**P**	**11 14 57.6**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=330,slow=8.7,SNR=4.2								
SFJD	**Kangerlussuaq**	**65.92**	**9**	P		**P**	**11 14 57.6**	**-1.1**
SFJD				pmax	pmax				
	comp=Z,3.0nm,0.5s								
FRB	**Frobisher Bay**	**66.12**	**18**	P		**P**	**11 14 58.1**	**-1.8**
	comp=Z,5.0nm,0.4s,baz=342,slow=7.9,SNR=7.3								
FRB	**Frobisher Bay**	**66.12**	**18**	P		**P**	**11 14 58.2**	**-1.8**
FRB				pmax	pmax				
	comp=Z,5.0nm,0.4s								
PDAR	**Pinedale Array**	**66.69**	**52**	P		**P**	**11 15 04.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=253,slow=1.4,SNR=10.0								
WRAB	**Tennant Creek**	**67.46**	**196**	*e*P		**P**	**11 15 08.9**	**-0.1**
WRAB				pmax	pmax				
	comp=Z,13nm,1.1s								
WRA	**Warramunga Arr**	**67.47**	**196**	P		**P**	**11 15 09.2**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=17,slow=7.0,SNR=17								
WRA				PcP		**PcP**	**11 15 36.2**	**+1.0**	
	comp=Z,1.1nm,0.5s,baz=15,slow=4.9,SNR=9.9								
WRA	**Warramunga Arr**	**67.47**	**196**	P		**P**	**11 15 09.2**	**+0.1**
WRA							11 15 36.2		
WRA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
NB2	**NORSAR Subarra**	**67.92**	**340**	P		**P**	**11 15 09.6**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**67.92**	**340**	P		**P**	**11 15 09.7**	**-1.9**
	comp=Z,2.2nm,0.6s,baz=30,slow=6.4,SNR=7.2								
NOA	**NORSAR Array B**	**67.92**	**340**	P		**P**	**11 15 09.7**	**-1.9**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KBZ	**Khabaz**	**69.61**	**312**	P		**P**	**11 15 22.0**	**-0.2**
	comp=Z,3.7nm,0.7s								
KBZ	**Khabaz**	**69.61**	**312**	P		**P**	**11 15 22.0**	**-0.2**
KBZ				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ZEI	**Tsey**	**69.76**	**311**	*e*P		**P**	**11 15 22.4**	**-1.0**
ZEI				pmax	pmax				
	comp=Z,3.0nm,0.5s								
GLA	**Glamis**	**70.16**	**63**	*e*P		**P**	**11 15 24.5**	**-1.3**
GLA	**Glamis**	**70.16**	**63**	*e*P		**P**	**11 15 24.5**	**-1.3**
AKASG	**Malin Array Be**	**70.70**	**325**	P		**P**	**11 15 26.8**	**-1.9**
	comp=Z,2.6nm,0.5s,baz=34,slow=6.2,SNR=6.1								
AKASG	**Malin Array Be**	**70.70**	**325**	P		**P**	**11 15 26.8**	**-1.9**
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ASAR	**Alice Springs**	**71.18**	**196**	P		**P**	**11 15 33.2**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=8.8,slow=6.2,SNR=73								
ASAR	**Alice Springs**	**71.18**	**196**	P		**P**	**11 15 33.2**	**+1.3**
ASAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
SCHQ	**Schefferville**	**74.49**	**21**	P		**P**	**11 15 50.9**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=306,slow=6.2,SNR=7.7								
STHS	**Stebnicka Huta**	**74.79**	**328**	*e*P		**P**	**11 15 52.6**	**-0.3**
STHS	**Stebnicka Huta**	**74.79**	**328**	*e*P		**P**	**11 15 52.6**	**-0.3**
CRVS	**Cervenica-Dubn**	**75.14**	**328**	*e*P		**P**	**11 15 52.9**	**-2.0**
CRVS	**Cervenica-Dubn**	**75.14**	**328**	*e*P		**P**	**11 15 52.9**	**-2.0**
DPC	**Dobruska-Polom**	**75.72**	**331**	*e*P		**P**	**11 15 57.8**	**-0.4**
DPC	**Dobruska-Polom**	**75.72**	**331**	*e*P		**P**	**11 15 57.8**	**-0.4**
KECS	**Kecovo**	**75.85**	**328**	*e*P		**P**	**11 15 58.1**	**-0.8**
KECS	**Kecovo**	**75.85**	**328**	*e*P		**P**	**11 15 58.1**	**-0.8**
CLL	**Collm**	**75.95**	**334**	*e*P		**P**	**11 15 59.0**	**-0.4**
	comp=Z,6.0nm,0.8s								
CLL	**Collm**	**75.95**	**334**	*e*P		**P**	**11 15 59.0**	**-0.4**
CLL				pmax	pmax				
	comp=Z,6.0nm,0.8s								
VYHS	**Vyhne**	**76.44**	**329**	*e*P		**P**	**11 16 02.0**	**-0.2**
VYHS	**Vyhne**	**76.44**	**329**	*e*P		**P**	**11 16 02.0**	**-0.2**
BRTR	**Keskin Array B**	**77.22**	**315**	P		**P**	**11 16 07.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=90,slow=4.0,SNR=6.5								
BRTR	**Keskin Array B**	**77.22**	**315**	P		**P**	**11 16 07.0**	**0.0**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
GERES	**GERESS Array B**	**77.88**	**332**	P		**P**	**11 16 09.2**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=35,slow=4.9,SNR=9.8								
GERES	**GERESS Array B**	**77.88**	**332**	P		**P**	**11 16 09.2**	**-1.2**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
STKA	**Stephens Creek**	**78.21**	**187**	P		**P**	**11 16 13.8**	**+1.7**
	comp=Z,2.4nm,0.6s,baz=24,slow=5.1,SNR=14								
STKA	**Stephens Creek**	**78.21**	**187**	P		**P**	**11 16 13.8**	**+1.7**
STKA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
TXAR	**Lajitas Array**	**79.53**	**58**	P		**P**	**11 16 20.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=302,slow=4.7,SNR=7.5								
TXAR	**Lajitas Array**	**79.53**	**58**	P		**P**	**11 16 20.0**	**+0.3**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
CDF	**Champ du Feu**	**80.22**	**336**	*e*P		**P**	**11 16 22.0**	**-1.1**
CDF	**Champ du Feu**	**80.22**	**336**	*e*P		**P**	**11 16 22.0**	**-1.1**
CDF	**Champ du Feu**	**80.22**	**336**	*e*P		**P**	**11 16 22.0**	**-1.1**
PAGF	**Fort de Pagny**	**80.52**	**337**	*e*P		**P**	**11 16 24.1**	**-0.5**
	comp=Z,2.8nm,0.5s								
PAGF	**Fort de Pagny**	**80.52**	**337**	*e*P		**P**	**11 16 24.1**	**-0.5**
	comp=Z,2.8nm,0.5s								
FLN	**La Foliniere**	**81.88**	**341**	*e*P		**P**	**11 16 31.3**	**-0.4**
	comp=Z,6.2nm,0.6s								
FLN	**La Foliniere**	**81.88**	**341**	*e*P		**P**	**11 16 31.3**	**-0.4**
FLN				pmax	pmax				
	comp=Z,6.0nm,0.6s								
FLN	**La Foliniere**	**81.88**	**341**	*e*P		**P**	**11 16 31.3**	**-0.4**
	comp=Z,6.2nm,0.6s								
LDF	**La Druitiere**	**81.95**	**341**	*e*P		**P**	**11 16 31.6**	**-0.5**
	comp=Z,3.4nm,0.6s								
LDF	**La Druitiere**	**81.95**	**341**	*e*P		**P**	**11 16 31.6**	**-0.5**
LDF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
LDF	**La Druitiere**	**81.95**	**341**	*e*P		**P**	**11 16 31.6**	**-0.5**
	comp=Z,3.4nm,0.6s								
LOR	**Lormes**	**82.20**	**338**	*e*P		**P**	**11 16 32.5**	**-1.0**
	comp=Z,3.2nm,0.5s								
LOR	**Lormes**	**82.20**	**338**	*e*P		**P**	**11 16 32.5**	**-1.0**
LOR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
LOR	**Lormes**	**82.20**	**338**	*e*P		**P**	**11 16 32.5**	**-1.0**
	comp=Z,3.2nm,0.5s								
GRR	**Gorron**	**82.31**	**341**	*e*P		**P**	**11 16 33.5**	**-0.5**
GRR	**Gorron**	**82.31**	**341**	*e*P		**P**	**11 16 33.5**	**-0.5**
GRR	**Gorron**	**82.31**	**341**	*e*P		**P**	**11 16 33.5**	**-0.5**
SSF	**Saint Saulge**	**82.48**	**338**	*e*P		**P**	**11 16 34.6**	**-0.3**
	comp=Z,5.0nm,0.8s								
SSF	**Saint Saulge**	**82.48**	**338**	*e*P		**P**	**11 16 34.6**	**-0.3**
SSF				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SSF	**Saint Saulge**	**82.48**	**338**	*e*P		**P**	**11 16 34.6**	**-0.3**
	comp=Z,5.0nm,0.8s								
RAYN	**Ar Rayn**	**82.75**	**296**	*e*P		**P**	**11 16 37.3**	**+0.5**
	comp=Z,3.9nm,1.0s								
AVF	**Avril sur Loir**	**82.77**	**338**	*e*P		**P**	**11 16 35.1**	**-1.3**
	comp=Z,9.6nm,0.8s								
AVF	**Avril sur Loir**	**82.77**	**338**	*e*P		**P**	**11 16 35.1**	**-1.3**
AVF				pmax	pmax				
	comp=Z,10.0nm,0.8s								
AVF	**Avril sur Loir**	**82.77**	**338**	*e*P		**P**	**11 16 35.1**	**-1.3**
	comp=Z,9.6nm,0.8s								
SMF	**Signal de Mont**	**82.78**	**337**	*e*P		**P**	**11 16 35.1**	**-1.4**
	comp=Z,18nm,0.9s								
SMF	**Signal de Mont**	**82.78**	**337**	*e*P		**P**	**11 16 35.1**	**-1.4**
SMF				pmax	pmax				
	comp=Z,18nm,0.9s								
SMF	**Signal de Mont**	**82.78**	**337**	*e*P		**P**	**11 16 35.1**	**-1.4**
	comp=Z,18nm,0.9s								
SGMF	**Saint Gilles**	**82.82**	**342**	*e*P		**P**	**11 16 36.1**	**-0.5**
	comp=Z,10nm,0.4s								
SGMF	**Saint Gilles**	**82.82**	**342**	*e*P		**P**	**11 16 36.1**	**-0.5**
SGMF				pmax	pmax				
	comp=Z,11nm,0.4s								
SGMF	**Saint Gilles**	**82.82**	**342**	*e*P		**P**	**11 16 36.1**	**-0.5**
	comp=Z,10nm,0.4s								
ROSF	**Rostrenen**	**82.89**	**342**	*e*P		**P**	**11 16 36.9**	**-0.1**
	comp=Z,17nm,0.9s								
ROSF	**Rostrenen**	**82.89**	**342**	*e*P		**P**	**11 16 36.9**	**-0.1**
ROSF				pmax	pmax				
	comp=Z,17nm,0.9s								
ROSF	**Rostrenen**	**82.89**	**342**	*e*P		**P**	**11 16 36.9**	**-0.1**
	comp=Z,17nm,0.9s								
LPL	**La Plagne**	**83.00**	**335**	*e*P		**P**	**11 16 39.2**	**+1.3**
	comp=Z,11nm,0.9s								
LPL	**La Plagne**	**83.00**	**335**	*e*P		**P**	**11 16 39.2**	**+1.3**
LPL				pmax	pmax				
	comp=Z,11nm,0.9s								
LPL	**La Plagne**	**83.00**	**335**	*e*P		**P**	**11 16 39.2**	**+1.3**
	comp=Z,11nm,0.9s								
LPG	**La Plagne**	**83.01**	**335**	*e*P		**P**	**11

CPBX				*e*S		**Sg**	**11 20 25.6**	**+0.8**
CPBX				*e*			11 20 26.7	
CPBX				AML		AML	11 20 26.7	
	comp=N,33μm,0.2s							
CPBX				⇓*e*			11 20 30.0	
CPBX				AML		AML	11 20 30.0	
	comp=E,34μm,0.3s							
CPBX	**Cerro Prieto**	**0.24**	**354**	*i* P		**Pg**	**11 20 21.9**	**+0.4**
CPBX				*e*S		**Sg**	**11 20 24.3**	**-0.5**
RDX	**Rancho Dawling**	**0.62**	**247**	⇑*e*P		**Pb**	**11 20 29.7**	**+0.2**
RDX				*e*S		**Sb**	**11 20 38.3**	**0.0**
RDX				⇓*e*			11 20 40.1	
	comp=N,2μm,0.5s							
ECBX	**El Chinero**	**0.73**	**165**	⇓*e*P		**Pg**	**11 20 30.7**	**+0.2**
ECBX				⇓*e*			11 20 42.8	
	comp=E,2μm,0.5s							
RMX	**La Rumorosa**	**0.80**	**302**	⇑*e*P		**Pg**	**11 20 31.8**	**-0.1**
RMX				*e*S		**Sg**	**11 20 42.6**	**+0.1**
RMX				⇑*e*			11 20 43.1	
	comp=N,1μm,0.5s							
GLA	**Glamis**	**0.95**	**23**	*e*Pg		**Pg**	**11 20 33.1**	**-1.7**
GLA				*e*Sg		**Sg**	**11 20 44.8**	**-2.4**
ZAX	**El Zacaton**	**1.08**	**232**	⇓*e*P		**Pg**	**11 20 37.4**	**+0.2**
SPIG	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pb**	**11 20 38.3**	**-0.2**
SPIG				*e*S		**Sn**	**11 20 54.8**	**+0.2**
SPIG	**San Pedro Mart**	**1.14**	**188**	⇓*e*P		**Pb**	**11 20 38.3**	**-0.2**
SPIG	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pb**	**11 20 38.3**	**-0.2**
SPIG				*e*S		**Sn**	**11 20 54.8**	**+0.2**
SPX	**San Pedro Mart**	**1.14**	**188**	⇓*e*P		**Pb**	**11 20 38.3**	**-0.2**
SPX				⇑*e*			11 20 56.1	
	comp=E,654nm,0.4s							
SPX	**San Pedro Mart**	**1.14**	**188**	*i* P		**Pb**	**11 20 38.3**	**-0.2**
SPX				*e*S		**Sg**	**11 20 54.0**	**+0.7**
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pb**	**11 20 38.2**	**-0.8**
CBX				*e*S		**Sb**	**11 20 53.6**	**-0.9**
CBX	**Cerro Bola**	**1.19**	**277**	⇑*e*P		**Pb**	**11 20 38.3**	**-0.8**
CBX				*e*S		**Sb**	**11 20 54.2**	**-0.3**
CBX				*e*			11 20 55.9	
	comp=N,2μm,0.4s							
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pb**	**11 20 38.2**	**-0.8**
CBX				*e*S		**Sb**	**11 20 53.6**	**-0.9**
ECNX	**Esteban Cantu**	**1.24**	**246**	⇓*e*P		**Pn**	**11 20 39.9**	**0.0**
PBX	**Punta Banda**	**1.31**	**251**	⇑*e*P		**Pn**	**11 20 40.7**	**-0.1**
PFO	**Pinyon Flats O**	**1.74**	**325**	*e*Pn		**Pn**	**11 20 44.6**	**-2.3**
PFO				*e*Sn		**Sb**	**11 21 11.0**	**+0.5**
214A	**Organ Pipe Nat**	**2.10**	**95**	*e*Pn		**Pn**	**11 20 49.7**	**-2.0**
LDFC	**Landfair**	**2.90**	**3**	Pn		**Pn**	**11 21 02.9**	**+0.2**
LDFC				Sn		**Sn**	**11 21 39.8**	**+2.1**
GSC	**Goldstone, Bar**	**3.37**	**338**	Pn		**Pn**	**11 21 11.7**	**+2.6**
GSC				*e*Sn		**Sn**	**11 21 47.7**	**-1.5**
TUC	**Tucson**	**3.81**	**87**	Pn		**Pn**	**11 21 15.8**	**+0.5**
TUC				*e*Sn		**Sn**	**11 22 02.4**	**+2.3**
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn		**Pn**	**11 21 22.5**	**+0.2**
SHPR				*e*Sn		**Sn**	**11 22 14.3**	**+1.5**
ISA	**Isabella, Lake**	**4.38**	**323**	*e*Pn		**Pn**	**11 21 24.6**	**+1.6**
ISA				*e*Sn		**Sn**	**11 22 14.1**	**0.0**
WUAZ	**Wupatki**	**4.65**	**43**	*e*Pn		**Pn**	**11 21 27.6**	**+0.8**
WUAZ				*e*Sn		**Sn**	**11 22 22.8**	**+1.8**
W18A	**Petrified Fore**	**5.47**	**56**	*e*Pn		**Pn**	**11 21 39.0**	**+0.8**
	comp=N,5.3nm,0.4s							
W18A				*e*Sn		**Sn**	**11 22 41.6**	**+0.3**
CCUT	**Cedar City**	**5.59**	**16**	*e*Pn		**Pn**	**11 21 41.6**	**+1.8**
	comp=N,5.7nm,0.9s							
CCUT				*e*Sg		**Sg**	**11 23 16.5**	**+0.7**
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn		**Pn**	**11 21 49.5**	**-0.7**
	comp=N,6.7nm,0.2s							
121A				*e*Sn		**Sn**	**11 23 01.5**	**-1.4**

*ISCJB **27** 11:25:08.3±0.4, 32°.35N±0°.02×115°.34W±0°.02, h11km±3km, Error ellipse: s-maj=3.6km s-min=3.3km az=146.6*
*MEX **27** 11:25:10.8±0.5, 32°.40N×115°.23W, h15km, MD3.2*
*ECX **27** 11:25:10.1±0.5, 32°.33N×115°.31W, h7km, MD3.8, ML4.0*
*NEIC **27** 11:25:10.1, 32°.34N×115°.31W, h7km, MD3.7(MEX), ML3.8(ECX), ML3.8(PAS), After ECX.*

ISC 27 11:25:08.7±0.9, 32°.29N±0°.02×115°.35W±0°.03, h10km±6km, n35, σ1§36/62, 2C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.13**	**18**	*e*P	**Pg**	**11 25 11.6**	**-0.1**
CPBX				*e*P	**Pg**	**11 25 11.7**	**-0.1**
CPBX				*e*S	**Sg**	**11 25 13.5**	**-0.5**
CPBX				*e*		11 25 17.4	
	comp=E,150μm,0.5s						
CPBX	**Cerro Prieto**	**0.13**	**18**	*e*P	**Pg**	**11 25 11.7**	**0.0**
CPBX				*i* S	**Sg**	**11 25 14.1**	**+0.2**
MBIG	**Mexicali**	**0.17**	**49**	*i* P	**Pg**	**11 25 12.4**	**0.0**
MBIG				*i* S	**Sg**	**11 25 14.5**	**-0.5**
RDX	**Rancho Dawling**	**0.62**	**234**	*e*P	**Pb**	**11 25 21.9**	**+0.2**
RDX				*e*S	**Sb**	**11 25 31.2**	**+0.7**
RMX	**La Rumorosa**	**0.69**	**297**	*e*P	**Pb**	**11 25 22.6**	**-0.2**
RMX				*e*S	**Sb**	**11 25 32.0**	**-0.4**
RMX				⇑*e*		11 25 34.0	
RMX				AML	AML	11 25 34.0	
	comp=N,9μm,0.6s						
ECBX	**El Chinero**	**0.86**	**163**	*e*P	**Pg**	**11 25 24.4**	**-0.8**
ECBX				*e*S	**Sg**	**11 25 36.5**	**+0.2**
GLA	**Glamis**	**0.88**	**30**	*e*Pg	**Pg**	**11 25 24.0**	**-1.6**
GLA				*e*Sg	**Sg**	**11 25 35.3**	**-1.7**
ZAX	**El Zacaton**	**1.10**	**225**	⇓*e*P	**Pn**	**11 25 30.2**	**0.0**
CBX	**Cerro Bola**	**1.11**	**271**	*e*P	**Pb**	**11 25 29.6**	**-0.4**
CBX				*i* S	**Sb**	**11 25 44.5**	**-0.1**
CBX	**Cerro Bola**	**1.11**	**271**	⇑*e*P	**Pb**	**11 25 30.2**	**+0.1**
CBX				*e*S	**Sg**	**11 25 45.4**	**+0.9**
CBX	**Cerro Bola**	**1.11**	**271**	*e*P	**Pb**	**11 25 29.6**	**-0.4**
CBX				*i* S	**Sb**	**11 25 44.5**	**-0.1**
BAR	**Barrett**	**1.18**	**289**	*e*Pg	**Pb**	**11 25 30.9**	**-0.3**
BAR				*e*Sg	**Sb**	**11 25 45.9**	**-0.6**
ECNX	**Esteban Cantu**	**1.23**	**239**	⇓*e*P	**Pb**	**11 25 32.4**	**+0.3**
SPIG	**San Pedro Mart**	**1.25**	**184**	*e*P	**Pn**	**11 25 32.0**	**-0.4**
SPIG				*e*S	**Sb**	**11 25 48.4**	**-0.3**
SPIG	**San Pedro Mart**	**1.25**	**184**	*e*P	**Pn**	**11 25 31.4**	**-1.0**
SPIG	**San Pedro Mart**	**1.25**	**184**	*e*P	**Pn**	**11 25 32.0**	**-0.4**
SPIG				*e*S	**Sb**	**11 25 48.4**	**-0.3**
SPX	**San Pedro Mart**	**1.25**	**184**	*e*P	**Pn**	**11 25 32.6**	**+0.2**
SPX	**San Pedro Mart**	**1.25**	**184**	*e*P	**Pn**	**11 25 32.1**	**-0.4**
SPX				*i* S	**Sb**	**11 25 48.2**	**-0.6**
PBX	**Punta Banda**	**1.29**	**245**	⇓*e*P	**Pb**	**11 25 33.3**	**+0.1**
PFO	**Pinyon Flats O**	**1.61**	**325**	*e*Pn	**Pn**	**11 25 34.8**	**-2.4**
PFO				*e*Sn	**Sn**	**11 25 54.5**	**-3.5**
PASC	**Pasadena Art C**	**3.02**	**309**	*e*Pn	**Pn**	**11 25 58.0**	**+1.4**
PASC				*e*Sg	**Sg**	**11 26 46.9**	**+1.1**
GSC	**Goldstone, Bar**	**3.23**	**338**	*e*Pg	**Pg**	**11 26 10.8**	**+0.1**
OSI	**Osito Audit: C**	**3.65**	**310**	*e*Pn	**Pn**	**11 26 08.4**	**+3.2**
OSI				*e*Sg	**Sg**	**11 27 05.3**	**-0.5**
TUC	**Tucson**	**3.87**	**89**	*e*Pn	**Pn**	**11 26 08.9**	**+0.6**
TUC				*e*Sg	**Sg**	**11 27 11.4**	**-1.5**
SHPR	**Sheep Range**	**4.20**	**2**	*e*Pn	**Pn**	**11 26 12.6**	**-0.4**
ISA	**Isabella, Lake**	**4.25**	**323**	*e*Pn	**Pn**	**11 26 13.9**	**+0.5**
ISA				*e*Sg	**Sg**	**11 27 25.7**	**+0.7**
DAC	**Darwin (Calif)**	**4.38**	**336**	*e*Pn	**Pn**	**11 26 16.1**	**+0.6**
DAC				*e*Sn	**Sn**	**11 27 08.7**	**+2.0**
W18A	**Petrified Fore**	**5.46**	**57**	*e*Pn	**Pn**	**11 26 31.1**	**+0.9**
	comp=N,20nm,0.5s						
W18A				*e*Sn	**Sn**	**11 27 31.6**	**-1.7**
CCUT	**Cedar City**	**5.49**	**17**	*e*Pn	**Pn**	**11 26 32.1**	**+1.4**
	comp=N,35nm,1.2s						
CCUT				*e*Sg	**Sg**	**11 28 05.8**	**+0.8**
TPH	**Tonopah**	**5.97**	**346**	*e*Pn	**Pn**	**11 26 40.2**	**+3.0**
	comp=N,7.7nm,0.7s						
TPH				*e*Sg	**Sg**	**11 28 20.6**	**+0.3**
R11A	**Troy Canyon, C**	**6.04**	**358**	*e*Pn	**Pn**	**11 26 38.5**	**+0.2**
	comp=N,5.3nm,0.7s						
R11A				*e*Sn	**Sn**	**11 27 44.0**	**-3.6**
121A	**Cookes Peak, D**	**6.40**	**86**	*e*Pn	**Pn**	**11 26 42.7**	**-0.5**
121A				*e*Sn	**Sn**	**11 27 59.5**	**+3.0**
MVU	**Marysvale**	**6.71**	**22**	*e*Pn	**Pn**	**11 26 47.8**	**+0.4**
	comp=N,6.0nm,0.6s						
MVCO	**Mesa Verde**	**7.47**	**47**	*e*Pn	**Pn**	**11 26 60.0**	**+2.1**
	comp=N,127nm,1.0s						
MVCO				*e*Sn	**Sn**	**11 28 25.1**	**+2.2**
SRU	**San Rafael Swe**	**7.85**	**29**	Pn	**Pn**	**11 27 06.2**	**+3.1**
	comp=N,6.7nm,0.6s						

NEIC 27 11:25:39.5, 32°.26N×115°.34W, h10km, ML3.8(PAS), After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**0.90**	**29**	Pg	Pg	11 25 55.6	-1.3
GLA				*e*Sg	Sg	11 26 07.8	-1.0
BAR	**Barrett**	**1.20**	**291**	*e*Pg	Pb	11 26 02.2	-0.1
BAR				*e*Sg	Sb	11 26 17.5	-0.4
PFO	**Pinyon Flats O**	**1.64**	**326**	*e*Pn	Pn	11 26 08.0	-0.6
PFO				*e*Sn	Sn	11 26 26.0	-3.8
MWC	**Mount Wilson**	**3.00**	**311**	Pn	Pn	11 26 27.7	+0.4
MWC				*e*Sn	Sn	11 27 04.2	+0.6
OSI	**Osito Audit: C**	**3.67**	**311**	*e*Pn	Pn	11 26 37.7	+1.2
TUC	**Tucson**	**3.86**	**88**	*e*Pn	Pn	11 26 38.2	-0.8
TUC				*e*Sn	Sn	11 27 25.0	+0.4
SHPR	**Sheep Range**	**4.24**	**2**	*e*Pn	Pn	11 26 43.8	-0.6
SHPR				*e*Sn	Sn	11 27 32.9	-1.2
ISA	**Isabella, Lake**	**4.28**	**323**	*e*Pn	Pn	11 26 44.3	-0.4
TPH	**Tonopah**	**6.00**	**346**	*e*Pn	Pn	11 27 06.4	-2.2
TPH				Sn	Sn	11 28 17.5	-0.1

*ISCJB **27** 11:32:58.4±0.7, 6°.96N±0°.08×73°.2W±0°.1, h161km, mb3.5/1, Error ellipse: s-maj=17.0km s-min=6.4km az=34.5*
*FUNV **27** 11:32:58.5, 6°.80N×73°.18W, h176km, MW3.0*
*IDC **27** 11:32:58.5±5.3, 6°.54N×72°.78W, h167km±39km, mb3.2/2, mb1 3.4/3, mb1mx3.0/33, mbtmp3.8/3, Error ellipse: s-maj=83.8km s-min=31.4km az=83.0*

ISC 27 11:32:59.3±1.0, 6°.90N±0°.08×73°.1W±0°.1, h161km, n10, σ1§25/15, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.25**	**39**	⇑*i*P	**Pn**	**11 33 28.2**	**+0.7**
CAPV				*e*S	**Sn**	**11 33 50.2**	**+0.9**
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**11 33 40.2**	**+0.5**
	13nm,0.3s,baz=85,slow=21,SNR=15						
ROSC				S	**Sn**	**11 34 08.8**	**-2.1**
	20nm,0.3s,baz=107,slow=16,SNR=5.7						
VIGV	**El Vigia**	**2.60**	**42**	*e*P	**Pn**	**11 33 42.6**	**+0.4**
VIGV				*e*S	**Sn**	**11 34 15.4**	**0.0**
SOCV	**Socops**	**2.63**	**58**	*e*P	**Pn**	**11 33 43.1**	**+0.5**
SOCV				*e*S	**Sn**	**11 34 15.1**	**-1.0**
VIRV	**Villa del Rosa**	**3.65**	**11**	*e*P	**Pn**	**11 33 54.9**	**-0.5**
VIRV				*e*S	**Sn**	**11 34 36.9**	**-2.3**
CURV	**Curarigua**	**4.40**	**45**	*e*P	**Pn**	**11 34 03.9**	**-1.2**
DABV	**Dabajuro**	**4.69**	**31**	*e*P	**Pn**	**11 34 08.8**	**-0.1**
TEIG	**Tepich**	**19.80**	**314**	P	**Pn**	**11 37 22.6**	**+1.9**
	3.6nm,0.7s,baz=54,slow=8.7,SNR=3.2						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**11 43 10.4**	**+0.4**
	0.4nm,0.6s,baz=129,slow=6.6,SNR=7.1						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**11 52 31.6**	**-1.0**
	0.3nm,0.9s,baz=109,slow=2.8,SNR=3.0						

*ISCJB **27** 11:35:47.1±0.8, 32°.36N±0°.04×115°.28W±0°.05, h18km±6km, Error ellipse: s-maj=7.9km s-min=5.9km az=40.3*
*ECX **27** 11:35:48.8±0.4, 32°.33N×115°.33W, h6km, MD2.7, ML2.9*
*MEX **27** 11:35:48.4±0.6, 32°.40N×115°.34W, h10km, MD3.5*

ISC 27 11:35:46.6±1.3, 32°.38N±0°.06×115°.28W±0°.06, h23km±9km, n12, σ0§95/24, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.04**	**333**	*e*P	**Pb**	**11 35 51.1**	**+0.5**
CPBX				*e*S	**Sb**	**11 35 52.7**	**-0.5**
CPBX				AML	AML	11 35 53.7	
	comp=E,18μm,0.2s						
CPBX				⇑*e*		11 35 53.7	
MBIG	**Mexicali**	**0.08**	**68**	*e*P	**Pb**	**11 35 51.3**	**+0.6**
MBIG				*i* S	**Sb**	**11 35 52.6**	**-0.9**
RMX	**La Rumorosa**	**0.71**	**288**	*e*P	**Pb**	**11 36 00.9**	**+0.5**
RMX				*e*S	**Sb**	**11 36 10.8**	**+1.1**
RMX				*e*		11 36 11.6	
	comp=E,398nm,0.1s						
RDX	**Rancho Dawling**	**0.72**	**231**	*e*P	**Pb**	**11 36 00.2**	**-0.3**
RDX				*e*S	**Sb**	**11 36 09.4**	**-0.6**
RDX				⇑*e*		11 36 11.7	
	comp=N,294nm,0.3s						
ECBX	**El Chinero**	**0.93**	**168**	*e*P	**Pb**	**11 36 03.8**	**-0.1**
ECBX				*e*S	**Sb**	**11 36 16.0**	**+0.2**
ECBX				⇓*e*		11 36 16.5	
	comp=N,393nm,0.4s						
CBX	**Cerro Bola**	**1.17**	**267**	*e*P	**Pn**	**11 36 06.2**	**-1.5**
CBX				*e*S	**Sb**	**11 36 20.5**	**-2.5**
CBX	**Cerro Bola**	**1.17**	**267**	*e*P	**Pb**	**11 36 08.8**	**+0.6**
CBX				*e*S	**Sn**	**11 36 23.9**	**+0.8**
CBX				AML	AML	11 36 26.9	
	comp=N,306nm,0.5s						
CBX				⇑*e*		11 36 26.9	
ZAX	**El Zacaton**	**1.21**	**225**	*e*P	**Pn**	**11 36 08.6**	**+0.5**
ZAX				*e*S	**Sb**	**11 36 24.2**	**+0.2**
ECNX	**Esteban Cantu**	**1.33**	**238**	*e*P	**Pn**	**11 36 10.7**	**+0.9**
ECNX				*e*S	**Sb**	**11 36 27.9**	**+0.4**
SPIG	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pn**	**11 36 10.5**	**+0.3**
SPIG				*e*S	**Sn**	**11 36 26.1**	**-1.4**
SPX	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pb**	**11 36 11.3**	**+0.1**
SPX				*e*S	**Sb**	**11 36 29.0**	**+1.0**
SPX				*e*		11 36 32.7	
	comp=N,143nm,0.5s						
PBX	**Punta Banda**	**1.38**	**243**	*e*P	**Pb**	**11 36 11.7**	**-0.1**
PBX				*e*S	**Sb**	**11 36 29.7**	**+0.8**

IDC 27 11:41:09.2±1.3, 56°.32S×25°.58W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/17, mbtmp4.1/4, Error ellipse: s-maj=43.3km s-min=32.3km az=69.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**46.22**	**299**	P	P	11 49 35.9	-0.3
	8.5nm,0.6s,baz=162,slow=6.7,SNR=6.3						
VNDA	**Vanda**	**46.34**	**192**	P	P	11 49 36.0	-0.2
	0.5nm,0.7s,baz=150,slow=8.3,SNR=5.1						
LPAZ	**La Paz**	**51.27**	**304**	P	P	11 50 15.4	-0.1
	1.0nm,0.3s,baz=148,slow=3.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**72.86**	**28**	P	P	11 52 39.7	0.0
	0.5nm,0.6s,baz=195,slow=6.6,SNR=4.8						
ILAR	**Eielson Array**	**150.97**	**311**	PKPbc	PKPbc	12 01 02.1	-0.2
	0.4nm,0.8s,baz=122,slow=2.0,SNR=5.1						

NNC 27 11:44:25.8±3.6, 49°.81N×72°.82E, h0km, mb3.6, mpv3.3, 5C-3D, Error ellipse: s-maj=38.2km s-min=11.3km az=25.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BVA0	**Borovoye Array**	**3.56**	**336**	⇑Pn	Pn	11 45 25.0	+2.6
	2.8nm,0.3s,baz=128,slow=16,SNR=7.7						
BVA0				⇑Sn	Sn	11 46 05.2	0.0
	14nm,0.5s,baz=137,slow=29,SNR=9.9						
KURBB	**Kurchatov Arra**	**3.76**	**75**	⇓Pn	Pn	11 45 23.2	-1.8
	8.2nm,0.4s						
KURBB				⇑Sn	Sn	11 46 11.4	+1.4
	67nm,0.7s						
KURK	**Kurchatov**	**3.83**	**74**	⇑Pn	Pn	11 45 25.4	-0.7
	2.3nm,0.5s						
KURK				⇓Sn	Sn	11 46 13.4	+1.6
	27nm,0.9s						
MK31	**Makanchi Array**	**7.00**	**112**	⇑Pg	Pg	11 46 34.4	-5.6
	0.5nm,0.4s,baz=297,slow=16,SNR=4.0						
MK31				⇓Lg	Lg	11 48 08.4	
	7.7nm,0.8s,baz=299,slow=32,SNR=7.1						

IDC 27 11:44:29.0±375.0, 54°.06N×41°.95E, h0km, Error ellipse: s-maj=156.6km s-min=77.8km az=140.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.80**	**317**	*i*		12 07 36.4	
	baz=132,slow=328,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**10.52**	**104**	*i*		12 49 33.9	
	baz=295,slow=320,SNR=0.4						
I34MN	**SONGINO INFRAS**	**39.83**	**72**	*i*		15 49 50.0	
	baz=303,slow=325,SNR=0.4						

MAN 27 11:46:39, 18°.86N×121°.08E, h2km, mb4.5, ML3.3, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.69**	**219**	⇑*i*P	Pg	11 46 52.6	+0.3
PIP				*e*S	Sn	11 47 06.9	-0.2
APYP	**Conner**	**1.01**	**171**	*e*P	Pn	11 47 00.1	0.0
APYP				*e*S	Sn	11 47 17.6	+2.8
SGCP	**Mt. Cagua**	**1.10**	**124**	*e*P	Pb	11 47 00.7	-0.1
SGCP				*e*S	Sn	11 47 17.6	+0.3
SIPP	**Brgy, Tapao**	**1.10**	**212**	⇓*e*P	Pn	11 47 01.2	-0.3
SIPP				*e*S	Sn	11 47 22.2	+4.8
ABRA	**Dolores**	**1.26**	**196**	*e*P	Pn	11 47 04.1	+0.6
ABRA				*e*S	Sg	11 47 05.8	-14
BALP	**Baler**	**3.14**	**171**	*e*P	Pn	11 47 31.9	+2.4
BALP				*e*S	Sn	11 48 10.7	+3.1
SCZP	**Santa Cruz**	**3.27**	**200**	*e*P	Pg	11 47 42.8	+1.1

PGC 27 12:13:58.1±0.6, 50°.68N×130°.50W, h10km, ML2.9/7, Mw3.5, 4D, 217km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.51**	**90**	⇑Pn	Pn	12 14 23.1	-2.2
HOLB				⇑Sn	Sn	12 14 41.0	-4.1
BPBC	**Brooks Peninsu**	**1.82**	**105**	⇓Pn	Pn	12 14 27.3	-2.3
BPBC				⇑Sn	Sn	12 14 48.5	-4.3
PHC	**Port Hardy**	**1.95**	**88**	Pn	Pn	12 14 29.5	-1.8
PHC				⇑Sn	Sn	12 14 51.9	-4.0
BNB	**Barry Inlet**	**2.06**	**338**	⇑Pn	Pn	12 14 30.6	-2.2
BBB	**Bella Bella**	**2.13**	**44**	Pn	Pn	12 14 31.9	-1.8
BBB				⇑Sn	Sn	12 14 56.1	-4.1
MAYB	**Maynard**	**2.14**	**96**	Pn	Pn	12 14 32.4	-1.8
MAYB				⇑Sn	Sn	12 14 57.2	-3.8
FHRB	**Fair Harbour**	**2.25**	**105**	⇓Pn	Pn	12 14 33.8	-1.7
FHRB				⇓Sn	Sn	12 14 58.8	-4.4
EDB	**Eliza Dome**	**2.31**	**109**	⇑Pn	Pn	12 14 34.5	-1.8
TLCB	**Telegraph Cove**	**2.34**	**92**	⇓Pn	Pn	12 14 35.6	-1.0
TLCB				⇑Sn	Sn	12 15 02.0	-3.4
WOSB	**Woss**	**2.57**	**100**	Pn	Pn	12 14 38.5	-1.4
DIB	**Dawson Inlet,**	**2.81**	**335**	⇑Pn	Pn	12 14 41.6	-1.5
SPLB	**Strathcona Par**	**3.21**	**102**	⇑Pn	Pn	12 14 47.6	-0.9
BTB	**Buttle Lake**	**3.43**	**109**	Pn	Pn	12 14 50.5	-1.4

*ISCJB **27** 12:33:52.6±1.0, 2°.79N±0°.06×127°.67E±0°.07, h100km, mb3.8/4, Error ellipse: s-maj=11.6km s-min=6.8km az=145.5*
*DJA **27** 12:33:57.7±0.6, 3°.N±4°×12°.7E±°, h43km±17km, M4.3/9, mB4.8/1, mb4.5/3, MLv4.3/9, Mw(mB)4.0/1*
*IDC **27** 12:33:58.3±11.0, 2°.67N×127°.95E, h139km±96km, mb3.4/4, mb1 3.7/5, mb1mx3.3/24, mbtmp4.0/5, Error ellipse: s-maj=124.5km s-min=24.1km az=61.0*

ISC 27 12:33:53.7±1.1, 2°.76N±0°.08×127°.65E±0°.10, h100km, n13, σ1§27/18, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.00**	**188**	P	**Pn**	**12 34 27.2**	**+0.9**
TNTI				S	**Sn**	**12 34 51.2**	**+0.1**
SGSI	**Sangihe**	**2.31**	**293**	P	**Pn**	**12 34 30.5**	**+0.2**
SGSI				S	**Sn**	**12 34 57.4**	**-0.9**
LBMI	**Labuha**	**3.38**	**183**	P	**Pn**	**12 34 46.6**	**+2.0**
LBMI				S	**Sn**	**12 35 24.8**	**+0.9**
KMSI	**Cibinong**	**4.26**	**239**	P	**Pn**	**12 34 57.0**	**+0.5**
KMSI				S	**Sn**	**12 35 44.7**	**-0.5**
SANI	**Sanana**	**5.06**	**199**	P	**Pn**	**12 35 06.0**	**-1.3**
SANI				S	Sn	12 35 56.7	-7.8
SWI	**Sorong**	**5.10**	**135**	P	Pn	12 35 13.0	+5.3
	16nm,0.5s,0.1nm						
MRSI	**Marisa**	**6.14**	**248**	P	**Pn**	**12 35 23.2**	**+1.3**
	66nm,0.8s,776nm0.2nm						
APSI	**Ampana**	**7.02**	**239**	P	**Pn**	**12 35 36.1**	**+2.2**
BATI	**Baumata**	**13.48**	**197**	P	**P**	**12 37 05.4**	**-1.3**
	3.6nm,0.3s,baz=248,slow=3.1,SNR=3.1						
WRA	**Warramunga Arr**	**23.50**	**164**	P	**P**	**12 38 53.5**	**-1.3**
	1.5nm,0.3s,baz=345,slow=9.8,SNR=48						
WRA				PcP	**PcP**	**12 42 37.1**	**-0.8**
	0.4nm,0.7s,baz=344,slow=2.4,SNR=3.8						
ASAR	**Alice Springs**	**26.97**	**167**	P	**P**	**12 39 25.2**	**-0.9**
	0.3nm,0.3s,baz=342,slow=7.7,SNR=21						
ASAR				PcP	**PcP**	**12 42 45.2**	**-0.4**
	0.5nm,0.5s,baz=349,slow=2.1,SNR=8.6						
STKA	**Stephens Creek**	**36.91**	**160**	P	**P**	**12 40 52.6**	**-0.3**
	2.2nm,0.4s,baz=347,slow=6.8,SNR=22					

KK31	**Karatay Array**	6.08	353	⇓Pn		Pn	13 44 43.4	+1.5
	2.2nm,0.5s,baz=180,slow=14,SNR=30							
KK31				⇓Sn		Sn	13 45 45.5	-4.5
	11nm,0.7s,baz=176,slow=25,SNR=7.2							
CHMS	**Chumysh**	6.43	22	P		Pn	13 44 48.6	+1.9
	SNR=12							
USP	**Ospenovka**	6.61	19	P		Pn	13 44 50.6	+1.5
	SNR=6.3							
TKM2	**Tokmak 2**	6.64	27	P		Pn	13 44 51.3	+1.6
	SNR=14							
PYUN	**Piuthan**	13.18	129	*e*P		Pn	13 46 16.8	-0.8
	24nm,0.6s							
KOLN	**Koldanda**	13.79	129	*e*P		Pn	13 46 24.7	-0.9
	6.0nm,0.4s							
GKN	**Gorkha**	14.29	125	*e*P		Pn	13 46 31.6	-0.4
	8.0nm,0.5s							
AB31	**Akbulak array**	14.79	329	⇑Pn		Pn	13 46 37.8	-0.1
	0.4nm,0.4s							
KKN	**Kakani**	14.86	125	*e*P		Pn	13 46 38.0	-1.2
	7.8nm,0.5s							
PKI	**Pulchoki**	15.09	125	*e*P		Pn	13 46 40.9	-1.3
JIRN	**Jiri**	15.55	123	*e*P		Pn	13 46 47.4	-0.7
	13nm,0.5s							
RAMN	**Ramite**	16.29	124	*e*P		Pn	13 46 56.3	-0.8
	13nm,0.7s							
TAPN	**Taplejung**	16.78	121	*e*P		Pn	13 47 02.7	-0.5
	2.4nm,0.3s							
ODAN	**Odare**	16.88	123	*e*P		Pn	13 47 03.2	-1.1
	4.4nm,0.5s							

IGQ 27 14:00:22±0.2**, 0°95S×79°24W, h3**km±173km**, Mb4.3, 21C-11D, Error ellipse: s-maj=1.5km s-min=0.8km az=109.1, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAST	**Pastocalle**	0.65	67	P	Pn	14 00 40.3	+1.6
CAMI	**Rancho Maria**	0.78	70	⇑P	Pn	14 00 42.9	+2.3
IGUA	**Igualata**	0.81	132	P	Pn	14 00 42.0	+0.9
BMOR	**Cotopaxi Volca**	0.81	75	⇑P	Pn	14 00 42.8	+1.7
BMOR	**Cotopaxi Volca**	0.81	75	⇑S	Sn	14 00 55.3	+1.1
NAS2	**Nasa**	0.83	69	P	Pn	14 00 42.4	+1.1
MOV1	**Cotopaxi Vol s**	0.83	74	P	Pn	14 00 43.0	+1.5
MOV1	**Cotopaxi Vol s**	0.83	74	S	Sn	14 00 57.7	+2.8
BREF	**Cotopaxi Volca**	0.85	71	⇑P	Pn	14 00 43.6	+1.9
BREF	**Cotopaxi Volca**	0.85	71	⇑S	Sn	14 00 58.1	+2.9
PISA	**Pisayambo**	0.86	97	⇓P	Pn	14 00 42.3	+0.6
BVC2	**Cotopaxi Volca**	0.88	71	⇑P	Pn	14 00 43.6	+1.5
BTAM	**Cotopaxi Volca**	0.89	72	⇑P	Pn	14 00 43.7	+1.5
VC1	**Cotopaxi 1**	0.89	70	⇑P	Pn	14 00 43.8	+1.6
BIL2	**Estacion Bilba**	0.90	124	P	Pn	14 00 42.4	+0.5
BBIL	**Ulba Tungurahu**	0.90	124	⇓P	Pn	14 00 42.5	+0.4
JUI6	**Juive**	0.91	122	P	Pn	14 00 42.4	+0.3
TAMB	**Tambo**	0.91	74	P	Pn	14 00 43.8	+1.4
COV1	**Cotopaxi Volc**	0.94	73	⇑P	Pn	14 00 43.6	+0.6
RETU	**Refugio**	0.94	122	P	Pn	14 00 43.8	+0.9
RUN5	**Runtun**	0.94	120	P	Pn	14 00 43.8	+1.2
BMAS	**Trigal station**	0.94	126	⇓P	Pn	14 00 43.8	+1.1
BRUN	**Tungurahua Vol**	0.95	120	⇓P	Pn	14 00 43.8	+0.9
BRUN	**Tungurahua Vol**	0.95	120	⇓S	Sn	14 00 59.5	+2.3
ARRY	**Arrayan**	0.96	125	⇓P	Pn	14 00 43.9	+0.9
BULB	**Ulba Tungurahu**	0.96	120	⇓P	Pn	14 00 43.0	0.0
JUA2	**San Juan 2**	0.96	41	P	Pn	14 00 43.4	+0.3
ULBA	**Ulba**	0.97	121	⇓P	Pn	14 00 43.1	0.0
PAT1	**Patacocha**	0.98	125	⇓P	Pn	14 00 43.5	+0.1
BPAT	**Tungurahua Vol**	0.98	124	⇓P	Pn	14 00 43.4	0.0
TERV	**Terraza Guagua**	1.00	40	⇑P	Pn	14 00 44.8	+1.1
GGP	**Refugio Guagua**	1.00	40	⇑P	Pn	14 00 44.9	+1.1
PINO	**Pino**	1.01	39	⇑P	Pn	14 00 44.8	+0.9
RIOE	**Riobamba**	1.01	143	P	Pn	14 00 43.4	-0.2
MAG1	**Magdalena**	1.02	328	⇑P	Pn	14 00 44.6	+1.3
YANA	**Yana**	1.06	39	⇑P	Pn	14 00 44.2	-0.3
GOLV	**Golondrinas**	1.15	5	⇑P	Pb	14 00 44.6	0.0
JAMA	**Jama**	1.18	305	P	Pn	14 00 45.8	+0.2
ANTI	**Antisana**	1.19	65	⇓P	Pn	14 00 46.9	+0.5
OTAV	**Otavalo**	1.42	34	⇑S	Sg	14 01 08.5	-0.1
OTAV	**Otavalo**	1.42	34	⇑P	Pn	14 00 48.0	-1.3
CAYR	**Refugio Cayamb**	1.56	52	⇑P	Pn	14 00 51.6	0.0
ANGU	**Angureal**	1.58	51	P	Pn	14 00 52.0	+0.2
CAYA	**Cayambe**	1.61	51	⇑P	Pn	14 00 51.9	-0.2
MACE	**Macas**	1.67	141	P	Pn	14 00 51.4	-1.0
CONE	**Cono NE Rev Vo**	1.82	61	P	Pn	14 00 53.4	-1.3
LAV4	**Lava4-Reventad**	1.82	62	P	Pn	14 00 53.2	-1.4
LITE	**Lita**	1.95	27	⇑P	Pn	14 00 54.4	-1.8
LITE	**Lita**	1.95	27	⇑S	Sn	14 01 19.3	-2.1

*IDC **27** 14:01:04.5±1.7, 35°.20N×26°.36E, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.5/3, ML4.2/1, Error ellipse: s-maj=41.8km s-min=19.5km az=162.0*
*ATH **27** 14:01:05.9, 35°.49N×26°.31E, h31km±1km, MD3.3/7*
*CSEM **27** 14:01:07.0±0.5, 35°.47N±0°.04×26°.30E±0°.03, h28km±5km, mb3.5/2, Error ellipse: s-maj=7.0km s-min=3.3km az=163.6*
*THE **27** 14:01:06.9, 35°.48N×26°.31E, h15km±3km, ML3.3/2, Error ellipse: s-maj=4.1km s-min=1.0km az=169.0*
*ISK **27** 14:01:11.6, 36°.09N×26°.34E, h7km, MD3.7, ML3.3*
ISC 27 14:01:06.5±1.0**, 35°.52N**±0°.03×**26°.30E**±0°.02**, h15**km±8km**, n53**, σ0**°66**/83**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	0.41	189	P	**Pg**	14 01 14.3	-0.4
ZKR				S	**Sb**	14 01 21.1	-0.4
ZKR	**Zakros**	0.41	189	*e*PB	**Pg**	14 01 14.6	-0.1
ZKR				*e*SB	**Sb**	14 01 21.2	-0.3
ZKR	**Zakros**	0.41	189	P	**Pg**	14 01 14.3	-0.4
ZKR	**Zakros**	0.41	189	*e*Pb	**Pg**	14 01 14.6	-0.1
ZKR				*e*Sb	**Sb**	14 01 21.2	-0.3
NPS	**Neapolis**	0.61	245	P	**Pb**	14 01 19.0	+0.1
NPS				S	**Sg**	14 01 27.1	+0.4
NPS	**Neapolis**	0.61	245	*e*PN	**Pb**	14 01 19.0	+0.1
NPS				*e*SN	**Sb**	14 01 27.7	+0.3
NPS	**Neapolis**	0.61	245	P	**Pb**	14 01 19.0	+0.1
NPS				S	**Sg**	14 01 27.1	+0.4
NPS				*e*Sn	**Sb**	14 01 27.7	+0.3
KARP	**Karpathos**	0.71	88	P	**Pg**	14 01 19.7	-0.5
KARP				S	**Sb**	14 01 30.2	+0.1
KARP	**Karpathos**	0.71	88	*e*PN	**Pg**	14 01 19.8	-0.5
KARP				*e*SN	**Sb**	14 01 30.6	+0.5
KARP	**Karpathos**	0.71	88	*e*Pn	**Pg**	14 01 19.8	-0.5
KARP				S	**Sb**	14 01 30.2	+0.1
KARP				*e*Sn	**Sb**	14 01 30.6	+0.5
LAST	**Lasithi**	0.76	242	*e*PN	**Pb**	14 01 21.5	+0.1
LAST				*e*SN	**Sb**	14 01 31.8	+0.2
LAST	**Lasithi**	0.76	242	*e*Pn	**Pb**	14 01 21.5	+0.1
LAST				*e*Sn	**Sb**	14 01 31.8	+0.2
SANT	**Santorini**	1.09	322	P	**Pb**	14 01 26.8	-0.2
SANT				S	**Sb**	14 01 41.3	+0.2
SANT	**Santorini**	1.09	322	*e*PN	**Pb**	14 01 27.1	+0.1
SANT				*e*SN	**Sg**	14 01 42.1	+0.4
SANT	**Santorini**	1.09	322	P	**Pb**	14 01 26.8	-0.2
SANT	**Santorini**	1.09	322	*e*Pn	**Pb**	14 01 27.1	+0.1
SANT				S	**Sb**	14 01 41.3	+0.2
SANT				*e*Sn	**Sg**	14 01 42.1	+0.4
THR6	**Thira Island,**	1.11	319	P	**Pb**	14 01 27.5	+0.2
THR6	**Thira Island,**	1.11	319	P	**Pb**	14 01 27.5	+0.2
THR2	**Thira island,**	1.16	323	P	**Pn**	14 01 28.1	-0.1
THR2	**Thira island,**	1.16	323	P	**Pn**	14 01 28.1	-0.1
IDI	**Anoyia**	1.17	259	Pn	**Pb**	14 01 28.7	+0.2
	47nm,0.3s,baz=90,slow=4.0,SNR=109						
IDI				Sn	**Sg**	14 01 45.2	+0.8
	378nm,0.3s,baz=3.5,slow=19,SNR=31						
THR5	**Thira Island,**	1.18	320	P	**Pn**	14 01 28.5	0.0
THR5	**Thira Island,**	1.18	320	P	**Pn**	14 01 28.5	0.0
DAT	**Datca**	1.59	40	*e*PN	**Pn**	14 01 34.8	+0.6
ARG	**Arkhangelos**	1.64	64	P	**Sn**	14 01 54.6	-1.0
ARG				S	**Sn**	14 01 54.6	-1.0
ARG	**Arkhangelos**	1.64	64	*e*PN	**Pn**	14 01 35.2	+0.4
ARG				*e*SN	**Sn**	14 01 55.8	+0.2
ARG	**Arkhangelos**	1.64	64	P	**Pn**	14 01 34.6	-0.2
ARG	**Arkhangelos**	1.64	64	*e*Pn	**Pn**	14 01 35.2	+0.4
ARG				S	**Sn**	14 01 54.6	-1.0
ARG				*e*Sn	**Sn**	14 01 55.8	+0.2
APE	**Apeiranthos**	1.67	338	P	**Pn**	14 01 35.0	-0.2
APE				S	**Sb**	14 01 57.5	-0.2
APE	**Apeiranthos**	1.67	338	P	**Pn**	14 01 35.0	-0.2
APE				S	**Sb**	14 01 57.5	-0.2
VAM	**Vamos**	1.71	267	P	**Pn**	14 01 34.2	-1.6
VAM				S	**Sn**	14 01 57.1	-0.4
VAM	**Vamos**	1.71	267	P	**Pn**	14 01 34.2	-1.6
VAM				S	**Sn**	14 01 57.1	-0.4
BODT	**Bodrum**	1.74	28	*e*PN	**Pn**	14 01 36.0	-0.3
BDRM	**Kayabasi**	1.80	31	*i* P	**Pn**	14 01 37.0	0.0
KARN	**Karanos**	1.94	267	*e*PN	**Pn**	14 01 39.2	+0.2
KARN	**Karanos**	1.94	267	*e*Pn	**Pn**	14 01 39.2	+0.2
YER	**Yerkesik**	2.27	44	*e*PN	**Pn**	14 01 44.9	+1.4
TURN	**Turunc**	2.30	53	*i* P	**Pn**	14 01 41.3	-2.6
DALY	**Dalyan (Mu˘la**	2.31	55	*e*PN	**Pb**	14 01 46.4	-1.3
DALY				*e*SN	**Sn**	14 02 12.4	+0.5
DALY	**Dalyan (Mu˘la**	2.31	55	*e*Pn	**Pb**	14 01 46.4	-1.3
DALY				*e*Sn	**Sn**	14 02 12.5	+0.5
FETY	**Fethiye**	2.52	63	*e*PN	**Pb**	14 01 51.3	-0.1
FETY	**Fethiye**	2.52	63	*e*Pn	**Pb**	14 01 51.3	-0.1
AYDB	**Zeytinkoy-Aydi**	2.74	27	*e*PN	**Pn**	14 01 50.2	+0.2
AYDB	**Zeytinkoy-Aydi**	2.74	27	*e*Pn	**Pn**	14 01 50.2	+0.2
AKAS	**Kas**	2.78	74	*i* P	**Pn**	14 01 52.5	+1.9
CHOS	**Chios island**	2.87	356	*e*PN	**Pn**	14 01 51.9	+0.2
CHOS	**Chios island**	2.87	356	*e*Pn	**Pn**	14 01 51.9	+0.2
VLI	**Veliai**	2.97	295	*e*PN	**Pn**	14 01 53.7	+0.6
VLI				*e*SN	**Sn**	14 02 28.1	-0.3
VLI	**Veliai**	2.97	295	*e*Pn	**Pn**	14 01 53.7	+0.6
VLI				*e*Sn	**Sn**	14 02 28.1	-0.3
GOLH	**Golhisar**	3.14	56	*i* P	**Pn**	14 01 57.7	+2.1
AKASG	**Malin Array Be**	15.32	7	Pn	**P**	14 04 46.6	-0.2
	0.9nm,0.3s,baz=192,slow=10,SNR=5.5						
TORD	**Torodi Ar. Bea**	31.43	231	P	**P**	14 07 27.1	-0.2
	0.4nm,0.6s,baz=42,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	42.80	57	P	**P**	14 09 04.0	+0.5
	0.6nm,0.6s,baz=280,slow=9.7,SNR=6.8						

*CSEM **27** 14:11:06.1, 43°.49N×12°.40E, h8km, MD1.3/6*
ROM 27 14:11:06.1±0.1**, 43°.49N×12°.40E, h8**km**, Md1.3**/6**, Ml1.2**/3**, Error ellipse: s-maj=0.3km s-min=0.3km az=40.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	0.04	175	Pg	Pg	14 11 07.9	+0.2
ATPI				Sg	Sg	14 11 09.1	+0.2
ATPI	**Pietralunga -**	0.04	175	Pg	Pg	14 11 07.9	+0.2
ATPI				Sg	Sg	14 11 09.1	+0.2
ATPC	**Poggio Castell**	0.04	103	Pg	Pg	14 11 08.0	+0.2
ATPC				Sg	Sg	14 11 09.3	+0.4
ATPC	**Poggio Castell**	0.04	103	Pg	Pg	14 11 08.0	+0.2
ATPC				Sg	Sg	14 11 09.3	+0.4
ATVO	**AVT- Monte Val**	0.11	176	Pg	Pg	14 11 09.0	+0.4
ATVO				Sg	Sg	14 11 11.1	+0.7
ATVO	**AVT- Monte Val**	0.11	176	Pg	Pg	14 11 09.0	+0.4
ATVO				Sg	Sg	14 11 11.1	+0.7
PIEI	**Pieia**	0.11	66	Pg	Pg	14 11 08.9	+0.2
PIEI				Sg	Sg	14 11 11.2	+0.7
PIEI	**Pieia**	0.11	66	Pg	Pg	14 11 08.9	+0.2
PIEI				Sg	Sg	14 11 11.2	+0.7
BADI	**Badiali**	0.11	280	Pg	Pg	14 11 09.1	+0.4
BADI				Sg	Sg	14 11 11.2	+0.7
BADI	**Badiali**	0.11	280	Pg	Pg	14 11 09.1	+0.4
BADI				Sg	Sg	14 11 11.2	+0.7
PARC	**Parchiule**	0.20	324	Pg	Pg	14 11 10.7	+0.5
PARC				Sg	Sg	14 11 14.1	+1.2
PARC	**Parchiule**	0.20	324	Pg	Pg	14 11 10.7	+0.5
PARC				Sg	Sg	14 11 14.1	+1.2

*CSEM **27** 14:11:33.6±0.1, 43°.50N×12°.41E, h12km, ML2.6/16, Error ellipse: s-maj=2.3km s-min=2.0km az=22.0*
ROM 27 14:11:33.4±0.1**, 43°.50N×12°.40E, h8**km**, Ml2.1**/15**, 4C, Error ellipse: s-maj=0.8km s-min=0.6km az=30.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	0.04	176	⇑*i*Pg	Pg	14 11 35.4	+0.2
ATPI				Sg	Sg	14 11 36.6	+0.1
	3µm,0.3s						
ATPI	**Pietralunga -**	0.04	176	⇑*i*Pg	Pg	14 11 35.4	+0.2
ATPI				Sg	Sg	14 11 36.6	+0.1
	3µm,0.3s						
ATPC	**Poggio Castell**	0.05	110	Pg	Pg	14 11 35.5	+0.3
ATPC				Sg	Sg	14 11 36.8	+0.3
	2µm,0.1s						
ATPC	**Poggio Castell**	0.05	110	Pg	Pg	14 11 35.5	+0.3
ATPC				Sg	Sg	14 11 36.8	+0.3
	2µm,0.1s						
PIEI	**Pieia**	0.11	68	Pg	Pg	14 11 36.5	+0.5
PIEI				Sg	Sg	14 11 38.7	+0.9
	1µm,0.2s						
PIEI	**Pieia**	0.11	68	Pg	Pg	14 11 36.5	+0.5
PIEI				Sg	Sg	14 11 38.7	+0.9
	1µm,0.2s						
BADI	**Badiali**	0.11	277	Pg	Pg	14 11 36.6	+0.5
BADI				Sg	Sg	14 11 38.7	+0.8
	1µm,0.2s						
BADI	**Badiali**	0.11	277	Pg	Pg	14 11 36.6	+0.5
BADI				Sg	Sg	14 11 38.7	+0.8
	1µm,0.2s						
ATVO	**AVT- Monte Val**	0.11	177	⇑*i*Pg	Pg	14 11 36.6	+0.5
ATVO				Sg	Sg	14 11 38.7	+0.7
	1µm,0.2s						
ATVO	**AVT- Monte Val**	0.11	177	⇑*i*Pg	Pg	14 11 36.6	+0.5
ATVO				Sg	Sg	14 11 38.7	+0.7
	1µm,0.2s						
CDCA	**Citt' di Caste**	0.12	253	Pg	Pg	14 11 36.7	+0.5
CDCA				Sg	Sg	14 11 39.0	+0.9
	486nm,0.4s						
CDCA	**Citt' di Caste**	0.12	253	Pg	Pg	14 11 36.7	+0.5
CDCA				Sg	Sg	14 11 39.0	+0.9
	486nm,0.4s						
ATFO	**Monte Foce - G**	0.18	136	Pg	Pg	14 11 37.6	+0.3
ATFO				Sg	Sg	14 11 40.6	+0.7
	420nm,0.2s						
ATFO	**Monte Foce - G**	0.18	136	Pg	Pg	14 11 37.6	+0.3
ATFO				Sg	Sg	14 11 40.6	+0.7
	420nm,0.2s						
PARC	**Parchiule**	0.19	323	Pg	Pg	14 11 38.0	+0.6
PARC				Sg	Sg	14 11 41.5	+1.3
	387nm,0.4s						
PARC	**Parchiule**	0.19	323	Pg	Pg	14 11 38.0	+0.6
PARC				Sg	Sg	14 11 41.5	+1.3
	387nm,0.4s						
MURB	**Monte Urbino**	0.25	158	Pg	Pg	14 11 39.1	+0.6
MURB				Sg	Sg	14 11 43.4	+1.4
	1µm,0.2s						
MURB	**Monte Urbino**	0.25	158	Pg	Pg	14 11 39.1	+0.6
MURB				Sg	Sg	14 11 43.4	+1.4
	1µm,0.2s						
FSSB	**Fossombrone**	0.34	54	Pg	Pg	14 11 40.4	+0.3
FSSB				Sg	Sb	14 11 46.4	-0.9
	319nm,0.3s						
FSSB	**Fossombrone**	0.34	54	Pg	Pg	14 11 40.4	+0.3
FSSB				Sg	Sb	14 11 46.4	-0.9
	319nm,0.3s						
CRE	**Caprese Michel**	0.35	291	Pg	Pg	14 11 40.9	+0.5
CRE				Sg	Sg	14 11 46.3	+1.1
	56nm,0.4s						
CRE	**Caprese Michel**	0.35	291	Pg	Pg	14 11 40.9	+0.5
CRE				Sg	Sg	14 11 46.3	+1.1
	56nm,0.4s						
CAFI	**Castiglion Fio**	0.36	242	Pg	Pg	14 11 40.9	+0.4
CAFI				Sg	Sb	14 11 46.7	-1.1
CAFI	**Castiglion Fio**	0.36	242	Pg	Pg	14 11 40.9	+0.4
CAFI				Sg	Sb	14 11 46.7	-1.1
ARVD	**Arcevia**	0.40	90	Pg	Pg	14 11 41.6	+0.4
ARVD				Sg	Sb	14 11 48.1	-0.8
	60nm,0.1s						
ARVD	**Arcevia**	0.40	90	Pg	Pg	14 11 41.6	+0.4
ARVD				Sg	Sb	14 11 48.1	-0.8
	60nm,0.1s						
PESA	**Pesaro**	0.55	36	Pg	Pb	14 11 44.7	-0.6
PESA	**Pesaro**	0.55	36	Pg	Pb	14 11 44.7	-0.6
SFI	**Santa Sofia**	0.57	316	Pg	Pg	14 11 44.9	+0.3
SFI				Sg	Sb	14 11 54.0	-0.1
	26nm,0.3s						
SFI	**Santa Sofia**	0.57	316	Pg	Pg	14 11 44.9	+0.3
SFI				Sg	Sb	14 11 54.0	-0.1
	26nm,0.3s						
CESI	**CESI - Serrava**	0.61	143	Pg	Pg	14 11 45.5	+0.1
CESI				Sg	Sb	14 11 55.3	0.0
	15nm,0.4s						
CESI	**CESI - Serrava**	0.61	143	Pg	Pg	14 11 45.5	+0.1
CESI				Sg	Sb	14 11 55.3	0.0
	15nm,0.4s						
MGAB	**Montegabbione**	0.62	200	Pg	Pg	14 11 45.7	+0.3
MGAB				Sg	Sb	14 11 55.3	-0.1
	158nm,0.5s						
MGAB	**Montegabbione**	0.62	200	Pg	Pg	14 11 45.7	+0.3
MGAB				Sg	Sb	14 11 55.3	-0.1
	158nm,0.5s						
FDMO	**Fiordimonte**	0.68	132	Pg	Pg	14 11 46.6	0.0
	25nm,0.2s						
FDMO	**Fiordimonte**	0.68	132	Pg	Pg	14 11 46.6	0.0
	25nm,0.2s						
SACS	**San Casciano d**	0.74	209	Pg	Pg	14 11 47.9	+0.1
	47nm,0.4s						
NRCA	**Norcia**	0.84	141	Pg	Pg	14 11 49.7	-0.1
NRCA				Sg	Sb	14 12 02.2	+0.2
	10.0nm,0.5s						
NRCA	**Norcia**	0.84	141	Pg	Pg	14 11 49.7	-0.1
NRCA				Sg	Sb	14 12 02.2	+0.2
	10.0nm,0.5s						
NVLJ	**Novalja**	2.08	58	*e*Pn	Pn	14 12 07.3	-1.2
NVLJ				Sn	Sn	14 12 31.6	-3.0
NVLJ	**Novalja**	2.08	58	*e*Pn	Pn	14 12 07.2	-1.3
NVLJ				Sn	Sn	14 12 31.5	-3.0

*CSEM **27** 14:11:47.2, 43°.49N×12°.40E, h8km, ML1.3/3*
ROM 27 14:11:47.2±0.3**, 43°.49N×12°.40E, h8**km±3km**, Ml1.3**/3**, Error ellipse: s-maj=1.7km s-min=1.5km az=32.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	0.04	179	Pg	Pg	14 11 49.2	+0.3
ATPI				Sg	Sg	14 11 50.2	0.0
ATPI	**Pietralunga -**	0.04	179	Pg	Pg	14 11 49.2	+0.3
ATPI				Sg	Sg	14 11 50.2	0.0
ATPC	**Poggio Castell**	0.04	105	Pg	Pg	14 11 49.3	+0.4
ATPC				Sg	Sg	14 11 50.6	+0.4
ATPC	**Poggio Castell**	0.04	105	Pg	Pg	14 11 49.3	+0.4
ATPC				Sg	Sg	14 11 50.6	+0.4
PIEI	**Pieia**	0.11	66	Pg	Pg	14 11 49.3	-0.5
PIEI				Sg	Sg	14 11 52.5	+0.9
PIEI	**Pieia**	0.11	66	Pg	Pg	14 11 49.3	-0.5
PIEI				Sg	Sg	14 11 52.5	+0.9
ATVO	**AVT- Monte Val**	0.11	178	Pg	Pg	14 11 50.3	+0.5
ATVO				Sg	Sg	14 11 52.5	+0.9
ATVO	**AVT- Monte Val**	0.11	178	Pg	Pg	14 11 50.3	+0.5
ATVO				Sg	Sg	14 11 52.5	+0.9
BADI	**Badiali**	0.12	279	Pg	Pg	14 11 50.2	+0.3
BADI				Sg	Sg	14 11 52.3	+0.6
BADI	**Badiali**	0.12	279	Pg	Pg	14 11 50.2	+0.3
BADI				Sg	Sg	14 11 52.3	+0.6
PARC	**Parchiule**	0.20	323	Pg	Pg	14 11 52.3	+1.0
PARC				Sg	Sg	14 11 55.6	+1.5
PARC	**Parchiule**	0.20	323	Pg	Pg	14 11 52.3	+1.0
PARC				Sg	Sg	14 11 55.6	+1.5

*CSEM **27** 14:12:17.8, 43°.49N×12°.40E, h8km, ML1.2/3*
ROM 27 14:12:17.8±0.1**, 43°.49N×12°.40E, h8**km**, Ml1.2**/3**, Error ellipse: s-maj=0.5km s-min=0.5km az=39.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	0.04	173	Pg	Pg	14 12 19.6	+0.2
ATPI				Sg	Sg	14 12 20.7	+0.1
ATPI	**Pietralunga -**	0.04	173	Pg	Pg	14 12 19.6	+0.2
ATPI				Sg	Sg	14 12 20.7	+0.1
ATPC	**Poggio Castell**	0.04	102	Pg	Pg	14 12 19.7	+0.2
ATPC				Sg	Sg	14 12 21.0	+0.3
ATPC	**Poggio Castell**	0.04	102	Pg	Pg	14 12 19.7	+0.2
ATPC				Sg	Sg	14 12 21.0	+0.3
ATVO	**AVT- Monte Val**	0.11	176	Pg	Pg	14 12 20.7	+0.4
ATVO				Sg	Sg	14 12 22.9	+0.8
ATVO	**AVT- Monte Val**	0.11	176	Pg	Pg	14 12 20.7	+0.4
ATVO				Sg	Sg	14 12 22.9	+0.8
PIEI	**Pieia**	0.11	66	Pg	Pg	14 12 20.5	+0.1
PIEI				Sg	Sg	14 12 23.0	+0.8
PIEI	**Pieia**	0.11	66	Pg	Pg	14 12 20.5	+0.1
PIEI				Sg	Sg	14 12 23.0	+0.8
BADI	**Badiali**	0.11	280	Pg	Pg	14 12 20.7	+0.3
BADI				Sg	Sg	14 12 22.9	+0.8
BADI	**Badiali**	0.11	280	Pg	Pg	14 12 20.7	+0.3
BADI				Sg	Sg	14 12 22.9	+0.8
PARC	**Parchiule**	0.20	324	Pg	Pg	14 12 22.4	+0.5
PARC				Sg	Sg

KKN	**Kakani**	**8.34**	**298**	*e*Pn	Pn	14 22 38.2	+3.5
KKN				*e*Sn	**Sn**	**14 24 08.3**	**+0.7**
	comp=E,176nm,0.5s						
DMN	**Daman**	**8.41**	**297**	*e*Pn	Pn	14 22 39.2	+3.5
DMN				*e*Sn	**Sn**	**14 24 09.7**	**+0.4**
	comp=E,215nm,0.5s						
GKN	**Gorkha**	**8.95**	**298**	*e*Pn	Pn	14 22 46.4	+3.4
GKN				*e*Sn	**Sn**	**14 24 22.6**	**+0.2**
	comp=E,306nm,0.3s						
UTTA	**Uttaradit**	**9.04**	**132**	P	**Pn**	**14 22 44.6**	**+0.4**
UTTA				S	Sn	14 24 56.9	+32
KOLN	**Koldanda**	**9.71**	**295**	*e*Pn	**Pn**	**14 22 56.0**	**+2.6**
KOLN				*e*Sn	**Sn**	**14 24 40.5**	**-0.6**
	comp=E,249nm,0.5s						
PBKT	**Sadao Pong**	**10.16**	**135**	P	**Pn**	**14 23 00.9**	**+1.4**
PBKT				S	Sn	14 25 29.3	+37
PYUN	**Piuthan**	**10.33**	**295**	*e*Pn	**Pn**	**14 23 03.9**	**+2.0**
PYUN				*e*Sn	**Sn**	**14 24 54.6**	**-1.7**
	comp=E,462nm,0.7s						
NGP	**Nagpur**	**13.70**	**261**	*e*P	**P**	**14 23 52.9**	**-1.8**
NGP				*ex*	**Sn**	**14 26 17.0**	**-1.4**
BHPL	**Bhopal**	**14.80**	**270**	*e*P	**P**	**14 24 05.7**	**-1.3**
BHPL				*ex*	**Sn**	**14 26 42.1**	**-3.2**
NDI	**New Delhi**	**15.36**	**291**	*ex*	**Sn**	**14 26 55.0**	**-3.6**
HYB	**Hyderabad**	**15.49**	**248**	*i* P	P	14 24 21.0	+6.4
HYB				*e*		14 27 01.0	
HYB				*e*S	**S**	**14 27 11.0**	**-3.9**
AKL	**Akola**	**15.65**	**261**	*ex*	**Sn**	**14 27 03.5**	**-2.3**
SMLA	**Simla**	**16.15**	**300**	*e*P	**P**	**14 24 21.7**	**-0.2**
SMLA				*ex*	**Sn**	**14 27 12.3**	**-5.4**
DHRM	**DHARAMSHALA**	**17.27**	**302**	*e*P	**P**	**14 24 34.8**	**+0.3**
DHRM				*ex*	Sn	14 27 37.3	-7.9
POO	**Poona**	**19.15**	**257**	*ex*	**Sn**	**14 28 26.0**	**-4.5**
PSI	**Prapat**	**21.73**	**165**	P	**P**	**14 25 27.3**	**+4.3**
	comp=E,4.7nm,0.8s,baz=327,slow=7.7,SNR=3.6						
AAK	**Ala-Archa**	**24.36**	**324**	P	**P**	**14 25 50.9**	**+1.8**
	comp=E,1.6nm,0.8s,baz=140,slow=7.3,SNR=6.2						
MKAR	**Makanchi Array**	**24.45**	**341**	P	**P**	**14 25 50.5**	**+0.8**
	comp=E,1.0nm,0.7s,baz=183,slow=8.5,SNR=14						
SONM	**Songino Array**	**25.87**	**20**	P	**P**	**14 26 00.9**	**-1.8**
	comp=E,2.5nm,0.7s,baz=198,slow=9.4,SNR=18						
SONM				ScP	**ScP**	**14 33 03.0**	**-2.3**
	comp=E,0.2nm,0.6s,baz=199,slow=4.1,SNR=3.7						
KURBB	**Kurchatov Arra**	**29.00**	**340**	P	**P**	**14 26 31.2**	**+0.7**
	comp=E,0.5nm,0.5s,baz=157,slow=7.5,SNR=5.1						
KURBB				ScP	**ScP**	**14 33 13.8**	**-0.8**
	comp=E,1.0nm,0.7s,baz=167,slow=2.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**30.60**	**350**	P	**P**	**14 26 44.9**	**+0.3**
	comp=E,0.4nm,0.5s,baz=134,slow=4.2,SNR=3.1						
KSRS	**Korea Array**	**32.24**	**57**	LR	LR	14 40 50.6	
	comp=E,21nm,21.6s,baz=280,slow=38						
BVAR	**Borovoye Array**	**33.86**	**335**	ScP	**ScP**	**14 33 31.2**	**+0.4**
	comp=E,0.6nm,0.6s,baz=144,slow=5.2,SNR=3.5						
AKTO	**Aktyubinsk**	**38.09**	**323**	LR	LR	14 46 11.0	
	comp=E,41nm,19.9s,baz=118,slow=40						
MJAR	**Matsushiro Arr**	**40.20**	**61**	LR	LR	14 46 42.9	
	comp=E,19nm,18.3s,baz=240,slow=39						
SEY	**Seymchan**	**54.80**	**29**	P	P	14 29 57.0	-3.0
	comp=E,0.7nm,0.6s,baz=164,slow=9.8,SNR=5.4						
AKASG	**Malin Array Be**	**55.65**	**316**	P	**P**	**14 30 06.8**	**+0.5**
	comp=E,0.7nm,0.3s,baz=85,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**59.06**	**134**	P	**P**	**14 30 29.6**	**-1.2**
	comp=E,3.0nm,0.6s,baz=325,slow=7.3,SNR=55						
ASAR	**Alice Springs**	**61.49**	**138**	P	**P**	**14 30 46.5**	**-0.9**
	comp=E,3.6nm,0.7s,baz=321,slow=6.8,SNR=85						
STKA	**Stephens Creek**	**72.10**	**138**	P	**P**	**14 31 53.7**	**-0.9**
	comp=E,1.7nm,0.4s,baz=319,slow=4.1,SNR=13						
ILAR	**Eielson Array**	**80.07**	**22**	P	**P**	**14 32 37.6**	**-1.9**
	comp=E,0.2nm,0.5s,baz=327,slow=6.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.41**	**283**	P	**P**	**14 33 15.4**	**+2.2**
	comp=E,0.7nm,1.0s,baz=52,slow=5.2,SNR=3.8						

*CSEM **27** 14:48:40.4,43.˝50N×12.˝40E,h8km,ML2.1/14*
ROM 27 14:48:40.4±0.1,43.˝50N×12.˝40E,h8km,MI2.1/14,4C, Error ellipse: s-maj=0.8km s-min=0.6km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**175**	⇑*i*Pg	Pg	14 48 42.4	+0.2
ATPI				Sg	Sg	14 48 43.6	+0.1
	5µm,0.2s						
ATPI	**Pietralunga -**	**0.04**	**175**	⇑*i*Pg	Pg	14 48 42.4	+0.2
ATPI				Sg	Sg	14 48 43.6	+0.1
	5µm,0.2s						
ATPC	**Poggio Castell**	**0.05**	**108**	Pg	Pg	14 48 42.5	+0.3
ATPC				Sg	Sg	14 48 43.8	+0.3
	4µm,0.1s						
ATPC	**Poggio Castell**	**0.05**	**108**	Pg	Pg	14 48 42.5	+0.3
ATPC				Sg	Sg	14 48 43.8	+0.3
	4µm,0.1s						
PIEI	**Pieia**	**0.11**	**68**	Pg	Pg	14 48 43.4	+0.3
PIEI				Sg	Sg	14 48 45.9	+1.0
	1µm,0.2s						
PIEI	**Pieia**	**0.11**	**68**	Pg	Pg	14 48 43.4	+0.3
PIEI				Sg	Sg	14 48 45.9	+1.0
	1µm,0.2s						
BADI	**Badiali**	**0.11**	**278**	Pg	Pg	14 48 43.6	+0.5
BADI				Sg	Sg	14 48 45.7	+0.8
	1µm,0.2s						
BADI	**Badiali**	**0.11**	**278**	Pg	Pg	14 48 43.6	+0.5
BADI				Sg	Sg	14 48 45.7	+0.8
	1µm,0.2s						
ATVO	**AVT- Monte Val**	**0.11**	**176**	⇑*i*Pg	Pg	14 48 43.6	+0.5
ATVO				Sg	Sg	14 48 45.7	+0.7
	1µm,0.1s						
ATVO	**AVT- Monte Val**	**0.11**	**176**	⇑*i*Pg	Pg	14 48 43.6	+0.5
ATVO				Sg	Sg	14 48 45.7	+0.7
	1µm,0.1s						
CDCA	**Citt' di Caste**	**0.12**	**253**	Pg	Pg	14 48 43.8	+0.6
CDCA				Sg	Sg	14 48 46.0	+0.9
	447nm,0.3s						
CDCA	**Citt' di Caste**	**0.12**	**253**	Pg	Pg	14 48 43.8	+0.6
CDCA				Sg	Sg	14 48 46.0	+0.9
	447nm,0.3s						
ATFO	**Monte Foce - G**	**0.18**	**135**	Pg	Pg	14 48 44.7	+0.4
ATFO				Sg	Sg	14 48 47.9	+1.0
	420nm,0.2s						
ATFO	**Monte Foce - G**	**0.18**	**135**	Pg	Pg	14 48 44.7	+0.4
ATFO				Sg	Sg	14 48 47.9	+1.0
	420nm,0.2s						
PARC	**Parchiule**	**0.19**	**323**	Pg	Pg	14 48 45.1	+0.6
PARC				Sg	Sg	14 48 48.5	+1.3
	364nm,0.4s						
PARC	**Parchiule**	**0.19**	**323**	Pg	Pg	14 48 45.1	+0.6
PARC				Sg	Sg	14 48 48.5	+1.3
	364nm,0.4s						
MURB	**Monte Urbino**	**0.25**	**158**	Pg	Pg	14 48 46.1	+0.6
MURB				Sg	Sg	14 48 50.4	+1.4
	1µm,0.3s						
MURB	**Monte Urbino**	**0.25**	**158**	Pg	Pg	14 48 46.1	+0.6
MURB				Sg	Sg	14 48 50.4	+1.4
	1µm,0.3s						
FSSB	**Fossombrone**	**0.34**	**54**	Pg	Pg	14 48 47.6	+0.4
FSSB				Sg	Sb	14 48 53.3	-1.0
	314nm,0.3s						
FSSB	**Fossombrone**	**0.34**	**54**	Pg	Pg	14 48 47.6	+0.4
FSSB				Sg	Sb	14 48 53.3	-1.0
	314nm,0.3s						
CRE	**Caprese Michel**	**0.35**	**291**	Pg	Pg	14 48 48.0	+0.6
CRE				Sg	Sb	14 48 53.5	-1.3
	69nm,0.4s						
CRE	**Caprese Michel**	**0.35**	**291**	Pg	Pg	14 48 48.0	+0.6
CRE				Sg	Sb	14 48 53.5	-1.3
	69nm,0.4s						
CAFI	**Castiglion Fio**	**0.35**	**242**	Pg	Pg	14 48 48.0	+0.5
CAFI				Sg	Sb	14 48 53.7	-1.1
CAFI	**Castiglion Fio**	**0.35**	**242**	Pg	Pg	14 48 48.0	+0.5
CAFI				Sg	Sb	14 48 53.7	-1.1
ARVD	**Arcevia**	**0.40**	**89**	Pg	Pg	14 48 48.6	+0.4
ARVD				Sg	Sb	14 48 55.1	-0.8
	64nm,0.3s						
ARVD	**Arcevia**	**0.40**	**89**	Pg	Pg	14 48 48.6	+0.4
ARVD				Sg	Sb	14 48 55.1	-0.8
	64nm,0.3s						
SFI	**Santa Sofia**	**0.57**	**316**	Pg	Pg	14 48 51.7	+0.1
SFI				Sg	Sb	14 49 01.1	+0.1
	28nm,0.3s						
SFI	**Santa Sofia**	**0.57**	**316**	Pg	Pg	14 48 51.7	+0.1
SFI				Sg	Sb	14 49 01.1	+0.1
	28nm,0.3s						
CESI	**CESI - Serrava**	**0.61**	**143**	Pg	Pg	14 48 52.4	0.0
CESI				Sg	Sb	14 49 02.3	0.0
	16nm,0.5s						
MGAB	**Montegabbione**	**0.62**	**200**	Pg	Pg	14 48 52.7	+0.3
MGAB				Sg	Sb	14 49 02.1	-0.2
	169nm,0.5s						
MGAB	**Montegabbione**	**0.62**	**200**	Pg	Pg	14 48 52.7	+0.3
MGAB				Sg	Sb	14 49 02.1	-0.2
	169nm,0.5s						
FDMO	**Fiordimonte**	**0.68**	**132**	Pg	Pg	14 48 53.6	0.0
FDMO				Sg	Sb	14 49 04.4	+0.2
	23nm,0.1s						
FDMO	**Fiordimonte**	**0.68**	**132**	Pg	Pg	14 48 53.6	0.0
FDMO				Sg	Sb	14 49 04.4	+0.2
	23nm,0.1s						

*CSEM **27** 14:48:50.2,43.˝48N×12.˝39E,h9km,ML2.0/9*
ROM 27 14:48:50.2±0.1,43.˝48N×12.˝39E,h9km,MI2.0/9, Error ellipse: s-maj=1.0km s-min=0.8km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.03**	**169**	Pg	Pg	14 48 52.2	+0.2
ATPI				Sg	Sg	14 48 53.4	+0.2
	365nm,0.2s						
ATPI	**Pietralunga -**	**0.03**	**169**	Pg	Pg	14 48 52.2	+0.2
ATPI				Sg	Sg	14 48 53.4	+0.2
	365nm,0.2s						
ATPC	**Poggio Castell**	**0.05**	**94**	Pg	Pg	14 48 52.3	+0.2
ATPC				Sg	Sg	14 48 53.6	+0.2
	538nm,0.1s						
ATPC	**Poggio Castell**	**0.05**	**94**	Pg	Pg	14 48 52.3	+0.2
ATPC				Sg	Sg	14 48 53.6	+0.2
	538nm,0.1s						
ATVO	**AVT- Monte Val**	**0.10**	**174**	Pg	Pg	14 48 53.3	+0.5
ATVO				Sg	Sg	14 48 55.5	+0.9
	595nm,0.1s						
ATVO	**AVT- Monte Val**	**0.10**	**174**	Pg	Pg	14 48 53.3	+0.5
ATVO				Sg	Sg	14 48 55.5	+0.9
	595nm,0.1s						
BADI	**Badiali**	**0.11**	**283**	Pg	Pg	14 48 53.4	+0.5
BADI				Sg	Sg	14 48 55.6	+0.8
	532nm,0.2s						
BADI	**Badiali**	**0.11**	**283**	Pg	Pg	14 48 53.4	+0.5
BADI				Sg	Sg	14 48 55.6	+0.8
	532nm,0.2s						
PIEI	**Pieia**	**0.12**	**63**	Pg	Pg	14 48 53.8	+0.8
PIEI				Sg	Sg	14 48 55.6	+0.6
	475nm,0.2s						
PIEI	**Pieia**	**0.12**	**63**	Pg	Pg	14 48 53.8	+0.8
PIEI				Sg	Sg	14 48 55.6	+0.6
	475nm,0.2s						
CDCA	**Citt' di Caste**	**0.12**	**258**	Pg	Pg	14 48 52.9	0.0
CDCA				Sg	Sg	14 48 55.7	+0.9
	447nm,0.3s						
CDCA	**Citt' di Caste**	**0.12**	**258**	Pg	Pg	14 48 52.9	0.0
CDCA				Sg	Sg	14 48 55.7	+0.9
	447nm,0.3s						
ATFO	**Monte Foce - G**	**0.17**	**132**	Pg	Pg	14 48 54.6	+0.6
	420nm,0.2s						
ATFO	**Monte Foce - G**	**0.17**	**132**	Pg	Pg	14 48 54.6	+0.6
	420nm,0.2s						
PARC	**Parchiule**	**0.20**	**326**	Pg	Pg	14 48 55.1	+0.7
PARC				Sg	Sg	14 48 58.8	+1.5
	172nm,0.4s						
PARC	**Parchiule**	**0.20**	**326**	Pg	Pg	14 48 55.1	+0.7
PARC				Sg	Sg	14 48 58.8	+1.5
	172nm,0.4s						
MURB	**Monte Urbino**	**0.24**	**156**	Pg	Pg	14 48 55.8	+0.6
MURB				Sg	Sg	14 49 00.3	+1.8
	166nm,0.3s						
MURB	**Monte Urbino**	**0.24**	**156**	Pg	Pg	14 48 55.8	+0.6
MURB				Sg	Sg	14 49 00.3	+1.8
	166nm,0.3s						
FSSB	**Fossombrone**	**0.35**	**53**	Pg	Pb	14 48 58.5	-0.2
FSSB				Sg	Sb	14 49 03.3	-1.0
	129nm,0.3s						
FSSB	**Fossombrone**	**0.35**	**53**	Pg	Pb	14 48 58.5	-0.2
FSSB				Sg	Sb	14 49 03.3	-1.0
	129nm,0.3s						
ARVD	**Arcevia**	**0.40**	**88**	Pg	Pg	14 48 58.6	+0.5
ARVD				Sg	Sb	14 49 04.8	-1.0
	64nm,0.3s						
ARVD	**Arcevia**	**0.40**	**88**	Pg	Pg	14 48 58.6	+0.5
ARVD				Sg	Sb	14 49 04.8	-1.0
	64nm,0.3s						

*CSEM **27** 14:49:13.8,43.˝49N×12.˝40E,h7km,MD1.0/5*
ROM 27 14:49:13.8±0.1,43.˝49N×12.˝40E,h7km,Md1.0/5,MI0.9/1, 2C, Error ellipse: s-maj=0.5km s-min=0.4km az=174.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**177**	⇑*i*Pg	Pg	14 49 15.5	+0.1
ATPI				Sg	Sg	14 49 16.7	+0.2
	62nm,1.2s						
ATPI	**Pietralunga -**	**0.04**	**177**	⇑*i*Pg	Pg	14 49 15.5	+0.1
ATPI				Sg	Sg	14 49 16.7	+0.2
	62nm,1.2s						
ATPC	**Poggio Castell**	**0.04**	**105**	Pg	Pg	14 49 15.6	+0.2
ATPC				Sg	Sg	14 49 16.9	+0.3
	36nm,0.6s						
ATPC	**Poggio Castell**	**0.04**	**105**	Pg	Pg	14 49 15.6	+0.2
ATPC				Sg	Sg	14 49 16.9	+0.3
	36nm,0.6s						
PIEI	**Pieia**	**0.11**	**66**	Pg	Pg	14 49 16.5	+0.2
PIEI				Sg	Sg	14 49 18.7	+0.6
	245nm,2.1s						
PIEI	**Pieia**	**0.11**	**66**	Pg	Pg	14 49 16.5	+0.2
PIEI				Sg	Sg	14 49 18.7	+0.6
	245nm,2.1s						
ATVO	**AVT- Monte Val**	**0.11**	**177**	Pg	Pg	14 49 16.7	+0.4
ATVO				Sg	Sg	14 49 18.8	+0.7
ATVO	**AVT- Monte Val**	**0.11**	**177**	Pg	Pg	14 49 16.7	+0.4
ATVO				Sg	Sg	14 49 18.8	+0.7
BADI	**Badiali**	**0.11**	**279**	Pg	Pg	14 49 16.8	+0.4
BADI				Sg	Sg	14 49 18.9	+0.7
BADI	**Badiali**	**0.11**	**279**	Pg	Pg	14 49 16.8	+0.4
BADI				Sg	Sg	14 49 18.9	+0.7

NNC 27 14:56:20.2±4.3,35.˝03N×72.˝04E,h0km,mb3.8,mpv3.6, 3C-5D, Error ellipse: s-maj=56.0km s-min=27.7km az=115.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.11**	**13**	⇓Pn	Pn	14 57 38.4	+0.2
	1.5nm,0.3s						
SFK				⇓Sn	Sn	14 58 40.2	+2.0
	12nm,0.4s						
MNAS	**Manas**	**7.45**	**3**	⇓Pn	Pn	14 58 09.4	-1.0
	1.6nm,0.4s						
MNAS				⇑Sn	Sn	14 59 33.8	-1.9
	1.9nm,0.6s						
KK31	**Karatay Array**	**8.15**	**352**	⇑Pn	Pn	14 58 19.8	+0.1
	2.4nm,0.3s,baz=164,slow=12,SNR=39						
KK31				⇑Sn	Sn	14 59 55.6	+3.0
	0.5nm,0.3s,baz=171,slow=21,SNR=6.7						
AB31	**Akbulak array**	**16.78**	**332**	⇓P	Pn	15 00 17.1	+0.7
	0.3nm,0.5s,baz=154,slow=11,SNR=7.0						
AKTO	**Aktyubinsk**	**18.47**	**331**	⇓P	P	15 00 37.3	-0.2
	2.9nm,0.8s						

MEX 27 15:02:24.7±0.4,16.˝21N×98.˝40W,h10km±3km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**55**	*i* P	Pg	15 02 30.5	-0.7
PNIG				*i* S	Sg	15 02 35.4	-0.1
TLIG	**Tlapa**	**1.36**	**353**	*e*P	Pn	15 02 46.1	-3.8
TLIG				*e*S	Sb	15 03 02.8	-5.2
VHO	**Vista Hermosa**	**1.82**	**61**	*i* P	Pn	15 02 53.6	-2.7
VHO				*e*S	Sn	15 03 14.3	-5.3
HUIG	**Huatulco**	**2.25**	**101**	*e*P	Pn	15 02 58.5	-3.5
HUIG				*i* S	Sn	15 03 25.5	-4.3
PLIG	**Platanillo**	**2.42**	**334**	*i* P	Pn	15 03 01.7	-2.7
PLIG				*i* S	Sn	15 03 29.0	-5.2

*SOF **27** 15:11:26.5,42.˝46N×23.˝33E,h4km,MD3.2*
*CSEM **27** 15:11:26.7±0.1,42.˝47N×23.˝31E,h2km,ML2.6, Error ellipse: s-maj=3.8km s-min=2.6km az=72.0*
*THE **27** 15:11:27.3,42.˝49N×23.˝33E,h13km±9km,ML3.1/7, Error ellipse: s-maj=12.7km s-min=1.3km az=338.0*
*BEO **27** 15:11:28.8±0.3,42.˝48N×23.˝19E,h0km,ML2.6/1*
ISC 27 15:11:26.7±0.9,42.˝47N±0.˝01×23.˝33E±0.˝02,h8km±7km, n114,σ1ŝ20/160,13C-12D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.15**	**323**	P	**Pg**	**15 11 29.5**	**-0.5**
VTS				S	**Sg**	**15 11 32.2**	**-0.1**
VTS	**Vitosha**	**0.15**	**323**	*e*Pg	**Pg**	**15 11 30.3**	**+0.3**
VTS	**Vitosha**	**0.15**	**323**	⇓*i*P	**Pg**	**15 11 30.0**	**+0.1**
VTS				S	**Sg**	**15 11 32.7**	**+0.4**
VTS	**Vitosha**	**0.15**	**323**	*i* P	**Pg**	**15 11 30.1**	**+0.1**
VTS	**Vitosha**	**0.15**	**323**	*i* P	**Pg**	**15 11 30.1**	**+0.1**
VTS				S	**Sg**	**15 11 32.2**	**-0.1**
PGB	**Panagyurishte**	**0.62**	**82**	*i* Pg	**Pg**	**15 11 39.4**	**+0.6**
PGB	**Panagyurishte**	**0.62**	**82**	*i* Pg	**Pg**	**15 11 39.4**	**+0.6**
KKB	**Krupnik**	**0.63**	**197**	*i* Pg	**Pg**	**15 11 39.4**	**+0.5**
KKB	**Krupnik**	**0.63**	**197**	*i* Pg	**Pg**	**15 11 39.4**	**+0.5**
MMB	**Musomiste**	**0.93**	**161**	⇓*i*P	**Pn**	**15 11 46.0**	**-0.2**
MMB	**Musomiste**	**0.93**	**161**	S	**Sn**	**15 11 59.9**	**+0.2**
MMB	**Musomiste**	**0.93**	**161**	*i* Pg	**Pb**	**15 11 45.8**	**+0.6**
MMB	**Musomiste**	**0.93**	**161**	*i* Pg	**Pb**	**15 11 45.8**	**+0.6**
MPEP	**Malo Peshtene**	**0.93**	**19**	*i* Pg	**Pg**	**15 11 44.7**	**0.0**
ZAPS	**Zavoj**	**0.95**	**328**	⇑*i*Pg	**Pg**	**15 11 45.3**	**+0.3**
ZAPS				*e*Sg	**Sg**	**15 11 56.6**	**-0.8**
PLD	**Plovdiv**	**1.08**	**109**	P	**Pg**	**15 11 47.2**	**-0.3**
PLD				S	**Sb**	**15 12 02.2**	**+0.2**
PLD	**Plovdiv**	**1.08**	**109**	*e*Pg	**Pn**	**15 11 49.6**	**+1.4**
PLD				*e*Sg	**Sn**	**15 12 06.8**	**+3.4**
PLD	**Plovdiv**	**1.08**	**109**	*i* Pg	**Pn**	**15 11 48.9**	**+0.7**
PLD	**Plovdiv**	**1.08**	**109**	P	**Pg**	**15 11 47.2**	**-0.3**
PLD	**Plovdiv**	**1.08**	**109**	*i* Pg	**Pn**	**15 11 48.9**	**+0.7**
PLD				S	**Sb**	**15 12 02.2**	**+0.2**
BARS	**Barje**	**1.17**	**288**	⇑*i*Pg	**Pg**	**15 11 48.0**	**-1.2**
BARS				*e*Sg	**Sg**	**15 12 02.4**	**-2.0**
BARS	**Barje**	**1.17**	**288**	⇑*i*Pg	**Pg**	**15 11 48.0**	**-1.2**
BARS				*e*Sg	**Sg**	**15 12 02.4**	**-2.0**
NVR	**Nevrokopi**	**1.19**	**160**	P	**Pg**	**15 11 49.4**	**-0.1**
NVR				S	**Sg**	**15 12 05.0**	**0.0**
NVR	**Nevrokopi**	**1.19**	**160**	*e*P	**Pn**	**15 11 50.0**	**+0.3**
NVR	**Nevrokopi**	**1.19**	**160**	P	**Pg**	**15 11 49.4**	**-0.1**
NVR				S	**Sg**	**15 12 05.0**	**0.0**
VAY	**Valandovo**	**1.28**	**207**	P	**Pg**	**15 11 50.4**	**-0.9**
VAY				S	**Sg**	**15 12 07.5**	**-0.5**
VAY	**Valandovo**	**1.28**	**207**	*e*Pg	**Pg**	**15 11 50.9**	**-0.4**
VAY				*e*Sg	**Sb**	**15 12 08.2**	**+0.4**
VAY	**Valandovo**	**1.28**	**207**	*e*Pn	**Pb**	**15 11 51.4**	**+0.2**
VAY				*e*Sg	**Sn**	**15 12 08.6**	**+0.2**
VAY	**Valandovo**	**1.28**	**207**	P	**Pg**	**15 11 50.4**	**-0.9**
VAY	**Valandovo**	**1.28**	**207**	*e*Pg	**Pg**	**15 11 50.9**	**-0.4**
VAY	**Valandovo**	**1.28**	**207**	*e*Pn	**Pb**	**15 11 51.3**	**+0.2**
VAY				S	**Sg**	**15 12 07.5**	**-0.5**
VAY				*e*Sg	**Sb**	**15 12 08.2**	**+0.4**
KNT	**Kendrikon**	**1.35**	**194**	P	**Pn**	**15 11 52.1**	**+0.2**
KNT				S	**Sb**	**15 12 08.5**	**-1.2**
KNT	**Kendrikon**	**1.35**	**194**	*e*P	**Pn**	**15 11 52.2**	**+0.3**
KNT	**Kendrikon**	**1.35**	**194**	P	**Pn**	**15 11 52.1**	**+0.2**
KNT				S	**Sb**	**15 12 08.5**	**-1.2**
SRS	**Serrai**	**1.37**	**172**	P	**Pg**	**15 11 53.0**	**0.0**
SRS				S	**Sb**	**15 12 09.5**	**-0.7**
SRS	**Serrai**	**1.37**	**172**	*e*P	**Pg**	**15 11 53.0**	**0.0**
SRS	**Serrai**	**1.37**	**172**	P	**Pg**	**15 11 53.0**	**0.0**
SRS				S	**Sb**	**15 12 09.5**	**-0.7**
SOH	**Sokhos**	**1.65**	**179**	P	**Pn**	**15 11 56.7**	**+0.7**
SOH				S	**Sn**	**15 12 17.0**	**-0.5**
SOH	**Sokhos**	**1.65**	**179**	*e*P	**Pn**	**15 11 56.8**	**+0.7**
SOH	**Sokhos**	**1.65**	**179**	P	**Pn**	**15 11 56.7**	**+0.7**
SOH				S	**Sn**	**15 12 17.0**	**-0.5**
PVL	**Pavlikeni**	**1.65**	**63**	*i* Pg	**Pn**	**15 11 54.8**	**-1.2**
PVL	**Pavlikeni**	**1.65**	**63**	*i* Pg	**Pn**	**15 11 54.8**	**-1.2**
BOLS	**Boljevac**	**1.69**	**324**	⇑*i*Pn	**Pb**	**15 11 58.2**	**+0.1**
BOLS				*e*Sn	**Sb**	**15 12 20.0**	**+0.5**
BOLS	**Boljevac**	**1.69**	**324**	⇑*i*Pn	**Pb**	**15 11 58.2**	**+0.1**
BOLS				*e*Sn	**Sb**	**15 12 20.0**	**+0.5**
KAVA	**Kavala**	**1.72**	**149**	P	**Pn**	**15 11 57.4**	**+0.4**
KAVA				S	**Sn**	**15 12 18.7**	**-0.4**
KAVA	**Kavala**	**1.72**	**149**	*e*P	**Pg**	**15 11 59.6**	**-0.1**
KAVA	**Kavala**	**1.72**	**149**	P	**Pn**	**15 11 57.4**	**+0.4**
KAVA				S	**Sn**	**15 12 18.7**	**-0.4**
KDZ	**Kurdzhali**	**1.76**	**117**	⇑*i*P	**Pb**	**15 11 59.3**	**0.0**
KDZ	**Kurdzhali**	**1.76**	**117**	S	**Sg**	**15 12 23.7**	**+0.5**
KDZ	**Kurdzhali**	**1.76**	**117**	*i* Pg	**Pb**	**15 11 59.2**	**0.0**
KDZ	**Kurdzhali**	**1.76**	**117**	⇑*i*P	**Pb**	**15 11 59.3**	**0.0**
SELS	**Selova**	**1.79**	**295**	*e*Pn	**Pn**	**15 11 58.9**	**+0.9**
SELS				*e*Sn	**Sb**	**15 12

BZS					*e*Sn		**Sn**	**15 13 02.0**	**+1.9**
ISR	**Istrita**	**3.52**	**40**	S			**Sn**	**15 13 05.2**	**+1.5**
ISR	**Istrita**	**3.52**	**40**	S			**Sn**	**15 13 05.2**	**+1.5**
AGG	**Agios Georgios**	**3.53**	**193**	*e*P			**Pn**	**15 12 22.6**	**+0.7**
MLR	**Muntele Rosu**	**3.56**	**31**	*i*P			Pb	15 12 26.8	-3.2
MLR	**Muntele Rosu**	**3.56**	**31**	*i*P			Pb	15 12 26.8	-3.2
MLR				S			**Sn**	**15 13 07.3**	**+2.5**
MAKR	**Makrakomi, Fth**	**3.57**	**195**	*e*P			**Pn**	**15 12 23.3**	**+0.8**
SMIA	**Simia**	**3.59**	**182**	*e*P			**Pn**	**15 12 24.6**	**+1.9**
MSAB	**Monastry St. A**	**3.66**	**62**	S			**Sb**	**15 13 12.9**	**-3.3**
MSAB	**Monastry St. A**	**3.66**	**62**	S			**Sb**	**15 13 12.9**	**-3.3**
TIRR	**Tirgusor**	**4.20**	**60**	*i*P			**Pn**	**15 12 32.1**	**+1.1**
TIRR	**Tirgusor**	**4.20**	**60**	*i*P			**Pn**	**15 12 32.1**	**+1.1**
TIRR				S			**Sn**	**15 13 24.8**	**+4.5**
CFR	**Carcaliu**	**4.41**	**50**	S			**Sg**	**15 13 43.6**	**-4.6**
KOLS	**Kolonicke sedl**	**6.50**	**354**	*e*PN			Pn	15 12 56.9	-5.9
CRVS	**Cervenica-Dubn**	**6.56**	**349**	*e*			**Pn**	**15 13 03.0**	**-0.6**

*ISCJB **27** 15:13:08.6±0.6,57°.27N±0'.05×154°.41W±0'.05,h87km±4km, mb3.8/4, Error ellipse: s-maj=8.4km s-min=4.7km az=178.6*
*IDC **27** 15:13:11.0±6.3,57°.63N×154°.82W,h68km±53km,mb3.4/5, mb1 3.6/8,mb1mx3.3/35,mbtmp3.7/8,ML3.7/3,Error ellipse: s-maj=48.0km s-min=37.1km az=8.0*
*NEIC **27** 15:13:11.9,57°.34N×154°.50W,h53km,ML3.2(AEIC),After AEIC.*

ISC 27 15:13:09.6±0.9,57°.31N±0'.06×154°.42W±0'.04,h77km±8km, n74,σ1§21/82,mb3.9/4,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.62**	**98**	P	**Pn**	**15 13 24.4**	**+0.2**
OHAK				S	**Sn**	**15 13 35.3**	**+0.2**
KABR	**Katmai Barrier**	**0.87**	**340**	P	**Pn**	**15 13 26.6**	**-0.5**
KCE	**Katmai Mt Cerb**	**1.02**	**337**	P	**Pn**	**15 13 28.7**	**-0.1**
KAKN	**Katmai Knife C**	**1.04**	**341**	P	**Pn**	**15 13 28.9**	**-0.3**
KAKN				S	**Sn**	**15 13 43.1**	**-0.7**
KCG	**Knife Ck. Glac**	**1.06**	**340**	P	**Pn**	**15 13 29.2**	**-0.1**
KABU	**Katmai Buttres**	**1.07**	**335**	P	**Pn**	**15 13 29.7**	**+0.3**
KABU				S	**Sn**	**15 13 44.1**	**0.0**
PLK3	**Peulik 3**	**1.07**	**291**	P	**Pn**	**15 13 30.4**	**+1.0**
PLK3				S	**Sn**	**15 13 44.3**	**+0.2**
PLK4	**Peulik 4**	**1.09**	**288**	P	**Pn**	**15 13 30.7**	**+0.9**
KDAK	**Kodiak Island**	**1.10**	**64**	P	**Pn**	**15 13 30.4**	**+0.7**
KDAK				S	**Sn**	**15 13 45.9**	**+1.3**
KVTA	**Katmai Vly 10**	**1.17**	**337**	P	**Pn**	**15 13 30.3**	**-0.3**
PLWL	**Peulik Whale M**	**1.27**	**306**	P	**Pn**	**15 13 32.7**	**+1.0**
PLK1	**Peulik 1**	**1.28**	**294**	P	**Pn**	**15 13 33.3**	**+1.4**
KELA	**Mount Kelaz**	**1.33**	**329**	P	**Pn**	**15 13 32.2**	**-0.5**
PLK5	**Peulik 5**	**1.49**	**298**	P	**Pn**	**15 13 35.8**	**+1.1**
MCNL	**McNeil River**	**1.88**	**1**	P	**Pn**	**15 13 40.7**	**+0.9**
AUI	**Augustine Isla**	**2.10**	**14**	P	**Pn**	**15 13 44.1**	**+1.4**
AUI				S	**Sn**	**15 14 10.3**	**+2.4**
AUH	**Augustine H**	**2.12**	**14**	P	**Pn**	**15 13 44.8**	**+1.7**
AUP	**Augustine Pinn**	**2.12**	**14**	P	**Pn**	**15 13 44.9**	**+1.8**
OPT	**Oil Point**	**2.43**	**14**	P	**Pn**	**15 13 48.8**	**+1.6**
BRLK	**Bradley Lake**	**3.08**	**36**	P	**Pn**	**15 13 56.7**	**+0.7**
RSO	**Redoubt South**	**3.27**	**15**	*e*Pn	**Pn**	**15 14 00.1**	**+1.3**
RDWB	**Redoubt West**	**3.29**	**14**	P	**Pn**	**15 14 00.2**	**+1.3**
NCT	**North Crescent**	**3.35**	**13**	P	**Pn**	**15 14 01.2**	**+1.5**
DFR	**Drift River**	**3.41**	**15**	P	**Pn**	**15 14 02.1**	**+1.6**
SEW	**Seward**	**3.81**	**41**	P	**Pn**	**15 14 06.2**	**+0.3**
SVW2	**Sparrevohn**	**3.84**	**352**	P	**Pn**	**15 14 07.0**	**+0.7**
SLKM	**Skilak Lake**	**3.87**	**32**	P	**Pn**	**15 14 07.3**	**+0.5**
SDPT	**Sand Point**	**3.90**	**242**	P	**Pn**	**15 14 06.0**	**-1.1**
CKL	**Chakachamna La**	**4.04**	**14**	P	**Pn**	**15 14 10.5**	**+1.4**
BGL	**Barrier Glacie**	**4.10**	**14**	P	**Pn**	**15 14 11.5**	**+1.6**
SPBG	**Spurr Blockage**	**4.10**	**14**	P	**Pn**	**15 14 11.4**	**+1.6**
STLK	**Strandline Lak**	**4.40**	**16**	P	**Pn**	**15 14 15.2**	**+1.2**
RC01	**Rabbit Creek A**	**4.49**	**30**	P	**Pn**	**15 14 15.9**	**+0.8**
PTE	**Portage**	**4.52**	**36**	P	**Pn**	**15 14 15.9**	**+0.5**
SUA	**Susitna One**	**4.57**	**23**	P	**Pn**	**15 14 17.2**	**+0.9**
SKT	**Skwentna**	**4.91**	**16**	P	**Pn**	**15 14 21.7**	**+0.9**
GLI	**Glacier Island**	**5.20**	**43**	P	**Pn**	**15 14 24.6**	**-0.2**
JPK	**Jack Peak**	**5.50**	**44**	P	**Pn**	**15 14 29.3**	**+0.4**
VLZ	**Valdez**	**5.65**	**44**	P	**Pn**	**15 14 31.4**	**+0.6**
TT01	**Tatalina**	**5.67**	**353**	P	**Pn**	**15 14 32.5**	**+1.3**
SCM	**Sheep Creek Mo**	**5.79**	**35**	P	**Pn**	**15 14 33.6**	**+0.7**
DIV	**Divide**	**5.86**	**46**	P	**Pn**	**15 14 34.5**	**+0.6**
RAGM	**Ragged Mountai**	**5.92**	**55**	P	**Pn**	**15 14 35.6**	**+1.0**
GOAT	**Goat Mountain**	**5.99**	**53**	P	**Pn**	**15 14 36.7**	**+1.1**
KLU	**Klutina**	**6.03**	**42**	P	**Pn**	**15 14 37.0**	**+0.7**
BMRM	**Bremner River**	**6.24**	**50**	*e*Pn	**Pn**	**15 14 39.4**	**+0.4**
BMRM				*e*Sn	**Sn**	**15 15 48.3**	**-0.5**
BERG	**Berg Lake**	**6.36**	**56**	P	**Pn**	**15 14 41.3**	**+0.7**
TRF	**Thorofare Moun**	**6.49**	**17**	P	**Pn**	**15 14 43.5**	**+1.0**
PS11	**TAPS Pump St11**	**6.58**	**40**	P	**Pn**	**15 14 44.8**	**+1.2**
KHIT	**Khitrov Hills**	**6.58**	**57**	P	**Pn**	**15 14 44.5**	**+0.7**
RNDI	**Reindeer**	**6.71**	**22**	P	**Pn**	**15 14 45.5**	**+0.1**
VRDI	**Verde Repeater**	**6.85**	**50**	P	**Pn**	**15 14 48.7**	**+1.2**
HARP	**HAARP**	**6.91**	**39**	P	**Pn**	**15 14 49.4**	**+1.2**
BARK	**Barkley Ridge**	**6.92**	**58**	P	**Pn**	**15 14 49.4**	**+1.1**
MCK	**McKinley**	**6.98**	**20**	P	**Pn**	**15 14 50.0**	**+0.9**
ISLE	**Juniper Island**	**7.06**	**57**	P	**Pn**	**15 14 51.4**	**+1.1**
MCARA	**McCarthy VSAT**	**7.11**	**50**	P	**Pn**	**15 14 51.6**	**+0.8**
BAGL	**Bagley Icefiel**	**7.13**	**58**	P	**Pn**	**15 14 52.5**	**+1.4**
KIAG	**Kiagna River**	**7.18**	**55**	P	**Pn**	**15 14 52.8**	**+0.8**
PTPK	**Patty Peak**	**7.25**	**53**	P	**Pn**	**15 14 54.1**	**+1.1**
GRNC	**Granite Creek**	**7.38**	**57**	P	**Pn**	**15 14 55.8**	**+1.1**
BARN	**Barnard Glacie**	**7.55**	**55**	P	**Pn**	**15 14 58.0**	**+1.0**
DOT	**Dot Lake**	**8.15**	**34**	*e*Pn	**Pn**	**15 15 07.6**	**+2.6**
ILAR	**Eielson Array**	**8.32**	**23**	P	**Pn**	**15 15 06.4**	**-0.9**
	0.5nm,0.3s,baz=214,slow=14,SNR=21						
ILAR				S	**Sn**	**15 16 35.8**	**-3.8**
	0.7nm,0.3s,baz=218,slow=20,SNR=12						
ILB	**Eielson Array**	**8.32**	**23**	P	**Pn**	**15 15 07.3**	**0.0**
BCA3	**Beaver Creek A**	**8.53**	**42**	P	**Pn**	**15 15 11.5**	**+1.3**
IM3	**Indian Mountai**	**8.71**	**2**	P	**Pn**	**15 15 12.7**	**+0.1**
DLBC	**Dease Lake**	**13.01**	**75**	P	**Pn**	**15 16 14.1**	**+2.9**
	0.4nm,0.3s,baz=299,slow=20,SNR=3.1						
DLBC				S	**Sn**	**15 18 30.8**	**-3.1**
	0.7nm,0.3s,baz=225,slow=18,SNR=3.8						
INK	**Inuvik**	**14.48**	**32**	P	**Pn**	**15 16 31.4**	**+1.1**
	0.1nm,0.3s,baz=224,slow=14,SNR=3.8						
YKA	**Yellowknife Ar**	**20.37**	**59**	P	Pn	15 17 41.6	-0.7
	0.9nm,0.6s,baz=271,slow=11,SNR=8.6						
SONM	**Songino Array**	**55.78**	**306**	P	**P**	**15 22 38.0**	**-0.4**
	0.8nm,0.7s,baz=48,slow=6.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**59.10**	**324**	P	**P**	**15 23 01.1**	**-0.3**
	0.4nm,0.3s,baz=35,slow=7.8,SNR=3.4						
FINES	**FINESS Array B**	**61.58**	**360**	P	**P**	**15 23 18.9**	**+0.7**
	2.0nm,0.9s,baz=23,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**66.07**	**321**	P	**P**	**15 23 47.4**	**-0.5**
	0.3nm,0.7s,baz=0.0,slow=5.2,SNR=5.4						

*ISCJB **27** 15:36:01.7±0.6,1°.68N±0'.05×127°.41E±0'.06,h128km, mb3.9/8,Error ellipse: s-maj=9.6km s-min=5.3km az=145.9*
*DJA **27** 15:36:04.8±0.7,2°.N±3°×12°.7E±°,h109km±6km,M4.2/9, mb4.8/2,mb4.3/3,MLv4.2/9,Mw(mB)4.1/2*
*IDC **27** 15:36:07.1±2.9,1°.42N×127°.25E,h167km±29km,mb3.5/8, mb1 3.7/9,mb1mx3.4/25,mbtmp4.0/9,Error ellipse: s-maj=47.4km s-min=10.3km az=62.0*

ISC 27 15:36:03.2±0.7,1°.61N±0'.06×127°.35E±0'.07,h128km,n24, σ1§68/31,mb4.0/8,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.83**	**179**	P	**Pn**	**15 36 25.7**	**+1.2**
TNTI				S	**Sn**	**15 36 42.1**	**+1.5**
LBMI	**Labuha**	**2.24**	**176**	P	**Pn**	**15 36 41.7**	**+1.6**
LBMI				S	**Sn**	**15 37 10.4**	**+2.1**
SGSI	**Sangihe**	**2.75**	**319**	P	**Pn**	**15 36 46.5**	**-0.1**
SGSI				S	**Sn**	**15 37 19.0**	**-1.0**
KMSI	**Cibinong**	**3.52**	**253**	P	**Pn**	**15 36 57.8**	**+1.1**
KMSI				S	**Sn**	**15 37 38.7**	**+0.7**
NLAI	**Namlea**	**4.82**	**183**	P	**Pn**	**15 37 14.3**	**+0.3**
NLAI				S	**Sn**	**15 38 06.3**	**-2.7**
LUWI	**Luwuk**	**5.28**	**240**	P	**Pn**	**15 37 23.0**	**+2.9**
	60nm,0.6s,2μm1.7nm						
LUWI	**Luwuk**	**5.28**	**240**	P	**Pn**	**15 37 19.6**	**-0.6**
	baz=5.9,SNR=18						
AAI	**Ambon**	**5.33**	**171**	P	**Pn**	**15 37 22.6**	**+1.9**
	baz=6.3,SNR=5.1						
MRSI	**Marisa**	**5.53**	**258**	P	**Pn**	**15 37 23.3**	**-0.1**
FAKI	**Fak Fak**	**6.65**	**133**	P	**Pn**	**15 37 40.3**	**+1.7**
	baz=7.3,SNR=3.7						
JAY	**Jayapura**	**13.96**	**107**	P	**P**	**15 39 20.1**	**+0.5**
	0.3nm,0.3s,baz=26,slow=11,SNR=4.6						
FITZ	**Fitzroy Crossi**	**19.66**	**185**	P	**P**	**15 40 21.9**	**-0.4**
	baz=21,SNR=5.1						
WRA	**Warramunga Arr**	**22.49**	**163**	P	**P**	**15 40 50.7**	**-1.6**
	3.9nm,0.4s,baz=339,slow=11,SNR=70						
WRA				S	**S**	**15 44 44.7**	**-5.1**
	0.6nm,0.7s,baz=345,slow=19,SNR=3.3						
QIS	**Mount Isa**	**25.09**	**152**	P	**P**	**15 41 16.5**	**+0.3**
	baz=26,SNR=8.8						
ASAR	**Alice Springs**	**25.92**	**166**	P	**P**	**15 41 22.1**	**-1.5**
	1.3nm,0.3s,baz=345,slow=11,SNR=63						
ASAR				S	**S**	**15 45 41.6**	**-3.0**
	0.3nm,0.7s,baz=336,slow=13,SNR=3.6						
WRKA	**Warakurna**	**26.50**	**178**	P	**P**	**15 41 28.4**	**-0.5**
	baz=28,SNR=8.8						
CTA	**Charters Tower**	**28.44**	**140**	P	**P**	**15 41 45.3**	**-0.9**
	3.2nm,0.9s,baz=2.7,slow=14,SNR=2.3						
MEEK	**Meekatharra**	**29.32**	**196**	P	**P**	**15 41 53.6**	**-0.4**
	baz=30,SNR=3.4						
CMAR	**Chiang Mai Arr**	**32.51**	**303**	P	**P**	**15 42 23.1**	**+1.1**
	0.5nm,0.7s,baz=127,slow=9.1,SNR=4.0						
STKA	**Stephens Creek**	**35.94**	**159**	P	**P**	**15 42 51.1**	**-0.4**
	8.7nm,0.7s,baz=334,slow=8.3,SNR=38						
STKA	**Stephens Creek**	**35.94**	**159**	P	**P**	**15 42 51.2**	**-0.3**
	baz=37,SNR=28						
SONM	**Songino Array**	**49.49**	**342**	P	**P**	**15 44 41.3**	**+0.5**
	0.4nm,0.6s,baz=158,slow=7.0,SNR=3.8						
MKAR	**Makanchi Array**	**59.64**	**326**	P	**P**	**15 45 54.5**	**+0.6**
	1.4nm,0.5s,baz=124,slow=6.3,SNR=29						
AKTO	**Aktyubinsk**	**75.70**	**322**	P	**P**	**15 47 34.1**	**-0.5**
	0.7nm,0.5s,baz=122,slow=9.5						

*IDC **27** 15:47:06.1±1.0,34°.23N×26°.14E,h0km,mb4.1/11, mb1 4.0/18,mb1mx3.9/34,mbtmp3.9/18,ML3.7/5,MS3.3/2, Ms1 3.4/2,ms1mx2.6/38,Error ellipse: s-maj=21.4km s-min=14.5km az=1.0*
*CSEM **27** 15:47:09.6,34°.28N×26°.05E,h17km,MD3.7*
*ATH **27** 15:47:09.6,34°.28N×26°.05E,h17km±1km,MD3.7/8*

ISC 27 15:47:09.6±1.8,34°.23N±0°.07×26°.19E±0°.04,h23km±12km, n53,σ1§42/65,mb3.9/11,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.89**	**1**	*e*PN	**Pb**	**15 47 25.6**	**-0.8**
ZKR				*e*SN	**Sb**	**15 47 37.4**	**-0.4**
ZKR	**Zakros**	**0.89**	**1**	*e*Pn	**Pb**	**15 47 25.6**	**-0.8**
ZKR				*e*Sn	**Sb**	**15 47 37.4**	**-0.4**
LAST	**Lasithi**	**1.10**	**328**	*e*PN	**Pn**	**15 47 28.4**	**-1.3**
LAST				*e*SN	**Sb**	**15 47 42.7**	**-1.4**
LAST	**Lasithi**	**1.10**	**328**	*e*Pn	**Pn**	**15 47 28.4**	**-1.3**
LAST				*e*Sn	**Sb**	**15 47 42.7**	**-1.4**
NPS	**Neapolis**	**1.14**	**335**	*e*PN	**Pn**	**15 47 29.1**	**-1.1**
NPS				*e*SN	**Sb**	**15 47 43.0**	**-2.0**
NPS	**Neapolis**	**1.14**	**335**	*e*Pn	**Pn**	**15 47 29.1**	**-1.1**
NPS				*e*Sn	**Sb**	**15 47 43.0**	**-2.0**
SIVA	**Sivas**	**1.39**	**305**	*e*PN	**Pn**	**15 47 33.6**	**+0.1**
SIVA				*e*SN	**Sn**	**15 47 50.7**	**-0.4**
SIVA	**Sivas**	**1.39**	**305**	*e*Pn	**Pn**	**15 47 33.6**	**+0.1**
SIVA				*e*Sn	**Sn**	**15 47 50.7**	**-0.4**
IDI	**Anoyia**	**1.51**	**315**	Pn	**Pn**	**15 47 35.7**	**+0.4**
	5.9nm,0.3s,baz=130,slow=16,SNR=22						
KARP	**Karpathos**	**1.54**	**31**	*e*PN	**Pb**	**15 47 38.9**	**+1.4**
KARP	**Karpathos**	**1.54**	**31**	*e*Pn	**Pb**	**15 47 38.9**	**+1.4**
VAM	**Vamos**	**2.02**	**306**	*e*PN	**Pn**	**15 47 43.3**	**+1.1**
VAM	**Vamos**	**2.02**	**306**	*e*Pn	**Pn**	**15 47 43.3**	**+1.1**
KARN	**Karanos**	**2.21**	**303**	*e*PN	**Pn**	**15 47 46.4**	**+1.5**
KARN	**Karanos**	**2.21**	**303**	*e*Pn	**Pn**	**15 47 46.4**	**+1.5**
SANT	**Santorini**	**2.22**	**345**	*e*PB	**Pn**	**15 47 46.4**	**+1.3**
SANT	**Santorini**	**2.22**	**345**	*e*Pb	**Pn**	**15 47 46.4**	**+1.3**
ARG	**Arkhangelos**	**2.54**	**38**	*e*PN	**Pb**	**15 47 52.8**	**-1.7**
ARG	**Arkhangelos**	**2.54**	**38**	*e*Pn	**Pb**	**15 47 52.8**	**-1.7**
ANKY	**Antikythira Is**	**2.88**	**305**	*e*PN	**Pn**	**15 47 55.5**	**+1.4**
ANKY	**Antikythira Is**	**2.88**	**305**	*e*Pn	**Pn**	**15 47 55.5**	**+1.4**
BDRM	**Kayabasi**	**3.01**	**19**	*e*Pn	**Pn**	**15 47 56.7**	**+0.8**
BDRM				*e*Sn	**Sn**	**15 48 30.5**	**-0.8**
AKAS	**Kas**	**3.44**	**53**	*e*PN	**Pn**	**15 48 04.0**	**+2.1**
AKAS				*e*Sn	**Sn**	**15 48 38.8**	**-3.2**
VLI	**Veliai**	**3.64**	**314**	*e*PN	**Pn**	**15 48 05.8**	**+1.3**
VLI	**Veliai**	**3.64**	**314**	*e*Pn	**Pn**	**15 48 05.8**	**+1.3**
AYDN	**Tasoluk**	**3.69**	**21**	*e*Pn	Pn	15 48 08.9	+3.6
AYDN				*e*Sn	**Sn**	**15 48 46.2**	**-2.0**
GOLH	**Golhisar**	**4.07**	**41**	*e*Pn	**Pn**	**15 48 13.4**	**+2.9**
GOLH				*e*Sn	**Sn**	**15 48 58.0**	**+0.5**
DNZL	**Cakiroluk**	**4.16**	**33**	*e*Pn	Pn	15 48 15.6	+3.7
DNZL				*e*S	Sn	15 48 51.9	-8.0
PYL	**PYLOS**	**4.50**	**308**	*e*PN	**Pn**	**15 48 17.9**	**+1.5**
PYL	**PYLOS**	**4.50**	**308**	*e*Pn	**Pn**	**15 48 17.9**	**+1.5**
ITM	**Ithomi**	**4.55**	**312**	*e*PN	**Pn**	**15 48 19.2**	**+2.1**
ITM	**Ithomi**	**4.55**	**312**	*e*Pn	**Pn**	**15 48 19.2**	**+2.1**
GUR	**Goura**	**4.84**	**321**	*e*PN	**Pn**	**15 48 22.6**	**+1.5**
GUR	**Goura**	**4.84**	**321**	*e*Pn	**Pn**	**15 48 22.6**	**+1.5**
MMAI	**Mount Meron Ar**	**7.78**	**96**	Pn	**Pn**	**15 49 01.1**	**-0.4**
	2.1nm,0.3s,baz=280,slow=11,SNR=6.6						
MMAI				Sn	**Sn**	**15 50 29.2**	**+0.3**
	4.0nm,0.3s,baz=281,slow=19,SNR=5.3						
BRTR	**Keskin Array B**	**8.10**	**45**	Pn	**Pn**	**15 49 05.9**	**0.0**
	0.1nm,0.3s,baz=209,slow=13,SNR=4.2						
BRTR				Sn	**Sn**	**15 50 36.2**	**-0.7**
	0.1nm,0.3s,baz=231,slow=20,SNR=3.8						
EIL	**Elat**	**8.72**	**119**	Pn	**Pn**	**15 49 14.8**	**+0.4**
	1.9nm,0.3s,baz=356,slow=9.5,SNR=14						
EIL				Sn	**Sn**	**15 50 48.0**	**-3.8**
	1.5nm,0.3s,baz=204,slow=2.1,SNR=6.5						
KBZ	**Khabaz**	**16.06**	**49**	Pn	**P**	**15 50 58.1**	**+1.0**
	baz=146,slow=1.7						
AKASG	**Malin Array Be**	**16.61**	**7**	Pn	**Pn**	**15 51 00.1**	**-0.8**
	0.8nm,0.3s,baz=192,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**17.31**	**331**	P	**Pn**	**15 51 09.9**	**+0.2**
	baz=144,slow=12,SNR=4.3						
DAVOX	**Davos/Dischmat**	**17.59**	**320**	P	**P**	**15 51 13.8**	**-0.5**
	0.2nm,0.3s,baz=177,slow=6.4,SNR=3.3						
OBN	**Obninsk**	**22.10**	**16**	LR	LR	16 01 47.4	
	comp=Z,18nm,21.6s,baz=280,slow=40						
ESDC	**Sonseca Array**	**24.64**	**292**	P	**P**	**15 52 27.6**	**-0.8**
	0.9nm,0.5s,baz=76,slow=8.9,SNR=7.8						
HFS	**Hagfors**	**27.18**	**346**	P	**P**	**15 52 49.6**	**-1.5**
	2.4nm,0.8s,baz=186,slow=10,SNR=2.9						
FINES	**FINESS Array B**	**27.23**	**360**	P	**P**	**15 52 49.6**	**-1.9**
	1.0nm,0.6s,baz=157,slow=10,SNR=4.7						
TORD	**Torodi Ar. Bea**	**30.57**	**233**	P	**P**	**15 53 20.9**	**-0.8**
	1.0nm,0.6s,baz=31,slow=8.6,SNR=8.3						
ARCES	**ARCESS Array B**	**35.36**	**360**	P	**P**	**15 54 01.7**	**-1.3**
	5.1nm,0.9s,baz=326,slow=15,SNR=5.5						
KURBB	**Kurchatov Arra**	**41.06**	**50**	P	**P**	**15 54 52.2**	**+1.1**
	0.9nm,0.4s,baz=279,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**43.59**	**56**	P	**P**	**15 55 12.5**	**+0.6**
	1.2nm,0.7s,baz=272,slow=11,SNR=17						
ZALV	**Zalesovo Beam**	**45.04**	**45**	P	**P**	**15 55 23.9**	**+0.5**
	1.2nm,0.6s,baz=274,slow=8.7,SNR=5.9						
SCHQ	**Schefferville**	**64.45**	**320**	P	**P**	**15 57 43.9**	**-0.1**
	1.9nm,0.6s,baz=70,slow=7.5,SNR=4.9						
SCHQ				LR	LR	16 25 58.1	
	comp=Z,123nm,20.0s,baz=319,slow=36						
RES	**Resolute Bay**	**64.78**	**345**	P	**P**	**15 57 46.5**	**+0.7**
	3.8nm,0.8s,baz=290,slow=2.5,SNR=5.6						
YKA	**Yellowknife Ar**	**78.59**	**343**	P	**P**	**15 59 08.6**	**-0.4**
	0.4nm,0.6s,baz=31,slow=5.3,SNR=5.4						

*IDC **27** 15:48:03.4±0.5,51°.07N×178°.79E,h0km,mb4.4/31, mb1 4.5/32,mb1mx4.4/57,mbtmp4.4/32,ML3.6/1,MS3.9/26, Ms1 3.9/26,ms1mx3.8/43,Error ellipse: s-maj=15.2km s-min=10.6km az=160.0*
*BJI **27** 15:48:07.7,51°.46N×178°.76E,h37km,mB5.1/31,mb4.8/46, Ms4.8/25,Ms7 4.3/26*
*MOS **27** 15:48:07.9±1.0,51°.14N×178°.75E,h41km,mb5.0/53,Error ellipse: s-maj=8.8km s-min=6.3km az=99.7*
*ISCJB **27** 15:48:08.8±0.6,51°.16N±0'.05×178°.78E±0'.03,h46km±4km, mb4.7/113,MS4.0/31,Error ellipse: s-maj=8.0km s-min=2.8km az=3.8*
*NEIC **27** 15:48:09.4±0.2,51°.08N×178°.75E,mb4.8/70, ML4.5(AEIC),Error ellipse: s-maj=5.5km s-min=2.6km az=173.0*
*GCMT **27** 15:48:09.4±0.3,51°.02N×178°.82E,h19km±1km,MW4.9/62, Moment Tensor Solution. s27,c31; s62,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.80±.15; Mθθ-1.79±.10; Mφφ0.00±.08; Mrθ1.53±.20; Mθφ-0.22±.06; Mφr0.95±.22; Best double couple: Mo2.55100×10¹⁶ NP1:φ66.00000°,δ68.00000°,λ77.00000° NP2: φs278.00000°,δ25.00000°,λ119.00000°. Principal axes:*
T 2.6250, Plg65.0000°, Azm315.0000°; N -0.1460, Plg12.0000°, Azm71.0000°; P -2.4770, Plg22.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 27 15:48:09.4±0.4,51°.02N±0'.06×178°.83E±0'.03,h40km±2km, h40km:pP-P,n512,σ1§09/541,mb4.8/114,MS4.0/31, 119C-105D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.68**	**63**	P	**Pn**	**15 48 36.8**	**+0.6**
GAEA	**Gareloi East**	**1.70**	**62**	P	**Pn**	**15 48 37.0**	**+0.5**
TASE	**Tanaga Southea**	**2.13**	**66**	P	**Pn**	**15 48 43.4**	**+1.0**
TAFL	**Tanaga Flats**	**2.18**	**69**	P	**Pn**	**15 48 43.9**	**+0.8**
TAFP	**Tanaga Falls P**	**2.18**	**65**	P	**Pn**	**15 48 43.7**	**+0.5**
TAFP				S	**Sn**	**15 49 11.8**	**+2.9**
KIKV	**Kanaga Island**	**2.65**	**69**	P	**Pn**	**15 48 50.1**	**+0.6**
KIRH	**Kanaga Island**	**2.70**	**69**	P	**Pn**	**15 48 51.0**	**+0.8**
ADK	**Adak**	**2.94**	**71**	P	**Pn**	**15 48 53.6**	**+0.1**
ADK				S	**Sn**	**15 49 23.9**	**+1.8**
ADK	**Adak**	**2.94**	**71**	P	**Pn**	**15 48 53.6**	**+0.1**
ADK				S	**Sn**	**15 49 22.4**	**+1.8**
ADAG	**Mount Adagdak**	**3.02**	**70**	P	**Pn**	**15 48 55.0**	**+0.4**
ETKA	**Kagalaska Isla**	**3.10**	**72**	P	**Pn**	**15 48 56.4**	**+0.7**
GSCK	**Great Sitkin C**	**3.28**	**70**	P	**Pn**	**15 48 58.9**	**+0.6**
GSMY	**Great Sitkin M**	**3.36**	**70**	P	**Pn**	**15 48 59.6**	**+0.4**
GSTR	**Great Sitkin T**	**3.37**	**69**	*e*Pn	**Pn**	**15 48 60.0**	**+0.6**
SMY	**Shemya**	**3.39**	**302**	P	**Pn**	**15 49 02.2**	**+2.5**
SMY				S	**Sn**	**15 49 42.4**	**+3.7**
SMY	**Shemya**	**3.39**	**302**	P	**Pn**	**15 49 02.2**	**+2.5**
SMY				S	**Sn**	**15 49 42.4**	**+3.7**
KOFP	**Korovin Flat P**	**4.58**	**71**	P	**Pn**	**15 49 17.4**	**+1.2**
NIKH	**Nikolski High**	**7.85**	**71**	P	**Pn**	**15 50 00.8**	**-0.1**
SPIA	**Saint Paul Isl**	**8.90**	**42**	P	**Pn**	**15 50 16.8**	**+1.6**
MREP	**Makushin Rep't**	**9.25**	**67**	P	**Pn**	**15 50 20.6**	**+0.5**
UNV	**Unalaska Valle**	**9.40**	**67**	P	**Pn**	**15 50 22.7**	**+0.7**
FALS	**False Pass**	**11.38**	**63**	Pn	**Pn**	**15 50 48.7**	**-0.4**
PET	**Petropavlovsk**	**12.58**	**287**	*e*P	**Pn**	**15 51 04.2**	**-1.4**
PET				*e*S	**Sn**	**15 53 24.2**	**0.0**
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PEA0B	**Petropavlovsk-**	**13.16**	**287**	*e*Pn	Pn	15 51 07.9	-5.6
PETK	**Petropavlovsk-**	**13.16**	**287**	Pn	Pn	15 51

YAK comp=Z,24nm,1.0s pmax pmax
YAK comp=E,15nm,1.1s pmax pmax
YAK comp=N,3.0nm,1.0s pmax pmax
YAK comp=Z,20nm,1.1s smax smax
YAK comp=E,113nm,3.4s smax smax
YAK comp=N,55nm,2.9s MLR MLR
YAK comp=Z,286nm,14.0s MLR MLR
YAK comp=E,213nm,16.0s MLR MLR
YAK comp=N,166nm,14.0s
YAK Yakutsk 28.54 312 *e*P **P 15 53 59.7 -1.0**
comp=N,19nm,0.9s
INK Inuvik 28.61 35 P **P 15 54 00.5 -0.9**
comp=N,4.7nm,1.0s,baz=236,slow=9.0,SNR=25
INK Inuvik 28.61 35 P **P 15 54 00.5 -0.9**
INK pmax pmax
comp=Z,5.0nm,1.0s
DLBC Dease Lake 29.80 56 LR LR 16 06 12.3
comp=Z,364nm,20.6s,baz=324,slow=37
KLR Kul'dur 29.84 285 *e*P P 15 54 09.2 -3.2
TIXI Tiksi 30.22 331 *e*P **P 15 54 15.3 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
USRK Ussuriysk Ar. 31.86 276 P **P 15 54 28.0 -2.3**
comp=Z,1.3nm,0.6s,baz=59,slow=11,SNR=4.1
USRK LR LR 16 06 17.4
comp=Z,126nm,21.1s,baz=63,slow=34
MJAR Matsushiro Arr 32.25 259 P **P 15 54 33.4 -0.5**
comp=Z,2.8nm,1.0s,baz=60,slow=5.9,SNR=4.0
MJAR LR LR 16 05 27.7
comp=Z,185nm,21.7s,baz=60,slow=32
H11N2 WAKE ISLAND Hy 32.61 201 T T 16 29 48.8
baz=9.9,slow=76,SNR=6.4
H11N3 WAKE ISLAND Hy 32.62 201 T T 16 29 50.6
baz=9.9,slow=76,SNR=9.6
H11N1 WAKE ISLAND Hy 32.63 201 T T 16 29 51.6
baz=9.9,slow=76,SNR=5.4
MDJ Mudanjiang 33.15 278 P **P 15 54 42.8 +1.2**
MDJ PMZ
comp=Z,19nm,1.9s
MDJ PMZ
comp=Z,440nm,4.1s
H11S1 WAKE ISLAND Hy 33.84 201 T T 16 31 26.7
baz=20,slow=76,SNR=9.6
H11S3 WAKE ISLAND Hy 33.85 201 T T 16 31 27.7
baz=20,slow=76,SNR=6.5
H11S2 WAKE ISLAND Hy 33.86 201 T T 16 31 21.2
baz=20,slow=76,SNR=6.5
KIP Kipapa 34.65 140 *ce*P **P 15 54 53.9 -0.9**
KIP pmax pmax
comp=Z,128nm,2.5s
YKA Yellowknife Ar 36.56 46 P **P 15 55 10.0 -0.7**
comp=Z,5.3nm,0.8s,baz=283,slow=8.3,SNR=47
YKA Yellowknife Ar 36.56 46 P **P 15 55 10.0 -0.7**
YKA pmax pmax
comp=Z,5.0nm,0.8s
BOD Bodaibo 36.99 306 ⇓ *i*P **P 15 55 13.1 -1.4**
BOD pmax pmax
comp=Z,15nm,1.3s
KSRS Korea Array 38.15 269 P **P 15 55 25.3 +0.8**
comp=Z,6.3nm,0.9s,baz=58,slow=8.2,SNR=12
KSRS LR LR 16 08 49.3
comp=Z,77nm,21.8s,baz=57,slow=33
KSAR Wonju Array Be 38.18 269 P **P 15 55 25.3 +0.5**
KSAR Wonju Array Be 38.18 269 P **P 15 55 25.3 +0.5**
LON Longmire 38.35 72 *e*P **P 15 55 27.4 +1.2**
LON pmax pmax
comp=Z,7.0nm,0.6s
LON Longmire 38.35 72 *e*P **P 15 55 27.4 +1.2**
comp=Z,7.4nm,0.6s
G05D Wamic, OR 39.40 74 ⇑P **P 15 55 36.0 +1.1**
baz=39
I04A Tendick Farm, 39.48 77 ⇓P **P 15 55 36.4 +0.7**
baz=39
L02D Cave Junction, 39.62 80 ⇓P **P 15 55 37.9 +1.0**
baz=40
I05D Terrebonne, OR 39.85 76 ⇑P **P 15 55 40.0 +1.3**
baz=40
J04D Umpqua Nationa 39.96 77 ⇑P **P 15 55 41.2 +1.4**
baz=40
EDM Edmonton 40.29 59 *e*P **P 15 55 42.0 -0.2**
EDM Edmonton 40.29 59 *e*P **P 15 55 42.0 -0.2**
NEW Newport 40.41 68 P **P 15 55 42.8 -0.5**
comp=Z,7.5nm,0.7s,baz=302,slow=5.0,SNR=11
NEW Newport 40.41 68 P **P 15 55 42.8 -0.5**
NEW pmax pmax
comp=Z,8.0nm,0.7s
NEW Newport 40.41 68 ⇑P **P 15 55 43.4 +0.2**
baz=40,SNR=6.1
NEW Newport 40.41 68 *e*P **P 15 55 43.5 +0.2**
NEW *e* 15 55 54.5
YBH Yreka Blue Hor 40.41 80 LR LR 16 10 39.5
comp=Z,173nm,18.6s,baz=300,slow=34
J05D Fort Rock, OR 40.47 77 ⇑P **P 15 55 45.1 +1.1**
baz=40
M02C Callahan 40.51 80 ⇓P **P 15 55 45.8 +1.5**
baz=40
RES Resolute Bay 40.68 24 P **P 15 55 44.4 -0.8**
comp=Z,4.5nm,0.9s,baz=278,slow=7.7,SNR=9.5
RES LR LR 16 15 10.2
comp=Z,152nm,19.4s,baz=278,slow=40
RES Resolute Bay 40.68 24 P **P 15 55 44.4 -0.8**
RES pmax pmax
comp=Z,5.0nm,0.9s
RES MLR MLR
comp=Z,152nm,19.4s
M04C Macdoel 40.92 79 ⇓P **P 15 55 49.0 +1.3**
baz=41
WALA Waterton Lakes 41.88 65 *e*P **P 15 55 54.1 -1.4**
comp=Z,17nm,1.0s
BSMT Bassoo Peak 41.97 67 *e*P **P 15 55 56.6 +0.2**
comp=Z,15nm,0.7s
BMO Blue Mountains 42.03 73 *e*P **P 15 55 57.0 +0.2**
comp=Z,33nm,1.4s
JTMT Jette 42.32 67 *e*P **P 15 55 59.3 +0.1**
comp=Z,3.1nm,0.6s
YBMT Yellow Bay 42.42 67 *e*P **P 15 56 00.8 +0.9**
comp=Z,4.2nm,0.7s
MSO Missoula 42.99 68 ⇓P **P 15 56 05.3 +0.8**
baz=43
SLMT Seeley Lake 43.04 67 *e*P **P 15 56 04.2 -0.8**
comp=Z,20nm,1.1s
CHMT Chamberlain Mo 43.35 68 *e*P **P 15 56 07.1 -0.5**
comp=Z,2.8nm,0.8s
MFID Camas Ranch 43.70 73 *e*P **P 15 56 11.0 +0.6**
comp=Z,12nm,1.1s
MFID *e* 15 56 21.3
HRY Holter Researc 44.28 67 P **P 15 56 14.9 -0.1**
comp=Z,16nm,0.6s
HLID Hailey 44.47 72 ⇓P **P 15 56 17.4 +0.9**
baz=44,SNR=24
HLID Hailey 44.47 72 *e*P **P 15 56 16.8 +0.3**
comp=Z,27nm,1.1s
HLID *e* 15 56 27.1
BMN Battle Mountai 44.56 78 *e*P **P 15 56 16.9 -0.3**
BMN pmax pmax
comp=Z,14nm,0.8s
BMN Battle Mountai 44.56 78 *e*P **P 15 56 16.9 -0.3**
comp=Z,14nm,0.8s
MCMT McKenzie Canyo 44.71 70 *e*P **P 15 56 18.9 +0.4**
MCMT *e* 15 56 29.9
EGMT Eagleton 44.79 65 ⇓P **P 15 56 19.1 +0.2**
baz=45
TLY Talaya 44.99 302 *e*P **P 15 56 20.8 +0.4**
TLY *e*S **S 16 02 55.4 -0.4**
TLY *e*SS ScS 16 06 05.7 -8.0
TLY pmax pmax
comp=Z,15nm,1.8s
TLY MLR MLR
comp=Z,463nm,19.0s
B19A Brinkman Farms 45.02 64 ⇑P **P 15 56 20.6 -0.1**
baz=45
ULN Ulaanbaatar 45.07 295 *c i*P **P 15 56 18.7 -2.6**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 45.07 295 *e*P **P 15 56 21.4 +0.1**
comp=Z,7.3nm,0.8s
ULN *e* 15 56 32.0
NVAR Mina Array Bea 45.08 81 P **P 15 56 22.2 +0.7**
comp=Z,3.0nm,0.7s,baz=299,slow=6.8,SNR=6.5

C19A Slack Wire Ran 45.34 65 ⇓P **P 15 56 23.7 +0.4**
baz=45
SONM Songino Array 45.47 296 P **P 15 56 24.3 -0.1**
comp=Z,4.6nm,0.8s,baz=58,slow=10,SNR=31
SONM PcP **PcP 15 58 02.7 0.0**
comp=Z,1.6nm,0.5s,baz=100,slow=3.2,SNR=5.4
SONM LR LR 16 15 49.2
comp=Z,173nm,20.5s,baz=71,slow=37
SONM Songino Array 45.47 296 P **P 15 56 24.3 -0.1**
SONM 15 58 02.7
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM MLR MLR
comp=Z,173nm,20.5s
QLMT Earthquake Lak 45.55 69 *e*P **P 15 56 25.6 +0.5**
comp=Z,1.7nm,1.1s
ELK Elko 45.59 76 LR LR 16 12 26.2
comp=Z,110nm,21.0s,baz=1.0,slow=32
ZAK Zakamensk 45.85 300 *e*P **P 15 56 27.5 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
YMR Madison River 45.91 69 *e*P **P 15 56 28.8 +0.8**
comp=Z,12nm,0.9s
C20A Veseth Ranch, 45.95 64 ⇓P **P 15 56 28.1 0.0**
baz=46
TPH Tonopah 45.97 80 *e*P **P 15 56 29.0 +0.4**
TPH *e* 15 56 40.6
TPH pmax pmax
comp=Z,15nm,1.0s
TPH Tonopah 45.97 80 *e*P **P 15 56 29.0 +0.4**
comp=Z,15nm,1.0s
TPH *e* 15 56 40.6
GCMT Greycliff 46.05 67 *e*P **P 15 56 29.2 +0.2**
comp=Z,4.9nm,0.8s
GCMT *e* 15 56 41.0
YNR Norris Junctio 46.05 69 *e*P **P 15 56 30.4 +1.2**
comp=Z,26nm,1.2s
E19A Rath Farm, Rou 46.19 66 ⇑P **P 15 56 30.1 +0.1**
baz=46
H17A Grant Village 46.30 69 ⇓P **P 15 56 33.1 +2.0**
baz=46,SNR=13
H17A Grant Village 46.30 69 *e*P **P 15 56 32.7 +1.6**
comp=Z,18nm,0.9s
LKWY Lake 46.30 69 *e*P **P 15 56 33.2 +2.1**
LKWY pmax pmax
comp=Z,6.0nm,0.8s
LKWY Lake 46.30 69 *e*P **P 15 56 33.2 +2.1**
comp=Z,6.4nm,0.8s
HHC Hu-ho-hao-te 46.34 285 *e*P **P 15 56 32.5 +1.2**
HHC PP **PP 15 58 18.8 -1.6**
HHC S **S 16 03 15.5 -0.2**
HHC sS **sS 16 03 31.8 -2.9**
HHC SS ScS 16 06 30.5 +7.5
HHC PMZ
comp=Z,18nm,1.1s
HHC PMZ
comp=Z,120nm,3.8s
HHC LN
comp=Z,250nm,19.7s
HHC LE
comp=Z,610nm,16.0s
HHC LZ
comp=Z,150nm,14.8s
MOY Mondy 46.41 303 *e*P **P 15 56 31.7 0.0**
F19A Roth Farm, Mol 46.43 67 ⇓P **P 15 56 32.4 +0.4**
baz=46
A22A Carney Farms, 46.43 62 ⇑P **P 15 56 32.4 +0.5**
baz=46
HVU Hansel Valley 46.49 74 *e*P **P 15 56 32.9 +0.4**
HVU *e* 15 56 44.4
HVU pmax pmax
comp=Z,19nm,0.9s
HVU Hansel Valley 46.49 74 *e*P **P 15 56 32.9 +0.4**
comp=Z,19nm,0.9s
HVU *e* 15 56 44.4
I17A Pilgrim Ck. 46.56 70 ⇓P **P 15 56 33.5 +0.3**
baz=46
RLMT Red Lodge 46.65 68 *e*P **P 15 56 35.0 +1.2**
comp=Z,21nm,1.0s
H18A Shoshone NF, C 46.67 68 ⇓P **P 15 56 34.7 +0.7**
baz=46
ISA Isabella, Lake 46.69 84 *e*P **P 15 56 34.2 +0.1**
ISA *e**PP **pP 15 56 44.9 -0.6**
ISA pmax pmax
comp=Z,2.0nm,0.6s
ISA Isabella, Lake 46.69 84 ⇓P **P 15 56 35.0 +0.9**
baz=47
ISA Isabella, Lake 46.69 84 *e*P **P 15 56 34.2 +0.1**
comp=Z,2.2nm,0.6s
ISA *ep*P **pP 15 56 44.9 -0.6**
R11A Troy Canyon, C 46.82 79 ⇑P **P 15 56 35.7 +0.5**
baz=47,SNR=7.8
R11A Troy Canyon, C 46.82 79 *e*P **P 15 56 35.5 +0.3**
comp=Z,7.4nm,0.9s
R11A *e* 15 56 46.8
BGU Big Grassy Mou 46.84 75 *e*P **P 15 56 36.2 +1.0**
comp=Z,31nm,1.4s
F20A Billings 46.92 66 ⇑P **P 15 56 36.6 +0.8**
baz=47
MPMC Manual Prospec 47.06 83 ⇓P **P 15 56 37.7 +0.6**
baz=47
H19A Powell 47.07 68 ⇓P **P 15 56 37.7 +0.7**
baz=47
G20A Bridger 47.21 67 ⇓P **P 15 56 38.6 +0.5**
baz=47
TPNV Topopah Spring 47.27 81 ⇑P **P 15 56 39.6 +0.8**
baz=47,SNR=6.8
HWUT Hardware Ranch 47.32 73 P **P 15 56 38.6 -0.4**
comp=Z,23nm,1.2s
HWUT *e* 15 56 50.6
NJ2 Nanjing 47.33 270 *e*P **P 15 56 41.0 +2.1**
NJ2 PMZ
comp=Z,20nm,0.8s
DUG Dugway, Tooele 47.41 75 *e*P **P 15 56 40.2 +0.5**
DUG *e* 15 56 51.3
DUG pmax pmax
comp=Z,36nm,1.1s
DUG Dugway, Tooele 47.41 75 ⇑P **P 15 56 40.5 +0.8**
baz=47,SNR=13
DUG Dugway, Tooele 47.41 75 *e*P **P 15 56 40.2 +0.5**
comp=Z,36nm,1.1s
DUG *e* 15 56 51.3
EDW2 Edwards Air Fo 47.50 84 ⇓P **P 15 56 40.9 +0.6**
baz=47
F21A Absaloka Mine, 47.50 66 ⇓P **P 15 56 40.4 +0.1**
baz=47
E22A Miles City 47.83 64 ⇑P **P 15 56 43.9 +1.2**
baz=48
BW06 Boulder Array 47.84 71 *e*P **P 15 56 42.7 -0.4**
comp=Z,19nm,0.8s
BW06 *ep*P **pP 15 56 54.6 +0.1**
PDAR Pinedale Array 47.84 71 P **P 15 56 43.5 +0.4**
comp=Z,14nm,0.9s,baz=308,slow=4.9,SNR=84
PDAR LR LR 16 16 23.7
comp=Z,98nm,18.6s,baz=326,slow=36
J19A Crowheart 47.85 70 ⇓P **P 15 56 43.6 +0.5**
baz=48
MWC Mount Wilson 47.88 85 P **P 15 56 44.0 +0.5**
MWC pmax pmax
comp=Z,20nm,1.0s
MWC Mount Wilson 47.88 85 P **P 15 56 44.0 +0.5**
comp=Z,20nm,1.0s
SHOC Shoshone, Teco 47.92 82 ⇑P **P 15 56 43.8 +0.2**
baz=48
GSC Goldstone, Bar 47.97 83 *e*P **P 15 56 44.5 +0.4**
GSC *e* 15 56 55.8
GSC pmax pmax
comp=Z,13nm,0.8s
GSC Goldstone, Bar 47.97 83 ⇑P **P 15 56 44.7 +0.7**
baz=48
GSC Goldstone, Bar 47.97 83 *e*P **P 15 56 44.5 +0.4**
comp=Z,13nm,0.8s
GSC *e* 15 56 55.8
JLU Jordanelle 47.99 74 *e*P **P 15 56 44.6 +0.3**
comp=Z,19nm,1.0s
I20A Worland 47.99 68 ⇑P **P 15 56 44.5 +0.3**
baz=48
NLU North Lily Min 48.00 75 *e*P **P 15 56 44.9 +0.5**
comp=Z,5.4nm,1.0s
A25A Svangstu Ranch 48.01 60 ⇑P **P 15 56 44.2 +0.1**
baz=48
F22A Rosebud 48.02 65 ⇓P **P 15 56 45.2 +0.9**
baz=48
BFSC Mount Baldy Ra 48.12 85 ⇓P **P 15 56 45.9 +0.7**
baz=48

KRAR Krasnoyarsk 48.20 311 *e*P **P 15 56 43.3 -2.1**
KRAR pmax pmax
comp=Z,38nm,1.4s
G22A Birney 48.33 66 ⇑P **P 15 56 47.1 +0.5**
baz=48
D24A Glendive 48.36 63 ⇑P **P 15 56 47.4 +0.6**
baz=48
J20A Shoshoni 48.37 69 ⇑P **P 15 56 48.0 +0.9**
baz=48
F23A Volborg 48.55 65 ⇑P **P 15 56 48.7 +0.4**
baz=48
I21A Big Trails, Te 48.56 68 ⇓P **P 15 56 48.9 +0.3**
baz=48,SNR=5.2
E24A Baker 48.69 63 ⇓P **P 15 56 49.9 +0.5**
baz=48
J21A Lysite 48.75 69 ⇓P **P 15 56 50.8 +0.7**
baz=49
MVU Marysvale 48.81 77 *e*P **P 15 56 51.9 +1.3**
comp=Z,10.0nm,1.0s
TMUT Trail Mountain 48.93 75 *e*P **P 15 56 52.5 +0.9**
comp=Z,22nm,0.9s
I22A 9 Mile Ranch, 48.99 68 ⇑P **P 15 56 52.5 +0.7**
baz=49
GMRC Granite Mounta 49.02 83 ⇓P **P 15 56 53.2 +1.0**
baz=49
K21A Alcova 49.29 69 ⇓P **P 15 56 54.6 +0.4**
baz=49
PFO Pinyon Flats O 49.29 85 ⇓P **P 15 56 54.9 +0.6**
baz=49
BELC Belle Mtn. Jos 49.32 84 ⇓P **P 15 56 54.7 +0.2**
baz=49
B27A Peters Farms, 49.32 60 ⇓P **P 15 56 54.7 +0.5**
baz=49
SRU San Rafael Swe 49.47 75 *e*P **P 15 56 57.0 +1.4**
SRU pmax pmax
comp=Z,21nm,1.0s
SRU San Rafael Swe 49.47 75 *e*P **P 15 56 57.0 +1.4**
comp=Z,21nm,1.0s
H24A Dirks Ranch, A 49.60 66 ⇑P **P 15 56 56.6 +0.1**
baz=49
IRM Iron Mountain 49.75 83 ⇑P **P 15 56 58.8 +1.2**
baz=50
BAR Barrett 49.76 86 *e*P **P 15 56 58.1 +0.4**
comp=Z,8.4nm,1.0s
BAR *ep*P **pP 15 57 09.4 +0.2**
N20A Spence Gulch, 49.77 72 ⇑P **P 15 56 58.7 +0.7**
baz=50,SNR=5.8
MONP Monument Peak, 49.78 85 ⇓P **P 15 56 59.2 +1.1**
baz=50
BC3 Big Chuckawall 49.89 84 ⇑P **P 15 56 59.6 +0.8**
baz=50
W13A Hualapai Mount 49.93 81 ⇑P **P 15 57 00.0 +0.8**
baz=50
U15A North Rim 50.07 79 ⇑P **P 15 57 01.2 +0.9**
baz=50,SNR=13
L22A Ellis Ranch, M 50.13 69 ⇑P **P 15 57 01.5 +0.9**
baz=50
SWSC Sam W. Stewart 50.14 85 ⇑P **P 15 57 02.0 +1.4**
baz=50
O20A White River Ci 50.22 73 ⇑P **P 15 57 01.8 +0.5**
baz=50,SNR=6.4
O20A White River Ci 50.22 73 *e*P **P 15 57 01.2 -0.1**
comp=Z,35nm,0.9s
O20A *ep*P **pP 15 57 12.6 -0.2**
PDMC Parker Dam,Lak 50.29 82 ⇓P **P 15 57 02.3 +0.7**
baz=50
F27A Lemmon 50.38 63 ⇑P **P 15 57 02.8 +0.6**
baz=50
G26A Maurine 50.40 64 ⇑P **P 15 57 02.6 +0.2**
baz=50
D28A Regan 50.41 61 ⇑P **P 15 57 02.7 +0.3**
baz=50
Y12C Blythe 50.41 83 ⇑P **P 15 57 03.8 +1.2**
baz=50
M22A Cedar Creek Ra 50.42 70 ⇓P **P 15 57 03.3 +0.5**
baz=50,SNR=5.9
I25A Rochford 50.51 66 ⇓P **P 15 57 02.7 -0.8**
baz=50
L23A Garrett 50.52 69 ⇓P **P 15 57 04.0 +0.5**
baz=50,SNR=8.7
SPITS Spitsbergen Ar 50.62 355 P **P 15 57 02.7 -0.9**
comp=Z,1.2nm,0.4s,baz=33,slow=11,SNR=4.1
SPITS Spitsbergen Ar 50.62 355 P **P 15 57 02.7 -0.9**
SPITS pmax pmax
comp=Z,1.0nm,0.4s
GLA Glamis 50.68 84 ⇑P **P 15 57 05.4 +0.7**
baz=51
J25A Sunshine Ranch 50.85 67 ⇑P **P 15 57 06.2 +0.3**
baz=51
N22A Wattenberg Ran 50.87 71 ⇓P **P 15 57 06.9 +0.6**
baz=51,SNR=7.8
M23A Laramie 50.90 70 ⇓P **P 15 57 06.7 +0.2**
baz=51
L24A Wheatland 51.01 69 ⇑P **P 15 57 07.4 +0.2**
baz=51
H27A Howes 51.09 64 ⇑P **P 15 57 07.8 +0.2**
baz=51
N23A Red Feather La 51.12 70 ⇑P **P 15 57 08.9 +0.7**
baz=51
ULM Lac du Bonnet 51.12 55 LR LR 16 18 42.3
comp=Z,220nm,21.4s,baz=274,slow=36
O22A Kremmling 51.22 71 ⇓P **P 15 57 09.8 +0.8**
baz=51,SNR=7.1
WUAZ Wupatki 51.22 79 ⇓P **P 15 57 09.1 +0.3**
baz=51
WUAZ Wupatki 51.22 79 P **P 15 57 08.7 -0.1**
comp=Z,18nm,1.1s
Y14A Wickenburg 51.24 82 ⇑P **P 15 57 09.6 +0.7**
baz=51
PV01 Paradox Valley 51.27 75 *e*P **P 15 57 09.1 -0.2**
comp=Z,2μm,1.1s
PV01 *ep*P **pP 15 57 20.3 -0.6**
P22A Eagle 51.44 72 ⇓P **P 15 57 11.1 +0.5**
baz=51
O23A Lake Granby, G 51.56 71 ⇓P **P 15 57 12.5 +0.9**
baz=51,SNR=5.7
F29A Eureka 51.63 62 ⇓P **P 15 57 12.3 +0.6**
baz=51
X16A Lo Mia Camp, P 51.90 80 ⇑P **P 15 57 14.7 +0.8**
baz=52
MVCO Mesa Verde 51.90 76 ⇓P **P 15 57 14.4 +0.3**
baz=52
MVCO Mesa Verde 51.90 76 *e*P **P 15 57 13.7 -0.4**
comp=Z,12nm,1.2s
M25A Palm-Egli Farm 51.90 69 ⇑P **P 15 57 14.4 +0.5**
baz=52
I28A Midland 51.99 64 ⇓P **P 15 57 14.7 +0.4**
baz=52
DAG Danmarks Havn 52.00 5 *i*P **P 15 57 12.7 -1.2**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 52.00 5 *i*P **P 15 57 12.7 -1.2**
comp=Z,2.6nm,0.8s
ISCO Idaho Springs 52.00 71 *e*P **P 15 57 15.7 +0.9**
ISCO pmax pmax
comp=Z,14nm,1.2s
ISCO Idaho Springs 52.00 71 ⇓P **P 15 57 15.8 +0.9**
baz=52,SNR=7.2
ISCO Idaho Springs 52.00 71 *e*P **P 15 57 15.7 +0.9**
comp=Z,14nm,1.2s
P23A Jefferson 52.13 72 ⇑P **P 15 57 16.3 +0.4**
baz=52
XAN Xi'an 52.25 280 P **P 15 57 16.5 +0.1**
XAN pP **pP 15 57 23.3 -4.7**
XAN PMZ
comp=Z,3.0nm,1.5s
XAN PMZ
comp=Z,22nm,7.6s
J28A Allard Ranch, 52.31 65 ⇑P **P 15 57 16.8 +0.1**
baz=52
Q23A Hartsel 52.44 72 ⇑P **P 15 57 19.0 +0.9**
baz=52,SNR=8.5
G30A Faulkton 52.44 62 ⇓P **P 15 57 17.7 0.0**
baz=52
W18A Petrified Fore 52.50 78 ⇓P **P 15 57 19.5 +1.1**
baz=52
S22A 4UR Ranch, Cre 52.58 74 ⇓P **P 15 57 20.0 +0.9**
baz=52
X18A Snowflake 52.75 79 ⇓P **P 15 57 21.3 +1.0**
baz=53
N26A Koester Ranch, 52.77 69 ⇑P **P 15 57 20.8 +0.5**
baz=53
J29A Okreek 52.84 65 ⇑P **P 15 57 21.3 +0.6**
baz=53
R23A Moffat 52.90 73 ⇓P **P 15 57 22.5 +1.0**
baz=53
P25A Willow Gulch B 53.05 71 ⇑P **P 15 57 23.9 +1.5**
baz=53,SNR=10.0

ZALV **Zalesovo Beam** 53.18 313 P P 15 57 21.7 -1.3
comp=Z,1.0nm,0.7s,baz=20,slow=4.7,SNR=6.4
ZALV LR LR 16 21 32.0
comp=Z,233nm,18.1s,baz=70,slow=38
ZALV **Zalesovo Beam** 53.18 313 P P 15 57 21.7 -1.3
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV MLR MLR
comp=Z,233nm,18.1s
R24A **Sanders Place,** 53.30 72 ⇓P P 15 57 24.8 +0.5
baz=53
NVS **Novosibirsk** 53.36 314 *i* P P 15 57 23.4 -0.8
NVS *e* 15 57 37.2
NVS pmax pmax
comp=E,15nm,1.7s
NVS pmax pmax
comp=Z,26nm,1.7s
NVS pmax pmax
comp=N,7.0nm,1.4s
SDCO **Great Sand Dun** 53.38 73 ⇓P P 15 57 26.2 +1.1
baz=53
Q25A **Bedland, Calha** 53.38 71 ⇑P P 15 57 25.6 +0.7
baz=53,SNR=6.3
P26A **Davis Ranch, A** 53.50 70 ⇓P P 15 57 26.6 +0.9
baz=53,SNR=7.9
Q26A **Hugo** 53.81 71 ⇑P P 15 57 29.1 +1.2
baz=54
SUMG **Summit** 53.99 13 *i* P P 15 57 28.7 -0.4
SUMG pmax pmax
comp=Z,21nm,1.2s
SUMG **Summit** 53.99 13 *i* P P 15 57 28.7 -0.4
comp=Z,21nm,1.2s
LZH **Lanzhou** 54.04 285 ⇓P P 15 57 31.3 +1.6
LZH pP **pP** 15 57 44.5 +3.2
LZH PP **PP** 15 59 34.5 +3.4
LZH *e*S **S** 16 05 00.0 -3.0
LZH sS **sS** 16 05 23.0 +0.7
LZH *e*SS **SS** 16 08 42.0 -2.3
LZH PMZ
comp=Z,50nm,1.3s
LZH PMZ
comp=Z,160nm,5.2s
LZH LN
comp=Z,320nm,16.7s
LZH LE
comp=Z,350nm,15.4s
LZH LZ
comp=Z,310nm,18.0s
O28A **Krutsinger Ran** 54.07 69 ⇑P P 15 57 30.9 +1.1
baz=54
R26A **Arlington** 54.26 71 ⇓P P 15 57 31.9 +0.7
baz=54,SNR=7.9
GTA **Gaotai** 54.30 291 ⇑P P 15 57 32.0 +0.5
GTA pP **pP** 15 57 44.3 +1.1
GTA sP **sP** 15 57 49.3 +1.5
GTA S **S** 16 05 05.5 -0.9
GTA sS **sS** 16 05 26.5 +0.8
GTA SS **SS** 16 08 47.5 -0.8
GTA PMZ
comp=Z,13nm,1.7s
GTA PMZ
comp=Z,94nm,6.4s
GTA LN
comp=Z,230nm,15.2s
GTA LE
comp=Z,280nm,15.7s
GTA LZ
comp=Z,360nm,16.1s
T25A **Trinidad** 54.43 73 ⇓P P 15 57 33.5 +0.9
baz=54,SNR=13
P28A **Saint Francis** 54.44 69 ⇑P P 15 57 33.3 +0.9
baz=54
L31A **Butterfield Fa** 54.46 65 ⇑P P 15 57 33.6 +1.0
baz=54
ANMO **Albuquerque** 54.63 76 LR LR 16 18 21.5
comp=Z,89nm,21.4s,baz=316,slow=33
ANMO **Albuquerque** 54.63 76 ⇑ *i* P P 15 57 34.6 +0.5
ANMO pmax pmax
comp=Z,27nm,1.7s
O29A **4D Ranch, Culb** 54.64 68 ⇓P P 15 57 34.8 +0.9
baz=54
R27A **Eads** 54.65 71 ⇑P P 15 57 34.7 +0.6
baz=54,SNR=8.9
S26A **Kim** 54.68 72 ⇑P P 15 57 34.8 +0.5
baz=54,SNR=9.9
ECSD **EROS Data Cent** 54.73 62 ⇑P P 15 57 35.0 +0.6
baz=54
T26A **Comanche Natio** 54.90 72 ⇓P P 15 57 36.3 +0.3
baz=55
LPM **Los Pinos Moun** 54.94 77 *e*P P 15 57 37.2 +0.9
S27A **Las Animas** 54.99 72 ⇑P P 15 57 37.5 +1.0
baz=55
R28A **Tribune** 55.20 70 ⇑P P 15 57 38.7 +0.6
baz=55
319A **Douglas** 55.28 82 ⇑P P 15 57 39.5 +0.8
baz=55
Q29A **Oakley** 55.34 69 ⇓P P 15 57 39.9 +0.9
baz=55
P30A **Selden** 55.34 68 ⇓P P 15 57 39.5 +0.6
baz=55
121A **Cookes Peak, D** 55.43 79 ⇓P P 15 57 41.1 +1.2
baz=55
T27A **Campo** 55.50 72 ⇓P P 15 57 40.7 +0.5
baz=55
R29A **Marienthal** 55.55 70 ⇑P P 15 57 40.9 +0.4
baz=55
S28A **Manter** 55.65 71 ⇑P P 15 57 41.9 +0.7
baz=56,SNR=9.6
Q30A **Quinter** 55.73 69 ⇓P P 15 57 42.7 +0.9
baz=56
T28A **Walsh** 55.83 72 ⇓P P 15 57 43.1 +0.5
baz=56,SNR=5.1
U27A **Thompson Grove** 55.86 73 ⇓P P 15 57 43.6 +0.8
baz=56,SNR=5.8
P31A **Stockton** 55.87 68 ⇑P P 15 57 43.5 +0.8
baz=56
R30A **Dighton** 56.15 69 ⇑P P 15 57 45.2 +0.5
baz=56
U28A **Mallet** 56.25 72 ⇓P P 15 57 45.8 +0.2
baz=56,SNR=5.2
P32A **Huiting Farm,** 56.25 67 ⇓P P 15 57 46.4 +1.0
baz=56
T29A **Hugoton** 56.29 71 ⇓P P 15 57 46.8 +1.0
baz=56
R31A **Burdett** 56.59 69 ⇑P P 15 57 48.9 +1.0
baz=56
V28A **Channing** 56.67 73 ⇑P P 15 57 49.8 +1.2
baz=56
Q32A **Meitler Ranch,** 56.69 68 ⇓P P 15 57 49.6 +1.0
baz=56
U29A **Oasis Ranch, S** 56.78 72 ⇓P P 15 57 50.3 +1.0
baz=57
T30A **Plains** 56.82 71 ⇑P P 15 57 50.0 +0.5
baz=57
W28A **Vega** 57.01 73 ⇑P P 15 57 51.6 +0.6
baz=57
S31A **Mullinville** 57.06 69 ⇑P P 15 57 51.9 +0.6
baz=57
U30A **WK&E Inc. Balk** 57.09 71 ⇓P P 15 57 52.0 +0.5
baz=57
Q33A **Connelly Farm,** 57.11 67 ⇓P P 15 57 52.1 +0.5
baz=57
T31A **Randall Ranch,** 57.30 70 ⇑P P 15 57 53.5 +0.7
baz=57
W29A **Amarillo** 57.44 73 ⇑P P 15 57 55.3 +1.2
baz=57
MNTX **Cornudas Mount** 57.48 79 ⇓P P 15 57 55.1 +0.9
baz=57,SNR=5.9
MNTX **Cornudas Mount** 57.48 79 *e*P P 15 57 54.2 0.0
comp=Z,9.9nm,1.1s
MSTX **Muleshoe** 57.54 75 ⇑P P 15 57 55.5 +0.8
baz=57
CD2 **Chengdu** 57.58 280 *e*P P 15 57 55.0 0.0
CD2 pP **pP** 15 58 06.5 -0.2
CD2 sP **sP** 15 58 11.3 0.0
CD2 PP **PP** 16 00 04.0 +1.3
CD2 PcS **PcS** 16 02 48.0 -1.3
CD2 S **S** 16 05 47.0 -3.0
CD2 sS **sS** 16 06 06.5 -2.9
CD2 SS **SS** 16 09 38.0 -2.0
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
AMTX **Amarillo** 57.58 73 ⇓P P 15 57 55.9 +0.9
baz=57
AMTX **Amarillo** 57.58 73 P P 15 57 55.0 0.0
comp=Z,3.3nm,0.6s
T32A **Huddler Ranch,** 57.69 69 ⇑P P 15 57 56.2 +0.5
baz=58
X29A **Tulia** 57.87 74 ⇑P P 15 57 57.9 +0.9
baz=58
V31A **Spring Creek L** 58.09 71 ⇑P P 15 57 59.9 +1.4
baz=58
KURK **Kurchatov** 58.18 313 P P 15 57 59.0 +0.2
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK **Kurchatov** 58.18 313 *e*P P 15 57 58.1 -0.7
comp=Z,38nm,1.4s
U32A **Winter Ranch,** 58.18 70 ⇑P P 15 58 00.0 +0.9
baz=58
ARCES **ARCESS Array B** 58.18 349 LR LR 16 26 42.7
comp=Z,132nm,18.0s,baz=28,slow=40
WMQ **Urumqi** 58.27 302 P P 15 58 00.3 +0.6
WMQ pP **pP** 15 58 15.0 +3.6
WMQ *e*S S 16 05 49.3 -9.5
WMQ PMZ
comp=Z,13nm,1.2s
WMQ PMZ
comp=Z,130nm,6.5s
WMQ LN
comp=Z,380nm,17.8s
WMQ LE
comp=Z,220nm,13.8s
WMQ LZ
comp=Z,270nm,17.9s
KURBB **Kurchatov Arra** 58.28 313 P P 15 57 59.0 -0.5
comp=Z,5.8nm,0.8s,baz=45,slow=6.5,SNR=33
X30A **Coker Ranch, T** 58.37 73 ⇑P P 15 58 01.3 +0.8
baz=58
W31A **Holland Ranch,** 58.42 72 ⇓P P 15 58 01.9 +1.1
baz=58
128A **Castleberry Fa** 58.63 76 ⇓P P 15 58 03.5 +1.1
baz=58
Z29A **Hungry Hill Ra** 58.67 75 ⇑P P 15 58 03.5 +0.8
baz=58
Y30A **Stafford Cattl** 58.74 74 ⇑P P 15 58 03.9 +0.8
baz=59
X31A **McDonald Ranch** 58.78 72 ⇓P P 15 58 04.6 +1.2
baz=59
GYA **Guiyang** 58.87 274 *e*P P 15 58 06.0 +1.9
GYA pP **pP** 15 58 17.3 +1.4
GYA sP **sP** 15 58 21.5 +1.0
GYA PP **PP** 16 00 17.8 +3.5
GYA S **S** 16 06 05.0 -2.1
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,80nm,5.6s
APA **Apatity** 58.91 345 *e*P P 15 58 11.0 +7.3
APA MLR MLR
comp=Z,2μm,14.0s
228A **UT Block 9, Go** 58.91 76 ⇑P P 15 58 05.0 +0.6
baz=59
R36A **Gordon, Harris** 58.92 66 ⇓P P 15 58 04.3 +0.1
baz=59
Z30A **Sanderson Ranc** 59.01 74 ⇓P P 15 58 05.2 +0.2
baz=59
U34A **Anderson Ranch** 59.01 69 ⇓P P 15 58 05.5 +0.6
baz=59
MK31 **Makanchi Array** 59.08 307 *e*P P 15 58 04.1 -1.1
MK31 **Makanchi Array** 59.08 307 *e*P P 15 58 04.1 -1.1
MKAR **Makanchi Array** 59.08 307 P P 15 58 04.3 -0.8
comp=Z,1.8nm,0.8s,baz=24,slow=3.3,SNR=19
MKAR LR LR 16 24 58.2
comp=Z,191nm,19.2s,baz=44,slow=38
MKAR **Makanchi Array** 59.08 307 P P 15 58 04.4 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,191nm,19.2s
W33A **Caddo, Fort Co** 59.33 71 ⇑P P 15 58 08.4 +1.3
baz=59
X32A **Elmer** 59.34 72 ⇓P P 15 58 08.2 +1.0
baz=59
WMOK **Wichita Mounta** 59.43 71 *e*P P 15 58 08.1 +0.3
WMOK *e* 15 58 19.2
WMOK pmax pmax
comp=Z,14nm,0.9s
WMOK **Wichita Mounta** 59.43 71 *e*P P 15 58 08.1 +0.3
comp=Z,14nm,0.9s
WMOK *e* 15 58 19.2
Y32A **R-V Farms, Ver** 59.53 73 ⇑P P 15 58 09.3 +0.8
baz=59,SNR=6.9
130A **Snyder** 59.58 75 ⇑P P 15 58 09.4 +0.5
baz=59
Z31A **Sharp Cattle R** 59.58 74 ⇑P P 15 58 09.7 +0.8
baz=59
V35A **Meyer Ranch, C** 59.88 69 ⇑P P 15 58 11.6 +0.8
baz=60
230A **Sterling City** 59.98 75 ⇓P P 15 58 12.5 +0.8
baz=60
Z32A **Haskell** 59.99 73 ⇓P P 15 58 12.1 +0.5
baz=60,SNR=7.0
Y33A **Hilltop Ranch,** 60.02 72 ⇑P P 15 58 12.5 +0.7
baz=60
X34A **Smith Ranch, M** 60.09 71 ⇓P P 15 58 13.2 +0.9
baz=60
TXAR **Lajitas Array** 60.19 79 P P 15 58 12.8 -0.4
comp=Z,2.2nm,0.7s,baz=297,slow=4.7,SNR=14
TXAR PcP PcP 15 58 59.4 +1.0
comp=Z,2.5nm,0.8s,baz=314,slow=3.7,SNR=5.4
TXAR **Lajitas Array** 60.19 79 P P 15 58 12.8 -0.4
TXAR 15 58 59.4
TXAR pmax pmax
comp=Z,2.0nm,0.7s
BRVK **Borovoye** 60.21 319 *e*P P 15 58 11.8 -1.0
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK **Borovoye** 60.21 319 *e*P P 15 58 12.9 +0.1
comp=Z,8.4nm,0.6s
330A **Mertzon** 60.28 76 ⇑P P 15 58 14.0 +0.3
baz=60
W35A **Tecumseh** 60.28 70 ⇓P P 15 58 14.0 +0.4
baz=60
ABTX **Abilene, Hawle** 60.36 74 ⇓P P 15 58 15.2 +1.0
baz=60
ABTX **Abilene, Hawle** 60.36 74 *e*P P 15 58 14.7 +0.5
comp=Z,35nm,1.1s
ABTX *e* 15 58 26.0
429A **Davenport Ranc** 60.38 77 ⇓P P 15 58 15.2 +0.7
baz=60
TUL1 **Leonard** 60.40 69 ⇑P P 15 58 15.1 +0.7
baz=60
Z33A **Whitaker Ranch** 60.44 73 ⇓P P 15 58 15.4 +0.7
baz=60
529A **Stev Forest Ra** 60.53 78 ⇑P P 15 58 16.2 +0.8
baz=60
Y34A **Reagan Ranch,** 60.58 71 ⇑P P 15 58 16.7 +1.1
baz=60
430A **Baggett Ranch,** 60.67 76 ⇑P P 15 58 16.7 +0.3
baz=60
W36A **Wetumka** 60.67 69 ⇓P P 15 58 16.6 +0.3
baz=60,SNR=5.3
X35A **Drake** 60.74 71 ⇑P P 15 58 16.8 +0.1
baz=61,SNR=5.2
331A **San Angelo** 60.80 75 ⇓P P 15 58 18.0 +0.8
baz=61
133A **Hamilton Ranch** 60.81 73 ⇓P P 15 58 17.8 +0.5
baz=61,SNR=5.2
232A **Coleman** 60.87 74 ⇑P P 15 58 18.5 +0.7
baz=61
Z34A **Collier Ranch,** 60.89 72 ⇓P P 15 58 18.8 +1.0
baz=61
X36A **Centrahoma** 60.99 70 ⇓P P 15 58 19.2 +0.7
baz=61
530A **J-C Ranch, Com** 61.05 77 ⇓P P 15 58 19.5 +0.6
baz=61,SNR=9.1
SVE **Sverdlovsk** 61.08 326 ⇑ *i* P P 15 58 20.1 +1.4
SVE pmax pmax
comp=Z,32nm,1.4s
SVE MLR MLR
comp=Z,360nm,19.0s
431A **Sonora** 61.13 76 ⇑P P 15 58 19.8 +0.3
baz=61
332A **Millersview** 61.17 75 ⇑P P 15 58 20.1 +0.4
baz=61,SNR=5.0
233A **Rising Star** 61.24 74 ⇑P P 15 58 20.9 +0.7
baz=61
Z35A **Perchaven, San** 61.31 72 ⇑P P 15 58 21.5 +0.9
baz=61
134A **White-Moore Ra** 61.34 73 ⇑P P 15 58 21.9 +1.0
baz=61,SNR=6.2
432A **Menard** 61.49 75 ⇓P P 15 58 22.3 +0.4
baz=61
531A **Rocksprings** 61.53 76 ⇑P P 15 58 22.6 +0.4
baz=61
X37A **Clayton** 61.56 69 ⇑P P 15 58 22.6 +0.4
baz=61
PRGR **Permogore** 61.66 337 P P 15 58 21.8 -0.7
PRGR pmax pmax
comp=Z,12nm,0.8s
234A **Clairette** 61.71 73 ⇑P P 15 58 23.9 +0.5
baz=62,SNR=5.1
W38A **Poteau** 61.73 68 ⇑P P 15 58 24.1 +0.7
baz=62,SNR=6.2
135A **Vickery Place,** 61.76 72 ⇑P P 15 58 24.6 +0.9
baz=62
532A **Rocksprings** 61.95 76 ⇑P P 15 58 25.2 +0.2
baz=62
433A **Art** 62.01 75 ⇑P P 15 58 25.7 +0.3
baz=62
631A **Perdido Creek** 62.04 77 ⇑P P 15 58 26.0 +0.4
baz=62
ARU **Arti** 62.11 327 *d* *i* P P 15 58 24.8 -0.8
ARU 16 00 38.5
ARU S **S** 16 06 48.4 +1.0
ARU SS **SS** 16 10 51.0 +1.3
ARU pmax pmax
comp=Z,45nm,1.2s
ARU **Arti** 62.11 327 *e*P P 15 58 26.0 +0.4
comp=Z,39nm,1.0s
334A **Lometa** 62.12 74 ⇑P P 15 58 26.8 +0.7
baz=62
WHTX **Lake Whitney,** 62.13 73 ⇓P P 15 58 27.0 +0.8
baz=62
SFIN **Lafayette** 62.23 59 ⇓P P 15 58 27.7 +1.0
baz=62
QIZ **Qiongzhong** 62.25 266 P P 15 58 29.0 +1.9
QIZ S **S** 16 06 52.3 +2.1
QIZ PMZ
comp=Z,12nm,1.6s
KMI **Kunming** 62.29 276 P P 15 58 27.3 -0.3
KMI pP **pP** 15 58 40.0 +0.6
KMI PMZ
comp=Z,32nm,3.3s
KMI LN
comp=Z,78nm,18.8s
KMI LE
comp=Z,80nm,16.9s
KMI LZ
comp=Z,100nm,23.1s
434A **Burnet** 62.46 74 ⇓P P 15 58 29.4 +0.9
baz=62
MIAR **Mount Ida** 62.65 68 *e*P P 15 58 29.6 0.0
MIAR pmax pmax
comp=Z,34nm,1.2s
MIAR **Mount Ida** 62.65 68 *e*P P 15 58 29.6 0.0
comp=Z,34nm,1.2s
732A **Laxson Ranch,** 62.90 77 ⇑P P 15 58 32.4 +1.1
baz=63
336A **Riesel** 62.92 73 ⇓P P 15 58 32.8 +1.4
baz=63
832A **Faith Ranch, C** 63.21 78 ⇑P P 15 58 34.4 +0.9
baz=63
436A **Wall Ranch, Ga** 63.39 73 ⇑P P 15 58 36.3 +1.8
baz=63
238A **Jacksonville** 63.52 71 ⇑P P 15 58 36.8 +1.4
baz=63
635A **Leesville** 63.78 75 ⇓P P 15 58 38.7 +1.6
baz=64
KLMR **Klimovskoe** 63.80 339 *e*P P 15 58 34.6 -2.1
KLMR pmax pmax
comp=Z,10.0nm,0.9s
239A **Gary** 63.90 71 ⇓P P 15 58 39.1 +1.2
baz=64
537A **Green Hill Far** 64.17 74 ⇓P P 15 58 41.2 +1.6
baz=64
TKM2 **Tokmak 2** 65.17 308 P P 15 58 47.1 +0.8
SNR=8.4
USP **Ospenovka** 65.46 309 P P 15 58 48.6 +0.6
SNR=12
KBK **Karagaybulak** 65.69 308 P P 15 58 48.9 -0.7
SNR=8.2
FRU **Bishkek** 65.72 309 *e*P P 15 58 50.0 +0.3
FRU *e* 15 59 08.0
FINES **FINESS Array B** 65.79 346 P P 15 58 48.4 -1.3
comp=Z,2.1nm,0.7s,baz=19,slow=5.1,SNR=9.4
FINES LR LR 16 32 22.3
comp=Z,83nm,18.1s,baz=8.5,slow=40
FINES **FINESS Array B** 65.79 346 P P 15 58 48.4 -1.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES MLR MLR
comp=Z,83nm,18.1s
AAK **Ala-Archa** 65.93 308 P P 15 58 51.2 0.0
SNR=6.6
AAK **Ala-Archa** 65.93 308 *c* *i* P P 15 58 50.5 -0.7
AAK pmax pmax
comp=Z,39nm,1.7s
AAK **Ala-Archa** 65.93 308 *e*P P 15 58 51.5 +0.3
comp=Z,19nm,1.4s
LSA **Lhasa** 66.14 288 *e*P P 15 58 54.1 +1.0
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA **Lhasa** 66.14 288 *e*P P 15 58 54.1 +1.0
comp=Z,5.3nm,0.7s
EKS2 **Erkin-Say** 66.27 309 P P 15 58 54.4 +1.1
SNR=6.7
AML **Almayashu** 66.70 309 P P 15 58 57.4 +1.0
SNR=7.1
AKTO **Aktyubinsk** 67.10 323 P P 15 58 58.9 +0.6
baz=12,slow=3.4
ABKAR **Akbulak array** 67.31 322 *e*P P 15 58 59.6 0.0
comp=Z,6.2nm,0.8s
KSH **Kashi** 67.50 305 P P 15 59 05.5 +4.3
KSH PP PP 16 01 37.5 +7.7
KSH PcS 16 03 35.5
KSH S **S** 16 07 58.8 +4.2
KSH ScS **ScS** 16 08 57.0 +0.8
KSH PMZ
comp=Z,61nm,1.6s
KSH LN
comp=Z,470nm,9.7s
KSH LE
comp=Z,340nm,9.4s
KSH LZ
comp=Z,190nm,5.1s
KKAR **Karatay Array** 67.51 311 *e*P P 15 59 00.6 -0.5
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR **Karatay Array** 67.51 311 *e*P P 15 59 00.6 -0.5
comp=Z,2.0nm,0.6s
NB2 **NORSAR Subarra** 67.85 354 P P 15 59 01.6 -1.3
comp=Z,5.3nm,1.1s,baz=8.0,slow=6.2
NOA **NORSAR Array B** 67.85 354 P P 15 59 02.6 -0.3
comp=Z,1.9nm,0.8s,baz=10.0,slow=6.5,SNR=6.6
NOA LR LR 16 30 11.0
comp=Z,43nm,18.5s,baz=345,slow=37
NOA **NORSAR Array B** 67.85 354 P P 15 59 02.6 -0.3
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,43nm,18.5s
HFS **Hagfors** 68.55 352 P P 15 59 06.0 -1.3
comp=Z,2.2nm,0.7s,baz=54,slow=7.5,SNR=7.2
HFS **Hagfors** 68.55 352 P P 15 59 06.0 -1.3
HFS pmax pmax
comp=Z,2.0nm,0.7s
SHL **Shillong** 68.70 285 *e*P P 15 59 10.0 +1.0
KMSC **Kings Mountain** 69.16 60 ⇓P P 15 59 11.8 +0.4
baz=69
CMAR **Chiang Mai Arr** 69.56 274 P P 15 59 14.0 -0.1
comp=Z,1.5nm,0.6s,baz=26,slow=6.6,SNR=13
CMAR **Chiang Mai Arr** 69.56 274 P P 15 59 14.0 -0.1
CMAR pmax pmax
comp=Z,2.0nm,0.6s
OBN **Obninsk** 69.66 338 *i* P P 15 59 13.4 -0.8
OBN *e* 15 59 36.5
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,228nm,18.0s
TAPN **Taplejung** 69.92 289 *e*P P 15 59 17.1 +0.5
comp=Z,86nm,1.2s
LUWI **Luwuk** 70.21 242 *e*P P 15 59 17.0 -1.1
comp=Z,47nm,1.2s
ODAN **Odare** 70.47 289 *e*P P 15 59 20.4 +0.5
comp=Z,38nm,1.2s
GUN **Gumba** 70.59 290 *e*P P 15 59 21.5 +0.7
comp=Z,81nm,0.9s

JIRN	**Jiri**	**70.60 290**	*e*P		**P**		**15 59 21.7**	**+0.9**
	comp=Z,80nm,1.0s							
RAMN	**Ramite**	**70.88 289**	*e*P		**P**		**15 59 22.8**	**+0.4**
	comp=Z,96nm,1.0s							
KKN	**Kakani**	**71.04 291**	*e*P		**P**		**15 59 24.1**	**+0.8**
	comp=Z,77nm,1.2s							
PKI	**Pulchoki**	**71.12 291**	*e*P		**P**		**15 59 24.5**	**+0.5**
	comp=Z,75nm,1.2s							
PKIN	**Phulchoki**	**71.13 291**	*e*P		**P**		**15 59 25.0**	**+1.1**
	comp=Z,20nm,1.0s							
GKN	**Gorkha**	**71.26 291**	*e*P		**P**		**15 59 25.0**	**+0.4**
	comp=Z,95nm,1.1s							
DMN	**Daman**	**71.28 291**	*e*P		**P**		**15 59 25.6**	**+0.8**
	comp=Z,63nm,1.1s							
PMOR	**Pomariorio Ree**	**71.89 146**	*e*T		T		17 18 11.7	
	comp=Z,5.3nm,0.2s							
KOLN	**Koldanda**	**72.04 292**	*e*P		**P**		**15 59 29.6**	**+0.2**
	comp=Z,27nm,0.9s							
PYUN	**Piuthan**	**72.15 293**	*e*P		**P**		**15 59 30.6**	**+0.6**
	comp=Z,108nm,0.9s							
DZM	**Mont Dzumac**	**73.58 192**	*e*LR		LR		16 22 13.8	
	comp=Z,167nm,22.6s							
PPT	**Papeete**	**73.70 149**	LR		LR		16 26 42.9	
	comp=Z,175nm,20.6s,baz=347,slow=31							
PPT2	**Papeete2**	**73.72 149**	*e*S		**S**		**16 09 07.6**	**+0.6**
	comp=Z,282nm,30.0s							
PPT2	**Papeete2**	**73.72 149**	*e*LR		LR		16 22 22.1	
	comp=Z,152nm,22.2s							
KBL	**Kabul**	**74.86 306**	*e*P		**P**		**15 59 44.3**	**-1.6**
KBL			pmax		pmax			
	comp=Z,22nm,1.3s							
KBL	**Kabul**	**74.86 306**	*e*P		**P**		**15 59 44.2**	**-1.6**
	comp=Z,22nm,1.3s							
AKASG	**Malin Array Be**	**75.41 341**	P		**P**		**15 59 47.9**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=25,slow=6.0,SNR=8.1							
AKASG			LR		LR		16 37 03.9	
	comp=Z,102nm,18.2s,baz=35,slow=39							
AKASG	**Malin Array Be**	**75.41 341**	*i* P		**P**		**15 59 48.2**	**-0.3**
AKASG			pmax		pmax			
	comp=Z,2.0nm,0.4s							
KIEV	**Kiev**	**75.42 341**	*e*P		**P**		**15 59 47.8**	**-0.7**
CTA	**Charters Tower**	**76.38 211**	P		**P**		**15 59 54.2**	**0.0**
	comp=Z,6.3nm,0.8s,baz=180,slow=0.0							
CTA	**Charters Tower**	**76.38 211**	P		**P**		**15 59 54.2**	**0.0**
CTA			pmax		pmax			
	comp=Z,6.0nm,0.8s							
GEYT	**Alibeck**	**77.32 316**	P		**P**		**15 59 59.6**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=28,slow=6.7,SNR=3.9							
GEYT			LR		LR		16 39 39.8	
	comp=Z,200nm,18.0s,baz=130,slow=40							
CLL	**Collm**	**77.34 351**	*e*P		**P**		**15 59 57.0**	**-2.4**
CLL			*e*				16 00 06.0	
DPC	**Dobruska-Polom**	**77.91 349**	*e*P		**P**		**16 00 02.8**	**+0.1**
DPC	**Dobruska-Polom**	**77.91 349**	*e*P		**P**		**16 00 02.8**	**+0.1**
KIV	**Kislovodsk**	**78.03 329**	*e*P		**P**		**16 00 02.6**	**-0.9**
KIV			pmax		pmax			
	comp=Z,9.0nm,1.0s							
STHS	**Stebnicka Huta**	**78.12 345**	*e*P		**P**		**16 00 04.8**	**+1.0**
STHS			pmax		pmax			
	comp=Z,3.0nm,0.9s							
STHS	**Stebnicka Huta**	**78.12 345**	*e*P		**P**		**16 00 04.8**	**+1.0**
KRLC	**Kraliky**	**78.13 348**	*e*P		**P**		**16 00 02.6**	**-1.3**
KRLC	**Kraliky**	**78.13 348**	*e*P		**P**		**16 00 02.6**	**-1.3**
KBZ	**Khabaz**	**78.17 329**	P		**P**		**16 00 04.9**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=326,slow=2.0							
KBZ	**Khabaz**	**78.17 329**	P		**P**		**16 00 04.9**	**+0.8**
KBZ			pmax		pmax			
	comp=Z,4.0nm,0.8s							
KOLS	**Kolonicke sedl**	**78.42 344**	*e*P		**P**		**16 00 07.0**	**+1.5**
KOLS	**Kolonicke sedl**	**78.42 344**	*e*P		**P**		**16 00 07.0**	**+1.5**
CRVS	**Cervenica-Dubn**	**78.59 345**	*e*P		**P**		**16 00 07.9**	**+1.5**
CRVS	**Cervenica-Dubn**	**78.59 345**	*e*P		**P**		**16 00 07.9**	**+1.5**
ZEI	**Tsey**	**78.67 328**	*e*P		**P**		**16 00 05.7**	**-1.5**
ZEI			pmax		pmax			
	comp=Z,15nm,0.9s							
BUR08	**Bucovina Ar. S**	**79.13 342**	*e*P		**P**		**16 00 10.0**	**+0.5**
TBI	**Tubuai**	**79.15 151**	*e*LR		LR		16 24 47.6	
	comp=Z,181nm,21.5s							
KECS	**Kecovo**	**79.15 346**	*e*P		**P**		**16 00 09.3**	**-0.2**
KECS	**Kecovo**	**79.15 346**	*e*P		**P**		**16 00 09.3**	**-0.2**
VYHS	**Vyhne**	**79.39 347**	*e*P		**P**		**16 00 10.6**	**-0.2**
VYHS	**Vyhne**	**79.39 347**	*e*P		**P**		**16 00 10.6**	**-0.2**
GERES	**GERESS Array B**	**79.70 350**	P		**P**		**16 00 12.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=28,slow=6.0,SNR=4.3							
GERES			LR		LR		16 38 00.7	
	comp=Z,48nm,19.0s,baz=12,slow=38							
WRAB	**Tennant Creek**	**80.72 222**	*i* P		**P**		**16 00 17.8**	**-0.4**
WRAB			pmax		pmax			
	comp=Z,37nm,1.7s							
WRA	**Warramunga Arr**	**80.73 222**	P		**P**		**16 00 17.8**	**-0.5**
	comp=Z,6.6nm,0.7s,baz=32,slow=6.2,SNR=47							
WRA	**Warramunga Arr**	**80.73 222**	*i* P		**P**		**16 00 17.7**	**-0.5**
WRA			pmax		pmax			
	comp=Z,7.0nm,0.7s							
RPR	**Rampur**	**81.37 289**	*e*P		**P**		**16 00 22.2**	**+0.4**
KBA	**Koelnbreinsper**	**81.48 350**	*i*PcP		**P**		**16 00 23.4**	**+1.1**
	comp=Z,10nm,1.0s							
HYBB	**Hyderabad (bro**	**82.93 289**	*e*P		**P**		**16 00 30.3**	**+0.2**
HYB	**Hyderabad**	**82.93 289**	*i* P		**P**		**16 00 29.0**	**-1.1**
ADKI	**Addanki**	**83.30 287**	*e*P		**P**		**16 00 31.9**	**-0.1**
AS31	**Alice Springs**	**84.22 221**	*e*P		**P**		**16 00 36.6**	**+0.2**
ASAR	**Alice Springs**	**84.23 221**	P		**P**		**16 00 36.5**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=23,slow=5.7,SNR=60							
ASAR			LR		LR		16 35 00.3	
	comp=Z,43nm,20.3s,baz=6.0,slow=33							
ASAR	**Alice Springs**	**84.23 221**	P		**P**		**16 00 36.5**	**+0.1**
ASAR			pmax		pmax			
	comp=Z,5.0nm,0.8s							
ASAR			MLR		MLR			
	comp=Z,43nm,20.3s							
BR131	**Keskin Array S**	**84.63 334**	*e*P		**P**		**16 00 39.0**	**+0.4**
	comp=Z,2.8nm,0.8s							
BRTR	**Keskin Array B**	**84.63 334**	P		**P**		**16 00 39.0**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=66,slow=2.7,SNR=13							
BRTR			LR		LR		16 43 06.1	
	comp=Z,38nm,18.6s,baz=16,slow=39							
URV	**Uravakonda**	**85.62 288**	*e*P		**P**		**16 00 43.0**	**-0.8**
STKA	**Stephens Creek**	**88.83 211**	P		**P**		**16 00 59.4**	**+0.7**
	comp=Z,5.7nm,1.0s,baz=324,slow=5.1,SNR=6.0							
STKA	**Stephens Creek**	**88.83 211**	P		**P**		**16 00 59.4**	**+0.7**
STKA			pmax		pmax			
	comp=Z,6.0nm,1.0s							
LRS	**Lares**	**90.31 60**	*e*P		**P**		**16 01 06.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**116.06 357**	PKP		**PKPdf**		**16 06 47.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=323,slow=2.9,SNR=4.1							
TSUM	**Tsumeb**	**144.95 328**	*e*PKP		**PKPab**		**16 07 41.1**	**-0.4**
MAW	**Mawson**	**145.29 217**	PKPbc		**PKPbc**		**16 07 40.1**	**-0.9**
	comp=Z,13nm,0.3s,baz=131,slow=4.1,SNR=47							
MAW	**Mawson**	**145.29 217**	PKIKP		**PKPbc**		**16 07 40.1**	**-0.9**
MAW			pmax		pmax			
	comp=Z,13nm,0.3s							
LBTB	**Lobatse**	**146.89 312**	*e*PKP2		**PKPdf**		**16 07 45.7**	**+0.4**
LBTB	**Lobatse**	**146.89 312**	*e*PKP		**PKPdf**		**16 07 45.7**	**+0.4**

KRSC 27 15:52:27.4±0.5, 55°.38N×162°.50E, h56^{km}±14^{km}, **ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**12**	*i* P	Pn	15 52 44.2	+0.9
KBTR				*e*S	Sn	15 52 56.8	+1.9
MKZ	**Mys Kozlova**	**0.94**	**208**	*e*P	Pn	15 52 44.9	+0.4
MKZ				*e*S	Sn	15 52 58.2	+1.2
BZGR	**Bezymyannyi-Gr**	**1.16**	**299**	*e*S	Sn	15 53 03.7	+1.1
KZV	**Kizimen**	**1.29**	**259**	*e*P	Pn	15 52 50.1	+0.7
KZV				*e*S	Sn	15 53 05.9	+0.1
SMKR	**Semkarok**	**1.33**	**335**	*e*P	Pn	15 52 51.3	+1.5
SMKR				*e*S	Sn	15 53 08.7	+2.1
KMNR	**Kamenistaya**	**1.34**	**287**	*e*P	Pn	15 52 51.6	+1.7
KMNR				*e*S	Sn	15 53 08.6	+1.8
TUMR	**Tumrok**	**1.35**	**267**	*e*P	Pn	15 52 51.4	+1.3
TUMR				*e*S	Sn	15 53 09.6	+2.5
KIRR	**Kirishev**	**1.35**	**296**	*e*P	Pn	15 52 51.7	+1.6
KIRR				*e*S	Sn	15 53 09.4	+2.2
BDR	**Baidarnaya**	**1.39**	**329**	*e*P	Pn	15 52 52.5	+1.9
BDR				*e*S	Sn	15 53 11.4	+3.4
KLY	**Klyuchi**	**1.40**	**313**	*e*P	Pn	15 52 50.7	+0.1
KLY				*e*S	Sn	15 53 06.7	-1.2
KPT	**Kopyto**	**1.42**	**295**	*e*P	Pn	15 52 52.5	+1.5
KPT				*e*S	Sn	15 53 10.7	+2.1
SRKR	**Sorokina**	**1.48**	**330**	*e*P	Pn	15 52 53.3	+1.5
SRKR				*e*S	Sn	15 53 12.4	+2.3
KOZ	**Kozyrevsk**	**1.63**	**296**	*e*P	Pn	15 52 56.0	+2.2
KOZ				*e*S	Sn	15 53 16.8	+3.1

SRDR	**Sredinnyy**	**1.82**	**302**	*e*P	Pn	15 52 58.7	+2.2
SRDR				*e*S	Sn	15 53 21.6	+3.1
BKI	**Bering**	**2.00**	**94**	*e*P	Pn	15 53 01.5	+2.8
BKI				*e*S	Sn	15 53 24.9	+2.4
ESO	**Esso**	**2.22**	**286**	*e*P	Pn	15 53 03.3	+1.5
ESO				*e*S	Sn	15 53 29.2	+1.1
KII	**Karymskiy**	**2.23**	**234**	*e*P	Pn	15 53 05.1	+3.1
KII				*e*S	Sn	15 53 32.6	+4.2
SPN	**Mys Shipunski**	**2.71**	**213**	*e*P	Pn	15 53 10.1	+1.6
SPN				*e*S	Sn	15 53 41.7	+1.6
NLC	**Nalytchevo**	**2.89**	**221**	P	Pn	15 53 14.1	+3.3
NLC				*e*S	Sn	15 53 48.1	+3.8
SDLR	**Sedlovina**	**2.99**	**227**	*e*P	Pn	15 53 15.0	+2.6
SDLR				*e*S	Sn	15 53 50.0	+2.9
KRER	**Koryakskii**	**3.03**	**228**	*e*P	Pn	15 53 16.0	+2.9
KRER				*e*S	Sn	15 53 51.9	+3.7
KRX	**Arik**	**3.03**	**230**	*e*P	Pn	15 53 15.9	+2.8
SMAR	**Somma**	**3.03**	**227**	*e*P	Pn	15 53 15.4	+2.2
SMAR				*e*S	Sn	15 53 50.9	+2.4
AVH	**Avacha**	**3.06**	**228**	*e*P	Pn	15 53 17.4	+4.1
AVH				*e*S	Sn	15 53 53.6	+4.8
UGLR	**Uglovaya**	**3.06**	**226**	*e*P	Pn	15 53 16.4	+2.9
UGLR				*e*S	Sn	15 53 52.5	+3.5
KOK	**Koryaka**	**3.08**	**229**	*e*P	Pn	15 53 17.0	+3.3
GNL	**Ganaly**	**3.15**	**239**	*e*P	Pn	15 53 17.0	+2.4
PET	**Petropavlovsk**	**3.27**	**225**	P	Pn	15 53 19.9	+3.8
PET				*e*S	Sn	15 53 57.5	+3.8
RUS	**Russkaya**	**3.78**	**220**	P	Pn	15 53 26.7	+3.6
MTVR	**Mutnovka**	**3.87**	**223**	P	Pn	15 53 27.7	+3.2
OSSR	**Ossora**	**3.89**	**4**	*e*P	Pn	15 53 27.9	+3.4
OSSR				*e*S	Sn	15 54 11.5	+2.7
APC	**Apacha**	**3.99**	**234**	*e*P	Pn	15 53 29.8	+3.8
APC				*e*S	Sn	15 54 15.3	+3.9
ASAK	**Asacha**	**4.05**	**224**	*e*P	Pn	15 53 30.7	+3.7

IDC ***27*** *15:53:27.8±0.7, 51°.02N×178°.84E, h0^{km}, mb4.0/18, mb1 4.2/19, mb1mx3.9/53, mbtmp4.0/19, ML3.1/1, Error ellipse: s-maj=21.8km s-min=14.7km az=160.0*
BJI ***27*** *15:53:30.4, 50°.90N×178°.80E, h41^{km}, mB5.1/10, mb4.4/10, Ms4.8/5, Ms7 4.5/5*
ISCJB ***27*** *15:53:32.6±0.4, 51°.09N±0°.08×178°.77E±0°.04, h41^{km}, mb4.2/36, Error ellipse: s-maj=11.1km s-min=3.6km az=172.2*
MOS ***27*** *15:53:32.6±0.9, 51°.07N×178°.82E, h46^{km}, mb4.4/25, Error ellipse: s-maj=12.2km s-min=8.5km az=109.4*
NEIC ***27*** *15:53:34.9±0.5, 51°.04N×178°.83E, h51^{km}±4^{km}, mb4.2/7, ML4.0(AEIC), Error ellipse: s-maj=8.3km s-min=3.9km az=179.0*

ISC 27 15:53:33.8±0.6, **50°.93N**±0°.10×**178°.82E**±0°.05, **h41^{km}, n113,** σ1^{s}**11/120, mb4.2/36, 1C, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.75**	**60**	P	**Pn**	**15 54 01.4**	**-0.2**
TASE	**Tanaga Southea**	**2.17**	**64**	P	**Pn**	**15 54 07.5**	**+0.2**
TAFP	**Tanaga Falls P**	**2.22**	**63**	P	**Pn**	**15 54 08.0**	**-0.1**
TAFP				S	**Sn**	**15 54 38.1**	**+3.7**
KIKV	**Kanaga Island**	**2.68**	**68**	P	**Pn**	**15 54 14.8**	**+0.3**
KIRH	**Kanaga Island**	**2.73**	**68**	P	**Pn**	**15 54 15.5**	**+0.4**
ADK	**Adak**	**2.97**	**70**	P	**Pn**	**15 54 18.2**	**-0.2**
ADK				S	**Sn**	**15 54 53.6**	**+0.9**
ADK	**Adak**	**2.97**	**70**	P	**Pn**	**15 54 18.2**	**-0.2**
ADK				S	**Sn**	**15 54 53.6**	**+0.9**
ADAG	**Mount Adagdak**	**3.05**	**68**	P	**Pn**	**15 54 20.2**	**+0.8**
GSMY	**Great Sitkin M**	**3.39**	**69**	P	**Pn**	**15 54 24.0**	**-0.2**
GSTR	**Great Sitkin T**	**3.40**	**68**	*e*Pn	**Pn**	**15 54 23.6**	**-0.8**
SMY	**Shemya**	**3.44**	**303**	P	**Pn**	**15 54 25.6**	**+0.8**
SMY	**Shemya**	**3.44**	**303**	P	**Pn**	**15 54 25.6**	**+0.8**
NIKH	**Nikolski High**	**7.89**	**70**	P	**Pn**	**15 55 27.2**	**+1.4**
SPIA	**Saint Paul Isl**	**8.96**	**42**	P	**Pn**	**15 55 41.4**	**+0.9**
MREP	**Makushin Rep't**	**9.29**	**66**	P	**Pn**	**15 55 46.2**	**+1.1**
UNV	**Unalaska Valle**	**9.44**	**66**	P	**Pn**	**15 55 48.4**	**+1.4**
PETK	**Petropavlovsk-**	**13.18**	**288**	Pn	**Pn**	**15 56 38.6**	**+0.4**
	0.3nm,0.3s,baz=84,slow=16,SNR=11						
PETK				Sn	Sn	15 58 56.1	-7.2
	0.1nm,0.3s,baz=92,slow=15,SNR=3.5						
GAMB	**Gambell**	**13.83**	**18**	*e*P	**Pn**	**15 56 46.7**	**-0.3**
KDAK	**Kodiak Island**	**17.92**	**56**	*i* P	**Pn**	**15 57 38.7**	**-0.8**
BILL	**Bilibino**	**18.23**	**345**	*i* P	**P**	**15 57 42.4**	**-0.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL	**Bilibino**	**18.23**	**345**	*e*P	**P**	**15 57 42.2**	**-0.9**
RSO	**Redoubt South**	**18.50**	**48**	*e*P	**Pn**	**15 57 46.9**	**+0.1**
	comp=Z,35nm,1.0s						
SEY	**Seymchan**	**18.60**	**320**	P	**P**	**15 57 45.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=176,slow=15,SNR=3.4						
KTH	**Kantishna Hill**	**20.43**	**40**	*e*P	**P**	**15 58 06.7**	**-0.5**
IM04	**Indian Mountai**	**20.53**	**32**	*e*P	**P**	**15 58 07.5**	**-0.8**
MCK	**McKinley**	**21.32**	**41**	*e*P	**P**	**15 58 17.1**	**+0.3**
MCK	**McKinley**	**21.32**	**41**	*e*P	**P**	**15 58 17.1**	**+0.3**
COLA	**College**	**22.19**	**38**	*e*P	**P**	**15 58 24.4**	**-1.6**
COLA				pmax	pmax		
	comp=Z,21nm,1.0s						
COLA	**College**	**22.19**	**38**	*e*P	**P**	**15 58 25.4**	**-0.6**
ILAR	**Eielson Array**	**22.53**	**39**	P	**P**	**15 58 28.0**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=231,slow=7.7,SNR=12						
ILAR	**Eielson Array**	**22.53**	**39**	P	**P**	**15 58 28.0**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EGAK	**Eagle**	**24.87**	**41**	*e*P	**P**	**15 58 51.0**	**-1.1**
ASAJ	**Asahikawa**	**25.20**	**269**	P	**P**	**15 58 56.2**	**+0.9**
	comp=Z,11nm,0.8s,baz=8.5,slow=8.1,SNR=6.2						
ASAJ	**Asahikawa**	**25.20**	**269**	P	**P**	**15 58 56.2**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK	**Yakutsk**	**28.59**	**312**	*e*P	**P**	**15 59 24.4**	**-1.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
KLR	**Kul'dur**	**29.86**	**285**	*e*P	P	15 59 33.6	-3.4
TIXI	**Tiksi**	**30.30**	**331**	*e*P	**P**	**15 59 39.7**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**36.62**	**46**	P	**P**	**16 00 34.4**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=282,slow=8.2,SNR=6.8						
YKA	**Yellowknife Ar**	**36.62**	**46**	P	**P**	**16 00 34.4**	**-1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOD	**Bodaibo**	**37.04**	**306**	*e*P	**P**	**16 00 37.5**	**-1.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSRS	**Korea Array**	**38.14**	**269**	P	**P**	**16 00 49.2**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=57,slow=9.5,SNR=6.1						
KSRS	**Korea Array**	**38.14**	**269**	P	**P**	**16 00 49.2**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSAR	**Wonju Array Be**	**38.17**	**270**	P	**P**	**16 00 49.2**	**+0.1**
KSAR	**Wonju Array Be**	**38.17**	**270**	P	**P**	**16 00 49.2**	**+0.1**
BSMT	**Bassoo Peak**	**42.01**	**67**	*e*P	**P**	**16 01 21.4**	**+0.3**
	comp=Z,7.5nm,1.0s						
HLID	**Hailey**	**44.50**	**72**	*e*P	**P**	**16 01 41.3**	**+0.1**
	comp=Z,2.8nm,0.9s						
TLY	**Talaya**	**45.03**	**302**	*e*P	**P**	**16 01 45.0**	**-0.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ULN	**Ulaanbaatar**	**45.11**	**295**	*e*P	**P**	**16 01 44.2**	**-1.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**45.50**	**296**	P	**P**	**16 01 49.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=64,slow=7.5,SNR=11						
SONM				PcP	**PcP**	**16 03 26.1**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=68,slow=2.5,SNR=4.1						
SONM	**Songino Array**	**45.50**	**296**	P	**P**	**16 01 49.2**	**+0.2**
SONM						16 03 26.1	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAK	**Zakamensk**	**45.89**	**300**	*e*P	P	16 01 47.9	-4.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**46.36**	**285**	*e*P	**P**	**16 01 55.5**	**-0.3**
HHC				PMZ			
	comp=Z,10.0nm,1.1s						
HHC				PMZ			
	comp=Z,94nm,5.2s						
DUG	**Dugway, Tooele**	**47.43**	**75**	P	**P**	**16 02 03.1**	**-1.1**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
DUG	**Dugway, Tooele**	**47.43**	**75**	P	**P**	**16 02 03.1**	**-1.1**
	comp=Z,6.0nm,1.2s						
PDAR	**Pinedale Array**	**47.87**	**70**	P	**P**	**16 02 07.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=310,slow=3.4,SNR=14						
SPITS	**Spitsbergen Ar**	**50.71**	**355**	P	**P**	**16 02 29.0**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=44,slow=4.9,SNR=9.7						
SPITS	**Spitsbergen Ar**	**50.71**	**355**	P	**P**	**16 02 29.0**	**+0.4**
SPITS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**53.24**	**313**	P	**P**	**16 02 46.8**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=105,slow=5.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**53.24**	**313**	P	**P**	**16 02 46.8**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GTA	**Gaotai**	**54.33**	**291**	*e*P	**P**	**16 02 56.8**	**+0.7**
GTA				PMZ			
	comp=Z,6.0nm,1.1s						
CD2	**Chengdu**	**57.59**	**280**	*e*P	**P**	**16 03 19.0**	**-0.4**
KURK	**Kurchatov**	**58.23**	**313**	*e*P	**P**	**16 03 22.8**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**58.23**	**313**	*e*P	**P**	**16 03 22.8**	**-0.8**
	comp=Z,3.5nm,0.7s						
WMQ	**Urumqi**	**58.31**	**302**	*e*P	**P**	**16 03 26.0**	**+1.7**
WMQ				PMZ			
	comp=Z,12nm,0.6s						
WMQ				PMZ			
	comp=Z,150nm,4.5s						
MK31	**Makanchi Array**	**59.12**	**307**	*e*P	**P**	**16 03 28.6**	**-1.3**
MK31	**Makanchi Array**	**59.12**	**307**	*e*P	**P**	**16 03 28.6**	**-1.3**
MKAR	**Makanchi Array**	**59.12**	**307**	P	**P**	**16 03 28.6**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=349,slow=2.6,SNR=9.1						
MKAR	**Makanchi Array**	**59.12**	**307**	P	**P**	**16 03 28.6**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**60.20**	**79**	P	**P**	**16 03 37.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=2.6						
BRVK	**Borovoye**	**60.27**	**319**	*e*P	**P**	**16 03 36.4**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,10.0nm,2.5s						
BRVK	**Borovoye**	**60.27**	**319**	*e*P	**P**	**16 03 37.3**	**-0.3**
SVE	**Sverdlovsk**	**61.15**	**326**	*e*P	**P**	**16 03 44.2**	**+0.7**
SVE				pmax	pmax		
	comp=Z,11nm,1.3s						
ARU	**Arti**	**62.18**	**327**	*c i*P	**P**	**16 03 50.5**	**+0.1**
ARU						16 06 04.7	
ARU				S	**S**	**16 12 17.2**	**+4.6**
ARU				SS	**SS**	**16 16 15.9**	**+0.8**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
OLIL	**Olney**	**62.88**	**61**	P	**P**	**16 03 54.2**	**-1.1**
	comp=Z,56nm,0.9s						
FINES	**FINESS Array B**	**65.87**	**346**	P	**P**	**16 04 13.5**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=23,slow=7.5,SNR=5.3						
FINES	**FINESS Array B**	**65.87**	**346**	P	**P**	**16 04 13.5**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**65.98**	**308**	*i* P	**P**	**16 04 16.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,16nm,2.5s						
AAK	**Ala-Archa**	**65.98**	**308**	*e*P	**P**	**16 04 15.9**	**0.0**
	comp=Z,0.3nm,0.4s						
AKTO	**Aktyubinsk**	**67.17**	**323**	P	**P**	**16 04 23.3**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=50,slow=6.8,SNR=17						
AKTO	**Aktyubinsk**	**67.17**	**323**	P	**P**	**16 04 23.3**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ABKAR	**Akbulak array**	**67.37**	**322**	*e*P	**P**	**16 04 24.2**	**-0.2**
	comp=Z,0.9nm,0.5s						
KSH	**Kashi**	**67.55**	**305**	*e*P	**P**	**16 04 27.0**	**+1.2**
KSH				sP	**sP**	**16 04 45.3**	**+2.7**
KSH				PP	**PP**	**16 06 58.3**	**+3.7**
KSH				S	**S**	**16 13 19.0**	**-0.4**
KSH				PMZ			
	comp=Z,85nm,4.3s						
KSH				LN			
	comp=Z,210nm,8.4s						
KSH				LE			
	comp=Z,170nm,6.

	43nm,0.1s								
ATVO	**AVT- Monte Val**	**0.12**	**171**		Pg	Pg	15 57 47.5	+0.4
ATVO					Sg	Sg	15 57 49.7	+0.8
	47nm,0.2s								
ATVO	**AVT- Monte Val**	**0.12**	**171**		Pg	Pg	15 57 47.5	+0.4
ATVO					Sg	Sg	15 57 49.7	+0.8
	47nm,0.2s								

*CSEM **27** 15:58:06.6, 43˚.49N×12˚.40E, h8km, MD1.5/4*
ROM 27 15:58:06.6±0.1, 43˚.49N×12˚.40E, h8km, Md1.5/4, Ml1.3/2, 6C, Error ellipse: s-maj=0.5km s-min=0.4km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.04**	**177**	⇑*i*Pg	Pg	15 58 08.4	+0.1
ATPI				Sg	Sg	15 58 09.6	+0.1
	320nm,0.3s						
ATPI	**Pietralunga -**	**0.04**	**177**	⇑*i*Pg	Pg	15 58 08.4	+0.1
ATPI				Sg	Sg	15 58 09.6	+0.1
	320nm,0.3s						
ATPC	**Poggio Castell**	**0.04**	**105**	Pg	Pg	15 58 08.5	+0.2
ATPC				Sg	Sg	15 58 09.8	+0.3
	273nm,0.2s						
ATPC	**Poggio Castell**	**0.04**	**105**	Pg	Pg	15 58 08.5	+0.2
ATPC				Sg	Sg	15 58 09.8	+0.3
	273nm,0.2s						
PIEI	**Pieia**	**0.11**	**66**	Pg	Pg	15 58 09.4	+0.2
PIEI				Sg	Sg	15 58 11.8	+0.8
	79nm,0.1s						
PIEI	**Pieia**	**0.11**	**66**	Pg	Pg	15 58 09.4	+0.2
PIEI				Sg	Sg	15 58 11.8	+0.8
	79nm,0.1s						
ATVO	**AVT- Monte Val**	**0.11**	**177**	⇑*i*Pg	Pg	15 58 09.6	+0.4
ATVO				Sg	Sg	15 58 11.7	+0.7
	83nm,0.2s						
ATVO	**AVT- Monte Val**	**0.11**	**177**	⇑*i*Pg	Pg	15 58 09.6	+0.4
ATVO				Sg	Sg	15 58 11.7	+0.7
	83nm,0.2s						
BADI	**Badiali**	**0.11**	**279**	⇑*i*Pg	Pg	15 58 09.6	+0.4
BADI				Sg	Sg	15 58 11.9	+0.8
BADI	**Badiali**	**0.11**	**279**	⇑*i*Pg	Pg	15 58 09.6	+0.4
BADI				Sg	Sg	15 58 11.9	+0.8
ATFO	**Monte Foce - G**	**0.18**	**135**	Pg	Pg	15 58 10.9	+0.5
ATFO				Sg	Sg	15 58 13.9	+0.9
ATFO	**Monte Foce - G**	**0.18**	**135**	Pg	Pg	15 58 10.9	+0.5
ATFO				Sg	Sg	15 58 13.9	+0.9
PARC	**Parchiule**	**0.20**	**323**	Pg	Pg	15 58 11.1	+0.4
PARC				Sg	Sg	15 58 14.6	+1.2
PARC	**Parchiule**	**0.20**	**323**	Pg	Pg	15 58 11.1	+0.4
PARC				Sg	Sg	15 58 14.6	+1.2

*IDC **27** 15:59:38.0±1.2, 51˚.10N×179˚.17E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/58, mbtmp3.4/8, ML2.5/2, Error ellipse: s-maj=33.0km s-min=23.8km az=145.0*
*ISCJB **27** 15:59:43.3±0.8, 51˚.0N±0˚.1×178˚.55E±0˚.06, h33km, mb3.3/6, Error ellipse: s-maj=20.2km s-min=5.4km az=176.4*
*NEIC **27** 15:59:43.0, 50˚.56N×178˚.91E, h28km, ML3.5(AEIC), After AEIC.*
ISC 27 15:59:44.7±1.1, 51˚.1N±0˚.2×178˚.72E±0˚.05, h33km, n17, σ1§40/19, mb3.4/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAEA	**Gareloi East**	**1.74**	**65**	P	**Pn**	**16 00 14.2**	**+1.6**
TANO	**Tanaga North**	**2.15**	**65**	P	**Pn**	**16 00 20.3**	**+2.1**
TAFP	**Tanaga Falls P**	**2.23**	**67**	P	**Pn**	**16 00 21.2**	**+2.0**
TAFP				S	**Sb**	**16 00 50.8**	**-0.6**
KIKV	**Kanaga Island**	**2.70**	**71**	P	**Pn**	**16 00 27.3**	**+1.6**
KIRH	**Kanaga Island**	**2.75**	**71**	P	**Pn**	**16 00 27.0**	**+0.5**
ADK	**Adak**	**2.99**	**72**	P	**Pn**	**16 00 30.0**	**+0.3**
ADK				S	**Sn**	**16 01 05.4**	**+1.0**
SMY	**Shemya**	**3.31**	**302**	P	Pn	16 00 38.2	+4.1
SMY				S	**Sb**	**16 01 22.9**	**+0.6**
GSMY	**Great Sitkin M**	**3.41**	**71**	P	**Pn**	**16 00 36.0**	**+0.6**
KOFP	**Korovin Flat P**	**4.63**	**72**	P	**Pn**	**16 00 54.0**	**+1.7**
PETK	**Petropavlovsk-**	**13.08**	**287**	Pn	**Pn**	**16 02 48.6**	**+0.6**
	0.1nm,0.3s,baz=104,slow=27,SNR=2.4						
PETK				Sn	**Sn**	**16 05 11.8**	**-0.3**
	0.1nm,0.3s,baz=94,slow=23,SNR=2.5						
SEY	**Seymchan**	**18.46**	**320**	P	**P**	**16 03 57.4**	**+0.1**
	0.0nm,0.3s,baz=51,slow=14,SNR=3.2						
ILAR	**Eielson Array**	**22.47**	**39**	P	**P**	**16 04 37.4**	**-3.3**
	0.4nm,0.5s,baz=259,slow=12,SNR=6.7						
YKA	**Yellowknife Ar**	**36.58**	**46**	P	P	16 06 42.2	-4.8
	0.6nm,0.9s,baz=281,slow=8.4,SNR=4.4						
SONM	**Songino Array**	**45.38**	**296**	P	**P**	**16 08 00.2**	**+0.4**
	0.2nm,0.4s,baz=48,slow=2.2,SNR=3.5						
MKAR	**Makanchi Array**	**58.99**	**307**	P	**P**	**16 09 39.6**	**-1.1**
	0.1nm,0.5s,baz=60,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**80.72**	**222**	P	**P**	**16 11 54.0**	**-0.4**
	0.7nm,1.0s,baz=336,slow=8.2,SNR=3.5						
ASAR	**Alice Springs**	**84.22**	**221**	P	**P**	**16 12 12.8**	**+0.2**
	0.3nm,0.8s,baz=29,slow=5.6,SNR=4.8						

GUC 27 16:06:27.5±0.5, 20˚.32S×69˚.31W, h99km±3km, ML3.8, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HMBC	**Humberstone**	**0.55**	**274**	*e*P	Pn	16 06 43.9	+0.2
HMBC				*e*S	Sn	16 06 56.4	+0.6
HMBC				AML	AML	16 06 59.8	
	comp=N,2μm,0.7s						
PB01	**IPOC Station P**	**0.74**	**193**	*e*P	Pn	16 06 45.6	+0.3
PB01				*e*S	Sn	16 06 59.4	+0.7
PB01				AML	AML	16 07 00.2	
	comp=N,6μm,0.2s						
PATCX	**Punta Patache**	**0.94**	**238**	*e*P	Pn	16 06 47.9	+0.6
PATCX				*e*S	Sn	16 07 03.2	+1.0
PATCX				AML	AML	16 07 03.9	
	comp=N,2μm,0.2s						
PSGC	**Pisagua**	**1.05**	**313**	*e*P	Pn	16 06 48.8	+0.2
PSGC				*e*S	Sn	16 07 05.1	+0.6
PSGC				AML	AML	16 07 07.8	
	comp=N,1μm,0.4s						
MNMC	**Minimini**	**1.22**	**347**	*e*P	Pn	16 06 51.0	+0.3
MNMC				*e*S	Sn	16 07 09.1	+1.0
MNMC				AML	AML	16 07 11.5	
	comp=N,3μm,0.6s						
PB09	**IPOC Station P**	**1.47**	**178**	*e*P	Pn	16 06 54.3	+0.8
PB09				*e*S	Sn	16 07 14.3	+1.0
PB09				AML	AML	16 07 17.2	
	comp=E,5μm,0.4s						
PB07	**IPOC Station P**	**1.50**	**201**	*e*P	Pn	16 06 54.5	+0.6
PB07				*e*S	Sn	16 07 14.9	+0.9
PB07				AML	AML	16 07 17.9	
	comp=E,1μm,0.5s						
PB04	**IPOC Station P**	**1.94**	**185**	*e*P	Pn	16 07 03.3	+4.0
LPAZ	**La Paz**	**4.17**	**16**	*e*P	Pn	16 07 32.1	+2.3

*IDC **27** 16:20:59.6±0.8, 51˚.01N×178˚.79E, h0km, mb3.8/16, mb1 4.0/18, mb1mx3.8/41, mbtmp3.8/18, ML2.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=23.7km s-min=14.9km az=164.0*
*ISCJB **27** 16:21:04.6±0.5, 51˚.1N±0˚.09×178˚.71E±0˚.04, h41km, mb3.9/26, MS3.3/1, Error ellipse: s-maj=13.4km s-min=3.7km az=173.7*
*MOS **27** 16:21:04.1±0.9, 51˚.09N×178˚.74E, h42km, mb4.2/17, Error ellipse: s-maj=16.1km s-min=10.2km az=110.0*
*NEIC **27** 16:21:06.3±0.6, 50˚.97N×178˚.83E, h50km±5km, mb4.2/6, ML3.7(AEIC), Error ellipse: s-maj=11.3km s-min=5.0km az=179.0*
ISC 27 16:21:05.4±0.7, 50˚.9N±0˚.1×178˚.78E±0˚.05, h41km, n79, σ1§01/81, mb3.9/26, 4C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.75**	**60**	P	**Pn**	**16 21 33.5**	**+0.2**
GAEA	**Gareloi East**	**1.78**	**60**	P	**Pn**	**16 21 33.7**	**+0.1**
TASE	**Tanaga Southea**	**2.20**	**64**	P	**Pn**	**16 21 39.8**	**+0.4**
TAFP	**Tanaga Falls P**	**2.25**	**63**	P	**Pn**	**16 21 40.7**	**+0.5**
TAFP				S	**Sn**	**16 22 10.9**	**+4.2**
KICM	**Kanaga Island**	**2.71**	**67**	P	**Pn**	**16 21 46.8**	**+0.3**
KIKV	**Kanaga Island**	**2.71**	**68**	P	**Pn**	**16 21 46.6**	**+0.2**
KINC	**Kanaga Island**	**2.76**	**67**	P	**Pn**	**16 21 47.4**	**+0.4**
KIRH	**Kanaga Island**	**2.77**	**68**	P	**Pn**	**16 21 47.7**	**+0.5**

ADK	**Adak**	**3.00**	**70**	P	**Pn**	**16 21 50.2**	**-0.2**
ADK				S	**Sn**	**16 22 25.9**	**+0.8**
ADK	**Adak**	**3.00**	**70**	P	**Pn**	**16 21 50.2**	**-0.2**
ADK				S	**Sn**	**16 22 25.9**	**+0.8**
ADAG	**Mount Adagdak**	**3.08**	**68**	P	**Pn**	**16 21 51.7**	**+0.2**
GSCK	**Great Sitkin C**	**3.35**	**69**	P	**Pn**	**16 21 55.2**	**+0.1**
GSTD	**Great Sitkin T**	**3.37**	**68**	P	**Pn**	**16 21 55.4**	**-0.2**
GSTD				S	**Sn**	**16 22 35.3**	**+1.0**
SMY	**Shemya**	**3.42**	**304**	P	**Pn**	**16 21 58.4**	**+2.3**
SMY				S	Sn	16 22 42.3	+7.0
SMY	**Shemya**	**3.42**	**304**	P	**Pn**	**16 21 58.4**	**+2.3**
SMY				S	Sn	16 22 42.3	+7.0
GSMY	**Great Sitkin M**	**3.42**	**69**	P	**Pn**	**16 21 56.1**	**0.0**
KOFP	**Korovin Flat P**	**4.64**	**70**	P	**Pn**	**16 22 13.0**	**0.0**
SPIA	**Saint Paul Isl**	**8.99**	**42**	P	**Pn**	**16 23 15.2**	**+2.8**
UNV	**Unalaska Valle**	**9.47**	**66**	*e*Pn	**Pn**	**16 23 17.9**	**-1.1**
PETK	**Petropavlovsk-**	**13.16**	**288**	Pn	**Pn**	**16 24 08.7**	**-0.8**
	0.1nm,0.3s,baz=89,slow=18,SNR=3.2						
PETK				Sn	Sn	16 26 26.5	-7.8
	0.1nm,0.3s,baz=314,slow=36,SNR=2.2						
PETK				LR	LR	16 30 48.6	
	comp=Z,28nm,18.3s,baz=118,slow=45						
BILL	**Bilibino**	**18.23**	**345**	⇑*i*P	**P**	**16 25 14.0**	**-0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**18.23**	**345**	*e*P	**Pn**	**16 25 14.7**	**-0.2**
	comp=Z,3.7nm,0.8s						
SEY	**Seymchan**	**18.59**	**320**	P	**P**	**16 25 17.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=120,slow=20,SNR=3.1						
KTH	**Kantishna Hill**	**20.45**	**40**	*e*P	**P**	**16 25 39.0**	**-0.2**
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**22.56**	**39**	P	**P**	**16 25 59.9**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=260,slow=12,SNR=11						
ILAR	**Eielson Array**	**22.56**	**39**	P	**P**	**16 25 59.9**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EGAK	**Eagle**	**24.89**	**41**	*e*P	**P**	**16 26 22.9**	**-1.0**
	comp=Z,5.7nm,0.8s						
ASAJ	**Asahikawa**	**25.17**	**269**	P	**P**	**16 26 27.9**	**+1.2**
	comp=Z,12nm,1.1s,baz=50,slow=7.9,SNR=4.4						
ASAJ	**Asahikawa**	**25.17**	**269**	P	**P**	**16 26 27.9**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK	**Yakutsk**	**28.58**	**312**	*e*P	**P**	**16 26 56.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**28.71**	**35**	P	**P**	**16 26 58.0**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=224,slow=10,SNR=4.7						
INK	**Inuvik**	**28.71**	**35**	P	**P**	**16 26 58.0**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**30.29**	**331**	*e*P	**P**	**16 27 11.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,2.0s						
MAJO	**Matsushiro**	**32.20**	**259**	*e*P	P	16 27 36.7	+7.3
YKA	**Yellowknife Ar**	**36.65**	**46**	P	**P**	**16 28 06.6**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=282,slow=8.1,SNR=7.0						
YKA	**Yellowknife Ar**	**36.65**	**46**	P	**P**	**16 28 06.6**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOD	**Bodaibo**	**37.02**	**306**	*e*P	**P**	**16 28 08.9**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**45.09**	**295**	*c i*P	**P**	**16 29 18.1**	**+0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**45.48**	**296**	P	**P**	**16 29 20.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=62,slow=7.1,SNR=8.4						
SONM	**Songino Array**	**45.48**	**296**	P	**P**	**16 29 20.8**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**47.90**	**70**	P	**P**	**16 29 40.0**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=312,slow=2.9,SNR=13						
PFO	**Pinyon Flats O**	**49.33**	**84**	LR	LR	16 45 37.7	
	comp=Z,30nm,20.0s,baz=306,slow=30						
ZALV	**Zalesovo Beam**	**53.23**	**313**	P	**P**	**16 30 18.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=48,slow=6.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**53.23**	**313**	P	**P**	**16 30 18.3**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GTA	**Gaotai**	**54.31**	**291**	*e*P	**P**	**16 30 28.8**	**+1.3**
GTA				pP	pP	16 30 33.0	-6.3
GTA				sP	sP	16 30 35.5	-8.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**59.11**	**307**	*e*P	**P**	**16 31 00.9**	**-0.4**
MK31	**Makanchi Array**	**59.11**	**307**	*e*P	**P**	**16 31 00.9**	**-0.4**
MKAR	**Makanchi Array**	**59.11**	**307**	P	**P**	**16 31 00.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=9.1,slow=3.1,SNR=7.1						
MKAR	**Makanchi Array**	**59.11**	**307**	P	**P**	**16 31 00.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**16 31 09.3**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=284,slow=3.6,SNR=2.2						
BRVK	**Borovoye**	**60.26**	**319**	*e*P	**P**	**16 31 08.0**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
BRVK	**Borovoye**	**60.26**	**319**	*e*P	**P**	**16 31 09.3**	**+0.2**
	comp=Z,2.9nm,0.6s						
ARU	**Arti**	**62.17**	**327**	*c i*P	**P**	**16 31 22.3**	**+0.3**
ARU				pmax	pmax		
	comp=Z,16nm,1.7s						
ARU	**Arti**	**62.17**	**327**	*e*P	**P**	**16 31 22.5**	**+0.5**
	comp=Z,4.8nm,0.6s						
FINES	**FINESS Array B**	**65.87**	**346**	P	**P**	**16 31 45.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=36,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**65.87**	**346**	P	**P**	**16 31 45.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AAK	**Ala-Archa**	**65.97**	**308**	*e*P	**P**	**16 31 46.8**	**-0.6**
ABKAR	**Akbulak array**	**67.36**	**322**	*e*P	**P**	**16 31 56.3**	**+0.4**
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**67.94**	**354**	P	**P**	**16 31 58.5**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=5.5,slow=6.3,SNR=3.5						
NOA	**NORSAR Array B**	**67.94**	**354**	P	**P**	**16 31 58.5**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.53**	**274**	P	**P**	**16 32 10.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=30,slow=7.3,SNR=3.8						
TAPN	**Taplejung**	**69.92**	**289**	*e*P	**P**	**16 32 13.1**	**+0.5**
ODAN	**Odare**	**70.47**	**289**	*e*P	**P**	**16 32 16.7**	**+0.8**
GUN	**Gumba**	**70.60**	**290**	*e*P	**P**	**16 32 18.1**	**+1.3**
	comp=Z,20nm,0.9s						
JIRN	**Jiri**	**70.60**	**290**	*e*P	**P**	**16 32 18.2**	**+1.4**
	comp=Z,14nm,0.8s						
RAMN	**Ramite**	**70.88**	**289**	*e*P	**P**	**16 32 18.8**	**+0.4**
	comp=Z,14nm,0.6s						
KKN	**Kakani**	**71.04**	**291**	*e*P	**P**	**16 32 19.5**	**+0.2**
	comp=Z,8.3nm,0.7s						
GKN	**Gorkha**	**71.26**	**291**	*e*P	**P**	**16 32 21.2**	**+0.6**
	comp=Z,15nm,0.9s						
DMN	**Daman**	**71.28**	**291**	*e*P	**P**	**16 32 21.9**	**+1.1**
	comp=Z,8.1nm,0.8s						
KOLN	**Koldanda**	**72.05**	**292**	*e*P	**P**	**16 32 26.4**	**+1.0**
	comp=Z,6.3nm,0.8s						
PYUN	**Piuthan**	**72.16**	**293**	*e*P	**P**	**16 32 26.9**	**+0.9**
	comp=Z,18nm,0.8s						
AKASG	**Malin Array Be**	**75.49**	**341**	P	**P**	**16 32 44.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=24,slow=5.9,SNR=3.1						
ZEI	**Tsey**	**78.74**	**328**	*e*P	**P**	**16 33 03.1**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**80.64**	**222**	P	**P**	**16 33 13.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=31,slow=6.3,SNR=8.6						
WRA	**Warramunga Arr**	**80.64**	**222**	P	**P**	**16 33 13.8**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**84.13**	**221**	P	**P**	**16 33 32.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=23,slow=3.9,SNR=7.4						
ASAR	**Alice Springs**	**84.13**	**221**	P	**P**	**16 33 32.7**	**+0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**84.70**	**334**	P	**P**	**16 33 35.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=14,slow=3.3,SNR=4.6						
BRTR	**Keskin Array B**	**84.70**	**334**	*ce*P	**P**	**16 33 35.7**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **27** 16:24:40.2±0.3, 37˚.30N±0˚.02×0˚.74E±0˚.02, h10km, Error ellipse: s-maj=2.9km s-min=2.3km az=150.9*
*CRAAG **27** 16:24:41.9, 37˚.16N×1˚.08E, Ml3.5*
*CSEM **27** 16:24:43.7±0.1, 37˚.12N×0˚.81E, h30km, ML3.5, Error ellipse: s-maj=3.7km s-min=3.1km az=165.0*

*INMG **27** 16:24:44.9±1.2, 37˚.14N×0˚.80E, h31km, ML2.6, Error ellipse: s-maj=6.0km s-min=3.5km az=128.0*
*MDD **27** 16:24:44.3±1.1, 37˚.12N×0˚.87E, h25km±10km, mbLg2.9/40, Error ellipse: s-maj=4.4km s-min=3.8km az=130.0, PRIXIMO*
*LDG **27** 16:24:45.1±0.1, 37˚.09N×0˚.88E, h25km, Ml3.1/21, Error ellipse: s-maj=2.8km s-min=1.3km az=150.0*
ISC 27 16:24:40.2±0.4, 37˚.23N±0˚.02×0˚.78E±0˚.01, h10km, n182, σ1§99/229, 3C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**1.11**	**147**	P	**Pg**	**16 25 01.1**	**-0.5**
EBNR	**Beni Rached**	**1.11**	**147**	P	**Pg**	**16 25 01.1**	**-0.5**
ECHF	**Ech Chlef**	**1.16**	**157**	P	**Pg**	**16 25 02.0**	**-0.5**
ECHA	**Ech Chlef**	**1.18**	**156**	P	**Pb**	**16 25 02.0**	**-0.6**
ECHA	**Ech Chlef**	**1.18**	**156**	P	**Pb**	**16 25 02.0**	**-0.6**
OKGL	**Djebel Kef Gue**	**1.19**	**185**	⇑P	**Pn**	**16 25 02.8**	**-0.2**
	117nm,0.1s,SNR=18						
OKGL				S	**Sb**	**16 25 15.9**	**-2.5**
	363nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**1.19**	**185**	P	**Pn**	**16 25 02.8**	**-0.2**
	117nm,0.1s,SNR=18						
OKGL				S	**Sb**	**16 25 15.9**	**-2.5**
	363nm,0.3s,SNR=7.9						
EANR	**'Ain N'Sour**	**1.30**	**168**	P	**Pg**	**16 25 05.5**	**+0.3**
EANR	**'Ain N'Sour**	**1.30**	**168**	P	**Pg**	**16 25 05.5**	**+0.3**
EANR	**'Ain N'Sour**	**1.30**	**168**	P	**Pg**	**16 25 05.5**	**+0.3**
EBEN	**Beniarda**	**1.67**	**332**	P	**Pn**	**16 25 12.3**	**+2.6**
	1.9nm,0.2s,SNR=24						
EBEN				S	**Sn**	**16 25 32.6**	**+1.4**
	17nm,0.1s,SNR=14						
EBEN	**Beniarda**	**1.67**	**332**	P	**Pn**	**16 25 12.3**	**+2.6**
	1.9nm,0.2s,SNR=24						
EBEN				S	**Sn**	**16 25 32.6**	**+1.4**
	17nm,0.1s,SNR=14						
EMUR	**La Murta**	**1.72**	**292**	P	**Pn**	**16 25 12.6**	**+2.4**
	2.8nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**16 25 32.9**	**+0.7**
	29nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**1.72**	**292**	P	**Pn**	**16 25 12.6**	**+2.4**
	2.8nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**16 25 32.9**	**+0.7**
	29nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**1.85**	**14**	⇑P	**Pn**	**16 25 14.4**	**+2.4**
	42nm,0.2s,SNR=18						
EIBI				S	**Sn**	**16 25 35.4**	**-0.1**
	117nm,0.2s,SNR=18						
EIBI	**Ibiza**	**1.85**	**14**	P	**Pn**	**16 25 14.4**	**+2.4**
	42nm,0.2s,SNR=18						
EIBI				S	**Sn**	**16 25 35.4**	**-0.1**
	117nm,0.2s,SNR=18						
ABA	**Alger-Bouzarea**	**1.86**	**103**	P	**Pn**	**16 25 11.0**	**-1.1**
ABA	**Alger-Bouzarea**	**1.86**	**103**	P	**Pn**	**16 25 11.0**	**-1.1**
ABA	**Alger-Bouzarea**	**1.86**	**103**	P	**Pn**	**16 25 11.0**	**-1.1**
ETRT	**Tiaret**	**1.88**	**167**	P	**Pn**	**16 25 10.7**	**-1.8**
ETRT	**Tiaret**	**1.88**	**167**	P	**Pn**	**16 25 10.7**	**-1.8**
ETRT	**Tiaret**	**1.88**	**167**	P	**Pn**	**16 25 10.7**	**-1.8**
EMHD	**Djebel Mahouad**	**2.03**	**120**	P	**Pn**	**16 25 15.9**	**+1.3**
EMHD	**Djebel Mahouad**	**2.03**	**120**	P	**Pn**	**16 25 15.9**	**+1.3**
EMHD	**Djebel Mahouad**	**2.03**	**120**	P	**Pn**	**16 25 15.9**	**+1.3**
ETOB	**Tobarra**	**2.32**	**308**	P	Pn	16 25 21.8	+3.3
	3.4nm,0.2s,SNR=23						
ETOB				S	**Sn**	**16 25 49.2**	**+2.1**
	24nm,0.1s,SNR=22						
ETOB	**Tobarra**	**2.32**	**308**	P	Pn	16 25 21.8	+3.3
	3.4nm,0.2s,SNR=23						
ETOB				S	**Sn**	**16 25 49.2**	**+2.1**
	24nm,0.1s,SNR=22						
ENIJ	**Nijar**	**2.40**	**265**	P	**Pn**	**16 25 21.1**	**+1.5**
	3.1nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**16 25 47.3**	**-1.7**
	31nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.40**	**265**	P	**Pn**	**16 25 21.1**	**+1.5**
	3.1nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**16 25 47.3**	**-1.7**
	31nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.74**	**283**	P	Pn	16 25 27.9	+3.5
	4.6nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**16 25 58.6**	**+1.0**
	17nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.74**	**283**	P	Pn	16 25 27.9	+3.5
	4.6nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**16 25 58.6**	**+1.0**
	17nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.78**	**290**	P	Pn	16 25 28.6	+3.6
	9.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**16 26 01.2**	**+2.5**
	153nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**2.78**	**290**	P	Pn	16 25 28.6	+3.6
	9.0nm,0.2s,SNR=7.9						

EPOB					S		Sn	16 26 30.6	-1.2
	7.9nm,0.2s,SNR=12								
EPOB	**Poblet**	**4.13**	**3**	P		Pn		16 25 46.7	+3.3
	3.3nm,0.2s,SNR=8.8								
EPOB					S		Sn	16 26 30.6	-1.2
	7.9nm,0.2s,SNR=12								
ETOR	**Torete**	**4.21**	**329**	P		Pn		16 25 48.1	+3.5
	1.4nm,0.3s,SNR=7.9								
ETOR					S		Sn	16 26 36.0	+2.2
	6.2nm,0.2s,SNR=7.9								
ETOR	**Torete**	**4.21**	**329**	P		Pn		16 25 48.1	+3.5
	1.4nm,0.3s,SNR=7.9								
ETOR					S		Sn	16 26 36.0	+2.2
	6.2nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**4.35**	**284**	P		Pn		16 25 48.4	+2.0
	0.7nm,0.1s,SNR=7.9								
EADA					S		Sn	16 26 37.3	+0.2
	5.5nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**4.35**	**284**	P		Pn		16 25 48.4	+2.0
	0.7nm,0.1s,SNR=7.9								
EADA					S		Sn	16 26 37.3	+0.2
	5.5nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**4.45**	**305**	S		Sn		16 26 39.6	-0.1
	1.6nm,0.4s,baz=119,slow=24,SNR=10								
ESDC	**Sonseca Array**	**4.45**	**305**	S		Sn		16 26 39.6	-0.1
	1.6nm,0.4s,SNR=10								
EMIJ	**Mijas**	**4.50**	**263**	S		Sn		16 26 36.5	-4.3
	3.1nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**4.50**	**263**	S		Sn		16 26 36.5	-4.3
	3.1nm,0.3s,SNR=7.9								
PAB	**San Pablo**	**4.64**	**301**	P		Pn		16 25 53.4	+2.9
	0.5nm,0.1s,SNR=7.9								
PAB					S		Sn	16 26 44.1	-0.4
	1.8nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**4.64**	**301**	P		Pn		16 25 53.4	+2.9
	0.5nm,0.1s,SNR=7.9								
PAB					S		Sn	16 26 44.1	-0.4
	1.8nm,0.1s,SNR=7.9								
CFON	**Fontmartina**	**4.71**	**15**	P		Pn		16 25 54.4	+3.0
	18nm,0.2s,SNR=29								
CFON					S		Sn	16 26 45.5	-0.6
	11nm,0.2s,SNR=9.0								
CFON	**Fontmartina**	**4.71**	**15**	P		Pn		16 25 54.4	+3.0
	18nm,0.2s,SNR=29								
CFON					S		Sn	16 26 45.5	-0.6
	11nm,0.2s,SNR=9.0								
EMIR	**Miracle**	**4.72**	**7**	P		Pn		16 25 54.7	+3.2
	4.0nm,0.1s,SNR=7.9								
EMIR					S		Sn	16 26 46.2	-0.1
	21nm,0.3s,SNR=7.9								
EMIR	**Miracle**	**4.72**	**7**	P		Pn		16 25 54.7	+3.2
	4.0nm,0.1s,SNR=7.9								
EMIR					S		Sn	16 26 46.2	-0.1
	21nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**4.99**	**282**	P		Pn		16 25 57.3	+2.1
	1.4nm,0.1s,SNR=19								
ECAB					S		Sn	16 26 52.6	-0.3
	6.3nm,0.1s,SNR=11								
ECAB	**El Cabril**	**4.99**	**282**	P		Pn		16 25 57.3	+2.1
	1.4nm,0.1s,SNR=19								
ECAB					S		Sn	16 26 52.6	-0.3
	6.3nm,0.1s,SNR=11								
GUD	**Guadarrama**	**5.14**	**313**	P		Pn		16 26 00.7	+3.4
	0.5nm,0.2s,SNR=7.9								
GUD					S		Sn	16 26 57.4	+0.6
	1.9nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**5.14**	**313**	P		Pn		16 26 00.7	+3.4
	0.5nm,0.2s,SNR=7.9								
GUD					S		Sn	16 26 57.3	+0.6
	1.9nm,0.3s,SNR=7.9								
CSOR	**Sort**	**5.15**	**3**	P		Pn		16 26 01.1	+3.6
	0.9nm,0.2s,SNR=7.9								
CSOR					S		Sn	16 26 55.3	-1.7
	3.8nm,0.3s,SNR=7.9								
CSOR	**Sort**	**5.15**	**3**	P		Pn		16 26 01.1	+3.6
	0.9nm,0.2s,SNR=7.9								
CSOR					S		Sn	16 26 55.3	-1.7
	3.8nm,0.3s,SNR=7.9								
CLLI	**Llivia**	**5.33**	**10**	P		Pn		16 26 04.2	+4.3
	1.8nm,0.2s,SNR=7.4								
CLLI					S		Sn	16 26 59.9	-1.5
	2.3nm,0.3s								
CLLI	**Llivia**	**5.33**	**10**	P		Pn		16 26 04.2	+4.3
	1.8nm,0.2s,SNR=7.4								
CLLI					S		Sn	16 26 59.9	-1.5
	2.3nm,0.3s								
EJON	**La Jonquera**	**5.46**	**17**	P		Pn		16 26 04.7	+3.0
	2.7nm,0.2s,SNR=7.9								
EJON					S		Sn	16 27 04.0	-0.6
	3.7nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**5.46**	**17**	P		Pn		16 26 04.7	+3.0
	2.7nm,0.2s,SNR=7.9								
EJON					S		Sn	16 27 04.0	-0.6
	3.7nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**5.47**	**355**	S		Sn		16 27 04.5	-0.7
	1.1nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**5.47**	**355**	S		Sn		16 27 04.5	-0.7
	1.1nm,0.2s,SNR=7.9								
ETSF	**Etsaut**	**5.76**	**350**	*e*Pn		Pn		16 26 08.9	+3.1
ETSF					*e*Sn		Sn	16 27 11.6	-0.3
	5.3nm,0.5s								
ETSF	**Etsaut**	**5.76**	**350**	Pn		Pn		16 26 08.9	+3.1
ETSF					Sn		Sn	16 27 11.6	-0.3
	2.7nm,0.5s								
ETSF	**Etsaut**	**5.76**	**350**	*e*Pn		Pn		16 26 08.9	+3.1
ETSF					*e*Sn		Sn	16 27 11.6	-0.3
	2.7nm,0.5s								
EPF	**Esparros**	**5.81**	**357**	*e*Pn		Pn		16 26 09.5	+3.1
EPF					*e*Sn		Sn	16 27 12.6	-0.5
	3.3nm,0.3s								
EPF	**Esparros**	**5.81**	**357**	Pn		Pn		16 26 09.5	+3.1
EPF					Sn		Sn	16 27 12.6	-0.5
	1.7nm,0.3s								
EPF	**Esparros**	**5.81**	**357**	*e*Pn		Pn		16 26 09.5	+3.1
EPF					*e*Sn		Sn	16 27 12.6	-0.5
	1.6nm,0.3s								
IELO	**Elcoad**	**5.82**	**345**	P		Pn		16 26 12.3	+5.7
	0.5nm,0.3s,SNR=7.9								
IELO					S		Sn	16 27 13.3	-0.1
	2.5nm,0.3s,SNR=7.9								
IELO	**Elcoad**	**5.82**	**345**	P		Pn		16 26 12.3	+5.7
	0.5nm,0.3s,SNR=7.9								
IELO					S		Sn	16 27 13.3	-0.1
	2.5nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.95**	**277**	P		Pn		16 26 10.2	+1.9
	0.3nm,0.1s,SNR=7.9								
EMIN					S		Sn	16 27 15.0	-1.5
	3.4nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.95**	**277**	P		Pn		16 26 10.2	+1.9
	0.3nm,0.1s,SNR=7.9								
EMIN					S		Sn	16 27 15.0	-1.5
	3.4nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**6.07**	**300**	S		Sn		16 27 18.5	-1.0
	1.4nm,0.2s,SNR=7.9								
EPLA	**Plasencia**	**6.07**	**300**	S		Sn		16 27 18.5	-1.0
	1.4nm,0.2s,SNR=7.9								
SJPF	**Ste Jean**	**6.08**	**346**	*e*Pn		Pn		16 26 13.2	+3.1
SJPF					*e*Sn		Sn	16 27 19.0	-0.7
	3.9nm,0.3s								
SJPF	**Ste Jean**	**6.08**	**346**	Pn		Pn		16 26 13.2	+3.1
SJPF					Sn		Sn	16 27 19.0	-0.7
	1.9nm,0.3s								
SJPF	**Ste Jean**	**6.08**	**346**	*e*Pn		Pn		16 26 13.2	+3.1
SJPF					*e*Sn		Sn	16 27 19.0	-0.7
	2.0nm,0.3s								
MTLF	**Montolieu**	**6.21**	**10**	*e*Pn		Pn		16 26 14.5	+2.6
MTLF					*e*Sn		Sn	16 27 20.3	-2.6
	1.1nm,0.3s								
MTLF	**Montolieu**	**6.21**	**10**	Pn		Pn		16 26 14.5	+2.6
MTLF					Sn		Sn	16 27 20.3	-2.6
	0.6nm,0.3s								
MTLF	**Montolieu**	**6.21**	**10**	*e*Pn		Pn		16 26 14.5	+2.6
EALK	**Alkurruntz**	**6.24**	**344**	S		Sn		16 27 23.0	-0.5
	5.9nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**6.24**	**344**	S		Sn		16 27 23.0	-0.5
	5.9nm,0.3s,SNR=7.9								
PBAR	**Barrancos**	**6.27**	**281**	*e*Pn		Pn		16 26 15.7	+3.0
PBAR					*e*Sn		Sn	16 27 22.9	-1.5
PBAR					A		A	16 27 25.6	
	3.7nm,0.2s								
PBAR	**Barrancos**	**6.27**	**281**	Pn		Pn		16 26 15.7	+3.0
PBAR					Sn		Sn	16 27 22.9	-1.5
	3.7nm,0.2s								
PBAR	**Barrancos**	**6.27**	**281**	*e*Pn		Pn		16 26 15.7	+3.0
PBAR					*e*Sn		Sn	16 27 22.9	-1.5
	3.7nm,0.2s								
EBAD	**Badajoz**	**6.34**	**286**	S		Sn		16 27 24.9	-1.2
	3.6nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**6.34**	**286**	S		Sn		16 27 24.9	-1.2
	3.6nm,0.2s,SNR=7.9								
EGRO	**El Granado**	**6.58**	**275**	P		Pn		16 26 19.2	+2.1
	1.2nm,0.3s,SNR=7.9								
EGRO					S		Sn	16 27 29.6	-2.6
	3.3nm,0.3s,SNR=7.9								
EGRO	**El Granado**	**6.58**	**275**	P		Pn		16 26 19.2	+2.1
	1.2nm,0.3s,SNR=7.9								
EGRO					S		Sn	16 27 29.6	-2.6
	3.3nm,0.3s,SNR=7.9								
PVAQ	**Vaqueiros**	**6.77**	**274**	*e*Pn		Pn		16 26 21.2	+1.6
PVAQ					*e*Sn		Sn	16 27 34.2	-2.6
PVAQ					A		A	16 27 38.8	
	2.9nm,0.6s								
PVAQ	**Vaqueiros**	**6.77**	**274**	Pn		Pn		16 26 21.2	+1.6
PVAQ					Sn		Sn	16 27 34.2	-2.6
	2.9nm,0.6s								
PVAQ	**Vaqueiros**	**6.77**	**274**	*e*Pn		Pn		16 26 21.2	+1.6
PVAQ					*e*Sn		Sn	16 27 34.2	-2.6
	2.9nm,0.6s								
PMRV	**Marv??o**	**6.79**	**291**	*e*Sn		Sn		16 27 36.0	-1.2
PMRV					A		A	16 27 48.8	
	3.5nm,0.6s								
PMRV	**Marv??o**	**6.79**	**291**	Sn		Sn		16 27 36.0	-1.2
	3.5nm,0.6s								
PMRV	**Marv??o**	**6.79**	**291**	*e*Sn		Sn		16 27 36.0	-1.2
	3.5nm,0.6s								
PESTR	**Estremoz**	**6.80**	**286**	*e*Sn		Sn		16 27 36.4	-1.2
PESTR					A		A	16 27 40.0	
	3.5nm,0.6s								
PESTR	**Estremoz**	**6.80**	**286**	*e*Sn		Sn		16 27 36.4	-1.2
	3.5nm,0.6s								
ELAN	**Lanestosa**	**6.81**	**333**	P		Pn		16 26 24.9	+4.8
	3.0nm,0.3s,SNR=9.4								
ELAN					S		Sn	16 27 36.0	-1.6
	2.7nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**6.81**	**333**	P		Pn		16 26 24.9	+4.8
	3.0nm,0.3s,SNR=9.4								
ELAN					S		Sn	16 27 36.0	-1.6
	2.7nm,0.3s,SNR=7.9								
PBDV	**Barranco-do-Ve**	**6.95**	**273**	*e*Pn		Pn		16 26 24.5	+2.4
PBDV					*e*Sn		Sn	16 27 38.6	-2.6
PBDV					A		A	16 27 43.2	
	2.9nm,0.5s								
PBDV	**Barranco-do-Ve**	**6.95**	**273**	Pn		Pn		16 26 24.5	+2.4
PBDV					Sn		Sn	16 27 38.6	-2.6
	2.9nm,0.5s								
PBDV	**Barranco-do-Ve**	**6.95**	**273**	*e*Pn		Pn		16 26 24.5	+2.4
PCVE	**Castro Verde**	**7.03**	**276**	*e*Sn		Sn		16 27 40.4	-2.7
PCVE	**Castro Verde**	**7.03**	**276**	Sn		Sn		16 27 40.4	-2.7
EVO	**Evora**	**7.07**	**283**	*e*Pn		Pn		16 26 27.1	+3.3
EVO	**Evora**	**7.07**	**283**	*e*P		Pn		16 26 32.1	+8.3
EVO					*e*Sn		Sn	16 27 43.6	-0.6
	3.9nm,0.3s								
EVO	**Evora**	**7.07**	**283**	*e*Sn		Sn		16 27 42.6	-1.6
EVO					A		A	16 27 44.5	
	3.2nm,0.1s								
EVO	**Evora**	**7.07**	**283**	Sn		Sn		16 27 42.6	-1.6
	3.2nm,0.1s								
EVO	**Evora**	**7.07**	**283**	*e*Sn		Sn		16 27 42.6	-1.6
	3.2nm,0.1s								
EVOP	**Sao Brissos**	**7.16**	**283**	*e*Pn		Pn		16 26 27.1	+2.2
MVO	**Moncorvo**	**7.22**	**305**	*e*Sn		Sn		16 27 47.7	-0.3
MVO					A		A	16 27 49.3	
	2.4nm,0.2s								
MVO	**Moncorvo**	**7.22**	**305**	S		Sn		16 27 45.8	-2.2
	3.9nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**7.22**	**305**	S		Sn		16 27 45.8	-2.2
	3.9nm,0.1s,SNR=7.9								
MVO					*e*Sn		Sn	16 27 47.7	-0.3
	2.4nm,0.2s								
LASF	**Ste Croix**	**7.23**	**18**	*e*Pn		Pn		16 26 28.4	+2.4
LASF					*e*Sn		Sn	16 27 44.8	-3.3
	2.1nm,0.6s								
LASF	**Ste Croix**	**7.23**	**18**	Pn		Pn		16 26 28.4	+2.4
LASF					Sn		Sn	16 27 44.8	-3.3
	1.1nm,0.6s								
LASF	**Ste Croix**	**7.23**	**18**	*e*Pn		Pn		16 26 28.4	+2.4
ECAL	**Calabor**	**7.47**	**311**	P		Pn		16 26 33.2	+3.9
	2.7nm,0.3s,SNR=7.9								
ECAL					S		Sn	16 27 52.5	-1.6
	1.5nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**7.47**	**311**	P		Pn		16 26 33.2	+3.9
	2.7nm,0.3s,SNR=7.9								
ECAL					S		Sn	16 27 52.5	-1.6
	1.5nm,0.2s,SNR=7.9								
LMR	**La Mourre**	**7.51**	**34**	*e*Pn		Pn		16 26 31.7	+2.0
LMR					*e*Sn		Sn	16 27 51.5	-3.4
	3.0nm,0.4s								
LMR	**La Mourre**	**7.51**	**34**	Pn		Pn		16 26 31.7	+2.0
LMR					Sn		Sn	16 27 51.5	-3.4
	1.5nm,0.4s								
LMR	**La Mourre**	**7.51**	**34**	*e*Pn		Pn		16 26 31.7	+2.0
MORF	**Marmelete**	**7.52**	**273**	*e*Pn		Pn		16 26 31.9	+2.0
MORF					*e*Sn		Sn	16 27 51.7	-3.5
MORF					A		A	16 27 55.6	
	2.8nm,0.2s								
MORF	**Marmelete**	**7.52**	**273**	Pn		Pn		16 26 31.9	+2.0
MORF					Sn		Sn	16 27 51.7	-3.5
	2.8nm,0.2s								
MORF	**Marmelete**	**7.52**	**273**	*e*Pn		Pn		16 26 31.9	+2.0
PTOM	**Tomar**	**7.60**	**291**	*e*Sn		Sn		16 27 44.9	-12
PTOM					A		A	16 27 50.1	
	9.8nm,0.2s								
EARI	**Arriondas**	**7.60**	**325**	P		Pn		16 26 33.8	+2.8
	1.5nm,0.4s,SNR=7.6								
EARI					S		Sn	16 27 55.9	-1.3
	1.7nm,0.5s,SNR=7.9								
EARI	**Arriondas**	**7.60**	**325**	P		Pn		16 26 33.8	+2.8
	1.5nm,0.4s,SNR=7.6								
EARI					S		Sn	16 27 55.9	-1.3
	1.7nm,0.5s,SNR=7.9								
PFVI	**Vila Bisbo**	**7.67**	**272**	*e*Sn		Sn		16 27 54.8	-4.1
PFVI					A		A	16 28 02.4	
	5.0nm,0.7s								
PFVI	**Vila Bisbo**	**7.67**	**272**	S		Sn		16 27 54.7	-4.1
	3.7nm,0.4s,SNR=7.9								
PFVI	**Vila Bisbo**	**7.67**	**272**	S		Sn		16 27 54.7	-4.1
	3.7nm,0.4s,SNR=7.9								
SMRF	**Simiane la Rot**	**7.67**	**27**	*e*Pn		Pn		16 26 34.1	+2.2
SMRF					*e*Sn		Sn	16 27 55.7	-3.1
	0.8nm,0.4s								
SMRF	**Simiane la Rot**	**7.67**	**27**	Pn		Pn		16 26 34.1	+2.2
SMRF					Sn		Sn	16 27 55.7	-3.1
	0.8nm,0.4s								
SMRF	**Simiane la Rot**	**7.67**	**27**	*e*Pn		Pn		16 26 34.1	+2.2
FRF	**La Foret Royal**	**7.75**	**33**	*e*Pn		Pn		16 26 35.4	+2.3
FRF					*e*Sn		Sn	16 27 57.3	-3.6
	3.2nm,0.4s								
FRF	**La Foret Royal**	**7.75**	**33**	Pn		Pn		16 26 35.4	+2.3
FRF					Sn		Sn	16 27 57.3	-3.6
	1.6nm,0.4s								
FRF	**La Foret Royal**	**7.75**	**33**	*e*Pn		Pn		16 26 35.4	+2.3
CAF	**Calviac**	**7.75**	**7**	*e*Pn		Pn		16 26 36.4	+3.3
CAF					*e*Sn		Sn	16 27 57.8	-3.2
	1.0nm,0.2s								
CAF	**Calviac**	**7.75**	**7**	Pn		Pn		16 26 36.4	+3.3
CAF					Sn		Sn	16 27 57.8	-3.2
	0.5nm,0.2s								
CAF	**Calviac**	**7.75**	**7**	*e*Pn		Pn		16 26 36.4	+3.3
POLO	**Lamas de Olo**	**7.83**	**305**	*e*Sn		Sn		16 28 01.7	-1.2
POLO					A		A	16 28 04.8	
	0.4nm,0.2s								
POLO	**Lamas de Olo**	**7.83**	**305**	*e*Sn		Sn		16 28 01.7	-1.2
	0.4nm,0.2s								
VIVF	**Saint-Julien-l**	**8.17**	**20**	*e*Pn		Pn		16 26 41.2	+2.4
VIVF					*e*Sn		Sn	16 28 06.9	-4.3
	1.3nm,0.4s								
VIVF	**Saint-Julien-l**	**8.17**	**20**	Pn		Pn		16 26 41.2	+2.4
VIVF					Sn		Sn	16 28 06.9	-4.3
	0.6nm,0.4s								
VIVF	**Saint-Julien-l**	**8.17**	**20**	*e*Pn		Pn		16 26 41.2	+2.4
PGF	**Pioggiola**	**8.26**	**47**	*e*Pn		Pn		16 26 41.4	+1.3
PGF					*e*Sn		Sn	16 28 07.3	-6.2
	1.0nm,0.3s								
PGF	**Pioggiola**	**8.26**	**47**	Pn		Pn		16 26 41.4	+1.3
PGF					Sn		Sn	16 28 07.3	-6.2
	0.5nm,0.3s								
PGF	**Pioggiola**	**8.26**	**47**	*e*Pn		Pn		16 26 41.4	+1.3
SBF	**Sospel**	**8.34**	**35**	*e*Pn		Pn		16 26 43.1	+1.8
SBF					*e*Sn		Sn	16 28 11.2	-4.3
	3.2nm,0.3s								
SBF	**Sospel**	**8.34**	**35**	Pn		Pn		16 26 43.1	+1.8
SBF					Sn		Sn	16 28 11.2	-4.3
	1.6nm,0.3s								
SBF	**Sospel**	**8.34**	**35**	*e*Pn		Pn		16 26 43.1	+1.8

ORIF	**Oris-en-Rattie**	**8.60**	**25**	*e*Pn		Pn		16 26 47.1	+2.4
ORIF					*e*Sn		Sn	16 28 18.1	-3.7
	1.6nm,0.5s								
ORIF	**Oris-en-Rattie**	**8.60**	**25**	Pn		Pn		16 26 47.1	+2.4
ORIF					Sn		Sn	16 28 18.1	-3.7
	0.8nm,0.5s								
ORIF	**Oris-en-Rattie**	**8.60**	**25**	*e*Pn		Pn		16 26 47.1	+2.4
MBDF	**Montbardon**	**8.76**	**29**	*e*Pn		Pn		16 26 49.4	+2.4
MBDF					*e*Sn		Sn	16 28 21.6	-4.2
	1.5nm,0.3s								
MBDF	**Montbardon**	**8.76**	**29**	Pn		Pn		16 26 49.4	+2.4
MBDF					Sn		Sn	16 28 21.6	-4.2
	0.8nm,0.3s								
MBDF	**Montbardon**	**8.76**	**29**	*e*Pn		Pn		16 26 49.4	+2.4
LPG	**La Plagne**	**9.40**	**27**	*e*Pn		Pn		16 26 59.7	+3.7
LPG					*e*Sn		Sn	16 28 37.2	-4.7
	1.1nm,0.4s								
LPG	**La Plagne**	**9.40**	**27**	Pn		Pn		16 26 59.7	+3.7
LPG					Sn		Sn	16 28 37.2	-4.7
	0.6nm,0.4s								
LPG	**La Plagne**	**9.40**	**27**	*e*Pn		Pn		16 26 59.7	+3.7
LPL	**La Plagne**	**9.41**	**27**	*e*Pn		Pn		16 26 58.3	+2.3
LPL					*e*Sn		Sn	16 28 38.0	-4.0
	1.9nm,0.6s								
LPL	**La Plagne**	**9.41**	**27**	Pn		Pn		16 26 58.3	+2.3
LPL					Sn		Sn	16 28 38.0	-4.0
	0.9nm,0.6s								
LPL	**La Plagne**	**9.41**	**27**	*e*Pn		Pn		16 26 58.3	+2.3

IDC ***27*** *16:29:15.9±2.0, 0.72N×126.61E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=159.6km s-min=25.4km az=66.0*
ISCJB ***27*** *16:29:21.2±0.9, 0.54N±0.07×126.34E±0.06, h47km, mb3.4/3, Error ellipse: s-maj=10.2km s-min=7.9km az=151.2*
DJA ***27*** *16:29:22.3±1.0, 0.7N±4°×12.6E±°, h17km±14km, M3.5/7, MLv3.5/7*

ISC 27 16:29:23.0±1.1, 0.51N±0.08×126.44E±0.06, h47km, n8, σ1§15/11, mb3.4/3, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.96**	**74**	P	**Pn**	**16 29 39.9**	**-0.3**
TNTI				S	**Sn**	**16 29 54.2**	**+1.5**
LBMI	**Labuha**	**1.55**	**137**	P	**Pn**	**16 29 48.1**	**-0.2**
LBMI				S	**Sn**	**16 30 08.3**	**+1.1**
SANI	**Sanana**	**2.58**	**190**	P	**Pn**	**16 30 02.2**	**-0.1**
SANI				S	**Sn**	**16 30 32.0**	**-0.5**
LUWI	**Luwuk**	**3.98**	**247**	P	**Pn**	**16 30 23.7**	**+2.1**
APSI	**Ampana**	**5.00**	**254**	P	**Pn**	**16 30 34.7**	**-0.8**
WRA	**Warramunga Arr**	**21.75**	**160**	P	**P**	**16 34 10.3**	**-0.4**
	1.0nm,0.6s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.10**	**164**	P	**P**	**16 34 44.2**	**+0.7**
	0.9nm,0.7s,baz=351,slow=16,SNR=10						
MKAR	**Makanchi Array**	**60.04**	**326**	P	**P**	**16 39 24.1**	**-1.1**
	0.1nm,0.3s,baz=128,slow=5.1,SNR=6.2						

IDC 27 16:39:33.2±1.8, 2.97S×147.83E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.6/18, mbtmp4.0/3, MS3.7/1, Ms1 3.6/1, ms1mx2.7/24, Error ellipse: s-maj=111.5km s-min=30.7km az=119.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.40**	**217**	P	P	16 44 23.1	+0.3
	2.8nm,0.6s,baz=42,slow=10,SNR=25						
ASAR	**Alice Springs**	**24.59**	**212**	P	P	16 44 55.2	0.0
	2.2nm,0.9s,baz=42,slow=7.8,SNR=18						
STKA	**Stephens Creek**	**29.35**	**191**	LR	LR	16 57 56.3	
	comp=Z,136nm,18.5s,baz=24,slow=38						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	P	16 53 02.9	+0.3
	0.5nm,0.8s,baz=269,slow=4.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**145.03**	**289**	PKPbc	PKPbc	16 59 11.2	-1.8
	0.6nm,0.9s,baz=68,slow=2.5,SNR=3.0						

DJA 27 16:41:52.4±0.6, 8°S±3°×10°7E±°, h16km±8km, M3.6/11, MLv3.6/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.84**	**41**	P	Pb	16 42 07.8	-1.0
CISI				S	Sb	16 42

CPBX					*e*S		**Sb**	**17 13 08.9**	**+0.3**
CPBX					AML		AML	17 13 11.0	
	comp=N,11μm,0.2s								
CPBX					⇓*e*			17 13 11.0	
CPBX					AML		AML	17 13 13.0	
	comp=E,12μm,0.3s								
CPBX					*e*			17 13 13.0	
CPBX	**Cerro Prieto**	**0.58**	**129**		*e*P		**Pb**	**17 13 01.2**	**+0.6**
CPBX					*e*S		**Sb**	**17 13 09.6**	**+1.0**
COA	**Coachella**	**0.61**	**82**	⇑	*e*P		**Pb**	**17 13 01.7**	**+0.7**
MBIG	**Mexicali**	**0.66**	**125**		*e*P		**Pg**	**17 13 01.3**	**-0.3**
MBIG					*e*S		**Sb**	**17 13 10.9**	**+0.1**
BAR	**Barrett**	**0.71**	**262**		*e*P		**Pg**	**17 13 03.2**	**+0.6**
BAR	**Barrett**	**0.71**	**262**		*e*Pg		**Pg**	**17 13 03.0**	**+0.4**
BAR					*e*Sg		**Sg**	**17 13 11.8**	**-0.3**
CBX	**Cerro Bola**	**0.84**	**236**		*e*P		**Pg**	**17 13 05.2**	**+0.1**
CBX					*i* S		**Sb**	**17 13 16.6**	**+0.3**
CBX	**Cerro Bola**	**0.84**	**236**		*e*P		**Pg**	**17 13 05.4**	**+0.3**
CBX					*e*S		**Sb**	**17 13 16.5**	**+0.2**
CBX					⇓*e*			17 13 21.4	
	comp=E,1μm,0.5s								
CBX	**Cerro Bola**	**0.84**	**236**		*e*P		**Pg**	**17 13 05.2**	**+0.1**
CBX					*i* S		**Sb**	**17 13 16.6**	**+0.3**
RDX	**Rancho Dawling**	**0.86**	**186**		*e*P		**Pg**	**17 13 04.7**	**-0.8**
RDX					*e*S		**Sg**	**17 13 15.9**	**-0.9**
PFO	**Pinyon Flats O**	**0.97**	**328**		*e*Pg		**Pb**	**17 13 07.8**	**+0.5**
PFO					*e*Sg		**Sb**	**17 13 18.6**	**-1.4**
PBX	**Punta Banda**	**1.28**	**216**		*e*P		**Pn**	**17 13 12.3**	**+0.2**
PBX					*e*S		**Sn**	**17 13 29.3**	**+0.2**
ECNX	**Esteban Cantu**	**1.30**	**210**		*e*P		**Pn**	**17 13 12.8**	**+0.4**
ECNX					*e*S		**Sb**	**17 13 29.5**	**+0.2**
ZAX	**El Zacaton**	**1.32**	**196**		*e*P		**Pn**	**17 13 13.2**	**+0.5**
ZAX					*e*S		**Sn**	**17 13 30.4**	**+0.3**
ECBX	**El Chinero**	**1.47**	**153**		*e*P		**Pn**	**17 13 13.5**	**-1.1**
ECBX					*e*S		**Sn**	**17 13 32.9**	**-0.7**
ECBX					AML		AML	17 13 37.4	
	comp=N,381nm,0.5s								
ECBX					⇓*e*			17 13 37.4	
SPIG	**San Pedro Mart**	**1.76**	**170**		*e*P		**Pn**	**17 13 19.4**	**+0.4**
SPIG					*e*S		**Sb**	**17 13 42.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.76**	**170**		*e*P		**Pn**	**17 13 19.4**	**+0.4**
SPIG					*e*S		**Sb**	**17 13 42.8**	**-0.2**
SPX	**San Pedro Mart**	**1.76**	**170**		*e*P		**Pb**	**17 13 20.7**	**-0.3**
SPX	**San Pedro Mart**	**1.76**	**170**		*e*P		**Pn**	**17 13 19.3**	**+0.3**
SPX					*e*S		**Sn**	**17 13 41.9**	**+0.5**
GSC	**Goldstone, Bar**	**2.64**	**342**		*e*Pn		**Pn**	**17 13 31.6**	**+0.8**
GSC					*e*Pg		**Pg**	**17 13 38.9**	**-0.4**
GSC					*e*Sg		**Sg**	**17 14 14.5**	**+1.1**
214A	**Organ Pipe Nat**	**2.69**	**107**		*e*Pn		**Pn**	**17 13 30.4**	**-1.1**
OSI	**Osito Audit: C**	**3.02**	**308**		*e*Pn		**Pb**	**17 13 40.5**	**-1.8**
OSI					*e*Sg		**Sg**	**17 14 24.4**	**-1.4**
TUC	**Tucson**	**4.29**	**95**		*e*Pn		Pn	17 13 49.7	-3.8
TUC					*e*Sg		**Sb**	**17 14 56.3**	**+0.7**

*ISCJB **27** 17:17:06.2±2.9,50.˙18S±0.˙04×114.˙62E±0.˙09,h0km±17km, mb5.2/63,MS5.2/169,Error ellipse: s-maj=9.8km s-min=7.3km az=17.1*

*BJI **27** 17:17:07.8,50.˙60S×115.˙50E,h10km,mB5.5/36,mb5.1/45, Ms5.5/42,Ms7 5.2/40*

*IDC **27** 17:17:08.5±0.5,50.˙13S×114.˙73E,h0km,mb4.6/17, mb1 4.7/18,mb1mx4.6/22,mbtmp4.6/18,ML1.9/1,MS5.0/18, Ms1 5.0/18,ms1mx4.9/21,Error ellipse: s-maj=24.2km s-min=12.7km az=104.0*

*MOS **27** 17:17:09.6±1.5,49.˙97S×114.˙68E,h10km,mb5.2/19, MS5.1/20,Error ellipse: s-maj=21.9km s-min=9.6km az=79.1*

*GCMT **27** 17:17:09.5±0.1,49.˙99S×114.˙21E,h13km,MW5.6/126, Moment Tensor Solution. s84,c152; s126,c331; Duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr-0.52±.03; Mθθ2.41±.04; Mφφ-1.89±.03; Mrθ-0.04±.08; Mθφ2.18±.03; Mφr-0.11±.08; Best double couple: M0 3.06400×10^17^ NP1:φs22.00000°,δ89.00000°, λ-178.00000°. NP2:φs292.00000°,δ88.00000°, λ-1.00000°. Principal axes: T 3.3230, Plg1.0000°, Azm157.0000°; N -0.5220, Plg88.0000°, Azm40.0000°; P -2.8050, Plg2.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **27** 17:17:09.5±0.2,50.˙18S×114.˙70E,h10km,mb5.4/41, MS5.3/139 Error ellipse: s-maj=9.4km s-min=6.5km az=99.0*

*AWI **27** 17:17:13.9,50.˙60S×115.˙50E*

ISC 27 17:17:10.4±0.5,50˙21S±0˙05×114˙72E±0˙06,h15km±3km, n613,σt1§61/432,mb5.2/63,MS5.3/169,91C-95D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.31**	**358**	Op T		T	17 36 03.8	
	baz=179,slow=74,SNR=853							
H01W1	**Cape Leeuwin H**	**15.31**	**358**	T		T	17 36 09.4	
	baz=179,slow=74,SNR=1223							
H01W3	**Cape Leeuwin H**	**15.32**	**358**	T		T	17 36 17.5	
	baz=179,slow=74,SNR=1231							
CASY	**Casey**	**16.26**	**186**	*e*Pn		**Pn**	**17 20 57.9**	**0.0**
	334nm,1.4s							
NWAO	**Narrogin (SRO)**	**17.37**	**7**	P		**Pn**	**17 21 11.1**	**-1.0**
	0.2nm,0.3s,baz=181,slow=14,SNR=3.9							
NWAO				S		**Sn**	**17 24 19.4**	**-5.6**
	0.4nm,0.3s,baz=73,slow=19,SNR=3.1							
NWAO				LR		LR	17 26 26.2	
	comp=Z,51nm,20.3s,baz=193,slow=32							
DRV	**Dumont d'Urvil**	**20.89**	**151**	P		P	17 21 22.0	-30
DRV				S		**S**	**17 25 38.0**	**-5.8**
DRV				R			17 27 00.0	
FORT	**Forrest**	**21.84**	**32**	*e*P		**P**	**17 22 02.0**	**-0.1**
	612nm,1.3s							
TAU	**Tasmania Unive**	**23.44**	**84**	P		**P**	**17 22 18.4**	**-0.4**
TAU				pmax		pmax		
	comp=Z,318nm,1.6s							
TAU				MLR		MLR		
	comp=Z,7μm,19.0s							
TAU	**Tasmania Unive**	**23.44**	**84**	P		**P**	**17 22 18.4**	**-0.4**
	comp=Z,318nm,1.6s							
TAU				LR		LR		
	comp=Z,7μm,19.0s							
BBOO	**Buckleboo**	**23.48**	**50**	*e*P		**P**	**17 22 20.2**	**+0.9**
	comp=Z,258nm,1.5s							
STKA	**Stephens Creek**	**27.09**	**58**	LR		LR	17 31 38.9	
	comp=Z,5μm,21.6s,baz=216,slow=32							
STKA	**Stephens Creek**	**27.09**	**58**	*e*P		**P**	**17 22 53.4**	**+1.0**
STKA				pmax		pmax		
	comp=Z,26nm,1.4s							
STKA	**Stephens Creek**	**27.09**	**58**	*e*P		**P**	**17 22 53.4**	**+1.0**
	comp=Z,26nm,1.4s							
PAF	**Port-aux-Franc**	**28.43**	**254**	P		P	17 23 00.0	-4.2
PAF				S		S	17 27 41.0	-10
PAF				R			17 29 00.0	
CAN	**Canberra**	**28.93**	**72**	PFAKE			17 23 20.0	+11
CAN				LR		LR		
	comp=Z,6μm,22.0s							
AIS	**Amsterdam Isla**	**29.15**	**281**	SS		SS	17 29 27.0	-39
ASAR	**Alice Springs**	**30.43**	**37**	P		**P**	**17 23 21.9**	**-0.3**
	comp=Z,10.0nm,0.9s,baz=206,slow=8.1,SNR=46							
ASAR				PcP		**PcP**	**17 26 20.9**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=210,slow=3.0,SNR=2.8							
ASAR				LR		LR	17 33 57.5	
	comp=Z,3μm,20.8s,baz=201,slow=33							
AS31	**Alice Springs**	**30.43**	**37**	*e*P		**P**	**17 23 21.2**	**-1.0**
MAW	**Mawson**	**30.70**	**216**	P		**P**	**17 23 23.5**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=91,slow=13,SNR=4.0							
MAW				LR		LR	17 33 52.7	
	comp=Z,1μm,19.4s,baz=72,slow=33							
MAW	**Mawson**	**30.70**	**216**	*e*P		**P**	**17 23 22.7**	**-1.3**
MAW				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MAW	**Mawson**	**30.70**	**216**	*e*P		**P**	**17 23 22.7**	**-1.3**
	comp=Z,8.5nm,1.1s							
VNDA	**Vanda**	**32.54**	**163**	P		**P**	**17 23 42.5**	**+2.3**
	comp=Z,5.4nm,0.9s,baz=290,slow=7.9,SNR=14							
VNDA				LR		LR	17 36 28.2	
	comp=Z,5μm,18.1s,baz=316,slow=36							
VNDA	**Vanda**	**32.54**	**163**	*e*P		**P**	**17 23 40.7**	**+0.5**
VNDA				pmax		pmax		
	comp=Z,41nm,1.6s							
VNDA	**Vanda**	**32.54**	**163**	*e*P		**P**	**17 23 40.7**	**+0.5**
	comp=Z,41nm,1.6s							
FITZ	**Fitzroy Crossi**	**33.21**	**19**	*e*P		**P**	**17 23 44.8**	**-1.8**
	comp=Z,182nm,1.3s							
SBA	**Scott Base**	**33.63**	**162**	*e*P		**P**	**17 23 51.2**	**+1.5**
SBA				pmax		pmax		
	comp=Z,62nm,1.7s							
SBA				MLR		MLR		
	comp=Z,3μm,22.0s							
SBA	**Scott Base**	**33.63**	**162**	*e*P		**P**	**17 23 51.2**	**+1.5**
	comp=Z,62nm,1.7s							
SBA				LR		LR		
	comp=Z,3μm,22.0s							
ARMA	**Armidale**	**33.92**	**68**	*e*P		P	17 23 56.2	+3.3
	comp=Z,63nm,1.1s							
WRA	**Warramunga Arr**	**33.98**	**34**	P		**P**	**17 23 52.9**	**-0.4**
	comp=Z,31nm,1.1s,baz=202,slow=10,SNR=97							
WRA				PcP		**PcP**	**17 26 29.9**	**-1.3**
	comp=Z,1.6nm,1.0s,baz=221,slow=3.6,SNR=2.1							
WRA				LR		LR	17 36 31.4	
	comp=Z,2μm,20.9s,baz=210,slow=34							
WRAB	**Tennant Creek**	**34.00**	**34**	P		**P**	**17 23 53.0**	**-0.4**
	comp=Z,732nm,1.2s,SNR=16							
WRAB	**Tennant Creek**	**34.00**	**34**	*c i*P		**P**	**17 23 53.3**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,212nm,1.7s							
WRAB	**Tennant Creek**	**34.00**	**34**	*e*P		**P**	**17 23 52.7**	**-0.7**
	comp=Z,190nm,1.1s							
WRAB				LR		LR		
	comp=Z,2μm,20.0s							
EIDS	**Eidsvold**	**37.38**	**62**	*e*P		**P**	**17 24 22.7**	**+0.2**
	comp=Z,32nm,1.1s							
RPZ	**Rata Peaks**	**38.19**	**103**	LR		LR	17 37 10.0	
	comp=Z,2μm,20.6s,baz=244,slow=31							
CTA	**Charters Tower**	**39.07**	**51**	P		**P**	**17 24 36.4**	**-0.4**
	comp=Z,23nm,1.2s,baz=237,slow=6.8,SNR=4.2							
CTA				LR		LR	17 40 01.7	
	comp=Z,4μm,19.6s,baz=212,slow=35							
CTAO	**Charters Tower**	**39.07**	**51**	*e*P		**P**	**17 24 37.9**	**+1.1**
CTAO				pmax		pmax		
	comp=Z,59nm,1.4s							
CTAO				MLR		MLR		
	comp=Z,4μm,20.0s							
CTAO	**Charters Tower**	**39.07**	**51**	*e*P		**P**	**17 24 37.9**	**+1.1**
	comp=Z,59nm,1.4s							
CTAO				LR		LR		
	comp=Z,4μm,20.0s							
SYO	**Syowa Base**	**39.27**	**213**	⇑*e*pP		pP	17 24 45.0	+2.5
QSPA	**South Pole Qui**	**39.92**	**180**	P		**P**	**17 24 44.9**	**+1.4**
	comp=Z,5.0nm,0.8s,baz=318,slow=1.5,SNR=23							
QSPA	**South Pole Qui**	**39.92**	**180**	*e*P		**P**	**17 24 42.5**	**-1.0**
	comp=Z,320nm,2.2s							
QSPA				*e*PP		**PnPn**	**17 26 18.3**	**0.0**
QSPA				LR		LR		
	comp=Z,6μm,19.0s							
BATI	**Baumata**	**40.56**	**14**	P		**P**	**17 24 49.2**	**+0.1**
	comp=Z,25nm,0.9s,baz=271,slow=5.0,SNR=5.0							
BATI				LR		LR	17 41 51.1	
	comp=Z,3μm,18.0s,baz=198,slow=37							
COCO	**West Island**	**40.66**	**333**	PFAKE			17 25 00.0	+10
COCO				LR		LR		
	comp=Z,4μm,22.0s							
SOEI	**Soe**	**41.10**	**14**	P		**P**	**17 24 53.8**	**+0.2**
	comp=Z,182nm,1.3s							
SNZO	**South Karori**	**41.75**	**102**	PFAKE			17 25 10.0	+11
SNZO				LR		LR		
	comp=Z,1μm,20.0s							
MMRI	**Maumere**	**41.91**	**11**	*e*P		**P**	**17 24 60.0**	**-0.2**
	comp=Z,106nm,1.1s							
CISI	**Cisompet, Garu**	**42.90**	**350**	*e*P		**P**	**17 25 10.4**	**+2.1**
	comp=Z,170nm,1.3s							
COEN	**Coen**	**42.94**	**43**	*e*P		**P**	**17 25 08.9**	**+0.3**
	comp=Z,51nm,1.1s							
SMRI	**Semarang**	**43.16**	**354**	P		**P**	**17 25 09.3**	**-1.1**
	comp=Z,78nm,1.0s							
LEM	**Lembang**	**43.65**	**350**	P		**P**	**17 25 14.9**	**+0.5**
	comp=Z,10nm,0.4s,baz=275,slow=15,SNR=2.3							
LEM				LR		LR	17 39 18.7	
	comp=Z,5μm,21.8s,baz=172,slow=30							
URZ	**Urewera**	**45.01**	**99**	*e*P		**P**	**17 25 24.2**	**-0.8**
	comp=Z,33nm,0.9s							
KAPI	**Kappang**	**45.24**	**7**	P		**P**	**17 25 26.9**	**0.0**
	comp=Z,120nm,1.6s							
KAPI				LR		LR		
	comp=Z,1μm,19.0s							
NVL	**N'lazarevskaya**	**47.51**	**206**	*e*P		P	17 25 51.6	+7.4
NVL				pmax		pmax		
	comp=Z,19nm,1.0s							
PMG	**Port Moresby**	**48.74**	**45**	*e*P		**P**	**17 25 55.2**	**+0.8**
PMG				*e*			17 27 54.5	
PMG				pmax		pmax		
	comp=Z,106nm,1.3s							
PMG				MLR		MLR		
	comp=Z,3μm,21.0s							
PMG	**Port Moresby**	**48.74**	**45**	*e*P		**P**	**17 25 56.6**	**+2.2**
PMG	**Port Moresby**	**48.74**	**45**	*e*P		**P**	**17 25 55.2**	**+0.8**
	comp=Z,106nm,1.3s							
PMG				*e*PP		PP	17 27 54.5	+6.9
PMG				LR		LR		
	comp=Z,3μm,21.0s							
DZM	**Mont Dzumac**	**49.05**	**75**	*e*P		P	17 26 02.1	+5.3
	comp=Z,66nm,1.3s							
DZM	**Mont Dzumac**	**49.05**	**75**	*e*PP		PP	17 27 47.5	-2.8
	comp=Z,129nm,28.1s							
DZM				*e*S		**S**	**17 33 02.6**	**+1.6**
	comp=Z,2μm,27.4s							
DZM				*e*LR		LR	17 39 48.3	
	comp=Z,4μm,31.9s,baz=229							
FAKI	**Fak Fak**	**49.41**	**23**	P		**P**	**17 25 59.4**	**-0.1**
	comp=Z,270nm,2.1s							
LUWI	**Luwuk**	**49.46**	**11**	P		**P**	**17 25 59.2**	**-0.7**
	comp=Z,96nm,1.3s							
SNAA	**Sanae**	**50.74**	**201**	P		**P**	**17 26 09.4**	**+0.3**
SNAA	**Sanae**	**50.74**	**201**	P		**P**	**17 26 09.7**	**+0.7**
	comp=Z,6.7nm,1.2s,baz=153,slow=9.9,SNR=6.2							
SNAA	**Sanae**	**50.74**	**201**	*e*P		**P**	**17 26 06.5**	**-2.6**
SNAA				pmax		pmax		
	comp=Z,10.0nm,1.8s							
SNAA	**Sanae**	**50.74**	**201**	*e*P		**P**	**17 26 08.6**	**-0.4**
	comp=Z,23nm,1.0s							
KSM	**Kuching**	**51.62**	**354**	⇓P		P	17 26 21.1	+5.0
KSM	**Kuching**	**51.62**	**354**	*e*P		**P**	**17 26 16.7**	**+0.5**
	comp=Z,41nm,1.3s							
KSM				LR		LR		
	comp=Z,2μm,20.0s							
BKNI	**Bangkinang**	**51.69**	**342**	*e*P		**P**	**17 26 17.1**	**+0.4**
	comp=Z,156nm,1.3s							
TNTI	**Ternate**	**51.93**	**16**	P		**P**	**17 26 16.1**	**-2.4**
VNA2	**Neumayer--Watz**	**52.31**	**201**	P		**P**	**17 26 19.1**	**-1.6**
	baz=123,slow=1.8							
JAY	**Jayapura**	**52.38**	**34**	P		**P**	**17 26 21.8**	**-0.1**
	comp=Z,6.6nm,0.9s,baz=207,slow=9.5,SNR=3.8							
VNA3	**Neumayer Olymp**	**52.58**	**200**	P		**P**	**17 26 22.2**	**-0.5**
MYKOM	**Kota Tinggi**	**52.63**	**346**	⇑P		**P**	**17 26 26.0**	**+2.4**
VNA1	**Neumayer--Stat**	**52.71**	**201**	P		P	17 26 31.4	+7.7
KGM	**Kluang**	**52.94**	**346**	⇓P		P	17 26 29.2	+3.3
BTM	**Bintulu**	**53.22**	**358**	⇑P		P	17 26 34.5	+6.4
GSI	**Gunungsitoli**	**53.38**	**338**	*e*P		**P**	**17 26 26.5**	**-2.7**
	comp=Z,64nm,1.0s							
RAO	**Raoul Island**	**53.94**	**94**	LR		LR	17 46 31.1	
	comp=Z,528nm,18.4s,baz=110,slow=33							
TSM	**Tawau**	**54.35**	**4**	⇓P		P	17 26 42.1	+5.8
FRIM	**Kepong**	**54.42**	**344**	⇑P		P	17 26 43.2	+6.4
PSI	**Prapat**	**54.52**	**340**	P		**P**	**17 26 38.4**	**+0.7**
	comp=Z,5.0nm,0.6s,baz=193,slow=11,SNR=2.8							
PSI				LR		LR	17 45 29.5	
	comp=Z,3μm,21.0s,baz=198,slow=31							
H08S2	**Diego Garcia H**	**55.05**	**306**	T		T	18 25 31.5	
	baz=148,slow=76,SNR=67							
H08S1	**Diego Garcia H**	**55.06**	**306**	T		T	18 25 32.6	
	baz=148,slow=76,SNR=41							
H08S3	**Diego Garcia H**	**55.07**	**306**	T		T	18 25 34.9	
	baz=148,slow=76,SNR=68							
HNR	**Honiara**	**55.16**	**59**	PFAKE			17 26 50.0	+7.7
HNR				LR		LR		
	comp=Z,2μm,19.0s							
DGAR	**Diego Garcia**	**55.27**	**306**	PFAKE			17 26 50.0	+7.0
DGAR				LR		LR		
	comp=Z,2μm,20.0s							
SDKM	**Sandakan**	**55.66**	**3**	⇑P		P	17 26 50.1	+4.3
IPM	**Ipoh**	**55.74**	**343**	⇑P		P	17 26 49.6	+3.3
IPM	**Ipoh**	**55.74**	**343**	*e*P		**P**	**17 26 47.8**	**+1.4**
	comp=Z,72nm,1.0s							
KKM	**Kota Kinabalu**	**56.04**	**2**	⇑P		P	17 26 54.6	+6.1
KKM	**Kota Kinabalu**	**56.04**	**2**	P		**P**	**17 26 46.8**	**-1.7**
KKM				LR		LR		
	comp=Z,757nm,22.0s							
KULM	**Kulim**	**56.60**	**343**	⇓P		P	17 26 56.0	+3.5
KULM	**Kulim**	**56.60**	**343**	*e*P		**P**	**17 26 53.3**	**+0.8**
	comp=Z,90nm,1.1s							
KULM				LR		LR		
	comp=Z,2μm,22.0s							
KDM	**Kudat**	**56.92**	**3**	⇑P		P	17 27 00.3	+5.6
DAV	**Davao City (W)**	**57.82**	**13**	PFAKE			17 27 10.0	+8.9
DAV				LR		LR		
	comp=Z,1μm,21.0s							
MSVF	**Nonsavu**	**59.55**	**81**	P		**P**	**17 27 11.3**	**-2.0**
MSVF				pmax		pmax		
	comp=Z,44nm,1.1s							
MSVF				MLR		MLR		
	comp=Z,2μm,19.0s							
MSVF	**Nonsavu**	**59.55**	**81**	P		**P**	**17 27 11.3**	**-2.0**
	comp=Z,44nm,1.1s							
MSVF				LR		LR		
	comp=Z,2μm,19.0s							
ABPO	**Ambohimpanom**	**61.25**	**275**	PFAKE			17 27 40.0	+15
ABPO				LR		LR		
	comp=Z,1μm,20.0s							
DLV	**T Lat**	**62.13**	**353**	P		**P**	**17 27 30.0**	**-0.8**
CHBT	**CHBT**	**63.63**	**346**	P		P	17 27 45.9	+5.3
	comp=Z,32nm,1.1s							
PALK	**Pallekele**	**64.41**	**322**	*e*P		P	17 27 41.2	-4.7
PALK				pmax		pmax		
	comp=Z,34nm,1.3s							
PALK	**Pallekele**	**64.41**	**322**	*e*P		P	17 27 41.2	-4.7
	comp=Z,34nm,1.3s							
MSEY	**Mahe Island**	**67.07**	**292**	PFAKE			17 28 20.0	+17
MSEY				LR		LR		
	comp=Z,2μm,19.0s							
PBKT	**Sadao Pong**	**67.58**	**346**	P		P	17 28 10.7	+4.6
	comp=Z,25nm,1.2s							
SUR	**Sutherland**	**68.20**	**245**	P		**P**	**17 28 12.8**	**+2.5**
	comp=Z,6.2nm,0.8s,baz=170,slow=11,SNR=3.1							
SUR	**Sutherland**	**68.20**	**245**	P		**P**	**17 28 12.8**	**+2.5**
SUR				LR		LR		
	comp=Z,874nm,22.0s							
UTTA	**Uttaradit**	**68.80**	**346**	P		P	17 28 18.7	+5.0
	comp=Z,4.4nm,0.9s							
GUMO	**Guam**	**68.82**	**32**	PFAKE			17 28 30.0	+16
GUMO				LR		LR		
	comp=Z,61nm,22.0s							
AFI	**Afiamalu**	**68.89**	**86**	PFAKE			17 28 30.0	+15
AFI				LR		LR		
	comp=Z,1μm,20.0s							
QIZ	**Qiongzhong**	**69.06**	**355**	P		P	17 28 22.3	+6.9
QIZ				pP		pP	17 28 26.8	+6.5
QIZ				sP		sP	17 28 28.5	+6.4
QIZ				S		**S**	**17 37 25.5**	**+5.6**
QIZ				sS		sS	17 37 35.8	+7.8
QIZ				PMZ				
	comp=Z,21nm,2.1s							
QIZ				LN				
	comp=Z,870nm,21.8s							
QIZ				LZ				
	comp=Z,1μm,39.8s							
QIZ	**Qiongzhong**	**69.06**	**355**	PFAKE			17 28 30.0	+15
QIZ				LR		LR		
	comp=Z,1μm,22.0s							
MHMT	**Maesarieng**	**69.68**	**343**	P		P	17 28 31.4	+12
LAMP	**Lampang**	**69.72**	**345**	P		P	17 28 24.9	+5.5
	comp=Z,8.5nm,0.9s							
CM31	**Chiang Mai Arr**	**69.77**	**344**	*e*P		**P**	**17 28 18.5**	**-1.2**
	comp=Z,21nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.77**	**344**	P		**P**	**17 28 19.6**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=187,slow=5.5,SNR=13							
CMAR				LR		LR	17 58 13.6	
	comp=Z,671nm,18.9s,baz=189,slow=35							
CMAR	**Chiang Mai Arr**	**69.77**	**344**	*ce*P		**P**	**17 28 19.0**	**-0.8**
CMAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MDRS	**Chennai**	**69.88**	**324**	*ex*		**P**	**17 28 21.2**	**+0.7**
MDRS				*ex*		x	17 31 15.2	
MDRS				*ex*		x	17 37 17.2	
MDRS				*ex*		x	17 41 55.2	
MDRS				*ex*		x	17 52 55.2	
CMMT	**Chiang Mai**	**70.12**	**344**	P		P	17 28 27.0	+5.1
	comp=Z,28nm,1.1s							
CHTO	**Chiang Mai**	**70.12**	**344**	*e*P		**P**	**17 28 21.8**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,115nm,2.1s							
CHTO				MLR		MLR		
	comp=Z,870nm,20.0s							
CHTO	**Chiang Mai**	**70.12**	**344**	*e*P		**P**	**17 28 21.8**	**-0.1**
	comp=Z,115nm,2.1s							
CHTO				LR		LR		
	comp=Z,870nm,20.0s							
LBTB	**Lobatse**	**70.66**	**254**	P		**P**	**17 28 24.0**	**-1.5**
LBTB				pmax		pmax		
	comp=Z,8.0nm,1.2s							
LBTB	**Lobatse**	**70.66**	**254**	P		**P**	**17 28 24.0**	**-1.5**
	comp=Z,8.5nm,1.2s							
SKHT	**Srikalahasti**	**70.70**	**324**	*e*P		**P**	**17 28 25.6**	**+0.2**
RAR	**Rarotonga**	**71.18**	**101**	PFAKE			17 28 40.0	+11
RAR				LR		LR		
	comp=Z,3.0nm,20.0s							
CMAI	**Chiengmai2**	**71.19**	**344**	P		P	17 28 33.6	+5.0
	comp=Z,18nm,1.8s							
CRAI	**Chiangrai**	**71.27**	**346**	P		P	17 28 25.5	-3.4
	comp=Z,252nm,1.1s							
URV	**Uravakonda**	**72.75**	**322**	*e*P		**P**	**17 28 36.9**	**-0.9**
HOPE	**Hope Point**	**73.11**	**197**	PFAKE			17 28 50.0	+10
HOPE				LR		LR		
	comp=Z,2μm,19.0s							
NJS	**Nagarjunasagar**	**73.42**	**325**	*e*P		**P**	**17 28 42.5**	**+0.7**
CHLP	**Challavanipeta**	**73.58**	**330**	*e*P		**P**	**17 28 42.1**	**-0.5**
CHLP				*es*P		**sP**	**17 28 48.1**	**-1.3**
SSLB	**Suanglung**	**73.87**	**6**	*e*P

EFI LR LR
comp=Z,3μm,20.0s
TSUM Tsumeb 79.92 252 *e*P **P 17 29 18.9 +0.1**
comp=Z,23nm,1.6s
TSUM LR LR
comp=Z,2μm,22.0s
ENH Enshi 80.26 355 P P 17 29 17.0 -3.1
ENH LR LR
comp=Z,366nm,20.0s
PPT2 Papeete2 80.26 106 *e*S **S 17 39 24.7 -0.8**
comp=Z,500nm,26.0s
PPT2 Papeete2 80.26 106 *e*LQ LQ 17 50 47.5
comp=Z,4μm,33.8s
PPT2 *e*LR LR 17 54 04.2
comp=Z,1μm,26.8s,baz=214
PPT Papeete 80.27 106 LR LR 17 57 43.5
comp=Z,575nm,21.2s,baz=230,slow=30
WHN Wuhan 80.39 360 P **P 17 29 21.5 +0.7**
WHN S **S 17 39 27.5 +1.6**
WHN LN
comp=Z,2μm,23.0s
WHN LE
comp=Z,930nm,15.8s
WHN LZ
comp=Z,2μm,28.1s
ODAN Odare 80.47 335 *e*P **P 17 29 20.2 -1.4**
comp=Z,40nm,1.0s
RAMN Ramite 80.77 335 *e*P **P 17 29 20.7 -2.5**
comp=Z,55nm,0.8s
TAPN Taplejung 80.85 336 *e*P **P 17 29 22.2 -1.5**
comp=Z,76nm,1.1s
KMBO Kilima Mbogo 81.12 279 LR LR 17 57 55.6
comp=Z,470nm,20.1s,baz=100,slow=30
SSE Sheshan 81.15 6 P P 17 29 30.8 +6.0
SSE S S 17 39 39.8 +6.0
SSE PMZ
comp=Z,59nm,0.7s
SSE PMZ
comp=Z,190nm,4.9s
SSE LN
comp=Z,520nm,28.0s
SSE LE
comp=Z,280nm,28.0s
SSE LZ
comp=Z,590nm,26.5s
CD2 Chengdu 81.34 350 P P 17 29 32.0 +6.1
CD2 PP PP 17 32 42.8 +11
CD2 S S 17 39 43.0 +7.0
CD2 SKS **SKSac 17 39 45.3 +0.9**
CD2 SS SS 17 45 06.5 +14
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,140nm,4.1s
CD2 LN
comp=Z,2μm,22.0s
CD2 LE
comp=Z,2μm,20.0s
CD2 LZ
comp=Z,2μm,21.5s
JIRN Jiri 81.55 335 *e*P **P 17 29 26.9 -0.6**
comp=Z,81nm,1.3s
PKI Pulchoki 81.69 334 *e*P **P 17 29 27.1 -1.1**
comp=Z,81nm,1.1s
PKIN Phulchoki 81.70 334 *e*P **P 17 29 25.7 -2.4**
comp=Z,53nm,1.5s
DMN Daman 81.81 334 *e*P **P 17 29 27.5 -1.2**
comp=Z,95nm,1.3s
GUN Gumba 81.88 334 *e*P **P 17 29 28.7 -0.5**
comp=Z,133nm,1.0s
KKN Kakani 81.93 334 *e*P **P 17 29 27.4 -1.9**
comp=Z,71nm,1.1s
NJ2 Nanjing 81.98 4 *e*P P 17 29 34.5 +5.4
NJ2 sP sP 17 29 39.5 +3.6
NJ2 S **SKSac 17 39 50.0 +1.5**
NJ2 sS **ScS 17 39 57.0 -1.6**
NJ2 SS SS 17 45 12.0 +10
NJ2 PMZ
comp=Z,40nm,0.6s
NJ2 PMZ
comp=Z,360nm,4.2s
NJ2 LN
comp=Z,410nm,26.1s
NJ2 LE
comp=Z,1μm,23.5s
NJ2 LZ
comp=Z,1μm,24.5s
LSA Lhasa 82.26 339 P **P 17 29 30.5 -0.8**
LSA Lhasa 82.26 339 *e*P **P 17 29 30.0 -1.3**
LSA pmax pmax
comp=Z,26nm,0.9s
LSA MLR MLR
comp=Z,1μm,21.0s
LSA Lhasa 82.26 339 *e*P **P 17 29 30.0 -1.3**
comp=Z,26nm,0.9s
LSA LR LR
comp=Z,1μm,21.0s
GKN Gorkha 82.31 333 *e*P **P 17 29 30.2 -1.0**
comp=Z,72nm,1.1s
KOLN Koldanda 82.40 332 *e*P **P 17 29 29.5 -2.2**
comp=Z,35nm,0.9s
PYUN Piuthan 82.89 332 *e*P **P 17 29 32.6 -1.7**
comp=Z,134nm,1.0s
XAN Xi'an 84.04 355 P **P 17 29 39.0 -0.8**
XAN PMZ
comp=Z,29nm,6.0s
XAN LN
comp=Z,610nm,22.9s
XAN LE
comp=Z,220nm,23.9s
XAN LZ
comp=Z,390nm,22.0s
RKT Rikitea 84.61 120 *e*LQ LQ 17 52 37.0
comp=Z,1μm,35.5s
RKT *e*LR LR 17 56 07.8
comp=Z,691nm,33.5s
TIA Tai'an 86.07 2 *e*P **P 17 29 50.5 +0.6**
TIA PMZ
comp=Z,30nm,1.6s
LZH Lanzhou 86.46 351 *e*P P 17 29 58.5 +6.4
LZH pP pP 17 30 02.3 +5.2
LZH sP sP 17 30 04.3 +5.4
LZH SKS **SKKSac 17 40 22.0 -3.6**
LZH *e*S **ScS 17 40 35.0 -0.8**
LZH sS sS 17 40 42.5 +6.8
LZH SS SS 17 46 21.3 +13
LZH PMZ
comp=Z,65nm,1.1s
LZH PMZ
comp=Z,300nm,4.3s
LZH LN
comp=Z,1μm,19.5s
LZH LE
comp=Z,630nm,13.8s
LZH LZ
comp=Z,1μm,19.7s
INCN Inchon 87.95 9 PFAKE 17 30 10.0 +11
INCN LR LR
comp=Z,548nm,21.0s
KSAR Wonju Array Be 88.05 10 P **P 17 30 00.2 +0.7**
KSAR Wonju Array Be 88.05 10 P **P 17 30 00.2 +0.7**
KSRS Korea Array 88.06 10 P **P 17 30 00.2 +0.7**
comp=Z,2.2nm,1.0s,baz=234,slow=30,SNR=4.4
KSRS LR LR 18 07 30.4
comp=Z,189nm,21.9s,baz=197,slow=34
MJAR Matsushiro Arr 88.84 19 P **P 17 30 03.2 -0.1**
comp=Z,2.4nm,0.8s,baz=184,slow=6.0,SNR=4.4
PLCA Paso Flores 89.32 176 P **P 17 30 06.8 +0.8**
comp=Z,3.3nm,1.0s,baz=152,slow=3.7,SNR=4.2
PLCA LR LR 18 06 28.9
comp=Z,2μm,21.7s,baz=191,slow=33
BJT Baijiatuau 89.86 1 PFAKE 17 30 20.0 +12
BJT LR LR
comp=Z,899nm,22.0s
BJI Beijing 89.88 1 P P 17 30 14.3 +6.3
BJI PP **PP 17 33 46.0 +4.7**
BJI S S 17 41 10.5 +11
BJI PMZ
comp=Z,21nm,1.3s
BJI PMZ
comp=Z,190nm,3.6s
BJI LN
comp=Z,230nm,28.2s
BJI LE
comp=Z,410nm,30.5s
BJI LZ
comp=Z,170nm,27.8s

GTA Gaotai 90.20 349 ‖P **P 17 30 10.3 +0.6**
GTA pP **pP 17 30 15.0 +0.2**
GTA sP **sP 17 30 17.3 +0.7**
GTA PP **PP 17 33 45.3 +1.2**
GTA SKS **SKSac 17 40 38.8 -1.1**
GTA S **S 17 41 00.3 -2.4**
GTA PMZ
comp=Z,6.0nm,1.8s
GTA PMZ
comp=Z,110nm,5.9s
GTA LN
comp=Z,680nm,20.9s
GTA LE
comp=Z,710nm,21.4s
GTA LZ
comp=Z,1μm,22.3s
HHC Hu-ho-hao-te 90.72 358 *e*P P 17 30 18.8 +6.7
HHC SKS **SKSac 17 40 49.0 +6.3**
HHC S **ScS 17 41 11.3 +0.5**
HHC SS SS 17 47 19.0 +8.5
HHC PMZ
comp=Z,11nm,1.2s
HHC PMZ
comp=Z,130nm,5.2s
HHC LN
comp=Z,690nm,18.5s
HHC LE
comp=Z,770nm,18.5s
HHC LZ
comp=Z,650nm,17.3s
TRQA Tornquist 92.06 183 PFAKE 17 30 30.0 +11
TRQA LR LR
comp=Z,2μm,20.0s
KBL Kabul 93.55 324 P **P 17 30 24.9 -0.6**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 93.55 324 P **P 17 30 24.9 -0.6**
comp=Z,11nm,1.0s
CN2 Changchun 94.09 8 *e*P P 17 30 32.8 +5.3
CN2 PMZ
comp=Z,20nm,1.5s
CN2 PMZ
comp=Z,200nm,4.0s
ERM Erimo 95.16 21 PFAKE 17 30 40.0 +7.6
ERM LR LR
comp=Z,719nm,19.0s
USRK Ussuriysk Ar. 95.22 12 LR LR 18 17 03.0
comp=Z,167nm,18.7s,baz=128,slow=38
MDJ Mudanjiang 95.33 11 PFAKE 17 30 40.0 +6.9
MDJ LR LR
comp=Z,772nm,19.0s
KSH Kashi 95.62 331 *e*P P 17 30 44.0 +9.2
KSH *e*pP pP 17 30 48.8 +9.0
KSH *e*PP PP 17 34 41.0 +14
KSH Kashi 95.62 331 SKS SKSac 17 41 18.8 +8.9
KSH Kashi 95.62 331 S S 17 42 01.0 +10
KSH pmax pmax
comp=Z,120nm,5.5s
KSH LR LR
comp=N,1μm,15.6s
KSH LR LR
comp=E,720nm,14.6s
KSH LR LR
comp=Z,800nm,13.9s
SHEL Horse Pasture 95.97 236 PFAKE 17 30 50.0 +13
SHEL LR LR
comp=Z,1μm,19.0s
WMQ Urumqi 96.57 341 P P 17 30 45.8 +6.9
WMQ pP pP 17 30 50.0 +6.1
WMQ sP sP 17 30 53.8 +8.1
WMQ PP PP 17 34 44.8 +11
WMQ PMZ
comp=Z,14nm,0.5s
WMQ PMZ
comp=Z,170nm,4.0s
WMQ LN
comp=Z,1μm,18.4s
WMQ LE
comp=Z,1μm,18.4s
WMQ LZ
comp=Z,1μm,29.2s
ULN Ulaanbaatar 97.92 355 *e*P Pdif 17 30 46.5 +1.5
ULN pmax pmax
comp=Z,2.0nm,1.2s
ULN Ulaanbaatar 97.92 355 *e*P Pdif 17 30 45.7 +0.7
comp=Z,3.8nm,0.9s
ULN LR LR
comp=Z,419nm,20.0s
SONM Songino Array 97.93 354 P **P 17 30 44.3 -0.7**
comp=Z,0.6nm,0.8s,baz=179,slow=1.7,SNR=4.2
SONM PP **PP 17 34 40.0 -4.4**
comp=Z,0.7nm,1.0s,baz=152,slow=6.7,SNR=4.2
SONM LR LR 18 13 44.5
comp=Z,757nm,22.0s,baz=166,slow=35
TKM2 Tokmak 2 98.84 332 PFAKE 17 31 00.0 +11
TKM2 LR LR
comp=Z,2μm,21.0s
AAK Ala-Archa 98.92 331 *i* P Pdif 17 30 50.7 +1.0
AAK pmax pmax
comp=Z,2.0nm,1.1s
AAK Ala-Archa 98.92 331 PFAKE 17 31 00.0 +10
AAK LR LR
comp=Z,3μm,22.0s
EKS2 Erkin-Say 99.17 331 PFAKE 17 31 00.0 +9.3
EKS2 LR LR
comp=Z,2μm,22.0s
HIA Hailar 99.19 3 PFAKE 17 31 00.0 +10
HIA LR LR
comp=Z,449nm,20.0s
ZAK Zakamensk 100.69 353 *e*P **Pdif 17 30 55.7 -1.5**
ZAK pmax pmax
comp=Z,2.0nm,2.4s
LCO Las Campanas 100.99 175 PFAKE 17 31 10.0 +10
LCO LR LR
comp=Z,2μm,22.0s
TLY Talaya 101.95 353 PFAKE 17 31 10.0 +7.3
TLY LR LR
comp=Z,759nm,21.0s
KURBB Kurchatov Arra 105.09 337 PKiKP **PKiKP 17 35 32.0 +1.1**
comp=Z,0.2nm,0.4s,baz=165,slow=4.8,SNR=3.4
KURK Kurchatov 105.16 337 PKiKP **PKiKP 17 35 32.0 +0.9**
KURK LR LR
comp=Z,884nm,20.0s
H10S2 ASCENSION HYDR 106.50 233 T T 19 31 17.2
baz=147,slow=75,SNR=33
H10S3 ASCENSION HYDR 106.52 233 T T 19 31 14.8
baz=147,slow=75,SNR=29
H10S1 ASCENSION HYDR 106.52 233 T T 19 31 18.4
baz=147,slow=75,SNR=36
ZALV Zalesovo Beam 106.79 342 PP PP 17 35 49.5 -1.1
comp=Z,0.3nm,0.4s,baz=167,slow=7.3,SNR=4.3
ASCN Ascension 107.23 234 PFAKE 17 35 50.0
ASCN LR LR
comp=Z,1μm,21.0s
LVC Limon Verde 107.43 176 PFAKE 17 35 50.0
LVC LR LR
comp=Z,1μm,21.0s
GNI Garni 108.87 310 PFAKE 17 35 50.0
GNI LR LR
comp=Z,627nm,19.0s
PET Petropavlovsk 109.34 26 PFAKE 17 35 50.0
PET LR LR
comp=Z,364nm,19.0s
BVAR Borovoye Array 109.45 333 PKiKP **PKiKP 17 35 40.9 +1.8**
comp=Z,0.2nm,0.4s,baz=282,slow=2.8,SNR=2.5
BRVK Borovoye 109.51 333 PFAKE 17 35 50.0
BRVK LR LR
comp=Z,3μm,22.0s
CSS Prodhromos 110.98 300 PFAKE 17 35 50.0
CSS LR LR
comp=Z,280nm,21.0s
KIV Kislovodsk 112.76 312 *i* PKIKP **PKiKP 17 35 43.9 -1.8**
KIV *e*PS **PS 17 46 06.3 -1.9**
KIV *e*SS SS 17 52 15.2 -0.9
KIV *e*SSS SSS 17 56 26.7
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,461nm,20.0s
KIV Kislovodsk 112.76 312 PFAKE 17 36 00.0
KIV LR LR
comp=Z,524nm,21.0s
ISP Isparta 114.61 300 PFAKE 17 36 00.0 +11
ISP LR LR
comp=Z,407nm,20.0s
ANTO Ankara 114.82 303 PFAKE 17 36 00.0 +10
ANTO LR LR
comp=Z,666nm,20.0s
ARU Arti 116.00 329 PFAKE 17 36 00.0 +8.6
ARU LR LR
comp=Z,1μm,20.0s
SANT Santorini 116.47 296 PKPdf **PKPdf 17 35 51.1 -1.9**
ADK Adak 117.13 40 PFAKE 17 36 10.0 +16
ADK LR LR
comp=Z,4μm,19.0s
NNA Nana 117.25 167 PFAKE 17 36 10.0 +15
NNA LR LR
comp=Z,656nm,22.0s
RCBR Riachuelo 118.67 214 PFAKE 17 36 10.0 +12
RCBR LR LR
comp=Z,571nm,20.0s
TAM Tamanrasset 119.35 271 PFAKE 17 36 10.0 +11
TAM LR LR
comp=Z,769nm,19.0s
SAML Samuel 121.06 182 PFAKE 17 36 10.0 +7.4
SAML LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 121.97 5 *i* PKIKP **PKPdf 17 36 01.9 -0.5**
TIXI Tiksi 121.97 5 *e*PKPdf **PKPdf 17 36 01.2 -1.2**
TIXI LR LR
comp=Z,931nm,19.0s
WDD Wield Dalam 122.64 288 PFAKE 17 36 20.0 +15
WDD LR LR
comp=Z,512nm,19.0s
CEL Celeste 123.37 291 PFAKE 17 36 20.0 +14
CEL LR LR
comp=Z,392nm,21.0s
TIP Timpagrande 123.45 293 PFAKE 17 36 20.0 +14
TIP LR LR
comp=Z,187nm,20.0s
OBN Obninsk 123.46 318 *e*PKIKP PKPdf 17 36 12.4 +6.7
OBN *e* 17 36 17.4
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN Obninsk 123.46 318 PFAKE 17 36 20.0 +14
OBN LR LR
comp=Z,659nm,20.0s
AK02 Malin Array Si 123.99 310 *e*PKPdf **PKPdf 17 36 04.0 -2.9**
AKASG Malin Array Be 124.00 310 PKP **PKPdf 17 36 07.0 +0.1**
comp=Z,0.6nm,0.6s,baz=239,slow=24,SNR=6.4
KIEV Kiev 124.01 310 PFAKE 17 36 20.0 +13
KIEV LR LR
comp=Z,586nm,21.0s
BILL Bilibino 124.04 21 *e*PKIKP **PKPdf 17 36 07.2 +0.7**
BILL *e* 17 36 13.8
BILL *e* 17 37 53.6
BILL pmax pmax
comp=Z,4.0nm,1.4s
BILL Bilibino 124.04 21 *e*PKPdf **PKPdf 17 36 06.0 -0.5**
BILL LR LR
comp=Z,1μm,20.0s
PRGR Permogore 124.31 327 PKIKP PKPdf 17 36 16.5 +9.3
PRGR pmax pmax
comp=Z,10.0nm,0.9s
CUC Castrocucco 124.53 293 PFAKE 17 36 20.0 +12
CUC LR LR
comp=Z,206nm,20.0s
CLTB Caltabellotta 124.55 289 PFAKE 17 36 20.0 +11
CLTB LR LR
comp=Z,213nm,19.0s
KEST Kesra 125.74 285 PKPdf **PKPdf 17 36 11.8 +0.9**
KLMR Klimovskoe 126.00 324 *e*PKIKP PKPdf 17 36 18.2 +7.8
KLMR pmax pmax
comp=Z,21nm,1.4s
LVV L'vov 126.07 307 *e*PKIKP PKPdf 17 36 27.1 +16
UZH Uzhgorod 126.26 305 *e*PKHKP PKPpre 17 35 57.4
KOLS Kolonicke sedl 126.45 305 *e*PKIKP PKPdf 17 36 17.6 +5.9
KOLS Kolonicke sedl 126.45 305 *e*PKP PKPdf 17 36 17.6 +5.9
CRVS Cervenica-Dubn 126.86 305 *e*PKIKP PKPdf 17 36 19.0 +6.5
CRVS Cervenica-Dubn 126.86 305 *e*PKP PKPdf 17 36 19.0 +6.5
PSZ Piszkesteto 127.11 303 PFAKE 17 36 20.0 +6.9
PSZ LR LR
comp=Z,368nm,20.0s
AQU L'Aquila 127.43 294 PFAKE 17 36 30.0 +16
AQU LR LR
comp=Z,341nm,19.0s
VYHS Vyhne 128.02 303 *e*PKP **PKPdf 17 36 16.4 +1.6**
VSL Villasalto 128.09 289 PFAKE 17 36 30.0 +15
VSL LR LR
comp=Z,489nm,20.0s
OTAV Otavalo 128.96 163 PKPdf **PKPdf 17 36 19.0 +0.8**
OTAV LR LR
comp=Z,581nm,19.0s
PTGA Pitinga 129.05 187 PFAKE 17 36 30.0 +12
PTGA LR LR
comp=Z,771nm,21.0s
SOKA Soboth 129.06 299↑ *i* PKPdf **PKPdf 17 36 16.2 -0.7**
comp=Z,6.2nm,1.0s
OKC Ostrava-Krasne 129.16 304 AMS AMS 18 31 00.0
comp=Z,500nm,18.6s
VLC Villacollemand 130.27 294 PFAKE 17 36 30.0 +11
VLC LR LR
comp=Z,359nm,20.0s
TREC Trest 130.29 302 AMS AMS 18 32 20.0
comp=Z,500nm,15.1s
DPC Dobruska-Polom 130.43 304 *e*PKP PKPdf 17 36 24.5 +5.2
DPC *ex* x 17 36 31.7
DPC *ex* x 17 36 36.8
DPC Dobruska-Polom 130.43 304 *e*PKIKP PKPdf 17 36 24.5 +5.2
DPC *e* 17 36 31.7
GOPC GO Pecny, Ondr 131.01 302 AMS AMS 18 41 30.0
comp=Z,500nm,17.6s
GERES GERESS Array B 131.02 301 PKP **PKPdf 17 36 18.9 -1.7**
comp=Z,0.2nm,0.4s,baz=116,slow=2.3,SNR=3.4
PRU Pruhonice 131.19 302 AMS AMS 18 32 10.0
comp=Z,600nm,21.2s
PRA Prague 131.29 302 AMS AMS 18 32 20.0
comp=Z,700nm,20.4s
SACV Santiago Islan 131.34 239 PFAKE 17 36 30.0 +7.9
SACV LR LR
comp=Z,436nm,20.0s
PVCC Panska Ves 131.46 303 AMS AMS 18 36 00.0
comp=Z,600nm,18.1s
KDAK Kodiak Island 131.55 46 PFAKE 17 36 30.0 +8.9
KDAK LR LR
comp=Z,3μm,19.0s
FINES FINESS Array B 131.66 320 PKP **PKPdf 17 36 20.4 -0.8**
comp=Z,1.3nm,0.9s,baz=27,slow=0.8,SNR=2.8
FETA Feichten 131.69 297↑ *i*sPKiKP PKiKP 17 36 29.2 +6.2
comp=Z,7.1nm,1.2s
LVZ Lovozero 131.86 330 PFAKE 17 36 30.0 +8.5
LVZ LR LR
comp=Z,933nm,20.0s
APA Apatity 132.09 329 *e*PKIKP PKPdf 17 36 31.2 +9.3
APA MLR MLR
comp=Z,3μm,21.0s
TUE Stuetta 132.18 296 PFAKE 17 36 30.0 +7.0
TUE LR LR
comp=Z,1μm,19.0s
CLL Collm 132.72 303 *e*(PKPdf) **PKPdf 17 36 23.0 -0.5**
CLL *e* 17 36 32.0
CLL *e* 17 36 35.0
CLL *e*PPS PPS 17 50 42.0
CLL *e*SS SS 17 56 27.0 -2.3
CLL *e*PSPS 17 57 11.0
CLL *e*SSS SSS 18 01 28.0
CLL Lm MLR 18 33 00.0
comp=N,300nm,20.0s
CLL Lm MLR 18 33 00.0
comp=E,300nm,20.6s
CLL Lm MLR 18 33 00.0
comp=Z,400nm,19.9s
CLL Collm 132.72 303 *e*PKIKP **PKPdf 17 36 23.0 -0.5**
CLL MLR MLR
comp=Z,400nm,19.9s
BNI Bardonecchia 132.96 293 PFAKE 17 36 40.0 +16
BNI LR LR
comp=Z,564nm,22.0s
BFO Black Forest 133.76 298 PFAKE 17 36 40.0 +14
BFO LR LR
comp=Z,397nm,21.0s
SSB Saint Sauveur 134.36 292 PFAKE 17 36 40.0 +13
SSB LR LR
comp=Z,453nm,20.0s
ECH Echery 134.37 297 PFAKE 17 36 40.0 +13
ECH LR LR
comp=Z,423nm,21.0s
IM04 Indian Mountai 134.91 35 *e*PKPdf **PKPdf 17 36 26.9 -0.4**
PAGF Fort de Pagny 135.37 297 *e*PKIKP **PKPdf 17 36 30.9 +2.3**
comp=Z,5.6nm,1.1s
PAGF Fort de Pagny 135.37 297 *e*PKPdf **PKPdf 17 36 30.9 +2.3**

CAF	Calviac	135.65	290	ePKIKP	PKPdf	17 36 32.0	+2.7		comp=Z,150nm,1.2s	
CAF	Calviac	135.65	290	ePKIKP	PKPdf	17 36 32.0	+2.7			
CAF	Calviac	135.65	290	ePKPdf	PKPdf	17 36 32.0	+2.7			
WLF	Walferdange	135.67	298	PFAKE		17 36 40.0	+11			
WLF				LR	LR					
	comp=Z,440nm,19.0s									
MCK	McKinley	135.88	39	ePKIKP	PKPdf	17 36 30.1	+1.0			
MCK	McKinley	135.88	39	ePKPdf	PKPdf	17 36 30.1	+1.0			
RJF	Les Rejaudoux	136.18	290	ePKIKP	PKPdf	17 36 33.1	+2.8			
RJF	Les Rejaudoux	136.18	290	ePKIKP	PKPdf	17 36 33.1	+2.8			
RJF	Les Rejaudoux	136.18	290	ePKPdf	PKPdf	17 36 33.1	+2.8			
ESDC	Sonseca Array	136.49	280	PKP	PKPdf	17 36 30.7	-0.4			
	comp=Z,0.1nm,0.3s,baz=1.2,slow=0.7,SNR=2.6									
PAB	San Pablo	136.66	280	PFAKE		17 36 40.0	+8.6			
PAB				LR	LR					
	comp=Z,570nm,20.0s									
SJPF	Ste Jean	136.69	286	ePKIKP	PKPdf	17 36 33.0	+1.7			
	comp=Z,300nm,1.4s									
SJPF	Ste Jean	136.69	286	ePKIKP	PKPdf	17 36 33.0	+1.7			
SJPF	Ste Jean	136.69	286	ePKPdf	PKPdf	17 36 33.0	+1.7			
COLA	College	136.75	38	PFAKE		17 36 40.0	+9.4			
COLA				LR	LR					
	comp=Z,980nm,19.0s									
JTS	JuntasAbangare	137.01	151	PFAKE		17 36 40.0	+7.2			
JTS				LR	LR					
	comp=Z,414nm,21.0s									
ILAR	Eielson Array	137.10	39	PKP	PKPdf	17 36 29.9	-1.5			
	comp=Z,0.6nm,0.9s,baz=253,slow=2.9,SNR=4.7									
BCIP	Isla Barro Col	137.34	159	PFAKE		17 36 50.0	+17			
BCIP				LR	LR					
	comp=Z,300nm,20.0s									
NB2	NORSAR Subarra	137.94	315	P	PKPdf	17 36 32.6	-0.4			
	comp=Z,2.5nm,1.0s,baz=43,slow=5.1									
NOA	NORSAR Array B	137.94	315	PKP	PKPdf	17 36 34.3	+1.2			
	comp=Z,1.8nm,0.9s,baz=102,slow=3.8,SNR=3.1									
KONO	Kongsberg	138.18	313	PFAKE		17 36 50.0	+17			
KONO				LR	LR					
	comp=Z,698nm,20.0s									
SDV	Santo Domingo	138.57	172	PFAKE		17 36 50.0	+14			
SDV				LR	LR					
	comp=Z,709nm,20.0s									
MTE	Manteigas	139.17	279	PFAKE		17 36 50.0	+14			
MTE				LR	LR					
	comp=Z,554nm,22.0s									
PFO	Pinyon Flats O	139.32	94	PFAKE		17 36 50.0	+13			
PFO				LR	LR					
	comp=Z,620nm,20.0s									
EGAK	Eagle	139.42	40	PFAKE		17 36 50.0	+14			
EGAK				LR	LR					
	comp=Z,1μm,19.0s									
WRAK	Wrangell Islan	140.91	54	PFAKE		17 36 50.0	+11			
WRAK				LR	LR					
	comp=Z,1μm,21.0s									
KBS	Kingsbay	141.19	342	PFAKE		17 36 50.0	+12			
KBS				LR	LR					
	comp=Z,1μm,20.0s									
GRGR	Grenville	141.92	186	PFAKE		17 36 50.0	+8.3			
GRGR				LR	LR					
	comp=Z,708nm,21.0s									
TUC	Tucson	142.09	101	PFAKE		17 36 50.0	+8.4			
TUC				LR	LR					
	comp=Z,493nm,19.0s									
NLWA	Neilton Lookou	142.16	71	PFAKE		17 36 50.0	+8.8			
NLWA				LR	LR					
	comp=Z,870nm,20.0s									
WVOR	Wild Horse Val	143.04	81	PFAKE		17 36 50.0	+7.0			
WVOR				LR	LR					
	comp=Z,769nm,20.0s									
INK	Inuvik	143.12	35	PKP	PKPdf	17 36 42.0	-0.1			
	comp=Z,2.7nm,0.9s,baz=0.0,slow=0.0,SNR=3.7									
INK	Inuvik	143.12	35	ePKIKP	PKPbc	17 36 40.6	+1.5			
INK						17 36 42.0				
INK	Inuvik	143.12	35	ePKPdf	PKPbc	17 36 40.6	+1.5			
INK				PKP	PKPdf	17 36 42.0	-0.1			
ESK	Eskdalemuir	143.20	303	PFAKE		17 36 50.0	+7.3			
ESK				LR	LR					
	comp=Z,649nm,20.0s									
CCUT	Cedar City	143.73	92	ePKPdf	PKPbc	17 36 42.7	+0.6			
U15A	North Rim	143.75	94	⇑PKiKP	PKPdf	17 36 44.6	-0.1			
	baz=144									
WUAZ	Wupatki	143.77	96	⇑PKiKP	PKPdf	17 36 44.1	-0.5			
	baz=144									
WUAZ	Wupatki	143.77	96	ePKPdf	PKPbc	17 36 43.0	+0.8			
WUAZ				LR	LR					
	comp=Z,582nm,20.0s									
X18A	Snowflake	144.06	99	⇑PKiKP	PKPdf	17 36 44.8	-0.3			
	baz=144									
121A	Cookes Peak, D	144.12	103	⇓PKiKP	PKPdf	17 36 45.3	0.0			
	baz=144									
121A	Cookes Peak, D	144.12	103	ePKPdf	PKPbc	17 36 44.2	+0.8			
ELK	Elko	144.32	86	PKP	PKPdf	17 36 45.4	-0.1			
	comp=Z,4.9nm,0.8s,baz=181,slow=2.4,SNR=9.7									
HAWA	Hanford	144.38	75	PFAKE		17 37 00.0	+15			
HAWA				LR	LR					
	comp=Z,586nm,19.0s									
TXAR	Lajitas Array	144.41	111	PKP	PKPdf	17 36 45.6	-0.2			
	comp=Z,3.5nm,0.9s,baz=193,slow=4.9,SNR=17									
FDF	Fort de France	144.46	187	PFAKE		17 37 00.0	+14			
FDF				LR	LR					
	comp=Z,585nm,21.0s									
W18A	Petrified Fore	144.57	98	⇑PKiKP	PKPdf	17 36 46.2	+0.2			
	baz=145									
W18A	Petrified Fore	144.57	98	ePKPdf	PKPab	17 36 43.2	-1.4			
TEIG	Tepich	144.97	140	PFAKE		17 37 00.0	+13			
TEIG				LR	LR					
	comp=Z,529nm,22.0s									
MVU	Marysvale	145.02	91	ePKPdf	PKPbc	17 36 45.8	-0.3			
MNTX	Cornudas Mount	145.05	107	⇑PKiKP	PKPdf	17 36 47.2	+0.5			
	baz=145									
MNTX	Cornudas Mount	145.05	107	ePKPdf	PKPdf	17 36 46.7	0.0			
MNTX				LR	LR					
	comp=Z,473nm,21.0s									
BMO	Blue Mountains	145.07	78	ePKIKP	PKPab	17 36 46.2	+0.2			
BMO				MLR	MLR					
	comp=Z,741nm,22.0s									
BMO	Blue Mountains	145.07	78	ePKPdf	PKPab	17 36 46.2	+0.2			
BMO				LR	LR					
	comp=Z,741nm,22.0s									
MFID	Camas Ranch	145.31	81	ePKPdf	PKPbc	17 36 45.5	-1.3			
DUG	Dugway, Tooele	145.58	88	ePKIKP	PKPab	17 36 49.1	+1.0			
DUG				MLR	MLR					
	comp=Z,592nm,20.0s									
DUG	Dugway, Tooele	145.58	88	⇑PKiKP	PKPab	17 36 48.8	+0.8			
	baz=146									
DUG	Dugway, Tooele	145.58	88	ePKPdf	PKPab	17 36 49.0	+1.0			
DUG				LR	LR					
	comp=Z,592nm,20.0s									
034A	Hebbronville	145.60	120	⇓PKiKP	PKPdf	17 36 47.8	+0.1			
	baz=146									
933A	Laredo	145.69	118	⇓PKiKP	PKPbc	17 36 48.2	-0.1			
	baz=146									
LENM	Lemitar	145.71	102	ePKPdf	PKPdf	17 36 46.9	-1.1			
LAZ	Ladron	145.76	101	ePKPdf	PKPdf	17 36 47.6	-0.4			
832A	Faith Ranch, C	145.81	117	⇓PKiKP	PKPab	17 36 49.1	0.0			
	baz=146									
BGU	Big Grassy Mou	145.83	87	ePKPdf	PKPab	17 36 49.4	+0.4			
529A	Stev Forest Ra	145.85	112	⇑PKiKP	PKPab	17 36 49.7	+0.4			
	baz=146									
NLU	North Lily Min	145.92	89	ePKPbc	PKPab	17 36 50.6	+1.1			
TMUT	Trail Mountain	146.11	91	ePKPdf	PKPab	17 36 50.6	+0.2			
732A	Laxson Ranch,	146.14	116	⇑PKiKP	PKPab	17 36 50.9	+0.6			
	baz=146									
833A	Chaparral WMA,	146.17	117	⇑PKiKP	PKPab	17 36 51.4	+1.0			
	baz=146									
MPU	Maple Canyon	146.24	89	ePKPdf	PKPdf	17 36 48.4	-0.4			
HLID	Hailey	146.29	82	⇓PKiKP	PKiKP	17 36 52.0	-1.0			
	baz=146									
HLID	Hailey	146.29	82	ePKPdf	PKPbc	17 36 50.0	+0.1			
HLID				LR	LR					
	comp=Z,558nm,19.0s									
631A	Perdido Creek	146.30	115	⇓PKiKP	PKPab	17 36 51.0	+0.1			
	baz=146									
530A	J-C Ranch, Com	146.39	113	⇓PKiKP	PKPab	17 36 51.3	0.0			
	baz=146									
429A	Davenport Ranc	146.41	112	⇑PKiKP	PKPab	17 36 51.2	-0.2			
	baz=146									
KVTX	Kingsville	146.41	120	PFAKE		17 37 00.0	+8.7			
KVTX				LR	LR					
	comp=Z,822nm,19.0s									
HVU	Hansel Valley	146.44	86	ePKP2	PKPab	17 36 51.1	-0.2			
HVU	Hansel Valley	146.44	86	ePKPbc	PKPab	17 36 51.1	-0.2			
SRU	San Rafael Swe	146.45	92	ePKP2	PKPab	17 36 52.8	+1.3			
SRU	San Rafael Swe	146.45	92	ePKPbc	PKPab	17 36 52.8	+1.3			
834A	Tilden	146.49	119	⇓PKiKP	PKPbc	17 36 51.0	+0.3			
	baz=147									
733A	Divot King Ran	146.52	117	⇓PKiKP	PKPab	17 36 51.8	+0.1			
	baz=147									
ANMO	Albuquerque	146.54	101	PKPbc	PKPab	17 36 52.7	+0.8			
	comp=Z,7.2nm,1.0s,baz=190,slow=4.2,SNR=11									
ANMO	Albuquerque	146.54	101	ePKP2	PKPab	17 36 51.5	-0.4			
ANMO				MLR	MLR					
	comp=Z,539nm,19.0s									
ANMO	Albuquerque	146.54	101	ePKPdf	PKPab	17 36 51.5	-0.4			
ANMO				PKPbc	PKPab	17 36 52.7	+0.8			
ANMO				LR	LR					
	comp=Z,539nm,19.0s									
MTDJ	Mount Denham	146.62	158	PFAKE		17 37 00.0	+7.6			
MTDJ				LR	LR					
	comp=Z,397nm,20.0s									
MVCO	Mesa Verde	146.64	96	⇓PKiKP	PKPab	17 36 52.5	+0.2			
	baz=147									
MVCO	Mesa Verde	146.64	96	ePKPdf	PKPab	17 36 52.0	-0.4			
MVCO				LR	LR					
	comp=Z,696nm,21.0s									
NEW	Newport	146.65	73	PKPbc	PKPab	17 36 51.7	-0.1			
	comp=Z,2.0nm,0.6s,baz=343,slow=4.0,SNR=3.7									
NEW	Newport	146.65	73	PKP2	PKPab	17 36 51.7	-0.1			
NEW				MLR	MLR					
	comp=Z,584nm,21.0s									
NEW	Newport	146.65	73	⇑PKiKP	PKiKP	17 36 53.2	-0.1			
	baz=147									
NEW	Newport	146.65	73	PKPbc	PKPab	17 36 51.7	-0.1			
NEW				LR	LR					
	comp=Z,584nm,21.0s									
632A	Uvalde	146.83	116	⇑PKiKP	PKPab	17 36 52.6	-0.4			
	baz=147									
531A	Rocksprings	146.87	114	⇓PKiKP	PKPbc	17 36 52.4	+0.6			
	baz=147									
430A	Baggett Ranch,	146.92	112	⇓PKiKP	PKPab	17 36 53.0	-0.3			
	baz=147									
329A	Wagon Wheel Ra	146.97	111	⇑PKiKP	PKPab	17 36 53.8	+0.2			
	baz=147									
HWUT	Hardware Ranch	147.13	87	PFAKE		17 37 00.0	+5.9			
HWUT				LR	LR					
	comp=Z,447nm,20.0s									
PV01	Paradox Valley	147.14	95	ePKPbc	PKPbc	17 36 53.1	+0.6			
633A	Saathoff Ranch	147.15	116	⇑PKiKP	PKPab	17 36 53.8	-0.5			
	baz=147									
431A	Sonora	147.21	113	⇑PKiKP	PKPab	17 36 54.1	-0.4			
	baz=147									
532A	Rocksprings	147.22	115	⇑PKiKP	PKPab	17 36 54.3	-0.3			
	baz=147									
330A	Mertzon	147.40	112	⇑PKiKP	PKPbc	17 36 53.8	+0.6			
	baz=148									
ANWB	Willy Bob	147.42	186	PFAKE		17 37 00.0	+4.6			
ANWB				LR	LR					
	comp=Z,583nm,22.0s									
128A	Castleberry Fa	147.46	108	⇓PKiKP	PKPbc	17 36 54.5	+1.0			
	baz=148									
JCT	Junction City	147.54	114	ePKP2	PKPbc	17 36 54.2	+0.6			
JCT				MLR	MLR					
	comp=Z,540nm,22.0s									
JCT	Junction City	147.54	114	ePKPbc	PKPbc	17 36 54.2	+0.6			
JCT				LR	LR					
	comp=Z,540nm,22.0s									
331A	San Angelo	147.77	112	⇓PKiKP	PKiKP	17 36 55.3	-0.9			
	baz=148									
230A	Sterling City	147.78	111	⇑PKiKP	PKiKP	17 36 55.5	-0.8			
	baz=148									
MCMT	McKenzie Canyo	147.87	81	ePKPdf	PKPdf	17 36 50.2	-1.1			
DAG	Danmarks Havn	147.92	342	ePKIKP	PKPdf	17 36 50.2	+0.1			
DAG				pmax	pmax					
	comp=Z,770nm,2.1s									
DAG	Danmarks Havn	147.92	342	*i* P	PKPdf	17 36 50.2	+0.1			
	comp=Z,116nm,2.1s									
BSMT	Bassoo Peak	147.93	75	ePKPbc	PKPbc	17 36 54.6	+0.3			
SJG	San Juan	147.97	178	PFAKE		17 37 00.0	+2.4			
SJG				LR	LR					
	comp=Z,526nm,22.0s									
AHID	Auburn Hatcher	148.01	86	PFAKE		17 37 00.0	+2.5			
AHID				LR	LR					
	comp=Z,772nm,20.0s									
S22A	4UR Ranch, Cre	148.03	97	⇓PKiKP	PKPbc	17 36 55.8	+0.7			
	baz=148									
LRS	Lares	148.13	177	ePKPdf	PKPdf	17 36 42.9	-9.4			
433A	Art	148.16	115	⇓PKiKP	PKPbc	17 36 55.3	0.0			
	baz=148									
MSTX	Muleshoe	148.20	106	⇑PKiKP	PKPbc	17 36 55.2	-0.2			
	baz=148									
MSTX	Muleshoe	148.20	106	ePKPbc	PKPbc	17 36 54.3	-1.1			
JTMT	Jette	148.20	75	ePKPbc	PKPbc	17 36 55.8	+0.8			
332A	Millersview	148.23	113	⇓PKiKP	PKPbc	17 36 55.2	-0.3			
	baz=148									
BLMT	Blacktail Moun	148.26	75	ePKPbc	PKPdf	17 36 53.5	+1.6			
231A	Bronte	148.29	112	⇑PKiKP	PKPbc	17 36 55.0	-0.5			
	baz=148									
SWMT	Swartz Lake	148.29	76	ePKPbc	PKPbc	17 36 55.1	-0.1			
Z29A	Hungry Hill Ra	148.37	108	⇑PKiKP	PKPbc	17 36 56.1	+0.3			
	baz=148									
YBMT	Yellow Bay	148.42	75	ePKPbc	PKPbc	17 36 55.8	+0.2			
SDDR	Presa de Saban	148.48	169	PFAKE		17 37 00.0	+0.3			
SDDR				LR	LR					
	comp=Z,487nm,21.0s									
535A	Dale	148.50	118	⇑PKiKP	PKPbc	17 36 55.6	-0.5			
	baz=149									
SLMT	Seeley Lake	148.50	76	ePKPbc	PKPbc	17 36 56.0	+0.2			
CHMT	Chamberlain Mo	148.51	77	ePKPbc	PKPbc	17 36 57.1	+1.1			
LRM	Limekiln Ridge	148.56	80	ePKPbc	PKPbc	17 36 55.2	-0.9			
333A	Richland Sprin	148.64	114	⇓PKiKP	PKPbc	17 36 57.1	+0.6			
	baz=149									
232A	Coleman	148.65	113	⇑PKiKP	PKPbc	17 36 57.3	+0.7			
	baz=149									
434A	Burnet	148.68	116	⇑PKiKP	PKPbc	17 36 57.4	+0.8			
	baz=149									
Z30A	Sanderson Ranc	148.74	109	⇓PKiKP	PKiKP	17 36 57.6	-0.6			
	baz=149									
131A	Roby	148.76	111	⇑PKiKP	PKiKP	17 36 57.8	-0.4			
	baz=149									
GTBY	Guantanamo Bay	148.79	162	PFAKE		17 37 00.0	-0.9			
GTBY				LR	LR					
	comp=Z,450nm,20.0s									
N20A	Spence Gulch,	148.85	91	⇓PKiKP	PKiKP	17 36 58.8	+0.4			
	baz=149									
SDCO	Great Sand Dun	148.87	98	⇓PKiKP	PKiKP	17 36 58.8	+0.1			
	baz=149									
I17A	Pilgrim Ck.	148.90	84	⇑PKiKP	PKiKP	17 36 59.1	+0.7			
	baz=149									
WALA	Waterton Lakes	148.92	73	ePKPbc	PKPbc	17 36 56.9	+0.1			
R23A	Moffat	148.93	97	⇑PKiKP	PKiKP	17 36 59.6	+0.9			
	baz=149									
YFT	Old Faithful	148.98	83	ePKPbc	PKPbc	17 36 57.1	-0.2			
YFT				ePKPab	PKPab	17 37 01.5	0.0			
YMR	Madison River	149.00	82	ePKPdf	PKPdf	17 36 52.7	-0.5			
BW06	Boulder Array	149.00	87	PFAKE		17 37 00.0	-1.6			
BW06				LR	LR					
	comp=Z,578nm,19.0s									
PDAR	Pinedale Array	149.00	87	PKPbc	PKPbc	17 36 58.0	+0.6			
	comp=Z,2.3nm,0.8s,baz=196,slow=5.3,SNR=2.8									
BOZ	Bozeman (W)	149.01	80	ePKIKP	PKPdf	17 36 54.3	+1.2			
BOZ				MLR	MLR					
	comp=Z,384nm,19.0s									
BOZ	Bozeman (W)	149.01	80	ePKPdf	PKPdf	17 36 54.3	+1.2			
BOZ				LR	LR					
	comp=Z,384nm,19.0s									
435B	Jarrell	149.05	117	⇓PKiKP	PKiKP	17 36 58.7	-0.1			
	baz=149									
334A	Lometa	149.08	115	⇑PKiKP	PKiKP	17 36 58.8	-0.1			
	baz=149									
H17A	Grant Village	149.12	83	ePKPbc	PKPbc	17 36 56.1	-1.5			
ABTX	Abilene, Hawle	149.18	112	⇑PKiKP	PKiKP	17 36 59.4	+0.3			
	baz=149									
ABTX	Abilene, Hawle	149.18	112	ePKPdf	PKPdf	17 36 54.3	+0.7			
X29A	Tulia	149.18	107	⇓PKiKP	PKiKP	17 36 59.3	+0.2			
	baz=149									
233A	Rising Star	149.19	113	⇓PKiKP	PKiKP	17 36 59.1	0.0			
	baz=149									
T25A	Trinidad	149.20	100	⇑PKiKP	PKiKP	17 36 59.4	+0.2			
	baz=149									
YNR	Norris Junctio	149.20	82	ePKPdf	PKPdf	17 36 51.8	-1.8			
LKWY	Lake	149.31	83	PFAKE		17 37 10.0	+7.2			
LKWY				LR	LR					
	comp=Z,766nm,19.0s									
HRY	Holter Researc	149.32	78	ePKPbc	PKPbc	17 36 56.6	-1.2			
Q23A	Hartsel	149.34	96	⇓PKiKP	PKPbc	17 36 59.0	+0.6			
	baz=149									
Z31A	Sharp Cattle R	149.36	110	⇓PKiKP	PKPbc	17 36 58.7	+0.4			
	baz=149									
HKT	Hockley	149.41	120	ePKP2	PKPbc	17 37 00.1	+1.7			
HKT	Hockley	149.41	120	ePKPbc	PKPbc	17 37 00.1	+1.7			
AMTX	Amarillo	149.48	106	⇓PKiKP	PKiKP	17 36 59.3	-0.4			
	baz=150									
AMTX	Amarillo	149.48	106	ePKPbc	PKPbc	17 36 59.0	+0.4			
335A	Moody	149.51	116	⇓PKiKP	PKPbc	17 36 59.2	+0.6			
	baz=150									
J19A	Crowheart	149.57	86	⇑PKiKP	PKiKP	17 37 00.0	+0.3			
	baz=150									
O22A	Kremmling	149.59	93	⇑PKiKP	PKPbc	17 36 59.6	+0.6			
	baz=150									
P23A	Jefferson	149.60	95	⇓PKiKP	PKPbc	17 36 59.3	+0.2			
	baz=150									
W29A	Amarillo	149.65	106	⇓PKiKP	PKiKP	17 36 59.8	-0.3			
	baz=150									
X30A	Coker Ranch, T	149.68	108	⇓PKiKP	PKPbc	17 36 59.5	+0.4			
	baz=150									
Y31A	Rekieta Farm,	149.73	109	⇑PKiKP	PKPbc	17 36 59.5	+0.4			
	baz=150									
T26A	Comanche Natio	149.74	101	⇑PKiKP	PKiKP	17 37 00.7	+0.4			
	baz=150									
Z32A	Haskell	149.75	111	⇓PKiKP	PKiKP	17 37 00.0	-0.2			
	baz=150									
U27A	Thompson Grove	149.76	103	⇓PKiKP	PKiKP	17 37 01.4	+1.1			
	baz=150									
Q24A	Divide	149.81	96	⇓PKiKP	PKiKP	17 37 01.8	+1.2			
	baz=150									
H18A	Shoshone NF, C	149.83	83	⇑PKiKP	PKiKP	17 37 01.3	+1.1			
	baz=150									
ISCO	Idaho Springs	149.99	95	ePKIKP	PKPbc	17 37 01.0	+1.0			
ISCO				MLR	MLR					
	comp=Z,697nm,19.0s									
ISCO	Idaho Springs	149.99	95	⇑PKiKP	PKiKP	17 37 01.6	+0.7			
	baz=150									
ISCO	Idaho Springs	149.99	95	ePKPbc	PKPbc	17 37 00.9	+1.0			
ISCO				LR	LR					
	comp=Z,697nm,19.0s									
N22A	Wattenberg Ran	149.99	92	⇑PKiKP	PKiKP	17 37 01.8	+1.1			
	baz=150									
WHTX	Lake Whitney,	150.01	115	⇑PKiKP	PKiKP	17 37 02.8	+2.0			
	baz=150									
WHTX	Lake Whitney,	150.01	115	ePKPdf	PKPdf	17 36 55.6	+0.7			
O23A	Lake Granby, G	150.02	94	⇓PKiKP	PKiKP	17 37 01.5	+0.6			
	baz=150									
S26A	Kim	150.09	100	⇓PKiKP	PKiKP	17 37 01.7	+0.7			
	baz=150									
U28A	Mallet	150.10	103	⇑PKiKP	PKiKP	17 37 01.8	+0.8			
	baz=150									
Z33A	Whitaker Ranch	150.16	112	⇓PKiKP	PKiKP	17 37 01.5	+0.5			
	baz=150									
T27A	Campo	150.22	102	⇓PKiKP	PKiKP	17 37 01.9	+0.6			
	baz=150									
V29A	Stinnett	150.22	105	⇑PKiKP	PKiKP	17 37 01.3	+0.1			
	baz=150									
J20A	Shoshoni	150.23	87	⇑PKiKP	PKiKP	17 37 02.7	+1.6			
	baz=150									
Y32A	R-V Farms, Ver	150.25	110	⇓PKiKP	PKiKP	17 37 01.7	+0.5			
	baz=150									
H19A	Powell	150.26	84	⇓PKiKP	PKiKP	17 37 02.5	+1.5			
	baz=150									
RLMT	Red Lodge	150.28	83	ePKPdf	PKPdf	17 36 54.2	-1.0			
RLMT				LR	LR					
	comp=Z,597nm,21.0s									
GCMT	Greycliff	150.31	81	ePKPdf	PKPdf	17 36 55.4	+0.2			
X31A	McDonald Ranch	150.35	108	⇑PKiKP	PKiKP	17 37 01.9	+0.5			
	baz=150									
N23A	Red Feather La	150.37	93	⇓PKiKP	PKiKP	17 37 03.1	+1.5			
	baz=150									
K21A	Alcova	150.42	88	⇑PKiKP	PKiKP	17 37 02.8	+1.3			
	baz=150									
I20A	Worland	150.48	86	⇑PKiKP	PKiKP	17 37 03.5	+1.9			
	baz=151									
R26A	Arlington	150.51	99	⇓PKiKP	PKiKP	17 37 02.7	+1.0			
	baz=151									
EDM	Edmonton	150.51	65	ePKIKP	PKPbc	17 36 58.9	-1.5			
EDM	Edmonton	150.51	65	ePKPbc	PKPbc	17 36 58.9	-1.5			
X32A	Elmer	150.63	109	⇑PKiKP	PKiKP	17 37 03.4	+1.4			
	baz=151									
T28A	Walsh	150.64	102	⇓PKiKP	PKiKP	17

N26A	**Koester Ranch,** baz=152	**152.08**	**95**	⇓PKPab	**PKPab**	**17 37 15.8**	**+1.6**
W34A	**Bridge Creek,** baz=152	**152.10**	**110**	⇑PKPab	**PKPab**	**17 37 16.6**	**+2.3**
C20A	**Veseth Ranch,** baz=152	**152.12**	**78**	⇓PKPab	**PKPab**	**17 37 16.6**	**+2.5**
T31A	**Randall Ranch,** baz=152	**152.15**	**105**	⇑PKPab	**PKPab**	**17 37 16.0**	**+1.5**
V33A	**Lossen Ranch,** baz=152	**152.18**	**108**	⇑PKPab	**PKPab**	**17 37 16.2**	**+1.6**
G22A	**Birney** baz=152	**152.22**	**84**	⇓PKPab	**PKPab**	**17 37 17.1**	**+2.4**
E21A	**Keefer Ranch,** baz=152	**152.26**	**81**	⇑PKPab	**PKPab**	**17 37 17.2**	**+2.4**
P28A	**Saint Francis** baz=152	**152.32**	**98**	⇑PKPab	**PKPab**	**17 37 17.3**	**+2.1**
J24A	**Dixon Ranch, L** baz=152	**152.42**	**89**	⇓PKiKP	**PKiKP**	**17 37 08.3**	**+2.8**
F22A	**Rosebud** baz=153	**152.48**	**83**	⇓PKPab	**PKPab**	**17 37 18.2**	**+2.5**
RES	**Resolute Bay** comp=Z,4.2nm,0.9s,baz=254,slow=2.1,SNR=8.5	**152.52**	**17**	PKPbc	**PKPbc**	**17 37 04.0**	**-0.4**
RES	**Resolute Bay**	**152.52**	**17**	PKIKP	**PKPbc**	**17 37 04.0**	**-0.4**
A20A	**Cobblestone Ra** baz=153	**152.57**	**76**	⇓PKPab	**PKPab**	**17 37 18.8**	**+2.8**
I24A	**Kuemmerle Ranc** baz=153	**152.69**	**88**	⇓PKiKP	**PKiKP**	**17 37 09.5**	**+3.4**
G23A	**Biddle** baz=153	**152.79**	**85**	⇓PKiKP	**PKiKP**	**17 37 09.7**	**+3.5**
LAO	**LASA Array**	**152.86**	**81**	PFAKE			17 37 10.0	+3.9
LAO				LR	LR			
	comp=Z,643nm,20.0s							
OGNE	**Ogallala**	**152.90**	**96**	PFAKE			17 37 10.0	+3.6
OGNE				LR	LR			
	comp=Z,696nm,22.0s							
R31A	**Burdett** baz=153	**152.97**	**103**	⇓PKPab	**PKPab**	**17 37 19.3**	**+1.4**
F23A	**Volborg** baz=153	**153.00**	**84**	⇑PKPab	**PKPab**	**17 37 20.4**	**+2.6**
U34A	**Anderson Ranch** baz=153	**153.04**	**108**	⇓PKPab	**PKPab**	**17 37 19.5**	**+1.3**
D22A	**Cohagen** baz=153	**153.06**	**81**	⇓PKPab	**PKPab**	**17 37 20.7**	**+2.6**
K26A	**Motz Farm, Whi** baz=153	**153.07**	**91**	⇓PKPab	**PKPab**	**17 37 19.7**	**+1.4**
X37A	**Clayton** baz=153	**153.09**	**114**	⇑PKiKP	**PKiKP**	**17 37 10.5**	**+3.5**
X37A				⇓PKPab	**PKPab**	**17 37 19.7**	**+1.2**
	baz=153							
H24A	**Dirks Ranch, A** baz=153	**153.13**	**86**	⇑PKPab	**PKPab**	**17 37 21.4**	**+2.8**
RSSD	**Black Hills**	**153.19**	**88**	*e*PKIKP	**PKPbc**	**17 37 06.1**	**-1.0**
RSSD	**Black Hills**	**153.19**	**88**	*e*PKPbc	**PKPbc**	**17 37 06.1**	**-1.0**
I25A	**Rochford** baz=153	**153.34**	**88**	⇑PKiKP	**PKiKP**	**17 37 10.8**	**+3.3**
J26A	**Sides Ranch, S** baz=154	**153.43**	**90**	⇓PKiKP	**PKiKP**	**17 37 10.9**	**+3.4**
Q31A	**Ellis** baz=154	**153.48**	**102**	⇑PKiKP	**PKiKP**	**17 37 10.8**	**+3.0**
TUL1	**Leonard** baz=154	**153.75**	**111**	⇓PKiKP	**PKiKP**	**17 37 11.2**	**+2.9**
I26A	**New Underwood** baz=154	**153.90**	**89**	⇓PKiKP	**PKiKP**	**17 37 11.8**	**+3.2**
Q32A	**Meitler Ranch,** baz=154	**154.00**	**103**	⇑PKiKP	**PKiKP**	**17 37 12.0**	**+3.2**
MIAR	**Mount Ida**	**154.10**	**116**	PFAKE			17 37 10.0	+0.9
MIAR				LR	LR			
	comp=Z,735nm,22.0s							
S34A	**Willow Spring** baz=154	**154.11**	**107**	⇑PKiKP	**PKiKP**	**17 37 11.9**	**+2.8**
SUMG	**Summit**	**154.61**	**342**	*e*PKIKP	**PKPbc**	**17 37 06.0**	**-3.5**
SUMG	**Summit**	**154.61**	**342**	*e*PKPbc	**PKPbc**	**17 37 06.9**	**-2.6**
SUMG	**Summit**	**154.61**	**342**	*i* P	**PKPbc**	**17 37 06.0**	**-3.5**
G26A	**Maurine** baz=155	**154.62**	**87**	⇓PKPab	**PKPab**	**17 37 27.3**	**+2.6**
J28A	**Allard Ranch,** baz=155	**154.66**	**92**	⇑PKiKP	**PKiKP**	**17 37 13.2**	**+3.1**
DGMT	**Dagmar**	**154.78**	**79**	PFAKE			17 37 10.0	-0.1
DGMT				LR	LR			
	comp=Z,557nm,20.0s							
BRAL	**Brewton**	**154.84**	**131**	PFAKE			17 37 10.0	-0.7
BRAL				LR	LR			
	comp=Z,693nm,20.0s							
I28A	**Midland** baz=155	**154.97**	**90**	⇑PKPab	**PKPab**	**17 37 28.9**	**+2.6**
G27A	**Dupree** baz=155	**155.08**	**87**	⇓PKPab	**PKPab**	**17 37 29.5**	**+2.7**
F27A	**Lemmon** baz=155	**155.23**	**86**	⇑PKPab	**PKPab**	**17 37 30.3**	**+3.0**
J29A	**Okreek** baz=155	**155.24**	**92**	⇓PKiKP	PKPdf	17 37 14.3	+12
KSU1	**Kansas State U** baz=155	**155.28**	**105**	⇓PKPab	**PKPab**	**17 37 29.4**	**+1.8**
KSU1	**Kansas State U**	**155.28**	**105**	PFAKE			17 37 10.0	+7.6
KSU1				LR	LR			
	comp=Z,605nm,21.0s							
D26A	**Manning** baz=156	**155.40**	**83**	⇓PKPab	**PKPab**	**17 37 30.1**	**+2.0**
R36A	**Gordon, Harris** baz=156	**155.49**	**107**	⇓PKPab	**PKPab**	**17 37 30.2**	**+1.6**
C26A	**Wahner Farm, P** baz=156	**155.90**	**81**	⇑PKPab	**PKPab**	**17 37 33.0**	**+2.9**
A26A	**Wade Farm, Ken** baz=156	**156.27**	**79**	⇓PKPab	**PKPab**	**17 37 33.8**	**+2.1**
F29A	**Eureka** baz=157	**156.62**	**87**	⇑PKPab	**PKPab**	**17 37 35.6**	**+2.4**
B28A	**Dugan Ranch, T** baz=157	**157.19**	**81**	⇓PKPab	**PKPab**	**17 37 37.8**	**+2.2**
D29A	**Pettibone, Tap** baz=157	**157.23**	**85**	⇑PKPab	**PKPab**	**17 37 38.3**	**+2.5**
FFC	**Flin Flon**	**157.37**	**64**	PFAKE			17 37 20.0	+15
FFC				LR	LR			
	comp=Z,848nm,21.0s							
A28A	**Rude Farm, Bot** baz=158	**157.39**	**80**	⇑PKPab	**PKPab**	**17 37 39.1**	**+2.5**
ECSD	**EROS Data Cent** baz=158	**157.77**	**95**	⇑PKPab	**PKPab**	**17 37 40.3**	**+2.0**
ECSD	**EROS Data Cent**	**157.77**	**95**	PFAKE			17 37 20.0	+14
ECSD				LR	LR			
	comp=Z,607nm,20.0s							
A29A	**Manning Farm,** baz=158	**158.05**	**80**	⇓PKPab	**PKPab**	**17 37 41.9**	**+2.5**
GOGA	**Godfrey**	**158.52**	**135**	PFAKE			17 37 20.0	+13
GOGA				LR	LR			
	comp=Z,574nm,19.0s							
SCIA	**State Center**	**159.01**	**103**	PFAKE			17 37 20.0	+13
SCIA				LR	LR			
	comp=Z,796nm,22.0s							
NHSC	**New Hope**	**159.67**	**142**	PFAKE			17 37 20.0	+12
NHSC				LR	LR			
	comp=Z,1μm,20.0s							
AGMN	**Agassiz Nation**	**160.01**	**84**	PFAKE			17 37 20.0	+12
AGMN				LR	LR			
	comp=Z,745nm,19.0s							
ULM	**Lac du Bonnet** comp=Z,3.2nm,1.0s,baz=249,slow=3.9,SNR=4.0	**160.49**	**78**	PKPab	**PKPab**	**17 37 50.0**	**+0.2**
HDIL	**Hopedale**	**160.64**	**111**	PFAKE			17 37 20.0	+11
HDIL				LR	LR			
	comp=Z,14μm,20.0s							
JFWS	**Jewell Farm**	**161.41**	**103**	PFAKE			17 37 20.0	+10
JFWS				LR	LR			
	comp=Z,798nm,19.0s							
SFJD	**Kangerlussuaq**	**161.60**	**342**	PFAKE			17 37 20.0	+11
SFJD				LR	LR			
	comp=Z,896nm,22.0s							
CNNC	**Cliffs of the**	**162.44**	**144**	PFAKE			17 37 20.0	+9.0
CNNC				LR	LR			
	comp=Z,2μm,21.0s							
EYMN	**Ely**	**162.71**	**87**	PFAKE			17 37 20.0	+9.1
EYMN				LR	LR			
	comp=Z,930nm,21.0s							
BLA	**Blacksburg**	**163.06**	**134**	PFAKE			17 37 20.0	+8.4
BLA				LR	LR			
	comp=Z,711nm,19.0s							
COWI	**Conover**	**163.58**	**95**	PFAKE			17 37 20.0	+8.2
COWI				LR	LR			
	comp=Z,810nm,20.0s							
ACSO	**Alum Creek Sta**	**164.07**	**122**	PFAKE			17 37 20.0	+7.6
ACSO				LR	LR			
	comp=Z,841nm,22.0s							
AAM	**Ann Arbor**	**165.06**	**115**	PFAKE			17 37 20.0	+6.8
AAM				LR	LR			
	comp=Z,935nm,21.0s							
CBN	**Corbin Frederi**	**165.22**	**140**	PFAKE			17 37 20.0	+6.6
CBN				LR	LR			
	comp=Z,841nm,22.0s							
GLMI	**Grayling**	**165.88**	**105**	PFAKE			17 37 20.0	+6.2
GLMI				LR	LR			
	comp=Z,1μm,21.0s							
ERPA	**Erie**	**167.00**	**123**	PFAKE			17 37 30.0	+15
ERPA				LR	LR			
	comp=Z,864nm,19.0s							
BINY	**Binghamton**	**169.09**	**133**	PFAKE			17 37 30.0	+14
BINY				LR	LR			
	comp=Z,1μm,21.0s							
NCB	**Newcomb**	**171.28**	**132**	PFAKE			17 37 30.0	+13
NCB				LR	LR			
	comp=Z,1μm,20.0s							
LONY	**Lake Ozonia**	**171.58**	**128**	PFAKE			17 37 30.0	+13
LONY				LR	LR			
	comp=Z,997nm,20.0s							
LBNH	**Lisbon**	**172.51**	**140**	PFAKE			17 37 30.0	+12
LBNH				LR	LR			
	comp=Z,1μm,22.0s							
PKME	**Peaks-Kenny Pk**	**174.36**	**150**	PFAKE			17 37 30.0	+11
PKME				LR	LR			
	comp=Z,759nm,20.0s							
SCHQ	**Schefferville** comp=Z,2.6nm,0.8s,baz=240,slow=8.1,SNR=3.4	**175.27**	**11**	PKPab	**PKPab**	**17 38 55.9**	**+1.0**

*ISCJB **27** 17:22:21.7±0.8,50°.14S±0°.10×114°.2E±0°.3,h15km, mb4.2/7, Error ellipse: s-maj=32.4km s-min=12.0km az=14.0*
*IDC **27** 17:22:21.2±1.2,50°.01S×113°.82E,h0km,mb4.2/5, mb1 4.4/5,mb1mx3.9/31,mbtmp4.2/5, Error ellipse: s-maj=45.5km s-min=25.0km az=108.0*
*NEIC **27** 17:22:22.7±0.7,50°.20S×114°.22E,h10km,mb4.6/3, Error ellipse: s-maj=31.3km s-min=11.2km az=103.0*

ISC 27 17:22:23.6±0.9,50°.1S±0°.1×114°.1E±0°.3,h15km,n22,
σ0s90/14,mb4.4/7,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=179,slow=74,SNR=50	**15.23**	**0**	T	T	17 41 24.4	
H01W1	**Cape Leeuwin H** baz=179,slow=74,SNR=29	**15.24**	**0**	T	T	17 41 24.4	
H01W3	**Cape Leeuwin H** baz=179,slow=74,SNR=33	**15.25**	**0**	T	T	17 41 24.4	
CASY	**Casey** 17nm,1.2s	**16.29**	**185**	*e*Pn	**Pn**	**17 26 10.6**	**-0.9**
NWAO	**Narrogin (SRO)** 0.3nm,0.3s,baz=222,slow=12,SNR=3.4	**17.36**	**9**	P	**P**	**17 26 27.6**	**+1.1**
FORT	**Forrest** 54nm,1.1s	**21.99**	**34**	P	**P**	**17 27 15.5**	**-1.5**
STKA	**Stephens Creek** 3.2nm,1.0s,baz=185,slow=11,SNR=2.8	**27.38**	**59**	P	**P**	**17 28 08.5**	**+0.2**
ASAR	**Alice Springs** 1.9nm,0.9s,baz=210,slow=7.4,SNR=8.3	**30.61**	**38**	P	**P**	**17 28 37.6**	**+0.6**
WRA	**Warramunga Arr** 3.6nm,0.7s,baz=202,slow=11,SNR=16	**34.15**	**35**	P	**P**	**17 29 08.0**	**-0.1**
WRAB	**Tennant Creek** 9.8nm,1.0s	**34.16**	**35**	*e*P	**P**	**17 29 07.3**	**-0.9**
QSPA	**South Pole Qui** 1.3nm,0.9s,baz=250,slow=1.7,SNR=5.2	**39.98**	**180**	P	**P**	**17 29 58.4**	**+1.1**
QSPA	**South Pole Qui**	**39.98**	**180**	*e*P	**P**	**17 29 57.8**	**+0.5**
KSM	**Kuching**	**51.52**	**355**	P	**P**	**17 31 29.4**	**+0.7**
H08S2	**Diego Garcia H** baz=148	**54.70**	**306**	T	T	18 30 48.6	
H08S1	**Diego Carcia H** baz=148	**54.70**	**306**	T	T	18 30 53.8	
H08S3	**Diego Garcia H** baz=148	**54.72**	**306**	T	T	18 30 54.5	
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=195,slow=6.5,SNR=2.9	**69.60**	**345**	P	**P**	**17 33 30.8**	**-1.2**
H10S2	**ASCENSION HYDR** baz=147	**106.25**	**233**	T	T	19 36 29.0	
H10S3	**ASCENSION HYDR** baz=147	**106.25**	**233**	T	T	19 36 29.9	
H10S1	**ASCENSION HYDR** baz=147	**106.25**	**233**	T	T	19 36 28.0	
TXAR	**Lajitas Array** 0.9nm,0.6s,baz=210,slow=4.3,SNR=3.8	**144.80**	**112**	PKPbc	**PKPab**	**17 41 58.7**	**0.0**
YKA	**Yellowknife Ar** 0.7nm,0.7s,baz=282,slow=2.0,SNR=9.2	**151.06**	**46**	PKPbc	**PKPbc**	**17 42 14.5**	**-0.1**
YKA	1.0nm,0.6s,baz=280,slow=2.4,SNR=9.5			PKPab	**PKPab**	**17 42 22.4**	**0.0**

*ISCJB **27** 17:27:20.9±0.9,50°.3S±0°.1×114°.5E±0°.4,h10km,mb4.0/7, Error ellipse: s-maj=37.2km s-min=12.0km az=14.8*
*IDC **27** 17:27:21.4±1.0,50°.16S×114°.34E,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.8/28,mbtmp4.0/5, Error ellipse: s-maj=45.1km s-min=23.2km az=108.0*
*NEIC **27** 17:27:22.8±0.6,50°.32S×114°.56E,h10km,mb4.3/3, Error ellipse: s-maj=29.1km s-min=9.9km az=105.0*

ISC 27 17:27:22.7±0.9,50°.3S±0°.1×114°.4E±0°.3,h10km,n21,
σ0s89/14,mb3.9/7,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=179,slow=74,SNR=15	**15.36**	**359**	T	T	17 46 25.2	
H01W1	**Cape Leeuwin H** baz=179,slow=74,SNR=15	**15.37**	**359**	T	T	17 46 24.5	
H01W3	**Cape Leeuwin H** baz=179,slow=74,SNR=13	**15.38**	**359**	T	T	17 46 24.9	
CASY	**Casey**	**16.18**	**186**	*e*Pn	**Pn**	**17 31 08.6**	**-1.2**
NWAO	**Narrogin (SRO)** 0.2nm,0.3s,baz=222,slow=12,SNR=2.4	**17.45**	**8**	P	**P**	**17 31 28.4**	**+1.0**
FORT	**Forrest** 17nm,0.9s	**22.00**	**33**	*e*P	**P**	**17 32 16.1**	**-0.7**
STKA	**Stephens Creek** 2.4nm,0.9s,baz=174,slow=7.4,SNR=3.0	**27.30**	**58**	P	**P**	**17 33 08.4**	**+1.1**
STKA	**Stephens Creek** 0.8nm,1.0s	**27.30**	**58**	P	**P**	**17 33 08.0**	**+0.7**
ASAR	**Alice Springs** 1.4nm,0.8s,baz=205,slow=7.8,SNR=13	**30.60**	**37**	P	**P**	**17 33 36.4**	**-0.4**
WRA	**Warramunga Arr** 4.1nm,0.8s,baz=202,slow=11,SNR=19	**34.15**	**35**	P	**P**	**17 34 07.3**	**-0.5**
WRAB	**Tennant Creek** 5.6nm,0.9s	**34.16**	**35**	*e*P	**P**	**17 34 07.4**	**-0.6**
QSPA	**South Pole Qui** 1.3nm,0.7s,baz=286,slow=1.7,SNR=9.5	**39.86**	**180**	P	**P**	**17 34 57.3**	**+1.2**
CRZF	**Crozet Islands**	**40.66**	**250**	R		17 35 00.0	
H08S2	**Diego Garcia H** baz=138,slow=76	**54.92**	**306**	T	T	18 35 46.4	
H08S1	**Diego Carcia H** baz=138	**54.93**	**306**	T	T	18 35 48.5	
H08S3	**Diego Garcia H** baz=138,slow=76	**54.94**	**306**	T	T	18 35 48.9	
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=184,slow=5.8,SNR=3.5	**69.77**	**344**	P	**P**	**17 38 32.6**	**-0.3**
FINES	**FINESS Array B** 3.2nm,1.0s,baz=336,slow=3.0,SNR=2.9	**131.57**	**320**	PKP	**PKPdf**	**17 46 34.8**	**+0.6**
TXAR	**Lajitas Array** 0.9nm,0.9s,baz=206,slow=5.4,SNR=5.6	**144.58**	**112**	PKP	PKPbc	17 46 59.3	+1.3
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=309,slow=5.7,SNR=3.1	**149.21**	**87**	PKPbc	**PKPbc**	**17 47 10.4**	**-0.6**
YKA	**Yellowknife Ar** 0.8nm,0.6s,baz=287,slow=2.1,SNR=14	**151.01**	**46**	PKPbc	**PKPbc**	**17 47 14.5**	**+0.1**
YKA	0.8nm,0.6s,baz=286,slow=1.9,SNR=9.3			PKPab	**PKPab**	**17 47 21.0**	**-1.0**

*CSEM **27** 17:34:12.1,43°.49N×12°.40E,h7km,MD1.4/6*

ROM 27 17:34:12.1±0.1,43°.49N×12°.40E,h7km±1km,Md1.4/6,
Ml0.7/4,Error ellipse: s-maj=0.6km s-min=0.6km az=25.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**173**	Pg	Pg	17 34 13.8	+0.2
ATPI				Sg	Sg	17 34 14.9	+0.2
	94nm,0.3s						
ATPI	**Pietralunga -**	**0.04**	**173**	Pg	Pg	17 34 13.8	+0.2
ATPI				Sg	Sg	17 34 14.9	+0.2
	94nm,0.3s						
ATPC	**Poggio Castell**	**0.04**	**97**	Pg	Pg	17 34 13.9	+0.2
ATPC				Sg	Sg	17 34 15.2	+0.3
	129nm,0.1s						
ATPC	**Poggio Castell**	**0.04**	**97**	Pg	Pg	17 34 13.9	+0.2
ATPC				Sg	Sg	17 34 15.2	+0.3
	129nm,0.1s						
ATVO	**AVT- Monte Val**	**0.10**	**176**	Pg	Pg	17 34 14.9	+0.4
ATVO				Sg	Sg	17 34 17.1	+0.9
	25nm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**176**	Pg	Pg	17 34 14.9	+0.4
ATVO				Sg	Sg	17 34 17.1	+0.9
	25nm,0.2s						
BADI	**Badiali**	**0.11**	**282**	Pg	Pg	17 34 15.1	+0.4
BADI				Sg	Sg	17 34 17.2	+0.8
	35nm,0.4s						
BADI	**Badiali**	**0.11**	**282**	Pg	Pg	17 34 15.1	+0.4
BADI				Sg	Sg	17 34 17.2	+0.8
	35nm,0.4s						
PIEI	**Pieia**	**0.11**	**64**	Pg	Pg	17 34 14.9	+0.2
PIEI				Sg	Sg	17 34 17.4	+0.9
	26nm,0.3s						
PIEI	**Pieia**	**0.11**	**64**	Pg	Pg	17 34 14.9	+0.2
PIEI				Sg	Sg	17 34 17.4	+0.9
	26nm,0.3s						
PARC	**Parchiule**	**0.20**	**325**	Pg	Pg	17 34 16.7	+0.5
PARC				Sg	Sg	17 34 20.5	+1.5
	13nm,0.9s						
PARC	**Parchiule**	**0.20**	**325**	Pg	Pg	17 34 16.7	+0.5
PARC				Sg	Sg	17 34 20.5	+1.5
	13nm,0.9s						

*IDC **27** 17:46:10.4±0.7,51°.14N×178°.78E,h0km,mb4.1/21, mb1 4.2/23,mb1mx4.1/39,mbtmp4.1/23,ML3.2/2,MS4.0/4, Ms1 4.0/4,ms1mx3.3/49, Error ellipse: s-maj=21.5km s-min=12.8km az=161.0*
*BJI **27** 17:46:12.8,51°.57N×178°.76E,h22km,mB5.2/6,mb4.4/11, Ms5.0/5,Ms7 4.8/5*
*NEIC **27** 17:46:14.7,50°.80N×178°.86E,h28km,mb4.6/19, ML4.7(AEIC),After AEIC.*
*MOS **27** 17:46:14.3±1.1,51°.18N×178°.74E,h35km,mb4.6/35,Error ellipse: s-maj=11.2km s-min=7.1km az=112.6*
*ISCJB **27** 17:46:15.5±0.4,51°.22N±0°.08×178°.68E±0°.03,h41km, mb4.3/56,MS4.3/3,Error ellipse: s-maj=11.1km s-min=3.0km az=176.1*

ISC 27 17:46:16.2±0.6,51°.1N±0°.1×178°.69E±0°.04,h41km,n151,
σ1s20/151,mb4.4/56,MS4.3/3,3C-1D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.73**	**66**	P	**Pn**	**17 46 44.5**	**+0.7**
GAEA	**Gareloi East**	**1.75**	**65**	P	**Pn**	**17 46 44.2**	**+0.1**
TASE	**Tanaga Southea**	**2.18**	**68**	P	**Pn**	**17 46 50.3**	**+0.2**
TAFP	**Tanaga Falls P**	**2.24**	**67**	P	**Pn**	**17 46 50.9**	**+0.1**
TAFP				S	**Sn**	**17 47 19.7**	**+2.6**
TAFL	**Tanaga Flats**	**2.24**	**71**	P	**Pn**	**17 46 50.9**	**+0.1**
KIKV	**Kanaga Island**	**2.71**	**71**	P	**Pn**	**17 46 57.3**	**0.0**
KIRH	**Kanaga Island**	**2.76**	**71**	P	**Pn**	**17 46 58.2**	**+0.3**
ADK	**Adak**	**3.00**	**73**	P	**Pn**	**17 47 01.0**	**-0.3**
ADK				S	**Sn**	**17 47 35.9**	**-0.1**
ADK	**Adak**	**3.00**	**73**	P	**Pn**	**17 47 01.0**	**-0.3**
ADK				S	**Sn**	**17 47 35.9**	**-0.1**
SMY	**Shemya**	**3.29**	**302**	P	**Pn**	**17 47 07.5**	**+2.4**
SMY	**Shemya**	**3.29**	**302**	P	**Pn**	**17 47 07.5**	**+2.4**
GSCK	**Great Sitkin C**	**3.35**	**72**	P	**Pn**	**17 47 06.0**	**0.0**
GSTD	**Great Sitkin T**	**3.37**	**71**	P	**Pn**	**17 47 06.1**	**-0.3**
GSTD				S	**Sn**	**17 47 47.2**	**+2.1**
GSMY	**Great Sitkin M**	**3.42**	**72**	P	**Pn**	**17 47 06.8**	**-0.2**
GSTR	**Great Sitkin T**	**3.43**	**71**	*e*Pn	**Pn**	**17 47 07.4**	**+0.3**
KOKL	**Mount Kliuchef**	**4.59**	**72**	P	**Pn**	**17 47 23.8**	**+0.6**
KOFP	**Korovin Flat P**	**4.65**	**72**	P	**Pn**	**17 47 24.4**	**+0.6**
NIKH	**Nikolski High**	**7.92**	**71**	P	**Pn**	**17 48 09.2**	**+0.6**
SPIA	**Saint Paul Isl**	**8.91**	**42**	P	Pn	17 48 25.1	+2.9
MREP	**Makushin Rep't**	**9.31**	**67**	P	**Pn**	**17 48 29.1**	**+1.4**
UNV	**Unalaska Valle**	**9.46**	**67**	P	**Pn**	**17 48 30.6**	**+0.9**
PET	**Petropavlovsk**	**12.48**	**287**	*e*P	**Pn**	**17 49 10.1**	**-1.0**
PET				*e*S	**Sn**	**17 51 29.8**	**+1.2**
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PEA0B	**Petropavlovsk-**	**13.06**	**287**	*e*Pn	**Pn**	**17 49 19.8**	**+0.8**
PETK	**Petropavlovsk-** comp=Z,0.3nm,0.3s,baz=98,slow=20,SNR=13	**13.06**	**287**	Pn	**Pn**	**17 49 19.6**	**+0.6**
PETK				Sn	**Sn**	**17 51 38.9**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=106,slow=20,SNR=3.7						
PETK				LR	LR	17 55 33.6	
	comp=Z,67nm,18.5s,baz=80,slow=43						
TNA	**Tin City** comp=Z,42nm,1.3s	**16.07**	**20**	*e*Pn	**P**	**17 50 01.2**	**-0.6**
KDAK	**Kodiak Island**	**17.91**	**57**	*i* P	**Pn**	**17 50 20.0**	**-1.9**
BILL	**Bilibino**	**18.07**	**345**	*c i*P	**P**	**17 50 25.1**	**+1.3**
BILL				pmax	pmax		
	comp=Z,17nm,1.0s						
BILL	**Bilibino** comp=Z,13nm,0.9s	**18.07**	**345**	*e*Pn	**P**	**17 50 24.1**	**+0.3**
SEY	**Seymchan** comp=Z,0.1nm,0.3s,baz=101,slow=11,SNR=9.9	**18.44**	**320**	P	**Pn**	**17 50 28.1**	**-0.1**
RSO	**Redoubt South** comp=Z,90nm,1.0s	**18.46**	**48**	*e*P	**P**	**17 50 27.5**	**-0.9**
IM04	**Indian Mountai**	**20.45**	**33**	*e*P	**P**	**17 50 49.5**	**-0.4**
COLA	**College**	**22.13**	**39**	*i* P	**P**	**17 51 06.8**	**-1.0**
COLA				pmax	pmax		
	comp=Z,37nm,1.0s						
ILAR	**Eielson Array** comp=Z,2.0nm,0.8s,baz=234,slow=7.9,SNR=23	**22.47**	**39**	P	**P**	**17 51 08.4**	**-3.1**
ILAR	**Eielson Array**	**22.47**	**39**	P	**P**	**17 51 08.5**	**-3.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**23.77**	**274**	*e*P	**P**	**17 51 26.0**	**+1.3**
YSS				*e*		17 51 38.2	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
ASAJ	**Asahikawa** comp=Z,15nm,0.8s,baz=68,slow=12,SNR=7.5	**25.12**	**268**	P	**P**	**17 51 38.9**	**+1.9**
ASAJ	**Asahikawa**	**25.12**	**268**	P	**P**	**17 51 38.9**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK	**Yakutsk** comp=Z,7.9nm,0.5s,baz=213,slow=1.3,SNR=7.7	**28.43**	**312**	P	**P**	**17 52 06.4**	**-0.2**
YAK	**Yakutsk**	**28.43**	**312**	*e*P	**P**	**17 52 05.6**	**-1.0**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK	**Yakutsk** comp=N,8.3nm,0.5s	**28.43**	**312**	*e*P	**P**	**17 52 05.9**	**-0.7**
INK	**Inuvik** comp=N,0.6nm,0.3s,baz=227,slow=5.1,SNR=3.3	**28.61**	**35**	P	**P**	**17 52 06.8**	**-1.3**
INK	**Inuvik**	**28.61**	**35**	P	**P**	**17 52 06.8**	**-1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**29.74**	**285**	*e*P	**P**	**17 52 16.0**	**-2.4**
TIXI	**Tiksi**	**30.13**	**331**	*e*P	**P**	**17 52 21.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
H11N2	**WAKE ISLAND Hy** baz=11,slow=76,SNR=5.7	**32.64**	**201**	T	T	18 28 00.8	
H11N3	**WAKE ISLAND Hy** baz=11,slow=76,SNR=7.2	**32.65**	**201**	T	T	18 28 00.8	
H11N1	**WAKE ISLAND

ULN	**Ulaanbaatar**	**44.97**	**295**	*e*P		**P**	**17 54 27.5**	**+0.3**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**44.97**	**295**	*e*P		**P**	**17 54 27.9**	**+0.7**
	comp=Z,5.8nm,1.0s							
SONM	**Songino Array**	**45.36**	**296**	P		**P**	**17 54 31.5**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=57,slow=7.1,SNR=20							
SONM	**Songino Array**	**45.36**	**296**	P		**P**	**17 54 31.5**	**+1.2**
SONM				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ZAK	**Zakamensk**	**45.75**	**300**	*e*P		**P**	**17 54 34.0**	**+0.7**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.5s							
DUG	**Dugway, Tooele**	**47.47**	**75**	*e*P		**P**	**17 54 47.4**	**+0.4**
DUG				pmax		pmax		
	comp=Z,17nm,1.3s							
DUG	**Dugway, Tooele**	**47.47**	**75**	*e*P		**P**	**17 54 47.4**	**+0.4**
	comp=Z,17nm,1.3s							
BW06	**Boulder Array**	**47.90**	**70**	*e*P		**P**	**17 54 50.5**	**+0.2**
	comp=Z,4.1nm,0.7s							
PDAR	**Pinedale Array**	**47.90**	**70**	P		**P**	**17 54 50.9**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=303,slow=4.3,SNR=21							
KRAR	**Krasnoyarsk**	**48.10**	**311**	*e*P		**P**	**17 54 50.3**	**-1.1**
KRAR				pmax		pmax		
	comp=Z,21nm,1.2s							
ZALV	**Zalesovo Beam**	**53.08**	**312**	P		**P**	**17 55 28.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=35,slow=9.1,SNR=5.8							
ZALV				LR		LR	18 19 31.9	
	comp=Z,406nm,19.9s,baz=74,slow=38							
ZALV	**Zalesovo Beam**	**53.08**	**312**	*i* P		P	17 55 33.0	+4.0
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NVS	**Novosibirsk**	**53.25**	**314**	*i* P		**P**	**17 55 30.5**	**+0.3**
NVS				pmax		pmax		
	comp=N,6.0nm,1.7s							
NVS				pmax		pmax		
	comp=E,7.0nm,1.7s							
NVS				pmax		pmax		
	comp=Z,18nm,1.7s							
GTA	**Gaotai**	**54.20**	**290**	*e*P		**P**	**17 55 39.3**	**+1.7**
GTA				pP		**pP**	**17 55 46.3**	**-3.1**
GTA				sP		**sP**	**17 55 50.3**	**-3.9**
GTA				PMZ				
	comp=Z,8.0nm,1.0s							
KURK	**Kurchatov**	**58.07**	**312**	*e*P		**P**	**17 56 05.3**	**+0.4**
KURK				pmax		pmax		
	comp=Z,17nm,1.2s							
KURK	**Kurchatov**	**58.07**	**312**	*e*P		**P**	**17 56 05.3**	**+0.4**
	comp=Z,17nm,1.2s							
MK31	**Makanchi Array**	**58.97**	**307**	P		**P**	**17 56 11.0**	**-0.2**
MK31				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**58.97**	**307**	*e*P		**P**	**17 56 11.2**	**0.0**
MKAR	**Makanchi Array**	**58.97**	**307**	P		**P**	**17 56 11.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=5.7,slow=3.7,SNR=19							
MKAR	**Makanchi Array**	**58.97**	**307**	*i* P		**P**	**17 56 11.1**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BVA0	**Borovoye Array**	**60.08**	**319**	*i* P		**P**	**17 56 19.7**	**+0.9**
BVA0				pmax		pmax		
	comp=Z,7.0nm,0.7s							
BRVK	**Borovoye**	**60.10**	**319**	*c i*P		**P**	**17 56 19.5**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,8.0nm,0.6s							
BRVK	**Borovoye**	**60.10**	**319**	*e*P		**P**	**17 56 19.9**	**+1.0**
	comp=Z,6.2nm,0.6s							
TXAR	**Lajitas Array**	**60.26**	**79**	P		**P**	**17 56 21.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=302,slow=5.0,SNR=6.3							
SVE	**Sverdlovsk**	**60.98**	**326**	*e*P		**P**	**17 56 26.3**	**+1.5**
SVE				pmax		pmax		
	comp=Z,16nm,1.2s							
SCHQ	**Schefferville**	**61.20**	**37**	P		**P**	**17 56 25.2**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=254,slow=9.3,SNR=5.2							
PRGR	**Permogore**	**61.57**	**337**	P		**P**	**17 56 26.9**	**-1.8**
PRGR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ARU	**Arti**	**62.01**	**327**	*d i*P		**P**	**17 56 32.0**	**+0.2**
ARU							17 58 46.4	
ARU				S		**S**	**18 04 56.6**	**+3.7**
ARU				SS		**SS**	**18 08 55.4**	**+0.5**
ARU				pmax		pmax		
	comp=Z,28nm,1.2s							
ARU	**Arti**	**62.01**	**327**	*e*P		**P**	**17 56 32.9**	**+1.2**
	comp=Z,28nm,1.2s							
JOF	**Joensuu**	**63.47**	**344**	*e*p		**P**	**17 56 39.3**	**-2.0**
	comp=Z,1.6nm,0.6s							
JOF	**Joensuu**	**63.47**	**344**	*e*P		**P**	**17 56 39.3**	**-2.0**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KAF	**Kangasniemi**	**65.04**	**346**	*e*p		**P**	**17 56 51.7**	**+0.1**
	comp=Z,1.8nm,0.6s							
KAF	**Kangasniemi**	**65.04**	**346**	*e*P		**P**	**17 56 51.7**	**+0.1**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.6s							
TKM2	**Tokmak 2**	**65.07**	**308**	*e*P		**P**	**17 56 52.0**	**-0.4**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.9s							
TKM2	**Tokmak 2**	**65.07**	**308**	*e*P		**P**	**17 56 52.0**	**-0.4**
	comp=Z,3.1nm,0.9s							
FINES	**FINESS Array B**	**65.71**	**346**	P		**P**	**17 56 55.2**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=35,slow=7.0,SNR=5.8							
FINES	**FINESS Array B**	**65.71**	**346**	*i* P		**P**	**17 56 57.2**	**+1.2**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**65.83**	**308**	*e*P		**P**	**17 56 56.9**	**-0.4**
AAK				pmax		pmax		
	comp=Z,11nm,1.0s							
AAK	**Ala-Archa**	**65.83**	**308**	*e*P		**P**	**17 56 58.2**	**+0.9**
	comp=Z,5.2nm,1.0s							
LSA	**Lhasa**	**66.04**	**288**	*e*P		**P**	**17 57 01.0**	**+1.8**
LSA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
LSA	**Lhasa**	**66.04**	**288**	*e*P		**P**	**17 57 01.0**	**+1.8**
	comp=Z,1.3nm,0.6s							
EKS2	**Erkin-Say**	**66.16**	**309**	*e*P		**P**	**17 57 00.4**	**+1.0**
EKS2				pmax		pmax		
	comp=Z,3.0nm,0.6s							
EKS2	**Erkin-Say**	**66.16**	**309**	*e*P		**P**	**17 57 00.4**	**+1.0**
	comp=Z,3.0nm,0.6s							
AKTO	**Aktyubinsk**	**67.00**	**323**	P		**P**	**17 57 05.5**	**+1.1**
AKTO				pmax		pmax		
	comp=Z,20nm,1.2s							
AB31	**Akbulak array**	**67.21**	**321**	P		**P**	**17 57 06.7**	**+0.9**
AB31				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ABKAR	**Akbulak array**	**67.21**	**321**	*e*P		**P**	**17 57 06.5**	**+0.7**
	comp=Z,1.4nm,0.5s							
KKAR	**Karatay Array**	**67.41**	**311**	*e*P		**P**	**17 57 07.8**	**+0.6**
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**67.41**	**311**	*e*P		**P**	**17 57 07.8**	**+0.6**
	comp=Z,2.6nm,0.7s							
NB2	**NORSAR Subarra**	**67.78**	**353**	P		**P**	**17 57 09.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=8.4,slow=6.5							
NOA	**NORSAR Array B**	**67.78**	**353**	P		**P**	**17 57 08.6**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=9.1,slow=6.3,SNR=5.6							
NOA	**NORSAR Array B**	**67.78**	**353**	P		**P**	**17 57 08.6**	**-0.7**
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.47**	**274**	P		**P**	**17 57 20.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=21,slow=6.6,SNR=7.1							
CMAR	**Chiang Mai Arr**	**69.47**	**274**	*ce*P		**P**	**17 57 20.8**	**+0.5**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
OBN	**Obninsk**	**69.57**	**338**	*e*P		**P**	**17 57 21.4**	**+1.0**
OBN				pmax		pmax		
	comp=Z,6.0nm,1.2s							
TAPN	**Taplejung**	**69.82**	**289**	*e*P		**P**	**17 57 23.8**	**+1.0**
	comp=Z,46nm,1.1s							
ODAN	**Odare**	**70.37**	**289**	*e*P		**P**	**17 57 27.3**	**+1.2**
GUN	**Gumba**	**70.49**	**290**	*e*P		**P**	**17 57 28.4**	**+1.4**
	comp=Z,56nm,1.0s							
JIRN	**Jiri**	**70.49**	**290**	*e*P		**P**	**17 57 28.4**	**+1.4**
	comp=Z,35nm,0.8s							
RAMN	**Ramite**	**70.78**	**289**	*e*P		**P**	**17 57 29.8**	**+1.2**
	comp=Z,56nm,0.9s							
KKN	**Kakani**	**70.94**	**291**	*e*P		**P**	**17 57 31.0**	**+1.5**
	comp=Z,23nm,0.8s							
PKI	**Pulchoki**	**71.02**	**290**	*e*P		**P**	**17 57 31.5**	**+1.3**
	comp=Z,26nm,1.0s							
PKIN	**Phulchoki**	**71.03**	**290**	*e*P		**P**	**17 57 31.7**	**+1.6**
	comp=Z,9.1nm,0.7s							
GKN	**Gorkha**	**71.16**	**291**	*e*P		**P**	**17 57 32.1**	**+1.3**
	comp=Z,33nm,0.9s							
DMN	**Daman**	**71.17**	**291**	*e*P		**P**	**17 57 32.4**	**+1.4**
	comp=Z,28nm,1.0s							

KOLN	**Koldanda**	**71.94**	**292**	*e*P		**P**	**17 57 36.8**	**+1.3**
	comp=Z,14nm,0.8s							
PYUN	**Piuthan**	**72.05**	**292**	*e*P		**P**	**17 57 37.4**	**+1.2**
	comp=Z,70nm,0.9s							
CMIG	**Matias Romero**	**74.68**	**82**	LR		LR	18 30 51.6	
	comp=Z,109nm,18.2s,baz=189,slow=36							
KBL	**Kabul**	**74.76**	**306**	*e*P		**P**	**17 57 51.9**	**-0.2**
KBL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KBL	**Kabul**	**74.76**	**306**	*e*P		**P**	**17 57 51.9**	**-0.2**
	comp=Z,5.9nm,0.9s							
AKASG	**Malin Array Be**	**75.32**	**340**	P		**P**	**17 57 54.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=22,slow=6.1,SNR=7.7							
AKASG	**Malin Array Be**	**75.32**	**340**	P		**P**	**17 57 54.4**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**75.33**	**340**	*i* P		**P**	**17 57 54.7**	**-0.1**
TEIG	**Tepich**	**76.39**	**75**	LR		LR	18 30 26.9	
	comp=Z,155nm,20.8s,baz=167,slow=35							
KWP	**Kalwaria Pacla**	**77.59**	**344**	*e*P		**P**	**17 58 08.8**	**+1.2**
KWP				pmax		pmax		
	comp=Z,14nm,0.9s							
KWP	**Kalwaria Pacla**	**77.59**	**344**	*e*P		**P**	**17 58 08.8**	**+1.2**
	comp=Z,14nm,0.9s							
KIV	**Kislovodsk**	**77.94**	**329**	*e*P		**P**	**17 58 11.3**	**+1.5**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.0s							
NCK	**Nalchik**	**78.05**	**328**	*e*P		**P**	**17 58 10.7**	**+0.4**
NEY	**Neytrino**	**78.56**	**329**	*e*P		**P**	**17 58 12.4**	**-0.9**
NEY				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ZEI	**Tsey**	**78.58**	**328**	*e*P		**P**	**17 58 13.8**	**+0.3**
ZEI				pmax		pmax		
	comp=Z,13nm,1.0s							
BUR08	**Bucovina Ar. S**	**79.05**	**342**	*e*P		**P**	**17 58 15.9**	**0.0**
GERES	**GERESS Array B**	**79.63**	**350**	P		**P**	**17 58 18.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=344,slow=6.3,SNR=2.3							
WRA	**Warramunga Arr**	**80.72**	**222**	P		**P**	**17 58 25.0**	**0.0**
	comp=Z,1.0nm,0.6s,baz=31,slow=5.7,SNR=19							
WRA	**Warramunga Ar**	**80.72**	**222**	P		**P**	**17 58 25.0**	**0.0**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**84.22**	**220**	P		**P**	**17 58 43.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=25,slow=5.5,SNR=12							
ASAR	**Alice Springs**	**84.22**	**220**	P		**P**	**17 58 43.8**	**+0.6**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**84.54**	**334**	P		**P**	**17 58 45.9**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=60,slow=2.8,SNR=12							
BRTR	**Keskin Array B**	**84.54**	**334**	P		**P**	**17 58 45.9**	**+1.0**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**115.99**	**357**	PKP		**PKPdf**	**18 04 54.2**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=287,slow=0.4,SNR=2.6							
NVL	**N'lazarevskaya**	**159.34**	**192**	*e*PKIKP		**PKPdf**	**18 06 06.8**	**-1.7**
NVL				pmax		pmax		
	comp=Z,17nm,0.7s							

IDC 27 18:12:52.6±26.0, 22°.61S×173°.61W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/47, mbtmp4.2/4, Error ellipse: s-maj=486.2km s-min=147.3km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.39**	**266**	P	P	18 20 08.4	+0.9
	6.4nm,0.5s,baz=98,slow=12,SNR=9.6						
STKA	**Stephens Creek**	**40.65**	**247**	P	P	18 20 32.9	-1.7
	1.0nm,0.5s,baz=101,slow=7.1,SNR=4.1						
ASAR	**Alice Springs**	**48.05**	**258**	P	P	18 21 33.9	-0.2
	0.5nm,0.3s,baz=96,slow=8.4,SNR=26						
WRA	**Warramunga Arr**	**48.38**	**263**	P	P	18 21 36.8	+0.1
	2.4nm,0.5s,baz=99,slow=8.4,SNR=33						

IDC 27 18:12:56.5±3.1, 51°.14N×178°.83E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.3/54, mbtmp3.3/4, Error ellipse: s-maj=90.7km s-min=31.4km az=173.0
ISCJB 27 18:12:57.5±1.3, 50°.5N±0°.1×178°.92E±0°.07, h33km, mb3.3/4, Error ellipse: s-maj=19.1km s-min=6.2km az=179.5
NEIC 27 18:12:60.0, 50°.71N×178°.95E, h30km, ML3.3(AEIC), After AEIC.

ISC 27 18:12:59.6±1.8, 50°.6N±0°.2×178°.94E±0°.05, h35km, n15, σ1s23/19, mb3.3/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.88**	**50**	P	**Pn**	**18 13 29.1**	**-0.2**
TASE	**Tanaga Southea**	**2.27**	**56**	P	**Pn**	**18 13 34.1**	**-0.7**
TAFP	**Tanaga Falls P**	**2.34**	**55**	P	**Pn**	**18 13 35.4**	**-0.1**
TAFP				S	**Sn**	**18 14 04.2**	**+1.2**
KIKV	**Kanaga Island**	**2.77**	**61**	P	**Pn**	**18 13 41.5**	**+0.1**
KIRH	**Kanaga Island**	**2.82**	**61**	P	**Pn**	**18 13 42.8**	**+0.7**
ADK	**Adak**	**3.04**	**63**	P	**Pn**	**18 13 46.0**	**+0.8**
ADK				S	**Sn**	**18 14 21.4**	**+1.1**
ETKA	**Kagalaska Isla**	**3.19**	**65**	P	**Pn**	**18 13 47.3**	**0.0**
GSTD	**Great Sitkin T**	**3.42**	**63**	P	**Pn**	**18 13 51.1**	**+0.7**
GSTD				S	**Sn**	**18 14 30.9**	**+1.2**
GSMY	**Great Sitkin M**	**3.46**	**63**	P	**Pn**	**18 13 51.7**	**+0.8**
SMY	**Shemya**	**3.70**	**307**	P	**Pn**	**18 13 54.3**	**+0.1**
SMY				S	**Sn**	**18 14 38.8**	**+2.3**
KOFP	**Korovin Flat P**	**4.67**	**66**	P	**Pn**	**18 14 08.7**	**+1.1**
ILAR	**Eielson Array**	**22.75**	**38**	P	**P**	**18 17 55.5**	**-2.9**
	0.4nm,0.5s,baz=260,slow=12,SNR=6.1						
YKA	**Yellowknife Ar**	**36.81**	**45**	P	**P**	**18 20 02.8**	**-0.9**
	0.2nm,0.7s,baz=281,slow=8.2,SNR=3.7						
SONM	**Songino Array**	**45.72**	**296**	P	**P**	**18 21 16.6**	**-0.5**
	0.3nm,0.5s,baz=60,slow=6.7,SNR=3.6						
PDAR	**Pinedale Array**	**47.92**	**70**	P	**P**	**18 21 35.8**	**+1.2**
	0.6nm,0.8s,baz=316,slow=2.5,SNR=3.8						

ISCJB 27 18:13:10.0±0.9, 50°.2S±0°.1×114°.5E±0°.4, h17km, mb4.2/6, MS3.9/2, Error ellipse: s-maj=41.3km s-min=14.5km az=14.2
IDC 27 18:13:10.2±1.2, 50°.07S×114°.19E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/31, mbtmp4.0/4, MS3.9/2, Ms1 3.9/2, ms1mx3.3/19, Error ellipse: s-maj=59.7km s-min=24.4km az=104.0
NEIC 27 18:13:11.1±0.8, 50°.20S×114°.36E, h10km, mb4.6/2, Error ellipse: s-maj=41.2km s-min=13.6km az=103.0

ISC 27 18:13:12.2±0.9, 50°.2S±0°.1×114°.3E±0°.4, h17km, n18, σ1s32/9, mb4.2/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.28**	**359**	T	T	18 32 08.3	
	baz=179,slow=74,SNR=26						
H01W1	**Cape Leeuwin H**	**15.29**	**360**	T	T	18 32 09.0	
	baz=179,slow=74,SNR=37						
H01W3	**Cape Leeuwin H**	**15.30**	**359**	T	T	18 32 09.5	
	baz=179,slow=74,SNR=34						
CASY	**Casey**	**16.25**	**185**	Pn	**Pn**	**18 16 57.4**	**-2.0**
ASAR	**Alice Springs**	**30.57**	**37**	P	**P**	**18 19 25.1**	**+0.2**
	2.5nm,0.9s,baz=211,slow=8.4,SNR=15						
VNDA	**Vanda**	**32.64**	**163**	LR	LR	18 31 10.2	
	comp=Z,198nm,18.5s,baz=328,slow=33						
WRA	**Warramunga Arr**	**34.12**	**35**	P	**P**	**18 19 56.1**	**0.0**
	5.0nm,0.9s,baz=204,slow=8.4,SNR=16						
WRAB	**Tennant Creek**	**34.13**	**35**	*e*P	**P**	**18 19 54.4**	**-1.8**
	7.7nm,1.0s						
CTAO	**Charters Tower**	**39.27**	**52**	P	P	18 20 34.2	-5.7
	18nm,1.3s						
QSPA	**South Pole Qui**	**39.94**	**180**	P	**P**	**18 20 46.8**	**+1.6**
	1.1nm,0.7s,baz=280,slow=0.7,SNR=8.9						
BATI	**Baumata**	**40.61**	**14**	LR	LR	18 37 20.3	
	comp=Z,172nm,20.8s,baz=290,slow=36						
H08S2	**Diego Garcia H**	**54.82**	**306**	T	T	19 21 35.0	
	baz=144,slow=76,SNR=5.9						
H08S1	**Diego Carcia H**	**54.83**	**306**	T	T	19 21 41.8	
	baz=144						
H08S3	**Diego Garcia H**	**54.84**	**306**	T	T	19 21 36.3	
	baz=144,slow=76,SNR=5.5						
CMAR	**Chiang Mai Arr**	**69.68**	**344**	P	**P**	**18 24 20.7**	**-0.1**
	0.4nm,0.4s,baz=188,slow=6.2,SNR=4.5						
LSA	**Lhasa**	**82.15**	**340**	P	**P**	**18 25 32.2**	**-0.1**
TXAR	**Lajitas Array**	**144.67**	**112**	PKP	**PKPdf**	**18 32 48.1**	**+0.4**
	1.1nm,1.0s,baz=211,slow=3.9,SNR=6.9						
YKA	**Yellowknife Ar**	**151.00**	**46**	PKPbc	**PKPbc**	**18 33 03.4**	**+0.7**
	0.5nm,0.6s,baz=278,slow=2.2,SNR=5.7						

BJI 27 18:15:12.0, 51°.30N×179°.22E, h38km, mB5.2/32, mb4.9/55, Ms4.9/36, Ms7 4.6/35
MOS 27 18:15:13.9±1.0, 51°.19N×178°.76E, h36km, mb5.0/78, MS4.3/21, Error ellipse: s-maj=8.0km s-min=5.2km az=99.3
IDC 27 18:15:13.5±2.6, 51°.21N×178°.81E, h20km±15km, mb4.4/41, mb1 4.5/43, mb1mx4.4/59, mbtmp4.5/43, ML3.6/2, MS4.3/24, Ms1 4.3/24, ms1mx4.1/41, Error ellipse: s-maj=13.9km s-min=8.1km az=172.0
ISCJB 27 18:15:14.7±0.2, 51°.14N±0°.04×178°.75E±0°.02, h41km, mb4.7/157, MS4.3/29, Error ellipse: s-maj=5.8km s-min=1.9km az=0.6
GCMT 27 18:15:15.6±0.2, 51°.03N×178°.80E, h20km, MW5.1/73, Moment Tensor Solution. s48,c61; s73,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr5.06±.25; Mθθ-4.63±.17; Mφφ-0.43±.14; Mrθ3.10±.27; Mrφ-0.73±.10; Mθφ1.81±.29; Best double couple: Mo6.07000×10^16 NP1:φs69.00000°, δ63.00000°, λ80.00000°. NP2: φs270.00000°, δ28.00000°, λ109.00000°. Principal axes: T 6.3210, Plg70.0000°, Azm318.0000°; N -0.5020, Plg9.0000°, Azm73.0000°; P -5.8190, Plg18.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 27 18:15:15.6±0.2, 51°.23N×178°.65E, h35km, mb4.8/74, ML4.7(AEIC) Error ellipse: s-maj=7.0km s-min=2.9km az=177.0

ISC 27 18:15:16.3±0.3, 51°.16N±0°.06×178°.74E±0°.03, h41km, h40km:pP-P, n722, σ1s11/764, mb4.8/157, MS4.4/29, 139C-135D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**1.67**	**68**	P	**Pn**	**18 15 43.4**	**+0.3**
GAEA	**Gareloi East**	**1.69**	**67**	P	**Pn**	**18 15 43.4**	**0.0**
TANO	**Tanaga North**	**2.10**	**68**	P	**Pn**	**18 15 49.4**	**+0.4**
TASE	**Tanaga Southea**	**2.13**	**70**	P	**Pn**	**18 15 49.7**	**+0.3**
TAFP	**Tanaga Falls P**	**2.18**	**69**	P	**Pn**	**18 15 50.9**	**+0.8**
TAFP				S	**Sn**	**18 16 18.9**	**+3.1**
TAFL	**Tanaga Flats**	**2.19**	**73**	P	**Pn**	**18 15 50.2**	**0.0**
KICM	**Kanaga Island**	**2.65**	**72**	P	**Pn**	**18 15 56.8**	**+0.3**
KIKV	**Kanaga Island**	**2.66**	**73**	P	**Pn**	**18 15 56.5**	**-0.1**
KIRH	**Kanaga Island**	**2.71**	**72**	P	**Pn**	**18 15 57.5**	**+0.2**
ADK	**Adak**	**2.95**	**74**	P	**Pn**	**18 16 00.2**	**-0.4**
ADK				S	**Sn**	**18 16 35.0**	**+0.2**
ADK	**Adak**	**2.95**	**74**	P	**Pn**	**18 16 00.2**	**-0.4**
ADK				S	**Sn**	**18 16 35.0**	**+0.2**
ETKA	**Kagalaska Isla**	**3.11**	**75**	P	**Pn**	**18 16 02.7**	**-0.2**
SMY	**Shemya**	**3.28**	**301**	P	Pn	18 16 08.7	+3.6
SMY	**Shemya**	**3.28**	**301**	P	Pn	18 16 08.7	+3.6
SMY				S	Sn	18 16 52.9	+10
GSCK	**Great Sitkin C**	**3.29**	**73**	P	**Pn**	**18 16 05.3**	**-0.1**
GSTD	**Great Sitkin T**	**3.31**	**72**	P	**Pn**	**18 16 05.5**	**-0.2**
GSTD				S	**Sn**	**18 16 44.1**	**+0.3**
GSMY	**Great Sitkin M**	**3.36**	**73**	P	**Pn**	**18 16 06.0**	**-0.3**
GSTR	**Great Sitkin T**	**3.37**	**72**	P	**Pn**	**18 16 06.3**	**-0.2**
KOKL	**Mount Kliuchef**	**4.54**	**72**	P	**Pn**	**18 16 23.2**	**+0.7**
KOFP	**Korovin Flat P**	**4.59**	**73**	P	**Pn**	**18 16 23.8**	**+0.6**
NIKH	**Nikolski High**	**7.86**	**72**	P	**Pn**	**18 17 08.2**	**+0.2**
OKFG	**Magazine Ridge**	**8.49**	**69**	P	**Pn**	**18 17 18.6**	**+1.9**
SPIA	**Saint Paul Isl**	**8.83**	**43**	P	Pn	18 17 24.6	+3.3
MGOD	**Makushin Gods**	**9.17**	**68**	P	**Pn**	**18 17 27.4**	**+1.4**
MREP	**Makushin Rep't**	**9.25**	**68**	P	**Pn**	**18 17 28.2**	**+1.1**
UNV	**Unalaska Valle**	**9.39**	**68**	P	**Pn**	**18 17 29.6**	**+0.6**
AKRB	**Akutan Reef Bi**	**9.70**	**66**	P	**Pn**	**18 17 35.2**	**+2.0**
ZRO	**Akutan Zero**	**9.75**	**66**	P	**Pn**	**18 17 35.2**	**+1.4**
AHB	**Akutan Harbor**	**9.85**	**66**	P	**Pn**	**18 17 36.2**	**+1.0**
PET	**Petropavlovsk**	**12.49**	**286**	*e*P	**Pn**	**18 18 10.1**	**-1.2**
PET				*e*S	**Sn**	**18 20 28.9**	**-0.1**
PET				pmax	pmax		
	comp=Z,18nm,0.9s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PEA0B	**Petropavlovsk-**	**13.07**	**287**	*e*Pn	**Pn**	**18 18 21.0**	**+1.8**
PEA0B				*e*Sn	Sn	18 20 34.7	-8.4
PETK	**Petropavlovsk-**	**13.07**	**287**	Pn	**Pn**	**18 18 20.1**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=96,slow=17,SNR=18						
PETK				Sn	**Sn**	**18 20 38.3**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=93,slow=18,SNR=3.0						
PETK				LR	LR	18 24 32.9	
	comp=Z,510nm,18.4s,baz=95,slow=43						
PETK	**Petropavlovsk-**	**13.07**	**287**	P	**Pn**	**18 18 20.1**	**+0.9**
PETK						18 20 38.3	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,510nm,18.5s						
GAMB	**Gambell**	**13.64**	**18**	*e*Pn	**Pn**	**18 18 29.4**	**+2.6**
	comp=Z,33nm,1.1s						
SKR	**Severo-Kuril's**	**14.27**	**277**	*e*P	Pn	18 18 28.5	-7.0
SKR	

ASAJ MLR MLR
comp=Z,286nm,20.6s
ASAJ Asahikawa 25.16 268 *e*P **P 18 20 38.0 +0.5**
comp=Z,25nm,1.0s
DAWY Dawson 25.33 43 *e*P **P 18 20 37.1 -1.8**
YAK Yakutsk 28.41 312 P **P 18 21 05.2 -1.2**
comp=Z,11nm,0.4s,baz=255,slow=2.9,SNR=18
YAK LR LR 18 32 36.7
comp=Z,899nm,18.8s,baz=105,slow=37
YAK Yakutsk 28.41 312 *e*P **P 18 21 05.3 -1.2**
YAK *e**PP **pP 18 21 14.0 -3.7**
YAK *e*PPP PPP 18 22 03.0
YAK *e* 18 24 17.9
YAK *e*S **S 18 25 51.6 +1.2**
YAK *e**SS **sS 18 26 12.3 +3.3**
YAK *e* 18 31 45.9
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK smax smax
comp=E,64nm,3.1s
YAK smax smax
comp=N,52nm,3.5s
YAK MLR MLR
comp=Z,794nm,16.0s
YAK MLR MLR
comp=N,622nm,15.0s
YAK MLR MLR
comp=E,489nm,15.0s
YAK Yakutsk 28.41 312 *e*P **P 18 21 05.1 -1.4**
comp=E,27nm,0.8s
INK Inuvik 28.53 35 P **P 18 21 05.6 -1.9**
comp=E,2.4nm,0.5s,baz=238,slow=9.4,SNR=9.6
INK LR LR 18 34 07.3
comp=E,399nm,18.6s,baz=244,slow=40
INK Inuvik 28.53 35 P **P 18 21 05.6 -1.9**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK MLR MLR
comp=Z,399nm,18.6s
INK Inuvik 28.53 35 *e*P **P 18 21 05.3 -2.3**
comp=Z,25nm,0.9s
KLR Kul'dur 29.75 285 *e*P P 18 21 15.2 -3.4
KLR MLR MLR
comp=Z,1µm,13.0s
TIXI Tiksi 30.08 331 *i*P **P 18 21 20.4 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 30.08 331 *e*P **P 18 21 21.2 0.0**
comp=Z,3.2nm,0.8s
TIXI *e*ScP **ScP 18 27 59.7 -0.7**
USRK Ussuriysk Ar. 31.79 276 P **P 18 21 37.0 +0.4**
comp=Z,5.6nm,0.8s,baz=48,slow=11,SNR=8.8
USRK PcP **PcP 18 24 28.0 +1.2**
comp=Z,2.8nm,0.7s,baz=57,slow=7.0,SNR=5.1
USRK LR LR 18 36 54.5
comp=Z,226nm,18.1s,baz=56,slow=41
MJAR Matsushiro Arr 32.22 259 P **P 18 21 41.0 +0.5**
comp=Z,3.0nm,0.9s,baz=56,slow=7.8,SNR=5.5
MJAR LR LR 18 32 46.6
comp=Z,391nm,21.6s,baz=60,slow=33
MJAR Matsushiro Arr 32.22 259 P **P 18 21 41.0 +0.5**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,391nm,21.6s
MAJO Matsushiro 32.23 259 *e*P **P 18 21 39.6 -0.9**
MAJO pmax pmax
comp=Z,115nm,1.3s
H11N2 WAKE ISLAND Hy 32.72 201 T T 18 57 13.1
baz=9.4,slow=76,SNR=71
H11N3 WAKE ISLAND Hy 32.73 201 T T 18 56 46.5
baz=9.4,slow=76,SNR=95
H11N1 WAKE ISLAND Hy 32.74 201 T T 18 56 51.5
baz=9.4,slow=76,SNR=72
MDJ Mudanjiang 33.08 278 P **P 18 21 48.0 +0.1**
MDJ pP **pP 18 21 56.5 -2.6**
MDJ sP **sP 18 22 00.8 -3.2**
MDJ PP **PP 18 23 02.0 -1.0**
MDJ PcP **PcP 18 24 31.0 +0.6**
MDJ S **S 18 27 04.3 +0.4**
MDJ ScP **ScP 18 28 11.5 +0.4**
MDJ PcS **PcS 18 28 18.8 +3.0**
MDJ ScS **ScS 18 32 13.5 +2.1**
MDJ PMZ
comp=Z,22nm,1.9s
MDJ PMZ
comp=Z,390nm,3.8s
MDJ LN
comp=Z,48nm,21.3s
MDJ LE
comp=Z,340nm,18.4s
MDJ LZ
comp=Z,570nm,20.3s
H11S1 WAKE ISLAND Hy 33.95 201 T T 18 58 29.1
baz=20,slow=76,SNR=39
H11S2 WAKE ISLAND Hy 33.96 201 T T 18 58 33.2
baz=20,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 33.96 201 T T 18 58 35.5
baz=20,slow=76,SNR=18
YKA Yellowknife Ar 36.50 46 P **P 18 22 16.2 -1.0**
comp=Z,10nm,0.8s,baz=283,slow=8.3,SNR=54
YKA PcP **PcP 18 24 40.4 +0.5**
comp=Z,1.3nm,0.7s,baz=290,slow=3.2,SNR=5.8
YKA ScP **ScP 18 28 25.4 +2.4**
comp=Z,0.8nm,0.7s,baz=297,slow=3.2,SNR=8.6
BOD Bodaibo 36.87 306 ⇓*i*P **P 18 22 19.2 -1.2**
BOD pmax pmax
comp=Z,18nm,1.1s
HIA Hailar 36.93 291 *e*P **P 18 22 20.9 -0.1**
HIA pmax pmax
comp=Z,7.0nm,0.9s
LCW Lucas Creek 37.86 73 P **P 18 22 31.7 +2.7**
F04D Rainier, OR 37.96 74 ⇑P **P 18 22 31.3 +1.6**
baz=38
KSRS Korea Array 38.09 269 P **P 18 22 32.1 +1.2**
comp=Z,9.2nm,0.9s,baz=57,slow=9.4,SNR=16
KSRS LR LR 18 38 34.4
comp=Z,156nm,19.7s,baz=44,slow=37
KSRS Korea Array 38.09 269 P **P 18 22 32.1 +1.2**
KSRS pmax pmax
comp=Z,9.0nm,0.9s
KSRS MLR MLR
comp=Z,156nm,19.7s
KSAR Wonju Array Be 38.12 269 P **P 18 22 32.1 +0.9**
KSAR Wonju Array Be 38.12 269 P **P 18 22 32.1 +0.9**
LVP Lakeview Peak 38.34 74 P **P 18 22 35.4 +2.3**
RCS Mount Rainier- 38.35 72 P **P 18 22 35.9 +2.4**
LON Longmire 38.36 73 *e*P **P 18 22 33.4 +0.2**
LON pmax pmax
comp=Z,7.0nm,0.7s
LON Longmire 38.36 73 *e*P **P 18 22 33.4 +0.2**
comp=Z,6.7nm,0.7s
TWW Teanaway 38.74 72 P **P 18 22 38.9 +2.6**
ASR Mount Adams--S 38.79 73 P **P 18 22 38.8 +2.0**
TBM Table Mountain 38.88 71 P **P 18 22 39.2 +1.6**
JNU Nakatsue 39.01 261 P **P 18 22 38.8 0.0**
comp=Z,8.0nm,0.9s,baz=14,slow=4.2,SNR=2.9
G05D Wamic, OR 39.41 74 ⇑P **P 18 22 43.2 +1.2**
baz=39
I04A Tendick Farm, 39.50 77 ⇑P **P 18 22 43.6 +0.8**
baz=39
I05D Terrebonne, OR 39.87 76 ⇓P **P 18 22 46.9 +1.1**
baz=40
HAWA Hanford 39.90 72 *e*P **P 18 22 46.5 +0.5**
comp=Z,19nm,0.9s
J04D Umpqua Nationa 39.98 78 ⇓P **P 18 22 47.5 +0.6**
baz=40
EDM Edmonton 40.26 60 *e*P **P 18 22 47.7 -1.3**
EDM Edmonton 40.26 60 *e*P **P 18 22 47.7 -1.3**
NEW Newport 40.40 68 P **P 18 22 49.0 -1.2**
comp=Z,14nm,0.7s,baz=290,slow=7.5,SNR=20
NEW Newport 40.40 68 P **P 18 22 49.0 -1.2**
NEW pmax pmax
comp=Z,14nm,0.7s
NEW Newport 40.40 68 ⇓P **P 18 22 50.0 -0.2**
baz=40,SNR=13
NEW Newport 40.40 68 *e*P **P 18 22 48.7 -1.5**
comp=Z,13nm,0.6s
YBH Yreka Blue Hor 40.44 80 P **P 18 22 51.3 +0.7**
comp=Z,6.4nm,0.7s,baz=253,slow=2.1,SNR=8.8
YBH LR LR 18 35 53.6
comp=Z,403nm,21.7s,baz=288,slow=31
YBH Yreka Blue Hor 40.44 80 P **P 18 22 51.3 +0.7**
YBH pmax pmax
comp=Z,6.0nm,0.7s
YBH MLR MLR
comp=Z,403nm,21.7s
J05D Fort Rock, OR 40.49 77 ⇑P **P 18 22 51.9 +0.8**
baz=40
M04C Macdoel 40.95 79 ⇑P **P 18 22 55.8 +0.9**
baz=41,SNR=5.0
WALA Waterton Lakes 41.87 65 *e*P **P 18 23 02.8 +0.4**
comp=Z,19nm,0.9s
BSMT Bassoo Peak 41.97 67 P **P 18 23 03.5 +0.3**
BMO Blue Mountains 42.04 73 P **P 18 23 03.3 -0.4**
comp=Z,11nm,0.8s
JTMT Jette 42.32 67 *e*P **P 18 23 05.4 -0.5**
comp=Z,3.8nm,0.6s
YBMT Yellow Bay 42.41 67 *e*P **P 18 23 06.2 -0.6**
comp=Z,3.6nm,0.6s
SWMT Swartz Lake 42.60 67 *e*P **P 18 23 06.7 -1.6**
comp=Z,2.0nm,0.5s
MSO Missoula 42.99 68 ⇑P **P 18 23 11.3 -0.1**
baz=43
SLMT Seeley Lake 43.03 68 *e*P **P 18 23 11.0 -0.8**
comp=Z,7.9nm,0.8s
CHMT Chamberlain Mo 43.35 68 *e*P **P 18 23 13.0 -1.4**
comp=Z,2.3nm,0.5s
MFID Camas Ranch 43.72 74 *e*P **P 18 23 17.2 -0.1**
comp=Z,11nm,1.1s
BJI Beijing 43.90 281 P **P 18 23 20.8 +2.1**
BJI S **S 18 29 46.3 -0.7**
BJI PMZ
comp=Z,15nm,0.7s
BJI LN
comp=Z,460nm,19.2s
BJI LE
comp=Z,470nm,20.7s
BJI LZ
comp=Z,350nm,21.2s
HRY Holter Researc 44.28 67 *e*P **P 18 23 22.0 +0.2**
comp=Z,14nm,0.7s
HLID Hailey 44.48 73 ⇑P **P 18 23 24.0 +0.5**
baz=44,SNR=23
HLID Hailey 44.48 73 *e*P **P 18 23 23.3 -0.3**
comp=Z,19nm,0.9s
HLID *e*PcP **PcP 18 25 02.3 -4.1**
MCMT McKenzie Canyo 44.71 70 *e*P **P 18 23 25.0 -0.4**
comp=Z,6.8nm,0.7s
EGMT Eagleton 44.78 65 ⇑P **P 18 23 26.1 +0.4**
baz=45
EGMT Eagleton 44.78 65 *e*P **P 18 23 25.6 -0.1**
comp=Z,9.3nm,0.8s
A19A Klindworth Far 44.87 63 ⇑P **P 18 23 26.9 +0.5**
baz=45
TLY Talaya 44.87 301 P **P 18 23 27.1 +0.7**
comp=Z,6.1nm,0.8s,baz=27,slow=11,SNR=5.8
TLY LR LR 18 44 03.3
comp=Z,1µm,18.1s,baz=52,slow=38
TLY Talaya 44.87 301 *e*P **P 18 23 27.5 +1.2**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 44.97 295 ⇑*i*P **P 18 23 27.8 +0.5**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 44.97 295 *e*P **P 18 23 27.6 +0.3**
comp=Z,10nm,0.8s
ULN *e*PcP **PcP 18 25 07.5 -0.4**
B19A Brinkman Farms 45.01 64 ⇑P **P 18 23 28.0 +0.4**
baz=45
NVAR Mina Array Bea 45.11 81 P **P 18 23 29.4 +0.7**
comp=Z,2.8nm,0.4s,baz=280,slow=11,SNR=4.6
C19A Slack Wire Ran 45.33 65 ⇑P **P 18 23 31.1 +1.0**
baz=45,SNR=7.2
A20A Cobblestone Ra 45.35 63 ⇓P **P 18 23 30.5 +0.2**
baz=45
SONM Songino Array 45.36 296 P **P 18 23 31.3 +0.9**
comp=Z,4.7nm,0.6s,baz=62,slow=7.0,SNR=29
SONM PcP **PcP 18 25 09.9 +0.7**
comp=Z,1.8nm,0.5s,baz=98,slow=2.5,SNR=5.5
SONM ScP **ScP 18 29 01.6 +3.2**
comp=Z,0.3nm,0.7s,baz=57,slow=5.3,SNR=2.5
SONM LR LR 18 45 05.2
comp=Z,514nm,18.1s,baz=56,slow=40
FFC Flin Flon 45.52 53 ⇑*e*P **P 18 23 33.0 +1.6**
B20A Solberg Farm, 45.54 63 ⇓P **P 18 23 32.0 +0.3**
baz=45
ELK Elko 45.61 76 P **P 18 23 32.7 +0.1**
comp=Z,6.8nm,0.7s,baz=17,slow=3.7,SNR=24
ELK Elko 45.61 76 P **P 18 23 32.7 +0.1**
ELK pmax pmax
comp=Z,7.0nm,0.7s
TIA Tai'an 45.65 276 *e*P P 18 23 36.3 +3.6
TIA PMZ
comp=Z,30nm,0.8s
D19A Cripps Ranch, 45.74 65 ⇓P **P 18 23 33.8 +0.4**
baz=46
ZAK Zakamensk 45.74 300 *e*P **P 18 23 33.2 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
C20A Veseth Ranch, 45.94 64 ⇓P **P 18 23 35.8 +0.9**
baz=46
TPH Tonopah 46.00 81 *e*P **P 18 23 35.6 -0.1**
TPH pmax pmax
comp=Z,10.0nm,0.7s
TPH Tonopah 46.00 81 *e*P **P 18 23 35.6 -0.1**
comp=Z,10nm,0.7s
YNR Norris Junctio 46.05 69 *e*P **P 18 23 36.3 +0.2**
comp=Z,17nm,0.9s
E19A Rath Farm, Rou 46.18 66 ⇑P **P 18 23 37.5 +0.6**
baz=46,SNR=6.1
D20A Manuel Ranch, 46.20 65 ⇓P **P 18 23 38.2 +1.2**
baz=46
HHC Hu-ho-hao-te 46.26 285 *e*P P 18 23 40.8 +3.3
HHC sP sP 18 23 58.5 +4.6
HHC PP **PP 18 25 27.8 +1.5**
HHC S **S 18 30 21.5 +0.2**
HHC SS SS 18 33 38.8 -7.8
HHC PMZ
comp=Z,25nm,1.1s
HHC PMZ
comp=Z,290nm,6.5s
HHC LN
comp=Z,470nm,22.2s
HHC LE
comp=Z,360nm,17.3s
HHC LZ
comp=Z,340nm,14.8s
MOY Mondy 46.29 303 *e*P **P 18 23 39.0 +1.3**
H17A Grant Village 46.30 69 ⇑P **P 18 23 39.0 +1.0**
baz=46
C21A Desert Coulee 46.39 64 ⇓P **P 18 23 39.3 +0.9**
baz=46
F19A Roth Farm, Mol 46.43 67 ⇓P **P 18 23 39.2 +0.4**
baz=46
HVU Hansel Valley 46.50 74 *e*P **P 18 23 39.2 -0.3**
HVU pmax pmax
comp=Z,23nm,0.8s
HVU Hansel Valley 46.50 74 *e*P P 18 23 39.2 -0.3
comp=Z,23nm,0.8s
E20A Meyer Farm, Mu 46.53 66 ⇑P **P 18 23 39.4 -0.2**
baz=46
I17A Pilgrim Ck. 46.57 70 ⇑P **P 18 23 41.0 +0.9**
baz=46
RLMT Red Lodge 46.65 68 *e*P **P 18 23 40.6 -0.1**
comp=Z,20nm,0.9s
H18A Shoshone NF, C 46.67 69 ⇓P **P 18 23 40.8 -0.1**
baz=46
ISA Isabella, Lake 46.73 84 ⇓P **P 18 23 40.8 -0.5**
baz=47
R11A Troy Canyon, C 46.85 79 ⇑P **P 18 23 42.4 +0.1**
baz=47,SNR=11
R11A Troy Canyon, C 46.85 79 *e*P **P 18 23 41.1 -1.2**
comp=Z,8.0nm,0.8s
BGU Big Grassy Mou 46.85 75 *e*P **P 18 23 42.5 +0.2**
comp=Z,10nm,0.9s
F20A Billings 46.92 66 ⇑P **P 18 23 43.0 +0.3**
baz=47
AHID Auburn Hatcher 46.93 71 *e*P **P 18 23 43.0 +0.1**
comp=Z,8.6nm,0.7s
H19A Powell 47.07 68 ⇓P **P 18 23 44.2 +0.3**
baz=47
MPMC Manual Prospec 47.09 83 ⇓P **P 18 23 44.0 -0.3**
baz=47
G20A Bridger 47.21 67 ⇓P **P 18 23 44.8 -0.1**
baz=47,SNR=8.9
FCC Fort Churchill 47.22 45 *e*P **P 18 23 43.4 -1.3**
FCC *e* 18 25 14.9
FCC pmax pmax
comp=Z,8.0nm,0.8s
FCC Fort Churchill 47.22 45 *e*P **P 18 23 43.4 -1.3**
comp=Z,8.5nm,0.8s
FCC *e*PcP **PcP 18 25 14.9 -0.5**
NJ2 Nanjing 47.27 270 *e*P **P 18 23 46.0 +0.6**
NJ2 PMZ
comp=Z,30nm,0.7s
D22A Cohagen 47.28 64 ⇓P **P 18 23 46.5 +1.1**
baz=47
TPNV Topopah Spring 47.31 81 ⇑P **P 18 23 45.7 -0.2**
baz=47,SNR=5.9
HWUT Hardware Ranch 47.33 73 *e*P **P 18 23 45.8 -0.2**
comp=Z,12nm,0.9s
DUG Dugway, Tooele 47.42 75 *e*P **P 18 23 47.4 +0.7**
DUG pmax pmax
comp=Z,21nm,1.0s
DUG Dugway, Tooele 47.42 75 ⇑P **P 18 23 47.3 +0.6**
baz=47,SNR=14
DUG Dugway, Tooele 47.42 75 *e*P **P 18 23 47.4 +0.7**
comp=Z,21nm,1.0s
C23A Lambert 47.48 63 ⇑P **P 18 23 47.7 +0.8**
baz=47
A24A Westby 47.51 61 ⇑P **P 18 23 46.7 -0.4**
baz=47,SNR=5.8
EDW2 Edwards Air Fo 47.54 84 ⇓P **P 18 23 47.0 -0.6**
baz=47
G21A Lodge Grass 47.79 67 ⇑P **P 18 23 49.5 +0.1**
baz=48
E22A Miles City 47.81 65 ⇑P **P 18 23 49.7 +0.1**
baz=48,SNR=5.1
D23A Lindsay 47.82 63 ⇑P **P 18 23 50.6 +1.0**
baz=48
BW06 Boulder Array 47.84 71 *e*P **P 18 23 49.6 -0.4**
comp=Z,23nm,0.8s
PDAR Pinedale Array 47.84 71 P **P 18 23 49.9 -0.2**
comp=Z,28nm,0.9s,baz=296,slow=3.4,SNR=87
J19A Crowheart 47.85 70 ⇓P **P 18 23 50.8 +0.8**
baz=48,SNR=11
A25A Svangstu Ranch 47.99 60 ⇑P **P 18 23 50.5 -0.3**
baz=48,SNR=5.5
I20A Worland 47.99 68 ⇓P **P 18 23 51.1 +0.1**
baz=48,SNR=5.8
GSC Goldstone, Bar 48.01 83 ⇓P **P 18 23 51.0 -0.2**
baz=48
F22A Rosebud 48.02 65 ⇑P **P 18 23 50.8 -0.3**
baz=48
NLU North Lily Min 48.02 75 *e*P **P 18 23 50.8 -0.6**
comp=Z,4.6nm,0.8s
KRAR Krasnoyarsk 48.07 311 *e*P **P 18 23 49.2 -2.1**
KRAR pmax pmax
comp=Z,31nm,1.0s
E23A Ismay 48.15 64 ⇓P **P 18 23 52.7 +0.6**
baz=48
BFSC Mount Baldy Ra 48.16 85 ⇑P **P 18 23 52.3 -0.2**
baz=48
H21A Big Horn, Sher 48.23 67 ⇑P **P 18 23 52.8 -0.1**
baz=48
MPU Maple Canyon 48.25 75 *e*P **P 18 23 54.7 +1.6**
comp=Z,8.3nm,0.7s
G22A Birney 48.32 66 ⇓P **P 18 23 53.0 -0.5**
baz=48
D24A Glendive 48.34 63 ⇑P **P 18 23 53.7 +0.1**
baz=48
J20A Shoshoni 48.37 69 ⇓P **P 18 23 54.1 +0.1**
baz=48
F23A Volborg 48.54 65 ⇑P **P 18 23 54.5 -0.7**
baz=48
I21A Big Trails, Te 48.56 68 ⇑P **P 18 23 55.3 -0.2**
baz=48,SNR=7.7
A26A Wade Farm, Ken 48.60 60 ⇓P **P 18 23 54.9 -0.6**
baz=48
H22A Clearmont 48.65 67 ⇓P **P 18 23 55.1 -1.0**
baz=48
E24A Baker 48.67 64 ⇑P **P 18 23 56.6 +0.4**
baz=48
CCUT Cedar City 48.72 78 *e*P **P 18 23 58.0 +1.1**
comp=Z,3.4nm,0.7s
J21A Lysite 48.75 69 ⇑P **P 18 23 57.2 +0.2**
baz=49
TMUT Trail Mountain 48.95 75 *e*P **P 18 23 59.8 +1.1**
comp=Z,18nm,0.7s
I22A 9 Mile Ranch, 48.99 68 ⇑P **P 18 23 59.2 +0.5**
baz=49,SNR=8.1
F24A Ekalaka 49.01 64 ⇑P **P 18 23 58.4 -0.4**
baz=49
GMRC Granite Mounta 49.06 83 ⇑P **P 18 23 59.0 -0.4**
baz=49,SNR=7.2
C26A Wahner Farm, P 49.18 61 ⇓P **P 18 23 59.2 -0.8**
baz=49
K21A Alcova 49.29 69 ⇓P **P 18 24 01.0 -0.1**
baz=49
PFO Pinyon Flats O 49.33 85 P **P 18 24 01.2 -0.2**
comp=Z,1.2nm,0.4s,baz=319,slow=6.5,SNR=5.8
PFO LR LR 18 41 08.3
comp=Z,288nm,20.7s,baz=316,slow=32
PFO Pinyon Flats O 49.33 85 P **P 18 24 01.2 -0.2**
PFO pmax pmax
comp=Z,1.0nm,0.4s
PFO MLR MLR
comp=Z,288nm,20.7s
PFO Pinyon Flats O 49.33 85 ⇓P **P 18 24 01.3 -0.1**
baz=49
G24A Alzada 49.33 65 ⇑P **P 18 24 01.5 +0.3**
baz=49
BELC Belle Mtn. Jos 49.36 84 ⇑P **P 18 24 00.9 -0.8**
baz=49
SRU San Rafael Swe 49.48 75 *e*P **P 18 24 03.6 +1.0**
SRU pmax pmax
comp=Z,18nm,0.7s
SRU San Rafael Swe 49.48 75 *e*P **P 18 24 03.6 +1.0**
comp=Z,18nm,0.7s
A28A Rude Farm, Bot 49.55 59 ⇓P **P 18 24 03.0 +0.1**
baz=49
H24A Dirks Ranch, A 49.60 66 ⇑P **P 18 24 02.7 -0.6**
baz=49
K22A Casper 49.71 69 ⇑P **P 18 24 04.4 +0.1**
baz=50
K22A Casper 49.71 69 *e*P **P 18 24 03.8 -0.5**
comp=Z,9.6nm,0.8s
E26A Carlson Angus 49.76 63 ⇑P **P 18 24 05.4 +0.9**
baz=50
N20A Spence Gulch, 49.78 72 ⇑P **P 18 24 05.2 +0.3**
baz=50,SNR=6.1
IRM Iron Mountain 49.78 83 ⇓P **P 18 24 04.8 +0.1**
baz=50
BAR Barrett 49.81 86 *e*P **P 18 24 04.9 -0.1**
comp=Z,4.0nm,0.8s
MONP Monument Peak, 49.83 85 ⇑P **P 18 24 05.0 -0.3**
baz=50
BC3 Big Chuckawall 49.93 84 ⇓P **P 18 24 06.1 +0.1**
baz=50
W13A Hualapai Mount 49.96 81 ⇑P **P 18 24 06.2 -0.1**
baz=50
U15A North Rim 50.09 79 ⇓P **P 18 24 07.9 +0.5**
baz=50,SNR=11
L22A Ellis Ranch, M 50.14 70 ⇑P **P 18 24 07.8 +0.3**
baz=50
K23A Bowen Ranch, D 50.17 68 ⇓P **P 18 24 07.7 -0.1**
baz=50
O20A White River Ci 50.23 73 ⇑P **P 18 24 08.0 -0.2**
baz=50,SNR=10
O20A White River Ci 50.23 73 *e*P **P 18 24 07.0 -1.3**
comp=Z,30nm,0.8s
PDMCI Parker Dam,Lak 50.32 82 ⇑P **P 18 24 08.8 0.0**
baz=50,SNR=6.9
G26A Maurine 50.38 64 ⇓P **P 18 24 09.3 +0.1**
baz=50
D28A Regan 50.39 61 ⇓P **P 18 24 09.2 0.0**
baz=50
M22A Cedar Creek Ra 50.42 70 ⇑P **P 18 24 10.0 +0.2**
baz=50
Y12C Blythe 50.45 83 ⇓P **P 18 24 09.7 0.0**
baz=50
I25A Rochford 50.50 66 ⇑P **P 18 24 10.3 0.0**
baz=50
L23A Garrett 50.52 69 ⇓P **P 18 24 10.5 0.0**
baz=50,SNR=12
G27A Dupree 50.71 63 ⇓P **P 18 24 12.3 +0.6**
baz=50
GLA Glamis 50.72 84 *e*P **P 18 24 12.4 +0.5**
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA Glamis 50.72 84 ⇓P **P 18 24 12.4 +0.5**
baz=51
GLA Glamis 50.72 84 *e*P **P 18 24 12.4 +0.5**
comp=Z,9.8nm,0.8s

J25A Sunshine Ranch 50.84 67 ⇑P P 18 24 12.8 0.0
baz=51
N22A Wattenberg Ran 50.88 71 ⇑P P 18 24 13.4 +0.1
baz=51
F28A McLaughlin 51.06 62 ⇑P P 18 24 14.9 +0.6
baz=51
ULM Lac du Bonnet 51.09 55 P P 18 24 13.5 -0.9
comp=Z,1.5nm,0.5s,baz=306,slow=8.7,SNR=3.9
ULM PcP PcP 18 25 29.6 0.0
comp=Z,2.8nm,0.5s,baz=318,slow=3.9,SNR=4.9
ULM Lac du Bonnet 51.09 55 P P 18 24 13.5 -0.9
ULM 18 25 29.6
ULM pmax pmax
comp=Z,2.0nm,0.5s
WHN Wuhan 51.12 272 P P 18 24 14.3 -0.6
N23A Red Feather La 51.13 70 ⇑P P 18 24 15.2 0.0
baz=51
O22A Kremmling 51.22 71 ⇓P P 18 24 15.7 -0.2
baz=51,SNR=6.0
WUAZ Wupatki 51.25 79 ⇓P P 18 24 16.0 0.0
baz=51
WUAZ Wupatki 51.25 79 *e*P P 18 24 15.3 -0.7
comp=Z,6.1nm,0.6s
Y14A Wickenburg 51.27 82 ⇓P P 18 24 16.1 +0.1
baz=51
P22A Eagle 51.45 72 ⇓P P 18 24 17.8 +0.2
baz=51
G28A Parade 51.47 63 ⇓P P 18 24 17.8 +0.5
baz=51
L25A Engebretsen Ra 51.51 68 ⇓P P 18 24 17.7 -0.1
baz=51
O23A Lake Granby, G 51.57 71 ⇓P P 18 24 18.7 +0.2
baz=51,SNR=12
H28A Mission Ridge 51.65 64 ⇑P P 18 24 19.7 +1.0
baz=52
SSLB Suanglung 51.75 261 *e*P P 18 24 19.9 +0.2
comp=Z,21nm,1.0s
N24A Carr 51.80 70 ⇑P P 18 24 20.7 +0.7
baz=52
MVCO Mesa Verde 51.92 76 ⇓P P 18 24 21.3 +0.2
baz=52
MVCO Mesa Verde 51.92 76 *e*P P 18 24 22.4 +1.3
comp=Z,4.8nm,0.6s
X16A Lo Mia Camp, P 51.93 80 ⇓P P 18 24 21.3 +0.2
baz=52
I28A Midland 51.98 64 ⇑P P 18 24 21.6 +0.5
baz=52
ISCO Idaho Springs 52.01 71 *e*P P 18 24 21.2 -0.6
ISCO pmax pmax
comp=Z,9.0nm,0.9s
ISCO Idaho Springs 52.01 71 ⇑P P 18 24 21.9 +0.1
baz=52,SNR=7.6
ISCO Idaho Springs 52.01 71 *e*P P 18 24 21.2 -0.6
comp=Z,8.9nm,0.9s
J28A Allard Ranch, 52.30 65 ⇓P P 18 24 23.9 +0.3
baz=52
G30A Faulkton 52.42 62 ⇓P P 18 24 25.4 +1.0
baz=52
Q23A Hartsel 52.45 72 ⇑P P 18 24 25.6 +0.5
baz=52,SNR=6.5
W18A Petrified Fore 52.52 78 ⇑P P 18 24 25.7 +0.2
baz=52
S22A 4UR Ranch, Cre 52.59 74 ⇑P P 18 24 26.6 +0.5
baz=52,SNR=14
P24A Kohler Place, 52.61 71 ⇓P P 18 24 26.2 +0.1
baz=52
K28A Ten Mile Ranch 52.67 66 ⇓P P 18 24 27.0 +0.7
baz=52
214A Organ Pipe Nat 52.71 84 ⇑P P 18 24 26.4 -0.3
baz=53
X18A Snowflake 52.78 79 ⇑P P 18 24 27.9 +0.5
baz=53
Q24A Divide 52.82 72 ⇓P P 18 24 28.0 +0.2
baz=53
M27A Reverse DX Ran 52.82 68 ⇑P P 18 24 28.4 +0.9
baz=53
J29A Okreek 52.83 65 ⇑P P 18 24 28.3 +0.8
baz=53
R23A Moffat 52.91 73 ⇑P P 18 24 28.8 +0.4
baz=53
P25A Willow Gulch B 53.05 71 ⇓P P 18 24 30.5 +1.1
baz=53,SNR=16
ZAA0 Zalesovo Array 53.05 312 *e*P P 18 24 27.4 -1.5
ZALV Zalesovo Beam 53.05 312 P P 18 24 28.2 -0.7
comp=Z,2.1nm,0.5s,baz=64,slow=6.8,SNR=8.9
ZALV LR LR 18 48 48.9
comp=Z,651nm,18.1s,baz=70,slow=38
ZALV Zalesovo Beam 53.05 312 P P 18 24 28.2 -0.7
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,651nm,18.2s
O26A Horse Wrangler 53.09 69 ⇑P P 18 24 30.1 +0.5
baz=53
NVS Novosibirsk 53.23 314 ⇑*i*P P 18 24 29.8 -0.3
NVS pmax pmax
comp=Z,16nm,1.0s
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,9.0nm,1.1s
K29A Lazy Trails An 53.24 65 ⇑P P 18 24 31.2 +0.6
baz=53
R24A Sanders Place, 53.31 72 ⇓P P 18 24 31.7 +0.4
baz=53,SNR=6.6
J30A Dallas 53.35 64 ⇓P P 18 24 32.3 +1.0
baz=53
Q25A Bedland, Calha 53.39 71 ⇓P P 18 24 32.4 +0.6
baz=53,SNR=10
SDCO Great Sand Dun 53.39 73 ⇓P P 18 24 32.3 +0.3
baz=53,SNR=15
P26A Davis Ranch, A 53.51 70 ⇓P P 18 24 33.1 +0.4
baz=53,SNR=8.8
K30A Basset 53.69 65 ⇑P P 18 24 34.8 +0.9
baz=54
Q26A Hugo 53.82 71 ⇑P P 18 24 36.0 +1.0
baz=54
SUMG Summit 53.88 13 *e*P P 18 24 34.2 -1.0
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 53.88 13 *e*P P 18 24 34.2 -1.0
comp=Z,16nm,0.9s
LZH Lanzhou 53.95 285 *e*P P 18 24 38.8 +2.8
LZH pP **pP** 18 24 46.8 -1.0
LZH sP **sP** 18 24 51.5 -1.0
LZH *e*PP PP 18 26 42.5 +5.2
LZH *e*S **S** 18 32 10.0 +1.3
LZH *e*SS **SS** 18 35 51.0 +1.2
LZH PMZ
comp=Z,56nm,1.3s
LZH PMZ
comp=Z,120nm,4.0s
LZH LN
comp=Z,600nm,16.3s
LZH LE
comp=Z,750nm,18.5s
LZH LZ
comp=Z,570nm,17.8s
GTA Gaotai 54.21 290 ⇑P P 18 24 38.3 +0.6
GTA pP **pP** 18 24 48.5 -1.0
GTA sP **sP** 18 24 52.5 -1.8
GTA S **S** 18 32 12.0 +0.1
GTA sS **sS** 18 32 29.3 -2.2
GTA SS **SS** 18 35 52.5 -1.1
GTA PMZ
comp=Z,12nm,1.8s
GTA PMZ
comp=Z,120nm,5.5s
GTA LN
comp=Z,460nm,16.6s
GTA LE
comp=Z,710nm,16.2s
GTA LZ
comp=Z,850nm,16.6s
R26A Arlington 54.26 71 ⇓P P 18 24 39.1 +0.9
baz=54,SNR=21
P28A Saint Francis 54.44 69 ⇓P P 18 24 40.4 +1.0
baz=54
T25A Trinidad 54.44 73 ⇓P P 18 24 40.5 +0.9
baz=54,SNR=15
L31A Butterfield Fa 54.45 65 ⇓P P 18 24 40.3 +0.9
baz=54
O29A 4D Ranch, Culb 54.64 68 ⇑P P 18 24 42.0 +1.1
baz=54
ANMO Albuquerque 54.65 76 P P 18 24 41.5 +0.4
comp=Z,1.2nm,0.7s,baz=300,slow=5.0,SNR=4.0
ANMO PcP PcP 18 25 44.6 +1.0
comp=Z,2.3nm,0.8s,baz=208,slow=2.4,SNR=4.2
ANMO Albuquerque 54.65 76 *e*P P 18 24 41.2 +0.1
ANMO pmax pmax
comp=Z,5.0nm,0.8s
R27A Eads 54.66 71 ⇓P P 18 24 41.6 +0.6
baz=54,SNR=13
S26A Kim 54.69 72 ⇑P P 18 24 41.7 +0.4
baz=54,SNR=14
ECSD EROS Data Cent 54.71 62 ⇓P P 18 24 41.8 +0.6
baz=54
Q28A Sharon Springs 54.73 70 ⇑P P 18 24 42.1 +0.6
baz=55
P29A Atwood 54.91 69 ⇑P P 18 24 44.0 +1.2
baz=55
T26A Comanche Natio 54.91 72 ⇓P P 18 24 43.0 0.0
baz=55,SNR=7.5
O30A MW Ranch, Wils 55.04 67 ⇑P P 18 24 44.3 +0.7
baz=55
R28A Tribune 55.21 70 ⇓P P 18 24 45.7 +0.7
baz=55
319A Douglas 55.31 82 ⇓P P 18 24 46.5 +0.7
baz=55
Q29A Oakley 55.34 69 ⇑P P 18 24 47.1 +1.2
baz=55
BGNE Belgrade 55.34 65 ⇓P P 18 24 46.8 +1.1
baz=55
P30A Selden 55.34 68 ⇑P P 18 24 46.6 +0.8
baz=55
121A Cookes Peak, D 55.45 79 ⇓P P 18 24 47.5 +0.6
baz=55
T27A Campo 55.51 72 ⇓P P 18 24 47.8 +0.6
baz=55
R29A Marienthal 55.55 70 ⇑P P 18 24 48.2 +0.8
baz=55
S28A Manter 55.65 71 ⇓P P 18 24 48.6 +0.5
baz=56,SNR=16
Q30A Quinter 55.73 69 ⇑P P 18 24 49.5 +0.9
baz=56
T28A Walsh 55.84 72 ⇑P P 18 24 49.3 -0.2
baz=56,SNR=13
P31A Stockton 55.87 68 ⇓P P 18 24 50.2 +0.6
baz=56
U27A Thompson Grove 55.87 73 ⇓P P 18 24 49.9 +0.1
baz=56,SNR=9.0
R30A Dighton 56.15 69 ⇓P P 18 24 52.2 +0.5
baz=56,SNR=9.8
U28A Mallet 56.26 72 ⇓P P 18 24 52.5 -0.1
baz=56,SNR=11
V27A Dan Oppiter Fa 56.31 73 ⇓P P 18 24 53.7 +0.7
baz=56
S30A Montezuma 56.47 70 ⇑P P 18 24 54.8 +0.8
baz=56
R31A Burdett 56.59 69 ⇑P P 18 24 55.7 +0.9
baz=56
Q32A Meitler Ranch, 56.69 68 ⇓P P 18 24 55.3 -0.2
baz=56,SNR=8.5
U29A Oasis Ranch, S 56.78 72 ⇓P P 18 24 56.3 +0.1
baz=57,SNR=5.9
T30A Plains 56.83 71 ⇓P P 18 24 56.7 +0.2
baz=57
P33A Williams Farm, 56.90 67 ⇓P P 18 24 57.7 +0.8
baz=57
S31A Mullinville 57.06 69 ⇓P P 18 24 58.6 +0.5
baz=57
U30A WK&E Inc. Balk 57.10 71 ⇓P P 18 24 58.7 +0.3
baz=57
Q33A Connelly Farm, 57.11 67 ⇓P P 18 24 58.2 -0.3
baz=57,SNR=9.8
COWI Conover 57.20 56 *e*P P 18 24 56.6 -2.4
comp=Z,8.6nm,0.9s
T31A Randall Ranch, 57.30 70 ⇓P P 18 25 00.0 +0.2
baz=57
R33A Olander Ranch, 57.48 68 ⇓P P 18 25 01.4 +0.3
baz=57
CD2 Chengdu 57.50 280 *e*P P 18 25 03.0 +1.7
CD2 pP **pP** 18 25 13.8 +0.6
CD2 sP **sP** 18 25 18.0 +0.1
CD2 PP **PP** 18 27 12.3 +3.4
CD2 PcS **PcS** 18 29 56.3 +0.5
CD2 S **S** 18 32 55.5 -0.3
CD2 sS **sS** 18 33 13.0 -2.5
CD2 SS **SS** 18 36 46.5 +0.9
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.6s
MNTX Cornudas Mount 57.51 79 ⇓P P 18 25 01.8 +0.4
baz=57,SNR=6.8
MNTX Cornudas Mount 57.51 79 *e*P P 18 25 00.5 -0.9
comp=Z,4.3nm,0.8s
X28A Dimmitt 57.53 74 ⇑P P 18 25 01.6 0.0
baz=57
MSTX Muleshoe 57.55 75 ⇑P P 18 25 02.0 +0.2
baz=57
MSTX Muleshoe 57.55 75 *e*P P 18 25 00.8 -0.9
comp=Z,8.4nm,0.8s
AMTX Amarillo 57.59 73 ⇑P P 18 25 02.3 +0.3
baz=58
AMTX Amarillo 57.59 73 *e*P P 18 25 01.6 -0.4
comp=Z,19nm,0.9s
V30A Spur Ranch, Mi 57.60 72 ⇓P P 18 25 02.6 +0.6
baz=57
U31A Nine Bar Ranch 57.69 71 ⇓P P 18 25 03.0 +0.4
baz=58
T32A Huddler Ranch, 57.69 69 ⇑P P 18 25 02.7 +0.1
baz=58
ARCES ARCESS Array B 58.04 349 P P 18 25 05.2 +0.7
comp=Z,5.8nm,0.8s,baz=1.6,slow=8.5,SNR=5.6
ARCES PcP PcP 18 25 56.5 +0.6
comp=Z,2.7nm,0.7s,baz=27,slow=6.1,SNR=3.6
ARCES ARCESS Array B 58.04 349 P P 18 25 05.2 +0.7
ARCES 18 25 56.6
ARCES pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 58.05 312 P P 18 25 04.7 -0.1
KURK pmax pmax
comp=Z,11nm,1.1s
KURK Kurchatov 58.05 312 P P 18 25 05.7 +0.9
KURK S S 18 33 14.6 +12
KURBB Kurchatov Arra 58.15 312 P P 18 25 05.7 +0.1
comp=Z,6.0nm,0.5s,baz=43,slow=6.7,SNR=52
KURBB S S 18 33 14.6 +11
comp=Z,0.6nm,0.9s,baz=48,slow=13,SNR=5.3
WMQ Urumqi 58.15 302 *e*P P 18 25 07.0 +1.2
WMQ pP **pP** 18 25 16.8 -0.8
WMQ sP **sP** 18 25 22.5 +0.1
WMQ PP PP 18 27 20.0 +5.6
WMQ S **S** 18 33 07.0 +2.9
WMQ ScS **ScS** 18 34 49.8 -2.0
WMQ SS **SS** 18 36 58.0 +2.7
WMQ PMZ
comp=Z,11nm,0.6s
WMQ PMZ
comp=Z,260nm,11.0s
WMQ LN
comp=Z,880nm,17.9s
WMQ LE
comp=Z,610nm,17.8s
WMQ LZ
comp=Z,700nm,20.2s
U32A Winter Ranch, 58.18 70 ⇓P P 18 25 06.9 +0.9
baz=58
Y29A Porterfield Fa 58.30 74 ⇓P P 18 25 08.1 +1.1
baz=58
W31A Holland Ranch, 58.43 72 ⇑P P 18 25 07.3 -0.5
baz=58
128A Castleberry Fa 58.65 76 ⇑P P 18 25 09.4 0.0
baz=58
U33A Lingo Farm, Me 58.67 70 ⇑P P 18 25 09.4 0.0
baz=58
Z29A Hungry Hill Ra 58.69 75 ⇑P P 18 25 09.8 +0.1
baz=59
Y30A Stafford Cattl 58.75 74 ⇓P P 18 25 10.1 +0.1
baz=59,SNR=7.3
X31A McDonald Ranch 58.79 72 ⇑P P 18 25 10.7 +0.4
baz=59
GYA Guiyang 58.80 274 *e*P P 18 25 12.3 +1.7
GYA PMZ
comp=Z,10.0nm,1.0s
S35A Otter Creek Ra 58.88 67 ⇑P P 18 25 11.2 +0.4
baz=59
W32A Sentinel 58.89 71 ⇓P P 18 25 11.5 +0.6
baz=59
R36A Gordon, Harris 58.91 66 ⇓P P 18 25 10.7 -0.3
baz=59,SNR=11
MK31 Makanchi Array 58.95 307 *e*P P 18 25 10.6 -0.6
MK31 Makanchi Array 58.95 307 *e*P P 18 25 10.6 -0.6
MKAR Makanchi Array 58.95 307 P P 18 25 10.8 -0.4
comp=Z,3.8nm,0.9s,baz=20,slow=3.9,SNR=26
MKAR LR LR 18 52 14.9
comp=Z,444nm,18.3s,baz=44,slow=38
MKAR Makanchi Array 58.95 307 P P 18 25 10.8 -0.4
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR MLR MLR
comp=Z,444nm,18.3s
V33A Lossen Ranch, 58.99 70 ⇑P P 18 25 11.9 +0.3
baz=59
U34A Anderson Ranch 59.01 69 ⇑P P 18 25 12.1 +0.3
baz=59
U34A Anderson Ranch 59.01 69 *e*P P 18 25 11.9 +0.2
comp=Z,30nm,0.8s
Z30A Sanderson Ranc 59.02 74 ⇑P P 18 25 12.1 +0.2
baz=59,SNR=6.3
S36A Lake Cedric, C 59.27 67 ⇓P P 18 25 13.8 +0.3
baz=59
X32A Elmer 59.35 72 ⇓P P 18 25 14.8 +0.7
baz=59
V34A Guthrie 59.43 70 ⇓P P 18 25 15.5 +0.8
baz=59
WMOK Wichita Mounta 59.44 71 *e*P P 18 25 14.3 -0.4
WMOK pmax pmax
comp=Z,14nm,0.8s
WMOK Wichita Mounta 59.44 71 *e*P P 18 25 14.3 -0.4
comp=Z,14nm,0.8s
Y32A R-V Farms, Ver 59.54 73 ⇑P P 18 25 15.5 +0.1
baz=59,SNR=10
Z31A Sharp Cattle R 59.59 74 ⇓P P 18 25 16.3 +0.5
baz=60
130A Snyder 59.60 75 ⇑P P 18 25 16.1 +0.2
baz=60
W34A Bridge Creek, 59.69 70 ⇓P P 18 25 17.0 +0.5
baz=60
X33A Lawton 59.74 71 ⇓P P 18 25 17.5 +0.7
baz=60
V35A Meyer Ranch, C 59.88 69 ⇑P P 18 25 18.5 +0.7
baz=60
230A Sterling City 60.00 75 ⇓P P 18 25 18.7 0.0
baz=60,SNR=12
Z32A Haskell 60.00 73 ⇓P P 18 25 18.7 0.0
baz=60,SNR=10.0
Y33A Hilltop Ranch, 60.03 72 ⇑P P 18 25 19.0 +0.2
baz=60,SNR=5.3
BVA0 Borovoye Array 60.05 319 *i*P P 18 25 19.2 +0.6
BVA0 pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 60.07 319 *c i*P P 18 25 19.2 +0.4
BRVK pmax pmax
comp=Z,20nm,1.0s
X34A Smith Ranch, M 60.09 71 ⇓P P 18 25 19.5 +0.3
baz=60
TXAR Lajitas Array 60.21 79 P P 18 25 19.6 -0.6
comp=Z,2.2nm,0.6s,baz=301,slow=5.6,SNR=20
TXAR Lajitas Array 60.21 79 P P 18 25 19.7 -0.6
TXAR pmax pmax
comp=Z,2.0nm,0.6s
W35A Tecumseh 60.28 70 ⇓P P 18 25 20.9 +0.4
baz=60
330A Mertzon 60.30 76 ⇓P P 18 25 20.9 +0.1
baz=60
ABTX Abilene, Hawle 60.38 74 ⇑P P 18 25 21.6 +0.4
baz=60
ABTX Abilene, Hawle 60.38 74 *e*P P 18 25 21.4 +0.1
comp=Z,13nm,0.9s
TUL1 Leonard 60.40 69 ⇓P P 18 25 22.1 +0.9
baz=60
429A Davenport Ranc 60.40 77 ⇑P P 18 25 21.7 +0.2
baz=60
Z33A Whitaker Ranch 60.45 73 ⇑P P 18 25 22.1 +0.4
baz=60
231A Bronte 60.45 75 ⇑P P 18 25 22.1 +0.3
baz=60
529A Stev Forest Ra 60.55 78 ⇑P P 18 25 22.7 +0.2
baz=60,SNR=5.3
Y34A Reagan Ranch, 60.59 71 ⇑P P 18 25 23.1 +0.5
baz=60,SNR=8.6
W36A Wetumka 60.67 69 ⇓P P 18 25 23.5 +0.3
baz=60,SNR=5.3
430A Baggett Ranch, 60.69 76 ⇑P P 18 25 23.2 -0.2
baz=61
X35A Drake 60.74 71 ⇑P P 18 25 24.7 +1.0
baz=61,SNR=5.0
331A San Angelo 60.82 75 ⇓P P 18 25 24.0 -0.3
baz=61
133A Hamilton Ranch 60.83 73 ⇑P P 18 25 24.2 -0.1
baz=61,SNR=6.3
232A Coleman 60.89 74 ⇓P P 18 25 24.3 -0.4
baz=61,SNR=8.7
SVE Sverdlovsk 60.94 326 ⇓*e*P P 18 25 26.2 +1.6
SVE pmax pmax
comp=Z,28nm,1.0s
SVE MLR MLR
comp=Z,682nm,20.0s
X36A Centrahoma 60.99 70 ⇑P P 18 25 25.4 +0.1
baz=61,SNR=8.1
530A J-C Ranch, Com 61.08 77 ⇓P P 18 25 25.7 -0.4
baz=61,SNR=15
SCHQ Schefferville 61.12 37 P P 18 25 23.6 -2.3
comp=Z,4.8nm,0.9s,baz=321,slow=9.1,SNR=4.6
SCHQ LR LR 18 54 22.4
comp=Z,586nm,18.4s,baz=346,slow=38
431A Sonora 61.15 76 ⇑P P 18 25 26.1 -0.5
baz=61,SNR=6.4
332A Millersview 61.18 75 ⇓P P 18 25 27.0 +0.2
baz=61,SNR=7.8
233A Rising Star 61.25 74 ⇓P P 18 25 28.2 +1.0
baz=61
Z35A Perchaven, San 61.32 72 ⇓P P 18 25 28.2 +0.6
baz=61
134A White-Moore Ra 61.36 73 ⇑P P 18 25 28.1 +0.2
baz=61,SNR=5.2
432A Menard 61.51 75 ⇑P P 18 25 29.0 +0.1
baz=61
PRGR Permogore 61.51 337 *e*P P 18 25 28.1 -0.3
PRGR 18 26 08.1
PRGR pmax pmax
comp=Z,12nm,0.9s
531A Rocksprings 61.55 76 ⇑P P 18 25 28.7 -0.6
baz=61
X37A Clayton 61.56 69 ⇓P P 18 25 29.5 +0.4
baz=61
333A Richland Sprin 61.69 74 ⇑P P 18 25 30.4 +0.3
baz=62
234A Clairette 61.72 73 ⇓P P 18 25 30.9 +0.6
baz=62,SNR=7.0
W38A Poteau 61.73 68 ⇑P P 18 25 30.9 +0.6
baz=62,SNR=7.3
135A Vickery Place, 61.77 72 ⇑P P 18 25 30.5 -0.1
baz=62
JCT Junction City 61.78 76 ⇑P P 18 25 30.5 -0.3
baz=62
ARU Arti 61.97 327 *c i*P P 18 25 32.4 +0.8
ARU 18 27 47.2
ARU S S 18 33 54.6 +2.2
ARU pmax pmax
comp=Z,38nm,1.0s
ARU MLR MLR
comp=Z,595nm,17.0s
532A Rocksprings 61.97 76 ⇓P P 18 25 32.0 -0.1
baz=62
631A Perdido Creek 62.06 77 ⇓P P 18 25 32.5 -0.2
baz=62
334A Lometa 62.13 74 ⇑P P 18 25 33.5 +0.4
baz=62,SNR=10.0
WHTX Lake Whitney, 62.14 73 ⇓P P 18 25 33.2 +0.1
baz=62
SFIN Lafayette 62.20 59 ⇑P P 18 25 34.0 +0.6
baz=62
QIZ Qiongzhong 62.21 266 P P 18 25 31.0 -2.7
QIZ S S 18 33 58.0 +1.5
QIZ PMZ
comp=Z,12nm,1.6s
KMI Kunming 62.22 276 P P 18 25 35.8 +1.8
KMI PMZ
comp=Z,5.0nm,0.7s
434A Burnet 62.48 74 ⇑P P 18 25 36.1 +0.7
baz=62
JAY Jayapura 62.50 224 LR LR 18 52 14.4
comp=Z,138nm,18.1s,baz=344,slow=36
533A Kerrville 62.54 75 ⇓P P 18 25 36.3 +0.5
baz=62
MIAR Mount Ida 62.65 68 *e*P P 18 25 36.7 +0.2
MIAR pmax pmax
comp=Z,25nm,0.8s
MIAR Mount Ida 62.65 68 *e*P P 18 25 36.7 +0.2

comp=Z,26nm,0.8s
335A Moody 62.66 73 ⇓P P 18 25 37.3 +0.7
baz=62
137A Heron Place, G 62.73 71 ⇓P P 18 25 38.1 +1.1
baz=63
534A Blanco 62.91 75 ⇓P P 18 25 38.3 0.0
baz=63
732A Laxson Ranch, 62.92 77 ⇑P P 18 25 38.6 +0.2
baz=63,SNR=5.9
336A Riesel 62.94 73 ⇓P P 18 25 39.2 +0.8
baz=63
138A Matatall Enter 63.08 71 ⇑P P 18 25 40.5 +1.1
baz=63
832A Faith Ranch, C 63.23 78 ⇓P P 18 25 40.9 +0.5
baz=63
436A Wall Ranch, Ga 63.40 73 ⇑P P 18 25 42.3 +0.8
baz=63
JOF Joensuu 63.40 344 *ep* P 18 25 40.7 -0.3
comp=Z,3.3nm,0.6s
JOF Joensuu 63.40 344 *e*P P 18 25 40.7 -0.3
JOF pmax pmax
comp=Z,3.0nm,0.6s
238A Jacksonville 63.53 71 ⇓P P 18 25 43.3 +0.9
baz=63
833A Chaparral WMA, 63.56 77 ⇑P P 18 25 43.3 +0.6
baz=63
KLMR Klimovskoe 63.65 339 *e*P P 18 25 42.5 -0.2
KLMR pmax pmax
comp=Z,18nm,1.5s
437A Phantom Ranch, 63.76 73 ⇑P P 18 25 44.9 +1.0
baz=64
635A Leesville 63.79 75 ⇓P P 18 25 45.3 +1.2
baz=64
239A Gary 63.91 71 ⇑P P 18 25 46.0 +1.2
baz=64
HKT Hockley 64.57 73 *e*P P 18 25 49.1 0.0
HKT pmax pmax
comp=Z,9.0nm,1.1s
340A Bronson 64.68 71 ⇓P P 18 25 50.6 +0.7
baz=64
KAF Kangasniemi 64.97 346 *ep* P 18 25 50.8 -0.5
comp=Z,2.1nm,0.4s
KAF Kangasniemi 64.97 346 *e*P P 18 25 50.8 -0.5
KAF pmax pmax
comp=Z,2.0nm,0.4s
TKM2 Tokmak 2 65.05 308 P P 18 25 53.5 +1.1
SNR=6.7
TKM2 Tokmak 2 65.05 308 *e*P P 18 25 52.7 +0.3
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 65.05 308 *e*P P 18 25 52.7 +0.3
comp=Z,4.9nm,0.8s
USP Ospenovka 65.33 309 P P 18 25 54.9 +0.9
SNR=12
KBK Karagaybulak 65.56 308 P P 18 25 56.7 +1.0
SNR=6.1
FINES FINESS Array B 65.64 346 P P 18 25 55.4 -0.2
comp=Z,1.7nm,0.5s,baz=13,slow=8.2,SNR=15
FINES LR LR 18 59 02.8
comp=Z,273nm,18.5s,baz=11,slow=40
FINES FINESS Array B 65.64 346 P P 18 25 55.4 -0.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,273nm,18.5s
AAK Ala-Archa 65.81 308 P P 18 25 57.8 +0.6
comp=Z,3.9nm,0.8s,baz=74,slow=3.3,SNR=12
AAK Ala-Archa 65.81 308 *e*P P 18 25 56.9 -0.4
AAK pmax pmax
comp=Z,20nm,1.2s
KZA Kyzart 65.84 307 P P 18 25 59.0 +1.1
SNR=5.7
LSA Lhasa 66.05 288 P P 18 25 59.8 +0.4
LSA Lhasa 66.05 288 *e*P P 18 26 00.6 +1.2
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 66.05 288 *e*P P 18 26 00.6 +1.2
comp=Z,8.7nm,0.8s
EKS2 Erkin-Say 66.14 309 P P 18 26 00.4 +1.1
SNR=10
EKS2 Erkin-Say 66.14 309 *e*P P 18 26 00.1 +0.7
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 66.14 309 *e*P P 18 26 00.1 +0.7
comp=Z,5.0nm,0.6s
AML Almayashu 66.58 308 P P 18 26 03.8 +1.3
SNR=9.7
AKTO Aktyubinsk 66.96 323 P P 18 26 04.9 +0.6
AKTO pmax pmax
comp=Z,43nm,1.0s
AB31 Akbulak array 67.17 321 *i* P P 18 26 06.5 +0.9
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 67.17 321 *e*P P 18 26 06.1 +0.5
comp=Z,4.2nm,0.5s
KSH Kashi 67.38 305 P P 18 26 11.3 +4.0
KSH sP sP 18 26 25.5 +1.4
KSH PP PP 18 28 43.0 +7.4
KSH PcS 18 30 41.3
KSH S **S** **18 35 05.3 +5.4**
KSH sS sS 18 35 22.8 +2.8
KSH ScS **SKiKP** **18 36 03.8 +1.5**
KSH PMZ
comp=Z,14nm,0.9s
KSH PMZ
comp=Z,170nm,5.3s
KSH LN
comp=Z,820nm,10.1s
KSH LE
comp=Z,510nm,11.3s
KSH LZ
comp=Z,440nm,16.9s
KK31 Karatay Array 67.38 311 *i* P P 18 26 07.3 +0.2
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 67.38 311 *e*P P 18 26 07.1 0.0
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 67.38 311 *e*P P 18 26 07.1 0.0
comp=Z,8.1nm,0.8s
KKAR *e*PP PP 18 28 28.8 -6.6
TKL Tuckaleechee C 67.42 61 P P 18 26 05.8 -1.6
comp=Z,3.3nm,0.6s,baz=348,slow=1.4,SNR=9.0
TKL Tuckaleechee C 67.42 61 P P 18 26 05.9 -1.6
TKL pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 67.71 353 P P 18 26 08.3 -0.6
comp=Z,0.5nm,0.7s,baz=9.6,slow=6.2
NOA NORSAR Array B 67.71 353 P P 18 26 08.4 -0.6
comp=Z,4.3nm,0.8s,baz=8.4,slow=6.3,SNR=14
NOA LR LR 18 57 45.6
comp=Z,86nm,18.2s,baz=0.0,slow=38
NOA NORSAR Array B 67.71 353 P P 18 26 08.4 -0.6
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,86nm,18.2s
SHL Shillong 68.62 284 *ex* P 18 26 17.0 +1.7
KMSC Kings Mountain 69.14 60 ⇓P P 18 26 17.2 -1.0
baz=69
CHTO Chiang Mai 69.23 274 *e*P P 18 26 18.2 -0.8
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 69.23 274 *e*P P 18 26 18.2 -0.8
comp=Z,2.9nm,0.6s
CMAR Chiang Mai Arr 69.49 274 P P 18 26 20.1 -0.4
comp=Z,2.1nm,0.6s,baz=27,slow=7.7,SNR=14
CMAR Chiang Mai Arr 69.49 274 P P 18 26 20.2 -0.4
CMAR pmax pmax
comp=Z,2.0nm,0.6s
TAOE Nuku Hiva Isla 69.50 136 *e*T T 19 42 10.2
comp=Z,148nm,0.3s
OBN Obninsk 69.51 338 *i* P P 18 26 20.2 +0.1
OBN *e* 18 26 42.9
OBN *e* 18 28 53.1
OBN pmax pmax
comp=Z,17nm,1.0s
TAPN Taplejung 69.83 289 *e*P P 18 26 23.5 +0.6
comp=Z,84nm,0.9s
LUWI Luwuk 70.22 242 *e*P P 18 26 23.3 -1.8
comp=Z,12nm,0.5s
ODAN Odare 70.38 289 *e*P P 18 26 26.6 +0.4
comp=Z,24nm,0.8s
GUN Gumba 70.50 290 *e*P P 18 26 28.0 +0.9
comp=Z,158nm,0.9s
JIRN Jiri 70.50 290 *e*P P 18 26 28.1 +1.0
comp=Z,86nm,1.0s

RAMN Ramite 70.78 289 *e*P P 18 26 29.4 +0.7
comp=Z,111nm,0.9s
KKN Kakani 70.94 291 *e*P P 18 26 30.4 +0.8
comp=Z,34nm,0.7s
PKI Pulchoki 71.03 290 *e*P P 18 26 30.9 +0.6
comp=Z,66nm,0.9s
PKIN Phulchoki 71.03 290 *e*P P 18 26 30.7 +0.5
comp=Z,16nm,0.7s
GKN Gorkha 71.16 291 *e*P P 18 26 31.7 +0.8
comp=Z,104nm,1.0s
DMN Daman 71.18 291 *e*P P 18 26 32.0 +0.9
comp=Z,41nm,0.9s
KOLN Koldanda 71.94 292 *e*P P 18 26 36.3 +0.6
comp=Z,29nm,0.8s
PMOR Pomariorio Ree 72.03 146 *e*T T 19 45 22.0
comp=Z,18nm,0.3s
PYUN Piuthan 72.05 292 *e*P P 18 26 36.9 +0.6
comp=Z,171nm,0.9s
DZM Mont Dzumac 73.71 192 *e*S S 18 36 12.7 -0.8
comp=Z,274nm,25.2s
DZM Mont Dzumac 73.71 192 *e*LR LR 18 49 26.9
comp=Z,488nm,23.1s
PPT2 Papeete2 73.87 149 *e*S S 18 36 19.7 +4.3
comp=Z,634nm,26.5s
PPT2 *e*SS SS 18 41 04.5 +3.8
comp=Z,107nm,23.8s
PPT2 *e*LR LR 18 49 22.6
comp=Z,360nm,21.2s,baz=338
TIAR Tiarei 73.91 148 *e*T T 19 47 43.3
comp=Z,3.9nm,0.3s
PAE Paea 73.93 149 *e*T T 19 47 44.9
comp=Z,3.0nm,0.3s
CMIG Matias Romero 74.63 82 P P 18 26 51.3 -0.1
comp=Z,5.0nm,0.8s,baz=319,slow=5.1,SNR=11
KBL Kabul 74.74 306 *e*P P 18 26 51.4 -0.7
KBL pmax pmax
comp=Z,20nm,0.9s
KBL Kabul 74.74 306 *e*P P 18 26 51.4 -0.7
comp=Z,20nm,0.9s
AKASG Malin Array Be 75.26 341 P P 18 26 53.8 -0.7
comp=Z,2.3nm,0.4s,baz=20,slow=6.2,SNR=19
AKASG LR LR 19 04 02.9
comp=Z,204nm,18.1s,baz=15,slow=39
AKASG Malin Array Be 75.26 341 P P 18 26 53.8 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG MLR MLR
comp=Z,204nm,18.1s
KIEV Kiev 75.27 341 *e*P P 18 26 53.4 -1.1
KIEV pmax pmax
comp=Z,4.0nm,0.5s
KIEV Kiev 75.27 341 *e*P P 18 26 53.4 -1.1
comp=Z,4.4nm,0.5s
AK01 Malin Array Si 75.28 341 *e*P P 18 26 54.2 -0.4
AK02 Malin Array Si 75.31 341 *e*P P 18 26 54.1 -0.6
CTA Charters Tower 76.46 211 P P 18 27 01.7 +0.1
comp=Z,7.2nm,0.8s,baz=347,slow=5.1,SNR=4.9
CTA Charters Tower 76.46 211 P P 18 27 01.7 +0.1
CTA pmax pmax
comp=Z,7.0nm,0.8s
GOF Gofitskoye 76.79 329 *e*P P 18 27 04.2 +0.9
GEYT Alibeck 77.19 316 P P 18 27 06.0 +0.3
comp=Z,2.6nm,0.8s,baz=320,slow=4.4,SNR=6.8
GEYT PP PP 18 29 59.0 -0.3
comp=Z,2.2nm,0.7s,baz=328,slow=5.4,SNR=4.4
GEYT LR LR 19 03 43.6
comp=Z,538nm,20.1s,baz=95,slow=38
CLL Collm 77.20 351 *e*P P 18 27 05.0 -0.5
CLL *ep*P **PcP** **18 27 15.0 -1.1**
CLL Lm MLR 19 02 00.0
comp=Z,200nm,20.3s
CLL Collm 77.20 351 *e*P P 18 27 05.0 -0.5
CLL *e* 18 27 15.0
CLL MLR MLR
comp=Z,200nm,20.3s
BATI Baumata 77.40 236 P P 18 27 06.5 -0.6
comp=Z,22nm,0.8s,baz=86,slow=2.5,SNR=6.2
KWP Kalwaria Pacla 77.53 344 *e*P P 18 27 08.6 +1.2
KWP Kalwaria Pacla 77.53 344 *e*P P 18 27 08.6 +1.2
comp=Z,53nm,0.4s
DPC Dobruska-Polom 77.77 349 *e*P P 18 27 11.1 +2.3
DPC *ep*P **PcP** **18 27 18.4 -0.3**
DPC *es*P **sP** **18 27 26.3 +0.6**
DPC Dobruska-Polom 77.77 349 *e*P P 18 27 11.1 +2.3
DPC *e* 18 27 18.4
DPC *e* 18 27 26.3
KIV Kislovodsk 77.89 329 *e*P P 18 27 09.1 -0.5
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,228nm,18.0s
STHS Stebnicka Huta 77.98 345 *e*P P 18 27 11.3 +1.4
STHS pmax pmax
comp=Z,6.0nm,1.4s
STHS Stebnicka Huta 77.98 345 *e*P P 18 27 11.3 +1.4
NCK Nalchik 78.00 328 *e*P P 18 27 10.3 +0.1
KBZ Khabaz 78.02 329 LR LR 19 06 56.6
comp=Z,316nm,20.2s,baz=118,slow=40
OKC Ostrava-Krasne 78.03 347 *e*P P 18 27 12.4 +2.2
OKC Ostrava-Krasne 78.03 347 *e*P P 18 27 12.4 +2.2
KOLS Kolonicke sedl 78.28 344 *e*P P 18 27 13.4 +1.8
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 78.28 344 *e*P P 18 27 13.3 +1.7
CRVS Cervenica-Dubn 78.44 345 *e*P P 18 27 14.2 +1.7
CRVS pmax pmax
comp=Z,5.0nm,1.1s
CRVS Cervenica-Dubn 78.44 345 *e*P P 18 27 14.2 +1.7
NEY Neytrino 78.51 329 *e*P P 18 27 12.2 -1.0
NEY pmax pmax
comp=Z,1.0nm,0.9s
ZEI Tsey 78.53 328 *e*P P 18 27 13.2 -0.1
ZEI pmax pmax
comp=Z,24nm,0.9s
UZH Uzhgorod 78.57 344 *e*P P 18 27 10.0 -3.1
UZH *e* 18 27 27.2
UZH *e*S S 18 37 00.8 -5.5
CHLP Challavanipeta 78.68 285 *e*P P 18 27 12.1 -2.1
BUR08 Bucovina Ar. S 78.99 342 *e*P P 18 27 14.9 -0.7
GIVF Givet 78.99 356 *e*P P 18 27 13.9 -1.5
GIVF Givet 78.99 356 *e*P P 18 27 13.9 -1.5
GIVF Givet 78.99 356 *e*P P 18 27 13.9 -1.5
KECS Kecovo 79.01 345 *e*P P 18 27 17.2 +1.6
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 79.01 345 *e*P P 18 27 17.2 +1.6
TRPA Tarpa 79.01 344 ⇑*i*P P 18 27 16.8 +1.3
BURAR Bucovina Array 79.01 342 ⇑*i*P P 18 27 16.4 +0.6
BAIF Baives 79.06 356 *e*P P 18 27 14.6 -1.2
BAIF Baives 79.06 356 *e*P P 18 27 14.6 -1.2
BAIF Baives 79.06 356 *e*P P 18 27 14.6 -1.2
VYHS Vyhne 79.25 347 *e*P P 18 27 18.0 +1.1
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 79.25 347 *e*P P 18 27 18.0 +1.1
TBI Tubuai 79.29 150 *e*LR LR 18 51 47.8
comp=Z,519nm,22.2s,baz=336
GERES GERESS Array B 79.56 350 P P 18 27 17.1 -1.6
comp=Z,0.2nm,0.4s,baz=36,slow=8.5,SNR=4.0
TESR Tescani 79.78 341 ⇓*i*P P 18 27 20.4 +0.6
CONA Conrad Observa 80.21 348 ⇑*i*P P 18 27 22.4 +0.2
comp=Z,4.5nm,0.9s
IGLO Ghaloghah 80.23 318 *e*P P 18 27 23.5 +0.8
DRGR 80.27 344 ⇓*i*P P 18 27 23.7 +1.1
VRI Vrincioaia 80.38 341 ⇓*i*P P 18 27 24.4 +1.3
PLOR Plostina 80.41 341 ⇑*i*P P 18 27 25.6 +2.3
FLN La Foliniere 80.46 359 *e*P P 18 27 22.6 -0.8
comp=Z,14nm,1.0s
FLN *e*R
comp=Z,366nm,20.5s
FLN La Foliniere 80.46 359 *e*P P 18 27 22.6 -0.8
FLN pmax pmax
comp=Z,14nm,1.0s
FLN La Foliniere 80.46 359 *e*P P 18 27 22.6 -0.8
comp=Z,14nm,1.0s
PAGF Fort de Pagny 80.49 355 *e*P P 18 27 22.5 -1.1
comp=Z,5.7nm,1.1s
PAGF Fort de Pagny 80.49 355 *e*P P 18 27 22.5 -1.1
comp=Z,5.7nm,1.1s
CDF Champ du Feu 80.54 354 *e*P P 18 27 23.1 -0.9
CDF Champ du Feu 80.54 354 *e*P P 18 27 23.1 -0.9
CDF Champ du Feu 80.54 354 *e*P P 18 27 23.1 -0.9
MEZF Maizieres J'vi 80.58 356 *e*P P 18 27 22.9 -1.1
MEZF Maizieres J'vi 80.58 356 *e*P P 18 27 22.9 -1.1
LDF La Druitiere 80.63 359 *e*P P 18 27 23.2 -1.1

comp=Z,24nm,1.2s
LDF La Druitiere 80.63 359 *e*P P 18 27 23.2 -1.1
LDF pmax pmax
comp=Z,24nm,1.2s
LDF La Druitiere 80.63 359 *e*P P 18 27 23.2 -1.1
comp=Z,24nm,1.2s
CFR Carcaliu 80.73 339 ⇑*i*P P 18 27 27.0 +2.1
WRAB Tennant Creek 80.78 222 *e*P P 18 27 24.9 -0.5
WRAB pmax pmax
comp=Z,23nm,1.0s
WRA Warramunga Arr 80.80 222 P P 18 27 24.3 -1.2
comp=Z,8.6nm,0.6s,baz=32,slow=5.9,SNR=55
WRA LR LR 19 01 01.2
comp=Z,100nm,20.4s,baz=30,slow=34
WRA Warramunga Arr 80.80 222 P P 18 27 24.3 -1.2
WRA pmax pmax
comp=Z,9.0nm,0.6s
WRA MLR MLR
comp=Z,100nm,20.4s
SFTF Sexfontaines 80.87 356 *e*P P 18 27 24.3 -1.4
comp=Z,13nm,0.8s
SFTF Sexfontaines 80.87 356 *e*P P 18 27 24.3 -1.4
comp=Z,13nm,0.8s
ROSF Rostrenen 80.87 1 *e*P P 18 27 24.8 -0.8
ROSF Rostrenen 80.87 1 *e*P P 18 27 24.8 -0.8
ROSF Rostrenen 80.87 1 *e*P P 18 27 24.8 -0.8
SGMF Saint Gilles 80.96 1 *e*P P 18 27 25.2 -0.9
SGMF Saint Gilles 80.96 1 *e*P P 18 27 25.2 -0.9
SGMF Saint Gilles 80.96 1 *e*P P 18 27 25.2 -0.9
HAU Haudompre 81.00 355 *e*P P 18 27 24.7 -1.7
HAU *e*R
comp=Z,308nm,22.2s
HAU Haudompre 81.00 355 *e*P P 18 27 24.7 -1.7
HAU Haudompre 81.00 355 *e*P P 18 27 24.7 -1.7
HINF Hinteralfeld 81.16 354 *e*P P 18 27 26.1 -1.2
HINF Hinteralfeld 81.16 354 *e*P P 18 27 26.1 -1.2
HINF Hinteralfeld 81.16 354 *e*P P 18 27 26.1 -1.2
RPR Rampur 81.28 289 *e*P P 18 27 27.7 -0.5
IHRS Heris 81.37 324 *e*P P 18 27 29.3 +0.6
IMRD Marand 81.51 325 *e*P P 18 27 29.2 -0.2
ISRB Sarab 81.56 323 *e*P P 18 27 28.9 -0.9
LOR Lormes 81.86 356 *e*P P 18 27 29.3 -1.6
LOR *e*R
comp=Z,286nm,22.2s
LOR Lormes 81.86 356 *e*P P 18 27 29.3 -1.6
LOR Lormes 81.86 356 *e*P P 18 27 29.3 -1.6
SSF Saint Saulge 82.08 357 *e*P P 18 27 30.6 -1.5
SSF Saint Saulge 82.08 357 *e*P P 18 27 30.6 -1.5
SSF Saint Saulge 82.08 357 *e*P P 18 27 30.6 -1.5
AVF Avril sur Loir 82.35 357 *e*P P 18 27 32.0 -1.5
comp=Z,16nm,1.2s
AVF Avril sur Loir 82.35 357 *e*P P 18 27 32.0 -1.5
AVF pmax pmax
comp=Z,16nm,1.2s
AVF Avril sur Loir 82.35 357 *e*P P 18 27 32.0 -1.5
comp=Z,16nm,1.2s
SMF Signal de Mont 82.48 356 *e*P P 18 27 33.7 -0.5
comp=Z,16nm,0.9s
SMF Signal de Mont 82.48 356 *e*P P 18 27 33.7 -0.5
SMF pmax pmax
comp=Z,16nm,0.9s
SMF Signal de Mont 82.48 356 *e*P P 18 27 33.7 -0.5
comp=Z,16nm,0.9s
MFF Saint Martin d 82.62 359 *e*P P 18 27 33.4 -1.5
comp=Z,14nm,1.0s
MFF Saint Martin d 82.62 359 *e*P P 18 27 33.4 -1.5
MFF pmax pmax
comp=Z,14nm,1.0s
MFF Saint Martin d 82.62 359 *e*P P 18 27 33.4 -1.5
comp=Z,14nm,1.0s
IRAZ Razeghan 82.79 320 *e*P P 18 27 32.8 -3.4
HYBB Hyderabad (bro 82.83 289 *e*P P 18 27 36.5 0.0
HYB Hyderabad 82.83 289 *i* P P 18 27 37.5 +1.0
HYB *e* 18 27 49.0
TCF Toulx Ste Croi 82.89 358 *e*P P 18 27 34.7 -1.7
TCF Toulx Ste Croi 82.89 358 *e*P P 18 27 34.7 -1.7
TCF Toulx Ste Croi 82.89 358 *e*P P 18 27 34.7 -1.7
NJS Nagarjunasagar 83.05 288 *e*P P 18 27 38.1 +0.5
ADKI Addanki 83.20 287 *e*P P 18 27 40.5 +2.2
DIVS Divibare 83.35 345 ⇓*i*P P 18 27 39.1 +0.3
LPL La Plagne 83.46 354 *e*P P 18 27 39.0 -0.6
comp=Z,9.6nm,1.0s
LPL La Plagne 83.46 354 *e*P P 18 27 39.0 -0.6
LPL pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 83.46 354 *e*P P 18 27 39.0 -0.6
comp=Z,9.6nm,1.0s
LPG La Plagne 83.48 354 *e*P P 18 27 39.3 -0.4
comp=Z,6.5nm,0.9s
LPG La Plagne 83.48 354 *e*P P 18 27 39.3 -0.4
LPG pmax pmax
comp=Z,7.0nm,0.9s
LPG La Plagne 83.48 354 *e*P P 18 27 39.3 -0.4
comp=Z,6.5nm,0.9s
RJF Les Rejaudoux 83.89 358 *e*P P 18 27 40.1 -1.4
comp=Z,13nm,1.1s
RJF *e*R
comp=Z,416nm,20.5s
RJF Les Rejaudoux 83.89 358 *e*P P 18 27 40.1 -1.4
RJF pmax pmax
comp=Z,13nm,1.1s
RJF Les Rejaudoux 83.89 358 *e*P P 18 27 40.1 -1.4
comp=Z,13nm,1.1s
BNI Bardonecchia 83.93 354 *e*P P 18 27 41.6 -0.2
BNI pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 83.93 354 *e*P P 18 27 41.6 -0.2
comp=Z,6.9nm,1.0s
IZEF Zefreh 83.95 317 *e*P P 18 27 43.0 +0.7
ORIF Oris-en-Rattie 84.11 355 *e*P P 18 27 41.9 -0.8
comp=Z,15nm,1.0s
ORIF *e*R
comp=Z,281nm,20.5s
ORIF Oris-en-Rattie 84.11 355 *e*P P 18 27 41.9 -0.8
ORIF pmax pmax
comp=Z,15nm,1.0s
ORIF Oris-en-Rattie 84.11 355 *e*P P 18 27 41.9 -0.8
comp=Z,15nm,1.0s
VIVF Saint-Julien-I 84.23 356 *e*P P 18 27 42.1 -1.2
comp=Z,6.5nm,0.9s
VIVF Saint-Julien-I 84.23 356 *e*P P 18 27 42.1 -1.2
VIVF pmax pmax
comp=Z,7.0nm,0.9s
VIVF Saint-Julien-I 84.23 356 *e*P P 18 27 42.1 -1.2
comp=Z,6.5nm,0.9s
MBDF Montbardon 84.25 354 *e*P P 18 27 41.8 -1.7
comp=Z,11nm,0.9s
MBDF Montbardon 84.25 354 *e*P P 18 27 41.8 -1.7
MBDF pmax pmax
comp=Z,11nm,0.9s
MBDF Montbardon 84.25 354 *e*P P 18 27 41.8 -1.7
comp=Z,11nm,0.9s
CAF Calviac 84.26 358 *e*P P 18 27 42.3 -1.1
CAF Calviac 84.26 358 *e*P P 18 27 42.3 -1.1
CAF Calviac 84.26 358 *e*P P 18 27 42.3 -1.1
LFF La Frestale 84.27 359 *e*P P 18 27 42.3 -1.1
LFF La Frestale 84.27 359 *e*P P 18 27 42.3 -1.1
LFF La Frestale 84.27 359 *e*P P 18 27 42.3 -1.1
AS31 Alice Springs 84.29 221 *e*P P 18 27 43.3 -0.3
ASAR Alice Springs 84.30 221 P P 18 27 43.2 -0.4
comp=Z,5.1nm,0.7s,baz=24,slow=4.4,SNR=51
ASAR LR LR 19 02 38.8
comp=Z,114nm,19.9s,baz=21,slow=34
ASAR Alice Springs 84.30 221 P P 18 27 43.3 -0.4
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR MLR MLR
comp=Z,114nm,19.9s
MALT Malatya 84.36 330 ⇓*i*P P 18 27 45.8 +1.7
RKT Rikitea 84.41 138 *e*LR LR 18 54 15.7
comp=Z,300nm,27.0s
BR131 Keskin Array S 84.48 334 *e*P P 18 27 45.2 +0.4
comp=Z,4.4nm,0.7s
BRTR Keskin Array B 84.48 334 P P 18 27 44.6 -0.2
comp=Z,6.1nm,0.8s,baz=45,slow=2.4,SNR=20
BRTR LR LR 19 08 50.0
comp=Z,77nm,20.0s,baz=358,slow=38
BRTR Keskin Array B 84.48 334 *ce*P P 18 27 45.4 +0.6
BRTR pmax pmax
comp=Z,6.0nm,0.8s
IDHR Dehrash 84.80 322 *e*P P 18 27 45.7 -0.8
IKOM Komasi 84.83 321 *e*P P 18 27 46.2 -0.4
SBF Sospel 85.06 354 *e*P P 18 27 46.0 -1.5
comp=Z,53nm,1.0s
SBF Sospel 85.06 354 *e*P P 18 27 46.0 -1.5

SBF					pmax	pmax				
	comp=Z,53nm,1.0s									
SBF	**Sospel**	**85.06**	**354**	*eP*	**P**		**18 27 46.0**	**-1.5**		
	comp=Z,53nm,1.0s									
SMRF	**Simiane la Rot**	**85.06**	**355**	*eP*	**P**		**18 27 46.1**	**-1.4**		
	comp=Z,13nm,1.0s									
SMRF	**Simiane la Rot**	**85.06**	**355**	*eP*	**P**		**18 27 46.1**	**-1.4**		
	comp=Z,13nm,1.0s									
MMB	**Musomiste**	**85.10**	**341**	⇓*iP*	P		18 27 50.7	+3.0		
FRF	**La Foret Royal**	**85.42**	**354**	*eP*	**P**		**18 27 48.5**	**-0.7**		
	comp=Z,17nm,0.9s									
FRF	**La Foret Royal**	**85.42**	**354**	*eP*	**P**		**18 27 48.5**	**-0.7**		
FRF					pmax	pmax				
	comp=Z,17nm,0.9s									
FRF	**La Foret Royal**	**85.42**	**354**	*eP*	**P**		**18 27 48.5**	**-0.7**		
	comp=Z,17nm,0.9s									
URV	**Uravakonda**	**85.53**	**288**	*eP*	**P**		**18 27 50.5**	**+0.3**		
LMR	**La Mourre**	**85.65**	**354**	*eP*	**P**		**18 27 49.0**	**-1.3**		
LMR	**La Mourre**	**85.65**	**354**	*eP*	**P**		**18 27 49.0**	**-1.3**		
LMR	**La Mourre**	**85.65**	**354**	*eP*	**P**		**18 27 49.0**	**-1.3**		
SJPF	**Ste Jean**	**86.11**	**360**	*eP*	**P**		**18 27 51.5**	**-1.2**		
SJPF	**Ste Jean**	**86.11**	**360**	*eP*	**P**		**18 27 51.5**	**-1.2**		
SJPF	**Ste Jean**	**86.11**	**360**	*eP*	**P**		**18 27 51.5**	**-1.2**		
EPF	**Esparros**	**86.18**	**359**	*eP*	**P**		**18 27 51.7**	**-1.4**		
EPF	**Esparros**	**86.18**	**359**	*eP*	**P**		**18 27 51.7**	**-1.4**		
EPF	**Esparros**	**86.18**	**359**	*eP*	**P**		**18 27 51.7**	**-1.4**		
PGF	**Pioggiola**	**86.25**	**352**	*eP*	**P**		**18 27 52.1**	**-1.4**		
	comp=Z,86nm,1.2s									
PGF	**Pioggiola**	**86.25**	**352**	*eP*	**P**		**18 27 52.1**	**-1.4**		
PGF	**Pioggiola**	**86.25**	**352**	*eP*	**P**		**18 27 52.1**	**-1.4**		
	comp=Z,86nm,1.2s									
IPAR	**Pars**	**86.25**	**315**	*eP*	**P**		**18 27 52.8**	**-1.2**		
ETSF	**Etsaut**	**86.33**	**359**	*eP*	**P**		**18 27 52.6**	**-1.2**		
ETSF	**Etsaut**	**86.33**	**359**	*eP*	**P**		**18 27 52.6**	**-1.2**		
ETSF	**Etsaut**	**86.33**	**359**	*eP*	**P**		**18 27 52.6**	**-1.2**		
ISRV	**Sarvestan**	**86.62**	**315**	*eP*	**P**		**18 27 54.2**	**-1.6**		
IKAZ	**Kazeroun**	**86.84**	**316**	*eP*	**P**		**18 27 55.0**	**-1.8**		
STKA	**Stephens Creek**	**88.92**	**211**	P	**P**		**18 28 05.8**	**-0.2**		
	comp=Z,4.7nm,0.9s,baz=27,slow=6.5,SNR=5.8									
STKA	**Stephens Creek**	**88.92**	**211**	P	**P**		**18 28 05.8**	**-0.2**		
STKA					pmax	pmax				
	comp=Z,5.0nm,0.9s									
ESDC	**Sonseca Array**	**89.52**	**2**	P	**P**		**18 28 07.9**	**-1.1**		
	comp=Z,0.2nm,0.4s,baz=346,slow=4.8,SNR=3.9									
MTP	**Monte Pirata**	**91.14**	**59**	*eP*	**P**		**18 28 17.1**	**+0.2**		
	comp=Z,59nm,0.9s									
TORD	**Torodi Ar. Bea**	**115.92**	**357**	PKP		**PKPdf**	**18 33 53.7**	**-1.1**		
	comp=Z,0.4nm,0.5s,baz=356,slow=2.3,SNR=9.6									
TORD				PKKPab		**PKKPab**	**18 44 30.1**	**-3.3**		
	comp=Z,0.8nm,0.8s,baz=186,slow=2.8,SNR=3.8									
KMBO	**Kilima Mbogo**	**120.52**	**314**	PKP		**PKPdf**	**18 34 03.9**	**0.0**		
	comp=Z,0.9nm,0.4s,baz=166,slow=2.8,SNR=3.6									
KMBO	**Kilima Mbogo**	**120.52**	**314**	PKIKP		**PKPdf**	**18 34 03.9**	**0.0**		
KMBO					pmax	pmax				
	comp=Z,1.0nm,0.4s									
DBIC	**Dimbokro**	**122.32**	**4**	PKP		**PKPdf**	**18 34 06.8**	**-0.2**		
	comp=Z,4.8nm,0.9s,baz=18,slow=3.9,SNR=4.9									
DBIC	**Dimbokro**	**122.32**	**4**	PKIKP		**PKPdf**	**18 34 06.9**	**-0.2**		
DBIC					pmax	pmax				
	comp=Z,5.0nm,1.0s									
VNDA	**Vanda**	**128.84**	**185**	PKP		**PKPdf**	**18 34 18.9**	**+1.3**		
	comp=Z,1.0nm,1.0s,baz=21,slow=4.6,SNR=3.0									
VNDA	**Vanda**	**128.84**	**185**	PKIKP		**PKPdf**	**18 34 18.9**	**+1.3**		
VNDA					pmax	pmax				
	comp=Z,1.0nm,1.0s									
TSUM	**Tsumeb**	**144.81**	**328**	*e*PKPdf		PKPbc	18 34 48.0	0.0		
MAW	**Mawson**	**145.37**	**217**	PKPbc		**PKPdf**	**18 34 47.9**	**-0.2**		
	comp=Z,7.4nm,1.0s,baz=116,slow=7.6,SNR=5.8									
MAW	**Mawson**	**145.37**	**217**	PKIKP		**PKPdf**	**18 34 47.9**	**-0.2**		
MAW					pmax	pmax				
	comp=Z,7.0nm,1.0s									
LBTB	**Lobatse**	**146.76**	**312**	*e*PKP2		**PKPbc**	**18 34 53.2**	**-0.6**		
LBTB	**Lobatse**	**146.76**	**312**	*e*PKPdf		**PKPbc**	**18 34 53.2**	**-0.6**		

IDC 27 18:17:33.9±12.0, 21°09'S×177°44'W, h478km±115km, mb3.5/9, mb1 3.8/1, mb1mx3.2/42, mbtmp4.3/9, Error ellipse: s-maj=85.3km s-min=28.4km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.90**	**257**	P	P	18 25 05.9	+0.7
	3.2nm,0.9s,baz=98,slow=7.5,SNR=31						
ASAR				PcP	PcP	18 26 37.3	+0.5
	0.8nm,0.9s,baz=103,slow=4.5,SNR=5.0						
WRA	**Warramunga Arr**	**45.05**	**262**	P	P	18 25 05.2	-1.2
	1.1nm,0.5s,baz=96,slow=7.5,SNR=25						
MJAR	**Matsushiro Arr**	**70.99**	**323**	P	P	18 28 00.9	-1.6
	1.9nm,0.6s,baz=156,slow=5.7,SNR=5.0						
ASAJ	**Asahikawa**	**74.49**	**331**	P	P	18 28 23.1	+0.6
	5.2nm,0.8s,baz=14,slow=4.2,SNR=3.6						
PETK	**Petropavlovsk-**	**76.97**	**345**	P	P	18 28 36.5	+0.3
	3.2nm,0.8s,baz=162,slow=5.9,SNR=5.2						
KSRS	**Korea Array**	**77.67**	**318**	P	P	18 28 40.5	+0.1
	0.8nm,0.6s,baz=165,slow=37,SNR=4.5						
USRK	**Ussuriysk Ar.**	**79.74**	**326**	P	P	18 28 52.2	+0.9
	2.2nm,0.7s,baz=150,slow=6.7,SNR=3.1						
ILAR	**Eielson Array**	**88.77**	**13**	P	P	18 29 35.5	+0.2
	0.4nm,0.5s,baz=220,slow=6.8,SNR=4.8						
CMAR	**Chiang Mai Arr**	**90.81**	**289**	P	P	18 29 46.2	+0.3
	1.2nm,0.3s,baz=113,slow=3.0,SNR=5.0						
AKASG	**Malin Array Be**	**143.78**	**331**	PKP	PKPab	18 36 11.5	-1.0
	2.2nm,0.5s,baz=42,slow=4.2,SNR=22						
BRTR	**Keskin Array B**	**147.62**	**312**	PKPbc	PKPbc	18 36 23.9	-0.4
	1.3nm,0.8s,baz=111,slow=4.7,SNR=4.8						
GERES	**GERESS Array B**	**150.90**	**345**	PKPbc	PKPbc	18 36 31.1	-0.8
	0.4nm,0.5s,baz=353,slow=3.2,SNR=4.5						

MAN 27 18:25:09, 7°13'N×123°89'E, h33km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.37**	**76**	⇓*iP*	Pn	18 25 20.1	+2.0
CTBH				*i* S	Sn	18 25 27.0	+3.0
PAGZ	**Pagadian**	**0.87**	**325**	*eP*	Pb	18 25 26.3	+0.6
PAGZ				*eS*	Sb	18 25 38.0	+0.9
IPIL	**Ipil**	**1.46**	**297**	*eP*	Pb	18 25 34.5	-1.1
IPIL				*eS*	Sb	18 25 52.8	-1.0

*NEIC **27** 18:25:10.4, 50°74N×178°85E, h44km, mb4.4/3, ML3.9(AEIC), After AEIC.*
*MOS **27** 18:25:10.9±1.2, 51°17N×178°82E, h41km, mb4.2/21, Error ellipse: s-maj=14.0km s-min=9.4km az=116.1*
*ISCJB **27** 18:25:11.4±0.4, 51°20N±0°09×178°70E±0°05, h41km, mb4.0/30, MS4.9/1, Error ellipse: s-maj=12.5km s-min=4.0km az=173.8*
*BJI **27** 18:25:14.0, 51°50N×177°70E, h33km, mB4.7/1, mb4.1/2, Ms4.8/1, Ms7 4.5/1*
*IDC **27** 18:25:14.2±4.5, 51°09N×178°79E, h61km±40km, mb3.7/19, mb1 3.8/21, mb1mx3.6/53, mbtmp3.9/21, ML3.1/2, Error ellipse: s-maj=22.2km s-min=12.5km az=170.0*

ISC 27 18:25:12.3±0.6, 51°1N±0°1×178°72E±0°05, h41km, n84, σ1°19/86, mb4.1/30, 4C-1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAEA	**Gareloi East**	**1.74**	**65**	P	**Pn**	**18 25 40.6**	**+0.6**
TASE	**Tanaga Southea**	**2.17**	**68**	P	**Pn**	**18 25 47.1**	**+1.2**
TAFP	**Tanaga Falls P**	**2.22**	**67**	P	**Pn**	**18 25 47.2**	**+0.6**
TAFP				S	**Sn**	**18 26 15.8**	**+3.1**
KIKV	**Kanaga Island**	**2.69**	**71**	P	**Pn**	**18 25 53.1**	**+0.1**
KIRH	**Kanaga Island**	**2.74**	**71**	P	**Pn**	**18 25 53.9**	**+0.1**
ADK	**Adak**	**2.98**	**73**	P	**Pn**	**18 25 56.6**	**-0.5**
ADK				S	**Sn**	**18 26 32.3**	**+0.7**
ADK	**Adak**	**2.98**	**73**	P	**Pn**	**18 25 56.6**	**-0.5**
ADK				S	**Sn**	**18 26 32.3**	**+0.7**
ETKA	**Kagalaska Isla**	**3.15**	**74**	P	**Pn**	**18 25 59.8**	**+0.5**
SMY	**Shemya**	**3.31**	**302**	P	Pn	18 26 04.6	+3.2
SMY	**Shemya**	**3.31**	**302**	P	Pn	18 26 04.6	+3.2
GSCK	**Great Sitkin C**	**3.33**	**72**	P	**Pn**	**18 26 01.6**	**-0.2**
GSMY	**Great Sitkin M**	**3.40**	**71**	P	**Pn**	**18 26 02.5**	**-0.3**
KOFP	**Korovin Flat P**	**4.63**	**72**	P	**Pn**	**18 26 20.3**	**+0.6**
SPIA	**Saint Paul Isl**	**8.90**	**42**	P	**Pn**	**18 27 21.0**	**+2.8**
MREP	**Makushin Rep't**	**9.29**	**67**	P	**Pn**	**18 27 24.3**	**+0.8**
PETK	**Petropavlovsk-**	**13.08**	**287**	P	**Pn**	**18 28 16.5**	**+1.2**
	0.2nm,0.3s,baz=97,slow=19,SNR=6.3						
BILL	**Bilibino**	**18.08**	**345**	⇑*iP*	**Pn**	**18 29 18.3**	**-1.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SEY	**Seymchan**	**18.45**	**320**	P	**Pn**	**18 29 26.7**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=6.6,SNR=9.2						
KTH	**Kantishna Hill**	**20.36**	**41**	*eP*	**P**	**18 29 44.9**	**-0.1**
	comp=Z,19nm,1.0s						
IM04	**Indian Mountai**	**20.45**	**33**	*eP*	**P**	18 29 45.3	-0.6
ILAR	**Eielson Array**	**22.46**	**39**	P	**P**	**18 30 06.3**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=259,slow=12,SNR=10						
ILAR	**Eielson Array**	**22.46**	**39**	P	**P**	**18 30 06.4**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PAX	**Paxson**	**22.49**	**44**	*eP*	**P**	**18 30 05.9**	**-2.1**
PAX				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PAX	**Paxson**	**22.49**	**44**	*eP*	**P**	**18 30 05.9**	**-2.1**
	comp=Z,8.8nm,1.1s						
YSS	**Yuzh-Sakhalins**	**23.79**	**274**	*eP*	**P**	**18 30 21.0**	**+0.1**
EGAK	**Eagle**	**24.80**	**41**	*eP*	**P**	**18 30 29.1**	**-0.9**
	comp=Z,12nm,0.9s						
ASAJ	**Asahikawa**	**25.14**	**268**	P	**P**	**18 30 34.8**	**+1.5**
	comp=Z,8.1nm,0.8s,baz=94,slow=12,SNR=5.2						
ASAJ	**Asahikawa**	**25.14**	**268**	P	**P**	**18 30 34.8**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DAWY	**Dawson**	**25.39**	**43**	*eP*	**P**	**18 30 36.3**	**+0.8**
YAK	**Yakutsk**	**28.45**	**312**	P	**P**	**18 31 01.8**	**-1.0**
	comp=Z,2.7nm,0.4s,baz=98,slow=3.2,SNR=4.8						
YAK	**Yakutsk**	**28.45**	**312**	P	**P**	**18 31 01.8**	**-1.0**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**28.60**	**35**	P	P	18 31 07.8	+3.7
	comp=Z,2.8nm,0.8s,baz=229,slow=7.1,SNR=7.7						
INK	**Inuvik**	**28.60**	**35**	P	P	18 31 07.8	+3.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**30.14**	**331**	*eP*	**P**	**18 31 18.1**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**36.56**	**46**	P	**P**	**18 32 12.7**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=282,slow=8.1,SNR=8.2						
YKA	**Yellowknife Ar**	**36.56**	**46**	P	**P**	**18 32 12.7**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BOD	**Bodaibo**	**36.90**	**306**	*eP*	**P**	**18 32 15.4**	**-1.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KSRS	**Korea Array**	**38.08**	**269**	P	**P**	**18 32 27.8**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=72,slow=8.0,SNR=4.6						
KSRS	**Korea Array**	**38.08**	**269**	P	**P**	**18 32 27.8**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TLY	**Talaya**	**44.90**	**302**	P	**P**	**18 33 23.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=29,slow=7.5,SNR=4.5						
TLY	**Talaya**	**44.90**	**302**	P	**P**	**18 33 23.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ULN	**Ulaanbaatar**	**44.99**	**295**	*i* P	**P**	**18 33 23.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONM	**Songino Array**	**45.38**	**296**	P	**P**	**18 33 27.4**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=59,slow=7.1,SNR=10						
SONM	**Songino Array**	**45.38**	**296**	P	**P**	**18 33 27.4**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ELK	**Elko**	**45.64**	**76**	P	**P**	**18 33 28.8**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=146,slow=3.6,SNR=2.4						
ELK	**Elko**	**45.64**	**76**	P	**P**	**18 33 28.8**	**-0.1**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**47.88**	**71**	P	**P**	**18 33 46.0**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=314,slow=4.3,SNR=13						
SPITS	**Spitsbergen Ar**	**50.56**	**355**	P	**P**	**18 34 06.1**	**+0.1**
	comp=Z,11nm,1.0s,baz=6.5,slow=6.4,SNR=3.7						
SPITS	**Spitsbergen Ar**	**50.56**	**355**	P	**P**	**18 34 06.1**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**53.09**	**312**	P	**P**	**18 34 24.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=48,slow=12,SNR=3.1						
GTA	**Gaotai**	**54.22**	**290**	*eP*	**P**	**18 34 34.3**	**+0.5**
GTA				pP	**pP**	**18 34 42.3**	**-3.3**
GTA				sP	**sP**	**18 34 46.5**	**-3.9**
GTA				PMZ			
	comp=Z,4.0nm,1.7s						
MKAR	**Makanchi Array**	**58.99**	**307**	P	**P**	**18 35 07.1**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=336,slow=2.7,SNR=7.8						
MKAR	**Makanchi Array**	**58.99**	**307**	*ce*P	**P**	**18 35 07.0**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**60.12**	**319**	*i* P	**P**	**18 35 15.1**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**18 35 16.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=327,slow=9.0,SNR=4.0						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**18 35 16.4**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	**62.02**	**327**	*d* iP	**P**	**18 35 27.9**	**0.0**
ARU						18 37 41.2	
ARU				S	**S**	**18 43 46.3**	**-2.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
FINES	**FINESS Array B**	**65.72**	**346**	P	**P**	**18 35 51.1**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=47,slow=8.4,SNR=4.6						
FINES	**FINESS Array B**	**65.72**	**346**	*ce*P	**P**	**18 35 51.7**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**65.84**	**308**	*i* P	**P**	**18 35 54.5**	**+1.0**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**69.48**	**274**	P	**P**	**18 36 15.3**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=22,slow=7.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**69.48**	**274**	*ce*P	**P**	**18 36 18.5**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OBN	**Obninsk**	**69.58**	**338**	*eP*	**P**	**18 36 17.3**	**+0.8**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,644nm,20.0s						
TAPN	**Taplejung**	**69.84**	**289**	*eP*	**P**	**18 36 19.8**	**+0.8**
	comp=Z,12nm,1.0s						
ODAN	**Odare**	**70.39**	**289**	*eP*	**P**	**18 36 22.7**	**+0.4**
GUN	**Gumba**	**70.51**	**290**	*eP*	**P**	**18 36 24.0**	**+0.9**
	comp=Z,20nm,0.8s						
JIRN	**Jiri**	**70.51**	**290**	*eP*	**P**	**18 36 24.2**	**+1.0**
	comp=Z,14nm,0.7s						
RAMN	**Ramite**	**70.80**	**289**	*eP*	**P**	**18 36 25.3**	**+0.5**
	comp=Z,23nm,0.9s						
KKN	**Kakani**	**70.95**	**291**	*eP*	**P**	**18 36 26.6**	**+0.9**
	comp=Z,11nm,0.8s						
PKI	**Pulchoki**	**71.04**	**290**	*eP*	**P**	**18 36 27.1**	**+0.7**
PKIN	**Phulchoki**	**71.04**	**290**	*eP*	**P**	**18 36 27.3**	**+1.0**
	comp=Z,3.3nm,0.6s						
GKN	**Gorkha**	**71.17**	**291**	*eP*	**P**	**18 36 27.6**	**+0.7**
	comp=Z,15nm,0.9s						
DMN	**Daman**	**71.19**	**291**	*eP*	**P**	**18 36 28.1**	**+0.9**
	comp=Z,12nm,0.8s						
KOLN	**Koldanda**	**71.96**	**292**	*eP*	**P**	**18 36 32.5**	**+0.8**
	comp=Z,9.1nm,0.7s						
PYUN	**Piuthan**	**72.07**	**292**	*eP*	**P**	**18 36 33.1**	**+0.7**
	comp=Z,27nm,0.9s						
AKASG	**Malin Array Be**	**75.33**	**341**	P	**P**	**18 36 50.3**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=25,slow=6.4,SNR=4.4						
ZEI	**Tsey**	**78.59**	**328**	*eP*	**P**	**18 37 09.6**	**0.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**80.73**	**222**	P	**P**	**18 37 20.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=30,slow=5.9,SNR=9.3						
WRA	**Warramunga Arr**	**80.73**	**222**	P	**P**	**18 37 20.0**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**84.23**	**221**	P	**P**	**18 37 39.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=19,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**84.23**	**221**	P	**P**	**18 37 39.3**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**84.55**	**334**	P	**P**	**18 37 41.6**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=46,slow=3.7,SNR=6.1						
BRTR	**Keskin Array B**	**84.55**	**334**	P	**P**	**18 37 41.7**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MIR	**Mirnyy**	**133.80**	**214**	*e*PKIKP	**PKPdf**	**18 44 25.0**	**+1.9**

MAN 27 18:32:26, 10°32N×126°22E, h14km, mb4.6, ML3.5, MS3.4, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.90**	**234**	⇓*eP*	Pn	18 32 43.8	-0.4
SCPH				*eS*	Sn	18 32 57.1	+0.2
MSLP	**Maasin**	**1.35**	**262**	*eP*	Pn	18 32 50.3	-0.2
MSLP				*eS*	Sg	18 33 09.7	0.0
BUTP	**Butuan**	**1.46**	**204**	*eP*	Pn	18 32 51.0	-1.0
BUTP				*eS*	Sn	18 33 07.9	-3.1
OCLP	**Ormoc**	**1.74**	**295**	*eP*	Pb	18 32 56.9	-0.9
CGP	**Cagayan de Oro**	**2.39**	**219**	⇑*iP*	Pn	18 33 06.0	+1.3
CGP				*i* S	Sb	18 33 36.5	-1.7
BUKP	**Musuan**	**2.68**	**205**	*eP*	Pn	18 33 10.6	+1.7
GUIM	**Jordan**	**3.58**	**275**	*eP*	Pn	18 33 22.0	+0.8

IDC 27 18:37:38.2±1.7, 0°63S×129°83E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/33, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=69.6km s-min=24.2km az=80.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**11.31**	**213**	P	Pn	18 40 23.6	+2.2
	1.0nm,0.3s,baz=77,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**19.69**	**167**	P	P	18 42 07.8	-1.5
	0.1nm,0.3s,baz=345,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**23.24**	**170**	P	P	18 42 47.5	+0.2
	2.2nm,0.5s,baz=352,slow=11,SNR=63						
SONM	**Songino Array**	**52.41**	**340**	P	P	18 46 52.5	-0.1
	0.3nm,0.7s,baz=141,slow=7.4,SNR=2.3						

*ISCJB **27** 18:43:00.5±0.4, 32°74N×115°78W±0°03, h14km±3km, Error ellipse: s-maj=4.1km s-min=3.6km az=155.1*
*MEX **27** 18:43:00.6±0.7, 32°95N×115°73W, h16km±19km, MD3.5*
*NEIC **27** 18:43:01.9, 32°69N×115°81W, h7km, ML3.6(PAS), ML3.8(ECX), After PAS.*
NEIC Felt [II] at El Centro. Also felt at La Mesa, La Jolla, Oceanside and San Diego.
*ECX **27** 18:43:02.3±0.6, 32°68N×115°82W, h3km, MD3.5, ML3.7*

ISC 27 18:43:01.0±0.9, 32°71N±0°02×115°81W±0°02, h14km±6km, n32, σ0°93/52, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.09**	**128**	⇑*iP*	**Pg**	**18 43 03.4**	**-0.7**
YUH	**Yuha Desert**	**0.11**	**238**	⇑*iP*	**Pg**	**18 43 04.3**	**-0.1**
COK	**Cook Ranch**	**0.16**	**27**	⇓*iP*	**Pb**	**18 43 06.1**	**+0.4**
CRR	**Carrizo Plain**	**0.22**	**324**	⇓*iP*	**Pb**	**18 43 07.1**	**+0.3**
RMX	**La Rumorosa**	**0.25**	**245**	⇑*iP*	**Pg**	**18 43 06.8**	**+0.3**
RMX				*eS*	**Sg**	**18 43 10.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.52**	**124**	*eP*	**Pb**	**18 43 11.8**	**0.0**
CPBX				*eS*	**Sb**	**18 43 18.8**	**-0.4**
CPBX				⇓*e*		18 43 27.5	
	comp=N,21μm,0.6s						
CPBX	**Cerro Prieto**	**0.52**	**124**	*eP*	**Pg**	**18 43 11.5**	**+0.3**
CPBX				*eS*	**Sb**	**18 43 19.5**	**+0.3**
MBIG	**Mexicali**	**0.60**	**120**	*eP*	**Pg**	**18 43 12.4**	**-0.3**
MBIG				*eS*	**Sg**	**18 43 20.6**	**+0.2**
RDX	**Rancho Dawling**	**0.78**	**188**	⇑*eP*	**Pg**	**18 43 15.3**	**-1.0**
RDX				*eS*	**Sg**	**18 43 25.4**	**-1.2**
RDX				⇑*e*		18 43 26.3	
	comp=N,2μm,0.4s						
CBX	**Cerro Bola**	**0.82**	**242**	*eP*	**Pg**	**18 43 16.3**	**-0.7**
CBX				*i* S	**Sb**	**18 43 28.2**	**+0.2**
CBX	**Cerro Bola**	**0.82**	**242**	⇑*eP*	**Pg**	**18 43 17.1**	**+0.1**
CBX				*eS*	**Sg**	**18 43 27.9**	**+0.2**
CBX	**Cerro Bola**	**0.82**	**242**	*eP*	**Pg**	**18 43 16.9**	**-0.1**
CBX				*eS*	**Sg**	**18 43 27.9**	**+0.2**
GLA	**Glamis**	**0.90**	**67**	*ePg*	**Pb**	**18 43 17.7**	**-0.7**
GLA				*eSg*	**Sb**	**18 43 29.3**	**-0.9**
PFO	**Pinyon Flats O**	**1.05**	**329**	*ePg*	**Pb**	**18 43 20.5**	**-0.6**
PFO				*eSg*	**Sb**	**18 43 34.8**	**+0.1**

DAWY	**Dawson**	**25.46**	**43**	*e*P	**P**	**19 16 42.6**	**+0.1**
INK	**Inuvik**	**28.69**	**35**	P	**P**	**19 17 13.5**	**+2.2**
	0.9nm,0.3s,baz=253,slow=11,SNR=4.3						
JCJ	**Chichijima**	**36.56**	**243**	LR	LR	19 29 58.8	
	comp=Z,352nm,21.6s,baz=144,slow=30						
YKA	**Yellowknife Ar**	**36.62**	**46**	P	**P**	**19 18 19.1**	**-1.4**
	0.7nm,0.8s,baz=282,slow=8.1,SNR=6.0						
KSRS	**Korea Array**	**38.18**	**270**	P	**P**	**19 18 34.5**	**+0.4**
	2.2nm,1.1s,baz=55,slow=11,SNR=4.3						
KSAR	**Wonju Array Be**	**38.22**	**270**	P	**P**	**19 18 34.5**	**+0.1**
SONM	**Songino Array**	**45.55**	**296**	P	**P**	**19 19 34.2**	**-0.1**
	0.7nm,0.5s,baz=56,slow=7.1,SNR=6.3						
PDAR	**Pinedale Array**	**47.84**	**70**	P	**P**	**19 19 53.2**	**+0.8**
	1.5nm,0.8s,baz=319,slow=3.8,SNR=12						
MKAR	**Makanchi Array**	**59.18**	**307**	P	**P**	**19 21 13.8**	**-1.4**
	0.5nm,0.7s,baz=20,slow=3.9,SNR=6.6						
TXAR	**Lajitas Array**	**60.17**	**79**	P	**P**	**19 21 22.9**	**+0.6**
	0.3nm,0.7s,baz=283,slow=4.5,SNR=3.7						
FINES	**FINESS Array B**	**65.92**	**346**	P	**P**	**19 21 58.3**	**-1.5**
	3.7nm,1.0s,baz=28,slow=8.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**69.61**	**274**	P	**P**	**19 22 23.8**	**+0.1**
	0.5nm,0.7s,baz=24,slow=6.1,SNR=4.2						
AKASG	**Malin Array Be**	**75.54**	**341**	P	**P**	**19 22 56.9**	**-1.5**
	0.4nm,0.3s,baz=21,slow=5.9,SNR=4.5						
AKASG				LR	LR	20 00 08.0	
	comp=Z,30nm,18.8s,baz=230,slow=39						
WRA	**Warramunga Arr**	**80.67**	**222**	P	**P**	**19 23 26.9**	**-0.2**
	0.6nm,0.7s,baz=32,slow=6.2,SNR=4.5						
ASAR	**Alice Springs**	**84.16**	**221**	P	**P**	**19 23 45.7**	**+0.4**
	0.6nm,0.7s,baz=23,slow=5.0,SNR=3.4						
BRTR	**Keskin Array B**	**84.76**	**334**	P	**P**	**19 23 48.0**	**-0.5**
	0.9nm,0.7s,baz=350,slow=1.6,SNR=4.3						

*BJI **27** 19:13:41.2, 7.˙90S×107.˙90E, h30km, mB4.8/5, mb4.3/8, Ms5.0/1, Ms7 4.7/1*
*MOS **27** 19:13:44.5±1.2, 7.˙71S×107.˙95E, h59km, mb4.9/17, Error ellipse: s-maj=16.7km s-min=7.5km az=118.6*
*IDC **27** 19:13:44.6±2.1, 7.˙81S×107.˙92E, h44km±18km, mb4.1/17, mb1 4.2/18, mb1mx4.0/36, mbtmp4.4/18, ML4.8/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/29, Error ellipse: s-maj=24.5km s-min=11.6km az=59.0*
*ISCJB **27** 19:13:46.3±0.4, 8.˚03S±0.˚04×107.˚89E±0.˚02, h83km±3km, mb4.4/41, Error ellipse: s-maj=6.7km s-min=3.2km az=21.2*
*DJA **27** 19:13:46.4±0.4, 8˚S±3˚×10˚8E±˚, h28km±3km, M4.7/33, mB5.1/19, mb4.9/29, MLv5.0/33, Mw(mB)4.5/19*
*NEIC **27** 19:13:46.1±0.8, 7.˙87S×107.˙79E, h61km±7km, mb4.5/20, Error ellipse: s-maj=9.9km s-min=7.2km az=58.0*
NEIC Felt [III] at Ciamis and Pangandaran.
*KLM **27** 19:13:54.5, 7.˙55S×107.˙93E, h18km, mb4.6, ML3.0, MS5.3*
ISC 27 19:13:45.2±0.7, 8.08S±0.04×107.83E±0.03, h55km±6km, n310, σ1§52/290, mb4.5/41, MS3.3/4, 44C-36D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.52**	**359**	P	**Pn**	**19 13 58.4**	**+1.2**
CISI				S	**Sn**	**19 14 06.8**	**+1.0**
CISI	**Cisompet, Garu**	**0.52**	**359**	P	**Pn**	**19 13 57.6**	**+0.4**
	baz=0.6,SNR=1000						
CISI	**Cisompet, Garu**	**0.52**	**359**	*e*Pn	**Pn**	**19 13 57.5**	**+0.3**
CMJI	**Cimerak**	**0.69**	**64**	P	**Pn**	**19 13 59.6**	**+0.6**
CMJI				S	**Sn**	**19 14 08.7**	**-0.4**
CNJI	**Cibinong**	**1.03**	**318**	P	**Pn**	**19 14 05.6**	**+2.1**
CNJI				S	**Sn**	**19 14 17.5**	**+0.5**
LEM	**Lembang**	**1.26**	**351**	P	**Pn**	**19 14 09.7**	**+2.9**
LEM	**Lembang**	**1.26**	**351**	P	**Pn**	**19 14 09.7**	**+2.9**
	568nm,0.3s,baz=344,slow=7.3,SNR=654						
LEM	**Lembang**	**1.26**	**351**	P	**Pn**	**19 14 09.6**	**+2.8**
	baz=1.3,SNR=877						
KPJI	**Karang Pucung**	**1.32**	**56**	P	**Pn**	**19 14 09.0**	**+1.5**
SKJI	**Sukabumi**	**1.65**	**310**	P	**Pn**	**19 14 15.0**	**+3.1**
SKJI				S	**Sn**	**19 14 35.3**	**+3.3**
TNG	**Tangerang**	**2.23**	**328**	P	Pn	19 14 23.3	+3.5
CGJI	**Cibinong**	**2.57**	**304**	P	**Pn**	**19 14 26.7**	**+2.3**
SBJI	**Serang**	**2.57**	**319**	P	Pn	19 14 28.0	+3.5
UGM	**Wanagama**	**2.68**	**87**	P	**Pn**	**19 14 26.9**	**+0.9**
UGM				S	**Sn**	**19 14 57.0**	**-0.2**
UGM	**Wanagama**	**2.68**	**87**	P	**Pn**	**19 14 26.5**	**+0.5**
	baz=2.7,SNR=126						
UGM				S	**Sn**	**19 14 56.1**	**-1.1**
	baz=2.7,SNR=6.9						
SMRI	**Semarang**	**2.79**	**69**	P	**Pn**	**19 14 29.8**	**+2.3**
SMRI				S	**Sn**	**19 15 02.2**	**+2.3**
SMRI	**Semarang**	**2.79**	**69**	P	**Pn**	**19 14 29.7**	**+2.3**
	baz=2.8,SNR=62						
SMRI				S	**Sn**	**19 15 03.5**	**+3.6**
	baz=2.8,SNR=5.4						
SMRI	**Semarang**	**2.79**	**69**	*e*Pn	**Pn**	**19 14 29.3**	**+1.8**
SMRI				*e*Sn	**Sn**	**19 14 59.4**	**-0.6**
XMI	**Christmas Isla**	**3.16**	**222**	P	**Pn**	**19 14 33.4**	**+0.8**
	baz=3.1,SNR=98						
XMI				S	**Sn**	**19 15 06.5**	**-2.5**
	baz=3.1,SNR=5.6						
XMIS	**Christmas Isla**	**3.21**	**222**	P	**Pn**	**19 14 33.7**	**+0.5**
	baz=3.2,SNR=338						
XMIS				S	**Sn**	**19 15 07.0**	**-3.2**
	baz=3.2,SNR=7.1						
XMIS	**Christmas Isla**	**3.21**	**222**	*e*Pn	**Pn**	**19 14 33.6**	**+0.4**
XMIS				*e*Sn	**Sn**	**19 15 06.6**	**-3.6**
PCJI	**Pacitan**	**3.32**	**92**	P	**Pn**	**19 14 36.1**	**+1.4**
PCJI				S	**Sn**	**19 15 11.2**	**-1.8**
UWJI	**Ujung Watu**	**3.51**	**62**	P	**Pn**	**19 14 39.0**	**+1.7**
BLSI	**Bandar Lampung**	**3.72**	**316**	P	Pn	19 14 44.9	+4.7
PWJI	**Pagerwojo**	**3.94**	**89**	P	**Pn**	**19 14 44.3**	**+1.1**
PWJI				S	**Sn**	**19 15 27.9**	**-0.3**
KASI	**Kota Agung**	**4.17**	**307**	P	Pn	19 14 50.1	+3.7
KLI	**Kotabumi**	**4.35**	**317**	P	Pn	19 14 53.8	+4.9
GRJI	**Gresik**	**4.76**	**76**	P	**Pn**	**19 14 55.7**	**+1.2**
GRJI				S	**Sn**	**19 15 49.0**	**+0.6**
LWLI	**Liwa**	**4.82**	**309**	P	Pn	19 14 59.8	+4.3
MDSI	**Maura Dua**	**5.09**	**314**	P	Pn	19 15 03.3	+4.3
	102nm,1.1s,975nm0.4nm						
TPI	**Tanjungpandan**	**5.29**	**358**	P	Pn	19 15 06.5	+4.7
	55nm,0.8s,808nm0.4nm						
GMJI	**Gumukmas**	**5.57**	**92**	P	Pn	19 15 10.2	+4.7
GMJI				S	**Sn**	**19 16 09.5**	**+1.3**
BLJI	**Banyuglugur**	**5.73**	**87**	P	**Pn**	**19 15 09.4**	**+1.7**
	165nm,0.5s,4µm1.0nm						
PMBI	**Palembang**	**5.95**	**329**	P	Pn	19 15 16.6	+5.7
	311nm,1.0s,1.2nm						
LHSI	**Lahat**	**6.01**	**314**	P	Pn	19 15 18.2	+6.5
	117nm,0.8s,0.4nm						
MNAI	**Manna**	**6.09**	**307**	P	Pn	19 15 17.3	+4.5
	baz=6.2,SNR=6.8						
PPBI	**Pangkal Pinang**	**6.12**	**344**	P	**Pn**	**19 15 16.2**	**+3.1**
	99nm,0.8s,1µm0.3nm						
ABJI	**Asem Bagus**	**6.36**	**88**	P	Pn	19 15 23.2	+6.8
PBKI	**Pangkalan Bun**	**6.57**	**36**	P	**Pn**	**19 15 21.7**	**+2.4**
	260nm,0.8s,2µm0.8nm						
SRBI	**Singaraja**	**7.32**	**91**	P	Pn	19 15 33.5	+4.0
	124nm,0.7s,2µm0.7nm						
DNP	**Denpasar**	**7.33**	**95**	P	Pn	19 15 33.4	+3.7
	386nm,1.0s,8µm2.9nm						
BBKI	**Banjar Baru**	**8.35**	**57**	P	Pn	19 15 48.5	+4.7
	49nm,1.0s						
STKI	**Sintang**	**8.88**	**24**	P	Pn	19 15 54.1	+3.2
	26nm,0.9s,1µm						
TPRI	**Tanjung Pinang**	**9.53**	**340**	P	Pn	19 16 04.5	+4.7
	43nm,0.9s						
KSM	**Kuching**	**9.81**	**15**	P	**Pn**	**19 16 06.3**	**+2.6**
	baz=9.9,SNR=4.3						
KSM	**Kuching**	**9.81**	**15**	*e*Pn	**Pn**	**19 16 05.0**	**+1.3**
	12nm,0.8s						
MYKOM	**Kota Tinggi**	**10.58**	**338**	‖P	Pn	19 16 19.2	+5.0
KGM	**Kluang**	**10.99**	**336**	‖P	Pn	19 16 25.4	+5.5
BKSI	**Bulukumba**	**12.52**	**78**	P	**P**	**19 16 48.7**	**-2.0**
EDFI	**Ende, Flores**	**13.73**	**94**	P	Pn	19 16 54.5	-2.9
	31nm,0.9s						
PCI	**Palu**	**13.93**	**60**	P	**P**	**19 17 04.1**	**-2.4**
	38nm,1.1s,383nm						
PSI	**Prapat**	**13.99**	**320**	LR	LR	19 23 27.2	
	comp=Z,101nm,20.4s,baz=104,slow=42						
KTGM	**Kuala Trenggan**	**14.12**	**340**	‖P	**P**	**19 17 08.8**	**+0.2**
MMRI	**Maumere**	**14.27**	**93**	P	**P**	**19 17 11.3**	**+1.0**
MMRI	**Maumere**	**14.27**	**93**	*e*Pn	Pn	19 17 01.5	-3.0
	44nm,0.5s						
MPSI	**Mapaga**	**14.66**	**56**	P	**P**	**19 17 14.1**	**-0.4**
KULM	**Kulim**	**15.09**	**331**	Pn	**Pn**	**19 17 11.7**	**-3.4**
APSI	**Ampana**	**15.51**	**63**	P	P	19 17 33.1	+9.1
GIRL	**Giralia**	**15.73**	**158**	P	**Pn**	**19 17 21.7**	**-1.7**
	baz=16,SNR=15						
GIRL				S	Sn	19 20 05.3	-12
	baz=16,SNR=8.9						
BATI	**Baumata**	**15.78**	**99**	P	**Pn**	**19 17 21.4**	**-2.7**
	38nm,0.7s,456nm						
BATI	**Baumata**	**15.78**	**99**	P	**Pn**	**19 17 21.9**	**-2.2**
	3.4nm,0.3s,baz=282,slow=3.6,SNR=10						
BATI				S	Sn	19 20 07.9	-10
	1.2nm,0.3s,baz=216,slow=19,SNR=2.8						
BATI				LR	LR	19 25 02.0	
	comp=Z,98nm,18.2s,baz=264,slow=43						
SOEI	**Soe**	**16.33**	**97**	P	**P**	**19 17 35.0**	**+1.7**
SOEI	**Soe**	**16.33**	**97**	P	**Pn**	**19 17 28.9**	**-2.3**
	baz=16,SNR=28						
SOEI				S	**Sn**	**19 20 33.5**	**+1.9**
	baz=16,SNR=3.1						
SOEI	**Soe**	**16.33**	**97**	*e*Pn	**Pn**	**19 17 28.1**	**-3.0**
	62nm,0.8s						
SOEI				*e*Sn	**Sn**	**19 20 28.5**	**-3.1**
KKM	**Kota Kinabalu**	**16.34**	**31**	P	**P**	**19 17 34.7**	**+1.4**
	baz=16,SNR=4.7						
KKM	**Kota Kinabalu**	**16.34**	**31**	*e*Pn	**Pn**	**19 17 31.7**	**+0.5**
	14nm,0.7s						
MRSI	**Marisa**	**16.44**	**60**	P	**P**	**19 17 36.8**	**+2.4**
	30nm,0.7s						
SANI	**Sanana**	**19.05**	**73**	P	**P**	**19 18 03.9**	**+0.7**
	67nm,0.8s,590nm						
NLAI	**Namlea**	**19.77**	**77**	P	**Pn**	**19 18 13.6**	**+0.7**
	63nm,0.6s,664nm						
FITZ	**Fitzroy Crossi**	**19.99**	**122**	P	**Pn**	**19 18 15.1**	**-0.4**
	baz=20,SNR=23						
FITZ	**Fitzroy Crossi**	**19.99**	**122**	*e*P	**Pn**	**19 18 14.7**	**-0.8**
	14nm,0.9s						
FITZ				*e*S	S	19 21 38.1	-17
AAI	**Ambon**	**20.72**	**79**	P	**P**	**19 18 22.3**	**+0.9**
	91nm,0.6s,1µm						
AAI	**Ambon**	**20.72**	**79**	P	**P**	**19 18 20.9**	**-0.5**
	baz=21,SNR=6.1						
LBMI	**Labuha**	**20.95**	**70**	P	**P**	**19 18 24.2**	**+0.3**
	126nm,0.7s,890nm						
MEEK	**Meekatharra**	**21.11**	**152**	P	**P**	**19 18 29.7**	**+4.3**
	baz=21,SNR=4.0						
MEEK				S	**S**	**19 22 11.6**	**-5.8**
	baz=21,SNR=11						
TNTI	**Ternate**	**21.38**	**67**	P	**P**	**19 18 28.0**	**-0.4**
	118nm,1.2s,2µm						
TNTI	**Ternate**	**21.38**	**67**	*e*P	**P**	**19 18 26.4**	**-2.0**
	70nm,0.6s						
KNRA	**Kununurra**	**21.82**	**112**	P	**P**	**19 18 33.9**	**+0.8**
	baz=22,SNR=29						
MORW	**Morawa**	**22.26**	**161**	S	**S**	**19 22 39.3**	**-0.1**
	baz=22,SNR=8.8						
MTN	**Manton Dam**	**23.40**	**104**	P	**P**	**19 18 49.7**	**+0.2**
	baz=23,SNR=9.4						
KDU	**Kakadu**	**24.66**	**103**	P	**P**	**19 19 00.9**	**-0.2**
	baz=25,SNR=6.6						
FAKI	**Fak Fak**	**24.84**	**79**	P	**P**	**19 19 02.5**	**-0.2**
	baz=25,SNR=8.2						
WRKA	**Warakurna**	**25.80**	**133**	P	**P**	**19 19 12.8**	**+1.4**
	baz=26,SNR=7.5						
WRKA				S	S	19 24 00.6	+23
	baz=26,SNR=6.5						
RKPI	**Ransiki, Papua**	**27.05**	**77**	P	P	19 19 30.7	+8.0
H01W3	**Cape Leeuwin H**	**27.30**	**169**	T	T	19 50 17.0	
	baz=342,slow=76,SNR=4.4						
H01W1	**Cape Leeuwin H**	**27.31**	**169**	T	T	19 50 14.4	
	baz=342,slow=76,SNR=3.3						
H01W2	**Cape Leeuwin H**	**27.31**	**169**	T	T	19 50 14.6	
	baz=342,slow=76,SNR=4.2						
CM31	**Chiang Mai Arr**	**27.79**	**342**	P	**P**	**19 19 26.2**	**-3.0**
CMAR	**Chiang Mai Arr**	**27.79**	**342**	P	**P**	**19 19 27.8**	**-1.5**
	0.7nm,0.6s,baz=176,slow=8.5,SNR=9.9						
CMAR				PcP	**PcP**	**19 22 45.8**	**+1.1**
	1.9nm,0.6s,baz=210,slow=3.5,SNR=12						
CMAR				ScP	**ScP**	**19 26 21.5**	**+0.5**
	0.5nm,0.4s,baz=158,slow=1.5,SNR=6.6						
CMAR				LR	LR	19 32 10.5	
	comp=Z,78nm,18.6s,baz=204,slow=40						
CHTO	**Chiang Mai**	**28.12**	**342**	P	**P**	**19 19 29.7**	**-2.6**
CHTO	**Chiang Mai**	**28.12**	**342**	P	**P**	**19 19 29.7**	**-2.6**
WRA	**Warramunga Arr**	**28.25**	**117**	P	**P**	**19 19 34.1**	**+0.7**
	3.6nm,0.4s,baz=288,slow=12,SNR=32						
WRA				PcP	**PcP**	**19 22 46.4**	**+0.5**
	0.7nm,0.5s,baz=310,slow=1.9,SNR=5.2						
WRAB	**Tennant Creek**	**28.25**	**117**	*e*P	**P**	**19 19 33.9**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.4s						
WRAB	**Tennant Creek**	**28.25**	**117**	*e*P	**P**	**19 19 33.9**	**+0.5**
	comp=Z,4.8nm,0.4s						
AS31	**Alice Springs**	**29.40**	**125**	*e*P	**P**	**19 19 43.8**	**+0.1**
ASAR	**Alice Springs**	**29.40**	**125**	P	**P**	**19 19 44.3**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=301,slow=8.3,SNR=30						
ASAR				PcP	**PcP**	**19 22 50.0**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=303,slow=2.2,SNR=9.9						
ASAR				ScP	**ScP**	**19 26 27.2**	**+1.1**
	comp=Z,2.0nm,1.1s,baz=305,slow=2.9,SNR=6.8						
ASAR				LR	LR	19 31 45.8	
	comp=Z,53nm,21.1s,baz=268,slow=37						
H08S2	**Diego Garcia H**	**34.99**	**268**	T	T	19 58 08.8	
	baz=93,slow=76,SNR=342						
H08S3	**Diego Garcia H**	**35.01**	**268**	T	T	19 58 04.4	
	baz=93,slow=76,SNR=365						
H08S1	**Diego Carcia H**	**35.01**	**268**	T	T	19 58 10.1	
	baz=93,slow=76,SNR=104						
BBOO	**Buckleboo**	**35.91**	**137**	P	**P**	**19 20 41.3**	**+1.0**
	baz=36,SNR=8.3						
H08N1	**Diego Carcia H**	**36.55**	**270**	T	T	20 00 03.0	
	baz=125,slow=77,SNR=19						
H08N2	**Diego Garcia H**	**36.57**	**270**	T	T	20 00 11.2	
	baz=125,slow=77,SNR=17						
H08N3	**Diego Garcia H**	**36.57**	**270**	T	T	20 00 06.3	
	baz=125,slow=77,SNR=32						
PMG	**Port Moresby**	**38.89**	**95**	*e*P	**P**	**19 21 06.1**	**+0.3**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PMG	**Port Moresby**	**38.89**	**95**	*e*P	**P**	**19 21 06.1**	**+0.3**
	comp=Z,8.3nm,0.8s						
QLP	**Quilpie**	**39.12**	**123**	S	**S**	**19 27 07.3**	**+3.6**
	baz=39,SNR=4.1						
STKA	**Stephens Creek**	**39.31**	**132**	P	**P**	**19 21 10.8**	**+1.7**
	comp=Z,12nm,0.5s,baz=314,slow=6.9,SNR=73						
STKA				PcP	**PcP**	**19 23 17.9**	**+0.9**
	comp=Z,2.9nm,0.5s,baz=316,slow=2.8,SNR=3.9						
STKA				LR	LR	19 40 48.2	
	comp=Z,45nm,18.5s,baz=255,slow=41						
STKA	**Stephens Creek**	**39.31**	**132**	*e*P	**P**	**19 21 10.5**	**+1.4**
STKA						19 23 18.0	
STKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
STKA	**Stephens Creek**	**39.31**	**132**	P	**P**	**19 21 10.9**	**+1.7**
	baz=39,SNR=45						
STKA	**Stephens Creek**	**39.31**	**132**	*e*P	**P**	**19 21 10.5**	**+1.4**
	comp=Z,2.4nm,0.5s						
STKA				PcP	**PcP**	**19 23 17.9**	**+0.9**
ODAN	**Odare**	**39.99**	**331**	*e*P	**P**	**19 21 13.5**	**-1.6**
ODAN	**Odare**	**39.99**	**331**	*e*P	**PcP**	**19 23 21.0**	**+1.5**
	comp=Z,6.0nm,0.4s						
TAPN	**Taplejung**	**40.25**	**332**	*e*P	P	19 21 13.4	-3.9
TAPN	**Taplejung**	**40.25**	**332**	*e*P	**PcP**	**19 23 17.7**	**-2.7**
	comp=Z,8.7nm,0.7s						
RAMN	**Ramite**	**40.45**	**330**	*e*P	**PcP**	**19 23 22.6**	**+1.6**
JIRN	**Jiri**	**41.24**	**330**	*e*P	**P**	**19 21 24.2**	**-1.3**
	comp=Z,6.4nm,0.3s						
JIRN	**Jiri**	**41.24**	**330**	*e*P	**PcP**	**19 23 22.7**	**-1.0**
	comp=Z,12nm,0.6s						
PKI	**Pulchoki**	**41.56**	**329**	*e*P	**P**	**19 21 27.4**	**-0.7**
	comp=Z,2.7nm,0.3s						
PKI	**Pulchoki**	**41.56**	**329**	*e*P	**PcP**	**19 23 25.2**	**+0.5**
	comp=Z,9.8nm,0.8s						
PKIN	**Phulchoki**	**41.57**	**329**	*e*P	**PcP**	**19 23 25.0**	**+0.4**
	comp=Z,5.4nm,0.6s						
GUN	**Gumba**	**41.60**	**330**	*e*P	**P**	**19 21 26.0**	**-2.5**
	comp=Z,8.9nm,0.5s						
GUN	**Gumba**	**41.60**	**330**	*e*P	**PcP**	**19 23 22.6**	**-2.2**
	comp=Z,12nm,0.6s						
DMN	**Daman**	**41.74**	**329**	*e*P	**P**	**19 21 28.7**	**-0.8**
DMN	**Daman**	**41.74**	**329**	*e*P	**PcP**	**19 23 26.7**	**+1.5**
	comp=Z,35nm,0.8s						
KKN	**Kakani**	**41.80**	**329**	*e*P	**PcP**	**19 23 25.0**	**-0.3**
	comp=Z,9.2nm,0.5s						
CMSA	**Cobar Meteorol**	**42.26**	**129**	P	**P**	**19 21 35.7**	**+2.4**
	baz=42,SNR=4.6						
GKN	**Gorkha**	**42.30**	**329**	*e*P	**P**	**19 21 33.3**	**-0.6**
	comp=Z,7.8nm,0.3s						
GKN	**Gorkha**	**42.30**	**329**	*e*P	**PcP**	**19 23 26.0**	**-0.9**
	comp=Z,6.9nm,0.5s						
KOLN	**Koldanda**	**42.66**	**328**	*e*P	**P**	**19 21 36.5**	**-0.4**
	comp=Z,8.6nm,0.4s						
KOLN	**Koldanda**	**42.66**	**328**	*e*P	**PcP**	**19 23 29.0**	**+0.8**
	comp=Z,15nm,0.5s						
PYUN	**Piuthan**	**43.24**	**327**	*e*P	**P**	**19 21 41.6**	**0.0**
	comp=Z,14nm,0.4s						
PYUN	**Piuthan**	**43.24**	**327**	*e*P	**PcP**	**19 23 30.8**	**+0.7**
	comp=Z,31nm,0.7s						
GTA	**Gaotai**	**47.83**	**352**	*e*P	P	19 22 21.8	+4.2
GTA				pP	pP	19 22 25.0	-7.2
GTA				sP	sP	19 22 27.8	-11
GTA				PcP	**PcP**	**19 23 46.8**	**+1.1**
GTA				PMZ			
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**55.69**	**359**	P	**P**	**19 23 14.6**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=174,slow=8.3,SNR=17						
SONM				PcP	**PcP**	**19 24 14.7**	**-0.1**
	comp=Z,4.6nm,0.4s,baz=174,slow=3.9,SNR=30						
SONM				ScP	**ScP**	**19 28 08.3**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=188,slow=3.8,SNR=4.6						
ULN	**Ulaanbaatar**	**55.71**	**359**	*e*P	**P**	**19 23 15.6**	**-0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**55.71**	**359**	*e*P	**P**	**19 23 13.3**	**-2.9**
	comp=Z,2.7nm,0.7s						
KBL	**Kabul**	**56.06**	**321**	*e*P	**P**	**19 23 16.5**	**-2.5**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBL	**Kabul**	**56.06**	**321**	P	**P**	**19 23 18.4**	**-0.6**
	baz=56,SNR=3.5						
KBL	**Kabul**	**56.06**	**321**	*e*P	**P**	**19 23 16.5**	**-2.5**
	comp=Z,4.0nm,0.6s						
TKM2	**Tokmak 2**	**58.63**	**333**	*e*P	**P**	**19 23 35.5**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TKM2	**Tokmak 2**	**58.63**	**333**	*e*P	**P**	**19 23 35.5**	**-1.6**
	comp=Z,8.9nm,0.5s						
AAK	**Ala-Archa**	**58.92**	**332**	*e*P	**P**	**19 23 36.4**	**-2.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AAK	**Ala-Archa**	**58.92**	**332**	*e*P	**P**	**19 23 37.2**	**-1.8**
	comp=Z,3.2nm,1.3s						
MK31	**Makanchi Array**	**59.18**	**340**	*e*P	**P**	**19 23 39.0**	**-1.5**
MK31	**Makanchi Array**	**59.18**	**340**	*e*P	**P**	**19 23 39.0**	**-1.5**
MKAR	**Makanchi Array**	**59.18**	**340**	P	**P**	**19 23 39.0**	**-1.5**
	comp=Z,1.6nm,0.4s,baz=154,slow=7.3,SNR=32						
MKAR	**Makanchi Array**	**59.18**	**340**	P	**P**	**19 23 39.0**	**-1.5**
EKS2	**Erkin-Say**	**59.28**	**331**	*e*P	**P**	**19 23 41.0**	**-0.4**
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKS2	**Erkin-Say**	**59.28**	**331**	*e*P	**P**	**19 23 41.0**	**-0.4**
	comp=Z,1.1nm,0.5s						
IDAH	**Dahanechah**	**61.07**	**314**	*e*P	**P**	**19 23 53.6**	**-0.4**
KKAR	**Karatay Array**	**61.20**	**330**	*e*P	**P**	**19 23 52.9**	**-1.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**61.20**	**330**	*e*P	**P**	**19 23 52.9**	**-1.5**
	comp=Z,0.9nm,0.5s						
ITEG	**Tejag**	**61.95**	**314**	*e*P	**P**	**19 23 59.0**	**-0.9**
IMOG	**Moghan**	**63.29**	**317**	*e*P	**P**	**19 24 06.8**	**-2.0**
IBAF	**Bafgh**	**63.61**	**311**	*e*P	**P**	**19 24 10.2**	**-0.8**
IPAY	**Payeh**	**63.71**	**317**	*e*P	**P**	**19 24 10.2**	**-1.4**
KURK	**Kurchatov**	**63.79**	**340**	*e*P	**P**	**19 24 08.7**	**-2.8**
KURK	**Kurchatov**	**63.79**	**340**	*e*P	**P**	**19 24 08.7**	**-2.8**
IAKL	**Akhelmad**	**63.95**	**317**	*e*P	**P**	**19 24 12.6**	**-0.6**
IKRD	**Kardeh**	**64.21**	**317**	*e*P	**P**	19 24 09.8	-5.1
ISFR	**Sfrayin**	**64.71**	**317**	*e*P	**P**	**19 24 16.9**	**-1.2**
IPAR	**Pars**	**64.72**	**308**	*e*P	**P**	**19 24 18.1**	**-0.4**
ZAAO	**Zalesovo Array**	**64.78**	**345**	P	P	19 24 14.4	-3.5
ZALV	**Zalesovo Beam**	**64.78**	**345**	P	**P**	**19 24 16.8**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=153,slow=6.3,SNR=8.7						
ZALV				PcP	**PcP**	**19 24 48.6**	**-2.3**
	comp=Z,1.3nm,0.5s,baz=155,slow=2.4,SNR=4.3						
GEYT	**Alibeck**	**65.11**	**318**	P	**P**	**19 24 20.8**	**+0.3**
	comp=Z,9.6nm,0.7

comp=Z,25nm,1.5s
TSUM **Tsumeb** 87.61 251 P P 19 26 30.8 +2.4
comp=Z,3.7nm,0.9s
AKASG **Malin Array Be** 89.05 321 P P 19 26 33.5 -0.8
comp=Z,0.3nm,0.3s,baz=82,slow=4.8,SNR=6.1
FINES **FINESS Array B** 93.11 332 P P 19 26 53.3 +0.3
comp=Z,2.3nm,0.7s,baz=127,slow=7.5,SNR=14
FINES **FINESS Array B** 93.11 332 *i* P P 19 26 53.2 +0.3
FINES pmax pmax
comp=Z,2.0nm,0.6s
KOLS **Kolonicke sedl** 93.11 319 *e*P P 19 26 54.7 +1.4
KOLS **Kolonicke sedl** 93.11 319 *e*P P 19 26 54.7 +1.4
STHS **Stebnicka Huta** 93.85 319 *e*P P 19 26 54.2 -2.5
STHS **Stebnicka Huta** 93.85 319 *e*P P 19 26 54.2 -2.5
GERES **GERESS Array B** 98.74 318 P P 19 27 18.6 -0.4
comp=Z,0.3nm,0.6s,baz=88,slow=2.3,SNR=3.3
TORD **Torodi Ar. Bea** 107.43 281 PKiKP PKiKP 19 32 07.0 +0.3
comp=Z,0.6nm,0.6s,baz=65,slow=2.4,SNR=12
YKA **Yellowknife Ar** 117.58 21 PKP PKPdf 19 32 24.5 -0.2
comp=Z,1.4nm,0.5s,baz=342,slow=1.9,SNR=41
PDAR **Pinedale Array** 132.37 37 PKP PKPdf 19 32 55.7 +1.7
comp=Z,0.9nm,0.7s,baz=76,slow=0.9,SNR=6.9
SCHQ **Schefferville** 133.18 356 PKP PKPdf 19 32 55.4 +0.5
comp=Z,2.5nm,0.5s,baz=265,slow=3.5,SNR=9.8
ULM **Lac du Bonnet** 133.56 21 PKP PKPdf 19 32 55.3 -0.3
comp=Z,1.2nm,0.5s,baz=9.8,slow=1.5,SNR=5.9
ANMO **Albuquerque** 138.74 45 ↑*i*PKiKP PKPdf 19 33 08.8 +2.8
ANMO pmax pmax
comp=Z,7.0nm,1.0s
R33A **Olander Ranch,** 141.95 34 ⇓P PKPdf 19 33 01.9 -10
baz=142
128A **Castleberry Fa** 142.78 45 ⇓P PKPdf 19 33 06.0 -7.2
baz=143
Z29A **Hungry Hill Ra** 142.95 43 ⇓P PKPdf 19 33 11.5 -2.0
baz=143
X31A **McDonald Ranch** 143.25 40 ⇑P PKPbc 19 33 11.7 +0.7
baz=143
S35A **Otter Creek Ra** 143.31 33 ⇓P PKPbc 19 33 11.4 +0.4
baz=143
Z30A **Sanderson Ranc** 143.33 43 ⇑P PKPbc 19 33 12.3 +1.0
baz=143
U34A **Anderson Ranch** 143.53 36 ⇑P PKPbc 19 33 12.1 +0.4
baz=143
TXAR **Lajitas Array** 143.64 50 PKP PKPdf 19 33 13.8 -1.1
comp=Z,1.2nm,0.6s,baz=272,slow=0.5,SNR=12
X32A **Elmer** 143.82 40 ⇓P PKPbc 19 33 13.5 +0.8
baz=144
WMOK **Wichita Mounta** 143.94 39 *e*PKiKP PKPbc 19 33 13.0 0.0
WMOK **Wichita Mounta** 143.94 39 *e*PKPdf PKPbc 19 33 13.0 0.0
Z31A **Sharp Cattle R** 143.96 42 ⇓P PKPbc 19 33 13.7 +0.5
baz=144
Y32A **R-V Farms, Ver** 143.99 40 ⇑P PKPbc 19 33 13.5 +0.3
baz=144
230A **Sterling City** 144.15 45 ⇓P PKPdf 19 33 14.8 -0.9
baz=144,SNR=5.3
W34A **Bridge Creek,** 144.22 37 ⇑P PKPbc 19 33 14.6 +0.8
baz=144
429A **Davenport Ranc** 144.30 47 ⇑P PKPdf 19 33 15.9 0.0
baz=144
529A **Stev Forest Ra** 144.33 48 ⇓P PKPdf 19 33 15.8 -0.2
baz=144
330A **Mertzon** 144.38 45 ⇓P PKPdf 19 33 15.9 -0.1
baz=144
V35A **Meyer Ranch, C** 144.40 36 ⇑P PKPdf 19 33 15.1 -0.7
baz=144
Z32A **Haskell** 144.41 41 ⇓P PKPdf 19 33 15.3 -0.7
baz=144,SNR=16
Y33A **Hilltop Ranch,** 144.51 40 ⇓P PKPbc 19 33 15.0 +0.3
baz=144
231A **Bronte** 144.68 44 ⇑P PKPbc 19 33 15.8 +0.4
baz=144,SNR=9.2
430A **Baggett Ranch,** 144.69 46 ⇓P PKPdf 19 33 16.3 -0.3
baz=144
ABTX **Abilene, Hawle** 144.72 42 ⇑P PKPdf 19 33 16.6 0.0
baz=144
ABTX **Abilene, Hawle** 144.72 42 *e*PKPdf PKPdf 19 33 16.2 -0.3
W35A **Tecumseh** 144.81 36 ⇓P PKPdf 19 33 16.2 -0.4
baz=145
Z33A **Whitaker Ranch** 144.88 41 ⇑P PKPdf 19 33 17.3 +0.5
baz=145
TUL1 **Leonard** 144.89 34 ⇑P PKPdf 19 33 16.6 -0.1
baz=145
530A **J-C Ranch, Com** 144.96 47 ⇓P PKPdf 19 33 17.6 +0.6
baz=145,SNR=22
331A **San Angelo** 144.97 45 ⇑P PKPdf 19 33 16.9 -0.1
baz=145
Y34A **Reagan Ranch,** 145.09 39 ⇓P PKPdf 19 33 17.1 0.0
baz=145,SNR=9.8
232A **Coleman** 145.16 43 ⇑P PKPdf 19 33 18.1 +0.8
baz=145,SNR=11
SFIN **Lafayette** 145.19 20 ⇑P PKPdf 19 33 17.1 +0.1
baz=145
431A **Sonora** 145.19 46 ⇓P PKPdf 19 33 17.8 +0.4
baz=145,SNR=10.0
W36A **Wetumka** 145.20 36 ⇓P PKPdf 19 33 17.7 +0.5
baz=145
133A **Hamilton Ranch** 145.21 42 ⇑P PKPdf 19 33 18.2 +0.9
baz=145,SNR=9.0
X35A **Drake** 145.27 37 ⇑P PKPbc 19 33 17.1 0.0
baz=145,SNR=6.7
Z34A **Collier Ranch,** 145.37 40 ⇓P PKPab 19 33 18.1 +0.4
baz=145
332A **Millersview** 145.40 44 ⇑P PKPab 19 33 18.8 +0.9
baz=145,SNR=32
X36A **Centrahoma** 145.52 37 ⇓P PKPab 19 33 18.6 +0.4
baz=145
531A **Rocksprings** 145.53 47 ⇓P PKPab 19 33 19.1 +0.6
baz=145,SNR=25
233A **Rising Star** 145.59 43 ⇑P PKPab 19 33 19.3 +0.7
baz=145,SNR=9.9
432A **Menard** 145.66 45 ⇓P PKPab 19 33 19.1 +0.2
baz=146,SNR=6.8
134A **White-Moore Ra** 145.78 41 ⇑P PKPab 19 33 19.7 +0.4
baz=146
Z35A **Perchaven, San** 145.81 39 ⇓P PKPab 19 33 19.4 +0.1
baz=146,SNR=6.4
JCT **Junction City** 145.88 46 *e*PKP2 PKPab 19 33 20.0 +0.3
JCT **Junction City** 145.88 46 ⇑P PKPab 19 33 20.3 +0.5
baz=146,SNR=28
JCT **Junction City** 145.88 46 *e*PKPdf PKPab 19 33 20.0 +0.3
631A **Perdido Creek** 145.92 48 ⇑P PKPab 19 33 20.2 +0.3
baz=146,SNR=11
333A **Richland Sprin** 145.95 44 ⇓P PKPab 19 33 20.3 +0.3
baz=146,SNR=14
532A **Rocksprings** 146.01 46 ⇑P PKPab 19 33 20.3 0.0
baz=146,SNR=7.2
X37A **Clayton** 146.08 36 ⇑P PKPbc 19 33 19.8 +0.1
baz=146,SNR=6.7
234A **Clairette** 146.10 42 ⇓P PKPab 19 33 20.9 +0.4
baz=146
W38A **Poteau** 146.22 34 ⇑P PKPbc 19 33 20.1 0.0
baz=146,SNR=6.4
433A **Art** 146.22 44 ⇑P PKPab 19 33 20.9 -0.1
baz=146,SNR=12
135A **Vickery Place,** 146.22 40 ⇓P PKPab 19 33 21.4 +0.5
baz=146
OLIL **Olney** 146.28 23 *e*PKPdf PKPbc 19 33 20.1 -0.1
BDFB **Brasilia** 146.41 225 PKPbc PKPab 19 33 23.9 +1.7
comp=Z,3.2nm,0.5s,baz=202,slow=6.4,SNR=5.2
632A **Uvalde** 146.44 47 ⇑P PKPab 19 33 22.0 +0.1
baz=146,SNR=5.0
334A **Lometa** 146.45 43 ⇑P PKPab 19 33 21.5 -0.3
baz=146,SNR=6.0
732A **Laxson Ranch,** 146.73 48 ⇑P PKPab 19 33 22.9 -0.1
baz=147,SNR=6.9
434A **Burnet** 146.75 44 ⇓P PKPbc 19 33 22.3 +0.5
baz=147
633A **Saathoff Ranch** 146.91 46 ⇓P PKPab 19 33 23.5 -0.2
baz=147
832A **Faith Ranch, C** 146.97 49 ⇑P PKPab 19 33 23.9 0.0
baz=147
335A **Moody** 147.03 42 ⇓P PKPab 19 33 23.4 -0.7
baz=147
534A **Blanco** 147.07 45 ⇓P PKPbc 19 33 23.2 +0.4
baz=147,SNR=10.0
MIAR **Mount Ida** 147.12 34 *e*PKP2 PKPbc 19 33 23.1 +0.4
MIAR **Mount Ida** 147.12 34 *e*PKPdf PKPbc 19 33 23.1 +0.4
733A **Divot King Ran** 147.23 48 ⇓P PKPab 19 33 24.9 -0.1
baz=147
336A **Riesel** 147.34 41 ⇑P PKPab 19 33 25.5 +0.2
baz=147
833A **Chaparral WMA,** 147.38 48 ⇓P PKPab 19 33 25.6 0.0
baz=147
138A **Matatall Enter** 147.60 38 ⇑P PKPab 19 33 26.0 -0.3
baz=147
237A **Washetta, Mont** 147.61 39 ⇑P PKPab 19 33 26.3 0.0
baz=147
436A **Wall Ranch, Ga** 147.77 42 ⇓P PKPab 19 33 26.0 -1.0
baz=148
933A **Laredo** 147.84 49 ⇑P PKPab 19 33 26.8 -0.6
baz=148
635A **Leesville** 147.94 45 ⇑P PKPab 19 33 26.8 -0.9
baz=148
337A **Centerville** 148.01 41 ⇑P PKPab 19 33 27.0 -1.0
baz=148
834A **Tilden** 148.10 48 ⇑P PKPab 19 33 28.3 -0.1
baz=148
437A **Phantom Ranch,** 148.17 41 ⇑P PKPab 19 33 27.6 -1.0
baz=148
636A **Smothers Creek** 148.39 44 ⇑P PKPab 19 33 28.3 -1.2
baz=148
934A **Benavides** 148.42 49 ⇓P PKPab 19 33 31.6 +1.9
baz=148
034A **Hebbronville** 148.58 50 ⇑P PKPab 19 33 29.8 -0.6
baz=148
WVT **Waverly** 148.64 25 *e*PKP2 PKPbc 19 33 27.0 +0.3
WVT **Waverly** 148.64 25 *e*PKPbc PKPbc 19 33 27.0 +0.3
HKT **Hockley** 148.93 42 *e*PKiKP PKPdf 19 33 24.3 +0.8
HKT **Hockley** 148.93 42 *e*PKPdf PKPdf 19 33 24.3 +0.8
TKL **Tuckaleechee C** 150.57 19 PKiKP PKPdf 19 33 26.7 +0.6
TKL *e* 19 33 31.7
TKL **Tuckaleechee C** 150.57 19 PKPdf PKPdf 19 33 26.7 +0.6
TKL *e*PKPbc PKPbc 19 33 31.7 +0.2
LRAL **Lakeview Retre** 151.63 27 *e*PKPbc PKPbc 19 33 34.0 0.0
KMSC **Kings Mountain** 151.79 16 *e*PKPbc PKPbc 19 33 34.4 +0.1

*ISCJB **27** 19:16:51.5±0.9, 18°.9S±0°.2×177°.6W±0°.2, h570km, mb3.9/8, Error ellipse: s-maj=26.3km s-min=18.1km az=35.6*
*IDC **27** 19:16:55.1±5.7, 18°.96S×177°.55W, h606km±73km, mb3.4/8, mb1 3.5/9, mb1mx3.2/40, mbtmp4.3/9, Error ellipse: s-maj=36.6km s-min=23.8km az=25.0*
ISC 27 19:16:52.8±1.0, 18°.8S±0°.2×177°.6W±0°.2, h570km, n11, σ0§97/11, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.90**	**192**	P		P		19 20 45.8	-1.0
	2.0nm,0.3s,baz=303,slow=2.3,SNR=6.9								
STKA	**Stephens Creek**	**38.88**	**242**	P		P		19 23 30.3	+0.1
	1.6nm,0.3s,baz=61,slow=13,SNR=6.6								
JAY	**Jayapura**	**43.91**	**287**	P		P		19 24 11.0	+0.9
	15nm,0.5s,baz=133,slow=4.6,SNR=23								
WRA	**Warramunga Arr**	**45.24**	**260**	P		P		19 24 20.1	-0.1
	4.7nm,0.3s,baz=98,slow=7.2,SNR=65								
ASAR	**Alice Springs**	**45.30**	**255**	P		P		19 24 20.9	+0.2
	8.5nm,0.7s,baz=87,slow=8.1,SNR=70								
MJAR	**Matsushiro Arr**	**69.11**	**323**	P		P		19 27 01.7	-0.8
	0.8nm,0.7s,baz=163,slow=4.7,SNR=4.1								
SEY	**Seymchan**	**84.85**	**347**	P		P		19 28 26.8	-0.5
	1.7nm,0.8s,baz=147,slow=7.4,SNR=5.1								
TXAR	**Lajitas Array**	**85.83**	**57**	P		P		19 28 34.3	+1.3
	0.4nm,0.7s,baz=224,slow=5.2,SNR=5.3								
ILAR	**Eielson Array**	**86.61**	**13**	P		P		19 28 34.6	-1.1
	0.2nm,0.4s,baz=228,slow=4.6,SNR=4.7								
BRTR	**Keskin Array B**	**145.98**	**314**	PKPbc		PKPdf		19 35 28.9	+1.2
	0.5nm,0.8s,baz=82,slow=3.2,SNR=3.5								
MLR	**Muntele Rosu**	**147.02**	**329**	PKPbc		PKPdf		19 35 29.8	+0.6
	0.2nm,0.6s,baz=156,slow=20,SNR=5.6								

*SKHL **27** 19:20:42.5±1.7, 46°.55N×153°.73E, h71km±9km, mb4.4/2*
*ISCJB **27** 19:20:43.2±0.9, 46°.9N±0°.1×153°.2E±0°.2, h50km, mb3.8/9, Error ellipse: s-maj=23.6km s-min=4.7km az=138.5*
*MOS **27** 19:20:45.0±1.2, 47°.29N×152°.86E, h59km, mb4.2/5, Error ellipse: s-maj=26.9km s-min=16.3km az=50.1*
*IDC **27** 19:20:50.0±2.9, 47°.19N×152°.87E, h93km±25km, mb3.4/10, mb1 3.6/12, mb1mx3.4/49, mbtmp3.8/12, Error ellipse: s-maj=38.4km s-min=19.5km az=158.0*
ISC 27 19:20:44.4±1.1, 46°.8N±0°.1×153°.4E±0°.1, h50km, n33, σ1§86/32, mb3.8/9, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.13**	**250**	*e*PN		**Pn**		19 21 45.2	+0.2
KUR				*i* S		**Sn**		19 22 33.3	+1.3
KUR					pmax	pmax			
	comp=N,15nm,0.6s								
KUR					pmax	pmax			
	comp=Z,22nm,0.6s								
KUR					pmax	pmax			
	comp=E,19nm,0.3s								
KUR					smax	smax			
	comp=N,88nm,0.5s								
KUR					smax	smax			
	comp=E,51nm,0.5s								
KUR	**Kuril'sk**	**4.13**	**250**	*e*P		**Pn**		19 21 45.2	+0.2
KUR					AMB	AMB		19 21 52.2	
	comp=E,22nm,0.6s								
KUR				*e*S		**Sn**		19 22 33.3	+1.3
KUR					A	A		19 22 45.6	
	comp=E,88nm,0.5s								
KUR					A	A		19 22 45.6	
	comp=E,51nm,0.5s								
SKR	**Severo-Kuril's**	**4.29**	**24**	*e*P		**Pn**		19 21 47.7	+0.6
SKR				*e*S		**Sn**		19 22 35.9	0.0
SKR					A	A		19 22 44.6	
	comp=E,86nm,0.5s								
SHO	**Shikotan**	**5.45**	**240**	*e*P		**Pn**		19 22 03.9	+0.8
SHO				*e*S		**Sn**		19 23 03.5	-1.0
SHO					A	A		19 23 14.6	
	comp=E,205nm,1.0s								
YUK	**Yuzh-Kuril'sk**	**5.96**	**245**	*c* *i*PN		**Pn**		19 22 10.3	+0.3
YUK				*i* S		**Sn**		19 23 17.3	+0.5
YUK					pmax	pmax			
	comp=N,50nm,1.0s								
YUK					pmax	pmax			
	comp=E,21nm,1.0s								
YUK					pmax	pmax			
	comp=Z,56nm,1.0s								
YUK					smax	smax			
	comp=N,23nm,0.6s								
YUK					smax	smax			
	comp=E,84nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**5.96**	**245**	*e*P		**Pn**		19 22 10.3	+0.3
YUK					AMB	AMB		19 22 15.4	
	comp=E,56nm,1.0s								
YUK				*e*S		**Sn**		19 23 17.3	+0.5
YUK					A	A		19 23 35.4	
	comp=E,23nm,0.6s								
YUK					A	A		19 23 35.4	
	comp=E,84nm,0.6s								
PETK	**Petropavlovsk-**	**6.91**	**22**	P		**Pn**		19 22 25.4	+2.4
	comp=E,0.5nm,0.3s,baz=192,slow=13,SNR=7.8								
PETK	**Petropavlovsk-**	**6.91**	**22**	PN		**Pn**		19 22 25.4	+2.4
PETK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**8.03**	**254**	P		**Pn**		19 22 41.4	+3.1
	comp=Z,0.7nm,0.3s,baz=78,slow=14,SNR=5.0								
ASAJ	**Asahikawa**	**8.03**	**254**	PN		**Pn**		19 22 41.4	+3.1
ASAJ					pmax	pmax			
	comp=Z,1.0nm,0.3s								
SEY	**Seymchan**	**16.18**	**358**	P		**Pn**		19 24 30.3	+2.2
	comp=Z,0.1nm,0.3s,baz=185,slow=22,SNR=4.6								
KSRS	**Korea Array**	**20.97**	**253**	P		**P**		19 25 23.4	+0.2
	comp=Z,0.9nm,0.5s,baz=54,slow=11,SNR=3.2								
BILL	**Bilibino**	**22.30**	**13**	P		P		19 25 44.7	+7.4
H11N2	**WAKE ISLAND Hy**	**29.19**	**153**	T		T		19 58 31.5	
	baz=341,slow=76,SNR=204								
H11N1	**WAKE ISLAND Hy**	**29.20**	**153**	T		T		19 58 33.6	
	baz=341,slow=76,SNR=188								
H11N3	**WAKE ISLAND Hy**	**29.20**	**153**	T		T		19 58 32.7	
	baz=341,slow=76,SNR=61								
H11S1	**WAKE ISLAND Hy**	**30.28**	**154**	T		T		19 59 54.3	
	baz=341,slow=76,SNR=300								
H11S3	**WAKE ISLAND Hy**	**30.29**	**154**	T		T		19 59 47.8	
	baz=341,slow=76,SNR=258								
H11S2	**WAKE ISLAND Hy**	**30.30**	**154**	T		T		19 59 54.4	
	baz=341,slow=76,SNR=217								
YKA	**Yellowknife Ar**	**50.78**	**37**	P		**P**		19 29 39.9	+0.9
	comp=Z,0.3nm,0.5s,baz=298,slow=7.0,SNR=4.0								
FINES	**FINESS Array B**	**64.06**	**335**	P		**P**		19 31 09.8	-2.7
	comp=Z,0.6nm,0.4s,baz=38,slow=7.0,SNR=9.0								
FINES	**FINESS Array B**	**64.06**	**335**	P		**P**		19 31 09.9	-2.7
FINES					pmax	pmax			
	comp=Z,1.0nm,0.4s								
PDAR	**Pinedale Array**	**64.58**	**54**	P		**P**		19 31 17.1	+0.5
	comp=Z,0.5nm,0.7s,baz=246,slow=2.6,SNR=4.4								
NOA	**NORSAR Array B**	**68.23**	**341**	P		**P**		19 31 37.4	-2.0
	comp=Z,0.6nm,0.6s,baz=29,slow=6.6,SNR=4.8								
NOA	**NORSAR Array B**	**68.23**	**341**	P		**P**		19 31 37.4	-2.0
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
HFS	**Hagfors**	**68.47**	**340**	P		**P**		19 31 38.5	-2.3
	comp=Z,1.3nm,0.4s,baz=54,slow=5.1,SNR=14								
HFS	**Hagfors**	**68.47**	**340**	P		**P**		19 31 38.5	-2.3
HFS					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**71.60**	**326**	P		**P**		19 31 57.5	-2.6
	comp=Z,0.9nm,0.3s,baz=33,slow=6.3,SNR=5.8								
AKASG	**Malin Array Be**	**71.60**	**326**	P		**P**		19 31 57.5	-2.6
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
MLR	**Muntele Rosu**	**77.12**	**325**	P		**P**		19 32 31.6	-0.9
	comp=Z,0.6nm,1.0s,baz=43,slow=14,SNR=5.4								
MLR	**Muntele Rosu**	**77.12**	**325**	P		**P**		19 32 31.6	-0.9
MLR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
TXAR	**Lajitas Array**	**77.32**	**61**	P		**P**		19 32 35.4	+1.5
	comp=Z,0.4nm,0.4s,baz=298,slow=5.0,SNR=5.4								
GERES	**GERESS Array B**			P		**P**		19 32 37.2	-2.8
	comp=Z,0.2nm,0.3s,baz=31,slow=6.2,SNR=3.7								

*ISCJB **27** 19:22:34.2±0.3, 21°.01S±0°.04×177°.93W±0°.06, h400km, mb4.5/44, Error ellipse: s-maj=8.0km s-min=5.1km az=18.2*
*NEIC **27** 19:22:34.8±0.5, 21°.37S×177°.51W, h419km±4km, mb4.9/27, Error ellipse: s-maj=16.6km s-min=8.3km az=148.0*
*IDC **27** 19:22:43.9±2.4, 21°.10S×177°.95W, h496km±26km, mb3.9/20, mb1 4.0/20, mb1mx3.7/38, mbtmp4.6/20, Error ellipse: s-maj=15.8km s-min=11.8km az=127.0*
ISC 27 19:22:34.4±0.4, 21°.11S±0°.07×177°.78W±0°.08, h400km, n187, σ1§45/193, mb4.6/44, 23C-16D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.17**	**310**	*e*P		Pn		19 24 05.5	+7.1
NIUE	**Niue**	**7.65**	**76**	P		P		19 24 30.1	+4.1
	baz=7.5,SNR=5.4								
NIUE				S		S		19 26 02.2	+5.8
	baz=7.5,SNR=9.4								
AFI	**Afiamalu**	**9.17**	**40**	*e*P		**Pn**		19 24 42.8	-0.3
AFI				*e*S		S		19 26 20.8	-7.7
HAZ	**Te Kaha**	**17.03**	**192**	*e*PN		**P**		19 26 10.1	+1.6
PUZ	**Puketiti**	**17.25**	**191**	*e*PN		**P**		19 26 10.3	-0.6
PUZ				*e*SN		**S**		19 29 09.5	-0.7
MWZ	**Matawai**	**17.64**	**192**	*e*PN		**P**		19 26 16.5	+1.5
MWZ				*e*SN		**S**		19 29 14.6	-3.1
URZ	**Urewera**	**17.65**	**193**	P		**P**		19 26 15.6	+0.4
	7.0nm,0.3s,baz=276,slow=3.3,SNR=38								
URZ				S		**S**		19 29 16.5	-1.4
	0.5nm,0.3s,baz=53,slow=20,SNR=6.2								
URZ	**Urewera**	**17.65**	**193**	*e*PN		**P**		19 26 14.6	-0.6
URZ	**Urewera**	**17.65**	**193**	*e*P		**P**		19 26 14.9	-0.2
	26nm,0.6s								
URZ				S		**S**		19 29 16.5	-1.4
URZ				*e*S		S		19 29 17.5	-0.4
RIGZ	**Rimuhau**	**17.95**	**191**	*e*PN		**P**		19 26 20.2	+1.8
BKZ	**Black Stump Fm**	**18.66**	**194**	*e*PN		**P**		19 26 24.8	-1.1
BKZ	**Black Stump Fm**	**18.66**	**194**	*e*P		**P**		19 26 28.9	+3.0
	80nm,1.7s								
RPZ	**Rata Peaks**	**24.39**	**200**	P		**P**		19 27 22.3	+3.8
	15nm,0.7s,baz=218,slow=3.6,SNR=6.5								
EIDS	**Eidsvold**	**28.89**	**256**	P		**P**		19 27 59.7	+1.1
	baz=29,SNR=4.0								
ARMA	**Armidale**	**28.99**	**245**	P		**P**		19 28 01.5	+1.9
	baz=29,SNR=32								
ARMA	**Armidale**	**28.99**	**245**	*e*P		**P**		19 28 01.7	+2.2
	14nm,0.6s								
MGCD	**Mangrove Creek**	**30.07**	**240**	P		**P**		19 28 11.3	+2.5
	baz=30,SNR=5.1								
RMQ	**Roma**	**31.02**	**253**	P		**P**		19 28 19.3	+2.1
	baz=31,SNR=6.3								
CNB	**Canberra Magne**	**32.06**	**237**	P		**P**		19 28 28.1	+2.0
	baz=32,SNR=26								
CMSA	**Cobar Meteorol**	**34.21**	**245**	P		**P**		19 28 45.4	+1.0
	baz=34,SNR=12								
QLP	**Quilpie**	**35.08**	**254**	P		**P**		19 28 53.1	+1.3
	baz=35,SNR=5.8								
PMG	**Port Moresby**	**35.68**	**284**	P		**P**		19 28 57.5	+0.5
	baz=36,SNR=6.0								
PMG	**Port Moresby**	**35.68**	**284**	*e*P		**P**		19 28 57.6	+0.5
	32nm,0.8s								
TOO	**Toolangi**	**35.71**	**234**	P		**P**		19 28 58.8	+1.7
	baz=36,SNR=32								
STKA	**Stephens Creek**	**37.71**	**245**	P		**P**		19 29 15.1	+1.3
	15nm,0.7s,baz=92,slow=9.2,SNR=33								
STKA					PcP	**PcP**		19 31 21.2	0.0
	0.9nm,0.4s,baz=98,slow=5.3,SNR=5.3								
STKA	**Stephens Creek**	**37.71**	**245**	P		**P**		19 29 14.8	+0.9
	baz=38,SNR=27								
STKA	**Stephens Creek**	**37.71**	**245**	*e*P		**P**		19 29 14.5	+0.7
	3.0nm,0.6s								
STKA				*e*PcP		**PcP**		19 31 20.6	-0.7
STKA				PcP		**PcP**		19 31 21.2	0.0
COEN	**Coen**	**37.83**	**274**	P		**P**		19 29 15.7	+0.8
	baz=38,SNR=9.5								
COEN	**Coen**	**37.83**	**274**	*e*P		**P**		19 29 15.4	+0.5
	18nm,0.8s								
BBOO	**Buckleboo**	**42.46**	**244**	P		**P**		19 29 52.5	+0.2
	baz=43,SNR=22								
BBOO	**Buckleboo**	**42.46**	**244**	*e*P		**P**		19 29 52.8	+0.5
	169nm,0.7s								
AS31	**Alice Springs**	**44.58**	**257**	*e*P		**P**		19 30 09.1	-0.1
ASAR	**Alice Springs**	**44.58**	**257**	P		**P**		19 30 09.1	0.0
	22nm,0.7s,baz=99,slow=7.9,SNR=214								
ASAR					PcP	**PcP**		19 31 43.2	-1.0
	3.5nm,0.6s,baz=106,slow=3.6,SNR=13								
ASAR				S		**S**		19 36 10.1	-4.5
	1.5nm,0.9s,baz=92,slow=17,SNR=9.9								
WRAB	**Tennant Creek**	**44.71**	**263**	*e*P		**P**		19 30 09.2	-1.0
	24nm,1.0s								
WRA	**Warramunga Arr**	**44.72**	**263**	P		**P**		19 30 09.6	-0.7
	6.8nm,0.6s,baz=95,slow=7.6,SNR=74								
WRA					PcP	**PcP**		19 31 44.2	-0.5
	1.2nm,0.6s,baz=98,slow=3.0,SNR=3.7								
KDU	**Kakadu**	**48.17**	**272**	P		**P**		19 30 36.4	-0.3
	baz=48,SNR=6.8								
FORT	**Forrest**	**49.24**	**247**	P		**P**		19 30 44.4	-0.2
	baz=49,SNR=44								
FORT	**Forrest**	**49.24**	**247**	*e*P		**P**		19 30 44.1	-0.5
	60nm,0.6s								
MTN	**Manton Dam**	**49.37**	**271**	P		**P**		19 30 45.2	-0.5
	baz=49,SNR=6.0								
WRKA	**Warakurna**	**49.50**	**255**	P		**P**		19 30 46.4	-0.2
	baz=50,SNR=38								
KNRA	**Kununurra**	**50.82**	**267**	P		**P**		19 30 56.3	-0.2
	baz=51,SNR=6.1								
FAKI	**Fak Fak**	**51.84**	**283**	P		**P**		19 31 03.6	-0.4
	baz=52,SNR=4.8								
FITZ	**Fitzroy Crossi**	**53.15**	**263**	P		**P**		19 31 13.7	+0.3
	baz=53,SNR=22								
FITZ	**Fitzroy Crossi**	**53.15**	**263**	*e*P		**P**		19 31 13.3	0.0
	29nm,1.4s								
AAI	**Ambon**	**55.23**	**281**	P		**P**		19 31 27.9	-0.4
	baz=55,SNR=3.7								
SOEI	**Soe**	**56.72**	**272**	P		**P**		19 31 40.2	+1.4
	baz=57,SNR=11								
SOEI	**Soe**	**56.72**	**272**	*e*P		**P**		19 31 40.1	+1.3
	65nm,0.9s								
VNDA	**Vanda**	**57.33**	**185**	P		**P**		19 31 44.6	+2.8
	1.0nm,0.5s,baz=16,slow=7.7,SNR=7.5								
VNDA	**Vanda**	**57.33**	**185**	*e*P		P		19 31 44.9	+3.1
	95nm,2.8s								
VNDA				*e*ScP		**ScP**		19 35 45.7	-5.6
TNTI	**Ternate**	**57.81**	**285**	*e*P		**P**		19 31 46.9	+0

KKM	**Kota Kinabalu**	**70.11**	**285**	*e*P	**P**		**19 33 04.6**	**-0.9**
	19nm,1.0s							
UGM	**Wanagama**	**70.16**	**269**	P	**P**		**19 33 05.4**	**-0.3**
	baz=70,SNR=6.1							
MJAR	**Matsushiro Arr**	**70.82**	**324**	P	**P**		**19 33 08.9**	**-0.2**
	4.5nm,0.7s,baz=158,slow=6.5,SNR=8.7							
CISI	**Cisompet, Garu**	**72.80**	**268**	*e*sP	sP		19 35 39.3	+7.4
JNU	**Nakatsue**	**72.86**	**317**	P	**P**		**19 33 21.5**	**+0.3**
	15nm,0.9s,baz=160,slow=2.7,SNR=4.2							
LEM	**Lembang**	**73.23**	**269**	P	**P**		**19 33 24.3**	**+0.3**
	baz=73,SNR=5.2							
KSM	**Kuching**	**73.70**	**278**	P	**P**		**19 33 27.1**	**+0.6**
	baz=74,SNR=21							
KSM	**Kuching**	**73.70**	**278**	*e*P	**P**		**19 33 26.6**	**+0.1**
	24nm,0.7s							
ASAJ	**Asahikawa**	**74.36**	**332**	P	**P**		**19 33 31.5**	**+2.0**
	22nm,0.8s,baz=166,slow=4.4,SNR=8.3							
TPUB	**Ta-pu**	**74.48**	**303**	*e*P	**P**		**19 33 29.8**	**-0.9**
	33nm,0.7s							
YSS	**Yuzh-Sakhalins**	**76.53**	**333**	*e*P	**P**		**19 33 43.3**	**+1.7**
	17nm,0.7s							
PETK	**Petropavlovsk-**	**76.91**	**345**	P	**P**		**19 33 44.1**	**+0.5**
	6.5nm,0.6s,baz=149,slow=9.2,SNR=13							
KSRS	**Korea Array**	**77.48**	**319**	P	**P**		**19 33 48.1**	**+1.1**
	2.4nm,0.6s,baz=121,slow=5.8,SNR=8.3							
KSAR	**Wonju Array Be**	**77.49**	**319**	P	**P**		**19 33 48.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**79.58**	**326**	P	**P**		**19 34 00.3**	**+2.0**
	6.6nm,0.8s,baz=114,slow=3.5,SNR=11							
BORC	**Borrego Spring**	**79.67**	**48**	*e*PKiKP	**PKiKP**		**19 39 23.4**	**-3.4**
IPM	**Ipoh**	**83.41**	**277**	*e*P	**P**		**19 34 19.1**	**+0.2**
	20nm,0.7s							
SVW2	**Sparrevohn**	**83.86**	**11**	*e*PcP	**PcP**		**19 34 24.4**	**+1.4**
GSI	**Gunungsitoli**	**85.47**	**273**	*e*P	**P**		**19 34 29.9**	**+0.9**
	25nm,0.7s							
D08A	**Wollman Farm,**	**86.05**	**36**	*e*PP	PP		19 37 59.2	+0.9
F10A	**Beach Ranch, E**	**86.36**	**37**	*e*P	**P**		**19 34 33.8**	**+1.1**
	11nm,1.0s							
CWU	**Camp Williams**	**86.44**	**44**	*e*PKiKP	**PKiKP**		**19 39 35.5**	**-2.2**
B08A	**Colville Reser**	**86.61**	**35**	*e*P	**P**		**19 34 34.5**	**+0.7**
JLU	**Jordanelle**	**86.95**	**44**	*e*sP	sP		19 36 50.9	+1.8
SEY	**Seymchan**	**87.01**	**347**	P	**P**		**19 34 35.2**	**0.0**
	7.0nm,0.7s,baz=149,slow=5.6,SNR=41							
TXAR	**Lajitas Array**	**87.21**	**57**	P	**P**		**19 34 39.1**	**+2.0**
	0.7nm,0.7s,baz=205,slow=5.5,SNR=3.9							
TXAR				PKKPbc	**PKKPbc**		**19 52 28.2**	**+1.6**
	0.4nm,0.7s,baz=54,slow=1.6,SNR=4.2							
PV05	**Paradox Valley**	**87.25**	**47**	*e*sP	**sP**		**19 36 49.6**	**-1.1**
PV05				*e*PKiKP	PKiKP		19 39 44.1	+5.0
PV10	**Paradox Valley**	**87.44**	**47**	*e*pP	pP		19 36 12.7	+2.6
MCK	**McKinley**	**87.52**	**12**	*e*P	**P**		**19 34 37.7**	**+0.1**
	130nm,2.9s							
PV01	**Paradox Valley**	**87.64**	**48**	*e*pP	pP		19 36 10.8	-0.4
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**		**19 34 43.1**	**-0.7**
	2.0nm,0.8s,baz=222,slow=5.9,SNR=14							
PDAR	**Pinedale Array**	**89.26**	**43**	P	**P**		**19 34 47.4**	**+0.7**
	1.4nm,0.8s,baz=203,slow=2.4,SNR=10							
PDAR				pP	pP		19 36 44.8	+26
	1.0nm,0.9s,baz=270,slow=1.5,SNR=5.1							
BOZ	**Bozeman (W)**	**89.45**	**40**	*e*P	**P**		**19 34 46.5**	**-0.8**
	24nm,0.6s							
YNR	**Norris Junctio**	**89.54**	**41**	*e*PKiKP	**PKiKP**		**19 39 38.1**	**-4.6**
DAWY	**Dawson**	**89.99**	**16**	*e*P	**P**		**19 34 49.9**	**+0.7**
	38nm,2.2s							
EGAK	**Eagle**	**90.14**	**15**	*e*P	**P**		**19 34 49.9**	**+0.1**
	58nm,2.3s							
COLD	**Coldfoot**	**90.44**	**10**	*e*P	**P**		**19 34 50.9**	**-0.2**
	59nm,2.8s							
CMAR	**Chiang Mai Arr**	**90.51**	**289**	P	**P**		**19 34 54.0**	**+1.3**
	2.6nm,0.9s,baz=108,slow=3.5,SNR=16							
YAK	**Yakutsk**	**92.75**	**338**	P	**P**		**19 35 00.4**	**-1.5**
	3.5nm,0.3s,baz=37,slow=1.6,SNR=5.4							
SONM	**Songino Array**	**96.34**	**319**	P	**P**		**19 35 19.1**	**+0.3**
	0.9nm,0.9s,baz=130,slow=7.8,SNR=4.3							
YKA	**Yellowknife Ar**	**96.98**	**25**	P	**P**		**19 35 20.8**	**-0.3**
	0.2nm,0.7s,baz=233,slow=5.0,SNR=3.9							
HALT	**Halls**	**100.86**	**56**	*e*PP	PP		19 39 53.6	+0.4
SLM	**Saint Louis**	**101.03**	**53**	*e*Pdif	**Pdif**		**19 35 38.2**	**-1.6**
JFWS	**Jewell Farm**	**102.32**	**49**	*e*Pdif	**Pdif**		**19 35 44.1**	**-1.3**
ACSO	**Alum Creek Sta**	**106.87**	**53**	*e*Pdif	**Pdif**		**19 36 13.2**	**+7.4**
KMSC	**Kings Mountain**	**106.92**	**58**	*e*Pdif	**Pdif**		**19 36 07.8**	**+1.7**
ZALV	**Zalesovo Beam**	**111.09**	**321**	PKiKP	**PKiKP**		**19 40 17.9**	**-2.9**
	0.9nm,0.6s,baz=47,slow=1.6,SNR=4.9							
MKAR	**Makanchi Array**	**111.76**	**313**	*e*PKiKP	**PKiKP**		**19 40 21.1**	**-1.3**
	0.3nm,0.4s,baz=255,slow=2.1,SNR=12							
MKAR	**Makanchi Array**	**111.76**	**313**	*e*PKiKP	**PKiKP**		**19 40 20.8**	**-1.6**
KURK	**Kurchatov**	**114.58**	**317**	PKP	PKPdf		19 40 25.0	-2.6
KURBB	**Kurchatov Arra**	**114.63**	**317**	PKP	PKPdf		19 40 25.0	-2.7
	1.0nm,0.6s,baz=97,slow=1.9,SNR=9.5							
BVAR	**Borovoye Array**	**119.67**	**320**	PKP	**PKPdf**		**19 40 35.7**	**-1.6**
	2.5nm,0.4s,baz=124,slow=2.3,SNR=29							
KBL	**Kabul**	**120.35**	**296**	*e*PKPdf	**PKPdf**		**19 40 38.9**	**-0.6**
SPITS	**Spitsbergen Ar**	**122.48**	**357**	PKP	**PKPdf**		**19 40 41.0**	**-1.1**
	13nm,1.0s,baz=75,slow=1.6,SNR=5.1							
ARU	**Arti**	**125.81**	**325**	*e*PKPdf	**PKPdf**		**19 40 48.3**	**-0.7**
ABKAR	**Akbulak array**	**126.67**	**316**	*e*PKPdf	**PKPdf**		**19 40 50.5**	**-0.4**
AKTO	**Aktyubinsk**	**127.65**	**318**	PKP	**PKPdf**		**19 40 50.1**	**-2.6**
	1.3nm,0.6s,baz=137,slow=4.3,SNR=5.5							
ARCES	**ARCESS Array B**	**129.55**	**350**	PKP	**PKPdf**		**19 40 54.5**	**-1.3**
	2.5nm,0.6s,baz=30,slow=1.4,SNR=12							
FINES	**FINESS Array B**	**136.41**	**344**	PKhKP	PKPpre		19 40 58.9	
	1.3nm,0.8s,baz=64,slow=6.6,SNR=3.6							
FINES				PKP	**PKPdf**		**19 41 06.9**	**-2.0**
	1.0nm,0.5s,baz=115,slow=2.7,SNR=7.2							
NB2	**NORSAR Subarra**	**139.61**	**353**	PKP	PKPpre		19 41 05.6	
	comp=Z,0.8nm,0.6s,baz=11,slow=3.1							
NOA	**NORSAR Array B**	**139.61**	**353**	PKhKP	PKPpre		19 41 06.1	
	comp=Z,0.8nm,0.7s,baz=60,slow=0.5,SNR=4.1							
HFS	**Hagfors**	**140.17**	**351**	PKhKP	PKPpre		19 41 07.2	
	comp=Z,2.9nm,0.4s,baz=70,slow=4.9,SNR=21							
AKASG	**Malin Array Be**	**143.64**	**331**	PKP	PKPab		19 41 19.0	-1.4
	comp=Z,15nm,0.5s,baz=42,slow=4.3,SNR=92							
KIEV	**Kiev**	**143.65**	**331**	*e*PKPdf	PKPab		19 41 19.1	-1.4
AK01	**Malin Array Si**	**143.65**	**331**	*e*PKPdf	PKPab		19 41 18.8	-1.6
AK02	**Malin Array Si**	**143.68**	**331**	*e*PKPdf	PKPab		19 41 18.9	-1.6
MUD	**Monsted U'grnd**	**144.32**	**353**	*i* P	**PKPab**		**19 41 22.7**	**0.0**
MALT	**Malatya**	**144.46**	**307**	⇓*i*P	**PKPdf**		**19 41 24.5**	**+0.3**
BSD	**Bornholm Skovb**	**144.72**	**347**	*i* P	**PKPdf**		**19 41 23.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**145.59**	**5**	PKPbc	**PKPdf**		**19 41 25.2**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=341,slow=2.6,SNR=6.0							
KWP	**Kalwaria Pacla**	**147.22**	**335**	⇑*i*P	**PKPbc**		**19 41 32.8**	**+1.5**
BR131	**Keskin Array S**	**147.40**	**312**	*e*PKPbc	**PKPdf**		**19 41 30.4**	**+1.2**
BRTR	**Keskin Array B**	**147.40**	**312**	PKPbc	**PKPdf**		**19 41 30.7**	**+1.5**
	comp=Z,3.7nm,0.6s,baz=137,slow=4.2,SNR=17							
TLCR		**147.52**	**324**	⇓*i*P	**PKPbc**		**19 41 32.0**	**-0.2**
BUR08	**Bucovina Ar. S**	**147.68**	**330**	*e*PKPbc	**PKPbc**		**19 41 32.4**	**-0.4**
BURAR	**Bucovina Array**	**147.69**	**330**	⇑*i*P	**PKPbc**		**19 41 32.7**	**-0.1**
TESR	**Tescani**	**147.78**	**328**	⇑*i*P	**PKPbc**		**19 41 31.9**	**-1.0**
OJC	**Ojcow**	**147.80**	**339**	*e*PKPbc	**PKPbc**		**19 41 32.4**	**-0.5**
CFR	**Carcaliu**	**147.90**	**324**	⇑*i*P	**PKPbc**		**19 41 33.3**	**+0.1**
KOLS	**Kolonicke sedl**	**147.94**	**335**	*e*PKP	**PKPbc**		**19 41 33.2**	**-0.1**
KOLS				*e*			19 41 37.7	
STHS	**Stebnicka Huta**	**147.95**	**336**	*e*PKP	**PKPbc**		**19 41 34.4**	**+1.1**
STHS				*e*			19 41 38.9	
VRI	**Vrincioaia**	**148.19**	**327**	⇑*i*P	**PKPbc**		**19 41 35.1**	**+1.1**
PLOR	**Plostina**	**148.24**	**327**	⇓*i*P	**PKPbc**		**19 41 34.7**	**+0.6**
CRVS	**Cervenica-Dubn**	**148.29**	**336**	*e*PKP	**PKPdf**		**19 41 32.0**	**+1.8**
CRVS				*e*			19 41 37.8	
TLB	**Topalu**	**148.32**	**324**	⇓*i*P	**PKPbc**		**19 41 35.5**	**+1.2**
TRPA	**Tarpa**	**148.47**	**334**	⇑*i*P	**PKPbc**		**19 41 35.7**	**+1.1**
CLL	**Collm**	**148.70**	**347**	⇓*i*PKPbc	**PKPbc**		**19 41 34.8**	**-0.2**
	comp=Z,10.0nm,0.8s							
CLL				⇑*i*PKiKP	**PKiKP**		**19 41 36.1**	**-0.1**
	comp=Z,14nm,0.6s							
CLL				⇑*i*PKPab	**PKPab**		**19 41 40.3**	**+0.2**
	comp=Z,9.0nm,0.7s							
CLL	**Collm**	**148.70**	**347**	*e*PKPbc	**PKPbc**		**19 41 34.3**	**-0.7**
UPC	**Upice**	**148.71**	**343**	⇑*e*PKP	**PKPbc**		**19 41 35.1**	**0.0**
UPC				*e*PKPAB	**PKPab**		**19 41 42.0**	**+1.8**
DPC	**Dobruska-Polom**	**148.76**	**342**	⇑*e*PKP	**PKPbc**		**19 41 35.4**	**0.0**
DPC				*e*PKPAB	**PKPab**		**19 41 41.4**	**+0.9**
DPC	**Dobruska-Polom**	**148.76**	**342**	*e*PKPbc	**PKPbc**		**19 41 35.4**	**0.0**
ISR	**Istrita**	**148.78**	**326**	⇑*i*P	**PKPbc**		**19 41 35.2**	**-0.4**
DOPR	**Dopca**	**148.79**	**328**	⇑*i*P	**PKPbc**		**19 41 35.7**	**+0.2**
MLR	**Muntele Rosu**	**148.84**	**327**	⇓*i*P	**PKPbc**		**19 41 35.9**	**+0.1**
MLR	**Muntele Rosu**	**148.84**	**327**	PKPbc	**PKPbc**		**19 41 34.8**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=315,slow=5.3,SNR=18							
BRG	**Berggiesshubel**	**148.90**	**346**	*e*P	**PKPbc**		**19 41 35.1**	**-0.5**
	comp=Z,5.7nm,0.8s							
BRG				*e*			19 41 40.3	
	comp=Z,11nm,1.1s							
MORC	**Moravsky Berou**	**148.91**	**341**	⇓*i*P	**PKPbc**		**19 41 35.3**	**-0.5**
MORC	**Moravsky Berou**	**148.91**	**341**	*e*PKPbc	**PKPbc**		**19 41 35.2**	**-0.5**
KECS	**Kecovo**	**149.00**	**336**	*e*PKP	**PKPbc**		**19 41 35.6**	**-0.3**
KECS				*e*			19 41 42.0	
PVCC	**Panska Ves**	**149.07**	**345**	⇑*e*PKP	**PKPbc**		**19 41 35.1**	**-0.9**
PVCC				*e*PKPAB	**PKPab**		**19 41 42.0**	**+0.3**
SECR		**149.09**	**326**	⇓*i*P	**PKPbc**		**19 41 34.9**	**-1.4**
VOIR		**149.33**	**328**	⇑*i*P	**PKPbc**		**19 41 36.3**	**-0.6**
CSS	**Prodhromos**	**149.41**	**303**	*e*PKPbc	**PKPbc**		**19 41 37.5**	**+0.1**
DRGR		**149.44**	**332**	⇓*i*P	**PKPbc**		**19 41 36.9**	**-0.2**
PRA	**Prague**	**149.52**	**344**	⇑*e*PKP	**PKPbc**		**19 41 36.4**	**-0.7**
PRU	**Pruhonice**	**149.57**	**344**	⇑*e*PKP	**PKPbc**		**19 41 36.4**	**-0.8**
PRU				*e*PKPAB	**PKPab**		**19 41 43.6**	**-0.2**
GOPC	**GO Pecny, Ondr**	**149.58**	**344**	⇑*e*PKP	**PKPbc**		**19 41 36.7**	**-0.6**
GOPC				*e*PKPAB	**PKPab**		**19 41 43.5**	**-0.3**
ARR	**Arges**	**149.59**	**328**	⇑*i*P	**PKPbc**		**19 41 38.1**	**+0.6**
VYHS	**Vyhne**	**149.60**	**338**	*e*PKP	**PKPbc**		**19 41 36.7**	**-0.7**
VYHS				*e*			19 41 44.8	
VRAC	**Vranov**	**149.62**	**341**	⇑*i*P	**PKPbc**		**19 41 36.5**	**-0.9**
VRAC	**Vranov**	**149.62**	**341**	PKPbc	**PKPbc**		**19 41 35.9**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=128,slow=5.2,SNR=4.0							
TREC	**Trest**	**149.95**	**343**	*e*PKPDF	**PKPdf**		**19 41 34.2**	**+1.3**
TREC				*e*PKPAB	**PKiKP**		**19 41 41.6**	**+2.7**
HUMR	**Humele**	**150.00**	**326**	⇓*i*P	**PKPbc**		**19 41 38.9**	**+0.5**
GZR	**Gura Zlata**	**150.47**	**330**	⇓*i*P	**PKPbc**		**19 41 38.4**	**-1.2**
KHC	**Kasperske Hory**	**150.60**	**345**	*e*PKPDF	**PKPdf**		**19 41 34.5**	**+0.6**
KHC				⇑*e*PKP	**PKPbc**		**19 41 38.5**	**-1.3**
KHC				*e*PKPAB	**PKPab**		**19 41 48.0**	**-0.2**
BZS	**Buzias**	**150.83**	**331**	⇓*i*P	**PKPbc**		**19 41 39.5**	**-0.8**
GERES	**GERESS Array B**	**150.84**	**344**	PKPbc	**PKPbc**		**19 41 39.9**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=16,slow=2.3,SNR=19							
CONA	**Conrad Observa**	**151.07**	**341**	⇑*i*PKiKP	**PKPbc**		**19 41 40.1**	**-0.9**
	comp=Z,5.5nm,0.6s							
PKSM	**Moragy**	**151.59**	**336**	⇓*i*P	**PKPbc**		**19 41 41.3**	**-0.7**
VTS	**Vitosha**	**152.27**	**325**	⇓*i*P	**PKPbc**		**19 41 43.6**	**-0.3**
KBA	**Koelnbreinsper**	**152.56**	**343**	⇑*i*PKiKP	**PKPbc**		**19 41 43.8**	**-0.6**
	comp=Z,5.8nm,1.0s							
MMB	**Musomiste**	**152.67**	**323**	⇓*i*P	**PKPbc**		**19 41 41.0**	**-3.7**
WTTA	**Wattenberg**	**152.81**	**346**	⇑*i*PKPbc	**PKPbc**		**19 41 42.3**	**-2.7**
	comp=Z,5.1nm,0.4s							
ABTA	**Abfaltersbach**	**153.09**	**344**	⇓*i*PKPbc	**PKPbc**		**19 41 44.0**	**-1.4**
	comp=Z,5.6nm,0.5s							
DAVOX	**Davos/Dischmat**	**153.64**	**348**	PKPbc	**PKPbc**		**19 41 45.4**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=181,slow=7.9,SNR=7.2							
DAVOX				PKPab	**PKPab**		**19 41 59.6**	**-1.7**
	comp=Z,2.8nm,0.8s,baz=340,slow=6.8,SNR=3.0							
KEST	**Kesra**	**164.15**	**338**	PKPab	**PKPab**		**19 42 47.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=199,slow=23,SNR=4.9							
TORD	**Torodi Ar. Bea**	**172.07**	**176**	PKP	**PKPdf**		**19 41 55.3**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=287,slow=2.1,SNR=6.0							
TORD				PKPab	**PKPab**		**19 43 22.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=170,slow=4.9,SNR=3.2							

*JMA **27** 19:28:52.8±0.5, 33°.24N×138°.27E, h348km±5km, M3.3*
*ISCJB **27** 19:28:54.7±0.5, 33°.30N±0°.06×138°.20E±0°.07, h330km±2km, mb3.6/19, Error ellipse: s-maj=11.5km s-min=7.7km az=142.6*
*IDC **27** 19:28:55.2±1.1, 33°.25N×138°.12E, h318km±9km, mb3.4/17, mb1 3.4/21,mb1mx3.3/60,mbtmp4.0/21, Error ellipse: s-maj=17.1km s-min=11.4km az=79.0*

ISC 27 19:28:56.1±0.8, 33°.33N±0°.08×138°.15E±0°.07, h327km±5km, n47, σ099/59, mb3.5/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TK02	**Tokai 2**	**0.70**	**332**	P		**Pn**	**19 29 38.2**	**+0.3**
TK02				*e*S		**S**	**19 30 12.6**	**+1.2**
TTO5	**TONANKAI O.B.S**	**0.99**	**339**	P		**Pn**	**19 29 39.6**	**+0.6**
TTO2	**TONANKAI O.B.S**	**1.02**	**294**	P		**Pn**	**19 29 39.4**	**+0.4**
TTO2				*e*S		**S**	**19 30 14.8**	**+1.4**
TK04	**Tokai 4**	**1.08**	**348**	P		**Pn**	**19 29 40.2**	**+0.7**
TK04				*e*S		**S**	**19 30 15.6**	**+1.4**
JIE	**Ise**	**1.60**	**312**	P		**Pn**	**19 29 42.0**	**-0.4**
JWZ	**Kozaga**	**2.04**	**276**	P		**Pn**	**19 29 44.3**	**-1.3**
JWZ				*e*S		**S**	**19 30 23.2**	**-2.0**
JYN	**Shimob**	**2.19**	**9**	P		**Pn**	**19 29 46.9**	**+0.2**
JWY	**Kouya**	**2.31**	**293**	P		**Pn**	**19 29 47.3**	**-0.4**
JGM	**Miyama**	**2.64**	**334**	P		**Pn**	**19 29 50.5**	**+0.1**
JGM				*e*S		**S**	**19 30 33.6**	**-0.4**
BSO1	**Boso 1**	**2.70**	**60**	P		**Pn**	**19 29 48.4**	**-1.8**
BSO1				*e*S		**S**	**19 30 31.9**	**-1.9**
JRY	**Ryogami san**	**2.75**	**13**	P		**Pn**	**19 29 51.6**	**+0.2**
JRY				*e*S		**S**	**19 30 34.9**	**-0.8**
JWT	**Wachi**	**2.99**	**311**	P		**Pn**	**19 29 53.2**	**-0.4**
JAI	**Aioi**	**3.12**	**280**	P		**Pn**	**19 29 53.9**	**-0.9**
MJAR	**Matsushiro Arr**	**3.20**	**1**	P		**Pn**	**19 29 55.2**	**-0.4**
	2.6nm,0.3s,baz=178,slow=10,SNR=27							
MJAR				S		**S**	**19 30 42.2**	**-1.2**
	0.3nm,0.3s,baz=134,slow=43,SNR=3.1							
MAT	**Matsushiro**	**3.21**	**1**	P		**Pn**	**19 29 55.3**	**-0.3**
MAT				S		**S**	**19 30 41.2**	**-2.2**
MAT	**Matsushiro**	**3.21**	**1**	P		**Pn**	**19 29 55.3**	**-0.3**
MAT				*e*S		**S**	**19 30 41.6**	**-1.8**
JAG	**Ashikaga**	**3.27**	**19**	P		**Pn**	**19 29 55.1**	**-1.1**
JAG				*e*S		**S**	**19 30 41.7**	**-2.8**
JKG	**Kaga**	**3.30**	**334**	P		**Pn**	**19 29 56.2**	**-0.3**
JMN	**Monobe**	**3.59**	**278**	P		**Pn**	**19 29 58.7**	**-0.8**
JHS	**Saijyo**	**4.49**	**293**	P		**Pn**	**19 30 08.6**	**-0.4**
JTO	**Tosashimizu**	**4.51**	**265**	P		**Pn**	**19 30 08.1**	**-1.1**
JNU	**Nakatsue**	**6.10**	**270**	P		**Pn**	**19 30 26.5**	**-0.8**
	0.7nm,0.3s,baz=171,slow=2.1,SNR=6.7							
JCJ	**Chichijima**	**7.13**	**150**	S			19 31 52.0	-11
	45nm,0.3s,baz=238,slow=22,SNR=9.8							
KSRS	**Korea Array**	**9.30**	**299**	P		**Pn**	**19 31 06.2**	**+0.6**
	0.5nm,0.3s,baz=112,slow=12,SNR=19							
USRK	**Ussuriysk Ar.**	**11.87**	**338**	P		**P**	**19 31 37.5**	**+0.5**
	0.5nm,0.3s,baz=147,slow=9.0,SNR=11							
SONM	**Songino Array**	**27.90**	**311**	P		**P**	**19 34 17.7**	**+0.9**
	1.4nm,0.7s,baz=116,slow=8.4,SNR=12							
ZALV	**Zalesovo Beam**	**42.55**	**315**	P		**P**	**19 36 19.8**	**-0.6**
	1.1nm,0.4s,baz=94,slow=9.0,SNR=7.3							
ZALV				PcP		**PcP**	**19 38 06.0**	**0.0**
	1.6nm,0.5s,baz=89,slow=2.6,SNR=7.4							
MKAR	**Makanchi Array**	**43.93**	**305**	P		**P**	**19 36 31.6**	**+0.2**
	0.7nm,0.5s,baz=93,slow=5.2,SNR=18							
MKAR	**Makanchi Array**	**43.93**	**305**	*e*Pdif		**P**	**19 36 31.5**	**+0.1**
KURBB	**Kurchatov Arra**	**46.27**	**310**	P		**P**	**19 36 49.4**	**-0.1**
	1.3nm,0.5s,baz=342,slow=1.9,SNR=31							
BVAR	**Borovoye Array**	**51.15**	**314**	P		**P**	**19 37 26.5**	**+0.1**
	1.0nm,0.5s,baz=96,slow=7.0,SNR=12							
BVAR				PcP		**PcP**	**19 38 36.8**	**+0.1**
	0.6nm,0.5s,baz=90,slow=2.9,SNR=5.3							
WRA	**Warramunga Arr**	**53.10**	**184**	P		**P**	**19 37 39.8**	**-1.1**
	1.2nm,0.4s,baz=360,slow=7.5,SNR=16							
ILAR	**Eielson Array**	**54.04**	**31**	P		**P**	**19 37 48.5**	**+1.3**
	0.6nm,0.8s,baz=282,slow=5.0,SNR=6.5							
ASAR	**Alice Springs**	**56.82**	**185**	P		**P**	**19 38 07.0**	**-0.3**
	0.5nm,0.7s,baz=19,slow=11,SNR=10							
AKTO	**Aktyubinsk**	**59.19**	**313**	P		**P**	**19 38 23.9**	**+0.5**
	0.3nm,0.3s,baz=74,slow=13,SNR=3.8							
ARCES	**ARCESS Array B**	**66.51**	**339**	P		**P**	**19 39 12.0**	**+1.1**
	2.5nm,0.6s,baz=54,slow=6.2,SNR=8.3							
JOF	**Joensuu**	**67.96**	**332**	*ep*		**P**	**19 39 19.4**	**-0.6**
	2.3nm,0.5s							
KAF	**Kangasniemi**	**70.35**	**332**	*ep*		**P**	**19 39 33.8**	**-0.8**
	2.8nm,0.4s							
FINES	**FINESS Array B**	**70.83**	**332**	P		**P**	**19 39 37.6**	**+0.2**
	3.3nm,0.6s,baz=66,slow=5.4,SNR=23							
AKASG	**Malin Array Be**	**75.56**	**322**	P		**P**	**19 40 04.5**	**-0.6**
	0.9nm,0.4s,baz=52,slow=6.0,SNR=7.2							
HFS	**Hagfors**	**76.33**	**335**	P		**P**	**19 40 09.4**	**+0.2**
	2.2nm,0.5s,baz=90,slow=4.4,SNR=18							
NB2	**NORSAR Subarra**	**76.53**	**336**	P		**P**	**19 40 10.5**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=44,slow=5.6							
NOA	**NORSAR Array B**	**76.53**	**336**	P		**P**	**19 40 10.6**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=60,slow=6.2,SNR=9.7							
BRTR	**Keskin Array B**	**79.26**	**311**	P		**P**	**19 40 25.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=90,slow=4.9,SNR=3.8							
PDAR	**Pinedale Array**	**82.18**	**43**	P		**P**	**19 40 42.2**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=256,slow=2.4,SNR=3.5							
GERES	**GERESS Array B**	**84.39**	**327**	P		**P**	**19 40 52.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=34,slow=6.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**117.87**	**311**	PKP		**PKPdf**	**19 47 03.2**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=32,slow=2.6,SNR=4.6							

SKHL 27 19:29:54.3±1.0, 44°.89N×149°.51E, h57km±6km, mb5.0/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUR	**Kuril'sk**	**1.21**	**287**	*e*P		Pn	19 30 13.7	-1.3
KUR					AMB	AMB	19 30 15.1	
	267nm,0.1s							
KUR				*e*S		Sn	19 30 29.0	-1.5
KUR				A		A	19 30 35.6	
	324nm,0.2s							
KUR				A		A	19 30 35.6	
	110nm,0.2s							
SHO	**Shikotan**	**2.17**	**243**	*e*P		Pn	19 30 28.1	0.0
SHO				*e*S		Sn	19 30 52.7	-1.1
SHO				A		A	19 31 04.2	
	156nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.75**	**253**	*e*P		Pn	19 30 37.9	+2.0
YUK					AMB	AMB	19 30 38.5	
	90nm,0.3s							
YUK				*e*S		Sn	19 31 14.0	+6.1
YUK				A		A	19 31 17.8	
	157nm,0.4s							
YUK				A		A	19 31 17.8	
	110nm,0.4s							
YSS	**Yuzh-Sakhalins**	**5.14**	**296**	*e*P		Pn	19 31 09.6	+0.9
YSS				*e*S		Sn	19 32 06.0	-0.7
MYR	**Moyori**	**5.21**	**242**	*e*S		Sn	19 32 06.6	-1.8
SKR	**Severo-Kuril's**	**7.30**	**35**	*e*P		Pn	19 31 39.5	+1.3
SKR					AMB	AMB	19 31 58.9	
	121nm,1.0s							

*IDC **27** 19:40:16.6±1.0, 27°.28S×178°.35W, h243km±11km, mb3.6/12, mb1 3.8/12, mb1mx3.6/25, mbtmp4.1/12, Error ellipse: s-maj=19.2km s-min=15.9km az=169.0*

**ISC 27 19:40:16.5±0.6, 27°.70S±0°.07×178°.8W±0°.1, h250km, n36, σ189/40, mb3.

ISCJB ***27*** *20:02:10.5±0.6,44.°5N±0.°1×147.°6E±0.°1,h175km±5km, mb3.7/12,Error ellipse: s-maj=21.4km s-min=7.7km az=146.3*

MOS ***27*** *20:02:11.7±1.3,45.°31N×147.°24E,h149km,mb3.9/8,Error ellipse: s-maj=19.8km s-min=13.7km az=96.9*

IDC ***27*** *20:02:12.5±4.8,46.°39N×146.°89E,h75km±82km,mb3.6/12, mb1 3.7/13,mb1mx3.5/37,mbtmp3.9/13,ML4.2/1,MS3.6/1, Ms1 3.6/1,ms1mx2.3/51,Error ellipse: s-maj=118.5km s-min=18.9km az=166.0*

SKHL ***27*** *20:02:12.5±0.6,44.°58N×147.°75E,h148km±1km,mb4.4/3, msh5.1/3*

JMA ***27*** *20:02:14.2±0.6,44.°56N×147.°39E,h154km,M3.8*

ISC 27 20:02:11.4±0.9,44.°7N±0.°1×147.°5E±0.°1,h163km±6km,n45,σ1§54/50,mb3.7/12,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.60**	**29**	⇓*i*PN	**Pn**	**20 02 34.3**	**-0.4**
KUR				*i* S	**Sn**	**20 02 51.0**	**-1.7**
KUR				pmax	pmax		
	comp=Z,201nm,1.9s						
KUR				pmax	pmax		
	comp=E,67nm,0.5s						
KUR				pmax	pmax		
	comp=Z,85nm,0.5s						
KUR				pmax	pmax		
	comp=N,27nm,0.3s						
KUR				smax	smax		
	comp=N,221nm,0.5s						
KUR				smax	smax		
	comp=E,28nm,0.5s						
KUR				smax	smax		
	comp=N,905nm,2.1s						
KUR				smax	smax		
	comp=E,968nm,2.1s						
KUR	**Kuril'sk**	**0.60**	**29**	*e*P	**Pn**	**20 02 34.3**	**-0.4**
KUR				AMB	AMB	20 02 38.6	
	comp=E,200nm,1.9s						
KUR				AMB	AMB	20 02 40.1	
	comp=E,85nm,0.5s						
KUR				*e*S	**Sn**	**20 02 51.0**	**-1.7**
KUR				A	A	20 02 51.8	
	comp=E,221nm,0.5s						
KUR				A	A	20 02 52.3	
	comp=E,910nm,2.1s						
KUR				A	A	20 02 52.3	
	comp=E,970nm,2.1s						
SHO	**Shikotan**	**0.95**	**208**	*e*P	**Pn**	**20 02 37.4**	**+0.4**
SHO				AMB	AMB	20 02 37.7	
	comp=E,158nm,0.3s						
SHO				*e*S	**Sn**	**20 02 55.6**	**-1.0**
SHO				A	A	20 02 56.2	
	comp=E,402nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.32**	**240**	*d i*PN	**Pn**	**20 02 41.5**	**+1.3**
YUK				*i* S	**Sn**	**20 03 03.3**	**+1.0**
YUK				pmax	pmax		
	comp=Z,347nm,0.5s						
YUK				pmax	pmax		
	comp=N,55nm,0.2s						
YUK				pmax	pmax		
	comp=E,71nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,793nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.32**	**240**	*e*P	**Pn**	**20 02 41.5**	**+1.3**
YUK				AMB	AMB	20 02 41.8	
	comp=E,350nm,0.5s						
YUK				*e*S	**Sn**	**20 03 03.3**	**+1.0**
YUK				A	A	20 03 07.5	
	comp=E,793nm,0.4s						
YUK				A	A	20 03 07.5	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**1.82**	**223**	P	**Pn**	**20 02 45.9**	**+0.6**
NEM2				*e*S	**Sn**	**20 03 10.4**	**-1.0**
JRA	**Rausu**	**1.84**	**246**	P	**Pn**	**20 02 46.8**	**+1.3**
JNK	**Nakash**	**2.26**	**241**	P	**Pn**	**20 02 51.9**	**+1.6**
JAK	**Akkeshi**	**2.62**	**230**	P	**Pn**	**20 02 55.5**	**+0.9**
JAK				*e*S	**Sn**	**20 03 27.8**	**-0.3**
JTKR	**Abashiri--Toko**	**2.65**	**255**	P	**Pn**	**20 02 56.3**	**+1.5**
JAR	**Ashorobuto**	**3.01**	**243**	P	**Pn**	**20 03 01.2**	**+1.9**
JSE	**Soyaes**	**3.47**	**276**	P	Pn	20 03 06.6	+1.5
JKK2	**Kamakawa 2**	**3.48**	**258**	P	Pn	20 03 07.4	+2.2
ASAJ	**Asahikawa**	**3.53**	**262**	P	Pn	20 03 08.1	+2.2
	comp=E,15nm,0.3s,baz=90,slow=10,SNR=138						
ASAJ	**Asahikawa**	**3.53**	**262**	PN	Pn	20 03 08.1	+2.2
ASAJ				pmax	pmax		
	comp=Z,15nm,0.3s						
JCH	**Churui**	**3.63**	**236**	P	**Pn**	**20 03 08.3**	**+1.1**
JCH				*e*S	**Sn**	**20 03 49.4**	**-1.2**
JWK2	**Keihoku**	**3.98**	**281**	P	Pn	20 03 14.5	+2.8
JNBK	**Urakawa-nobuka**	**4.19**	**236**	P	**Pn**	**20 03 14.6**	**+0.2**
JNBK				*e*S	**Sn**	**20 04 01.9**	**-1.6**
JKB	**Kayabe**	**5.46**	**241**	P	**Pn**	**20 03 31.5**	**+0.4**
JKB				*e*S	**Sn**	**20 04 30.9**	**-2.6**
JOT	**Ohata**	**5.75**	**237**	P	**Pn**	**20 03 34.6**	**-0.2**
JOT				*e*S	**Sn**	**20 04 36.3**	**-3.9**
SKR	**Severo-Kuril's**	**8.36**	**41**	*e*P	**Pn**	**20 04 10.0**	**+0.7**
JCJ	**Chichijima**	**18.08**	**195**	LR	LR	20 13 46.0	
	comp=Z,166nm,19.9s,baz=133,slow=35						
YAK	**Yakutsk**	**20.21**	**335**	*e*P	**P**	**20 06 31.0**	**-2.2**
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
BOD	**Bodaibo**	**24.40**	**314**	*e*P	**P**	**20 07 10.7**	**-3.6**
SONM	**Songino Array**	**28.31**	**291**	P	**P**	**20 07 51.3**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=77,slow=9.0,SNR=6.7						
ILAR	**Eielson Array**	**40.59**	**37**	P	**P**	**20 09 35.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=277,slow=9.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.60**	**306**	P	**P**	**20 09 33.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.7,SNR=2.4						
MKAR	**Makanchi Array**	**44.34**	**297**	P	**P**	**20 10 06.4**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=79,slow=13,SNR=20						
MKAR	**Makanchi Array**	**44.34**	**297**	P	**P**	**20 10 06.4**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**45.47**	**31**	P	**P**	**20 10 14.7**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=303,slow=5.5,SNR=6.7						
INK	**Inuvik**	**45.47**	**31**	P	**P**	**20 10 14.7**	**+1.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
RES	**Resolute Bay**	**53.99**	**17**	P	**P**	**20 11 15.5**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=340,slow=5.5,SNR=6.0						
RES	**Resolute Bay**	**53.99**	**17**	P	**P**	**20 11 15.5**	**-2.3**
RES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**54.89**	**34**	P	**P**	**20 11 26.6**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=301,slow=7.0,SNR=3.8						
ARCES	**ARCESS Array B**	**58.42**	**339**	P	**P**	**20 11 48.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=43,slow=6.8,SNR=7.9						
ARCES	**ARCESS Array B**	**58.42**	**339**	P	**P**	**20 11 48.4**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.12**	**333**	P	**P**	**20 12 27.1**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=51,slow=6.5,SNR=18						
FINES	**FINESS Array B**	**64.12**	**333**	P	**P**	**20 12 27.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**68.79**	**339**	P	**P**	**20 12 57.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.79**	**339**	P	**P**	**20 12 57.6**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=30,slow=6.5,SNR=8.1						
NOA	**NORSAR Array B**	**68.79**	**339**	P	**P**	**20 12 57.7**	**+0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KBZ	**Khabaz**	**69.33**	**311**	P	**P**	**20 13 03.2**	**+2.3**
	comp=Z,1.5nm,0.6s,baz=233,slow=20						
KBZ	**Khabaz**	**69.33**	**311**	P	**P**	**20 13 03.2**	**+2.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**70.94**	**324**	P	**P**	**20 13 10.0**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=35,slow=6.8,SNR=5.7						
AKASG	**Malin Array Be**	**70.94**	**324**	P	**P**	**20 13 10.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC 27 20:06:05.1±7.8,19.°55S×177.°70W,h545km±83km, mb3.4/8,mb1 3.5/8,mb1mx3.1/30,mbtmp4.3/8,Error ellipse: s-maj=42.2km s-min=19.2km az=71.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.88**	**263**	P	P	20 12 03.0	0.0
	3.9nm,0.3s,baz=98,slow=9.1,SNR=9.2						
JAY	**Jayapura**	**44.02**	**287**	P	P	20 13 25.9	+0.9
	3.5nm,0.4s,baz=155,slow=14,SNR=6.2						
ASAR	**Alice Springs**	**45.02**	**256**	P	P	20 13 32.4	-0.3
	2.4nm,0.7s,baz=86,slow=8.2,SNR=49						
ASAR				PcP	PcP	20 15 01.1	-0.9
	0.4nm,0.5s,baz=102,slow=4.3,SNR=5.3						
WRA	**Warramunga Arr**	**45.02**	**261**	P	P	20 13 31.9	-0.7
	1.3nm,0.3s,baz=98,slow=7.7,SNR=27						
VNDA	**Vanda**	**58.88**	**185**	P	P	20 15 11.3	0.0
	0.6nm,0.3s,baz=103,slow=1.5,SNR=19						
MJAR	**Matsushiro Arr**	**69.62**	**323**	P	P	20 16 18.6	-1.4
	1.5nm,0.7s,baz=155,slow=6.4,SNR=4.9						
PETK	**Petropavlovsk-**	**75.43**	**345**	P	P	20 16 53.2	+0.2
	2.5nm,0.9s,baz=118,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**90.07**	**289**	P	P	20 18 08.7	+1.1
	0.8nm,0.8s,baz=124,slow=2.3,SNR=6.7						
GERES	**GERESS Array B**	**149.36**	**345**	PKPbc	PKPbc	20 24 52.5	-0.3
	0.6nm,0.6s,baz=48,slow=2.0,SNR=8.3						

IDC 27 20:19:26.1±3.6,4.°50S×150.°66E,h0km,mb3.4/2, mb1 3.8/2,mb1mx3.4/35,mbtmp3.5/2,MS4.1/1,Ms1 4.1/1, ms1mx3.1/18,Error ellipse: s-maj=137.1km s-min=47.5km az=114.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.09**	**225**	P	P	20 24 22.2	-1.0
	1.6nm,0.6s,baz=50,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.98**	**219**	P	P	20 24 52.5	+0.7
	0.5nm,0.6s,baz=55,slow=9.4,SNR=10						
MJAR	**Matsushiro Arr**	**42.46**	**345**	LR	LR	20 43 24.8	
	comp=Z,222nm,19.5s,baz=235,slow=34						
TORD	**Torodi Ar. Bea**	**148.18**	**288**	PKPbc	PKPbc	20 39 14.4	-0.7
	2.1nm,1.2s,baz=63,slow=5.9,SNR=2.1						

ISCJB ***27*** *20:22:26.6±0.8,30.°54N±0.°02×101.°44E±0.°02,h9km±5km, mb4.5/86,MS4.5/42,Error ellipse: s-maj=3.9km s-min=2.9km az=158.0*

IDC ***27*** *20:22:26.4±0.4,30.°38N×101.°45E,h0km,mb4.3/31, mb1 4.4/32,mb1mx4.3/43,mbtmp4.3/32,ML3.7/1,MS4.4/29, Ms1 4.4/29,ms1mx4.1/49,Error ellipse: s-maj=13.2km s-min=10.5km az=43.0*

BJI ***27*** *20:22:27.5,30.°60N×101.°45E,h8km,mB5.0/23,mb4.8/35, ML4.9/21,Ms5.0/47,Ms7 4.7/57*

NEIC ***27*** *20:22:27.7±0.3,30.°43N×101.°42E,h10km,mb4.8/49,Error ellipse: s-maj=7.1km s-min=5.7km az=213.0*

GCMT ***27*** *20:22:27.7±0.2,30.°51N×101.°63E,h25km±1km,MW5.1/89, Moment Tensor Solution. s37,c46; s89,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.50±.16; $M_{\theta\theta}$4.99±.14; $M_{\phi\phi}$-4.49±.14; $M_{r\theta}$-1.00±.28; $M_{\theta\phi}$-2.08±.12; $M_{\phi r}$0.59±.29; Best double couple: $M_0$5.29100×10^{16} NP1:ϕ_s327.00000°,δ86.00000°,λ.11.00000°. NP2: ϕ_s236.00000°,δ79.00000°,λ176.00000°. Principal axes: T 5.6240, Plg10.0000°, Azm192.0000°; N -0.6680, Plg79.0000°, Azm346.0000°; P -4.9580, Plg5.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***27*** *20:22:29.9±1.2,30.°49N×101.°53E,h33km,mb4.8/50, MS4.4/26 Error ellipse: s-maj=7.5km s-min=5.1km az=100.8*

ISC 27 20:22:28.4±0.5,30.°47N±0.°03×101.°46E±0.°03,h12km±3km, n303,σ1§71/292,mb4.6/86,MS4.5/42,6C-7D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.03**	**77**	⇓*i*Pn	**Pb**	**20 23 04.3**	**-0.9**
CD2				Pg	**Pg**	**20 23 06.5**	**-0.8**
CD2				Sn	**Sn**	**20 23 26.8**	**-0.8**
CD2				Sg	**Sb**	**20 23 30.5**	**+0.2**
CD2				SMN			
	27μm,0.8s						
CD2				SME			
	34μm,0.9s						
KMI	**Kunming**	**5.44**	**168**	Pn	Pn	20 23 53.3	+3.8
KMI				Pg	**Pg**	**20 24 10.0**	**-2.7**
KMI				Sn	Sn	20 25 00.0	+7.8
KMI				Sg	Sg	20 25 17.3	-5.9
KMI				SMN			
	900nm,1.4s						
KMI				SME			
	750nm,1.2s						
KMI				LN			
	5μm,4.1s						
KMI				LE			
	11μm,5.6s						
KMI				LZ			
	4μm,6.4s						
LZH	**Lanzhou**	**5.95**	**19**	⇑Pn	Pn	20 23 59.3	+2.9
LZH				Sn	**Sn**	**20 25 05.8**	**+1.2**
LZH				Sg	**Sg**	**20 25 34.0**	**-5.4**
LZH				SMN			
	620nm,1.3s						
LZH				SME			
	740nm,1.4s						
LZH				LN			
	9μm,5.6s						
LZH				LE			
	9μm,6.8s						
LZH				LZ			
	7μm,7.1s						
GYA	**Guiyang**	**6.07**	**130**	Pn	**Pn**	**20 24 01.0**	**+2.9**
GYA				Sn	Sn	20 25 15.3	+7.7
GYA				Sg	**Sg**	**20 25 42.0**	**-1.5**
GYA				SMN			
	1μm,0.9s						
GYA				SME			
	1μm,0.9s						
GYA				LN			
	13μm,8.2s						
GYA				LE			
	14μm,8.7s						
GYA				LZ			
	4μm,6.2s						
ENH	**Enshi**	**6.94**	**90**	*e*Pn	**Pn**	**20 24 10.6**	**+0.7**
	216nm,0.8s						
ENH				*e*Sg	Sg	20 26 03.1	-8.0
XAN	**Xi'an**	**7.25**	**59**	Pn	**Pn**	**20 24 15.3**	**+1.1**
XAN				Pg	Pb	20 24 39.3	+5.1
XAN				Sn	**Sn**	**20 25 38.5**	**+2.0**
XAN				Sg	Sb	20 26 09.3	+8.6
XAN				SMN			
	610nm,1.2s						
XAN				LN			
	14μm,14.1s						
XAN				LE			
	3μm,13.0s						
XAN				LZ			
	1μm,9.4s						
IMP	**Imphal**	**8.75**	**232**	*e*P	**Pn**	**20 24 36.0**	**+1.1**
IMP				*e*S	**Sn**	**20 26 16.0**	**+2.5**
LSA	**Lhasa**	**8.97**	**268**	P	**Pn**	**20 24 40.5**	**+2.3**
LSA				S	**Sn**	**20 26 17.0**	**-2.3**
LSA				LN			
	4μm,15.5s						
LSA				LE			
	3μm,8.7s						
LSA				LZ			
	2μm,8.7s						
LSA	**Lhasa**	**8.97**	**268**	*e*P	**Pn**	**20 24 38.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,27nm,0.6s						
LSA	**Lhasa**	**8.97**	**268**	*e*Pn	**Pn**	**20 24 38.7**	**+0.6**
	comp=Z,26nm,0.6s						
GTA	**Gaotai**	**9.03**	**352**	*e*P	**Pn**	**20 24 40.5**	**+1.9**
GTA				pP		20 24 44.0	
GTA				sP		20 24 46.8	
GTA				S	**Sn**	**20 26 25.5**	**+5.3**
GTA				sS		20 26 30.3	
GTA				PMZ			
	comp=Z,140nm,4.5s						
GTA				LN			
	comp=Z,6μm,9.0s						
GTA				LE			
	comp=Z,5μm,9.3s						
GTA				LZ			
	comp=Z,6μm,9.7s						
SHL	**Shillong**	**9.77**	**242**	*e*P	**Pn**	**20 24 50.5**	**+1.6**
SHL				*e*S	**Sn**	**20 26 36.0**	**-2.6**
CMAI	**Chiengmai2**	**10.71**	**192**	P	Pn	20 25 07.3	+5.4
	comp=Z,98nm,1.4s						
WHN	**Wuhan**	**11.12**	**86**	P	**Pn**	**20 25 05.8**	**-1.3**
WHN				S	**Sn**	**20 27 06.3**	**-5.1**
WHN				LZ			
	comp=Z,10μm,7.6s						
CHTO	**Chiang Mai**	**11.82**	**192**	⇑*e*P	Pn	20 25 20.4	+3.5
CHTO				pmax	pmax		
	comp=Z,23nm,1.0s						
CHTO	**Chiang Mai**	**11.82**	**192**	P	Pn	20 25 23.0	+6.1
	SNR=14						
CHTO	**Chiang Mai**	**11.82**	**192**	⇑*e*Pn	Pn	20 25 20.4	+3.5
	comp=Z,23nm,1.0s						
CHTO				*e*Sg		20 28 49.8	
CHTO	**Chiang Mai**	**11.82**	**192**	P	Pn	20 25 22.8	+5.9
	comp=Z,127nm,1.6s,comp=Z,3μm						
CMMT	**Chiang Mai**	**11.82**	**192**	P	Pn	20 25 22.8	+5.9
	comp=Z,38nm,1.6s,comp=Z,753nm						
LAMP	**Lampang**	**12.01**	**188**	P	Pn	20 25 25.7	+6.3
	comp=Z,14nm,1.2s,comp=Z,137nm						
CM31	**Chiang Mai Arr**	**12.17**	**191**	*e*Pn	Pn	20 25 26.3	+4.6
	comp=Z,43nm,0.9s						
CMAR	**Chiang Mai Arr**	**12.17**	**191**	Pn	Pn	20 25 26.1	+4.5
	comp=Z,0.2nm,0.3s,baz=7.2,slow=11,SNR=106						
CMAR				Pg		20 26 16.1	
	comp=Z,0.1nm,0.3s,baz=6.7,slow=16,SNR=2.8						
CMAR				Lg	Lg	20 29 05.4	
	comp=Z,0.0nm,0.3s,baz=25,slow=30,SNR=2.6						
CMAR				LR	LR	20 30 33.5	
	comp=Z,2μm,19.2s,baz=350,slow=40						
BTO	**Baotou**	**12.28**	**32**	*e*P	**Pn**	**20 25 23.0**	**-0.1**
TAPN	**Taplejung**	**12.44**	**259**	*e*P	**Pn**	**20 25 25.9**	**+0.3**
	comp=Z,76nm,0.8s						
MHMT	**Maesarieng**	**12.65**	**196**	P	Pn	20 25 34.1	+5.9
	comp=Z,23nm,1.7s,comp=Z,422nm						
UTTA	**Uttaradit**	**12.69**	**184**	P	Pn	20 25 34.2	+5.4
	comp=Z,6.0nm,0.9s,comp=Z,66nm						
ODAN	**Odare**	**12.87**	**257**	*e*P	**Pn**	**20 25 31.5**	**+0.1**
	comp=Z,84nm,0.8s						
GZH	**Guangzhou**	**12.90**	**122**	P	**Pn**	**20 25 30.5**	**-1.1**
GZH				PP	**PnPn**	**20 25 41.0**	**+1.5**
GZH				S	**Sn**	**20 27 51.5**	**-3.6**
GZH				LN			
	comp=Z,3μm,7.7s						
GZH				LE			
	comp=Z,4μm,7.2s						
HHC	**Hu-ho-hao-te**	**13.21**	**36**	*e*P	**Pn**	**20 25 36.0**	**+0.2**
HHC				S	**Sn**	**20 28 02.5**	**-0.2**
HHC				SS	**SnSn**	**20 28 17.3**	**+2.3**
HHC				PMZ			
	comp=Z,17nm,0.8s						
HHC				PMZ			
	comp=Z,77nm,3.8s						
HHC				LZ			
	comp=Z,5μm,10.4s						
RAMN	**Ramite**	**13.51**	**259**	*e*P	**Pn**	**20 25 40.3**	**+0.2**
	comp=Z,88nm,0.8s						
JIRN	**Jiri**	**13.65**	**262**	*e*P	**Pn**	**20 25 42.4**	**+0.3**
	comp=Z,82nm,0.8s						
QIZ	**Qiongzhong**	**13.69**	**144**	P	**Pn**	**20 25 43.3**	**+0.9**
QIZ				S	**Sn**	**20 28 15.0**	**+0.6**
QIZ				PMZ			
	comp=Z,8.0nm,1.7s						
QIZ				LN			
	comp=Z,4μm,10.1s						
QIZ				LE			
	comp=Z,3μm,14.6s						
QIZ				LZ			
	comp=Z,4μm,10.3s						
PBKT	**Sadao Pong**	**13.84**	**182**	P	Pn	20 25 48.9	+4.5
	comp=Z,36nm,1.3s						
GUN	**Gumba**	**13.85**	**263**	*e*P	**Pn**	**20 25 44.8**	**-0.1**
	comp=Z,128nm,0.8s						
KHON	**Khomkaen**	**14.12**	**175**	P	Pn	20 25 52.5	+4.2
	comp=Z,25nm,1.0s,comp=Z,853nm						
TIA	**Tai'an**	**14.29**	**62**	*e*P	**Pn**	**20 25 52.0**	**+1.5**
TIA				S	**Sn**	**20 28 31.0**	**+2.2**
TIA				PMZ			
	comp=Z,20nm,1.0s						
TIA				LN			
	comp=Z,2μm,11.0s						
TIA				LE			
	comp=Z,840nm,11.0s						
TIA				LZ			
	comp=Z,2μm,9.5s						
PKI	**Pulchoki**	**14.34**	**262**	*e*P	**Pn**	**20 25 50.1**	**-1.5**
	comp=Z,127nm,1.0s						
PKIN	**Phulchoki**	**14.35**	**262**	*e*P	**Pn**	**20 25 50.2**	**-1.4**
	comp=Z,69nm,0.6s						
KKN	**Kakani**	**14.39**	**263**	*e*P	**Pn**	**20 25 50.6**	**-1.6**
	comp=Z,146nm,1.0s						
DMN	**Daman**	**14.59**	**263**	*e*P	**Pn**	**20 25 53.3**	**-1.6**
	comp=Z,120nm,0.8s						
GKN	**Gorkha**	**14.89**	**265**	*e*P	**Pn**	**20 25 57.2**	**-1.8**
	comp=Z,134nm,1.0s						
NJ2	**Nanjing**	**14.96**	**79**	*e*P	**Pn**	**20 25 58.0**	**-1.7**
NJ2				S	**Sn**	**20 28 50.0**	**+4.7**
NJ2				LN			
	comp=Z,5μm,13.4s						
NJ2				LE			
	comp=Z,4μm,12.0s						
NJ2				LZ			
	comp=Z,4μm,14.5s						
BJT	**Baijiatuao**	**15.32**	**48**	*e*P	**Pn**	**20 26 02.8**	**-1.6**
BJT	**Baijiatuao**	**15.32**	**48**	*e*Pn	**Pn**	**20 26 02.8**	**-1.6**
BJI	**Beijing**	**15.33**	**48**	P	**Pn**	**20 26 05.3**	**+0.7**
BJI				PMZ			
	comp=Z,17nm,0.8s						
BJI				LN			
	comp=Z,4μm,11.4s						
BJI				LE			
	comp=Z,4μm,10.1s						
BJI				LZ			
	comp=Z,950nm,14.3s						
KHLT	**Khaolaem Dam**	**15.82**	**190**	P	**P**	**20 26 16.1**	**+1.3**
	comp=Z,26nm,1.2s,comp=Z,524nm						
KOLN	**Koldanda**	**15.84**	**265**	*e*P	**Pn**	**20 26 10.7**	**-0.8**
	comp=Z,74nm,0.8s						
QZH	**Quanzhou**	**16.13**	**106**	*e*P	**Pn**	**20 26 15.0**	**0.0**
QZH				S	**Sn**	**20 29 21.0**	**+7.2**
QZH				LZ			
	comp=Z,3μm,11.3s						
SRDT	**SRDT**	**16.18**	**188**	P	**P**	**20 26 18.8**	**-0.1**
	comp=Z,165nm,1.6s,comp=Z,9μm						
PYUN	**Piuthan**	**16.29**	**266**	*e*P	**Pn**	**20 26 15.8**	**-1.5**
	comp=Z,226nm,0.8s						
SSE	**Sheshan**	**16.96**	**83**	P	**Pn**	**20 26 22.5**	**-3.0**
SSE				S	**Sn**	**20 29 31.3**	**-2.7**
SSE				PMZ			
	comp=Z,32nm,0.7s						
SSE				PMZ			
	comp=Z,160nm,4.3s						
SSE				LZ			
	comp=Z,2μm,10.3s						
WMQ	**Urumqi**	**17.23**	**324**	*e*P	**Pn**	**20 26 25.8**	**-3.1**
WMQ				pP	**P**	**20 26 29.5**	**-1.0**
WMQ				sP	**sP**	**20 26 33.3**	**-2.3**
WMQ				PP	PnPn	20 26 47.3	+8.4
WMQ				PcP	PcP	20 31 18.3	+6.3
WMQ				PMZ			
	comp=Z,46nm,1.4s						
WMQ				PMZ			
	comp=Z,150nm,4.4s						
WMQ				LN			
	comp=Z,4μm,10.4s						
WMQ				LE			
	comp=Z,3μm,10.0s						
WMQ				LZ			
	comp=Z,3μm,11.6s						
CHBT	**CHBT**	**17.65**	**177**	P	**P**	**20 26 38.4**	**+3.3**
	comp=Z,66nm,1.1s,comp=Z,848nm						
SONM	**Songino Array**	**17.75**	**11**	P	**Pn**	**20 26 34.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=191,slow=12,SNR=36						
SONM				LR	LR	20 34 17.1	
	comp=Z,1μm,19.6s,baz=199,slow=40						
ULN	**Ulaanbaatar**	**17.90**	**12**	*e*P	**Pn**	**20 26 35.4**	**-1.9**
ULN				pmax	pmax		
	comp=Z,36nm,1.0s						
ULN	**Ulaanbaatar**	**17.90**	**12**	P	**P**

YHNB Yeheng 18.57 103 *e*P Pn 20 26 48.5 +3.0
comp=Z,44nm,0.8s
SSLB Suanglung 18.57 106 *e*Pn Pn 20 26 48.5 +3.1
comp=Z,78nm,1.1s
YULB Yu-li 19.02 107 P Pn 20 26 52.1 +1.1
comp=Z,42nm,1.1s
TWG Pinlang 19.09 109 *e*P Pn 20 26 54.2 +2.4
comp=Z,218nm,1.3s
DLV T Lat 19.55 159 *e*P P 20 26 57.4 +1.2
comp=Z,73nm,1.5s
CHLP Challavanipeta 19.79 237 *e*P P 20 26 59.6 +1.0
CHLP IAmb IAmb 20 27 00.7
comp=Z,141nm,2.0s
CHLP *e*S **S** 20 30 40.7 -0.6
CHLP IAMs_20 IAMs_20 20 34 45.7
comp=Z,658nm,14.7s
ZAK Zakamensk 19.94 3⇑ *i*P P 20 26 59.5 -0.7
ZAK pmax pmax
comp=Z,28nm,1.4s
SNY Shenyang 21.09 51 ⇓P P 20 27 18.0 +5.4
SNY S **S** 20 31 08.8 +1.8
SNY PMZ
comp=Z,57nm,0.8s
SNY PMZ
comp=Z,560nm,3.6s
SNY LN
comp=Z,2μm,18.0s
SNY LE
comp=Z,1μm,17.7s
SNY LZ
comp=Z,1μm,14.0s
TLY Talaya 21.26 4*d* *i*P P 20 27 15.9 +1.6
TLY *e* 20 27 35.2
TLY *e*S Sn 20 31 17.7 +0.3
TLY pmax pmax
comp=Z,34nm,1.4s
TLY MLR MLR
comp=Z,1μm,17.0s
TLY Talaya 21.26 4 P P 20 27 17.4 +3.1
SNR=20
TLY Talaya 21.26 4 *e*P P 20 27 16.8 +2.4
comp=Z,30nm,1.3s
SURT Suratani 21.55 187 P P 20 27 20.6 +3.0
comp=Z,22nm,1.0s,comp=Z,327nm
IRK Irkutsk 21.86 5 *e*P P 20 27 21.6 +0.9
IRK pmax pmax
comp=Z,78nm,2.2s
INCN Inchon 21.98 65 *e*P P 20 27 24.1 +1.9
comp=Z,63nm,1.0s
MK31 Makanchi Array 22.05 323 *e*P P 20 27 21.2 -1.6
MK31 Makanchi Array 22.05 323 *e*P P 20 27 21.2 -1.6
MKAR Makanchi Array 22.05 323 P P 20 27 21.3 -1.5
comp=Z,4.3nm,0.8s,baz=158,slow=10,SNR=29
MKAR LR LR 20 37 08.9
comp=Z,644nm,19.3s,baz=127,slow=40
MKAR Makanchi Array 22.05 323 P P 20 27 21.3 -1.5
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,644nm,19.3s
TJN Taejon 22.37 68 *i*P P 20 27 26.5 +0.1
PKDT Phuket 22.65 188 P P 20 27 36.2 +6.7
comp=Z,36nm,1.3s,comp=Z,964nm
KSH Kashi 22.69 300 P P 20 27 32.3 +2.4
KSH pP **pP** 20 27 36.5 +3.0
KSH PP PnPn 20 28 03.0 +9.3
KSH S **S** 20 31 39.5 +1.4
KSH sS **sS** 20 31 46.3 +2.1
KSH SS SnSn 20 32 25.0 +17
KSH PMZ
comp=Z,47nm,1.8s
KSH PMZ
comp=Z,220nm,3.9s
KSH LN
comp=Z,1μm,9.0s
KSH LE
comp=Z,750nm,8.3s
KSH LZ
comp=Z,1μm,17.3s
KSAR Wonju Array Be 22.95 65 P P 20 27 32.0 -0.5
KSAR Wonju Array Be 22.95 65 P P 20 27 31.9 -0.5
KSRS Korea Array 22.98 65 P P 20 27 31.9 -0.8
comp=Z,44nm,0.8s,baz=254,slow=8.8,SNR=63
KSRS LR LR 20 36 18.6
comp=Z,970nm,18.1s,baz=262,slow=36
KSRS Korea Array 22.98 65 P P 20 27 32.0 -0.8
KSRS pmax pmax
comp=Z,44nm,0.8s
KSRS MLR MLR
comp=Z,970nm,18.1s
RPR Rampur 23.18 245 *e*P P 20 27 33.7 -1.3
RPR *e*S **S** 20 31 46.7 +0.1
SKLT Songkhla 23.19 182 P P 20 27 36.4 +1.3
comp=Z,52nm,1.4s
CN2 Changchun 23.20 48 *e*P P 20 27 37.5 +2.5
CN2 *e*S **S** 20 31 45.5 -1.0
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,1μm,15.0s
CN2 LE
comp=Z,400nm,15.0s
CN2 LZ
comp=Z,200nm,10.0s
CIT Chita 23.31 19 *e*P P 20 27 36.6 +0.5
CIT *e* 20 27 48.8
CIT pmax pmax
comp=Z,147nm,2.8s
HIA Hailar 23.33 31 P P 20 27 31.2 -5.1
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 23.33 31 P P 20 27 31.2 -5.1
comp=Z,14nm,0.7s
TKM2 Tokmak 2 24.07 308 *e*P P 20 27 44.8 +1.0
TKM2 pmax pmax
comp=Z,10.0nm,1.0s
TKM2 Tokmak 2 24.07 308 *e*P P 20 27 44.8 +1.0
comp=Z,10nm,1.0s
NJS Nagarjunasagar 24.52 241 *e*P P 20 27 47.9 0.0
NJS *e*S **S** 20 32 06.0 -2.3
HYB Hyderabad 24.58 243 *i*P P 20 27 49.0 +0.6
HYB *e* 20 28 07.0
HYB *e* 20 28 15.0
HYB *e*S **S** 20 32 14.0 +4.7
HYBB Hyderabad (bro 24.58 243 *e*P P 20 27 48.4 0.0
HYBB *e*S **S** 20 32 07.5 -1.8
FRU Bishkek 24.71 307 *e*P P 20 27 52.0 +2.6
FRU MLR MLR
comp=Z,1μm,12.0s
AAK Ala-Archa 24.72 307 P P 20 27 49.8 +0.1
comp=Z,2.3nm,0.6s,baz=130,slow=6.9,SNR=11
AAK LR LR 20 38 47.8
comp=Z,902nm,19.2s,baz=88,slow=40
AAK Ala-Archa 24.72 307 P P 20 27 49.8 +0.1
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK MLR MLR
comp=Z,902nm,19.2s
AAK Ala-Archa 24.72 307 P P 20 27 56.6 +6.9
SNR=7.2
JNU Nakatsue 25.11 76 P P 20 27 53.0 -0.1
comp=Z,13nm,0.8s,baz=307,slow=5.1,SNR=4.3
JNU LR LR 20 38 02.8
comp=Z,708nm,18.6s,baz=270,slow=37
JNU Nakatsue 25.11 76 *e*P P 20 27 52.7 -0.4
comp=Z,31nm,0.6s
EKS2 Erkin-Say 25.23 306 *e*P P 20 27 55.2 +1.0
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 25.23 306 *e*P P 20 27 55.2 +1.0
comp=Z,10nm,1.0s
IPM Ipoh 25.85 181 *e*P P 20 27 58.6 -1.3
comp=Z,9.4nm,0.6s
SKHT Srikalahasti 26.06 235 *e*P P 20 28 02.2 +0.5
SKHT *e*S **S** 20 32 38.8 +6.1
MDJ Mudanjiang 26.24 50 P P 20 28 00.4 -2.9
ZAA0 Zalesovo Array 26.37 338 *e*P P 20 28 01.9 -2.4
ZALV Zalesovo Beam 26.37 338 P P 20 28 03.5 -0.8
comp=Z,11nm,0.8s,baz=146,slow=9.3,SNR=22
ZALV LR LR 20 38 56.9
comp=Z,1μm,20.7s,baz=286,slow=38
ZALV Zalesovo Beam 26.37 338 P P 20 28 03.5 -0.8
ZALV pmax pmax
comp=Z,11nm,0.8s
ZALV MLR MLR
comp=Z,1μm,20.7s
KURBB Kurchatov Arra 26.44 326 P P 20 28 04.3 -0.6
comp=Z,4.3nm,0.9s,baz=137,slow=9.1,SNR=22
KURK Kurchatov 26.46 326 *e*P P 20 28 03.1 -2.0
KURK pmax pmax
comp=Z,22nm,0.8s
KURK Kurchatov 26.46 326 P P 20 28 07.3 +2.2
SNR=9.3
KURK Kurchatov 26.46 326 *e*P P 20 28 03.1 -2.0
comp=Z,22nm,0.8s
URV Uravakonda 27.06 241 *e*P P 20 28 10.6 -0.3
URV *e*S **S** 20 32 51.8 +3.1
KBL Kabul 27.58 287 *e*P P 20 28 16.7 +1.1
KBL pmax pmax
comp=Z,37nm,1.1s
KBL Kabul 27.58 287 *e*P P 20 28 16.6 +1.1
comp=Z,38nm,1.1s
PSI Prapat 27.62 185 P P 20 28 16.1 +0.2
comp=Z,4.8nm,0.5s,baz=306,slow=5.6,SNR=10
PSI Prapat 27.62 185 P P 20 28 16.2 +0.2
PSI pmax pmax
comp=Z,5.0nm,0.5s
NVS Novosibirsk 27.64 337⇓ *i*P P 20 28 21.3 +5.7
NVS *e* 20 29 15.2
NVS *e*S **S** 20 32 54.8 -2.2
NVS pmax pmax
comp=N,12nm,1.8s
NVS pmax pmax
comp=E,15nm,1.8s
NVS pmax pmax
comp=Z,27nm,1.8s
NVS smax smax
comp=N,47nm,3.2s
KKAR Karatay Array 27.65 306 *e*P P 20 28 14.3 -1.6
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 27.65 306 *e*P P 20 28 14.3 -1.6
comp=Z,4.0nm,0.7s
USRK Ussuriysk Ar. 27.69 52 P P 20 28 15.8 -0.5
comp=Z,2.3nm,0.8s,baz=279,slow=9.6,SNR=3.9
USRK LR LR 20 40 04.2
comp=Z,401nm,19.3s,baz=241,slow=38
KKM Kota Kinabalu 27.98 147 *e*P P 20 28 14.2 -5.0
comp=Z,15nm,0.6s
BOD Bodaibo 28.69 14 *e*P P 20 28 23.2 -1.8
BOD pmax pmax
comp=Z,7.0nm,1.8s
GSI Gunungsitoli 29.24 188 P P 20 28 37.3 +7.1
comp=Z,35nm,1.0s
GSI Gunungsitoli 29.24 188 P P 20 28 25.6 -4.6
comp=Z,32nm,1.0s
KLR Kul'dur 29.57 42 *e*P P 20 28 31.8 -1.2
BKNI Bangkinang 29.98 181 P P 20 28 37.7 +0.9
KSM Kuching 30.03 162 *e*P P 20 28 37.5 +0.2
comp=Z,9.0nm,1.1s
PALK Pallekele 30.19 224 P P 20 28 35.0 -3.8
PALK Pallekele 30.19 224 P P 20 28 35.0 -3.8
MAJO Matsushiro 31.10 69 P P 20 28 46.0 -0.6
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAJO Matsushiro 31.10 69 P P 20 28 46.0 -0.6
comp=Z,7.9nm,0.7s
MJAR Matsushiro Arr 31.10 69 P P 20 28 46.8 +0.1
comp=Z,6.3nm,1.1s,baz=271,slow=10,SNR=6.6
MJAR Matsushiro Arr 31.10 69 P P 20 28 46.8 +0.1
MJAR pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 31.92 324 P P 20 28 54.6 +0.9
comp=Z,0.7nm,0.4s,baz=104,slow=12,SNR=5.0
BVAR PcP **PcP** 20 31 42.7 -1.1
comp=Z,1.3nm,0.6s,baz=132,slow=6.0,SNR=5.2
BVAR LR LR 20 42 28.1
comp=Z,816nm,19.3s,baz=118,slow=38
BVAR Borovoye Array 31.92 324 P P 20 28 54.6 +0.9
BVAR 20 31 42.7
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR MLR MLR
comp=Z,816nm,19.3s
BRVK Borovoye 32.00 324 *i*P P 20 28 55.7 +1.4
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 32.00 324 P P 20 28 58.2 +4.0
comp=Z,6.1nm,0.9s
ASAJ Asahikawa 35.08 56 P P 20 29 21.1 -0.1
comp=Z,11nm,0.8s,baz=266,slow=12,SNR=5.1
ASAJ LR LR 20 43 01.8
comp=Z,391nm,19.6s,baz=260,slow=35
ASAJ Asahikawa 35.08 56 P P 20 29 21.2 -0.1
ASAJ pmax pmax
comp=Z,11nm,0.8s
ASAJ MLR MLR
comp=Z,391nm,19.6s
YSS Yuzh-Sakhalins 35.71 51 *e*P P 20 29 28.0 +1.3
YSS *e* 20 29 45.0
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,500nm,17.0s
YSS MLR MLR
comp=E,700nm,13.0s
GEYT Alibeck 36.36 294 P P 20 29 33.5 +1.1
comp=E,5.4nm,0.9s,baz=85,slow=16,SNR=2.6
GEYT LR LR 20 47 55.4
comp=E,366nm,18.5s,baz=90,slow=42
ABKAR Akbulak array 36.42 313 *e*P P 20 29 31.5 -1.1
comp=E,2.5nm,0.7s
YAK Yakutsk 36.52 22 P P 20 29 34.6 +1.3
comp=E,17nm,0.7s,baz=38,slow=1.7,SNR=7.3
YAK Yakutsk 36.52 22*d* *i*P P 20 29 34.1 +0.7
YAK *e**PP pP 20 29 42.1 +4.9
YAK *e*PPP PPP 20 31 03.5
YAK *e* 20 32 01.9
YAK *e*S S 20 35 05.6 -10
YAK *e**SS **sS** 20 35 21.3 -0.2
YAK *e*SSS SSS 20 37 45.5
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK smax smax
comp=N,68nm,3.0s
YAK smax smax
comp=E,34nm,2.7s
YAK MLR MLR
comp=Z,644nm,14.0s
YAK MLR MLR
comp=E,492nm,13.0s
YAK MLR MLR
comp=N,196nm,13.0s
YAK Yakutsk 36.52 22 *e*P P 20 29 34.5 +1.1
comp=N,15nm,0.8s
LUWI Luwuk 37.33 143 *e*P P 20 29 39.9 -0.9
comp=N,45nm,1.2s
LEM Lembang 37.55 170 P P 20 29 56.7 +14
AKTO Aktyubinsk 37.93 314 P P 20 29 46.8 +1.2
comp=N,2.6nm,0.7s,baz=119,slow=5.7,SNR=3.6
AKTO PcP **PcP** 20 32 01.2 -0.1
comp=N,2.0nm,0.7s,baz=90,slow=5.1,SNR=3.2
AKTO LR LR 20 45 46.2
comp=N,449nm,19.4s,baz=107,slow=37
AKTO Aktyubinsk 37.93 314 P P 20 29 46.8 +1.2
AKTO 20 32 01.2
AKTO pmax pmax
comp=Z,3.0nm,0.7s
AKTO MLR MLR
comp=Z,449nm,19.4s
SVE Sverdlovsk 38.69 325⇓ *e*P P 20 29 55.4 +3.6
SVE pmax pmax
comp=Z,11nm,0.9s
SVE MLR MLR
comp=Z,810nm,18.0s
ARU Arti 39.57 324*d* *i*P P 20 30 00.4 +1.2
ARU 20 31 28.7
ARU S **S** 20 36 01.4 0.0
ARU pmax pmax
comp=Z,21nm,2.5s
ARU MLR MLR
comp=Z,741nm,19.0s
ARU Arti 39.57 324 *e*P P 20 29 57.2 -2.0
comp=Z,15nm,0.8s
IGLO Ghaloghah 39.86 292 *e*P P 20 30 03.9 +1.7
BSY Bisya 40.12 270 P P 20 30 10.2 +6.0
SNR=11
IZEF Zefreh 41.58 287 *e*P P 20 30 17.1 +0.7
IPAR Pars 41.61 282 *e*P P 20 30 19.1 +2.3
ISRV Sarvestan 41.66 281 *e*P P 20 30 17.8 +0.5
IKAZ Kazeroun 42.65 282 *e*P P 20 30 24.3 -1.0
MMRI Maumere 43.70 149 P P 20 30 34.9 +1.5
MMRI Maumere 43.70 149 *e*P P 20 30 31.6 -1.8
comp=Z,33nm,1.0s
TIXI Tiksi 43.84 12 *e*P P 20 30 33.3 -0.6
TIXI pmax pmax
comp=Z,34nm,1.7s
TIXI Tiksi 43.84 12 *e*P P 20 30 34.0 +0.1
comp=Z,23nm,1.2s
BATI Baumata 45.73 149 P P 20 30 48.3 -1.3
comp=Z,35nm,0.6s,baz=265,slow=1.4,SNR=12
SEY Seymchan 45.76 30 P P 20 30 51.5 +2.1
comp=Z,1.0nm,0.5s,baz=1.5,slow=2.3,SNR=4.1
SEY LR LR 20 51 30.8
comp=Z,1μm,18.9s,baz=263,slow=38
SEY Seymchan 45.76 30 P P 20 30 51.5 +2.1
SEY pmax pmax
comp=Z,1.0nm,0.5s
SEY MLR MLR
comp=Z,1μm,18.9s
PETK Petropavlovsk- 46.23 44 P P 20 30 54.8 +1.6
comp=Z,6.9nm,0.8s,baz=207,slow=6.3,SNR=8.5
PETK LR LR 20 52 11.6
comp=Z,276nm,18.3s,baz=261,slow=39
PETK Petropavlovsk- 46.23 44 P P 20 30 54.8 +1.6
PETK pmax pmax
comp=Z,7.0nm,0.8s
PETK MLR MLR
comp=Z,276nm,18.3s
PET Petropavlovsk 46.79 44 *e*P P 20 30 55.9 -1.7
PET *e*S **S** 20 37 43.8 -3.5
PET *e*SS **SS** 20 41 07.0 -6.5
PET MLR MLR
comp=Z,500nm,17.0s
ZEI Tsey 46.97 302 *e*P P 20 31 03.5 +4.1
ZEI pmax pmax
comp=Z,4.0nm,1.0s
PRGR Permogore 47.56 328 *e*P P 20 31 02.3 -1.1
PRGR pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 47.63 303 LR LR 20 54 07.9
comp=Z,315nm,18.2s,baz=118,slow=40
KIV Kislovodsk 47.76 303 *e*P P 20 31 05.9 +0.5
KIV *e* 20 32 34.9
KIV *e*S **S** 20 38 00.6 -1.1
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,343nm,16.0s
KIV Kislovodsk 47.76 303 P P 20 31 03.0 -2.4
comp=Z,7.9nm,0.8s
RAYN Ar Rayn 49.92 276 *e*P P 20 31 20.0 -2.3
comp=Z,14nm,1.3s
KLMR Klimovskoe 50.30 326 *e*P P 20 31 24.9 +0.4
KLMR pmax pmax
comp=Z,18nm,1.0s
KLMR MLR MLR
comp=Z,1μm,19.0s
ANN Anapa 51.43 305 *e*P P 20 31 29.2 -4.0
ANN *e*S S 20 38 42.2 -11
ANN pmax pmax
comp=Z,87nm,1.9s
ANN MLR MLR
comp=Z,519nm,19.0s
OBN Obninsk 51.44 318 LR LR 20 53 37.3
comp=Z,443nm,18.2s,baz=86,slow=36
OBN Obninsk 51.44 318‖ *e*P P 20 31 34.3 +1.2
OBN *e* 20 32 52.6
OBN *e* 20 33 32.6
OBN pmax pmax
comp=Z,10.0nm,1.5s
OBN MLR MLR
comp=Z,290nm,17.0s
BILL Bilibino 52.72 25⇑ *i*P P 20 31 44.4 +1.9
BILL *e* 20 31 51.8
BILL *e* 20 33 40.5
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,500nm,20.0s
BILL Bilibino 52.72 25 *e*P P 20 31 43.5 +0.9
comp=Z,15nm,1.2s
JOF Joensuu 54.36 328 *e*p P 20 31 57.9 +3.3
comp=Z,4.0nm,0.7s
JOF Joensuu 54.36 328 *e*P P 20 31 57.9 +3.3
JOF pmax pmax
comp=Z,4.0nm,0.7s
BR131 Keskin Array S 55.08 299 P P 20 32 01.2 +0.8
comp=Z,1.9nm,0.9s
BRTR Keskin Array B 55.08 299 P P 20 32 01.6 +1.2
comp=Z,0.8nm,0.8s,baz=15,slow=5.1,SNR=4.8
BRTR LR LR 20 59 48.0
comp=Z,150nm,18.7s,baz=76,slow=41
BRTR Keskin Array B 55.08 299 P P 20 32 01.6 +1.2
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR MLR MLR
comp=Z,151nm,18.7s
AKASG Malin Array Be 56.16 313 P P 20 32 06.5 -1.3
comp=Z,0.8nm,0.5s,baz=67,slow=7.2,SNR=3.1
AKASG LR LR 20 56 30.3
comp=Z,222nm,18.2s,baz=75,slow=36
AKASG Malin Array Be 56.16 313 *i*P P 20 32 11.5 +3.7
AKASG pmax pmax
comp=Z,2.0nm,0.7s
KIEV Kiev 56.17 313 *e*P P 20 32 08.2 +0.3
AK02 Malin Array Si 56.18 313 *e*P P 20 32 07.5 -0.4
KEV Kevo 56.39 336 *e*p P 20 32 10.7 +1.6
comp=Z,5.6nm,0.6s
KEV Kevo 56.39 336 *e*P P 20 32 10.7 +1.6
KEV pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 56.68 327 *e*p P 20 32 13.7 +2.4
comp=Z,2.6nm,0.8s
KAF Kangasniemi 56.68 327 *e*P P 20 32 13.7 +2.4
KAF pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 56.83 326 P P 20 32 13.4 +1.1
comp=Z,2.3nm,0.9s,baz=104,slow=6.1,SNR=5.1
FINES LR LR 20 57 04.9
comp=Z,482nm,18.6s,baz=162,slow=36
FINES FINESS Array B 56.83 326 *i*P P 20 32 14.1 +1.7
FINES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 56.91 336 P P 20 32 13.2 +0.4
comp=Z,3.7nm,0.9s,baz=65,slow=6.4,SNR=6.5
ARCES ARCESS Array B 56.91 336 P P 20 32 13.2 +0.4
ARCES pmax pmax
comp=Z,4.0nm,0.9s
WRAB Tennant Creek 59.26 144 *e*P P 20 32 30.0 +0.1
WRAB pmax pmax
comp=Z,59nm,1.4s
WRAB Tennant Creek 59.26 144 *e*P P 20 32 29.8 -0.1
comp=Z,36nm,0.9s
WRA Warramunga Arr 59.26 144 P P 20 32 30.1 +0.2
comp=Z,7.8nm,0.6s,baz=335,slow=7.5,SNR=40
WRA Warramunga Arr 59.26 144 P P 20 32 30.1 +0.2
WRA pmax pmax
comp=Z,8.0nm,0.6s
SPITS Spitsbergen Ar 59.41 346 P P 20 32 32.6 +2.4
comp=Z,20nm,1.2s,baz=50,slow=6.6,SNR=4.7
SPITS Spitsbergen Ar 59.41 346 P P 20 32 32.6 +2.4
SPITS pmax pmax
comp=Z,21nm,1.2s
CRVS Cervenica-Dubn 61.45 312 *e*P P 20 32 45.0 +0.4
CRVS Cervenica-Dubn 61.45 312 *e*P P 20 32 45.0 +0.4
STHS Stebnicka Huta 61.45 313 *e*P P 20 32 45.8 +1.1
STHS Stebnicka Huta 61.45 313 *e*P P 20 32 45.8 +1.1
ASAR Alice Springs 62.18 146 P P 20 32 49.5 -0.2
comp=Z,1.5nm,0.5s,baz=328,slow=7.0,SNR=18
ASAR Alice Springs 62.18 146 P P 20 32 49.6 -0.2
ASAR pmax pmax
comp=Z,2.0nm,0.5s
VYHS Vyhne 63.23 312 *e*P P 20 32 56.9 +0.3
VYHS Vyhne 63.23 312 *e*P P 20 32 56.9 +0.3
GVD Gavdhos 63.76 297 P P 20 32 57.6 -2.7
NB2 NORSAR Subarra 63.97 327 P P 20 32 58.2 -3.0
comp=Z,2.6nm,1.1s,baz=73,slow=6.9
NOA NORSAR Array B 63.97 327 P P 20 32 59.4 -1.8
comp=Z,0.8nm,0.8s,baz=95,slow=4.9,SNR=2.7
NOA LR LR 21 01 17.7
comp=Z,351nm,18.4s,baz=85,slow=36

NOA	**NORSAR Array B**	**63.97**	**327**	P	**P**	**20 32 59.4**	**-1.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,351nm,18.4s						
DPC	**Dobruska-Polom**	**64.26**	**315**	*e*P	P	20 33 07.7	+4.3
DPC				*ex*	x	20 33 18.7	
DPC				AMS	AMS	21 01 10.0	
DPC	**Dobruska-Polom**	**64.26**	**315**	*e*P	P	20 33 07.7	+4.3
DPC				*e*		20 33 18.7	
UPC	**Upice**	**64.41**	**315**	*e*P	**P**	**20 33 05.3**	**+1.0**
UPC				*ex*	x	20 33 16.1	
UPC	**Upice**	**64.41**	**315**	*e*P	**P**	**20 33 05.3**	**+1.0**
UPC				*e*		20 33 16.1	
TREC	**Trest**	**65.10**	**314**	AMS	AMS	21 03 20.0	
	comp=Z,400nm,17.4s						
GOPC	**GO Pecny, Ondr**	**65.34**	**315**	AMS	AMS	21 02 00.0	
	comp=Z,500nm,16.2s						
PRU	**Pruhonice**	**65.46**	**315**	AMS	AMS	21 02 20.0	
	comp=Z,500nm,16.7s						
PRA	**Prague**	**65.50**	**315**	AMS	AMS	21 02 00.0	
	comp=Z,500nm,15.4s						
CTAO	**Charters Tower**	**66.19**	**134**	P	**P**	**20 33 15.1**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,20nm,1.2s						
CTAO	**Charters Tower**	**66.19**	**134**	P	**P**	**20 33 15.1**	**-1.1**
	comp=Z,20nm,1.2s						
GERES	**GERESS Array B**	**66.36**	**314**	P	**P**	**20 33 16.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=5.7,slow=3.9,SNR=2.3						
GERES				LR	LR	21 03 23.4	
	comp=Z,392nm,18.3s,baz=66,slow=37						
TIP	**Timpagrande**	**67.71**	**303**	*e*P	**P**	**20 33 28.7**	**+3.0**
	comp=Z,2.6nm,1.0s						
CUC	**Castrocucco**	**68.08**	**304**	*e*P	**P**	**20 33 28.9**	**+0.8**
	comp=Z,2.5nm,0.9s						
IM04	**Indian Mountai**	**68.27**	**25**	*e*P	**P**	**20 33 30.3**	**+1.6**
KMBO	**Kilima Mbogo**	**68.55**	**255**	P	**P**	**20 33 32.1**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=41,slow=8.3,SNR=9.0						
KMBO	**Kilima Mbogo**	**68.55**	**255**	P	**P**	**20 33 32.1**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CEL	**Celeste**	**68.68**	**303**	*e*P	**P**	**20 33 31.1**	**-0.7**
	comp=Z,19nm,1.1s						
COLD	**Coldfoot**	**68.96**	**23**	*e*P	**P**	**20 33 33.3**	**+0.2**
	comp=Z,7.1nm,0.9s						
PPLA	**Purkeypile**	**70.30**	**28**	*e*P	**P**	**20 33 40.9**	**-0.7**
	comp=Z,6.9nm,0.7s						
CDF	**Champ du Feu**	**70.47**	**315**	*e*P	**P**	**20 33 43.1**	**+0.3**
CDF	**Champ du Feu**	**70.47**	**315**	*e*P	**P**	**20 33 43.1**	**+0.3**
CDF	**Champ du Feu**	**70.47**	**315**	*e*P	**P**	**20 33 43.1**	**+0.3**
COLA	**College**	**70.97**	**25**	*e*P	**P**	**20 33 46.2**	**+0.8**
COLA				pmax	pmax		
	comp=Z,25nm,1.3s						
COLA	**College**	**70.97**	**25**	*e*P	**P**	**20 33 46.0**	**+0.6**
	comp=Z,7.1nm,0.8s						
PAGF	**Fort de Pagny**	**71.36**	**316**	*e*P	**P**	**20 33 48.3**	**+0.3**
PAGF	**Fort de Pagny**	**71.36**	**316**	*e*P	**P**	**20 33 48.3**	**+0.3**
ILAR	**Eielson Array**	**71.38**	**25**	P	**P**	**20 33 48.5**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=292,slow=4.7,SNR=11						
ILAR				LR	LR	21 07 42.7	
	comp=Z,472nm,18.4s,baz=296,slow=38						
ILAR	**Eielson Array**	**71.38**	**25**	P	**P**	**20 33 48.5**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,472nm,18.4s						
SFTF	**Sexfontaines**	**71.92**	**316**	*e*P	**P**	**20 33 52.0**	**+0.6**
	comp=Z,6.6nm,0.6s						
SFTF	**Sexfontaines**	**71.92**	**316**	*e*P	**P**	**20 33 52.0**	**+0.6**
	comp=Z,6.6nm,0.6s						
LPG	**La Plagne**	**72.02**	**313**	*e*P	**P**	**20 33 51.3**	**-1.1**
	comp=Z,14nm,0.8s						
LPG	**La Plagne**	**72.02**	**313**	*e*P	**P**	**20 33 51.3**	**-1.1**
LPG				pmax	pmax		
	comp=Z,14nm,0.8s						
LPG	**La Plagne**	**72.02**	**313**	*e*P	**P**	**20 33 51.3**	**-1.1**
	comp=Z,14nm,0.8s						
LPL	**La Plagne**	**72.02**	**313**	*e*P	**P**	**20 33 51.2**	**-1.2**
	comp=Z,11nm,0.6s						
LPL	**La Plagne**	**72.02**	**313**	*e*P	**P**	**20 33 51.2**	**-1.2**
LPL				pmax	pmax		
	comp=Z,11nm,0.6s						
LPL	**La Plagne**	**72.02**	**313**	*e*P	**P**	**20 33 51.2**	**-1.2**
	comp=Z,11nm,0.6s						
MBDF	**Montbardon**	**72.33**	**312**	*e*P	**P**	**20 33 54.1**	**-0.1**
	comp=Z,6.5nm,0.7s						
MBDF	**Montbardon**	**72.33**	**312**	*e*P	**P**	**20 33 54.1**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MBDF	**Montbardon**	**72.33**	**312**	*e*P	**P**	**20 33 54.1**	**-0.1**
	comp=Z,6.5nm,0.7s						
STKA	**Stephens Creek**	**72.75**	**145**	P	**P**	**20 33 56.8**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=328,slow=5.3,SNR=5.5						
STKA	**Stephens Creek**	**72.75**	**145**	P	**P**	**20 33 56.8**	**+0.3**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**72.75**	**145**	*e*P	P	20 33 51.4	-5.1
	comp=Z,3.5nm,1.4s						
ORIF	**Oris-en-Rattie**	**72.82**	**312**	*e*P	**P**	**20 33 57.2**	**+0.2**
ORIF	**Oris-en-Rattie**	**72.82**	**312**	*e*P	**P**	**20 33 57.2**	**+0.2**
ORIF	**Oris-en-Rattie**	**72.82**	**312**	*e*P	**P**	**20 33 57.2**	**+0.2**
LOR	**Lormes**	**73.05**	**315**	*e*P	**P**	**20 33 58.8**	**+0.6**
LOR	**Lormes**	**73.05**	**315**	*e*P	**P**	**20 33 58.8**	**+0.6**
LOR	**Lormes**	**73.05**	**315**	*e*P	**P**	**20 33 58.8**	**+0.6**
SMF	**Signal de Mont**	**73.33**	**315**	*e*P	**P**	**20 34 00.3**	**+0.4**
	comp=Z,9.5nm,0.9s						
SMF	**Signal de Mont**	**73.33**	**315**	*e*P	**P**	**20 34 00.3**	**+0.4**
SMF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SMF	**Signal de Mont**	**73.33**	**315**	*e*P	**P**	**20 34 00.3**	**+0.4**
	comp=Z,9.5nm,0.9s						
INK	**Inuvik**	**73.49**	**19**	P	**P**	**20 34 02.7**	**+2.3**
	comp=Z,4.8nm,0.7s,baz=336,slow=7.1,SNR=8.1						
INK	**Inuvik**	**73.49**	**19**	*e*P	**P**	**20 34 00.8**	**+0.4**
INK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
INK	**Inuvik**	**73.49**	**19**	*e*P	**P**	**20 34 00.8**	**+0.4**
	comp=Z,9.8nm,0.8s						
AVF	**Avril sur Loir**	**73.57**	**315**	*e*P	**P**	**20 34 01.6**	**+0.3**
AVF	**Avril sur Loir**	**73.57**	**315**	*e*P	**P**	**20 34 01.6**	**+0.3**
AVF	**Avril sur Loir**	**73.57**	**315**	*e*P	**P**	**20 34 01.6**	**+0.3**
SUMG	**Summit**	**73.62**	**348**	*e*P	**P**	**20 34 01.8**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,13nm,1.1s						
SUMG	**Summit**	**73.62**	**348**	*e*P	**P**	**20 34 01.8**	**+0.2**
	comp=Z,13nm,1.1s						
DAWY	**Dawson**	**74.44**	**23**	P	**P**	**20 34 07.6**	**+1.5**
KEST	**Kesra**	**74.49**	**302**	LR	LR	21 12 29.4	
	comp=Z,31nm,20.0s,baz=300,slow=40						
RES	**Resolute Bay**	**74.56**	**4**	P	**P**	**20 34 05.8**	**-0.7**
RES	**Resolute Bay**	**74.56**	**4**	P	**P**	**20 34 05.8**	**-0.7**
ROSF	**Rostrenen**	**76.75**	**318**	*e*P	**P**	**20 34 19.3**	**-0.3**
	comp=Z,18nm,1.1s						
ROSF	**Rostrenen**	**76.75**	**318**	*e*P	**P**	**20 34 19.3**	**-0.3**
ROSF				pmax	pmax		
	comp=Z,18nm,1.1s						
ROSF	**Rostrenen**	**76.75**	**318**	*e*P	**P**	**20 34 19.3**	**-0.3**
	comp=Z,18nm,1.1s						
DLBC	**Dease Lake**	**81.59**	**25**	LR	LR	21 13 58.7	
	comp=Z,473nm,18.5s,baz=295,slow=38						
ESDC	**Sonseca Array**	**81.75**	**311**	P	**P**	**20 34 49.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=44,slow=7.2,SNR=4.3						
ESDC				LR	LR	21 13 35.0	
	comp=Z,95nm,21.0s,baz=55,slow=38						
YKA	**Yellowknife Ar**	**82.95**	**16**	P	**P**	**20 34 52.3**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=327,slow=4.8,SNR=13						
YKA	**Yellowknife Ar**	**82.95**	**16**	P	**P**	**20 34 52.3**	**-0.5**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FRB	**Frobisher Bay**	**85.77**	**356**	LR	LR	21 16 02.9	
	comp=Z,270nm,21.3s,baz=90,slow=38						
BBB	**Bella Bella**	**86.97**	**28**	LR	LR	21 16 32.2	
	comp=Z,137nm,19.1s,baz=316,slow=37						
FCC	**Fort Churchill**	**90.17**	**8**	P	P	20 35 25.1	-3.2
FCC	**Fort Churchill**	**90.17**	**8**	P	P	20 35 25.1	-3.2
TOA0	**Torodi Ar. Sit**	**91.64**	**286**	*e*P	**P**	**20 35 35.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**91.64**	**286**	P	**P**	**20 35 35.9**	**0.0**
	comp=Z,1.7nm,0.8s,baz=33,slow=3.7,SNR=5.1						
TORD				LR	LR	21 21 59.2	
	comp=Z,112nm,19.1s,baz=40,slow=39						
NLWA	**Neilton Lookou**	**92.42**	**29**	P	P	20 35 34.6	-4.5
FFC	**Flin Flon**	**92.78**	**13**	P	**P**	**20 35 41.4**	**+0.9**
FFC	**Flin Flon**	**92.78**	**13**	P	**P**	**20 35 41.4**	**+0.9**
SCHQ	**Schefferville**	**94.45**	**353**	LR	LR	21 22 27.1	
	comp=Z,182nm,18.8s,baz=7.0,slow=38						
TXAR	**Lajitas Array**	**115.89**	**24**	PP	PP	20 42 16.9	+3.0
	comp=Z,0.3nm,0.8s,baz=4.3,slow=3.6,SNR=3.0						
QSPA	**South Pole Qui**	**120.25**	**180**	PKP	**PKPdf**	**20 41 15.9**	**-2.7**
	comp=Z,2.5nm,0.7s,baz=289,slow=1.6,SNR=12						
ROSC	**El Rosal**	**144.65**	**353**	PKP	PKPbc	20 42 05.3	+0.4
	comp=Z,18nm,0.7s,baz=274,slow=1.3,SNR=7.9						
PTGA	**Pitinga**	**145.57**	**326**	*e*PKPdf	**PKPdf**	**20 42 05.2**	**-2.1**
OTAV	**Otavalo**	**149.47**	**360**	*e*PKPbc	**PKPbc**	**20 42 17.9**	**-0.9**
LPAZ	**La Paz**	**162.97**	**324**	PKP	**PKPdf**	**20 42 29.4**	**-2.6**
	comp=Z,0.9nm,0.7s,baz=339,slow=8.6,SNR=3.0						
LPAZ	**La Paz**	**162.97**	**324**	PKIKP	**PKPdf**	**20 42 29.4**	**-2.6**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*IDC **27** 20:26:12.9±1.8, 52.71N×167.15W, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/49, mbtmp3.8/11, ML3.4/1, Error ellipse: s-maj=44.3km s-min=23.6km az=175.0*
*NEIC **27** 20:26:15.5, 52.42N×167.07W, h37km, ML3.2(AEIC), After AEIC.*

ISC 27 20:26:15.3±1.1, 52.46N±0.10×167.07W±0.07, h25km, n19, σ1s00/22, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**1.08**	**332**	P	**Pn**	**20 26 35.0**	**+0.2**
OKFG				S	**Sb**	**20 26 50.2**	**+1.3**
NIKH	**Nikolski High**	**1.20**	**296**	P	**Pn**	**20 26 36.5**	**0.0**
NIKH				S	**Sb**	**20 26 53.1**	**+0.7**
MREP	**Makushin Rep't**	**1.36**	**8**	P	**Pb**	**20 26 39.7**	**-0.5**
UNV	**Unalaska Valle**	**1.43**	**14**	P	**Pb**	**20 26 40.2**	**-1.0**
UNV				S	**Sb**	**20 27 00.5**	**+1.6**
MSW	**Makushin Switc**	**1.47**	**7**	P	**Pb**	**20 26 41.5**	**-0.3**
MCIR	**Makushin Cirqu**	**1.50**	**4**	P	**Pb**	**20 26 42.1**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.77**	**19**	P	**Pn**	**20 26 44.9**	**+0.5**
ILAR	**Eielson Array**	**16.10**	**32**	Pn	**Pn**	**20 29 58.1**	**-1.5**
	0.1nm,0.3s,baz=244,slow=11,SNR=4.8						
INK	**Inuvik**	**22.50**	**32**	P	**P**	**20 31 11.0**	**-1.6**
	1.6nm,0.6s,baz=248,slow=3.0,SNR=5.4						
TXAR	**Lajitas Array**	**51.34**	**91**	P	**P**	**20 35 19.7**	**+2.1**
	0.4nm,0.5s,baz=301,slow=5.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**58.30**	**319**	P	**P**	**20 36 08.2**	**+0.7**
	0.5nm,0.6s,baz=35,slow=7.8,SNR=2.6						
KURK	**Kurchatov**	**63.23**	**320**	P	**P**	**20 36 41.8**	**+0.7**
KURBB	**Kurchatov Arra**	**63.34**	**320**	P	**P**	**20 36 41.8**	**0.0**
	0.9nm,0.7s,baz=48,slow=7.9,SNR=9.6						
BVAR	**Borovoye Array**	**64.44**	**326**	P	**P**	**20 36 49.6**	**+0.6**
	0.8nm,0.5s,baz=67,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**64.75**	**315**	P	**P**	**20 36 51.3**	**+0.1**
	0.6nm,0.7s,baz=0.0,slow=4.9,SNR=8.2						
FINES	**FINESS Array B**	**65.96**	**353**	P	**P**	**20 36 58.7**	**0.0**
	1.8nm,0.7s,baz=18,slow=6.3,SNR=9.3						
NOA	**NORSAR Array B**	**66.84**	**1**	P	**P**	**20 37 04.0**	**-0.4**
	0.8nm,0.8s,baz=359,slow=6.2,SNR=3.6						
AAK	**Ala-Archa**	**71.41**	**317**	P	**P**	**20 37 33.8**	**+0.6**
	0.9nm,0.5s,baz=122,slow=3.6,SNR=7.7						
AKASG	**Malin Array Be**	**76.29**	**349**	P	**P**	**20 38 00.1**	**-1.3**
	0.3nm,0.3s,baz=12,slow=5.3,SNR=3.0						

*ISCJB **27** 20:39:09.5±1.5, 14.26N±0.09×92.48W±0.09, h46km, Error ellipse: s-maj=17.3km s-min=5.3km az=42.2*
*CASC **27** 20:39:12.5±1.5, 14.54N×92.23W, h65km±23km, MD3.7*
*MEX **27** 20:39:13.2±0.3, 14.32N×92.63W, h15km±105km, MD3.7*

ISC 27 20:39:09.1±2.6, 14.2N±0.1×92.5W±0.1, h46km, n10, σ1s19/15, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.88**	**81**	*e*P	**Pn**	**20 39 26.2**	**+1.2**
PCIG		**1.65**	**336**	*e*P	**Pn**	**20 39 36.1**	**+0.4**
PCIG				*e*S	**Sn**	**20 39 53.5**	**-2.1**
FUG	**Fuego 3**	**1.66**	**81**	*e*P	**Pn**	**20 39 35.6**	**-0.2**
PCG	**Pacaya**	**1.87**	**83**	*e*P	**Pn**	**20 39 40.3**	**+1.4**
PCG				*e*S	**Sn**	**20 40 00.0**	**-1.5**
IXG	**Ixpaco**	**2.01**	**90**	*e*P	**Pn**	**20 39 40.4**	**-0.3**
IXG				*e*S	**Sn**	**20 40 03.9**	**-0.9**
CCIG	**Comitan**	**2.12**	**10**	*e*P	**Pn**	**20 39 43.4**	**+1.2**
CCIG				*e*S	**Sn**	**20 40 07.3**	**-0.1**
TGIG		**2.64**	**348**	*i* P	**Pn**	**20 39 50.5**	**+1.2**
TGIG				*e*S	**Sn**	**20 40 19.3**	**-0.8**
RBDL	**Robledal**	**2.76**	**91**	*e*P	**Pn**	**20 39 51.7**	**+0.8**
SBLS	**San Blas**	**2.84**	**97**	*e*P	**Pn**	**20 39 52.9**	**+0.7**
LFRS	**El Faro**	**3.41**	**99**	*e*P	**Pn**	**20 40 00.9**	**+1.0**

*NEIC **27** 20:45:46.3, 50.72N×178.80E, h14km, ML3.6(AEIC), After AEIC.*
*ISCJB **27** 20:45:48.5±0.8, 50.8N±0.1×178.89E±0.06, h41km, mb3.9/12, Error ellipse: s-maj=18.7km s-min=5.0km az=179.3*
*IDC **27** 20:45:53.2±4.9, 51.51N×179.04E, h53km±45km, mb3.6/12, mb1 3.7/13, mb1mx3.5/50, mbtmp3.8/13, Error ellipse: s-maj=42.3km s-min=15.2km az=174.0*

ISC 27 20:45:50.6±1.0, 51.0N±0.2×178.91E±0.06, h41km, n33, σ1s65/27, mb4.0/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAEA	**Gareloi East**	**1.68**	**60**	P	**Pn**	**20 46 17.9**	**+0.4**
TASE	**Tanaga Southea**	**2.10**	**64**	P	**Pn**	**20 46 24.2**	**+0.9**
TAFL	**Tanaga Flats**	**2.15**	**67**	P	**Pn**	**20 46 24.6**	**+0.7**
KIKV	**Kanaga Island**	**2.62**	**68**	P	**Pn**	**20 46 30.1**	**-0.2**
KIRH	**Kanaga Island**	**2.67**	**68**	P	**Pn**	**20 46 31.8**	**+0.7**
ADK	**Adak**	**2.91**	**70**	P	**Pn**	**20 46 34.7**	**+0.4**
ADK				S	**Sn**	**20 47 10.7**	**+2.8**
ETKA	**Kagalaska Isla**	**3.06**	**71**	P	**Pn**	**20 46 37.0**	**+0.5**
GSCK	**Great Sitkin C**	**3.25**	**69**	P	**Pn**	**20 46 39.6**	**+0.5**
GSMY	**Great Sitkin M**	**3.32**	**69**	P	**Pn**	**20 46 40.5**	**+0.4**
SMY	**Shemya**	**3.47**	**302**	P	**Pn**	**20 46 42.6**	**+0.6**
SMY				S	**Sn**	**20 47 25.4**	**+3.6**
KOFP	**Korovin Flat P**	**4.55**	**71**	P	**Pn**	**20 46 58.2**	**+1.3**
NIKH	**Nikolski High**	**7.82**	**70**	P	**Pn**	**20 47 43.1**	**+1.4**
SPIA	**Saint Paul Isl**	**8.90**	**41**	P	**Pn**	**20 47 58.9**	**+2.4**
MREP	**Makushin Rep't**	**9.22**	**66**	P	**Pn**	**20 48 02.6**	**+1.6**
PETK	**Petropavlovsk-**	**13.23**	**288**	P	Pn	20 48 58.7	+3.0
	baz=111,slow=16,SNR=2.1						
ILAR	**Eielson Array**	**22.47**	**39**	P	**P**	**20 50 42.0**	**-3.9**
	0.6nm,0.5s,baz=240,slow=9.1,SNR=8.1						
ASAJ	**Asahikawa**	**25.26**	**269**	P	**P**	**20 51 15.1**	**+2.4**
	9.7nm,1.0s,baz=91,slow=11,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**32.58**	**201**	T	T	21 27 37.9	
	baz=20,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**32.59**	**201**	T	T	21 27 39.7	
	baz=20,slow=75,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**32.60**	**201**	T	T	21 27 40.0	
	baz=20,slow=75,SNR=2.2						
H11S1	**WAKE ISLAND Hy**	**33.81**	**201**	T	T	21 29 06.5	
	baz=308,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**33.83**	**201**	T	T	21 29 11.8	
	baz=308						
H11S2	**WAKE ISLAND Hy**	**33.83**	**201**	T	T	21 29 08.5	
	baz=308						
YKA	**Yellowknife Ar**	**36.55**	**46**	P	P	20 52 47.8	-4.1
	0.5nm,0.8s,baz=281,slow=8.2,SNR=5.5						
KSRS	**Korea Array**	**38.20**	**270**	P	**P**	**20 53 07.0**	**+0.8**
	1.8nm,0.8s,baz=40,slow=9.6,SNR=4.2						
SONM	**Songino Array**	**45.54**	**296**	P	**P**	**20 54 05.7**	**-0.4**
	0.5nm,0.5s,baz=61,slow=6.1,SNR=9.8						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**20 54 24.8**	**+0.8**
	1.8nm,0.8s,baz=298,slow=4.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**58.36**	**313**	P	**P**	**20 55 40.7**	**-0.6**
	0.9nm,0.5s,baz=42,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**59.15**	**307**	P	**P**	**20 55 45.8**	**-1.1**
	0.2nm,0.5s,baz=29,slow=5.2,SNR=7.0						
TXAR	**Lajitas Array**	**60.14**	**79**	P	**P**	**20 55 54.0**	**0.0**
	0.2nm,0.5s,baz=314,slow=6.0,SNR=3.8						
BVAR	**Borovoye Array**	**60.26**	**319**	P	**P**	**20 55 54.1**	**-0.3**
	1.5nm,0.6s,baz=58,slow=5.7,SNR=8.6						
FINES	**FINESS Array B**	**65.85**	**346**	P	**P**	**20 56 28.9**	**-2.4**
	2.5nm,1.1s,baz=32,slow=11,SNR=3.6						
AKTO	**Aktyubinsk**	**67.17**	**323**	P	**P**	**20 56 39.3**	**-0.6**
	1.6nm,0.6s,baz=40,slow=4.7,SNR=7.8						

*ISCJB **27** 20:46:02.6±0.5, 32.20N±0.02×115.12W±0.02, h8km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=38.4*
*ECX **27** 20:46:05.4±0.4, 32.19N×115.24W, h7km, MD3.5, ML3.7*
*NEIC **27** 20:46:05.0, 32.19N×115.24W, h7km, MD3.5(MEX), ML3.5(PAS), ML3.7(ECX), After ECX.*
*MEX **27** 20:46:06.1±0.5, 32.23N×115.14W, h10km, MD3.5*

ISC 27 20:46:03.8±0.9, 32.17N±0.02×115.22W±0.02, h11km±8km, n30, σ1s29/54, 8C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.24**	**5**	*i* P	**Pb**	**20 46 09.6**	**-0.6**
MBIG				*e*S	**Sg**	**20 46 11.8**	**-0.3**
CPBX	**Cerro Prieto**	**0.26**	**344**	*e*P	**Pg**	**20 46 09.6**	**+0.5**
CPBX				*e*P	**Pg**	**20 46 09.7**	**+0.5**
CPBX				*e*S	**Sg**	**20 46 13.2**	**+0.5**
CPBX				AML	AML	20 46 15.8	
	comp=N,34μm,0.2s						
CPBX				*e*		20 46 15.8	
CPBX	**Cerro Prieto**	**0.26**	**344**	*i* P	**Pg**	**20 46 09.6**	**+0.5**
CPBX				*e*S	**Sg**	**20 46 12.6**	**-0.1**
RDX	**Rancho Dawling**	**0.66**	**249**	*e*P	**Pg**	**20 46 17.1**	**+0.4**
RDX				*e*S	**Sg**	**20 46 25.9**	**+0.6**
ECBX	**El Chinero**	**0.71**	**168**	*e*P	**Pg**	**20 46 17.6**	**0.0**
ECBX				*e*S	**Sb**	**20 46 27.8**	**-0.2**
RMX	**La Rumorosa**	**0.84**	**301**	*e*P	**Pg**	**20 46 19.6**	**-0.5**
RMX				*e*S	**Sg**	**20 46 31.0**	**-0.2**
RMX				AML	AML	20 46 32.0	
	comp=N,3μm,0.1s						
RMX				*e*		20 46 32.0	
RMX				*e*		20 46 32.2	
	comp=E,2μm,0.1s						
GLA	**Glamis**	**0.94**	**21**	*e*Pg	**Pg**	**20 46 20.3**	**-1.6**
GLA				*e*Sg	**Sg**	**20 46 31.6**	**-2.7**
ZAX	**El Zacaton**	**1.11**	**234**	*e*P	**Pb**	**20 46 24.8**	**-0.3**
SPIG	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pb**	**20 46 25.3**	**-0.5**
SPIG				*e*S	**Sb**	**20 46 41.0**	**+0.3**
SPIG	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pb**	**20 46 25.4**	**-0.5**
SPIG	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pb**	**20 46 25.3**	**-0.5**
SPIG				*e*S	**Sb**	**20 46 41.0**	**+0.3**
SPX	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**20 46 25.4**	**-0.4**
SPX	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**20 46 25.2**	**-0.6**
SPX				*e*S	**Sb**	**20 46 40.8**	**0.0**
CBX	**Cerro Bola**	**1.23**	**277**	*i* P	**Pn**	**20 46 26.7**	**-0.4**
CBX				*i* S	**Sb**	**20 46 42.1**	**-1.0**
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**20 46 26.9**	**-0.3**
CBX				*e*S	**Sb**	**20 46 42.8**	**-0.3**
CBX				AML	AML	20 46 44.1	
	comp=E,3μm,0.5s						
CBX				*e*		20 46 44.1	
CBX	**Cerro Bola**	**1.23**	**277**	*i* P	**Pn**	**20 46 26.7**	**-0.4**
CBX				*i* S	**Sb**	**20 46 42.1**	**-1.0**
ECNX	**Esteban Cantu**	**1.28**	**247**	*e*P	**Pn**	**20 46 27.6**	**-0.1**
PBX	**Punta Banda**	**1.35**	**252**	*e*P	**Pn**	**20 46 28.4**	**-0.3**
PFO	**Pinyon Flats O**	**1.77**	**324**	*e*Pn	**Pn**	**20 46 32.1**	**-2.4**
214A	**Organ Pipe Nat**	**2.06**	**95**	*e*Pn	**Pn**	**20 46 36.3**	**-2.2**
LDFC	**Landfair**	**2.90**	**2**	Pn	**Pn**	**20 46 50.0**	**-0.1**
MWC	**Mount Wilson**	**3.14**	**311**	*e*Pn	**Pn**	**20 46 54.8**	**+1.4**
MWC				*e*Sn	**Sb**	**20 47 34.8**	**-3.3**
TUC	**Tucson**	**3.76**	**87**	*e*Pn	**Pn**	**20 47 01.1**	**-0.9**
TUC				*e*Pg	**Pg**	**20 47 16.1**	**+0.2**
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn	**Pn**	**20 47 10.3**	**+0.5**
SHPR				*e*Sg	**Sg**	**20 48 20.5**	**-2.2**
ISA	**Isabella, Lake**	**4.41**	**323**	Pn	**Pn**	**20 47 13.6**	**+2.8**
ISA				*e*Sn	**Sb**	**20 48 18.3**	**+3.7**
DAC	**Darwin (Calif)**	**4.54**	**335**	Pn	**Pn**	**20 47 12.6**	**-0.1**
DAC				*e*Pg	**Pg**	**20 47 32.0**	**+1.1**
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn	**Pn**	**20 47 14.4**	**+0.6**
WUAZ				*e*Pg	**Pg**	**20 47 33.8**	**+1.4**
WUAZ				*e*Sn	**Sn**	**20 48 08.7**	**+1.4**
WUAZ				*e*Sg	**Sg**	**20 48 32.8**	**+0.4**
W18A	**Petrified Fore**	**5.44**	**56**	*e*Pn	**Pn**	**20 47 25.5**	**

TSM Tawau 8.99 274 ⇑P Pn 20 50 56.6 +1.8
TTSI Tana Toraja 9.72 227 P Pn 20 51 01.3 -3.5
TTSI S Sn **20 52 49.6 -3.1**
SDKM Sandakan 9.83 282 ⇓P Pn **20 51 08.2 +1.9**
SPSI Sidrap Palu 10.41 223 P Pn 20 51 26.8 +13
SPSI S Sn **20 53 09.8 +0.4**
KDM Kudat 10.49 288 ⇑P Pn **20 51 16.9 +1.7**
BNSI Bone 10.51 220 P Pn **20 51 17.5 +2.0**
26nm,1.0s
KKM Kota Kinabalu 10.87 283 P Pn 20 51 25.9 +5.4
baz=11,SNR=5.2
KKM Kota Kinabalu 10.87 283 *e*Pn Pn **20 51 23.2 +2.7**
23nm,0.4s
MTKI Muara Teweh, K 12.82 249 P Pn **20 51 49.5 +2.3**
48nm,0.7s,2µm
MMRI Maumere 13.10 201 P Pn **20 51 50.6 -0.3**
59nm,0.8s
MMRI Maumere 13.10 201 Pn Pn 20 51 45.7 -5.2
41nm,0.8s
SMPI Sarmi 13.12 115 P Pn **20 51 52.6 +1.4**
31nm,1.0s
EDFI Ende, Flores 13.40 203 P Pn **20 51 54.9 -0.3**
59nm,0.8s
SOEI Soe 13.62 191 P Pn **20 52 00.3 +2.2**
66nm,0.9s
SOEI Soe 13.62 191 P P **20 52 05.4 -0.4**
baz=14,SNR=8.0
SOEI Soe 13.62 191 Pn Pn **20 51 60.0 +1.8**
45nm,0.8s
BBKI Banjar Baru 13.97 240 P P 20 52 19.3 +10
BATI Baumata 14.18 193 P Pn **20 52 07.3 +1.6**
28nm,0.8s
BATI Baumata 14.18 193 Pn Pn **20 52 07.2 +1.6**
4.2nm,0.3s,baz=301,slow=2.6,SNR=10
GENI Genyem 14.69 115 P P **20 52 16.1 -1.5**
275nm,1.5s,3µm
JAY Jayapura 15.15 114 P P **20 52 23.9 +1.2**
58nm,0.9s
JAY Jayapura 15.15 114 Pn P **20 52 23.9 +1.2**
2.7nm,0.3s,baz=284,slow=5.3,SNR=24
JAY LR LR 20 57 13.7
comp=Z,386nm,21.7s,baz=309,slow=33
JAY Jayapura 15.15 114 P P **20 52 24.0 +1.2**
STKI Sintang 15.80 257 P Pn **20 52 28.2 +1.4**
24nm,1.5s,4µm
KSM Kuching 16.69 263 P P **20 52 41.1 +1.3**
baz=17,SNR=11
KSM Kuching 16.69 263 ⇓P P **20 52 40.7 +0.9**
KSM Kuching 16.69 263 *e*Pn P **20 52 39.7 -0.1**
23nm,0.6s
KDU Kakadu 17.21 161 P Pn **20 52 42.7 -1.8**
baz=17,SNR=14
BLJI Banyuglugur 17.46 229 P P **20 52 51.4 +3.1**
52nm,0.6s
GMJI Gumukmas 17.91 228 P P 20 53 03.7 +10
PWJI Pagerwojo 19.01 232 P Pn **20 53 09.2 +2.7**
24nm,1.5s
KNRA Kununurra 19.35 174 P P **20 53 07.9 -1.1**
baz=19,SNR=49
TWG Pinlang 19.82 344 *e*Pn P **20 53 10.2 -4.0**
171nm,0.6s
DLV T Lat 19.95 295 *e*P P **20 53 14.7 -1.2**
122nm,1.3s
YULB Yu-li 20.30 345 *e*P P **20 53 16.7 -2.7**
24nm,0.4s
TPUB Ta-pu 20.39 343 *e*P P **20 53 18.9 -1.6**
96nm,0.9s
SSLB Suanglung 20.77 345 *e*P P **20 53 21.9 -2.6**
46nm,0.6s
SSLB *e*S Sn 20 57 21.8 +0.9
NACB Ninganchiao 20.98 346 *e*P P **20 53 22.5 -4.2**
YHNB Yeheng 21.51 346 *e*P P **20 53 30.0 -2.4**
39nm,0.6s
PPBI Pangkal Pinang 21.52 255 P P 20 53 38.9 +6.2
15nm,1.0s,641nm
FITZ Fitzroy Crossi 21.70 183 P P **20 53 32.7 -1.8**
baz=22,SNR=42
FITZ Fitzroy Crossi 21.70 183 *e*P P **20 53 32.1 -2.3**
39nm,1.0s
FITZ *e*S S 20 57 22.1 -10
LEM Lembang 21.88 241 P P **20 53 35.6 -1.0**
9.7nm,0.4s,baz=307,slow=20,SNR=2.0
LEM LR LR 21 04 12.1
comp=Z,296nm,19.1s,baz=66,slow=43
CBJI Citeko 22.37 243 P P 20 53 47.0 +5.2
47nm,0.8s
QIZ Qiongzhong 22.56 314 *e*P P **20 53 41.8 -1.9**
49nm,1.3s
JOW Kunigami 23.04 3 P P **20 53 49.6 +1.0**
3.0nm,0.6s,baz=209,slow=9.1,SNR=7.9
MYKOM Kota Tinggi 23.07 266 ⇑P P **20 53 49.6 +0.5**
BTDF Bukit Timah Da 23.19 265 P P **20 53 51.8 +1.5**
baz=23,SNR=3.5
CGJI Cibinong 23.49 244 P P **20 53 53.1 -0.1**
38nm,0.8s
KTGM Kuala Trenggan 23.71 275 ⇓P P **20 53 55.3 0.0**
JMBI JAMBI 23.81 258 P P 20 54 01.9 +5.7
107nm,1.1s
COEN Coen 23.87 138 P P **20 53 55.6 -1.0**
baz=24,SNR=5.1
COEN Coen 23.87 138 *e*P P **20 53 54.6 -2.0**
17nm,0.9s
MDSI Maura Dua 24.09 250 P P **20 53 59.3 +0.6**
13nm,1.0s
WRAB Tennant Creek 24.61 163 *e*P P **20 54 02.2 -1.2**
WRAB pmax pmax
comp=Z,157nm,0.8s
WRAB Tennant Creek 24.61 163 *e*P P **20 54 02.2 -1.2**
comp=Z,157nm,0.8s
WRA Warramunga Arr 24.62 163 P P **20 54 02.4 -1.1**
comp=Z,105nm,0.8s,baz=344,slow=10,SNR=123
WRA S S **20 58 24.1 +2.5**
comp=Z,2.2nm,0.8s,baz=332,slow=19,SNR=3.5
WRA ScP ScP **21 01 16.7 +1.2**
comp=Z,2.0nm,0.9s,baz=333,slow=3.1,SNR=6.0
WRA Warramunga Arr 24.62 163 *i* P P **20 53 59.5 -4.0**
WRA pmax pmax
comp=Z,124nm,0.8s
KULM Kulim 26.18 274 *e*P P **20 54 13.5 -4.2**
comp=Z,28nm,1.2s
KHON Khomkaen 26.75 300 P P **20 54 23.3 +0.4**
comp=Z,20nm,0.8s,comp=Z,549nm
QIS Mount Isa 27.16 153 P P **20 54 26.4 0.0**
baz=27,SNR=13
AS31 Alice Springs 28.05 166 *e*P P **20 54 33.4 -1.1**
ASAR Alice Springs 28.06 166 P P **20 54 33.6 -0.9**
comp=Z,3.0nm,0.5s,baz=351,slow=7.8,SNR=68
ASAR PcP PcP **20 57 48.1 -0.3**
comp=Z,2.3nm,0.7s,baz=319,slow=1.1,SNR=4.5
ASAR S S 20 59 29.1 +13
comp=Z,1.0nm,0.9s,baz=351,slow=17,SNR=3.4
PBKT Sadao Pong 28.47 299 P P **20 54 38.6 +0.4**
comp=Z,14nm,1.1s
WRKA Warakurna 28.60 177 P P **20 54 38.9 -0.4**
baz=29,SNR=90
UTTA Uttaradit 29.32 300 P P **20 54 46.2 +0.5**
comp=Z,3.8nm,1.0s
JNU Nakatsue 29.51 7 P P **20 54 48.1 +0.9**
comp=Z,18nm,0.8s,baz=90,slow=2.9,SNR=6.9
JNU LR LR 21 08 05.7
comp=Z,47nm,20.6s,baz=186,slow=39
CTAO Charters Tower 30.36 142 *e*P P **20 54 54.0 -0.9**
CTAO pmax pmax
comp=Z,15nm,0.9s
CTAO Charters Tower 30.36 142 *e*P P **20 54 54.0 -0.9**
comp=Z,15nm,0.9s
LAMP Lampang 30.44 301 P P **20 54 56.6 +0.9**
comp=Z,4.3nm,1.1s
CRAI Chiangrai 30.60 305 P P 20 54 52.5 -4.6
CM31 Chiang Mai Arr 31.00 300 *e*P P **20 54 59.7 -1.0**
comp=Z,2.5nm,0.4s
CMAR Chiang Mai Arr 31.00 300 P P **20 55 00.3 -0.4**
comp=Z,4.4nm,0.8s,baz=116,slow=7.3,SNR=34
CMAR ScP ScP **21 01 37.5 +2.4**
comp=Z,0.7nm,0.8s,baz=140,slow=2.7,SNR=6.1
CMAR LR LR 21 09 18.6
comp=Z,137nm,18.2s,baz=148,slow=40
CMAR Chiang Mai Arr 31.00 300 *ce*P P **20 55 00.6 -0.1**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
ENH Enshi 31.12 330 *e*P P **20 54 59.5 -2.1**
comp=Z,5.8nm,0.7s
CMMT Chiang Mai 31.15 301 P P **20 55 01.7 -0.3**
comp=Z,15nm,0.9s
CHTO Chiang Mai 31.15 301 *e*P P **20 55 00.8 -1.2**
CHTO pmax pmax
comp=Z,10.0nm,0.9s

CHTO Chiang Mai 31.15 301 *e*P P **20 55 00.8 -1.2**
comp=Z,9.5nm,0.9s
CHTO Chiang Mai 31.15 301 P P **20 55 01.8 -0.2**
comp=Z,53nm,0.9s
MEEK Meekatharra 31.20 194 P P **20 55 01.9 -0.4**
baz=31,SNR=12
CMAI Chiengmai2 31.56 303 P P **20 55 05.2 -0.5**
comp=Z,108nm,0.7s
KSAR Wonju Array Be 33.59 1 P P **20 55 24.8 +1.7**
KSAR Wonju Array Be 33.59 1 P P **20 55 24.8 +1.7**
KSRS Korea Array 33.60 2 P P **20 55 24.8 +1.6**
comp=Z,10.0nm,0.8s,baz=180,slow=10.0,SNR=25
KSRS LR LR 21 10 53.8
comp=Z,102nm,19.5s,baz=191,slow=40
MORW Morawa 34.20 197 P P **20 55 28.3 -0.2**
baz=34,SNR=6.7
FORT Forrest 34.31 178 P P **20 55 29.1 -0.3**
baz=34,SNR=27
FORT Forrest 34.31 178 *e*P P **20 55 28.7 -0.7**
comp=Z,51nm,0.7s
MJAR Matsushiro Arr 34.31 16 P P **20 55 29.5 +0.1**
comp=Z,1.7nm,0.6s,baz=182,slow=10,SNR=6.3
QLP Quilpie 34.48 152 P P **20 55 30.6 -0.3**
baz=34,SNR=6.1
KMBL Kambalda 35.20 187 P P **20 55 36.8 -0.2**
baz=35,SNR=12
BLDU Balidu 35.48 195 P P **20 55 39.0 -0.5**
baz=36,SNR=9.1
EIDS Eidsvold 37.25 142 P P **20 55 54.6 -0.1**
baz=37,SNR=4.8
BBOO Buckleboo 37.35 167 P P **20 55 55.1 -0.3**
baz=37,SNR=13
NWAO Narrogin (SRO) 37.56 193 P P **20 55 57.3 +0.2**
baz=38,SNR=7.5
STKA Stephens Creek 38.06 159 P P **20 56 01.4 -0.1**
comp=Z,25nm,0.7s,baz=336,slow=7.6,SNR=62
STKA Stephens Creek 38.06 159 *e*P P **20 56 00.9 -0.5**
STKA Stephens Creek 38.06 159 P P **20 56 01.4 -0.1**
baz=38,SNR=65
STKA Stephens Creek 38.06 159 *e*P P **20 56 00.9 -0.5**
RKGY Rocky Gully 39.23 193 P P **20 56 12.5 +1.3**
baz=39,SNR=9.9
CMSA Cobar Meteorol 39.37 154 P P **20 56 12.8 +0.4**
baz=39,SNR=8.9
VLA Vladivostok 39.50 6⇑ *e*P P **20 56 11.7 -1.6**
VLA 20 57 43.6
VLA 20 58 17.3
VLA *e*S S **21 02 13.3 +1.1**
VLA pmax pmax
comp=Z,50nm,1.3s
SHL Shillong 40.00 306 *e*P P **20 56 18.0 0.0**
USRK Ussuriysk Ar. 40.58 6 P P **20 56 23.9 +1.6**
comp=Z,5.9nm,0.6s,baz=185,slow=6.7,SNR=24
MDJ Mudanjiang 40.81 3 *e*P P **20 56 25.0 +0.8**
comp=Z,18nm,0.8s
ARMA Armidale 41.37 147 P P **20 56 30.2 +1.0**
baz=41,SNR=20
ARMA Armidale 41.37 147 *e*P P **20 56 29.8 +0.6**
comp=Z,30nm,0.8s
H11S3 WAKE ISLAND Hy 41.62 66 T T 21 41 00.2
baz=253,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 41.63 66 T T 21 41 02.9
baz=253,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 41.63 66 T T 21 41 02.6
baz=253,slow=75,SNR=14
LSA Lhasa 42.56 311 *e*P P **20 56 38.9 -0.4**
LSA pmax pmax
comp=Z,17nm,0.6s
LSA Lhasa 42.56 311 *e*P P **20 56 38.9 -0.4**
comp=Z,17nm,0.6s
ASAJ Asahikawa 42.58 17 P P **20 56 39.8 +1.2**
comp=Z,7.9nm,0.7s,baz=227,slow=12,SNR=8.1
ASAJ LR LR 21 14 29.9
comp=Z,98nm,20.3s,baz=216,slow=36
TAPN Taplejung 44.14 306 *e*P P **20 56 50.8 -1.1**
comp=Z,17nm,0.5s
ODAN Odare 44.20 305 *e*P P **20 56 51.4 -0.9**
comp=Z,19nm,0.5s
RAMN Ramite 44.88 305 *e*P P **20 56 57.1 -0.6**
comp=Z,23nm,0.5s
JIRN Jiri 45.50 306 *e*P P **20 57 02.0 -0.8**
comp=Z,34nm,0.8s
KLR Kul'dur 45.55 4 *e*P P **20 57 00.0 -2.4**
HIA Hailar 45.80 353 *e*P P **20 57 06.0 +1.6**
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 45.80 353 *e*P P **20 57 06.0 +1.6**
comp=Z,20nm,0.8s
GUN Gumba 45.85 306 *e*P P **20 57 04.8 -0.8**
comp=Z,42nm,0.7s
PKI Pulchoki 46.10 305 *e*P P **20 57 06.0 -1.5**
comp=Z,9.1nm,0.5s
PKIN Phulchoki 46.11 305 *e*P P **20 57 06.9 -0.6**
comp=Z,3.2nm,0.3s
KKN Kakani 46.29 306 *e*P P **20 57 07.3 -1.6**
comp=Z,11nm,0.6s
DMN Daman 46.36 305 *e*P P **20 57 07.6 -1.9**
comp=Z,29nm,1.1s
GKN Gorkha 46.90 306 *e*P P **20 57 11.8 -1.7**
comp=Z,13nm,0.6s
ULN Ulaanbaatar 47.19 342 *c i*P P **20 57 15.9 +0.4**
ULN pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 47.19 342 *e*P P **20 57 15.5 +0.1**
comp=Z,7.9nm,0.8s
SONM Songino Array 47.37 341 P P **20 57 17.1 +0.2**
comp=Z,4.1nm,0.6s,baz=160,slow=8.0,SNR=34
SONM PcP PcP **20 58 46.3 -0.7**
comp=Z,2.1nm,0.9s,baz=165,slow=4.4,SNR=3.9
SONM LR LR 21 17 49.8
comp=Z,156nm,21.7s,baz=152,slow=37
KOLN Koldanda 47.65 305 *e*P P **20 57 18.8 -0.7**
comp=Z,43nm,0.3s
PYUN Piuthan 48.27 305 *e*P P **20 57 23.7 -0.6**
comp=Z,60nm,0.6s
TAU Tasmania Unive 49.95 160 P P 20 57 31.2 -5.3
TAU Tasmania Unive 49.95 160 P P 20 57 31.2 -5.3
ZAK Zakamensk 50.59 341 *e*P P **20 57 40.5 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
TLY Talaya 51.60 342 P P **20 57 50.0 +1.1**
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY Talaya 51.60 342 P P **20 57 50.0 +1.1**
comp=Z,6.3nm,0.7s
MOY Mondy 52.45 340 *e*P P **20 57 56.5 +1.1**
MSVF Nonsavu 54.78 115 *e*P P **20 58 14.7 +1.8**
MSVF pmax pmax
comp=Z,17nm,0.9s
MSVF Nonsavu 54.78 115 *e*P P **20 58 14.7 +1.8**
comp=Z,17nm,0.9s
BOD Bodaibo 54.91 352 *e*P P **20 58 14.1 +1.0**
BOD pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 55.40 22 P P **20 58 16.1 -0.7**
comp=Z,4.4nm,0.4s,baz=184,slow=6.6,SNR=7.6
DGAR Diego Garcia 55.41 258 *e*P P 20 58 11.6 -5.8
DGAR Diego Garcia 55.41 258 *e*P P 20 58 11.6 -5.8
MK31 Makanchi Array 57.66 325 *e*P P **20 58 32.0 -0.9**
MK31 Makanchi Array 57.66 325 *e*P P **20 58 32.0 -0.9**
MKAR Makanchi Array 57.66 325 P P **20 58 32.4 -0.6**
comp=Z,7.8nm,0.4s,baz=149,slow=5.4,SNR=109
MKAR LR LR 21 25 20.9
comp=Z,149nm,19.1s,baz=102,slow=38
YAK Yakutsk 58.23 2 *e*P P **20 58 37.6 +1.0**
YAK *e* 20 58 43.1
YAK *e* 20 58 56.6
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK Yakutsk 58.23 2 *e*P P **20 58 37.2 +0.7**
comp=E,39nm,0.8s
KZA Kyzart 59.73 317 P P **20 58 49.4 +1.5**
SNR=8.0
TKM2 Tokmak 2 59.86 318 P P **20 58 48.9 +0.4**
SNR=11
TKM2 Tokmak 2 59.86 318 *e*P P **20 58 46.8 -1.7**
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 59.86 318 *e*P P **20 58 46.8 -1.7**
comp=Z,11nm,0.9s
KBK Karagaybulak 60.17 318 P P **20 58 51.9 +1.2**
SNR=9.9
UCH Uchtor 60.29 317 P P **20 58 53.0 +1.2**
SNR=14
AAK Ala-Archa 60.47 318 *i* P P **20 58 51.2 -1.5**
AAK pmax pmax
comp=Z,14nm,1.2s
AAK Ala-Archa 60.47 318 *e*P P **20 58 52.0 -0.7**
comp=Z,4.2nm,0.8s
AAK *e*PP PP **21 01 09.1 +2.7**
ZAA0 Zalesovo Array 60.67 333 *e*P P **20 58 51.9 -1.7**
ZALV Zalesovo Beam 60.67 333 P P **20 58 52.5 -1.0**
comp=Z,3.9nm,0.6s,baz=131,slow=6.8,SNR=19
ZALV LR LR 21 27 46.1
comp=Z,94nm,18.1s,baz=72,slow=39
ZALV Zalesovo Beam 60.67 333 *i* P P **20 58 52.7 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
USP Ospenovka 60.73 318 P P **20 58 54.0 -0.3**
SNR=6.0
AML Almayashu 60.80 317 P P **20 58 55.4 +0.1**
SNR=16
EKS2 Erkin-Say 60.96 318 P P **20 58 56.2 +0.2**
SNR=7.3
EKS2 Erkin-Say 60.96 318 *e*P P **20 58 55.7 -0.2**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 60.96 318 *e*P P **20 58 55.7 -0.2**
comp=Z,9.2nm,0.8s
KBL Kabul 61.65 307 *e*P P **20 58 58.8 -2.0**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 61.65 307 *e*P P **20 58 58.8 -2.0**
comp=Z,5.1nm,0.6s
RPZ Rata Peaks 61.66 145 LR LR 21 26 44.8
comp=Z,131nm,19.5s,baz=274,slow=37
KURBB Kurchatov Arra 61.84 327 P P **20 59 00.9 -0.6**
comp=Z,17nm,0.6s,baz=130,slow=6.4,SNR=167
KURK Kurchatov 61.84 327 *e*P P **20 59 00.7 -0.8**
KURK Kurchatov 61.84 327 *e*P P **20 59 00.7 -0.8**
NVS Novosibirsk 61.96 333 ⇑ *i*P P **20 59 01.0 -1.2**
NVS pmax pmax
comp=Z,7.0nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,2.0nm,0.7s
SEY Seymchan 62.03 13 P P **20 59 03.2 +0.7**
comp=E,3.9nm,0.7s,baz=242,slow=4.8,SNR=15
KKAR Karatay Array 63.34 317 *e*P P **20 59 09.6 -2.2**
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 63.34 317 *e*P P **20 59 09.6 -2.2**
comp=Z,13nm,0.9s
BRVK Borovoye 67.49 327 *i* P P **20 59 37.6 -0.7**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 67.49 327 *e*P P **20 59 37.0 -1.3**
comp=Z,28nm,1.0s
TIXI Tiksi 67.87 1 *e*P P **20 59 40.5 +0.1**
TIXI *e* 21 02 08.0
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 67.87 1 *e*P P **20 59 40.5 +0.1**
comp=Z,4.8nm,0.6s
TIXI *e*PP PP **21 02 08.0 -2.5**
BILL Bilibino 69.54 15⇓ *e*P P **20 59 52.4 +1.5**
BILL *e* 21 02 26.1
BILL pmax pmax
comp=Z,2.0nm,1.1s
CASY Casey 70.81 187 *e*P P **20 59 59.0 +0.4**
comp=Z,9.2nm,0.8s
GEYT Alibeck 71.02 309 P P **21 00 00.7 +0.1**
comp=Z,1.9nm,0.6s,baz=134,slow=4.3,SNR=5.1
ABKAR Akbulak array 72.26 321 *e*P P **21 00 06.5 -1.2**
comp=Z,6.3nm,0.7s
AKTO Aktyubinsk 73.77 322 LR LR 21 35 03.5
comp=Z,144nm,21.5s,baz=103,slow=38
SVE Sverdlovsk 74.05 328 ⇓ *e*P P **21 00 18.1 -0.1**
SVE pmax pmax
comp=Z,20nm,1.1s
ARU Arti 75.03 328 *c i*P P **21 00 23.0 -0.8**
ARU 21 03 10.4
ARU S S **21 09 59.4 +1.2**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 75.03 328 *e*P P **21 00 22.8 -1.1**
comp=Z,8.8nm,0.6s
RAYN Ar Rayn 80.62 293 *e*P P **21 00 54.1 -1.6**
comp=Z,9.4nm,1.1s
KDAK Kodiak Island 81.84 32 *i* P P **21 01 03.5 +2.2**
IM04 Indian Mountai 82.30 24 *e*P P **21 01 05.7 +2.1**
ZEI Tsey 82.33 313 *e*P P **21 01 03.7 -0.9**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
NCK Nalchik 82.58 313 *e*P P **21 01 04.5 -1.1**
PPLA Purkeypile 82.59 27 *e*P P **21 01 06.6 +1.2**
comp=Z,23nm,1.3s
PRGR Permogore 82.59 332 *e*P P **21 01 04.3 -0.9**
PRGR *SP sP 21 01 18.3 -6.3
PRGR pmax pmax
comp=Z,18nm,0.6s
KBZ Khabaz 83.10 313 P P **21 01 08.7 +0.5**
comp=Z,0.8nm,0.5s,baz=233,slow=20
VNDA Vanda 83.38 173 P P **21 01 10.1 +1.1**
comp=Z,3.3nm,0.8s,baz=314,slow=6.3,SNR=13
VNDA Vanda 83.38 173 *e*P P **21 01 09.7 +0.7**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 83.38 173 *e*P P **21 01 09.7 +0.7**
comp=Z,4.7nm,1.1s
MAW Mawson 83.78 200 P P **21 01 09.3 -1.9**
comp=Z,6.5nm,0.7s,baz=53,slow=13,SNR=12
MAW Mawson 83.78 200 *e*P P **21 01 08.5 -2.7**
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 83.78 200 *e*P P **21 01 08.4 -2.7**
comp=Z,1.6nm,0.7s
COLD Coldfoot 83.86 23 *e*P P **21 01 14.4 +2.7**
comp=Z,9.5nm,1.1s
MCK McKinley 84.12 26 *e*P P **21 01 14.4 +1.3**
MCK pmax pmax
comp=Z,11nm,0.9s
MCK McKinley 84.12 26 *e*P P **21 01 14.4 +1.3**
comp=Z,11nm,0.9s
SBA Scott Base 84.29 172 *e*P P **21 01 14.9 +1.3**
SBA pmax pmax
comp=Z,3.0nm,0.8s
SBA Scott Base 84.29 172 *e*P P **21 01 14.9 +1.3**
comp=Z,3.0nm,0.8s
ILAR Eielson Array 85.07 25 P P **21 01 18.2 +0.4**
comp=Z,0.6nm,0.5s,baz=248,slow=5.2,SNR=10.0
KLMR Klimovskoe 85.50 331 *e*P P **21 01 19.6 -0.4**
KLMR pmax pmax
comp=Z,38nm,1.1s
DIV Divide 85.50 29 *e*P P **21 01 19.3 -0.8**
comp=Z,16nm,1.0s
VSR Storozhevoye 85.69 321 *e*P P **21 01 20.1 -1.1**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.2s
LPSR Galich'ya Gora 85.83 322 *e*P P **21 01 22.2 +0.4**
LPSR pmax pmax
comp=N,10.0nm,0.6s
LPSR pmax pmax
comp=E,10.0nm,0.6s
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ANN Anapa 87.02 315 *e*P P 21 01 24.5 -3.3
ANN *e*S S 21 11 48.1 -15
ANN pmax pmax
comp=Z,85nm,1.7s
OBN Obninsk 87.16 325 LR LR 21 42 55.2
comp=Z,78nm,18.9s,baz=86,slow=37
OBN Obninsk 87.16 325 *ce*P P **21 01 29.0 +0.7**
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,69nm,15.0s
OBN Obninsk 87.16 325 *e*P P **21 01 27.2 -1.1**
JOF Joensuu 89.26 333 *ep* P **21 01 37.2 -0.9**
comp=Z,6.1nm,0.6s
JOF Joensuu 89.26 333 *e*P P **21 01 37.2 -0.9**
JOF pmax pmax
comp=Z,6.0nm,0.6s
KMBO Kilima Mbogo 89.69 269 P P **21 01 42.2 +0.7**

comp=Z,3.8nm,1.0s,baz=55,slow=9.6,SNR=4.8
KMBO Kilima Mbogo 89.69 269 P P 21 01 38.4 -3.1
KMBO Kilima Mbogo 89.69 269 P P 21 01 38.4 -3.1
BR131 Keskin Array S 90.14 310 *eP* **P 21 01 41.3 -1.7**
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 90.14 310 P **P 21 01 42.1 -0.9**
comp=Z,3.9nm,1.0s,baz=121,slow=4.3,SNR=12
ARCES ARCESS Array B 90.52 340 P **P 21 01 43.9 -0.1**
comp=Z,2.1nm,0.4s,baz=78,slow=6.8,SNR=21
ARCES LR LR 21 46 02.3
comp=Z,71nm,18.5s,baz=46,slow=38
KAF Kangasniemi 91.68 332 *ep* **P 21 01 48.3 -1.1**
comp=Z,1.9nm,0.5s
KAF Kangasniemi 91.68 332 *eP* **P 21 01 48.3 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 91.92 332 P **P 21 01 50.0 -0.5**
comp=Z,1.0nm,0.4s,baz=74,slow=5.6,SNR=11
AKASG Malin Array Be 92.00 321 P **P 21 01 50.5 -0.7**
comp=Z,0.8nm,0.5s,baz=75,slow=3.7,SNR=8.1
QSPA South Pole Qui 93.61 180 P **P 21 01 59.1 +0.7**
comp=Z,2.7nm,1.0s,baz=284,slow=3.4,SNR=4.5
BUR08 Bucovina Ar. S 95.12 318 *eP* **P 21 02 05.2 -0.5**
KWP Kalwaria Pacla 96.31 321 *eP* **P 21 02 11.0 0.0**
KWP pmax pmax
comp=Z,15nm,1.3s
KWP Kalwaria Pacla 96.31 321 *eP* **P 21 02 11.0 0.0**
comp=Z,15nm,1.3s
KOLS Kolonicke sedl 96.75 320 *eP* **P 21 02 12.4 -0.6**
KOLS Kolonicke sedl 96.75 320 *eP* **P 21 02 12.4 -0.6**
UZH Uzhgorod 96.81 320 ⇓ *iP* **P 21 02 14.2 +1.0**
CRVS Cervenica-Dubn 97.28 320 *eP* Pdif 21 02 16.5 +1.0
CRVS Cervenica-Dubn 97.28 320 *eP* Pdif 21 02 16.5 +1.0
STHS Stebnicka Huta 97.29 321 *eP* Pdif 21 02 16.4 +0.9
STHS Stebnicka Huta 97.29 321 *eP* Pdif 21 02 16.3 +0.8
KECS Kecovo 98.01 320 *eP* **P 21 02 19.1 +0.4**
KECS Kecovo 98.01 320 *eP* **P 21 02 19.1 +0.4**
NB2 NORSAR Subarra 98.87 334 P **P 21 02 21.1 -1.2**
comp=Z,1.9nm,0.9s,baz=65,slow=4.6
NOA NORSAR Array B 98.87 334 P **P 21 02 21.6 -0.7**
comp=Z,1.6nm,0.9s,baz=68,slow=4.5,SNR=4.6
NOA LR LR 21 51 49.0
comp=Z,90nm,20.0s,baz=60,slow=38
VYHS Vyhne 99.07 320 *eP* **Pdif 21 02 24.2 +0.8**
VYHS Vyhne 99.07 320 PDIF **Pdif 21 02 24.2 +0.8**
YKA Yellowknife Ar 99.47 24 P **Pdif 21 02 24.6 -0.2**
comp=Z,0.3nm,0.6s,baz=294,slow=4.3,SNR=5.3
GERES GERESS Array B 102.19 322 P **Pdif 21 02 38.4 +1.0**
comp=Z,0.4nm,0.7s,baz=75,slow=5.7,SNR=4.3
TORD Torodi Ar. Bea 123.06 288 PKP **PKPdf 21 07 39.4 -0.3**
comp=Z,0.6nm,0.6s,baz=82,slow=1.6,SNR=11
TORD PKKPab **PKKPab 21 17 32.9 +1.6**
comp=Z,0.2nm,0.5s,baz=247,slow=5.3,SNR=4.0

*UPP **27** 21:22:44.9, 66˚.77N× 13˚.41E, h0km, ML2.1*
*IDC **27** 21:22:46.6± 1.5, 66˚.79N× 13˚.84E, h0km, mb1 3.0/4, mb1mx2.8/51, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=18.9km s-min=8.9km az=120.0*
*NAO **27** 21:22:46.6± 2.9, 66˚.77N× 13˚.98E, h1km± 18km, ML2.5*
*HEL **27** 21:22:46.4± 0.1, 66˚.78N× 13˚.69E, h5km± 1km, ML2.4, ML2.2(BER), ML2.1(UPP)*
*BER **27** 21:22:47.2, 66˚.77N× 13˚.76E, h5km, MD2.5, ML2.2, ML2.5(NAO)*
*CSEM **27** 21:22:47.0± 0.2, 66˚.69N× 13˚.79E, h10km, ML2.4, Error ellipse: s-maj=5.5km s-min=3.2km az=126.0*

ISC 27 21:22:46.5±1.0, **66.72N**±0.03× **13.79E**±0.03, **h9**km±8km, **n123**, σ1§**58**/195, **3C-3D, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**0.34**	**231**	⇑ *iP*	**Pg**	**21 22 52.9**	**-0.3**
KONS				*eS*	**Sg**	**21 22 57.7**	**-0.1**
KONS				IAML		21 22 58.3	
	comp=Z,452nm,0.2s						
KONS	**Konsvik**	**0.34**	**231**	⇑ *iP*	**Pg**	**21 22 52.9**	**-0.3**
KONS				*i S*	**Sg**	**21 22 57.7**	**-0.1**
KONS				IAML		21 22 58.3	
	comp=Z,452nm,0.2s						
KONS	**Konsvik**	**0.34**	**231**	⇑ *iP*	**Pg**	**21 22 52.9**	**-0.3**
	SNR=97						
KONS				*eS*	**Sg**	**21 22 57.7**	**-0.1**
	SNR=97						
FLOS	**Flostrand**	**0.42**	**204**	⇓ *iP*	**Pn**	**21 22 58.8**	**+0.2**
FLOS				*eS*	**Sb**	**21 23 04.9**	**+2.6**
FLOS				IAML		21 23 05.9	
	comp=Z,173nm,0.2s						
FLOS	**Flostrand**	**0.42**	**204**	⇓ *eP*	**Pn**	**21 22 58.8**	**+0.2**
FLOS				*eS*	**Sb**	**21 23 04.9**	**+2.6**
FLOS				IAML		21 23 05.9	
	comp=Z,173nm,0.2s						
FLOS	**Flostrand**	**0.42**	**204**	⇓ *iP*	**Pn**	**21 22 58.8**	**+0.2**
	SNR=96						
STOK	**Stokkvaagen**	**0.49**	**219**	*eP*	**Pg**	**21 22 55.7**	**-0.3**
STOK				*eS*	**Sg**	**21 23 02.6**	**+0.1**
STOK	**Stokkvaagen**	**0.49**	**219**	*i P*	**Pg**	**21 22 55.7**	**-0.3**
STOK				*i S*	**Sg**	**21 23 02.6**	**+0.1**
STOK	**Stokkvaagen**	**0.49**	**219**	P	**Pg**	**21 22 55.7**	**-0.3**
STOK				S	**Sg**	**21 23 02.5**	**+0.1**
MOR8	**Moi Rana**	**0.61**	**154**	*eP*	**Pg**	**21 22 57.8**	**-0.3**
MOR8				*eS*	**Sg**	**21 23 06.3**	**+0.2**
MOR8				IAML		21 23 08.7	
	comp=Z,87nm,0.3s						
MOR8	**Moi Rana**	**0.61**	**154**	*i P*	**Pg**	**21 22 57.8**	**-0.3**
MOR8				*i S*	**Sg**	**21 23 06.3**	**+0.2**
MOR8				IAML		21 23 08.7	
	comp=Z,87nm,0.3s						
MOR8	**Moi Rana**	**0.61**	**154**	P	**Pg**	**21 22 57.8**	**-0.3**
MOR8				S	**Sg**	**21 23 06.2**	**+0.2**
STEI	**Steigen**	**1.34**	**24**	*eP*	**Pn**	**21 23 10.6**	**-0.8**
STEI				IAML		21 23 32.4	
	comp=Z,51nm,0.3s						
STEI	**Steigen**	**1.34**	**24**	*eP*	**Pn**	**21 23 10.6**	**-0.8**
STEI				IAML		21 23 32.4	
	comp=Z,51nm,0.3s						
STEI	**Steigen**	**1.34**	**24**	P	**Pn**	**21 23 10.6**	**-0.8**
LOF	**Lofoten**	**1.43**	**356**	*eP*	Pn	21 23 09.3	-3.2
LOF				*eSg*	**Sn**	**21 23 30.2**	**-1.2**
LOF				IAML		21 23 34.0	
	comp=Z,41nm,0.4s						
LOF	**Lofoten**	**1.43**	**356**	*eP*	Pn	21 23 09.3	-3.2
LOF				*eSN*	**Sn**	**21 23 30.2**	**-1.2**
LOF				IAML		21 23 34.0	
	comp=Z,41nm,0.4s						
LOF	**Lofoten**	**1.43**	**356**	*eP*	Pn	21 23 09.3	-3.2
	SNR=50						
LOF				*eSg*	**Sn**	**21 23 30.2**	**-1.2**
	SNR=92						
SALU	**Saltoluokta**	**1.97**	**68**	*eP*	**Pn**	**21 23 21.5**	**+1.5**
SALU				*eS*	**Sb**	**21 23 47.6**	**+0.6**
SALU	**Saltoluokta**	**1.97**	**68**	P	**Pn**	**21 23 21.4**	**+1.5**
SALU				S	**Sb**	**21 23 47.6**	**+0.6**
SALU	**Saltoluokta**	**1.97**	**68**	P	**Pn**	**21 23 21.5**	**+1.5**
SALU				S	**Sb**	**21 23 47.6**	**+0.6**
NSS	**Namsos**	**2.32**	**200**	*eP*	**Pn**	**21 23 26.8**	**+2.0**
NSS				*eSg*	**Sg**	**21 23 59.6**	**-1.3**
NSS				IAML		21 24 02.2	
	comp=Z,23nm,0.3s						
NSS	**Namsos**	**2.32**	**200**	*eP*	**Pn**	**21 23 26.8**	**+2.0**
NSS				*eSG*	**Sg**	**21 23 59.6**	**-1.3**
NSS				IAML		21 24 02.2	
	comp=Z,23nm,0.3s						
NSS	**Namsos**	**2.32**	**200**	P	**Pn**	**21 23 26.7**	**+2.0**
NSS				*eSg*	**Sg**	**21 23 59.6**	**-1.3**
	SNR=91						
NIKU	**Nikkaluokta**	**2.34**	**58**	*eP*	**Pn**	**21 23 25.9**	**+0.8**
NIKU				*eS*	**Sb**	**21 23 56.4**	**-1.4**
NIKU	**Nikkaluokta**	**2.34**	**58**	P	**Pn**	**21 23 25.9**	**+0.8**
NIKU				S	**Sb**	**21 23 56.3**	**-1.4**
NIKU	**Nikkaluokta**	**2.34**	**58**	P	**Pn**	**21 23 25.9**	**+0.8**
	baz=238						
NIKU				S	**Sb**	**21 23 56.4**	**-1.4**
DUNU	**Dundret**	**2.70**	**78**	*eP*	**Pn**	**21 23 32.2**	**+2.2**
DUNU	**Dundret**	**2.70**	**78**	P	**Pn**	**21 23 32.2**	**+2.2**
DUNU	**Dundret**	**2.70**	**78**	P	**Pn**	**21 23 32.2**	**+2.2**
KUA	**Kurravaara**	**2.82**	**61**	*eP*	**Pn**	**21 23 32.4**	**+0.7**
KUA	**Kurravaara**	**2.82**	**61**	P	**Pn**	**21 23 32.4**	**+0.7**
KUA	**Kurravaara**	**2.82**	**61**	P	**Pn**	**21 23 32.4**	**+0.7**
LILU	**Lilltraesk**	**2.86**	**117**	*eP*	**Pn**	**21 23 33.9**	**+1.7**
LILU	**Lilltraesk**	**2.86**	**117**	P	**Pn**	**21 23 33.9**	**+1.7**
LILU	**Lilltraesk**	**2.86**	**117**	P	**Pn**	**21 23 33.9**	**+1.7**
HARU	**Harads**	**2.94**	**98**	*eP*	**Pn**	**21 23 35.0**	**+1.7**
HARU	**Harads**	**2.94**	**98**	P	**Pn**	**21 23 34.9**	**+1.7**
HARU	**Harads**	**2.94**	**98**	P	**Pn**	**21 23 35.0**	**+1.7**
SVAU	**Svanoeiden**	**3.28**	**130**	*eP*	**Pn**	**21 23 38.9**	**+1.0**
SVAU	**Svanoeiden**	**3.28**	**130**	P	**Pn**	**21 23 38.8**	**+1.0**
SVAU	**Svanoeiden**	**3.28**	**130**	P	**Pn**	**21 23 38.9**	**+1.0**
MASU	**Masugnsbyn**	**3.30**	**73**	*eP*	**Pn**	**21 23 39.7**	**+1.4**
MASU	**Masugnsbyn**	**3.30**	**73**	P	**Pn**	**21 23 39.6**	**+1.4**
MASU	**Masugnsbyn**	**3.30**	**73**	P	**Pn**	**21 23 39.7**	**+1.4**
ERTU	**Ertsjaerv**	**3.35**	**89**	*eP*	**Pn**	**21 23 39.4**	**+0.5**
ERTU	**Ertsjaerv**	**3.35**	**89**	P	**Pn**	**21 23 39.4**	**+0.5**
ERTU	**Ertsjaerv**	**3.35**	**89**	P	**Pn**	**21 23 39.4**	**+0.5**
SJUU	**Sjulsmark**	**3.40**	**107**	*eP*	**Pn**	**21 23 41.0**	**+1.3**
SJUU	**Sjulsmark**	**3.40**	**107**	P	**Pn**	**21 23 40.9**	**+1.3**
SJUU	**Sjulsmark**	**3.40**	**107**	P	**Pn**	**21 23 41.0**	**+1.3**
LANU	**Lannavaara**	**3.44**	**63**	*eP*	**Pn**	**21 23 41.4**	**+1.2**
LANU				*eS*	**Sn**	**21 24 21.4**	**+0.3**
LANU				*eSG*	**Sb**	**21 24 32.7**	**+3.4**
LANU	**Lannavaara**	**3.44**	**63**	P	**Pn**	**21 23 41.4**	**+1.2**
LANU				S	**Sn**	**21 24 21.3**	**+0.3**
LANU	**Lannavaara**	**3.44**	**63**	P	**Pn**	**21 23 41.4**	**+1.2**
KIF	**Kilpisjarvi**	**3.51**	**46**	Pn	**Pn**	**21 23 41.5**	**+0.4**
KIF				Pg	**Pb**	**21 23 50.5**	**+1.8**
KIF				Sn	**Sn**	**21 24 24.6**	**+1.9**
KIF				Lg	Lg	21 24 36.2	
KIF	**Kilpisjarvi**	**3.51**	**46**	*eP*	**Pn**	**21 23 42.4**	**+1.3**
KIF				*eSG*	**Sb**	**21 24 33.8**	**+2.5**
KIF	**Kilpisjarvi**	**3.51**	**46**	Pn	**Pn**	**21 23 41.5**	**+0.4**
KIF	**Kilpisjarvi**	**3.51**	**46**	P	**Pn**	**21 23 42.4**	**+1.3**
KIF				Sn	**Sn**	**21 24 24.6**	**+1.9**
KIF				Lg	Lg	21 24 36.2	
PAJU	**Pajala**	**3.69**	**81**	*eP*	**Pn**	**21 23 44.8**	**+1.2**
PAJU	**Pajala**	**3.69**	**81**	P	**Pn**	**21 23 44.8**	**+1.2**
PAJU	**Pajala**	**3.69**	**81**	P	**Pn**	**21 23 44.8**	**+1.2**
BURU	**Burvik**	**3.80**	**121**	*eP*	**Pn**	**21 23 46.9**	**+1.8**
BURU	**Burvik**	**3.80**	**121**	P	**Pn**	**21 23 46.9**	**+1.8**
BURU	**Burvik**	**3.80**	**121**	P	**Pn**	**21 23 46.9**	**+1.8**
HEF	**Hetta**	**4.15**	**61**	*eP*	**Pn**	**21 23 51.9**	**+2.0**
HEF				*eS*	**Sn**	**21 24 39.4**	**+0.9**
HEF				*eSG*	**Sg**	**21 24 55.0**	**-4.5**
HEF				MSG		21 24 58.8	
	comp=Z,8.0nm,0.3s						
HEF	**Hetta**	**4.15**	**61**	P	**Pn**	**21 23 51.9**	**+2.0**
HEF				S	**Sn**	**21 24 39.3**	**+0.9**
KTK1	**Kautokeino**	**4.25**	**53**	*eP*	**Pn**	**21 23 52.1**	**+0.8**
KTK1	**Kautokeino**	**4.25**	**53**	*eP*	**Pn**	**21 23 52.1**	**+0.8**
KTK1	**Kautokeino**	**4.25**	**53**	P	**Pn**	**21 23 52.1**	**+0.8**
SGF	**Sodankyl**	**5.03**	**76**	*eP*	**Pn**	**21 24 02.5**	**+0.5**
SGF				*eS*	**Sn**	**21 25 00.1**	**-0.2**
SGF	**Sodankyl**	**5.03**	**76**	P	**Pn**	**21 24 02.5**	**+0.5**
SGF				S	**Sn**	**21 25 00.0**	**-0.2**
ARA0	**ARCESS Array S**	**5.21**	**52**	Pn	**Pn**	**21 24 03.6**	**-0.8**
	baz=238,slow=14						
ARA0				Sn	**Sn**	**21 25 00.7**	**-4.0**
	baz=240,slow=22						
ARA0				Lg	Lg	21 25 25.3	
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**5.21**	**52**	Pn	**Pn**	**21 24 03.6**	**-0.8**
	baz=238,slow=14						
ARA0				Sn	**Sn**	**21 25 00.7**	**-4.0**
	baz=240,slow=22						
ARA0				Lg	Lg	21 25 25.3	
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**5.21**	**52**	*eP*	**Pn**	**21 24 03.6**	**-0.8**
ARA0				*eS*	**Sn**	**21 25 00.7**	**-4.0**
ARA0				*eSG*	**Sb**	**21 25 25.3**	**+5.0**
ARA0	**ARCESS Array S**	**5.21**	**52**	Pn	**Pn**	**21 24 03.7**	**-0.8**
	SNR=50						
ARCES	**ARCESS Array B**	**5.21**	**52**	Pn	**Pn**	**21 24 03.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=238,slow=13,SNR=7.5						
ARCES				Sn	**Sn**	**21 25 02.1**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=235,slow=21,SNR=8.1						
ARCES				Lg	Lg	21 25 26.2	
	comp=Z,1.4nm,0.3s,baz=221,slow=20,SNR=6.1						
ARE0	**ARCESS Array S**	**5.21**	**52**	*eP*	**Pn**	**21 24 04.8**	**+0.2**
ARE0				*eS*	**Sn**	**21 25 02.7**	**-2.0**
ARE0	**ARCESS Array S**	**5.21**	**52**	P	**Pn**	**21 24 04.7**	**+0.2**
OUL	**Oulu**	**5.22**	**103**	*eP*	**Pn**	**21 24 05.9**	**+1.2**
OUL				*eS*	**Sn**	**21 25 02.9**	**-2.0**
OUL	**Oulu**	**5.22**	**103**	P	**Pn**	**21 24 05.8**	**+1.2**
OUL				S	**Sn**	**21 25 02.8**	**-2.0**
VAF	**Ylistaro**	**5.28**	**130**	*eP*	**Pn**	**21 24 06.4**	**+1.0**
VAF				*eS*	**Sn**	**21 25 07.3**	**+1.0**
VAF				MSG		21 25 34.7	
	comp=Z,3.3nm,0.3s						
VAF	**Ylistaro**	**5.28**	**130**	P	**Pn**	**21 24 06.4**	**+1.0**
VAF				S	**Sn**	**21 25 07.3**	**+1.0**
AKN	**Aaknes**	**5.42**	**216**	Pn	**Pn**	**21 24 07.5**	**+0.2**
AKN				Sn	**Sn**	**21 25 08.9**	**-0.9**
AKN	**Aaknes**	**5.42**	**216**	Pn	**Pn**	**21 24 07.5**	**+0.2**
AKN				Sn	**Sn**	**21 25 08.9**	**-0.9**
AKN	**Aaknes**	**5.42**	**216**	*eP*	**Pn**	**21 24 07.5**	**+0.2**
AKN				*eS*	**Sn**	**21 25 08.9**	**-0.9**
AKN	**Aaknes**	**5.42**	**216**	P	**Pn**	**21 24 07.5**	**+0.2**
AKN				S	**Sn**	**21 25 08.9**	**-0.9**
KEV	**Kevo**	**5.78**	**52**	*eP*	**Pn**	**21 24 12.0**	**-0.3**
KEV				*eS*	**Sn**	**21 25 15.7**	**-2.9**
KEV				*eSG*	**Sg**	**21 25 46.3**	**-5.5**
KEV				MSG		21 25 53.2	
	comp=Z,3.8nm,0.4s						
KEV	**Kevo**	**5.78**	**52**	P	**Pn**	**21 24 12.0**	**-0.3**
NB2	**NORSAR Subarra**	**5.81**	**192**	Pn	**Pn**	**21 24 14.2**	**+1.4**
NB2	**NORSAR Subarra**	**5.81**	**192**	Pn	**Pn**	**21 24 14.2**	**+1.4**
NB2	**NORSAR Subarra**	**5.81**	**192**	*eP*	**Pn**	**21 24 14.2**	**+1.4**
NB2	**NORSAR Subarra**	**5.81**	**192**	P	**Pn**	**21 24 14.2**	**+1.4**
NOA	**NORSAR Array B**	**5.81**	**192**	Pn	**Pn**	**21 24 13.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=322,slow=24,SNR=2.9						
NOA				Lg	Lg	21 25 44.6	
	comp=Z,0.8nm,0.3s,baz=178,slow=4.8,SNR=4.0						
MSF	**Maaselka**	**6.20**	**90**	*eP*	**Pn**	**21 24 18.2**	**+0.1**
MSF				*eS*	**Sn**	**21 25 26.3**	**-2.6**
MSF	**Maaselka**	**6.20**	**90**	P	**Pn**	**21 24 18.1**	**+0.1**
VRF	**Varrio**	**6.23**	**73**	*eP*	**Pn**	**21 24 18.7**	**+0.3**
VRF				*eS*	**Sn**	**21 25 28.0**	**-1.6**
VRF	**Varrio**	**6.23**	**73**	P	**Pn**	**21 24 18.7**	**+0.3**
KJN	**Kajaani**	**6.38**	**108**	*eP*	**Pn**	**21 24 20.9**	**+0.4**
KJN				*eS*	**Sn**	**21 25 32.5**	**-0.9**
KJN	**Kajaani**	**6.38**	**108**	P	**Pn**	**21 24 20.9**	**+0.4**
KJN				S	**Sn**	**21 25 32.4**	**-0.9**
KU6	**Riekki**	**6.51**	**89**	*eP*	**Pn**	**21 24 21.5**	**-0.8**
KU6				*eS*	**Sn**	**21 25 34.0**	**-2.5**
KU6				MSG		21 25 40.0	
	comp=Z,2.7nm,0.2s						
KU6	**Riekki**	**6.51**	**89**	P	**Pn**	**21 24 21.5**	**-0.8**
HFS	**Hagfors**	**6.61**	**180**	Pn	**Pn**	**21 24 24.8**	**+1.2**
	baz=4.8,slow=12						
HFS				Sn	**Sn**	**21 25 38.1**	**-0.9**
	baz=4.8,slow=28						
HFS				Lg	Lg	21 26 12.8	
	baz=8.7,slow=28						
HFS	**Hagfors**	**6.61**	**180**	Pn	**Pn**	**21 24 25.0**	**+1.4**
	baz=4.8,slow=12						
HFS				Sn	**Sn**	**21 25 36.5**	**-2.5**
	baz=4.8,slow=28						
HFS				Lg	Lg	21 26 12.8	
	baz=8.7,slow=28						
HFS	**Hagfors**	**6.61**	**180**	Pn	**Pn**	**21 24 24.8**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=9.5,slow=13,SNR=7.9						
HFS				Lg	Lg	21 26 13.1	
	comp=Z,0.4nm,0.3s,baz=3.7,slow=25,SNR=5.1						
HFS	**Hagfors**	**6.61**	**180**	*eP*	**Pn**	**21 24 25.0**	**+1.4**
HFS				*eS*	**Sn**	**21 25 36.5**	**-2.5**
HFS				*eSG*	**Sg**	**21 26 12.8**	**-5.5**
HFS	**Hagfors**	**6.61**	**180**	Pn	**Pn**	**21 24 24.8**	**+1.2**
	SNR=4.1						
HFS				S	**Sn**	**21 25 36.5**	**-2.5**
HFS				Sn	**Sn**	**21 25 38.1**	**-0.9**
	SNR=2.6						
KEF	**Keuruu**	**6.61**	**128**	*eP*	**Pn**	**21 24 24.3**	**+0.6**
KEF				*eS*	**Sn**	**21 25 37.5**	**-1.7**
KEF				MSG		21 26 19.8	
	comp=Z,1.9nm,0.3s						
KEF	**Keuruu**	**6.61**	**128**	P	**Pn**	**21 24 24.3**	**+0.6**
KEF				S	**Sn**	**21 25 37.4**	**-1.7**
SUF	**Sumiainen**	**6.63**	**121**	*eP*	**Pn**	**21 24 23.8**	**-0.3**
SUF				*eS*	**Sn**	**21 25 38.0**	**-1.6**
SUF	**Sumiainen**	**6.63**	**121**	P	**Pn**	**21 24 23.7**	**-0.3**
SUF				S	**Sn**	**21 25 38.0**	**-1.6**
RAF	**Rauma**	**6.71**	**145**	*eP*	**Pn**	**21 24 26.0**	**+1.0**
RAF				*eS*	**Sn**	**21 25 40.8**	**-0.6**
RAF				*eSG*	Sg	21 26 14.0	-7.4
RAF				MSG		21 26 20.3	
	comp=Z,3.5nm,0.4s						
RAF	**Rauma**	**6.71**	**145**	P	**Pn**	**21 24 25.9**	**+1.0**
RAF				S	**Sn**	**21 25 40.8**	**-0.6**
KAF	**Kangasniemi**	**7.11**	**125**	*eP*	**Pn**	**21 24 31.0**	**+0.5**
KAF				*eS*	**Sn**	**21 25 49.8**	**-1.6**
KAF				*eSG*	Sg	21 26 27.0	-7.4
KAF				MSG		21 26 32.8	
	comp=Z,1.9nm,0.4s						
KAF	**Kangasniemi**	**7.11**	**125**	P	**Pn**	**21 24 31.0**	**+0.5**
KAF				S	**Sn**	**21 25 49.7**	**-1.6**
AAL	**Aland**	**7.12**	**154**	*eP*	**Pn**	**21 24 30.2**	**-0.5**
AAL				*eS*	**Sn**	**21 25 48.7**	**-2.9**
AAL	**Aland**	**7.12**	**154**	P	**Pn**	**21 24 30.2**	**-0.5**
APA0	**Apatity Array**	**7.52**	**74**	Pn	**Pn**	**21 24 36.0**	**-0.1**
	baz=267,slow=11						
APA0				Sn	**Sn**	**21 25 56.6**	**-4.7**
	baz=274,slow=28						
APA0	**Apatity Array**	**7.52**	**74**	Pn	**Pn**	**21 24 36.0**	**-0.1**
FINES	**FINESS Array B**	**7.54**	**129**	Pn	**Pn**	**21 24 36.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=319,slow=11,SNR=6.6						
FINES				Sn	**Sn**	**21 26 00.1**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=323,slow=21,SNR=9.8						
FINES				Lg	Lg	21 26 44.5	
	comp=Z,0.6nm,0.3s,baz=320,slow=26,SNR=5.4						
MEF	**Metsahovi**	**8.05**	**139**	*eS*	**Sn**	**21 26 13.2**	**-1.3**
MEF	**Metsahovi**	**8.05**	**139**	S	**Sn**	**21 26 13.2**	**-1.3**
JOF	**Joensuu**	**8.37**	**109**	*eP*	**Pn**	**21 24 48.3**	**+0.5**
JOF				*eS*	**Sn**	**21 26 20.5**	**-1.8**
JOF	**Joensuu**	**8.37**	**109**	P	**Pn**	**21 24 48.3**	**+0.5**
JOF				S	**Sn**	**21 26 20.5**	**-1.8**

*ISCJB **27** 21:28:22.5± 0.4, 14˚.57N± 0˚.05× 93˚.05W± 0˚.04, h51km, mb4.4/25, MS3.7/15, Error ellipse: s-maj=7.6km s-min=3.4km az=34.5*
*MEX **27** 21:28:22.0± 0.8, 14˚.44N× 93˚.45W, h40km± 255km, MD4.2*
*NEIC **27** 21:28:22.4, 14˚.54N× 93˚.49W, h20km, mb4.3/14, MD4.2(MEX), After MEX.*
*CASC **27** 21:28:25.7± 2.0, 14˚.39N× 92˚.79W, h25km± 938km, MD4.4*
*IDC **27** 21:28:30.8± 2.7, 15˚.03N× 92˚.54W, h104km± 25km, mb4.0/15, mb1 4.1/18, mb1mx3.8/50, mbtmp4.3/18, MS3.7/15, Ms1 3.7/15, ms1mx3.5/31, Error ellipse: s-maj=23.4km s-min=11.7km az=63.0*

ISC 27 21:28:22.9±0.7, **14˚.51N**±0˚.07× **93˚.19W**±0˚.06, **h51**km, **n238**, σ1§**45**/224, **mb4.4**/25, **MS3.8**/15, **78C-82D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.19**	**358**	*eP*	Pn	21 28 39.9	-3.3
PCIG				*i S*	**Sn**	**21 28 55.0**	**-3.3**
PCIG		**1.19**	**358**	*eP*	Pn	21 28 39.9	-3.3
PCIG				*i S*	**Sn**	**21 28 55.0**	**-3.3**
JAT	**Jato**	**1.51**	**97**	*eP*	**Pn**	**21 28 45.9**	**-1.7**
CCIG	**Comitan**	**2.03**	**30**	*eP*	**Pn**	**21 28 55.1**	**+0.2**
CCIG				*eS*	**Sn**	**21 29 20.3**	**+1.1**
CCIG	**Comitan**	**2.03**	**30**	*eP*	**Pn**	**21 28 55.1**	**+0.2**
CCIG				*eS*	**Sn**	**21 29 20.3**	**+1.1**
TGIG		**2.25**	**2**	*eP*	**Pn**	**21 28 57.1**	**-0.7**
TGIG				*i S*	**Sn**	**21 29 24.3**	**-0.2**
TGIG		**2.25**	**2**	*eP*	**Pn**	**21 28 57.2**	**-0.7**
TGIG				*i S*	**Sn**	**21 29 21.7**	**-2.8**
FUG	**Fuego 3**	**2.27**	**91**	*eP*	**Pn**	**21 28 56.3**	**-1.9**
PCG	**Pacaya**	**2.50**	**92**	*eP*	**Pn**	**21 29 00.4**	**-1.0**
PCG				*eS*	**Sn**	**21 29 30.6**	**-0.2**
NBG	**Las Nubes**	**2.75**	**88**	*eP*	**Pn**	**21 29 05.0**	**+0.2**
CMIG	**Matias Romero**	**3.04**	**328**	P	**Pn**	**21 29 06.2**	**-2.3**
	26nm,0.3s,baz=156,slow=13,SNR=192						
CMIG				S	**Sn**	**21 29 41.9**	**-1.8**
	50nm,0.3s,baz=155,slow=18,SNR=8.5						
HUIG	**Huatulco**	**3.09**	**294**	*eP*	Pn	21 29 03.8	-5.4
HUIG				*i S*	Sn	21 29 36.4	-8.5
HUIG	**Huatulco**	**3.09**	**294**	*eP*	Pn	21 29 03.8	-5.4
HUIG				*i S*	Sn	21 29 36.4	-8.5
RBDL	**Robledal**	**3.42**	**96**	⇑ *eP*	**Pn**	**21 29 12.6**	**-1.3**
MRL	**Marmol**	**3.42**	**80**	*eP*	**Pn**	**21 29 13.6**	**-0.4**
RTR	**El Retiro**	**3.49**	**100**	*eP*	**Pn**	**21 29 13.3**	**-1.5**
SBLS	**San Blas**	**3.52**	**101**	*eP*	**Pn**	**21 29 13.4**	**-2.0**
BOQS	**Boqueron**	**3.87**	**101**	*eP*	**Pn**	**21 29 18.1**	**-2.0**
LFRS	**El Faro**	**4.10**	**

Z31A	Sharp Cattle R baz=20	19.76	343	⇑P	Pn	21 32 50.0 -0.6
128A	Castleberry Fa baz=20,SNR=7.9	19.92	336	⇓P	P	21 32 51.8 +1.2
MIAR	Mount Ida 16nm,1.1s	19.95	359	*e*Pn	Pn	21 32 55.1 +2.3
Y33A	Hilltop Ranch, baz=20	20.03	347	⇑P	P	21 32 52.7 +1.1
Z30A	Sanderson Ranc baz=20,SNR=14	20.04	340	⇑P	P	21 32 52.7 +0.9
X37A	Clayton baz=20	20.09	355	⇑P	Pn	21 32 53.6 -0.8
X36A	Centrahoma baz=20	20.18	352	⇓P	P	21 32 54.3 +1.1
Z29A	Hungry Hill Ra baz=20,SNR=9.2	20.21	339	⇓P	P	21 32 54.3 +0.6
Y32A	R-V Farms, Ver baz=20	20.22	345	⇑P	P	21 32 55.0 +1.3
GDL2	Guadalupe Moun	20.35	332	*e*P	Pn	21 33 00.7 +3.0
Y31A	Rekieta Farm, baz=20	20.40	343	⇓P	P	21 32 56.8 +1.1
MNTX	Cornudas Mount baz=20,SNR=8.0	20.43	329	⇑P	P	21 32 57.1 +1.1
MNTX	Cornudas Mount 9.5nm,0.8s	20.43	329	*e*P	Pn	21 32 57.9 -0.6
Z28A	Tucker Farm, M baz=20,SNR=18	20.48	337	⇑P	P	21 32 57.5 +0.9
Y30A	Stafford Cattl baz=20	20.51	341	⇑P	P	21 32 58.3 +1.5
X32A	Elmer baz=21	20.58	346	⇓P	P	21 32 59.1 +1.5
Y29A	Porterfield Fa baz=21	20.74	340	⇓P	P	21 33 00.3 +0.8
WMOK	Wichita Mounta 5.5nm,0.9s	20.76	347	*e*P	P	21 32 59.9 +0.3
GOGA	Godfrey 58nm,1.8s	20.78	23	*e*P	Pn	21 33 04.2 +1.5
W35A	Tecumseh baz=21	20.82	351	⇑P	P	21 33 01.2 +1.0
ROSC	El Rosal 5.9nm,0.4s,baz=78,slow=7.4,SNR=7.8	20.90	115	P	P	21 33 02.9 +1.3
X31A	McDonald Ranch baz=21	20.95	344	⇑P	P	21 33 02.3 +0.6
Y28A	McKinney Farm, baz=21	20.98	339	⇑P	P	21 33 02.5 +0.5
X30A	Coker Ranch, T baz=21	21.03	342	⇓P	P	21 33 03.0 +0.5
W34A	Bridge Creek, baz=21	21.05	349	⇑P	P	21 33 03.3 +0.7
MSTX	Muleshoe baz=21	21.23	338	⇑P	P	21 33 05.2 +0.5
MSTX	Muleshoe	21.23	338	*e*P	P	21 33 05.5 +0.7
W32A	Sentinel baz=21	21.24	346	⇓P	P	21 33 05.0 +0.3
X29A	Tulia baz=21	21.29	340	⇑P	P	21 33 05.3 0.0
V35A	Meyer Ranch, C baz=21	21.41	352	⇓P	P	21 33 07.0 +0.5
TUL1	Leonard baz=22	21.44	354	⇓P	P	21 33 07.6 +0.9
W31A	Holland Ranch, baz=21	21.47	345	⇓P	P	21 33 07.5 +0.3
X28A	Dimmitt baz=22	21.52	339	⇓P	P	21 33 08.3 +0.5
AMTX	Amarillo baz=22	21.68	341	⇑P	P	21 33 10.4 +0.9
AMTX	Amarillo 36nm,0.8s	21.68	341	*e*P	P	21 33 09.8 +0.3
V33A	Lossen Ranch, baz=22	21.71	349	⇑P	P	21 33 11.1 +1.4
W29A	Amarillo baz=22,SNR=5.7	21.89	341	⇑P	P	21 33 11.9 +0.1
V31A	Spring Creek L baz=22,SNR=6.6	22.00	345	⇓P	P	21 33 15.1 +2.2
U34A	Anderson Ranch baz=22	22.18	351	⇓P	P	21 33 15.9 +1.1
U33A	Lingo Farm, Me baz=22	22.27	349	⇓P	P	21 33 16.7 +0.9
PBMO	Poplar Bluff 18nm,1.2s	22.31	6	*e*P	P	21 33 17.0 +0.9
121A	Cookes Peak, D baz=22,SNR=15	22.34	326	⇑P	P	21 33 18.7 +2.0
319A	Douglas baz=22	22.34	321	⇓P	P	21 33 19.3 +2.5
SDV	Santo Domingo	22.77	102	*e*P	P	21 33 18.8 -2.7
V27A	Dan Oppiter Fa baz=23	22.86	339	⇓P	P	21 33 22.8 +0.7
U30A	WK&E Inc. Balk baz=23	22.92	344	⇓P	P	21 33 24.2 +1.5
T33A	Patterson Ranc baz=23	22.93	350	⇓P	P	21 33 23.4 +0.7
U29A	Oasis Ranch, S baz=23	23.02	343	⇑P	P	21 33 25.3 +1.6
LENM	Lemitar	23.20	330	*e*P	P	21 33 30.2 +4.6
U28A	Mallet baz=23	23.23	341	⇓P	P	21 33 26.9 +1.1
T30A	Plains baz=23	23.38	345	⇓P	P	21 33 28.7 +1.5
U27A	Thompson Grove baz=23,SNR=7.3	23.46	340	⇑P	P	21 33 28.8 +0.7
ANMO	Albuquerque 3.7nm,0.8s,baz=154,slow=11,SNR=4.6	23.60	332	P	P	21 33 30.1 +0.7
T29A	Hugoton baz=24	23.68	344	⇓P	P	21 33 31.0 +1.0
R36A	Gordon, Harris baz=24	23.81	355	⇑P	P	21 33 32.2 +1.1
USIN	University of 217nm,1.1s	23.87	11	*e*P	P	21 33 37.1 +5.4
T28A	Walsh baz=24	23.88	342	⇓P	P	21 33 32.1 +0.2
TUC	Tucson 12nm,1.0s	23.91	321	*e*P	P	21 33 34.1 +1.9
S30A	Montezuma baz=24	23.93	346	⇓P	P	21 33 33.5 +1.3
T27A	Campo baz=24,SNR=9.1	24.01	341	⇓P	P	21 33 34.3 +1.2
R32A	Long Quarter, baz=24	24.31	349	⇓P	P	21 33 36.8 +1.0
R31A	Burdett baz=24	24.34	348	⇓P	P	21 33 37.1 +1.1
T26A	Comanche Natio baz=24,SNR=16	24.40	340	⇓P	P	21 33 38.4 +1.6
T25A	Trinidad baz=25,SNR=6.7	24.66	338	⇑P	P	21 33 41.4 +2.3
T25A	Trinidad 14nm,1.0s	24.66	338	*e*P	P	21 33 41.4 +2.3
Q33A	Connelly Farm, baz=25	24.73	351	⇓P	P	21 33 40.1 +0.5
S26A	Kim baz=25,SNR=6.4	24.77	340	⇓P	P	21 33 42.3 +2.3
R29A	Marienthal baz=25	24.84	345	⇓P	P	21 33 41.2 +0.6
Q32A	Meitler Ranch, baz=25	24.84	350	⇑P	P	21 33 40.9 +0.3
R28A	Tribune baz=25	24.93	344	⇓P	P	21 33 41.9 +0.4
214A	Organ Pipe Nat baz=25	24.96	317	⇑P	P	21 33 43.5 +1.8
X18A	Snowflake baz=25	25.03	326	⇑P	P	21 33 43.6 +1.1
Q30A	Quinter baz=25	25.15	347	⇓P	P	21 33 43.7 +0.3
R27A	Eads baz=25,SNR=5.3	25.16	342	⇓P	P	21 33 44.9 +1.3
Q29A	Oakley baz=25	25.24	346	⇓P	P	21 33 45.0 +0.8
BLO	Bloomington	25.26	12	*e*P	P	21 33 46.4 +2.2
R26A	Arlington baz=25	25.38	341	⇑P	P	21 33 46.6 +1.1
SDCO	Great Sand Dun baz=26,SNR=5.4	25.59	337	⇑P	P	21 33 49.5 +1.8
SDCO	Great Sand Dun 10nm,1.2s	25.59	337	*e*P	P	21 33 49.6 +1.8
P30A	Selden baz=26	25.70	347	⇑P	P	21 33 49.0 +0.6
X16A	Lo Mia Camp, P baz=26	25.78	323	⇓P	P	21 33 51.4 +2.0
KSCO	Kaye Shedlock' baz=26	25.79	343	⇑P	P	21 33 50.3 +1.1
KSCO	Kaye Shedlock'	25.79	343	*e*P	P	21 33 51.6 +2.4
R24A	Sanders Place, baz=26	25.88	338	⇑P	P	21 33 51.5 +1.3
P29A	Atwood baz=26	25.91	346	⇑P	P	21 33 51.1 +0.8
Q26A	Hugo baz=26	25.97	341	⇓P	P	21 33 52.3 +1.3
P28A	Saint Francis baz=26	26.08	345	⇓P	P	21 33 53.0 +1.2
R23A	Moffat baz=26,SNR=6.1	26.11	337	⇓P	P	21 33 53.9 +1.5
S22A	4UR Ranch, Cre baz=26	26.12	335	⇑P	P	21 33 54.0 +1.5
S22A	4UR Ranch, Cre 5.8nm,1.0s	26.12	335	*e*P	P	21 33 54.6 +2.1
O30A	MW Ranch, Wils baz=26	26.27	348	⇓P	P	21 33 54.7 +1.2
P27A	Ficken Ranch, baz=26	26.28	343	⇓P	P	21 33 54.7 +1.0
Y14A	Wickenburg baz=26	26.38	321	⇑P	P	21 33 56.8 +2.2
MVCO	Mesa Verde 8.5nm,1.0s	26.40	332	*e*P	P	21 33 56.7 +1.8
WUAZ	Wupatki baz=26	26.54	325	⇓P	P	21 33 57.8 +1.7
P25A	Willow Gulch B baz=27	26.71	341	⇑P	P	21 33 59.1 +1.4
Q23A	Hartsel baz=27,SNR=5.5	26.74	338	⇑P	P	21 34 00.1 +2.0
P23A	Jefferson baz=27,SNR=8.0	27.15	338	⇑P	P	21 34 03.4 +1.6
PDMCI	Parker Dam,Lak baz=27	27.32	320	⇑P	P	21 34 05.2 +2.2
N27A	Anderson Farm, baz=27	27.44	344	⇓P	P	21 34 05.7 +1.6
ISCO	Idaho Springs baz=27	27.45	339	⇓P	P	21 34 06.0 +1.6
P22A	Eagle baz=28	27.69	337	⇓P	P	21 34 07.8 +1.3
W13A	Hualapai Mount baz=28	27.70	321	⇓P	P	21 34 08.7 +2.1
U15A	North Rim baz=28	27.71	325	⇑P	P	21 34 08.5 +1.7
BC3	Big Chuckawall baz=28	27.76	317	⇑P	P	21 34 09.5 +2.5
IRM	Iron Mountain baz=28	27.87	318	⇓P	P	21 34 10.2 +2.2
O22A	Kremmling baz=28	28.10	338	⇑P	P	21 34 11.5 +1.2
PFO	Pinyon Flats O comp=Z,142nm,18.2s,baz=138,slow=40	28.39	316	LR	LR	21 47 28.0
GMRC	Granite Mounta baz=28	28.59	319	⇑P	P	21 34 16.5 +2.0
ECSD	EROS Data Cent baz=29	29.27	355	⇓P	P	21 34 21.8 +1.5
N20A	Spence Gulch, baz=29	29.34	336	⇓P	P	21 34 22.2 +1.0
K25A	Mack Ranch, Ha baz=30	29.48	344	⇓P	P	21 34 23.3 +1.0
L23A	Garrett baz=30	29.56	341	⇑P	P	21 34 24.2 +1.1
J26A	Sides Ranch, S baz=30	29.93	345	⇓P	P	21 34 27.0 +0.8
K23A	Bowen Ranch, D baz=30	30.11	342	⇑P	P	21 34 28.9 +1.0
I27A	Quinn baz=30	30.42	347	⇑P	P	21 34 30.9 +0.4
MPMC	Manual Prospec baz=30	30.56	319	⇑P	P	21 34 33.8 +1.9
I25A	Rochford baz=31	30.76	345	⇑P	P	21 34 34.8 +1.2
G30A	Faulkton baz=31	30.93	352	⇓P	P	21 34 36.7 +1.8
J21A	Lysite baz=31	31.23	340	⇓P	P	21 34 39.1 +1.3
I22A	9 Mile Ranch, baz=31	31.41	341	⇓P	P	21 34 40.5 +1.1
J20A	Shoshoni baz=31	31.46	339	⇓P	P	21 34 41.4 +1.6
PDAR	Pinedale Array 1.9nm,1.1s,baz=131,slow=6.7,SNR=6.8	31.49	337	P	P	21 34 40.0 -0.2
PDAR				LR	LR	21 48 47.7
	comp=Z,52nm,20.6s,baz=148,slow=39					
H24A	Dirks Ranch, A baz=32,SNR=5.1	31.65	344	⇑P	P	21 34 42.6 +1.3
G26A	Maurine baz=32	31.70	347	⇓P	P	21 34 43.6 +1.8
J19A	Crowheart baz=32	31.73	338	⇓P	P	21 34 43.6 +1.5
I20A	Worland baz=32	32.00	339	⇑P	P	21 34 45.6 +1.2
H22A	Clearmont baz=32	32.01	342	⇓P	P	21 34 46.1 +1.5
F26A	Lodgepole baz=32	32.25	348	⇑P	P	21 34 48.7 +2.2
H20A	Greybull baz=32	32.43	340	⇑P	P	21 34 49.4 +1.2
SADO	Sadowa comp=Z,116nm,18.6s,baz=202,slow=38	32.43	19	LR	LR	21 48 43.5
REDW	Red Top Meadow	32.50	336	*e*P	P	21 34 50.6 +1.6
NVAR	Mina Array Bea 5.2nm,0.8s,baz=129,slow=9.4,SNR=4.8	32.56	322	P	P	21 34 52.1 +2.5
G22A	Birney baz=32	32.56	343	⇑P	P	21 34 50.2 +0.8
LOHW	Long Hollow	32.61	336	*e*P	P	21 34 51.6 +1.6
TPAW	Teton Pass 8.5nm,1.1s	32.65	336	*e*P	P	21 34 52.3 +2.0
MOOW	Moose Ponds	32.78	336	*e*P	P	21 34 52.8 +1.4
E26A	Carlson Angus baz=33	32.80	348	⇑P	P	21 34 53.1 +1.7
G21A	Lodge Grass baz=33	32.84	342	⇓P	P	21 34 53.3 +1.6
I17A	Pilgrim Ck. baz=33	32.86	337	⇑P	P	21 34 54.0 +1.8
H19A	Powell baz=33	32.92	339	⇓P	P	21 34 54.0 +1.4
G20A	Bridger baz=33	33.15	340	⇑P	P	21 34 55.2 +0.7
H18A	Shoshone NF, C baz=33,SNR=9.8	33.17	338	⇓P	P	21 34 56.0 +1.2
E24A	Baker baz=33	33.28	346	⇓P	P	21 34 56.9 +1.3
D25A	Fairfield baz=34	33.62	347	⇓P	P	21 34 59.6 +1.1
F20A	Billings baz=34	33.65	341	⇑P	P	21 35 00.0 +1.2
HLID	Hailey baz=34	34.18	332	⇑P	P	21 35 05.2 +1.6
HLID	Hailey 3.6nm,0.9s	34.18	332	*e*P	P	21 35 05.2 +1.6
E20A	Meyer Farm, Mu baz=34	34.27	342	⇓P	P	21 35 05.7 +1.5
E19A	Rath Farm, Rou baz=34	34.44	341	⇑P	P	21 35 07.1 +1.5
WVOR	Wild Horse Val	35.43	327	*e*P	P	21 35 13.5 -0.8
C19A	Slack Wire Ran baz=36	35.65	342	⇑P	P	21 35 17.1 +1.0
ULM	Lac du Bonnet 3.8nm,0.9s,baz=166,slow=7.7,SNR=5.8	35.71	357	P	P	21 35 13.8 -2.6
ULM				LR	LR	21 52 15.6
	comp=Z,75nm,19.9s,baz=137,slow=40					
B19A	Brinkman Farms baz=36	36.26	342	⇑P	P	21 35 23.3 +2.1
MSO	Missoula baz=36	36.60	336	⇓P	P	21 35 25.4 +1.2
F10A	Beach Ranch, E	37.32	332	*e*P	P	21 35 31.3 +0.9
RPN	Rapa Nui 3.0nm,0.3s,baz=67,slow=5.6,SNR=7.6	44.26	201	P	P	21 36 35.3 +7.8
SCHQ	Schefferville comp=Z,176nm,18.5s,baz=228,slow=38	45.15	21	LR	LR	21 56 39.9
BBB	Bella Bella comp=Z,76nm,18.2s,baz=218,slow=41	46.76	331	LR	LR	22 00 34.5
YKA	Yellowknife Ar 7.3nm,0.8s,baz=151,slow=7.4,SNR=84	50.27	347	P	P	21 37 13.8 -0.1
YKA				PcP	PcP	21 38 31.6 -0.6
	0.6nm,0.8s,baz=150,slow=5.1,SNR=4.1					
DLBC	Dease Lake 5.9nm,1.0s,baz=156,slow=5.1,SNR=6.1	51.72	336	P	P	21 37 26.8 +1.8
FRB	Frobisher Bay 2.9nm,0.8s,baz=176,slow=6.9,SNR=5.6	52.08	14	P	P	21 37 26.5 -0.9
BDFB	Brasilia 2.8nm,0.7s,baz=299,slow=9.2,SNR=4.0	53.77	122	P	P	21 37 39.1 -1.6
PLCA	Paso Flores 2.4nm,1.0s,baz=281,slow=10,SNR=2.3	58.84	160	P	P	21 38 21.8 +5.5
PLCA				LR	LR	21 59 32.1
	comp=Z,160nm,18.4s,baz=200,slow=32					
INK	Inuvik 4.0nm,0.8s,baz=124,slow=8.7,SNR=15	59.63	344	P	P	21 38 21.7 +0.4
RES	Resolute Bay 3.7nm,0.8s,baz=192,slow=9.8,SNR=5.9	60.18	359	P	P	21 38 24.9 -0.1
RES				LR	LR	22 05 40.1
	comp=Z,76nm,18.8s,baz=186,slow=37					
ILAR	Eielson Array 3.3nm,1.0s,baz=135,slow=4.7,SNR=24	61.92	337	P	P	21 38 37.3 +0.3
ILAR				LR	LR	22 08 18.3
	comp=Z,58nm,18.1s,baz=152,slow=39					
ESDC	Sonseca Array	80.30	52	P	P	21 40 25.0 -3.8
	1.0nm,0.8s,baz=291,slow=5.1,SNR=7.0					
NOA	NORSAR Array B comp=Z,45nm,20.1s,baz=275,slow=35	84.24	28	LR	LR	22 17 13.1
ARCES	ARCESS Array B comp=Z,37nm,21.2s,baz=248,slow=35	86.01	18	LR	LR	22 18 27.0
DBIC	Dimbokro 3.6nm,0.9s,baz=342,slow=3.2,SNR=3.2	86.75	84	P	P	21 41 00.6 -1.7
GERES	GERESS Array B comp=Z,27nm,20.0s,baz=278,slow=33	89.94	39	LR	LR	22 18 08.5
FINES	FINESS Array B comp=Z,17nm,20.7s,baz=297,slow=36	90.52	25	LR	LR	22 21 39.9
TORD	Torodi Ar. Bea comp=Z,38nm,21.4s,baz=320,slow=34	91.38	76	LR	LR	22 19 39.2
AKASG	Malin Array Be comp=Z,32nm,18.3s,baz=320,slow=38	97.93	33	LR	LR	22 29 14.9
WRA	Warramunga Arr 0.6nm,1.0s,baz=12,slow=0.9,SNR=5.1	134.40	256	PKhKP	PKPpre	21 47 35.5
ASAR	Alice Springs 0.3nm,0.8s,baz=81,slow=2.3,SNR=2.6	134.75	251	PKhKP	PKPpre	21 47 34.2
CMAR	Chiang Mai Arr 4.4nm,0.9s,baz=337,slow=3.5,SNR=26	145.13	340	PKP	PKPbc	21 47 54.7 -0.5

IDC 27 22:39:28.0±65.0, 17.57S×178.17W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/27, mbtmp3.9/3, Error ellipse: s-maj=1188.0km s-min=166.0km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 1.8nm,0.8s,baz=90,slow=12,SNR=3.3	38.99	241	P	P	22 46 56.5	+0.2
WRA	Warramunga Arr 0.6nm,0.5s,baz=97,slow=7.3,SNR=4.9	44.91	259	P	P	22 47 44.3	-0.6
ASAR	Alice Springs 1.1nm,0.6s,baz=89,slow=8.7,SNR=14	45.10	254	P	P	22 47 46.4	0.0

*BJI **27** 22:57:53.9, 27.35N×54.29E, h5km, mB5.0/47, mb4.9/61, Ms4.8/50, Ms7 4.5/49*
*OMAN **27** 22:57:58.4±10.0, 27.17N×54.92E, h0km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=268.0*
*IDC **27** 22:57:58.7±0.6, 27.21N×54.97E, h0km, mb4.7/30, mb1 4.8/34, mb1mx4.7/43, mbtmp4.7/34, ML4.6/3, MS4.3/28, Ms1 4.3/28, ms1mx4.2/37, Error ellipse: s-maj=14.5km s-min=10.6km az=172.0*
*SFS **27** 22:57:59.0, 27.16N×54.94E, h5km, ML4.9*
*THR **27** 22:57:59.9±0.4, 27.02N×54.83E, h35km±4km, ML5.1*
*ISCJB **27** 22:58:01.1±0.7, 27.19N±0.02×54.87E±0.02, h26km±4km, mb4.8/207, MS4.3/42, Error ellipse: s-maj=3.7km s-min=2.4km az=15.7*
*DSN **27** 22:58:01.6±2.3, 27.25N×54.99E, h10km±17km, mb4.6/12, ML5.5/9, Ms4.6/2, Error ellipse: s-maj=16.7km s-min=6.7km az=60.0*
*MOS **27** 22:58:02.0±0.9, 27.25N×54.95E, h33km, mb5.2/104, MS4.2/30, Error ellipse: s-maj=5.9km s-min=3.2km az=120.8*
*TEH **27** 22:58:03.9, 27.19N×54.97E, h22km, ML5.0*
*GCMT **27** 22:58:03.9±0.2, 27.09N×54.80E, h20km±1km, MW5.0/75, Moment Tensor Solution. s32,c42; s75,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.12±.12; $M_{\theta\theta}$-2.70±.10; $M_{\phi\phi}$2.82±.10; $M_{r\theta}$-0.96±.22; $M_{\theta\phi}$2.32±.11; $M_{\phi r}$-0.14±.19; Best double couple: M_o3.73600×10^{16} NP1:ϕ_s64.00000°, δ86.00000°, λ-15.00000°. NP2: ϕ_s156.00000°, δ76.00000°, λ-175.00000°. Principal axes: T 3.7220, Plg7.0000°, Azm111.0000°; N 0.0290, Plg75.0000°, Azm228.0000°; P -3.7490, Plg13.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 22:58:03.9, 27.19N×54.97E, h22km, mb5.1/88, ML5.0(THR), MN5.0(TEH), After TEH.*
NEIC Felt at Bandar 'Abbas and Qeshm.
*CSEM **27** 22:58:04.2±0.1, 27.19N×54.93E, h40km, mb4.9/96, Ms4.4, Error ellipse: s-maj=4.3km s-min=3.1km az=51.0*
*SZGRF **27** 22:58:24.1, 27.65N×51.49E, h33km, mb4.9, Persian Gulf*

ISC 27 22:58:01.3±0.4, 27.12N±0.03×54.90E±0.02, h17km±2km, h16km:pP-P, n857, σ1s21/898, mb4.9/207, MS4.3/43, 62C-43D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.16	76	*e*Pg	Pn	22 58 23.1	+0.1
BNDS				*e*Sg	Sg	22 58 40.0	+1.0
BNDS				AML	AML	22 58 41.4	
	comp=N,50μm,0.8s						
BNDS				AML	AML	22 58 43.8	
	comp=E,53μm,0.2s						
BNDS	Bandar-Abbas	1.16	76	*e*Pg	Pn	22 58 23.1	+0.1
BNDS				*e*Sg	Sg	22 58 40.0	+1.0
	comp=E,53μm,0.2s						
IBND	Bandar-abas	1.49	77	*e*Pn	Pb	22 58 29.0	+0.4
IBND				*e*Sg	Sg	22 58 48.5	-1.0
IBND				*e*		22 59 02.8	
	comp=Z,100μm,0.4s						
IBND	Bandar-abas	1.49	77	*e*Pn	Pb	22 58 29.0	+0.4
IBND				*e*Sg	Sg	22 58 48.5	-1.0
IBND	Bandar-abas	1.49	77	Pn	Pb	22 58 29.0	+0.4
BANOM	Banah SNR=1000	1.73	133	P	Pb	22 58 32.0	-0.7
BANOM				S	Sb	22 58 55.7	+1.5
BANOM	Banah SNR=1140	1.73	133	⇑*e*P	Pb	22 58 32.0	-0.7
BANOM				⇑S	Sb	22 58 55.7	+1.5
BANOM	Banah SNR=1140	1.73	133	P	Pb	22 58 32.0	-0.7
BANOM				⇑S	Sg	22 58 57.1	0.0
GHIR	Ghir-Karzin	2.06	305	*e*Pg	Pn	22 58 36.8	+1.6
GHIR				AML	AML	22 59 15.0	
	comp=E,16μm,0.8s						
GHIR				AML	AML	22 59 18.2	
	comp=N,16μm,0.2s						
NAZ	Nazwa, Dubai SNR=78	2.23	162	P	Pb	22 58 40.5	-0.7
NAZ	Nazwa, Dubai SNR=78	2.23	162	⇑*e*P	Pb	22 58 40.5	-0.7
FAQ	Al Faqa, Dubai SNR=43	2.45	165	P	Pb	22 58 43.5	-1.4
FAQ	Al Faqa, Dubai SNR=43	2.45	165	⇑*e*P	Pb	22 58 43.5	-1.4
ASUD	Al Ashush, Dub SNR=74	2.52	171	P	Pb	22 58 45.0	-1.1
ASUD	Al Ashush, Dub SNR=74	2.52	171	⇓*e*P	Pb	22 58 45.0	-1.1
HATD	Hatta, Dubai SNR=98	2.54	154	P	Pb	22 58 44.4	-2.1
HATD	Hatta, Dubai SNR=98	2.54	154	⇓*e*P	Pb	22 58 44.4	-2.1
ASHO	Ashiyiah SNR=523	2.64	157	P	Pn	22 58 45.6	+2.4
ASHO	Ashiyiah SNR=523	2.64	157	⇓*e*P	Pn	22 58 45.6	+2.4
ASHO	Ashiyiah SNR=523	2.64	157	⇓P	Pn	22 58 45.7	+2.4
ISRV	Sarvestan	2.75	325	*e*Pn	Pn	22 58 46.5	+1.5
ISRV				*e*Sg	Sg	22 59 29.3	-0.5
ISRV				*e*		22 59 42.6	
	comp=Z,2μm,0.6s						
ISRV	Sarvestan	2.75	325	*e*Pn	Pn	22 58 46.5	+1.5
ISRV				Sg	Sg	22 59 29.2	-0.5
ISRV	Sarvestan	2.75	325	Pn	Pn	22 58 46.5	+1.5
ISRV				Sg	Sg	22 59 29.2	-0.5
SHI	Shiraz	3.27	321	*e*Pn	Pg	22 59 06.6	+2.5
SHI				*e*		23 00 11.1	
	comp=N,30μm,0.4s						
KRBR	Kerman	3.28	29	*e*Pn	Pn	22 58 53.1	+0.8
KRBR				AML	AML	22 59 58.2	
	comp=N,2μm,0.6s						
KRBR				AML	AML	23 00 00.1	
	comp=E,2μm,0.3s						
KRBR	Kerman comp=E,2μm,0.6s	3.28	29	*e*Pn	Pn	22 58 53.1	+0.8
IKAZ	Kazeroun	3.78	315	*e*Pn	Pn	22 59 00.2	+1.1
IKAZ				*e*		23 00 28.6	
	comp=Z,82μm,0.5s						
IKAZ	Kazeroun	3.78	315	*e*Pn	Pn	22 59 00.2	+1.1
IKAZ	Kazeroun	3.78	315	Pn	Pn	22 59 00.2	+1.1
ARQ	Araqi SNR=40	4.05	158	P	Pn	22 59 04.8	+2.3
ARQ	Araqi SNR=40	4.05	158	P	Pn	22 59 04.8	+2.3

HOQ Hoqain 4.14 148 P **Pn** **22 59 03.8 -0.1**
SNR=16
HOQ Hoqain 4.14 148 P **Pn** **22 59 03.8 -0.1**
SNR=16
IMEH Mehriz 4.26 357 *e*Pn **Pn** **22 59 06.3 +0.6**
IMEH *e* 23 00 30.1
comp=Z,7μm,0.3s
IMEH Mehriz 4.26 357 Pn **Pn** **22 59 06.2 +0.6**
IMEH Mehriz 4.26 357 Pn **Pn** **22 59 06.2 +0.6**
IBAF Bafgh 4.49 7 *e* 22 59 12.3
comp=Z,8μm,0.1s
IBAF *e*Pn **Pn** **22 59 09.1 +0.3**
ISAD Sadrabad 4.89 348 *e*Pn **Pn** **22 59 15.7 +1.3**
ISAD *e* 23 00 44.9
comp=Z,7μm,0.3s
ISAD Sadrabad 4.89 348 *e*Pn **Pn** **22 59 15.7 +1.3**
ISAD Sadrabad 4.89 348 Pn **Pn** **22 59 15.7 +1.3**
SMDO Samad 4.95 144 P **Pn** **22 59 16.9 +1.8**
SNR=87
SMDO Samad 4.95 144 ⇓P **Pn** **22 59 16.9 +1.8**
SNR=87
ICHK Chekchek 5.12 355 *e*Pn **Pn** **22 59 18.2 +0.6**
ICHK *e* 23 00 56.5
comp=Z,6μm,0.4s
ICHK Chekchek 5.12 355 Pn **Pn** **22 59 18.1 +0.6**
ICHK Chekchek 5.12 355 Pn **Pn** **22 59 18.1 +0.6**
JMDO Jabal Madar 5.55 148 P **Pn** **22 59 24.9 +1.6**
SNR=31
JMDO Jabal Madar 5.55 148 P **Pn** **22 59 24.9 +1.6**
SNR=31
WBK Wadi Bani Khal 5.82 140 P **Pn** **22 59 27.9 +1.0**
SNR=19
WBK Wadi Bani Khal 5.82 140 ⇑P **Pn** **22 59 27.9 +1.0**
SNR=19
IGAR Gharneh 5.82 335 *e*Pn **Pn** **22 59 28.1 +1.0**
IGAR *e* 22 59 31.9
comp=E,366nm,0.1s
NASN Na'in 5.94 343 *e*Pn **Pn** **22 59 29.1 +0.2**
NASN Na'in 5.94 343 *e*Pn **Pn** **22 59 29.1 +0.2**
IZEF Zefreh 6.17 339 *e*Pn **Pn** **22 59 31.7 -0.2**
IZEF *e* 23 00 47.0
comp=Z,2μm,0.4s
IZEF Zefreh 6.17 339 *e*Pn **Pn** **22 59 31.7 -0.2**
IZEF Zefreh 6.17 339 Pn **Pn** **22 59 31.7 -0.2**
IKOO Kooshah 6.37 33 *e*Pn **Pn** **22 59 34.5 -0.2**
IKOO *e* 23 01 51.1
comp=Z,2μm,0.4s
IKOO Kooshah 6.37 33 *e*Pn **Pn** **22 59 34.5 -0.2**
IKOO Kooshah 6.37 33 Pn **Pn** **22 59 34.5 -0.2**
IPIR Pirpir 6.54 329 *e*Pn **Pn** **22 59 37.5 +0.4**
IPIR *e* 23 01 16.4
comp=Z,3μm,0.3s
IPIR Pirpir 6.54 329 *e*Pn **Pn** **22 59 37.5 +0.4**
ITEG Tejag 6.65 29 *e*Pn **Pn** **22 59 38.2 -0.3**
ITEG *e* 23 02 00.3
comp=Z,2μm,0.4s
ITEG Tejag 6.65 29 Pn **Pn** **22 59 38.1 -0.3**
ITEG Tejag 6.65 29 Pn **Pn** **22 59 38.1 -0.3**
TABS Tabas 6.78 16 *e*Pn **Pn** **22 59 40.9 +0.7**
TABS Tabas 6.78 16 *e*Pn **Pn** **22 59 40.9 +0.7**
IKLH Kolahrood 6.81 336 *e*Pn **Pn** **22 59 42.0 +1.3**
IKLH *e* 23 02 17.0
comp=Z,4μm,0.6s
IKLH Kolahrood 6.81 336 *e*Pn **Pn** **22 59 42.0 +1.3**
IKLH Kolahrood 6.81 336 Pn **Pn** **22 59 42.0 +1.3**
NSR Nassriya 8.59 299 *e*Pn Pn 23 00 20.0 +15
NSR *e*Sn Sn 23 02 14.5 +33
SHAO Shalim 9.08 176 P **Pn** **23 00 12.2 +0.5**
SNR=36
SHAO Shalim 9.08 176 P **Pn** **23 00 12.2 +0.5**
SNR=36
RAYN Ar Rayn 9.23 249 *e*Pn **Pn** **23 00 12.1 -1.7**
RAYN Ar Rayn 9.23 249 *e*Pn **Pn** **23 00 12.1 -1.7**
RAYN *e*Sn Sn 23 01 47.8 -9.4
RBK Rabkut 9.60 184 P **Pn** **23 00 18.6 -0.2**
SNR=81
RBK Rabkut 9.60 184 P **Pn** **23 00 18.6 -0.2**
SNR=81
IBDR Badra 9.79 310 *e*Pn Pn 23 00 44.4 +23
IBDR *i* Sn Sn 23 02 52.7 +42
ABTO Aybut 9.84 189 P **Pn** **23 00 22.4 +0.3**
SNR=72
ABTO Aybut 9.84 189 P **Pn** **23 00 22.4 +0.3**
SNR=72
GEYT Alibeck 11.11 13 Pn **Pn** **23 00 39.2 -0.3**
comp=Z,0.1nm,0.3s,baz=206,slow=9.7,SNR=22
GEYT Lg Lg 23 03 48.1
comp=Z,0.2nm,0.3s,baz=204,slow=17,SNR=2.3
GEYT LR LR 23 05 50.3
comp=Z,5μm,18.4s,baz=195,slow=43
IKRK Kirkuk 12.23 315 *e*Pn P 23 01 26.6 +19
IKRK *e*Sn Sn 23 04 13.0 +62
RTB Rutbah 13.94 298 *e*Pn **Pn** **23 01 21.0 +2.9**
RTB *e*Sn **Sn** **23 03 55.4 +2.8**
KBL Kabul 14.21 55 *e*P **Pn** **23 01 24.4 +2.3**
KBL Kabul 14.21 55 *e*P **Pn** **23 01 24.4 +2.3**
KBL Kabul 14.21 55 *e*Pn **Pn** **23 01 24.4 +2.3**
HAJJ Hajjah 15.48 225 *e*P Pn 23 01 31.9 -7.3
HAJJ *i* S **Sn** **23 04 26.2 -4.3**
HAJJ Hajjah 15.48 225 *e*P Pn 23 01 31.9 -7.3
HAJJ *i* S **Sn** **23 04 26.2 -4.3**
SFNV Sufian 15.61 310 *e*P **Pn** **23 01 37.4 -3.2**
SFNV *e*S Sn 23 04 17.6 -16
SFNV AML AML 23 05 05.5
comp=E,61nm,0.6s
KBSD Kabsdagh 15.64 313 *e*P **Pn** **23 01 37.8 -3.2**
THW Thamme Wali 15.65 65 P **Pn** **23 01 38.9 -2.2**
DAMY Dhamar 15.88 220 *e*Pn **Pn** **23 01 41.0 -3.4**
comp=Z,124nm,0.7s
DHBB Dhamar BB 15.88 220 *e*P Pn 23 01 37.2 -7.3
DHBB *i* S **Sn** **23 04 36.5 -3.9**
CEP Cherat 16.10 61 P **Pn** **23 01 45.3 -1.8**
ZALF Zalf 16.27 295 *e*P **Pn** **23 01 45.4 -3.7**
ZALF *e*S Sn 23 04 34.5 -15
ZALF AML AML 23 05 08.3
comp=E,40nm,0.6s
ZALF AML AML 23 05 48.0
comp=N,32nm,0.6s
DGRG David-gareji 16.30 334 P **P** **23 01 56.0 +3.6**
ASF Jabal al Asfar 16.44 292 Pn **Pn** **23 01 49.7 -1.6**
comp=N,1.4nm,0.3s,baz=41,slow=13,SNR=13
ASF Sn Sn 23 04 43.2 -10
comp=N,0.9nm,0.3s,baz=300,slow=20,SNR=3.9
ASF Lg Lg 23 06 54.6
baz=58,slow=19,SNR=2.0
ASF Jabal al Asfar 16.44 292 P **Pn** **23 01 49.7 -1.6**
ASF 23 04 43.2
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF smax smax
comp=N,1.0nm,0.3s
SALA Sala 16.70 294 *e*P **Pn** **23 01 52.6 -2.2**
SALA AML AML 23 05 45.2
comp=N,48nm,0.9s
SALA AML AML 23 05 49.8
comp=E,3.0nm,0.6s
SALA AML AML 23 05 55.6
comp=Z,53nm,0.7s
TBLG Delisi 16.79 333 P **Pn** **23 01 53.1 -2.6**
MAK Makhachkala 16.91 341 *e*P **P** **23 01 59.3 +0.3**
MAK pmax pmax
comp=Z,167nm,0.9s
MAK MLR MLR
comp=Z,977nm,13.0s
MAK Makhachkala 16.91 341 *e*P **P** **23 01 59.3 +0.3**
comp=Z,977nm,13.0s
TRBA At Turbah 17.12 218 *e*P Pn 23 01 53.0 -7.1
TRBA AMb AMB 23 01 55.0
comp=Z,173nm,1.8s
TRBA *i* S **Sn** **23 05 06.6 -3.7**
CHCP Chirah Chowk 17.12 63 P **Pn** **23 01 57.3 -2.6**
TOTH TOTAH 17.12 296 *e*P **Pn** **23 01 58.6 -1.4**
TOTH AML AML 23 05 43.8
comp=E,26nm,0.6s
TOTH AML AML 23 05 50.6
comp=N,28nm,0.7s
MARH Ras Al Marh 17.28 298 *e*P **Pn** **23 02 00.5 -1.6**
MARH *e*S Sn 23 04 58.1 -16
MARH AML AML 23 05 19.5
comp=N,30nm,0.6s
MARH AML AML 23 05 55.4
comp=E,30nm,0.6s
TCHB Talchebab 17.32 293 *e*P **Pn** **23 02 01.4 -0.9**
TCHB AML AML 23 05 53.6
comp=E,52nm,0.7s
TCHB AML AML 23 06 27.7
comp=N,57nm,0.7s
BRBR Barbar 17.52 296 *e*P **Pn** **23 02 03.1 -1.9**
BRBR AML AML 23 05 49.3
comp=N,22nm,0.6s
BRBR AML AML 23 06 25.2
comp=Z,29nm,0.7s
EIL Elat 17.74 283 Pn **Pn** **23 02 06.7 -0.9**
comp=Z,1.6nm,0.3s,baz=83,slow=6.9,SNR=20
EIL S **Sn** **23 05 23.2 -1.7**
comp=Z,0.6nm,0.3s,baz=69,slow=14,SNR=2.1
EIL Lg Lg 23 07 29.1
comp=Z,0.1nm,0.3s,baz=300,slow=20,SNR=2.1
EIL LR LR 23 10 32.3
comp=Z,2μm,18.7s,baz=90,slow=42
MMAI Mount Meron Ar 17.86 294 Pn **Pn** **23 02 08.7 -0.4**
comp=Z,3.1nm,0.3s,baz=99,slow=16,SNR=35
MMAI LR LR 23 10 35.6
comp=Z,586nm,20.8s,baz=95,slow=42
ZEI Tsey 18.02 333 *e*P **P** **23 02 12.3 +0.8**
ZEI pmax pmax
comp=Z,105nm,0.8s
BTCH Batrach 18.03 304 *e*P **Pn** **23 02 10.2 -1.0**
BTCH *e*S Sn 23 05 15.2 -17
BTCH AML AML 23 05 54.2
comp=Z,37nm,0.7s
BTCH AML AML 23 06 24.8
comp=E,44nm,0.7s
BTCH AML AML 23 06 31.1
comp=N,21nm,0.7s
ONI Oni 18.04 332 P P 23 02 19.1 +7.4
ARNB Al Arnab 18.32 303 *e*P **Pn** **23 02 12.6 -2.2**
ARNB AML AML 23 06 26.1
comp=E,20nm,0.7s
ARNB AML AML 23 06 27.4
comp=N,16nm,0.8s
ARNB AML AML 23 06 33.7
comp=Z,24nm,0.7s
NCK Nalchik 18.73 334 *e*P **Pn** **23 02 19.7 +0.1**
NCK Nalchik 18.73 334 *e*P **Pn** **23 02 19.7 +0.1**
CHVG Ch'k'valeri 18.74 329 P Pn 23 02 26.6 +6.8
NEY Neytrino 18.89 332 *e*P **P** **23 02 21.1 0.0**
NEY pmax pmax
comp=Z,1.0nm,1.0s
NEY Neytrino 18.89 332 *e*P **P** **23 02 21.1 0.0**
comp=Z,1.0nm,1.0s
KBZ Khabaz 19.20 333 P **Pn** **23 02 26.4 +1.0**
baz=233,slow=20
KIV Kislovodsk 19.48 333 *e*P **Pn** **23 02 28.4 -0.3**
KIV *e*S **Sn** **23 06 06.5 -0.4**
KIV pmax pmax
comp=Z,82nm,1.0s
KIV MLR MLR
comp=Z,358nm,14.0s
KIV Kislovodsk 19.48 333 P **Pn** **23 02 28.2 -0.5**
SNR=7.3
KIV Kislovodsk 19.48 333 *e*Pn **Pn** **23 02 28.6 -0.1**
comp=Z,75nm,0.9s
KIV Kislovodsk 19.48 333 ⇑*i*P **Pn** **23 02 28.2 -0.5**
SNR=7.3
KIV Kislovodsk 19.48 333 ⇑P **Pn** **23 02 30.1 +1.4**
SNR=30
KIV Kislovodsk 19.48 333 *e*Pn **Pn** **23 02 28.6 -0.1**
comp=Z,75nm,0.9s
CSS Prodhromos 20.04 298 *e*Pn Pn 23 02 34.8 -0.6
comp=Z,22nm,0.8s
CSS Prodhromos 20.04 298 *e*Pn Pn 23 02 34.8 -0.6
comp=Z,22nm,0.8s
GOF Gofitskoye 20.26 335 *e*P Pn 23 02 37.1 -0.8
GOF pmax pmax
comp=Z,90nm,0.9s
GOF Gofitskoye 20.26 335 *e*P Pn 23 02 37.1 -0.8
comp=Z,90nm,0.9s
KK31 Karatay Array 20.37 34 *e*P **P** **23 02 35.5 -1.6**
KK31 pmax pmax
comp=Z,40nm,0.8s
KK31 Karatay Array 20.37 34 *e*P **P** **23 02 35.5 -1.6**
comp=Z,40nm,0.8s
KKAR Karatay Array 20.37 34 *e*P **P** **23 02 35.6 -1.5**
KKAR Karatay Array 20.37 34 *e*P **P** **23 02 35.6 -1.5**
KKAR Karatay Array 20.37 34 *e*P **P** **23 02 35.6 -1.5**
SOC Sochi 20.52 327 *e*P **P** **23 02 38.4 -0.2**
SOC *e* 23 02 54.3
SOC *e*S **S** **23 06 26.5 -1.1**
SOC *e*SS **SnSn** **23 06 46.1 -0.4**
SOC pmax pmax
comp=Z,54nm,0.8s
SOC MLR MLR
comp=Z,633nm,15.0s
SOC Sochi 20.52 327 *e*P **P** **23 02 38.4 -0.2**
comp=Z,54nm,0.8s
KSH Kashi 21.45 50 P P 23 02 41.3 -7.7
KSH PP PnPn 23 03 01.5 -7.7
KSH PMZ
comp=Z,34nm,0.6s
KSH PMZ
comp=Z,160nm,3.7s
KSH LN
comp=Z,2μm,13.1s
KSH LE
comp=Z,2μm,9.7s
KSH LZ
comp=Z,1μm,12.8s
AML Almayashu 21.45 41 P **P** **23 02 48.0 -1.2**
SNR=47
BR131 Keskin Array S 21.68 311 *e*P **P** **23 02 51.2 -0.2**
comp=Z,23nm,0.7s
BR131 Keskin Array S 21.68 311 *e*P **P** **23 02 51.2 -0.2**
comp=Z,23nm,0.7s
BRTR Keskin Array B 21.68 311 P **P** **23 02 52.4 +0.9**
comp=Z,18nm,0.7s,baz=133,slow=13,SNR=65
BRTR LR LR 23 14 05.0
comp=Z,871nm,18.2s,baz=107,slow=45
BRTR Keskin Array B 21.68 311 P **P** **23 02 52.4 +0.9**
BRTR pmax pmax
comp=Z,18nm,0.7s
BRTR MLR MLR
comp=Z,871nm,18.2s
EKS2 Erkin-Say 21.83 40 P **P** **23 02 53.0 0.0**
SNR=72
EKS2 Erkin-Say 21.83 40 *e*P **P** **23 02 52.3 -0.7**
EKS2 pmax pmax
comp=Z,112nm,1.0s
EKS2 Erkin-Say 21.83 40 *e*P **P** **23 02 52.3 -0.7**
comp=Z,112nm,1.0s
EKS2 Erkin-Say 21.83 40 *e*P **P** **23 02 52.3 -0.7**
comp=Z,112nm,1.0s
UCH Uchtor 22.00 42 P **P** **23 02 53.9 -1.2**
SNR=18
AAK Ala-Archa 22.23 41 P **P** **23 02 57.2 -0.2**
SNR=28
AAK Ala-Archa 22.23 41 P **P** **23 02 57.0 -0.3**
comp=Z,76nm,1.2s,baz=211,slow=5.4,SNR=63
AAK ScP **ScP** **23 10 30.5 +0.3**
comp=Z,1.6nm,0.6s,baz=111,slow=4.0,SNR=3.9
AAK LR LR 23 11 52.7
comp=Z,1μm,20.4s,baz=232,slow=38
AAK Ala-Archa 22.23 41 *d*/*i*P **P** **23 02 56.5 -0.8**
AAK pmax pmax
comp=Z,143nm,1.2s
AAK MLR MLR
comp=Z,2μm,17.0s
AAK Ala-Archa 22.23 41 *e*P **P** **23 02 56.7 -0.6**
comp=Z,44nm,0.9s
AAK Ala-Archa 22.23 41 P **P** **23 02 56.7 -0.6**
SNR=74
AAK Ala-Archa 22.23 41 *e*P **P** **23 02 56.7 -0.6**
comp=Z,44nm,0.9s
AAK ScP **ScP** **23 10 30.5 +0.3**
ANTO Ankara 22.32 310 *e*P **P** **23 02 59.7 +1.4**
ANTO pmax pmax
comp=Z,61nm,0.9s
ANTO Ankara 22.32 310 *e*P **P** **23 02 59.7 +1.4**
comp=Z,61nm,0.9s
ANTO Ankara 22.32 310 *e*P **P** **23 02 59.7 +1.4**
comp=Z,61nm,0.9s
KZA Kyzart 22.35 43 P **P** **23 02 57.9 -1.0**
SNR=28
FRU Bishkek 22.42 41 *e*P **P** **23 03 00.0 +0.7**
FRU *e* 23 03 16.0
FRU pmax pmax
comp=Z,100nm,1.6s
FRU Bishkek 22.42 41 *e*P **P** **23 03 00.0 +0.7**
comp=Z,100nm,1.6s
AB31 Akbulak array 22.44 9⇑*e*P **P** **23 02 58.2 -1.1**
AB31 pmax pmax
comp=Z,60nm,1.0s
AB31 Akbulak array 22.44 9 *e*P **P** **23 02 58.2 -1.1**
comp=Z,60nm,1.0s
ABKAR Akbulak array 22.44 9 *e*P **P** **23 02 58.2 -1.1**
ABKAR Akbulak array 22.44 9 *e*P **P** **23 02 58.2 -1.1**
KBK Karagaybulak 22.51 41 P **P** **23 02 59.9 -0.4**
SNR=67
ANN Anapa 22.52 326 *e*P **P** **23 02 58.0 -2.2**
ANN *e*S **S** **23 07 05.7 -0.9**
ANN pmax pmax
comp=Z,75nm,1.5s
ANN MLR MLR
comp=Z,733nm,12.0s
ANN Anapa 22.52 326 *e*P **P** **23 02 58.0 -2.2**
comp=Z,75nm,1.5s
CHMS Chumysh 22.60 40 P **P** **23 03 02.7 +1.5**
SNR=28
USP Ospenovka 22.63 40 P **P** **23 02 59.9 -1.6**
SNR=45
TKM2 Tokmak 2 23.05 42 P **P** **23 03 04.9 -1.1**
SNR=40
TKM2 Tokmak 2 23.05 42 *e*P **P** **23 03 04.8 -1.3**
TKM2 pmax pmax
comp=Z,43nm,1.1s
TKM2 Tokmak 2 23.05 42 *e*P **P** **23 03 04.8 -1.3**
comp=Z,43nm,1.1s
TKM2 Tokmak 2 23.05 42 *e*P **P** **23 03 04.8 -1.3**
comp=Z,43nm,1.1s
ISP Isparta 23.11 304 *e*P **P** **23 03 08.5 +1.9**
ISP pmax pmax
comp=Z,10.0nm,0.7s
ISP Isparta 23.11 304 *e*P **P** **23 03 08.5 +1.9**
comp=Z,10.0nm,0.7s
AKTK Aktyubinsk 23.40 5 P **P** **23 03 08.7 -0.6**
comp=Z,836nm,18.9s
AKTO Aktyubinsk 23.40 5 P **P** **23 03 08.7 -0.6**
comp=Z,33nm,0.7s,baz=179,slow=11,SNR=67
AKTO LR LR 23 14 17.6
comp=Z,836nm,18.9s,baz=173,slow=42
AKTO Aktyubinsk 23.40 5 P **P** **23 03 08.7 -0.6**
AKTO pmax pmax
comp=Z,33nm,0.7s
AKTO MLR MLR
comp=Z,836nm,18.9s
RPR Rampur 23.88 105 *e*P **P** **23 03 14.1 -0.2**
HYBB Hyderabad (bro 23.89 109 *e*P **P** **23 03 16.5 +2.2**
HYBB *e*S **S** **23 07 32.3 +2.3**
HYB Hyderabad 23.89 109 *i* P **P** **23 03 16.0 +1.7**
HYB *e* 23 03 28.0
URV Uravakonda 24.08 116 *e*P **P** **23 03 18.2 +2.1**
URV *e*S **S** **23 07 35.6 +2.4**
SIM Simferopol' 24.36 322 P **P** **23 03 18.8 +0.4**
SIM *e*S **S** **23 07 40.0 +2.9**
SIM pmax pmax
comp=Z,18nm,1.0s
SIM MLR MLR
comp=N,700nm,21.0s
PYUN Piuthan 24.89 81 *e*P **P** **23 03 24.7 +1.0**
comp=N,259nm,0.7s
NJS Nagarjunasagar 24.93 110 *e*P **P** **23 03 25.5 +1.7**
KARP Karpathos 25.08 296 *e*P **P** **23 03 26.4 +1.3**
OTUK Ortayu 25.09 28 *i* P **P** **23 03 24.8 -0.2**
OTUK pmax pmax
comp=Z,80nm,1.0s
KOLN Koldanda 25.45 82 *e*P **P** **23 03 29.8 +1.0**
comp=Z,91nm,1.0s
NPS Neapolis 26.27 295 *e*P **P** **23 03 37.8 +2.0**
GKN Gorkha 26.35 81 *e*P **P** **23 03 37.1 +0.3**
comp=Z,147nm,1.3s
VORD Divnogorie 26.61 338 *e*P **P** **23 03 37.0 -1.7**
VORD pmax pmax
comp=E,100nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,130nm,0.6s
SKHT Srikalahasti 26.72 115 *e*P **P** **23 03 43.0 +2.9**
DMN Daman 26.80 82 *e*P **P** **23 03 41.7 +0.7**
comp=N,108nm,1.0s
IDI Anoyia 26.85 295 P **P** **23 03 42.2 +1.0**
comp=N,30nm,0.7s,baz=90,slow=9.4,SNR=14
VSR Storozhevoye 26.86 338 *e*P **P** **23 03 39.4 -1.6**
VSR pmax pmax
comp=Z,20nm,1.5s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,30nm,3.3s
KKN Kakani 26.93 82 *e*P **P** **23 03 43.2 +1.0**
comp=E,92nm,0.9s
PKIN Phulchoki 27.06 82 *e*P **P** **23 03 43.5 +0.1**
comp=E,53nm,1.0s
PKI Pulchoki 27.07 82 *e*P **P** **23 03 43.9 +0.4**
comp=E,83nm,1.0s
VOR Voronezh 27.29 338 P **P** **23 03 43.0 -1.8**
VOR pmax pmax
comp=Z,250nm,1.0s
TIRR Tirgusor 27.41 316⇓*i*P **P** **23 03 50.6 +4.6**
TIRR Tirgusor 27.41 316 ⇓P **P** **23 03 50.6 +4.6**
ALN Alexandroupoli 27.44 307 *e*P **P** **23 03 46.8 +0.5**
GUN Gumba 27.45 81 *e*P **P** **23 03 47.8 +0.8**
comp=Z,193nm,1.0s
MSAB Monastry St. A 27.59 315⇑*i*P **P** **23 03 49.7 +2.1**
JIRN Jiri 27.75 82 *e*P **P** **23 03 50.1 +0.4**
comp=Z,53nm,0.9s
CFR Carcaliu 27.94 317⇑*i*P **P** **23 03 52.0 +1.3**
CFR Carcaliu 27.94 317 ⇑P **P** **23 03 52.1 +1.3**
LPSR Galich'ya Gora 28.12 339 *e*P **P** **23 03 51.2 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,10.0nm,1.6s
LPSR pmax pmax
comp=E,6.0nm,0.6s
RAMN Ramite 28.20 83 *e*P **P** **23 03 53.6 +0.1**
comp=E,56nm,0.9s
ANKY Antikythira Is 28.22 296 *e*P **P** **23 03 54.8 +1.4**
BRVK Borovoye 28.33 20*d*/*i*P **P** **23 03 52.8 -1.3**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 28.33 20 P **P** **23 03 53.7 -0.4**
SNR=6.1
BRVK Borovoye 28.33 20 *e*P **P** **23 03 53.2 -0.9**
comp=Z,25nm,1.1s
BVAR Borovoye Array 28.33 20 P **P** **23 03 53.4 -0.8**
comp=Z,29nm,0.8s,baz=203,slow=7.2,SNR=60
BVAR LR LR 23 16 56.1
comp=Z,1μm,19.2s,baz=224,slow=40
BVAR Borovoye Array 28.33 20 P **P** **23 03 53.4 -0.8**
BVAR pmax pmax
comp=Z,29nm,0.8s
BVAR MLR MLR
comp=Z,1μm,19.3s
LEOM Leova 28.57 320⇓*i*P **P** **23 03 56.4 +0.1**
LEOM Leova 28.57 320 ⇓P **P** **23 03 56.4 +0.1**
OUR Ouranopolis 28.74 305 *e*P **P** **23 03 57.9 0.0**
SMIA Simia 28.91 302 *e*P P 23 03 51.8 -7.7
ODAN Odare 28.91 83 *e*P **P** **23 03 59.8 -0.1**
comp=Z,24nm,0.8s
TAPN Taplejung 29.13 82 *e*P **P** **23 04 01.7 -0.2**
comp=Z,26nm,0.9s
NVR Nevrokopi 29.14 307 *e*P **P** **23 04 02.4 +0.8**
VRI Vrincioaia 29.15 317⇑*i*P **P** **23 04 04.4 +2.9**
VRI Vrincioaia 29.15 317 ⇑P **P** **23 04 04.5 +2.9**
MK31 Makanchi Array 29.16 40⇑*e*P **P** **23 04 00.5 -1.2**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 29.16 40 P **P** **23 04 00.9 -0.8**
comp=Z,4.2nm,0.6s,baz=229,slow=8.8,SNR=31
MKAR LR LR 23 17 35.1
comp=Z,519nm,18.6s,baz=243,slow=40
MKAR Makanchi Array 29.16 40 P **P** **23 04 00.9 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR MLR MLR
comp=Z,519nm,18.6s
PLOR Plostina 29.18 317⇑*i*P **P** **23 04 03.3 +1.4**
PLOR Plostina 29.18 317 ⇑P **P** **23 04 03.3 +1.4**
SRS Serrai 29.26 307 *e*P **P** **23 04 03.5 +0.9**
AXAR Agios Charalam 29.30 302 *e*P **P** **23 04 03.8 +0.9**
MMB Musomiste 29.32 308⇑*i*P **P** **23 04 03.6 +0.5**
MMB Musomiste 29.32 308 ⇑P **P** **23 04 03.6 +0.5**
SOH Sokhos 29.34 306 *e*P **P** **23 04 03.8 +0.5**
GUR Goura 29.36 300 *e*P **P** **23 04 03.1 -0.5**
ARU Arti 29.40 4*d*/*i*P **P** **23 04 03.2 -0.4**

ARU 23 04 57.8
ARU S **S** **23 08 59.4 +2.8**
ARU SS **SnSn** **23 10 25.0 +1.5**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU MLR MLR
comp=Z,511nm,17.0s
ARU Arti 29.40 4 *e*P **P** **23 04 03.2 -0.4**
comp=Z,11nm,0.9s
MLR Muntele Rosu 29.44 316⇑*i*P **P** **23 04 06.2 +2.0**
MLR Muntele Rosu 29.44 316 P **P** **23 04 05.2 +0.9**
comp=Z,0.9nm,0.5s,baz=327,slow=5.7,SNR=16
MLR Muntele Rosu 29.44 316 P **P** **23 04 05.2 +0.9**
MLR pmax pmax
comp=Z,1.0nm,0.5s
HORT Hortiatis 29.46 305 *e*P **P** **23 04 06.4 +2.0**
TESR Tescani 29.52 318⇓*i*P **P** **23 04 04.9 +0.1**
KLV Kalavryta, Ach 29.53 300 *e*P **P** **23 04 05.0 0.0**
ITM Ithomi 29.54 298 *e*P **P** **23 04 04.5 -0.6**
KURBB Kurchatov Arra 29.58 31 P **P** **23 04 04.6 -0.6**
comp=Z,16nm,1.0s,baz=230,slow=8.7,SNR=77
KURBB PcP **PcP** **23 07 08.9 -1.0**
comp=Z,2.4nm,0.9s,baz=237,slow=3.0,SNR=5.2
AGG Agios Georgios 29.61 302 *e*P **P** **23 04 04.8 -0.9**
KALE Kalithea 29.61 301 *e*P **P** **23 04 05.6 -0.2**
PYL PYLOS 29.63 298 *e*P **P** **23 04 05.0 -0.9**
KURK Kurchatov 29.68 31 P **P** **23 04 04.6 -1.5**
KURK 23 07 08.9
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 29.68 31 P **P** **23 04 05.7 -0.5**
SNR=15
KURK Kurchatov 29.68 31 *e*P **P** **23 04 05.6 -0.5**
KURK PcP **PcP** **23 07 08.9 -1.2**
MAKR Makrakomi, Fth 29.75 302 *e*P **P** **23 04 07.3 +0.3**
LIT Litokhoron 29.76 304 *e*P **P** **23 04 06.9 -0.2**
KNT Kendrikon 29.77 306 *e*P **P** **23 04 08.2 +1.1**
EFP Efpalio 29.80 301 *e*P **P** **23 04 07.7 +0.4**
DRO Drossia 29.85 300 *e*P **P** **23 04 08.8 +1.0**
SVE Sverdlovsk 29.97 6⇓*i*P **P** **23 04 08.4 -0.2**
SVE pmax pmax
comp=Z,16nm,1.1s
SVE MLR MLR
comp=Z,711nm,14.0s
VOIR 29.97 315⇓*i*P **P** **23 04 10.0 +1.1**
VOIR 29.97 315 ⇓P **P** **23 04 10.0 +1.1**
EVR Evrytania 29.98 302 *e*P **P** **23 04 09.1 0.0**
DOPR Dopca 30.01 317⇑*i*P **P** **23 04 09.7 +0.5**
VTS Vitosha 30.03 309⇓*i*P **P** **23 04 09.7 +0.2**
VTS Vitosha 30.03 309 ⇓P **P** **23 04 09.7 +0.2**
VAY Valandovo 30.06 306 *e*P P 23 04 14.7 +5.1
ARR Arges 30.20 315⇑*i*P **P** **23 04 11.6 +0.7**
PDO Prodromos 30.39 301 *e*P **P** **23 04 12.4 -0.2**
DSL Palaion Diasel 30.57 302 *e*P **P** **23 04 14.1 -0.1**
AK02 Malin Array Si 30.58 327 *e*P **P** **23 04 12.4 -1.6**
AKASG Malin Array Be 30.60 327 P **P** **23 04 13.7 -0.6**
comp=Z,6.3nm,0.6s,baz=130,slow=7.8,SNR=22
AKASG LR LR 23 17 32.0
comp=Z,345nm,20.5s,baz=110,slow=38
AKASG Malin Array Be 30.60 327 P **P** **23 04 13.7 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG MLR MLR
comp=Z,345nm,20.5s
AKBB Malin Array Si 30.60 327 *e*P **P** **23 04 13.1 -1.1**
AKBB Malin Array Si 30.60 327 *e*P **P** **23 04 13.1 -1.1**
KIEV Kiev 30.60 327 *e*P **P** **23 04 13.8 -0.5**
KIEV pmax pmax
comp=Z,19nm,1.0s
KIEV Kiev 30.60 327 *e*P **P** **23 04 13.8 -0.5**
comp=Z,19nm,1.0s
VLS Valsamata 30.76 300 *e*P **P** **23 04 15.4 -0.5**
FNA Florina 30.77 305 *e*P **P** **23 04 17.0 +1.0**
LOT Lotru 30.78 315⇑*i*P **P** **23 04 16.7 +0.6**
JAN Janina 30.87 303 *e*P **P** **23 04 17.6 +0.7**
NEST Nestorio 30.91 304 *e*P **P** **23 04 17.7 +0.4**
BURAR Bucovina Array 30.93 319⇑*i*P **P** **23 04 18.3 +0.9**
BURAR Bucovina Array 30.93 319 ⇑P **P** **23 04 18.3 +0.9**
BUR08 Bucovina Ar. S 30.95 319 *e*P **P** **23 04 16.6 -1.0**
OBN Obninsk 30.99 339*d*/*e* P **P** **23 04 17.3 -0.3**
OBN 23 07 14.2
OBN pmax pmax
comp=Z,39nm,0.6s
OBN MLR MLR
comp=Z,478nm,18.0s
OBN Obninsk 30.99 339 *e*P **P** **23 04 17.7 +0.1**
comp=Z,59nm,0.5s
SKO Skopje 31.06 307 *i* P **P** **23 04 19.0 +0.5**
MOS Moscow 31.21 341 *e*P **P** **23 04 22.6 +3.1**
MOS *e* 23 04 38.6
MOS *e* 23 05 37.1
MOS pmax pmax
comp=Z,50nm,1.2s
WMQ Urumqi 31.22 49 *e*P **P** **23 04 20.3 +0.4**
WMQ pP **pP** **23 04 23.8 -1.2**
WMQ sP **sP** **23 04 26.8 -0.3**
WMQ PP **PnPn** **23 05 24.0 +2.1**
WMQ *e*S **S** **23 09 27.8 +2.2**
WMQ PMZ
comp=Z,9.0nm,1.2s
WMQ PMZ
comp=Z,110nm,4.0s
WMQ LN
comp=Z,2μm,22.9s
WMQ LE
comp=Z,800nm,12.3s
WMQ LZ
comp=Z,1μm,28.4s
IGT Igoumenitsa 31.23 302 *e*P **P** **23 04 19.8 -0.2**
OHR Ohrid 31.28 305 *i* P **P** **23 04 20.0 -0.5**
GZR Gura Zlata 31.39 314⇑*i*P **P** **23 04 21.8 +0.4**
DEV Deva 31.52 315⇓*i*P P 23 04 29.5 +7.1
DEV Deva 31.52 315 ⇓P P 23 04 29.5 +7.1
KEK Kerkira 31.68 302 *e*P **P** **23 04 23.5 -0.4**
LSA Lhasa 31.91 77 P **P** **23 04 27.0 +0.4**
LSA Lhasa 31.91 77 *e*P **P** **23 04 26.8 +0.2**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 31.91 77 *e*P **P** **23 04 26.8 +0.2**
comp=Z,8.4nm,0.7s
BMR Baia Mare 31.97 318⇓*i*P **P** **23 04 29.3 +2.9**
BMR Baia Mare 31.97 318 ⇓P **P** **23 04 29.3 +2.9**
DRGR 32.03 316⇓*i*P **P** **23 04 27.9 +0.8**
DRGR 32.03 316 ⇓P **P** **23 04 27.9 +0.8**
BZS Buzias 32.23 314⇓*i*P **P** **23 04 29.3 +0.6**
BZS Buzias 32.23 314 ⇓P **P** **23 04 29.3 +0.6**
BANR Banloc 32.45 313⇑*i*P **P** **23 04 32.3 +1.7**
SIRR Siria 32.46 315⇓*i*P **P** **23 04 31.5 +0.7**
DIVS Divibare 32.75 310⇓*i*P **P** **23 04 34.3 +0.9**
DIVS Divibare 32.75 310⇓*i*P **P** **23 04 34.3 +0.9**
TRPA Tarpa 32.75 318⇓*i*P **P** **23 04 33.6 +0.4**
KMBO Kilima Mbogo 32.83 214 P **P** **23 04 36.9 +2.4**
comp=Z,15nm,1.0s,baz=28,slow=9.9,SNR=14
KMBO Kilima Mbogo 32.83 214 *i* P **P** **23 04 37.5 +3.0**
KMBO pmax pmax
comp=Z,15nm,1.0s
UZH Uzhgorod 33.13 319 *e*P **P** **23 04 35.2 -1.4**
UZH *i* S **S** **23 09 51.2 -3.9**
UZH *e*SS **SnSn** **23 11 54.0 -0.4**
UZH *e* 23 12 20.8
KOLS Kolonicke sedl 33.29 320 *e*P **P** **23 04 38.9 +0.9**
KOLS pmax pmax
comp=Z,21nm,1.2s
KOLS Kolonicke sedl 33.29 320 *e*P **P** **23 04 38.9 +0.9**
KWP Kalwaria Pacla 33.39 321 *e*P **P** **23 04 39.2 +0.4**
KWP Kalwaria Pacla 33.39 321⇓*i*P **P** **23 04 39.0 +0.2**
KWP Kalwaria Pacla 33.39 321 *e*P **P** **23 04 38.0 -0.8**
KWP pmax pmax
comp=Z,10.0nm,0.6s
KWP Kalwaria Pacla 33.39 321 *e*P **P** **23 04 39.3 +0.4**
KWP Kalwaria Pacla 33.39 321 *e*P **P** **23 04 38.0 -0.8**
comp=Z,10nm,0.6s
CRVS Cervenica-Dubn 33.75 319 *e*P **P** **23 04 42.0 0.0**
CRVS pmax pmax
comp=Z,12nm,0.9s
CRVS Cervenica-Dubn 33.75 319 *e*P **P** **23 04 42.0 0.0**
TIP Timpagrande 33.89 301 *e*P **P** **23 04 43.6 +0.3**
comp=Z,28nm,1.3s
TIP Timpagrande 33.89 301 *e*P **P** **23 04 43.6 +0.3**
comp=Z,28nm,1.3s
STHS Stebnicka Huta 34.12 320 *e*P **P** **23 04 46.9 +1.7**
STHS Stebnicka Huta 34.12 320 *e*P **P** **23 04 46.9 +1.7**
STHS Stebnicka Huta 34.12 320 *e*P **P** **23 04 46.9 +1.7**

KECS Kecovo 34.13 318 *e*P **P** **23 04 46.1 +0.8**
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 34.13 318 *e*P **P** **23 04 46.1 +0.8**
comp=Z,7.0nm,0.9s
KECS Kecovo 34.13 318 *e*P **P** **23 04 46.1 +0.8**
PSZ Piszkesteto 34.25 317 *e*P P 23 04 51.0 +4.6
PSZ pmax pmax
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 34.25 317 *e*P P 23 04 51.0 +4.6
comp=Z,7.0nm,0.8s
PKSM Moragy 34.38 313⇑*i*P **P** **23 04 47.7 +0.3**
PKSM Moragy 34.38 313 ⇑P **P** **23 04 47.7 +0.3**
PKSM Moragy 34.38 313 P **P** **23 04 47.7 +0.3**
CEL Celeste 34.43 299 *e*P P 23 04 51.5 +3.4
comp=Z,14nm,1.1s
NVS Novosibirsk 34.54 29⇑*i*P **P** **23 04 48.0 -0.7**
NVS *i* S **S** **23 10 14.8 -2.0**
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.1s
NVS pmax pmax
comp=Z,25nm,1.1s
NVS Novosibirsk 34.54 29 *i* P **P** **23 04 48.0 -0.7**
NVS *i* S **S** **23 10 14.8 -2.0**
NIE Niedzica 34.66 319 *e*P **P** **23 04 50.5 +0.7**
ZAA0 Zalesovo Array 34.67 31 *e*P **P** **23 04 48.3 -1.6**
ZAA0 Zalesovo Array 34.67 31 *e*P **P** **23 04 48.3 -1.6**
ZALV Zalesovo Beam 34.67 31 P **P** **23 04 48.7 -1.2**
comp=Z,24nm,0.6s,baz=239,slow=9.0,SNR=118
ZALV LR LR 23 21 17.3
comp=Z,708nm,18.0s,baz=248,slow=40
ZALV Zalesovo Beam 34.67 31 P **P** **23 04 48.7 -1.2**
ZALV pmax pmax
comp=Z,24nm,0.6s
ZALV MLR MLR
comp=Z,708nm,18.0s
CUC Castrocucco 34.74 302 *e*P **P** **23 04 51.8 +1.1**
comp=Z,24nm,0.8s
CUC Castrocucco 34.74 302 *e*P **P** **23 04 51.8 +1.1**
comp=Z,24nm,0.8s
IIGN Ignalina 35.03 331 *e*P **P** **23 04 52.6 -0.4**
IIGN AMB AMB 23 04 59.7
comp=Z,20nm,1.1s
IIGN Ignalina 35.03 331 *e*P **P** **23 04 52.6 -0.4**
comp=Z,20nm,1.1s
PRGR Permogore 35.07 352 P P 23 04 49.8 -3.3
PRGR pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 35.13 317 *e*P **P** **23 04 53.8 -0.1**
VYHS pmax pmax
comp=Z,99nm,3.2s
VYHS Vyhne 35.13 317 *e*P **P** **23 04 53.8 -0.1**
comp=Z,99nm,3.2s
VYHS Vyhne 35.13 317 *e*P **P** **23 04 53.8 -0.1**
ISAL Salakas 35.22 332 *e*P **P** **23 04 54.1 -0.5**
ISAL AMB AMB 23 05 01.5
comp=Z,19nm,1.0s
ISAL Salakas 35.22 332 *e*P **P** **23 04 54.1 -0.5**
comp=Z,19nm,1.0s
KLMR Klimovskoe 35.30 347 *e*P **P** **23 04 55.3 +0.1**
KLMR pmax pmax
comp=Z,63nm,1.6s
KLMR Klimovskoe 35.30 347 *e*P **P** **23 04 55.3 +0.1**
comp=Z,63nm,1.6s
OJC Ojcow 35.32 320 *e*P **P** **23 04 55.6 +0.1**
comp=Z,27nm,1.0s
OJC Ojcow 35.32 320 *e*P **P** **23 04 55.3 -0.2**
OJC Ojcow 35.32 320 *e*P **P** **23 04 55.3 -0.2**
OJC Ojcow 35.32 320 *e*P **P** **23 04 55.3 -0.2**
SUW Suwalki 35.56 328 *e*P **P** **23 04 57.3 -0.2**
SUW Suwalki 35.56 328 *e*P **P** **23 04 57.3 -0.2**
SUW Suwalki 35.56 328 *e*P **P** **23 04 57.3 -0.2**
comp=Z,44nm,0.9s
SUW Suwalki 35.56 328 *e*P **P** **23 04 57.3 -0.2**
comp=Z,44nm,0.9s
SMOL Smolenice 36.00 317 *e*P **P** **23 05 01.7 +0.3**
SMOL Smolenice 36.00 317 *e*P **P** **23 05 01.7 +0.3**
SMOL Smolenice 36.00 317 *e*P **P** **23 05 01.7 +0.3**
OKC Ostrava-Krasne 36.10 319 *e*P **P** **23 05 02.3 +0.1**
comp=Z,15nm,0.8s
OKC Ostrava-Krasne 36.10 319 *e*P **P** **23 05 01.2 -1.0**
OKC *ex* x 23 05 06.7
OKC Ostrava-Krasne 36.10 319 *e*P **P** **23 05 01.2 -1.0**
OKC *e* 23 05 06.7
OKC Ostrava-Krasne 36.10 319 *e*P **P** **23 05 02.3 +0.1**
comp=Z,15nm,0.8s
BOJS Bojanci 36.39 311 *i* P **P** **23 05 05.1 +0.3**
MORC Moravsky Berou 36.43 319 *e*P **P** **23 05 05.1 0.0**
comp=Z,16nm,0.9s
MORC Moravsky Berou 36.43 319⇑*i*P **P** **23 05 04.8 -0.3**
MORC Moravsky Berou 36.43 319 *e*P **P** **23 05 05.4 +0.2**
MORC pmax pmax
comp=Z,13nm,0.8s
MORC Moravsky Berou 36.43 319 *e*P **P** **23 05 05.1 0.0**
comp=Z,16nm,0.9s
MORC Moravsky Berou 36.43 319 *e*P **P** **23 05 05.4 +0.2**
comp=Z,13nm,0.8s
CLTB Caltabellotta 36.47 297 *e*P **P** **23 05 07.8 +2.2**
comp=Z,14nm,1.1s
PUL Pulkovo 36.75 339 *e*P **P** **23 05 07.8 +0.2**
PUL pmax pmax
comp=Z,36nm,0.7s
VISS Visnje 36.75 311 *e*P **P** **23 05 08.6 +0.7**
CONA Conrad Observa 36.76 315⇓*i*P **P** **23 05 08.1 +0.1**
comp=Z,14nm,1.4s
CONA Conrad Observa 36.76 315 P **P** **23 05 08.1 +0.1**
comp=Z,14nm,1.4s
VRAC Vranov 36.81 317⇑*i*P **P** **23 05 08.7 +0.4**
VRAC Vranov 36.81 317 ⇑P **P** **23 05 08.7 +0.4**
VRAC Vranov 36.81 317⇑*i*P **P** **23 05 08.7 +0.4**
PERS Pernice 36.81 313 *i* P **P** **23 05 08.3 -0.1**
SOKA Soboth 36.88 313⇑*i*P **P** **23 05 07.2 -1.8**
comp=Z,6.5nm,1.2s
SOKA Soboth 36.88 313 P **P** **23 05 07.2 -1.8**
comp=Z,6.5nm,1.2s
AQU L'Aquila 36.95 305 *e*P **P** **23 05 09.1 -0.5**
AQU *e*S **S** **23 10 54.5 +0.4**
AQU pmax pmax
comp=Z,40nm,0.8s
AQU L'Aquila 36.95 305 *e*P **P** **23 05 09.1 -0.5**
comp=Z,40nm,0.8s
AQU *e*S **S** **23 10 54.5 +0.4**
VSU Vasula 36.99 336*d*/*i*P **P** **23 05 09.1 -0.5**
VSU pmax pmax
comp=Z,73nm,1.2s
JAVS Javornik 37.30 311 *i* P **P** **23 05 12.6 -0.1**
DPC Dobruska-Polom 37.39 319 *e*P **P** **23 05 13.2 0.0**
comp=Z,7.0nm,0.8s
DPC Dobruska-Polom 37.39 319 *e*P **P** **23 05 13.3 0.0**
DPC *ex* x 23 05 17.4
DPC AMS AMS 23 23 10.0
DPC Dobruska-Polom 37.39 319 *e*P P 23 05 09.0 -4.2
DPC *e* 23 05 17.4
DPC Dobruska-Polom 37.39 319 *e*P **P** **23 05 13.2 0.0**
comp=Z,7.0nm,0.8s
DPC Dobruska-Polom 37.39 319 *e*P **P** **23 05 13.3 0.0**
TRI Trieste 37.45 311 *e*P **P** **23 05 13.7 -0.1**
TRI pmax pmax
comp=Z,13nm,0.6s
TRI Trieste 37.45 311 *e*P **P** **23 05 13.7 -0.1**
comp=Z,13nm,0.6s
TREC Trest 37.48 317 *e*P **P** **23 05 15.3 +1.3**
TREC *e*pP **pP** **23 05 21.3 +2.2**
TREC AMS AMS 23 22 00.0
comp=Z,500nm,16.1s
TREC Trest 37.48 317 *e*P P 23 05 10.8 -3.2
TREC *e* 23 05 21.3
TREC MLR MLR
comp=Z,500nm,16.1s
KSP Ksiaz 37.60 320 *e*P **P** **23 05 15.0 0.0**
comp=Z,32nm,1.6s
KSP Ksiaz 37.60 320 *e*P **P** **23 05 15.3 +0.3**
KSP Ksiaz 37.60 320 *e*P **P** **23 05 14.7 -0.3**
KSP MLR MLR
comp=Z,2μm,21.9s
KSP Ksiaz 37.60 320 *e*P **P** **23 05 15.0 0.0**
comp=Z,32nm,1.6s
UPC Upice 37.63 319 *e*P **P** **23 05 15.0 -0.3**
UPC *ex* x 23 05 19.8
UPC *ex* x 23 05 25.5
UPC Upice 37.63 319 *e*P **P** **23 05 15.0 -0.3**
UPC *e* 23 05 25.5
MOA Molln 37.74 314⇑*i*P **P** **23 05 16.2 -0.1**
comp=Z,10nm,0.8s
MOA Molln 37.74 314 P **P** **23 05 16.2 -0.1**
comp=Z,10nm,0.8s
KBA Koelnbreinsper 38.11 313⇓*i*P **P** **23 05 19.8 +0.3**
comp=Z,23nm,0.8s,SNR=16
KBA Koelnbreinsper 38.11 313 P **P** **23 05 19.8 +0.3**
comp=Z,23nm,0.8s,SNR=16
GOPC GO Pecny, Ondr 38.13 318 *e*P **P** **23 05 19.3 -0.2**
GOPC *ex* x 23 05 23.8
GOPC AMS AMS 23 25 00.0
comp=Z,400nm,14.2s
PRU Pruhonice 38.30 318 *e*P **P** **23 05 20.4 -0.5**
PRU *e*pP **pP** **23 05 26.5 +0.4**
PRU *ex* x 23 05 33.4
PRU AMS AMS 23 23 40.0
comp=Z,500nm,16.5s
PRU Pruhonice 38.30 318 *e*P **P** **23 05 20.4 -0.5**
PRU *e* 23 05 26.5
PRU *e* 23 05 33.4
PRU MLR MLR
comp=Z,500nm,16.5s
PRA Prague 38.40 318 *e*P **P** **23 05 21.6 -0.1**
PRA *ex* x 23 05 26.2
PRA *ex* x 23 05 32.4
PRA AMS AMS 23 23 10.0
comp=Z,600nm,18.2s
PRA Prague 38.40 318 *e*P **P** **23 05 21.6 -0.1**
PRA *e* 23 05 32.4
PRA MLR MLR
comp=Z,600nm,18.2s
GEC2 GERESS Array S 38.42 316 *e*P **P** **23 05 22.2 +0.1**
GEC2 GERESS Array S 38.42 316 *e*P **P** **23 05 22.1 +0.1**
GERES GERESS Array B 38.42 316 P **P** **23 05 21.6 -0.5**
comp=Z,1.1nm,0.6s,baz=114,slow=7.3,SNR=11
GERES PcP **PcP** **23 07 34.7 -0.5**
comp=Z,1.0nm,0.8s,baz=148,slow=5.8,SNR=2.7
GERES ScP **ScP** **23 11 21.7 -0.8**
comp=Z,0.7nm,0.8s,baz=131,slow=5.5,SNR=4.2
GERES LR LR 23 22 59.5
comp=Z,268nm,20.1s,baz=105,slow=39
GERES GERESS Array B 38.42 316 P **P** **23 05 21.6 -0.5**
GERES 23 07 34.7
GERES 23 11 21.7
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,269nm,20.1s
PVCC Panska Ves 38.49 318 *e*P **P** **23 05 21.5 -1.0**
PVCC *ex* x 23 05 26.3
PVCC *ex* x 23 05 33.6
PVCC AMS AMS 23 24 00.0
comp=Z,700nm,16.4s
PVCC Panska Ves 38.49 318 *e*P **P** **23 05 21.5 -1.0**
PVCC *e* 23 05 33.6
PVCC MLR MLR
comp=Z,700nm,16.4s
ABTA Abfaltersbach 38.56 312⇓*i*P **P** **23 05 23.3 0.0**
comp=Z,23nm,1.0s,SNR=5.6
ABTA Abfaltersbach 38.56 312 P **P** **23 05 23.3 0.0**
comp=Z,23nm,1.0s,SNR=5.6
KHC Kasperske Hory 38.59 316 *e*P **P** **23 05 22.5 -0.9**
KHC *ex* x 23 05 26.5
KHC *e*pP **pP** **23 05 32.0 +3.4**
KHC Kasperske Hory 38.59 316 *e*P **P** **23 05 22.5 -0.9**
KHC *e* 23 05 32.0
BRG Berggiesshubel 38.99 319 *e*P **P** **23 05 26.5 -0.2**
comp=Z,11nm,1.3s
comp=N,612nm,19.8s
comp=E,419nm,16.1s
comp=Z,614nm,15.0s
BRG Berggiesshubel 38.99 319 *e*P **P** **23 05 26.4 -0.2**
comp=Z,13nm,1.3s
BRG Berggiesshubel 38.99 319 *e*P **P** **23 05 26.5 -0.2**
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=N,612nm,19.8s
BRG MLR MLR
comp=E,419nm,16.1s
BRG MLR MLR
comp=Z,614nm,15.0s
BRG Berggiesshubel 38.99 319 *e*P **P** **23 05 26.4 -0.2**
comp=Z,13nm,1.3s
JOF Joensuu 39.01 343 *e*p **P** **23 05 25.1 -1.5**
comp=Z,5.8nm,0.6s
JOF Joensuu 39.01 343 *e*P **P** **23 05 25.1 -1.5**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 39.01 343 *e*P **P** **23 05 25.1 -1.5**
comp=Z,6.0nm,0.6s
WET Wettzell 39.03 316 *e*P **P** **23 05 26.2 -0.9**
comp=Z,6.0nm,0.8s
WET Wettzell 39.03 316 *e*P **P** **23 05 26.2 -0.9**
comp=Z,6.0nm,0.8s
GTA Gaotai 39.13 60 ⇓P **P** **23 05 28.3 +0.1**
GTA pP **pP** **23 05 32.8 -0.5**
GTA sP **sP** **23 05 35.3 -0.1**
GTA PcP **PcP** **23 07 38.0 +0.3**
GTA S **S** **23 11 27.5 +0.1**
GTA sS **sS** **23 11 35.0 -0.9**
GTA SS **SnSn** **23 14 13.0 -6.9**
GTA PMZ
comp=Z,33nm,1.2s
GTA PMZ
comp=Z,130nm,4.5s
GTA LN
comp=Z,510nm,16.2s
GTA LE
comp=Z,370nm,17.1s
GTA LZ
comp=Z,490nm,15.7s
WTTA Wattenberg 39.28 312 *i* P **P** **23 05 29.2 -0.2**
comp=Z,44nm,1.0s,SNR=17
WTTA Wattenberg 39.28 312 P **P** **23 05 29.2 -0.2**
comp=Z,44nm,1.0s,SNR=17
FINES FINESS Array B 39.38 339 P **P** **23 05 29.1 -0.7**
comp=Z,8.8nm,0.5s,baz=149,slow=11,SNR=53
FINES LR LR 23 24 15.2
comp=Z,398nm,18.3s,baz=136,slow=40
FINES FINESS Array B 39.38 339 P **P** **23 05 29.1 -0.7**
FINES pmax pmax
comp=Z,9.0nm,0.5s
FINES MLR MLR
comp=Z,399nm,18.3s
VLC Villacollemand 39.44 307 *e*P **P** **23 05 30.4 -0.2**
comp=Z,16nm,0.9s
KEST Kesra 39.52 294 P **P** **23 05 33.0 +1.6**
comp=Z,3.5nm,0.5s,baz=85,slow=2.7,SNR=57
KEST LR LR 23 24 38.4
comp=Z,66nm,20.4s,baz=179,slow=40
KEST Kesra 39.52 294 *e*P **P** **23 05 33.4 +2.0**
VSL Villasalto 39.61 300 *e*P **P** **23 05 32.4 +0.4**
comp=Z,46nm,1.0s
ROTZ Rotzenmuhle 39.65 316 *e*P **P** **23 05 32.3 +0.1**
comp=Z,21nm,1.4s
ROTZ Rotzenmuhle 39.65 316 *e*P **P** **23 05 32.3 +0.1**
comp=Z,21nm,1.4s
CLL Collm 39.70 319 *e*P **P** **23 05 32.5 0.0**
comp=Z,17nm,1.3s
CLL Collm 39.70 319⇓*i*P **P** **23 05 32.6 0.0**
comp=Z,10.0nm,1.0s
CLL *i* 23 05 36.1
CLL *e*PP **PnPn** **23 07 12.0 +5.1**
CLL *e*S **S** **23 11 36.0 +0.7**
CLL *e* 23 13 06.0
CLL *e*SSS SSS 23 14 48.0
CLL LmH 23 23 00.0
comp=N,600nm,19.5s
CLL LmH 23 23 00.0
comp=E,300nm,20.2s
CLL LmV 23 26 00.0
comp=Z,400nm,20.0s
CLL Collm 39.70 319⇓*i*P **P** **23 05 32.6 0.0**
CLL *e*S **S** **23 11 36.0 +0.7**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL MLR MLR
comp=Z,400nm,20.0s
CLL Collm 39.70 319 *e*P **P** **23 05 32.5 0.0**
comp=Z,17nm,1.3s
CLL Collm 39.70 319 *e*P **P** **23 05 32.7 +0.2**
comp=Z,22nm,1.3s
RUE Ruedersdorf 39.70 321 *e*P **P** **23 05 32.7 +0.2**
comp=Z,52nm,1.3s
RUE Ruedersdorf 39.70 321 *e*P **P** **23 05 32.7 +0.2**
comp=Z,52nm,1.3s

RUE Ruedersdorf 39.70 321 *e*P P **23 05 32.8 +0.2**
comp=Z,27nm,0.9s
FUR Furstenfeldbru 39.76 314 *e*P P **23 05 32.6 -0.5**
comp=Z,30nm,0.9s
FUR Furstenfeldbru 39.76 314 *e*P P **23 05 32.6 -0.5**
comp=Z,30nm,0.9s
KAF Kangasniemi 39.81 339 *e*p P **23 05 33.2 -0.1**
comp=Z,3.7nm,0.5s
KAF Kangasniemi 39.81 339 *e*P P **23 05 33.2 -0.1**
KAF pmax pmax
comp=Z,4.0nm,0.5s
FETA Feichten 39.82 312 *i*P P **23 05 33.4 -0.4**
comp=Z,45nm,0.7s,SNR=19
FETA Feichten 39.82 312 P P **23 05 33.4 -0.4**
comp=Z,45nm,0.7s,SNR=19
RETA Reutte 39.91 313⇑ *i*P P **23 05 33.5 -1.0**
comp=Z,12nm,0.6s
RETA Reutte 39.91 313 P P **23 05 33.5 -1.0**
comp=Z,12nm,0.6s
FUORN Ofenpass-Fuorn 40.03 311 *e*P P **23 05 36.4 +0.7**
comp=Z,16nm,0.7s
PGF Pioggiola 40.20 305 *e*P P **23 05 36.6 -0.4**
comp=Z,40nm,0.9s
PGF Pioggiola 40.20 305 *e*P P **23 05 36.6 -0.4**
PGF pmax pmax
comp=Z,40nm,0.9s
PGF Pioggiola 40.20 305 *e*P P **23 05 36.6 -0.4**
comp=Z,20nm,0.9s
PGF Pioggiola 40.20 305 *e*P P **23 05 36.6 -0.4**
comp=Z,40nm,0.9s
BSD Bornholm Skovb 40.23 325 *i*P P **23 05 35.9 -0.9**
BSD pmax pmax
comp=Z,24nm,0.7s
BSD Bornholm Skovb 40.23 325 *i*P P **23 05 36.0 -0.9**
SNR=24
BSD Bornholm Skovb 40.23 325 *i*P P **23 05 35.9 -0.9**
comp=Z,24nm,0.7s
GRA1 Grafenberg Arr 40.23 316 *e*P P **23 05 36.9 -0.2**
comp=Z,24nm,0.8s
GRF Grafenberg Arr 40.23 316 *e*P P **23 05 36.9 -0.2**
comp=Z,24nm,0.8s
GRFO Grafenberg 40.23 316 *e*P P **23 05 37.2 +0.1**
GRFO pmax pmax
comp=Z,19nm,0.8s
GRFO Grafenberg 40.23 316 *e*P P **23 05 37.2 +0.1**
comp=Z,19nm,0.8s
NEUB Neuenburg 40.38 318 *e*P P **23 05 38.2 -0.1**
comp=Z,14nm,1.0s
NEUB Neuenburg 40.38 318 *e*P P **23 05 38.2 -0.1**
comp=Z,14nm,1.0s
DAVA Damuels 40.44 312 *i*P P **23 05 38.6 -0.4**
comp=Z,96nm,0.5s,SNR=37
DAVA Damuels 40.44 312 P P **23 05 38.6 -0.4**
comp=Z,96nm,0.5s,SNR=37
TUE Stuetta 40.62 311 *e*P P **23 05 38.9 -1.7**
comp=Z,443nm,0.5s
RGN Rugen 40.80 324 *e*P P **23 05 42.2 +0.6**
comp=Z,137nm,1.5s
RGN Rugen 40.80 324 *e*P P **23 05 42.2 +0.6**
comp=Z,137nm,1.5s
CMAI Chiengmai2 40.94 90 P P 23 05 50.6 +7.1
comp=Z,189nm,0.8s
ABSA Djebel Ababsia 41.03 295 P P **23 05 45.7 +1.8**
ABSA Djebel Ababsia 41.03 295 P P **23 05 45.7 +1.8**
CMAH Djebel Manchou 41.07 296 P P **23 05 45.9 +1.7**
CMAH Djebel Manchou 41.07 296 P P **23 05 45.9 +1.7**
CHTO Chiang Mai 41.22 92 *e*P P **23 05 46.2 +0.6**
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 41.22 92 P P **23 05 46.6 +1.1**
SNR=6.8
CHTO Chiang Mai 41.22 92 *e*P P **23 05 46.2 +0.6**
comp=Z,11nm,1.0s
CHTO Chiang Mai 41.22 92 P P **23 05 46.6 +1.1**
comp=Z,56nm,1.1s
CMMT Chiang Mai 41.22 92 P P **23 05 46.6 +1.0**
comp=Z,14nm,1.6s
CMAR Chiang Mai Arr 41.34 93 P P **23 05 47.2 +0.7**
comp=Z,3.7nm,0.7s,baz=283,slow=9.1,SNR=19
CMAR PcP **PcP** **23 07 45.5 +0.5**
comp=Z,1.3nm,0.6s,baz=295,slow=4.8,SNR=4.6
CMAR LR LR 23 25 50.0
comp=Z,161nm,20.9s,baz=292,slow=40
CMAR Chiang Mai Arr 41.34 93 P P **23 05 47.3 +0.7**
CMAR 23 07 45.5
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR MLR MLR
comp=Z,161nm,20.9s
SPAK Spaichingen-Ko 41.35 313⇑ *e*P P **23 05 45.3 -1.1**
CLZ Clausthal 41.42 319 *e*P P **23 05 47.4 +0.5**
comp=Z,29nm,0.8s
CLZ Clausthal 41.42 319 *e*P P **23 05 47.4 +0.5**
comp=Z,29nm,0.8s
SAOF Saorge 41.43 307⇑ *e*P P **23 05 46.6 -0.5**
SBF Sospel 41.50 306 *e*P P **23 05 47.4 -0.3**
comp=Z,81nm,0.8s
SBF Sospel 41.50 306 *e*P P **23 05 47.4 -0.3**
SBF pmax pmax
comp=Z,81nm,0.8s
SBF Sospel 41.50 306 *e*P P **23 05 47.4 -0.3**
comp=Z,41nm,0.8s
SBF Sospel 41.50 306 *e*P P **23 05 47.4 -0.3**
comp=Z,81nm,0.8s
AUTN L'Aution 41.52 307⇑ *e*P P **23 05 48.0 -0.1**
CAEH 'Ain El Ouahch 41.52 296 P P **23 05 49.0 +1.1**
CAEH 'Ain El Ouahch 41.52 296 P P **23 05 49.0 +1.1**
CKFL Kef-Lekhel 41.64 295 P P **23 05 50.0 +1.0**
CKFL Kef-Lekhel 41.64 295 P P **23 05 50.0 +1.0**
TOUF Mont Tournerai 41.66 307⇑ *e*P P **23 05 49.0 -0.1**
BFO Black Forest 41.70 313 *e*P P **23 05 49.7 +0.5**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 41.70 313 *e*P P **23 05 49.6 +0.5**
comp=Z,6.9nm,0.8s
MVIF Mont Vial 41.71 306⇑ *e*P P **23 05 47.1 -2.4**
TOD Tromm 41.72 315⇑ *e*P P **23 05 48.3 -1.0**
COP Copenhagen 41.75 325 *e*P P 23 05 53.3 +3.9
COP Copenhagen 41.75 325 *i*P P 23 05 53.3 +3.9
NRDL Niedersach Rie 41.79 320 *e*P P **23 05 50.8 +1.0**
comp=Z,48nm,1.0s
NRDL Niedersach Rie 41.79 320 *e*P P **23 05 50.8 +1.0**
comp=Z,48nm,1.0s
FELD Feldberg im Sc 41.81 313⇑ *e*P P **23 05 49.3 -1.0**
CASM Ain Smara 41.83 295 P P **23 05 51.1 +0.7**
CASM Ain Smara 41.83 295 P P **23 05 51.1 +0.7**
CTEI Djebel Teioual 41.90 295 P P **23 05 52.9 +1.8**
CTEI Djebel Teioual 41.90 295 P P **23 05 52.9 +1.8**
LAMP Lampang 41.93 92 P P **23 05 53.7 +2.3**
comp=Z,4.3nm,1.0s
SENIN Lac Senin/Sane 41.99 310 *e*P P **23 05 50.7 -1.1**
CRAI Chiangrai 42.03 89 P P **23 05 49.3 -2.9**
FRF La Foret Royal 42.03 306 *e*P P **23 05 51.4 -0.5**
comp=Z,18nm,0.9s
FRF La Foret Royal 42.03 306 *e*P P **23 05 51.4 -0.5**
FRF pmax pmax
comp=Z,18nm,0.9s
FRF La Foret Royal 42.03 306 *e*P P **23 05 51.4 -0.5**
comp=Z,8.8nm,0.9s
FRF La Foret Royal 42.03 306 *e*P P **23 05 51.4 -0.5**
comp=Z,18nm,0.9s
BBS Basel-Blauen 42.05 312⇑ *e*P P **23 05 49.7 -2.4**
MBDF Montbardon 42.09 308 *e*P P **23 05 51.7 -0.9**
comp=Z,46nm,0.7s
MBDF Montbardon 42.09 308 *e*P P **23 05 51.7 -0.9**
MBDF pmax pmax
comp=Z,46nm,0.7s
MBDF Montbardon 42.09 308 *e*P P **23 05 51.7 -0.9**
comp=Z,23nm,0.7s
MBDF Montbardon 42.09 308 *e*P P **23 05 51.7 -0.9**
comp=Z,46nm,0.7s
KTD Kalmit 42.10 315⇑ *e*P P **23 05 51.0 -1.4**
TNS Taunus Mts 42.10 316 *e*P P **23 05 52.6 +0.1**
comp=Z,19nm,1.2s
TNS Taunus Mts 42.10 316 *e*P P **23 05 52.6 +0.1**
comp=Z,19nm,1.2s
LMR La Mourre 42.10 306 *e*P P **23 05 51.8 -0.7**
comp=Z,22nm,1.0s
LMR La Mourre 42.10 306 *e*P P **23 05 51.8 -0.7**
LMR pmax pmax
comp=Z,22nm,1.0s
LMR La Mourre 42.10 306 *e*P P **23 05 51.8 -0.7**
comp=Z,11nm,1.0s
LMR La Mourre 42.10 306 *e*P P **23 05 51.8 -0.7**
comp=Z,22nm,1.0s
BSEG Bad Segeberg 42.18 322 *e*P P **23 05 53.4 +0.5**
comp=Z,28nm,1.1s
BSEG Bad Segeberg 42.18 322 *e*P P **23 05 53.4 +0.5**
comp=Z,28nm,1.1s
LANF Langenberg 42.19 314⇑ *e*P P **23 05 51.8 -1.4**
BNI Bardonecchia 42.20 308 *e*P P **23 05 51.8 -1.7**
BNI pmax pmax
comp=Z,20nm,0.6s
BNI Bardonecchia 42.20 308 *e*P P **23 05 51.8 -1.7**
comp=Z,20nm,0.6s
LPG La Plagne 42.22 309 *e*P P **23 05 52.8 -1.0**
comp=Z,41nm,0.7s
LPG La Plagne 42.22 309 *e*P P **23 05 52.8 -1.0**
LPG pmax pmax
comp=Z,41nm,0.7s
LPG La Plagne 42.22 309 *e*P P **23 05 52.8 -1.0**
comp=Z,21nm,0.7s
LPG La Plagne 42.22 309 *e*P P **23 05 52.8 -1.0**
comp=Z,41nm,0.7s
LPL La Plagne 42.23 309 *e*P P **23 05 52.8 -1.0**
comp=Z,35nm,0.7s
LPL La Plagne 42.23 309 *e*P P **23 05 52.8 -1.0**
LPL pmax pmax
comp=Z,35nm,0.7s
LPL La Plagne 42.23 309 *e*P P **23 05 52.8 -1.0**
comp=Z,18nm,0.7s
LPL La Plagne 42.23 309 *e*P P **23 05 52.8 -1.0**
comp=Z,35nm,0.7s
LZH Lanzhou 42.26 65 ⇑P P **23 05 54.5 +0.4**
LZH pP **pP** **23 05 59.0 -0.3**
LZH sP **sP** **23 06 01.0 -0.3**
LZH PP **PP** **23 07 35.0 +3.0**
LZH S **S** **23 12 14.3 +0.1**
LZH PMZ
comp=Z,34nm,1.0s
LZH PMZ
comp=Z,110nm,4.0s
LZH LN
comp=Z,430nm,14.8s
LZH LE
comp=Z,380nm,13.3s
LZH LZ
comp=Z,580nm,16.2s
MOY Mondy 42.29 42 *e*P P **23 05 54.2 +0.1**
DFRA Djebel Bou Aff 42.31 295 P P **23 05 56.2 +1.7**
DFRA Djebel Bou Aff 42.31 295 P P **23 05 56.2 +1.7**
MOF Molkenrain 42.38 312⇑ *e*P P **23 05 54.0 -0.9**
CDF Champ du Feu 42.41 313 *e*P P **23 05 55.1 +0.1**
comp=Z,14nm,0.8s
CDF Champ du Feu 42.41 313 *e*P P **23 05 55.1 +0.1**
CDF pmax pmax
comp=Z,15nm,0.8s
CDF Champ du Feu 42.41 313 *e*P P **23 05 55.1 +0.1**
comp=Z,7.2nm,0.8s
CDF Champ du Feu 42.41 313 *e*P P **23 05 55.1 +0.1**
comp=Z,14nm,0.8s
ECH Echery 42.44 313 *e*P P **23 05 53.9 -1.4**
ECH pmax pmax
comp=Z,17nm,0.9s
ECH Echery 42.44 313⇑ *e*P P **23 05 54.6 -0.6**
ECH Echery 42.44 313 *e*P P **23 05 53.9 -1.4**
comp=Z,17nm,0.9s
LOMF Lomont 42.49 311⇑ *e*P P **23 05 55.1 -0.6**
APA Apatity 42.52 348⇓ *i*P P **23 05 58.0 +2.4**
APA MLR MLR
comp=Z,1μm,20.0s
HINF Hinteralfeld 42.56 312 *e*P P **23 05 55.1 -1.1**
comp=Z,21nm,0.7s
HINF Hinteralfeld 42.56 312 *e*P P **23 05 55.1 -1.1**
HINF pmax pmax
comp=Z,21nm,0.7s
HINF Hinteralfeld 42.56 312 *e*P P **23 05 55.1 -1.1**
comp=Z,10nm,0.7s
HINF Hinteralfeld 42.56 312 *e*P P **23 05 55.1 -1.1**
comp=Z,21nm,0.7s
CD2 Chengdu 42.62 73 *e*P P **23 05 56.5 -0.5**
CD2 pP **pP** **23 06 01.0 -1.2**
CD2 sP **sP** **23 06 03.5 -0.7**
CD2 PP **PP** **23 07 38.0 +2.1**
CD2 PcS **PcS** **23 11 40.5 -0.8**
CD2 S **S** **23 12 19.0 -0.5**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,1μm,20.6s
CD2 LE
comp=Z,460nm,15.2s
CD2 LZ
comp=Z,550nm,14.2s
CKHR Kef el Ahmar 42.62 295 P P **23 05 59.2 +2.2**
CKHR Kef el Ahmar 42.62 295 P P **23 05 59.2 +2.2**
SET Setif 42.71 295 P P **23 06 00.0 +2.3**
SET Setif 42.71 295 P P **23 06 00.0 +2.3**
LEPF PUYLOUBIER 42.71 306⇑ *e*P P **23 05 56.8 -0.7**
ORIF Oris-en-Rattie 42.75 308 *e*P P **23 05 56.8 -1.1**
comp=Z,17nm,0.8s
ORIF *e*R
comp=Z,517nm,22.8s
ORIF Oris-en-Rattie 42.75 308 *e*P P **23 05 56.8 -1.1**
ORIF pmax pmax
comp=Z,17nm,0.8s
ORIF Oris-en-Rattie 42.75 308 *e*P P **23 05 56.8 -1.1**
comp=Z,8.6nm,0.8s
ORIF Oris-en-Rattie 42.75 308 *e*P P **23 05 56.8 -1.1**
comp=Z,17nm,0.8s
KMI Kunming 42.80 82 P P **23 05 59.5 +0.8**
KMI S **S** **23 12 23.5 +1.0**
KMI SS **SS** **23 15 35.0 +1.5**
KMI PMZ
comp=Z,21nm,1.0s
KMI PMZ
comp=Z,150nm,4.8s
KMI LN
comp=Z,210nm,17.2s
KMI LE
comp=Z,240nm,18.6s
KMI LZ
comp=Z,310nm,16.6s
RUP Ruppelstein 42.84 315⇑ *e*P P **23 05 57.0 -1.5**
SMRF Simiane la Rot 42.85 306 *e*P P **23 05 58.2 -0.4**
comp=Z,23nm,1.1s
SMRF Simiane la Rot 42.85 306 *e*P P **23 05 58.2 -0.4**
comp=Z,12nm,1.1s
SMRF Simiane la Rot 42.85 306 *e*P P **23 05 58.2 -0.4**
comp=Z,23nm,1.1s
CABF La Chapelle 42.85 310 *e*P P **23 05 58.2 -0.5**
comp=Z,53nm,0.8s
CABF La Chapelle 42.85 310 *e*P P **23 05 58.2 -0.5**
CABF pmax pmax
comp=Z,53nm,0.8s
CABF La Chapelle 42.85 310 *e*P P **23 05 58.2 -0.5**
comp=Z,26nm,0.8s
CABF La Chapelle 42.85 310 *e*P P **23 05 58.2 -0.5**
comp=Z,53nm,0.8s
HAU Haudompre 42.93 312 *e*P P **23 05 58.0 -1.2**
comp=Z,22nm,0.8s
HAU *e*R
comp=Z,396nm,20.5s
HAU Haudompre 42.93 312 *e*P P **23 05 58.0 -1.2**
HAU pmax pmax
comp=Z,22nm,0.8s
HAU Haudompre 42.93 312 *e*P P **23 05 58.0 -1.2**
comp=Z,11nm,0.8s
HAU Haudompre 42.93 312 *e*P P **23 05 58.0 -1.2**
comp=Z,22nm,0.8s
UTTA Uttaradit 43.02 93 P P **23 06 02.0 +1.7**
comp=Z,4.9nm,1.0s,comp=Z,41nm
IBBN Ibbenburen 43.10 319 *e*P P **23 06 01.2 +0.7**
comp=Z,96nm,1.7s
IBBN Ibbenburen 43.10 319 *e*P P **23 06 01.2 +0.7**
comp=Z,96nm,1.7s
BUG Bochum--Univer 43.15 317 *e*P P **23 06 01.5 +0.6**
comp=Z,20nm,0.9s
BUG Bochum--Univer 43.15 317 *e*P P **23 06 01.5 +0.6**
comp=Z,20nm,0.9s
THEF They Montfort 43.21 313⇑ *e*P P **23 05 59.6 -1.9**
ZAK Zakamensk 43.34 44 *e*P P **23 06 01.4 -1.2**
ZAK *e* 23 07 43.3
ZAK pmax pmax
comp=Z,4.0nm,1.3s
WLF Walferdange 43.40 315 P P **23 06 02.4 -0.5**
comp=Z,12nm,1.2s
WLF Walferdange 43.40 315 *e*P P **23 06 02.7 -0.3**
comp=Z,18nm,0.8s
WLF Walferdange 43.40 315 *e*P P **23 06 03.0 0.0**
WLF pmax pmax
comp=Z,16nm,0.8s
WLF Walferdange 43.40 315 *e*P P **23 06 02.7 -0.3**
comp=Z,18nm,0.8s
WLF Walferdange 43.40 315 *e*P P **23 06 03.0 0.0**
comp=Z,16nm,0.8s
PAGF Fort de Pagny 43.45 313 *e*P P **23 06 02.8 -0.5**
comp=Z,9.5nm,0.7s
PAGF Fort de Pagny 43.45 313 *e*P P **23 06 02.8 -0.5**
comp=Z,4.8nm,0.7s
PAGF Fort de Pagny 43.45 313 *e*P P **23 06 02.8 -0.5**
comp=Z,9.5nm,0.7s
WTSB Winterswijk 43.57 318 *e*P P **23 06 04.8 +0.5**
comp=Z,23nm,1.2s
VIVF Saint-Julien-l 43.59 308 *e*P P **23 06 03.6 -1.0**
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 43.59 308 *e*P P **23 06 03.6 -1.0**
VIVF pmax pmax
comp=Z,17nm,0.8s
VIVF Saint-Julien-l 43.59 308 *e*P P **23 06 03.6 -1.0**
comp=Z,8.3nm,0.8s
VIVF Saint-Julien-l 43.59 308 *e*P P **23 06 03.6 -1.0**
comp=Z,17nm,0.8s
MEM Membach 43.71 316 P P **23 06 06.9 +1.5**
comp=Z,9.0nm,1.3s
MEM Membach 43.71 316 *e*P P **23 06 07.4 +2.0**
MEM pmax pmax
comp=Z,13nm,0.8s
MEM Membach 43.71 316 *e*P P **23 06 07.4 +2.0**
comp=Z,12nm,0.8s
SSB Saint Sauveur 43.73 308 *e*P P **23 06 05.5 -0.3**
SSB pmax pmax
comp=Z,7.0nm,0.6s
SSB Saint Sauveur 43.73 308 *e*P P **23 06 05.5 -0.3**
comp=Z,7.1nm,0.6s
MUD Monsted U'grnd 43.73 325 *e*P P **23 06 06.5 +1.1**
MUD pmax pmax
comp=Z,26nm,0.8s
MUD Monsted U'grnd 43.73 325 *e*P P **23 06 06.6 +1.1**
SNR=23
MUD Monsted U'grnd 43.73 325 *i*P P **23 06 06.5 +1.1**
comp=Z,26nm,0.8s
HGN Heimansgroeve 43.79 316 *e*P P **23 06 06.5 +0.4**
comp=Z,13nm,1.2s
PBKT Sadao Pong 43.82 94 P P **23 06 08.0 +1.3**
comp=Z,18nm,0.9s
SFTF Sexfontaines 43.83 312 *e*P P **23 06 05.9 -0.6**
comp=Z,49nm,1.0s
SFTF Sexfontaines 43.83 312 *e*P P **23 06 05.9 -0.6**
comp=Z,24nm,1.0s
SFTF Sexfontaines 43.83 312 *e*P P **23 06 05.9 -0.6**
comp=Z,49nm,1.0s
MEZF Maizieres J'vi 43.88 313 *e*P P **23 06 06.4 -0.4**
comp=Z,80nm,1.1s
MEZF Maizieres J'vi 43.88 313 *e*P P **23 06 06.4 -0.4**
comp=Z,49nm,1.1s
MEZF Maizieres J'vi 43.88 313 *e*P P **23 06 06.4 -0.4**
comp=Z,80nm,1.1s
TLY Talaya 43.88 42 *e*P P **23 06 07.2 +0.4**
TLY *e*S **S** **23 12 32.0 -5.3**
TLY *e*SS SS 23 15 41.9 -12
TLY pmax pmax
comp=Z,5.0nm,1.4s
TLY MLR MLR
comp=Z,708nm,13.0s
LASF Ste Croix 44.09 306 *e*P P **23 06 08.2 -0.4**
comp=Z,37nm,0.8s
LASF Ste Croix 44.09 306 *e*P P **23 06 08.2 -0.4**
comp=Z,19nm,0.8s
LASF Ste Croix 44.09 306 *e*P P **23 06 08.2 -0.4**
comp=Z,37nm,0.8s
BCLA Clavier 44.10 316 P P **23 06 09.3 +0.8**
comp=Z,10nm,1.2s
GIVF Givet 44.34 315 *e*P P **23 06 10.8 +0.3**
comp=Z,43nm,0.9s
GIVF Givet 44.34 315 *e*P P **23 06 10.8 +0.3**
GIVF pmax pmax
comp=Z,43nm,0.9s
GIVF Givet 44.34 315 *e*P P **23 06 10.8 +0.3**
comp=Z,22nm,0.9s
GIVF Givet 44.34 315 *e*P P **23 06 10.8 +0.3**
comp=Z,43nm,0.9s
SMF Signal de Mont 44.39 310 *e*P P **23 06 10.2 -0.8**
comp=Z,44nm,0.7s
SMF Signal de Mont 44.39 310 *e*P P **23 06 10.2 -0.8**
SMF pmax pmax
comp=Z,44nm,0.7s
SMF Signal de Mont 44.39 310 *e*P P **23 06 10.2 -0.8**
comp=Z,22nm,0.7s
SMF Signal de Mont 44.39 310 *e*P P **23 06 10.2 -0.8**
comp=Z,44nm,0.7s
PLDF La Plantade 44.45 309 *e*P P **23 06 09.7 -1.9**
LOR Lormes 44.46 311 *e*P P **23 06 10.7 -0.9**
comp=Z,18nm,0.6s
LOR *e*R
comp=Z,507nm,21.8s
LOR Lormes 44.46 311 *e*P P **23 06 10.7 -0.9**
LOR pmax pmax
comp=Z,18nm,0.6s
LOR Lormes 44.46 311 *e*P P **23 06 10.7 -0.9**
comp=Z,8.9nm,0.6s
LOR Lormes 44.46 311 *e*P P **23 06 10.7 -0.9**
comp=Z,18nm,0.6s
DOU Dourbes 44.48 315 P P **23 06 11.8 +0.2**
comp=Z,14nm,1.5s
LBL Lubilhac 44.63 308 *e*P P **23 06 11.8 -1.2**
SSF Saint Saulge 44.67 311 *e*P P **23 06 12.6 -0.6**
comp=Z,45nm,1.0s
SSF Saint Saulge 44.67 311 *e*P P **23 06 12.6 -0.6**
SSF pmax pmax
comp=Z,45nm,1.0s
SSF Saint Saulge 44.67 311 *e*P P **23 06 12.6 -0.6**
comp=Z,22nm,1.0s
SSF Saint Saulge 44.67 311 *e*P P **23 06 12.6 -0.6**
comp=Z,45nm,1.0s
BAIF Baives 44.72 315 *e*P P **23 06 14.0 +0.5**
comp=Z,68nm,0.9s
BAIF Baives 44.72 315 *e*P P **23 06 14.0 +0.5**
BAIF pmax pmax
comp=Z,69nm,0.9s
BAIF Baives 44.72 315 *e*P P **23 06 14.0 +0.5**
comp=Z,34nm,0.9s
BAIF Baives 44.72 315 *e*P P **23 06 14.0 +0.5**
comp=Z,68nm,0.9s
AVF Avril sur Loir 44.74 310 *e*P P **23 06 12.9 -0.8**
comp=Z,14nm,0.7s
AVF Avril sur Loir 44.74 310 *e*P P **23 06 12.9 -0.8**
AVF pmax pmax
comp=Z,14nm,0.7s
AVF Avril sur Loir 44.74 310 *e*P P **23 06 12.9 -0.8**
comp=Z,6.8nm,0.7s
AVF Avril sur Loir 44.74 310 *e*P P **23 06 12.9 -0.8**
comp=Z,14nm,0.7s
TAM Tamanrasset 44.75 276 *e*P P **23 06 14.4 +0.1**
TAM pmax pmax
comp=Z,19nm,1.1s
TAM Tamanrasset 44.75 276 *e*P P **23 06 14.4 +0.1**
comp=Z,19nm,1.1s
SNF Seneffe 44.76 316 P P **23 06 14.3 +0.5**
NB2 NORSAR Subarra 44.78 331 P P **23 06 12.3 -1.6**
comp=Z,6.4nm,0.6s,baz=120,slow=8.6
NB2 NORSAR Subarra 44.78 331 P P **23 06 12.3 -1.6**
comp=Z,6.4nm,0.6s,SNR=4.6
NOA NORSAR Array B 44.78 331 P P **23 06 12.6 -1.3**
comp=Z,5.1nm,0.6s,baz=119,slow=8.0,SNR=24
NOA NORSAR Array B 44.78 331 P P **23 06 12.6 -1.3**
NOA pmax pmax
comp=Z,5.0nm,0.6s
AGO Saint Agoulin 44.80 309⇑ *e*P P **23 06 12.9 -1.4**
NAO01 NORSAR Array S 44.83 331 *e*P P **23 06 13.2 -1.1**
comp=Z,12nm,0.8s
SONM Songino Array 44.85 48 P P **23 06 14.6 -0.2**
comp=Z,5.5nm,1.0s,baz=254,slow=8.5,SNR=29
SONM LR LR 23 26 49.9
comp=Z,507nm,19.3s,baz=260,slow=39
SONM Songino Array 44.85 48 P P **23 06 14.6 -0.2**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM MLR MLR
comp=Z,507nm,19.3s
PYM Petit Puy Mans 44.86 309⇑ *e*P P **23 06 13.1 -1.7**
LRDF Laroque-de-Fa 44.97 305⇑ *e*P P **23 06 15.8 +0.1**
BGF Bois d'Agland 45.06 310 *e*P P **23 06 15.7 -0.6**
comp=Z,28nm,0.7s
BGF Bois d'Agland 45.06 310 *e*P P **23 06 15.7 -0.6**
BGF pmax pmax
comp=Z,28nm,0.7s

BGF Bois d'Agland 45.06 310 *e*P **P 23 06 15.7 -0.6**
comp=Z,14nm,0.7s
BGF Bois d'Agland 45.06 310 *e*P **P 23 06 15.7 -0.6**
comp=Z,28nm,0.7s
MTLF Montolieu 45.23 305 *e*P **P 23 06 18.0 +0.3**
comp=Z,29nm,0.9s
MTLF Montolieu 45.23 305 *e*P **P 23 06 18.0 +0.3**
MTLF pmax pmax
comp=Z,29nm,0.9s
MTLF Montolieu 45.23 305 *e*P **P 23 06 18.0 +0.3**
comp=Z,14nm,0.9s
MTLF Montolieu 45.23 305 *e*P **P 23 06 18.0 +0.3**
comp=Z,29nm,0.9s
HYF Humbligny 45.29 311 *e*P **P 23 06 18.1 0.0**
HYF Humbligny 45.29 311 *e*P **P 23 06 18.1 0.0**
HYF Humbligny 45.29 311 *e*P **P 23 06 18.1 0.0**
ULN Ulaanbaatar 45.29 48*d i*P **P 23 06 17.4 -0.9**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 45.29 48 P **P 23 06 17.8 -0.5**
SNR=7.9
ULN Ulaanbaatar 45.29 48 *e*P **P 23 06 17.3 -1.0**
VALF Valcebollere 45.33 304⇑ *e*P **P 23 06 19.4 +0.7**
CAF Calviac 45.44 307 *e*P **P 23 06 19.2 -0.2**
comp=Z,32nm,0.8s
CAF Calviac 45.44 307 *e*P **P 23 06 19.2 -0.2**
CAF pmax pmax
comp=Z,32nm,0.8s
CAF Calviac 45.44 307 *e*P **P 23 06 19.2 -0.2**
comp=Z,16nm,0.8s
CAF Calviac 45.44 307 *e*P **P 23 06 19.2 -0.2**
comp=Z,32nm,0.8s
TCF Toulx Ste Croi 45.47 309 *e*P **P 23 06 19.1 -0.5**
comp=Z,30nm,0.8s
TCF Toulx Ste Croi 45.47 309 *e*P **P 23 06 19.1 -0.5**
TCF pmax pmax
comp=Z,30nm,0.8s
TCF Toulx Ste Croi 45.47 309 *e*P **P 23 06 19.1 -0.5**
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 45.47 309 *e*P **P 23 06 19.1 -0.5**
comp=Z,30nm,0.8s
KEV Kevo 45.63 347 *e*p **P 23 06 20.6 +0.2**
comp=Z,1.3nm,0.3s
KEV Kevo 45.63 347 *e*P **P 23 06 20.6 +0.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 45.76 346 P **P 23 06 21.2 -0.3**
comp=Z,3.5nm,0.7s,baz=134,slow=8.7,SNR=13
ARCES LR LR 23 28 39.5
comp=Z,370nm,20.7s,baz=150,slow=40
ARCES ARCESS Array B 45.76 346 P **P 23 06 21.3 -0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,370nm,20.7s
RJF Les Rejaudoux 45.86 308 *e*P **P 23 06 22.8 +0.1**
comp=Z,58nm,1.0s
RJF *e*R
comp=Z,408nm,20.0s
RJF Les Rejaudoux 45.86 308 *e*P **P 23 06 22.8 +0.1**
RJF pmax pmax
comp=Z,58nm,1.0s
RJF Les Rejaudoux 45.86 308 *e*P **P 23 06 22.8 +0.1**
comp=Z,29nm,1.0s
RJF Les Rejaudoux 45.86 308 *e*P **P 23 06 22.8 +0.1**
comp=Z,58nm,1.0s
GYA Guiyang 45.94 78 *e*P **P 23 06 24.3 +0.6**
GYA PP **PP 23 08 11.5 +0.2**
GYA ScP **ScP 23 11 53.3 +0.3**
GYA S **S 23 13 08.0 +0.1**
GYA SS **ScS 23 16 23.5 +4.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.4s
GYA LN
comp=Z,480nm,19.6s
GYA LE
comp=Z,360nm,20.0s
GYA LZ
comp=Z,490nm,19.2s
LFF La Frestale 46.38 307 *e*P **P 23 06 26.8 0.0**
comp=Z,40nm,0.7s
LFF La Frestale 46.38 307 *e*P **P 23 06 26.8 0.0**
LFF pmax pmax
comp=Z,40nm,0.7s
LFF La Frestale 46.38 307 *e*P **P 23 06 26.8 0.0**
comp=Z,20nm,0.7s
LFF La Frestale 46.38 307 *e*P **P 23 06 26.8 0.0**
comp=Z,40nm,0.7s
XAN Xi'an 46.57 68 P **P 23 06 27.5 -1.0**
XAN pP **pP 23 06 34.5 +0.8**
XAN PMZ
comp=Z,4.0nm,1.1s
XAN PMZ
comp=Z,36nm,5.3s
EPF Esparros 46.59 305 *e*P **P 23 06 27.3 -1.2**
comp=Z,10nm,0.8s
EPF Esparros 46.59 305 *e*P **P 23 06 27.3 -1.2**
EPF pmax pmax
comp=Z,10.0nm,0.8s
EPF Esparros 46.59 305 *e*P **P 23 06 27.3 -1.2**
comp=Z,5.2nm,0.8s
EPF Esparros 46.59 305 *e*P **P 23 06 27.3 -1.2**
comp=Z,10nm,0.8s
MFF Saint Martin d 47.12 310 *e*P **P 23 06 31.6 -0.9**
comp=Z,27nm,1.2s
MFF Saint Martin d 47.12 310 *e*P **P 23 06 31.6 -0.9**
MFF pmax pmax
comp=Z,27nm,1.2s
MFF Saint Martin d 47.12 310 *e*P **P 23 06 31.6 -0.9**
comp=Z,13nm,1.2s
MFF Saint Martin d 47.12 310 *e*P **P 23 06 31.6 -0.9**
comp=Z,27nm,1.2s
ETSF Etsaut 47.24 304 *e*P **P 23 06 33.9 +0.3**
comp=Z,49nm,0.9s
ETSF Etsaut 47.24 304 *e*P **P 23 06 33.9 +0.3**
ETSF pmax pmax
comp=Z,49nm,0.9s
ETSF Etsaut 47.24 304 *e*P **P 23 06 33.9 +0.3**
comp=Z,25nm,0.9s
ETSF Etsaut 47.24 304 *e*P **P 23 06 33.9 +0.3**
comp=Z,49nm,0.9s
LDF La Druitiere 47.29 312 *e*P **P 23 06 32.7 -1.1**
comp=Z,24nm,0.7s
LDF La Druitiere 47.29 312 *e*P **P 23 06 32.7 -1.1**
LDF pmax pmax
comp=Z,24nm,0.7s
LDF La Druitiere 47.29 312 *e*P **P 23 06 32.7 -1.1**
comp=Z,12nm,0.7s
LDF La Druitiere 47.29 312 *e*P **P 23 06 32.7 -1.1**
comp=Z,24nm,0.7s
ATE Arette 47.35 305⇑ *e*P **P 23 06 34.5 +0.1**
FLN La Foliniere 47.54 312 *e*P **P 23 06 34.8 -1.0**
comp=Z,75nm,1.1s
FLN *e*R
comp=Z,339nm,22.5s
FLN La Foliniere 47.54 312 *e*P **P 23 06 34.8 -1.0**
FLN pmax pmax
comp=Z,75nm,1.1s
FLN La Foliniere 47.54 312 *e*P **P 23 06 34.8 -1.0**
comp=Z,38nm,1.1s
FLN La Foliniere 47.54 312 *e*P **P 23 06 34.8 -1.0**
comp=Z,75nm,1.1s
LARF Larrau 47.56 305⇑ *e*P **P 23 06 36.7 +0.6**
SJPF Ste Jean 47.73 305 *e*P **P 23 06 37.7 +0.3**
comp=Z,30nm,0.6s
SJPF Ste Jean 47.73 305 *e*P **P 23 06 37.7 +0.3**
SJPF pmax pmax
comp=Z,30nm,0.6s
SJPF Ste Jean 47.73 305 *e*P **P 23 06 37.7 +0.3**
comp=Z,15nm,0.6s
SJPF Ste Jean 47.73 305 *e*P **P 23 06 37.7 +0.3**
comp=Z,30nm,0.6s
GRR Gorron 47.75 312 *e*P **P 23 06 36.6 -0.8**
comp=Z,26nm,0.9s
GRR Gorron 47.75 312 *e*P **P 23 06 36.6 -0.8**
GRR pmax pmax
comp=Z,26nm,0.9s
GRR Gorron 47.75 312 *e*P **P 23 06 36.6 -0.8**
comp=Z,13nm,0.9s
GRR Gorron 47.75 312 *e*P **P 23 06 36.6 -0.8**
comp=Z,26nm,0.9s
HHC Hu-ho-hao-te 48.16 58 *e*P **P 23 06 40.5 -0.3**
HHC PP **PP 23 08 31.5 -1.6**
HHC S **S 23 13 38.0 -1.3**
HHC SS **SS 23 17 01.5 -6.9**
HHC PMZ
comp=Z,14nm,1.1s
HHC PMZ
comp=Z,100nm,3.6s
HHC LN
comp=Z,440nm,14.1s
HHC LE
comp=Z,230nm,19.6s
HHC LZ
comp=Z,230nm,14.8s
SGMF Saint Gilles 48.87 312 *e*P **P 23 06 45.3 -0.8**
comp=Z,30nm,0.8s
SGMF Saint Gilles 48.87 312 *e*P **P 23 06 45.3 -0.8**
SGMF pmax pmax
comp=Z,30nm,0.8s
SGMF Saint Gilles 48.87 312 *e*P **P 23 06 45.3 -0.8**
comp=Z,15nm,0.8s
SGMF Saint Gilles 48.87 312 *e*P **P 23 06 45.3 -0.8**
comp=Z,30nm,0.8s
QUIF Quistinic 49.26 311 *e*P **P 23 06 48.1 -0.9**
comp=Z,40nm,1.0s
QUIF Quistinic 49.26 311 *e*P **P 23 06 48.1 -0.9**
QUIF pmax pmax
comp=Z,40nm,1.0s
QUIF Quistinic 49.26 311 *e*P **P 23 06 48.1 -0.9**
comp=Z,20nm,1.0s
QUIF Quistinic 49.26 311 *e*P **P 23 06 48.1 -0.9**
comp=Z,40nm,1.0s
ROSF Rostrenen 49.35 312 *e*P **P 23 06 48.9 -0.9**
comp=Z,39nm,1.0s
ROSF Rostrenen 49.35 312 *e*P **P 23 06 48.9 -0.9**
ROSF pmax pmax
comp=Z,39nm,1.0s
ROSF Rostrenen 49.35 312 *e*P **P 23 06 48.9 -0.9**
comp=Z,20nm,1.0s
ROSF Rostrenen 49.35 312 *e*P **P 23 06 48.9 -0.9**
comp=Z,39nm,1.0s
LSZ Lusaka 49.49 215 *e*P **P 23 06 53.1 +1.9**
LSZ pmax pmax
comp=Z,18nm,1.0s
LSZ Lusaka 49.49 215 P **P 23 06 53.3 +2.1**
SNR=14
LSZ Lusaka 49.49 215 *e*P **P 23 06 53.1 +1.9**
comp=Z,18nm,1.0s
ESDC Sonseca Array 49.91 300 P **P 23 06 54.1 0.0**
comp=Z,4.3nm,0.4s,baz=69,slow=7.3,SNR=85
ESLA Sonseca Array 49.91 300 *e*P **P 23 06 53.7 -0.5**
comp=Z,1.5nm,0.6s
PAB San Pablo 50.21 300 *e*P **P 23 06 56.3 -0.2**
PAB pmax pmax
comp=Z,15nm,0.8s
PAB San Pablo 50.21 300 *e*P **P 23 06 56.3 -0.2**
comp=Z,15nm,0.8s
QIZ Qiongzhong 50.85 87 P **P 23 07 01.3 -0.2**
QIZ S **S 23 14 19.3 +2.0**
QIZ PMZ
comp=Z,13nm,1.3s
QIZ LN
comp=Z,340nm,24.9s
QIZ LE
comp=Z,72nm,20.3s
QIZ LZ
comp=Z,220nm,18.6s
BOD Bodaibo 51.10 36⇑ *i*P **P 23 07 00.9 -1.9**
BOD pmax pmax
comp=Z,22nm,0.9s
LIJA Lijar 51.31 297 *i*P **P 23 07 03.8 -1.1**
TOA0 Torodi Ar. Sit 51.50 265 *e*P **P 23 07 05.5 -0.9**
TORD Torodi Ar. Bea 51.50 265 P **P 23 07 06.0 -0.4**
comp=Z,27nm,0.6s,baz=64,slow=7.8,SNR=258
TORD LR LR 23 31 36.5
comp=Z,787nm,18.2s,baz=55,slow=39
WHN Wuhan 51.67 71 P **P 23 07 07.3 -0.2**
WHN LZ
comp=Z,640nm,21.4s
BJI Beijing 51.72 59 P **P 23 07 07.8 0.0**
BJI PMZ
comp=Z,27nm,1.2s
BJI LN
comp=Z,720nm,20.2s
BJI LE
comp=Z,450nm,24.6s
BJI LZ
comp=Z,270nm,27.0s
PBRG Braganca 51.85 303 *e*P **P 23 07 08.7 -0.1**
comp=Z,17nm,1.5s
MVO Moncorvo 52.12 302 *e*P **P 23 07 11.2 +0.4**
comp=Z,20nm,0.8s
PBAR Barrancos 52.44 299 *e*P **P 23 07 13.1 -0.1**
comp=Z,47nm,1.5s
PMRV Marv??o 52.57 300 *e*P **P 23 07 13.8 -0.3**
comp=Z,11nm,1.2s
MTE Manteigas 52.58 302 *e*P **P 23 07 14.5 +0.2**
comp=Z,24nm,1.6s
MTE Manteigas 52.58 302 *e*P **P 23 07 14.1 -0.1**
comp=Z,39nm,1.6s
PCBR Castelo Branco 52.59 301 *e*P **P 23 07 14.3 +0.1**
comp=Z,29nm,1.4s
PVRL Vila Real 52.63 303 *e*P **P 23 07 15.0 +0.4**
comp=Z,27nm,1.5s
POLO Lamas de Olo 52.68 303 *e*P **P 23 07 15.4 +0.4**
comp=Z,12nm,1.2s
PESTR Estremoz 52.79 300 *e*P **P 23 07 15.4 -0.3**
comp=Z,17nm,1.9s
PVIS Viseu 52.82 302 *e*P **P 23 07 17.0 +1.0**
comp=Z,28nm,1.6s
TIA Tai'an 52.94 64⇑ P **P 23 07 16.8 -0.1**
TIA PMZ
comp=Z,30nm,1.0s
TIA LN
comp=Z,620nm,20.0s
TIA LE
comp=Z,410nm,22.0s
TIA LZ
comp=Z,430nm,26.0s
PGAV Gavieira, Arco 52.98 304 *e*P **P 23 07 18.0 +0.8**
comp=Z,19nm,1.5s
PVAQ Vaqueiros 53.08 298 *e*P **P 23 07 16.8 -1.1**
comp=Z,27nm,1.8s
EVO Evora 53.16 299 *e*P **P 23 07 18.9 +0.4**
comp=Z,16nm,0.7s
EVO *e*R
comp=Z,273nm,19.0s
EVO Evora 53.16 299 *e*P **P 23 07 18.6 +0.1**
comp=Z,20nm,2.2s
EVOP Sao Brissos 53.24 299 *e*P **P 23 07 18.9 -0.2**
EVOP pmax pmax
comp=Z,16nm,0.7s
EVOP Sao Brissos 53.24 299 *e*P **P 23 07 18.9 -0.2**
comp=Z,8.1nm,0.7s
EVOP Sao Brissos 53.24 299 *e*P **P 23 07 18.9 -0.2**
comp=Z,16nm,0.7s
PCVE Castro Verde 53.30 298 *e*P **P 23 07 19.5 0.0**
comp=Z,7.7nm,2.0s
PTOM Tomar 53.33 301 *e*P **P 23 07 20.3 +0.6**
comp=Z,41nm,1.4s
PNCL Nicolau / Gran 53.62 299 *e*P **P 23 07 21.9 +0.1**
comp=Z,31nm,1.7s
HIA Hailar 53.78 47 *e*P **P 23 07 22.1 -0.8**
HIA pmax pmax
comp=Z,17nm,1.3s
PFVI Vila Bisbo 53.99 298 *e*P **P 23 07 24.6 0.0**
comp=Z,70nm,1.9s
NJ2 Nanjing 55.12 68 *e*P **P 23 07 34.0 +1.1**
NJ2 S **S 23 15 18.5 +3.3**
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 LN
comp=Z,700nm,28.6s
NJ2 LE
comp=Z,830nm,20.6s
NJ2 LZ
comp=Z,910nm,22.2s
SNY Shenyang 57.08 56⇓ P **P 23 07 46.0 -0.7**
SNY PMZ
comp=Z,13nm,1.0s
CN2 Changchun 58.15 53 *e*P **P 23 07 53.8 -0.4**
CN2 *e*S **S 23 15 56.3 +1.3**
CN2 PMZ
comp=Z,20nm,0.9s
CN2 PMZ
comp=Z,200nm,4.0s
TSUM Tsumeb 58.56 222 *e*P **P 23 07 59.5 +2.0**
comp=Z,16nm,0.8s
LBTB Lobatse 59.04 211 *e*P **P 23 08 02.1 +1.5**
LBTB pmax pmax
comp=Z,34nm,0.9s
LBTB Lobatse 59.04 211 *e*P **P 23 08 02.1 +1.5**
comp=Z,34nm,0.9s
YHNB Yeheng 59.21 76 *e*P **P 23 08 02.0 0.0**
comp=Z,37nm,1.1s
YAK Yakutsk 59.32 32 *e*P **P 23 07 59.5 -2.5**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=E,13nm,1.4s
TIXI Tiksi 59.46 21 *e*P **P 23 08 01.3 -1.6**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 59.46 21 *e*P **P 23 08 01.5 -1.3**
DAG Danmarks Havn 60.04 345 *i*P P 23 08 16.5 +10
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 60.04 345 *i*P P 23 08 16.5 +10
comp=Z,5.6nm,0.7s
DBIC Dimbokro 60.12 262 P **P 23 08 08.3 +0.1**
comp=Z,38nm,0.9s,baz=36,slow=7.0,SNR=52
DBIC LR LR 23 34 05.7
comp=Z,234nm,18.6s,baz=42,slow=36
DBIC Dimbokro 60.12 262 P **P 23 08 08.4 +0.1**
DBIC pmax pmax
comp=Z,38nm,0.9s
DBIC MLR MLR
comp=Z,235nm,18.6s
DBIC Dimbokro 60.12 262 *e*P **P 23 08 08.6 +0.3**
KIC Kosan Boka 60.16 261 *e*P **P 23 08 08.5 -0.1**
comp=Z,83nm,1.0s
TIC Toumodi 60.27 262 *e*P **P 23 08 09.3 -0.1**
comp=Z,33nm,0.4s
LIC Lamto 60.47 261 *e*P **P 23 08 10.6 -0.1**
comp=Z,38nm,0.6s
LIC *e*R
comp=Z,490nm,17.2s
LIC Lamto 60.47 261 *e*P **P 23 08 10.7 0.0**
comp=Z,113nm,1.0s
LIC Lamto 60.47 261 *e*P **P 23 08 10.6 -0.1**
comp=Z,19nm,0.6s
LIC Lamto 60.47 261 *e*P **P 23 08 10.6 -0.1**
comp=Z,38nm,0.6s
MDJ Mudanjiang 60.95 52 P **P 23 08 13.5 -0.1**
MDJ PMZ
comp=Z,20nm,1.6s
MDJ PMZ
comp=Z,340nm,4.5s
KSAR Wonju Array Be 61.17 60 P **P 23 08 14.0 -1.2**
KSAR Wonju Array Be 61.17 60 P **P 23 08 13.9 -1.2**
KSRS Korea Array 61.20 60 P **P 23 08 13.9 -1.4**
comp=Z,7.1nm,1.0s,baz=280,slow=7.7,SNR=13
KSRS LR LR 23 38 14.7
comp=Z,190nm,18.5s,baz=298,slow=40
KSRS Korea Array 61.20 60 P **P 23 08 14.0 -1.4**
KSRS pmax pmax
comp=Z,7.0nm,1.0s
KSRS MLR MLR
comp=Z,191nm,18.5s
KLR Kul'dur 61.62 47 *e*P P 23 08 13.4 -4.6
USRK Ussuriysk Ar. 62.72 52 LR LR 23 39 40.2
comp=Z,235nm,18.8s,baz=284,slow=40
SUMG Summit 65.37 341 *e*P **P 23 08 43.1 +0.2**
SUMG Summit 65.37 341 *e*P **P 23 08 43.1 +0.2**
SUMG Summit 65.37 341 *e*P **P 23 08 43.1 +0.2**
SUMG Summit 65.37 341 *i*P **P 23 08 43.1 +0.2**
comp=Z,24nm,1.0s
YSS Yuzh-Sakhalins 69.31 47 *e*P **P 23 09 06.0 -1.8**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=E,500nm,14.0s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS Yuzh-Sakhalins 69.31 47 *e*P **P 23 09 06.0 -1.8**
comp=Z,20nm,1.0s
MJAR Matsushiro Arr 69.36 59 P **P 23 09 07.0 -1.3**
comp=Z,2.2nm,1.0s,baz=314,slow=3.5,SNR=4.1
MJAR LR LR 23 42 40.2
comp=Z,75nm,18.4s,baz=295,slow=39
MJAR Matsushiro Arr 69.36 59 P **P 23 09 07.0 -1.3**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR MLR MLR
comp=Z,75nm,18.4s
MJAR Matsushiro Arr 69.36 59 P **P 23 09 07.0 -1.3**
comp=Z,75nm,18.4s
SEY Seymchan 69.50 29 P **P 23 09 08.0 -0.7**
comp=Z,9.3nm,0.8s,baz=288,slow=7.3,SNR=26
SEY Seymchan 69.50 29 P **P 23 09 08.0 -0.7**
SEY pmax pmax
comp=Z,9.0nm,0.8s
ASAJ Asahikawa 70.10 50 LR LR 23 40 59.6
comp=Z,310nm,21.9s,baz=286,slow=37
BILL Bilibino 72.66 22*d i*P **P 23 09 27.8 0.0**
BILL *e* 23 09 46.0
BILL *e* 23 12 08.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,393nm,21.0s
BILL Bilibino 72.66 22 *i*P **P 23 09 27.8 0.0**
comp=Z,5.0nm,1.0s
BILL Bilibino 72.66 22 *e*PcP **PcP 23 09 46.0 +0.9**
comp=Z,393nm,21.0s
BILL Bilibino 72.66 22 *e*P **P 23 09 26.7 -1.1**
PETK Petropavlovsk- 75.95 37 P P 23 09 44.0 -3.2
comp=Z,3.0nm,0.9s,baz=234,slow=4.6,SNR=4.4
PETK LR LR 23 45 31.9
comp=Z,119nm,20.0s,baz=287,slow=38
PETK Petropavlovsk- 75.95 37 P P 23 09 44.0 -3.2
PETK pmax pmax
comp=Z,3.0nm,0.9s
PETK MLR MLR
comp=Z,119nm,20.0s
FITZ Fitzroy Crossi 81.97 115 *e*P **P 23 10 20.9 +0.2**
FITZ Fitzroy Crossi 81.97 115 *e*P **P 23 10 20.9 +0.2**
COLD Coldfoot 84.06 10 *e*P **P 23 10 30.3 -0.4**
comp=Z,9.2nm,0.9s
SCHQ Schefferville 84.34 330 P **P 23 10 31.8 -0.7**
comp=Z,3.2nm,0.6s,baz=40,slow=6.4,SNR=10
SCHQ LR LR 23 49 21.4
comp=Z,89nm,18.2s,baz=66,slow=37
IM04 Indian Mountai 84.63 11 *e*P **P 23 10 32.6 -1.1**
INK Inuvik 84.65 3 P **P 23 10 32.8 -0.9**
comp=Z,2.3nm,0.9s,baz=14,slow=8.5,SNR=5.6
INK Inuvik 84.65 3 P **P 23 10 32.8 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 86.84 9 P **P 23 10 43.2 -1.4**
comp=Z,1.4nm,0.8s,baz=328,slow=4.0,SNR=8.7
ILAR LR LR 23 54 40.7
comp=Z,134nm,20.0s,baz=330,slow=39
ILAR Eielson Array 86.84 9 P **P 23 10 43.3 -1.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,134nm,20.0s
CAST Castle Rocks 87.27 12 *e*P **P 23 10 46.9 +0.1**
MCK McKinley 87.51 10 *e*P **P 23 10 47.1 -0.9**
MCK McKinley 87.51 10 *e*P **P 23 10 47.1 -0.9**
EGAK Eagle 87.55 7 *e*P **P 23 10 47.9 -0.2**
WRA Warramunga Arr 90.00 112 P **P 23 11 00.4 0.0**
comp=Z,2.6nm,0.7s,baz=313,slow=4.0,SNR=18
WRA Warramunga Arr 90.00 112 *i*P **P 23 11 01.5 +1.1**
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRAB Tennant Creek 90.01 112 *e*P **P 23 11 00.2 -0.3**
WRAB Tennant Creek 90.01 112 *e*P **P 23 11 00.2 -0.3**
YKA Yellowknife Ar 90.30 355 P **P 23 11 00.9 -0.2**
comp=Z,2.1nm,0.7s,baz=5.1,slow=5.1,SNR=41
YKA Yellowknife Ar 90.30 355 P **P 23 11 00.9 -0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 91.44 116 P **P 23 11 06.7 -0.4**
comp=Z,2.6nm,0.8s,baz=304,slow=4.6,SNR=21
ASAR LR LR 23 52 08.3
comp=Z,41nm,20.9s,baz=288,slow=36
ASAR Alice Springs 91.44 116 P **P 23 11 06.7 -0.4**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR MLR MLR
comp=Z,41nm,20.9s
HYT Haines Junctio 91.79 6 *e*P **P 23 11 07.9 -0.3**
MAW Mawson 94.62 177 LR LR 23 46 26.7
comp=Z,89nm,20.4s,baz=50,slow=31
FFC Flin Flon 96.09 347 *i*P **P 23 11 27.8 -0.1**

ULM	**Lac du Bonnet**	**98.72**	**342**	LR	LR	23 59 21.8
	comp=Z,97nm,18.4s,baz=38,slow=37					

JMA 27 23:01:05.7±0.3, 37°33N×134°92E, h385km, M3.6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**2.08**	**169**	P	Pn	23 02 00.8	-0.1
MAT	**Matsushiro**	**2.75**	**106**	P	Pn	23 02 05.6	-0.1
MAT				*eS*	S	23 02 49.5	-4.7
MAT	**Matsushiro**	**2.75**	**106**	P	Pn	23 02 05.8	+0.1
JAG	**Ashikaga**	**3.75**	**103**	P	Pn	23 02 15.1	+0.7
JHU	**Hanno**	**3.81**	**111**	P	Pn	23 02 16.6	+1.6
JHU				S	S	23 03 09.8	-1.3
JYT	**Yasato**	**4.37**	**103**	P	Pn	23 02 20.4	-0.1
JYT				S	S	23 03 19.5	-1.6
JHO	**Hitachi**	**4.58**	**97**	P	Pn	23 02 21.9	-0.7
JHO				S	S	23 03 20.7	-4.3
BSO4	**Boso 4**	**4.97**	**116**	P	Pn	23 02 26.9	+0.4
BSO4				S	S	23 03 30.3	-1.8

NEIC 27 23:07:21.4, 38°82N×122°80W, h2km, MW3.5(BRK), **After NCEDC., Northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NMTM	**Middletown**	**0.28**	**92**	*e*Pg	Pg	23 07 27.3	+0.5
HOPS	**Hopland Field**	**0.28**	**310**	*e*P	Pg	23 07 22.0	-4.8
NSHM	**Saint Helena R**	**0.33**	**153**	*e*Pg	Pg	23 07 23.3	-4.5
MCCM	**Marconi Confer**	**0.67**	**186**	*e*Pg	Pb	23 07 35.3	-0.6
KCPM	**Cahto Peak**	**1.06**	**325**	*e*Pg	Pn	23 07 44.1	+0.6
KCPM				*e*Sg	Sb	23 07 57.0	-0.2
KIPM	**Iron Peak**	**1.12**	**332**	*e*Pn	Pn	23 07 45.7	+1.3
KIPM				*e*Sg	Sb	23 07 59.7	+0.6
SAC	**San Andreas**	**1.27**	**166**	*e*Pg	Pg	23 07 44.8	-0.9
SAC				*e*Sg	Sn	23 08 03.8	+0.1
KMRM	**Mail Ridge**	**1.57**	**334**	*e*Pn	Pg	23 07 54.5	+2.8
WDC	**Whiskeytown Da**	**1.77**	**6**	*e*Pn	Pb	23 07 54.7	+0.1
CMB	**Columbia Colle**	**2.05**	**112**	*e*Pn	Pn	23 07 56.1	-0.9
KHMM	**Horse Mountain**	**2.18**	**341**	*e*Pn	Pn	23 07 58.1	-0.8
SAO	**San Andreas Ge**	**2.31**	**152**	*e*Pn	Pn	23 07 59.2	-1.3
WCN	**Washoe City**	**2.42**	**77**	*e*Pn	Pn	23 08 03.5	+1.2
WAKR	**Walker**	**2.65**	**96**	*e*Pn	Pn	23 08 06.8	+1.4
YBH	**Yreka Blue Hor**	**2.91**	**1**	*e*Pn	Pn	23 08 07.5	-1.5
HUMO	**Hull Mountain**	**3.79**	**358**	*e*Pn	Pn	23 08 21.9	+1.0
TPH	**Tonopah**	**4.44**	**98**	*e*Pn	Pn	23 08 29.5	-0.5
WASM	**Alta Sierra Ca**	**4.57**	**131**	*e*Sn	Sn	23 09 20.5	-5.2
FIGC	**Figueroa Mtn.**	**4.66**	**150**	*e*Sn	Sn	23 09 24.1	-3.6
ISA	**Isabella, Lake**	**4.67**	**131**	*e*Pn	Pn	23 08 33.1	0.0
ISA				*e*Sg	Sb	23 09 40.6	-0.3
DAC	**Darwin (Calif)**	**4.85**	**120**	Pn	Pn	23 08 36.1	+0.4
WWPM	**Walker Pass**	**4.85**	**128**	*e*Pg	Pg	23 08 54.7	+0.1
PLEC	**Pleito Hills**	**4.87**	**141**	*e*Pg	Pb	23 08 48.1	+0.6
HDB	**Hidalgo Marine**	**6.84**	**128**	*e*Pn	Pn	23 09 05.2	+2.3

MEX 27 23:07:40.3±0.3, 16°17N×98°42W, h4km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**52**	*i* P	Pg	23 07 46.8	-0.5
PNIG				*e*S	Sg	23 07 52.2	+0.2
TLIG	**Tlapa**	**1.39**	**354**	*e*P	Pn	23 08 02.8	-3.9
TLIG				*e*S	Sb	23 08 20.3	-5.1
VHO	**Vista Hermosa**	**1.85**	**61**	*i* P	Pn	23 08 09.9	-3.3
VHO				*e*S	Sn	23 08 31.9	-5.3
CAIG	**El Cayaco**	**1.97**	**296**	*e*P	Pn	23 08 11.0	-3.6
CAIG				*i* S	Sn	23 08 35.6	-4.2
HUIG	**Huatulco**	**2.26**	**100**	*i* P	Pn	23 08 16.9	-1.6
HUIG				*i* S	Sn	23 08 42.3	-4.5
TPIG	**Tehuac#an**	**2.45**	**24**	*i* P	Pn	23 08 18.4	-3.0
TPIG				*e*S	Sn	23 08 48.1	-3.9

*IDC **27** 23:11:23.4±2.1, 27°.00N×54°.99E, h0km, mb3.7/9, mb1 3.7/9, mb1mx3.4/38, mbtmp3.7/9, Error ellipse: s-maj=52.3km s-min=20.2km az=143.0*
*ISCJB **27** 23:11:26.5±0.5, 27°.29N±0°.06×54°.74E±0°.09, h17km, mb3.6/9, Error ellipse: s-maj=11.7km s-min=7.6km az=158.9*
*THR **27** 23:11:27.3±0.3, 27°.16N×54°.85E, h15km, ML3.7*
*DSN **27** 23:11:29.5±1.1, 27°.26N×55°.06E, h20km, mb3.0/7, ML4.0/6, Error ellipse: s-maj=13.1km s-min=9.5km az=31.0*
*CSEM **27** 23:11:30.3±0.4, 27°.19N×54°.99E, h20km, ML3.7, Error ellipse: s-maj=14.3km s-min=9.8km az=78.0*

ISC 27 23:11:27.5±0.7, 27°16N±0°.06×54°91E±0°.06, h17km, n25, σ1s87/23, mb3.7/9, 2C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.15**	**78**	*e*Pg	**Pg**	**23 11 49.7**	**0.0**
BNDS				AML	AML	23 12 11.5	
	comp=E,1μm,0.4s						
BNDS				AML	AML	23 12 13.9	
	comp=N,1μm,0.4s						
BNDS	**Bandar-Abbas**	**1.15**	**78**	*e*Pg	**Pg**	**23 11 49.7**	**0.0**
	comp=N,1μm,0.4s						
BANOM	**Banah**	**1.75**	**134**	P	**Pn**	**23 11 58.9**	**+1.7**
BANOM	**Banah**	**1.75**	**134**	⇓P	**Pn**	**23 11 58.9**	**+1.7**
GHIR	**Ghir-Karzin**	**2.04**	**304**	*e*Pg	**Pn**	**23 12 03.7**	**+2.5**
GHIR				AML	AML	23 12 43.1	
	comp=N,480nm,0.7s						
GHIR				AML	AML	23 12 47.4	
	comp=E,532nm,0.6s						
GHIR	**Ghir-Karzin**	**2.04**	**304**	*e*Pg	**Pn**	**23 12 03.7**	**+2.5**
	comp=E,532nm,0.6s						
FAQ	**Al Faqa, Dubai**	**2.48**	**166**	P	**Pn**	**23 12 10.0**	**+2.8**
FAQ	**Al Faqa, Dubai**	**2.48**	**166**	⇓P	**Pn**	**23 12 10.0**	**+2.8**
ASUD	**Al Ashush, Dub**	**2.55**	**171**	P	Pn	23 12 11.9	+3.8
ASUD	**Al Ashush, Dub**	**2.55**	**171**	⇓P	Pn	23 12 11.9	+3.8
HATD	**Hatta, Dubai**	**2.57**	**154**	P	**Pn**	**23 12 11.0**	**+2.5**
HATD	**Hatta, Dubai**	**2.57**	**154**	⇑P	**Pn**	**23 12 11.0**	**+2.5**
ASHO	**Ashiyiah**	**2.67**	**157**	P	**Pn**	**23 12 11.4**	**+1.5**
ASHO	**Ashiyiah**	**2.67**	**157**	⇑P	**Pn**	**23 12 11.4**	**+1.5**
KRBR	**Kerman**	**3.25**	**30**	*e*Pn	**Pn**	**23 12 20.5**	**+2.5**
KRBR	**Kerman**	**3.25**	**30**	*e*Pn	**Pn**	**23 12 20.5**	**+2.5**
BRTR	**Keskin Array B**	**21.66**	**311**	P	**P**	**23 16 17.6**	**+0.2**
	comp=E,0.8nm,0.7s,baz=129,slow=13,SNR=4.2						
AAK	**Ala-Archa**	**22.20**	**41**	P	**P**	**23 16 21.8**	**-1.3**
	comp=E,0.4nm,0.3s,baz=194,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**23.36**	**5**	P	**P**	**23 16 35.7**	**+0.6**
	comp=E,0.9nm,0.5s,baz=200,slow=12,SNR=3.0						
BVAR	**Borovoye Array**	**28.29**	**20**	P	**P**	**23 17 20.4**	**+0.4**
	comp=E,0.9nm,0.6s,baz=188,slow=7.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**34.64**	**31**	P	**P**	**23 18 14.7**	**-1.0**
	comp=E,0.6nm,0.5s,baz=268,slow=8.7,SNR=4.5						
FINES	**FINESS Array B**	**39.35**	**339**	P	**P**	**23 18 55.0**	**-0.7**
	comp=E,1.9nm,0.8s,baz=137,slow=9.9,SNR=8.0						
ESDC	**Sonseca Array**	**49.90**	**300**	P	**P**	**23 20 19.4**	**-0.8**
	comp=E,0.2nm,0.4s,baz=70,slow=7.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**51.51**	**265**	P	**P**	**23 20 31.7**	**-1.0**
	comp=E,1.0nm,0.6s,baz=64,slow=8.0,SNR=22						
DBIC	**Dimbokro**	**60.13**	**262**	P	**P**	**23 21 33.6**	**-0.9**
	comp=E,1.3nm,0.7s,baz=27,slow=6.8,SNR=2.6						

SJA 27 23:39:33.8±0.6, 24°.96S×65°.51W, h3km±2km, ML3.5, MW6.7, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.24**	**2**	*i* P	Pg	23 39 39.1	+0.4
SLA				*e*S	Sg	23 39 43.5	+1.5
SLA				AML	AML	23 39 44.6	
	comp=Z,8μm,0.8s						
AZAP	**Zapla**	**0.84**	**29**	*e*P	Pb	23 39 51.6	+0.2
AZAP				*e*S	Sn	23 40 04.8	-1.3
FSA	**Cafayete**	**1.21**	**202**	*e*P	Pn	23 39 58.2	+0.2
ALOL	**LOMAS DE OLMED**	**1.81**	**51**	*e*P	Pg	23 40 08.2	-0.4
ALOL				*i* P	Pb	23 40 08.9	+1.2
ALOL				*e*S	Sg	23 40 33.2	+1.0
YJA	**Yavi**	**2.77**	**360**	*e*P	Pb	23 40 23.2	-1.5
YJA				*e*S	Sb	23 40 59.3	-0.1
CYA	**Choya**	**3.48**	**184**	*e*P	Pn	23 40 31.9	+2.9

MEX 28 00:01:45.1±0.3, 16°.87N×98°.60W, h37km±9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.65**	**137**	*e*P	Pn	00 01 56.2	-1.8
PNIG				*e*S	Sn	00 02 04.8	-2.3
TLIG	**Tlapa**	**0.69**	**2**	*e*P	Pn	00 01 56.7	-1.8
TLIG				*i* S	Sn	00 02 05.9	-2.2
CAIG	**El Cayaco**	**1.61**	**277**	*e*P	Pn	00 02 10.0	-0.9
CAIG				*e*S	Sn	00 02 28.6	-1.9
PLIG	**Platanillo**	**1.74**	**330**	*e*P	Pn	00 02 10.6	-2.3
PLIG				*i* S	Sn	00 02 32.4	-1.6
ARIG	**Puente Sto Nin**	**2.18**	**310**	*i* P	Pn	00 02 17.6	-1.3
ARIG				*i* S	Sn	00 02 42.0	-2.7

SJA 28 00:16:23.8±0.9, 28°.92S×66°.87W, h21km±3km, ML3.4, MW3.6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**1.05**	**63**	*e*P	Pb	00 16 43.5	+0.2
CYA				AML	AML	00 17 00.2	
	comp=Z,796nm,0.3s						
AGUA	**GUANDACOL**	**1.53**	**248**	*e*P	Pb	00 16 51.4	-0.2
AGUA				*e*P	Pb	00 16 51.4	-0.2
AMOG	**MOGNA**	**2.46**	**215**	*e*P	Pb	00 17 05.6	-1.9
RTLL	**Cerro Villicun**	**2.78**	**210**	*e*P	Pn	00 17 09.8	+2.7
FSA	**Cafayete**	**2.91**	**15**	*e*P	Pb	00 17 12.3	-3.1
FSA				AML	AML	00 17 58.5	
	comp=Z,169nm,0.4s						
RTCV	**Cerro Valdivia**	**3.27**	**206**	*e*P	Pn	00 17 16.8	+2.9
ACAN	**Cantantal**	**3.36**	**185**	*e*P	Pn	00 17 18.3	+3.2

*IDC **28** 00:19:14.8±2.9, 36°.43N×71°.25E, h194km±21km, mb3.5/13, mb1 3.7/20, mb1mx3.4/49, mbtmp4.2/20, Error ellipse: s-maj=28.9km s-min=12.2km az=159.0*
*ISCJB **28** 00:19:16.5±0.3, 36°.65N±0°.03×71°.15E±0°.05, h200km, mb3.6/13, Error ellipse: s-maj=5.3km s-min=3.8km az=153.4*
*NNC **28** 00:19:25.4±4.5, 37°.34N×71°.56E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=39.7km s-min=15.0km az=167.0*

ISC 28 00:19:16.8±0.5, 36°68N±0°.05×71°22E±0°.05, h200km, n54, σ1s63/62, mb3.7/13, 8C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.85**	**319**	⇓P	**Pn**	**00 20 07.7**	**+2.9**
	19nm,0.3s						
DZET				⇑S	**Sn**	**00 20 43.1**	**+0.8**
	375nm,0.5s						
CEP	**Cherat**	**2.90**	**169**	⇑P	Pn	00 20 08.8	+3.3
CEP				S	**Sn**	**00 20 47.0**	**+3.5**
CHCP	**Chirah Chowk**	**3.44**	**150**	⇑P	Pn	00 20 15.1	+3.2
CHCP				S	**Sn**	**00 20 58.0**	**+3.1**
SFK	**Sufi-Kurgan**	**3.78**	**28**	⇑P	**Pn**	**00 20 18.8**	**+2.7**
	34nm,0.3s						
SFK				⇑S	Sn	00 20 52.0	-11
	184nm,0.5s						
THW	**Thamme Wali**	**3.90**	**174**	P	Pn	00 20 21.0	+3.6
DLH	**Dalhousie**	**5.68**	**135**	*ex*	**Pn**	**00 20 40.0**	**-0.3**
DLH				*ex*	**Sn**	**00 21 44.0**	**-2.1**
AML	**Almayashu**	**5.77**	**19**	P	**Pn**	**00 20 43.3**	**+1.8**
	SNR=263						
MNAS	**Manas**	**5.89**	**9**	⇑P	**Pn**	**00 20 44.5**	**+1.9**
	40nm,0.5s						
MNAS				⇑S	**Sn**	**00 21 49.4**	**-1.2**
	86nm,0.9s						
UCH	**Uchtor**	**6.10**	**24**	P	**Pn**	**00 20 47.7**	**+2.0**
	SNR=238						
KZA	**Kyzart**	**6.23**	**29**	P	**Pn**	**00 20 48.8**	**+1.4**
	SNR=50						
EKS2	**Erkin-Say**	**6.29**	**17**	P	**Pn**	**00 20 49.8**	**+1.9**
	SNR=49						
KK31	**Karatay Array**	**6.44**	**355**	P	**Pn**	**00 20 51.4**	**+1.7**
	2.6nm,0.3s,baz=173,slow=12,SNR=208						
KK31				⇓S	**Sn**	**00 21 59.4**	**-4.0**
	36nm,0.5s,baz=177,slow=21,SNR=20						
AAK	**Ala-Archa**	**6.46**	**22**	P	**Pn**	**00 20 52.2**	**+2.0**
	SNR=28						
AAK	**Ala-Archa**	**6.46**	**22**	P	**Pn**	**00 20 52.2**	**+2.0**
	10nm,0.3s,baz=186,slow=4.5,SNR=89						
AAK				S	**Sn**	**00 22 05.3**	**+1.2**
	3.2nm,0.3s,baz=198,slow=12,SNR=3.6						
KBK	**Karagaybulak**	**6.63**	**25**	P	**Pn**	**00 20 54.5**	**+2.2**
	SNR=15						
ULHL	**Ulahol**	**6.78**	**33**	P	**Pn**	**00 20 55.6**	**+1.2**
	SNR=26						
BHK	**Bhakra**	**6.79**	**139**	*ex*	**Sn**	**00 22 10.0**	**-1.7**
CHMS	**Chumysh**	**6.87**	**22**	P	**Pn**	**00 20 57.4**	**+2.1**
	SNR=11						
USP	**Ospenovka**	**7.05**	**20**	P	**Pn**	**00 20 59.3**	**+1.7**
	SNR=28						
TKM2	**Tokmak 2**	**7.09**	**27**	⇓P	**Pn**	**00 20 59.8**	**+1.5**
	66nm,0.7s						
TKM2				⇓S	**Sn**	**00 22 16.5**	**-2.4**
	15nm,0.9s						
TKM2	**Tokmak 2**	**7.09**	**27**	P	**Pn**	**00 21 00.0**	**+1.7**
	SNR=96						
SMLA	**Simla**	**7.42**	**137**	*i* P	**Pn**	**00 21 03.4**	**+0.9**
SMLA				*i* S	**Sn**	**00 22 23.9**	**-2.5**
SMLA				AML	AML	00 22 25.6	
	comp=N,466nm,0.4s						
PDGK	**Podgornoye**	**9.18**	**41**	⇓P	**Pn**	**00 21 27.5**	**+2.3**
	comp=N,6.2nm,0.6s						
PDGK				⇑S	**Sn**	**00 23 09.0**	**+1.0**
	comp=N,8.7nm,1.1s						
GEYT	**Alibeck**	**10.52**	**281**	P	**Pn**	**00 21 41.9**	**-0.8**
	comp=N,0.7nm,0.3s,baz=98,slow=11,SNR=7.1						
GEYT				S	**Sn**	**00 23 39.2**	**-0.9**
	comp=N,1.8nm,0.3s,baz=144,slow=17,SNR=9.0						
MKAR	**Makanchi Array**	**13.04**	**36**	P	**Pn**	**00 22 14.4**	**-0.3**
	comp=N,0.7nm,0.3s,baz=224,slow=18,SNR=31						
PYUN	**Piuthan**	**13.12**	**127**	*e*P	**Pn**	**00 22 15.4**	**-0.5**
	comp=N,25nm,0.5s						
KOLN	**Koldanda**	**13.72**	**127**	*e*P	**P**	**00 22 24.3**	**-1.5**
	comp=N,20nm,0.5s						
GKN	**Gorkha**	**14.25**	**124**	*e*P	**P**	**00 22 31.7**	**+0.1**
	comp=N,13nm,0.5s						
KKN	**Kakani**	**14.82**	**123**	*e*P	**P**	**00 22 37.5**	**-0.5**
	comp=N,18nm,0.6s						
DMN	**Daman**	**14.82**	**124**	*e*P	**P**	**00 22 37.2**	**-0.8**
	comp=N,17nm,0.5s						
KURBB	**Kurchatov Arra**	**14.90**	**18**	P	**Pn**	**00 22 37.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=209,slow=11,SNR=12						
PKIN	**Phulchoki**	**15.04**	**123**	*e*P	**P**	**00 22 40.6**	**+0.2**
	comp=N,11nm,0.6s						
PKI	**Pulchoki**	**15.05**	**123**	*e*P	**P**	**00 22 41.2**	**+0.6**
	comp=N,12nm,0.6s						
GUN	**Gumba**	**15.15**	**121**	*e*P	**P**	**00 22 43.3**	**+1.5**
	comp=N,9.0nm,0.4s						
JIRN	**Jiri**	**15.52**	**121**	*e*P	**P**	**00 22 47.0**	**+1.1**
	comp=N,24nm,0.5s						
RAMN	**Ramite**	**16.26**	**122**	*e*P	**P**	**00 22 52.7**	**-1.2**
	comp=N,9.4nm,0.4s						
BVAR	**Borovoye Array**	**16.36**	**358**	P	**Pn**	**00 22 56.9**	**+1.7**
	comp=N,0.8nm,0.3s,baz=159,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.72**	**329**	P	**Pn**	**00 22 59.7**	**+0.1**
	comp=N,2.2nm,0.3s,baz=135,slow=10,SNR=44						
TAPN	**Taplejung**	**16.77**	**119**	*e*P	**P**	**00 22 59.3**	**-0.3**
	comp=N,7.2nm,0.5s						
ZALV	**Zalesovo Beam**	**19.68**	**24**	P	**P**	**00 23 30.4**	**-0.1**
	comp=N,1.7nm,0.3s,baz=215,slow=12,SNR=26						
SONM	**Songino Array**	**28.09**	**56**	P	**P**	**00 24 50.4**	**+0.6**
	comp=N,1.3nm,0.8s,baz=268,slow=9.1,SNR=11						
BRTR	**Keskin Array B**	**29.55**	**287**	P	**P**	**00 25 04.0**	**+1.1**
	comp=N,0.9nm,0.7s,baz=98,slow=8.6,SNR=6.2						
AKASG	**Malin Array Be**	**32.97**	**309**	P	**P**	**00 25 32.5**	**0.0**
	comp=N,0.5nm,0.4s,baz=81,slow=7.2,SNR=5.2						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**00 26 10.5**	**+0.1**
	comp=N,3.4nm,0.6s,baz=129,slow=10.0,SNR=29						
ARCES	**ARCESS Array B**	**41.05**	**337**	P	**P**	**00 26 40.7**	**+0.5**
	comp=N,2.7nm,0.5s,baz=112,slow=8.2,SNR=18						
HFS	**Hagfors**	**43.04**	**322**	P	**P**	**00 26 56.2**	**-0.2**
	comp=N,6.5nm,0.5s,baz=99,slow=9.8,SNR=37						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**00 27 06.0**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**00 27 06.3**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=104,slow=7.1,SNR=15						
SPITS	**Spitsbergen Ar**	**47.36**	**347**	P	**P**	**00 27 31.3**	**+1.1**
	comp=Z,8.4nm,0.9s,baz=111,slow=9.1,SNR=6.1						
KEST	**Kesra**	**49.15**	**288**	P	**P**	**00 27 44.9**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=350,slow=2.6,SNR=6.5						
ESDC	**Sonseca Array**	**57.53**	**298**	P	**P**	**00 28 44.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=59,slow=6.9,SNR=9.3						
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P	**P**	**00 29 38.8**	**-2.7**
	comp=Z,1.4nm,0.5s,baz=52,slow=6.0,SNR=35						
INK	**Inuvik**	**73.70**	**9**	P	**P**	**00 30 28.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=21,slow=5.5,SNR=5.8						
YKA	**Yellowknife Ar**	**81.06**	**3**	P	**P**	**00 31 08.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=352,slow=5.4,SNR=8.4						

KRSC 28 00:22:35.7±1.6, 53°98N×163°47E, h79km±22km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.18**	**300**	*i* P	Pn	00 22 58.8	+2.0
MKZ				*e*S	Sn	00 23 13.9	+1.3
BKI	**Bering**	**1.91**	**49**	*i* P	Pn	00 23 07.7	+1.5
BKI				*i* S	Sn	00 23 28.8	-0.7
KZV	**Kizimen**	**2.17**	**303**	*e*P	Pn	00 23 12.8	+2.7
KZV				*e*S	Sn	00 23 37.7	+1.4
SPN	**Mys Shipunski**	**2.24**	**248**	*e*P	Pn	00 23 12.6	+1.9
SPN				*e*S	Sn	00 23 37.4	-0.1
KBTR	**Krutoberegovo**	**2.27**	**351**	*e*P	Pn	00 23 12.6	+1.5
KBTR				*e*S	Sn	00 23 39.2	+1.0
TUMR	**Tumrok**	**2.33**	**305**	*e*P	Pn	00 23 15.3	+3.1
TUMR				*e*S	Sn	00 23 42.3	+2.2
KII	**Karymskiy**	**2.38**	**273**	*e*S	Sn	00 23 42.7	+1.7
KMNR	**Kamenistaya**	**2.58**	**315**	*e*P	Pn	00 23 19.0	+3.5
KMNR				*e*S	Sn	00 23 48.6	+2.6
NLC	**Nalytchevo**	**2.59**	**254**	*e*P	Pn	00 23 18.0	+2.6
NLC				*e*S	Sn	00 23 46.6	+0.7
SDLR	**Sedlovina**	**2.82**	**257**	*e*P	Pn	00 23 21.7	+3.0
SDLR				*e*S	Sn	00 23 53.2	+1.4
KLY	**Klyuchi**	**2.85**	**326**	P	Pn	00 23 20.9	+2.0
SMAR	**Somma**	**2.87**	**257**	*e*P	Pn	00 23 22.5	+3.0
SMAR				*e*S	Sn	00 23 54.5	+1.2
UGLR	**Uglovaya**	**2.88**	**256**	*e*P	Pn	00 23 22.4	+3.0
UGLR				*e*S	Sn	00 23 54.6	+1.5
KRER	**Koryakskii**	**2.89**	**258**	*e*P	Pn	00 23 23.1	+3.3
KRER				*e*S	Sn	00 23 55.7	+2.0
BDR	**Baidarnaya**	**2.90**	**334**	*i* P	Pn	00 23 22.5	+2.7
AVH	**Avacha**	**2.91**	**258**	*e*P	Pn	00 23 23.2	+3.4
AVH				*e*S	Sn	00 23 56.2	+2.4
KRX	**Arik**	**2.94**	**260**	*e*P	Pn	00 23 23.4	+3.1
KRX				*e*S	Sn	00 23 55.9	+1.3
KOZ	**Kozyrevsk**	**2.94**	**317**	*e*P	Pn	00 23 24.1	+3.9
KOK	**Koryaka**	**2.96**	**259**	*e*P	Pn	00 23 23.7	+3.1
KOK				*e*S	Sn	00 23 56.7	+1.6
PET	**Petropavlovsk**	**3.03**	**254**	*e*S	Sn	00 23 58.6	+2.0
SRDR	**Sredinnyy**	**3.19**	**319**	*e*P	Pn	00 23 26.7	+3.1
GNL	**Ganaly**	**3.29**	**267**	*e*P	Pn	00 23 29.2	+4.2
GNL				*e*S	Sn	00 24 06.3	+3.2
RUS	**Russkaya**	**3.36**	**245**	*e*P	Pn	00 23 28.3	+2.5
RUS				*e*S	Sn	00 24 05.2	+0.7
MTVR	**Mutnovka**	**3.51**	**247**	*e*P	Pn	00 23 31.2	+3.1
MTVR				*e*S	Sn	00 24 09.7	+1.0
ASAK	**Asacha**	**3.71**	**247**	*e*P	Pn	00 23 34.5	+3.7
ASAK				*e*S	Sn	00 24 15.4	+2.0
APC	**Apacha**	**3.92**	**257**	*e*P	Pn	00 23 38.0	+4.6
APC				*e*S	Sn	00 24 21.7	+3.5
OSSR	**Ossora**	**5.29**	**358**	*e*P	Pn	00 23 55.7	+3.6
OSSR				*e*S	Sn	00 24 52.9	+1.3
SKR	**Severo-Kuril's**	**5.59**	**237**	*e*S	Sn	00 24 58.9	0.0

MAN 28 00:24:04, 13°58N×120°61E, h84km, mb4.0, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.35**	**103**	⇑*e*P	Pn	00 24 18.9	+1.9
PGP				*i* S	Sn	00 24 30.5	+3.7
LUBP	**Lubang**	**0.38**	**293**	*e*P	Pn	00 24 19.7	+2.5
LUBP				*e*S	Sn	00 24 30.5	+3.5
BUSP	**Coron**	**1.62**	**194**	*e*P	Pn	00 24 32.4	+1.3
ENPP	**El Nido**	**2.63**	**206**	*e*P	Pn	00 24 46.0	+1.6

*ISCJB **28** 00:46:27.3±0.2, 10°.74N±0°.05×84°.84W±0°.04, h218km±2km, mb4.5/116, Error ellipse: s-maj=9.2km s-min=2.8km az=33.7*
*IDC **28** 00:46:27.8±0.3, 10°.80N×84°.89W, h207km±3km, mb3.9/23, mb1 4.1/26, mb1mx3.9/42, mbtmp4.5/26, Error ellipse: s-maj=16.4km s-min=8.2km az=45.0*
*CASC **28** 00:46:27.4±2.7, 10°.85N×84°.81W, h210km±8km, MD3.6, ML4.5*
*NEIC **28** 00:46:28.7±0

BOQS eS S 00 48 47.1 -0.3
BCIP Isla Barro Col 5.25 106 ePn Pn 00 47 45.8 -0.5
SBLS San Blas 5.55 305 eP Pn 00 47 52.2 +1.9
RTR El Retiro 5.60 305 eP Pn 00 47 53.0 +2.0
RBDL Robledal 5.75 307 eP Pn 00 47 54.3 +1.4
IXG Ixpaco 6.41 303 eP Pn 00 48 02.5 +1.3
TEIG Tepich 10.01 342 P Pn 00 48 47.5 0.0
comp=Z,0.8nm,0.3s,baz=161,slow=13,SNR=10
TEIG Tepich 10.01 342 ePn Pn 00 48 47.8 +0.3
CMIG Matias Romero 11.56 304 P Pn 00 49 07.9 +0.5
comp=Z,9.5nm,0.3s,baz=112,slow=10,SNR=136
CMIG S S 00 51 13.3 -1.9
comp=Z,3.8nm,0.3s,baz=290,slow=22,SNR=4.8
ROSC El Rosal 12.00 118 P P 00 49 17.6 +0.2
comp=Z,1.0nm,0.3s,baz=297,slow=13,SNR=12
ROSC El Rosal 12.00 118 ePn P 00 49 17.0 -0.4
OTAV Otavalo 12.22 148 ePn P 00 49 18.6 -1.4
GTBY Guantanamo Bay 13.19 45 ePn P 00 49 31.6 +1.4
SDV Santo Domingo 14.21 96 ePn P 00 49 41.0 -0.8
SDV eS S 00 52 22.4 +4.4
SDDR Presa de Saban 15.55 56 ePn Pn 00 49 59.0 +2.3
comp=Z,12nm,0.8s
SDDR eS S 00 52 52.8 +4.2
CRPR Cabo Rojo, PR 18.73 65 eP P 00 50 31.3 +0.2
comp=Z,31nm,0.7s
AGP Aguadilla 18.84 64 eP P 00 50 33.2 +0.9
comp=Z,172nm,1.1s
ATAH Atahualpa 18.87 160 P Pn 00 50 38.5 +2.2
comp=Z,1.0nm,0.3s,baz=349,slow=4.7,SNR=12
LRS Lares 19.07 65 eP P 00 50 30.8 -4.0
AOPR Arecibo Observ 19.16 65 eP P 00 50 35.5 -0.3
comp=Z,48nm,0.7s
OBIP Obispado Ponce 19.19 66 eP P 00 50 36.4 +0.3
comp=Z,44nm,0.8s
ICMP Isla Caja de M 19.21 66 eP P 00 50 36.8 +0.5
CELP Cerrillos 19.23 65 eP P 00 50 36.8 +0.3
SJG San Juan 19.62 66 eP P 00 50 40.9 +0.2
comp=Z,16nm,0.6s
HUMP Col San Antoni 19.90 66 eP P 00 50 44.0 +0.3
comp=Z,24nm,0.8s
PCRV Puerto La Cruz 19.97 90 P P 00 50 46.0 +1.5
comp=Z,4.4nm,0.3s,baz=257,slow=4.2,SNR=15
MTP Monte Pirata 20.16 66 eP P 00 50 46.6 +0.2
comp=Z,51nm,1.0s
BRAL Brewton 20.32 355 eP Pn 00 50 51.4 -1.7
comp=Z,113nm,0.9s
TIGA Tifton 20.69 3 ⇓P P 00 50 51.6 -0.3
baz=21,SNR=5.2
TIGA Tifton 20.69 3 eP P 00 50 53.6 +1.7
comp=Z,629nm,2.5s
034A Hebbronville 20.81 323 ⇑P P 00 50 54.5 +1.2
baz=21
736A Circle Diamond 21.43 330 ⇓P P 00 51 00.9 +1.3
baz=22
834A Tilden 21.55 326 ⇓P P 00 51 02.3 +1.4
baz=22
HKT Hockley 21.69 334 eP P 00 51 00.3 -1.8
439A Center Grove, 21.99 337 ⇓P P 00 51 05.3 +0.2
baz=22
537A Green Hill Far 22.02 333 ⇓P P 00 51 05.8 +0.5
baz=22
833A Chaparral WMA, 22.17 324 ⇓P P 00 51 07.1 +0.3
baz=22,SNR=6.5
LRAL Lakeview Retre 22.32 355 eP P 00 51 09.7 +1.6
comp=Z,62nm,0.8s
SMRT St. Maarten 22.39 68 eP P 00 51 07.8 -1.2
339A Huntington 22.39 338 ⇓P P 00 51 09.3 +0.5
baz=22
733A Divot King Ran 22.42 325 ⇓P P 00 51 09.9 +0.8
baz=23
832A Faith Ranch, C 22.48 323 ⇑P P 00 51 10.2 +0.5
baz=23
535A Dale 22.56 330 ⇑P P 00 51 11.2 +0.9
baz=23
GOGA Godfrey 22.66 3 eP P 00 51 12.3 +1.2
comp=Z,52nm,0.8s
338A Crockett 22.70 336 ⇑P P 00 51 12.6 +1.0
baz=23
NHSC New Hope 22.74 10 eP P 00 51 13.5 +1.7
comp=Z,156nm,1.3s
732A Laxson Ranch, 22.81 324 ⇓P P 00 51 13.3 +0.7
baz=23
633A Saathoff Ranch 22.93 327 ⇓P P 00 51 13.6 0.0
baz=23
239A Gary 22.98 339 ⇓P P 00 51 14.0 -0.1
baz=23
534A Blanco 23.01 329 ⇑P P 00 51 14.4 -0.1
baz=23,SNR=12
435B Jarrell 23.19 331 ⇑P P 00 51 16.4 +0.3
baz=23,SNR=8.3
632A Uvalde 23.30 326 ⇑P P 00 51 17.5 +0.5
baz=23
533A Kerrville 23.33 328 ⇑P P 00 51 18.0 +0.7
baz=24
335A Moody 23.54 332 ⇑P P 00 51 19.6 +0.4
baz=24
434A Burnet 23.55 330 ⇑P P 00 51 19.6 +0.3
baz=24
631A Perdido Creek 23.67 324 ⇓P P 00 51 20.9 +0.5
baz=24
JSC Jenkinsville 23.72 8 eP P 00 51 21.9 +1.1
138A Matatall Enter 23.79 338 ⇑P P 00 51 23.0 +1.6
baz=24,SNR=5.4
532A Rocksprings 23.84 326 ⇑P P 00 51 22.3 +0.2
baz=24
433A Art 23.91 329 ⇑P P 00 51 22.6 +0.1
baz=24,SNR=11
334A Lometa 23.96 331 ⇑P P 00 51 23.5 +0.5
baz=24
JCT Junction City 24.06 327 ⇓P P 00 51 24.5 +0.5
baz=24
OXF Oxford 24.06 351 eP P 00 51 24.2 +0.3
comp=Z,42nm,0.6s
531A Rocksprings 24.22 325 ⇓P P 00 51 26.1 +0.6
baz=24
333A Richland Sprin 24.32 330 ⇓P P 00 51 26.3 +0.1
baz=24
432A Menard 24.37 328 ⇓P P 00 51 26.8 0.0
baz=24
SWET Sewanee 24.43 358 eP P 00 51 27.9 +0.6
SWET eScP ScP 00 58 24.1 +5.7
KMSC Kings Mountain 24.56 7 ⇑P P 00 51 29.1 +0.7
baz=25,SNR=6.5
KMSC Kings Mountain 24.56 7 eP P 00 51 29.7 +1.3
CPCT Cooper Cave 24.65 1 eP P 00 51 30.7 +1.5
431A Sonora 24.66 326 ⇑P P 00 51 29.8 +0.4
baz=25
530A J-C Ranch, Com 24.66 324 ⇓P P 00 51 30.3 +0.8
baz=25,SNR=7.2
332A Millersview 24.74 329 ⇑P P 00 51 31.1 +0.9
baz=25
TKL Tuckaleechee C 24.88 2 P P 00 51 31.8 +0.5
comp=Z,8.6nm,0.7s,baz=165,slow=6.9,SNR=12
TKL Tuckaleechee C 24.88 2 eP P 00 51 32.5 +1.2
UALR University of 24.91 345 eP P 00 51 32.7 +1.1
comp=Z,25nm,1.0s
134A White-Moore Ra 24.92 333 ⇑P P 00 51 32.5 +0.8
baz=25
MIAR Mount Ida 25.02 343 eP P 00 51 33.3 +0.7
comp=Z,16nm,0.6s
331A San Angelo 25.04 327 ⇓P P 00 51 33.9 +1.0
baz=25,SNR=6.6
232A Coleman 25.10 329 ⇓P P 00 51 33.8 +0.4
baz=25
429A Davenport Ranc 25.34 324 ⇓P P 00 51 35.5 0.0
baz=26,SNR=15
WVT Waverly 25.46 355 eP P 00 51 36.0 -0.5
LTX Lajitas 25.50 319 eP P 00 51 38.2 +1.1
TXAR Lajitas Array 25.50 319 P P 00 51 38.2 +1.1
comp=Z,1.5nm,0.5s,baz=140,slow=10,SNR=14
TXAR pP pP 00 52 19.1 -0.7
comp=Z,1.1nm,0.7s,baz=140,slow=10,SNR=2.5
TXAR PcP PcP 00 55 05.2 +2.4
comp=Z,0.7nm,0.7s,baz=131,slow=5.2,SNR=4.8
330A Mertzon 25.52 326 ⇓P P 00 51 38.0 +0.7
baz=26
Z34A Collier Ranch, 25.53 334 ⇑P P 00 51 37.7 +0.5
baz=26
ABTX Abilene, Hawle 25.70 330 ⇓P P 00 51 39.5 +0.7
baz=26
ABTX Abilene, Hawle 25.70 330 eP P 00 51 41.4 +2.7
comp=Z,7.1nm,0.8s
W38A Poteau 25.79 342 ⇓P P 00 51 40.5 +1.0
baz=26
Z33A Whitaker Ranch 25.83 333 ⇓P P 00 51 40.4 +0.5
baz=26
X36A Centrahoma 25.96 338 ⇓P P 00 51 41.5 +0.5
baz=26
Y34A Reagan Ranch, 25.97 335 ⇑P P 00 51 41.6 +0.5
baz=26
329A Wagon Wheel Ra 26.03 325 ⇑P P 00 51 42.1 +0.4
baz=26
Z32A Haskell 26.18 332 ⇓P P 00 51 43.9 +0.9
baz=26
PARMO Parma 26.23 351 eP P 00 51 44.2 +0.9
PBMO Poplar Bluff 26.45 350 eP P 00 51 45.3 0.0
comp=Z,26nm,1.3s
Z31A Sharp Cattle R 26.50 331 ⇓P P 00 51 46.5 +0.5
baz=27
W35A Tecumseh 26.67 338 ⇑P P 00 51 48.1 +0.7
baz=27
X33A Lawton 26.78 335 ⇑P P 00 51 49.1 +0.7
baz=27
SIUC Southern Illin 27.18 353 eP P 00 51 51.9 +0.1
comp=Z,23nm,0.8s
USIN University of 27.27 355 eP P 00 51 53.1 +0.5
comp=Z,48nm,1.1s
PTGA Pitinga 27.30 113 P P 00 51 55.3 +2.0
comp=Z,11nm,0.6s,baz=297,slow=11,SNR=16
PTGA Pitinga 27.30 113 eP P 00 51 54.7 +1.5
comp=Z,14nm,0.8s
Y30A Stafford Cattl 27.32 330 ⇓P P 00 51 53.5 +0.2
baz=28
WCI Wyandotte Cave 27.45 358 eP P 00 51 54.4 +0.1
comp=Z,37nm,1.0s
X31A McDonald Ranch 27.51 332 ⇑P P 00 51 55.5 +0.7
baz=28
W32A Sentinel 27.60 334 ⇑P P 00 51 56.2 +0.6
baz=28
U34A Anderson Ranch 28.06 338 ⇑P P 00 51 59.5 -0.2
baz=28
OLIL Olney 28.07 355 eP P 00 52 00.3 +0.6
comp=Z,34nm,0.9s
MNTX Cornudas Mount 28.19 321 ⇑P P 00 52 00.9 -0.1
baz=28
MNTX Cornudas Mount 28.19 321 eP P 00 52 02.2 +1.2
comp=Z,6.8nm,1.4s
BLO Bloomington 28.40 357 eP P 00 52 03.0 +0.3
S36A Lake Cedric, C 28.57 342 ⇑P P 00 52 04.4 +0.1
baz=29
S35A Otter Creek Ra 28.76 341 ⇑P P 00 52 05.8 -0.1
baz=29
SAML Samuel 29.14 131 eP P 00 52 09.6 +0.1
comp=Z,5.2nm,0.8s
Q37A Longview Farm, 29.33 345 ⇓P P 00 52 10.8 -0.1
baz=30
ACSO Alum Creek Sta 29.47 3 eP P 00 52 12.6 +0.4
comp=Z,61nm,0.6s
SFIN Lafayette 29.63 357 ⇓P P 00 52 12.9 -0.6
baz=30,SNR=17
SFIN Lafayette 29.63 357 eP P 00 52 13.1 -0.5
R33A Olander Ranch, 29.89 339 ⇓P P 00 52 15.8 -0.1
baz=30
HDIL Hopedale 30.00 353 eP P 00 52 16.2 -0.6
comp=Z,591nm,0.7s
R32A Long Quarter, 30.25 338 ⇓P P 00 52 19.0 -0.1
baz=30
Q33A Connelly Farm, 30.45 340 ⇓P P 00 52 21.2 +0.4
baz=31
SSPA Standing Stone 30.47 11 eP P 00 52 21.8 +0.8
319A Douglas 30.53 316 ⇑P P 00 52 22.3 +0.6
baz=31
Q32A Meitler Ranch, 30.70 339 ⇑P P 00 52 22.8 -0.2
baz=31
P31A Stockton 31.46 338 ⇑P P 00 52 30.5 +0.8
baz=32
S26A Kim 31.57 331 ⇑P P 00 52 31.4 +0.5
baz=32
KSPA Keystone Colle 31.79 13 eP P 00 52 33.0 +0.5
comp=Z,42nm,1.1s
SCIA State Center 31.93 348 eP P 00 52 31.4 -2.3
comp=Z,54nm,0.4s
JFWS Jewell Farm 32.44 353 eP P 00 52 37.5 -0.6
comp=Z,64nm,1.1s
MMNY Mt. Morris Dam 32.51 10 eP P 00 52 39.2 +0.5
R24A Sanders Place, 32.85 330 ⇓P P 00 52 42.0 0.0
baz=33
X18A Snowflake 32.93 320 ⇑P P 00 52 43.2 +0.5
baz=33
X16A Lo Mia Camp, P 33.82 318 ⇑P P 00 52 51.6 +1.2
baz=34
MVCO Mesa Verde 33.88 325 ⇑P P 00 52 51.6 +0.7
baz=34
MVCO Mesa Verde 33.88 325 eP P 00 52 52.9 +1.9
comp=Z,10nm,1.4s
P23A Jefferson 34.09 330 ⇑P P 00 52 54.2 +1.3
baz=34
ECSD EROS Data Cent 34.45 345 ⇑P P 00 52 54.4 -1.0
baz=35,SNR=13
ECSD EROS Data Cent 34.45 345 eP P 00 52 54.5 -1.0
comp=Z,8.4nm,0.9s
Y14A Wickenburg 34.57 316 ⇑P P 00 52 57.6 +0.9
baz=35
PTN Potsdam (NY) 34.83 12 eP P 00 52 59.0 +0.2
comp=Z,68nm,0.8s
J30A Dallas 34.89 341 ⇑P P 00 53 00.0 +0.7
baz=35
LONY Lake Ozonia 34.97 13 eP P 00 53 00.1 +0.2
comp=Z,37nm,1.2s
O22A Kremmling 35.05 331 ⇓P P 00 53 01.3 +0.3
baz=35
SPMN Marine on St. 35.07 350 ⇓P P 00 52 59.7 -1.1
baz=35,SNR=8.0
SPMN Marine on St. 35.07 350 eP P 00 52 59.9 -0.9
comp=Z,44nm,0.8s
J29A Okreek 35.23 340 ⇓P P 00 53 02.1 -0.1
baz=35
COWI Conner 35.47 355 eP P 00 53 03.4 -0.8
comp=Z,26nm,0.9s
PDMCI Parker Dam,Lak 35.55 316 ⇑P P 00 53 06.7 +1.7
baz=36
J28A Allard Ranch, 35.56 339 ⇓P P 00 53 06.0 +1.0
baz=36
J27A Elkhorn Farm, 35.68 338 ⇓P P 00 53 06.7 +0.6
baz=36
BRSD Miller 35.74 343 ⇑P P 00 53 06.5 0.0
baz=36
I29A Vivian Onida 35.78 341 ⇑P P 00 53 06.9 +0.1
baz=36
SWSC Sam W. Stewart 35.98 313 eP P 00 53 05.8 -2.9
SWSC ePP PnPn 00 54 38.5 +0.8
SWSC eS S 00 58 31.3 +0.3
I28A Midland 36.04 340 ⇑P P 00 53 08.9 -0.1
baz=36
SRU San Rafael Swe 36.35 325 eP P 00 53 13.7 +1.7
LVC Limon Verde 36.63 155 eP P 00 53 19.4 +4.8
FRD Ford Ranch, An 36.84 313 eP P 00 53 19.8 +3.7
H27A Howes 36.91 339 ⇓P P 00 53 16.5 +0.1
baz=37,SNR=9.2
I25A Rochford 36.98 337 ⇑P P 00 53 17.6 +0.5
baz=37
F29A Eureka 37.27 343 ⇓P P 00 53 18.8 -0.6
baz=37
EYMN Ely 37.55 353 eP P 00 53 20.0 -1.6
comp=Z,10nm,0.6s
J22A Midwest 37.59 334 ⇓P P 00 53 22.7 +0.5
baz=38
I23A Meade Ranch, G 37.61 335 ⇑P P 00 53 22.3 -0.1
baz=38
E30A Jud 37.62 344 ⇑P P 00 53 22.7 +0.4
baz=38
G26A Maurine 37.66 339 ⇑P P 00 53 22.8 0.0
baz=38
NLU North Lily Min 37.80 325 eP P 00 53 20.1 -4.0
H24A Dirks Ranch, A 37.91 337 ⇑P P 00 53 24.6 -0.2
baz=38
J21A Lysite 37.96 333 ⇑P P 00 53 25.2 -0.3
baz=38
D30A Buchanan 38.14 345 ⇓P P 00 53 27.0 +0.3
baz=38
CWU Camp Williams 38.15 326 eP P 00 53 29.8 +2.7
DUG Dugway, Tooele 38.38 325 ⇓P P 00 53 28.8 0.0
baz=38
PD31 Pinedale Array 38.50 330 eP P 00 53 30.4 +0.5
PD31 ePcP PcP 00 55 39.4 +1.1
PDAR Pinedale Array 38.50 330 P P 00 53 30.4 +0.5
comp=Z,0.9nm,0.7s,baz=139,slow=8.1,SNR=3.4
PDAR PcP PcP 00 55 39.4 +1.1
comp=Z,1.0nm,0.8s,baz=150,slow=3.5,SNR=5.4
AGMN Agassiz Nation 38.59 348 ⇓P P 00 53 29.4 -1.0
baz=39,SNR=11
AGMN Agassiz Nation 38.59 348 eP P 00 53 29.8 -0.6
D28A Regan 38.71 343 ⇑P P 00 53 31.8 +0.4
baz=39
I20A Worland 38.74 333 ⇓P P 00 53 31.6 -0.3
baz=39
EPU East Promontor 38.97 326 eP P 00 53 35.2 +1.4
EPU ePP PnPn 00 55 17.1 +4.2
MDND Maddock 39.04 344 ⇓P P 00 53 34.8 +0.7
baz=39
C28A Hausauer Farms 39.14 343 ⇓P P 00 53 34.9 0.0
baz=39
AHID Auburn Hatcher 39.26 329 eP P 00 53 40.9 +4.7
B29A Wagenman Farm, 39.55 345 ⇑P P 00 53 38.1 -0.2
baz=40
REDW Red Top Meadow 39.57 330 eP P 00 53 39.6 +0.8
A30A Hoffart Farm, 39.73 346 ⇓P P 00 53 39.9 +0.1
baz=40
C26A Wahner Farm, P 39.74 342 ⇑P P 00 53 40.0 +0.1
baz=40
G20A Bridger 39.78 334 ⇑P P 00 53 40.3 -0.1
baz=40
B28A Dugan Ranch, T 39.80 344 ⇑P P 00 53 40.5 +0.2
baz=40
E22A Miles City 39.86 337 ⇓P P 00 53 41.1 +0.1
baz=40
A29A Manning Farm, 39.94 345 ⇓P P 00 53 41.4 -0.2
baz=40
F20A Billings 40.22 335 ⇑P P 00 53 44.2 +0.2
baz=40
ULM Lac du Bonnet 40.47 349 P P 00 53 44.5 -1.3
comp=Z,24nm,0.8s,baz=165,slow=9.4,SNR=38
F19A Roth Farm, Mol 40.60 334 ⇑P P 00 53 47.7 +0.6
baz=41
NV01 Mina Array Sit 40.65 318 eP P 00 53 46.5 -1.2
NVAR Mina Array Bea 40.65 318 P P 00 53 46.5 -1.2
comp=Z,2.8nm,0.3s,baz=125,slow=7.4,SNR=6.3
C23A Lambert 40.73 339 ⇓P P 00 53 48.4 +0.3
baz=41
E20A Meyer Farm, Mu 40.77 335 ⇓P P 00 53 49.2 +0.7
baz=41
D20A Manuel Ranch, 41.25 336 ⇓P P 00 53 52.8 +0.5
baz=41
A24A Westby 41.30 341 ⇓P P 00 53 52.7 0.0
baz=42
HLID Hailey 41.54 327 ⇓P P 00 53 55.2 +0.3
baz=42
HLID Hailey 41.54 327 eP P 00 53 55.8 +1.0
comp=Z,16nm,2.0s
EGMT Eagleton 42.66 335 ⇑P P 00 54 03.6 -0.1
baz=43
WVOR Wild Horse Val 43.18 323 eP P 00 54 09.1 +1.1
comp=Z,8.4nm,0.6s
DRLN Deer Lake 44.70 25 eP P 00 54 19.7 -0.2
comp=Z,52nm,0.9s
BDFB Brasilia 44.95 125 P P 00 54 22.9 +0.5
comp=Z,4.4nm,0.5s,baz=283,slow=8.3,SNR=10.0
CPUP Villa Florida 45.55 144 P P 00 54 27.9 +1.2
comp=Z,0.7nm,0.7s,baz=320,slow=5.6,SNR=5.1
FFC Flin Flon 45.95 346 eP P 00 54 29.5 -0.1
comp=Z,74nm,2.6s
SCHQ Schefferville 46.31 14 P P 00 54 31.4 -0.9
comp=Z,29nm,0.4s,baz=211,slow=6.1,SNR=179
SCHQ Schefferville 46.31 14 P P 00 54 31.4 -0.9
comp=Z,21nm,0.8s
PIER Pier 30 Seattl 48.38 327 eP P 00 54 51.4 +3.0
FCC Fort Churchill 48.47 354 eP P 00 54 48.1 -0.8
comp=Z,1µm,1.6s
YKA Yellowknife Ar 55.96 344 P P 00 55 43.2 -0.7
comp=Z,4.0nm,0.7s,baz=139,slow=7.0,SNR=80
YKA pP pP 00 56 30.8 -1.6
comp=Z,0.8nm,0.8s,baz=141,slow=7.1,SNR=2.1
YKB5 Yellowknife Ar 55.96 344 eP P 00 55 43.2 -0.7
DLBC Dease Lake 58.55 334 P P 00 56 02.8 +0.7
comp=Z,4.3nm,0.9s,baz=138,slow=3.7,SNR=7.4
SFJD Kangerlussuaq 60.76 15 eP P 00 56 15.4 -1.5
comp=Z,31nm,0.7s
SFJD Kangerlussuaq 60.76 15⇑*i*P P 00 56 15.1 -1.8
comp=Z,27nm,0.7s
RES Resolute Bay 64.22 357 P P 00 56 38.9 -0.8
comp=Z,6.6nm,0.7s,baz=175,slow=10,SNR=15
RES pP pP 00 57 28.1 -1.5
comp=Z,1.8nm,0.7s,baz=142,slow=12,SNR=2.1
INK Inuvik 65.62 342 P P 00 56 49.2 +0.4
comp=Z,6.0nm,0.6s,baz=124,slow=5.8,SNR=16
DOT Dot Lake 67.05 335 eP P 00 56 59.1 +1.1
comp=Z,8.8nm,0.8s
PAX Paxson 67.37 334 eP P 00 57 00.7 +0.6
comp=Z,25nm,1.8s
SUMG Summit 67.69 14 eP P 00 57 01.3 -1.0
comp=Z,38nm,1.1s
SUMG Summit 67.69 14⇑*i*P P 00 57 01.3 -1.0
comp=Z,37nm,1.1s
ILAR Eielson Array 68.62 336 P P 00 57 07.8 +0.1
comp=Z,2.7nm,0.7s,baz=125,slow=4.1,SNR=41
ILB Eielson Array 68.62 336 eP P 00 57 07.8 +0.1
COLD Coldfoot 70.74 338 eP P 00 57 22.3 +1.7
comp=Z,3.6nm,0.6s
PACT Alcochete 72.58 53 eP P 00 57 33.8 +1.7
comp=Z,98nm,1.7s
PTEO Sao Teotonio 72.66 54 eP P 00 57 33.3 +0.7
comp=Z,29nm,1.6s
MORF Marmelete 72.72 54 eP P 00 57 33.1 +0.1
MORF Marmelete 72.72 54 eP P 00 57 33.3 +0.2
comp=Z,41nm,1.7s
PCAS Casmilo, Conde 72.84 51 eP P 00 57 33.6 -0.1
comp=Z,32nm,1.4s
PTOM Tomar 72.91 52 eP P 00 57 33.6 -0.5
comp=Z,15nm,1.3s
MESJ Messejana 73.06 54 eP P 00 57 34.8 -0.2
EVOP Sao Brissos 73.13 53 eP P 00 57 34.1 -1.3
comp=Z,24nm,0.9s
PCVE Castro Verde 73.20 54 eP P 00 57 36.1 +0.2
comp=Z,7.1nm,1.7s
PCVE epP pP 00 58 27.7 +0.7
EVO Evora 73.22 53 eP P 00 57 34.1 -1.8
comp=Z,24nm,0.9s
EVO Evora 73.22 53 eP P 00 57 35.5 -0.4
comp=Z,13nm,2.0s
PVIS Viseu 73.31 51 eP P 00 57 36.0 -0.5
comp=Z,16nm,1.1s
POLO Lamas de Olo 73.38 50 eP P 00 57 36.3 -0.7
comp=Z,7.8nm,1.0s
PVRL Vila Real 73.44 50 eP P 00 57 36.7 -0.5
comp=Z,12nm,1.7s
PVAQ Vaqueiros 73.46 54 eP P 00 57 37.4 0.0
comp=Z,32nm,1.8s
PESTR Estremoz 73.55 53 eP P 00 57 37.4 -0.4
comp=Z,8.6nm,0.9s
MTE Manteigas 73.57 51 eP P 00 57 37.4 -0.6
comp=Z,14nm,1.1s
MTE Manteigas 73.57 51 eP P 00 57 37.2 -0.8
comp=Z,10nm,1.1s
PCBR Castelo Branco 73.62 52 eP P 00 57 37.8 -0.4
comp=Z,12nm,1.0s
PMRV Marv??o 73.69 52 eP P 00 57 37.9 -0.8
comp=Z,20nm,1.3s
MVO Moncorvo 73.96 50 eP P 00 57 39.8 -0.5
comp=Z,16nm,2.0s
MVO pP pP 00 58 30.6 -0.9
PBAR Barrancos 73.99 53 eP P 00 57 40.2 -0.2
comp=Z,25nm,1.7s
PBRG Braganca 74.17 50 eP P 00 57 41.2 -0.3
comp=Z,10nm,1.4s
DAG Danmarks Havn 74.31 13 *i*P P 00 57 39.6 -1.9
comp=Z,6.6nm,0.8s
PAB San Pablo 76.05 52 eP P 00 57 52.1 -0.1
comp=Z,8.7nm,1.1s
ESDC Sonseca Array 76.34 52 P P 00 57 53.4 -0.5
comp=Z,6.5nm,0.8s,baz=280,slow=5.9,SNR=45
ESDC pP pP 00 58 44.2 -1.2
comp=Z,1.0nm,0.7s,baz=280,slow=5.8,SNR=3.0
ROSF Rostrenen 76.56 43⇑*i*P P 00 57 53.7 -1.1
comp=Z,21nm,0.9s
ROSF Rostrenen 76.56 43⇑*i*P P 00 57 53.7 -1.1
comp=Z,21nm,0.9s
QUIF Quistinic 76.64 43⇑*i*P P 00 57 54.2 -1.1
comp=Z,12nm,0.7s
QUIF Quistinic 76.64 43⇑*i*P P 00 57 54.2 -1.1
comp=Z,12nm,0.7s
PMSA Palmer Station 76.88 171 eP P 00 57 58.9 +2.8
comp=Z,58nm,0.6s
SGMF Saint Gilles 77.05 43 eP P 00 57 56.3 -1.2
comp=Z,6.5nm,0.7s
SGMF Saint Gilles 77.05 43 eP P 00 57 56.3 -1.2
comp=Z,6.5nm,0.7s
GRR Gorron 78.17 43⇑*i*P P 00 58 02.7 -1.1
comp=Z,38nm,0.8s
GRR Gorron 78.17 43⇑*i*P P 00 58 02.7 -1.1
comp=Z,38nm,0.8s
SJPF Ste Jean 78.21 48⇑*i*P P 00 58 03.6 -0.5
comp=Z,20nm,0.8s
SJPF Ste Jean 78.21 48⇑*i*P P 00 58 03.6 -0.5

	comp=Z,20nm,0.8s								
FLN	**La Foliniere**	**78.40**	**42**	⇑*iP*		**P**		**00 58 04.1**	**-0.9**
	comp=Z,21nm,0.7s								
FLN	**La Foliniere**	**78.40**	**42**	⇑*iP*		**P**		**00 58 04.1**	**-0.9**
	comp=Z,21nm,0.7s								
LDF	**La Druitiere**	**78.65**	**42**	⇑*iP*		**P**		**00 58 05.4**	**-1.0**
	comp=Z,36nm,0.9s								
LDF	**La Druitiere**	**78.65**	**42**	⇑*iP*		**P**		**00 58 05.4**	**-1.0**
	comp=Z,36nm,0.9s								
ETSF	**Etsaut**	**78.71**	**48**	*eP*		**P**		**00 58 05.5**	**-1.4**
ETSF	**Etsaut**	**78.71**	**48**	*eP*		**P**		**00 58 05.5**	**-1.4**
MFF	**Saint Martin d**	**78.75**	**44**	⇑*iP*		**P**		**00 58 05.9**	**-1.1**
	comp=Z,15nm,0.8s								
MFF	**Saint Martin d**	**78.75**	**44**	⇑*iP*		**P**		**00 58 05.9**	**-1.1**
	comp=Z,15nm,0.8s								
LIC	**Lamto**	**78.98**	**86**	⇑*iP*		**P**		**00 58 08.7**	**-0.2**
	comp=Z,5.2nm,0.5s								
LIC	**Lamto**	**78.98**	**86**	⇑*iP*		**P**		**00 58 08.7**	**-0.2**
	comp=Z,5.2nm,0.4s								
EPF	**Esparros**	**79.36**	**48**	⇑*iP*		**P**		**00 58 09.7**	**-0.7**
	comp=Z,7.2nm,0.8s								
EPF	**Esparros**	**79.36**	**48**	⇑*iP*		**P**		**00 58 09.7**	**-0.7**
	comp=Z,7.2nm,0.8s								
LFF	**La Frestale**	**79.49**	**46**	*eP*		**P**		**00 58 10.0**	**-1.0**
	comp=Z,12nm,0.8s								
LFF	**La Frestale**	**79.49**	**46**	*eP*		**P**		**00 58 10.0**	**-1.0**
	comp=Z,12nm,0.8s								
RJF	**Les Rejaudoux**	**80.01**	**46**	*eP*		**P**		**00 58 12.6**	**-1.2**
	comp=Z,4.2nm,0.7s								
RJF	**Les Rejaudoux**	**80.01**	**46**	*eP*		**P**		**00 58 12.6**	**-1.2**
	comp=Z,4.2nm,0.6s								
TCF	**Toulx Ste Croi**	**80.40**	**45**	⇑*iP*		**P**		**00 58 14.4**	**-1.5**
	comp=Z,4.5nm,0.5s								
TCF	**Toulx Ste Croi**	**80.40**	**45**	⇑*iP*		**P**		**00 58 14.4**	**-1.5**
	comp=Z,4.5nm,0.5s								
CAF	**Calviac**	**80.43**	**46**	*eP*		**P**		**00 58 15.0**	**-1.1**
	comp=Z,5.4nm,0.7s								
CAF	**Calviac**	**80.43**	**46**	*eP*		**P**		**00 58 15.0**	**-1.1**
	comp=Z,5.4nm,0.7s								
HYF	**Humbligny**	**80.60**	**44**	*eP*		**P**		**00 58 15.9**	**-1.0**
HYF	**Humbligny**	**80.60**	**44**	*eP*		**P**		**00 58 15.9**	**-1.0**
MTLF	**Montolieu**	**80.70**	**48**	*eP*		**P**		**00 58 16.3**	**-1.2**
	comp=Z,11nn,0.9s								
MTLF	**Montolieu**	**80.70**	**48**	*eP*		**P**		**00 58 16.3**	**-1.2**
	comp=Z,11nn,0.9s								
BGF	**Bois d'Agland**	**80.81**	**44**	*eP*		**P**		**00 58 16.6**	**-1.5**
	comp=Z,5.8nm,0.6s								
BGF	**Bois d'Agland**	**80.81**	**44**	*eP*		**P**		**00 58 16.6**	**-1.5**
	comp=Z,5.8nm,0.6s								
AVF	**Avril sur Loir**	**81.14**	**44**	*eP*		**P**		**00 58 18.0**	**-1.7**
	comp=Z,2.2nm,0.6s								
AVF	**Avril sur Loir**	**81.14**	**44**	*eP*		**P**		**00 58 18.0**	**-1.7**
	comp=Z,2.2nm,0.6s								
SSF	**Saint Saulge**	**81.21**	**44**	*eP*		**P**		**00 58 18.4**	**-1.8**
	comp=Z,4.1nm,0.7s								
SSF	**Saint Saulge**	**81.21**	**44**	*eP*		**P**		**00 58 18.4**	**-1.8**
	comp=Z,4.1nm,0.7s								
BAIF	**Baives**	**81.35**	**41**	*eP*		**P**		**00 58 19.4**	**-1.4**
BAIF	**Baives**	**81.35**	**41**	*eP*		**P**		**00 58 19.4**	**-1.4**
LOR	**Lormes**	**81.43**	**44**	*eP*		**P**		**00 58 19.6**	**-1.7**
	comp=Z,10.0nm,0.9s								
LOR	**Lormes**	**81.43**	**44**	*eP*		**P**		**00 58 19.6**	**-1.7**
	comp=Z,10.0nm,0.9s								
SMF	**Signal de Mont**	**81.49**	**44**	*eP*		**P**		**00 58 19.7**	**-1.9**
	comp=Z,12nm,0.9s								
SMF	**Signal de Mont**	**81.49**	**44**	*eP*		**P**		**00 58 19.7**	**-1.9**
	comp=Z,12nm,0.9s								
DOU	**Dourbes**	**81.60**	**41**	P		**P**		**00 58 21.3**	**-0.8**
GIVF	**Givet**	**81.74**	**41**	*eP*		**P**		**00 58 21.6**	**-1.2**
GIVF	**Givet**	**81.74**	**41**	*eP*		**P**		**00 58 21.6**	**-1.2**
LASF	**Ste Croix**	**81.80**	**47**	*eP*		**P**		**00 58 22.6**	**-0.7**
	comp=Z,11nm,1.0s								
LASF	**Ste Croix**	**81.80**	**47**	*eP*		**P**		**00 58 22.6**	**-0.7**
	comp=Z,11nm,1.0s								
BCLA	**Clavier**	**82.01**	**40**	P		**P**		**00 58 24.3**	**+0.1**
	comp=Z,9.8nm,2.2s								
MEZF	**Maizieres J'vi**	**82.08**	**42**	*eP*		**P**		**00 58 23.5**	**-1.1**
	comp=Z,15nn,0.8s								
MEZF	**Maizieres J'vi**	**82.08**	**42**	*eP*		**P**		**00 58 23.5**	**-1.1**
	comp=Z,15nn,0.8s								
SFTF	**Sexfontaines**	**82.11**	**42**	*eP*		**P**		**00 58 23.4**	**-1.4**
	comp=Z,9.4nm,0.7s								
SFTF	**Sexfontaines**	**82.11**	**42**	*eP*		**P**		**00 58 23.4**	**-1.4**
	comp=Z,9.4nm,0.7s								
VIVF	**Saint-Julien-l**	**82.28**	**46**	*eP*		**P**		**00 58 25.3**	**-0.5**
	comp=Z,9.4nm,1.0s								
VIVF	**Saint-Julien-l**	**82.28**	**46**	*eP*		**P**		**00 58 25.3**	**-0.5**
	comp=Z,9.4nm,1.0s								
PAGF	**Fort de Pagny**	**82.52**	**42**	*eP*		**P**		**00 58 25.9**	**-1.0**
	comp=Z,4.1nm,0.8s								
PAGF	**Fort de Pagny**	**82.52**	**42**	*eP*		**P**		**00 58 25.9**	**-1.0**
	comp=Z,4.1nm,0.8s								
HAU	**Haudompre**	**83.01**	**43**	*eP*		**P**		**00 58 28.1**	**-1.4**
	comp=Z,5.9nm,0.7s								
HAU	**Haudompre**	**83.01**	**43**	*eP*		**P**		**00 58 28.1**	**-1.4**
	comp=Z,5.9nm,0.7s								
CABF	**La Chapelle**	**83.03**	**44**	*eP*		**P**		**00 58 28.4**	**-1.3**
CABF	**La Chapelle**	**83.03**	**44**	*eP*		**P**		**00 58 28.4**	**-1.3**
SMRF	**Simiane la Rot**	**83.04**	**47**	*eP*		**P**		**00 58 28.3**	**-1.5**
	comp=Z,3.6nm,0.7s								
SMRF	**Simiane la Rot**	**83.04**	**47**	*eP*		**P**		**00 58 28.3**	**-1.5**
	comp=Z,3.6nm,0.7s								
HINF	**Hinteralfeld**	**83.37**	**43**	*eP*		**P**		**00 58 29.8**	**-1.6**
	comp=Z,4.1nm,0.7s								
HINF	**Hinteralfeld**	**83.37**	**43**	*eP*		**P**		**00 58 29.8**	**-1.6**
	comp=Z,4.1nm,0.7s								
CDF	**Champ du Feu**	**83.56**	**42**	*eP*		**P**		**00 58 31.0**	**-1.4**
	comp=Z,4.2nm,0.7s								
CDF	**Champ du Feu**	**83.56**	**42**	*eP*		**P**		**00 58 31.0**	**-1.4**
	comp=Z,4.2nm,0.7s								
NB2	**NORSAR Subarra**	**83.70**	**29**	P		**P**		**00 58 32.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=280,slow=5.1								
NB200	**NORSAR Array S**	**83.70**	**29**	*eP*		**P**		**00 58 32.4**	**-0.3**
NOA	**NORSAR Array B**	**83.70**	**29**	P		**P**		**00 58 32.4**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=282,slow=5.2,SNR=5.4								
NOA				pP		**pP**		**00 59 24.2**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=283,slow=5.2,SNR=5.0								
MBDF	**Montbardon**	**83.78**	**46**	*eP*		**P**		**00 58 32.7**	**-0.9**
MBDF	**Montbardon**	**83.78**	**46**	*eP*		**P**		**00 58 32.7**	**-0.9**
LMR	**La Mourre**	**83.80**	**47**	*eP*		**P**		**00 58 32.4**	**-1.2**
	comp=Z,8.4nm,0.8s								
LMR	**La Mourre**	**83.80**	**47**	*eP*		**P**		**00 58 32.4**	**-1.2**
	comp=Z,8.4nm,0.8s								
FRF	**La Foret Royal**	**83.87**	**47**	*eP*		**P**		**00 58 33.3**	**-0.6**
	comp=Z,12nm,0.8s								
FRF	**La Foret Royal**	**83.87**	**47**	*eP*		**P**		**00 58 33.3**	**-0.6**
	comp=Z,12nm,0.8s								
TOA0	**Torodi Ar. Sit**	**84.38**	**78**	*eP*		**P**		**00 58 35.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**84.38**	**78**	P		**P**		**00 58 35.4**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=292,slow=5.3,SNR=18								
HFS	**Hagfors**	**85.08**	**30**	P		**P**		**00 58 37.7**	**-1.9**
	comp=Z,3.4nm,0.8s,baz=241,slow=3.1,SNR=5.8								
DAVA	**Damuels**	**85.48**	**43**	⇓*iP*		**P**		**00 58 41.7**	**-0.4**
	comp=Z,11nm,1.2s								
FUORN	**Ofenpass-Fuorn**	**85.86**	**43**	*eP*		**P**		**00 58 43.9**	**-0.2**
	comp=Z,5.2nm,1.0s								
ARA0	**ARCESS Array S**	**87.03**	**19**	*eP*		**P**		**00 58 47.8**	**-1.2**
ARCES	**ARCESS Array B**	**87.03**	**19**	P		**P**		**00 58 47.8**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=295,slow=4.1,SNR=14								
BILL	**Bilibino**	**87.04**	**339**	*eP*		**P**		**00 58 49.5**	**+0.5**
	comp=Z,14nm,1.4s								
KEST	**Kesra**	**87.28**	**54**	P		**P**		**00 58 49.5**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=235,slow=2.0,SNR=4.5								
GEC2	**GERESS Array S**	**87.66**	**41**	*eP*		**P**		**00 58 51.7**	**-0.8**
GERES	**GERESS Array B**	**87.66**	**41**	P		**P**		**00 58 51.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=292,slow=3.6,SNR=6.3								
FIA0	**FINESS Array S**	**90.44**	**27**	*eP*		**P**		**00 59 04.2**	**-0.9**
FINES	**FINESS Array B**	**90.44**	**27**	P		**P**		**00 59 04.2**	**-0.9**
	comp=Z,3.0nm,1.0s,baz=289,slow=2.9,SNR=6.7								
SEY	**Seymchan**	**94.53**	**337**	P		**P**		**00 59 24.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=121,slow=8.1,SNR=4.6								
CN2	**Changchun**	**119.13**	**335**	*e*PKP		**PKPdf**		**01 04 51.0**	**-0.7**
CN2				*es*PKP				01 06 11.0	
CN2				*e*PP		**PP**		**01 06 16.0**	**+2.1**
CN2				*e*SS		SS		01 22 15.0	-1.9
CN2				PPMZ					
	comp=Z,300nm,6.0s								
WMQ	**Urumqi**	**125.34**	**7**	*e*PKP		**PKPdf**		**01 05 02.5**	**-1.3**
HHC	**Hu-ho-hao-te**	**126.50**	**344**	*e*PKP		**PKPdf**		**01 05 04.8**	**-1.3**
HHC				sPKP				01 06 24.8	
HHC				PP		**PP**		**01 07 06.0**	**+2.6**
HHC				SKS		**SKSdf**		**01 11 53.0**	**-4.5**
HHC				SKKS		**SKKSac**		**01 13 35.3**	**-5.3**
HHC				SS		**SS**		**01 23 51.0**	**+1.1**
HHC				PPMZ					
	comp=Z,68nm,5.2s								
KSH	**Kashi**	**126.99**	**18**	*e*PKP		**PKPdf**		**01 05 04.5**	**-2.6**
KSH				*es*PKP				01 06 25.5	
KSH				PKS		**PKSdf**		**01 08 40.3**	**-3.5**
KSH				SKS		**SKSdf**		**01 11 52.8**	**-5.7**
KSH				PPMZ					
	comp=Z,180nm,5.7s								
KSH				LN					
	comp=Z,230nm,5.7s								
KSH				LE					
	comp=Z,140nm,8.6s								
KSH				LZ					
	comp=Z,190nm,6.2s								
MANU	**Manus Island**	**127.39**	**276**	P		PKPdf		01 05 14.7	+6.3
	baz=43,SNR=3.3								
GTA	**Gaotai**	**129.96**	**355**	*e*PKP		**PKPdf**		**01 05 12.0**	**-0.8**
GTA				sPKP				01 06 29.3	
STKA	**Stephens Creek**	**132.23**	**236**	PKP		**PKPdf**		**01 05 18.8**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=91,slow=5.9,SNR=4.9								
LZH	**Lanzhou**	**132.75**	**350**	*e*PKP		**PKPdf**		**01 05 19.3**	**+1.1**
LZH				sPKP				01 06 36.0	
CD2	**Chengdu**	**137.81**	**349**	PKP		**PKPdf**		**01 05 27.0**	**-0.6**
CD2				sPKP				01 06 43.5	
CD2				PP		**PP**		**01 08 18.8**	**+3.3**
CD2				PKS		**PKSdf**		**01 09 01.8**	**-2.1**
CD2				SKS		**SKSdf**		**01 12 14.8**	**-3.2**
CD2				SKKS		**SKKSac**		**01 14 46.5**	**-3.3**
CD2				SS		**SS**		**01 26 06.0**	**-0.6**
CD2				PPMZ					
	comp=Z,140nm,5.6s								
ASAR	**Alice Springs**	**140.85**	**246**	PKhKP		PKPpre		01 05 28.1	
	comp=Z,2.4nm,0.3s,baz=108,slow=3.8,SNR=42								
ASAR				PKP		**PKiKP**		**01 05 34.8**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=99,slow=2.1,SNR=13								
WRA	**Warramunga Arr**	**141.10**	**252**	PKHKP		PKPpre		01 05 30.0	
	comp=Z,3.1nm,0.5s,baz=95,slow=3.1,SNR=20								
WRA				PKP		**PKPdf**		**01 05 35.0**	**+1.2**
	comp=Z,5.1nm,0.7s,baz=94,slow=2.6,SNR=15								
GYA	**Guiyang**	**141.39**	**343**	*e*PKP		**PKPdf**		**01 05 34.8**	**+0.5**
GYA				sPKP				01 06 51.0	
GYA				PP		**PP**		**01 08 42.3**	**+4.6**
GYA				PKS		**PKSdf**		**01 09 09.5**	**-1.0**
GYA				SKKS				01 15 09.5	
GYA				PPMZ					
	comp=Z,120nm,8.0s								
KMI	**Kunming**	**143.63**	**348**	PKP		**PKPdf**		**01 05 39.0**	**+0.5**
KNRA	**Kununurra**	**146.84**	**258**	P		**PKPab**		**01 05 48.8**	**+0.9**
	baz=46,SNR=4.5								
RKGY	**Rocky Gully**	**148.91**	**217**	P		**PKPbc**		**01 05 53.2**	**+2.2**
	baz=47,SNR=5.4								
FITZ	**Fitzroy Crossi**	**149.51**	**252**	P		**PKPbc**		**01 05 55.1**	**+2.2**
	baz=47,SNR=15								
NWAO	**Narrogin (SRO)**	**149.91**	**219**	P		**PKPbc**		**01 05 55.2**	**+1.7**
	baz=48,SNR=7.4								
CMAR	**Chiang Mai Arr**	**150.79**	**352**	PKPbc		**PKPbc**		**01 05 55.5**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=345,slow=3.2,SNR=8.7								
CMAR				PKPab		**PKPab**		**01 06 02.0**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=332,slow=4.2,SNR=5.1								
BLDU	**Ballidu**	**151.76**	**222**	P		**PKPbc**		**01 05 59.2**	**+1.3**
	baz=49,SNR=8.8								
MEEK	**Meekatharra**	**152.70**	**231**	P		**PKPbc**		**01 06 01.9**	**+1.8**
	baz=49,SNR=3.1								

*ISCJB **28** 00:46:52.5±0.2, 17.86S±0.07×178.65W±0.04, h547km, mb4.4/53, Error ellipse: s-maj=10.1km s-min=4.0km az=156.0*
*IDC **28** 00:46:53.0±2.1, 17.66S×178.76W, h539km±24km, mb3.8/14, mb1 4.0/14, mb1mx3.6/40, mbtmp4.6/14, Error ellipse: s-maj=25.8km s-min=10.2km az=154.0*
*NEIC **28** 00:46:54.9±0.7, 17.80S×178.71W, h564km±8km, mb4.5/31, Error ellipse: s-maj=11.5km s-min=5.9km az=151.0*

ISC 28 00:46:53.4±0.4, 17.7S±0.1×178.60W±0.07, h547km, n208, σ1s01/210, mb4.4/53, 50C-52D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**269**	*eP*		**P**		**00 48 11.5**	**+2.1**
AFI	**Afiamalu**	**7.57**	**61**	*eP*		**P**		**00 48 44.3**	**-2.6**
NIUE	**Niue**	**8.35**	**101**	P		**P**		**00 48 54.2**	**-0.3**
	baz=8.3,SNR=5.8								
DZM	**Mont Dzumac**	**14.72**	**250**	*eP*		**P**		**00 50 02.7**	**+2.6**
	5.3nm,0.3s								
OUZ	**Omahuta**	**18.78**	**200**	*eP*		**P**		**00 50 39.6**	**+1.2**
	531nm,3.0s								
KHZ	**Kahutara**	**25.54**	**194**	*eP*		**P**		**00 51 36.5**	**-2.3**
	284nm,2.1s								
PAE	**Paea**	**27.64**	**94**	*eP*		**P**		**00 51 57.6**	**-0.1**
	2.3nm,0.7s								
PPT2	**Papeete2**	**27.65**	**94**	*eP*		**P**		**00 51 58.1**	**+0.2**
	16nm,0.7s								
PPT	**Papeete**	**27.65**	**94**	P		**P**		**00 51 58.1**	**+0.3**
	25nm,0.5s,baz=179,slow=16,SNR=4.3								
TIAR	**Tiarei**	**27.87**	**94**	*eP*		**P**		**00 51 59.9**	**+0.2**
	5.7nm,0.8s								
TVO	**Taravao**	**27.95**	**95**	*eP*		**P**		**00 52 00.6**	**+0.2**
	6.9nm,0.8s								
EIDS	**Eidsvold**	**29.16**	**250**	P		**P**		**00 52 10.1**	**-0.7**
	baz=29,SNR=8.0								
EIDS	**Eidsvold**	**29.16**	**250**	*eP*		**P**		**00 52 10.4**	**-0.5**
	17nm,0.7s								
PMOR	**Pomariorio Ree**	**29.57**	**89**	*eP*		**P**		**00 52 13.4**	**-1.1**
	53nm,1.2s								
VAH	**Vaihoa**	**29.79**	**90**	*eP*		**P**		**00 52 15.4**	**-1.0**
	18nm,0.9s								
ARMA	**Armidale**	**29.89**	**239**	P		**P**		**00 52 17.5**	**+0.3**
	baz=30,SNR=23								
ARMA	**Armidale**	**29.89**	**239**	*eP*		**P**		**00 52 17.0**	**-0.1**
	21nm,0.7s								
WHZ	**Wether Hill Ro**	**30.26**	**199**	*eP*		**P**		**00 52 19.4**	**-0.6**
	773nm,2.7s								
MGCD	**Mangrove Creek**	**31.26**	**235**	P		**P**		**00 52 29.4**	**+0.6**
	baz=31,SNR=4.6								
RMQ	**Roma**	**31.41**	**248**	P		**P**		**00 52 30.4**	**+0.2**
	baz=31,SNR=9.7								
CTAO	**Charters Tower**	**33.30**	**260**	*eP*		**P**		**00 52 45.5**	**-0.8**
	20nm,0.8s								
CNB	**Canberra Magne**	**33.41**	**232**	P		**P**		**00 52 47.5**	**+0.4**
	baz=33,SNR=12								
PMG	**Port Moresby**	**34.24**	**279**	*eP*		**P**		**00 52 55.2**	**+0.9**
	32nm,0.8s								
CMSA	**Cobar Meteorol**	**35.09**	**240**	P		**P**		**00 53 00.9**	**-0.2**
	baz=35,SNR=19								
COEN	**Coen**	**36.92**	**270**	P		**P**		**00 53 16.6**	**+0.2**
	baz=37,SNR=19								
COEN	**Coen**	**36.92**	**270**	*eP*		**P**		**00 53 16.6**	**+0.2**
	16nm,0.8s								
TOO	**Toolangi**	**37.16**	**230**	P		**P**		**00 53 18.4**	**+0.2**
	baz=37,SNR=7.4								
STKA	**Stephens Creek**	**38.57**	**241**	P		**P**		**00 53 29.9**	**+0.3**
	14nm,0.5s,baz=89,slow=9.4,SNR=85								
STKA	**Stephens Creek**	**38.57**	**241**	P		**P**		**00 53 30.0**	**+0.3**
	baz=39,SNR=65								
STKA	**Stephens Creek**	**38.57**	**241**	*eP*		**P**		**00 53 30.0**	**+0.3**
	9.3nm,1.1s								
QIS	**Mount Isa**	**39.51**	**259**	P		**P**		**00 53 40.4**	**+2.9**
	baz=40,SNR=4.5								
QIS				S		S		00 59 10.7	+10
	baz=40,SNR=11								
KKH	**Kailua Kona**	**43.24**	**32**	*eP*		P		00 54 00.5	-6.4
BBOO	**Buckleboo**	**43.34**	**241**	P		**P**		**00 54 07.4**	**-0.2**
	baz=43,SNR=62								
BBOO	**Buckleboo**	**43.34**	**241**	*eP*		**P**		**00 54 07.4**	**-0.2**
	52nm,0.9s								
WRAB	**Tennant Creek**	**44.48**	**259**	*eP*		**P**		**00 54 14.6**	**-2.0**
	11nm,0.7s								
WRA	**Warramunga Arr**	**44.49**	**259**	P		**P**		**00 54 14.8**	**-1.9**
	8.3nm,0.6s,baz=94,slow=7.0,SNR=84								
AS12	**Alice Springs**	**44.67**	**254**	*eP*		**P**		**00 54 17.5**	**-0.5**
AS12				*e*PcP		**PcP**		**00 55 48.3**	**-0.6**
AS12				*eS*		**S**		**01 00 11.8**	**-3.2**
ASAR	**Alice Springs**	**44.67**	**254**	P		**P**		**00 54 17.5**	**-0.5**
	96nm,0.6s,baz=88,slow=8.1,SNR=1339								
ASAR				PcP		**PcP**		**00 55 48.3**	**-0.6**
	1.7nm,0.5s,baz=97,slow=4.3,SNR=4.8								
ASAR				ScP		**ScP**		**00 58 51.3**	**+2.1**
	1.0nm,0.7s,baz=88,slow=4.0,SNR=5.3								
ASAR				S		**S**		**01 00 11.8**	**-3.2**
	0.7nm,1.0s,baz=91,slow=15,SNR=4.2								
KDU	**Kakadu**	**47.38**	**269**	P		**P**		**00 54 38.0**	**-0.6**
	baz=47,SNR=19								
WRKA	**Warakurna**	**49.73**	**252**	P		**P**		**00 54 55.6**	**-0.4**
	baz=50,SNR=66								
FORT	**Forrest**	**49.93**	**244**	P		**P**		**00 54 56.2**	**-1.1**
	baz=50,SNR=30								
FORT	**Forrest**	**49.93**	**244**	*eP*		**P**		**00 54 56.4**	**-1.0**
	48nm,0.7s								
KNRA	**Kununurra**	**50.33**	**264**	P		**P**		**00 54 59.7**	**-0.7**
	baz=50,SNR=7.5								
FAKI	**Fak Fak**	**50.35**	**281**	P		**P**		**00 55 00.7**	**-0.1**
	baz=50,SNR=3.8								
FITZ	**Fitzroy Crossi**	**52.88**	**260**	P		**P**		**00 55 18.6**	**-0.3**
	baz=53,SNR=15								
SOEI	**Soe**	**55.88**	**270**	P		**P**		**00 55 41.5**	**+1.3**
	baz=56,SNR=5.5								
SOEI	**Soe**	**55.88**	**270**	*eP*		**P**		**00 55 40.5**	**+0.3**
	51nm,1.0s								
MEEK	**Meekatharra**	**58.33**	**249**	P		**P**		**00 55 55.5**	**-1.1**
	baz=58,SNR=9.7								
NWAO	**Narrogin (SRO)**	**59.15**	**242**	P		**P**		**00 56 01.0**	**-1.0**
	4.6nm,0.6s,baz=122,slow=11,SNR=4.2								
GIRL	**Giralia**	**62.78**	**253**	P		**P**		**00 56 26.5**	**+0.6**
	baz=63,SNR=6.6								
MJAR	**Matsushiro Arr**	**67.63**	**323**	P		**P**		**00 56 55.9**	**-0.2**
	2.5nm,0.6s,baz=164,slow=6.8,SNR=6.1								
MAJO	**Matsushiro**	**67.63**	**323**	*eP*		**P**		**00 56 55.9**	**-0.2**
	316nm,2.8s								
UGM	**Wanagama**	**69.47**	**268**	P		**P**		**00 57 07.1**	**-0.6**
	baz=70,SNR=3.9								
KSM	**Kuching**	**72.47**	**277**	*eP*		**P**		**00 57 25.9**	**+0.6**
	24nm,1.0s								
SMMC	**Simmler**	**76.57**	**46**	⇓P		**P**		**00 57 49.5**	**+1.6**
	baz=77								
MURC	**Murrieta**	**77.62**	**49**	⇓P		**P**		**00 57 54.5**	**+0.8**
	baz=78								
BFSC	**Mount Baldy Ra**	**77.62**	**48**	⇑P		**P**		**00 57 54.3**	**+0.5**
	baz=78								
EDW2	**Edwards Air Fo**	**77.73**	**47**	⇓P		**P**		**00 57 55.0**	**+0.8**
	baz=78								
WASM	**Alta Sierra Ca**	**77.79**	**46**	*eP*		**P**		**00 57 55.9**	**+1.2**
ISA	**Isabella, Lake**	**77.81**	**46**	⇓P		**P**		**00 57 55.7**	**+1.0**
	baz=78								
ISA	**Isabella, Lake**	**77.81**	**46**	*eP*		**P**		**00 57 55.9**	**+1.2**
	9.9nm,1.0s								
RVCM	**Rose Valley Ce**	**78.39**	**46**	*e*PKiKP		**PKiKP**		**01 03 27.4**	**-1.2**
YBH	**Yreka Blue Hor**	**78.48**	**39**	P		**P**		**00 57 59.2**	**+1.0**
	3.1nm,0.7s,baz=180,slow=5.1,SNR=6.8								
MTUM	**Tungsten Hills**	**78.65**	**45**	*eP*		**P**		**00 57 59.2**	**-0.1**
DAC	**Darwin (Calif)**	**78.74**	**46**	*eP*		**P**		**00 58 00.2**	**+0.4**
	3.3nm,0.8s								
HEC	**Hector,Ludlow**	**78.87**	**48**	⇓P		**P**		**00 58 01.0**	**+0.6**
	baz=79								
M04C	**Macdoel**	**79.04**	**40**	⇑P		**P**		**00 58 01.5**	**+0.3**
	baz=79								
IRM	**Iron Mountain**	**79.37**	**49**	⇑P		**P**		**00 58 04.5**	**+1.4**
	baz=80								
NV01	**Mina Array Sit**	**79.40**	**44**	*eP*		**P**		**00 58 04.5**	**+1.2**
NVAR	**Mina Array Bea**	**79.40**	**44**	P		**P**		**00 58 04.5**	**+1.2**
	2.7nm,0.4s,baz=224,slow=8.7,SNR=4.9								
Y12C	**Blythe**	**79.62**	**50**	⇑P		**P**		**00 58 05.5**	**+1.2**
	baz=80								
113A	**Mohawk Valley,**	**79.70**	**51**	⇑P		**P**		**00 58 05.9**	**+1.2**
	baz=80								
J04D	**Umpqua Nationa**	**79.73**	**38**	⇑P		**P**		**00 58 05.8**	**+0.9**
	baz=80								
TPH	**Tonopah**	**79.93**	**45**	*eP*		**P**		**00 58 07.2**	**+1.1**
	4.8nm,0.9s								
214A	**Organ Pipe Nat**	**80.03**	**52**	⇓P		**P**		**00 58 07.5**	**+1.0**
	baz=80								
J05D	**Fort Rock, OR**	**80.27**	**39**	⇓P		**P**		**00 58 08.5

	baz=89							
N22A	**Wattenberg Ran**	88.56	46	⇓P		P	00 58 49.4	+0.9
	baz=89							
631A	**Perdido Creek**	88.57	59	⇓P		P	00 58 48.9	+0.4
	baz=89,SNR=8.4							
CM31	**Chiang Mai Arr**	88.64	290	*e*P		P	00 58 49.7	+0.7
CMAR	**Chiang Mai Arr**	88.64	290	P		P	00 58 49.7	+0.7
	2.5nm,0.9s,baz=110,slow=2.8,SNR=9.7							
832A	**Faith Ranch, C**	88.66	60	⇓P		P	00 58 49.7	+0.8
	baz=89,SNR=5.6							
O23A	**Lake Granby, G**	88.69	47	⇑P		P	00 58 49.2	+0.1
	baz=89							
M22A	**Cedar Creek Ra**	88.72	46	⇑P		P	00 58 49.9	+0.7
	baz=89							
I20A	**Worland**	88.79	43	⇑P		P	00 58 49.5	+0.2
	baz=89							
531A	**Rocksprings**	88.87	58	⇑P		P	00 58 50.6	+0.7
	baz=89,SNR=5.9							
N23A	**Red Feather La**	88.95	46	⇓P		P	00 58 50.7	+0.3
	baz=89							
J21A	**Lysite**	88.97	44	⇑P		P	00 58 50.7	+0.5
	baz=89							
L22A	**Ellis Ranch, M**	89.09	45	⇓P		P	00 58 51.5	+0.6
	baz=89							
H20A	**Greybull**	89.11	42	⇓P		P	00 58 50.8	0.0
	baz=89							
F19A	**Roth Farm, Mol**	89.11	41	⇓P		P	00 58 51.4	+0.6
	baz=89							
632A	**Uvalde**	89.25	59	⇓P		P	00 58 53.0	+1.3
	baz=90							
I21A	**Big Trails, Te**	89.27	43	⇓P		P	00 58 51.6	0.0
	baz=90							
532A	**Rocksprings**	89.37	58	⇓P		P	00 58 53.2	+1.0
	baz=90							
331A	**San Angelo**	89.37	57	⇓P		P	00 58 52.8	+0.6
	baz=90							
Z30A	**Sanderson Ranc**	89.54	55	⇓P		P	00 58 53.8	+0.8
	baz=90							
JCT	**Junction City**	89.58	58	⇑P		P	00 58 53.8	+0.6
	baz=90							
L23A	**Garrett**	89.62	45	⇓P		P	00 58 53.3	0.0
	baz=90							
J22A	**Midwest**	89.64	44	⇑P		P	00 58 53.4	+0.1
	baz=90							
N24A	**Carr**	89.66	47	⇑P		P	00 58 54.7	+1.2
	baz=90							
231A	**Bronte**	89.69	56	⇑P		P	00 58 53.8	+0.1
	baz=90,SNR=6.6							
432A	**Menard**	89.73	58	⇑P		P	00 58 54.1	+0.2
	baz=90,SNR=6.5							
633A	**Saathoff Ranch**	89.73	59	⇓P		P	00 58 55.2	+1.3
	baz=90							
W29A	**Amarillo**	89.81	53	⇑P		P	00 58 54.8	+0.6
	baz=90							
I22A	**9 Mile Ranch,**	89.84	43	⇑P		P	00 58 54.4	+0.2
	baz=90							
131A	**Roby**	89.89	56	⇑P		P	00 58 54.8	+0.2
	baz=90							
C19A	**Slack Wire Ran**	89.89	39	⇓P		P	00 58 54.9	+0.7
	baz=90							
Y30A	**Stafford Cattl**	89.93	54	⇓P		P	00 58 55.0	+0.2
	baz=90							
332A	**Millersview**	89.95	57	⇑P		P	00 58 54.7	-0.1
	baz=90,SNR=10.0							
M24A	**Cheyenne**	89.95	46	⇑P		P	00 58 54.5	-0.3
	baz=90							
533A	**Kerrville**	90.06	58	⇓P		P	00 58 56.2	+0.8
	baz=90							
D20A	**Manuel Ranch,**	90.16	40	⇓P		P	00 58 56.0	+0.5
	baz=90							
433A	**Art**	90.25	58	⇓P		P	00 58 56.5	+0.2
	baz=90,SNR=9.7							
Z31A	**Sharp Cattle R**	90.32	55	⇓P		P	00 58 57.1	+0.6
	baz=91							
Y31A	**Rekieta Farm,**	90.45	54	⇑P		P	00 58 57.8	+0.7
	baz=91							
ABTX	**Abilene, Hawle**	90.46	56	⇓P		P	00 58 57.4	+0.2
	baz=91							
ABTX	**Abilene, Hawle**	90.46	56	*e*P		P	00 58 58.0	+0.8
	8.8nm,1.0s							
534A	**Blanco**	90.50	59	⇓P		P	00 58 57.9	+0.5
	baz=91,SNR=6.0							
C20A	**Veseth Ranch,**	90.52	40	⇓P		P	00 58 57.8	+0.7
	baz=91							
333A	**Richland Sprin**	90.53	57	⇑P		P	00 58 58.1	+0.5
	baz=91							
Z32A	**Haskell**	90.83	55	⇑P		P	00 58 59.6	+0.7
	baz=91							
434A	**Burnet**	90.94	58	⇓P		P	00 58 59.2	-0.2
	baz=91							
A20A	**Cobblestone Ra**	91.07	39	⇑P		P	00 58 59.7	0.0
	baz=91							
Y32A	**R-V Farms, Ver**	91.11	55	⇓P		P	00 59 00.5	+0.4
	baz=91							
M26A	**McRoberts Ranc**	91.12	47	⇑P		P	00 59 00.6	+0.4
	baz=91							
W31A	**Holland Ranch,**	91.14	53	⇑P		P	00 59 00.9	+0.6
	baz=91							
334A	**Lometa**	91.14	58	⇓P		P	00 59 00.8	+0.5
	baz=91							
H24A	**Dirks Ranch, A**	91.45	43	⇑P		P	00 59 01.3	-0.3
	baz=92							
K26A	**Motz Farm, Whi**	91.57	46	⇑P		P	00 59 02.9	+0.8
	baz=92							
W32A	**Sentinel**	91.65	54	⇓P		P	00 59 03.1	+0.5
	baz=92							
I25A	**Rochford**	91.70	44	⇓P		P	00 59 03.0	+0.1
	baz=92							
335A	**Moody**	91.77	58	⇑P		P	00 59 03.8	+0.6
	baz=92							
D23A	**Lindsay**	92.01	41	⇑P		P	00 59 05.0	+1.0
	baz=92							
U32A	**Winter Ranch,**	92.27	53	⇑P		P	00 59 06.1	+0.7
	baz=92							
C23A	**Lambert**	92.28	40	⇓P		P	00 59 06.1	+0.9
	baz=93							
A22A	**Carney Farms,**	92.32	39	⇑P		P	00 59 05.1	-0.3
	baz=93							
D24A	**Glendive**	92.54	41	⇓P		P	00 59 06.9	+0.5
	baz=93							
V33A	**Lossen Ranch,**	92.62	53	⇓P		P	00 59 07.4	+0.3
	baz=93							
R32A	**Long Quarter,**	93.19	51	⇑P		P	00 59 10.3	+0.7
	baz=94							
Q32A	**Meitler Ranch,**	93.49	50	⇑P		P	00 59 11.4	+0.4
	baz=94							
R33A	**Olander Ranch,**	93.69	51	⇑P		P	00 59 12.3	+0.4
	baz=94							
YKA	**Yellowknife Ar**	94.22	25	P		P	00 59 13.3	-0.3
	0.7nm,0.8s,baz=242,slow=4.2,SNR=7.8							
YKB5	**Yellowknife Ar**	94.22	25	*e*P		P	00 59 13.3	-0.3
ECSD	**EROS Data Cent**	96.42	46	⇑P		P	00 59 23.8	-0.3
	baz=97							
BR101	**Keskin Array S**	144.50	315	*e*PKPdf		PKPdf	01 05 27.8	-0.3
BRTR	**Keskin Array B**	144.50	315	PKP		PKPdf	01 05 27.8	-0.3
	2.0nm,0.7s,baz=116,slow=2.5,SNR=13							
GEC2	**GERESS Array S**	147.36	345	*e*PKPbc		PKPbc	01 05 36.0	+0.1
GERES	**GERESS Array B**	147.36	345	PKPbc		PKPbc	01 05 36.0	+0.1
	0.6nm,0.5s,baz=14,slow=2.7,SNR=6.8							
TOA0	**Torodi Ar. Sit**	175.47	184	*e*PKPab		PKPab	01 07 42.3	-0.1
TORD	**Torodi Ar. Bea**	175.47	184	PKPab		PKPab	01 07 42.3	-0.1
	0.2nm,0.8s,baz=163,slow=3.7,SNR=2.8							

IDC 28 00:52:09.9±6.4, 36.92S×73.55W, h35km±51km, mb3.4/3, mb1 3.6/5, mb1mx3.5/25, mbtmp3.5/5, ML3.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.8/12, Error ellipse: s-maj=55.3km s-min=31.7km az=80.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	4.47	149	Pn	Pn	00 53 15.3	+0.1
	0.4nm,0.3s,baz=331,slow=13,SNR=13						
PLCA				LR	LR	00 54 36.1	
	comp=Z,122nm,20.2s,baz=328,slow=33						
CFAA	**Coronel Fontan**	6.89	41	Pn	Pn	00 53 47.7	-0.8
	0.2nm,0.3s,baz=216,slow=14,SNR=8.2						
LPAZ	**La Paz**	21.11	15	P	P	00 56 52.9	+0.6
	1.9nm,0.9s,baz=174,slow=11,SNR=5.1						
TXAR	**Lajitas Array**	71.72	333	P	P	01 03 28.2	-0.2
	0.2nm,0.5s,baz=152,slow=7.8,SNR=3.1						
TXAR				LR	LR	01 29 50.8	
	comp=Z,22nm,19.7s,baz=0.0,slow=32						
TORD	**Torodi Ar. Bea**	86.35	71	P	P	01 04 48.7	0.0
	1.2nm,1.2s,baz=217,slow=5.1,SNR=6.4						

*NEIC **28** 01:01:16.5, 32.67N×115.84W, h13km, ML3.4(PAS), ML3.5(ECX), After PAS.*
*ECX **28** 01:01:17.0±0.6, 32.69N×115.86W, h3km, MD3.4, ML3.6*

ISC 28 01:01:15.7±1.0, 32.66N±0.02×115.80W±0.02, h4km±9km, n34, σ1s25/69, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	0.11	265	⇑*i*P	Pg	01 01 18.2	+0.3
COK	**Cook Ranch**	0.20	17	⇑*i*P	Pg	01 01 20.8	+1.2
RMX	**La Rumorosa**	0.24	257	⇑*i*P	Pg	01 01 20.8	+0.4
RMX				*e*S	Sg	01 01 23.9	+0.2
CRR	**Carrizo Plain**	0.27	328	⇓*i*P	Pg	01 01 21.1	+0.2
CPBX	**Cerro Prieto**	0.48	120	*e*P	Pb	01 01 27.0	+0.4
CPBX				*e*S	Sb	01 01 34.8	+0.8
CPBX				AML	AML	01 01 39.4	
	comp=N,13μm,0.2s						
CPBX				*e*		01 01 39.4	
CPBX				AML	AML	01 01 40.0	
	comp=N,11μm,0.6s						
CPBX				⇑*e*		01 01 40.0	
CPBX	**Cerro Prieto**	0.48	120	P	Pb	01 01 26.8	+0.2
CPBX				S	Sb	01 01 35.6	+1.6
RDX	**Rancho Dawling**	0.74	190	⇓*i*P	Pg	01 01 30.2	+0.4
RDX				*e*S	Sb	01 01 40.8	-0.8
RDX				⇓*e*		01 01 44.9	
	comp=N,1μm,0.4s						
RDX	**Rancho Dawling**	0.74	190	*i* P	Pg	01 01 30.2	+0.4
RDX				*e*S	Sb	01 01 40.8	-0.8
BAR	**Barrett**	0.74	272	⇑*i*P	Pg	01 01 29.6	-0.2
BAR	**Barrett**	0.74	272	*e*Pg	Pg	01 01 29.5	-0.3
BAR				*e*Sg	Sg	01 01 38.4	-1.1
CBX	**Cerro Bola**	0.81	245	⇑*i*P	Pg	01 01 31.3	+0.1
CBX				*e*S	Sg	01 01 41.7	0.0
CBX	**Cerro Bola**	0.81	245	*i* P	Pg	01 01 31.3	+0.1
GLA	**Glamis**	0.91	64	*e*Pg	Pg	01 01 32.8	-0.3
GLA				*e*Sg	Sg	01 01 45.2	+0.4
PFO	**Pinyon Flats O**	1.10	330	*e*Pg	Pg	01 01 35.2	-1.6
PFO				*e*Sg	Sg	01 01 49.5	-1.5
PBX	**Punta Banda**	1.20	221	*e*P	Pg	01 01 38.1	-0.6
PBX				*e*S	Sg	01 01 54.2	-0.1
PBX	**Punta Banda**	1.20	221	*e*P	Pg	01 01 38.1	-0.6
PBX				*e*S	Sg	01 01 54.2	-0.1
ECNX	**Esteban Cantu**	1.21	214	*e*P	Pg	01 01 38.0	-0.7
ECNX				*e*S	Sg	01 01 54.1	-0.3
ZAX	**El Zacaton**	1.21	200	*e*P	Pg	01 01 38.6	-0.3
ZAX				*e*S	Sb	01 01 54.8	-0.3
ECBX	**El Chinero**	1.34	152	*e*P	Pg	01 01 40.5	-0.8
ECBX				*e*S	Sg	01 01 59.2	+0.5
ECBX				AML	AML	01 02 01.7	
	comp=N,694nm,0.5s						
ECBX				⇓*e*		01 02 01.7	
SPIG	**San Pedro Mart**	1.63	170	P	Pb	01 01 46.7	+0.3
SPIG				S	Sn	01 02 07.8	+0.8
SPX	**San Pedro Mart**	1.63	170	*e*P	Pn	01 01 45.8	+0.3
SPX				*e*S	Sg	01 02 08.9	+0.8
SPX				⇓*e*		01 02 11.3	
	comp=E,325nm,0.8s						
SPX	**San Pedro Mart**	1.63	170	*e*P	Pn	01 01 45.8	+0.3
SPX				*e*S	Sg	01 02 09.2	+1.1
MWC	**Mount Wilson**	2.45	310	*e*Pg	Pb	01 01 59.4	-1.1
MWC				*e*Sg	Sb	01 02 30.2	-0.8
PASC	**Pasadena Art C**	2.50	308	*e*Pn	Pn	01 01 56.0	-1.1
PASC				*e*Pg	Pb	01 01 60.0	-1.2
PASC				*e*Sn	Sn	01 02 27.8	-0.3
PASC				*e*Sg	Sb	01 02 31.7	-0.6
214A	**Organ Pipe Nat**	2.62	105	*e*Pn	Pn	01 01 57.2	-1.6
214A				*e*Pg	Pb	01 02 02.9	-0.4
GSC	**Goldstone, Bar**	2.77	343	*e*Pn	Pn	01 02 00.9	0.0
GSC				*e*Pg	Pb	01 02 06.9	+1.2
GSC				*e*Sn	Sn	01 02 34.8	0.0
GSC				*e*Sg	Sb	01 02 41.4	+1.3
OSI	**Osito Audit: C**	3.13	309	*e*Pn	Pn	01 02 05.3	-0.5
OSI				*e*Pg	Pb	01 02 13.3	+1.5
OSI				*e*Sg	Sb	01 02 50.2	-0.1
ISA	**Isabella, Lake**	3.73	324	*e*Pg	Pb	01 02 23.1	+1.0
ISA				*e*Sg	Sb	01 03 10.3	+2.6
SHPR	**Sheep Range**	3.88	8	*e*Pn	Pn	01 02 17.0	+0.8
SHPR				*e*Pg	Pg	01 02 29.2	-0.7
SHPR				*e*Sg	Sg	01 03 18.0	-2.2
DAC	**Darwin (Calif)**	3.91	338	*e*Pn	Pn	01 02 16.4	-0.2
DAC				*e*Pg	Pb	01 02 27.7	+2.5
DAC				*e*Sg	Sb	01 03 16.4	+3.6
TUC	**Tucson**	4.25	93	*e*Pn	Pn	01 02 20.9	-0.4
TUC				*e*Pg	Pg	01 02 36.4	-0.7
TUC				*e*Sg	Sg	01 03 29.6	-2.7
WUAZ	**Wupatki**	4.65	51	*e*Pg	Pg	01 02 42.6	-2.1
WUAZ				*e*Sg	Sb	01 03 38.8	+4.5
CCUT	**Cedar City**	5.28	22	*e*Pg	Pg	01 02 54.4	-2.3
121A	**Cookes Peak, D**	6.76	89	*e*Pn	Pn	01 02 55.8	-0.1
	comp=E,4.7nm,0.4s						

KRSC 28 01:04:59.2±2.1, 53.18N×157.13E, h258km±19km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	0.26	177	*e*P	Pn	01 05 33.6	+1.1
GNL	**Ganaly**	0.70	43	*e*P	Pn	01 05 35.7	+1.9
KOK	**Koryaka**	0.91	82	*e*P	Pn	01 05 36.6	+1.9
ASAK	**Asacha**	0.93	150	*e*P	Pn	01 05 36.2	+1.4
KRX	**Arik**	0.93	78	*e*P	Pn	01 05 36.6	+1.8
PET	**Petropavlovsk**	0.93	99	*e*P	Pn	01 05 36.3	+1.7
MTVR	**Mutnovka**	0.95	137	*e*P	Pn	01 05 36.7	+1.7
AVH	**Avacha**	0.97	84	*e*P	Pn	01 05 36.8	+1.9
KRER	**Koryakskii**	0.98	82	*e*P	Pn	01 05 36.9	+1.7
UGLR	**Uglovaya**	1.02	88	*e*P	Pn	01 05 37.2	+1.9
SDLR	**Sedlovina**	1.06	84	*e*P	Pn	01 05 37.0	+1.5
RUS	**Russkaya**	1.12	131	*e*P	Pn	01 05 36.3	+0.6
RUS				*e*S	S	01 06 04.5	0.0
NLC	**Nalytchevo**	1.33	90	*e*P	Pn	01 05 38.4	+1.4
NLC				*e*S	S	01 06 07.9	+1.1
SPN	**Mys Shipunski**	1.74	92	*e*P	Pn	01 05 40.5	+0.4
SPN				*e*S	S	01 06 11.5	-0.9
MKZ	**Mys Kozlova**	3.05	61	*e*P	Pn	01 05 52.8	+0.3
MKZ				*e*S	S	01 06 32.8	-2.1
KBTR	**Krutoberegovo**	4.48	45	*e*P	Pn	01 06 09.8	+1.0
KBTR				*e*S	S	01 07 02.5	-1.9
BKI	**Bering**	5.57	65	*e*S	S	01 07 24.9	-3.4

*IDC **28** 01:06:34.1±1.5, 0.67N×121.71E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, Error ellipse: s-maj=210.7km s-min=24.5km az=61.0*
*ISCJB **28** 01:06:42.2±1.2, 1.06N±0.09×121.36E±0.06, h49km, mb3.1/3, Error ellipse: s-maj=13.7km s-min=7.4km az=25.9*
*DJA **28** 01:06:44.1±0.7, 1°N±9′×12°1′E±′, h29km±9km, M3.4/5, MLv3.4/5*

ISC 28 01:06:43.6±1.5, 1.0N±0.1×121.35E±0.07, h49km, n7, σ0s64/9, mb3.1/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	0.79	132	P	Pn	01 06 57.6	-0.9
MRSI				S	Sn	01 07 08.7	-0.7
MPSI	**Mapaga**	1.60	245	P	Pn	01 07 08.8	-0.7
MPSI				S	Sn	01 07 29.1	+0.1
APSI	**Ampana**	1.93	171	P	Pn	01 07 13.8	-0.2
APSI				S	Sn	01 07 37.3	+0.2
LUWI	**Luwuk**	2.48	145	P	Pn	01 07 22.2	+0.6
LUWI				S	Sn	01 07 50.9	+0.2
WRA	**Warramunga Arr**	24.41	149	P	P	01 11 49.5	-8.2
	0.4nm,0.3s,baz=326,slow=11,SNR=9.7						
ASAR	**Alice Springs**	27.40	154	P	P	01 12 18.1	-6.6
	0.3nm,0.6s,baz=342,slow=14,SNR=8.4						
MKAR	**Makanchi Array**	56.90	329	P	P	01 16 24.1	+0.5
	0.1nm,0.6s,baz=132,slow=7.6,SNR=2.2						

GUC 28 01:06:49.0±0.7, 34.72S×71.82W, h34km±3km, ML4.0, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	0.56	121	⇓*i*P	Pn	01 07 00.5	0.0
NICH				*i* S	Sn	01 07 08.9	+0.2
TALC	**Talca**	0.69	168	⇓*i*P	Pn	01 07 02.5	+0.1
TALC				*i* S	Sn	01 07 12.1	+0.1
RCDM	**Rinconada Maip**	1.48	35	⇓*i*P	Pn	01 07 14.2	+0.9
RCDM				*i* S	Sb	01 07 34.0	-0.7
CLCH	**Cerro Calan**	1.69	39	⇑*i*P	Pn	01 07 17.5	+1.2
CLCH				*i* S	Sb	01 07 39.9	-0.8
CLCH				AML	AML	01 07 44.2	
	comp=E,2μm,0.3s						
CLCH				AML	AML	01 07 44.8	
	comp=E,3μm,0.2s						
YECH	**El Yeso**	1.78	54	⇓*i*P	Pn	01 07 19.3	+1.5
YECH				*i* S	Sb	01 07 42.5	-1.2
YECH				AML	AML	01 07 50.1	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	1.83	31	⇑*i*P	Pn	01 07 18.4	+0.3
PEL				AML	AML	01 07 47.9	
	comp=N,3μm,0.6s						
ROCH	**El Roble**	1.87	21	AML	AML	01 07 49.5	
	comp=N,2μm,0.5s						

IDC 28 01:27:50.2±1.5, 17.88N×149.29E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=367.6km s-min=28.2km az=114.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	40.35	202	P	P	01 35 29.7	-0.2
	0.4nm,0.5s,baz=29,slow=8.8,SNR=2.5						
ILAR	**Eielson Array**	62.89	26	P	P	01 38 17.6	-0.3
	0.2nm,0.4s,baz=259,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	77.10	28	P	P	01 39 45.5	+0.2
	0.3nm,0.5s,baz=291,slow=5.5,SNR=7.4						

*IDC **28** 01:35:36.9±3.3, 4.63S×102.56E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.5/29, mbtmp3.7/6, Error ellipse: s-maj=148.9km s-min=19.4km az=56.0*
*ISCJB **28** 01:35:44.1±1.2, 4.63S±0.09×102.7E±0.1, h70km±8km, mb3.7/6, Error ellipse: s-maj=19.9km s-min=9.7km az=141.1*
*DJA **28** 01:35:46.2±0.8, 5°S±4′×10°3E±′, h34km±4km, M3.6/6, MLv3.6/6*

ISC 28 01:35:45.0±1.4, 4.65S±0.09×102.7E±0.1, h61km±9km, n17, σ0s59/25, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	0.40	44	P	Pn	01 35 56.0	-0.1
MNAI				S	Sn	01 36 03.8	-0.3
MNAI	**Manna**	0.40	44	P	Pn	01 35 56.2	+0.1
MNAI				S	Sn	01 36 04.3	+0.2
LHSI	**Lahat**	1.18	46	P	Pn	01 36 05.7	+0.3
LHSI				S	Sn	01 36 20.8	+0.2
LHSI	**Lahat**	1.18	46	P	Pn	01 36 06.0	+0.6
LWLI	**Liwa**	1.42	105	P	Pn	01 36 09.2	+0.4
LWLI				S	Sn	01 36 25.9	-0.7
LWLI	**Liwa**	1.42	105	P	Pn	01 36 09.7	+0.9
LWLI				S	Sn	01 36 25.9	-0.7
MDSI	**Maura Dua**	1.50	84	P	Pn	01 36 09.8	0.0
MDSI				S	Sn	01 36 28.0	-0.4
MDSI	**Maura Dua**	1.50	84	P	Pn	01 36 10.0	+0.2
MDSI				S	Sn	01 36 28.2	-0.2
KASI	**Kota Agung**	2.01	116	P	Pn	01 36 16.9	+0.4
KASI				S	Sn	01 36 39.4	-1.2
KASI	**Kota Agung**	2.01	116	P	Pn	01 36 17.0	+0.4
WRA	**Warramunga Arr**	34.36	119	P	P	01 42 26.2	-0.3
	0.3nm,0.7s,baz=303,slow=9.1,SNR=2.4						
ASAR	**Alice Springs**	35.54	125	P	P	01 42 37.0	+0.4
	0.1nm,0.4s,baz=300,slow=7.9,SNR=2.9						
STKA	**Stephens Creek**	45.40	131	P	P	01 43 58.9	+1.0
	1.0nm,0.6s,baz=321,slow=14,SNR=3.8						
SONM	**Songino Array**	52.37	3	P	P	01 44 51.1	0.0
	1.0nm,0.6s,baz=180,slow=8.6,SNR=9.3						
MKAR	**Makanchi Array**	54.31	343	P	P	01 45 04.4	-0.8
	0.4nm,0.4s,baz=153,slow=8.9,SNR=9.5						
ZALV	**Zalesovo Beam**	60.28	348	P	P	01 45 46.5	-0.6
	1.2nm,0.6s,baz=184,slow=5.9,SNR=6.0						
TXAR	**Lajitas Array**	145.01	43	PKPbc	PKPbc	01 55 15.5	-0.3
	0.1nm,0.5s,baz=315,slow=0.1,SNR=3.9						

*IDC **28** 01:49:11.1±1.4, 1.92N×96.47E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/35, mbtmp3.9/8, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/31, Error ellipse: s-maj=46.6km s-min=20.3km az=52.0*
*NEIC **28** 01:49:12.9±1.8, 1.95N×96.56E, h12km±11km, mb4.1/2, Error ellipse: s-maj=12.9km s-min=7.6km az=60.0*
*ISCJB **28** 01:49:13.7±0.7, 1.97N±0.08×96.57E±0.08, h28km, mb3.9/9, Error ellipse: s-maj=14.3km s-min=7.3km az=136.6*
*DJA **28** 01:49:15.1±0.9, 2°N±8′×9°6E±1°0, h34km±7km, M4.0/7, mb4.2/2, mB4.7/1, MLv3.9/7, Mw(mB)4.0/1*

ISC 28 01:49:15.3±0.8, 1.94N±0.07×96.53E±0.07, h28km, n27, σ0s86/26, mb3.9/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	0.51	336	P	Pn	01 49 27.0	+0.3
SNSI				S	Sn	01 49 35.0	+0.6
GSI	**Gunungsitoli**	1.22	121	P	Pn	01 49 36.2	-0.3
GSI	**Gunungsitoli**	1.22	121	*e*Pg	Pn	01 49 36.1	-0.3
PSI	**Prapat**	2.54	70	Pn	Pn	01 49 54.0	-0.7
	1.7nm,0.3s,baz=269,slow=11,SNR=3.9						
PSI				Sn	Sb	01 50 32.4	+1.4
	4.1nm,0.3s,baz=308,slow=13,SNR=5.2						
PSI				LR	LR	01 50 43.8	
	comp=Z,119nm,20.1s,baz=300,slow=36						
MNSI	**Mandailing Nat**	3.25	110	P	Pn	01 50 04.6	+0.2
LHMI	**Lhok Sumawe**	3.29	7	P	Pn	01 50 05.5	+0.5
LHMI	**Lhok Sumawe**	3.29	7	*e*Pn	Pn	01 50 03.0	-1.9
BSI	**Banda Aceh**	3.74	341	P	Pn	01 50 10.0	-1.2
IPM	**Ipoh**	5.14	61	*e*Pn	Pn	01 50 30.2	-0.3
	6.6nm,0.3s						
KULM	**Kulim**	5.28	51	*e*Pn	Pn	01 50 31.3	-1.1
	20nm,0.8s	

ASAR	**Alice Springs**	**45.47**	**252**	P	P	02 44 56.2	-0.3
	2.4nm,0.9s,baz=93,slow=8.1,SNR=14						
ASAR				LR	LR	03 02 39.5	
	comp=Z,130nm,20.1s,baz=81,slow=34						
VNDA	**Vanda**	**63.19**	**185**	P	P	02 47 04.8	+0.1
	1.0nm,0.4s,baz=5.0,slow=8.3,SNR=17						
ASAJ	**Asahikawa**	**68.78**	**331**	LR	LR	03 11 52.6	
	comp=Z,35nm,20.0s,baz=56,slow=31						
PETK	**Petropavlovsk-**	**70.97**	**345**	LR	LR	03 13 50.6	
	comp=Z,24nm,20.9s,baz=168,slow=32						
LPIG	**La Paz**	**77.19**	**61**	LR	LR	03 16 18.5	
	comp=Z,38nm,18.5s,baz=222,slow=31						
ILAR	**Eielson Array**	**83.22**	**13**	P	P	02 49 03.4	+0.3
	1.0nm,0.9s,baz=232,slow=6.4,SNR=6.0						
TXAR	**Lajitas Array**	**84.64**	**58**	P	P	02 49 10.8	-0.4
	0.9nm,1.0s,baz=215,slow=4.1,SNR=5.5						
BRTR	**Keskin Array B**	**142.69**	**317**	PKP	PKPdf	02 56 11.6	+0.6
	1.3nm,1.0s,baz=337,slow=8.2,SNR=3.7						
GERES	**GERESS Array B**	**144.90**	**346**	PKP	PKPbc	02 56 13.8	+0.2
	0.3nm,0.6s,baz=40,slow=2.3,SNR=5.0						

CSEM ***28*** *02:39:42.3±0.2,37.24N×7.14W,h19km,ML2.7/17, Error ellipse: s-maj=4.1km s-min=2.3km az=178.0*
IGIL ***28*** *02:39:42.3,37.20N×7.14W,h1km,ML2.3*
INMG ***28*** *02:39:43.7±2.4,37.21N×7.17W,h10km±5km,ML2.1, Error ellipse: s-maj=5.3km s-min=3.7km az=11.0*
MDD ***28*** *02:39:43.6±0.5,37.22N×7.18W,h20km±2km,mbLg2.2/21, Error ellipse: s-maj=4.9km s-min=2.9km az=178.0, PRXIMO*
LDG ***28*** *02:39:43.0±0.1,37.22N×7.18W,h10km,Md3.1/1,Ml2.5/4, Error ellipse: s-maj=2.2km s-min=1.3km az=177.0*
SFS ***28*** *02:39:43.0,37.21N×7.18W,h20km,ML2.3*

ISC 28 02:39:42.3±1.1,37.23N±0.03×7.16W±0.02,h19km±2km, n95,σ1°39/137,1C-2D,Portugal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.40**	**320**	⇓Pg		**Pb**		**02 39 51.8**	**+0.9**
	13nm,0.1s,SNR=18								
EGRO				Lg		Lg		02 39 57.5	
	30nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**0.40**	**320**	Pg		**Pb**		**02 39 51.8**	**+0.9**
	13nm,0.1s,SNR=18								
EGRO				Lg		Lg		02 39 57.5	
	30nm,0.1s,SNR=7.9								
PVAQ	**Vaqueiros**	**0.48**	**292**	*i* Pg		**Pg**		**02 39 52.6**	**+0.5**
PVAQ				*e*Sg		**Sg**		**02 39 59.0**	**+0.3**
PVAQ				A		A		02 40 00.2	
	147nm,0.1s								
PVAQ	**Vaqueiros**	**0.48**	**292**	⇓Pg		**Pg**		**02 39 52.6**	**+0.5**
PVAQ				Lg		Lg		02 39 59.0	
	147nm,0.1s								
PBDV	**Barranco-do-Ve**	**0.62**	**272**	*e*Pg		**Pb**		**02 39 54.7**	**+0.3**
PBDV				*e*Sg		**Sb**		**02 40 02.8**	**+0.1**
PBDV				A		A		02 40 03.9	
	74nm,0.3s								
PBDV	**Barranco-do-Ve**	**0.62**	**272**	Pg		**Pb**		**02 39 54.7**	**+0.3**
PBDV				Lg		Lg		02 40 02.8	
	74nm,0.3s								
PBDV	**Barranco-do-Ve**	**0.62**	**272**	*e*Pg		**Pb**		**02 39 54.7**	**+0.3**
PBDV				*e*Sg		**Sb**		**02 40 02.8**	**+0.1**
	74nm,0.3s								
EMIN	**Mina Concepcio**	**0.66**	**35**	⇑Pg		**Pb**		**02 39 56.2**	**+1.0**
	1.1nm,0.1s,SNR=18								
EMIN				Lg		Lg		02 40 04.8	
	42nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**0.66**	**35**	Pg		**Pb**		**02 39 56.2**	**+1.0**
	1.1nm,0.1s,SNR=18								
EMIN				Lg		Lg		02 40 04.8	
	42nm,0.1s,SNR=7.9								
PCVE	**Castro Verde**	**0.81**	**300**	*e*P		**Pb**		**02 39 58.0**	**+0.2**
PCVE				*e*S		**Sg**		**02 40 09.4**	**+0.4**
PCVE	**Castro Verde**	**0.81**	**300**	P		**Pb**		**02 39 58.0**	**+0.2**
PCVE				S		**Sg**		**02 40 09.4**	**+0.4**
PCVE	**Castro Verde**	**0.81**	**300**	*e*P		**Pb**		**02 39 58.0**	**+0.2**
PCVE				*e*S		**Sg**		**02 40 09.4**	**+0.4**
PBAR	**Barrancos**	**0.95**	**6**	*e*P		**Pb**		**02 40 00.9**	**+0.7**
PBAR				*e*S		**Sg**		**02 40 13.8**	**+0.4**
PBAR				A		A		02 40 15.5	
	106nm,0.1s								
PBAR	**Barrancos**	**0.95**	**6**	P		**Pb**		**02 40 00.9**	**+0.7**
PBAR				S		**Sg**		**02 40 13.8**	**+0.4**
	106nm,0.1s								
PBAR	**Barrancos**	**0.95**	**6**	*e*P		**Pb**		**02 40 00.9**	**+0.7**
PBAR				*e*S		**Sg**		**02 40 13.8**	**+0.4**
	106nm,0.1s								
MESJ	**Messejana**	**1.04**	**306**	*e*P		**Pb**		**02 40 01.5**	**-0.2**
MESJ				*e*S		**Sb**		**02 40 15.4**	**+0.4**
MESJ				AML		AML		02 40 17.8	
	comp=N,39nm,0.2s								
MESJ	**Messejana**	**1.04**	**306**	P		**Pb**		**02 40 01.5**	**-0.2**
MESJ				S		**Sb**		**02 40 15.4**	**+0.4**
	comp=N,39nm,0.2s								
ESPR	**Espera**	**1.10**	**109**	Pg		**Pg**		**02 40 04.2**	**+0.6**
	comp=N,0.7nm,0.1s,SNR=11								
ESPR				Lg		Lg		02 40 19.2	
	comp=N,3.3nm,0.1s,SNR=13								
ESPR	**Espera**	**1.10**	**109**	Pg		**Pg**		**02 40 04.2**	**+0.6**
	comp=N,0.7nm,0.1s,SNR=11								
ESPR				Lg		Lg		02 40 19.2	
	comp=N,3.3nm,0.1s,SNR=13								
MORF	**Marmelete**	**1.20**	**274**	*e*P		**Pn**		**02 40 04.1**	**+0.1**
MORF				*e*S		**Sb**		**02 40 19.8**	**+0.3**
MORF				AML		AML		02 40 22.4	
	comp=N,67nm,0.2s								
MORF	**Marmelete**	**1.20**	**274**	*e*P		**Pn**		**02 40 04.3**	**+0.3**
MORF				*e*S		**Sn**		**02 40 20.7**	**+0.9**
MORF				A		A		02 40 23.0	
	comp=N,48nm,0.1s								
MORF	**Marmelete**	**1.20**	**274**	P		**Pn**		**02 40 04.1**	**+0.1**
MORF				S		**Sb**		**02 40 19.8**	**+0.3**
	comp=N,67nm,0.2s								
MORF	**Marmelete**	**1.20**	**274**	*e*P		**Pn**		**02 40 04.3**	**+0.3**
MORF				*e*S		**Sn**		**02 40 20.7**	**+0.9**
	comp=N,48nm,0.1s								
PTEO	**Sao Teotonio**	**1.29**	**285**	*e*P		**Pb**		**02 40 06.4**	**+0.5**
PTEO				*e*S		**Sg**		**02 40 23.6**	**-0.5**
PTEO				A		A		02 40 26.9	
	comp=N,24nm,0.4s								
PTEO	**Sao Teotonio**	**1.29**	**285**	P		**Pb**		**02 40 06.4**	**+0.5**
PTEO				S		**Sg**		**02 40 23.6**	**-0.5**
	comp=N,12nm,0.4s								
PTEO	**Sao Teotonio**	**1.29**	**285**	*e*P		**Pb**		**02 40 06.4**	**+0.5**
PTEO				*e*S		**Sg**		**02 40 23.6**	**-0.5**
	comp=N,24nm,0.4s								
PFVI	**Vila Bisbo**	**1.34**	**267**	*e*P		**Pn**		**02 40 04.8**	**-1.1**
PFVI				*e*S		**Sb**		**02 40 23.8**	**+0.3**
PFVI				A		A		02 40 28.6	
	comp=N,19nm,0.1s								
PFVI	**Vila Bisbo**	**1.34**	**267**	Pn		**Pn**		**02 40 04.9**	**-1.0**
	comp=N,0.4nm,0.1s,SNR=7.9								
PFVI				Pg		**Pb**		**02 40 06.9**	**+0.1**
	comp=N,1.1nm,0.1s,SNR=12								
PFVI				Lg		Lg		02 40 24.6	
	comp=N,12nm,0.1s,SNR=14								
PFVI	**Vila Bisbo**	**1.34**	**267**	Pn		**Pn**		**02 40 04.9**	**-1.0**
	comp=N,0.4nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**1.34**	**267**	Pg		**Pb**		**02 40 06.9**	**+0.1**
	comp=N,1.1nm,0.1s,SNR=12								
PFVI				*e*S		**Sb**		**02 40 23.8**	**+0.3**
	comp=N,19nm,0.1s								
PFVI				Lg		Lg		02 40 24.6	
	comp=N,12nm,0.1s,SNR=14								
PNCL	**Nicolau / Gran**	**1.40**	**309**	*e*Pn		**Pn**		**02 40 06.4**	**-0.4**
PNCL				*e*Sn		**Sb**		**02 40 26.8**	**+1.4**
PNCL				A		A		02 40 28.8	
	comp=N,10nm,0.1s								
PNCL	**Nicolau / Gran**	**1.40**	**309**	*e*Pn		**Pn**		**02 40 06.4**	**-0.4**
PNCL				*e*Sn		**Sb**		**02 40 26.8**	**+1.4**
	comp=N,10nm,0.1s								
LIJA	**Lijar**	**1.44**	**102**	S		**Sg**		**02 40 29.9**	**+1.1**
LIJA	**Lijar**	**1.44**	**102**	*e*S		**Sg**		**02 40 29.9**	**+1.1**
EVO	**Evora**	**1.47**	**333**	*e*Pn		**Pn**		**02 40 08.1**	**+0.3**
EVO				*e*Sn		**Sn**		**02 40 26.7**	**+0.2**
	comp=N,10nm,0.3s								
EVO	**Evora**	**1.47**	**333**	*e*Pn		**Pn**		**02 40 07.7**	**-0.1**
EVO				A		A		02 40 32.6	
	comp=N,12nm,0.1s								
EVO	**Evora**	**1.47**	**333**	Pn		**Pn**		**02 40 07.7**	**-0.1**
EVO	**Evora**	**1.47**	**333**	*e*Pn		**Pn**		**02 40 07.7**	**-0.1**
	comp=N,12nm,0.1s								
EVOP	**Sao Brissos**	**1.51**	**330**	*e*Pn		**Pn**		**02 40 08.1**	**-0.2**
EVOP				*e*Sn		**Sn**		**02 40 26.7**	**-0.7**
	comp=N,5.2nm,0.3s								
EBAD	**Badajoz**	**1.53**	**4**	Pn		**Pn**		**02 40 08.4**	**-0.2**
	comp=N,0.2nm,0.0s,SNR=17								
EBAD				Pg		**Pb**		**02 40 11.0**	**+0.9**
	comp=N,0.7nm,0.1s,SNR=7.9								
EBAD				Lg		Lg		02 40 30.7	
	comp=N,11nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**1.53**	**4**	Pn		**Pn**		**02 40 08.4**	**-0.2**
	comp=N,0.2nm,0.0s,SNR=17								
EBAD	**Badajoz**	**1.53**	**4**	Pg		**Pb**		**02 40 11.0**	**+0.9**
	comp=N,0.7nm,0.1s,SNR=7.9								
EBAD				Lg		Lg		02 40 30.7	
	comp=N,11nm,0.1s,SNR=7.9								
ECAB	**El Cabril**	**1.62**	**58**	Pn		**Pn**		**02 40 09.5**	**-0.3**
	comp=N,0.0nm,0.0s,SNR=7.9								
ECAB				Pg		**Pb**		**02 40 12.2**	**+0.6**
	comp=N,0.5nm,0.1s,SNR=21								
ECAB				Lg		Lg		02 40 33.9	
	comp=N,1.6nm,0.1s,SNR=13								
ECAB	**El Cabril**	**1.62**	**58**	Pn		**Pn**		**02 40 09.5**	**-0.3**
	SNR=7.9								
PESTR	**Estremoz**	**1.67**	**348**	*e*Pg		**Pb**		**02 40 13.7**	**+1.2**
PESTR				*e*Sg		**Sb**		**02 40 34.7**	**+1.5**
PESTR				A		A		02 40 37.6	
	comp=N,6.5nm,0.4s								
PESTR	**Estremoz**	**1.67**	**348**	*e*Pg		**Pb**		**02 40 13.7**	**+1.2**
PESTR				*e*Sg		**Sb**		**02 40 34.7**	**+1.5**
	comp=N,6.5nm,0.4s								
EMIJ	**Mijas**	**2.02**	**108**	Lg		Lg		02 40 47.6	
	comp=N,3.8nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**2.02**	**108**	Lg		Lg		02 40 47.6	
	comp=N,3.8nm,0.2s,SNR=7.9								
PACT	**Alcochete**	**2.03**	**320**	*e*Sg		**Sg**		**02 40 49.4**	**+1.7**
PACT				A		A		02 40 50.0	
	comp=N,23nm,0.4s								
PACT	**Alcochete**	**2.03**	**320**	*e*Sg		**Sg**		**02 40 49.4**	**+1.7**
	comp=N,23nm,0.4s								
PMRV	**Marv??o**	**2.21**	**355**	*e*Pg		**Pg**		**02 40 25.1**	**+0.5**
PMRV				*e*Sg		**Sb**		**02 40 49.9**	**+1.4**
PMRV				A		A		02 40 54.3	
	comp=N,6.9nm,0.6s								
PMRV	**Marv??o**	**2.21**	**355**	Pg		**Pg**		**02 40 25.1**	**+0.5**
PMRV				Lg		Lg		02 40 49.9	
	comp=N,6.9nm,0.6s								
PMRV	**Marv??o**	**2.21**	**355**	*e*Pg		**Pg**		**02 40 25.1**	**+0.5**
PMRV				*e*Sg		**Sb**		**02 40 49.9**	**+1.4**
	comp=N,6.9nm,0.6s								
EADA	**Adamuz**	**2.25**	**65**	Pn		**Pn**		**02 40 18.4**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=7.9								
EADA				Pg		**Pb**		**02 40 24.1**	**+1.7**
	comp=N,0.2nm,0.1s,SNR=7.9								
EADA				Lg		Lg		02 40 54.1	
	comp=N,1.1nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**2.25**	**65**	Pn		**Pn**		**02 40 18.4**	**-0.1**
	comp=N,0.2nm,0.1s,SNR=7.9								
PTOM	**Tomar**	**2.58**	**338**	*e*Sg		**Sg**		**02 41 03.5**	**-1.9**
PTOM				A		A		02 41 08.9	
	comp=N,5.5nm,0.3s								
PTOM	**Tomar**	**2.58**	**338**	Lg		Lg		02 41 03.5	
	comp=N,2.8nm,0.3s								
PTOM	**Tomar**	**2.58**	**338**	*e*Sg		**Sg**		**02 41 03.5**	**-1.9**
	comp=N,5.5nm,0.3s								
PCBR	**Castelo Branco**	**2.62**	**355**	*e*Pn		**Pn**		**02 40 23.6**	**0.0**
PCBR				*e*Sn		**Sn**		**02 40 54.6**	**-0.3**
PCBR				*e*Sg		**Sb**		**02 41 03.8**	**+3.3**
PCBR				A		A		02 41 08.7	
	comp=N,3.3nm,0.3s								
PCBR	**Castelo Branco**	**2.62**	**355**	Pn		**Pn**		**02 40 23.6**	**0.0**
PCBR				Sn		**Sn**		**02 40 54.6**	**-0.3**
PCBR				Lg		Lg		02 41 03.8	
	comp=N,1.7nm,0.3s								
PCBR	**Castelo Branco**	**2.62**	**355**	*e*Pn		**Pn**		**02 40 23.6**	**0.0**
PCBR				*e*Sn		**Sn**		**02 40 54.6**	**-0.3**
PCBR				*e*Sg		**Sb**		**02 41 03.8**	**+3.3**
	comp=N,3.3nm,0.3s								
EBAN	**Banos Encina**	**2.83**	**70**	Lg		Lg		02 41 10.8	
	comp=N,1.3nm,0.2s,SNR=4.0								
EBAN	**Banos Encina**	**2.83**	**70**	Lg		Lg		02 41 10.8	
	comp=N,1.3nm,0.2s,SNR=4.0								
EPLA	**Plasencia**	**2.96**	**16**	Pn		**Pn**		**02 40 31.4**	**+3.1**
	comp=N,0.1nm,0.1s,SNR=4.0								
EPLA				Lg		Lg		02 41 14.4	
	comp=N,0.3nm,0.1s,SNR=11								
MTE	**Manteigas**	**3.18**	**355**	*e*Sg		**Sg**		**02 41 24.6**	**0.0**
MTE				A		A		02 41 27.2	
	comp=N,6.6nm,0.6s								
MTE	**Manteigas**	**3.18**	**355**	Lg		Lg		02 41 24.6	
	comp=N,3.3nm,0.6s								
MTE	**Manteigas**	**3.18**	**355**	*e*Sg		**Sg**		**02 41 24.6**	**0.0**
	comp=N,6.6nm,0.6s								
PAB	**San Pablo**	**3.20**	**43**	Pn		**Pn**		**02 40 31.7**	**+0.1**
	comp=N,0.3nm,0.1s,SNR=7.9								
PAB				Sn		**Sn**		**02 41 07.0**	**-2.3**
	comp=N,0.2nm,0.1s,SNR=7.9								
PAB				Lg		Lg		02 41 24.1	
	comp=N,0.6nm,0.1s,SNR=4.0								
PAB	**San Pablo**	**3.20**	**43**	Pn		**Pn**		**02 40 31.7**	**+0.1**
	comp=N,0.3nm,0.1s,SNR=7.9								
PAB				Sn		**Sn**		**02 41 07.0**	**-2.3**
	comp=N,0.2nm,0.1s,SNR=7.9								
PAB				Lg		Lg		02 41 24.1	
	comp=N,0.6nm,0.1s,SNR=4.0								
EQES	**Quesada**	**3.30**	**79**	Pn		**Pn**		**02 40 32.8**	**-0.2**
	comp=N,0.0nm,0.1s,SNR=7.9								
EQES				Sn		**Sn**		**02 41 11.1**	**-0.6**
	comp=N,0.4nm,0.2s,SNR=7.9								
EQES				Lg		Lg		02 41 26.1	
	comp=N,0.3nm,0.1s,SNR=7.9								
EQES	**Quesada**	**3.30**	**79**	Pn		**Pn**		**02 40 32.8**	**-0.2**
	SNR=7.9								
EQES				Sn		**Sn**		**02 41 11.1**	**-0.6**
	comp=N,0.4nm,0.2s,SNR=7.9								
EQES				Lg		Lg		02 41 26.1	
	comp=N,0.3nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**3.50**	**45**	Pn		**Pn**		**02 40 35.6**	**-0.1**
	comp=N,0.2nm,0.2s,baz=228,slow=13,SNR=4.8								
ESDC				Lg		Lg		02 41 32.4	
	comp=N,1.9nm,0.3s,baz=228,slow=27,SNR=7.9								
ESDC	**Sonseca Array**	**3.50**	**45**	Pn		**Pn**		**02 40 35.6**	**-0.1**
	comp=N,0.2nm,0.2s,SNR=4.8								
ESDC				Lg		Lg		02 41 32.4	
	comp=N,1.9nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**3.77**	**75**	Lg		Lg		02 41 40.6	
	comp=N,3.1nm,0.5s,SNR=4.0								
SESP	**Santiago Espad**	**3.77**	**75**	Lg		Lg		02 41 40.6	
	comp=N,3.1nm,0.5s,SNR=4.0								
MVO	**Moncorvo**	**3.93**	**1**	*e*Sg		**Sg**		**02 41 47.1**	**-1.5**
MVO				A		A		02 41 53.4	
	comp=N,3.7nm,0.5s								
MVO	**Moncorvo**	**3.93**	**1**	Sn		**Sn**		**02 41 24.4**	**-3.0**
	comp=N,0.2nm,0.0s,SNR=7.9								
MVO				Lg		Lg		02 41 45.3	
	comp=N,4.0nm,0.4s,SNR=7.9								
MVO	**Moncorvo**	**3.93**	**1**	Sn		**Sn**		**02 41 24.4**	**-3.0**
	comp=N,0.2nm,0.0s,SNR=7.9								
MVO				Lg		Lg		02 41 45.3	
	comp=N,4.0nm,0.4s,SNR=7.9								
MVO				*e*Sg		**Sg**		**02 41 47.1**	**-1.5**
	comp=N,3.7nm,0.5s								
GUD	**Guadarrama**	**4.14**	**34**	Pn		**Pn**		**02 40 44.8**	**+0.2**
	comp=N,0.1nm,0.1s,SNR=4.0								
GUD				Sn		**Sn**		**02 41 29.7**	**-2.8**
	comp=N,0.4nm,0.2s,SNR=4.0								
GUD				Lg		Lg		02 41 51.1	
	comp=N,0.1nm,0.1s,SNR=5.6								
GUD	**Guadarrama**	**4.14**	**34**	Pn		**Pn**		**02 40 44.8**	**+0.2**
	comp=N,0.1nm,0.1s,SNR=4.0								
GUD				Sn		**Sn**		**02 41 29.7**	**-2.8**
	comp=N,0.4nm,0.2s,SNR=4.0								
GUD				Lg		Lg		02 41 51.1	
	comp=N,0.1nm,0.1s,SNR=5.6								
ETOB	**Tobarra**	**4.65**	**71**	Pn		**Pn**		**02 40 51.7**	**+0.1**
	comp=N,0.1nm,0.1s,SNR=4.0								
ETOB	**Tobarra**	**4.65**	**71**	Pn		**Pn**		**02 40 51.7**	**+0.1**
	comp=N,0.1nm,0.1s,SNR=4.0								
ELOB	**Lobios**	**4.69**	**352**	Sn		**Sn**		**02 41 43.8**	**-2.2**
	comp=N,0.2nm,0.1s,SNR=4.0								
ELOB	**Lobios**	**4.69**	**352**	Sn		**Sn**		**02 41 43.8**	**-2.2**
	comp=N,0.2nm,0.1s,SNR=4.0								
ECAL	**Calabor**	**4.72**	**4**	Sn		**Sn**		**02 41 44.4**	**-2.4**
	comp=N,0.1nm,0.1s,SNR=4.0								
ECAL				Lg		Lg		02 42 11.3	
	comp=N,0.1nm,0.1s,SNR=4.0								
ECAL	**Calabor**	**4.72**	**4**	Sn		**Sn**		**02 41 44.4**	**-2.4**
	comp=N,0.1nm,0.1s,SNR=4.0								
ECAL				Lg		Lg		02 42 11.3	
	comp=N,0.1nm,0.1s,SNR=4.0								
SJPF	**Ste Jean**	**7.43**	**36**	*e*Pn		**Pn**		**02 41 29.5**	**-0.1**
SJPF				*e*Sn		**Sn**		**02 42 49.4**	**-3.9**
	comp=N,0.4nm,0.3s								
SJPF	**Ste Jean**	**7.43**	**36**	Pn		**Pn**		**02 41 29.5**	**-0.1**
SJPF				Sn		**Sn**		**02 42 49.4**	**-3.9**
	comp=N,0.2nm,0.3s								
SJPF	**Ste Jean**	**7.43**	**36**	*e*Pn		**Pn**		**02 41 29.5**	**-0.1**
ETSF	**Etsaut**	**7.59**	**40**	*e*Pn		**Pn**		**02 41 32.0**	**0.0**
ETSF				*e*Sn		**Sn**		**02 42 53.5**	**-4.0**
	comp=N,0.7nm,0.4s								
ETSF	**Etsaut**	**7.59**	**40**	Pn		**Pn**		**02 41 32.0**	**0.0**
ETSF				Sn		**Sn**		**02 42 53.5**	**-4.0**
	comp=N,0.3nm,0.4s								
ETSF	**Etsaut**	**7.59**	**40**	*e*Pn		**Pn**		**02 41 32.0**	**0.0**
EPF	**Esparros**	**8.16**	**42**	*e*Pn		**Pn**		**02 41 39.6**	**-0.1**
EPF				*e*Sn		**Sn**		**02 43 07.0**	**-4.3**
	comp=N,0.3nm,0.3s								
EPF	**Esparros**	**8.16**	**42**	Pn		**Pn**		**02 41 39.6**	**-0.1**
EPF				Sn		**Sn**		**02 43 07.0**	**-4.3**
	comp=N,0.2nm,0.3s								
EPF	**Esparros**	**8.16**	**42**	*e*Pn		**Pn**		**02 41 39.6**	**-0.1**

IDC ***28*** *02:44:06.1±7.4,2.84S×141.17E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/29,mbtmp3.6/6,ML3.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/27,Error ellipse: s-maj=310.2km s-min=23.9km az=91.0*
ISCJB ***28*** *02:44:12.7±0.7,2.92S±0.09×139.18E±0.06,h10km, mb3.6/5,MS3.0/1,Error ellipse: s-maj=12.7km s-min=8.2km az=165.3*
DJA ***28*** *02:44:15.7±1.9,3°S±20'×13°9E±°,h16km±28km,M3.9/3, MLv3.9/3*

ISC 28 02:44:14.2±0.9,2.88S±0.10×139.25E±0.06,h10km,n10, σ0°78/10,mb3.6/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.96**	**73**	P		**Pg**		**02 44 32.5**	**-0.1**
GENI				S		**Sg**		**02 44 45.9**	**+0.8**
SMPI	**Sarmi**	**1.04**	**328**	P		**Pg**		**02 44 34.3**	**+0.1**
JAY	**Jayapura**	**1.50**	**76**	P		**Pn**		**02 44 40.8**	**-0.4**
WRA	**Warramunga Arr**	**17.62**	**195**	P		**Pn**		**02 48 20.6**	**+0.6**
	0.4nm,0.3s,baz=30,slow=13,SNR=7.1								
ASAR	**Alice Springs**	**21.30**	**194**	P		**P**		**02 49 01.2**	**-0.1**
	1.3nm,0.6s,baz=21,slow=9.9,SNR=24								
KSRS	**Korea Array**	**41.49**	**346**	LR		LR		03 06 50.6	
	comp=Z,20nm,19.3s,baz=174,slow=32								
SONM	**Songino Array**	**58.10**	**334**	P		**P**		**02 54 08.8**	**+0.8**
	0.2nm,0.3s,baz=142,slow=6.6,SNR=3.5								
MKAR	**Makanchi Array**	**70.25**	**322**	P		**P**		**02 55 27.7**	**-0.1**
	0.7nm,0.8s,baz=126,slow=5.1,SNR=5.7								
ZALV	**Zalesovo Beam**	**72.36**	**330**	P		**P**		**02 55 38.9**	**-1.3**
	0.4nm,0.3s,baz=125,slow=6.4,SNR=2.8								
KURBB	**Kurchatov Arra**	**74.18**	**325**	P		**P**		**02 55 50.1**	**-0.9**
	0.3nm,0.7s,baz=106,slow=6.8,SNR=3.3								

GUC 28 02:51:51.5±0.4,34.75S×72.76W,h41km±2km,ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.12**	**125**	*e*P		Pn		02 52 10.9	+0.1
TALC				*e*S		Sn		02 52 25.7	+0.6
NICH	**Los Niches**	**1.28**	**102**	*e*P		Pn		02 52 13.3	+0.3
NICH				*e*S		Sn		02 52 30.1	+1.2
COCH	**Cobquecura**	**1.38**	**181**	*e*P		Pn		02 52 14.6	+0.3
COCH				*e*S		Sn		02 52 31.9	+0.6
CLCH	**Cerro Calan**	**2.29**	**54**	*e*P		Pn		02 52 27.0	+0.2
CLCH				*e*S		Sn		02 52 54.1	+0.3
CLCH				AML		AML		02 53 11.2	
	comp=E,343nm,0.3s								
PEL	**Peldehue**	**2.35**	**48**	*e*P		Pn		02 52 28.4	+0.7
PEL				*e*S		Sn		02 52 56.1	+0.7
PEL				AML		AML		02 53 12.5	
	comp=N,411nm,0.5s								

ISCJB ***28*** *02:56:56.0±0.

comp=E,33nm,1.1s
121A Cookes Peak, D 6.80 89 *e*Pn Pn 02 58 36.5 -1.4
comp=E,2.8nm,0.4s

*NEIC **28** 03:00:53.1, 14°.36N×93°.72W, h20km, MD4.0(MEX), After MEX.*
*MEX **28** 03:00:53.3±0.6, 14°.34N×93°.65W, h20km, MD4.0*
*IDC **28** 03:01:04.6±2.9, 15°.34N×93°.21W, h66km±22km, mb3.4/3, mb1 3.7/7, mb1mx3.4/40, mbtmp3.7/7, MS2.6/3, Ms1 2.6/3, ms1mx2.4/24, Error ellipse: s-maj=50.2km s-min=25.4km az=34.0*
ISC 28 03:00:56.7±1.6, 14°.6N±0°.1×93°.37W±0°.07, h36km, n16, σ1§89/22, mb3.9/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.16**	**7**	*i* P	**Pn**	**03 01 14.6**	**-1.7**
PCIG				*i* S	**Sn**	**03 01 32.0**	**+1.1**
PCIG		**1.16**	**7**	*i* P	**Pn**	**03 01 14.6**	**-1.7**
PCIG				*e*S	**Sn**	**03 01 31.5**	**+0.5**
CCIG	**Comitan**	**2.09**	**34**	*e*P	**Pn**	**03 01 29.8**	**+0.4**
CCIG				*e*S	**Sn**	**03 01 58.0**	**+3.7**
CCIG	**Comitan**	**2.09**	**34**	*e*P	**Pn**	**03 01 29.8**	**+0.4**
CCIG				*e*S	**Sn**	**03 01 58.0**	**+3.7**
TGIG		**2.23**	**6**	*e*P	**Pn**	**03 01 30.6**	**-0.6**
TGIG				*e*S	**Sn**	**03 01 59.0**	**+1.5**
TGIG		**2.23**	**6**	*e*P	**Pn**	**03 01 30.6**	**-0.6**
TGIG				*e*S	**Sn**	**03 01 59.0**	**+1.5**
CMIG	**Matias Romero**	**2.92**	**330**	P	**Pn**	**03 01 41.2**	**+0.6**
	6.0nm,0.3s,baz=145,slow=12,SNR=48						
CMIG				S	**Sn**	**03 02 14.3**	**-0.1**
	11nm,0.3s,baz=128,slow=12,SNR=9.2						
CMIG				LR	LR	03 02 47.2	
	comp=Z,48nm,20.8s,baz=152,slow=43						
TEIG	**Tepich**	**7.45**	**40**	P	**Pn**	**03 02 41.0**	**-1.9**
	8.3nm,0.3s,baz=249,slow=6.2,SNR=30						
TEIG				S	**Sn**	**03 04 03.0**	**-3.1**
	2.9nm,0.3s,baz=22,slow=19,SNR=3.7						
TEIG	**Tepich**	**7.45**	**40**	*e*Pn	**Pn**	**03 02 40.9**	**-2.0**
	22nm,0.4s						
TEIG				*e*S	Sn	03 03 49.7	-16
JTS	**JuntasAbangare**	**9.24**	**116**	P	Pn	03 03 18.6	+11
	0.4nm,0.3s,baz=305,slow=16,SNR=3.1						
JTS				LR	LR	03 06 26.0	
	comp=Z,45nm,20.4s,baz=308,slow=34						
TXAR	**Lajitas Array**	**17.52**	**329**	P	**Pn**	**03 04 57.6**	**-0.7**
	0.0nm,0.3s,baz=150,slow=14,SNR=5.2						
ANMO	**Albuquerque**	**23.48**	**332**	LR	LR	03 16 37.1	
	comp=Z,39nm,18.1s,baz=135,slow=41						
YKA	**Yellowknife Ar**	**50.20**	**347**	P	**P**	**03 09 48.1**	**-0.5**
	1.1nm,0.8s,baz=151,slow=7.4,SNR=18						
INK	**Inuvik**	**59.54**	**344**	P	**P**	**03 10 55.7**	**-0.5**
	0.8nm,0.8s,baz=140,slow=8.0,SNR=3.9						
ILAR	**Eielson Array**	**61.82**	**337**	P	**P**	**03 11 11.4**	**-0.4**
	0.6nm,0.9s,baz=166,slow=4.9,SNR=6.7						
CMAR	**Chiang Mai Arr**	**145.03**	**339**	PKP	**PKPdf**	**03 20 34.0**	**+2.8**
	1.2nm,0.3s,baz=11,slow=1.8,SNR=6.8						

*NNC **28** 03:01:37.5±2.7, 37°.36N×71°.21E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=23.5km s-min=8.6km az=169.0*
ISC 28 03:01:37.0±3.5, 37°.2N±0°.2×71°.29E±0°.08, h10km, n13, σ1§18/18, 7C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.51**	**310**	⇑P	**Pn**	**03 02 17.9**	**-0.1**
	4.2nm,0.3s						
DZET				⇑S	**Sn**	**03 02 49.4**	**+0.7**
	183nm,0.5s						
SFK	**Sufi-Kurgan**	**3.28**	**31**	⇓P	**Pn**	**03 02 29.4**	**+0.7**
	2.3nm,0.2s						
SFK				⇑S	**Sn**	**03 03 11.3**	**+3.4**
	17nm,0.2s						
AML	**Almayashu**	**5.24**	**20**	P	**Pn**	**03 02 55.5**	**-0.3**
	SNR=20						
MNAS	**Manas**	**5.34**	**10**	⇑P	**Pn**	**03 02 57.2**	**+0.2**
	1.8nm,0.3s						
MNAS				⇓S	**Sn**	**03 03 58.8**	**+0.2**
	17nm,0.6s						
KZA	**Kyzart**	**5.73**	**31**	P	**Pn**	**03 03 01.2**	**-1.3**
	SNR=6.2						
EKS2	**Erkin-Say**	**5.76**	**19**	P	**Pn**	**03 03 02.8**	**+0.1**
	SNR=6.2						
KK31	**Karatay Array**	**5.91**	**354**	P	**Pn**	**03 03 04.7**	**+0.2**
	6.9nm,0.4s,baz=184,slow=14,SNR=107						
KK31				⇑S	**Sn**	**03 04 10.7**	**-1.6**
	1.9nm,0.4s,baz=178,slow=24,SNR=8.7						
AAK	**Ala-Archa**	**5.94**	**23**	⇓P	**Pn**	**03 03 04.8**	**-0.4**
	3.7nm,0.4s						
AAK				⇓S	**Sn**	**03 04 13.5**	**+0.1**
	13nm,0.8s						
AAK	**Ala-Archa**	**5.94**	**23**	P	**Pn**	**03 03 05.0**	**-0.2**
	SNR=7.4						
USP	**Ospenovka**	**6.52**	**21**	P	**Pn**	**03 03 12.7**	**-0.3**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.58**	**29**	⇓P	**Pn**	**03 03 12.7**	**-1.3**
	2.1nm,0.5s						
TKM2				⇑S	**Sn**	**03 04 28.0**	**-1.2**
	3.1nm,0.7s						
TKM2	**Tokmak 2**	**6.58**	**29**	P	**Pn**	**03 03 13.2**	**-0.8**
	SNR=5.8						
AB31	**Akbulak array**	**14.57**	**329**	⇑P	Pn	03 04 58.9	-4.3
	0.1nm,0.3s,baz=2.7,slow=26,SNR=8.7						

*ISCJB **28** 03:12:12.7±0.5, 13°.80N±0°.05×120°.5E±0°.1, h102km±5km, mb3.7/5, Error ellipse: s-maj=17.1km s-min=8.1km az=11.2*
*IDC **28** 03:12:13.5±0.9, 14°.84N×119°.39E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/46, mbtmp3.7/7, ML4.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/30, Error ellipse: s-maj=54.7km s-min=18.1km az=62.0*
*MAN **28** 03:12:13, 13°.78N×120°.52E, h84km, mb4.4, ML3.3, MS3.1*
ISC 28 03:12:12.8±0.9, 13°.74N±0°.05×120°.52E±0°.09, h101km±7km, n19, σ1§95/19, mb3.9/5, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.27**	**268**	*e*P	**Pn**	**03 12 27.7**	**+0.4**
LUBP				*e*S	**Sn**	**03 12 38.0**	**-0.2**
PGP	**Puerto Galera**	**0.48**	**120**	⇑*i*P	**Pn**	**03 12 29.3**	**+0.8**
PGP				*i* S	**Sn**	**03 12 40.7**	**+0.3**
TGY	**Tagaytay City**	**0.54**	**48**	⇑*e*P	**Pn**	**03 12 29.8**	**+0.8**
TGY				*i* S	**Sn**	**03 12 41.8**	**+0.6**
SJMP	**San Jose**	**1.40**	**155**	*e*P	**Pn**	**03 12 39.8**	**+1.9**
SJMP				*e*S	**Sn**	**03 12 51.6**	**-5.2**
BUSP	**Coron**	**1.76**	**190**	*e*P	**Pn**	**03 12 43.3**	**+1.0**
PCPH	**Palayan**	**1.89**	**17**	⇓*e*P	**Pn**	**03 12 43.1**	**-0.9**
PCPH				*e*S	**Sn**	**03 13 07.3**	**-0.6**
OTRP	**Odiongan**	**2.00**	**133**	*e*P	Pn	03 12 40.1	-5.4
BALP	**Baler**	**2.23**	**27**	*e*P	**Pn**	**03 12 49.5**	**+1.0**
ENPP	**El Nido**	**2.74**	**203**	*e*P	**Pn**	**03 12 56.9**	**+1.8**
CUYO	**Cuyo Island**	**2.91**	**170**	*e*P	**Pn**	**03 12 58.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.25**	**286**	P	**P**	**03 16 47.4**	**-3.7**
	0.4nm,0.3s,baz=94,slow=10,SNR=2.9						
ASAJ	**Asahikawa**	**35.67**	**28**	LR	LR	03 33 57.8	
	comp=Z,12nm,20.1s,baz=42,slow=37						
SONM	**Songino Array**	**35.97**	**344**	P	**P**	**03 19 04.3**	**+0.4**
	1.2nm,0.5s,baz=168,slow=10.0,SNR=9.8						
WRA	**Warramunga Ar**	**36.13**	**158**	P	pP	03 19 28.5	+0.2
	0.5nm,0.8s,baz=332,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**39.41**	**160**	P	pP	03 19 58.0	+1.8
	0.4nm,0.5s,baz=336,slow=6.7,SNR=5.7						
MKAR	**Makanchi Array**	**45.90**	**324**	P	**P**	**03 20 26.3**	**+1.1**
	0.2nm,0.3s,baz=126,slow=7.0,SNR=8.8						
MKAR				PcP	PP	03 22 08.8	-5.9
	0.2nm,0.4s,baz=151,slow=1.5,SNR=7.9						
ZALV	**Zalesovo Beam**	**48.94**	**333**	P	**P**	**03 20 49.8**	**+1.1**
	0.5nm,0.3s,baz=130,slow=6.6,SNR=2.6						
BVAR	**Borovoye Array**	**55.64**	**326**	P	**P**	**03 21 39.2**	**+0.9**
	0.8nm,0.4s,baz=121,slow=10,SNR=4.1						
TXAR	**Lajitas Array**	**119.56**	**44**	PKP	PKPdf	03 31 07.1	+16
	0.3nm,0.6s,baz=303,slow=5.3,SNR=3.9						

IDC 28 03:12:56.2±9.2, 17°.86S×177°.93W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/27, mbtmp3.8/2, MS3.9/1, Ms1 3.9/1, ms1mx2.7/25, Error ellipse: s-maj=460.6km s-min=45.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.09**	**259**	P	P	03 21 15.1	+0.5
	0.5nm,0.4s,baz=89,slow=7.7,SNR=5.0						
WRA				LR	LR	03 40 33.2	
	comp=Z,128nm,18.3s,baz=115,slow=37						
ASAR	**Alice Springs**	**45.25**	**254**	P	P	03 21 15.2	-0.6
	1.4nm,0.8s,baz=87,slow=7.9,SNR=12						
BRTR	**Keskin Array B**	**145.07**	**315**	PKPbc	PKPbc	03 32 34.1	-1.4
	1.0nm,0.9s,baz=48,slow=1.8,SNR=4.3						
GERES	**GERESS Array B**	**147.68**	**346**	PKPbc	PKPbc	03 32 42.6	-0.4
	0.3nm,0.6s,baz=354,slow=3.9,SNR=3.2						

JMA 28 03:14:35.5±0.3, 32°.97N×137°.91E, h370km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**1.74**	**325**	P	Pn	03 15 27.5	+0.6
JAI	**Aioi**	**3.01**	**287**	P	Pn	03 15 36.5	+0.1
BSO1	**Boso 1**	**3.06**	**56**	P	Pn	03 15 36.9	+0.8
BSO1				*e*S	S	03 16 25.0	-0.1
JWT	**Wachi**	**3.11**	**319**	P	Pn	03 15 37.2	0.0
JWT				*e*S	S	03 16 24.5	-2.6
JRY	**Ryogami san**	**3.15**	**15**	P	Pn	03 15 38.7	+1.1
JRY				*e*S	S	03 16 28.1	+0.3
JMN	**Monobe**	**3.46**	**284**	P	Pn	03 15 40.8	+0.3
MAT	**Matsushiro**	**3.57**	**4**	P	Pn	03 15 41.8	+0.3
MAT				S	S	03 16 33.4	-1.5
JAG	**Ashikaga**	**3.67**	**20**	P	Pn	03 15 42.6	+0.2
JAG				*e*S	S	03 16 34.1	-2.5
JTO	**Tosashimizu**	**4.30**	**270**	P	Pn	03 15 48.8	+0.1

*ISCJB **28** 03:16:34.5±0.4, 69°.11N±0°.02×23°.68E±0°.05, h13km±3km, mb3.5/2, MS2.2/1, Error ellipse: s-maj=4.0km s-min=2.7km az=165.2*
*NAO **28** 03:16:34.3±0.7, 69°.11N×23°.70E, ML3.6*
*HEL **28** 03:16:35.7±0.1, 69°.18N×23°.64E, h6km, ML3.3, ML3.3(BER), ML2.8(UPP)*
*IDC **28** 03:16:35.0±0.7, 69°.18N×23°.67E, h0km, mb3.3/3, mb1 3.7/9, mb1mx3.4/42, mbtmp3.6/9, ML3.9/6, MS2.4/2, Ms1 2.4/2, ms1mx2.2/27, Error ellipse: s-maj=13.0km s-min=6.8km az=117.0*
*CSEM **28** 03:16:35.0±0.2, 69°.16N×23°.69E, h5km, ML3.3, Error ellipse: s-maj=3.8km s-min=3.0km az=164.0*
*BER **28** 03:16:36.9, 69°.15N×23°.87E, h5km, MD2.6, ML3.3, ML3.6(NAO)*
*KOLA **28** 03:16:38.1, 68°.77N×23°.88E, h0km*
*UPP **28** 03:16:38.1, 69°.03N×23°.30E, h0km, ML2.8*
ISC 28 03:16:35.0±0.9, 69°.17N±0°.02×23°.70E±0°.02, h12km±6km, n141, σ1§54/230, 5D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTK1	**Kautokeino**	**0.23**	**227**	*e*P	**Pg**	**03 16 39.9**	**+0.1**
KTK1				*e*S	**Sg**	**03 16 42.8**	**-0.3**
KTK1	**Kautokeino**	**0.23**	**227**	*i* P	**Pg**	**03 16 39.9**	**+0.1**
KTK1				*i* S	**Sg**	**03 16 42.8**	**-0.3**
KTK1	**Kautokeino**	**0.23**	**227**	P	**Pg**	**03 16 39.9**	**+0.1**
KTK1				*e*S	**Sg**	**03 16 42.8**	**-0.3**
	SNR=100						
ARA0	**ARCESS Array S**	**0.74**	**59**	Pg	**Pg**	**03 16 49.2**	**-0.1**
	baz=238,slow=18						
ARA0				Lg	Lg	03 16 58.7	
	baz=239,slow=37						
ARA0	**ARCESS Array S**	**0.74**	**59**	Pg	**Pg**	**03 16 49.2**	**-0.1**
	SNR=999						
ARA0				Lg	Lg	03 16 58.7	
	SNR=8.6						
ARCES	**ARCESS Array B**	**0.74**	**59**	Pg	**Pg**	**03 16 48.9**	**-0.4**
	76nm,0.3s,baz=242,slow=16,SNR=2289						
ARCES				Lg	Lg	03 16 59.0	
	297nm,0.3s,baz=242,slow=30,SNR=67						
ARCES				LR	LR	03 17 01.7	
	comp=Z,36nm,20.0s,baz=281,slow=36						
ARCES				Rg	Rg	03 17 09.8	
	192nm,0.6s,baz=255,slow=32,SNR=7.8						
ARE0	**ARCESS Array S**	**0.74**	**59**	*e*P	**Pg**	**03 16 49.2**	**-0.1**
ARE0				*e*S	**Sg**	**03 16 59.1**	**+0.1**
ARE0				IAML		03 16 59.5	
	comp=Z,1μm,0.2s						
ARE0	**ARCESS Array S**	**0.74**	**59**	*i* P	**Pg**	**03 16 49.2**	**-0.1**
ARE0				*i* S	**Sg**	**03 16 58.8**	**-0.2**
ARE0	**ARCESS Array S**	**0.74**	**59**	P	**Pg**	**03 16 49.2**	**-0.1**
ARE0				S	**Sg**	**03 16 58.7**	**-0.2**
HEF	**Hetta**	**0.76**	**181**	*i* P	**Pg**	**03 16 49.8**	**0.0**
HEF				*i* S	**Sg**	**03 16 59.9**	**+0.1**
HEF	**Hetta**	**0.76**	**181**	P	**Pg**	**03 16 49.7**	**0.0**
HEF				S	**Sg**	**03 16 59.8**	**+0.1**
KIF	**Kilpisjarvi**	**1.05**	**262**	Pg	**Pg**	**03 16 54.1**	**-1.2**
KIF				Lg	Lg	03 17 07.0	
KIF	**Kilpisjarvi**	**1.05**	**262**	*e*P	**Pg**	**03 16 54.0**	**-1.2**
KIF				*e*SB	**Sg**	**03 17 06.7**	**-2.3**
KIF				*e*SG	**Sg**	**03 17 06.9**	**-2.1**
KIF	**Kilpisjarvi**	**1.05**	**262**	Pg	**Pg**	**03 16 54.1**	**-1.2**
KIF				Sg	**Sg**	**03 17 06.8**	**-2.1**
KIF				Lg	Lg	03 17 07.0	
LANU	**Lannavaara**	**1.29**	**210**	*e*P	**Pn**	**03 16 58.7**	**-0.2**
LANU				*e*PN	**Pg**	**03 17 01.1**	**+1.4**
LANU				*e*S	**Sb**	**03 17 14.2**	**-1.5**
LANU	**Lannavaara**	**1.29**	**210**	P	**Pn**	**03 16 58.7**	**-0.2**
KEV	**Kevo**	**1.31**	**62**	Pg	**Pn**	**03 16 59.1**	**0.0**
KEV				Lg	Lg	03 17 15.6	
KEV	**Kevo**	**1.31**	**62**	*e*p	**Pn**	**03 16 59.0**	**-0.1**
	comp=Z,191nm,0.3s						
KEV	**Kevo**	**1.31**	**62**	*e*P	**Pn**	**03 16 59.1**	**-0.1**
KEV				*e*S	**Sb**	**03 17 16.0**	**-0.2**
KEV	**Kevo**	**1.31**	**62**	P	**Pn**	**03 16 59.0**	**-0.1**
KEV				Lg	Lg	03 17 15.6	
KEV				*S*	**Sb**	**03 17 16.0**	**-0.2**
KUA	**Kurravaara**	**1.74**	**227**	⇓*e*P	**Pb**	**03 17 06.3**	**-0.6**
KUA				*e*S	**Sn**	**03 17 27.7**	**+0.6**
KUA	**Kurravaara**	**1.74**	**227**	P	**Pb**	**03 17 06.2**	**-0.6**
KUA				S	**Sn**	**03 17 27.7**	**+0.6**
KUA	**Kurravaara**	**1.74**	**227**	P	**Pb**	**03 17 06.3**	**-0.6**
KUA				S	**Sn**	**03 17 27.7**	**+0.6**
TRO	**Tromso**	**1.75**	**288**	*e*P	**Pb**	**03 17 06.7**	**-0.4**
TRO				IAML		03 17 33.9	
	comp=Z,577nm,0.3s						
TRO	**Tromso**	**1.75**	**288**	*e*P	**Pb**	**03 17 06.7**	**-0.4**
TRO				*e*PG	**Pg**	**03 17 10.5**	**+1.9**
TRO				*e*S	**Sn**	**03 17 28.1**	**+0.7**
TRO	**Tromso**	**1.75**	**288**	P	**Pb**	**03 17 06.6**	**-0.4**
SGF	**Sodankyl**	**2.03**	**148**	*e*P	**Pn**	**03 17 10.7**	**+1.7**
SGF				*e*PG	**Pb**	**03 17 11.8**	**+0.1**
SGF				*e*S	**Sb**	**03 17 36.8**	**-0.1**
SGF				*e*SB	**Sg**	**03 17 37.8**	**-2.2**
SGF	**Sodankyl**	**2.03**	**148**	P	**Pn**	**03 17 10.6**	**+1.7**
VRF	**Varrio**	**2.60**	**120**	*e*P	**Pn**	**03 17 18.8**	**+1.9**
VRF				*e*PB	**Pb**	**03 17 21.3**	**-0.3**
VRF				*e*PG	**Pg**	**03 17 22.7**	**-2.2**
VRF				*e*S	**Sn**	**03 17 49.5**	**+0.9**
VRF				*e*SB	**Sb**	**03 17 54.9**	**+1.4**
VRF				MSG		03 18 00.0	
	comp=Z,205nm,0.2s						
VRF	**Varrio**	**2.60**	**120**	P	**Pn**	**03 17 18.8**	**+1.9**
VRF				S	**Sn**	**03 17 49.4**	**+0.9**
SALU	**Saltoluokta**	**2.64**	**230**	*e*P	**Pn**	**03 17 19.2**	**+1.8**
SALU	**Saltoluokta**	**2.64**	**230**	P	**Pn**	**03 17 19.2**	**+1.8**
SALU	**Saltoluokta**	**2.64**	**230**	P	**Pn**	**03 17 19.2**	**+1.8**
ERTU	**Ertsjaerv**	**2.69**	**193**	*e*P	**Pn**	**03 17 20.2**	**+2.1**
ERTU				*e*S	**Sn**	**03 17 50.9**	**+0.4**
ERTU				*e*SG	**Sb**	**03 17 57.7**	**+1.8**
ERTU	**Ertsjaerv**	**2.69**	**193**	P	**Pn**	**03 17 20.2**	**+2.1**
ERTU				S	**Sn**	**03 17 50.9**	**+0.4**
ERTU	**Ertsjaerv**	**2.69**	**193**	P	**Pn**	**03 17 20.2**	**+2.1**
KALU	**Kalix**	**3.33**	**182**	*e*P	**Pn**	**03 17 29.2**	**+2.4**
KALU				*e*PB	**Pb**	**03 17 33.0**	**-0.8**
KALU				*e*S	**Sn**	**03 18 06.8**	**+0.5**
KALU				*e*SG	**Sb**	**03 18 17.9**	**+3.6**
KALU	**Kalix**	**3.33**	**182**	⇓P	**Pn**	**03 17 29.1**	**+2.3**
KALU				S	**Sn**	**03 18 06.7**	**+0.5**
KALU	**Kalix**	**3.33**	**182**	P	**Pn**	**03 17 29.1**	**+2.3**
KALU				S	**Sn**	**03 18 08.4**	**+2.2**
STEI	**Steigen**	**3.35**	**252**	*e*P	**Pn**	**03 17 29.0**	**+1.9**
STEI				IAML		03 18 23.2	
	comp=Z,160nm,0.7s						
STEI	**Steigen**	**3.35**	**252**	*e*P	**Pn**	**03 17 29.0**	**+1.9**
STEI				IAML		03 18 23.2	
	comp=Z,160nm,0.7s						
STEI	**Steigen**	**3.35**	**252**	P	**Pn**	**03 17 29.0**	**+1.9**
SJUU	**Sjulsmark**	**3.77**	**193**	⇓*e*P	**Pn**	**03 17 34.4**	**+1.5**
SJUU	**Sjulsmark**	**3.77**	**193**	P	**Pn**	**03 17 34.3**	**+1.5**
SJUU	**Sjulsmark**	**3.77**	**193**	P	**Pn**	**03 17 34.4**	**+1.5**
APA0	**Apatity Array**	**3.78**	**110**	Pn	**Pn**	**03 17 34.0**	**+1.0**
	baz=306,slow=12						
APA0				Sn	**Sn**	**03 18 16.6**	**-0.8**
	baz=285,slow=22						
APA0				Sn	Sb	03 18 21.0	-6.2
APA0				Lg	Lg	03 18 29.0	
	baz=293,slow=28						
APA0				Lg	Lg	03 18 33.8	
APA0	**Apatity Array**	**3.78**	**110**	Pn	**Pn**	**03 17 34.0**	**+1.0**
	SNR=127						
APA0				Sn	**Sn**	**03 18 16.6**	**-0.8**
	SNR=4.9						
APA0				Lg	Lg	03 18 33.8	
	baz=293,slow=25						
APA0	**Apatity Array**	**3.78**	**110**	P	**Pn**	**03 17 34.2**	**+1.2**
APA0				S	**Sn**	**03 18 16.5**	**-0.8**
LOF	**Lofoten**	**3.86**	**259**	*e*P	**Pn**	**03 17 34.7**	**+0.5**
LOF				*e*		03 18 34.0	
LOF				IAML		03 18 36.3	
	comp=Z,92nm,0.5s						
LOF	**Lofoten**	**3.86**	**259**	*e*P	**Pn**	**03 17 34.7**	**+0.5**
LOF				*e*SG	**Sb**	**03 18 34.0**	**+4.4**
LOF				IAML		03 18 36.3	
	comp=Z,92nm,0.5s						
LOF	**Lofoten**	**3.86**	**259**	P	**Pn**	**03 17 34.6**	**+0.5**
MSF	**Maaselka**	**3.86**	**145**	*e*P	**Pn**	**03 17 36.0**	**+1.9**
MSF				*e*PG	**Pb**	**03 17 44.6**	**+1.6**
MSF				*e*S	**Sn**	**03 18 20.9**	**+1.5**
MSF				*e*SB	**Sb**	**03 18 30.2**	**+0.7**
MSF	**Maaselka**	**3.86**	**145**	P	**Pn**	**03 17 36.0**	**+1.9**
MSF				S	**Sn**	**03 18 20.8**	**+1.5**
APA	**Apatity**	**3.93**	**110**	P	**Pn**	**03 17 36.7**	**+1.5**
APA				S	**Sn**	**03 18 20.3**	**-0.9**
KU6	**Riekki**	**3.94**	**140**	*e*P	**Pn**	**03 17 37.1**	**+1.7**
KU6				*e*PG	**Pb**	**03 17 46.6**	**+2.2**
KU6				*e*S	**Sn**	**03 18 22.2**	**+0.7**
KU6				MSN		03 18 27.2	
	comp=Z,40nm,0.2s						
KU6				MSG		03 18 41.8	
	comp=Z,129nm,0.3s						
KU6	**Riekki**	**3.94**	**140**	P	**Pn**	**03 17 37.0**	**+1.7**
KU6				S	**Sn**	**03 18 22.2**	**+0.7**
LILU	**Lilltraesk**	**4.18**	**203**	⇓*e*P	**Pn**	**03 17 39.8**	**+1.2**
LILU				*e*S	**Sn**	**03 18 27.2**	**0.0**
LILU	**Lilltraesk**	**4.18**	**203**	P	**Pn**	**03 17 39.7**	**+1.2**
LILU				S	**Sn**	**03 18 27.2**	**0.0**
LILU	**Lilltraesk**	**4.18**	**203**	P	**Pn**	**03 17 39.8**	**+1.2**
LILU				S	**Sn**	**03 18 27.2**	**0.0**
OUL	**Oulu**	**4.19**	**167**	*e*P	**Pn**	**03 17 40.2**	**+1.5**
OUL				*e*S	**Sn**	**03 18 27.4**	**-0.1**
OUL				*e*SG	**Sb**	**03 18 44.2**	**+5.1**
OUL	**Oulu**	**4.19**	**167**	P	**Pn**	**03 17 40.2**	**+1.5**
OUL				S	**Sn**	**03 18 27.4**	**-0.1**
MOR8	**Moi Rana**	**4.64**	**234**	*e*P	**Pn**	**03 17 44.2**	**-0.7**
MOR8	**Moi Rana**	**4.64**	**234**	*e*P	**Pn**	**03 17 44.2**	**-0.7**
MOR8	**Moi Rana**	**4.64**	**234**	P	**Pn**	**03 17 44.2**	**-0.7**
BURU	**Burvik**	**4.70**	**192**	⇓*e*P	**Pn**	**03 17 46.9**	**+1.3**
BURU				*e*S	**Sn**	**03 18 39.7**	**-0.3**
BURU	**Burvik**	**4.70**	**192**	P	**Pn**	**03 17 46.9**	**+1.3**
BURU				S	**Sn**	**03 18 39.7**	**-0.3**
BURU	**Burvik**	**4.70**	**192**	P	**Pn**	**03 17 46.9**	**+1.3**
BURU				S	**Sn**	**03 18 39.7**	**-0.3**
KONS	**Konsvik**	**4.82**	**241**	*e*P	**Pn**	**03 17 48.0**	**+0.6**
KONS				*e*S	**Sn**	**03 18 44.0**	**+1.0**
KONS				IAML		03 19 14.1	
	comp=Z,82nm,0.4s						
KONS	**Konsvik**	**4.82**	**241**	*e*P	**Pn**	**03 17 48.0**	**+0.6**
KONS				*e*S	**Sn**	**03 18 44.0**	**+1.0**
KONS				IAML		03 19 14.1	
	comp=Z,82nm,0.4s						
KONS	**Konsvik**	**4.82**	**241**	P	**Pn**	**03 17 47.9**	**+0.6**
KONS				S	**Sn**	**03 18 44.0**	**+1.0**
FLOS	**Flostrand**	**4.85**	**239**	*e*P	Pb	03 17 54.5	-5.3
FLOS				*e*S	**Sn**	**03 18 49.2**	**+5.5**
FLOS				IAML		03 19 14.5	
	comp=Z,175nm,0.4s						
FLOS	**Flostrand**	**4.85**	**239**	*e*P	Pb	03 17 54.5	-5.3
FLOS				*e*S	**Sn**	**03 18 49.2**	**+5.5**
FLOS				IAML		03 19 14.5	
	comp=Z,175nm,0.4s						
STOK	**Stokkvaagen**	**4.96**	**240**	*e*P	**Pn**	**03 17 50.7**	**+1.5**
STOK				*e*S	**Sn**	**03 18 46.7**	**+0.4**
STOK	**Stokkvaagen**	**4.96**	**240**	*e*P	**Pn**	**03 17 50.7**	**+1.5**
STOK				*e*S	**Sn**	**03 18 46.7**	**+0.4**
STOK	**Stokkvaagen**	**4.96**	**240**	P	**Pn**	**03 17 50.6**	**+1.5**
STOK				S	**Sn**	**03 18 46.7**	**+0.4**
SVAU	**Svanoeiden**	**4.97**	**201**	*e*P	**Pn**	**03 17 50.5**	**+1.1**
SVAU				*e*S	**Sn**	**03 18 46.8**	**+0.1**
SVAU	**Svanoeiden**	**4.97**	**201**	P	**Pn**	**03 17 50.5**	**+1.1**
SVAU				S	**Sn**	**03 18 46.8**	**

KEF				*e*S		**Sn**	03 19 35.5 -2.3
KEF				MSN			03 19 41.4
	comp=Z,12nm,0.2s						
KEF	**Keuruu**	**7.05 176**		P		**Pn**	**03 18 19.2 +1.3**
KAF	**Kangasniemi**	**7.17 170**		*e*p		**Pn**	**03 18 20.8 +1.2**
	comp=Z,8.0nm,0.3s						
KAF	**Kangasniemi**	**7.17 170**		*e*P		**Pn**	**03 18 20.8 +1.2**
KAF				*e*S		**Sn**	**03 19 39.5 -1.3**
KAF				MSG			03 20 15.1
	comp=Z,22nm,0.3s						
KAF	**Kangasniemi**	**7.17 170**		P		**Pn**	**03 18 20.7 +1.2**
HASU	**Hassela**	**7.62 206**		P		**Pn**	**03 18 25.9 +0.1**
HASU	**Hassela**	**7.62 206**		P		**Pn**	**03 18 25.9 +0.1**
HASU				S		**Sn**	**03 19 48.9 -3.1**
FINES	**FINESS Array B**	**7.82 172**		Pn		**Pn**	**03 18 29.7 +1.2**
	comp=Z,1.0nm,0.3s,baz=358,slow=11,SNR=55						
FINES				Sn		**Sn**	**03 19 55.9 -0.9**
	comp=Z,3.4nm,0.3s,baz=359,slow=23,SNR=6.3						
FINES				Lg		Lg	03 20 35.5
	comp=Z,6.9nm,0.3s,baz=354,slow=31,SNR=12						
HUDU	**Hudiksvall**	**7.94 203**		P		**Pn**	**03 18 30.9 +0.7**
HUDU	**Hudiksvall**	**7.94 203**		P		**Pn**	**03 18 30.9 +0.7**
ARNU	**Arnoeviken**	**7.95 202**		P		**Pn**	**03 18 30.6 +0.3**
ARNU	**Arnoeviken**	**7.95 202**		P		**Pn**	**03 18 30.6 +0.3**
ROTU	**Roteberg**	**8.44 207**		P		**Pn**	**03 18 37.1 +0.1**
ROTU	**Roteberg**	**8.44 207**		P		**Pn**	**03 18 37.1 +0.1**
SPA0	**Spitsbergen Ar**	**9.28 351**		Pn		**Pn**	**03 18 47.5 -0.9**
	baz=151,slow=16						
SPA0	**Spitsbergen Ar**	**9.28 351**		*e*P		**Pn**	**03 18 47.5 -0.9**
SPA0	**Spitsbergen Ar**	**9.28 351**		*e*P		**Pn**	**03 18 47.5 -0.9**
	SNR=47						
SPITS	**Spitsbergen Ar**	**9.28 351**		Pn		**Pn**	**03 18 47.7 -0.7**
	baz=144,slow=16,SNR=50						
SPITS				Sn		Sn	03 20 23.4 -9.1
	baz=140,slow=30,SNR=1.9						
NB2	**NORSAR Subarra**	**9.69 219**		Pn		**Pn**	**03 18 53.7 -0.4**
	baz=21,slow=12						
NB2				Lg		Lg	03 21 34.4
NB2	**NORSAR Subarra**	**9.69 219**		Pn		**Pn**	**03 18 53.7 -0.4**
NOA	**NORSAR Array B**	**9.69 219**		Pn		**Pn**	**03 18 53.5 -0.6**
	comp=Z,1.8nm,0.3s,baz=85,slow=19,SNR=41						
NOA				Sn		**Sn**	**03 20 38.1 -4.6**
	comp=Z,1.6nm,0.3s,baz=349,slow=19,SNR=4.5						
NOA				Lg		Lg	03 21 33.2
	comp=Z,3.3nm,0.3s,baz=104,slow=14,SNR=6.8						
NOA				LR		LR	03 22 19.3
	comp=Z,19nm,18.6s,baz=335,slow=36						
AKN	**Aaknes**	**9.80 232**		Pn		**Pn**	**03 18 55.8 +0.2**
AKN	**Aaknes**	**9.80 232**		Pn		**Pn**	**03 18 55.8 +0.2**
HFS	**Hagfors**	**10.01 210**		Pn		**Pn**	**03 18 57.5 -1.0**
	baz=15,slow=14						
HFS				Sn		Sn	03 20 44.9 -5.7
	baz=27,slow=22						
HFS	**Hagfors**	**10.01 210**		Pn		**Pn**	**03 18 57.7 -0.8**
	comp=Z,1.2nm,0.3s,baz=26,slow=13,SNR=40						
HFS				Sn		**Sn**	**03 20 45.7 -4.9**
	comp=Z,2.3nm,0.3s,baz=20,slow=23,SNR=7.7						
HFS				Lg		Lg	03 21 43.8
	comp=Z,2.5nm,0.3s,baz=31,slow=29,SNR=11						
HFS	**Hagfors**	**10.01 210**		Pn		**Pn**	**03 18 57.5 -1.0**
	SNR=1.9						
BSD	**Bornholm Skovb**	**14.66 200**		*i* P		Pn	03 19 58.9 -3.1
EKA	**Eskdalemuir Ar**	**18.43 235**		Pn		**Pn**	**03 20 51.4 +1.4**
	baz=35,slow=9.2,SNR=3.7						
AKASG	**Malin Array Be**	**18.72 169**		Pn		**P**	**03 20 49.0 -4.1**
	comp=Z,0.9nm,0.3s,baz=350,slow=12,SNR=4.3						
AKASG				Sn		Sn	03 24 05.6 -17
	comp=Z,1.0nm,0.3s,baz=353,slow=23,SNR=7.2						
GERES	**GERESS Array B**	**20.97 199**		P		**P**	**03 21 18.4 +0.6**
	comp=Z,0.6nm,0.5s,baz=12,slow=7.4,SNR=6.6						
MLR	**Muntele Rosu**	**23.77 176**		LR		LR	03 31 56.1
	comp=Z,8.7nm,20.4s,baz=58,slow=39						
ILAR	**Eielson Array**	**46.17 354**		P		**P**	**03 25 00.1 +1.2**
	comp=Z,0.4nm,0.7s,baz=358,slow=6.3,SNR=10						
TORD	**Torodi Ar. Bea**	**57.72 206**		P		**P**	**03 26 25.4 +0.1**
	comp=Z,0.2nm,0.4s,baz=0.8,slow=7.3,SNR=9.8						

*BJI **28** 03:27:35.4,6.1±1.1S×147.1±4.9E,h156km,mB4.9/14,mb4.6/19*
*ISCJB **28** 03:27:38.8±0.7,5.6±8.5S±0.0×147.1±1.8E±0.0,h159km±7km, mb4.3/27,Error ellipse: s-maj=9.6km s-min=5.6km az=9.9*
*IDC **28** 03:27:39.8±0.7,5.7±8.5S×147.1±7.0E,h158km±6km,mb4.1/17, mb1 4.2/18,mb1mx4.1/27,mbtmp4.5/18,MS3.3/5, Ms1 3.4/5,ms1mx3.0/21,Error ellipse: s-maj=15.6km s-min=7.9km az=100.0*
*NEIC **28** 03:27:39.8±0.9,5.6±4.5S×147.1±7.8E,h160km±8km,mb4.5/13, Error ellipse: s-maj=8.6km s-min=5.9km az=81.0*
*DJA **28** 03:28:02.4±3.0,7.3±21.1×14.7±1.1E,h280km±22km, M5.0/7,mb4.5/7,mB5.1/1,MLv5.2/1,Mw(mB)4.5/1*
ISC 28 03:27:40.4±0.4,5.76S±0.04×147.83E±0.06,h162km±2km, h162km:pP-P,n77,σ1§40/115,mb4.3/27,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68 190**		P	**Pn**	**03 28 36.6**	**-0.3**
	baz=3.8,SNR=38						
PMG	**Port Moresby**	**3.68 190**		*e*Pn	**Pn**	**03 28 36.6**	**-0.3**
PMG				*e*S	**Sn**	**03 29 19.9**	**-1.1**
MANU	**Manus Island**	**3.73 353**		P	**Pn**	**03 28 37.8**	**+0.3**
	baz=3.7,SNR=6.2						
MANU				S	Sn	03 29 35.9	+14
	baz=3.7,SNR=21						
RABL	**Rabaul**	**4.59 70**		P	**Pn**	**03 28 49.5**	**+0.7**
	baz=4.5,SNR=10						
COEN	**Coen**	**9.34 209**		P	**Pn**	**03 29 52.7**	**+1.0**
	baz=9.5,SNR=21						
COEN				S	Sn	03 31 24.3	-11
	baz=9.5,SNR=13						
COEN	**Coen**	**9.34 209**		*e*Pn	**Pn**	**03 29 52.6**	**+0.9**
COEN				*e*S	**Sn**	**03 31 32.9**	**-2.6**
HNR	**Honiara**	**12.55 108**		Pn	**Pn**	**03 30 33.5**	**0.0**
CTA	**Charters Tower**	**14.32 186**		P	**P**	**03 30 57.8**	**-0.6**
	0.5nm,0.3s,baz=5.9,slow=15,SNR=11						
CTAO	**Charters Tower**	**14.32 186**		*e*Pn	**Pn**	**03 30 56.6**	**+0.6**
KDU	**Kakadu**	**16.64 245**		P	**P**	**03 31 23.2**	**-0.8**
	baz=17,SNR=30						
QIS	**Mount Isa**	**16.73 208**		P	**Pn**	**03 31 26.5**	**+1.0**
	baz=17,SNR=70						
QIS				S	**S**	**03 34 31.9**	**+0.9**
	baz=17,SNR=7.9						
WRAB	**Tennant Creek**	**19.24 222**		*e*P	**P**	**03 31 52.9**	**+0.5**
	137nm,0.6s						
WRAB				*e*S	**S**	**03 35 20.8**	**-1.0**
WRA	**Warramunga Arr**	**19.25 222**		P	**P**	**03 31 53.2**	**+0.6**
	10nm,0.3s,baz=46,slow=11,SNR=223						
WRA				S	**S**	**03 35 21.1**	**-1.0**
	baz=44,slow=21,SNR=23						
WRA				ScP	**ScP**	**03 39 29.7**	**+0.1**
	baz=43,slow=2.5,SNR=5.1						
EIDS	**Eidsvold**	**19.74 171**		P	**Pn**	**03 31 59.8**	**-1.3**
	baz=20,SNR=15						
EIDS	**Eidsvold**	**19.74 171**		*e*Pn	**Pn**	**03 31 59.4**	**-1.6**
	91nm,1.4s						
RMQ	**Roma**	**20.63 178**		P	**P**	**03 32 09.3**	**+2.1**
	baz=21,SNR=50						
QLP	**Quilpie**	**20.98 189**		P	**P**	**03 32 12.5**	**+1.4**
	baz=21,SNR=26						
SANI	**Sanana**	**22.10 279**		P	P	03 32 30.2	+7.3
AS31	**Alice Springs**	**22.28 216**		*e*P	**P**	**03 32 25.3**	**+0.7**
AS31				*e*S	**S**	**03 36 21.9**	**+4.0**
ASAR	**Alice Springs**	**22.28 216**		P	**P**	**03 32 25.4**	**+0.7**
	50nm,0.6s,baz=50,slow=8.7,SNR=859						
ASAR				S	**S**	**03 36 20.4**	**+2.5**
	13nm,0.9s,baz=31,slow=17,SNR=17						
ASAR				ScP	**ScP**	**03 39 37.8**	**+0.9**
	1.7nm,0.8s,baz=47,slow=4.5,SNR=4.5						
ASAR				LR	LR	03 41 44.5	
	comp=Z,139nm,20.9s,baz=55,slow=38						
SOEI	**Soe**	**23.68 259**		P	**P**	**03 32 40.8**	**+3.2**
BATI	**Baumata**	**24.33 258**		P	**P**	**03 32 44.6**	**+1.2**
	75nm,0.8s						
ARMA	**Armidale**	**24.78 172**		P	**P**	**03 32 48.9**	**+1.4**
	baz=25,SNR=28						
ARMA	**Armidale**	**24.78 172**		*e*P	**P**	**03 32 48.9**	**+1.4**
	104nm,1.8s						
STKA	**Stephens Creek**	**26.63 192**		P	**P**	**03 33 04.2**	**+0.3**
	8.3nm,0.5s,baz=360,slow=7.7,SNR=32						
STKA				LR	LR	03 43 56.9	
	comp=Z,110nm,19.6s,baz=31,slow=37						
STKA	**Stephens Creek**	**26.63 192**		P	**P**	**03 33 04.3**	**+0.3**
	baz=27,SNR=24						
STKA	**Stephens Creek**	**26.63 192**		*e*P	**P**	**03 33 04.0**	**+0.1**
	35nm,2.4s						
YNG	**Young**	**28.40 179**		P	**P**	**03 33 21.4**	**+1.7**
	baz=29,SNR=12						
CNB	**Canberra Magne**	**29.44 177**		P	**P**	**03 33 30.7**	**+1.7**
	baz=30,SNR=9.5						
FORT	**Forrest**	**31.05 214**		*e*P	**P**	**03 33 43.1**	**0.0**
	46nm,0.7s						
GIRL	**Giralia**	**36.50 239**		P	**P**	**03 34 31.6**	**+1.3**
	baz=37,SNR=4.6						
MORW	**Morawa**	**37.94 229**		P	**P**	**03 34 42.6**	**+0.1**
	baz=38,SNR=6.3						
BLDU	**Ballidu**	**38.29 226**		P	**P**	**03 34 45.0**	**-0.3**
	baz=38,SNR=13						
YULB	**Yu-li**	**38.88 319**		*e*P	**P**	**03 34 48.7**	**-1.6**
	8.9nm,0.6s						
NWAO	**Narrogin (SRO)**	**39.26 223**		P	**P**	**03 34 53.0**	**-0.4**
	baz=39,SNR=5.4						
SSLB	**Suanglung**	**39.38 319**		*e*P	**P**	**03 34 53.2**	**-1.2**
	10nm,0.7s						
RKGY	**Rocky Gully**	**40.45 221**		P	**P**	**03 35 03.9**	**+0.8**
	baz=41,SNR=9.9						
URZ	**Urewera**	**41.86 145**		P	**P**	**03 35 15.9**	**+1.3**
	5.0nm,0.4s,baz=46,slow=2.7,SNR=5.9						
JNU	**Nakatsue**	**41.89 339**		P	**P**	**03 35 13.7**	**-1.2**
	5.0nm,0.8s,baz=57,slow=3.9,SNR=3.6						
RPZ	**Rata Peaks**	**42.97 155**		P	**P**	**03 35 24.9**	**+1.4**
	19nm,0.7s,baz=68,slow=3.7,SNR=3.6						
MJAR	**Matsushiro Arr**	**43.04 349**		P	**P**	**03 35 22.7**	**-1.4**
	4.5nm,0.9s,baz=175,slow=8.5,SNR=8.2						
QIZ	**Qiongzhong**	**44.80 304**		P	**P**	**03 35 37.0**	**-1.4**
QIZ				S	**S**	**03 42 03.0**	**-0.6**
QIZ				PMZ			
	11nm,2.1s						
QIZ				PMZ			
	50nm,4.3s						
NJ2	**Nanjing**	**46.65 326**		*e*P	**P**	**03 35 50.5**	**-2.2**
NJ2				PMZ			
	20nm,0.6s						
KSRS	**Korea Array**	**46.83 338**		P	**P**	**03 35 53.9**	**-0.1**
	1.5nm,0.8s,baz=151,slow=8.3,SNR=4.5						
KSRS				LR	LR	03 52 05.0	
	comp=Z,40nm,21.4s,baz=132,slow=31						
KSAR	**Wonju Array Be**	**46.84 338**		P	**P**	**03 35 53.9**	**-0.1**
GYA	**Guiyang**	**51.15 311**		*e*P	**P**	**03 36 27.8**	**+0.5**
GYA				pP	**pP**	**03 37 04.5**	**+0.4**
GYA				sP	**sP**	**03 37 23.0**	**+0.9**
GYA				PP	**PP**	**03 38 27.5**	**+1.8**
GYA				S	**S**	**03 43 32.5**	**-0.6**
GYA				PMZ			
	10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.74 346**		P	**P**	**03 36 31.2**	**0.0**
	1.7nm,0.7s,baz=147,slow=8.6,SNR=3.8						
CN2	**Changchun**	**53.32 340**		*e*P	**P**	**03 36 45.0**	**+2.2**
CN2				PMZ			
	10.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.87 298**		P	**P**	**03 36 45.4**	**-1.8**
	2.2nm,0.6s,baz=118,slow=5.9,SNR=6.4						
XAN	**Xi'an**	**54.03 320**		P	**P**	**03 36 47.0**	**-1.2**
XAN				PMZ			
	4.0nm,0.8s						
XAN				PMZ			
	17nm,5.3s						
CD2	**Chengdu**	**55.71 314**		*e*P	**P**	**03 37 02.0**	**+1.7**
CD2				pP	**pP**	**03 37 39.3**	**+1.6**
CD2				sP	**sP**	**03 37 57.0**	**+1.4**
CD2				PP	**PP**	**03 39 10.0**	**+3.5**
CD2				PcS	**PcS**	**03 41 58.0**	**-0.3**
CD2				S	**S**	**03 44 34.0**	**-0.3**
CD2				sS	**sS**	**03 45 39.0**	**-0.3**
CD2				SS	**SS**	**03 48 22.0**	**-0.4**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.5s						
HHC	**Hu-ho-hao-te**	**57.07 328**		*e*P	**P**	**03 37 11.8**	**+1.9**
HHC				pP	**pP**	**03 37 48.8**	**+1.3**
HHC				sP	**sP**	**03 38 05.0**	**-0.2**
HHC				PP	**PP**	**03 39 22.3**	**+3.7**
HHC				S	**S**	**03 44 51.5**	**-0.6**
HHC				sS	**sS**	**03 45 59.0**	**+1.7**
HHC				SS	**SS**	**03 48 46.5**	**+2.8**
HHC				PMZ			
	14nm,0.7s						
HHC				PMZ			
	170nm,4.7s						
PETK	**Petropavlovsk-**	**59.24 7**		P	**P**	**03 37 25.0**	**+0.5**
	3.9nm,0.6s,baz=194,slow=6.9,SNR=3.4						
PETK				LR	LR	03 57 45.3	
	comp=Z,11nm,21.3s,baz=174,slow=30						
GTA	**Gaotai**	**63.09 320**		*e*P	**P**	**03 37 51.3**	**+0.4**
GTA				pP	**pP**	**03 38 29.5**	**+0.3**
GTA				sP	**sP**	**03 38 47.3**	**+0.5**
GTA				PMZ			
	6.0nm,1.5s						
ULN	**Ulaanbaatar**	**64.30 331**		*e*P	**P**	**03 37 58.5**	**-0.2**
	4.8nm,0.7s						
SONM	**Songino Array**	**64.60 330**		P	**P**	**03 38 00.9**	**+0.2**
	2.7nm,0.7s,baz=150,slow=5.6,SNR=17						
CASY	**Casey**	**65.70 196**		*e*P	**P**	**03 38 07.0**	**-0.2**
	3.2nm,0.7s						
VNDA	**Vanda**	**72.10 177**		P	**P**	**03 38 46.4**	**-0.2**
	3.9nm,0.7s,baz=331,slow=6.7,SNR=36						
VNDA	**Vanda**	**72.10 177**		*e*P	**P**	**03 38 47.0**	**+0.4**
	4.0nm,0.7s						
WMQ	**Urumqi**	**73.15 319**		*e*P	**P**	**03 38 53.5**	**0.0**
WMQ				pP	**pP**	**03 39 31.8**	**-1.0**
WMQ				PMZ			
	14nm,0.7s						
WMQ				PMZ			
	96nm,4.4s						
MK31	**Makanchi Array**	**77.84 320**		*e*P	**P**	**03 39 18.7**	**-1.3**
MKAR	**Makanchi Array**	**77.84 320**		P	**P**	**03 39 18.8**	**-1.3**
	1.4nm,0.6s,baz=114,slow=2.9,SNR=23						
MKAR				pP	**pP**	**03 39 56.3**	**-3.6**
	0.5nm,0.8s,baz=111,slow=5.2,SNR=2.4						
MKAR	**Makanchi Array**	**77.84 320**		*e*P	**P**	**03 39 19.1**	**-1.0**
MKAR				pP	**pP**	**03 39 56.3**	**-3.6**
ZALV	**Zalesovo Beam**	**79.25 328**		P	**P**	**03 39 24.9**	**-2.6**
	3.4nm,0.6s,baz=119,slow=6.0,SNR=12						
KSH	**Kashi**	**79.84 312**		*e*P	**P**	**03 39 31.8**	**+0.6**
KSH				*e*sP	**sP**	**03 40 28.8**	**+0.4**
KSH				*e*PP	**PP**	**03 42 36.3**	**+1.3**
KSH				S	**S**	**03 49 19.5**	**-1.7**
KSH				sS	**sS**	**03 50 29.0**	**-1.5**
KSH				PMZ			
	97nm,4.1s						
KSH				LN			
	120nm,6.1s						
KSH				LE			
	89nm,7.6s						
KSH				LZ			
	160nm,5.5s						
TKM2	**Tokmak 2**	**81.06 315**		*e*P	**P**	**03 39 36.3**	**-1.5**
	2.9nm,0.6s						
AAK	**Ala-Archa**	**81.77 314**		*e*P	**P**	**03 39 40.0**	**-1.5**
	2.6nm,0.8s						
EKS2	**Erkin-Say**	**82.28 314**		*e*P	**P**	**03 39 43.4**	**-0.7**
	3.3nm,0.8s						
MAW	**Mawson**	**82.78 203**		P	**P**	**03 39 45.4**	**-0.6**
	4.2nm,0.6s,baz=94,slow=7.2,SNR=14						
MAW	**Mawson**	**82.78 203**		P	**P**	**03 39 45.9**	**-0.1**
	baz=83,SNR=7.9						
MAW	**Mawson**	**82.78 203**		*e*P	**P**	**03 39 45.6**	**-0.4**
	0.9nm,0.5s						
ILAR	**Eielson Array**	**84.94 23**		P	**P**	**03 39 55.3**	**-1.7**
	2.1nm,0.6s,baz=254,slow=5.0,SNR=9.2						
ILAR				pP	**pP**	**03 40 36.1**	**-1.3**
	0.9nm,0.9s,baz=245,slow=4.7,SNR=2.6						
ILAR				LR	LR	04 13 58.0	
	comp=Z,19nm,19.4s,baz=184,slow=33						
YKA	**Yellowknife Ar**	**98.58 28**		P	**P**	**03 40 59.4**	**-1.1**
	0.2nm,0.6s,baz=265,slow=4.3,SNR=4.0						
YKA				pP	**pP**	**03 41 40.9**	**-0.6**
	0.6nm,0.8s,baz=271,slow=4.5,SNR=4.7						
PLCA	**Paso Flores**	**121.86 146**		PKP	**PKPdf**	**03 46 15.5**	**-0.3**
	0.9nm,0.6s,baz=219,slow=1.0,SNR=4.8						
SAML	**Samuel**	**145.80 115**		*e*PKPdf	**PKPdf**	**03 47 01.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**145.83 285**		PKPbc	**PKPdf**	**03 46 59.8**	**-1.1**
	1.7nm,0.5s,baz=69,slow=3.2,SNR=70						
TORD				pPKPbc	pPKPbc	03 47 41.8	-2.0
	1.4nm,0.8s,baz=70,slow=3.7,SNR=2.9						
TORD				SKPbc	**SKPbc**	**03 50 24.6**	**-1.1**
	0.5nm,0.7s,baz=91,slow=1.0,SNR=3.8						
BDFB	**Brasilia**	**153.57 144**		PKPbc	**PKPbc**	**03 47 21.0**	**0.0**
	1.7nm,0.6s,baz=209,slow=3.0,SNR=4.0						

*ISCJB **28** 03:30:47.2±0.6,13.1±6.5S±0.0×167.2±0.1,h180km,*
mb4.2/16,Error ellipse: s-maj=15.1km s-min=11.3km az=32.2
*IDC **28** 03:30:48.1±2.5,12.9±9.5S×167.1±2.2E,h174km±20km, mb3.9/12,mb1 4.0/12,mb1mx3.8/31,mbtmp4.3/12,Error ellipse: s-maj=22.0km s-min=16.7km az=102.0*
*NEIC **28** 03:30:53.9±3.6,13.0±8.5S×167.0±3.6E,h228km±32km,mb4.4/7, Error ellipse: s-maj=19.7km s-min=10.7km az=70.0*
ISC 28 03:30:48.6±0.6,13.1±0.1×167.1E±0.1,h180km,n34, σ0§77/39,mb4.3/16,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**19.44 229**		P	**Pn**	**03 35 04.2**	**-0.5**
	baz=20,SNR=5.3						
EIDS	**Eidsvold**	**19.44 229**		*e*P	**Pn**	**03 35 03.1**	**-1.6**
	4.1nm,0.4s						
PMG	**Port Moresby**	**19.90 278**		P	**P**	**03 35 07.5**	**+1.0**
CTA	**Charters Tower**	**21.16 248**		P	**P**	**03 35 20.7**	**+0.8**
	11nm,0.9s,baz=85,slow=14,SNR=4.2						
RMQ	**Roma**	**21.79 229**		P	**P**	**03 35 28.0**	**+1.5**
	baz=22,SNR=18						
QLP	**Quilpie**	**25.32 234**		P	**P**	**03 35 59.2**	**+0.4**
	baz=26,SNR=4.9						
QLP				S	**S**	**03 40 10.6**	**-1.0**
	baz=26,SNR=3.6						
URZ	**Urewera**	**26.63 162**		P	**P**	**03 36 11.4**	**+0.9**
	3.8nm,0.3s,baz=307,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**29.98 227**		P	**P**	**03 36 41.1**	**+0.8**
	5.4nm,0.4s,baz=50,slow=8.7,SNR=21						
STKA	**Stephens Creek**	**29.98 227**		P	**P**	**03 36 41.1**	**+0.8**
	baz=30,SNR=18						
STKA	**Stephens Creek**	**29.98 227**		*e*P	**P**	**03 36 40.8**	**+0.5**
	1.1nm,0.3s						
ASAR	**Alice Springs**	**33.15 247**		P	**P**	**03 37 07.5**	**-0.7**
	3.6nm,0.7s,baz=73,slow=9.7,SNR=5.5						
ASAR				ScP	**ScP**	**03 43 14.1**	**-0.4**
	1.2nm,1.1s,baz=86,slow=3.3,SNR=4.3						
BBOO	**Buckleboo**	**34.50 230**		P	**P**	**03 37 19.8**	**+0.1**
	baz=35,SNR=6.3						
WRKA	**Warakurna**	**38.44 246**		P	**P**	**03 37 53.0**	**-0.2**
	baz=39,SNR=4.4						
FORT	**Forrest**	**40.04 237**		P	**P**	**03 38 06.2**	**-0.1**
	baz=40,SNR=10.0						
MEEK	**Meekatharra**	**47.30 246**		P	**P**	**03 39 04.5**	**+0.1**
	baz=48,SNR=8.9						
VNDA	**Vanda**	**64.51 181**		P	**P**	**03 41 06.9**	**+1.2**
	2.8nm,0.8s,baz=2.0,slow=8.0,SNR=4.8						
VNDA	**Vanda**	**64.51 181**		*e*P	**P**	**03 41 05.7**	**0.0**
	16nm,1.6s						
SBA	**Scott Base**	**64.79 180**		*e*P	**P**	**03 41 08.5**	**+1.0**
	42nm,1.8s						
CASY	**Casey**	**65.00 202**		*e*P	**P**	**03 41 07.7**	**-1.3**
	1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**74.14 294**		P	**P**	**03 42 06.7**	**+0.9**
	0.7nm,0.3s,baz=124,slow=5.0,SNR=6.2						
QSPA	**South Pole Qui**	**76.95 180**		*e*P	**P**	**03 42 21.4**	**+0.2**
	26nm,1.1s						
BILL	**Bilibino**	**80.89 360**		*e*P	**P**	**03 42 42.6**	**+0.5**
	9.8nm,1.1s						
SONM	**Songino Array**	**81.07 323**		P	**P**	**03 42 44.6**	**+0.9**
	1.1nm,0.8s,baz=134,slow=6.4,SNR=4.9						
MAW	**Mawson**	**83.36 202**		P	**P**	**03 42 55.2**	**0.0**
	5.8nm,0.9s,baz=67,slow=4.0,SNR=6.3						
ILAR	**Eielson Array**	**85.00 18**		P	**P**	**03 43 02.9**	**-0.4**
	0.9nm,0.5s,baz=236,slow=5.1,SNR=14						
MKAR	**Makanchi Array**	**95.90 317**		P	**P**	**03 43 54.7**	**-0.2**
	0.6nm,0.8s,baz=132,slow=2.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**95.96 324**		P	**P**	**03 43 53.7**	**-1.2**
	2.6nm,0.3s,baz=101,slow=4.7,SNR=4.1						
YKA	**Yellowknife Ar**	**96.14 27**		P	**P**	**03 43 55.1**	**-0.4**
	0.3nm,0.7s,baz=261,slow=4.4,SNR=3.8						
ARCES	**ARCESS Array B**	**118.61 346**		PKP	**PKPdf**	**03 49 13.7**	**-0.9**
	5.1nm,1.0s,baz=50,slow=2.9,SNR=5.3						
NOA	**NORSAR Array B**	**128.98 345**		PKP	**PKPdf**	**03 49 35.0**	**+0.3**
	1.3nm,1.0s,baz=58,slow=2.4,SNR=2.6						
GERES	**GERESS Array B**	**138.09 334**		PKP	**PKPdf**	**03 49 52.1**	**-0.2**
	0.5nm,0.8s,baz=1.4,slow=3.9,SNR=4.5						
GERES				SKPbc	**SKPbc**	**03 53 10.1**	**+0.5**
	0.5nm,0.8s,baz=44,slow=4.6,SNR=4.7						
CEL	**Celeste**	**144.18 320**		*e*PKPdf	**PKPab**	**03 50 01.2**	**-0.3**
ESDC	**Sonseca Array**	**152.35 345**		PKPbc	**PKPbc**	**03 50 23.2**	**-0.3**
	1.6nm,0.8s,baz=20,slow=2.0,SNR=11						
ESDC				PKPab	**PKPab**	**03 50 34.5**	**+0.4**
	0.6nm,0.7s,baz=10.0,slow=4.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**165.79 272**		PKP	**PKPdf**	**03 50 32.0**	**-0.8**
	1.6nm,1.0s,baz=52,slow=1.2,SNR=4.3						
TORD				PKPab	**PKPab**	**03 51 32.9**	**-0.5**
	1.2nm,0.9s,baz=111,slow=3.3,SNR=4.4						

MEX 28 03:35:25.4±1.4,20.48N×99.00W,h5km,MD3.5,Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**0.18 190**		*i* P	Pg	03 35 27.7	-1.6
DEIG				*i* S	Sg	03 35 30.9	-1.0
ZUVM	**

0.3nm,0.5s,baz=117,slow=8.3,SNR=2.8
TXAR Lajitas Array 144.97 34 PKPbc **PKPdf 04 02 56.5 -0.8**
0.5nm,0.7s,baz=286,slow=1.3,SNR=8.2

MEX 28 04:03:28.2±0.6, 16°.88N×100°.36W, h5km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.19**	**27**	*i* P	Pg	04 03 31.7	-0.3
CAIG				*i* S	Sg	04 03 34.7	+0.1
ACP2	**Acapulco**	**0.45**	**90**	*e*P	Pg	04 03 36.2	-0.8
ACP2				*i* S	Sg	04 03 42.7	-0.2
ACX	**Acapulco**	**0.48**	**91**	*i* P	Pb	04 03 40.0	+0.9
ACX				*i* S	Sb	04 03 46.9	+0.4
MEIG	**Mezcala**	**1.26**	**34**	*i* P	Pg	04 03 48.6	-3.9
MEIG				*i* S	Sg	04 04 04.5	-4.5
ZIIG	**Zihuatanejo**	**1.28**	**305**	*e*P	Pn	04 03 49.5	-3.2
ZIIG				*i* S	Sg	04 04 19.8	-4.6
PNIG	**Pinotepa**	**2.19**	**102**	*e*P	Pn	04 04 01.7	-3.6
PNIG				*e*S	Sn	04 04 28.6	-4.2
YAIG	**Yautepec**	**2.33**	**32**	*e*P	Pn	04 04 04.1	-3.2
YAIG				*e*S	Sn	04 04 32.4	-4.1

IDC 28 04:19:05.3±15.0, 56°.02S×27°.95W, h189km±143km, mb3.8/2,mb1 3.9/2,mb1mx3.1/29,mbtmp4.3/2, Error ellipse: s-maj=84.4km s-min=26.4km az=112.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.59**	**183**	P	P	04 27 13.4	-0.1
	3.2nm,0.6s,baz=187,slow=6.3,SNR=22						
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	P	04 30 15.6	0.0
	1.5nm,0.6s,baz=201,slow=6.5,SNR=26						
YKA	**Yellowknife Ar**	**135.86**	**318**	PKP	PKPdf	04 37 59.7	-2.2
	0.4nm,0.8s,baz=129,slow=2.5,SNR=3.9						
ILAR	**Eielson Array**	**149.78**	**312**	PKPbc	PKPbc	04 38 31.1	-0.1
	0.8nm,0.8s,baz=105,slow=1.1,SNR=9.8						
SONM	**Songino Array**	**151.15**	**87**	PKPbc	PKPbc	04 38 35.1	-0.1
	0.6nm,0.6s,baz=250,slow=2.4,SNR=3.8						

GUC 28 04:19:48.5±0.4, 34°.50S×72°.61W, h41km±2km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.20**	**139**	*e*P	Pn	04 20 08.9	+0.1
TALC				*e*S	Sn	04 20 24.8	+0.9
NICH	**Los Niches**	**1.24**	**114**	*e*P	Pn	04 20 09.9	+0.5
NICH				*e*S	Sn	04 20 26.0	+1.1
COCH	**Cobquecura**	**1.64**	**185**	*e*P	Pn	04 20 15.3	+0.5
COCH				*e*S	Sn	04 20 33.8	-0.8
CLCH	**Cerro Calan**	**2.04**	**58**	*e*P	Pn	04 20 21.2	+0.7
CLCH				*e*S	Sn	04 20 45.7	+0.8
CLCH				AML	AML	04 20 55.4	
	comp=N,699nm,0.5s						
PEL	**Peldehue**	**2.10**	**50**	*e*P	Pn	04 20 21.8	+0.6
PEL				*e*S	Sn	04 20 47.8	+1.7
PEL				AML	AML	04 20 57.4	
	comp=N,1μm,0.5s						

*IDC **28** 04:26:27.0±0.9, 35°.69S×72°.70W, h0km, mb4.3/7, mb1 4.3/9,mb1mx4.1/23,mbtmp4.2/9,ML3.8/3,MS3.9/5, Ms1 3.9/5,ms1mx3.3/25, Error ellipse: s-maj=33.6km s-min=18.3km az=89.0*
*ISCJB **28** 04:26:29.2±1.0, 35°.67S±0°.04×72°.91W±0°.08, h31km±7km, mb4.5/11,MS3.6/3, Error ellipse: s-maj=11.0km s-min=5.5km az=25.0*
*NEIC **28** 04:26:30.3±0.8, 35°.60S×73°.03W, h35km, mb4.5/3, Error ellipse: s-maj=22.2km s-min=10.0km az=87.0*
*GUC **28** 04:26:31.1±0.6, 35°.75S×72°.72W, h30km±4km, ML4.8*
ISC 28 04:26:27.9±3.4, 35°.65S±0°.05×72°.89W±0°.08, h11km±22km, n40, σ1°52/35, mb4.6/11, MS3.7/3, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.49**	**170**	⇓*i*P	Pb	**04 26 39.5**	**+1.0**
COCH				*i* S	Sb	**04 26 45.6**	**-0.2**
TALC	**Talca**	**1.05**	**77**	⇓*i*P	Pb	**04 26 48.1**	**0.0**
TALC				*i* S	Sb	**04 27 00.9**	**-1.0**
CCSP	**San Pedro de C**	**1.21**	**188**	*e*P	Pn	**04 26 50.5**	**-0.2**
CCSP				*i* S	Sb	**04 27 06.3**	**0.0**
CCSP				AML	AML	04 27 09.2	
	comp=N,19μm,0.4s						
NICH	**Los Niches**	**1.50**	**65**	*e*P	Pb	**04 26 55.8**	**0.0**
NICH				*i* S	Sb	**04 27 14.8**	**-0.1**
SJCH	**San Jose de Ma**	**2.90**	**47**	*e*P	Pn	**04 27 16.4**	**+2.4**
SJCH				*e*S	Sn	**04 27 50.5**	**+1.7**
SJCH				AML	AML	04 28 03.9	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**2.97**	**42**	*i* P	Pn	**04 27 17.0**	**+2.0**
CLCH				AML	AML	04 28 03.7	
	comp=N,4μm,0.7s						
CLCH				AML	AML	04 28 04.2	
	comp=N,4μm,0.7s						
PEL	**Peldehue**	**3.09**	**37**	⇓*i*P	Pn	**04 27 19.5**	**+2.9**
PEL				AML	AML	04 28 22.8	
	comp=E,3μm,0.5s						
PLCA	**Paso Flores**	**5.40**	**161**	Pn	Pn	**04 27 48.9**	**+0.5**
	comp=E,1.2nm,0.3s,baz=326,slow=12,SNR=41						
PLCA				Sn	Sb	04 28 59.2	-7.9
	comp=E,2.3nm,0.3s,baz=4.9,slow=16,SNR=3.3						
PLCA	**Paso Flores**	**5.40**	**161**	*e*Pn	Pn	**04 27 49.3**	**+0.9**
PLCA				Sn	Sb	04 28 59.2	-7.9
CFAA	**Coronel Fontan**	**5.59**	**45**	Pn	Pn	**04 27 52.2**	**+1.2**
	comp=E,0.5nm,0.3s,baz=207,slow=14,SNR=31						
CFAA				Sn	**Sb**	**04 29 08.9**	**-3.8**
	comp=E,0.9nm,0.3s,baz=297,slow=19,SNR=7.2						
CFAA				LR	LR	04 30 06.8	
	comp=E,57nm,18.4s,baz=210,slow=40						
LCO	**Las Campanas**	**6.87**	**16**	*e*Pn	**Pn**	**04 28 09.5**	**+0.7**
	comp=E,26nm,0.6s						
LCO				*e*S	**Sn**	**04 29 27.4**	**+0.3**
TRQA	**Tornquist**	**9.07**	**109**	*e*Pn	**Pn**	**04 28 40.6**	**+1.8**
	comp=E,13nm,0.6s						
LVC	**Limon Verde**	**13.44**	**16**	Pn	**Pn**	**04 29 37.3**	**-1.5**
CPUP	**Villa Florida**	**16.24**	**59**	LR	LR	04 37 02.3	
	comp=E,2μm,18.4s,baz=212,slow=39						
EFI	**East Falkland**	**19.22**	**151**	*e*P	**P**	**04 30 50.4**	**-1.4**
	comp=E,63nm,1.3s						
USHA	**Ushuaia**	**19.43**	**172**	LR	LR	04 38 36.9	
	comp=E,372nm,21.2s,baz=192,slow=38						
LPAZ	**La Paz**	**19.74**	**14**	Pn	**Pn**	**04 31 01.1**	**+1.3**
	comp=E,0.2nm,0.3s,baz=180,slow=6.5,SNR=18						
LPAZ	**La Paz**	**19.74**	**14**	*e*P	**P**	**04 30 56.2**	**-2.2**
	comp=E,7.0nm,0.8s						
ATAH	**Atahualpa**	**28.82**	**349**	LR	LR	04 42 19.4	
	comp=E,52nm,18.9s,baz=145,slow=33						
BDFB	**Brasilia**	**29.85**	**55**	LR	LR	04 45 40.7	
	comp=E,191nm,19.8s,baz=234,slow=39						
PTGA	**Pitinga**	**36.76**	**22**	P	**P**	**04 33 36.1**	**+0.6**
	comp=E,9.4nm,0.8s,baz=201,slow=10,SNR=11						
SNAA	**Sanae**	**50.34**	**157**	P	**P**	**04 35 24.5**	**+0.2**
	comp=E,1.5nm,0.9s,baz=222,slow=23,SNR=3.7						
QSPA	**South Pole Qui**	**54.59**	**180**	P	**P**	**04 35 57.1**	**+1.0**
	comp=E,0.6nm,0.5s,baz=308,slow=0.4,SNR=7.8						
TXAR	**Lajitas Array**	**70.84**	**332**	P	**P**	**04 37 46.8**	**+2.1**
	comp=E,1.9nm,0.6s,baz=153,slow=8.6,SNR=31						
LIC	**Lamto**	**75.96**	**72**	*e*P	**P**	**04 38 14.4**	**-0.7**
	comp=E,54nm,1.5s						
TIC	**Toumodi**	**76.23**	**71**	*e*P	**P**	**04 38 16.8**	**+0.1**
	comp=E,10nm,0.7s						
KIC	**Kosan Boka**	**76.27**	**72**	*e*P	**P**	**04 38 16.2**	**-0.7**
	comp=E,14nm,0.7s						
DBIC	**Dimbokro**	**76.37**	**71**	P	**P**	**04 38 17.5**	**0.0**
	comp=E,5.2nm,0.6s,baz=211,slow=7.1,SNR=10						
ANMO	**Albuquerque**	**76.90**	**332**	LR	LR	05 09 06.3	
	comp=E,49nm,18.8s,baz=192,slow=33						
ECSD	**EROS Data Cent**	**81.90**	**343**	*e*P	**P**	**04 38 44.0**	**-3.0**
	comp=E,5.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**85.43**	**70**	P	**P**	**04 39 05.4**	**-0.4**
	comp=E,1.2nm,0.8s,baz=253,slow=6.0,SNR=12						
ULM	**Lac du Bonnet**	**87.91**	**345**	P	**P**	**04 39 17.2**	**+0.2**
	comp=E,2.8nm,0.7s,baz=171,slow=5.4,SNR=7.2						
H11S2	**WAKE ISLAND Hyl**	**25.03**	**268**	T	T	07 03 09.6	
	baz=121						
H11S1	**WAKE ISLAND Hyl**	**25.05**	**268**	T	T	07 03 13.5	
	baz=121						
H11S3	**WAKE ISLAND Hyl**	**25.05**	**268**	T	T	07 03 14.9	
	baz=121						
H11N3	**WAKE ISLAND Hyl**	**25.49**	**270**	T	T	07 03 39.5	
	baz=116						
H11N1	**WAKE ISLAND Hyl**	**25.50**	**270**	T	T	07 03 38.1	
	baz=116,slow=74						
H11N2	**WAKE ISLAND Hyl**	**25.51**	**270**	T	T	07 03 40.5	
	baz=116,slow=74						
ABKAR	**Akbulak array**	**143.24**	**53**	*e*PKPdf	PKPbc	04 45 58.0	-0.6
MKAR	**Makanchi Array**	**158.35**	**51**	PKPab	**PKPab**	**04 46 58.5**	**-0.8**
	comp=E,0.6nm,0.8s,baz=280,slow=8.4,SNR=6.3						

*IDC **28** 04:56:30.7±5.7, 36°.60N×71°.77E, h95km±43km, mb3.4/4, mb1 3.5/8,mb1mx3.3/34,mbtmp3.8/8, Error ellipse: s-maj=53.5km s-min=26.1km az=165.0*
*NNC **28** 04:56:42.0±3.5, 37°.73N×71°.14E, h93km±58km, mb3.3, mpv3.9, Error ellipse: s-maj=33.1km s-min=18.8km az=158.0*
ISC 28 04:56:33.6±1.0, 37°.03N±0°.08×71°.58E±0°.09, h106km, n27, σ1°51/30, mb3.5/4, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.81**	**310**	⇓P	**Pn**	**04 57 16.6**	**-0.5**
	16nm,0.4s						
DZET				S	Sn	04 57 42.0	-8.5
	230nm,0.4s						
AML	**Almayashu**	**5.35**	**17**	P	**Pn**	**04 57 52.9**	**+1.3**
	SNR=84						
UCH	**Uchtor**	**5.67**	**23**	P	**Pn**	**04 57 57.5**	**+1.7**
	SNR=15						
DLH	**Dalhousie**	**5.75**	**140**	*e*P	**Sn**	**04 59 01.0**	**-0.5**
KZA	**Kyzart**	**5.79**	**28**	P	**Pn**	**04 57 58.8**	**+1.4**
	SNR=14						
EKS2	**Erkin-Say**	**5.88**	**16**	P	**Pn**	**04 58 00.0**	**+1.7**
	SNR=19						
AAK	**Ala-Archa**	**6.03**	**21**	⇓P	**Pn**	**04 58 02.4**	**+1.9**
	19nm,0.5s						
AAK				⇑S	**Sn**	**04 59 07.2**	**-1.0**
	15nm,0.5s						
AAK	**Ala-Archa**	**6.03**	**21**	P	**Pn**	**04 58 02.3**	**+1.9**
	SNR=39						
AAK	**Ala-Archa**	**6.03**	**21**	P	**Pn**	**04 58 02.3**	**+1.9**
	10nm,0.3s,baz=176,slow=6.4,SNR=91						
AAK				S	**Sn**	**04 59 07.5**	**-0.8**
	2.5nm,0.3s,baz=308,slow=22,SNR=11						
KK31	**Karatay Array**	**6.12**	**353**	P	**Pn**	**04 58 01.9**	**+0.3**
	2.5nm,0.3s,baz=174,slow=13,SNR=40						
KK31				⇓S	Sn	04 59 01.3	-9.0
	16nm,0.7s,baz=169,slow=23						
KBK	**Karagaybulak**	**6.19**	**24**	P	**Pn**	**04 58 04.8**	**+2.2**
	SNR=6.4						
CHMS	**Chumysh**	**6.44**	**21**	P	**Pn**	**04 58 07.5**	**+1.6**
	SNR=16						
USP	**Ospenovka**	**6.62**	**19**	P	**Pn**	**04 58 09.4**	**+1.1**
	SNR=25						
TKM2	**Tokmak 2**	**6.64**	**26**	⇑P	**Pn**	**04 58 10.3**	**+1.5**
	11nm,0.6s						
TKM2				⇓S	**Sn**	**04 59 20.0**	**-3.2**
	6.4nm,0.7s						
TKM2	**Tokmak 2**	**6.64**	**26**	P	**Pn**	**04 58 10.6**	**+1.8**
	SNR=21						
MK31	**Makanchi Array**	**12.59**	**36**	⇑P	**Pn**	**04 59 29.7**	**+0.8**
	0.9nm,0.6s,baz=234,slow=18,SNR=6.5						
MKAR	**Makanchi Array**	**12.59**	**36**	P	**Pn**	**04 59 29.8**	**+0.9**
	0.1nm,0.3s,baz=237,slow=18,SNR=9.9						
KURBB	**Kurchatov Arra**	**14.48**	**18**	P	**Pn**	**04 59 51.8**	**-1.5**
	0.0nm,0.3s,baz=217,slow=10,SNR=3.8						
AB31	**Akbulak array**	**14.86**	**329**	⇓P	**Pn**	**04 59 56.4**	**-1.8**
	0.4nm,0.5s,baz=128,slow=12,SNR=16						
AB31				⇑S	Sn	05 02 30.6	-12
	0.8nm,0.6s,baz=149,slow=23,SNR=4.4						
BVAR	**Borovoye Array**	**16.02**	**357**	P	**Pn**	**05 00 11.9**	**-0.7**
	0.2nm,0.3s,baz=178,slow=3.9,SNR=3.3						
AKTO	**Aktyubinsk**	**16.57**	**328**	⇓P	**Pn**	**05 00 18.7**	**-0.7**
	4.7nm,1.4s						
AKTO	**Aktyubinsk**	**16.57**	**328**	P	**P**	**05 00 21.7**	**+1.6**
	0.3nm,0.3s,baz=114,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.24**	**24**	P	**Pn**	**05 00 51.5**	**+0.1**
	0.3nm,0.3s,baz=229,slow=12,SNR=8.2						
SONM	**Songino Array**	**27.65**	**56**	P	**P**	**05 02 10.3**	**-1.2**
	0.5nm,0.3s,baz=262,slow=12,SNR=4.4						
ARCES	**ARCESS Array B**	**40.84**	**337**	P	**P**	**05 04 06.1**	**+1.6**
	3.4nm,0.9s,baz=119,slow=10,SNR=2.6						
TORD	**Torodi Ar. Bea**	**66.20**	**269**	P	**P**	**05 07 09.6**	**-0.7**
	0.1nm,0.5s,baz=48,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**80.70**	**3**	P	**P**	**05 08 35.1**	**+0.5**
	0.4nm,0.6s,baz=352,slow=5.3,SNR=7.6						

IDC 28 05:05:57.5±2.1, 24°.12S×66°.17W, h145km±36km, mb3.2/1, mb1 3.0/5,mb1mx3.0/26,mbtmp3.4/5, Error ellipse: s-maj=49.8km s-min=15.1km az=94.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.68**	**193**	P	Pn	05 07 48.3	+1.6
	0.1nm,0.3s,baz=25,slow=15,SNR=17						
CFAA				S	Sn	05 09 09.9	-2.5
	0.2nm,0.3s,baz=284,slow=14,SNR=13						
LPAZ	**La Paz**	**8.01**	**346**	P	Pn	05 07 53.5	+1.6
	0.7nm,0.3s,baz=166,slow=7.0,SNR=27						
LPAZ				S	Sn	05 09 18.9	-2.8
	baz=356,slow=9.6,SNR=4.0						
PLCA	**Paso Flores**	**16.97**	**191**	P	Pn	05 09 47.0	+0.6
	0.2nm,0.3s,baz=3.7,slow=11,SNR=3.6						
BDFB	**Brasilia**	**19.03**	**67**	P	P	05 10 08.4	-0.2
	0.1nm,0.3s,baz=228,slow=16,SNR=2.0						
TORD	**Torodi Ar. Bea**	**75.90**	**68**	P	P	05 17 28.4	-0.1
	0.3nm,0.5s,baz=258,slow=5.9,SNR=8.7						

MEX 28 05:14:52.5±0.7, 17°.48N×102°.94W, h20km±26km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.90**	**334**	*e*P	Pb	05 15 06.9	-2.4
MMIG				*i* S	Sb	05 15 17.1	-3.7
ZIIG	**Zihuatanejo**	**1.41**	**85**	*e*P	Pn	05 15 13.6	-3.5
ZIIG				*e*S	Sn	05 15 31.0	-4.1
R15V		**1.95**	**330**	*e*P	Pn	05 15 22.1	-2.5
R15V				*e*S	Sn	05 15 44.4	-4.2
EZ5V		**2.09**	**343**	*e*P	Pn	05 15 24.4	-2.4
EZ5V				*e*S	Sn	05 15 48.5	-3.9
URUA	**Uruapan**	**2.10**	**23**	*i* P	Pn	05 15 19.4	-7.5
URUA				*i* S	Sn	05 15 43.8	-8.8
ARIG	**Puente Sto Nin**	**2.59**	**72**	*e*P	Pn	05 15 29.3	-4.1
ARIG				*i* S	Sn	05 16 01.3	-3.0
SFJM	**Santa Fe**	**2.99**	**358**	*e*P	Pb	05 15 42.7	-2.7
SFJM				*e*S	Sn	05 16 17.6	+3.0
MEIG	**Mezcala**	**3.19**	**81**	*e*P	Pn	05 15 38.4	-3.3
MEIG				*i* S	Sn	05 16 14.9	-4.4
PLIG	**Platanillo**	**3.40**	**74**	*e*P	Pn	05 15 42.4	-2.1
PLIG				*i* S	Sn	05 16 21.2	-3.1

*ISCJB **28** 05:35:55.7±1.3, 21°.05S±0°.08×68°.7W±0°.1, h100km, Error ellipse: s-maj=19.8km s-min=11.0km az=4.8*
*SJA **28** 05:35:55.1±0.5, 21°.02S×68°.58W, h41km±18km, ML4.3*
*IDC **28** 05:36:39.8±3.9, 17°.48S×67°.38W, h120km±30km, mb3.3/2, mb1 3.6/2, mb1mx3.2/27, mbtmp3.7/2, Error ellipse: s-maj=58.5km s-min=32.4km az=168.0*
ISC 28 05:35:56.1±1.7, 21°.06S±0°.07×68°.8W±0°.1, h100km, n8, σ0°63/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.55**	**183**	*e*P	**Pn**	**05 36 23.1**	**-0.2**
LVC				*e*S	**Sn**	**05 36 43.7**	**-0.1**
LVC				AML	AML	05 36 45.5	
	comp=Z,3μm,0.2s						
AZAP	**Zapla**	**4.69**	**133**	*e*P	**Pn**	**05 37 05.0**	**+0.2**
SLA	**San Lorenzo**	**4.76**	**141**	*e*P	**Pn**	**05 37 06.7**	**+1.0**
LPAZ	**La Paz**	**4.79**	**8**	P	**Pn**	**05 37 06.7**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=154,slow=5.1,SNR=59						
LPAZ				S	Px	05 37 26.8	
	comp=Z,0.6nm,0.3s,baz=162,slow=9.7,SNR=7.8						
ASTB	**Santa Barbara**	**4.94**	**126**	*e*P	**Pn**	**05 37 08.0**	**-0.1**
ALOL	**LOMAS DE OLMED**	**5.26**	**122**	*e*P	**Pn**	**05 37 11.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	pP	05 48 06.4	+1.5
	comp=Z,0.5nm,0.5s,baz=240,slow=5.6,SNR=2.9						
YKA	**Yellowknife Ar**	**90.80**	**341**	P	pP	05 49 15.6	+1.6
	comp=Z,0.9nm,1.1s,baz=126,slow=4.9,SNR=3.9						

*CSEM **28** 05:36:43.9, 36°.89N×24°.11W, h10km, ML2.7*
PDA 28 05:36:43.9±0.8, 36°.89N×24°.11W, h10km, MD4.1, ML2.7, Error ellipse: s-maj=6.3km s-min=5.2km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.78**	**279**	*e*P	Pg	05 36 56.1	-2.9
PSMN				*e*S	Sg	05 37 05.4	-3.7
PSMN				A	A	05 37 08.0	
	68nm,0.2s						
PSMN	**Pico do Norte,**	**0.78**	**279**	*e*P	Pg	05 36 56.1	-2.9
PSMN				*e*S	Sg	05 37 05.4	-3.7
PSMA	**Santa Maria**	**0.83**	**278**	*e*P	Pg	05 36 56.6	-3.3
PSMA				*e*S	Sg	05 37 06.6	-4.1
PSMA				A	A	05 37 11.2	
	135nm,0.2s						
BART	**Pico Bartolome**	**1.23**	**317**	*i* P	Pn	05 37 02.3	-5.0
BART				*e*S	Sb	05 37 16.1	-7.2
GRON	**Grota Negra**	**1.44**	**308**	*e*P	Pn	05 37 04.1	-6.0
GRON				*e*S	Sn	05 37 19.2	-10
GRON				A	A	05 37 22.5	
	26nm,0.1s						
PDA	**Ponta Delgada**	**1.51**	**305**	*e*P	Pn	05 37 06.3	-4.7
PDA				*e*S	Sn	05 37 23.0	-7.7
PDA				A	A	05 37 31.8	
	56nm,0.6s						
PDA	**Ponta Delgada**	**1.51**	**305**	*e*P	Pn	05 37 06.3	-4.7
PDA				*e*S	Sn	05 37 23.0	-7.7
PSET	**Sete Cidades**	**1.59**	**306**	*e*P	Pn	05 37 07.6	-4.6
PSET				*e*S	Sn	05 37 25.6	-7.2
PSET				A	A	05 37 33.7	
	86nm,0.5s						
PSET	**Sete Cidades**	**1.59**	**306**	*e*P	Pn	05 37 07.6	-4.6
PSET				*e*S	Sn	05 37 25.6	-7.2
PICO	**Pico**	**3.79**	**296**	*e*P	Pn	05 37 38.4	-4.0
PICO				*e*S	Sn	05 38 18.4	-8.7
PICO	**Pico**	**3.79**	**296**	*e*P	Pn	05 37 38.4	-4.0
PICO				*e*S	Sn	05 38 18.4	-8.7

WEL 28 05:37:00.3±0.2, 39°.71S×174°.44E, h125km±1km, ML3.6/8, 4C-13D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.25**	**353**	PN	Pn	05 37 17.5	-0.2
LREZ				SN	Sn	05 37 30.1	-0.8
WAZ	**Wanganui**	**0.42**	**97**	PN	Pn	05 37 18.5	+0.1
WAZ				SN	Sn	05 37 31.9	-0.2
PREZ	**Palmer Road**	**0.43**	**329**	PN	Pn	05 37 18.1	-0.4
NEZ	**North Egmont**	**0.51**	**328**	PN	Pn	05 37 18.5	-0.6
NMEZ	**Namu Road**	**0.53**	**304**	PN	Pn	05 37 18.7	-0.2
NMEZ				SN	Sn	05 37 32.1	-0.9
KHEZ	**Kahui Hut**	**0.53**	**321**	PN	Pn	05 37 18.9	-0.2
DREZ	**Durham Road**	**0.55**	**340**	PN	Pn	05 37 19.0	-0.2
NWEZ	**Newall Road**	**0.62**	**314**	PN	Pn	05 37 19.6	0.0
PKE	**Pukeiti**	**0.62**	**325**	PN	Pn	05 37 19.3	-0.4
VRZ	**Vera Road**	**0.63**	**23**	⇑PN	Pn	05 37 19.4	-0.3
MHEZ	**Mangahewa**	**0.64**	**351**	PN	Pn	05 37 19.9	+0.2
PKVZ	**Pokaka**	**0.81**	**60**	⇓PN	Pn	05 37 20.9	-0.3
MTVZ	**Mangateitei**	**0.86**	**68**	PN	Pn	05 37 21.3	-0.3
TRVZ	**Turoa**	**0.95**	**65**	⇓PN	Pn	05 37 22.2	-0.4
DRZ	**Dome Shelter**	**0.97**	**64**	PN	Pn	05 37 22.8	0.0
FWVZ	**Far West T-bar**	**0.97**	**63**	⇓PN	Pn	05 37 22.4	-0.4
WNVZ	**Wahianoa**	**0.97**	**67**	⇓PN	Pn	05 37 22.4	-0.3
WHVZ	**Whangaehu Hut**	**0.98**	**65**	PN	Pn	05 37 22.5	-0.5
WPVZ	**Whakapapa**	**0.99**	**60**	⇓PN	Pn	05 37 22.6	-0.3
COVZ	**Chateau Observ**	**0.99**	**60**	PN	Pn	05 37 22.4	-0.4
TWVZ	**Taurewa**	**1.00**	**51**	⇓PN	Pn	05 37 22.5	-0.4
TUVZ	**Tukino**	**1.03**	**65**	PN	Pn	05 37 23.3	0.0
NGZ	**Ngauruhoe**	**1.04**	**60**	PN	Pn	05 37 23.1	-0.3
MOVZ	**Moawhango**	**1.05**	**74**	⇓PN	Pn	05 37 22.9	-0.5
WTVZ	**West Tongariro**	**1.06**	**57**	PN	Pn	05 37 23.3	-0.3
OTVZ	**Oturere**	**1.09**	**61**	PN	Pn	05 37 23.8	-0.1
KRVZ	**Karewarewa**	**1.11**	**57**	PN	Pn	05 37 23.8	-0.2
DUWZ	**D'Urville Isla**	**1.17**	**200**	PN	Pn	05 37 24.7	+0.2
KIW	**Kapiti Island**	**1.21**	**163**	PN	Pn	05 37 24.7	-0.2
KIW				AML	AML	05 37 41.3	
KIW				AML	AML	05 37 41.6	
TSZ	**Takapari Road**	**1.22**	**107**	PN	Pn	05 37 24.6	-0.4
POWZ	**Post Office Ro**	**1.23**	**124**	PN	Pn	05 37 25.0	-0.1
HIZ	**Hauiti**	**1.23**	**15**	⇑PN	Pn	05 37 25.1	-0.1
OGWZ	**Otaki Gorge**	**1.24**	**154**	PN	Pn	05 37 25.3	+0.1
BHHZ	**Black Hill Sta**	**1.27**	**81**	PN	Pn	05 37 24.8	-0.8
MRZ	**Mangatainoka R**	**1.29**	**138**	PN	Pn	05 37 25.3	-0.5
MRZ				AML	AML	05 37 42.5	
MRZ				AML	AML	05 37 42.8	
PNHZ	**Pukenui**	**1.37**	**99**	PN	Pn	05 37 27.0	+0.4
HOWZ	**Holdsworth Sta**	**1.45**	**146**	PN	Pn	05 37 27.3	-0.2
PRWZ	**Pori Road**	**1.45**	**126**	⇑PN	Pn	05 37 27.6	+0.1
DVHZ	**Dannevirke**	**1.45**	**115

FRU	**Bishkek** baz=356	**1.92 356**	*e*P	Pg	05 38 39.0	+0.3
CHVK	**Chauvay** baz=250	**2.13 249**	*e*P	Pb	05 38 41.1	-0.2
CHVK	baz=250		*e*S	Sg	05 39 10.9	+0.3
KDJ	**Kajisay** baz=55	**2.15 55**	*e*P	Pb	05 38 41.9	+0.2
KDJ	baz=55		*e*S	Sg	05 39 11.5	+0.1
ARK	**Arkit** baz=293	**2.32 293**	*e*P	Pg	05 38 48.8	+2.4

NNC ***28*** *05:39:01.8±3.2, 40.°75N×74.°75E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=23.9km s-min=19.5km az=143.0*

ISC 28 05:39:00.3±3.7, 40.°6N±0.°2×74.°8E±0.°1, h10km, n14, σ1ᵍ52/15, 4C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=11	**1.55**	**12**	P	**Pn**	**05 39 25.6**	**-2.7**
UCH	**Uchtor** SNR=21	**1.68**	**352**	P	**Pn**	**05 39 28.4**	**-1.8**
AML	**Almayashu** SNR=28	**1.78**	**332**	P	**Pn**	**05 39 31.2**	**-0.3**
ULHL	**Ulahol** SNR=15	**1.99**	**32**	P	**Pn**	**05 39 34.8**	**+0.5**
AAK	**Ala-Archa** 23nm,0.4s	**2.08**	**353**	⇓Pn	**Pn**	**05 39 35.4**	**0.0**
AAK	64nm,0.6s			⇑Sn	**Sn**	**05 40 01.8**	**+0.3**
AAK	**Ala-Archa** SNR=36	**2.08**	**353**	P	**Pn**	**05 39 36.0**	**+0.5**
KBK	**Karagaybulak** SNR=17	**2.09**	**3**	P	**Pn**	**05 39 35.9**	**+0.3**
EKS2	**Erkin-Say** SNR=16	**2.24**	**340**	P	**Pn**	**05 39 39.1**	**+1.5**
TKM2	**Tokmak 2** 17nm,0.5s	**2.43**	**14**	⇑Pn	**Pn**	**05 39 41.7**	**+1.5**
TKM2	93nm,0.5s			⇑Sn	**Sn**	**05 40 09.5**	**-0.6**
TKM2	**Tokmak 2** SNR=22	**2.43**	**14**	P	**Pn**	**05 39 41.7**	**+1.5**
CHMS	**Chumysh** SNR=20	**2.43**	**359**	P	**Pn**	**05 39 41.9**	**+1.7**
USP	**Ospenovka** SNR=58	**2.71**	**355**	P	**Pn**	**05 39 46.5**	**+2.5**
KK31	**Karatay Array** 1.1nm,0.3s,baz=130,slow=15,SNR=31	**4.09**	**310**	Pg	**Pb**	**05 40 11.9**	**-0.6**
KK31	7.5nm,0.4s,baz=126,slow=29,SNR=14			Lg	Lg	05 41 05.6	
MK31	**Makanchi Array** 0.4nm,0.3s,baz=63,slow=30,SNR=3.5	**8.25**	**39**	⇑Lg	Lg	05 43 16.7	

IDC ***28*** *05:44:45.6±1.4, 13.°81S×177.°93W, h0km, mb3.9/7, mb1 4.3/7, mb1mx3.9/35, mbtmp3.9/7, MS3.6/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=92.2km s-min=19.5km az=147.0*

ISCJB ***28*** *05:44:49.5±1.2, 13.°7S±0.°5×178.°1W±0.°4, h33km, mb4.0/8, MS3.5/1, Error ellipse: s-maj=88.4km s-min=17.4km az=146.5*

ISC 28 05:44:51.2±1.4, 13.°8S±0.°5×178.°0W±0.°4, h35km, n8, σ1ᵍ18/8, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.6nm,0.4s,baz=72,slow=10,SNR=4.3	**41.11**	**237**	P	**P**	**05 52 33.2**	**+1.2**
STKA	comp=Z,67nm,18.4s,baz=203,slow=37			LR	LR	06 10 16.1	
WRA	**Warramunga Arr** 1.9nm,0.8s,baz=91,slow=7.4,SNR=9.7	**45.93**	**256**	P	**P**	**05 53 09.9**	**-1.1**
ASAR	**Alice Springs** 13nm,0.5s,baz=84,slow=8.3,SNR=193	**46.44**	**250**	P	**P**	**05 53 14.1**	**-0.9**
NVAR	**Mina Array Bea** 0.8nm,0.3s,baz=221,slow=11,SNR=3.5	**76.17**	**44**	P	**P**	**05 56 36.5**	**+0.4**
ILAR	**Eielson Array** 0.6nm,0.5s,baz=217,slow=5.5,SNR=21	**81.77**	**13**	P	**P**	**05 57 07.0**	**+1.1**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=216,slow=6.2,SNR=9.4	**83.44**	**58**	P	**P**	**05 57 15.4**	**-0.2**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=222,slow=2.4,SNR=4.0	**84.07**	**44**	P	**P**	**05 57 17.3**	**-1.4**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=245,slow=4.8,SNR=4.1	**90.41**	**25**	P	**P**	**05 57 48.5**	**-0.1**

ISCJB ***28*** *05:49:39.8±0.9, 41.°37N±0.°05×40.°23E±0.°04, h9km±6km, Error ellipse: s-maj=8.9km s-min=4.2km az=166.5*

ISK ***28*** *05:49:39.2, 41.°38N×40.°18E, h6km, ML3.4*

CSEM ***28*** *05:49:39.6±0.4, 41.°38N×40.°25E, h5km, ML3.4, Error ellipse: s-maj=10.2km s-min=4.4km az=167.0*

DDA ***28*** *05:49:41.2, 41.°24N×40.°36E, h8km, ML3.7*

ISC 28 05:49:39.5±1.3, 41.°31N±0.°03×40.°23E±0.°02, h0km±13km, n42, σ0ᵍ81/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.48**	**227**	PG	**Pb**	**05 49 49.9**	**-0.9**
KTUT	**Trabzon**	**0.48**	**227**	*i* Pg	**Pb**	**05 49 49.9**	**-0.9**
MACK	**Trabzon**	**0.51**	**224**	*i* P	**Pb**	**05 49 52.0**	**+0.7**
MACK				*i* S	**Sb**	**05 49 58.7**	**-0.5**
MACK	**Trabzon**	**0.51**	**224**	*i* P	**Pb**	**05 49 52.0**	**+0.7**
MACK				*i* S	**Sb**	**05 49 58.7**	**-0.5**
BAYT	**Ayd¨–ntepe-Bay**	**0.92**	**184**	*e*PG	**Pg**	**05 49 57.7**	**+0.6**
BAYT	**Ayd¨–ntepe-Bay**	**0.92**	**184**	*e*Pg	**Pg**	**05 49 57.7**	**+0.6**
GUMT	**Gumushane**	**1.03**	**214**	*e*PG	**Pb**	**05 50 00.1**	**-0.1**
GUMT	**Gumushane**	**1.03**	**214**	*e*Pg	**Pb**	**05 50 00.1**	**-0.1**
BCA	**Borcka**	**1.05**	**82**	*e*PN	**Pb**	**05 50 00.3**	**-0.3**
BCA	**Borcka**	**1.05**	**82**	*e*Pn	**Pb**	**05 50 00.3**	**-0.3**
DBOC	**Borcka**	**1.08**	**88**	*i* P	**Pg**	**05 50 00.4**	**+0.2**
DBOC				*i* S	**Sg**	**05 50 14.0**	**-0.2**
DBOC	**Borcka**	**1.08**	**88**	*i* P	**Pg**	**05 50 00.4**	**+0.2**
DBOC				*i* S	**Sg**	**05 50 14.0**	**-0.2**
ESPY	**Espiye-Giresun**	**1.21**	**251**	*e*PN	**Pg**	**05 50 02.4**	**-0.2**
ESPY				*e*SN	**Sg**	**05 50 18.6**	**+0.4**
ESPY	**Espiye-Giresun**	**1.21**	**251**	*e*Pn	**Pg**	**05 50 02.4**	**-0.2**
ESPY				*e*Sn	**Sg**	**05 50 18.6**	**+0.4**
DDEM	**Demirkent**	**1.22**	**110**	*i* P	**Pb**	**05 50 03.3**	**-0.2**
DDEM				*i* S	**Sg**	**05 50 17.1**	**-1.6**
DDEM	**Demirkent**	**1.22**	**110**	*i* P	**Pb**	**05 50 03.3**	**-0.2**
DDEM				*i* S	**Sg**	**05 50 17.1**	**-1.6**
ARTV	**Artvin**	**1.28**	**95**	*i* P	**Pg**	**05 50 04.0**	**-0.1**
ARTV				*i* S	**Sg**	**05 50 19.1**	**-1.7**
ARTV	**Artvin**	**1.28**	**95**	*i* P	**Pg**	**05 50 04.0**	**-0.1**
ARTV				*i* S	**Sg**	**05 50 19.1**	**-1.7**
DAGI	**Agillar**	**1.29**	**100**	*i* P	**Pg**	**05 50 04.1**	**-0.1**
KOPT	**Kop Dagi**	**1.31**	**171**	*e*P	**Pb**	**05 50 05.3**	**+0.2**
KOPT				*e*S	**Sg**	**05 50 21.2**	**-0.3**
KOPT	**Kop Dagi**	**1.31**	**171**	*e*P	**Pb**	**05 50 05.3**	**+0.2**
KOPT				*e*S	**Sg**	**05 50 21.2**	**-0.3**
KELT	**Kelkit**	**1.38**	**213**	*i* P	**Pn**	**05 50 06.2**	**0.0**
KELT				*i* S	**Sg**	**05 50 23.2**	**-0.6**
KELT	**Kelkit**	**1.38**	**213**	*i* P	**Pn**	**05 50 06.2**	**0.0**
KELT				*i* S	**Sg**	**05 50 23.2**	**-0.6**
GRSN	**GIRESUNGRSN**	**1.54**	**256**	*e*P	**Pn**	**05 50 07.6**	**-0.5**
GRSN	**GIRESUNGRSN**	**1.54**	**256**	*e*P	**Pn**	**05 50 07.6**	**-0.5**
EZM	**Erzurum**	**1.65**	**148**	*e*PN	**Pb**	**05 50 10.5**	**-0.4**
EZM				*e*SN	**Sg**	**05 50 33.4**	**+1.0**
ERZM	**Erzurum**	**1.65**	**148**	*e*P	**Pg**	**05 50 12.0**	**+0.9**
ERZM	**Erzurum**	**1.65**	**148**	*e*P	**Pg**	**05 50 12.0**	**+0.9**
EZC	**Erzincan**	**1.70**	**204**	*e*Pn	**Pg**	**05 50 12.3**	**+0.3**
ERZN	**Erzincan**	**1.77**	**193**	*e*PN	**Pb**	**05 50 12.3**	**-0.5**
HOMI	**Horasan**	**1.79**	**134**	*e*P	**Pg**	**05 50 14.2**	**+0.3**
SUSE	**Susehri**	**1.90**	**235**	*e*P	**Pb**	**05 50 14.6**	**-0.4**
SUSE	**Susehri**	**1.90**	**235**	*e*P	**Pb**	**05 50 14.6**	**-0.4**
CHVG	**Ch'k'valeri**	**1.97**	**44**	*e*PN	**Pg**	**05 50 20.1**	**+2.9**
CHVG	**Ch'k'valeri**	**1.97**	**44**	P	**Sn**	**05 50 39.5**	**+0.1**
RSDY	**Resadiye-TOKAT**	**2.39**	**248**	*e*PN	**Pn**	**05 50 19.6**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.39**	**248**	*e*Pn	**Pn**	**05 50 19.6**	**-0.2**
PTK	**Pertek**	**2.50**	**195**	*e*PN	**Pn**	**05 50 23.3**	**+1.7**
PTK	**Pertek**	**2.50**	**195**	*e*Pn	**Pn**	**05 50 23.3**	**+1.7**
ONI	**Oni**	**2.72**	**61**	P	**Pb**	**05 50 28.5**	**-0.5**
SVSK	**Karacayir**	**2.83**	**242**	*e*PN	**Pn**	**05 50 26.1**	**+0.2**
SVSK	**Karacayir**	**2.83**	**242**	*e*Pn	**Pn**	**05 50 26.1**	**+0.2**

IDC ***28*** *07:03:51.6±4.0, 18.°60N×107.°93W, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.6/23, mbtmp3.4/6, ML3.4/3, MS3.3/10, Ms1 3.3/10, ms1mx3.2/14, Error ellipse: s-maj=74.3km s-min=42.9km az=29.0*

ISCJB ***28*** *07:03:59.0±2.7, 19.°0N±0.°2×107.°3W±0.°2, h16km, mb3.2/4, MS3.2/7, Error ellipse: s-maj=44.9km s-min=16.8km az=41.0*

ISC 28 07:04:00.8±3.8, 19.°1N±0.°3×107.°4W±0.°3, h16km, n13, σ1ᵍ10/5, mb3.3/4, MS3.1/7, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=192,slow=15,SNR=4.0	**10.77**	**17**	Pn	**Pn**	**07 06 34.6**	**0.0**
CMIG	**Matias Romero** 0.4nm,0.3s,baz=241,slow=13,SNR=6.6	**12.02**	**97**	Pn	**Pn**	**07 06 51.7**	**+0.1**
CMIG	comp=Z,31nm,20.2s,baz=281,slow=32			LR	LR	07 10 28.5	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=194,slow=12,SNR=2.3	**15.85**	**3**	Pn	**Pn**	**07 07 44.6**	**+1.0**
ANMO	comp=Z,130nm,18.7s,baz=190,slow=36			LR	LR	07 13 36.3	
PFO	**Pinyon Flats O** comp=Z,244nm,20.6s,baz=134,slow=34	**16.62**	**333**	LR	LR	07 13 28.7	
NVAR	**Mina Array Bea** 0.4nm,0.3s,baz=216,slow=4.5,SNR=3.7	**21.53**	**336**	P	**P**	**07 08 49.6**	**0.0**
ELK	**Elko** comp=Z,76nm,20.9s,baz=180,slow=35	**22.66**	**344**	LR	LR	07 17 20.4	
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=168,slow=9.0,SNR=2.9	**23.72**	**356**	P	**P**	**07 09 11.2**	**-1.1**
PDAR	comp=Z,62nm,18.2s,baz=188,slow=36			LR	LR	07 18 09.9	
TKL	**Tuckaleechee C** comp=Z,44nm,18.1s,baz=308,slow=40	**26.58**	**47**	LR	LR	07 21 55.1	
ULM	**Lac du Bonnet** comp=Z,28nm,19.7s,baz=284,slow=38	**32.45**	**14**	LR	LR	07 24 57.1	
YKA	**Yellowknife Ar** 0.4nm,0.9s,baz=173,slow=6.2,SNR=3.2	**43.70**	**355**	P	P	07 12 00.3	-4.5
LPAZ	**La Paz** comp=Z,34nm,19.1s,baz=266,slow=32	**52.17**	**130**	LR	LR	07 31 22.9	
ILAR	**Eielson Array** 0.6nm,0.8s,baz=153,slow=6.1,SNR=8.1	**52.71**	**340**	P	P	07 13 09.3	-5.1
ILAR	comp=Z,32nm,19.9s,baz=156,slow=34			LR	LR	07 34 08.8	
PPT	**Papeete** comp=Z,38nm,18.9s,baz=132,slow=29	**55.19**	**231**	LR	LR	07 30 32.8	

IDC ***28*** *07:12:15.8±0.9, 32.°46N×105.°31E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/29, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=43.2km s-min=18.1km az=59.0*

ISCJB ***28*** *07:12:16.1±0.5, 32.°43N±0.°04×105.°20E±0.°06, h15km, mb3.8/8, Error ellipse: s-maj=8.0km s-min=5.0km az=31.1*

BJI ***28*** *07:12:18.4, 32.°52N×105.°12E, h19km, mB4.3/1, mb4.0/5, ML3.9/21, Ms3.8/4, Ms7 3.4/1*

ISC 28 07:12:18.5±0.6, 32.°55N±0.°04×105.°00E±0.°05, h15km, n28, σ1ᵍ28/35, mb3.8/8, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.94**	**213**	*i* Pn	**Pb**	**07 12 52.5**	**-1.2**
CD2				Pg	**Pg**	**07 12 56.0**	**+0.1**
CD2				Sn	**Sn**	**07 13 16.5**	**+1.2**
CD2				Sg	**Sg**	**07 13 21.5**	**+0.3**
CD2	9μm,0.6s			SMN			
CD2	5μm,0.6s			SME			
XAN	**Xi'an**	**3.61**	**65**	Pn	**Pn**	**07 13 13.0**	**-1.0**
XAN				Pg	**Pb**	**07 13 23.5**	**+1.4**
XAN				Sg	**Sb**	**07 14 03.8**	**-1.9**
XAN	450nm,0.9s			SMN			
XAN	190nm,0.8s			SME			
LZH	**Lanzhou**	**3.66**	**345**	*e*Pn	**Pb**	**07 13 20.8**	**-2.2**
LZH				Pg	**Pg**	**07 13 28.5**	**-0.1**
LZH				Sn	**Sb**	**07 14 06.0**	**-1.2**
LZH				Sg	**Sg**	**07 14 15.0**	**-1.0**
LZH	comp=N,400nm,0.9s			smax	smax		
LZH	comp=E,940nm,1.3s			smax	smax		
LZH	comp=N,920nm,5.7s			LR	LR		
LZH	comp=E,1μm,6.8s			LR	LR		
LZH	comp=Z,760nm,6.4s			LR	LR		
GTA	**Gaotai**	**8.03**	**330**	*e*P	Pn	07 14 18.3	+3.5
GTA				pP	pP	07 14 21.5	
GTA				sP		07 14 24.3	
GTA				S	Sn	07 15 52.3	+6.9
GTA				sS	sS	07 15 57.0	
GTA	comp=Z,4.0nm,1.3s			PMZ			
GTA	comp=Z,300nm,9.0s			LN			
GTA	comp=Z,410nm,9.7s			LE			
GTA	comp=Z,270nm,10.5s			LZ			
WHN	**Wuhan**	**8.23**	**102**	Pg	Pb	07 14 45.8	+5.0
WHN				Sg	Sn	07 15 13.5	-37
WHN	comp=N,130nm,0.8s			smax	smax		
WHN	comp=E,92nm,0.5s			smax	smax		
CMAR	**Chiang Mai Arr** comp=E,0.2nm,0.3s,baz=52,slow=39,SNR=4.8	**15.05**	**203**	Pn	**Pn**	**07 15 48.2**	**-2.6**
SONM	**Songino Array** comp=E,0.0nm,0.3s,baz=184,slow=12,SNR=3.2	**15.30**	**4**	Pn	**Pn**	**07 15 56.1**	**+2.0**
TAPN	**Taplejung** comp=E,33nm,1.1s	**15.85**	**255**	*e*P	**Pn**	**07 16 02.1**	**+0.6**
ODAN	**Odare** comp=E,14nm,0.6s	**16.31**	**254**	*e*P	**Pn**	**07 16 07.9**	**+0.6**
RAMN	**Ramite** comp=E,33nm,1.0s	**16.91**	**256**	*e*P	**Pn**	**07 16 14.9**	**-0.1**
JIRN	**Jiri** comp=E,16nm,0.8s	**16.98**	**258**	*e*P	**Pn**	**07 16 16.7**	**+0.7**
GUN	**Gumba** comp=E,20nm,0.9s	**17.15**	**259**	*e*P	**Pn**	**07 16 18.3**	**+0.2**
WMQ	**Urumqi**	**17.61**	**315**	*e*P	**Pn**	**07 16 23.5**	**0.0**
WMQ				pP	**pP**	**07 16 30.0**	**+1.4**
WMQ	comp=E,10.0nm,0.4s			PMZ			
WMQ	comp=E,67nm,4.9s			PMZ			
PKI	**Pulchoki**	**17.66**	**259**	*e*P	**Pn**	**07 16 24.5**	**+0.1**
PKIN	**Phulchoki** comp=E,9.0nm,0.5s	**17.67**	**259**	*e*P	**Pn**	**07 16 24.6**	**+0.2**
KKN	**Kakani**	**17.69**	**260**	*e*P	**P**	**07 16 25.4**	**-0.1**
DMN	**Daman**	**17.90**	**259**	*e*P	**Pn**	**07 16 27.2**	**-0.1**
GKN	**Gorkha** comp=E,18nm,0.8s	**18.15**	**261**	*e*P	**Pn**	**07 16 30.2**	**-0.1**
KOLN	**Koldanda** comp=E,12nm,0.6s	**19.10**	**261**	*e*P	**Pn**	**07 16 41.6**	**-0.2**
PYUN	**Piuthan** comp=E,22nm,0.6s	**19.50**	**263**	*e*P	**Pn**	**07 16 46.7**	**0.0**
MKAR	**Makanchi Array** comp=E,1.9nm,0.8s,baz=136,slow=7.4,SNR=11	**22.43**	**316**	P	**P**	**07 17 19.6**	**+2.9**
KURBB	**Kurchatov Arra** comp=E,1.4nm,0.8s,baz=136,slow=8.7,SNR=10	**26.57**	**321**	P	**P**	**07 17 58.2**	**+2.3**
ARCES	**ARCESS Array B** comp=E,4.3nm,1.1s,baz=78,slow=8.8,SNR=2.8	**56.26**	**335**	P	**P**	**07 21 58.2**	**+0.3**
BRTR	**Keskin Array B** comp=E,0.4nm,0.5s,baz=89,slow=10,SNR=3.0	**56.70**	**299**	P	**P**	**07 22 03.1**	**+1.5**
WRA	**Warramunga Arr** comp=E,1.4nm,0.7s,baz=339,slow=7.4,SNR=9.6	**59.27**	**148**	P	**P**	**07 22 18.1**	**-1.6**
ASAR	**Alice Springs** comp=E,0.7nm,0.7s,baz=335,slow=5.7,SNR=5.2	**62.34**	**150**	P	**P**	**07 22 39.3**	**-1.2**
GERES	**GERESS Array B** comp=E,0.3nm,0.4s,baz=90,slow=5.9,SNR=3.0	**67.08**	**314**	P	**P**	**07 23 12.1**	**+0.7**
YKA	**Yellowknife Ar** comp=E,0.4nm,0.6s,baz=329,slow=4.8,SNR=5.0	**80.09**	**17**	P	**P**	**07 24 26.3**	**-1.1**

IDC ***28*** *07:26:07.4±15.0, 14.°89S×167.°75E, h78km±128km, mb4.1/10, mb1 4.2/10, mb1mx3.9/21, mbtmp4.4/10, MS3.2/5, Ms1 3.2/5, ms1mx3.0/22, Error ellipse: s-maj=62.8km s-min=47.8km az=107.0*

NEIC ***28*** *07:26:10.5±2.8, 14.°88S×167.°70E, h107km±30km, mb4.6/3, Error ellipse: s-maj=35.6km s-min=12.1km az=157.0*

ISC 28 07:26:12.7±0.7, 14.°82S±0.°08×167.°7E±0.°1, h129km, n39, σ1ᵍ42/36, mb4.3/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**189**	*e*Pn	Pn	07 28 01.4	+4.4
DZM	98nm,0.2s			*e*Sn	**Sn**	**07 29 16.0**	**-2.7**
DZM	**Mont Dzumac**	**7.32**	**189**	*e*P	**Pn**	**07 27 59.6**	**+2.5**
NOUC	**Port Laguerre**	**7.37**	**190**	*e*S	**Sn**	**07 29 21.9**	**+2.0**
HNR	**Honiara** comp=Z,51nm,21.6s,slow=36	**9.31**	**304**	LR	LR	07 31 42.6	
MSVF	**Nonsavu** 71nm,1.8s	**10.32**	**108**	*e*Pn	**Pn**	**07 28 35.5**	**-1.9**
EIDS	**Eidsvold** baz=19,SNR=9.1	**18.82**	**234**	P	**Pn**	**07 30 24.1**	**-0.3**
EIDS	**Eidsvold** 12nm,0.6s	**18.82**	**234**	*e*P	**P**	**07 30 21.9**	**-0.5**
CTA	**Charters Tower** 9.5nm,0.7s,baz=86,slow=11,SNR=9.3	**21.15**	**253**	P	**P**	**07 30 47.6**	**-0.1**
CTAO	**Charters Tower**	**21.15**	**253**	*e*P	**P**	**07 30 46.8**	**-0.8**
RMQ	**Roma** baz=21,SNR=23	**21.18**	**234**	P	**P**	**07 30 49.1**	**+1.1**
ARMA	**Armidale** baz=22,SNR=9.5	**21.46**	**221**	P	**P**	**07 30 52.2**	**+1.3**
ARMA	**Armidale** 26nm,1.0s	**21.46**	**221**	*e*P	**P**	**07 30 50.7**	**-0.2**
MGCD	**Mangrove Creek** baz=24,SNR=4.7	**23.73**	**217**	P	**P**	**07 31 14.5**	**+1.5**
COEN	**Coen** baz=24,SNR=5.6	**23.81**	**269**	P	**P**	**07 31 13.2**	**-0.7**
QLP	**Quilpie** baz=25,SNR=4.0	**24.86**	**238**	P	**P**	**07 31 23.7**	**+0.4**
CMSA	**Cobar Meteorol** baz=26,SNR=5.9	**26.14**	**227**	P	**P**	**07 31 35.0**	**+0.1**
CNB	**Canberra Magne** baz=26,SNR=6.5	**26.25**	**216**	P	**P**	**07 31 37.2**	**+1.3**
STKA	**Stephens Creek** 12nm,0.6s,baz=52,slow=9.0,SNR=30	**29.28**	**230**	P	**P**	**07 32 03.2**	**+0.3**
STKA	comp=Z,52nm,18.1s,baz=46,slow=36			LR	LR	07 43 24.5	
STKA	**Stephens Creek** baz=29,SNR=15	**29.28**	**230**	P	**P**	**07 32 03.4**	**+0.5**
WRAB	**Tennant Creek**	**32.23**	**256**	*e*P	**P**	**07 32 26.4**	**-2.7**
WRA	**Warramunga Arr** 2.4nm,0.6s,baz=85,slow=8.8,SNR=17	**32.24**	**256**	P	**P**	**07 32 27.1**	**-2.1**
AS31	**Alice Springs**	**33.06**	**249**	*e*P	**P**	**07 32 34.4**	**-1.9**
ASAR	**Alice Springs** 4.1nm,0.4s,baz=80,slow=8.7,SNR=65	**33.07**	**249**	P	**P**	**07 32 34.2**	**-2.0**
ASAR				LR	LR	07 44 19.0	
BBOO	**Buckleboo** baz=34,SNR=23	**33.88**	**232**	P	**P**	**07 32 43.2**	**0.0**
KDU	**Kakadu** baz=34,SNR=3.5	**34.30**	**269**	P	**P**	**07 32 46.2**	**-0.8**
GUMO	**Guam** comp=Z,42nm,22.0s,baz=120,slow=34	**36.18**	**320**	LR	LR	07 46 37.4	
KNRA	**Kununurra** baz=37,SNR=9.4	**37.58**	**263**	P	**P**	**07 33 13.2**	**-1.7**
WRKA	**Warakurna** baz=38,SNR=44	**38.33**	**248**	P	**P**	**07 33 19.5**	**-1.7**
WRKA	baz=38,SNR=10			S	S	07 38 49.7	-17
FORT	**Forrest** baz=40,SNR=9.5	**39.64**	**239**	P	**P**	**07 33 31.2**	**-0.8**
FITZ	**Fitzroy Crossi** baz=40,SNR=20	**40.45**	**259**	P	**P**	**07 33 37.5**	**-1.3**
BATI	**Baumata** 19nm,0.5s,baz=135,slow=10.0,SNR=4.1	**43.22**	**271**	P	**P**	**07 34 02.2**	**+0.7**
MEEK	**Meekatharra** baz=47,SNR=16	**47.17**	**247**	P	**P**	**07 34 31.4**	**-1.1**
CMAR	**Chiang Mai Arr** 1.0nm,0.5s,baz=138,slow=5.4,SNR=3.2	**75.40**	**294**	P	**P**	**07 37 44.2**	**+1.4**
SONM	**Songino Array** 0.6nm,0.6s,baz=134,slow=4.3,SNR=4.8	**82.84**	**323**	P	**P**	**07 38 24.0**	**+1.2**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=232,slow=5.4,SNR=5.3	**86.47**	**18**	P	**P**	**07 38 41.7**	**+1.2**
ILAR	comp=Z,22nm,19.0s,baz=241,slow=33			LR	LR	08 13 22.4	
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=124,slow=2.6,SNR=6.4	**97.58**	**316**	P	Pdif	07 39 33.9	+1.4
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=131,slow=5.9,SNR=3.2	**97.73**	**324**	P	**P**	**07 39 32.2**	**-0.6**
ARCES	**ARCESS Array B** 1.6nm,0.7s,baz=60,slow=2.2,SNR=3.9	**120.45**	**346**	PKP	**PKPdf**	**07 44 48.3**	**-0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=34,slow=0.5,SNR=2.5	**166.35**	**265**	PKP	**PKPdf**	**07 46 04.2**	**+0.6**

ISCJB ***28*** *07:59:21.4±0.5, 24.°71N±0.°03×122.°42E±0.°02, h99km±4km, Error ellipse: s-maj=4.9km s-min=2.6km az=164.0*

TAP ***28*** *07:59:21.9, 24.°71N×122.°40E, h96km±1km, ML3.8, D*

JMA ***28*** *07:59:21.0±0.2, 24.°67N×122.°38E, h102km±3km, M2.9*

ISC 28 07:59:21.9±1.4, 24.°69N±0.°04×122.°41E±0.°03, h98km±8km, n48, σ0ᵍ80/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=308	**0.49**	**310**	P	**Pn**	**07 59 37.3**	**-0.1**
TWB1	baz=308			S	**Sn**	**07 59 49.2**	**+0.2**
TWC	**Suao** baz=258	**0.51**	**261**	*i* P	**Pn**	**07 59 37.4**	**-0.1**
TWC	baz=258			*i* S	**Sn**	**07 59 48.7**	**-0.5**
JYNG	**Yonagunijimaku**	**0.55**	**116**	P	**Pn**	**07 59 37.1**	**-0.7**
JYNG				*e*S	**Sn**	**07 59 50.2**	**+0.5**
YOJ	**Yonaguni jima**	**0.60**	**113**	P	**Pn**	**07 59 38.2**	**0.0**
YOJ				*e*S	**Sn**	**07 59 51.2**	**+0.8**
ENA	**Nanau** baz=244	**0.66**	**247**	*i* P	**Pn**	**07 59 39.0**	**+0.3**
ENA	baz=244			S	**Sn**	**07 59 51.9**	**+0.6**
TWE	**Neicheng** baz=270	**0.67**	**272**	P	**Pn**	**07 59 38.9**	**+0.1**
TWE	baz=270			*e*S	**Sn**	**07 59 51.4**	**-0.1**
NWF	**Wu-fen Shan** baz=302	**0.68**	**304**	P	**Pn**	**07 59 38.9**	**-0.2**
NWF	baz=302			*i* S	**Sn**	**07 59 51.6**	**-0.3**
ENTT	**Nioudou** baz=264	**0.77**	**266**	P	**Pn**	**07 59 40.1**	**+0.3**
ENTT	baz=264			*e*S	**Sn**	**07 59 53.7**	**+0.5**
TWA	**Mucha** baz=290	**0.80**	**291**	*e*P	**Pn**	**07 59 39.3**	**-0.7**
TWA	baz=290			*e*S	**Sn**	**07 59 53.1**	**-0.6**
TWY	**Chenhua** baz=307	**0.93**	**309**	*e*P	**Pn**	**07 59 41.6**	**+0.2**
TWY	baz=307			*e*S	**Sn**	**07 59 55.6**	**-0.5**
NSK	**Sanguang** baz=268	**0.95**	**269**	*i* P	**Pn**	**07 59 41.9**	**+0.1**
NSK	baz=268			S	**Sn**	**07 59 56.5**	**-0.1**
TWD	**Chiawan** baz=229	**0.96**	**231**	*e*P	**Pn**	**07 59 41.4**	**-0.3**
TWD	baz=229			S	**Sn**	**07 59 56.5**	**-0.1**
NNS	**Nan Shan** baz=253	**0.97**	**255**	*e*P	**Pn**	**07 59 42.2**	**+0.2**
NNS	baz=253			*e*S	**Sn**	**07 59 57.0**	**-0.1**
PCYT	**Pengchaiyu** baz=342	**0.98**	**342**	*e*P	**Pn**	**07 59 42.5**	**+0.5**
PCYT	baz=342			*e*S	**Sn**	**07 59 56.9**	**-0.1**
HWA	**Hwalien** baz=224	**1.02**	**226**

HATJ	**Hateruma jima**	**1.42**	**116**	P	**Pn**	07 59 47.2	+0.1
HATJ				eS	**Sn**	08 00 06.6	+0.4
TWQ1	**Liyutan**	**1.53**	**257**	eP	**Pn**	07 59 48.3	-0.1
	baz=256						
TWQ1				eS	**Sn**	08 00 08.2	-0.2
	baz=256						
JKRS	**Kuro-shima**	**1.53**	**107**	P	**Pn**	07 59 48.7	+0.3
JKRS				eS	**Sn**	08 00 09.0	+0.5
EHY	**Hungye**	**1.54**	**220**	eP	**Pn**	07 59 47.7	-0.9
	baz=219						
EHY				eS	**Sn**	08 00 08.4	-0.4
	baz=219						
SMLT	**Sun Moon Lake**	**1.59**	**240**	P	**Pn**	07 59 50.5	+1.2
	baz=238						
SMLT				eS	**Sn**	08 00 12.1	+2.0
	baz=238						
JIJ	**Ishigaki jima**	**1.61**	**101**	P	**Pn**	07 59 49.4	-0.1
JIJ				eS	**Sn**	08 00 09.6	-0.8
TYC	**Yuchr**	**1.62**	**241**	eP	**Pn**	07 59 50.4	+0.9
	baz=240						
TYC				eS	**Sn**	08 00 11.3	+0.8
	baz=240						
TWF1	**Yuli**	**1.68**	**217**	eP	**Pn**	07 59 49.9	-0.4
	baz=216						
TWF1				eS	**Sn**	08 00 10.2	-1.7
	baz=216						
JISG	**Ishigakijimahi**	**1.74**	**93**	P	**Pn**	07 59 51.1	+0.1
JISG				eS	**Sn**	08 00 12.7	-0.4
YUS	**Yu-Shan**	**1.79**	**228**	eP	**Pn**	07 59 53.3	+1.2
	baz=227						
YUS				eS	**Sn**	08 00 15.2	+0.1
	baz=227						
CHKT	**Chengkung**	**1.85**	**211**	eP	**Pn**	07 59 53.7	+1.3
	baz=210						
CHKT				eS	**Sn**	08 00 14.0	-1.7
	baz=210						
ALS	**Alishan**	**1.88**	**231**	eP	**Pn**	07 59 54.0	+0.9
	baz=230						
ALS				eS	**Sn**	08 00 17.7	+0.9
	baz=230						
CHN5	**Tsauling**	**1.92**	**236**	eP	**Pn**	07 59 54.1	+0.7
	baz=234						
CHN5				eS	**Sn**	08 00 18.5	+1.0
	baz=234						
ELDTW	**Lidau**	**1.96**	**221**	eP	**Pn**	07 59 53.9	-0.1
	baz=219						
ELDTW				eS	**Sn**	08 00 18.1	-0.5
	baz=219						
JTJ	**Tarama**	**2.09**	**91**	P	**Pn**	07 59 56.0	+0.5
JTJ				eS	**Sn**	08 00 21.3	+0.1
CHN4	**Tsaushan**	**2.13**	**232**	eP	**Pn**	07 59 56.6	+0.5
	baz=230						
CHN4				eS	**Sn**	08 00 23.7	+1.5
	baz=230						
STYT	**Tauyuan**	**2.15**	**225**	P	**Pn**	07 59 57.4	+1.1
	baz=224						
STYT				eS	**Sn**	08 00 24.1	+1.4
	baz=224						
WTP	**Ta-pu**	**2.18**	**229**	eP	**Pn**	07 59 57.0	+0.2
	baz=228						
WTP				eS	**Sn**	08 00 24.7	+1.1
	baz=228						
TWG	**Pinlang**	**2.23**	**214**	eP	**Pn**	07 59 56.2	-1.2
	baz=212						
TWG				eS	**Sn**	08 00 22.9	-1.6
	baz=212						
TWK	**Hsinying**	**2.26**	**231**	eP	**Pn**	07 59 58.0	+0.2
	baz=230						
TWK				eS	**Sn**	08 00 26.0	+0.7
	baz=230						
CHN1	**Nanshi**	**2.28**	**229**	eP	**Pn**	07 59 58.4	+0.3
	baz=228						
CHN1				eS	**Sn**	08 00 26.2	+0.4
	baz=228						
SGST	**Jiashian**	**2.31**	**227**	eP	**Pn**	07 59 59.3	+0.8
	baz=225						
SGST				eS	**Sn**	08 00 27.8	+1.2
	baz=225						
JIRB	**Irabujima**	**2.52**	**86**	eS	**Sn**	08 00 30.3	-1.0
SSD	**Sandimen**	**2.53**	**220**	eP	**Pn**	08 00 01.9	+0.5
	baz=219						
SSD				eS	**Sn**	08 00 33.2	+1.5
	baz=219						
JIKM	**Ikemajima**	**2.59**	**84**	eS	**Sn**	08 00 33.2	+0.1
EAST	**Anshuo**	**2.71**	**212**	eP	**Pn**	08 00 03.0	-0.8
	baz=211						
EAST				eS	**Sn**	08 00 34.7	-1.2
	baz=211						
PNG	**Penghu**	**2.84**	**247**	eP	**Pn**	08 00 04.0	-1.4
	baz=246						
PNG				eS	**Sn**	08 00 36.3	-2.6
	baz=246						
JKE	**Kume jima 2**	**4.28**	**67**	P	**Pn**	08 00 24.9	+0.1

MAN 28 08:10:27.8±3.43N×122.02E.8, h235km±3km, mb4.1, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIL	**Ipil**	**0.83**	**139**	eP	Pn	08 11 00.1	+0.5
DCPH	**Dipolog City**	**1.32**	**83**⇓	eP	Pn	08 11 00.1	-2.5
PAGZ	**Pagadian**	**1.46**	**113**	eP	Pn	08 11 06.3	+2.7
PAGZ				eS	S	08 11 36.9	+4.7
CUYO	**Cuyo Island**	**2.61**	**338**	eP	Pn	08 11 15.4	+1.1
RCP	**Roxas**	**3.19**	**13**⇑	eP	Pn	08 11 24.3	+3.5
RCP				eS	S	08 12 01.0	-2.2

*GUC **28** 08:13:08.9±0.8, 35°.22S×72°.17W, h38km±6km, ML4.3*
*ISCJB **28** 08:13:09.4±0.7, 35°.27S±0°.06×72°.1W±0°.1, h51km±8km, mb3.8/4, Error ellipse: s-maj=17.3km s-min=5.6km az=27.3*
*IDC **28** 08:13:11.8±3.1, 35°.28S×72°.12W, h59km±27km, mb3.6/4, mb1 3.6/7, mb1mx3.5/22, mbtmp3.7/7, ML3.6/3, MS2.9/2, Ms1 3.0/2, ms1mx2.7/17, Error ellipse: s-maj=38.3km s-min=17.0km az=108.0*
*SJA **28** 08:13:34.6±1.1, 33°.86S×70°.53W, h115km±28km, ML3.0*
ISC 28 08:13:10.8±1.0, 35°29S±0°.06×72°.10W±0°.09, h46km±10km, n26, σ1°8/33, mb3.9/4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.39**	**105**	eP	**Pn**	**08 13 19.0**	**-1.5**
TALC				eS	**Sn**	**08 13 26.4**	**-1.0**
NICH	**Los Niches**	**0.77**	**68**⇓	iP	**Pn**	**08 13 24.2**	**-1.1**
NICH				eS	**Sn**	**08 13 35.7**	**-0.1**
CCSP	**San Pedro de C**	**1.75**	**208**	eP	**Pn**	**08 13 38.0**	**-0.6**
CCSP				eS	**Sn**	**08 14 01.0**	**+1.3**
LACH	**Col Las Americ**	**2.25**	**36**	eP	**Pn**	**08 13 44.4**	**-1.1**
LACH				eS	**Sn**	**08 14 11.8**	**-0.3**
CLCH	**Cerro Calan**	**2.29**	**35**⇑	eP	**Pn**	**08 13 45.1**	**-1.1**
CLCH				eS	**Sn**	**08 14 12.7**	**-0.6**
CLCH				AML	AML	08 14 30.1	
	comp=E,3μm,0.8s						
YECH	**El Yeso**	**2.33**	**46**	eP	**Pn**	**08 13 46.8**	**0.0**
PEL	**Peldehue**	**2.44**	**29**	eP	**Pn**	**08 13 47.4**	**-0.9**
PEL				eS	**Sn**	**08 14 17.4**	**+0.5**
ROCH	**El Roble**	**2.49**	**22**	eP	**Pn**	**08 13 47.6**	**-1.3**
ROCH				AML	AML	08 14 27.0	
	comp=N,2μm,0.4s						
AAGR	**Agrelo**	**3.49**	**52**	eP	**Pn**	**08 14 03.6**	**+0.9**
AAGR				eS	Sn	08 14 26.2	-17
ARCO	**CERRO ARCO**	**3.59**	**48**	eP4	**Pn**	**08 14 05.2**	**+1.1**
ARCO				AML	AML	08 14 28.5	
	comp=Z,124nm,0.3s						
AUSP	**Uspallata**	**3.81**	**37**	eP	**Pn**	**08 14 08.4**	**+1.2**
ASAL	**Salagasta**	**3.83**	**46**	eP	**Pn**	**08 14 08.6**	**+1.4**
RTLS	**Leoncito**	**4.20**	**35**	eP	**Pn**	**08 14 13.3**	**+0.8**
RTCV	**Cerro Valdivia**	**4.53**	**42**	eP	**Pn**	**08 14 16.8**	**-0.1**
CFAA	**Coronel Fontan**	**4.89**	**42**	P	**Pn**	**08 14 21.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=218,slow=14,SNR=36						
CFAA				S	**Sn**	**08 15 19.7**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=24,slow=6.4,SNR=2.5						
CFAA				LR	LR	08 16 21.4	
	comp=Z,17nm,19.5s,baz=236,slow=39						
CFAA	**Coronel Fontan**	**4.89**	**42**	eP	**Pn**	**08 14 21.6**	**-0.3**
RTLL	**Cerro Villicun**	**4.98**	**38**	eP	**Pn**	**08 14 22.7**	**-0.4**
ACAN	**Cantantal**	**5.08**	**55**	eP	**Pn**	**08 14 25.0**	**+0.6**
AMOG	**MOGNA**	**5.29**	**36**	eP	**Pn**	**08 14 26.4**	**-1.0**
PLCA	**Paso Flores**	**5.56**	**168**	P	**Pn**	**08 14 31.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=342,slow=12,SNR=5.7						
CPUP	**Villa Florida**	**15.50**	**59**	LR	LR	08 23 11.8	
	comp=Z,384nm,22.0s,baz=216,slow=39						
LPAZ	**La Paz**	**19.26**	**12**	P	**P**	**08 17 32.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=181,slow=7.7,SNR=8.5						
QSPA	**South Pole Qui**	**54.95**	**180**	P	**P**	**08 22 37.2**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=209,slow=1.7,SNR=5.2						
TXAR	**Lajitas Array**	**70.84**	**331**	P	**P**	**08 24 22.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=150,slow=9.3,SNR=3.7						
DBIC	**Dimbokro**	**75.64**	**71**	P	**P**	**08 24 50.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=204,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.70**	**70**	P	**P**	**08 25 39.0**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=256,slow=5.1,SNR=11						
TORD				pP	**pP**	**08 25 56.0**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=284,slow=4.7,SNR=5.9						

*ISCJB **28** 08:52:36.5±0.5, 3°.87N±0°.05×99°.10E±0°.06, h200km, mb3.6/11, Error ellipse: s-maj=8.7km s-min=7.0km az=4.2*
*KLM **28** 08:52:38.5, 3°.65N×99°.15E, h224km, mb3.9, ML3.1*
*IDC **28** 08:52:38.1±0.4, 3°.48N×99°.05E, h226km±6km, mb3.5/11, mb1 3.6/12, mb1mx3.4/43, mbtmp4.1/12, Error ellipse: s-maj=32.8km s-min=10.3km az=55.0*
*DJA **28** 08:52:40.6±0.5, 4°.N±4°×9°.9E±°, h191km±5km, M3.8/9, MLv3.8/9*
ISC 28 08:52:36.5±0.6, 3°.69N±0°.06×99°.19E±0°.06, h200km, n28, σ2°.45/31, mb3.7/11, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.65**	**253**	P	**Pn**	**08 53 06.4**	**+2.2**
TSI				S	**Sn**	**08 53 28.3**	**+2.7**
PSI	**Prapat**	**0.92**	**197**	P	Pn	08 53 10.8	+4.8
	23nm,0.3s,baz=323,slow=5.1,SNR=63						
PSI				S	**Sn**	**08 53 34.8**	**+6.0**
	16nm,0.3s,baz=335,slow=19,SNR=63						
IPM	**Ipoh**	**1.99**	**67**⇓	P	Pn	08 53 19.7	+4.8
KULM	**Kulim**	**2.15**	**42**⇓	P	Pn	08 53 20.9	+4.2
FRIM	**Kepong**	**2.47**	**100**⇑	P	Pn	08 53 24.0	+3.9
LHMI	**Lhok Sumawe**	**2.71**	**304**	P	**Pn**	**08 53 25.7**	**+2.9**
LHMI	**Lhok Sumawe**	**2.71**	**304**	P	Pn	08 53 27.6	+4.8
	baz=2.7,SNR=7.5						
GSI	**Gunungsitoli**	**2.87**	**214**	P	**Pn**	**08 53 26.5**	**+1.9**
GSI				S	**Sn**	**08 54 03.0**	**+0.7**
MNSI	**Mandailing Nat**	**2.90**	**172**	P	**Pn**	**08 53 27.5**	**+2.5**
MNSI				S	**Sn**	**08 54 06.5**	**+3.5**
SNSI	**Sinabang, Aceh**	**3.13**	**246**	P	**Pn**	**08 53 30.4**	**+2.7**
SNSI				S	**Sn**	**08 54 08.3**	**+0.6**
BKNI	**Bangkinang**	**3.82**	**151**	P	**Pn**	**08 53 39.0**	**+2.9**
KGM	**Kluang**	**4.45**	**112**⇑	P	Pn	08 53 47.1	+3.2
CMAR	**Chiang Mai Arr**	**14.68**	**359**	P	**P**	**08 55 58.8**	**+2.8**
	baz=192,slow=12,SNR=7.5						
FITZ	**Fitzroy Crossi**	**33.89**	**131**	P	**P**	**08 58 59.2**	**-1.4**
	baz=34,SNR=4.1						
WRKA	**Warakurna**	**40.18**	**137**	P	**P**	**08 59 52.2**	**-1.4**
	baz=41,SNR=4.1						
WRA	**Warramunga Arr**	**41.76**	**126**	P	**P**	**09 00 05.2**	**-1.3**
	0.6nm,0.5s,baz=306,slow=9.5,SNR=21						
WRA				PcP	**PcP**	**09 01 57.3**	**-1.7**
	0.2nm,0.5s,baz=315,slow=2.6,SNR=4.6						
WRA				ScP	**ScP**	**09 05 26.0**	**-4.3**
	1.3nm,0.7s,baz=313,slow=3.6,SNR=7.9						
ASAR	**Alice Springs**	**43.39**	**131**	P	**P**	**09 00 18.4**	**-1.3**
	1.5nm,0.4s,baz=300,slow=7.8,SNR=40						
ASAR				ScP	**ScP**	**09 05 32.7**	**-4.2**
	0.7nm,0.8s,baz=318,slow=5.1,SNR=6.3						
SONM	**Songino Array**	**44.41**	**7**	P	**P**	**09 00 28.2**	**+0.7**
	0.4nm,0.3s,baz=193,slow=8.6,SNR=3.0						
AAK	**Ala-Archa**	**44.58**	**334**	P	**P**	**09 00 29.6**	**+0.6**
	1.6nm,0.6s,baz=169,slow=9.6,SNR=4.9						
MKAR	**Makanchi Array**	**45.37**	**344**	P	**P**	**09 00 34.9**	**-0.1**
	1.4nm,0.4s,baz=153,slow=8.8,SNR=33						
QIS	**Mount Isa**	**46.39**	**123**	P	**P**	**09 00 42.6**	**-0.7**
	baz=47,SNR=5.8						
GEYT	**Alibeck**	**50.65**	**318**	P	**P**	**09 01 15.1**	**-0.4**
	1.1nm,0.4s,baz=139,slow=7.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**51.47**	**349**	P	**P**	**09 01 21.2**	**0.0**
	2.7nm,0.4s,baz=169,slow=7.1,SNR=12						
STKA	**Stephens Creek**	**53.60**	**135**	P	**P**	**09 01 35.9**	**-1.5**
	5.3nm,1.1s,baz=318,slow=8.0,SNR=5.1						
STKA	**Stephens Creek**	**53.60**	**135**	P	**P**	**09 01 36.4**	**-1.0**
	baz=54,SNR=4.0						
BRTR	**Keskin Array B**	**68.95**	**311**	P	**P**	**09 03 19.1**	**-1.2**
	1.2nm,0.7s,baz=126,slow=6.0,SNR=6.6						
FINES	**FINESS Array B**	**78.74**	**332**	P	**P**	**09 04 15.5**	**-1.0**
	1.7nm,0.8s,baz=190,slow=5.6,SNR=3.5						
GERES	**GERESS Array B**	**84.27**	**319**	P	**P**	**09 04 45.1**	**-0.9**
	0.4nm,0.4s,baz=108,slow=3.2,SNR=1.9						

IDC 28 08:55:30.8±1.9, 21°.87S×175°.11W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/20, mbtmp3.6/3, Error ellipse: s-maj=52.1km s-min=45.3km az=66.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.85**	**258**	P	P	09 04 02.9	0.0
	0.6nm,0.9s,baz=96,slow=6.6,SNR=5.7						
WRA	**Warramunga Arr**	**47.09**	**263**	P	P	09 04 04.5	-0.3
	0.6nm,0.7s,baz=102,slow=7.8,SNR=6.5						
VNDA	**Vanda**	**56.81**	**186**	P	P	09 05 16.4	-0.1
	0.8nm,0.7s,baz=3.7,slow=8.7,SNR=5.0						
AKASG	**Malin Array Be**	**145.49**	**332**	PKPbc	PKPdf	09 15 09.8	-0.9
	0.6nm,0.5s,baz=37,slow=4.1,SNR=4.3						
BRTR	**Keskin Array B**	**149.75**	**313**	PKPbc	PKPbc	09 15 22.7	-0.4
	0.5nm,0.5s,baz=57,slow=5.3,SNR=4.1						

IDC 28 09:01:11.3±1.0, 56°.53S×26°.81W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/14, mbtmp3.5/3, Error ellipse: s-maj=38.9km s-min=30.6km az=57.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**37.28**	**311**	P	P	09 08 23.5	-1.3
	0.4nm,0.9s,baz=143,slow=15,SNR=3.4						
VNDA	**Vanda**	**46.11**	**183**	P	P	09 09 37.2	+0.8
	0.4nm,0.7s,baz=180,slow=5.1,SNR=3.5						
H10S2	**ASCENSION HYDR**	**48.40**	**16**	T	T	10 02 37.2	
	baz=189,slow=75,SNR=4.9						
H10S3	**ASCENSION HYDR**	**48.40**	**16**	T	T	10 02 37.8	
	baz=189,slow=75,SNR=4.5						
H10S1	**ASCENSION HYDR**	**48.42**	**16**	T	T	10 02 37.2	
	baz=189,slow=75,SNR=5.0						
LPAZ	**La Paz**	**50.82**	**305**	P	P	09 10 15.5	+1.3
	7.1nm,0.4s,baz=146,slow=4.1,SNR=68						
LPAZ				PcP	PcP	09 11 30.5	-0.5
	1.3nm,0.8s,baz=166,slow=4.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**73.37**	**29**	P	P	09 12 45.7	+0.9
	0.4nm,0.3s,baz=204,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**136.66**	**317**	PKP	PKPdf	09 20 32.3	-1.5
	0.2nm,0.4s,baz=131,slow=2.5,SNR=5.2						
INK	**Inuvik**	**146.30**	**320**	PKPbc	PKPdf	09 20 50.9	0.0
	2.2nm,0.7s,baz=101,slow=3.1,SNR=9.5						
SONM	**Songino Array**	**150.54**	**87**	PKPbc	PKPbc	09 21 02.8	-1.3
	0.7nm,0.4s,baz=232,slow=4.0,SNR=4.0						
ILAR	**Eielson Array**	**150.59**	**311**	PKPbc	PKPbc	09 21 02.4	-1.1
	1.6nm,0.8s,baz=107,slow=1.4,SNR=16						

*IDC **28** 09:08:02.2±0.7, 22°.92N×144°.10E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.8/30, mbtmp3.8/13, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/43, Error ellipse: s-maj=29.9km s-min=15.3km az=88.0*
*ISCJB **28** 09:08:05.1±0.6, 22°.94N±0°.07×144°.1E±0°.2, h34km, mb3.7/11, MS3.1/2, Error ellipse: s-maj=26.2km s-min=9.8km az=170.1*
ISC 28 09:08:07.2±0.7, 22°.96N±0°.09×144°.0E±0°.2, h34km, n23, σ0°.98/16, mb3.7/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.44**	**338**	Pn	**Pn**	**09 09 12.2**	**0.0**
	7.4nm,0.3s,baz=143,slow=20,SNR=3.2						
JCJ				Sn	**Sn**	**09 10 00.4**	**-2.4**
	14nm,0.3s,baz=270,slow=20,SNR=3.6						
MJAR	**Matsushiro Arr**	**14.44**	**341**	Pn	**Pn**	**09 11 29.7**	**+0.5**
	0.3nm,0.3s,baz=105,slow=14.4,SNR=5.3						
MJAR				LR	LR	09 17 11.5	
	comp=Z,53nm,18.6s,baz=135,slow=38						
ASAJ	**Asahikawa**	**21.13**	**357**	LR	LR	09 20 25.6	
	comp=Z,24nm,21.5s,baz=179,slow=35						
H11N1	**WAKE ISLAND Hy 21.53**	**94**		T	T	09 35 04.5	
	baz=283,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hy 21.53**	**94**		T	T	09 35 04.8	
	baz=283,slow=74,SNR=21						
H11N3	**WAKE ISLAND Hy 21.55**	**94**		T	T	09 35 04.8	
	baz=283,slow=74,SNR=21						
H11S3	**WAKE ISLAND Hy 21.64**	**98**		T	T	09 35 18.9	
	baz=281						
H11S1	**WAKE ISLAND Hy 21.65**	**98**		T	T	09 35 17.7	
	baz=281						
H11S2	**WAKE ISLAND Hy 21.66**	**98**		T	T	09 35 18.3	
	baz=281						
SONM	**Songino Array**	**38.88**	**319**	P	**P**	**09 15 31.4**	**+1.9**
	0.2nm,0.3s,baz=115,slow=6.8,SNR=2.5						
CTA	**Charters Tower**	**42.84**	**177**	P	**P**	**09 16 01.7**	**-0.5**
	1.1nm,0.5s,baz=354,slow=9.2,SNR=3.4						
WRA	**Warramunga Arr**	**43.68**	**193**	P	**P**	**09 16 08.6**	**-0.4**
	0.3nm,0.3s,baz=16,slow=9.0,SNR=17						
ASAR	**Alice Springs**	**47.38**	**193**	P	**P**	**09 16 37.9**	**-0.4**
	0.3nm,0.6s,baz=19,slow=9.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**53.72**	**321**	P	**P**	**09 17 25.2**	**-0.6**
	0.3nm,0.3s,baz=95,slow=9.0,SNR=2.0						
MKAR	**Makanchi Array**	**54.43**	**312**	P	**P**	**09 17 32.1**	**+1.0**
	0.3nm,0.6s,baz=93,slow=5.8,SNR=5.0						
STKA	**Stephens Creek**	**54.58**	**183**	P	**P**	**09 17 31.6**	**-0.6**
	1.4nm,0.5s,baz=12,slow=8.4,SNR=4.2						
ILAR	**Eielson Array**	**60.56**	**27**	P	**P**	**09 18 14.1**	**+0.1**
	1.0nm,0.7s,baz=257,slow=5.6,SNR=14						
INK	**Inuvik**	**66.10**	**24**	P	**P**	**09 18 51.2**	**+0.7**
	2.0nm,0.9s,baz=284,slow=4.9,SNR=7.3						
YKA	**Yellowknife Ar**	**74.97**	**28**	P	**P**	**09 19 44.3**	**-0.4**
	0.6nm,0.7s,baz=295,slow=5.7,SNR=6.2						
FINES	**FINESS Array B**	**82.38**	**335**	P	**P**	**09 20 25.2**	**-0.3**
	2.0nm,0.9s,baz=68,slow=5.2,SNR=4.3						
PDAR	**Pinedale Array**	**85.95**	**45**	LR	LR	09 54 04.5	
	comp=Z,24nm,20.4s,baz=13,slow=32						
PLCA	**Paso Flores**	**145.98**	**130**	PKPbc	**PKPab**	**09 27 44.5**	**+0.3**
	1.6nm,0.9s,baz=233,slow=5.1,SNR=3.6						
LPAZ	**La Paz**	**149.03**	**83**	PKPbc	**PKPbc**	**09 27 53.8**	**+0.5**
	1.9nm,0.7s,baz=283,slow=3.4,SNR=11						

MAN 28 09:08:10.9±1.31N×125°.56E.8, h3km, mb4.7, ML3.6, MS3.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.34**	**170**	eP	Pg	09 08 17.7	+1.1
BUTP				eS	Sb	09 08 24.2	-0.4
SCPH	**Surigao**	**0.48**	**351**⇑	eP	Pb	09 08 21.8	+0.8
SCPH				eS	Sb	09 08 29.9	+1.4
MSLP	**Maasin**	**1.07**	**320**	eP	Pg	09 08 30.9	+0.2
MSLP				eS	Sn	09 08 47.3	-0.1
BUKP	**Musuan**	**1.50**	**199**	eP	Pn	09 08 37.9	0.0
BUKP				eS	Sn	09 08 56.8	-1.3
PLP	**Palo**	**1.93**	**343**⇓	eP	Pb	09 08 45.4	-0.5
PLP				eS	Sb	09 09 11.2	+0.8
DCPH	**Dipolog City**	**2.30**	**252**	eP	Pb	09 08 51.0	-1.1
PAGZ	**Pagadian**	**2.60**	**236**	eP	Pn	09 08 53.8	+0.8

WEL 28 09:17:25.2±0.4, 39°.30S×174°.74E, h204km±3km, ML3.5/5, 13C-3D, Error ellipse: s-maj=1.9km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRZ	**Vera Road**	**0.17**	**4**⇑	PN	Pn	09 17 51.1	-1.0
LREZ	**Lake Rotokare**	**0.31**	**238**	PN	Pn	09 17 52.3	0.0
PREZ	**Palmer Road**	**0.46**	**264**	PN	Pn	09 17 52.5	-0.2
PKVZ	**Pokaka**	**0.47**	**89**⇑	PN	Pn	09 17 52.5	-0.3
WAZ	**Wanganui**	**0.50**	**158**⇑	PN	Pn	09 17 53.3	+0.5
WAZ				SN	S	09 18 15.2	+0.7
NEZ	**North Egmont**	**0.50**	**273**	PN	Pn	09 17 52.8	-0.2
KHEZ	**Kahui Hut**	**0.56**	**270**	PN	Pn	09 17 53.0	-0.2
MTVZ	**Mangateitei**	**0.57**	**99**	PN	Pn	09 17 53.0	-0.2
MTVZ				SN	S	09 18 14.7	-0.2
TWVZ	**Taurewa**	**0.58**	**68**	PN	Pn	09 17 52.7	-0.7
TWVZ				SN	S	09 18 14.5	-0.5
TRVZ	**Turoa**	**0.62**	**91**⇑	PN	Pn	09 17 53.4	-0.2
TRVZ				SN	S	09 18 14.8	-0.8
COVZ	**Chateau Observ**	**0.63**	**81**⇑	PN	Pn	09 17 53.1	-0.4
FWVZ	**Far West T-bar**	**0.63**	**87**	PN	Pn	09 17 53.3	-0.3
FWVZ				SN	S	09 18 13.2	-2.5
WPVZ	**Whakapapa**	**0.63**	**82**⇑	PN	Pn	09 17 53.2	-0.3
WNVZ	**Wahianoa**	**0.67**	**93**	PN	Pn	09 17 53.6	-0.2
WNVZ				SN	S	09 18 15.0	-0.7
WTVZ	**West Tongariro**	**0.68**	**75**⇑	PN	Pn	09 17 53.4	-0.4
TUVZ	**Tukino**	**0.71**	**88**	PN	Pn	09 17 53.8	-0.1
MOVZ	**Moawhango**	**0.79**	**98**⇑	PN	Pn	09 17 53.8	-0.5
BHHZ	**Black Hill Sta**	**1.04**	**101**	PN	Pn	09 17 55.3	-0.5
BHHZ				SN	S	09 18 17.9	-1.4
TSZ	**Takapari Road**	**1.21**	**129**	PN	Pn	09 17 57.2	+0.3
TSZ				AML	AML	09 18 22.4	
TSZ				AML	AML	09 18 23.1	
PNHZ	**Pukenui**	**1.28**	**119**	PN	Pn	09 17 57.6	+0.1
KRHZ	**Kereru**	**1.31**	**106**	PN	Pn	09 17 57.7	0.0
BKZ	**Black Stump Fm**	**1.36**	**85**	PN	Pn	09 17 57.4	-0.8
BKZ				AML	AML	09 18 21.9	
**DVHZ

JAMN				*e*S		**Sn**	**09 27 03.8**	**-0.5**
JIH	**Iheya**	**1.25**	**172**	P		**Pn**	**09 26 43.4**	**+0.6**
JIH				*e*S		**Sn**	**09 27 04.4**	**-0.4**
JOW	**Kunigami**	**1.51**	**163**	P		**Pn**	**09 26 45.8**	**+0.6**
JOW				*e*S		**Sn**	**09 27 08.6**	**-0.6**
JTAJ	**Takarajima**	**1.52**	**55**	P		**Pn**	**09 26 45.9**	**+0.7**
JAM	**Amami Oshima**	**1.61**	**85**	P		**Pn**	**09 26 46.2**	**0.0**
JAM				*e*S		**Sn**	**09 27 10.5**	**-0.4**
JAGN	**Aguni-jima**	**1.75**	**196**	P		**Pn**	**09 26 48.1**	**+0.4**
JAGN				*e*S		**Sn**	**09 27 13.6**	**0.0**
JNTH	**Nagotoyohara**	**1.77**	**173**	P		**Pn**	**09 26 48.6**	**+0.7**
JNTH				*e*S		**Sn**	**09 27 13.2**	**-0.7**
JZK	**Kikaishima**	**1.93**	**89**	P		**Pn**	**09 26 51.0**	**+1.4**
JZK				*e*S		**Sn**	**09 27 17.8**	**+0.8**
JJT2	**Tamagusuku 2**	**2.14**	**181**	P		**Pn**	**09 26 53.0**	**+1.1**
JJT2				*e*S		**Sn**	**09 27 21.3**	**+0.1**
JKE	**Kume jima 2**	**2.14**	**205**	P		**Pn**	**09 26 52.2**	**+0.2**
JKE				*e*S		**Sn**	**09 27 20.0**	**-1.2**
JMZ	**Minamidaito 2**	**3.93**	**128**	P		**Pn**	**09 27 14.4**	**+0.4**
JMZ				*e*S		**Sn**	**09 27 58.3**	**-2.3**
SONM	**Songino Array**	**25.63**	**325**	P		**P**	**09 31 28.1**	**-0.1**
	1.0nm,0.8s,baz=141,slow=9.3,SNR=3.8							
MKAR	**Makanchi Array**	**39.89**	**310**	P		**P**	**09 33 31.0**	**-0.5**
	0.2nm,0.4s,baz=92,slow=9.7,SNR=3.9							
WRA	**Warramunga Arr**	**48.36**	**172**	P		**P**	**09 34 39.0**	**0.0**
	0.7nm,0.4s,baz=354,slow=8.6,SNR=20							
ASAR	**Alice Springs**	**51.98**	**173**	P		**P**	**09 35 08.0**	**+1.7**
	0.3nm,0.6s,baz=2.2,slow=15,SNR=9.6							
YKA	**Yellowknife Ar**	**76.84**	**25**	P		**P**	**09 37 46.5**	**-0.6**
	0.4nm,0.5s,baz=305,slow=5.7,SNR=5.1							

NNC 28 09:46:02.1±6.0, 36°81′N×70°69′E, *h*0km, mb3.8, mpv3.4, 8C-3D, Error ellipse: s-maj=48.3km s-min=22.1km az=0.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.48**	**324**	⇓P	Pn	09 46 43.9	-0.1
	16nm,0.4s						
DZET				⇑S	Sb	09 47 17.2	-1.7
	69nm,0.6s						
SFK	**Sufi-Kurgan**	**3.89**	**34**	⇓P	Pn	09 47 04.8	+1.3
	1.2nm,0.3s						
SFK				⇑S	Sn	09 47 54.4	+4.3
	5.7nm,0.3s						
MNAS	**Manas**	**5.84**	**13**	⇑P	Pn	09 47 29.0	-1.2
	1.4nm,0.4s						
MNAS				⇑S	Sn	09 48 36.9	-1.1
	14nm,0.7s						
KK31	**Karatay Array**	**6.29**	**359**	⇓P	Pn	09 47 32.8	-3.4
	0.6nm,0.2s,baz=176,slow=12,SNR=20						
KK31				⇑S	Sn	09 48 46.0	-2.7
	0.6nm,0.3s,baz=188,slow=24,SNR=4.2						
AAK	**Ala-Archa**	**6.51**	**26**	⇑P	Pn	09 47 37.8	-1.6
	2.5nm,0.7s						
AAK				⇑S	Sn	09 48 52.3	-2.3
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**7.17**	**30**	⇑P	Pn	09 47 46.7	-1.9
	3.2nm,0.5s						

*IDC **28** 09:49:14.1±1.1, 51°06′N×178°75′E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.5/56, mbtmp3.5/7, MS2.2/1, Ms1 2.2/1, ms1mx2.0/36, Error ellipse: s-maj=67.9km s-min=20.6km az=136.0*

*ISCJB **28** 09:49:15.4±0.8, 50°53′N±0°09′×179°06′E±0°07′, h10km, mb3.5/7, Error ellipse: s-maj=12.8km s-min=6.2km az=173.8*

*NEIC **28** 09:49:17.8, 50°68′N×179°00′E, h19km, ML3.5(AEIC), After AEIC.*

ISC 28 09:49:16.7±1.1, 50°6′N±0°1′×179°06′E±0°07′, h10km, n22, σ1§56/22, mb3.6/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.80**	**49**	P	**Pn**	**09 49 47.8**	**0.0**
TASE	**Tanaga Southea**	**2.19**	**55**	P	**Pn**	**09 49 53.1**	**-0.2**
TAFP	**Tanaga Falls P**	**2.26**	**54**	P	**Pn**	**09 49 54.4**	**+0.4**
TAFP				S	**Sn**	**09 50 23.7**	**+1.8**
KIKV	**Kanaga Island**	**2.68**	**61**	P	**Pn**	**09 50 00.4**	**+0.5**
KIRH	**Kanaga Island**	**2.73**	**61**	P	**Pn**	**09 50 01.9**	**+1.3**
ADK	**Adak**	**2.96**	**63**	P	**Pn**	**09 50 04.7**	**+1.1**
ADK				S	**Sn**	**09 50 39.3**	**+0.1**
GSMY	**Great Sitkin M**	**3.38**	**63**	P	**Pn**	**09 50 10.7**	**+1.2**
GSTR	**Great Sitkin T**	**3.40**	**62**	P	**Pn**	**09 50 10.9**	**+1.1**
SMY	**Shemya**	**3.74**	**306**	P	**Pn**	**09 50 15.8**	**+1.4**
SMY				S	**Sn**	**09 51 00.2**	**+1.8**
KOFP	**Korovin Flat P**	**4.59**	**66**	P	**Pn**	**09 50 27.9**	**+1.8**
NIKH	**Nikolski High**	**7.86**	**68**	P	**Pn**	**09 51 12.8**	**+1.8**
SPIA	**Saint Paul Isl**	**9.10**	**40**	P	**Pn**	**09 51 29.6**	**+1.7**
MREP	**Makushin Rep't**	**9.28**	**64**	P	**Pn**	**09 51 32.8**	**+2.3**
UNV	**Unalaska Valle**	**9.43**	**64**	P	**Pn**	**09 51 34.3**	**+1.8**
PETK	**Petropavlovsk-**	**13.42**	**289**	LR	LR	09 59 23.7	
	comp=Z,10nm,18.1s,baz=62,slow=46						
ILAR	**Eielson Array**	**22.68**	**38**	P	**P**	**09 54 14.3**	**-3.6**
	0.5nm,0.5s,baz=254,slow=11,SNR=9.9						
INK	**Inuvik**	**28.85**	**35**	P	P	09 55 11.7	-3.1
	1.1nm,0.8s,baz=269,slow=8.0,SNR=5.8						
YKA	**Yellowknife Ar**	**36.73**	**45**	P	P	09 56 21.1	-2.5
	0.3nm,0.6s,baz=281,slow=8.2,SNR=3.1						
PDAR	**Pinedale Array**	**47.83**	**70**	P	**P**	**09 57 53.8**	**-0.8**
	0.9nm,0.7s,baz=312,slow=3.7,SNR=6.1						
TXAR	**Lajitas Array**	**60.12**	**79**	P	**P**	**09 59 24.0**	**-0.3**
	0.2nm,0.6s,baz=303,slow=5.3,SNR=2.9						
WRA	**Warramunga Arr**	**80.54**	**222**	P	**P**	**10 01 29.1**	**0.0**
	0.3nm,0.5s,baz=30,slow=6.0,SNR=6.1						
ASAR	**Alice Springs**	**84.02**	**221**	P	**P**	**10 01 47.4**	**+0.2**
	0.4nm,0.8s,baz=30,slow=6.0,SNR=4.2						

IDC 28 09:53:29.3±4.0, 5°97′S×148°81′E, h0km, mb2.8/1, mb1 3.5/2, mb1mx3.2/29, mbtmp3.2/2, ML3.5/1, Error ellipse: s-maj=147.6km s-min=47.9km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.77**	**224**	P	P	09 58 01.5	+0.4
	0.2nm,0.3s,baz=49,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.70**	**218**	P	P	09 58 32.4	-0.4
	0.2nm,0.5s,baz=54,slow=9.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**146.83**	**285**	PKPbc	PKPbc	10 13 13.8	-0.8
	0.3nm,0.7s,baz=69,slow=2.7,SNR=2.7						

*GUC **28** 09:58:08.1±0.4, 35°43′S×73°44′W, h11km±3km, ML4.1*

*IDC **28** 09:58:10.4±1.3, 35°64′S×72°77′W, h0km, mb3.8/3, mb1 3.8/6, mb1mx3.7/17, mbtmp3.6/6, ML3.5/3, MS3.6/4, Ms1 3.6/4, ms1mx3.3/19, Error ellipse: s-maj=41.9km s-min=23.0km az=99.0*

ISC 28 09:58:11.9±1.0, 35°55′S±0°05′×73°12′W±0°08′, h17km, n13, σ1§59/17, mb4.0/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.64**	**156**	*e*P	**Pb**	**09 58 24.9**	**+0.3**
COCH				*e*S	**Sn**	**09 58 37.4**	**+1.4**
TALC	**Talca**	**1.22**	**83**	*e*P	**Pb**	**09 58 34.2**	**-0.3**
TALC				*e*S	**Sg**	**09 58 54.2**	**+2.8**
CCSP	**San Pedro de C**	**1.29**	**180**	*e*P	**Pn**	**09 58 33.5**	**-1.7**
CCSP				*e*S	**Sg**	**09 58 53.1**	**-0.6**
NICH	**Los Niches**	**1.64**	**71**	*e*P	**Pb**	**09 58 40.7**	**-1.0**
NICH				*e*S	**Sg**	**09 59 05.3**	**+0.6**
CLCH	**Cerro Calan**	**3.02**	**45**	*e*P	**Pn**	**09 58 59.3**	**+0.2**
CLCH				*e*S	**Sb**	**09 59 38.8**	**-3.3**
CLCH				AML	AML	10 00 03.9	
	comp=N,593nm,0.3s						
PLCA	**Paso Flores**	**5.55**	**159**	Pn	**Pn**	**09 59 33.1**	**-0.8**
	comp=N,1.1nm,0.3s,baz=330,slow=12,SNR=42						
PLCA				Lg	Lg	10 01 07.2	
	comp=N,0.1nm,0.3s,baz=253,slow=20,SNR=3.4						
PLCA				LR	LR	10 01 50.8	
	comp=N,472nm,18.4s,baz=340,slow=41						
CFAA	**Coronel Fontan**	**5.66**	**47**	Pn	**Pn**	**09 59 34.6**	**-0.8**
	comp=N,0.3nm,0.3s,baz=224,slow=12,SNR=28						
CFAA				Sn	**Sn**	**10 00 39.6**	**-0.4**
	comp=N,0.1nm,0.3s,baz=285,slow=20,SNR=3.4						
CPUP	**Villa Florida**	**16.35**	**60**	LR	LR	10 08 04.4	
	comp=N,813nm,18.8s,baz=234,slow=37						
LPAZ	**La Paz**	**19.69**	**14**	P	**Pn**	**10 02 42.5**	**0.0**
	comp=N,0.1nm,0.3s,baz=194,slow=8.5,SNR=3.7						
ATAH	**Atahualpa**	**28.69**	**349**	LR	LR	10 13 04.2	
	comp=N,60nm,19.7s,baz=234,slow=31						
QSPA	**South Pole Qui**	**54.69**	**180**	P	**P**	**10 07 40.3**	**+0.4**
	comp=N,1.9nm,0.9s,baz=148,slow=7.2,SNR=3.8						
TXAR	**Lajitas Array**	**70.67**	**332**	P	**P**	**10 09 29.5**	**+2.7**
	comp=N,0.5nm,0.9s,baz=146,slow=6.9,SNR=4.2						
TXAR				LR	LR	10 36 35.9	
	comp=N,25nm,18.1s,baz=0.0,slow=32						
TORD	**Torodi Ar. Bea**	**85.57**	**71**	P	**P**	**10 10 48.7**	**-0.9**
	comp=N,1.1nm,1.1s,baz=243,slow=3.9,SNR=3.5						

*KRNET **28** 10:18:29.4±0.1, 39°58′N×73°66′E, h2km, mb3.5*

*NNC **28** 10:18:30.9±2.5, 39°60′N×73°63′E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=29.8km s-min=12.9km az=80.0*

ISC 28 10:18:29.0±1.7, 39°58′N±0°07′×73°68′E±0°05′, h7km±12km, n18, σ1§50/29, 11C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.45**	**342**	⇑P	**Pg**	**10 18 38.4**	**+0.6**
	63nm,0.4s						
SFK				⇑S	**Sb**	**10 18 45.7**	**-0.7**
	93nm,0.2s						
CHVK	**Chauvay**	**1.25**	**296**	*e*P	**Pg**	**10 18 53.5**	**+0.4**
	baz=297						
CHVK				*e*S	**Sn**	**10 19 12.9**	**+2.6**
	baz=297						
SALK	**Salom-Alik**	**1.30**	**5**	*e*P	**Pn**	**10 18 53.1**	**-0.6**
	baz=5.0						
SALK				*e*S	**Sg**	**10 19 11.9**	**+1.1**
	baz=5.0						
DRK	**Karamyk**	**1.46**	**267**	*e*P	**Pn**	**10 18 56.0**	**0.0**
	baz=267						
DRK				*e*S	**Sg**	**10 19 17.2**	**+1.3**
	baz=267						
BTK	**Batken**	**2.25**	**283**	*e*P	**Pb**	**10 19 10.0**	**-0.1**
	baz=283						
BTK				*e*S	**Sb**	**10 19 39.7**	**+1.5**
	baz=283						
ARLS	**Aral**	**2.33**	**12**	⇓*i*P	**Pb**	**10 19 11.9**	**+0.5**
	baz=12						
ARLS				⇓*i*S	**Sg**	**10 19 44.0**	**+0.2**
	baz=12						
AML	**Almayashu**	**2.54**	**0**	P	**Pg**	**10 19 18.0**	**+0.2**
	SNR=13						
NRN	**Naryn**	**2.56**	**43**	*e*P	**Pb**	**10 19 16.0**	**+0.6**
	baz=43						
NRN				*e*S	**Sg**	**10 19 50.7**	**-0.5**
	baz=43						
UCH	**Uchtor**	**2.72**	**13**	P	**Pb**	**10 19 17.9**	**-0.2**
	SNR=20						
KZA	**Kyzart**	**2.76**	**25**	P	**Pb**	**10 19 19.2**	**+0.3**
	SNR=5.7						
MNAS	**Manas**	**3.03**	**343**	⇑Pn	**Pb**	**10 19 21.5**	**-1.9**
	3.1nm,0.4s						
MNAS				⇓Sn	**Sb**	**10 20 01.4**	**+0.7**
	23nm,0.9s						
EKS	**Erkin-Say**	**3.08**	**1**	*e*P	**Pb**	**10 19 23.8**	**-0.4**
	baz=2.0						
EKS				*e*S	**Sb**	**10 20 02.5**	**+0.4**
	baz=2.0						
AAK	**Ala-Archa**	**3.11**	**11**	⇑Pn	**Pb**	**10 19 23.2**	**-1.5**
	4.4nm,0.5s						
AAK				⇑Sn	**Sb**	**10 20 03.1**	**+0.2**
	15nm,0.6s						
AAK	**Ala-Archa**	**3.11**	**11**	P	**Pb**	**10 19 24.7**	**0.0**
	SNR=7.3						
KBK	**Karagaybulak**	**3.22**	**17**	P	**Pb**	**10 19 26.8**	**+0.2**
	SNR=8.5						
TKM2	**Tokmak 2**	**3.63**	**23**	⇑Pn	**Pb**	**10 19 31.7**	**-2.0**
	1.6nm,0.6s						
TKM2				⇑Lg	Lg	10 20 24.3	
	4.7nm,0.6s						
DZET	**Dzherino**	**3.85**	**260**	⇑Pg	**Pg**	**10 19 41.1**	**-1.7**
	7.2nm,0.6s						
DZET				⇑Lg	Lg	10 20 35.8	
	24nm,0.7s						
KK31	**Karatay Array**	**4.25**	**327**	Pn	Pb	10 19 39.4	-4.6
	0.6nm,0.3s,baz=127,slow=13,SNR=20						
KK31				⇑Pg	**Pg**	**10 19 50.8**	**+0.4**
	0.8nm,0.3s,baz=138,slow=15,SNR=5.5						
KK31				⇓Sn	**Sb**	**10 20 30.2**	**-5.3**
	1.0nm,0.4s						
KK31				⇑Lg	Lg	10 20 44.2	
	2.3nm,0.3s,baz=144,slow=30,SNR=4.0						

*ISCJB **28** 10:22:57.0±1.1, 8°31′S±0°10′×110°22′E±0°04, h60km, mb3.4/3, Error ellipse: s-maj=13.9km s-min=5.9km az=8.0*

*DJA **28** 10:22:57.4±0.7, 8°S±5°×11°0E±*, h60km±12km, M3.7/9, MLv3.7/9*

*IDC **28** 10:23:06.1±8.4, 9°71′S×112°02′E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/44, mbtmp3.5/3, Error ellipse: s-maj=143.1km s-min=117.3km az=166.0*

ISC 28 10:22:56.1±1.3, 8°37′S±0°09′×110°23′E±0°05′, h60km, n12, σ1§63/15, mb3.1/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.54**	**33**	P	**Pn**	**10 23 10.9**	**+2.3**
PCJI	**Pacitan**	**0.96**	**80**	P	**Pn**	**10 23 15.4**	**+1.8**
PCJI				S	**Sn**	**10 23 28.1**	**+1.6**
SMRI	**Semarang**	**1.33**	**9**	P	**Pn**	**10 23 19.6**	**+1.0**
SMRI				S	**Sn**	**10 23 35.9**	**+0.5**
PWJI	**Pagerwojo**	**1.60**	**78**	P	**Pn**	**10 23 23.4**	**+1.2**
PWJI				S	**Sn**	**10 23 42.1**	**+0.3**
KPJI	**Karang Pucung**	**1.65**	**309**	P	**Pn**	**10 23 24.5**	**+1.7**
KPJI				S	**Sn**	**10 23 42.5**	**-0.5**
CMJI	**Cimerak**	**1.85**	**288**	P	**Pn**	**10 23 26.6**	**+1.0**
UWJI	**Ujung Watu**	**2.07**	**20**	P	**Pn**	**10 23 28.0**	**-0.5**
TBJI	**Tambak Boyo**	**2.23**	**46**	P	**Pn**	**10 23 30.7**	**0.0**
CISI	**Cisompet, Garu**	**2.52**	**289**	P	**Pn**	**10 23 36.3**	**+1.5**
WRA	**Warramunga Arr**	**26.01**	**119**	P	**P**	**10 28 21.6**	**-2.2**
	0.4nm,0.6s,baz=291,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**27.30**	**127**	P	**P**	**10 28 32.8**	**-2.6**
	0.3nm,0.6s,baz=304,slow=9.4,SNR=6.4						
STKA	**Stephens Creek**	**37.37**	**123**	P	P	10 30 01.3	-1.9
	1.5nm,0.4s,baz=317,slow=8.5,SNR=8.1						

MEX 28 10:23:53.4±0.4, 14°33′N×92°62′W, h5km±53km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**337**	*e*P	Pn	10 24 16.9	-3.8
PCIG				*i* S	Sn	10 24 35.5	-5.0
CCIG	**Comitan**	**1.99**	**13**	*e*P	Pn	10 24 24.5	-3.5
CCIG				*e*S	Sn	10 24 48.8	-4.7
TGIG		**2.48**	**349**	*e*P	Pn	10 24 31.9	-2.7
TGIG				*e*S	Sn	10 25 01.2	-4.1
CMIG	**Matias Romero**	**3.51**	**322**	*e*P	Pn	10 24 47.5	-1.1
CMIG				*e*S	Sn	10 25 26.3	-4.2

IDC 28 10:29:25.4±1.4, 22°93′N×144°08′E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/28, mbtmp3.6/5, ML4.0/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/26, Error ellipse: s-maj=47.2km s-min=26.5km az=87.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.49**	**338**	Pn	Pn	10 30 35.4	+0.6
	7.3nm,0.3s,baz=236,slow=18,SNR=4.0						
JCJ				Sn	Sn	10 31 23.6	-4.2
	15nm,0.3s,baz=110,slow=23,SNR=8.3						
KSRS	**Korea Array**	**20.07**	**320**	LR	LR	10 41 16.1	
	comp=Z,17nm,18.4s,baz=5.0,slow=35						
WRA	**Warramunga Arr**	**43.66**	**193**	P	P	10 37 32.1	0.0
	0.2nm,0.4s,baz=15,slow=9.1,SNR=7.7						
MKAR	**Makanchi Array**	**54.49**	**312**	P	P	10 38 54.9	0.0
	0.1nm,0.4s,baz=76,slow=6.1,SNR=3.7						
KURBB	**Kurchatov Array**	**57.20**	**316**	P	P	10 39 13.9	-0.4
	0.4nm,0.4s,baz=92,slow=8.0,SNR=6.4						
ILAR	**Eielson Array**	**60.57**	**27**	P	P	10 39 37.4	-0.1
	0.4nm,0.7s,baz=263,slow=5.6,SNR=6.1						

IDC 28 10:30:19.1±1.8, 16°09′S×176°94′W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/19, mbtmp3.9/4, Error ellipse: s-maj=177.8km s-min=30.7km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.74**	**240**	P	P	10 38 02.0	+0.1
	1.6nm,0.7s,baz=99,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**46.36**	**258**	P	P	10 38 47.2	-0.3
	0.4nm,0.3s,baz=93,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**46.65**	**253**	P	P	10 38 49.5	-0.2
	3.9nm,0.6s,baz=88,slow=8.0,SNR=51						
TXAR	**Lajitas Array**	**83.84**	**57**	P	P	10 42 51.1	0.0
	0.4nm,0.8s,baz=227,slow=6.1,SNR=4.9						

*BJI **28** 10:49:12.5, 58°48′N×163°60′E, h10km, mB4.9/21, mb4.6/29, Ms4.6/20, Ms7 4.3/20*

*KRSC **28** 10:49:14.1±1.3, 58°48′N×163°82′E, h16km±6km, ML4.8, FELT [IV-V] at Mayak Karaginskii; [III] at Ivashka; [II-III] at Kostroma, Karaga.*

*IDC **28** 10:49:15.1±0.5, 58°54′N×163°49′E, h0km, mb4.2/31, mb1 4.3/34, mb1mx4.3/49, mbtmp4.2/34, ML4.2/2, MS3.8/26, Ms1 3.9/26, ms1mx3.7/42, Error ellipse: s-maj=13.6km s-min=10.2km az=147.0*

*MOS **28** 10:49:16.8±1.1, 58°53′N×163°33′E, h18km, mb4.7/51, Error ellipse: s-maj=9.9km s-min=4.6km az=83.6*

*ISCJB **28** 10:49:17.9±0.6, 58°57′N±0°02′×163°27′E±0°05, h24km±4km, mb4.4/75, MS3.9/26, Error ellipse: s-maj=4.8km s-min=2.7km az=31.3*

*NEIC **28** 10:49:17.3±0.2, 58°58′N×163°14′E, h10km, mb4.8/30, Error ellipse: s-maj=6.5km s-min=4.1km az=152.0*

ISC 28 10:49:17.4±0.5, 58°51′N±0°03′×163°28′E±0°03′, h13km±2km, h12km:pP-P, n269, σ1§45/273, mb4.6/75, MS3.9/26, 6C-2D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.75**	**351**	*i* P	**Pg**	**10 49 30.6**	**-1.3**
OSSR				*i* S	**Sg**	**10 49 41.2**	**-0.5**
PALN	**Palana**	**1.82**	**290**	*e*P	**Pb**	**10 49 50.2**	**-0.3**
PALN				S	**Sg**	**10 50 15.6**	**-0.2**
SMKR	**Semkarok**	**2.17**	**208**	*e*P	**Pn**	**10 49 53.7**	**+0.5**
SMKR				S	**Sb**	**10 50 23.1**	**-0.2**
SRKR	**Sorokina**	**2.18**	**212**	*e*P	**Pn**	**10 49 53.8**	**+0.4**
KBG	**Krutoberegovo**	**2.29**	**188**	*e*P	**Pn**	**10 49 53.5**	**-1.2**
KBG				*e*S	**Sn**	**10 50 22.6**	**-0.1**
KBG	**Krutoberegovo**	**2.29**	**188**	PN	**Pn**	**10 49 53.5**	**-1.2**
KBG				S	**Sn**	**10 50 22.6**	**-0.1**
TILK	**Tilichiki**	**2.43**	**36**	P	**Pn**	**10 49 54.4**	**-2.3**
KLY	**Klyuchi**	**2.62**	**214**	*i* P	**Pn**	**10 49 59.3**	**-0.1**
KLY				S	**Sn**	**10 50 32.1**	**+1.0**
KLY	**Klyuchi**	**2.62**	**214**	PN	**Pn**	**10 49 59.3**	**-0.1**
KLY				S	**Sn**	**10 50 32.1**	**+1.0**
KRSR	**Krestovskiy**	**2.73**	**214**	P	**Pn**	**10 49 59.8**	**-1.2**
SRDR	**Sredinnyy**	**2.93**	**223**	*e*P	**Pn**	**10 50 05.0**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.97**	**212**	P	**Pn**	**10 50 03.2**	**-1.1**
BZMR	**Bezymyannaya**	**3.00**	**212**	P	**Pn**	**10 50 06.1**	**+1.4**
KIRR	**Kirishev**	**3.02**	**213**	P	**Pn**	**10 50 07.1**	**+2.1**
KPT	**Kopyto**	**3.05**	**214**	P	**Pn**	**10 50 07.2**	**+1.9**
KOZR	**Kozyr**	**3.06**	**218**	PN	**Pn**	**10 50 07.8**	**+2.3**
KOZ	**Kozyrevsk**	**3.08**	**218**	P	**Pn**	**10 50 07.8**	**+2.1**
KMNR	**Kamenistaya**	**3.22**	**212**	*e*P	**Pn**	**10 50 10.1**	**+2.4**
ESO	**Esso**	**3.60**	**226**	*e*P	**Pn**	**10 50 13.9**	**+1.1**
ESO				*e*S	**Sn**	**10 50 58.3**	**+3.2**
ESO	**Esso**	**3.60**	**226**	PN	**Pn**	**10 50 13.9**	**+1.1**
ESO				S	**Sn**	**10 50 58.3**	**+3.2**
BKI	**Bering**	**3.63**	**155**	*i* P	**Pn**	**10 50 10.5**	**-2.7**
BKI				*e*S	**Sn**	**10 50 51.5**	**-4.4**
BKI	**Bering**	**3.63**	**155**	PN	**Pn**	**10 50 10.5**	**-2.7**
TUMR	**Tumrok**	**3.67**	**209**	*e*P	**Pn**	**10 50 16.6**	**+2.8**
KZV	**Kizimen**	**3.78**	**207**	*e*P	**Pn**	**10 50 17.3**	**+1.8**
MKZ	**Mys Kozlova**	**4.06**	**193**	*e*P	**Pn**	**10 50 19.1**	**0.0**
MKZ	**Mys Kozlova**	**4.06**	**193**	PN	**Pn**	**10 50 19.1**	**0.0**
KII	**Karymskiy**	**4.97**	**207**	P	**Pn**	**10 50 34.7**	**+3.0**
GNL	**Ganaly**	**5.68**	**214**	*i* P	**Pn**	**10 50 43.5**	**+2.0**
KRX	**Arik**	**5.78**	**209**	*e*P	Pn	10 50 46.6	+3.7
NLC	**Nalytchevo**	**5.79**	**204**	P	**Pn**	**10 50 44.9**	**+2.0**
NLC	**Nalytchevo**	**5.79**	**204**	PN	**Pn**	**10 50 44.9**	**+2.0**
SDLR	**Sedlovina**	**5.80**	**207**	*e*P	**Pn**	**10 50 45.5**	**+2.4**
KRER	**Koryakskii**	**5.81**	**208**	*e*P	**Pn**	**10 50 46.3**	**+3.0**
SMAR	**Somma**	**5.83**	**207**	*e*P	**Pn**	**10 50 46.7**	**+3.0**
AVH	**Avacha**	**5.85**	**208**	*e*P	**Pn**	**10 50 46.7**	**+2.9**
KOK	**Koryaka**	**5.85**	**209**	*e*P	Pn	10 50 47.1	+3.3
UGLR	**Uglovaya**	**5.88**	**207**	*e*P	Pn	10 50 47.3	+3.1
PET	**Petropavlovsk**	**6.09**	**207**	P	**Pn**	**10 50 49.4**	**+2.4**
PET	**Petropavlovsk**	**6.09**	**207**	*e*PN	Pn	10 50 50.1	+3.1
PET				MLR	MLR		
	comp=Z,3μm,13.0s						
PET				MLR	MLR		
	comp=Z,3μm,15.0s						
PET	**Petropavlovsk**	**6.09**	**207**	*e*Pn	**Pn**	**10 50 49.0**	**+2.0**
PEA0B	**Petropavlovsk-**	**6.26**	**213**	Pn	**Pn**	**10 50 48.1**	**-1.3**
PETK	**Petropavlovsk-**	**6.26**	**213**	Pn	**Pn**	**10 50 50.3**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=70,slow=13,SNR=10						
PETK				LR	LR	10 53 24.8	
	comp=Z,260nm,20.1s,baz=19,slow=39						
APC	**Apacha**	**6.58**	**214**	*e*P	Pn	10 50 57.1	+3.4
RUS	**Russkaya**	**6.67**	**206**	*e*P	**Pn**	**10 50 56.1**	**+1.2**
RUS	**Russkaya**	**6.67**	**206**	PN	**Pn**	**10 50 56.1**	**+1.2**
MTVR	**Mutnovka**	**6.70**	**

HABR MLR MLR
comp=Z,342nm,18.0s
CLNS Chul'man 20.41 282 *e*P Pn 10 53 55.4 -0.6
CLNS *e**PP pP 10 54 03.6 +6.1
CLNS *e* 10 54 09.6
CLNS *e*S **S** **10 57 39.8 -2.2**
CLNS *e*SS **SnSn** **10 58 04.8 +5.0**
CLNS *e* 10 58 09.7
CLNS pmax pmax
comp=Z,34nm,0.9s
CLNS pmax pmax
comp=E,41nm,1.1s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS smax smax
comp=E,129nm,13.2s
CLNS smax smax
comp=N,61nm,10.2s
CLNS MLR MLR
comp=Z,216nm,12.0s
CLNS MLR MLR
comp=N,388nm,12.0s
CLNS MLR MLR
comp=E,328nm,12.0s
KLR Kul'dur 20.60 257 *e*P **P** **10 53 54.8 -1.2**
KLR MLR MLR
comp=Z,2µm,13.0s
SVW2 Sparrevohn 20.61 65 *e*Pn Pn 10 53 59.9 +1.7
IM04 Indian Mountai 20.95 51 *e*P **P** **10 53 59.4 -0.2**
CAST Castle Rocks 21.84 58 *e*P **P** **10 54 11.3 +2.1**
comp=Z,24nm,1.0s
PPLA Purkeypile 21.87 60 *e*P **P** **10 54 11.5 +1.8**
comp=Z,65nm,1.1s
RSO Redoubt South 22.10 66 *e*P **P** **10 54 15.1 +2.8**
KTH Kantishna Hill 22.34 58 *e*P **P** **10 54 16.1 +1.4**
comp=Z,66nm,1.2s
COLD Coldfoot 22.39 48 *e*P **P** **10 54 15.9 +0.9**
comp=Z,22nm,1.0s
TRF Thorofare Moun 22.64 58 *e*P **P** **10 54 20.7 +2.8**
comp=Z,191nm,2.1s
MCK McKinley 23.19 57 *e*P **P** **10 54 24.0 +0.5**
MCK pmax pmax
comp=Z,40nm,1.1s
MCK McKinley 23.19 57 *e*P **P** **10 54 24.0 +0.5**
comp=Z,40nm,1.1s
COLA College 23.49 54 *e*P **P** **10 54 26.7 +0.2**
COLA College 23.49 54 *e*P **P** **10 54 26.6 +0.2**
ILAR Eielson Array 23.92 54 P **P** **10 54 29.1 -1.5**
comp=Z,25nm,0.8s,baz=268,slow=8.0,SNR=80
ILAR LR LR 11 03 50.6
comp=Z,162nm,20.4s,baz=299,slow=37
ILAR Eielson Array 23.92 54 P **P** **10 54 29.1 -1.5**
ILAR pmax pmax
comp=Z,25nm,0.8s
ILAR MLR MLR
comp=Z,162nm,20.4s
USRK Ussuriysk Ar. 23.94 247 P **P** **10 54 32.3 +1.4**
comp=Z,6.1nm,1.0s,baz=51,slow=7.8,SNR=6.1
USRK LR LR 11 04 40.0
comp=Z,217nm,18.5s,baz=15,slow=38
VLA Vladivostok 24.80 245 ǁ *i*P **P** **10 54 40.0 +1.2**
VLA *e* 10 55 12.6
VLA *e* 10 58 16.4
VLA *e*S **S** **10 59 00.5 -0.3**
VLA pmax pmax
comp=Z,13nm,0.8s
MDJ Mudanjiang 24.81 251 P **P** **10 54 34.3 -4.6**
MDJ PMZ
comp=Z,23nm,1.4s
MDJ PMZ
comp=Z,250nm,5.5s
PAX Paxson 24.87 58 *e*P **P** **10 54 39.5 +0.1**
PAX pmax pmax
comp=Z,30nm,1.3s
PAX Paxson 24.87 58 *e*P **P** **10 54 39.5 +0.1**
comp=Z,30nm,1.3s
DOT Dot Lake 25.34 56 *e*P **P** **10 54 43.6 +0.1**
comp=Z,20nm,0.9s
BOD Bodaibo 25.54 290 *e*P **P** **10 54 44.8 -0.6**
BOD pmax pmax
comp=Z,16nm,1.1s
EGAK Eagle 26.33 53 *e*P **P** **10 54 52.3 -0.1**
comp=Z,9.7nm,0.8s
DAWY Dawson 27.24 54 *e*P **P** **10 55 01.8 +1.0**
MAJO Matsushiro 27.44 228 *e*P **P** **10 55 06.1 +3.3**
MAJO pmax pmax
comp=Z,72nm,1.1s
MJAR Matsushiro Arr 27.44 228 P **P** **10 55 03.6 +0.8**
comp=Z,0.8nm,0.6s,baz=27,slow=9.4,SNR=4.3
MJAR LR LR 11 06 53.6
comp=Z,122nm,18.1s,baz=20,slow=38
MJAR Matsushiro Arr 27.44 228 P **P** **10 55 03.6 +0.8**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR MLR MLR
comp=Z,122nm,18.1s
CN2 Changchun 27.47 254 ǁ P **P** **10 55 01.8 -1.1**
CN2 *e*sP **sP** **10 55 06.5 -1.9**
CN2 *e*S **S** **10 59 37.8 -5.3**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 LN
comp=Z,300nm,14.0s
CN2 LE
comp=Z,500nm,14.0s
CN2 LZ
comp=Z,500nm,15.0s
INK Inuvik 28.58 44 P **P** **10 55 12.2 -0.3**
comp=Z,3.3nm,0.8s,baz=276,slow=8.1,SNR=13
INK LR LR 11 08 58.1
comp=Z,227nm,18.5s,baz=272,slow=42
INK Inuvik 28.58 44 P **P** **10 55 12.3 -0.3**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK MLR MLR
comp=Z,227nm,18.5s
INK Inuvik 28.58 44 *e*P **P** **10 55 12.4 -0.2**
KSRS Korea Array 31.12 243 P **P** **10 55 36.6 +1.2**
comp=Z,2.4nm,0.9s,baz=46,slow=8.7,SNR=3.1
KSRS LR LR 11 08 40.6
comp=Z,192nm,18.2s,baz=48,slow=37
KSRS Korea Array 31.12 243 P **P** **10 55 36.6 +1.2**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,192nm,18.2s
KSAR Wonju Array Be 31.15 243 P **P** **10 55 36.6 +1.0**
KSAR Wonju Array Be 31.15 243 P **P** **10 55 36.6 +1.0**
JNU Nakatsue 33.41 235 LR LR 11 10 09.5
comp=Z,293nm,18.8s,baz=32,slow=37
ULN Ulaanbaatar 34.33 277 *e*P **P** **10 56 05.0 +1.4**
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 34.33 277 *e*P **P** **10 56 02.4 -1.2**
comp=Z,7.7nm,1.2s
SONM Songino Array 34.70 278 P **P** **10 56 07.6 +0.9**
comp=Z,3.9nm,0.8s,baz=54,slow=7.9,SNR=20
SONM PcP **PcP** **10 58 40.3 0.0**
comp=Z,0.8nm,0.9s,baz=62,slow=3.4,SNR=3.6
SONM LR LR 11 10 21.5
comp=Z,213nm,20.0s,baz=55,slow=36
SONM Songino Array 34.70 278 P **P** **10 56 07.6 +0.9**
SONM 10 58 40.3
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM MLR MLR
comp=Z,213nm,20.0s
ZAK Zakamensk 34.73 283 *e*P **P** **10 56 08.2 +1.3**
ZAK *e* 10 58 40.8
ZAK pmax pmax
comp=Z,3.0nm,1.5s
BJI Beijing 34.95 259 P **P** **10 56 07.3 -1.4**
BJI S **S** **11 01 37.8 -2.0**
BJI PMZ
comp=Z,8.0nm,0.9s
BJI LN
comp=Z,630nm,16.2s
BJI LE
comp=Z,330nm,18.3s
BJI LZ
comp=Z,220nm,17.9s
HHC Hu-ho-hao-te 36.75 264 *e*P **P** **10 56 22.8 -1.5**
HHC sP **sP** **10 56 29.8 0.0**
HHC S **S** **11 02 03.0 -4.7**
HHC PMZ
comp=Z,35nm,0.9s
HHC PMZ
comp=Z,110nm,6.1s
HHC LN
comp=Z,330nm,16.7s
HHC LE
comp=Z,370nm,17.5s
HHC LZ
comp=Z,420nm,16.0s
RES Resolute Bay 37.63 25 P **P** **10 56 30.9 -0.3**
comp=Z,2.2nm,0.8s,baz=270,slow=20
RES Resolute Bay 37.63 25 P **P** **10 56 30.9 -0.3**
RES pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 38.06 48 P **P** **10 56 34.5 -0.6**
comp=Z,2.2nm,0.7s,baz=301,slow=8.1,SNR=15
YKA Yellowknife Ar 38.06 48 P **P** **10 56 34.5 -0.6**
YKA pmax pmax
comp=Z,2.0nm,0.7s
H11N2 WAKE ISLAND Hy 38.82 175 T T 11 38 11.2
baz=358,slow=76,SNR=92
H11N3 WAKE ISLAND Hy 38.84 175 T T 11 38 09.3
baz=358,slow=76,SNR=1212
H11N1 WAKE ISLAND Hy 38.84 175 T T 11 38 08.3
baz=358,slow=76,SNR=1379
NJ2 Nanjing 39.84 248 *e*P **P** **10 56 49.5 -0.8**
NJ2 S **S** **11 02 55.0 +0.7**
NJ2 PMZ
comp=Z,40nm,0.6s
NJ2 LN
comp=Z,580nm,18.6s
NJ2 LE
comp=Z,540nm,16.2s
NJ2 LZ
comp=Z,600nm,26.2s
H11S1 WAKE ISLAND Hy 40.03 175 T T 11 39 50.5
baz=359,slow=76,SNR=31
H11S3 WAKE ISLAND Hy 40.04 175 T T 11 39 40.4
baz=359,slow=76,SNR=34
H11S2 WAKE ISLAND Hy 40.04 175 T T 11 39 40.3
baz=359,slow=76,SNR=25
ZALV Zalesovo Beam 41.53 299 P **P** **10 57 04.3 +0.3**
comp=Z,0.4nm,0.3s,baz=45,slow=6.5,SNR=3.5
ZALV PP **PP** **10 58 39.9 +0.2**
comp=Z,0.8nm,0.6s,baz=39,slow=9.3,SNR=3.3
ZALV LR LR 11 17 03.2
comp=Z,124nm,19.1s,baz=76,slow=40
ZALV Zalesovo Beam 41.53 299 P **P** **10 57 04.3 +0.3**
ZALV 10 58 39.9
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,124nm,19.1s
NVS Novosibirsk 41.69 301 *i*P **P** **10 57 05.5 +0.3**
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,3.0nm,1.3s
SPITS Spitsbergen Ar 42.08 350 P **P** **10 57 07.7 -0.6**
comp=E,6.9nm,0.5s,baz=60,slow=8.2,SNR=30
SPITS Spitsbergen Ar 42.08 350 P **P** **10 57 07.7 -0.6**
SPITS pmax pmax
comp=Z,7.0nm,0.5s
WHN Wuhan 43.29 252 S **S** **11 03 44.5 -0.9**
WHN LR LR
comp=N,710nm,14.4s
WHN LR LR
comp=E,860nm,13.2s
WHN LR LR
comp=Z,690nm,12.3s
EDM Edmonton 44.23 59 *e*P **P** **10 57 27.1 +1.2**
EDM Edmonton 44.23 59 *e*P **P** **10 57 27.1 +1.2**
LZH Lanzhou 44.33 266 *e*P **P** **10 57 25.0 -2.1**
LZH pP **pP** **10 57 28.8 -2.2**
LZH sP **sP** **10 57 31.0 -1.6**
LZH PMZ
comp=Z,15nm,1.0s
KULLO Kullorsuaq 44.49 14 *i*P P 10 57 30.7 +3.0
DAG Danmarks Havn 44.97 1 *e*P **P** **10 57 34.0 +2.5**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 44.97 1 *i*P **P** **10 57 34.0 +2.5**
comp=Z,6.4nm,0.9s
KURK Kurchatov 46.52 299 *e*P **P** **10 57 44.4 +0.3**
KURK pmax pmax
comp=Z,19nm,0.9s
KURK Kurchatov 46.52 299 *e*P **P** **10 57 44.4 +0.3**
comp=Z,19nm,0.9s
BSMT Bassoo Peak 47.25 65 *e*P **P** **10 57 52.8 +2.7**
comp=Z,2.6nm,0.9s
MK31 Makanchi Array 47.55 293 P P 10 57 48.7 -3.5
MK31 Makanchi Array 47.55 293 P P 10 57 48.7 -3.5
MKAR Makanchi Array 47.55 293 P **P** **10 57 51.9 -0.3**
comp=Z,0.7nm,0.6s,baz=5.7,slow=4.3,SNR=12
MKAR LR LR 11 21 06.9
comp=Z,33nm,21.6s,baz=36,slow=40
MKAR Makanchi Array 47.55 293 *i*P **P** **10 57 51.7 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
FFC Flin Flon 48.07 51 *e*P **P** **10 57 55.3 -0.8**
FFC Flin Flon 48.07 51 *e*P **P** **10 57 55.3 -0.8**
SUMG Summit 48.34 9 *e*P **P** **10 57 59.1 +0.7**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 48.34 9 *e*P **P** **10 57 59.1 +0.7**
comp=Z,18nm,0.9s
SUMG Summit 48.34 9 *i*P P 10 58 01.5 +3.1
comp=Z,20nm,1.0s
CD2 Chengdu 48.40 262 *e*P **P** **10 57 58.0 -1.0**
CD2 pP **pP** **10 58 03.3 +0.3**
CD2 sP **sP** **10 58 05.8 +1.3**
CD2 PP **PP** **10 59 50.3 -1.1**
CD2 PcS **PcS** **11 03 21.0 -0.3**
CD2 S **S** **11 04 56.3 -2.8**
CD2 SS SS 11 08 19.8 -8.6
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,100nm,5.6s
BVAR Borovoye Array 48.52 306 P **P** **10 57 59.8 +0.2**
comp=Z,1.9nm,0.6s,baz=54,slow=7.3,SNR=5.4
BVAR Borovoye Array 48.52 306 P **P** **10 57 59.8 +0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 48.54 306 *e*P **P** **10 58 00.3 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 48.69 342 P **P** **10 58 00.4 -0.3**
comp=Z,5.9nm,0.9s,baz=27,slow=10,SNR=2.7
ARCES LR LR 11 22 45.1
comp=Z,110nm,18.4s,baz=38,slow=41
ARCES ARCESS Array B 48.69 342 P **P** **10 58 00.4 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES MLR MLR
comp=Z,111nm,18.4s
GYA Guiyang 50.50 256 *e*P **P** **10 58 15.0 -0.1**
GYA PMZ
comp=Z,10.0nm,1.0s
ARU Arti 50.68 316 *c i*P **P** **10 58 17.0 +1.0**
ARU S **S** **11 05 31.0 +0.7**
ARU pmax pmax
comp=Z,8.0nm,1.0s
PRGR Permogore 50.84 327 P P 10 58 20.3 +3.2
PRGR *e* 10 59 35.1
PRGR pmax pmax
comp=Z,4.0nm,0.4s
FRB Frobisher Bay 51.82 26 P **P** **10 58 22.4 -2.0**
comp=Z,1.2nm,0.5s,baz=343,slow=7.1,SNR=6.2
FRB Frobisher Bay 51.82 26 P **P** **10 58 22.4 -2.0**
FRB pmax pmax
comp=Z,1.0nm,0.5s
NVAR Mina Array Bea 52.44 76 P **P** **10 58 28.3 -1.3**
comp=Z,0.4nm,0.5s,baz=312,slow=8.2,SNR=2.4
PDAR Pinedale Array 53.49 66 P **P** **10 58 36.7 -0.7**
comp=Z,1.1nm,0.9s,baz=333,slow=2.0,SNR=9.5
PDAR LR LR 11 23 21.9
comp=Z,137nm,18.3s,baz=354,slow=38
ULM Lac du Bonnet 53.90 51 LR LR 11 23 44.9
comp=Z,182nm,18.2s,baz=36,slow=38
AAK Ala-Archa 54.37 295 ǁ *i*P **P** **10 58 44.3 +0.6**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 54.37 295 P **P** **10 58 42.9 -0.8**
comp=Z,4.6nm,0.8s
EKS2 Erkin-Say 54.69 295 *e*P **P** **10 58 44.3 -1.7**
EKS2 pmax pmax
comp=Z,7.0nm,1.0s
EKS2 Erkin-Say 54.69 295 *e*P **P** **10 58 44.3 -1.7**
comp=Z,6.6nm,1.0s
QIZ Qiongzhong 55.13 248 P **P** **10 58 48.0 -1.3**
QIZ S **S** **11 06 30.5 -1.3**
QIZ PMZ
comp=Z,10.0nm,1.5s
QIZ LN
comp=Z,210nm,15.9s
QIZ LE
comp=Z,96nm,17.8s
QIZ LZ
comp=Z,250nm,16.3s
ABKAR Akbulak array 55.69 309 *e*P **P** **10 58 53.2 +0.3**
comp=Z,2.0nm,0.7s
FINES FINESS Array B 55.85 337 P **P** **10 58 53.2 -0.6**
comp=Z,3.6nm,0.9s,baz=14,slow=7.7,SNR=2.7
FINES LR LR 11 26 11.3
comp=Z,78nm,18.3s,baz=1.5,slow=40
FINES FINESS Array B 55.85 337 *i*P P 10 58 58.7 +4.8
FINES pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 55.88 298 P **P** **10 58 52.9 -1.5**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 55.88 298 P **P** **10 58 52.9 -1.5**
comp=Z,11nm,1.0s
KSH Kashi 56.05 291 *e*P P 10 58 59.8 +4.0
KSH sP sP 10 59 06.8 +5.4
KSH PcS **PcS** **11 03 55.5 +1.1**
KSH S **S** **11 06 48.3 +4.4**
KSH ScS **ScS** **11 08 45.3 +0.7**
KSH PMZ
comp=Z,56nm,4.6s
KSH LN
comp=Z,290nm,12.8s
KSH LE
comp=Z,640nm,12.2s
KSH LZ
comp=Z,200nm,13.1s
NB2 NORSAR Subarra 58.81 345 P **P** **10 59 14.6 -0.3**
comp=Z,7.5nm,0.9s,baz=16,slow=7.4
NOA NORSAR Array B 58.81 345 P **P** **10 59 14.5 -0.3**
comp=Z,4.5nm,0.8s,baz=16,slow=7.1,SNR=7.8
NOA LR LR 11 29 06.5
comp=Z,50nm,18.9s,baz=345,slow=41
NOA NORSAR Array B 58.81 345 P **P** **10 59 14.5 -0.3**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,50nm,18.9s
OBN Obninsk 58.91 327 *e*P **P** **10 59 16.6 +1.1**
OBN pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 59.31 343 P **P** **10 59 17.4 -0.9**
comp=Z,3.4nm,0.8s,baz=32,slow=5.8,SNR=5.3
HFS Hagfors 59.31 343 P **P** **10 59 17.4 -0.9**
HFS pmax pmax
comp=Z,3.0nm,0.8s
SCHQ Schefferville 60.03 31 P **P** **10 59 21.8 -1.6**
comp=Z,3.6nm,1.0s,baz=345,slow=7.1,SNR=3.7
SCHQ LR LR 11 27 30.9
comp=Z,59nm,19.0s,baz=6.0,slow=38
CHTO Chiang Mai 60.78 258 *e*P **P** **10 59 29.5 +0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 60.78 258 *e*P **P** **10 59 29.5 +0.6**
comp=Z,6.1nm,0.9s
CMAR Chiang Mai Arr 61.08 258 P **P** **10 59 31.5 +0.6**
comp=Z,2.8nm,0.8s,baz=11,slow=6.8,SNR=14
CMAR LR LR 11 30 23.2
comp=Z,60nm,19.4s,baz=74,slow=40
CMAR Chiang Mai Arr 61.08 258 *i*P **P** **10 59 32.5 +1.6**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
ANMO Albuquerque 61.09 70 *c e*P P 10 59 35.0 +3.9
ANMO pmax pmax
comp=Z,10.0nm,0.8s
121A Cookes Peak, D 62.37 72 *e*P **P** **10 59 40.3 +0.6**
comp=Z,6.9nm,1.0s
MNTX Cornudas Mount 64.24 71 *e*P **P** **10 59 52.5 +0.6**
comp=Z,7.2nm,1.0s
AKASG Malin Array Be 64.86 330 P **P** **10 59 55.2 -0.5**
comp=Z,0.2nm,0.3s,baz=26,slow=6.9,SNR=4.5
AKASG LR LR 11 32 08.2
comp=Z,177nm,18.3s,baz=45,slow=40
WMOK Wichita Mounta 64.97 64 *e*P **P** **10 59 56.3 -0.4**
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK Wichita Mounta 64.97 64 *e*P **P** **10 59 56.2 -0.4**
comp=Z,7.4nm,0.9s
GEYT Alibeck 65.64 303 LR LR 11 31 58.5
comp=Z,250nm,18.9s,baz=15,slow=39
EKA Eskdalemuir Ar 65.98 352 P **P** **11 00 02.8 0.0**
comp=Z,0.3nm,0.2s,baz=10,slow=5.3,SNR=5.0
KIV Kislovodsk 66.68 317 *e*P **P** **11 00 07.1 -0.6**
KIV pmax pmax
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 67.02 71 P **P** **11 00 09.6 -0.4**
comp=Z,3.8nm,0.8s,baz=315,slow=4.4,SNR=18
TXAR LR LR 11 31 21.6
comp=Z,107nm,18.2s,baz=0.0,slow=38
TXAR Lajitas Array 67.02 71 P **P** **11 00 09.6 -0.4**
TXAR pmax pmax
comp=Z,4.0nm,0.8s
TXAR MLR MLR
comp=Z,107nm,18.2s
CLL Collm 67.88 340 *e*pP pP 11 00 19.0 -0.1
comp=Z,9.0nm,1.1s
CLL Collm 67.88 340 *e*P **pP** **11 00 19.0 -0.1**
CLL pmax pmax
comp=Z,9.0nm,1.1s
STHS Stebnicka Huta 68.02 334 *e*P **P** **11 00 17.9 +2.0**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 68.02 334 *e*P **P** **11 00 17.9 +2.0**
BRG Berggiesshubel 68.13 340 SG **S** **11 09 14.3 -1.5**
comp=Z,4.0nm,0.7s
DPC Dobruska-Polom 68.18 338 *e*P **P** **11 00 17.8 +0.8**
DPC *e*pP **pP** **11 00 21.3 +0.2**
DPC Dobruska-Polom 68.18 338 *e*P **P** **11 00 17.8 +0.8**
DPC *e* 11 00 21.3
OKC Ostrava-Krasne 68.30 337 *e*P **P** **11 00 19.9 +2.3**
OKC *e*pP **pP** **11 00 22.9 +1.2**
OKC Ostrava-Krasne 68.30 337 *e*P **P** **11 00 19.9 +2.3**
OKC *e* 11 00 22.9
KECS Kecovo 69.06 334 *e*P **P** **11 00 23.9 +1.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 69.06 334 *e*P **P** **11 00 23.9 +1.4**
TREC Trest 69.35 338 *e*P **P** **11 00 24.1 -0.1**
TREC Trest 69.35 338 *e*P **P** **11 00 24.1 -0.1**
VYHS Vyhne 69.42 336 *e*P **P** **11 00 25.9 +1.2**
VYHS pmax pmax
comp=Z,6.0nm,1.4s
VYHS Vyhne 69.42 336 *e*P **P** **11 00 25.9 +1.2**
GERES GERESS Array B 70.12 339 P **P** **11 00 29.0 -0.1**
comp=Z,1.3nm,0.6s,baz=33,slow=5.1,SNR=9.4
GERES LR LR 11 35 39.1
comp=Z,96nm,18.8s,baz=38,slow=40
GERES GERESS Array B 70.12 339 P **P** **11 00 29.0 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,96nm,18.8s
BAIF Baives 70.44 346 *e*P **P** **11 00 31.4 +0.5**
comp=Z,8.7nm,0.8s
BAIF Baives 70.44 346 *e*P **P** **11 00 31.4 +0.5**
BAIF pmax pmax
comp=Z,9.0nm,0.8s
BAIF Baives 70.44 346 *e*P **P** **11 00 31.4 +0.5**
comp=Z,8.7nm,0.8s
CDF Champ du Feu 71.62 343 *e*P **P** **11 00 38.8 +0.6**
comp=Z,9.9nm,0.8s
CDF Champ du Feu 71.62 343 *e*P **P** **11 00 38.8 +0.6**
CDF pmax pmax
comp=Z,10.0nm,0.8s
CDF Champ du Feu 71.62 343 *e*P **P** **11 00 38.8 +0.6**

	comp=Z,9.9nm,0.8s						
FLN	**La Foliniere**	**72.26**	**349**	*e*P	**P**	**11 00 41.9**	**0.0**
FLN	**La Foliniere**	**72.26**	**349**	*e*P	**P**	**11 00 41.9**	**0.0**
FLN	**La Foliniere**	**72.26**	**349**	*e*P	**P**	**11 00 41.9**	**0.0**
LDF	**La Druitiere**	**72.39**	**349**	*e*P	**P**	**11 00 42.5**	**-0.2**
	comp=Z,10.0nm,0.9s						
LDF	**La Druitiere**	**72.39**	**349**	*e*P	**P**	**11 00 42.5**	**-0.2**
LDF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LDF	**La Druitiere**	**72.39**	**349**	*e*P	**P**	**11 00 42.5**	**-0.2**
	comp=Z,10.0nm,0.9s						
FETA	**Feichten**	**72.42**	**341**	⇑*i*P	P	11 00 38.5	-4.6
	comp=Z,3.1nm,0.8s						
GRR	**Gorron**	**72.67**	**349**	*e*P	**P**	**11 00 44.1**	**-0.2**
	comp=Z,12nm,0.8s						
GRR	**Gorron**	**72.67**	**349**	*e*P	**P**	**11 00 44.1**	**-0.2**
GRR				pmax	pmax		
	comp=Z,12nm,0.8s						
GRR	**Gorron**	**72.67**	**349**	*e*P	**P**	**11 00 44.1**	**-0.2**
	comp=Z,12nm,0.8s						
ROSF	**Rostrenen**	**72.94**	**351**	*e*P	**P**	**11 00 46.2**	**+0.3**
ROSF	**Rostrenen**	**72.94**	**351**	*e*P	**P**	**11 00 46.2**	**+0.3**
ROSF	**Rostrenen**	**72.94**	**351**	*e*P	**P**	**11 00 46.2**	**+0.3**
SGMF	**Saint Gilles**	**72.96**	**350**	*e*P	**P**	**11 00 46.5**	**+0.4**
SGMF	**Saint Gilles**	**72.96**	**350**	*e*P	**P**	**11 00 46.5**	**+0.4**
SGMF	**Saint Gilles**	**72.96**	**350**	*e*P	**P**	**11 00 46.5**	**+0.4**
QUIF	**Quistinic**	**73.35**	**351**	*e*P	**P**	**11 00 47.6**	**-0.7**
QUIF	**Quistinic**	**73.35**	**351**	*e*P	**P**	**11 00 47.6**	**-0.7**
QUIF	**Quistinic**	**73.35**	**351**	*e*P	**P**	**11 00 47.6**	**-0.7**
BRTR	**Keskin Array B**	**73.53**	**322**	P	**P**	**11 00 50.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=85,slow=3.1,SNR=3.9						
BRTR				LR	LR	11 35 08.7	
	comp=Z,53nm,20.8s,baz=20,slow=37						
BRTR	**Keskin Array B**	**73.53**	**322**	*i* P	**P**	**11 00 52.0**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MFF	**Saint Martin d**	**74.36**	**348**	*e*P	**P**	**11 00 55.2**	**+0.9**
MFF	**Saint Martin d**	**74.36**	**348**	*e*P	**P**	**11 00 55.2**	**+0.9**
MFF	**Saint Martin d**	**74.36**	**348**	*e*P	**P**	**11 00 55.2**	**+0.9**
LPL	**La Plagne**	**74.53**	**343**	*e*P	**P**	**11 00 56.0**	**+0.4**
LPL	**La Plagne**	**74.53**	**343**	*e*P	**P**	**11 00 56.0**	**+0.4**
LPL	**La Plagne**	**74.53**	**343**	*e*P	**P**	**11 00 56.0**	**+0.4**
LPG	**La Plagne**	**74.55**	**343**	*e*P	**P**	**11 00 56.4**	**+0.6**
	comp=Z,17nm,1.1s						
LPG	**La Plagne**	**74.55**	**343**	*e*P	**P**	**11 00 56.4**	**+0.6**
LPG				pmax	pmax		
	comp=Z,17nm,1.1s						
LPG	**La Plagne**	**74.55**	**343**	*e*P	**P**	**11 00 56.4**	**+0.6**
	comp=Z,17nm,1.1s						
MBDF	**Montbardon**	**75.30**	**343**	*e*P	**P**	**11 01 01.6**	**+1.6**
	comp=Z,4.6nm,0.7s						
MBDF	**Montbardon**	**75.30**	**343**	*e*P	**P**	**11 01 01.6**	**+1.6**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MBDF	**Montbardon**	**75.30**	**343**	*e*P	**P**	**11 01 01.6**	**+1.6**
	comp=Z,4.6nm,0.6s						
RJF	**Les Rejaudoux**	**75.45**	**347**	*e*P	**P**	**11 01 01.1**	**+0.4**
RJF	**Les Rejaudoux**	**75.45**	**347**	*e*P	**P**	**11 01 01.1**	**+0.4**
RJF	**Les Rejaudoux**	**75.45**	**347**	*e*P	**P**	**11 01 01.1**	**+0.4**
ETSF	**Etsaut**	**78.06**	**348**	*e*P	**P**	**11 01 15.9**	**+0.4**
ETSF	**Etsaut**	**78.06**	**348**	*e*P	**P**	**11 01 15.9**	**+0.4**
ETSF	**Etsaut**	**78.06**	**348**	*e*P	**P**	**11 01 15.9**	**+0.4**
CTA	**Charters Tower**	**79.57**	**196**	P	**P**	**11 01 23.6**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=12,slow=9.3,SNR=3.4						
CTA	**Charters Tower**	**79.57**	**196**	P	**P**	**11 01 23.7**	**-0.1**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ESDC	**Sonseca Array**	**81.60**	**350**	P	**P**	**11 01 34.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=357,slow=6.2,SNR=2.9						
WRAB	**Tennant Creek**	**81.74**	**207**	*e*P	**P**	**11 01 38.0**	**+2.6**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**81.75**	**207**	P	**P**	**11 01 35.3**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=20,slow=5.6,SNR=23						
WRA	**Warramunga Arr**	**81.75**	**207**	*i* P	**P**	**11 01 35.2**	**-0.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KEST	**Kesra**	**83.61**	**339**	LR	LR	11 44 13.6	
	comp=Z,23nm,20.0s,baz=244,slow=39						
PPT	**Papeete**	**85.11**	**135**	LR	LR	11 36 08.9	
	comp=Z,51nm,19.4s,baz=296,slow=33						
ASAR	**Alice Springs**	**85.43**	**207**	P	**P**	**11 01 54.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=15,slow=5.2,SNR=31						
ASAR	**Alice Springs**	**85.43**	**207**	P	**P**	**11 01 54.4**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**91.86**	**198**	P	**P**	**11 02 24.8**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=7.4,slow=6.4,SNR=4.0						
STKA	**Stephens Creek**	**91.86**	**198**	P	**P**	**11 02 24.8**	**+0.1**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
QSPA	**South Pole Qui**	**148.27**	**180**	PKPbc	**PKPbc**	**11 09 02.4**	**+0.8**

IDC 28 11:19:57.8±1.7, 5.06S×152.93E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/23, mbtmp3.7/4, Error ellipse: s-maj=66.3km s-min=27.2km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**229**	P	P	11 25 08.1	-0.2
	0.9nm,0.6s,baz=52,slow=9.9,SNR=7.8						
ASAR	**Alice Springs**	**26.05**	**223**	P	P	11 25 33.2	+0.1
	0.6nm,0.8s,baz=60,slow=8.4,SNR=9.3						
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	P	11 29 54.1	+0.5
	0.6nm,0.4s,baz=118,slow=5.4,SNR=5.2						
ILAR	**Eielson Array**	**82.35**	**22**	P	P	11 32 21.1	-0.2
	1.0nm,0.9s,baz=248,slow=5.4,SNR=8.2						
TORD	**Torodi Ar. Bea**	**150.51**	**288**	PKPbc	PKPbc	11 39 52.0	-0.6
	0.7nm,0.6s,baz=93,slow=2.5,SNR=9.4						

GUC 28 11:29:12.5±0.3, 36.24S×73.60W, h10km±2km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.66**	**81**	*e*P	Pg	11 29 24.5	-0.8
COCH				*e*S	Sg	11 29 33.6	-0.5
CCSP	**San Pedro de C**	**0.72**	**147**	*e*P	Pg	11 29 25.4	-1.0
CCSP				*e*S	Sg	11 29 35.4	-0.5
CCSP				AML	AML	11 29 38.6	
	comp=E,7μm,0.3s						

IDC 28 11:42:01.5±3.7, 19.57S×176.41W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/36, mbtmp4.2/3, Error ellipse: s-maj=164.7km s-min=71.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.54**	**243**	P	P	11 49 34.5	+0.1
	2.2nm,0.7s,baz=87,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**46.19**	**256**	P	P	11 50 28.4	-0.2
	2.6nm,0.5s,baz=96,slow=7.9,SNR=52						
ASAR				PcP	PcP	11 52 04.0	-0.6
	0.2nm,0.5s,baz=116,slow=4.3,SNR=3.6						
WRA	**Warramunga Arr**	**46.22**	**261**	P	P	11 50 28.7	-0.1
	0.6nm,0.3s,baz=97,slow=7.4,SNR=51						
AKASG	**Malin Array Be**	**142.90**	**333**	PKP	PKPdf	12 01 37.2	+0.2
	0.2nm,0.3s,baz=47,slow=3.9,SNR=4.7						

CSEM 28 11:42:30.2, 42.41N×3.15W, h0km, ML1.0, Mining explosion., Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.84**	**346**	Pg	Pg	11 42 46.1	-0.3
	3.6nm,0.3s,SNR=15						
ELAN				Lg	Lg	11 42 56.6	
	4.0nm,0.5s,SNR=4.6						
EALK	**Alkurruntz**	**1.45**	**56**	Pg	Pn	11 42 57.2	-0.5
	3.6nm,0.4s,SNR=8.4						
EALK				Lg	Lg	11 43 16.8	
	13nm,0.8s,SNR=6.9						
IELO	**Elcoad**	**1.48**	**72**	Pg	Pn	11 42 56.9	-1.3
	3.2nm,1.0s,SNR=7.9						
EARI	**Arriondas**	**1.75**	**301**	Pg	Pn	11 43 01.4	-0.5
	0.2nm,1.3s,SNR=7.9						
EARI				Lg	Lg	11 43 26.1	
	5.0nm,1.7s,SNR=7.9						
ETOR	**Torete**	**1.79**	**152**	Pg	Pb	11 43 03.9	-0.2
	0.9nm,1.1s,SNR=7.9						
ETOR				Lg	Lg	11 43 27.6	
	6.0nm,1.5s,SNR=7.9						
ATE	**Arette**	**1.93**	**69**	Pg	Pb	11 43 05.6	-0.7
	4.6nm,1.8s,SNR=7.9						
ATE				Lg	Lg	11 43 29.1	
	0.2nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**2.71**	**261**	Pg	Pb	11 43 19.3	-0.3
	1.1nm,0.6s,SNR=7.9						
ECAL				Lg	Lg	11 43 57.5	
	1.8nm,0.9s,SNR=5.3						
EMOS	**Mosqueruela**	**2.87**	**135**	Pn	Pn	11 43 14.4	-3.1
	SNR=7.9						

*JMA **28** 11:46:22.3±0.2, 25.27N×121.75E, h12km, M2.9*
*TAP **28** 11:46:22.9, 25.24N×121.69E, h3km, ML3.5, B*
*ISCJB **28** 11:46:23.3±0.5, 25.26N±0.02×121.73E±0.02, h7km±2km, Error ellipse: s-maj=4.2km s-min=3.1km az=165.5*
ISC 28 11:46:23.2±0.9, 25.24N±0.03×121.74E±0.02, h10km±6km, n51, σ0.74/81, 10C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWY	**Chenhua**	**0.13**	**286**	⇓*i*P	**Pg**	**11 46 25.5**	**-0.7**
	baz=296						
TWY				S	**Sg**	**11 46 27.4**	**-0.9**
	baz=296						
NWF	**Wu-fen Shan**	**0.17**	**166**	⇓*i*P	**Pg**	**11 46 27.5**	**+0.5**
	baz=152						
NWF				*i* S	**Sg**	**11 46 30.5**	**+0.8**
	baz=152						
TAP1	**Taipei**	**0.28**	**224**	⇑*i*P	**Pg**	**11 46 29.1**	**+0.2**
	baz=214						
TAP1				S	**Sg**	**11 46 33.5**	**+0.9**
	baz=214						
TAP	**Taipei**	**0.29**	**226**	⇑P	**Pg**	**11 46 29.1**	**+0.1**
	baz=214						
TAP				*e*S	**Sg**	**11 46 33.5**	**+0.5**
	baz=214						
TWA	**Mucha**	**0.29**	**208**	⇑*i*P	**Pg**	**11 46 29.6**	**+0.5**
	baz=178						
TWA				*i* S	**Sg**	**11 46 34.2**	**+1.1**
	baz=178						
TWS1	**Kuangyinshan**	**0.32**	**244**	⇑*i*P	**Pg**	**11 46 30.0**	**+0.4**
	baz=223						
TWS1				S	**Sg**	**11 46 34.8**	**+0.8**
	baz=223						
TWB1	**Santiao Chiao**	**0.33**	**135**	⇓*i*P	**Pb**	**11 46 30.7**	**-0.5**
	baz=129						
TWB1				*e*S	**Sb**	**11 46 35.6**	**-0.8**
	baz=129						
ILA	**Ilan**	**0.47**	**179**	*e*P	**Pb**	**11 46 33.4**	**-0.2**
	baz=169						
ILA				S	**Sb**	**11 46 40.3**	**-0.4**
	baz=169						
PCYT	**Pengchaiyu**	**0.49**	**38**	⇓*e*P	**Pb**	**11 46 33.9**	**0.0**
	baz=48						
PCYT				*e*S	**Sb**	**11 46 42.6**	**+1.3**
	baz=48						
NCU	**National Centr**	**0.57**	**242**	*e*P	**Pb**	**11 46 35.1**	**-0.1**
	baz=234						
NCU				*e*S	**Sb**	**11 46 43.3**	**-0.1**
	baz=234						
ENTT	**Nioudou**	**0.62**	**194**	⇑*i*P	**Pb**	**11 46 35.8**	**-0.3**
	baz=172						
ENTT				*e*S	**Sg**	**11 46 43.8**	**+0.4**
	baz=172						
TWC	**Suao**	**0.64**	**171**	*e*P	**Pb**	**11 46 36.3**	**-0.2**
	baz=177						
TWC				*e*S	**Sb**	**11 46 45.3**	**-0.1**
	baz=177						
NSK	**Sanguang**	**0.66**	**211**	⇑*i*P	**Pg**	**11 46 36.1**	**+0.2**
	baz=204						
NSK				*e*S	**Sg**	**11 46 44.6**	**0.0**
	baz=204						
ENA	**Nanau**	**0.81**	**180**	*e*P	**Pb**	**11 46 39.2**	**-0.2**
	baz=184						
ENA				*e*S	**Sb**	**11 46 50.2**	**-0.1**
	baz=184						
HSN	**Hsinchu**	**0.82**	**238**	*e*P	**Pg**	**11 46 37.9**	**-1.1**
	baz=232						
HSN				*e*S	**Sb**	**11 46 50.3**	**-0.4**
	baz=232						
NNS	**Nan Shan**	**0.86**	**203**	P	**Pg**	**11 46 39.8**	**-0.1**
	baz=196						
NNS				*e*S	**Sb**	**11 46 51.5**	**-0.5**
	baz=196						
NSTT	**Nanjuang**	**0.90**	**228**	⇑*i*P	**Pb**	**11 46 41.1**	**+0.1**
	baz=220						
NSTT				*e*S	**Sn**	**11 46 54.2**	**-0.8**
	baz=220						
TWT	**Tachien**	**1.11**	**207**	⇓*e*P	**Pg**	**11 46 44.5**	**0.0**
	baz=190						
TWT				*e*S	**Sg**	**11 46 59.2**	**+0.2**
	baz=190						
TWD	**Chiawan**	**1.16**	**186**	P	**Pb**	**11 46 45.3**	**-0.1**
	baz=180						
TWD				*e*S	**Sg**	**11 47 00.9**	**+0.2**
	baz=180						
WHF	**Hehuan Shan**	**1.17**	**202**	⇑P	**Pb**	**11 46 45.5**	**-0.3**
	baz=204						
WHF				*e*S	**Sn**	**11 47 02.5**	**+0.2**
	baz=204						
NSY	**Sanyi**	**1.21**	**227**	*e*P	**Pn**	**11 46 45.9**	**-0.3**
	baz=198						
NSY				*e*S	**Sn**	**11 47 03.1**	**+0.4**
	baz=198						
TWQ1	**Liyutan**	**1.25**	**225**	*e*P	**Pn**	**11 46 46.4**	**-0.4**
	baz=198						
TWQ1				*e*S	**Sn**	**11 47 04.0**	**+0.4**
	baz=198						
HWA	**Hwalien**	**1.26**	**185**	*e*P	**Pg**	**11 46 47.6**	**+0.1**
	baz=179						
JYNG	**Yonagunijimaku**	**1.35**	**125**	P	**Pn**	**11 46 46.7**	**-1.4**
YOJ	**Yonaguni jima**	**1.39**	**124**	P	**Pn**	**11 46 47.0**	**-1.7**
YOJ				*e*S	**Sn**	**11 47 06.5**	**-0.7**
ESL	**Shilin**	**1.45**	**191**	*e*P	**Pb**	**11 46 49.8**	**-0.5**
	baz=185						
ESL				*e*S	**Sg**	**11 47 09.3**	**-0.5**
	baz=185						
TCU	**Taichung**	**1.45**	**222**	*e*P	**Pb**	**11 46 50.2**	**-0.2**
	baz=232						
SMLT	**Sun Moon Lake**	**1.55**	**210**	*e*P	**Pn**	**11 46 51.2**	**+0.2**
	baz=192						
TYC	**Yuchr**	**1.55**	**211**	*e*P	**Pn**	**11 46 51.0**	**+0.1**
	baz=204						
TYC				*e*S	**Sg**	**11 47 14.0**	**+0.8**
	baz=204						
WNT	**Mingjian**	**1.66**	**215**	*e*P	**Pg**	**11 46 55.3**	**+0.2**
	baz=204						
EHY	**Hungye**	**1.77**	**192**	*e*P	**Pn**	**11 46 54.4**	**+0.5**
	baz=186						
EHY				*e*S	**Sb**	**11 47 17.9**	**-0.1**
	baz=186						
YUS	**Yu-Shan**	**1.89**	**202**	*e*P	**Pb**	**11 46 57.6**	**-0.5**
	baz=194						
CHN5	**Tsauling**	**1.90**	**211**	⇑*e*P	**Pn**	**11 46 55.8**	**0.0**
	baz=198						
CHN5				*e*S	**Sb**	**11 47 20.8**	**-1.1**
	baz=198						
ALS	**Alishan**	**1.92**	**206**	*e*P	**Pn**	**11 46 56.6**	**+0.3**
	baz=191						
TWF1	**Yuli**	**1.92**	**192**	*e*P	**Pn**	**11 46 56.7**	**+0.7**
	baz=168						
IRIF	**Iriomote-Funau**	**2.02**	**116**	P	**Pn**	**11 46 58.4**	**+1.0**
IRIF				*e*S	**Sb**	**11 47 25.6**	**+0.2**
ELDTW	**Lidau**	**2.15**	**198**	*e*P	**Pn**	**11 47 00.3**	**+1.1**
	baz=184						
CHN4	**Tsaushan**	**2.15**	**209**	⇑*e*P	**Pn**	**11 46 59.8**	**+0.6**
	baz=196						
CHKT	**Chengkung**	**2.16**	**189**	*e*P	**Pb**	**11 47 01.0**	**-1.4**
	baz=180						
WTP	**Ta-pu**	**2.23**	**208**	*e*P	**Pn**	**11 47 01.1**	**+0.7**
	baz=193						
STYT	**Tauyuan**	**2.25**	**204**	*e*P	**Pn**	**11 47 01.5**	**+0.9**
	baz=191						
STYT				*e*S	**Sb**	**11 47 33.3**	**+1.2**
	baz=191						
TWK	**Hsinying**	**2.27**	**210**	*e*P	**Pn**	**11 47 01.4**	**+0.6**
	baz=216						
CHN1	**Nanshi**	**2.33**	**209**	*e*P	**Pn**	**11 47 02.5**	**+0.9**
	baz=214						
JIJ	**Ishigaki jima**	**2.36**	**111**	P	**Pn**	**11 47 03.5**	**+1.5**
JIJ				*e*S	**Sb**	**11 47 34.6**	**-0.3**
SGST	**Jiashian**	**2.39**	**206**	*e*P	**Pb**	**11 47 05.1**	**-1.3**
	baz=192						
JISG	**Ishigakijimahi**	**2.43**	**105**	P	**Pn**	**11 47 03.1**	**+0.2**
TWG	**Pinlang**	**2.48**	**194**	*e*P	**Pn**	**11 47 04.8**	**+1.0**
	baz=166						
PNG	**Penghu**	**2.59**	**230**	*e*P	**Pn**	**11 47 06.6**	**+1.3**
	baz=220						
SSD	**Sandimen**	**2.68**	**202**	*e*P	**Pb**	**11 47 09.1**	**-2.2**
	baz=188						
EAST	**Anshuo**	**2.96**	**196**	*e*P	**Pn**	**11 47 10.9**	**+0.6**
	baz=169						
KNM	**Kinmen**	**3.11**	**255**	*e*P	**Pn**	**11 47 13.0**	**+0.7**
	baz=250						

NNC 28 11:51:31.6±3.5, 41.96N×82.44E, h0km, mb3.8, mpv3.4, 9C-5D, Error ellipse: s-maj=27.6km s-min=15.3km az=146.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.57**	**303**	⇓Pn	Pn	11 52 14.7	+0.2
	20nm,0.4s						
PDGK				⇓Sn	Sb	11 52 48.9	-1.8
	125nm,0.5s						
MK31	**Makanchi Array**	**4.83**	**359**	Pn	Pn	11 52 47.0	+1.4
	0.4nm,0.3s,baz=190,slow=13,SNR=32						
MK31				⇑Pg	Pg	11 53 02.6	-1.7
	1.3nm,0.3s,baz=168,slow=16,SNR=5.9						
MK31				⇓Sn	Sn	11 53 40.3	-2.1
	2.0nm,0.3s,baz=57,slow=27,SNR=7.0						
MK31				⇑Lg	Lg	11 54 05.6	
	11nm,0.7s,baz=191,slow=25,SNR=5.8						
TKM2	**Tokmak 2**	**5.16**	**283**	⇑Pn	Pn	11 52 48.2	-2.1
	2.5nm,0.6s						
TKM2				⇑Pg	Pb	11 53 03.5	+0.6
	13nm,1.2s						
TKM2				⇑Sn	Sn	11 53 50.4	-0.3
	5.1nm,0.5s						
TKM2				⇑Lg	Lg	11 54 12.1	
	18nm,0.7s						
AAK	**Ala-Archa**	**5.93**	**279**	⇓Pn	Pn	11 53 03.1	+2.2
	1.0nm,0.4s						
AAK				⇑Pg	Pb	11 53 18.5	+2.5
	9.0nm,1.4s						
AAK				⇑Lg	Lg	11 54 35.9	
	12nm,0.7s						
KURBB	**Kurchatov Arra**	**9.08**	**344**	⇑Lg	Lg	11 56 20.0	
	17nm,0.8s						
KURK	**Kurchatov**	**9.15**	**345**	⇓Lg	Lg	11 56 23.7	
	6.8nm,1.1s						

IDC 28 11:54:01.6±44.0, 15.76S×176.47W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/36, mbtmp4.4/3, Error ellipse: s-maj=833.1km s-min=149.5km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.30**	**239**	P	P	12 01 48.9	-0.2
	8.3nm,0.7s,baz=91,slow=9.9,SNR=16						
WRA	**Warramunga Arr**	**46.88**	**257**	P	P	12 02 34.0	-0.1
	0.4nm,0.3s,baz=91,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**47.19**	**252**	P	P	12 02 36.3	-0.1
	8.4nm,0.6s,baz=89,slow=8.2,SNR=88						

*IDC **28** 12:15:28.5±2.5, 53.71N×86.82E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=22.8km s-min=13.5km az=67.0*
*NNC **28** 12:15:34.4±5.0, 53.29N×86.68E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=36.9km s-min=29.3km az=32.0*
ISC 28 12:15:28.4±4.1, 53.9N±0.2×87.1E±0.2, h35km, n7, σ1.9/86/9, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**271**	*i*		12 23 40.0	
	baz=101,slow=325,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.37**	**271**	Pg	**Pn**	**12 15 50.0**	**-1.0**
	1.6nm,0.3s,baz=100,slow=17,SNR=17						
ZALV				Lg	Lg	12 16 08.7	
	2.6nm,0.3s,baz=102,slow=27,SNR=13						
ZALV				Rg	Rg	12 16 15.5	
	1.3nm,0.3s,baz=111,slow=36,SNR=8.2						
KURK	**Kurchatov**	**6.14**	**242**	⇑Pn	**Pn**	**12 16 59.4**	**+2.9**
	0.2nm,0.4s						
KURK				⇑Sn	**Sn**	**12 18 04.1**	**-1.4**
	0.8nm,1.1s						
KURK				⇑Lg	Lg	12 18 32.6	
	1.6nm,1.4s						
KURBB	**Kurchatov Arra**	**6.24**	**241**	⇓Pn	**Pn**	**12 16 59.0**	**+1.1**
	0.2nm,0.2s,baz=56,slow=15						
KURBB				⇑Sn	**Sn**	**12 18 08.5**	**+0.6**
	0.8nm,0.3s						
KURBB				⇓Lg	Lg	12 18 34.0	
	1.0nm,0.3s,baz=64,slow=33						
KURBB	**Kurchatov Arra**	**6.24**	**241**	Pn	**Pn**	**12 16 59.0**	**+1.1**
	0.1nm,0.3s,baz=56,slow=13,SNR=6.2						
KURBB				Lg	Lg	12 18 38.0	
	0.2nm,0.3s,baz=63,slow=34,SNR=7.6						
MK31	**Makanchi Array**	**7.79**	**205**	⇓Pn	**Pn**	**12 17 19.2**	**-0.1**
	0.1nm,0.3s,baz=356,slow=8.5,SNR=12						
MK31				⇑Sn	**Sn**	**12 18 43.9**	**-2.3**
	0.1nm,0.4s						
MK31				⇑Lg	Lg	12 19 16.3	
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**7.79**	**205**	Pn	**Pn**	**12 17 20.5**	**+1.2**
	0.3nm,0.3s,baz=14,slow=16,SNR=12						
MKAR				Lg	Lg	12 19 24.3	
	0.1nm,0.3s,baz=16,slow=33,SNR=5.8						

WEL 28 12:21:50.0±0.7, 35.42S×178.27E, h210km±13km, ML3.8/10, Error ellipse: s-maj=12.5km s-min=12.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.36**	**189**	PN	Pn	12 22 32.9	-0.1
HAZ				SN	S	12 23 06.5	+0.2
WMGZ	**Waiomatatini S**	**2.40**	**177**	PN	Pn	12 22 33.4	+0.1
WMGZ				SN	S	12 23 06.6	-0.3
PUZ	**Puketiti**	**2.65**	**180**	PN	Pn	12 22 35.6	-0.5
PUZ				SN	S	12 23 10.6	-1.3
TWGZ	**Tauwhareparae**	**2.76**	**185**	PN	Pn	12 22 38.1	+0.7
TWGZ				SN	S	12 23 14.7	+0.5
MWZ	**Matawai**	**2.97**	**191**	PN	Pn	12 22 40.3	+0.6
URZ	**Urewera**	**2.98**	**198**	PN	Pn	12 22 40.1	+0.3
RIGZ	**Rimuhau**	**3.30**	**187**	PN	Pn	12 22 43.5	-0.2
RAHZ	**Arahi**	**3.62**	**195**	PN	Pn	12 22 47.5	+0.1
KNZ	**Kokohu**	**3.62**	**187**	PN	Pn	12 22 46.6	-0.8
ARHZ	**Arapaoanui**	**3.97**	**194**	PN	Pn	12 22 51.4	-0.2
BKZ	**Black Stump Fm**	**4.00**	**200**	PN	Pn	12 22 52.7	+0.6
**B

After GUC.
NEIC Felt [III] at Pichilemu.
GUC ***28*** *12:28:50.2±0.6, 34°.58S×72°.24W, h8km±4km, ML3.8*
ISC 28 12:28:48.4±2.7, 34°.57S±0°.08×72°.34W±0°.09, h4km±17km, n19, σ1§25/24, mb4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.01**	**145**	*eP*		**Pg**		**12 29 07.8**	**+0.1**
TALC				*i* S		**Sg**		**12 29 21.1**	**+0.3**
NICH	**Los Niches**	**1.01**	**116**	*e*P		**Pg**		**12 29 07.8**	**0.0**
NICH				*i* S		**Sg**		**12 29 20.8**	**-0.1**
PCH	**Pirque**	**1.79**	**59**	*e*P		**Pn**		**12 29 20.4**	**+0.2**
PCH				*i* S		**Sn**		**12 29 43.1**	**-0.3**
CLCH	**Cerro Calan**	**1.90**	**53**	*i* P		**Pn**		**12 29 22.2**	**+0.5**
CLCH				*e*S		**Sn**		**12 29 46.6**	**+0.4**
CLCH					AML	AML		12 29 48.9	
	comp=E,1μm,0.1s								
ROCH	**El Roble**	**1.94**	**35**		AML	AML		12 29 58.4	
	comp=E,1μm,0.7s								
PEL	**Peldehue**	**1.98**	**45**	*e*P		**Pn**		**12 29 23.2**	**+0.4**
PEL				*i* S		**Sn**		**12 29 48.5**	**+0.4**
CFAA	**Coronel Fontan**	**4.54**	**51**	Pn		**Pn**		**12 29 59.2**	**+1.3**
	comp=E,0.1nm,0.3s,baz=237,slow=11,SNR=3.6								
CFAA					Sn	**Sb**		**12 31 00.7**	**-3.1**
	comp=E,0.6nm,0.3s,baz=344,slow=19,SNR=4.8								
PLCA	**Paso Flores**	**6.32**	**168**	Pn		**Pn**		**12 30 22.6**	**+0.3**
	comp=E,0.7nm,0.3s,baz=344,slow=10,SNR=20								
PLCA					Lg	Lg		12 32 00.9	
	comp=E,0.4nm,0.3s,baz=248,slow=19,SNR=2.3								
PLCA	**Paso Flores**	**6.32**	**168**	Pn		**Pn**		**12 30 22.6**	**+0.3**
	comp=E,6.1nm,0.8s								
PLCA					Lg	Lg		12 32 00.9	
LPAZ	**La Paz**	**18.59**	**13**	P		**P**		**12 33 07.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=185,slow=9.8,SNR=7.8								
LPAZ	**La Paz**	**18.59**	**13**	P		**P**		**12 33 07.1**	**-0.2**
	comp=E,0.9nm,0.7s								
NNA	**Nana**	**22.85**	**349**	*e*P		**P**		**12 33 52.9**	**+0.1**
	comp=E,4.0nm,0.4s								
SAML	**Samuel**	**26.85**	**20**	*e*P		**P**		**12 34 31.7**	**+1.6**
	comp=E,4.4nm,0.4s								
RCBR	**Riachuelo**	**44.16**	**58**	*e*P		**P**		**12 36 59.3**	**+0.8**
	comp=E,31nm,1.4s								
QSPA	**South Pole Qui**	**55.67**	**180**	P		**P**		**12 38 24.9**	**-0.6**
	comp=E,1.2nm,0.5s,baz=121,slow=5.9,SNR=8.0								
JCT	**Junction City**	**69.69**	**335**	*e*P		**P**		**12 39 59.1**	**-0.2**
	comp=E,5.7nm,0.4s								
TXAR	**Lajitas Array**	**70.11**	**331**	P		**P**		**12 40 01.1**	**-0.9**
	comp=E,0.2nm,0.6s,baz=161,slow=8.2,SNR=5.2								
TORD	**Toroli Ar. Bea**	**84.64**	**70**	P		**P**		**12 41 25.9**	**+2.3**
	comp=E,0.3nm,0.8s,baz=242,slow=5.3,SNR=2.3								
WRA	**Warramunga Arr**	**120.14**	**209**	PKP		**PKPdf**		**12 47 38.2**	**-3.0**
	comp=E,0.2nm,0.5s,baz=147,slow=1.6,SNR=3.4								

NEIC ***28*** *12:33:46.4±0.3, 34°.64S×71°.72W, h35km, mb4.7/7, Error ellipse: s-maj=10.4km s-min=6.7km az=82.0*
NEIC Felt [V] at Curico, Molina and Romeral; [IV] at Chimbarongo, Rancagua, Rio Claro, San Fernando and Talca; [III] at Linares, Pencahue, Santiago and Villa Alegre; [II] at San Antonio. Also felt at Colina, Puente Alto, Rengo, Talagante and Teno.
GUC ***28*** *12:33:46.0±0.3, 34°.47S×71°.94W, h39km±5km, ML4.6*
ISCJB ***28*** *12:33:47.4±0.7, 34°.67S±0°.04×71°.62W±0°.07, h60km±6km, mb4.7/22, Error ellipse: s-maj=9.8km s-min=5.5km az=26.6*
IDC ***28*** *12:33:48.2±0.6, 34°.66S×71°.56W, h51km±4km, mb4.2/11, mb1 4.4/16, mb1mx4.3/24, mbtmp4.5/16, MS3.6/11, Ms1 3.5/11, ms1mx3.4/21, Error ellipse: s-maj=20.3km s-min=11.9km az=89.0*
BJI ***28*** *12:33:48.9, 34°.60S×71°.60W, h35km, mB4.9/2, Ms7 4.4/1*
ISC 28 12:33:47.9±0.5, 34°.66S±0°.05×71°.69W±0°.07, h49km±4km, h49km:pP-P, n88, σ1§16/101, mb4.8/22, MS3.7/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**1.50**	**48**	*e*P		**Pn**		**12 34 12.0**	**-0.6**
SJCH				*e*S		**Sn**		**12 34 31.6**	**+0.5**
SJCH					AML	AML		12 34 33.6	
	comp=N,15μm,0.4s								
COCH	**Cobquecura**	**1.72**	**211**	*e*P		**Pn**		**12 34 14.8**	**-0.6**
COCH				*e*S		**Sn**		**12 34 37.1**	**+0.8**
CFAA	**Coronel Fontan**	**4.20**	**44**	P		**Pn**		**12 34 50.1**	**+0.6**
	comp=N,3.7nm,0.3s,baz=217,slow=11,SNR=78								
CFAA					S	**Sn**		**12 35 41.1**	**+3.8**
	comp=N,3.4nm,0.3s,baz=328,slow=18,SNR=3.2								
CFAA					LR	LR		12 36 41.7	
	comp=N,103nm,21.1s,baz=229,slow=42								
PLCA	**Paso Flores**	**6.13**	**172**	P		**Pn**		**12 35 17.7**	**+1.7**
	comp=N,9.0nm,0.3s,baz=338,slow=11,SNR=148								
PLCA					S	Sn		12 36 39.3	+14
	comp=N,2.5nm,0.3s,baz=19,slow=18,SNR=1.7								
PLCA					LR	LR		12 37 45.2	
	comp=N,487nm,21.1s,baz=0.5,slow=39								
TRQA	**Tornquist**	**8.53**	**116**	*e*Pn		**Pn**		**12 35 49.2**	**+0.4**
LVC	**Limon Verde**	**12.25**	**12**	P		**Pn**		**12 36 41.7**	**+1.8**
	comp=N,59nm,0.3s,baz=188,slow=12,SNR=10								
LVC					S	**Sn**		**12 38 54.5**	**-0.6**
	comp=N,50nm,0.3s,baz=188,slow=15,SNR=3.4								
LVC					LR	LR		12 41 49.1	
	comp=N,919nm,20.5s,baz=212,slow=39								
LVC	**Limon Verde**	**12.25**	**12**	Pn		**Pn**		**12 36 37.9**	**-2.0**
LVC				S		**Sn**		**12 38 54.5**	**-0.6**
CPUP	**Villa Florida**	**14.89**	**60**	P		**Pn**		**12 37 15.9**	**+0.5**
	comp=N,0.2nm,0.3s,baz=231,slow=9.3,SNR=8.6								
CPUP					S	**Sn**		**12 39 58.6**	**-0.5**
	comp=N,0.1nm,0.3s,baz=237,slow=9.8,SNR=2.8								
CPUP					LR	LR		12 43 37.5	
	comp=N,3μm,18.2s,baz=236,slow=40								
LPAZ	**La Paz**	**18.57**	**11**	P		**Pn**		**12 38 02.8**	**+0.6**
	comp=N,1.3nm,0.3s,baz=180,slow=7.8,SNR=34								
LPAZ	**La Paz**	**18.57**	**11**	P		**Pn**		**12 38 02.8**	**+0.6**
LPAZ				*e*Pn		**P**		**12 38 03.0**	**+1.5**
USHA	**Ushuaia**	**20.30**	**175**	P		**P**		**12 38 20.2**	**+0.8**
	comp=N,15nm,0.8s,baz=341,slow=7.9,SNR=6.2								
USHA					LR	LR		12 45 52.3	
	comp=N,231nm,21.3s,baz=53,slow=36								
NNA	**Nana**	**23.05**	**347**	LR		LR		12 46 25.2	
	comp=N,53nm,18.2s,baz=158,slow=33								
SAML	**Samuel**	**26.75**	**19**	*e*P		**P**		**12 39 22.3**	**-0.8**
	comp=N,5.1nm,0.7s								
BDFB	**Brasilia**	**28.47**	**54**	P		**P**		**12 39 36.2**	**-2.4**
	comp=N,4.5nm,0.5s,baz=220,slow=14,SNR=6.4								
BDFB					LR	LR		12 51 31.8	
	comp=N,189nm,18.8s,baz=224,slow=38								
BDFB	**Brasilia**	**28.47**	**54**	*e*P		**P**		**12 39 37.4**	**-1.3**
SDV	**Santo Domingo**	**43.32**	**2**	*e*P		**P**		**12 41 44.8**	**-0.6**
	comp=N,8.5nm,1.1s								
VNA3	**Neumayer Olymp**	**48.64**	**158**	P		**P**		**12 42 26.4**	**0.0**
VNA2	**Neumayer--Watz**	**49.29**	**157**	P		**P**		**12 42 31.4**	**-0.1**
	baz=293,slow=9.3								
SNAA	**Sanae**	**50.87**	**158**	P		**P**		**12 42 43.6**	**+0.1**
SNAA	**Sanae**	**50.87**	**158**	P		**P**		**12 42 43.2**	**-0.2**
	comp=N,2.1nm,0.7s,baz=271,slow=7.7,SNR=9.1								
SNAA	**Sanae**	**50.87**	**158**	*e*P		**P**		**12 42 43.4**	**-0.1**
CELP	**Cerrillos**	**52.67**	**6**	*e*P		**P**		**12 42 56.6**	**-0.7**
QSPA	**South Pole Qui**	**55.58**	**180**	P		**P**		**12 43 18.8**	**+0.6**
	comp=N,9.5nm,0.8s,baz=160,slow=0.9,SNR=28								
QSPA					pP	**pP**		**12 43 32.1**	**+0.3**
	comp=N,9.1nm,0.8s,baz=152,slow=4.5,SNR=9.9								
TEIG	**Tepich**	**56.82**	**341**	*e*P		**P**		**12 43 27.3**	**0.0**
	comp=N,13nm,0.9s								
VNDA	**Vanda**	**63.51**	**191**	pP		pP		12 44 27.2	+0.9
	comp=N,0.8nm,0.7s,baz=141,slow=10,SNR=3.3								
CSU	**Charleston Sou**	**67.75**	**352**	*e*P		**P**		**12 44 39.6**	**-0.7**
TXAR	**Lajitas Array**	**70.45**	**331**	P		**P**		**12 44 58.0**	**+0.8**
	comp=N,1.2nm,0.4s,baz=154,slow=8.2,SNR=20								
TXAR					pP	**pP**		**12 45 11.9**	**+0.7**
	comp=N,2.1nm,0.6s,baz=152,slow=9.0,SNR=11								
TXAR					LR	LR		13 10 41.6	
	comp=N,44nm,19.6s,baz=0.0,slow=31								
ABTX	**Abilene, Hawle**	**71.90**	**335**	*e*P		**P**		**12 45 06.5**	**+0.7**
WVT	**Waverly**	**72.02**	**346**	*e*P		**P**		**12 45 06.4**	**0.0**
MAW	**Mawson**	**72.47**	**163**	P		**P**		**12 45 08.8**	**0.0**
	comp=N,7.2nm,0.8s,baz=204,slow=6.1,SNR=9.5								
MAW					LR	LR		13 18 04.3	
	comp=N,56nm,18.4s,baz=240,slow=37								
MNTX	**Cornudas Mount**	**73.23**	**330**	*e*P		**P**		**12 45 13.8**	**0.0**
	comp=N,5.8nm,0.8s								
LIC	**Lamto**	**74.71**	**71**	*e*P		**P**		**12 45 22.0**	**-0.8**
	comp=N,24nm,0.6s								
121A	**Cookes Peak, D**	**74.95**	**329**	*e*P		**P**		**12 45 25.7**	**+1.7**
	comp=N,3.0nm,0.8s								
TIC	**Toumodi**	**74.97**	**71**	*e*P		**P**		**12 45 23.4**	**-1.0**
	comp=N,10.0nm,0.2s								
KIC	**Kosan Boka**	**75.02**	**71**	*e*P		**P**		**12 45 24.0**	**-0.6**
	comp=N,27nm,0.6s								
DBIC	**Dimbokro**	**75.12**	**71**	P		**P**		**12 45 24.4**	**-0.8**
	comp=N,8.7nm,0.5s,baz=220,slow=5.1,SNR=22								
DBIC					LR	LR		13 17 21.0	
	comp=N,21nm,18.1s,baz=180,slow=35								
DBIC	**Dimbokro**	**75.12**	**71**	*e*P		**P**		**12 45 24.7**	**-0.5**
ACSO	**Alum Creek Sta**	**75.25**	**351**	*e*P		**P**		**12 45 25.2**	**-0.1**
	comp=N,21nm,0.9s								
ANMO	**Albuquerque**	**76.50**	**331**	*e*P		**P**		**12 45 34.2**	**+1.4**
SDCO	**Great Sand Dun**	**78.59**	**333**	*e*P		**P**		**12 45 45.4**	**+0.9**
	comp=N,48nm,2.6s								
ECSD	**EROS Data Cent**	**81.26**	**342**	*e*P		**P**		**12 45 58.4**	**0.0**
LBTB	**Lobatse**	**81.77**	**115**	*e*P		**P**		**12 46 01.1**	**-0.8**
	comp=N,12nm,0.8s								
TOA0	**Torodi Ar. Sit**	**84.16**	**70**	*e*P		**P**		**12 46 13.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**84.19**	**70**	P		**P**		**12 46 13.5**	**-0.7**
	comp=N,9.8nm,0.7s,baz=249,slow=4.6,SNR=56								
TORD					pP	**pP**		**12 46 29.2**	**+0.7**
	comp=N,3.6nm,0.8s,baz=252,slow=3.9,SNR=5.8								
TORD					LR	LR		13 21 24.3	
	comp=N,32nm,19.3s,baz=215,slow=34								
PDAR	**Pinedale Array**	**84.48**	**333**	P		**P**		**12 46 15.4**	**-0.1**
	comp=N,0.9nm,0.8s,baz=193,slow=4.0,SNR=7.6								
NVAR	**Mina Array Bea**	**84.59**	**325**	P		**P**		**12 46 17.0**	**+0.9**
	comp=N,0.8nm,0.7s,baz=178,slow=5.2,SNR=5.3								
NVAR					pP	**pP**		**12 46 31.4**	**+1.0**
	comp=N,1.0nm,0.7s,baz=143,slow=5.4,SNR=4.6								
ULM	**Lac du Bonnet**	**87.21**	**345**	P		**P**		**12 46 27.6**	**-0.9**
	comp=N,3.7nm,0.8s,baz=179,slow=3.3,SNR=5.3								
DGMT	**Dagmar**	**87.70**	**339**	*e*P		**P**		**12 46 31.8**	**+0.9**
	comp=N,24nm,0.6s								
MDT	**Midelt**	**92.00**	**51**	LR		LR		13 27 44.2	
	comp=N,34nm,20.1s,baz=185,slow=35								
ASAR	**Alice Springs**	**117.11**	**206**	PKiKPbc		PKKPbc		13 02 51.7	-0.3
	comp=N,0.4nm,0.7s,baz=342,slow=3.1,SNR=5.9								
WRA	**Warramunga Arr**	**120.33**	**209**	PKP		**PKPdf**		**12 52 32.8**	**-1.4**
	comp=N,0.4nm,0.4s,baz=156,slow=1.8,SNR=10								
BRTR	**Keskin Array B**	**121.90**	**61**	PKP		**PKPdf**		**12 52 35.7**	**-1.0**
	comp=N,1.2nm,0.7s,baz=131,slow=3.4,SNR=6.1								
FINES	**FINESS Array B**	**123.37**	**35**	PKP		**PKPdf**		**12 52 38.5**	**-0.1**
	comp=N,1.5nm,0.8s,baz=236,slow=1.5,SNR=4.1								
H11S2	**WAKE ISLAND Hyl**	**126.05**	**268**	T		T		15 12 31.8	
	baz=118,slow=75,SNR=3.9								
H11S1	**WAKE ISLAND Hyl**	**126.06**	**268**	T		T		15 12 26.0	
	baz=118,slow=75,SNR=6.6								
H11S3	**WAKE ISLAND Hyl**	**126.06**	**268**	T		T		15 12 29.3	
	baz=118,slow=75,SNR=3.3								
H11N3	**WAKE ISLAND Hyl**	**126.48**	**270**	T		T		15 11 55.6	
	baz=115								
H11N1	**WAKE ISLAND Hyl**	**126.49**	**270**	T		T		15 11 53.1	
	baz=115								
H11N2	**WAKE ISLAND Hyl**	**126.50**	**270**	T		T		15 11 57.5	
	baz=115								
ABKAR	**Akbulak array**	**141.86**	**52**	*e*PKPdf		PKPdf		12 53 07.5	-6.1
SKHT	**Srikalahasti**	**146.81**	**122**	*e*PKPbc		**PKPdf**		**12 53 24.1**	**+0.7**
PSI	**Prapat**	**147.12**	**163**	PKPbc		**PKPbc**		**12 53 25.3**	**-1.0**
	comp=N,10nm,0.8s,baz=213,slow=12,SNR=10								
PSI					pPKPbc	**pPKPbc**		**12 53 39.5**	**-1.6**
	comp=N,10nm,0.6s,baz=200,slow=2.3,SNR=4.8								
BRVK	**Borovoye**	**147.49**	**44**	*e*PKPbc		**PKPbc**		**12 53 26.2**	**+0.3**
BRVK				*e*PKPab		**PKPab**		**12 53 28.7**	**+0.5**
BVAR	**Borovoye Array**	**147.56**	**44**	PKPbc		**PKPbc**		**12 53 26.3**	**+0.1**
	baz=285,slow=2.8								
HYB	**Hyderabad**	**148.39**	**115**	*i* PKP		**PKPbc**		**12 53 29.0**	**-0.5**
HYB				*ep*PKP		**pPKPdf**		**12 53 42.0**	**+1.1**
HYBB	**Hyderabad (bro**	**148.39**	**115**	*e*PKPbc		**PKPbc**		**12 53 28.9**	**-0.5**
NJS	**Nagarjunasagar**	**148.40**	**117**	*e*PKPbc		**PKPbc**		**12 53 28.6**	**-0.8**
ADKI	**Addanki**	**148.42**	**119**	*e*PKPbc		**PKPbc**		**12 53 29.2**	**-0.3**
IPM	**Ipoh**	**149.22**	**166**	*e*PKPbc		**PKPbc**		**12 53 31.2**	**-0.5**
YAK	**Yakutsk**	**149.45**	**340**	*e*PKPbc		**PKPbc**		**12 53 30.4**	**-0.3**
YAK				*e*PKPab		**PKPab**		**12 53 36.4**	**+0.7**
KKAR	**Karatay Array**	**149.60**	**63**	*e*PKPbc		**PKPbc**		**12 53 31.3**	**-0.5**
RPR	**Rampur**	**149.83**	**114**	*e*PKPbc		**PKPbc**		**12 53 32.1**	**-0.9**
KULM	**Kulim**	**149.93**	**165**	*e*PKPbc		**PKPbc**		**12 53 32.7**	**-0.7**
EKS2	**Erkin-Say**	**152.02**	**63**	*e*PKPbc		**PKPbc**		**12 53 37.6**	**0.0**
AAK	**Ala-Archa**	**152.55**	**63**	*e*PKPbc		**PKPbc**		**12 53 39.1**	**+0.3**
KURBB	**Kurchatov Arra**	**153.14**	**44**	PKP		**PKPdf**		**12 53 31.1**	**-1.1**
	comp=N,0.2nm,0.4s,baz=328,slow=3.3,SNR=3.6								
KURBB					PKPbc	**PKPbc**		**12 53 39.2**	**-0.4**
	comp=N,2.7nm,0.7s,baz=296,slow=2.8,SNR=24								
KURBB					PKPab	**PKPab**		**12 53 51.4**	**-0.1**
	comp=N,3.2nm,0.8s,baz=290,slow=2.8,SNR=12								
KURK	**Kurchatov**	**153.15**	**44**	PKP		**PKPdf**		**12 53 31.1**	**-1.2**
KURK				PKPbc		**PKPbc**		**12 53 39.2**	**-0.4**
KURK				PKPab		**PKPab**		**12 53 51.4**	**-0.1**
TKM2	**Tokmak 2**	**153.33**	**62**	*e*PKPbc		**PKPbc**		**12 53 40.5**	**-0.2**
KSH	**Kashi**	**153.83**	**70**	PKPbc		**PKPbc**		**12 53 41.5**	**-0.2**
KSH				*es*PKP				12 53 56.0	
KSH				PKS		PKSdf		12 57 13.5	+5.4
KSH				SKS		**SKSdf**		**13 00 41.8**	**+5.2**
KSH				PPMZ					
	comp=N,82nm,5.9s								
ZALV	**Zalesovo Beam**	**154.62**	**33**	PKPbc		**PKPbc**		**12 53 42.5**	**-0.2**
	comp=N,0.9nm,0.4s,baz=298,slow=3.2,SNR=6.6								
ZALV					PKPab	**PKPab**		**12 53 56.9**	**-0.7**
	comp=N,2.9nm,0.6s,baz=296,slow=4.6,SNR=8.0								
MK31	**Makanchi Array**	**156.97**	**50**	*e*PKPab		**PKPab**		**12 54 07.6**	**-0.4**
MKAR	**Makanchi Array**	**156.97**	**50**	PKP		**PKPdf**		**12 53 35.9**	**-1.7**
	comp=N,0.2nm,0.7s,baz=262,slow=4.2,SNR=3.4								
MKAR					PKPab	**PKPab**		**12 54 06.9**	**-1.1**
	comp=N,1.6nm,0.8s,baz=278,slow=9.2,SNR=10								
WMQ	**Urumqi**	**161.63**	**54**	*e*PKP		**PKPdf**		**12 53 46.0**	**+2.8**
WMQ				pPKP		**pPKPdf**		**12 53 54.3**	**-3.9**
CN2	**Changchun**	**163.91**	**310**	*e*PKP		**PKPdf**		**12 53 46.8**	**+1.5**
SONM	**Songino Array**	**166.76**	**6**	PKPab		**PKPab**		**12 54 51.2**	**+0.4**
	comp=N,0.5nm,0.6s,baz=343,slow=4.5,SNR=2.9								
NJ2	**Nanjing**	**170.81**	**257**	*e*PKP		**PKPdf**		**12 53 50.3**	**-0.4**
HHC	**Hu-ho-hao-te**	**173.31**	**338**	*e*PKP		**PKPdf**		**12 53 52.3**	**+0.6**
HHC				PP		**PP**		**12 59 11.5**	**+0.3**
HHC				SKKS				13 05 57.0	
HHC				PPMZ					
	comp=N,41nm,5.7s								
HHC				LZ					
	comp=N,65nm,18.6s								
CD2	**Chengdu**	**174.64**	**133**	PKP		**PKPdf**		**12 53 52.0**	**-0.4**

IDC ***28*** *12:36:35.0±0.8, 3°.44N×126°.22E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.7/51, mbtmp3.9/9, ML3.9/1, MS3.2/3, Ms1 3.3/3, ms1mx2.7/32, Error ellipse: s-maj=56.9km s-min=15.1km az=68.0*
ISCJB ***28*** *12:36:39.8±0.7, 3°.69N±0°.06×126°.83E±0°.06, h53km, mb3.8/8, MS3.2/3, Error ellipse: s-maj=10.2km s-min=6.8km az=138.9*
DJA ***28*** *12:36:40.5±0.9, 4°N±8°×12°7E±°, h10km, M4.4/3, mb4.7/1, mB4.8/1, MLv4.2/3, Mw(mB)4.0/1*
ISC 28 12:36:42.0±0.8, 3°.66N±0°.08×126°.74E±0°.08, h53km, n20, σ0§91/19, mb3.8/8, MS3.1/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.21**	**271**	P		**Pn**		**12 37 01.3**	**-1.4**
SGSI				S		**Sn**		**12 37 19.6**	**+1.5**
TNTI	**Ternate**	**2.93**	**168**	P		**Pn**		**12 37 27.2**	**+1.0**
TNTI				S		**Sn**		**12 38 00.2**	**0.0**
KMSI	**Cibinong**	**4.12**	**222**	P		**Pn**		**12 37 43.2**	**+0.7**
LBMI	**Labuha**	**4.33**	**170**	P		**Pn**		**12 37 45.0**	**-0.4**
SANI	**Sanana**	**5.72**	**188**	P		**Pn**		**12 38 03.3**	**-1.1**
MRSI	**Marisa**	**5.75**	**237**	P		**Pn**		**12 38 05.0**	**+0.2**
LUWI	**Luwuk**	**6.13**	**220**	P		**Pn**		**12 38 18.4**	**+8.4**
SWI	**Sorong**	**6.37**	**135**	P		**Pn**		**12 38 12.7**	**-0.6**
JAY	**Jayapura**	**15.24**	**114**	Pn		**P**		**12 40 18.7**	**+0.7**
	0.5nm,0.3s,baz=270,slow=16,SNR=3.2								
WRA	**Warramunga Arr**	**24.61**	**163**	P		**P**		**12 41 56.0**	**-1.5**
	6.1nm,0.7s,baz=343,slow=10.0,SNR=40								
ASAR	**Alice Springs**	**28.04**	**166**	P		**P**		**12 42 27.6**	**-0.9**
	0.4nm,0.5s,baz=343,slow=9.6,SNR=14								
ASAR					PcP	**PcP**		**12 45 42.7**	**+0.4**
	0.2nm,0.4s,baz=353,slow=2.1,SNR=4.8								
CMAR	**Chiang Mai Arr**	**30.92**	**301**	LR		LR		12 57 22.6	
	comp=Z,20nm,18.2s,baz=175,slow=41								
KSRS	**Korea Array**	**33.65**	**2**	P		**P**		**12 43 18.8**	**+1.1**
	1.2nm,0.7s,baz=183,slow=8.3,SNR=4.0								
STKA	**Stephens Creek**	**38.06**	**159**	P		**P**		**12 43 55.2**	**-0.3**
	5.3nm,0.8s,baz=327,slow=8.7,SNR=8.6								
MKAR	**Makanchi Array**	**57.62**	**325**	P		**P**		**12 46 26.3**	**-0.5**
	0.3nm,0.6s,baz=131,slow=5.9,SNR=6.4								
ZALV	**Zalesovo Beam**	**60.66**	**333**	LR		LR		13 15 26.6	
	comp=Z,12nm,19.5s,baz=64,slow=38								
KURBB	**Kurchatov Arra**	**61.81**	**327**	P		**P**		**12 46 55.1**	**-0.2**
	0.7nm,0.6s,baz=128,slow=6.5,SNR=12								
BVAR	**Borovoye Array**	**67.39**	**327**	P		**P**		**12 47 31.4**	**-0.4**
	0.2nm,0.3s,baz=160,slow=4.6,SNR=2.6								
VNDA	**Vanda**	**83.35**	**173**	P		**P**		**12 49 03.3**	**+0.5**
	0.3nm,0.5s,baz=315,slow=2.9,SNR=2.6								
IDI	**Anoyia**	**97.54**	**306**	LR		LR		13 39 54.6	
	comp=Z,39nm,21.7s,baz=260,slow=39								

IDC ***28*** *12:46:16.0±3.0, 54°.06N×87°.52E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=24.2km s-min=16.2km az=53.0*
NNC ***28*** *12:46:20.4±4.2, 53°.88N×87°.03E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=33.5km s-min=27.2km az=2.0*
ISC 28 12:46:17.8±4.3, 54°.2N±0°.2×87°.5E±0°.2, h35km, n8, σ1§57/12, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**260**	*i*				12 56 30.0	
	baz=84,slow=324,SNR=25								
ZALV	**Zalesovo Beam**	**1.61**	**260**	P		**Pn**		**12 46 44.2**	**+0.5**
	3.4nm,0.3s,baz=85,slow=14,SNR=32								
ZALV					Lg	Lg		12 47 06.8	
	4.7nm,0.3s,baz=88,slow=25,SNR=14								
KURK	**Kurchatov**	**6.47**	**241**	⇓Pn		**Pn**		**12 47 51.7**	**+1.2**
	1.5nm,1.4s								
KURK					⇓Sn	**Sn**		**12 49 03.3**	**+0.2**
	0.9nm,1.0s								
KURK					⇑Lg	Lg		12 49 30.1	
	4.1nm,0.9s								
KURBB	**Kurchatov Arra**	**6.58**	**240**	⇑Pn		**Pn**		**12 47 51.1**	**-0.8**
	0.8nm,0.5s								
KURBB					⇓Sn	**Sn**		**12 49 05.0**	**-0.6**
	5.4nm,0.7s								
KURBB					⇑Lg	Lg		12 49 31.6	
	6.6nm,0.7s								
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn		**Pn**		**12 47 53.1**	**+1.1**
	0.1nm,0.3s,baz=57,slow=14,SNR=6.3								
KURBB					Sn	**Sn**		**12 49 08.7**	**+3.1**
	0.1nm,0.3s,baz=58,slow=23,SNR=2.8								
KURBB					Lg	Lg		12 49 41.4	
	0.1nm,0.3s,baz=52,slow=32,SNR=9.6								
MK31	**Makanchi Array**	**8.16**	**206**	⇑Pn		**Pn**		**12 48 14.1**	**+0.3**
	1.8nm,1.2s,baz=0.7,slow=9.3,SNR=7.9								
MK31					⇑Sn	**Sn**		**12 49 42.9**	**-1.9**
	0.6nm,0.5s								
MK31					⇑Lg	Lg		12 50 25.3	
	7.0nm,1.1s,baz=15,slow=27

mb1 3.7/5,mb1mx3.5/31,mbtmp3.6/5,ML3.3/3,Error ellipse: s-maj=41.5km s-min=27.6km az=88.0

ISCJB ***28*** *13:10:08.2±1.1,25°.83S±0°.08×66°.2W±0°.2,h33km,mb3.4/1, Error ellipse: s-maj=22.8km s-min=9.2km az=163.1*

ISC 28 13:10:10.7±1.2,25°.81S±0°.09×66°.3W±0°.2,h35km,n6, σ1s25/6,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.00**	**322**	Pn	**Pn**	**13 11 08.9**	**-0.9**
	74nm,0.3s,baz=145,slow=14,SNR=18						
LVC				Sn	**Sn**	**13 11 56.8**	**+1.2**
	95nm,0.3s,baz=78,slow=23,SNR=5.9						
CFAA	**Coronel Fontan**	**6.03**	**196**	Pn	**Pn**	**13 11 37.8**	**+0.4**
	0.1nm,0.3s,baz=9.0,slow=13,SNR=8.1						
CFAA				Lg	Lg	13 13 08.5	
	0.1nm,0.3s,baz=304,slow=11,SNR=3.5						
LPAZ	**La Paz**	**9.64**	**349**	Pn	**Pn**	**13 12 28.2**	**+0.7**
	0.1nm,0.3s,baz=175,slow=8.5,SNR=4.3						
PLCA	**Paso Flores**	**15.30**	**192**	Pn	**Pn**	**13 13 43.0**	**-1.2**
	0.1nm,0.3s,baz=29,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.60**	**68**	P	**P**	**13 21 57.5**	**-0.6**
	0.3nm,0.7s,baz=241,slow=7.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**144.65**	**30**	PKP	PKPbc	13 29 42.2	+0.1
	0.4nm,0.3s,baz=305,slow=5.1,SNR=2.7						

ISCJB ***28*** *13:11:52.7±0.6,26°.02S±0°.06×67°.01W±0°.05,h10km, mb3.8/6,MS3.7/3, Error ellipse: s-maj=8.9km s-min=6.7km az=176.7*

IDC ***28*** *13:11:52.6±1.2,26°.06S×66°.91W,h0km,mb3.8/6, mb1 4.2/9,mb1mx4.0/31,mbtmp3.9/9,ML4.5/3,MS3.9/6, Ms1 3.9/6,ms1mx3.6/16, Error ellipse: s-maj=41.2km s-min=23.3km az=25.0*

NEIC ***28*** *13:11:57.7±2.7,26°.02S×67°.01W,h34km±20km,mb4.0/2, Error ellipse: s-maj=14.4km s-min=11.8km az=68.0*

SJA ***28*** *13:11:59.0±0.8,25°.80S×66°.53W,h4km±11km,ML4.6*

ISC 28 13:11:53.0±0.6,26°.03S±0°.05×66°.98W±0°.05,h10km,n31, σ2s03/25,mb3.9/6,MS3.7/3,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FSA	**Cafayete**	**0.87**	**94**	*e*P	**Pn**	**13 12 11.3**	**-0.2**
FSA				*e*S	**Sb**	**13 12 20.8**	**-1.3**
AHML	**Horco Molle**	**1.65**	**117**	*e*P	Pg	13 12 27.5	+2.8
SLA	**San Lorenzo**	**1.86**	**46**	*e*P	**Pb**	**13 12 26.5**	**-0.8**
SLA				*e*S	**Sn**	**13 12 47.5**	**-1.4**
SLA				AML	AML	13 12 54.6	
	comp=Z,7μm,0.6s						
AZAP	**Zapla**	**2.50**	**44**	AML	AML	13 13 14.4	
	comp=Z,5μm,0.5s						
CYA	**Choya**	**2.62**	**157**	*e*P	Pg	13 12 45.9	+2.7
ASTB	**Santa Barbara**	**3.07**	**48**	*e*P	**Pb**	**13 12 45.0**	**-2.9**
ALOL	**LOMAS DE OLMED**	**3.51**	**52**	*e*P	Pb	13 12 50.7	-4.6
LVC	**Limon Verde**	**3.83**	**332**	Pn	**Pn**	**13 12 55.5**	**+3.2**
	comp=Z,279nm,0.3s,baz=155,slow=5.4,SNR=13						
LVC				Sn	**Sb**	**13 13 44.8**	**-2.8**
	baz=270,slow=20,SNR=2.8						
LVC				LR	LR	13 14 01.9	
	comp=Z,874nm,21.6s,baz=319,slow=33						
LVC	**Limon Verde**	**3.83**	**332**	*e*Pn	**Pn**	**13 12 55.6**	**+3.2**
LVC				Sn	**Sb**	**13 13 44.8**	**-2.8**
LVC				*e*Sg	Sn	13 13 46.4	+8.7
LCO	**Las Campanas**	**4.44**	**227**	Pn	**Pn**	**13 13 00.5**	**-0.3**
LCO				*e*Pg	**Pb**	**13 13 08.6**	**-2.7**
CFAA	**Coronel Fontan**	**5.66**	**191**	Lg	Lg	13 14 52.8	
	comp=Z,0.3nm,0.3s,baz=1.6,slow=7.3,SNR=3.3						
CFAA				LR	LR	13 16 02.5	
	comp=Z,68nm,20.4s,baz=13,slow=44						
CPUP	**Villa Florida**	**8.67**	**94**	Pn	**Pn**	**13 14 00.5**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=264,slow=10,SNR=8.2						
CPUP				Lg	Lg	13 16 14.9	
	comp=Z,0.6nm,0.3s,baz=6.9,slow=19,SNR=2.4						
CPUP				LR	LR	13 17 42.3	
	comp=Z,3μm,18.8s,baz=301,slow=41						
CPUP	**Villa Florida**	**8.67**	**94**	*e*Pn	Pn	13 14 00.8	+2.2
	comp=Z,1.1nm,0.7s						
CPUP				Lg	Lg	13 16 14.9	
LPAZ	**La Paz**	**9.76**	**353**	Pn	**Pn**	**13 14 16.6**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=172,slow=9.7,SNR=42						
LPAZ				LR	LR	13 18 10.7	
	comp=Z,300nm,18.8s,baz=188,slow=39						
TRQA	**Tornquist**	**12.71**	**162**	*e*Pn	Pn	13 14 58.5	+4.5
PLCA	**Paso Flores**	**14.96**	**191**	Lg	Lg	13 20 00.2	
	comp=Z,0.1nm,0.3s,baz=300,slow=20,SNR=2.6						
SAML	**Samuel**	**17.37**	**13**	*e*P	**Pn**	**13 15 53.4**	**-2.3**
	comp=Z,4.1nm,0.9s						
BDFB	**Brasilia**	**20.49**	**63**	P	Pn	13 16 32.5	-1.1
	comp=Z,6.3nm,0.8s,baz=235,slow=12,SNR=3.1						
BDFB				Lg	Lg	13 22 45.8	
	comp=Z,2.9nm,0.7s,baz=201,slow=14,SNR=1.8						
BDFB				LR	LR	13 24 34.8	
	comp=Z,341nm,21.9s,baz=237,slow=37						
PTGA	**Pitinga**	**26.05**	**16**	Lg	LR	13 29 07.9	
	comp=Z,317nm,18.5s,baz=180,slow=40						
ROSC	**El Rosal**	**31.52**	**346**	LR	LR	13 31 32.1	
	comp=Z,139nm,18.1s,baz=230,slow=37						
SDV	**Santo Domingo**	**34.89**	**354**	P	**P**	**13 18 44.4**	**-0.7**
	comp=Z,3.6nm,0.8s						
TXAR	**Lajitas Array**	**65.34**	**325**	P	**P**	**13 22 36.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=143,slow=6.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.28**	**68**	P	**P**	**13 23 47.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=262,slow=5.6,SNR=8.3						
PDAR	**Pinedale Array**	**78.90**	**329**	P	**P**	**13 23 57.1**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=157,slow=2.9,SNR=4.4						
NVAR	**Mina Array Bea**	**80.13**	**322**	P	**P**	**13 24 06.0**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=146,slow=6.6,SNR=3.4						
YKA	**Yellowknife Ar**	**96.03**	**340**	P	**P**	**13 25 21.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=134,slow=4.5,SNR=3.6						
ASAR	**Alice Springs**	**126.62**	**204**	PKP	**PKPdf**	**13 30 59.4**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=151,slow=1.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**145.16**	**29**	PKPbc	**PKPdf**	**13 31 30.8**	**+0.3**
	comp=Z,8.3nm,0.8s,baz=299,slow=4.4,SNR=32						
MK31	**Makanchi Array**	**148.05**	**42**	*e*PKPbc	**PKPab**	**13 31 40.5**	**-1.0**
MKAR	**Makanchi Array**	**148.05**	**42**	PKPbc	**PKPab**	**13 31 39.7**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=293,slow=6.3,SNR=8.6						
SONM	**Songino Array**	**157.62**	**12**	PKPab	**PKPab**	**13 32 23.3**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=259,slow=2.3,SNR=2.3						

DJA ***28*** *13:19:52.2±1.7,2°.N±11°×9°.6E±1°.3,h10km,M3.9/5, MLv3.9/5*

IDC ***28*** *13:19:52.5±4.1,1°.93N×96°.38E,h0km,mb3.1/2,mb1 3.4/4, mb1mx3.2/41,mbtmp3.1/4,ML3.2/2, Error ellipse: s-maj=76.9km s-min=40.8km az=90.0*

ISC 28 13:19:56.9±1.6,1°.96N±0°.09×96°.5E±0°.1,h27km,n16, σ1s27/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.28**	**120**	P	**Pn**	**13 20 18.3**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.03**	**40**	P	**Pb**	**13 20 33.0**	**-0.1**
PSI	**Prapat**	**2.59**	**71**	Pn	**Pn**	**13 20 36.6**	**-0.6**
	0.4nm,0.3s,baz=180,slow=24,SNR=5.7						
TSI	**Tuntungan**	**2.60**	**54**	P	**Pb**	**13 20 41.6**	**-1.2**
LHMI	**Lhok Sumawe**	**3.29**	**8**	P	**Pn**	**13 20 47.5**	**+0.9**
MNSI	**Mandailing Nat**	**3.32**	**110**	P	**Pn**	**13 20 48.9**	**+1.8**
BSI	**Banda Aceh**	**3.71**	**342**	P	**Pn**	**13 20 51.2**	**-1.2**
BSI				S	**Sn**	**13 21 37.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**16.58**	**8**	Pn	**Pn**	**13 23 47.1**	**-0.5**
	0.1nm,0.3s,baz=201,slow=11,SNR=3.1						
H08S2	**Diego Garcia H**	**25.75**	**248**	T	T	13 52 13.0	
	baz=68,slow=75,SNR=81						
H08S3	**Diego Garcia H**	**25.75**	**248**	T	T	13 52 15.4	
	baz=68,slow=75,SNR=105						
H08S1	**Diego Carcia H**	**25.77**	**248**	T	T	13 52 16.8	
	baz=68,slow=75,SNR=86						
H01W3	**Cape Leeuwin H**	**40.22**	**157**	T	T	14 10 00.1	
	baz=333,slow=76,SNR=9.4						
H01W2	**Cape Leeuwin H**	**40.23**	**157**	T	T	14 10 01.0	
	baz=333,slow=76,SNR=9.1						
H01W1	**Cape Leeuwin H**	**40.24**	**157**	T	T	14 10 01.3	
	baz=333,slow=76,SNR=9.8						
WRA	**Warramunga Arr**	**43.05**	**122**	P	**P**	**13 27 55.0**	**+0.1**
	0.4nm,1.0s,baz=300,slow=9.2,SNR=2.9						
ASAR	**Alice Springs**	**44.43**	**127**	P	**P**	**13 28 05.7**	**-0.1**
	0.3nm,1.0s,baz=303,slow=8.1,SNR=3.4						

IDC 28 13:22:01.1±3.7,19°.10N×144°.75E,h187km±48km,mb3.5/3, mb1 3.7/4,mb1mx3.1/43,mbtmp4.1/4,MS2.6/1,Ms1 2.6/1, ms1mx2.1/25,Error ellipse: s-maj=244.0km s-min=28.0km az=92.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.48**	**179**	P	Pn	13 23 23.4	+1.9
	3.8nm,0.3s,baz=9.0,slow=19,SNR=2.4						
GUMO				S	Sn	13 24 23.5	-1.3
	3.8nm,0.3s,baz=3.5,slow=19,SNR=2.4						
MJAR	**Matsushiro Arr**	**18.30**	**343**	LR	LR	13 33 19.8	
	comp=Z,17nm,19.0s,baz=95,slow=37						
H11S3	**WAKE ISLAND Hy**	**20.78**	**88**	T	T	13 47 52.5	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**20.79**	**88**	T	T	13 47 40.5	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**20.79**	**88**	T	T	13 47 53.5	
	baz=275						
WRA	**Warramunga Arr**	**40.12**	**195**	P	P	13 29 18.9	+0.1
	2.3nm,0.5s,baz=17,slow=9.0,SNR=63						
ASAR	**Alice Springs**	**43.80**	**194**	P	P	13 29 48.5	-0.1
	0.6nm,0.4s,baz=18,slow=6.4,SNR=41						
FINES	**FINESS Array B**	**86.15**	**335**	P	P	13 34 20.4	-0.4
	0.7nm,0.5s,baz=57,slow=5.1,SNR=4.5						

ATH ***28*** *13:28:12.6,39°.99N×20°.45E,h8km±2km,MD3.2/15*

THE ***28*** *13:28:12.6,39°.98N×20°.48E,h0km±1km,ML2.8/6,Error ellipse: s-maj=1.0km s-min=0.3km az=336.0*

CSEM 28 13:28:12.8±0.3,39°.98N×20°.48E,h2km,ML2.8,Error ellipse: s-maj=6.7km s-min=4.4km az=108.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.43**	**138**	P	Pg	13 28 20.8	-0.3
JAN				S	Sg	13 28 27.5	+0.9
JAN	**Janina**	**0.43**	**138**	*e*PB	Pg	13 28 21.7	+0.6
JAN				*e*SB	Sg	13 28 27.7	+1.1
JAN	**Janina**	**0.43**	**138**	P	Pg	13 28 20.8	-0.3
JAN	**Janina**	**0.43**	**138**	*e*Pb	Pg	13 28 21.7	+0.6
JAN				S	Sg	13 28 27.5	+0.9
IGT	**Igoumenitsa**	**0.46**	**195**	P	Pg	13 28 21.4	-0.2
IGT				S	Sg	13 28 28.6	+1.0
IGT	**Igoumenitsa**	**0.46**	**195**	*e*PB	Pg	13 28 21.3	-0.3
IGT	**Igoumenitsa**	**0.46**	**195**	*e*Pb	Pg	13 28 21.3	-0.3
IGT				S	Sg	13 28 28.6	+1.0
KEK	**Kerkira**	**0.59**	**244**	P	Pg	13 28 23.6	-0.5
KEK				S	Sg	13 28 32.6	+0.8
KEK	**Kerkira**	**0.59**	**244**	*e*PB	Pg	13 28 23.7	-0.4
KEK	**Kerkira**	**0.59**	**244**	*e*Pb	Pg	13 28 23.7	-0.4
KEK				S	Sg	13 28 32.6	+0.8
MEV	**Metsovon**	**0.60**	**108**	P	Pg	13 28 24.0	-0.6
MEV	**Metsovon**	**0.60**	**108**	P	Pg	13 28 24.0	-0.6
NEST	**Nestorio**	**0.62**	**44**	P	Pg	13 28 24.3	-0.5
NEST				S	Sg	13 28 33.4	+0.5
NEST	**Nestorio**	**0.62**	**44**	P	Pg	13 28 24.3	-0.5
NEST				S	Sg	13 28 33.4	+0.5
DSL	**Palaion Diasel**	**0.96**	**150**	P	Pg	13 28 30.9	-0.5
DSL				S	Sb	13 28 45.2	-0.4
DSL	**Palaion Diasel**	**0.96**	**150**	*e*PB	Pg	13 28 30.7	-0.7
DSL				*e*SB	Sb	13 28 45.8	+0.2
DSL	**Palaion Diasel**	**0.96**	**150**	P	Pg	13 28 30.9	-0.5
DSL				S	Sb	13 28 45.2	-0.4
DSL				*e*Sb	Sg	13 28 45.8	+1.9
KZN	**Kozani**	**1.04**	**71**	P	Pg	13 28 32.3	-0.6
KZN	**Kozani**	**1.04**	**71**	*e*PG	Pg	13 28 32.6	-0.3
KZN	**Kozani**	**1.04**	**71**	P	Pg	13 28 32.3	-0.6
KZN	**Kozani**	**1.04**	**71**	*e*Pg	Pg	13 28 32.6	-0.3
FNA	**Florina**	**1.06**	**40**	P	Pg	13 28 32.4	-0.8
FNA				S	Sb	13 28 48.0	-0.3
FNA	**Florina**	**1.06**	**40**	*e*PB	Pg	13 28 32.8	-0.4
FNA	**Florina**	**1.06**	**40**	P	Pg	13 28 32.4	-0.8
FNA	**Florina**	**1.06**	**40**	*e*Pb	Pg	13 28 32.8	-0.4
FNA				S	Sb	13 28 48.0	-0.3
OHR	**Ohrid**	**1.16**	**12**	*i* Pn	Pg	13 28 34.9	-0.3
OHR				*e*Sg	Sn	13 28 54.5	+1.9
OHR	**Ohrid**	**1.16**	**12**	*i* Pn	Pg	13 28 34.8	-0.4
THL	**Klokotos Trika**	**1.25**	**109**	P	Pg	13 28 36.1	-0.7
THL				S	Sn	13 28 54.8	+0.1
THL	**Klokotos Trika**	**1.25**	**109**	P	Pg	13 28 36.1	-0.7
THL				S	Sn	13 28 54.8	+0.1
EVR	**Evrytania**	**1.47**	**135**	*e*PB	Pb	13 28 40.8	-0.3
EVR	**Evrytania**	**1.47**	**135**	*e*Pb	Pb	13 28 40.8	-0.3
PDO	**Prodromos**	**1.48**	**158**	P	Pn	13 28 39.9	-0.5
PDO	**Prodromos**	**1.48**	**158**	P	Pn	13 28 39.9	-0.5
LIT	**Litokhoron**	**1.55**	**85**	P	Pn	13 28 40.8	-0.6
LIT	**Litokhoron**	**1.55**	**85**	P	Pn	13 28 40.8	-0.6
MAKR	**Makromni, Fth**	**1.60**	**126**	*e*PG	Pb	13 28 43.1	0.0
MAKR	**Makromni, Fth**	**1.60**	**126**	*e*Pg	Pb	13 28 43.1	0.0
AGG	**Agios Georgios**	**1.72**	**123**	*e*PG	Pb	13 28 45.1	0.0
AGG	**Agios Georgios**	**1.72**	**123**	*e*Pg	Pb	13 28 45.1	0.0
GRG	**Griva**	**1.76**	**56**	*e*PN	Pb	13 28 45.7	-0.2
GRG	**Griva**	**1.76**	**56**	*e*Pn	Pb	13 28 45.7	-0.2
VLS	**Valsamata**	**1.80**	**177**	P	Pn	13 28 44.2	-0.7
VLS				S	Sb	13 29 09.2	-0.3
VLS	**Valsamata**	**1.80**	**177**	*e*PB	Pn	13 28 44.4	-0.5
VLS	**Valsamata**	**1.80**	**177**	P	Pn	13 28 44.2	-0.7
VLS				S	Sb	13 29 09.2	-0.3
VAY	**Valandovo**	**2.08**	**49**	*e*Pn	Pn	13 28 49.2	+0.5
VAY				*e*Sg	Sg	13 29 22.9	+3.3
VAY	**Valandovo**	**2.08**	**49**	*e*Pn	Pn	13 28 49.2	+0.5
VAY				*e*Sg	Sg	13 29 22.9	+3.2
HORT	**Hortiatis**	**2.10**	**72**	*e*PN	Pb	13 28 50.4	-1.3
HORT	**Hortiatis**	**2.10**	**72**	*e*Pn	Pb	13 28 50.4	-1.3
KNT	**Kendrikon**	**2.19**	**56**	*e*PN	Pn	13 28 51.3	+1.1
KNT	**Kendrikon**	**2.19**	**56**	*e*Pn	Pn	13 28 51.3	+1.1
PLG	**Polygyros**	**2.30**	**79**	*e*PN	Pb	13 28 53.7	-1.5
PLG	**Polygyros**	**2.30**	**79**	*e*Pn	Pb	13 28 53.7	-1.5
SKIA	**Skiathos**	**2.44**	**108**	*e*PN	Pn	13 28 55.5	+1.8
SKIA	**Skiathos**	**2.44**	**108**	*e*Pn	Pn	13 28 55.5	+1.8
NVR	**Nevrokopi**	**2.91**	**61**	*e*PB	Pn	13 29 02.8	+2.6
NVR	**Nevrokopi**	**2.91**	**61**	*e*Pb	Pn	13 29 02.8	+2.6
BARS	**Barje**	**3.01**	**19**	*e*Pn	Pn	13 29 04.2	+2.7

IDC 28 13:29:32.2±4.0,17°.65S×172°.59W,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.6/29,mbtmp3.6/3,Error ellipse: s-maj=267.6km s-min=31.3km az=151.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.13**	**258**	P	P	13 38 28.8	-0.9
	0.4nm,0.8s,baz=94,slow=8.2,SNR=6.9						
ASAR	**Alice Springs**	**50.19**	**254**	P	P	13 38 30.2	0.0
	0.6nm,0.5s,baz=88,slow=7.9,SNR=3.2						
PDAR	**Pinedale Array**	**83.42**	**41**	P	P	13 42 01.2	-0.7
	0.4nm,0.8s,baz=225,slow=5.3,SNR=3.2						
BRTR	**Keskin Array B**	**148.37**	**319**	PKPbc	PKPbc	13 49 21.9	+0.8
	0.2nm,0.3s,baz=98,slow=2.2,SNR=3.0						

MEX 28 13:38:15.6±0.3,14°.60N×93°.61W,h10km±22km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.16**	**19**	*i* P	Pb	13 38 34.0	-3.8
PCIG				*i* S	Sb	13 38 48.6	-4.3
CCIG	**Comitan**	**2.19**	**40**	*e*P	Pn	13 38 49.2	-3.2
CCIG				*e*S	Sn	13 39 15.2	-4.6
TGIG		**2.22**	**12**	*e*P	Pn	13 38 49.7	-2.9
TGIG				*e*S	Sn	13 39 16.3	-3.8
CMIG	**Matias Romero**	**2.77**	**334**	*i* P	Pn	13 38 57.6	-2.5
CMIG				*i* S	Sn	13 39 29.5	-4.1

MAN 28 13:42:25,13°.44N×120°.80E,h1km,mb4.0,ML2.7,MS2.4, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.16**	**68**	*e*P	Pg	13 42 28.1	-0.1
PGP				*i* S	Sg	13 42 29.9	-0.5
LUBP	**Lubang**	**0.61**	**299**	*e*P	Pg	13 42 36.8	0.0
LUBP				*e*S	Sg	13 42 44.4	-0.3
SJMP	**San Jose**	**1.02**	**162**	*e*P	Pn	13 42 46.5	0.0
SJMP				*e*S	Sn	13 43 01.6	+0.1

GUC 28 13:47:25.8±0.4,36°.77S×73°.57W,h15km±4km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.37**	**101**	*e*P	Pb	13 47 34.0	-0.2
CCSP				*e*S	Sb	13 47 40.0	+0.2
CCSP				AML	AML	13 47 40.7	
	comp=N,16μm,0.3s						
COCH	**Cobquecura**	**0.90**	**45**	*e*P	Pb	13 47 43.1	+0.1
COCH				*e*S	Sn	13 47 56.4	-0.1

GUC 28 13:51:01.6±0.5,36°.25S×73°.61W,h30km±4km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.68**	**80**	*e*P	Pn	13 51 15.1	0.0
COCH				*e*S	Sn	13 51 25.2	+0.6
CCSP	**San Pedro de C**	**0.72**	**146**	*e*P	Pn	13 51 15.8	0.0
CCSP				*e*S	Sn	13 51 26.2	+0.5
CCSP				AML	AML	13 51 27.7	
	comp=E,6μm,1.1s						

WEL 28 13:55:02.4±0.1,44°.44S×169°.78E,h5km,ML2.7/8,Error ellipse: s-maj=0.9km s-min=0.8km az=0.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.29**	**81**	PG	Pg	13 55 08.7	+0.5
LBZ				SG	Sg	13 55 12.4	+0.4
LBZ				AML	AML	13 55 12.9	
WKZ	**Wanaka**	**0.67**	**234**	P*	Pg	13 55 15.8	+0.4
WKZ				SG	Sg	13 55 25.0	+0.7
JCZ	**Jackson Bay**	**0.82**	**296**	P*	Pg	13 55 18.0	-0.3
JCZ				S*	Sg	13 55 28.3	-0.8
JCZ				AML	AML	13 55 30.2	
EAZ	**Earnscleugh**	**0.87**	**203**	P*	Pg	13 55 19.2	+0.1
EAZ				AML	AML	13 55 34.5	
EAZ				AML	AML	13 55 34.8	
ODZ	**Otahua Downs**	**0.87**	**135**	P*	Pg	13 55 18.8	-0.3
FOZ	**Fox Glacier**	**0.87**	**356**	P*	Pn	13 55 22.5	+1.2
RPZ	**Rata Peaks**	**1.17**	**52**	P*	Pg	13 55 23.9	-0.9
TUZ	**Tuapeka**	**1.52**	**184**	PN	Pn	13 55 29.9	-0.4
WHZ	**Wether Hill Ro**	**1.95**	**221**	AML	AML	13 55 35.2	

IDC 28 13:55:02.3±7.1,22°.02N×143°.10E,h262km±69km,mb2.9/7, mb1 3.1/7,mb1mx2.9/35,mbtmp3.5/7,MS2.4/1,Ms1 2.4/1, ms1mx2.0/9,Error ellipse: s-maj=45.0km s-min=14.7km az=80.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.21**	**323**	P	P	13 59 17.9	+0.1
	1.6nm,0.6s,baz=143,slow=8.7,SNR=7.0						
KSRS				LR	LR	14 06 36.3	
	comp=Z,8.9nm,18.3s,baz=275,slow=34						
SONM	**Songino Array**	**39.04**	**320**	P	P	14 02 03.9	-0.2
	0.3nm,0.4s,baz=132,slow=5.5,SNR=2.6						
WRA	**Warramunga Arr**	**42.58**	**192**	P	P	14 02 32.4	-0.6
	0.5nm,0.9s,baz=19,slow=9.2,SNR=10.0						
ASAR	**Alice Springs**	**46.28**	**192**	P	P	14 03 02.5	+0.3
	0.3nm,0.8s,baz=13,slow=6.9,SNR=3.8						
MKAR	**Makanchi Array**	**54.42**	**312**	P	P	14 04 03.0	+0.3
	0.2nm,0.6s,baz=92,slow=7.2,SNR=4.2						
FINES	**FINESS Array B**	**82.86**	**334**	P	P	14 06 56.9	-0.4
	0.7nm,0.3s,baz=72,slow=6.0,SNR=5.8						
NVAR	**Mina Array Bea**	**83.00**	**51**	P	P	14 06 59.0	+0.2
	0.3nm,0.7s,baz=262,slow=6.3,SNR=2.1						

WEL 28 13:55:06.4±0.1,41°.17S×174°.45E,h61km±1km,ML3.3/14, 5C-10D,Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCW	**Tory Channel**	**0.14**	**254**	⇓PN	Pn	13 55 15.0	-0.6
TCW				SN	Sn	13 55 21.3	-1.0
TCW				AML	AML	13 55 22.9	
WEL	**Wellington**	**0.26**	**115**	⇓PN	Pn	13 55 16.0	-0.2
WEL				SN	Sn	13 55 23.1	-0.3
WEL				AML	AML	13 55 24.5	
WEL				AML	AML	13 55 25.0	
BHW	**Baring Head**	**0.39**	**127**	PN	Pn	13 55 17.0	-0.3
BHW				AML	AML	13 55 26.0	
BHW				AML	AML	13 55 26.1	
TUWZ	**Tuamarina**	**0.46**	**236**	⇓PN	Pn	13 55 17.4	-0.6
TUWZ				SN	Sn	13 55 25.3	-1.1
TUWZ				AML	AML	13 55 26.6	
KIW	**Kapiti Island**	**0.46**	**48**	PN	Pn	13 55 17.7	-0.4
KIW				AML	AML	13 55 26.3	
KIW				AML	AML	13 55 27.8	
CAW	**Cannon Point**	**0.47**	**82**	⇑PN	Pn	13 55 17.7	-0.3
CAW				SN	Sn	13 55 26.4	-0.2
CAW				AML	AML	13 55 27.6	
DUWZ	**D'Urville Isla**	**0.55**	**312**	PN	Pn	13 55 18.1	-0.9
MSWZ	**Moikau Station**	**0.65**	**112**

BJI ***28*** *14:05:02.0, 7˚.73S×128˚.81E, h143km, mB5.0/35, mb5.1/58*
MOS ***28*** *14:05:03.7±1.0, 7˚.23S×128˚.64E, h123km, mb4.9/30, Error ellipse: s-maj=12.7km s-min=6.2km az=118.2*
ISCJB ***28*** *14:05:06.9±0.3, 7˚.45S±0˚.02×128˚.66E±0˚.02, h163km±3km, mb4.8/81, Error ellipse: s-maj=3.9km s-min=3.5km az=161.6*
NEIC ***28*** *14:05:07.3±0.5, 7˚.33S×128˚.63E, h147km±4km, mb5.0/32, Error ellipse: s-maj=4.6km s-min=4.0km az=222.0*
IDC ***28*** *14:05:08.0±1.4, 7˚.33S×128˚.57E, h150km±12km, mb4.4/22, mb1 4.4/24, mb1mx4.3/34, mbtmp4.9/24, Error ellipse: s-maj=13.2km s-min=8.5km az=83.0*
DJA ***28*** *14:05:07.7±0.3, 8˚S±3˚×12˚9E±˚, h158km±4km, M5.0/27, mb5.1/27, mB5.5/19, MLv4.9/9, Mw(mB)5.0/19*
KLM ***28*** *14:05:09.9, 7˚.36S×128˚.70E, h170km, mb5.0, MS5.8*
ISC 28 14:05:06.6±0.3, 7˚42S±0˚.03×128˚68E±0˚.04, h142km±2km, h142km:pP-P, n374, σ1s27/420, mb4.9/81, 12C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**3.12**	**23**	P		**Pn**	**14 05 57.6**	**+2.3**
BNDI				S		Sn	14 06 40.2	+7.2
AAI	**Ambon**	**3.74**	**353**	P		**Pn**	**14 06 05.8**	**+2.5**
AAI				S		**Sn**	**14 06 50.8**	**+3.6**
AAI	**Ambon**	**3.74**	**353**	P		**Pn**	**14 06 06.0**	**+2.7**
	baz=3.7,SNR=18							
MSAI	**Masohi**	**4.05**	**4**	P		**Pn**	**14 06 10.3**	**+2.9**
NLAI	**Namlea**	**4.44**	**339**	P		Pn	14 06 17.8	+5.3
SOEI	**Soe**	**4.94**	**242**	P		**Pn**	**14 06 20.5**	**+1.2**
SOEI	**Soe**	**4.94**	**242**	P		**Pn**	**14 06 20.0**	**+0.8**
	baz=4.9,SNR=164							
SOEI	**Soe**	**4.94**	**242**	*e*Pn		**Pn**	**14 06 19.9**	**+0.7**
SOEI				*e*Sn		**Sn**	**14 07 13.3**	**-2.5**
BATI	**Baumata**	**5.68**	**240**	P		**Pn**	**14 06 29.8**	**+0.8**
	1μm,0.6s,10μm3.9nm							
BATI	**Baumata**	**5.68**	**240**	P		**Pn**	**14 06 29.7**	**+0.8**
	325nm,0.3s,baz=138,slow=2.9,SNR=238							
BATI				S		**Sn**	**14 07 31.3**	**-2.0**
	246nm,0.3s,baz=79,slow=19,SNR=11							
FAKI	**Fak Fak**	**5.71**	**39**	P		**Pn**	**14 06 29.3**	**-0.1**
FAKI	**Fak Fak**	**5.71**	**39**	P		**Pn**	**14 06 29.1**	**-0.4**
	baz=5.7,SNR=71							
FAKI				S		**Sn**	**14 07 32.2**	**-1.9**
	baz=5.7,SNR=17							
FAKI	**Fak Fak**	**5.71**	**39**	*e*Pn		**Pn**	**14 06 28.2**	**-1.2**
	252nm,0.6s							
FAKI				Sn		**Sn**	**14 07 31.2**	**-2.9**
MTN	**Manton Dam**	**5.91**	**156**	P		**Pn**	**14 06 32.8**	**+0.7**
	baz=6.0,SNR=364							
MTN				S		**Sn**	**14 07 37.2**	**-1.6**
	baz=6.0,SNR=9.2							
SANI	**Sanana**	**5.97**	**333**	P		**Pn**	**14 06 35.7**	**+2.8**
	33nm,0.8s,575nm0.2nm							
KDU	**Kakadu**	**6.43**	**145**	P		**Pn**	**14 06 39.8**	**+0.7**
	baz=6.5,SNR=260							
KDU				S		**Sn**	**14 07 48.2**	**-3.2**
	baz=6.5,SNR=12							
MMRI	**Maumere**	**6.49**	**259**	P		**Pn**	**14 06 40.6**	**+0.7**
	450nm,1.1s,4μm1.4nm							
MMRI	**Maumere**	**6.49**	**259**	*e*Pn		**Pn**	**14 06 40.3**	**+0.4**
	469nm,1.0s							
LBMI	**Labuha**	**6.83**	**350**	P		Pn	14 06 48.0	+3.5
	82nm,0.9s,1μm0.5nm							
SWI	**Sorong**	**7.00**	**22**	P		**Pn**	**14 06 47.9**	**+1.2**
	baz=7.0,SNR=69							
SWI				S		**Sn**	**14 08 06.1**	**+0.9**
	baz=7.0,SNR=6.0							
EDFI	**Ende, Flores**	**7.04**	**259**	P		**Pn**	**14 06 49.3**	**+1.9**
RKPI	**Ransiki, Papua**	**8.03**	**43**	P		**Pn**	**14 07 00.9**	**+0.4**
	719nm,0.5s,15μm							
KNRA	**Kununurra**	**8.21**	**179**	P		**Pn**	**14 07 02.3**	**-0.5**
	baz=8.3,SNR=295							
KNRA				S		Sn	14 08 27.3	-6.9
	baz=8.3,SNR=14							
BSSI	**Bau Bau, Buton**	**8.23**	**278**	P		**Pn**	**14 07 04.9**	**+1.8**
	209nm,1.0s,4μm							
BASI	**Baing, Sumba**	**8.47**	**250**	P		**Pn**	**14 07 05.3**	**-1.1**
	395nm,0.9s,5μm							
WSI	**Waingapu**	**8.58**	**254**	P		**Pn**	**14 07 07.4**	**-0.5**
	2μm,0.7s,25μm							
WSI	**Waingapu**	**8.58**	**254**	P		**Pn**	**14 07 07.5**	**-0.5**
	baz=8.6,SNR=4.9							
WSI				S		**Sn**	**14 08 39.9**	**-3.4**
	baz=8.6,SNR=14							
BKSI	**Bulukumba**	**8.75**	**283**	P		**Pn**	**14 07 12.6**	**+2.4**
	94nm,1.0s,715nm							
BNSI	**Bone**	**9.04**	**289**	P		Pn	14 07 17.2	+3.3
KAPI	**Kappang**	**9.19**	**285**	*e*Pn		**Pn**	**14 07 17.2**	**+1.2**
KMSI	**Cibinong**	**9.22**	**329**	P		Pn	14 07 19.8	+3.4
SRPI	**Serui, Papua**	**9.34**	**54**	P		**Pn**	**14 07 18.5**	**+0.5**
	149nm,0.5s,8μm							
SPSI	**Sidrap Palu**	**9.50**	**291**	P		**Pn**	**14 07 22.3**	**+2.1**
	41nm,0.7s							
TTSI	**Tana Toraja**	**9.83**	**296**	P		**Pn**	**14 07 26.0**	**+1.4**
MRSI	**Marisa**	**10.33**	**319**	P		Pn	14 07 35.3	+4.1
FITZ	**Fitzroy Crossi**	**11.03**	**195**	P		**Pn**	**14 07 37.6**	**-2.7**
	baz=11,SNR=87							
FITZ				S		Sn	14 09 31.8	-10
	baz=11,SNR=7.8							
FITZ	**Fitzroy Crossi**	**11.03**	**195**	*e*Pn		**Pn**	**14 07 37.8**	**-2.5**
	34nm,0.6s							
FITZ				*e*Sn		Sn	14 09 28.8	-13
SMPI	**Sarmi**	**11.36**	**62**	P		**Pn**	**14 07 44.3**	**-0.5**
MPSI	**Mapaga**	**11.66**	**311**	P		**Pn**	**14 07 50.6**	**+1.8**
GENI	**Genyem**	**12.41**	**68**	P		**Pn**	**14 08 00.7**	**+2.2**
JAY	**Jayapura**	**12.93**	**68**	P		**P**	**14 08 08.5**	**-2.0**
	4.0nm,0.3s,baz=236,slow=12,SNR=16							
JAY				S		**Sn**	**14 10 27.3**	**-1.1**
	1.1nm,0.3s,baz=41,slow=20,SNR=2.3							
WRAB	**Tennant Creek**	**13.61**	**157**	Pn		**Pn**	**14 08 12.9**	**-1.0**
	170nm,0.6s,SNR=54							
WRAB	**Tennant Creek**	**13.61**	**157**	*e*P		**Pn**	**14 08 12.1**	**-1.8**
WRAB				pmax		pmax		
	comp=Z,87nm,1.0s							
WRAB	**Tennant Creek**	**13.61**	**157**	*e*Pn		**Pn**	**14 08 12.1**	**-1.8**
	comp=Z,87nm,1.0s							
WRAB				*e*Sn		Sn	14 10 29.0	-15
WRA	**Warramunga Arr**	**13.61**	**157**	P		**Pn**	**14 08 11.4**	**-2.5**
	comp=Z,4.7nm,0.3s,baz=332,slow=14,SNR=139							
WRA				S		Sn	14 10 34.5	-10
	comp=Z,16nm,0.3s,baz=336,slow=22,SNR=8.8							
WRA	**Warramunga Arr**	**13.61**	**157**	*i* P		**Pn**	**14 08 12.3**	**-1.7**
WRA				pmax		pmax		
	comp=Z,12nm,0.4s							
JAGI	**Jajag, Banyuwa**	**14.42**	**265**	P		**Pn**	**14 08 25.2**	**+0.9**
	baz=14,SNR=8.1							
JAGI	**Jajag, Banyuwa**	**14.42**	**265**	*e*P		**Pn**	**14 08 23.7**	**-0.6**
	comp=Z,22nm,0.3s							
BLJI	**Banyuglugur**	**14.95**	**268**	P		**P**	**14 08 35.7**	**+2.8**
MTKI	**Muara Teweh, K**	**15.17**	**294**	P		**P**	**14 08 35.5**	**+0.2**
COEN	**Coen**	**15.65**	**116**	P		**Pn**	**14 08 39.5**	**-0.1**
	baz=16,SNR=14							
COEN				S		Sn	14 11 25.3	-8.5
	baz=16,SNR=5.3							
COEN	**Coen**	**15.65**	**116**	*e*P		**Pn**	**14 08 40.0**	**+0.4**
	comp=Z,39nm,0.7s							
COEN				*e*S		Sn	14 11 22.5	-11
TSM	**Tawau**	**15.86**	**317**	⇓P		**P**	**14 08 44.0**	**+1.0**
QIS	**Mount Isa**	**16.81**	**142**	P		**Pn**	**14 08 55.0**	**+1.3**
	baz=17,SNR=13							
AS31	**Alice Springs**	**16.92**	**163**	*e*P		**Pn**	**14 08 55.1**	**+0.1**
ASAR	**Alice Springs**	**16.92**	**163**	P		**Pn**	**14 08 54.9**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=334,slow=8.8,SNR=327							
ASAR				S		S	14 11 54.3	-9.5
	comp=Z,2.4nm,0.3s,baz=349,slow=26,SNR=4.1							
WRKA	**Warakurna**	**17.53**	**181**	P		**Pn**	**14 09 03.5**	**+1.2**
	baz=18,SNR=117							
PBKI	**Pangkalan Bun**	**17.57**	**285**	P		**Pn**	**14 09 05.1**	**+2.2**
UGM	**Wanagama**	**18.00**	**267**	P		**P**	**14 09 05.9**	**-0.7**
	baz=18,SNR=7.0							
UGM				S		S	14 12 15.7	-10
	baz=18,SNR=4.5							
KKM	**Kota Kinabalu**	**18.26**	**317**	P		**Pn**	**14 09 13.1**	**+2.0**
	baz=18,SNR=5.3							
KKM	**Kota Kinabalu**	**18.26**	**317**	P		**P**	**14 09 10.4**	**+0.9**
	comp=Z,25nm,0.4s							
PMG	**Port Moresby**	**18.39**	**97**	*e*P		**Pn**	**14 09 11.9**	**-0.7**
PMG				pmax		pmax		
	comp=Z,123nm,0.8s							
PMG	**Port Moresby**	**18.39**	**97**	P		**Pn**	**14 09 12.5**	**-0.1**
	baz=18,SNR=11							
PMG				S		**S**	**14 12 34.8**	**+1.2**
	baz=18,SNR=3.8							
PMG	**Port Moresby**	**18.39**	**97**	*e*P		**Pn**	**14 09 11.9**	**-0.7**
	comp=Z,123nm,0.8s							
KDM	**Kudat**	**18.50**	**320**	⇑P		**Pn**	**14 09 14.2**	**+0.3**
STKI	**Sintang**	**18.69**	**293**	P		**P**	**14 09 14.3**	**+0.2**
KPJI	**Karang Pucung**	**19.58**	**269**	P		**P**	**14 09 21.4**	**-2.4**
KSM	**Kuching**	**20.34**	**295**	P		**P**	**14 09 32.0**	**+0.1**
	baz=20,SNR=76							
KSM				S		**S**	**14 13 13.3**	**+0.9**
	baz=20,SNR=5.2							
KSM	**Kuching**	**20.34**	**295**	⇓P		**P**	**14 09 32.5**	**+0.5**
KSM	**Kuching**	**20.34**	**295**	*e*P		**P**	**14 09 31.8**	**-0.2**
	comp=Z,152nm,0.8s							
GIRL	**Giralia**	**20.55**	**221**	P		Pn	14 09 36.3	-1.6
	baz=21,SNR=4.2							
CISI	**Cisompet, Garu**	**20.68**	**268**	P		**P**	**14 09 36.9**	**+1.2**
	comp=Z,66nm,0.7s							
CISI	**Cisompet, Garu**	**20.68**	**268**	S		S	14 13 11.2	-8.0
	baz=21,SNR=3.9							
CISI	**Cisompet, Garu**	**20.68**	**268**	*e*P		**P**	**14 09 36.1**	**+0.4**
	comp=Z,34nm,0.4s							
LEM	**Lembang**	**20.91**	**270**	P		**P**	**14 09 38.0**	**-0.2**
	comp=Z,25nm,0.7s,baz=45,slow=16,SNR=2.9							
LEM	**Lembang**	**20.91**	**270**	P		**P**	**14 09 38.0**	**-0.2**
CTA	**Charters Tower**	**21.19**	**128**	P		**P**	**14 09 43.5**	**+2.5**
	comp=Z,3.1nm,0.4s,baz=306,slow=11,SNR=9.5							
CTA				S		Sn	14 13 37.6	-8.2
	comp=Z,3.4nm,0.7s,baz=47,slow=19,SNR=3.7							
CNJI	**Cibinong**	**21.37**	**269**	P		P	14 09 37.7	-5.3
MEEK	**Meekatharra**	**21.38**	**205**	P		**P**	**14 09 43.6**	**+0.6**
	baz=22,SNR=19							
TPI	**Tanjungpandan**	**21.44**	**281**	P		**P**	**14 09 45.0**	**+1.2**
	comp=Z,33nm,1.3s							
CBJI	**Citeko**	**21.69**	**271**	P		P	14 09 52.9	+6.5
CGJI	**Cibinong**	**22.82**	**271**	P		**P**	**14 09 54.1**	**-3.5**
PPBI	**Pangkal Pinang**	**23.05**	**282**	P		**P**	**14 10 00.9**	**+1.2**
	comp=Z,52nm,1.2s,comp=Z,762nm							
FORT	**Forrest**	**23.25**	**181**	*e*P		**P**	**14 10 01.4**	**0.0**
	comp=Z,44nm,0.6s							
QLP	**Quilpie**	**24.13**	**144**	P		**P**	**14 10 11.3**	**+1.9**
	baz=24,SNR=53							
MDSI	**Maura Dua**	**24.54**	**275**	P		**P**	**14 10 13.7**	**+0.4**
MORW	**Morawa**	**24.61**	**207**	P		**P**	**14 10 15.6**	**+1.9**
	baz=25,SNR=16							
MORW				S		S	14 14 53.8	+29
	baz=25,SNR=4.4							
KMBL	**Kambalda**	**24.66**	**194**	P		**P**	**14 10 15.5**	**+1.3**
	baz=25,SNR=5.4							
BLDU	**Ballidu**	**25.66**	**204**	P		**P**	**14 10 26.9**	**+3.6**
	baz=26,SNR=5.4							
BLDU				S		S	14 15 15.9	+35
	baz=26,SNR=5.6							
BBOO	**Buckleboo**	**26.18**	**166**	P		**P**	**14 10 29.6**	**+1.6**
	baz=26,SNR=24							
KGM	**Kluang**	**26.98**	**289**	⇓P		**P**	**14 10 36.0**	**+0.7**
STKA	**Stephens Creek**	**27.15**	**155**	P		**P**	**14 10 38.0**	**+1.3**
	comp=Z,7.2nm,0.5s,baz=330,slow=8.5,SNR=27							
STKA	**Stephens Creek**	**27.15**	**155**	*e*P		**P**	**14 10 38.3**	**+1.7**
STKA	**Stephens Creek**	**27.15**	**155**	P		**P**	**14 10 38.4**	**+1.7**
	baz=27,SNR=21							
STKA	**Stephens Creek**	**27.15**	**155**	*e*P		**P**	**14 10 38.3**	**+1.7**
NWAO	**Narrogin (SRO)**	**27.52**	**201**	P		**P**	**14 10 40.6**	**+0.8**
	comp=Z,6.5nm,0.6s,baz=23,slow=8.5,SNR=6.3							
NWAO	**Narrogin (SRO)**	**27.52**	**201**	P		**P**	**14 10 40.9**	**+1.1**
	baz=28,SNR=5.4							
KTGM	**Kuala Trenggan**	**28.46**	**296**	⇓P		**P**	**14 10 48.7**	**+0.3**
CMSA	**Cobar Meteorol**	**28.78**	**149**	P		**P**	**14 10 53.2**	**+2.1**
	baz=29,SNR=26							
FRIM	**Kepong**	**29.00**	**290**	⇓P		**P**	**14 10 53.9**	**+0.6**
IPM	**Ipoh**	**30.02**	**292**	*e*P		**P**	**14 11 01.7**	**-0.6**
	comp=Z,30nm,0.7s							
MNSI	**Mandailing Nat**	**30.15**	**284**	P		**P**	**14 11 02.7**	**-0.7**
	comp=Z,43nm,0.9s,comp=Z,5μm							
KULM	**Kulim**	**30.68**	**294**	*e*P		**P**	**14 11 07.2**	**-0.9**
	comp=Z,17nm,0.8s							
PSI	**Prapat**	**31.38**	**288**	P		**P**	**14 11 12.8**	**-1.6**
	comp=Z,28nm,0.8s,baz=124,slow=5.8,SNR=40							
QIZ	**Qiongzhong**	**32.18**	**325**	P		**P**	**14 11 20.0**	**-1.1**
QIZ				S		**S**	**14 16 25.3**	**+1.7**
QIZ				PMZ				
	comp=Z,18nm,1.5s							
QIZ				PMZ				
	comp=Z,60nm,3.6s							
GSI	**Gunungsitoli**	**32.21**	**284**	P		**P**	**14 11 18.8**	**-2.8**
TRTT	**Trang**	**32.63**	**297**	P		**P**	**14 11 24.7**	**-0.5**
	comp=Z,15nm,0.7s							
YHNB	**Yeheng**	**32.68**	**348**	*e*P		**P**	**14 11 24.0**	**-1.5**
	comp=Z,17nm,0.7s							
CHBT	**CHBT**	**32.97**	**307**	P		**P**	**14 11 28.1**	**0.0**
	comp=Z,24nm,1.0s							
TOO	**Toliangi**	**33.68**	**156**	P		P	14 11 37.7	+3.6
	baz=34,SNR=6.5							
JOW	**Kunigami**	**34.05**	**359**	P		**P**	**14 11 36.9**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=169,slow=11,SNR=9.5							
SKNT	**Sakolnakorn**	**34.40**	**315**	P		**P**	**14 11 40.3**	**-0.2**
	comp=Z,58nm,0.8s							
KHON	**Khomkaen**	**34.81**	**313**	P		**P**	**14 11 44.4**	**+0.4**
	comp=Z,14nm,0.7s,comp=Z,894nm							
PBKT	**Sadao Pong**	**36.32**	**311**	P		**P**	**14 11 56.8**	**-0.1**
	comp=Z,12nm,0.7s							
SRDT	**SRDT**	**36.43**	**306**	P		**P**	**14 11 58.6**	**+0.7**
	comp=Z,80nm,0.8s,comp=Z,6μm							
UTTA	**Uttaradit**	**37.37**	**312**	P		**P**	**14 12 06.0**	**+0.2**
	comp=Z,17nm,0.8s,comp=Z,142nm							
LAMP	**Lampang**	**38.54**	**312**	P		**P**	**14 12 16.2**	**+0.6**
	comp=Z,12nm,0.9s,comp=Z,96nm							
CM31	**Chiang Mai Arr**	**39.01**	**312**	*e*P		**P**	**14 12 20.1**	**+0.6**
	comp=Z,15nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.01**	**312**	P		**P**	**14 12 19.7**	**+0.2**
	comp=Z,17nm,0.8s,baz=143,slow=7.4,SNR=82							
CMAR				PcP		**PcP**	**14 14 28.1**	**+1.1**
	comp=Z,3.6nm,0.6s,baz=164,slow=2.8,SNR=10							
CMAR				ScP		**ScP**	**14 18 01.4**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=152,slow=4.0,SNR=4.8							
CRAI	**Chiangrai**	**39.11**	**315**	P		P	14 12 16.4	-4.0
	comp=Z,24nm,0.9s,comp=Z,595nm							
CMMT	**Chiang Mai**	**39.23**	**312**	P		**P**	**14 12 21.2**	**-0.1**
	comp=Z,55nm,0.9s							
CHTO	**Chiang Mai**	**39.23**	**312**	*e*P		**P**	**14 12 21.1**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,28nm,0.8s							
CHTO	**Chiang Mai**	**39.23**	**312**	P		**P**	**14 12 21.7**	**+0.3**
	SNR=12							
CHTO	**Chiang Mai**	**39.23**	**312**	*e*P		**P**	**14 12 21.1**	**-0.2**
	comp=Z,28nm,0.8s							
CHTO	**Chiang Mai**	**39.23**	**312**	P		**P**	**14 12 21.3**	**0.0**
	comp=Z,189nm,1.0s							
CMAI	**Chiengmai2**	**39.86**	**313**	P		**P**	**14 12 26.6**	**-0.2**
	comp=Z,32nm,1.0s,comp=Z,1μm							
GYA	**Guiyang**	**39.88**	**328**	⇑*i*P		**P**	**14 12 26.8**	**+0.1**
GYA				pP		**pP**	**14 13 00.5**	**+2.3**
GYA				sP		**sP**	**14 13 17.3**	**+3.0**
GYA				PP		**PnPn**	**14 14 06.0**	**-0.2**
GYA				ScP		**ScP**	**14 18 05.3**	**-0.3**
GYA				S		**S**	**14 18 22.5**	**+1.4**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
WHN	**Wuhan**	**40.17**	**341**	P		**P**	**14 12 29.5**	**+0.6**
NJ2	**Nanjing**	**40.35**	**347**	*e*P		**P**	**14 12 30.5**	**+0.1**
NJ2				PMZ				
	comp=Z,20nm,0.6s							
JNU	**Nakatsue**	**40.37**	**3**	P		**P**	**14 12 30.0**	**-0.5**
	comp=Z,14nm,0.9s,baz=160,slow=2.5,SNR=5.7							
DGPR	**DIGLIPUR**	**40.98**	**300**	*e*P		**P**	**14 12 36.3**	**+0.5**
DGPR				AMB		AMB	14 12 46.6	
	comp=Z,25nm,0.2s							
KMI	**Kunming**	**41.03**	**323**	P		**P**	**14 12 37.3**	**+0.9**
KMI				PP		**PP**	**14 14 16.5**	**+2.4**
KMI				PMZ				
	comp=Z,26nm,1.0s							
KSAR	**Wonju Array Be**	**44.63**	**359**	P		**P**	**14 13 05.3**	**+0.4**
KSAR	**Wonju Array Be**	**44.63**	**359**	P		**P**	**14 13 05.3**	**+0.4**
MJAR	**Matsushiro Arr**	**44.63**	**11**	P		**P**	**14 13 03.4**	**-1.6**
	comp=Z,6.7nm,0.7s,baz=188,slow=9.7,SNR=24							
MAJO	**Matsushiro**	**44.63**	**11**	*e*P		**P**	**14 13 03.4**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.6s							
MAJO	**Matsushiro**	**44.63**	**11**	*e*P		**P**	**14 13 03.4**	**-1.6**
	comp=Z,8.0nm,0.6s							
MAT	**Matsushiro**	**44.63**	**11**	P		**P**	**14 13 03.6**	**-1.4**
MAT				eS		S	14 19 21.6	-8.8
KSRS	**Korea Array**	**44.64**	**359**	P		**P**	**14 13 05.3**	**+0.4**
	comp=Z,5.1nm,0.5s,baz=177,slow=9.5,SNR=19							
CD2	**Chengdu**	**44.97**	**329**	*e*P		**P**	**14 13 10.0**	**+2.2**
CD2				pP		**pP**	**14 13 41.0**	**+1.2**
CD2				sP		**sP**	**14 13 56.5**	**+0.7**
CD2				PP		**PP**	**14 14 58.5**	**+2.7**
CD2				PcS		**PcS**	**14 18 41.8**	**+1.2**
CD2				S		**S**	**14 19 38.5**	**+3.0**
CD2				sS		**sS**	**14 20 32.0**	**+0.8**
CD2				SS		**SS**	**14 22 56.0**	**-4.5**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,160nm,5.2s							
XAN	**Xi'an**	**45.28**	**337**	P		**P**	**14 13 08.5**	**-1.7**
XAN				pP		**pP**	**14 13 39.0**	**-3.3**
XAN				sP		**sP**	**14 13 55.0**	**-3.3**
XAN				PMZ				
	comp=Z,16nm,0.9s							
XAN				PMZ				
	comp=Z,29nm,5.0s							
SHL	**Shillong**	**48.53**	**314**	*e*P		**P**	**14 13 35.0**	**-0.7**
SHL				AMB		AMB	14 13 35.7	
	comp=Z,20nm,0.4s							
BJI	**Beijing**	**48.61**	**347**	P		**P**	**14 13 35.5**	**-0.3**
BJI				PMZ				
	comp=Z,49nm,0.6s							
LZH	**Lanzhou**	**49.17**	**333**	⇑P		**P**	**14 13 41.0**	**+0.6**
LZH				pP		**pP**	**14 14 13.5**	**+0.5**
LZH				sP		**sP**	**14 14 27.5**	**-1.3**
LZH				PcP		**PcP**	**14 15 02.5**	**+0.9**
LZH				PP		**PP**	**14 15 38.0**	**+2.4**
LZH				S		**S**	**14 20 35.8**	**+0.6**
LZH				sS		**sS**	**14 21 29.5**	**-2.1**
LZH				SS		**SS**	**14 24 04.5**	**-4.1**
LZH				PMZ				
	comp=Z,92nm,1.0s							
LZH				PMZ				
	comp=Z,300nm,4.0s							
HHC	**Hu-ho-hao-te**	**50.55**	**343**	*e*P		**P**	**14 13 52.8**	**+2.2**
HHC				PP		**PP**	**14 15 52.0**	**+4.0**
HHC				S		**S**	**14 20 53.8**	**-0.2**
HHC				SS		**SS**	**14 24 27.0**	**-3.2**
HHC				PMZ				
	comp=Z,31nm,1.0s							
HHC				PMZ				
	comp=Z,150nm,4.4s							
CHLP	**Challavanipeta**	**50.99**	**301**	*e*P		**P**	**14 13 53.9**	**-0.3**
CN2	**Changchun**	**51.06**	**357**	*e*P		P	14 13 58.3	+4.0
CN2				*e*pP		pP	14 14 31.0	+3.9
CN2				*e*S		**S**	**14 21 04.0**	**+3.2**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
VIS	**Vishakhapatnam**	**51.28**	**300**	*e*P		**P**	**14 13 55.9**	**-0.4**
VIS				AMB		AMB	14 14 13.9	
	comp=Z,29nm,1.5s							
USRK	**Ussuriysk Ar.**	**51.46**	**3**	P		**P**	**14 13 56.9**	**-0.4**
	comp=Z,8.2nm,0.5s,baz=182,slow=7.3,SNR=35							
LSA	**Lhasa**	**51.60**	**317**	P		**P**	**14 13 59.5**	**+0.3**
LSA				PMZ				
	comp=Z,20nm,0.8s							
LSA	**Lhasa**	**51.60**	**317**	*e*P		**P**	**14 13 59.5**	**+0.3**
LSA				pmax		pmax		
	comp=Z,22nm,0.6s							
LSA	**Lhasa**	**51.60**	**317**	*e*P		**P**	**14 13 59.5**	**+0.3**
	comp=Z,22nm,0.6s							
RPZ	**Rata Peaks**	**51.72**	**141**	P		**P**	**14 14 01.4**	**+2.1**
MDJ	**Mudanjiang**	**51.80**	**1**	P		**P**	**14 14 01.3**	**+1.6**
MDJ				PMZ				
	comp=Z,20nm,1.6s							
MDJ				PMZ				
	comp=Z,250nm,5.4s							
ODAN	**Odare**	**52.55**	**312**	*e*P		**P**	**14 14 05.4**	**-0.5**
	comp=Z,34nm,0.5s							
TAPN	**Taplejung**	**52.59**	**313**	*e*P		**P**	**14 14 05.9**	**-0.4**
	comp=Z,36nm,0.4s							
ASAJ	**Asahikawa**	**52.82**	**13**	P		**P**	**14 14 07.2**	**-0.1**
	comp=Z,8.9nm,0.4s,baz=231,slow=9.3,SNR=33							
SKHT	**Srikalahasti**	**52.96**	**293**	*e*P		**P**	**14 14 08.1**	**-0.8**
RAMN	**Ramite**	**53.18**	**312**	*e*P		**P**	**14 14 10.4**	**-0.2**
	comp=Z,76nm,0.6s							
ADKI	**Addanki**	**53.48**	**296**	*e*P		**P**	**14 14 12.0**	**-0.6**
ADKI				*e*PcP		**PcP**	**14 15 18.1**	**+0.3**
GTA	**Gaotai**	**53.72**	**332**	⇑P		**P**	**14 14 14.5**	**+0.4**
GTA				pP		**pP**	**14 14 46.8

comp=Z,33nm,0.1s
PETK Petropavlovsk- 65.13 19 P **P** 14 15 32.7 +0.6
comp=Z,17nm,0.7s,baz=182,slow=5.3,SNR=38
BHJ Bhuj 65.22 300 AMB AMB 14 15 17.2
comp=Z,34nm,0.9s
BHJ *eP* **P** **14 15 32.6 -0.6**
BOD Bodaibo 66.10 351 *eP* **P** **14 15 37.9 -0.3**
PDGK Podgornoye 67.34 323 P **P** **14 15 46.2 -0.1**
PDGK pmax pmax
comp=Z,23nm,0.8s
KSH Kashi 67.44 318 P **P** **14 15 48.0 +0.7**
KSH pP **pP** **14 16 22.0 +0.3**
KSH PP **PP** **14 18 19.5 +1.6**
KSH PcS 14 20 18.3
KSH S **S** **14 24 29.5 -2.6**
KSH sS **SKiKP** **14 25 29.0 -2.5**
KSH PMZ
comp=Z,17nm,0.7s
KSH PMZ
comp=Z,94nm,5.2s
KSH LN
comp=Z,150nm,5.3s
KSH LE
comp=Z,130nm,5.6s
KSH LZ
comp=Z,180nm,5.4s
MK31 Makanchi Array 67.86 328 *eP* **P** **14 15 49.4 -0.2**
MK31 pmax pmax
comp=Z,18nm,0.5s
MK31 Makanchi Array 67.86 328 *eP* **P** **14 15 49.7 +0.1**
MKAR Makanchi Array 67.86 328 P **P** **14 15 49.7 +0.1**
comp=Z,23nm,0.6s,baz=138,slow=5.7,SNR=332
ULHL Ulahol 68.71 321 P **P** **14 15 55.7 +0.4**
SNR=10
ULHL Ulahol 68.71 321 *i* P **P** **14 15 55.6 +0.4**
YAK Yakutsk 69.24 1 P **P** **14 15 57.3 -0.5**
comp=Z,28nm,0.3s,baz=273,slow=0.5,SNR=31
YAK Yakutsk 69.24 1 *eP* **P** **14 15 57.0 -0.8**
YAK pmax pmax
comp=Z,48nm,1.0s
YAK Yakutsk 69.24 1 *eP* **P** **14 15 57.0 -0.8**
comp=Z,69nm,0.7s
KZA Kyzart 69.25 320 P **P** **14 15 59.5 +0.7**
SNR=17
KZA Kyzart 69.25 320 *i* P **P** **14 15 59.4 +0.7**
TKM2 Tokmak 2 69.48 321 P **P** **14 16 00.2 +0.3**
SNR=27
TKM2 Tokmak 2 69.48 321 *eP* **P** **14 15 59.6 -0.3**
TKM2 pmax pmax
comp=Z,18nm,0.8s
TKM2 Tokmak 2 69.48 321 *eP* **P** **14 15 59.6 -0.3**
comp=Z,18nm,0.8s
KBK Karagaybulak 69.74 321 P **P** **14 16 02.5 +1.0**
SNR=7.7
UCH Uchtor 69.79 320 P **P** **14 16 00.5 -1.7**
SNR=17
UCH Uchtor 69.79 320 *i* P **P** **14 16 00.5 -1.7**
AAK Ala-Archa 70.02 320 P **P** **14 16 03.9 +0.7**
comp=Z,149nm,0.8s,SNR=13
AAK Ala-Archa 70.02 320 P **P** **14 16 03.7 +0.5**
SNR=18
AAK Ala-Archa 70.02 320*c i*P **P** **14 16 03.7 +0.5**
AAK pmax pmax
comp=Z,46nm,0.7s
AAK Ala-Archa 70.02 320 P **P** **14 16 04.3 +1.1**
SNR=10
AAK Ala-Archa 70.02 320 *eP* **P** **14 16 03.2 0.0**
comp=Z,22nm,0.9s
KBL Kabul 70.03 311 P **P** **14 16 02.7 -0.8**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 70.03 311 P **P** **14 16 02.7 -0.8**
comp=Z,5.1nm,0.6s
CHMS Chumysh 70.04 321 P **P** **14 16 03.6 +0.4**
SNR=5.1
CHMS Chumysh 70.04 321 *i* P **P** **14 16 03.6 +0.4**
USP Ospenovka 70.34 321 P **P** **14 16 05.3 +0.3**
SNR=40
USP Ospenovka 70.34 321 *i* P **P** **14 16 05.3 +0.3**
EKS2 Erkin-Say 70.48 320 P **P** **14 16 06.9 +0.9**
SNR=28
EKS2 Erkin-Say 70.48 320 *eP* **P** **14 16 06.5 +0.5**
EKS2 pmax pmax
comp=Z,26nm,0.8s
EKS2 Erkin-Say 70.48 320 *eP* **P** **14 16 06.5 +0.5**
comp=Z,26nm,0.8s
ZAA0 Zalesovo Array 71.38 334 *eP* **P** **14 16 09.9 -1.0**
ZALV Zalesovo Beam 71.38 334 P **P** **14 16 10.2 -0.8**
comp=Z,31nm,0.6s,baz=134,slow=5.4,SNR=154
ZALV Zalesovo Beam 71.38 334 *i* P **P** **14 16 10.1 -0.8**
ZALV pmax pmax
comp=Z,31nm,0.6s
DZET Dzherino 71.99 315 P **P** **14 16 14.5 -0.6**
DZET pmax pmax
comp=Z,16nm,0.9s
KURK Kurchatov 72.19 329 P **P** **14 16 15.2 -0.7**
comp=Z,203nm,0.5s,SNR=52
KURK Kurchatov 72.19 329 P **P** **14 16 15.1 -0.8**
KURK pmax pmax
comp=Z,13nm,0.5s
KURK Kurchatov 72.19 329 P **P** **14 16 16.2 +0.4**
SNR=15
KURK Kurchatov 72.19 329 *eP* **P** **14 16 15.8 -0.1**
comp=Z,47nm,0.7s
VNDA Vanda 72.20 173 P **P** **14 16 16.4 +0.9**
comp=Z,2.0nm,0.6s,baz=318,slow=6.7,SNR=11
VNDA Vanda 72.20 173 *eP* **P** **14 16 16.0 +0.5**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 72.20 173 *eP* **P** **14 16 16.0 +0.5**
comp=Z,2.0nm,0.8s
NVS Novosibirsk 72.67 334 *i* P **P** **14 16 17.8 -0.8**
NVS *e* 14 17 02.6
NVS pmax pmax
comp=N,10.0nm,0.6s
NVS pmax pmax
comp=E,12nm,0.6s
NVS pmax pmax
comp=Z,16nm,0.6s
KK31 Karatay Array 72.79 319 *i* P **P** **14 16 19.3 -0.3**
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KKAR Karatay Array 72.79 319 P **P** **14 16 18.8 -0.9**
KKAR pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 72.79 319 P **P** **14 16 18.8 -0.9**
comp=Z,12nm,0.7s
SBA Scott Base 73.10 172 *eP* **P** **14 16 22.8 +2.0**
SBA Scott Base 73.10 172 *eP* **P** **14 16 22.8 +2.0**
MAW Mawson 74.09 201 P **P** **14 16 28.1 +1.4**
comp=Z,3.6nm,0.8s,baz=73,slow=9.3,SNR=4.9
OTUK Ortayu 74.21 325 P **P** **14 16 28.2 +0.4**
OTUK pmax pmax
comp=Z,77nm,0.7s
SMDO Samad 75.34 296 P **P** **14 16 35.0 0.0**
SNR=5.4
IDAH Dahanechah 76.52 306 *eP* **P** **14 16 42.5 +0.8**
IKOO Kooshah 77.12 306 *eP* **P** **14 16 45.6 +0.6**
IMYA Miami 77.48 310 *eP* **P** **14 16 47.5 +0.7**
BVA0 Borovoye Array 77.72 328 *i* P **P** **14 16 47.0 -0.6**
BVA0 pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 77.79 328 P **P** **14 16 47.4 -0.6**
comp=Z,138nm,0.4s,SNR=9.4
BRVK Borovoye 77.79 328*c i*P **P** **14 16 47.7 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 77.79 328 P **P** **14 16 48.2 +0.2**
SNR=5.3
BRVK Borovoye 77.79 328 *eP* **P** **14 16 47.6 -0.3**
comp=Z,16nm,0.8s
IAKL Akhelmad 78.59 310 *eP* **P** **14 16 53.5 +0.4**
TIXI Tiksi 78.90 0 *eP* **P** **14 16 52.5 -1.2**
TIXI pmax pmax
comp=Z,8.0nm,0.5s
TIXI Tiksi 78.90 0 *eP* **P** **14 16 52.0 -1.7**
comp=Z,11nm,0.5s
GEYT Alibeck 79.48 311 P **P** **14 16 57.1 -0.5**
comp=Z,1.4nm,0.3s,baz=202,slow=0.8,SNR=5.4
IBAF Bafgh 79.69 304 *eP* **P** **14 16 58.9 -0.1**
BILL Bilibino 79.82 13 *eP* **P** **14 16 58.5 -0.2**
BILL *e* 14 17 07.9
BILL *e**PP **pP** **14 17 32.3 -2.0**
BILL *eS* **SKSac** **14 26 59.1 -2.9**
ISRV Sarvestan 81.19 301 *eP* **P** **14 17 08.0 +0.7**
IPAR Pars 81.35 302 *eP* **P** **14 17 07.0 -1.2**

AB31 Akbulak array 82.02 322 *i* P **P** **14 17 10.1 -0.7**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 82.02 322 *eP* **P** **14 17 10.0 -0.8**
comp=Z,10nm,0.6s
IANJ Anjilo 82.03 307 *eP* **P** **14 17 11.1 -0.4**
IKAZ Kazeroun 82.36 301 *eP* **P** **14 17 12.4 -1.1**
QSPA South Pole Qui 82.56 180 P **P** **14 17 13.9 +0.4**
comp=Z,6.0nm,0.6s,baz=305,slow=1.3,SNR=42
AKTO Aktyubinsk 83.60 323 P **P** **14 17 18.0 -0.9**
AKTO pmax pmax
comp=Z,16nm,0.8s
GAMB Gambell 83.81 23 *eP* **P** **14 17 20.2 +0.6**
comp=Z,12nm,0.8s
SVE Sverdlovsk 84.45 329⇑ *i*P **P** **14 17 23.1 0.0**
SVE pmax pmax
comp=Z,27nm,0.8s
ARU Arti 85.37 328 P **P** **14 17 26.0 -1.7**
comp=Z,126nm,0.6s,SNR=5.2
ARU Arti 85.37 328*c i*P **P** **14 17 27.0 -0.7**
ARU 14 20 43.8
ARU S **SKSac** **14 27 38.1 -1.1**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 85.37 328 *eP* **P** **14 17 26.8 -0.9**
comp=Z,18nm,0.8s
RAYN Ar Rayn 86.71 294 P **P** **14 17 34.9 -0.2**
comp=Z,101nm,0.6s,SNR=10
RAYN Ar Rayn 86.71 294 *eP* **P** **14 17 34.1 -1.0**
comp=Z,9.6nm,0.6s
ZEI Tsey 91.16 313 *eP* **P** **14 17 55.0 -0.8**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 92.03 314 P **P** **14 17 59.2 -0.3**
comp=Z,2.9nm,1.0s,baz=236,slow=24,SNR=5.7
KIV Kislovodsk 92.21 314 *eP* **P** **14 18 00.5 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.1s
COLA College 93.89 25 *eP* **P** **14 18 07.3 -0.3**
ILAR Eielson Array 94.28 25 P **P** **14 18 07.4 -2.0**
comp=Z,1.2nm,0.8s,baz=268,slow=4.3,SNR=16
SNAA Sanae 94.95 194 *eP* **P** **14 18 14.4 +1.8**
SNAA pmax pmax
comp=Z,4.0nm,1.2s
OBN Obninsk 97.23 325⇑ *eP* **P** **14 18 20.3 -2.7**
OBN *e**PP **pP** **14 18 57.3 -2.1**
OBN pmax pmax
comp=Z,4.0nm,1.0s
APA Apatity 98.82 337⇓ *i*P Pdif 14 18 40.0 +10
APA *i **PP pP 14 19 09.0 +2.7
APA MLR MLR
comp=Z,1μm,14.0s
ARCES ARCESS Array B 101.51 340 P **Pdif** **14 18 41.6 -0.2**
comp=Z,2.4nm,0.5s,baz=35,slow=3.3,SNR=14
AKASG Malin Array Be 101.69 320 P **Pdif** **14 18 41.0 -2.0**
comp=Z,0.2nm,0.3s,baz=71,slow=4.2,SNR=5.2
AKASG Malin Array Be 101.69 320 P **Pdif** **14 18 41.0 -2.0**
FINES FINESS Array B 102.50 331 P **Pdif** **14 18 45.8 -0.6**
comp=Z,1.2nm,0.8s,baz=72,slow=4.5,SNR=3.1
FINES PKiKP **PKiKP** **14 23 07.9 +1.0**
comp=Z,1.5nm,0.7s,baz=85,slow=4.0,SNR=3.8
CRVS Cervenica-Dubn 106.86 319 *i* P **Pdif** **14 19 04.1 -2.0**
CRVS Cervenica-Dubn 106.86 319 PDIF **Pdif** **14 19 04.1 -2.0**
YKA Yellowknife Ar 108.70 26 PKiKP **PKiKP** **14 23 17.4 -0.9**
comp=Z,0.2nm,0.3s,baz=297,slow=1.6,SNR=5.7
GERES GERESS Array B 111.89 320 PKiKP **PKiKP** **14 23 24.8 -0.2**
comp=Z,1.2nm,0.5s,baz=90,slow=2.7,SNR=11
KBA Koelnbreinsper 112.56 318⇑ *i*PKiKP **PKiKP** **14 23 24.5 -1.9**
comp=Z,3.1nm,1.0s
HINF Hinteralfeld 116.56 320 *e*PKIKP **PKPdf** **14 23 33.2 -0.7**
comp=Z,6.5nm,0.6s
HINF Hinteralfeld 116.56 320 *e*PKIKP **PKPdf** **14 23 33.2 -0.7**
HINF Hinteralfeld 116.56 320 *e*PKPdf **PKPdf** **14 23 33.2 -0.7**
HAU Haudompre 116.82 321 *e*PKIKP **PKPdf** **14 23 34.8 +0.4**
comp=Z,5.7nm,0.5s
HAU Haudompre 116.82 321 *e*PKIKP **PKPdf** **14 23 34.8 +0.4**
HAU Haudompre 116.82 321 *e*PKPdf **PKPdf** **14 23 34.8 +0.4**
PAGF Fort de Pagny 117.02 321 *e*PKIKP **PKPdf** **14 23 35.2 +0.5**
PAGF Fort de Pagny 117.02 321 *e*PKPdf **PKPdf** **14 23 35.2 +0.5**
BAIF Baives 117.38 323 *e*PKIKP **PKPdf** **14 23 36.3 +1.0**
BAIF Baives 117.38 323 *e*PKIKP **PKPdf** **14 23 36.3 +1.0**
BAIF Baives 117.38 323 *e*PKPdf **PKPdf** **14 23 36.3 +1.0**
LPG La Plagne 117.39 318 *e*PKIKP **PKPdf** **14 23 35.8 -0.1**
comp=Z,4.4nm,0.6s
LPG La Plagne 117.39 318 *e*PKIKP **PKPdf** **14 23 35.8 -0.1**
LPG La Plagne 117.39 318 *e*PKPdf **PKPdf** **14 23 35.8 -0.1**
LPL La Plagne 117.39 318 *e*PKIKP **PKPdf** **14 23 35.7 -0.1**
comp=Z,6.3nm,0.6s
LPL La Plagne 117.39 318 *e*PKIKP **PKPdf** **14 23 35.7 -0.1**
LPL La Plagne 117.39 318 *e*PKPdf **PKPdf** **14 23 35.7 -0.1**
CABF La Chapelle 117.46 319 *e*PKIKP **PKPdf** **14 23 35.8 +0.1**
comp=Z,9.8nm,0.6s
CABF La Chapelle 117.46 319 *e*PKIKP **PKPdf** **14 23 35.8 +0.1**
CABF La Chapelle 117.46 319 *e*PKPdf **PKPdf** **14 23 35.8 +0.1**
MBDF Montbardon 117.62 317 *e*PKIKP **PKPdf** **14 23 37.4 +1.2**
comp=Z,5.9nm,0.7s
MBDF Montbardon 117.62 317 *e*PKIKP **PKPdf** **14 23 37.4 +1.2**
MBDF Montbardon 117.62 317 *e*PKPdf **PKPdf** **14 23 37.4 +1.2**
KEST Kesra 118.02 307 PKP **PKPdf** **14 23 37.5 +0.4**
comp=Z,1.4nm,0.9s,baz=84,slow=9.2,SNR=3.3
PDAR Pinedale Array 118.11 45 PKP **PKPdf** **14 23 37.8 +0.4**
comp=Z,0.7nm,0.8s,baz=338,slow=1.6,SNR=4.7
PDAR PKKPbc **PKKPab** **14 34 00.6 +0.6**
comp=Z,0.4nm,0.6s,baz=104,slow=3.8,SNR=3.5
ORIF Oris-en-Rattie 118.16 317 *e*PKIKP **PKPdf** **14 23 36.9 -0.2**
comp=Z,5.6nm,0.6s
ORIF Oris-en-Rattie 118.16 317 *e*PKIKP **PKPdf** **14 23 36.9 -0.2**
ORIF Oris-en-Rattie 118.16 317 *e*PKPdf **PKPdf** **14 23 36.9 -0.2**
LOR Lormes 118.66 320 *e*PKIKP **PKPdf** **14 23 37.7 -0.2**
LOR Lormes 118.66 320 *e*PKIKP **PKPdf** **14 23 37.7 -0.2**
LOR Lormes 118.66 320 *e*PKPdf **PKPdf** **14 23 37.7 -0.2**
SMRF Simiane la Rot 118.67 316 *e*PKIKP **PKPdf** **14 23 38.4 +0.3**
comp=Z,7.7nm,0.8s
SMRF Simiane la Rot 118.67 316 *e*PKPdf **PKPdf** **14 23 38.4 +0.3**
SSF Saint Saulge 118.96 320 *e*PKIKP **PKPdf** **14 23 38.4 -0.1**
comp=Z,7.7nm,0.6s
SSF Saint Saulge 118.96 320 *e*PKIKP **PKPdf** **14 23 38.4 -0.1**
SSF Saint Saulge 118.96 320 *e*PKPdf **PKPdf** **14 23 38.4 -0.1**
VIVF Saint-Julien-l 118.99 318 *e*PKIKP **PKPdf** **14 23 38.6 0.0**
comp=Z,2.8nm,0.5s
VIVF Saint-Julien-l 118.99 318 *e*PKIKP **PKPdf** **14 23 38.6 0.0**
VIVF Saint-Julien-l 118.99 318 *e*PKPdf **PKPdf** **14 23 38.6 0.0**
AVF Avril sur Loir 119.16 320 *e*PKIKP **PKPdf** **14 23 39.2 +0.4**
AVF Avril sur Loir 119.16 320 *e*PKIKP **PKPdf** **14 23 39.2 +0.4**
AVF Avril sur Loir 119.16 320 *e*PKPdf **PKPdf** **14 23 39.2 +0.4**
LASF Ste Croix 119.80 317 *e*PKIKP **PKPdf** **14 23 40.2 0.0**
comp=Z,13nm,1.1s
LASF Ste Croix 119.80 317 *e*PKPdf **PKPdf** **14 23 40.2 0.0**
TCF Toulx Ste Croi 120.08 320 *e*PKIKP **PKPdf** **14 23 40.7 0.0**
TCF Toulx Ste Croi 120.08 320 *e*PKIKP **PKPdf** **14 23 40.7 0.0**
TCF Toulx Ste Croi 120.08 320 *e*PKPdf **PKPdf** **14 23 40.7 0.0**
CAF Calviac 120.69 318 *e*PKIKP **PKPdf** **14 23 42.2 +0.3**
comp=Z,6.4nm,0.8s
CAF Calviac 120.69 318 *e*PKIKP **PKPdf** **14 23 42.2 +0.3**
CAF Calviac 120.69 318 *e*PKPdf **PKPdf** **14 23 42.2 +0.3**
MTLF Montolieu 121.18 317 *e*PKIKP **PKPdf** **14 23 42.6 -0.3**
MTLF Montolieu 121.18 317 *e*PKIKP **PKPdf** **14 23 42.6 -0.3**
MTLF Montolieu 121.18 317 *e*PKPdf **PKPdf** **14 23 42.6 -0.3**
MFF Saint Martin d 121.44 321 *e*PKIKP **PKPdf** **14 23 43.1 -0.1**
comp=Z,10nm,0.7s
MFF Saint Martin d 121.44 321 *e*PKIKP **PKPdf** **14 23 43.1 -0.1**
MFF Saint Martin d 121.44 321 *e*PKPdf **PKPdf** **14 23 43.1 -0.1**
SGMF Saint Gilles 122.16 324 *e*PKIKP **PKPdf** **14 23 44.3 -0.3**
comp=Z,12nm,0.8s
SGMF Saint Gilles 122.16 324 *e*PKIKP **PKPdf** **14 23 44.3 -0.3**
SGMF Saint Gilles 122.16 324 *e*PKPdf **PKPdf** **14 23 44.3 -0.3**
ETSF Etsaut 123.22 317 *e*PKIKP **PKPdf** **14 23 47.5 +0.6**
comp=Z,6.1nm,0.7s
ETSF Etsaut 123.22 317 *e*PKIKP **PKPdf** **14 23 47.5 +0.6**
ETSF Etsaut 123.22 317 *e*PKPdf **PKPdf** **14 23 47.5 +0.6**
ULM Lac du Bonnet 123.51 33 PKP **PKPdf** **14 23 46.2 -0.9**
comp=Z,0.5nm,0.3s,baz=345,slow=12,SNR=3.4
SJPF Ste Jean 123.59 318 *e*PKIKP **PKPdf** **14 23 48.2 +0.7**
comp=Z,4.0nm,0.7s
SJPF Ste Jean 123.59 318 *e*PKIKP **PKPdf** **14 23 48.2 +0.7**
SJPF Ste Jean 123.59 318 *e*PKPdf **PKPdf** **14 23 48.2 +0.7**
TXAR Lajitas Array 126.27 59 PKP **PKPdf** **14 23 54.1 +1.0**
comp=Z,0.2nm,0.5s,baz=354,slow=2.7,SNR=7.0
ESDC Sonseca Array 126.87 315 PKP **PKPdf** **14 23 54.1 +0.1**
comp=Z,0.2nm,0.3s,baz=29,slow=3.7,SNR=5.0
TORD Torodi Ar. Bea 127.60 281 PKP **PKPdf** **14 23 55.5 -0.4**
comp=Z,4.2nm,0.6s,baz=74,slow=1.9,SNR=24
PLCA Paso Flores 128.92 161 PKP **PKPdf** **14 23 58.4 +0.4**
comp=Z,2.5nm,1.0s,baz=333,slow=6.8,SNR=2.7
SCHQ Schefferville 131.11 12 PKP **PKPdf** **14 24 02.4 +0.9**

comp=Z,1.5nm,0.4s,baz=7.9,slow=5.0,SNR=4.1
SCHQ SKPbc **SKPbc** **14 27 11.2 -1.9**
comp=Z,5.3nm,0.7s,baz=338,slow=3.3,SNR=6.8
DBIC Dimbokro 133.89 272 PKP **PKPdf** **14 24 08.0 +0.1**
comp=Z,3.8nm,0.6s,baz=178,slow=1.4,SNR=5.6
DBIC SKPbc **SKPbc** **14 27 20.9 -3.1**
comp=Z,1.7nm,0.6s,baz=164,slow=8.6,SNR=3.3
LIC Lamto 134.03 271 *e*PKIKP **PKPdf** **14 24 08.4 +0.2**
comp=Z,10nm,0.7s
LIC Lamto 134.03 271 *e*PKPdf **PKPdf** **14 24 08.4 +0.2**
GOGA Godfrey 140.59 45 *e*PKIKP PKPpre 14 24 16.8
GOGA Godfrey 140.59 45 *e*PKPpre PKPpre 14 24 16.8
CPUP Villa Florida 145.95 170 PKPbc **PKPab** **14 24 31.1 +0.2**
comp=Z,1.0nm,0.7s,baz=172,slow=2.4,SNR=7.1
CPUP Villa Florida 145.95 170 *e*PKP2 **PKPbc** **14 24 30.6 +0.3**
CPUP Villa Florida 145.95 170 *e*PKPbc **PKPbc** **14 24 30.6 +0.3**
LPAZ La Paz 151.16 145 PKPbc **PKPbc** **14 24 46.0 +1.1**
comp=Z,2.2nm,0.6s,baz=55,slow=2.3,SNR=8.4
LPAZ PKPab **PKPab** **14 24 54.9 +2.0**
comp=Z,7.2nm,0.7s,baz=110,slow=18,SNR=4.8

*IDC **28** 14:10:22.0±6.0,36°.01S×178°.33E,h99km±43km, mb3.9/3, mb1 4.1/4,mb1mx3.7/18,mbtmp4.2/4,Error ellipse: s-maj=59.4km s-min=28.8km az=54.0*
*ISCJB **28** 14:10:24.4±1.1,36°.67S±0°.08×178°.5E±0°.1,h199km±5km, mb3.8/3,Error ellipse: s-maj=15.1km s-min=12.2km az=163.7*
*WEL **28** 14:10:25.8±0.5,36°.37S×178°.29E,h149km±4km,ML4.5/19, Error ellipse: s-maj=3.9km s-min=3.6km az=0.0*
*NEIC **28** 14:10:26.9,36°.41S×178°.24E,h140km,MG4.5(WEL), After WEL.*
ISC 28 14:10:27.5±1.0,36°.61S±0°.07×178°.37E±0°.08,h168km±6km, n165,σ1§58/155,mb4.0/3,8C-12D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**183**	PN		**Pn**		**14 10 51.6**	**-2.0**
MXZ				SN		**Sn**		**14 11 11.1**	**-2.7**
MXZ				AML		AML		14 11 13.8	
MXZ				AML		AML		14 11 13.9	
MXZ	**Matakaoa Point**	**0.95**	**183**	Pn		**Pn**		**14 10 51.6**	**-2.0**
MXZ				Sn		**Sn**		**14 11 11.6**	**-2.2**
WMGZ	**Waiomatatini S**	**1.21**	**178**	⇓PN		**Pn**		**14 10 55.2**	**-0.5**
HAZ	**Te Kaha**	**1.24**	**202**	PN		**Pn**		**14 10 53.7**	**-2.2**
HAZ				SN		**Sn**		**14 11 16.5**	**-1.4**
WIZ	**White Island**	**1.32**	**226**	PN		**Pn**		**14 10 53.9**	**-2.7**
WIZ	**White Island**	**1.32**	**226**	Pn		**Pn**		**14 10 54.0**	**-2.7**
PUZ	**Puketiti**	**1.46**	**184**	⇓PN		**Pn**		**14 10 57.4**	**-0.7**
PUZ				SN		**Sn**		**14 11 21.3**	**-0.5**
PUZ				AML		AML		14 11 22.2	
PUZ	**Puketiti**	**1.46**	**184**	Pn		**Pn**		**14 10 57.4**	**-0.7**
TWGZ	**Tauwhareparae**	**1.59**	**191**	⇑PN		**Pn**		**14 10 59.5**	**+0.1**
TWGZ				SN		**Sn**		**14 11 25.8**	**+1.6**
MWZ	**Matawai**	**1.85**	**201**	⇓PN		**Pn**		**14 11 01.4**	**-0.7**
MWZ				SN		**Sn**		**14 11 29.0**	**+0.1**
MWZ				AML		AML		14 11 33.7	
MWZ				AML		AML		14 11 33.7	
MWZ				AML		AML		14 11 47.2	
MWZ	**Matawai**	**1.85**	**201**	Pn		**Pn**		**14 11 01.4**	**-0.7**
TKGZ	**Te Karaka**	**1.87**	**193**	⇓PN		**Pn**		**14 11 02.2**	**-0.1**
CNGZ	**Carnagh Statio**	**1.88**	**184**	⇓PN		**Pn**		**14 11 02.6**	**+0.2**
CNGZ	**Carnagh Statio**	**1.88**	**184**	Pn		**Pn**		**14 11 02.6**	**+0.2**
OPRZ	**Ohinepanea**	**1.90**	**229**	⇓PN		**Pn**		**14 11 01.3**	**-1.3**
OPRZ	**Ohinepanea**	**1.90**	**229**	Pn		**Pn**		**14 11 01.3**	**-1.3**
MARZ	**Manawahe**	**1.93**	**224**	PN		**Pn**		**14 11 02.2**	**-0.7**
MARZ	**Manawahe**	**1.93**	**224**	Pn		**Pn**		**14 11 02.2**	**-0.7**
URZ	**Urewera**	**1.93**	**211**	PN		**Pn**		**14 11 01.7**	**-1.2**
URZ				SN		**Sn**		**14 11 30.2**	**-0.2**
URZ				AML		AML		14 11 35.5	
URZ	**Urewera**	**1.93**	**211**	P		**Pn**		**14 11 01.7**	**-1.2**
	108nm,0.3s,baz=354,slow=4.5,SNR=524								
URZ				S		**Sn**		**14 11 30.0**	**-0.4**
	53nm,0.3s,baz=42,slow=22,SNR=13								
EDRZ	**Edgecumbe**	**1.98**	**221**	PN		**Pn**		**14 11 03.0**	**-0.6**
EDRZ	**Edgecumbe**	**1.98**	**221**	Pn		**Pn**		**14 11 03.0**	**-0.6**
RAUZ	**Rawiri**	**2.03**	**202**	PN		**Pn**		**14 11 04.0**	**-0.1**
KUZ	**Kuaotunu**	**2.13**	**266**	PN		Pn		14 11 01.0	-4.2
KUZ	**Kuaotunu**	**2.13**	**266**	Pn		Pn		14 11 01.0	-4.2
RIGZ	**Rimuhau**	**2.15**	**193**	PN		**Pn**		**14 11 05.3**	**-0.1**
RIGZ				SN		**Sn**		**14 11 35.7**	**+0.8**
TARZ	**Mount Tarawera**	**2.20**	**222**	PN		**Pn**		**14 11 06.3**	**+0.2**
TARZ	**Mount Tarawera**	**2.20**	**222**	Pn		**Pn**		**14 11 06.3**	**+0.2**
KARZ	**Kaharoa**	**2.21**	**230**	PN		**Pn**		**14 11 05.3**	**-0.8**
KARZ	**Kaharoa**	**2.21**	**230**	Pn		**Pn**		**14 11 05.3**	**-0.8**
RRRZ	**Republican Roa**	**2.27**	**220**	PN		**Pn**		**14 11 06.5**	**-0.3**
RRRZ	**Republican Roa**	**2.27**	**220**	Pn		**Pn**		**14 11 06.5**	**-0.3**
SNGZ	**Shannon Statio**	**2.32**	**200**	⇑PN		**Pn**		**14 11 07.2**	**-0.2**
SNGZ				SN		**Sn**		**14 11 40.1**	**+1.8**
PRGZ	**Paritu Road**	**2.34**	**189**	PN		**Pn**		**14 11 07.3**	**-0.3**
PRGZ	**Paritu Road**	**2.34**	**189**	Pn		**Pn**		**14 11 07.3**	**-0.3**
HRRZ	**Handcock Road**	**2.43**	**222**	PN		**Pn**		**14 11 09.3**	**+0.6**
HRRZ	**Handcock Road**	**2.43**	**222**	Pn		**Pn**		**14 11 09.3**	**+0.6**
PRRZ	**Plateau Road**	**2.46**	**219**	PN		**Pn**		**14 11 08.5**	**-0.4**
PRRZ	**Plateau Road**	**2.46**	**219**	Pn		**Pn**		**14 11 08.5**	**-0.4**
KNZ	**Kokohu**	**2.47**	**193**	⇓PN		**Pn**		**14 11 08.5**	**-0.6**
KNZ	**Kokohu**	**2.47**	**193**	Pn		**Pn**		**14 11 08.5**	**-0.6**
RAHZ	**Arahi**	**2.52**	**203**	PN		**Pn**		**14 11 09.5**	**-0.3**
RAHZ	**Arahi**	**2.52**	**203**	Pn		**Pn**		**14 11 09.5**	**-0.3**
ALRZ	**Allen Road**	**2.53**	**219**	⇑PN		**Pn**		**14 11 09.6**	**-0.3**
ALRZ	**Allen Road**	**2.53**	**219**	Pn		**Pn**		**14 11 09.6**	**-0.3**
TOZ	**Tahuroa Road**	**2.55**	**243**	⇓PN		**Pn**		**14 11 08.8**	**-1.3**
TOZ	**Tahuroa Road**	**2.55**	**243**	Pn		**Pn**		**14 11 08.8**	**-1.3**
MHGZ	**Mahia Peninsul**	**2.57**	**188**	PN		**Pn**		**14 11 10.2**	**0.0**
MHGZ	**Mahia Peninsul**	**2.57**	**188**	Pn		**Pn**		**14 11 10.2**	**0.0**
WPRZ	**Whakapapataran**	**2.59**	**222**	PN		**Pn**		**14 11 10.7**	**+0.1**
WHHZ	**Waihua**	**2.62**	**200**	⇑PN		**Pn**		**14 11 10.8**	**-0.1**
WHHZ				SN		**Sn**		**14 11 45.9**	**+1.1**
NMHZ	**Naumai**	**2.78**	**206**	⇓PN		**Pn**		**14 11 12.7**	**-0.1**
NMHZ				SN		**Sn**		**14 11 49.9**	**+1.7**
NMHZ	**Naumai**	**2.78**	**206**	Pn		**Pn**		**14 11 12.8**	**-0.1**
ETAZ	**East Tamaki Re**	**2.79**	**262**	⇑PN		**Pn**		**14 11 10.1**	**-2.4**
ARHZ	**Aropaoamui**	**2.86**	**202**	⇑PN		**Pn**		**14 11 13.5**	**-0.4**
HATZ	**Hinemaiaia**	**2.91**	**218**	PN		**Pn**		**14 11 13.8**	**-0.6**
HATZ	**Hinemaiaia**	**2.91**	**218**	Pn		**Pn**		**14 11 13.8**	**-0.6**
BKZ	**Black Stump Fm**	**2.95**	**210**	⇑PN		**Pn**		**14 11 14.3**	**-0.8**
BKZ				AML		AML		14 11 54.9	
BKZ				AML		AML		14 12 11.7	
BKZ	**Black Stump Fm**	**2.95**	**210**	Pn		**Pn**		**14 11 14.3**	**-0.8**
MCHZ	**McNeill Hill**	**3.12**	**205**	⇑PN		**Pn**		**14 11 16.5**	**-0.5**
MCHZ	**McNeill Hill**	**3.12**	**205**	Pn		**Pn**		**14 11 16.5**	**-0.5**
CKHZ	**Cape Kidnapper**	**3.21**	**198**	PN		**Pn**		**14 11 17.2**	**-1.0**
CKHZ	**Cape Kidnapper**	**3.21**	**198**	Pn		**Pn**		**14 11 17.2**	**-1.0**
KRVZ	**Karewarewa**	**3.29**	**220**	PN		**Pn**		**14 11 19.4**	**+0.1**
KRVZ	**Karewarewa**	**3.29**	**220**	Pn		**Pn**		**14 11 19.4**	**+0.1**
WTVZ	**West Tongariro**	**3.33**	**220**	PN		**Pn**		**14 11 19.4**

PNHZ	**Pukenui**	**3.72**	**207**	Pn		**Pn**	**14 11 22.8**	**-1.8**
WPHZ	**Waipukurau**	**3.77**	**203**	PN		**Pn**	**14 11 23.4**	**-1.8**
WPHZ	**Waipukurau**	**3.77**	**203**	Pn		**Pn**	**14 11 23.4**	**-1.8**
PRHZ	**Porangahau**	**3.90**	**200**	⇓PN		**Pn**	**14 11 25.3**	**-1.6**
PRHZ	**Porangahau**	**3.90**	**200**	Pn		**Pn**	**14 11 25.3**	**-1.6**
TSZ	**Takapari Road**	**3.93**	**208**	⇓PN		**Pn**	**14 11 25.2**	**-2.1**
TSZ					AML	AML	14 12 31.9	
TSZ					AML	AML	14 12 33.6	
TSZ	**Takapari Road**	**3.93**	**208**	Pn		**Pn**	**14 11 25.2**	**-2.1**
DVHZ	**Dannevirke**	**4.07**	**204**	PN		**Pn**	**14 11 26.8**	**-2.3**
DVHZ	**Dannevirke**	**4.07**	**204**	Pn		**Pn**	**14 11 26.8**	**-2.3**
WAZ	**Wanganui**	**4.12**	**219**	PN		**Pn**	**14 11 29.6**	**-0.2**
WAZ	**Wanganui**	**4.12**	**219**	Pn		**Pn**	**14 11 29.6**	**-0.2**
ANWZ	**Angora Road**	**4.12**	**201**	PN		**Pn**	**14 11 28.7**	**-1.1**
LREZ	**Lake Rotokare**	**4.23**	**227**	PN		**Pn**	**14 11 31.9**	**+0.8**
POWZ	**Post Office Ro**	**4.29**	**208**	PN		**Pn**	**14 11 30.4**	**-1.6**
POWZ	**Post Office Ro**	**4.29**	**208**	Pn		**Pn**	**14 11 30.4**	**-1.6**
PRWZ	**Pori Road**	**4.37**	**205**	PN		**Pn**	**14 11 32.0**	**-0.9**
BFZ	**Birch Farm**	**4.39**	**202**	PN		**Pn**	**14 11 31.5**	**-1.7**
BFZ	**Birch Farm**	**4.39**	**202**	Pn		**Pn**	**14 11 31.5**	**-1.7**
TIWZ	**Tintock**	**4.59**	**204**	PN		**Pn**	**14 11 34.2**	**-1.7**
TIWZ					AML	AML	14 12 30.4	
TIWZ					AML	AML	14 12 31.7	
TIWZ	**Tintock**	**4.59**	**204**	Pn		**Pn**	**14 11 34.2**	**-1.7**
MRZ	**Mangatainoka R**	**4.60**	**208**	PN		**Pn**	**14 11 33.2**	**-2.8**
MRZ					AML	AML	14 12 29.4	
MRZ					AML	AML	14 12 29.4	
MRZ	**Mangatainoka R**	**4.60**	**208**	Pn		**Pn**	**14 11 33.2**	**-2.8**
CPWZ	**Castlepoint**	**4.62**	**201**	PN		**Pn**	**14 11 34.2**	**-1.9**
HOWZ	**Holdsworth Sta**	**4.83**	**207**	PN		**Pn**	**14 11 35.8**	**-3.1**
HOWZ	**Holdsworth Sta**	**4.83**	**207**	Pn		**Pn**	**14 11 35.8**	**-3.1**
OGWZ	**Otaki Gorge**	**4.89**	**210**	PN		**Pn**	**14 11 37.1**	**-2.6**
OGWZ	**Otaki Gorge**	**4.89**	**210**	Pn		**Pn**	**14 11 37.1**	**-2.6**
TMWZ	**Te Maipa**	**4.89**	**203**	PN		**Pn**	**14 11 37.0**	**-2.7**
TMWZ	**Te Maipa**	**4.89**	**203**	Pn		**Pn**	**14 11 37.0**	**-2.7**
KIW	**Kapiti Island**	**5.03**	**211**	PN		**Pn**	**14 11 38.8**	**-2.8**
KIW					AML	AML	14 12 39.2	
KIW					AML	AML	14 12 39.8	
KIW	**Kapiti Island**	**5.03**	**211**	Pn		**Pn**	**14 11 38.8**	**-2.8**
MTW	**Mount Morrison**	**5.06**	**205**	PN		**Pn**	**14 11 38.9**	**-3.1**
MTW					AML	AML	14 12 40.5	
MTW					AML	AML	14 12 40.8	
MTW	**Mount Morrison**	**5.06**	**205**	Pn		**Pn**	**14 11 38.9**	**-3.1**
CAW	**Cannon Point**	**5.18**	**209**	PN		**Pn**	**14 11 40.7**	**-2.8**
CAW					AML	AML	14 12 41.2	
CAW					AML	AML	14 12 43.4	
CAW	**Cannon Point**	**5.18**	**209**	Pn		**Pn**	**14 11 40.7**	**-2.8**
TRWZ	**Traveller**	**5.22**	**203**	PN		**Pn**	**14 11 41.4**	**-2.7**
TRWZ					AML	AML	14 12 44.7	
TRWZ					AML	AML	14 12 45.2	
TRWZ	**Traveller**	**5.22**	**203**	Pn		**Pn**	**14 11 41.4**	**-2.7**
PAWZ	**Paruwai Farm**	**5.29**	**205**	PN	Pn	Pn	14 11 41.6	-3.3
PAWZ					AML	AML	14 12 45.4	
PAWZ					AML	AML	14 12 47.6	
PAWZ	**Paruwai Farm**	**5.29**	**205**	Pn	Pn	Pn	14 11 41.6	-3.3
MSWZ	**Moikau Station**	**5.38**	**206**	PN	Pn	Pn	14 11 42.8	-3.3
MSWZ					AML	AML	14 12 48.7	
MSWZ					AML	AML	14 12 52.6	
MSWZ	**Moikau Station**	**5.38**	**206**	Pn	Pn	Pn	14 11 42.8	-3.3
WEL	**Wellington**	**5.45**	**210**	AML	AML	AML	14 12 47.7	
BHW	**Baring Head**	**5.51**	**209**	AML	AML	AML	14 12 48.5	
BHW					AML	AML	14 12 49.8	
PLWZ	**Palliser**	**5.51**	**205**	PN	Pn	Pn	14 11 44.4	-3.6
PLWZ	**Palliser**	**5.51**	**205**	Pn	Pn	Pn	14 11 44.4	-3.6
TCW	**Tory Channel**	**5.60**	**214**	Pn		**Pn**	**14 11 45.8**	**-3.2**
TCW					AML	AML	14 12 53.1	
TCW					AML	AML	14 12 54.7	
TCW	**Tory Channel**	**5.60**	**214**	Pn		**Pn**	**14 11 45.8**	**-3.2**
TUWZ	**Tuamarina**	**5.92**	**214**	PN	Pn	Pn	14 11 49.8	-3.4
TUWZ					AML	AML	14 13 01.4	
TUWZ					AML	AML	14 13 02.4	
TUWZ	**Tuamarina**	**5.92**	**214**	Pn	Pn	Pn	14 11 49.9	-3.4
NNZ	**Nelson**	**6.03**	**219**	Pn		**Pn**	**14 11 52.0**	**-2.7**
QRZ	**Quartz Range**	**6.21**	**226**	PN		**Pn**	**14 11 54.2**	**-2.9**
QRZ	**Quartz Range**	**6.21**	**226**	Pn		**Pn**	**14 11 54.2**	**-2.9**
THZ	**Tophouse**	**6.67**	**218**	PN		**Pn**	**14 12 00.2**	**-3.0**
THZ	**Tophouse**	**6.67**	**218**	Pn		**Pn**	**14 12 00.2**	**-3.0**
KHZ	**Kahutara**	**6.90**	**211**	PN		**Pn**	**14 12 03.1**	**-3.0**
KHZ	**Kahutara**	**6.90**	**211**	Pn		**Pn**	**14 12 03.1**	**-3.0**
LTZ	**Lake Taylor**	**7.75**	**215**	PN	Pn	Pn	14 12 11.7	-5.8
LTZ	**Lake Taylor**	**7.75**	**215**	Pn	Pn	Pn	14 12 11.7	-5.8
OXZ	**Oxford**	**8.28**	**214**	PN	Pn	Pn	14 12 20.1	-4.4
MQZ	**McQueen's Vall**	**8.33**	**210**	PN	Pn	Pn	14 12 20.4	-4.7
MQZ	**McQueen's Vall**	**8.33**	**210**	Pn	Pn	Pn	14 12 20.4	-4.7
RPZ	**Rata Peaks**	**9.04**	**216**	PN	Pn	Pn	14 12 31.1	-3.4
RPZ	**Rata Peaks**	**9.04**	**216**	Pn	Pn	Pn	14 12 31.2	-3.3
	0.7nm,0.3s,baz=37,slow=5.1,SNR=6.9							
RPZ					S	Sn	14 14 06.7	-8.4
	2.8nm,0.3s,baz=98,slow=21,SNR=8.7							
ODZ	**Otahua Downs**	**10.26**	**212**	PN	Pn	Pn	14 12 46.6	-3.8
ODZ	**Otahua Downs**	**10.26**	**212**	Pn	Pn	Pn	14 12 46.6	-3.8
ASAR	**Alice Springs**	**40.23**	**276**	P		**P**	**14 17 48.2**	**+0.4**
	1.7nm,0.6s,baz=124,slow=7.9,SNR=4.0							
WRA	**Warramunga Arr**	**41.79**	**281**	P		**P**	**14 18 01.2**	**+0.5**
	1.8nm,0.4s,baz=119,slow=7.7,SNR=5.4							
QSPA	**South Pole Qui**	**53.51**	**180**	P		P	14 19 37.9	+7.5
	2.1nm,0.6s,baz=5.2,slow=3.0,SNR=3.9							
FINES	**FINESS Array B**	**149.66**	**334**	PKPbc		**PKPbc**	**14 29 56.6**	**+0.3**
	1.3nm,0.9s,baz=60,slow=3.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**156.45**	**188**	PKPbc		PKPbc	14 30 19.6	
	0.1nm,0.3s,baz=139,slow=2.8,SNR=5.5							
TORD					PKPab	**PKPab**	**14 30 34.9**	**+3.0**
	0.3nm,0.5s,baz=164,slow=4.6,SNR=4.3							

MEX 28 14:10:45.1±0.8, 15°60N×96°36W, h7km±19km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.30**	**55**	*i* P	Pg	14 10 50.7	-0.3
HUIG				*i* S	Sg	14 10 54.6	-0.4
VHO	**Vista Hermosa**	**1.51**	**346**	*i* P	Pn	14 11 09.8	-3.0
VHO				*e*S	Sn	14 11 28.2	-4.7
PNIG	**Pinotepa**	**1.87**	**295**	*i* P	Pn	14 11 14.5	-3.0
PNIG				*i* S	Sn	14 11 35.8	-5.7
CMIG	**Matias Romero**	**2.05**	**44**	*e*P	Pn	14 11 17.5	-2.5
CMIG				*i* S	Sn	14 11 40.9	-5.0

MEX 28 14:12:43.0±0.4, 15°69N×95°91W, h30km±3km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.21**	**292**	*i* P	Pb	14 12 48.2	-1.2
HUIG				*i* S	Sb	14 12 52.1	-1.7
VHO	**Vista Hermosa**	**1.59**	**330**	*e*P	Pn	14 13 07.7	-1.6
VHO				*e*S	Sn	14 13 26.0	-3.1
CMIG	**Matias Romero**	**1.71**	**35**	*i* P	Pn	14 13 10.8	+0.1
PNIG	**Pinotepa**	**2.25**	**288**	*e*P	Pn	14 13 16.1	-2.1
PNIG				*i* S	Sn	14 13 42.6	-2.4

MEX 28 14:17:36.5±0.8, 15°56N×95°88W, h30km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.30**	**313**	*e*P	Pb	14 17 42.6	-1.4
HUIG				*i* S	Sb	14 17 48.4	-0.7
VHO	**Vista Hermosa**	**1.71**	**331**	*e*P	Pn	14 18 02.4	-2.2
VHO				*e*S	Sn	14 18 21.9	-3.8
CMIG	**Matias Romero**	**1.79**	**32**	*e*P	Pb	14 18 07.5	-1.3
PNIG	**Pinotepa**	**2.32**	**291**	*e*P	Pn	14 18 10.7	-2.0
PNIG				*e*S	Sn	14 18 37.1	-3.1

CRAAG 28 14:21:30.6, 35°53N×0°62E, MI2.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRT	**Tiaret**	**0.57**	**104**	P	Pb	14 21 42.8	-0.9
EANR	**'Ain N'Sour**	**0.58**	**43**	P	Pg	14 21 42.6	+0.8

*NIED **28** 14:58:00, 21°80N×120°90E, h14km, Mw3.8 Best double couple: M₀5.16000×10¹⁴ NP1:φs56.00000°, δ8.00000°, λ-179.00000°. NP2:φs325.00000°, δ90.00000°, λ-82.00000°.*
*IDC **28** 14:58:49.5±0.6, 21°65N×121°02E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.9/51, mbtmp3.9/17, ML2.8/2, MS3.1/9, Ms1 3.2/9, ms1mx2.9/37, Error ellipse: s-maj=20.8km s-min=13.5km az=74.0*
*NEIC **28** 14:58:51.0±0.5, 21°69N×121°04E, h10km, mb4.1/2, Error ellipse: s-maj=10.9km s-min=6.9km az=96.0*
NEIC Felt at Heng-ch'un.
*JMA **28** 14:58:51.4±0.5, 21°77N×120°89E, h47km, M4.2*
*ISCJB **28** 14:58:52.1±0.6, 21°70N±0°03×121°11E±0°03, h27km±3km, mb3.8/18, MS3.1/8, Error ellipse: s-maj=5.6km s-min=3.9km az=164.5*
*TAP **28** 14:58:53.1, 21°81N×121°04E, h21km, ML4.1, C*
ISC 28 14:58:53.3±0.9, 21°77N±0°05×121°05E±0°03, h25km±6km, n103, σ1§03/118, mb3.9/18, MS3.0/8, 4C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.19**	**313**	⇓*i* P	**Pb**	**14 58 58.9**	**0.0**
	baz=294						
TSEB				*e*S	**Sb**	**14 59 03.3**	**+0.6**
	baz=294						
TWK1	**Hengchun**	**0.28**	**307**	⇑*i* P	**Pb**	**14 58 59.7**	**-0.5**
	baz=298						
TWK1				S	**Sb**	**14 59 04.2**	**-0.6**
	baz=298						
HEN	**Hengchun**	**0.37**	**309**	⇑*i* P	**Pb**	**14 59 01.2**	**-0.2**
	baz=302						
HEN				S	**Sb**	**14 59 07.0**	**+0.1**
	baz=302						
LAY	**Lan-yu**	**0.54**	**60**	*e*P	**Pn**	**14 59 04.8**	**-0.6**
	baz=66						
LAY				*e*S	**Sb**	**14 59 11.9**	**+0.4**
	baz=66						
TAW	**Tawu**	**0.60**	**346**	⇓*i* P	**Pb**	**14 59 05.1**	**-0.1**
	baz=2.0						
TAW				S	**Sn**	**14 59 14.3**	**-0.8**
	baz=2.0						
EAST	**Anshuo**	**0.64**	**343**	⇓*i* P	**Pb**	**14 59 05.8**	**-0.1**
	baz=356						
SCZT	**Fangliau**	**0.72**	**326**	⇑*i* P	**Pn**	**14 59 07.7**	**-0.2**
	baz=337						
SCZT				*e*S	**Sn**	**14 59 19.0**	**+0.9**
	baz=337						
ECL	**Taimali**	**0.82**	**354**	⇓*i* P	**Pb**	**14 59 07.7**	**-1.4**
	baz=6.0						
ECL				S	**Sb**	**14 59 18.7**	**-1.1**
	baz=6.0						
TWP	**Hsiaoliuchiu**	**0.85**	**312**	⇑*i* P	**Pn**	**14 59 10.4**	**+0.6**
	baz=302						
TTN	**Taitung**	**0.98**	**5**	*e*P	**Pn**	**14 59 10.3**	**-1.2**
	baz=11						
SSD	**Sandimen**	**1.04**	**338**	*e*P	**Pn**	**14 59 12.3**	**-0.1**
	baz=351						
SSD				S	**Sn**	**14 59 27.3**	**+1.1**
	baz=351						
TWG	**Pinlang**	**1.04**	**1**	⇓P	**Pn**	**14 59 10.5**	**-1.9**
	baz=7.0						
TWG	**Pinlang**	**1.04**	**1**	*e*Pg	**Pn**	**14 59 10.0**	**-2.4**
KAU	**Kaohsiung**	**1.05**	**319**	*e*P	**Pb**	**14 59 15.6**	**+2.8**
	baz=300						
SGLT	**Jiouru**	**1.08**	**331**	*e*P	**Pb**	**14 59 14.8**	**+1.5**
	baz=354						
TWM1	**Shoushan**	**1.20**	**331**	*e*P	**Pb**	**14 59 17.0**	**+1.6**
	baz=335						
CHKT	**Chengkung**	**1.35**	**12**	P	**Pn**	**14 59 15.6**	**-1.0**
	baz=21						
CHKT				*e*S	**Sn**	**14 59 32.7**	**-1.1**
	baz=21						
SGST	**Jiashian**	**1.37**	**342**	*e*P	**Pb**	**14 59 18.5**	**+0.1**
	baz=4.0						
ELDTW	**Lidau**	**1.41**	**359**	*e*P	**Pn**	**14 59 16.1**	**-1.4**
	baz=15						
STYT	**Tauyuan**	**1.41**	**349**	*e*P	**Pn**	**14 59 17.6**	**+0.1**
	baz=356						
CHN3	**Shinhua**	**1.44**	**334**	*e*P	**Pb**	**14 59 21.3**	**+1.7**
	baz=339						
CHN1	**Nanshi**	**1.49**	**341**	*e*P	**Pb**	**14 59 19.4**	**-0.9**
	baz=5.0						
WTP	**Ta-pu**	**1.52**	**345**	*e*P	**Pb**	**14 59 20.2**	**-0.7**
	baz=352						
TPUB	**Ta-pu**	**1.57**	**346**	*e*Pn	**Pb**	**14 59 20.6**	**-1.2**
TPUB				*e*Pg	Pn	14 59 24.3	+4.7
TWK	**Hsinying**	**1.57**	**341**	*e*P	**Pb**	**14 59 21.8**	**0.0**
	baz=347						
TWF1	**Yuli**	**1.59**	**8**	*e*P	**Pn**	**14 59 19.3**	**-0.6**
	baz=17						
CHN4	**Tsaushan**	**1.63**	**345**	*e*P	**Pb**	**14 59 22.4**	**-0.3**
	baz=352						
YULB	**Yu-li**	**1.63**	**8**	*e*Pn	**Pn**	**14 59 20.4**	**0.0**
YUS	**Yu-Shan**	**1.71**	**357**	*e*P	**Pn**	**14 59 21.5**	**-0.5**
	baz=18						
ALS	**Alishan**	**1.74**	**353**	*e*P	**Pn**	**14 59 23.0**	**+0.7**
	baz=1.0						
EHY	**Hungye**	**1.74**	**8**	*e*P	**Pn**	**14 59 20.9**	**-1.2**
	baz=17						
CHY	**Chiayi**	**1.81**	**342**	*e*P	**Pb**	**14 59 25.2**	**-0.6**
	baz=349						
CHN2	**Minshiung**	**1.83**	**343**	*e*P	**Pb**	**14 59 25.4**	**-0.7**
	baz=351						
CHN5	**Tsauling**	**1.85**	**349**	*e*P	**Pn**	**14 59 24.3**	**+0.8**
	baz=358						
WDGT	**Dungji**	**1.96**	**319**	*e*P	**Pn**	**14 59 23.2**	**-1.8**
	baz=320						
WDGT				*e*S	**Sn**	**14 59 46.8**	**-2.0**
	baz=320						
SSLB	**Suanglung**	**2.01**	**358**	*e*Pn	**Pn**	**14 59 26.1**	**+0.5**
WSF	**Szhu**	**2.01**	**338**	*e*P	**Pn**	**14 59 26.6**	**+0.9**
	baz=343						
WSF				*e*S	**Sn**	**14 59 50.6**	**+0.6**
	baz=343						
ESL	**Shilin**	**2.06**	**10**	*e*P	**Pn**	**14 59 26.3**	**-0.1**
	baz=20						
SMLT	**Sun Moon Lake**	**2.10**	**356**	*e*P	**Pn**	**14 59 28.3**	**+1.2**
	baz=21						
WNT	**Mingjian**	**2.12**	**351**	*e*P	**Pb**	**14 59 29.1**	**-2.1**
	baz=1.0						
TYC	**Yuchr**	**2.13**	**355**	*e*P	**Pn**	**14 59 28.7**	**+1.4**
	baz=23						
TYC				*e*S	**Sb**	**14 59 57.7**	**+0.5**
	baz=23						
PNG	**Penghu**	**2.26**	**323**	*e*P	**Pn**	**14 59 27.0**	**-2.0**
	baz=323						
PNG				*e*S	**Sn**	**14 59 54.1**	**-2.0**
	baz=323						
TWD	**Chiawan**	**2.35**	**12**	*e*P	**Pn**	**14 59 31.3**	**+1.0**
	baz=23						
WHF	**Hehuan Shan**	**2.37**	**5**	*e*P	**Pn**	**14 59 32.7**	**+1.6**
	baz=28						
TCU	**Taichung**	**2.39**	**352**	*e*P	**Pn**	**14 59 31.9**	**+1.0**
	baz=3.0						
NACB	**Ninganchiao**	**2.44**	**12**	*e*Pn	**Pn**	**14 59 31.7**	**+0.1**
TWT	**Tachien**	**2.47**	**3**	*e*P	**Pn**	**14 59 33.5**	**+1.2**
	baz=26						
TWQ1	**Liyutan**	**2.58**	**354**	*e*P	**Pn**	**14 59 34.1**	**+0.7**
	baz=349						
NSY	**Sanyi**	**2.65**	**354**	*e*P	**Pn**	**14 59 35.6**	**+1.2**
	baz=350						
NNS	**Nan Shan**	**2.67**	**6**	*e*P	**Pn**	**14 59 36.7**	**+1.8**
	baz=29						
ENA	**Nanau**	**2.72**	**13**	*e*P	**Pn**	**14 59 36.1**	**+0.7**
	baz=26						
NSTT	**Nanjuang**	**2.85**	**359**	*e*P	**Pn**	**14 59 37.0**	**-0.2**
	baz=13						
ENTT	**Nioudou**	**2.89**	**9**	*e*P	**Pn**	**14 59 39.0**	**+1.2**
	baz=32						
YHNB	**Yeheng**	**2.90**	**6**	*e*Pn	**Pn**	**14 59 39.0**	**+1.0**
NSK	**Sanguang**	**2.90**	**6**	*e*P	**Pn**	**14 59 39.6**	**+1.6**
	baz=4.0						
TWC	**Suao**	**2.92**	**14**	*e*P	**Pn**	**14 59 39.9**	**+1.7**
	baz=27						
JYNG	**Yonagunijimaku**	**3.19**	**33**	P	**Pn**	**14 59 42.3**	**+0.4**
JYNG				*e*S	**Sn**	**15 00 18.9**	**-0.1**
TATO	**Taipei**	**3.21**	**7**	Pn	**Pn**	**14 59 43.3**	**+1.1**
YOJ	**Yonaguni jima**	**3.23**	**34**	P	**Pn**	**14 59 43.3**	**+0.9**
YOJ				*e*S	**Sn**	**15 00 20.5**	**+0.4**
YOJ	**Yonaguni jima**	**3.23**	**34**	*e*Pn	**Pn**	**14 59 43.4**	**+1.0**
TWB1	**Santiao Chiao**	**3.33**	**15**	*e*P	**Pn**	**14 59 45.3**	**+1.4**
	baz=28						
NWF	**Wu-fen Shan**	**3.35**	**11**	*e*P	Pn	14 59 47.6	+3.4
	baz=25						
HATJ	**Hateruma jima**	**3.41**	**48**	P	**Pn**	**14 59 45.0**	**+0.1**
HATJ				*e*S	**Sn**	**15 00 23.9**	**-0.6**
IRIF	**Iriomote-Funau**	**3.55**	**44**	P	**Pn**	**14 59 47.7**	**+0.9**
IRIF				*e*S	**Sn**	**15 00 28.8**	**+0.8**
KNM	**Kinmen**	**3.57**	**318**	*e*P	**Pn**	**14 59 46.8**	**-0.3**
	baz=316						
JKRS	**Kuro-shima**	**3.67**	**47**	P	**Pn**	**14 59 49.3**	**+0.8**
JKRS				*e*S	**Sn**	**15 00 31.1**	**+0.2**
JIJ	**Ishigaki jima**	**3.84**	**47**	P	**Pn**	**14 59 51.6**	**+0.7**
JIJ				*e*S	**Sn**	**15 00 34.9**	**-0.3**
JISG	**Ishigakijimahi**	**4.11**	**46**	P	**Pn**	**14 59 54.7**	**+0.2**
JISG				*e*S	**Sn**	**15 00 42.1**	**+0.4**
JTJ	**Tarama**	**4.41**	**49**	P	**Pn**	**14 59 59.8**	**+1.1**
JTJ				*e*S	**Sn**	**15 00 48.7**	**-0.5**
JIRB	**Irabujima**	**4.86**	**50**	P	**Pn**	**15 00 05.6**	**+0.7**
JIRB				*e*S	**Sn**	**15 01 01.0**	**+0.7**
JIKM	**Ikemajima**	**4.97**	**50**	P	**Pn**	**15 00 07.2**	**+0.8**
JIKM				*e*S	**Sn**	**15 01 03.8**	**+0.7**
JOW	**Kunigami**	**8.29**	**51**	Pn	**Pn**	**15 00 51.6**	**-0.4**
	0.1nm,0.3s,baz=158,slow=16,SNR=7.2						
JOW				Sn	Sn	15 02 16.9	-8.0
	0.1nm,0.3s,baz=69,slow=15,SNR=2.6						
KSAR	**Wonju Array Be**	**16.70**	**19**	Pn	**P**	**15 02 47.5**	**-0.2**
KSRS	**Korea Array**	**16.72**	**19**	Pn	**P**	**15 02 47.5**	**-0.5**
	0.2nm,0.3s,baz=199,slow=12,SNR=3.5						
KSRS				LR	LR	15 10 06.4	
	comp=Z,34nm,18.7s,baz=230,slow=40						
MJAR	**Matsushiro Arr**	**20.95**	**42**	P	Pn	15 03 36.7	-0.4
	1.6nm,0.6s,baz=233,slow=7.8,SNR=7.3						
CMAR	**Chiang Mai Arr**	**21.02**	**265**	P	**P**	**15 03 35.0**	**-0.2**
	0.4nm,0.3s,baz=60,slow=11,SNR=4.2						
CMAR				LR	LR	15 12 37.2	
	comp=Z,57nm,18.9s,baz=146,slow=40						
GUMO	**Guam**	**24.09**	**106**	LR	LR	15 12 14.1	
	comp=Z,32nm,20.7s,baz=128,slow=33						
USRK	**Ussuriysk Ar.**	**24.13**	**20**	P	**P**	**15 04 07.8**	**+0.6**
	1.7nm,0.7s,baz=166,slow=7.4,SNR=3.5						
ASAJ	**Asahikawa**	**28.54**	**34**	P	**P**	**15 04 49.1**	**+2.2**
	6.3nm,0.7s,baz=213,slow=15,SNR=5.9						
ASAJ				LR	LR	15 17 05.0	
	comp=Z,26nm,19.4s,baz=6.0,slow=38						
SONM	**Songino Array**	**28.55**	**339**	P	**P**	**15 04 47.7**	**+0.5**
	0.8nm,0.8s,baz=147,slow=9.5,SNR=5.7						
SONM				LR	LR	15 18 20.1	
	comp=Z,43nm,18.2s,baz=170,slow=41						
MKAR	**Makanchi Array**	**40.01**	**318**	P	**P**	**15 06 27.2**	**+1.1**
	0.3nm,0.6s,baz=126,slow=6.3,SNR=5.6						
MKAR				LR	LR	15 25 13.7	
	comp=Z,64nm,18.3s,baz=120,slow=40						
ZALV	**Zalesovo Beam**	**42.21**	**329**	P	**P**	**15 06 44.8**	**+0.7**
	1.2nm,0.5s,baz=109,slow=8.7,SNR=6.3						
ZALV				LR	LR	15 24 49.8	
	comp=Z,19nm,18.4s,baz=248,slow=37						
H11N1	**WAKE ISLAND Hy**	**42.80**	**84**	T	T	15 52 49.0	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**42.80**	**84**	T	T	15 52 50.3	
	baz=282,slow=74						
H11N3	**WAKE ISLAND Hy**	**42.82**	**84**	T	T	15 52 54.5	
	baz=282,slow=74						
H11S3	**WAKE ISLAND Hy**	**42.86**	**86**	T	T	15 52 49.9	
	baz=283,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**42.87**	**86**	T	T	15 52 52.6	
	baz=283,slow=74,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**42.88**	**86**	T	T	15 52 51.2	
	baz=283,slow=74,SNR=5.7						
WRAB	**Tennant Creek**	**43.44**	**162**	*e*P	**P**	**15 06 53.2**	**-1.2**
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**43.45**	**162**	P	**P**	**15 06 53.1**	**-1.3**
	2.8nm,0.5s,baz=344,slow=8.9,SNR=29						
WRA				PcP	**PcP**	**15 08 42.2**	**-0.3**
	1.4nm,0.8s,baz=343,slow=3.7,SNR=7.7						
KURK	**Kurchatov**	**43.88**	**322**	*e*P	**P**	**15 06 59.1**	**+1.6**
KURBB	**Kurchatov Arra**	**43.89**	**322**	P	**P**	**15 06 58.9**	**+1.2**
	0.9nm,0.9s,baz=119,slow=7.4,SNR=7.1						
ASAR	**Alice Springs**	**46.87**	**164**	P	**P**	**15 07 21.1**	**-0.4**
	0.7nm,0.5s,baz=354,slow=13,SNR=10						
ASAR				PcP	**PcP**	**15 08 53.9**	**-0.4**
	1.0nm,0.8s,baz=334,slow=2.9,SNR=8.1						
BVAR	**Borovoye Array**	**49.47**	**322**	P	**P**	**15 07 42.6**	**+1.2**
	0.3nm,0.5s,baz=106,slow=7.1,SNR=3.0						
BVAR				PcP	**PcP**	**15 09 03.3**	**+0.1**
	0.7nm,0.5s,baz=92,slow=4.5,SNR=5.3						
TIXI	**Tiksi**	**50.10**	**3**	*e*P	**P**	**15 07 45.0**	**-0.8**
	1.0nm,0.6s						
STKA	**Stephens Creek**	**56.86**	**159**	P	**P**	**15 08 35.6**	**-0.3**
	2.3nm,0.5s,baz=346,slow=6.5,SNR=7.8						
ILAR	**Eielson Array**	**71.41**	**27**	P	**P**	**15 10 09.7**	**-1.4**
	0.1nm,0.5s,baz=273,slow=5.2,SNR=4.5						
FINES	**FINESS Array B**	**73.46**	**330**	P	**P**	**15 10 23.4**	**+0.1**
	1.4nm,0.7s,baz=70,sl

BVAR	**Borovoye Array**	**86.38**	**355**	P		**P**	**15 17 32.7**	**+2.2**
	0.2nm,0.4s,baz=152,slow=6.4,SNR=3.1							
ZALV	**Zalesovo Beam**	**87.25**	**4**	P		**P**	**15 17 33.9**	**-0.8**
	0.7nm,0.5s,baz=186,slow=1.5,SNR=5.2							
ZALV				LR		LR	15 53 44.8	
	comp=Z,44nm,21.9s,baz=250,slow=34							
DBIC	**Dimbokro**		**87.67**	**279**	LR	LR	15 52 32.2	
	comp=Z,76nm,21.2s,baz=115,slow=33							
USRK	**Ussuriysk Ar.**	**91.62**	**36**	LR		LR	15 59 55.8	
	comp=Z,32nm,18.0s,baz=289,slow=36							
YKA	**Yellowknife Ar**	**149.87**	**12**	PKPbc		**PKPdf**	**15 24 35.4**	**+2.2**
	0.2nm,0.4s,baz=338,slow=2.7,SNR=3.6							
SADO	**Sadowa**		**159.02**	**309**	PKPab	**PKPab**	**15 25 21.5**	**-1.5**
	11nm,0.9s,baz=61,slow=11,SNR=2.7							

MAN 28 15:17:12,13.49N×120.23E,h32km,mb4.5,ML3.3,MS3.2, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.24**	**4**	*eP*	Pn	15 17 20.6	+1.1
PGP	**Puerto Galera**	**0.70**	**89**	⇓*eP*	Pb	15 17 26.6	+0.7
PGP				*i* S	Sn	15 17 35.8	+0.2
SJMP	**San Jose**	**1.34**	**140**	*eP*	Pn	15 17 35.5	+1.0
SJMP				*eS*	Sn	15 17 48.7	-2.5
BUSP	**Coron**	**1.48**	**181**	*eP*	Pn	15 17 36.8	+0.4
BUSP				*eS*	Sn	15 17 54.2	-0.4
ENPP	**El Nido**	**2.40**	**199**	*eP*	Pn	15 17 49.6	+0.5
CUYO	**Cuyo Island**	**2.73**	**164**	*eP*	Pn	15 17 54.2	+0.5

*ISCJB **28** 15:19:48.3±0.6,6.87N±0.07×73.02W±0.08,h166km, mb3.7/3,Error ellipse: s-maj=13.6km s-min=6.5km az=43.6*
*IDC **28** 15:19:52.3±6.2,6.80N×73.72W,h179km±25km,mb3.5/3, mb1 3.8/4,mb1mx3.1/36,mbtmp4.0/4,Error ellipse: s-maj=239.1km s-min=24.2km az=91.0*
*FUNV **28** 15:19:53.1,7.00N×72.92W,h154km,MW3.6*

ISC 28 15:19:49.0±0.9,6.91N±0.07×72.98W±0.08,h166km,n24, σ1§64/29,mb4.1/3,15C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.16**	**35**	⇑*iP*	**Pn**	**15 20 18.4**	**+1.5**
CAPV				*eS*	**Sn**	15 20 36.3	-2.1
ROSC	**El Rosal**	**2.44**	**213**	P	**Pn**	15 20 30.2	-0.5
	76nm,0.3s,baz=289,slow=1.5,SNR=59						
ROSC				S	**Sn**	15 20 59.7	-3.2
	52nm,0.3s,baz=86,slow=18,SNR=7.8						
VIGV	**El Vigia**	**2.50**	**40**	⇑*iP*	**Pn**	15 20 32.8	+1.8
VIGV				*eS*	**Sn**	15 21 01.4	-2.2
SOCV	**Socops**	**2.51**	**57**	⇑*iP*	**Pn**	15 20 33.1	+2.0
SOCV				*eS*	**Sn**	15 21 01.5	-2.3
ELOV	**Elorza**	**3.47**	**88**	⇑*eP*	**Pn**	15 20 44.4	+1.4
VIRV	**Villa del Rosa**	**3.62**	**9**	⇑*eP*	**Pn**	15 20 45.2	+0.4
VIRV				*eS*	**Sn**	15 21 24.1	-4.2
QARV	**Quebrada Arrib**	**4.08**	**36**	⇑*iP*	**Pn**	15 20 52.7	+1.9
SANV	**Sanarito**	**4.27**	**53**	⇑*eP*	**Pn**	15 20 54.4	+1.0
CURV	**Curarigua**	**4.29**	**44**	⇑*eP*	**Pn**	15 20 54.9	+1.3
DABV	**Dabajuro**	**4.61**	**30**	⇑*eP*	**Pn**	15 20 59.0	+1.3
TEPV	**Terepaima**	**4.82**	**51**	⇑*eP*	**Pn**	15 21 01.8	+1.3
SIQV	**Siquisique**	**4.86**	**40**	⇑*eP*	**Pn**	15 21 01.9	+0.9
BAUV	**El Baul**	**5.29**	**67**	⇑*iP*	**Pn**	15 21 06.5	-0.2
BAUV				*eP*	**Pn**	15 21 06.6	0.0
MAPV	**Macapo**	**5.33**	**57**	⇑*eP*	**Pn**	15 21 08.0	+0.9
MONV	**Montecano**	**5.83**	**30**	*eP*	**Pn**	15 21 14.4	+0.7
TURV	**Turiamo**	**6.18**	**55**	⇑*eP*	**Pn**	15 21 18.9	+0.6
BIRV	**Birongo**	**7.52**	**61**	*eP*	**Pn**	15 21 35.9	-0.2
CUPV	**Cœpira**	**7.77**	**66**	⇑*eP*	**Pn**	15 21 38.9	-0.5
LPAZ	**La Paz**	**23.54**	**168**	pP	pP	15 25 17.4	+0.6
	1.5nm,0.7s,baz=338,slow=11,SNR=3.8						
ULM	**Lac du Bonnet**	**47.25**	**340**	P	**P**	**15 28 06.0**	**+0.7**
	1.9nm,0.4s,baz=151,slow=8.7,SNR=5.1						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**15 29 59.9**	**+0.5**
	1.5nm,0.6s,baz=132,slow=6.7,SNR=20						
ILAR	**Eielson Array**	**76.94**	**335**	P	**P**	**15 31 24.2**	**+1.3**
	0.3nm,0.7s,baz=98,slow=3.7,SNR=3.5						
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc	**PKPbc**	**15 39 18.6**	**-0.5**
	0.4nm,0.5s,baz=117,slow=3.4,SNR=9.0						
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc	**PKPbc**	**15 39 21.5**	**-0.5**
	0.4nm,0.4s,baz=108,slow=2.6,SNR=21						

*SKHL **28** 15:38:14.5±0.4,44.02N×147.41E,h37km±1km,mb4.4/3*
*JMA **28** 15:38:14.1±0.3,43.73N×147.30E,h22km,M3.5*

ISC 28 15:38:11.0±2.3,43.9N±0.1×147.6E±0.1,h63km,n12, σ1§71/21,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.58**	**272**	*eP*	**Pn**	**15 38 23.8**	**-0.2**
SHO				AMB	AMB	15 38 23.9	
	328nm,0.2s						
SHO				*eS*	**Sn**	**15 38 30.7**	**-2.9**
SHO				A	A	15 38 32.0	
	835nm,0.3s						
SHO				A	A	15 38 32.0	
	751nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.29**	**279**	*eP*	**Pn**	**15 38 32.9**	**-0.1**
YUK				AMB	AMB	15 38 33.0	
	149nm,0.2s						
YUK				*eS*	**Sn**	**15 38 47.0**	**-2.4**
YUK				A	A	15 38 50.6	
	472nm,0.3s						
YUK				A	A	15 38 50.6	
	241nm,0.3s						
KUR	**Kuril'sk**	**1.39**	**7**	*eP*	**Pn**	**15 38 35.0**	**+0.8**
KUR				AMB	AMB	15 38 35.7	
	56nm,0.4s						
KUR				*eS*	**Sn**	**15 38 50.1**	**-1.5**
KUR				A	A	15 38 53.0	
	270nm,0.3s						
KUR				A	A	15 38 53.0	
	100nm,0.3s						
NEM2	**Nemuro 2**	**1.46**	**251**	P	**Pn**	**15 38 35.7**	**+0.5**
NEM2				*eS*	**Sn**	**15 38 50.9**	**-2.5**
JRA	**Rausu**	**1.82**	**273**	P	**Pn**	**15 38 41.3**	**+1.3**
JRA				*eS*	**Sn**	**15 39 01.5**	**-0.5**
JNK	**Nakash**	**2.13**	**264**	P	**Pn**	**15 38 45.5**	**+1.2**
JNK				*eS*	**Sn**	**15 39 08.9**	**-0.7**
JAK	**Akkeshi**	**2.31**	**249**	P	**Pn**	**15 38 47.6**	**+1.0**
JAK				*eS*	**Sn**	**15 39 12.4**	**-1.5**
JTKR	**Abashiri--Toko**	**2.70**	**274**	P	**Pn**	**15 38 55.1**	**+3.2**
JAR	**Ashorobuto**	**2.87**	**260**	P	**Pn**	**15 38 56.1**	**+1.9**
JAR				*eS*	**Sn**	**15 39 26.9**	**-0.6**
JOB	**Onbets**	**2.93**	**252**	P	**Pn**	**15 38 56.8**	**+1.7**
JOB				*eS*	**Sn**	**15 39 28.7**	**-0.4**
JCH	**Churui**	**3.36**	**250**	P	**Pn**	**15 39 02.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.63**	**314**	*eP*	**Pn**	**15 39 20.0**	**+1.7**

*NEIC **28** 15:40:40.5,32.23N×115.37W,h10km,mb4.0/1, MD3.8(MEX),ML3.7(PAS),ML3.8(ECX),After PAS.*
*MEX **28** 15:40:42.8±0.9,32.34N×115.33W,h10km,MD3.8*
*ECX **28** 15:40:42.0±0.5,32.29N×115.37W,h6km,MD3.7,ML3.9*

ISC 28 15:40:39.9±0.9,32.26N±0.02×115.38W±0.02,h9km±7km, n40,σ1§19/61,12C-10D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**22**	⇓*eP*	**Pg**	**15 40 40.6**	**-3.0**
CPBX				*eS*	**Sg**	**15 40 42.8**	**-3.2**
CPBX				⇓*eP*	**Pg**	**15 40 44.6**	**+1.0**
CPBX				AML	AML	15 40 49.8	
	comp=N,95μm,0.4s						
CPBX				⇓*e*		15 40 49.8	
CPBX	**Cerro Prieto**	**0.17**	**22**	*eP*	**Pg**	**15 40 44.5**	**+1.0**
CPBX				*i* S	**Sg**	**15 40 47.6**	**+1.5**
MBIG	**Mexicali**	**0.21**	**47**	*i* P	**Pg**	**15 40 49.9**	**+1.6**
MBIG				*eS*	**Sg**	**15 40 47.9**	**+0.7**
SGL	**Mount Signal**	**0.48**	**323**	⇑*iP*	**Pg**	**15 40 50.0**	**+0.6**
RDX	**Rancho Dawling**	**0.58**	**235**	⇑*eP*	**Pb**	**15 40 53.0**	**+0.6**
RDX				*eS*	**Sb**	**15 41 01.0**	**+0.2**
RDX				⇓*e*		15 41 05.2	
RDX				AML	AML	15 41 05.2	
	comp=N,4μm,0.5s						
YUH	**Yuha Desert**	**0.60**	**310**	⇑*iP*	**Pg**	**15 40 51.9**	**+0.3**
COA	**Coachella**	**0.64**	**20**	⇓*iP*	**Pg**	**15 40 52.6**	**+0.3**
COK	**Cook Ranch**	**0.66**	**333**	*eP*	**Pb**	**15 40 53.3**	**-0.2**
RMX	**La Rumorosa**	**0.68**	**300**	⇑*eP*	**Pg**	**15 40 53.6**	**+0.4**
RMX				*eS*	**Sb**	**15 41 03.5**	**-0.2**
RMX				⇑*e*		15 41 04.5	
	comp=N,3μm,0.2s						
YMD	**Yuma Desert**	**0.76**	**67**	⇑*iP*	**Pg**	**15 40 54.6**	**-0.1**
ECBX	**El Chinero**	**0.84**	**160**	⇓*eP*	**Pb**	**15 40 57.2**	**+0.6**
ECBX				*eS*	**Sb**	**15 41 08.9**	**+1.0**
ECBX				AML	AML	15 41 09.7	
	comp=E,10μm,0.3s						
ECBX				⇑*e*		15 41 09.7	
ECBX				AML	AML	15 41 09.9	
	comp=N,12μm,0.2s						
ECBX				⇓*e*		15 41 09.9	
GLA	**Glamis**	**0.92**	**30**	*ePg*	**Pg**	**15 40 56.5**	**-1.1**
GLA				*eSg*	**Sg**	**15 41 09.0**	**-0.5**
ZAX	**El Zacaton**	**1.07**	**226**	⇓*eP*	**Pb**	**15 41 01.1**	**+0.5**
CBX	**Cerro Bola**	**1.09**	**273**	*eP*	**Pg**	**15 41 01.0**	**+0.1**
CBX				*eS*	**Sg**	**15 41 15.1**	**+0.1**
CBX	**Cerro Bola**	**1.09**	**273**	⇑*eP*	**Pb**	**15 41 01.4**	**+0.3**
CBX				*eS*	**Sb**	**15 41 16.2**	**+0.8**
CBX				AML	AML	15 41 17.3	
	comp=N,1μm,0.2s						
CBX				⇑*e*		15 41 17.3	
CBX				⇑*e*		15 41 22.6	
CBX				AML	AML	15 41 22.6	
	comp=E,2μm,0.6s						
CBX	**Cerro Bola**	**1.09**	**273**	*eP*	**Pg**	**15 41 01.0**	**+0.1**
CBX				*eS*	**Sg**	**15 41 15.1**	**+0.1**
BAR	**Barrett**	**1.17**	**291**	*eP*	**Pb**	**15 41 01.6**	**-0.8**
BAR				*eS*	**Sb**	**15 41 17.0**	**-0.6**
ECNX	**Esteban Cantu**	**1.20**	**240**	⇑*eP*	**Pg**	**15 41 03.4**	**+0.4**
SPIG	**San Pedro Mart**	**1.22**	**184**	*eP*	**Pb**	**15 41 03.2**	**0.0**
SPIG				*i* S	**Sg**	**15 41 20.1**	**+1.0**
SPIG	**San Pedro Mart**	**1.22**	**184**	⇓*eP*	**Pb**	**15 41 03.3**	**0.0**
SPIG	**San Pedro Mart**	**1.22**	**184**	*eP*	**Pb**	**15 41 03.2**	**0.0**
SPIG				*eS*	**Sb**	**15 41 19.4**	**+0.2**
SPX	**San Pedro Mart**	**1.22**	**183**	⇓*eP*	**Pb**	**15 41 03.3**	**0.0**
SPX	**San Pedro Mart**	**1.22**	**183**	*eP*	**Pb**	**15 41 03.2**	**-0.1**
SPX				*eS*	**Sb**	**15 41 19.3**	**+0.1**
PBX	**Punta Banda**	**1.26**	**246**	⇓*eP*	**Pb**	**15 41 04.1**	**+0.3**
PFO	**Pinyon Flats O**	**1.62**	**326**	*ePn*	**Pn**	**15 41 07.0**	**-1.7**
2104	**Organ Pipe Nat**	**2.20**	**97**	*ePn*	**Pn**	**15 41 15.1**	**-1.5**
LDFC	**Landfair**	**2.82**	**5**	*ePg*	**Pg**	**15 41 35.9**	**+2.0**
MWC	**Mount Wilson**	**2.98**	**312**	*ePn*	**Pn**	**15 41 27.0**	**-0.5**
MWC				*ePg*	**Pb**	**15 41 33.2**	**0.0**
PASC	**Pasadena Art C**	**3.03**	**310**	*ePg*	**Pb**	**15 41 34.3**	**+0.3**
PASC				*eSg*	**Sb**	**15 42 13.2**	**+2.2**
GSC	**Goldstone, Bar**	**3.26**	**339**	*ePn*	**Pn**	**15 41 32.8**	**+1.5**
GSC				*ePg*	**Pg**	**15 41 44.5**	**+2.2**
OSI	**Osito Audit: C**	**3.65**	**311**	*ePg*	**Pb**	**15 41 45.7**	**+1.1**
TUC	**Tucson**	**3.89**	**88**	*eP*	**Pn**	**15 41 41.5**	**+1.5**
TUC				*ePg*	**Pg**	**15 41 54.4**	**-0.1**
TUC				*eS*	**Sn**	**15 42 23.9**	**-1.9**
SHPR	**Sheep Range**	**4.24**	**2**	*ePn*	**Pn**	**15 41 45.2**	**+0.5**
SHPR				*Pg*	**Pg**	**15 42 02.5**	**+1.4**
ISA	**Isabella, Lake**	**4.26**	**324**	*ePg*	**Pg**	**15 41 59.2**	**-2.3**
DAC	**Darwin (Calif)**	**4.40**	**336**	*ePg*	**Pb**	**15 41 59.8**	**+2.2**
W18A	**Petrified Fore**	**5.50**	**57**	*ePn*	**Pn**	**15 42 02.8**	**+0.6**
CCUT	**Cedar City**	**5.53**	**17**	*ePn*	**Pn**	**15 42 02.3**	**-0.4**
121A	**Cookes Peak, D**	**6.43**	**86**	*ePn*	**Pn**	**15 42 15.1**	**+0.1**
TCUT	**Toone Canyon**	**9.39**	**19**	*ePn*	**Pn**	**15 42 57.1**	**+1.5**
EGMT	**Eagleton**	**16.31**	**14**	*eP*	**Pn**	**15 44 27.6**	**-1.6**
	comp=E,10nm,0.8s						

IDC 28 15:49:00.8±2.1,2.58N×128.03E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/39,mbtmp3.2/3,Error ellipse: s-maj=138.1km s-min=25.9km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**165**	P	P	15 54 10.1	+0.4
	0.3nm,0.4s,baz=346,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.71**	**168**	P	P	15 54 41.1	-0.9
	0.1nm,0.5s,baz=351,slow=7.6,SNR=7.1						
MKAR	**Makanchi Array**	**59.23**	**325**	P	P	15 59 04.4	+0.4
	0.1nm,0.4s,baz=113,slow=6.5,SNR=5.2						

IDC 28 15:50:44.3±2.3,2.15S×127.66E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/34,mbtmp3.5/3,ML3.7/1,MS2.5/1, Ms1 2.5/1,ms1mx2.2/19,Error ellipse: s-maj=187.9km s-min=26.7km az=67.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**160**	P	P	15 55 05.4	-0.7
	0.2nm,0.3s,baz=342,slow=12,SNR=16						
WRA				S	Sn	15 58 26.0	-12
	0.0nm,0.3s,baz=346,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**22.23**	**165**	P	P	15 55 43.5	+0.7
	1.7nm,0.6s,baz=342,slow=12,SNR=35						
GUMO	**Guam**	**23.15**	**47**	LR	LR	16 04 04.2	
	comp=Z,12nm,21.0s,baz=100,slow=35						
MKAR	**Makanchi Array**	**62.91**	**327**	P	P	16 01 12.3	-0.2
	0.1nm,0.4s,baz=139,slow=6.8,SNR=4.3						

*SZGRF **28** 16:34:34.4,32.89N×28.90E,h33km,mb4.4,Eastern Mediterranean Sea*
*DDA **28** 16:35:03.4,36.09N×27.32E,h28km,ML4.7*
*IDC **28** 16:35:04.9±0.4,36.40N×27.65E,h0km,mb4.3/26, mb1 4.3/33,mb1mx4.2/51,mbtmp4.2/33,ML3.6/6,MS3.2/11, Ms1 3.2/11,ms1mx3.0/46,Error ellipse: s-maj=12.5km s-min=9.9km az=138.0*
*BJI **28** 16:35:05.0,36.30N×27.60E,h15km,mB5.0/6,mb4.7/12*
*ISCJB **28** 16:35:06.8±0.3,36.27N±0.01×27.70E±0.01,h24km±2km, mb4.2/62,MS3.4/5,Error ellipse: s-maj=2.0km s-min=1.6km az=33.2*
*ATH **28** 16:35:06.5,36.32N×27.77E,h35km±7km,ML4.3*
*ISK **28** 16:35:08.0,36.46N×27.67E,h22km,ML4.3*
*THE **28** 16:35:08.3,36.30N×27.75E,h19km±4km,ML4.4/4,Error ellipse: s-maj=4.8km s-min=0.7km az=105.0*
*CSEM **28** 16:35:08.1±0.1,36.32N×27.69E,h20km,mb4.3/48,Ms3.2, Error ellipse: s-maj=2.3km s-min=1.9km az=30.0*
*NSSC **28** 16:35:09.4±1.0,36.26N×27.78E,h133km±182km,MD3.1, ML3.9*
*NIC **28** 16:35:09.8,36.77N×27.83E,h25km,mb4.5,ML4.2*
*MOS **28** 16:35:10.7±1.0,36.43N×27.57E,h52km,mb4.6/40,Error ellipse: s-maj=6.1km s-min=4.3km az=112.8*
*NEIC **28** 16:35:10.5±0.4,36.32N×27.66E,h42km±4km,mb4.4/44, Error ellipse: s-maj=5.0km s-min=3.3km az=187.0*
*HLW **28** 16:35:16.7,35.86N×28.00E,h33km±24km,Ml4.0*

ISC 28 16:35:07.8±0.5,36.33N±0.02×27.68E±0.02,h17km±3km, n821,σ1§33/845,mb4.4/61,MS3.0/5,32C-21D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.38**	**107**	P	**Pg**	**16 35 15.1**	**-0.5**
ARG				S	**Sg**	**16 35 20.5**	**-0.3**
ARG	**Arkhangelos**	**0.38**	**107**	*ePB*	**Pg**	**16 35 15.2**	**-0.4**
ARG				*eSB*	**Sg**	**16 35 20.6**	**-0.3**
ARG	**Arkhangelos**	**0.38**	**107**	*ePb*	**Pg**	**16 35 15.2**	**-0.4**
ARG				*eSb*	**Sg**	**16 35 20.6**	**-0.3**
DAT	**Datca**	**0.41**	**348**	PG	**Pg**	**16 35 15.1**	**-1.1**
DAT				*eSG*	**Sg**	**16 35 20.3**	**-1.6**
DAT	**Datca**	**0.41**	**348**	*i* Pg	**Pg**	**16 35 15.1**	**-1.1**
DAT				*eSg*	**Sg**	**16 35 20.3**	**-1.6**
BDRM	**Kayabasi**	**0.76**	**346**	*i* P	**Pg**	**16 35 21.4**	**-1.3**
BDRM				*i* S	**Sg**	**16 35 32.4**	**-0.4**
BDRM	**Kayabasi**	**0.76**	**346**	*i* P	**Pg**	**16 35 21.4**	**-1.3**
BDRM				*i* S	**Sg**	**16 35 32.4**	**-0.4**
BODT	**Bodrum**	**0.79**	**338**	*ePG*	**Pg**	**16 35 21.8**	**-1.5**
BODT	**Bodrum**	**0.79**	**338**	*ePg*	**Pg**	**16 35 21.8**	**-1.5**
KARP	**Karpathos**	**0.89**	**209**	P	**Pg**	**16 35 24.6**	**-0.5**
KARP				S	**Sg**	**16 35 36.8**	**+0.1**
KARP	**Karpathos**	**0.89**	**209**	*ePN*	**Pg**	**16 35 24.7**	**-0.4**
KARP				*eSN*	**Sg**	**16 35 36.5**	**-0.2**
KARP	**Karpathos**	**0.89**	**209**	P	**Pg**	**16 35 24.6**	**-0.5**
KARP				*eSn*	**Sg**	**16 35 36.5**	**-0.2**
KARP				S	**Sg**	**16 35 36.8**	**+0.1**
TURN	**Turunc**	**0.92**	**54**	*i* P	Pg	16 35 18.9	-6.7
TURN				*i* S	Sg	16 35 28.8	-9.0
DALY	**Dalyan (Mu¨la**	**0.92**	**58**	*ePG*	**Pg**	**16 35 25.0**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.92**	**58**	*ePg*	**Pg**	**16 35 25.0**	**-0.7**
YER	**Yerkesik**	**0.94**	**31**	*ePG*	**Pg**	**16 35 24.6**	**-1.5**
YER				*eSG*	**Sg**	**16 35 37.5**	**-0.9**
YER	**Yerkesik**	**0.94**	**31**	*ePg*	**Pg**	**16 35 24.6**	**-1.5**
YER				*eSg*	**Sg**	**16 35 37.5**	**-0.9**
FETY	**Fethiye**	**1.17**	**74**	*ePN*	**Pb**	**16 35 29.5**	**-0.1**
FETY	**Fethiye**	**1.17**	**74**	*ePn*	**Pb**	**16 35 29.5**	**-0.1**
AYDN	**Tasoluk**	**1.34**	**7**	*i* P	**Pn**	**16 35 32.7**	**+0.9**
AYDN				*i* S	**Sb**	**16 35 50.6**	**+1.2**
AYDN	**Tasoluk**	**1.34**	**7**	*i* P	**Pn**	**16 35 32.7**	**+0.9**
AYDN				*i* S	**Sb**	**16 35 50.6**	**+1.2**
GCAM	**G?zelcaml?**	**1.42**	**345**	*i* P	**Pn**	**16 35 32.1**	**-0.7**
GCAM				*i* S	**Sn**	**16 35 52.9**	**+1.9**
GCAM	**G?zelcaml?**	**1.42**	**345**	*i* P	**Pn**	**16 35 32.1**	**-0.7**
GCAM				*i* S	**Sn**	**16 35 52.9**	**+1.9**
SMG	**Samos**	**1.53**	**334**	P	**Pn**	**16 35 33.5**	**-0.9**
SMG				S	**Sn**	**16 35 54.9**	**+0.9**
SMG	**Samos**	**1.53**	**334**	*ePB*	**Pn**	**16 35 33.6**	**-0.9**
SMG				*eSN*	**Sn**	**16 35 53.2**	**-0.8**
SMG	**Samos**	**1.53**	**334**	*ePb*	**Pn**	**16 35 33.6**	**-0.9**
SMG				*eSn*	**Sn**	**16 35 53.2**	**-0.8**
SMG				S	**Sn**	**16 35 54.9**	**+0.9**
AKAS	**Kas**	**1.56**	**93**	*i* P	**Pn**	**16 35 36.2**	**+1.3**
AKAS				*i* S	**Sn**	**16 35 57.5**	**+2.8**
AKAS	**Kas**	**1.56**	**93**	*i* P	**Pn**	**16 35 36.2**	**+1.3**
AKAS				*i* S	**Sn**	**16 35 57.5**	**+2.8**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**6**	*ePN*	Pn	16 35 34.3	-1.5
AYDB	**Zeytinkoy-Aydi**	**1.62**	**6**	*ePn*	Pn	16 35 34.3	-1.5
ZKR	**Zakros**	**1.70**	**225**	*ePB*	**Pn**	**16 35 37.1**	**+0.4**
ZKR	**Zakros**	**1.70**	**225**	*ePb*	**Pn**	**16 35 37.1**	**+0.4**
DNZL	**Cakiroluk**	**1.74**	**38**	*i* P	**Pn**	**16 35 38.2**	**+0.7**
DNZL	**Cakiroluk**	**1.74**	**38**	*i* P	**Pn**	**16 35 38.2**	**+0.7**
DNZL				*i* S	**Sg**	**16 36 04.8**	**+0.7**
GOLH	**Golhisar**	**1.76**	**58**	*i* P	**Pn**	**16 35 39.9**	**+2.3**
GOLH	**Golhisar**	**1.76**	**58**	*i* P	**Pn**	**16 35 39.9**	**+2.3**
GOLH				*i* S	**Sb**	**16 36 04.2**	**+2.6**
DENT	**Denizli**	**1.79**	**37**	*ePN*	**Pn**	**16 35 37.2**	**-0.7**
DENT	**Denizli**	**1.79**	**37**	*ePn*	**Pn**	**16 35 37.2**	**-0.7**
SANT	**Santorini**	**1.79**	**272**	*ePN*	**Pn**	**16 35 37.8**	**-0.2**
SANT				*eSN*	**Sn**	**16 36 02.0**	**+1.5**
SANT	**Santorini**	**1.79**	**272**	*ePn*	**Pn**	**16 35 37.8**	**-0.2**
SANT				*eSn*	**Sn**	**16 36 02.0**	**+1.5**
SANT	**Santorini**	**1.79**	**272**	*ePn*	**Pn**	**16 35 37.7**	**-0.4**
THR1	**Thera Island**	**1.79**	**272**	P	**Pn**	**16 35 37.6**	**-0.4**
THR1	**Thera Island**	**1.79**	**272**	*ePN*	**Pn**	**16 35 38.3**	**+0.2**
THR1	**Thera Island**	**1.79**	**272**	P	**Pn**	**16 35 37.6**	**-0.4**
THR1	**Thera Island**	**1.79**	**272**	*ePn*	**Pn**	**16 35 38.3**	**+0.2**
THR2	**Thira island,**	**1.82**	**274**	P	**Pn**	**16 35 38.2**	**-0.1**
THR2	**Thira island,**	**1.82**	**274**	P	**Pn**	**16 35 38.2**	**-0.1**
THR7	**Fira-Santorini**	**1.82**	**274**	P	**Pn**	**16 35 37.8**	**-0.6**
THR6	**Thira Island,**	**1.84**	**272**	P	**Pn**	**16 35 38.5**	**-0.2**
THR6	**Thira Island,**	**1.84**	**272**	P	**Pn**	**16 35 38.5**	**-0.2**
APE	**Apeiranthos**	**1.88**	**294**	P	**Pn**	**16 35 38.8**	**-0.4**
APE				S	**Sn**	**16 36 02.9**	**+0.3**
APE	**Apeiranthos**	**1.88**	**294**	*ePN*	**Pn**	**16 35 38.6**	**+0.4**
APE	**Apeiranthos**	**1.88**	**294**	*ePn*	**Pn**	**16 35 38.6**	**-0.3**
APE	**Apeiranthos**	**1.88**	**294**	⇑*iP*	**Pn**	**16 35 39.0**	**-0.3**
APE	**Apeiranthos**	**1.88**	**294**	S	**Sn**	**16 36 03.6**	**+1.0**
APE	**Apeiranthos**	**1.88**	**294**	*c iP*	**Pn**	**16 35 38.9**	**-0.3**
APE	**Apeiranthos**	**1.88**	**294**	*ePn*	**Pn**	**16 35 38.9**	**-0.3**
APE				S	**Sn**	**16 36 02.9**	**+0.3**
THR5	**Thira Island,**	**1.89**	**273**	P	**Pn**	**16 35 39.2**	**0.0**
THR5	**Thira Island,**	**1.89**	**273**	*ePN*	**Pn**	**16 35 39.9**	**+0.6**
THR5	**Thira Island,**	**1.89**	**273**	P	**Pn**	**16 35 39.2**	**0.0**
THR5	**Thira Island,**	**1.89**	**273**	*ePn*	**Pn**	**16 35 39.9**	**+0.6**
NPS	**Neapolis**	**1.99**	**238**	P	**Pn**	**16 35 40.6**	**-0.1**
NPS				S	**Sn**	**16 36 03.9**	**-1.3**
NPS	**Neapolis**	**1.99**	**238**	*ePB*	**Pn**	**16 35 41.0**	**+0.3**
NPS				*eSN*	**Sn**	**16 36 05.1**	**-0.1**
NPS	**Neapolis**	**1.99**	**238**	P	**Pn**	**16 35 40.6**	**-0.1**
NPS	**Neapolis**	**1.99**	**238**	*ePb*	**Pn**	**16 35 41.0**	**+0.3**
NPS				S	**Sn**	**16 36 03.9**	**-1.3**
NPS				*eSn*	**Sn**	**16 36 05.1**	**-0

ATH	Athens Observa	3.57	299	*e*Pn	Pn	16 36 04.3	+1.9	BRTR	Keskin Array B	5.80	52
ANKY	Antikythira Is	3.58	264	P	Pn	16 36 02.5	0.0		comp=Z,1.6nm,0.3s,baz=233,slow=14,SNR=43		
ANKY				S	Sn	16 36 44.4	0.0	BRTR			
ANKY	Antikythira Is	3.58	264	*e*PN	Pn	16 36 03.4	+0.9		baz=220,slow=22,SNR=2.6		
ANKY	Antikythira Is	3.58	264	P	Pn	16 36 02.5	0.0	BRTR	Keskin Array B	5.80	52
ANKY	Antikythira Is	3.58	264	*e*Pn	Pn	16 36 03.4	+0.9	BRTR			
ANKY				S	Sn	16 36 44.4	0.0	BRTR			
EZN	Ezine	3.65	343	*e*PN	Pn	16 36 03.2	-0.3		comp=Z,2.0nm,0.3s		
EZN	Ezine	3.65	343	*e*Pn	Pn	16 36 03.2	-0.3	NIG	Nigde	5.81	70
BOZC	Bozcaada	3.73	340	*i* P	Pn	16 36 04.4	-0.3	NIG	Nigde	5.81	70
BOZC				*i* S	Sn	16 36 45.2	-3.1	RZN	Rozhen	5.83	338
GAZI	Gazipasa	3.75	90	*i* P	Pn	16 36 04.6	-0.2	NVR	Nevrokopi	5.83	330
GAZI				*i* S	Sn	16 36 45.6	-3.0	NVR	Nevrokopi	5.83	330
GAZI	Gazipasa	3.75	90	*i* P	Pn	16 36 04.6	-0.2	KARA	Karaisali	5.99	79
GAZI				*i* S	Sn	16 36 45.6	-3.0	HBRG	Burj al 'Arab	6.02	162
KYTH	Kithira	3.75	271	*e*PN	Pn	16 36 06.1	+1.2		baz=163		
KYTH	Kithira	3.75	271	*e*Pn	Pn	16 36 06.1	+1.2	HBRG			
VLI	Veliai	3.84	277	P	Pn	16 36 06.5	+0.4		baz=163		
VLI	Veliai	3.84	277	*e*PN	Pn	16 36 07.1	+1.0	HBRG	Burj al 'Arab	6.02	162
VLI	Veliai	3.84	277	P	Pn	16 36 06.5	+0.4	MMB	Musomiste	6.09	331
VLI	Veliai	3.84	277	*e*Pn	Pn	16 36 07.1	+1.0	MMB	Musomiste	6.09	331
KCTX	Karacabey (Bur	3.97	7	*e*PN	Pn	16 36 07.5	-0.4	MMB	Musomiste	6.09	331
KCTX	Karacabey (Bur	3.97	7	*e*Pn	Pn	16 36 07.5	-0.4	MMB	Musomiste	6.09	331
AKMC	Akamas	4.00	108	⇑P	Pn	16 36 09.2	+0.8	MMB	Musomiste	6.09	331
	baz=296							JMB	Yambol	6.19	352
AKMC	Akamas	4.00	108	⇑P	Pn	16 36 09.2	+0.8	JMB	Yambol	6.19	352
EDC	Edincik	4.01	2	*e*PN	Pn	16 36 08.3	-0.2	CDAG	Cicekdag	6.22	56
EDC	Edincik	4.01	2	*e*Pn	Pn	16 36 08.3	-0.2	CDAG			
MRKA	Markates	4.03	307	*e*PN	Pn	16 36 09.2	+0.5	KKB	Krupnik	6.58	329
MRKA	Markates	4.03	307	*e*Pn	Pn	16 36 09.2	+0.5	KOZT	Kozan	6.63	78
ESKT	Eskisehir	4.05	37	*e*PN	Pn	16 36 09.4	+0.2	CORM	Corum	6.68	53
ESKT	Eskisehir	4.05	37	*e*Pn	Pn	16 36 09.4	+0.2	CORM	Corum	6.68	53
PPCY	Paphos	4.06	109	⇑*i*P	Pn	16 36 10.2	+1.0	ARNB	Al Arnab	6.73	92
	baz=298							ARNB			
PPCY	Paphos	4.06	109	⇑*i*P	Pn	16 36 10.2	+1.0	ARNB			
KRBG	Karabiga-Canak	4.07	356	*e*PN	Pn	16 36 09.0	-0.3		comp=N,144nm,0.5s		
KRBG	Karabiga-Canak	4.07	356	*e*Pn	Pn	16 36 09.0	-0.3	ARNB			
LIA	Limnos Island	4.07	332	*e*PN	Pn	16 36 09.4	+0.1		comp=E,92nm,0.6s		
LIA	Limnos Island	4.07	332	*e*Pn	Pn	16 36 09.4	+0.1	PGB	Panagyurishte	6.78	337
KONT	Konya--Tatoy	4.07	65	*e*PN	Pn	16 36 10.5	+1.1	BHL	Bhannes	6.97	108
KONT	Konya--Tatoy	4.07	65	*e*Pn	Pn	16 36 10.5	+1.1	BHL	Bhannes	6.97	108
LPK	Lapseki	4.10	350	*e*PN	Pn	16 36 09.5	-0.2	DQRL	Deir Qamar	6.98	110
LPK	Lapseki	4.10	350	*e*Pn	Pn	16 36 09.5	-0.2	DQRL	Deir Qamar	6.98	110
GADA	Gvkgeada	4.10	341	*e*PN	Pn	16 36 09.4	-0.4	HMYD	Mayadein	7.02	157
GADA	Gvkgeada	4.10	341	*e*Pn	Pn	16 36 09.4	-0.4		baz=157		
LTK	Loutraki	4.13	296	P	Pn	16 36 11.2	0.0	HMYD	Mayadein	7.02	157
LTK	Loutraki	4.13	296	*e*PN	Pn	16 36 11.2	+1.1	SZH	Strazhica	7.06	350
LTK	Loutraki	4.13	296	P	Pn	16 36 10.1	0.0	HWQ	Hawqa	7.06	104
LTK	Loutraki	4.13	296	*e*Pn	Pn	16 36 11.2	+1.1	HWQ	Hawqa	7.06	104
AOS	Alonnisos	4.14	314	*e*PN	Pn	16 36 10.2	0.0	SQR		7.07	154
AOS	Alonnisos	4.14	314	*e*Pn	Pn	16 36 10.2	0.0		baz=154		
KDHN	Kadinhani	4.15	57	*i* P	Pn	16 36 13.5	+2.9	SQR		7.07	154
KDHN	Kadinhani	4.15	57	*i* P	Pn	16 36 13.5	+2.9	BTCH	Batrach	7.11	90
ALFC	Alevga	4.17	105	P	Pn	16 36 11.2	+0.5	BTCH			
	baz=294							BTCH			
ALFC				S	Sn	16 36 59.2	+0.2		comp=E,90nm,0.5s		
ALFC	Alevga	4.17	105	P	Pn	16 36 11.2	+0.5	BTCH			
ALFC				S	Sn	16 36 59.2	+0.2		comp=N,193nm,0.5s		
GELI	Tayfur-Gelibol	4.17	347	*e*PN	Pn	16 36 10.1	-0.6	PVL	Pavlikeni	7.11	346
GELI	Tayfur-Gelibol	4.17	347	*e*Pn	Pn	16 36 10.1	-0.6	HNAT	Natroun	7.12	159
LADK	Ladik-KONYA	4.18	62	*e*PN	Pn	16 36 12.0	+1.1		baz=159		
LADK	Ladik-KONYA	4.18	62	*e*Pn	Pn	16 36 12.0	+1.1	HNAT	Natroun	7.12	159
KIZT	Kizilcal	4.20	51	*e*PN	Pn	16 36 11.9	+0.7	HLW	Helwan	7.14	154
KIZT	Kizilcal	4.20	51	*e*Pn	Pn	16 36 11.9	+0.7		baz=153		
CAVI	Cavuskoy	4.22	23	*e*PN	Pn	16 36 11.2	-0.2	HLW	Helwan	7.14	154
CAVI	Cavuskoy	4.22	23	*e*Pn	Pn	16 36 11.2	-0.2	VTS	Vitosha	7.15	332
ERMK	Ermenek	4.23	84	*i* P	Pn	16 36 13.9	+2.3	VTS	Vitosha	7.15	332
ERMK				*i* S	Sn	16 37 03.4	+2.6	VTS	Vitosha	7.15	332
ERMK	Ermenek	4.23	84	*i* P	Pn	16 36 13.9	+2.3	VTS	Vitosha	7.15	332
ERMK				*i* S	Sn	16 37 03.4	+2.6	MMAI	Mount Meron Ar	7.17	115
SVRH	Sivrihisar-ESK	4.35	43	*e*PN	Pn	16 36 13.7	+0.4		comp=N,34nm,0.3s,baz=303,slow=11,SNR=65		
SVRH	Sivrihisar-ESK	4.35	43	*e*Pn	Pn	16 36 13.7	+0.4	MMAI			
SMIA	Simia	4.37	307	P	Pn	16 36 13.5	+0.1		comp=N,42nm,0.3s,baz=311,slow=23,SNR=12		
SMIA	Simia	4.37	307	*e*PN	Pn	16 36 14.7	+1.3	FYM	Al Fayyum	7.19	156
SMIA	Simia	4.37	307	P	Pn	16 36 13.5	+0.1		baz=156		
SMIA	Simia	4.37	307	*e*Pn	Pn	16 36 14.7	+1.3	FYM	Al Fayyum	7.19	156
VLX	Vlachokerasia	4.38	285	P	Pn	16 36 13.4	-0.2	AYT	Al 'Ayyat	7.22	155
VLX	Vlachokerasia	4.38	285	*e*PN	Pn	16 36 16.2	+2.6		baz=155		
VLX	Vlachokerasia	4.38	285	P	Pn	16 36 13.4	-0.2	AYT	Al 'Ayyat	7.22	155
VLX	Vlachokerasia	4.38	285	*e*Pn	Pn	16 36 16.2	+2.6	KOT	Kottamia	7.27	150
SKIA	Skiathos	4.38	312	*e*PN	Pn	16 36 14.5	+0.9		baz=150		
SKIA	Skiathos	4.38	312	*e*Pn	Pn	16 36 14.5	+0.9	KOT	Kottamia	7.27	150
LEF	Lefka	4.41	104	*e*PN	Pn	16 36 15.1	+1.2	RCY	Rachaya	7.27	110
LEF	Lefka	4.41	104	*e*Pn	Pn	16 36 15.1	+1.2	RCY	Rachaya	7.27	110
AKDN	Akdeniz- K¯–br	4.42	102	*e*PN	Pn	16 36 16.4	+2.4	SWA2		7.31	195
SMTH	Samothraki Isl	4.47	338	P	Pn	16 36 14.3	-0.5		baz=199		
SMTH	Samothraki Isl	4.47	338	*e*PN	Pn	16 36 14.6	-0.2	SWA2			
SMTH	Samothraki Isl	4.47	338	P	Pn	16 36 14.3	-0.5		baz=199		
SMTH	Samothraki Isl	4.47	338	*e*Pn	Pn	16 36 14.6	-0.2	SWA2		7.31	195
SZAC	Souni-Zanaja	4.52	109	P	Pn	16 36 16.5	+0.9	RSH		7.35	135
	baz=297								baz=134		
SZAC				S	Sn	16 37 09.1	+1.3	RSH		7.35	135
SZAC	Souni-Zanaja	4.52	109	P	Pn	16 36 16.5	+0.9	HHAG	Hagoal	7.36	149
SZAC				S	Sn	16 37 09.1	+1.3		baz=148		
GUR	Goura	4.56	292	*e*PN	Pn	16 36 17.4	+1.3	HHAG			
GUR	Goura	4.56	292	*e*Pn	Pn	16 36 17.4	+1.3		comp=N,240µm,0.3s,logA/T=5.9,baz=148		
DSF	Desfina	4.60	298	*e*PN	Pn	16 36 18.4	+1.8	HHAG	Hagoal	7.36	149
DSF	Desfina	4.60	298	*e*Pn	Pn	16 36 18.4	+1.8	BRBR	Barbar	7.39	111
NEO	Neokhori	4.61	311	*e*PN	Pn	16 36 17.5	+0.7	BRBR			
NEO	Neokhori	4.61	311	*e*Pn	Pn	16 36 17.5	+0.7	BRBR			
MAMC	Mammari	4.65	103	P	Pn	16 36 17.7	+0.4		comp=E,243nm,0.6s		
	baz=291							BRBR			
MAMC	Mammari	4.65	103	P	Pn	16 36 17.7	+0.4		comp=N,271nm,0.8s		
ITM	Ithomi	4.70	282	*e*PN	Pn	16 36 20.7	+2.8	KMRS	Kahramanmaras	7.48	78
ITM	Ithomi	4.70	282	*e*Pn	Pn	16 36 20.7	+2.8	KMRS	Kahramanmaras	7.48	78
KLV	Kalavryta, Ach	4.74	293	P	Pn	16 36 18.7	+0.2	GLL	Jalalah	7.53	152
KLV	Kalavryta, Ach	4.74	293	*e*PN	Pn	16 36 19.9	+1.4		baz=152		
KLV	Kalavryta, Ach	4.74	293	P	Pn	16 36 18.7	+0.2	GLL	Jalalah	7.53	152
KLV	Kalavryta, Ach	4.74	293	*e*Pn	Pn	16 36 19.9	+1.4	MARH	Ras Al Marh	7.56	105
CSS	Prodhromos	4.80	105	P	Pn	16 36 20.0	+0.7	MARH			
	baz=293							MARH			
CSS	Prodhromos	4.80	105	*e*PN	Pn	16 36 19.4	+0.1		comp=N,196nm,0.7s		
CSS	Prodhromos	4.80	105	P	Pn	16 36 20.0	+0.7	MARH			
CSS	Prodhromos	4.80	105	*e*Pn	Pn	16 36 19.4	+0.1		comp=E,202nm,0.6s		
PYL	PYLOS	4.81	279	*e*PN	Pn	16 36 22.0	+2.5	QASN	Qassioun	7.59	109
PYL	PYLOS	4.81	279	*e*Pn	Pn	16 36 22.0	+2.5	QASN			
KALE	Kalithea	4.87	297	*e*PN	Pn	16 36 22.9	+2.5	QASN			
KALE	Kalithea	4.87	297	*e*Pn	Pn	16 36 22.9	+2.5		comp=N,551nm,0.6s		
LFK	Lefkose	4.87	101	*e*PN	Pn	16 36 22.5	+2.1	MPEP	Malo Peshtene	7.64	338
AMT	Artemida-Makis	4.93	286	*e*PN	Pn	16 36 21.4	+0.2	MSAB	Monastry St. A	7.75	1
AMT	Artemida-Makis	4.93	286	*e*Pn	Pn	16 36 21.4	+0.2	TCHB	Talchebab	7.75	116
OUR	Ouranopolis	4.94	325	*e*PN	Pn	16 36 22.7	+1.4	TCHB			
OUR	Ouranopolis	4.94	325	*e*Pn	Pn	16 36 22.7	+1.4	TCHB			
MATC	Matruh	4.98	184	P	Pn	16 36 22.7	+0.8		comp=N,263nm,0.5s		
	baz=189							TCHB			
SULT	Sultanhani-AKS	5.01	66	*e*PN	Pn	16 36 23.9	+1.5		comp=E,316nm,0.6s		
SULT	Sultanhani-AKS	5.01	66	*e*Pn	Pn	16 36 23.9	+1.5	TOTH	TOTAH	7.78	110
AGG	Agios Georgios	5.02	304	*e*PN	Pn	16 36 23.9	+1.4	TOTH			
AGG	Agios Georgios	5.02	304	*e*Pn	Pn	16 36 23.9	+1.4	TOTH			
EFP	Efpalio	5.05	296	*e*PN	Pn	16 36 24.8	+2.0		comp=N,195nm,0.7s		
EFP	Efpalio	5.05	296	*e*Pn	Pn	16 36 24.8	+2.0	TOTH			
MAKR	Makrakomi, Fth	5.15	303	*e*PN	Pn	16 36 26.5	+2.3		comp=E,74nm,0.6s		
MAKR	Makrakomi, Fth	5.15	303	*e*Pn	Pn	16 36 26.5	+2.3	SUZ		7.78	145
KIZK	Mersin	5.21	86	*i* P	Pn	16 36 28.4	+3.4		baz=144		
KIZK	Mersin	5.21	86	*i* P	Pn	16 36 28.4	+3.4	SUZ		7.78	145
HMAT	Matruh	5.24	185	P	Pn	16 36 26.6	+1.2	HBNS	Bani Suwayf	7.94	157
	baz=190								baz=157		
HMAT				AMP		16 37 00.0		HBNS	Bani Suwayf	7.94	157
	comp=E,280µm,0.5s,logA/T=5.8,baz=190							ZAF		8.13	148
HMAT	Matruh	5.24	185	P	Pn	16 36 26.6	+1.2		baz=148		
AFSR	Af˙ar-Bala (A	5.28	52	*e*PN	Pn	16 36 26.9	+0.9	ZAF		8.13	148
AFSR	Af˙ar-Bala (A	5.28	52	*e*Pn	Pn	16 36 26.9	+0.9	TIRR	Tirgusor	8.14	4
EREN	Erenkoy	5.33	97	*e*PN	Pn	16 36 29.1	+2.6	TIRR	Tirgusor	8.14	4
EVR	Evrytania	5.33	301	*e*PN	Pn	16 36 29.3	+2.6	TIRR	Tirgusor	8.14	4
EVR	Evrytania	5.33	301	*e*Pn	Pn	16 36 29.3	+2.6	TIRR	Tirgusor	8.14	4
ANTO	Ankara	5.36	47	*e*PN	Pn	16 36 28.1	+1.0	ROOS	tl_alroos	8.15	103
ANTO	Ankara	5.36	47	*i*P	Pn	16 36 29.5	+2.4	ROOS			
ANTO	Ankara	5.36	47	*e*P	Pn	16 36 29.8	+2.7	ZNM		8.19	146
ANTO				pmax	pmax				baz=146		
	comp=Z,84nm,0.6s							ZNM		8.19	146
ANTO	Ankara	5.36	47	*e*Pn	Pn	16 36 28.1	+1.0	TLB	Topalu	8.25	2
ANTO	Ankara	5.36	47	*i*P	Pn	16 36 29.5	+2.4	NBNS	Bani Suef	8.27	157
ANTO	Ankara	5.36	47	*e*P	Pn	16 36 29.8	+2.7		baz=158		
	comp=Z,84nm,0.6s							NBNS			
MERS	Mersin	5.53	82	*e*PN	Pn	16 36 31.7	+2.3		baz=158		
KDZ	Kurdzhali	5.60	342	*i*P	Pn	16 36 30.6	+0.3	NBNS	Bani Suef	8.27	157
KAMT	Kaman	5.66	56	*e*PN	Pn	16 36 33.2	+2.0	HNKL	Nakhl	8.28	139
KAMT	Kaman	5.66	56	*e*Pn	Pn	16 36 33.2	+2.0		baz=138		
BR131	Keskin Array S	5.80	52	*e*P	Pn	16 36 35.3	+2.1	HNKL			
	comp=Z,11nm,0.6s								baz=138		
								HNKL	Nakhl	8.28	139
								SALA	Sala	8.29	113

				*e*S	Sn	16 38 33.9	-7.0
SALA				AML	AML	16 38 42.2	
	comp=E,21nm,0.6s						
SALA				AML	AML	16 38 47.5	
	comp=N,103nm,0.6s						
ZALF	Zalf	8.65	110	*e*P	Pn	16 37 12.9	+0.7
ZALF				*e*S	Sn	16 38 42.1	-7.4
ZALF				AML	AML	16 39 04.3	
	comp=N,86nm,0.7s						
ZALF				AML	AML	16 39 15.1	
	comp=E,59nm,0.7s						
ASF	Jabal al Asfar	8.68	116	Pn	Pn	16 37 12.5	-0.3
	comp=E,2.7nm,0.3s,baz=254,slow=11,SNR=12						
ASF				Sn	Sn	16 38 46.7	-3.6
	comp=E,0.9nm,0.3s,baz=324,slow=19,SNR=2.6						
MALT	Malatya	8.79	74	⇑*i*P	Pn	16 37 16.5	+2.3
CFR	Carcaliu	8.85	2	⇑*i*P	Pn	16 37 16.9	+2.1
EIL	Elat	9.02	135	Pn	Pn	16 37 16.2	-1.1
	comp=E,6.7nm,0.3s,baz=315,slow=6.1,SNR=34						
EIL				Sn	Sn	16 38 52.6	-5.8
	comp=E,16nm,0.3s,baz=10,slow=17,SNR=9.7						
EIL				LR	LR	16 43 02.0	
	comp=E,92nm,19.6s,baz=257,slow=52						
TIP	Timpagrande	9.11	291	*e*P	Pn	16 37 19.0	+0.5
	comp=E,33nm,1.0s						
TIP	Timpagrande	9.11	291	*e*P	Pn	16 37 19.0	+0.5
	comp=E,33nm,1.0s						
HFRF	Wahat Farafira	9.17	176	P	Pn	16 37 19.3	0.0
	baz=178						
HFRF	Wahat Farafira	9.17	176	P	Pn	16 37 19.3	0.0
MLR	Muntele Rosu	9.25	352	⇓*i*P	Pn	16 37 22.0	+1.5
MLR	Muntele Rosu	9.25	352	Pn	Pn	16 37 21.3	+0.8
	comp=E,0.1nm,0.3s,baz=204,slow=6.8,SNR=9.2						
VOIR		9.31	348	⇑*i*P	Pn	16 37 23.2	+1.9
ARR	Arges	9.32	347	⇑*i*P	Pn	16 37 27.6	+6.2
HQLS		9.36	136	P	Pn	16 37 21.0	-1.0
HQLS		9.36	136	P	Pn	16 37 20.7	-1.3
HKAT	Jabal Katrina	9.43	144	P	Pn	16 37 22.1	-1.0
	baz=143						
HKAT	Jabal Katrina	9.43	144	P	Pn	16 37 22.1	-1.0
PLOR	Plostina	9.54	356	⇓*i*P	Pn	16 37 25.6	+1.1
VRI	Vrincioaia	9.56	356	⇓*i*P	Pn	16 37 26.2	+1.6
HDHB	Dhahab	9.58	140	P	Pn	16 37 24.4	-0.5
	baz=140						
HDHB	Dhahab	9.58	140	P	Pn	16 37 24.4	-0.5
CEL	Celeste	9.59	285	*e*P	Pn	16 37 24.3	-0.8
	comp=E,41nm,0.8s						
CEL	Celeste	9.59	285	*e*P	Pn	16 37 24.3	-0.8
	comp=E,41nm,0.8s						
DIVS	Divibare	9.73	325	⇑*i*P	Pn	16 37 28.3	+1.2
DOPR	Dopca	9.78	351	⇓*i*P	Pn	16 37 29.8	+2.1
GZR	Gura Zlata	9.79	339	⇑*i*P	Pn	16 37 28.1	+0.3
TR1		9.85	146	P	Pn	16 37 27.9	-0.8
	baz=145						
TR1		9.85	146	P	Pn	16 37 27.9	-0.8
SIM	Simferopol'	9.90	28	P	Pn	16 37 36.5	+7.2
SIM				pmax	pmax		
	comp=Z,12nm,0.8s						
RSHS		10.01	141	P	Pn	16 37 29.0	-1.9
RSHS		10.01	141	S	Sn	16 39 12.1	-11
RSHS		10.01	141	P	Pn	16 37 29.4	-1.5
CUC	Castrocucco	10.03	295	*e*P	Pn	16 37 32.0	+0.8
	comp=Z,57nm,0.8s						
CUC	Castrocucco	10.03	295	*e*P	Pn	16 37 32.0	+0.8
	comp=Z,57nm,0.8s						
JLOS		10.04	137	P	Pn	16 37 30.0	-1.4
JLOS		10.04	137	S	Sn	16 39 14.8	-9.0
JLOS		10.04	137	P	Pn	16 37 29.9	-1.4
BDAS	Al Bad'	10.06	139	P	Pn	16 37 30.0	-1.7
BDAS	Al Bad'	10.06	139	P	Pn	16 37 29.9	-1.7
TESR	Tescani	10.20	356	⇓*i*P	Pn	16 37 36.4	+3.0
BZS	Buzias	10.35	336	⇑*i*P	Pn	16 37 36.1	+0.7
HDK1	Dakhla	10.85	172	P	Pn	16 37 42.7	+0.3
	baz=172						
HDK1	Dakhla	10.85	172	P	Pn	16 37 42.7	+0.3
GTR	Jabal at Tayr	11.06	166	P	Pn	16 37 44.7	-0.6
	baz=167						
GTR	Jabal at Tayr	11.06	166	P	Pn	16 37 44.7	-0.6
HSFG		11.09	150	P	Pn	16 37 45.5	-0.2
	baz=149						
HSFG		11.09	150	P	Pn	16 37 45.5	-0.2
DRGR		11.09	342	⇑*i*P	Pn	16 37 47.4	+1.7
BURAR	Bucovina Array	11.43	352	⇑*i*P	Pn	16 37 53.2	+3.0
CLTB	Caltabellotta	11.64	280	*e*P	Pn	16 37 54.5	+1.2
	comp=Z,8.5nm,0.8s						
CLTB	Caltabellotta	11.64	280	*e*P	Pn	16 37 54.5	+1.2
	comp=Z,8.5nm,0.8s						
PKSM	Moragy	11.98	328	⇑*i*P	Pn	16 37 59.0	+1.3
HQSR		12.00	150	P	Pn	16 37 57.3	-0.8
	baz=149						
HQSR		12.00	150	P	Pn	16 37 57.3	-0.8
PSZ	Piszkesteto	12.93	336	⇓*i*P	Pn	16 38 12.4	+1.6
PSZ	Piszkesteto	12.93	336	P	Pn	16 38 15.5	+4.7
PSZ				pmax	pmax		
	comp=Z,17nm,0.9s						
PSZ	Piszkesteto	12.93	336	⇓*i*P	Pn	16 38 12.4	+1.6
PSZ	Piszkesteto	12.93	336	P	Pn	16 38 15.5	+4.7
	comp=Z,17nm,0.9s						
KOLS	Kolonicke sedl	13.21	344	*e*P	P	16 38 26.3	+1.9
KOLS	Kolonicke sedl	13.21	344	*e*	P	16 38 26.3	+1.9
CRVS	Cervenica-Dubn	13.37	342	*e*P	Pn	16 38 16.0	-0.7
CRVS	Cervenica-Dubn	13.37	342	*e*P	Pn	16 38 16.0	-0.7
CRVS	Cervenica-Dubn	13.37	342	*e*PN	Pn	16 38 16.0	-0.7
CRVS				*e*		16 38 23.0	
NEY	Neytrino	13.46	55	*e*P	P	16 38 25.1	-2.4
KIV	Kislovodsk	13.76	52	*e*P	Pn	16 38 24.5	+2.3
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KIV	Kislovodsk	13.76	52	*e*P	Pn	16 38 24.5	+2.3
	comp=Z,3.0nm,1.1s						
VYHS	Vyhne	13.79	335	*e*P	Pn	16 38 23.4	+1.0
VYHS	Vyhne	13.79	335	*e*Pn	Pn	16 38 23.4	+1.0
VYHS	Vyhne	13.79	335	*e*PN	Pn	16 38 23.4	+1.0
VYHS				*e*		16 38 32.4	
ZEI	Tsey	14.07	58	*e*P	Pn	16 38 24.1	-2.4
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIEV	Kiev	14.40	4	*e*P	P	16 38 38.6	+1.0
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KIEV	Kiev	14.40	4	*e*P	P	16 38 38.6	+1.0
	comp=Z,5.8nm,0.7s						
KIEV	Kiev	14.40	4	*e*P	P	16 38 38.6	+1.0
	comp=Z,5.8nm,0.7s						
AKASG	Malin Array Be	14.41	4	Pn	Pn	16 38 33.1	+2.2
	comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=7.5						
KEST	Kesra	14.85	273	Pn	Pn	16 38 37.7	+0.6
	comp=Z,0.1nm,0.3s,baz=30,slow=2.6,SNR=6.5						
KEST				LR	LR	16 44 53.2	
	comp=Z,26nm,19.5s,baz=288,slow=40						
KBA	Koelnbreinsper	15.14	320	*i* P	Pn	16 38 44.5	+3.5
	comp=Z,21nm,0.8s,SNR=24						
KBA	Koelnbreinsper	15.14	320	P	Pn	16 38 44.5	+3.5
	comp=Z,21nm,0.8s,SNR=24						
OKC	Ostrava-Krasne	15.17	336	*e*P	P	16 38 47.3	+1.1
OKC				*ex*	x	16 38 53.1	
OKC				*ep*P	pP	16 38 58.1	+7.2
OKC				AMS	AMS	16 46 00.0	
	comp=Z,500nm,9.1s						
OKC	Ostrava-Krasne	15.17	336	*e*P	P	16 38 47.3	+1.1
OKC				MLR	MLR		
	comp=Z,500nm,9.1s						
OKC	Ostrava-Krasne	15.17	336	*e*P	P	16 38 47.3	+1.1
	comp=Z,500nm,9.1s						
MOA	Molln	15.20	323	⇑*i*P	Pn	16 38 44.6	+3.1
	comp=Z,5.0nm,0.8s,SNR=5.6						
MOA	Molln	15.20	323	P	Pn	16 38 44.6	+3.1
	comp=Z,5.0nm,0.8s,SNR=5.6						
VRAC	Vranov	15.29	331	⇓*i*P	P	16 38 48.8	+1.3
VRAC	Vranov	15.29	331	Pn	P	16 38 48.1	+0.6
	comp=Z,0.4nm,0.3s,baz=144,slow=9.9,SNR=20						
VRAC				LR	LR	16 44 51.9	
	comp=Z,136nm,18.2s,baz=176,slow=39						
MORC	Moravsky Berou	15.33	334	⇑*i*P	Pn	16 38 45.0	+1.7
MORC	Moravsky Berou	15.33	334

PGF	**Pioggiola**	**15.70**	**299**	*e*P		Pn		16 38 42.4	-5.9
	comp=Z,70nm,1.3s								
PGF	**Pioggiola**	**15.70**	**299**	*e*P		Pn		16 38 42.4	-5.9
PGF					pmax	pmax			
	comp=Z,70nm,1.3s								
PGF	**Pioggiola**	**15.70**	**299**	*e*P		Pn		16 38 42.4	-5.9
	comp=Z,70nm,1.3s								
TREC	**Trest**	**15.72**	**329**	*e*P		**Pn**		**16 38 50.7**	**+2.3**
TREC				*ex*		x		16 38 54.3	
TREC				*ep*P		**pP**		**16 38 59.4**	**+2.4**
TREC					AMS	AMS		16 47 20.0	
	comp=Z,300nm,7.2s								
TREC	**Trest**	**15.72**	**329**	*e*P		**Pn**		**16 38 50.7**	**+2.3**
TREC					MLR	MLR			
	comp=Z,300nm,7.2s								
TREC	**Trest**	**15.72**	**329**	*e*P		**Pn**		**16 38 50.7**	**+2.3**
	comp=Z,300nm,7.2s								
KRLC	**Kraliky**	**15.85**	**334**	*e*P		**P**		**16 38 55.9**	**+2.2**
KRLC				*ep*P		pP		16 39 04.5	+6.0
KRLC	**Kraliky**	**15.85**	**334**	*e*P		**P**		**16 38 55.9**	**+2.2**
KRLC	**Kraliky**	**15.85**	**334**	*e*P		**P**		**16 38 55.9**	**+2.2**
GEC2	**GERESS Array S**	**16.16**	**325**	*e*P		**P**		**16 39 00.3**	**+3.0**
	comp=Z,33nm,1.2s								
GERES	**GERESS Array B**	**16.16**	**325**	Pn		**Pn**		**16 38 56.3**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=51								
GERES					LR	LR		16 46 32.0	
	comp=Z,110nm,18.9s,baz=130,slow=43								
WTTA	**Wattenberg**	**16.17**	**317**	*i* P		**P**		**16 38 59.7**	**+2.2**
	comp=Z,13nm,0.9s,SNR=10								
WTTA	**Wattenberg**	**16.17**	**317**	P		**P**		**16 38 59.7**	**+2.2**
	comp=Z,13nm,0.9s,SNR=10								
DPC	**Dobruska-Polom**	**16.24**	**333**	*e*P		**P**		**16 38 59.9**	**+1.8**
DPC				*ex*		x		16 39 03.9	
DPC				*ep*P		pP		16 39 06.4	+3.6
DPC				*es*P		sP		16 39 12.6	+7.5
DPC					AMS	AMS		16 46 20.0	
DPC	**Dobruska-Polom**	**16.24**	**333**	*e*P		**P**		**16 38 59.9**	**+1.8**
DPC	**Dobruska-Polom**	**16.24**	**333**	*e*P		**P**		**16 38 59.9**	**+1.8**
KHC	**Kasperske Hory**	**16.43**	**326**	*e*P		**P**		**16 39 02.0**	**+1.8**
KHC	**Kasperske Hory**	**16.43**	**326**	*e*P		**P**		**16 39 02.0**	**+1.8**
KHC	**Kasperske Hory**	**16.43**	**326**	*e*P		**P**		**16 39 02.0**	**+1.8**
UPC	**Upice**	**16.48**	**333**	*e*P		**P**		**16 39 02.4**	**+1.6**
UPC				*ep*P		**pP**		**16 39 08.8**	**+3.3**
UPC	**Upice**	**16.48**	**333**	*e*P		**P**		**16 39 02.4**	**+1.6**
UPC	**Upice**	**16.48**	**333**	*e*P		**P**		**16 39 02.4**	**+1.6**
GOPC	**GO Pecny, Ondr**	**16.49**	**329**	*e*P		**P**		**16 39 02.7**	**+1.9**
GOPC				*ex*		x		16 39 06.1	
GOPC				*ep*P		pP		16 39 11.0	+5.5
GOPC					AMS	AMS		16 46 20.0	
	comp=Z,300nm,8.4s								
GOPC	**GO Pecny, Ondr**	**16.49**	**329**	P		**P**		**16 39 02.7**	**+1.9**
MOTA	**Moosalm**	**16.51**	**317** ⇑	*i* P		**Pn**		**16 39 01.4**	**+2.7**
	comp=Z,12nm,0.8s,SNR=8.0								
MOTA	**Moosalm**	**16.51**	**317**	P		**Pn**		**16 39 01.4**	**+2.7**
	comp=Z,12nm,0.8s,SNR=8.0								
FETA	**Feichten**	**16.53**	**315** ⇑	*i* P		**P**		**16 39 02.4**	**+0.9**
	comp=Z,15nm,0.9s,SNR=19								
FETA	**Feichten**	**16.53**	**315**	P		**P**		**16 39 02.4**	**+0.9**
	comp=Z,15nm,0.9s,SNR=19								
PRU	**Pruhonice**	**16.65**	**329**	*e*P		**P**		**16 39 03.5**	**+1.0**
PRU				*ex*		x		16 39 08.6	
PRU				*ep*P		pP		16 39 14.6	+7.3
PRU					AMS	AMS		16 46 30.0	
	comp=Z,400nm,6.3s								
PRU	**Pruhonice**	**16.65**	**329**	*e*P		**P**		**16 39 03.5**	**+1.0**
PRU					MLR	MLR			
	comp=Z,400nm,6.3s								
PRU	**Pruhonice**	**16.65**	**329**	*e*P		**P**		**16 39 03.5**	**+1.0**
	comp=Z,400nm,6.3s								
KSP	**Ksiaz**	**16.66**	**334** ⇑	*e*P		**P**		**16 39 04.7**	**+2.0**
KSP	**Ksiaz**	**16.66**	**334** ⇑	*e*P		**P**		**16 39 04.7**	**+2.0**
PRA	**Prague**	**16.75**	**329**	*e*P		**P**		**16 39 05.3**	**+1.6**
PRA				*ex*		x		16 39 11.1	
PRA	**Prague**	**16.75**	**329**	*e*P		**P**		**16 39 05.3**	**+1.6**
PRA	**Prague**	**16.75**	**329**	*e*P		**P**		**16 39 05.3**	**+1.6**
WET	**Wettzell**	**16.76**	**324**	*e*P		**P**		**16 39 06.3**	**+2.4**
	comp=Z,34nm,1.7s								
VORD	**Divnogorie**	**16.84**	**26**	*e*P		**Pn**		**16 39 05.5**	**+2.9**
VORD					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VORD					pmax	pmax			
	comp=N,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=E,8.0nm,0.8s								
VORD	**Divnogorie**	**16.84**	**26**	*e*P		**Pn**		**16 39 05.5**	**+2.9**
	comp=E,10.0nm,1.0s								
DAVOX	**Davos/Dischmat**	**16.89**	**314**	Pn		**Pn**		**16 39 06.0**	**+2.5**
	comp=E,0.4nm,0.3s,baz=131,slow=10,SNR=6.2								
DAVOX					LR	LR		16 46 42.5	
	comp=E,230nm,18.4s,baz=76,slow=42								
DAVOX	**Davos/Dischmat**	**16.89**	**314**	P		**Pn**		**16 39 06.0**	**+2.5**
DAVOX					MLR	MLR			
	comp=Z,230nm,18.4s								
DAVOX	**Davos/Dischmat**	**16.89**	**314**	P		**Pn**		**16 39 06.0**	**+2.5**
	comp=Z,230nm,18.4s								
FUR	**Furstenfeldbru**	**16.91**	**319**	*e*P		**Pn**		**16 39 06.4**	**+2.8**
	comp=Z,57nm,1.1s								
FUR	**Furstenfeldbru**	**16.91**	**319**	*e*P		**Pn**		**16 39 06.4**	**+2.8**
	comp=Z,57nm,1.1s								
VSR	**Storozhevoye**	**17.00**	**25**	*e*P		**Pn**		**16 39 05.9**	**+1.2**
VSR					pmax	pmax			
	comp=N,10.0nm,1.1s								
VSR					pmax	pmax			
	comp=E,10.0nm,1.1s								
VSR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
VSR	**Storozhevoye**	**17.00**	**25**	*e*P		**Pn**		**16 39 05.9**	**+1.2**
PVCC	**Panska Ves**	**17.05**	**330**	*e*P		**P**		**16 39 09.9**	**+2.9**
PVCC				*ep*P		pP		16 39 16.0	+4.2
PVCC					AMS	AMS		16 47 00.0	
	comp=Z,500nm,7.2s								
PVCC	**Panska Ves**	**17.05**	**330**	*e*P		**P**		**16 39 09.9**	**+2.9**
PVCC					MLR	MLR			
	comp=Z,500nm,7.2s								
DAVA	**Damuels**	**17.16**	**315** ⇓	*i* Pn		**Pn**		**16 39 08.8**	**+1.9**
	comp=Z,14nm,0.9s,SNR=8.6								
DAVA	**Damuels**	**17.16**	**315**	P		**Pn**		**16 39 08.8**	**+1.9**
	comp=Z,14nm,0.9s,SNR=8.6								
SBF	**Sospel**	**17.20**	**302**	*e*P		**Pn**		**16 39 07.7**	**+0.5**
	comp=Z,46nm,1.0s								
SBF	**Sospel**	**17.20**	**302**	*e*P		**Pn**		**16 39 07.7**	**+0.5**
SBF					pmax	pmax			
	comp=Z,46nm,1.0s								
SBF	**Sospel**	**17.20**	**302**	*e*P		**Pn**		**16 39 07.7**	**+0.5**
	comp=Z,23nm,1.0s								
SBF	**Sospel**	**17.20**	**302**	*e*P		**Pn**		**16 39 07.7**	**+0.5**
	comp=Z,46nm,1.0s								
ROTZ	**Rotzenmuhle**	**17.51**	**325**	*e*P		**P**		**16 39 15.0**	**+2.9**
	comp=Z,6.0nm,1.0s								
BRG	**Berggiesshubel**	**17.57**	**330**	*e*P		**P**		**16 39 15.4**	**+2.6**
	comp=Z,13nm,1.2s								
BRG	**Berggiesshubel**	**17.57**	**330**	*e*P		**P**		**16 39 15.8**	**+3.0**
	comp=Z,49nm,2.0s								
BRG	**Berggiesshubel**	**17.57**	**330**	*e*P		**P**		**16 39 15.4**	**+2.6**
BRG					pmax	pmax			
	comp=Z,13nm,1.2s								
FRF	**La Foret Royal**	**17.65**	**301**	*e*P		**Pn**		**16 39 12.0**	**-0.8**
	comp=Z,27nm,1.0s								
FRF	**La Foret Royal**	**17.65**	**301**	*e*P		**Pn**		**16 39 12.0**	**-0.8**
FRF					pmax	pmax			
	comp=Z,27nm,1.0s								
FRF	**La Foret Royal**	**17.65**	**301**	*e*P		**Pn**		**16 39 12.0**	**-0.8**
	comp=Z,14nm,1.0s								
FRF	**La Foret Royal**	**17.65**	**301**	*e*P		**Pn**		**16 39 12.0**	**-0.8**
	comp=Z,27nm,1.0s								
LMR	**La Mourre**	**17.68**	**300**	*e*P		**Pn**		**16 39 12.4**	**-0.7**
	comp=Z,20nm,1.0s								
LMR	**La Mourre**	**17.68**	**300**	*e*P		**Pn**		**16 39 12.4**	**-0.7**
LMR					pmax	pmax			
	comp=Z,20nm,1.0s								
LMR	**La Mourre**	**17.68**	**300**	*e*P		**Pn**		**16 39 12.4**	**-0.7**
	comp=Z,9.8nm,1.0s								
LMR	**La Mourre**	**17.68**	**300**	*e*P		**Pn**		**16 39 12.4**	**-0.7**
	comp=Z,20nm,1.0s								
MANZ	**Manzenberg**	**17.71**	**325**	*e*P		**P**		**16 39 17.2**	**+2.9**
	comp=Z,8.0nm,1.1s								
WERN	**Wernitzgruen**	**17.80**	**326**	*e*P		**P**		**16 39 18.7**	**+3.3**
	comp=Z,32nm,1.9s								
FBE	**Freiberg**	**17.85**	**329**	*e*P		**P**		**16 39 19.1**	**+3.3**
	comp=Z,26nm,1.2s								
TANN	**Tannenbergstha**	**17.86**	**327**	*e*P		**P**		**16 39 19.0**	**+3.0**
	comp=Z,58nm,2.1s								
GUNZ	**Gunzen**	**17.88**	**326**	*e*P		**P**		**16 39 19.3**	**+3.1**
	comp=Z,31nm,1.6s								
GRF	**Grafenberg Arr**	**17.93**	**323**	*e*P		**P**		**16 39 19.2**	**+2.5**
	comp=Z,11nm,1.0s								
MBDF	**Montbardon**	**17.94**	**304**	*e*P		**Pn**		**16 39 15.3**	**-1.2**
	comp=Z,22nm,0.8s								
MBDF	**Montbardon**	**17.94**	**304**	*e*P		**Pn**		**16 39 15.3**	**-1.2**
MBDF					pmax	pmax			
	comp=Z,22nm,0.8s								
MBDF	**Montbardon**	**17.94**	**304**	*e*P		**Pn**		**16 39 15.3**	**-1.2**
	comp=Z,11nm,0.8s								
MBDF	**Montbardon**	**17.94**	**304**	*e*P		**Pn**		**16 39 15.3**	**-1.2**
	comp=Z,22nm,0.8s								
WERD	**Werda**	**17.95**	**327**	*e*P		**P**		**16 39 20.1**	**+3.1**
	comp=Z,22nm,1.5s								
PLN	**Plauen**	**18.04**	**326**	*e*P		**P**		**16 39 21.3**	**+3.3**
	comp=Z,28nm,1.4s								
LPSR	**Galich'ya Gora**	**18.11**	**23**	*e*P		**P**		**16 39 21.4**	**+2.8**
LPSR					pmax	pmax			
	comp=N,8.0nm,0.8s								
LPSR					pmax	pmax			
	comp=E,3.0nm,0.8s								
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
LPG	**La Plagne**	**18.24**	**307**	*e*P		**Pn**		**16 39 20.7**	**+0.4**
	comp=Z,34nm,0.9s								
LPG	**La Plagne**	**18.24**	**307**	*e*P		**Pn**		**16 39 20.7**	**+0.4**
LPG					pmax	pmax			
	comp=Z,34nm,0.9s								
LPG	**La Plagne**	**18.24**	**307**	*e*P		**Pn**		**16 39 20.7**	**+0.4**
	comp=Z,17nm,0.9s								
LPG	**La Plagne**	**18.24**	**307**	*e*P		**Pn**		**16 39 20.7**	**+0.4**
	comp=Z,34nm,0.9s								
LPL	**La Plagne**	**18.26**	**307**	*e*P		**Pn**		**16 39 20.5**	**0.0**
	comp=Z,20nm,0.8s								
LPL	**La Plagne**	**18.26**	**307**	*e*P		**Pn**		**16 39 20.5**	**0.0**
LPL					pmax	pmax			
	comp=Z,20nm,0.8s								
LPL	**La Plagne**	**18.26**	**307**	*e*P		**Pn**		**16 39 20.5**	**0.0**
	comp=Z,10nm,0.8s								
LPL	**La Plagne**	**18.26**	**307**	*e*P		**Pn**		**16 39 20.5**	**0.0**
	comp=Z,20nm,0.8s								
CLL	**Collm**	**18.29**	**330**	*e*P		**P**		**16 39 23.2**	**+2.6**
	comp=Z,13nm,1.1s								
CLL	**Collm**	**18.29**	**330** ⇓	*i* P		**Pn**		**16 39 21.6**	**+1.0**
	comp=Z,13nm,1.1s								
CLL				*i*				16 39 26.4	
CLL				*e(S)*		Sn		16 42 36.0	-8.3
CLL	**Collm**	**18.29**	**330** ⇓	*i* P		**Pn**		**16 39 21.6**	**+1.0**
CLL				*eS*		Sn		16 42 30.0	-14
CLL					pmax	pmax			
	comp=Z,13nm,1.1s								
CLL	**Collm**	**18.29**	**330**	*i* P		**Pn**		**16 39 21.6**	**+1.0**
	comp=Z,13nm,1.1s								
MOX	**Moxa**	**18.40**	**326**	*e*P		**Pn**		**16 39 25.2**	**+3.2**
	comp=Z,65nm,1.9s								
SMRF	**Simiane la Rot**	**18.51**	**301**	*e*P		**P**		**16 39 21.5**	**-1.7**
	comp=Z,27nm,1.1s								
SMRF	**Simiane la Rot**	**18.51**	**301**	*e*P		**P**		**16 39 21.5**	**-1.7**
	comp=Z,13nm,1.1s								
SMRF	**Simiane la Rot**	**18.51**	**301**	*e*P		**P**		**16 39 21.5**	**-1.7**
	comp=Z,27nm,1.1s								
ORIF	**Oris-en-Rattie**	**18.60**	**304**	*e*P		**P**		**16 39 23.9**	**-0.4**
	comp=Z,13nm,0.9s								
ORIF				*e*R					
	comp=Z,136nm,17.2s								
ORIF	**Oris-en-Rattie**	**18.60**	**304**	*e*P		**P**		**16 39 23.9**	**-0.4**
ORIF					pmax	pmax			
	comp=Z,13nm,0.9s								
ORIF	**Oris-en-Rattie**	**18.60**	**304**	*e*P		**P**		**16 39 23.9**	**-0.4**
	comp=Z,6.3nm,0.9s								
ORIF	**Oris-en-Rattie**	**18.60**	**304**	*e*P		**P**		**16 39 23.9**	**-0.4**
	comp=Z,13nm,0.9s								
CABF	**La Chapelle**	**19.11**	**309**	*e*P		**P**		**16 39 29.4**	**-0.4**
	comp=Z,34nm,0.8s								
CABF	**La Chapelle**	**19.11**	**309**	*e*P		**P**		**16 39 29.4**	**-0.4**
CABF					pmax	pmax			
	comp=Z,34nm,0.8s								
CABF	**La Chapelle**	**19.11**	**309**	*e*P		**P**		**16 39 29.4**	**-0.4**
	comp=Z,17nm,0.8s								
CABF	**La Chapelle**	**19.11**	**309**	*e*P		**P**		**16 39 29.4**	**-0.4**
	comp=Z,34nm,0.8s								
HINF	**Hinteralfeld**	**19.19**	**313**	*e*P		**P**		**16 39 31.3**	**+0.6**
HINF	**Hinteralfeld**	**19.19**	**313**	*e*P		**P**		**16 39 31.3**	**+0.6**
HINF	**Hinteralfeld**	**19.19**	**313**	*e*P		**P**		**16 39 31.3**	**+0.6**
HINF	**Hinteralfeld**	**19.19**	**313**	*e*P		**P**		**16 39 31.3**	**+0.6**
CDF	**Champ du Feu**	**19.25**	**315**	*e*P		**P**		**16 39 32.7**	**+1.4**
	comp=Z,32nm,0.9s								
CDF	**Champ du Feu**	**19.25**	**315**	*e*P		**P**		**16 39 32.7**	**+1.4**
CDF					pmax	pmax			
	comp=Z,32nm,0.9s								
CDF	**Champ du Feu**	**19.25**	**315**	*e*P		**P**		**16 39 32.7**	**+1.4**
	comp=Z,16nm,0.9s								
CDF	**Champ du Feu**	**19.25**	**315**	*e*P		**P**		**16 39 32.7**	**+1.4**
	comp=Z,32nm,0.9s								
VIVF	**Saint-Julien-l**	**19.39**	**303**	*e*P		**P**		**16 39 33.2**	**+0.3**
	comp=Z,21nm,0.8s								
VIVF	**Saint-Julien-l**	**19.39**	**303**	*e*P		**P**		**16 39 33.2**	**+0.3**
VIVF					pmax	pmax			
	comp=Z,21nm,0.8s								
VIVF	**Saint-Julien-l**	**19.39**	**303**	*e*P		**P**		**16 39 33.2**	**+0.3**
	comp=Z,10nm,0.8s								
VIVF	**Saint-Julien-l**	**19.39**	**303**	*e*P		**P**		**16 39 33.2**	**+0.3**
	comp=Z,21nm,0.8s								
HAU	**Haudompre**	**19.58**	**313**	*e*P		**P**		**16 39 36.0**	**+1.1**
	comp=Z,15nm,0.7s								
HAU				*e*R					
	comp=Z,254nm,17.3s								
HAU	**Haudompre**	**19.58**	**313**	*e*P		**P**		**16 39 36.0**	**+1.1**
HAU					pmax	pmax			
	comp=Z,15nm,0.7s								
HAU	**Haudompre**	**19.58**	**313**	*e*P		**P**		**16 39 36.0**	**+1.1**
	comp=Z,7.6nm,0.7s								
HAU	**Haudompre**	**19.58**	**313**	*e*P		**P**		**16 39 36.0**	**+1.1**
	comp=Z,15nm,0.7s								
LASF	**Ste Croix**	**19.73**	**300**	*e*P		**P**		**16 39 37.6**	**+1.0**
	comp=Z,4.4nm,0.6s								
LASF	**Ste Croix**	**19.73**	**300**	*e*P		**P**		**16 39 37.6**	**+1.0**
	comp=Z,2.2nm,0.6s								
LASF	**Ste Croix**	**19.73**	**300**	*e*P		**P**		**16 39 37.6**	**+1.0**
	comp=Z,4.4nm,0.6s								
OBN	**Obninsk**	**19.75**	**15**	LR		LR		16 47 31.6	
	comp=Z,78nm,18.8s,baz=266,slow=38								
OBN	**Obninsk**	**19.75**	**15** ⇓	*e*P		**P**		**16 39 37.9**	**+1.2**
OBN				*eS*		**S**		**16 43 17.1**	**-1.5**
OBN					pmax	pmax			
	comp=Z,13nm,1.0s								
OBN					MLR	MLR			
	comp=Z,68nm,19.0s								
OBN	**Obninsk**	**19.75**	**15**	*e*P		**P**		**16 39 37.9**	**+1.2**
	comp=Z,13nm,1.0s								
OBN				*eS*		**S**		**16 43 17.1**	**-1.5**
	comp=Z,68nm,19.0s								
CLZ	**Clausthal**	**19.80**	**327**	*e*P		**P**		**16 39 39.1**	**+1.8**
	comp=Z,32nm,1.9s								
CLZ	**Clausthal**	**19.80**	**327**	*e*P		**P**		**16 39 39.1**	**+1.8**
	comp=Z,32nm,1.9s								
RAYN	**Ar Rayn**	**20.00**	**125**	*e*P		**Pn**		**16 39 43.4**	**+2.0**
	comp=Z,3.2nm,0.6s								
PAGF	**Fort de Pagny**	**20.21**	**314**	*e*P		**P**		**16 39 40.8**	**-0.9**
PAGF	**Fort de Pagny**	**20.21**	**314**	*e*P		**P**		**16 39 40.8**	**-0.9**
PAGF	**Fort de Pagny**	**20.21**	**314**	*e*P		**P**		**16 39 40.8**	**-0.9**
NRDL	**Niedersach Rie**	**20.38**	**328**	*e*P		**P**		**16 39 45.2**	**+1.8**
	comp=Z,30nm,1.5s								
NRDL	**Niedersach Rie**	**20.38**	**328**	*e*P		**P**		**16 39 45.2**	**+1.8**
	comp=Z,30nm,1.5s								
SFTF	**Sexfontaines**	**20.45**	**313**	*e*P		**P**		**16 39 45.1**	**+0.8**
SFTF	**Sexfontaines**	**20.45**	**313**	*e*P		**P**		**16 39 45.1**	**+0.8**
SFTF	**Sexfontaines**	**20.45**	**313**	*e*P		**P**		**16 39 45.1**	**+0.8**
SMF	**Signal de Mont**	**20.55**	**307**	*e*P		**P**		**16 39 44.8**	**-0.6**
	comp=Z,56nm,1.0s								
SMF	**Signal de Mont**	**20.55**	**307**	*e*P		**P**		**16 39 44.8**	**-0.6**
SMF					pmax	pmax			
	comp=Z,56nm,1.0s								
SMF	**Signal de Mont**	**20.55**	**307**	*e*P		**P**		**16 39 44.8**	**-0.6**
	comp=Z,28nm,1.0s								
SMF	**Signal de Mont**	**20.55**	**307**	*e*P		**P**		**16 39 44.8**	**-0.6**
	comp=Z,56nm,1.0s								
MOS	**Moscow**	**20.56**	**16**	*e*P		**P**		**16 39 46.2**	**+0.7**
MOS					pmax	pmax			
	comp=Z,67nm,1.1s								
MOS	**Moscow**	**20.56**	**16**	*e*P		**P**		**16 39 46.2**	**+0.7**
	comp=Z,67nm,1.1s								
MEZF	**Maizieres J'vi**	**20.58**	**313**	*e*P		**P**		**16 39 46.7**	**+1.0**
	comp=Z,63nm,1.1s,baz=111								
MEZF	**Maizieres J'vi**	**20.58**	**313**	*e*P		**P**		**16 39 46.7**	**+1.0**
	comp=Z,31nm,1.1s								
MEZF	**Maizieres J'vi**	**20.58**	**313**	*e*P		**P**		**16 39 46.7**	**+1.0**
	comp=Z,63nm,1.1s								
MTLF	**Montolieu**	**20.72**	**298**	*e*P		**P**		**16 39 47.0**	**-0.3**
MTLF	**Montolieu**	**20.72**	**298**	*e*P		**P**		**16 39 47.0**	**-0.3**
MTLF	**Montolieu**	**20.72**	**298**	*e*P		**P**		**16 39 47.0**	**-0.3**
LOR	**Lormes**	**20.77**	**309**	*e*P		**P**		**16 39 46.9**	**-1.0**
	comp=Z,14nm,0.8s,baz=129								
LOR				*e*R					
	comp=Z,160nm,17.5s								
LOR	**Lormes**	**20.77**	**309**	*e*P		**P**		**16 39 46.9**	**-1.0**
LOR					pmax	pmax			
	comp=Z,14nm,0.8s								
LOR	**Lormes**	**20.77**	**309**	*e*P		**P**		**16 39 46.9**	**-1.0**
	comp=Z,6.9nm,0.8s								
LOR	**Lormes**	**20.77**	**309**	*e*P		**P**		**16 39 46.9**	**-1.0**
	comp=Z,14nm,0.8s								
AVF	**Avril sur Loir**	**20.91**	**308**	*e*P		**P**		**16 39 49.3**	**0.0**
	comp=Z,50nm,1.1s								
AVF	**Avril sur Loir**	**20.91**	**308**	*e*P		**P**		**16 39 49.3**	**0.0**
AVF					pmax	pmax			
	comp=Z,50nm,1.1s								
AVF	**Avril sur Loir**	**20.91**	**308**	*e*P		**P**		**16 39 49.3**	**0.0**
	comp=Z,55nm,1.1s								
AVF	**Avril sur Loir**	**20.91**	**308**	*e*P		**P**		**16 39 49.3**	**0.0**
	comp=Z,50nm,1.1s								
SSF	**Saint Saulge**	**20.91**	**308**	*e*P		**P**		**16 39 49.0**	**-0.4**
	comp=Z,34nm,0.7s								
SSF	**Saint Saulge**	**20.91**	**308**	*e*P		**P**		**16 39 49.0**	**-0.4**
SSF					pmax	pmax			
	comp=Z,34nm,0.7s								
SSF	**Saint Saulge**	**20.91**	**308**	*e*P		**P**		**16 39 49.0**	**-0.4**
	comp=Z,17nm,0.7s								
SSF	**Saint Saulge**	**20.91**	**308**	*e*P		**P**		**16 39 49.0**	**-0.4**
	comp=Z,34nm,0.7s								
MEM	**Membach**	**21.13**	**319**	P		**P**		**16 39 53.0**	**+1.3**
	comp=Z,7.3nm,1.4s								
MEM	**Membach**	**21.13**	**319**	P		**P**		**16 39 53.0**	**+1.3**
	comp=Z,7.3nm,1.4s								
CAF	**Calviac**	**21.19**	**302**	*e*P		**P**		**16 39 52.6**	**+0.2**
	comp=Z,35nm,1.1s								
CAF	**Calviac**	**21.19**	**302**	*e*P		**P**		**16 39 52.6**	**+0.2**
CAF					pmax	pmax			
	comp=Z,35nm,1.1s								
CAF	**Calviac**	**21.19**	**302**	*e*P		**P**		**16 39 52.6**	**+0.2**
	comp=Z,18nm,1.1s								
CAF	**Calviac**	**21.19**	**302**	*e*P		**P**		**16 39 52.6**	**+0.2**
	comp=Z,35nm,1.1s								
BSEG	**Bad Segeberg**	**21.35**	**331**	*e*P		**P**		**16 39 55.0**	**+1.1**
	comp=Z,91nm,2.1s								
BSEG	**Bad Segeberg**	**21.35**	**331**	*e*P		**P**		**16 39 55.0**	**+1.1**
	comp=Z,91nm,2.1s								
TCF	**Toulx Ste Croi**	**21.48**	**305**	*e*P		**P**		**16 39 54.7**	**-0.8**
	comp=Z,4.9nm,0.5s								
TCF	**Toulx Ste Croi**	**21.48**	**305**	*e*P		**P**		**16 39 54.7**	**-0.8**
TCF					pmax	pmax			
	comp=Z,5.0nm,0.5s								
TCF	**Toulx Ste Croi**	**21.48**	**305**	*e*P		**P**		**16 39 54.7**	**-0.8**
	comp=Z,2.5nm,0.5s								
TCF	**Toulx Ste Croi**	**21.48**	**305**	*e*P		**P**		**16 39 54.7**	**-0.8**
	comp=Z,4.9nm,0.5s								
GIVF	**Givet**	**21.50**	**317**	*e*P		**P**		**16 39 56.3**	**+0.7**
	comp=Z,33nm,1.1s								
GIVF	**Givet**	**21.50**	**317**	*e*P		**P**		**16 39 56.3**	**+0.7**
GIVF					pmax	pmax			
	comp=Z,33nm,1.1s								
GIVF	**Givet**	**21.50**	**317**	*e*P		**P**		**16 39 56.3**	**+0.7**
	comp=Z,17nm,1.1s								
GIVF	**Givet**	**21.50**	**317**	*e*P		**P**		**16 39 56.3**	**+0.7**
	comp=Z,33nm,1.1s								
DOU	**Dourbes**	**21.62**	**317**	P		**P**		**16 39 58.1**	**+1.1**
DOU	**Dourbes**	**21.62**	**317**	P		**P**		**16 39 58.0**	**+1.1**
RJF	**Les Rejaudoux**	**21.66**	**303**	*e*P		**P**		**16 39 55.3**	**-2.1**
	comp=Z,14nm,0.8s								
RJF				*e*R					
	comp=Z,113nm,17.5s								
RJF	**Les Rejaudoux**	**21.66**	**303**	*e*P		**P**		**16 39 55.3**	**-2.1**
RJF					pmax	pmax			
	comp=Z,14nm,0.8s								
RJF	**Les Rejaudoux**	**21.66**	**303**	*e*P		**P**		**16 39 55.3**	**-2.1**
	comp=Z,6.9nm,0.8s								
RJF	**Les Rejaudoux**	**21.66**	**303**	*e*P		**P**		**16 39 55.3**

comp=Z,1.2nm,0.9s
FINES FINESS Array B 25.16 358 P **P** 16 40 30.2 -1.6
comp=Z,1.6nm,0.7s,baz=147,slow=11,SNR=5.6
FINES PcP **PcP** 16 44 03.5 -1.9
comp=Z,1.2nm,0.7s,baz=155,slow=4.6,SNR=2.9
FINES FINESS Array B 25.16 358 *i* P **P** 16 40 30.8 -1.0
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 25.16 358 *i* P **P** 16 40 30.8 -1.0
comp=Z,2.0nm,0.7s
SGMF Saint Gilles 25.17 308 *e*P **P** 16 40 32.1 -0.1
SGMF Saint Gilles 25.17 308 *e*P **P** 16 40 32.1 -0.1
SGMF Saint Gilles 25.17 308 *e*P **P** 16 40 32.1 -0.1
SGMF Saint Gilles 25.17 308 *e*P **P** 16 40 32.1 -0.1
PAB San Pablo 25.39 287 *e*P **P** 16 40 33.9 -0.5
PAB pmax pmax
comp=Z,12nm,1.1s
PAB San Pablo 25.39 287 *e*P **P** 16 40 33.9 -0.5
comp=Z,12nm,1.1s
PAB San Pablo 25.39 287 *e*P **P** 16 40 33.9 -0.5
comp=Z,12nm,1.1s
HFS Hagfors 25.47 344 P **P** 16 40 33.8 -0.9
comp=Z,3.8nm,0.8s,baz=156,slow=11,SNR=7.4
HFS LR LR 16 51 49.7
comp=Z,48nm,19.0s,baz=140,slow=40
HFS Hagfors 25.47 344 P **P** 16 40 33.8 -0.9
HFS pmax pmax
comp=Z,4.0nm,0.8s
HFS MLR MLR
comp=Z,48nm,19.0s
QUIF Quistinic 25.47 307 *e*P **P** 16 40 33.6 -1.2
QUIF Quistinic 25.47 307 *e*P **P** 16 40 33.6 -1.2
QUIF Quistinic 25.47 307 *e*P **P** 16 40 33.6 -1.2
QUIF Quistinic 25.47 307 *e*P **P** 16 40 33.6 -1.2
ROSF Rostrenen 25.66 308 *e*P **P** 16 40 35.2 -1.3
ROSF Rostrenen 25.66 308 *e*P **P** 16 40 35.2 -1.3
ROSF Rostrenen 25.66 308 *e*P **P** 16 40 35.2 -1.3
ROSF Rostrenen 25.66 308 *e*P **P** 16 40 35.2 -1.3
KLMR Klimovskoe 25.68 13 P **P** 16 40 35.3 -1.3
KLMR pmax pmax
comp=Z,43nm,1.3s
KLMR Klimovskoe 25.68 13 P **P** 16 40 35.3 -1.3
comp=Z,43nm,1.3s
AKTK Aktyubinsk 25.95 48 P **P** 16 40 38.6 -0.6
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 25.95 48 P **P** 16 40 38.6 -0.6
comp=Z,1.3nm,0.7s,baz=259,slow=12,SNR=4.0
AKTO Aktyubinsk 25.95 48 P **P** 16 40 38.6 -0.6
AKTO pmax pmax
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 26.75 51 *e*P **P** 16 40 46.0 -0.4
comp=Z,1.4nm,0.6s
ABKAR Akbulak array 26.75 51 *e*P **P** 16 40 46.0 -0.4
comp=Z,1.4nm,0.6s
MDT Midelt 26.75 272 P **P** 16 40 46.3 -0.5
comp=Z,4.6nm,0.8s,baz=85,slow=12,SNR=4.2
MDT LR LR 16 51 57.2
comp=Z,47nm,20.1s,baz=139,slow=38
NB2 NORSAR Subarra 26.85 342 P **P** 16 40 46.0 -1.3
comp=Z,5.4nm,1.1s,baz=147,slow=10
NB2 NORSAR Subarra 26.85 342 P **P** 16 40 46.0 -1.3
comp=Z,5.4nm,1.1s,SNR=5.2
NOA NORSAR Array B 26.85 342 P **P** 16 40 46.6 -0.7
comp=Z,1.5nm,0.7s,baz=147,slow=9.6,SNR=4.9
NOA PcP **PcP** 16 44 08.2 -1.2
comp=Z,0.8nm,0.8s,baz=123,slow=2.9,SNR=3.4
NOA LR LR 16 51 54.0
comp=Z,28nm,19.8s,baz=150,slow=38
NOA NORSAR Array B 26.85 342 P **P** 16 40 46.6 -0.7
NOA 16 44 08.2
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,28nm,19.8s
PRGR Permogore 27.74 18 P **P** 16 40 52.8 -2.3
PRGR pmax pmax
comp=Z,13nm,1.1s
PRGR Permogore 27.74 18 P **P** 16 40 52.8 -2.3
comp=Z,13nm,1.1s
ARU Arti 28.90 36*c i*P **P** 16 41 05.3 -0.3
ARU 16 41 54.1
ARU S **S** 16 45 55.4 +0.3
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 28.90 36 *i* P **P** 16 41 05.3 -0.3
comp=Z,7.0nm,1.7s
ARU S **S** 16 45 55.4 +0.3
TOA0 Torodi Ar. Sit 32.82 232 *e*P **P** 16 41 40.6 +0.1
TOA0 Torodi Ar. Sit 32.82 232 *e*P **P** 16 41 40.6 +0.1
TORD Torodi Ar. Bea 32.82 232 P **P** 16 41 40.6 +0.1
comp=Z,8.3nm,0.5s,baz=34,slow=8.6,SNR=73
TORD PcP **PcP** 16 44 25.0 -0.4
comp=Z,1.2nm,0.8s,baz=50,slow=1.1,SNR=3.3
TORD Torodi Ar. Bea 32.82 232 PcP **PcP** 16 44 25.0 -0.4
ARCES ARCESS Array B 33.28 359 P P 16 41 42.6 -1.5
comp=Z,4.2nm,0.9s,baz=167,slow=9.0,SNR=3.6
ARCES ARCESS Array B 33.28 359 P P 16 41 42.6 -1.5
ARCES pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 33.35 65 P P 16 41 43.2 -1.8
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 33.35 65 P P 16 41 43.2 -1.8
comp=Z,4.3nm,1.0s
KKAR Karatay Array 33.35 65 P P 16 41 43.2 -1.8
comp=Z,4.3nm,1.0s
BRVK Borovoye 34.00 47 *e*P **P** 16 41 51.2 +0.7
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 34.00 47 *e*P **P** 16 41 51.2 +0.7
comp=Z,2.0nm,1.0s
AAK Ala-Archa 36.30 65*ce*P **P** 16 42 10.1 -0.6
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 36.30 65 *e*P **P** 16 42 10.1 -0.6
comp=Z,6.0nm,1.0s
KURBB Kurchatov Arra 38.79 52 P **P** 16 42 31.2 -0.1
comp=Z,5.2nm,0.7s,baz=277,slow=8.8,SNR=62
KURBB PcP **PcP** 16 44 42.7 +0.2
comp=Z,2.2nm,0.8s,baz=267,slow=3.8,SNR=9.9
KURK Kurchatov 38.85 52 P **P** 16 42 31.3 -0.6
KURK 16 44 42.7
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 38.85 52 P **P** 16 42 31.3 -0.6
comp=Z,5.0nm,0.7s
KURK Kurchatov 38.85 52 PcP **PcP** 16 44 42.7 0.0
KURK Kurchatov 38.85 52 P **P** 16 42 31.2 -0.6
KURK PcP **PcP** 16 44 42.7 0.0
MSKU Masuku 40.00 202 P **P** 16 42 42.0 +0.2
comp=Z,9.8nm,0.5s,baz=18,slow=20,SNR=3.4
MK31 Makanchi Array 41.42 58 *e*P **P** 16 42 52.8 -0.5
MK31 Makanchi Array 41.42 58 *e*P **P** 16 42 52.8 -0.5
MK31 Makanchi Array 41.42 58 *e*P **P** 16 42 52.8 -0.5
MKAR Makanchi Array 41.42 58 P **P** 16 42 53.0 -0.3
comp=Z,0.9nm,0.6s,baz=271,slow=11,SNR=16
MKAR PcP **PcP** 16 44 50.6 -0.5
comp=Z,1.4nm,0.8s,baz=281,slow=5.4,SNR=3.7
MKAR Makanchi Array 41.42 58 P **P** 16 42 53.0 -0.3
MKAR 16 44 50.6
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 41.42 58 P **P** 16 42 53.0 -0.3
comp=Z,1.0nm,0.6s
NVS Novosibirsk 41.81 46 *i* P **P** 16 42 56.6 +0.3
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS pmax pmax
comp=Z,6.0nm,0.7s
NVS Novosibirsk 41.81 46 *i* P **P** 16 42 56.6 +0.3
DBIC Dimbokro 41.90 233 P **P** 16 42 57.0 -0.5
comp=Z,7.3nm,0.7s,baz=20,slow=9.2,SNR=10
DBIC Dimbokro 41.90 233 P **P** 16 42 57.0 -0.5
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC Dimbokro 41.90 233 *e*P **P** 16 42 56.8 -0.7
comp=Z,5.3nm,0.5s
TIC Toumodi 42.03 233 *e*P **P** 16 42 57.9 -0.7
comp=Z,8.0nm,0.2s
KIC Kosan Boka 42.06 233 *e*P **P** 16 42 58.1 -0.7
comp=Z,29nm,0.9s
SPITS Spitsbergen Ar 42.23 357 P P 16 42 58.3 -1.2
comp=Z,2.7nm,0.8s,baz=131,slow=7.9,SNR=5.0
SPITS Spitsbergen Ar 42.23 357 P P 16 42 58.3 -1.2
SPITS pmax pmax
comp=Z,3.0nm,0.8s
LIC Lamto 42.35 233 *e*P **P** 16 43 00.5 -0.6
comp=Z,20nm,0.8s
LIC Lamto 42.35 233 *e*P **P** 16 43 00.6 -0.6
comp=Z,80nm,1.5s
LIC Lamto 42.35 233 *e*P **P** 16 43 00.5 -0.6
comp=Z,9.9nm,0.8s
LIC Lamto 42.35 233 *e*P **P** 16 43 00.5 -0.6
comp=Z,20nm,0.8s
ZAA0 Zalesovo Array 42.71 47 *e*P **P** 16 43 03.1 -0.6
ZAA0 Zalesovo Array 42.71 47 *e*P **P** 16 43 03.1 -0.6
ZALV Zalesovo Beam 42.71 47 P **P** 16 43 03.1 -0.6
comp=Z,4.4nm,0.7s,baz=269,slow=8.7,SNR=21
ZALV Zalesovo Beam 42.71 47 *i* P **P** 16 43 03.2 -0.5
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 42.71 47 *i* P **P** 16 43 03.2 -0.5
comp=Z,4.0nm,0.7s
PYUN Piuthan 46.97 84 *e*P **P** 16 43 39.2 +1.0
comp=Z,22nm,0.6s
KOLN Koldanda 47.60 84 *e*P **P** 16 43 43.3 +0.2
comp=Z,6.4nm,0.5s
GKN Gorkha 48.33 83 *e*P **P** 16 43 48.9 +0.2
comp=Z,7.0nm,0.5s
DMN Daman 48.87 83 *e*P **P** 16 43 52.7 -0.3
comp=Z,11nm,0.6s
KKN Kakani 48.94 83 *e*P **P** 16 43 53.6 +0.1
PKIN Phulchoki 49.12 83 *e*P **P** 16 43 54.6 -0.3
comp=Z,6.3nm,0.6s
PKI Pulchoki 49.13 83 *e*P **P** 16 43 55.5 +0.4
GUN Gumba 49.36 82 *e*P **P** 16 43 57.4 +0.5
comp=Z,12nm,0.8s
JIRN Jiri 49.72 82 *e*P **P** 16 43 59.9 +0.2
RAMN Ramite 50.36 83 *e*P **P** 16 44 03.4 -0.9
comp=Z,11nm,0.7s
ODAN Odare 51.03 83 *e*P **P** 16 44 08.9 -0.5
TAPN Taplejung 51.07 82 *e*P **P** 16 44 09.0 -0.8
comp=Z,15nm,0.9s
ZAK Zakamensk 54.43 50⇓ *i*P **P** 16 44 34.4 +0.3
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ZAK Zakamensk 54.43 50 *i* P **P** 16 44 34.4 +0.3
comp=Z,2.0nm,0.9s
GTA Gaotai 55.60 63 *e*P **P** 16 44 43.3 +0.5
GTA pP pP 16 44 53.8 +5.6
GTA sP sP 16 44 57.8 +7.6
GTA PMZ
comp=Z,4.0nm,1.3s
TSUM Tsumeb 56.05 192 P **P** 16 44 46.7 +0.7
comp=Z,2.4nm,0.7s,baz=11,slow=10,SNR=3.5
SONM Songino Array 57.16 52 P **P** 16 44 53.9 +0.2
comp=Z,2.4nm,0.8s,baz=288,slow=7.8,SNR=22
SONM Songino Array 57.16 52 P **P** 16 44 53.9 +0.2
SONM pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 57.56 52 *e*P **P** 16 44 56.8 +0.2
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 57.56 52 *e*P **P** 16 44 55.8 -0.8
comp=Z,2.3nm,0.8s
ULN Ulaanbaatar 57.56 52 *e*P **P** 16 44 55.8 -0.8
comp=Z,2.3nm,0.8s
TIXI Tiksi 59.35 21 *e*P P 16 45 06.7 -1.7
TIXI pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 59.35 21 *e*P **P** 16 45 07.7 -0.7
comp=Z,2.8nm,0.9s
TIXI Tiksi 59.35 21 *e*P **P** 16 45 07.7 -0.7
comp=Z,2.8nm,0.9s
LBTB Lobatse 61.04 182 P **P** 16 45 20.9 +0.3
comp=Z,3.2nm,0.9s,baz=326,slow=3.6,SNR=3.0
LBTB Lobatse 61.04 182 P **P** 16 45 21.0 +0.3
LBTB pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 61.04 182 P **P** 16 45 21.0 +0.3
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 63.28 58 *e*P **P** 16 45 36.8 +1.0
HHC PMZ
comp=Z,24nm,0.9s
HHC PMZ
comp=Z,66nm,4.1s
CHTO Chiang Mai 64.23 85 *e*P **P** 16 45 41.9 -0.3
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 64.23 85 *e*P **P** 16 45 41.9 -0.3
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 64.23 85 *e*P **P** 16 45 41.9 -0.3
comp=Z,2.7nm,0.8s
CM31 Chiang Mai Arr 64.42 85 *e*P **P** 16 45 42.7 -0.7
comp=Z,3.0nm,0.7s
CM31 Chiang Mai Arr 64.42 85 *e*P **P** 16 45 42.7 -0.7
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 64.42 85 P **P** 16 45 43.1 -0.2
comp=Z,3.4nm,0.8s,baz=299,slow=7.9,SNR=20
CMAR Chiang Mai Arr 64.42 85*ce*P **P** 16 45 46.0 +2.6
CMAR pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 71.42 15⇑ *e*P **P** 16 46 28.5 +1.9
BILL pmax pmax
comp=Z,6.0nm,2.5s
BILL MLR MLR
comp=Z,193nm,20.0s
BILL Bilibino 71.42 15 *e*P **P** 16 46 28.5 +1.9
comp=Z,193nm,20.0s
RCBR Riachuelo 72.67 249 LR LR 17 16 42.2
comp=Z,41nm,21.1s,baz=182,slow=34
USRK Ussuriysk Ar. 74.56 46 P **P** 16 46 45.1 -0.5
comp=Z,2.2nm,0.7s,baz=290,slow=5.3,SNR=11
KSAR Wonju Array Be 75.92 54 P **P** 16 46 53.6 -0.1
KSAR Wonju Array Be 75.92 54 P **P** 16 46 53.5 -0.1
KSAR Wonju Array Be 75.92 54 P **P** 16 46 53.5 -0.1
KSRS Korea Array 75.94 54 P **P** 16 46 53.5 -0.1
comp=Z,2.9nm,0.7s,baz=307,slow=4.6,SNR=9.3
KSRS Korea Array 75.94 54 P **P** 16 46 53.6 -0.1
KSRS pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 76.95 343 P **P** 16 46 58.1 -0.9
comp=Z,0.1nm,0.3s,baz=32,slow=4.9,SNR=3.4
IM04 Indian Mountai 78.02 1 *e*P **P** 16 47 04.3 -0.7
IM04 Indian Mountai 78.02 1 *e*P **P** 16 47 04.3 -0.7
ILAR Eielson Array 79.14 358 P P 16 47 09.6 -1.5
comp=Z,0.9nm,0.7s,baz=347,slow=3.6,SNR=11
ILAR Eielson Array 79.14 358 P P 16 47 09.6 -1.5
ILAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 83.02 49 P **P** 16 47 31.9 -0.4
comp=Z,1.8nm,0.6s,baz=312,slow=3.2,SNR=5.7
MJAR Matsushiro Arr 83.02 49 P **P** 16 47 31.9 -0.4
MJAR pmax pmax
comp=Z,2.0nm,0.6s
KDAK Kodiak Island 86.25 0*ce*P **P** 16 47 48.0 -0.2
KDAK Kodiak Island 86.25 0 *e*P **P** 16 47 48.0 -0.2
BDFB Brasilia 88.04 249 P **P** 16 47 58.7 +1.1
comp=Z,2.6nm,0.6s,baz=82,slow=7.1,SNR=3.5
BDFB Brasilia 88.04 249 P **P** 16 47 58.7 +1.1
BDFB pmax pmax
comp=Z,3.0nm,0.6s
MIAR Mount Ida 90.74 315 *e*P P 16 48 08.7 -1.3
MIAR Mount Ida 90.74 315 *e*P P 16 48 08.7 -1.3
MIAR Mount Ida 90.74 315 *e*P P 16 48 08.7 -1.3
NVAR Mina Array Bea 99.24 334 P **Pdif** 16 48 47.5 -1.6
comp=Z,0.4nm,0.6s,baz=98,slow=3.7,SNR=3.1
TXAR Lajitas Array 100.27 318 P **Pdif** 16 48 53.0 -0.7
comp=Z,0.4nm,0.9s,baz=72,slow=5.8,SNR=3.7
TXAR Lajitas Array 100.27 318 P **Pdif** 16 48 53.0 -0.7
TXAR Lajitas Array 100.27 318 P **Pdif** 16 48 53.0 -0.7
WRA Warramunga Arr 114.69 97 PKP PKPdf 16 53 46.6 -1.0
comp=Z,0.4nm,0.8s,baz=306,slow=1.7,SNR=3.6
ASAR Alice Springs 116.25 101 PKP **PKPdf** 16 53 49.5 -1.0
comp=Z,0.5nm,0.7s,baz=330,slow=1.4,SNR=7.1
ASAR Alice Springs 116.25 101 PKIKP **PKPdf** 16 53 49.6 -1.0
ASAR pmax pmax
comp=Z,1.0nm,0.7s
QSPA South Pole Qui 126.18 180 PKP **PKPdf** 16 54 08.1 -0.2
comp=Z,2.2nm,1.0s,baz=279,slow=1.7,SNR=6.1

IDC ***28*** *16:38:01.3±52.0, 16°48′S×177°54′W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=955.1km s-min=166.3km az=77.0, Fiji Islands region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.05**	**240**	P	P	16 45 38.0	-0.4
	1.1nm,0.7s,baz=90,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**45.73**	**258**	P	P	16 46 24.5	-0.2
	0.3nm,0.4s,baz=90,slow=8.0,SNR=9.8						
ASAR	**Alice Springs**	**45.99**	**253**	P	P	16 46 26.9	+0.1
	2.9nm,0.6s,baz=88,slow=8.6,SNR=58						

ISCJB ***28*** *16:41:33.5±0.6, 43°.7S±0°.1×16°.2W±0°.1, h10km, mb4.2/12, MS4.0/15, Error ellipse: s-maj=17.5km s-min=14.4km az=151.8*

IDC ***28*** *16:41:33.8±0.7, 43°.74S×16°.15W, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/27, mbtmp4.2/11, MS4.0/15, Ms1 4.0/15, ms1mx3.9/23, Error ellipse: s-maj=20.8km s-min=18.5km az=141.0*

NEIC ***28*** *16:41:35.2±0.4, 43°.71S×16°.17W, h10km, mb4.9/2, Error ellipse: s-maj=13.5km s-min=10.7km az=153.0*

ISC 28 16:41:35.2±0.6, 43°.7S±0°.1×16°.2W±0°.1, h10km, n33, σ0§64/20, mb4.2/12, MS4.1/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**28.76**	**171**	LR	LR	16 56 11.9	
	comp=Z,49nm,20.7s,baz=26,slow=30						
H10S2	**ASCENSION HYDR**	**34.66**	**3**	T	T	17 25 12.0	
	baz=182,slow=75,SNR=19						
H10S3	**ASCENSION HYDR**	**34.67**	**3**	T	T	17 25 09.9	
	baz=182,slow=75,SNR=27						
H10S1	**ASCENSION HYDR**	**34.68**	**3**	T	T	17 25 13.7	
	baz=182,slow=75,SNR=20						
H10N1	**ASCENSION HYDR**	**35.78**	**3**	T	T	17 26 41.6	
	baz=180						
H10N3	**ASCENSION HYDR**	**35.78**	**3**	T	T	17 26 39.4	
	baz=180,slow=74						
H10N2	**ASCENSION HYDR**	**35.79**	**3**	T	T	17 26 33.6	
	baz=180,slow=74						
CPUP	**Villa Florida**	**37.48**	**284**	P	**P**	**16 48 49.3**	**+0.3**
	2.5nm,0.7s,baz=129,slow=7.4,SNR=17						
CPUP				LR	LR	17 03 21.4	
	comp=Z,1μm,19.0s,baz=171,slow=35						
CPUP	**Villa Florida**	**37.48**	**284**	*e*P	**P**	**16 48 49.2**	**+0.3**
	0.5nm,0.9s						
LBTB	**Lobatse**	**38.71**	**75**	P	**P**	**16 48 58.9**	**-0.5**
	1.9nm,0.8s,baz=218,slow=12,SNR=2.4						
LBTB				LR	LR	17 02 04.5	
	comp=Z,294nm,19.4s,baz=252,slow=32						
BDFB	**Brasilia**	**38.95**	**306**	P	**P**	**16 49 02.2**	**+0.7**
	6.8nm,1.1s,baz=175,slow=7.2,SNR=4.0						
BDFB				LR	LR	17 02 11.9	
	comp=Z,249nm,18.8s,baz=166,slow=32						
PLCA	**Paso Flores**	**39.78**	**255**	P	**P**	**16 49 08.2**	**0.0**
	3.2nm,0.9s,baz=108,slow=6.4,SNR=8.5						
PLCA				LR	LR	17 02 01.2	
	comp=Z,300nm,20.6s,baz=126,slow=31						
CFAA	**Coronel Fontan**	**42.32**	**269**	P	**P**	**16 49 28.3**	**-1.0**
	0.5nm,0.8s,baz=114,slow=8.3,SNR=6.6						
MAW	**Mawson**	**46.44**	**149**	LR	LR	17 05 33.1	
	comp=Z,116nm,20.1s,baz=242,slow=31						
QSPA	**South Pole Qui**	**46.53**	**180**	P	**P**	**16 50 02.7**	**+0.2**
	22nm,0.9s,baz=213,slow=4.3,SNR=75						
QSPA				PcP	**PcP**	**16 51 36.1**	**-0.5**
	4.2nm,0.9s,baz=244,slow=2.6,SNR=4.7						
QSPA	**South Pole Qui**	**46.53**	**180**	*e*P	**P**	**16 50 03.0**	**+0.4**
	29nm,1.0s						
QSPA				PcP	**PcP**	**16 51 36.1**	**-0.5**
LSZ	**Lusaka**	**47.10**	**67**	LR	LR	17 06 53.2	
	comp=Z,184nm,19.1s,baz=319,slow=32						
SAML	**Samuel**	**53.51**	**296**	*e*P	**P**	**16 50 55.6**	**-0.3**
	13nm,1.1s						
PTGA	**Pitinga**	**57.87**	**305**	LR	LR	17 13 55.0	
	comp=Z,210nm,18.2s,baz=170,slow=34						
TOA0	**Torodi Ar. Sit**	**58.91**	**20**	P	**P**	**16 51 33.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**58.91**	**20**	P	**P**	**16 51 33.7**	**-0.7**
	2.0nm,1.0s,baz=189,slow=7.4,SNR=6.6						
TORD				LR	LR	17 11 11.6	
	comp=Z,69nm,22.0s,baz=300,slow=30						
VNDA	**Vanda**	**59.02**	**179**	P	**P**	**16 51 34.9**	**+0.4**
	1.6nm,0.8s,baz=193,slow=7.3,SNR=8.1						
VNDA				LR	LR	17 14 27.4	
	comp=Z,65nm,20.1s,baz=226,slow=33						
NNA	**Nana**	**60.70**	**282**	LR	LR	17 16 48.0	
	comp=Z,136nm,19.7s,baz=156,slow=35						
KMBO	**Kilima Mbogo**	**63.55**	**64**	LR	LR	17 16 40.8	
	comp=Z,254nm,21.1s,baz=96,slow=33						
ATAH	**Atahualpa**	**65.16**	**285**	LR	LR	17 21 13.3	
	comp=Z,126nm,21.6s,baz=159,slow=36						
ROSC	**El Rosal**	**71.16**	**297**	LR	LR	17 23 09.8	
	comp=Z,183nm,18.4s,baz=206,slow=35						
MDT	**Midelt**	**76.91**	**10**	P	**P**	**16 53 28.3**	**+0.8**
	2.6nm,0.9s,baz=247,slow=7.7,SNR=3.6						
KEST	**Kesra**	**82.43**	**21**	LR	LR	17 26 09.4	
	comp=Z,34nm,20.9s,baz=271,slow=32						
ESDC	**Sonseca Array**	**83.75**	**9**	P	**P**	**16 54 04.4**	**+0.3**
	0.2nm,0.4s,baz=182,slow=4.4,SNR=7.2						
BR131	**Keskin Array S**	**94.45**	**36**	*e*P	**P**	**16 54 55.5**	**+0.2**
	8.0nm,1.4s						
BRTR	**Keskin Array B**	**94.45**	**36**	P	**P**	**16 54 56.7**	**+1.4**
	2.5nm,1.1s,baz=180,slow=1.1,SNR=8.8						
YKA	**Yellowknife Ar**	**131.27**	**322**	PKP	**PKPdf**	**17 00 46.0**	**-0.3**
	0.6nm,0.7s,baz=110,slow=2.4,SNR=5.1						
ILAR	**Eielson Array**	**145.60**	**325**	PKPbc	**PKPdf**	**17 01 12.2**	**-0.3**
	6.5nm,0.7s,baz=84,slow=1.7,SNR=39						

IDC ***28*** *16:48:34.5±0.5, 33°.12N×96°.44E, h0km, mb4.4/32, mb1 4.5/35, mb1mx4.4/52, mbtmp4.4/35, ML4.3/3, MS3.9/19, Ms1 3.9/19, ms1mx3.8/34, Error ellipse: s-maj=14.4km s-min=11.3km az=30.0*

BJI ***28*** *16:48:36.9, 33°.19N×96°.52E, h10km, mB4.7/20, mb4.8/31, ML4.6/16, Ms4.6/49, Ms7 4.3/4*

ISCJB ***28*** *16:48:36.3±1.0, 33°.14N±0°.02×96°.45E±0°.02, h23km±7km, mb4.6/109, MS4.0/23, Error ellipse: s-maj=3.7km s-min=3.0km az=32.4*

MOS ***28*** *16:48:37.8±0.8, 33°.16N×96°.50E, h33km, mb4.9/68, Error ellipse: s-maj=7.7km s-min=3.9km az=123.5*

GCMT ***28*** *16:48:38.9±0.3, 33°.12N×96°.60E, h25km±1km, MW4.9/70, Moment Tensor Solution. s19,c20; s70,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.27±.11; Mθθ0.35±.10; Mφφ-0.08±.09; Mrθ-0.48±.18; Mrφ2.33±.08; Mθφ-0.13±.16; Best double couple: Mo2.38900×10^16 NP1:φs273.00000°, δ89.00000°, λ11.00000°. NP2: φs182.00000°, δ79.00000°, λ178.00000°. Principal axes: T 2.5450, Plg9.0000°, Azm138.0000°; N -0.3130, Plg79.0000°, Azm280.0000°; P -2.2320, Plg7.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *16:48:38.9±1.3, 33°.20N×96°.50E, h29km±9km, mb4.8/51 Error ellipse: s-maj=4.7km s-min=3.3km az=224.0*

ISC 28 16:48:39.0±0.6, 33°.13N±0°.03×96°.42E±0°.03, h27km±4km, h26km:pP-P, n394, σ1§22/403, mb4.7/109, MS4.0/24, 21C-9D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.66**	**234**	Pn	Pn	16 50 06.0	+4.3
LSA	**Lhasa**	**5.66**	**234**	*e*P	Pn	16 50 05.7	+4.0
LSA				pmax	pmax		
	comp=Z,127nm,0.6s						
LSA	**Lhasa**	**5.66**	**234**	*e*Pn	Pn	16 50 05.7	+4.0
	comp=Z,126nm,0.6s						
CD2	**Chengdu**	**6.62**	**108**	Pn	**Pn**	**16 50 17.5**	**+3.0**
CD2				Pg	Pb	16 50 36.5	+3.2
CD2				Sn	Sn	16 51 22.3	-6.8
CD2				Sg	Sb	16 52 00.5	+8.6
CD2				SMN			
	comp=Z,680nm,1.2s						
CD2				SME			
	comp=Z,420nm,1.4s						
LZH	**Lanzhou**	**6.79**	**62**	⇑Pn	**Pn**	**16 50 17.8**	**+0.8**
LZH				Pg	**Pb**	**16 50 39.3**	**+2.9**
LZH				Sn	**Sn**	**16 51 33.8**	**+0.2**
LZH				Sg	Sb	16 52 07.5	+10
LZH				SMN			
	comp=Z,500nm,1.3s						
LZH				SME			
	comp=Z,320nm,1.0s						
LZH				LN			
	comp=Z,4μm,4.6s						
LZH				LE			
	comp=Z,4μm,6.5s						
LZH				LZ			
	comp=Z,4μm,7.8s						

GTA	**Gaotai**	**6.84**	**23**	Pn	**Pn**	**16 50 18.0**	**+0.4**		
GTA				Sn	**Sn**	**16 51 38.0**	**+3.4**		
GTA				LN					
	comp=Z,3μm,10.1s								
GTA				LE					
	comp=Z,9μm,10.0s								
GTA				LZ					
	comp=Z,1μm,9.7s								
SHL	**Shillong**	**8.51**	**209**	*e*P	**Pn**	**16 50 41.0**	**+0.3**		
SHL				*i* x	**Sn**	**16 52 17.0**	**+1.0**		
IMP	**Imphal**	**8.60**	**195**	*ex*	**Pn**	**16 50 42.0**	**+0.2**		
IMP				*ex*	**Sn**	**16 52 15.0**	**-3.0**		
TAPN	**Taplejung**	**9.48**	**235**	*e*P	**Pn**	**16 50 54.1**	**0.0**		
	comp=Z,97nm,0.6s								
KMI	**Kunming**	**9.71**	**144**	P	**Pn**	**16 50 57.5**	**+0.4**		
KMI				pP		16 51 02.0			
KMI				S	**Sn**	**16 52 47.0**	**+1.6**		
KMI				PMZ					
	comp=Z,64nm,0.8s								
KMI				LN					
	comp=Z,2μm,8.5s								
KMI				LE					
	comp=Z,1μm,6.9s								
KMI				LZ					
	comp=Z,2μm,9.1s								
ODAN	**Odare**	**10.01**	**234**	*e*P	**Pn**	**16 51 00.0**	**-1.3**		
	comp=Z,314nm,0.5s								
JIRN	**Jiri**	**10.38**	**241**	*e*P	**Pn**	**16 51 07.2**	**+0.8**		
	comp=Z,108nm,0.6s								
GUN	**Gumba**	**10.47**	**243**	*e*P	**Pn**	**16 51 08.3**	**+0.6**		
	comp=Z,85nm,0.5s								
XAN	**Xi'an**	**10.47**	**82**	P	**Pn**	**16 51 07.0**	**-0.4**		
XAN				LN					
	comp=Z,3μm,21.8s								
XAN				LE					
	comp=Z,350nm,19.5s								
XAN				LZ					
	comp=Z,540nm,11.2s								
RAMN	**Ramite**	**10.50**	**237**	*e*P	**Pn**	**16 51 06.6**	**-1.4**		
	comp=Z,145nm,0.4s								
KKN	**Kakani**	**10.98**	**244**	*e*P	**Pn**	**16 51 14.4**	**-0.2**		
	comp=Z,48nm,0.5s								
PKI	**Pulchoki**	**11.00**	**243**	*e*P	**Pn**	**16 51 14.7**	**-0.3**		
	comp=Z,127nm,0.7s								
PKIN	**Phulchoki**	**11.01**	**243**	*e*P	**Pn**	**16 51 14.7**	**-0.3**		
	comp=Z,78nm,0.5s								
GYA	**Guiyang**	**11.11**	**124**⇑	*i*P	**Pn**	**16 51 14.5**	**-1.7**		
GYA				S	**Sn**	**16 53 21.0**	**+1.4**		
GYA				PMZ					
	comp=Z,50nm,0.8s								
GYA				PMZ					
	comp=Z,80nm,4.3s								
GYA				LN					
	comp=Z,3μm,12.7s								
GYA				LE					
	comp=Z,3μm,11.5s								
GYA				LZ					
	comp=Z,1μm,9.3s								
DMN	**Daman**	**11.21**	**244**	*e*P	**Pn**	**16 51 17.4**	**-0.3**		
	comp=Z,89nm,0.7s								
GKN	**Gorkha**	**11.37**	**246**	*e*P	**Pn**	**16 51 18.8**	**-0.9**		
	comp=Z,36nm,0.5s								
ENH	**Enshi**	**11.49**	**101**	*e*Pn	**Pn**	**16 51 20.6**	**-0.7**		
	comp=Z,23nm,0.8s								
KOLN	**Koldanda**	**12.28**	**248**	*e*P	**Pn**	**16 51 31.2**	**-1.1**		
	comp=Z,83nm,0.7s								
PYUN	**Piuthan**	**12.60**	**250**	*e*P	**Pn**	**16 51 35.8**	**-0.9**		
	comp=Z,191nm,0.6s								
WMQ	**Urumqi**	**12.66**	**330**⇑	*i*P	**Pn**	**16 51 36.5**	**-0.8**		
WMQ				pP	pP	16 51 39.5			
WMQ				PP	**PnPn**	**16 51 46.3**	**+1.1**		
WMQ				S	**Sn**	**16 54 00.3**	**+2.9**		
WMQ				SS	**SnSn**	**16 54 17.5**	**+7.8**		
WMQ				PMZ					
	comp=Z,98nm,1.1s								
WMQ				LN					
	comp=Z,1μm,13.2s								
WMQ				LE					
	comp=Z,1μm,16.8s								
WMQ				LZ					
	comp=Z,820nm,15.2s								
BOK	**Bokaro**	**13.12**	**228**	*e*P	**Pn**	**16 51 41.6**	**-2.1**		
BOK				AMB	AMB	16 51 43.4			
	comp=Z,72nm,0.4s								
BTO	**Baotou**	**13.19**	**52**	*e*P	Pn	16 51 38.8	-5.8		
CRAI	**Chiangrai**	**13.33**	**164**	P	Pn	16 51 43.0	-3.5		
CMAI	**Chiengmai2**	**13.36**	**169**	P	**Pn**	**16 51 48.9**	**+1.9**		
	comp=Z,15nm,0.9s								
HHC	**Hu-ho-hao-te**	**14.33**	**53**	*e*P	Pn	16 51 56.3	-3.9		
HHC				pP	**P**	**16 52 06.0**	**-1.0**		
HHC				S	Sn	16 54 31.0	-7.3		
HHC				sS	sS	16 54 45.5			
HHC				PMZ					
	comp=Z,21nm,1.1s								
HHC				LN					
	comp=Z,570nm,6.7s								
HHC				LE					
	comp=Z,720nm,7.3s								
HHC				LZ					
	comp=Z,480nm,7.0s								
CHTO	**Chiang Mai**	**14.44**	**170**	*e*P	**Pn**	**16 52 01.7**	**0.0**		
CHTO				pmax	pmax				
	comp=Z,24nm,0.9s								
CHTO	**Chiang Mai**	**14.44**	**170**	*e*Pn	**Pn**	**16 52 01.6**	**0.0**		
	comp=Z,24nm,0.9s								
CHTO	**Chiang Mai**	**14.44**	**170**	P	**Pn**	**16 52 02.2**	**+0.5**		
	comp=Z,142nm,1.2s,comp=Z,2μm								
CMMT	**Chiang Mai**	**14.44**	**170**	P	**Pn**	**16 52 02.1**	**+0.4**		
	comp=Z,41nm,1.2s,comp=Z,517nm								
CM31	**Chiang Mai Arr**	**14.79**	**171**	*e*Pn	**Pn**	**16 52 06.8**	**+0.4**		
	comp=Z,35nm,0.9s								
CMAR	**Chiang Mai Arr**	**14.79**	**171**	Pn	**Pn**	**16 52 06.4**	**-0.1**		
	comp=Z,0.2nm,0.3s,baz=344,slow=12,SNR=79								
CMAR				LR	LR	16 58 11.2			
	comp=Z,1μm,18.4s,baz=346,slow=39								
LAMP	**Lampang**	**14.83**	**168**	P	**Pn**	**16 52 07.7**	**+0.7**		
	comp=Z,14nm,0.9s,comp=Z,96nm								
WHN	**Wuhan**	**15.46**	**95**	P	**Pn**	**16 52 13.3**	**-1.9**		
WHN				S	**Sn**	**16 55 09.8**	**+4.2**		
WHN				LN					
	comp=Z,7μm,11.7s								
WHN				LE					
	comp=Z,6μm,9.8s								
WHN				LZ					
	comp=Z,3μm,20.1s								
UTTA	**Uttaradit**	**15.77**	**165**	P	**P**	**16 52 22.2**	**-0.7**		
	comp=Z,8.9nm,1.2s,comp=Z,86nm								
SMLA	**Simla**	**16.43**	**268**	*e*P	**Pn**	**16 52 27.9**	**+0.3**		
SMLA				AMB	AMB	16 52 41.0			
	comp=Z,42nm,1.4s								
SONM	**Songino Array**	**16.51**	**24**	Pn	**Pn**	**16 52 26.4**	**-2.3**		
	comp=Z,1.3nm,0.3s,baz=209,slow=15,SNR=31								
SONM				LR	LR	16 59 21.3			
	comp=Z,195nm,19.8s,baz=208,slow=39								
SONM	**Songino Array**	**16.51**	**24**	P	**Pn**	**16 52 26.4**	**-2.3**		
SONM				pmax	pmax				
	comp=Z,1.0nm,0.3s								
SONM				MLR	MLR				
	comp=Z,195nm,19.8s								
ULN	**Ulaanbaatar**	**16.77**	**26**	*e*P	**Pn**	**16 52 29.4**	**-2.6**		
ULN				pmax	pmax				
	comp=Z,11nm,1.2s								
ULN	**Ulaanbaatar**	**16.77**	**26**	*e*Pn	**Pn**	**16 52 28.8**	**-3.2**		
	comp=Z,12nm,0.8s								
DHRM	**DHARAMSHALA**	**16.96**	**273**	*e*P	**Pn**	**16 52 35.2**	**+0.6**		
DHRM				AMB	AMB	16 52 40.4			
	comp=Z,52nm,0.8s								
PBKT	**Sadao Pong**	**17.00**	**165**	P	**Pn**	**16 52 35.2**	**+0.3**		
	comp=Z,35nm,0.9s,comp=Z,447nm								
KKR	**Kurukshetra**	**17.00**	**265**	AMB	AMB	16 52 32.2			
	comp=Z,39nm,0.7s								
KKR				*e*P	**Pn**	**16 52 35.1**	**+0.3**		
BHK	**Bhakra**	**17.00**	**270**	*ex*	**P**	**16 52 40.5**	**+3.9**		
AGRA	**Agra**	**17.02**	**255**	*e*P	**P**	**16 52 35.9**	**-0.8**		
AGRA				AMB	AMB	16 52 41.7			
	comp=Z,44nm,0.8s								
NDI	**New Delhi**	**17.06**	**260**	*e*P	**P**	**16 52 38.0**	**+0.8**		
BJT	**Baijiatuau**	**17.27**	**61**	*e*P	**Pn**	**16 52 38.5**	**+0.3**		
BJT	**Baijiatuau**	**17.27**	**61**	*e*Pn	**Pn**	**16 52 38.5**	**+0.3**		
BJI	**Beijing**	**17.28**	**61**	P	P	16 52 47.0	+7.4		
BJI				pmax	pmax				
	comp=Z,21nm,0.8s								
BJI				LR	LR				
	comp=N,2μm,10.9s								
BJI				LR	LR				
	comp=E,870nm,13.3s								
BJI				LR	LR				
	comp=Z,210nm,12.6s								
SONA	**Sohna**	**17.32**	**259**	*e*P	**P**	**16 52 39.9**	**-0.2**		
SONA				AMB	AMB	16 52 44.9			
	comp=Z,16nm,0.7s								
MK31	**Makanchi Array**	**17.38**	**326**	*i* P	**Pn**	**16 52 36.5**	**-3.0**		
MK31				pmax	pmax				
	comp=Z,25nm,0.7s								
MK31	**Makanchi Array**	**17.38**	**326**	*e*P	**Pn**	**16 52 36.7**	**-2.8**		
MKAR	**Makanchi Array**	**17.38**	**326**	P	**Pn**	**16 52 37.0**	**-2.5**		
	comp=Z,2.1nm,0.3s,baz=70,slow=42,SNR=85								
MKAR				LR	LR	16 59 29.5			
	comp=Z,265nm,20.5s,baz=138,slow=38								
MKAR	**Makanchi Array**	**17.38**	**326**	P	**Pn**	**16 52 37.0**	**-2.5**		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
MKAR				MLR	MLR				
	comp=Z,265nm,20.5s								
SKNT	**Sakolnakorn**	**17.48**	**155**	P	**Pn**	**16 52 40.7**	**-0.2**		
	comp=Z,76nm,1.1s,comp=Z,1μm								
KSH	**Kashi**	**17.65**	**297**⇓	*i*P	**P**	**16 52 45.5**	**+1.7**		
KSH				*e*pP	**pP**	**16 52 49.0**	**-2.0**		
KSH				PP	PnPn	16 53 00.8	+7.2		
KSH				S	**S**	**16 56 05.5**	**-0.3**		
KSH				sS	sS	16 56 11.3	-5.9		
KSH				PMZ					
	comp=Z,21nm,1.1s								
KSH				LN					
	comp=Z,700nm,12.8s								
KSH				LE					
	comp=Z,830nm,14.8s								
KSH				LZ					
	comp=Z,870nm,16.3s								
KHON	**Khomkaen**	**17.70**	**159**	P	**P**	**16 52 45.4**	**+1.1**		
	comp=Z,16nm,0.9s								
KUDL	**Kundal**	**17.85**	**259**	*e*P	**P**	**16 52 46.0**	**0.0**		
KUDL				AMB	AMB	16 52 50.5			
	comp=Z,8.8nm,0.6s								
GZH	**Guangzhou**	**17.95**	**120**	P	**Pn**	**16 52 44.5**	**-2.2**		
GZH				PP	**PnPn**	**16 53 01.8**	**+4.0**		
GZH				S	**Sn**	**16 56 00.5**	**-5.7**		
GZH				LN					
	comp=Z,930nm,7.9s								
GZH				LE					
	comp=Z,3μm,9.8s								
ZAK	**Zakamensk**	**17.96**	**14**	*e*P	**Pn**	**16 52 45.5**	**-1.3**		
ZAK				*e*		16 56 06.8			
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.4s								
CHLP	**Challavanipeta**	**18.31**	**220**	*e*P	**Pn**	**16 52 52.0**	**+1.0**		
CHLP				*e*S	**S**	**16 56 20.5**	**+1.6**		
ULHL	**Ulahol**	**18.34**	**306**	P	**Pn**	**16 52 51.8**	**+0.2**		
	SNR=63								
ULHL	**Ulahol**	**18.34**	**306**	*i* P	**Pn**	**16 52 51.7**	**+0.2**		
QIZ	**Qiongzhong**	**18.48**	**136**	P	Pn	16 53 00.0	+6.8		
QIZ				S	**S**	**16 56 23.3**	**+0.7**		
QIZ				PMZ					
	comp=Z,37nm,1.3s								
QIZ				LN					
	comp=Z,1μm,14.3s								
QIZ				LE					
	comp=Z,690nm,16.0s								
QIZ				LZ					
	comp=Z,600nm,12.2s								
QIZ	**Qiongzhong**	**18.48**	**136**	*e*P	**P**	**16 52 52.0**	**-1.0**		
	comp=Z,49nm,1.1s								
MOY	**Mondy**	**18.82**	**9**	*e*P	**Pn**	**16 52 57.5**	**+0.3**		
SRDT	**SRDT**	**18.86**	**172**	P	**Pn**	**16 52 58.0**	**+0.2**		
	comp=Z,104nm,1.0s								
KZA	**Kyzart**	**18.96**	**304**	P	**Pn**	**16 53 01.2**	**+1.8**		
	SNR=31								
KZA	**Kyzart**	**18.96**	**304**	*i* P	**Pn**	**16 53 01.1**	**+1.8**		
TKM2	**Tokmak 2**	**19.05**	**307**	P	**Pn**	**16 53 01.3**	**+1.1**		
	SNR=26								
TKM2	**Tokmak 2**	**19.05**	**307**	*e*P	**Pn**	**16 53 00.3**	**+0.2**		
TKM2				pmax	pmax				
	comp=Z,30nm,1.1s								
TKM2	**Tokmak 2**	**19.05**	**307**	*e*P	**Pn**	**16 53 00.3**	**+0.2**		
	comp=Z,30nm,1.1s								
KBK	**Karagaybulak**	**19.38**	**306**	P	**Pn**	**16 53 05.4**	**+1.2**		
	SNR=32								
KBK	**Karagaybulak**	**19.38**	**306**	*i* P	**Pn**	**16 53 05.4**	**+1.2**		
BHPL	**Bhopal**	**19.40**	**244**	*e*P	**P**	**16 53 03.1**	**0.0**		
BHPL				AMB	AMB	16 53 07.4			
	comp=Z,46nm,0.6s								
UCH	**Uchtor**	**19.53**	**304**	P	**Pn**	**16 53 07.1**	**+1.0**		
	SNR=20								
UCH	**Uchtor**	**19.53**	**304**	*i* P	**Pn**	**16 53 07.1**	**+1.0**		
CHMS	**Chumysh**	**19.65**	**306**	P	**Pn**	**16 53 06.8**	**-0.4**		
	SNR=8.4								
CHMS	**Chumysh**	**19.65**	**306**	*i* P	**Pn**	**16 53 06.7**	**-0.4**		
FRU	**Bishkek**	**19.68**	**306**	*e*P	**Pn**	**16 53 07.0**	**-0.5**		
FRU				*e*S	S	16 56 38.0	-8.4		
FRU				pmax	pmax				
	comp=Z,70nm,2.1s								
FRU				smax	smax				
	comp=E,400nm,5.0s								
FRU				MLR	MLR				
	comp=E,500nm,9.0s								
AAK	**Ala-Archa**	**19.68**	**305**	P	**Pn**	**16 53 08.5**	**+0.7**		
	SNR=16								
AAK	**Ala-Archa**	**19.68**	**305**	P	**Pn**	**16 53 08.2**	**+0.5**		
	comp=E,0.6nm,0.3s,baz=111,slow=6.9,SNR=41								
AAK				LR	LR	17 01 42.5			
	comp=E,262nm,21.7s,baz=90,slow=40								
AAK	**Ala-Archa**	**19.68**	**305**	*i* P	**Pn**	**16 53 07.8**	**+0.1**		
AAK				pmax	pmax				
	comp=Z,37nm,1.2s								
AAK	**Ala-Archa**	**19.68**	**305**	*e*P	**Pn**	**16 53 08.2**	**+0.5**		
	comp=Z,17nm,0.8s								
USP	**Ospenovka**	**19.92**	**307**	P	**Pn**	**16 53 11.0**	**+0.5**		
	SNR=14								
USP	**Ospenovka**	**19.92**	**307**	*i* P	**Pn**	**16 53 10.9**	**+0.5**		
IRK	**Irkutsk**	**19.93**	**14**	*e*P	**Pn**	**16 53 09.7**	**-0.6**		
IRK				pmax	pmax				
	comp=Z,30nm,1.9s								
AJM	**Ajmer**	**20.01**	**256**	*ex*	**P**	**16 53 10.0**	**+0.3**		
AML	**Almayashu**	**20.07**	**303**	P	Pn	16 53 12.7	+0.1		
	SNR=20								
AML	**Almayashu**	**20.07**	**303**	*i* P	Pn	16 53 12.7	+0.1		
DGPR	**DIGLIPUR**	**20.12**	**190**	*e*P	**P**	**16 53 11.4**	**+0.5**		
EKS2	**Erkin-Say**	**20.19**	**305**	P	Pn	16 53 13.6	0.0		
	SNR=28								
EKS2	**Erkin-Say**	**20.19**	**305**	*e*P	Pn	16 53 13.3	-0.4		
EKS2				pmax	pmax				
	comp=Z,24nm,0.8s								
EKS2	**Erkin-Say**	**20.19**	**305**	*e*P	Pn	16 53 13.3	-0.4		
	comp=Z,24nm,0.8s								
RPR	**Rampur**	**20.91**	**231**	*e*P	**P**	**16 53 19.8**	**+0.3**		
RPR				*e*S	Sn	16 57 14.5	-3.0		
CHBT	**CHBT**	**21.00**	**164**	P	Pn	16 53 24.2	+1.2		
	comp=Z,91nm,1.0s,comp=Z,916nm								
SSE	**Sheshan**	**21.07**	**89**	*e*P	**P**	**16 53 21.3**	**+0.2**		
SSE				S	**S**	**16 57 16.0**	**+1.7**		
SSE				PMZ					
	comp=Z,58nm,0.7s								
SSE				PMZ					
	comp=Z,160nm,3.5s								
SSE				LN					
	comp=Z,2μm,17.2s								
SSE				LE					
	comp=Z,580nm,17.2s								
SSE				LZ					
	comp=Z,930nm,12.8s								
KURBB	**Kurchatov Arra**	**21.87**	**328**	P	**P**	**16 53 28.7**	**-0.8**		
	comp=Z,35nm,0.8s,baz=135,slow=11,SNR=194								
KURK	**Kurchatov**	**21.90**	**329**	P	**P**	**16 53 28.8**	**-1.0**		
KURK				pmax	pmax				
	comp=Z,23nm,1.0s								
KURK	**Kurchatov**	**21.90**	**329**	*e*P	**P**	**16 53 28.6**	**-1.2**		
	comp=Z,29nm,0.6s								
ZAA0	**Zalesovo Array**	**22.38**	**342**	*e*P	**P**	**16 53 33.5**	**-1.5**		
ZALV	**Zalesovo Beam**	**22.38**	**342**	P	**P**	**16 53 33.6**	**-1.4**		
	comp=Z,16nm,0.8s,baz=156,slow=9.8,SNR=52								
ZALV	**Zalesovo Beam**	**22.38**	**342**	P	**P**	**16 53 33.6**	**-1.4**		
ZALV				pmax	pmax				
	comp=Z,16nm,0.8s								
HYB	**Hyderabad**	**22.44**	**230**	*i* P	**P**	**16 53 35.0**	**-0.9**		
HYB	**Hyderabad**	**22.44**	**230**	*e*P	**P**	**16 53 36.5**	**+0.6**		
HYBB	**Hyderabad (bro**	**22.44**	**230**	*e*P	**P**	**16 53 36.0**	**+0.1**		
HYBB				*e*S	**S**	**16 57 45.9**	**+5.0**		
KK31	**Karatay Array**	**22.60**	**304**	*i* P	**P**	**16 53 37.3**	**-0.2**		
KK31				pmax	pmax				
	comp=Z,19nm,0.9s								
KKAR	**Karatay Array**	**22.60**	**304**	*e*P	**P**	**16 53 37.0**	**-0.5**		
KKAR				pmax	pmax				
	comp=Z,13nm,0.8s								
KKAR	**Karatay Array**	**22.60**	**304**	*e*P	**P**	**16 53 37.0**	**-0.5**		
	comp=Z,12nm,0.8s								
NJS	**Nagarjunasagar**	**22.61**	**227**	*e*P	**P**	**16 53 37.8**	**+0.1**		
NJS				*e*S	**S**	**16 57 45.8**	**+1.9**		
ADKI	**Addanki**	**22.76**	**225**	*e*P	**P**	**16 53 40.5**	**+1.3**		
ADKI				*e*S	**S**	**16 57 49.2**	**+2.7**		
KBL	**Kabul**	**22.76**	**281**	*e*P	**P**	**16 53 40.2**	**+0.8**		
KBL				pmax	pmax				
	comp=Z,92nm,1.0s								
KBL	**Kabul**	**22.76**	**281**	*e*P	**P**	**16 53 40.2**	**+0.8**		
	comp=Z,92nm,1.0s								
SSLB	**Suanglung**	**23.45**	**107**	*e*P	**P**	**16 53 44.6**	**-1.7**		
	comp=Z,29nm,1.1s								
NVS	**Novosibirsk**	**23.60**	**341**⇑	*i*P	**P**	**16 53 45.4**	**-2.0**		
NVS				*e*S	**S**	**16 58 00.0**	**0.0**		
NVS				*e*SS	SnSn	16 59 00.2	+22		
NVS				pmax	pmax				
	comp=N,24nm,2.1s								
NVS				pmax	pmax				
	comp=Z,47nm,2.1s								
NVS				pmax	pmax				
	comp=E,16nm,1.8s								
NVS				smax	smax				
	comp=N,45nm,2.5s								
NVS				smax	smax				
	comp=E,26nm,2.3s								
HIA	**Hailar**	**23.68**	**40**⇓	*i*P	**P**	**16 53 49.0**	**+0.6**		
HIA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
NACB	**Ninganchiao**	**23.78**	**106**	*e*P	**P**	**16 53 49.5**	**0.0**		
	comp=Z,36nm,0.9s								
DLV	**T Lat**	**23.82**	**150**	*e*P	**P**	**16 53 49.6**	**-0.5**		
	comp=Z,40nm,1.2s								
YULB	**Yu-li**	**23.92**	**108**	*e*P	**P**	**16 53 49.8**	**-1.0**		
	comp=Z,10.0nm,0.9s								
TWG	**Pinlang**	**24.02**	**109**	*e*P	**P**	**16 53 51.3**	**-0.4**		
SURT	**Suratani**	**24.16**	**174**	P	**P**	**16 53 55.9**	**+2.9**		
	comp=Z,11nm,1.5s								
SKHT	**Srikalahasti**	**24.59**	**222**	*e*P	**P**	**16 53 55.3**	**-1.6**		
SKHT				*e*S	**S**	**16 58 19.1**	**+2.8**		
POO	**Poona**	**24.91**	**240**	*e*P	**P**	**16 53 58.8**	**-1.0**		
URV	**Uravakonda**	**25.10**	**228**	*e*P	**P**	**16 54 01.4**	**-0.3**		
URV				*e*S	**S**	**16 58 27.9**	**+3.1**		
PKDT	**Phuket**	**25.18**	**176**	P	**P**	**16 54 04.6**	**+2.3**		
	comp=Z,35nm,1.1s								
TRTT	**Trang**	**25.36**	**172**	P	**P**	**16 54 05.4**	**+1.5**		
	comp=Z,27nm,1.2s								
KSAR	**Wonju Array Be**	**25.98**	**72**	P	**P**	**16 54 09.8**	**+0.4**		
KSAR	**Wonju Array Be**	**25.98**	**72**	P	**P**	**16 54 09.8**	**+0.4**		
KSRS	**Korea Array**	**26.01**	**72**	P	**P**	**16 54 09.8**	**+0.2**		
	comp=Z,8.0nm,1.0s,baz=262,slow=9.3,SNR=8.3								
KSRS				LR	LR	17 04 26.9			
	comp=Z,390nm,19.5s,baz=272,slow=37								
KSRS	**Korea Array**	**26.01**	**72**	P	**P**	**16 54 09.8**	**+0.2**		
KSRS				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KSRS				MLR	MLR				
	comp=Z,390nm,19.5s								
BVA0	**Borovoye Array**	**27.25**	**325**	*i* P	**P**	**16 54 20.3**	**-0.4**		
BVA0				pmax	pmax				
	comp=Z,6.0nm,0.9s								
BVAR	**Borovoye Array**	**27.25**	**325**	P	**P**	**16 54 21.0**	**+0.3**		
	comp=Z,2.7nm,0.9s,baz=123,slow=11,SNR=12								
BVAR				LR	LR	17 05 17.5			
	comp=Z,224nm,20.0s,baz=135,slow=37								
BVAR	**Borovoye Array**	**27.25**	**325**	P	**P**	**16 54 21.0**	**+0.3**		
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BVAR				MLR	MLR				
	comp=Z,224nm,20.0s								
BRVK	**Borovoye**	**27.32**	**325**	*i* P	**P**	**16 54 20.0**	**-1.4**		
BRVK				pmax	pmax				
	comp=Z,17nm,1.1s								
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BRVK	**Borovoye**	**27.32**	**325**	*e*P	**P**	**16 54 21.5**	**+0.1**		
	comp=Z,6.1nm,0.7s								
BOD	**Bodaibo**	**27.42**	**21**	*e*P	**P**	**16 54 21.0**	**-1.2**		
BOD				*e*		16 55 06.8			
BOD				pmax	pmax				
	comp=Z,8.0nm,1.3s								
KULM	**Kulim**	**27.98**	**171**	*e*P	**P**	**16 54 27.1**	**-0.5**		
	comp=Z,6.9nm,0.8s								
IPM	**Ipoh**	**28.83**	**170**	*e*P	**P**	**16 54 33.8**	**-1.3**		
	comp=Z,6.5nm,0.8s								
PALK	**Pallekele**	**29.58**	**213**	*i* P	P	16 54 50.3	+8.5		
GEYT	**Alibeck**	**31.38**	**290**	P	**P**	**16 54 58.9**	**+1.3**		
	comp=Z,3.3nm,1.0s,baz=115,slow=6.7,SNR=4.2								
ABKAR	**Akbulak array**	**31.45**	**312**	*e*P	**P**	**16 54 57.9**	**-0.2**		
	comp=Z,5.7nm,0.9s								
KKM	**Kota Kinabalu**	**32.64**	**141**	*e*P	**P**	**16 55 08.3**	**-0.6**		
	comp=Z,23nm,0.8s								
AKTO	**Aktyubinsk**	**32.99**	**313**	P	**P**	**16 55 12.4**	**+0.9**		
	comp=Z,5.3nm,0.7s,baz=109,slow=7.8,SNR=11								
AKTO	**Aktyubinsk**	**32.99**	**313**	P	**P**	**16 55 09.9**	**-1.6**		
AKTO				pmax	pmax				
	comp=Z,13nm,1.1s								
SVE	**Sverdlovsk**	**34.04**	**325**⇑	*i*P	**P**	**16 55 21.5**	**+1.0**		
SVE				pmax	pmax				
	comp=Z,18nm,1.2s								
MJAR	**Matsushiro Arr**	**34.28**	**72**	LR	LR	17 09 17.7			
	comp=Z,177nm,18.5s,baz=35,slow=36								
ARU	**Arti**	**34.88**	**323***c*	*i*P	**P**	**16 55 27.9**	**+0.1**		
ARU						16 56 44.9			
ARU				S	**S**	**17 00 54.7**	**-2.4**		
ARU				pmax	pmax				
	comp=Z,16nm,1.2s								
ARU	**Arti**	**34.88**	**323**	*e*P	**P**	**16 55 27.8**	**+0.1**		
	comp=Z

comp=Z,2.6nm,0.6s
KBZ Khabaz 42.58 301 P **P** **16 56 33.2 +0.8**
comp=Z,2.2nm,0.7s,baz=53,slow=20,SNR=9.8
KBZ LR LR 17 18 08.2
comp=Z,184nm,18.4s,baz=144,slow=42
KBZ Khabaz 42.58 301 P **P** **16 56 33.3 +0.8**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ MLR MLR
comp=Z,184nm,18.4s
KIV Kislovodsk 42.71 301 *e*P **P** **16 56 33.0 -0.7**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,166nm,16.0s
PRGR Permogore 43.01 327 *e*P P 16 56 31.9 -3.8
PRGR pmax pmax
comp=Z,16nm,1.1s
LBMI Labuha 44.56 133 P P 16 56 55.6 +6.8
SANI Sanana 44.77 136 P **P** **16 56 51.4 +1.0**
comp=Z,20nm,1.0s
VORD Divnogorie 44.81 311 *e*P **P** **16 56 50.0 -0.3**
VORD pmax pmax
comp=N,4.0nm,0.6s
VORD pmax pmax
comp=E,6.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
VSR Storozhevoye 44.89 311 *e*P **P** **16 56 50.9 -0.1**
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 45.08 313 *e*P **P** **16 56 51.9 -0.6**
LPSR pmax pmax
comp=N,7.0nm,0.9s
LPSR pmax pmax
comp=E,3.0nm,0.9s
LPSR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 45.68 325 *e*P **P** **16 56 56.4 -0.7**
KLMR pmax pmax
comp=Z,22nm,0.9s
OBN Obninsk 46.57 317⇑ *i*P **P** **16 57 04.8 +0.6**
OBN *e* 16 58 40.0
OBN *e* 16 58 56.4
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,224nm,23.0s
MALT Malatya 46.70 294⇑ *i*P **P** **16 57 07.8 +2.1**
TMCR Tamitsa 47.02 329 *e*P **P** **16 57 08.1 +0.5**
TMCR pmax pmax
comp=Z,18nm,0.9s
PETK Petropavlovsk- 47.38 46 P **P** **16 57 10.9 +0.3**
comp=Z,4.8nm,1.0s,baz=276,slow=8.3,SNR=4.0
PETK LR LR 17 18 50.2
comp=Z,69nm,18.8s,baz=247,slow=38
PETK Petropavlovsk- 47.38 46 P **P** **16 57 10.9 +0.3**
PETK pmax pmax
comp=Z,5.0nm,1.0s
PETK MLR MLR
comp=Z,69nm,18.8s
GUMO Guam 48.08 102 LR LR 17 16 43.7
comp=Z,72nm,21.2s,baz=315,slow=35
ASF Jabal al Asfar 49.52 286 P **P** **16 57 28.6 +1.1**
comp=Z,3.0nm,0.7s,baz=73,slow=10,SNR=4.6
ASF Jabal al Asfar 49.52 286 P **P** **16 57 28.6 +1.1**
ASF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 49.81 327 *e*p **P** **16 57 28.3 -0.8**
comp=Z,7.5nm,0.7s
JOF Joensuu 49.81 327 *e*P **P** **16 57 28.3 -0.8**
JOF pmax pmax
comp=Z,8.0nm,0.7s
BR131 Keskin Array S 50.03 297 *e*P **P** **16 57 30.8 -0.5**
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 50.03 297 P **P** **16 57 30.9 -0.4**
comp=Z,3.6nm,0.9s,baz=96,slow=6.2,SNR=12
BRTR Keskin Array B 50.03 297 P **P** **16 57 31.0 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 51.19 311 P **P** **16 57 39.0 -0.7**
comp=Z,6.3nm,0.8s,baz=74,slow=6.4,SNR=14
AKASG LR LR 17 21 09.7
comp=Z,140nm,18.2s,baz=70,slow=38
AKASG Malin Array Be 51.19 311 P **P** **16 57 39.1 -0.7**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG MLR MLR
comp=Z,140nm,18.2s
AKBB Malin Array Si 51.19 311 P **P** **16 57 39.0 -0.8**
AKBB Malin Array Si 51.19 311 P **P** **16 57 39.0 -0.8**
AK02 Malin Array Si 51.21 311 *e*P **P** **16 57 39.3 -0.5**
KAF Kangasniemi 52.09 326 *e*p **P** **16 57 44.9 -1.4**
comp=Z,4.3nm,0.7s
KAF Kangasniemi 52.09 326 *e*P **P** **16 57 44.9 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 52.21 27⇑ *e*P **P** **16 57 48.1 +1.0**
BILL *e* 16 59 05.6
BILL *e* 16 59 46.5
BILL pmax pmax
comp=Z,21nm,2.5s
BILL MLR MLR
comp=Z,242nm,25.0s
BILL Bilibino 52.21 27 *e*P **P** **16 57 46.5 -0.6**
FINES FINESS Array B 52.21 325 P **P** **16 57 46.6 -0.6**
comp=Z,6.0nm,0.7s,baz=125,slow=12,SNR=15
FINES FINESS Array B 52.21 325 P **P** **16 57 46.6 -0.6**
FINES pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 52.21 336 *e*p **P** **16 57 46.8 -0.3**
comp=Z,0.5nm,0.4s
KEV Kevo 52.21 336 *e*P **P** **16 57 46.8 -0.3**
KEV pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 52.72 335 P **P** **16 57 50.4 -0.4**
comp=Z,4.8nm,0.9s,baz=89,slow=8.0,SNR=8.6
ARCES LR LR 17 23 18.4
comp=Z,126nm,18.2s,baz=52,slow=40
ARCES ARCESS Array B 52.72 335 P **P** **16 57 50.4 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,126nm,18.2s
TESR Tescani 53.57 306⇓ *i*P **P** **16 57 58.1 +0.6**
VRI Vrincioaia 53.65 306⇑ *i*P **P** **16 57 59.4 +1.3**
PLOR Plostina 53.71 306⇑ *i*P **P** **16 57 59.9 +1.4**
MLR Muntele Rosu 54.27 305⇑ *i*P **P** **16 58 02.7 -0.1**
BURAR Bucovina Array 54.30 306⇓ *i*P **P** **16 58 02.6 -0.3**
SUW Suwalki 54.41 316 *e*P **P** **16 58 03.4 0.0**
SUW Suwalki 54.41 316 *e*P **P** **16 58 03.5 0.0**
DOPR Dopca 54.54 306⇓ *i*P **P** **16 58 05.7 +1.1**
VOIR 54.90 305⇑ *i*P **P** **16 58 07.6 +0.4**
ARR Arges 55.20 305⇑ *i*P **P** **16 58 10.1 +0.7**
KWP Kalwaria Pacla 55.50 311 *e*P **P** **16 58 12.1 +0.6**
KWP Kalwaria Pacla 55.50 311⇑ *i*P **P** **16 58 12.0 +0.6**
KWP Kalwaria Pacla 55.50 311 P **P** **16 58 11.4 -0.1**
KWP pmax pmax
comp=Z,44nm,1.0s
KWP Kalwaria Pacla 55.50 311 P **P** **16 58 11.4 -0.1**
comp=Z,44nm,1.0s
KOLS Kolonicke sedl 55.93 310 *e*P **P** **16 58 16.9 +2.3**
KOLS Kolonicke sedl 55.93 310 *e*P **P** **16 58 16.8 +2.2**
DRGR 56.15 307⇑ *i*P **P** **16 58 17.0 +0.8**
CRVS Cervenica-Dubn 56.46 310 *e*P **P** **16 58 20.7 +2.3**
CRVS Cervenica-Dubn 56.46 310 *e*P **P** **16 58 20.7 +2.3**
STHS Stebnicka Huta 56.48 311 *e*P **P** **16 58 21.1 +2.6**
STHS Stebnicka Huta 56.48 311 *e*P **P** **16 58 21.1 +2.6**
NIE Niedzica 57.07 311 *e*P **P** **16 58 23.8 +1.1**
KECS Kecovo 57.19 310 *e*P **P** **16 58 23.4 -0.1**
KECS pmax pmax
comp=Z,6.0nm,1.5s
KECS Kecovo 57.19 310 *e*P **P** **16 58 23.4 -0.1**
OJC Ojcow 57.20 312 *e*P **P** **16 58 24.6 +1.0**
IDI Anoyia 57.97 294 P **P** **16 58 28.5 -0.7**
comp=Z,16nm,1.1s,baz=23,slow=13,SNR=3.2
VYHS Vyhne 58.25 310 *e*P **P** **16 58 33.5 +2.5**
VYHS pmax pmax
comp=Z,8.0nm,1.6s
VYHS Vyhne 58.25 310 *e*P **P** **16 58 33.5 +2.5**
OKC Ostrava-Krasne 58.33 312 *e*P P 16 58 35.2 +3.7
OKC *e*pP pP 16 58 41.8 +2.0
OKC Ostrava-Krasne 58.33 312 *e*P P 16 58 35.2 +3.7
OKC *e* 16 58 41.8
MORC Moravsky Berou 58.72 312⇑ *i*P **P** **16 58 35.0 +0.7**
MORC Moravsky Berou 58.72 312 *e*P **P** **16 58 34.6 +0.3**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 58.72 312 *e*P **P** **16 58 34.6 +0.3**
comp=Z,8.0nm,1.0s
DIVS Divibare 58.72 305⇑ *i*P **P** **16 58 35.8 +1.4**
PKSM Moragy 59.01 308⇓ *i*P **P** **16 58 35.8 -0.5**
KRLC Kraliky 59.12 312 *e*P **P** **16 58 37.6 +0.6**
KRLC *ex* x 16 58 40.3
KRLC *ep*P **pP** **16 58 45.9 +0.5**
KRLC Kraliky 59.12 312 *e*P **P** **16 58 37.6 +0.6**
KRLC *e* 16 58 45.9
DPC Dobruska-Polom 59.32 313 *e*P **P** **16 58 39.2 +0.8**
DPC *ex* x 16 58 41.8
DPC *ep*P **pP** **16 58 47.8 +1.0**
DPC Dobruska-Polom 59.32 313 *e*P **P** **16 58 39.2 +0.8**
DPC *e* 16 58 47.8
NB2 NORSAR Subarra 59.38 326 P **P** **16 58 37.4 -1.2**
comp=Z,5.5nm,0.7s,baz=75,slow=6.9
NOA NORSAR Array B 59.38 326 P **P** **16 58 37.6 -1.0**
comp=Z,4.8nm,0.7s,baz=77,slow=7.0,SNR=20
NOA LR LR 17 25 26.7
comp=Z,66nm,18.8s,baz=25,slow=37
NOA NORSAR Array B 59.38 326 P **P** **16 58 37.6 -1.0**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,66nm,18.8s
UPC Upice 59.47 313 *e*P **P** **16 58 39.6 +0.2**
UPC *ex* x 16 58 44.4
UPC Upice 59.47 313 *e*P **P** **16 58 39.6 +0.2**
TREC Trest 60.14 312 *e*P **P** **16 58 45.0 +0.9**
TREC Trest 60.14 312 *e*P **P** **16 58 45.0 +0.9**
CONA Conrad Observa 60.32 310⇓ *i*P **P** **16 58 46.2 +0.8**
comp=Z,7.8nm,1.1s
GOPC GO Pecny, Ondr 60.40 313 *e*P **P** **16 58 45.7 -0.1**
GOPC *ex* x 16 58 50.3
GOPC AMS AMS 17 25 50.0
comp=Z,200nm,14.5s
PRU Pruhonice 60.52 313 *e*P **P** **16 58 46.9 +0.3**
PRU *ex* x 16 58 51.1
PRU *ep*P **pP** **16 58 55.1 +0.1**
PRU Pruhonice 60.52 313 *e*P **P** **16 58 46.9 +0.3**
PRU *e* 16 58 55.1
BRG Berggiesshubel 60.62 314 *e*P **P** **16 58 47.4 +0.1**
comp=Z,5.5nm,0.7s
BRG *e* 16 59 08.1
comp=Z,4.8nm,0.8s
comp=N,234nm,17.6s
comp=E,125nm,16.4s
comp=Z,167nm,21.0s
BRG Berggiesshubel 60.62 314 *e*P **P** **16 58 47.4 +0.1**
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG MLR MLR
comp=N,234nm,17.6s
BRG MLR MLR
comp=E,125nm,16.4s
BRG MLR MLR
comp=Z,167nm,21.0s
CLL Collm 61.06 315 *e*P **P** **16 58 50.0 -0.2**
comp=Z,3.0nm,0.9s
CLL *e*(pP) **pP** **16 58 55.0 -3.6**
comp=Z,9.0nm,1.3s
CLL *e*SS SS 17 11 00.0 -6.6
CLL Lm MLR 17 26 00.0
comp=N,200nm,21.6s
CLL Lm MLR 17 26 00.0
comp=E,100nm,18.9s
CLL Lm MLR 17 26 00.0
comp=Z,100nm,21.3s
CLL Collm 61.06 315 *e*P **P** **16 58 50.0 -0.2**
CLL *e* 16 58 55.0
CLL pmax pmax
comp=Z,3.0nm,0.9s
SOKA Soboth 61.24 309⇓ *i*P **P** **16 58 51.5 -0.2**
comp=Z,7.5nm,1.4s
GERES GERESS Array B 61.40 312 P **P** **16 58 52.6 -0.1**
comp=Z,1.4nm,0.6s,baz=74,slow=5.7,SNR=13
GERES LR LR 17 26 48.4
comp=Z,173nm,18.1s,baz=77,slow=37
GERES GERESS Array B 61.40 312 P **P** **16 58 52.6 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES MLR MLR
comp=Z,173nm,18.1s
CEL Celeste 63.63 300 *e*P **P** **16 59 07.0 -0.8**
comp=Z,12nm,0.8s
FETA Feichten 63.90 311⇓ *i*P **P** **16 59 09.3 -0.2**
comp=Z,5.7nm,0.8s
WRAB Tennant Creek 64.01 140 *e*P **P** **16 59 09.2 -1.0**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRAB Tennant Creek 64.01 140 *e*P **P** **16 59 09.2 -1.0**
comp=Z,17nm,0.8s
WRA Warramunga Arr 64.01 140 P **P** **16 59 09.4 -0.9**
comp=Z,13nm,0.8s,baz=334,slow=7.2,SNR=88
WRA Warramunga Arr 64.01 140 P **P** **16 59 09.4 -0.9**
WRA pmax pmax
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 65.21 251 P **P** **16 59 18.6 0.0**
comp=Z,3.7nm,0.6s,baz=40,slow=7.1,SNR=9.6
KMBO Kilima Mbogo 65.21 251 P **P** **16 59 18.6 0.0**
KMBO pmax pmax
comp=Z,4.0nm,0.6s
CDF Champ du Feu 65.54 313 *e*P **P** **16 59 19.7 -0.4**
comp=Z,4.0nm,0.6s
CDF Champ du Feu 65.54 313 *e*P **P** **16 59 19.7 -0.4**
CDF pmax pmax
comp=Z,4.0nm,0.6s
CDF Champ du Feu 65.54 313 *e*P **P** **16 59 19.7 -0.4**
comp=Z,4.0nm,0.6s
HINF Hinteralfeld 66.03 312 *e*P **P** **16 59 22.8 -0.4**
HINF Hinteralfeld 66.03 312 *e*P **P** **16 59 22.8 -0.4**
HINF Hinteralfeld 66.03 312 *e*P **P** **16 59 22.8 -0.4**
HAU Haudompre 66.27 313 *e*P **P** **16 59 24.2 -0.5**
HAU *e*R
comp=Z,153nm,19.0s
HAU Haudompre 66.27 313 *e*P **P** **16 59 24.2 -0.5**
HAU Haudompre 66.27 313 *e*P **P** **16 59 24.2 -0.5**
PAGF Fort de Pagny 66.43 314 *e*P **P** **16 59 25.8 +0.1**
PAGF Fort de Pagny 66.43 314 *e*P **P** **16 59 25.8 +0.1**
BAIF Baives 66.73 315 *e*P **P** **16 59 27.7 +0.2**
BAIF Baives 66.73 315 *e*P **P** **16 59 27.7 +0.2**
BAIF Baives 66.73 315 *e*P **P** **16 59 27.7 +0.2**
PGF Pioggiola 66.77 307 *e*P **P** **16 59 27.8 -0.3**
comp=Z,22nm,0.9s
PGF Pioggiola 66.77 307 *e*P **P** **16 59 27.8 -0.3**
PGF pmax pmax
comp=Z,22nm,0.9s
PGF Pioggiola 66.77 307 *e*P **P** **16 59 27.8 -0.3**
comp=Z,22nm,0.9s
AS31 Alice Springs 66.84 143 *e*P **P** **16 59 28.1 -0.4**
ASAR Alice Springs 66.84 143 P **P** **16 59 27.9 -0.6**
comp=Z,7.0nm,0.7s,baz=329,slow=6.6,SNR=87
ASAR Alice Springs 66.84 143 P **P** **16 59 28.0 -0.6**
ASAR pmax pmax
comp=Z,7.0nm,0.7s
MEZF Maizieres J'vi 66.86 314 *e*P **P** **16 59 28.4 0.0**
MEZF Maizieres J'vi 66.86 314 *e*P **P** **16 59 28.4 0.0**
SFTF Sexfontaines 66.99 313 *e*P **P** **16 59 29.0 -0.3**
SFTF Sexfontaines 66.99 313 *e*P **P** **16 59 29.0 -0.3**
CABF La Chapelle 67.00 312 *e*P **P** **16 59 28.9 -0.6**
comp=Z,3.3nm,0.6s
CABF La Chapelle 67.00 312 *e*P **P** **16 59 28.9 -0.6**
CABF pmax pmax
comp=Z,3.0nm,0.6s
CABF La Chapelle 67.00 312 *e*P **P** **16 59 28.9 -0.6**
comp=Z,3.3nm,0.6s
LPG La Plagne 67.03 310⇑ *i*P **P** **16 59 30.2 +0.2**
comp=Z,17nm,0.7s
LPG La Plagne 67.03 310⇑ *i*P **P** **16 59 30.2 +0.2**
LPG pmax pmax
comp=Z,17nm,0.7s
LPG La Plagne 67.03 310⇑ *i*P **P** **16 59 30.2 +0.2**
comp=Z,17nm,0.7s
LPL La Plagne 67.04 310 *e*P **P** **16 59 30.1 +0.2**
comp=Z,15nm,0.7s
LPL La Plagne 67.04 310 *e*P **P** **16 59 30.1 +0.2**
LPL pmax pmax
comp=Z,15nm,0.7s
BNI Bardonecchia 67.27 310 *e*P **P** **16 59 30.7 -0.5**
BNI pmax pmax
comp=Z,6.0nm,0.8s
BNI Bardonecchia 67.27 310 *e*P **P** **16 59 30.7 -0.5**
comp=Z,5.7nm,0.8s
SBF Sospel 67.27 308 *e*P **P** **16 59 30.9 -0.3**
comp=Z,17nm,0.7s
SBF Sospel 67.27 308 *e*P **P** **16 59 30.9 -0.3**
SBF pmax pmax
comp=Z,17nm,0.7s
SBF Sospel 67.27 308 *e*P **P** **16 59 30.9 -0.3**
comp=Z,17nm,0.7s
MBDF Montbardon 67.34 309 *e*P **P** **16 59 30.2 -1.6**
comp=Z,12nm,0.8s
MBDF Montbardon 67.34 309 *e*P **P** **16 59 30.2 -1.6**
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 67.34 309 *e*P **P** **16 59 30.2 -1.6**
comp=Z,12nm,0.8s
ORIF Oris-en-Rattie 67.84 310 *e*P **P** **16 59 34.3 -0.5**
comp=Z,12nm,0.8s
ORIF *e*R
comp=Z,241nm,18.5s
ORIF Oris-en-Rattie 67.84 310 *e*P **P** **16 59 34.3 -0.5**
ORIF Oris-en-Rattie 67.84 310 *e*P **P** **16 59 34.3 -0.5**
FRF La Foret Royal 67.91 308 *e*P **P** **16 59 34.6 -0.6**
comp=Z,6.8nm,0.7s
FRF La Foret Royal 67.91 308 *e*P **P** **16 59 34.6 -0.6**
FRF pmax pmax
comp=Z,7.0nm,0.7s
FRF La Foret Royal 67.91 308 *e*P **P** **16 59 34.6 -0.6**
comp=Z,6.8nm,0.7s
LMR La Mourre 68.10 308 *e*P **P** **16 59 36.0 -0.4**
comp=Z,4.4nm,0.7s
LMR La Mourre 68.10 308 *e*P **P** **16 59 36.0 -0.4**
LMR pmax pmax
comp=Z,4.0nm,0.7s
LMR La Mourre 68.10 308 *e*P **P** **16 59 36.0 -0.4**
comp=Z,4.4nm,0.7s
LOR Lormes 68.11 313 *e*P **P** **16 59 35.5 -0.9**
comp=Z,2.8nm,0.5s
LOR *e*R
comp=Z,193nm,21.5s
LOR Lormes 68.11 313 *e*P **P** **16 59 35.5 -0.9**
LOR Lormes 68.11 313 *e*P **P** **16 59 35.5 -0.9**
SMF Signal de Mont 68.39 312 *e*P **P** **16 59 37.6 -0.5**
comp=Z,9.2nm,0.7s
SMF Signal de Mont 68.39 312 *e*P **P** **16 59 37.6 -0.5**
SMF pmax pmax
comp=Z,9.0nm,0.7s
SMF Signal de Mont 68.39 312 *e*P **P** **16 59 37.6 -0.5**
comp=Z,9.2nm,0.7s
SSF Saint Saulge 68.41 313 *e*P **P** **16 59 37.6 -0.7**
comp=Z,7.2nm,0.8s
SSF Saint Saulge 68.41 313 *e*P **P** **16 59 37.6 -0.7**
SSF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 68.41 313 *e*P **P** **16 59 37.6 -0.7**
comp=Z,7.2nm,0.8s
SMRF Simiane la Rot 68.44 309 *e*P **P** **16 59 37.6 -0.9**
SMRF Simiane la Rot 68.44 309 *e*P **P** **16 59 37.6 -0.9**
AVF Avril sur Loir 68.63 313 *e*P **P** **16 59 39.1 -0.5**
comp=Z,10nm,0.7s
AVF Avril sur Loir 68.63 313 *e*P **P** **16 59 39.1 -0.5**
AVF pmax pmax
comp=Z,10.0nm,0.7s
AVF Avril sur Loir 68.63 313 *e*P **P** **16 59 39.1 -0.5**
comp=Z,10nm,0.7s
VIVF Saint-Julien-l 68.64 310 *e*P **P** **16 59 39.3 -0.5**
comp=Z,6.0nm,0.7s
VIVF Saint-Julien-l 68.64 310 *e*P **P** **16 59 39.3 -0.5**
VIVF pmax pmax
comp=Z,6.0nm,0.7s
VIVF Saint-Julien-l 68.64 310 *e*P **P** **16 59 39.3 -0.5**
comp=Z,6.0nm,0.7s
KEST Kesra 69.44 300 P **P** **16 59 45.3 +0.3**
comp=Z,0.6nm,0.5s,baz=333,slow=6.8,SNR=3.3
LASF Ste Croix 69.51 310 *e*P **P** **16 59 45.1 -0.1**
comp=Z,7.2nm,0.7s
LASF Ste Croix 69.51 310 *e*P **P** **16 59 45.1 -0.1**
comp=Z,7.2nm,0.7s
TCF Toulx Ste Croi 69.56 312 *e*P **P** **16 59 45.4 0.0**
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 69.56 312 *e*P **P** **16 59 45.4 0.0**
TCF pmax pmax
comp=Z,12nm,0.7s
TCF Toulx Ste Croi 69.56 312 *e*P **P** **16 59 45.4 0.0**
comp=Z,12nm,0.7s
PPLA Purkeypile 69.92 27 *e*P **P** **16 59 47.4 -0.1**
comp=Z,27nm,1.2s
LDF La Druitiere 69.92 315 *e*P **P** **16 59 47.0 -0.6**
comp=Z,12nm,0.9s
LDF La Druitiere 69.92 315 *e*P **P** **16 59 47.0 -0.6**
LDF pmax pmax
comp=Z,12nm,0.9s
LDF La Druitiere 69.92 315 *e*P **P** **16 59 47.0 -0.6**
comp=Z,12nm,0.9s
FLN La Foliniere 70.05 316 *e*P **P** **16 59 47.9 -0.5**
FLN *e*R
comp=Z,159nm,22.2s
FLN La Foliniere 70.05 316 *e*P **P** **16 59 47.9 -0.5**
FLN La Foliniere 70.05 316 *e*P **P** **16 59 47.9 -0.5**
CAF Calviac 70.27 311 *e*P **P** **16 59 50.0 +0.2**
CAF Calviac 70.27 311 *e*P **P** **16 59 50.0 +0.2**
CAF Calviac 70.27 311 *e*P **P** **16 59 50.0 +0.2**
RJF Les Rejaudoux 70.44 312 *e*P **P** **16 59 51.0 +0.2**
comp=Z,9.7nm,0.8s
RJF *e*R
comp=Z,124nm,22.1s
RJF Les Rejaudoux 70.44 312 *e*P **P** **16 59 51.0 +0.2**
RJF Les Rejaudoux 70.44 312 *e*P **P** **16 59 51.0 +0.2**
GRR Gorron 70.44 315 *e*P **P** **16 59 50.4 -0.4**
comp=Z,16nm,0.7s
GRR Gorron 70.44 315 *e*P **P** **16 59 50.4 -0.4**
GRR pmax pmax
comp=Z,16nm,0.7s
GRR Gorron 70.44 315 *e*P **P** **16 59 50.4 -0.4**
comp=Z,16nm,0.7s
ILAR Eielson Array 70.73 24 P **P** **16 59 51.1 -1.2**
comp=Z,0.8nm,0.7s,baz=288,slow=4.5,SNR=6.3
ILAR LR LR 17 34 39.1
comp=Z,105nm,18.3s,baz=315,slow=39
ILAR Eielson Array 70.73 24 P **P** **16 59 51.1 -1.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,105nm,18.3s
MTLF Montolieu 70.90 310 *e*P **P** **16 59 53.5 -0.2**
comp=Z,2.8nm,0.6s
MTLF Montolieu 70.90 310 *e*P **P** **16 59 53.5 -0.2**
MTLF pmax pmax
comp=Z,3.0nm,0.6s
MTLF Montolieu 70.90 310 *e*P **P** **16 59 53.5 -0.2**
comp=Z,2.8nm,0.6s
LFF La Frestale 71.09 312 *e*P **P** **16 59 55.1 +0.3**
comp=Z,8.7nm,0.6s
LFF La Frestale 71.09 312 *e*P **P** **16 59 55.1 +0.3**
LFF pmax pmax
comp=Z,9.0nm,0.6s
LFF La Frestale 71.09 312 *e*P **P** **16 59 55.1 +0.3**
comp=Z,8.7nm,0.6s
SGMF Saint Gilles 71.50 316 *e*P **P** **16 59 57.3 +0.1**
comp=Z,9.1nm,0.6s
SGMF Saint Gilles 71.50 316 *e*P **P** **16 59 57.3 +0.1**
SGMF pmax pmax
comp=Z,9.0nm,0.6s
SGMF Saint Gilles 71.50 316 *e*P **P** **16 59 57.3 +0.1**
comp=Z,9.1nm,0.6s
ROSF Rostrenen 71.88 316 *e*P **P** **16 59 59.6 +0.1**
comp=Z,16nm,0.7s
ROSF Rostrenen 71.88 316 *e*P **P** **16 59 59.6 +0.1**
ROSF pmax pmax
comp=Z,16nm,0.7s
ROSF Rostrenen 71.88 316 *e*P **P** **16 59 59.6 +0.1**
comp=Z,16nm,0.7s
QUIF Quistinic 72.03 316 *e*P **P** **17 00 00.1 -0.2**
comp=Z,8.4nm,0.8s
QUIF Quistinic 72.03 316 *e*P **P** **17 00 00.1 -0.2**
QUIF pmax pmax
comp=Z,8.0nm,0.8s
QUIF Quistinic 72.03 316 *e*P **P** **17 00 00.1 -0.2**
comp=Z,8.4nm,0.8s
RES Resolute Bay 72.19 3 P **P** **17 00 00.8 -0.1**
comp=Z,2.7nm,1.0s,baz=300,slow=8.1
RES Resolute Bay 72.19 3 P **P** **17 00 00.8 -0.1**

RES pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 72.29 17 P **P 17 00 01.4 -0.1**
INK Inuvik 72.29 17 P **P 17 00 01.4 -0.1**
comp=Z,1.6nm,0.2s,baz=320,slow=8.3,SNR=3.1
INK pmax pmax
comp=Z,2.0nm,0.3s
KDAK Kodiak Island 72.64 32 *i* P **P 17 00 02.8 -1.0**
ETSF Etsaut 72.90 310 *e*P **P 17 00 06.0 +0.2**
ETSF Etsaut 72.90 310 *e*P **P 17 00 06.0 +0.2**
comp=Z,7.7nm,0.6s
ETSF pmax pmax
comp=Z,8.0nm,0.6s
ETSF Etsaut 72.90 310 *e*P **P 17 00 06.0 +0.2**
comp=Z,7.7nm,0.6s
SJPF Ste Jean 73.22 311 *e*P **P 17 00 07.5 -0.1**
comp=Z,4.6nm,0.6s
SJPF Ste Jean 73.22 311 *e*P **P 17 00 07.5 -0.1**
SJPF pmax pmax
comp=Z,5.0nm,0.6s
SJPF Ste Jean 73.22 311 *e*P **P 17 00 07.5 -0.1**
comp=Z,4.6nm,0.6s
BMRM Bremner River 73.94 26 *e*P **P 17 00 11.2 -0.4**
comp=Z,24nm,1.2s
ESDC Sonseca Array 76.75 309 P **P 17 00 28.1 0.0**
comp=Z,0.9nm,0.6s,baz=44,slow=5.6,SNR=5.9
ESDC LR LR 17 39 39.0
comp=Z,60nm,19.7s,baz=255,slow=40
STKA Stephens Creek 77.45 142 P **P 17 00 31.6 -0.2**
comp=Z,4.0nm,0.7s,baz=331,slow=7.4,SNR=6.8
STKA Stephens Creek 77.45 142 P **P 17 00 31.6 -0.2**
STKA pmax pmax
comp=Z,4.0nm,0.7s
LSZ Lusaka 80.92 245 P **P 17 00 50.9 -0.4**
comp=Z,3.2nm,0.5s,baz=59,slow=6.6,SNR=8.4
LSZ Lusaka 80.92 245 P **P 17 00 50.9 -0.4**
LSZ pmax pmax
comp=Z,3.0nm,0.5s
YKA Yellowknife Ar 81.49 14 P **P 17 00 52.3 -1.1**
comp=Z,1.2nm,0.7s,baz=327,slow=4.6,SNR=6.8
TORD Torodi Ar. Bea 86.81 284 P **P 17 01 20.8 -0.6**
comp=Z,1.4nm,0.6s,baz=52,slow=5.2,SNR=9.3
TORD LR LR 17 43 13.2
comp=Z,82nm,19.9s,baz=65,slow=38
LBTB Lobatse 88.78 239 P **P 17 01 30.3 -0.3**
comp=Z,2.4nm,0.6s,baz=129,slow=4.1,SNR=4.3
LBTB Lobatse 88.78 239 P **P 17 01 30.3 -0.3**
LBTB pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 95.75 282 LR LR 17 49 48.1
comp=Z,51nm,20.0s,baz=26,slow=38

NIED ***28*** *16:49:00,46˙20N×153˙50E,h32km,Mw4.4 Best double couple: M₀5.08000×10¹⁵ NP1:φ=295.00000°,δ17.00000°, λ131.00000°. NP2:φ=73.00000°,δ77.00000°,λ79.00000°.*
BJI ***28*** *16:49:30.8,46˙06N×153˙42E,h18km,mB5.1/19,mb4.8/26, Ms4.6/16,Ms7 4.1/14*
SKHL ***28*** *16:49:31.1±1.1,45˚77N×153˚67E,h37km±8km,mb4.9/4, Ms4.0/2*
ISCJB ***28*** *16:49:31.5±0.2,45˚58N±0˙05×153˙60E±0˙03,h37km, mb4.7/94,MS3.8/8, Error ellipse: s-maj=6.8km s-min=2.5km az=165.9*
MOS ***28*** *16:49:32.4±0.8,45˚71N×153˚64E,h38km,mb5.0/48, Error ellipse: s-maj=8.4km s-min=5.6km az=101.1*
NEIC ***28*** *16:49:34.5±0.3,45˚86N×153˚62E,mb4.8/47, Error ellipse: s-maj=7.5km s-min=4.2km az=162.0*
IDC ***28*** *16:49:34.1±0.6,45˚79N×153˚61E,h39km±4km,mb4.2/30, mb1 4.4/31,mb1mx4.3/46,mbtmp4.5/31,ML3.7/1,MS3.6/7, Ms1 3.6/7,ms1mx3.2/36, Error ellipse: s-maj=13.1km s-min=10.4km az=154.0*

ISC 28 16:49:32.9±0.5, 45.78N±0˙06×153.61E±0˙04, h30km±2km, h29km:pP-P,n455,σ1§19/473,mb4.7/94,MS3.8/8,73C-76D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.07**	**264**	*e*P	N	**Pn**	**16 50 32.4**	**-0.8**
KUR					pmax	pmax		
	comp=Z,50nm,0.3s							
KUR					pmax	pmax		
	comp=N,139nm,0.5s							
KUR					pmax	pmax		
	comp=E,400nm,0.5s							
KUR	**Kuril'sk**	**4.07**	**264**	*e*P		**Pn**	**16 50 32.4**	**-0.8**
KUR					AMB	AMB	16 50 34.1	
	comp=E,139nm,0.3s							
KUR				*e*S		**Sn**	**16 51 19.2**	**-0.6**
KUR					A	A	16 51 21.6	
	comp=E,367nm,0.4s							
KUR					A	A	16 51 21.6	
	comp=E,364nm,0.4s							
SKR	**Severo-Kuril's**	**5.18**	**18**	*e*PN		Pn	16 50 36.5	-12
SKR					pmax	pmax		
	comp=N,60nm,0.5s							
SKR					pmax	pmax		
	comp=Z,80nm,0.5s							
SKR					MLR	MLR		
	comp=Z,1μm,12.0s							
SKR					MLR	MLR		
	comp=E,1μm,10.0s							
SKR	**Severo-Kuril's**	**5.18**	**18**	*e*P		**Pn**	**16 50 46.5**	**-1.9**
SKR					AMB	AMB	16 50 50.7	
	comp=E,159nm,1.5s							
SKR				*e*S		**Sn**	**16 51 42.2**	**-4.9**
SKR					A	A	16 51 48.4	
	comp=E,307nm,0.6s							
SKR					AMS	AMS	16 52 27.0	
	comp=E,1μm,18.0s							
SKR					AMS	AMS	16 52 27.0	
	comp=E,2μm,18.0s							
SHO	**Shikotan**	**5.19**	**251**	*e*P		**Pn**	**16 50 46.5**	**-2.0**
SHO				*e*S		**Sn**	**16 51 43.5**	**-3.7**
SHO					A	A	16 51 48.1	
	comp=E,268nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.77**	**255**	*d i*PN		**Pn**	**16 50 56.2**	**-0.3**
YUK					pmax	pmax		
	comp=Z,142nm,0.5s							
YUK					pmax	pmax		
	comp=N,81nm,0.4s							
YUK					pmax	pmax		
	comp=E,87nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.77**	**255**	*e*P		**Pn**	**16 50 56.2**	**-0.3**
YUK					AMB	AMB	16 50 59.4	
	comp=E,142nm,0.5s							
YUK				*e*S		**Sn**	**16 51 59.5**	**-2.2**
YUK					A	A	16 52 03.3	
	comp=E,262nm,0.7s							
YUK					A	A	16 52 03.3	
	comp=E,400nm,0.7s							
NEM2	**Nemuro 2**	**6.12**	**250**	P		**Pn**	**16 50 58.7**	**-2.5**
NEM2				*e*S		**Sn**	**16 52 04.3**	**-5.8**
JRA	**Rausu**	**6.31**	**256**	P		**Pn**	**16 51 03.7**	**-0.1**
JNK	**Nakash**	**6.71**	**254**	P		**Pn**	**16 51 08.9**	**-0.4**
JNK				*e*S		**Sn**	**16 52 21.7**	**-3.0**
JAK	**Akkeshi**	**6.96**	**250**	P		**Pn**	**16 51 10.7**	**-2.2**
JAK				*e*S		Sn	16 52 25.1	-5.9
JTKR	**Abashiri--Toko**	**7.13**	**259**	P		**Pn**	**16 51 15.0**	**-0.1**
JAR	**Ashorobuto**	**7.46**	**254**	P		**Pn**	**16 51 19.0**	**-0.6**
JAR				*e*S		**Sn**	**16 52 39.6**	**-3.5**
JMP	**Maruseppu**	**7.49**	**260**	P		**Pn**	**16 51 20.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.60**	**283**	⇑*e*PN		**Pn**	**16 51 23.5**	**+1.9**
YSS					pmax	pmax		
	comp=E,40nm,1.0s							
YSS					pmax	pmax		
	comp=Z,30nm,1.0s							
YSS					MLR	MLR		
	comp=E,500nm,17.0s							
YSS					MLR	MLR		
	comp=Z,500nm,17.0s							
YSS	**Yuzh-Sakhalins**	**7.60**	**283**	*e*P		**Pn**	**16 51 23.5**	**+1.9**
YSS					AMB	AMB	16 51 24.8	
	comp=Z,30nm,1.0s							
YSS				*e*S		**Sn**	**16 52 48.0**	**+1.4**
YSS					AMS	AMS	16 55 15.0	
	comp=E,500nm,17.0s							
YSS	**Yuzh-Sakhalins**	**7.60**	**283**	*e*P		**Pn**	**16 51 23.0**	**+1.4**
	comp=Z,23nm,0.7s							
PEA0B	**Petropavlovsk**	**7.80**	**18**	*e*P		**Pn**	**16 51 22.8**	**-1.6**
PETK	**Petropavlovsk-**	**7.80**	**18**	Pn		**Pn**	**16 51 21.8**	**-2.5**
	comp=Z,3.0nm,0.3s,baz=180,slow=12,SNR=62							
PETK					Sn	**Sn**	**16 52 51.0**	**-0.6**
	baz=195,slow=24,SNR=2.2							
PETK					LR	LR	16 54 23.2	
	comp=Z,184nm,21.5s,baz=198,slow=37							
JKK2	**Kamakawa 2**	**7.95**	**260**	P		**Pn**	**16 51 26.8**	**+0.3**
PET	**Petropavlovsk**	**7.96**	**23**	*e*PN		**Pn**	**16 51 23.3**	**-3.1**
PET					pmax	pmax		
	comp=Z,27nm,0.5s							
PET					MLR	MLR		
	comp=Z,300nm,17.0s							
PET	**Petropavlovsk**	**7.96**	**23**	*e*P		Pn	16 51 23.2	-3.3
ASAJ	**Asahikawa**	**7.99**	**262**	Pn		**Pn**	**16 51 27.3**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=85,slow=22,SNR=10							
ASAJ					LR	LR	16 55 04.6	
	comp=Z,188nm,19.6s,baz=172,slow=41							
ASAJ	**Asahikawa**	**7.99**	**262**	*e*P		**Pn**	**16 51 27.6**	**+0.7**
JCH	**Churui**	**8.01**	**250**	P		**Pn**	**16 51 26.1**	**-1.2**
JCH				*e*S		**Sn**	**16 52 52.0**	**-4.8**
JFR	**Furan**	**8.30**	**256**	P		**Pn**	**16 51 31.9**	**+0.7**
ERM	**Erimo**	**8.43**	**247**	*e*PN		**Pn**	**16 51 33.9**	**+0.9**
ERM	**Erimo**	**8.43**	**247**	*e*P		**Pn**	**16 51 33.9**	**+0.9**
ERM	**Erimo**	**8.43**	**247**	*e*P		**Pn**	**16 51 34.2**	**+1.2**
UGL	**Uglegorsk**	**8.49**	**297**	*e*PN		Pn	16 51 39.5	+5.7
JNBK	**Urakawa-nobuka**	**8.57**	**250**	P		**Pn**	**16 51 33.2**	**-1.7**
JNBK				*e*S		Sn	16 53 03.2	-7.3
JBT2	**Biratori 2**	**8.61**	**254**	P		**Pn**	**16 51 34.2**	**-1.2**
JKB	**Kayabe**	**9.88**	**251**	P		Pn	16 51 49.0	-3.9
JTH	**Tanohata**	**10.41**	**240**	*e*S		Sn	16 53 45.1	-11
JIO	**Ouri**	**11.67**	**235**	*e*S		Sn	16 54 13.4	-13
HABR	**Khabarovsk**	**12.92**	**289**	*d*PN		**Pn**	**16 52 33.8**	**-0.6**
HABR					pmax	pmax		
	comp=Z,24nm,2.0s							
MJAR	**Matsushiro Arr**	**14.80**	**237**	Pn		**Pn**	**16 52 57.3**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=4.9							
MAJO	**Matsushiro**	**14.80**	**237**	*e*P		**Pn**	**16 53 02.7**	**+2.6**
MAJO	**Matsushiro**	**14.80**	**237**	*e*P		**P**	**16 53 06.5**	**+0.8**
	comp=Z,46nm,0.9s							
MAT	**Matsushiro**	**14.80**	**237**	P		**Pn**	**16 52 58.0**	**-2.1**
KLR	**Kul'dur**	**15.16**	**291**	*e*P		**Pn**	**16 53 02.0**	**-2.8**
KLR					MLR	MLR		
	comp=Z,2μm,12.0s							
USRK	**Ussuriysk Ar.**	**15.38**	**272**	Pn		**Pn**	**16 53 05.5**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=84,slow=14,SNR=13							
MDJ	**Mudanjiang**	**16.96**	**275**	P		**Pn**	**16 53 28.0**	**+0.2**
MDJ					pP	**pP**	**16 53 35.3**	**-2.1**
MDJ					sP	**sP**	**16 53 38.0**	**-3.2**
MDJ					PMZ			
	comp=Z,35nm,0.9s							
MDJ					PMZ			
	comp=Z,280nm,5.8s							
MDJ					LN			
	comp=Z,470nm,11.4s							
MDJ					LE			
	comp=Z,180nm,9.5s							
MDJ					LZ			
	comp=Z,420nm,7.6s							
MDJ	**Mudanjiang**	**16.96**	**275**	*e*P		**Pn**	**16 53 26.3**	**-1.5**
	comp=Z,28nm,0.8s							
SEY	**Seymchan**	**17.20**	**358**	*e*P		**Pn**	**16 53 29.2**	**-1.5**
SEY	**Seymchan**	**17.20**	**358**	*e*P		**Pn**	**16 53 29.2**	**-1.5**
KSRS	**Korea Array**	**20.86**	**256**	P		Pn	16 54 13.9	-1.0
	comp=Z,6.1nm,0.8s,baz=62,slow=9.1,SNR=10							
KSRS	**Korea Array**	**20.86**	**256**	P		Pn	16 54 13.9	-1.0
KSRS					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KSAR	**Wonju Array Be**	**20.89**	**256**	P		**P**	**16 54 13.9**	**+1.2**
KSAR	**Wonju Array Be**	**20.89**	**256**	P		**P**	**16 54 13.9**	**+1.2**
YAK	**Yakutsk**	**21.32**	**328**	P		**P**	**16 54 15.2**	**-1.8**
	comp=Z,13nm,0.5s,baz=105,slow=1.0,SNR=17							
YAK					LR	LR	17 03 00.7	
	comp=Z,149nm,18.0s,baz=164,slow=38							
YAK	**Yakutsk**	**21.32**	**328**	*e*P		**P**	**16 54 14.2**	**-2.9**
YAK				*e*			16 54 32.0	
YAK				*e*S		**S**	**16 58 07.0**	**-5.1**
YAK				*e*			16 58 17.9	
YAK				*e**SS		Sn	16 58 20.7	+0.4
YAK				*e*SSS		SSS	16 58 44.6	
YAK				*e*			17 05 37.2	
YAK					pmax	pmax		
	comp=Z,14nm,1.1s							
YAK					smax	smax		
	comp=N,72nm,3.0s							
YAK					smax	smax		
	comp=E,105nm,2.6s							
YAK					MLR	MLR		
	comp=E,115nm,12.0s							
YAK					MLR	MLR		
	comp=Z,192nm,15.0s							
YAK					MLR	MLR		
	comp=N,163nm,14.0s							
YAK	**Yakutsk**	**21.32**	**328**	*e*P		**P**	**16 54 14.1**	**-2.9**
	comp=N,17nm,0.6s							
SNY	**Shenyang**	**21.96**	**270**	⇓P		**P**	**16 54 23.8**	**-0.3**
SNY					PMZ			
	comp=N,22nm,1.0s							
SNY					LN			
	comp=N,640nm,13.2s							
SNY					LE			
	comp=N,550nm,14.1s							
SNY					LZ			
	comp=N,620nm,18.8s							
BILL	**Bilibino**	**23.26**	**12**	*d i*P		**P**	**16 54 37.4**	**-0.1**
BILL					pmax	pmax		
	comp=Z,24nm,1.5s							
BILL					MLR	MLR		
	comp=Z,238nm,16.0s							
BILL	**Bilibino**	**23.26**	**12**	*e*P		**P**	**16 54 37.4**	**-0.1**
BILL	**Bilibino**	**23.26**	**12**	*e*P		**P**	**16 54 36.7**	**-0.8**
	comp=Z,6.5nm,0.6s							
BJI	**Beijing**	**27.83**	**272**	P		**P**	**16 55 23.5**	**+4.0**
BJI					PMZ			
	comp=Z,17nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.20**	**153**	T		T	17 25 02.1	
	baz=341							
H11N1	**WAKE ISLAND Hy**	**28.22**	**153**	T		T	17 24 54.6	
	baz=341							
H11N3	**WAKE ISLAND Hy**	**28.22**	**153**	T		T	17 24 51.3	
	baz=341							
TIXI	**Tiksi**	**28.49**	**344**	*ce*P		**P**	**16 55 23.6**	**-1.5**
TIXI					pmax	pmax		
	comp=Z,9.0nm,1.7s							
TIXI	**Tiksi**	**28.49**	**344**	*e*P		**P**	**16 55 22.9**	**-2.2**
	comp=Z,2.3nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**29.29**	**154**	T		T	17 26 16.4	
	baz=338							
H11S3	**WAKE ISLAND Hy**	**29.30**	**154**	T		T	17 26 15.1	
	baz=338							
H11S2	**WAKE ISLAND Hy**	**29.30**	**154**	T		T	17 26 18.0	
	baz=338							
NJ2	**Nanjing**	**30.06**	**255**	*e*P		P	16 55 44.3	+4.9
NJ2					S	**S**	**17 00 36.0**	**+0.2**
NJ2					PMZ			
	comp=Z,20nm,0.6s							
NJ2					LN			
	comp=Z,2μm,10.7s							
NJ2					LE			
	comp=Z,1μm,11.1s							
HHC	**Hu-ho-hao-te**	**30.72**	**276**	*e*P		**P**	**16 55 45.5**	**+0.2**
HHC					PP	**PnPn**	**16 56 46.3**	**+0.8**
HHC					S	**S**	**17 00 49.5**	**+3.2**
HHC					sS	**sS**	**17 00 56.5**	**-4.0**
HHC					SS	**SnSn**	**17 02 27.8**	**+2.5**
HHC					PMZ			
	comp=Z,26nm,0.9s							
HHC					PMZ			
	comp=Z,120nm,4.6s							
HHC					LN			
	comp=Z,220nm,14.8s							
HHC					LE			
	comp=Z,180nm,12.3s							
HHC					LZ			
	comp=Z,200nm,11.0s							
ULN	**Ulaanbaatar**	**31.55**	**291**	*ce*P		**P**	**16 55 54.1**	**+1.5**
ULN					pmax	pmax		
	comp=Z,7.0nm,1.2s							
ULN	**Ulaanbaatar**	**31.55**	**291**	*e*P		**P**	**16 55 54.1**	**+1.5**
ULN	**Ulaanbaatar**	**31.55**	**291**	P		**P**	**16 55 54.3**	**+1.7**
	comp=Z,7.0nm,1.1s							
SONM	**Songino Array**	**31.99**	**291**	P		**P**	**16 55 56.0**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=77,slow=9.5,SNR=3.9							
SONM					LR	LR	17 09 33.3	
	comp=Z,124nm,19.1s,baz=185,slow=38							
IM04	**Indian Mountai**	**34.34**	**35**	*e*P		**P**	**16 56 16.2**	**-0.3**
KDAK	**Kodiak Island**	**34.46**	**50**	*i* P		**P**	**16 56 16.8**	**-0.8**
KDAK	**Kodiak Island**	**34.46**	**50**	*e*P		**P**	**16 56 16.8**	**-0.8**
KTH	**Kantishna Hill**	**35.28**	**40**	*e*P		**P**	**16 56 25.0**	**+0.3**
	comp=Z,24nm,1.2s							
COLA	**College**	**36.69**	**38**	*e*P		**P**	**16 56 37.0**	**+0.3**
COLA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
COLA	**College**	**36.69**	**38**	*e*P		**P**	**16 56 37.0**	**+0.3**
	comp=Z,9.9nm,0.8s							
ILAR	**Eielson Array**	**37.10**	**38**	P		**P**	**16 56 39.5**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=250,slow=8.0,SNR=39							
BMRM	**Bremner River**	**38.28**	**44**	*e*P		**P**	**16 56 49.4**	**-0.9**
	comp=Z,7.8nm,0.9s							
DOT	**Dot Lake**	**38.34**	**40**	*e*P		**P**	**16 56 49.7**	**-1.1**
	comp=Z,5.4nm,0.7s							
EGAK	**Eagle**	**39.55**	**38**	*e*P		**P**	**16 57 00.0**	**-0.8**
	comp=Z,11nm,0.8s							
CD2	**Chengdu**	**41.15**	**267**	*e*P		**P**	**16 57 16.0**	**+1.5**
CD2					pP	**pP**	**16 57 25.0**	**+1.7**
CD2					sP	**sP**	**16 57 28.5**	**+1.6**
CD2					PP	**PnPn**	**16 58 55.3**	**+1.1**
CD2					PcS	**PcS**	**17 03 06.5**	**+1.8**
CD2					S	**S**	**17 03 27.5**	**+1.6**
CD2					sS	**sS**	**17 03 41.3**	**+0.9**
CD2					SS	**SS**	**17 06 25.8**	**-3.3**
CD2					PMZ			
	comp=Z,10.0nm,0.5s							
CD2					PMZ			
	comp=Z,160nm,5.2s							
HYT	**Haines Junctio**	**41.73**	**43**	*e*P		**P**	**16 57 20.1**	**+1.1**
INK	**Inuvik**	**42.29**	**32**	P		**P**	**16 57 23.9**	**+0.6**
	comp=Z,4.4nm,0.4s,baz=258,slow=5.9,SNR=9.5							
ZALV	**Zalesovo Beam**	**43.46**	**307**	P		**P**	**16 57 30.9**	**-2.0**
	comp=Z,1.6nm,0.6s,baz=64,slow=7.2,SNR=3.8							
ZALV					LR	LR	17 17 57.1	
	comp=Z,208nm,18.2s,baz=68,slow=39							
WMQ	**Urumqi**	**45.60**	**292**	*e*P		**P**	**16 57 52.3**	**+2.0**
WMQ					PMZ			
	comp=Z,13nm,1.1s							
WMQ					PMZ			
	comp=Z,100nm,3.8s							
DLBC	**Dease Lake**	**46.03**	**45**	P		**P**	**16 57 54.4**	**+1.0**
	comp=Z,5.7nm,0.9s,baz=289,slow=9.9,SNR=10							
DLBC	**Dease Lake**	**46.03**	**45**	*e*P		**P**	**16 57 53.9**	**+0.4**
MKAR	**Makanchi Array**	**47.70**	**298**	LR		LR	17 20 04.3	
	comp=Z,101nm,18.3s,baz=94,slow=38							
KURK	**Kurchatov**	**48.19**	**305**	P		**P**	**16 58 09.8**	**-0.5**
KURK					pmax	pmax		
	comp=Z,5.0nm,0.9s							
KURK	**Kurchatov**	**48.19**	**305**	*e*P		**P**	**16 58 10.5**	**+0.2**
KURK	**Kurchatov**	**48.19**	**305**	P		**P**	**16 58 09.3**	**-1.0**
KURBB	**Kurchatov Arra**	**48.28**	**304**	P		**P**	**16 58 09.8**	**-1.2**
	comp=Z,5.4nm,0.8s,baz=68,slow=8.2,SNR=11							
YKA	**Yellowknife Ar**	**51.50**	**36**	P		**P**	**16 58 35.1**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=296,slow=7.4,SNR=19							
YKA					pP	**pP**	**16 58 46.7**	**+2.5**
	comp=Z,3.9nm,0.8s,baz=297,slow=7.5,SNR=10							
YKA					PcP	**PcP**	**16 59 48.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=293,slow=3.3,SNR=3.9							
YKA	**Yellowknife Ar**	**51.50**	**36**	P		**P**	**16 58 35.1**	**-0.1**
YKA					*PP	**pP**	**16 58 46.7**	**+2.5**
YKA							16 59 48.7	
YKA					pmax	pmax		
	comp=Z,5.0nm,0.8s							
YKA	**Yellowknife Ar**	**51.50**	**36**	*e*P		**P**	**16 58 35.0**	**-0.3**
RES	**Resolute Bay**	**51.65**	**18**	P		**P**	**16 58 36.5**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=90,slow=20							
BVAR	**Borovoye Array**	**51.74**	**310**	P		**P**	**16 58 36.9**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=63,slow=8.2,SNR=13							
BRVK	**Borovoye**	**51.78**	**310**	*ce*P		**P**	**16 58 38.2**	**+0.6**
BRVK					pmax	pmax		
	comp=Z,6.0nm,0.6s							
BRVK	**Borovoye**	**51.78**	**310**	*e*P		**P**	**16 58 38.2**	**+0.6**
BRVK	**Borovoye**	**51.78**	**310**	*e*P		**P**	**16 58 37.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**52.49**	**257**	P		**P**	**16 58 44.1**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=39,slow=7.0,SNR=15							
CMAR					PcP	**PcP**	**16 59 54.4**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=2.6,slow=7.7,SNR=4.4							
KBS	**Kingsbay**	**53.51**	**351**	⇑*e*P		**P**	**16 58 51.2**	**+1.3**
KBS					pmax	pmax		
	comp=Z,60nm,2.5s							
KBS	**Kingsbay**	**53.51**	**351**	*e*P		**P**	**16 58 51.2**	**+1.3**
SVE	**Sverdlovsk**	**54.78**	**318**	*e*P		**P**	**16 58 59.8**	**+0.3**
EKS2	**Erkin-Say**	**55.01**	**298**	*e*P		**P**	**16 59 02.6**	**+1.0**
EKS2	**Erkin-Say**	**55.01**	**298**	*e*P		**P**	**16 59 02.6**	**+1.0**
KSH	**Kashi**	**55.34**	**293**	P		P	16 59 08.8	+4.8
KSH					pP	pP	16 59 16.5	+3.4
KSH					PP	PP	17 01 13.8	+6.2
KSH					S	**S**	**17 06 50.0**	**+3.7**
KSH					PMZ			
	comp=Z,9.0nm,0.8s							
KSH					PMZ			
	comp=Z,170nm,7.1s							
KSH					LN			
	comp=Z,68nm,5.8s							
KSH					LE			
	comp=Z,140nm,5.0s							
KSH					LZ			
	comp=Z,190nm,5.9s							
ARU	**Arti**	**55.96**	**318**	*c i*P		**P**	**16 59 09.2**	**+1.2**
ARU							17 01 09.0	
ARU					S	**S**	**17 06 54.3**	**+0.5**
ARU					SS	**SS**	**17 10 45.5**	**+6.3**
ARU					pmax	pmax		
	comp=Z,20nm,1.7s							
ARU	**Arti**	**55.96**	**318**	*e*P		**P**	**16 59 09.5**	**+1.5**
ARU	**Arti**	**55.96**	**318**	*e*P		**P**	**16 59 07.8**	**-0.2**
	comp=Z,7.5nm,0.8s							
EDM	**Edmonton**	**56.74**	**46**	*e*P		**P**	**16 59 13.4**	**-0.3**
EDM				*e*			16 59 24.7	
EDM	**Edmonton**	**56.74**	**46**	*e*P		**P**	**16 59 13.4**	**-0.3**
EDM				*e*			16 59 24.7	
KKAR	**Karatay Array**	**56.77**	**300**	*e*P		**P**	**16 59 14.3**	**+0.3**
KKAR	**Karatay Array**	**56.77**	**300**	*e*P		**P**	**16 59 14.3**	**+0.3**
NEW	**Newport**	**57.49**	**52**	⇓P		**P**	**16 59 18.6**	**-0.4**
	baz=57							
J05D	**Fort Rock, OR**	**57.91**	**59**	⇓P		**P**	**16 59 21.3**	**-1.0**
	baz=58							
PRGR	**Permogore**	**58.37**	**328**	*e*P		**P**	**16 59 24.2**	**-0.7**
PRGR					pmax	pmax		
	comp=Z,20nm,0.9s							
ARCES	**ARCESS Array B**	**58.88**	**341**	P		**P**	**16 59 29.0**	**+0.6**
	comp=Z,11nm,1.2s,baz=37,slow=9.1,SNR=3.3							
ARCES	**ARCESS Array B**	**58.88**	**341**	P		**P**	**16 59 29.0**	**+0.6**
ARCES					pmax	pmax		
	comp=Z,11nm,1.2s							
ABKAR	**Akbulak array**	**59.31**	**311**	*e*P		**P**	**16 59 30.2**	**-1.5**
TMCR	**Tamitsa**	**59.35**	**333**	*e*P		**P**	**16 59 32.1**	**+0.4**
TMCR				*e*			17 01 44.1	
TMCR					pmax	pmax		
	comp=Z,25nm,0.7s							
AKTO	**Aktyubinsk**	**59.63**	**312**	P		**P**	**16 59 33.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=58,slow=7.4,SNR=7.8							
WVOR	**Wild Horse Val**	**59.97**	**59**	*e*P		**P**	**16 59 36.3**	**-0.2**
WVOR					pmax	pmax		
	comp=Z,5.0nm,1.1s							
**WV

D19A	Cripps Ranch, baz=62	62.63	50	⇓P		P		16 59 54.1	-0.3
C20A	Veseth Ranch, baz=62,SNR=14	62.75	49	⇑P		P		16 59 55.2	+0.1
A22A	Carney Farms, baz=63	63.02	47	⇓P		P		16 59 57.1	+0.2
D20A	Manuel Ranch, baz=63	63.07	49	⇑P		P		16 59 56.9	-0.3
F19A	Roth Farm, Mol baz=63	63.41	51	⇓P		P		16 59 59.6	0.0
TPH	Tonopah comp=Z,7.0nm,1.1s	63.47	62	eP	pmax	P	pmax	17 00 00.3	+0.1
TPH	Tonopah comp=Z,7.4nm,1.1s	63.47	62	eP		P		17 00 00.3	+0.1
D21A	La Casta Ranch baz=63	63.69	49	⇑P		P		17 00 01.5	+0.2
H18A	Shoshone NF, C baz=64	63.76	52	⇑P		P		17 00 02.5	+0.4
HVU	Hansel Valley comp=Z,3.0nm,0.9s	63.82	56	eP	pmax	P	pmax	17 00 02.8	+0.3
HVU	Hansel Valley comp=Z,3.1nm,0.9s	63.82	56	eP		P		17 00 02.8	+0.3
H19A	Powell baz=64	64.14	52	⇓P		P		17 00 04.7	+0.2
ISA	Isabella, Lake baz=64	64.19	65	⇑P		P		17 00 05.7	+0.8
G20A	Bridger baz=64	64.21	51	⇑P		P		17 00 05.1	+0.2
R11A	Troy Canyon, C baz=64,SNR=8.0	64.30	61	⇑P		P		17 00 05.1	-0.6
R11A	Troy Canyon, C comp=Z,5.7nm,1.2s	64.30	61	eP		P		17 00 05.5	-0.2
R11A				e				17 00 16.8	
MPMC	Manual Prospec baz=64	64.56	64	⇑P		P		17 00 07.5	+0.1
HWUT	Hardware Ranch comp=Z,1.6nm,0.4s	64.63	56	eP		P		17 00 07.7	-0.1
E22A	Miles City baz=64	64.64	49	⇓P		P		17 00 07.8	+0.2
FURC	Furnace Creek, baz=64	64.70	63	⇓P		P		17 00 08.1	+0.1
TPNV	Topopah Spring baz=64	64.78	62	⇓P		P		17 00 08.9	+0.1
DUG	Dugway, Tooele comp=Z,9.0nm,1.2s	64.80	58	eP	pmax	P	pmax	17 00 09.0	+0.1
DUG	Dugway, Tooele baz=64,SNR=5.7	64.80	58	⇑P		P		17 00 08.6	-0.2
DUG	Dugway, Tooele comp=Z,9.0nm,1.2s	64.80	58	eP		P		17 00 09.0	+0.1
F22A	Rosebud baz=65	64.91	50	⇓P		P		17 00 09.3	-0.1
E23A	Ismay baz=65	64.94	48	⇓P		P		17 00 10.0	+0.5
EDW2	Edwards Air Fo baz=65	64.99	65	⇑P		P		17 00 10.5	+0.4
PDAR	Pinedale Array comp=Z,3.7nm,0.8s,baz=284,slow=2.7,SNR=29	65.04	54	P		P		17 00 10.2	-0.3
PDAR	comp=Z,2.9nm,0.8s,baz=316,slow=2.9,SNR=8.2			pP		pP		17 00 22.3	+2.6
D24A	Glendive baz=65	65.05	47	⇓P		P		17 00 10.9	+0.7
FINES	FINESS Array B comp=Z,4.9nm,0.6s,baz=40,slow=6.0,SNR=11	65.06	335	P		P		17 00 09.7	-0.3
FINES	comp=Z,4.6nm,0.6s,baz=46,slow=7.4,SNR=5.8			pP		pP		17 00 22.1	+2.9
FINES	FINESS Array B comp=Z,5.0nm,0.6s	65.06	335	i P	pmax	P	pmax	17 00 10.6	+0.6
FINES	FINESS Array B	65.06	335	eP		P		17 00 10.5	+0.6
I20A	Worland baz=65	65.08	52	⇑P		P		17 00 11.5	+0.9
F23A	Volborg baz=65	65.40	49	⇓P		P		17 00 12.7	+0.2
J20A	Shoshoni baz=65	65.49	52	⇑P		P		17 00 13.6	+0.3
I21A	Big Trails, Te baz=65,SNR=7.2	65.63	52	⇑P		P		17 00 14.4	+0.2
SHPR	Sheep Range comp=Z,5.3nm,1.1s	65.73	62	eP		P		17 00 15.1	+0.1
G23A	Biddle baz=65	65.75	50	⇓P		P		17 00 14.6	-0.2
F24A	Ekalaka baz=66	65.82	49	⇓P		P		17 00 15.3	0.0
I22A	9 Mile Ranch, baz=66	66.02	51	⇓P		P		17 00 17.0	+0.3
G24A	Alzada baz=66	66.18	49	⇑P		P		17 00 17.6	0.0
F25A	Bowman baz=66	66.28	48	⇑P		P		17 00 18.7	+0.5
OBN	Obninsk comp=Z,13nm,1.0s	66.30	326	⇓eP	pmax	P	pmax	17 00 18.5	+0.4
OBN				eS		PnS		17 09 32.7	+5.0
OBN					MLR		MLR		
OBN	Obninsk comp=Z,69nm,19.0s	66.30	326	eP		P		17 00 19.2	+1.1
J22A	Midwest baz=66	66.33	52	⇓P		P		17 00 19.3	+0.6
K21A	Alcova baz=66	66.42	53	⇓P		P		17 00 19.1	-0.3
H24A	Dirks Ranch, A baz=66	66.49	50	⇓P		P		17 00 19.3	-0.3
F26A	Lodgepole baz=66	66.74	48	⇑P		P		17 00 21.4	+0.2
K22A	Casper baz=66	66.81	52	⇓P		P		17 00 21.7	-0.1
G26A	Maurine baz=67	67.15	48	⇓P		P		17 00 23.8	0.0
RSSD	Black Hills comp=Z,5.0nm,0.4s	67.19	50	eP	pmax	P	pmax	17 00 23.8	-0.5
RSSD	Black Hills comp=Z,4.7nm,0.4s	67.19	50	eP		P		17 00 23.8	-0.5
GEYT	Alibeck comp=Z,4.3nm,0.6s,baz=29,slow=3.4,SNR=9.6	67.40	302	P		P		17 00 26.3	+0.9
I25A	Rochford baz=67	67.42	50	⇓P		P		17 00 25.5	-0.2
U15A	North Rim baz=67	67.54	61	⇑P		P		17 00 27.1	+0.5
L23A	Garrett baz=67	67.62	52	⇑P		P		17 00 26.8	-0.3
WRA	Warramunga Arr comp=Z,2.3nm,0.5s,baz=17,slow=6.9,SNR=8.6	67.71	200	P		P		17 00 26.7	-0.7
WRA	comp=Z,2.0nm,0.7s,baz=18,slow=6.8,SNR=2.8			pP		pP		17 00 38.7	+2.0
AGMN	Agassiz Nation baz=68	68.42	42	⇑P		P		17 00 30.2	-1.4
P22A	Eagle baz=68	68.72	55	⇓P		P		17 00 34.4	+0.4
I28A	Midland baz=68	68.78	48	⇓P		P		17 00 34.1	0.0
J28A	Allard Ranch, baz=69	69.14	49	⇓P		P		17 00 36.3	0.0
ISCO	Idaho Springs comp=Z,4.0nm,0.9s	69.23	54	eP	pmax	P	pmax	17 00 37.4	+0.2
ISCO	Idaho Springs baz=69	69.23	54	⇓P		P		17 00 37.5	+0.2
ISCO	Idaho Springs comp=Z,4.3nm,0.9s	69.23	54	eP		P		17 00 37.4	+0.2
NB2	NORSAR Subarra comp=Z,3.6nm,0.6s,baz=29,slow=6.5	69.25	341	P		P		17 00 36.3	-0.4
NOA	NORSAR Array B comp=Z,1.8nm,0.5s,baz=28,slow=6.2,SNR=8.5	69.25	341	P		P		17 00 36.4	-0.3
NOA	comp=Z,43nm,18.1s,baz=90,slow=41			LR		LR		17 36 46.2	
MVCO	Mesa Verde baz=69	69.30	58	⇑P		P		17 00 37.7	+0.1
S22A	4UR Ranch, Cre baz=70	69.92	56	⇓P		P		17 00 42.0	+0.5
W18A	Petrified Fore baz=70	69.97	60	⇓P		P		17 00 41.9	+0.2
OGNE	Ogallala baz=70	70.43	51	⇑P		P		17 00 44.7	+0.4
KONO	Kongsberg comp=Z,118nm,1.7s	70.86	342⇑	eP	pmax	P	pmax	17 00 47.5	+1.0
ECSD	EROS Data Cent baz=71	71.31	46	⇑P		P		17 00 49.0	-0.5
ASAR	Alice Springs comp=Z,5.4nm,0.8s,baz=12,slow=5.5,SNR=16	71.40	199	P		P		17 00 50.4	+0.3
KIV	Kislovodsk comp=Z,12nm,0.9s	71.72	315	eP	pmax	P	pmax	17 00 53.1	+1.0
KIV					MLR		MLR		
KIV	Kislovodsk comp=Z,91nm,18.0s	71.72	315	eP		P		17 00 53.1	+1.0
KBZ	Khabaz comp=Z,5.4nm,0.7s,baz=236,slow=24,SNR=12	71.78	314	P		P		17 00 53.4	+1.1
ZEI	Tsey comp=Z,3.0nm,0.6s	71.95	313	eP	pmax	P	pmax	17 00 50.9	-2.8
ANMO	Albuquerque comp=Z,12nm,1.2s	72.05	58	ceP	pmax	P	pmax	17 00 55.1	+0.7
Q29A	Oakley baz=72	72.45	52	⇑P		P		17 00 56.0	-0.5
AKASG	Malin Array Be comp=Z,3.5nm,0.6s,baz=38,slow=7.9,SNR=11	72.54	327	P		P		17 00 55.2	-1.6
AKASG	Malin Array Be comp=Z,2.0nm,0.5s	72.54	327	i P	pmax	P	pmax	17 00 56.5	-0.2
AK01	Malin Array Si	72.56	327	eP		P		17 00 55.9	-0.9
AK02	Malin Array Si	72.58	327	eP		P		17 00 55.9	-1.0
319A	Douglas baz=72	72.78	63	⇑P		P		17 00 58.7	+0.1
121A	Cookes Peak, D baz=73	72.91	61	⇑P		P		17 00 59.4	-0.1
SCHQ	Schefferville comp=Z,3.3nm,0.9s,baz=270,slow=2.0,SNR=3.3	74.07	23	P		P		17 01 05.0	-0.7
MSTX	Muleshoe baz=75	74.91	57	⇓P		P		17 01 10.6	-0.5
MNTX	Cornudas Mount baz=75	74.95	60	⇓P		P		17 01 11.0	-0.2
X29A	Tulia baz=75	75.19	56	⇓P		P		17 01 12.6	-0.1
R36A	Gordon, Harris baz=76	75.82	49	⇑P		P		17 01 15.2	-0.9
KWP	Kalwaria Pacla comp=Z,29nm,1.0s	75.83	330	⇓i P		P		17 01 16.6	+0.7
KWP	Kalwaria Pacla comp=Z,29nm,1.0s	75.83	330	eP	pmax	P	pmax	17 01 16.6	+0.7
KWP	Kalwaria Pacla comp=Z,29nm,1.0s	75.83	330	eP		P		17 01 16.6	+0.7
128A	Castleberry Fa baz=76	76.03	58	⇓P		P		17 01 17.6	+0.1
Z29A	Hungry Hill Ra baz=76	76.04	57	⇑P		P		17 01 17.7	+0.2
Z30A	Sanderson Ranc baz=76	76.36	56	⇑P		P		17 01 18.7	-0.6
STHS	Stebnicka Huta comp=Z,5.0nm,0.9s	76.53	330	eP	pmax	P	pmax	17 01 20.8	+0.9
STHS	Stebnicka Huta	76.53	330	eP		P		17 01 20.8	+0.9
BUR08	Bucovina Ar. S	76.57	327	eP		P		17 01 20.7	+0.4
KOLS	Kolonicke sedl comp=Z,7.0nm,1.0s	76.57	329	eP	pmax	P	pmax	17 01 20.7	+0.5
KOLS	Kolonicke sedl	76.57	329	eP		P		17 01 20.7	+0.5
BURAR	Bucovina Array	76.59	327	⇑i P		P		17 01 21.0	+0.6
BURAR	Bucovina Array	76.59	327	⇑P		P		17 01 21.0	+0.6
CRVS	Cervenica-Dubn	76.89	330	eP		P		17 01 22.7	+0.7
CRVS	Cervenica-Dubn	76.89	330	eP		P		17 01 22.7	+0.7
229A	Bryant Ranch, baz=77	76.90	58	⇓P		P		17 01 22.2	-0.2
Z31A	Sharp Cattle R baz=77	76.90	56	⇑P		P		17 01 22.5	+0.1
TESR	Tescani	76.94	325	⇓i P		P		17 01 22.6	+0.3
329A	Wagon Wheel Ra baz=77	77.14	58	⇓P		P		17 01 23.1	-0.7
TRPA	Tarpa	77.15	329	⇓i P		P		17 01 24.3	+0.9
OKC	Ostrava-Krasne	77.21	332	eP		P		17 01 23.9	+0.2
OKC	Ostrava-Krasne	77.21	332	eP		P		17 01 23.9	+0.2
UPC	Upice	77.30	334	eP		P		17 01 27.7	+3.4
UPC	Upice	77.30	334	eP		P		17 01 27.7	+3.4
DPC	Dobruska-Polom	77.34	334	eP		P		17 01 25.2	+0.7
DPC				ex		x		17 01 29.0	
DPC	Dobruska-Polom	77.34	334	eP		P		17 01 25.2	+0.7
DPC				e				17 01 29.0	
W35A	Tecumseh baz=77	77.42	52	⇑P		P		17 01 24.4	-0.8
CFR	Carcaliu	77.42	324	⇑i P		P		17 01 25.5	+0.5
CFR	Carcaliu	77.42	324	⇑P		P		17 01 25.5	+0.5
VRI	Vrincioaia	77.43	325	⇑i P		P		17 01 26.0	+0.9
VRI	Vrincioaia	77.43	325	⇑P		P		17 01 26.0	+0.9
KRLC	Kraliky	77.44	333	eP		P		17 01 25.9	+0.8
KRLC	Kraliky	77.44	333	eP		P		17 01 25.9	+0.8
TUL1	Leonard baz=77	77.45	51	⇓P		P		17 01 24.4	-1.0
MORC	Moravsky Berou comp=Z,12nm,1.3s	77.46	333	⇓i P		P		17 01 25.8	+0.6
MORC	Moravsky Berou	77.46	333	eP		P		17 01 25.0	-0.2
MORC					pmax		pmax		
MORC	Moravsky Berou comp=Z,12nm,1.3s	77.46	333	eP		P		17 01 25.0	-0.2
CLL	Collm comp=Z,11nm,1.0s	77.49	336	⇓i P		P		17 01 25.1	-0.2
CLL				i	pP	PcP		17 01 36.9	+1.3
CLL	Collm	77.49	336	⇓i P		P		17 01 25.1	-0.2
CLL				i				17 01 36.9	
CLL					pmax		pmax		
KECS	Kecovo comp=Z,4.0nm,1.1s	77.58	330	eP	pmax	P	pmax	17 01 26.2	+0.3
KECS	Kecovo	77.58	330	eP		P		17 01 26.2	+0.3
TXAR	Lajitas Array comp=Z,4.8nm,0.6s,baz=304,slow=4.3,SNR=60	77.67	61	P		P		17 01 26.5	-0.3
TXAR	comp=Z,4.2nm,0.8s,baz=297,slow=4.1,SNR=11			pP		PcP		17 01 38.1	+1.2
330A	Mertzon baz=77	77.68	58	⇑P		P		17 01 26.5	-0.2
PVCC	Panska Ves	77.72	335	eP		P		17 01 27.3	+0.7
PVCC	Panska Ves	77.72	335	eP		P		17 01 27.3	+0.7
W36A	Wetumka baz=78	77.78	52	⇓P		P		17 01 26.5	-0.7
Y34A	Reagan Ranch, baz=78	77.80	54	⇓P		P		17 01 27.0	-0.3
231A	Bronte baz=78	77.80	57	⇑P		P		17 01 27.0	-0.5
429A	Davenport Ranc baz=78	77.81	59	⇑P		P		17 01 27.1	-0.4
TIRR	Tirgusor	77.89	323	⇓i P		P		17 01 28.2	+0.6
TIRR	Tirgusor	77.89	323	⇓P		P		17 01 28.2	+0.6
X35A	Drake baz=78	77.92	53	⇑P		P		17 01 27.4	-0.6
TLB	Topalu	77.94	324	⇓i P		P		17 01 28.6	+0.7
TLB	Topalu	77.94	324	⇓P		P		17 01 28.6	+0.7
529A	Stev Forest Ra baz=78	77.98	59	⇓P		P		17 01 28.0	-0.5
MLR	Muntele Rosu	78.06	325	⇑i P		P		17 01 29.8	+1.1
MLR	Muntele Rosu	78.06	325	⇑P		P		17 01 29.8	+1.1
STKA	Stephens Creek comp=Z,2.4nm,0.5s,baz=7.1,slow=7.9,SNR=8.0	78.06	190	P		P		17 01 28.5	0.0
MALT	Malatya	78.06	313	⇓i P		P		17 01 30.3	+1.4
MALT	Malatya	78.06	313	⇓P		P		17 01 30.3	+1.4
430A	Baggett Ranch, baz=78	78.09	58	⇑P		P		17 01 28.4	-0.7
ISR	Istrita	78.12	325	⇑i P		P		17 01 30.1	+1.1
ISR	Istrita	78.12	325	⇑P		P		17 01 30.1	+1.1
VYHS	Vyhne comp=Z,6.0nm,1.3s	78.14	331	eP	pmax	P	pmax	17 01 29.7	+0.7
VYHS	Vyhne	78.14	331	eP		P		17 01 29.7	+0.7
GOPC	GO Pecny, Ondr	78.20	334	eP		P		17 01 30.1	+0.8
PRU	Pruhonice	78.21	334	eP		P		17 01 30.0	+0.7
PRU	Pruhonice	78.21	334	eP		P		17 01 30.0	+0.7
DRGR		78.22	328	⇓i P		P		17 01 30.1	+0.6
DRGR		78.22	328	⇓P		P		17 01 30.2	+0.7
232A	Coleman baz=78	78.23	56	⇑P		P		17 01 29.5	-0.3
VOIR		78.45	326	⇓i P		P		17 01 31.8	+0.9
VOIR		78.45	326	⇓P		P		17 01 31.8	+0.9
530A	J-C Ranch, Com baz=78	78.49	59	⇑P		P		17 01 31.2	0.0
TREC	Trest	78.53	334	eP		P		17 01 28.8	-2.3
TREC	Trest	78.53	334	eP		P		17 01 28.8	-2.3
431A	Sonora baz=78	78.54	58	⇑P		P		17 01 31.2	-0.3
332A	Millersview baz=78	78.54	57	⇑P		P		17 01 30.8	-0.7
ARR	Arges	78.67	326	⇑i P		P		17 01 33.6	+1.5
W38A	Poteau baz=78	78.77	51	⇓P		P		17 01 32.3	-0.4
432A	Menard baz=79	78.88	57	⇑P		P		17 01 33.1	-0.3
531A	Rocksprings baz=79	78.95	58	⇓P		P		17 01 33.3	-0.5
333A	Richland Sprin baz=79	79.02	56	⇓P		P		17 01 33.7	-0.5
JCT	Junction City baz=79	79.16	57	⇑P		P		17 01 34.4	-0.6
KHC	Kasperske Hory	79.26	335	eP		P		17 01 32.5	-2.7
KHC				ex		x		17 01 35.0	
KHC	Kasperske Hory	79.26	335	eP		P		17 01 32.5	-2.7
BRTR	Keskin Array B comp=Z,3.7nm,0.8s,baz=86,slow=4.7,SNR=14	79.33	317	P		P		17 01 36.5	+0.6
532A	Rocksprings baz=79	79.36	58	⇓P		P		17 01 35.7	-0.3
GZR	Gura Zlata	79.37	327	⇑i P		P		17 01 35.4	-0.5
GZR	Gura Zlata	79.37	327	⇑P		P		17 01 35.4	-0.5
GERES	GERESS Array B comp=Z,1.9nm,0.6s,baz=33,slow=5.7,SNR=11	79.48	334	P		P		17 01 36.5	0.0
631A	Perdido Creek baz=79	79.48	59	⇑P		P		17 01 36.5	-0.2
CONA	Conrad Observa comp=Z,5.9nm,0.8s	79.61	333	⇓i P		P		17 01 38.3	+1.1
434A	Burnet baz=80	79.81	56	⇓P		P		17 01 38.1	-0.4
632A	Uvalde baz=80	79.88	58	⇓P		P		17 01 38.9	+0.1
533A	Kerrville baz=80	79.91	57	⇓P		P		17 01 38.8	-0.3
MEM	Membach comp=Z,13nm,1.6s	79.97	340	P		P		17 01 39.5	+0.6
PKSM	Moragy	80.18	330	⇓i P		P		17 01 39.6	-0.5
PKSM	Moragy	80.18	330	⇓P		P		17 01 39.6	-0.5
534A	Blanco baz=80	80.27	57	⇓P		P		17 01 40.5	-0.5
BCLA	Clavier	80.32	340	P		P		17 01 41.5	+0.7
H06E1	SOCORRO T-PHAS SNR=7.0	80.48	73	T		T		18 30 27.3	
832A	Faith Ranch, C baz=80	80.66	59	⇓P		P		17 01 42.3	-0.7
GIVF	Givet	80.73	340	eP		P		17 01 43.2	+0.2
GIVF	Givet	80.73	340	eP		P		17 01 43.2	+0.2
GIVF	Givet	80.73	340	eP		P		17 01 43.2	+0.2
DOU	Dourbes	80.79	340	P		P		17 01 43.6	+0.3
BAIF	Baives comp=Z,15nm,0.9s	80.91	341	eP		P		17 01 44.2	+0.2
BAIF	Baives comp=Z,15nm,0.9s	80.91	341	eP	pmax	P	pmax	17 01 44.2	+0.2
BAIF	Baives comp=Z,15nm,0.9s	80.91	341	eP		P		17 01 44.2	+0.2
SOKA	Soboth comp=Z,5.4nm,0.8s	80.98	333	⇑i P		P		17 01 45.0	+0.5
KBA	Koelnbreinsper comp=Z,14nm,0.8s	81.16	334	⇑i P		P		17 01 46.7	+1.1
BFO	Black Forest	81.48	337	i P		P		17 01 48.0	+0.9
DIVS	Divibare	81.51	328	⇑i P		P		17 01 47.1	-0.3
VTS	Vitosha	81.56	325	⇓i P		P		17 01 47.9	+0.1
VTS	Vitosha	81.56	325	⇓P		P		17 01 47.9	+0.1
933A	Laredo baz=81	81.57	59	⇑P		P		17 01 47.7	-0.2
MOTA	Moosalm comp=Z,12nm,1.1s	81.59	335	⇑i P		P		17 01 48.6	+0.7
CDF	Champ du Feu comp=Z,16nm,0.9s	81.68	338	eP		P		17 01 48.5	+0.3
CDF	Champ du Feu comp=Z,17nm,0.9s	81.68	338	eP	pmax	P	pmax	17 01 48.5	+0.3
CDF	Champ du Feu comp=Z,16nm,0.9s	81.68	338	eP		P		17 01 48.5	+0.3
ECH	Echery comp=Z,3.0nm,0.8s	81.89	338	eP		P		17 01 49.6	+0.3
ECH					pmax		pmax		
ECH	Echery comp=Z,3.4nm,0.8s	81.89	338	eP		P		17 01 49.6	+0.3
PAGF	Fort de Pagny comp=Z,8.9nm,0.7s	81.95	339	eP		P		17 01 50.2	+0.7
PAGF	Fort de Pagny comp=Z,8.9nm,0.6s	81.95	339	eP		P		17 01 50.2	+0.7
MEZF	Maizieres J'vi comp=Z,18nm,0.7s	82.16	339	eP		P		17 01 51.2	+0.6
MEZF	Maizieres J'vi comp=Z,18nm,0.6s	82.16	339	eP		P		17 01 51.2	+0.6
HAU	Haudompre comp=Z,7.2nm,0.7s	82.30	339	eP		P		17 01 51.5	+0.1
HAU	Haudompre comp=Z,7.0nm,0.7s	82.30	339	eP	pmax	P	pmax	17 01 51.5	+0.1
HAU	Haudompre comp=Z,7.2nm,0.7s	82.30	339	eP		P		17 01 51.5	+0.1
034A	Hebbronville baz=82	82.33	59	⇑P		P		17 01 52.7	+0.8
HINF	Hinteralfeld	82.34	338	eP		P		17 01 51.6	-0.1
HINF	Hinteralfeld	82.34	338	eP		P		17 01 51.6	-0.1
HINF	Hinteralfeld	82.34	338	eP		P		17 01 51.6	-0.1
SFTF	Sexfontaines comp=Z,43nm,0.8s	82.44	339	eP		P		17 01 52.5	+0.4
SFTF	Sexfontaines comp=Z,43nm,0.8s	82.44	339	eP		P		17 01 52.5	+0.4
FLN	La Foliniere comp=Z,12nm,0.7s	83.16	343	eP		P		17 01 55.8	0.0
FLN	La Foliniere comp=Z,13nm,0.7s	83.16	343	eP	pmax	P	pmax	17 01 55.8	0.0
FLN	La Foliniere comp=Z,12nm,0.7s	83.16	343	eP		P		17 01 55.8	0.0
LDF	La Druitiere	83.25	343	eP		P		17 01 56.1	-0.2
LDF	La Druitiere	83.25	343	eP		P		17 01 56.1	-0.2
LDF	La Druitiere	83.25	343	eP		P		17 01 56.1	-0.2
ASF	Jabal al Asfar comp=Z,2.5nm,0.8s,baz=286,slow=5.7,SNR=4.0	83.58	310	P		P		17 01 58.0	-0.4
ASF	Jabal al Asfar	83.58	310	P		P		17 01 58.0	-0.4
GRR	Gorron comp=Z,20nm,0.8s	83.59	343	eP		P		17 01 58.2	+0.2
GRR	Gorron comp=Z,20nm,0.8s	83.59	343	eP	pmax	P	pmax	17 01 58.2	+0.2
GRR	Gorron comp=Z,20nm,0.8s	83.59	343	eP		P		17 01 58.2	+0.2
LOR	Lormes comp=Z,40nm,1.2s	83.60	340	eP		P		17 01 58.4	+0.2
LOR	Lormes comp=Z,41nm,1.2s	83.60	340	eP	pmax	P	pmax	17 01 58.4	+0.2
LOR	Lormes comp=Z,40nm,1.2s	83.60	340	eP		P		17 01 58.4	+0.2
CABF	La Chapelle comp=Z,13nm,0.8s	83.66	338	eP		P		17 01 58.9	+0.4
CABF	La Chapelle comp=Z,13nm,0.8s	83.66	338	eP	pmax	P	pmax	17 01 58.9	+0.4
CABF	La Chapelle comp=Z,13nm,0.8s	83.66	338	eP		P		17 01 58.9	+0.4
MMAI	Mount Meron Ar comp=Z,13nm,0.8s,baz=50,slow=7.7,SNR=12	83.71	312	P		P		17 02 00.1	+1.0
SSF	Saint Saulge	83.88	340	eP		P		17 01 59.7	+0.1
SSF	Saint Saulge	83.88	340	eP		P		17 01 59.7	+0.1
SSF	Saint Saulge	83.88	340	eP		P		17 01 59.7	+0.1
SGMF	Saint Gilles	84.05	344	eP		P		17 02 00.6	+0.2
SGMF	Saint Gilles	84.05	344	eP		P		17 02 00.6	+0.2
SGMF	Saint Gilles	84.05	344	eP		P		17 02 00.6	+0.2
ROSF	Rostrenen	84.11	345	eP		P		17 02 00.9	+0.2
ROSF	Rostrenen	84.11	345	eP		P		17 02 00.9	+0.2
ROSF	Rostrenen	84.11	345	eP		P		17 02 00.9	+0.2
AVF	Avril sur Loir comp=Z,13nm,0.7s	84.17	340	eP		P		17 02 01.3	+0.3
AVF	Avril sur Loir comp=Z,13nm,0.7s	84.17	340	eP	pmax	P	pmax	17 02 01.3	+0.3
AVF	Avril sur Loir comp=Z,13nm,0.7s	84.17	340	eP		P		17 02 01.3	+0.3
SMF	Signal de Mont comp=Z,39nm,1.0s	84.19	340	eP		P		17 02 01.4	+0.2
SMF	Signal de Mont comp=Z,39nm,1.0s	84.19	340	eP	pmax	P	pmax	17 02 01.4	+0.2
SMF	Signal de Mont comp=Z,39nm,1.0s	84.19	340	eP		P		17 02 01.4	+0.2
QUIF	Quistinic	84.49	345	eP		P		17 02 02.8	+0.2
QUIF	Quistinic	84.49	345	eP		P		17 02 02.8	+0.2
QUIF	Quistinic	84.49	345	eP		P		17 02 02.8	+0.2
LPL	La Plagne comp=Z,22nm,1.0s	84.50	337	eP		P		17 02 03.9	+0.9
LPL	La Plagne comp=Z,22nm,1.0s	84.50	337	eP	pmax	P	pmax	17 02 03.9	+0.9
LPL	La Plagne comp=Z,22nm,1.0s	84.50	337	eP		P		17 02 03.9	+0.9
LPG	La Plagne comp=Z,36nm,1.3s	84.51	337	eP		P		17 02 04.1	+0.9
LPG	La Plagne	84.51	337	eP	pmax	P	pmax	17 02 04.1	+0.9

	comp=Z,36nm,1.3s							
LPG	**La Plagne**	**84.51**	**337**	*e*P		**P**	**17 02 04.1**	**+0.9**
	comp=Z,36nm,1.3s							
TCF	**Toulx Ste Croi**	**84.92**	**341**	*e*P		**P**	**17 02 05.2**	**+0.3**
TCF	**Toulx Ste Croi**	**84.92**	**341**	*e*P		**P**	**17 02 05.2**	**+0.3**
TCF	**Toulx Ste Croi**	**84.92**	**341**	*e*P		**P**	**17 02 05.2**	**+0.3**
BNI	**Bardonecchia**	**84.94**	**337**	*e*P		**P**	**17 02 06.2**	**+1.1**
BNI					pmax	pmax		
	comp=Z,2.0nm,0.6s							
BNI	**Bardonecchia**	**84.94**	**337**	*e*P		**P**	**17 02 06.2**	**+1.1**
	comp=Z,1.7nm,0.6s							
MFF	**Saint Martin d**	**85.14**	**342**	*e*P		**P**	**17 02 06.3**	**+0.4**
MFF	**Saint Martin d**	**85.14**	**342**	*e*P		**P**	**17 02 06.3**	**+0.4**
MFF	**Saint Martin d**	**85.14**	**342**	*e*P		**P**	**17 02 06.3**	**+0.4**
MBDF	**Montbardon**	**85.22**	**337**	*e*P		**P**	**17 02 06.9**	**+0.4**
MBDF	**Montbardon**	**85.22**	**337**	*e*P		**P**	**17 02 06.9**	**+0.4**
MBDF	**Montbardon**	**85.22**	**337**	*e*P		**P**	**17 02 06.9**	**+0.4**
ORIF	**Oris-en-Rattie**	**85.28**	**338**	*e*P		**P**	**17 02 07.8**	**+1.0**
	comp=Z,20nm,0.8s							
ORIF	**Oris-en-Rattie**	**85.28**	**338**	*e*P		**P**	**17 02 07.8**	**+1.0**
ORIF					pmax	pmax		
	comp=Z,20nm,0.8s							
ORIF	**Oris-en-Rattie**	**85.28**	**338**	*e*P		**P**	**17 02 07.8**	**+1.0**
	comp=Z,20nm,0.8s							
SSB	**Saint Sauveur**	**85.29**	**339**	*e*P		**P**	**17 02 07.7**	**+0.9**
SSB					pmax	pmax		
	comp=Z,9.0nm,1.0s							
SSB	**Saint Sauveur**	**85.29**	**339**	*e*P		**P**	**17 02 07.7**	**+0.9**
	comp=Z,9.4nm,1.0s							
VIVF	**Saint-Julien-l**	**85.65**	**338**	*e*P		**P**	**17 02 09.4**	**+0.8**
	comp=Z,8.9nm,0.7s							
VIVF	**Saint-Julien-l**	**85.65**	**338**	*e*P		**P**	**17 02 09.4**	**+0.8**
VIVF					pmax	pmax		
	comp=Z,9.0nm,0.7s							
VIVF	**Saint-Julien-l**	**85.65**	**338**	*e*P		**P**	**17 02 09.4**	**+0.8**
	comp=Z,8.9nm,0.7s							
SBF	**Sospel**	**85.83**	**336**	*e*P		**P**	**17 02 09.5**	**0.0**
SBF	**Sospel**	**85.83**	**336**	*e*P		**P**	**17 02 09.5**	**0.0**
SBF	**Sospel**	**85.83**	**336**	*e*P		**P**	**17 02 09.5**	**0.0**
RJF	**Les Rejaudoux**	**86.00**	**341**	*e*P		**P**	**17 02 10.6**	**+0.3**
RJF	**Les Rejaudoux**	**86.00**	**341**	*e*P		**P**	**17 02 10.6**	**+0.3**
RJF	**Les Rejaudoux**	**86.00**	**341**	*e*P		**P**	**17 02 10.6**	**+0.3**
CAF	**Calviac**	**86.23**	**340**	*e*P		**P**	**17 02 11.4**	**0.0**
CAF	**Calviac**	**86.23**	**340**	*e*P		**P**	**17 02 11.4**	**0.0**
CAF	**Calviac**	**86.23**	**340**	*e*P		**P**	**17 02 11.4**	**0.0**
SMRF	**Simiane la Rot**	**86.23**	**337**	*e*P		**P**	**17 02 12.2**	**+0.7**
SMRF	**Simiane la Rot**	**86.23**	**337**	*e*P		**P**	**17 02 12.2**	**+0.7**
FRF	**La Foret Royal**	**86.33**	**337**	*e*P		**P**	**17 02 12.1**	**+0.2**
FRF	**La Foret Royal**	**86.33**	**337**	*e*P		**P**	**17 02 12.1**	**+0.2**
FRF	**La Foret Royal**	**86.33**	**337**	*e*P		**P**	**17 02 12.1**	**+0.2**
LMR	**La Mourre**	**86.57**	**337**	*e*P		**P**	**17 02 13.5**	**+0.4**
	comp=Z,39nm,1.2s							
LMR	**La Mourre**	**86.57**	**337**	*e*P		**P**	**17 02 13.5**	**+0.4**
LMR					pmax	pmax		
	comp=Z,39nm,1.2s							
LMR	**La Mourre**	**86.57**	**337**	*e*P		**P**	**17 02 13.5**	**+0.4**
	comp=Z,39nm,1.2s							
PGF	**Pioggiola**	**86.58**	**335**	*e*P		**P**	**17 02 13.9**	**+0.6**
	comp=Z,20nm,0.9s							
PGF	**Pioggiola**	**86.58**	**335**	*e*P		**P**	**17 02 13.9**	**+0.6**
PGF					pmax	pmax		
	comp=Z,20nm,0.9s							
PGF	**Pioggiola**	**86.58**	**335**	*e*P		**P**	**17 02 13.9**	**+0.6**
	comp=Z,20nm,0.9s							
LASF	**Ste Croix**	**86.59**	**339**	*e*P		**P**	**17 02 12.9**	**-0.3**
LASF	**Ste Croix**	**86.59**	**339**	*e*P		**P**	**17 02 12.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**116.10**	**329**	PKP		**PKPdf**	**17 08 11.9**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=11,slow=3.1,SNR=2.6							
VNDA	**Vanda**	**123.13**	**178**	PKP		**PKPdf**	**17 08 23.0**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=294,slow=5.1,SNR=4.1							
BDFB	**Brasilia**	**144.90**	**38**	PKP		**PKPab**	**17 09 05.8**	**-0.7**
	comp=Z,3.4nm,0.4s,baz=300,slow=1.0,SNR=4.3							
PLCA	**Paso Flores**	**147.76**	**97**	PKPbc		**PKPbc**	**17 09 13.9**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=286,slow=2.0,SNR=22							
CPUP	**Villa Florida**	**148.63**	**62**	PKPbc		**PKPbc**	**17 09 16.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=288,slow=0.9,SNR=4.2							

*ISCJB **28** 16:53:51.8±0.3, 33°.16N±0°.04×96°.38E±0°.05, h10km, mb4.2/20, Error ellipse: s-maj=7.0km s-min=5.0km az=39.1*

*IDC **28** 16:53:51.3±0.7, 33°.11N×96°.33E, h0km, mb4.0/14, mb1 4.2/17, mb1mx3.9/43, mbtmp4.0/17, ML3.8/3, Error ellipse: s-maj=24.3km s-min=14.7km az=54.0*

*BJI **28** 16:53:54.0, 33°.21N×96°.52E, h4km, mb4.1/2, ML3.9/8, Ms3.9/1, Ms7 3.8/9*

*NEIC **28** 16:53:58.3±1.0, 33°.21N×96°.44E, h48km±10km, mb4.7/6, Error ellipse: s-maj=10.3km s-min=6.1km az=63.0*

ISC 28 16:53:53.5±0.6, 33°20N±0°.06×96°52E±0°.06, h10km, n62, σ1°50/63, mb4.3/20, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.76**	**234**	*e*Pn	**Pn**	**16 55 22.4**	**+2.9**
CD2	**Chengdu**	**6.56**	**108**	Pg	Pb	16 55 53.5	+5.8
CD2				Sg	Sg	16 57 17.5	-6.5
CD2				SMN			
	110nm,1.3s						
CD2				SME			
	100nm,1.1s						
LZH	**Lanzhou**	**6.69**	**62**	*e*Pn	Pn	16 55 35.5	+3.5
LZH				Pg	Pg	16 55 57.0	-4.6
LZH				Sn	Sb	16 57 01.5	-8.6
LZH				Sg	**Sg**	**16 57 24.0**	**-4.3**
LZH				SMN			
	82nm,1.3s						
LZH				SME			
	120nm,1.4s						
GTA	**Gaotai**	**6.75**	**22**	Pn	**Pn**	**16 55 35.0**	**+2.3**
GTA				Sn	**Sn**	**16 56 55.5**	**+5.8**
GTA				LZ			
	320nm,9.5s						
TAPN	**Taplejung**	**9.59**	**235**	*e*P	**Pn**	**16 56 12.1**	**+0.2**
	36nm,0.6s						
ODAN	**Odare**	**10.12**	**234**	*e*P	**Pn**	**16 56 20.0**	**+0.9**
	71nm,0.5s						
JIRN	**Jiri**	**10.48**	**241**	*e*P	**Pn**	**16 56 24.3**	**+0.1**
	35nm,0.7s						
GUN	**Gumba**	**10.57**	**243**	*e*P	**Pn**	**16 56 25.8**	**+0.4**
	49nm,0.5s						
RAMN	**Ramite**	**10.61**	**237**	*e*P	**Pn**	**16 56 25.9**	**+0.1**
	55nm,0.6s						
KKN	**Kakani**	**11.09**	**244**	*e*P	**Pn**	**16 56 32.0**	**-0.3**
	15nm,0.3s						
PKI	**Pulchoki**	**11.11**	**243**	*e*P	**Pn**	**16 56 32.3**	**-0.4**
	32nm,0.4s						
PKIN	**Phulchoki**	**11.11**	**243**	*e*P	**Pn**	**16 56 32.3**	**-0.4**
	23nm,0.4s						
DMN	**Daman**	**11.31**	**244**	*e*P	**Pn**	**16 56 35.6**	**+0.1**
	23nm,0.6s						
GKN	**Gorkha**	**11.47**	**246**	*e*P	**Pn**	**16 56 37.3**	**-0.2**
	16nm,0.5s						
KOLN	**Koldanda**	**12.38**	**247**	*e*P	**Pn**	**16 56 48.7**	**-1.3**
	17nm,0.6s						
PYUN	**Piuthan**	**12.70**	**250**	*e*P	**Pn**	**16 56 52.9**	**-1.5**
	44nm,0.5s						
CHTO	**Chiang Mai**	**14.49**	**171**	*e*P	**Pn**	**16 57 20.9**	**+2.2**
	8.7nm,0.9s						
CM31	**Chiang Mai Arr**	**14.84**	**171**	*e*P	**Pn**	**16 57 26.5**	**+3.1**
	6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.84**	**171**	Pn	**Pn**	**16 57 22.9**	**-0.6**
	0.0nm,0.3s,baz=344,slow=11,SNR=4.5						
SONM	**Songino Array**	**16.41**	**24**	Pn	**P**	**16 57 46.5**	**-0.4**
	0.5nm,0.3s,baz=208,slow=15,SNR=11						
MK31	**Makanchi Array**	**17.37**	**326**	*e*P	**Pn**	**16 57 55.5**	**-0.5**
MK31	**Makanchi Array**	**17.37**	**326**	*e*P	**Pn**	**16 57 55.5**	**-0.5**
MKAR	**Makanchi Array**	**17.37**	**326**	P	**Pn**	**16 57 55.0**	**-1.0**
	1.1nm,0.3s,baz=133,slow=12,SNR=38						
MKAR	**Makanchi Array**	**17.37**	**326**	P	**Pn**	**16 57 55.0**	**-1.0**
KSH	**Kashi**	**17.69**	**297**	*e*P	**P**	**16 58 03.5**	**+2.5**
KSH				PP	PnPn	16 58 18.0	+7.4
KSH				S	**Sn**	**17 01 20.3**	**+3.0**
KSH				PMZ			
	7.0nm,1.2s						
KSH				LZ			
	340nm,11.7s						
TKM2	**Tokmak 2**	**19.08**	**307**	*e*P	**Pn**	**16 58 17.6**	**+0.5**
AAK	**Ala-Archa**	**19.72**	**305**	P	**Pn**	**16 58 25.0**	**+0.3**
	0.4nm,0.3s,baz=94,slow=7.4,SNR=11						
KURBB	**Kurchatov Arra**	**21.86**	**328**	P	**P**	**16 58 46.1**	**-0.1**
	11nm,0.8s,baz=137,slow=11,SNR=7.8						
KURK	**Kurchatov**	**21.89**	**328**	*e*P	**P**	**16 58 45.6**	**-0.9**
ZAA0	**Zalesovo Array**	**22.35**	**342**	*e*P	**P**	**16 58 50.3**	**-1.1**
ZALV	**Zalesovo Beam**	**22.35**	**342**	P	**P**	**16 58 51.0**	**-0.4**
	6.3nm,0.8s,baz=155,slow=9.9,SNR=12						
KBL	**Kabul**	**22.83**	**281**	*e*P	**P**	**16 58 56.8**	**-0.1**
	26nm,0.9s						
KSAR	**Wonju Array Be**	**25.88**	**72**	P	**P**	**16 59 27.9**	**+2.4**
KSRS	**Korea Array**	**25.91**	**72**	P	**P**	**16 59 27.9**	**+2.2**
	2.6nm,0.9s,baz=259,slow=10,SNR=4.3						
AKASG	**Malin Array Be**	**51.22**	**311**	P	**P**	**17 02 55.8**	**-1.1**
	0.2nm,0.2s,baz=73,slow=6.7,SNR=6.9						
FINES	**FINESS Array B**	**52.21**	**325**	P	**P**	**17 03 03.7**	**-0.5**
	3.1nm,0.7s,baz=103,slow=8.6,SNR=4.9						
ARCES	**ARCESS Array B**	**52.69**	**335**	P	**P**	**17 03 07.5**	**-0.2**
	3.4nm,0.9s,baz=88,slow=7.5,SNR=3.8						
NB2	**NORSAR Subarra**	**59.37**	**326**	P	**P**	**17 03 54.4**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=76,slow=6.9						
NOA	**NORSAR Array B**	**59.37**	**326**	P	**P**	**17 03 54.3**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=77,slow=7.0,SNR=6.4						
GERES	**GERESS Array B**	**61.42**	**312**	P	**P**	**17 04 09.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=84,slow=5.0,SNR=4.1						
WRAB	**Tennant Creek**	**64.00**	**140**	*e*P	**P**	**17 04 27.8**	**+0.5**
	comp=Z,6.6nm,1.0s						
WRA	**Warramunga Arr**	**64.00**	**140**	P	**P**	**17 04 26.6**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=322,slow=8.5,SNR=12						
KMBO	**Kilima Mbogo**	**65.31**	**251**	P	**P**	**17 04 34.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=55,slow=16,SNR=4.1						
AS31	**Alice Springs**	**66.84**	**143**	*e*P	**P**	**17 04 45.7**	**0.0**
ASAR	**Alice Springs**	**66.84**	**143**	P	**P**	**17 04 45.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=324,slow=6.1,SNR=17						
LPG	**La Plagne**	**67.06**	**310**	*e*P	**P**	**17 04 47.1**	**-0.1**
	comp=Z,8.3nm,0.8s						
LPG	**La Plagne**	**67.06**	**310**	*e*P	**P**	**17 04 47.1**	**-0.1**
	comp=Z,8.3nm,0.8s						
LPL	**La Plagne**	**67.06**	**310**	*e*P	**P**	**17 04 47.0**	**-0.2**
	comp=Z,7.9nm,0.8s						
LPL	**La Plagne**	**67.06**	**310**	*e*P	**P**	**17 04 47.0**	**-0.2**
	comp=Z,7.9nm,0.8s						
SBF	**Sospel**	**67.29**	**308**	*e*P	**P**	**17 04 47.7**	**-0.8**
SBF	**Sospel**	**67.29**	**308**	*e*P	**P**	**17 04 47.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**67.86**	**310**	*e*P	**P**	**17 04 51.1**	**-1.0**
ORIF	**Oris-en-Rattie**	**67.86**	**310**	*e*P	**P**	**17 04 51.1**	**-1.0**
AVF	**Avril sur Loir**	**68.64**	**313**	*e*P	**P**	**17 04 56.1**	**-0.7**
	comp=Z,6.5nm,0.8s						
AVF	**Avril sur Loir**	**68.64**	**313**	*e*P	**P**	**17 04 56.1**	**-0.7**
	comp=Z,6.5nm,0.8s						
TCF	**Toulx Ste Croi**	**69.58**	**312**	*e*P	**P**	**17 05 02.3**	**-0.4**
	comp=Z,6.9nm,0.8s						
TCF	**Toulx Ste Croi**	**69.58**	**312**	*e*P	**P**	**17 05 02.3**	**-0.4**
	comp=Z,6.9nm,0.8s						
ILAR	**Eielson Array**	**70.64**	**24**	P	**P**	**17 05 07.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=290,slow=5.4,SNR=3.5						
ROSF	**Rostrenen**	**71.89**	**316**	*e*P	**P**	**17 05 16.5**	**-0.2**
ROSF	**Rostrenen**	**71.89**	**316**	*e*P	**P**	**17 05 16.5**	**-0.2**
YKA	**Yellowknife Ar**	**81.41**	**14**	P	**P**	**17 06 09.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=336,slow=5.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**86.88**	**284**	P	**P**	**17 06 37.5**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=57,slow=3.1,SNR=4.3						

*IDC **28** 17:07:20.5±1.5, 19°.44S×69°.68W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.5/24, mbtmp3.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/22, Error ellipse: s-maj=65.8km s-min=28.9km az=78.0*

*NEIC **28** 17:07:25.5±0.9, 19°.55S×69°.74W, h35km, ML3.9(GUC), Error ellipse: s-maj=53.6km s-min=17.4km az=79.0*

NEIC Felt [II] at Alto Hospicio, Camina, Huara, Iquique and Pisagua.

*ISCJB **28** 17:07:26.2±0.8, 19°.87S±0°.04×70°.1W±0°.1, h58km±6km, mb3.8/2, MS3.9/1, Error ellipse: s-maj=16.6km s-min=6.1km az=3.7*

*GUC **28** 17:07:26.7±0.7, 19°.90S×70°.08W, h50km±3km, ML3.9*

ISC 28 17:07:26.7±1.0, 19°.84S±0°.04×70°.16W±0°.10, h50km±8km, n20, σ1°78/22, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.24**	**7**	*i*P	**Pn**	**17 07 36.3**	**+0.8**
PSGC				*i* S	**Sn**	**17 07 42.8**	**+1.1**
PSGC				AML	AML	17 07 43.0	
	comp=N,22μm,0.4s						
PB11	**IPOC Station P**	**0.48**	**80**	↓*i*P	**Pn**	**17 07 37.7**	**-0.2**
PB11				*i* S	**Sn**	**17 07 45.5**	**-0.3**
HMBC	**Humberstone**	**0.50**	**150**	*e*P	**Pn**	**17 07 37.5**	**-0.6**
HMBC				*i* S	**Sn**	**17 07 45.0**	**-1.3**
HMBC				AML	AML	17 07 45.5	
	comp=N,7μm,0.3s						
MNMC	**Minimini**	**0.88**	**37**	↓*i*P	**Pn**	**17 07 43.7**	**+0.6**
MNMC				*i* S	**Sn**	**17 07 56.3**	**+1.2**
MNMC				AML	AML	17 07 56.6	
	comp=E,17μm,0.2s						
PATCX	**Punta Patache**	**0.97**	**180**	↑*i*P	**Pn**	**17 07 43.5**	**-0.7**
PATCX				*i* S	**Sn**	**17 07 56.9**	**-0.1**
PB01	**IPOC Station P**	**1.35**	**152**	↓*i*P	**Pn**	**17 07 48.6**	**-0.7**
PB01				*i* S	**Sn**	**17 08 05.7**	**-0.5**
PB01				AML	AML	17 08 07.6	
	comp=E,2μm,0.3s						
PB07	**IPOC Station P**	**1.89**	**172**	*e*P	**Pn**	**17 07 57.2**	**+0.5**
PB07				*i* S	**Sn**	**17 08 19.5**	**0.0**
LVC	**Limon Verde**	**2.99**	**157**	Pn	**Pn**	**17 08 13.4**	**+1.5**
	baz=346,slow=9.3						
LVC				Sn	**Sn**	**17 08 52.4**	**+5.7**
	comp=E,1μm,0.3s,baz=240,slow=20,SNR=5.0						
LVC				LR	LR	17 09 37.3	
	comp=E,459nm,20.1s,baz=166,slow=42						
LVC	**Limon Verde**	**2.99**	**157**	*e*Pn	**Pn**	**17 08 12.9**	**+1.0**
LVC				*e*Sn	**Sn**	**17 08 49.9**	**+3.2**
TORD	**Torodi Ar. Bea**	**77.91**	**71**	P	**P**	**17 19 17.9**	**-2.0**
	comp=E,0.5nm,0.5s,baz=246,slow=5.9,SNR=7.7						
VNDA	**Vanda**	**78.27**	**190**	LR	LR	17 49 48.7	
	comp=E,60nm,19.9s,baz=298,slow=32						
YKA	**Yellowknife Ar**	**89.25**	**341**	P	**P**	**17 20 16.8**	**-0.1**
	comp=E,0.4nm,0.7s,baz=132,slow=4.7,SNR=5.1						
H11S2	**WAKE ISLAND Hyl**	**26.49**	**279**	T	T	19 45 42.7	
	baz=104						
H11S1	**WAKE ISLAND Hyl**	**26.50**	**279**	T	T	19 45 44.7	
	baz=104						
H11S3	**WAKE ISLAND Hyl**	**26.51**	**279**	T	T	19 45 44.0	
	baz=104						
H11N3	**WAKE ISLAND Hyl**	**26.54**	**280**	T	T	19 45 43.8	
	baz=94						
H11N2	**WAKE ISLAND Hyl**	**26.55**	**280**	T	T	19 45 51.8	
	baz=94						
H11N1	**WAKE ISLAND Hyl**	**26.55**	**280**	T	T	19 45 43.6	
	baz=94						
MKAR	**Makanchi Array**	**144.94**	**34**	PKP	**PKPab**	**17 26 57.4**	**-0.3**
	comp=E,0.5nm,0.8s,baz=283,slow=4.4,SNR=6.0						
SONM	**Songino Array**	**151.94**	**5**	PKPbc	**PKPbc**	**17 27 16.7**	**+0.3**
	comp=E,0.2nm,0.5s,baz=10,slow=1.6,SNR=3.2						

IDC 28 17:14:19.4±1.7, 35°.12S×72°.32W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/21, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=69.2km s-min=34.8km az=65.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.77**	**166**	Pn	Pn	17 15 46.5	0.0
	1.1nm,0.3s,baz=338,slow=12,SNR=40						
PLCA				Lg	Lg	17 17 12.7	
	0.5nm,0.3s,baz=14,slow=6.7,SNR=3.6						
TXAR	**Lajitas Array**	**70.60**	**331**	P	P	17 25 36.7	0.0
	0.4nm,0.6s,baz=153,slow=8.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**84.81**	**70**	P	P	17 26 56.1	0.0
	0.6nm,0.9s,baz=251,slow=6.0,SNR=3.9						

IDC 28 17:17:49.7±432.0, 46°.29N×64°.09E, h0km, Error ellipse: s-maj=188.1km s-min=114.7km az=153.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**5.77**	**318**	*i*		17 53 30.0	
	baz=133,slow=341,SNR=0.3						
I46RU	**ZALESOVO INFRA**	**15.31**	**52**	*i*		18 49 20.0	
	baz=248,slow=326,SNR=3.4						
I34MN	**SONGINO INFRAS**	**28.62**	**71**	*i*		20 14 40.0	
	baz=281,slow=331,SNR=0.7						

IDC 28 17:33:00.3±2.1, 5°.19S×151°.81E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, Error ellipse: s-maj=101.6km s-min=22.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.45**	**228**	P	P	17 38 02.0	+0.7
	1.8nm,0.9s,baz=54,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**25.20**	**221**	P	P	17 38 27.6	-0.4
	0.4nm,0.6s,baz=57,slow=9.1,SNR=12						
PETK	**Petropavlovsk-**	**58.29**	**4**	P	P	17 42 55.9	-0.9
	1.4nm,0.5s,baz=170,slow=8.8,SNR=10						
ZALV	**Zalesovo Beam**	**80.93**	**327**	P	P	17 45 17.2	+0.7
	0.4nm,0.5s,baz=116,slow=6.6,SNR=3.7						
ILAR	**Eielson Array**	**82.89**	**22**	P	P	17 45 27.5	+0.9
	0.2nm,0.5s,baz=231,slow=5.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.49**	**287**	PKPbc	PKPbc	17 52 51.4	-1.3
	0.2nm,0.6s,baz=56,slow=2.7,SNR=2.3						

*AZER **28** 17:39:07.6±1.1, 35°.25N×49°.51E, h5km, Error ellipse: s-maj=87.4km s-min=9.4km az=74.0*

*IDC **28** 17:39:14.4±1.7, 35°.72N×49°.04E, h0km, mb3.8/8, mb1 3.8/9, mb1mx3.5/38, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=34.2km s-min=19.8km az=172.0*

*THR **28** 17:39:16.3±0.3, 35°.90N×49°.10E, h14km±4km, ML3.5*

*CSEM **28** 17:39:17.0±0.3, 35°.84N×49°.16E, h2km, ML3.7, Error ellipse: s-maj=11.9km s-min=4.3km az=45.0*

*TEH **28** 17:39:17.2, 35°.82N×49°.05E, h5km, ML3.7*

*ISN **28** 17:39:38.1±17.0, 35°.57N×46°.95E, h0km±149km, ML3.4*

ISC 28 17:39:15.5±1.4, 35°.77N±0°.03×48°.98E±0°.03, h2km±10km, n66, σ1°66/77, mb3.8/7, 9C-9D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRAZ	**Razeghan**	**0.85**	**115**	*e*Pg	**Pg**	**17 39 32.2**	**+0.3**
IRAZ				*e*Sg	**Sg**	**17 39 42.9**	**0.0**
IRAZ				*e*		17 39 51.6	
	comp=Z,25μm,0.2s						
IRAZ	**Razeghan**	**0.85**	**115**	*e*Pg	**Pg**	**17 39 32.2**	**+0.3**
IRAZ				*e*Sg	**Sg**	**17 39 42.9**	**0.0**
ZNJK	**Zanjan**	**0.93**	**345**	*e*Pg	**Pg**	**17 39 32.3**	**-1.0**
ZNJK	**Zanjan**	**0.93**	**345**	*e*Pg	**Pg**	**17 39 32.3**	**-1.0**
IMHD	**Mahdasht**	**1.37**	**93**	*e*Pg	**Pn**	**17 39 40.5**	**-1.3**
IMHD				*e*		17 39 42.8	
	comp=Z,11μm,0.1s						
IMHD				*e*Sg	**Sb**	**17 39 59.5**	**-0.6**
IMHD	**Mahdasht**	**1.37**	**93**	*e*Pg	**Pn**	**17 39 40.5**	**-1.3**
IMHD				*e*Sg	**Sb**	**17 39 59.5**	**-0.6**
ASAO	**Ashtian**	**1.49**	**145**	*e*Pg	**Pn**	**17 39 44.9**	**+1.3**
ASAO				*e*Sg	**Sg**	**17 40 05.7**	**+2.4**
ASAO				AML	AML	17 40 06.8	
	comp=E,300nm,0.4s						
ASAO	**Ashtian**	**1.49**	**145**	*e*Pg	**Pn**	**17 39 44.9**	**+1.3**
ASAO				*e*Sg	**Sg**	**17 40 05.7**	**+2.4**
	comp=E,300nm,0.4s						
IBZA	**Bozab**	**1.59**	**216**	*e*	Sg	17 40 16.3	+10
	comp=Z,13μm,0.2s						
IR3	**Iran Long-Peri**	**1.69**	**99**	*e*Pg	**Pn**	**17 39 46.3**	**+0.1**
IR3	**Iran Long-Peri**	**1.69**	**99**	*e*Pg	**Pn**	**17 39 46.3**	**+0.1**
CHTH	**Charan**	**1.75**	**85**	*e*Pg	**Pn**	**17 39 46.5**	**-0.6**
CHTH	**Charan**	**1.75**	**85**	*e*Pg	**Pn**	**17 39 46.5**	**-0.6**
ISRB	**Sarab**	**2.31**	**333**	*e*Pn	**Pn**	**17 39 55.1**	**+0.3**
ISRB				*e*		17 40 28.8	
	comp=Z,8μm,0.3s						
ISRB	**Sarab**	**2.31**	**333**	*e*Pn	**Pn**	**17 39 55.1**	**+0.3**
DAMV	**Damavand**	**2.44**	**92**	*e*Pn	**Pn**	**17 39 56.8**	**+0.2**
DAMV				AML	AML	17 40 37.5	
	comp=N,425nm,0.6s						
DAMV				AML	AML	17 40 39.0	
	comp=E,408nm,0.6s						
DAMV	**Damavand**	**2.44**	**92**	*e*Pn	**Pn**	**17 39 56.8**	**+0.2**
	comp=E,408nm,0.6s						
IDMV	**Damavand**	**2.49**	**94**	*e*Pn	**Pn**	**17 39 57.9**	**+0.5**
IDMV				*e*		17 40 37.6	
	comp=Z,4μm,0.2s						
IDMV	**Damavand**	**2.49**	**94**	*e*Pn	**Pn**	**17 39 57.9**	**+0.5**
LRK	**Lerik**	**2.91**	**350**	↓P	**Pn**	**17 40 03.4**	**+0.3**
LRK				↓S	**Sb**	**17 40 45.9**	**+1.5**
LRK	**Lerik**	**2.91**	**350**	P	**Pn**	**17 40 03.4**	**+0.3**
LKRN	**Lenkeran, Azer**	**2.94**	**357**	↓P	**Pn**	**17 40 03.4**	**+0.2**
LKRN				↓S	**Sb**	**17 40 46.1**	**+1.1**
LKRN	**Lenkeran, Azer**	**2.94**	**357**	P	**Pn**	**17 40 03.4**	**+

MKAR Makanchi Array 57.30 326 P P 17 56 39.1 -0.1
0.1nm,0.3s,baz=116,slow=6.7,SNR=7.6

*ATH **28** 17:51:22.8, 34°.26N×26°.79E, h9km±3km, MD3.6/11*
*THE **28** 17:51:23.7, 34°.24N×26°.74E, h0km±3km, ML3.6/2, Error ellipse: s-maj=10.9km s-min=1.8km az=165.0*
*ISCJB **28** 17:51:24.4±0.9, 34°.44N±0°.04×26°.78E±0°.03, h1km±6km, mb3.6/13, Error ellipse: s-maj=6.6km s-min=3.5km az=4.4*
*CSEM **28** 17:51:26.6±0.6, 34°.57N×26°.71E, h0km±1km, MD3.6, Error ellipse: s-maj=13.2km s-min=4.9km az=174.0*
*IDC **28** 17:51:26.2±0.8, 34°.60N×26°.72E, h0km, mb3.8/13, mb1 3.7/19, mb1mx3.6/54, mbtmp3.7/19, ML3.5/6, MS2.7/2, Ms1 2.7/2, ms1mx2.3/41, Error ellipse: s-maj=19.0km s-min=13.1km az=167.0*
*DDA **28** 17:51:27.1, 34°.55N×26°.61E, h24km, MD3.3*
ISC 28 17:51:25.7±1.5, 34°.49N±0°.05×26°.78E±0°.03, h2km±9km, n121, σ1§49/148, mb3.7/13, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.78**	**323**	*e*PB		**Pg**	**17 51 40.3**	**-0.4**
ZKR				*e*SB		**Sn**	**17 51 54.4**	**-1.7**
ZKR	**Zakros**	**0.78**	**323**	*e*Pb		**Pg**	**17 51 40.3**	**-0.4**
KARP	**Karpathos**	**1.10**	**16**	P		**Pg**	**17 51 47.2**	**+0.3**
KARP				S		**Sn**	**17 52 07.0**	**+2.9**
KARP	**Karpathos**	**1.10**	**16**	*e*PG		**Pg**	**17 51 47.4**	**+0.6**
KARP				*e*SB		**Sn**	**17 52 06.0**	**+1.9**
KARP	**Karpathos**	**1.10**	**16**	P		**Pg**	**17 51 47.2**	**+0.3**
KARP	**Karpathos**	**1.10**	**16**	*e*Pg		**Pg**	**17 51 47.4**	**+0.6**
NPS	**Neapolis**	**1.23**	**309**	P		**Pb**	**17 51 48.5**	**-1.3**
NPS				S		**Sn**	**17 52 07.8**	**+0.5**
NPS	**Neapolis**	**1.23**	**309**	*e*PG		**Pb**	**17 51 48.9**	**-0.9**
NPS	**Neapolis**	**1.23**	**309**	P		**Pb**	**17 51 48.5**	**-1.3**
NPS	**Neapolis**	**1.23**	**309**	*e*Pg		**Pb**	**17 51 48.9**	**-0.9**
NPS				S		**Sn**	**17 52 07.8**	**+0.5**
LAST	**Lasithi**	**1.27**	**302**	*e*PB		**Pn**	**17 51 49.1**	**-1.5**
LAST				*e*SB		**Sn**	**17 52 08.6**	**+0.4**
LAST	**Lasithi**	**1.27**	**302**	*e*Pb		**Pn**	**17 51 49.1**	**-1.5**
LAST				*e*Sb		**Sn**	**17 52 08.6**	**+0.4**
SIVA	**Sivas**	**1.71**	**289**	*e*PG		**Pn**	**17 51 56.7**	**+0.2**
SIVA	**Sivas**	**1.71**	**289**	*e*Pg		**Pn**	**17 51 56.7**	**+0.2**
IDI	**Anoyia**	**1.75**	**298**	Pn		**Pn**	**17 51 57.7**	**+0.5**
	19nm,0.3s,baz=112,slow=14,SNR=37							
IDI				S		**Sg**	**17 52 23.7**	**+1.8**
	23nm,0.3s,baz=26,slow=21,SNR=5.5							
IDI				LR		LR	17 52 42.0	
	comp=Z,89nm,21.2s,baz=22,slow=46							
ARG	**Arkhangelos**	**2.04**	**32**	P		**Pn**	**17 52 02.1**	**+0.9**
ARG				S		**Sg**	**17 52 30.9**	**-0.5**
ARG	**Arkhangelos**	**2.04**	**32**	*e*PN		**Pb**	**17 52 02.8**	**-0.8**
ARG	**Arkhangelos**	**2.04**	**32**	P		**Pn**	**17 52 02.1**	**+0.9**
ARG	**Arkhangelos**	**2.04**	**32**	*e*Pn		**Pb**	**17 52 02.8**	**-0.8**
SANT	**Santorini**	**2.17**	**330**	*e*PB		**Pn**	**17 52 03.0**	**+0.1**
SANT	**Santorini**	**2.17**	**330**	*e*Pb		**Pn**	**17 52 03.0**	**+0.1**
THR6	**Thira Island,**	**2.18**	**329**	P		**Pn**	**17 52 01.8**	**-1.2**
THR6	**Thira Island,**	**2.18**	**329**	P		**Pn**	**17 52 01.8**	**-1.2**
GVD	**Gavdhos**	**2.25**	**280**	*e*PG		**Pb**	**17 52 06.2**	**-0.9**
GVD	**Gavdhos**	**2.25**	**280**	*e*Pg		**Pb**	**17 52 06.2**	**-0.9**
THR5	**Thira Island,**	**2.25**	**329**	P		**Pn**	**17 52 02.8**	**-1.2**
THR5	**Thira Island,**	**2.25**	**329**	*e*PN		**Pn**	**17 52 03.1**	**-0.9**
THR5	**Thira Island,**	**2.25**	**329**	P		**Pn**	**17 52 02.8**	**-1.2**
THR5	**Thira Island,**	**2.25**	**329**	*e*Pn		**Pn**	**17 52 03.1**	**-0.9**
VAM	**Vamos**	**2.31**	**294**	P		**Pn**	**17 52 03.6**	**-1.3**
VAM				S		**Sn**	**17 52 33.2**	**-0.7**
VAM	**Vamos**	**2.31**	**294**	*e*PN		**Pn**	**17 52 05.2**	**+0.3**
VAM	**Vamos**	**2.31**	**294**	P		**Pn**	**17 52 03.6**	**-1.3**
VAM	**Vamos**	**2.31**	**294**	*e*Pn		**Pn**	**17 52 05.2**	**+0.3**
VAM				S		**Sn**	**17 52 33.2**	**-0.7**
DAT	**Datca**	**2.33**	**16**	*e*PN		**Pn**	**17 52 04.3**	**-0.9**
DAT	**Datca**	**2.33**	**16**	*e*Pn		**Pn**	**17 52 04.3**	**-0.9**
KARN	**Karanos**	**2.52**	**292**	*e*PN		**Pn**	**17 52 08.9**	**+1.1**
KARN	**Karanos**	**2.52**	**292**	*e*Pn		**Pn**	**17 52 08.9**	**+1.1**
BODT	**Bodrum**	**2.60**	**9**	*e*PN		**Pn**	**17 52 08.2**	**-0.7**
BODT	**Bodrum**	**2.60**	**9**	*e*Pn		**Pn**	**17 52 08.2**	**-0.7**
BDRM	**Kayabasi**	**2.63**	**12**	*i* P		**Pn**	**17 52 08.5**	**-0.7**
BDRM	**Kayabasi**	**2.63**	**12**	*i* P		**Pn**	**17 52 08.5**	**-0.7**
BDRM				*i* S		**Sg**	**17 52 51.6**	**+1.5**
APE	**Apeiranthos**	**2.77**	**339**	P		**Pn**	**17 52 10.8**	**-0.4**
APE				S		**Sb**	**17 52 49.4**	**-1.0**
APE	**Apeiranthos**	**2.77**	**339**	*e*PN		**Pn**	**17 52 12.7**	**+1.5**
APE	**Apeiranthos**	**2.77**	**339**	P		**Pn**	**17 52 10.8**	**-0.4**
APE	**Apeiranthos**	**2.77**	**339**	*e*Pn		**Pn**	**17 52 12.7**	**+1.5**
DALY	**Dalyan (Mu¨la**	**2.78**	**33**	*e*PN		**Pn**	**17 52 10.6**	**-0.7**
DALY	**Dalyan (Mu¨la**	**2.78**	**33**	*e*Pn		**Pn**	**17 52 10.6**	**-0.7**
TURN	**Turunc**	**2.80**	**31**	*i* P		**Pn**	**17 52 10.3**	**-1.3**
TURN				*i* S		**Sn**	**17 52 41.9**	**-4.1**
TURN	**Turunc**	**2.80**	**31**	*i* P		**Pn**	**17 52 10.3**	**-1.3**
TURN				*i* S		**Sn**	**17 52 41.9**	**-4.1**
FETY	**Fethiye**	**2.85**	**41**	*e*PN		**Pn**	**17 52 12.3**	**+0.1**
FETY	**Fethiye**	**2.85**	**41**	*e*Pn		**Pn**	**17 52 12.3**	**+0.1**
AKAS	**Kas**	**2.89**	**52**	*i* P		**Pn**	**17 52 14.2**	**+1.3**
AKAS				*i* S		**Sn**	**17 52 50.6**	**+2.2**
AKAS	**Kas**	**2.89**	**52**	*i* P		**Pn**	**17 52 14.2**	**+1.3**
AKAS				*i* S		**Sn**	**17 52 50.6**	**+2.2**
YER	**Yerkesik**	**2.91**	**24**	*e*PN		**Pn**	**17 52 12.5**	**-0.6**
YER	**Yerkesik**	**2.91**	**24**	*e*Pn		**Pn**	**17 52 12.5**	**-0.6**
ANKY	**Antikythira Is**	**3.17**	**297**	P		**Pn**	**17 52 15.7**	**-0.9**
ANKY				S		**Sn**	**17 52 55.2**	**+0.2**
ANKY	**Antikythira Is**	**3.17**	**297**	P		**Pn**	**17 52 15.7**	**-0.9**
ANKY				S		**Sn**	**17 52 55.2**	**+0.2**
SMG	**Samos**	**3.21**	**1**	*e*PN		**Pn**	**17 52 18.4**	**+1.1**
SMG	**Samos**	**3.21**	**1**	*e*Pn		**Pn**	**17 52 18.4**	**+1.1**
AYDN	**Tasoluk**	**3.29**	**15**	*i* P		**Pn**	**17 52 21.0**	**+2.7**
AYDN	**Tasoluk**	**3.29**	**15**	*i* P		**Pn**	**17 52 21.0**	**+2.7**
AYDN				*i* S		Sn	17 52 47.7	-10
ELL	**Elmali**	**3.40**	**48**	*e*PN		**Pn**	**17 52 19.9**	**-0.1**
ELL	**Elmali**	**3.40**	**48**	*e*Pn		**Pn**	**17 52 19.9**	**-0.1**
GOLH	**Golhisar**	**3.55**	**39**	*i* P		**Pn**	**17 52 24.3**	**+2.3**
GOLH	**Golhisar**	**3.55**	**39**	*i* P		**Pn**	**17 52 24.3**	**+2.3**
GOLH				*i* S		**Sb**	**17 53 08.7**	**-4.3**
AYDB	**Zeytinkoy-Aydi**	**3.56**	**14**	*e*PN		**Pn**	**17 52 21.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**3.56**	**14**	*e*Pn		**Pn**	**17 52 22.0**	**-0.2**
DNZL	**Cakiroluk**	**3.68**	**29**	*i* P		**Pn**	**17 52 25.5**	**+1.6**
DNZL				*i* S		**Sn**	**17 53 07.4**	**-0.6**
DNZL	**Cakiroluk**	**3.68**	**29**	*i* P		**Pn**	**17 52 25.5**	**+1.6**
DNZL				*i* S		**Sn**	**17 53 07.4**	**-0.6**
KORT	**Korkueli**	**3.83**	**48**	*i* P		Pn	17 52 29.1	+3.2
KORT				*i* S		**Sn**	**17 53 11.0**	**-0.7**
KORT	**Korkueli**	**3.83**	**48**	*i* P		Pn	17 52 29.1	+3.2
KORT				*i* S		**Sn**	**17 53 11.0**	**-0.7**
IZM	**Izmir**	**3.92**	**6**	*e*PN		**Pn**	**17 52 26.3**	**-0.7**
IZM	**Izmir**	**3.92**	**6**	*e*Pn		**Pn**	**17 52 26.3**	**-0.7**
CHOS	**Chios island**	**3.93**	**352**	*e*PN		**Pn**	**17 52 26.4**	**-0.9**
CHOS	**Chios island**	**3.93**	**352**	*e*Pn		**Pn**	**17 52 26.4**	**-0.9**
KULA	**Kula-Manisa**	**4.29**	**20**	*e*PN		**Pn**	**17 52 31.9**	**-0.3**
KULA	**Kula-Manisa**	**4.29**	**20**	*e*Pn		**Pn**	**17 52 31.9**	**-0.3**
VLX	**Vlachokerasia**	**4.59**	**310**	*e*PN		**Pn**	**17 52 36.5**	**+0.3**
VLX	**Vlachokerasia**	**4.59**	**310**	*e*Pn		**Pn**	**17 52 36.5**	**+0.3**
PYL	**PYLOS**	**4.75**	**302**	*e*PN		**Pn**	**17 52 38.9**	**+0.5**
PYL	**PYLOS**	**4.75**	**302**	*e*Pn		**Pn**	**17 52 38.9**	**+0.5**
GAZI	**Gazipasa**	**4.84**	**67**	*i* P		**Pn**	**17 52 41.0**	**+1.3**
GAZI				*i* S		**Sn**	**17 53 35.1**	**-1.3**
GAZI	**Gazipasa**	**4.84**	**67**	*i* P		**Pn**	**17 52 41.0**	**+1.3**
GAZI				*i* S		**Sn**	**17 53 35.1**	**-1.3**
GUR	**Goura**	**4.97**	**315**	*e*PN		**Pn**	**17 52 43.0**	**+1.5**
GUR	**Goura**	**4.97**	**315**	*e*Pn		**Pn**	**17 52 43.0**	**+1.5**
LEF	**Lefka**	**5.06**	**81**	*e*PN		**Pn**	**17 52 44.0**	**+1.3**
LEF	**Lefka**	**5.06**	**81**	*e*Pn		**Pn**	**17 52 44.0**	**+1.3**
DRO	**Drossia**	**5.36**	**312**	*e*PN		**Pn**	**17 52 49.0**	**+2.2**
DRO	**Drossia**	**5.36**	**312**	*e*Pn		**Pn**	**17 52 49.0**	**+2.2**
ERMK	**Ermenek**	**5.44**	**65**	*i* P		**Pn**	**17 52 50.4**	**+2.4**
ERMK				*i* S		**Sn**	**17 53 47.1**	**-4.2**
ERMK	**Ermenek**	**5.44**	**65**	*i* P		**Pn**	**17 52 50.4**	**+2.4**
ERMK				*i* S		**Sn**	**17 53 47.1**	**-4.2**
LFK	**Lefkose**	**5.60**	**80**	*e*PN		**Pn**	**17 52 52.1**	**+1.9**
LFK	**Lefkose**	**5.60**	**80**	*e*Pn		**Pn**	**17 52 52.1**	**+1.9**
AGG	**Agios Georgios**	**5.76**	**323**	*e*P		**Pn**	**17 52 52.4**	**0.0**
AGG	**Agios Georgios**	**5.76**	**323**	*e*P		**Pn**	**17 52 52.4**	**0.0**
DSL	**Palaion Diasel**	**6.50**	**317**	*e*PN		**Pn**	**17 53 04.7**	**+2.2**
DSL	**Palaion Diasel**	**6.50**	**317**	*e*Pn		**Pn**	**17 53 04.7**	**+2.2**
MMAI	**Mount Meron Ar**	**7.33**	**99**	Pn		**Pn**	**17 53 15.5**	**+1.6**
	1.8nm,0.3s,baz=268,slow=12,SNR=7.3							
MMAI				S		**Sn**	**17 54 34.7**	**-3.0**
	1.4nm,0.3s,baz=267,slow=18,SNR=3.7							
BRTR	**Keskin Array B**	**7.57**	**44**	Pn		**Pn**	**17 53 18.9**	**+1.6**
	0.1nm,0.3s,baz=241,slow=13,SNR=6.0							
BRTR				S		**Sn**	**17 54 42.2**	**-1.5**
	baz=203,slow=18,SNR=3.0							
EIL	**Elat**	**8.43**	**123**	Pn		**Pn**	**17 53 31.1**	**+2.1**
	1.0nm,0.3s,baz=338,slow=4.6,SNR=16							
EIL				Sn		**Sn**	**17 55 00.0**	**-4.7**
	baz=36,slow=19							
ASF	**Jabal al Asfar**	**8.77**	**102**	Sn		**Sn**	**17 55 13.2**	**-0.1**
	0.3nm,0.3s,baz=109,slow=18,SNR=2.0							
GNI	**Garni**	**15.36**	**63**	LR		LR	18 02 47.8	
	comp=Z,37nm,19.1s,baz=212,slow=44							
KBZ	**Khabaz**	**15.52**	**49**	Pn		**P**	**17 55 08.5**	**-1.7**
	0.0nm,0.3s,baz=53,slow=20,SNR=3.3							
AKASG	**Malin Array Be**	**16.30**	**6**	Pn		**Pn**	**17 55 15.8**	**+0.1**
	0.7nm,0.3s,baz=193,slow=11,SNR=3.5							
GERES	**GERESS Array B**	**17.32**	**330**	P		**Pn**	**17 55 27.9**	**-0.7**
	0.1nm,0.3s,baz=152,slow=13,SNR=5.8							
DAVOX	**Davos/Dischmat**	**17.71**	**319**	LR		LR	18 03 22.7	
	comp=Z,20nm,20.2s,baz=42,slow=41							
MBDF	**Montbardon**	**18.46**	**310**	*e*P		**Pn**	**17 55 43.7**	**+0.9**
	5.8nm,0.6s							
LPG	**La Plagne**	**18.83**	**312**	*e*P		**Pn**	**17 55 48.5**	**+1.0**
	3.6nm,0.7s							
ESDC	**Sonseca Array**	**25.00**	**291**	P		**P**	**17 56 51.3**	**+0.3**
	0.3nm,0.4s,baz=84,slow=9.4,SNR=2.6							
GEYT	**Alibeck**	**25.45**	**73**	P		**P**	**17 56 56.3**	**+1.2**
	1.2nm,0.5s,baz=280,slow=8.6,SNR=3.6							
FINES	**FINESS Array B**	**26.98**	**359**	P		**P**	**17 57 07.5**	**-1.0**
	1.3nm,0.8s,baz=178,slow=11,SNR=3.7							
HFS	**Hagfors**	**27.04**	**346**	P		**P**	**17 57 08.5**	**-0.7**
	0.4nm,0.4s,baz=134,slow=10,SNR=3.2							
AKTO	**Aktyubinsk**	**27.75**	**45**	P		**P**	**17 57 17.0**	**+1.4**
	0.5nm,0.4s,baz=243,slow=9.0,SNR=2.4							
EKA	**Eskdalemuir Ar**	**29.36**	**324**	P		**P**	**17 57 28.9**	**-1.1**
	0.6nm,0.5s,baz=92,slow=10.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**31.12**	**233**	P		**P**	**17 57 46.8**	**+1.0**
	0.6nm,0.4s,baz=39,slow=8.9,SNR=9.0							
ARCES	**ARCESS Array B**	**35.11**	**359**	P		**P**	**17 58 18.6**	**-1.5**
	1.9nm,0.7s,baz=180,slow=9.6,SNR=4.3							
DBIC	**Dimbokro**	**40.22**	**234**	P		**P**	**17 59 04.2**	**+0.2**
	1.7nm,0.5s,baz=41,slow=8.4,SNR=3.5							
KURBB	**Kurchatov Arra**	**40.51**	**50**	P		**P**	**17 59 06.2**	**+0.2**
	0.7nm,0.5s,baz=276,slow=8.9,SNR=7.5							
MKAR	**Makanchi Array**	**43.03**	**56**	P		**P**	**17 59 27.7**	**+0.9**
	0.3nm,0.5s,baz=270,slow=10,SNR=6.9							
ZALV	**Zalesovo Beam**	**44.51**	**46**	P		**P**	**17 59 38.2**	**-0.3**
	0.7nm,0.4s,baz=266,slow=11,SNR=4.0							
SONM	**Songino Array**	**58.88**	**51**	P		**P**	**18 01 27.1**	**+0.9**
	0.5nm,0.5s,baz=285,slow=7.4,SNR=5.3							

*ISCJB **28** 18:01:15.6±0.6, 19°.39N±0°.02×93°.13E±0°.01, h9km±4km, mb5.2/268, MS4.6/48, Error ellipse: s-maj=3.3km s-min=2.2km az=20.5*
*DJA **28** 18:01:18.1±0.9, 19°.1N±10°×9°.3E±°, h10km, M5.2/20, mb5.4/20, mB5.6/17, MLv5.6/2, Mw(mB)5.1/17, Mwp5.0/1*
*BKK **28** 18:01:19.4±0.2, 19°.1N±3°×9°.3E±°, h10km, M5.2/43, mb5.4/43, mB5.6/33, MLv5.4/10, Mw(mB)5.1/33*
*BJI **28** 18:01:19.0, 19°.40N×93°.09E, h40km, mB5.2/49, mb5.4/79, Ms4.8/83, Ms7 4.7/75*
*MOS **28** 18:01:19.5±0.8, 19°.45N×93°.22E, h36km, mb5.5/96, MS4.5/14, Error ellipse: s-maj=6.7km s-min=3.4km az=119.7*
*KLM **28** 18:01:22.0, 19°.02N×93°.17E, h30km, mb5.6, MS5.9*
*NEIC **28** 18:01:21.2±0.2, 19°.39N×93°.16E, h36km±2km, mb5.4/145, Error ellipse: s-maj=4.0km s-min=2.3km az=219.0*
NEIC Felt at Akyab.
*IDC **28** 18:01:21.4±0.5, 19°.39N×93°.20E, h37km±3km, mb4.9/38, mb1 5.0/40, mb1mx4.9/48, mbtmp5.1/40, ML5.0/2, MS4.4/31, Ms1 4.4/31, ms1mx4.3/39, Error ellipse: s-maj=11.3km s-min=8.9km az=38.0*
*GCMT **28** 18:01:21.3±0.2, 19°.18N×93°.01E, h31km, MW5.2/77, Moment Tensor Solution. s59,c86; s77,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.40±.18; Mθθ-0.89±.14; Mφφ5.30±.13; Mrθ0.41±.21; Mrφ-2.85±.12; Mθφ4.31±.20; Best double couple: Mo7.05600×10^16 NP1:φs179.00000°, δ66.00000°, λ-67.00000°. NP2: φs313.00000°, δ32.00000°, λ-131.00000°. Principal axes: T 7.6910, Plg18.0000°, Azm252.0000°; N -1.2630, Plg21.0000°, Azm350.0000°; P -6.4210, Plg62.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **28** 18:01:26.7, 19°.86N×92°.55E, h41km, mb5.3, MS4.8, Bay of Bengal*
ISC 28 18:01:21.4±0.2, 19°.41N±0°.03×93°.18E±0°.03, h39km±1km, h39km:pP-P, n941, σ1§33/1127, mb5.3/267, MS4.6/49, 51C-78D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**4.66**	**104**	P		**Pn**	**18 02 28.4**	**-0.9**
IMP	**Imphal**	**5.40**	**7**	*ex*		**Pn**	**18 02 42.0**	**+2.5**
IMP				*ex*		x	18 02 53.0	
CHTO	**Chiang Mai**	**5.48**	**95**	*e*P		**Pn**	**18 02 39.7**	**-0.9**
CHTO	**Chiang Mai**	**5.48**	**95**	↑↑Pn		**Pn**	**18 02 39.9**	**-0.7**
	SNR=89							
CHTO					↑↑Sn	**Sn**	**18 03 41.0**	**-1.4**
CHTO	**Chiang Mai**	**5.48**	**95**	*e*Pn		**Pn**	**18 02 39.7**	**-0.9**
CHTO	**Chiang Mai**	**5.48**	**95**	P		**Pn**	**18 02 39.5**	**-1.1**
	478nm,0.7s,43µm17nm							
CMMT	**Chiang Mai**	**5.49**	**95**	P		**Pn**	**18 02 39.4**	**-1.2**
	423nm,0.8s,13µm4.7nm							
CM31	**Chiang Mai Arr**	**5.54**	**99**	*e*P		**Pn**	**18 02 40.5**	**-0.9**
	295nm,0.7s							
CMAR	**Chiang Mai Arr**	**5.54**	**99**	Pn		**Pn**	**18 02 40.6**	**-0.7**
	9.3nm,0.3s,baz=274,slow=14,SNR=527							
CMAR				Sn		**Sn**	**18 03 40.5**	**-3.2**
	15nm,0.3s,baz=280,slow=25,SNR=5.7							
CMAR				LR		LR	18 04 57.5	
	comp=Z,2µm,18.7s,baz=264,slow=39							
CMAI	**Chiengmai2**	**5.55**	**84**	P		**Pn**	**18 02 41.3**	**-0.4**
	472nm,1.0s,12µm3.4nm							
LAMP	**Lampang**	**6.17**	**97**	P		**Pn**	**18 02 49.3**	**-0.7**
	52nm,0.9s,1µm0.8nm							
DGPR	**DIGLIPUR**	**6.20**	**182**	*e*P		**Pn**	**18 02 49.5**	**-0.9**
DGPR					AMB	AMB	18 03 01.7	
	comp=Z,298nm,0.4s							
SHL	**Shillong**	**6.25**	**349**	*e*P		**Pn**	**18 02 51.1**	**-0.2**
SHL					AMB	AMB	18 03 09.9	
	comp=Z,190nm,1.9s							
CRAI	**Chiangrai**	**6.82**	**82**	P		Pn	18 02 54.1	-4.9
	comp=Z,121nm,0.9s,comp=Z,8µmcomp=Z,0.8nm							
KHLT	**Khaolaem Dam**	**6.91**	**131**	P		**Pn**	**18 02 59.1**	**-1.1**
	comp=Z,168nm,0.6s,comp=Z,1µmcomp=Z,0.6nm							
UTTA	**Uttaradit**	**7.19**	**102**	P		**Pn**	**18 03 03.0**	**-1.0**
	comp=Z,43nm,1.0s,comp=Z,401nmcomp=Z,0.4nm							
SRDT	**SRDT**	**7.59**	**131**	P		**Pn**	**18 03 08.0**	**-1.5**
	comp=Z,798nm,0.9s,comp=Z,8µmcomp=Z,2.7nm							
PBA	**Port Blair**	**7.72**	**183**	*e*P		Pn	18 03 10.7	-0.5
PBA					AMB	AMB	18 03 29.3	
	comp=Z,174nm,1.2s							
PBKT	**Sadao Pong**	**7.93**	**110**	P		**Pn**	**18 03 13.1**	**-1.1**
	comp=Z,185nm,0.8s,comp=Z,2µmcomp=Z,0.8nm							
BOK	**Bokaro**	**8.07**	**304**	*e*P		**Pn**	**18 03 15.5**	**-0.6**
BOK					AMB	AMB	18 03 25.8	
	comp=Z,1µm,1.4s							
CHLP	**Challavanipeta**	**8.68**	**266**	*e*P		**Pn**	**18 03 21.5**	**-3.0**
CHLP					IAmb	IAmb	18 03 23.0	
	comp=Z,364nm,0.5s							
CHLP					Sn	Sn	18 04 46.9	-14
CHLP					IAMs_20	IAMs_20	18 06 53.5	
	comp=Z,4µm,22.7s							
GTK	**Tadong**	**8.93**	**333**	*ex*		**Pn**	**18 03 31.0**	**+2.9**
GTK				*ex*		x	18 04 55.5	
ODAN	**Odare**	**9.13**	**325**	*e*Pn		**Pn**	**18 03 29.0**	**-1.9**
ODAN				*e*Sn		**Sn**	**18 05 07.5**	**-5.0**
	comp=Z,2µm,0.7s							
TAPN	**Taplejung**	**9.37**	**329**	*e*Pn		**Pn**	**18 03 32.8**	**-1.3**
TAPN				*e*Sn		**Sn**	**18 05 13.0**	**-5.4**
	comp=Z,1µm,0.6s							
VIS	**Vishakhapatnam**	**9.49**	**261**	*i* P		**Pn**	**18 03 35.1**	**-0.5**
VIS					AMB	AMB	18 03 37.6	
	comp=Z,159nm,1.4s							
VIS				*i* x		x	18 05 09.3	
RAMN	**Ramite**	**9.64**	**322**	*e*Pn		**Pn**	**18 03 35.9**	**-2.0**
RAMN				*e*Sn		Sn	18 05 18.0	-7.1
	comp=Z,1µm,0.7s							
KHON	**Khomkaen**	**9.67**	**107**	P		**Pn**	**18 03 39.2**	**+1.1**
	comp=Z,104nm,1.1s,comp=Z,1µm							
LSA	**Lhasa**	**10.41**	**350**	P		**Pn**	**18 03 48.0**	**-0.6**
LSA	**Lhasa**	**10.41**	**350**	*e*P		**Pn**	**18 03 47.2**	**-1.4**
LSA	**Lhasa**	**10.41**	**350**	*e*Pn		**Pn**	**18 03 47.2**	**-1.4**
JIRN	**Jiri**	**10.42**	**323**	*e*Pn		**Pn**	**18 03 46.9**	**-1.7**
JIRN				*e*Sn		Sn	18 05 38.0	-6.3
	comp=Z,2µm,1.0s							
KMI	**Kunming**	**10.52**	**56**	⇓P		Pn	18 03 53.5	+3.6
KMI				PP		**PnPn**	**18 04 02.5**	**+4.8**
KMI				S		Sn	18 05 54.0	+7.4
KMI				PMZ				
	comp=Z,32nm,1.1s							
KMI				PMZ				
	comp=Z,650nm,5.4s							
SKNT	**Sakolnakorn**	**10.55**	**102**	P		**Pn**	**18 03 50.6**	**+0.5**
	comp=Z,177nm,1.0s,comp=Z,3µm							
GUN	**Gumba**	**10.79**	**323**	*e*Pn		**Pn**	**18 03 51.9**	**-1.7**
GUN				*e*Sn		Sn	18 05 45.4	-7.9
	comp=Z,2µm,0.8s							
PKI	**Pulchoki**	**10.81**	**320**	*e*Pn		**Pn**	**18 03 52.0**	**-1.9**
PKI				*e*Sn		Sn	18 05 45.8	-8.0
	comp=Z,1µm,0.9s							
PKIN	**Phulchoki**	**10.82**	**320**	*e*Pn		**Pn**	**18 03 51.8**	**-2.2**
CHBT	**CHBT**	**11.00**	**126**	P		**Pn**	**18 03 56.5**	**+0.2**
	comp=Z,122nm,0.7s,comp=Z,2µm							
DMN	**Daman**	**11.02**	**319**	*e*Pn		**Sn**	**18 03 54.5**	**-2.3**
DMN				*e*Sn		Sn	18 05 50.0	-8.9
	comp=Z,2µm,1.1s							
KKN	**Kakani**	**11.05**	**321**	*e*Pn		**Pn**	**18 03 54.6**	**-2.5**
KKN				*e*Sn		Sn	18 05 52.6	-6.9
	comp=Z,810nm,0.7s							
GKN	**Gorkha**	**11.59**	**319**	*e*Pn		**Pn**	**18 04 01.7**	**-2.8**
GKN				*e*Sn		Sn	18 06 04.0	-8.7
	comp=Z,532nm,0.7s							
SURT	**Suratani**	**11.72**	**152**	P		**Pn**	**18 04 06.7**	**+0.5**
	comp=Z,29nm,1.6s,comp=Z,390nm							
KOLN	**Koldanda**	**12.10**	**315**	*e*Pn		**Pn**	**18 04 08.7**	**-2.7**
KOLN				*e*Sn		Sn	18 06 15.6	-10
	comp=Z,634nm,0.7s							
PKDT	**Phuket**	**12.49**	**156**	P		**P**	**18 04 28.7**	**+1.0**
PYUN	**Piuthan**	**12.72**	**315**	*e*Pn		Pn	18 04 16.3	-3.6
TRTT	**Trang**	**13.12**	**150**	P		**Pn**	**18 04 24.5**	**-0.8**
	comp=Z,53nm,0.9s,comp=Z,655nm							
RPR	**Rampur**	**13.14**	**270**	*e*		Pn	18 04 22.1	-3.4
RPR				IAmb		IAmb	18 04 25.5	
	comp=Z,95nm,0.6s							
RPR				*e*			18 06 38.4	
RPR				*e*Sn		**Sn**	**18 06 49.3**	**-1.1**
RPR				IAMs_20		IAMs_20	18 09 40.8	
	comp=Z,3µm,20.4s							
NGP	**Nagpur**	**13.37**	**280**	*e*P		**Pn**	**18 04 27.7**	**-1

NDI	**New Delhi**	**17.24**	**305**	*e*P	**Pn**	**18 05 18.0**	**-1.3**
NDI				*ex*	x	18 08 16.0		
PSI	**Prapat**	**17.43**	**161**	Pn	**Pn**	**18 05 21.9**	**0.0**
	comp=Z,8.1nm,0.3s,baz=328,slow=11,SNR=31							
PSI				LR	LR	18 13 24.9		
	comp=Z,2µm,21.1s,baz=335,slow=41							
BHGR	**Bahadurgarh**	**17.46**	**305**	*e*P	**Pn**	**18 05 21.9**	**-0.1**
BHGR				AMB	AMB	18 05 24.3		
	comp=Z,108nm,0.6s							
DDI	**Dehra Dun**	**17.49**	**311**	*e*P	**Pn**	**18 05 21.4**	**-1.0**
DDI				AMB	AMB	18 05 34.4		
	comp=Z,245nm,0.8s							
KUDL	**Kundal**	**17.57**	**303**	*e*P	**Pn**	**18 05 22.8**	**-0.5**
KUDL				AMB	AMB	18 05 25.9		
	comp=Z,37nm,0.6s							
FRIM	**Kepong**	**18.07**	**152**	⇑P	**Pn**	**18 05 28.4**	**-1.1**
POO	**Poona**	**18.31**	**270**	*e*P	**Pn**	**18 05 32.7**	**+0.2**
POO				AMB	AMB	18 05 33.4		
	comp=Z,136nm,1.2s							
ENH	**Enshi**	**18.31**	**51**	*e*P	**P**	**18 05 29.5**	**-2.7**
AJM	**Ajmer**	**18.46**	**296**	*ex*	**P**	**18 05 33.0**	**-0.9**
AJM				*ex*	x	18 08 40.0		
GSI	**Gunungsitoli**	**18.50**	**166**	P	**P**	**18 05 31.9**	**-2.5**
	comp=Z,136nm,0.7s							
GSI	**Gunungsitoli**	**18.50**	**166**	*e*P	**P**	**18 05 30.6**	**-3.8**
	comp=Z,94nm,0.7s							
SMLA	**Simla**	**18.57**	**312**	*i* P	**Pn**	**18 05 35.4**	**-0.2**
SMLA				AMB	AMB	18 05 37.3		
	comp=Z,422nm,0.6s							
SDNR	**Sundarnagar**	**18.93**	**313**	*e*P	**Pn**	**18 05 41.6**	**+1.7**
SDNR				*ex*	x	18 08 59.0		
LZH	**Lanzhou**	**19.09**	**27**	⇓P	**P**	**18 05 41.0**	**+0.1**
LZH				pP	**pP**	**18 05 51.0**	**+0.3**
LZH				sP	**sP**	**18 05 55.5**	**-0.2**
LZH				PP	**PnPn**	**18 05 58.3**	**+3.1**
LZH				S	**Sn**	**18 09 12.0**	**-2.8**
LZH				sS	sS	18 09 25.0	-6.1
LZH				SS	**SnSn**	**18 09 34.5**	**+5.1**
LZH				PMZ				
	comp=Z,150nm,1.0s							
LZH				PMZ				
	comp=Z,550nm,4.0s							
LZH				LN				
	comp=Z,1µm,13.8s							
LZH				LE				
	comp=Z,840nm,12.1s							
LZH				LZ				
	comp=Z,1µm,13.8s							
TRD	**Trivandrum**	**19.09**	**238**	*e*P	**P**	**18 05 41.1**	**+0.2**
TRD				AMB	AMB	18 05 52.7		
	comp=Z,92nm,0.6s							
BOM	**Bombay**	**19.25**	**272**	*ex*	P	18 05 36.6	-6.0
BHK	**Bhakra**	**19.27**	**312**	*e*P	**Pn**	**18 05 45.2**	**+1.2**
MNSI	**Mandailing Nat**	**19.53**	**161**	P	**P**	**18 05 44.6**	**-1.1**
	comp=Z,278nm,0.7s,comp=Z,2µm							
DHRM	**DHARAMSHALA**	**19.83**	**313**	*e*P	**P**	**18 05 50.0**	**+1.0**
DHRM				AMB	AMB	18 06 02.2		
	comp=Z,244nm,2.9s							
KGM	**Kluang**	**19.93**	**149**	⇓P	**P**	**18 05 50.8**	**+0.7**
XAN	**Xi'an**	**20.21**	**41**	P	**P**	**18 05 52.0**	**-1.1**
XAN				pP	**pP**	**18 06 00.5**	**-2.4**
XAN				sP	**sP**	**18 06 04.5**	**-3.4**
XAN				PP	**PnPn**	**18 06 10.5**	**0.0**
XAN				S	S	18 09 27.8	-10
XAN				PMZ				
	comp=Z,27nm,0.6s							
XAN				PMZ				
	comp=Z,72nm,5.3s							
XAN				LN				
	comp=Z,920nm,19.8s							
XAN				LE				
	comp=Z,400nm,19.1s							
XAN				LZ				
	comp=Z,650nm,14.5s							
DLH	**Dalhousie**	**20.23**	**314**	*e*P	**P**	**18 05 52.0**	**-1.4**
DLH				*ex*	x	18 06 05.0		
MYKOM	**Kota Tinggi**	**20.39**	**148**	⇓P	**P**	**18 05 55.2**	**+0.2**
MYKOM	**Kota Tinggi**	**20.39**	**148**	*e*P	**P**	**18 05 55.2**	**+0.2**
	comp=Z,169nm,0.9s							
BKNI	**Bangkinang**	**20.47**	**157**	P	Pn	18 05 57.7	-0.5
	comp=Z,199nm,0.8s,comp=Z,2µm							
BKNI	**Bangkinang**	**20.47**	**157**	*e*P	**P**	**18 05 56.8**	**+0.9**
	comp=Z,122nm,0.7s							
GTA	**Gaotai**	**20.74**	**15**	⇓P	**P**	**18 05 58.5**	**-0.4**
GTA				pP	**pP**	**18 06 07.3**	**-1.5**
GTA				sP	**sP**	**18 06 11.5**	**-2.2**
GTA				S	**S**	**18 09 47.0**	**-1.4**
GTA				sS	**sS**	**18 10 01.3**	**-3.0**
GTA				ScP	**ScP**	**18 13 42.0**	**+0.9**
GTA				PcS	**PcS**	**18 13 43.8**	**-1.5**
GTA				ScS	**ScS**	**18 17 24.5**	**+0.1**
GTA				PMZ				
	comp=Z,31nm,1.3s							
GTA				PMZ				
	comp=Z,250nm,5.6s							
GTA				LN				
	comp=Z,650nm,12.8s							
GTA				LE				
	comp=Z,1µm,20.4s							
GTA				LZ				
	comp=Z,910nm,19.5s							
TPRI	**Tanjung Pinang**	**21.48**	**148**	P	**P**	**18 06 06.9**	**+0.2**
	comp=Z,193nm,0.9s							
WHN	**Wuhan**	**22.12**	**56**	⇓P	**P**	**18 06 13.3**	**-0.3**
WHN				PP	**PnPn**	**18 06 41.8**	**+5.2**
WHN				S	**S**	**18 10 14.8**	**-0.5**
WHN				PMZ				
	comp=Z,350nm,0.8s							
WHN				LN				
	comp=Z,3µm,7.0s							
WHN				LE				
	comp=Z,3µm,7.7s							
WHN				LZ				
	comp=Z,5µm,19.8s							
BHJ	**Bhuj**	**22.24**	**284**	*e*P	**P**	**18 06 14.6**	**-0.3**
SARP	**Sargodha**	**22.25**	**308**	P	**P**	**18 06 14.9**	**0.0**
CHCP	**Chirah Chowk**	**22.72**	**313**	P	**P**	**18 06 19.8**	**-0.3**
JMBI	**JAMBI**	**23.30**	**153**	P	**P**	**18 06 27.6**	**+1.7**
	comp=Z,837nm,1.0s,comp=Z,11µm							
THW	**Thamme Wali**	**23.36**	**309**	P	**P**	**18 06 26.2**	**-0.3**
CEP	**Cherat**	**23.76**	**311**	P	**P**	**18 06 30.0**	**-0.5**
CEP				S	**S**	**18 10 44.0**	**+0.6**
QZH	**Quanzhou**	**24.15**	**72**	⇓*i*P	**P**	**18 06 34.0**	**0.0**
QZH				S	**S**	**18 10 49.3**	**-0.2**
QZH				LN				
	comp=Z,800nm,12.6s							
QZH				LE				
	comp=Z,2µm,15.6s							
QZH				LZ				
	comp=Z,3µm,19.2s							
KSM	**Kuching**	**24.47**	**135**	⇑P	**P**	**18 06 38.3**	**+1.3**
KSM	**Kuching**	**24.47**	**135**	*e*P	**P**	**18 06 37.8**	**+0.8**
	comp=Z,144nm,1.6s							
WMQ	**Urumqi**	**24.77**	**350**	⇓*i*P	**P**	**18 06 40.8**	**+1.2**
WMQ				pP	**pP**	**18 06 50.5**	**+0.2**
WMQ				sP	**sP**	**18 06 56.8**	**+1.8**
WMQ				PP	PnPn	18 07 20.0	+7.1
WMQ				PcP	**PcP**	**18 10 18.0**	**+2.6**
WMQ				S	**S**	**18 10 56.8**	**-2.5**
WMQ				PMZ				
	comp=Z,170nm,0.9s							
WMQ				PMZ				
	comp=Z,630nm,3.5s							
WMQ				LN				
	comp=Z,1µm,16.2s							
WMQ				LE				
	comp=Z,1µm,16.0s							
WMQ				LZ				
	comp=Z,2µm,24.0s							
TIY	**Taiyuan**	**24.79**	**39**	*e*P	**P**	**18 06 39.5**	**-0.2**
TIY				pP	**pP**	**18 06 48.8**	**-1.7**
TIY				S	**S**	**18 10 59.0**	**-0.7**
TIY				PMZ				
	comp=Z,140nm,0.8s							
TIY				PMZ				
	comp=Z,480nm,5.9s							
TIY				LN				
	comp=Z,2µm,15.4s							
TIY				LE				
	comp=Z,1µm,14.5s							
TIY				LZ				
	comp=Z,2µm,14.5s							
PPBI	**Pangkal Pinang**	**24.93**	**148**	P	**P**	**18 06 41.6**	**+0.5**
	comp=Z,284nm,1.1s,comp=Z,2µm							
KSH	**Kashi**	**24.94**	**327**	P	**P**	**18 06 40.8**	**-0.4**
KSH				pP	**pP**	**18 06 50.0**	**-1.9**
KSH				PP	**PnPn**	**18 07 19.0**	**+3.8**
KSH				S	**S**	**18 10 58.5**	**-3.7**
KSH				SS	**SnSn**	**18 11 56.5**	**+3.9**
KSH				PcS	**PcS**	**18 13 56.5**	**+0.2**
KSH				PMZ				
	comp=Z,66nm,0.9s							
KSH				LN				
	comp=Z,330nm,9.8s							
KSH				LE				
	comp=Z,2µm,20.2s							
KSH				LZ				
	comp=Z,1µm,18.3s							
PMBI	**Palembang**	**24.95**	**152**	P	**P**	**18 06 42.2**	**+0.9**
	comp=Z,1µm,1.1s,comp=Z,9µm							
PMBI	**Palembang**	**24.95**	**152**	*e*P	**P**	**18 06 41.8**	**+0.5**
PMBI				*e*pP	**pP**	**18 06 53.5**	**+1.4**
LHSI	**Lahat**	**25.23**	**155**	P	**P**	**18 06 42.8**	**-1.0**
BTM	**Bintulu**	**25.25**	**127**	⇑P	**P**	**18 06 46.3**	**+2.2**
BTO	**Baotou**	**25.58**	**31**	*e*P	**P**	**18 06 46.5**	**-0.5**
BTO				PMZ				
	comp=Z,35nm,0.7s							
TPUB	**Ta-pu**	**25.84**	**76**	*e*P	**P**	**18 06 50.5**	**+1.1**
	comp=Z,78nm,1.0s							
SZP	**Santa**	**25.93**	**90**	*e*P	**P**	**18 06 51.7**	**+1.5**
	comp=Z,144nm,0.9s							
KKM	**Kota Kinabalu**	**26.05**	**118**	⇓P	**P**	**18 06 53.3**	**+1.9**
KKM	**Kota Kinabalu**	**26.05**	**118**	*e*P	**P**	**18 06 53.0**	**+1.6**
	comp=Z,86nm,0.9s							
KDM	**Kudat**	**26.12**	**115**	⇓P	**P**	**18 06 54.0**	**+2.1**
SSLB	**Suanglung**	**26.17**	**75**	*e*P	**P**	**18 06 53.8**	**+1.4**
	comp=Z,54nm,1.2s							
KBL	**Kabul**	**26.17**	**310**	*e*P	**P**	**18 06 54.0**	**+1.5**
KBL				pmax	pmax			
	comp=Z,90nm,0.9s							
KBL	**Kabul**	**26.17**	**310**	*e*P	**P**	**18 06 54.0**	**+1.5**
	comp=Z,90nm,0.9s							
NJ2	**Nanjing**	**26.26**	**56**	*e*P	**P**	**18 06 53.3**	**+0.3**
NJ2				pP	**pP**	**18 07 03.3**	**-0.5**
NJ2				sP	**sP**	**18 07 05.5**	**-3.0**
NJ2				S	**S**	**18 11 25.0**	**+2.1**
NJ2				sS	**sS**	**18 11 40.0**	**-0.9**
NJ2				PMZ				
	comp=Z,110nm,0.8s							
NJ2				LN				
	comp=Z,3µm,17.4s							
NJ2				LE				
	comp=Z,4µm,20.0s							
NJ2				LZ				
	comp=Z,4µm,20.1s							
YULB	**Yu-li**	**26.46**	**76**	*e*P	**P**	**18 06 56.0**	**+1.1**
	comp=Z,86nm,1.1s							
PDGK	**Podgornoye**	**26.49**	**337**	P	**P**	**18 06 56.3**	**+1.3**
PDGK				pmax	pmax			
	comp=Z,50nm,0.8s							
HHC	**Hu-ho-hao-te**	**26.53**	**32**	*e*P	**P**	**18 06 56.5**	**+0.9**
HHC				pP	**pP**	**18 07 06.8**	**+0.5**
HHC				sP	**sP**	**18 07 09.5**	**-1.6**
HHC				PP	**PnPn**	**18 07 36.3**	**-0.6**
HHC				S	**S**	**18 11 25.5**	**-1.8**
HHC				sS	sS	18 11 39.5	-5.8
HHC				SS	**SnSn**	**18 12 37.0**	**+5.6**
HHC				PMZ				
	comp=Z,65nm,1.0s							
HHC				PMZ				
	comp=Z,260nm,4.9s							
HHC				LN				
	comp=Z,940nm,17.7s							
HHC				LE				
	comp=Z,730nm,16.9s							
HHC				LZ				
	comp=Z,1µm,19.6s							
YHNB	**Yeheng**	**26.63**	**74**	*e*P	**P**	**18 06 55.3**	**-1.3**
	comp=Z,21nm,0.8s							
NACB	**Ninganchiao**	**26.78**	**75**	*e*P	**P**	**18 06 57.4**	**-0.5**
	comp=Z,48nm,0.9s							
TIA	**Tai'an**	**26.88**	**47**	⇓P	**P**	**18 06 58.8**	**+0.1**
TIA				PMZ				
	comp=Z,150nm,0.7s							
TIA				LN				
	comp=Z,680nm,6.2s							
TIA				LE				
	comp=Z,920nm,13.0s							
TIA				LZ				
	comp=Z,1µm,19.0s							
ULHL	**Ulahol**	**26.92**	**331**	P	**P**	**18 07 00.2**	**+1.1**
	SNR=16							
ULHL	**Ulahol**	**26.92**	**331**	*i* P	**P**	**18 07 00.2**	**+1.1**
SDKM	**Sandakan**	**27.09**	**117**	⇑P	**P**	**18 07 01.7**	**+0.9**
KZA	**Kyzart**	**27.24**	**330**	P	**P**	**18 07 03.4**	**+1.1**
	SNR=12							
KZA	**Kyzart**	**27.24**	**330**	*i* P	**P**	**18 07 03.4**	**+1.1**
TKM2	**Tokmak 2**	**27.74**	**332**	*e*P	**P**	**18 07 07.9**	**+1.4**
TKM2				pmax	pmax			
	comp=Z,28nm,1.0s							
TKM2	**Tokmak 2**	**27.74**	**332**	*e*P	**P**	**18 07 07.9**	**+1.4**
	comp=Z,28nm,1.0s							
SSE	**Sheshan**	**27.80**	**60**	P	**P**	**18 07 07.3**	**+0.4**
SSE				pP	**pP**	**18 07 19.0**	**+1.3**
SSE				S	**S**	**18 11 46.8**	**-0.4**
SSE				sS	**sS**	**18 12 05.3**	**+0.1**
SSE				PMZ				
	comp=Z,65nm,0.6s							
SSE				PMZ				
	comp=Z,130nm,3.5s							
SSE				LN				
	comp=Z,740nm,16.2s							
SSE				LE				
	comp=Z,1µm,16.1s							
SSE				LZ				
	comp=Z,1µm,18.3s							
KBK	**Karagaybulak**	**27.83**	**330**	P	**P**	**18 07 09.0**	**+1.7**
	SNR=10.0							
KBK	**Karagaybulak**	**27.83**	**330**	*i* P	**P**	**18 07 09.0**	**+1.7**
AAK	**Ala-Archa**	**28.03**	**330**	P	**P**	**18 07 10.2**	**+1.2**
	comp=Z,61nm,1.2s,SNR=7.3							
AAK	**Ala-Archa**	**28.03**	**330**	P	**P**	**18 07 10.2**	**+1.2**
	comp=Z,117nm,1.3s,SNR=7.3							
AAK	**Ala-Archa**	**28.03**	**330**	P	**P**	**18 07 10.0**	**+1.0**
	SNR=8.7							
AAK	**Ala-Archa**	**28.03**	**330**	P	**P**	**18 07 09.8**	**+0.7**
	comp=Z,6.6nm,1.0s,baz=146,slow=7.6,SNR=18							
AAK				LR	LR	18 20 29.3		
	comp=Z,359nm,20.9s,baz=122,slow=41							
AAK	**Ala-Archa**	**28.03**	**330**	P	**P**	**18 07 09.3**	**+0.3**
AAK				pmax	pmax			
	comp=Z,37nm,1.0s							
AAK	**Ala-Archa**	**28.03**	**330**	⇓P	**P**	**18 07 10.6**	**+1.5**
	SNR=17							
AAK	**Ala-Archa**	**28.03**	**330**	*e*P	**P**	**18 07 10.3**	**+1.3**
	comp=Z,32nm,0.9s							
AML	**Almayashu**	**28.04**	**328**	P	**P**	**18 07 10.4**	**+1.0**
	SNR=6.4							
AML	**Almayashu**	**28.04**	**328**	*i* P	**P**	**18 07 10.4**	**+1.0**
FRU	**Bishkek**	**28.12**	**330**	*e*P	**P**	**18 07 10.0**	**+0.3**
FRU				*e*		18 07 20.0		
FRU				*e*S	**S**	**18 11 57.0**	**+4.7**
FRU				*e*SS	**SnSn**	**18 13 20.0**	**+10**
CHMS	**Chumysh**	**28.19**	**331**	P	**P**	**18 07 11.1**	**+0.7**
	SNR=5.6							
CHMS	**Chumysh**	**28.19**	**331**	*i* P	**P**	**18 07 11.0**	**+0.7**
TSM	**Tawau**	**28.39**	**119**	⇓P	**P**	**18 07 13.0**	**+0.7**
EKS2	**Erkin-Say**	**28.39**	**329**	P	**P**	**18 07 13.6**	**+1.4**
	SNR=6.5							
EKS2	**Erkin-Say**	**28.39**	**329**	*e*P	**P**	**18 07 13.9**	**+1.6**
EKS2				pmax	pmax			
	comp=Z,24nm,0.9s							
EKS2	**Erkin-Say**	**28.39**	**329**	*e*P	**P**	**18 07 13.9**	**+1.6**
	comp=Z,24nm,0.9s							
MYLDM	**Lahad Datu**	**28.43**	**117**	⇓P	**P**	**18 07 15.5**	**+2.9**
MYLDM	**Lahad Datu**	**28.43**	**117**	*e*P	**P**	**18 07 14.6**	**+1.9**
	comp=Z,174nm,1.0s							
BJT	**Baijiatuan**	**28.50**	**39**	*e*P	**P**	**18 07 13.8**	**+0.8**
BJT				pmax	pmax			
	comp=Z,84nm,0.8s							
BJT	**Baijiatuan**	**28.50**	**39**	*e*P	**P**	**18 07 13.8**	**+0.8**
	comp=Z,84nm,0.8s							
USP	**Ospenovka**	**28.51**	**331**	P	**P**	**18 07 14.0**	**+0.8**
	SNR=7.5							
USP	**Ospenovka**	**28.51**	**331**	*i* P	**P**	**18 07 14.0**	**+0.8**
BJI	**Beijing**	**28.51**	**39**	P	**P**	**18 07 14.0**	**+0.8**
BJI				pP	**pP**	**18 07 23.0**	**-1.0**
BJI				sP	**sP**	**18 07 26.5**	**-2.2**
BJI				S	**S**	**18 11 59.5**	**+1.2**
BJI				sS	**sS**	**18 12 16.5**	**+0.2**
BJI				PMZ				
	comp=Z,75nm,1.3s							
BJI				LN				
	comp=Z,1µm,17.4s							
BJI				LE				
	comp=Z,900nm,16.7s							
BJI				LZ				
	comp=Z,840nm,18.8s							
DZET	**Dzherino**	**28.60**	**318**	P	**P**	**18 07 13.6**	**-0.5**
DZET				pmax	pmax			
	comp=Z,34nm,0.8s							
MK31	**Makanchi Array**	**28.74**	**344**	*e*P	**P**	**18 07 15.8**	**+0.7**
MK31				pmax	pmax			
	comp=Z,50nm,0.6s							
MK31	**Makanchi Array**	**28.74**	**344**	*e*P	**P**	**18 07 15.6**	**+0.5**
MKAR	**Makanchi Array**	**28.74**	**344**	P	**P**	**18 07 16.1**	**+0.9**
	comp=Z,49nm,0.8s,baz=178,slow=8.5,SNR=634							
MKAR				LR	LR	18 22 07.0		
	comp=Z,618nm,18.3s,baz=152,slow=43							
MKAR				P3KPbc		18 39 28.1		
	comp=Z,0.2nm,0.8s,baz=350,slow=1.4,SNR=3.6							
LEM	**Lembang**	**29.69**	**150**	P	**P**	**18 07 24.5**	**+0.5**
	comp=Z,11nm,0.5s,baz=333,slow=18,SNR=4.2							
LEM				LR	LR	18 21 39.0		
	comp=Z,1µm,18.3s,baz=322,slow=41							
SONM	**Songino Array**	**30.33**	**18**	P	**P**	**18 07 29.7**	**+0.4**
	comp=Z,28nm,1.0s,baz=203,slow=10,SNR=125							
SONM				PcP	**PcP**	**18 10 29.8**	**+0.9**
	comp=Z,6.2nm,0.9s,baz=182,slow=3.8,SNR=5.2							
SONM				LR	LR	18 22 40.2		
	comp=Z,994nm,19.5s,baz=197,slow=42							
KK31	**Karatay Array**	**30.37**	**326**	*i* P	**pP**	**18 07 39.6**	**-0.9**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**30.37**	**326**	*e*P	**P**	**18 07 30.1**	**+0.4**
KKAR	**Karatay Array**	**30.37**	**326**	*e*P	**P**	**18 07 30.1**	**+0.4**
ULN	**Ulaanbaatar**	**30.55**	**19**	*d* iP	**P**	**18 07 31.4**	**+0.1**
ULN				pmax	pmax			
	comp=Z,66nm,1.7s							
ULN	**Ulaanbaatar**	**30.55**	**19**	⇑P	**P**	**18 07 31.7**	**+0.4**
	SNR=19							
ULN	**Ulaanbaatar**	**30.55**	**19**	*e*P	**P**	**18 07 31.5**	**+0.2**
	comp=Z,48nm,1.2s							
SMRI	**Semarang**	**31.31**	**145**	*e*P	**P**	**18 07 39.9**	**+1.7**
	comp=Z,121nm,0.8s							
DL2	**Dalian**	**31.34**	**46**	P	**P**	**18 07 38.5**	**+0.3**
DL2				*e*S	**S**	**18 12 43.5**	**+0.8**
DL2				PMZ				
	comp=Z,140nm,0.8s							
DL2				LN				
	comp=Z,790nm,13.4s							
DL2				LE				
	comp=Z,650nm,16.2s							
DL2				LZ				
	comp=Z,740nm,14.0s							
ZAK	**Zakamensk**	**31.94**	**12**	⇑*i*P	**P**	**18 07 43.8**	**+0.4**
ZAK				*e*		18 07 55.7		
ZAK				pmax	pmax			
	comp=Z,18nm,1.2s							
WBK	**Wadi Bani Khal**	**32.05**	**282**	⇑sP	pP	18 07 57.6	+2.0
XMIS	**Christmas Isla**	**32.14**	**156**	*e*P	**P**	**18 07 45.3**	**-0.1**
	comp=Z,62nm,0.8s							
TOLI	**Toli-Toli**	**32.58**	**121**	*e*P	**P**	**18 07 50.2**	**+0.8**
MOY	**Mondy**	**32.78**	**9**	*e*P	**P**	**18 07 51.5**	**+0.7**
MOY				pmax	pmax			
	comp=Z,27nm,2.0s							
JMDO	**Jabal Madar**	**32.86**	**281**	⇓sP	pP	18 08 04.5	+1.8
SMDO	**Samad**	**32.90**	**283**	⇑sP	pP	18 08 05.5	+2.4
JOW	**Kunigami**	**33.03**	**70**	*e*P	**P**	**18 07 53.5**	**+0.3**
	comp=Z,34nm,0.6s							
TLY	**Talaya**	**33.24**	**12**	P	**P**	**18 07 56.9**	**+2.1**
	comp=Z,138nm,1.1s,SNR=6.8							
TLY	**Talaya**	**33.24**	**12**	⇑*i*P	**P**	**18 07 56.8**	**+2.0**
TLY				pmax	pmax			
	comp=Z,38nm,1.3s							
TLY				MLR	MLR			
	comp=Z,697nm,23.0s							
TLY	**Talaya**	**33.24**	**12**	⇑P	**P**	**18 07 53.9**	**-0.8**
	SNR=15							
TLY	**Talaya**	**33.24**	**12**	*e*P	**P**	**18 07 55.7**	**+1.0**
	comp=Z,26nm,1.0s							
KURBB	**Kurchatov Arra**	**33.25**	**343**	P	**P**	**18 07 55.6**	**+0.9**
	comp=Z,111nm,0.8s,baz=158,slow=8.4,SNR=640							
KURBB				pP	**pP**	**18 08 06.5**	**+0.8**
	comp=Z,57nm,0.7s,baz=158,slow=8.0,SNR=13							
KURK	**Kurchatov**	**33.31**	**343**	P	**P**	**18 07 56.8**	**+1.5**
	comp=Z,478nm,0.9s,SNR=80							
KURK	**Kurchatov**	**33.31**	**343**	P	**P**	**18 07 55.6**	**+0.3**
KURK				pmax	pmax			
	comp=Z,95nm,1.2s							
KURK	**Kurchatov**	**33.31**	**343**	⇑P	**P**	**18 07 56.3**	**+0.9**
	SNR=70							
KURK	**Kurchatov**	**33.31**	**343**	*e*P	**P**	**18 07 56.2**	**+0.9**
	comp=Z,167nm,1.0s							
KURK				pP	**pP**	**18 08 06.5**	**+0.3**
OTUK	**Ortayu**	**33.35**	**334**	P	**P**	**18 07 56.1**	**+0.3**
HOQ	**Hoqain**	**33.58**	**284**	⇓sP	pP	18 08 10.4	+1.4
	SNR=24							
BSY	**Bisya**	**33.69**	**282**	⇓sP	pP	18 08 11.9	+2.0
	SNR=16							
H08S3	**Diego Garcia H**	**33.73**	**219**	T	T	18 43 09.2		
	baz=35,slow=75,SNR=98							
H08S2	**Diego Garcia H**	**33.73**	**219**	T	T	18 43 16.8		
	baz=35,slow=75,SNR=110							
H08S1	**Diego Garcia H**	**33.74**	**219**	T	T	18 43 13.1		
	baz=35,slow=75,SNR=115							
IRK	**Irkutsk**	**33.90**	**12**	*e*P	**P**	**18 08 00.9**	**+0.4**
IRK				pmax	pmax			
	comp=Z,67nm,1.8s							
SNY	**Shenyang**	**34.12**	**42**	⇓P	**P**	**18 08 02.3**	**-0.1**
SNY				S	**S**	**18 13 24.5**	**-1.3**
SNY				PMZ				
	comp=Z,91nm,0.9s							
SNY				LN				
	comp=Z,680nm,16.1s							
SNY				LE				
	comp=Z,400nm,14.3s							
SNY				LZ				
	comp=Z,870nm,14.9s							
ARQ	**Araqi**	**34.30**	**283**	⇓sP	pP	18 08 17.2	+2.0
	SNR=15							
BANOM	**Banah**	**34.56**	**288**	⇓sP	pP	18 08 18.9	+1.3
UOSS	**Wadi Hilu**	**34.61**	**286**	P	pP	18 08 19.9	+2.0
	comp=Z,310nm,0.9s,SNR=6.1							
UOSS	**Wadi Hilu**	**34.61**	**286**	P	pP	18 08 18.2	+0.3
	comp=Z,310nm,0.9s,SNR=6.1							
HATD	**Hatta, Dubai**	**34.67**	**286**	⇓*i*P	pP	18 08 20.6	+2.2
	SNR=15							
ASHO	**Ashiyiah**	**34.73**	**286**	⇓*i*P	pP	18 08 21.4	+2.4
	SNR=11							
ASHO	**Ashiyiah**	**34.73**	**286**	⇑sP	pP	18 08 21.4	+2.4
	SNR=14							
ZAA0	**Zalesovo Array**	**35.08**	**351**	*e*P	**P**	**18 08 10.7**	**+0.2**
ZALV	**Zalesovo Beam**	**35.08**	**351**	P	**P**	**18 08 10.7**	**+0.1**
	comp=Z,73nm,0.8s,baz=170,slow=9.0,SNR=337							
ZALV				LR	LR	18 24 58.0		
	comp=Z,160nm,18.1s,baz=254,slow=40							
NAZ	**Nazwa, Dubai**	**35.10**	**286**	⇑*i*P	pP	18 08 23.9	+

GEYT comp=Z,14nm,0.7s,baz=219,slow=2.3,SNR=8.8 pPcP 18 10 56.3
GEYT comp=Z,10nm,0.7s,baz=9.2,slow=0.8,SNR=5.4 S **S** **18 13 51.0 +2.1**
GEYT comp=Z,0.6nm,0.4s,baz=100,slow=16,SNR=1.8 LR LR 18 25 57.5
KAPI Kappang 35.68 130 comp=Z,1μm,20.0s,baz=100,slow=41 *eP* **P** **18 08 17.0 +0.8**
comp=Z,13nm,1.1s
NVS Novosibirsk 36.18 350 ⇓*iP* **P** **18 08 20.0 0.0**
NVS *i* *PP **pP** **18 08 30.3 -0.7**
NVS *i* S **S** **18 13 56.0 -1.2**
NVS comp=Z,83nm,1.0s pmax pmax
NVS comp=N,60nm,1.4s pmax pmax
NVS comp=E,29nm,1.2s pmax pmax
NVS comp=N,14nm,1.6s smax smax
NVS comp=E,34nm,1.6s smax smax
CIT Chita 36.25 21 *eP* **P** **18 08 21.0 +0.3**
CIT *e* 18 08 31.7
JNU Nakatsue 36.26 60 P **P** **18 08 21.3 +0.2**
comp=E,28nm,0.8s,baz=165,slow=3.3
JNU Nakatsue 36.26 60 *eP* **P** **18 08 21.9 +0.9**
CN2 Changchun 36.32 41 ⇓P **P** **18 08 21.5 +0.1**
CN2 *es*P **sP** **18 08 35.8 -1.3**
CN2 *eS* **S** **18 14 00.0 +0.3**
CN2 comp=E,50nm,1.0s PMZ
CN2 comp=E,200nm,4.0s PMZ
CN2 comp=E,500nm,15.0s LN
CN2 comp=E,700nm,15.0s LE
CN2 comp=E,900nm,16.0s LZ
HIA Hailar 36.62 29 *eP* **P** **18 08 22.9 -1.0**
HIA comp=Z,87nm,1.1s pmax pmax
HIA Hailar 36.62 29 *eP* **P** **18 08 22.9 -1.0**
comp=Z,87nm,1.1s
RBK Rabkut 36.97 274 ⇑sP pP 18 08 40.0 +1.7
SNR=11
ABTO Aybut 37.85 274 ⇑sP pP 18 08 47.0 +1.3
SNR=9.6
BVA0 Borovoye Array 37.92 338 *iP* **P** **18 08 34.7 -0.2**
BVA0 comp=Z,24nm,1.1s pmax pmax
BVAR Borovoye Array 37.92 338 P **P** **18 08 35.4 +0.5**
comp=Z,29nm,1.1s,baz=141,slow=9.6,SNR=77
BVAR comp=Z,18nm,0.7s,baz=173,slow=2.5,SNR=14 PcP **PcP** **18 10 51.0 +0.8**
BVAR comp=Z,8.7nm,0.7s,baz=114,slow=3.6,SNR=4.7 pPcP 18 11 03.0
BVAR S **S** **18 14 24.5 +0.7**
comp=Z,0.7nm,0.7s,baz=114,slow=18,SNR=2.8
BRVK Borovoye 37.99 338 P **P** **18 08 36.2 +0.8**
comp=Z,172nm,0.8s,SNR=20
BRVK Borovoye 37.99 338 P **P** **18 08 35.2 -0.2**
BRVK comp=Z,38nm,0.9s pmax pmax
BRVK Borovoye 37.99 338 ⇓P **P** **18 08 36.0 +0.6**
SNR=13
BRVK Borovoye 37.99 338 *eP* **P** **18 08 35.9 +0.6**
comp=Z,22nm,0.8s
TNTI Ternate 38.27 115 *eP* **P** **18 08 37.3 -0.9**
comp=Z,116nm,1.1s
MDJ Mudanjiang 39.31 42 P **P** **18 08 46.8 +0.1**
MDJ pP **pP** **18 08 55.5 -2.2**
MDJ sP **sP** **18 09 00.0 -2.4**
MDJ SS **SS** **18 17 33.3 -6.3**
MDJ ScS **ScS** **18 18 53.3 +1.1**
MDJ PMZ
comp=Z,44nm,1.2s
MDJ PMZ
comp=Z,110nm,5.1s
MDJ LN
comp=Z,600nm,16.8s
MDJ LE
comp=Z,450nm,16.2s
MDJ LZ
comp=Z,820nm,16.2s
MDJ Mudanjiang 39.31 42 *eP* **P** **18 08 45.6 -1.1**
comp=Z,90nm,1.4s
AB31 Akbulak array 39.94 326 *iP* **P** **18 08 52.3 +0.5**
AB31 comp=Z,23nm,0.6s pmax pmax
ABKAR Akbulak array 39.94 326 *eP* **P** **18 08 52.6 +0.9**
MMRI Maumere 39.95 132 *eP* **P** **18 08 51.2 -1.1**
comp=Z,32nm,0.9s
VLA Vladivostok 40.16 45α *iP* **P** **18 08 52.1 -1.6**
VLA *i* *PP **pP** **18 09 04.6 -0.1**
VLA *e**SP **sP** **18 09 11.3 +1.9**
VLA *e* 18 10 53.6
VLA comp=Z,90nm,1.5s pmax pmax
USRK Ussuriysk Ar. 40.67 44 P **P** **18 08 57.6 -0.3**
comp=Z,27nm,0.7s,baz=256,slow=7.1,SNR=49
USRK pP **pP** **18 09 08.8 -0.2**
comp=Z,63nm,0.8s,baz=249,slow=8.0,SNR=22
BOD Bodaibo 41.31 17 *eP* **P** **18 09 03.0 0.0**
BOD comp=Z,57nm,1.3s pmax pmax
AKTO Aktyubinsk 41.64 326 P **P** **18 09 06.4 +0.6**
comp=Z,12nm,0.8s,baz=128,slow=7.4,SNR=38
AKTO Aktyubinsk 41.64 326 P **P** **18 09 05.9 +0.1**
AKTO comp=Z,37nm,0.9s pmax pmax
SOEI Soe 42.17 131 *eP* **P** **18 09 09.5 -1.2**
comp=Z,150nm,1.1s
KLR Kul'dur 42.85 37 *eP* P 18 09 11.6 -4.0
KLR comp=E,43nm,1.4s pmax pmax
KLR comp=Z,52nm,1.4s pmax pmax
KLR comp=E,600nm,14.0s MLR MLR
KLR comp=Z,2μm,14.0s MLR MLR
MAJO Matsushiro 42.86 57 *eP* **P** **18 09 15.9 -0.1**
MAJO comp=Z,175nm,2.0s pmax pmax
MAJO Matsushiro 42.86 57 *eP* **P** **18 09 15.9 -0.1**
comp=Z,174nm,2.0s
MAT Matsushiro 42.86 57 P **P** **18 09 15.5 -0.5**
MAT S **S** **18 15 42.4 +4.4**
MJAR Matsushiro Arr 42.86 57 P **P** **18 09 16.1 +0.2**
comp=Z,36nm,1.2s,baz=262,slow=9.6,SNR=40
MJAR comp=Z,12nm,1.0s,baz=248,slow=4.4,SNR=7.8 PcP **PcP** **18 11 06.8 +0.3**
MJAR comp=Z,927nm,18.1s,baz=265,slow=41 LR LR 18 30 24.8
CLNS Chul'man 44.17 24 *eP* **P** **18 09 26.6 +0.3**
CLNS comp=Z,39nm,0.9s pmax pmax
CLNS comp=N,22nm,0.8s pmax pmax
CLNS comp=E,31nm,1.0s pmax pmax
FAKI Fak Fak 44.34 116 *eP* **P** **18 09 27.9 -0.2**
comp=E,122nm,1.1s
RAYN Ar Rayn 44.41 284 P **P** **18 09 29.6 +1.0**
comp=E,841nm,0.8s,SNR=18
RAYN Ar Rayn 44.41 284 *eP* **P** **18 09 29.3 +0.7**
comp=E,65nm,0.9s
HABR Khabarovsk 44.42 39*deP* **P** **18 09 28.1 -0.2**
HABR *e**PP **pP** **18 09 38.6 -0.8**
HABR *e**SP **sP** **18 09 44.8 +0.7**
HABR *e* 18 11 09.2
HABR *e*PPP PPP 18 11 46.3
HABR S **S** **18 15 56.1 -4.2**
HABR *e**SS **sS** **18 16 19.3 +0.5**
HABR *e*SS **SS** **18 19 16.8 -3.4**
HABR *e* 18 19 19.1
HABR *e*SSS SSS 18 19 59.9
HABR comp=Z,33nm,1.5s pmax pmax
HABR comp=N,21nm,1.5s pmax pmax
HABR comp=E,34nm,1.5s MLR MLR

comp=Z,883nm,16.0s
SVE Sverdlovsk 44.49 335*ciP* **P** **18 09 29.9 +1.1**
SVE *e*S S 18 16 16.4 +15
SVE comp=Z,106nm,1.0s pmax pmax
SVE comp=Z,857nm,18.0s MLR MLR
ARU Arti 45.08 334 P **P** **18 09 34.4 +1.0**
comp=Z,226nm,0.6s,SNR=12
ARU Arti 45.08 334 P **P** **18 09 33.4 0.0**
comp=Z,226nm,0.6s,SNR=12
ARU Arti 45.08 334*diP* **P** **18 09 33.8 +0.4**
ARU *PP **pP** **18 09 45.4 +0.8**
ARU 18 11 13.4
ARU 18 11 21.4
ARU S **S** **18 16 11.5 +1.8**
ARU SS **ScS** **18 19 27.6 +0.5**
ARU comp=Z,44nm,1.7s pmax pmax
ARU Arti 45.08 334 *eP* **P** **18 09 33.9 +0.5**
comp=Z,32nm,0.7s
DGRG David-gareji 46.02 309 P **P** **18 09 41.8 +0.6**
GNI Garni 46.20 307 *eP* **P** **18 09 44.1 +1.3**
GNI comp=Z,19nm,1.5s pmax pmax
GNI Garni 46.20 307 ⇓P **P** **18 09 44.6 +1.8**
SNR=7.0
GNI Garni 46.20 307 *eP* P 18 09 46.5 +3.7
comp=Z,165nm,1.7s
SEAG Tbilisi Sea 46.51 310 P pP 18 09 56.3 0.0
TBLG Delisi 46.55 310 P **P** **18 09 46.6 +1.2**
KZR Kazreti 46.71 309 P pP 18 09 58.2 +0.3
DAMY Dhamar 46.79 272 *epP pP 18 10 00.2 +1.1
TRBA At Turbah 47.36 270 *eP* pP 18 10 04.3 +0.8
ZEI Tsey 47.40 311 *eP* **P** **18 09 52.9 +0.7**
ZEI comp=Z,128nm,1.3s pmax pmax
ONI Oni 47.68 310 P pP 18 10 05.0 -0.5
ASAJ Asahikawa 47.83 48 P **P** **18 09 55.7 +0.5**
comp=Z,18nm,0.8s,baz=294,slow=7.2,SNR=4.9
ASAJ comp=Z,264nm,18.3s,baz=329,slow=39 LR LR 18 32 17.2
ASAJ Asahikawa 47.83 48 P **P** **18 09 55.7 +0.5**
ASAJ comp=Z,18nm,0.8s pmax pmax
ASAJ comp=Z,264nm,18.3s MLR MLR
ASAJ Asahikawa 47.83 48 *eP* **P** **18 09 56.5 +1.4**
comp=Z,21nm,1.0s
KBZ Khabaz 48.34 312 P **P** **18 09 59.6 +0.5**
comp=Z,6.1nm,0.8s,baz=56,slow=24,SNR=15
KIV Kislovodsk 48.54 312 *eP* **P** **18 10 00.4 -0.4**
KIV *e* 18 11 54.1
KIV *eS* **S** **18 16 58.8 -0.9**
KIV comp=Z,35nm,1.0s pmax pmax
KIV Kislovodsk 48.54 312 P **P** **18 10 02.3 +1.5**
SNR=40
KIV Kislovodsk 48.54 312 *eP* **P** **18 10 01.8 +0.9**
comp=Z,154nm,1.1s
GOF Gofitskoye 48.56 313 *eP* **pP** **18 10 11.3 -0.9**
GOF comp=Z,80nm,1.3s pmax pmax
CHVG Ch'k'valeri 48.69 310 P **P** **18 10 04.6 +2.6**
YSS Yuzh-Sakhalins 48.71 44 *eP* **P** **18 10 01.8 -0.1**
YSS *e* 18 10 10.8
YSS *e* 18 11 27.0
YSS comp=E,500nm,16.0s MLR MLR
YSS comp=Z,500nm,16.0s MLR MLR
YSS Yuzh-Sakhalins 48.71 44 *epP pP 18 10 11.3 -1.9
MZRK Al-Mazaregh 48.77 301 *eP* **P** **18 10 03.9 +1.3**
KBSD Kabsdagh 48.97 302 *eP* **P** **18 10 05.1 +0.9**
KBSD Kabsdagh 48.97 302 *eP* **P** **18 10 05.5 +1.3**
FITZ Fitzroy Crossi 49.04 137 *eP* **P** **18 10 05.0 +0.2**
comp=Z,117nm,0.8s
YAK Yakutsk 49.53 22 P **P** **18 10 07.7 -0.3**
comp=Z,121nm,0.7s,baz=261,slow=3.2,SNR=89
YAK Yakutsk 49.53 22*diP* **P** **18 10 07.5 -0.5**
YAK *e* 18 11 29.0
YAK *e* 18 11 59.2
YAK *e*PPP PPP 18 12 53.5
YAK *eS* **S** **18 17 10.3 -2.6**
YAK *e**SS **sS** **18 17 34.1 +2.5**
YAK *e* 18 19 52.8
YAK comp=Z,122nm,1.3s pmax pmax
YAK comp=N,25nm,1.5s pmax pmax
YAK comp=E,34nm,1.5s pmax pmax
YAK comp=Z,32nm,2.0s smax smax
YAK comp=N,38nm,2.5s smax smax
YAK comp=E,176nm,3.5s smax smax
YAK Yakutsk 49.53 22 *eP* **P** **18 10 05.4 -2.6**
comp=E,120nm,0.7s
GUMO Guam 49.75 88 LR LR 18 30 58.1
comp=E,234nm,19.9s,baz=278,slow=36
MNKR ALMNKUR 49.90 301 *eP* P 18 10 18.2 +6.9
KSRV Kasrt alli 50.11 301 *eP* pP 18 10 25.4 +1.2
KSRV Kasrt alli 50.11 301 *eP* P 18 10 18.2 +5.3
SOC Sochi 50.56 311*ciP* **P** **18 10 17.3 +1.2**
SOC *i* *PP **pP** **18 10 27.2 -0.3**
SOC *e* 18 12 13.2
SOC *eS* **S** **18 17 26.2 -1.6**
SOC *e*SS **SS** **18 21 02.5 +0.3**
SOC *e*SSS SSS 18 22 31.2
SOC comp=Z,10.0nm,0.5s pmax pmax
SOC comp=Z,200nm,17.0s MLR MLR
MALT Malatya 50.77 304⇑*iP* **P** **18 10 19.5 +1.6**
SLMH Al Salmeh 51.00 301 *eP* pP 18 10 27.8 -3.1
ZALF Zalf 51.37 297 *eP* pP 18 10 35.0 +1.3
ROOS tl_alroos 51.43 299 *eP* pP 18 10 33.4 -0.9
JAY Jayapura 51.51 110 LR LR 18 34 00.0
comp=Z,185nm,18.2s,slow=38
SALA Sala 51.87 297 *eP* pP 18 10 37.0 -0.8
SALA Sala 51.87 297 *eP* pP 18 10 38.4 +0.7
MARH Ras Al Marh 52.09 298 *eP* pP 18 10 40.5 +0.9
ANN Anapa 52.40 312 *eP* **pP** **18 10 38.3 -2.9**
ANN *e**PP x 18 10 51.5
ANN *e* 18 11 42.8
ANN *eS* S 18 18 10.0 +17
ANN comp=Z,42nm,1.2s pmax pmax
BRBR Barbar 52.53 298 *eP* pP 18 10 45.4 +2.8
ARNB Al Arnab 52.56 301 *eP* pP 18 10 42.0 -0.7
ARNB Al Arnab 52.56 301 *eP* pP 18 10 43.1 +0.4
VORD Divnogorie 52.58 320 *eP* **P** **18 10 31.0 -0.1**
VORD *e**PP **pP** **18 10 41.7 -0.8**
VORD *eS* **S** **18 17 52.9 -2.5**
VORD comp=N,10.0nm,1.1s pmax pmax
VORD comp=E,30nm,1.1s pmax pmax
VORD comp=Z,20nm,1.1s smax smax
VORD comp=N,230nm,3.7s smax smax
VORD comp=E,310nm,3.7s smax smax
VORD comp=Z,330nm,3.7s smax smax
VSR Storozhevoye 52.73 320 *eP* **P** **18 10 32.2 0.0**
VSR *e**PP **pP** **18 10 42.7 -0.9**
VSR *eS* **S** **18 17 54.6 -2.8**
VSR comp=Z,10.0nm,0.9s pmax pmax
VSR comp=N,9.0nm,0.8s pmax pmax
VSR comp=E,20nm,0.8s smax smax
VSR comp=N,80nm,1.9s smax smax
VSR comp=E,40nm,1.9s smax smax
VSR comp=Z,80nm,1.9s smax smax
VOR Voronezh 52.85 321 P **P** **18 10 33.0 -0.1**
VOR pmax pmax

comp=Z,280nm,1.2s
LPSR Galich'ya Gora 53.27 322 *eP* **P** **18 10 36.2 +0.1**
LPSR pmax pmax
comp=E,10.0nm,1.1s
LPSR pmax pmax
comp=Z,40nm,1.1s
LPSR pmax pmax
comp=N,4.0nm,1.0s
PRGR Permogore 53.53 334⇓*iP* **P** **18 10 35.8 -2.1**
PRGR *e**PP **pP** **18 10 48.7 -0.6**
PRGR S **S** **18 18 06.2 -1.7**
PRGR pmax pmax
comp=Z,46nm,0.5s
BR131 Keskin Array S 54.60 305 *eP* **P** **18 10 46.0 -0.3**
comp=Z,29nm,1.1s
BRTR Keskin Array B 54.60 305 P **P** **18 10 46.1 -0.2**
comp=Z,6.2nm,0.8s,baz=115,slow=7.8,SNR=33
BRTR pP **pP** **18 10 57.3 -0.4**
comp=Z,25nm,1.0s,baz=126,slow=3.6,SNR=25
BRTR PcP **PcP** **18 11 49.2 +0.1**
comp=Z,5.0nm,0.8s,baz=146,slow=4.7,SNR=3.3
BRTR pPcP 18 12 00.8
comp=Z,7.7nm,0.8s,baz=139,slow=4.9,SNR=5.4
BRTR LR LR 18 37 40.9
comp=Z,334nm,21.2s,baz=103,slow=40
BRTR Keskin Array B 54.60 305 *iP* **P** **18 10 46.4 +0.1**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
CSS Prodhromos 54.70 300 *epP pP 18 10 58.3 -0.1
SIM Simferopol' 54.75 312 P **pP** **18 10 58.3 -0.2**
SIM S **S** **18 18 25.5 +0.5**
SIM pmax pmax
comp=Z,24nm,1.3s
MOS Moscow 54.95 325 *eP* **P** **18 10 47.6 -0.7**
MOS *i* 18 10 58.7
MOS *eS* **S** **18 18 26.3 -0.9**
MOS pmax pmax
comp=Z,76nm,1.1s
MOS MLR MLR
comp=Z,1μm,17.0s
ANTO Ankara 55.26 305⇓*iP* **P** **18 10 50.9 -0.1**
ANTO Ankara 55.26 305 *eP* **P** **18 10 51.4 +0.4**
ANTO pmax pmax
comp=Z,54nm,1.2s
ANTO Ankara 55.26 305 ⇑P **P** **18 10 51.3 +0.4**
SNR=9.9
ANTO Ankara 55.26 305 *eP* **P** **18 10 51.4 +0.4**
comp=Z,54nm,1.2s
OBN Obninsk 55.34 324*diP* **P** **18 10 51.1 0.0**
OBN *e* 18 11 51.9
OBN *e* 18 12 56.3
OBN *eS* **S** **18 18 37.1 +4.7**
OBN comp=Z,61nm,1.2s pmax pmax
OBN comp=Z,725nm,18.0s MLR MLR
OBN Obninsk 55.34 324 *eP* **P** **18 10 51.2 +0.2**
comp=Z,715nm,2.7s
OBN *epP **pP** **18 11 02.5 0.0**
KLMR Klimovskoe 55.82 332 *eP* **P** **18 10 53.5 -1.0**
KLMR pmax pmax
comp=Z,43nm,1.1s
WRA Warramunga Arr 56.18 132 P **P** **18 10 57.8 +0.1**
comp=Z,59nm,0.8s,baz=318,slow=7.4,SNR=491
WRA PcP **PcP** **18 11 55.0 -0.2**
comp=Z,24nm,0.6s,baz=319,slow=3.6,SNR=27
WRA LR LR 18 38 43.2
comp=Z,181nm,18.9s,baz=165,slow=40
WRA PKP2bc 18 41 09.6
comp=Z,1.7nm,0.6s,baz=136,slow=2.1,SNR=9.0
WRAB Tennant Creek 56.18 132 P **P** **18 10 57.9 +0.2**
comp=Z,611nm,1.0s,SNR=38
WRAB Tennant Creek 56.18 132 P **P** **18 10 57.9 +0.2**
comp=Z,611nm,1.0s,SNR=38
WRAB Tennant Creek 56.18 132*ceP* **P** **18 10 57.9 +0.2**
WRAB pmax pmax
comp=Z,241nm,1.0s
WRAB Tennant Creek 56.18 132 *eP* **P** **18 10 58.0 +0.2**
comp=Z,109nm,1.0s
TIXI Tiksi 56.21 13*diP* **P** **18 10 56.1 -1.0**
TIXI pmax pmax
comp=Z,114nm,1.7s
TIXI MLR MLR
comp=Z,310nm,24.0s
TIXI Tiksi 56.21 13 *eP* **P** **18 10 56.2 -0.9**
comp=Z,44nm,0.7s
ISP Isparta 56.98 303 *eP* **P** **18 11 03.5 +0.2**
TMCR Tamitsa 57.77 335 *eP* **P** **18 11 08.5 +0.2**
TMCR *e* 18 13 19.3
TMCR pmax pmax
comp=Z,72nm,1.3s
AS31 Alice Springs 58.40 135 *eP* **P** **18 11 13.6 +0.3**
ASAR Alice Springs 58.40 135 P **P** **18 11 13.8 +0.6**
comp=Z,109nm,0.7s,baz=311,slow=6.7,SNR=1995
ASAR LR LR 18 38 48.0
comp=Z,279nm,19.3s,baz=306,slow=38
ASAR P4KPbc 18 48 24.1
comp=Z,0.4nm,0.7s,baz=307,slow=4.2,SNR=7.0
TLCR 58.51 312⇓*iP* **P** **18 11 14.4 +0.6**
KMBO Kilima Mbogo 58.52 256 P **P** **18 11 15.2 +0.6**
comp=Z,4.6nm,1.0s,baz=49,slow=12,SNR=4.8
KMBO LR LR 18 33 51.1
comp=Z,611nm,21.9s,baz=92,slow=33
KMBO Kilima Mbogo 58.52 256 *iP* P 18 11 18.6 +4.0
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 58.52 256 *eP* **P** **18 11 17.0 +2.4**
comp=Z,1nm,1.1s
KIS Kishinev 58.65 314 *eP* **pP** **18 11 25.0 -1.2**
KIS LRM MLR 18 47 25.0
comp=Z,2μm,16.0s
KIS Kishinev 58.65 314 *eP* pP 18 11 25.0 -1.2
TIRR Tirgusor 58.76 311⇑*iP* **P** **18 11 15.7 +0.2**
TIRR Tirgusor 58.76 311 *eP* pP 18 11 27.0 0.0
TIRR Tirgusor 58.76 311 *epP* pP 18 11 27.0 0.0
AKASG Malin Array Be 58.77 318 P **P** **18 11 14.7 -0.8**
comp=Z,9.3nm,0.8s,baz=81,slow=6.0,SNR=45
AKASG pP **pP** **18 11 26.1 -0.9**
comp=Z,6.8nm,0.6s,baz=86,slow=6.4,SNR=12
AKASG LR LR 18 43 29.4
comp=Z,330nm,18.6s,baz=80,slow=43
AKBB Malin Array Si 58.77 318 *eP* **P** **18 11 15.1 -0.4**
AKBB Malin Array Si 58.77 318 *eP* **P** **18 11 15.1 -0.4**
AK01 Malin Array Si 58.78 318 *eP* **P** **18 11 15.1 -0.5**
AK02 Malin Array Si 58.78 318 *eP* **P** **18 11 14.6 -0.9**
KIEV Kiev 58.78 318 *eP* **P** **18 11 14.6 -1.0**
KIEV pmax pmax
comp=Z,15nm,0.7s
KIEV Kiev 58.78 318 *eP* **P** **18 11 14.6 -1.0**
comp=Z,15nm,0.7s
PSN Preselentsi 58.89 310⇑*iP* **P** **18 11 17.5 +1.1**
CFR Carcaliu 58.99 312⇑*iP* **P** **18 11 17.5 +0.4**
SEY Seymchan 59.02 27⇓*eP* **P** **18 11 16.2 -0.8**
TLB Topalu 59.03 311⇑*iP* **P** **18 11 17.7 +0.3**
HARR Harsova 59.11 311⇑*iP* **P** **18 11 18.3 +0.3**
MSAB Monastry St. A 59.16 310⇓*iP* **P** **18 11 19.4 +1.1**
COEN Coen 59.34 120 *eP* **P** **18 11 20.5 +0.6**
comp=Z,63nm,0.9s
PETK Petropavlovsk- 59.45 39 P **P** **18 11 19.6 -0.5**
comp=Z,1.8nm,0.7s,baz=247,slow=7.4,SNR=4.3
PETK LR LR 18 39 46.3
comp=Z,275nm,20.4s,baz=260,slow=39
SMG Samos 59.90 303 *eP* pP 18 11 35.1 0.0
VRI Vrincioaia 60.02 312⇑*iP* **P** **18 11 25.5 +1.3**
JMB Yambol 60.03 308⇑*iP* **P** **18 11 24.8 +0.5**
JMB Yambol 60.03 308 *eP* **P** **18 11 24.9 +0.6**
PLOR Plostina 60.07 312⇓*iP* **P** **18 11 25.9 +1.3**
TESR Tescani 60.10 313⇓*iP* **P** **18 11 25.1 +0.3**
FORT Forrest 60.12 145 *eP* **P** **18 11 25.4 +0.4**
comp=Z,105nm,1.1s
ISR Istrita 60.12 311⇑*iP* **P** **18 11 26.6 +1.6**
JOF Joensuu 60.17 332 *ep* **P** **18 11 24.2 -0.8**
comp=Z,25nm,0.6s
JOF Joensuu 60.17 332 *eP* **P** **18 11 24.2 -0.8**
JOF pmax pmax
comp=Z,25nm,0.6s
PMG Port Moresby 60.39 113 *eP* **P** **18 11 28.1 +0.9**
PMG pmax pmax
comp=Z,13nm,0.8s
PMG Port Moresby 60.39 113 *eP* **P** **18 11 28.1 +0.9**
comp=Z,13nm,0.8s
ALN Alexandroupoli 60.43 307 *eP* **P** **18 11 28.1 +1.0**
CHOS Chios island 60.49 304 *eP* pP 18 11 37.6 -1.6
SZH Strazhica 60.51 309 *eP* pP 18 11 38.9 -0.3
LVZ Lovozero 60.52 338 *eP* **P** **18 11 27.6 +0.3**

LVZ e*PP pP 18 11 40.2 +1.4
LVZ pmax pmax
comp=Z,66nm,1.1s
LVZ Lovozero 60.52 338 eP P 18 11 27.6 +0.3
comp=Z,66nm,1.1s
LVZ epP pP 18 11 40.2 +1.4
MLR Muntele Rosu 60.55 312⇓iP P 18 11 28.9 +0.9
NACGM Naroch 60.80 323 e P 18 11 27.0 -2.4
APA Apatity 60.84 338⇓iP P 18 11 29.6 +0.2
APA pmax pmax
comp=Z,96nm,0.8s
APA MLR MLR
comp=Z,1μm,12.0s
KDZ Kurdzhali 60.90 307⇓iP P 18 11 31.2 +0.9
DOPR Dopca 60.95 312⇑iP P 18 11 31.3 +0.7
NPS Neapolis 61.02 300 eP pP 18 11 42.5 -0.3
SANT Santorini 61.07 301 eP P 18 11 22.4 -9.2
SANT Santorini 61.07 301 epP pP 18 11 42.3 -0.9
LIA Limnos Island 61.12 305 eP pP 18 11 42.5 -0.9
BURAR Bucovina Array 61.13 314⇓iP P 18 11 32.5 +0.6
LAST Lasithi 61.13 300 eP P 18 11 32.5 +0.4
BUR08 Bucovina Ar. S 61.14 314 eP P 18 11 32.5 +0.5
BUR08 epP pP 18 11 43.9 +0.3
IIGN Ignalina 61.18 323 eP P 18 11 32.7 +0.7
IIGN AMB AMB 18 11 33.8
comp=Z,27nm,0.8s
VOIR 61.18 312⇑iP P 18 11 33.8 +1.5
ISAL Salakas 61.26 323 eP P 18 11 33.0 +0.5
ISAL AMB AMB 18 11 34.3
comp=Z,16nm,1.0s
RZN Rozhen 61.42 308 eP pP 18 11 45.2 -0.5
PLD Plovdiv 61.42 308 eP pP 18 11 44.9 -0.5
KAVA Kavala 61.59 307 eP P 18 11 35.3 +0.3
LVV L'vov 62.02 317 eP pP 18 11 49.0 -0.3
NVR Nevrokopi 62.07 307 eP P 18 11 38.0 -0.3
LOT Lotru 62.08 312⇓iP P 18 11 38.8 +0.4
MPEP Malo Peshtene 62.11 309 eP pP 18 11 50.0 -0.1
AOS Alonnisos 62.15 305 eP P 18 11 36.0 -2.8
VAM Vamos 62.16 300 P P 18 11 36.7 -2.2
VAM Vamos 62.16 300 eP P 18 11 37.8 -1.1
VAM Vamos 62.16 300 P P 18 11 36.7 -2.2
VAM Vamos 62.16 300 P P 18 11 36.7 -2.2
MMB Musomiste 62.17 307⇓iP P 18 11 38.8 -0.1
MMB Musomiste 62.17 307 eP pP 18 11 49.4 -1.1
CJR Cluj-Napoca 62.21 313⇑iP P 18 11 39.3 +0.2
FIA1 FINESS Array S 62.22 330 eP P 18 11 38.5 -0.3
FINES FINESS Array B 62.22 330 P P 18 11 39.0 +0.2
comp=Z,24nm,0.7s,baz=114,slow=6.9,SNR=74
FINES LR LR 18 44 04.9
comp=Z,955nm,18.2s,baz=104,slow=41
FINES FINESS Array B 62.22 330 P P 18 11 39.0 +0.2
KAF Kangasniemi 62.24 331 ep P 18 11 38.6 -0.4
comp=Z,5.5nm,0.6s
KAF Kangasniemi 62.24 331 eP P 18 11 38.6 -0.4
KAF pmax pmax
comp=Z,6.0nm,0.6s
PAIG Paliouri 62.27 306 P P 18 11 39.0 -0.6
PAIG Paliouri 62.27 306 eP P 18 11 39.7 +0.1
PAIG Paliouri 62.27 306 P P 18 11 39.0 -0.6
PAIG Paliouri 62.27 306 P P 18 11 39.0 -0.6
SRS Serrai 62.28 307 eP P 18 11 39.3 -0.4
BMR Baia Mare 62.30 314⇓iP P 18 11 39.5 -0.1
GVD Gavdhos 62.30 300 eP P 18 11 39.0 -0.9
GVD Gavdhos 62.30 300 epP pP 18 11 50.8 -0.7
KARN Karanos 62.39 300 eP P 18 11 39.9 -0.6
PLG Polygyros 62.43 306 eP P 18 11 40.5 -0.2
SKIA Skiathos 62.47 305 eP P 18 11 40.1 -0.9
VTS Vitosha 62.52 309⇓iP P 18 11 41.9 +0.5
VTS Vitosha 62.52 309 eP pP 18 11 52.2 -0.8
KKB Krupnik 62.64 308 eP pP 18 11 51.5 -2.2
XOR Xorichti 62.67 305 eP P 18 11 41.1 -1.3
HORT Hortiatis 62.68 306 eP P 18 11 41.7 -0.7
GZR Gura Zlata 62.78 312⇓iP P 18 11 43.2 +0.2
THE Thessaloniki 62.78 306 eP P 18 11 41.7 -1.3
SUW Suwalki 62.80 321 eP P 18 11 42.6 -0.2
SUW Suwalki 62.80 321 eP P 18 11 42.9 +0.1
SUW e*PP pP 18 11 54.2 -0.2
SUW pmax pmax
comp=Z,98nm,0.9s
SUW Suwalki 62.80 321 eP P 18 11 42.9 +0.1
comp=Z,98nm,0.9s
SUW epP pP 18 11 54.2 -0.2
KNT Kendrikon 62.81 307 P P 18 11 40.3 -2.9
KNT Kendrikon 62.81 307 eP P 18 11 43.6 +0.4
KNT Kendrikon 62.81 307 P P 18 11 40.3 -2.9
KNT Kendrikon 62.81 307 P P 18 11 40.3 -2.9
DRGR 62.82 313⇑iP P 18 11 44.2 +1.0
ANKY Antikythira Is 62.85 301 eP P 18 11 43.4 -0.1
KWP Kalwaria Pacla 62.87 316 eP P 18 11 43.8 +0.4
KWP Kalwaria Pacla 62.87 316⇓iP P 18 11 44.0 +0.6
KWP Kalwaria Pacla 62.87 316 eP P 18 11 39.6 -3.8
KWP pmax pmax
comp=Z,226nm,1.6s
KWP Kalwaria Pacla 62.87 316 eP P 18 11 39.6 -3.8
comp=Z,226nm,1.6s
TRPA Tarpa 62.95 315⇑iP P 18 11 44.8 +0.9
TRPA Tarpa 62.95 315⇑ePcP pP 18 11 55.4 -0.1
VAY Valandovo 63.05 307 eP P 18 11 44.4 -0.4
VLI Veliai 63.06 302 eP P 18 11 43.4 -1.6
UZH Uzhgorod 63.12 315 eP P 18 11 45.5 +0.4
UZH i 18 11 56.5
KOLS Kolonicke sedl 63.13 316 eP P 18 11 45.7 +0.5
KOLS e 18 11 55.0
KOLS Kolonicke sedl 63.13 316 eP P 18 11 45.7 +0.5
KOLS epP pP 18 11 55.0 -1.8
LIT Litokhoron 63.17 306 P P 18 11 44.6 -1.0
LIT Litokhoron 63.17 306 eP P 18 11 45.0 -0.6
LIT Litokhoron 63.17 306 P P 18 11 44.6 -1.0
LIT Litokhoron 63.17 306 P P 18 11 44.6 -1.0
GRG Griva 63.19 307 P P 18 11 43.1 -2.7
GRG Griva 63.19 307 eP P 18 11 45.2 -0.6
GRG Griva 63.19 307 P P 18 11 43.1 -2.7
GRG Griva 63.19 307 P P 18 11 43.1 -2.7
AGG Agios Georgios 63.37 305 eP P 18 11 44.0 -3.0
GUR Goura 63.44 303 P P 18 11 47.8 +0.3
GUR Goura 63.44 303 eP P 18 11 46.5 -1.0
GUR Goura 63.44 303 P P 18 11 47.8 +0.3
VLX Vlachokerasia 63.45 303 P P 18 11 46.0 -1.7
VLX Vlachokerasia 63.45 303 eP P 18 11 46.3 -1.4
VLX Vlachokerasia 63.45 303 P P 18 11 46.0 -1.7
MAKR Makrakomi, Fth 63.52 305 eP P 18 11 45.8 -2.2
KALE Kalithea 63.56 304 eP P 18 11 46.3 -2.0
THL Klokotos Trika 63.57 305 P P 18 11 46.0 -2.2
KLV Kalavryta, Ach 63.58 304 P P 18 11 47.1 -1.3
KLV Kalavryta, Ach 63.58 304 eP P 18 11 46.5 -1.9
KLV Kalavryta, Ach 63.58 304 P P 18 11 47.1 -1.3
BZS Buzias 63.59 312⇑iP P 18 11 49.0 +0.7
CRVS Cervenica-Dubn 63.67 316 eP P 18 11 49.7 +0.9
CRVS pmax pmax
comp=Z,14nm,1.2s
CRVS Cervenica-Dubn 63.67 316 eP P 18 11 49.7 +0.9
CRVS epP pP 18 12 00.7 +0.3
EFP Efpalio 63.74 304 eP P 18 11 49.7 +0.3
KEV Kevo 63.75 339 ep P 18 11 47.3 -1.5
comp=Z,16nm,0.7s
KEV Kevo 63.75 339 eP P 18 11 47.3 -1.5
KEV pmax pmax
comp=Z,16nm,0.7s
STHS Stebnicka Huta 63.82 316 eP P 18 11 50.1 +0.4
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 63.82 316 eP P 18 11 50.1 +0.4
STHS epP pP 18 12 01.6 +0.2
ITM Ithomi 63.83 303 P P 18 11 49.0 -1.0
ITM Ithomi 63.83 303 eP P 18 11 48.7 -1.3
ITM Ithomi 63.83 303 P P 18 11 49.0 -1.0
SKO Skopje 63.86 308 eP P 18 11 49.6 -0.5
DRO Drossia 63.93 303 eP P 18 11 50.2 -0.5
AMT Artemida-Makis 63.97 303 eP P 18 11 50.2 -0.8
PYL PYLOS 64.00 302 P P 18 11 49.6 -1.6
PYL PYLOS 64.00 302 eP P 18 11 50.0 -1.2
PYL PYLOS 64.00 302 P P 18 11 49.6 -1.6
RLS Riolos of Patr 64.12 304 eP P 18 11 51.8 -0.1
ARCES ARCESS Array B 64.20 339 P P 18 11 52.4 +0.6
comp=Z,20nm,0.7s,baz=83,slow=7.6,SNR=66
ARCES LR LR 18 45 03.8
comp=Z,659nm,18.7s,baz=118,slow=41
ARE0 ARCESS Array S 64.20 339 eP P 18 11 52.3 +0.5
NEST Nestorio 64.25 306 P P 18 11 50.6 -2.2
NEST Nestorio 64.25 306 eP P 18 11 51.8 -1.0
PDO Prodromos 64.29 304 eP P 18 11 52.2 -0.8

DSL Palaion Diesel 64.31 305 eP P 18 11 51.8 -1.4
KECS Kecovo 64.32 315 eP P 18 11 53.4 +0.4
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 64.32 315 eP P 18 11 53.4 +0.4
KECS epP pP 18 12 05.1 +0.5
OHR Ohrid 64.39 307 eP P 18 11 50.4 -3.3
NIE Niedzica 64.42 316 eP P 18 11 54.8 +1.1
NIE Niedzica 64.42 316 eP P 18 11 54.8 +1.1
NIE e*PP pP 18 12 05.8 +0.4
PSZ Piszkesteto 64.72 315⇓iP P 18 11 55.7 -0.1
PSZ Piszkesteto 64.72 315 eP P 18 11 56.4 +0.6
PSZ pmax pmax
comp=Z,32nm,1.2s
PSZ Piszkesteto 64.72 315 eP P 18 11 56.4 +0.6
comp=Z,32nm,1.2s
PSZ Piszkesteto 64.72 315⇓ePP P 18 11 55.7 -0.1
OJC Ojcow 64.75 317 eP P 18 11 55.7 -0.1
OJC Ojcow 64.75 317 eP P 18 11 57.3 +1.5
OJC e*PP pP 18 12 07.3 -0.2
PKSN Nyarlorinc 64.77 313⇑eP pP 18 12 09.1 +1.5
DIVS Divibare 64.80 310⇓iP P 18 11 56.5 +0.1
IGT Igoumenitsa 64.87 305 eP P 18 11 54.7 -2.1
PKS6 Bocsa 64.99 313⇓eP pP 18 12 09.4 +0.4
CTAO Charters Tower 65.15 124 eP P 18 11 59.0 +0.2
CTAO pmax pmax
comp=Z,110nm,1.5s
CTAO Charters Tower 65.15 124 eP P 18 11 59.0 +0.2
comp=Z,110nm,1.5s
PKS2 Kecel 65.24 313⇓eP pP 18 12 11.3 +0.7
PKS7 Kunszentmiklos 65.25 314⇓eP pP 18 12 10.8 +0.1
VYHS Vyhne 65.42 315 eP P 18 12 00.5 +0.3
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS Vyhne 65.42 315 eP P 18 12 00.5 +0.3
VYHS epP pP 18 12 11.5 -0.3
PKSM Moragy 65.64 313⇑iP P 18 12 01.6 0.0
PKSM Moragy 65.64 313⇓e P 18 12 01.4 -0.2
PKSG 65.76 314⇓eP pP 18 12 14.2 +0.2
OKC Ostrava-Krasne 65.83 317 eP P 18 12 03.6 +0.9
OKC epP pP 18 12 14.8 +0.4
OKC esP sP 18 12 19.0 +0.1
OKC AMS AMS 18 49 20.0
comp=Z,300nm,16.5s
OKC Ostrava-Krasne 65.83 317 eP P 18 12 03.6 +0.9
OKC e 18 12 14.8
OKC e 18 12 19.0
OKC MLR MLR
comp=Z,300nm,16.5s
BILL Bilibino 65.84 23*d iP* P 18 12 02.1 -0.4
BILL e 18 12 34.9
BILL e 18 14 27.9
BILL pmax pmax
comp=Z,38nm,0.7s
BILL MLR MLR
comp=Z,448nm,19.0s
BILL Bilibino 65.84 23 eP P 18 12 01.5 -1.0
comp=Z,44nm,0.9s
CSKK Cs˘tkako 65.85 314⇑eP P 18 12 01.7 -1.3
PKS9 Tamasi 65.88 313⇓eP pP 18 12 14.8 0.0
BBOO Buckleboo 66.15 141 eP P 18 12 05.2 +0.2
comp=Z,52nm,0.9s
MORC Moravsky Berou 66.22 317⇑iP P 18 12 05.6 +0.2
MORC Moravsky Berou 66.22 317 eP P 18 12 05.8 +0.5
MORC pmax pmax
comp=Z,22nm,1.3s
MORC Moravsky Berou 66.22 317 eP P 18 12 05.8 +0.5
comp=Z,22nm,1.3s
KRLC Kraliky 66.70 317 eP P 18 12 09.0 +0.6
KRLC epP pP 18 12 19.7 -0.4
KRLC esP sP 18 12 24.2 -0.4
KRLC Kraliky 66.70 317 eP P 18 12 09.0 +0.6
KRLC e 18 12 19.7
KRLC e 18 12 24.2
VRAC Vranov 66.86 316⇓iP P 18 12 10.1 +0.7
BEHE Becsehely 66.92 313⇓eP P 18 12 11.3 +1.5
KSP Ksiaz 66.97 318 eP P 18 12 10.8 +0.7
KSP Ksiaz 66.97 318⇓eP P 18 12 10.8 +0.7
KSP e*PP pP 18 12 21.9 +0.1
KSP MLR MLR
comp=Z,4μm,18.3s
DPC Dobruska-Polom 66.98 317 eP P 18 12 10.8 +0.6
DPC epP pP 18 12 21.6 -0.3
DPC esP sP 18 12 25.0 -1.4
DPC Dobruska-Polom 66.98 317 eP P 18 12 10.9 +0.7
DPC Dobruska-Polom 66.98 317 eP P 18 12 10.9 +0.7
SOP Sopron 66.98 314 eP P 18 12 10.8 +0.6
UPC Upice 67.17 318 eP P 18 12 11.6 +0.3
UPC epP pP 18 12 23.5 +0.5
UPC Upice 67.17 318 eP P 18 12 11.6 +0.3
UPC e 18 12 23.5
CONA Conrad Observa 67.43 315⇓iP P 18 12 13.3 +0.1
comp=Z,16nm,1.2s,SNR=9.5
TREC Trest 67.58 316 eP P 18 12 11.0 -3.0
TREC epP pP 18 12 23.0 -2.7
TREC ex x 18 12 26.8
TREC AMS AMS 18 48 20.0
comp=Z,300nm,18.9s
TREC Trest 67.58 316 eP P 18 12 11.0 -3.0
TREC e 18 12 23.0
TREC e 18 12 26.8
TREC MLR MLR
comp=Z,300nm,18.9s
TIP Timpagrande 67.66 305 eP P 18 12 14.8 +0.1
comp=Z,16nm,0.9s
ARSA Arzberg 67.71 314⇑iP P 18 12 15.1 +0.2
comp=Z,8.1nm,0.9s
GOPC GO Pecny, Ondr 67.99 317 eP P 18 12 17.3 +0.7
GOPC epP pP 18 12 28.8 +0.5
GOPC esP sP 18 12 31.8 -1.0
GOPC AMS AMS 18 49 30.0
comp=Z,500nm,17.1s
PERS Pernice 68.05 313 eP P 18 12 17.3 +0.2
PERS i 18 12 28.2
BOJS Bojanci 68.06 312 *i P* P 18 12 17.6 +0.5
BOJS i 18 12 28.4
PVCC Panska Ves 68.09 318 eP P 18 12 18.1 +1.0
PVCC epP pP 18 12 29.1 +0.3
PVCC esP sP 18 12 31.8 -1.5
PVCC AMS AMS 18 50 00.0
comp=Z,800nm,16.8s
PVCC Panska Ves 68.09 318 eP P 18 12 18.1 +1.0
PVCC e 18 12 29.1
PVCC e 18 12 31.8
PVCC MLR MLR
comp=Z,800nm,16.8s
SOKA Soboth 68.10 313⇓iP P 18 12 17.7 +0.3
comp=Z,8.7nm,0.9s,SNR=6.4
PRU Pruhonice 68.14 317 eP P 18 12 18.3 +0.8
PRU epP pP 18 12 28.7 -0.5
PRU esP sP 18 12 32.3 -1.4
PRU AMS AMS 18 49 50.0
comp=Z,500nm,18.2s
PRU Pruhonice 68.14 317 eP P 18 12 18.3 +0.8
PRU e 18 12 28.7
PRU e 18 12 32.3
PRU MLR MLR
comp=Z,500nm,18.2s
PRA Prague 68.21 317 eP P 18 12 18.6 +0.7
PRA epP pP 18 12 30.2 +0.6
PRA Prague 68.21 317 eP P 18 12 18.6 +0.7
PRA e 18 12 30.2
CUC Castrocucco 68.28 306 epP pP 18 12 31.2 +0.9
VISS Visnje 68.32 313 eP P 18 12 19.1 +0.4
VISS i 18 12 29.1
SPITS Spitsbergen Ar 68.43 348 P P 18 12 18.9 +0.1
comp=Z,20nm,0.9s,baz=92,slow=7.5,SNR=15
RUE Ruedersdorf 68.44 320 eP P 18 12 19.7 +0.5
comp=Z,44nm,0.9s
RUE epP pP 18 12 31.4 +0.4
OBKA Obir 68.45 313⇑iP P 18 12 19.8 +0.2
comp=Z,15nm,1.1s,SNR=5.3
BRG Berggiesshubel 68.46 318 eP P 18 12 20.0 +0.6
comp=Z,18nm,1.1s
BRG *i* 18 12 31.3
comp=Z,18nm,0.9s
BRG e 18 12 47.5
comp=Z,12nm,0.9s
BRG ePP PP 18 14 55.7 +5.1
comp=Z,6.8nm,1.1s
BRG S S 18 21 22.0 +3.6
comp=N,234nm,17.2s
comp=E,781nm,17.6s
comp=Z,1μm,16.5s
BRG Berggiesshubel 68.46 318 eP P 18 12 19.9 +0.5
comp=Z,18nm,1.1s
BRG epP pP 18 12 31.5 +0.3
BRG Berggiesshubel 68.46 318 eP P 18 12 20.0 +0.6
BRG i 18 12 31.3
BRG e 18 12 47.5
BRG e 18 14 55.7
BRG S S 18 21 22.0 +3.6
BRG pmax pmax
comp=Z,18nm,1.1s
BRG MLR MLR
comp=N,234nm,17.2s
BRG MLR MLR
comp=E,781nm,17.6s
BRG MLR MLR
comp=Z,1μm,16.5s
CEL Celeste 68.46 304 eP P 18 12 19.7 -0.1
CEL epP pP 18 12 30.3 -1.1
MOA Molln 68.51 315⇓iP P 18 12 20.0 +0.1
comp=Z,16nm,0.9s,SNR=9.9
GEC2 GERESS Array S 68.79 316 eP P 18 12 22.0 +0.3
comp=Z,22nm,1.1s
GEC2 epP pP 18 12 33.6 +0.2
GEC2 GERESS Array S 68.79 316 eP P 18 12 22.2 +0.5
GEC2 GERESS Array S 68.79 316 eP P 18 12 22.2 +0.5
GERES GERESS Array B 68.79 316 P P 18 12 22.1 +0.3
comp=Z,9.7nm,0.8s,baz=77,slow=5.8,SNR=71
GERES pP pP 18 12 33.4 0.0
comp=Z,13nm,0.7s,baz=81,slow=6.0,SNR=21
GERES PKP2bc 18 40 34.0
comp=Z,1.0nm,0.9s,baz=264,slow=1.3,SNR=5.7
GERES LR LR 18 51 05.2
comp=Z,103nm,18.7s,baz=90,slow=43
FBE Freiberg 68.83 318 eP P 18 12 22.6 +0.9
comp=Z,36nm,1.1s
FBE epP pP 18 12 34.3 +0.9
KHC Kasperske Hory 68.84 316 eP P 18 12 21.5 -0.4
KHC epP pP 18 12 33.0 -0.7
KHC Kasperske Hory 68.84 316 eP P 18 12 21.5 -0.4
KHC e 18 12 33.0
JAVS Javornik 68.85 313 *i P* P 18 12 22.1 0.0
JAVS *i* 18 12 32.9
STKA Stephens Creek 68.94 137 P P 18 12 22.7 +0.1
comp=Z,37nm,0.9s,baz=317,slow=6.7,SNR=32
STKA LR LR 18 46 19.0
comp=Z,451nm,18.2s,baz=303,slow=39
STKA Stephens Creek 68.94 137 eP P 18 12 22.7 +0.1
STKA pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 68.94 137 eP P 18 12 22.7 +0.1
comp=Z,10nm,1.0s
CLL Collm 69.01 319 eP P 18 12 23.0 +0.1
comp=Z,13nm,1.1s
CLL epP pP 18 12 34.7 +0.1
CLL Collm 69.01 319⇓iP P 18 12 23.0 +0.1
comp=Z,13nm,1.1s
CLL *i* pP pP 18 12 34.2 -0.4
CLL ePP PP 18 14 59.0 +3.6
CLL esPP 18 15 09.0
CLL e 18 17 04.0
CLL eS S 18 21 24.0 -1.0
CLL eSSS SSS 18 29 24.0
CLL LmV 18 50 00.0
comp=Z,500nm,18.1s
CLL LmH 18 50 00.0
comp=N,200nm,18.5s
CLL LmH 18 50 00.0
comp=E,500nm,18.2s
CLL Collm 69.01 319⇓iP P 18 12 23.0 +0.1
CLL *i* *PP pP 18 12 34.2 -0.4
CLL eS S 18 21 20.0 -5.0
CLL pmax pmax
comp=Z,13nm,1.1s
CLL MLR MLR
comp=Z,500nm,18.1s
CLL Collm 69.01 319 eP P 18 12 23.0 +0.1
comp=Z,11nm,0.9s
KBA Koelnbreinsper 69.21 314⇓iP P 18 12 24.0 -0.4
comp=Z,8.1nm,0.8s
WET Wettzell 69.30 316 eP P 18 12 25.2 +0.4
comp=Z,15nm,1.1s
WET epP pP 18 12 36.8 +0.3
NB2 NORSAR Subarra 69.35 329 P P 18 12 24.2 -0.6
comp=Z,34nm,1.1s,baz=87,slow=6.2
NB2 NORSAR Subarra 69.35 329 P P 18 12 24.2 -0.6
baz=87,slow=6.2
NOA NORSAR Array B 69.35 329 P P 18 12 24.4 -0.4
comp=Z,14nm,0.9s,baz=87,slow=6.2,SNR=31
NOA LR LR 18 48 15.2
comp=Z,900nm,18.4s,baz=90,slow=41
TANN Tannenbergstha 69.44 318 eP P 18 12 26.0 +0.4
comp=Z,15nm,1.1s
TANN epP pP 18 12 37.6 +0.2
WERN Wernitzgruen 69.50 317 eP P 18 12 26.6 +0.6
comp=Z,15nm,1.2s
WERN epP pP 18 12 38.3 +0.5
RJOB Jochberg 69.51 315 eP P 18 12 26.0 -0.1
comp=Z,9.0nm,1.1s
RJOB epP pP 18 12 37.6 -0.3
NAO01 NORSAR Array S 69.52 329 eP P 18 12 25.1 -0.7
comp=Z,6.5nm,0.6s
NAO01 epP pP 18 12 37.4 -0.2
GUNZ Gunzen 69.53 318 eP P 18 12 26.6 +0.5
comp=Z,23nm,1.0s
GUNZ epP pP 18 12 38.3 +0.4
WERD Werda 69.53 318 eP P 18 12 26.5 +0.3
comp=Z,16nm,1.0s
WERD epP pP 18 12 38.1 +0.2
PLN Plauen 69.62 318 eP P 18 12 27.1 +0.4
comp=Z,12nm,0.9s
PLN epP pP 18 12 38.7 +0.2
ROTZ Rotzenmuhle 69.67 317 eP P 18 12 28.1 +1.1
comp=Z,25nm,1.1s
ROTZ epP pP 18 12 39.4 +0.7
MANZ Manzenberg 69.71 317 eP P 18 12 28.1 +0.8
comp=Z,22nm,1.2s
MANZ epP pP 18 12 39.6 +0.6
NEUB Neuenburg 69.79 318 eP P 18 12 28.0 +0.3
comp=Z,33nm,1.2s
NEUB epP pP 18 12 39.7 +0.3
ABTA Abfaltersbach 69.82 314⇓iP P 18 12 27.1 -0.9
comp=Z,10.0nm,1.2s
WDD Wield Dalam 69.91 302 epP pP 18 12 41.0 +0.5
MOX Moxa 69.95 318 eP P 18 12 29.2 +0.5
comp=Z,16nm,1.1s
MOX epP pP 18 12 40.9 +0.4
GRF Grafenberg Arr 70.31 317 eP P 18 12 31.9 +0.9
comp=Z,35nm,1.3s
GRF epP pP 18 12 43.3 +0.6
GRF eL L 18 50 02.6
comp=Z,456nm,18.5s
GRFO Grafenberg 70.31 317 eP P 18 12 32.1 +1.1
GRFO pmax pmax
comp=Z,22nm,1.1s
GRFO Grafenberg 70.31 317 eP P 18 12 32.0 +1.1
comp=Z,22nm,1.1s
WTTA Wattenberg 70.34 314⇓iP P 18 12 30.9 -0.5
comp=Z,28nm,1.3s,SNR=9.2
BSEG Bad Segeberg 70.39 321 eP P 18 12 32.2 +1.0
comp=Z,51nm,1.0s
BSEG epP pP 18 12 43.9 +0.9
FUR Furstenfeldbru 70.47 315 eP P 18 12 32.2 +0.2
comp=Z,14nm,0.9s
FUR epP pP 18 12 43.8 +0.1
CLZ Clausthal 70.59 319 eP P 18 12 33.2 +0.6
comp=Z,29nm,1.0s
CLZ epP pP 18 12 44.9 +0.5
CLTB Caltabellotta 70.66 304 epP pP 18 12 44.5 -0.6
NRDL Niedersach Rie 70.67 320 eP P 18 12 34.0 +1.0
comp=Z,52nm,1.3s
NRDL epP pP 18 12 45.3 +0.6
MOTA Moosalm 70.69 314⇓iP P 18 12 32.4 -1.1
comp=Z,27nm,1.2s,SNR=13
RETA Reutte 70.90 315⇓iP P 18 12 34.4 -0.3
comp=Z,27nm,1.2s,SNR=12
FETA Feichten 70.99 314⇓iP P 18 12 35.0 -0.4
comp=Z,11nm,1.1s,SNR=5.8
FUORN Ofenpass-Fuorn 71.37 314 eP P 18 12 38.0 +0.3
comp=Z,11nm,0.8s
PAF Port-aux-Franc 71.43 196 S S 18 21 56.0 +3.1
PAF SS SS 18 26 34.0 +5.3
PAF R 18 35 00.0
DAVA Damuels 71.53 315 *i P* P 18 12 38.5 0.0
comp=Z,34nm,1.2s,SNR=9.1

DAVOX **Davos/Dischmat** 71.60 314 P **P** 18 12 39.1 +0.1
comp=Z,6.3nm,0.7s,baz=121,slow=4.8,SNR=11
EIDS **Eidsvold** 71.76 126 *e*P **P** 18 12 41.2 +1.2
comp=Z,84nm,1.1s
TNS **Taunus Mts** 72.01 318 *e*P **P** 18 12 41.8 +0.5
comp=Z,20nm,0.9s
TNS *e*pP **pP** 18 12 53.5 +0.4
IBBN **Ibbenburen** 72.13 320 *e*P **P** 18 12 42.5 +0.7
comp=Z,78nm,1.3s
BFO **Black Forest** 72.39 316 *e*P **P** 18 12 43.5 -0.1
comp=Z,8.0nm,1.3s
BFO **Black Forest** 72.39 316 *i* P **P** 18 12 44.2 +0.6
BUG **Bochum--Univer** 72.56 319 *e*P **P** 18 12 45.0 +0.6
comp=Z,36nm,1.1s
BUG *e*pP **pP** 18 12 56.7 +0.5
LSZ **Lusaka** 72.63 246 *e*P **P** 18 12 46.1 +0.6
LSZ pmax pmax
comp=Z,55nm,0.8s
LSZ **Lusaka** 72.63 246 ⇓P **P** 18 12 46.4 +0.8
SNR=9.8
LSZ **Lusaka** 72.63 246 *e*P **P** 18 12 46.1 +0.6
comp=Z,55nm,0.8s
PGF **Pioggiola** 72.95 310 *e*P **P** 18 12 46.7 -0.4
comp=Z,40nm,1.1s
PGF *e*pP **pP** 18 12 58.0 -0.9
PGF **Pioggiola** 72.95 310 *e*P **P** 18 12 46.7 -0.4
PGF *e**PP **pP** 18 12 58.0 -0.9
PGF pmax pmax
comp=Z,40nm,1.1s
PGF **Pioggiola** 72.95 310 *e*P **P** 18 12 46.7 -0.4
comp=Z,40nm,1.1s
PGF *e*pP **pP** 18 12 58.0 -0.9
CDF **Champ du Feu** 73.07 316 *e*P **P** 18 12 47.5 -0.2
comp=Z,30nm,1.0s
CDF *e*pP **pP** 18 12 58.7 -0.8
CDF **Champ du Feu** 73.07 316 *e*P **P** 18 12 47.5 -0.2
CDF *e**PP **pP** 18 12 58.7 -0.8
CDF pmax pmax
comp=Z,30nm,1.0s
CDF **Champ du Feu** 73.07 316 *e*P **P** 18 12 47.5 -0.2
comp=Z,30nm,1.0s
CDF *e*pP **pP** 18 12 58.7 -0.8
ECH **Echery** 73.18 316 *e*P **P** 18 12 48.4 +0.1
ECH *e**PP **pP** 18 12 59.2 -0.9
ECH pmax pmax
comp=Z,4.0nm,0.9s
ECH **Echery** 73.18 316 *e*P **P** 18 12 48.4 +0.1
comp=Z,3.9nm,0.9s
ECH *e*pP **pP** 18 12 59.2 -0.9
VSL **Villasalto** 73.26 307 *e*P **P** 18 12 48.9 +0.1
comp=Z,42nm,1.4s
VSL *e*pP **pP** 18 13 00.0 -0.6
SENIN **Lac Senin/Sane** 73.43 314 *e*P **P** 18 12 50.4 +0.4
HINF **Hinteralfeld** 73.46 315 *e*P **P** 18 12 49.6 -0.3
comp=Z,22nm,1.1s
HINF **Hinteralfeld** 73.46 315 *e*P **P** 18 12 49.6 -0.3
HINF pmax pmax
comp=Z,22nm,1.1s
HINF **Hinteralfeld** 73.46 315 *e*P **P** 18 12 49.6 -0.3
comp=Z,22nm,1.1s
MEM **Membach** 73.49 318 P **P** 18 12 50.4 +0.4
comp=Z,8.6nm,1.1s
MEM **Membach** 73.49 318 *e*P **P** 18 12 51.0 +1.0
MEM *e**PP **pP** 18 13 02.6 +0.8
MEM pmax pmax
comp=Z,13nm,0.9s
MEM **Membach** 73.49 318 *e*P **P** 18 12 51.0 +1.0
comp=Z,13nm,0.9s
MEM *e*pP **pP** 18 13 02.6 +0.8
WLF **Walferdange** 73.57 317 P **P** 18 12 51.6 +1.1
comp=Z,24nm,1.4s
WLF AP **pP** 18 13 03.1 +0.8
WLF **Walferdange** 73.57 317 *e*P **P** 18 12 51.6 +1.1
comp=Z,34nm,1.0s
WLF *e*pP **pP** 18 13 03.0 +0.8
WLF **Walferdange** 73.57 317 *e*P **P** 18 12 51.7 +1.2
WLF pmax pmax
comp=Z,41nm,1.2s
WLF **Walferdange** 73.57 317 *e*P **P** 18 12 51.7 +1.2
comp=Z,41nm,1.2s
BEBN **Eben Emael** 73.66 319 P **P** 18 12 51.7 +0.8
HAU **Haudompre** 73.75 316 *e*P **P** 18 12 51.4 -0.2
comp=Z,33nm,1.1s
HAU *e*pP **pP** 18 13 02.6 -0.9
HAU *e*R
comp=Z,423nm,19.0s
HAU **Haudompre** 73.75 316 *e*P **P** 18 12 51.4 -0.2
HAU *e**PP **pP** 18 13 02.6 -0.9
HAU pmax pmax
comp=Z,33nm,1.1s
HAU **Haudompre** 73.75 316 *e*P **P** 18 12 51.4 -0.2
comp=Z,33nm,1.1s
HAU *e*pP **pP** 18 13 02.6 -0.9
SBF **Sospel** 73.82 311 *e*P **P** 18 12 52.0 -0.1
comp=Z,55nm,1.1s
SBF **Sospel** 73.82 311 *e*P **P** 18 12 52.0 -0.1
SBF pmax pmax
comp=Z,55nm,1.1s
SBF **Sospel** 73.82 311 *e*P **P** 18 12 52.0 -0.1
comp=Z,55nm,1.1s
LPG **La Plagne** 73.97 313 *e*P **P** 18 12 53.5 +0.2
comp=Z,42nm,1.0s
LPG *e*pP **pP** 18 13 04.6 -0.5
LPG **La Plagne** 73.97 313 *e*P **P** 18 12 53.5 +0.2
LPG *e**PP **pP** 18 13 04.6 -0.5
LPG pmax pmax
comp=Z,42nm,1.0s
LPG **La Plagne** 73.97 313 *e*P **P** 18 12 53.5 +0.2
comp=Z,42nm,1.0s
LPG *e*pP **pP** 18 13 04.6 -0.5
LPL **La Plagne** 73.98 313 *e*P **P** 18 12 53.5 +0.3
comp=Z,59nm,1.0s
LPL **La Plagne** 73.98 313 *e*P **P** 18 12 53.5 +0.3
LPL pmax pmax
comp=Z,59nm,1.0s
LPL **La Plagne** 73.98 313 *e*P **P** 18 12 53.5 +0.3
comp=Z,59nm,1.0s
PAGF **Fort de Pagny** 74.06 316 *e*P **P** 18 12 53.6 +0.2
comp=Z,13nm,1.0s
PAGF *e*pP **pP** 18 13 04.7 -0.5
PAGF **Fort de Pagny** 74.06 316 *e*P **P** 18 12 53.6 +0.2
comp=Z,13nm,1.0s
PAGF *e*pP **pP** 18 13 04.7 -0.5
KEST **Kesra** 74.07 303 P **P** 18 12 54.0 +0.2
comp=Z,2.0nm,0.7s,baz=143,slow=23,SNR=7.6
KEST **Kesra** 74.07 303 *e*P **P** 18 12 54.3 +0.6
KEST *e*pP **pP** 18 13 02.0 -3.6
BNI **Bardonecchia** 74.11 313 *e*P **P** 18 12 53.7 -0.2
BNI pmax pmax
comp=Z,41nm,1.6s
BNI **Bardonecchia** 74.11 313 *e*P **P** 18 12 53.7 -0.2
comp=Z,42nm,1.6s
MBDF **Montbardon** 74.11 312 *e*P **P** 18 12 53.2 -0.7
comp=Z,14nm,0.8s
MBDF **Montbardon** 74.11 312 *e*P **P** 18 12 53.2 -0.7
MBDF pmax pmax
comp=Z,14nm,0.8s
MBDF **Montbardon** 74.11 312 *e*P **P** 18 12 53.2 -0.7
comp=Z,14nm,0.8s
CABF **La Chapelle** 74.20 314 *e*P **P** 18 12 54.5 +0.1
comp=Z,52nm,1.1s
CABF *e*pP **pP** 18 13 05.7 -0.5
CABF **La Chapelle** 74.20 314 *e*P **P** 18 12 54.5 +0.1
CABF *e**PP **pP** 18 13 05.7 -0.5
CABF pmax pmax
comp=Z,52nm,1.1s
CABF **La Chapelle** 74.20 314 *e*P **P** 18 12 54.5 +0.1
comp=Z,52nm,1.1s
CABF *e*pP **pP** 18 13 05.7 -0.5
GIVF **Givet** 74.33 318 *e*P **P** 18 12 55.2 +0.3
comp=Z,74nm,1.2s
GIVF **Givet** 74.33 318 *e*P **P** 18 12 55.2 +0.3
GIVF pmax pmax
comp=Z,74nm,1.3s
GIVF **Givet** 74.33 318 *e*P **P** 18 12 55.2 +0.3
comp=Z,74nm,1.3s
FRF **La Foret Royal** 74.44 311 *e*P **P** 18 12 55.7 0.0
comp=Z,85nm,1.1s
FRF **La Foret Royal** 74.44 311 *e*P **P** 18 12 55.7 0.0
FRF pmax pmax
comp=Z,85nm,1.1s
FRF **La Foret Royal** 74.44 311 *e*P **P** 18 12 55.7 0.0
comp=Z,85nm,1.1s
DOU **Dourbes** 74.47 318 P **P** 18 12 56.3 +0.6
DOU AP **pP** 18 13 07.7 +0.1
UCC **Uccle** 74.48 319 P **P** 18 12 56.9 +1.2

MEZF **Maizieres J'vi** 74.51 316 *e*P **P** 18 12 56.2 +0.3
comp=Z,56nm,0.9s
MEZF **Maizieres J'vi** 74.51 316 *e*P **P** 18 12 56.2 +0.3
comp=Z,56nm,0.9s
SFTF **Sexfontaines** 74.58 316 *e*P **P** 18 12 56.2 -0.2
comp=Z,92nm,1.2s
SFTF **Sexfontaines** 74.58 316 *e*P **P** 18 12 56.2 -0.2
comp=Z,92nm,1.2s
LMR **La Mourre** 74.58 311 *e*P **P** 18 12 56.6 +0.1
comp=Z,73nm,1.2s
LMR *e*pP **pP** 18 13 07.8 -0.5
LMR **La Mourre** 74.58 311 *e*P **P** 18 12 56.6 +0.1
LMR *e**PP **pP** 18 13 07.8 -0.5
LMR pmax pmax
comp=Z,73nm,1.2s
LMR **La Mourre** 74.58 311 *e*P **P** 18 12 56.6 +0.1
comp=Z,73nm,1.2s
LMR *e*pP **pP** 18 13 07.8 -0.5
SNF **Seneffe** 74.59 319 P **P** 18 12 56.9 +0.5
SNF AP **pP** 18 13 08.3 +0.1
ORIF **Oris-en-Rattie** 74.69 313 *e*P **P** 18 12 56.8 -0.4
ORIF *e*R
comp=Z,213nm,17.5s
ORIF **Oris-en-Rattie** 74.69 313 *e*P **P** 18 12 56.8 -0.4
ORIF **Oris-en-Rattie** 74.69 313 *e*P **P** 18 12 56.8 -0.4
BAIF **Baives** 74.73 318 *e*P **P** 18 12 57.6 +0.4
comp=Z,57nm,1.0s
BAIF *e*pP **pP** 18 13 08.8 -0.2
BAIF **Baives** 74.73 318 *e*P **P** 18 12 57.6 +0.4
BAIF *e**PP **pP** 18 13 08.8 -0.2
BAIF pmax pmax
comp=Z,57nm,1.0s
BAIF **Baives** 74.73 318 *e*P **P** 18 12 57.6 +0.4
comp=Z,57nm,1.0s
BAIF *e*pP **pP** 18 13 08.8 -0.2
ARMA **Armidale** 74.92 130 *e*P **P** 18 13 00.5 +1.9
comp=Z,22nm,0.9s
GAMB **Gambell** 75.02 27 *e*P **P** 18 12 58.9 +0.3
comp=Z,24nm,0.8s
SMRF **Simiane la Rot** 75.11 312 *e*P **P** 18 13 00.0 +0.4
comp=Z,24nm,1.0s
SMRF **Simiane la Rot** 75.11 312 *e*P **P** 18 13 00.0 +0.4
comp=Z,24nm,1.0s
CMAH **Djebel Manchou** 75.39 304 P pP 18 13 12.6 -0.6
ABSA **Djebel Ababsia** 75.42 304 P pP 18 13 13.2 -0.3
SSB **Saint Sauveur** 75.54 313 *e*P **P** 18 13 02.0 -0.1
SSB *e**PP **pP** 18 13 13.4 -0.5
SSB pmax pmax
comp=Z,12nm,0.8s
SSB **Saint Sauveur** 75.54 313 *e*P **P** 18 13 02.0 -0.1
comp=Z,12nm,0.8s
SSB *e*pP **pP** 18 13 13.4 -0.5
VIVF **Saint-Julien-l** 75.54 313 *e*P **P** 18 13 01.0 -1.1
comp=Z,50nm,1.2s
VIVF *e*pP **pP** 18 13 13.2 -0.7
VIVF **Saint-Julien-l** 75.54 313 *e*P **P** 18 13 01.0 -1.1
VIVF *e**PP **pP** 18 13 13.2 -0.7
VIVF pmax pmax
comp=Z,50nm,1.2s
VIVF **Saint-Julien-l** 75.54 313 *e*P **P** 18 13 01.0 -1.1
comp=Z,50nm,1.2s
VIVF *e*pP **pP** 18 13 13.2 -0.7
LOR **Lormes** 75.55 315 *e*P **P** 18 13 01.7 -0.4
comp=Z,29nm,1.0s
LOR *e*pP **pP** 18 13 12.9 -1.0
LOR *e*R
comp=Z,448nm,20.0s
LOR **Lormes** 75.55 315 *e*P **P** 18 13 01.7 -0.4
LOR *e**PP **pP** 18 13 12.9 -1.0
LOR pmax pmax
comp=Z,29nm,1.0s
LOR **Lormes** 75.55 315 *e*P **P** 18 13 01.7 -0.4
comp=Z,29nm,1.0s
LOR *e*pP **pP** 18 13 12.9 -1.0
SMF **Signal de Mont** 75.71 315 *e*P **P** 18 13 02.7 -0.2
comp=Z,56nm,1.0s
SMF *e*pP **pP** 18 13 13.9 -0.9
SMF **Signal de Mont** 75.71 315 *e*P **P** 18 13 02.7 -0.2
SMF *e**PP **pP** 18 13 13.9 -0.9
SMF pmax pmax
comp=Z,56nm,1.0s
SMF **Signal de Mont** 75.71 315 *e*P **P** 18 13 02.7 -0.2
comp=Z,56nm,1.0s
SMF *e*pP **pP** 18 13 13.9 -0.9
CAEH **'Ain El Ouahch** 75.80 304 P pP 18 13 15.4 -0.1
SSF **Saint Saulge** 75.84 315 *e*P **P** 18 13 03.7 0.0
comp=Z,59nm,1.0s
SSF *e*pP **pP** 18 13 14.8 -0.7
SSF **Saint Saulge** 75.84 315 *e*P **P** 18 13 03.7 0.0
SSF *e**PP **pP** 18 13 14.8 -0.7
SSF pmax pmax
comp=Z,59nm,1.0s
SSF **Saint Saulge** 75.84 315 *e*P **P** 18 13 03.7 0.0
comp=Z,59nm,1.0s
SSF *e*pP **pP** 18 13 14.8 -0.7
AVF **Avril sur Loir** 76.00 315 *e*P **P** 18 13 04.4 -0.2
comp=Z,45nm,1.1s
AVF **Avril sur Loir** 76.00 315 *e*P **P** 18 13 04.4 -0.2
AVF pmax pmax
comp=Z,45nm,1.1s
AVF **Avril sur Loir** 76.00 315 *e*P **P** 18 13 04.4 -0.2
comp=Z,45nm,1.1s
DAG **Danmarks Havn** 76.08 347 ⇓*i*P **P** 18 13 04.0 -0.5
DAG *i* 18 13 16.7
DAG pmax pmax
comp=Z,32nm,1.0s
DAG **Danmarks Havn** 76.08 347 ⇓*i*P **P** 18 13 04.0 -0.5
comp=Z,32nm,1.0s
DAG *i* 18 13 16.7
TNA **Tin City** 76.14 25 *e*P **P** 18 13 05.3 +0.3
comp=Z,22nm,1.0s
LASF **Ste Croix** 76.29 312 *e*P **P** 18 13 06.7 +0.4
comp=Z,63nm,1.2s
LASF *e*pP **pP** 18 13 18.0 -0.2
LASF **Ste Croix** 76.29 312 *e*P **P** 18 13 06.7 +0.4
comp=Z,63nm,1.2s
LASF *e*pP **pP** 18 13 18.0 -0.2
HYF **Humbligny** 76.36 316 *e*P **P** 18 13 07.3 +0.6
HYF **Humbligny** 76.36 316 *e*P **P** 18 13 07.3 +0.6
DFRA **Djebel Bou Aff** 76.61 304 P pP 18 13 21.3 +1.0
TCF **Toulx Ste Croi** 76.89 315 *e*P **P** 18 13 10.0 +0.3
comp=Z,58nm,0.9s
TCF **Toulx Ste Croi** 76.89 315 *e*P **P** 18 13 10.0 +0.3
TCF pmax pmax
comp=Z,58nm,0.9s
TCF **Toulx Ste Croi** 76.89 315 *e*P **P** 18 13 10.0 +0.3
comp=Z,58nm,0.9s
CAF **Calviac** 77.33 313 *e*P **P** 18 13 12.6 +0.4
comp=Z,25nm,1.0s
CAF *e*pP **pP** 18 13 23.7 -0.4
CAF **Calviac** 77.33 313 *e*P **P** 18 13 12.6 +0.4
CAF *e**PP **pP** 18 13 23.7 -0.4
CAF pmax pmax
comp=Z,25nm,1.0s
CAF **Calviac** 77.33 313 *e*P **P** 18 13 12.6 +0.4
comp=Z,25nm,1.0s
CAF *e*pP **pP** 18 13 23.7 -0.4
RJF **Les Rejaudoux** 77.61 314 *e*P **P** 18 13 14.3 +0.6
comp=Z,36nm,1.0s
RJF *e*R
comp=Z,190nm,18.2s
RJF **Les Rejaudoux** 77.61 314 *e*P **P** 18 13 14.3 +0.6
RJF pmax pmax
comp=Z,36nm,1.0s
RJF **Les Rejaudoux** 77.61 314 *e*P **P** 18 13 14.3 +0.6
comp=Z,36nm,1.0s
ALE **Alert** 77.61 357 P **P** 18 13 13.0 0.0
comp=Z,101nm,1.1s,SNR=5.5
MTLF **Montolieu** 77.62 312 *e*P **P** 18 13 14.1 +0.3
comp=Z,49nm,1.2s
MTLF *e*pP **pP** 18 13 25.2 -0.5
MTLF **Montolieu** 77.62 312 *e*P **P** 18 13 14.1 +0.3
MTLF *e**PP **pP** 18 13 25.2 -0.5
MTLF pmax pmax
comp=Z,49nm,1.2s
MTLF **Montolieu** 77.62 312 *e*P **P** 18 13 14.1 +0.3
comp=Z,49nm,1.2s
MTLF *e*pP **pP** 18 13 25.2 -0.5
ESK **Eskdalemuir** 77.82 324 *e*P **P** 18 13 15.3 +0.7
ESK *e**PP **pP** 18 13 27.3 +0.7
ESK pmax pmax
comp=Z,8.0nm,0.9s
ESK **Eskdalemuir** 77.82 324 *e*P **P** 18 13 15.3 +0.7
comp=Z,7.7nm,0.9s
ESK *e*pP **pP** 18 13 27.2 +0.7

LDF **La Druitiere** 77.83 317 *e*P **P** 18 13 14.9 +0.1
comp=Z,52nm,1.0s
LDF *e*pP **pP** 18 13 26.0 -0.7
LDF **La Druitiere** 77.83 317 *e*P **P** 18 13 14.9 +0.1
LDF *e**PP **pP** 18 13 26.0 -0.7
LDF pmax pmax
comp=Z,52nm,1.0s
LDF **La Druitiere** 77.83 317 *e*P **P** 18 13 14.9 +0.1
comp=Z,52nm,1.0s
LDF *e*pP **pP** 18 13 26.0 -0.7
FLN **La Foliniere** 78.01 318 *e*P **P** 18 13 15.9 +0.1
comp=Z,67nm,1.2s
FLN *e*R
comp=Z,520nm,19.5s
FLN **La Foliniere** 78.01 318 *e*P **P** 18 13 15.9 +0.1
FLN pmax pmax
comp=Z,67nm,1.2s
FLN **La Foliniere** 78.01 318 *e*P **P** 18 13 15.9 +0.1
comp=Z,67nm,1.2s
LFF **La Frestale** 78.23 314 *e*P **P** 18 13 17.7 +0.6
comp=Z,38nm,0.9s
LFF **La Frestale** 78.23 314 *e*P **P** 18 13 17.7 +0.6
LFF pmax pmax
comp=Z,38nm,0.9s
LFF **La Frestale** 78.23 314 *e*P **P** 18 13 17.7 +0.6
comp=Z,38nm,0.9s
GRR **Gorron** 78.35 317 *e*P **P** 18 13 17.9 +0.2
comp=Z,19nm,0.8s
GRR **Gorron** 78.35 317 *e*P **P** 18 13 17.9 +0.2
GRR pmax pmax
comp=Z,19nm,0.8s
GRR **Gorron** 78.35 317 *e*P **P** 18 13 17.9 +0.2
comp=Z,19nm,0.8s
MFF **Saint Martin d** 78.38 315 *e*P **P** 18 13 18.0 +0.1
comp=Z,32nm,1.1s
MFF *e*pP **pP** 18 13 29.1 -0.7
MFF **Saint Martin d** 78.38 315 *e*P **P** 18 13 18.0 +0.1
MFF *e**PP **pP** 18 13 29.1 -0.7
MFF pmax pmax
comp=Z,32nm,1.1s
MFF **Saint Martin d** 78.38 315 *e*P **P** 18 13 18.0 +0.1
comp=Z,32nm,1.1s
MFF *e*pP **pP** 18 13 29.1 -0.7
EMHD **Djebel Mahouad** 78.98 305 P **P** 18 13 23.0 +1.4
EPF **Esparros** 79.03 312 *e*P **P** 18 13 21.1 -0.6
comp=Z,6.8nm,0.9s
EPF **Esparros** 79.03 312 *e*P **P** 18 13 21.1 -0.6
EPF pmax pmax
comp=Z,7.0nm,0.9s
EPF **Esparros** 79.03 312 *e*P **P** 18 13 21.1 -0.6
comp=Z,6.8nm,0.9s
LBTB **Lobatse** 79.18 239 *e*P **P** 18 13 23.3 +0.5
LBTB pmax pmax
comp=Z,46nm,0.9s
LBTB **Lobatse** 79.18 239 *e*P **P** 18 13 23.3 +0.5
comp=Z,46nm,0.9s
SGMF **Saint Gilles** 79.48 317 *e*P **P** 18 13 24.3 +0.4
comp=Z,44nm,0.8s
SGMF **Saint Gilles** 79.48 317 *e*P **P** 18 13 24.3 +0.4
SGMF pmax pmax
comp=Z,44nm,0.8s
SGMF **Saint Gilles** 79.48 317 *e*P **P** 18 13 24.3 +0.4
comp=Z,44nm,0.8s
ETSF **Etsaut** 79.70 312 *e*P **P** 18 13 25.8 +0.4
comp=Z,21nm,0.9s
ETSF *e*pP **pP** 18 13 37.0 -0.3
ETSF **Etsaut** 79.70 312 *e*P **P** 18 13 25.8 +0.4
ETSF *e**PP **pP** 18 13 37.0 -0.3
ETSF pmax pmax
comp=Z,21nm,0.9s
ETSF **Etsaut** 79.70 312 *e*P **P** 18 13 25.8 +0.4
comp=Z,21nm,0.9s
ETSF *e*pP **pP** 18 13 37.0 -0.3
ROSF **Rostrenen** 79.91 318 *e*P **P** 18 13 26.4 +0.1
comp=Z,53nm,0.7s
ROSF *e*pP **pP** 18 13 37.7 -0.5
ROSF **Rostrenen** 79.91 318 *e*P **P** 18 13 26.4 +0.1
ROSF *e**PP **pP** 18 13 37.7 -0.5
ROSF pmax pmax
comp=Z,53nm,0.7s
ROSF **Rostrenen** 79.91 318 *e*P **P** 18 13 26.4 +0.1
comp=Z,53nm,0.7s
ROSF *e*pP **pP** 18 13 37.7 -0.5
QUIF **Quistinic** 79.97 317 *e*P **P** 18 13 26.5 -0.1
comp=Z,21nm,0.8s
QUIF **Quistinic** 79.97 317 *e*P **P** 18 13 26.5 -0.1
QUIF pmax pmax
comp=Z,21nm,0.8s
QUIF **Quistinic** 79.97 317 *e*P **P** 18 13 26.5 -0.1
comp=Z,21nm,0.8s
EBNR **Beni Rached** 80.06 305 P pP 18 13 37.0 -2.3
SJPF **Ste Jean** 80.11 312 *e*P **P** 18 13 28.2 +0.7
comp=Z,37nm,1.3s
SJPF **Ste Jean** 80.11 312 *e*P **P** 18 13 28.2 +0.7
SJPF pmax pmax
comp=Z,37nm,1.3s
SJPF **Ste Jean** 80.11 312 *e*P **P** 18 13 28.2 +0.7
comp=Z,37nm,1.3s
EANR **'Ain N'Sour** 80.49 305 P **P** 18 13 31.6 +1.9
ETRT **Tiaret** 80.50 304 P **P** 18 13 32.0 +2.1
TAM **Tamanrasset** 80.63 291 *e*P **P** 18 13 31.2 +0.4
TAM *e**PP **pP** 18 13 42.7 -0.1
TAM pmax pmax
comp=Z,37nm,1.2s
TAM **Tamanrasset** 80.63 291 *e*P **P** 18 13 31.2 +0.4
comp=Z,37nm,1.2s
TAM *e*pP **pP** 18 13 42.7 -0.1
IM04 **Indian Mountai** 81.37 22 *e*P **P** 18 13 33.5 -0.2
COLD **Coldfoot** 81.97 21 *e*P **P** 18 13 38.0 +1.1
comp=Z,23nm,0.8s
SUMG **Summit** 82.76 347 *e*P **P** 18 13 41.5 +0.1
SUMG pmax pmax
comp=Z,71nm,1.1s
SUMG **Summit** 82.76 347 *e*P **P** 18 13 41.5 +0.1
comp=Z,71nm,1.1s
SUMG **Summit** 82.76 347 ⇓*i*P **P** 18 13 41.6 +0.1
SUMG *i* 18 13 53.6
VAL **Valentia** 82.89 323 *e*P **P** 18 13 43.3 +1.4
SVW2 **Sparrevohn** 82.96 27 *e*P **P** 18 13 43.4 +1.2
comp=Z,62nm,1.2s
ESDC **Sonseca Array** 83.14 310 P **P** 18 13 44.0 +0.4
comp=Z,9.3nm,0.7s,baz=56,slow=5.0,SNR=43
ESDC PKKPbc **PKKPbc** 18 32 05.0 +0.1
comp=Z,0.7nm,0.6s,baz=275,slow=2.3,SNR=5.3
ESDC LR LR 19 01 19.7
comp=Z,107nm,18.4s,baz=330,slow=43
ESLA **Sonseca Array** 83.14 310 *e*P **P** 18 13 43.7 +0.1
comp=Z,2.9nm,0.8s
ESLA *e*pP **pP** 18 13 55.2 -0.4
CAST **Castle Rocks** 83.26 24 *e*P **P** 18 13 44.9 +1.1
comp=Z,106nm,0.8s
PAB **San Pablo** 83.46 310 *e*P **P** 18 13 45.0 -0.3
PAB pmax pmax
comp=Z,13nm,1.0s
PAB **San Pablo** 83.46 310 *e*P **P** 18 13 45.0 -0.3
comp=Z,13nm,1.0s
PPLA **Purkeypile** 83.49 25 *e*P **P** 18 13 45.9 +0.8
comp=Z,232nm,1.8s
KTH **Kantishna Hill** 83.64 24 *e*P **P** 18 13 46.4 +0.6
comp=Z,74nm,1.7s
TRF **Thorofare Moun** 83.94 24 *e*P **P** 18 13 47.7 +0.3
comp=Z,45nm,1.0s
COLA **College** 84.06 22 *e*P **P** 18 13 47.7 0.0
COLA *e* 18 17 05.2
COLA pmax pmax
comp=Z,228nm,2.0s
COLA **College** 84.06 22 *e*P **P** 18 13 47.7 0.0
comp=Z,228nm,2.0s
COLA *e*PP **PP** 18 17 05.2 +3.8
MCK **McKinley** 84.30 23 *e*P **P** 18 13 48.9 -0.1
MCK pmax pmax
comp=Z,103nm,0.8s
MCK **McKinley** 84.30 23 *e*P **P** 18 13 48.9 -0.1
comp=Z,102nm,0.8s
KULLO **Kullorsuaq** 84.34 352 *i* **P** 18 13 48.7 -0.3
PBRG **Braganca** 84.39 312 *e*P **P** 18 13 50.6 +0.6
comp=Z,25nm,1.3s
ILAR **Eielson Array** 84.46 22 P **P** 18 13 49.1 -0.6
comp=Z,29nm,0.7s,baz=299,slow=4.7,SNR=240
ILAR PP **PP** 18 17 05.0 +0.3
comp=Z,5.6nm,1.2s,baz=301,slow=8.5,SNR=4.0
ILAR LR LR 18 56 42.1
comp=Z,204nm,18.4s,baz=312,slow=39
RSO **Redoubt South** 84.48 27 *e*P **P** 18 13 50.5 +0.3
MVO **Moncorvo** 84.82 312 *e*P **P** 18 13 53.0 +0.8
comp=Z,29nm,1.6s

PVRL	**Vila Real**	**85.26**	**312**	*e*P		**P**		**18 13 55.2**	**+0.8**
	comp=Z,25nm,1.7s								
POLO	**Lamas de Olo**	**85.28**	**312**	*e*P		**P**		**18 13 55.4**	**+0.9**
	comp=Z,22nm,1.4s								
PCAB	**Cabril**	**85.32**	**313**	*e*P		**P**		**18 13 55.6**	**+1.0**
	comp=Z,29nm,1.4s								
PMR	**Palmer**	**85.39**	**25**	*e*P		**P**		**18 13 54.8**	**+0.3**
PMR					pmax		pmax		
	comp=Z,69nm,0.8s								
PMR	**Palmer**	**85.39**	**25**	*e*P		**P**		**18 13 54.8**	**+0.3**
	comp=Z,69nm,0.8s								
RC01	**Rabbit Creek A**	**85.42**	**26**	*e*P		**P**		**18 13 54.9**	**+0.2**
	comp=Z,85nm,0.9s								
MTE	**Manteigas**	**85.46**	**311**	*e*P		**P**		**18 13 56.6**	**+1.2**
	comp=Z,36nm,1.1s								
MTE	**Manteigas**	**85.46**	**311**	*e*P		**P**		**18 13 56.1**	**+0.7**
	comp=Z,35nm,1.1s								
PVIS	**Viseu**	**85.60**	**312**	*e*P		**P**		**18 13 56.9**	**+0.9**
	comp=Z,36nm,1.9s								
PCBR	**Castelo Branco**	**85.62**	**311**	*e*P		**P**		**18 13 57.0**	**+0.9**
	comp=Z,25nm,1.7s								
PCBR				*e*pP		**pP**		**18 14 08.4**	**+0.3**
PMRV	**Marv??o**	**85.71**	**310**	*e*P		**P**		**18 13 57.3**	**+0.7**
	comp=Z,18nm,1.5s								
PMRV	**Marv??o**	**85.71**	**310**	*e*PP		PP		18 17 16.1	+0.4
OHAK	**Old Harbor**	**85.86**	**30**	*e*P		**P**		**18 13 57.3**	**+0.4**
	comp=Z,514nm,2.4s								
KDAK	**Kodiak Island**	**85.91**	**29**	P		**P**		**18 13 57.3**	**+0.2**
	comp=Z,284nm,0.5s,SNR=13								
KDAK	**Kodiak Island**	**85.91**	**29**	P		**P**		**18 13 57.3**	**+0.2**
	comp=Z,284nm,0.5s,SNR=13								
KDAK	**Kodiak Island**	**85.91**	**29**	*i* P		**P**		**18 13 57.1**	**0.0**
PBAR	**Barrancos**	**85.91**	**309**	*e*P		**P**		**18 13 58.3**	**+0.7**
	comp=Z,63nm,1.7s								
PBAR				*e*pP		**pP**		**18 14 09.8**	**+0.2**
PAX	**Paxson**	**86.02**	**23**	*e*P		**P**		**18 13 58.3**	**+0.6**
PAX					pmax		pmax		
	comp=Z,26nm,0.5s								
PAX	**Paxson**	**86.02**	**23**	*e*P		**P**		**18 13 58.3**	**+0.6**
	comp=Z,26nm,0.5s								
SEW	**Seward**	**86.07**	**26**	*e*P		**P**		**18 13 58.3**	**+0.4**
	comp=Z,92nm,1.5s								
DOT	**Dot Lake**	**86.12**	**22**	*e*P		**P**		**18 13 58.5**	**+0.4**
	comp=Z,19nm,0.7s								
INK	**Inuvik**	**86.22**	**16**	P		**P**		**18 13 58.8**	**+0.3**
	comp=Z,50nm,0.9s,baz=339,slow=4.9,SNR=45								
INK	**Inuvik**	**86.22**	**16**	P		**P**		**18 13 58.8**	**+0.3**
INK					pmax		pmax		
	comp=Z,50nm,0.9s								
INK	**Inuvik**	**86.22**	**16**	*e*P		**P**		**18 13 58.6**	**+0.1**
	comp=Z,62nm,1.0s								
CASY	**Casey**	**86.42**	**173**	*e*P		**P**		**18 13 59.2**	**0.0**
	comp=Z,22nm,1.0s								
EVO	**Evora**	**86.49**	**310**	*e*P		**P**		**18 14 00.7**	**+0.3**
	comp=Z,26nm,1.1s								
EVO				*e*R					
	comp=Z,233nm,21.0s								
EVOP	**Sao Brissos**	**86.57**	**310**	*e*P		**P**		**18 14 00.7**	**-0.1**
EVOP					pmax		pmax		
	comp=Z,26nm,1.1s								
EVOP	**Sao Brissos**	**86.57**	**310**	*e*P		**P**		**18 14 00.7**	**-0.1**
	comp=Z,26nm,1.1s								
PVAQ	**Vaqueiros**	**86.69**	**308**	*e*P		**P**		**18 14 02.7**	**+1.3**
	comp=Z,45nm,1.6s								
MESJ	**Messejana**	**86.90**	**309**	*e*P		**P**		**18 14 03.8**	**+1.4**
	comp=Z,40nm,1.5s								
DIV	**Divide**	**86.99**	**25**	*e*P		**P**		**18 14 03.5**	**+1.0**
	comp=Z,48nm,0.8s								
PNCL	**Nicolau / Gran**	**87.03**	**309**	*e*P		**P**		**18 14 04.2**	**+1.2**
	comp=Z,50nm,2.0s								
TOA0	**Torodi Ar. Sit**	**87.09**	**283**	*e*P		**P**		**18 14 03.9**	**+0.2**
TOA0				*e*pP		**pP**		**18 14 15.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**87.09**	**283**	P		**P**		**18 14 03.8**	**+0.1**
	comp=Z,13nm,0.9s,baz=70,slow=4.2,SNR=50								
TORD				pP		**pP**		**18 14 15.4**	**-0.3**
	comp=Z,26nm,0.8s,baz=67,slow=5.1,SNR=27								
TORD				PP		**PP**		**18 17 30.9**	**+3.4**
	comp=Z,8.2nm,0.8s,baz=60,slow=6.7,SNR=8.4								
TORD				PKKPbc		**PKKPbc**		**18 31 56.5**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=300,slow=2.9,SNR=6.9								
TORD				LR		LR		18 56 22.6	
	comp=Z,223nm,20.8s,baz=75,slow=38								
EYAK	**Cordova Ski Ar**	**87.34**	**25**	*e*P		**P**		**18 14 05.4**	**+1.4**
	comp=Z,68nm,1.0s								
PTEO	**Sao Teotonio**	**87.38**	**309**	*e*P		**P**		**18 14 06.2**	**+1.4**
	comp=Z,104nm,1.7s								
MORF	**Marmelete**	**87.42**	**309**	*e*P		**P**		**18 14 06.6**	**+1.6**
	comp=Z,84nm,1.8s								
DAWY	**Dawson**	**87.46**	**20**	*e*P		**P**		**18 14 05.0**	**+0.3**
BMRM	**Bremner River**	**87.54**	**24**	*e*P		**P**		**18 14 06.3**	**+1.1**
	comp=Z,101nm,0.9s								
MAW	**Mawson**	**89.59**	**191**	P		**P**		**18 14 14.1**	**-0.1**
	comp=Z,6.8nm,1.0s,baz=346,slow=4.4,SNR=6.1								
MAW				LR		LR		18 50 23.9	
	comp=Z,167nm,18.4s,baz=56,slow=33								
SFJD	**Kangerlussuaq**	**89.75**	**347**	P		**P**		**18 14 15.2**	**0.0**
	comp=Z,23nm,0.6s,baz=39,slow=4.6,SNR=20								
SFJD	**Kangerlussuaq**	**89.75**	**347**	*e*P		**P**		**18 14 15.3**	**0.0**
SFJD					pmax		pmax		
	comp=Z,39nm,0.8s								
SFJD	**Kangerlussuaq**	**89.75**	**347**	*e*P		**P**		**18 14 15.3**	**0.0**
	comp=Z,39nm,0.8s								
SFJD	**Kangerlussuaq**	**89.75**	**347**	*i* P		**P**		**18 14 15.3**	**0.0**
	comp=Z,40nm,0.9s								
SFJD				*e*				18 14 27.5	
HYT	**Haines Junctio**	**90.29**	**22**	*e*P		**P**		**18 14 19.4**	**+1.2**
MSVF	**Nonsavu**	**91.12**	**108**	*e*P		**P**		**18 14 24.5**	**+1.8**
MSVF					pmax		pmax		
	comp=Z,26nm,1.0s								
MSVF	**Nonsavu**	**91.12**	**108**	*e*P		**P**		**18 14 24.5**	**+1.8**
	comp=Z,26nm,1.0s								
SKAG	**Skagway**	**92.03**	**23**	*e*P		**P**		**18 14 27.7**	**+1.7**
	comp=Z,40nm,0.9s								
DLBC	**Dease Lake**	**94.64**	**21**	P		**P**		**18 14 39.8**	**+1.5**
	comp=Z,8.3nm,0.9s,baz=330,slow=5.2,SNR=5.9								
DLBC				PP		**PP**		**18 18 26.3**	**+0.4**
	comp=Z,4.8nm,1.0s,baz=320,slow=15,SNR=3.1								
RPZ	**Rata Peaks**	**94.80**	**135**	LR		LR		19 02 02.4	
	comp=Z,207nm,18.3s,baz=279,slow=38								
DBIC	**Dimbokro**	**95.33**	**279**	P		**P**		**18 14 41.7**	**-0.5**
	comp=Z,4.7nm,0.9s,baz=46,slow=6.2,SNR=4.0								
DBIC				PP		**PP**		**18 18 36.2**	**+3.3**
	comp=Z,4.3nm,0.6s,baz=51,slow=7.0,SNR=6.9								
DBIC				PKKP		**PKKPdf**		**18 31 35.2**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=256,slow=3.4,SNR=4.5								
DBIC				LR		LR		18 58 09.7	
	comp=Z,172nm,21.9s,baz=43,slow=36								
DBIC	**Dimbokro**	**95.33**	**279**	P		**P**		**18 14 41.7**	**-0.5**
DBIC								18 18 36.2	
DBIC					pmax		pmax		
	comp=Z,5.0nm,0.9s								
DBIC					pmax		pmax		
	comp=Z,4.0nm,0.6s								
DBIC					MLR		MLR		
	comp=Z,172nm,21.9s								
DBIC	**Dimbokro**	**95.33**	**279**	*e*P		**P**		**18 14 42.2**	**0.0**
DBIC				PP		**PP**		**18 18 36.2**	**+3.3**
DBIC				PKKP		**PKKPdf**		**18 31 35.2**	**+0.7**
YKA	**Yellowknife Ar**	**95.46**	**13**	P		**P**		**18 14 41.4**	**-0.4**
	comp=Z,10nm,0.9s,baz=330,slow=4.3,SNR=8.0								
YKA				PKKPbc		**PKKPdf**		**18 31 32.4**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=154,slow=2.8,SNR=7.1								
URZ	**Urewera**	**97.19**	**128**	LR		LR		19 05 34.2	
	comp=Z,252nm,18.1s,baz=296,slow=40								
BOZ	**Bozeman (W)**	**111.44**	**18**	*e*PKIKP		**PKiKP**		**18 19 50.6**	**-1.2**
BOZ	**Bozeman (W)**	**111.44**	**18**	*e*PKIKP		**PKiKP**		**18 19 50.6**	**-1.2**
YMR	**Madison River**	**112.53**	**18**	*e*PP		PP		18 20 41.5	+2.0
PDAR	**Pinedale Array**	**114.68**	**18**	PKP		PKPdf		18 19 57.9	-0.3
	comp=Z,1.0nm,0.6s,baz=159,slow=4.6,SNR=7.1								
PDAR				PKKPbc		**PKKPbc**		**18 30 33.8**	**-3.2**
	comp=Z,0.9nm,0.6s,baz=137,slow=5.6,SNR=6.2								
NVAR	**Mina Array Bea**	**115.33**	**27**	PKP		**PKPdf**		**18 20 00.5**	**+1.0**
	comp=Z,3.0nm,0.7s,baz=272,slow=1.7,SNR=16								
NVAR				PKKPbc		**PKKPbc**		**18 30 32.0**	**-2.6**
	comp=Z,0.9nm,1.0s,baz=125,slow=4.5,SNR=3.5								
NCB	**Newcomb**	**115.89**	**350**	*e*P		**Pdif**		**18 16 12.8**	**-0.6**
NCB				*e*PKiKP		**PKPdf**		**18 20 02.3**	**+2.2**
DUG	**Dugway, Tooele**	**115.95**	**22**	*e*PKiKP		**PKPdf**		**18 20 01.0**	**+0.5**
DUG	**Dugway, Tooele**	**115.95**	**22**	P		**PKPdf**		**18 20 00.4**	**-0.1**
	baz=116								
DUG	**Dugway, Tooele**	**115.95**	**22**	*e*PKiKP		**PKPdf**		**18 20 01.0**	**+0.5**
R11A	**Troy Canyon, C**	**116.52**	**25**	P		**PKPdf**		**18 20 01.9**	**+0.1**
	baz=116								
ECSD	**EROS Data Cent**	**116.53**	**8**	P		**PKPdf**		**18 20 00.9**	**-0.5**
	baz=116								
MPMC	**Manual Prospec**	**117.66**	**28**	P		**PKPdf**		**18 20 04.2**	**+0.1**
	baz=117								
CCUT	**Cedar City**	**118.08**	**24**	*e*PKPdf		**PKPdf**		**18 20 06.3**	**+1.5**
BFSC	**Mount Baldy Ra**	**119.11**	**29**	P		**PKPdf**		**18 20 07.5**	**+0.8**
	baz=119								
W13A	**Hualapai Mount**	**120.01**	**26**	P		**PKPdf**		**18 20 09.7**	**+1.1**
	baz=120								
S26A	**Kim**	**121.15**	**15**	P		**PKPdf**		**18 20 10.2**	**-0.4**
	baz=121								
W18A	**Petrified Fore**	**121.57**	**22**	*e*PKPdf		**PKPdf**		**18 20 13.4**	**+1.9**
ANMO	**Albuquerque**	**122.82**	**19**	PKP		**PKPdf**		**18 20 15.2**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=334,slow=0.8,SNR=9.4								
ANMO	**Albuquerque**	**122.82**	**19**	PKIKP		**PKPdf**		**18 20 15.2**	**+1.2**
ANMO					pmax		pmax		
	comp=Z,4.0nm,0.9s								
214A	**Organ Pipe Nat**	**123.18**	**26**	P		**PKPdf**		**18 20 15.7**	**+1.2**
	baz=123								
LENM	**Lemitar**	**123.37**	**20**	*e*PKPdf		**PKPdf**		**18 20 15.9**	**+0.8**
TUC	**Tucson**	**123.69**	**24**	*e*PKIKP		**PKPdf**		**18 20 17.0**	**+1.4**
TUC	**Tucson**	**123.69**	**24**	*e*PKPdf		**PKPdf**		**18 20 17.0**	**+1.4**
121A	**Cookes Peak, D**	**124.59**	**22**	P		**PKPdf**		**18 20 18.0**	**+0.6**
	baz=124								
WVT	**Waverly**	**124.76**	**1**	*e*PKIKP		**PKPdf**		**18 20 17.2**	**-0.2**
WVT	**Waverly**	**124.76**	**1**	*e*PKPdf		**PKPdf**		**18 20 17.2**	**-0.2**
319A	**Douglas**	**125.10**	**24**	P		**PKPdf**		**18 20 17.9**	**-0.4**
	baz=125								
TKL	**Tuckaleechee C**	**125.16**	**357**	PKP		**PKPdf**		**18 20 17.8**	**-0.4**
	comp=Z,9.4nm,0.8s,baz=120,slow=7.0,SNR=6.3								
Z29A	**Hungry Hill Ra**	**125.73**	**15**	P		**PKPdf**		**18 20 19.3**	**-0.1**
	baz=126								
GDL2	**Guadalupe Moun**	**126.00**	**18**	*e*PKPdf		**PKPdf**		**18 20 20.7**	**+0.7**
Z31A	**Sharp Cattle R**	**126.05**	**14**	P		**PKPdf**		**18 20 20.0**	**0.0**
	baz=126								
MNTX	**Cornudas Mount**	**126.16**	**20**	P		**PKPdf**		**18 20 20.5**	**+0.3**
	baz=126								
Z32A	**Haskell**	**126.21**	**13**	P		**PKPdf**		**18 20 20.4**	**+0.1**
	baz=126								
131A	**Roby**	**126.61**	**14**	P		**PKPdf**		**18 20 21.1**	**0.0**
	baz=126								
230A	**Sterling City**	**127.19**	**15**	P		**PKPdf**		**18 20 22.5**	**+0.2**
	baz=127								
232A	**Coleman**	**127.54**	**14**	P		**PKPdf**		**18 20 23.5**	**+0.6**
	baz=127								
331A	**San Angelo**	**127.91**	**15**	P		**PKPdf**		**18 20 24.3**	**+0.7**
	baz=128								
332A	**Millersview**	**128.00**	**14**	P		**PKPdf**		**18 20 24.2**	**+0.5**
	baz=128								
429A	**Davenport Ranc**	**128.19**	**17**	P		**PKPdf**		**18 20 24.2**	**0.0**
	baz=128								
430A	**Baggett Ranch,**	**128.21**	**16**	P		**PKPdf**		**18 20 24.3**	**+0.1**
	baz=128								
333A	**Richland Sprin**	**128.22**	**13**	P		**PKPdf**		**18 20 24.0**	**-0.2**
	baz=128								
334A	**Lometa**	**128.37**	**12**	P		**PKPdf**		**18 20 25.0**	**+0.6**
	baz=128								
431A	**Sonora**	**128.46**	**15**	P		**PKPdf**		**18 20 24.8**	**+0.1**
	baz=128								
529A	**Stev Forest Ra**	**128.57**	**17**	P		**PKPdf**		**18 20 25.4**	**+0.5**
	baz=128								
335A	**Moody**	**128.58**	**12**	P		**PKPdf**		**18 20 25.3**	**+0.4**
	baz=128								
530A	**J-C Ranch, Com**	**128.79**	**16**	P		**PKPdf**		**18 20 25.7**	**+0.3**
	baz=128								
JCT	**Junction City**	**128.85**	**14**	*e*PKIKP		**PKPdf**		**18 20 26.0**	**+0.5**
JCT	**Junction City**	**128.85**	**14**	P		**PKPdf**		**18 20 25.4**	**0.0**
	baz=129								
JCT	**Junction City**	**128.85**	**14**	*e*PKPdf		**PKPdf**		**18 20 26.0**	**+0.5**
434A	**Burnet**	**128.87**	**13**	P		**PKPdf**		**18 20 25.1**	**-0.3**
	baz=129								
TXAR	**Lajitas Array**	**128.89**	**19**	PKP		**PKPdf**		**18 20 26.2**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=252,slow=0.4,SNR=25								
TXAR				PP		**PP**		**18 22 35.1**	**+3.8**
	comp=Z,0.9nm,0.9s,baz=318,slow=6.6,SNR=3.7								
531A	**Rocksprings**	**128.97**	**15**	P		**PKPdf**		**18 20 24.6**	**-1.1**
	baz=129								
532A	**Rocksprings**	**129.17**	**15**	P		**PKPdf**		**18 20 25.6**	**-0.5**
	baz=129								
631A	**Perdido Creek**	**129.68**	**16**	P		**PKPdf**		**18 20 26.8**	**-0.3**
	baz=129								
632A	**Uvalde**	**129.79**	**15**	P		**PKPdf**		**18 20 27.5**	**+0.3**
	baz=130								
BBGH	**Gun Hill**	**137.96**	**318**	*e*PKPdf		**PKPdf**		**18 20 44.9**	**+2.1**
BDFB	**Brasilia**	**142.86**	**270**	PKP		**PKPdf**		**18 20 51.5**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=81,slow=4.6,SNR=4.0								
SDV	**Santo Domingo**	**147.68**	**329**	*e*PKPdf		**PKPdf**		**18 20 59.1**	**-1.1**
PTGA	**Pitinga**	**147.80**	**302**	*e*PKPdf		**PKPdf**		**18 21 01.1**	**+0.8**
BCIP	**Isla Barro Col**	**150.79**	**346**	*e*PKPbc		**PKPbc**		**18 21 09.8**	**-0.8**
TRQA	**Tornquist**	**151.51**	**224**	*e*PKPdf		**PKPdf**		**18 21 05.7**	**+0.3**
CPUP	**Villa Florida**	**152.01**	**250**	PKP		**PKPdf**		**18 21 06.7**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=90,slow=5.2,SNR=7.2								
CPUP				PKPbc		**PKPbc**		**18 21 12.3**	**-0.7**
	comp=Z,8.2nm,0.7s,baz=96,slow=2.0,SNR=48								
CPUP				PKPab		**PKPab**		**18 21 21.2**	**-1.3**
	comp=Z,3.8nm,0.8s,baz=86,slow=1.8,SNR=4.9								
ROSC	**El Rosal**	**152.94**	**332**	PKP		**PKPdf**		**18 21 08.9**	**+0.2**
	comp=Z,8.4nm,0.4s,baz=78,slow=16,SNR=4.7								
ROSC				PKPbc		**PKiKP**		**18 21 17.3**	**+1.1**
	comp=Z,37nm,0.9s,baz=133,slow=1.4,SNR=15								
ROSC				PKPab		**PKPab**		**18 21 26.5**	**-0.6**
	comp=Z,46nm,0.8s,baz=104,slow=3.6,SNR=12								
PLCA	**Paso Flores**	**154.59**	**210**	PKP		**PKPdf**		**18 21 08.6**	**-1.3**
	comp=Z,8.9nm,1.1s,baz=332,slow=9.9,SNR=3.4								
PLCA				PKPbc		**PKiKP**		**18 21 19.0**	**+0.6**
	baz=329,slow=15,SNR=3.0								
PLCA				PKPab		**PKPab**		**18 21 32.3**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=181,slow=4.9,SNR=4.8								
PLCA	**Paso Flores**	**154.59**	**210**	PKP		**PKPdf**		**18 21 08.6**	**-1.3**
PLCA				*e*PKPdf		**PKPdf**		**18 21 10.7**	**+0.8**
PLCA				PKPbc		**PKiKP**		**18 21 19.0**	**+0.6**
PLCA				PKPab		**PKPab**		**18 21 32.3**	**-0.7**
SAML	**Samuel**	**154.87**	**291**	*e*PKPdf		**PKPdf**		**18 21 10.2**	**-0.7**

ISCJB ***28*** *18:01:32.3±0.2, 71.65N±0.04×66.50W±0.07, h10km, mb4.2/39, MS3.4/7, Error ellipse: s-maj=5.6km s-min=2.9km az=168.6*

OTT ***28*** *18:01:32.6±0.3, 71.92N×65.99W, h5km, ML5.0/8, Baffin Bay Seismic Zone. 187km northeast from Clyde River, Nu*

IDC ***28*** *18:01:35.1±0.6, 71.91N×65.41W, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.0/50, mbtmp4.0/19, ML4.6/1, MS3.4/11, Ms1 3.5/11, ms1mx3.3/40, Error ellipse: s-maj=23.2km s-min=11.3km az=159.0*

NEIC ***28*** *18:01:35.9±0.3, 71.93N×65.81W, h10km, mb4.5/22, MW4.4(OTT), Error ellipse: s-maj=10.5km s-min=5.1km az=168.0*

ISC 28 18:01:34.5±0.4, 71.71N±0.05×66.11W±0.04, h10km, n129, σ1ᵍ76/115, mb4.3/39, MS3.4/8, 1D, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULLO	**Kullorsuaq**	**3.87**	**38**	PN		Pn		18 02 29.2	-4.7
KULLO				SN		Sn		18 03 07.9	-11
KULLO				Trac				18 03 09.5	
	comp=Z,1μm,0.4s								
KULLO	**Kullorsuaq**	**3.87**	**38**	*i* P		Pn		18 02 29.2	-4.7
KULLO				*i* S		Sn		18 03 07.8	-12
GIFN	**Gifford Fjord,**	**5.39**	**259**	PN		**Pn**		**18 02 55.5**	**+0.7**
GIFN				SN		**Sn**		**18 03 54.4**	**-2.4**
GIFN				Trac				18 04 25.7	
	comp=Z,246nm,0.5s								
GIFN	**Gifford Fjord,**	**5.39**	**259**	Pn		**Pn**		**18 02 55.5**	**+0.7**
GIFN				Sn		**Sn**		**18 03 54.4**	**-2.4**
ILULI	**Ilulissat**	**5.62**	**109**	PN		**Pn**		**18 02 57.7**	**-0.1**
ILULI				SN		**Sn**		**18 03 56.9**	**-5.4**
ILULI				Trac				18 04 26.5	
	comp=Z,29nm,0.2s								
ILULI	**Ilulissat**	**5.62**	**109**	*i* P		**Pn**		**18 02 57.8**	**-0.1**
ILULI				*i* S		**Sn**		**18 03 58.1**	**-4.2**
ILON	**Igloolik, Nuna**	**5.75**	**254**	PN		**Pn**		**18 02 57.9**	**-1.7**
ILON				SN		**Sn**		**18 04 03.2**	**-2.3**
ILON				LG		Lg		18 04 29.7	
ILON				Trac				18 04 44.5	
	comp=Z,302nm,0.5s								
ILON	**Igloolik, Nuna**	**5.75**	**254**	Pn		**Pn**		**18 02 57.9**	**-1.7**
ILON				Sn		**Sn**		**18 04 03.2**	**-2.3**
ILON				Lg		Lg		18 04 29.7	
CMBN	**Cumberland Cam**	**6.08**	**174**	PN		**Pn**		**18 03 07.0**	**+2.7**
CMBN				SN		**Sn**		**18 04 13.6**	**-0.2**
CMBN				Trac				18 04 50.0	
	comp=Z,438nm,0.9s								
LAIN	**Lailor River,**	**6.40**	**254**	PN		**Pn**		**18 03 08.6**	**-0.1**
LAIN				SN		**Sn**		**18 04 18.1**	**-3.7**
LAIN				LG		Lg		18 04 44.0	
LAIN				Trac				18 05 08.4	
	comp=Z,180nm,0.5s								
LAIN	**Lailor River,**	**6.40**	**254**	Pn		**Pn**		**18 03 08.6**	**-0.1**
LAIN				Sn		**Sn**		**18 04 18.1**	**-3.7**
LAIN				Lg		Lg		18 04 44.0	
AP3N	**Apex site 3 Nu**	**6.51**	**259**	PN		**Pn**		**18 04 10.4**	**+0.2**
AP3N				SN		**Sn**		**18 04 21.1**	**-3.2**
AP3N				LG		Lg		18 04 50.1	
AP3N				Trac				18 05 01.9	
	comp=Z,1μm,1.3s								
SFJD	**Kangerlussuaq**	**7.22**	**123**	PN		**Pn**		**18 03 19.5**	**-0.3**
SFJD				SN		Sn		18 04 35.5	-6.1
SFJD				Trac				18 05 05.1	
	comp=Z,369nm,0.8s								
SFJD	**Kangerlussuaq**	**7.22**	**123**	Pn		**Pn**		**18 03 19.6**	**-0.2**
	11nm,0.3s,baz=308,slow=11,SNR=62								
SFJD				Sn		Sn		18 04 34.4	-7.3
	7.2nm,0.3s,baz=39,slow=14,SNR=6.0								
SFJD				LR		LR		18 06 11.7	
	comp=Z,294nm,20.2s,baz=335,slow=39								
SFJD	**Kangerlussuaq**	**7.22**	**123**	*i* P		**Pn**		**18 03 20.3**	**+0.5**
FRB	**Frobisher Bay**	**8.05**	**188**	PN		**Pn**		**18 03 32.9**	**+1.7**
FRB				SN		**Sn**		**18 04 58.9**	**-3.3**
FRB				LG		Lg		18 05 45.9	
FRB				Trac				18 05 50.5	
	comp=Z,304nm,0.8s								
SUMG	**Summit**	**8.50**	**71**	*e*Pn		Pn		18 03 33.7	-4.0
	83nm,0.5s								
SUMG	**Summit**	**8.50**	**71**	*i* P		Pn		18 03 33.9	-3.8
SUMG				*e*S		Sn		18 05 04.6	-9.1
QILN	**Qililugaq Expl**	**8.78**	**245**	PN		**Pn**		**18 03 40.3**	**-0.9**
QILN				SN		Sn		18 05 13.8	-6.3
QILN				Trac				18 05 27.3	
	comp=Z,294nm,0.7s								
QILN				LG		Lg		18 06 03.0	
RES	**Resolute Bay**	**8.79**	**303**	PN		**Pn**		**18 03 39.5**	**-1.7**
RES				SN		Sn		18 05 08.5	-12
RES				Trac				18 05 34.8	
	comp=Z,44nm,0.5s								
RES	**Resolute Bay**	**8.79**	**303**	Pn		**Pn**		**18 03 39.9**	**-1.4**
	baz=107,slow=10								
EUNU	**Eureka**	**9.64**	**339**	PN		**Pn**		**18 03 50.1**	**-2.9**
EUNU				SN		Sn		18 05 28.8	-13
EUNU				Trac				18 05 41.4	
	comp=Z,33nm,0.8s								
WAGN	**Wager Bay**	**10.21**	**247**	PN		**Pn**		**18 03 58.7**	**-2.1**
WAGN				SN		Sn		18 05 46.8	-8.3
WAGN				LG		Lg		18 06 43.0	
WAGN				Trac				18 07 07.4	
	comp=Z,385nm,1.1s								
STLN	**Stellar Camp,**	**10.33**	**258**	PN		**Pn**		**18 04 01.6**	**-0.9**
STLN				SN		Sn		18 05 48.9	-9.2
STLN				LG		Lg		18 06 55.0	
STLN				Trac				18 07 01.5	
	comp=Z,693nm,1.8s								
BULN	**Bullion Camp,**	**10.95**	**254**	PN		**Pn**		**18 04 09.1**	**-1.9**
BULN				SN		Sn		18 06 05.2	-8.1
BULN				LG		Lg		18 07 10.6	
BULN				Trac				18 07 36.6	
	comp=Z,380nm,1.6s								
NUNN	**Nunuq Camp, NU**	**11.16**	**247**	PN		**Pn**		**18 04 11.2**	**-2.6**
NUNN				SN		Sn		18 06 09.0	-10
NUNN				LG		Lg		18 07 11.8	
NUNN			

EGAK	**Eagle** 20nm,1.1s	**26.85**	**294**	*e*P		P	18 07 21.4	+6.8
AGMN	**Agassiz Nation** 24nm,1.0s	**27.21**	**226**	*e*P		P	18 07 23.4	+5.4
EDM	**Edmonton** 15nm,0.7s	**27.50**	**253**	P		**P**	**18 07 21.3**	**+0.7**
ARCES	**ARCESS Array B** 5.2nm,1.0s,baz=324,slow=8.2,SNR=2.9	**27.74**	**49**	P		**P**	**18 07 21.6**	**-0.9**
ARCES	comp=Z,83nm,18.1s,baz=26,slow=37			LR		LR	18 18 37.6	
COWI	**Conover** 4.6nm,0.6s	**27.91**	**216**	*e*P		**P**	**18 07 27.3**	**+3.0**
ILAR	**Eielson Array** comp=Z,66nm,20.3s,baz=26,slow=36	**28.48**	**297**	LR		LR	18 18 28.9	
DOT	**Dot Lake** 8.2nm,0.9s	**28.54**	**294**	*e*P		**P**	**18 07 32.8**	**+3.1**
NB2	**NORSAR Subarra** comp=Z,2.4nm,0.8s,baz=317,slow=8.6	**30.39**	**70**	P		**P**	**18 07 46.0**	**-0.2**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.7s,baz=314,slow=8.2,SNR=3.8	**30.39**	**70**	P		**P**	**18 07 46.0**	**-0.2**
NOA	comp=Z,44nm,19.0s,baz=295,slow=35			LR		LR	18 18 56.4	
EKA	**Eskdalemuir Ar** comp=Z,0.8nm,0.4s,baz=57,slow=32,SNR=5.9	**30.60**	**89**	P		**P**	**18 07 47.5**	**-0.6**
ECSD	**EROS Data Cent** comp=Z,15nm,1.2s	**31.70**	**224**	*e*P		**P**	**18 08 00.5**	**+2.6**
HFS	**Hagfors** comp=Z,2.1nm,0.7s,baz=288,slow=5.6,SNR=5.9	**31.85**	**69**	P		**P**	**18 07 58.2**	**-0.8**
SLMT	**Seeley Lake** comp=Z,2.6nm,0.8s	**32.84**	**248**	P		**P**	**18 08 11.2**	**+3.2**
NEW	**Newport** comp=Z,71nm,20.7s,baz=30,slow=34	**33.00**	**252**	LR		LR	18 20 42.6	
RSSD	**Black Hills** comp=Z,5.3nm,0.9s	**33.11**	**234**	*e*P		P	18 08 15.2	+4.8
BOZ	**Bozeman (W)** comp=Z,6.6nm,0.8s	**33.76**	**244**	*e*P		P	18 08 20.3	+4.3
FINES	**FINESS Array B** comp=Z,1.4nm,0.6s,baz=347,slow=4.1,SNR=4.8	**34.27**	**58**	P		**P**	**18 08 19.9**	**-0.2**
PDAR	**Pinedale Array** comp=Z,1.7nm,0.5s,baz=40,slow=7.6,SNR=19	**35.83**	**240**	P		P	18 08 38.1	+4.1
BILL	**Bilibino** comp=Z,10nm,1.1s	**36.23**	**330**	*e*P		**P**	**18 08 38.8**	**+1.9**
TIXI	**Tiksi** comp=Z,3.2nm,1.0s	**36.55**	**352**	*e*P		**P**	**18 08 39.7**	**+0.2**
SGMF	**Saint Gilles**	**36.89**	**95**	*e*P		**P**	**18 08 43.8**	**+1.1**
SGMF	**Saint Gilles**	**36.89**	**95**	*e*P		**P**	**18 08 43.8**	**+1.1**
QUIF	**Quistinic**	**36.99**	**95**	*e*P		**P**	**18 08 44.2**	**+0.6**
QUIF	**Quistinic**	**36.99**	**95**	*e*P		**P**	**18 08 44.2**	**+0.6**
FLN	**La Foliniere** comp=Z,4.6nm,0.5s	**37.09**	**92**	*e*P		**P**	**18 08 45.2**	**+0.8**
FLN	**La Foliniere** comp=Z,4.6nm,0.5s	**37.09**	**92**	*e*P		**P**	**18 08 45.2**	**+0.8**
GRR	**Gorron** comp=Z,4.5nm,0.5s	**37.30**	**93**	*e*P		**P**	**18 08 47.4**	**+1.2**
GRR	**Gorron** comp=Z,4.5nm,0.5s	**37.30**	**93**	*e*P		**P**	**18 08 47.4**	**+1.2**
LDF	**La Druitiere**	**37.36**	**92**	*e*P		**P**	**18 08 47.4**	**+0.7**
LDF	**La Druitiere**	**37.36**	**92**	*e*P		**P**	**18 08 47.4**	**+0.7**
CLL	**Collm**	**39.10**	**78**	*i* P		**P**	**18 09 01.8**	**+0.5**
CLL	comp=Z,200nm,18.3s			Lm		MLR	18 28 00.0	
DUG	**Dugway, Tooele** comp=Z,6.8nm,1.0s	**39.12**	**242**	*e*P		P	18 09 06.7	+5.0
ELK	**Elko** comp=Z,0.5nm,0.5s,baz=1.0,slow=11,SNR=2.8	**39.30**	**245**	P		P	18 09 08.6	+5.2
CDF	**Champ du Feu**	**39.85**	**85**	*e*P		**P**	**18 09 07.9**	**+0.2**
CDF	**Champ du Feu**	**39.85**	**85**	*e*P		**P**	**18 09 07.9**	**+0.2**
SSF	**Saint Saulge**	**39.86**	**90**	*e*P		**P**	**18 09 08.6**	**+0.9**
SSF	**Saint Saulge**	**39.86**	**90**	*e*P		**P**	**18 09 08.6**	**+0.9**
AVF	**Avril sur Loir** comp=Z,13nm,1.2s	**40.05**	**90**	*e*P		**P**	**18 09 10.1**	**+0.9**
AVF	**Avril sur Loir** comp=Z,13nm,1.2s	**40.05**	**90**	*e*P		**P**	**18 09 10.1**	**+0.9**
TCF	**Toulx Ste Croi**	**40.13**	**91**	*e*P		**P**	**18 09 11.0**	**+1.0**
TCF	**Toulx Ste Croi**	**40.13**	**91**	*e*P		**P**	**18 09 11.0**	**+1.0**
HINF	**Hinteralfeld**	**40.24**	**86**	*e*P		**P**	**18 09 11.6**	**+0.7**
HINF	**Hinteralfeld**	**40.24**	**86**	*e*P		**P**	**18 09 11.6**	**+0.7**
SMF	**Signal de Mont**	**40.33**	**90**	*e*P		**P**	**18 09 12.6**	**+1.0**
SMF	**Signal de Mont**	**40.33**	**90**	*e*P		**P**	**18 09 12.6**	**+1.0**
RJF	**Les Rejaudoux** comp=Z,5.2nm,0.7s	**40.79**	**93**	*e*P		**P**	**18 09 16.6**	**+1.2**
RJF	**Les Rejaudoux** comp=Z,5.2nm,0.7s	**40.79**	**93**	*e*P		**P**	**18 09 16.6**	**+1.2**
LFF	**La Frestale**	**40.88**	**94**	*e*P		**P**	**18 09 17.9**	**+1.8**
LFF	**La Frestale**	**40.88**	**94**	*e*P		**P**	**18 09 17.9**	**+1.8**
GERES	**GERESS Array B** comp=Z,0.5nm,0.6s,baz=332,slow=6.0,SNR=5.4	**41.48**	**79**	P		**P**	**18 09 22.0**	**+0.8**
MORC	**Moravsky Berou** comp=Z,5.8nm,1.3s	**41.83**	**75**	*e*P		**P**	**18 09 24.4**	**+0.5**
VIVF	**Saint-Julien-l**	**42.19**	**90**	*e*P		**P**	**18 09 28.5**	**+1.6**
VIVF	**Saint-Julien-l**	**42.19**	**90**	*e*P		**P**	**18 09 28.5**	**+1.6**
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.7s,baz=337,slow=2.3,SNR=4.2	**42.33**	**247**	P		P	18 09 33.0	+4.6
EPF	**Esparros**	**42.47**	**95**	*e*P		**P**	**18 09 30.3**	**+1.1**
EPF	**Esparros**	**42.47**	**95**	*e*P		**P**	**18 09 30.3**	**+1.1**
MBDF	**Montbardon** comp=Z,6.7nm,0.8s	**42.97**	**88**	*e*P		**P**	**18 09 35.0**	**+1.6**
MBDF	**Montbardon** comp=Z,6.7nm,0.8s	**42.97**	**88**	*e*P		**P**	**18 09 35.0**	**+1.6**
ESDC	**Sonseca Array** comp=Z,3.8nm,0.8s,baz=338,slow=7.9,SNR=21	**44.17**	**102**	P		**P**	**18 09 44.6**	**+1.6**
ESLA	**Sonseca Array** comp=Z,0.7nm,1.0s	**44.17**	**102**	*e*P		**P**	**18 09 44.5**	**+1.4**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.4s,baz=329,slow=8.4,SNR=5.5	**44.47**	**65**	P		**P**	**18 09 44.6**	**-0.6**
TXAR	**Lajitas Array** comp=Z,0.5nm,0.6s,baz=43,slow=6.0,SNR=7.0	**47.08**	**227**	P		P	18 10 10.6	+4.5
TXAR	comp=Z,115nm,18.0s,baz=0.0,slow=37			LR		LR	18 30 47.4	
KEST	**Kesra** comp=Z,0.9nm,0.7s,baz=356,slow=5.5,SNR=3.5	**51.96**	**91**	P		**P**	**18 10 44.6**	**+1.3**
ZALV	**Zalesovo Beam** comp=Z,1.9nm,0.5s,baz=1.2,slow=6.6,SNR=3.5	**52.97**	**21**	P		**P**	**18 10 51.4**	**+1.0**
ZKR	**Zakros**	**57.80**	**75**	*e*P		P	18 11 19.5	-6.0
TORD	**Torodi Ar. Bea** comp=Z,2.6nm,1.0s,baz=333,slow=5.5,SNR=10.0	**70.69**	**107**	P		**P**	**18 12 51.0**	**+0.8**
LIC	**Lamto** comp=Z,12nm,0.8s	**75.28**	**116**	*e*P		**P**	**18 13 18.1**	**+0.7**
LIC	**Lamto** comp=Z,12nm,0.8s	**75.28**	**116**	*e*P		**P**	**18 13 18.1**	**+0.7**
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=25,slow=2.3,SNR=3.4	**130.60**	**336**	PKP		**PKPdf**	**18 20 46.7**	**+1.8**
SNAA	**Sanae** comp=Z,1.7nm,1.1s,baz=307,slow=20,SNR=3.8	**148.78**	**147**	PKPbc		**PKPbc**	**18 21 21.6**	**+1.6**

*IDC **28** 18:27:39.2±2.0,52.69N×168.35W,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/37,mbtmp3.5/7,ML3.5/1,Error ellipse: s-maj=47.0km s-min=27.7km az=179.0*
*ISCJB **28** 18:27:45.4±0.8,52.79N±0.08×167.96W±0.08,h49km, mb3.6/7,Error ellipse: s-maj=11.6km s-min=5.5km az=156.4*
*NEIC **28** 18:27:45.8,52.88N×168.06W,h56km,ML3.4(AEIC),After AEIC.*
ISC 28 18:27:47.3±1.0,52.9N±0.1×168.00W±0.06,h49km,n29, σ0.8 7/26,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.52**	**280**	P	P	**Pn**	**18 27 57.8**	**-1.0**
NIKH				S	S	**Sn**	**18 28 06.8**	**-0.2**
OKFG	**Magazine Ridge**	**0.53**	**6**	P	P	**Pn**	**18 27 58.5**	**-0.3**
OKFG				S	S	**Sn**	**18 28 08.3**	**+1.3**
MSOM	**Makushin Julie**	**1.12**	**34**	P	P	**Pn**	**18 28 05.8**	**-0.8**
MREP	**Makushin Rep't**	**1.19**	**39**	P	P	**Pn**	**18 28 07.3**	**-0.4**
MSW	**Makushin Switc**	**1.26**	**35**	P	P	**Pn**	**18 28 07.9**	**-0.7**
MSW				S	S	**Sn**	**18 28 24.2**	**-0.1**
UNV	**Unalaska Valle**	**1.31**	**43**	P	P	**Pn**	**18 28 08.1**	**-1.1**
UNV				S	S	**Sn**	**18 28 26.7**	**+1.1**
AKRB	**Akutan Reef Bi**	**1.70**	**42**	P	P	**Pn**	**18 28 14.5**	**0.0**
ZRO	**Akutan Zero**	**1.71**	**44**	P	P	**Pn**	**18 28 14.4**	**-0.3**
AHB	**Akutan Harbor**	**1.79**	**46**	P	P	**Pn**	**18 28 15.5**	**-0.4**
AKUT	**Akutan**	**1.82**	**46**	P	P	**Pn**	**18 28 15.3**	**-0.9**
SSLN	**Shishaldin Nor**	**3.06**	**49**	P	P	**Pn**	**18 28 33.7**	**+0.6**
FALS	**False Pass**	**3.35**	**52**	P	P	**Pn**	**18 28 38.3**	**+1.1**
KOFP	**Korovin Flat P**	**3.77**	**263**	P	P	**Pn**	**18 28 42.8**	**-0.1**
SPIA	**Saint Paul Isl**	**4.49**	**344**	P	P	**Pn**	**18 28 53.5**	**+0.8**
ADK	**Adak**	**5.41**	**283**	P	P	**Pn**	**18 29 07.0**	**+1.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=233,slow=10,SNR=4.6	**16.05**	**34**	Pn	**Pn**	**Pn**	**18 31 29.4**	**-0.1**
INK	**Inuvik** 1.4nm,0.6s,baz=170,slow=3.0,SNR=6.2	**22.45**	**33**	P	**P**	**P**	**18 32 41.6**	**-0.2**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=273,slow=7.8,SNR=4.3	**29.27**	**50**	P	**P**	**P**	**18 33 44.9**	**+0.5**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=97	**38.38**	**220**	T		T	19 16 12.5	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=86	**38.39**	**220**	T		T	19 16 13.1	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=80	**38.40**	**220**	T		T	19 16 23.7	
H11S1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=61	**39.57**	**220**	T		T	19 17 47.4	
H11S2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=55	**39.59**	**220**	T		T	19 17 59.6	
H11S3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=45	**39.59**	**220**	T		T	19 17 44.0	
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=307,slow=6.6,SNR=5.0	**51.91**	**90**	P	**P**	**P**	**18 36 51.3**	**+0.3**
MKAR	**Makanchi Array** 0.1nm,0.7s,baz=18,slow=5.2,SNR=3.8	**64.05**	**314**	P	**P**	**P**	**18 38 14.7**	**-1.0**
FINES	**FINESS Array B** 3.3nm,1.0s,baz=17,slow=7.3,SNR=4.5	**65.46**	**353**	P	**P**	**P**	**18 38 24.4**	**-0.2**
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=12,slow=5.0,SNR=4.0	**75.76**	**349**	P	**P**	**P**	**18 39 27.2**	**-0.3**
ASAR	**Alice Springs** 0.7nm,0.8s,baz=79,slow=2.6,SNR=4.4	**91.37**	**231**	P	P	P	18 40 58.5	+11

*IDC **28** 18:46:45.0±5.0,24.77S×179.98W,h523km±55km,mb3.4/8, mb1 3.5/9,mb1mx3.2/38,mbtmp4.3/9,Error ellipse: s-maj=35.2km s-min=32.5km az=27.0*
ISC 28 18:46:42.3±1.1,24.6S±0.1×179.8W±0.2,h496km,n14, σ1§36/16,mb3.7/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 3.1nm,0.3s,baz=217,slow=0.7,SNR=18	**13.83**	**190**	P	P	**P**	**18 49 41.2**	**+1.2**
URZ				S	S	**S**	**18 52 05.9**	**-0.7**
CTA	**Charters Tower** 0.5nm,0.3s,baz=81,slow=22,SNR=8.8	**31.63**	**271**	P	P	**P**	**18 52 24.1**	**0.0**
STKA	**Stephens Creek** 4.8nm,0.3s,baz=96,slow=9.6,SNR=12	**34.59**	**249**	P	P	**P**	**18 52 49.3**	**+0.3**
ASAR	**Alice Springs** 1.4nm,0.5s,baz=72,slow=7.9,SNR=5.3	**42.06**	**261**	P	P	**P**	**18 53 49.6**	**-0.5**
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=90,slow=7.4,SNR=44	**42.51**	**267**	P	P	**P**	**18 53 52.7**	**-0.9**
MJAR	**Matsushiro Arr** 2.9nm,0.5s,baz=99,slow=7.0,SNR=107	**72.58**	**326**	P	P	**P**	**18 57 18.2**	**-0.5**
KSRS	**Korea Array** 1.8nm,0.8s,baz=153,slow=5.2,SNR=4.8	**78.90**	**320**	P	P	**P**	**18 57 54.4**	**+0.8**
PETK	**Petropavlovsk-** 2.4nm,0.6s,baz=126,slow=6.8,SNR=5.8	**79.85**	**346**	P	P	**P**	**18 57 59.1**	**+0.8**
USRK	**Ussuriysk Ar.** 1.8nm,0.7s,baz=140,slow=5.3,SNR=5.5	**81.46**	**327**	P	P	**P**	**18 58 08.5**	**+1.6**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=129,slow=2.6,SNR=3.7	**121.08**	**318**	PKP	**PKPdf**	**PKPdf**	**19 04 37.9**	**+0.1**
NB2	**NORSAR Subarra** comp=Z,0.1nm,0.6s,baz=18,slow=3.7	**142.83**	**351**	PKP	**PKPdf**	**PKPdf**	**19 05 15.4**	**-2.9**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.7s,baz=11,slow=2.4,SNR=4.1	**142.83**	**351**	PKP	**PKPdf**	**PKPdf**	**19 05 15.4**	**-2.9**
AKASG	**Malin Array Be** 1.3nm,0.4s,baz=45,slow=3.9,SNR=8.8	**145.66**	**327**	PKPbc	**PKPdf**	**PKPdf**	**19 05 24.2**	**+0.8**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.6s,baz=142,slow=5.3,SNR=3.9	**148.13**	**306**	PKPbc	**PKPbc**	**PKPbc**	**19 05 31.8**	**-0.3**
BRTR	comp=Z,1.2nm,0.5s,baz=108,slow=3.3,SNR=7.0			PKPab	**PKPab**	**PKPab**	**19 05 36.9**	**0.0**

*IDC **28** 18:54:07.8±2.5,14.25N×93.15W,h0km,mb3.9/4, mb1 4.1/8,mb1mx3.7/37,mbtmp3.9/8,ML3.5/3,Error ellipse: s-maj=58.0km s-min=28.9km az=31.0*
*ISCJB **28** 18:54:11.3±0.8,14.29N±0.06×93.32W±0.04,h33km±11km, mb3.9/4,Error ellipse: s-maj=11.4km s-min=5.4km az=28.6*
*MEX **28** 18:54:11.8±0.8,14.19N×93.25W,h20km±57km,MD3.7*
*CASC **28** 18:54:16.2±2.2,14.00N×92.88W,h111km±32km,MD4.0*
ISC 28 18:54:11.2±2.9,14.24N±0.08×93.28W±0.05,h24km±23km, n21,σ1§45/31,mb4.0/4,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.59**	**87**	*e*P	P	**Pn**	**18 54 39.1**	**+1.2**
JAT				*e*S	S	**Sb**	**18 54 59.4**	**-0.2**
CCIG	**Comitan**	**2.31**	**28**	*e*P	P	**Pn**	**18 54 48.3**	**+0.3**
CCIG				*i* S	S	**Sn**	**18 55 14.7**	**-1.0**
FUG	**Fuego 3**	**2.37**	**85**	*e*P	P	**Pn**	**18 54 49.2**	**+0.5**
TGIG		**2.53**	**3**	*e*P	P	**Pn**	**18 54 50.7**	**-0.2**
TGIG				*i* S	S	**Sn**	**18 55 19.7**	**-1.2**
PCG	**Pacaya**	**2.59**	**86**	*e*P	P	**Pn**	**18 54 52.6**	**+0.7**
PCG				*e*S	S	**Sn**	**18 55 23.3**	**+0.5**
IXG	**Ixpaco**	**2.74**	**91**	*e*P	P	**Pn**	**18 54 54.0**	**+0.2**
IXG				*e*S	S	**Sn**	**18 55 23.9**	**-2.4**
HUIG	**Huatulco**	**3.13**	**299**	*e*P	P	**Pn**	**18 54 58.4**	**-0.7**
HUIG				*e*S	S	**Sn**	**18 55 34.3**	**-1.5**
CMIG	**Matias Romero**	**3.23**	**332**	*e*P	P	**Pn**	**18 54 59.3**	**-1.2**
CMIG				*e*S	S	**Sn**	**18 55 36.6**	**-1.7**
CMIG	**Matias Romero** 12nm,0.3s,baz=155,slow=14,SNR=101	**3.23**	**332**	Pn	P	**Pn**	**18 54 59.4**	**-1.0**
CMIG				Sn	S	**Sn**	**18 55 35.8**	**-2.5**
RBDL	**Robledal**	**3.48**	**92**	*e*P	P	**Pn**	**18 55 05.1**	**+1.0**
RBDL				*e*S	S	**Sn**	**18 55 40.7**	**-4.0**
MRL	**Marmol**	**3.56**	**76**	*e*P	P	**Pn**	**18 55 05.8**	**+0.6**
MRL				*e*P	P	**Pn**	**18 55 06.8**	**+1.6**
SBLS	**San Blas**	**3.57**	**96**	*e*P	P	**Pn**	**18 55 05.9**	**+0.6**
SNJE	**San Jose**	**3.58**	**95**	*e*P	P	**Pn**	**18 55 06.4**	**+1.0**
BOQS	**Boqueron**	**3.91**	**97**	*e*P	P	**Pn**	**18 55 10.9**	**+0.9**
TEIG	**Tepich** 18nm,0.3s,baz=301,slow=0.7,SNR=46	**7.63**	**38**	Pn	P	**Pn**	**18 55 59.7**	**-1.3**
TEIG				Sn	Sn		18 57 19.9	-6.8
JTS	**JuntasAbangare** 5.3nm,0.3s,baz=25,slow=19,SNR=3.1	**9.03**	**115**	Pn	**Pn**	**Pn**	**18 56 18.2**	**-2.0**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=306,slow=19,SNR=1.8	**17.84**	**329**	P	**P**	**P**	**18 58 19.1**	**+0.5**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=143,slow=13,SNR=6.3	**32.72**	**322**	P	**P**	**P**	**19 00 44.1**	**+1.8**
YKA	**Yellowknife Ar** 1.5nm,0.7s,baz=152,slow=7.7,SNR=12	**50.52**	**347**	P	**P**	**P**	**19 03 07.3**	**+0.1**
INK	**Inuvik** 0.6nm,0.5s,baz=135,slow=5.1,SNR=5.5	**59.86**	**344**	P	**P**	**P**	**19 04 14.5**	**-0.1**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=132,slow=5.0,SNR=6.5	**62.13**	**337**	P	**P**	**P**	**19 04 30.5**	**+0.4**

*ISCJB **28** 18:54:40.1±0.6,24.01N±0.05×94.01E±0.05,h65km±6km, mb4.2/27,Error ellipse: s-maj=8.9km s-min=5.5km az=41.8*
*IDC **28** 18:54:41.8±0.7,24.12N×94.40E,h63km±6km,mb3.9/20, mb1 4.0/21,mb1mx3.8/47,mbtmp4.2/21,MS2.9/2, Ms1 2.9/2,ms1mx2.6/41,Error ellipse: s-maj=20.4km s-min=11.3km az=55.0*
*NEIC **28** 18:54:42.0±0.3,24.15N×94.39E,mb4.5/6,Error ellipse: s-maj=10.1km s-min=5.4km az=59.0*
ISC 28 18:54:41.7±0.6,24.07N±0.06×94.10E±0.05,h65km±5km, h65km:pP-P,n60,σ1§66/81,mb4.3/27,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.73**	**348**	*ex*		**Pn**	**18 54 58.0**	**+1.2**
IMP				*e*S		**Sn**	**18 55 07.0**	**-0.8**
SHL	**Shillong**	**2.51**	**307**	*e*P		**Pn**	**18 55 21.3**	**+0.9**
SHL				*e*S		**Sn**	**18 55 49.0**	**-1.0**
LSA	**Lhasa** 15nm,0.6s	**6.20**	**335**	*e*Pn		**Pn**	**18 56 12.2**	**+1.1**
TAPN	**Taplejung** 283nm,0.6s	**6.63**	**301**	*e*Pn		**Pn**	**18 56 17.7**	**+0.9**
TAPN				*e*Sn		**Sn**	**18 57 29.6**	**-1.5**
ODAN	**Odare** 236nm,0.3s	**6.67**	**296**	*e*Pn		**Pn**	**18 56 17.6**	**+0.2**
ODAN				*e*Sn		**Sn**	**18 57 29.4**	**-2.8**
CM31	**Chiang Mai Arr** 14nm,0.6s	**7.18**	**140**	*e*Pn		**Pn**	**18 56 24.4**	**+0.3**
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=317,slow=13,SNR=38	**7.18**	**140**	P		**Pn**	**18 56 24.1**	**+0.1**
CMAR	comp=Z,26nm,18.5s,baz=310,slow=40			LR		LR	18 59 26.4	
RAMN	**Ramite** 115nm,0.4s	**7.36**	**295**	*e*Pn		**Pn**	**18 56 27.3**	**+0.5**
RAMN				*e*Sn		**Sn**	**18 57 46.0**	**-3.0**
BOK	**Bokaro**	**7.52**	**270**	*e*P		**Pn**	**18 56 29.3**	**+0.5**
BOK	comp=Z,39nm,0.5s			AMB		AMB	18 56 29.8	
BOK				*ex*		**Sn**	**18 57 49.0**	**-3.7**
JIRN	**Jiri**	**7.97**	**298**	*e*Pn		**Pn**	**18 56 35.7**	**+0.4**
JIRN				*e*Sn		**Sn**	**18 58 00.9**	**-3.3**
GUN	**Gumba** comp=Z,134nm,0.3s	**8.33**	**299**	*e*Pn		**Pn**	**18 56 40.3**	**+0.2**
GUN				*e*Sn		**Sn**	**18 58 09.9**	**-3.0**
PKI	**Pulchoki** comp=Z,146nm,0.5s	**8.58**	**296**	*e*Pn		**Pn**	**18 56 43.7**	**+0.2**
PKI				*e*Sn		**Sn**	**18 58 15.5**	**-3.4**
PKIN	**Phulchoki** comp=Z,67nm,0.4s	**8.59**	**296**	*e*Pn		**Pn**	**18 56 43.6**	**0.0**
PKIN				*e*Sn		**Sn**	**18 58 15.9**	**-3.2**
KKN	**Kakani** comp=Z,82nm,0.5s	**8.77**	**297**	*e*Pn		**Pn**	**18 56 45.8**	**-0.2**
KKN				*e*Sn		**Sn**	**18 58 19.5**	**-3.9**
DMN	**Daman** comp=Z,71nm,0.5s	**8.84**	**295**	*e*Pn		**Pn**	**18 56 46.7**	**-0.3**
DMN				*e*Sn		**Sn**	**18 58 21.7**	**-3.6**
GKN	**Gorkha** comp=Z,78nm,0.6s	**9.37**	**297**	*e*Pn		**Pn**	**18 56 53.5**	**-0.7**
GKN				*e*Sn		**Sn**	**18 58 33.6**	**-4.5**
KOLN	**Koldanda** comp=Z,132nm,0.3s	**10.15**	**294**	*e*Pn		**Pn**	**18 57 03.8**	**-1.1**
KOLN				*e*Sn		Sn	18 58 51.1	-6.1
PYUN	**Piuthan** comp=Z,66nm,0.4s	**10.77**	**294**	*e*Pn		**Pn**	**18 57 11.4**	**-1.9**
PYUN				*e*Sn		Sn	18 59 05.9	-6.4
DGPR	**DIGLIPUR** comp=Z,168nm,0.6s	**10.89**	**186**	*e*P		**Pn**	**18 57 14.1**	**-0.7**
DGPR				AMB		AMB	18 57 16.9	
VIS	**Vishakhapatnam** comp=Z,18nm,0.9s	**11.88**	**240**	*e*P		**Pn**	**18 57 28.0**	**-0.4**
VIS				AMB		AMB	18 57 35.3	
ENH	**Enshi** comp=Z,12nm,0.9s	**15.02**	**62**	*e*P		Pn	18 58 05.7	-4.6
BHPL	**Bhopal** comp=Z,14nm,0.5s	**15.31**	**270**	*ex*		**Pn**	**18 58 12.1**	**-1.9**
BHPL				AMB		AMB	18 58 20.4	
HYB	**Hyderabad**	**15.97**	**248**	*i* P		**P**	**18 58 26.5**	**+1.6**
HYB				*e*S		**Sn**	**19 01 21.0**	**+2.2**
HYB	**Hyderabad** comp=Z,16nm,0.8s	**15.97**	**248**	*e*P		**P**	**18 58 25.8**	**+0.9**
HYB				AMB		AMB	18 58 28.1	
SMLA	**Simla**	**16.57**	**299**	*e*P		**P**	**18 58 31.2**	**-0.2**
SMLA				*ex*		x	19 01 16.3	
DHRM	**DHARAMSHALA**	**17.67**	**301**	*e*P		**P**	**18 58 46.5**	**+2.6**
DHRM				AMB		AMB	18 58 50.8	
DHRM	comp=Z,5.9nm,0.7s			*ex*		x	19 01 40.0	
IPM	**Ipoh** comp=Z,8.0nm,0.8s	**20.58**	**160**	*e*P		**P**	**18 59 14.2**	**-1.3**
PSI	**Prapat** comp=Z,1.4nm,0.5s,baz=356,slow=19,SNR=2.1	**21.65**	**167**	P		**P**	**18 59 29.0**	**+2.0**
MK31	**Makanchi Array**	**24.58**	**340**	*e*P		**P**	**18 59 56.9**	**+1.3**
MKAR	**Makanchi Array** comp=Z,4.4nm,0.5s,baz=164,slow=9.4,SNR=170	**24.58**	**340**	P		**P**	**18 59 57.1**	**+1.6**
AAK	**Ala-Archa** comp=Z,5.8nm,0.7s,baz=50,slow=5.4,SNR=11	**24.62**	**324**	P		**P**	**18 59 57.9**	**+1.8**
EKS2	**Erkin-Say** comp=Z,14nm,0.9s	**25.03**	**323**	*e*P		**P**	**19 00 00.7**	**+0.8**
SONM	**Songino Array** comp=Z,10nm,0.6s,baz=194,slow=9.7,SNR=80	**25.66**	**19**	P		**P**	**19 00 05.9**	**+0.4**
KURBB	**Kurchatov Arra** comp=Z,2.7nm,0.6s,baz=152,slow=8.3,SNR=31	**29.14**	**339**	P		**P**	**19 00 37.5**	**+1.1**
KURBB				PcP		**PcP**	**19 03 43.5**	**+0.9**
KURBB	comp=Z,0.2nm,0.5s,baz=168,slow=1.8,SNR=4.8			ScP		**ScP**	**19 07 18.3**	**-0.3**
KURK	**Kurchatov** comp=Z,1.4nm,0.6s,baz=152,slow=3.0,SNR=5.7	**29.19**	**340**	*e*P		**P**	**19 00 37.3**	**+0.5**
KURK	comp=Z,6.3nm,0.9s			PcP		**PcP**	**19 03 43.5**	**+0.8**
KURK				ScP		**ScP**	**19 07 18.3**	**-0.5**
ZAA0	**Zalesovo Array**	**30.65**	**349**	*e*P		**P**	**19 00 50.5**	**+0.8**
ZALV	**Zalesovo Beam** comp=Z,7.3nm,0.4s,baz=176,slow=7.8,SNR=48	**30.65**	**349**	P		**P**	**19 00 50.9**	**+1.2**
ABKAR	**Akbulak array** comp=Z,4.4nm,0.8s	**36.69**	**322**	*e*P		**P**	**19 01 43.9**	**+1.7**
AKTO	**Aktyubinsk** comp=Z,1.5nm,0.3s,baz=121,slow=7.9,SNR=8.8	**38.36**	**323**	P		**P**	**19 01 58.0**	**+1.7**
MJAR	**Matsushiro Arr** comp=Z,1.0nm,0.6s,baz=276,slow=9.2,SNR=4.2	**39.74**	**61**	P		**P**	**19 02 05.7**	**-2.4**
GNI	**Garni** comp=Z,34nm,18.2s,baz=104,slow=39	**44.21**	**303**	LR		LR	19 23 49.6	
YAK	**Yakutsk** comp=Z,6.2nm,0.4s,baz=359,slow=1.9,SNR=5.4	**44.92**	**23**	P		**P**	**19 02 47.2**	**-2.5**
TIXI	**Tiksi** comp=Z,7.5nm,0.4s	**51.50**	**13**	*e*P		**P**	**19 03 39.7**	**-0.6**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.5s,baz=136,slow=9.2,SNR=5.4	**52.72**	**303**	P		**P**	**19 03 51.1**	**+1.1**
AKASG	**Malin Array Be** comp=Z,1.3nm,0.4s,baz=85,slow=6.6,SNR=12	**55.96**	**316**	P		**P**	**19 04 13.3**	**+0.1**
AKASG				pP		**pP**	**19 04 30.8**	**+0.6**
AK02	**Malin Array Si** comp=Z,0.8

0.5nm,0.6s
KK31 Karatay Array 4.33 333 ⇓Pn Pn 18 59 22.7 +2.3
0.1nm,0.3s,baz=151,slow=14,SNR=4.4
KK31 ⇓Pg Pb 18 59 30.3 0.0
0.3nm,0.3s,baz=165,slow=17,SNR=4.0
KK31 ⇓Sn Sn 19 00 14.3 +2.6
1.1nm,0.5s,baz=148,slow=23,SNR=5.1
KK31 ⇑Lg Lg 19 00 26.4
1.0nm,0.5s

IDC 28 19:00:20.7±8.0, 30.84S×179.33W, h524km×106km, mb2.8/2, mb1 3.0/3, mb1mx2.8/34, mbtmp3.7/3, Error ellipse: s-maj=118.1km s-min=43.3km az=4.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.97**	**201**	P	P	19 02 15.4	-1.7
	0.5nm,0.3s,baz=276,slow=5.7,SNR=8.0						
URZ				S	S	19 03 54.6	+1.8
	0.4nm,0.3s,baz=253,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**41.94**	**268**	P	P	19 07 26.4	+0.7
	0.8nm,0.5s,baz=104,slow=6.8,SNR=25						
WRA	**Warramunga Arr**	**42.97**	**273**	P	P	19 07 32.8	-1.0
	0.5nm,0.4s,baz=110,slow=8.1,SNR=19						
FINES	**FINESS Array B**	**145.15**	**339**	PKPbc	PKPdf	19 18 57.8	+0.1
	0.8nm,0.7s,baz=52,slow=2.8,SNR=4.7						

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*IDC **28** 19:00:50.0±5.0, 14.13N×93.07W, h0km, mb3.6/3, mb1 4.0/6, mb1mx3.6/34, mbtmp3.7/6, ML3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=88.1km s-min=47.6km az=174.0*
*ISCJB **28** 19:00:54.7±0.8, 14.27N±0.06×93.32W±0.04, h37km, mb3.8/3, MS3.0/1, Error ellipse: s-maj=9.5km s-min=4.8km az=26.5*
*MEX **28** 19:00:54.9±0.6, 14.15N×93.27W, h22km±60km, MD3.8*
*CASC **28** 19:00:59.1±1.7, 13.94N×93.01W, h84km±102km, MD4.3*
ISC 28 19:00:56.8±1.0, 14.32N±0.07×93.26W±0.05, h37km, n18, σ1°64/25, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.57**	**90**	*e*P	**Pn**	**19 01 22.8**	**+0.7**
CCIG	**Comitan**	**2.23**	**29**	*e*P	**Pn**	**19 01 31.8**	**+0.3**
CCIG				*e*S	**Sn**	**19 01 58.6**	**+0.8**
FUG	**Fuego 3**	**2.34**	**87**	*e*P	**Pn**	**19 01 33.0**	**+0.1**
FUG				*e*S	**Sn**	**19 02 01.5**	**+0.9**
TGIG		**2.45**	**3**	*e*P	**Pn**	**19 01 34.3**	**0.0**
TGIG				*i* S	**Sn**	**19 02 03.4**	**+0.3**
HUIG	**Huatulco**	**3.11**	**298**	*e*P	**Pn**	**19 01 41.8**	**-1.5**
HUIG				*i* S	**Sn**	**19 02 17.5**	**-1.7**
CMIG	**Matias Romero**	**3.17**	**331**	*e*P	**Pn**	**19 01 43.1**	**-1.1**
CMIG				*i* S	**Sn**	**19 02 20.5**	**-0.3**
CMIG	**Matias Romero**	**3.17**	**331**	Pn	**Pn**	**19 01 43.5**	**-0.7**
	6.0nm,0.3s,baz=144,slow=11,SNR=25						
CMIG				Sn	**Sn**	**19 02 19.7**	**-1.1**
	11nm,0.3s,baz=158,slow=15,SNR=6.8						
RBDL	**Robledal**	**3.47**	**93**	*e*P	**Pn**	**19 01 48.3**	**-0.1**
RBDL				*e*S	**Sn**	**19 02 25.9**	**-2.5**
RTR	**El Retiro**	**3.53**	**96**	*e*P	**Pn**	**19 01 49.3**	**0.0**
MRL	**Marmol**	**3.53**	**77**	*e*P	Pn	19 01 54.5	+5.2
SBLS	**San Blas**	**3.56**	**97**	*e*P	**Pn**	**19 01 49.2**	**-0.5**
SBLS				*e*S	**Sn**	**19 02 27.9**	**-2.7**
LFRS	**El Faro**	**4.13**	**99**	*e*P	**Pn**	**19 01 56.9**	**-0.5**
TEIG	**Tepich**	**7.56**	**38**	Pn	**Pn**	**19 02 43.2**	**-1.3**
	2.3nm,0.3s,baz=263,slow=0.7,SNR=8.4						
TEIG				Sn	**Sn**	**19 04 03.8**	**-5.1**
	1.4nm,0.3s,baz=36,slow=19,SNR=2.7						
TXAR	**Lajitas Array**	**17.78**	**329**	P	**P**	**19 05 03.1**	**+1.1**
	0.0nm,0.3s,baz=151,slow=15,SNR=3.5						
ATAH	**Atahualpa**	**25.92**	**144**	LR	LR	19 13 47.0	
	comp=Z,51nm,20.5s,baz=19,slow=30						
NVAR	**Mina Array Bea**	**32.67**	**322**	P	**P**	**19 07 28.1**	**+2.4**
	0.8nm,0.8s,baz=139,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**50.45**	**347**	P	**P**	**19 09 50.9**	**+0.4**
	0.9nm,0.7s,baz=151,slow=7.5,SNR=9.1						
ILAR	**Eielson Array**	**62.07**	**337**	P	**P**	**19 11 12.9**	**-0.5**
	0.4nm,0.7s,baz=156,slow=4.7,SNR=4.0						

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*ISCJB **28** 19:03:11.7±0.5, 45.17N±0.05×113.18E±0.07, h10km, mb3.9/11, MS3.2/2, Error ellipse: s-maj=7.3km s-min=6.3km az=29.5*
*IDC **28** 19:03:12.5±0.8, 45.22N×113.19E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.7/46, mbtmp3.8/15, ML3.1/3, MS3.1/4, Ms1 3.1/4, ms1mx2.8/38, Error ellipse: s-maj=25.3km s-min=12.6km az=29.0*
*BJI **28** 19:03:12.4, 45.11N×113.27E, h6km, mB4.5/10, mb4.3/11, ML4.6/11, Ms4.3/9, Ms7 3.8/9*
ISC 28 19:03:13.8±0.6, 45.17N±0.04×113.24E±0.06, h10km, n22, σ2°48/33, mb3.9/11, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC	**Hu-ho-hao-te**	**4.49**	**196**	*e*Pn	Pn	19 04 24.5	+2.5
HHC				Pg	**Pb**	**19 04 35.0**	**+2.2**
HHC				Sn	**Sb**	**19 05 21.3**	**-5.7**
HHC				Sg	**Sg**	**19 05 32.5**	**-5.4**
HHC				SMN			
	2µm,0.6s						
HHC				SME			
	2µm,0.6s						
BTO	**Baotou**	**5.14**	**209**	*e*Pn	**Pn**	**19 04 30.5**	**-0.4**
BTO				Pg	**Pb**	**19 04 45.8**	**+2.0**
BTO				Sn	**Sn**	**19 05 29.8**	**-0.5**
BTO				Sg	**Sb**	**19 05 49.8**	**+4.2**
BTO				SMN			
	140nm,0.4s						
BTO				SME			
	160nm,0.6s						
SONM	**Songino Array**	**5.42**	**302**	Pn	**Pn**	**19 04 33.4**	**-1.5**
	5.2nm,0.3s,baz=125,slow=14,SNR=155						
SONM				Pg	Pg	19 04 51.1	-6.6
	16nm,0.3s,baz=117,slow=15,SNR=31						
SONM				Lg	Lg	19 06 01.2	
	60nm,0.3s,baz=128,slow=29,SNR=14						
SONM				LR	LR	19 07 03.3	
	comp=Z,180nm,19.8s,baz=16,slow=43						
BJI	**Beijing**	**5.56**	**156**	Pn	**Pn**	**19 04 35.0**	**-1.6**
BJI				Pg	Pb	19 04 54.5	+3.5
BJI				Sg	Sb	19 06 05.5	+7.7
BJI				SMN			
	200nm,0.7s						
BJI				SME			
	600nm,0.7s						
GTA	**Gaotai**	**11.48**	**245**	*e*P	**Pn**	**19 05 56.5**	**-1.4**
GTA				pP		19 06 00.0	
GTA				sP		19 06 02.5	
GTA				S	**Sn**	**19 08 05.5**	**-0.8**
GTA				SS	**SnSn**	**19 08 19.0**	**+1.1**
GTA				PMZ			
	5.0nm,1.0s						
GTA				PMZ			
	110nm,5.3s						
GTA				LN			
	350nm,14.2s						
GTA				LE			
	290nm,14.7s						
GTA				LZ			
	310nm,10.9s						
USRK	**Ussuriysk Ar.**	**13.38**	**88**	Pn	**Pn**	**19 06 23.2**	**-0.5**
	0.2nm,0.3s,baz=260,slow=12,SNR=2.5						
USRK				Lg	Lg	19 10 19.2	
	0.3nm,0.3s,baz=295,slow=23,SNR=6.7						
KSRS	**Korea Array**	**13.45**	**120**	Pn	**Pn**	**19 06 26.8**	**+2.2**
	0.1nm,0.3s,baz=318,slow=12,SNR=3.2						
KSRS				Lg	Lg	19 10 17.5	
	0.6nm,0.3s,baz=313,slow=30,SNR=9.9						
KSRS				LR	LR	19 11 15.5	
	comp=Z,39nm,20.9s,baz=296,slow=36						
CD2	**Chengdu**	**16.06**	**211**	*e*P	**Pn**	**19 07 00.0**	**+0.3**
CD2				pP	**pP**	**19 07 03.5**	**-2.4**
CD2				sP	**sP**	**19 07 07.0**	**-0.2**
CD2				PP	**PnPn**	**19 07 13.0**	**+4.6**
CD2				S	**Sn**	**19 09 58.3**	**+0.5**
CD2				sS	S	19 10 03.3	-8.2
CD2				SS	**SnSn**	**19 10 17.0**	**+6.3**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	160nm,5.2s						
CD2				LN			
	230nm,10.0s						
CD2				LE			
	600nm,9.2s						
CD2				LZ			
	250nm,9.0s						
WMQ	**Urumqi**	**18.25**	**275**	*e*P	**P**	**19 07 27.5**	**+0.1**
WMQ				pP	**pP**	**19 07 33.5**	**+3.3**
WMQ				PMZ			
	6.0nm,0.4s						
WMQ				PMZ			
	100nm,5.2s						
WMQ				LZ			
	220nm,16.8s						
ZALV	**Zalesovo Beam**	**20.30**	**306**	P	Pn	19 07 48.8	-2.8
	1.1nm,0.6s,baz=102,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**21.50**	**285**	P	**P**	**19 08 02.5**	**-0.2**
	0.8nm,0.6s,baz=84,slow=11,SNR=9.6						
KURBB	**Kurchatov Arra**	**23.75**	**296**	P	**P**	**19 08 25.9**	**-0.2**
	1.6nm,0.7s,baz=93,slow=10,SNR=6.0						
AAK	**Ala-Archa**	**27.85**	**279**	LR	LR	19 20 14.5	
	comp=Z,55nm,18.9s,baz=110,slow=37						
BVAR	**Borovoye Array**	**28.77**	**301**	P	**P**	**19 09 11.6**	**+0.1**
	2.9nm,0.5s,baz=99,slow=10,SNR=19						
FINES	**FINESS Array B**	**50.45**	**322**	P	**P**	**19 12 11.4**	**+0.2**
	3.9nm,0.5s,baz=85,slow=7.5,SNR=35						
AKASG	**Malin Array Be**	**53.67**	**308**	P	**P**	**19 12 34.8**	**-0.6**
	0.9nm,0.5s,baz=53,slow=8.8,SNR=7.5						
ILAR	**Eielson Array**	**54.08**	**31**	P	**P**	**19 12 39.2**	**+1.0**
	0.7nm,0.7s,baz=293,slow=6.1,SNR=8.6						
BRTR	**Keskin Array B**	**56.74**	**295**	P	**P**	**19 12 57.9**	**0.0**
	1.0nm,0.5s,baz=76,slow=3.9,SNR=7.3						
NOA	**NORSAR Array B**	**56.92**	**325**	P	**P**	**19 12 58.2**	**-0.6**
	1.1nm,0.6s,baz=52,slow=6.5,SNR=3.6						
NOA				LR	LR	19 38 27.3	
	comp=Z,22nm,20.1s,baz=50,slow=37						
YKA	**Yellowknife Ar**	**66.07**	**22**	P	**P**	**19 13 59.5**	**-0.9**
	0.5nm,0.6s,baz=324,slow=6.4,SNR=6.3						
WRA	**Warramunga Arr**	**67.59**	**159**	P	**P**	**19 14 11.2**	**+0.6**
	0.8nm,0.9s,baz=349,slow=7.3,SNR=7.0						
ASAR	**Alice Springs**	**71.05**	**160**	P	**P**	**19 14 32.5**	**+0.6**
	0.2nm,0.4s,baz=347,slow=5.9,SNR=4.9						

MAN 28 19:17:18, 13.61N×120.12E, h36km, mb4.4, ML3.2, MS3.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.17**	**44**	*e*P	Pn	19 17 25.8	-1.6
PGP	**Puerto Galera**	**0.81**	**97**	⇑*e*P	Pn	19 17 34.9	+1.9
PGP				*i* S	Sn	19 17 46.0	+2.1
SJMP	**San Jose**	**1.50**	**140**	*e*P	Pn	19 17 44.4	+2.0
SJMP				*e*S	Sn	19 18 01.5	+0.9
ENPP	**El Nido**	**2.48**	**196**	*e*P	Pn	19 17 57.6	+1.6
CUYO	**Cuyo Island**	**2.88**	**162**	*e*P	Pn	19 18 02.9	+1.5

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*IDC **28** 19:20:26.3±0.8, 31.58N×90.50E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.8/41, mbtmp3.9/15, ML4.0/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/37, Error ellipse: s-maj=28.8km s-min=15.7km az=54.0*
*NEIC **28** 19:20:28.1±0.4, 31.65N×90.51E, h10km, mb4.1/7, Error ellipse: s-maj=13.1km s-min=7.4km az=63.0*
*ISCJB **28** 19:20:29.4±0.5, 31.63N±0.07×90.52E±0.10, h33km, mb4.0/19, MS3.4/5, Error ellipse: s-maj=13.1km s-min=8.4km az=151.5*
*MOS **28** 19:20:29.5±1.3, 31.61N×90.93E, h33km, mb4.2/11, Error ellipse: s-maj=16.1km s-min=6.2km az=117.9*
ISC 28 19:20:31.7±0.6, 31.69N±0.09×90.7E±0.1, h35km, n73, σ1°33/62, mb4.0/18, MS3.2/5, 3C-2D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.02**	**168**	*e*P	**Pn**	**19 21 04.5**	**+0.7**
LSA	**Lhasa**	**2.02**	**168**	*e*Pn	**Pn**	**19 21 04.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**15.15**	**148**	Pn	**Pn**	**19 24 01.9**	**-1.3**
	0.3nm,0.3s,baz=334,slow=12,SNR=6.8						
CMAR				LR	LR	19 31 05.9	
	comp=Z,14nm,20.9s,baz=326,slow=42						
ULHL	**Ulahol**	**15.59**	**317**	P	**P**	**19 24 14.6**	**+1.7**
	SNR=5.9						
ULHL	**Ulahol**	**15.59**	**317**	*i* P	**P**	**19 24 14.6**	**+1.7**
KZA	**Kyzart**	**16.09**	**314**	P	**P**	**19 24 20.4**	**+1.7**
	SNR=10						
KZA	**Kyzart**	**16.09**	**314**	*i* P	**P**	**19 24 20.3**	**+1.7**
TKM2	**Tokmak 2**	**16.38**	**317**	P	**P**	**19 24 23.9**	**+2.2**
	SNR=9.4						
TKM2	**Tokmak 2**	**16.38**	**317**	*e*P	**P**	**19 24 23.6**	**+1.9**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TKM2	**Tokmak 2**	**16.38**	**317**	*e*P	**P**	**19 24 23.6**	**+1.9**
	comp=Z,8.2nm,0.8s						
MK31	**Makanchi Array**	**16.40**	**339**	*e*P	**Pn**	**19 24 17.5**	**-1.7**
MK31	**Makanchi Array**	**16.40**	**339**	*e*P	**Pn**	**19 24 17.5**	**-1.7**
MKAR	**Makanchi Array**	**16.40**	**339**	Pn	**Pn**	**19 24 17.0**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=165,slow=10.0,SNR=26						
MKAR				LR	LR	19 31 25.1	
	comp=Z,32nm,19.1s,baz=150,slow=40						
MKAR	**Makanchi Array**	**16.40**	**339**	*c*e*e*P	**Pn**	**19 24 19.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KBK	**Karagaybulak**	**16.61**	**316**	P	**P**	**19 24 26.8**	**+2.7**
	SNR=5.7						
KBK	**Karagaybulak**	**16.61**	**316**	*i* P	**P**	**19 24 26.8**	**+2.7**
UCH	**Uchtor**	**16.62**	**314**	P	**P**	**19 24 26.3**	**+1.7**
	SNR=10						
UCH	**Uchtor**	**16.62**	**314**	*i* P	**P**	**19 24 26.3**	**+1.7**
AAK	**Ala-Archa**	**16.86**	**315**	*c*e*e*P	**P**	**19 24 28.6**	**+1.6**
AAK				pmax	pmax		
	comp=Z,23nm,1.7s						
AAK	**Ala-Archa**	**16.86**	**315**	*e*P	**Pn**	**19 24 26.4**	**+1.3**
	comp=Z,5.4nm,0.9s						
USP	**Ospenovka**	**17.23**	**317**	P	**P**	**19 24 33.0**	**+2.0**
	SNR=5.7						
USP	**Ospenovka**	**17.23**	**317**	*i* P	**P**	**19 24 32.9**	**+2.0**
EKS2	**Erkin-Say**	**17.32**	**314**	P	**P**	**19 24 34.6**	**+2.6**
	SNR=6.4						
EKS2	**Erkin-Say**	**17.32**	**314**	*e*P	**P**	**19 24 34.4**	**+2.5**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**17.32**	**314**	*e*P	**P**	**19 24 34.4**	**+2.5**
	comp=Z,3.5nm,0.8s						
KKAR	**Karatay Array**	**19.60**	**311**	*e*P	**P**	**19 24 56.2**	**-0.7**
KKAR	**Karatay Array**	**19.60**	**311**	*e*P	**P**	**19 24 56.2**	**-0.7**
SONM	**Songino Array**	**20.10**	**32**	P	Pn	19 25 04.4	0.0
	comp=Z,3.2nm,0.9s,baz=221,slow=11,SNR=29						
ULN	**Ulaanbaatar**	**20.42**	**33**	*e*P	**P**	**19 25 06.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,12nm,1.7s						
ULN	**Ulaanbaatar**	**20.42**	**33**	*e*P	Pn	19 25 07.6	-0.7
	comp=Z,4.4nm,0.8s						
ZAK	**Zakamensk**	**20.91**	**23**	⇓*i*P	Pn	19 25 12.8	-1.0
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**20.96**	**338**	P	**P**	**19 25 11.2**	**-0.3**
	comp=Z,8.7nm,0.9s,baz=150,slow=11,SNR=34						
KURK	**Kurchatov**	**21.01**	**338**	P	**P**	**19 25 11.2**	**-0.9**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**21.01**	**338**	*e*P	**P**	**19 25 11.4**	**-0.7**
ZAA0	**Zalesovo Array**	**22.64**	**351**	*e*P	**P**	**19 25 28.8**	**-0.8**
ZALV	**Zalesovo Beam**	**22.64**	**351**	P	**P**	**19 25 29.0**	**-0.6**
	comp=Z,6.8nm,0.7s,baz=175,slow=9.3,SNR=17						
ZALV	**Zalesovo Beam**	**22.64**	**351**	*i* P	**P**	**19 25 31.2**	**+1.6**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NVS	**Novosibirsk**	**23.74**	**349**	*e*P	**P**	**19 25 39.7**	**-0.8**
BVAR	**Borovoye Array**	**25.89**	**331**	P	**P**	**19 26 00.5**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=126,slow=11,SNR=13						
BRVK	**Borovoye**	**25.96**	**331**	*e*P	**P**	**19 26 00.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GEYT	**Alibeck**	**27.34**	**292**	LR	LR	19 39 22.1	
	comp=Z,46nm,19.7s,baz=245,slow=42						
KSRS	**Korea Array**	**31.08**	**69**	LR	LR	19 39 08.2	
	comp=Z,37nm,18.3s,baz=278,slow=36						
LEM	**Lembang**	**41.58**	**154**	LR	LR	19 48 23.7	
	comp=Z,108nm,19.4s,baz=145,slow=40						
ASAJ	**Asahikawa**	**42.17**	**58**	LR	LR	19 45 51.9	
	comp=Z,33nm,20.1s,baz=288,slow=36						
TIXI	**Tiksi**	**44.93**	**16**	*e*P	**P**	**19 28 42.9**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**44.93**	**16**	*e*P	**P**	**19 28 42.5**	**-0.2**
	comp=Z,3.2nm,0.6s						
BRTR	**Keskin Array B**	**46.32**	**297**	P	**P**	**19 28 53.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=95,slow=8.0,SNR=9.7						
BRTR	**Keskin Array B**	**46.32**	**297**	*c*e*e*P	P	19 28 59.5	+5.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**50.64**	**326**	P	**P**	**19 29 27.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=94,slow=8.9,SNR=3.4						
ARCES	**ARCESS Array B**	**52.03**	**336**	LR	LR	19 55 26.4	
	comp=Z,65nm,18.7s,baz=248,slow=40						
BILL	**Bilibino**	**55.67**	**26**	⇓*e*P	**P**	**19 30 05.5**	**+1.5**
BILL				*e*		19 31 05.2	
BILL				*e*		19 32 08.6	
BILL				pmax	pmax		
	comp=Z,7.0nm,2.5s						
NOA	**NORSAR Array B**	**57.82**	**326**	P	**P**	**19 30 18.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=82,slow=7.2,SNR=3.2						
GERES	**GERESS Array B**	**58.70**	**311**	P	**P**	**19 30 25.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=72,slow=5.7,SNR=10.0						
LPG	**La Plagne**	**64.20**	**309**	*e*P	**P**	**19 31 02.9**	**-0.4**
	comp=Z,3.0nm,0.7s						
LPG	**La Plagne**	**64.20**	**309**	*e*P	**P**	**19 31 02.9**	**-0.4**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPG	**La Plagne**	**64.20**	**309**	*e*P	**P**	**19 31 02.9**	**-0.4**
	comp=Z,3.0nm,0.7s						
LPL	**La Plagne**	**64.21**	**309**	*e*P	**P**	**19 31 02.9**	**-0.4**
LPL	**La Plagne**	**64.21**	**309**	*e*P	**P**	**19 31 02.9**	**-0.4**
LPL	**La Plagne**	**64.21**	**309**	*e*P	**P**	**19 31 02.9**	**-0.4**
WRA	**Warramunga Arr**	**66.25**	**135**	P	**P**	**19 31 16.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=326,slow=6.4,SNR=6.9						
TCF	**Toulx Ste Croi**	**66.88**	**311**	*e*P	**P**	**19 31 19.6**	**-0.7**
	comp=Z,1.7nm,0.6s						
TCF	**Toulx Ste Croi**	**66.88**	**311**	*e*P	**P**	**19 31 19.6**	**-0.7**
TCF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TCF	**Toulx Ste Croi**	**66.88**	**311**	*e*P	**P**	**19 31 19.6**	**-0.7**
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**68.86**	**138**	P	**P**	**19 31 33.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=328,slow=6.6,SNR=11						
ETSF	**Etsaut**	**70.05**	**309**	*e*P	**P**	**19 31 39.8**	**-0.4**
ETSF	**Etsaut**	**70.05**	**309**	*e*P	**P**	**19 31 39.8**	**-0.4**
ETSF	**Etsaut**	**70.05**	**309**	*e*P	**P**	**19 31 39.8**	**-0.4**
ILAR	**Eielson Array**	**73.97**	**22**	P	**P**	**19 32 03.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=304,slow=5.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**82.35**	**281**	P	**P**	**19 32 49.4**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=51,slow=4.3,SNR=6.9						
YKA	**Yellowknife Ar**	**83.97**	**11**	P	**P**	**19 32 57.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=327,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	**83.97**	**11**	P	**P**	**19 32 57.6**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LIC	**Lamto**	**91.59**	**278**	*e*P	P	19 33 32.7	-2.8
	comp=Z,22nm,0.9s						
LIC	**Lamto**	**91.59**	**278**	*e*P	P	19 33 32.7	-2.8
	comp=Z,22nm,0.9s						

GUC 28 19:54:48.4±0.5, 33.78S×72.05W, h30km±3km, ML3.5, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**108**	*e*P	Pn	19 55 00.2	-0.2
LNV				*i* S	Sn	19 55 09.0	+0.3
IHA	**Instituto Hidr**	**0.83**	**25**	*e*P	Pb	19 55 04.5	+0.3
IHA				*i* S	Sn	19 55 16.5	+1.3
RCDM	**Rinconada Maip**	**1.08**	**75**	⇑*i*P	Pb	19 55 08.3	-0.2
RCDM				*i* S	Sb	19 55 23.7	+1.4
CHCH	**Chadas Angostu**	**1.17**	**98**	⇑*i*P	Pb	19 55 09.7	-0.5
ROCH	**El Roble**	**1.19**	**47**	*e*P	Pb	19 55 10.5	-0.1
ROCH				*i* S	Sb	19 55 27.7	+1.9
ROCH				AML	AML	19 55 33.5	
	comp=E,2µm,0.8s						
CACH	**El Canelo**	**1.25**	**106**	⇓*i*P	Pb	19 55 12.0	+0.3
PEL	**Peldehue**	**1.31**	**61**	⇓*i*P	Pb	19 55 12.2	-0.2
PEL				*i* S	Sb	19 55 30.4	+1.5
CLCH	**Cerro Calan**	**1.32**	**74**	*e*P	Pb	19 55 12.6	-0.1
CLCH				*e*S	Sb	19 55 31.0	+1.6
CLCH				AML	AML	19 55 46.8	
	comp=E,1µm,0.5s						
CLCH				AML	AML	19 55 47.3	
	comp=E,2µm,0.4s						
FCH	**Farellones**	**1.54**	**73**	*e*P	Pn	19 55 07.2	-7.0
FCH				*i* S	Sn	19 55 28.8	-4.8
FCH				AML	AML	19 55 32.2	
	comp=N,1µm,0.5s						
TALC	**Talca**	**1.65**	**168**	⇑*i*P	Pb	19 55 17.6	-0.6
TALC				*i* S	Sb	19 55 39.7	+1.1

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*AZER **28** 20:04:13.4±2.1, 35.77N×50.56E, h4km, Error ellipse: s-maj=31.6km s-min=16.8km az=70.0*
*IDC **28** 20:04:15.7±1.0, 35.82N×48.91E, h0km, mb3.8/17, mb1 3.9/22, mb1mx3.8/52, mbtmp3.8/22, ML3.3/3, MS3.1/6, Ms1 3.2/6, ms1mx2.8/40, Error ellipse: s-maj=19.8km s-min=11.7km az=8.0*
*ISCJB **28** 20:04:16.8±0.5, 35.85N±0.03×49.08E±0.03, h8km±4km, mb4.0/27, MS3.1/4, Error ellipse: s-maj=5.7km s-min=3.4km az=23.4*
*CSEM **28** 20:04:17.7±0.2, 35.80N×49.00E, h10km, mb4.2/9, Error ellipse: s-maj=7.8km s-min=5.1km az=33.0*
*THR **28** 20:04:17.7±0.7, 35.89N×49.07E, h14km±7km, ML4.2*
*NEIC **28** 20:04:17.7, 35.89N×49.06E, h14km, mb3.9/7, ML4.2(THR), After THR.*
*MOS **28** 20:04:19.8±1.3, 35.97N×48.91E, h33km, mb4.3/10, Error ellipse: s-maj=11.3km s-min=7.2km az=82.1*
*TEH **28** 20:04:19.5, 35.92N×49.13E, h5km, ML4.1*
*NNC **28** 20:04:26.1±3.3, 36.64N×49.58E, h0km, mb4.0, Error ellipse: s-maj=66.0km s-min=29.3km az=98.0*
*ISN **28** 20:05:05.5±0.3, 34.46N×47.50E, h20km, ML3.9*
ISC 28 20:04:17.6±1.1, 35.81N±0.02×49.08E±0.03, h8km±8km, n153, σ1°68/161, mb4.1/27, MS3.0/4, 22C-19D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.81**	**120**	*e

IDHR	**Dehrash**	**2.47**	**244**	*e*Pn		**Pb**	**20 05 01.6**	**-0.7**
IKFM	**Kafar-mosalman**	**2.50**	**204**	*e*			20 05 07.4	
	comp=Z,99nm,0.4s							
IKFM				*e*Pn		**Pb**	**20 05 02.8**	**+0.1**
IGHG	**Ghaleghazi**	**2.53**	**235**	*e*			20 05 12.9	
	comp=Z,10μm,0.3s							
IGHG				*e*Pn		**Pb**	**20 05 03.7**	**+0.2**
LRK	**Lerik**	**2.89**	**348**	⇓P		**Pn**	**20 05 05.3**	**+1.3**
	SNR=30							
LRK				⇑S		**Sb**	**20 05 47.6**	**+2.7**
LRK	**Lerik**	**2.89**	**348**	P		**Pn**	**20 05 05.3**	**+1.3**
	SNR=30							
LKRN	**Lenkeran, Azer**	**2.90**	**355**	⇑P		**Pn**	**20 05 03.8**	**-0.2**
	SNR=7.6							
LKRN				⇑S		**Sb**	**20 05 47.6**	**+2.4**
LKRN	**Lenkeran, Azer**	**2.90**	**355**	P		**Pn**	**20 05 03.8**	**-0.2**
	SNR=7.6							
IHRS	**Heris**	**2.98**	**328**	*e*			20 05 57.0	
	comp=Z,8μm,0.4s							
IHRS				*e*Pn		**Pn**	**20 05 06.0**	**+0.6**
IFIR	**Firoozkooh**	**3.00**	**92**	*e*			20 05 57.5	
	comp=Z,6μm,0.2s							
IFIR				*e*Pn		**Pn**	**20 05 07.9**	**+2.3**
IKLH	**Kolahrood**	**3.23**	**140**	*e*Pn		Pn	20 05 13.0	+4.1
IKLH				*e*			20 05 24.7	
	comp=Z,3μm,0.2s							
IKLH	**Kolahrood**	**3.23**	**140**	*e*Pn		Pn	20 05 13.0	+4.1
IPIR	**Pirpir**	**3.46**	**154**	*e*Pn		**Pn**	**20 05 14.4**	**+2.3**
IPIR				*e*			20 06 22.8	
	comp=Z,3μm,0.3s							
IPIR	**Pirpir**	**3.46**	**154**	*e*Pn		**Pn**	**20 05 14.4**	**+2.3**
GLBA	**Clilabad**	**3.47**	**351**	⇑P		**Pn**	**20 05 12.7**	**+0.9**
	SNR=23							
GLBA				⇓S		**Sb**	**20 06 02.5**	**+1.0**
GLBA	**Clilabad**	**3.47**	**351**	P		**Pn**	**20 05 12.7**	**+0.9**
	SNR=23							
IBDR	**Badra**	**3.75**	**225**	*e*PG		Pg	20 05 38.5	+9.1
IBDR				*e*SG		**Sn**	**20 06 01.6**	**+1.7**
IKRK	**Kirkuk**	**3.88**	**265**	*e*SG		**Sg**	**20 06 26.7**	**+4.5**
IKRK				*e*Sg		Sb	20 06 27.0	+14
IMRD	**Marand**	**3.95**	**318**	*e*Pn		**Pn**	**20 05 20.0**	**+1.3**
IMRD				*e*			20 06 00.2	
	comp=Z,3μm,0.3s							
IMRD	**Marand**	**3.95**	**318**	*e*Pn		**Pn**	**20 05 20.0**	**+1.3**
SAAT	**Saatly**	**4.08**	**353**	⇑P		Pb	20 05 25.7	-3.9
	SNR=5.4							
SAAT				⇑S		**Sn**	**20 06 13.6**	**+5.6**
SAAT	**Saatly**	**4.08**	**353**	P		Pb	20 05 25.7	-3.9
	SNR=5.4							
ALIB	**Äli-Bayra**	**4.14**	**359**	⇓P		**Pn**	**20 05 21.8**	**+0.8**
	SNR=3.2							
ALIB	**Äli-Bayra**	**4.14**	**359**	P		**Pn**	**20 05 21.8**	**+0.8**
	SNR=3.2							
NAX	**Nakhchivan**	**4.40**	**321**	⇓P		**Pb**	**20 05 37.1**	**+1.9**
	SNR=7.9							
NAX				⇑S		**Sb**	**20 06 33.3**	**+4.9**
BRDA	**Brd**	**4.69**	**342**	⇓P		Pn	20 05 33.1	+4.5
	SNR=5.1							
BRDA	**Brd**	**4.69**	**342**	P		Pn	20 05 33.1	+4.5
	SNR=5.1							
PQL	**Pirkuli**	**4.98**	**356**	⇑P		**Pn**	**20 05 33.8**	**+1.0**
	SNR=6.7							
PQL				⇑S		**Sn**	**20 06 36.0**	**+5.3**
PQL	**Pirkuli**	**4.98**	**356**	P		**Pn**	**20 05 33.8**	**+1.0**
	SNR=6.7							
IML	**Ismayilli**	**5.02**	**352**	⇓P		**Pn**	**20 05 33.2**	**-0.1**
	SNR=3.5							
IML	**Ismayilli**	**5.02**	**352**	P		**Pn**	**20 05 33.2**	**-0.1**
	SNR=3.5							
ATGJ	**Altiaghaj**	**5.04**	**359**	⇓P		**Pn**	**20 05 35.8**	**+2.2**
ATGJ				⇑S		**Sn**	**20 06 32.8**	**+0.7**
ATGJ	**Altiaghaj**	**5.04**	**359**	P		**Pn**	**20 05 35.8**	**+2.2**
ATGJ				S		**Sn**	**20 06 32.8**	**+0.7**
GANJ	**Ganja**	**5.29**	**337**	⇑P		**Pn**	**20 05 38.9**	**+1.9**
	SNR=5.3							
GANJ				⇑S		**Sb**	**20 06 55.4**	**+1.4**
GANJ	**Ganja**	**5.29**	**337**	P		**Pn**	**20 05 38.9**	**+1.9**
	SNR=5.3							
NSR	**Nassriya**	**5.38**	**208**	*e*PN		Pb	20 05 46.8	-5.1
NSR				*e*SN		Sn	20 06 30.8	-9.5
GNI	**Garni**	**5.52**	**323**	Pn		**Pn**	**20 05 39.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=220,slow=17,SNR=2.4							
GNI				Pg		**Pb**	**20 05 55.7**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=348,slow=1.8,SNR=6.4							
GNI				Lg		Lg	20 07 10.2	
	comp=Z,0.9nm,0.3s,baz=198,slow=19,SNR=1.7							
GNI				LR		LR	20 07 59.7	
	comp=Z,147nm,18.9s,baz=109,slow=41							
QUBA	**Quba, Azerbaij**	**5.55**	**355**	⇑P		**Pn**	**20 05 41.9**	**+1.4**
	SNR=3.0							
QUBA				⇓S		**Sn**	**20 06 48.4**	**+3.8**
QUBA	**Quba, Azerbaij**	**5.55**	**355**	P		**Pn**	**20 05 41.9**	**+1.4**
	SNR=3.0							
SEKA	**Sheki**	**5.59**	**345**	⇓P		**Pn**	**20 05 43.1**	**+2.1**
	SNR=5.6							
SEKA	**Sheki**	**5.59**	**345**	P		**Pn**	**20 05 43.1**	**+2.1**
	SNR=5.6							
QZX	**Qazax, Azerbai**	**5.99**	**332**	⇓P		Pn	20 05 51.4	+4.9
	SNR=3.3							
ZKTA	**Zakatala**	**6.12**	**342**	⇑P		**Pn**	**20 05 51.2**	**+2.8**
	SNR=3.7							
DGRG	**David-gareji**	**6.33**	**334**	P		**Pb**	**20 06 09.2**	**+1.2**
DGRG				S		**Sg**	**20 07 38.0**	**-2.8**
GEYT	**Alibeck**	**7.55**	**71**	Pn		**Pn**	**20 06 09.1**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=258,slow=14,SNR=15							
GEYT				Sn		**Sn**	**20 07 38.5**	**+4.9**
	comp=Z,0.1nm,0.3s,baz=289,slow=20,SNR=2.3							
NEY	**Neytrino**	**8.90**	**328**	*e*P		Pn	20 06 32.9	+6.3
KIV	**Kislovodsk**	**9.50**	**331**	*e*P		Pn	20 06 38.5	+3.8
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
RAYN	**Ar Rayn**	**12.63**	**195**	*e*P		**Pn**	**20 07 15.6**	**-2.1**
	comp=Z,12nm,0.6s							
EIL	**Elat**	**13.37**	**247**	LR		LR	20 13 30.9	
	comp=Z,66nm,20.2s,baz=73,slow=42							
AB31	**Akbulak array**	**15.62**	**27**	P		**Pn**	**20 07 54.1**	**-3.8**
	comp=Z,2.6nm,0.8s,baz=211,slow=12,SNR=17							
AB31				S		Sn	20 10 41.2	-10
	comp=Z,0.7nm,0.5s,baz=202,slow=21,SNR=4.2							
ABKAR	**Akbulak array**	**15.62**	**27**	*e*P		**Pn**	**20 07 54.4**	**-3.5**
	comp=Z,1.1nm,0.4s							
AKTO	**Aktyubinsk**	**15.99**	**21**	⇓P		**Pn**	**20 07 58.9**	**-3.8**
	comp=Z,7.2nm,0.8s							
AKTO				⇑S		Sn	20 10 48.2	-12
	comp=Z,2.7nm,0.6s							
AKTO	**Aktyubinsk**	**15.99**	**21**	Pn		**Pn**	**20 07 59.9**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=190,slow=16,SNR=7.4							
AKTO				Sn		Sn	20 10 52.2	-7.8
	comp=Z,0.4nm,0.3s,baz=99,slow=19,SNR=7.1							
AKTO				LR		LR	20 16 12.3	
	comp=Z,42nm,20.1s,baz=210,slow=45							
KK31	**Karatay Array**	**18.05**	**60**	P		**Pn**	**20 08 28.4**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=255,slow=15,SNR=16							
KK31	**Karatay Array**	**18.05**	**60**	P		**Pn**	**20 08 28.4**	**-0.4**
	comp=Z,1.4nm,0.7s,SNR=16							
KKAR	**Karatay Array**	**18.05**	**60**	*e*P		**Pn**	**20 08 28.4**	**-0.4**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**18.05**	**60**	*e*P		**Pn**	**20 08 28.4**	**-0.4**
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**18.05**	**60**	*e*P		**Pn**	**20 08 28.4**	**-0.4**
	comp=Z,4.0nm,0.9s							
IDI	**Anoyia**	**19.68**	**276**	P		**P**	**20 08 45.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=196,slow=18,SNR=2.4							
MLR	**Muntele Rosu**	**19.98**	**306**	P		**P**	**20 08 48.2**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=120,slow=18,SNR=2.8							
DOPR	**Dopca**	**20.51**	**307**	⇑*i*P		**P**	**20 08 57.9**	**+1.8**
DOPR	**Dopca**	**20.51**	**307**	⇑*i*P		**P**	**20 08 57.9**	**+1.8**
AKASG	**Malin Array Be**	**20.65**	**322**	P		**P**	**20 08 55.1**	**-2.4**
	comp=Z,0.9nm,0.5s,baz=133,slow=10,SNR=7.4							
AAK	**Ala-Archa**	**20.79**	**63**	P		**P**	**20 08 59.7**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=237,slow=8.0,SNR=6.5							
AAK				LR		LR	20 18 49.6	
	comp=Z,42nm,18.8s,baz=238,slow=42							
AAK	**Ala-Archa**	**20.79**	**63**	*ce*P		**P**	**20 09 00.7**	**+1.4**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
OBN	**Obninsk**	**21.14**	**340**	⇓*e*P		**P**	**20 09 01.5**	**-1.2**
OBN				*e*			20 09 25.0	
OBN				*e*S		Sn	20 13 02.9	-1.5
OBN				pmax		pmax		
	comp=Z,26nm,1.7s							
OBN				MLR		MLR		
	comp=Z,45nm,20.0s							
OBN	**Obninsk**	**21.14**	**340**	*e*P		**P**	**20 09 01.5**	**-1.2**
	comp=Z,26nm,1.7s							

BURAR	**Bucovina Array**	**21.27**	**311**	⇓*i*P		**P**	**20 09 07.4**	**+3.1**
BUR08	**Bucovina Ar. S**	**21.29**	**311**	P		**P**	**20 09 03.9**	**-0.7**
BUR08	**Bucovina Ar. S**	**21.29**	**311**	P		**P**	**20 09 03.9**	**-0.7**
MOS	**Moscow**	**21.41**	**342**	*e*P		**P**	**20 09 04.4**	**-1.3**
MOS				pmax		pmax		
	comp=Z,38nm,1.0s							
MOS	**Moscow**	**21.41**	**342**	*e*P		**P**	**20 09 04.4**	**-1.3**
	comp=Z,38nm,1.0s							
ARU	**Arti**	**21.60**	**14**	*d*i*P*		**P**	**20 09 08.3**	**+0.6**
ARU							20 09 26.4	
ARU				S		**PcP**	**20 13 09.1**	**-0.2**
ARU				SS		**SnSn**	**20 13 31.7**	**+1.0**
ARU				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ARU	**Arti**	**21.60**	**14**	*e*P		**P**	**20 09 07.6**	**-0.1**
	comp=Z,7.9nm,0.8s							
ARU	**Arti**	**21.60**	**14**	PcP		**PcP**	**20 13 09.1**	**-0.2**
ARU	**Arti**	**21.60**	**14**	*e*P		**P**	**20 09 07.6**	**-0.1**
	comp=Z,7.9nm,0.8s							
TKM2	**Tokmak 2**	**21.64**	**63**	*e*P		**P**	**20 09 09.0**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,4.0nm,0.9s							
TKM2	**Tokmak 2**	**21.64**	**63**	*e*P		**P**	**20 09 09.0**	**+0.5**
	comp=Z,3.6nm,0.9s							
TKM2	**Tokmak 2**	**21.64**	**63**	*e*P		**P**	**20 09 09.0**	**+0.5**
	comp=Z,3.6nm,0.9s							
SVE	**Sverdlovsk**	**22.42**	**17**	*e*P		**P**	**20 09 17.1**	**+0.6**
SVE	**Sverdlovsk**	**22.42**	**17**	*e*P		**P**	**20 09 17.1**	**+0.6**
DRGR		**22.54**	**307**	⇓*i*P		P	20 09 28.4	+10
BRVK	**Borovoye**	**22.80**	**34**	⇑P		**P**	**20 09 20.9**	**+0.3**
	comp=Z,7.9nm,1.0s							
BRVK	**Borovoye**	**22.80**	**34**	*ce*P		**P**	**20 09 22.8**	**+2.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BRVK	**Borovoye**	**22.80**	**34**	P		**P**	**20 09 20.9**	**+0.3**
	comp=Z,7.9nm,1.0s							
BRVK	**Borovoye**	**22.80**	**34**	*e*P		**P**	**20 09 21.4**	**+0.7**
	comp=Z,5.4nm,0.9s							
BVA0	**Borovoye Array**	**22.83**	**34**	P		**P**	**20 09 20.7**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=224,slow=12,SNR=28							
BVA0	**Borovoye Array**	**22.83**	**34**	P		**P**	**20 09 20.7**	**-0.2**
	comp=Z,5.8nm,0.8s,SNR=28							
BVAR	**Bovoye Array**	**22.83**	**34**	P		**P**	**20 09 20.2**	**-0.7**
	comp=Z,4.2nm,0.7s,baz=222,slow=9.2,SNR=31							
KOLS	**Kolonicke sedl**	**23.60**	**312**	*e*P		**P**	**20 09 28.6**	**-0.2**
KOLS	**Kolonicke sedl**	**23.60**	**312**	*e*P		**P**	**20 09 28.6**	**-0.2**
KOLS	**Kolonicke sedl**	**23.60**	**312**	*e*P		**P**	**20 09 28.6**	**-0.2**
DIVS	**Divibare**	**23.69**	**299**	⇓*i*P		P	20 09 35.8	+6.0
CRVS	**Cervenica-Dubn**	**24.08**	**311**	*e*P		P	20 09 40.0	+6.6
CRVS	**Cervenica-Dubn**	**24.08**	**311**	*es*P		P	20 09 40.0	+6.6
PKSM	**Moragy**	**25.07**	**304**	⇓*i*P		**P**	**20 09 43.2**	**+0.9**
PKSM	**Moragy**	**25.07**	**304**	⇓*i*P		**P**	**20 09 43.2**	**+0.9**
KLMR	**Klimovskoe**	**25.80**	**349**	*e*P		**P**	**20 09 47.3**	**-1.5**
KLMR				pmax		pmax		
	comp=Z,26nm,1.5s							
KLMR	**Klimovskoe**	**25.80**	**349**	*e*P		**P**	**20 09 47.3**	**-1.5**
	comp=Z,26nm,1.5s							
KURBB	**Kurchatov Arra**	**25.86**	**46**	P		**P**	**20 09 50.5**	**+1.0**
	comp=Z,1.2nm,0.2s,baz=250,slow=9.4,SNR=16							
PRGR	**Permogore**	**25.94**	**356**	P		**P**	**20 09 47.2**	**-2.8**
PRGR				pmax		pmax		
	comp=Z,18nm,0.7s							
KURK	**Kurchatov**	**25.95**	**46**	P		**P**	**20 09 50.5**	**+0.2**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**25.95**	**46**	P		**P**	**20 09 50.5**	**+0.2**
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**25.95**	**46**	*e*P		**P**	**20 09 51.4**	**+1.1**
	comp=Z,4.1nm,0.9s							
MK31	**Makanchi Array**	**27.07**	**56**	*e*P		**P**	**20 10 01.4**	**+0.9**
MK31	**Makanchi Array**	**27.07**	**56**	*e*P		**P**	**20 10 01.4**	**+0.9**
MK31	**Makanchi Array**	**27.07**	**56**	*e*P		**P**	**20 10 01.4**	**+0.9**
MKAR	**Makanchi Array**	**27.07**	**56**	P		**P**	**20 10 01.5**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=256,slow=12,SNR=8.4							
GERES	**GERESS Array B**	**28.94**	**308**	P		**P**	**20 10 17.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=106,slow=7.2,SNR=3.3							
FINES	**FINESS Array B**	**29.50**	**338**	P		**P**	**20 10 20.3**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=154,slow=11,SNR=6.8							
ZAA0	**Zalesovo Array**	**30.70**	**43**	*e*P		**P**	**20 10 32.9**	**+0.2**
ZAA0	**Zalesovo Array**	**30.70**	**43**	*e*P		**P**	**20 10 32.9**	**+0.2**
ZALV	**Zalesovo Beam**	**30.70**	**43**	P		**P**	**20 10 32.4**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=250,slow=9.1,SNR=11							
NOA	**NORSAR Array B**	**34.79**	**328**	P		**P**	**20 11 06.0**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=122,slow=8.5,SNR=2.9							
NOA				LR		LR	20 27 00.7	
	comp=Z,32nm,18.1s,baz=30,slow=39							
ARCES	**ARCESS Array B**	**36.16**	**346**	P		**P**	**20 11 19.4**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=134,slow=3.5,SNR=4.8							
ESDC	**Sonseca Array**	**41.62**	**292**	P		**P**	**20 12 04.0**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=66,slow=7.7,SNR=5.4							
ESDC	**Sonseca Array**	**41.62**	**292**	P		**P**	**20 12 04.0**	**-2.2**
ULN	**Ulaanbaatar**	**43.87**	**55**	*ce*P		**P**	**20 12 26.3**	**+1.8**
ULN				pmax		pmax		
	comp=Z,5.0nm,2.5s							
ULN	**Ulaanbaatar**	**43.87**	**55**	*e*P		**P**	**20 12 26.3**	**+1.8**
	comp=Z,5.0nm,2.5s							
SPITS	**Spitsbergen Ar**	**44.68**	**351**	P		**P**	**20 12 30.1**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=124,slow=7.5,SNR=8.3							
CMAR	**Chiang Mai Arr**	**47.11**	**98**	P		**P**	**20 12 50.4**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=294,slow=8.8,SNR=3.0							
TORD	**Torodi Ar. Bea**	**48.10**	**254**	P		**P**	**20 12 57.3**	**-0.8**
	comp=Z,1.0nm,1.1s,baz=59,slow=5.9,SNR=4.1							
TIXI	**Tiksi**	**53.26**	**23**	*ce*P		**P**	**20 13 36.2**	**0.0**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TIXI	**Tiksi**	**53.26**	**23**	*e*P		**P**	**20 13 36.3**	**0.0**
	comp=Z,2.5nm,0.8s							
KSAR	**Wonju Array Be**	**61.43**	**63**	P		**P**	**20 14 35.0**	**+0.6**
KSAR	**Wonju Array Be**	**61.43**	**63**	P		**P**	**20 14 35.0**	**+0.6**
KSRS	**Korea Array**	**61.45**	**63**	P		**P**	**20 14 35.0**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=294,slow=8.4,SNR=3.2							
KSRS	**Korea Array**	**61.45**	**63**	P		**P**	**20 14 35.0**	**+0.4**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**61.52**	**54**	P		**P**	**20 14 34.4**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=303,slow=6.9,SNR=4.2							
SEY	**Seymchan**	**64.38**	**30**	*e*P		**P**	**20 14 55.3**	**+1.7**
BILL	**Bilibino**	**66.42**	**21**	⇓*e*P		**P**	**20 15 07.5**	**+0.7**
BILL				*e*			20 15 37.2	
BILL				*e*			20 17 36.0	
BILL				pmax		pmax		
	comp=Z,7.0nm,2.5s							
YSS	**Yuzh-Sakhalins**	**67.13**	**48**	*e*P		**P**	**20 15 12.0**	**+0.4**
PETK	**Petropavlovsk-**	**72.04**	**37**	LR		LR	20 48 53.5	
	comp=Z,53nm,21.0s,baz=139,slow=37							
ILAR	**Eielson Array**	**78.96**	**7**	P		**P**	**20 16 20.0**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=330,slow=5.2,SNR=3.2							

***M*ϕϕ2.17±.33; Best double couple: *M*ϕ4.17100×10^16 *NP1*:ϕs195.00000°,δ60.00000°,λ-136.00000°. *NP2*: ϕs79.00000°,δ53.00000°,λ-39.00000°. Principal axes: T 3.7820, Plg4.0000°, Azm316.0000°; N 0.7880, Plg38.0000°, Azm222.0000°; P -4.5600, Plg52.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.**

ISCJB 28 20:11:28.3±0.3, 15°.05S±0°.08×173°.55W±0°.09, h30km, mb4.7/30, MS4.2/24 Error ellipse: s-maj=13.9km s-min=8.8km az=40.0

ISC 28 20:11:30.5±0.4, 15°.1S±0°.1×173°.4W±0°.1, h30km, n135, σ1.9s/105/102, mb4.8/29, MS4.2/24, 20C-21D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.99**	**54**	*e*Pn		Pn	20 11 53.9	-8.4
MSVF	**Nonsavu**	**8.58**	**251**	*e*P		Pn	20 13 39.7	+7.0
	215nm,1.3s							
DZM	**Mont Dzumac**	**20.28**	**247**	*e*P		Pn	20 16 13.5	+7.4
	146nm,1.6s							
DZM				*e*LR		LR	20 21 10.4	
	716nm,25.9s							
PPT	**Papeete**	**23.03**	**99**	LR		LR	20 23 44.1	
	comp=Z,207nm,18.6s,baz=272,slow=32							
PAE	**Paea**	**23.04**	**100**	*e*T		T	20 39 47.7	
	6.2nm,0.3s							
PPT2	**Papeete2**	**23.04**	**99**	*e*LQ		LQ	20 20 57.8	
	3μm,26.8s							
PPT2				*e*LR		LR	20 21 39.6	
	1μm,29.5s							
TBI	**Tubuai**	**24.07**	**114**	*e*LQ		LQ	20 21 26.6	
	2μm,26.5s							
TBI				*e*LR		LR	20 22 11.3	
	1μm,31.0s							
TBI	**Tubuai**	**24.07**	**114**	*e*T		T	20 41 15.0	
	14nm,0.2s							
URZ	**Urewera**	**24.55**	**198**	P		**P**	**20 16 46.5**	**-1.1**
	7.4nm,0.6s,baz=63,slow=4.5,SNR=4.8							
URZ				LR		LR	20 25 18.8	
	comp=Z,983nm,20.9s,baz=16,slow=34							
URZ	**Urewera**	**24.55**	**198**	*e*P		**P**	**20 16 46.3**	**-1.3**
PMOR	**Pomariorio Ree**	**24.67**	**93**	*e*P		**P**	**20 16 47.5**	**-1.4**
	80nm,1.3s							
PMOR	**Pomariorio Ree**	**24.67**	**93**	*e*T		T	20 41 46.8	
	4.7nm,0.2s							
VAH	**Vaihoa**	**24.91**	**94**	*e*P		**P**	**20 16 49.5**	**-1.7**
	46nm,1.1s							
RPZ	**Rata Peaks**	**31.46**	**202**	P		**P**	**20 17 50.6**	**+1.2**
	5.0nm,0.6s,baz=350,slow=6.1,SNR=2.8							
TAOE	**Nuku Hiva Isla**	**33.13**	**83**	*e*T		T	20 52 14.7	
	150nm,0.3s							
RKT	**Rikitea**	**37.13**	**108**	*e*LQ		LQ	20 27 06.8	
	456nm,27.5s							
RKT				*e*LR		LR	20 28 14.1	
	548nm,29.2s							
H11S2	**WAKE ISLAND Hy**	**38.67**	**329**	T		T	21 00 02.1	
	baz=144,slow=74							
H11S3	**WAKE ISLAND Hy**	**38.69**	**329**	T		T	21 00 38.8	
	baz=144,slow=74							
H11S1	**WAKE ISLAND Hy**	**38.69**	**329**	T		T	21 00 25.0	
	baz=144							
H11N3	**WAKE ISLAND Hy**	**39.62**	**330**	T		T	21 01 33.0	
	baz=148							
H11N1	**WAKE ISLAND Hy**	**39.62**	**330**	T		T	21 01 35.1	
	baz=148,slow=74							
H11N2	**WAKE ISLAND Hy**	**39.64**	**330**	T		T	21 01 34.4	
	baz=148,slow=74							
STKA	**Stephens Creek**	**44.16**	**240**	P		**P**	**20 19 36.5**	**-0.2**
	6.0nm,0.8s,baz=68,slow=5.9,SNR=5.0							
STKA				LR		LR	20 36 17.6	
	comp=Z,233nm,18.2s,baz=172,slow=34							
STKA	**Stephens Creek**	**44.16**	**240**	*e*P		**P**	**20 19 37.2**	**+0.5**
JAY	**Jayapura**	**46.89**	**281**	LR		LR	20 38 15.9	
	comp=Z,309nm,20.2s,baz=204,slow=34							
WRAB	**Tennant Creek**	**49.87**	**257**	*e*P		**P**	**20 20 19.2**	**-2.3**
WRA	**Warramunga Arr**	**49.88**	**257**	P		**P**	**20 20 19.5**	**-2.0**
	2.2nm,0.6s,baz=90,slow=6.9,SNR=22							
GUMO	**Guam**	**50.13**	**303**	LR		LR	20 39 20.3	
	comp=Z,114nm,19.3s,baz=108,slow=33							
AS31	**Alice Springs**	**50.17**	**252**	*e*P		**P**	**20 20 21.7**	**-2.0**
ASAR	**Alice Springs**	**50.17**	**252**	P		**P**	**20 20 21.9**	**-1.8**
	16nm,0.7s,baz=87,slow=7.9,SNR=65							
ASAR				LR		LR	20 40 27.9	
	comp=Z,231nm,18.1s,baz=93,slow=35							
BATI	**Baumata**	**61.39**	**266**	LR		LR	20 47 08.0	
	comp=Z,235nm,18.9s,baz=110,slow=35							
SBA	**Scott Base**	**63.56**	**185**	*e*P		**P**	**20 21 59.2**	**+1.4**
	6.2nm,0.8s							
VNDA	**Vanda**	**63.68**	**186**	P		**P**	**20 21 59.1**	**+0.5**
	3.7nm,0.9s,baz=3.3,slow=5.6,SNR=18							
VNDA				LR		LR	20 43 47.0	
	comp=Z,97nm,21.2s,baz=360,slow=30							
VNDA	**Vanda**	**63.68**	**186**	*e*P		**P**	**20 21 59.6**	**+1.0**
	3.5nm,0.8s							
MJAR	**Matsushiro Arr**	**68.67**	**320**	P		**P**	**20 22 31.3**	**+0.1**
	1.3nm,0.8s,baz=156,slow=6.2,SNR=5.0							
ASAJ	**Asahikawa**	**71.25**	**328**	LR		LR	20 48 02.0	
	comp=Z,116nm,21.7s,baz=184,slow=31							
PFO	**Pinyon Flats O**	**72.74**	**47**	LR		LR	20 46 45.4	
	comp=Z,256nm,20.6s,baz=311,slow=29							
LPIG	**La Pa

ACSO	**Alum Creek Sta**	**99.92**	**51**	*e*Pdif	**Pdif**	**20 25 13.0**	**+0.3**
	23nm,0.7s								
ARCES	**ARCESS Array B**	**124.29**	**352**	PKP	**PKPdf**	**20 30 25.8**	**0.0**
	5.0nm,0.9s,baz=345,slow=4.1,SNR=3.8								
AKTO	**Aktyubinsk**	**125.71**	**322**	PKP	**PKPdf**	**20 30 29.6**	**+0.5**
	0.8nm,0.7s,baz=132,slow=3.2,SNR=3.6								
MALT	**Malatya**	**143.61**	**316**	*i*P	**PKPdf**	**20 31 03.1**	**+0.2**
BRG	**Berggiesshubel**	**143.81**	**352**	*e*(P)	**PKPdf**	**20 31 03.8**	**+1.1**
	1.3nm,0.8s								
DPC	**Dobruska-Polom**	**143.95**	**349**	*e*PKP	PKPbc	20 31 01.1	+0.2
DPC				*ep*PKP	pPKPdf	20 31 10.5	-2.5
BURAR	**Bucovina Array**	**144.06**	**338**	*i*P	**PKPdf**	**20 31 06.5**	**+3.1**
OKC	**Ostrava-Krasne**	**144.08**	**347**	*e*PKP	**PKPdf**	**20 31 02.7**	**-0.5**
OKC				*ep*PKP	**PKiKP**	**20 31 07.7**	**+0.9**
KRLC	**Kraliky**	**144.12**	**349**	*e*PKP	PKPbc	20 31 01.6	+0.2
KRLC				*ep*PKP	**PKiKP**	**20 31 08.9**	**+2.0**
MORC	**Moravsky Berou**	**144.26**	**348**	*e*PKPdf	PKPbc	20 31 02.1	+0.2
TESR	**Tescani**	**144.45**	**336**	*i*P	**PKPdf**	**20 31 04.2**	**+0.2**
TRPA	**Tarpa**	**144.50**	**341**	*i*P	**PKPdf**	**20 31 04.2**	**+0.2**
PRA	**Prague**	**144.52**	**351**	*e*PKP	**PKPdf**	**20 31 04.7**	**+0.7**
PRA				*ex*	x	20 31 10.8			
PRU	**Pruhonice**	**144.59**	**351**	*e*PKP	**PKPdf**	**20 31 04.7**	**+0.6**
PRU				*ep*PKP	**PKiKP**	**20 31 10.2**	**+2.4**
GOPC	**GO Pecny, Ondr**	**144.62**	**351**	*e*PKP	**PKPdf**	**20 31 03.7**	**-0.5**
GOPC				*ep*PKP	**PKiKP**	**20 31 09.7**	**+1.8**
VRAC	**Vranov**	**144.90**	**349**	*i*P	**PKPdf**	**20 31 06.1**	**+1.4**
VRI	**Vrincioaia**	**144.94**	**335**	*i*P	**PKPdf**	**20 31 05.7**	**+0.8**
PLOR	**Plostina**	**144.99**	**335**	*i*P	PKPbc	20 31 04.6	+0.3
TREC	**Trest**	**145.11**	**350**	*e*PKP	**PKPbc**	**20 31 03.3**	**-1.3**
TREC				*ep*PKP	**PKiKP**	**20 31 09.1**	**+0.2**
TIRR	**Tirgusor**	**145.34**	**332**	*i*P	**PKPdf**	**20 31 06.5**	**+0.9**
DOPR	**Dopca**	**145.39**	**337**	*i*P	**PKPab**	**20 31 06.6**	**+0.9**
CJR	**Cluj-Napoca**	**145.40**	**339**	*i*P	**PKPdf**	**20 31 05.7**	**0.0**
TLB	**Topalu**	**145.41**	**333**	*i*P	**PKPab**	**20 31 06.9**	**+1.1**
PSZ	**Piszkesteto**	**145.45**	**344**	*i*P	**PKPab**	**20 31 07.1**	**+1.1**
PSZ	**Piszkesteto**	**145.45**	**344**	*e*PKPdf	**PKPab**	**20 31 05.9**	**-0.1**
PSZ	**Piszkesteto**	**145.45**	**344**	*e*PKPbc	**PKPab**	**20 31 06.9**	**+0.9**
KHC	**Kasperske Hory**	**145.56**	**352**	*e*PKP	**PKPab**	**20 31 06.5**	**+0.2**
KHC				*ex*	x	20 31 12.5			
MLR	**Muntele Rosu**	**145.57**	**336**	*i*P	**PKPab**	**20 31 07.4**	**+0.9**
MLR	**Muntele Rosu**	**145.57**	**336**	PKPbc	**PKPab**	**20 31 07.5**	**+0.9**
	1.9nm,0.8s,baz=0.3,slow=2.5,SNR=16								
ISR	**Istrita**	**145.63**	**335**	*i*P	**PKPab**	**20 31 09.5**	**+2.8**
DRGR		**145.63**	**340**	*i*P	**PKPbc**	**20 31 06.5**	**+0.1**
GERES	**GERESS Array B**	**145.83**	**352**	PKPbc	**PKPdf**	**20 31 06.6**	**+0.2**
	2.9nm,0.9s,baz=14,slow=2.8,SNR=24								
BR131	**Keskin Array S**	**145.89**	**321**	*e*PKPbc	**PKPab**	**20 31 07.9**	**-0.1**
BRTR	**Keskin Array B**	**145.89**	**321**	PKPbc	**PKPab**	**20 31 08.2**	**+0.2**
	8.1nm,0.8s,baz=112,slow=2.3,SNR=25								
VOIR		**145.96**	**336**	*i*P	**PKPab**	**20 31 08.2**	**+0.2**
ARR	**Arges**	**146.18**	**337**	*i*P	**PKPab**	**20 31 09.7**	**+0.9**
ANTO	**Ankara**	**146.30**	**322**	*i*P	**PKPab**	**20 31 09.4**	**0.0**
PKSG		**146.32**	**345**	*e*PKPdf	**PKPbc**	**20 31 08.7**	**+0.4**
CONA	**Conrad Observa**	**146.36**	**349**	*i*pPKPdf	**PKPab**	**20 31 09.2**	**-0.2**
	34nm,1.7s,SNR=14								
CSKK	**Cs˙ákako**	**146.38**	**346**	*e*PKPdf	**PKPdf**	**20 31 06.5**	**-0.8**
PKSN	**Nyarlorinc**	**146.39**	**343**	*e*PKPdf	**PKPab**	**20 31 10.5**	**+1.1**
LOT	**Lotru**	**146.43**	**338**	*i*P	**PKPdf**	**20 31 06.2**	**-1.4**
PKS7	**Kunszentmiklos**	**146.45**	**344**	*e*PKPdf	**PKPbc**	**20 31 08.7**	**0.0**
SOP	**Sopron**	**146.45**	**348**	*e*PKPdf	**PKPab**	**20 31 11.2**	**+1.6**
MOA	**Molln**	**146.71**	**351**	*i*pPKPdf	**PKPbc**	**20 31 10.0**	**+0.5**
	8.5nm,1.1s								
PKS6	**Bocsa**	**146.75**	**344**	*e*PKPdf	**PKPab**	**20 31 10.5**	**-0.3**
BFO	**Black Forest**	**146.82**	**358**	*e*PKPbc	**PKPbc**	**20 31 10.3**	**+0.4**
PKS2	**Kecel**	**146.94**	**344**	*e*PKPdf	**PKPab**	**20 31 11.1**	**-0.5**
ECH	**Echery**	**146.96**	**359**	*e*PKPbc	**PKPbc**	**20 31 10.5**	**+0.3**
BZS	**Buzias**	**147.03**	**340**	*i*P	**PKPbc**	**20 31 11.0**	**+0.6**
ARSA	**Arzberg**	**147.07**	**349**	*i*PKPbc	**PKPdf**	**20 31 08.4**	**0.0**
	16nm,1.6s,SNR=6.3								
PKS9	**Tamasi**	**147.10**	**345**	*e*PKPdf	**PKPab**	**20 31 11.8**	**-0.4**
PKSM	**Moragy**	**147.35**	**344**	*i*P	**PKPdf**	**20 31 09.1**	**+0.2**
RETA	**Reutte**	**147.50**	**355**	*i*PKPab	**PKPbc**	**20 31 12.2**	**+0.4**
	16nm,1.2s,SNR=11								
KBA	**Koelnbreinsper**	**147.60**	**351**	*i*pPKPdf	**PKPbc**	**20 31 11.2**	**-1.0**
	8.1nm,1.3s								
MOTA	**Moosalm**	**147.61**	**354**	*i*PKPab	**PKPbc**	**20 31 12.3**	**0.0**
	13nm,1.1s,SNR=6.0								
WTTA	**Wattenberg**	**147.64**	**354**	*i*PKPdf	**PKPdf**	**20 31 09.2**	**-0.5**
	16nm,1.4s								
SOKA	**Soboth**	**147.72**	**349**	*i*PKPdf	**PKPdf**	**20 31 08.0**	**-1.6**
	14nm,1.2s,SNR=5.8								
DAVA	**Damuels**	**147.78**	**356**	*i*PKPab	**PKPbc**	**20 31 13.2**	**+0.5**
	18nm,1.4s								
FETA	**Feichten**	**147.97**	**355**	*i*PKPbc	**PKPdf**	**20 31 10.7**	**+0.5**
	11nm,1.3s								
ABTA	**Abfaltersbach**	**148.04**	**352**	*i*PKPbc	**PKPdf**	**20 31 10.5**	**+0.3**
	12nm,1.0s,SNR=5.5								
DIVS	**Divibare**	**148.90**	**341**	*i*P	**PKPbc**	**20 31 16.3**	**+0.7**
VTS	**Vitosha**	**149.07**	**336**	*i*P	**PKPbc**	**20 31 16.7**	**+0.5**
MMB	**Musomiste**	**149.69**	**334**	*i*P	**PKPbc**	**20 31 18.1**	**+0.5**
BNI	**Bardonecchia**	**150.13**	**360**	*e*PKPbc	**PKPbc**	**20 31 20.1**	**+1.3**
ESDC	**Sonseca Array**	**153.83**	**19**	PKPbc	**PKPbc**	**20 31 29.4**	**+2.3**
	0.3nm,0.6s,baz=289,slow=3.9,SNR=3.0								
ESDC				PKPab	**PKPab**	**20 31 40.0**	**-0.1**
	1.4nm,0.7s,baz=321,slow=3.4,SNR=8.2								

KRSC 28 20:23:02.0±2.9, 49°.65N×157°.01E, h15km±7km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.18**	**331**	*e*S	Sb	20 23 35.3	-3.9
PAU	**Pauzhetka**	**1.82**	**356**	P	Pn	20 23 33.8	+1.0
PAU				S	Sb	20 23 57.3	-0.4
ASAK	**Asacha**	**2.79**	**11**	P	Pb	20 23 50.0	-1.7
MTVR	**Mutnovka**	**2.93**	**14**	S	Sb	20 24 27.2	-2.7
RUS	**Russkaya**	**2.94**	**18**	P	Pn	20 23 51.0	+2.8
RUS				S	Sb	20 24 28.4	-1.5
UGLR	**Uglovaya**	**3.74**	**17**	P	Pn	20 24 03.1	+3.8
AVH	**Avacha**	**3.78**	**16**	P	Pn	20 24 02.7	+2.9
KOK	**Koryaka**	**3.79**	**15**	P	Pb	20 24 04.9	-3.8
KRX	**Arik**	**3.85**	**15**	P	Pn	20 24 04.4	+3.5
GNL	**Ganaly**	**4.09**	**8**	P	Pn	20 24 08.1	+3.9
KBTR	**Krutoberegovo**	**7.45**	**26**	P	Pn	20 24 53.0	+3.0

MAN 28 20:28:13, 9°.69N×121°.92E, h21km, mb4.4, ML3.2, MS3.0, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.34**	**105**	*i*P	Pn	20 28 30.7	-5.8
SNPH				*i*	Sn	20 28 49.3	-4.5
CUYO	**Cuyo Island**	**1.46**	**323**	*e*P	Pn	20 28 33.5	-4.7
CUYO				*e*S	Sn	20 28 50.0	-6.6
PAGZ	**Pagadian**	**2.33**	**142**	*e*P	Pn	20 28 39.0	-11
ENPP	**El Nido**	**2.88**	**302**	*e*P	Pn	20 28 59.4	+1.7
MSLP	**Maasin**	**2.93**	**81**	*e*P	Pn	20 29 00.5	+2.1
BUKP	**Musuan**	**3.59**	**120**	*e*P	Pn	20 29 10.6	+3.1

*IDC **28** 20:36:06.5±1.5, 4°.30S×152°.51E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/37, mbtmp3.7/8, MS2.5/1, Ms1 2.5/1, ms1mx2.3/27, Error ellipse: s-maj=51.0km s-min=20.8km az=105.0*

*ISCJB **28** 20:36:12.7±1.4, 4°.4S±0°.1×152°.5E±0°.3, h58km, mb3.5/8, Error ellipse: s-maj=45.1km s-min=17.8km az=14.9*

ISC 28 20:36:14.4±1.5, 4°.4S±0°.2×152°.5E±0°.3, h58km, n9, σ1§06/8, mb3.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.96**	**125**	LR	LR	20 42 14.0	
	comp=Z,28nm,18.2s,slow=41						
WRA	**Warramunga Arr**	**23.50**	**227**	P	**P**	**20 41 17.7**	**-1.7**
	1.3nm,0.7s,baz=51,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**26.26**	**221**	P	**P**	**20 41 44.1**	**-0.4**
	0.7nm,0.7s,baz=54,slow=8.9,SNR=3.4						
STKA	**Stephens Creek**	**29.22**	**199**	P	**P**	**20 42 11.5**	**+0.7**
	1.1nm,0.8s,baz=8.7,slow=13,SNR=2.6						
CMAR	**Chiang Mai Arr**	**57.40**	**295**	P	**P**	**20 45 58.4**	**+0.9**
	0.4nm,0.6s,baz=108,slow=4.8,SNR=4.4						
SONM	**Songino Array**	**65.78**	**328**	P	**P**	**20 46 53.1**	**-0.6**
	0.3nm,0.7s,baz=153,slow=7.2,SNR=2.9						
MKAR	**Makanchi Array**	**79.79**	**319**	P	**P**	**20 48 17.4**	**+0.8**
	0.4nm,0.8s,baz=100,slow=5.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**80.61**	**326**	P	**P**	**20 48 20.4**	**-0.4**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.6						
ILAR	**Eielson Array**	**81.88**	**22**	P	**P**	**20 48 27.0**	**-0.3**
	0.6nm,0.7s,baz=242,slow=5.9,SNR=6.9						

*IDC **28** 20:50:49.6±1.2, 2°.01N×127°.12E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, Error ellipse: s-maj=128.4km s-min=18.7km az=70.0*

*ISCJB **28** 20:50:54.9±0.6, 1°.87N±0°.04×126°.70E±0°.06, h47km, mb3.7/5, Error ellipse: s-maj=8.8km s-min=5.0km az=151.1*

*DJA **28** 20:50:54.9±0.4, 2°.N±3°×12°.7E±°, h10km, M4.0/4, MLv4.0/4*

ISC 28 20:50:56.4±0.9, 1°.86N±0°.05×126°.72E±0°.07, h47km, n14, σ1§04/18, mb3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.26**	**149**	P	**Pn**	**20 51 16.8**	**-0.8**
TNTI				S	**Sn**	**20 51 33.2**	**-0.2**
SGSI	**Sangihe**	**2.17**	**327**	P	**Pn**	**20 51 30.5**	**+0.4**
SGSI				S	**Sn**	**20 51 54.4**	**-1.3**
LBMI	**Labuha**	**2.60**	**163**	P	**Pn**	**20 51 37.2**	**+1.2**
LBMI				S	**Sn**	**20 52 07.9**	**+1.5**
KMSI	**Cibinong**	**3.02**	**245**	P	**Pn**	**20 51 40.6**	**-1.2**
KMSI				S	**Sn**	**20 52 16.8**	**+0.1**
GTOI	**Gorontalo**	**3.90**	**252**	P	Pn	20 51 58.3	+4.4
SANI	**Sanana**	**3.95**	**191**	P	**Pn**	**20 51 53.8**	**-0.7**
SANI				S	**Sn**	**20 52 39.5**	**-0.2**
LUWI	**Luwuk**	**4.89**	**234**	P	**Pn**	**20 52 07.5**	**+0.1**
MRSI	**Marisa**	**4.97**	**254**	P	**Pn**	**20 52 08.7**	**+0.2**
MPSI	**Mapaga**	**6.99**	**258**	P	**Pn**	**20 52 38.0**	**+1.8**
WRA	**Warramunga Arr**	**22.92**	**161**	P	**P**	**20 55 54.7**	**-1.9**
	1.0nm,0.4s,baz=343,slow=10.0,SNR=19								
ASAR	**Alice Springs**	**26.32**	**165**	P	**P**	**20 56 28.1**	**+0.1**
	1.1nm,0.4s,baz=344,slow=11,SNR=21								
SONM	**Songino Array**	**49.06**	**342**	P	**P**	**20 59 39.4**	**+0.4**
	0.2nm,0.4s,baz=153,slow=8.6,SNR=5.4								
MKAR	**Makanchi Array**	**59.08**	**326**	P	**P**	**21 00 51.4**	**-0.5**
	0.4nm,0.5s,baz=125,slow=5.7,SNR=10								
ZALV	**Zalesovo Beam**	**62.24**	**334**	P	**P**	**21 01 14.0**	**+0.8**
	0.3nm,0.4s,baz=120,slow=7.2,SNR=2.6								

*IDC **28** 20:54:27.3±1.3, 1°.96N×96°.72E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/33, mbtmp3.6/6, ML2.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=24.6km s-min=18.7km az=23.0*

*ISCJB **28** 20:54:29.2±1.3, 1°.9N±0°.1×96°.7E±0°.2, h28km, mb3.5/5, MS3.7/1, Error ellipse: s-maj=27.6km s-min=15.6km az=146.4*

ISC 28 20:54:31.5±1.8, 2°.0N±0°.2×96°.8E±0°.2, h28km, n13, σ0§40/7, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.29**	**70**	Pn	**Pn**	**20 55 07.8**	**+0.1**
	0.9nm,0.3s,baz=354,slow=19,SNR=3.3								
PSI				Lg	Lg	20 55 40.6			
	5.0nm,0.3s,baz=249,slow=12,SNR=7.6								
CMAR	**Chiang Mai Arr**	**16.47**	**7**	Pn	**P**	**20 58 22.6**	**-0.7**
	baz=197,slow=11,SNR=15								
H08S2	**Diego Garcia H**	**26.05**	**248**	T	T	21 26 49.1	
	baz=69,slow=75,SNR=42								
H08S3	**Diego Garcia H**	**26.05**	**248**	T	T	21 26 50.4	
	baz=69,slow=75,SNR=40								
H08S1	**Diego Garcia H**	**26.05**	**248**	T	T	21 26 51.6	
	baz=69,slow=75,SNR=42								
H01W3	**Cape Leeuwin H**	**40.17**	**158**	T	T	21 44 52.2	
	baz=334,slow=76,SNR=4.6								
H01W2	**Cape Leeuwin H**	**40.18**	**158**	T	T	21 44 52.8	
	baz=334,slow=76,SNR=4.3								
H01W1	**Cape Leeuwin H**	**40.19**	**158**	T	T	21 44 53.4	
	baz=334,slow=76,SNR=6.4								
WRA	**Warramunga Arr**	**42.84**	**122**	P	**P**	**21 02 27.6**	**0.0**
	0.2nm,0.7s,baz=301,slow=9.1,SNR=4.2								
WRA				LR	LR	21 22 55.0			
	comp=Z,89nm,18.1s,baz=155,slow=40								
ASAR	**Alice Springs**	**44.24**	**127**	P	**P**	**21 02 38.7**	**-0.2**
	0.4nm,0.8s,baz=301,slow=8.0,SNR=3.6								
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	**21 02 55.3**	**+0.2**
	0.5nm,0.6s,baz=163,slow=6.2,SNR=6.7								
SONM	**Songino Array**	**46.39**	**9**	P	**P**	**21 02 55.9**	**+0.2**
	0.3nm,0.3s,baz=194,slow=9.8,SNR=5.2								
ZALV	**Zalesovo Beam**	**52.68**	**351**	P	**P**	**21 03 43.5**	**+0.2**
	0.8nm,0.4s,baz=176,slow=6.4,SNR=7.6								

*NNC **28** 21:21:12.2±7.3, 44°.37N×76°.37E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=50.6km s-min=31.4km az=171.0*

*KRNET **28** 21:21:17.1±0.1, 42°.10N×77°.05E, h8km, mb2.4*

ISC 28 21:21:17.2±1.2, 42°.12N±0°.09×77°.08E±0°.04, h9km±9km, n15, σ0§62/29, 22C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.08**	**79**	*e*P	**Pg**	**21 21 19.7**	**+0.1**
	baz=74								
KDJ				*e*S	**Sg**	**21 21 21.4**	**+0.1**
	baz=74								
ULHL	**Ulahol**	**0.64**	**282**	↑*i*P	**Pg**	**21 21 29.2**	**-0.4**
	baz=284								
ULHL				↑*i*S	**Sg**	**21 21 37.6**	**-0.3**
	baz=284								
BOOM	**Boomskoye usch**	**0.92**	**294**	*e*P	**Pb**	**21 21 35.4**	**-0.1**
	baz=295								
BOOM				*e*S	**Sb**	**21 21 47.9**	**0.0**
	baz=295								
KNDC	**Almaty**	**1.10**	**356**	↑P	Pg	21 21 31.2	-7.2
	2.0nm,0.3s								
KNDC				↑S	**Sb**	**21 21 53.9**	**+0.8**
	11nm,0.3s								
TKM2	**Tokmak 2**	**1.36**	**307**	↓P	**Pn**	**21 21 42.5**	**-0.1**
	0.9nm,0.2s								
TKM2				↑S	**Sb**	**21 22 00.6**	**0.0**
	3.9nm,0.3s								
TKM2	**Tokmak 2**	**1.36**	**307**	↑*i*P	**Pn**	**21 21 42.6**	**+0.1**
	baz=308								
TKM2				↑*i*S	**Sb**	**21 22 00.4**	**-0.1**
	baz=308								
KZA	**Kyzart**	**1.36**	**269**	↑*i*P	**Pb**	**21 21 42.9**	**-0.2**
	baz=270								
KZA				↑*i*S	**Sb**	**21 22 00.0**	**-0.8**
	baz=270								
KBK	**Karagaybulak**	**1.67**	**290**	↑*i*P	**Pb**	**21 21 48.5**	**+0.3**
	baz=290								
KBK				↑*i*S	**Sg**	**21 22 11.2**	**+0.3**
	baz=290								
CHMS	**Chumysh**	**1.93**	**298**	↑*i*P	**Pb**	**21 21 52.1**	**-0.5**
	baz=299								
CHMS				↑*i*S	**Sb**	**21 22 17.4**	**+0.6**
	baz=299								
AAK	**Ala-Archa**	**1.98**	**286**	↑Pn	**Pb**	**21 21 53.5**	**-0.1**
	1.0nm,0.7s								
AAK				↑Sn	**Sg**	**21 22 20.4**	**-0.5**
	2.3nm,0.4s								
AAK	**Ala-Archa**	**1.98**	**286**	↑*i*P	**Pb**	**21 21 53.6**	**0.0**
	baz=287								
AAK				↑*i*S	**Sg**	**21 22 19.9**	**-1.1**
	baz=287								
PDGK	**Podgornoye**	**2.15**	**55**	↓Pn	**Pb**	**21 21 55.7**	**-0.5**
	0.6nm,0.3s								
PDGK				↑Sn	**Sg**	**21 22 25.9**	**-0.3**
	15nm,0.7s								
EKS	**Erkin-Say**	**2.50**	**284**	*e*P	**Pb**	**21 22 03.3**	**+1.0**
	baz=284								
EKS				*e*S	**Sg**	**21 22 37.5**	**-0.1**
	baz=284								
EKS2	**Erkin-Say**	**2.51**	**284**	↑*i*P	**Pb**	**21 22 02.6**	**+0.2**
	baz=284								
EKS2				↑*i*S	**Sb**	**21 22 35.2**	**+1.8**
	baz=284								
AML	**Almayashu**	**2.52**	**271**	↑*i*P	**Pb**	**21 22 02.6**	**-0.2**
	baz=272								
AML				↑*i*S	**Sb**	**21 22 35.2**	**+1.2**
	baz=272								

IDC 28 21:33:59.6±6.3, 21°.92S×179°.51W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/27, mbtmp4.1/3, Error ellipse: s-maj=176.2km s-min=100.7km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.91**	**246**	P	P	21 41 00.2	-1.5
	3.3nm,1.0s,baz=98,slow=10,SNR=3.7								
ASAR	**Alice Springs**	**42.83**	**258**	P	P	21 41 59.4	-0.3
	0.8nm,0.5s,baz=89,slow=7.1,SNR=11								
WRA	**Warramunga Arr**	**43.02**	**264**	P	P	21 42 02.1	+0.9
	1.8nm,0.5s,baz=95,slow=8.3,SNR=68								
HFS	**Hagfors**	**140.70**	**350**	PKP	PKPdf	21 53 30.4	-0.4
	0.8nm,0.4s,baz=29,slow=3.4,SNR=5.7								

IDC 28 21:34:11.1±1.7, 51°.37S×138°.58E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/20, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=82.0km s-min=24.1km az=103.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**19.60**	**8**	P	P	21 38 40.5	-0.2
	0.2nm,0.3s,baz=202,slow=9.6,SNR=4.0								
H01W1	**Cape Leeuwin H**	**24.09**	**304**	T	T	22 05 06.1	
	baz=139,slow=75,SNR=10								
H01W2	**Cape Leeuwin H**	**24.10**	**304**	T	T	22 05 08.4	
	baz=139,slow=75,SNR=10								
H01W3	**Cape Leeuwin H**	**24.11**	**304**	T	T	22 05 06.0	
	baz=139,slow=75,SNR=12								
ASAR	**Alice Springs**	**27.89**	**351**	P	P	21 40 01.6	-0.9
	0.4nm,0.7s,baz=168,slow=10,SNR=3.6								
WRA	**Warramunga Arr**	**31.54**	**352**	P	P	21 40 35.8	+0.9
	1.3nm,0.7s,baz=174,slow=7.6,SNR=11								
MAW	**Mawson**	**38.84**	**216**	P	P	21 41 37.0	-0.2
	1.2nm,0.9s,baz=102,slow=20,SNR=2.6								
TXAR	**Lajitas Array**	**129.39**	**91**	PKP	PKPdf	21 53 21.2	-0.1
	0.2nm,0.8s,baz=216,slow=4.2,SNR=3.6								

IDC 28 21:34:28.3±42.0, 16°.59S×173°.20W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=806.5km s-min=177.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.63**	**241**	P	P	21 42 36.3	+1.6
	1.1nm,0.5s,baz=97,slow=8.6,SNR=5.1								
WRA	**Warramunga Arr**	**49.77**	**258**	P	P	21 43 22.1	-1.0
	0.8nm,0.8s,baz=100,slow=7.7,SNR=7.3								
ASAR	**Alice Springs**	**49.94**	**253**	P	P	21 43 23.7	-0.7
	4.5nm,0.6s,baz=88,slow=8.2,SNR=48								

IDC 28 21:41:26.2±1.8, 49°.81S×113°.57E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=54.7km s-min=47.2km az=93.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.91**	**2**	T	T	22 00 32.8	
	baz=179,slow=74,SNR=62								
H01W1	**Cape Leeuwin H**	**14.92**	**2**	T	T	22 00 30.4	
	baz=179,slow=74,SNR=22								
H01W3	**Cape Leeuwin H**	**14.93**	**2**	T	T	22 00 32.4	
	baz=179,slow=74,SNR=51								
ASAR	**Alice Springs**	**30.57**	**39**	P	P	21 47 41.8	+0.3
	0.7nm,0.8s,baz=213,slow=8.0,SNR=5.4								
WRA	**Warramunga Arr**	**34.09**	**37**	P	P	21 48 12.3	-0.2
	0.7nm,0.5s,baz=204,slow=9.2,SNR=6.3								
H08S2	**Diego Garcia H**	**54.22**	**307**	T	T	22 49 52.9	
	baz=148,slow=76,SNR=8.7								
H08S1	**Diego Garcia H**	**54.23**	**307**	T	T	22 49 52.3	
	baz=148,slow=76,SNR=4.2								
H08S3	**Diego Garcia H**	**54.24**	**307**	T	T	22 49 53.0	
	baz=148,slow=76,SNR=6.7								
CMAR	**Chiang Mai Arr**	**69.19**	**345**	P	P	21 52 34.6	+0.1
	0.1nm,0.3s,baz=184,slow=5.4,SNR=3.2								
TXAR	**Lajitas Array**	**145.25**	**112**	PKPbc	PKPbc	22 01 04.5	-0.9
	0.1nm,0.4s,baz=198,slow=3.4,SNR=2.9								
YKA	**Yellowknife Ar**	**151.08**	**46**	PKPbc	PKPbc	22 01 19.3	-0.5
	0.1nm,0.5s,baz=280,slow=2.8,SNR=2.7								
YKA				PKPab	PKPab	22 01 27.3	-0.3
	0.3nm,0.6s,baz=284,slow=2.6,SNR=4.6								

*ATH **28** 21:49:30.1, 41°.36N×20°.24E, h7km±1km, MD3.5/14*

*BEO **28** 21:49:31.6±0.7, 40°.94N×20°.18E, h0km, ML2.4/8*

*THE **28** 21:49:33.2, 41°.21

IGT				S		Sb	21 50 26.1	+0.1	
BEY	**Berane**	**1.70**	**350**	⇑*i*	Pn	Pn	21 50 03.9	-0.2	
BEY				*e*Sn		Sg	21 50 29.5	+1.7	
IVA	**Berane**	**1.70**	**350**	⇑*i*	Pn	Pn	21 50 03.9	-0.2	
IVA				*e*Sn		Sg	21 50 29.5	+1.7	
HCY	**Herceg Novi**	**1.84**	**313**	⇓*i*	Pn	Pn	21 50 05.9	0.0	
HCY				*e*Sn		Sg	21 50 33.1	+0.9	
HCY	**Herceg Novi**	**1.84**	**313**	⇓*i*	Pn	Pn	21 50 05.9	0.0	
HCY				*e*Sn		Sg	21 50 33.1	+0.9	
NKME	**Niksic**	**1.86**	**328**	⇓*i*	Pn	Pn	21 50 06.6	+0.4	
NKME				*e*Sn		Sg	21 50 33.9	+1.0	
NKME	**Niksic**	**1.86**	**328**	⇓*i*	Pn	Pn	21 50 06.6	+0.4	
NKME				*e*Sn		Sg	21 50 33.9	+1.0	
NKY	**Niksic**	**1.88**	**329**	*e*Pn		Pn	21 50 07.2	+0.6	
NKY				*e*Sn		Sg	21 50 33.8	+0.1	
NKY	**Niksic**	**1.88**	**329**	*e*Pn		Pn	21 50 07.2	+0.6	
NKY				*e*Sn		Sg	21 50 33.8	+0.1	
KNT	**Kendrikon**	**1.96**	**90**	P		Pn	21 50 07.3	-0.3	
KNT				S		Sn	21 50 33.2	+0.3	
KNT	**Kendrikon**	**1.96**	**90**	*e*PG		Pn	21 50 07.5	-0.1	
KNT	**Kendrikon**	**1.96**	**90**	P		Pn	21 50 07.3	-0.3	
KNT				S		Sn	21 50 33.2	+0.3	
BARS	**Barje**	**1.98**	**34**	*e*Pn		Pg	21 50 10.8	-0.2	
BARS				*e*Sn		Sg	21 50 37.2	+0.6	
BARS	**Barje**	**1.98**	**34**	*e*Pn		Pg	21 50 10.8	-0.2	
BARS				*e*Sn		Sg	21 50 37.2	+0.6	
LIT	**Litokhoron**	**2.00**	**123**	P		Pn	21 50 07.3	-0.8	
LIT	**Litokhoron**	**2.00**	**123**	*e*PN		Pn	21 50 07.4	-0.7	
LIT	**Litokhoron**	**2.00**	**123**	P		Pn	21 50 07.3	-0.8	
SJES	**Sjenica**	**2.08**	**353**	*e*Pn		Pb	21 50 11.1	-0.6	
SJES				*e*Sn		Sg	21 50 39.7	-0.2	
SJES	**Sjenica**	**2.08**	**353**	*e*Pn		Pb	21 50 11.1	-0.6	
SJES				*e*Sn		Sg	21 50 39.7	-0.2	
THE	**Thessaloniki**	**2.10**	**105**	*e*PN		Pn	21 50 09.4	0.0	
THE	**Thessaloniki**	**2.10**	**105**	*e*Pn		Pn	21 50 09.4	0.0	
SELS	**Selova**	**2.11**	**17**	*e*Pn		Pb	21 50 12.2	0.0	
SELS				*e*Sn		Sg	21 50 42.3	+1.3	
BRY	**Bratogost**	**2.15**	**323**	⇓*i*	Pn	Pn	21 50 11.4	+1.1	
BRY				*e*Sn		Sb	21 50 40.2	+0.1	
BRY	**Bratogost**	**2.15**	**323**	⇓*i*	Pn	Pn	21 50 11.4	+1.1	
BRY				*e*Sn		Sb	21 50 40.2	+0.1	
HORT	**Hortiatis**	**2.21**	**105**	*e*PB		Pn	21 50 09.4	-1.6	
HORT	**Hortiatis**	**2.21**	**105**	*e*Pb		Pn	21 50 09.4	-1.6	
PLE	**Pljevlja**	**2.24**	**343**	⇓*i*	Pn	Pn	21 50 12.0	+0.6	
PLE				*e*Sn		Sb	21 50 42.0	-0.6	
PLE	**Pljevlja**	**2.24**	**343**	⇓*i*	Pn	Pn	21 50 12.0	+0.6	
PLE				*e*Sn		Sb	21 50 42.0	-0.6	
UPM	**Unac-Piva**	**2.26**	**333**	⇓*i*	Pn	Pn	21 50 12.5	+0.7	
UPM				*e*Sn		Sb	21 50 42.6	-0.7	
UPM	**Unac-Piva**	**2.26**	**333**	⇓*i*	Pn	Pn	21 50 12.5	+0.7	
UPM				*e*Sn		Sb	21 50 42.6	-0.7	
SOH	**Sokhos**	**2.34**	**98**	P		Pn	21 50 12.5	-0.4	
SOH	**Sokhos**	**2.34**	**98**	*e*PN		Pn	21 50 12.2	-0.7	
SOH	**Sokhos**	**2.34**	**98**	*e*Pn		Pn	21 50 12.2	-0.7	
SOH	**Sokhos**	**2.34**	**98**	P		Pn	21 50 12.5	-0.4	
IVAS	**Ivanjica**	**2.38**	**357**	*e*Pn		Pn	21 50 15.0	+1.6	
IVAS				*e*Sn		Sg	21 50 49.8	+0.2	
IVAS	**Ivanjica**	**2.38**	**357**	*e*Pn		Pn	21 50 15.0	+1.6	
SRS	**Serrai**	**2.49**	**91**	*e*PN		Pn	21 50 14.5	-0.3	
SRS	**Serrai**	**2.49**	**91**	*e*Pn		Pn	21 50 14.5	-0.3	
EVR	**Evrytania**	**2.56**	**153**	*e*PN		Pn	21 50 16.6	+0.8	
EVR				*e*SN		Sb	21 50 50.6	-1.2	
EVR	**Evrytania**	**2.56**	**153**	*e*Pn		Pn	21 50 16.6	+0.8	
STON	**Ston**	**2.56**	**312**	*e*Pn		Pn	21 50 15.5	-0.2	
STON				Sn		Sn	21 50 47.5	0.0	
STON	**Ston**	**2.56**	**312**	*e*Pn		Pn	21 50 15.5	-0.2	
STON				Sn		Sn	21 50 47.5	0.0	
VTS	**Vitosha**	**2.58**	**56**	*e*Pn		Pn	21 50 17.7	+1.5	
VTS				*e*Sn		Sb	21 50 51.6	-1.0	
VTS	**Vitosha**	**2.58**	**56**	*e*Pn		Pn	21 50 17.7	+1.5	
VTS				*e*Sn		Sb	21 50 51.6	-1.0	
MAKR	**Makrakomi, Fth**	**2.60**	**147**	*e*PN		Pn	21 50 17.8	+1.5	
MAKR	**Makrakomi, Fth**	**2.60**	**147**	*e*Pn		Pn	21 50 17.8	+1.5	
AGG	**Agios Georgios**	**2.67**	**144**	*e*PB		Pn	21 50 17.4	0.0	
AGG	**Agios Georgios**	**2.67**	**144**	*e*Pb		Pn	21 50 17.4	0.0	
ZAPS	**Zavoj**	**2.71**	**39**	*e*Pn		Pb	21 50 20.5	-1.9	
ZAPS	**Zavoj**	**2.71**	**39**	*e*Pn		Pb	21 50 20.5	-1.9	
GRUS	**Gruza**	**2.71**	**6**	*e*Pn		Pn	21 50 19.9	+2.1	
GRUS	**Gruza**	**2.71**	**6**	*e*Pn		Pn	21 50 19.9	+2.1	
BBLS	**Lazići**	**2.75**	**346**	*e*Pn		Pn	21 50 20.0	+1.6	
BBLS				*e*Sn		Sb	21 50 56.0	-1.3	
BBLS	**Lazići**	**2.75**	**346**	*e*Pn		Pn	21 50 20.0	+1.6	
BBLS				*e*Sn		Sb	21 50 56.0	-1.3	
XOR	**Xorichti**	**2.87**	**129**	*e*PB		Pn	21 50 21.2	+1.1	
XOR	**Xorichti**	**2.87**	**129**	*e*Pn		Pn	21 50 21.2	+1.1	
PAIG	**Paliouri**	**2.87**	**115**	*e*PN		Pn	21 50 19.1	-1.0	
PAIG	**Paliouri**	**2.87**	**115**	*e*Pn		Pn	21 50 19.1	-1.0	
BOLS	**Boljevac**	**2.90**	**24**	*e*Pn		Pn	21 50 21.7	+1.2	
BOLS	**Boljevac**	**2.90**	**24**	*e*Pn		Pn	21 50 21.7	+1.2	
DIVS	**Divibare**	**2.91**	**356**	*e*Pn		Pn	21 50 22.8	+2.1	
DIVS	**Divibare**	**2.91**	**356**	*e*Pn		Pn	21 50 22.8	+2.1	
VLS	**Valsamata**	**3.02**	**176**	*e*PN		Pn	21 50 21.2	-1.0	
VLS	**Valsamata**	**3.02**	**176**	*e*Pn		Pn	21 50 21.2	-1.0	
TRUS	**Trudelj**	**3.03**	**2**	*e*Pn		Pn	21 50 24.4	+2.2	
TRUS	**Trudelj**	**3.03**	**2**	*e*Pn		Pn	21 50 24.4	+2.2	
KALE	**Kalithea**	**3.14**	**153**	*e*PN		Pn	21 50 24.5	+0.7	
KALE	**Kalithea**	**3.14**	**153**	*e*Pn		Pn	21 50 24.5	+0.7	
TEKS	**Tekeris**	**3.40**	**351**	*e*Pn		Pn	21 50 28.7	+1.4	
TEKS	**Tekeris**	**3.40**	**351**	*e*Pn		Pn	21 50 28.7	+1.4	
ITM	**Ithomi**	**4.21**	**162**	*e*PN		Pn	21 50 39.6	+1.2	
ITM	**Ithomi**	**4.21**	**162**	*e*Pn		Pn	21 50 39.6	+1.2	
UDBI	**Udbina**	**4.71**	**316**	*e*Pn		Pn	21 50 46.0	+0.6	
UDBI				Sn		Sn	21 51 40.8	+0.1	
UDBI	**Udbina**	**4.71**	**316**	*e*Pn		Pn	21 50 45.9	+0.6	
UDBI				Sn		Sn	21 51 40.8	+0.1	
NVLJ	**Novalja**	**5.22**	**312**	*e*Pn		Pn	21 50 50.1	-2.1	
NVLJ				Sn		Sn	21 51 50.0	-3.0	
NVLJ	**Novalja**	**5.22**	**312**	*e*Pn		Pn	21 50 50.1	-2.1	
NVLJ				Sn		Sn	21 51 50.0	-3.0	
VYHS	**Vyhne**	**7.37**	**352**	*e*PN		Pn	21 51 20.2	-1.7	

SFS **28** *21:49:39.0, 33°.52N×1°.51E, h0km, ML4.1*
IDC **28** *21:49:41.7±1.0, 33°.90N×1°.43E, h0km, mb3.6/13, mb1 3.7/17, mb1mx3.7/40, mbtmp3.6/17, ML3.6/4, Error ellipse: s-maj=23.8km s-min=14.5km az=163.0*
LDG **28** *21:49:43.7±0.3, 33°.78N×1°.30E, h30km, Ml3.6/9, Error ellipse: s-maj=6.9km s-min=2.9km az=176.0*
ISCJB **28** *21:49:43.3±0.4, 34°.02N±0°.03×1°.41E±0°.02, h10km, mb3.5/13, Error ellipse: s-maj=3.9km s-min=2.9km az=179.5*
MDD **28** *21:49:44.9±0.9, 33°.92N×1°.44E, h0km, mb4.3/21, Error ellipse: s-maj=9.9km s-min=5.9km az=164.0, PRXIMO*
CRAAG **28** *21:49:45.2, 33°.98N×1°.60E, Ml4.2*
CSEM **28** *21:49:46.5±0.4, 33°.93N×1°.42E, h20km, ML4.2, Error ellipse: s-maj=8.9km s-min=5.0km az=165.0*
CNRM **28** *21:49:48.8, 33°.54N×1°.46E, h40km, MD4.2*

ISC 28 21:49:44.1±0.5**, 33°.98N**±0°.03×**1°.44E**±0°.02**, h10km, n202,**
σ1§**79**/213**, mb3.6/**13**, 1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETRT	**Tiaret**	**1.42**	**355**	P		**Pn**	**21 50 10.6**	**+0.6**
ETRT	**Tiaret**	**1.42**	**355**	P		**Pn**	**21 50 10.6**	**+0.6**
ETRT	**Tiaret**	**1.42**	**355**	P		**Pn**	**21 50 10.6**	**+0.6**
OJGS	**Djebel Guires**	**1.63**	**340**	P		**Pg**	**21 50 16.0**	**+0.7**
OJGS	**Djebel Guires**	**1.63**	**340**	P		**Pg**	**21 50 16.0**	**+0.7**
OJGS	**Djebel Guires**	**1.63**	**340**	P		**Pg**	**21 50 16.0**	**+0.7**
ODJA	**Bouhanifia**	**1.88**	**316**	P		Pn	21 50 12.0	-4.4
EANR	**'Ain N'Sour**	**1.99**	**352**	P		**Pn**	**21 50 18.5**	**+0.6**
EANR	**'Ain N'Sour**	**1.99**	**352**	P		**Pn**	**21 50 18.5**	**+0.6**
EANR	**'Ain N'Sour**	**1.99**	**352**	P		**Pn**	**21 50 18.5**	**+0.6**
OKGL	**Djebel Kef Gue**	**2.16**	**343**	⇑P		**Pn**	**21 50 20.5**	**+0.3**
	35nm,0.2s,SNR=18							
OKGL	**Djebel Kef Gue**	**2.16**	**343**	P		**Pn**	**21 50 20.5**	**+0.3**
	35nm,0.2s,SNR=18							
ECHA	**Ech Chlef**	**2.17**	**358**	P		**Pn**	**21 50 21.5**	**+1.2**
ECHA	**Ech Chlef**	**2.17**	**358**	P		**Pn**	**21 50 21.5**	**+1.2**
ECHF	**Ech Chlef**	**2.18**	**358**	P		**Pn**	**21 50 21.5**	**+1.1**
EBNR	**Beni Rached**	**2.31**	**2**	P		**Pb**	**21 50 28.0**	**+2.1**
USTO	**Oran**	**2.40**	**318**	P		Pg	21 50 38.0	+7.9
EMHD	**Djebel Mahouad**	**2.54**	**29**	P		Pn	21 50 12.0	-14
OLHC	**Oulhaca**	**2.68**	**299**	P		Pn	21 50 15.0	-12
ADJB	**Djebel Djouab**	**2.73**	**36**	P		**Pn**	**21 50 29.6**	**+1.6**
ADJB	**Djebel Djouab**	**2.73**	**36**	P		**Pn**	**21 50 29.6**	**+1.6**
ADJB	**Djebel Djouab**	**2.73**	**36**	P		**Pn**	**21 50 29.6**	**+1.6**
ABA	**Alger-Bouzarea**	**3.11**	**24**	P		**Pn**	**21 50 33.6**	**+0.4**
ABA	**Alger-Bouzarea**	**3.11**	**24**	P		**Pn**	**21 50 33.6**	**+0.4**
ABA	**Alger-Bouzarea**	**3.11**	**24**	P		**Pn**	**21 50 33.6**	**+0.4**
ZAI	**Zaio**	**3.60**	**287**	P		**Pn**	**21 50 43.0**	**+3.0**
ZAI				S		**Sn**	**21 51 23.0**	**+0.5**
ZAI	**Zaio**	**3.60**	**287**	*e*P		**Pn**	**21 50 43.0**	**+3.0**
ZAI				*i* S		**Sn**	**21 51 23.0**	**+0.5**
MELI	**Melilla**	**3.84**	**291**	P		**Pn**	**21 50 45.2**	**+2.0**
	21nm,0.1s,SNR=4.0							
MELI	**Melilla**	**3.84**	**291**	P		**Pn**	**21 50 45.2**	**+2.0**
	21nm,0.1s,SNR=4.0							
CKHR	**Kef el Ahmar**	**3.92**	**58**	P		**Pn**	**21 50 46.5**	**+2.1**
CKHR	**Kef el Ahmar**	**3.92**	**58**	P		**Pn**	**21 50 46.5**	**+2.1**
CKHR	**Kef el Ahmar**	**3.92**	**58**	P		**Pn**	**21 50 46.5**	**+2.1**
SET	**Setif**	**3.93**	**55**	P		Pn	21 50 48.0	+3.4
SET	**Setif**	**3.93**	**55**	P		Pn	21 50 48.0	+3.4
CART	**Cartagena**	**4.11**	**332**	*e*P		**Pn**	**21 50 45.9**	**-1.1**
CART				*e*S		**Sn**	**21 51 32.0**	**-3.1**
ENIJ	**Nijar**	**4.22**	**316**	P		**Pn**	**21 50 48.1**	**-0.3**
	2.6nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**21 51 34.2**	**-3.6**
	13nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**4.22**	**316**	P		**Pn**	**21 50 48.1**	**-0.3**
	2.6nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**21 51 34.2**	**-3.6**
	13nm,0.2s,SNR=7.9							
TOU	**Touzarine**	**4.40**	**284**	*i* P		Pn	21 50 55.0	+3.9
TOU				*i* S		**Sn**	**21 51 42.0**	**-0.4**
EMUR	**La Murta**	**4.43**	**331**	P		**Pn**	**21 50 51.5**	**+0.1**
	3.8nm,0.3s,SNR=16							
EMUR				S		**Sn**	**21 51 40.9**	**-2.1**
	18nm,0.4s,SNR=23							
EMUR	**La Murta**	**4.43**	**331**	P		**Pn**	**21 50 51.5**	**+0.1**
	3.8nm,0.3s,SNR=16							
EMUR				S		**Sn**	**21 51 40.9**	**-2.1**
	18nm,0.4s,SNR=23							
DFRA	**Djebel Bou Aff**	**4.45**	**54**	P		**Pn**	**21 50 53.4**	**+1.7**
DFRA	**Djebel Bou Aff**	**4.45**	**54**	P		**Pn**	**21 50 53.4**	**+1.7**
DFRA	**Djebel Bou Aff**	**4.45**	**54**	P		**Pn**	**21 50 53.4**	**+1.7**
CTEI	**Djebel Teioual**	**4.58**	**62**	P		**Pn**	**21 50 54.8**	**+1.3**
CTEI	**Djebel Teioual**	**4.58**	**62**	P		**Pn**	**21 50 54.8**	**+1.3**
CTEI	**Djebel Teioual**	**4.58**	**62**	P		**Pn**	**21 50 54.8**	**+1.3**
EBER	**Berja**	**4.58**	**311**	P		**Pn**	**21 50 53.2**	**-0.4**
	1.6nm,0.2s,SNR=17							
EBER				S		**Sn**	**21 51 48.0**	**+1.0**
	7.2nm,0.2s							
EBER	**Berja**	**4.58**	**311**	P		**Pn**	**21 50 53.2**	**-0.4**
	1.6nm,0.2s,SNR=17							
EBER				S		**Sn**	**21 51 48.0**	**+1.0**
	7.2nm,0.2s							
CASM	**Ain Smara**	**4.73**	**60**	P		Pn	21 51 01.3	+5.8
EBEN	**Beniarda**	**4.91**	**345**	P		**Pn**	**21 50 59.2**	**+1.3**
	1.4nm,0.2s,SNR=18							
EBEN				S		**Sn**	**21 51 54.7**	**-0.1**
	12nm,0.3s							
EBEN	**Beniarda**	**4.91**	**345**	P		**Pn**	**21 50 59.2**	**+1.3**
	1.4nm,0.2s,SNR=18							
EBEN				S		**Sn**	**21 51 54.7**	**-0.1**
	12nm,0.3s							
CKFL	**Kef-Lekhel**	**4.96**	**59**	P		Pn	21 51 05.4	+6.7
EGUA	**Guajares**	**4.98**	**306**	P		**Pn**	**21 50 59.1**	**+0.1**
	1.5nm,0.4s,SNR=4.0							
EGUA				S		**Sn**	**21 51 54.4**	**-2.3**
	2.2nm,0.3s,SNR=4.0							
EGUA	**Guajares**	**4.98**	**306**	P		**Pn**	**21 50 59.1**	**+0.1**
	1.5nm,0.4s,SNR=4.0							
EGUA				S		**Sn**	**21 51 54.4**	**-2.3**
	2.2nm,0.3s,SNR=4.0							
EHUE	**Huescar**	**5.04**	**321**	P		**Pn**	**21 51 00.2**	**+0.4**
	1.9nm,0.4s,SNR=7.9							
EHUE				S		**Sn**	**21 51 55.7**	**-2.4**
	SNR=7.9							
EHUE	**Huescar**	**5.04**	**321**	P		**Pn**	**21 51 00.2**	**+0.4**
	1.9nm,0.4s,SNR=7.9							
EHUE				S		**Sn**	**21 51 55.7**	**-2.4**
	SNR=7.9							
EIBI	**Ibiza**	**5.04**	**359**	P		**Pn**	**21 51 01.0**	**+1.2**
	31nm,0.3s,SNR=54							
EIBI				S		**Sn**	**21 51 57.1**	**-1.0**
	30nm,0.4s,SNR=7.9							
EIBI	**Ibiza**	**5.04**	**359**	P		**Pn**	**21 51 01.0**	**+1.2**
	31nm,0.3s,SNR=54							
EIBI				S		**Sn**	**21 51 57.1**	**-1.0**
	30nm,0.4s,SNR=7.9							
GORA	**Gorafe**	**5.05**	**315**	S		**Sn**	**21 52 00.0**	**+1.6**
	37nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**5.12**	**310**	P		**Pn**	**21 51 01.9**	**+1.0**
	0.4nm,0.1s,SNR=18							
EQUE				S		**Sn**	**21 52 00.3**	**+0.2**
	8.4nm,0.4s,SNR=6.6							
EQUE	**Quentar**	**5.12**	**310**	P		**Pn**	**21 51 01.9**	**+1.0**
	0.4nm,0.1s,SNR=18							
EQUE				S		**Sn**	**21 52 00.3**	**+0.2**
	8.4nm,0.4s,SNR=6.6							
MDT	**Midelt**	**5.19**	**259**	Pn		**Pn**	**21 51 01.2**	**-0.8**
	2.5nm,0.3s,baz=56,slow=10,SNR=57							
MDT					Lg	Lg	21 52 25.9	
	3.9nm,0.3s,baz=230,slow=18,SNR=5.4							
CAEH	**'Ain El Ouahch**	**5.23**	**56**	P		**Pn**	**21 51 02.1**	**-0.3**
CAEH	**'Ain El Ouahch**	**5.23**	**56**	P		**Pn**	**21 51 02.1**	**-0.3**
CAEH	**'Ain El Ouahch**	**5.23**	**56**	P		**Pn**	**21 51 02.1**	**-0.3**
ZFT	**Errachidia**	**5.24**	**250**	P		**Pn**	**21 51 02.0**	**-0.6**
ZFT	**Errachidia**	**5.24**	**250**	*i* P		**Pn**	**21 51 02.0**	**-0.6**
ZFT				*i* S		Sn	21 51 57.0	-6.2
SESP	**Santiago Espad**	**5.25**	**323**	P		**Pn**	**21 51 04.2**	**+1.5**
	3.0nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**21 52 03.0**	**-0.3**
	58nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**5.25**	**323**	P		**Pn**	**21 51 04.2**	**+1.5**
	3.0nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**21 52 03.0**	**-0.3**
	58nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.25**	**333**	P		**Pn**	**21 51 04.0**	**+1.3**
	2.9nm,0.2s,SNR=56							
ETOB				S		**Sn**	**21 52 01.1**	**-2.1**
	17nm,0.3s							
ETOB	**Tobarra**	**5.25**	**333**	P		**Pn**	**21 51 04.0**	**+1.3**
	2.9nm,0.2s,SNR=56							
ETOB				S		**Sn**	**21 52 01.1**	**-2.1**
	17nm,0.3s							
EQES	**Quesada**	**5.29**	**317**	P		**Pn**	**21 51 04.5**	**+1.2**
	0.5nm,0.1s,SNR=17							
EQES				S		**Sn**	**21 52 05.2**	**+0.8**
	20nm,0.4s							
EQES	**Quesada**	**5.29**	**317**	P		**Pn**	**21 51 04.5**	**+1.2**
	0.5nm,0.1s,SNR=17							
EQES				S		**Sn**	**21 52 05.2**	**+0.8**
	20nm,0.4s							
SELV	**Sierra Elvira**	**5.32**	**309**	S		**Sn**	**21 52 09.4**	**+4.4**
	6.7nm,0.4s,SNR=7.9							
SELV	**Sierra Elvira**	**5.32**	**309**	S		**Sn**	**21 52 09.4**	**+4.4**
	6.7nm,0.4s,SNR=7.9							
TGT	**Taghat**	**5.39**	**273**	*e*P		Pn	21 51 08.0	+3.3
TGT				*i* S		**Sn**	**21 52 06.0**	**-0.9**
ABSA	**Djebel Ababsia**	**5.45**	**63**	P		**Pn**	**21 51 06.3**	**+0.8**
ABSA	**Djebel Ababsia**	**5.45**	**63**	P		**Pn**	**21 51 06.3**	**+0.8**
CABS	**Djebel Ababsia**	**5.45**	**63**	P		**Pn**	**21 51 06.3**	**+0.8**
CMAH	**Djebel Manchou**	**5.56**	**60**	P		**Pn**	**21 51 07.4**	**+0.5**
CMAH	**Djebel Manchou**	**5.56**	**60**	P		**Pn**	**21 51 07.4**	**+0.5**
CMAH	**Djebel Manchou**	**5.56**	**60**	P		**Pn**	**21 51 07.4**	**+0.5**
EVIA	**Vianos**	**5.64**	**327**	P		**Pn**	**21 51 10.2**	**+2.1**
	4.2nm,0.3s,SNR=11							
EVIA				S		**Sn**	**21 52 12.2**	**-0.7**
	33nm,0.2s,SNR=6.9							
EVIA	**Vianos**	**5.64**	**327**	P		**Pn**	**21 51 10.2**	**+2.1**
	4.2nm,0.3s,SNR=11							
EVIA				S		**Sn**	**21 52 12.2**	**-0.7**
	33nm,0.2s,SNR=6.9							
EMIJ	**Mijas**	**5.70**	**299**	P		**Pn**	**21 51 06.3**	**-2.5**
	1.1nm,0.2s,SNR=4.0							
EMIJ				S		**Sn**	**21 52 09.8**	**-4.5**
	5.4nm,0.3s							
ETOS	**Mallorca**	**5.88**	**10**	P		**Pn**	**21 51 12.1**	**+0.7**
	6.6nm,0.3s,SNR=25							
ETOS				S		**Sn**	**21 52 18.8**	**-0.1**
	5.2nm,0.3s							
ETOS	**Mallorca**	**5.88**	**10**	P		**Pn**	**21 51 12.1**	**+0.7**
	6.6nm,0.3s,SNR=25							
EBAN	**Banos Encina**	**5.95**	**316**	P		Pn	21 51 18.7	+6.4
	1.0nm,0.2s,SNR=4.0							
EBAN				S		**Sn**	**21 52 23.5**	**+3.1**
	5.4nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**5.95**	**316**	S		**Sn**	**21 52 23.5**	**+3.1**
	5.4nm,0.2s,SNR=7.9							
MAHO	**Mahon**	**6.33**	**20**	P		**Pn**	**21 51 20.2**	**+2.8**
MAHO				S		**Sn**	**21 52 28.9**	**-0.8**
MAHO	**Mahon**	**6.33**	**20**	*e*P		**Pn**	**21 51 20.2**	**+2.8**
KIB	**El Ksiba**	**6.42**	**260**	P		**Pn**	**21 51 19.0**	**+0.3**
KIB				S		**Sn**	**21 52 27.0**	**-5.1**
KIB	**El Ksiba**	**6.42**	**260**	*i* P		**Pn**	**21 51 19.0**	**+0.3**
EADA	**Adamuz**	**6.42**	**312**	P		Pn	21 51 25.8	+7.1
	0.4nm,0.3s,SNR=4.0							
EADA				S		**Sn**	**21 52 34.5**	**+2.4**
	3.9nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**6.42**	**312**	S		**Sn**	**21 52 34.5**	**+2.4**
	3.9nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**6.56**	**347**	P		**Pn**	**21 51 22.7**	**+2.0**
	1.4nm,0.2s,SNR=14							
EMOS				S		**Sn**	**21 52 34.1**	**-1.5**
	4.4nm,0.3s							
KEST	**Kesra**	**6.73**	**73**	Pn		**Pn**	**21 51 21.6**	**-1.4**
	0.8nm,0.3s,baz=78,slow=3.8,SNR=32							
KEST					Sn	**Sn**	**21 52 39.7**	**-0.1**
	0.3nm,0.3s,baz=304,slow=18,SNR=2.6							
ECAB	**El Cabril**	**6.90**	**308**	P		**Pn**	**21 51 25.4**	**+0.1**
	0.1nm,0.2s,SNR=4.0							
ECAB				S		Sn	21 52 49.8	+5.9
	1.7nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**6.90**	**308**	P		**Pn**	**21 51 25.4**	**+0.1**
	0.1nm,0.2s,SNR=4.0							
TZC	**Tazercounte**	**6.90**	**257**	P		**Pn**	**21 51 26.0**	**+0.5**
TZC				S		**Sn**	**21 52 41.0**	**-3.2**
TZC	**Tazercounte**	**6.90**	**257**	*i* P		**Pn**	**21 51 26.0**	**+0.5**
TZC				*i* S		**Sn**	**21 52 41.0**	**-3.2**
ERTA	**Horta de San J**	**7.02**	**353**	P		**Pn**	**21 51 28.9**	**+1.9**
	1.9nm,0.2s,SNR=14							
ERTA				S		**Sn**	**21 52 45.9**	**-1.0**
	2.3nm,0.2s							
ERTA	**Horta de San J**	**7.02**	**353**	P		**Pn**	**21 51 28.9**	**+1.9**
	1.9nm,0.2s,SNR=14							
ESDC	**Sonseca Array**	**7.15**	**324**	P		**Pn**	**21 51 29.5**	**+0.8**
	0.4nm,0.4s,baz=141,slow=13,SNR=4.1							
ESDC				S		**Sn**	**21 52 47.3**	**-2.7**
	0.8nm,0.1s,baz=138,slow=22,SNR=4.9							
ESDC	**Sonseca Array**	**7.15**	**324**	Pn		**Pn**	**21 51 28.9**	**+0.2**
	0.3nm,0.3s,baz=144,slow=13,SNR=6.6							
ESDC					Sn	**Sn**	**21 52 46.6**	**-3.4**
	1.5nm,0.3s,baz=141,slow=22,SNR=4.3							
ESDC	**Sonseca Array**	**7.15**	**324**

10nm,0.7s
SBF Sospel 10.92 24 Pn **Pn** 21 52 20.6 +0.2
SBF Sn Sn 21 54 15.4 -7.2
5.1nm,0.7s
SBF Sospel 10.92 24 *e*Pn **Pn** 21 52 20.6 +0.2
CAF Calviac 10.95 2 *e*P Pn 21 52 24.2 +3.4
CAF Calviac 10.95 2 *e*P Pn 21 52 24.2 +3.4
LFF La Frestale 10.96 357 *e*P Pn 21 52 24.2 +3.3
LFF La Frestale 10.96 357 P Pn 21 52 24.2 +3.3
LFF La Frestale 10.96 357 *e*P Pn 21 52 24.2 +3.3
VIVF Saint-Julien-l 11.15 12 *e*Pn **Pn** 21 52 21.9 -1.6
VIVF Saint-Julien-l 11.15 12 *e*P Pn 21 52 27.5 +4.0
ORIF Oris-en-Rattie 11.45 16 *e*Pn **Pn** 21 52 26.2 -1.5
ORIF Oris-en-Rattie 11.45 16 *e*P Pn 21 52 31.7 +4.0
ORIF Oris-en-Rattie 11.45 16 *e*P Pn 21 52 31.7 +4.0
MBDF Montbardon 11.50 19 *e*Pn **Pn** 21 52 27.0 -1.4
MBDF Montbardon 11.50 19 *e*P Pn 21 52 32.5 +4.1
MBDF Montbardon 11.50 19 *e*P Pn 21 52 32.5 +4.1
LPG La Plagne 12.21 18 *e*Pn **Pn** 21 52 36.9 -1.4
LPG La Plagne 12.21 18 *e*P Pn 21 52 42.4 +4.1
LPG La Plagne 12.21 18 *e*P Pn 21 52 42.4 +4.1
LPL La Plagne 12.22 18 *e*Pn **Pn** 21 52 36.7 -1.7
LPL La Plagne 12.22 18 *e*P Pn 21 52 43.0 +4.6
CABF La Chapelle 13.11 14 *e*P Pn 21 52 53.4 +3.1
CABF La Chapelle 13.11 14 *e*P Pn 21 52 53.4 +3.1
GERES GERESS Array B 17.44 28 P **Pn** 21 53 48.0 +0.5
0.1nm,0.3s,baz=213,slow=9.5,SNR=6.1
TORD Torodi Ar. Bea 20.74 179 P **P** 21 54 22.2 -2.7
0.6nm,0.5s,baz=358,slow=11,SNR=9.6
EKA Eskdalemuir Ar 21.59 353 P **P** 21 54 33.5 -0.4
2.5nm,0.8s,baz=173,slow=8.0,SNR=4.1
MLR Muntele Rosu 21.99 51 P **P** 21 54 39.5 +1.1
0.8nm,0.9s,baz=165,slow=20,SNR=3.4
AKASG Malin Array Be 26.26 42 P **P** 21 55 18.2 -1.1
0.2nm,0.3s,baz=241,slow=10,SNR=3.3
BRTR Keskin Array B 26.31 68 P **P** 21 55 20.1 0.0
1.1nm,1.0s,baz=243,slow=7.6,SNR=2.5
HFS Hagfors 27.38 13 P **P** 21 55 27.9 -1.4
0.9nm,0.6s,baz=240,slow=12,SNR=3.0
DBIC Dimbokro 27.79 194 P **P** 21 55 34.2 +0.8
2.6nm,0.5s,baz=360,slow=8.9,SNR=12
FINES FINESS Array B 31.70 22 P **P** 21 56 06.2 -1.4
1.1nm,0.8s,baz=174,slow=7.7,SNR=3.6
ZALV Zalesovo Beam 59.65 43 P **P** 21 59 48.3 +0.1
1.0nm,0.6s,baz=289,slow=8.9,SNR=4.4
MKAR Makanchi Array 60.33 51 P **P** 21 59 52.9 -0.2
0.3nm,0.5s,baz=260,slow=8.6,SNR=5.7
YKA Yellowknife Ar 71.14 334 P **P** 22 01 02.0 -0.5
0.3nm,0.6s,baz=54,slow=6.0,SNR=3.4
SONM Songino Array 74.54 42 P **P** 22 01 22.8 -0.4
0.2nm,0.6s,baz=270,slow=5.8,SNR=2.3
PDAR Pinedale Array 80.96 316 P **P** 22 01 58.8 -0.4
0.7nm,0.7s,baz=108,slow=4.2,SNR=4.9
TXAR Lajitas Array 85.30 302 P **P** 22 02 21.4 -0.3
0.3nm,0.6s,baz=79,slow=4.7,SNR=2.6

*NIED **28** 22:21:00,36˚.40N×140˚.70E,h62km,Mw4.4 Best double couple: M○3.99000×10^15 NP1:φs184.00000°,δ17.00000°, λ62.00000°. NP2:φs33.00000°,δ75.00000°,λ98.00000°.*
*BJI **28** 22:21:46.1,36˚.01N×140˚.73E,h61km,mB4.5/4,mb4.5/11, Ms3.8/1,Ms7 3.4/1*
*ISCJB **28** 22:21:47.8±0.6,36˚.43N±0˚.04×140˚.77E±0˚.06,h58km±3km, mb4.3/34,MS3.4/13,Error ellipse: s-maj=8.7km s-min=5.0km az=39.4*
*NEIC **28** 22:21:47.2±0.8,36˚.44N×140˚.84E,h37km±8km,mb4.4/5, Error ellipse: s-maj=10.0km s-min=8.1km az=109.0*
NEIC Recorded [3 JMA] in Ibaraki; [2 JMA] in Fukushima and Tochigi; [1 JMA] in Chiba, Gumma, Miyagi and Saitama.
*MOS **28** 22:21:48.8±0.9,36˚.69N×140˚.69E,h55km,mb4.6/15,Error ellipse: s-maj=10.7km s-min=7.1km az=112.3*
*JMA **28** 22:21:48.9±0.1,36˚.43N×140˚.69E,h52km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φs17.00000°,δ64.00000°,λ95.00000°. NP2:φs185.00000°, δ26.00000°,λ79.00000°. Principal axes: T Plg70.0000°, Azm298.0000°; N Plg5.0000°, Azm195.0000°; P Plg19.0000°, Azm103.0000°;*
JMA Felt III J1.
*IDC **28** 22:21:51.1±2.1,36˚.42N×140˚.62E,h70km±17km,mb3.9/18, mb1 4.1/22,mb1mx4.0/31,mbtmp4.2/22,MS3.3/14, Ms1 3.3/14,ms1mx3.2/29 Error ellipse: s-maj=17.7km s-min=14.1km az=109.0*

ISC 28 22:21:49.6±0.7,36˚.51N±0˚.04×140˚.71E±0˚.05,h54km±5km, n103,σ1§06/101,mb4.4/34,MS3.5/13,13C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.15**	**311**	⇑P		**Pn**	**22 21 57.5**	**-0.7**
JHO				*e*S		**Sn**	**22 22 03.4**	**-0.9**
JYT	**Yasato**	**0.50**	**236**	⇓P		**Pn**	**22 21 59.9**	**-1.3**
JYT				*e*S		**Sn**	**22 22 07.3**	**-2.2**
ONAJ	**Iwakimizuishiy**	**0.59**	**7**	⇑P		**Pn**	**22 22 01.9**	**-0.4**
ONAJ				*e*S		**Sn**	**22 22 11.5**	**0.0**
JFK	**Kawauchi**	**0.86**	**9**	P		**Pn**	**22 22 05.2**	**-0.5**
JAG	**Ashikaga**	**1.02**	**266**	⇓P		**Pn**	**22 22 07.0**	**-0.7**
JFT	**Otama**	**1.05**	**344**	⇓P		**Pn**	**22 22 08.6**	**+0.4**
JFT				*e*S		**Sn**	**22 22 22.9**	**+1.0**
JKT	**Katashina**	**1.20**	**283**	⇓P		**Pn**	**22 22 10.2**	**-0.1**
JKT				*e*S		**Sn**	**22 22 25.9**	**+0.3**
JFY	**Yanaizu**	**1.21**	**318**	⇓P		**Pn**	**22 22 10.7**	**+0.5**
I30JP	**ISUMI INFRASON**	**1.24**	**195**	P		**Pn**	**22 22 12.1**	**+1.4**
I30JP				S		**Sn**	**22 22 27.7**	**+1.3**
JMM	**Marumori**	**1.35**	**3**	P		**Pn**	**22 22 12.6**	**+0.4**
JMM				*e*S		**Sn**	**22 22 30.0**	**+0.9**
MJAR	**Matsushiro Arr**	**2.02**	**272**	P		**Pn**	**22 22 21.3**	**0.0**
84nm,0.3s,baz=99,slow=9.0,SNR=667								
MJAR				S		Sn	22 22 36.0	-9.3
86nm,0.3s,baz=96,slow=26,SNR=25								
MJAR				LR		LR	22 23 18.1	
comp=Z,732nm,21.5s,baz=85,slow=45								
MAJO	**Matsushiro**	**2.02**	**272**	*e*P		**Pn**	**22 22 21.6**	**+0.3**
MAJO				*e*			22 22 35.7	
MAJO	**Matsushiro**	**2.02**	**272**	*e*Pn		**Pn**	**22 22 21.6**	**+0.3**
MAJO				*e*Sn		Sn	22 22 35.7	-10
MAT	**Matsushiro**	**2.02**	**272**	P		**Pn**	**22 22 21.4**	**+0.1**
MAT				S		**Sn**	**22 22 46.4**	**+1.1**
JHJ2	**Mitsune**	**3.47**	**193**	*e*Pn		**Pn**	**22 22 39.5**	**-1.6**
JHJ2				*e*Sn		Sn	22 23 14.0	-7.0
ERM	**Erimo**	**5.81**	**18**	*e*P		Pn	22 23 09.5	-3.7
ERM				*e*			22 24 19.8	
ERM	**Erimo**	**5.81**	**18**	*e*Pn		Pn	22 23 09.5	-3.7
ERM				*e*Sn		**Sn**	**22 24 19.8**	**+1.3**
ASAJ	**Asahikawa**	**7.73**	**10**	P		**Pn**	**22 23 40.6**	**+1.1**
3.0nm,0.3s,baz=212,slow=16,SNR=19								
ASAJ				S		**Sn**	**22 25 04.2**	**-1.4**
1.7nm,0.3s,baz=350,slow=19,SNR=4.2								
ASAJ	**Asahikawa**	**7.73**	**10**	P		**Pn**	**22 23 40.6**	**+1.1**
ASAJ				S		**Sn**	**22 25 04.2**	**-1.4**
ASAJ				pmax		pmax		
comp=Z,3.0nm,0.3s								
ASAJ				smax		smax		
comp=N,2.0nm,0.3s								
ASAJ	**Asahikawa**	**7.73**	**10**	*e*Pn		**Pn**	**22 23 37.7**	**-1.8**
ASAJ				S		**Sn**	**22 25 04.2**	**-1.4**
JNU	**Nakatsue**	**8.76**	**250**	P		**Pn**	**22 23 54.0**	**+0.2**
comp=N,0.6nm,0.3s,baz=63,slow=4.5,SNR=4.5								
JNU				LR		LR	22 27 33.2	
comp=N,244nm,20.0s,baz=10.0,slow=40								
JNU	**Nakatsue**	**8.76**	**250**	*e*Pn		Pn	22 23 50.2	-3.5
CBIJ	**Chichi jima**	**9.47**	**172**	*e*Pn		Pn	22 23 58.2	-5.1
CBIJ				*e*Sn		Sn	22 25 35.3	-13
JCJ	**Chichijima**	**9.47**	**172**	P		Pn	22 23 58.5	-4.8
comp=N,10nm,0.3s,baz=267,slow=23,SNR=5.7								
JCJ				S		Sn	22 25 35.9	-12
comp=N,6.8nm,0.3s,baz=127,slow=20,SNR=4.2								
USRK	**Ussuriysk Ar.**	**10.16**	**322**	P		Pn	22 24 16.1	+3.5
comp=N,0.4nm,0.3s,baz=140,slow=13,SNR=5.7								
USRK				LR		LR	22 27 55.4	
comp=N,160nm,20.2s,baz=134,slow=36								
KSRS	**Korea Array**	**10.28**	**279**	P		**Pn**	**22 24 16.2**	**+1.9**
comp=N,0.4nm,0.3s,baz=96,slow=14,SNR=7.9								
KSRS				LR		LR	22 28 03.4	
comp=N,158nm,20.8s,baz=68,slow=36								
KSAR	**Wonju Array Be**	**10.31**	**279**	P		**Pn**	**22 24 16.2**	**+1.5**
KSAR	**Wonju Array Be**	**10.31**	**279**	P		**Pn**	**22 24 16.2**	**+1.5**
HABR	**Khabarovsk**	**12.66**	**343**	*e*P		**Pn**	**22 24 44.0**	**-2.8**
HABR				*e*S		Sn	22 26 58.6	-7.4
HABR				pmax		pmax		
comp=Z,41nm,1.5s								
HABR				MLR		MLR		
comp=Z,81nm,16.0s								
JOW	**Kunigami**	**14.31**	**231**	LR		LR	22 30 12.3	
comp=Z,6.7nm,21.2s,baz=112,slow=35								
PETK	**Petropavlovsk-**	**20.42**	**30**	LR		LR	22 34 58.4	
comp=Z,19nm,18.0s,baz=244,slow=38								
HHC	**Hu-ho-hao-te**	**23.11**	**290**	*e*P		**P**	**22 26 50.3**	**-0.7**
HHC				S		S	22 30 48.0	-10
HHC				sS		**sS**	**22 31 20.8**	**+0.2**
HHC				SS		**SnSn**	**22 31 37.3**	**+2.1**
HHC				PMZ				
comp=Z,120nm,4.4s								
HHC				LN				
comp=Z,91nm,11.3s								
HHC				LE				
comp=Z,96nm,9.3s								
HHC				LZ				
comp=Z,70nm,12.3s								
YAK	**Yakutsk**	**26.46**	**348**	LR		LR	22 37 51.7	
comp=Z,60nm,20.3s,baz=156,slow=36								
YAK	**Yakutsk**	**26.46**	**348**	*e*P		**P**	**22 27 20.9**	**-0.3**
YAK				pmax		pmax		
comp=Z,9.0nm,0.6s								
ULN	**Ulaanbaatar**	**27.19**	**305**	*ce*P		**P**	**22 27 28.3**	**+0.1**
ULN				pmax		pmax		
comp=Z,3.0nm,0.8s								
ULN	**Ulaanbaatar**	**27.19**	**305**	*e*P		**P**	**22 27 27.8**	**-0.4**
comp=Z,2.8nm,0.7s								
SEY	**Seymchan**	**27.41**	**12**	*e*P		**P**	**22 27 33.3**	**+3.5**
SONM	**Songino Array**	**27.62**	**305**	P		**P**	**22 27 31.1**	**-0.9**
comp=Z,2.9nm,0.8s,baz=107,slow=9.2,SNR=19								
SONM				LR		LR	22 38 15.8	
comp=Z,42nm,22.0s,baz=179,slow=36								
BOD	**Bodaibo**	**27.68**	**329**	*e*P		**P**	**22 27 31.7**	**-0.5**
BOD				pmax		pmax		
comp=Z,14nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.38**	**119**	T		T	22 57 40.1	
baz=312,slow=75,SNR=112								
H11N1	**WAKE ISLAND Hy**	**28.38**	**119**	T		T	22 57 43.5	
baz=312,slow=75,SNR=156								
H11N3	**WAKE ISLAND Hy**	**28.39**	**119**	T		T	22 57 44.3	
baz=312,slow=75,SNR=121								
H11S1	**WAKE ISLAND Hy**	**29.06**	**121**	T		T	22 58 29.9	
baz=314,slow=76,SNR=296								
H11S3	**WAKE ISLAND Hy**	**29.08**	**121**	T		T	22 58 32.9	
baz=314,slow=76,SNR=197								
H11S2	**WAKE ISLAND Hy**	**29.08**	**121**	T		T	22 58 31.1	
baz=314,slow=76,SNR=180								
BILL	**Bilibino**	**34.69**	**17**	⇑*e*P		**P**	**22 28 33.2**	**-0.5**
BILL				*e*			22 29 56.4	
TIXI	**Tiksi**	**35.74**	**354**	*ce*P		**P**	**22 28 42.4**	**-0.3**
TIXI				pmax		pmax		
comp=Z,4.0nm,1.0s								
TIXI	**Tiksi**	**35.74**	**354**	*e*P		**P**	**22 28 42.2**	**-0.5**
comp=Z,3.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**40.82**	**255**	P		**P**	**22 29 25.7**	**-0.3**
comp=Z,0.4nm,0.3s,baz=48,slow=6.9,SNR=5.3								
CMAR				LR		LR	22 46 47.6	
comp=Z,50nm,19.5s,baz=178,slow=37								
CMAR	**Chiang Mai Arr**	**40.82**	**255**	*ce*P		P	22 29 29.5	+3.5
CMAR				pmax		pmax		
comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**41.85**	**313**	P		**P**	**22 29 34.0**	**-0.1**
comp=Z,3.1nm,0.5s,baz=92,slow=7.0,SNR=20								
ZALV				LR		LR	22 46 07.2	
comp=Z,20nm,19.7s,baz=70,slow=35								
ZALV	**Zalesovo Beam**	**41.85**	**313**	P		**P**	**22 29 34.0**	**-0.1**
NVS	**Novosibirsk**	**42.80**	**314**	*i* P		**P**	**22 29 41.2**	**-0.5**
NVS				pmax		pmax		
comp=E,4.0nm,1.1s								
NVS				pmax		pmax		
comp=Z,7.0nm,1.1s								
MKAR	**Makanchi Array**	**43.92**	**302**	P		**P**	**22 29 50.8**	**-0.2**
comp=Z,3.0nm,0.8s,baz=94,slow=5.1,SNR=36								
MKAR				LR		LR	22 48 58.1	
comp=Z,58nm,18.2s,baz=90,slow=37								
MKAR	**Makanchi Array**	**43.92**	**302**	*ce*P		**P**	**22 29 51.5**	**+0.5**
MKAR				pmax		pmax		
comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**43.92**	**302**	*e*P		**P**	**22 29 51.0**	**+0.1**
KURK	**Kurchatov**	**45.81**	**308**	⇑*e*P		**P**	**22 30 05.9**	**0.0**
KURK				pmax		pmax		
comp=Z,4.0nm,1.0s								
RAMN	**Ramite**	**46.48**	**274**	*e*P		**P**	**22 30 11.4**	**-0.4**
comp=Z,32nm,0.9s								
JIRN	**Jiri**	**46.50**	**275**	*e*P		**P**	**22 30 12.1**	**0.0**
comp=Z,22nm,0.8s								
GUN	**Gumba**	**46.65**	**276**	*e*P		**P**	**22 30 13.1**	**-0.1**
comp=Z,18nm,0.6s								
PKI	**Pukhoki**	**47.17**	**276**	*e*P		**P**	**22 30 16.6**	**-0.6**
comp=Z,12nm,0.8s								
PKIN	**Phulchoki**	**47.17**	**276**	*e*P		**P**	**22 30 16.5**	**-0.7**
comp=Z,3.8nm,0.4s								
KKN	**Kakani**	**47.18**	**276**	*e*P		**P**	**22 30 16.9**	**-0.3**
comp=Z,9.4nm,0.6s								
DMN	**Daman**	**47.39**	**276**	*e*P		**P**	**22 30 18.5**	**-0.4**
GKN	**Gorkha**	**47.60**	**277**	*e*P		**P**	**22 30 20.1**	**-0.3**
comp=Z,45nm,1.0s								
RSO	**Redoubt South**	**47.66**	**38**	*e*P		**P**	**22 30 20.5**	**0.0**
KOLN	**Koldanda**	**48.53**	**277**	*e*P		**P**	**22 30 27.5**	**-0.1**
PYUN	**Piuthan**	**48.88**	**277**	*e*P		**P**	**22 30 30.4**	**+0.1**
comp=Z,96nm,1.2s								
ILAR	**Eielson Array**	**50.24**	**32**	P		**P**	**22 30 40.7**	**+0.8**
comp=Z,2.7nm,0.7s,baz=270,slow=6.3,SNR=34								
AAK	**Ala-Archa**	**50.24**	**299**	*ce*P		**P**	**22 30 41.3**	**+0.8**
AAK				pmax		pmax		
comp=Z,12nm,2.5s								
BRVK	**Borovoye**	**50.56**	**313**	*e*P		**P**	**22 30 44.6**	**+2.1**
BRVK				pmax		pmax		
comp=Z,3.0nm,0.9s								
BRVK	**Borovoye**	**50.56**	**313**	*e*P		**P**	**22 30 44.5**	**+1.9**
comp=Z,2.5nm,0.8s								
INK	**Inuvik**	**55.11**	**27**	P		**P**	**22 31 16.7**	**+1.0**
comp=Z,1.4nm,0.3s,baz=278,slow=2.8,SNR=8.2								
ARU	**Arti**	**56.38**	**319**	*c i* P		**P**	**22 31 24.8**	**-0.2**
ARU							22 32 20.8	
ARU							22 33 27.3	
ARU				S		**S**	**22 39 09.2**	**-2.2**
ARU				SS		SS	22 42 49.8	-8.6
ARU				pmax		pmax		
comp=Z,15nm,1.7s								
ARU	**Arti**	**56.38**	**319**	*e*P		**P**	**22 31 24.8**	**-0.2**
comp=Z,7.1nm,0.9s								
WRAB	**Tennant Creek**	**56.46**	**187**	*e*P		P	22 31 20.3	-5.6
WRAB				pmax		pmax		
comp=Z,26nm,0.8s								
WRAB	**Tennant Creek**	**56.46**	**187**	*e*P		P	22 31 20.3	-5.6
comp=Z,26nm,0.8s								
WRA	**Warramunga Arr**	**56.47**	**187**	P		**P**	**22 31 24.8**	**-1.2**
comp=Z,2.9nm,0.8s,baz=3.1,slow=7.3,SNR=15								
ABKAR	**Akbulak array**	**57.85**	**310**	*e*P		**P**	**22 31 35.1**	**-0.4**
ASAR	**Alice Springs**	**60.20**	**187**	P		**P**	**22 31 51.0**	**-1.0**
comp=Z,1.6nm,0.8s,baz=2.9,slow=5.1,SNR=12								
GEYT	**Alibeck**	**63.59**	**299**	P		**P**	**22 32 14.9**	**+0.1**
comp=Z,2.1nm,0.8s,baz=3.8,slow=4.5,SNR=5.1								
ARCES	**ARCESS Array B**	**64.29**	**339**	P		**P**	**22 32 19.1**	**+0.2**
comp=Z,3.5nm,0.8s,baz=61,slow=7.5,SNR=5.3								
ARCES				LR		LR	23 03 05.0	
comp=Z,36nm,19.8s,baz=9.5,slow=38								
YKA	**Yellowknife Ar**	**64.54**	**30**	P		**P**	**22 32 21.0**	**+0.4**
comp=Z,0.6nm,0.7s,baz=308,slow=7.1,SNR=6.1								
YKA	**Yellowknife Ar**	**64.54**	**30**	P		**P**	**22 32 21.0**	**+0.4**
YKA				pmax		pmax		
comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	**68.18**	**323**	⇓*e*P		**P**	**22 32 45.0**	**+1.1**
OBN				*e*			22 33 09.3	
OBN				*e*			22 35 13.2	
OBN				pmax		pmax		
comp=Z,6.0nm,1.2s								
OBN				MLR		MLR		
comp=Z,62nm,18.0s								
LPSR	**Galich'ya Gora**	**68.34**	**320**	*e*P		**P**	**22 32 44.4**	**-0.6**
LPSR				pmax		pmax		
comp=N,3.0nm,0.9s								
LPSR				pmax		pmax		
comp=E,7.0nm,0.9s								
LPSR				pmax		pmax		
comp=Z,10.0nm,0.9s								
VSR	**Storozhevoye**	**68.95**	**319**	*e*P		**P**	**22 32 48.2**	**-0.6**
VSR				pmax		pmax		
comp=E,9.0nm,0.9s								
VSR				pmax		pmax		
comp=Z,8.0nm,0.9s								
VSR				pmax		pmax		
comp=N,9.0nm,0.8s								
FINES	**FINESS Array B**	**69.01**	**332**	P		**P**	**22 32 48.8**	**-0.2**
comp=N,7.0nm,0.9s,baz=57,slow=7.7,SNR=12								
FINES				LR		LR	23 03 53.6	
comp=N,32nm,19.9s,baz=70,slow=36								
VORD	**Divnogorie**	**69.02**	**318**	*e*P		**P**	**22 32 48.6**	**-0.6**
VORD				pmax		pmax		
comp=N,10.0nm,0.9s								
VORD				pmax		pmax		
comp=E,10.0nm,0.9s								
VORD				pmax		pmax		
comp=Z,7.0nm,0.9s								
KBZ	**Khabaz**	**70.81**	**310**	P		**P**	**22 33 00.0**	**-0.4**
comp=Z,2.9nm,0.7s,baz=236,slow=24,SNR=8.3								
KIV	**Kislovodsk**	**70.82**	**311**	*e*P		**P**	**22 33 02.1**	**+1.5**
KIV				pmax		pmax		
comp=Z,5.0nm,1.0s								
KIV				MLR		MLR		
comp=Z,28nm,17.0s								
AKASG	**Malin Array Be**	**74.36**	**322**	P		**P**	**22 33 20.9**	**-0.5**
comp=Z,3.2nm,0.7s,baz=47,slow=6.1,SNR=26								
AKASG				LR		LR	23 07 45.9	
comp=Z,32nm,18.3s,baz=275,slow=37								
FFC	**Flin Flon**	**74.45**	**32**	⇑*e*P		**P**	**22 33 23.1**	**+1.3**
NB2	**NORSAR Subarra**	**74.45**	**337**	P		**P**	**22 33 21.6**	**-0.2**
comp=Z,6.4nm,0.8s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**74.45**	**337**	P		**P**	**22 33 21.9**	**+0.2**
comp=Z,4.6nm,0.7s,baz=39,slow=5.8,SNR=18								
NOA				LR		LR	23 08 50.0	
comp=Z,21nm,19.6s,baz=20,slow=38								
BRTR	**Keskin Array B**	**78.77**	**311**	P		**P**	**22 33 46.8**	**0.0**
comp=Z,1.7nm,0.9s,baz=121,slow=4.8,SNR=7.8								
BRTR	**Keskin Array B**	**78.77**	**311**	*ce*P		**P**	**22 33 46.7**	**0.0**
BRTR				pmax		pmax		
comp=Z,2.0nm,0.9s								
CLL	**Collm**	**81.27**	**330**	*i* P		**P**	**22 33 59.5**	**-0.2**
comp=Z,7.0nm,0.9s								
CLL				*i* pPcP			22 34 18.8	
CLL	**Collm**	**81.27**	**330**	*i* P		**P**	**22 33 59.5**	**-0.2**
CLL				*i* *PP		**pP**	**22 34 18.8**	**+3.7**
CLL				pmax		pmax		
comp=Z,7.0nm,0.9s								
GERES	**GERESS Array B**	**82.86**	**328**	P		**P**	**22 34 08.2**	**-0.1**
comp=Z,0.5nm,0.4s,baz=39,slow=6.0,SNR=9.0								
GERES				LR		LR	23 17 04.9	
comp=Z,21nm,21.1s,baz=18,slow=40								
BFO	**Black Forest**	**85.48**	**330**	*ce*P		**P**	**22 34 21.9**	**+0.4**
TXAR	**Lajitas Array**	**90.89**	**52**	P		**P**	**22 34 48.3**	**+0.5**
comp=Z,0.5nm,0.7s,baz=298,slow=3.7,SNR=7.1								
TORD	**Torodi Ar. Bea**	**117.29**	**314**	PKP		**PKPdf**	**22 40 28.6**	**-0.9**
comp=Z,0.3nm,0.6s,baz=38,slow=2.6,SNR=4.0								

*ISCJB **28** 23:04:53.6±0.4,14˚.95S±0˚.04×167˚.38E±0˚.06,h129km, mb4.6/26,Error ellipse: s-maj=8.6km s-min=5.7km az=171.5*
*IDC **28** 23:04:54.1±2.8,14˚.89S×167˚.48E,h125km±22km, mb4.2/15,mb1 4.3/15,mb1mx4.1/31,mbtmp4.6/15,Error ellipse: s-maj=22.7km s-min=15.0km az=54.0*
*NEIC **28** 23:04:57.6±1.1,14˚.92S×167˚.39E,h155km±9km,mb5.0/18, Error ellipse: s-maj=9.0km s-min=7.4km az=212.0*

ISC 28 23:04:54.4±0.6,14˚.90S±0˚.07×167˚.5E±0˚.1,h129km,n69, σ0§98/70,mb4.9/25,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.20**	**188**	*e*P		**Pn**	**23 06 37.4**	**+0.2**
DZM				*e*S		**Sn**	**23 07 56.2**	**-1.5**
NOUC	**Port Laguerre**	**7.25**	**189**	*e*P		**Pn**	**23 06 39.2**	**+1.4**
NOUC				*e*S		**Sn**	**23 07 57.9**	**-0.8**
HNR	**Honiara**	**9.16**	**306**	*e*P		**Pn**	**23 07 02.0**	**-1.5**
HNR				*e*S		**Pn**	**23 07 06.0**	**+2.5**
HNR	**Honiara**	**9.16**	**306**	*e*Pn		**Pn**	**23 07 05.4**	**+1.9**
MSVF	**Nonsavu**	**10.53**	**107**	*e*Pn		Pn	23 07 27.4	+5.4
EIDS	**Eidsvold**	**18.57**	**233**	P		**Pn**	**23 09 03.2**	**-0.1**
baz=18,SNR=30								
EIDS	**Eidsvold**	**18.57**	**233**	*e*P		**Pn**	**23 09 03.5**	**+0.1**
53nm,0.8s								
CTA	**Charters Tower**	**20.89**	**253**	P		**P**	**23 09 27.3**	**+0.6**
34nm,0.8s,baz=81,slow=11,SNR=28								
CTAO	**Charters Tower**	**20.89**	**253**	*e*P		**P**	**23 09 27.6**	**+1.0**
36nm,0.8s								
RMQ	**Roma**	**20.94**	**234**	P		**P**	**23 09 28.5**	**+1.3**
baz=21,SNR=11								
RMQ				S		S	23 12 41.2	-32
baz=21,SNR=29								
OUZ	**Omahuta**	**20.97**	**166**	*e*P		Pn	23 09 29.4	-1.8
299nm,0.8s								
ARMA	**Armidale**	**21.23**	**221**	P		**P**	**23 09 31.5**	**+1.2**
baz=21,SNR=5.6								
ARMA	**Armidale**	**21.23**	**221**	*e*P		**P**	**23 09 31.5**	**+1.2**
15nm,1.0s								
COEN	**Coen**	**23.56**	**269**	P		**P**	**23 09 53.7**	**+0.2**
baz=24,SNR=8.8								
COEN	**Coen**	**23.56**	**269**	*e*P		**P**	**23 09 53.0**	**-0.5**
45nm,2.9s								
QLP	**Quilpie**	**24.61**	**238**	P		**P**	**23 10 03.2**	**+0.3**
baz=24,SNR=27								
QLP				S		S	23 14 06.3	-8.5
baz=24,SNR=3.1								
URZ	**Urewera**	**24.78**	**162**	P		**P**	**23 10 04.5**	**+0.3**
15nm,0.5s,baz=48,slow=0.3,SNR=13								
BKZ	**Black Stump Fm**	**25.44**	**164**	*e*P		**P**	**23 10 10.9**	**+0.

CM31	Chiang Mai Arr	75.21	294	*e*P	P	23 16 24.6	+1.1
CMAR	Chiang Mai Arr	75.21	294	P	P	23 16 24.6	+1.1
	0.8nm,0.7s,baz=133,slow=4.8,SNR=4.9						
MAW	Mawson	81.81	202	P	P	23 16 59.6	+0.9
	1.4nm,0.5s,baz=324,slow=8.7,SNR=5.9						
MAW	Mawson	81.81	202	*e*P	P	23 16 59.6	+0.9
	11nm,2.3s						
SONA0	Songino Array	82.76	324	*e*P	P	23 17 04.7	+0.6
SONM	Songino Array	82.76	324	P	P	23 17 04.7	+0.6
	0.3nm,0.4s,baz=142,slow=7.0,SNR=5.3						
DGR	Domenigoni Val	86.51	54	*e*P	P	23 17 27.8	+4.6
ILAR	Eielson Array	86.62	18	P	P	23 17 22.1	-0.9
	0.4nm,0.6s,baz=231,slow=5.9,SNR=4.9						
ILB	Eielson Array	86.62	18	*e*P	P	23 17 22.1	-0.9
BORC	Borrego Spring	86.84	55	*e*P	P	23 17 26.6	+1.9
CTCC	Cactus City	87.31	54	*e*P	P	23 17 29.0	+2.0
PIER	Pier 30 Seattl	88.06	40	*e*P	P	23 17 34.2	+4.1
PV05	Paradox Valley	93.98	52	*e*P	P	23 17 56.5	-1.8
LPM	Los Pinos Moun	94.93	56	*e*P	P	23 18 03.1	+0.4
MK32	Makanchi Array	97.47	316	*e*P	Pdif	23 18 14.4	+0.6
MKAR	Makanchi Array	97.47	316	P	Pdif	23 18 14.4	+0.6
	0.3nm,0.8s,baz=197,slow=1.3,SNR=4.8						
ZALV	Zalesovo Beam	97.65	324	P	P	23 18 13.6	-0.7
	0.3nm,0.3s,baz=93,slow=4.5,SNR=2.6						
ZAA1	Zalesovo Array	97.65	324	*e*P	P	23 18 13.6	-0.7
AKASG	Malin Array Be	130.99	326	SKPbc	SKPbc	23 27 02.6	-0.8
	0.5nm,0.5s,baz=50,slow=4.5,SNR=6.3						
TOA0	Torodi Ar. Sit	166.10	265	*e*PKPdf	PKPdf	23 24 43.8	-1.4
TORD	Torodi Ar. Bea	166.10	265	PKP	PKPdf	23 24 43.8	-1.4
	0.6nm,0.9s,baz=64,slow=1.2,SNR=3.5						
TORD				PKPab	PKPab	23 25 45.9	-0.5
	0.5nm,0.9s,baz=114,slow=3.6,SNR=2.4						

IDC ***28*** *23:18:43.8±1.0, 44.°34N×80.°93E, h0km, mb3.6/4, mb1 3.7/10, mb1mx3.5/43, mbtmp3.5/10, ML3.2/6, Error ellipse: s-maj=14.9km s-min=10.0km az=118.0*
ISCJB ***28*** *23:18:45.8±0.6, 44.°51N±0.°04×80.°86E±0.°09, h10km, mb3.4/4, Error ellipse: s-maj=10.1km s-min=4.4km az=30.5*
NNC ***28*** *23:18:46.5±1.4, 44.°41N×80.°84E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=21.6km s-min=6.0km az=120.0*

ISC 28 23:18:46.7±0.8, 44°39N±0.°06×80°95E±0.°07, h10km, n28, σ1°54/34, mb3.5/4, 13C-12D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.50	225	⇓P	Pn	23 19 12.4	-1.3
	31nm,0.3s						
PDGK				⇓S	Sn	23 19 33.0	-0.4
	4.6nm,0.2s						
MK31	Makanchi Array	2.58	21	⇓Pn	Pn	23 19 29.7	+1.1
	2.0nm,0.2s,baz=193,slow=12,SNR=333						
MK31				⇓Pg	Pg	23 19 38.2	+2.1
	4.0nm,0.4s,baz=221,slow=77,SNR=7.0						
MK31				⇑Lg	Lg	23 20 04.6	
	63nm,0.8s,baz=201,slow=27,SNR=15						
MKAR	Makanchi Array	2.58	21	Pn	Pn	23 19 29.4	+0.9
	6.4nm,0.3s,baz=119,slow=6.3,SNR=256						
MKAR				Sn	Sn	23 20 02.7	+2.8
	13nm,0.3s,baz=212,slow=17,SNR=9.2						
KNDC	Almaty	3.12	249	⇓Pn	Pn	23 19 37.5	+1.5
	18nm,0.3s						
KNDC				⇑Sn	Sn	23 20 16.7	+3.4
	33nm,0.6s						
ULHL	Ulahol	4.05	240	P	Pn	23 19 50.5	+1.6
	SNR=44						
TKM2	Tokmak 2	4.16	251	⇓Pn	Pn	23 19 51.1	+0.7
	2.1nm,0.7s						
TKM2				⇑Pg	Pb	23 20 00.2	+0.1
	20nm,0.5s						
TKM2				⇑Lg	Lg	23 20 56.8	
	63nm,0.8s						
TKM2	Tokmak 2	4.16	251	P	Pb	23 20 00.6	+0.6
	SNR=13						
KBK	Karagaybulak	4.70	250	P	Pn	23 19 59.2	+1.4
	SNR=27						
CHMS	Chumysh	4.71	255	P	Pn	23 19 58.5	+0.7
	SNR=7.5						
KZA	Kyzart	4.77	243	P	Pn	23 20 02.3	+3.3
	SNR=11						
USP	Ospenovka	4.80	259	P	Pn	23 19 59.6	+0.5
	SNR=8.0						
AAK	Ala-Archa	5.01	252	⇓Pn	Pn	23 20 04.6	+2.4
	6.1nm,0.5s						
AAK				⇓Lg	Lg	23 21 26.2	
	16nm,0.7s						
AAK	Ala-Archa	5.01	252	Pn	Pn	23 20 02.3	+0.2
	0.5nm,0.3s,baz=105,slow=6.5,SNR=6.3						
AAK				Lg	Lg	23 21 23.2	
	1.2nm,0.3s,baz=213,slow=20,SNR=15						
UCH	Uchtor	5.17	247	P	Pb	23 20 19.1	+1.6
	SNR=8.1						
EKS2	Erkin-Say	5.50	254	P	Pn	23 20 09.7	+1.0
	SNR=8.2						
MNAS	Manas	6.44	256	⇓Pn	Pn	23 20 21.7	0.0
	3.3nm,1.3s						
MNAS				⇑Pg	Pb	23 20 42.9	+4.0
	3.6nm,0.9s						
MNAS				⇑Lg	Lg	23 22 06.4	
	15nm,1.1s						
KURBB	Kurchatov Arra	6.44	346	⇑Pn	Pn	23 20 21.3	-0.3
	1.4nm,0.3s						
KURBB				⇑Sn	Sn	23 21 33.6	-1.6
	10nm,0.6s						
KURBB				⇑Lg	Lg	23 22 09.8	
	35nm,0.8s						
KURBB	Kurchatov Arra	6.44	346	Pn	Pn	23 20 20.8	-0.8
	0.3nm,0.3s,baz=167,slow=12,SNR=12						
KURBB				Sn	Sn	23 21 35.3	+0.1
	0.2nm,0.3s,baz=164,slow=23,SNR=3.3						
KURBB				Lg	Lg	23 22 10.7	
	0.3nm,0.3s,baz=200,slow=27,SNR=7.8						
KURK	Kurchatov	6.52	347	⇑Pn	Pn	23 20 22.4	-0.2
	1.2nm,0.5s						
KURK				⇑Sn	Sn	23 21 35.7	-1.3
	2.0nm,0.5s						
KURK				⇓Lg	Lg	23 22 13.4	
	9.7nm,1.0s						
KK31	Karatay Array	7.67	264	⇓Pn	Pn	23 20 36.3	-2.2
	0.5nm,0.6s,baz=156,slow=11,SNR=4.2						
KK31				⇑Pg	Pb	23 21 04.0	+4.2
	1.9nm,0.7s,baz=73,slow=17,SNR=4.9						
KK31				⇓Lg	Lg	23 22 49.0	
	7.5nm,0.7s,baz=80,slow=26,SNR=8.6						
ZALV	Zalesovo Beam	9.89	13	Pn	Pn	23 21 08.2	-0.7
	0.7nm,0.3s,baz=194,slow=14,SNR=15						
ZALV				Lg	Lg	23 23 59.4	
	0.2nm,0.3s,baz=205,slow=24,SNR=6.0						
BVAR	Borovoye Array	11.09	325	Pn	Pn	23 21 23.7	-1.6
	0.3nm,0.3s,baz=135,slow=13,SNR=3.6						
BVAR				Lg	Lg	23 24 34.7	
	0.3nm,0.3s,baz=115,slow=27,SNR=5.4						
AB31	Akbulak array	15.17	296	⇑Pn		23 22 17.0	-3.8
	0.6nm,0.7s,baz=104,slow=13,SNR=8.3						
SONM	Songino Array	17.95	70	P	Pn	23 22 56.8	+0.5
	0.1nm,0.3s,baz=266,slow=12,SNR=5.3						
NOA	NORSAR Array B	43.12	318	P	P	23 26 46.8	-0.1
	0.4nm,0.5s,baz=77,slow=7.9,SNR=4.0						
YKA	Yellowknife Ar	72.73	7	P	P	23 30 13.2	-1.3
	0.2nm,0.5s,baz=340,slow=5.8,SNR=3.4						
TORD	Torodi Ar. Bea	73.28	272	P	P	23 30 17.2	-1.3
	0.3nm,0.4s,baz=44,slow=5.1,SNR=7.2						
WRA	Warramunga Arr	80.45	130	P	P	23 30 57.3	-1.4
	0.3nm,0.6s,baz=323,slow=5.5,SNR=3.2						

KRSC 28 23:35:32.2±0.6, 55°20N×162°48E, h44km±15km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.78	214	P	Pn	23 35 48.0	+1.3
MKZ				S	Sn	23 35 59.2	+2.0
KBTR	Krutoberegovo	1.03	11	P	Pn	23 35 50.6	+0.4
KBTR				S	Sn	23 36 04.8	+1.3
BZGR	Bezymyannyi-Gr	1.26	307	P	Pn	23 35 54.8	+1.3
BZGR				S	Sn	23 36 10.5	+1.2
KZV	Kizimen	1.26	267	P	Pn	23 35 55.0	+1.5
KZV				S	Sn	23 36 10.3	+0.9
ZLN	Zelenaya	1.26	312	P	Pn	23 35 54.6	+1.1
ZLN				S	Sn	23 36 11.0	+1.7
TUMR	Tumrok	1.34	275	P	Pn	23 35 56.7	+2.1
TUMR				S	Sn	23 36 13.7	+2.4
BZMR	Bezymyannaya	1.35	304	P	Pn	23 35 56.4	+1.6
BZWR	Bezymyannyi-We	1.36	305	P	Pn	23 35 56.5	+1.5
KMNR	Kamenistaya	1.39	295	P	Pn	23 35 57.3	+2.0
KMNR				S	Sn	23 36 14.0	+1.4
KIRR	Kirishev	1.43	303	P	Pn	23 35 57.5	+1.6
KIRR				S	Sn	23 36 16.6	+2.9
KPT	Kopyto	1.50	302	P	Pn	23 35 58.9	+2.2
SMKR	Semkarok	1.50	338	P	Pn	23 35 57.9	+1.1
SMKR				S	Sn	23 36 16.7	+1.5
KLY	Klyuchi	1.52	318	P	Pn	23 35 57.8	+0.9
KLY				S	Sn	23 36 14.8	-0.7
BDR	Baidarnaya	1.55	333	*e*P	Pn	23 35 58.6	+1.1
BDR				*e*S	Sn	23 36 18.5	+2.1
SRKR	Sorokina	1.64	334	P	Pn	23 35 59.6	+1.0
SRKR				S	Sn	23 36 20.5	+2.0
KOZ	Kozyrevsk	1.71	301	P	Pn	23 36 02.7	+3.1
SRDR	Sredinnyy	1.92	307	P	Pn	23 36 05.0	+2.5
BKI	Bering	2.00	88	*e*P	Pn	23 36 06.8	+3.3
BKI				*e*S	Sn	23 36 31.1	+3.8
ESO	Esso	2.27	290	P	Pn	23 36 09.2	+2.0
SPN	Mys Shipunski	2.55	215	P	Pn	23 36 12.5	+1.4
SPN				S	Sn	23 36 42.3	+1.4
NLC	Nalytchevo	2.74	223	P	Pn	23 36 16.4	+2.7
NLC				S	Sn	23 36 48.8	+3.3
SDLR	Sedlovina	2.85	229	P	Pn	23 36 18.5	+3.1
SDLR				S	Sn	23 36 51.7	+3.1
KRER	Koryakskii	2.90	231	P	Pn	23 36 19.6	+3.5
KRER				S	Sn	23 36 54.1	+4.3
SMAR	Somma	2.90	230	P	Pn	23 36 19.2	+3.0
KRX	Arik	2.90	232	P	Pn	23 36 19.2	+3.1
AVH	Avacha	2.93	230	*e*P	Pn	23 36 20.4	+4.0
AVH				S	Sn	23 36 54.8	+4.5
UGLR	Uglovaya	2.93	229	P	Pn	23 36 19.9	+3.5
KOK	Koryaka	2.95	231	P	Pn	23 36 20.2	+3.4
GNL	Ganaly	3.05	242	P	Pn	23 36 21.3	+3.3
RUS	Russkaya	3.63	222	P	Pn	23 36 29.3	+3.4
MTVR	Mutnovka	3.72	225	P	Pn	23 36 31.5	+4.1
MTVR				S	Sn	23 37 12.9	+2.8
ASAK	Asacha	3.91	226	P	Pn	23 36 33.9	+4.0

CSEM ***28*** *23:36:35.5, 38.°25N×26.°65W, h0km, ML2.2*
PDA 28 23:36:35.5±1.4, 38°25N×26°65W, h0km±9km, MD3.5, ML2.2, Error ellipse: s-maj=16.9km s-min=2.8km az=35.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	Angra Heroismo	0.61	312	*i* P	Pg	23 36 46.0	-1.3
ADH				*e*S	Sg	23 36 54.6	-0.7
ADH				A	A	23 36 56.0	
	64nm,0.2s						
PSET	Sete Cidades	0.85	120	*e*P	Pg	23 36 49.3	-2.5
PSET				*e*S	Sg	23 37 00.4	-2.4
PSET				A	A	23 37 02.9	
	31nm,0.3s						
PSET	Sete Cidades	0.85	120	*e*P	Pg	23 36 49.3	-2.5
PSET				*e*S	Sg	23 37 00.4	-2.4
PDA	Ponta Delgada	0.93	122	*e*P	Pg	23 36 50.5	-2.7
PDA				*e*S	Sg	23 37 02.8	-2.4
PDA				A	A	23 37 04.3	
	19nm,0.2s						
PDA	Ponta Delgada	0.93	122	*e*P	Pg	23 36 50.5	-2.7
PDA				*e*S	Sg	23 37 02.8	-2.4
PMAN	Manadas	1.19	289	*e*S	Sg	23 37 08.7	-5.2
PMAN				A	A	23 37 10.9	
	13nm,0.2s						
PMAN	Manadas	1.19	289	*e*S	Sg	23 37 08.7	-5.2
BART	Pico Bartolome	1.26	111	*e*S	Sg	23 37 10.4	-5.8
BART				A	A	23 37 17.7	
	11nm,0.4s						
BART	Pico Bartolome	1.26	111	*e*S	Sg	23 37 10.4	-5.8
ROSA	Rosais	1.34	291	*e*P	Pg	23 36 57.0	-4.2
ROSA				*e*S	Sg	23 37 12.1	-6.4
ROSA				A	A	23 37 14.0	
	15nm,0.1s						
ROSA	Rosais	1.34	291	*e*P	Pg	23 36 57.0	-4.2
ROSA				*e*S	Sg	23 37 12.1	-6.4

IDC ***28*** *23:52:14.4±1.3, 22.°02S×174.°48W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.2/31, mbtmp4.2/9, Error ellipse: s-maj=62.8km s-min=19.7km az=157.0*
ISCJB ***28*** *23:52:16.7±0.6, 22.°2S±0.°2×174.°44W±0.°10, h27km, mb4.7/15, Error ellipse: s-maj=24.2km s-min=10.0km az=157.7*
NEIC ***28*** *23:52:22.4±2.7, 22.°18S×174.°49W, h62km±21km, mb4.9/5, Error ellipse: s-maj=27.8km s-min=8.6km az=151.0*

ISC 28 23:52:18.3±0.8, 22°2S±0.°2×174°4W±0.°1, h27km, n35, σ0°96/35, mb4.7/15, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.43	301	*e*Pn	Pn	23 54 20.7	+1.9
RMQ	Roma	33.80	255	P	P	23 58 59.7	+1.4
	baz=35,SNR=6.8						
CTAO	Charters Tower	36.73	266	*e*P	P	23 59 22.8	-0.7
	5.9nm,0.6s						
QLP	Quilpie	37.85	255	P	P	23 59 32.9	-0.1
	baz=39,SNR=3.9						
PMG	Port Moresby	39.04	283	*e*P	P	23 59 41.4	-1.7
	145nm,1.3s						
STKA	Stephens Creek	40.16	247	P	P	23 59 51.9	-0.4
	2.8nm,0.9s,baz=117,slow=9.7,SNR=3.4						
AS12	Alice Springs	47.46	258	*e*P	P	00 00 50.6	-0.4
ASAR	Alice Springs	47.46	258	P	P	00 00 50.6	-0.4
	10.0nm,0.9s,baz=91,slow=8.4,SNR=61						
WRAB	Tennant Creek	47.74	263	*e*P	P	00 00 52.0	-1.3
	5.3nm,0.6s						
WRA	Warramunga Arr	47.75	263	P	P	00 00 52.1	-1.3
	9.1nm,0.9s,baz=98,slow=8.4,SNR=27						
JAY	Jayapura	47.81	288	P	P	00 00 52.8	-1.1
	8.5nm,0.6s,baz=337,slow=3.3,SNR=7.2						
FORT	Forrest	51.76	248	P	P	00 01 23.5	-0.2
	baz=53,SNR=14						
FORT	Forrest	51.76	248	*e*P	P	00 01 22.8	-0.9
	16nm,0.5s						
WRKA	Warakurna	52.29	255	P	P	00 01 27.3	-0.4
	baz=53,SNR=17						
FITZ	Fitzroy Crossi	56.18	263	P	P	00 01 56.1	0.0
	baz=57,SNR=4.1						
FITZ	Fitzroy Crossi	56.18	263	*e*P	P	00 01 54.8	-1.3
	6.0nm,0.8s						
BLDU	Ballidu	61.47	246	P	P	00 02 33.7	+0.9
	baz=62,SNR=6.4						
MORW	Morawa	62.33	248	P	P	00 02 39.7	+1.1
	baz=63,SNR=3.2						
MJAR	Matsushiro Arr	73.64	322	P	P	00 03 48.4	-1.0
	2.3nm,0.9s,baz=151,slow=6.2,SNR=4.3						
PASC	Pasadena Art C	77.44	45	*e*P	P	00 04 12.0	+0.7
NV01	Mina Array Sit	80.00	41	*e*P	P	00 04 25.2	-0.4
NVAR	Mina Array Bea	80.00	41	P	P	00 04 25.2	-0.4
	0.9nm,0.7s,baz=246,slow=6.8,SNR=3.7						
LTX	Lajitas	85.16	56	*e*P	P	00 04 53.2	+0.8
TXAR	Lajitas Array	85.16	56	P	P	00 04 53.2	+0.8
	0.4nm,0.9s,baz=237,slow=5.9,SNR=2.9						
PD31	Pinedale Array	87.93	42	*e*P	P	00 05 05.6	-0.3
PDAR	Pinedale Array	87.93	42	P	P	00 05 05.6	-0.3
	2μm,0.5s,baz=256,slow=6.3,SNR=2.7						
YBMT	Yellow Bay	88.24	36	*e*P	P	00 05 06.2	-0.9
ILAR	Eielson Array	89.28	11	P	P	00 05 10.6	-0.9
	0.5nm,0.9s,baz=209,slow=6.4,SNR=4.5						
ILB	Eielson Array	89.28	11	*e*P	P	00 05 10.6	-0.9
CM31	Chiang Mai Arr	93.89	288	*e*P	P	00 05 34.7	+0.8
CMAR	Chiang Mai Arr	93.89	288	P	P	00 05 34.7	+0.8
	1.0nm,0.3s,baz=106,slow=2.1,SNR=4.2						
GEYT	Alibeck	132.58	302	PKP	PKPdf	00 11 32.4	+1.7
	1.2nm,0.7s,baz=151,slow=3.4,SNR=3.5						
FINES	FINESS Array B	138.34	345	PKP	PKPdf	00 11 41.2	+0.7
	3.1nm,1.0s,baz=51,slow=10.0,SNR=3.3						
AKASG	Malin Array Be	146.13	333	PKPbc	PKPdf	00 11 55.0	+0.2
	0.7nm,0.5s,baz=38,slow=3.7,SNR=8.7						
BRTR	Keskin Array B	150.51	31	PKPbc	PKPbc	00 12 07.8	0.0
	0.9nm,0.8s,baz=132,slow=3.5,SNR=5.8						

IDC 28 23:55:13.3±2.0, 6°69S×128°57E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.3/29, mbtmp3.4/3, ML3.4/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/11, Error ellipse: s-maj=141.6km s-min=30.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.31	158	Pn	Pn	23 58 36.5	-1.0
	0.1nm,0.3s,baz=336,slow=13,SNR=3.1						
ASAR	Alice Springs	17.64	164	P	P	23 59 21.3	-0.5
	0.3nm,0.3s,baz=338,slow=12,SNR=13						
MJAR	Matsushiro Arr	43.95	11	LR	LR	00 20 47.3	
	comp=Z,40nm,21.9s,baz=70,slow=35						
SONM	Songino Array	57.71	342	LR	LR	00 31 38.1	
	comp=Z,87nm,20.0s,baz=0.0,slow=38						
MKAR	Makanchi Array	67.20	327	P	P	00 06 09.4	0.0
	0.2nm,0.5s,baz=144,slow=5.2,SNR=4.1						

BJI ***29*** *00:02:35.8, 51.°00N×178.°40W, h40km, mB4.8/7, mb4.8/10*
IDC ***29*** *00:02:37.5±0.6, 51.°35N×178.°92W, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.2/37, mbtmp4.1/25, ML3.3/2, MS3.3/7, Ms1 3.4/7, ms1mx3.1/32, Error ellipse: s-maj=19.2km s-min=12.0km az=165.0*
ISCJB ***29*** *00:02:42.2±0.2, 51.°22N±0.°04×178.°98W±0.°03, h44km, mb4.4/72, MS3.5/8, Error ellipse: s-maj=6.2km s-min=2.7km az=175.7*
MOS ***29*** *00:02:42.5±0.8, 51.°31N×178.°85W, h46km, mb4.8/41, Error ellipse: s-maj=11.7km s-min=6.0km az=93.1*
NEIC ***29*** *00:02:45.2±0.5, 51.°35N×178.°91W, h56km±3km, mb4.2/6, ML4.3(AEIC), Error ellipse: s-maj=9.0km s-min=5.0km az=179.0*

ISC 29 00:02:44.1±0.4, 51°29N±0.°07×178°94W±0.°05, h44km, n399, σ0°84/401, mb4.5/72, MS3.5/8, 86C-81D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	Gareloi Lava P	0.49	12	P	Pn	00 02 55.0	+0.1
GAEA	Gareloi East	0.51	14	P	Pn	00 02 55.1	-0.1
TASE	Tanaga Southea	0.79	45	P	Pn	00 02 58.6	-0.3
TAFL	Tanaga Flats	0.80	54	P	Pn	00 02 58.5	-0.5
TANO	Tanaga North	0.81	39	P	Pn	00 02 59.2	+0.1
TAFP	Tanaga Falls P	0.86	44	P	Pn	00 02 59.5	-0.3
TAFP				S	Sn	00 03 12.4	+1.2
KIKV	Kanaga Island	1.25	61	P	Pn	00 03 04.7	-0.5
KICM	Kanaga Island	1.26	59	P	Pn	00 03 05.5	+0.3
KIRH	Kanaga Island	1.31	61	P	Pn	00 03 05.8	0.0
ADK	Adak	1.53	66	P	Pn	00 03 08.2	-0.7
ADK				S	Sn	00 03 27.7	+0.1
ADK	Adak	1.53	66	P	Pn	00 03 08.2	-0.7
ADK				S	Sn	00 03 27.6	+0.1
ETKA	Kagalaska Isla	1.68	69	P	Pn	00 03 10.5	-0.5
GSCK	Great Sitkin C	1.88	66	P	Pn	00 03 14.0	+0.3
GSTD	Great Sitkin T	1.90	65	P	Pn	00 03 14.4	+0.3
GSTD				S	Sn	00 03 38.0	+1.1
GSMY	Great Sitkin M	1.95	66	P	Pn	00 03 14.9	+0.2
GSTR	Great Sitkin T	1.97	65	*e*Pn	Pn	00 03 15.2	+0.3
GSTR				*e*Sn	Sn	00 03 39.3	+0.9
KOKL	Mount Kliuchef	3.12	69	P	Pn	00 03 32.3	+1.5
KOFP	Korovin Flat P	3.17	70	P	Pn	00 03 32.5	+1.1
SMY	Shemya	4.54	291	P	Pn	00 03 53.4	+3.3
SMY	Shemya	4.54	291	P	Pn	00 03 53.4	+3.3
NIKH	Nikolski High	6.44	71	P	Pn	00 04 17.4	+1.2
OKFG	Magazine Ridge	7.08	68	P	Pn	00 04 27.9	+2.8
MSOM	Makushin Julie	7.74	66	P	Pn	00 04 36.5	+2.5
MSOM	Makushin Julie	7.74	66	P	Pn	00 04 36.5	+2.5
SPIA	Saint Paul Isl	7.79	37	P	Pn	00 04 37.8	+3.1
MREP	Makushin Rep't	7.85	66	P	Pn	00 04 38.4	+2.8
UNV	Unalaska Valle	8.00	66	P	Pn	00 04 39.7	+2.0
GAMB	Gambell	13.10	14	*e*Pn	Pn	00 05 48.6	+1.4
	12nm,0.8s						
PETK	Petropavlovsk-	14.43	286	Pn	Pn	00 06 01.8	-3.6
	0.4nm,0.3s,baz=82,slow=39,SNR=3.3						
PETK				LR	LR	00 11 37.6	
	comp=Z,98nm,20.9s,baz=94,slow=37						
KDAK	Kodiak Island	16.55	57	*e*P	Pn	00 06 30.5	-2.2
RSO	Redoubt South	17.21	48	*e*Pn	P	00 06 42.7	+0.4
	31nm,0.9s						
BILL	Bilibino	18.29	342	*e*P	Pn	00 06 54.3	+0.1
BILL				*i* S	S	00 10 21.1	+0.6
BILL				pmax	pmax		
	comp=Z,21nm,1.7s						
BILL				MLR	MLR		
	comp=Z,193nm,18.0s						
SEY	Seymchan	19.25	318	P	Pn	00 07 04.7	-1.1
	comp=Z,0.2nm,0.3s,baz=127,slow=11,SNR=6.7						
COLA	College	21.04	38	P	P	00 07 24.7	+0.9
BMRM	Bremner River	21.20	50	*e*P	P	00 07 22.6	-3.1
	comp=Z,9.9nm,0.9s						
ILAR	Eielson Array	21.37	39	P	P	00 07 26.1	-1.3
	comp=Z,1.1nm,0.4s,baz=259,slow=12,SNR=26						
ILAR				PcP	PcP	00 11 28.1	-1.4
	comp=Z,0.6nm,0.4s,baz=262,slow=3.2,SNR=9.8						
ILAR				ScP	ScP	00 15 04.4	+1.8
	comp=Z,0.4nm,0.8s,baz=277,slow=4.0,SNR=4.1						
COLD	Coldfoot	21.38	31	*e*P	P	00 07 27.3	-0.2
	comp=Z,6.5nm,0.9s						
EGAK	Eagle	23.68	41	*e*P	P	00 07 50.7	-0.6
	comp=Z,8.0nm,0.8s						
YSS	Yuzh-Sakhalins	25.24	275	*e*P	P	00 08 06.0	+0.4
ASAJ	Asahikawa	26.62	270	P	P	00 08 19.4	+1.2
	comp=Z,15nm,1.0s,baz=49,slow=9.3,SNR=3.2						
ASAJ	Asahikawa	26.62	270	P	P	00 08 19.4	+1.2
ASAJ				pmax	pmax		
	comp=Z,15nm,1.0s						
INK	Inuvik	27.59	35	P	P	00 08 25.9	-0.7
	comp=Z,0.9nm,0.5s,baz=258,slow=4.6,SNR=5.0						
INK				PcP	PcP	00 11 42.8	-0.2
	comp=Z,0.6nm,0.5s,baz=309,slow=2.2,SNR=5.4						
INK	Inuvik	27.59	35	P	P	00 08 25.9	-0.7
INK						00 11 42.8	

baz=44,SNR=6.1
D19A Cripps Ranch, 44.35 67 ⇑P P 00 10 49.9 +0.1
baz=44
C20A Veseth Ranch, 44.56 65 ⇑P P 00 10 51.4 0.0
baz=44
D20A Manuel Ranch, 44.82 66 ⇑P P 00 10 53.1 -0.4
baz=45
H17A Grant Village 44.88 71 ⇑P P 00 10 55.8 +1.5
baz=45,SNR=7.4
A22A Carney Farms, 45.06 63 ⇓P P 00 10 55.0 -0.4
baz=45
H18A Shoshone NF, C 45.26 70 ⇑P P 00 10 57.7 +0.4
baz=45
F20A Billings 45.52 68 ⇓P P 00 10 59.4 +0.3
baz=45
H19A Powell 45.67 70 ⇓P P 00 11 00.8 +0.5
baz=45
G20A Bridger 45.81 69 ⇓P P 00 11 01.0 -0.4
baz=46,SNR=11
B23A Brockton 45.86 63 ⇓P P 00 11 01.3 -0.4
baz=46
DUG Dugway, Tooele 45.98 77 ⇓P P 00 11 03.1 +0.3
baz=46,SNR=6.7
F21A Absaloka Mine, 46.10 67 ⇓P P 00 11 03.5 -0.2
baz=46,SNR=6.9
C23A Lambert 46.12 64 ⇓P P 00 11 03.7 0.0
baz=46,SNR=6.1
ULN Ulaanbaatar 46.22 296 *ce*P P 00 11 05.0 +0.3
ULN pmax pmax
comp=Z,4.0nm,1.0s
G21A Lodge Grass 46.39 68 ⇑P P 00 11 05.8 -0.2
baz=46
PDAR Pinedale Array 46.42 72 P P 00 11 06.6 +0.2
comp=Z,4.4nm,0.5s,baz=312,slow=3.5,SNR=55
J19A Crowheart 46.43 71 ⇑P P 00 11 06.3 -0.1
baz=46
E22A Miles City 46.44 66 ⇓P P 00 11 06.4 +0.1
baz=46
I20A Worland 46.58 70 ⇓P P 00 11 07.4 -0.1
baz=46
SONM Songino Array 46.61 297 P P 00 11 07.9 +0.2
comp=Z,1.9nm,0.7s,baz=66,slow=6.3,SNR=19
SONM PcP PcP 00 12 41.7 +0.7
comp=Z,0.5nm,0.5s,baz=82,slow=2.9,SNR=3.8
SONM Songino Array 46.61 297 P P 00 11 07.9 +0.2
SONM 00 12 41.7
SONM pmax pmax
comp=Z,2.0nm,0.7s
F22A Rosebud 46.63 67 ⇑P P 00 11 07.6 -0.2
baz=46
ZAK Zakamensk 46.93 301 *e*P P 00 11 10.7 +0.6
ZAK *e* 00 12 42.7
ZAK pmax pmax
comp=Z,1.0nm,1.4s
F23A Volborg 47.15 66 ⇓P P 00 11 11.6 -0.3
baz=47
I21A Big Trails, Te 47.16 70 ⇑P P 00 11 11.7 -0.4
baz=47
E24A Baker 47.30 65 ⇑P P 00 11 13.0 -0.1
baz=47
G23A Biddle 47.46 67 ⇑P P 00 11 14.0 -0.3
baz=47
I22A 9 Mile Ranch, 47.58 69 ⇑P P 00 11 15.6 +0.2
baz=47
HHC Hu-ho-hao-te 47.63 286 *e*P P 00 11 17.0 +1.3
HHC PP PP 00 13 09.0 +1.7
HHC S S 00 18 07.8 -0.3
HHC PMZ
comp=Z,15nm,0.9s
HHC PMZ
comp=Z,64nm,4.6s
F24A Ekalaka 47.63 66 ⇑P P 00 11 15.5 -0.1
baz=47
C26A Wahner Farm, P 47.83 62 ⇓P P 00 11 17.0 -0.1
baz=48
J22A Midwest 47.87 70 ⇓P P 00 11 17.6 +0.1
baz=48
K21A Alcova 47.87 71 ⇑P P 00 11 17.6 -0.1
baz=48
K22A Casper 48.29 70 ⇓P P 00 11 20.6 -0.2
baz=48
N20A Spence Gulch, 48.35 73 ⇑P P 00 11 21.3 -0.1
baz=48
E26A Carlson Angus 48.40 64 ⇓P P 00 11 21.3 -0.3
baz=48
L22A Ellis Ranch, M 48.72 71 ⇓P P 00 11 24.6 +0.4
baz=48
K23A Bowen Ranch, D 48.76 70 ⇑P P 00 11 24.9 +0.5
baz=48
O20A White River Ci 48.79 74 ⇑P P 00 11 25.1 +0.3
baz=49,SNR=8.3
J24A Dixon Ranch, L 48.98 69 ⇓P P 00 11 26.2 +0.1
baz=49
M22A Cedar Creek Ra 49.00 72 ⇑P P 00 11 26.3 -0.2
baz=49
G26A Maurine 49.01 65 ⇓P P 00 11 25.9 -0.3
baz=49
L23A Garrett 49.10 70 ⇑P P 00 11 26.8 -0.4
baz=49,SNR=6.0
I25A Rochford 49.11 67 ⇓P P 00 11 26.2 -1.0
baz=49
G27A Dupree 49.34 65 ⇑P P 00 11 28.1 -0.6
baz=49
J25A Sunshine Ranch 49.45 68 ⇑P P 00 11 28.9 -0.7
baz=49
N22A Wattenberg Ran 49.46 72 ⇓P P 00 11 30.0 +0.1
baz=49
M23A Laramie 49.48 71 ⇑P P 00 11 30.3 +0.2
baz=49
N23A Red Feather La 49.70 72 ⇑P P 00 11 32.0 +0.2
baz=50
O22A Kremmling 49.80 73 ⇓P P 00 11 32.7 +0.1
baz=50
O23A Lake Granby, G 50.14 73 ⇑P P 00 11 35.5 +0.3
baz=50,SNR=9.1
M25A Palm-Egli Farm 50.49 70 ⇓P P 00 11 37.7 +0.1
baz=50
J27A Elkhorn Farm, 50.57 67 ⇑P P 00 11 37.9 -0.3
baz=50
ISCO Idaho Springs 50.58 73 ⇓P P 00 11 39.1 +0.6
baz=50
I28A Midland 50.60 66 ⇑P P 00 11 38.3 0.0
baz=50
J28A Allard Ranch, 50.91 67 ⇑P P 00 11 40.7 0.0
baz=51
J29A Okreek 51.45 66 ⇑P P 00 11 44.5 -0.2
baz=51
P25A Willow Gulch B 51.63 72 ⇑P P 00 11 46.8 +0.5
baz=51,SNR=5.7
P26A Davis Ranch, A 52.09 72 ⇓P P 00 11 50.2 +0.6
baz=52
M29A Burnside Ranch 52.46 68 ⇓P P 00 11 52.5 +0.2
baz=52
R26A Arlington 52.84 73 ⇓P P 00 11 55.9 +0.7
baz=53
T25A Trinidad 53.01 75 ⇑P P 00 11 57.4 +0.9
baz=53
R27A Eads 53.23 73 ⇑P P 00 11 58.3 +0.2
baz=53
S26A Kim 53.26 74 ⇓P P 00 11 58.9 +0.7
baz=53,SNR=5.6
ECSD EROS Data Cent 53.35 64 ⇑P P 00 11 57.2 -1.5
baz=53
T26A Comanche Natio 53.48 74 ⇑P P 00 12 00.2 +0.2
baz=53
P29A Atwood 53.49 70 ⇓P P 00 11 60.0 +0.1
baz=53
121A Cookes Peak, D 53.99 81 ⇓P P 00 12 04.2 +0.5
baz=54
ZALV Zalesovo Beam 54.03 313 PcP PcP 00 13 08.3 +0.3
comp=Z,2.4nm,0.6s,baz=38,slow=3.7,SNR=12
ZALV LR LR 00 36 27.4
comp=Z,34nm,18.7s,baz=70,slow=38
O31A Woolen Ranch, 54.08 69 ⇑P P 00 12 04.7 +0.5
baz=54
S28A Manter 54.23 73 ⇑P P 00 12 06.0 +0.7
baz=54
Q30A Quinter 54.32 70 ⇑P P 00 12 06.7 +0.8
baz=54
T28A Walsh 54.41 73 ⇑P P 00 12 07.6 +1.0
baz=54
U28A Mallet 54.83 74 ⇓P P 00 12 10.1 +0.4
baz=55
V27A Dan Oppiter Fa 54.87 75 ⇓P P 00 12 10.9 +0.9
baz=55
Q32A Meitler Ranch, 55.29 69 ⇓P P 00 12 13.1 +0.2
baz=55
GTA Gaotai 55.52 292 *e*P P 00 12 14.8 +0.1
GTA pP pP 00 12 20.0 -7.1
GTA sP sP 00 12 23.5 -8.7
GTA PMZ
comp=Z,10.0nm,1.1s
R32A Long Quarter, 55.57 70 ⇓P P 00 12 15.2 +0.2
baz=55
U30A WK&E Inc. Balk 55.67 73 ⇑P P 00 12 15.7 0.0
baz=56
Q33A Connelly Farm, 55.71 69 ⇓P P 00 12 15.8 -0.1
baz=56
KSU1 Kansas State U 56.36 68 ⇓P P 00 12 19.8 -0.7
baz=56
X30A Coker Ranch, T 56.94 75 ⇓P P 00 12 25.6 +0.8
baz=57
128A Castleberry Fa 57.20 77 ⇑P P 00 12 27.4 +0.7
baz=57
Z29A Hungry Hill Ra 57.24 76 ⇓P P 00 12 28.1 +1.1
baz=57
Y30A Stafford Cattl 57.31 75 ⇓P P 00 12 28.3 +0.9
baz=57
S35A Otter Creek Ra 57.47 69 ⇑P P 00 12 27.9 -0.6
baz=57
R36A Gordon, Harris 57.52 68 ⇓P P 00 12 27.7 -1.0
baz=57,SNR=7.0
Z30A Sanderson Ranc 57.58 76 ⇓P P 00 12 29.6 +0.3
baz=57
U34A Anderson Ranch 57.60 71 ⇑P P 00 12 29.0 -0.3
baz=57
Y32A R-V Farms, Ver 58.11 74 ⇓P P 00 12 33.7 +0.8
baz=58
Z31A Sharp Cattle R 58.16 75 ⇓P P 00 12 34.4 +1.1
baz=58
ARCES ARCESS Array B 58.17 350 P P 00 12 32.2 -0.6
comp=Z,4.2nm,0.8s,baz=26,slow=7.7,SNR=6.6
ARCES ARCESS Array B 58.17 350 P P 00 12 32.2 -0.6
ARCES pmax pmax
comp=Z,4.0nm,0.8s
230A Sterling City 58.55 77 ⇑P P 00 12 37.1 +1.0
baz=58
Z32A Haskell 58.57 75 ⇓P P 00 12 36.8 +0.6
baz=58
Y33A Hilltop Ranch, 58.60 74 ⇓P P 00 12 37.2 +0.9
baz=58
TXAR Lajitas Array 58.76 81 P P 00 12 37.6 0.0
comp=Z,0.8nm,0.6s,baz=303,slow=4.1,SNR=11
TXAR Lajitas Array 58.76 81 P P 00 12 37.6 0.0
TXAR pmax pmax
comp=Z,1.0nm,0.6s
W35A Tecumseh 58.86 71 ⇓P P 00 12 38.8 +0.6
baz=59
ABTX Abilene, Hawle 58.94 75 ⇓P P 00 12 40.5 +1.7
baz=59
Z33A Whitaker Ranch 59.01 74 ⇑P P 00 12 39.8 +0.6
baz=59
KURK Kurchatov 59.02 314 *e*P P 00 12 38.0 -1.0
KURK pmax pmax
comp=Z,2.0nm,1.3s
529A Stev Forest Ra 59.10 79 ⇑P P 00 12 41.2 +1.3
baz=59
Y34A Reagan Ranch, 59.16 73 ⇑P P 00 12 40.8 +0.6
baz=59
430A Baggett Ranch, 59.24 78 ⇓P P 00 12 40.9 -0.1
baz=59,SNR=5.3
W36A Wetumka 59.26 71 ⇑P P 00 12 41.1 +0.2
baz=59
X35A Drake 59.32 72 ⇑P P 00 12 41.5 +0.2
baz=59
331A San Angelo 59.37 77 ⇓P P 00 12 42.1 +0.3
baz=59
133A Hamilton Ranch 59.39 75 ⇓P P 00 12 42.6 +0.8
baz=59
232A Coleman 59.45 76 ⇑P P 00 12 43.5 +1.2
baz=59
Z34A Collier Ranch, 59.47 74 ⇓P P 00 12 43.5 +1.1
baz=59
X36A Centrahoma 59.58 72 ⇑P P 00 12 43.2 +0.1
baz=59
530A J-C Ranch, Com 59.62 79 ⇑P P 00 12 44.4 +0.8
baz=59
431A Sonora 59.70 78 ⇑P P 00 12 44.9 +0.9
baz=60
W37A Quinton 59.73 71 ⇓P P 00 12 44.1 -0.1
baz=60
332A Milesview 59.74 77 ⇑P P 00 12 45.6 +1.3
baz=60
233A Rising Star 59.81 75 ⇑P P 00 12 46.2 +1.4
baz=60
134A White-Moore Ra 59.92 74 ⇓P P 00 12 46.2 +0.7
baz=60
MKAR Makanchi Array 60.02 308 P P 00 12 44.7 -1.3
comp=Z,0.4nm,0.3s,baz=60,slow=8.7,SNR=12
531A Rocksprings 60.10 78 ⇓P P 00 12 47.4 +0.6
baz=60
SCHQ Schefferville 60.13 38 P P 00 12 45.5 -1.1
comp=Z,3.8nm,1.0s,baz=319,slow=9.3,SNR=4.8
X37A Clayton 60.15 71 ⇑P P 00 12 47.8 +0.8
baz=60
333A Richland Sprin 60.24 76 ⇓P P 00 12 48.6 +0.9
baz=60
W38A Poteau 60.32 70 ⇓P P 00 12 48.6 +0.4
baz=60
532A Rocksprings 60.52 78 ⇓P P 00 12 50.8 +1.1
baz=60
631A Perdido Creek 60.61 79 ⇑P P 00 12 51.8 +1.5
baz=60
334A Lometa 60.69 76 ⇓P P 00 12 52.5 +1.7
baz=60
WHTX Lake Whitney, 60.70 74 ⇑P P 00 12 52.2 +1.4
baz=60
SFIN Lafayette 60.87 61 ⇑P P 00 12 51.2 -0.7
baz=61,SNR=5.7
632A Uvalde 61.03 78 ⇓P P 00 12 54.3 +1.2
baz=61
434A Burnet 61.04 76 ⇓P P 00 12 54.0 +0.9
baz=61
534A Blanco 61.47 77 ⇓P P 00 12 56.8 +0.7
baz=61
237A Washetta, Mont 61.69 73 ⇑P P 00 12 58.1 +0.6
baz=62
239A Gary 62.48 72 ⇓P P 00 13 03.3 +0.5
baz=62
JOF Joensuu 63.66 345 *ep* P 00 13 09.3 -0.8
comp=Z,4.1nm,0.5s
JOF Joensuu 63.66 345 *e*P P 00 13 09.3 -0.8
JOF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 65.18 347 *ep* P 00 13 19.1 -1.0
comp=Z,4.6nm,0.6s
KAF Kangasniemi 65.18 347 *e*P P 00 13 19.1 -1.0
KAF pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 65.86 347 P P 00 13 23.7 -0.7
comp=Z,3.8nm,0.6s,baz=13,slow=6.1,SNR=28
FINES FINESS Array B 65.86 347 P P 00 13 23.7 -0.7
FINES pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 66.86 310 *ce*P P 00 13 32.4 +1.0
AAK pmax pmax
comp=Z,8.0nm,0.7s
NB2 NORSAR Subarra 67.73 355 P P 00 13 35.8 -0.7
comp=Z,6.5nm,1.4s,baz=8.5,slow=6.9
NOA NORSAR Array B 67.73 355 P P 00 13 35.6 -0.8
comp=Z,0.3nm,0.7s,baz=7.9,slow=6.5,SNR=5.7
NOA LR LR 00 44 22.3
comp=Z,15nm,20.1s,baz=235,slow=37
KMSC Kings Mountain 67.80 61 ⇓P P 00 13 37.1 -0.2
baz=68
OBN Obninsk 69.92 339 *e*P P 00 13 48.8 -1.3
OBN pmax pmax
comp=Z,24nm,2.5s
OBN MLR MLR
comp=Z,37nm,15.0s
CMAR Chiang Mai Arr 70.93 276 P P 00 13 56.6 -0.2
comp=Z,1.9nm,0.8s,baz=28,slow=6.8,SNR=11
CMAR Chiang Mai Arr 70.93 276 *ce*P P 00 13 56.9 +0.1
CMAR pmax pmax
comp=Z,2.0nm,0.8s
TAPN Taplejung 71.16 290 *e*P P 00 13 59.1 +0.6
ODAN Odare 71.71 290 *e*P P 00 14 02.0 +0.3
comp=Z,6.1nm,0.5s
GUN Gumba 71.81 292 *e*P P 00 14 03.2 +0.7
comp=Z,36nm,0.4s
JIRN Jiri 71.81 292 *e*P P 00 14 03.2 +0.7
comp=Z,54nm,0.8s
RAMN Ramite 72.11 291 *e*P P 00 14 04.5 +0.4
comp=Z,39nm,0.5s
KKN Kakani 72.25 292 *e*P P 00 14 05.5 +0.6
comp=Z,11nm,0.4s
PKI Pulchoki 72.34 292 *e*P P 00 14 05.8 +0.2
comp=Z,17nm,0.6s
PKIN Phulchoki 72.34 292 *e*P P 00 14 06.5 +1.0
comp=Z,8.3nm,0.6s
GKN Gorkha 72.46 293 *e*P P 00 14 06.5 +0.4
comp=Z,9.8nm,0.4s
DMN Daman 72.48 292 *e*P P 00 14 06.7 +0.3
comp=Z,7.3nm,0.3s
KOLN Koldanda 73.23 293 *e*P P 00 14 10.9 +0.1
comp=Z,13nm,0.9s
PYUN Piuthan 73.34 294 *e*P P 00 14 11.7 +0.3
comp=Z,65nm,0.9s
AKASG Malin Array Be 75.61 342 P P 00 14 22.9 -1.0
comp=Z,1.4nm,0.4s,baz=20,slow=6.0,SNR=15
AKASG LR LR 00 51 39.5
comp=Z,28nm,18.5s,baz=0.0,slow=39
AKASG Malin Array Be 75.61 342 P P 00 14 22.9 -1.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,28nm,18.5s
GOF Gofitskoye 77.40 331 *e*P P 00 14 34.1 0.0
KWP Kalwaria Pacla 77.78 346 ⇑*i*P P 00 14 36.3 +0.1
KWP Kalwaria Pacla 77.78 346 ⇑P P 00 14 36.3 +0.1
DPC Dobruska-Polom 77.91 350 *e*P P 00 14 36.8 -0.2
DPC *ex* x 00 14 40.1
DPC Dobruska-Polom 77.91 350 *e*P P 00 14 36.8 -0.2
DPC *e* 00 14 40.1
GEYT Alibeck 78.09 317 LR LR 00 53 15.5
comp=Z,61nm,18.6s,baz=95,slow=39
STHS Stebnicka Huta 78.20 347 *e*P P 00 14 38.1 -0.5
STHS pmax pmax
comp=Z,3.0nm,1.3s
STHS Stebnicka Huta 78.20 347 *e*P P 00 14 38.1 -0.5
KIV Kislovodsk 78.51 331 *e*P P 00 14 39.8 -0.6
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,28nm,18.0s
KOLS Kolonicke sedl 78.52 346 *e*P P 00 14 40.2 -0.1
KOLS Kolonicke sedl 78.52 346 *e*P P 00 14 40.2 -0.1
BAIF Baives 79.00 358 *e*P P 00 14 42.4 -0.5
BAIF Baives 79.00 358 *e*P P 00 14 42.4 -0.5
BAIF Baives 79.00 358 *e*P P 00 14 42.4 -0.5
ZEI Tsey 79.18 329 *e*P P 00 14 42.7 -1.6
ZEI pmax pmax
comp=Z,6.0nm,1.1s
TRPA Tarpa 79.26 346 ⇑*i*P P 00 14 44.9 +0.6
BURAR Bucovina Array 79.32 344 ⇑*i*P P 00 14 44.4 -0.4
BURAR Bucovina Array 79.32 344 ⇑P P 00 14 44.4 -0.4
VYHS Vyhne 79.44 348 *e*P P 00 14 45.3 -0.1
VYHS pmax pmax
comp=Z,5.0nm,2.2s
VYHS Vyhne 79.44 348 *e*P P 00 14 45.3 -0.1
GERES GERESS Array B 79.66 352 P P 00 14 46.1 -0.5
comp=Z,0.6nm,0.5s,baz=31,slow=5.0,SNR=8.8
GERES GERESS Array B 79.66 352 P P 00 14 46.2 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.5s
TESR Tescani 80.12 342 ⇑*i*P P 00 14 48.5 -0.6
FLN La Foliniere 80.32 1 *e*P P 00 14 49.1 -1.0
comp=Z,18nm,1.1s
FLN La Foliniere 80.32 1 *e*P P 00 14 49.1 -1.0
FLN pmax pmax
comp=Z,19nm,1.1s
FLN La Foliniere 80.32 1 *e*P P 00 14 49.1 -1.0
comp=Z,16nm,1.1s
CONA Conrad Observa 80.35 350 ⇓*i*P P 00 14 47.9 -2.5
comp=Z,1.4nm,0.6s
PAGF Fort de Pagny 80.46 357 *e*P P 00 14 50.5 -0.3
comp=Z,4.1nm,0.8s
PAGF Fort de Pagny 80.46 357 *e*P P 00 14 50.5 -0.3
comp=Z,4.1nm,0.8s
LDF La Druitiere 80.50 1 *e*P P 00 14 49.9 -1.1
comp=Z,6.2nm,0.5s
LDF La Druitiere 80.50 1 *e*P P 00 14 49.9 -1.1
LDF pmax pmax
comp=Z,6.0nm,0.5s
LDF La Druitiere 80.50 1 *e*P P 00 14 49.9 -1.1
comp=Z,6.2nm,0.5s
MEZF Maizieres J'vi 80.53 357 *e*P P 00 14 50.6 -0.6
MEZF Maizieres J'vi 80.53 357 *e*P P 00 14 50.6 -0.6
CDF Champ du Feu 80.54 356 *e*P P 00 14 50.4 -1.0
comp=Z,3.0nm,0.6s
CDF Champ du Feu 80.54 356 *e*P P 00 14 50.4 -1.0
CDF pmax pmax
comp=Z,3.0nm,0.6s
CDF Champ du Feu 80.54 356 *e*P P 00 14 50.4 -1.0
comp=Z,3.0nm,0.6s
DRGR 80.54 345 ⇓*i*P P 00 14 50.6 -0.8
DRGR 80.54 345 ⇓P P 00 14 50.6 -0.8
ROSF Rostrenen 80.69 3 *e*P P 00 14 51.4 -0.7
comp=Z,3.6nm,0.5s
ROSF Rostrenen 80.69 3 *e*P P 00 14 51.4 -0.7
ROSF pmax pmax
comp=Z,4.0nm,0.5s
ROSF Rostrenen 80.69 3 *e*P P 00 14 51.4 -0.7
comp=Z,3.6nm,0.5s
GRR Gorron 80.69 1 *e*P P 00 14 51.2 -0.9
comp=Z,13nm,0.9s
GRR Gorron 80.69 1 *e*P P 00 14 51.2 -0.9
GRR pmax pmax
comp=Z,13nm,0.9s
GRR Gorron 80.69 1 *e*P P 00 14 51.2 -0.9
comp=Z,13nm,0.9s
VRI Vrincioaia 80.72 342 ⇑*i*P P 00 14 52.6 +0.3
VRI Vrincioaia 80.72 342 ⇑P P 00 14 52.6 +0.3
PLOR Plostina 80.75 342 ⇓*i*P P 00 14 52.7 +0.2
PLOR Plostina 80.75 342 ⇓P P 00 14 52.7 +0.2
SGMF Saint Gilles 80.79 2 *e*P P 00 14 51.9 -0.7
comp=Z,6.3nm,0.5s
SGMF Saint Gilles 80.79 2 *e*P P 00 14 51.9 -0.7
SGMF pmax pmax
comp=Z,6.0nm,0.5s
SGMF Saint Gilles 80.79 2 *e*P P 00 14 51.9 -0.7
comp=Z,6.3nm,0.5s
SFTF Sexfontaines 80.83 357 *e*P P 00 14 52.1 -0.7
comp=Z,7.1nm,0.7s
SFTF Sexfontaines 80.83 357 *e*P P 00 14 52.1 -0.7
comp=Z,7.1nm,0.7s
DOPR Dopca 80.88 343 ⇓*i*P P 00 14 54.0 +0.8
HAU Haudompre 80.98 356 *e*P P 00 14 52.8 -0.9
comp=Z,4.1nm,0.6s
HAU Haudompre 80.98 356 *e*P P 00 14 52.8 -0.9
HAU pmax pmax
comp=Z,4.0nm,0.6s
HAU Haudompre 80.98 356 *e*P P 00 14 52.8 -0.9
comp=Z,4.1nm,0.6s
CFR Carcaliu 81.10 341 ⇑*i*P P 00 14 55.4 +1.1
CFR Carcaliu 81.10 341 ⇑P P 00 14 55.4 +1.1
QUIF Quistinic 81.11 3 *e*P P 00 14 53.3 -1.0
QUIF Quistinic 81.11 3 *e*P P 00 14 53.3 -1.0
QUIF Quistinic 81.11 3 *e*P P 00 14 53.3 -1.0
HINF Hinteralfeld 81.15 356 *e*P P 00 14 53.4 -1.2
comp=Z,2.4nm,0.5s
HINF Hinteralfeld 81.15 356 *e*P P 00 14 53.4 -1.2
HINF pmax pmax
comp=Z,2.0nm,0.5s
HINF Hinteralfeld 81.15 356 *e*P P 00 14 53.4 -1.2
comp=Z,2.4nm,0.5s
MLR Muntele Rosu 81.23 343 ⇑*i*P P 00 14 55.9 +0.7
MLR Muntele Rosu 81.23 343 ⇑P P 00 14 55.9 +0.7
KBA Koelnbreinsper 81.45 352 ⇓*i*P P 00 14 55.6 -0.8
comp=Z,9.8nm,0.8s
VOIR 81.45 343 ⇑*i*P P 00 14 57.2 +0.9
VOIR 81.45 343 ⇑P P 00 14 57.2 +0.9
ARR Arges 81.59 343 ⇑*i*P P 00 14 57.7 +0.7
SOKA Soboth 81.68 350 ⇑*i*P P 00 14 55.6 -1.9
comp=Z,7.1nm,1.1s
TLB Topalu 81.69 341 ⇓*i*P P 00 14 56.9 -0.5
TLB Topalu 81.69 341 ⇓P P 00 14 56.9 -0.5
FETA Feichten 81.72 353 ⇓*i*P P 00 14 55.3 -2.5
comp=Z,2.9nm,1.0s
LOR Lormes 81.80 358 *e*P P 00 14 57.2 -0.8
comp=Z,2.4nm,0.8s
LOR Lormes 81.80 358 *e*P P 00 14 57.2 -0.8
LOR pmax pmax
comp=Z,5.0nm,0.8s
LOR Lormes 81.80 358 *e*P P 00 14 57.2 -0.8
comp=Z,2.4nm,0.8s
BZS Buzias 81.86 346 ⇓*i*P P 00 14 57.8 -0.5
BZS Buzias 81.86 346 ⇓P P 00 14 57.8 -0.5
WRA Warramunga Arr 81.89 224 P P 00 14 57.5 -1.1
comp=Z,0.8nm,0.7s,baz=41,slow=6.1,SNR=5.0
WRA Warramunga Arr 81.89 224 *i* P P 00 14 57.0 -1.7

WRA pmax pmax
comp=Z,1.0nm,0.7s
GZR Gura Zlata 81.89 345⇑ *i*P P 00 14 58.3 -0.3
GZR Gura Zlata 81.89 345 ⇑P P 00 14 58.3 -0.3
SSF Saint Saulge 82.01 358 *e*P P 00 14 58.3 -0.8
SSF Saint Saulge 82.01 358 *e*P P 00 14 58.3 -0.8
SSF Saint Saulge 82.01 358 *e*P P 00 14 58.3 -0.8
AVF Avril sur Loir 82.28 358 *e*P P 00 15 00.7 +0.2
comp=Z,6.1nm,0.8s
AVF Avril sur Loir 82.28 358 *e*P P 00 15 00.7 +0.2
AVF pmax pmax
comp=Z,6.0nm,0.8s
AVF Avril sur Loir 82.28 358 *e*P P 00 15 00.7 +0.2
comp=Z,6.1nm,0.8s
CABF La Chapelle 82.39 357 *e*P P 00 15 00.5 -0.7
CABF La Chapelle 82.39 357 *e*P P 00 15 00.5 -0.7
CABF La Chapelle 82.39 357 *e*P P 00 15 00.5 -0.7
SMF Signal de Mont 82.42 358 *e*P P 00 15 00.4 -0.9
comp=Z,6.7nm,0.6s
SMF Signal de Mont 82.42 358 *e*P P 00 15 00.4 -0.9
SMF pmax pmax
comp=Z,7.0nm,0.6s
SMF Signal de Mont 82.42 358 *e*P P 00 15 00.4 -0.9
comp=Z,6.7nm,0.6s
MFF Saint Martin d 82.49 1 *e*P P 00 15 01.0 -0.6
comp=Z,2.4nm,0.6s
MFF Saint Martin d 82.49 1 *e*P P 00 15 01.0 -0.6
MFF pmax pmax
comp=Z,2.0nm,0.6s
MFF Saint Martin d 82.49 1 *e*P P 00 15 01.0 -0.6
comp=Z,2.4nm,0.6s
TCF Toulx Ste Croi 82.80 359 *e*P P 00 15 02.4 -0.9
comp=Z,2.7nm,0.6s
TCF Toulx Ste Croi 82.80 359 *e*P P 00 15 02.4 -0.9
TCF pmax pmax
comp=Z,3.0nm,0.6s
TCF Toulx Ste Croi 82.80 359 *e*P P 00 15 02.4 -0.9
comp=Z,2.7nm,0.6s
LPL La Plagne 83.45 356 *e*P P 00 15 06.2 -0.7
LPL La Plagne 83.45 356 *e*P P 00 15 06.2 -0.7
LPL La Plagne 83.45 356 *e*P P 00 15 06.2 -0.7
LPG La Plagne 83.47 356 *e*P P 00 15 06.3 -0.8
comp=Z,4.2nm,0.9s
LPG La Plagne 83.47 356 *e*P P 00 15 06.3 -0.8
LPG pmax pmax
comp=Z,4.0nm,0.9s
LPG La Plagne 83.47 356 *e*P P 00 15 06.3 -0.8
comp=Z,4.2nm,0.9s
DIVS Divibare 83.59 346⇓ *i*P P 00 15 07.2 -0.2
ORIF Oris-en-Rattie 84.09 357 *e*P P 00 15 10.0 0.0
comp=Z,5.2nm,0.8s
ORIF Oris-en-Rattie 84.09 357 *e*P P 00 15 10.0 0.0
ORIF pmax pmax
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 84.09 357 *e*P P 00 15 10.0 0.0
comp=Z,5.2nm,0.8s
LFF La Frestale 84.16 0 *e*P P 00 15 09.6 -0.6
comp=Z,12nm,0.6s
LFF La Frestale 84.16 0 *e*P P 00 15 09.6 -0.6
LFF pmax pmax
comp=Z,12nm,0.6s
LFF La Frestale 84.16 0 *e*P P 00 15 09.6 -0.6
comp=Z,12nm,0.6s
CAF Calviac 84.17 359 *e*P P 00 15 09.8 -0.5
comp=Z,9.6nm,0.9s
CAF Calviac 84.17 359 *e*P P 00 15 09.8 -0.5
CAF pmax pmax
comp=Z,10.0nm,0.9s
CAF Calviac 84.17 359 *e*P P 00 15 09.8 -0.5
comp=Z,9.6nm,0.9s
VIVF Saint-Julien-l 84.19 357 *e*P P 00 15 10.1 -0.3
VIVF Saint-Julien-l 84.19 357 *e*P P 00 15 10.1 -0.3
VIVF Saint-Julien-l 84.19 357 *e*P P 00 15 10.1 -0.3
MBDF Montbardon 84.24 356 *e*P P 00 15 10.7 -0.2
comp=Z,4.9nm,0.6s
MBDF Montbardon 84.24 356 *e*P P 00 15 10.7 -0.2
MBDF pmax pmax
comp=Z,5.0nm,0.6s
MBDF Montbardon 84.24 356 *e*P P 00 15 10.7 -0.2
comp=Z,4.9nm,0.6s
VTS Vitosha 84.54 344⇓ *i*P P 00 15 11.7 -0.7
VTS Vitosha 84.54 344 ⇓P P 00 15 11.7 -0.7
LASF Ste Croix 84.99 358 *e*P P 00 15 14.0 -0.5
comp=Z,2.5nm,0.7s
LASF Ste Croix 84.99 358 *e*P P 00 15 14.0 -0.5
comp=Z,2.5nm,0.7s
BRTR Keskin Array B 84.99 335 P P 00 15 14.2 -0.5
comp=Z,3.4nm,0.7s,baz=38,slow=2.5,SNR=20
BRTR Keskin Array B 84.99 335 P P 00 15 14.3 -0.5
BRTR pmax pmax
comp=Z,3.0nm,0.7s
SMRF Simiane la Rot 85.04 357 *e*P P 00 15 14.9 +0.2
comp=Z,13nm,0.9s
SMRF Simiane la Rot 85.04 357 *e*P P 00 15 14.9 +0.2
comp=Z,13nm,0.9s
SBF Sospel 85.07 355 *e*P P 00 15 14.0 -0.9
comp=Z,16nm,0.8s
SBF Sospel 85.07 355 *e*P P 00 15 14.0 -0.9
SBF pmax pmax
comp=Z,16nm,0.8s
SBF Sospel 85.07 355 *e*P P 00 15 14.0 -0.9
comp=Z,16nm,0.8s
ASAR Alice Springs 85.36 222 P P 00 15 16.1 -0.3
comp=Z,1.2nm,0.7s,baz=27,slow=5.2,SNR=9.7
ASAR Alice Springs 85.36 222 P P 00 15 16.1 -0.3
ASAR pmax pmax
comp=Z,1.0nm,0.7s
FRF La Foret Royal 85.41 356 *e*P P 00 15 15.7 -0.9
comp=Z,8.0nm,0.8s
FRF La Foret Royal 85.41 356 *e*P P 00 15 15.7 -0.9
FRF pmax pmax
comp=Z,8.0nm,0.8s
FRF La Foret Royal 85.41 356 *e*P P 00 15 15.7 -0.9
comp=Z,8.0nm,0.8s
LMR La Mourre 85.64 356 *e*P P 00 15 17.0 -0.7
comp=Z,5.2nm,0.6s
LMR La Mourre 85.64 356 *e*P P 00 15 17.0 -0.7
LMR pmax pmax
comp=Z,5.0nm,0.6s
LMR La Mourre 85.64 356 *e*P P 00 15 17.0 -0.7
comp=Z,5.2nm,0.6s
MTLF Montolieu 85.75 359 *e*P P 00 15 17.8 -0.4
comp=Z,1.8nm,0.5s
MTLF Montolieu 85.75 359 *e*P P 00 15 17.8 -0.4
MTLF pmax pmax
comp=Z,2.0nm,0.5s
MTLF Montolieu 85.75 359 *e*P P 00 15 17.8 -0.4
comp=Z,1.8nm,0.5s
SJPF Ste Jean 85.96 2 *e*P P 00 15 19.3 0.0
SJPF Ste Jean 85.96 2 *e*P P 00 15 19.3 0.0
SJPF Ste Jean 85.96 2 *e*P P 00 15 19.3 0.0
EPF Esparros 86.06 1 *e*P P 00 15 19.3 -0.6
EPF Esparros 86.06 1 *e*P P 00 15 19.3 -0.6
EPF Esparros 86.06 1 *e*P P 00 15 19.3 -0.6
ETSF Etsaut 86.19 1 *e*P P 00 15 20.2 -0.3
comp=Z,4.0nm,0.5s
ETSF Etsaut 86.19 1 *e*P P 00 15 20.2 -0.3
ETSF pmax pmax
comp=Z,4.0nm,0.5s
ETSF Etsaut 86.19 1 *e*P P 00 15 20.2 -0.3
comp=Z,4.0nm,0.5s
PGF Pioggiola 86.29 354 *e*P P 00 15 20.1 -1.0
comp=Z,19nm,0.8s
PGF Pioggiola 86.29 354 *e*P P 00 15 20.1 -1.0
PGF pmax pmax
comp=Z,19nm,0.8s
PGF Pioggiola 86.29 354 *e*P P 00 15 20.1 -1.0
comp=Z,19nm,0.8s
ESDC Sonseca Array 89.31 4 P P 00 15 34.0 -1.5
comp=Z,1.0nm,0.6s,baz=352,slow=4.0,SNR=8.2
STKA Stephens Creek 89.80 213 P P 00 15 38.0 +0.5
comp=Z,2.4nm,0.7s,baz=119,slow=4.0,SNR=4.6
STKA Stephens Creek 89.80 213 P P 00 15 38.0 +0.5
STKA pmax pmax
comp=Z,2.0nm,0.7s
PALK Pallekele 90.81 283 *i*P P 00 15 41.8 -1.0
TORD Torodi Ar. Bea 115.84 359 PKP PKPdf 00 21 20.9 -1.1
comp=Z,0.3nm,0.4s,baz=345,slow=2.2,SNR=8.5
DBIC Dimbokro 122.05 7 PKP PKPdf 00 21 33.0 -0.8
comp=Z,1.0nm,0.4s,baz=333,slow=3.9,SNR=6.2
DBIC Dimbokro 122.05 7 PKIKP PKPdf 00 21 33.1 -0.8
DBIC pmax pmax
comp=Z,1.0nm,0.4s
MAW Mawson 146.35 218 PKPbc PKPab 00 22 19.0 -0.5
comp=Z,2.7nm,0.8s,baz=110,slow=4.7,SNR=6.2
MAW Mawson 146.35 218 PKP2 PKPab 00 22 19.0 -0.5
MAW pmax pmax
comp=Z,3.0nm,0.8s

*CSEM **29** 00:13:15.0, 46.˚19N×15.˚68E, h0km, ML0.6*
LJU 29 00:13:15.0, 46.˚19N×15.˚68E, h12km, ML0.6, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DOBS	**Dobrina**	**0.15**	**257**	*i* Pg		Pg	00 13 18.5	-0.2
DOBS				*i* Sg		Sg	00 13 21.5	+0.3
DOBS	**Dobrina**	**0.15**	**257**	Pg		Pg	00 13 18.5	-0.1
DOBS				*i* Sg		Sg	00 13 21.5	+0.3
GOLS	**Golise**	**0.18**	**193**	⇓*i* Pg		Pg	00 13 19.1	0.0
GOLS				*i* Sg		Sg	00 13 22.2	+0.3
GOLS	**Golise**	**0.18**	**193**	⇓*i* Pg		Pg	00 13 19.1	0.0
GOLS				*i* Sg		Sg	00 13 22.2	+0.3
GROS	**Grobnik**	**0.30**	**336**	*i* Pg		Pg	00 13 21.5	+0.1
GROS				*i* Sg		Sg	00 13 25.9	+0.3
comp=Z,2.0nm,0.1s								
GROS	**Grobnik**	**0.30**	**336**	*i* Pg		Pg	00 13 21.5	+0.1
GROS				*i* Sg		Sg	00 13 25.9	+0.3
comp=Z,2.0nm,0.1s								
LEGS	**Legarje**	**0.35**	**227**	*e*Sg		Sg	00 13 27.3	+0.6
LEGS	**Legarje**	**0.35**	**227**	*e*Sg		Sg	00 13 27.3	+0.6

*CSEM **29** 00:14:22.8±0.4, 37.˚98N×27.˚89E, h2km, MD2.6, Error ellipse: s-maj=21.9km s-min=8.0km az=97.0*
DDA 29 00:14:22.0, 37.˚99N×27.˚90E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AYDB	**Zeytinkoy-Aydi**	**0.05**	**190**	*e*PG		Pg	00 14 22.8	-0.9
AYDB				*e*SG		Sg	00 14 25.0	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.05**	**190**	*e*Pg		Pg	00 14 22.8	-0.9
AYDB				*e*Sg		Sg	00 14 25.0	+0.1
AYDN	**Tasoluk**	**0.33**	**183**	*i* P		Pb	00 14 29.5	-0.8
AYDN				*i* S		Sg	00 14 34.2	+1.2
AYDN	**Tasoluk**	**0.33**	**183**	*i* P		Pb	00 14 29.5	-0.8
AYDN				*i* S		Sg	00 14 34.2	+1.2
KULA	**Kula-Manisa**	**0.79**	**49**	*e*PG		Pb	00 14 38.5	+0.3
KULA	**Kula-Manisa**	**0.79**	**49**	*e*Pg		Pb	00 14 38.5	+0.3
AKHS	**Akhisar**	**0.89**	**356**	*i* P		Pb	00 14 39.8	+0.1
AKHS				*i* S		Sn	00 14 53.8	-0.3
AKHS	**Akhisar**	**0.89**	**356**	*i* P		Pb	00 14 39.8	+0.1
AKHS				*i* S		Sn	00 14 53.8	-0.3

*IDC **29** 00:40:28.1±0.6, 13.˚21S×167.˚07E, h177km±5km, mb4.3/24, mb1 4.4/24, mb1mx4.3/32, mbtmp4.7/24, MS3.3/2, Ms1 3.3/2, ms1mx2.9/22, Error ellipse: s-maj=12.7km s-min=9.2km az=93.0*
*BJI **29** 00:40:28.9, 13.˚03S×167.˚46E, h205km, mB5.0/23, mb4.7/30*
*ISCJB **29** 00:40:30.9±1.0, 13.˚22S±0.˚04×167.˚05E±0.˚04, h216km±9km, mb4.6/46, Error ellipse: s-maj=6.9km s-min=6.2km az=43.2*
*GCMT **29** 00:40:31.7±0.3, 13.˚09S×166.˚91E, h188km±2km, MW5.0/66, Moment Tensor Solution. s32,c37; s66,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.70±.15; $M_{\theta\theta}$0.97±.21; $M_{\phi\phi}$-4.68±.19; $M_{r\theta}$-0.61±.19; $M_{r\phi}$-0.32±.23; $M_{\theta\phi}$-1.17±.17; Best double couple: M=4.41700×10^{16} NP1:ϕs193.00000°, δ54.00000°, λ103.00000°. NP2: ϕs352.00000°, δ38.00000°, λ73.00000°. Principal axes: T 3.9670, Plg77.0000°, Azm146.0000°; N 0.8940, Plg10.0000°, Azm5.0000°; P -4.8680, Plg8.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 00:40:31.7±0.9, 13.˚20S×167.˚05E, h212km±8km, mb4.9/18 Error ellipse: s-maj=5.6km s-min=5.2km az=52.0*
*MOS **29** 00:40:32.2±1.4, 13.˚19S×166.˚92E, h218km, mb4.8/15, Error ellipse: s-maj=10.8km s-min=8.3km az=39.9*
ISC 29 00:40:30.8±0.3, 13.˚18S±0.˚05×167.˚14E±0.˚05, h203km±2km, h203km:pP-P, n293, σ1°32/351, mb4.7/46, 35C-20D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.97**	**297**	LR		LR	00 45 23.9	
comp=Z,92nm,18.9s,slow=37								
HNR	**Honiara**	**7.97**	**297**	*e*P		**Pn**	**00 42 23.1**	**-0.6**
HNR	**Honiara**	**7.97**	**297**	*e*P		**Pn**	**00 42 22.0**	**-1.7**
HNR				*e*S		S	00 43 45.0	-8.7
HNR	**Honiara**	**7.97**	**297**	*e*Pn		**Pn**	**00 42 23.1**	**-0.6**
DZM	**Mont Dzumac**	**8.87**	**184**	*e*Pn		**Pn**	**00 42 37.2**	**+1.8**
8.9nm,0.3s								
MSVF	**Nonsavu**	**11.45**	**115**	Pn		**P**	**00 43 11.9**	**-2.3**
358nm,1.1s,SNR=13								
MSVF	**Nonsavu**	**11.45**	**115**	*e*P		**Pn**	**00 43 11.0**	**+2.2**
MSVF	**Nonsavu**	**11.45**	**115**	*e*Pn		**Pn**	**00 43 11.0**	**+2.2**
EIDS	**Eidsvold**	**19.39**	**229**	⇓P		**P**	**00 44 41.7**	**+0.3**
baz=19,SNR=7.9								
EIDS				S		**S**		**00 48 14.8**	**+5.1**
baz=19,SNR=6.4								
EIDS	**Eidsvold**	**19.39**	**229**	*e*P		**P**	**00 44 42.0**	**+0.6**
20nm,0.8s								
PMG	**Port Moresby**	**19.95**	**279**	*e*P		**P**	**00 44 47.8**	**+0.3**
PMG				pmax		pmax		
comp=Z,65nm,0.9s								
PMG	**Port Moresby**	**19.95**	**279**	P		**P**	**00 44 48.0**	**+0.5**
baz=20,SNR=4.6								
PMG	**Port Moresby**	**19.95**	**279**	*e*P		**P**	**00 44 47.8**	**+0.3**
comp=Z,65nm,0.9s								
CTA	**Charters Tower**	**21.14**	**248**	P		**P**	**00 44 59.3**	**-0.9**
comp=Z,21nm,0.7s,baz=79,slow=12,SNR=17								
CTAO	**Charters Tower**	**21.14**	**248**	*e*P		**P**	**00 44 59.6**	**-0.6**
CTAO				pmax		pmax		
comp=Z,24nm,0.7s								
CTAO	**Charters Tower**	**21.14**	**248**	*e*P		**P**	**00 44 59.6**	**-0.6**
comp=Z,24nm,0.7s								
RAO	**Raoul Island**	**21.17**	**141**	P		**P**	**00 45 01.3**	**+0.9**
comp=Z,561nm,0.5s,baz=12,slow=19,SNR=3.6								
RMQ	**Roma**	**21.74**	**230**	⇓P		**P**	**00 45 06.4**	**+0.1**
baz=21,SNR=17								
RMQ				S		S	00 49 00.1	+7.4
baz=21,SNR=4.7								
ARMA	**Armidale**	**22.35**	**217**	P		**P**	**00 45 12.4**	**+0.2**
baz=22,SNR=21								
ARMA	**Armidale**	**22.35**	**217**	*e*P		**P**	**00 45 12.4**	**+0.2**
comp=Z,117nm,1.4s								
OUZ	**Omahuta**	**22.71**	**166**	*e*P		**P**	**00 45 16.3**	**+1.1**
comp=Z,1μm,2.3s								
COEN	**Coen**	**23.31**	**265**	P		**P**	**00 45 21.7**	**+0.9**
baz=23,SNR=12								
COEN	**Coen**	**23.31**	**265**	*e*P		**P**	**00 45 21.2**	**+0.4**
comp=Z,44nm,1.1s								
MGCD	**Mangrove Creek**	**24.73**	**214**	P		**P**	**00 45 34.2**	**+0.7**
baz=24,SNR=4.6								
QLP	**Quilpie**	**25.27**	**235**	P		**P**	**00 45 38.1**	**-0.5**
baz=25,SNR=9.6								
URZ	**Urewera**	**26.51**	**162**	P		**P**	**00 45 48.8**	**-0.6**
comp=Z,7.6nm,0.5s,baz=287,slow=2.6,SNR=14								
URZ	**Urewera**	**26.51**	**162**	*e*P		**P**	**00 45 48.9**	**-0.6**
comp=Z,16nm,0.9s								
CMSA	**Cobar Meteorol**	**26.88**	**224**	P		**P**	**00 45 52.2**	**-0.7**
baz=26,SNR=22								
YNG	**Young**	**27.05**	**216**	P		**P**	**00 45 54.8**	**+0.4**
baz=27,SNR=6.5								
BKZ	**Black Stump Fm**	**27.18**	**164**	*e*P		**P**	**00 45 55.1**	**-0.5**
comp=Z,17nm,0.7s								
CNB	**Canberra Magne**	**27.27**	**213**	P		**P**	**00 45 56.4**	**0.0**
baz=27,SNR=9.0								
QIS	**Mount Isa**	**27.32**	**251**	P		**P**	**00 45 56.2**	**-0.8**
baz=27,SNR=3.7								
JAY	**Jayapura**	**28.21**	**290**	P		**P**	**00 46 04.2**	**-0.7**
comp=Z,7.7nm,0.7s,baz=141,slow=6.8,SNR=4.0								
KHZ	**Kahutara**	**29.66**	**170**	*e*P		**P**	**00 46 16.5**	**-0.9**
comp=Z,42nm,1.1s								
STKA	**Stephens Creek**	**29.92**	**227**	P		**P**	**00 46 19.5**	**-0.3**
comp=Z,14nm,0.3s,baz=50,slow=9.1,SNR=71								
STKA				PcP		**PcP**		**00 49 17.1**	**-0.4**
comp=Z,8.0nm,0.7s,baz=9.4,slow=4.4,SNR=7.6								
STKA				ScP		**ScP**		**00 52 42.0**	**+1.6**
comp=Z,3.9nm,1.1s,baz=39,slow=6.5,SNR=3.0								
STKA	**Stephens Creek**	**29.92**	**227**	P		**P**		**00 46 19.6**	**-0.2**
baz=30,SNR=24								
RPZ	**Rata Peaks**	**30.62**	**174**	P		**P**		**00 46 25.4**	**-0.4**
comp=Z,26nm,0.8s,baz=262,slow=2.6,SNR=7.4								
RPZ	**Rata Peaks**	**30.62**	**174**	*e*P		**P**		**00 46 26.0**	**+0.2**
comp=Z,838nm,3.0s								

TOO	**Toolangi**	**31.03**	**215**	P		**P**		**00 46 29.5**	**-0.1**
baz=31,SNR=8.4								
ODZ	**Otahua Downs**	**31.90**	**175**	*e*P		**P**		**00 46 37.7**	**+0.7**
comp=Z,197nm,2.2s								
WRAB	**Tennant Creek**	**32.10**	**253**	P		**P**		**00 46 37.5**	**-1.6**
comp=Z,51nm,1.5s,SNR=9.8								
WRAB	**Tennant Creek**	**32.10**	**253**	*e*P		**P**		**00 46 37.6**	**-1.6**
WRAB				pmax		pmax		
comp=Z,22nm,1.0s								
WRAB	**Tennant Creek**	**32.10**	**253**	*e*P		**P**		**00 46 37.5**	**-1.6**
comp=Z,13nm,1.2s								
WRA	**Warramunga Arr**	**32.11**	**253**	P		**P**		**00 46 37.9**	**-1.4**
comp=Z,8.0nm,0.8s,baz=84,slow=8.7,SNR=21								
WRA				PcP		**PcP**		**00 49 23.8**	**+0.2**
comp=Z,0.7nm,0.4s,baz=83,slow=3.6,SNR=3.3								
WRA				S		**S**		**00 51 35.1**	**-1.5**
comp=Z,1.2nm,0.9s,baz=79,slow=14,SNR=3.1								
WRA				ScP		**ScP**		**00 52 49.6**	**+1.6**
comp=Z,10nm,1.2s,baz=79,slow=3.5,SNR=13								
AS31	**Alice Springs**	**33.13**	**247**	*e*P		**P**		**00 46 46.5**	**-1.6**
ASAR	**Alice Springs**	**33.13**	**247**	P		**P**		**00 46 46.5**	**-1.6**
comp=Z,6.1nm,0.3s,baz=75,slow=8.9,SNR=132								
ASAR				PcP		**PcP**		**00 49 25.8**	**-0.6**
comp=Z,2.4nm,0.7s,baz=80,slow=3.6,SNR=8.4								
ASAR				S		**S**		**00 51 49.8**	**-2.7**
comp=Z,4.6nm,1.2s,baz=70,slow=16,SNR=9.6								
ASAR				ScP		**ScP**		**00 52 53.6**	**+2.2**
comp=Z,5.1nm,0.8s,baz=90,slow=3.3,SNR=23								
KDU	**Kakadu**	**33.77**	**267**	P		**P**		**00 46 53.4**	**-0.3**
baz=34,SNR=6.9								
BBOO	**Buckleboo**	**34.45**	**230**	P		**P**		**00 46 58.5**	**-0.8**
baz=34,SNR=10.0								
FAKI	**Fak Fak**	**35.97**	**283**	*e*P		**P**		**00 47 13.1**	**+0.7**
comp=Z,28nm,1.3s								
KNRA	**Kununurra**	**37.22**	**261**	P		**P**		**00 47 22.4**	**-0.5**
baz=37,SNR=7.4								
WRKA	**Warakurna**	**38.42**	**246**	⇑P		**P**		**00 47 32.0**	**-1.0**
baz=38,SNR=76								
WRKA				S		**S**		**00 53 09.7**	**-3.2**
baz=38,SNR=7.2								
FORT	**Forrest**	**40.00**	**238**	P		**P**		**00 47 45.1**	**-0.8**
baz=40,SNR=20								
FORT	**Forrest**	**40.00**	**238**	*e*P		**P**		**00 47 45.2**	**-0.8**
comp=Z,34nm,0.7s								
FITZ	**Fitzroy Crossi**	**40.20**	**258**	P		**P**		**00 47 47.4**	**-0.3**
baz=40,SNR=7.9								
PPT2	**Papeete2**	**41.90**	**102**	*e*S		S		00 53 57.5	-7.3
comp=Z,70nm,25.5s								
PMOR	**Pomariorio Ree**	**43.60**	**98**	*e*P		**P**		**00 48 16.6**	**+1.3**
comp=Z,36nm,1.0s								
PMOR				*e*pP		**pP**		**00 48 57.8**	**-1.1**
comp=Z,36nm,1.1s								
VAH	**Vaihoa**	**43.84**	**98**	*e*P		**P**		**00 48 18.5**	**+1.3**
comp=Z,39nm,0.9s								
WSI	**Waingapu**	**46.00**	**269**	S		S		00 55 10.2	+6.2
baz=46,SNR=3.1								
MEEK	**Meekatharra**	**47.28**	**246**	P		**P**		**00 48 43.7**	**-0.4**
baz=47,SNR=21								
NWAO	**Narrogin (SRO)**	**49.45**	**238**	P		**P**		**00 48 59.5**	**-1.0**
baz=49,SNR=9.9								
MORW	**Morawa**	**49.84**	**243**	P		**P**		**00 49 03.1**	**-0.5**
baz=50,SNR=3.9								
GIRL	**Giralia**	**50.99**	**251**	P		**P**		**00 49 13.3**	**+1.1**
baz=51,SNR=4.6								
UGM	**Wanagama**	**55.81**	**269**	*e*P		**P**		**00 49 45.2**	**-2.2**
comp=Z,405nm,1.9s								
MJAR	**Matsushiro Arr**	**56.48**	**332**	P		**P**		**00 49 50.9**	**-0.8**
comp=Z,6.7nm,1.0s,baz=166,slow=8.5,SNR=11								
MAJO	**Matsushiro**	**56.48**	**332**	*e*P		**P**		**00 49 51.7**	**0.0**
MAJO				pmax		pmax		
comp=Z,93nm,1.4s								
ASAJ	**Asahikawa**	**61.25**	**340**	P		**P**		**00 50 24.9**	**+0.6**
comp=Z,12nm,0.8s,baz=183,slow=10,SNR=4.4								
KSRS	**Korea Array**	**62.39**	**325**	P		**P**		**00 50 32.6**	**+0.5**
comp=Z,2.8nm,0.9s,baz=152,slow=8.2,SNR=5.7								
KSAR	**Wonju Array Be**	**62.41**	**325**	P		**P**		**00 50 32.6**	**+0.4**
KSAR	**Wonju Array Be**	**62.41**	**325**	P		**P**		**00 50 32.6**	**+0.4**
VNDA	**Vanda**	**64.40**	**181**	P		**P**		**00 50 44.3**	**-0.4**
comp=Z,3.0nm,0.7s,baz=8.7,slow=6.2,SNR=16								
VNDA	**Vanda**	**64.40**	**181**	*e*P		**P**		**00 50 44.4**	**-0.3**
VNDA				pmax		pmax		
comp=Z,36nm,1.8s								
VNDA	**Vanda**	**64.40**	**181**	*e*P		**P**		**00 50 44.4**	**-0.3**
comp=Z,36nm,1.8s								
NJ2	**Nanjing**	**64.48**	**315**	*e*P		**P**		**00 50 46.5**	**+0.6**
NJ2				PMZ				
comp=Z,40nm,0.6s								
SBA	**Scott Base**	**64.68**	**180**	*e*P		**P**		**00 50 47.3**	**+0.8**
SBA				pmax		pmax		
comp=Z,21nm,1.1s								
SBA	**Scott Base**	**64.68**	**180**	*e*P		**P**		**00 50 47.3**	**+0.8**
comp=Z,21nm,1.1s								
QIZ	**Qiongzhong**	**64.88**	**298**	P		**P**		**00 50 49.5**	**+0.7**
QIZ				pP		**pP**		**00 51 35.0**	**-0.9**
QIZ				sP		**sP**		**00 51 59.8**	**+2.0**
QIZ				S		**S**		**00 59 13.0**	**-1.0**
QIZ				PMZ				
comp=Z,14nm,1.6s								
QIZ				PMZ				
comp=Z,51nm,7.8s								
CASY	**Casey**	**64.91**	**202**	*e*P		**P**		**00 50 47.1**	**-1.0**
comp=Z,13nm,1.2s								
USRK	**Ussuriysk Ar.**	**65.45**	**333**	P		**P**		**00 50 52.4**	**+0.5**
comp=Z,9.9nm,1.0s,baz=103,slow=6.0,SNR=7.8								
PETK	**Petropavlovsk-**	**66.51**	**354**	P		**P**		**00 50 59.2**	**+0.8**
comp=Z,12nm,0.8s,baz=150,slow=9.9,SNR=14								
MDJ	**Mudanjiang**	**66.86**	**332**	P		**P**		**00 51 02.5**	**+1.7**
MDJ				PMZ				
comp=Z,8.0nm,1.1s								
MDJ				PMZ				
comp=Z,150nm,4.1s								
HABR	**Khabarovsk**	**67.66**	**338**	*e*P		**P**		**00 51 05.2**	**-0.6**
HABR				*e*				00 51 30.1	
HABR				*e**PP		**pP**		**00 51 52.0**	**-1.3**
HABR				S		**S**		**00 59 47.1**	**+0.8**
HABR								01 00 43.7	
HABR				*e*SS		**SS**		**01 04 14.0**	**+2.1**
HABR				pmax		pmax			
comp=Z,25nm,1.5s									
HABR				MLR		MLR			
comp=Z,51nm,18.0s									
CN2	**Changchun**	**68.26**	**329**	*e*P		**P**		**00 51 09.8**	**+0.2**
CN2				*e*pP		**pP**		**00 51 54.8**	**-2.4**
CN2				*e*sP		**sP**		**00 52 15.0**	**-4.0**
CN2				*e*S		**S**		**00 59 54.5**	**+0.9**
CN2				PMZ					
comp=Z,10.0nm,0.7s									
CN2				PMZ					
comp=Z,200nm,5.0s									
GSI	**Gunungsitoli**	**70.43**	**276**	*e*P		**P**		**00 51 23.9**	**+0.2**
GYA	**Guiyang**	**70.74**	**304**	P		**P**		**00 51 27.3**	**+2.0**
GYA				pP		**pP**		**00 52 15.0**	**+1.8**
GYA				sP		**sP**		**00 52 38.3**	**+3.3**
GYA				PP		**PP**		**00 54 08.5**	**+3.4**
GYA				S		**S**		**01 00 24.5**	**+1.0**
GYA				SKS		**SKSac**		**01 01 05.3**	**-3.1**
GYA				PMZ					
comp=Z,20nm

CD2					pP	**pP**	**00 52 39.5**	**+1.0**
CD2					sP	**sP**	**00 53 00.5**	**+0.4**
CD2					PP	**PP**	**00 54 44.3**	**+3.4**
CD2					S	**S**	**01 01 11.5**	**+0.4**
CD2					SKS	**SKSac**	**01 01 36.0**	**-3.9**
CD2					sS	**sS**	**01 02 35.3**	**-0.3**
CD2					SS	**SS**	**01 06 07.3**	**+2.7**
CD2					PMZ			
	comp=Z,20nm,0.5s							
CD2					PMZ			
	comp=Z,160nm,5.4s							
SEY	**Seymchan**	**76.73**	**353**	P	**P**		**00 52 00.0**	**+0.8**
	comp=Z,16nm,0.8s,baz=152,slow=7.8							
LZH	**Lanzhou**	**77.19**	**312**	*eP*	**P**		**00 52 02.5**	**-0.1**
LZH				pP	**pP**		**00 52 51.0**	**-0.3**
LZH				sP	**sP**		**00 53 13.0**	**+0.1**
LZH				PMZ				
	comp=Z,14nm,1.0s							
GAMB	**Gambell**	**78.43**	**9**	*eP*	**P**		**00 52 09.4**	**+0.9**
GAMB				*ep*P	**pP**		**00 52 54.9**	**-2.5**
YAK	**Yakutsk**	**80.52**	**343**	*eP*	**P**		**00 52 19.2**	**-0.6**
YAK				pmax	pmax			
	comp=Z,27nm,1.0s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**80.81**	**324**	⇑*iP*	**P**		**00 52 22.6**	**+0.6**
ULN				pmax	pmax			
	comp=Z,16nm,1.4s							
ULN	**Ulaanbaatar**	**80.81**	**324**	*eP*	**P**		**00 52 22.8**	**+0.8**
BILL	**Bilibino**	**81.00**	**360**	*eP*	**P**		**00 52 22.5**	**+0.2**
BILL	**Bilibino**	**81.00**	**360**	*eP*	**P**		**00 52 22.5**	**+0.2**
SONM	**Songino Array**	**81.18**	**323**	P	**P**		**00 52 24.3**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=139,slow=6.2,SNR=20							
SONM				LR	LR		01 28 19.7	
	comp=Z,31nm,18.8s,baz=174,slow=35							
GTA	**Gaotai**	**81.51**	**314**	⇑P	**P**		**00 52 26.5**	**+0.7**
GTA				pP	**pP**		**00 53 15.3**	**+0.2**
GTA				sP	**sP**		**00 53 38.0**	**+1.5**
GTA				PMZ				
	comp=Z,7.0nm,0.9s							
DIV	**Divide**	**82.89**	**21**	*eP*	**P**		**00 52 32.9**	**+0.5**
KTH	**Kantishna Hill**	**83.00**	**18**	*eP*	**P**		**00 52 32.3**	**-0.6**
TRF	**Thorofare Moun**	**83.11**	**18**	*eP*	**P**		**00 52 33.0**	**-0.6**
MAW	**Mawson**	**83.27**	**202**	P	**P**		**00 52 34.1**	**-0.1**
	comp=Z,14nm,1.0s,baz=101,slow=6.4,SNR=15							
MAW	**Mawson**	**83.27**	**202**	*eP*	**P**		**00 52 34.0**	**-0.2**
MAW	**Mawson**	**83.27**	**202**	P	**P**		**00 52 34.1**	**-0.1**
	baz=83,SNR=7.9							
MAW	**Mawson**	**83.27**	**202**	*eP*	**P**		**00 52 34.0**	**-0.2**
MCK	**McKinley**	**83.72**	**18**	*eP*	**P**		**00 52 36.5**	**-0.1**
MCK	**McKinley**	**83.72**	**18**	*eP*	**P**		**00 52 36.5**	**-0.1**
IM04	**Indian Mountai**	**84.09**	**15**	*eP*	**P**		**00 52 38.9**	**+0.5**
ZAK	**Zakamensk**	**84.22**	**325**	⇑*iP*	**P**		**00 52 39.5**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.2s							
YBH	**Yreka Blue Hor**	**84.42**	**45**	P	**P**		**00 52 42.0**	**+1.4**
	comp=Z,2.5nm,0.9s,baz=274,slow=2.2,SNR=3.8							
TLY	**Talaya**	**84.64**	**326**	*iP*	**P**		**00 52 41.7**	**+0.3**
TLY				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ARVC	**Arvin**	**84.84**	**52**	*eP*	**P**		**00 52 42.3**	**-0.5**
COLA	**College**	**84.88**	**18**	*d iP*	**P**		**00 52 41.9**	**-0.4**
COLA	**College**	**84.88**	**18**	*eP*	**P**		**00 52 42.4**	**+0.1**
COLA				*ep*P	**pP**		**00 53 28.9**	**-3.0**
ILAR	**Eielson Array**	**85.10**	**18**	P	**P**		**00 52 43.0**	**-0.4**
	comp=Z,7.5nm,0.6s,baz=238,slow=5.4,SNR=112							
ILAR				pP	pP		00 53 26.7	-6.3
	comp=Z,15nm,0.8s,baz=231,slow=6.0,SNR=8.3							
ILAR	**Eielson Array**	**85.10**	**18**	P	**P**		**00 52 43.0**	**-0.4**
DGR	**Domenigoni Val**	**85.78**	**54**	*eP*	**P**		**00 52 47.8**	**+0.3**
COLD	**Coldfoot**	**85.97**	**15**	*eP*	**P**		**00 52 49.2**	**+1.5**
NVAR	**Mina Array Bea**	**86.36**	**49**	P	**P**		**00 52 51.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=229,slow=7.9,SNR=3.6							
NVAR				pP	**pP**		**00 53 36.5**	**-3.8**
	comp=Z,0.3nm,0.5s,baz=180,slow=29,SNR=1.9							
TAPN	**Taplejung**	**86.82**	**299**	*eP*	**P**		**00 52 53.2**	**+0.1**
EGAK	**Eagle**	**86.91**	**20**	*eP*	**P**		**00 52 52.5**	**+0.2**
EGAK				*ep*P	**pP**		**00 53 40.1**	**-2.0**
ODAN	**Odare**	**86.96**	**298**	*eP*	**P**		**00 52 53.5**	**-0.2**
	comp=Z,26nm,0.9s							
DLBC	**Dease Lake**	**87.64**	**28**	P	**P**		**00 52 55.3**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=247,slow=10,SNR=3.4							
RAMN	**Ramite**	**87.66**	**298**	*eP*	**P**		**00 52 56.6**	**-0.4**
	comp=Z,7.3nm,0.6s							
BLYC	**Blythe**	**87.78**	**55**	*eP*	P		00 53 01.2	+4.1
JIRN	**Jiri**	**88.20**	**299**	*eP*	**P**		**00 52 59.4**	**-0.3**
TIXI	**Tiksi**	**88.43**	**349**	*eP*	**P**		**00 52 59.1**	**-0.2**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TIXI	**Tiksi**	**88.43**	**349**	*eP*	**P**		**00 52 58.7**	**-0.6**
GUN	**Gumba**	**88.54**	**299**	*eP*	**P**		**00 53 01.0**	**-0.3**
	comp=Z,22nm,1.0s							
PKI	**Pulchoki**	**88.85**	**299**	*eP*	**P**		**00 53 02.1**	**-0.6**
PKIN	**Phulchoki**	**88.86**	**299**	*eP*	**P**		**00 53 01.8**	**-0.9**
KKN	**Kakani**	**89.02**	**299**	*eP*	**P**		**00 53 02.4**	**-1.0**
	comp=Z,13nm,0.7s							
DMN	**Daman**	**89.12**	**298**	*eP*	**P**		**00 53 03.6**	**-0.3**
	comp=Z,24nm,0.6s							
GKN	**Gorkha**	**89.62**	**299**	*eP*	**P**		**00 53 05.3**	**-0.8**
	comp=Z,6.2nm,0.4s							
WMQ	**Urumqi**	**91.55**	**315**	*eP*	**P**		**00 53 15.8**	**+1.2**
WMQ				PMZ				
	comp=Z,7.0nm,1.1s							
WMQ				PMZ				
	comp=Z,98nm,4.9s							
AHID	**Auburn Hatcher**	**92.89**	**47**	*eP*	**P**		**00 53 19.2**	**-1.8**
PV10	**Paradox Valley**	**93.31**	**52**	*eP*	P		00 53 28.0	+5.0
SNAA	**Sanae**	**95.08**	**183**	P	**P**		**00 53 29.5**	**-0.8**
SNAA	**Sanae**	**95.08**	**183**	*eP*	**P**		**00 53 29.3**	**-1.0**
SNAA				pmax	pmax			
	comp=Z,11nm,1.2s							
VNA3	**Neumayer Olymp**	**95.75**	**181**	P	**P**		**00 53 33.5**	**+0.2**
MKAR	**Makanchi Array**	**96.00**	**317**	P	**P**		**00 53 34.9**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=97,slow=2.8,SNR=31							
MKAR				pP	pP		00 54 19.6	-5.6
	comp=Z,2.0nm,0.8s,baz=122,slow=1.9,SNR=4.8							
VNA2	**Neumayer--Watz**	**96.02**	**182**	P	**P**		**00 53 34.9**	**+0.4**
	baz=168,slow=4.9							
ZALV	**Zalesovo Beam**	**96.07**	**324**	P	**P**		**00 53 33.6**	**-1.4**
	comp=Z,3.5nm,0.8s,baz=104,slow=4.7,SNR=18							
ZALV				pP	pP		00 54 19.0	-6.2
	comp=Z,0.8nm,0.6s,baz=108,slow=4.7,SNR=1.5							
ZALV	**Zalesovo Beam**	**96.07**	**324**	*iP*	**P**		**00 53 34.0**	**-0.9**
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.8s							
YKA	**Yellowknife Ar**	**96.23**	**27**	P	**P**		**00 53 34.9**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=261,slow=4.8,SNR=9.9							
YKA				pP	pP		00 54 19.9	-5.8
	comp=Z,4.1nm,0.9s,baz=256,slow=4.7,SNR=7.0							
KSH	**Kashi**	**99.14**	**308**	*eP*	**Pdif**		**00 53 49.3**	**0.0**
KSH				pP	**pP**		**00 54 40.0**	**+0.3**
KSH				PP	**PP**		**00 57 56.0**	**+1.3**
KSH				SKS	**SKSac**		**01 04 06.0**	**-2.3**
KSH				S	**ScS**		**01 04 58.0**	**-4.8**
KSH				PMZ				
	comp=Z,92nm,5.0s							
KSH				LN				
	comp=Z,74nm,5.4s							
KSH				LE				
	comp=Z,75nm,5.6s							
KSH				LZ				
	comp=Z,170nm,5.8s							
ARU	**Arti**	**111.14**	**326**	PKIKP	**PKiKP**		**00 58 38.1**	**-1.8**
PRGR	**Permogore**	**116.24**	**333**	PKIKP	**PKPdf**		**00 58 44.7**	**-4.8**
PRGR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
APA	**Apatity**	**117.88**	**342**	⇓*iPKIKP*	**PKPdf**		**00 58 51.0**	**-1.5**
APA				*i*			00 59 41.0	
KEV	**Kevo**	**118.20**	**345**	*ep*	**PKPdf**		**00 58 52.0**	**-1.1**
	comp=Z,5.6nm,0.8s							
KEV	**Kevo**	**118.20**	**345**	*ePKIKP*	**PKPdf**		**00 58 52.0**	**-1.1**
KEV				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ARCES	**ARCESS Array B**	**118.73**	**346**	PKP	**PKPdf**		**00 58 53.8**	**-0.4**
	comp=Z,6.6nm,0.5s,baz=72,slow=2.4,SNR=53							
JOF	**Joensuu**	**121.41**	**338**	*ep*	**PKPdf**		**00 58 57.5**	**-1.9**
	comp=Z,8.2nm,0.8s							
JOF	**Joensuu**	**121.41**	**338**	*ePKIKP*	**PKPdf**		**00 58 57.5**	**-1.9**
JOF				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ZEI	**Tsey**	**123.11**	**313**	*iPKIKP*	**PKPdf**		**00 59 03.2**	**-0.4**
ZEI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
LPSR	**Galich'ya Gora**	**123.16**	**325**	*ePKIKP*	**PKPdf**		**00 59 01.9**	**-1.2**
LPSR				pmax	pmax			
	comp=N,10.0nm,1.1s							
LPSR				pmax	pmax			
	comp=E,8.0nm,1.1s							
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
OBN	**Obninsk**	**123.32**	**329**	⇓*iPKIKP*	**PKPdf**		**00 59 03.0**	**-0.3**
OBN				pmax	pmax			
	comp=Z,8.0nm,1.2s							
VSR	**Storozhevoye**	**123.57**	**323**	*ePKIKP*	**PKPdf**		**00 59 03.7**	**-0.2**
VSR				pmax	pmax			
	comp=E,5.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=N,3.0nm,0.6s							
KBZ	**Khabaz**	**123.59**	**314**	PKP	**PKPdf**		**00 59 04.8**	**+0.7**
	comp=N,1.6nm,0.7s,baz=236,slow=24,SNR=4.3							
VORD	**Divnogorie**	**123.60**	**323**	*ePKIKP*	**PKPdf**		**00 59 03.7**	**-0.3**
VORD				pmax	pmax			
	comp=N,8.0nm,0.8s							
VORD				pmax	pmax			
	comp=Z,9.0nm,0.8s							
VORD				pmax	pmax			
	comp=E,4.0nm,0.9s							
KIV	**Kislovodsk**	**123.68**	**314**	*ePKIKP*	**PKPdf**		**00 59 05.1**	**+0.6**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KAF	**Kangasniemi**	**123.71**	**339**	*ep*	**PKPdf**		**00 59 02.1**	**-1.8**
	comp=Z,5.4nm,0.5s							
KAF	**Kangasniemi**	**123.71**	**339**	*ePKIKP*	**PKPdf**		**00 59 02.1**	**-1.8**
KAF				pmax	pmax			
	comp=Z,5.0nm,0.5s							
NEY	**Neytrino**	**123.84**	**313**	*ePKIKP*	**PKPdf**		**00 59 04.9**	**-0.1**
FINES	**FINESS Array B**	**124.24**	**339**	PKP	**PKPdf**		**00 59 04.7**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=94,slow=2.0,SNR=27							
FINES	**FINESS Array B**	**124.24**	**339**	*c iPKIKP*	**PKPdf**		**00 59 04.6**	**-0.3**
FINES				pmax	pmax			
	comp=Z,5.0nm,0.5s							
MALT	**Malatya**	**128.25**	**309**	⇑*iP*	**PKPdf**		**00 59 15.2**	**+1.8**
MALT	**Malatya**	**128.25**	**309**	⇑PKIKP	**PKPdf**		**00 59 15.2**	**+1.8**
NB2	**NORSAR Subarra**	**129.10**	**345**	PKPdf	**PKPdf**		**00 59 14.8**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**129.38**	**327**	PKP	**PKPdf**		**00 59 14.6**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=32,slow=2.0,SNR=13							
AKASG	**Malin Array Be**	**129.38**	**327**	*c iPKIKP*	**PKPdf**		**00 59 15.1**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=54,slow=1.8,SNR=13							
AKASG	**Malin Array Be**	**129.38**	**327**	*c iPKIKP*	**PKPdf**		**00 59 15.6**	**+0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**131.40**	**312**	PKP	**PKPdf**		**00 59 19.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=113,slow=1.9,SNR=7.8							
BRTR				SKPbc	**SKPab**		**01 02 28.1**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=92,slow=2.8,SNR=7.5							
TLCR			**132.42**	**320**	⇑*iP*	**PKPdf**	**00 59 22.0**	**+1.0**
TLCR			**132.42**	**320**	⇑PKIKP	**PKPdf**	**00 59 22.0**	**+1.0**
CFR	**Carcaliu**		**132.85**	**321**	⇑*iP*	**PKPdf**	**00 59 22.1**	**+0.3**
CFR	**Carcaliu**		**132.85**	**321**	⇑PKIKP	**PKPdf**	**00 59 22.1**	**+0.3**
TLB	**Topalu**		**133.19**	**320**	⇓*iP*	**PKPdf**	**00 59 22.0**	**-0.4**
TLB	**Topalu**		**133.19**	**320**	⇓PKIKP	**PKPdf**	**00 59 22.0**	**-0.4**
HARR	**Harsova**		**133.21**	**320**	⇓*iP*	**PKPdf**	**00 59 23.1**	**+0.6**
HARR	**Harsova**		**133.21**	**320**	⇓PKIKP	**PKPdf**	**00 59 23.1**	**+0.6**
BURAR	**Bucovina Array**		**133.28**	**325**	⇑*iP*	**PKPdf**	**00 59 24.2**	**+1.5**
BURAR	**Bucovina Array**		**133.28**	**325**	⇑PKIKP	**PKPdf**	**00 59 24.2**	**+1.5**
VRI	**Vrincioaia**		**133.35**	**322**	⇑*iP*	**PKPdf**	**00 59 23.0**	**+0.2**
VRI	**Vrincioaia**		**133.35**	**322**	⇑PKIKP	**PKPdf**	**00 59 23.0**	**+0.2**
KWP	**Kalwaria Pacla**		**133.41**	**329**	*eP*KP	**PKPdf**	**00 59 24.1**	**+1.4**
KWP	**Kalwaria Pacla**		**133.41**	**329**	⇑*iP*	**PKPdf**	**00 59 24.2**	**+1.5**
KWP	**Kalwaria Pacla**		**133.41**	**329**	⇑PKIKP	**PKPdf**	**00 59 24.2**	**+1.5**
MSAB	**Monastry St. A**		**133.57**	**320**	⇓*iP*	**PKPdf**	**00 59 24.8**	**+1.6**
MLR	**Muntele Rosu**		**134.02**	**322**	⇑*iP*	**PKPdf**	**00 59 24.5**	**+0.3**
MLR	**Muntele Rosu**		**134.02**	**322**	PKP	**PKPdf**	**00 59 24.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=45,slow=1.4,SNR=3.5							
MLR	**Muntele Rosu**		**134.02**	**322**	⇑PKIKP	**PKPdf**	**00 59 24.5**	**+0.3**
KOLS	**Kolonicke sedl**		**134.07**	**328**	*ePKIKP*	**PKPdf**	**00 59 25.2**	**+1.2**
KOLS	**Kolonicke sedl**		**134.07**	**328**	*ePKP*	**PKPdf**	**00 59 25.2**	**+1.2**
DOPR	**Dopca**		**134.09**	**323**	⇓*iP*	**PKPdf**	**00 59 26.6**	**+2.4**
STHS	**Stebnicka Huta**		**134.28**	**329**	*ePKIKP*	**PKPdf**	**00 59 26.6**	**+2.2**
STHS	**Stebnicka Huta**		**134.28**	**329**	*ePKP*	**PKPdf**	**00 59 26.6**	**+2.2**
TRPA	**Tarpa**		**134.43**	**327**	⇑*iP*	**PKPdf**	**00 59 24.9**	**+0.3**
OJC	**Ojcow**		**134.46**	**331**	*ePKP*	**PKPdf**	**00 59 25.1**	**+0.4**
CRVS	**Cervenica-Dubn**		**134.51**	**329**	*ePKIKP*	**PKPdf**	**00 59 25.8**	**+1.0**
CRVS	**Cervenica-Dubn**		**134.51**	**329**	*ePKP*	**PKPdf**	**00 59 25.8**	**+1.0**
CRVS					*e*SKPDF	**SKPdf**	**01 02 39.0**	**-1.7**
VOIR			**134.58**	**323**	⇑*iP*	**PKPdf**	**00 59 26.5**	**+1.4**
VOIR			**134.58**	**323**	⇑PKIKP	**PKPdf**	**00 59 26.6**	**+1.4**
CJR	**Cluj-Napoca**		**134.70**	**325**	⇓*iP*	**PKPdf**	**00 59 26.0**	**+0.7**
CJR	**Cluj-Napoca**		**134.70**	**325**	⇓PKIKP	**PKPdf**	**00 59 26.0**	**+0.7**
NIE	**Niedzica**		**134.74**	**330**	*ePKP*	**PKPdf**	**00 59 26.2**	**+0.9**
ARR	**Arges**		**134.86**	**323**	⇓*iP*	**PKPdf**	**00 59 27.0**	**+1.3**
DRGR			**135.15**	**325**	⇑*iP*	**PKPdf**	**00 59 26.3**	**+0.1**
DRGR			**135.15**	**325**	⇑PKIKP	**PKPdf**	**00 59 26.3**	**+0.1**
BSEG	**Bad Segeberg**		**135.41**	**341**	*ePKIKP*	**PKiKP**	**00 59 28.2**	**+0.4**
KSP	**Ksiaz**		**135.60**	**334**	*ePKP*	**PKPdf**	**00 59 29.0**	**+2.2**
KSP	**Ksiaz**		**135.60**	**334**	*ePKIKP*	**PKPdf**	**00 59 28.8**	**+2.0**
MORC	**Moravsky Berou**		**135.81**	**332**	⇑*iP*	**PKPdf**	**00 59 28.1**	**+0.8**
MORC	**Moravsky Berou**		**135.81**	**332**	⇑PKIKP	**PKPdf**	**00 59 28.1**	**+0.8**
GZR	**Gura Zlata**		**135.93**	**324**	⇑*iP*	**PKPdf**	**00 59 25.3**	**-2.4**
GZR	**Gura Zlata**		**135.93**	**324**	⇑PKIKP	**PKPdf**	**00 59 25.3**	**-2.4**
KRLC	**Kraliky**		**135.94**	**333**	*ePKPdf*	**PKPdf**	**00 59 28.2**	**+0.7**
KRLC					*e*SKP	**SKPdf**	**01 02 43.9**	**+0.6**
KRLC	**Kraliky**		**135.94**	**333**	*ePKIKP*	**PKPdf**	**00 59 28.2**	**+0.7**
DPC	**Dobruska-Polom**		**135.95**	**333**	*ePKPdf*	**PKPdf**	**00 59 28.5**	**+1.0**
DPC					*e*SKP	**SKPdf**	**01 02 43.7**	**+0.4**
DPC	**Dobruska-Polom**		**135.95**	**333**	*ePKIKP*	**PKPdf**	**00 59 28.5**	**+1.0**
UPC	**Upice**		**135.97**	**334**	*ePKPdf*	**PKPdf**	**00 59 29.8**	**+2.3**
UPC					*e*SKP	**SKPdf**	**01 02 44.7**	**+1.4**
UPC	**Upice**		**135.97**	**334**	*ePKIKP*	**PKPdf**	**00 59 29.8**	**+2.3**
VYHS	**Vyhne**		**136.09**	**330**	*ePKIKP*	**PKPdf**	**00 59 29.8**	**+2.0**
VYHS	**Vyhne**		**136.09**	**330**	*ePKP*	**PKPdf**	**00 59 29.8**	**+2.0**
VYHS					*e*SKPpB	**SKPdf**	**01 02 44.5**	**+0.9**
BZS	**Buzias**		**136.46**	**325**	⇑*iP*	**PKPdf**	**00 59 28.5**	**0.0**
BZS	**Buzias**		**136.46**	**325**	⇑PKIKP	**PKPdf**	**00 59 28.5**	**0.0**
BRG	**Berggiesshubel**		**136.56**	**335**	*eP*	**PKPdf**	**00 59 30.8**	**+2.2**
	comp=Z,15nm,1.4s							
BRG					*e*		01 02 46.0	
	comp=Z,8.8nm,1.4s							
BRG	**Berggiesshubel**		**136.56**	**335**	*ePKiKP*	**PKiKP**	**00 59 30.6**	**+0.3**
BRG	**Berggiesshubel**		**136.56**	**335**	*ePKIKP*	**PKPdf**	**00 59 30.8**	**+2.2**
BRG					pmax	pmax		
	comp=Z,15nm,1.4s							
PVCC	**Panska Ves**		**136.56**	**335**	*ePKPdf*	**PKPdf**	**00 59 29.5**	**+0.9**
PVCC					*ex*	x	00 59 31.0	
PVCC					*e*SKP	**SKPdf**	**01 02 45.2**	**+0.9**
PVCC	**Panska Ves**		**136.56**	**335**	*ePKIKP*	**PKPdf**	**00 59 29.5**	**+0.9**
CLL	**Collm**		**136.59**	**337**	*ePKIKP*	**PKiKP**	**00 59 30.5**	**+0.1**
CLL	**Collm**		**136.59**	**337**	*i* PKPdf	**PKPdf**	**00 59 30.2**	**+1.6**
	comp=Z,6.0nm,0.9s							
CLL					*e*SKPdf	**SKPdf**	**01 02 45.0**	**+0.6**
CLL	**Collm**		**136.59**	**337**	*i* PKIKP	**PKPdf**	**00 59 30.2**	**+1.6**
CLL					pmax	pmax		
	comp=Z,6.0nm,0.9s							
NRDL	**Niedersach Rie**		**136.68**	**340**	*ePKiKP*	**PKiKP**	**00 59 30.9**	**+0.5**
GOPC	**GO Pecny, Ondr**		**136.93**	**334**	*ePKPdf*	**PKPdf**	**00 59 31.4**	**+2.1**
PRA	**Prague**		**136.97**	**334**	*ePKPdf*	**PKPdf**	**00 59 30.4**	**+1.1**
PRA					*ex*	x	00 59 31.9	
PRA	**Prague**		**136.97**	**334**	*ePKIKP*	**PKPdf**	**00 59 30.4**	**+1.1**
PRU	**Pruhonice**		**136.98**	**334**	*ePKPdf*	**PKPdf**	**00 59 29.6**	**+0.2**
PRU					*ex*	x	00 59 31.1	
PRU					*e*SKP		01 02 47.0	
PRU	**Pruhonice**		**136.98**	**334**	*ePKIKP*	**PKPdf**	**00 59 29.6**	**+0.2**
TREC	**Trest**		**137.09**	**333**	*ePKPdf*	**PKPdf**	**00 59 26.6**	**-3.0**
TREC					*e*SKP		01 02 42.8	
TREC	**Trest**		**137.09**	**333**	*ePKIKP*	**PKPdf**	**00 59 26.6**	**-3.0**
CLZ	**Clausthal**		**137.13**	**339**	*ePKiKP*	**PKiKP**	**00 59 32.0**	**+0.5**
NEUB	**Neuenburg**		**137.14**	**337**	*ePKiKP*	**PKiKP**	**00 59 31.7**	**+0.2**
VTS	**Vitosha**		**137.23**	**320**	⇑*iP*	**PKPdf**	**00 59 30.4**	**+0.1**
VTS	**Vitosha**		**137.23**	**320**	⇑PKIKP	**PKPdf**	**00 59 30.4**	**+0.1**
TANN	**Tannenbergstha**		**137.50**	**336**	*ePKiKP*	**PKiKP**	**00 59 32.5**	**+0.1**
WERD	**Werda**		**137.54**	**336**	*ePKiKP*	**PKiKP**	**00 59 32.6**	**+0.2**
PLN	**Plauen**		**137.57**	**336**	*ePKiKP*	**PKiKP**	**00 59 32.6**	**+0.2**
GUNZ	**Gunzen**		**137.60**	**336**	*ePKiKP*	**PKiKP**	**00 59 32.7**	**+0.2**
MOX	**Moxa**		**137.65**	**337**	*ePKiKP*	**PKiKP**	**00 59 32.7**	**+0.1**
PKSM	**Moragy**		**137.70**	**327**	⇓*iP*	**PKPdf**	**00 59 31.0**	**+0.2**
PKSM	**Moragy**		**137.70**	**327**	⇓PKIKP	**PKPdf**	**00 59 31.1**	**+0.2**
CONA	**Conrad Observa**		**137.91**	**331**	⇑*iP*KPdf	**PKPdf**	**00 59 31.2**	**0.0**
	comp=Z,7.0nm,0.7s							
MANZ	**Manzenberg**		**137.98**	**336**	*ePKiKP*	**PKiKP**	**00 59 33.4**	**+0.1**
GEC2	**GERESS Array S**		**138.21**	**334**	*ePKiKP*	**PKiKP**	**00 59 33.9**	**0.0**
GERES	**GERESS Array B**		**138.21**	**334**	PKhKP	PKPpre	00 59 23.1	
	comp=Z,0.6nm,0.7s,baz=0.0,slow=2.0,SNR=6.1							
GERES					PKP	**PKPdf**	**00 59 32.4**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=77,slow=1.3,SNR=16							
GERES					SKPbc	**SKiKP**	**01 02 49.4**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=31,slow=3.1,SNR=16							
DIVS	**Divibare**	**138.30**	**324**	⇓*iP*	**PKPdf**		**00 59 32.1**	**0.0**
TNS	**Taunus Mts**	**139.15**	**339**	*ePKiKP*	**PKiKP**		**00 59 35.9**	**+0.2**
PERS	**Pernice**	**139.19**	**330**	*ePKPdf*	**PKPdf**		**00 59 33.4**	**-0.2**
PERS				*e*			01 02 50.8	
PERS				*i*			01 02 57.5	
MEM	**Membach**	**139.62**	**341**	PKP	**PKPdf**		**00 59 34.9**	**+0.7**
VISS	**Visnje**	**139.92**	**330**	*ePKPdf*	**PKPdf**		**00 59 35.4**	**+0.5**
VISS				*i*			01 02 55.0	
BOJS	**Bojanci**	**139.92**	**329**	*i* PKPdf	**PKPdf**		**00 59 35.5**	**+0.6**
BOJS				*e*			01 02 54.6	
JAVS	**Javornik**	**140.23**	**330**	*i* PKPdf	**PKPdf**		**00 59 35.5**	**-0.1**
JAVS				*e*			01 02 57.9	
ABTA	**Abfaltersbach**	**140.32**	**333**	⇓*iPKPdf*	**PKPdf**		**00 59 34.6**	**-1.1**
	comp=Z,8.6nm,1.1s							
WLF	**Walferdange**	**140.40**	**341**	*ePKiKP*	**PKiKP**		**00 59 38.7**	**+0.5**
DOU	**Dourbes**	**140.50**	**342**	PKP	**PKPdf**		**00 59 35.8**	**0.0**
BFO	**Black Forest**	**140.78**	**338**	*c iPKIKP*	**PKPdf**		**00 59 32.6**	**-3.8**
FETA	**Feichten**	**140.89**	**334**	⇓*iPKPdf*	**PKPdf**		**00 59 35.3**	**-1.5**
	comp=Z,8.4nm,1.1s							
MSKU	**Masuku**	**149.88**	**243**	PKPbc	**PKPbc**		**00 59 58.0**	**-0.1**
	baz=107,slow=2.9							
KEST	**Kesra**	**149.93**	**322**	PKPbc	**PKPbc**		**00 59 58.0**	**+0.5**
	comp=Z,9.0nm,0.8s,baz=85,slow=1.8,SNR=36							
PBRG	**Braganca**	**

	207nm,0.9s,4μm0.7nm					
LUWI	**Luwuk**	**7.85**	**313**	P	**Pn**	**02 00 29.8 +0.3**
	baz=7.9,SNR=8.9					
LUWI	**Luwuk**	**7.85**	**313**	*e*Pn	**Pn**	**02 00 29.7 +0.3**
BKSI	**Bulukumba**	**8.44**	**277**	P	**Pn**	**02 00 37.2 +0.7**
	126nm,0.9s,1μm0.4nm					
BNSI	**Bone**	**8.63**	**283**	P	**Pn**	**02 00 41.1 +2.3**
	77nm,0.8s,0.3nm					
KAPI	**Kappang**	**8.85**	**279**	*e*Pn	**Pn**	**02 00 41.8 +0.3**
	34nm,0.9s					
SPSI	**Sidrap Palu**	**9.06**	**285**	P	**Pn**	**02 00 45.0 +0.9**
	60nm,1.1s					
KNRA	**Kununurra**	**9.20**	**179**	P	**Pn**	**02 00 46.7 +0.9**
	baz=9.3,SNR=8.3					
TTSI	**Tana Toraja**	**9.31**	**291**	P	**P**	**02 00 49.2 -1.1**
	46nm,1.1s,1μm					
MRSI	**Marisa**	**9.50**	**316**	P	**Pn**	**02 00 50.4 +1.0**
	53nm,0.9s,820nm					
PCI	**Palu**	**10.26**	**302**	P	**P**	**02 01 03.1 +2.2**
	122nm,1.1s,984nm					
MPSI	**Mapaga**	**10.92**	**308**	P	**P**	**02 01 09.1 +0.8**
	25nm,1.0s					
SMPI	**Sarmi**	**11.06**	**67**	P	**P**	**02 01 10.1 +0.3**
	137nm,1.1s,4μm					
MMPI	**Merauke**	**11.93**	**101**	P	**P**	**02 01 21.6 +2.2**
	2μm,0.7s,28μm					
FITZ	**Fitzroy Crossi**	**11.95**	**193**	P	**P**	**02 01 19.6 0.0**
	baz=12,SNR=60					
FITZ	**Fitzroy Crossi**	**11.95**	**193**	*e*Pn	**P**	**02 01 19.8 +0.2**
FITZ				*e*S	**S**	**02 03 31.5 -0.7**
GENI	**Genyem**	**12.20**	**72**	P	**P**	**02 01 23.1 +0.6**
	147nm,0.9s,3μm					
KBKI	**Kotabaru**	**12.71**	**284**	P	P	02 01 32.1 +4.1
	68nm,0.8s,2μm					
JAY	**Jayapura**	**12.74**	**73**	P	**Pn**	**02 01 27.9 -0.5**
	4.2nm,0.3s,baz=250,slow=7.4,SNR=24					
JAY				S	**S**	**02 03 48.1 -1.3**
	0.2nm,0.3s,baz=294,slow=20,SNR=3.6					
SRBI	**Singaraja**	**13.32**	**262**	P	Pn	02 01 41.9 +6.6
	43nm,0.8s					
BBKI	**Banjar Baru**	**13.95**	**282**	P	**Pn**	**02 01 44.0 +1.1**
	271nm,0.9s,2μm					
ABJI	**Asem Bagus**	**14.26**	**264**	P	**Pn**	**02 01 47.4 +1.0**
	93nm,1.0s					
KMMI	**Kalianget**	**14.48**	**267**	P	Pn	02 01 52.6 +3.5
	117nm,0.8s					
WRAB	**Tennant Creek**	**14.57**	**158**	*e*P	**Pn**	**02 01 49.5 -0.6**
WRAB				*e*S	**S**	**02 04 25.5 -1.9**
WRA	**Warramunga Arr**	**14.58**	**158**	P	**Pn**	**02 01 49.4 -0.7**
	29nm,0.3s,baz=339,slow=12,SNR=233					
WRA				S	**S**	**02 04 24.9 -2.6**
	5.1nm,0.3s,baz=334,slow=21,SNR=11					
BLJI	**Banyuglugur**	**14.88**	**264**	P	**Pn**	**02 01 53.5 -0.3**
GMJI	**Gumukmas**	**15.08**	**262**	P	**Pn**	**02 01 58.8 +2.8**
	39nm,0.9s					
GRJI	**Gresik**	**15.95**	**267**	P	**Pn**	**02 02 08.0 +1.8**
	74nm,0.7s					
COEN	**Coen**	**16.23**	**119**	P	**P**	**02 02 07.6 +0.8**
	baz=16,SNR=452					
COEN	**Coen**	**16.23**	**119**	*e*P	**P**	**02 02 07.6 +0.8**
	68nm,0.8s					
PWJI	**Pagerwojo**	**16.67**	**264**	P	Pn	02 02 21.4 +6.8
KKM	**Kota Kinabalu**	**17.45**	**315**	*e*P	**P**	**02 02 19.6 -0.5**
	22nm,0.8s					
QIS	**Mount Isa**	**17.69**	**144**	P	**P**	**02 02 23.3 +0.9**
	baz=18,SNR=93					
QIS				S	**S**	**02 05 26.5 -2.7**
	baz=18,SNR=6.1					
AS31	**Alice Springs**	**17.91**	**164**	*e*P	**P**	**02 02 26.1 +1.3**
AS31				*e*S	**S**	**02 05 33.3 -0.2**
ASAR	**Alice Springs**	**17.91**	**164**	P	**P**	**02 02 26.0 +1.2**
	16nm,0.3s,baz=347,slow=11,SNR=664					
ASAR				S	**S**	**02 05 33.2 -0.3**
	5.2nm,0.3s,baz=348,slow=22,SNR=25					
ASAR				ScP	**ScP**	**02 09 47.4 -1.0**
	baz=339,slow=2.4,SNR=7.3					
UGM	**Wanagama**	**17.93**	**264**	P	**P**	**02 02 25.3 +0.1**
	baz=18,SNR=3.6					
WRKA	**Warakurna**	**18.51**	**181**	P	**P**	**02 02 32.6 +1.3**
	baz=19,SNR=14					
PMG	**Port Moresby**	**18.68**	**100**	P	**P**	**02 02 35.8 +2.7**
	baz=19,SNR=7.9					
PMG	**Port Moresby**	**18.68**	**100**	*e*P	**P**	**02 02 33.8 +0.6**
	20nm,0.6s					
KSM	**Kuching**	**19.81**	**293**	P	**P**	**02 02 45.2 0.0**
	baz=20,SNR=10					
KSM	**Kuching**	**19.81**	**293**	*e*P	**P**	**02 02 45.0 -0.1**
	43nm,0.7s					
CISI	**Cisompet, Garu**	**20.59**	**266**	P	**P**	**02 02 53.1 +0.2**
	baz=21,SNR=3.9					
CISI	**Cisompet, Garu**	**20.59**	**266**	*e*P	**P**	**02 02 52.1 -0.8**
	186nm,0.8s					
LEM	**Lembang**	**20.78**	**268**	P	**P**	**02 02 54.5 -0.3**
	59nm,0.7s,baz=77,slow=9.3,SNR=6.3					
GIRL	**Giralia**	**21.22**	**219**	P	**P**	**02 02 59.3 +0.8**
	baz=21,SNR=3.9					
CTA	**Charters Tower**	**21.92**	**130**	P	**P**	**02 03 06.8 +1.8**
	45nm,0.7s,baz=312,slow=13,SNR=27					
CTAO	**Charters Tower**	**21.92**	**130**	*e*P	**P**	**02 03 06.5 +1.5**
	44nm,0.8s					
MEEK	**Meekatharra**	**22.22**	**204**	P	**P**	**02 03 07.3 -0.2**
	baz=22,SNR=31					
FORT	**Forrest**	**24.24**	**181**	P	**P**	**02 03 26.6 +0.8**
	baz=24,SNR=6.9					
QLP	**Quilpie**	**25.02**	**145**	P	**P**	**02 03 33.9 +1.0**
	baz=25,SNR=4.5					
MORW	**Morawa**	**25.43**	**206**	P	**P**	**02 03 36.5 0.0**
	baz=26,SNR=5.0					
KMBL	**Kambalda**	**25.59**	**193**	P	**P**	**02 03 38.4 +0.5**
	baz=26,SNR=21					
MYKOM	**Kota Tinggi**	**25.96**	**288**	*e*P	**P**	**02 03 43.3 +1.8**
	37nm,0.7s					
BLDU	**Balidu**	**26.51**	**203**	P	**P**	**02 03 46.0 -0.1**
	baz=27,SNR=14					
RMQ	**Roma**	**27.74**	**138**	P	**P**	**02 03 58.5 +1.4**
	baz=28,SNR=4.7					
STKA	**Stephens Creek**	**28.11**	**156**	P	**P**	**02 04 01.1 +0.8**
	11nm,0.5s,baz=327,slow=8.8,SNR=37					
STKA	**Stephens Creek**	**28.11**	**156**	P	**P**	**02 04 01.1 +0.8**
	baz=28,SNR=30					
STKA	**Stephens Creek**	**28.11**	**156**	*e*P	**P**	**02 04 00.8 +0.5**
	4.8nm,1.1s					
NWAO	**Narrogin (SRO)**	**28.39**	**200**	P	**P**	**02 04 03.1 +0.4**
	9.8nm,0.5s,baz=25,slow=12,SNR=14					
NWAO	**Narrogin (SRO)**	**28.39**	**200**	P	**P**	**02 04 03.3 +0.5**
	baz=28,SNR=11					
IPM	**Ipoh**	**29.52**	**291**	*e*P	**P**	**02 04 13.9 +0.9**
	14nm,0.7s					
CMSA	**Cobar Meteorol**	**29.70**	**149**	P	**P**	**02 04 15.6 +1.3**
	baz=30,SNR=18					
RKGY	**Rocky Gully**	**30.02**	**199**	P	**P**	**02 04 18.8 +1.8**
	baz=30,SNR=5.9					
KULM	**Kulim**	**30.17**	**292**	*e*P	**P**	**02 04 17.4 -1.2**
	19nm,0.8s					
HNR	**Honiara**	**31.25**	**98**	P	**P**	**02 04 28.2 +0.1**
	8.6nm,0.4s					
QIZ	**Qiongzhong**	**31.29**	**324**	P	**P**	**02 04 28.5 +0.2**
QIZ				pP	**pP**	**02 05 29.5 -0.6**
QIZ				sP	**sP**	**02 06 07.5 -0.2**
QIZ				S	**S**	**02 09 12.0 +1.2**
QIZ				PMZ		
	5.0nm,0.9s					
QIZ				PMZ		
	41nm,5.4s					
GSI	**Gunungsitoli**	**31.84**	**283**	*e*P	**P**	**02 04 33.7 +0.5**
	28nm,0.9s					
TRTT	**Trang**	**32.06**	**296**	P	**P**	**02 04 36.5 +1.4**
	20nm,0.9s,411nm					
ARMA	**Armidale**	**32.26**	**141**	P	**P**	**02 04 38.2 +1.4**
	baz=32,SNR=6.1					
ARMA	**Armidale**	**32.26**	**141**	*e*P	**P**	**02 04 37.5 +0.8**
	28nm,0.9s					
YNG	**Young**	**33.27**	**149**	P	**P**	**02 04 47.1 +1.8**
	baz=33,SNR=10					
LHMI	**Lhok Sumawe**	**33.59**	**289**	*e*P	**P**	**02 04 49.1 +0.8**
	142nm,0.9s					
SKNT	**Sakolnakorn**	**33.61**	**314**	P	**P**	**02 04 47.4 -1.0**
	19nm,1.0s,2μm					
SRDT	**SRDT**	**35.74**	**305**	P	**P**	**02 05 09.5 +3.0**
	41nm,1.1s,5μm					
UTTA	**Uttaradit**	**36.60**	**311**	P	**P**	**02 05 13.2 -0.6**
	6.2nm,0.8s					
SUKH	**Sukhothai**	**37.14**	**310**	P	**P**	**02 05 17.9 -0.3**
	7.0nm,0.7s,66nm					
LAMP	**Lampang**	**37.77**	**312**	P	P	02 05 28.2 +4.7
	7.2nm,0.8s,86nm					
LHI	**Lord Howe Isla**	**37.92**	**135**	P	P	02 05 32.1 +7.5
	baz=38,SNR=3.4					

CMAR	**Chiang Mai Arr**	**38.25**	**311**	P	**P**	**02 05 26.9 -0.6**
	7.3nm,0.6s,baz=140,slow=7.6,SNR=24					
CRAI	**Chiangrai**	**38.31**	**314**	P	P	02 05 23.5 -4.5
CMMT	**Chiang Mai**	**38.46**	**311**	P	**P**	**02 05 28.9 -0.3**
	23nm,0.9s					
CHTO	**Chiang Mai**	**38.46**	**311**	*e*P	**P**	**02 05 28.8 -0.5**
	15nm,0.9s					
CHTO	**Chiang Mai**	**38.46**	**311**	P	**P**	**02 05 28.9 -0.4**
	80nm,0.9s					
GYA	**Guiyang**	**38.96**	**328**	*e*P	**P**	**02 05 33.3 -0.1**
GYA				pP	**pP**	**02 06 40.0 +2.6**
GYA				sP	**sP**	**02 07 15.5 +1.1**
GYA				ScP	**ScP**	**02 10 53.5 -0.2**
GYA				S	**S**	**02 11 10.8 +3.2**
GYA				sS	**sS**	**02 13 02.5 -0.4**
GYA				PMZ		
	10.0nm,0.8s					
CMAI	**Chiengmai2**	**39.08**	**313**	P	**P**	**02 05 33.6 -0.9**
	18nm,0.9s,863nm					
NJ2	**Nanjing**	**39.35**	**347**	*e*P	**P**	**02 05 35.3 -1.0**
NJ2				PMZ		
	30nm,0.6s					
KMI	**Kunming**	**40.16**	**322**	P	**P**	**02 05 44.3 +0.9**
KMI				PMZ		
	11nm,1.1s					
KSAR	**Wonju Array Be**	**43.64**	**359**	P	**P**	**02 06 10.2 -0.5**
KSRS	**Korea Array**	**43.65**	**359**	P	**P**	**02 06 10.2 -0.6**
	1.7nm,0.6s,baz=178,slow=8.5,SNR=4.2					
MJAR	**Matsushiro Arr**	**43.69**	**11**	P	**P**	**02 06 08.9 -2.3**
	2.7nm,0.8s,baz=184,slow=8.1,SNR=5.0					
CD2	**Chengdu**	**44.05**	**329**	*e*P	**P**	**02 06 16.0 +1.8**
CD2				pP	**pP**	**02 07 21.5 +1.7**
CD2				PcP	**PcP**	**02 07 55.3 +2.0**
CD2				sP	**sP**	**02 07 57.5 +1.1**
CD2				PP	**PP**	**02 08 05.5 +1.2**
CD2				PcS	**PcS**	**02 11 47.5 +0.4**
CD2				S	**S**	**02 12 24.3 +2.6**
CD2				sS	**sS**	**02 14 20.3 +1.0**
CD2				SS	**SS**	**02 15 43.3 -4.5**
CD2				PMZ		
	10.0nm,0.5s					
CD2				PMZ		
	160nm,5.2s					
XAN	**Xi'an**	**44.32**	**336**	P	**P**	**02 06 14.0 -2.3**
BJI	**Beijing**	**47.62**	**347**	P	**P**	**02 06 42.3 +0.7**
BJI				PMZ		
	11nm,0.7s					
SHL	**Shillong**	**47.74**	**313**	*e*P	**P**	**02 06 41.5 -1.6**
LZH	**Lanzhou**	**48.22**	**333**	P	**P**	**02 06 46.0 -0.5**
LZH				pP	**pP**	**02 07 52.0 -1.5**
LZH				sP	**sP**	**02 08 27.5 -2.2**
LZH				PMZ		
	30nm,1.0s					
LZH				PMZ		
	130nm,4.5s					
HHC	**Hu-ho-hao-te**	**49.55**	**343**	*e*P	**P**	**02 06 59.3 +2.9**
HHC				pP	**pP**	**02 08 05.5 +1.7**
HHC				sP	**sP**	**02 08 40.8 +0.9**
HHC				PP	**PP**	**02 08 58.8 +4.3**
HHC				S	**S**	**02 13 44.0 +4.9**
HHC				sS	**sS**	**02 15 39.8 +0.6**
HHC				ScS	**ScS**	**02 16 14.0 +0.8**
HHC				PMZ		
	10.0nm,0.6s					
HHC				PMZ		
	60nm,5.6s					
MSVF	**Nonsavu**	**49.57**	**108**	*e*P	**P**	**02 06 58.9 +2.0**
PALK	**Pallekele**	**49.62**	**285**	*e*P	**P**	**02 06 56.2 -1.1**
LSA	**Lhasa**	**50.78**	**317**	P	**P**	**02 07 05.8 -0.4**
LSA	**Lhasa**	**50.78**	**317**	*e*P	**P**	**02 07 06.0 -0.2**
	14nm,0.6s					
MDJ	**Mudanjiang**	**50.81**	**1**	P	**P**	**02 07 06.5 +1.0**
MDJ				PMZ		
	100nm,4.8s					
ODAN	**Odare**	**51.78**	**312**	*e*P	**P**	**02 07 12.5 -0.8**
	53nm,0.6s					
TAPN	**Taplejung**	**51.82**	**312**	*e*P	**P**	**02 07 12.9 -0.8**
	38nm,0.5s					
RAMN	**Ramite**	**52.42**	**311**	*e*P	**P**	**02 07 17.6 -0.4**
	130nm,0.7s					
GTA	**Gaotai**	**52.77**	**332**	*e*P	**P**	**02 07 19.8 -0.4**
GTA				pP	**PcP**	**02 08 26.3 +1.4**
GTA				sP	**sP**	**02 09 01.5 -2.9**
GTA				PMZ		
	18nm,0.8s					
JIRN	**Jiri**	**53.11**	**312**	*e*P	**P**	**02 07 22.3 -0.9**
	44nm,0.7s					
GUN	**Gumba**	**53.48**	**312**	*e*P	**P**	**02 07 24.9 -0.9**
	99nm,0.7s					
PKI	**Pulchoki**	**53.65**	**311**	*e*P	**P**	**02 07 25.9 -1.1**
	30nm,0.7s					
PKIN	**Phulchoki**	**53.66**	**311**	*e*P	**P**	**02 07 26.7 -0.3**
	15nm,0.5s					
KKN	**Kakani**	**53.86**	**311**	*e*P	**P**	**02 07 27.4 -1.0**
	44nm,0.7s					
DMN	**Daman**	**53.89**	**311**	*e*P	**P**	**02 07 27.8 -0.9**
	54nm,0.8s					
GKN	**Gorkha**	**54.45**	**311**	*e*P	**P**	**02 07 31.7 -0.9**
	61nm,0.7s					
KOLN	**Kolanda**	**55.11**	**310**	*e*P	**P**	**02 07 36.7 -0.6**
	59nm,0.8s					
PYUN	**Piuthan**	**55.75**	**310**	*e*P	**P**	**02 07 41.0 -0.8**
	168nm,0.8s					
HMDM	**Hanimaadhoo**	**56.76**	**282**	P	P	02 07 55.5 +6.6
	baz=57,SNR=4.7					
ULN	**Ulaanbaatar**	**57.28**	**343**	*e*P	**P**	**02 07 51.7 -0.4**
	1.3nm,0.6s					
SONM	**Songino Array**	**57.44**	**342**	P	**P**	**02 07 52.1 -1.0**
	1.5nm,0.8s,baz=165,slow=8.2,SNR=12					
SONM				PcP	**PcP**	**02 08 42.6 -0.2**
	0.4nm,0.5s,baz=144,slow=3.5,SNR=2.3					
SONM				ScP	**ScP**	**02 12 09.8 -1.3**
	0.7nm,0.9s,baz=125,slow=4.2,SNR=3.5					
WMQ	**Urumqi**	**62.12**	**328**	⇓*i*P	**P**	**02 08 24.8 0.0**
WMQ				PMZ		
	19nm,0.8s					
WMQ				PMZ		
	110nm,4.4s					
PETK	**Petropavlovsk-**	**64.24**	**19**	P	**P**	**02 08 38.5 +0.2**
	2.4nm,0.6s,baz=187,slow=6.8,SNR=3.0					
KSH	**Kashi**	**66.61**	**318**	P	**P**	**02 08 53.8 -0.1**
KSH				pP	**pP**	**02 10 05.3 -0.5**
KSH				sP	**sP**	**02 10 39.0 -1.7**
KSH				*e*PP	**PP**	**02 11 26.8 +1.3**
KSH				PcS		02 13 24.5
KSH				S	**S**	**02 17 17.0 -1.8**
KSH				ScS	**SKSac**	**02 18 15.8 -2.7**
KSH				PMZ		
	110nm,5.6s					
KSH				LN		
	110nm,4.8s					
KSH				LE		
	100nm,5.5s					
KSH				LZ		
	140nm,5.5s					
MK31	**Makanchi Array**	**66.95**	**327**	*e*P	**P**	**02 08 55.1 -0.6**
MKAR	**Makanchi Array**	**66.95**	**327**	P	**P**	**02 08 55.2 -0.6**
	6.3nm,0.7s,baz=160,slow=4.6,SNR=98					
MKAR				PcP	**PcP**	**02 09 20.5 -1.1**
	1.1nm,0.6s,baz=151,slow=3.3,SNR=3.7					
TKM2	**Tokmak 2**	**68.62**	**321**	*e*P	**P**	**02 09 05.8 -0.6**
	7.7nm,0.9s					
AAK	**Ala-Archa**	**69.16**	**320**	*e*P	**P**	**02 09 09.3 -0.4**
	8.4nm,1.1s					
EKS2	**Erkin-Say**	**69.63**	**320**	*e*P	**P**	**02 09 11.9 -0.6**
	8.3nm,0.9s					
ZAA0	**Zalesovo Array**	**70.43**	**334**	*e*P	**P**	**02 09 15.2 -1.6**
ZALV	**Zalesovo Beam**	**70.43**	**334**	P	**P**	**02 09 15.6 -1.3**
	3.4nm,0.6s,baz=143,slow=6.2,SNR=18					
KURK	**Kurchatov**	**71.27**	**329**	*e*P	**P**	**02 09 21.1 -0.8**
	21nm,1.1s					
KKAR	**Karatay Array**	**71.95**	**319**	*e*P	**P**	**02 09 25.3 -0.9**
	1.0nm,0.4s					
VNDA	**Vanda**	**73.20**	**173**	P	**P**	**02 09 32.7 -0.2**
	1.1nm,0.6s,baz=320,slow=7.0,SNR=8.5					
MAW	**Mawson**	**74.96**	**201**	P	**P**	**02 09 43.7 +0.6**
	2.6nm,0.8s,baz=60,slow=4.7,SNR=4.3					
MAW	**Mawson**	**74.96**	**201**	*e*P	**P**	**02 09 43.2 +0.2**
	0.7nm,0.9s					
BRVK	**Borovoye**	**76.87**	**328**	*e*P	**P**	**02 09 53.0 -1.1**
	4.7nm,0.9s					
GEYT	**Alibeck**	**78.73**	**311**	P	**P**	**02 10 04.7 0.0**
	2.9nm,0.6s,baz=129,slow=3.9,SNR=5.9					
ABKAR	**Akbulak array**	**81.15**	**322**	*e*P	**P**	**02 10 16.0 -1.2**
	3.9nm,0.7s					
ARU	**Arti**	**84.45**	**328**	*e*P	**P**	**02 10 32.3 -1.6**

RAYN	**Ar Rayn**	**86.18**	**294**	*e*P	**P**	**02 10 42.8 -0.4**
	11nm,0.6s					
ILAR	**Eielson Array**	**93.45**	**25**	P	**P**	**02 11 14.0 -2.1**
	0.3nm,0.7s,baz=256,slow=5.7,SNR=4.4					
BRTR	**Keskin Array B**	**97.82**	**309**	P	**P**	**02 11 35.3 -1.4**
	0.4nm,0.7s,baz=98,slow=4.2,SNR=2.8					
TORD	**Torodi Ar. Bea**	**127.27**	**282**	PKP	**PKPdf**	**02 17 03.7 -0.9**
	1.4nm,0.7s,baz=73,slow=2.0,SNR=9.7					
TORD				SKPbc	SKiKP	02 19 49.9 -20
	1.0nm,0.8s,baz=96,slow=4.3,SNR=5.3					
SCHQ	**Schefferville**	**130.17**	**12**	SKPbc	**SKPbc**	**02 19 60.0 -1.2**
	2.9nm,0.8s,baz=21,slow=4.0,SNR=5.0					
CPUP	**Villa Florida**	**146.95**	**170**	PKPbc	**PKPbc**	**02 17 42.5 -0.3**
	1.0nm,0.9s,baz=270,slow=20,SNR=4.8					

IDC ***29*** *02:07:42.8±2.0, 7.75S×127.59E, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/30, mbtmp3.7/4, ML4.1/2, Error ellipse: s-maj=145.1km s-min=29.1km az=60.0*

ISC 29 02:07:43.0±0.8, 7.78S±0.07×127.59E±0.09, h10km, n9, σ2s54/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.83**	**239**	P	**Pb**	**Pb**	**02 08 49.4**	**-1.4**
	baz=3.5,SNR=4.0							
FAKI	**Fak Fak**	**6.70**	**44**	P	**Pb**	**Pb**	**02 09 36.5**	**-3.1**
	baz=7.3,SNR=5.1							
KDU	**Kakadu**	**6.85**	**136**	P	Pn	Pn	02 09 30.9	+7.4
	baz=6.4,SNR=31							
KDU				S	**Sn**	**Sn**	**02 10 44.9**	**+3.3**
	baz=6.4,SNR=5.5							
KNRA	**Kununurra**	**7.93**	**172**	P	Pn	Pn	02 09 43.7	+5.2
	baz=7.3,SNR=29							
KNRA				S	**Sn**	**Sn**	**02 11 05.3**	**-3.0**
	baz=7.3,SNR=4.8							
LUWI	**Luwuk**	**8.24**	**324**	S	**Sn**	**Sn**	**02 11 16.9**	**+1.0**
	baz=8.8,SNR=3.2							
WRA	**Warramunga Arr**	**13.75**	**152**	Pn	**Pn**	**Pn**	**02 10 59.3**	**+1.1**
	0.9nm,0.3s,baz=332,slow=13,SNR=7.7							
WRA				Sn	Sn	Sn	02 13 24.9	-6.2
	1.4nm,0.3s,baz=332,slow=22,SNR=5.2							
ASAR	**Alice Springs**	**16.92**	**160**	Pn	**P**	**P**	**02 11 42.0**	**-0.1**
	0.7nm,0.3s,baz=331,slow=11,SNR=11							
ASAR				Sn	Sn	Sn	02 14 39.3	-8.9
	0.3nm,0.3s,baz=321,slow=23,SNR=4.8							
CMAR	**Chiang Mai Arr**	**38.45**	**313**	P	**P**	**P**	**02 15 07.5**	**+2.2**
	0.9nm,0.4s,baz=142,slow=6.9,SNR=4.6							
MKAR	**Makanchi Array**	**67.59**	**328**	P	**P**	**P**	**02 18 40.5**	**+0.6**
	0.1nm,0.4s,baz=121,slow=5.4,SNR=2.3							

IDC 29 02:13:14.7±3.0, 56.82S×26.98W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.8/2, Error ellipse: s-maj=115.8km s-min=50.6km az=172.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.92**	**306**	P	P	P	02 22 18.1	-0.3
	1.4nm,0.6s,baz=156,slow=5.7							
TORD	**Torodi Ar. Bea**	**73.67**	**29**	P	P	P	02 24 50.1	+0.1
	0.3nm,0.6s,baz=201,slow=7.1,SNR=4.6							
INK	**Inuvik**	**146.47**	**320**	PKPbc	PKPdf	PKPdf	02 32 54.5	-0.1
	1.5nm,1.0s,baz=224,slow=0.4,SNR=3.1							
ILAR	**Eielson Array**	**150.71**	**311**	PKPbc	PKPbc	PKPbc	02 33 07.0	-0.2
	0.7nm,0.8s,baz=128,slow=2.1,SNR=9.5							
ILAR				PKPab	PKPab	PKPab	02 33 14.6	+0.2
	0.2nm,0.5s,baz=129,slow=1.3,SNR=3.3							

TIR ***29*** *02:28:35.9±5.1, 41.25N×20.36E, h2km±19km, ML3.2*
BEO ***29*** *02:28:35.8±0.8, 40.75N±0.10E, h0km, ML2.9/6*
ATH ***29*** *02:28:37.7, 41.32N±0.30E, h8km±2km, MD3.5/32*
SKO ***29*** *02:28:40.0, 41.17N±0.29E, h2km*
PDG ***29*** *02:28:39.8±0.5, 41.19N±0.33E, h9km, ML3.1/12, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
THE ***29*** *02:28:39.3, 41.32N±0.33E, h0km±2km, ML2.7/5, Error ellipse: s-maj=3.8km s-min=1.4km az=338.0*
CSEM ***29*** *02:28:40.4±0.1, 41.20N±0.32E, h2km, ML3.2, Error ellipse: s-maj=4.8km s-min=2.5km az=60.0*

ISC 29 02:28:40.1±1.1, 41.20N±0.01×20.31E±0.02, h2km±9km, n160, σ1s27/228, 12C-22D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**294**	*i* Pg	**Pg**	**Pg**	**02 28 46.9**	**-0.1**
TIR				*i* Sg	**Sg**	**Sg**	**02 28 52.6**	**+0.9**
TIR	**Tirane**	**0.36**	**294**	*e*Pg	**Pg**	**Pg**	**02 28 46.1**	**-0.9**
TIR				*e*Sg	**Sb**	**Sb**	**02 28 55.3**	**-0.1**
TIR	**Tirane**	**0.36**	**294**	*e*Pg	**Pg**	**Pg**	**02 28 46.1**	**-0.9**
TIR				*e*Sg	**Sb**	**Sb**	**02 28 55.3**	**-0.1**
OHR	**Ohrid**	**0.38**	**103**	*i* Pg	**Pg**	**Pg**	**02 28 46.4**	**-1.1**
OHR				*i* Sg	**Sg**	**Sg**	**02 28 53.3**	**+0.9**
OHR				*e*Lg	Lg		02 28 53.9	
	comp=N,456nm,0.3s							
OHR				*e*Lg	Lg		02 28 54.0	
	comp=E,780nm,0.4s							
OHR	**Ohrid**	**0.38**	**103**	*i* Pg	**Pg**	**Pg**	**02 28 46.3**	**-1.1**
OHR				*i* Sg	**Sg**	**Sg**	**02 28 53.3**	**+0.9**
OHR				*e*Lg	Lg		02 28 53.8	
	comp=E,456nm,0.3s							
PHP	**Peshkopia**	**0.49**	**12**	*i* PG	**Pg**	**Pg**	**02 28 49.1**	**-0.5**
PHP				*i* SG	**Sb**	**Sb**	**02 28 57.9**	**-1.3**
KBN	**Korca**	**0.68**	**147**	*i* PG	**Pg**	**Pg**	**02 28 53.0**	**-0.1**
KBN				*i* SG	**Sb**	**Sb**	**02 29 04.3**	**-0.4**
PUK	**Puka**	**0.90**	**340**	*i* PG	**Pg**	**Pg**	**02 28 56.5**	**-0.7**
PUK				*i* SG	**Sb**	**Sb**	**02 29 11.9**	**+1.1**
FNA	**Florina**	**0.91**	**117**	P	**Pg**	**Pg**	**02 28 56.4**	**-1.1**
FNA				S	**Sb**	**Sb**	**02 29 11.4**	**+0.2**
FNA	**Florina**	**0.91**	**117**	*e*PB	**Pg**	**Pg**	**02 28 56.6**	**-0.9**
FNA				*e*SB	**Sg**	**Sg**	**02 29 10.2**	**+0.9**
FNA	**Florina**	**0.91**	**117**	P	**Pg**	**Pg**	**02 28 56.4**	**-1.1**
FNA				*e*Sb	**Sg**	**Sg**	**02 29 10.2**	**+0.9**
FNA				S	**Sb**	**Sb**	**02 29 11.4**	**+0.2**
NEST	**Nestorio**	**0.97**	**144**	P	**Pg**	**Pg**	**02 28 57.2**	**-1.4**
NEST	**Nestorio**	**0.97**	**144**	*e*PG	**Pg**	**Pg**	**02 28 57.7**	**-0.9**

TTG	Podgorica	1.46	328	⫴	*i* Pg	Pn	02 29 06.1	-1.3
TTG					*e* Sg	Sn	02 29 30.0	+2.9
BUM	Brajici-Budva	1.52	317	⫴	*i* Pg	Pn	02 29 08.6	+0.2
BUM					*e* Sg	Sg	02 29 31.7	+2.7
BUM	Brajici-Budva	1.52	317	⫴	*i* Pg	Pn	02 29 08.6	+0.2
KEK	Kerkira	1.54	195		P	Pn	02 29 08.7	+0.2
KEK	Kerkira	1.54	195		*e* PB	Pb	02 29 08.9	-0.3
KEK					*e* SB	Sg	02 29 31.0	+1.6
KEK	Kerkira	1.54	195		P	Pn	02 29 08.7	+0.2
KEK					*e* Sb	Sg	02 29 31.0	+1.6
JAN	Janina	1.60	165		P	Pn	02 29 09.6	+0.2
JAN	Janina	1.60	165		*e* PN	Pb	02 29 10.4	+0.1
JAN					*e* SN	Sg	02 29 33.3	+1.9
JAN	Janina	1.60	165		P	Pn	02 29 09.6	+0.2
JAN	Janina	1.60	165		*e* Pn	Pb	02 29 10.4	+0.1
JAN					*e* Sn	Sg	02 29 33.3	+1.9
GRG	Griva	1.60	98		P	Pn	02 29 08.4	-1.1
GRG					S	Sn	02 29 30.8	0.0
GRG	Griva	1.60	98		*e* PB	Pn	02 29 08.6	-0.9
GRG	Griva	1.60	98		P	Pn	02 29 08.4	-1.1
GRG					S	Sn	02 29 30.8	0.0
IGT	Igoumenitsa	1.67	179		P	Pn	02 29 10.5	+0.1
IGT					S	Sg	02 29 35.1	+1.5
IGT	Igoumenitsa	1.67	179		*e* PN	Pn	02 29 10.4	+0.1
IGT	Igoumenitsa	1.67	179		*e* Pn	Pn	02 29 10.4	+0.1
IGT					S	Sg	02 29 35.1	+1.5
BEY	Berane	1.70	350		*e* Pn	Pn	02 29 10.7	-0.1
BEY					*e* Sn	Sg	02 29 35.5	+0.9
IVA	Berane	1.70	350		*e* Pn	Pn	02 29 10.7	-0.1
IVA					*e* Sn	Sg	02 29 35.5	+0.9
VAY	Valandovo	1.71	85		*i* Pn	Pb	02 29 11.6	-0.7
VAY					*e* Sg	Sg	02 29 34.8	-0.2
VAY					*e* Lg	Lg	02 29 35.8	
	comp=N,204nm,1.5s							
VAY					*e* Lg	Lg	02 29 35.8	
	comp=E,74nm,0.8s							
VAY	Valandovo	1.71	85		*i* Pn	Pb	02 29 11.5	-0.7
VAY					*e* Sg	Sg	02 29 34.8	-0.2
VAY					*e* Lg	Lg	02 29 35.8	
	comp=E,74nm,0.8s							
HCY	Herceg Novi	1.84	313	⫴	*i* Pn	Pn	02 29 12.8	+0.1
HCY					*e* Sn	Sg	02 29 39.9	+0.8
HCY	Herceg Novi	1.84	313	⫴	*i* Pn	Pn	02 29 12.8	+0.1
HCY					*e* Sn	Sg	02 29 39.9	+0.8
NKME	Niksic	1.86	328	⫴	*i* Pn	Pn	02 29 13.3	+0.3
NKME					*e* Sn	Sg	02 29 39.8	0.0
NKME	Niksic	1.86	328	⫴	*i* Pn	Pn	02 29 13.3	+0.3
NKME					*e* Sn	Sg	02 29 39.8	0.0
NKY	Niksic	1.88	329	⫴	*i* Pn	Pn	02 29 13.3	-0.1
NKY					*e* Sn	Sg	02 29 40.7	+0.1
NKY	Niksic	1.88	329	⫴	*i* Pn	Pn	02 29 13.3	-0.1
NKY					*e* Sn	Sg	02 29 40.7	+0.1
KNT	Kendrikon	1.96	90		*e* PN	Pn	02 29 13.7	-0.6
KNT	Kendrikon	1.96	90		*e* Pn	Pn	02 29 13.7	-0.6
BARS	Barje	1.97	34		*e* Pn	Pb	02 29 17.0	+0.4
BARS					*e* Sn	Sg	02 29 46.8	+3.5
BARS	Barje	1.97	34		*e* Pn	Pb	02 29 17.0	+0.4
LIT	Litokhoron	1.99	123		*e* PN	Pn	02 29 14.2	-0.6
LIT	Litokhoron	1.99	123		*e* Pn	Pn	02 29 14.2	-0.6
SJES	Sjenica	2.07	353		*e* Pn	Pb	02 29 18.6	+0.1
SJES					*e* Sn	Sg	02 29 48.4	+1.7
THL	Klokotos Trika	2.09	141		P	Pn	02 29 16.1	0.0
THL					S	Sb	02 29 45.1	0.0
THL	Klokotos Trika	2.09	141		P	Pn	02 29 16.1	0.0
THL					S	Sb	02 29 45.1	0.0
THE	Thessaloniki	2.09	105		*e* PN	Pn	02 29 15.3	-0.9
THE	Thessaloniki	2.09	105		*e* Pn	Pn	02 29 15.3	-0.9
SELS	Selova	2.11	16		*e* Pn	Pb	02 29 18.5	-0.5
SELS					*e* Sn	Sg	02 29 50.6	+2.9
BRY	Bratogost	2.15	323	⫴	*i* Pn	Pn	02 29 17.2	+0.1
BRY					*e* Sn	Sb	02 29 47.0	+0.1
BRY	Bratogost	2.15	323	⫴	*i* Pn	Pn	02 29 17.2	+0.1
BRY					*e* Sn	Sb	02 29 47.0	+0.1
DSL	Palaion Diasel	2.15	163		P	Pn	02 29 17.4	+0.4
DSL	Palaion Diasel	2.15	163		*e* PN	Pb	02 29 18.6	-1.2
DSL	Palaion Diasel	2.15	163		P	Pn	02 29 17.4	+0.4
DSL	Palaion Diasel	2.15	163		*e* Pn	Pb	02 29 18.6	-1.2
HORT	Hortiatis	2.20	105		*e* PN	Pn	02 29 16.9	-0.8
HORT	Hortiatis	2.20	105		*e* Pn	Pn	02 29 16.9	-0.8
PLE	Pljevlja	2.23	343	⫯	*i* Pn	Pn	02 29 18.7	+0.5
PLE					*e* Sn	Sb	02 29 48.9	-0.5
PLE	Pljevlja	2.23	343	⫯	*i* Pn	Pn	02 29 18.7	+0.5
PLE					*e* Sn	Sb	02 29 48.9	-0.5
UPM	Unac-Piva	2.25	333		*e* Pn	Pn	02 29 19.1	+0.5
UPM					*e* Sn	Sb	02 29 49.3	-0.7
UPM	Unac-Piva	2.25	333		*e* Pn	Pn	02 29 19.1	+0.5
UPM					*e* Sn	Sb	02 29 49.3	-0.7
SOH	Sokhos	2.34	98		*e* PN	Pn	02 29 19.3	-0.3
SOH	Sokhos	2.34	98		*e* Pn	Pn	02 29 19.3	-0.3
IVAS	Ivanjica	2.38	357		*e* Pn	Pn	02 29 21.6	+1.5
IVAS					*e* Sn	Sg	02 29 57.1	+0.7
IVAS	Ivanjica	2.38	357		*e* Pn	Pn	02 29 21.6	+1.5
SRS	Serrai	2.48	91		*e* PB	Pn	02 29 20.2	-1.3
SRS	Serrai	2.48	91		*e* Pb	Pn	02 29 20.2	-1.3
PLG	Polygyros	2.52	108		*e* PN	Pn	02 29 21.7	-0.4
PLG	Polygyros	2.52	108		*e* Pn	Pn	02 29 21.7	-0.4
EVR	Evrytania	2.56	153		*e* PN	Pn	02 29 24.2	+1.6
EVR	Evrytania	2.56	153		*e* Pn	Pn	02 29 24.2	+1.6
STON	Ston	2.56	312		*e* Pn	Pn	02 29 22.9	+0.4
STON					Sn	Sn	02 29 51.0	-3.2
STON	Ston	2.56	312		*e* Pn	Pn	02 29 22.9	+0.4
STON					Sn	Sn	02 29 51.0	-3.2
VTS	Vitosha	2.57	56	⫴	*i* P	Pn	02 29 23.0	+0.1
VTS	Vitosha	2.57	56		S	Sn	02 29 55.4	+0.5
VTS	Vitosha	2.57	56	⫴	*i* P	Pn	02 29 23.0	+0.1
MAKR	Makrakomi, Fth	2.60	147		*e* PN	Pn	02 29 24.9	+1.8
MAKR	Makrakomi, Fth	2.60	147		*e* Pn	Pn	02 29 24.9	+1.8
AGG	Agios Georgios	2.67	144		*e* PN	Pn	02 29 25.2	+1.0
AGG	Agios Georgios	2.67	144		*e* Pn	Pn	02 29 25.2	+1.0
NVR	Nevrokopi	2.69	86		*e* PN	Pn	02 29 24.2	-0.1
NVR	Nevrokopi	2.69	86		*e* Pn	Pn	02 29 24.2	-0.1
PDO	Prodromos	2.69	165		P	Pn	02 29 24.9	+0.6
PDO	Prodromos	2.69	165		*e* PN	Pn	02 29 25.6	+1.3
PDO	Prodromos	2.69	165		P	Pn	02 29 24.9	+0.6
PDO	Prodromos	2.69	165		*e* Pn	Pn	02 29 25.6	+1.3
GRUS	Gruza	2.70	6		*e* Pn	Pn	02 29 26.7	+2.2
GRUS					*e* Sn	Sg	02 30 05.6	-1.3
GRUS	Gruza	2.70	6		*e* Pn	Pn	02 29 26.7	+2.2
BBLS	Lazići	2.75	346		*e* Pn	Pn	02 29 27.5	+2.3
BBLS					*e* Sn	Sb	02 30 05.7	+1.7
BBLS	Lazići	2.75	346		*e* Pn	Pn	02 29 27.5	+2.3
XOR	Xorichti	2.87	129		*e* PB	Pn	02 29 27.5	+0.6
XOR	Xorichti	2.87	129		*e* Pb	Pn	02 29 27.5	+0.6
DIVS	Divibare	2.90	356		*e* Pn	Pn	02 29 29.3	+1.9
DIVS					*e* Sn	Sb	02 30 09.8	+1.2
DIVS	Divibare	2.90	356	⫴	*i* P	Pn	02 29 27.5	+0.1
DIVS	Divibare	2.90	356		S	Sn	02 30 03.7	+0.8
DIVS	Divibare	2.90	356	⫴	*i* P	Pn	02 29 27.5	+0.1
DIVS	Divibare	2.90	356		*e* Pn	Pn	02 29 29.3	+1.9
NEO	Neokhori	2.93	129		*e* PN	Pn	02 29 27.5	-0.2
NEO	Neokhori	2.93	129		*e* Pn	Pn	02 29 27.5	-0.2
VLS	Valsamata	3.03	176		*e* PN	Pn	02 29 28.4	-0.6
VLS	Valsamata	3.03	176		*e* Pn	Pn	02 29 28.4	-0.6
AXAR	Agios Charalam	3.03	143		*e* PB	Pn	02 29 30.4	+1.3
AXAR	Agios Charalam	3.03	143		*e* Pb	Pn	02 29 30.4	+1.3
EFP	Efpalio	3.03	155		*e* PN	Pn	02 29 30.0	+0.9
EFP	Efpalio	3.03	155		*e* Pn	Pn	02 29 30.0	+0.9
KALE	Kalithea	3.14	153		*e* PN	Pn	02 29 31.1	+0.5
KALE	Kalithea	3.14	153		*e* Pn	Pn	02 29 31.1	+0.5
RLS	Riolos of Patr	3.27	164		*e* PB	Pn	02 29 34.1	+1.8
RLS	Riolos of Patr	3.27	164		*e* Pb	Pn	02 29 34.1	+1.8
DSF	Desfina	3.27	148		*e* PN	Pn	02 29 33.3	+0.9
DSF	Desfina	3.27	148		*e* Pn	Pn	02 29 33.3	+0.9
TEKS	Tekeris	3.39	351		*e* Pn	Pn	02 29 36.2	+2.1
TEKS	Tekeris	3.39	351		*e* Pn	Pn	02 29 36.2	+2.1
DRO	Drossia	3.42	161		*e* PN	Pn	02 29 35.0	+0.6
DRO	Drossia	3.42	161		*e* Pn	Pn	02 29 35.0	+0.6
KLV	Kalavryta, Ach	3.46	155		*e* PN	Pn	02 29 35.8	+0.8
KLV	Kalavryta, Ach	3.46	155		*e* Pn	Pn	02 29 35.8	+0.8
GUR	Goura	3.62	154		*e* PN	Pn	02 29 39.3	+2.0
GUR	Goura	3.62	154		*e* Pn	Pn	02 29 39.3	+2.0
AMT	Artemida-Makis	3.82	163		*e* PN	Pn	02 29 40.6	+0.6
AMT	Artemida-Makis	3.82	163		*e* Pn	Pn	02 29 40.6	+0.6
BZS	Buzias	4.52	12	⫴	*i* P	Pn	02 29 49.1	-0.3
BZS	Buzias	4.52	12	⫴	*i* P	Pn	02 29 49.1	-0.3
BZS					S	Sn	02 30 41.6	-0.9
GZR	Gura Zlata	4.56	22	⫯	*i* P	Pn	02 29 51.0	+0.8
GZR	Gura Zlata	4.56	22	⫯	*i* P	Pn	02 29 51.0	+0.8
UDBI	Udbina	4.71	316		*e* Pn	Pn	02 29 52.4	+0.2
UDBI					Sn	Sn	02 30 42.4	-5.0
UDBI	Udbina	4.71	316		*e* Pn	Pn	02 29 52.4	+0.2
UDBI					Sn	Sn	02 30 42.4	-5.0
PKSM	Moragy	5.15	347	⫴	*i* P	Pn	02 30 00.2	+2.0
PKSM	Moragy	5.15	347		S	Sn	02 31 00.9	+2.7
PKSM	Moragy	5.15	347	⫴	*i* P	Pn	02 30 00.2	+2.0
NVLJ	Novalja	5.22	312		*e* Pn	Pn	02 29 57.7	-1.4
NVLJ					Sn	Sn	02 30 51.7	-8.1
NVLJ	Novalja	5.22	312		*e* Pn	Pn	02 29 57.7	-1.4
ARR	Arges	5.23	36	⫴	*i* P	Pn	02 30 00.1	+0.8
ARR	Arges	5.23	36	⫴	*i* P	Pn	02 30 00.1	+0.8
VOIR		5.47	38	⫴	*i* P	Pn	02 30 01.3	-1.3
VOIR		5.47	38	⫴	*i* P	Pn	02 30 01.3	-1.3
JAVS	Javornik	6.52	318		*i* Pn	Pn	02 30 16.8	-0.3

NEIC ***29*** *02:30:36.6±1.0.5, 31°.64N×114°.80W, h10km, MD3.7(MEX), Error ellipse: s-maj=7.0km s-min=5.3km az=13.0*

IDC ***29*** *02:30:36.5±1.6, 31°.62N×114°.74W, h0km, mb3.5/3, mb1 3.8/10, mb1mx3.6/44, mbtmp3.5/10, ML3.8/6, MS3.1/7, Ms1 3.1/7, ms1mx2.8/33, Error ellipse: s-maj=29.3km s-min=8.3km az=35.0*

MEX ***29*** *02:30:39.3±0.8, 31°.54N×114°.73W, h11km±8km, MD3.7*

ISC 29 02:30:36.8±1.2, 31°.53N±0°.03×114°.73W±0°.03, h11km±9km, n46, σ1§97/84, mb3.4/3, MS3.4/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SPX	San Pedro Mart	0.79	232	*e*P	Pg	Pn	02 30 52.5	+0.3
SPX				*i* S	Sb	Sb	02 31 03.3	-0.3
SPIG	San Pedro Mart	0.79	233	*i* P	Pb	Pn	02 30 52.7	-0.1
SPIG				*i* S	Sb	Sb	02 31 03.5	-0.2
SPIG	San Pedro Mart	0.79	233	*i* P	Pb	Pn	02 30 52.7	-0.1
SPIG				*i* S	Sb	Sb	02 31 03.5	-0.2
MBIG	Mexicali	0.96	336	*e*P	Pg	Pn	02 30 55.4	+0.1
MBIG				*e*S	Sb	Sb	02 31 06.7	-1.4
CPBX	Cerro Prieto	1.01	331	*e*P	Pb	Pn	02 30 55.4	-0.9
CPBX				*i* S	Sb	Sb	02 31 06.7	-2.9
GLA	Glamis	1.52	357	*e*Pn	Pn	Pn	02 31 01.4	-2.5
GLA				*e*Pg	Pg	Pg	02 31 06.6	+0.6
GLA				*e*S	Sg	Sg	02 31 29.6	+3.9
214A	Organ Pipe Nat	1.69	75	*e*Pn	Pn	Pn	02 31 05.3	-1.0
214A				*e*S	Sn	Sn	02 31 27.4	-0.6
CBX	Cerro Bola	1.82	296	*e*P	Pn	Pn	02 31 06.7	-1.5
CBX				*e*S	Sn	Sn	02 31 28.4	-2.8
CBX	Cerro Bola	1.82	296	*e*P	Pn	Pn	02 31 06.7	-1.5
CBX				*e*S	Sn	Sn	02 31 28.4	-2.8
BAR	Barrett	2.00	305	*e*Pn	Pn	Pn	02 31 08.7	-1.9
BAR				*e*S	Sb	Sb	02 31 36.9	-1.4
PFO	Pinyon Flats O	2.53	325	Pn	Pn	Pn	02 31 15.1	-2.8
	8.5nm,0.3s,baz=154,slow=13,SNR=19							
PFO				LR	LR		02 31 53.8	
	comp=Z,168nm,18.7s,baz=301,slow=31							
PFO				Lg	Lg		02 31 54.2	
	30nm,0.3s,baz=60,slow=7.2,SNR=5.3							
PFO	Pinyon Flats O	2.53	325	*e*Pn	Pn	Pn	02 31 15.7	-2.2
PFO				*e*Pg	Pg	Pg	02 31 27.1	+1.7
PFO				*e*S	Sb	Sb	02 31 53.8	+0.3
PFO				Lg	Lg		02 31 54.2	
TUC	Tucson	3.44	76	*e*Pn	Pn	Pn	02 31 29.8	-0.7
TUC				*i* S	Sn	Sn	02 32 09.5	-1.8
TUC				*e*S	Sb	Sb	02 32 19.2	-0.6
LDFC	Landfair	3.55	355	Pn	Pn	Pn	02 31 29.5	-2.5
LDFC				*e*S	Sg	Sg	02 32 44.0	+13
MWC	Mount Wilson	3.88	315	*e*Pn	Pn	Pn	02 31 33.8	-2.7
MWC				*e*Pg	Pb	Pb	02 31 44.6	-0.7
MWC				*e*S	Sb	Sb	02 32 34.7	+2.4
PASC	Pasadena Art C	3.92	313	Pn	Pn	Pn	02 31 35.0	-2.0
PASC				*e*Pg	Pb	Pb	02 31 45.4	-0.6
PASC				*e*S	Sb	Sb	02 32 30.3	-3.1
HSIG		4.12	126	*e*P	Pn	Pn	02 31 39.0	-0.7
HSIG				*e*S	Sn	Sn	02 32 25.1	-2.8
HSIG		4.12	126	*e*P	Pn	Pn	02 31 39.0	-0.7
HSIG				*e*S	Sn	Sn	02 32 25.1	-2.8
GSC	Goldstone, Bar	4.14	336	Pn	Pn	Pn	02 31 40.7	+0.7
GSC				*e*Pg	Pg	Pg	02 31 57.3	+1.2
GSC				*e*S	Sg	Sg	02 32 46.2	-3.6
OSI	Osito Audit: C	4.55	314	*e*Pn	Pn	Pn	02 31 44.4	-1.2
OSI				*e*Pg	Pb	Pb	02 31 56.9	+0.2
OSI				*e*S	Sb	Sb	02 32 51.5	0.0
WUAZ	Wupatki	4.86	34	Pn	Pn	Pn	02 31 47.4	-2.6
WUAZ				*e*S	Sg	Sg	02 33 10.8	-2.2
SHPR	Sheep Range	4.97	356	*e*Pn	Pn	Pn	02 31 51.6	+0.1
SHPR				*e*S	Sg	Sg	02 33 13.9	-2.6
ISA	Isabella, Lake	5.17	324	Pn	Pn	Pn	02 31 53.0	-1.2
ISA				*e*Pg	Pb	Pb	02 32 08.6	+1.3
ISA				*e*S	Sb	Sb	02 33 13.0	+3.6
DAC	Darwin (Calif)	5.30	334	*e*Pn	Pn	Pn	02 31 52.4	-3.6
DAC				*e*S	Sg	Sg	02 33 22.8	-4.1
W18A	Petrified Fore	5.50	48	Pn	Pn	Pn	02 31 59.0	+0.2
W18A				*e*S	Sg	Sg	02 33 32.1	-1.4
CGIG		5.92	100	*e*P	Pn	Pn	02 32 04.3	-0.3
CGIG				*e*S	Sn	Sn	02 33 11.2	-1.2
CGIG		5.92	100	*e*P	Pn	Pn	02 32 04.3	-0.3
CGIG				*e*S	Sn	Sn	02 33 11.2	-1.2
121A	Cookes Peak, D	5.98	79	*e*Pn	Pn	Pn	02 32 05.8	+0.3
121A				*e*S	Sg	Sg	02 33 49.5	+0.6
CCUT	Cedar City	6.11	10	*e*Pn	Pn	Pn	02 32 05.4	-1.8
CCUT				*e*Pg	Pg	Pg	02 32 31.9	-1.9
CCUT				*e*S	Sg	Sg	02 33 57.0	+4.1
R11A	Troy Canyon, C	6.84	354	*e*Pn	Pn	Pn	02 32 14.7	-2.5
R11A				*e*Pg	Pg	Pg	02 32 49.3	+1.5
R11A				*e*S	Sg	Sg	02 34 16.3	0.0
LAZ	Ladron	6.99	64	*e*Pn	Pn	Pn	02 32 20.6	+1.3
LAZ				*e*Pg	Pg	Pg	02 32 57.9	+7.1
LAZ				*e*S	Sg	Sg	02 34 19.6	-1.7
NVAR	Mina Array Bea	7.48	338	Pn	Pn	Pn	02 32 27.6	+1.5
	0.1nm,0.3s,baz=160,slow=13,SNR=2.2							
NVAR				Lg	Lg		02 34 33.5	
	0.1nm,0.3s,baz=140,slow=15,SNR=1.9							
MVCO	Mesa Verde	7.66	41	Pn	Pn	Pn	02 32 29.5	+1.0
MVCO				*e*S	Sg	Sg	02 34 38.4	-4.2
ANMO	Albuquerque	7.72	62	Pn	Pn	Pn	02 32 29.0	-0.3
	0.5nm,0.3s,baz=243,slow=7.7,SNR=7.0							
ANMO				Lg	Lg		02 34 40.2	
	0.5nm,0.3s,baz=353,slow=20,SNR=5.8							
ANMO				LR	LR		02 34 42.7	
	comp=Z,38nm,20.2s,baz=258,slow=32							
ANMO	Albuquerque	7.72	62	*e*Pn	Pn	Pn	02 32 28.6	-0.7
ANMO				*e*Pg	Pg		02 33 08.5	+3.8
ANMO				Lg	Lg		02 34 40.2	
ANMO				*e*S	Sg	Sg	02 34 47.7	+3.0
MNTX	Cornudas Mount	7.98	86	*e*Pn	Pn	Pn	02 32 33.9	+1.2
MNTX				*e*S	Sg	Sg	02 34 48.6	-4.2
LPIG	La Paz	8.37	151	LR	LR		02 35 19.7	
	comp=Z,68nm,21.0s,baz=236,slow=34							
ELK	Elko	9.20	358	Pn	Pn	Pn	02 32 50.7	+1.0
	0.2nm,0.3s,baz=169,slow=17,SNR=3.2							
ELK				Lg	Lg		02 35 28.0	
	0.0nm,0.3s,baz=270,slow=20,SNR=2.6							
TXAR	Lajitas Array	9.80	100	Pn	Pn	Pn	02 33 00.4	+2.6
	0.4nm,0.3s,baz=278,slow=14,SNR=18							
TXAR				Sn	Sn	Sn	02 34 49.1	+1.2
	0.2nm,0.3s,baz=274,slow=28,SNR=5.0							
TXAR				Lg	Lg		02 35 49.4	
	0.2nm,0.3s,baz=285,slow=28,SNR=4.0							
YBH	Yreka Blue Hor	12.02	330	Pn	Pn		02 33 31.7	+3.6
	0.1nm,0.3s,baz=114,slow=10.0,SNR=2.2							
YBH				LR	LR		02 37 22.0	
	comp=Z,63nm,20.5s,baz=157,slow=34							
NEW	Newport	16.81	354	Pn	P		02 34 33.1	-1.2
	0.2nm,0.3s,baz=180,slow=11,SNR=7.4							
CMIG	Matias Romero	23.05	124	P	P		02 35 43.7	+1.4
	2.1nm,0.7s,baz=316,slow=13,SNR=4.3							
CMIG				LR	LR		02 45 22.6	
	comp=Z,86nm,19.0s,baz=276,slow=38							
YKA	Yellowknife Ar	30.98	0	P	P		02 36 54.8	+1.1
	0.3nm,0.6s,baz=180,slow=8.4,SNR=7.1							
ILAR	Eielson Array	38.74	339	P	P		02 38 03.3	+2.6
	0.5nm,0.8s,baz=150,slow=7.7,SNR=6.8							
ASAJ	Asahikawa	76.93	314	LR	LR		03 11 45.3	
	comp=Z,18nm,21.7s,baz=212,slow=32							
BDFB	Brasilia	79.30	116	LR	LR		03 23 08.7	
	comp=Z,64nm,19.7s,baz=220,slow=40							

IDC 29 02:34:01.6±1.3, 4°.01S×144°.19E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.6/31, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=111.6km s-min=26.7km az=117.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.52	210	P	P	Pn	02 38 20.6	+0.7
	0.7nm,0.3s,baz=30,slow=11,SNR=13							
WRA				PcP	PcP		02 42 48.6	-1.5
	0.2nm,0.3s,baz=20,slow=1.9,SNR=4.3							
ASAR	Alice Springs	21.92	206	P	P		02 38 55.5	-1.3
	1.0nm,0.5s,baz=44,slow=8.0,SNR=13							
ILAR	Eielson Array	84.78	24	P	P		02 46 38.6	+1.0
	1.4nm,0.6s,baz=254,slow=5.2,SNR=26							
TORD	Torodi Ar. Bea	141.87	286	PKP	PKPdf		02 53 36.9	+0.3
	0.4nm,0.8s,baz=103,slow=2.8,SNR=3.8							

IDC ***29*** *02:45:46.7±1.0, 27°.63S×65°.63E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/31, mbtmp3.8/8, MS3.6/5, Ms1 3.6/5, ms1mx3.1/31, Error ellipse: s-maj=33.4km s-min=27.0km az=66.0*

ISCJB ***29*** *02:45:47.1±0.9, 27°.7S±0°.2×65°.7E±0°.2, h14km, mb3.8/8, MS3.6/5, Error ellipse: s-maj=32.0km s-min=24.4km az=164.3*

ISC 29 02:45:49.0±1.0, 27°.6S±0°.2×65°.6E±0°.2, h14km, n16, σ0§69/9, mb3.9/8, MS3.6/5, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	20.90	19	T	T		03 12 10.8	
	baz=199							
H08S2	Diego Garcia H	20.91	19	T	T		03 12 10.6	
	baz=199							
H08S3	Diego Garcia H	20.92	19	T	T		03 12 11.2	
	baz=199							
MAW	Mawson	40.03	182	LR	LR		03 06 42.3	
	comp=Z,71nm,19.8s,baz=272,slow=31							
PSI	Prapat	44.08	52	LR	LR		03 09 52.9	
	comp=Z,78nm,19.5s,slow=33							
CMAR	Chiang Mai Arr	56.04	39	P	P		02 55 28.4	+0.8
	1.0nm,0.4s,baz=237,slow=7.3,SNR=10.0							
CMAR				LR	LR		03 16 09.8	
	comp=Z,25nm,19.3s,baz=240,slow=32							
ASAR	Alice Springs	60.97	103	P	P		02 56 01.1	-1.1
	0.9nm,0.8s,baz=240,slow=6.9,SNR=9.1							
WRA	Warramunga Arr	62.65	99	LR	LR		03 19 23.6	
	comp=Z,82nm,20.1s,baz=175,slow=32							
VNDA	Vanda	64.58	166	P	P		02 56 26.0	+0.7
	0.8nm,0.9s,baz=252,slow=7.5,SNR=5.0							
TORD	Torodi Ar. Bea	74.01	294	P	P		02 57 24.1	-0.5
	0.6nm,1.0s,baz=134,slow=4.2,SNR=2.8							
MKAR	Makanchi Array	75.59	12	P	P		02 57 32.6	-0.4
	0.2nm,0.7s,baz=217,slow=5.8,SNR=4.6							
BVAR	Borovoye Array	80.42	3	P	P		02 58 00.0	+0.3
	0.9nm,0.9s,baz=144,slow=5.3,SNR=3.8							
ZALV	Zalesovo Beam	82.92	11	P	P		02 58 12.8	-0.1
	0.8nm,0.3s,baz=197,slow=4.6,SNR=6.

border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.56**	**172**	P	**Pn**	**03 06 56.0**	**+1.9**
CEP				S	**Sn**	**03 07 28.0**	**+2.8**
CHCP	**Chirah Chowk**	**3.08**	**151**	P	Pn	03 07 03.7	+2.9
DZET	**Dzherino** 8.8nm,0.3s	**3.21**	**320**	⇑P	**Pn**	**03 07 00.6**	**-2.0**
DZET				⇓S	Sn	03 07 34.7	-5.7
	496nm,0.5s						
THW	**Thamme Wali**	**3.57**	**176**	P	**Pn**	**03 07 08.7**	**+1.4**
SFK	**Sufi-Kurgan** 8.7nm,0.3s	**3.98**	**23**	⇓P	**Pn**	**03 07 14.9**	**+2.0**
SFK				⇑S	**Sn**	**03 08 01.7**	**+2.9**
	49nm,0.4s						
SARP	**Sargodha**	**4.55**	**167**	P	**Pn**	**03 07 22.3**	**+2.0**
DLH	**Dalhousie**	**5.33**	**134**	*e*P	**Pn**	**03 07 30.0**	**-1.1**
DLH				*e*S	**Sn**	**03 08 30.0**	**-1.4**
AML	**Almayashu** SNR=132	**6.01**	**16**	P	**Pn**	**03 07 40.4**	**0.0**
MNAS	**Manas** 3.8nm,0.4s	**6.16**	**7**	⇑P	**Pn**	**03 07 42.3**	**0.0**
MNAS				⇓S	**Sn**	**03 08 47.8**	**-3.6**
	32nm,0.5s						
UCH	**Uchtor** SNR=22	**6.31**	**21**	P	**Pn**	**03 07 45.1**	**+0.6**
KZA	**Kyzart** SNR=12	**6.41**	**26**	P	**Pn**	**03 07 46.7**	**+0.8**
EKS2	**Erkin-Say** SNR=26	**6.53**	**15**	P	**Pn**	**03 07 47.6**	**+0.4**
AAK	**Ala-Archa** 11nm,0.9s	**6.68**	**20**	⇓P	**Pn**	**03 07 50.1**	**+0.9**
AAK				⇓S	**Sn**	**03 09 04.0**	**+0.1**
	8.3nm,0.4s						
AAK	**Ala-Archa** SNR=33	**6.68**	**20**	P	**Pn**	**03 07 50.0**	**+0.7**
AAK	**Ala-Archa** 7.1nm,0.3s,baz=186,slow=6.9,SNR=66	**6.68**	**20**	P	**Pn**	**03 07 50.2**	**+0.9**
AAK				S	**Sn**	**03 09 04.2**	**+0.2**
	1.4nm,0.3s,baz=323,slow=23,SNR=15						
KK31	**Karatay Array** 4.9nm,0.5s	**6.77**	**354**	⇑P	**Pn**	**03 07 49.3**	**-1.0**
KK31				⇑S	Sn	03 09 00.1	-5.8
	18nm,0.5s,baz=185,slow=24,SNR=6.9						
ULHL	**Ulahol** SNR=5.8	**6.94**	**31**	P	**Pn**	**03 07 54.7**	**+1.9**
SMLA	**Simla**	**7.06**	**136**	*i* P	**Pn**	**03 07 54.6**	**+0.4**
SMLA				*i* S	**Sn**	**03 09 08.5**	**-4.5**
SMLA				AML	AML	03 09 14.6	
	comp=E,198nm,0.3s						
SMLA				AML	AML	03 09 15.4	
	comp=N,184nm,0.0s						
CHMS	**Chumysh** SNR=13	**7.09**	**20**	P	**Pn**	**03 07 55.2**	**+0.5**
USP	**Ospenovka** SNR=6.2	**7.28**	**18**	P	**Pn**	**03 07 57.7**	**+0.6**
TKM2	**Tokmak 2** comp=N,4.9nm,0.5s	**7.28**	**25**	⇑P	**Pn**	**03 07 58.0**	**+0.6**
TKM2				⇑S	**Sn**	**03 09 18.8**	**+0.3**
	comp=N,8.8nm,1.0s						
TKM2	**Tokmak 2** SNR=6.4	**7.28**	**25**	P	**Pn**	**03 07 58.5**	**+1.1**
KUDL	**Kundal**	**9.23**	**151**	*e*P	Pn	03 08 15.9	-7.8
KUDL				*e*S	Sn	03 09 59.1	-6.7
KUDL				AML	AML	03 09 59.9	
	comp=E,30nm,0.5s						
KUDL				AML	AML	03 10 01.8	
	comp=N,26nm,0.2s						
ASOR	**Ausora**	**9.27**	**143**	*ex*	Sn	03 09 58.7	-7.9
GEYT	**Alibeck** comp=N,0.3nm,0.3s,baz=122,slow=11,SNR=2.3	**10.77**	**282**	P	**Pn**	**03 08 41.7**	**-2.9**
GEYT				S	Sn	03 10 33.4	-10
	comp=N,2.8nm,0.3s,baz=125,slow=26,SNR=6.8						
PYUN	**Piuthan** comp=N,47nm,0.5s	**12.76**	**127**	*e*P	**Pn**	**03 09 09.0**	**-2.1**
MK31	**Makanchi Array** comp=N,0.6nm,0.5s,baz=236,slow=20,SNR=8.2	**13.18**	**34**	⇓P	**Pn**	**03 09 15.0**	**-1.3**
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=227,slow=15,SNR=8.8	**13.18**	**34**	P	**Pn**	**03 09 16.9**	**+0.6**
KOLN	**Koldanda** comp=N,9.5nm,0.4s	**13.38**	**126**	*e*P	**Pn**	**03 09 17.1**	**-2.0**
GKN	**Gorkha** comp=N,52nm,0.6s	**13.91**	**123**	*e*P	**Pn**	**03 09 24.4**	**-1.6**
GKN				*e*S	Sn	03 11 48.6	-11
DMN	**Daman** comp=N,29nm,0.6s	**14.48**	**123**	*e*P	**Pn**	**03 09 30.8**	**-2.6**
PKIN	**Phulchoki** comp=N,12nm,0.3s	**14.70**	**123**	*e*P	**Pn**	**03 09 34.0**	**-2.2**
PKI	**Pulchoki** comp=N,19nm,0.5s	**14.71**	**123**	*e*P	**Pn**	**03 09 34.6**	**-1.8**
GUN	**Gumba** comp=N,25nm,0.4s	**14.82**	**121**	*e*P	**Pn**	**03 09 35.8**	**-2.0**
KURBB	**Kurchatov Arra** comp=N,0.2nm,0.3s,baz=207,slow=10,SNR=4.9	**15.13**	**17**	P	**P**	**03 09 44.2**	**+0.7**
JIRN	**Jiri** comp=N,18nm,0.3s	**15.20**	**121**	*e*P	**Pn**	**03 09 40.3**	**-2.2**
AB31	**Akbulak array** comp=N,1.1nm,0.3s,baz=140,slow=12,SNR=75	**15.38**	**330**	P	**Pn**	**03 09 40.9**	**-3.3**
AB31				⇓S	Sn	03 12 19.1	-15
	comp=N,2.8nm,0.5s,baz=151,slow=24,SNR=7.9						
RAMN	**Ramite** comp=N,23nm,0.5s	**15.93**	**122**	*e*P	**Pn**	**03 09 49.5**	**-1.9**
TAPN	**Taplejung** comp=N,21nm,0.7s	**16.45**	**119**	*e*P	**P**	**03 09 57.1**	**-1.6**
ODAN	**Odare** comp=N,14nm,0.6s	**16.53**	**121**	*e*P	**Pn**	**03 09 57.1**	**-1.8**
BVA0	**Borovoye Array** comp=N,4.5nm,0.8s,baz=160,slow=12,SNR=19	**16.67**	**358**	⇓P	**Pn**	**03 09 59.1**	**-1.0**
BVAR	**Borovoye Array** comp=N,0.5nm,0.3s,baz=165,slow=12,SNR=17	**16.67**	**358**	P	**P**	**03 10 01.5**	**+0.9**
AKTO	**Aktyubinsk** comp=N,2.5nm,0.8s	**17.08**	**330**	⇑P	**P**	**03 10 04.1**	**-1.0**
AKTO				⇓S	Sn	03 12 59.8	-15
	comp=N,11nm,1.4s						
AKTO	**Aktyubinsk** comp=N,0.7nm,0.3s,baz=138,slow=11,SNR=9.3	**17.08**	**330**	P	**P**	**03 10 04.2**	**-1.0**
ZALV	**Zalesovo Beam** comp=N,1.1nm,0.4s,baz=211,slow=11,SNR=35	**19.88**	**24**	P	**Pn**	**03 10 36.6**	**-1.7**
SONM	**Songino Array** comp=N,0.2nm,0.4s,baz=253,slow=10,SNR=3.0	**28.10**	**55**	P	P	03 11 57.3	+2.7
AKASG	**Malin Array Be** comp=N,1.0nm,0.6s,baz=83,slow=7.0,SNR=4.6	**33.32**	**309**	P	**P**	**03 12 41.7**	**+1.4**
FINES	**FINESS Array B** comp=N,1.4nm,0.4s,baz=126,slow=10,SNR=18	**37.80**	**326**	P	**P**	**03 13 20.6**	**+2.2**
ARCES	**ARCESS Array B** comp=N,8.0nm,1.2s,baz=109,slow=7.9,SNR=6.3	**41.41**	**338**	P	**P**	**03 13 50.5**	**+2.3**
NB2	**NORSAR Subarra** comp=Z,4.3nm,1.1s,baz=95,slow=8.6	**44.71**	**323**	P	**P**	**03 14 16.5**	**+1.5**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.4s,baz=96,slow=7.7,SNR=13	**44.71**	**323**	P	**P**	**03 14 16.7**	**+1.7**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=50,slow=5.9,SNR=8.6	**66.09**	**269**	P	**P**	**03 16 48.1**	**-0.7**
INK	**Inuvik** comp=Z,0.5nm,0.6s,baz=5.7,slow=4.4,SNR=4.1	**73.97**	**9**	P	**P**	**03 17 37.8**	**+1.8**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,baz=350,slow=5.4,SNR=4.8	**81.36**	**3**	P	**P**	**03 18 18.8**	**+1.8**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.8s,baz=320,slow=5.3,SNR=2.8	**81.60**	**122**	P	**P**	**03 18 20.5**	**+1.5**
ASAR	**Alice Springs** comp=Z,0.2nm,0.3s,baz=303,slow=5.2,SNR=4.3	**83.87**	**125**	P	**P**	**03 18 31.6**	**+1.0**

*ISCJB **29** 03:48:26.3±0.5,57.72N±0.04×152.70W±0.07,h35km, mb3.3/3,Error ellipse: s-maj=6.6km s-min=4.4km az=41.4*
*NEIC **29** 03:48:27.2,57.67N×152.75W,h40km,ML3.2(AEIC),After AEIC.*
*IDC **29** 03:48:29.3±1.6,57.66N×151.61W,h0km, mb3.4/3, mb1 3.6/6,mb1mx3.4/43,mbtmp3.3/6,ML3.1/3,Error ellipse: s-maj=26.9km s-min=19.1km az=83.0*

ISC 29 03:48:27.4±0.9,**57.70N**±0.05×**152.70W**±0.05,**h35**km,**n33,**
σ1s74/42,mb3.3/3,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.10**	**37**	*e*Pn	**Pn**	**03 48 33.4**	**-0.1**
KDAK				*e*S	**Sn**	**03 48 38.0**	**+0.4**
OHAK	**Old Harbor**	**0.57**	**214**	P	**Pn**	**03 48 37.9**	**-1.1**
OHAK				S	**Sn**	**03 48 46.5**	**-0.7**
KABR	**Katmai Barrier**	**1.29**	**291**	P	**Pn**	**03 48 47.1**	**-1.8**
KAKN	**Katmai Knife C**	**1.39**	**296**	P	**Pn**	**03 48 48.8**	**-1.6**
KAKN				S	**Sn**	**03 49 06.1**	**-1.5**
KABU	**Katmai Buttres**	**1.49**	**294**	P	**Pn**	**03 48 51.1**	**-0.6**
AUI	**Augustine Isla**	**1.69**	**347**	P	**Pn**	**03 48 54.7**	**+0.4**
AUI				S	**Sn**	**03 49 16.5**	**+1.8**
AUL	**Augustine Lava**	**1.73**	**347**	P	**Pn**	**03 48 55.2**	**+0.2**
PLK3	**Peulik 3**	**1.92**	**271**	P	**Pn**	**03 48 56.3**	**-1.2**
PLK4	**Peulik 4**	**1.97**	**270**	P	**Pn**	**03 48 57.0**	**-1.3**
OPT	**Oil Point**	**1.98**	**352**	P	**Pn**	**03 48 58.3**	**-0.1**
BRLK	**Bradley Lake**	**2.28**	**24**	P	**Pn**	**03 49 02.2**	**-0.4**
BRLK				S	**Sn**	**03 49 27.9**	**-1.5**
ILW	**Iliamna West**	**2.38**	**355**	P	**Pn**	**03 49 03.9**	**-0.1**
RSO	**Redoubt South**	**2.77**	**359**	*e*Pn	**Pn**	**03 49 09.4**	**-0.1**
RSO				*e*S	Sn	03 49 49.5	+7.5
RDWB	**Redoubt West**	**2.80**	**359**	P	**Pn**	**03 49 09.4**	**-0.4**
NCT	**North Crescent**	**2.87**	**358**	P	**Pn**	**03 49 10.8**	**0.0**
DFR	**Drift River**	**2.90**	**0**	P	**Pn**	**03 49 10.9**	**-0.3**
SEW	**Seward**	**2.94**	**34**	*e*Pn	**Pn**	**03 49 10.6**	**-1.0**
SEW				*e*S	**Sn**	**03 49 42.1**	**-3.6**
SLKM	**Skilak Lake**	**3.09**	**23**	P	**Pn**	**03 49 13.1**	**-0.7**
RC01	**Rabbit Creek A**	**3.72**	**23**	*e*Pn	**Pn**	**03 49 22.0**	**-0.3**
RC01				*e*S	**Sn**	**03 50 01.7**	**-3.2**
DIV	**Divide**	**4.94**	**43**	*e*Pn	**Pn**	**03 49 39.0**	**0.0**
DIV				*e*S	**Sn**	**03 50 31.9**	**-3.0**
PPLA	**Purkeypile** 7.1nm,0.5s	**5.22**	**3**	*e*Pn	Pn	03 49 45.6	+2.6
BMRM	**Bremner River** 9.9nm,0.6s	**5.28**	**48**	*e*Pn	**Pn**	**03 49 44.3**	**+0.5**
BMRM				*e*S	**Sn**	**03 50 40.0**	**-3.4**
TRF	**Thorofare Moun** 12nm,0.8s	**5.89**	**11**	*e*Pn	**Pn**	**03 49 53.6**	**+1.4**
TRF				*e*S	Sn	03 51 11.1	+12
KTH	**Kantishna Hill** 8.2nm,0.6s	**5.94**	**8**	*e*Pn	**Pn**	**03 49 54.1**	**+1.3**
KTH				*e*S	**Sn**	**03 51 02.1**	**+2.6**
MCK	**McKinley** 6.0nm,0.6s	**6.33**	**15**	*e*Pn	**Pn**	**03 49 57.5**	**-0.6**
PAX	**Paxson** 6.7nm,0.6s	**6.39**	**31**	*e*Pn	**Pn**	**03 49 58.9**	**-0.1**
PAX				*e*S	**Sn**	**03 51 07.8**	**-2.9**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=203,slow=14,SNR=7.3	**7.63**	**19**	Pn	**Pn**	**03 50 14.8**	**-1.0**
ILAR				Sn	**Sn**	**03 51 35.8**	**-5.1**
	0.2nm,0.3s,baz=207,slow=17,SNR=2.9						
IM04	**Indian Mountai**	**8.32**	**357**	*e*Pn	**Pn**	**03 50 26.0**	**+0.6**
INK	**Inuvik** 0.1nm,0.3s,baz=233,slow=12,SNR=2.3	**13.66**	**31**	Pn	P	03 51 42.0	-4.7
YKA	**Yellowknife Ar** 0.3nm,0.3s,baz=272,slow=9.8,SNR=8.2	**19.37**	**60**	P	**Pn**	**03 52 50.5**	**-0.6**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=302,slow=5.1,SNR=3.7	**30.77**	**100**	P	**P**	**03 54 41.5**	**+2.0**
TXAR	**Lajitas Array** 0.2nm,0.9s,baz=332,slow=7.5,SNR=4.1	**44.06**	**109**	P	**P**	**03 56 33.6**	**+1.7**
SONM	**Songino Array** 0.3nm,0.7s,baz=57,slow=5.3,SNR=2.7	**56.29**	**307**	P	P	03 58 15.0	+11

*IDC **29** 03:54:01.3±0.9,12.81S×166.37E,h0km,mb4.3/14, mb1 4.4/15,mb1mx4.2/32,mbtmp4.3/15,MS3.9/15, Ms1 3.9/15,ms1mx3.7/24,Error ellipse: s-maj=29.7km s-min=18.4km az=119.0*
*ISCJB **29** 03:54:03.6±0.5,12.67S±0.08×166.13E±0.07,h20km, mb4.3/14,MS3.9/14,Error ellipse: s-maj=11.9km s-min=8.4km az=29.8*
*NEIC **29** 03:54:09.3±1.3,12.71S×166.12E,h52km±11km,mb4.3/5, Error ellipse: s-maj=11.7km s-min=10.5km az=175.0*

ISC 29 03:54:04.8±0.6,**12.75S**±0.08×**166.25E**±0.08,**h20**km,**n40,**
σ0s88/34,mb4.2/14,MS4.0/14,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.01**	**297**	Pn	**Pn**	**03 55 46.4**	**-0.1**
HNR				Sn	**Sn**	**03 57 04.2**	**-1.4**
HNR				LR	LR	03 58 36.3	
	comp=Z,254nm,21.8s,slow=38						
HNR	**Honiara**	**7.01**	**297**	*e*S	**Pn**	**03 55 47.0**	**+0.6**
HNR	**Honiara** 254nm,0.6s	**7.01**	**297**	*e*Pn	**Pn**	**03 55 46.6**	**+0.1**
HNR				*e*S	**Sn**	**03 57 03.7**	**-1.9**
DZM	**Mont Dzumac** 8.8nm,0.3s	**9.27**	**179**	*e*Pn	Pn	03 56 23.4	+5.9
DZM				*e*Sn	**Sn**	**03 58 00.1**	**-1.2**
	6.6nm,0.3s						
DZM				*e*LR	LR	03 58 25.8	
MSVF	**Nonsavu** 56nm,1.4s	**12.41**	**115**	*e*Pn	Pn	03 57 06.3	+5.6
EIDS	**Eidsvold** 31nm,1.3s	**19.03**	**227**	*e*P	**Pn**	**03 58 27.2**	**+0.7**
CTA	**Charters Tower** 13nm,1.1s,baz=55,slow=10.0,SNR=4.7	**20.51**	**247**	P	**P**	**03 58 42.4**	**+0.6**
CTA				LR	LR	04 06 18.4	
	comp=Z,909nm,20.6s,baz=58,slow=36						
CTAO	**Charters Tower** 26nm,1.2s	**20.51**	**247**	*e*P	**P**	**03 58 42.5**	**+0.6**
JAY	**Jayapura** comp=Z,177nm,19.1s,baz=345,slow=38	**27.25**	**290**	LR	LR	04 11 18.4	
STKA	**Stephens Creek** 4.1nm,0.8s,baz=49,slow=10.0,SNR=5.5	**29.58**	**226**	P	**P**	**04 00 09.7**	**+1.1**
STKA				LR	LR	04 12 06.9	
	comp=Z,707nm,18.7s,baz=54,slow=37						
STKA	**Stephens Creek** 1.8nm,1.0s	**29.58**	**226**	*e*P	**P**	**04 00 09.3**	**+0.7**
WRA	**Warramunga Arr** 2.3nm,1.0s,baz=82,slow=8.5,SNR=6.0	**31.40**	**253**	P	**P**	**04 00 24.4**	**-0.5**
WRA				LR	LR	04 13 04.2	
	comp=Z,266nm,18.4s,baz=90,slow=36						
ASAR	**Alice Springs** 3.6nm,0.9s,baz=76,slow=9.0,SNR=21	**32.51**	**246**	P	**P**	**04 00 33.4**	**-1.2**
ASAR				LR	LR	04 13 16.7	
	comp=Z,393nm,19.1s,baz=106,slow=35						
GUMO	**Guam** comp=Z,202nm,20.2s,baz=20,slow=35	**33.68**	**320**	LR	LR	04 13 39.7	
PPT	**Papeete** comp=Z,192nm,21.4s,baz=282,slow=31	**42.83**	**102**	LR	LR	04 16 13.0	
PPT2	**Papeete2** 110nm,27.5s	**42.83**	**102**	*e*S	**S**	**04 08 25.5**	**-0.2**
PPT2				*e*LQ	LQ	04 12 19.7	
	542nm,27.2s						
PPT2				*e*LR	LR	04 14 08.6	
	461nm,26.8s						
MJAR	**Matsushiro Arr** 3.6nm,0.8s,baz=163,slow=8.1,SNR=4.9	**55.71**	**333**	P	**P**	**04 03 40.1**	**+0.1**
ASAJ	**Asahikawa** 9.4nm,0.7s,baz=179,slow=9.2,SNR=5.4	**60.56**	**341**	P	**P**	**04 04 14.2**	**+0.3**
USRK	**Ussuriysk Ar.** 13nm,1.2s,baz=148,slow=6.7,SNR=4.7	**64.69**	**333**	P	**P**	**04 04 41.5**	**+0.1**
VNDA	**Vanda** 0.6nm,0.7s,baz=22,slow=4.9,SNR=3.6	**64.80**	**181**	P	**P**	**04 04 40.5**	**-1.3**
VNDA				LR	LR	04 31 05.5	
	comp=Z,101nm,18.2s,baz=348,slow=34						
VNDA	**Vanda** 2.5nm,1.2s	**64.80**	**181**	*e*P	**P**	**04 04 40.6**	**-1.1**
PETK	**Petropavlovsk-** comp=Z,56nm,18.2s,baz=147,slow=34	**66.00**	**354**	LR	LR	04 30 54.8	
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=122,slow=4.4,SNR=6.9	**73.25**	**294**	P	**P**	**04 05 36.2**	**+1.1**
CMAR				LR	LR	04 39 09.0	
	comp=Z,11nm,19.8s,baz=125,slow=37						
SEY	**Seymchan** 1.2nm,0.3s,baz=172,slow=4.0,SNR=5.8	**76.22**	**354**	P	**P**	**04 05 51.1**	**-0.3**
QSPA	**Pauth Pole Qui** 21nm,1.0s	**77.26**	**180**	*e*P	**P**	**04 05 58.1**	**+0.5**
SONM	**Songino Array** 1.3nm,0.8s,baz=131,slow=6.5,SNR=8.1	**80.33**	**324**	P	**P**	**04 06 15.3**	**+0.6**
MAW	**Mawson** comp=Z,70nm,21.0s,baz=67,slow=31	**83.33**	**202**	LR	LR	04 37 00.3	
ILAR	**Eielson Array** 1.4nm,0.9s,baz=230,slow=6.0,SNR=13	**84.97**	**18**	P	**P**	**04 06 36.7**	**-1.6**
ILAR				LR	LR	04 39 23.9	
	comp=Z,64nm,19.0s,baz=198,slow=32						
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=86,slow=4.5,SNR=2.8	**95.10**	**317**	P	**P**	**04 07 27.6**	**+1.0**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=99,slow=4.7,SNR=6.1	**95.22**	**324**	P	**P**	**04 07 26.2**	**-0.7**
ZALV				LR	LR	04 50 06.5	
	comp=Z,28nm,20.5s,baz=254,slow=35						
TXAR	**Lajitas Array** comp=Z,84nm,21.2s,baz=6.0,slow=30	**96.21**	**61**	LR	LR	04 42 22.5	
ARCES	**ARCESS Array B** 3.5nm,0.9s,baz=64,slow=2.8,SNR=7.1	**118.10**	**345**	PKP	**PKPdf**	**04 12 49.2**	**-0.6**
FINES	**FINESS Array B** 3.2nm,1.0s,baz=64,slow=3.2,SNR=3.6	**123.53**	**338**	PKP	**PKPdf**	**04 13 00.5**	**0.0**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=78,slow=1.5,SNR=6.8	**128.55**	**326**	PKP	**PKPdf**	**04 13 10.3**	**-0.1**
BNI	**Bardonecchia**	**143.40**	**335**	*e*PKPdf	PKPab	04 13 34.8	+0.4
SSB	**Saint Sauveur**	**144.03**	**338**	*e*PKPdf	PKPbc	04 13 37.6	+0.4
VSL	**Villasalto**	**146.43**	**327**	*e*PKPbc	**PKPbc**	**04 13 44.6**	**-0.2**
KEST	**Kesra** 4.7nm,0.9s,baz=286,slow=2.4,SNR=20	**149.06**	**322**	PKPbc	**PKPbc**	**04 13 53.0**	**+0.8**
ESDC	**Sonseca Array** 2.1nm,0.8s,baz=19,slow=2.6,SNR=11	**151.83**	**344**	PKPbc	**PKPbc**	**04 13 59.4**	**+0.7**
ESDC				PKPab	**PKPab**	**04 14 08.2**	**+0.6**

0.4nm,0.4s,baz=14,slow=4.0,SNR=6.5

TORD	**Torodi Ar. Bea** 1.3nm,1.1s,baz=105,slow=4.6,SNR=4.2	**164.94**	**273**	PKPab	**PKPab**	**04 15 06.1**	**+1.1**

DJA 29 04:12:15.9±1.8,**5.5S**±4.7×**10.5E**±1.3,**h10**km,**M2.0/2,**
MLv2.0/2,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.64**	**210**	P	Pg	04 12 28.0	-0.3
KASI				S	Sb	04 12 37.5	-0.6
MDSI	**Maura Dua**	**0.80**	**307**	P	Pg	04 12 30.5	-0.9
MDSI				S	Sg	04 12 42.1	+0.3

*DDA **29** 04:28:22.5,35.49N×31.40E,h16km,MD2.9*
*NIC **29** 04:28:24.6,36.49N×31.67E,h25km,ML3.5*
*ISCJB **29** 04:28:27.7±1.5,35.68N±0.06×31.32E±0.05,h24km±14km, Error ellipse: s-maj=10.1km s-min=5.0km az=27.9*
*ISK **29** 04:28:27.1,35.54N×31.22E,h32km,MD3.3*
*CSEM **29** 04:28:28.0±0.3,35.84N×31.46E,h20km,MD2.9,Error ellipse: s-maj=17.0km s-min=7.3km az=29.0*

ISC 29 04:28:29.4±1.4,**35.84N**±0.05×**31.43E**±0.04,**h50**km±38km,
n32,σ1s65/40,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.82**	**61**	*i* P	**Pn**	**04 28 41.8**	**-3.0**
GAZI	**Gazipasa**	**0.82**	**61**	*i* P	**Pn**	**04 28 41.8**	**-3.0**
GAZI				*i* S	**Sn**	**04 28 57.8**	**+1.9**
AKMC	**Akamas** baz=339	**1.09**	**138**	P	**Pn**	**04 28 48.8**	**+0.4**
AKMC	**Akamas**	**1.09**	**138**	P	**Pn**	**04 28 48.8**	**+0.4**
ALFC	**Alevga** baz=330	**1.17**	**125**	P	**Pn**	**04 28 48.6**	**-0.8**
ALFC				S	**Sn**	**04 29 07.6**	**+3.3**
ALFC	**Alevga**	**1.17**	**125**	P	**Pn**	**04 28 48.6**	**-0.8**
ALFC				S	**Sn**	**04 29 07.6**	**+3.3**
PPCY	**Paphos** baz=341	**1.21**	**142**	P	**Pn**	**04 28 51.3**	**+1.4**
PPCY	**Paphos**	**1.21**	**142**	P	**Pn**	**04 28 51.3**	**+1.4**
LEF	**Lefka**	**1.39**	**121**	*e*PN	**Pn**	**04 28 51.8**	**-0.6**
LEF				*e*SN	**Sn**	**04 29 07.4**	**-2.2**
LEF	**Lefka**	**1.39**	**121**	*e*Pn	**Pn**	**04 28 51.8**	**-0.6**
LEF				*e*Sn	**Sn**	**04 29 07.4**	**-2.2**
ERMK	**Ermenek**	**1.44**	**56**	*i* P	**Pn**	**04 28 54.1**	**+0.8**
ERMK	**Ermenek**	**1.44**	**56**	*i* P	**Pn**	**04 28 54.1**	**+0.8**
ERMK				*i* S	Sn	04 29 17.2	+5.9
KORT	**Korkueli**	**1.45**	**323**	*i* P	**Pn**	**04 28 54.8**	**+1.4**
KORT				*i* S	**Sn**	**04 29 13.3**	**+1.9**
KORT	**Korkueli**	**1.45**	**323**	*i* P	**Pn**	**04 28 54.8**	**+1.4**
KORT				*i* S	**Sn**	**04 29 13.3**	**+1.9**
ELL	**Elmali**	**1.53**	**307**	*e*PN	**Pn**	**04 28 54.1**	**-0.4**
ELL	**Elmali**	**1.53**	**307**	*e*Pn	**Pn**	**04 28 54.1**	**-0.4**
AKAS	**Kas**	**1.53**	**285**	*i* P	**Pn**	**04 28 53.2**	**-1.3**
AKAS				*i* S	**Sn**	**04 29 12.9**	**-0.5**
AKAS	**Kas**	**1.53**	**285**	*i* P	**Pn**	**04 28 53.2**	**-1.3**
AKAS				*i* S	**Sn**	**04 29 12.9**	**-0.5**
SZAC	**Souni-Zanaja** baz=330	**1.60**	**132**	P	**Pn**	**04 28 54.9**	**-0.5**
SZAC				S	Sn	04 29 21.9	+7.0
SZAC	**Souni-Zanaja**	**1.60**	**132**	P	**Pn**	**04 28 54.9**	**-0.5**
CSS	**Prodhromos** baz=318	**1.78**	**119**	P	**Pn**	**04 28 56.0**	**-1.7**
CSS	**Prodhromos**	**1.78**	**119**	P	**Pn**	**04 28 56.0**	**-1.7**
LFK	**Lefkose**	**1.80**	**107**	*e*PN	**Pn**	**04 28 58.6**	**+0.5**
LFK	**Lefkose**	**1.80**	**107**	*e*Pn	**Pn**	**04 28 58.6**	**+0.5**
GOLH	**Golhisar**	**2.06**	**313**	*i* P	Pn	04 29 04.0	+2.4
GOLH	**Golhisar**	**2.06**	**313**	*i* P	Pn	04 29 04.0	+2.4
GOLH				*i* S	Sn	04 29 32.4	+6.3
FETY	**Fethiye**	**2.06**	**293**	*e*PN	**Pn**	**04 28 59.4**	**-2.2**
FETY	**Fethiye**	**2.06**	**293**	*e*Pn	**Pn**	**04 28 59.4**	**-2.2**
TURN	**Turunc**	**2.51**	**295**	*i* P	**Pn**	**04 29 08.7**	**+1.0**
TURN	**Turunc**	**2.51**	**295**	*i* P	**Pn**	**04 29 08.7**	**+1.0**
TURN				*i* S	**Sn**	**04 29 35.7**	**-1.3**
YAYL	**Yayladag**	**3.80**	**86**	*i* P	**Pn**	**04 29 24.3**	**-1.2**
YAYL	**Yayladag**	**3.80**	**86**	*i* P	**Pn**	**04 29 24.3**	**-1.2**

*IDC **29** 04:49:46.1±5.3,12.30N×86.55W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/21,mbtmp3.5/3,Error ellipse: s-maj=105.9km s-min=61.2km az=179.0*
*CASC **29** 04:50:11.1±2.4,12.32N×87.26W,h164km±17km,MD3.9*
*ISCJB **29** 04:50:12.4±0.6,12.3N±0.2×87.3W±0.2,h150km,mb3.2/3, Error ellipse: s-maj=30.4km s-min=5.1km az=43.6*

ISC 29 04:50:10.8±1.1,**12.4N**±0.2×**87.4W**±0.1,**h150**km,**n17,**
σ2s09/20,mb3.3/3,1C-1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.77**	**103**	⇓*e*P	**Pn**	**04 50 35.1**	**+1.2**
COPN				*e*S	**Sn**	**04 50 54.4**	**+3.1**
CNCH	**Conchagua**	**1.03**	**334**	*e*P	**Pn**	**04 50 37.5**	**+1.5**
VSM	**San Miguel**	**1.39**	**320**	*e*P	**Pn**	**04 50 41.7**	**+2.1**
LFRS	**El Faro**	**2.08**	**308**	⇑*e*P	**Pn**	**04 50 49.5**	**+2.4**
**LBR

MKAR	**Makanchi Array**	**26.76**	**329**	P	**P**	**04 56 54.5**	**-1.0**
	0.5nm,0.5s,baz=168,slow=7.4,SNR=6.8						
KURBB	**Kurchatov Arra**	**31.25**	**330**	P	**P**	**04 57 33.7**	**-1.5**
	0.6nm,0.5s,baz=128,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**31.48**	**340**	P	**P**	**04 57 35.2**	**-2.1**
	0.9nm,0.5s,baz=141,slow=9.3,SNR=3.8						
ZALV				LR	LR	05 11 11.4	
	comp=Z,46nm,19.8s,baz=255,slow=38						
MJAR	**Matsushiro Arr**	**32.62**	**61**	LR	LR	05 12 37.7	
	comp=Z,23nm,20.2s,baz=115,slow=39						
BVAR	**Borovoye Array**	**36.64**	**328**	P	**P**	**04 58 20.7**	**-1.3**
	0.4nm,0.5s,baz=119,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**54.67**	**142**	P	**P**	**05 00 44.9**	**0.0**
	1.0nm,0.9s,baz=332,slow=7.9,SNR=14						
ASAR	**Alice Springs**	**57.47**	**145**	P	**P**	**05 01 05.0**	**+0.1**
	0.2nm,0.3s,baz=328,slow=6.8,SNR=3.7						
BRTR	**Keskin Array B**	**58.39**	**302**	P	**P**	**05 01 12.5**	**+1.0**
	0.3nm,0.5s,baz=100,slow=15,SNR=3.3						
FINES	**FINESS Array B**	**61.59**	**328**	P	**P**	**05 01 32.4**	**-0.6**
	2.0nm,0.9s,baz=90,slow=7.6,SNR=4.8						
ARCES	**ARCESS Array B**	**61.97**	**337**	P	**P**	**05 01 34.0**	**-1.3**
	2.8nm,0.9s,baz=91,slow=8.9,SNR=5.2						
NOA	**NORSAR Array B**	**68.76**	**329**	P	**P**	**05 02 19.4**	**-0.2**
	0.8nm,0.7s,baz=77,slow=6.3,SNR=3.4						
GERES	**GERESS Array B**	**70.54**	**316**	P	**P**	**05 02 30.7**	**-0.1**
	0.2nm,0.2s,baz=86,slow=6.0,SNR=2.5						

IDC ***29*** *05:11:31.9±1.6,0.00S×136.08E,h0km,mb3.9/3, mb1 1.4/0.5,mb1mx3.7/30,mbtmp3.9/5,ML3.9/2,Error ellipse: s-maj=50.7km s-min=24.5km az=68.0*

ISCJB ***29*** *05:11:34.8±1.2,0.1S±0.1×135.97E±0.05,h33km,mb3.8/3, Error ellipse: s-maj=17.0km s-min=7.8km az=0.0*

DJA ***29*** *05:11:41.2±2.0,1°S±20'×13°E±°,h63km±42km,M4.2/4, MLv4.2/4*

ISC 29 05:11:36.9±1.4,0.2S±0.1×135.97E±0.05,h35km,n8, σ2s56/12,mb4.0/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.23**	**233**	P		**Pn**	**05 12 11.6**	**+0.2**
RKPI				S		**Sn**	**05 12 38.1**	**+0.3**
SMPI	**Sarmi**	**3.28**	**123**	P		**Pn**	**05 12 26.5**	**+0.7**
SMPI				S		**Sn**	**05 13 05.5**	**+1.8**
FAKI	**Fak Fak**	**4.62**	**234**	P		**Pn**	**05 12 44.6**	**+0.4**
FAKI				S		**Sn**	**05 13 31.5**	**-5.1**
JAY	**Jayapura**	**5.27**	**116**	Pn		**Pn**	**05 12 51.9**	**-1.4**
	1.9nm,0.3s,baz=260,slow=9.1,SNR=6.9							
JAY				Sn		**Sn**	**05 13 48.3**	**-4.6**
	2.4nm,0.3s,baz=135,slow=17,SNR=4.8							
WRA	**Warramunga Arr**	**19.72**	**185**	P		**Pn**	**05 16 05.0**	**-0.2**
	0.5nm,0.3s,baz=4.5,slow=11,SNR=27							
ASAR	**Alice Springs**	**23.44**	**185**	P		**P**	**05 16 45.0**	**+1.8**
	2.6nm,0.5s,baz=13,slow=12,SNR=28							
STKA	**Stephens Creek**	**31.98**	**171**	P		**P**	**05 18 01.2**	**+1.4**
	0.9nm,0.3s,baz=340,slow=15,SNR=3.0							
MKAR	**Makanchi Array**	**32.12**	**323**	P		**P**	**05 22 20.7**	**0.0**
	0.2nm,0.4s,baz=99,slow=6.3,SNR=6.7							

ISCJB ***29*** *05:35:47.3±0.8,19.17S±0.06×69.3W±0.1,h99km,mb3.5/4, Error ellipse: s-maj=20.0km s-min=9.2km az=178.2*

IDC ***29*** *05:35:49.7±2.8,19.27S×69.31W,h108km±29km,mb3.4/6, mb1 3.5/8,mb1mx3.3/28,mbtmp3.7/8,Error ellipse: s-maj=25.8km s-min=22.4km az=116.0*

ISC 29 05:35:49.0±0.9,19.20S±0.08×69.3W±0.2,h99km,n15, σ0s76/10,mb3.6/4,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.42**	**174**	P		**Pn**	**05 36 41.8**	**+1.3**
	175nm,0.3s,baz=6.5,slow=8.0,SNR=109							
LVC				S		**Sn**	**05 37 19.8**	**-0.5**
	1µm,0.3s,baz=195,slow=20,SNR=8.7							
CPUP	**Villa Florida**	**13.13**	**125**	P		**Pn**	**05 38 51.5**	**-0.2**
	0.1nm,0.3s,baz=335,slow=14,SNR=3.0							
PTGA	**Pitinga**	**20.52**	**28**	P		**P**	**05 40 20.1**	**+0.6**
	2.9nm,0.3s,baz=209,slow=19,SNR=13							
BDFB	**Brasilia**	**20.63**	**83**	P		**P**	**05 40 20.6**	**-0.2**
	1.2nm,0.4s,baz=266,slow=8.8,SNR=5.2							
PLCA	**Paso Flores**	**21.49**	**183**	P		**P**	**05 40 28.6**	**-1.1**
	1.0nm,0.7s,baz=0.6,slow=14,SNR=3.9							
TXAR	**Lajitas Array**	**58.53**	**325**	P		**P**	**05 45 35.0**	**-0.4**
	0.1nm,0.6s,baz=150,slow=7.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**76.96**	**71**	P		**P**	**05 47 31.0**	**-0.3**
	0.7nm,0.4s,baz=250,slow=5.1,SNR=22							
YKA	**Yellowknife Ar**	**88.90**	**341**	P		**P**	**05 48 31.7**	**0.0**
	1.0nm,0.7s,baz=133,slow=5.0,SNR=15							
H11S2	**WAKE ISLAND Hyf27.18**	**279**		T		T	08 14 15.7	
	baz=101,slow=75,SNR=116							
H11S1	**WAKE ISLAND Hyf27.18**	**279**		T		T	08 14 08.9	
	baz=101,slow=75,SNR=69							
H11S3	**WAKE ISLAND Hyf27.19**	**279**		T		T	08 14 18.9	
	baz=101,slow=75,SNR=70							
H11N3	**WAKE ISLAND Hyf27.20**	**281**		T		T	08 14 17.3	
	baz=100,slow=75,SNR=41							
H11N2	**WAKE ISLAND Hyf27.21**	**281**		T		T	08 14 24.7	
	baz=100,slow=75,SNR=44							
H11N1	**WAKE ISLAND Hyf27.21**	**281**		T		T	08 14 17.1	
	baz=100,slow=75,SNR=34							
SONM	**Songino Array**	**151.23**	**6**	PKPbc		**PKPbc**	**05 55 31.4**	**+0.4**
	0.7nm,0.4s,baz=340,slow=1.1,SNR=4.0							

IDC 29 05:47:00.6±5.6,19.47S×177.37W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.5/29,mbtmp3.7/2,Error ellipse: s-maj=323.8km s-min=72.8km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.34**	**256**	P		P	05 55 20.7	-0.2
	0.6nm,0.4s,baz=96,slow=7.7,SNR=11							
WRA	**Warramunga Arr**	**45.34**	**261**	P		P	05 55 20.8	-0.1
	0.4nm,0.4s,baz=97,slow=7.4,SNR=12							
FINES	**FINESS Array B**	**134.95**	**344**	PKP		PKPdf	06 06 20.8	-0.4
	0.7nm,0.5s,baz=29,slow=3.2,SNR=3.6							

ISCJB ***29*** *05:53:47.8±0.7,32.32N±0.03×115.24W±0.04,h7km±5km, Error ellipse: s-maj=6.3km s-min=4.9km az=166.0*

MEX ***29*** *05:53:47.4±0.7,32.52N×114.95W,h13km±3km,MD3.6*

NEIC ***29*** *05:53:48.4,32.31N×115.19W,h1km,ML3.6(ECX), ML3.6(PAS),After ECX.*

ECX ***29*** *05:53:49.0±0.6,32.30N×115.23W,h8km,MD3.5,ML3.7*

ISC 29 05:53:48.8±0.9,32.28N±0.03×115.30W±0.03,h12km±7km, n23,σ1s01/38,6C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**0**	*e*P		**Pg**	**05 53 52.1**	**-0.1**
CPBX				*e*S		**Sg**	**05 53 54.0**	**-0.6**
CPBX				AML		AML	05 53 60.0	
	comp=E,54µm,0.1s							
CPBX				↑*e*			05 53 60.0	
CPBX	**Cerro Prieto**	**0.14**	**0**	*e*P		**Pg**	**05 53 52.1**	**-0.1**
CPBX				*i*S		**Sg**	**05 53 55.5**	**+0.8**
SGL	**Mount Signal**	**0.51**	**316**	↓*i*P		**Pg**	**05 53 58.6**	**-0.3**
SGL				↓*i*P		**Pg**	**05 53 58.6**	**-0.3**
YUH	**Yuha Desert**	**0.64**	**305**	↑*i*P		**Pg**	**05 54 00.6**	**-0.6**
YUH				↑*i*P		**Pg**	**05 54 00.6**	**-0.6**
RDX	**Rancho Dawling**	**0.65**	**237**	↑*e*P		**Pg**	**05 54 01.0**	**-0.4**
RDX				*e*S		**Sg**	**05 54 11.5**	**+1.5**
RDX				↑*e*			05 54 16.4	
RDX				AML		AML	05 54 16.4	
	comp=N,2µm,0.5s							
COK	**Cook Ranch**	**0.67**	**328**	*e*P		**Pg**	**05 54 01.8**	**0.0**
RMX	**La Rumorosa**	**0.73**	**296**	*e*P		**Pg**	**05 54 02.3**	**-0.7**
RMX				AML		AML	05 54 18.1	
	comp=N,3µm,0.5s							
RMX				↑*e*			05 54 18.1	
ECBX	**El Chinero**	**0.83**	**165**	*e*P		**Pb**	**05 54 05.8**	**+0.6**
ECBX				*e*S		**Sb**	**05 54 17.3**	**+1.0**
ZAX	**El Zacaton**	**1.12**	**227**	*e*P		**Pb**	**05 54 09.4**	**-0.8**
CBX	**Cerro Bola**	**1.15**	**272**	*e*P		**Pb**	**05 54 09.7**	**-1.0**
CBX				*i*S		**Sb**	**05 54 27.7**	**+2.1**
CBX	**Cerro Bola**	**1.15**	**272**	*e*P		**Pb**	**05 54 09.9**	**-0.8**
CBX				*e*S		**Sb**	**05 54 26.5**	**+0.9**
CBX	**Cerro Bola**	**1.15**	**272**	*e*P		**Pb**	**05 54 09.7**	**-1.0**
CBX				*i*S		**Sb**	**05 54 27.7**	**+2.1**
BAR	**Barrett**	**1.22**	**289**	*e*Pg		**Pn**	**05 54 10.8**	**-0.9**
BAR				*e*Sg		**Sb**	**05 54 26.5**	**-1.1**
SPIG	**San Pedro Mart**	**1.24**	**186**	*e*P		**Pn**	**05 54 12.2**	**0.0**
SPIG				*e*S		**Sb**	**05 54 29.2**	**+0.9**
SPIG	**San Pedro Mart**	**1.24**	**186**	*e*P		**Pn**	**05 54 12.2**	**0.0**
SPIG				*e*S		**Sb**	**05 54 29.2**	**+0.9**
SPX	**San Pedro Mart**	**1.24**	**186**	*e*P		**Pn**	**05 54 10.8**	**-1.4**
SPX				*e*S		**Sb**	**05 54 28.4**	**+0.1**
SPX				*e*			05 54 32.6	
	comp=E,693nm,0.6s							
SPX	**San Pedro Mart**	**1.24**	**186**	*e*P		**Pn**	**05 54 10.8**	**-1.4**
SPX				*e*S		**Sb**	**05 54 29.8**	**+1.4**
ECNX	**Esteban Cantu**	**1.26**	**241**	*e*P		**Pn**	**05 54 12.2**	**-0.1**
PBX	**Punta Banda**	**1.32**	**246**	*e*P		**Pn**	**05 54 12.6**	**-0.4**
PFO	**Pinyon Flats O**	**1.64**	**324**	*e*Pn		**Pn**	**05 54 18.6**	**+1.0**
PFO				*e*Sn		**Sn**	**05 54 40.0**	**+1.3**
214A	**Organ Pipe Nat**	**2.14**	**98**	*e*Pn		**Pn**	**05 54 23.9**	**-0.4**
TUC	**Tucson**	**3.83**	**88**	*i*P		Pn	05 54 42.3	-5.3
TUC				*i*S		Sn	05 55 18.5	-14
121A	**Cookes Peak, D**	**6.36**	**86**	*e*Pn		**Pn**	**05 55 22.9**	**+0.4**
	comp=E,4.1nm,0.5s							
121A				*e*Sn		**Sn**	**05 56 33.4**	**-1.8**

IDC 29 06:14:35.6±3.4,30.26S×138.49E,h0km,mb1 3.0/3, mb1mx3.0/19,mbtmp2.8/3,ML2.4/3,Error ellipse: s-maj=89.8km s-min=15.8km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**122**	Pn		Pn	06 15 24.4	-1.6
	0.2nm,0.3s,baz=298,slow=12,SNR=3.6							
STKA				Pg		Pb	06 15 33.6	+1.7
	0.5nm,0.3s,baz=301,slow=14,SNR=7.5							
STKA				Sn		Sn	06 16 03.0	-1.0
	0.7nm,0.3s,baz=321,slow=13,SNR=3.7							
STKA				Lg		Lg	06 16 15.4	
	1.7nm,0.3s,baz=194,slow=24,SNR=7.2							
ASAR	**Alice Springs**	**7.74**	**327**	Pn		Pn	06 16 30.2	+0.6
	0.1nm,0.3s,baz=150,slow=11,SNR=3.7							
ASAR				Sn		Sn	06 17 57.5	-0.5
	0.1nm,0.3s,baz=148,slow=20,SNR=3.4							
ASAR				Lg		Lg	06 18 50.8	
	0.1nm,0.3s,baz=152,slow=25,SNR=2.7							
WRA	**Warramunga Arr**	**10.94**	**339**	Pn		Pn	06 17 13.9	+0.4
	0.0nm,0.3s,baz=160,slow=13,SNR=3.3							

IDC 29 06:15:08.4±1.2,55.31S×28.06W,h0km,mb3.8/2, mb1 3.9/2,mb1mx3.6/18,mbtmp3.8/2,Error ellipse: s-maj=91.2km s-min=36.4km az=102.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.29**	**183**	P		P	06 23 42.8	0.0
	0.8nm,0.6s,baz=187,slow=7.2,SNR=4.5							
TORD	**Torodi Ar. Bea**	**72.66**	**30**	P		P	06 26 37.8	+0.1
	0.6nm,0.6s,baz=202,slow=5.7,SNR=5.2							
PDAR	**Pinedale Array**	**119.53**	**303**	PKP		PKPdf	06 33 58.6	-0.8
	0.4nm,1.1s,baz=130,slow=3.6,SNR=4.0							
YKA	**Yellowknife Ar**	**135.29**	**319**	PKP		PKPdf	06 34 27.5	-1.0
	0.2nm,0.5s,baz=128,slow=2.1,SNR=3.9							
ILAR	**Eielson Array**	**149.25**	**313**	PKPbc		PKPbc	06 34 57.4	0.0
	0.8nm,0.7s,baz=126,slow=1.8,SNR=9.5							

IDC 29 06:25:47.2±8.7,4.39N×127.84E,h121km±84km,mb3.6/7, mb1 3.7/7,mb1mx3.4/34,mbtmp3.9/7,Error ellipse: s-maj=61.0km s-min=15.1km az=75.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.01**	**165**	P		P	06 30 59.9	-0.3
	2.3nm,0.6s,baz=342,slow=10,SNR=18							
ASAR	**Alice Springs**	**28.51**	**168**	P		P	06 31 31.4	-0.1
	0.6nm,0.5s,baz=349,slow=7.9,SNR=14							
ASAR				PcP		PcP	06 34 40.0	-0.4
	0.1nm,0.3s,baz=343,slow=2.8,SNR=4.1							
KSRS	**Korea Array**	**32.91**	**0**	P		P	06 32 09.9	-0.1
	2.0nm,0.7s,baz=184,slow=11,SNR=6.4							
STKA	**Stephens Creek**	**38.37**	**161**	P		P	06 32 57.0	+0.2
	2.7nm,0.5s,baz=341,slow=8.2,SNR=11							
SONM	**Songino Array**	**47.04**	**340**	P		P	06 34 06.4	-0.4
	0.5nm,0.6s,baz=162,slow=7.2,SNR=3.8							
MKAR	**Makanchi Array**	**57.66**	**325**	P		P	06 35 25.1	0.0
	1.1nm,0.7s,baz=154,slow=5.1,SNR=11							
MKAR				pP		pP	06 35 52.0	-1.9
	0.7nm,0.5s,baz=145,slow=4.4,SNR=6.6							
ILAR	**Eielson Array**	**84.04**	**25**	P		P	06 38 04.0	-0.1
	0.3nm,0.4s,baz=246,slow=6.2,SNR=5.6							

MAN 29 06:30:27,16.55N×120.17E,h60km,mb4.4,ML3.2,MS3.0, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.30**	**235**	*e*P		Pn	06 30 40.5	+3.4
BOLP				*e*S		Sn	06 30 47.5	+3.1
BCPH	**Baguio City Da**	**0.43**	**113**	↑*i*P		Pn	06 30 40.5	+2.0
BCPH				*i*S		Sn	06 30 50.7	+3.8
SCZP	**Santa Cruz**	**0.81**	**198**	*e*P		Pn	06 30 43.7	+1.1
SCZP				*e*S		Sn	06 30 57.1	+3.0
BALP	**Baler**	**1.58**	**121**	*e*P		Pn	06 30 53.9	+1.2
APYP	**Conner**	**1.66**	**38**	*e*P		Pn	06 30 54.9	+1.0

IDC 29 07:01:07.9±0.9,4.69N×125.62E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/34,mbtmp3.7/6,MS3.0/2,Ms1 3.0/2, ms1mx2.5/30,3C,Error ellipse: s-maj=79.9km s-min=18.2km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.54**	**334**	↑*i*P		Pg	07 01 44.0	+6.3
GSPH	**General Santos**	**1.54**	**334**	↑*i*P		Pg	07 01 44.0	+6.3
BIPH	**Bislig**	**3.55**	**12**	↑*e*P		Pb	07 02 09.6	-2.1
BIPH				*i*S		Sn	07 02 50.1	+3.0
JAY	**Jayapura**	**16.68**	**115**	LR		LR	07 11 29.0	
	comp=Z,73nm,18.8s,baz=178,slow=37							
WRA	**Warramunga Arr**	**25.93**	**161**	P		P	07 06 42.1	0.0
	2.0nm,0.7s,baz=342,slow=10.0,SNR=23							
JCJ	**Chichijima**	**27.32**	**34**	LR		LR	07 19 10.4	
	comp=Z,19nm,19.3s,baz=318,slow=40							
ASAR	**Alice Springs**	**29.32**	**164**	P		P	07 07 13.3	+0.8
	0.6nm,0.5s,baz=347,slow=7.2,SNR=11							
STKA	**Stephens Creek**	**39.41**	**158**	P		P	07 08 39.0	-0.7
	3.0nm,1.0s,baz=318,slow=12,SNR=5.0							
SONM	**Songino Array**	**46.05**	**342**	P		P	07 09 34.1	+0.5
	0.3nm,0.7s,baz=166,slow=6.1,SNR=2.5							
MKAR	**Makanchi Array**	**56.15**	**325**	P		P	07 10 49.4	0.0
	0.6nm,0.5s,baz=155,slow=4.8,SNR=13							
ILAR	**Eielson Array**	**84.72**	**25**	P		P	07 13 43.5	-0.2
	0.1nm,0.5s,baz=268,slow=6.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**121.57**	**288**	PKP		PKPdf	07 20 03.7	-1.1
	0.5nm,0.8s,baz=63,slow=1.8,SNR=2.7							

IDC ***29*** *07:20:56.9±0.9,37.84S×73.14W,h0km,mb4.0/5, mb1 4.0/9,mb1mx3.9/21,mbtmp3.8/9,ML3.7/3,MS3.6/3, Ms1 3.6/3,ms1mx3.0/21,Error ellipse: s-maj=27.7km s-min=16.4km az=71.0*

ISCJB ***29*** *07:21:00.9±0.4,37.81S±0.03×72.96W±0.07,h33km, mb4.1/10,Error ellipse: s-maj=7.7km s-min=4.5km az=5.7*

GUC ***29*** *07:21:02.2±0.7,37.89S×73.22W,h45km±8km,ML4.0*

NEIC ***29*** *07:21:03.1±1.6,37.78S×73.12W,h42km±14km,mb4.2/5, Error ellipse: s-maj=20.9km s-min=10.4km az=77.0*

ISC 29 07:21:01.9±0.6,37.84S±0.04×73.16W±0.07,h33km,n28, σ0s98/35,mb4.2/10,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.97**	**191**	↑*i*P		**Pn**	**07 21 19.4**	**+0.2**
PSCH				*i*S		**Sn**	**07 21 32.3**	**+0.4**
CCSP	**San Pedro de C**	**1.00**	**3**	↓*i*P		**Pb**	**07 21 21.2**	**+0.5**
CCSP				*i*S		**Sb**	**07 21 34.9**	**+1.3**
CCSP				AML		AML	07 21 38.6	
	comp=E,9µm,0.4s							
COCH	**Cobquecura**	**1.73**	**10**	↓*i*P		**Pn**	**07 21 30.6**	**+0.8**
COCH				*i*S		**Sb**	**07 21 53.5**	**-1.1**
COCH				AML		AML	07 22 00.9	
	comp=N,2µm,0.5s							
VLCH	**Valdivia**	**1.96**	**182**	↓*i*P		**Pn**	**07 21 32.9**	**0.0**
PLCA	**Paso Flores**	**3.53**	**146**	Pn		**Pn**	**07 21 54.2**	**-0.3**
	comp=N,3.4nm,0.3s,baz=321,slow=10,SNR=143							
PLCA				Lg		Lg	07 22 49.0	
	comp=N,12nm,0.3s,baz=31,slow=16,SNR=5.4							
PLCA				LR		LR	07 23 36.9	
	comp=N,218nm,21.9s,baz=324,slow=46							
PLCA	**Paso Flores**	**3.53**	**146**	*e*Pn		**Pn**	**07 21 55.6**	**+1.2**
PLCA				*e*Sn		**Sn**	**07 22 33.7**	**-1.4**
PLCA				Lg		Lg	07 22 49.0	
CFAA	**Coronel Fontan**	**7.43**	**35**	Pn		**Pn**	**07 22 47.0**	**-1.0**
	comp=N,0.4nm,0.3s,baz=179,slow=12,SNR=40							
CFAA				Sn		**Sn**	**07 24 09.9**	**-1.3**
	comp=N,0.3nm,0.3s,baz=230,slow=3.7,SNR=2.9							
TRQA	**Tornquist**	**8.84**	**95**	*e*Pn		**Pn**	**07 23 10.0**	**+2.6**
	comp=N,6.7nm,0.6s							
TRQA				*e*Sn		**Sn**	**07 24 45.0**	**-0.8**
LCO	**Las Campanas**	**9.04**	**14**	*e*Pn		**Pn**	**07 23 09.7**	**-0.8**
LCO				*e*Sn		**Sn**	**07 24 50.9**	**-0.4**
LVC	**Limon Verde**	**15.62**	**15**	Pn		**Pn**	**07 24 39.4**	**-0.4**
	comp=N,6.3nm,0.3s,baz=128,slow=19,SNR=2.2							
LVC				LR		LR	07 30 18.2	
	comp=N,336nm,21.0s,baz=202,slow=36							
CPUP	**Villa Florida**	**17.63**	**54**	P		**Pn**	**07 25 04.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=3.1							
CPUP				LR		LR	07 32 29.2	
	comp=N,641nm,19.9s,baz=202,slow=39							
CPUP	**Villa Florida**	**17.63**	**54**	*e*Pn		**Pn**	**07 25 04.7**	**-0.3**
VNA3	**Neumayer Olymp**	**46.18**	**156**	P		**P**	**07 29 23.4**	**+0.3**
VNA2	**Neumayer--Watz**	**46.86**	**156**	P		**P**	**07 29 28.9**	**+0.5**
	baz=286,slow=8.5							
SNAA	**Sanae**	**48.40**	**157**	P		**P**	**07 29 41.2**	**+0.8**
QSPA	**South Pole Qui**	**52.40**	**180**	P		**P**	**07 30 10.5**	**-0.3**
	comp=N,5.1nm,1.1s,baz=261,slow=1.2,SNR=8.5							
TXAR	**Lajitas Array**	**72.67**	**332**	P		**P**	**07 32 27.8**	**+1.4**
	comp=N,0.9nm,0.8s,baz=149,slow=9.2,SNR=11							
WVT	**Waverly**	**74.85**	**348**	*e*P		**P**	**07 32 38.7**	**-0.2**
	comp=N,1.8nm,0.6s							
ANMO	**Albuquerque**	**78.74**	**333**	*e*P		**P**	**07 33 03.5**	**+2.4**
	comp=N,0.9nm,0.8s							
LBTB	**Lobatse**	**81.52**	**115**	*e*P		**P**	**07 33 15.8**	**-0.7**
	comp=N,1.9nm,0.8s							
ECSD	**EROS Data Cent**	**83.94**	**343**	*e*P		**P**	**07 33 28.8**	**+0.6**
	comp=N,1.4nm,0.6s							
DUG	**Dugway, Tooele**	**85.75**	**331**	*e*P		**P**	**07 33 37.1**	**-0.4**
	comp=N,2.6nm,1.0s							
TORD	**Torodi Ar. Bea**	**86.37**	**70**	P		**P**	**07 33 40.6**	**-0.5**
	comp=N,1.0nm,0.7s,baz=215,slow=5.0,SNR=10.0							
NVAR	**Mina Array Bea**	**86.53**	**326**	P		**P**	**07 33 40.4**	**-1.3**
	comp=N,0.5nm,0.6s,baz=138,slow=8.3,SNR=2.6							
PDAR	**Pinedale Array**	**86.79**	**334**	P		**P**	**07 33 43.1**	**+0.3**
	comp=N,0.4nm,0.8s,baz=168,slow=6.5,SNR=3.0							
ABKAR	**Akbulak array**	**144.69**	**56**	*e*PKPdf		**PKPab**	**07 40 33.5**	**+0.1**
ZALV	**Zalesovo Beam**	**157.91**	**36**	PKPab		**PKPab**	**07 41 27.5**	**-0.2**
	comp=N,0.4nm,0.5s,baz=352,slow=5.8,SNR=2.6							
MKAR	**Makanchi Array**	**159.83**	**56**	PKPab		**PKPab**	**07 41 35.8**	**-0.5**
	comp=N,0.6nm,0.6s,baz=282,slow=8.5,SNR=6.6							

IDC ***29*** *07:47:35.1±4.3,6.44S×128.56E,h380km±54km,mb3.2/4, mb1 3.4/6,mb1mx3.1/31,mbtmp4.2/6,Error ellipse: s-maj=36.9km s-min=14.1km az=57.0*

ISC 29 07:47:31.7±1.1,6.5S±0.1×128.42E±0.09,h334km,n13, σ1s19/15,mb3.6/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.22**	**232**	P		**Pn**	**07 48 53.3**	**+0.1**
	baz=5.6,SNR=28							
SOEI				S		**S**	**07 49 57.0**	**-2.0**
	baz=5.6,SNR=5.5							
FAKI	**Fak Fak**	**5.23**	**47**	P		Pn	07 48 47.9	-5.4
	baz=4.9,SNR=54							
FAKI				S		S	07 49 43.2	-16
	baz=4.9,SNR=5.8							
KDU	**Kakadu**	**7.32**	**147**	P		**Pn**	**07 49 16.9**	**-0.6**
	baz=7.8,SNR=14							
WRA	**Warramunga Arr**	**14.54**	**157**	P		**P**	**07 50 42.2**	**+0.2**
	2.8nm,0.3s,baz=341,slow=12,SNR=128							
WRA				S		**S**	**07 53 18.3**	**-1.7**
	0.2nm,0.3s,baz=336,slow=21,SNR=5.3							
COEN	**Coen**	**16.29**	**118**	P		**P**	**07 51 00.7**	**-0.5**
	baz=16,SNR=43							
QIS	**Mount Isa**	**17.68**	**143**	P		**P**	**07 51 16.4**	**+0.2**
	baz=18,SNR=12							
ASAR	**Alice Springs**	**17.85**	**163**	P		**P**	**07 51 19.1**	**+1.2**
	1.8nm,0.3s,baz=347,slow=11,SNR=104							
ASAR				S		**S**	**07 54 26.1**	**+0.4**
	0.3nm,0.3s,baz=346,slow=21,SNR

comp=Z,545nm,1.2s
EFI **East Falkland** 18.54 148 *e*P Pn 08 00 47.9 +0.2
comp=Z,162nm,1.0s
NNA **Nana** 24.90 353 P P 08 01 53.6 -0.1
NNA LR LR 08 09 53.9
comp=Z,316nm,19.6s,baz=179,slow=32
SAML **Samuel** 29.36 22 *e*P P 08 02 33.9 +0.1
comp=Z,11nm,1.2s
ATAH **Atahualpa** 29.87 351 P P 08 02 38.7 0.0
comp=Z,1.2nm,0.5s,baz=243,slow=2.3,SNR=1.9
ATAH LR LR 08 12 25.2
comp=Z,360nm,20.2s,baz=187,slow=32
BDFB **Brasilia** 31.09 54 P P 08 02 48.9 -0.3
comp=Z,26nm,1.0s,baz=209,slow=9.0,SNR=24
BDFB LR LR 08 17 52.0
comp=Z,432nm,21.3s,baz=229,slow=41
BDFB **Brasilia** 31.09 54 *e*P P 08 02 49.4 +0.2
BDFB **Brasilia** 31.09 54 *e*P P 08 02 49.4 +0.2
OTAV **Otavalo** 37.15 352 *e*P P 08 03 44.6 +2.5
comp=Z,39nm,1.6s
PTGA **Pitinga** 38.11 23 *e*P P 08 03 50.0 +0.2
comp=Z,60nm,1.2s
ROSC **El Rosal** 41.48 359 P P 08 04 19.3 +1.2
comp=Z,5.1nm,0.7s,baz=181,slow=3.3,SNR=5.6
ROSC **El Rosal** 41.48 359 *e*P P 08 04 16.4 -1.7
SDV **Santo Domingo** 45.57 4 *e*P P 08 04 50.8 -0.1
comp=Z,16nm,0.9s
VNA3 **Neumayer Olymp** 47.28 157 P P 08 05 03.7 +0.2
VNA1 **Neumayer--Stat** 47.63 156 P P 08 05 07.0 +0.8
VNA2 **Neumayer--Watz** 47.96 156 P P 08 05 08.9 +0.1
baz=279,slow=6.3
JTS **JuntasAbangare** 48.05 345 ⇓*e*P P 08 05 11.3 +1.3
JTS pmax pmax
comp=Z,37nm,1.7s
SNAA **Sanae** 49.51 157 P P 08 05 20.8 +0.1
SNAA **Sanae** 49.51 157 *e*P P 08 05 20.8 +0.1
SNAA pmax pmax
comp=Z,58nm,1.1s
SNAA **Sanae** 49.51 157 *e*P P 08 05 20.8 +0.1
comp=Z,58nm,1.1s
GRGR **Grenville** 50.01 15 *e*P P 08 05 26.6 +1.6
comp=Z,164nm,0.9s
QSPA **South Pole Qui** 53.41 180 *e*P P 08 05 49.8 -0.2
comp=Z,32nm,1.2s
RKT **Rikitea** 53.96 267 *e*S S 08 13 29.8 +1.6
comp=Z,246nm,26.5s
RKT *e*LR LR 08 21 37.0
comp=Z,623nm,28.2s,baz=118
RKT **Rikitea** 53.96 267 *e*T T 09 03 41.2
comp=Z,1.1nm,0.3s
NVL **N'lazarevskaya** 54.28 156 ⇓*i*P P 08 05 55.8 -0.4
NVL pmax pmax
comp=Z,28nm,0.9s
OBIP **Obispado Ponce** 54.99 8 *e*P P 08 06 01.3 -0.6
comp=Z,34nm,0.8s
CELP **Cerrillos** 55.03 8 *e*P P 08 06 02.0 -0.1
LRS **Lares** 55.21 8 *e*P P 08 06 02.5 -1.0
LRS *e*pP pP 08 06 13.3 -0.1
VNDA **Vanda** 61.06 192 P P 08 06 42.8 -1.0
comp=Z,3.1nm,1.2s,baz=158,slow=4.2,SNR=6.6
VNDA LR LR 08 30 53.3
comp=Z,294nm,18.1s,baz=128,slow=34
VNDA **Vanda** 61.06 192 *e*P P 08 06 44.7 +1.0
VNDA **Vanda** 61.06 192 *e*P P 08 06 44.7 +1.0
TBI **Tubuai** 65.36 259 *e*S S 08 15 57.2 +2.1
comp=Z,369nm,30.8s
TBI **Tubuai** 65.36 259 *e*LR LR 08 26 36.3
comp=Z,671nm,27.5s,baz=128
934A **Benavides** 68.21 336 ⇓P P 08 07 31.2 +0.3
baz=69
TIAR **Tiarei** 68.35 264 *e*T T 09 21 45.4
comp=Z,4.0nm,0.3s
933A **Laredo** 68.46 336 ⇓P P 08 07 33.3 +0.8
baz=69
PPT2 **Papeete2** 68.51 264 *e*S S 08 16 34.8 +1.4
comp=Z,365nm,32.5s
PPT2 **Papeete2** 68.51 264 *e*LR LR 08 28 13.8
comp=Z,716nm,24.8s,baz=125
PPT **Papeete** 68.52 264 LR LR 08 28 55.0
comp=Z,439nm,18.9s,baz=128,slow=28
834A **Tilden** 68.70 337 ⇑P P 08 07 34.8 +0.8
baz=69
736A **Circle Diamond** 69.02 338 ⇑P P 08 07 35.6 -0.3
baz=69,SNR=5.3
735A **Kenedy** 69.15 337 ⇑P P 08 07 37.3 +0.6
baz=70
833A **Chaparral WMA,** 69.16 336 ⇑P P 08 07 37.6 +0.8
baz=70,SNR=6.0
832A **Faith Ranch, C** 69.32 335 ⇑P P 08 07 37.9 +0.2
baz=70,SNR=8.0
733A **Divot King Ran** 69.49 336 ⇓P P 08 07 39.4 +0.6
baz=70
636A **Smothers Creek** 69.51 338 ⇑P P 08 07 39.5 +0.6
baz=70
732A **Laxson Ranch,** 69.72 336 ⇑P P 08 07 40.6 +0.3
baz=70,SNR=12
633A **Saathoff Ranch** 70.14 337 ⇓P P 08 07 43.3 +0.4
baz=70,SNR=5.8
535A **Dale** 70.17 338 ⇑P P 08 07 43.3 +0.2
baz=71
632A **Uvalde** 70.38 336 ⇓P P 08 07 45.0 +0.6
baz=71,SNR=8.4
534A **Blanco** 70.45 337 ⇑P P 08 07 44.8 0.0
baz=71
340A **Bronson** 70.47 342 ⇓P P 08 07 45.4 +0.5
baz=71
GOGA **Godfrey** 70.47 351 *e*P P 08 07 44.6 -0.2
GOGA pmax pmax
comp=Z,51nm,1.9s
GOGA **Godfrey** 70.47 351 *e*P P 08 07 44.6 -0.2
comp=Z,50nm,1.9s
631A **Perdido Creek** 70.56 335 ⇓P P 08 07 45.8 +0.4
baz=71,SNR=5.2
339A **Huntington** 70.56 341 ⇑P P 08 07 46.1 +0.8
baz=71
LRAL **Lakeview Retre** 70.61 348 *e*P P 08 07 46.0 +0.4
comp=Z,42nm,1.7s
436A **Wall Ranch, Ga** 70.64 339 ⇑P P 08 07 46.4 +0.5
baz=71
533A **Kerrville** 70.66 337 ⇓P P 08 07 46.4 +0.3
baz=71
MAW **Mawson** 70.85 164 P P 08 07 47.1 +0.3
comp=Z,18nm,1.0s,baz=210,slow=7.2,SNR=18
MAW LR LR 08 40 32.7
comp=Z,577nm,18.0s,baz=233,slow=37
435B **Jarrell** 70.88 338 ⇓P P 08 07 48.1 +0.7
baz=71
337A **Centerville** 70.90 340 ⇓P P 08 07 48.4 +1.0
baz=71
532A **Rocksprings** 70.99 336 ⇓P P 08 07 48.5 +0.4
baz=71,SNR=9.0
434A **Burnet** 71.12 338 ⇑P P 08 07 48.9 +0.1
baz=72,SNR=7.5
336A **Riesel** 71.24 339 ⇑P P 08 07 49.8 +0.4
baz=72
531A **Rocksprings** 71.24 336 ⇑P P 08 07 50.2 +0.6
baz=72,SNR=7.8
JCT **Junction City** 71.29 336 *e*P P 08 07 50.4 +0.5
JCT pmax pmax
comp=Z,47nm,1.6s
JCT **Junction City** 71.29 336 ⇓P P 08 07 50.0 +0.1
baz=72,SNR=6.4
JCT **Junction City** 71.29 336 *e*P P 08 07 50.4 +0.5
comp=Z,47nm,1.6s
335A **Moody** 71.31 339 ⇓P P 08 07 49.5 -0.4
baz=72
433A **Art** 71.32 337 ⇑P P 08 07 50.1 +0.1
baz=72,SNR=6.3
238A **Jacksonville** 71.35 341 ⇑P P 08 07 50.1 0.0
baz=72
530A **J-C Ranch, Com** 71.49 335 ⇓P P 08 07 51.6 +0.5
baz=72,SNR=11
237A **Washetta, Mont** 71.53 340 ⇑P P 08 07 51.5 +0.3
baz=72
TXAR **Lajitas Array** 71.57 333 P P 08 07 52.0 +0.3
comp=Z,3.1nm,0.9s,baz=151,slow=8.7,SNR=33
TXAR LR LR 08 33 42.8
comp=Z,139nm,21.0s,baz=0.0,slow=31
TXAR **Lajitas Array** 71.57 333 P P 08 07 52.0 +0.3
334A **Lometa** 71.59 338 ⇑P P 08 07 51.5 -0.2
baz=72,SNR=8.2
432A **Menard** 71.65 337 ⇓P P 08 07 52.2 +0.1
baz=72
431A **Sonora** 71.74 336 ⇑P P 08 07 52.5 -0.1
baz=72,SNR=6.1
529A **Stev Forest Ra** 71.77 334 ⇑P P 08 07 52.9 +0.1
baz=72
333A **Richland Sprin** 71.81 337 ⇑P P 08 07 52.8 -0.2
baz=72,SNR=5.7
KMSC **Kings Mountain** 71.96 353 ⇑P P 08 07 53.5 -0.3
baz=72
KMSC **Kings Mountain** 71.96 353 *e*P P 08 07 53.8 0.0
comp=Z,15nm,1.0s
138A **Matatall Enter** 71.96 341 ⇓P P 08 07 54.2 +0.4
baz=72
WHTX **Lake Whitney,** 71.98 339 ⇓P P 08 07 54.1 +0.1
baz=72
430A **Baggett Ranch,** 72.04 335 ⇓P P 08 07 54.0 -0.4
baz=72
137A **Heron Place, G** 72.08 341 ⇓P P 08 07 54.5 0.0
baz=72
332A **Millersview** 72.10 337 ⇓P P 08 07 54.5 -0.2
baz=72,SNR=6.6
429A **Davenport Ranc** 72.11 335 ⇑P P 08 07 54.8 0.0
baz=72,SNR=9.0
234A **Clairette** 72.19 338 ⇓P P 08 07 54.7 -0.5
baz=73
331A **San Angelo** 72.25 336 ⇑P P 08 07 55.3 -0.3
baz=73,SNR=6.4
233A **Rising Star** 72.43 338 ⇓P P 08 07 56.1 -0.6
baz=73
Z38A **Mt. Pleasant** 72.50 341 ⇑P P 08 07 56.3 -0.7
baz=73
135A **Vickery Place,** 72.50 339 ⇑P P 08 07 56.3 -0.7
baz=73
232A **Coleman** 72.54 337 ⇑P P 08 07 56.8 -0.6
baz=73
330A **Mertzon** 72.59 336 ⇑P P 08 07 57.4 -0.3
baz=73,SNR=5.6
CPCT **Cooper Cave** 72.61 351 *e*P P 08 07 57.8 +0.2
134A **White-Moore Ra** 72.70 339 ⇓P P 08 07 57.4 -0.9
baz=73
TKL **Tuckaleechee C** 72.73 351 *e*P P 08 07 58.0 -0.3
TKL **Tuckaleechee C** 72.73 351 *e*P P 08 07 58.0 -0.3
231A **Bronte** 72.80 337 ⇓P P 08 07 58.4 -0.5
baz=73
329A **Wagon Wheel Ra** 72.93 335 ⇓P P 08 07 59.3 -0.4
baz=73,SNR=6.8
133A **Hamilton Ranch** 72.99 338 ⇓P P 08 07 59.7 -0.3
baz=73
230A **Sterling City** 73.01 336 ⇑P P 08 07 59.7 -0.5
baz=73
Z35A **Perchaven, San** 73.18 340 ⇓P P 08 08 00.7 -0.3
baz=74
ABTX **Abilene, Hawle** 73.22 337 ⇑P P 08 08 01.1 -0.3
baz=74
ABTX **Abilene, Hawle** 73.22 337 *e*P P 08 08 02.3 +0.9
comp=Z,28nm,1.3s
229A **Bryant Ranch,** 73.32 335 ⇑P P 08 08 01.8 -0.1
baz=74
MIAR **Mount Ida** 73.38 343 *e*P P 08 08 02.9 +0.7
MIAR pmax pmax
comp=Z,39nm,1.9s
MIAR **Mount Ida** 73.38 343 *e*P P 08 08 02.9 +0.7
comp=Z,39nm,1.9s
131A **Roby** 73.50 337 ⇓P P 08 08 02.5 -0.6
baz=74
Z33A **Whitaker Ranch** 73.57 338 ⇓P P 08 08 02.9 -0.5
baz=74
130A **Snyder** 73.61 336 ⇑P P 08 08 03.0 -0.7
baz=74
228A **UT Block 9, Go** 73.72 335 ⇓P P 08 08 03.7 -0.7
baz=74
WVT **Waverly** 73.77 348 *e*P P 08 08 04.3 -0.1
WVT pmax pmax
comp=Z,24nm,1.1s
WVT **Waverly** 73.77 348 *e*P P 08 08 04.3 -0.1
comp=Z,24nm,1.1s
Z32A **Haskell** 73.81 338 ⇓P P 08 08 04.5 -0.3
baz=74
Y34A **Reagan Ranch,** 73.91 339 ⇑P P 08 08 05.0 -0.3
baz=74
VWCC **Virginia Weste** 73.94 355 *e*P P 08 08 05.7 +0.3
129A **Stewart Farms,** 73.94 336 ⇓P P 08 08 05.4 -0.3
baz=74
Z31A **Sharp Cattle R** 74.02 337 ⇑P P 08 08 05.7 -0.3
baz=74
X36A **Centrahoma** 74.10 341 ⇑P P 08 08 05.7 -0.7
baz=74
X35A **Drake** 74.11 340 ⇓P P 08 08 06.1 -0.3
baz=74
W38A **Poteau** 74.11 342 ⇓P P 08 08 06.2 -0.3
baz=74
128A **Castleberry Fa** 74.14 335 ⇓P P 08 08 06.6 -0.3
baz=74,SNR=6.0
Y33A **Hilltop Ranch,** 74.21 339 ⇑P P 08 08 06.8 -0.2
baz=75
JSRW **J. Sargeant Re** 74.26 357 *e*P P 08 08 08.1 +0.8
Z30A **Sanderson Ranc** 74.30 336 ⇑P P 08 08 07.1 -0.6
baz=75
MNTX **Cornudas Mount** 74.34 332 ⇓P P 08 08 07.3 -0.6
baz=75
MNTX **Cornudas Mount** 74.34 332 *e*P P 08 08 07.5 -0.4
comp=Z,6.0nm,0.9s
W37A **Quinton** 74.40 342 ⇑P P 08 08 07.8 -0.3
baz=75
GDL2 **Guadalupe Moun** 74.42 333 *e*P P 08 08 09.4 +0.9
Y32A **R-V Farms, Ver** 74.44 338 ⇓P P 08 08 07.8 -0.6
baz=75
Z29A **Hungry Hill Ra** 74.47 336 ⇑P P 08 08 08.2 -0.5
baz=75
X34A **Smith Ranch, M** 74.53 340 ⇑P P 08 08 08.6 -0.4
baz=75
W36A **Wetumka** 74.61 341 ⇑P P 08 08 08.9 -0.4
baz=75
Y31A **Rekieta Farm,** 74.65 337 ⇓P P 08 08 09.4 -0.3
baz=75
X33A **Lawton** 74.67 339 ⇓P P 08 08 09.4 -0.4
baz=75
Z28A **Tucker Farm, M** 74.72 335 ⇑P P 08 08 09.3 -0.9
baz=75
PBMO **Poplar Bluff** 74.86 346 *e*P P 08 08 10.7 -0.1
comp=Z,11nm,0.8s
WMOK **Wichita Mounta** 74.93 339 *e*P P 08 08 11.2 -0.1
WMOK pmax pmax
comp=Z,47nm,2.0s
WMOK **Wichita Mounta** 74.93 339 *e*P P 08 08 11.2 -0.1
comp=Z,47nm,2.0s
Y29A **Porterfield Fa** 75.01 336 ⇑P P 08 08 11.4 -0.4
baz=75
W34A **Bridge Creek,** 75.11 340 ⇑P P 08 08 12.0 -0.4
baz=76
X31A **McDonald Ranch** 75.19 338 ⇓P P 08 08 12.0 -0.8
baz=76
TUL1 **Leonard** 75.22 342 ⇑P P 08 08 12.7 -0.2
baz=76
TUL1 **Leonard** 75.22 342 *e*P P 08 08 12.6 -0.3
comp=Z,15nm,0.8s
W33A **Caddo, Fort Co** 75.23 339 ⇑P P 08 08 13.0 0.0
baz=76
Y28A **McKinney Farm,** 75.24 336 ⇑P P 08 08 13.0 -0.2
baz=76
X30A **Coker Ranch, T** 75.29 337 ⇓P P 08 08 12.8 -0.6
baz=76
V35A **Meyer Ranch, C** 75.36 341 ⇓P P 08 08 13.7 +0.1
baz=76
W32A **Sentinel** 75.43 339 ⇓P P 08 08 14.3 +0.1
baz=76
MSTX **Muleshoe** 75.47 335 ⇑P P 08 08 14.5 -0.1
baz=76
MSTX **Muleshoe** 75.47 335 *e*P P 08 08 14.8 +0.3
comp=Z,22nm,1.4s
USIN **University of** 75.54 349 *e*P P 08 08 14.0 -0.7
comp=Z,55nm,1.3s
X29A **Tulia** 75.55 336 ⇑P P 08 08 14.8 -0.1
baz=76
W31A **Holland Ranch,** 75.69 338 ⇓P P 08 08 16.0 +0.3
baz=76
X28A **Dimmitt** 75.78 336 ⇑P P 08 08 16.8 +0.5
baz=76
V33A **Lossen Ranch,** 75.81 340 ⇑P P 08 08 17.0 +0.8
baz=76
SDMD **Soldier's Deli** 75.92 358 *e*P P 08 08 17.2 +0.4
comp=Z,32nm,0.9s
V32A **Arapaho** 75.93 339 ⇑P P 08 08 17.8 +0.9
baz=76
AMTX **Amarillo** 75.95 337 ⇓P P 08 08 18.1 +0.9
baz=76
121A **Cookes Peak, D** 76.00 331 ⇓P P 08 08 18.2 +0.5
baz=76
121A **Cookes Peak, D** 76.00 331 *e*P P 08 08 18.9 +1.2
comp=Z,10nm,1.1s
W29A **Amarillo** 76.16 337 ⇓P P 08 08 18.9 +0.5
baz=77
V31A **Spring Creek L** 76.21 338 ⇓P P 08 08 19.3 +0.7
baz=77
V30A **Spur Ranch, Mi** 76.45 338 ⇑P P 08 08 20.7 +0.7
baz=77
BLO **Bloomington** 76.55 350 *e*P P 08 08 20.3 -0.1
BLO **Bloomington** 76.55 350 *e*P P 08 08 20.3 -0.1
S36A **Lake Cedric, C** 76.90 342 ⇑P P 08 08 22.7 +0.3
baz=77
V28A **Channing** 76.92 337 ⇓P P 08 08 23.2 +0.5
baz=77
LIC **Lamto** 76.97 72 *e*P P 08 08 24.2 +0.8
comp=Z,60nm,0.6s
T33A **Patterson Ranc** 76.98 340 ⇑P P 08 08 23.3 +0.4
baz=77
TUC **Tucson** 77.02 328 *e*P P 08 08 24.6 +1.2
TUC pmax pmax
comp=Z,34nm,1.8s
TUC **Tucson** 77.02 328 *e*P P 08 08 24.6 +1.2
comp=Z,34nm,1.8s
Y22D **IRIS PASSCAL I** 77.03 332 ⇓P P 08 08 23.6 +0.1
baz=77
S35A **Otter Creek Ra** 77.04 342 ⇑P P 08 08 23.5 +0.3
baz=77
U30A **WK&E Inc. Balk** 77.15 338 ⇓P P 08 08 24.4 +0.4
baz=78
CASY **Casey** 77.16 182 *e*P P 08 08 23.9 +0.3
ACSO **Alum Creek Sta** 77.16 353 *e*P P 08 08 23.7 -0.2
comp=Z,43nm,1.1s
TIC **Toumodi** 77.24 72 *e*P P 08 08 25.8 +0.9
comp=Z,61nm,0.9s
T32A **Huddler Ranch,** 77.25 340 ⇓P P 08 08 25.0 +0.5
baz=78
KIC **Kosan Boka** 77.27 72 *e*P P 08 08 25.9 +0.8
comp=Z,136nm,1.1s
DBIC **Dimbokro** 77.38 72 P P 08 08 26.5 +0.8
comp=Z,39nm,1.0s,baz=206,slow=5.8,SNR=22
DBIC LR LR 08 39 32.1
comp=Z,153nm,21.6s,baz=212,slow=33
DBIC **Dimbokro** 77.38 72 *e*P P 08 08 26.7 +1.0
DBIC **Dimbokro** 77.38 72 *e*P P 08 08 26.7 +1.0
LAZ **Ladron** 77.41 332 *e*P P 08 08 27.4 +1.8
comp=Z,16nm,1.7s
214A **Organ Pipe Nat** 77.59 327 ⇓P P 08 08 26.8 +0.4
baz=78
ANMO **Albuquerque** 77.64 333 ⇓*i*P P 08 08 28.2 +1.3
ANMO pmax pmax
comp=Z,56nm,1.1s
ANMO **Albuquerque** 77.64 333 *e*P P 08 08 27.2 +0.3
comp=Z,19nm,1.2s
U27A **Thompson Grove** 77.73 336 ⇑P P 08 08 27.7 +0.4
baz=78
SFIN **Lafayette** 77.81 350 ⇓P P 08 08 26.2 -1.2
baz=78
R33A **Olander Ranch,** 78.06 341 ⇓P P 08 08 28.9 0.0
baz=78
T28A **Walsh** 78.14 337 ⇓P P 08 08 29.9 +0.4
baz=78
T27A **Campo** 78.28 337 ⇓P P 08 08 30.6 +0.3
baz=79
S29A **Ulysses** 78.30 338 ⇓P P 08 08 31.0 +0.7
baz=79
R32A **Long Quarter,** 78.36 340 ⇓P P 08 08 31.2 +0.6
baz=79
R31A **Burdett** 78.46 340 ⇑P P 08 08 31.8 +0.6
baz=79
S28A **Manter** 78.51 337 ⇓P P 08 08 32.1 +0.6
baz=79
T26A **Comanche Natio** 78.67 336 ⇓P P 08 08 32.9 +0.4
baz=79
R30A **Dighton** 78.67 339 ⇓P P 08 08 33.0 +0.7
baz=79
T25A **Trinidad** 78.90 335 ⇓P P 08 08 34.4 +0.6
baz=79
T25A **Trinidad** 78.90 335 *e*P P 08 08 30.2 -3.6
comp=Z,31nm,1.2s
S26A **Kim** 79.03 336 ⇓P P 08 08 34.6 +0.2
baz=79,SNR=5.7
W18A **Petrified Fore** 79.04 331 ⇓P P 08 08 35.9 +1.3
baz=79
W18A **Petrified Fore** 79.04 331 *e*P P 08 08 36.2 +1.6
comp=Z,7.0nm,0.9s
R29A **Marienthal** 79.05 338 ⇓P P 08 08 34.9 +0.4
baz=79
Q31A **Ellis** 79.09 340 ⇓P P 08 08 35.2 +0.6
baz=80
R28A **Tribune** 79.17 338 ⇑P P 08 08 35.2 0.0
baz=80,SNR=7.7
Q30A **Quinter** 79.30 339 ⇑P P 08 08 36.3 +0.6
baz=80
Y14A **Wickenburg** 79.36 328 ⇓P P 08 08 36.7 +0.5
baz=80
R27A **Eads** 79.43 337 ⇑P P 08 08 36.5 0.0
baz=80,SNR=7.1
Q29A **Oakley** 79.43 339 ⇓P P 08 08 37.1 +0.5
baz=80
P32A **Huiting Farm,** 79.45 341 ⇑P P 08 08 36.9 +0.4
baz=80
P31A **Stockton** 79.57 340 ⇑P P 08 08 37.4 +0.2
baz=80
R26A **Arlington** 79.64 337 ⇓P P 08 08 38.5 +0.7
baz=80
P30A **Selden** 79.83 339 ⇑P P 08 08 38.7 +0.1
baz=80
Q28A **Sharon Springs** 79.84 338 ⇑P P 08 08 39.2 +0.4
baz=80
Y12C **Blythe** 79.87 326 ⇑P P 08 08 39.3 +0.4
baz=80
MONP **Monument Peak,** 80.01 325 ⇓P P 08 08 39.7 -0.3
baz=80
KSCO **Kaye Shedlock'** 80.04 338 ⇓P P 08 08 40.3 +0.4
baz=80
KSCO **Kaye Shedlock'** 80.04 338 *e*P P 08 08 40.8 +0.9
comp=Z,22nm,1.2s
P29A **Atwood** 80.08 339 ⇓P P 08 08 40.6 +0.5
baz=80
R24A **Sanders Place,** 80.12 335 ⇑P P 08 08 41.0 +0.6
baz=80,SNR=7.7
BC3 **Big Chuckawall** 80.20 326 ⇑P P 08 08 40.7 -0.1
baz=81
Q26A **Hugo** 80.24 337 ⇓P P 08 08 41.0 0.0
baz=81
P28A **Saint Francis** 80.29 338 ⇓P P 08 08 41.2 0.0
baz=81
O30A **MW Ranch, Wils** 80.37 340 ⇑P P 08 08 42.2 +0.7
baz=81
P27A **Ficken Ranch,** 80.52 338 ⇑P P 08 08 43.4 +1.0
baz=81
W13A **Hualapai Mount** 80.73 328 ⇓P P 08 08 44.6 +0.8
baz=81
BELC **Belle Mtn. Jos** 80.74 326 ⇑P P 08 08 44.6 +0.8
baz=81
P26A **Davis Ranch, A** 80.76 337 ⇓P P 08 08 44.7 +0.9
baz=81
JFWS **Jewell Farm** 80.79 348 *e*P P 08 08 43.6 -0.1
JFWS pmax pmax
comp=Z,23nm,1.2s
JFWS **Jewell Farm** 80.79 348 *e*P P 08 08 43.5 -0.1
comp=Z,23nm,1.2s
Q24A **Divide** 80.80 336 ⇓P P 08 08 45.1 +0.9
baz=81
MURC **Murrieta** 80.96 324 ⇑P P 08 08 46.0 +1.1
baz=81
P25A **Willow Gulch B** 80.98 337 ⇓P P 08 08 46.2 +1.2
baz=81
O27A **Beecher Island** 81.08 338 ⇓P P 08 08 46.4 +1.0
baz=82
LONY **Lake Ozonia** 81.08 359 *e*P P 08 08 45.8 +0.6
comp=Z,23nm,1.2s
M31A **Lambtecht Ranc** 81.17 341 ⇑P P 08 08 47.4 +1.6
baz=82
U15A **North Rim** 81.20 329 ⇑P P 08 08 47.9 +1.6
baz=82
O26A **Horse Wrangler** 81.38 338 ⇓P P 08 08 48.6 +1.5
baz=82
P23A **Jefferson** 81.40 335 ⇓P P 08 08 48.8 +1.4
baz=82
O25A **Wiggins** 81.51 337 ⇓P P 08 08 49.3 +1.5
baz=82
SMCO **Snowmass** 81.61 334 *e*P P 08 08 50.0 +1.4
comp=Z,27nm,1.4s
N27A **Anderson Farm,** 81.66 338 ⇑P P 08 08 49.6 +1.1
baz=82
BFSC **Mount Baldy Ra** 81.70 324 ⇓P P 08 08 49.7 +0.8
baz=82
ISCO **Idaho Springs** 81.71 336 *e*P P 08 08 49.8 +0.8
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 81.71 336 ⇑P P 08 08 50.0 +1.0
baz=82

ISCO **Idaho Springs** 81.71 336 *e*P P 08 08 49.8 +0.8
comp=Z,13nm,1.4s
P22A **Eagle** 81.91 335 ⇑P P 08 08 50.4 +0.4
baz=82
L31A **Butterfield Fa** 81.91 341 ⇓P P 08 08 50.5 +0.9
baz=82
L30A **Spencer Herefo** 81.93 341 ⇑P P 08 08 50.7 +0.9
baz=82
O23A **Lake Granby, G** 82.18 336 ⇑P P 08 08 52.0 +0.6
baz=83,SNR=6.5
O22A **Kremmling** 82.34 335 ⇓P P 08 08 52.4 0.0
baz=83,SNR=8.4
LBTB **Lobatse** 82.35 115 *e*P P 08 08 53.0 +0.3
LBTB pmax pmax
comp=Z,42nm,1.1s
LBTB **Lobatse** 82.35 115 *e*P P 08 08 53.0 +0.3
comp=Z,42nm,1.1s
EDW2 **Edwards Air Fo** 82.38 325 ⇓P P 08 08 52.4 0.0
baz=83
SHPR **Sheep Range** 82.47 327 *e*P P 08 08 53.8 +0.9
K30A **Basset** 82.58 341 ⇓P P 08 08 53.7 +0.6
baz=83
CCUT **Cedar City** 82.60 329 *e*P P 08 08 55.6 +2.0
comp=Z,41nm,1.8s
M25A **Palm-Egli Farm** 82.69 337 ⇑P P 08 08 54.5 +0.5
baz=83
N23A **Red Feather La** 82.80 336 ⇓P P 08 08 54.6 0.0
baz=83,SNR=6.0
N23A **Red Feather La** 82.80 336 *e*P P 08 08 55.8 +1.1
SRU **San Rafael Swe** 82.83 332 *e*P P 08 08 55.7 +1.0
SRU pmax pmax
comp=Z,9.0nm,1.1s
SRU **San Rafael Swe** 82.83 332 *e*P P 08 08 55.7 +1.0
comp=Z,8.8nm,1.1s
ECSD **EROS Data Cent** 82.84 343 ⇑P P 08 08 54.7 +0.3
baz=83
ECSD **EROS Data Cent** 82.84 343 *e*P P 08 08 54.7 +0.3
comp=Z,27nm,1.1s
K29A **Lazy Trails An** 82.85 341 ⇑P P 08 08 55.2 +0.7
baz=83
N22A **Wattenberg Ran** 82.89 336 ⇓P P 08 08 55.3 +0.2
baz=83,SNR=6.8
O20A **White River Ci** 82.90 334 ⇓P P 08 08 55.6 +0.5
baz=83
O20A **White River Ci** 82.90 334 *e*P P 08 08 56.0 +0.9
comp=Z,4.9nm,0.8s
MVU **Marysvale** 82.96 331 *e*P P 08 08 57.4 +1.9
M24A **Cheyenne** 82.96 337 ⇓P P 08 08 55.6 +0.2
baz=83
PHWY **Pilot Hill** 83.01 336 *e*P P 08 08 56.5 +0.7
K28A **Ten Mile Ranch** 83.09 340 ⇑P P 08 08 56.6 +0.8
baz=84
J30A **Dallas** 83.16 341 ⇓P P 08 08 56.8 +0.7
baz=84
FURC **Furnace Creek,** 83.19 326 ⇑P P 08 08 56.8 +0.4
baz=84
ISA **Isabella, Lake** 83.25 325 *e*P P 08 09 00.7 +3.8
ISA pmax pmax
comp=Z,9.0nm,1.0s
ISA **Isabella, Lake** 83.25 325 *e*P P 08 09 00.7 +3.8
comp=Z,9.3nm,1.0s
TPNV **Topopah Spring** 83.32 327 *e*P P 08 08 59.4 +2.1
TPNV pmax pmax
comp=Z,12nm,1.1s
TPNV **Topopah Spring** 83.32 327 *e*P P 08 08 59.4 +2.1
comp=Z,12nm,1.1s
K27A **Fleckinger Fa** 83.32 339 ⇑P P 08 08 57.4 +0.4
baz=84
DAC **Darwin (Calif)** 83.36 326 *e*P P 08 08 59.6 +2.1
DAC pmax pmax
comp=Z,54nm,2.2s
DAC **Darwin (Calif)** 83.36 326 *e*P P 08 08 59.6 +2.1
comp=Z,54nm,2.2s
J29A **Okreek** 83.45 341 ⇑P P 08 08 57.6 0.0
baz=84,SNR=12
N20A **Spence Gulch,** 83.53 334 ⇓P P 08 08 58.2 -0.2
baz=84
K26A **Motz Farm, Whi** 83.59 339 ⇑P P 08 08 58.5 +0.1
baz=84
I30A **Oacoma** 83.69 342 ⇑P P 08 08 58.2 -0.6
baz=84
J28A **Allard Ranch,** 83.71 340 ⇓P P 08 08 58.7 -0.3
baz=84,SNR=5.9
J27A **Elkhorn Farm,** 83.76 340 ⇑P P 08 08 58.9 -0.4
baz=84,SNR=7.6
L23A **Garrett** 83.83 337 ⇓P P 08 08 58.7 -1.1
baz=84
I29A **Vivian Onida** 84.02 341 ⇓P P 08 09 00.8 +0.3
baz=84
J26A **Sides Ranch, S** 84.12 339 ⇑P P 08 09 02.0 +0.9
baz=84
NLU **North Lily Min** 84.16 331 *e*P P 08 09 03.5 +2.0
comp=Z,10nm,1.2s
R11A **Troy Canyon, C** 84.20 328 ⇑P P 08 09 02.5 +0.6
baz=85
I28A **Midland** 84.22 340 ⇓P P 08 09 01.4 -0.2
baz=85,SNR=6.6
JLU **Jordanelle** 84.48 332 *e*P P 08 09 03.8 +0.6
comp=Z,13nm,1.3s
I27A **Quinn** 84.53 340 ⇑P P 08 09 03.7 +0.5
baz=85
H29A **Onida** 84.56 341 ⇑P P 08 09 03.7 +0.5
baz=85
K22A **Casper** 84.57 336 ⇓P P 08 09 04.0 +0.4
baz=85
J24A **Dixon Ranch, L** 84.61 338 ⇓P P 08 09 04.2 +0.5
baz=85
DUG **Dugway, Tooele** 84.65 331 *e*P P 08 09 05.2 +1.2
DUG pmax pmax
comp=Z,42nm,1.8s
DUG **Dugway, Tooele** 84.65 331 ⇑P P 08 09 04.3 +0.4
baz=85
DUG **Dugway, Tooele** 84.65 331 *e*P P 08 09 05.2 +1.2
comp=Z,42nm,1.8s
TPH **Tonopah** 84.68 327 *e*P P 08 09 05.7 +1.4
TPH pmax pmax
comp=Z,16nm,1.3s
TPH **Tonopah** 84.68 327 *e*P P 08 09 05.7 +1.4
comp=Z,16nm,1.3s
I26A **New Underwood** 84.72 339 ⇑P P 08 09 04.2 +0.1
baz=85
G30A **Faulkton** 84.76 342 ⇑P P 08 09 04.3 +0.1
baz=85
K21A **Alcova** 84.79 336 ⇑P P 08 09 04.9 +0.1
baz=85
H28A **Mission Ridge** 84.81 341 ⇓P P 08 09 05.0 +0.4
baz=85
TCUT **Toone Canyon** 84.91 332 *e*P P 08 09 06.3 +0.9
comp=Z,20nm,1.2s
I25A **Rochford** 84.96 339 ⇑P P 08 09 05.2 -0.3
baz=85,SNR=7.8
H27A **Howes** 85.06 340 ⇑P P 08 09 05.2 -0.6
baz=86,SNR=7.7
I24A **Kuemmerle Ranc** 85.08 338 ⇓P P 08 09 06.2 +0.2
baz=86
RSSD **Black Hills** 85.14 339 *e*P P 08 09 06.5 0.0
RSSD **Black Hills** 85.14 339 *e*P P 08 09 06.5 0.0
G28A **Parade** 85.16 341 ⇓P P 08 09 06.4 +0.2
baz=86
J22A **Midwest** 85.24 337 ⇓P P 08 09 05.7 -1.2
baz=86
HWUT **Hardware Ranch** 85.40 333 *e*P P 08 09 08.1 +0.4
comp=Z,37nm,1.5s
NVAR **Mina Array Bea** 85.45 326 P P 08 09 08.6 +0.4
comp=Z,2.0nm,0.8s,baz=164,slow=5.3,SNR=7.9
H25A **Fruitdale** 85.47 339 ⇓P P 08 09 07.5 -0.4
baz=86,SNR=5.7
J21A **Lysite** 85.50 336 ⇓P P 08 09 08.1 -0.1
baz=86
F29A **Eureka** 85.59 342 ⇓P P 08 09 08.3 0.0
baz=86
I22A **9 Mile Ranch,** 85.68 337 ⇑P P 08 09 08.6 -0.4
baz=86
BW06 **Boulder Array** 85.69 334 *e*P P 08 09 08.5 -0.7
comp=Z,8.1nm,1.2s
PDAR **Pinedale Array** 85.69 334 P P 08 09 09.3 +0.1
comp=Z,2.1nm,1.0s,baz=145,slow=5.4,SNR=14
PDAR LR LR 08 42 40.0
comp=Z,99nm,21.2s,baz=150,slow=32
G27A **Dupree** 85.71 340 ⇓P P 08 09 08.4 -0.6
baz=86,SNR=6.4
J20A **Shoshoni** 85.71 336 ⇓P P 08 09 09.3 +0.1
baz=86
G26A **Maurine** 85.81 340 ⇓P P 08 09 09.3 -0.2
baz=86,SNR=9.4
F28A **McLaughlin** 85.85 341 ⇓P P 08 09 09.3 -0.3
baz=86,SNR=6.4
I21A **Big Trails, Te** 85.86 336 ⇓P P 08 09 09.4 -0.6
baz=86,SNR=7.4
H24A **Dirks Ranch, A** 85.86 339 ⇑P P 08 09 09.2 -0.7
baz=86
G25A **Newell** 85.94 339 ⇓P P 08 09 09.8 -0.4
baz=86
J19A **Crowheart** 85.96 335 ⇓P P 08 09 10.4 -0.1
baz=86,SNR=8.0
HVU **Hansel Valley** 86.00 332 *e*P P 08 09 10.3 -0.4
HVU pmax pmax
comp=Z,7.0nm,1.1s
HVU **Hansel Valley** 86.00 332 *e*P P 08 09 10.3 -0.4
comp=Z,7.4nm,1.1s
ELK **Elko** 86.08 330 *e*P P 08 09 12.3 +1.1
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK **Elko** 86.08 330 *e*P P 08 09 12.3 +1.1
comp=Z,7.1nm,1.1s
F27A **Lemmon** 86.19 341 ⇓P P 08 09 11.3 -0.1
baz=87,SNR=12
E29A **Napoleon** 86.23 342 ⇑P P 08 09 11.1 -0.4
baz=87
I20A **Worland** 86.26 336 ⇓P P 08 09 11.7 -0.1
baz=87
F26A **Lodgepole** 86.34 340 ⇓P P 08 09 12.1 0.0
baz=87,SNR=5.8
G24A **Alzada** 86.35 339 ⇓P P 08 09 12.1 -0.2
baz=87
TOA0 **Torodi Ar. Sit** 86.45 71 *e*P P 08 09 13.3 0.0
TORD **Torodi Ar. Bea** 86.45 71 P P 08 09 13.4 +0.1
comp=Z,11nm,1.1s,baz=227,slow=3.0,SNR=31
TORD PP PP 08 12 34.9 -0.4
comp=Z,2.6nm,1.0s,baz=228,slow=8.0,SNR=3.8
TORD LR LR 08 44 55.4
comp=Z,186nm,21.1s,baz=270,slow=34
E28A **Huff** 86.50 342 ⇑P P 08 09 12.9 +0.1
baz=87
G23A **Bidle** 86.53 338 ⇓P P 08 09 13.4 +0.3
baz=87
D30A **Buchanan** 86.53 343 ⇓P P 08 09 13.2 +0.2
baz=87,SNR=6.0
E27A **Carson** 86.58 341 ⇓P P 08 09 13.3 0.0
baz=87
I19A **Meeteetse** 86.62 335 ⇑P P 08 09 13.7 0.0
baz=87
F25A **Bowman** 86.63 340 ⇓P P 08 09 14.0 +0.5
baz=87
REDW **Red Top Meadow** 86.67 334 *e*P P 08 09 14.4 +0.4
D29A **Pettibone, Tap** 86.68 343 ⇓P P 08 09 14.0 +0.3
baz=87
H20A **Greybull** 86.69 336 ⇑P P 08 09 14.0 0.0
baz=87
LOHW **Long Hollow** 86.80 334 *e*P P 08 09 15.1 +0.4
G22A **Birney** 86.81 338 ⇓P P 08 09 14.9 +0.4
baz=87
TPAW **Teton Pass** 86.81 334 *e*P P 08 09 15.8 +0.9
E26A **Carlson Angus** 86.86 341 ⇓P P 08 09 14.6 0.0
baz=87,SNR=7.4
MOOW **Moose Ponds** 86.97 334 *e*P P 08 09 15.7 +0.2
FXWY **Fox Creek** 86.97 334 *e*P P 08 09 15.5 -0.1
F23A **Volborg** 87.00 338 ⇑P P 08 09 15.3 -0.1
baz=87
C30A **Mose, Pekin** 87.02 344 ⇓P P 08 09 15.4 +0.1
baz=87
AGMN **Agassiz Nation** 87.03 345 ⇑P P 08 09 15.8 +0.5
baz=87
AGMN **Agassiz Nation** 87.03 345 *e*P P 08 09 15.5 +0.2
comp=Z,11nm,1.0s
D28A **Regan** 87.04 342 ⇓P P 08 09 15.9 +0.4
baz=87
I17A **Pilgrim Ck.** 87.06 334 ⇑P P 08 09 16.3 +0.4
baz=88
G21A **Lodge Grass** 87.10 337 ⇑P P 08 09 16.2 +0.2
baz=88
E25A **Miller Ranch,** 87.14 340 ⇓P P 08 09 16.9 +0.8
baz=88
IMW **Indian Meadow** 87.17 334 *e*P P 08 09 17.1 +0.5
H19A **Powell** 87.18 336 ⇑P P 08 09 17.0 +0.7
baz=88
FLWY **Flagg Ranch** 87.25 334 *e*P P 08 09 17.7 +0.9
D26A **Manning** 87.37 341 ⇓P P 08 09 17.5 +0.4
baz=88
H18A **Shoshone NF, C** 87.41 335 ⇓P P 08 09 17.4 -0.2
baz=88,SNR=8.9
G20A **Bridger** 87.42 336 ⇑P P 08 09 17.4 -0.1
baz=88
MDND **Maddock** 87.42 343 ⇓P P 08 09 17.0 -0.3
baz=88,SNR=5.7
E24A **Baker** 87.45 339 ⇑P P 08 09 17.5 -0.1
baz=88
B30A **Myrvik Farm, E** 87.69 344 ⇑P P 08 09 18.6 +0.1
baz=88,SNR=11
D25A **Fairfield** 87.72 340 ⇓P P 08 09 18.9 +0.1
baz=88
C27A **Sayler Ranch,** 87.76 342 ⇑P P 08 09 18.7 -0.2
baz=88
YMR **Madison River** 87.85 334 *e*P P 08 09 19.2 -0.5
comp=Z,68nm,2.0s
B29A **Wagenman Farm,** 87.94 343 ⇓P P 08 09 19.3 -0.5
baz=88
D24A **Glendive** 87.96 340 ⇓P P 08 09 19.6 -0.3
baz=88
C26A **Wahner Farm, P** 88.01 341 ⇓P P 08 09 19.8 -0.4
baz=88
HLID **Hailey** 88.15 332 ⇓P P 08 09 21.1 0.0
baz=88
HLID **Hailey** 88.15 332 *e*P P 08 09 22.3 +1.2
comp=Z,55nm,2.2s
B28A **Dugan Ranch, T** 88.16 343 ⇑P P 08 09 20.6 -0.2
baz=89,SNR=6.5
D23A **Lindsay** 88.26 339 ⇑P P 08 09 21.2 -0.2
baz=89
A29A **Manning Farm,** 88.34 343 ⇑P P 08 09 21.1 -0.6
baz=89,SNR=15
C24A **Savage** 88.36 340 ⇑P P 08 09 21.8 0.0
baz=89
D22A **Cohagen** 88.52 339 ⇓P P 08 09 22.6 0.0
baz=89
E20A **Meyer Farm, Mu** 88.53 337 ⇑P P 08 09 22.6 -0.1
baz=89
MFID **Camas Ranch** 88.57 331 *e*P P 08 09 24.0 +1.0
comp=Z,71nm,2.5s
MCMT **McKenzie Canyo** 88.65 333 *e*P P 08 09 24.7 +1.1
comp=Z,71nm,1.4s
E19A **Rath Farm, Rou** 88.70 337 ⇓P P 08 09 23.2 -0.3
baz=89
C23A **Lambert** 88.83 339 ⇓P P 08 09 23.8 -0.2
baz=89
ULM **Lac du Bonnet** 88.89 346 P P 08 09 23.8 -0.4
comp=Z,6.8nm,1.0s,baz=180,slow=4.3,SNR=5.8
ULM **Lac du Bonnet** 88.89 346 *e*P P 08 09 24.5 +0.3
ULM **Lac du Bonnet** 88.89 346 *e*P P 08 09 24.5 +0.3
WVOR **Wild Horse Val** 88.89 328 *e*P P 08 09 25.7 +1.1
WVOR pmax pmax
comp=Z,14nm,1.4s
WVOR **Wild Horse Val** 88.89 328 *e*P P 08 09 25.7 +1.1
comp=Z,14nm,1.4s
LSZ **Lusaka** 90.20 109 *e*P P 08 09 31.7 +0.3
LSZ pmax pmax
comp=Z,11nm,1.1s
LSZ **Lusaka** 90.20 109 *e*P P 08 09 31.7 +0.3
comp=Z,11nm,1.1s
BMO **Blue Mountains** 90.36 331 *e*P P 08 09 32.5 +1.2
comp=Z,66nm,2.7s
J05D **Fort Rock, OR** 90.69 327 ⇑P P 08 09 34.7 +1.7
baz=91
E09A **Wood Farm, Sta** 92.06 331 *e*P P 08 09 36.6 -2.4
comp=Z,9.8nm,0.8s
DZM **Mont Dzumac** 98.47 234 *e*LR LR 08 42 17.1
comp=Z,644nm,27.2s
CLL **Collm** 115.84 44 *e*PS PS 08 26 02.0 +4.4
CLL *e*PPS PPS 08 27 12.0
CLL *e* 08 30 24.0
CLL *e*SS SS 08 32 00.0 -16
CLL *e*PSS PSS 08 32 36.0
CLL Lm MLR 09 03 00.0
comp=Z,200nm,20.6s
ILAR **Eielson Array** 116.09 333 PKP **PKPdf** 08 15 11.4 -1.0
comp=Z,0.4nm,1.0s,baz=187,slow=1.3,SNR=4.1
TREC **Trest** 116.36 47 AMS AMS 09 07 10.0
comp=Z,200nm,16.2s
VYHS **Vyhne** 118.00 49 *e*PKIKP **PKPdf** 08 15 17.0 +0.4
VYHS **Vyhne** 118.00 49 *e*PKP **PKPdf** 08 15 17.0 +0.4
LVV **L'vov** 121.66 49 *e*P **Pdif** 08 11 53.9 +2.5
BRTR **Keskin Array B** 124.37 63 PKP **PKPdf** 08 15 28.0 -1.3
comp=Z,1.3nm,0.9s,baz=153,slow=0.3,SNR=4.4
AKASG **Malin Array Be** 125.10 49 PKP **PKPdf** 08 15 28.4 -1.7
comp=Z,0.2nm,0.3s,baz=256,slow=2.6,SNR=5.2
AKASG PP **PP** 08 17 17.6 -2.6
comp=Z,0.2nm,0.3s,baz=249,slow=7.6,SNR=6.7
AKASG **Malin Array Be** 125.10 49 *i* PKIKP **PKPdf** 08 15 30.2 +0.1
OBN **Obninsk** 130.42 45⇑*e*PKIKP **PKPdf** 08 15 39.8 -0.3
OBN pmax pmax
comp=Z,27nm,2.0s
OBN MLR MLR
comp=Z,205nm,20.0s
KIV **Kislovodsk** 132.11 61 *i* PKIKP **PKPdf** 08 15 42.0 -1.8
KIV *e*PS **PS** 08 28 16.7 -5.4
KIV *e*SS SS 08 35 37.5 -4.5
KIV pmax pmax
comp=Z,8.0nm,1.0s
NCK **Nalchik** 132.64 62⇓*e*PKIKP **PKPdf** 08 15 44.8 +0.1
BILL **Bilibino** 134.75 333⇑*e*PKIKP **PKPdf** 08 15 48.7 +0.8
BILL *e* 08 18 22.3
BILL pmax pmax
comp=Z,7.0nm,2.6s
SEY **Seymchan** 141.75 328 PKP **PKPdf** 08 15 58.6 -2.3
comp=Z,2.5nm,0.7s,baz=94,slow=4.4,SNR=9.5
SEY **Seymchan** 141.75 328⇓*e*PKIKP **PKPdf** 08 16 01.2 +0.3
GEYT **Alibeck** 142.05 73 PKhKP PKPpre 08 15 58.4
comp=Z,3.5nm,0.3s,baz=258,slow=6.6,SNR=5.6
ARU **Arti** 142.77 43 *i* PKIKP **PKPdf** 08 16 03.7 +0.8
ARU 08 19 09.2
AKTO **Aktyubinsk** 143.17 53 PKhKP PKPpre 08 15 59.7
comp=Z,3.5nm,1.0s,baz=170,slow=0.8,SNR=6.5
AB31 **Akbulak array** 144.48 55 *i* PKIKP **PKPab** 08 16 04.6 +0.1
AB31 pmax pmax
comp=Z,21nm,1.0s
ABKAR **Akbulak array** 144.48 55 *e*PKPdf **PKPab** 08 16 04.5 0.0
KSM **Kuching** 144.62 187 *e*PKPdf **PKPab** 08 16 05.5 -0.5
PSI **Prapat** 145.46 167 PKPbc **PKPbc** 08 16 07.2 -1.9
comp=Z,39nm,1.0s,baz=195,slow=5.2,SNR=43
URV **Uravakonda** 146.22 123 *e*PKPab **PKPdf** 08 16 10.5 +0.3
SKHT **Srikalahasti** 146.95 127 *e*PKPbc **PKPdf** 08 16 11.7 +0.3
SKHT *e*PKPab **PKPbc** 08 16 13.7 +0.4
IPM **Ipoh** 147.44 170 *e*PKPdf **PKPdf** 08 16 13.3 +1.0
IPM *e*PKPbc **PKPbc** 08 16 14.7 -0.1
IPM *e*PKPab **PKiKP** 08 16 17.4 +0.3
ADKI **Addanki** 148.67 125 *e*PKPbc **PKPbc** 08 16 17.0 -0.9
NJS **Nagarjunasagar** 148.74 123 *e*PKPbc **PKPbc** 08 16 17.8 -0.3
HYB **Hyderabad** 148.83 121 *i* PKP **PKPbc** 08 16 17.0 -1.4
HYB *e* 08 16 20.0
HYB *e*PKPAB **PKPab** 08 16 24.5 +2.2
HYB *e*pPKP PKiKP 08 16 30.5 +11
HYB *e*sPKP 08 16 37.0
HYBB **Hyderabad (bro** 148.83 121 *e*PKPbc **PKPbc** 08 16 17.9 -0.5
BRVK **Borovoye** 150.19 46⇓*e*PKIKP **PKPdf** 08 16 16.0 +0.5
BRVK **Borovoye** 150.19 46 *e*PKPdf **PKPdf** 08 16 16.1 +0.6
BRVK *e*PKPbc **PKPbc** 08 16 20.7 0.0
BRVK *e*PKPab **PKPab** 08 16 26.2 -0.7
BVA0 **Borovoye Array** 150.26 46 *i* PKIKP **PKPbc** 08 16 20.6 -0.2
BVA0 pmax pmax
comp=Z,40nm,1.6s
BVAR **Borovoye Array** 150.26 46 PKP **PKPdf** 08 16 14.4 -1.3
comp=Z,1.5nm,1.0s,baz=114,slow=3.6,SNR=5.0
BVAR PKPbc **PKiKP** 08 16 21.6 0.0
comp=Z,4.4nm,1.0s,baz=289,slow=4.5,SNR=17
RPR **Rampur** 150.32 120 *e*PKPbc **PKPbc** 08 16 21.6 -0.4
YAK **Yakutsk** 150.87 337 PKPbc **PKPbc** 08 16 21.7 -0.2
comp=Z,14nm,0.4s,baz=185,slow=0.9,SNR=6.3
YAK **Yakutsk** 150.87 337 *e*PKIKP **PKPbc** 08 16 20.5 -1.4
YAK pmax pmax
comp=Z,28nm,0.9s
KK31 **Karatay Array** 152.03 66 PKIKP **PKPbc** 08 16 24.8 -0.5
KK31 pmax pmax
comp=Z,2.0nm,0.2s
KKAR **Karatay Array** 152.03 66 *e*PKIKP **PKPdf** 08 16 18.4 -0.3
KKAR *e* 08 16 25.0
KKAR *e* 08 16 35.0
KKAR **Karatay Array** 152.03 66 *e*PKPdf **PKPdf** 08 16 18.4 -0.3
KKAR *e*PKPbc **PKPbc** 08 16 25.0 -0.3
KKAR *e*PKPab **PKPab** 08 16 35.0 +0.1
AAK **Ala-Archa** 154.97 67 PKPab **PKPab** 08 16 47.1 -0.5
comp=Z,12nm,1.0s,baz=234,slow=3.8,SNR=16
AAK **Ala-Archa** 154.97 67 PKP2 **PKPab** 08 16 47.7 +0.1
AAK pmax pmax
comp=Z,21nm,1.2s
AAK **Ala-Archa** 154.97 67 *e*PKPdf **PKPdf** 08 16 24.2 +1.0
AAK *e*PKPbc **PKPbc** 08 16 30.8 -1.1
AAK PKPab PKPab 08 16 47.1 -0.5
AAK *e*PKPab PKPab 08 16 47.4 -0.1
FRU **Bishkek** 155.05 66 *e*PKP2 **PKPab** 08 16 47.0 -0.7
FRU pmax pmax
comp=Z,60nm,2.2s
TKM2 **Tokmak 2** 155.76 66 *e*PKIKP **PKPdf** 08 16 24.3 0.0
TKM2 *e* 08 16 34.1
TKM2 **Tokmak 2** 155.76 66 *e*PKPdf **PKPdf** 08 16 24.3 0.0
TKM2 *e*PKPbc PKPbc 08 16 34.1
TKM2 *e*PKPab **PKPab** 08 16 51.2 +0.2
KURBB **Kurchatov Arra** 155.84 46 PKP **PKPdf** 08 16 23.2 -0.5
comp=Z,1.2nm,1.1s,baz=303,slow=2.4,SNR=5.2
KURK **Kurchatov** 155.86 46 PKIKP **PKPdf** 08 16 23.3 -0.5
KURK **Kurchatov** 155.86 46 PKP **PKPdf** 08 16 23.2 -0.5
NVS **Novosibirsk** 156.06 34 *i* PKIKP **PKPdf** 08 16 23.3 -0.6
KSH **Kashi** 156.08 74 *e*PKP **PKPdf** 08 16 24.5 -0.2
KSH *e*pPKP **pPKPdf** 08 16 35.3 -0.2
KSH PKS **PKSdf** 08 19 57.8 -0.9
KSH PP **PP** 08 20 30.5 +0.1
KSH SKS **SKSdf** 08 23 26.0 -2.5
KSH SKKS **SKKSac** 08 27 14.0 -3.1
KSH PPMZ
comp=Z,160nm,4.0s
KSH LN
comp=Z,110nm,6.6s
KSH LE
comp=Z,73nm,4.9s
KSH LZ
comp=Z,130nm,5.4s
ZAA0 **Zalesovo Array** 157.34 34 *e*PKPdf **PKPdf** 08 16 25.0 -0.7
ZAA0 *e*PKPbc PKPbc 08 16 35.1
ZAA0 *e*PKPab **PKPab** 08 16 58.0 +1.0
ZALV **Zalesovo Beam** 157.34 34 PKP **PKPdf** 08 16 25.0 -0.6
comp=Z,4.6nm,0.9s,baz=279,slow=2.9,SNR=17
ZALV PKPab **PKPab** 08 16 56.2 -0.9
comp=Z,6.1nm,0.9s,baz=296,slow=4.8,SNR=6.8
MKAR **Makanchi Array** 159.61 53 PKP **PKPdf** 08 16 27.2 -1.5
comp=Z,1.5nm,0.9s,baz=269,slow=9.7,SNR=10
MKAR PKPab **PKPab** 08 17 06.0 -1.3
comp=Z,1.8nm,0.9s,baz=258,slow=5.6,SNR=6.2
MKAR PP **PP** 08 20 49.6 +0.4
comp=Z,1.1nm,0.9s,baz=278,slow=8.5,SNR=6.6
CMAR **Chiang Mai Arr** 160.59 159 PKPab **PKPab** 08 17 09.8 -2.1
comp=Z,0.8nm,0.3s,baz=211,slow=4.2,SNR=4.4
WMQ **Urumqi** 164.22 58 *e*PKP **PKPdf** 08 16 32.0 -1.5
WMQ pPKP **pPKPdf** 08 16 41.3 -3.0
WMQ PPMZ
comp=Z,100nm,4.4s
WMQ LE
comp=Z,240nm,18.2s
WMQ LZ
comp=Z,200nm,18.2s
TLY **Talaya** 165.04 6 *e*PKP2 **PKPab** 08 17 31.8 +1.1
TLY pmax pmax
comp=Z,10.0nm,1.6s
ZAK **Zakamensk** 166.28 8 *e*PKP2 **PKPab** 08 17 37.0 +0.7
ZAK pmax pmax
comp=Z,4.0nm,1.3s
KMI **Kunming** 167.94 164 PKP **PKPdf** 08 16 39.0 +1.7
KMI LN
comp=Z,130nm,19.4s
KMI LE
comp=Z,120nm,18.5s
KMI LZ
comp=Z,160nm,20.3s
ULN **Ulaanbaatar** 168.96 357*ce*PKP2 PKPab 08 17 56.3 +8.0
ULN pmax pmax
comp=Z,6.0nm,2.5s
SONM **Songino Array** 169.00 360 PKPab **PKPab** 08 17 48.2 -0.2
comp=Z,2.0nm,0.9s,baz=320,slow=3.7,SNR=8.4
GYA **Guiyang** 169.65 182 *e*PKP **PKPdf** 08 16 38.3 +0.1
GYA sPKP 08 16 52.8
GYA PKPab **PKPab** 08 17 54.5 +2.7
GYA PKS **PKSdf** 08 20 09.5 -1.4
GYA PP **PP** 08 21 44.0 +3.4
GYA SKKS 08 28 26.5
GYA SS **SS** 08 42 37.5 +2.2
GYA PPMZ
comp=Z,120nm,8.0s
GYA LN
comp=Z,140nm,22.4s
GYA LE
comp=Z,130nm,23.6s

GYA				LZ				
	comp=Z,120nm,21.0s							
CD2	**Chengdu**	**173.73**	**160**	PKP	**PKPdf**	**08**	**16**	**39.0 -0.9**
CD2				pPKP	**pPKPdf**	**08**	**16**	**50.8 0.0**
CD2				sPKP		08	16	54.5
CD2				PKS	**PKSdf**	**08**	**20**	**10.3 -1.9**
CD2				PP	**PP**	**08**	**22**	**04.3 +3.3**
CD2				SKS	**SKSdf**	**08**	**23**	**37.0 -3.7**
CD2				SKKS	**SKKSac**	**08**	**28**	**45.3 -0.4**
CD2				SS	**SS**	**08**	**43**	**15.0 -0.5**
CD2				PPMZ				
	comp=Z,160nm,5.6s							
HHC	**Hu-ho-hao-te**	**174.25**	**316**	*e*PKP	**PKPdf**	**08**	**16**	**39.8 -0.1**
HHC				pPKP	**pPKPdf**	**08**	**16**	**50.5 -0.2**
HHC				sPKP		08	16	54.8
HHC				PP	**PP**	**08**	**22**	**07.3 +3.1**
HHC				SKS	**SKSdf**	**08**	**23**	**38.5 -2.0**
HHC				PPMZ				
	comp=Z,52nm,6.6s							
HHC				LN				
	comp=Z,150nm,20.6s							
HHC				LE				
	comp=Z,250nm,20.6s							
HHC				LZ				
	comp=Z,120nm,19.7s							
GTA	**Gaotai**	**174.29**	**61**	*e*PKP	**PKPdf**	**08**	**16**	**40.3 +0.3**
GTA				pPKP	**pPKPdf**	**08**	**16**	**50.8 0.0**
GTA				sPKP		08	16	54.8
GTA				PKPab	**PKPab**	**08**	**18**	**13.3 +0.9**
GTA				PP	**PP**	**08**	**22**	**07.5 +2.5**
GTA				SKS	**SKSdf**	**08**	**23**	**38.5 -2.2**
GTA				SKKS	**SKKSac**	**08**	**28**	**48.0 -0.7**
GTA				SS	**SS**	**08**	**43**	**20.0 -3.2**
GTA				PPMZ				
	comp=Z,130nm,5.1s							
GTA				LN				
	comp=Z,100nm,20.0s							
GTA				LE				
	comp=Z,140nm,18.5s							
GTA				LZ				
	comp=Z,100nm,20.0s							
XAN	**Xi'an**	**176.47**	**219**	PKP	**PKPdf**	**08**	**16**	**37.5 -3.1**
LZH	**Lanzhou**	**177.90**	**110**	*e*PKP	**PKPdf**	**08**	**16**	**40.3 -0.6**
LZH				pPKP	**pPKPdf**	**08**	**16**	**50.0 -1.8**
LZH				sPKP		08	16	54.3
LZH				LN				
	comp=Z,2μm,19.0s							
LZH				LE				
	comp=Z,490nm,18.2s							
LZH				LZ				
	comp=Z,200nm,20.0s							

IDC 29 08:00:02.0±8.3, 9.°15S×156.°80E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, Error ellipse: s-maj=137.2km s-min=91.3km az=33.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.21**	**241**	P	P	08 05 21.4	+0.8
	1.0nm,0.9s,baz=64,slow=9.5,SNR=7.0						
ASAR	**Alice Springs**	**26.23**	**234**	P	P	08 05 38.7	-0.2
	0.4nm,0.8s,baz=68,slow=8.9,SNR=3.2						
STKA	**Stephens Creek**	**26.66**	**210**	P	P	08 05 42.2	-0.5
	2.7nm,0.8s,baz=38,slow=13,SNR=5.1						

MOS ***29*** *08:01:00.9±1.3, 36.°74N×141.°20E, h53km, mb4.4/28, Error ellipse: s-maj=10.2km s-min=7.1km az=104.5*

BJI ***29*** *08:01:00.5, 36.°96N×141.°48E, h45km, mB4.8/26, mb4.7/35, Ms4.3/26, Ms7 4.0/21*

NIED ***29*** *08:01:00, 36.°70N×141.°30E, h44km, Mw4.5 Best double couple: M0 6.08000×10*^{15} *NP1:*ϕ_s*292.00000°,*δ*9.00000°,* λ*176.00000°. NP2:*ϕ_s*26.00000°,*δ*89.00000°,* λ*81.00000°.*

ISCJB ***29*** *08:01:00.0±0.6, 36.°74N±0.°04×141.°36E±0.°04, h43km±4km, mb4.2/48, MS3.8/20, Error ellipse: s-maj=6.8km s-min=4.5km az=139.8*

JMA ***29*** *08:01:00.5±0.1, 36.°70N×141.°25E, h45km±2km, M4.5 Broadband fault plane solution: P waves. NP1:*
ϕ_s*101.00000°,*δ*75.00000°,*λ*103.00000°. NP2:*
ϕ_s*238.00000°,*δ*20.00000°,*λ*49.00000°. Principal axes: T Plg58.0000°, Azm29.0000°; N Plg13.0000°, Azm277.0000°; P Plg29.0000°, Azm180.0000°;*

JMA Felt II J1.

IDC ***29*** *08:01:01.0±0.6, 36.°65N×141.°39E, h48km±4km, mb3.7/23, mb1 3.9/28, mb1mx3.8/47, mbtmp4.0/28, MS3.7/24, Ms1 3.7/24, ms1mx3.6/40 Error ellipse: s-maj=12.7km s-min=8.4km az=167.0*

NEIC ***29*** *08:01:02.6±0.7, 36.°92N×141.°21E, h35km, mb4.6/15, MW4.5(NIED), Error ellipse: s-maj=15.8km s-min=11.1km az=149.0*

NEIC Felt at Hokota. Recorded [2 JMA] in Fukushima and [1 JMA] in Ibaraki, Miyagi and Tochigi.

ISC 29 08:01:02.2±0.5, 36.°77N±0.°05×141.°31E±0.°04, h44km±3km, h43km:pP-P, n134, σ1s71/163, mb4.2/48, MS3.8/20, 8C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**309**	⇓P	**Pn**	**08**	**01**	**11.7 -1.8**
ONAJ				S	**Sn**	**08**	**01**	**19.5 -2.0**
JHO	**Hitachi**	**0.61**	**255**	P	**Pn**	**08**	**01**	**11.9 -2.7**
JHO				S	**Sn**	**08**	**01**	**20.2 -3.3**
JFK	**Kawauchi**	**0.69**	**330**	⇓P	**Pn**	**08**	**01**	**14.1 -1.5**
JFK				S	**Sn**	**08**	**01**	**24.0 -1.2**
JFT	**Otama**	**1.07**	**314**	⇓P	**Pn**	**08**	**01**	**20.5 -0.3**
JFT				S	**Sn**	**08**	**01**	**35.1 +0.5**
JMM	**Marumori**	**1.17**	**340**	⇓P	**Pn**	**08**	**01**	**20.9 -1.2**
JMM				S	**Sn**	**08**	**01**	**36.1 -0.7**
JFY	**Yanaizu**	**1.43**	**297**	P	**Pn**	**08**	**01**	**25.7 0.0**
JFY				S	**Sn**	**08**	**01**	**45.1 +1.8**
JAG	**Ashikaga**	**1.53**	**257**	P	**Pn**	**08**	**01**	**25.3 -1.8**
JAG				S	**Sn**	**08**	**01**	**43.7 -2.1**
JKT	**Katashina**	**1.65**	**270**	P	**Pn**	**08**	**01**	**27.9 -0.9**
JKT				S	**Sn**	**08**	**01**	**47.2 -1.7**
JOU	**Okura**	**1.67**	**342**	P	**Pn**	**08**	**01**	**28.5 -0.5**
JOU				S	**Sn**	**08**	**01**	**50.8 +1.6**
MJAR	**Matsushiro Arr**	**2.50**	**266**	P	**Pn**	**08**	**01**	**39.1 -1.3**
	27nm,0.3s,baz=92,slow=16,SNR=131							
MJAR				S	**Sn**	**08**	**02**	**11.1 +1.4**
	37nm,0.3s,baz=82,slow=37,SNR=10							
MJAR				LR	LR	08	02	48.4
	comp=Z,1μm,20.6s,baz=100,slow=42							
MJAR	**Matsushiro Arr**	**2.50**	**266**	P	**Pn**	**08**	**01**	**39.1 -1.3**
MJAR				S	**Sn**	**08**	**02**	**11.1 +1.4**
MJAR				pmax	pmax			
	comp=Z,27nm,0.3s							
MJAR				smax	smax			
	comp=N,37nm,0.3s							
MAJO	**Matsushiro**	**2.50**	**266**	*d* /P	**Pn**	**08**	**01**	**40.3 -0.1**
MAJO	**Matsushiro**	**2.50**	**266**	*e*Pn	**Pn**	**08**	**01**	**40.4 -0.1**
MAJO				*e*Sn	**Sn**	**08**	**02**	**13.1 +3.3**
MAT	**Matsushiro**	**2.50**	**266**	P	**Pn**	**08**	**01**	**40.0 -0.5**
MAT				S	**Sn**	**08**	**02**	**08.7 -1.1**
ERM	**Erimo**	**5.43**	**15**	⇑P	**Pn**	**08**	**02**	**22.2 +1.7**
ASAJ	**Asahikawa**	**7.40**	**7**	P	**Pn**	**08**	**02**	**46.4 -1.2**
	comp=N,1.9nm,0.3s,baz=211,slow=15,SNR=11							
ASAJ				LR	LR	08	06	09.8
	comp=N,172nm,21.7s,baz=165,slow=41							
JNU	**Nakatsue**	**9.30**	**250**	LR	LR	08	07	12.1
	comp=N,287nm,18.4s,baz=19,slow=40							
JNU	**Nakatsue**	**9.30**	**250**	*e*Pn	**Pn**	**08**	**03**	**16.1 +2.4**
JNU				*e*Sn	**Sn**	**08**	**05**	**00.9 +3.8**
JCJ	**Chichijima**	**9.68**	**175**	P	Pn	08	03	14.3 -4.6
	comp=N,4.4nm,0.3s,baz=277,slow=23,SNR=7.3							
YSS	**Yuzh-Sakhalins**	**10.23**	**6**	*e*P	**Pn**	**08**	**03**	**29.0 +2.7**
USRK	**Ussuriysk Ar.**	**10.26**	**319**	P	**Pn**	**08**	**03**	**27.5 +0.7**
	comp=N,0.2nm,0.3s,baz=126,slow=27,SNR=2.9							
USRK				LR	LR	08	07	12.4
	comp=N,492nm,20.1s,baz=123,slow=36							
KSRS	**Korea Array**	**10.71**	**278**	P	**Pn**	**08**	**03**	**33.9 +0.9**
	comp=N,0.4nm,0.3s,baz=87,slow=13,SNR=3.1							
KSRS				LR	LR	08	07	38.9
	comp=N,393nm,18.3s,baz=112,slow=37							
MDJ	**Mudanjiang**	**11.84**	**315**	P	**Pn**	**08**	**03**	**48.5 +0.1**
MDJ				S	**Sn**	**08**	**05**	**58.5 -0.6**
MDJ				PMZ				
	comp=N,9.0nm,1.1s							
MDJ				PMZ				
	comp=N,52nm,3.4s							
MDJ				LN				
	comp=N,390nm,20.0s							
MDJ				LE				
	comp=N,290nm,24.5s							
CN2	**Changchun**	**13.98**	**305**	*e*P	**Pn**	**08**	**04**	**19.0 +1.4**
CN2				*e*pP	**P**	**08**	**04**	**27.5 +2.9**
CN2				*e*S	**Sn**	**08**	**06**	**51.5 +0.2**
CN2				PMZ				
	comp=N,10.0nm,0.8s							
CN2				PMZ				
	comp=N,200nm,5.0s							
CN2				LN				
	comp=N,300nm,12.0s							
CN2				LE				
	comp=N,400nm,12.0s							
CN2				LZ				
	comp=N,500nm,15.0s							
SNY	**Shenyang**	**14.62**	**296**	⇑P	**Pn**	**08**	**04**	**28.3 +2.1**
SNY				PMZ				
	comp=N,16nm,1.1s							
SNY				LE				
	comp=N,350nm,17.8s							
NJ2	**Nanjing**	**19.10**	**262**	*e*P	**Pn**	**08**	**05**	**22.5 +0.1**
NJ2				S	**Sn**	**08**	**08**	**54.0 -1.5**
NJ2				PMZ				
	comp=N,40nm,0.8s							
NJ2				LN				
	comp=N,420nm,19.0s							
NJ2				LE				
	comp=N,620nm,16.9s							
NJ2				LZ				
	comp=N,510nm,16.2s							
BJI	**Beijing**	**19.94**	**287**	P	**P**	**08**	**05**	**30.5 +0.1**
BJI				pP	**pP**	**08**	**05**	**40.5 -0.4**
BJI				sP	**sP**	**08**	**05**	**46.0 -0.4**
BJI				S	**S**	**08**	**09**	**10.0 -2.4**
BJI				PMZ				
	comp=N,23nm,0.7s							
BJI				LN				
	comp=N,190nm,4.0s							
BJI				LE				
	comp=N,93nm,3.2s							
PETK	**Petropavlovsk-**	**19.95**	**30**	LR	LR	08	13	26.7
	comp=N,39nm,21.3s,baz=225,slow=37							
WHN	**Wuhan**	**23.24**	**262**	P	**P**	**08**	**06**	**05.3 -0.3**
WHN				LZ				
	comp=N,590nm,19.1s							
GUMO	**Guam**	**23.31**	**171**	LR	LR	08	15	04.0
	comp=N,34nm,20.5s,baz=351,slow=36							
HHC	**Hu-ho-hao-te**	**23.48**	**289**	*e*P	**P**	**08**	**06**	**07.5 -0.5**
HHC				pP	**pP**	**08**	**06**	**18.3 -0.8**
HHC				sP	**sP**	**08**	**06**	**24.5 +0.1**
HHC				PcP	**PcP**	**08**	**09**	**55.3 +2.5**
HHC				S	**S**	**08**	**10**	**13.0 -5.5**
HHC				sS	**sS**	**08**	**10**	**32.8 -5.0**
HHC				PMZ				
	comp=N,18nm,0.6s							
HHC				PMZ				
	comp=N,100nm,6.0s							
HHC				LN				
	comp=N,110nm,15.7s							
HHC				LE				
	comp=N,300nm,14.2s							
YAK	**Yakutsk**	**26.30**	**348**	LR	LR	08	17	01.3
	comp=N,121nm,20.9s,baz=175,slow=36							
YAK	**Yakutsk**	**26.30**	**348**	*e*P	**P**	**08**	**06**	**32.4 -1.0**
YAK				*e**PP	pP	08	06	52.8 +7.8
YAK				*e*		08	07	17.7
YAK				*e*		08	09	52.6
YAK				*e*S	**S**	**08**	**10**	**58.5 -4.4**
YAK				*e*		08	17	15.7
YAK				pmax	pmax			
	comp=Z,16nm,0.9s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,214nm,4.9s							
YAK				pmax	pmax			
	comp=N,62nm,4.9s							
YAK				pmax	pmax			
	comp=E,77nm,4.3s							
YAK				smax	smax			
	comp=N,81nm,2.8s							
YAK				smax	smax			
	comp=E,127nm,3.2s							
XAN	**Xi'an**	**26.47**	**274**	P	**P**	**08**	**06**	**38.5 +3.2**
XAN				PMZ				
	comp=E,1.0nm,0.6s							
XAN				PMZ				
	comp=E,19nm,5.4s							
SEY	**Seymchan**	**27.06**	**11**	P	**P**	**08**	**06**	**40.9 +0.6**
	comp=E,1.5nm,0.7s,baz=206,slow=7.7,SNR=7.0							
SEY	**Seymchan**	**27.06**	**11**	P	**P**	**08**	**06**	**40.9 +0.6**
SEY				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ENH	**Enshi**	**27.23**	**266**	*e*P	**P**	**08**	**06**	**40.6 -1.5**
	comp=Z,9.0nm,0.8s							
ULN	**Ulaanbaatar**	**27.43**	**305**	*d* /P	**P**	**08**	**06**	**43.6 -0.3**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ULN	**Ulaanbaatar**	**27.43**	**305**	*e*P	**P**	**08**	**06**	**44.2 +0.3**
	comp=Z,5.8nm,1.0s							
BOD	**Bodaibo**	**27.70**	**328**	*e*P	**P**	**08**	**06**	**45.2 -0.9**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SONM	**Songino Array**	**27.86**	**304**	P	**P**	**08**	**06**	**46.1 -1.7**
	comp=Z,5.8nm,0.9s,baz=110,slow=6.1,SNR=22							
SONM				LR	LR	08	18	01.1
	comp=Z,125nm,19.9s,baz=60,slow=36							
SONM	**Songino Array**	**27.86**	**304**	P	**P**	**08**	**06**	**46.1 -1.7**
SONM				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SONM				MLR	MLR			
	comp=Z,125nm,19.9s							
H11N2	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	08	36	27.5
	baz=313,slow=75,SNR=305							
H11N1	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	08	36	28.2
	baz=313,slow=75,SNR=354							
H11N3	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	08	36	26.8
	baz=313,slow=75,SNR=324							
H11S1	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	08	37	17.8
	baz=314,slow=76,SNR=65							
H11S3	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	08	37	11.9
	baz=314,slow=76,SNR=32							
H11S2	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	08	37	18.4
	baz=314,slow=76,SNR=30							
LZH	**Lanzhou**	**30.03**	**280**	*e*P	**P**	**08**	**07**	**09.0 +1.8**
LZH				pP	**pP**	**08**	**07**	**21.8 +3.0**
LZH				sP	**sP**	**08**	**07**	**26.5 +2.5**
LZH				PMZ				
	comp=Z,19nm,1.0s							
LZH				PMZ				
	comp=Z,98nm,5.0s							
LZH				LN				
	comp=Z,240nm,15.7s							
LZH				LE				
	comp=Z,370nm,16.6s							
LZH				LZ				
	comp=Z,340nm,17.6s							
ZAK	**Zakamensk**	**30.36**	**309**	*e*P	**P**	**08**	**07**	**08.6 -1.3**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
TLY	**Talaya**	**30.44**	**311**	*e*P	P	08	07	03.0 -7.4
TLY				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TLY				MLR	MLR			
	comp=Z,167nm,16.0s							
CD2	**Chengdu**	**31.59**	**270**	*e*P	**P**	**08**	**07**	**21.5 +0.7**
CD2				pP	**pP**	**08**	**07**	**34.5 +2.0**
CD2				sP	**sP**	**08**	**07**	**40.3 +2.6**
CD2				PP	**PnPn**	**08**	**08**	**27.0 +1.6**
CD2				S	**S**	**08**	**12**	**25.0 -1.8**
CD2				sS	**sS**	**08**	**12**	**46.5 +0.2**
CD2				SS	**SnSn**	**08**	**14**	**15.0 0.0**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.2s							
GTA	**Gaotai**	**32.56**	**287**	*e*P	P	08	07	33.0 +3.6
GTA				pP	pP	08	07	44.8 +3.7
GTA				sP	sP	08	07	50.3 +4.0
GTA				S	**S**	**08**	**12**	**47.3 +5.4**
GTA				sS	sS	08	13	07.5 +6.0
GTA				PMZ				
	comp=Z,5.0nm,0.8s							
GTA				PMZ				
	comp=Z,44nm,7.5s							
GTA				LN				
	comp=Z,120nm,18.1s							
GTA				LE				
	comp=Z,160nm,14.3s							
GTA				LZ				
	comp=Z,110nm,17.1s							
QIZ	**Qiongzhong**	**32.74**	**246**	P	**P**	**08**	**07**	**32.0 +1.0**
QIZ				PP	**PP**	**08**	**08**	**45.5 0.0**
QIZ				S	**S**	**08**	**12**	**45.8 +1.0**
QIZ				PMZ				
	comp=Z,4.0nm,0.8s							
QIZ				LN				
	comp=Z,120nm,15.2s							
QIZ				LZ				
	comp=Z,120nm,7.2s							
BILL	**Bilibino**	**34.30**	**16**	⇓*e*P	P	08	07	47.3 +3.3
BILL				pmax	pmax			
	comp=Z,3.0nm,1.7s							
KMI	**Kunming**	**34.84**	**262**	P	P	08	07	53.0 +3.6
KMI				PMZ				
	comp=Z,8.0nm,0.6s							
KMI				LN				
	comp=Z,160nm,18.6s							
KMI				LE				
	comp=Z,150nm,20.8s							
KMI				LZ				
	comp=Z,200nm,22.2s							
TIXI	**Tiksi**	**35.54**	**353**	⇓*e*P	**P**	**08**	**07**	**54.1 -0.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TIXI	**Tiksi**	**35.54**	**353**	*e*P	**P**	**08**	**07**	**54.3 -0.3**
	comp=Z,29nm,2.3s							
MANU	**Manus Island**	**39.03**	**170**	S	S	08	14	28.7 +7.7
	baz=20,SNR=3.7							
JAY	**Jayapura**	**39.09**	**181**	LR	LR	08	21	33.9
	comp=Z,73nm,21.1s,baz=359,slow=32							
FAKI	**Fak Fak**	**40.38**	**194**	P	**P**	**08**	**08**	**36.7 +0.7**
	baz=8.5,SNR=3.4							
FAKI				S	x	08	10	07.9
	baz=8.5,SNR=3.4							
FAKI	**Fak Fak**	**40.38**	**194**	*e*P	**P**	**08**	**08**	**36.8 +0.7**
	comp=Z,17nm,1.0s							
WMQ	**Urumqi**	**40.88**	**297**	⇑*i*P	**P**	**08**	**08**	**41.5 +1.5**
WMQ				pP	**pP**	**08**	**08**	**52.5 +0.5**
WMQ				sP	**sP**	**08**	**08**	**58.0 +0.9**
WMQ				PMZ				
	comp=Z,14nm,0.8s							
WMQ				PMZ				
	comp=Z,73nm,3.5s							
WMQ				LN				
	comp=Z,330nm,25.4s							
WMQ				LE				
	comp=Z,270nm,15.2s							
WMQ				LZ				
	comp=Z,410nm,24.0s							
TNA	**Tin City**	**41.12**	**29**	*e*P	**P**	**08**	**08**	**43.0 +1.4**
	comp=Z,7.5nm,1.1s							
CMAR	**Chiang Mai Arr**	**41.35**	**256**	P	**P**	**08**	**08**	**43.1 -0.9**
	comp=Z,3.6nm,0.3s,baz=73,slow=3.6,SNR=4.1							
CMAR				LR	LR	08	28	22.9
	comp=Z,100nm,18.5s,baz=68,slow=40							
CMAR	**Chiang Mai Arr**	**41.35**	**256**	P	**P**	**08**	**08**	**43.1 -0.9**
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
CMAR				MLR	MLR			
	comp=Z,100nm,18.5s							
ZAA0	**Zalesovo Array**	**42.03**	**313**	*e*P	**P**	**08**	**08**	**49.3 +0.1**
ZAA0				*e*pP	**pP**	**08**	**09**	**00.2 -0.9**
ZALV	**Zalesovo Beam**	**42.03**	**313**	P	**P**	**08**	**08**	**48.6 -0.6**
	comp=Z,2.2nm,0.5s,baz=97,slow=6.8,SNR=12							
ZALV				LR	LR	08	27	10.9
	comp=Z,94nm,18.6s,baz=57,slow=37							
ZALV	**Zalesovo Beam**	**42.03**	**313**	*i* P	**P**	**08**	**08**	**49.2 0.0**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MK31	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**08**	**09**	**06.6 -0.1**
MK31				*e**PP	**pP**	**08**	**09**	**17.7 -1.1**
MK31	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**08**	**09**	**06.6 -0.1**
MK31				*e*pP	**pP**	**08**	**09**	**17.7 -1.1**
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**08**	**09**	**05.7 -1.1**
	comp=Z,0.8nm,0.5s,baz=106,slow=3.1,SNR=16							
MKAR				LR	LR	08	27	48.3
	comp=Z,89nm,21.3s,baz=89,slow=36							
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**08**	**09**	**05.7 -1.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR				MLR	MLR			
	comp=Z,89nm,21.3s							
MKAR	**Makanchi Array**	**44.19**	**302**	*e*P	**P**	**08**	**09**	**06.7 -0.1**
KURK	**Kurchatov**	**46.02**	**308**	P	**P**	**08**	**09**	**20.3 -0.9**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KURK	**Kurchatov**	**46.02**	**308**	*e*P	**P**	**08**	**09**	**20.3 -0.9**
	comp=Z,16nm,0.9s							
KURBB	**Kurchatov Arra**	**46.09**	**308**	P	**P**	**08**	**09**	**20.2 -1.5**
	comp=Z,6.7nm,0.8s,baz=83,slow=8.3,SNR=23							
RSO	**Redoubt South**	**47.16**	**38**	*e*P	**P**	**08**	**09**	**29.4 -0.8**
	comp=Z,13nm,0.8s							
COLA	**College**	**49.34**	**32**	⇑*e*P	**P**	**08**	**09**	**49.5 +2.8**
COLA				pmax	pmax			
	comp=Z,29nm,2.2s							
COLA	**College**	**49.34**	**32**	*e*P	P	08	09	43.2 -3.5
	comp=Z,25nm,2.0s							
TKM2	**Tokmak 2**	**49.68**	**299**	*e*P	**P**	**08**	**09**	**50.4 +0.5**
TKM2				pmax	pmax			
	comp=Z,14nm,1.5s							
TKM2	**Tokmak 2**	**49.68**	**299**	*e*P	**P**	**08**	**09**	**50.4 +0.5**
	comp=Z,14nm,1.5s							
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**08**	**09**	**49.6 -0.3**
	comp=Z,0.8nm,0.8s,baz=263,slow=6.7,SNR=9.3							
ILAR				pP	**pP**	**08**	**10**	**01.8 -0.4**
	comp=Z,1.9nm,0.8s,baz=269,slow=6.5,SNR=12							
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**08**	**09**	**49.7 -0.3**
ILAR				*PP	**pP**	**08**	**10**	**01.8 -0.4**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KSH	**Kashi**	**50.43**	**294**	*e*P	P	08	09	59.5 +3.9
KSH				pP	pP	08	10	11.0 +3.2
KSH				PP	**PP**	**08**	**11**	**55.3 +4.0**
KSH				PcS	**PcS**	**08**	**15**	**12.3 +1.5**
KSH				S	**S**	**08**	**17**	**07.0 +0.9**
KSH				PMZ				
	comp=Z,63nm,3.6s							
KSH				LN				
	comp=Z,360nm,11.3s							
KSH				LE				
	comp=Z,150nm,6.4s							
KSH				LZ				
	comp=Z,140nm,7.6s							
AAK	**Ala-Archa**	**50.54**	**299**	LR	LR	08	32	29.6
	comp=Z,245nm,19.8s,baz=48,slow=37							
AAK	**Ala-Archa**	**50.54**	**299**	⇓*e*P	**P**	**08**	**09**	**56.1 -0.3**
AAK				pmax	pmax			
	comp=Z,11nm,2.5s							
AAK	**Ala-Archa**	**50.54**	**299**	*e*P	**P**	**08**	**09**	**56.4 0.0**
	comp=Z,2.8nm,0.9s							
BVAR	**Borovoye Array**	**50.68**	**312**	P	**P**	**08**	**09**	**56.2 -0.9**
	comp=Z,2.5nm,0.8s,baz=79,slow=7.7,SNR=8.7							
BVAR				LR	LR	08	32	11.0
	comp=Z,115nm,21.5s,baz=300,slow=37							
BVAR	**Borovoye Array**	**50.68**	**312**	P	**P**	**08**	**09**	**56.2 -0.9**
BVAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BVAR				MLR	MLR			
	comp=Z,115nm,21.5s							
BRVK	**Borovoye**	**50.74**	**313**	⇑*e*P	**P**	**08**	**09**	**57.8 +0.3**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
INK	**Inuvik**	**54.66**	**27**	P	**P**	**08**	**

WRA	**Warramunga Arr**	**56.79**	**188**	P	**P**	**08 10 39.8**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=6.6,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**56.79**	**188**	P	**P**	**08 10 39.8**	**-2.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ABKAR	**Akbulak array**	**58.04**	**310**	*e*P	**P**	**08 10 50.0**	**-0.6**
	comp=Z,1.1nm,0.5s						
AKTO	**Aktyubinsk**	**58.78**	**312**	P	**P**	**08 10 54.2**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=90,slow=7.1,SNR=3.1						
AKTO				LR	LR	08 37 28.0	
	comp=Z,77nm,19.3s,baz=59,slow=37						
AKTO	**Aktyubinsk**	**58.78**	**312**	P	**P**	**08 10 54.3**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO				MLR	MLR		
	comp=Z,77nm,19.3s						
ASAR	**Alice Springs**	**60.52**	**188**	P	**P**	**08 11 05.5**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=16,slow=6.2,SNR=11						
ASAR				pP	**pP**	**08 11 18.5**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=7.4,slow=7.1,SNR=5.1						
ASAR	**Alice Springs**	**60.52**	**188**	P	**P**	**08 11 05.5**	**-2.5**
ASAR				*PP	**pP**	**08 11 18.5**	**-2.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SPITS	**Spitsbergen Ar**	**60.76**	**349**	LR	LR	08 40 46.2	
	comp=Z,29nm,18.8s,baz=290,slow=39						
GEYT	**Alibeck**	**63.89**	**299**	LR	LR	08 43 23.0	
	comp=Z,49nm,18.3s,baz=180,slow=40						
YKA	**Yellowknife Ar**	**64.08**	**30**	P	**P**	**08 11 29.6**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=298,slow=4.2,SNR=2.9						
YKA				pP	**pP**	**08 11 43.4**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=293,slow=6.2,SNR=5.6						
ARCES	**ARCESS Array B**	**64.21**	**339**	P	**P**	**08 11 32.2**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=68,slow=7.2,SNR=3.0						
ARCES				LR	LR	08 45 10.0	
	comp=Z,37nm,18.0s,baz=42,slow=41						
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**08 12 01.2**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=49,slow=17,SNR=3.0						
FINES				pP	**pP**	**08 12 14.4**	**-1.1**
	comp=Z,4.7nm,0.9s,baz=75,slow=8.3,SNR=4.5						
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**08 12 01.2**	**-1.5**
FINES				*PP	**pP**	**08 12 14.4**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**71.01**	**311**	P	**P**	**08 12 14.3**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=146,slow=4.9						
KBZ				LR	LR	08 48 01.9	
	comp=Z,70nm,18.4s,baz=233,slow=40						
KBZ	**Khabaz**	**71.01**	**311**	P	**P**	**08 12 14.3**	**-1.0**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ				MLR	MLR		
	comp=Z,70nm,18.4s						
KIV	**Kislovodsk**	**71.01**	**311**	*e*P	**P**	**08 12 14.0**	**-1.5**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,47nm,18.0s						
NB2	**NORSAR Subarra**	**74.39**	**337**	P	**P**	**08 12 35.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.39**	**337**	P	**P**	**08 12 34.6**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.8,SNR=4.3						
NOA				LR	LR	08 48 31.9	
	comp=Z,58nm,20.0s,baz=240,slow=38						
NOA	**NORSAR Array B**	**74.39**	**337**	P	**P**	**08 12 34.6**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,58nm,20.0s						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**08 12 35.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=46,slow=6.1,SNR=6.8						
AKASG				LR	LR	08 48 13.7	
	comp=Z,95nm,18.4s,baz=250,slow=38						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**08 12 35.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,95nm,18.5s						
NVAR	**Mina Array Bea**	**75.21**	**53**	P	**P**	**08 12 39.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=285,slow=7.4,SNR=3.1						
NVAR				pP	**PcP**	**08 12 54.0**	**0.0**
	comp=Z,1.6nm,0.8s,baz=296,slow=6.2,SNR=4.4						
TPH	**Tonopah**	**76.11**	**53**	*e*P	**P**	**08 12 47.2**	**+1.4**
TPH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TPH	**Tonopah**	**76.11**	**53**	*e*P	**P**	**08 12 47.2**	**+1.4**
	comp=Z,2.6nm,0.9s						
H17A	**Grant Village**	**76.31**	**45**	*e*P	P	08 12 50.0	+3.2
	comp=Z,4.6nm,1.0s						
PDAR	**Pinedale Array**	**77.91**	**45**	P	**P**	**08 12 53.8**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=232,slow=0.3,SNR=5.6						
BRTR	**Keskin Array B**	**78.96**	**312**	P	**P**	**08 13 00.6**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=77,slow=5.3,SNR=3.6						
BRTR	**Keskin Array B**	**78.96**	**312**	*i* P	**P**	**08 13 03.2**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DPC	**Dobruska-Polom**	**80.63**	**328**	*e*pP	pP	08 13 22.4	-0.8
RAYN	**Ar Rayn**	**80.67**	**292**	*e*P	**P**	**08 13 12.2**	**+1.2**
	comp=Z,7.6nm,1.3s						
CLL	**Collm**	**81.28**	**330**	*i* pP	pP	08 13 26.1	-0.5
CONA	**Conrad Observa**	**82.65**	**326**	⇑ *i* P	**P**	**08 13 22.1**	**+1.1**
	comp=Z,6.1nm,1.3s						
GERES	**GERESS Array B**	**82.89**	**328**	P	**P**	**08 13 21.0**	**-1.2**
	comp=Z,0.3nm,0.2s,baz=28,slow=6.0,SNR=4.2						
SOKA	**Soboth**	**83.96**	**326**	⇑ *i* P	**P**	**08 13 28.2**	**+0.4**
	comp=Z,7.3nm,1.3s						
PPT	**Papeete**	**84.59**	**116**	LR	LR	08 45 39.7	
	comp=Z,81nm,19.9s,baz=344,slow=32						
ANMO	**Albuquerque**	**84.82**	**50**	⇓ *e*P	**P**	**08 13 33.7**	**+1.2**
ANMO				pmax	pmax		
	comp=Z,27nm,2.5s						
TXAR	**Lajitas Array**	**90.35**	**52**	P	**P**	**08 13 57.6**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=352,slow=1.4,SNR=3.7						
TXAR				pP	**pP**	**08 14 11.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=297,slow=3.1,SNR=5.0						
KEST	**Kesra**	**95.18**	**323**	LR	LR	09 02 08.7	
	comp=Z,218nm,18.0s,baz=182,slow=38						

IDC ***29*** *08:06:24.2±0.6, 4°.19N×127°.66E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.1/43, mbtmp4.3/16, Error ellipse: s-maj=33.0km s-min=13.4km az=77.0*
NEIC ***29*** *08:06:32.9±1.3, 4°.18N×127°.75E, h68km±12km, mb4.2/4, Error ellipse: s-maj=14.6km s-min=6.7km az=71.0*
ISCJB ***29*** *08:06:34.8±0.4, 4°.25N±0°.04×127°.85E±0°.05, h100km, mb4.3/19, Error ellipse: s-maj=6.9km s-min=5.3km az=3.3*
DJA ***29*** *08:06:38.4±1.2, 4°.N±8°×12°.8E±°, h112km±9km, M4.9/10, mb5.0/8, mB5.3/7, MLv4.9/10, Mw(mB)4.8/7*
ISC 29 08:06:36.5±0.6, 4°.25N±0°.06×127°.77E±0°.07, h100km, n44, σ1ş40/43, mb4.4/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.30**	**256**	P		P	**Pn**	**08 07 13.6**	**+0.6**
SGSI				S		S	**Sn**	**08 07 43.7**	**+2.7**
TNTI	**Ternate**	**3.48**	**187**	P		P	**Pn**	**08 07 30.8**	**+2.1**
TNTI				S		S	**Sn**	**08 08 10.4**	**+1.4**
TNTI	**Ternate**	**3.48**	**187**	Pn		Pn	Pn	08 07 22.6	-6.1
TNTI				Sn		Sn	Sn	08 08 00.2	-8.8
LBMI	**Labuha**	**4.86**	**183**	P		Pn	**Pn**	**08 07 50.2**	**+2.8**
LBMI				S		S	**Sn**	**08 08 45.7**	**+3.2**
KMSI	**Cibinong**	**5.25**	**226**	P		Pn	**Pn**	**08 07 53.4**	**+0.7**
	1μm,0.8s,10μm3.5nm								
SWI	**Sorong**	**6.16**	**145**	P		Pn	**Pn**	**08 08 06.3**	**+1.3**
	baz=6.3,SNR=3.2								
SWI				S		S	**Sn**	**08 09 12.6**	**-1.6**
	baz=6.3,SNR=3.5								
SANI	**Sanana**	**6.50**	**196**	P		Pn	**Pn**	**08 08 08.1**	**-1.6**
	79nm,0.8s,2μm0.4nm								
SANI				S		Sn	Sn	08 09 15.4	-7.1
	79nm,0.8s,2μm0.4nm								
MRSI	**Marisa**	**6.92**	**237**	P		Pn	**Pn**	**08 08 16.8**	**+1.4**
	721nm,0.8s,7μm2.6nm								
LUWI	**Luwuk**	**7.25**	**224**	P		Pn	**Pn**	**08 08 21.4**	**+1.6**
	100nm,0.7s,5μm0.4nm								
LUWI	**Luwuk**	**7.25**	**224**	P		Pn	**Pn**	**08 08 22.4**	**+2.6**
	baz=7.6,SNR=6.6								
TOLI	**Toli-Toli**	**7.62**	**246**	*e*Pn		Pn	**Pn**	**08 08 22.3**	**-2.6**
	202nm,0.6s								
MPSI	**Mapaga**	**8.77**	**244**	P		Pn	**Pn**	**08 08 41.2**	**+0.7**
	27nm,0.6s,743nm								
TTSI	**Tana Toraja**	**10.75**	**228**	P		Pn	**Pn**	**08 09 05.3**	**-2.2**
SPSI	**Sidrap Palu**	**11.42**	**225**	P		Pn	**Pn**	**08 09 17.5**	**+1.0**
KAPI	**Kappang**	**12.20**	**221**	*e*Pn		Pn	Pn	08 09 22.0	-4.9
KAPI				*e*Sn		Sn	**Sn**	**08 11 38.5**	**-2.6**

WRAB	**Tennant Creek**	**24.89**	**165**	*e*P	**P**	**08 11 49.6**	**-0.6**
	10.0nm,0.6s						
WRA	**Warramunga Arr**	**24.89**	**165**	P	**P**	**08 11 49.1**	**-1.1**
	5.9nm,0.4s,baz=345,slow=9.8,SNR=34						
AS31	**Alice Springs**	**28.38**	**168**	*e*P	**P**	**08 12 20.9**	**-0.7**
ASAR	**Alice Springs**	**28.38**	**168**	P	**P**	**08 12 20.8**	**-0.8**
	6.5nm,0.5s,baz=353,slow=7.5,SNR=92						
KSAR	**Wonju Array Be**	**33.04**	**0**	P	**P**	**08 13 03.0**	**+0.7**
KSRS	**Korea Array**	**33.05**	**0**	P	**P**	**08 13 03.0**	**+0.6**
	5.2nm,0.8s,baz=175,slow=9.2,SNR=13						
MJAR	**Matsushiro Arr**	**33.54**	**15**	P	**P**	**08 13 06.9**	**+0.1**
	1.7nm,0.5s,baz=180,slow=9.8,SNR=5.3						
STKA	**Stephens Creek**	**38.26**	**161**	P	**P**	**08 13 46.5**	**-0.6**
	6.7nm,0.6s,baz=346,slow=7.3,SNR=19						
STKA	**Stephens Creek**	**38.26**	**161**	*e*P	**P**	**08 13 46.5**	**-0.6**
	1.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**39.96**	**5**	P	**P**	**08 14 01.8**	**+0.7**
	1.9nm,0.7s,baz=196,slow=12,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**40.58**	**66**	T	T	08 57 38.4	
	baz=253,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**40.59**	**66**	T	T	08 57 40.8	
	baz=253,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**40.59**	**66**	T	T	08 57 31.5	
	baz=253,slow=75,SNR=7.5						
SONM	**Songino Array**	**47.15**	**340**	P	**P**	**08 14 59.4**	**+0.5**
	0.6nm,0.3s,baz=156,slow=9.1,SNR=8.0						
PETK	**Petropavlovsk-**	**54.57**	**22**	P	**P**	**08 15 54.6**	**+0.3**
	3.6nm,0.6s,baz=189,slow=7.5,SNR=5.6						
MK31	**Makanchi Array**	**57.73**	**325**	*e*P	**P**	**08 16 16.9**	**-0.1**
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**08 16 17.1**	**+0.1**
	1.8nm,0.4s,baz=126,slow=7.3,SNR=47						
AAK	**Ala-Archa**	**60.67**	**317**	P	**P**	**08 16 38.2**	**+0.7**
	1.7nm,0.5s,baz=172,slow=7.1,SNR=3.5						
KURK	**Kurchatov**	**61.87**	**327**	*e*P	**P**	**08 16 45.4**	**+0.2**
KURBB	**Kurchatov Arra**	**61.87**	**327**	P	**P**	**08 16 44.5**	**-0.7**
	3.2nm,0.5s,baz=125,slow=6.0,SNR=5.2						
GEYT	**Alibeck**	**71.38**	**309**	P	**P**	**08 17 46.8**	**+0.7**
	3.4nm,0.3s,baz=32,slow=28,SNR=4.2						
ABKAR	**Akbulak array**	**72.41**	**320**	*e*P	**P**	**08 17 51.5**	**-0.5**
	26nm,1.2s						
AKTO	**Aktyubinsk**	**73.90**	**321**	P	**P**	**08 18 00.1**	**-0.6**
	1.4nm,0.4s,baz=94,slow=11,SNR=4.1						
VNDA	**Vanda**	**83.81**	**173**	P	**P**	**08 18 54.3**	**0.0**
	0.5nm,0.4s,baz=351,slow=2.8,SNR=4.1						
VNDA	**Vanda**	**83.81**	**173**	*e*P	**P**	**08 18 54.2**	**-0.1**
	0.5nm,0.4s						
ILAR	**Eielson Array**	**84.19**	**25**	P	**P**	**08 18 56.3**	**-0.3**
	0.2nm,0.5s,baz=267,slow=6.3,SNR=3.3						
QSPA	**South Pole Qui**	**94.15**	**180**	*e*P	**P**	**08 19 43.3**	**-0.5**
	56nm,2.4s						
YKA	**Yellowknife Ar**	**98.60**	**25**	P	Pdif	08 20 04.6	+0.6
	0.2nm,0.5s,baz=331,slow=3.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.74**	**289**	PKP	**PKPdf**	**08 25 23.0**	**-0.7**
	0.7nm,0.6s,baz=59,slow=1.9,SNR=5.9						

ISCJB ***29*** *08:39:21.7±0.5, 35°.04S±0°.04×71°.80W±0°.09, h35km, mb4.2/11, Error ellipse: s-maj=10.1km s-min=5.3km az=172.3*
IDC ***29*** *08:39:24.8±0.8, 35°.10S×71°.65W, h50km±6km, mb3.9/7, mb1 3.9/11, mb1mx3.8/30, mbtmp4.1/11, MS3.7/2, Ms1 3.7/2, ms1mx3.1/22, Error ellipse: s-maj=26.3km s-min=15.0km az=95.0*
NEIC ***29*** *08:39:25.0, 35°.09S×71°.89W, h39km, mb4.4/4, After GUC.*
NEIC Felt [III] at Curico, Linares, Molina, Parral, Romeral and Talca; [II] at Pichilemu, San Fernando and Santa Cruz.
ISC 29 08:39:24.0±0.6, 35°.03S±0°.05×71°.79W±0°.09, h35km, n28, σ1ş56/34, mb4.3/11, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.53**	**42**	P		P	Pn	08 40 32.3	+2.2
	0.9nm,0.3s,baz=204,slow=15,SNR=34								
CFAA				S		Sn	Sn	08 41 30.9	+9.3
	1.3nm,0.3s,baz=109,slow=22,SNR=13								
CFAA				LR		LR	LR	08 42 22.1	
	comp=Z,26nm,19.0s,baz=213,slow=39								
PLCA	**Paso Flores**	**5.78**	**171**	P		**P**	**Pn**	**08 40 47.2**	**0.0**
	0.2nm,0.3s,baz=352,slow=16,SNR=5.0								
PLCA				LR		LR	LR	08 43 11.0	
	comp=Z,282nm,20.8s,baz=345,slow=40								
PLCA	**Paso Flores**	**5.78**	**171**	*e*Pn		**Pn**	**Pn**	**08 40 48.6**	**+1.4**
PLCA				*e*Sn		**Sn**	**Sn**	**08 41 54.8**	**+2.6**
LCO	**Las Campanas**	**6.07**	**9**	*e*Pn		**Pn**	**Pn**	**08 40 52.6**	**+1.1**
	28nm,0.3s								
LCO				*e*Sn		**Sn**	**Sn**	**08 42 01.3**	**+1.4**
TRQA	**Tornquist**	**8.45**	**114**	*e*Pn		**Pn**	**Pn**	**08 41 25.9**	**+2.0**
	6.0nm,0.6s								
TRQA				*e*Sn		**Sn**	**Sn**	**08 42 59.9**	**+1.8**
LVC	**Limon Verde**	**12.63**	**12**	P		**Pn**	**Pn**	**08 42 23.4**	**+2.0**
	13nm,0.3s,baz=224,slow=8.8,SNR=4.5								
LVC	**Limon Verde**	**12.63**	**12**	*e*Pn		**Pn**	**Pn**	**08 42 22.9**	**+1.5**
LVC				*e*Sn		**Sn**	**Sn**	**08 44 39.9**	**-1.0**
CPUP	**Villa Florida**	**15.15**	**59**	P		**Pn**	**Pn**	**08 42 54.8**	**-0.5**
	0.1nm,0.3s,baz=209,slow=5.8,SNR=2.9								
CPUP				LR		LR	LR	08 49 27.3	
	comp=Z,634nm,20.0s,baz=268,slow=40								
BDFB	**Brasilia**	**28.76**	**54**	P		**P**	**Pn**	**08 45 16.5**	**-2.1**
	1.1nm,0.3s,baz=138,slow=6.8,SNR=4.1								
VNA3	**Neumayer Olymp**	**48.33**	**157**	P		**P**	**Pn**	**08 48 00.8**	**-0.8**
VNA2	**Neumayer--Watz**	**48.98**	**157**	P		P	Pn	08 48 03.3	-3.3
	baz=296,slow=8.6								
SNAA	**Sanae**	**50.55**	**158**	P		**P**	**Pn**	**08 48 16.9**	**-1.8**
SNAA	**Sanae**	**50.55**	**158**	P		**P**	**Pn**	**08 48 16.8**	**-1.8**
	1.0nm,0.8s,baz=258,slow=8.1,SNR=4.5								
SNAA				pP		**pP**	**Pn**	**08 48 31.4**	**+2.3**
	1.1nm,0.8s,baz=302,slow=5.8,SNR=3.6								
QSPA	**South Pole Qui**	**55.21**	**180**	P		**P**	**Pn**	**08 48 51.6**	**-1.5**
	3.2nm,0.8s,baz=7.2,slow=0.6,SNR=11								
QSPA				pP		**pP**	**Pn**	**08 49 05.8**	**+2.1**
	5.7nm,1.1s,baz=203,slow=1.7,SNR=3.7								
QSPA	**South Pole Qui**	**55.21**	**180**	*e*P		**P**	**Pn**	**08 48 52.6**	**-0.5**
QSPA				pP		**pP**	**Pn**	**08 49 05.8**	**+2.1**
JCT	**Junction City**	**70.30**	**334**	*e*P		**P**	**Pn**	**08 50 34.4**	**+0.5**
	1.6nm,0.5s								
TXAR	**Lajitas Array**	**70.73**	**331**	P		**P**	**Pn**	**08 50 36.9**	**+0.3**
	0.5nm,0.4s,baz=152,slow=8.4,SNR=20								
TXAR				pP		**pP**	**Pn**	**08 50 49.7**	**+2.3**
	0.3nm,0.6s,baz=152,slow=8.5,SNR=4.4								
MAW	**Mawson**	**72.13**	**163**	P		**P**	**Pn**	**08 50 42.8**	**-1.6**
	2.2nm,0.7s,baz=213,slow=8.5,SNR=6.4								
WVT	**Waverly**	**72.36**	**346**	*e*P		**P**	**Pn**	**08 50 45.6**	**-0.5**
	4.2nm,0.7s								
DBIC	**Dimbokro**	**75.32**	**71**	P		**P**	**Pn**	**08 51 02.7**	**-1.2**
	3.1nm,0.6s,baz=222,slow=11,SNR=3.5								
ACSO	**Alum Creek Sta**	**75.60**	**351**	*e*P		**P**	**Pn**	**08 51 04.1**	**-0.8**
	6.1nm,0.7s								
ECSD	**EROS Data Cent**	**81.59**	**342**	*e*P		**P**	**Pn**	**08 51 37.0**	**-0.8**
	0.7nm,0.3s								
LBTB	**Lobatse**	**81.69**	**115**	*e*P		**P**	**Pn**	**08 51 38.1**	**-1.0**
CCUT	**Cedar City**	**81.89**	**328**	*e*P		**P**	**Pn**	**08 51 40.9**	**+1.0**
TOA0	**Torodi Ar. Sit**	**84.37**	**70**	*e*P		**P**	**Pn**	**08 51 52.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P		**P**	**Pn**	**08 51 51.3**	**-1.6**
	2.7nm,0.7s,baz=271,slow=5.2,SNR=23								
TORD				pP		**pP**	**Pn**	**08 52 05.7**	**+1.8**
	1.0nm,0.7s,baz=254,slow=4.7,SNR=3.1								
BRTR	**Keskin Array B**	**122.15**	**61**	PKP		**PKPdf**	**Pn**	**08 58 13.4**	**-1.5**
	0.5nm,0.6s,baz=163,slow=8.8,SNR=3.7								
ABKAR	**Akbulak array**	**142.15**	**53**	*e*PKPdf		PKPdf	Pn	08 58 45.9	-6.1

NEIC ***29*** *08:48:13.6±1.3, 4°.86N×126°.20E, h61km±13km, mb4.3/7, Error ellipse: s-maj=14.6km s-min=9.1km az=52.0*
ISCJB ***29*** *08:48:15.7±0.3, 4°.72N±0°.03×126°.25E±0°.04, h100km, mb4.2/24, Error ellipse: s-maj=6.2km s-min=3.6km az=169.7*
IDC ***29*** *08:48:15.3±3.1, 4°.84N×126°.18E, h75km±27km, mb4.0/17, mb1 4.1/17, mb1mx3.9/39, mbtmp4.3/17, MS3.1/2, Ms1 3.2/2, ms1mx2.6/33, Error ellipse: s-maj=29.4km s-min=11.9km az=72.0*
DJA ***29*** *08:48:21.2±1.0, 4°.N±6°×12°.6E±°, h110km±7km, M4.7/7, mb4.7/4, mB5.1/4, MLv4.7/7, Mw(mB)4.5/4*
ISC 29 08:48:17.6±0.4, 4°.70N±0°.04×126°.25E±0°.07, h100km, n66, σ1ş77/68, mb4.3/24, 2C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.23**	**216**	P		P	**Pn**	**08 48 40.3**	**-0.4**
SGSI				S		S	**Sn**	**08 48 59.6**	**+1.5**
GSPH	**General Santos**	**1.89**	**317**	⇓ *i* P		**Pn**	**Pn**	**08 48 46.2**	**-2.7**
GSPH				*e*S		**Sn**	**Sn**	**08 49 11.6**	**-1.2**
GSPH	**General Santos**	**1.89**	**317**	⇓ *i* P		**Pn**	**Pn**	**08 48 46.2**	**-2.7**
GSPH				*e*S		**Sn**	**Sn**	**08 49 11.6**	**-1.2**
CTBH	**Cotabato--PC H**	**3.20**	**322**	⇓ *e*P		**Pn**	**Pn**	**08 49 05.8**	**-0.3**
CTBH				*i* S		Sn	Sn	08 49 50.1	+6.6
CTBH	**Cotabato--PC H**	**3.20**	**322**	⇓ *e*P		**Pn**	**Pn**	**08 49 05.8**	**-0.3**
CTBH				*i* S		Sn	Sn	08 49 50.1	+6.6
CGP	**Cagayan de Oro**	**4.04**	**338**	⇑ *e*P		**Pn**	**Pn**	**08 49 18.4**	**+1.0**
CGP				*e*S		**Sn**	**Sn**	**08 50 09.2**	**+5.4**
CGP	**Cagayan de Oro**	**4.04**	**338**	⇑ *e*P		**Pn**	**Pn**	**08 49 18.4**	**+1.0**
CGP				*e*S		**Sn**	**Sn**	**08 50 09.2**	**+5.4**
TNTI	**Ternate**	**4.05**	**164**	P		P	**Pn**	**08 49 16.3**	**-1.3**
TNTI				S		S	**Sn**	**08 50 02.1**	**-1.9**
TNTI	**Ternate**	**4.05**	**164**	*e*Pn		**Pn**	**Pn**	**08 49 16.4**	**-1.1**
TNTI				*e*Sn		**Sn**	**Sn**	**08 50 04.3**	**+0.3**
SCPH	**Surigao**	**5.11**	**352**	⇓ *e*P		Pn	**Pn**	**08 49 35.5**	**+3.7**
SCPH	**Surigao**	**5.11**	**352**	⇓ *e*P		Pn	**Pn**	**08 49 35.5**	**+3.7**
LBMI	**Labuha**	**5.44**	**167**	P		Pn	**Pn**	**08 49 35.8**	**-0.6**
	72nm,0.7s,1μm0.4nm								
LBMI				S			**Sn**	**08 50 36.7**	**-1.1**
	72nm,0.7s,1μm0.4nm								
MRSI	**Marisa**	**6.00**	**226**	P		Pn	**Pn**	**08 49 46.7**	**+2.7**
	168nm,0.5s,2μm0.7nm								
MRSI				S			**Sn**	**08 50 52.7**	**+1.3**
	168nm,0.5s,2μm0.7nm								
TOLI	**Toli-Toli**	**6.50**	**237**	*e*Pn		Pn	Pn	08 49 47.0	-3.7
TOLI				*e*Sn			**Sn**	**08 51 03.0**	**-0.5**
LUWI	**Luwuk**	**6.67**	**211**	P		Pn	Pn	08 49 57.3	+4.2
LUWI				S		Sn	Sn	08 51 15.4	+7.7
LUWI	**Luwuk**	**6.67**	**211**	P		Pn	**Pn**	**08 49 48.3**	**-4.8**
	baz=6.6,SNR=5.7								
LUWI	**Luwuk**	**6.67**	**211**	*e*Pn		Pn	Pn	08 49 48.2	-4.8
	66nm,0.4s								
LUWI				*e*Sn			**Sn**	**08 51 04.5**	**-3.2**
SANI	**Sanana**	**6.70**	**182**	P		Pn	**Pn**	**08 49 50.8**	**-2.7**
	39nm,0.5s,3μm0.3nm								
SANI				S		Sn	Sn	08 51 01.1	-7.4
	39nm,0.5s,3μm0.3nm								
NLAI	**Namlea**	**7.93**	**174**	P		Pn	**Pn**	**08 50 08.1**	**-2.1**
NLAI				S		Sn	Sn	08 51 30.2	-8.0
FAKI	**Fak Fak**	**9.65**	**141**	P		Pn	**Pn**	**08 50 32.6**	**-1.1**
	baz=10,SNR=6.9								
FAKI	**Fak Fak**	**9.65**	**141**	*e*Pn		**Pn**	**Pn**	**08 50 31.4**	**-2.3**
	25nm,0.8s								
FAKI				*e*Sn			**Sn**	**08 52 22.3**	**+2.0**
TTSI	**Tana Toraja**	**10.02**	**220**	P		Pn	**Pn**	**08 50 43.6**	**+5.0**
KAPI	**Kappang**	**11.62**	**214**	*e*Pn		Pn	**Pn**	**08 51 00.3**	**0.0**
KAPI				*e*Sn			**Sn**	**08 53 06.0**	**-2.3**
SOEI	**Soe**	**14.49**	**188**	S			**Sn**	**08 54 16.7**	**-1.3**
	baz=15,SNR=3.4								
KDU	**Kakadu**	**18.34**	**160**	P		Pn		08 52 33.1	+7.6
	baz=19,SNR=3.6								
KNRA	**Kununurra**	**20.39**	**173**	P		Pn		08 52 52.2	+2.6
	baz=21,SNR=5.8								
COEN	**Coen**	**25.01**	**138**	P			**P**	**08 53 33.0**	**+0.6**
	baz=26,SNR=3.9								
WRAB	**Tennant Creek**	**25.74**	**162**	*e*P			**P**	**08 53 40.9**	**+1.9**
	8.1nm,0.8s								
WRA	**Warramunga Arr**	**25.74**	**162**	P			**P**	**08 53

LITE	Lita	1.14 306	⇓P	Pb	08 48 54.9	0.0			
YANA	Yana	1.16 257	P	Pb	08 48 54.4	-1.0			
GGP	Refugio Guagua	1.20 255	⇓P	Pn	08 48 55.2	-1.1			
COV1	Cotopaxi Volc	1.20 229	⇑P	Pg	08 48 57.8	+1.6			
PINO	Pino	1.20 256	⇓P	Pn	08 48 55.4	-1.0			
TERV	Terraza Guagua	1.20 255	P	Pn	08 48 56.5	+0.1			
JUA2	San Juan 2	1.22 253	P	Pn	08 48 55.2	-1.3			
VC1	Cotopaxi 1	1.23 231	⇑P	Pn	08 48 56.7	-0.1			
TAMB	Tambo	1.24 228	⇑P	Pn	08 48 56.8	-0.1			
BTAM	Cotopaxi Volca	1.25 230	⇑P	Pn	08 48 56.0	-1.0			
BVC2	Cotopaxi Volca	1.25 231	⇑P	Pn	08 48 56.2	-0.9			
BREF	Cotopaxi Volca	1.28 231	⇑P	Pn	08 48 57.7	+0.2			
NAS2	Nasa	1.29 233	P	Pn	08 48 57.6	+0.1			
MOV1	Cotopaxi Vol s	1.31 230	⇑P	Pn	08 48 57.9	-0.1			
BMOR	Cotopaxi Volca	1.33 230	⇑P	Pn	08 48 57.1	-1.1			
CAMI	Rancho Maria	1.34 233	⇑P	Pb	08 48 58.9	+0.5			
PAST	Pastocalle	1.46 235	P	Pb	08 49 00.5	0.0			
PISA	Pisayambo	1.52 218	⇑P	Pn	08 49 00.1	-0.6			
GOLV	Golondrinas	1.70 272	⇓S	Sg	08 49 27.6	-0.1			
GOLV	Golondrinas	1.70 272	⇓P	Pb	08 49 04.8	+0.4			
BRUN	Tungurahua Vol	1.83 212	⇑P	Pn	08 49 05.8	+0.9			
RUN5	Runtun	1.83 213	P	Pb	08 49 06.0	-0.8			
BULB	Ulba Tungurahu	1.84 212	⇑P	Pn	08 49 05.8	+0.8			
BULB	Ulba Tungurahu	1.84 212	⇑S	Sn	08 49 28.2	-0.4			
ULBA	Ulba	1.85 212	P	Pn	08 49 05.7	+0.6			
JUI6	Juive	1.86 214	P	Pn	08 49 05.2	0.0			
JUI6	Juive	1.86 214	S	Sn	08 49 28.3	-0.7			
RETU	Refugio	1.87 212	P	Pn	08 49 06.8	+1.2			
RETU	Refugio	1.87 212	S	Sn	08 49 29.6	+0.1			
BBIL	Ulba Tungurahu	1.89 214	P	Pn	08 49 06.6	+0.9			
BBIL	Ulba Tungurahu	1.89 214	S	Sn	08 49 29.1	-0.7			
BIL2	Estacion Bilba	1.91 214	P	Pn	08 49 06.3	+0.5			
BIL2	Estacion Bilba	1.91 214	S	Sb	08 49 31.7	-0.4			
BPAT	Tungurahua Vol	1.91 211	S	Sn	08 49 30.1	-0.3			
BPAT	Tungurahua Vol	1.91 211	P	Pn	08 49 06.2	+0.1			
PAT1	Patacocha	1.91 211	⇑P	Pn	08 49 06.2	0.0			
ARRY	Arrayan	1.92 212	⇑P	Pn	08 49 06.0	-0.1			
BMAS	Trigal station	1.93 213	⇓S	Sn	08 49 30.5	-0.4			
BMAS	Trigal station	1.93 213	⇓P	Pn	08 49 06.2	-0.1			
IGUA	Igualata	2.01 217	P	Pb	08 49 09.8	-0.3			
IGUA	Igualata	2.01 217	S	Sb	08 49 35.7	+0.3			
RIOE	Riobamba	2.22 212	⇓P	Pn	08 49 11.2	+0.9			
MACE	Macas	2.49 198	P	Pn	08 49 14.6	+0.7			
MACE	Macas	2.49 198	S	Sb	08 49 48.0	-0.9			
JAMA	Jama	2.79 262	P	Pb	08 49 21.8	-1.3			
ISPT	Isla de la Pla	3.89 249	S	Sn	08 50 21.2	+2.6			
ISPT	Isla de la Pla	3.89 249	P	Pn	08 49 36.2	+3.3			
ROSC	El Rosal	5.62 33	Pn	Pn	08 49 58.8	+1.7			
	3.9nm,0.3s,baz=340,slow=4.2,SNR=11								
ROSC			Pg	Pg	08 50 17.0	-3.8			
	5.7nm,0.3s,baz=276,slow=18,SNR=12								
ROSC			Lg	Lg	08 51 36.2				
	14nm,0.3s,baz=211,slow=21,SNR=5.7								
ATAH	Atahualpa	7.29 187	Pn	Pn	08 50 20.9	+0.9			
	1.4nm,0.3s,baz=5.8,slow=7.0,SNR=13								
NNA	Nana	12.06 177	LR	LR	08 56 18.6				
	comp=Z,128nm,20.9s,baz=358,slow=38								
JTS	JuntasAbangare	12.55 324	LR	LR	08 55 47.9				
	comp=Z,261nm,18.6s,baz=151,slow=34								
PCRV	Puerto La Cruz	16.18 52	LR	LR	09 00 17.2				
	comp=Z,216nm,18.5s,baz=226,slow=44								
PTGA	Pitinga	17.50 93	LR	LR	09 00 21.4				
	comp=Z,60nm,18.6s,baz=272,slow=40								
LPAZ	La Paz	18.73 151	P	P	08 52 52.1	-0.6			
	baz=342,slow=13								
LVC	Limon Verde	24.09 160	P	P	08 53 49.5	+0.3			
	10nm,0.8s,baz=324,slow=11,SNR=2.9								
LVC			LR	LR	09 04 59.0				
	comp=Z,739nm,20.7s,baz=329,slow=41								
CPUP	Villa Florida	32.69 145	LR	LR	09 10 22.6				
	comp=Z,768nm,19.6s,baz=324,slow=40								
BDFB	Brasilia	33.02 120	LR	LR	09 08 55.2				
	comp=Z,135nm,20.7s,baz=282,slow=37								
TXAR	Lajitas Array	38.33 322	P	P	08 55 54.5	+0.2			
	0.4nm,0.8s,baz=116,slow=5.7,SNR=5.3								
TXAR			PcP	PcP	08 58 09.0	+0.7			
	0.2nm,0.6s,baz=147,slow=5.3,SNR=3.7								
PLCA	Paso Flores	41.16 172	P	P	08 56 18.9	+1.2			
	6.9nm,0.9s,baz=338,slow=9.0,SNR=13								
PDAR	Pinedale Array	51.30 330	P	P	08 57 38.5	+0.9			
	0.3nm,0.6s,baz=128,slow=9.6,SNR=3.5								
NVAR	Mina Array Bea	53.45 320	P	P	08 57 54.9	+1.1			
	3.2nm,1.0s,baz=141,slow=6.7,SNR=9.2								
YKA	Yellowknife Ar	68.15 342	P	P	08 59 31.4	-1.7			
	0.8nm,0.9s,baz=125,slow=6.1,SNR=6.7								
TORD	Torodi Ar. Bea	79.39 77	P	P	09 00 38.4	-1.7			
	0.2nm,0.4s,baz=285,slow=6.4,SNR=5.5								

IDC 29 09:02:08.2±1.4, 36°56′N×127°31′E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.3/43, mbtmp3.6/2, Error ellipse: s-maj=20.4km s-min=11.4km az=107.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	Korea Array	1.02	29	Pg	Pg	09 02 26.0	-1.7
	0.5nm,0.3s,baz=206,slow=14,SNR=5.1						
KSRS				Lg	Lg	09 02 42.0	
	1.3nm,0.3s,baz=208,slow=26,SNR=8.4						
WRA	Warramunga Arr	56.59	172	P	P	09 11 51.9	-0.9
	0.7nm,1.1s,baz=341,slow=8.0,SNR=2.4						
ASAR	Alice Springs	60.23	173	P	P	09 12 19.1	+0.9
	0.1nm,0.3s,baz=357,slow=6.8,SNR=3.9						

*CSEM **29** 09:06:54.7, 40.71N×34.91E, h6km, MD2.8*
DDA 29 09:06:54.6, 40.71N×34.91E, h6km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTKT	Corum	0.12	227	*i* P	Pg	09 06 57.2	-0.3
CTKT	Corum	0.12	227	*i* P	Pg	09 06 57.2	-0.3
BOYT	Boyabat	0.71	360	*i* P	Pg	09 07 08.3	-0.2
BOYT	Boyabat	0.71	360	*i* P	Pg	09 07 08.3	-0.2
HAVZ	Havza	0.72	59	*i* P	Pg	09 07 08.6	+0.1
HAVZ				*i* S	Sb	09 07 19.2	-0.5
HAVZ	Havza	0.72	59	*i* P	Pg	09 07 08.6	+0.1
HAVZ				*i* S	Sb	09 07 19.2	-0.5
ELDT	Eldivan	1.15	260	*i* P	Pb	09 07 17.1	0.0
ELDT				*i* S	Sn	09 07 34.8	+1.2
ELDT	Eldivan	1.15	260	*i* P	Pb	09 07 17.1	0.0
ELDT				*i* S	Sn	09 07 34.8	+1.2
CDAG	Cicekdag	1.16	201	*i* P	Pg	09 07 16.9	-0.1
CDAG				*i* S	Sb	09 07 33.1	+0.6
CDAG	Cicekdag	1.16	201	*i* P	Pg	09 07 16.9	-0.1
CDAG				*i* S	Sb	09 07 33.1	+0.6

DDA 29 09:07:50.4, 36.53N×37.37E, h7km, MD2.8, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZU	Kuzuini	0.34	316	*i* P	Pg	09 07 57.4	+0.2
KUZU				*i* S	Sb	09 08 04.0	-0.6
KAMA	Osmaniye	0.86	319	*i* P	Pg	09 08 06.5	-0.6
KAMA				*i* S	Sb	09 08 19.5	-0.2

IDC 29 09:14:29.5±2.0, 16°08S×174°04W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/36, mbtmp3.9/5, Error ellipse: s-maj=57.9km s-min=32.7km az=120.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	23.43	198	P	P	09 19 40.0	-0.4
	5.3nm,0.8s,baz=274,slow=2.6,SNR=6.2						
STKA	Stephens Creek	43.17	240	P	P	09 22 32.5	+0.2
	1.9nm,0.7s,baz=81,slow=12,SNR=4.4						
WRA	Warramunga Arr	49.10	257	P	P	09 23 18.7	-0.4
	0.3nm,0.3s,baz=91,slow=7.6,SNR=20						
ASAR	Alice Springs	49.32	252	P	P	09 23 21.0	+0.1
	1.2nm,0.4s,baz=89,slow=8.1,SNR=35						
ILAR	Eielson Array	83.23	11	P	P	09 26 57.5	+0.1
	0.1nm,0.6s,baz=208,slow=6.0,SNR=4.4						

MEX 29 09:17:41.8±0.6, 15°68N×93°96W, h48km±38km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		1.36	36	*i* P	Pn	09 18 02.8	-1.7
TGIG				*i* S	Sn	09 18 19.1	-2.4
CMIG	Matias Romero	1.66	328	*e*P	Pn	09 18 07.4	-1.1
CMIG				*e*S	Sn	09 18 26.9	-1.8
CCIG	Comitan	1.85	71	*e*P	Pn	09 18 09.6	-1.8
CCIG				*e*S	Sn	09 18 31.4	-2.5
HUIG	Huatulco	2.07	273	*e*P	Pn	09 18 12.3	-1.8
HUIG				*i* S	Sn	09 18 36.3	-2.4

MEX 29 09:23:59.1±0.5, 15°71N×93°96W, h66km±11km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		0.71	90	*e*P	Pn	09 24 12.7	-1.2
PCIG				*e*S	Sn	09 24 23.4	-1.4
TGIG		1.34	37	*e*P	Pn	09 24 20.6	-1.3
TGIG				*e*S	Sn	09 24 36.5	-2.4
CMIG	Matias Romero	1.64	327	*e*P	Pn	09 24 25.3	-0.6
CMIG				*e*S	Sn	09 24 43.7	-2.4
CCIG	Comitan	1.84	72	*e*P	Pn	09 24 27.8	-1.1
CCIG				*e*S	Sn	09 24 48.9	-2.5
HUIG	Huatulco	2.07	272	*e*P	Pn	09 24 29.9	-1.7
HUIG				*e*S	Sn	09 24 53.4	-3.1

IDC 29 09:49:19.6±2.0, 4°21S×118°96E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/33, mbtmp3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/14, Error ellipse: s-maj=264.4km s-min=24.7km az=56.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	7.57	142	LR	LR	09 54 17.2	
	comp=Z,368nm,20.2s,slow=39						
WRA	Warramunga Arr	21.66	137	P	P	09 54 11.2	-0.8
	0.2nm,0.7s,baz=312,slow=10,SNR=7.3						
ASAR	Alice Springs	24.13	145	P	P	09 54 38.1	+0.7
	0.3nm,0.3s,baz=320,slow=9.0,SNR=15						
MKAR	Makanchi Array	60.22	332	P	P	09 59 29.4	-0.2
	0.4nm,0.7s,baz=132,slow=9.7,SNR=4.0						

MEX 29 09:52:35.1±0.6, 15°69N×93°96W, h65km±9km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		0.71	89	*e*P	Pn	09 52 48.4	-1.4
PCIG				*e*S	Sn	09 52 59.0	-1.6
TGIG		1.35	37	*i* P	Pn	09 52 56.4	-1.6
TGIG				*e*S	Sn	09 53 12.8	-2.3
CMIG	Matias Romero	1.65	328	*e*P	Pn	09 53 01.2	-0.8
CMIG				*e*S	Sn	09 53 20.2	-2.1
CCIG	Comitan	1.85	71	*e*P	Pn	09 53 03.6	-1.3
CCIG				*e*S	Sn	09 53 26.4	-1.0
HUIG	Huatulco	2.07	272	*e*P	Pn	09 53 05.9	-1.7

*CSEM **29** 09:52:54.7±0.3, 57°49N×14°81E, h2km, ML1.0, Error ellipse: s-maj=7.2km s-min=5.3km az=172.0, Mining explosion.*
UPP 29 09:52:54.7, 57°48N×14°78E, h0km, ML1.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKSU	Eksjoe	0.30	71	P	Pg	09 53 00.4	0.0
VXJU	Vaexsjoe	0.56	171	P	Pg	09 53 05.3	-0.2
VXJU				S	Sg	09 53 12.9	+0.1
GNOU	Gnosjoe	0.58	252	P	Pg	09 53 05.8	-0.1
OSKU	Oskarshamn	0.77	111	P	Pg	09 53 09.3	-0.1
OSKU				S	Sg	09 53 19.9	+0.5
VSTU	Vaestervik	0.96	78	P	Pg	09 53 12.6	-0.6
BYXU	Byxelkrok	1.22	98	P	Pg	09 53 17.5	-0.6
BLEU	Blekinge	1.31	154	P	Pg	09 53 18.8	-0.9

IDC 29 09:58:12.7±2.3, 22°80S×135°27E, h0km, mb1 3.5/1, mb1mx3.2/28, mbtmp3.5/1, ML2.3/2, Error ellipse: s-maj=20.3km s-min=13.3km az=101.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	1.53	235	Pg	Pn	09 58 41.6	+0.2
	0.4nm,0.3s,baz=59,slow=13,SNR=25						
ASAR				Lg	Lg	09 59 00.7	
	0.7nm,0.3s,baz=57,slow=21,SNR=12						
WRA	Warramunga Arr	2.97	343	Pn	Pn	09 59 02.6	+1.4
	0.1nm,0.3s,baz=162,slow=11,SNR=15						
WRA				Sn	Sn	09 59 37.8	+0.2
	0.3nm,0.3s,baz=165,slow=23,SNR=6.0						
WRA				Lg	Lg	09 59 45.0	
	0.6nm,0.3s,baz=172,slow=29,SNR=12						
STKA	Stephens Creek	10.64	150	Pn	Pn	10 00 45.1	-1.5
	0.1nm,0.3s,baz=323,slow=15,SNR=2.9						

*NEIC **29** 10:11:54.8±0.4, 57°18S×24°19W, h10km, mb5.0/2, Error ellipse: s-maj=11.5km s-min=9.8km az=49.0*
*ISCJB **29** 10:11:56.4±0.5, 57°27S±0°08×24°2W±0°2, h35km, mb4.1/9, MS3.7/6, Error ellipse: s-maj=15.4km s-min=8.8km az=149.7*
*IDC **29** 10:11:59.2±0.6, 57°24S×24°24W, h41km±4km, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp4.1/8, ML3.8/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/19, Error ellipse: s-maj=21.6km s-min=19.3km az=60.0*
*AWI **29** 10:12:18.1, 59°88S×27°47W*
ISC 29 10:11:58.7±0.6, 57°3S±0°1×24°2W±0°1, h35km, n39, σ0s96/30, mb4.2/9, MS3.8/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	15.05	159	P	Pn	10 15 27.7	-0.6
VNA3	Neumayer Olymp	15.30	162	P	Pn	10 15 30.4	-1.2
VNA2	Neumayer--Watz	15.45	159	P	Pn	10 15 32.3	-1.2
	baz=326,slow=15						
SNAA	Sanae	16.96	157	P	Pn	10 15 53.9	+1.1
SNAA	Sanae	16.96	157	P	Pn	10 15 51.9	-0.9
	0.3nm,0.3s,baz=66,slow=15,SNR=45						
SNAA				S	Sn	10 18 44.4	-16
	0.1nm,0.3s,baz=66,slow=17,SNR=1.8						
SNAA				LR	LR	10 21 07.5	
	comp=Z,24nm,21.7s,baz=210,slow=32						
SNAA	Sanae	16.96	157	*e*Pn	Pn	10 15 53.3	+0.4
SNAA				S	Sn	10 18 44.4	-16
PMSA	Palmer Station	20.38	232	*e*P	P	10 16 32.3	+0.4
	82nm,1.0s						
USHA	Ushuaia	24.48	257	LR	LR	10 24 46.8	
	comp=Z,284nm,18.7s,baz=172,slow=31						
QSPA	South Pole Qui	32.97	180	P	P	10 18 30.3	+0.6
	3.3nm,0.7s,baz=144,slow=1.5,SNR=17						
PLCA	Paso Flores	33.81	279	P	P	10 18 36.5	-0.7
	3.0nm,0.9s,baz=140,slow=10,SNR=3.4						
PLCA				LR	LR	10 33 12.5	
	comp=Z,83nm,18.4s,baz=103,slow=38						
CPUP	Villa Florida	38.85	309	P	P	10 19 20.1	-0.2
	0.9nm,0.8s,baz=150,slow=8.3,SNR=5.8						
CFAA	Coronel Fontan	39.54	291	P	P	10 19 23.7	-2.3
	0.3nm,0.9s,baz=163,slow=4.6,SNR=4.8						
LCO	Las Campanas	42.88	291	P	P	10 19 52.9	-0.9
VNDA	Vanda	45.41	182	P	P	10 20 08.6	-4.5
	0.4nm,0.3s,baz=112,slow=15,SNR=5.4						
VNDA				LR	LR	10 38 00.8	
	comp=Z,49nm,18.3s,baz=156,slow=34						
LVC	Limon Verde	47.32	298	*e*P	P	10 20 29.5	+0.4
	9.3nm,0.8s						
H10S2	ASCENSION HYDR	48.78	13	T	T	11 13 15.1	
	baz=187,slow=75,SNR=4.5						
H10S3	ASCENSION HYDR	48.78	13	T	T	11 13 15.5	
	baz=187,slow=75,SNR=4.6						
H10S1	ASCENSION HYDR	48.79	13	T	T	11 13 17.2	
	baz=187,slow=75,SNR=4.4						
TSUM	Tsumeb	48.92	57	P	P	10 20 40.0	-1.3
	1.5nm,0.5s,baz=200,slow=7.0,SNR=5.4						
H10N1	ASCENSION HYDR	49.90	13	T	T	11 14 37.9	
H10N3	ASCENSION HYDR	49.90	13	T	T	11 14 40.1	
	SNR=3.9						
H10N2	ASCENSION HYDR	49.91	13	T	T	11 14 37.9	
LPAZ	La Paz	52.42	303	LR	LR	10 41 15.4	
	comp=Z,124nm,21.7s,baz=205,slow=34						
DBIC	Dimbokro	65.67	21	LR	LR	10 43 57.7	
	comp=Z,52nm,20.9s,baz=46,slow=29						
TOA0	Torodi Ar. Sit	73.38	26	*e*P	P	10 23 26.0	-0.8
TORD	Torodi Ar. Bea	73.38	26	P	P	10 23 26.4	-0.4
	4.9nm,0.7s,baz=200,slow=6.7,SNR=31						
TORD				pP	pP	10 23 38.6	+1.0
	7.3nm,0.9s,baz=193,slow=6.5,SNR=14						
LRS	Lares	83.23	320	P	P	10 24 22.3	+1.1
PPT	Papeete	92.74	231	LR	LR	10 58 55.6	
	comp=Z,38nm,18.9s,baz=140,slow=30						
ASAR	Alice Springs	97.30	160	P	P	10 25 27.5	-0.5
	0.6nm,0.7s,baz=184,slow=4.9,SNR=12						
ASAR				pP	pP	10 25 39.6	+0.5
	0.6nm,0.7s,baz=180,slow=4.0,SNR=3.9						
PDAR	Pinedale Array	122.38	300	PKP	PKPdf	10 30 49.6	+0.2
	0.3nm,0.8s,baz=126,slow=2.5,SNR=2.6						
PDAR				pPKP	pPKPdf	10 31 01.7	+0.9
	0.6nm,0.5s,baz=154,slow=4.7,SNR=4.5						
CMAR	Chiang Mai Arr	123.11	108	pPKP	pPKPdf	10 31 03.1	+0.4
	1.0nm,0.6s,baz=243,slow=3.1,SNR=1.7						
FINES	FINESS Array B	124.73	27	PKP	PKPdf	10 30 52.8	-0.1
	1.7nm,0.7s,baz=193,slow=4.3,SNR=2.4						
FINES				pPKP	pPKPdf	10 31 05.2	+0.9
	4.6nm,0.7s,baz=151,slow=4.4,SNR=6.1						
AKTO	Aktyubinsk	126.78	52	pPKP	pPKPdf	10 31 09.6	+0.9
	0.7nm,0.6s,baz=337,slow=2.8,SNR=4.0						
ARCES	ARCESS Array B	131.50	21	pPKP	pPKPdf	10 31 17.8	+0.7
	2.9nm,0.8s,baz=215,slow=1.5,SNR=1.9						
BVAR	Borovoye Array	134.07	57	pPKP	pPKPdf	10 31 24.5	+2.0
	1.7nm,0.8s,baz=204,slow=3.3,SNR=2.5						
MKAR	Makanchi Array	135.74	71	pPKP	pPKPdf	10 31 25.5	-0.3
	0.6nm,0.9s,baz=261,slow=6.0,SNR=3.4						
YKA	Yellowknife Ar	138.19	316	PKP	PKPdf	10 31 18.7	+0.4
	2.3nm,0.9s,baz=120,slow=2.1,SNR=15						
YKA				pPKP	pPKPdf	10 31 31.2	+1.4
	3.0nm,0.8s,baz=124,slow=2.3,SNR=14						
SONM	Songino Array	149.18	86	PKPbc	PKPbc	10 31 42.3	-0.2
	2.2nm,1.0s,baz=239,slow=3.3,SNR=4.5						
SONM				pPKPbc	pPKPbc	10 31 54.3	+0.5
	4.2nm,0.8s,baz=226,slow=2.9,SNR=12						
ILAR	Eielson Array	152.16	309	PKPbc	PKPbc	10 31 49.1	+0.4
	3.5nm,0.9s,baz=133,slow=1.7,SNR=28						
ILAR				pPKPbc	pPKPbc	10 32 01.8	+1.6
	7.1nm,0.8s,baz=138,slow=3.1,SNR=21						

*PRU **29** 10:18:14.7, 50°15N×19°09E, h0km*
CSEM 29 10:18:13.8±0.4, 50°17N×19°11E, h2km, Error ellipse: s-maj=8.8km s-min=4.1km az=13.0, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.45	83	*e*Pg	Pg	10 18 22.0	-0.4
OJC				*e*Sg	Sg	10 18 27.8	-0.5
OJC	Ojcow	0.45	83	*e*Pg	Pg	10 18 22.0	-0.4
OKC	Ostrava-Krasne	0.70	242	*e*SG	Sg	10 18 36.8	+0.4
	comp=Z,9.0nm,0.4s						
OKC	Ostrava-Krasne	0.70	242	Sg	Sg	10 18 36.8	+0.4
	9.0nm,0.4s						
LANS	Liptovska Anna	1.05	167	*e*Pg	Pg	10 18 34.0	+0.1
LANS				*e*Sg	Sg	10 18 46.9	-0.7
MORC	Moravsky Berou	1.08	249	*e*Pg	Pg	10 18 34.7	0.0
MORC				*e*Sg	Sb	10 18 50.3	+0.3
NIE	Niedzica	1.08	133	*e*Pg	Pg	10 18 34.0	-0.7
NIE				*e*Sg	Sg	10 18 48.9	+0.1
NIE	Niedzica	1.08	133	*e*Pg	Pg	10 18 34.0	-0.7
NIE				*e*Sg	Sg	10 18 48.9	+0.1
STHS	Stebnicka Huta	1.58	118	*e*Pn	Pb	10 18 43.7	0.0
STHS				*e*Sn	Sg	10 19 07.4	+2.8
STHS	Stebnicka Huta	1.58	118	*e*PN	Pb	10 18 43.7	0.0
STHS				*e*SN	Sg	10 19 07.4	+2.8
VYHS	Vyhne	1.69	186	*e*Pn	Pn	10 18 43.6	-0.7
VYHS				*e*Sn	Sn	10 19 05.0	-1.5
VYHS	Vyhne	1.69	186	*e*PN	Pn	10 18 43.6	-0.7
VYHS				*e*SN	Sn	10 19 05.0	-1.5
DPC	Dobruska-Polom	1.80	277	*e*PG	Pb	10 18 47.1	-0.4
DPC				*e*SG	Sg	10 19 12.4	+0.7
DPC	Dobruska-Polom	1.80	277	Pg	Pb	10 18 47.1	-0.4
DPC				Sg	Sg	10 19 12.4	+0.7
KECS	Kecovo	1.91	151	*e*Pn	Pb	10 18 49.3	-0.1
KECS				*e*Sn	Sn	10 19 10.7	-1.4
KECS	Kecovo	1.91	151	*e*PN	Pb	10 18 49.3	-0.1
KECS				*e*SN	Sn	10 19 10.7	-1.4
UPC	Upice	2.01	281	*e*SG	Sg	10 19 19.4	+0.9
	comp=Z,1.4nm,0.2s						
UPC	Upice	2.01	281	Sg	Sg	10 19 19.4	+0.9
	1.4nm,0.2s						
GOPC	GO Pecny, Ondr	2.80	266	*e*SG	Sg	10 19 43.7	0.0
	comp=Z,3.1nm,0.3s						
GOPC	GO Pecny, Ondr	2.80	266	Sg	Sg	10 19 43.7	0.0
	3.1nm,0.3s						
PRU	Pruhonice	2.95	268	*e*SG	Sg	10 19 48.2	-0.3
PRU	Pruhonice	2.95	268	Sg	Sg	10 19 48.2	-0.3

*IDC **29** 10:19:51.4±2.5, 53°46N×87°54E, h0km, mb1 3.2/3, mb1mx3.0/31, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=20.8km s-min=12.4km az=65.0*
*NNC **29** 10:19:52.0±7.6, 53°68N×87°16E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=61.8km s-min=48.8km az=7.0*
ISC 29 10:19:54.6±3.7, 53°6N±0°1×87°5E±0°2, h35km, n8, σ0s69/13, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO IN

ML4.1(ATH),ML4.2(THE),After ATH.
*NIC **29** 10:32:56.7,36°.38N×27°.66E,h55km,mb4.5,ML4.2*
*ISK **29** 10:32:56.6,36°.01N×27°.38E,h13km,ML4.5*
*HLW **29** 10:33:01.4,35°.57N×27°.73E,h33km±29km,Ml3.9*
*SZGRF **29** 10:33:33.3,37°.69N×23°.76E,h33km,Southern Greece*
ISC 29 10:32:55.2±0.7,**35°.76N**±0'.02×**27°.48E**±0'.02,**h14**km±4km,
n805,σ1§**48**/848,**mb4.5**/59,**MS3.4**/12,**24C-20D**,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.34**	**231**	P		**Pg**	**ISC**	**10 33 01.9**	**-0.2**
KARP				S		**Sb**		**10 33 07.9**	**-0.4**
KARP	**Karpathos**	**0.34**	**231**	*e*PB		**Sb**		**10 33 02.3**	**+0.2**
KARP				*e*SB		**Sb**		**10 33 08.1**	**-0.2**
KARP	**Karpathos**	**0.34**	**231**	*e*Pb		**Pg**		**10 33 02.3**	**+0.2**
KARP				*e*Sb		**Sb**		**10 33 08.1**	**-0.2**
KARP	**Karpathos**	**0.34**	**231**	P		**Pg**		**10 33 01.9**	**-0.2**
ARG	**Arkhangelos**	**0.69**	**49**	P		**Pg**		**10 33 08.0**	**-0.6**
ARG				S		**Sg**		**10 33 17.6**	**-0.1**
ARG	**Arkhangelos**	**0.69**	**49**	*e*PN		**Pg**		**10 33 08.3**	**-0.3**
ARG				*e*SN		**Sg**		**10 33 17.9**	**+0.1**
ARG	**Arkhangelos**	**0.69**	**49**	P		**Pg**		**10 33 08.0**	**-0.6**
ARG				S		**Sg**		**10 33 17.6**	**-0.1**
ARG	**Arkhangelos**	**0.69**	**49**	P		**Pg**		**10 33 08.0**	**-0.6**
ARG	**Arkhangelos**	**0.69**	**49**	*e*Pn		**Pg**		**10 33 08.3**	**-0.3**
ARG				S		**Sg**		**10 33 17.6**	**-0.1**
ARG				*e*Sn		**Sg**		**10 33 17.9**	**+0.1**
ARG	**Arkhangelos**	**0.69**	**49**	P		**Pg**		**10 33 08.0**	**-0.6**
ARG				S		**Sg**		**10 33 17.6**	**-0.1**
DAT	**Datca**	**0.97**	**5**	*e*PG		**Pb**		**10 33 11.7**	**-2.0**
DAT				*e*SG		**Sb**		**10 33 22.0**	**-4.4**
ZKR	**Zakros**	**1.22**	**238**	*e*PN		**Pn**		**10 33 17.7**	**-0.1**
ZKR				*e*SN		**Sg**		**10 33 35.6**	**+1.0**
ZKR	**Zakros**	**1.22**	**238**	*e*Pn		**Pn**		**10 33 17.7**	**-0.1**
ZKR				*e*Sn		**Sg**		**10 33 35.6**	**+1.0**
BDRM	**Kayabasi**	**1.30**	**359**	*i* P		**Pn**		**10 33 17.9**	**-1.0**
BDRM				*i* S		**Sb**		**10 33 34.2**	**-1.7**
BDRM	**Kayabasi**	**1.30**	**359**	*i* P		**Pn**		**10 33 17.9**	**-1.0**
BDRM				*i* S		**Sb**		**10 33 34.2**	**-1.7**
BODT	**Bodrum**	**1.30**	**354**	*e*PG		**Pn**		**10 33 17.3**	**-1.7**
BODT				*e*SG		**Sb**		**10 33 32.4**	**-3.7**
BODT	**Bodrum**	**1.30**	**354**	*e*Pg		**Pn**		**10 33 17.3**	**-1.7**
BODT				*e*Sg		**Sb**		**10 33 32.4**	**-3.7**
DALY	**Dalyan (Mu¨la**	**1.41**	**42**	*e*PN		**Pb**		**10 33 21.1**	**-0.1**
DALY				*e*SN		**Sb**		**10 33 39.1**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.41**	**42**	*e*Pn		**Pb**		**10 33 21.2**	**-0.1**
DALY				*e*Sn		**Sb**		**10 33 39.1**	**-0.1**
TURN	**Turunc**	**1.43**	**39**	*i* P		**Pn**		10 33 16.3	-4.4
TURN				*i* S		Sn		10 33 31.4	-7.8
YER	**Yerkesik**	**1.51**	**25**	*e*PN		**Pn**		**10 33 21.5**	**-0.4**
YER	**Yerkesik**	**1.51**	**25**	*e*Pn		**Pn**		**10 33 21.5**	**-0.4**
FETY	**Fethiye**	**1.56**	**56**	*e*PN		**Pn**		**10 33 23.3**	**+0.8**
FETY	**Fethiye**	**1.56**	**56**	*e*Pn		**Pn**		**10 33 23.3**	**+0.8**
NPS	**Neapolis**	**1.61**	**252**	P		**Pn**		**10 33 23.0**	**-0.1**
NPS	**Neapolis**	**1.61**	**252**	*e*PN		**Pn**		**10 33 23.4**	**+0.3**
NPS	**Neapolis**	**1.61**	**252**	P		**Pn**		**10 33 23.0**	**-0.1**
NPS	**Neapolis**	**1.61**	**252**	P		**Pn**		**10 33 23.0**	**-0.1**
NPS	**Neapolis**	**1.61**	**252**	*e*Pn		**Pn**		**10 33 23.4**	**+0.3**
NPS	**Neapolis**	**1.61**	**252**	P		**Pn**		**10 33 23.0**	**-0.1**
LAST	**Lasithi**	**1.74**	**250**	*e*PN		**Pn**		**10 33 25.4**	**+0.3**
LAST				*e*SN		**Sb**		**10 33 48.0**	**-0.7**
LAST	**Lasithi**	**1.74**	**250**	*e*Pn		**Pn**		**10 33 25.4**	**+0.3**
LAST				*e*Sn		**Sb**		**10 33 48.0**	**-0.7**
SANT	**Santorini**	**1.75**	**291**	*e*PB		**Pn**		**10 33 24.0**	**-0.6**
SANT				*e*SN		**Sn**		**10 33 47.6**	**+0.4**
SANT	**Santorini**	**1.75**	**291**	*e*Pn		**Pn**		**10 33 24.5**	**-0.6**
SANT				*e*Sn		**Sn**		**10 33 47.6**	**+0.4**
SANT	**Santorini**	**1.75**	**291**	*e*Pn		**Pn**		**10 33 24.5**	**-0.6**
THR1	**Thera Island**	**1.75**	**291**	*e*PN		**Pn**		**10 33 25.3**	**+0.2**
THR1	**Thera Island**	**1.75**	**291**	*e*Pn		**Pn**		**10 33 25.3**	**+0.2**
AKAS	**Kas**	**1.78**	**74**	*i* P		**Pb**		**10 33 27.0**	**-0.7**
AKAS				*i* S		**Sg**		**10 33 52.6**	**0.0**
AKAS	**Kas**	**1.78**	**74**	*i* P		**Pb**		**10 33 27.0**	**-0.7**
AKAS				*i* S		**Sg**		**10 33 52.6**	**0.0**
THR6	**Thira Island,**	**1.79**	**290**	P		**Pn**		**10 33 25.5**	**-0.1**
THR6	**Thira Island,**	**1.79**	**290**	P		**Pn**		**10 33 25.5**	**-0.1**
THR6	**Thira Island,**	**1.79**	**290**	P		**Pn**		**10 33 25.5**	**-0.1**
THR2	**Thira island,**	**1.79**	**293**	P		**Pn**		**10 33 25.5**	**-0.2**
THR2	**Thira island,**	**1.79**	**293**	P		**Pn**		**10 33 25.5**	**-0.2**
THR2	**Thira island,**	**1.79**	**293**	P		**Pn**		**10 33 25.5**	**-0.2**
THR5	**Thira Island,**	**1.85**	**291**	P		**Pn**		**10 33 26.4**	**0.0**
THR5	**Thira Island,**	**1.85**	**291**	*e*PN		**Pn**		**10 33 26.4**	**0.0**
THR5	**Thira Island,**	**1.85**	**291**	P		**Pn**		**10 33 26.4**	**0.0**
AYDN	**Tasoluk**	**1.92**	**9**	*i* P		**Pb**		**10 33 28.9**	**-1.1**
AYDN				*i* S		**Sb**		**10 33 52.9**	**-0.9**
AYDN	**Tasoluk**	**1.92**	**9**	*i* P		**Pb**		**10 33 28.9**	**-1.1**
AYDN				*i* S		**Sb**		**10 33 52.9**	**-0.9**
GCAM	**G?zelcaml?**	**1.94**	**354**	*i* P		**Pn**		**10 33 27.1**	**-0.6**
GCAM	**G?zelcaml?**	**1.94**	**354**	*i* P		**Pn**		**10 33 27.1**	**-0.6**
GCAM				*i* S		**Sg**		**10 33 57.3**	**-0.3**
SMG	**Samos**	**2.01**	**345**	P		**Pn**		**10 33 28.0**	**-0.6**
SMG	**Samos**	**2.01**	**345**	*e*PB		**Pn**		**10 33 28.1**	**-0.6**
SMG	**Samos**	**2.01**	**345**	*e*Pn		**Pn**		**10 33 28.1**	**-0.6**
SMG	**Samos**	**2.01**	**345**	P		**Pn**		**10 33 28.0**	**-0.6**
APE	**Apeiranthos**	**2.04**	**310**	P		**Pn**		**10 33 28.5**	**-0.7**
APE	**Apeiranthos**	**2.04**	**310**	*e*PN		**Pn**		**10 33 28.7**	**-0.5**
APE	**Apeiranthos**	**2.04**	**310**	*e*PB		**Pn**		**10 33 28.5**	**-0.7**
APE	**Apeiranthos**	**2.04**	**310**	⇓ *i*P		**Pn**		**10 33 29.0**	**-0.2**
APE	**Apeiranthos**	**2.04**	**310**	S		**Sb**		**10 33 58.0**	**+0.6**
APE	**Apeiranthos**	**2.04**	**310**	*e* P		**Pn**		**10 33 28.4**	**-0.7**
APE	**Apeiranthos**	**2.04**	**310**	*e*Pn		**Pn**		**10 33 28.7**	**-0.5**
APE	**Apeiranthos**	**2.04**	**310**	P		**Pn**		**10 33 28.5**	**-0.7**
IDI	**Anoyia**	**2.17**	**258**	Pn		**Pn**		**10 33 31.1**	**+0.2**
	45nm,0.3s,baz=81,slow=16,SNR=167								
IDI				Sn		**Sn**		**10 33 57.1**	**-0.5**
	101nm,0.3s,baz=322,slow=7.4,SNR=7.0								
IDI				LR		LR		10 34 18.5	
	comp=Z,207nm,21.3s,baz=56,slow=40								
ELL	**Elmali**	**2.19**	**63**	*e*PN		**Pb**		**10 33 33.6**	**-1.0**
ELL	**Elmali**	**2.19**	**63**	*e*Pn		**Pb**		**10 33 33.7**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**8**	*e*PN		**Pn**		**10 33 30.7**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**8**	*e*Pn		**Pn**		**10 33 30.7**	**-0.7**
GOLH	**Golhisar**	**2.23**	**48**	*i* P		**Pb**		**10 33 34.5**	**-0.7**
GOLH	**Golhisar**	**2.23**	**48**	*i* P		**Pb**		**10 33 34.5**	**-0.7**
GOLH				*i* S		**Sg**		**10 34 05.6**	**-1.2**
DNZL	**Cakiroluk**	**2.30**	**33**	*i* P		**Pn**		**10 33 34.4**	**+1.6**
DNZL	**Cakiroluk**	**2.30**	**33**	*i* P		**Pn**		**10 33 34.4**	**+1.6**
DNZL				*i* S		**Sn**		**10 34 02.4**	**+1.5**
SIVA	**Sivas**	**2.31**	**252**	*e*PB		**Pn**		**10 33 34.3**	**+1.6**
SIVA	**Sivas**	**2.31**	**252**	*e*Pb		**Pn**		**10 33 34.3**	**+1.6**
IZM	**Izmir**	**2.63**	**356**	*e*PN		**Pn**		**10 33 37.3**	**0.0**
IZM	**Izmir**	**2.63**	**356**	*e*Pn		**Pn**		**10 33 37.3**	**0.0**
BLCB	**Balcova**	**2.64**	**352**	*e*PN		**Pn**		**10 33 36.5**	**-0.7**
BLCB	**Balcova**	**2.64**	**352**	*e*Pn		**Pn**		**10 33 36.6**	**-0.7**
VAM	**Vamos**	**2.70**	**263**	P		**Pn**		**10 33 37.7**	**-0.4**
VAM	**Vamos**	**2.70**	**263**	*e*PN		**Pn**		**10 33 37.4**	**-0.7**
VAM	**Vamos**	**2.70**	**263**	P		**Pn**		**10 33 37.7**	**-0.4**
VAM	**Vamos**	**2.70**	**263**	*e*Pn		**Pn**		**10 33 37.4**	**-0.7**
VAM	**Vamos**	**2.70**	**263**	P		**Pn**		**10 33 37.7**	**-0.4**
VAM	**Vamos**	**2.70**	**263**	P		**Pn**		**10 33 37.7**	**-0.4**
ANTB	**Antalya**	**2.80**	**65**	*e*PN		**Pn**		**10 33 42.0**	**+2.6**
ANTB	**Antalya**	**2.80**	**65**	*e*Pn		**Pn**		**10 33 42.1**	**+2.6**
CHOS	**Chios island**	**2.86**	**337**	P		**Pn**		**10 33 39.9**	**-0.5**
CHOS				S		**Sn**		**10 34 15.3**	**+0.7**
CHOS	**Chios island**	**2.86**	**337**	*e*PN		**Pn**		**10 33 39.6**	**-0.7**
CHOS	**Chios island**	**2.86**	**337**	*e*PN		**Pn**		**10 33 40.6**	**+0.2**
CHOS	**Chios island**	**2.86**	**337**	P		**Pn**		**10 33 39.9**	**-0.5**
CHOS	**Chios island**	**2.86**	**337**	*e*Pn		**Pn**		**10 33 40.6**	**+0.2**
CHOS				S		**Sn**		**10 34 15.3**	**+0.7**
CHOS	**Chios island**	**2.86**	**337**	P		**Pn**		**10 33 39.9**	**-0.5**
CHOS				S		**Sn**		**10 34 15.3**	**+0.7**
KULA	**Kula-Manisa**	**2.90**	**19**	*e*PN		**Pn**		**10 33 40.8**	**-0.2**
KULA	**Kula-Manisa**	**2.90**	**19**	*e*Pn		**Pn**		**10 33 40.8**	**-0.2**
GVD	**Gavdhos**	**2.93**	**253**	*e*PB		**Pb**		**10 33 44.3**	**-2.8**
GVD	**Gavdhos**	**2.93**	**253**	*e*Pn		**Pb**		**10 33 44.1**	**-3.0**
GVD	**Gavdhos**	**2.93**	**253**	*e*Pn		**Pb**		**10 33 44.1**	**-3.0**
KARN	**Karanos**	**2.93**	**264**	*e*PN		**Pn**		**10 33 41.2**	**-0.1**
KARN	**Karanos**	**2.93**	**264**	*e*Pn		**Pn**		**10 33 41.2**	**-0.1**
BCK	**Bucak**	**3.02**	**55**	*e*PN		**Pn**		**10 33 44.9**	**+2.3**
BCK	**Bucak**	**3.02**	**55**	*e*Pn		**Pn**		**10 33 44.9**	**+2.3**
KHL	**Karahalli**	**3.03**	**32**	*e*PN		**Pn**		**10 33 43.5**	**+0.7**
KHL	**Karahalli**	**3.03**	**32**	*e*Pn		**Pn**		**10 33 43.5**	**+0.7**
AKHS	**Akhisar**	**3.12**	**5**	*i* P		**Pn**		**10 33 44.6**	**+0.6**
AKHS	**Akhisar**	**3.12**	**5**	*i* P		**Pn**		**10 33 44.6**	**+0.6**
AKS	**Akhisar**	**3.12**	**5**	*e*PN		**Pn**		**10 33 43.5**	**-0.4**
AKS	**Akhisar**	**3.12**	**5**	*e*Pn		**Pn**		**10 33 43.5**	**-0.4**
ISP	**Isparta**	**3.19**	**49**	*e*PN		**Pn**		**10 33 46.8**	**+1.8**
ISP	**Isparta**	**3.19**	**49**	⇓ *i*P		**Pn**		**10 33 46.8**	**+1.8**
ISP	**Isparta**	**3.19**	**49**	*e*P		**Pn**		**10 33 47.1**	**+2.1**
ISP	**Isparta**	**3.19**	**49**	*e*Pn		**Pn**		**10 33 46.8**	**+1.8**
ISP	**Isparta**	**3.19**	**49**	*e*P		**Pn**		**10 33 47.1**	**+2.1**
ISP	**Isparta**	**3.19**	**49**	*e*Pn		**Pn**		**10 33 47.1**	**+2.1**
ANKY	**Antikythira Is**	**3.40**	**273**	P		**Pn**		**10 33 47.8**	**0.0**
ANKY				S		**Sn**		**10 34 29.1**	**+1.2**
ANKY	**Antikythira Is**	**3.40**	**273**	*e*PN		**Pn**		**10 33 47.9**	**+0.1**
ANKY	**Antikythira Is**	**3.40**	**273**	*e*Pn		**Pn**		**10 33 47.9**	**+0.1**
ANKY				S		**Sn**		**10 34 29.1**	**+1.2**
ANKY	**Antikythira Is**	**3.40**	**273**	P		**Pn**		**10 33 47.8**	**0.0**
ANKY				S		**Sn**		**10 34 29.1**	**+1.2**
DEMI	**Demirci**	**3.42**	**16**	*i* P		**Pn**		**10 33 48.2**	**+0.1**
DEMI				*i* S		**Sn**		**10 34 23.7**	**-4.7**
DEMI	**Demirci**	**3.42**	**16**	*i* P		**Pn**		**10 33 48.2**	**+0.1**
DEMI				*i* S		**Sn**		**10 34 23.7**	**-4.7**
PRK	**Paraskevi**	**3.61**	**345**	P		**Pn**		**10 33 50.4**	**-0.2**
PRK	**Paraskevi**	**3.61**	**345**	*e*PN		**Pn**		**10 33 50.4**	**-0.2**
PRK	**Paraskevi**	**3.61**	**345**	P		**Pn**		**10 33 50.4**	**-0.2**
PRK	**Paraskevi**	**3.61**	**345**	*e*Pn		**Pn**		**10 33 50.4**	**-0.2**
PRK	**Paraskevi**	**3.61**	**345**	P		**Pn**		**10 33 50.4**	**-0.2**
KYTH	**Kithira**	**3.64**	**279**	P		**Pn**		**10 33 51.9**	**+0.8**
KYTH	**Kithira**	**3.64**	**279**	*e*PN		**Pn**		**10 33 52.1**	**+1.0**
KYTH	**Kithira**	**3.64**	**279**	P		**Pn**		**10 33 51.9**	**+0.8**
KYTH	**Kithira**	**3.64**	**279**	P		**Pn**		**10 33 51.9**	**+0.8**
SIGR	**SIGRI**	**3.68**	**340**	*e*PN		**Pn**		**10 33 51.2**	**-0.3**
SIGR	**SIGRI**	**3.68**	**340**	*e*PN		**Pn**		**10 33 51.4**	**-0.1**
SIGR	**SIGRI**	**3.68**	**340**	*e*Pn		**Pn**		**10 33 51.4**	**-0.1**
ATHU	**Athens Univers**	**3.69**	**308**	P		**Pn**		**10 33 52.5**	**+0.7**
ATHU	**Athens Univers**	**3.69**	**308**	P		**Pn**		**10 33 52.5**	**+0.7**
ATHU	**Athens Univers**	**3.69**	**308**	P		**Pn**		**10 33 52.5**	**+0.7**
SHUT	**Suhut-Afyon**	**3.71**	**40**	*e*PN		**Pn**		**10 33 53.7**	**+1.6**
SHUT	**Suhut-Afyon**	**3.71**	**40**	*e*Pn		**Pn**		**10 33 53.7**	**+1.6**
ATH	**Athens Observa**	**3.74**	**307**	P		**Pn**		**10 33 53.7**	**+1.3**
ATH	**Athens Observa**	**3.74**	**307**	*e*PN		**Pn**		**10 33 53.7**	**+1.3**
ATH	**Athens Observa**	**3.74**	**307**	P		**Pn**		**10 33 52.1**	**-0.3**
ATH	**Athens Observa**	**3.74**	**307**	P		**Pn**		**10 33 52.1**	**-0.3**
ATH	**Athens Observa**	**3.74**	**307**	*e*Pn		**Pn**		**10 33 53.7**	**+1.3**
ATH	**Athens Observa**	**3.74**	**307**	P		**Pn**		**10 33 52.1**	**-0.3**
NAIG	**Nisos Aigina**	**3.77**	**303**	*e*PN		**Pn**		**10 33 53.4**	**+0.5**
NAIG	**Nisos Aigina**	**3.77**	**303**	*e*Pn		**Pn**		**10 33 53.4**	**+0.5**
VLI	**Veliai**	**3.80**	**286**	*e*PN		**Pn**		**10 33 54.7**	**+1.5**
VLI	**Veliai**	**3.80**	**286**	*e*Pn		**Pn**		**10 33 54.7**	**+1.5**
BALB	**Balikesir**	**3.88**	**5**	*e*PN		**Pn**		**10 33 54.4**	**0.0**
BALB	**Balikesir**	**3.88**	**5**	*e*Pn		**Pn**		**10 33 54.4**	**0.0**
ALT	**Altintas**	**3.90**	**32**	*e*PN		**Pn**		**10 33 55.7**	**+1.0**
ALT	**Altintas**	**3.90**	**32**	*e*Pn		**Pn**		**10 33 55.7**	**+1.0**
DST	**Dursunbey**	**3.94**	**13**	*e*PN		**Pn**		**10 33 55.4**	**+0.2**
DST	**Dursunbey**	**3.94**	**13**	*e*Pn		**Pn**		**10 33 55.4**	**+0.2**
GAZI	**Gazipasa**	**3.95**	**82**	*i* P		**Pn**		**10 33 55.4**	**+0.1**
GAZI				*i* S		**Sn**		**10 34 36.6**	**-4.8**
GAZI	**Gazipasa**	**3.95**	**82**	*i* P		**Pn**		**10 33 55.4**	**+0.1**
GAZI				*i* S		**Sn**		**10 34 36.6**	**-4.8**
TVSB	**Tavsanli**	**4.00**	**23**	*e*PN		**Pn**		**10 33 56.6**	**+0.5**
TVSB	**Tavsanli**	**4.00**	**23**	*e*Pn		**Pn**		**10 33 56.6**	**+0.5**
AKMC	**Akamas**	**4.03**	**99**	P		**Pn**		**10 33 56.6**	**+0.2**
	baz=290								
AKMC	**Akamas**	**4.03**	**99**	P		**Pn**		**10 33 56.6**	**+0.2**
PPCY	**Paphos**	**4.07**	**101**	P		**Pn**		**10 33 57.7**	**+0.7**
	baz=292								
PPCY	**Paphos**	**4.07**	**101**	P		**Pn**		**10 33 57.7**	**+0.7**
EZN	**Ezine**	**4.16**	**348**	*e*PN		**Pn**		**10 33 58.2**	**+0.1**
EZN	**Ezine**	**4.16**	**348**	*e*Pn		**Pn**		**10 33 58.2**	**+0.1**
ALFC	**Alevga**	**4.22**	**97**	P		**Pn**		**10 33 59.3**	**+0.2**
	baz=288								
ALFC				S		**Sn**		**10 34 48.0**	**-0.1**
ALFC	**Alevga**	**4.22**	**97**	P		**Pn**		**10 33 59.3**	**+0.2**
ALFC				S		**Sn**		**10 34 48.0**	**-0.1**
LTK	**Loutraki**	**4.26**	**303**	*e*PN		**Pn**		**10 34 01.4**	**+1.7**
LTK	**Loutraki**	**4.26**	**303**	*e*Pn		**Pn**		**10 34 01.4**	**+1.7**
MRKA	**Markates**	**4.28**	**315**	P		**Pn**		**10 34 00.4**	**+0.6**
MRKA	**Markates**	**4.28**	**315**	*e*PN		**Pn**		**10 34 00.6**	**+0.8**
MRKA	**Markates**	**4.28**	**315**	P		**Pn**		**10 34 00.4**	**+0.6**
VLX	**Vlachokerasia**	**4.41**	**293**	P		**Pn**		**10 34 02.2**	**+0.5**
VLX				S		**Sn**		**10 34 54.2**	**+1.3**
VLX	**Vlachokerasia**	**4.41**	**293**	*e*PN		**Pn**		**10 34 03.7**	**+2.0**
VLX	**Vlachokerasia**	**4.41**	**293**	P		**Pn**		**10 34 02.2**	**+0.5**
VLX	**Vlachokerasia**	**4.41**	**293**	*e*Pn		**Pn**		**10 34 03.7**	**+2.0**
VLX				S		**Sn**		**10 34 54.2**	**+1.3**
VLX	**Vlachokerasia**	**4.41**	**293**	P		**Pn**		**10 34 02.2**	**+0.5**
VLX				S		**Sn**		**10 34 54.2**	**+1.3**
ORLT	**Orhaneli**	**4.42**	**14**	*e*PN		**Pn**		**10 34 02.4**	**+0.6**
ORLT	**Orhaneli**	**4.42**	**14**	*e*Pn		**Pn**		**10 34 02.4**	**+0.6**
AOS	**Alonnisos**	**4.45**	**321**	*e*PN		**Pn**		**10 34 02.8**	**+0.6**
AOS	**Alonnisos**	**4.45**	**321**	*e*Pn		**Pn**		**10 34 02.8**	**+0.6**
KONT	**Konya--Tatoy**	**4.48**	**59**	*e*PN		**Pn**		**10 34 05.3**	**+2.7**
KONT	**Konya--Tatoy**	**4.48**	**59**	*e*Pn		**Pn**		**10 34 05.3**	**+2.7**
ERMK	**Ermenek**	**4.48**	**77**	*i* P		**Pn**		**10 34 05.3**	**+2.6**
ERMK				*i* S		**Sn**		**10 34 55.7**	**+0.9**
ERMK	**Ermenek**	**4.48**	**77**	*i* P		**Pn**		**10 34 05.3**	**+2.6**
ERMK				*i* S		**Sn**		**10 34 55.7**	**+0.9**
LIA	**Limnos Island**	**4.51**	**337**	*e*PN		**Pn**		**10 34 02.9**	**-0.1**
LIA	**Limnos Island**	**4.51**	**337**	*e*Pn		**Pn**		**10 34 02.9**	**-0.1**
SZAC	**Souni-Zanaja**	**4.53**	**101**	P		**Pn**		**10 34 04.2**	**+0.8**
	baz=292								
SZAC				S		**Sn**		**10 34 56.9**	**+1.1**
SZAC	**Souni-Zanaja**	**4.53**	**101**	P		**Pn**		**10 34 04.2**	**+0.8**
SZAC				S		**Sn**		**10 34 56.9**	**+1.1**
KCTX	**Karacabey (Bur**	**4.55**	**8**	*e*PN		**Pn**		**10 34 03.9**	**+0.3**
KCTX	**Karacabey (Bur**	**4.55**	**8**	*e*Pn		**Pn**		**10 34 03.9**	**+0.3**
EDC	**Edincik**	**4.58**	**4**	*e*PN		**Pn**		**10 34 04.5**	**+0.4**
EDC	**Edincik**	**4.58**	**4**	*e*Pn		**Pn**		**10 34 04.5**	**+0.4**
GADA	**Gvkgeada**	**4.59**	**345**	*e*PN		**Pn**		**10 34 04.8**	**+0.6**
GADA	**Gvkgeada**	**4.59**	**345**	*e*Pn		**Pn**		**10 34 04.8**	**+0.6**
LKR	**Lokris**	**4.59**	**310**	P		**Pn**		**10 34 05.0**	**+0.9**
LKR	**Lokris**	**4.59**	**310**	*e*PN		**Pn**		**10 34 05.1**	**+0.9**
LKR	**Lokris**	**4.59**	**310**	P		**Pn**		**10 34 05.0**	**+0.9**
LKR	**Lokris**	**4.59**	**310**	P		**Pn**		**10 34 05.0**	**+0.9**
LADK	**Ladik-KONYA**	**4.60**	**57**	*e*PN		**Pn**		**10 34 07.2**	**+2.8**
LADK	**Ladik-KONYA**	**4.60**	**57**	*e*Pn		**Pn**		**10 34 07.2**	**+2.8**
ESKT	**Eskisehir**	**4.60**	**34**	*e*PN		**Pn**		**10 34 05.9**	**+1.5**
ESKT	**Eskisehir**	**4.60**	**34**	*e*Pn		**Pn**		**10 34 05.9**	**+1.5**
KDHN	**Kadinhani**	**4.61**	**52**	*i* P		**Pn**		**10 34 06.1**	**+1.6**
KDHN	**Kadinhani**	**4.61**	**52**	*i* P		**Pn**		**10 34 06.1**	**+1.6**
SMIA	**Simia**	**4.61**	**314**	*e*PN		**Pn**		**10 34 05.9**	**+1.5**
SMIA	**Simia**	**4.61**	**314**	*e*Pn		**Pn**		**10 34 05.9**	**+1.5**
KRBG	**Karabiga-Canak**	**4.62**	**358**	*e*PN		**Pn**		**10 34 04.8**	**+0.2**
KRBG	**Karabiga-Canak**	**4.62**	**358**	*e*Pn		**Pn**		**10 34 04.8**	**+0.2**
LPK	**Lapseki**	**4.64**	**353**	*e*PN		**Pn**		**10 34 05.3**	**+0.6**
LPK	**Lapseki**	**4.64**	**353**	*e*Pn		**Pn**		**10 34 05.3**	**+0.6**
SKIA	**Skiathos**	**4.66**	**318**	*e*PN		**Pn**		**10 34 06.2**	**+1.1**
SKIA	**Skiathos**	**4.66**	**318**	*e*Pn		**Pn**		**10 34 06.2**	**+1.1**
HMAT	**Matruh**	**4.67**	**184**	P		**Pn**		**10 34 05.9**	**+0.7**
	baz=187								
HMAT				S		**Sn**		**10 34 56.0**	**-3.2**
	baz=187								
HMAT	**Matruh**	**4.67**	**184**	P		**Pn**		**10 34 05.9**	**+0.7**
HMAT				S		**Sn**		**10 34 56.0**	**-3.2**
KIZT	**Kizilcal**	**4.69**	**47**	*e*PN		**Pn**		**10 34 07.9**	**+2.3**
KIZT	**Kizilcal**	**4.69**	**47**	*e*Pn		**Pn**		**10 34 07.9**	**+2.3**
GELI	**Tayfur-Gelibol**	**4.70**	**351**	*e*PN		**Pn**		**10 34 06.5**	**+1.0**
GELI	**Tayfur-Gelibol**	**4.70**	**351**	*e*Pn		**Pn**		**10 34 06.5**	**+1.0**
ITM	**Ithomi**	**4.70**	**289**	P		**Pn**		**10 34 08.1**	**+2.5**
ITM	**Ithomi**	**4.70**	**289**	P		**Pn**		**10 34 08.1**	**+2.5**
ITM	**Ithomi**	**4.70**	**289**	P		**Pn**		**10 34 08.1**	**+2.5**
MAMC	**Mammari**	**4.72**	**96**	P		**Pn**		**10 34 06.8**	**+0.9**
	baz=286								
MAMC	**Mammari**	**4.72**	**96**	P		**Pn**		**10 34 06.8**	**+0.9**
DSF	**Desfina**	**4.76**	**305**	P		**Pn**		**10 34 07.5**	**+1.0**
DSF	**Desfina**	**4.76**	**305**	*e*PN		**Pn**		**10 34 08.0**	**+1.5**
DSF	**Desfina**	**4.76**	**305**	P		**Pn**		**10 34 07.5**	**+1.0**
DSF	**Desfina**	**4.76**	**305**	*e*Pn		**Pn**		**10 34 08.0**	**+1.5**
DSF	**Desfina**	**4.76**	**305**	P		**Pn**		**10 34 07.5**	**+1.0**
PYL	**PYLOS**	**4.77**	**285**	P		**Pn**		**10 34 07.5**	**+0.9**
PYL	**PYLOS**	**4.77**	**285**	*e*PN		**Pn**		**10 34 08.9**	**+2.3**
PYL	**PYLOS**	**4.77**	**285**	P		**Pn**		**10 34 07.5**	**+0.9**
PYL	**PYLOS**	**4.77**	**285**	*e*Pn		**Pn**		**10 34 08.9**	**+2.3**
PYL	**PYLOS**	**4.77**	**285**	P		**Pn**		**10 34 07.5**	**+0.9**
CAVI	**Cavuskoy**	**4.81**	**22**	*e*PN		**Pn**		**10 34 08.1**	**+1.0**
CAVI	**Cavuskoy**	**4.81**	**22**	*e*Pn		**Pn**		**10 34 08.1**	**+1.0**
MRMT	**Marmara Adasi

RSH		**7.08**	**131**	P		**Pn**	**10 34 37.4**	**-1.0**
	baz=130							
RSH		**7.08**	**131**	P		**Pn**	**10 34 37.4**	**-1.0**
MMAI	**Mount Meron Ar**	**7.10**	**110**	Pn		**Pn**	**10 34 37.6**	**-1.1**
	comp=N,19nm,0.3s,baz=297,slow=13,SNR=23							
MMAI				Sn		**Sn**	**10 35 56.3**	**-2.9**
	comp=N,21nm,0.3s,baz=308,slow=16,SNR=3.0							
HWQ	**Hawqa**	**7.10**	**100**	*e*P		**Pn**	**10 34 38.8**	**+0.1**
HWQ	**Hawqa**	**7.10**	**100**	*e*P		**Pn**	**10 34 38.8**	**+0.1**
GLL	**Jalalah**	**7.12**	**149**	P		**Pn**	**10 34 39.0**	**0.0**
	baz=149							
GLL	**Jalalah**	**7.12**	**149**	P		**Pn**	**10 34 39.0**	**0.0**
RCY	**Rachaya**	**7.25**	**106**	*e*P		**Pn**	**10 34 40.1**	**-0.7**
RCY	**Rachaya**	**7.25**	**106**	*e*P		**Pn**	**10 34 40.1**	**-0.7**
KEK	**Kerkira**	**7.25**	**305**	*e*PN		**Pn**	**10 34 43.5**	**+2.8**
KEK	**Kerkira**	**7.25**	**305**	*e*Pn		**Pn**	**10 34 43.5**	**+2.8**
BTCH	**Batrach**	**7.29**	**85**	*e*P		Pn	10 34 34.6	-6.7
BTCH				*e*S		Px	10 34 43.6	
BTCH				AML		AML	10 34 56.1	
	comp=E,40nm,0.3s							
BTCH				AML		AML	10 35 01.7	
	comp=N,65nm,0.4s							
BRBR	**Barbar**	**7.37**	**106**	*e*P		**Pn**	**10 34 42.5**	**0.0**
BRBR				AML		AML	10 34 45.8	
	comp=E,34nm,0.3s							
BRBR				AML		AML	10 34 47.5	
	comp=N,92nm,0.3s							
BRBR				*e*S		Px	10 34 54.8	
SUZ		**7.43**	**141**	P		**Pn**	**10 34 43.5**	**+0.4**
	baz=141							
SUZ		**7.43**	**141**	P		**Pn**	**10 34 43.5**	**+0.4**
OHR	**Ohrid**	**7.48**	**318**	*e*Pn		**Pn**	**10 34 45.5**	**+1.7**
AWBH		**7.52**	**170**	P		**Pn**	**10 34 45.1**	**+0.7**
	baz=171							
AWBH		**7.52**	**170**	P		**Pn**	**10 34 45.1**	**+0.7**
VTS	**Vitosha**	**7.58**	**335**	⇑*i*P		**Pn**	**10 34 47.8**	**+2.5**
VTS	**Vitosha**	**7.58**	**335**	⇑*i*P		**Pn**	**10 34 47.8**	**+2.5**
ZAF		**7.75**	**145**	P		**Pn**	**10 34 47.9**	**+0.4**
	baz=145							
ZAF		**7.75**	**145**	P		**Pn**	**10 34 47.9**	**+0.4**
TOTH	**TOTAH**	**7.76**	**105**	*e*P		Pn	10 34 40.6	-7.1
TOTH				*e*S		Px	10 34 54.9	
TOTH				AML		AML	10 34 56.3	
	comp=E,44nm,0.4s							
TOTH				AML		AML	10 34 58.8	
	comp=N,26nm,0.3s							
ZNM		**7.83**	**143**	P		**Pn**	**10 34 48.8**	**+0.2**
	baz=143							
ZNM		**7.83**	**143**	P		**Pn**	**10 34 48.8**	**+0.2**
PSN	**Preselentsi**	**7.93**	**4**	⇓*i*P		**Pn**	**10 34 50.5**	**+0.6**
PSN	**Preselentsi**	**7.93**	**4**	⇓*i*P		**Pn**	**10 34 50.5**	**+0.6**
HNKL	**Nakhl**	**7.98**	**135**	P		**Pn**	**10 34 50.4**	**-0.3**
	baz=135							
HNKL	**Nakhl**	**7.98**	**135**	P		**Pn**	**10 34 50.4**	**-0.3**
SALA	**Sala**	**8.24**	**109**	*e*P		**Pn**	**10 34 52.3**	**-2.1**
SALA				AML		AML	10 35 04.4	
	comp=N,26nm,0.4s							
SALA				AML		AML	10 35 12.4	
	comp=E,2.7nm,0.7s							
SALA				*e*S		Px	10 35 12.6	
ASF	**Jabal al Asfar**	**8.60**	**112**	Pn		**Pn**	**10 34 59.9**	**+0.6**
	comp=E,1.9nm,0.3s,baz=241,slow=7.8,SNR=10.0							
ASF				Sn		**Sn**	**10 36 35.4**	**-0.7**
	comp=E,0.9nm,0.3s,baz=122,slow=18,SNR=1.5							
ASF	**Jabal al Asfar**	**8.60**	**112**	P		**Pn**	**10 34 59.9**	**+0.6**
ASF							10 36 35.4	
ASF				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ASF				smax		smax		
	comp=N,1.0nm,0.3s							
HFRF	**Wahat Farafira**	**8.62**	**175**	P		**Pn**	**10 34 59.9**	**+0.4**
	baz=176							
HFRF	**Wahat Farafira**	**8.62**	**175**	P		**Pn**	**10 34 59.8**	**+0.4**
TIRR	**Tirgusor**	**8.71**	**4**	⇑*i*P		**Pn**	**10 35 01.6**	**+0.9**
TIRR	**Tirgusor**	**8.71**	**4**	*e*P		**Pn**	**10 35 01.5**	**+0.9**
TIRR	**Tirgusor**	**8.71**	**4**	*e*P		**Pn**	**10 35 01.5**	**+0.9**
TIRR	**Tirgusor**	**8.71**	**4**	*e*Pn		**Pn**	**10 35 01.5**	**+0.8**
EIL	**Elat**	**8.74**	**132**	Pn		**Pn**	**10 35 00.7**	**-0.5**
	comp=N,8.5nm,0.3s,baz=230,slow=4.7,SNR=30							
EIL				Sn		Sn	10 36 33.7	-5.9
	comp=N,9.2nm,0.3s,baz=336,slow=17,SNR=4.6							
TR2		**9.06**	**143**	P		**Pn**	**10 35 05.7**	**+0.2**
	baz=143							
TR2		**9.06**	**143**	P		**Pn**	**10 35 05.7**	**+0.2**
HKAT	**Jabal Katrina**	**9.08**	**141**	P		**Pn**	**10 35 05.9**	**-0.1**
	baz=141							
HKAT	**Jabal Katrina**	**9.08**	**141**	P		**Pn**	**10 35 05.9**	**-0.1**
MALT	**Malatya**	**9.11**	**71**	⇑*i*P		**Pn**	**10 35 08.6**	**+2.3**
MALT	**Malatya**	**9.11**	**71**	⇑*i*P		**Pn**	**10 35 08.6**	**+2.3**
TIP	**Timpagrande**	**9.18**	**295**	*e*Pn		**Pn**	**10 35 06.8**	**-0.4**
TIP	**Timpagrande**	**9.18**	**295**	*e*Pn		**Pn**	**10 35 06.8**	**-0.4**
HDHB	**Dhahab**	**9.26**	**137**	P		**Pn**	**10 35 08.2**	**0.0**
	baz=137							
HDHB	**Dhahab**	**9.26**	**137**	P		**Pn**	**10 35 08.2**	**0.0**
CEL	**Celeste**	**9.60**	**288**	*e*Pn		**Pn**	**10 35 11.8**	**-1.1**
CEL	**Celeste**	**9.60**	**288**	*e*Pn		**Pn**	**10 35 11.8**	**-1.1**
MLR	**Muntele Rosu**	**9.79**	**354**	⇑*i*P		**Pn**	**10 35 18.1**	**+2.6**
MLR	**Muntele Rosu**	**9.79**	**354**	Pn		**Pn**	**10 35 15.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=200,slow=9.8,SNR=11							
MLR				LR		LR	10 38 59.0	
	comp=N,21nm,18.4s,baz=184,slow=38							
VOIR		**9.84**	**350**	⇑*i*P		**Pn**	**10 35 19.1**	**+2.9**
VOIR		**9.84**	**350**	⇑*i*P		**Pn**	**10 35 19.1**	**+2.9**
PLOR	**Plostina**	**10.10**	**357**	⇓*i*P		**Pn**	**10 35 22.1**	**+2.4**
PLOR	**Plostina**	**10.10**	**357**	⇓*i*P		**Pn**	**10 35 22.1**	**+2.4**
VRI	**Vrincioaia**	**10.11**	**357**	⇓*i*P		**Pn**	**10 35 21.4**	**+1.6**
VRI	**Vrincioaia**	**10.11**	**357**	⇓*i*P		**Pn**	**10 35 21.4**	**+1.6**
DIVS	**Divibare**	**10.11**	**328**	⇑*i*P		**Pn**	**10 35 21.8**	**+1.8**
DIVS	**Divibare**	**10.11**	**328**	⇑*i*P		**Pn**	**10 35 21.8**	**+1.8**
CUC	**Castrocucco**	**10.14**	**298**	*e*Pn		**Pn**	**10 35 19.6**	**-0.7**
CUC	**Castrocucco**	**10.14**	**298**	*e*Pn		**Pn**	**10 35 19.6**	**-0.7**
GZR	**Gura Zlata**	**10.26**	**341**	⇓*i*P		**Pn**	**10 35 23.5**	**+1.5**
GZR	**Gura Zlata**	**10.26**	**341**	⇓*i*P		**Pn**	**10 35 23.5**	**+1.5**
SIM	**Simferopol'**	**10.47**	**27**	P		**Pn**	**10 35 27.5**	**+2.7**
SIM				S		**Sn**	**10 37 22.0**	**+0.1**
SIM	**Simferopol'**	**10.47**	**27**	P		**Pn**	**10 35 27.5**	**+2.7**
SIM				S		**Sn**	**10 37 22.0**	**+0.1**
WDD	**Wield Dalam**	**10.53**	**274**	*e*Pn		**Pn**	**10 35 25.1**	**-0.5**
WDD	**Wield Dalam**	**10.53**	**274**	*e*Pn		**Pn**	**10 35 25.1**	**-0.5**
ANN	**Anapa**	**11.79**	**37**	*e*P		Pn	10 35 47.0	+4.2
ANN				pmax		pmax		
	comp=Z,39nm,1.5s							
BURAR	**Bucovina Array**	**11.96**	**353**	⇓*i*P		**Pn**	**10 35 47.3**	**+2.0**
BURAR	**Bucovina Array**	**11.96**	**353**	⇓*i*P		**Pn**	**10 35 47.3**	**+2.0**
BUR08	**Bucovina Ar. S**	**11.99**	**353**	*e*Pn		**Pn**	**10 35 48.3**	**+2.6**
BUR08	**Bucovina Ar. S**	**11.99**	**353**	*e*Pn		**Pn**	**10 35 48.4**	**+2.6**
SOC	**Sochi**	**12.23**	**47**	*e*P		P	10 36 06.7	+5.4
SOC				MLR		MLR		
	comp=Z,373nm,14.0s							
PSZ	**Piszkesteto**	**13.39**	**337**	⇑*i*P		**Pn**	**10 36 06.0**	**+1.3**
PSZ	**Piszkesteto**	**13.39**	**337**	*e*P		Pn	10 36 08.6	+3.9
PSZ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
PSZ	**Piszkesteto**	**13.39**	**337**	⇑*i*P		**Pn**	**10 36 06.0**	**+1.3**
PSZ	**Piszkesteto**	**13.39**	**337**	*e*Pn		Pn	10 36 08.6	+3.9
	comp=Z,9.0nm,0.7s							
PSZ	**Piszkesteto**	**13.39**	**337**	*e*Pn		Pn	10 36 08.6	+3.9
	comp=Z,9.0nm,0.7s							
KOLS	**Kolonicke sedl**	**13.71**	**345**	*e*P		**Pn**	**10 36 12.0**	**+3.0**
KOLS	**Kolonicke sedl**	**13.71**	**345**	*e*P		**Pn**	**10 36 12.0**	**+3.0**
KOLS	**Kolonicke sedl**	**13.71**	**345**	*e*PN		**Pn**	**10 36 12.0**	**+3.0**
KOLS				*e*			10 36 20.1	
CRVS	**Cervenica-Dubn**	**13.86**	**343**	*e*		**P**	**10 36 21.6**	**+2.2**
NEY	**Neytrino**	**13.93**	**53**	⇓*e*P		Pn	10 36 16.1	+3.9
VYHS	**Vyhne**	**14.23**	**336**	*e*P		**P**	**10 36 25.0**	**+1.5**
KIV	**Kislovodsk**	**14.24**	**50**	*e*P		**Pn**	**10 36 16.0**	**-0.4**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KIV				MLR		MLR		
	comp=Z,91nm,11.0s							
KBZ	**Khabaz**	**14.26**	**51**	LR		LR	10 43 32.7	
	comp=Z,100nm,20.8s,baz=144,slow=45							
JAVS	**Javornik**	**14.32**	**319**	*i* Pn		**Pn**	**10 36 19.6**	**+2.1**
JAVS	**Javornik**	**14.32**	**319**	*i* Pn		**Pn**	**10 36 19.6**	**+2.1**
STHS	**Stebnicka Huta**	**14.39**	**343**	*e*P		**P**	**10 36 27.6**	**+2.3**
OBKA	**Obir**	**14.48**	**322**	⇑*i*Pn		**Pn**	**10 36 20.6**	**+1.0**
OBKA	**Obir**	**14.48**	**322**	Pn		**Pn**	**10 36 20.6**	**+1.0**
ZEI	**Tsey**	**14.51**	**56**	*e*P		**Pn**	**10 36 22.5**	**+2.3**
ZEI				pmax		pmax		
	comp=Z,26nm,1.8s							
NIE	**Niedzica**	**14.62**	**341**	*e*P		**P**	**10 36 30.4**	**+2.5**
KEST	**Kesra**	**14.73**	**275**	Pn		**Pn**	**10 36 20.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=198,slow=6.4,SNR=6.0							
KEST	**Kesra**	**14.73**	**275**	*e*Pn		**Pn**	**10 36 23.8**	**+0.6**
KEST	**Kesra**	**14.73**	**275**	*e*Pn		**Pn**	**10 36 23.8**	**+0.6**
VSL	**Villasalto**	**14.82**	**290**	*e*Pn		**Pn**	**10 36 24.8**	**+0.5**
VSL	**Villasalto**	**14.82**	**290**	*e*Pn		**Pn**	**10 36 24.8**	**+0.5**
AKASG	**Malin Array Be**	**14.98**	**4**	Pn		**Pn**	**10 36 25.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=194,slow=11,SNR=11							
KBA	**Koelnbreinsper**	**15.47**	**321**	⇓*i*Pn		**Pn**	**10 36 33.5**	**+0.5**
	comp=Z,12nm,0.6s							
KBA	**Koelnbreinsper**	**15.47**	**321**	Pn		**Pn**	**10 36 33.5**	**+0.5**
	comp=Z,12nm,0.6s							
OJC	**Ojcow**	**15.49**	**341**	*e*P		**P**	**10 36 38.9**	**+1.4**
OJC	**Ojcow**	**15.49**	**341**	*e*P		**P**	**10 36 38.8**	**+1.3**
OJC	**Ojcow**	**15.49**	**341**	*e*P		**P**	**10 36 38.8**	**+1.3**
OKC	**Ostrava-Krasne**	**15.63**	**337**	AMS		AMS	10 44 00.0	
	comp=Z,300nm,10.6s							
VRAC	**Vranov**	**15.71**	**333**	Pn		**Pn**	**10 36 35.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=79,slow=4.1,SNR=1.8							
VRAC	**Vranov**	**15.71**	**333**	P		**Pn**	**10 36 35.3**	**-0.7**
VRAC				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MORC	**Moravsky Berou**	**15.77**	**336**	*e*P		**P**	**10 36 42.1**	**+1.4**
MORC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MORC	**Moravsky Berou**	**15.77**	**336**	*e*P		**P**	**10 36 42.1**	**+1.4**
	comp=Z,5.8nm,0.9s							
MORC	**Moravsky Berou**	**15.77**	**336**	*e*P		**P**	**10 36 42.1**	**+1.4**
	comp=Z,5.8nm,0.9s							
PGF	**Pioggiola**	**15.84**	**301**	*e*P		**Pn**	**10 36 37.1**	**-0.7**
PGF	**Pioggiola**	**15.84**	**301**	*e*P		**Pn**	**10 36 37.1**	**-0.7**
PGF	**Pioggiola**	**15.84**	**301**	*e*P		**Pn**	**10 36 37.1**	**-0.7**
TREC	**Trest**	**16.13**	**331**	*e*P		**Pn**	**10 36 42.3**	**+1.0**
TREC	**Trest**	**16.13**	**331**	*e*P		**Pn**	**10 36 42.3**	**+1.0**
TREC	**Trest**	**16.13**	**331**	*e*P		**Pn**	**10 36 42.3**	**+1.0**
GEC2	**GERESS Array S**	**16.54**	**326**	*e*P		**P**	**10 36 48.6**	**-0.6**
GEC2	**GERESS Array S**	**16.54**	**326**	*e*P		**P**	**10 36 48.6**	**-0.6**
GEC2	**GERESS Array S**	**16.54**	**326**	*e*Pn		**P**	**10 36 48.6**	**-0.6**
GERES	**GERESS Array B**	**16.54**	**326**	Pn		**Pn**	**10 36 46.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=11,SNR=7.1							
DPC	**Dobruska-Polom**	**16.68**	**334**	*e*P		**Pn**	**10 36 49.3**	**+1.0**
DPC				*e*pP		**pP**	**10 36 54.0**	**-0.7**
DPC				*e*x		x	10 37 00.9	
DPC				*e*x		x	10 37 05.6	
DPC				AMS		AMS	10 43 30.0	
DPC	**Dobruska-Polom**	**16.68**	**334**	*e*P		**Pn**	**10 36 49.3**	**+1.0**
DPC	**Dobruska-Polom**	**16.68**	**334**	*e*P		**P**	**10 36 51.0**	**+0.3**
DPC	**Dobruska-Polom**	**16.68**	**334**	*e*P		**P**	**10 36 51.0**	**+0.3**
DPC	**Dobruska-Polom**	**16.68**	**334**	*e*P		**P**	**10 36 51.0**	**+0.3**
KHC	**Kasperske Hory**	**16.81**	**327**	*e*P		**Pn**	**10 36 50.5**	**+0.5**
KHC				*e*x		x	10 37 04.5	
KHC	**Kasperske Hory**	**16.81**	**327**	*e*P		**Pn**	**10 36 50.5**	**+0.5**
KHC	**Kasperske Hory**	**16.81**	**327**	*e*P		**Pn**	**10 36 50.5**	**+0.5**
MOTA	**Moosalm**	**16.82**	**318**	⇓*i*Pn		**P**	**10 36 52.1**	**-0.2**
	comp=Z,3.0nm,0.5s							
MOTA	**Moosalm**	**16.82**	**318**	Pn		**Pn**	**10 36 49.9**	**-0.4**
	comp=Z,3.0nm,0.5s							
FETA	**Feichten**	**16.83**	**317**	⇓*i*Pn		**P**	**10 36 52.4**	**-0.1**
	comp=Z,4.2nm,0.6s							
FETA	**Feichten**	**16.83**	**317**	Pn		**Pn**	**10 36 49.8**	**-0.6**
	comp=Z,4.2nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**16.86**	**315**	*e*P		**P**	**10 36 53.5**	**+0.5**
	comp=Z,14nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**16.86**	**315**	*e*P		**P**	**10 36 53.5**	**+0.5**
	comp=Z,14nm,1.1s							
GOPC	**GO Pecny, Ondr**	**16.90**	**331**	*e*P		**P**	**10 36 55.8**	**+2.7**
GOPC				*e*x		x	10 37 02.9	
GOPC				AMS		AMS	10 46 20.0	
	comp=Z,300nm,7.8s							
PRU	**Pruhonice**	**17.05**	**330**	AMS		AMS	10 46 00.0	
	comp=Z,300nm,9.2s							
KSP	**Ksiaz**	**17.10**	**335**	*e*P		**P**	**10 36 56.1**	**+0.8**
KSP	**Ksiaz**	**17.10**	**335**	*e*P		**P**	**10 36 55.3**	**0.0**
KSP	**Ksiaz**	**17.10**	**335**	*e*P		**P**	**10 36 55.3**	**0.0**
DAVOX	**Davos/Dischmat**	**17.17**	**315**	P		**Pn**	**10 36 54.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=1.5,slow=16,SNR=2.9							
DAVOX				LR		LR	10 45 19.2	
	comp=Z,64nm,18.7s,baz=264,slow=44							
TUE	**Stuetta**	**17.31**	**314**	*e*Pn		**P**	**10 37 01.9**	**+4.0**
	comp=Z,438nm,0.5s							
TUE	**Stuetta**	**17.31**	**314**	*e*Pn		**P**	**10 37 01.9**	**+4.0**
	comp=Z,438nm,0.5s							
SAOF	**Saorge**	**17.33**	**304**	*e*P		**Pn**	**10 36 55.8**	**-0.8**
SBF	**Sospel**	**17.37**	**304**	*e*P		**Pn**	**10 36 55.2**	**-1.9**
	comp=Z,26nm,0.8s							
SBF	**Sospel**	**17.37**	**304**	*e*P		**Pn**	**10 36 55.2**	**-1.9**
SBF				pmax		pmax		
	comp=Z,26nm,0.8s							
SBF	**Sospel**	**17.37**	**304**	*e*P		**Pn**	**10 36 55.2**	**-1.9**
	comp=Z,26nm,0.8s							
REVF	**Revere**	**17.37**	**303**	*e*P		**P**	**10 36 58.4**	**0.0**
VORD	**Divnogorie**	**17.42**	**26**	*e*P		**P**	**10 37 02.0**	**+3.2**
VORD				pmax		pmax		
	comp=N,10.0nm,0.9s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.9s							
VORD				pmax		pmax		
	comp=Z,10.0nm,0.9s							
AUTN	**L'Aution**	**17.42**	**304**	*e*P		**Pn**	**10 36 57.4**	**-0.5**
DAVA	**Damuels**	**17.45**	**317**	⇑*i*Pn		**Pn**	**10 36 58.7**	**+0.4**
	comp=Z,7.3nm,0.6s							
DAVA	**Damuels**	**17.45**	**317**	Pn		**Pn**	**10 36 57.7**	**-0.5**
	comp=Z,7.3nm,0.6s							
PVCC	**Panska Ves**	**17.47**	**332**	*e*P		**P**	**10 37 01.3**	**+1.9**
PVCC				AMS		AMS	10 45 30.0	
	comp=Z,300nm,8.2s							
PVCC	**Panska Ves**	**17.47**	**332**	*e*P		**P**	**10 37 01.3**	**+1.9**
PVCC				MLR		MLR		
	comp=Z,300nm,8.2s							
PVCC	**Panska Ves**	**17.47**	**332**	*e*P		**P**	**10 37 01.3**	**+1.9**
	comp=Z,300nm,8.2s							
TOUF	**Mont Tournerai**	**17.55**	**304**	*e*P		**Pn**	**10 36 58.1**	**-1.4**
VSR	**Storozhevoye**	**17.58**	**25**	*e*P		**P**	**10 37 03.2**	**+2.6**
VSR				pmax		pmax		
	comp=N,10.0nm,1.3s							
VSR				pmax		pmax		
	comp=Z,10.0nm,1.3s							
VSR				pmax		pmax		
	comp=E,10.0nm,1.0s							
CALN	**Calern**	**17.70**	**303**	*e*P		**Pn**	**10 37 00.8**	**-0.5**
FRF	**La Foret Royal**	**17.80**	**302**	*e*P		**Pn**	**10 36 58.7**	**-3.7**
	comp=E,9.9nm,0.8s							
FRF	**La Foret Royal**	**17.80**	**302**	*e*P		**Pn**	**10 36 58.7**	**-3.7**
FRF				pmax		pmax		
	comp=Z,10.0nm,0.8s							
FRF	**La Foret Royal**	**17.80**	**302**	*e*P		**Pn**	**10 36 58.7**	**-3.7**
	comp=Z,9.9nm,0.8s							
LMR	**La Mourre**	**17.83**	**301**	*e*P		**Pn**	**10 36 59.3**	**-3.4**
	comp=Z,17nm,1.0s							
LMR	**La Mourre**	**17.83**	**301**	*e*P		**Pn**	**10 36 59.3**	**-3.4**
LMR				pmax		pmax		
	comp=Z,17nm,1.0s							
LMR	**La Mourre**	**17.83**	**301**	*e*P		**Pn**	**10 36 59.3**	**-3.4**
	comp=Z,17nm,1.0s							
BRG	**Berggiesshubel**	**17.98**	**331**	*e*P		**P**	**10 37 05.7**	**+0.6**
	comp=Z,1.9nm,0.8s							
BRG				*e*			10 37 12.7	
	comp=Z,5.5nm,1.1s							
	comp=N,173nm,13.2s							
	comp=E,223nm,15.8s							
	comp=Z,179nm,14.4s							
BRG	**Berggiesshubel**	**17.98**	**331**	*e*P		**P**	**10 37 05.7**	**+0.6**
BRG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BRG				MLR		MLR		
	comp=N,173nm,13.2s							
BRG				MLR		MLR		
	comp=E,223nm,15.8s							
BRG				MLR		MLR		
	comp=Z,179nm,14.4s							
BRG	**Berggiesshubel**	**17.98**	**331**	*e*P		**P**	**10 37 05.7**	**+0.6**
	comp=Z,179nm,14.4s							
MBDF	**Montbardon**	**18.13**	**306**	*e*P		**Pn**	**10 37 05.0**	**-1.6**
	comp=Z,13nm,0.5s							
MBDF	**Montbardon**	**18.13**	**306**	*e*P		**Pn**	**10 37 05.0**	**-1.6**
MBDF				pmax		pmax		
	comp=Z,13nm,0.5s							
MBDF	**Montbardon**	**18.13**	**306**	*e*P		**Pn**	**10 37 05.0**	**-1.6**
	comp=Z,6.3nm,0.5s							
MBDF	**Montbardon**	**18.13**	**306**	*e*P		**Pn**	**10 37 05.0**	**-1.6**
	comp=Z,13nm,0.5s							
GRA1	**Grafenberg Arr**	**18.29**	**325**	*e*P		**P**	**10 37 11.1**	**+2.7**
	comp=Z,66nm,1.9s							
GRF	**Grafenberg Arr**	**18.29**	**325**	*e*P		**P**	**10 37 11.1**	**+2.7**
	comp=Z,66nm,1.9s							
BNI	**Bardonecchia**	**18.32**	**307**	*e*P		**P**	**10 37 11.8**	**+2.9**
BNI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
BNI	**Bardonecchia**	**18.32**	**307**	*e*P		**P**	**10 37 11.8**	**+2.9**
	comp=Z,9.9nm,1.2s							
LPG	**La Plagne**	**18.45**	**308**	*e*P		**P**	**10 37 09.8**	**-0.8**
	comp=Z,18nm,0.6s							
LPG	**La Plagne**	**18.45**	**308**	*e*P		**P**	**10 37 09.8**	**-0.8**
LPG				pmax		pmax		
	comp=Z,18nm,0.6s							
LPG	**La Plagne**	**18.45**	**308**	*e*P		**P**	**10 37 09.8**	**-0.8**
	comp=Z,8.8nm,0.6s							
LPG	**La Plagne**	**18.45**	**308**	*e*P		**P**	**10 37 09.8**	**-0.8**
	comp=Z,18nm,0.6s							
LPL	**La Plagne**	**18.47**	**308**	*e*P		**P**	**10 37 09.9**	**-0.8**
	comp=Z,14nm,0.5s							
LPL	**La Plagne**	**18.47**	**308**	*e*P		**P**	**10 37 09.9**	**-0.8**
LPL				pmax		pmax		
	comp=Z,14nm,0.5s							
LPL	**La Plagne**	**18.47**	**308**	*e*P		**P**	**10 37 09.9**	**-0.8**
	comp=Z,6.8nm,0.5s							
LPL	**La Plagne**	**18.47**	**308**	*e*P		**P**	**10 37 09.9**	**-0.8**
	comp=Z,14nm,0.5s							
SENIN	**Lac Senin/Sane**	**18.49**	**311**	*e*P		**P**	**10 37 10.4**	**-0.5**
SENIN	**Lac Senin/Sane**	**18.49**	**311**	*e*P		**P**	**10 37 10.4**	**-0.5**
SMRF	**Simiane la Rot**	**18.67**	**303**	*e*P		**P**	**10 37 11.9**	**-0.8**
	comp=Z,12nm,1.0s							
SMRF	**Simiane la Rot**	**18.67**	**303**	*e*P		**P**	**10 37 11.9**	**-0.8**
	comp=Z,6.1nm,1.0s							
SMRF	**Simiane la Rot**	**18.67**	**303**	*e*P		**P**	**10 37 11.9**	**-0.8**
	comp=Z,12nm,1.0s							
LPSR	**Galich'ya Gora**	**18.69**	**22**	*e*P		**Pn**	**10 37 15.3**	**+2.2**
LPSR				pmax		pmax		
	comp=N,10.0nm,1.1s							
LPSR				pmax		pmax		
	comp=E,10.0nm,1.1s							
LPSR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CLL	**Collm**	**18.70**	**331**	*e*P		**Pn**	**10 37 15.0**	**+1.7**
CLL				*e*pP		**pP**	**10 37 17.0**	**+0.1**
CLL				*e*PP		**PnPn**	**10 37 30.0**	**+4.7**
CLL				*e*S		**S**	**10 40 47.0**	**+1.7**
CLL	**Collm**	**18.70**	**331**	*e*P		**Pn**	**10 37 14.7**	**+1.4**
CLL				pmax		pmax		
	comp=Z,37nm,1.7s							
CLL	**Collm**	**18.70**	**331**	*e*P		**Pn**	**10 37 14.7**	**+1.4**
	comp=Z,37nm,1.7s							
CLL	**Collm**	**18.70**	**331**	*e*Pn		**Pn**	**10 37 14.7**	**+1.4**
	comp=Z,37nm,1.7s							
ORIF	**Oris-en-Rattie**	**18.79**	**306**	*e*P		**P**	**10 37 12.6**	**-1.5**
	comp=Z,9.1nm,0.8s							
ORIF				*e*R				
	comp=Z,175nm,18.5s							
ORIF	**Oris-en-Rattie**	**18.79**	**306**	*e*P		**P**	**10 37 12.6**	**-1.5**
ORIF				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**18.79**	**306**	*e*P		**P**	**10 37 12.6**	**-1.5**
	comp=Z,4.6nm,0.8s							
ORIF	**Oris-en-Rattie**	**18.79**	**306**	*e*P		**

LOR Lormes 21.01 310 *eP* **P 10 37 36.6 -1.6**
LOR Lormes 21.01 310 *eP* **P 10 37 36.6 -1.6**
AVF Avril sur Loir 21.13 309 *eP* **P 10 37 38.0 -1.5**
comp=Z,31nm,1.0s
AVF Avril sur Loir 21.13 309 *eP* **P 10 37 38.0 -1.5**
AVF pmax pmax
comp=Z,31nm,1.0s
AVF Avril sur Loir 21.13 309 *eP* **P 10 37 38.0 -1.5**
comp=Z,16nm,1.0s
AVF Avril sur Loir 21.13 309 *eP* **P 10 37 38.0 -1.5**
comp=Z,31nm,1.0s
SSF Saint Saulge 21.14 310 *eP* **P 10 37 38.3 -1.3**
comp=Z,32nm,0.7s
SSF Saint Saulge 21.14 310 *eP* **P 10 37 38.3 -1.3**
SSF pmax pmax
comp=Z,32nm,0.7s
SSF Saint Saulge 21.14 310 *eP* **P 10 37 38.3 -1.3**
comp=Z,16nm,0.7s
SSF Saint Saulge 21.14 310 *eP* **P 10 37 38.3 -1.3**
comp=Z,32nm,0.7s
MOS Moscow 21.15 16 *eP* **P 10 37 41.1 +1.6**
MOS pmax pmax
comp=Z,63nm,0.7s
MOS Moscow 21.15 16 *eP* **P 10 37 41.1 +1.6**
comp=Z,63nm,0.7s
CAF Calviac 21.36 303 *eP* **P 10 37 40.0 -1.9**
CAF Calviac 21.36 303 *eP* **P 10 37 40.0 -1.9**
CAF Calviac 21.36 303 *eP* **P 10 37 40.0 -1.9**
CAF Calviac 21.36 303 *eP* **P 10 37 40.0 -1.9**
MEM Membach 21.46 320 *eP* **P 10 37 43.6 +0.7**
MEM pmax pmax
comp=Z,18nm,1.1s
MEM Membach 21.46 320 *eP* **P 10 37 43.6 +0.7**
comp=Z,18nm,1.1s
MEM Membach 21.46 320 *eP* **P 10 37 43.6 +0.7**
comp=Z,18nm,1.1s
TCF Toulx Ste Croi 21.68 307 *eP* **P 10 37 44.0 -1.5**
TCF Toulx Ste Croi 21.68 307 *eP* **P 10 37 44.0 -1.5**
TCF Toulx Ste Croi 21.68 307 *eP* **P 10 37 44.0 -1.5**
TCF Toulx Ste Croi 21.68 307 *eP* **P 10 37 44.0 -1.5**
GIVF Givet 21.80 318 *eP* **P 10 37 45.4 -1.3**
comp=Z,21nm,0.8s
GIVF Givet 21.80 318 *eP* **P 10 37 45.4 -1.3**
GIVF pmax pmax
comp=Z,21nm,0.8s
GIVF Givet 21.80 318 *eP* **P 10 37 45.4 -1.3**
comp=Z,21nm,0.8s
RJF Les Rejaudoux 21.84 304 *eP* **P 10 37 45.8 -1.2**
RJF *eR*
comp=Z,139nm,22.5s
RJF Les Rejaudoux 21.84 304 *eP* **P 10 37 45.8 -1.2**
RJF Les Rejaudoux 21.84 304 *eP* **P 10 37 45.8 -1.2**
BAIF Baives 22.12 317 *eP* **P 10 37 48.5 -1.5**
comp=Z,46nm,1.3s
BAIF Baives 22.12 317 *eP* **P 10 37 48.5 -1.5**
BAIF pmax pmax
comp=Z,46nm,1.3s
BAIF Baives 22.12 317 *eP* **P 10 37 48.5 -1.5**
comp=Z,46nm,1.3s
EPF Esparros 22.13 297 *eP* **P 10 37 47.8 -2.5**
EPF Esparros 22.13 297 *eP* **P 10 37 47.8 -2.5**
EPF Esparros 22.13 297 *eP* **P 10 37 47.8 -2.5**
LFF La Frestale 22.26 302 *eP* **P 10 37 50.3 -1.3**
LFF La Frestale 22.26 302 *eP* **P 10 37 50.3 -1.3**
LFF La Frestale 22.26 302 *eP* **P 10 37 50.3 -1.3**
VSU Vasula 22.71 359‖ *eP* **P 10 37 58.1 +1.8**
VSU pmax pmax
comp=Z,55nm,1.2s
ETSF Etsaut 22.76 297 *eP* **P 10 37 56.4 -0.7**
comp=Z,9.3nm,0.7s
ETSF Etsaut 22.76 297 *eP* **P 10 37 56.4 -0.7**
ETSF pmax pmax
comp=Z,9.0nm,0.7s
ETSF Etsaut 22.76 297 *eP* **P 10 37 56.4 -0.7**
comp=Z,9.3nm,0.7s
TAM Tamanrasset 23.04 242 *eP* **P 10 38 01.5 +1.3**
TAM pmax pmax
comp=Z,12nm,1.3s
TAM Tamanrasset 23.04 242 *eP* **P 10 38 01.5 +1.3**
comp=Z,12nm,1.3s
TAM Tamanrasset 23.04 242 *eP* **P 10 38 01.5 +1.3**
comp=Z,12nm,1.3s
SJPF Ste Jean 23.28 297 *eP* **P 10 37 59.8 -2.5**
SJPF Ste Jean 23.28 297 *eP* **P 10 37 59.8 -2.5**
SJPF Ste Jean 23.28 297 *eP* **P 10 37 59.8 -2.5**
MFF Saint Martin d 23.33 306 *eP* **P 10 38 00.7 -2.0**
comp=Z,7.2nm,0.5s
MFF Saint Martin d 23.33 306 *eP* **P 10 38 00.7 -2.0**
MFF pmax pmax
comp=Z,7.0nm,0.5s
MFF Saint Martin d 23.33 306 *eP* **P 10 38 00.7 -2.0**
comp=Z,7.2nm,0.5s
LDF La Druitiere 23.99 311 *eP* **P 10 38 06.8 -2.4**
comp=Z,9.4nm,0.7s
LDF La Druitiere 23.99 311 *eP* **P 10 38 06.8 -2.4**
LDF pmax pmax
comp=Z,9.0nm,0.7s
LDF La Druitiere 23.99 311 *eP* **P 10 38 06.8 -2.4**
comp=Z,9.4nm,0.7s
FLN La Foliniere 24.28 311 *eP* **P 10 38 09.6 -2.2**
comp=Z,18nm,0.6s
FLN *eR*
comp=Z,114nm,21.5s
FLN La Foliniere 24.28 311 *eP* **P 10 38 09.6 -2.2**
FLN pmax pmax
comp=Z,18nm,0.6s
FLN La Foliniere 24.28 311 *eP* **P 10 38 09.6 -2.2**
comp=Z,18nm,0.6s
GRR Gorron 24.37 310 *eP* **P 10 38 10.4 -2.3**
comp=Z,20nm,0.7s
GRR Gorron 24.37 310 *eP* **P 10 38 10.4 -2.3**
GRR pmax pmax
comp=Z,21nm,0.7s
GRR Gorron 24.37 310 *eP* **P 10 38 10.4 -2.3**
comp=Z,20nm,0.7s
GEYT Allbeck 24.56 76 P **P 10 38 14.9 +0.3**
comp=Z,6.1nm,0.3s,baz=269,slow=9.8,SNR=13
ESDC Sonseca Array 25.11 288 P **P 10 38 18.3 -1.2**
comp=Z,2.2nm,0.6s,baz=81,slow=10,SNR=16
SGMF Saint Gilles 25.40 309 *eP* **P 10 38 19.2 -2.7**
comp=Z,15nm,0.7s
SGMF Saint Gilles 25.40 309 *eP* **P 10 38 19.2 -2.7**
SGMF pmax pmax
comp=Z,15nm,0.7s
SGMF Saint Gilles 25.40 309 *eP* **P 10 38 19.2 -2.7**
comp=Z,15nm,0.7s
QUIF Quistinic 25.68 308 *eP* **P 10 38 22.3 -2.2**
comp=Z,24nm,0.8s
QUIF Quistinic 25.68 308 *eP* **P 10 38 22.3 -2.2**
QUIF pmax pmax
comp=Z,24nm,0.8s
QUIF Quistinic 25.68 308 *eP* **P 10 38 22.3 -2.2**
comp=Z,24nm,0.8s
FINES FINESS Array B 25.72 358 P **P 10 38 22.5 -2.2**
comp=Z,2.0nm,0.5s,baz=161,slow=12,SNR=3.2
FINES LR LR 10 49 46.2
comp=Z,78nm,19.8s,baz=208,slow=40
FINES FINESS Array B 25.72 358 *iP* **P 10 38 27.1 +2.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
ROSF Rostrenen 25.88 309 *eP* **P 10 38 22.5 -3.8**
comp=Z,14nm,0.8s
ROSF Rostrenen 25.88 309 *eP* **P 10 38 22.5 -3.8**
ROSF pmax pmax
comp=Z,14nm,0.8s
ROSF Rostrenen 25.88 309 *eP* **P 10 38 22.5 -3.8**
comp=Z,14nm,0.8s
HFS Hagfors 25.97 344 P **P 10 38 26.0 -1.0**
comp=Z,2.3nm,0.4s,baz=134,slow=11,SNR=9.3
HFS Hagfors 25.97 344 P **P 10 38 26.0 -1.0**
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 25.97 344 P **P 10 38 26.0 -1.0**
KLMR Klimovskoe 26.27 13 *eP* **P 10 38 27.2 -2.5**
KLMR pmax pmax
comp=Z,28nm,1.4s
KAF Kangasniemi 26.38 359 *ep* **P 10 38 27.2 -3.5**
comp=Z,2.1nm,0.6s
KAF Kangasniemi 26.38 359 *eP* **P 10 38 27.2 -3.5**
KAF pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 26.45 47 P **P 10 38 31.0 -0.5**
comp=Z,11nm,0.7s,baz=252,slow=10,SNR=30
AKTO Aktyubinsk 26.45 47 P **P 10 38 31.0 -0.5**
AKTO pmax pmax
comp=Z,11nm,0.7s

MDT Midelt 26.62 273 P **P 10 38 32.7 -0.7**
comp=Z,3.4nm,0.7s,baz=103,slow=14,SNR=8.5
MDT LR LR 10 51 51.7
comp=Z,77nm,18.1s,baz=132,slow=43
ABKAR Akbulak array 27.23 50 *eP* **P 10 38 38.3 -0.2**
ABKAR Akbulak array 27.23 50 *eP* **P 10 38 38.3 -0.2**
JOF Joensuu 27.29 4 *ep* **P 10 38 36.9 -1.9**
comp=Z,1.3nm,0.6s
JOF Joensuu 27.29 4 *eP* **P 10 38 36.9 -1.9**
JOF pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 27.34 343 P **P 10 38 41.0 +1.5**
comp=Z,4.9nm,0.9s,baz=145,slow=10
NB2 NORSAR Subarra 27.34 343 P **P 10 38 41.0 +1.5**
comp=Z,4.9nm,0.9s,SNR=0.1
NOA NORSAR Array B 27.34 343 P **P 10 38 39.5 0.0**
comp=Z,2.6nm,0.7s,baz=148,slow=9.4,SNR=8.4
NOA LR LR 10 50 29.3
comp=Z,71nm,18.8s,baz=180,slow=39
NOA NORSAR Array B 27.34 343 P **P 10 38 39.5 0.0**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,71nm,18.8s
PRGR Permogore 28.32 18 *eP* **P 10 38 45.5 -2.6**
PRGR pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 29.45 36 P **P 10 39 00.2 +2.0**
ARU 10 39 51.4
ARU S **S 10 43 55.3 +3.5**
TOA0 Torodi Ar. Sit 32.34 232 *eP* **P 10 39 24.3 +0.2**
TOA0 Torodi Ar. Sit 32.34 232 *eP* **P 10 39 24.3 +0.2**
TORD Torodi Ar. Bea 32.34 232 P **P 10 39 24.2 +0.1**
comp=Z,6.0nm,0.5s,baz=36,slow=8.8,SNR=94
TORD LR LR 10 53 33.2
comp=Z,103nm,18.8s,baz=45,slow=38
KKAR Karatay Array 33.74 64 *eP* **P 10 39 37.3 +1.2**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 33.74 64 *eP* **P 10 39 37.3 +1.2**
comp=Z,1.7nm,0.7s
KKAR Karatay Array 33.74 64 *eP* **P 10 39 37.3 +1.2**
comp=Z,1.7nm,0.7s
ARCES ARCESS Array B 33.84 359 P **P 10 39 34.9 -1.8**
comp=Z,1.0nm,0.3s,baz=172,slow=7.4,SNR=10
ARCES ARCESS Array B 33.84 359 P **P 10 39 34.9 -1.8**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 34.05 360 *ep* **P 10 39 37.4 -1.0**
comp=Z,0.7nm,0.3s
KEV Kevo 34.05 360 *eP* **P 10 39 37.4 -1.0**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 34.05 360 *eP* **P 10 39 37.4 -1.0**
comp=Z,0.7nm,0.3s
BRVK Borovoye 34.50 46 *deP* **P 10 39 44.4 +1.8**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 34.50 46 *eP* P 10 39 46.3 +3.7
comp=Z,4.5nm,0.7s
BRVK Borovoye 34.50 46 *eP* P 10 39 46.3 +3.7
comp=Z,4.5nm,0.7s
BVAR Borovoye Array 34.56 46 P **P 10 39 43.3 +0.2**
comp=Z,3.2nm,0.7s,baz=252,slow=8.7,SNR=7.7
BVAR Borovoye Array 34.56 46 P **P 10 39 43.3 +0.2**
BVAR pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 36.69 65 P **P 10 40 01.2 -0.5**
comp=Z,0.8nm,0.3s,baz=16,slow=7.4,SNR=3.2
AAK Ala-Archa 36.69 65‖ *eP* P 10 40 05.7 +4.0
AAK pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 37.47 64 *eP* **P 10 40 09.6 +1.2**
TKM2 pmax pmax
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 37.47 64 *eP* **P 10 40 09.6 +1.2**
comp=Z,2.0nm,0.8s
TKM2 Tokmak 2 37.47 64 *eP* **P 10 40 09.6 +1.2**
comp=Z,2.1nm,0.8s
KURBB Kurchatov Arra 39.27 52 P **P 10 40 23.2 +0.1**
comp=Z,12nm,0.6s,baz=274,slow=8.6,SNR=32
KURBB PP **PnPn 10 41 57.0 +1.3**
comp=Z,1.6nm,0.8s,baz=274,slow=11,SNR=5.3
KURK Kurchatov 39.33 51 P **P 10 40 23.2 -0.4**
KURK 10 41 57.0
KURK pmax pmax
comp=Z,12nm,0.6s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 39.33 51 *eP* **P 10 40 23.6 0.0**
KURK Kurchatov 39.33 51 PP PP 10 41 57.0 +3.3
KURK Kurchatov 39.33 51 *eP* **P 10 40 23.6 0.0**
KURK PP **PnPn 10 41 57.0 +0.5**
DBIC Dimbokro 41.44 233 P **P 10 40 41.2 -0.3**
comp=Z,4.6nm,0.4s,baz=28,slow=8.2,SNR=12
DBIC LR LR 10 58 45.1
comp=Z,67nm,18.3s,baz=16,slow=38
DBIC Dimbokro 41.44 233 P **P 10 40 41.2 -0.3**
DBIC pmax pmax
comp=Z,5.0nm,0.4s
DBIC MLR MLR
comp=Z,67nm,18.3s
TIC Toumodi 41.56 234 *eP* **P 10 40 42.1 -0.4**
comp=Z,9.8nm,0.4s
KIC Kosan Boka 41.59 233 *eP* **P 10 40 42.5 -0.3**
comp=Z,19nm,0.6s
MK31 Makanchi Array 41.86 57 *eP* **P 10 40 44.5 -0.2**
MK31 Makanchi Array 41.86 57 *eP* **P 10 40 44.5 -0.2**
MK31 Makanchi Array 41.86 57 *eP* **P 10 40 44.5 -0.2**
MKAR Makanchi Array 41.86 57 P **P 10 40 44.5 -0.2**
comp=Z,7.8nm,0.9s,baz=274,slow=9.8,SNR=17
MKAR LR LR 10 59 54.2
comp=Z,41nm,18.7s,baz=348,slow=39
MKAR Makanchi Array 41.86 57 P **P 10 40 44.5 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR MLR MLR
comp=Z,41nm,18.7s
LIC Lamto 41.88 233 *eP* **P 10 40 44.5 -0.6**
comp=Z,16nm,0.8s
LIC Lamto 41.88 233 *eP* **P 10 40 44.8 -0.3**
comp=Z,43nm,1.1s
LIC Lamto 41.88 233 *eP* **P 10 40 44.5 -0.6**
comp=Z,16nm,0.8s
NVS Novosibirsk 42.32 45 *eP* **P 10 40 48.3 0.0**
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=Z,10.0nm,0.8s
SPITS Spitsbergen Ar 42.78 357 P **P 10 40 51.4 -0.4**
comp=Z,1.6nm,0.4s,baz=145,slow=10,SNR=11
SPITS Spitsbergen Ar 42.78 357 P **P 10 40 51.4 -0.4**
SPITS pmax pmax
comp=Z,2.0nm,0.4s
ZAA0 Zalesovo Array 43.22 47 *eP* **P 10 40 54.8 -0.8**
ZAA0 Zalesovo Array 43.22 47 *eP* **P 10 40 54.8 -0.8**
ZALV Zalesovo Beam 43.22 47 P **P 10 40 54.9 -0.7**
comp=Z,5.4nm,0.8s,baz=263,slow=9.0,SNR=20
ZALV LR LR 11 01 39.0
comp=Z,26nm,20.6s,baz=66,slow=40
ZALV Zalesovo Beam 43.22 47 *iP* **P 10 40 56.2 +0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
PYUN Piuthan 47.19 83 *eP* **P 10 41 28.5 +0.7**
comp=Z,62nm,0.7s
KOLN Koldanda 47.82 83 *eP* **P 10 41 33.2 +0.6**
comp=Z,12nm,0.5s
GKN Gorkha 48.56 82 *eP* **P 10 41 38.8 +0.5**
comp=Z,34nm,0.7s
DMN Daman 49.10 83 *eP* **P 10 41 42.9 +0.3**
comp=Z,42nm,0.7s
KKN Kakani 49.17 82 *eP* **P 10 41 42.7 -0.3**
comp=Z,16nm,0.5s
PKIN Phulchoki 49.35 82 *eP* **P 10 41 44.3 -0.2**
comp=Z,10nm,0.6s
PKI Pulchoki 49.36 82 *eP* **P 10 41 45.3 +0.6**
comp=Z,25nm,0.8s
GUN Gumba 49.60 82 *eP* **P 10 41 46.4 -0.1**
comp=Z,24nm,0.7s
JIRN Jiri 49.95 82 *eP* **P 10 41 50.1 +0.9**
comp=Z,18nm,0.6s
RAMN Ramite 50.59 83 *eP* **P 10 41 53.9 0.0**
comp=Z,35nm,1.0s
TLY Talaya 54.80 48‖ *eP* **P 10 42 26.5 +2.1**
TLY pmax pmax
comp=Z,4.0nm,1.3s

ZAK Zakamensk 54.92 49 *eP* **P 10 42 26.0 +0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 57.63 52 P **P 10 42 44.5 -0.4**
comp=Z,1.1nm,0.6s,baz=273,slow=6.7,SNR=3.9
SONM LR LR 11 10 02.2
comp=Z,39nm,20.7s,baz=254,slow=39
SONM Songino Array 57.63 52 P **P 10 42 44.5 -0.4**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,39nm,20.7s
ULN Ulaanbaatar 58.04 51‖ *eP* **P 10 42 48.5 +0.8**
ULN pmax pmax
comp=Z,2.0nm,0.6s
BOD Bodaibo 58.81 39 *eP* **P 10 42 51.4 -1.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 59.93 21‖ *eP* **P 10 43 03.2 +3.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 59.93 21 *eP* **P 10 43 03.2 +3.0**
comp=Z,3.0nm,0.6s
TIXI Tiksi 59.93 21 *eP* **P 10 43 03.2 +3.0**
comp=Z,3.0nm,0.6s
SCHQ Schefferville 63.95 320 P **P 10 43 26.1 -1.5**
comp=Z,6.9nm,0.5s,baz=67,slow=4.7,SNR=34
SCHQ Schefferville 63.95 320 *eP* **P 10 43 25.9 -1.7**
comp=Z,7.0nm,0.5s
SCHQ Schefferville 63.95 320 *eP* **P 10 43 25.9 -1.7**
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 64.62 85 P **P 10 43 32.1 -0.4**
comp=Z,1.1nm,0.3s,baz=298,slow=8.3,SNR=2.0
CMAR Chiang Mai Arr 64.62 85 P **P 10 43 32.1 -0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CN2 Changchun 71.35 49 *eP* **P 10 44 12.3 -2.2**
RCBR Riachuelo 72.31 249 LR LR 11 15 41.9
comp=Z,50nm,21.6s,baz=58,slow=36
USRK Ussurisk Ar. 75.06 46 P **P 10 44 35.8 -0.6**
comp=Z,4.0nm,0.7s,baz=285,slow=5.0,SNR=10
KSAR Wonju Array Be 76.39 54 P **P 10 44 42.4 -1.7**
KSAR Wonju Array Be 76.39 54 P **P 10 44 42.4 -1.7**
KSAR Wonju Array Be 76.39 54 P **P 10 44 42.4 -1.7**
KSRS Korea Array 76.41 54 P **P 10 44 42.4 -1.7**
comp=Z,3.1nm,0.9s,baz=317,slow=4.7,SNR=4.5
KSRS LR LR 11 24 33.0
comp=Z,24nm,18.1s,baz=175,slow=41
COLD Coldfoot 77.31 359 *eP* **P 10 44 50.2 +1.4**
COLD Coldfoot 77.31 359 *eP* **P 10 44 50.2 +1.4**
YKA Yellowknife Ar 77.44 343 P **P 10 44 47.6 -2.0**
comp=Z,0.4nm,0.6s,baz=31,slow=5.3,SNR=4.4
SDMD Soldier's Deli 77.76 310 P **P 10 44 54.2 +2.4**
SDMD Soldier's Deli 77.76 310 P **P 10 44 54.2 +2.4**
ILAR Eielson Array 79.70 358 P **P 10 45 00.5 -1.5**
comp=Z,0.3nm,0.6s,baz=346,slow=4.3,SNR=6.0
ULM Lac du Bonnet 80.85 327 P **P 10 45 06.3 -2.1**
comp=Z,2.4nm,0.7s,baz=71,slow=9.1,SNR=2.2
ULM Lac du Bonnet 80.85 327 P **P 10 45 06.4 -2.1**
ULM pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 83.50 49 P **P 10 45 21.1 -1.6**
comp=Z,1.1nm,0.9s,baz=307,slow=7.0,SNR=1.7
MJAR Matsushiro Arr 83.50 49 P **P 10 45 21.1 -1.6**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 92.56 330 LR LR 11 31 28.7
comp=Z,24nm,19.3s,baz=58,slow=38
ASAR Alice Springs 116.30 101 PKP **PKPdf 10 51 37.7 -0.8**
comp=Z,0.3nm,0.8s,baz=273,slow=0.9,SNR=3.0

*IDC **29** 10:52:27.7±2.8,29.°50N×139.°67E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.3/35,mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=226.6km s-min=32.7km az=86.0*
*ISCJB **29** 10:52:32.4±0.7,30.°24N±0.°06×141.°4E±0.°2,h50km, mb3.5/2,Error ellipse: s-maj=28.6km s-min=5.0km az=166.3*
*JMA **29** 10:52:32.7±0.1,30.°21N×141.°28E,h49km,M4.1*
ISC 29 10:52:34.7±1.4,30.°27N±0.°09×141.°5E±0.°2,h50km,n14, σ1§58/18,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.13**	**334**	S	**Sn**	**10 53 56.8**	**-0.9**
JHJ2	**Mitsune**	**3.16**	**334**	*e*S	**Sn**	**10 53 57.8**	**-0.5**
CBIJ	**Chichi jima**	**3.23**	**168**	P	**Pn**	**10 53 22.1**	**-0.8**
CBIJ				S	**Sn**	**10 53 57.4**	**-2.7**
BSO1	**Boso 1**	**4.39**	**355**	P	**Pn**	**10 53 39.7**	**+1.4**
BSO1				*e*S	**Sn**	**10 54 28.9**	**+1.0**
BSO3	**Boso 3**	**4.59**	**350**	P	Pn	10 53 43.1	+1.8
BSO3				*e*S	**Sn**	**10 54 34.5**	**+1.3**
BSO4	**Boso 4**	**4.80**	**349**	*e*S	**Sn**	**10 54 39.9**	**+1.3**
JHU	**Hanno**	**5.86**	**342**	P	**Pn**	**10 53 59.5**	**+0.6**
JHU				*e*S	**Sn**	**10 55 04.8**	**0.0**
JYT	**Yasato**	**6.04**	**350**	P	**Pn**	**10 54 02.4**	**+1.0**
JYT				*e*S	**Sn**	**10 55 08.8**	**-0.3**
JRY	**Ryogami san**	**6.12**	**340**	P	**Pn**	**10 54 03.2**	**+0.7**
JAG	**Ashikaga**	**6.36**	**345**	P	**Pn**	**10 54 05.6**	**-0.3**
JAG				*e*S	**Sn**	**10 55 15.9**	**-1.3**
JHO	**Hitachi**	**6.37**	**354**	P	**Pn**	**10 54 05.8**	**-0.1**
JHO				S	**Sn**	**10 55 13.1**	**-4.2**
MJAR	**Matsushiro Arr**	**6.82**	**337**	Pn	**Pn**	**10 54 13.1**	**+1.0**
	0.4nm,0.3s,baz=170,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**50.39**	**189**	P	P	11 01 19.1	-7.9
	0.2nm,0.3s,baz=5.3,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**54.11**	**189**	P	P	11 01 47.5	-7.2
	0.2nm,0.5s,baz=356,slow=4.0,SNR=7.3						

*BJI **29** 12:04:25.4,7.°66S×130.°37E,h137km,mB4.9/9,mb4.6/18*
*ISCJB **29** 12:04:34.6±0.3,6.°67S±0.°02×130.°11E±0.°03,h163km±3km, mb4.2/28,Error ellipse: s-maj=4.6km s-min=3.6km az=146.9*
*NEIC **29** 12:04:34.0±0.7,6.°59S×130.°06E,h143km±7km,mb4.6/11, Error ellipse: s-maj=7.4km s-min=5.9km az=49.0*
*IDC **29** 12:04:35.1±0.8,6.°56S×130.°05E,h152km±6km,mb4.0/20, mb1 4.1/22,mb1mx4.0/35,mbtmp4.5/22,MS3.4/3, Ms1 3.4/3,ms1mx2.8/27,Error ellipse: s-maj=16.2km s-min=9.5km az=68.0*
*DJA **29** 12:04:36.6±0.3,7.°3S±3.°×13.°0E±.°,h155km±6km,M4.9/28, mb4.9/28,mB5.4/13,MLv4.9/4,Mw(mB)4.8/13*
ISC 29 12:04:34.3±0.4,6.°69S±0.°04×130.°16E±0.°04,h146km±3km, h146km:pP-P,n154,σ1§81/186,mb4.3/28,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.17**	**353**	P	**Pn**	**12 05 13.3**	**+2.0**
BNDI				S	**Sn**	**12 05 42.3**	**+2.6**
MSAI	**Masohi**	**3.54**	**340**	P	**Pn**	**12 05 30.0**	**+1.5**
MSAI				S	**Sn**	**12 06 10.4**	**-0.2**
AAI	**Ambon**	**3.57**	**327**	P	**Pn**	**12 05 30.1**	**+1.2**
AAI	**Ambon**	**3.57**	**327**	P	**Pn**	**12 05 29.9**	**+1.1**
	baz=3.6,SNR=4.0						
FAKI	**Fak Fak**	**4.29**	**29**	P	**Pn**	**12 05 38.8**	**+0.5**
FAKI				S	**Sn**	**12 06 24.5**	**-3.6**
FAKI	**Fak Fak**	**4.29**	**29**	P	**Pn**	**12 05 37.9**	**-0.4**
	baz=4.5,SNR=48						
FAKI				S	**Sn**	**12 06 25.1**	**-3.0**
	baz=4.5,SNR=20						
FAKI	**Fak Fak**	**4.29**	**29**	*e*Pn	**Pn**	**12 05 37.8**	**-0.5**
FAKI				*e*Sn	**Sn**	**12 06 23.7**	**-4.3**
SWI	**Sorong**	**5.89**	**11**	P	**Pn**	**12 05 59.5**	**-0.1**
SWI				S	Sn	12 06 59.5	-6.8
SWI	**Sorong**	**5.89**	**11**	P	**Pn**	**12 06 01.1**	**+1.5**
	baz=6.1,SNR=19						
SWI				S	**Sn**	**12 07 00.9**	**-5.4**
	baz=6.1,SNR=15						
SANI	**Sanana**	**6.21**	**318**	P	**Pn**	**12 06 04.7**	**+0.9**
	62nm,1.0s,614nm0.2nm						
SANI				S	**Sn**	**12 07 12.1**	**-1.7**
	62nm,1.0s,614nm0.2nm						
KDU	**Kakadu**	**6.38**	**159**	P	**Pn**	**12 06 07.6**	**+1.6**
	baz=6.4,SNR=1000						
KDU				S	**Sn**	**12 07 17.4**	**-0.4**
	baz=6.4,SNR=16						
RKPI	**Ransiki, Papua**	**6.52**	**38**	P	**Pn**	**12 06 10.0**	**+2.0**
RKPI				S	**Sn**	**12 07 17.1**	**-4.3**
LBMI	**Labuha**	**6.57**	**336**	P	**Pn**	**12 06 09.7**	**+1.0**
SOEI	**Soe**	**6.58**	**242**	P	**Pn**	**12 06 09.8**	**+1.0**
SOEI	**Soe**	**6.58**	**242**	*e*Pn	**Pn**	**12 06 08.8**	**0.0**
	471nm,1.0s						
SOEI				*e*Sn	**Sn**	**12 07 20.4**	**-2.5**

BATI	**Baumata**	**7.31**	**241**	LR	LR	12 09 16.1
	comp=Z,333nm,18.1s,slow=39					
SRPI	**Serui, Papua**	**7.73**	**52**	P	**Pn**	**12 06 25.6 +1.5**
	243nm,0.9s,1.2nm					
MMRI	**Maumere**	**8.09**	**256**	P	**Pn**	**12 06 29.5 +0.6**
	160nm,0.5s,2µm0.7nm					
MMRI	**Maumere**	**8.09**	**256**	*e*Pn	**Pn**	**12 06 29.3 +0.4**
	113nm,0.4s					
MMRI				*e*Sn	**Sn**	**12 07 54.9 -4.1**
EDFI	**Ende, Flores**	**8.64**	**256**	P	**Pn**	**12 06 37.4 +1.0**
WAMI	**Wamena**	**8.96**	**72**	P	Pn	12 06 46.9 +6.3
	330nm,0.7s,3µm					
KNRA	**Kununurra**	**9.03**	**189**	P	**Pn**	**12 06 41.4 -0.1**
	baz=9.0,SNR=192					
KNRA				S	**Sn**	**12 08 16.9 -4.8**
	baz=9.0,SNR=9.8					
SMPI	**Sarmi**	**9.72**	**62**	P	**Pn**	**12 06 53.5 +2.8**
	53nm,1.0s,4µm					
BKSI	**Bulukumba**	**10.07**	**277**	P	**Pn**	**12 06 56.6 +1.2**
	20nm,1.0s					
BASI	**Baing, Sumba**	**10.10**	**249**	P	**Pn**	**12 06 54.9 -0.9**
	355nm,0.5s,7µm					
WSI	**Waingapu**	**10.20**	**252**	P	**Pn**	**12 06 55.6 -1.4**
	1µm,0.5s,18µm					
WSI	**Waingapu**	**10.20**	**252**	P	**Pn**	**12 06 55.8 -1.3**
	baz=10.0,SNR=8.2					
BNSI	**Bone**	**10.26**	**282**	P	**Pn**	**12 06 58.4 +0.5**
MMPI	**Merauke**	**10.29**	**101**	P	**Pn**	**12 07 00.0 +1.8**
	baz=10,SNR=3.6					
MMPI				S	**Sn**	**12 08 49.5 -2.6**
	baz=10,SNR=3.2					
KAPI	**Kappang**	**10.49**	**279**	*e*Pn	**Pn**	**12 07 01.3 +0.4**
SPSI	**Sidrap Palu**	**10.69**	**284**	P	**Pn**	**12 07 05.0 +1.4**
	54nm,0.8s					
GENI	**Genyem**	**10.77**	**68**	P	Pn	12 07 11.9 +7.2
MRSI	**Marisa**	**10.86**	**311**	P	**Pn**	**12 07 07.2 +1.4**
	218nm,1.0s,2µm					
TTSI	**Tana Toraja**	**10.92**	**289**	P	Pn	12 07 13.2 +6.6
JAY	**Jayapura**	**11.30**	**69**	P	**Pn**	**12 07 11.0 -0.6**
	0.4nm,0.3s,baz=326,slow=18,SNR=2.6					
JAY				LR	LR	12 11 45.0
	comp=Z,93nm,21.8s,baz=303,slow=38					
PCI	**Palu**	**11.79**	**299**	P	**P**	**12 07 22.1 -3.1**
FITZ	**Fitzroy Crossi**	**12.17**	**201**	P	**Pn**	**12 07 21.1 -1.7**
	baz=12,SNR=127					
FITZ	**Fitzroy Crossi**	**12.17**	**201**	*e*Pn	**Pn**	**12 07 21.6 -1.3**
MPSI	**Mapaga**	**12.39**	**304**	P	**Pn**	**12 07 28.1 +2.2**
	29nm,1.0s					
WRAB	**Tennant Creek**	**13.78**	**163**	*e*Pn	**Pn**	**12 07 42.6 -1.0**
WRA	**Warramunga Arr**	**13.78**	**163**	P	**Pn**	**12 07 42.6 -1.1**
	2.7nm,0.3s,baz=336,slow=14,SNR=97					
WRA				S	Sn	12 10 09.1 -7.2
	15nm,0.3s,baz=344,slow=22,SNR=12					
BKB	**Balikpapan**	**14.29**	**292**	P	**P**	**12 07 54.1 +1.2**
KBKI	**Kotabaru**	**14.34**	**283**	P	**P**	**12 07 52.2 -1.3**
	55nm,1.0s,3µm					
COEN	**Coen**	**14.69**	**120**	P	**P**	**12 07 57.4 0.0**
	baz=15,SNR=43					
COEN				S	**Sn**	**12 10 33.1 -5.1**
	baz=15,SNR=7.7					
COEN	**Coen**	**14.69**	**120**	*e*Pn	**P**	**12 07 57.7 +0.3**
SRBI	**Singaraja**	**14.89**	**264**	P	**Pn**	**12 07 57.6 0.0**
	47nm,1.1s					
BBKI	**Banjar Baru**	**15.59**	**281**	P	**P**	**12 08 08.4 +1.0**
	196nm,0.7s					
ABJI	**Asem Bagus**	**15.84**	**265**	P	**Pn**	**12 08 09.0 -0.3**
	87nm,0.8s					
JAGI	**Jajag, Banyuwa**	**15.97**	**263**	P	**Pn**	**12 08 08.8 -2.1**
	94nm,0.7s,2µm					
JAGI	**Jajag, Banyuwa**	**15.97**	**263**	P	**Pn**	**12 08 06.9 -4.1**
	baz=16,SNR=38					
JAGI	**Jajag, Banyuwa**	**15.97**	**263**	*e*Pn	**Pn**	**12 08 07.0 -4.0**
	71nm,0.4s					
KMMI	**Kalianget**	**16.08**	**268**	P	**P**	**12 08 13.5 +0.7**
	62nm,1.0s					
MTKI	**Muara Teweh, K**	**16.26**	**290**	P	**P**	**12 08 17.4 +2.6**
BLJI	**Banyuglugur**	**16.47**	**265**	P	**P**	**12 08 17.4 +0.3**
	307nm,0.7s,5µm					
QIS	**Mount Isa**	**16.55**	**147**	P	**Pn**	**12 08 20.4 +2.5**
	baz=17,SNR=48					
GMJI	**Gumukmas**	**16.65**	**264**	P	**Pn**	**12 08 19.2 0.0**
PMG	**Port Moresby**	**17.05**	**100**	P	**Pn**	**12 08 28.8 +4.8**
	baz=17,SNR=5.2					
AS31	**Alice Springs**	**17.25**	**168**	*e*Pn	**Pn**	**12 08 27.8 +1.3**
ASAR	**Alice Springs**	**17.25**	**168**	P	**Pn**	**12 08 28.4 +1.9**
	8.3nm,0.3s,baz=353,slow=12,SNR=368					
ASAR				S	**S**	**12 11 33.9 -4.4**
	3.2nm,0.3s,baz=356,slow=26,SNR=8.7					
GRJI	**Gresik**	**17.56**	**268**	P	**Pn**	**12 08 30.1 -0.1**
	91nm,0.9s,714nm					
MBWA	**Marble Bar**	**17.57**	**214**	*e*P	**P**	**12 08 29.3 +0.2**
	35nm,0.6s					
PWJI	**Pagerwojo**	**18.25**	**265**	P	**P**	**12 08 35.7 -1.0**
	46nm,0.6s					
PWJI				S	**sP**	**12 09 21.4 +0.7**
	46nm,0.6s					
WRKA	**Warakurna**	**18.33**	**185**	P	**Pn**	**12 08 39.4 +0.1**
	baz=18,SNR=121					
PBKI	**Pangkalan Bun**	**18.84**	**281**	P	**P**	**12 08 44.1 +0.9**
	228nm,0.9s,2µm					
PCJI	**Pacitan**	**18.88**	**264**	P	**P**	**12 08 41.0 -2.6**
WOJI	**Wonogiri, Jawa**	**19.11**	**265**	P	**Pn**	**12 08 47.6 -0.9**
UGM	**Wanagama**	**19.52**	**265**	P	**P**	**12 08 51.7 +1.2**
	baz=19,SNR=8.1					
CTA	**Charters Tower**	**20.52**	**132**	P	Pn	12 09 03.5 -1.7
	13nm,0.9s,baz=320,slow=12,SNR=10					
CTAO	**Charters Tower**	**20.52**	**132**	*e*P	Pn	12 09 04.4 -0.7
	24nm,1.0s					
KPJI	**Karang Pucung**	**21.08**	**267**	P	**P**	**12 09 06.1 -1.1**
	27nm,1.4s					
KSM	**Kuching**	**21.41**	**292**	*e*P	**P**	**12 09 11.3 +0.5**
	15nm,1.0s					
GIRL	**Giralia**	**22.07**	**222**	P	**P**	**12 09 18.3 +0.7**
	baz=22,SNR=4.0					
CISI	**Cisompet, Garu**	**22.19**	**266**	P	**P**	**12 09 18.9 0.0**
CISI	**Cisompet, Garu**	**22.19**	**266**	*e*P	**P**	**12 09 17.2 -1.7**
	70nm,0.5s					
LEM	**Lembang**	**22.39**	**268**	P	**P**	**12 09 21.0 0.0**
LEM	**Lembang**	**22.39**	**268**	P	**P**	**12 09 18.6 -2.3**
	98nm,0.9s,baz=11,slow=16,SNR=9.3					
MEEK	**Meekatharra**	**22.68**	**208**	P	**P**	**12 09 23.8 +0.3**
	baz=23,SNR=27					
MEEK				S	Sn	12 13 39.1 -10
	baz=23,SNR=4.8					
TPI	**Tanjungpandan**	**22.76**	**279**	P	**P**	**12 09 28.2 +3.8**
CNJI	**Cibinong**	**22.87**	**267**	P	**P**	**12 09 23.7 -1.6**
CBJI	**Citeko**	**23.16**	**269**	P	**P**	**12 09 27.0 -1.0**
QLP	**Quilpie**	**23.89**	**147**	P	**P**	**12 09 36.5 +1.9**
	baz=24,SNR=40					
FORT	**Forrest**	**24.04**	**184**	P	**P**	**12 09 37.1 +1.2**
	baz=24,SNR=21					
FORT	**Forrest**	**24.04**	**184**	*e*P	**P**	**12 09 36.7 +0.8**
CGJI	**Cibinong**	**24.30**	**269**	P	**P**	**12 09 37.0 -1.4**
KMBL	**Kambalda**	**25.74**	**196**	P	**P**	**12 09 52.4 +1.1**
	baz=26,SNR=16					
MORW	**Morawa**	**25.94**	**209**	P	**P**	**12 09 52.9 -0.2**
	baz=26,SNR=4.0					
MDSI	**Maura Dua**	**25.95**	**273**	P	**P**	**12 09 54.3 +0.9**
RMQ	**Roma**	**26.48**	**140**	P	**P**	**12 10 00.2 +2.2**
	baz=27,SNR=3.9					
BBOO	**Buckleboo**	**26.56**	**169**	P	**P**	**12 09 59.7 +1.0**
	baz=27,SNR=11					
BBOO	**Buckleboo**	**26.56**	**169**	*e*P	**P**	**12 10 00.6 +2.0**
	24nm,2.8s					
LHSI	**Lahat**	**26.67**	**275**	P	**P**	**12 10 03.9 +4.0**
BLDU	**Ballidu**	**26.94**	**206**	P	**P**	**12 10 02.7 +0.7**
	baz=27,SNR=14					
STKA	**Stephens Creek**	**27.24**	**158**	P	**P**	**12 10 06.2 +1.5**
	9.3nm,0.5s,baz=332,slow=7.6,SNR=33					
STKA				LR	LR	12 21 37.1
	comp=Z,181nm,21.0s,baz=244,slow=37					
STKA	**Stephens Creek**	**27.24**	**158**	P	**P**	**12 10 06.2 +1.5**
	baz=27,SNR=27					
STKA	**Stephens Creek**	**27.24**	**158**	*e*P	**P**	**12 10 06.3 +1.6**
CMSA	**Cobar Meteorol**	**28.67**	**152**	P	**P**	**12 10 19.4 +2.0**
	baz=29,SNR=38					
NWAO	**Narrogin (SRO)**	**28.74**	**203**	P	**P**	**12 10 18.9 +1.0**
	3.7nm,0.4s,baz=34,slow=8.1,SNR=9.2					
NWAO	**Narrogin (SRO)**	**28.74**	**203**	P	**P**	**12 10 19.1 +1.0**
	baz=29,SNR=6.1					
ARMA	**Armidale**	**31.04**	**142**	P	**P**	**12 10 41.3 +2.9**
	baz=31,SNR=7.9					
ARMA	**Armidale**	**31.04**	**142**	*e*P	**P**	**12 10 41.4 +2.9**
MNSI	**Mandailing Nat**	**31.41**	**283**	P	**P**	**12 10 43.7 +1.9**
YNG	**Young**	**32.23**	**151**	P	**P**	**12 10 51.3 +2.5**
	baz=32,SNR=11					
QIZ	**Qiongzhong**	**32.47**	**322**	P	**P**	**12 10 52.8 +1.8**

PSI	**Prapat**	**32.58**	**286**	P	**P**	**12 10 51.1 -1.1**
	7.8nm,0.6s,baz=106,slow=5.2,SNR=4.7					
CNB	**Canberra Magne**	**33.51**	**151**	P	P	12 11 03.5 +3.5
	baz=34,SNR=5.6					
CMAR	**Chiang Mai Arr**	**39.66**	**310**	P	**P**	**12 11 51.2 -1.0**
	2.1nm,0.4s,baz=132,slow=6.8,SNR=10					
CMAR				ScP	**ScP**	**12 17 29.4 -2.2**
	1.4nm,0.8s,baz=163,slow=3.1,SNR=6.2					
CHTO	**Chiang Mai**	**39.87**	**310**	*e*P	**P**	**12 11 51.7 -2.2**
	3.4nm,0.7s					
NJ2	**Nanjing**	**40.01**	**345**	*e*P	**P**	**12 11 55.5 +0.7**
NJ2				PMZ		
	20nm,0.6s					
GYA	**Guiyang**	**40.07**	**326**	*e*P	**P**	**12 11 57.0 +1.4**
GYA				PMZ		
	10.0nm,0.8s					
KMI	**Kunming**	**41.38**	**321**	P	**P**	**12 12 08.0 +1.5**
KMI				PMZ		
	6.0nm,1.2s					
CD2	**Chengdu**	**45.13**	**327**	*e*P	**P**	**12 12 38.5 +2.2**
CD2				pP	**pP**	**12 13 09.8 +0.6**
CD2				sP	**sP**	**12 13 25.5 -0.1**
CD2				PcP	**PcP**	**12 14 16.5 +2.1**
CD2				PcS	**PcS**	**12 18 09.3 +0.8**
CD2				S	**S**	**12 19 07.0 +2.2**
CD2				sS	**sS**	**12 20 01.8 -0.1**
CD2				PMZ		
	10.0nm,0.5s					
CD2				PMZ		
	120nm,5.4s					
XAN	**Xi'an**	**45.23**	**335**	P	**P**	**12 12 36.8 -0.2**
XAN				PMZ		
	2.0nm,1.2s					
LZH	**Lanzhou**	**49.21**	**332**	*e*P	**P**	**12 13 08.5 +0.5**
LZH				pP	**pP**	**12 13 40.0 -1.4**
LZH				sP	**sP**	**12 13 56.5 -1.1**
LZH				PMZ		
	14nm,1.0s					
HHC	**Hu-ho-hao-te**	**50.30**	**342**	*e*P	**P**	**12 13 18.8 +2.7**
HHC				pP	**pP**	**12 13 51.0 +1.4**
HHC				sP	**sP**	**12 14 07.0 +1.2**
HHC				PP	**PP**	12 15 18.5 +5.4
HHC				S	**S**	**12 20 19.5 +1.8**
HHC				sS	**sS**	**12 21 16.5 +0.8**
HHC				ScS	**ScS**	**12 22 52.5 +0.1**
HHC				PMZ		
	11nm,0.6s					
HHC				PMZ		
	100nm,6.3s					
USRK	**Ussuriysk Ar.**	**50.68**	**2**	P	**P**	**12 13 18.6 -0.1**
	1.6nm,0.5s,baz=189,slow=6.2,SNR=7.3					
RPZ	**Rata Peaks**	**51.38**	**143**	P	**P**	**12 13 26.5 +2.4**
	14nm,0.8s,baz=263,slow=2.8,SNR=6.3					
ASAJ	**Asahikawa**	**51.81**	**11**	P	**P**	**12 13 26.5 -0.6**
	11nm,1.0s,baz=272,slow=3.6,SNR=5.4					
ODAN	**Odan**	**53.18**	**311**	*e*P	**P**	**12 13 37.0 -0.8**
	14nm,0.3s					
TAPN	**Taplejung**	**53.20**	**311**	*e*P	**P**	**12 13 36.6 -1.5**
	8.6nm,0.4s					
RAMN	**Ramite**	**53.82**	**310**	*e*P	**P**	**12 13 41.3 -1.2**
	16nm,0.5s					
JIRN	**Jiri**	**54.51**	**311**	*e*P	**P**	**12 13 45.5 -2.1**
	4.6nm,0.3s					
GUN	**Gumba**	**54.87**	**311**	*e*P	**P**	**12 13 48.6 -1.6**
	12nm,0.4s					
PKI	**Pulchoki**	**55.05**	**310**	*e*P	**P**	**12 13 49.6 -1.9**
	6.4nm,0.3s					
GKN	**Gorkha**	**55.86**	**310**	*e*P	**P**	**12 13 55.6 -1.5**
KOLN	**Koldanda**	**56.53**	**310**	*e*P	**P**	**12 14 00.5 -1.4**
SONM	**Songino Array**	**58.20**	**341**	P	**P**	**12 14 12.5 -0.6**
	0.6nm,0.7s,baz=161,slow=5.1,SNR=4.4					
WMQ	**Urumqi**	**63.23**	**327**	*e*P	P	12 14 50.8 +3.6
WMQ				pP	pP	12 15 22.0 -0.1
WMQ				PMZ		
	11nm,0.5s					
WMQ				PMZ		
	61nm,3.5s					
KSH	**Kashi**	**67.90**	**317**	*e*P	**P**	**12 15 18.0 +0.6**
KSH				pP	**pP**	**12 15 52.0 -0.7**
KSH				sP	**sP**	**12 16 07.5 -1.0**
KSH				PP	**PP**	**12 17 50.5 +1.4**
KSH				PcS		12 19 47.0
KSH				S	**S**	**12 24 01.5 -3.0**
KSH				ScS	**SKiKP**	**12 24 59.3 +0.3**
KSH				PMZ		
	89nm,4.4s					
KSH				LN		
	86nm,5.5s					
KSH				LE		
	92nm,4.3s					
KSH				LZ		
	150nm,5.8s					
MK31	**Makanchi Array**	**68.06**	**327**	*e*P	**P**	**12 15 17.4 -0.6**
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**12 15 17.8 -0.2**
	2.5nm,0.5s,baz=134,slow=5.2,SNR=49					
YAK	**Yakutsk**	**68.52**	**360**	P	**P**	**12 15 20.0 -0.5**
	9.0nm,0.5s,baz=337,slow=0.5,SNR=7.4					
YAK	**Yakutsk**	**68.52**	**360**	P	**P**	**12 15 20.0 -0.5**
TKM2	**Tokmak 2**	**69.85**	**320**	*e*P	**P**	**12 15 28.9 -0.5**
	2.9nm,0.6s					
AAK	**Ala-Archa**	**70.41**	**320**	P	**P**	**12 15 32.5 -0.3**
	1.7nm,0.5s,baz=264,slow=6.5,SNR=5.1					
EKS2	**Erkin-Say**	**70.89**	**319**	*e*P	**P**	**12 15 35.1 -0.5**
	3.2nm,0.6s					
ZALV	**Zalesovo Beam**	**71.38**	**334**	P	**P**	**12 15 37.3 -0.9**
	0.6nm,0.4s,baz=132,slow=6.2,SNR=3.8					
ZALV				pP	**pP**	**12 16 13.6 -0.3**
	1.7nm,0.8s,baz=102,slow=5.0,SNR=2.6					
KURBB	**Kurchatov Arra**	**72.33**	**328**	P	**P**	**12 15 43.5 -0.5**
	1.5nm,0.6s,baz=129,slow=5.0,SNR=13					
KURBB				pP	**pP**	**12 16 19.6 -0.2**
	1.6nm,0.7s,baz=130,slow=5.3,SNR=2.9					
KURK	**Kurchatov**	**72.34**	**329**	P	**P**	**12 15 43.5 -0.5**
KURK				pP	**pP**	**12 16 19.6 -0.2**
VNDA	**Vanda**	**72.73**	**173**	P	**P**	**12 15 46.9 +1.0**
	1.3nm,0.5s,baz=327,slow=6.3,SNR=11					
MAW	**Mawson**	**75.29**	**201**	P	**P**	**12 16 01.8 +0.9**
	5.0nm,0.8s,baz=73,slow=6.0,SNR=7.3					
MAW	**Mawson**	**75.29**	**201**	P	P	**12 16 02.0 +1.1**
	baz=75,SNR=8.1					
BVAR	**Borovoye Array**	**77.89**	**328**	P	**P**	**12 16 14.6 -1.2**
	0.4nm,0.4s,baz=132,slow=6.2,SNR=4.1					
BVAR				pP	**pP**	**12 16 53.3 +1.2**
	0.8nm,0.6s,baz=138,slow=6.9,SNR=3.3					
TIXI	**Tiksi**	**78.19**	**360**	*e*P	**P**	**12 16 16.0 -1.0**
	4.8nm,0.8s					
AKTO	**Akkubinsk**	**83.93**	**322**	P	**P**	**12 16 46.6 -1.2**
	0.6nm,0.3s,baz=101,slow=9.0,SNR=1.9					
RAYN	**Ar Rayn**	**87.77**	**294**	*e*P	**P**	**12 17 06.8 -0.6**
	4.9nm,1.0s					
ILAR	**Eielson Array**	**93.00**	**25**	P	P	**12 17 28.6 -2.1**
	1.2nm,0.7s,baz=265,slow=4.3,SNR=18					
YKA	**Yellowknife Ar**	**107.41**	**26**	PKiKP	**PKiKP**	**12 22 41.9 -1.3**
	0.3nm,0.6s,baz=305,slow=2.1,SNR=5.3					
TXAR	**Lajitas Array**	**124.64**	**59**	PKP	**PKPdf**	**12 23 17.0 -0.3**
	0.2nm,0.6s,baz=242,slow=1.9,SNR=2.4					
TORD	**Torodi Ar. Bea**	**128.91**	**281**	PKP	**PKPdf**	**12 23 25.4 -0.2**
	0.5nm,0.6s,baz=73,slow=2.6,SNR=8.2					
TORD				SKPbc	SKiKP	12 26 28.8 -20
	1.4nm,0.7s,baz=71,slow=3.5,SNR=7.6					
PLCA	**Paso Flores**	**129.11**	**160**	PKP	**PKPdf**	**12 23 26.4 +0.9**
	1.1nm,0.6s,baz=231,slow=3.0,SNR=3.7					
SCHQ	**Schefferville**	**130.09**	**13**	SKPbc	**SKPab**	**12 26 32.3 -3.7**
	7.0nm,0.9s,baz=355,slow=4.3,SNR=8.1					
DBIC	**Dimbokro**	**135.33**	**273**	PKP	**PKPdf**	**12 23 38.8 +1.0**
	1.1nm,0.4s,baz=172,slow=3.8,SNR=2.1					
DBIC				SKPbc	**SKPbc**	**12 26 52.2 -3.2**
	6.2nm,0.7s,baz=110,slow=2.5,SNR=9.9					
CPUP	**Villa Florida**	**146.38**	**168**	PKPbc	**PKPbc**	**12 23 59.2 +0.5**
	1.7nm,0.8s,baz=245,slow=2.6,SNR=8.7					
ATAH	**Atahualpa**	**148.38**	**115**	PKPbc	**PKPbc**	**12 24 04.9 -0.2**
	7.5nm,0.8s,baz=132,slow=1.2,SNR=3.9					

*IDC **29** 12:13:30.7±1.3, 7°.44N×92°.53E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.8/38, mbtmp3.9/10, ML3.5/1, Error ellipse: s-maj=57.7km s-min=16.8km az=53.0*
*ISCJB **29** 12:13:31.9±0.9, 7°.3N±0°.1×92°.4E±0°.1, h24km, mb3.9/9, Error ellipse: s-maj=25.2km s-min=10.4km az=143.7*

ISC 29 12:13:34.2±1.0, 7°.2N±0°.1×92°.4E±0°.2, h24km, n27, σ2s10/18, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.86**	**124**	Pn	**Pn**	**12 15 27.2**	**0.0**
	0.6nm,0.3s,baz=335,slow=13,SNR=4.9						

CMAR	**Chiang Mai Arr**	**12.87**	**29**	Pn	**Pn**	**12 16 36.8 +1.1**
	0.2nm,0.3s,baz=231,slow=14,SNR=17					
RAMN	**Ramite**	**20.37**	**345**	*e*P	Pn	12 18 14.7 +3.0
	34nm,0.5s					
TAPN	**Taplejung**	**20.50**	**348**	*e*P	**P**	**12 18 10.3 -0.6**
	25nm,1.1s					
JIRN	**Jiri**	**21.16**	**345**	*e*P	**P**	**12 18 18.5 +0.4**
	15nm,0.5s					
PKI	**Pulchoki**	**21.29**	**343**	*e*P	**P**	**12 18 23.7 +4.2**
	26nm,0.7s					
PKIN	**Phulchoki**	**21.30**	**343**	*e*P	**P**	**12 18 23.6 +4.1**
	20nm,0.6s					
DMN	**Daman**	**21.42**	**342**	*e*P	P	12 18 25.4 +4.6
GUN	**Gumba**	**21.48**	**344**	*e*P	**P**	**12 18 20.6 -0.9**
	16nm,0.7s					
GKN	**Gorkha**	**21.93**	**341**	*e*P	**P**	**12 18 29.4 +3.2**
KOLN	**Koldanda**	**22.07**	**339**	*e*P	P	12 18 33.7 +6.0
	17nm,0.5s					
H08S3	**Diego Garcia H**	**24.72**	**234**	T	T	12 44 49.8
	baz=52,slow=75,SNR=377					
H08S2	**Diego Garcia H**	**24.73**	**234**	T	T	12 44 52.5
	baz=52,slow=75,SNR=237					
H08S1	**Diego Carcia H**	**24.74**	**234**	T	T	12 44 53.7
	baz=52,slow=75,SNR=22					
AAK	**Ala-Archa**	**38.64**	**339**	P	**P**	**12 20 55.5 -0.4**
	0.6nm,0.3s,baz=239,slow=22,SNR=3.7					
MKAR	**Makanchi Array**	**40.37**	**349**	P	**P**	**12 21 08.6 -1.5**
	1.3nm,0.7s,baz=188,slow=8.1,SNR=11					
SONM	**Songino Array**	**42.20**	**14**	P	**P**	**12 21 23.5 -1.8**
	0.8nm,0.8s,baz=195,slow=9.2,SNR=6.1					
GEYT	**Alibeck**	**43.54**	**320**	P	**P**	**12 21 36.5 +0.3**
	1.8nm,0.4s,baz=150,slow=6.3,SNR=3.9					
KURBB	**Kurchatov Arra**	**44.77**	**347**	P	**P**	**12 21 44.7 -1.1**
	2.0nm,0.7s,baz=168,slow=7.2,SNR=11					
H01W3	**Cape Leeuwin H**	**46.65**	**155**	T	T	13 12 17.4
	baz=331,slow=76,SNR=13					
H01W2	**Cape Leeuwin H**	**46.66**	**155**	T	T	13 12 15.0
	baz=331,slow=76,SNR=11					
H01W1	**Cape Leeuwin H**	**46.66**	**155**	T	T	13 12 16.5
	baz=331,slow=76,SNR=12					
ZALV	**Zalesovo Beam**	**46.99**	**354**	P	**P**	**12 22 00.5 -2.7**
	0.6nm,0.5s,baz=160,slow=14,SNR=4.3					
WRA	**Warramunga Arr**	**49.33**	**124**	P	**P**	**12 22 21.9 0.0**
	2.3nm,0.8s,baz=304,slow=8.9,SNR=13					
ASAR	**Alice Springs**	**50.86**	**128**	P	**P**	**12 22 33.9 +0.4**
	1.1nm,0.7s,baz=309,slow=7.8,SNR=9.2					
GERES	**GERESS Array B**	**77.15**	**318**	P	**P**	**12 25 25.1 -0.9**
	0.9nm,0.7s,baz=86,slow=5.5,SNR=4.0					
TXAR	**Lajitas Array**	**140.51**	**22**	PKP	**PKPdf**	**12 33 04.2 +1.8**
	0.2nm,0.5s,baz=0.3,slow=1.2,SNR=6.2					

*CSEM **29** 12:15:06.9±0.1, 77°.00N×18°.42E, h10km, ML2.2, Error ellipse: s-maj=4.1km s-min=2.2km az=17.0*
*NAO **29** 12:15:06.4±1.3, 76°.87N×18°.28E, h17km±11km, ML2.6*
*BER **29** 12:15:08.7±4.3, 76°.90N×18°.20E, h15km±28km, MD2.4, ML2.2*

ISC 29 12:15:04.2±1.0, 76°.65N±0°.06×17°.95E±0°.05, h10km, n20, σ0s94/28, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.66**	**304**	Pg	**Pn**	**12 15 19.5**	**0.0**
HSP				Lg	Lg	12 15 27.7	
HSP	**Hornsund**	**0.66**	**304**	*e*P	**Pn**	**12 15 19.6**	**0.0**
HSP				*e*S	**Sb**	**12 15 27.6**	**+0.7**
HSP	**Hornsund**	**0.66**	**304**	Pg	**Pn**	**12 15 19.5**	**0.0**
HSP				Lg	Lg	12 15 27.7	
HSPB	**Hornsund (broa**	**0.66**	**304**	*e*P	**Pn**	**12 15 19.6**	**0.0**
HSPB				*e*S	**Sb**	**12 15 27.6**	**+0.7**
HSPB				IAML		12 15 33.2	
	comp=Z,39nm,0.2s						
HSPB	**Hornsund (broa**	**0.66**	**304**	*e*P	**Pn**	**12 15 19.6**	**0.0**
	SNR=92						
HSPB				*e*S	**Sb**	**12 15 27.6**	**+0.7**
	SNR=92						
SPA0	**Spitsbergen Ar**	**1.58**	**348**	Pn	**Pn**	**12 15 31.1**	**-1.1**
	baz=150,slow=22						
SPA0				Lg	Lg	12 15 48.5	
	baz=166,slow=37						
SPA0	**Spitsbergen Ar**	**1.58**	**348**	Pn	**Pn**	**12 15 31.1**	**-1.1**
	baz=150,slow=22						
SPA0				Lg	Lg	12 15 48.5	
	baz=166,slow=37						
SPA0	**Spitsbergen Ar**	**1.58**	**348**	Pn	**Pn**	**12 15 31.1**	**-1.1**
	SNR=62						
SPA0				Lg	Lg	12 15 48.5	
	SNR=8.4						
HOPEN	**Hopen**	**1.65**	**91**	*e*P	**Pb**	**12 15 35.1**	**+0.4**
HOPEN				*e*S	**Sn**	**12 15 54.6**	**+0.1**
HOPEN				*e*Sg	**Sg**	**12 15 58.7**	**+1.4**
HOPEN				IAML		12 16 02.5	
	comp=Z,61nm,0.4s						
HOPEN	**Hopen**	**1.65**	**91**	*e*P	**Pb**	**12 15 35.1**	**+0.4**
	SNR=62						
HOPEN				Sn	**Sn**	**12 15 54.8**	**+0.3**
HOPEN				Lg	Lg	12 15 58.3	
HOPEN				*e*Sg	**Sg**	**12 15 58.7**	**+1.4**
	SNR=93						
BJO	**Bjornoya**	**2.18**	**171**	Lg	Lg

MWZ				*e*SN	**Sn**	12 33 18.4	**+0.1**	
PRRZ	**Plateau Road**	**6.44**	**187**	PN	Pn	12 32 18.1	+6.9	
RIGZ	**Rimuhau**	**6.61**	**177**	PN	**Pn**	**12 32 14.4**	**+1.0**	
RIGZ				SN	**Sn**	**12 33 26.2**	**-1.3**	
HIZ	**Hauiti**	**6.72**	**197**	PN	Px	12 32 28.0		
HATZ	**Hinemaiaia**	**6.86**	**188**	PN	Pn	12 32 22.5	+5.7	
KNZ	**Kokohu**	**6.92**	**178**	PN	**Pn**	**12 32 16.5**	**-1.1**	
NMHZ	**Naumai**	**7.01**	**183**	*e*PN	**Pn**	**12 32 19.6**	**+0.7**	
MHGZ	**Mahia Peninsul**	**7.07**	**176**	PN	**Pn**	**12 32 18.4**	**-1.2**	
BKZ	**Black Stump Fm**	**7.10**	**185**	PN	**Pn**	**12 32 21.8**	**+1.7**	
BKZ				SN	**Sn**	**12 33 43.7**	**+4.3**	
ARHZ	**Aropaoanui**	**7.17**	**182**	PN	**Pn**	**12 32 21.6**	**+0.6**	
OTVZ	**Oturere**	**7.19**	**190**	PN	Pn	12 32 26.8	+5.4	
WPVZ	**Whakapapa**	**7.25**	**191**	PN	Pn	12 32 30.4	+8.2	
FWVZ	**Far West T-bar**	**7.30**	**191**	PN	Pn	12 32 29.1	+6.1	
MCHZ	**McNeill Hill**	**7.36**	**184**	PN	**Pn**	**12 32 26.0**	**+2.3**	
WNVZ	**Wahianoa**	**7.36**	**191**	*e*PN	Pn	12 32 29.3	+5.5	
MOVZ	**Moawhango**	**7.42**	**190**	PN	Pn	12 32 29.6	+5.1	
CKHZ	**Cape Kidnapper**	**7.56**	**181**	PN	**Pn**	**12 32 27.7**	**+1.3**	
KRHZ	**Kereru**	**7.58**	**186**	PN	**Pn**	**12 32 28.2**	**+1.4**	
KAHZ	**Kahuranaki**	**7.70**	**183**	PN	**Pn**	**12 32 28.6**	**+0.2**	
WAZ	**Wanganui**	**7.88**	**193**	PN	Pn	12 32 37.0	+6.1	
PXZ	**Pawanui**	**7.94**	**183**	PN	**Pn**	**12 32 30.1**	**-1.5**	
PXZ				*e*SN	**Sn**	**12 33 55.5**	**-4.5**	
PRHZ	**Porangahau**	**8.18**	**184**	PN	**Pn**	**12 32 34.6**	**-0.4**	
POWZ	**Post Office Ro**	**8.38**	**188**	PN	**Pn**	**12 32 38.8**	**+1.1**	
BFZ	**Birch Farm**	**8.62**	**186**	PN	**Pn**	**12 32 41.4**	**+0.5**	
MRZ	**Mangatainoka R**	**8.67**	**189**	*e*SN	**Sn**	**12 34 18.1**	**+0.1**	
OGWZ	**Otaki Gorge**	**8.88**	**191**	PN	**Pn**	**12 32 45.6**	**+1.0**	
HOWZ	**Holdsworth Sta**	**8.91**	**189**	PN	**Pn**	**12 32 44.7**	**-0.3**	
KIWZ	**Kapiti Island**	**8.97**	**192**	PN	**Pn**	**12 32 46.9**	**+1.2**	
TMWZ	**Te Maipa**	**9.08**	**187**	PN	**Pn**	**12 32 46.6**	**-0.6**	
MTW	**Mount Morrison**	**9.17**	**189**	PN	**Pn**	**12 32 47.6**	**-0.9**	
CAW	**Cannon Point**	**9.19**	**191**	PN	**Pn**	**12 32 48.6**	**0.0**	
TRWZ	**Traveller**	**9.39**	**188**	PN	**Pn**	**12 32 51.2**	**-0.2**	
TCW	**Tory Channel**	**9.43**	**194**	PN	**Pn**	**12 32 54.1**	**+2.1**	
MSWZ	**Moikau Station**	**9.46**	**190**	PN	**Pn**	**12 32 51.9**	**-0.5**	
PLWZ	**Palliser**	**9.61**	**189**	PN	**Pn**	**12 32 54.1**	**-0.4**	
TUWZ	**Tuamarina**	**9.71**	**195**	PN	**Pn**	**12 32 56.7**	**+0.9**	
BSWZ	**Blackbirch Sta**	**10.00**	**195**	PN	**Pn**	**12 33 01.2**	**+1.4**	
THZ	**Tophouse**	**10.29**	**199**	PN	**Pn**	**12 33 06.1**	**+2.3**	
KHZ	**Kahutara**	**10.74**	**195**	PN	**Pn**	**12 33 09.3**	**-0.6**	
OXZ	**Oxford**	**11.97**	**199**	PN	**Pn**	**12 33 26.0**	**-0.7**	
OXZ				*e*SN	**Sn**	**12 35 34.7**	**-4.1**	
CRLZ	**Canterbury Las**	**12.05**	**197**	PN	**Pn**	**12 33 26.5**	**-1.3**	
MQZ	**McQueen's Vall**	**12.17**	**196**	PN	**Pn**	**12 33 26.6**	**-2.8**	
MQZ				*e*SN	**Sn**	**12 35 38.1**	**-5.4**	
RPZ	**Rata Peaks**	**12.62**	**201**	Pn	**Pn**	**12 33 36.4**	**+0.9**	
	1.8nm,0.3s,baz=65,slow=19,SNR=2.5							
RPZ				Sn	**Sn**	**12 35 54.0**	**-0.5**	
	1.2nm,0.3s,baz=123,slow=23,SNR=7.9							
STKA	**Stephens Creek**	**30.23**	**261**	P	**P**	**12 36 44.8**	**0.0**	
	1.1nm,0.6s,baz=108,slow=13,SNR=2.2							
ASAR	**Alice Springs**	**39.08**	**271**	P	**P**	**12 38 01.6**	**+0.3**	
	1.0nm,0.3s,baz=108,slow=7.5,SNR=34							
WRA	**Warramunga Arr**	**40.24**	**277**	P	**P**	**12 38 10.9**	**0.0**	
	2.2nm,0.4s,baz=114,slow=8.0,SNR=114							

MEX 29 12:34:19.0±0.3, 17°.01N×95°.90W, *h*41km±13km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.80**	**275**	*e*P	Pn	12 34 32.4	-1.7
VHO				*i*S	Sn	12 34 42.8	-2.3
CMIG	**Matias Romero**	**0.98**	**85**	*e*P	Pn	12 34 34.5	-1.7
CMIG				*e*S	Sn	12 34 47.0	-2.0
HUIG	**Huatulco**	**1.25**	**189**	*e*P	Pn	12 34 38.5	-1.5
HUIG				*e*S	Sn	12 34 53.3	-2.3

*IDC **29** 12:34:22.1±2.1,24°.06×179°.91W, *h*492km±22km, mb3.5/15,mb1 3.7/15,mb1mx3.5/33,mbtmp4.3/15, Error ellipse: s-maj=17.2km s-min=15.6km az=122.0*
*ISCJB **29** 12:34:23.4±0.5,24°.14S±0°.08×180°.0E±0°.1, *h*518km, mb3.8/14, Error ellipse: s-maj=12.7km s-min=9.9km az=21.8*

ISC 29 12:34:24.5±0.6, 24°.21S±0°.10×179°.96E±0°.10, *h*518km, n33, σ1°.21/36, mb3.8/14, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**10.70**	**63**	S	**S**	**12 38 51.6**	**+2.9**
	baz=10,SNR=4.3						
URZ	**Urewera**	**14.22**	**189**	P	P	12 37 23.0	-3.1
	1.5nm,0.3s,baz=14,slow=4.2,SNR=5.8						
URZ				S	**S**	**12 39 53.7**	**-2.1**
	3.8nm,0.3s,baz=77,slow=22,SNR=22						
RPZ	**Rata Peaks**	**20.79**	**198**	P	**P**	**12 38 29.2**	**0.0**
	20nm,0.5s,baz=249,slow=2.2,SNR=12						
EIDS	**Eidsvold**	**26.22**	**261**	P	**P**	**12 39 19.3**	**+1.4**
	baz=26,SNR=3.8						
CMSA	**Cobar Meteorol**	**31.07**	**249**	P	**P**	**12 40 01.2**	**+1.2**
	baz=31,SNR=8.0						
CTA	**Charters Tower**	**31.44**	**271**	P	**P**	**12 40 04.5**	**+1.1**
	11nm,0.4s,baz=94,slow=11,SNR=25						
QLP	**Quilpie**	**32.30**	**258**	P	**P**	**12 40 11.9**	**+1.4**
	baz=33,SNR=4.0						
STKA	**Stephens Creek**	**34.57**	**249**	P	**P**	**12 40 30.3**	**+0.5**
	0.9nm,0.3s,baz=84,slow=7.4,SNR=9.5						
STKA	**Stephens Creek**	**34.57**	**249**	P	**P**	**12 40 31.0**	**+1.2**
	baz=35,SNR=7.5						
ASAR	**Alice Springs**	**41.95**	**261**	P	**P**	**12 41 30.3**	**+0.4**
	2.6nm,0.4s,baz=92,slow=8.3,SNR=34						
ASAR				pP	**pP**	**12 43 03.8**	**+0.3**
	0.8nm,0.9s,baz=96,slow=7.8,SNR=2.3						
ASAR				ScP	**ScP**	**12 46 16.8**	**+2.3**
	2.3nm,0.8s,baz=109,slow=4.5,SNR=14						
WRA	**Warramunga Arr**	**42.35**	**266**	P	**P**	**12 41 32.6**	**-0.5**
	4.7nm,0.5s,baz=97,slow=8.4,SNR=104						
WRA				ScP	**ScP**	**12 46 19.0**	**+3.0**
	3.3nm,1.0s,baz=100,slow=4.1,SNR=9.0						
KDU	**Kakadu**	**46.28**	**276**	P	**P**	**12 42 03.1**	**-0.4**
	baz=46,SNR=5.5						
WRKA	**Warakurna**	**46.73**	**258**	P	**P**	**12 42 06.8**	**-0.1**
	baz=47,SNR=14						
KNRA	**Kununurra**	**48.65**	**270**	P	**P**	**12 42 21.7**	**+0.4**
	baz=49,SNR=6.9						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P	**P**	**12 42 37.8**	**+0.9**
	baz=51,SNR=6.1						
MEEK	**Meekatharra**	**54.99**	**254**	P	**P**	**12 43 07.0**	**0.0**
	baz=55,SNR=3.2						
MORW	**Morawa**	**56.73**	**250**	P	**P**	**12 43 19.0**	**-0.1**
	baz=57,SNR=5.3						
MJAR	**Matsushiro Arr**	**72.13**	**326**	P	**P**	**12 44 55.2**	**-1.2**
	2.3nm,0.9s,baz=169,slow=6.2,SNR=4.8						
MAW	**Mawson**	**77.45**	**200**	P	**P**	**12 45 26.9**	**+1.2**
	2.4nm,0.6s,baz=144,slow=6.6,SNR=10						
MAW	**Mawson**	**77.45**	**200**	P	**P**	**12 45 26.7**	**+1.0**
	baz=78,SNR=8.6						
PETK	**Petropavlovsk-**	**79.39**	**347**	P	**P**	**12 45 35.5**	**-0.7**
	2.8nm,0.9s,baz=120,slow=9.4,SNR=5.2						
USRK	**Ussuriysk Ar.**	**81.00**	**327**	P	**P**	**12 45 44.5**	**-0.3**
	1.3nm,0.5s,baz=166,slow=3.5,SNR=5.7						
NVAR	**Mina Array Bea**	**85.00**	**44**	P	**P**	**12 46 04.9**	**-0.5**
	0.3nm,0.3s,baz=227,slow=6.1,SNR=2.2						
PLCA	**Paso Flores**	**88.08**	**134**	P	**P**	**12 46 19.7**	**-0.2**
	0.8nm,0.6s,baz=189,slow=5.3,SNR=3.0						
SEY	**Seymchan**	**89.56**	**348**	P	**P**	**12 46 25.1**	**-0.9**
	0.5nm,0.5s,baz=14,slow=23,SNR=5.9						
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P	**P**	**12 46 27.7**	**+0.5**
	0.6nm,0.3s,baz=145,slow=3.4,SNR=7.0						
TXAR	**Lajitas Array**	**90.63**	**58**	P	**P**	**12 46 31.7**	**-0.2**
	1.8nm,0.7s,baz=217,slow=6.6,SNR=22						
PDAR	**Pinedale Array**	**92.94**	**44**	P	**P**	**12 46 41.0**	**-1.3**
	0.5nm,0.7s,baz=222,slow=2.0,SNR=4.3						
AKASG	**Malin Array Be**	**145.21**	**327**	PKPbc	**PKPdf**	**12 53 02.0**	**-0.7**
	0.8nm,0.3s,baz=45,slow=4.2,SNR=4.6						
BRTR	**Keskin Array B**	**147.73**	**307**	PKPbc	**PKPbc**	**12 53 09.5**	**-1.6**
	1.0nm,0.6s,baz=138,slow=5.8,SNR=5.3						
CLL	**Collm**	**151.14**	**343**	↓*i*PKP	**PKPbc**	**12 53 18.0**	**-0.7**
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**151.27**	**341**	*e*P	**PKPbc**	**12 53 18.3**	**-0.7**
	comp=Z,4.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**168.88**	**189**	PKPab	**PKPab**	**12 54 47.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=180,slow=4.4,SNR=7.4						

*CSEM **29** 13:00:20.5, 39°.39N×29°.98W, h10km, ML2.9*
PDA 29 13:00:20.5±0.6, 39°.39N×29°.98W, h10km, MD3.7, ML2.9, Error ellipse: s-maj=13.0km s-min=5.3km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.25**	**127**	*e*P	Pn	13 00 39.4	-4.7
PCED				*e*S	Sb	13 00 53.3	-7.1
PCED				A	A	13 00 56.1	
	95nm,0.3s						
PCED	**Cedros**	**1.25**	**127**	*e*P	Pn	13 00 39.4	-4.7
PCED				*e*S	Sb	13 00 53.3	-7.1
CALA	**Caldeira**	**1.28**	**129**	*e*P	Pn	13 00 40.1	-4.5
CALA	**Caldeira**	**1.28**	**129**	*e*P	Pn	13 00 40.1	-4.5
PCAN	**Candelaria**	**1.49**	**128**	*e*S	Sn	13 00 59.5	-7.4
PCAN				A	A	13 01 04.7	
	120nm,0.3s						
PCAN	**Candelaria**	**1.49**	**128**	*e*S	Sn	13 00 59.5	-7.4
PICO	**Pico**	**1.50**	**126**	*e*P	Pn	13 00 43.1	-4.5
PICO	**Pico**	**1.50**	**126**	*e*P	Pn	13 00 43.1	-4.5
ROSA	**Rosais**	**1.51**	**116**	*e*P	Pn	13 00 42.7	-4.9
ROSA				*e*S	Sn	13 00 59.9	-7.5
ROSA				A	A	13 01 04.8	
	46nm,0.4s						
ROSA	**Rosais**	**1.51**	**116**	*e*P	Pn	13 00 42.7	-4.9
ROSA				*e*S	Sn	13 00 59.9	-7.5
PMAN	**Manadas**	**1.66**	**117**	*e*S	Sn	13 01 03.4	-7.5
PMAN				A	A	13 01 05.3	
	38nm,0.3s						
PMAN	**Manadas**	**1.66**	**117**	*e*S	Sn	13 01 03.4	-7.5

IDC 29 13:24:53.0±2.1, 36°.79S×73°.71W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.7/14, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=106.1km s-min=22.7km az=60.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.65**	**149**	Pn	Pn	13 26 03.8	-0.8
	0.1nm,0.3s,baz=317,slow=10,SNR=8.2						
PLCA				Lg	Lg	13 27 21.7	
	1.3nm,0.3s,baz=241,slow=20,SNR=3.1						
TXAR	**Lajitas Array**	**71.53**	**333**	P	P	13 36 15.9	+0.1
	0.4nm,0.7s,baz=154,slow=6.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**86.43**	**71**	P	P	13 37 37.7	0.0
	0.3nm,0.7s,baz=213,slow=3.7,SNR=1.7						

*IDC **29** 13:40:09.7±0.5, 36°.53S×73°.16W, h0km, mb4.5/13, mb1 4.6/17, mb1mx4.5/30, mbtmp4.4/17, ML3.7/3, MS4.2/15, Ms1 4.2/15, ms1mx4.0/22, Error ellipse: s-maj=23.8km s-min=13.4km az=93.0*
*ISCJB **29** 13:40:11.9±0.7, 36°.57S±0°.04×73°.07W±0°.06, h22km±5km, mb4.9/62, MS4.2/10, Error ellipse: s-maj=8.7km s-min=6.2km az=22.4*
*NEIC **29** 13:40:13.0, 36°.85S×73°.18W, h34km, mb5.0/51, ML5.2(GUC), After GUC.*
NEIC Felt [V] at Concepcion, Coronel and Talcahuano; [IV] at Chillan, La Laja, Los Angeles and San Rosendo; [III] at Angol, Contulmo and Los Sauces. Also felt at Canete, Chiguayante, Tome and Victoria.
*BJI **29** 13:40:13.2, 37°.41S×72°.81W, h39km, mB5.0/6, Ms5.2/3, Ms7 5.0/3*
*GUC **29** 13:40:13.0±2.6, 36°.85S×73°.18W, h34km±12km, ML5.2*

ISC 29 13:40:13.8±0.5, 36°.73S±0°.04×73°.03W±0°.07, h30km±3km, n360, σ1°13/364, mb5.0/62, MS4.3/10, 115C-113D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.13**	**209**	*e*P	**Pb**	**13 40 18.6**	**-0.7**
CCSP				*e*S	**Sb**	**13 40 22.5**	**-0.5**
CCSP				AML	AML	13 40 23.5	
	comp=E,573µm,0.4s						
TALC	**Talca**	**1.75**	**41**	*e*P	**Pn**	**13 40 42.4**	**+0.4**
TALC				*e*S	**Sb**	**13 41 07.1**	**+0.4**
NICH	**Los Niches**	**2.26**	**41**	*e*P	**Pb**	**13 40 51.9**	**-2.0**
VLCH	**Valdivia**	**3.07**	**183**	*e*P	**Pn**	**13 40 59.2**	**-1.0**
VLCH				*e*S	**Sn**	**13 41 36.5**	**+0.5**
CLCH	**Cerro Calan**	**3.91**	**32**	*e*P	**Pn**	**13 41 11.9**	**+0.1**
PEL	**Peldehue**	**4.07**	**29**	*i*eP	**Pn**	**13 41 13.7**	**-0.3**
PEL				*e*S	**Sn**	**13 42 01.1**	**+0.6**
ROCH	**El Roble**	**4.10**	**24**	*e*P	**Pn**	**13 41 13.7**	**-1.0**
PLCA	**Paso Flores**	**4.44**	**155**	Pn	Pb	13 41 25.6	-5.4
	comp=E,5.9nm,0.3s,baz=328,slow=12,SNR=17						
PLCA				Lg	Lg	13 42 29.1	
	comp=E,13nm,0.3s,baz=17,slow=13,SNR=3.8						
PLCA				LR	LR	13 43 26.2	
	comp=E,3µm,18.8s,baz=326,slow=42						
PLCA	**Paso Flores**	**4.44**	**155**	*e*Sn	**Sn**	**13 42 05.1**	**-4.8**
PLCA				Lg	Lg	13 42 29.1	
CFAA	**Coronel Fontan**	**6.47**	**39**	Pn	**Pn**	**13 41 46.8**	**-0.3**
	comp=E,0.5nm,0.3s,baz=194,slow=8.5,SNR=3.8						
CFAA				Sn	**Sn**	**13 42 59.3**	**-0.7**
	comp=E,1.3nm,0.3s,baz=212,slow=16,SNR=1.5						
CFAA				Lg	Lg	13 43 19.6	
	comp=E,0.8nm,0.3s,baz=118,slow=23,SNR=3.2						
CFAA				LR	LR	13 44 31.0	
	comp=E,252nm,18.0s,baz=230,slow=41						
LCO	**Las Campanas**	**7.94**	**15**	*e*Pn	Pn	13 42 04.3	-3.2
TRQA	**Tornquist**	**8.89**	**102**	Pn	**Pn**	**13 42 22.9**	**+2.6**
	comp=E,76nm,1.0s						
LVC	**Limon Verde**	**14.52**	**15**	Pn	**Pn**	**13 43 35.5**	**-1.9**
	comp=E,8.0nm,0.3s,baz=197,slow=11,SNR=1.2						
LVC				Sn	**Sn**	**13 46 21.7**	**+4.3**
	comp=E,9.2nm,0.3s,baz=314,slow=17,SNR=2.2						
LVC				Lg	Lg	13 47 24.9	
	comp=E,5.7nm,0.3s,baz=48,slow=5.5,SNR=5.0						
LVC				LR	LR	13 49 47.4	
	comp=E,2µm,20.0s,baz=224,slow=40						
LVC	**Limon Verde**	**14.52**	**15**	Pn	**Pn**	**13 43 35.1**	**-2.3**
LVC				Sn	**Sn**	**13 46 21.7**	**+4.3**
LVC				Lg	Lg	13 47 24.9	
CPUP	**Villa Florida**	**16.91**	**57**	Pn	**Pn**	**13 44 08.0**	**-0.2**
	comp=E,0.1nm,0.3s,baz=240,slow=12,SNR=4.2						
CPUP				LR	LR	13 51 16.2	
	comp=E,7µm,20.8s,baz=234,slow=40						
USHA	**Ushuaia**	**18.38**	**172**	P	**Pn**	**13 44 29.2**	**+3.1**
	comp=E,0.7nm,0.3s,baz=312,slow=5.9,SNR=7.5						
USHA				LR	LR	13 53 00.9	
	comp=E,838nm,18.2s,baz=24,slow=42						
NNA	**Nana**	**24.88**	**351**	LR	LR	13 53 47.5	
	comp=E,308nm,18.1s,baz=175,slow=33						
ATAH	**Atahualpa**	**29.86**	**349**	P	**P**	**13 46 20.2**	**+1.1**
	comp=E,3.3nm,0.7s,baz=193,slow=3.2,SNR=4.5						
BDFB	**Brasilia**	**30.58**	**53**	P	**P**	**13 46 26.9**	**+1.7**
	comp=E,2.1nm,0.4s,baz=150,slow=16,SNR=2.0						
BDFB				LR	LR	14 00 13.3	
	comp=E,663nm,18.8s,baz=219,slow=39						
OTAV	**Otavalo**	**37.13**	**351**	P	**P**	**13 47 22.8**	**+0.5**
	comp=E,34nm,1.6s						
PTGA	**Pitinga**	**37.81**	**22**	P	**P**	**13 47 25.5**	**-2.1**
	comp=E,2.8nm,0.5s,baz=208,slow=6.7,SNR=4.3						
ROSC	**El Rosal**	**41.39**	**358**	LR	LR	14 04 25.1	
	comp=E,172nm,18.3s,baz=242,slow=35						
SDV	**Santo Domingo**	**45.43**	**3**	*e*P	P	13 48 26.9	-3.3
	comp=E,9.0nm,1.0s						
VNA3	**Neumayer Olymp**	**47.16**	**157**	P	**P**	**13 48 45.4**	**+2.4**
VNA1	**Neumayer--Stat**	**47.50**	**156**	P	P	13 48 49.8	+4.2
VNA2	**Neumayer--Watz**	**47.83**	**156**	P	**P**	**13 48 48.9**	**+0.7**
	baz=281,slow=10						
JTS	**JuntasAbangare**	**48.10**	**344**	LR	LR	14 04 15.8	
	comp=E,117nm,20.0s,baz=158,slow=30						
SNAA	**Sanae**	**49.38**	**157**	P	**P**	**13 49 02.1**	**+1.9**
SNAA	**Sanae**	**49.38**	**157**	P	**P**	**13 49 02.1**	**+1.9**
	comp=E,1.4nm,0.9s,baz=258,slow=9.0,SNR=8.3						
SNAA	**Sanae**	**49.38**	**157**	*e*P	**P**	**13 48 58.8**	**-1.4**
	comp=E,3.2nm,0.6s						
QSPA	**South Pole Qui**	**53.51**	**180**	P	**P**	**13 49 33.4**	**+2.2**
	comp=E,15nm,1.0s,baz=150,slow=1.3,SNR=34						
QSPA	**South Pole Qui**	**53.51**	**180**	*e*P	**P**	**13 49 32.6**	**+1.3**
	comp=E,19nm,1.1s						
RKT	**Rikitea**	**54.52**	**266**	*e*LR	LR	14 05 14.0	
	comp=E,218nm,28.5s						
RKT	**Rikitea**	**54.52**	**266**	*e*T	T	14 48 03.7	
	comp=E,3.8nm,0.2s						
VNDA	**Vanda**	**61.27**	**192**	P	**P**	**13 50 28.4**	**+2.9**
	comp=E,2.1nm,0.8s,baz=124,slow=5.8,SNR=8.6						
SYO	**Syowa Base**	**63.63**	**158**	*i*eP	P	13 50 36.0	-5.4
TBI	**Tubuai**	**65.93**	**258**	*e*LR	LR	14 11 08.5	
	comp=E,284nm,27.0s						
035A	**Encino**	**67.59**	**336**	↓P	**P**	**13 51 08.4**	**+0.9**
	baz=68						
MEH	**Mehetia**	**67.72**	**264**	*e*T	T	15 04 30.5	
	comp=E,58nm,0.2s						
034A	**Hebbronville**	**67.90**	**335**	↑P	**P**	**13 51 09.8**	**+0.4**
	baz=68						
934A	**Benavides**	**68.34**	**336**	↓P	**P**	**13 51 13.0**	**+0.8**
	baz=69						
933A	**Laredo**	**68.60**	**335**	↓P	**P**	**13 51 14.5**	**+0.7**
	baz=69						
834A	**Tilden**	**68.83**	**336**	↑P	**P**	**13 51 16.3**	**+1.1**
	baz=69						
TIAR	**Tiarei**	**68.91**	**263**	*e*T	T	15 06 02.1	
	comp=E,7.6nm,0.3s						
PPT2	**Papeete2**	**69.08**	**263**	*e*LR	LR	14 12 19.6	
	comp=E,266nm,22.5s						
PPT	**Papeete**	**69.09**	**263**	LR	LR	14 14 31.7	
	comp=E,271nm,18.8s,baz=128,slow=30						
736A	**Circle Diamond**	**69.13**	**338**	↑P	**P**	**13 51 18.1**	**+1.0**
	baz=70						
735A	**Kenedy**	**69.27**	**337**	↓P	**P**	**13 51 18.7**	**+0.8**
	baz=70						
833A	**Chaparral WMA,**	**69.30**	**335**	↓P	**P**	**13 51 17.8**	**-0.3**
	baz=70,SNR=9.5						
832A	**Faith Ranch, C**	**69.46**	**335**	↓P	**P**	**13 51 18.5**	**-0.7**
	baz=70,SNR=7.2						
636A	**Smothers Creek**	**69.62**	**338**	↓P	**P**	**13 51 21.0**	**+0.9**
	baz=70						
733A	**Divot King Ran**	**69.63**	**336**	↑P	**P**	**13 51 21.0**	**+0.8**
	baz=70						
635A	**Leesville**	**69.76**	**337**	↑P	**P**	**13 51 21.3**	**+0.4**
	baz=70						
732A	**Laxson Ranch,**	**69.86**	**335**	↓P	**P**	**13 51 20.8**	**-0.8**
	baz=70,SNR=7.5						
633A	**Saathoff Ranch**	**70.27**	**336**	↑P	**P**	**13 51 24.8**	**+0.7**
	baz=71						
535A	**Dale**	**70.29**	**338**	↓P	**P**	**13 51 24.7**	**+0.5**
	baz=71						
GOGA	**Godfrey**	**70.46**	**351**	*e*P	**P**	**13 51 23.6**	**-1.5**
	comp=E,14nm,1.1s						
632A	**Uvalde**	**70.52**	**335**	↑P	**P**	**13 51 25.4**	**-0.2**
	baz=71,SNR=7.5						
340A	**Bronson**	**70.55**	**341**	↑P	**P**	**13 51 26.4**	**+0.7**
	baz=71						
534A	**Blanco**	**70.57**	**337**	↑P	**P**	**13 51 25.8**	**-0.1**
	baz=71						
437A	**Phantom Ranch,**	**70.61**	**339**	↓P	**P**	**13 51 26.7**	**+0.6**
	baz=71						
631A	**Perdido Creek**	**70.70**	**335**	↑P	**P**	**13 51 27.3**	**+0.6**
	baz=71						
533A	**Kerrville**	**70.79**	**336**	↓P	**P**	**13 51 26.9**	**-0.4**
	baz=71,SNR=6.8						
MAW	**Mawson**	**70.79**	**164**	P	**P**	**13 51 28.7**	**+1.8**
	comp=E,8.1nm,0.8s,baz=203,slow=6.8,SNR=15						
MAW				LR	LR	14 21 21.2	
	comp=E,270nm,21.1s,baz=240,slow=35						
337A	**Centerville**	**71.00**	**339**	↓P	**P**	**13 51 29.1**	**+0.6**
	baz=71						
532A	**Rocksprings**	**71.13**	**336**	↑P	**P**	**13 51 29.1**	**-0.2**
	baz=72,SNR=10						
434A	**Burnet**	**71.24**	**337**	↓P	**P**	**13 51 29.4**	**-0.6**
	baz=72						
336A	**Riesel**	**71.34**	**339**	↑P	**P**	**13 51 30.7**	**+0.1**
	baz=72						
531A	**Rocksprings**	**71.38**	**335**	↑P	**P**	**13 51 30.7**	**-0.2**
	baz=72,SNR=11						
JCT	**Junction City**	**71.42**	**336**	↑P	**P**	**13 51 30.5**	**-0.6**
	baz=72,SNR=8.0						
JCT	**Junction City**	**71.42**	**336**	*e*P	**P**	**13 51 29.9**	**-1.2**
	comp=E,34nm,1.1s						
433A	**Art**	**71.44**	**336**	↑P	**P**	**13 51 30.9**	**-0.3**
	baz=72,SNR=8.7						
530A	**J-C Ranch, Com**	**71.64**	**334**	↑P	**P**	**13 51 32.5**	**+0.1**
	baz=72,SNR=17						
334A	**Lometa**	**71.71**	**337**	↓P	**P**	**13 51 32.7**	**-0.1**
	baz=72						
TXAR	**Lajitas Array**	**71.74**	**332**	P	**P**	**13 51 32.9**	**-0.2**
	comp=E,8.5nm,0.9s,baz=151,slow=8.3,SNR=54						
TXAR				LR	LR	14 18 24.4	
	comp=E,175nm,18.4s,baz=0.0,slow=32						
432A	**Menard**	**71.78**	**336**	↑P	**P**	**13 51 33.2**	**-0.1**
	baz=72						
431A	**Sonora**	**71.87**	**335**	↑P	**P**	**13 51 33.4**	**-0.5**
	baz=72,SNR=8.0						
529A	**Stev Forest Ra**	**71.92**	**334**	↓P	**P**	**13 51 34.5**	**+0.3**
	baz=72						
KMSC	**Kings Mountain

baz=75
X32A **Elmer** 74.90 338 ⇑P P 13 51 51.6 0.0
baz=75
TUL1 **Leonard** 75.31 341 ⇑P P 13 51 53.4 -0.4
baz=76
TUL1 **Leonard** 75.31 341 *e*P P 13 51 52.5 -1.4
comp=E,30nm,1.0s
X31A **McDonald Ranch** 75.31 337 ⇑P P 13 51 53.8 -0.1
baz=76
W33A **Caddo, Fort Co** 75.33 339 ⇑P P 13 51 54.4 +0.4
baz=76
Y28A **McKinney Farm,** 75.38 335 ⇑P P 13 51 54.3 -0.1
baz=76
X30A **Coker Ranch, T** 75.42 336 ⇓P P 13 51 54.5 -0.1
baz=76
V35A **Meyer Ranch, C** 75.45 340 ⇑P P 13 51 54.7 +0.1
baz=76
W32A **Sentinel** 75.54 338 ⇓P P 13 51 55.4 +0.1
baz=76
MSTX **Muleshoe** 75.61 335 ⇑P P 13 51 55.5 -0.3
baz=76
MSTX **Muleshoe** 75.61 335 *e*P P 13 51 55.2 -0.6
comp=E,15nm,1.0s
X29A **Tulia** 75.69 336 ⇓P P 13 51 56.2 0.0
baz=76
319A **Douglas** 75.78 329 ⇓P P 13 51 57.5 +0.7
baz=76
W31A **Holland Ranch,** 75.81 338 ⇑P P 13 51 56.6 -0.2
baz=76
V33A **Lossen Ranch,** 75.91 339 ⇑P P 13 51 57.8 +0.5
baz=76
X28A **Dimmitt** 75.92 335 ⇑P P 13 51 57.6 +0.1
baz=76
AMTX **Amarillo** 76.08 336 ⇑P P 13 51 59.0 +0.6
baz=76
121A **Cookes Peak, D** 76.18 330 ⇑P P 13 51 59.7 +0.5
baz=76
U34A **Anderson Ranch** 76.27 340 ⇓P P 13 51 59.6 +0.2
baz=77
W29A **Amarillo** 76.29 336 ⇑P P 13 51 59.7 +0.1
baz=77
V31A **Spring Creek L** 76.32 338 ⇓P P 13 52 00.7 +1.0
baz=77
U33A **Lingo Farm, Me** 76.43 339 ⇓P P 13 52 00.6 +0.4
baz=77
V30A **Spur Ranch, Mi** 76.57 337 ⇑P P 13 52 02.6 +1.5
baz=77
DBIC **Dimbokro** 76.82 71 P P 13 52 04.3 +1.3
comp=E,4.2nm,0.7s,baz=157,slow=6.1,SNR=4.1
DBIC LR LR 14 22 14.6
comp=E,130nm,20.6s,baz=208,slow=33
T33A **Patterson Ranc** 77.07 340 ⇓P P 13 52 04.5 +0.6
baz=78
S35A **Otter Creek Ra** 77.12 341 ⇓P P 13 52 04.5 +0.4
baz=78
TUC **Tucson** 77.23 328 *e*P P 13 52 05.9 +1.0
comp=E,24nm,1.5s
LPM **Los Pinos Moun** 77.31 332 *e*P P 13 52 05.7 +0.2
T32A **Huddler Ranch,** 77.36 339 ⇓P P 13 52 06.3 +0.8
baz=78
T31A **Randall Ranch,** 77.50 338 ⇑P P 13 52 06.7 +0.4
baz=78
ANMO **Albuquerque** 77.81 332 *e*P P 13 52 08.6 +0.3
comp=E,24nm,1.2s
214A **Organ Pipe Nat** 77.81 326 ⇑P P 13 52 09.1 +0.9
baz=78
T28A **Walsh** 78.27 337 ⇓P P 13 52 10.2 -0.4
baz=79,SNR=9.7
T27A **Campo** 78.41 336 ⇓P P 13 52 11.8 +0.3
baz=79,SNR=5.8
S29A **Ulysses** 78.42 338 ⇑P P 13 52 12.1 +0.7
baz=79
R32A **Long Quarter,** 78.45 340 ⇑P P 13 52 11.9 +0.3
baz=79
S28A **Manter** 78.63 337 ⇑P P 13 52 12.7 +0.1
baz=79
113A **Mohawk Valley,** 78.93 326 ⇓P P 13 52 15.4 +1.1
baz=79
Q32A **Meitler Ranch,** 78.94 340 ⇑P P 13 52 14.9 +0.7
baz=79
T25A **Trinidad** 79.04 335 ⇓P P 13 52 15.8 +0.7
baz=79,SNR=8.1
T25A **Trinidad** 79.04 335 *e*P P 13 52 15.7 +0.7
comp=E,32nm,1.1s
R29A **Marienthal** 79.16 338 ⇓P P 13 52 16.0 +0.4
baz=80
S26A **Kim** 79.17 336 ⇑P P 13 52 15.8 +0.2
baz=80,SNR=10
W18A **Petrified Fore** 79.22 330 ⇓P P 13 52 16.8 +0.8
baz=80
R28A **Tribune** 79.29 337 ⇓P P 13 52 16.9 +0.7
baz=80
X16A **Lo Mia Camp, P** 79.32 328 ⇑P P 13 52 17.3 +0.7
baz=80
Q30A **Quinter** 79.40 339 ⇓P P 13 52 17.0 +0.2
baz=80
Q29A **Oakley** 79.54 338 ⇑P P 13 52 17.6 +0.1
baz=80
P32A **Huiting Farm,** 79.55 340 ⇓P P 13 52 17.4 -0.1
baz=80
R27A **Eads** 79.55 337 ⇑P P 13 52 17.6 -0.1
baz=80,SNR=5.6
Y14A **Wickenburg** 79.58 327 ⇓P P 13 52 18.2 +0.4
baz=80
R26A **Arlington** 79.78 336 ⇓P P 13 52 19.2 +0.3
baz=80,SNR=7.4
SWSC **Sam W. Stewart** 80.00 325 ⇓P P 13 52 21.5 +1.4
baz=80
Y12C **Blythe** 80.09 326 ⇓P P 13 52 21.7 +1.1
baz=80
WUAZ **Wupatki** 80.24 329 ⇑P P 13 52 22.7 +1.2
baz=81
WUAZ **Wupatki** 80.24 329 *e*P P 13 52 21.8 +0.3
comp=E,23nm,1.2s
R24A **Sanders Place,** 80.27 335 ⇑P P 13 52 22.0 +0.3
baz=81,SNR=12
Q26A **Hugo** 80.36 336 ⇑P P 13 52 22.8 +0.6
baz=81
BC3 **Big Chuckawall** 80.44 325 ⇑P P 13 52 23.5 +0.9
baz=81
O30A **MW Ranch, Wils** 80.47 339 ⇓P P 13 52 23.3 +0.8
baz=81
R23A **Moffat** 80.48 334 ⇑P P 13 52 23.5 +0.6
baz=81
MVCO **Mesa Verde** 80.57 332 ⇓P P 13 52 24.2 +0.8
baz=81
MVCO **Mesa Verde** 80.57 332 *e*P P 13 52 23.5 +0.1
comp=E,21nm,1.2s
Q25A **Bedland, Calha** 80.59 336 ⇓P P 13 52 24.0 +0.6
baz=81
PFO **Pinyon Flats O** 80.86 324 ⇓P P 13 52 26.0 +1.1
baz=81
P26A **Davis Ranch, A** 80.89 337 ⇓P P 13 52 25.3 +0.4
baz=81
Q24A **Divide** 80.94 335 ⇓P P 13 52 25.5 +0.1
baz=81,SNR=6.8
Q24A **Divide** 80.94 335 *e*P P 13 52 25.7 +0.3
comp=E,18nm,1.3s
W13A **Hualapai Mount** 80.94 327 ⇑P P 13 52 26.4 +1.0
baz=81
P25A **Willow Gulch B** 81.11 336 ⇓P P 13 52 26.7 +0.6
baz=82,SNR=5.8
MURC **Murrieta** 81.20 324 ⇑P P 13 52 27.6 +1.0
baz=82
M31A **Lambtecht Ranc** 81.25 341 ⇑P P 13 52 27.2 +0.5
baz=82
U15A **North Rim** 81.40 329 ⇑P P 13 52 28.8 +0.9
baz=82
GMRC **Granite Mounta** 81.47 326 ⇑P P 13 52 29.4 +1.3
baz=82
P23A **Jefferson** 81.54 335 ⇑P P 13 52 29.5 +0.9
baz=82
SMCO **Snowmass** 81.76 334 *e*P P 13 52 30.8 +1.0
comp=E,18nm,1.1s
HEC **Hector,Ludlow** 81.81 325 ⇓P P 13 52 30.9 +1.1
baz=82
ISCO **Idaho Springs** 81.85 335 ⇑P P 13 52 30.1 -0.1
baz=82,SNR=5.2
ISCO **Idaho Springs** 81.85 335 *e*P P 13 52 29.4 -0.7
comp=E,15nm,1.5s
LBTB **Lobatse** 81.89 115 *e*P P 13 52 32.4 +1.6
comp=E,12nm,0.6s
BFSC **Mount Baldy Ra** 81.94 324 ⇓P P 13 52 32.4 +1.8
baz=82
L31A **Butterfield Fa** 82.00 341 ⇑P P 13 52 31.4 +0.9
baz=82
P22A **Eagle** 82.06 334 ⇑P P 13 52 31.9 +0.7
baz=82
TUQ **Turquoise Moun** 82.13 326 ⇓P P 13 52 33.2 +1.6
baz=82
O23A **Lake Granby, G** 82.32 335 ⇑P P 13 52 33.0 +0.3
baz=83,SNR=6.6
GSC **Goldstone, Bar** 82.42 325 ⇓P P 13 52 34.3 +1.3
baz=83
O22A **Kremmling** 82.49 335 ⇑P P 13 52 33.6 +0.1
baz=83,SNR=11
N24A **Carr** 82.53 336 ⇓P P 13 52 34.4 +0.8
baz=83
K30A **Basset** 82.67 341 ⇓P P 13 52 34.8 +0.7
baz=83
SHPR **Sheep Range** 82.69 327 *e*P P 13 52 32.0 -2.5
CCUT **Cedar City** 82.80 329 *e*P P 13 52 34.8 -0.4
comp=E,21nm,1.2s
ECSD **EROS Data Cent** 82.91 343 ⇓P P 13 52 34.7 -0.5
baz=83
ECSD **EROS Data Cent** 82.91 343 *e*P P 13 52 33.9 -1.4
comp=E,27nm,1.2s
N23A **Red Feather La** 82.94 335 ⇓P P 13 52 35.9 +0.1
baz=83,SNR=6.1
N23A **Red Feather La** 82.94 335 *e*P P 13 52 36.4 +0.6
comp=E,9.6nm,1.1s
LRMC **Laurel Mtn Rad** 82.97 325 ⇑P P 13 52 37.0 +1.0
baz=83
SRU **San Rafael Swe** 83.01 332 *e*P P 13 52 34.9 -1.2
comp=E,15nm,1.0s
N22A **Wattenberg Ran** 83.03 335 ⇓P P 13 52 36.8 +0.5
baz=83,SNR=8.7
O20A **White River Ci** 83.06 334 ⇓P P 13 52 37.2 +0.9
baz=83
O20A **White River Ci** 83.06 334 *e*P P 13 52 35.4 -0.9
comp=E,14nm,1.1s
M24A **Cheyenne** 83.09 336 ⇑P P 13 52 37.4 +0.9
baz=84
PHWY **Pilot Hill** 83.14 336 *e*P P 13 52 36.1 -0.8
comp=E,13nm,1.1s
MPMC **Manual Prospec** 83.36 325 ⇑P P 13 52 39.2 +1.1
baz=84
FURC **Furnace Creek,** 83.41 326 ⇑P P 13 52 39.3 +1.3
baz=84
TMUT **Trail Mountain** 83.43 331 *e*P P 13 52 38.1 -0.3
comp=E,19nm,1.1s
ISA **Isabella, Lake** 83.49 324 ⇓P P 13 52 40.0 +1.4
baz=84
ISA **Isabella, Lake** 83.49 324 *e*P P 13 52 39.2 +0.6
comp=E,16nm,1.3s
TPNV **Topopah Spring** 83.54 326 ⇑P P 13 52 40.2 +1.3
baz=84
TPNV **Topopah Spring** 83.54 326 *e*P P 13 52 39.8 +0.9
comp=E,18nm,1.3s
J29A **Okreek** 83.54 340 ⇓P P 13 52 39.4 +0.9
baz=84
DAC **Darwin (Calif)** 83.59 325 *e*P P 13 52 39.3 +0.1
comp=E,18nm,1.2s
M22A **Cedar Creek Ra** 83.61 335 ⇓P P 13 52 39.9 +0.6
baz=84
N20A **Spence Gulch,** 83.68 334 ⇓P P 13 52 39.5 -0.1
baz=84,SNR=7.8
I30A **Oacoma** 83.77 341 ⇑P P 13 52 40.1 +0.4
baz=84
J27A **Elkhorn Farm,** 83.86 339 ⇑P P 13 52 40.9 +0.6
baz=84
VES **Veal, Richgr** 83.92 324 ⇓P P 13 52 42.1 +1.4
baz=84
L23A **Garrett** 83.96 336 ⇑P P 13 52 41.6 +0.6
baz=84
I29A **Vivian Onida** 84.10 341 ⇑P P 13 52 42.0 +0.6
baz=84
L22A **Ellis Ranch, M** 84.12 336 ⇓P P 13 52 42.2 +0.4
baz=84
MPU **Maple Canyon** 84.22 331 *e*P P 13 52 40.0 -2.3
comp=E,23nm,1.1s
I28A **Midland** 84.32 340 ⇓P P 13 52 43.0 +0.5
baz=85
NLU **North Lily Min** 84.34 331 *e*P P 13 52 41.2 -1.7
comp=E,15nm,1.3s
R11A **Troy Canyon, C** 84.41 328 ⇓P P 13 52 44.1 +0.7
baz=85
R11A **Troy Canyon, C** 84.41 328 *e*P P 13 52 43.8 +0.5
comp=E,14nm,1.1s
K23A **Bowen Ranch, D** 84.51 337 ⇑P P 13 52 44.1 +0.4
baz=85
H29A **Onida** 84.64 341 ⇑P P 13 52 44.7 +0.6
baz=85
JLU **Jordanelle** 84.65 332 *e*P P 13 52 44.4 -0.2
comp=E,11nm,1.0s
J24A **Dixon Ranch, L** 84.72 337 ⇑P P 13 52 45.0 +0.3
baz=85
DUG **Dugway, Tooele** 84.83 331 ⇓P P 13 52 46.2 +0.8
baz=85
DUG **Dugway, Tooele** 84.83 331 *e*P P 13 52 44.3 -1.1
comp=E,22nm,1.2s
G30A **Faulkton** 84.83 342 ⇓P P 13 52 44.9 -0.2
baz=85
TPH **Tonopah** 84.90 326 *e*P P 13 52 45.0 -0.8
comp=E,22nm,1.1s
K21A **Alcova** 84.93 335 ⇓P P 13 52 45.5 -0.3
baz=85,SNR=5.3
I25A **Rochford** 85.07 338 ⇑P P 13 52 46.5 0.0
baz=86
H27A **Howes** 85.15 340 ⇓P P 13 52 46.7 0.0
baz=86
I24A **Kuemmerle Ranc** 85.19 338 ⇑P P 13 52 47.0 -0.1
baz=86
RSSD **Black Hills** 85.25 338 *e*P P 13 52 47.3 -0.1
comp=E,10nm,0.9s
F30A **Leola** 85.47 342 ⇓P P 13 52 48.5 +0.3
baz=86
H25A **Fruitdale** 85.58 339 ⇑P P 13 52 49.7 +0.8
baz=86
J21A **Lysite** 85.63 336 ⇑P P 13 52 49.3 0.0
baz=86
F29A **Eureka** 85.67 342 ⇓P P 13 52 49.2 0.0
baz=86
NVAR **Mina Array Bea** 85.67 326 P P 13 52 50.1 +0.4
comp=E,3.7nm,0.8s,baz=148,slow=6.1,SNR=14
G27A **Dupree** 85.80 340 ⇑P P 13 52 50.1 +0.2
baz=86
I22A **9 Mile Ranch,** 85.80 336 ⇑P P 13 52 50.2 +0.1
baz=86
PDAR **Pinedale Array** 85.84 334 P P 13 52 50.1 -0.3
comp=E,4.5nm,0.9s,baz=145,slow=5.4,SNR=27
PDAR LR LR 14 27 31.9
comp=E,141nm,18.2s,baz=161,slow=33
J20A **Shoshoni** 85.85 335 ⇑P P 13 52 50.3 0.0
baz=86,SNR=9.6
TORD **Toroti Ar. Bea** 85.89 70 P P 13 52 51.4 +0.3
comp=E,2.6nm,1.0s,baz=233,slow=3.9,SNR=9.1
TORD LR LR 14 29 20.3
comp=E,71nm,18.1s,baz=240,slow=34
G26A **Maurine** 85.91 340 ⇓P P 13 52 50.1 -0.4
baz=86
H24A **Dirks Ranch, A** 85.97 338 ⇓P P 13 52 50.1 -0.8
baz=86
I21A **Big Trails, Te** 86.00 336 ⇓P P 13 52 50.3 -0.8
baz=86,SNR=10
J19A **Crowheart** 86.10 334 ⇑P P 13 52 51.2 -0.4
baz=86,SNR=13
ELK **Elko** 86.28 329 *e*P P 13 52 53.2 +0.6
comp=E,9.2nm,1.1s
F27A **Lemmon** 86.28 340 ⇓P P 13 52 52.0 -0.3
baz=87
H22A **Clearmont** 86.39 337 ⇑P P 13 52 52.3 -0.7
baz=87
I20A **Worland** 86.39 335 ⇓P P 13 52 52.7 -0.3
baz=87,SNR=7.7
G24A **Alzada** 86.46 338 ⇑P P 13 52 53.4 +0.2
baz=87
E28A **Huff** 86.58 341 ⇓P P 13 52 53.8 +0.1
baz=87
G23A **Biddle** 86.64 338 ⇓P P 13 52 53.6 -0.5
baz=87
F25A **Bowman** 86.73 339 ⇓P P 13 52 54.0 -0.5
baz=87
I19A **Meeetse** 86.76 335 ⇑P P 13 52 54.5 -0.4
baz=87
REDW **Red Top Meadow** 86.82 333 *e*P P 13 52 53.5 -1.7
comp=E,13nm,1.1s
H20A **Greybull** 86.83 336 ⇓P P 13 52 55.1 0.0
baz=87
G22A **Birney** 86.93 337 ⇓P P 13 52 55.6 +0.1
baz=87
F24A **Ekalaka** 86.94 339 ⇑P P 13 52 55.6 +0.1
baz=87
LOHW **Long Hollow** 86.95 334 *e*P P 13 52 55.5 -0.4
comp=E,7.3nm,1.0s
TPAW **Teton Pass** 86.97 333 *e*P P 13 52 54.4 -1.6
comp=E,14nm,1.0s
F23A **Volborg** 87.11 338 ⇓P P 13 52 56.1 -0.3
baz=88
D28A **Regan** 87.12 342 ⇓P P 13 52 56.5 +0.2
baz=88
MOOW **Moose Ponds** 87.12 334 *e*P P 13 52 54.8 -1.9
comp=E,2.6nm,0.9s
FXWY **Fox Creek** 87.13 333 *e*P P 13 52 55.8 -0.9
comp=E,7.5nm,1.2s
I17A **Pilgrim Ck.** 87.21 334 ⇑P P 13 52 57.2 +0.1
baz=88,SNR=10
G21A **Lodge Grass** 87.23 337 ⇓P P 13 52 57.2 +0.2
baz=88
IMW **Indian Meadow** 87.32 334 *e*P P 13 52 57.3 -0.4
comp=E,15nm,1.1s
FLWY **Flagg Ranch** 87.40 334 *e*P P 13 52 57.7 -0.3
comp=E,20nm,1.0s
F22A **Rosebud** 87.42 337 ⇓P P 13 52 57.9 0.0
baz=88
D26A **Manning** 87.46 340 ⇓P P 13 52 57.9 -0.1
baz=88
G20A **Bridger** 87.55 336 ⇑P P 13 52 58.1 -0.5
baz=88
E24A **Baker** 87.55 339 ⇑P P 13 52 58.8 +0.3
baz=88
H18A **Shoshone NF, C** 87.56 335 ⇑P P 13 52 58.1 -0.7
baz=88,SNR=7.5
B30A **Myrvik Farm, E** 87.75 343 ⇑P P 13 52 59.3 0.0
baz=88
D25A **Fairfield** 87.81 340 ⇓P P 13 53 00.1 +0.4
baz=88
C27A **Sayler Ranch,** 87.84 341 ⇓P P 13 53 00.2 +0.4
baz=88
YMR **Madison River** 88.00 334 *e*P P 13 52 59.8 -1.1
comp=E,25nm,1.2s
B29A **Wagenman Farm,** 88.00 343 ⇑P P 13 53 00.8 +0.3
baz=88
D24A **Glendive** 88.06 339 ⇑P P 13 53 01.0 +0.2
baz=88
C26A **Wahner Farm, P** 88.10 341 ⇓P P 13 53 01.3 +0.3
baz=88
B28A **Dugan Ranch, T** 88.23 342 ⇑P P 13 53 02.1 +0.5
baz=89
HLID **Hailey** 88.33 331 ⇓P P 13 53 02.9 +0.6
baz=89
HLID **Hailey** 88.33 331 *e*P P 13 53 02.8 +0.4
comp=E,12nm,1.4s
D23A **Lindsay** 88.37 339 ⇑P P 13 53 02.5 +0.2
baz=89
A29A **Manning Farm,** 88.41 343 ⇑P P 13 53 02.4 0.0
baz=89
C24A **Savage** 88.46 339 ⇓P P 13 53 02.8 +0.1
baz=89
MFID **Camas Ranch** 88.75 330 *e*P P 13 53 04.4 +0.1
comp=E,22nm,1.4s
E19A **Rath Farm, Rou** 88.83 336 ⇑P P 13 53 04.4 -0.2
baz=89
C23A **Lambert** 88.93 339 ⇓P P 13 53 05.0 +0.1
baz=89
ULM **Lac du Bonnet** 88.93 346 P P 13 53 03.6 -1.2
comp=E,4.6nm,0.8s,baz=202,slow=5.3,SNR=4.8
ULM **Lac du Bonnet** 88.93 346 *e*P P 13 53 04.1 -0.7
comp=E,13nm,1.3s
WVOR **Wild Horse Val** 89.10 328 *e*P P 13 53 05.9 -0.1
comp=E,4.1nm,0.8s
DGMT **Dagmar** 89.25 340 ⇓P P 13 53 07.0 +0.6
baz=90
A25A **Svangstu Ranch** 89.39 341 ⇓P P 13 53 07.5 +0.4
baz=90
M04C **Macdoel** 89.98 326 ⇑P P 13 53 11.2 +1.1
baz=90
A20A **Cobblestone Ra** 90.71 338 ⇑P P 13 53 12.6 -0.7
baz=91
I07A **Izee** 90.81 328 *e*P P 13 53 14.9 +1.0
F10A **Beach Ranch, E** 91.44 331 *e*P P 13 53 17.3 +0.5
NEW **Newport** 93.30 332 ⇓P P 13 53 24.7 -0.6
baz=94
ILAR **Eielson Array** 116.25 333 PKP PKPdf 13 58 52.8 -0.4
comp=E,0.2nm,0.8s,baz=212,slow=2.1,SNR=5.0
VYHS **Vyhne** 117.52 49 *e*PKP PKPdf 13 58 56.4 +0.3
BRTR **Keskin Array B** 123.83 63 PKP PKPdf 13 59 08.3 -0.5
comp=E,0.9nm,0.7s,baz=222,slow=1.7,SNR=5.1
H11S2 **WAKE ISLAND Hyl** 24.89 268 T T 16 16 19.7
baz=95,slow=74,SNR=30
H11S1 **WAKE ISLAND Hyl** 24.90 268 T T 16 16 21.6
SNR=22
H11S3 **WAKE ISLAND Hyl** 24.90 268 T T 16 16 28.9
baz=114,slow=74,SNR=17
H11N3 **WAKE ISLAND Hyl** 25.37 269 T T 16 16 49.1
baz=122,slow=75,SNR=3.6
H11N1 **WAKE ISLAND Hyl** 25.38 269 T T 16 16 49.4
baz=122,slow=75,SNR=5.6
H11N2 **WAKE ISLAND Hyl** 25.39 269 T T 16 16 49.7
baz=122,slow=75,SNR=7.6
GEYT **Alibeck** 141.49 73 PKhKP PKPpre 13 59 37.5
comp=E,1.1nm,0.4s,baz=196,slow=10,SNR=3.4
AKTO **Aktyubinsk** 142.67 53 PKhKP PKPpre 13 59 38.7
comp=E,0.8nm,0.7s,baz=296,slow=4.6,SNR=3.9
ABKAR **Akbulak array** 143.97 55 *e*PKPdf PKPbc 13 59 43.9 +0.2
KSM **Kuching** 144.78 186 *e*PKPdf **PKPab** 13 59 46.4 -0.8
PSI **Prapat** 145.43 166 PKPbc **PKPab** 13 59 49.6 0.0
comp=E,15nm,0.8s,baz=212,slow=4.4,SNR=12
URV **Uravakonda** 145.80 122 *e*PKPdf **PKPdf** 13 59 46.8 -3.2
SKHT **Srikalahasti** 146.56 126 *e*PKPab **PKPdf** 13 59 51.4 +0.1
IPM **Ipoh** 147.44 169 *e*PKPab **PKPbc** 13 59 55.4 +0.1
HYB **Hyderabad** 148.40 120 *i* PKP **PKPbc** 13 59 57.0 -0.8
HYBB **Hyderabad (bro** 148.40 120 *e*PKPbc **PKPbc** 13 59 56.3 -1.4
RPR **Rampur** 149.89 119 *e*PKPbc **PKPdf** 13 59 57.2 +0.6
KSH **Kashi** 155.52 74 *e*PKP **PKPdf** 14 00 03.5 -0.9
KSH pPKP **pPKPdf** 14 00 14.3 0.0
KSH PKS **PKSdf** 14 03 36.5 -2.0
KSH *e*PP **PP** 14 04 08.5 +0.8
KSH SKS **SKSdf** 14 07 04.8 -3.9
KSH SKKS **SKKSac** 14 10 52.5 -2.3
KSH PPMZ
comp=E,51nm,3.8s
KSH LN
comp=E,180nm,7.3s
KSH LE
comp=E,99nm,6.1s
KSH LZ
comp=E,110nm,6.4s
ZALV **Zalesovo Beam** 156.95 35 PKP **PKPdf** 14 00 05.3 -0.3
comp=E,3.2nm,0.8s,baz=318,slow=2.0,SNR=13
ZALV PKPab **PKPab** 14 00 36.3 +0.5
comp=E,2.6nm,0.8s,baz=303,slow=6.3,SNR=6.1
MKAR **Makanchi Array** 159.10 54 PKP **PKPdf** 14 00 08.6 0.0
comp=E,1.7nm,0.9s,baz=270,slow=9.5,SNR=12
MKAR PKPab **PKPab** 14 00 45.6 +0.1
comp=E,2.3nm,0.9s,baz=277,slow=9.4,SNR=9.2
CMAR **Chiang Mai Arr** 160.47 157 PKPab **PKPab** 14 00 51.1 -0.9
comp=E,0.9nm,0.8s,baz=222,slow=5.2,SNR=6.0
MDJ **Mudanjiang** 161.16 302 PKP **PKPdf** 14 00 10.8 -0.1
MDJ PPMZ
comp=E,150nm,3.4s
WMQ **Urumqi** 163.69 58 *e*PKP **PKPdf** 14 00 12.5 -1.0
WMQ pPKP **pPKPdf** 14 00 23.3 -0.1
WMQ LN
comp=E,170nm,19.2s
WMQ LE
comp=E,210nm,28.0s
WMQ LZ
comp=E,180nm,19.4s
KMI **Kunming** 167.87 161 PKP **PKPdf** 14 00 15.5 -2.2
KMI pPKP **pPKPdf** 14 00 22.0 -5.6
SONM **Songino Array** 168.90 2 PKP **PKPdf** 14 00 17.1 -0.4
comp=E,0.2nm,0.4s,baz=302,slow=2.7,SNR=2.7
SONM PKPab **PKPab** 14 01 27.9 -0.6
comp=E,1.3nm,0.9s,baz=352,slow=2.9,SNR=7.3
CD2 **Chengdu** 173.61 154 PKP **PKPdf** 14 00 19.0 -1.4
CD2 pPKP **pPKPdf** 14 00 30.3 0.0
CD2 sPKP 14 00 34.0
CD2 PKS **PKSdf** 14 03 50.0 -2.7
CD2 PP **PP** 14 05 43.0 +2.1
CD2 SKS **SKSdf** 14 07 17.0 -4.5
CD2 SKKS **SKKSac** 14 12 24.5 -1.4
CD2 PPMZ
comp=E,120nm,5.4s
GTA **Gaotai** 173.75 62 *e*PKP **PKPdf** 14 00 21.0 +0.7
GTA pPKP **pPKPdf** 14 00 31.8 +1.6
GTA sPKP 14 00 35.3
GTA PKPab **PKPab** 14 01 51.3 +0.8
HHC **Hu-ho-hao-te** 174.54 320 *e*PKP **PKPdf** 14 00 20.0 -0.4
HHC pPKP **pPKPdf** 14 00 31.0 +0.6
HHC sPKP 14 00 34.3
HHC PP **PP** 14 05 50.5 +4.5

HHC				SKS	**SKSdf**	**14 07 17.8**	**-3.6**
HHC				SS	**SS**	**14 27 08.0**	**+2.8**
HHC				PPMZ			
	comp=E,18nm,6.3s						
HHC				LN			
	comp=E,120nm,20.6s						
HHC				LE			
	comp=E,150nm,20.6s						
HHC				LZ			
	comp=E,110nm,20.2s						
LZH	**Lanzhou**	**177.40**	**103** *e*PKP		**PKPdf**	**14 00 20.8**	**-0.5**
LZH				pPKP	**pPKPdf**	**14 00 30.3**	**-0.9**
LZH				sPKP		14 00 34.5	

ISCJB ***29*** *13:48:18.2±1.3, 1.˚1N±0.˚1×126.˚9E±0.˚1, h10km, mb3.0/3, Error ellipse: s-maj=21.9km s-min=10.0km az=42.7*
IDC ***29*** *13:48:18.1±2.4, 1.˚13N×127.˚22E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/33, mbtmp3.1/3, Error ellipse: s-maj=186.5km s-min=28.9km az=66.0*
DJA ***29*** *13:48:22.8±1.0, 1.˚1N±4.˚×12.˚7E±.˚, h10km, M3.2/3, MLv3.2/3*
ISC 29 13:48:19.4±1.5, 1.˚0N±0.˚1×127.˚0E±0.˚1, h10km, n5, σ1§42/7, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.46**	**122**	P	**Pn**	**13 48 31.0**	**-1.0**
TNTI				S	**Sb**	**13 48 37.8**	**+1.4**
LBMI	**Labuha**	**1.72**	**162**	P	**Pg**	**13 48 51.6**	**-0.9**
LBMI				S	**Sb**	**13 49 14.2**	**+1.3**
WRA	**Warramunga Arr**	**22.04**	**161**	P	**P**	**13 53 13.8**	**-0.6**
	0.4nm,0.7s,baz=340,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**25.44**	**165**	P	**P**	**13 53 49.1**	**+1.5**
	0.3nm,0.6s,baz=347,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**13 58 26.2**	**+0.4**
	0.1nm,0.5s,baz=134,slow=5.7,SNR=2.3						

ISCJB ***29*** *13:54:01.0±0.5, 6.˚97S±0.˚07×125.˚09E±0.˚08, h511km, mb3.5/5, Error ellipse: s-maj=11.2km s-min=8.8km az=11.3*
IDC ***29*** *13:54:01.5±6.3, 6.˚86S×125.˚35E, h502km±89km, mb3.1/5, mb1 3.2/7, mb1mx3.0/31, mbtmp4.0/7, Error ellipse: s-maj=99.0km s-min=21.6km az=55.0*
ISC 29 13:54:02.0±0.8, 6.˚98S±0.˚09×125.˚2E±0.˚1, h511km, n16, σ0§88/16, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.91**	**199**	P	**P**	**13 55 14.2**	**+0.8**
	baz=2.9,SNR=43						
SOEI				S	**S**	**13 56 09.0**	**-2.4**
	baz=2.9,SNR=4.5						
AAI	**Ambon**	**4.42**	**42**	P	P	13 55 26.6	+1.9
	baz=4.5,SNR=3.6						
FAKI	**Fak Fak**	**8.09**	**60**	P	**P**	**13 55 59.2**	**-0.5**
	baz=8.2,SNR=3.2						
FAKI				S	**S**	**13 57 36.3**	**+0.2**
	baz=8.2,SNR=3.3						
KDU	**Kakadu**	**9.13**	**129**	P	**P**	**13 56 10.7**	**+0.3**
	baz=9.2,SNR=5.8						
KNRA	**Kununurra**	**9.31**	**158**	P	**P**	**13 56 13.2**	**+0.9**
	baz=9.4,SNR=5.8						
WRA	**Warramunga AR**	**15.63**	**146**	P	**P**	**13 57 18.0**	**-0.7**
	0.8nm,0.3s,baz=214,slow=8.4,SNR=62						
WRKA	**Warakurna**	**18.20**	**171**	P	**P**	**13 57 44.1**	**+0.5**
	baz=18,SNR=31						
ASAR	**Alice Springs**	**18.57**	**154**	P	**P**	**13 57 47.5**	**+0.4**
	0.7nm,0.3s,baz=331,slow=7.9,SNR=84						
MEEK	**Meekatharra**	**20.53**	**197**	P	**P**	**13 58 04.6**	**-0.3**
	baz=21,SNR=11						
PMBI	**Palembang**	**20.75**	**280**	P	P	13 58 02.6	-4.4
	baz=21,SNR=4.5						
STKA	**Stephens Creek**	**29.11**	**150**	P	**P**	**13 59 21.4**	**+0.5**
	1.9nm,0.4s,baz=331,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**29.11**	**150**	P	**P**	**13 59 21.5**	**+0.6**
	baz=29,SNR=10						
CMAR	**Chiang Mai Arr**	**36.20**	**315**	P	**P**	**14 00 21.6**	**+0.2**
	0.4nm,0.4s,baz=154,slow=6.4,SNR=5.3						
SONM	**Songino Array**	**57.05**	**345**	P	**P**	**14 02 59.2**	**+0.1**
	0.7nm,0.7s,baz=162,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**65.59**	**329**	P	**P**	**14 03 55.8**	**+0.2**
	0.7nm,0.5s,baz=140,slow=5.7,SNR=10						
ZALV	**Zalesovo Beam**	**69.54**	**336**	P	**P**	**14 04 18.2**	**-0.7**
	0.9nm,0.4s,baz=129,slow=5.4,SNR=4.7						

IDC 29 13:59:13.5±25.0, 14.˚83S×174.˚44W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/36, mbtmp4.2/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=476.5km s-min=162.3km az=71.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.80**	**256**	P	P	14 06 32.7	+0.8
	2.3nm,0.6s,baz=66,slow=12,SNR=2.1						
STKA	**Stephens Creek**	**43.46**	**239**	P	P	14 07 17.4	-1.2
	3.0nm,1.0s,baz=87,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**49.00**	**256**	P	P	14 08 02.4	0.0
	1.1nm,0.7s,baz=89,slow=8.2,SNR=33						
GUMO	**Guam**	**49.18**	**303**	LR	LR	14 24 20.5	
	comp=Z,24nm,19.5s,baz=54,slow=31						
ASAR	**Alice Springs**	**49.34**	**251**	P	P	14 08 05.0	0.0
	5.2nm,0.4s,baz=88,slow=8.1,SNR=146						
ILAR	**Eielson Array**	**82.08**	**12**	LR	LR	14 43 22.8	
	comp=Z,26nm,18.6s,baz=138,slow=32						

JMA ***29*** *14:07:02.9±0.2, 43.˚92N×147.˚86E, h0km, M3.9*
SKHL ***29*** *14:07:02.9±0.9, 44.˚31N×148.˚06E, h69km±5km, mb4.3/3*
ISC 29 14:07:01.0±3.2, 44.˚3N±0.˚1×148.˚3E±0.˚2, h65km, n9, σ1§56/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.01**	**344**	*e*P	**Pn**	**14 07 19.7**	**+0.3**
KUR				AMB	AMB	14 07 20.1	
	100nm,0.5s						
KUR				*e*S	**Sn**	**14 07 31.9**	**-1.1**
KUR				A	A	14 07 35.7	
	300nm,0.2s						
KUR				A	A	14 07 35.7	
	400nm,0.2s						
SHO	**Shikotan**	**1.11**	**250**	*e*P	**Pn**	**14 07 20.5**	**-0.1**
SHO				AMB	AMB	14 07 20.9	
	135nm,0.3s						
SHO				*e*S	**Sn**	**14 07 32.9**	**-2.3**
SHO				A	A	14 07 33.1	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.75**	**263**	*e*P	**Pn**	**14 07 28.6**	**-0.5**
YUK				AMB	AMB	14 07 33.3	
	219nm,0.2s						
YUK				*e*S	**Sn**	**14 07 48.5**	**-1.8**
YUK				A	A	14 07 51.7	
	643nm,0.7s						
YUK				A	A	14 07 51.7	
	512nm,0.7s						
NEM2	**Nemuro 2**	**2.03**	**245**	P	**Pn**	**14 07 33.2**	**+0.2**
NEM2				*e*S	**Sn**	**14 07 55.0**	**-2.3**
JRA	**Rausu**	**2.29**	**263**	P	**Pn**	**14 07 38.1**	**+1.7**
JRA				*e*S	**Sn**	**14 08 03.9**	**+0.4**
JNK	**Nakash**	**2.65**	**256**	P	**Pn**	**14 07 42.7**	**+1.4**
JNK				*e*S	**Sn**	**14 08 11.6**	**-0.7**
JAK	**Akkeshi**	**2.88**	**245**	P	**Pn**	**14 07 45.3**	**+0.8**
JAK				*e*S	**Sn**	**14 08 16.5**	**-1.5**
JAR	**Ashorobuto**	**3.40**	**255**	P	**Pn**	**14 07 53.9**	**+2.4**
JAR				*e*S	**Sn**	**14 08 31.2**	**+0.6**
JOB	**Onbets**	**3.49**	**249**	P	**Pn**	**14 07 54.9**	**+2.1**

ISCJB ***29*** *14:11:36.0±0.6, 3.˚78N±0.˚06×95.˚73E±0.˚06, h50km, mb3.8/12, Error ellipse: s-maj=11.4km s-min=5.0km az=138.7*
DJA ***29*** *14:11:38.5±0.6, 4.˚N±4.˚×9.˚6E±.˚, h49km±87km, M4.0/8, mb4.3/3, mB4.6/2, MLv4.0/8, Mw(mB)3.8/2*
KLM ***29*** *14:11:39.8, 4.˚45N×95.˚92E, h154km, mb4.0, ML3.5*
IDC ***29*** *14:11:40.4±4.2, 3.˚94N×95.˚87E, h71km±37km, mb3.6/12, mb1 3.6/14, mb1mx3.4/54, mbtmp3.9/14, ML3.9/2, Error ellipse: s-maj=46.5km s-min=18.1km az=56.0*
ISC 29 14:11:37.9±0.7, 3.˚82N±0.˚06×95.˚78E±0.˚09, h50km, n29, σ1§21/29, mb3.9/12, 3C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**1.73**	**344**	P	**Pn**	**14 12 06.7**	**+1.1**
BSI				S	**Sn**	**14 12 28.0**	**+1.4**
LHMI	**Lhok Sumawe**	**1.82**	**40**	P	**Pn**	**14 12 07.4**	**+0.5**
TSI	**Tuntungan**	**2.80**	**96**	P	Pn	14 12 31.3	+11
GSI	**Gunungsitoli**	**3.08**	**144**	P	**Pn**	**14 12 24.2**	**0.0**
GSI				S	**Sn**	**14 12 59.0**	**-0.8**
PSI	**Prapat**	**3.30**	**108**	P	**Pn**	**14 12 29.6**	**+2.3**
	4.6nm,0.3s,baz=321,slow=7.7,SNR=10.0						
PSI				S	**Sn**	**14 13 04.7**	**-0.8**
	3.4nm,0.3s,baz=156,slow=4.4,SNR=5.7						
MNSI	**Mandailing Nat**	**4.85**	**128**	P	**Pn**	**14 12 49.0**	**+0.6**
KULM	**Kulim**	**5.07**	**73**	⇓P	**Pn**	**14 12 50.1**	**-1.4**
IPM	**Ipoh**	**5.28**	**83**	⇑P	**Pn**	**14 12 53.9**	**-0.4**
FRIM	**Kepong**	**5.87**	**96**	⇑P	**Pn**	**14 13 05.2**	**+2.8**
KTGM	**Kuala Trenggan**	**7.49**	**78**	⇑P	**Pn**	**14 13 23.6**	**-1.0**
KGM	**Kluang**	**7.75**	**103**	⇓P	**Pn**	**14 13 30.2**	**+2.0**
MYKOM	**Kota Tinggi**	**8.31**	**104**	⇓P	**Pn**	**14 13 38.2**	**+2.2**
CMAR	**Chiang Mai Arr**	**14.87**	**12**	P	**Pn**	**14 15 06.8**	**+1.6**
	0.3nm,0.3s,baz=202,slow=11,SNR=9.3						
H08S2	**Diego Garcia H**	**25.87**	**244**	T	T	14 43 47.4	
	baz=240,slow=74,SNR=3.7						
H08S3	**Diego Garcia H**	**25.87**	**244**	T	T	14 43 41.4	
	baz=65,slow=74,SNR=18						
H08S1	**Diego Garcia H**	**25.89**	**244**	T	T	14 43 26.4	
MKAR	**Makanchi Array**	**44.38**	**347**	P	**P**	**14 19 42.8**	**-0.7**
	0.5nm,0.4s,baz=186,slow=11,SNR=15						
WRA	**Warramunga AR**	**44.64**	**123**	P	**P**	**14 19 45.7**	**-0.3**
	0.4nm,0.6s,baz=301,slow=9.2,SNR=4.6						
SONM	**Songino Array**	**44.79**	**10**	P	**P**	**14 19 45.9**	**-1.0**
	1.6nm,0.5s,baz=192,slow=9.8,SNR=7.3						
SONM				PcP	**PcP**	**14 21 28.3**	**+0.1**
	0.5nm,0.5s,baz=192,slow=3.8,SNR=2.6						
ASAR	**Alice Springs**	**46.12**	**128**	P	**P**	**14 19 57.7**	**+0.1**
	0.1nm,0.4s,baz=301,slow=8.1,SNR=1.6						
KURBB	**Kurchatov Arra**	**48.85**	**345**	P	**P**	**14 20 17.6**	**-0.7**
	0.6nm,0.5s,baz=160,slow=6.8,SNR=10.0						
ZALV	**Zalesovo Beam**	**50.77**	**352**	P	**P**	**14 20 31.9**	**-1.0**
	2.8nm,0.5s,baz=180,slow=7.4,SNR=14						
BVAR	**Borovoye Array**	**53.32**	**341**	P	**P**	**14 20 51.4**	**-0.6**
	0.8nm,0.7s,baz=145,slow=8.3,SNR=5.4						
AKTO	**Aktyubinsk**	**56.26**	**332**	P	**P**	**14 21 12.8**	**-0.4**
	0.8nm,0.5s,baz=129,slow=6.5,SNR=2.7						
BRTR	**Keskin Array B**	**66.31**	**312**	P	**P**	**14 22 22.5**	**+0.9**
	0.8nm,0.7s,baz=125,slow=7.6,SNR=3.1						
SEY	**Seymchan**	**71.93**	**24**	P	**P**	**14 22 55.5**	**-0.4**
	0.3nm,0.3s,baz=191,slow=16,SNR=2.4						
FINES	**FINESS Array B**	**77.03**	**332**	P	**P**	**14 23 24.9**	**-0.5**
	1.8nm,0.9s,baz=7.1,slow=3.4,SNR=1.9						
KEST	**Kesra**	**84.89**	**305**	P	**P**	**14 24 07.9**	**-0.1**
	0.8nm,0.7s,baz=168,slow=4.2,SNR=3.5						
TXAR	**Lajitas Array**	**142.12**	**28**	PKP	**PKPdf**	**14 31 05.2**	**-0.3**
	0.1nm,0.6s,baz=64,slow=3.1,SNR=2.5						

NIED ***29*** *14:12:00, 33.˚80N×142.˚40E, h8km, Mw4.3 Best double couple: M₀3.37000×10¹⁵ NP1:φ₁43.00000°, δ41.00000°, λ-41.00000°. NP2:φ₂167.00000°, δ64.00000°, λ-123.00000°.*
IDC ***29*** *14:12:50.7±0.5, 33.˚77N×142.˚50E, h0km, mb4.2/28, mb1 4.3/33, mb1mx4.3/52, mbtmp4.2/33, ML3.8/4, MS3.3/8, Ms1 3.3/8, ms1mx2.9/37, Error ellipse: s-maj=16.0km s-min=13.2km az=81.0*
JMA ***29*** *14:12:51.5±0.3, 33.˚79N×142.˚38E, h10km, M4.6*
NEIC ***29*** *14:12:51.2±3.0, 33.˚76N×142.˚48E, h4km±18km, mb4.5/8, MW4.3(NIED), Error ellipse: s-maj=9.4km s-min=6.2km az=70.0*
ISCJB ***29*** *14:12:53.1±0.3, 33.˚80N±0.˚04×142.˚39E±0.˚04, h25km, mb4.3/49, MS3.4/7, Error ellipse: s-maj=6.7km s-min=4.1km az=34.6*
MOS ***29*** *14:12:54.3±1.0, 33.˚79N×142.˚36E, h33km, mb4.5/40, Error ellipse: s-maj=12.8km s-min=6.0km az=124.9*
ISC 29 14:12:54.8±0.5, 33.˚84N±0.˚05×142.˚39E±0.˚06, h25km, n142, σ0§93/151, mb4.3/49, MS3.5/7, 10C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.42**	**305**	P	**Pn**	**14 13 17.8**	**-0.7**
BSO1				S	**Sb**	**14 13 37.6**	**-0.2**
BSO3	**Boso 3**	**1.82**	**302**	P	**Pn**	**14 13 23.9**	**-0.4**
BSO3				S	**Sn**	**14 13 47.1**	**+0.6**
BSO4	**Boso 4**	**2.04**	**305**	P	**Pn**	**14 13 27.4**	**-0.1**
CHOJ	**Chosi**	**2.24**	**326**	P	**Pn**	**14 13 30.4**	**+0.1**
CHOJ				*e*S	**Sn**	**14 13 58.7**	**+1.5**
JHJ2	**Mitsune**	**2.27**	**252**	P	**Pn**	**14 13 29.6**	**-1.1**
JHJ2	**Mitsune**	**2.27**	**252**	*e*Pn	**Pn**	**14 13 30.1**	**-0.6**
JHCJ	**Hachijojimakas**	**2.30**	**251**	P	**Pn**	**14 13 30.5**	**-0.6**
JIM2	**Oshima 3**	**2.60**	**290**	P	**Pn**	**14 13 34.7**	**-0.6**
JIM2				S	**Sn**	**14 14 06.8**	**+0.5**
JOD2	**Odawara 2**	**3.07**	**298**	P	**Pn**	**14 13 41.7**	**0.0**
JOD2				S	**Sn**	**14 14 18.0**	**+0.3**
JAG	**Ashikaga**	**3.52**	**318**	P	**Pn**	**14 13 46.8**	**-1.2**
JYN	**Shimob**	**3.57**	**299**	P	**Pn**	**14 13 48.3**	**-0.4**
JYN				S	**Sn**	**14 14 31.0**	**+0.9**
JRY	**Ryogami san**	**3.59**	**308**	P	**Pn**	**14 13 49.1**	**+0.2**
JRY				S	**Sn**	**14 14 31.1**	**+0.5**
JFT	**Otama**	**4.03**	**336**	P	**Pn**	**14 13 53.4**	**-1.5**
JFT				S	**Sn**	**14 14 38.4**	**-2.9**
MJAR	**Matsushiro Arr**	**4.35**	**309**	Pn	**Pn**	**14 13 59.6**	**+0.2**
	4.3nm,0.3s,baz=123,slow=10,SNR=30						
MJAR				Sn	**Sn**	**14 14 46.9**	**-2.4**
	3.3nm,0.3s,baz=145,slow=10,SNR=6.4						
MJAR				LR	LR	14 16 18.8	
	comp=Z,304nm,20.5s,baz=135,slow=47						
MJAR	**Matsushiro Arr**	**4.35**	**309**	P	**Pn**	**14 13 59.6**	**+0.2**
MJAR						14 14 46.9	
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR				smax	smax		
	comp=N,3.0nm,0.3s						
MAJO	**Matsushiro**	**4.36**	**309**	⇑*i*P	**Pn**	**14 13 59.8**	**+0.4**
MAJO	**Matsushiro**	**4.36**	**309**	*e*Pn	**Pn**	**14 14 00.1**	**+0.6**
MAT	**Matsushiro**	**4.36**	**309**	P	**Pn**	**14 13 59.1**	**-0.3**
MAT				S	**Sn**	**14 14 50.0**	**+0.6**
MAT	**Matsushiro**	**4.36**	**309**	P	**Pn**	**14 14 00.0**	**+0.6**
CBIJ	**Chichi jima**	**6.73**	**182**	Pn	Pn	14 14 28.4	-3.6
CBIJ				Sn	Sn	14 15 37.9	-10
JCJ	**Chichijima**	**6.73**	**182**	Pn	Pn	14 14 28.4	-3.6
	comp=N,8.8nm,0.3s,baz=343,slow=22,SNR=7.6						
JCJ				Sn	Sn	14 15 37.9	-10
	comp=N,11nm,0.3s,baz=66,slow=23,SNR=2.4						
ERM	**Erimo**	**8.18**	**4**	⇑*e*P	Pn	14 14 46.8	-5.1
JNU	**Nakatsue**	**9.64**	**269**	Pn	**Pn**	**14 15 13.2**	**+1.1**
	comp=N,0.7nm,0.3s,baz=75,slow=9.4,SNR=4.7						
ASAJ	**Asahikawa**	**10.26**	**1**	Pn	Pn	14 15 17.1	-3.3
	comp=N,1.0nm,0.3s,baz=222,slow=10,SNR=21						
ASAJ				Sn	Sn	14 17 04.7	-10
	comp=N,1.1nm,0.3s,baz=128,slow=26,SNR=1.7						
ASAJ				LR	LR	14 20 46.7	
	comp=N,86nm,18.6s,baz=174,slow=46						
KSRS	**Korea Array**	**12.30**	**291**	Pn	**Pn**	**14 15 48.1**	**-0.2**
	comp=N,0.1nm,0.3s,baz=106,slow=14,SNR=3.2						
KSRS				LR	LR	14 20 22.0	
	comp=N,92nm,20.6s,baz=100,slow=36						
KSAR	**Wonju Array Be**	**12.33**	**291**	P	**Pn**	**14 15 48.2**	**-0.6**
KSAR	**Wonju Array Be**	**12.33**	**291**	Pn	**Pn**	**14 15 48.1**	**-0.6**
VLA	**Vladivostok**	**12.38**	**321**	⇑*e*P	**Pn**	**14 15 51.2**	**+1.8**
TJN	**Taejon**	**12.56**	**286**	⇑*e*P	**Pn**	**14 15 54.7**	**+2.8**
YSS	**Yuzh-Sakhalins**	**13.10**	**1**	*e*P	**Pn**	**14 15 57.0**	**-2.2**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
USRK	**Ussuriysk Ar.**	**13.11**	**325**	Pn	**Pn**	**14 15 59.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=146,slow=14,SNR=4.3						
JOW	**Kunigami**	**14.04**	**244**	Pn	**P**	**14 16 17.4**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=3.7,SNR=3.9						
HABR	**Khabarovsk**	**15.61**	**342**	*e*P	Pn	14 16 28.2	-4.9
HABR				pmax	pmax		
	comp=Z,32nm,1.5s						
PETK	**Petropavlovsk-**	**22.15**	**25**	LR	LR	14 27 59.4	
	comp=Z,18nm,19.2s,baz=174,slow=41						
CLNS	**Chul'man**	**25.92**	**338**	*e*P	**P**	**14 18 24.6**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.7s						
YAK	**Yakutsk**	**29.35**	**348**	⇑*e*P	**P**	**14 18 55.5**	**+0.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEY	**Seymchan**	**29.79**	**9**	P	**P**	**14 18 59.5**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=192,slow=8.4,SNR=27						
SEY	**Seymchan**	**29.79**	**9**	P	**P**	**14 18 59.5**	**+0.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	**Ulaanbaatar**	**29.89**	**309**	*de*P	**P**	**14 19 02.3**	**+1.8**
ULN				pmax	pmax		
	comp=Z,13nm,1.2s						
ULN	**Ulaanbaatar**	**29.89**	**309**	*e*P	**P**	**14 19 01.2**	**+0.7**
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**30.31**	**308**	P	**P**	**14 19 06.3**	**+2.1**
	comp=Z,6.5nm,0.9s,baz=112,slow=8.5,SNR=31						
SONM				LR	LR	14 33 12.8	
	comp=Z,79nm,18.9s,baz=96,slow=40						
SONM	**Songino Array**	**30.31**	**308**	P	**P**	**14 19 06.3**	**+2.1**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,79nm,18.9s						
BOD	**Bodaibo**	**30.67**	**330**	*e*P	**P**	**14 19 07.5**	**+0.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAK	**Zakamensk**	**32.93**	**312**	*e*P	**P**	**14 19 27.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TLY	**Talaya**	**33.08**	**314**	*e*P	**P**	**14 19 30.3**	**+1.9**
TLY				*e*S	**S**	**14 24 43.5**	**-2.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,64nm,15.0s						
BILL	**Bilibino**	**36.88**	**15**	⇑*i*P	**P**	**14 20 00.7**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,202nm,21.0s						
TIXI	**Tiksi**	**38.55**	**353**	⇓*e*P	**P**	**14 20 15.4**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**41.58**	**260**	P	**P**	**14 20 40.2**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=53,slow=7.2,SNR=9.7						
CMAR				LR	LR	14 37 57.7	
	comp=Z,37nm,19.8s,baz=179,slow=36						
CMAR	**Chiang Mai Arr**	**41.58**	**260**	P	**P**	**14 20 40.3**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,37nm,19.8s						
ZALV	**Zalesovo Beam**	**44.69**	**315**	P	**P**	**14 21 06.1**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=84,slow=6.1,SNR=7.1						
ZALV				PcP	**PcP**	**14 22 47.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=129,slow=2.4,SNR=5.2						
NVS	**Novosibirsk**	**45.65**	**316**	⇓*i*P	**P**	**14 21 13.4**	**+0.3**
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**46.54**	**305**	P	**P**	**14 21 21.1**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=95,slow=6.1,SNR=11						
MKAR				PcP	**PcP**	**14 22 55.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=22,slow=1.6,SNR=2.7						
MKAR	**Makanchi Array**	**46.54**	**305**	P	**P**	**14 21 21.1**	**+0.8**
MKAR						14 22 55.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TAPN	**Taplejung**	**47.05**	**277**	*e*P	**P**	**14 21 23.9**	**-0.9**
ODAN	**Odare**	**47.50**	**277**	*e*P	**P**	**14 21 28.2**	**-0.1**
	comp=Z,11nm,0.7s						
RAMN	**Ramite**	**48.12**	**277**	*e*P	**P**	**14 21 33.2**	**+0.1**
	comp=Z,13nm,0.6s						
JIRN	**Jiri**	**48.19**	**279**	*e*P	**P**	**14 21 33.9**	**+0.1**
	comp=Z,8.3nm,0.4s						
GUN	**Gumba**	**48.35**	**279**	*e*P	**P**	**14 21 35.6**	**+0.6**
	comp=Z,18nm,0.8s						
KURK	**Kurchatov**	**48.56**	**310**	*e*P	**P**	**14 21 35.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**48.56**	**310**	*e*P	**P**	**14 21 35.4**	**-0.5**
	comp=Z,14nm,0.7s						
KURBB	**Kurchatov Arra**	**48.63**	**310**	P	**P**	**14 21 36.8**	**+0.4**
	comp=Z,7.6nm,0.6s,baz=84,slow=7.5,SNR=71						
PKI	**Pulchoki**	**48.86**	**279**	*e*P	**P**	**14 21 38.4**	**-0.5**
	comp=Z,5.0nm,0.7s						
PKIN	**Phulchoki**	**48.87**	**279**	*e*P	**P**	**14 21 39.6**	**+0.7**
	comp=Z,6.6nm,0.7s						
KKN	**Kakani**	**48.89**	**279**	*e*P	**P**	**14 21 39.2**	**+0.2**
	comp=Z,10nm,0.7s						
DMN	**Daman**	**49.10**	**279**	*e*P	**P**	**14 21 40.9**	**+0.3**
GKN	**Gorkha**	**49.34**	**280**	*e*P	**P**	**14 21 42.3**	**0.0**
	comp=Z,13nm,0.7s						
PYUN	**Piuthan**	**50.65**	**280**	*e*P	**P**	**14 21 52.0**	**-0.4**
	comp=Z,30nm,0.5s						
ILAR	**Eielson Array**	**51.79**	**31**	P	**P**	**14 21 59.8**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=262,slow=5.8,SNR=17						
ILAR	**Eielson Array**	**51.79**	**31**	P	**P**	**14 21 59.8**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TKM2	**Tokmak 2**	**51.90**	**301**	*e*P	**P**	**14 22 02.8**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TKM2	**Tokmak 2**	**51.90**	**301**	*e

NWAO	**Narrogin (SRO)**	70.51	202	P		**P**		14 24 06.7	-0.6		
	comp=Z,7.4nm,0.8s,baz=1.5,slow=6.1,SNR=1.9										
NWAO	**Narrogin (SRO)**	70.51	202	P		**P**		14 24 06.7	-0.6		
NWAO				pmax	pmax						
	comp=Z,7.0nm,0.8s										
OBN	**Obninsk**	71.13	324	*e*P		**P**		14 24 12.0	+1.1		
OBN				pmax	pmax						
	comp=Z,36nm,1.9s										
FINES	**FINESS Array B**	72.01	333	P		**P**		14 24 16.5	+0.4		
	comp=Z,4.2nm,0.8s,baz=83,slow=7.9,SNR=7.7										
FINES	**FINESS Array B**	72.01	333	P		**P**		14 24 16.5	+0.4		
FINES				pmax	pmax						
	comp=Z,4.0nm,0.8s										
KBZ	**Khabaz**	73.60	312	P		**P**		14 24 26.5	+0.6		
	comp=Z,2.4nm,0.7s,baz=56,slow=23,SNR=3.6										
KBZ	**Khabaz**	73.60	312	P		**P**		14 24 26.5	+0.6		
KBZ				pmax	pmax						
	comp=Z,2.0nm,0.7s										
KIV	**Kislovodsk**	73.61	312	*e*P		**P**		14 24 25.0	-1.1		
KIV				pmax	pmax						
	comp=Z,6.0nm,0.9s										
SUMG	**Summit**	73.87	0	*i* P		**P**		14 24 28.9	+1.4		
SUMG				pmax	pmax						
	comp=Z,5.0nm,0.8s										
SUMG	**Summit**	73.87	0	*i* P		**P**		14 24 28.9	+1.4		
	comp=Z,4.9nm,0.8s										
NVAR	**Mina Array Bea**	76.27	53	P		**P**		14 24 42.5	+0.8		
	comp=Z,0.6nm,0.7s,baz=267,slow=3.4,SNR=2.5										
AKASG	**Malin Array Be**	77.31	323	P		**P**		14 24 47.3	+0.2		
	comp=Z,2.6nm,0.6s,baz=46,slow=6.1,SNR=13										
AKASG	**Malin Array Be**	77.31	323	*ce*P		**P**		14 24 47.2	+0.2		
AKASG				pmax	pmax						
	comp=Z,3.0nm,0.6s										
HFS	**Hagfors**	77.32	336	P		**P**		14 24 46.6	-0.3		
	comp=Z,1.9nm,0.7s,baz=139,slow=9.8,SNR=6.2										
HFS	**Hagfors**	77.32	336	P		**P**		14 24 46.6	-0.3		
HFS				pmax	pmax						
	comp=Z,2.0nm,0.7s										
NB2	**NORSAR Subarra**	77.43	338	P		**P**		14 24 47.7	+0.1		
	comp=Z,1.9nm,0.6s,baz=40,slow=5.6										
NOA	**NORSAR Array B**	77.43	338	P		**P**		14 24 47.9	+0.3		
	comp=Z,3.3nm,0.8s,baz=39,slow=5.6,SNR=11										
NOA	**NORSAR Array B**	77.43	338	P		**P**		14 24 47.9	+0.3		
NOA				pmax	pmax						
	comp=Z,3.0nm,0.8s										
PDAR	**Pinedale Array**	79.33	45	P		**P**		14 24 58.6	-0.1		
	comp=Z,0.6nm,0.7s,baz=263,slow=4.9,SNR=5.2										
BR131	**Keskin Array S**	81.57	312	*e*P		**P**		14 25 10.3	-0.3		
	comp=Z,3.1nm,0.8s										
BRTR	**Keskin Array B**	81.57	312	P		**P**		14 25 11.4	+0.7		
	comp=Z,3.5nm,0.8s,baz=108,slow=4.1,SNR=16										
BRTR	**Keskin Array B**	81.57	312	*ce*P		**P**		14 25 11.3	+0.6		
BRTR				pmax	pmax						
	comp=Z,4.0nm,0.8s										
PPT	**Papeete**	82.49	117	LR		LR		14 54 34.8			
	comp=Z,60nm,21.5s,baz=348,slow=30										
DPC	**Dobruska-Polom**	83.58	329	*e*P		**P**		14 25 21.0	+0.2		
DPC				*ep*P		**PcP**		14 25 24.5	-0.6		
DPC	**Dobruska-Polom**	83.58	329	*e*P		**P**		14 25 21.0	+0.2		
KRLC	**Kraliky**	83.59	328	*e*P		**P**		14 25 21.4	+0.6		
KRLC	**Kraliky**	83.59	328	*e*P		**P**		14 25 21.4	+0.6		
UPC	**Upice**	83.60	329	*e*P		**P**		14 25 22.7	+1.8		
UPC	**Upice**	83.60	329	*e*P		**P**		14 25 22.7	+1.8		
ASF	**Jabal al Asfar**	83.96	305	P		**P**		14 25 23.9	+0.8		
	comp=Z,3.6nm,0.8s,baz=317,slow=5.7,SNR=5.4										
ASF	**Jabal al Asfar**	83.96	305	P		**P**		14 25 23.9	+0.8		
ASF				pmax	pmax						
	comp=Z,4.0nm,0.8s										
PVCC	**Panska Ves**	84.20	330	*e*P		**P**		14 25 24.6	+0.7		
PVCC	**Panska Ves**	84.20	330	*e*P		**P**		14 25 24.6	+0.7		
BRG	**Berggiesshubel**	84.20	330	*e*P		**P**		14 25 24.3	+0.4		
	comp=Z,4.6nm,0.9s										
BRG	**Berggiesshubel**	84.20	330	*e*P		**P**		14 25 24.3	+0.4		
BRG				pmax	pmax						
	comp=Z,5.0nm,0.9s										
VRAC	**Vranov**	84.23	328	P		**P**		14 25 24.4	+0.3		
	comp=Z,5.1nm,0.8s,baz=14,slow=5.1,SNR=5.3										
VRAC	**Vranov**	84.23	328	P		**P**		14 25 24.4	+0.3		
VRAC				pmax	pmax						
	comp=Z,5.0nm,0.8s										
CLL	**Collm**	84.26	331	⇓ *i* P		**P**		14 25 24.2	0.0		
	comp=Z,9.0nm,1.0s										
CLL				LmV				14 45 00.0			
	comp=Z,100nm,20.2s										
CLL	**Collm**	84.26	331	⇓ *i* P		**P**		14 25 24.2	0.0		
CLL				*i*				14 25 36.4			
CLL				pmax	pmax						
	comp=Z,9.0nm,1.0s										
MMAI	**Mount Meron Ar**	84.47	306	P		**P**		14 25 26.7	+1.0		
	comp=Z,6.8nm,0.8s,baz=72,slow=8.1,SNR=6.7										
GOPC	**GO Pecny, Ondr**	84.57	329	*e*P		**P**		14 25 25.9	+0.1		
GERES	**GERESS Array B**	85.84	329	P		**P**		14 25 31.9	-0.4		
	comp=Z,1.0nm,0.7s,baz=56,slow=3.4,SNR=6.6										
GERES	**GERESS Array B**	85.84	329	P		**P**		14 25 31.9	-0.4		
GERES				pmax	pmax						
	comp=Z,1.0nm,0.7s										
TXAR	**Lajitas Array**	91.42	53	P		**P**		14 25 59.4	+0.2		
	comp=Z,0.6nm,0.6s,baz=295,slow=3.1,SNR=7.5										
TXAR				LR		LR		15 07 45.6			
	comp=Z,20nm,18.0s,baz=0.0,slow=36										
TXAR	**Lajitas Array**	91.42	53	P		**P**		14 25 59.4	+0.2		
TXAR				pmax	pmax						
	comp=Z,1.0nm,0.6s										
TXAR				MLR		MLR					
	comp=Z,20nm,18.0s										
TORD	**Torodi Ar. Bea**	120.14	314	PKP		**PKPdf**		14 31 43.4	-0.7		
	comp=Z,0.5nm,0.5s,baz=53,slow=1.7,SNR=4.5										
SAML	**Samuel**	145.84	49	*e*PKPdf		**PKPbc**		14 32 32.3	-0.2		

*IDC **29** 14:15:06.7±1.3,41.61N×24.05E,h0km,mb3.4/2, mb1 3.5/7,mb1mx3.3/43,mbtmp3.3/7,ML3.0/5,MS2.9/4, Ms1 3.0/4,ms1mx2.5/25,Error ellipse: s-maj=19.0km s-min=16.5km az=95.0*

*ATH **29** 14:15:07.4,41.65N×24.01E,h25km,MD3.5/18*

*SOF **29** 14:15:07.3,41.69N×24.02E,h9km,MD3.8*

*CSEM **29** 14:15:07.8±0.1,41.61N×24.01E,h2km,MD3.8,Error ellipse: s-maj=2.8km s-min=2.2km az=93.0*

*ISCJB **29** 14:15:07.5±0.3,41.61N±0.01×24.02E±0.02,h5km±2km, mb3.6/1,MS2.9/3,Error ellipse: s-maj=2.1km s-min=1.8km az=1.5*

*BEO **29** 14:15:08.6±0.6,41.55N×24.02E,h0km,ML3.5/1*

*THE **29** 14:15:08.1,41.65N×24.00E,h7km,ML3.6/14,Error ellipse: s-maj=0.9km s-min=0.5km az=177.0*

*SKO **29** 14:15:09.2,41.62N×23.99E,h11km*

*DDA **29** 14:15:18.2,41.77N×24.69E,h19km,MD3.5*

ISC 29 14:15:07.8±0.9,41.65N±0.01×24.05E±0.01,h10km±7km, n297,σ1°39/375,MS2.9/3,38C-25D,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	0.25	256	⇓ *i* P		**Pg**	14 15 12.5	-0.3
MMB				S		**Sg**	14 15 16.3	+0.1
MMB	**Musomiste**	0.25	256	*i* Pg		**Pg**	14 15 12.6	-0.3
MMB	**Musomiste**	0.25	256	⇓ *i* P		**Pg**	14 15 12.5	-0.3
NVR	**Nevrokopi**	0.33	205	P		**Pg**	14 15 14.4	0.0
NVR				S		**Sg**	14 15 19.4	+0.6
NVR	**Nevrokopi**	0.33	205	*e*PB		**Pg**	14 15 14.5	0.0
NVR				*e*SB		**Sg**	14 15 19.4	+0.6
NVR	**Nevrokopi**	0.33	205	P		**Pg**	14 15 14.4	0.0
NVR				S		**Sg**	14 15 19.4	+0.6
RZN	**Rozhen**	0.50	86	Pg		**Pb**	14 15 18.7	-0.2
RZN	**Rozhen**	0.50	86	Pg		**Pb**	14 15 18.7	-0.2
SRS	**Serrai**	0.63	213	P		**Pg**	14 15 19.9	-0.1
SRS				S		**Sg**	14 15 29.0	+0.7
SRS	**Serrai**	0.63	213	*e*PN		**Pg**	14 15 20.0	-0.1
SRS				*e*SN		**Sg**	14 15 29.1	+0.7
SRS	**Serrai**	0.63	213	P		**Pg**	14 15 19.9	-0.1
SRS				S		**Sg**	14 15 29.0	+0.7
PLD	**Plovdiv**	0.67	47	*e*Pg		**Pb**	14 15 21.7	+0.1
PLD				*e*Sg		**Sn**	14 15 33.2	-0.8
PLD	**Plovdiv**	0.67	47	*i* Pg		**Pb**	14 15 21.7	+0.1
PLD	**Plovdiv**	0.67	47	*i* Pg		**Pb**	14 15 21.7	+0.1
PLD				*e*Sg		**Sn**	14 15 33.2	-0.8
KAVA	**Kavala**	0.74	151	P		**Pg**	14 15 22.0	-0.1
KAVA				S		**Sb**	14 15 33.9	+0.8
KAVA	**Kavala**	0.74	151	*e*PN		**Pg**	14 15 22.2	+0.1
KAVA				*e*SN		**Sb**	14 15 33.5	+0.4
KAVA	**Kavala**	0.74	151	*e*Pn		**Pg**	14 15 22.2	+0.1
KAVA				*e*Sn		**Sb**	14 15 33.5	+0.4
KAVA				S		**Sb**	14 15 33.9	+0.8
KKB	**Krupnik**	0.75	287	*i* Pg		**Pg**	14 15 20.7	-1.6
KKB	**Krupnik**	0.75	287	*i* Pg		**Pg**	14 15 20.7	-1.6
PGB	**Panagyurishte**	0.90	6	*i* Pg		**Pg**	14 15 24.0	-1.2
PGB	**Panagyurishte**	0.90	6	*i* Pg		**Pg**	14 15 24.0	-1.2
SOH	**Sokhos**	0.98	212	P		**Pg**	14 15 26.0	-0.7
SOH				S		**Sb**	14 15 40.3	+0.3
SOH	**Sokhos**	0.98	212	*e*PN		**Pg**	14 15 26.0	-0.7
SOH				*e*SN		**Sb**	14 15 40.2	+0.3
SOH	**Sokhos**	0.98	212	P		**Pg**	14 15 26.0	-0.7
SOH				*e*Sn		**Sb**	14 15 40.2	+0.3
KNT	**Kendrikon**	0.99	241	P		**Pg**	14 15 25.6	-1.3
KNT				S		**Sg**	14 15 39.8	0.0
KNT	**Kendrikon**	0.99	241	*e*PG		**Pg**	14 15 25.6	-1.3
KNT	**Kendrikon**	0.99	241	*e*PN		**Pg**	14 15 25.8	-1.1
KNT				*e*SN		**Sg**	14 15 39.6	-0.2
KNT	**Kendrikon**	0.99	241	P		**Pg**	14 15 25.6	-1.3
KNT				S		**Sg**	14 15 39.8	0.0
KDZ	**Kurdzhali**	1.03	90	⇓ *i* P		**Pg**	14 15 26.8	-0.8
KDZ	**Kurdzhali**	1.03	90	S		**Sn**	14 15 44.0	+1.1
KDZ	**Kurdzhali**	1.03	90	Pg		**Pg**	14 15 26.9	-0.7
KDZ	**Kurdzhali**	1.03	90	Pg		**Pg**	14 15 26.9	-0.7
VTS	**Vitosha**	1.13	327	*e*Pg		**Pb**	14 15 28.1	-1.5
VTS				*e*Sg		**Sn**	14 15 46.0	+0.4
VTS	**Vitosha**	1.13	327	⇓ *i* P		**Pb**	14 15 27.9	-1.7
VTS	**Vitosha**	1.13	327	S		**Sg**	14 15 44.6	+0.4
VTS	**Vitosha**	1.13	327	P		**Pb**	14 15 28.1	-1.5
VTS				Pg		**Pb**	14 15 29.7	+0.1
VTS	**Vitosha**	1.13	327	P		**Pb**	14 15 28.1	-1.5
VTS	**Vitosha**	1.13	327	Pg		**Pb**	14 15 29.7	+0.1
VTS				*e*Sg		**Sn**	14 15 46.0	+0.4
VAY	**Valandovo**	1.16	254	*i* Pg		**Pb**	14 15 29.8	-0.1
VAY				*e*Sg		**Sb**	14 15 46.0	+0.1
VAY	**Valandovo**	1.16	254	*i* Pg		**Pb**	14 15 29.8	-0.1
VAY				*e*Sg		**Sb**	14 15 44.9	-0.1
DIM	**Dimitrovgrad**	1.18	70	Pg		**Pg**	14 15 31.3	+0.8
DIM	**Dimitrovgrad**	1.18	70	Pg		**Pg**	14 15 31.3	+0.8
HORT	**Hortiatis**	1.27	215	P		**Pn**	14 15 31.2	-0.6
HORT				S		**Sn**	14 15 49.4	+0.4
HORT	**Hortiatis**	1.27	215	*e*PN		**Pn**	14 15 29.3	-2.5
HORT	**Hortiatis**	1.27	215	*e*Pn		**Pn**	14 15 29.3	-2.5
HORT	**Hortiatis**	1.27	215	P		**Pn**	14 15 31.2	-0.6
HORT				S		**Sn**	14 15 49.4	+0.4
THE	**Thessaloniki**	1.30	219	P		**Pn**	14 15 31.7	-0.4
THE				S		**Sn**	14 15 49.7	+0.1
THE	**Thessaloniki**	1.30	219	*e*PN		**Pn**	14 15 31.6	-0.5
THE				*e*SN		**Sn**	14 15 49.6	0.0
THE	**Thessaloniki**	1.30	219	P		**Pn**	14 15 31.7	-0.4
THE				*e*Sn		**Sn**	14 15 49.6	0.0
OUR	**Ouranopolis**	1.32	182	P		**Pn**	14 15 32.1	-0.2
OUR				S		**Sg**	14 15 50.6	+0.5
OUR	**Ouranopolis**	1.32	182	*e*PN		**Pn**	14 15 29.0	-3.5
OUR	**Ouranopolis**	1.32	182	*e*PN		**Pn**	14 15 32.1	-0.2
OUR				*e*SN		**Sg**	14 15 50.1	0.0
OUR	**Ouranopolis**	1.32	182	P		**Pn**	14 15 32.1	-0.2
OUR				*e*Sn		**Sg**	14 15 50.1	0.0
OUR				S		**Sg**	14 15 50.6	+0.5
PLG	**Polygyros**	1.35	200	P		**Pn**	14 15 32.9	0.0
PLG				S		**Sg**	14 15 51.6	+0.2
PLG	**Polygyros**	1.35	200	*e*PN		**Pn**	14 15 33.1	+0.2
PLG	**Polygyros**	1.35	200	*e*Pn		**Pn**	14 15 33.1	+0.2
PLG				S		**Sg**	14 15 51.6	+0.2
GRG	**Griva**	1.42	241	P		**Pn**	14 15 32.6	-1.2
GRG				S		**Sn**	14 15 52.4	-0.1
GRG	**Griva**	1.42	241	*e*PN		**Pn**	14 15 33.8	0.0
GRG	**Griva**	1.42	241	*e*PN		**Pn**	14 15 33.0	-0.8
GRG				*e*SN		**Sn**	14 15 52.5	-0.1
GRG	**Griva**	1.42	241	P		**Pn**	14 15 32.9	-1.2
GRG	**Griva**	1.42	241	*e*Pn		**Pn**	14 15 33.0	-0.8
GRG				*e*Sn		**Sn**	14 15 52.5	-0.1
SMTH	**Samothraki Isl**	1.63	136	P		**Pn**	14 15 36.6	0.0
SMTH				S		**Sb**	14 15 59.2	+0.6
SMTH	**Samothraki Isl**	1.63	136	*e*PN		**Pn**	14 15 36.7	+0.1
SMTH	**Samothraki Isl**	1.63	136	*e*Pn		**Pn**	14 15 36.7	+0.1
SMTH				S		**Sb**	14 15 59.2	+0.6
ALN	**Alexandroupoli**	1.69	116	P		**Pn**	14 15 38.0	+0.6
ALN				S		**Sb**	14 16 00.6	+0.4
ALN	**Alexandroupoli**	1.69	116	*e*PN		**Pg**	14 15 40.1	-0.1
ALN	**Alexandroupoli**	1.69	116	P		**Pn**	14 15 38.0	+0.6
ALN	**Alexandroupoli**	1.69	116	*e*Pn		**Pg**	14 15 40.1	-0.1
ALN				S		**Sb**	14 16 00.6	+0.4
MPEP	**Malo Peshtene**	1.72	353	P		**Pb**	14 15 39.6	0.0
PAIG	**Paliouri**	1.74	189	P		**Pn**	14 15 37.8	-0.4
PAIG				S		**Sn**	14 16 00.6	+0.1
PAIG	**Paliouri**	1.74	189	*e*PN		**Pn**	14 15 37.8	-0.4
PAIG	**Paliouri**	1.74	189	P		**Pn**	14 15 37.8	-0.4
PAIG				S		**Sn**	14 16 00.6	+0.1
PVL	**Pavlikeni**	1.83	31	P		**Pn**	14 15 40.1	+0.7
PVL	**Pavlikeni**	1.83	31	P		**Pn**	14 15 40.1	+0.7
ENEZ	**Enez**	1.83	119	*e*PN		**Pg**	14 15 43.1	+0.1
ENEZ	**Enez**	1.83	119	*e*Pn		**Pg**	14 15 43.1	+0.1
ZAPS	**Zavoj**	1.93	328	⇑ *i* Pn		**Pb**	14 15 43.3	+0.1
ZAPS				*e*Sn		**Sg**	14 16 09.5	-0.4
LIT	**Litokhoron**	1.95	218	P		**Pn**	14 15 40.4	-0.6
LIT				S		**Sn**	14 16 06.3	+0.8
LIT	**Litokhoron**	1.95	218	*e*PB		**Pn**	14 15 40.4	-0.6
LIT	**Litokhoron**	1.95	218	*e*Pb		**Pn**	14 15 40.4	-0.6
LIT				S		**Sn**	14 16 06.3	+0.8
LIA	**Limnos Island**	1.95	153	P		**Pn**	14 15 41.4	+0.4
LIA	**Limnos Island**	1.95	153	*e*PN		**Pn**	14 15 41.4	+0.4
LIA	**Limnos Island**	1.95	153	P		**Pn**	14 15 41.4	+0.4
GADA	**Gvkgeada**	2.02	135	*e*PN		**Pn**	14 15 42.6	+0.6
GADA	**Gvkgeada**	2.02	135	*e*Pn		**Pn**	14 15 42.6	+0.6
BARS	**Barje**	2.02	306	⇑ *i* Pn		**Pb**	14 15 44.1	-0.7
BARS				*e*Sn		**Sb**	14 16 10.9	+0.9
BARS	**Barje**	2.02	306	⇑ *i* Pn		**Pb**	14 15 44.1	-0.7
BARS				*e*Sn		**Sb**	14 16 10.9	+0.9
JMB	**Yambol**	2.06	66	S		**Pg**	14 15 48.0	+0.7
ERIK	**Erikli-Kesan**	2.10	117	*e*PN		**Pg**	14 15 47.3	-0.9
ERIK	**Erikli-Kesan**	2.10	117	*e*Pn		**Pg**	14 15 47.3	-0.9
SZH	**Strazhica**	2.13	40	P		**Pg**	14 15 48.1	-0.7
KZN	**Kozani**	2.18	233	*e*PB		**Pn**	14 15 44.4	+0.1
KZN	**Kozani**	2.18	233	*e*Pb		**Pn**	14 15 44.4	+0.1
FNA	**Florina**	2.19	248	P		**Pn**	14 15 44.4	0.0
FNA				S		**Sn**	14 16 12.3	+0.6
FNA	**Florina**	2.19	248	*e*PB		**Pn**	14 15 44.6	+0.2
FNA	**Florina**	2.19	248	P		**Pn**	14 15 44.4	0.0
FNA				S		**Sn**	14 16 12.3	+0.6
GELI	**Tayfur-Gelibol**	2.22	123	*e*PN		**Pb**	14 15 47.9	-0.2
GELI	**Tayfur-Gelibol**	2.22	123	*e*Pn		**Pb**	14 15 47.9	-0.2
ZIMR		2.23	25	⇓ *i* P		**Pn**	14 15 48.9	+1.0
ZIMR		2.23	25	S		**Sg**	14 16 19.4	-0.1
BOZC	**Bozcaada**	2.36	139	*i* P		**Pn**	14 15 46.6	-0.1
BOZC				*i* S		**Sn**	14 16 15.2	-0.6
XOR	**Xorichti**	2.37	196	P		**Pn**	14 15 46.6	-0.3
XOR	**Xorichti**	2.37	196	*e*PN		**Pn**	14 15 46.4	-0.5
XOR				*e*SN		**Sn**	14 15 46.4	-0.7
XOR	**Xorichti**	2.37	196	P		**Pn**	14 15 46.6	-0.3
XOR				*e*Sn		**Sn**	14 15 46.4	-0.7
LPK	**Lapseki**	2.42	121	*e*PN		**Pb**	14 15 51.0	-0.5
LPK	**Lapseki**	2.42	121	*e*Pn		**Pb**	14 15 51.0	-0.5
NEO	**Neokhori**	2.42	195	P		**Pn**	14 15 47.3	-0.3
NEO	**Neokhori**	2.42	195	*e*PN		**Pn**	14 15 47.2	-0.3
NEO	**Neokhori**	2.42	195	P		**Pn**	14 15 47.3	-0.3
AOS	**Alonnisos**	2.48	183	P		**Pn**	14 15 48.2	-0.1
AOS	**Alonnisos**	2.48	183	*e*PN		**Pn**	14 15 46.2	-2.1
AOS	**Alonnisos**	2.48	183	*e*PN		**Pn**	14 15 47.8	-0.5
AOS				*e*SN		**Sn**	14 16 17.6	-1.1
AOS	**Alonnisos**	2.48	183	*e*Pn		**Pn**	14 15 47.8	-0.5
AOS	**Alonnisos**	2.48	183	P		**Pn**	14 15 48.2	-0.1
AOS				*e*Sn		**Sn**	14 16 17.6	-1.1
EZN	**Ezine**	2.51	136	*e*PN		**Pn**	14 15 50.1	+1.3
EZN	**Ezine**	2.51	136	*e*Pn		**Pn**	14 15 50.1	+1.3
SKIA	**Skiathos**	2.52	190	P		**Pn**	14 15 48.4	-0.5
SKIA				S		**Sn**	14 16 20.5	+0.8
SKIA	**Skiathos**	2.52	190	*e*PN		**Pn**	14 15 48.3	-0.6
SKIA				*e*SN		**Sn**	14 16 18.0	-1.7
SKIA	**Skiathos**	2.52	190	P		**Pn**	14 15 48.4	-0.5
SKIA				*e*Sn		**Sn**	14 16 18.0	-1.7
SKIA				S		**Sn**	14 16 20.5	+0.8
RKY	**Sarkoy-Tekirda**	2.55	111	*e*PN		**Pb**	14 15 54.2	+0.4
RKY	**Sarkoy-Tekirda**	2.55	111	*e*Pn		**Pb**	14 15 54.2	+0.4
SART	**Tekirdag**	2.55	111	*i* P		**Pg**	14 15 55.9	-0.8
SART				*i* S		**Sb**	14 16 26.9	+1.6
NEST	**Nestorio**	2.58	242	P		**Pn**	14 15 49.8	0.0
NEST				S		**Sn**	14 16 21.0	-0.3
NEST	**Nestorio**	2.58	242	*e*PN		**Pn**	14 15 49.9	+0.1
NEST	**Nestorio**	2.58	242	*e*Pn		**Pn**	14 15 49.9	+0.1
NEST				S		**Sn**	14 16 21.0	-0.3
THL	**Klokotos Trika**	2.59	217	P		**Pn**	14 15 49.9	0.0
THL				S		**Sn**	14 16 22.0	+0.5
THL	**Klokotos Trika**	2.59	217	*e*PN		**Pn**	14 15 49.7	-0.2
THL	**Klokotos Trika**	2.59	217	P		**Pn**	14 15 49.9	0.0
THL				S		**Sn**	14 16 22.0	+0.5
PHSR	**Pinarhisar**	2.61	89	*e*PN		**Pg**	14 15 57.9	+0.1
BOLS	**Boljevac**	2.67	325	*e*Pn		**Pb**	14 15 53.6	-2.1
BOLS				*e*Sn		**Sb**	14 16 27.9	-0.6
BOLS	**Boljevac**	2.67	325	*e*Pn		**Pb**	14 15 53.6	-2.1
BOLS				*e*Sn		**Sb**	14 16 27.9	-0.6
SELS	**Selova**	2.67	307	⇓ *i* Pn		**Pn**	14 15 53.4	+2.4
CRAR	**CRAIOVA**	2.68	356	⇑ *i* P		**Pn**	14 15 50.7	-0.4
CRAR	**CRAIOVA**	2.68	356	S		**Sg**	14 16 33.3	-0.6
CRAR	**CRAIOVA**	2.68	356	⇑ *i* P		**Pn**	14 15 50.7	-0.4
TKM	**Tekirdag**	2.71	103	*e*PN		**Pb**	14 15 57.6	+1.2
KRBG	**Karabiga-Canak**	2.76	116	*e*PN		**Pb**	14 15 57.0	-0.3
KRBG	**Karabiga-Canak**	2.76	116	*e*Pn		**Pb**	14 15 57.0	-0.3
SIGR	**SIGRI**	2.80	150	P		**Pn**	14 15 53.5	+0.8
SIGR	**SIGRI**	2.80	150	*e*PN		**Pn**	14 15 53.3	+0.6
SIGR	**SIGRI**	2.80	150	*e*Pn		**Pn**	14 15 53.3	+0.6
SMIA	**Simia**	2.84	193	P		**Pn**	14 15 53.1	-0.2
SMIA				S		**Sn**	14 16 29.0	+1.4
SMIA	**Simia**	2.84	193	P		**Pn**	14 15 53.1	-0.2
SMIA				S		**Sn**	14 16 29.0	+1.4
MRMT	**Marmara Adasi**	2.88	110	*e*PN		**Pb**	14 15 59.1	-0.2
MRMT	**Marmara Adasi**	2.88	110	*e*Pn		**Pb**	14 15 59.1	-0.2
PRD	**Provadia**	2.93	57	P		**Pb

DOPR	**Dopca**	**4.42**	**12**	⇓*i*P	**Pn**	**14 16 15.8**	**+0.7**		
DOPR	**Dopca**	**4.42**	**12**	S	**Sb**	**14 17 17.3**	**-1.8**		
DOPR	**Dopca**	**4.42**	**12**	⇓*i*P	**Pn**	**14 16 15.8**	**+0.7**		
ADVT	**Abdulvahap**	**4.47**	**104**	*e*PN	Pb	14 16 22.7	-3.8		
PLOR	**Plostina**	**4.60**	**23**	⇑*i*P	**Pn**	**14 16 19.2**	**+1.7**		
PLOR	**Plostina**	**4.60**	**23**	⇑*i*P	**Pn**	**14 16 19.2**	**+1.7**		
CFR	**Carcaliu**	**4.62**	**39**	⇑*i*P	**Pn**	**14 16 18.4**	**+0.8**		
CFR	**Carcaliu**	**4.62**	**39**	S	**Sg**	**14 17 31.7**	**-4.3**		
CFR	**Carcaliu**	**4.62**	**39**	⇑*i*P	**Pn**	**14 16 18.4**	**+0.8**		
CAVI	**Cavuskoy**	**4.62**	**106**	*e*PN	Pb	14 16 24.5	-4.6		
VRI	**Vrincioaia**	**4.64**	**24**	⇓*i*P	**Pn**	**14 16 19.9**	**+1.9**		
VRI	**Vrincioaia**	**4.64**	**24**	⇓*i*P	**Pn**	**14 16 19.9**	**+1.9**		
GDZ	**Gediz**	**4.88**	**120**	*i*P	**Pn**	**14 16 23.1**	**+1.7**		
GDZ	**Gediz**	**4.88**	**120**	*i*P	**Pn**	**14 16 23.1**	**+1.7**		
GIUM	**Giurgiulesti**	**4.88**	**37**	S	**Sg**	**14 17 43.8**	**-0.7**		
SIRR	**Siria**	**4.93**	**340**	⇓*i*P	**Pn**	**14 16 22.9**	**+0.9**		
SIRR	**Siria**	**4.93**	**340**	⇓*i*P	**Pn**	**14 16 22.9**	**+0.9**		
GULT	**Gulveren**	**5.04**	**102**	*e*PN	Pb	14 16 31.0	-5.2		
TESR	**Tescani**	**5.21**	**20**	⇑*i*P	**Pn**	**14 16 27.1**	**+1.3**		
TESR	**Tescani**	**5.21**	**20**	⇑*i*P	**Pn**	**14 16 27.1**	**+1.3**		
DRGR		**5.23**	**350**	*e*Pn	**Pn**	**14 16 28.8**	**+2.6**		
DRGR		**5.23**	**350**	⇑*i*P	**Pn**	**14 16 25.4**	**-0.8**		
DRGR		**5.23**	**350**	⇑*i*P	**Pn**	**14 16 25.4**	**-0.8**		
DRGR		**5.23**	**350**	*e*Pn	**Pn**	**14 16 28.8**	**+2.6**		
PKSM	**Moragy**	**6.00**	**321**	⇑*i*P	Pn	14 16 32.5	-4.2		
BURAR	**Bucovina Array**	**6.02**	**8**	⇑*i*P	**Pn**	**14 16 38.2**	**+1.1**		
BURAR	**Bucovina Array**	**6.02**	**8**	⇑*i*P	**Pn**	**14 16 38.2**	**+1.1**		
KIS	**Kishinev**	**6.35**	**31**	*e*P	**Sg**	**14 18 28.0**	**-3.5**		
IDI	**Anoyia**	**6.39**	**174**	Pn	Pn	14 16 45.5	+3.4		
	3.6nm,0.3s,baz=353,slow=14,SNR=18								
IDI				Sn	**Sn**	**14 17 49.3**	**-5.8**		
	0.2nm,0.3s,baz=51,slow=16,SNR=1.2								
KOLS	**Kolonicke sedl**	**7.39**	**351**	*e*Pg	**Pg**	**14 17 30.1**	**+0.9**		
KOLS	**Kolonicke sedl**	**7.39**	**351**	*e*PG	**Pg**	**14 17 30.1**	**+0.9**		
KOLS				*e*SG	**Sg**	**14 19 02.1**	**-2.8**		
CRVS	**Cervenica-Dubn**	**7.48**	**347**	*e*Sg	**Sg**	**14 19 07.8**	**+0.1**		
CRVS	**Cervenica-Dubn**	**7.48**	**347**	*e*SG	**Sg**	**14 19 07.8**	**+0.1**		
BRTR	**Keskin Array B**	**7.54**	**102**	Pn	**Pn**	**14 16 59.7**	**+1.7**		
	0.1nm,0.3s,baz=279,slow=13,SNR=2.2								
AKASG	**Malin Array Be**	**9.74**	**20**	Pn	**Pn**	**14 17 27.7**	**-0.2**		
	0.5nm,0.3s,baz=206,slow=12,SNR=1.5								
GERES	**GERESS Array B**	**10.24**	**318**	Pn	**Pn**	**14 17 37.0**	**+2.1**		
	0.1nm,0.3s,baz=152,slow=17,SNR=1.6								
EIL	**Elat**	**14.87**	**140**	LR	LR	14 25 56.0			
	comp=Z,30nm,18.5s,baz=252,slow=44								
FINES	**FINESS Array B**	**19.86**	**3**	P	**Pn**	**14 19 41.1**	**+0.7**		
	0.1nm,0.3s,baz=186,slow=22,SNR=1.5								
NOA	**NORSAR Array B**	**20.93**	**342**	P	**P**	**14 19 50.7**	**+0.2**		
	1.0nm,0.9s,baz=172,slow=9.4,SNR=3.5								
NOA				LR	LR	14 30 12.9			
	comp=Z,21nm,18.0s,baz=255,slow=43								
TORD	**Torodi Ar. Bea**	**34.43**	**221**	P	**P**	**14 21 55.5**	**-0.2**		
	0.5nm,0.6s,baz=33,slow=8.8,SNR=4.4								
AAK	**Ala-Archa**	**36.97**	**71**	LR	LR	14 40 33.2			
	comp=Z,18nm,18.2s,baz=114,slow=41								
CMAR	**Chiang Mai Arr**	**66.81**	**86**	LR	LR	15 01 12.8			
	comp=Z,21nm,21.0s,baz=210,slow=41								

IDC ***29*** *14:22:34.9±0.8,31°.80N×104°.24E,h0km,mb3.7/12, mb1 3.8/14,mb1mx3.7/43,mbtmp3.7/14,ML3.7/2,MS3.4/3, Ms1 3.4/3,ms1mx2.7/33,Error ellipse: s-maj=23.5km s-min=15.9km az=52.0*

ISCJB ***29*** *14:22:35.7±0.5,31°.78N±0°.05×104°.30E±0°.08,h15km, mb3.6/11,MS3.3/3,Error ellipse: s-maj=10.6km s-min=5.7km az=22.0*

BJI ***29*** *14:22:36.5±0.6,31°.87N×104°.13E,h16km,ML3.6/18*

ISC 29 14:22:36.9±0.6,31°.84N±0°.05×104°.37E±0°.06,h15km,n21, σ1s28/21,mb3.7/11,MS3.3/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time		Res
				Op			h	m s	ISC
CD2	**Chengdu**	**1.06**	**210**		Pg	**Pg**	**14 22 57.3**		**-0.1**
CD2					Sg	**Sb**	**14 23 09.3**		**-1.4**
CD2					SMN				
	5μm,0.5s								
CD2					SME				
	2μm,0.5s								
LZH	**Lanzhou**	**4.26**	**354**		Pg	Pg	14 24 02.8		+4.3
LZH					Sg	**Sg**	**14 24 52.3**		**-1.4**
LZH					smax	smax			
	comp=N,87nm,0.9s								
LZH					smax	smax			
	comp=E,190nm,1.2s								
LZH					LR	LR			
	comp=N,320nm,5.4s								
LZH					LR	LR			
	comp=E,280nm,6.3s								
LZH					LR	LR			
	comp=Z,350nm,6.8s								
XAN	**Xi'an**	**4.41**	**59**		Pn	**Pn**	**14 23 45.8**		**+2.5**
XAN					Pg	**Pg**	**14 24 00.0**		**-1.4**
XAN					Sg	**Sg**	**14 24 57.0**		**-1.5**
XAN					SMN				
	comp=Z,140nm,0.6s								
XAN					SME				
	comp=Z,67nm,0.6s								
CMAR	**Chiang Mai Arr**	**14.20**	**201**		Pn	**Pn**	**14 25 55.6**		**-1.9**
	comp=Z,0.3nm,0.3s,baz=9.0,slow=12,SNR=4.2								
SONM	**Songino Array**	**16.05**	**5**		Pn	**P**	**14 26 24.3**		**-1.2**
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=7.3								
WMQ	**Urumqi**	**17.75**	**317**	*e*P		**Pn**	**14 26 43.8**		**+0.3**
WMQ				pP		**pP**	**14 26 48.5**		**0.0**
KSRS	**Korea Array**	**20.15**	**67**	P		Pn	14 27 13.0		+0.6
	comp=Z,2.0nm,0.9s,baz=258,slow=10,SNR=5.2								
JOW	**Kunigami**	**21.41**	**97**	LR		LR	14 37 26.5		
	comp=Z,74nm,18.5s,slow=41								
MKAR	**Makanchi Array**	**22.58**	**318**	P		**P**	**14 27 37.3**		**+0.6**
	comp=Z,0.6nm,0.9s,baz=151,slow=8.3,SNR=5.3								
USRK	**Ussuriysk Ar.**	**24.89**	**52**	P		**P**	**14 28 01.4**		**+2.4**
	comp=Z,3.6nm,0.8s,baz=255,slow=10,SNR=7.2								
ZALV	**Zalesovo Beam**	**26.17**	**333**	P		**P**	**14 28 10.2**		**-0.3**
	comp=Z,0.7nm,0.5s,baz=140,slow=11,SNR=2.3								
KURBB	**Kurchatov Arra**	**26.80**	**322**	P		**P**	**14 28 16.0**		**-0.2**
	comp=Z,0.6nm,0.8s,baz=128,slow=9.1,SNR=7.1								
PSI	**Prapat**	**29.34**	**191**	LR		LR	14 40 59.2		
	comp=Z,86nm,18.0s,baz=273,slow=38								
GEYT	**Alibeck**	**38.12**	**292**	P		**P**	**14 29 56.9**		**+1.5**
	comp=Z,1.2nm,0.5s,baz=116,slow=6.6,SNR=2.2								
PETK	**Petropavlovsk-**	**43.51**	**45**	LR		LR	14 50 03.1		
	comp=Z,35nm,18.5s,baz=99,slow=38								
BRTR	**Keskin Array B**	**56.58**	**296**	P		**P**	**14 32 19.2**		**+0.1**
	comp=Z,0.4nm,0.7s,baz=80,slow=7.7,SNR=2.4								
FINES	**FINESS Array B**	**57.09**	**326**	P		**P**	**14 32 21.4**		**-0.8**
	comp=Z,0.6nm,0.4s,baz=92,slow=7.2,SNR=7.8								
WRA	**Warramunga Arr**	**58.96**	**147**	P		**P**	**14 32 36.4**		**+0.5**
	comp=Z,0.5nm,0.3s,baz=330,slow=8.7,SNR=30								
ASAR	**Alice Springs**	**62.00**	**149**	P		**P**	**14 32 57.2**		**+0.7**
	comp=Z,0.7nm,0.5s,baz=334,slow=6.6,SNR=20								
ILAR	**Eielson Array**	**69.08**	**26**	P		**P**	**14 33 41.5**		**-0.3**
	comp=Z,0.1nm,0.4s,baz=286,slow=4.7,SNR=5.7								
YKA	**Yellowknife Ar**	**80.92**	**17**	P		**P**	**14 34 50.3**		**+0.1**
	comp=Z,0.3nm,0.4s,baz=321,slow=3.8,SNR=3.2								

MEX 29 14:46:42.2±0.3,17°.16N×101°.25W,h16km±604km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time		Res
				Op			h	m s	ISC
ZIIG	**Zihuatanejo**	**0.49**	**335**	*e*P		Pg	14 46 50.5		-1.6
ZIIG				*i* S		Sg	14 46 57.1		-1.7
CAIG	**El Cayaco**	**0.94**	**96**	*e*P		Pb	14 46 57.2		-3.0
CAIG				*e*S		Sb	14 47 08.2		-4.2
ARIG	**Puente Sto Nin**	**1.41**	**37**	*e*P		Pn	14 47 03.8		-3.5
ARIG				*e*S		Sn	14 47 20.4		-5.2
MEIG	**Mezcala**	**1.73**	**64**	*e*P		Pn	14 47 08.3		-3.5
MEIG				*e*S		Sn	14 47 28.8		-4.8
PLIG	**Platanillo**	**2.07**	**53**	*e*P		Pn	14 47 13.4		-3.0
PLIG				*e*S		Sn	14 47 37.8		-4.1
TLIG	**Tlapa**	**2.59**	**81**	*e*P		Pn	14 47 19.5		-4.2
TLIG				*e*S		Sn	14 47 52.1		-2.8

ZUR 29 15:17:47.0,46°.33N×7°.57E,h5km±2km,ML0.8/2,1C, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time		Res
				Op			h	m s	ISC
LKBD2	**Leukerbad 2**	**0.07**	**51**	⇑*i*P		Pg	15 17 49.1		+0.1
LKBD2				*e*Sg		Sg	15 17 50.4		+0.1
LKBD	**Leukerbad**	**0.07**	**37**	*e*Pg		Pg	15 17 49.1		+0.2
	49nm,0.3s								
LKBD				*i* Sg		Sg	15 17 50.4		+0.2
SENIN	**Lac Senin/Sane**	**0.19**	**280**	*e*Pg		Pg	15 17 51.1		0.0
	36nm,0.3s								
SENIN				*i* Sg		Sg	15 17 53.8		0.0
	36nm,0.3s								

NIED ***29*** *15:19:00,37°.10N×135°.10E,h380km,Mw4.8 Best double couple: M0 2.07000×10^16 NP1:φs295.00000°, δ14.00000°,λ47.00000°. NP2:φs159.00000°,δ79.00000°, λ100.00000°.*

BJI ***29*** *15:19:05.8,36°.97N×135°.12E,h350km,mB4.5/25, mb5.0/55*

MOS ***29*** *15:19:08.5±0.9,37°.21N×135°.02E,h362km,mb4.7/77, Error ellipse: s-maj=6.6km s-min=4.5km az=97.1*

IDC ***29*** *15:19:09.6±0.5,37°.13N×134°.99E,h361km±5km,mb4.2/29, mb1 4.3/33,mb1mx4.2/43,mbtmp4.9/33,Error ellipse: s-maj=7.9km s-min=6.3km az=94.0*

NEIC ***29*** *15:19:09.5±0.3,37°.13N×134°.95E,h362km±3km, mb4.8/115,MW4.8(NIED),Error ellipse: s-maj=3.9km s-min=2.6km az=143.0*

JMA ***29*** *15:19:09.3±0.1,37°.15N×135°.08E,h369km±1km,M4.6*

ISCJB ***29*** *15:19:09.4±0.1,37°.14N±0°.02×134°.97E±0°.02, h366km±1km,mb4.7/196,Error ellipse: s-maj=3.3km s-min=2.2km az=160.7*

ISC 29 15:19:10.0±0.3,37°.14N±0°.03×135°.03E±0°.03,h368km±2km, h367km:pP-P,n871,σ0s96/947,mb4.7/196,170C-174D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time		Res
				Op			h	m s	ISC
JKG	**Kaga**	**1.36**	**129**	P		**Pn**	**15 19 58.5**		**-0.8**
JKG				S		**S**	**15 20 37.0**		**-1.8**
JJH	**Hakui**	**1.42**	**98**	P		**Pn**	**15 19 58.9**		**-0.6**
JJH				S		**S**	**15 20 38.5**		**-0.8**
SAI	**Saigo**	**1.66**	**236**	P		**Pn**	**15 20 00.8**		**-0.1**
JHG	**Hegura jima**	**1.66**	**64**	P		**Pn**	**15 20 00.5**		**-0.3**
JHG				*e*S		**S**	**15 20 40.8**		**-0.8**
JWT	**Wachi**	**1.88**	**171**	P		**Pn**	**15 20 02.0**		**-0.3**
JWT				S		**S**	**15 20 42.8**		**-1.5**
JSZ	**Suzu**	**1.88**	**80**	P		**Pn**	**15 20 01.8**		**-0.4**
JSZ				*e*S		**S**	**15 20 43.1**		**-1.0**
MAJO	**Matsushiro**	**2.62**	**102**	*d i*P		**Pn**	**15 20 06.7**		**-0.9**
MAJO	**Matsushiro**	**2.62**	**102**	*e*Pn		**Pn**	**15 20 06.6**		**-0.9**
MAT	**Matsushiro**	**2.62**	**102**	P		**Pn**	**15 20 06.6**		**-1.0**
MAT				S		**S**	**15 20 53.0**		**-0.9**
MAT	**Matsushiro**	**2.62**	**102**	P		**Pn**	**15 20 06.8**		**-0.8**
MAT				*e*S		**S**	**15 20 53.0**		**-0.9**
MJAR	**Matsushiro Arr**	**2.62**	**102**	P		**Pn**	**15 20 07.2**		**-0.4**
	116nm,0.3s,baz=279,slow=9.6,SNR=1930								
MJAR				S		**S**	**15 20 51.8**		**-2.1**
	baz=286,slow=13,SNR=1.0								
MJAR	**Matsushiro Arr**	**2.62**	**102**	P		**Pn**	**15 20 07.2**		**-0.4**
MJAR				S		**S**	**15 20 51.8**		**-2.1**
MJAR				pmax		pmax			
	comp=Z,116nm,0.3s								
JHS	**Saijyo**	**2.64**	**217**	P		**Pn**	**15 20 07.7**		**-0.2**
JHS				S		**S**	**15 20 53.6**		**-0.8**
JSD	**Sado**	**2.71**	**70**	P		**Pn**	**15 20 07.3**		**-1.0**
JWY	**Kouya**	**2.95**	**171**	P		**Pn**	**15 20 10.1**		**-0.5**
JWY				*e*S		**S**	**15 20 57.1**		**-2.2**
JIE	**Ise**	**3.06**	**153**	P		**Pn**	**15 20 11.4**		**0.0**
JIE				S		**S**	**15 20 58.9**		**-1.9**
JRY	**Ryogami san**	**3.31**	**109**	P		**Pn**	**15 20 12.6**		**-1.0**
JRY				*e*S		**S**	**15 21 03.2**		**-1.6**
KSULL	**Ulleungdo**	**3.31**	**277**	P		**Pn**	**15 20 13.5**		**0.0**
	SNR=55								
JWZ	**Kozaga**	**3.65**	**171**	P		**Pn**	**15 20 16.1**		**-0.7**
JWZ				*e*S		**S**	**15 21 08.6**		**-2.0**
JOD2	**Odawara 2**	**3.78**	**119**	P		**Pn**	**15 20 16.9**		**-1.1**
JOD2				S		**S**	**15 21 11.2**		**-1.7**
TTO1	**TONANKAI O.B.S**	**3.79**	**157**	P		**Pn**	**15 20 18.6**		**+0.8**
KSULJ	**Ulijin**	**4.53**	**266**	P		**Pn**	**15 20 25.6**		**+0.2**
	SNR=242								
JTO	**Tosashimizu**	**4.65**	**204**	P		**Pn**	**15 20 27.1**		**+0.2**
JTO				*e*S		**S**	**15 21 27.7**		**-1.3**
KSPHA	**Pohang**	**4.65**	**260**	P		**Pn**	**15 20 27.0**		**+0.2**
	SNR=32								
KSTBA	**Taebaek**	**4.86**	**272**	P		**Pn**	**15 20 29.9**		**+0.8**
	SNR=14								
KSJMJ	**Jumunjin**	**5.04**	**280**	P		**Pn**	**15 20 31.5**		**+0.7**
	SNR=51								
KSDGY	**Daegwallycong**	**5.09**	**278**	P		**Pn**	**15 20 32.2**		**+0.7**
	SNR=18								
KSDAG	**Daegu**	**5.13**	**256**	P		**Pn**	**15 20 32.1**		**+0.2**
	SNR=9.3								
JMK	**Ichinoseki**	**5.21**	**68**	P		**Pn**	**15 20 30.8**		**-1.8**
JMK				*e*S		**S**	**15 21 37.1**		**-2.5**
KSYOW	**Yeongwol**	**5.25**	**272**	P		**Pn**	**15 20 34.0**		**+0.8**
	SNR=9.8								
JNU	**Nakatsue**	**5.26**	**222**	P		**Pn**	**15 20 33.8**		**+0.3**
	comp=Z,12nm,0.3s,baz=41,slow=6.9,SNR=134								
JTU	**Tsushima**	**5.27**	**242**	P		**Pn**	**15 20 32.7**		**-0.7**
JTU				*e*S		**S**	**15 21 41.0**		**0.0**
KSSKC	**Sokcho**	**5.29**	**284**	P		**Pn**	**15 20 34.2**		**+0.7**
	SNR=16								
BSO1	**Boso 1**	**5.43**	**115**	P		**Pn**	**15 20 32.6**		**-1.9**
BSO1				*e*S		**S**	**15 21 40.0**		**-3.2**
SEHB	**SEOHWA**	**5.49**	**284**	P		**Pn**	**15 20 36.8**		**+1.0**
	SNR=44								
KSIJA	**INJE**	**5.56**	**281**	P		**Pn**	**15 20 37.8**		**+1.2**
	SNR=11								
KSWJU	**Wonju**	**5.57**	**275**	P		**Pn**	**15 20 37.7**		**+1.0**
	SNR=11								
JHJ2	**Mitsune**	**5.62**	**134**	P		**Pn**	**15 20 36.6**		**-0.6**
JHJ2				*e*S		**S**	**15 21 45.8**		**-2.2**
KSCHJ	**Chungju**	**5.66**	**269**	P		**Pn**	**15 20 38.5**		**+0.9**
	SNR=19								
KSRS	**Korea Array**	**5.68**	**275**	P		**Pn**	**15 20 39.0**		**+1.2**
	comp=Z,31nm,0.3s,baz=93,slow=12,SNR=1097								
KSRS	**Korea Array**	**5.68**	**275**	P		**Pn**	**15 20 39.0**		**+1.2**
KSRS				pmax		pmax			
	comp=Z,31nm,0.3s								
KSAR	**Wonju Array Be**	**5.71**	**275**	P		**Pn**	**15 20 39.0**		**+0.8**
KSAR	**Wonju Array Be**	**5.71**	**275**	P		**Pn**	**15 20 39.0**		**+0.8**
KSCPR	**CHUPUNGNYEONG**	**5.75**	**263**	P		**Pn**	**15 20 39.9**		**+1.2**
	SNR=6.2								
KSCHC	**Chuncheon**	**5.78**	**278**	P		**Pn**	**15 20 40.1**		**+1.1**
	SNR=21								
JOSM	**Okushiri--Mats**	**6.01**	**33**	P		**Pn**	**15 20 41.3**		**-0.1**
JOSM				*e*S		**S**	**15 21 53.1**		**-2.6**
KSCWO	**Cheorwon**	**6.04**	**281**	P		**Pn**	**15 20 43.3**		**+1.4**
	SNR=7.9								
KSICN	**Icheon**	**6.08**	**274**	P		**Pn**	**15 20 43.9**		**+1.6**
	SNR=7.4								
TJN	**Taejon**	**6.20**	**265**	*i* P		**Pn**	**15 20 44.2**		**+0.5**
KSJEO	**Jeonju**	**6.35**	**261**	P		**Pn**	**15 20 46.6**		**+1.2**
	SNR=7.4								
VLA	**Vladivostok**	**6.44**	**339**	⇓*e*P		**Pn**	**15 20 46.5**		**+0.3**
YNCB	**YEONCHEON**	**6.50**	**280**	P		**P**	**15 20 48.2**		**+1.1**
	SNR=7.1								
INCN	**Inchon**	**6.70**	**275**	*e*Pn		**Pn**	**15 20 49.9**		**+0.5**
	comp=Z,46nm,0.6s								
KSGAH	**Ganghwa**	**6.86**	**277**	P		**P**	**15 20 52.1**		**-0.1**
	SNR=17								
USRK	**Ussuriysk Ar.**	**7.42**	**343**	P		**P**	**15 20 58.6**		**0.0**
	comp=Z,8.5nm,0.3s,baz=163,slow=11,SNR=133								
ERM	**Erimo**	**7.94**	**50**	*e*P		**Pn**	**15 21 00.6**		**-3.0**
ERM				*e*			15 22 26.9		
ERM				pmax		pmax			
	comp=Z,548nm,0.4s								
ERM	**Erimo**	**7.94**	**50**	*e*Pn		**Pn**	**15 21 00.6**		**-3.0**
	comp=Z,548nm,0.4s								
ERM				*e*Sn		S	15 22 11.6		-25
ERM				*e*Sn		S	15 22 26.9		-9.5
MDJ	**Mudanjiang**	**8.53**	**333**	*e*Pn		**Pn**	**15 21 10.8**		**+0.4**
	comp=Z,45nm,0.8s								
ASAJ	**Asahikawa**	**9.03**	**37**	P		**Pn**	**15 21 14.0**		**-2.3**
	comp=Z,194nm,0.3s,baz=233,slow=11,SNR=1503								
ASAJ				S		S	15 22 52.0		-7.9
	comp=Z,46nm,0.3s,baz=305,slow=34,SNR=8.9								
ASAJ	**Asahikawa**	**9.03**	**37**	P		**Pn**	**15 21 14.0**		**-2.3**
ASAJ				S		S	15 22 52.1		-7.9
ASAJ				pmax		pmax			
	comp=Z,194nm,0.3s								
ASAJ				smax		smax			
	comp=N,46nm,0.3s								
CN2	**Changchun**	**9.87**	**315**	*e*P		**P**	**15 21 27.3**		**+0.2**
CN2				*es*P		sP	15 22 39.3		
CN2				*e*S		**S**	**15 23 14.8**		**-3.3**
CN2				PMZ					
	comp=N,20nm,1.0s								
CN2				PMZ					
	comp=N,200nm,4.0s								
SNY	**Shenyang**	**10.01**	**301**	⇓P		**P**	**15 21 29.3**		**+0.6**
SNY				sP		sP	15 22 42.0		
SNY				S		**S**	**15 23 21.8**		**+0.7**
SNY				PMZ					
	comp=N,40nm,0.8s								
SNY				PMZ					
	comp=N,150nm,4.7s								
YUK	**Yuzh-Kuril'sk**	**10.73**	**47**	*d i*P		**Pn**	**15 21 35.3**		**-1.1**
YUK				*i* S		S	15 23 30.2		-6.2
YUK				pmax		pmax			
	comp=Z,805nm,0.4s								
YUK				pmax		pmax			
	comp=E,192nm,0.1s								
YUK				pmax		pmax			
	comp=N,313nm,0.2s								
HABR	**Khabarovsk**	**11.32**	**0**	*e*P		**P**	**15 21 40.5**		**-2.6**
HABR				*e*S		**S**	**15 23 45.6**		**-3.6**
HABR				pmax		pmax			
	comp=E,41nm,1.6s								
HABR				pmax		pmax			
	comp=Z,54nm,1.6s								
HABR				pmax		pmax			
	comp=N,21nm,1.1s								
YSS	**Yuzh-Sakhalins**	**11.35**	**28**	⇑*e*P		**P**	**15 21 42.0**		**-1.5**
YSS				*e*S		S	15 23 40.5		-9.3
YSS				pmax		pmax			
	comp=Z,180nm,0.6s								
YSS				smax		smax			
	comp=N,500nm,2.0s								
YSS				smax		smax			
	comp=E,500nm,2.0s								
YSS				smax		smax			
	comp=N,150nm,0.8s								
YSS				smax		smax			
	comp=E,230nm,0.7s								
YSS	**Yuzh-Sakhalins**	**11.35**	**28**	*e*P		**P**	**15 21 41.9**		**-1.5**
	comp=E,176nm,0.4s								
YSS				*e*S		S	15 23 42.9		-7.0
CBIJ	**Chichi jima**	**11.70**	**147**	P		P	15 21 43.2		-4.4
CBIJ				S		S	15 23 44.6		-13
JCJ	**Chichijima**	**11.70**	**147**	P		P	15 21 43.2		-4.4
	comp=E,8.1nm,0.3s,baz=357,slow=21,SNR=8.0								
JCJ				S		S	15 23 44.6		-13
	comp=E,23nm,0.3s,baz=84,slow=22,SNR=3.8								
JOW	**Kunigami**	**11.77**	**211**	*e*P		P	15 21 44.7		-3.7
	comp=E,66nm,0.8s								
KLR	**Kul'dur**	**12.31**	**350**	*e*P		P	15 21 48.8		-5.3
KUR	**Kuril'sk**	**12.59**	**46**	⇑*i*P		**P**	**15 21 57.1**		**-0.1**
KUR				*i* S		**S**	**15 24 15.2**		**-0.5**
KUR				pmax		pmax			
	comp=Z,150nm,0.7s								
KUR				pmax		pmax			
	comp=N,36nm,0.1s								
KUR				pmax		pmax			
	comp=E,67nm,0.3s								
KUR				smax		smax			
	comp=N,172nm,0.6s								
KUR				smax		smax			
	comp=E,112nm,0.6s								
KUR				smax		smax			
	comp=N,4μm,3.7s								
KUR				smax		smax			
	comp=E,2μm,3.7s								
KUR				MLR		MLR			
	comp=N,624nm,6.0s								
KUR				MLR		MLR			
	comp=E,3μm,6.0s								
KUR				MLR		MLR			
	comp=Z,1μm,6.0s								
SSE	**Sheshan**	**12.96**	**246**	⇓P		**Pn**	**15 22 02.5**		**-0.3**
SSE				PMZ					
	comp=Z,210nm,0.8s								
SSE				PMZ					
	comp=Z,150nm,4.5s								
UGL	**Uglegorsk**	**12.98**	**21**	*c e*P		**P**	**15 22 00.0**		**-1.4**
UGL				*e*S		**S**	**15 24 21.4**		**-2.0**
TIA	**Tai'an**	**14.41**	**272**	⇓P		**P**	**15 22 17.8**		**+0.5**
TIA				PMZ					
	comp=Z,140nm,0.8s								
BJI	**Beijing**	**15.03**	**287**	P		**P**	**15 22 23.8**		**-0.2**
BJT	**Baijiatuau**	**15.03**	**287**	*e*P		**P**	**15 22 24.2**		**+0.1**
BJT				pmax		pmax			
	comp=Z,208nm,0.4s								
BJT	**Baijiatuau**	**15.03**	**287**	*e*P		**P**	**15 22 24.2**		**+0.1**
	comp=Z,208nm,0.

comp=E,22nm,0.6s
ZAK Zakamensk 26.25 310 *e*P **P 15 24 11.3 -1.7**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
GTA Gaotai 27.64 286 ⇓P **P 15 24 25.0 -0.4**
GTA ScP **ScP 15 30 37.8 +0.9**
GTA PMZ
comp=Z,36nm,1.2s
GTA PMZ
comp=Z,78nm,6.1s
GTA LN
comp=Z,54nm,13.9s
GTA LE
comp=Z,100nm,16.3s
GTA LZ
comp=Z,84nm,16.1s
SEY Seymchan 27.93 17 P **P 15 24 27.9 +0.4**
comp=Z,13nm,0.7s,baz=205,slow=7.6,SNR=110
SEY pP **pP 15 25 36.8 +1.8**
comp=Z,5.2nm,0.9s,baz=215,slow=5.8,SNR=1.3
SEY ScP **ScP 15 30 38.7 +1.6**
comp=Z,1.6nm,0.8s,baz=181,slow=5.8,SNR=5.0
QIZ Qiongzhong 28.49 238 *e*P **P 15 24 34.2 +1.2**
comp=Z,37nm,1.0s
KMI Kunming 29.98 256 P **P 15 24 46.0 -0.3**
KMI PMZ
comp=Z,85nm,0.8s
KMI LN
comp=Z,170nm,11.9s
KMI LE
comp=Z,68nm,17.6s
KMI LZ
comp=Z,130nm,17.6s
KRAR Krasnoyarsk 33.89 317 ⇑ *i*P **P 15 25 20.4 +1.1**
KRAR pmax pmax
comp=Z,21nm,0.4s
SKNT Sakolnakorn 33.95 242 P **P 15 25 20.3 0.0**
comp=Z,29nm,0.9s
CRAI Chiangrai 34.52 250 P **P 15 25 22.1 -3.2**
comp=Z,86nm,0.8s,comp=Z,784nm
DLV T Lat 34.60 230 *e*P **P 15 25 26.7 +0.6**
comp=Z,58nm,1.1s
TIXI Tiksi 34.72 357 *c i*P **P 15 25 25.4 -0.8**
TIXI pmax pmax
comp=Z,40nm,0.7s
TIXI Tiksi 34.72 357 *e*P **P 15 25 25.3 -0.8**
comp=Z,37nm,0.6s
TIXI *e*PcP **PcP 15 27 49.1 -1.1**
TIXI *e*S **S 15 30 26.8 -1.4**
KHON Khomkaen 35.19 243 P **P 15 25 30.9 0.0**
comp=Z,27nm,0.6s
KKM Kota Kinabalu 35.40 214 *e*P **P 15 25 32.9 +0.1**
comp=Z,19nm,1.0s
BILL Bilibino 35.50 20 *c i*P **P 15 25 33.1 +0.2**
BILL *e**PP **pP 15 26 40.8 -1.8**
BILL *i* S **S 15 30 41.4 +1.2**
BILL pmax pmax
comp=Z,107nm,1.3s
BILL Bilibino 35.50 20 *e*P **P 15 25 33.0 +0.2**
comp=Z,50nm,0.6s
BILL *e*S **S 15 30 40.2 0.0**
BILL *e*ScP **ScP 15 31 04.2 +1.4**
CMAI Chiengmai2 35.70 251 P **P 15 25 35.7 +0.3**
comp=Z,93nm,0.8s,comp=Z,1µm
UTTA Uttaradit 35.92 247 P **P 15 25 37.3 +0.3**
comp=Z,11nm,0.9s,comp=Z,132nm
LAMP Lampang 36.11 249 P **P 15 25 39.8 +1.2**
comp=Z,9.6nm,0.8s,comp=Z,137nm
PBKT Sadao Pong 36.37 245 P **P 15 25 40.9 +0.1**
comp=Z,12nm,1.0s
CHTO Chiang Mai 36.45 250 *e*P **P 15 25 41.1 -0.4**
CHTO pmax pmax
comp=Z,27nm,0.8s
CHTO Chiang Mai 36.45 250 ⇑P **P 15 25 41.6 +0.1**
SNR=13
CHTO mb 15 25 43.7
SNR=29
CHTO Chiang Mai 36.45 250 *e*P **P 15 25 41.1 -0.4**
comp=Z,27nm,0.8s
CHTO Chiang Mai 36.45 250 P **P 15 25 41.4 -0.1**
comp=Z,179nm,0.9s,comp=Z,2µm
CM31 Chiang Mai Arr 36.67 249 *e*P **P 15 25 42.4 -0.9**
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 36.67 249 P **P 15 25 43.4 +0.1**
comp=Z,11nm,0.6s,baz=44,slow=7.6,SNR=61
CMAR pP **pP 15 26 54.6 +1.2**
comp=Z,4.3nm,1.1s,baz=36,slow=6.6,SNR=2.3
CMAR ScP **ScP 15 31 09.4 +1.5**
comp=Z,5.9nm,0.8s,baz=20,slow=2.9,SNR=31
CMAR Chiang Mai Arr 36.67 249 P **P 15 25 43.4 +0.1**
CMAR *PP **pP 15 26 54.6 +1.2**
CMAR 15 31 09.5
CMAR pmax pmax
comp=Z,11nm,0.6s
SUKH Sukhothai 36.76 247 P **P 15 25 44.7 +0.7**
comp=Z,13nm,0.8s,comp=Z,101nm
TNTI Ternate 36.88 193 P P 15 25 49.0 +4.0
IMP Imphal 37.06 262 *e*P **P 15 25 45.0 -1.6**
LSA Lhasa 37.11 272 P **P 15 25 48.0 +0.6**
LSA PMZ
comp=Z,20nm,1.5s
LSA Lhasa 37.11 272 *e*P **P 15 25 48.0 +0.6**
LSA pmax pmax
comp=Z,15nm,0.6s
LSA Lhasa 37.11 272 *e*P **P 15 25 48.0 +0.6**
comp=Z,15nm,0.6s
GSTR Great Sitkin T 37.14 50 *e*P **P 15 25 46.5 -0.3**
comp=Z,84nm,0.5s
MHMT Maesarieng 37.60 250 P **P 15 25 51.9 +0.9**
comp=Z,13nm,0.7s,comp=Z,492nm
KMSI Cibinong 37.80 198 P **P 15 25 52.4 -0.2**
CHBT CHBT 38.01 239 P **P 15 25 55.2 +0.8**
comp=Z,39nm,1.2s,comp=Z,5µm
ZAA0 Zalesovo Array 38.07 313 *e*P **P 15 25 53.2 -1.3**
ZALV Zalesovo Beam 38.07 313 P **P 15 25 53.7 -0.8**
comp=Z,3.6nm,0.3s,baz=106,slow=8.1,SNR=14
ZALV PcP **PcP 15 28 00.8 0.0**
comp=Z,6.8nm,0.6s,baz=94,slow=2.2,SNR=9.9
ZALV ScP **ScP 15 31 12.4 -0.2**
comp=Z,6.4nm,0.5s,baz=94,slow=3.5,SNR=18
ZALV Zalesovo Beam 38.07 313 P **P 15 25 53.7 -0.8**
ZALV 15 28 00.8
ZALV 15 31 12.5
ZALV pmax pmax
comp=Z,4.0nm,0.3s
SHL Shillong 38.32 265 *e*P **P 15 25 58.0 +0.9**
SHL *e*x x 15 31 16.0
MRSI Marisa 38.44 201 P **P 15 25 58.7 +0.7**
comp=Z,107nm,1.0s,comp=Z,836nm
NVS Novosibirsk 39.08 314 *e*P **P 15 26 01.3 -1.4**
MPSI Mapaga 39.21 204 P **P 15 26 05.4 +1.1**
comp=Z,24nm,1.1s
LUWI Luwuk 39.66 199 P **P 15 26 06.6 -1.3**
comp=Z,93nm,1.3s,comp=Z,950nm
LUWI Luwuk 39.66 199 *e*P **P 15 26 05.6 -2.4**
comp=Z,39nm,0.5s
MK31 Makanchi Array 39.72 301 *e*P **P 15 26 07.8 -0.3**
MK31 Makanchi Array 39.72 301 *e*P **P 15 26 07.8 -0.3**
MKAR Makanchi Array 39.72 301 P **P 15 26 07.7 -0.4**
comp=Z,4.4nm,0.5s,baz=85,slow=7.4,SNR=65
MKAR ScP **ScP 15 31 19.6 +0.4**
comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=7.8
MKAR Makanchi Array 39.72 301 *ce*P **P 15 26 07.6 -0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
SANI Sanana 39.89 194 P **P 15 26 09.1 -0.7**
comp=Z,28nm,0.8s
FAKI Fak Fak 39.94 184 P **P 15 26 11.0 +0.7**
TAPN Taplejung 40.84 270 *e*P **P 15 26 18.0 +0.2**
comp=Z,86nm,0.4s
AAI Ambon 41.12 190 P **P 15 26 19.5 -0.2**
ODAN Odare 41.31 270 *e*P **P 15 26 21.3 -0.2**
comp=Z,57nm,0.6s
GAMB Gambell 41.33 33 *e*P **P 15 26 21.1 +0.3**
comp=Z,20nm,0.8s
KURK Kurchatov 41.83 307 *e*P **P 15 26 24.2 -0.9**
KURK pmax pmax
comp=Z,22nm,0.6s
KURK Kurchatov 41.83 307 ⇑P **P 15 26 24.4 -0.7**
SNR=8.2
KURK mb 15 26 25.9
SNR=27
KURK Kurchatov 41.83 307 *e*P **P 15 26 24.2 -0.9**
comp=Z,22nm,0.6s
RAMN Ramite 41.90 270 *e*P **P 15 26 26.3 0.0**
comp=Z,73nm,0.6s

JIRN Jiri 41.92 272 *e*P **P 15 26 27.0 +0.4**
comp=Z,112nm,0.5s
GUN Gumba 42.06 272 *e*P **P 15 26 27.8 +0.1**
comp=Z,117nm,0.6s
KSM Kuching 42.19 219 *e*P **P 15 26 28.2 -0.1**
comp=Z,26nm,0.8s
PKI Pulchoki 42.58 272 *e*P **P 15 26 31.5 -0.3**
comp=Z,45nm,0.8s
PKIN Phulchoki 42.59 272 *e*P **P 15 26 31.9 +0.1**
comp=Z,29nm,0.6s
KKN Kakani 42.59 272 *e*P **P 15 26 31.8 +0.1**
comp=Z,96nm,0.7s
DMN Daman 42.81 272 *e*P **P 15 26 33.3 -0.2**
comp=Z,20nm,0.6s
STKI Sintang 42.85 216 P **P 15 26 34.4 +0.8**
comp=Z,24nm,0.9s
UNV Unalaska Valle 42.95 48 *e*P **P 15 26 32.5 -1.4**
GKN Gorkha 43.01 273 *e*P **P 15 26 35.0 0.0**
comp=Z,155nm,0.7s
SURT Suratani 43.13 239 P **P 15 26 37.0 +1.1**
comp=Z,12nm,1.1s,comp=Z,210nm
TNA Tin City 43.32 31 *e*P **P 15 26 37.5 +0.9**
comp=Z,132nm,0.8s
TRTT Trang 43.34 237 P **P 15 26 38.4 +0.8**
comp=Z,19nm,1.0s
BNSI Bone 43.61 202 P **P 15 26 40.7 +1.1**
comp=Z,21nm,0.8s
KBKI Kotabaru 43.90 208 P **P 15 26 42.2 +0.3**
comp=Z,21nm,0.9s
KOLN Koldanda 43.94 273 *e*P **P 15 26 42.5 +0.1**
comp=Z,36nm,0.4s
PKDT Phuket 44.22 238 P **P 15 26 45.5 +1.1**
comp=Z,45nm,1.1s
PYUN Piuthan 44.28 274 *e*P **P 15 26 45.4 +0.3**
comp=Z,374nm,0.7s
KAPI Kappang 44.30 202 ⇓P **P 15 26 44.7 -0.3**
SNR=5.3
KAPI mb 15 26 46.2
SNR=9.4
KAPI Kappang 44.30 202 *e*P **P 15 26 44.0 -1.0**
comp=Z,16nm,0.6s
BKSI Bulukumba 44.48 201 P **P 15 26 47.8 +1.4**
comp=Z,16nm,1.1s
BBKI Banjar Baru 44.56 209 P **P 15 26 47.0 -0.1**
comp=Z,137nm,0.9s
KULM Kulim 44.62 233 *e*P **P 15 26 47.6 0.0**
comp=Z,19nm,0.6s
KULM *e*pP **pP 15 28 01.4 +0.6**
IPM Ipoh 45.01 232 *e*P **P 15 26 49.7 -0.9**
comp=Z,18nm,0.9s
TKM2 Tokmak 2 45.05 297 P **P 15 26 51.9 +1.0**
SNR=41
TKM2 Tokmak 2 45.05 297 *e*P **P 15 26 51.2 +0.3**
TKM2 pmax pmax
comp=Z,18nm,0.6s
TKM2 Tokmak 2 45.05 297 *e*P **P 15 26 51.2 +0.3**
comp=Z,18nm,0.6s
KZA Kyzart 45.51 296 P **P 15 26 56.1 +1.4**
SNR=32
KBK Karagaybulak 45.58 296 P **P 15 26 55.8 +0.8**
SNR=44
CHMS Chumysh 45.64 297 P **P 15 26 55.6 +0.4**
SNR=12
USP Ospenovka 45.75 297 P **P 15 26 56.5 +0.4**
SNR=18
FRU Bishkek 45.77 297 *e*P **P 15 26 56.0 -0.3**
FRU *e* 15 28 52.0
AAK Ala-Archa 45.91 297 P **P 15 26 57.9 +0.4**
SNR=21
AAK Ala-Archa 45.91 297 *d i*P **P 15 26 57.7 +0.2**
AAK pmax pmax
comp=Z,55nm,1.0s
AAK Ala-Archa 45.91 297 ⇑P **P 15 26 57.8 +0.4**
AAK mb 15 26 58.4
SNR=28
AAK Ala-Archa 45.91 297 *e*P **P 15 26 57.5 0.0**
comp=Z,17nm,0.6s
UCH Uchtor 46.00 296 P **P 15 26 59.5 +1.0**
SNR=14
EKS2 Erkin-Say 46.42 297 P **P 15 27 01.7 +0.4**
SNR=15
EKS2 Erkin-Say 46.42 297 *e*P **P 15 27 01.1 -0.2**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 46.42 297 *e*P **P 15 27 01.1 -0.2**
comp=Z,10nm,0.8s
EKS2 *e*ScP **ScP 15 31 46.5 -0.2**
AML Almayashu 46.61 296 P **P 15 27 04.3 +1.1**
SNR=108
BRVK Borovoye 46.76 311 *d i*P **P 15 27 03.1 -0.5**
BRVK pmax pmax
comp=Z,13nm,0.9s
BRVK Borovoye 46.76 311 P **P 15 27 03.2 -0.5**
SNR=6.3
BRVK mb 15 27 04.5
SNR=14
BRVK Borovoye 46.76 311 *e*P **P 15 27 03.0 -0.7**
comp=Z,20nm,1.0s
MMRI Maumere 47.09 197 P **P 15 27 06.5 -0.1**
comp=Z,47nm,1.0s
TPI Tanjungpandan 47.15 219 P **P 15 27 07.5 +0.4**
comp=Z,33nm,0.9s
PPBI Pangkal Pinang 47.42 221 P **P 15 27 09.8 +0.6**
comp=Z,31nm,0.8s
PSI Prapat 47.62 233 P **P 15 27 10.7 -0.2**
comp=Z,12nm,0.6s,baz=22,slow=6.8,SNR=15
PSI ScP **ScP 15 31 51.7 -0.4**
comp=Z,3.4nm,0.4s,baz=350,slow=3.9,SNR=5.8
KKAR Karatay Array 48.62 298 *e*P **P 15 27 17.9 0.0**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 48.62 298 *e*P **P 15 27 17.9 0.0**
comp=Z,23nm,0.8s
IM04 Indian Mountai 49.15 31 *e*P **P 15 27 22.2 +0.6**
IM04 *e* 15 28 39.2
GSI Gunungsitoli 49.63 233 *e*P **P 15 27 25.5 -0.3**
comp=Z,36nm,0.7s
RSO Redoubt South 49.97 38 *e*P **P 15 27 28.3 +0.4**
comp=Z,170nm,0.9s
PPLA Purkeypile 50.00 35 *e*P **P 15 27 29.5 +1.4**
comp=Z,48nm,0.8s
PPLA *e*PcP **PcP 15 28 42.5 +0.6**
LHSI Lahat 50.22 223 P **P 15 27 30.9 +0.8**
comp=Z,101nm,1.0s,comp=Z,1µm
KDAK Kodiak Island 50.41 41 *e*P **P 15 27 30.6 -0.4**
KDAK pmax pmax
comp=Z,46nm,0.8s
KDAK Kodiak Island 50.41 41 *e*P **P 15 27 30.6 -0.4**
comp=Z,46nm,0.8s
KTH Kantishna Hill 50.51 34 *e*P **P 15 27 32.8 +1.0**
comp=Z,68nm,0.9s
KTH *e*pP **pP 15 28 49.7 +2.7**
COLD Coldfoot 50.54 29 *e*P **P 15 27 32.7 +0.8**
comp=Z,27nm,0.7s
COLD *e*PcP **PcP 15 28 44.8 +1.2**
LEM Lembang 50.70 216 P **P 15 27 34.5 +0.6**
LEM Lembang 50.70 216 P **P 15 27 35.0 +1.1**
comp=Z,77nm,0.8s,baz=65,slow=7.8,SNR=8.5
LEM Lembang 50.70 216 P **P 15 27 35.0 +1.1**
LEM pmax pmax
comp=Z,77nm,0.8s
TRF Thorofare Moun 50.80 34 *e*P **P 15 27 34.4 +0.4**
comp=Z,24nm,0.8s
TRF *e*PcP **PcP 15 28 45.3 +0.4**
RC01 Rabbit Creek A 51.36 37 *e*P **P 15 27 38.0 0.0**
comp=Z,41nm,0.9s
MCK McKinley 51.37 34 *e*P **P 15 27 38.3 +0.2**
MCK pmax pmax
comp=Z,42nm,0.7s
MCK McKinley 51.37 34 *e*P **P 15 27 38.3 +0.2**
comp=Z,42nm,0.7s
PMR Palmer 51.57 36 *e*P **P 15 27 39.3 -0.2**
PMR pmax pmax
comp=Z,90nm,1.3s
PMR Palmer 51.57 36 *e*P **P 15 27 39.2 -0.2**
comp=Z,90nm,1.3s
SEW Seward 51.65 38 *e*P **P 15 27 40.0 0.0**
comp=Z,79nm,0.9s
SVE Sverdlovsk 51.66 318 *e*P **P 15 27 40.6 +0.4**
SVE pmax pmax
comp=Z,20nm,0.8s
COLA College 51.70 32 *e*P **P 15 27 41.3 +0.9**
COLA pmax pmax
comp=Z,25nm,0.6s
COLA College 51.70 32 *e*P **P 15 27 41.3 +0.9**
comp=Z,25nm,0.6s
ILAR Eielson Array 52.12 32 P **P 15 27 43.6 +0.2**

comp=Z,26nm,0.7s,baz=266,slow=6.1,SNR=372
ILAR Eielson Array 52.12 32 P **P 15 27 43.7 +0.2**
ILAR pmax pmax
comp=Z,26nm,0.7s
KBL Kabul 52.57 288 *e*P **P 15 27 46.9 -0.6**
KBL pmax pmax
comp=Z,25nm,0.8s
KBL Kabul 52.57 288 *e*P **P 15 27 46.9 -0.6**
comp=Z,25nm,0.8s
ARU Arti 52.86 317 *d i*P **P 15 27 48.7 -0.3**
ARU 15 28 52.7
ARU *PP **pP 15 29 06.3 +1.3**
ARU 15 29 50.6
ARU SS SKiKP 15 38 33.2 +7.4
ARU pmax pmax
comp=Z,17nm,0.6s
ARU Arti 52.86 317 *e*P **P 15 27 48.3 -0.7**
comp=Z,22nm,0.6s
ARU *e*pP **pP 15 29 04.4 -0.6**
PAX Paxson 53.03 34 *e*P **P 15 27 50.6 +0.3**
PAX *e* 15 28 54.3
PAX pmax pmax
comp=Z,40nm,1.2s
PAX Paxson 53.03 34 *e*P **P 15 27 50.6 +0.3**
comp=Z,40nm,1.2s
PAX *e*PcP **PcP 15 28 54.3 +1.1**
HYB Hyderabad 53.12 264 *i*P **P 15 27 50.5 -1.0**
DIV Divide 53.25 37 *e*P **P 15 27 52.4 +0.6**
comp=Z,66nm,1.0s
DOT Dot Lake 53.53 33 *e*P **P 15 27 53.5 -0.2**
comp=Z,34nm,0.6s
MENT Mentasta 53.82 34 *e*P **P 15 27 57.1 +1.3**
BMRM Bremner River 53.84 37 *e*P **P 15 27 57.1 +1.1**
comp=Z,72nm,0.9s
BMRM *e*PcP **PcP 15 28 57.6 +1.3**
ABKAR Akbulak array 53.92 308 *e*P **P 15 27 56.1 -0.6**
comp=Z,11nm,0.5s
EGAK Eagle 54.54 32 *e*P **P 15 28 01.3 +0.4**
comp=Z,26nm,0.6s
DAWY Dawson 55.45 32 *e*P **P 15 28 08.1 +0.7**
INK Inuvik 56.59 26 P **P 15 28 15.9 +0.7**
comp=Z,23nm,0.5s,baz=296,slow=6.7,SNR=85
INK PcP **PcP 15 29 07.3 +0.5**
comp=Z,5.4nm,0.6s,baz=182,slow=4.8,SNR=3.1
INK Inuvik 56.59 26 *e*P **P 15 28 15.5 +0.3**
INK 15 29 07.3
INK *PP **pP 15 29 35.2 +2.7**
INK pmax pmax
comp=Z,25nm,0.5s
INK Inuvik 56.59 26 *e*P **P 15 28 15.4 +0.3**
comp=Z,25nm,0.5s
INK *e*PcP **PcP 15 29 07.1 +0.3**
INK PcP **PcP 15 29 07.3 +0.5**
INK *e*pP **pP 15 29 35.1 +2.7**
WRAB Tennant Creek 56.77 181 ⇓ *e*P **P 15 28 18.6 +1.5**
WRAB pmax pmax
comp=Z,23nm,1.1s
WRAB Tennant Creek 56.77 181 *e*P **P 15 28 16.7 -0.4**
comp=Z,8.1nm,0.8s
WRA Warramunga Arr 56.78 181 P **P 15 28 17.1 -0.1**
comp=Z,4.5nm,0.4s,baz=358,slow=7.5,SNR=134
WRA PcP **PcP 15 29 08.9 +0.8**
comp=Z,2.0nm,0.5s,baz=356,slow=4.4,SNR=4.9
WRA pP **pP 15 29 33.1 -1.5**
comp=Z,3.2nm,0.9s,baz=357,slow=7.7,SNR=2.6
WRA ScP **ScP 15 32 32.1 +0.6**
comp=Z,0.8nm,0.7s,baz=359,slow=5.0,SNR=3.4
WRA S **S 15 35 39.5 -1.5**
comp=Z,1.7nm,0.8s,baz=359,slow=12,SNR=8.4
WRA Warramunga Arr 56.78 181 P **P 15 28 17.1 -0.1**
WRA 15 29 08.9
WRA *PP **pP 15 29 33.1 -1.5**
WRA S **S 15 35 39.5 -1.5**
WRA pmax pmax
comp=Z,5.0nm,0.4s
WRA smax smax
comp=N,2.0nm,0.8s
HYT Haines Junctio 57.22 36 *e*P **P 15 28 21.5 +1.6**
PALK Pallekele 57.46 253 *e*P **P 15 28 21.4 -0.7**
PALK Pallekele 57.46 253 *e*P **P 15 28 21.4 -0.7**
CTA Charters Tower 57.90 168 P **P 15 28 25.3 +0.4**
comp=N,6.1nm,0.8s,baz=336,slow=9.5,SNR=6.5
CTA Charters Tower 57.90 168 P **P 15 28 25.3 +0.4**
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 57.90 168 *e*P **P 15 28 24.7 -0.2**
CTAO Charters Tower 57.90 168 *e*P **P 15 28 24.7 -0.2**
IMYA Miami 58.50 294 *e*P **P 15 28 29.6 +0.4**
GEYT Alibeck 59.26 296 P **P 15 28 34.1 -0.1**
comp=Z,14nm,0.8s,baz=27,slow=3.6,SNR=26
IKRD Kardeh 59.47 295 *e*P P 15 28 31.5 -4.3
SIT Sitka 59.58 39 *e*P **P 15 28 36.7 +0.8**
SIT pmax pmax
comp=Z,42nm,0.9s
SIT Sitka 59.58 39 *e*P **P 15 28 36.7 +0.8**
comp=Z,42nm,0.9s
MBWA Marble Bar 59.76 197 *e*P **P 15 28 37.0 -0.5**
IDAH Dahanechah 60.26 290 *e*P **P 15 28 40.8 -0.5**
AS31 Alice Springs 60.49 181 *e*P **P 15 28 42.4 -0.1**
ASAR Alice Springs 60.49 181 P **P 15 28 42.6 +0.1**
comp=Z,1.3nm,0.3s,baz=1.6,slow=4.8,SNR=128
ASAR PcP **PcP 15 29 22.9 0.0**
comp=Z,1.0nm,0.6s,baz=13,slow=5.0,SNR=4.2
ASAR pP **pP 15 30 00.3 -0.6**
comp=Z,1.3nm,0.8s,baz=360,slow=6.2,SNR=2.1
ASAR Alice Springs 60.49 181 P **P 15 28 42.6 +0.1**
ASAR 15 29 22.9
ASAR *PP **pP 15 30 00.4 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.3s
ITEG Tejag 61.03 291 *e*P **P 15 28 46.5 +0.3**
IKOO Kooshah 61.05 290 *e*P **P 15 28 46.9 +0.4**
WRAK Wrangell Islan 61.34 39 *e*P **P 15 28 49.0 +1.3**
comp=Z,11nm,0.7s
KEV Kevo 61.47 338 *e*p **P 15 28 47.6 -0.7**
comp=Z,7.8nm,0.7s
KEV Kevo 61.47 338 *e*P **P 15 28 47.6 -0.7**
KEV pmax pmax
comp=Z,8.0nm,0.7s
DLBC Dease Lake 61.63 37 *e*P **P 15 28 50.8 +1.1**
DLBC *e*PcP **PcP 15 29 29.3 +2.0**
ARCES ARCESS Array B 62.04 338 P **P 15 28 52.3 +0.2**
comp=Z,4.8nm,0.5s,baz=61,slow=8.5,SNR=29
ARCES PcP **PcP 15 29 29.4 +0.8**
comp=Z,2.9nm,0.6s,baz=64,slow=8.2,SNR=4.4
ARCES ARCESS Array B 62.04 338 P **P 15 28 52.3 +0.2**
ARCES 15 29 29.4
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARE0 ARCESS Array S 62.04 338 *e*P **P 15 28 52.0 -0.1**
POHA Pohakuloa 62.20 85 *e*P **P 15 28 55.2 +1.0**
comp=Z,82nm,0.8s
JOF Joensuu 63.40 330 *e*p **P 15 29 00.9 -0.1**
comp=Z,3.8nm,0.5s
JOF Joensuu 63.40 330 *e*P **P 15 29 00.9 -0.1**
JOF pmax pmax
comp=Z,4.0nm,0.5s
IBAF Bafgh 64.02 291 *e*P **P 15 29 05.0 -0.8**
ILAS Lasjerd 64.11 296 *e*P **P 15 29 06.8 +0.3**
IFIR Firoozkooh 64.14 296 *e*P **P 15 29 07.0 +0.3**
OBN Obninsk 64.88 321 ⇓ *e*P **P 15 29 12.3 +1.6**
OBN pmax pmax
comp=Z,40nm,2.5s
VSR Storozhevoye 65.41 317 *e*P **P 15 29 14.0 -0.2**
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.5s
KAF Kangasniemi 65.80 331 *e*p **P 15 29 15.6 -0.8**
comp=N,6.4nm,0.5s
KAF Kangasniemi 65.80 331 *e*P **P 15 29 15.6 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.5s
WBK Wadi Bani Khal 65.94 281 ⇑P **P 15 29 18.4 +0.3**
VLKR Vladikavkaz 66.09 307 ⇓ *e*P **P 15 29 18.3 -0.4**
YKA Yellowknife Ar 66.21 28 P **P 15 29 19.4 +0.4**
comp=Z,10.0nm,0.7s,baz=308,slow=6.5,SNR=76
YKA Yellowknife Ar 66.21 28 P **P 15 29 19.4 +0.4**
YKA pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 66.26 330 P **P 15 29 19.2 -0.1**
comp=Z,9.6nm,0.6s,baz=90,slow=5.3,SNR=88
FINES PcP **PcP 15 29 45.6 -0.6**

comp=Z,4.6nm,0.5s,baz=72,slow=4.5,SNR=4.0
FINES FINESS Array B 66.26 330 P P 15 29 19.3 -0.1
FINES 15 29 45.6
FINES pmax pmax
comp=Z,10.0nm,0.6s
BANOM Banah 66.30 285 ⇑P P 15 29 20.9 +0.6
BANOM Banah 66.30 285 ⇓P P 15 29 20.5 +0.2
SMDO Samad 66.43 282 ⇑P P 15 29 21.7 +0.5
HOQ Hoqain 66.73 283 ⇓P P 15 29 23.1 +0.1
JMDO Jabal Madar 66.75 281 ⇑P P 15 29 23.3 +0.2
SNR=9.4
JMDO ml 15 29 23.7
SNR=4.9
IPAR Pars 66.77 291 eP P 15 29 22.6 -0.9
KIV Kislovodsk 66.91 308 eP P 15 29 24.5 +0.6
KIV e 15 30 47.5
KIV pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 66.91 308 eP P 15 29 24.0 +0.1
comp=Z,8.6nm,0.6s
IPIR Pirpir 66.93 294 eP P 15 29 22.9 -1.5
ISRV Sarvestan 66.95 290 eP P 15 29 23.9 -0.8
HATD Hatta, Dubai 67.00 284 ⇑iP P 15 29 25.3 +0.7
SNR=9.1
HATD Hatta, Dubai 67.00 284 ⇓P P 15 29 24.9 +0.2
SNR=9.1
HATD ml 15 29 25.6
SNR=8.2
ASHO Ashiyiah 67.13 284 ⇓iP P 15 29 25.8 +0.3
SNR=7.7
ASHO Ashiyiah 67.13 284 ⇑P P 15 29 25.8 +0.3
SNR=7.7
ASHO ml 15 29 26.3
SNR=5.8
NEY Neytrino 67.24 308 ⇑eP P 15 29 27.1 +1.1
NEY pmax pmax
comp=Z,4.0nm,1.7s
BSY Bisya 67.26 282 ⇓P P 15 29 26.8 +0.5
SNR=12
BSY ml 15 29 27.2
SNR=3.9
NAZ Nazwa, Dubai 67.27 285 ⇓P P 15 29 26.5 +0.1
ARQ Araqi 67.47 283 ⇓P P 15 29 27.9 +0.3
SNR=6.5
ARQ ml 15 29 29.1
SNR=5.2
IKAZ Kazeroun 67.70 291 eP P 15 29 29.2 -0.1
ASUD Al Ashush, Dub 67.72 285 ⇑iP P 15 29 29.4 +0.3
SNR=6.2
ASUD Al Ashush, Dub 67.72 285 ⇓P P 15 29 29.7 +0.6
KULLO Kullorsuaq 68.26 4 ⇑iP P 15 29 31.7 +0.1
comp=Z,31nm,0.9s
STKA Stephens Creek 68.94 174 P P 15 29 35.8 -0.4
comp=Z,3.8nm,0.9s,baz=336,slow=5.4,SNR=11
STKA Stephens Creek 68.94 174 P P 15 29 35.8 -0.4
STKA pmax pmax
comp=Z,4.0nm,0.9s
NLWA Neilton Lookou 70.33 45 eP P 15 29 46.2 +1.5
comp=Z,45nm,1.1s
SUMG Summit 70.48 358 ⇑iP P 15 29 46.8 +1.2
SUMG pmax pmax
comp=Z,38nm,0.8s
SUMG Summit 70.48 358 eP P 15 29 46.6 +1.0
comp=Z,42nm,0.8s
SUMG Summit 70.48 358 ⇑iP P 15 29 46.8 +1.2
comp=Z,38nm,0.8s
JCW Jim Creek 70.96 44 P P 15 29 49.6 +1.1
AKASG Malin Array Be 71.00 320 P P 15 29 48.2 -0.2
comp=Z,2.4nm,0.5s,baz=51,slow=6.4,SNR=17
AKASG pP pP 15 31 09.4 -0.5
comp=Z,0.4nm,0.3s,baz=130,slow=21,SNR=2.1
AKASG Malin Array Be 71.00 320 P P 15 29 48.3 -0.2
AKASG *PP pP 15 31 09.4 -0.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AK01 Malin Array Si 71.01 320 eP P 15 29 48.5 -0.1
KIEV Kiev 71.01 320 ⇑iP P 15 29 48.4 -0.2
AK02 Malin Array Si 71.03 320 eP P 15 29 48.2 -0.5
RPW Rockport 71.04 43 P P 15 29 49.8 +0.8
F04D Rainier, OR 71.55 46 ⇑P P 15 29 53.3 +1.4
baz=71
NWAO Narrogin (SRO) 71.66 196 P P 15 29 52.6 +0.1
comp=Z,6.5nm,0.8s,baz=353,slow=8.1,SNR=2.0
NWAO Narrogin (SRO) 71.66 196 P P 15 29 52.6 +0.1
NWAO pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 71.79 333 P P 15 29 52.8 -0.2
comp=Z,11nm,0.4s,baz=66,slow=5.0,SNR=78
HFS PcP PcP 15 30 09.0 -0.6
comp=Z,3.4nm,0.4s,baz=104,slow=4.7,SNR=7.8
HFS Hagfors 71.79 333 P P 15 29 52.8 -0.2
HFS 15 30 09.0
HFS pmax pmax
comp=Z,11nm,0.4s
TDL Tradedollar La 71.85 45 P P 15 29 55.0 +1.2
G03D McMinnville, O 71.90 47 ⇑P P 15 29 55.7 +1.8
baz=72
NB2 NORSAR Subarra 72.02 335 P P 15 29 54.3 -0.2
comp=Z,7.4nm,0.6s,baz=42,slow=6.5
NOA NORSAR Array B 72.02 335 P P 15 29 54.2 -0.2
comp=Z,9.6nm,0.7s,baz=42,slow=5.9,SNR=39
NOA NORSAR Array B 72.02 335 P P 15 29 54.2 -0.2
NOA pmax pmax
comp=Z,10.0nm,0.7s
EDM Edmonton 72.34 36 eP P 15 29 56.8 +0.3
EDM Edmonton 72.34 36 eP P 15 29 56.8 +0.3
RBK Rabkut 72.47 279 ⇑P P 15 29 57.1 -0.7
VLL Laurance Lake 72.67 46 P P 15 30 00.1 +1.4
TDH Tom, Dick, Har 72.71 46 P P 15 30 00.2 +1.3
I03D Drain, OR 72.71 48 ⇑P P 15 30 00.7 +1.9
baz=72
OD2 Odessa Site #2 73.19 43 P P 15 30 02.2 +0.7
I04A Tendick Farm, 73.21 48 ⇑P P 15 30 02.9 +1.1
baz=73,SNR=5.0
ABTO Aybut 73.27 279 ⇓P P 15 30 01.8 -0.7
L02D Cave Junction, 73.44 50 ⇑P P 15 30 04.9 +1.8
baz=73
NEW Newport 73.52 42 eP P 15 30 04.0 +0.6
NEW pmax pmax
comp=Z,21nm,1.0s
NEW Newport 73.52 42 ⇑P P 15 30 04.1 +0.7
baz=73,SNR=11
NEW Newport 73.52 42 eP P 15 30 04.0 +0.6
comp=Z,21nm,1.0s
I05D Terrebonne, OR 73.52 47 ⇑P P 15 30 04.7 +1.1
baz=73,SNR=6.0
J04D Umpqua Nationa 73.71 48 ⇓P P 15 30 06.3 +1.4
baz=74,SNR=7.5
ILULI Ilulissat 73.86 2 iP P 15 30 05.5 +0.6
comp=Z,24nm,0.6s
J05D Fort Rock, OR 74.20 47 ⇓P P 15 30 09.1 +1.6
baz=74,SNR=8.1
K04D Chiloquin, OR 74.28 48 ⇓P P 15 30 09.5 +1.5
baz=74
M02C Callahan 74.34 50 ⇓P P 15 30 10.1 +1.8
baz=74,SNR=6.0
N02D Trinity Center 74.68 50 ⇑P P 15 30 11.8 +1.6
baz=74,SNR=5.6
M04C Macdoel 74.73 49 ⇓P P 15 30 11.8 +1.3
baz=75,SNR=9.5
BSD Bornholm Skovb 74.83 329 iP P 15 30 10.5 -0.2
BSD Bornholm Skovb 74.83 329 iP P 15 30 10.5 -0.2
BRTR Keskin Array B 74.87 308 P P 15 30 11.5 +0.1
comp=Z,2.0nm,1.0s,baz=76,slow=5.2,SNR=8.8
BRTR Keskin Array B 74.87 308 P P 15 30 11.5 +0.1
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BUR08 Bucovina Ar. S 74.95 319 eP P 15 30 11.8 +0.1
BSMT Bassoo Peak 75.00 41 P P 15 30 13.4 +1.3
WDC Whiskeytown Da 75.01 50 eP P 15 30 12.9 +0.9
WDC pmax pmax
comp=Z,23nm,1.2s
WDC Whiskeytown Da 75.01 50 eP P 15 30 12.9 +0.9
comp=Z,23nm,1.2s
JTMT Jette 75.33 41 eP P 15 30 14.8 +0.9
comp=Z,42nm,1.1s
BMO Blue Mountains 75.51 44 eP P 15 30 15.8 +0.9
comp=Z,25nm,0.7s
KOLS Kolonicke sedl 75.63 321 eP P 15 30 16.3 +0.9
KOLS Kolonicke sedl 75.63 321 eP P 15 30 16.3 +0.9
SWMT Swartz Lake 75.63 41 eP P 15 30 16.4 +0.8
comp=Z,40nm,1.4s
LLD Lille Linde 75.76 330 iP P 15 30 12.0 -3.9
LLD Lille Linde 75.76 330 iP P 15 30 12.0 -3.9
STHS Stebnicka Huta 75.83 322 eP P 15 30 18.7 +2.2
STHS Stebnicka Huta 75.83 322 eP P 15 30 18.7 +2.2

RAYN Ar Rayn 75.84 289 eP P 15 30 16.4 -0.6
comp=Z,7.5nm,0.9s
SLMT Seeley Lake 76.07 41 eP P 15 30 18.7 +0.6
comp=Z,45nm,0.6s
FCC Fort Churchill 76.08 24 eP P 15 30 17.6 0.0
FCC pmax pmax
comp=Z,32nm,0.7s
FCC Fort Churchill 76.08 24 eP P 15 30 17.6 0.0
comp=Z,32nm,0.7s
SFJD Kangerlussuaq 76.09 2 ⇑iP P 15 30 18.1 +0.5
SFJD pmax pmax
comp=Z,21nm,0.8s
SFJD Kangerlussuaq 76.09 2 eP P 15 30 17.7 +0.1
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 76.09 2 ⇑iP P 15 30 18.1 +0.5
comp=Z,21nm,0.8s
MSO Missoula 76.10 41 ⇓P P 15 30 18.8 +0.6
baz=76,SNR=12
WVOR Wild Horse Val 76.24 47 eP P 15 30 19.8 +0.8
WVOR pmax pmax
comp=Z,6.0nm,0.6s
WVOR Wild Horse Val 76.24 47 eP P 15 30 19.8 +0.8
comp=Z,5.9nm,0.6s
WVOR epP pP 15 31 51.4 +10
FFC Flin Flon 76.27 30 eP P 15 30 18.9 +0.1
FFC e*PP pP 15 31 42.3 +0.9
FFC pmax pmax
comp=Z,31nm,0.6s
FFC Flin Flon 76.27 30 eP P 15 30 18.9 +0.1
comp=Z,31nm,0.6s
FFC epP pP 15 31 42.3 +0.9
CHMT Chamberlain Mo 76.41 41 eP P 15 30 20.0 0.0
comp=Z,4.0nm,0.6s
MFID Camas Ranch 77.24 45 eP P 15 30 25.5 +0.9
comp=Z,33nm,0.9s
HRY Holter Researc 77.28 40 eP P 15 30 25.8 +1.1
comp=Z,58nm,0.8s
A19A Klindworth Far 77.34 37 ⇑P P 15 30 25.8 +0.9
baz=77,SNR=25
MORC Moravsky Berou 77.37 324 eP P 15 30 25.0 -0.1
MORC pmax pmax
comp=Z,7.0nm,1.3s
MORC Moravsky Berou 77.37 324 eP P 15 30 25.0 -0.1
comp=Z,6.5nm,1.3s
EGMT Eagleton 77.46 38 ⇓P P 15 30 26.5 +0.8
baz=77,SNR=30
EGMT Eagleton 77.46 38 eP P 15 30 26.2 +0.6
comp=Z,55nm,0.7s
EGMT ePP PP 15 33 17.4 -8.1
WCN Washoe City 77.49 50 eP P 15 30 27.2 +1.1
WCN pmax pmax
comp=Z,12nm,1.0s
WCN Washoe City 77.49 50 eP P 15 30 27.1 +1.1
comp=Z,12nm,1.0s
PSZ Piszkesteto 77.49 321 P P 15 30 26.8 +1.0
PSZ Piszkesteto 77.49 321 P P 15 30 26.8 +1.0
LRM Limekiln Ridge 77.54 41 eP P 15 30 27.0 +0.7
comp=Z,237nm,0.8s
DPC Dobruska-Polom 77.54 325 eP P 15 30 26.4 +0.4
DPC ex x 15 30 31.4
DPC epP pP 15 31 48.7 -0.2
DPC Dobruska-Polom 77.54 325 eP P 15 30 26.4 +0.4
DPC e 15 30 31.4
DPC e*PP pP 15 31 48.7 -0.2
B19A Brinkman Farms 77.57 38 ⇓P P 15 30 26.8 +0.6
baz=77,SNR=12
VYHS Vyhne 77.63 322 eP P 15 30 27.8 +1.3
VYHS Vyhne 77.63 322 eP P 15 30 27.8 +1.3
A20A Cobblestone Ra 77.77 37 ⇑P P 15 30 28.0 +0.7
baz=78,SNR=8.0
CMB Columbia Colle 77.87 51 eP P 15 30 28.8 +0.8
CMB pmax pmax
comp=Z,24nm,0.6s
CMB Columbia Colle 77.87 51 eP P 15 30 28.8 +0.8
comp=Z,24nm,0.6s
HLID Hailey 77.94 44 ⇓P P 15 30 29.9 +1.4
baz=78,SNR=32
HLID Hailey 77.94 44 eP P 15 30 29.4 +0.9
comp=Z,19nm,0.8s
B20A Solberg Farm, 78.03 37 ⇑P P 15 30 29.1 +0.4
baz=78
BOZ Bozeman (W) 78.09 41 eP P 15 30 30.1 +0.9
BOZ e*PP pP 15 31 54.3 +2.0
BOZ pmax pmax
comp=Z,13nm,0.5s
BOZ Bozeman (W) 78.09 41 eP P 15 30 30.1 +0.9
comp=Z,13nm,0.5s
BOZ epP pP 15 31 54.3 +2.0
A21A Bergtoll Ranch 78.17 36 ⇓P P 15 30 30.3 +0.9
baz=78,SNR=6.7
WAKR Walker 78.17 51 eP P 15 30 31.2 +1.3
comp=Z,20nm,0.7s
BMN Battle Mountai 78.32 48 eP P 15 30 31.2 +0.6
BMN Battle Mountai 78.32 48 eP P 15 30 31.2 +0.6
comp=Z,16nm,0.6s
CLL Collm 78.34 327 ⇑iP P 15 30 30.4 +0.1
comp=Z,9.0nm,0.8s
CLL Collm 78.34 327 ⇑iP P 15 30 30.4 +0.1
CLL pmax pmax
comp=Z,9.0nm,0.8s
D19A Cripps Ranch, 78.48 39 ⇓P P 15 30 32.2 +1.0
baz=78,SNR=5.4
B21A Ellsworth Farm 78.52 37 ⇓P P 15 30 32.1 +0.7
baz=78,SNR=24
C20A Veseth Ranch, 78.53 38 ⇓P P 15 30 32.5 +1.1
baz=78,SNR=18
GOPC GO Pecny, Ondr 78.55 325 eP P 15 30 31.8 +0.3
A22A Carney Farms, 78.65 36 ⇓P P 15 30 32.6 +0.6
baz=78
QLMT Earthquake Lak 78.73 42 eP P 15 30 33.6 +0.8
comp=Z,2.0nm,0.9s
D20A Manuel Ranch, 78.90 38 ⇓P P 15 30 34.6 +1.2
baz=79,SNR=26
C21A Desert Coulee 78.90 37 ⇑P P 15 30 34.2 +0.7
baz=79
NVAR Mina Array Bea 78.92 50 P P 15 30 35.3 +1.3
comp=Z,16nm,0.6s,baz=295,slow=5.3,SNR=66
E19A Rath Farm, Rou 79.00 39 ⇓P P 15 30 35.1 +1.0
baz=79,SNR=6.8
MLAC Mammoth, Mammo 79.09 51 ⇑P P 15 30 36.1 +1.2
baz=79
B22A Reddig Ranch S 79.10 37 ⇓P P 15 30 35.1 +0.7
baz=79,SNR=6.1
E20A Meyer Farm, Mu 79.31 39 ⇑P P 15 30 36.7 +1.1
baz=79,SNR=6.3
F19A Roth Farm, Mol 79.34 40 ⇑P P 15 30 37.0 +1.1
baz=79
B23A Brockton 79.46 36 ⇓P P 15 30 37.2 +0.8
baz=79
H17A Grant Village 79.48 42 ⇓P P 15 30 39.7 +2.9
baz=79,SNR=20
H17A Grant Village 79.48 42 eP P 15 30 39.3 +2.5
comp=Z,62nm,1.0s
D21A La Casta Ranch 79.48 38 ⇑P P 15 30 37.3 +0.7
baz=79,SNR=5.3
C22A Vida 79.54 37 ⇑P P 15 30 37.7 +0.8
baz=79
A24A Westby 79.59 35 ⇓P P 15 30 37.8 +0.7
baz=79,SNR=6.8
KHC Kasperske Hory 79.66 325 eP P 15 30 37.5 0.0
KHC Kasperske Hory 79.66 325 eP P 15 30 37.5 0.0
RLMT Red Lodge 79.67 40 eP P 15 30 38.8 +1.0
comp=Z,20nm,0.6s
H18A Shoshone NF, C 79.77 41 ⇓P P 15 30 39.5 +1.1
baz=80,SNR=21
F20A Billings 79.78 39 ⇓P P 15 30 38.7 +0.4
baz=80
SMMC Simmler 79.80 53 ⇑P P 15 30 39.4 +0.9
baz=80
I17A Pilgrim Ck. 79.80 42 ⇑P P 15 30 40.9 +2.3
baz=80,SNR=22
TPH Tonopah 79.80 50 eP P 15 30 39.8 +1.1
TPH pmax pmax
comp=Z,22nm,0.6s
TPH Tonopah 79.80 50 eP P 15 30 39.8 +1.1
comp=Z,22nm,0.6s
GERES GERESS Array B 79.81 325 P P 15 30 38.4 +0.1
comp=Z,1.4nm,0.5s,baz=40,slow=5.0,SNR=12
GERES GERESS Array B 79.81 325 P P 15 30 38.4 +0.1
GERES pmax pmax
comp=Z,1.0nm,0.5s
D22A Cohagen 79.82 37 ⇓P P 15 30 39.1 +0.8
baz=80,SNR=5.5
DGMT Dagmar 79.82 36 ⇑P P 15 30 38.9 +0.6
baz=80,SNR=5.2
DGMT Dagmar 79.82 36 eP P 15 30 38.7 +0.3
comp=Z,39nm,0.9s

C23A Lambert 79.83 36 ⇑P P 15 30 39.1 +0.7
baz=80,SNR=8.8
A25A Svangstu Ranch 79.98 35 ⇓P P 15 30 40.2 +1.1
baz=80,SNR=14
VES Vestal, Richgr 80.05 53 ⇑P P 15 30 40.2 +0.5
baz=80
H19A Powell 80.13 41 ⇑P P 15 30 41.3 +1.2
baz=80,SNR=7.1
G20A Bridger 80.15 40 ⇓P P 15 30 40.7 +0.4
baz=80,SNR=11
D23A Lindsay 80.27 37 ⇑P P 15 30 41.9 +1.1
baz=80,SNR=9.3
F21A Absaloka Mine, 80.28 39 ⇑P P 15 30 41.3 +0.4
baz=80
AHID Auburn Hatcher 80.29 43 eP P 15 30 41.8 +0.6
comp=Z,17nm,0.9s
C24A Savage 80.39 36 ⇑P P 15 30 41.8 +0.4
baz=80
GRAC Grapevine Rang 80.39 51 ⇓P P 15 30 43.0 +1.5
baz=80,SNR=14
B25A Knox Farm, Ray 80.44 35 ⇓P P 15 30 43.0 +1.3
baz=80,SNR=8.2
A26A Wade Farm, Ken 80.50 34 ⇓P P 15 30 42.5 +0.7
baz=80
SBC Santa Barbara 80.52 54 ⇓P P 15 30 43.6 +1.4
baz=80
ISA Isabella, Lake 80.55 52 eP P 15 30 42.4 -0.1
ISA pmax pmax
comp=Z,7.0nm,0.8s
ISA Isabella, Lake 80.55 52 ⇑P P 15 30 42.6 +0.2
baz=80
ISA Isabella, Lake 80.55 52 eP P 15 30 42.4 -0.1
comp=Z,7.1nm,0.8s
I19A Meeteetse 80.56 41 ⇑P P 15 30 43.5 +1.0
baz=80,SNR=5.7
R11A Troy Canyon, C 80.62 49 ⇓P P 15 30 44.0 +1.1
baz=80,SNR=24
R11A Troy Canyon, C 80.62 49 eP P 15 30 43.4 +0.4
comp=Z,6.1nm,0.5s
G21A Lodge Grass 80.66 39 ⇓P P 15 30 43.5 +0.6
baz=80,SNR=8.4
ARVC Arvin 80.66 53 ⇓P P 15 30 44.0 +1.1
baz=80
E23A Ismay 80.70 37 ⇑P P 15 30 43.9 +0.9
baz=80,SNR=11
DAC Darwin (Calif) 80.71 51 eP P 15 30 43.7 +0.3
comp=Z,8.4nm,0.6s
D24A Glendive 80.73 37 ⇓P P 15 30 44.1 +1.0
baz=80,SNR=16
F22A Rosebud 80.74 38 ⇓P P 15 30 43.7 +0.4
baz=80
H20A Greybull 80.76 40 ⇓P P 15 30 44.1 +0.6
baz=80,SNR=6.4
HWUT Hardware Ranch 80.81 44 eP P 15 30 44.7 +0.9
comp=Z,39nm,1.2s
A27A Ledoux Ranch, 80.81 34 ⇓P P 15 30 44.2 +0.7
baz=81,SNR=8.4
MPMC Manual Prospec 80.92 52 ⇓P P 15 30 45.3 +0.8
baz=81,SNR=17
DUG Dugway, Tooele 81.04 46 ⇓P P 15 30 46.4 +1.3
baz=81,SNR=12
DUG Dugway, Tooele 81.04 46 eP P 15 30 46.2 +1.1
comp=Z,5.5nm,0.5s
FURC Furnace Creek, 81.05 51 ⇓P P 15 30 46.4 +1.5
baz=81
OSI Osito Audit: C 81.05 53 ⇑P P 15 30 46.3 +1.3
baz=81
J19A Crowheart 81.05 42 ⇑P P 15 30 46.2 +1.1
baz=81,SNR=9.7
I20A Worland 81.07 41 ⇓P P 15 30 46.4 +1.3
baz=81,SNR=9.9
TPNV Topopah Spring 81.12 50 ⇑P P 15 30 46.6 +1.0
baz=81,SNR=8.9
G22A Birney 81.12 39 ⇓P P 15 30 45.9 +0.6
baz=81,SNR=7.3
BW06 Boulder Array 81.12 42 eP P 15 30 45.8 +0.2
comp=Z,18nm,0.8s
PDAR Pinedale Array 81.12 42 P P 15 30 46.0 +0.5
comp=Z,633nm,0.3s,baz=344,slow=1.4,SNR=68
E24A Baker 81.14 37 ⇑P P 15 30 45.8 +0.5
baz=81,SNR=5.8
H21A Big Horn, Sher 81.16 40 ⇓P P 15 30 46.2 +0.7
baz=81,SNR=6.6
D25A Fairfield 81.18 36 ⇓P P 15 30 46.1 +0.5
baz=81
F23A Volborg 81.21 38 ⇓P P 15 30 46.4 +0.7
baz=81,SNR=23
C26A Wahner Farm, P 81.26 35 ⇑P P 15 30 46.3 +0.4
baz=81
A28A Rude Farm, Bot 81.28 33 ⇓P P 15 30 46.7 +0.7
baz=81,SNR=15
EDW2 Edwards Air Fo 81.35 53 ⇑P P 15 30 47.7 +1.1
baz=81,SNR=9.2
J20A Shoshoni 81.50 41 ⇑P P 15 30 48.4 +1.0
baz=81,SNR=10
H22A Clearmont 81.53 39 ⇑P P 15 30 48.0 +0.5
baz=81,SNR=8.8
B28A Dugan Ranch, T 81.58 34 ⇓P P 15 30 48.1 +0.6
baz=81,SNR=6.0
G23A Biddle 81.58 38 ⇓P P 15 30 48.7 +1.0
baz=81
F24A Ekalaka 81.59 37 ⇓P P 15 30 48.3 +0.6
baz=81
I21A Big Trails, Te 81.60 40 ⇑P P 15 30 48.5 +0.6
baz=81,SNR=12
C27A Sayler Ranch, 81.61 35 ⇑P P 15 30 48.4 +0.7
baz=81
D26A Manning 81.69 36 ⇑P P 15 30 49.0 +0.9
baz=81
A29A Manning Farm, 81.72 33 ⇑P P 15 30 48.4 +0.2
baz=82
SHOC Shoshone, Teco 81.77 51 ⇑P P 15 30 49.6 +0.8
baz=82
GSC Goldstone, Bar 81.83 52 eP P 15 30 49.9 +0.8
GSC pmax pmax
comp=Z,20nm,1.0s
GSC Goldstone, Bar 81.83 52 ⇓P P 15 30 50.2 +1.0
baz=82,SNR=5.5
GSC Goldstone, Bar 81.83 52 eP P 15 30 49.9 +0.8
comp=Z,20nm,1.0s
J21A Lysite 81.84 41 ⇑P P 15 30 49.9 +0.6
baz=82,SNR=12
I22A 9 Mile Ranch, 81.96 40 ⇓P P 15 30 50.3 +0.6
baz=82,SNR=7.8
BFSC Mount Baldy Ra 81.97 53 ⇓P P 15 30 50.9 +1.0
baz=82
G24A Alzada 81.97 38 ⇓P P 15 30 50.1 +0.4
baz=82
RRX Edison Barstow 81.97 52 ⇑P P 15 30 51.3 +1.5
baz=82
B29A Wagenman Farm, 82.01 33 ⇑P P 15 30 50.4 +0.6
baz=82,SNR=5.7
CIS Catalina Islan 82.01 54 ⇑P P 15 30 51.2 +1.2
baz=82
D27A Center 82.05 35 ⇓P P 15 30 50.8 +0.8
baz=82
SHPR Sheep Range 82.07 50 eP P 15 30 51.6 +1.2
comp=Z,22nm,0.7s
E26A Carlson Angus 82.08 36 ⇑P P 15 30 50.7 +0.5
baz=82,SNR=9.1
ULM Lac du Bonnet 82.10 30 P P 15 30 50.2 +0.1
comp=Z,34nm,0.8s,baz=320,slow=6.3,SNR=35
ULM Lac du Bonnet 82.10 30 P P 15 30 50.2 +0.1
ULM pmax pmax
comp=Z,34nm,0.8s
A30A Hoffart Farm, 82.10 32 ⇑P P 15 30 50.7 +0.5
baz=82,SNR=6.7
C28A Hausauer Farms 82.11 34 ⇓P P 15 30 51.1 +0.8
baz=82
TUQ Turquoise Moun 82.29 51 ⇑P P 15 30 52.6 +1.1
baz=82,SNR=6.7
J22A Midwest 82.30 40 ⇓P P 15 30 51.8 +0.2
baz=82,SNR=14
H24A Dirks Ranch, A 82.33 38 ⇑P P 15 30 51.7 +0.1
baz=82,SNR=15
MDND Maddock 82.36 34 ⇑P P 15 30 52.6 +1.0
baz=82
D28A Regan 82.42 35 ⇓P P 15 30 52.8 +0.9
baz=82
HEC Hector,Ludlow 82.43 52 ⇑P P 15 30 53.5 +1.2
baz=82
F26A Lodgepole 82.44 37 ⇓P P 15 30 52.6 +0.5
baz=82
K21A Alcova 82.44 41 ⇑P P 15 30 52.9 +0.6
baz=82,SNR=24
B30A Myrvik Farm, E 82.46 33 ⇓P P 15 30 52.5 +0.4
baz=82,SNR=6.9
MVU Marysvale 82.52 47 eP P 15 30 54.3 +1.5

comp=Z,16nm,0.8s
E27A **Carson** 82.53 36 ⇓P P 15 30 53.5 +1.0
baz=82,SNR=6.9
G25A **Newell** 82.56 37 ⇓P P 15 30 53.3 +0.6
baz=82
BFO **Black Forest** 82.58 327 *e*P P 15 30 52.3 -0.4
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO **Black Forest** 82.58 327 *e*P P 15 30 52.2 -0.4
comp=Z,5.8nm,0.8s
GIVF **Givet** 82.66 330 *e*P P 15 30 52.6 -0.4
GIVF **Givet** 82.66 330 *e*P P 15 30 52.6 -0.4
GIVF **Givet** 82.66 330 *e*P P 15 30 52.6 -0.4
F27A **Lemmon** 82.73 36 ⇓P P 15 30 54.7 +1.1
baz=82
E28A **Huff** 82.83 35 ⇑P P 15 30 54.5 +0.5
baz=83
G26A **Maurine** 82.88 37 ⇓P P 15 30 55.0 +0.7
baz=83,SNR=5.6
GMRC **Granite Mounta** 82.88 52 ⇓P P 15 30 55.6 +1.0
baz=83,SNR=8.5
I24A **Kuemmerle Ranc** 82.93 39 ⇓P P 15 30 55.1 +0.5
baz=83
BAIF **Baives** 82.94 331 *e*P P 15 30 53.9 -0.5
comp=Z,5.3nm,0.7s
BAIF **Baives** 82.94 331 *e*P P 15 30 53.9 -0.5
BAIF pmax pmax
comp=Z,5.0nm,0.7s
BAIF **Baives** 82.94 331 *e*P P 15 30 53.9 -0.5
comp=Z,5.3nm,0.7s
D29A **Pettibone, Tap** 82.96 34 ⇓P P 15 30 55.4 +0.8
baz=83
CDF **Champ du Feu** 82.97 328 *e*P P 15 30 54.6 -0.1
comp=Z,9.1nm,0.8s
CDF **Champ du Feu** 82.97 328 *e*P P 15 30 54.6 -0.1
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF **Champ du Feu** 82.97 328 *e*P P 15 30 54.6 -0.1
comp=Z,9.1nm,0.8s
RSSD **Black Hills** 83.03 38 *e*P P 15 30 55.5 +0.2
RSSD pmax pmax
comp=Z,17nm,0.6s
RSSD **Black Hills** 83.03 38 *e*P P 15 30 55.5 +0.2
comp=Z,17nm,0.6s
PFO **Pinyon Flats O** 83.14 53 *e*P P 15 30 56.5 +0.6
PFO pmax pmax
comp=Z,29nm,0.9s
PFO **Pinyon Flats O** 83.14 53 ⇑P P 15 30 57.1 +1.2
baz=83
PFO **Pinyon Flats O** 83.14 53 *e*P P 15 30 56.5 +0.6
comp=Z,29nm,0.9s
G27A **Dupree** 83.14 37 ⇑P P 15 30 56.2 +0.6
baz=83,SNR=5.2
N20A **Spence Gulch,** 83.16 43 ⇑P P 15 30 57.1 +1.0
baz=83,SNR=24
BELC **Belle Mtn. Jos** 83.17 52 ⇑P P 15 30 56.8 +0.7
baz=83
K23A **Bowen Ranch, D** 83.21 40 ⇓P P 15 30 56.6 +0.4
baz=83
I25A **Rochford** 83.26 38 ⇓P P 15 30 56.9 +0.5
baz=83
J24A **Dixon Ranch, L** 83.29 39 ⇓P P 15 30 57.0 +0.5
baz=83
H26A **Fairpoint** 83.29 37 ⇑P P 15 30 57.1 +0.7
baz=83,SNR=5.1
D30A **Buchanan** 83.30 34 ⇓P P 15 30 56.6 +0.2
baz=83,SNR=8.0
E29A **Napoleon** 83.31 35 ⇑P P 15 30 56.8 +0.4
baz=83
PAGF **Fort de Pagny** 83.51 329 *e*P P 15 30 57.5 +0.2
comp=Z,5.2nm,0.6s
PAGF **Fort de Pagny** 83.51 329 *e*P P 15 30 57.5 +0.2
comp=Z,5.2nm,0.6s
IRM **Iron Mountain** 83.60 52 ⇓P P 15 30 59.2 +1.0
baz=83,SNR=5.4
HINF **Hinteralfeld** 83.61 328 *e*P P 15 30 57.4 -0.5
comp=Z,4.4nm,0.6s
HINF **Hinteralfeld** 83.61 328 *e*P P 15 30 57.4 -0.5
HINF pmax pmax
comp=Z,4.0nm,0.6s
HINF **Hinteralfeld** 83.61 328 *e*P P 15 30 57.4 -0.5
comp=Z,4.4nm,0.6s
H27A **Howes** 83.62 37 ⇑P P 15 30 58.8 +0.8
baz=83,SNR=22
L23A **Garrett** 83.62 41 ⇑P P 15 30 58.5 +0.1
baz=83,SNR=7.7
AGMN **Agassiz Nation** 83.63 31 ⇓P P 15 30 57.8 -0.1
baz=83
AGMN **Agassiz Nation** 83.63 31 *e*P P 15 30 57.4 -0.5
comp=Z,2.9nm,0.5s
K24A **Anderson Ranch** 83.65 40 ⇓P P 15 30 58.7 +0.3
baz=83
O20A **White River Ci** 83.65 44 ⇓P P 15 30 59.4 +0.8
baz=83
O20A **White River Ci** 83.65 44 *e*P P 15 30 59.1 +0.6
comp=Z,12nm,0.8s
M22A **Cedar Creek Ra** 83.66 42 ⇑P P 15 30 59.2 +0.7
baz=83,SNR=7.0
J25A **Sunshine Ranch** 83.68 39 ⇓P P 15 30 58.8 +0.3
baz=83
I26A **New Underwood** 83.68 38 ⇑P P 15 30 59.2 +0.8
baz=83,SNR=5.3
E30A **Jud** 83.69 34 ⇓P P 15 30 58.8 +0.4
baz=83,SNR=7.2
BC3 **Big Chuckawall** 83.74 52 ⇑P P 15 31 00.4 +1.4
baz=84
W13A **Hualapai Mount** 83.77 50 ⇓P P 15 31 00.3 +1.1
baz=84
F29A **Eureka** 83.78 35 ⇓P P 15 30 59.4 +0.6
baz=84,SNR=7.0
MEZF **Maizieres J'vi** 83.83 329 *e*P P 15 30 59.1 +0.2
MEZF **Maizieres J'vi** 83.83 329 *e*P P 15 30 59.1 +0.2
G28A **Parade** 83.84 36 ⇑P P 15 31 00.0 +0.9
baz=84
U15A **North Rim** 83.86 48 ⇑P P 15 31 01.2 +1.6
baz=84,SNR=20
I27A **Quinn** 84.05 37 ⇓P P 15 31 01.1 +0.9
baz=84,SNR=8.3
SFTF **Sexfontaines** 84.07 329 *e*P P 15 30 59.9 -0.3
comp=Z,15nm,0.7s
SFTF **Sexfontaines** 84.07 329 *e*P P 15 30 59.9 -0.3
comp=Z,15nm,0.7s
M23A **Laramie** 84.07 41 ⇑P P 15 31 01.1 +0.5
baz=84
H28A **Mission Ridge** 84.09 37 ⇑P P 15 31 01.8 +1.4
baz=84
J26A **Sides Ranch, S** 84.10 39 ⇓P P 15 31 01.2 +0.7
baz=84,SNR=14
PDMCI **Parker Dam,Lak** 84.14 51 ⇑P P 15 31 01.7 +0.9
baz=84,SNR=6.9
F30A **Leola** 84.15 35 ⇓P P 15 31 01.4 +0.7
baz=84
N22A **Wattenberg Ran** 84.16 42 ⇓P P 15 31 02.2 +1.1
baz=84,SNR=17
K25A **Mack Ranch, Ha** 84.21 39 ⇓P P 15 31 01.8 +0.7
baz=84
Y12C **Blythe** 84.26 52 ⇓P P 15 31 02.4 +1.0
baz=84,SNR=5.2
N23A **Red Feather La** 84.36 42 ⇓P P 15 31 03.2 +1.1
baz=84,SNR=11
URZ **Urewera** 84.48 148 P P 15 31 02.1 0.0
comp=Z,7.6nm,0.7s,baz=326,slow=0.8,SNR=8.0
L25A **Engebretsen Ra** 84.49 40 ⇓P P 15 31 03.3 +0.7
baz=84
K26A **Motz Farm, Whi** 84.49 39 ⇓P P 15 31 03.1 +0.6
baz=84,SNR=5.6
H29A **Onida** 84.51 36 ⇑P P 15 31 03.2 +0.8
baz=84
I28A **Midland** 84.53 37 ⇑P P 15 31 03.3 +0.7
baz=84,SNR=8.4
M24A **Cheyenne** 84.54 41 ⇑P P 15 31 04.1 +1.2
baz=84,SNR=5.5
O22A **Kremmling** 84.56 43 ⇑P P 15 31 03.9 +0.7
baz=84,SNR=17
G30A **Faulkton** 84.63 35 ⇓P P 15 31 03.4 +0.4
baz=84,SNR=38
J27A **Elkhorn Farm,** 84.67 38 ⇑P P 15 31 04.2 +0.8
baz=84
P22A **Eagle** 84.85 43 ⇑P P 15 31 05.6 +1.1
baz=85,SNR=5.8
O23A **Lake Granby, G** 84.86 42 ⇑P P 15 31 05.9 +1.3
baz=85,SNR=13
J28A **Allard Ranch,** 84.92 37 ⇓P P 15 31 05.3 +0.7
baz=85
I29A **Vivian Onida** 84.92 37 ⇑P P 15 31 05.4 +0.9
baz=85
N24A **Carr** 84.97 41 ⇓P P 15 31 06.1 +1.0
baz=85,SNR=5.1

WUAZ **Wupatki** 85.02 49 ⇑P P 15 31 06.8 +1.4
baz=85
L26A **Underwood Farm** 85.03 39 ⇓P P 15 31 06.3 +1.1
baz=85
Y14A **Wickenburg** 85.09 51 ⇓P P 15 31 06.6 +1.1
baz=85
BRSD **Miller** 85.24 36 ⇑P P 15 31 06.9 +0.9
baz=85
BRSD **Miller** 85.24 36 *e*P P 15 31 06.2 +0.1
comp=Z,38nm,0.7s
LOR **Lormes** 85.30 329 *e*P P 15 31 05.6 -0.7
comp=Z,6.2nm,0.7s
LOR **Lormes** 85.30 329 *e*P P 15 31 05.6 -0.7
LOR pmax pmax
comp=Z,6.0nm,0.7s
LOR **Lormes** 85.30 329 *e*P P 15 31 05.6 -0.7
comp=Z,6.2nm,0.7s
ISCO **Idaho Springs** 85.32 42 *e*P P 15 31 07.8 +0.9
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 85.32 42 ⇑P P 15 31 08.0 +1.1
baz=85,SNR=6.7
ISCO **Idaho Springs** 85.32 42 *e*P P 15 31 07.8 +0.9
comp=Z,3.7nm,0.8s
J29A **Okreek** 85.38 37 ⇓P P 15 31 07.5 +0.7
baz=85
O24A **Longmont** 85.38 42 ⇑P P 15 31 08.0 +1.0
baz=85
113A **Mohawk Valley,** 85.39 52 ⇓P P 15 31 08.5 +1.6
baz=85
N25A **Grover** 85.40 41 ⇑P P 15 31 08.0 +0.9
baz=85
M26A **McRoberts Ranc** 85.42 40 ⇑P P 15 31 07.8 +0.7
baz=85
I30A **Oacoma** 85.42 36 ⇓P P 15 31 07.6 +0.6
baz=85
LPL **La Plagne** 85.45 326 *e*P P 15 31 07.2 -0.1
comp=Z,6.2nm,0.7s
LPL **La Plagne** 85.45 326 *e*P P 15 31 07.2 -0.1
LPL pmax pmax
comp=Z,6.0nm,0.7s
LPL **La Plagne** 85.45 326 *e*P P 15 31 07.2 -0.1
comp=Z,6.2nm,0.7s
LPG **La Plagne** 85.46 326 *e*P P 15 31 07.3 -0.1
comp=Z,7.8nm,0.7s
LPG **La Plagne** 85.46 326 *e*P P 15 31 07.3 -0.1
LPG pmax pmax
comp=Z,8.0nm,0.7s
LPG **La Plagne** 85.46 326 *e*P P 15 31 07.3 -0.1
comp=Z,7.8nm,0.7s
P23A **Jefferson** 85.50 43 ⇓P P 15 31 09.2 +1.4
baz=85,SNR=6.0
MVCO **Mesa Verde** 85.54 46 ⇓P P 15 31 09.2 +1.2
baz=85,SNR=9.3
MVCO **Mesa Verde** 85.54 46 *e*P P 15 31 08.6 +0.6
comp=Z,38nm,1.4s
SSF **Saint Saulge** 85.61 329 *e*P P 15 31 07.3 -0.5
comp=Z,4.5nm,0.7s
SSF **Saint Saulge** 85.61 329 *e*P P 15 31 07.3 -0.5
SSF pmax pmax
comp=Z,5.0nm,0.7s
SSF **Saint Saulge** 85.61 329 *e*P P 15 31 07.3 -0.5
comp=Z,4.5nm,0.7s
EYMN **Ely** 85.67 29 *e*P P 15 31 08.2 +0.1
comp=Z,19nm,0.6s
FLN **La Foliniere** 85.78 332 *e*P P 15 31 07.9 -0.7
comp=Z,12nm,0.4s
FLN **La Foliniere** 85.78 332 *e*P P 15 31 07.9 -0.7
FLN pmax pmax
comp=Z,12nm,0.4s
FLN **La Foliniere** 85.78 332 *e*P P 15 31 07.9 -0.7
comp=Z,12nm,0.4s
LDF **La Druitiere** 85.79 332 *e*P P 15 31 07.6 -1.0
comp=Z,14nm,0.5s
LDF **La Druitiere** 85.79 332 *e*P P 15 31 07.6 -1.0
LDF pmax pmax
comp=Z,14nm,0.5s
LDF **La Druitiere** 85.79 332 *e*P P 15 31 07.6 -1.0
comp=Z,14nm,0.5s
SMF **Signal de Mont** 85.80 329 *e*P P 15 31 08.1 -0.6
SMF **Signal de Mont** 85.80 329 *e*P P 15 31 08.1 -0.6
SMF **Signal de Mont** 85.80 329 *e*P P 15 31 08.1 -0.6
J30A **Dallas** 85.83 37 ⇑P P 15 31 09.7 +0.7
baz=86
Q23A **Hartsel** 85.84 43 ⇑P P 15 31 10.4 +0.9
baz=86
K29A **Lazy Trails An** 85.86 37 ⇑P P 15 31 10.2 +1.0
baz=86
AVF **Avril sur Loir** 85.89 329 *e*P P 15 31 08.0 -1.1
comp=Z,2.8nm,0.4s
AVF **Avril sur Loir** 85.89 329 *e*P P 15 31 08.0 -1.1
AVF pmax pmax
comp=Z,3.0nm,0.4s
AVF **Avril sur Loir** 85.89 329 *e*P P 15 31 08.0 -1.1
comp=Z,2.8nm,0.4s
O25A **Wiggins** 85.89 41 ⇓P P 15 31 10.3 +0.8
baz=86
MBDF **Montbardon** 86.05 326 *e*P P 15 31 09.2 -0.9
comp=Z,5.0nm,0.5s
MBDF **Montbardon** 86.05 326 *e*P P 15 31 09.2 -0.9
MBDF pmax pmax
comp=Z,5.0nm,0.5s
MBDF **Montbardon** 86.05 326 *e*P P 15 31 09.2 -0.9
comp=Z,5.0nm,0.5s
S22A **4UR Ranch, Cre** 86.11 44 ⇓P P 15 31 12.2 +1.4
baz=86,SNR=7.4
Q24A **Divide** 86.17 43 ⇓P P 15 31 11.5 +0.4
baz=86
N27A **Anderson Farm,** 86.21 40 ⇑P P 15 31 11.5 +0.6
baz=86
O26A **Horse Wrangler** 86.22 41 ⇓P P 15 31 11.8 +0.7
baz=86
GRR **Gorron** 86.23 332 *e*P P 15 31 10.3 -0.4
comp=Z,12nm,0.5s
GRR **Gorron** 86.23 332 *e*P P 15 31 10.3 -0.4
GRR pmax pmax
comp=Z,12nm,0.5s
GRR **Gorron** 86.23 332 *e*P P 15 31 10.3 -0.4
comp=Z,12nm,0.5s
K30A **Basset** 86.27 37 ⇑P P 15 31 12.1 +0.9
baz=86,SNR=6.0
ORIF **Oris-en-Rattie** 86.29 326 *e*P P 15 31 11.3 0.0
comp=Z,2.9nm,0.4s
ORIF **Oris-en-Rattie** 86.29 326 *e*P P 15 31 11.3 0.0
ORIF pmax pmax
comp=Z,3.0nm,0.4s
ORIF **Oris-en-Rattie** 86.29 326 *e*P P 15 31 11.3 0.0
comp=Z,2.9nm,0.4s
P25A **Willow Gulch B** 86.30 42 ⇑P P 15 31 12.3 +0.8
baz=86
R23A **Moffat** 86.36 44 ⇓P P 15 31 13.4 +1.4
baz=86,SNR=6.0
OGNE **Ogallala** 86.36 40 ⇑P P 15 31 12.0 +0.4
baz=86
SBF **Sospel** 86.42 325 *e*P P 15 31 10.8 -1.0
comp=Z,11nm,0.7s
SBF **Sospel** 86.42 325 *e*P P 15 31 10.8 -1.0
SBF pmax pmax
comp=Z,11nm,0.7s
SBF **Sospel** 86.42 325 *e*P P 15 31 10.8 -1.0
comp=Z,11nm,0.7s
SCHQ **Schefferville** 86.48 12 P P 15 31 12.1 +0.2
comp=Z,15nm,0.6s,baz=1.2,slow=5.9,SNR=17
O27A **Beecher Island** 86.69 40 ⇓P P 15 31 13.0 -0.3
baz=86
Q25A **Bedland, Calha** 86.69 42 ⇑P P 15 31 13.8 +0.4
baz=86
P26A **Davis Ranch, A** 86.70 41 ⇓P P 15 31 13.7 +0.3
baz=86
R24A **Sanders Place,** 86.72 43 ⇓P P 15 31 14.5 +1.0
baz=86,SNR=14
TCF **Toulx Ste Croi** 86.76 329 *e*P P 15 31 13.0 -0.4
comp=Z,3.5nm,0.4s
TCF **Toulx Ste Croi** 86.76 329 *e*P P 15 31 13.0 -0.4
TCF pmax pmax
comp=Z,4.0nm,0.4s
TCF **Toulx Ste Croi** 86.76 329 *e*P P 15 31 13.0 -0.4
comp=Z,3.5nm,0.4s
L30A **Spencer Herefo** 86.77 38 ⇓P P 15 31 13.9 +0.4
baz=86
N28A **Pribbeno Ranch** 86.81 39 ⇑P P 15 31 14.3 +0.5
baz=87
SDCO **Great Sand Dun** 86.85 44 ⇑P P 15 31 15.5 +1.2
baz=87,SNR=9.0
ECSD **EROS Data Cent** 86.86 35 ⇑P P 15 31 14.5 +0.6
baz=87,SNR=9.0
ECSD **EROS Data Cent** 86.86 35 *e*P P 15 31 14.1 +0.2
comp=Z,8.3nm,0.8s

VIVF **Saint-Julien-l** 86.87 327 *e*P P 15 31 12.6 -1.3
comp=Z,7.4nm,0.7s
VIVF **Saint-Julien-l** 86.87 327 *e*P P 15 31 12.6 -1.3
VIVF pmax pmax
comp=Z,7.0nm,0.6s
VIVF **Saint-Julien-l** 86.87 327 *e*P P 15 31 12.6 -1.3
comp=Z,7.4nm,0.6s
SGMF **Saint Gilles** 86.97 333 *e*P P 15 31 14.1 -0.1
comp=Z,6.7nm,0.5s
SGMF **Saint Gilles** 86.97 333 *e*P P 15 31 14.1 -0.1
SGMF pmax pmax
comp=Z,7.0nm,0.5s
SGMF **Saint Gilles** 86.97 333 *e*P P 15 31 14.1 -0.1
comp=Z,6.7nm,0.5s
FRF **La Foret Royal** 87.01 325 *e*P P 15 31 13.7 -0.9
FRF **La Foret Royal** 87.01 325 *e*P P 15 31 13.7 -0.9
FRF **La Foret Royal** 87.01 325 *e*P P 15 31 13.7 -0.9
L31A **Butterfield Fa** 87.02 37 ⇑P P 15 31 15.5 +0.8
baz=87,SNR=7.5
Q26A **Hugo** 87.08 42 ⇑P P 15 31 15.9 +0.7
baz=87
O28A **Krutsinger Ran** 87.10 40 ⇓P P 15 31 16.1 +0.9
baz=87
ROSF **Rostrenen** 87.15 334 *e*P P 15 31 15.1 0.0
comp=Z,22nm,0.8s
ROSF **Rostrenen** 87.15 334 *e*P P 15 31 15.1 0.0
ROSF pmax pmax
comp=Z,22nm,0.8s
ROSF **Rostrenen** 87.15 334 *e*P P 15 31 15.1 0.0
comp=Z,22nm,0.8s
N29A **Votaw Ranch, W** 87.17 39 ⇓P P 15 31 16.2 +0.7
baz=87
SMRF **Simiane la Rot** 87.17 326 *e*P P 15 31 15.0 -0.4
SMRF **Simiane la Rot** 87.17 326 *e*P P 15 31 15.0 -0.4
LMR **La Mourre** 87.25 325 *e*P P 15 31 15.0 -0.7
comp=Z,7.1nm,0.6s
LMR **La Mourre** 87.25 325 *e*P P 15 31 15.0 -0.7
LMR pmax pmax
comp=Z,7.0nm,0.6s
LMR **La Mourre** 87.25 325 *e*P P 15 31 15.0 -0.7
comp=Z,7.1nm,0.6s
SPMN **Marine on St.** 87.34 32 ⇑P P 15 31 16.8 +0.7
baz=87
MFF **Saint Martin d** 87.44 331 *e*P P 15 31 16.3 -0.2
MFF **Saint Martin d** 87.44 331 *e*P P 15 31 16.3 -0.2
MFF **Saint Martin d** 87.44 331 *e*P P 15 31 16.3 -0.2
QUIF **Quistinic** 87.47 333 *e*P P 15 31 15.7 -0.9
QUIF **Quistinic** 87.47 333 *e*P P 15 31 15.7 -0.9
QUIF **Quistinic** 87.47 333 *e*P P 15 31 15.7 -0.9
P28A **Saint Francis** 87.52 40 ⇑P P 15 31 17.7 +0.5
baz=87
R26A **Arlington** 87.57 42 ⇑P P 15 31 17.9 +0.4
baz=87,SNR=17
RJF **Les Rejaudoux** 87.84 329 *e*P P 15 31 18.3 -0.2
comp=Z,5.5nm,0.5s
RJF **Les Rejaudoux** 87.84 329 *e*P P 15 31 18.3 -0.2
RJF pmax pmax
comp=Z,6.0nm,0.5s
RJF **Les Rejaudoux** 87.84 329 *e*P P 15 31 18.3 -0.2
comp=Z,5.5nm,0.5s
Q28A **Sharon Springs** 87.86 41 ⇑P P 15 31 19.2 +0.3
baz=88
T25A **Trinidad** 87.89 44 ⇑P P 15 31 20.0 +0.9
baz=88,SNR=6.2
CAF **Calviac** 87.92 329 *e*P P 15 31 17.7 -1.2
CAF **Calviac** 87.92 329 *e*P P 15 31 17.7 -1.2
CAF **Calviac** 87.92 329 *e*P P 15 31 17.7 -1.2
P29A **Atwood** 87.93 40 ⇑P P 15 31 19.6 +0.5
baz=88
R27A **Eads** 87.93 42 ⇑P P 15 31 19.7 +0.6
baz=88,SNR=6.3
O30A **MW Ranch, Wils** 87.94 39 ⇑P P 15 31 19.3 +0.2
baz=88
BGNE **Belgrade** 87.94 37 ⇓P P 15 31 19.5 +0.5
baz=88
S26A **Kim** 88.05 43 ⇓P P 15 31 20.4 +0.6
baz=88
ANMO **Albuquerque** 88.31 46 *d i*P P 15 31 22.2 +1.1
ANMO pmax pmax
comp=Z,36nm,1.2s
T26A **Comanche Natio** 88.31 43 ⇓P P 15 31 21.6 +0.5
baz=88
P30A **Selden** 88.32 39 ⇑P P 15 31 21.6 +0.7
baz=88
O31A **Woolen Ranch,** 88.32 39 ⇑P P 15 31 21.4 +0.5
baz=88
R28A **Tribune** 88.41 41 ⇑P P 15 31 22.0 +0.6
baz=88
Q29A **Oakley** 88.43 40 ⇑P P 15 31 22.0 +0.5
baz=88
LFF **La Frestale** 88.46 329 *e*P P 15 31 21.6 +0.3
comp=Z,10nm,0.4s
LFF **La Frestale** 88.46 329 *e*P P 15 31 21.6 +0.3
LFF pmax pmax
comp=Z,10.0nm,0.4s
LFF **La Frestale** 88.46 329 *e*P P 15 31 21.6 +0.3
comp=Z,10nm,0.4s
R29A **Marienthal** 88.70 41 ⇑P P 15 31 23.6 +0.9
baz=88
P31A **Stockton** 88.78 39 ⇓P P 15 31 23.4 +0.4
baz=88,SNR=12
T27A **Campo** 88.87 43 ⇑P P 15 31 24.1 +0.5
baz=89
S28A **Manter** 88.92 42 ⇓P P 15 31 24.4 +0.6
baz=89
P32A **Huiting Farm,** 89.09 38 ⇓P P 15 31 24.5 +0.1
baz=89,SNR=6.3
319A **Douglas** 89.13 50 ⇓P P 15 31 25.9 +1.0
baz=89
MTLF **Montolieu** 89.14 328 *e*P P 15 31 24.0 -0.6
MTLF **Montolieu** 89.14 328 *e*P P 15 31 24.0 -0.6
MTLF **Montolieu** 89.14 328 *e*P P 15 31 24.0 -0.6
121A **Cookes Peak, D** 89.23 49 ⇑P P 15 31 26.6 +1.1
baz=89
R30A **Dighton** 89.25 40 ⇓P P 15 31 26.0 +0.8
baz=89
T29A **Hugoton** 89.56 42 ⇑P P 15 31 27.5 +0.8
baz=89
Q32A **Meitler Ranch,** 89.59 39 ⇓P P 15 31 27.2 +0.4
baz=89
R31A **Burdett** 89.63 40 ⇓P P 15 31 27.3 +0.3
baz=89
S30A **Montezuma** 89.64 41 ⇑P P 15 31 27.6 +0.5
baz=89,SNR=5.0
U28A **Mallet** 89.64 43 ⇓P P 15 31 27.6 +0.4
baz=89
V27A **Dan Oppiter Fa** 89.77 44 ⇓P P 15 31 28.3 +0.5
baz=90
Q33A **Connelly Farm,** 89.95 38 ⇓P P 15 31 28.7 +0.2
baz=90,SNR=5.7
S31A **Mullinville** 90.16 40 ⇑P P 15 31 30.1 +0.6
baz=90
EPF **Esparros** 90.19 329 *e*P P 15 31 29.0 -0.5
EPF **Esparros** 90.19 329 *e*P P 15 31 29.0 -0.5
EPF **Esparros** 90.19 329 *e*P P 15 31 29.0 -0.5
V29A **Stinnett** 90.40 43 ⇑P P 15 31 31.3 +0.6
baz=90
T31A **Randall Ranch,** 90.46 41 ⇓P P 15 31 31.8 +0.9
baz=90
ETSF **Etsaut** 90.67 329 *e*P P 15 31 32.3 +0.5
comp=Z,11nm,0.6s
ETSF **Etsaut** 90.67 329 *e*P P 15 31 32.3 +0.5
ETSF pmax pmax
comp=Z,11nm,0.6s
ETSF **Etsaut** 90.67 329 *e*P P 15 31 32.3 +0.5
comp=Z,11nm,0.6s
SJPF **Ste Jean** 90.76 330 *e*P P 15 31 32.0 -0.1
SJPF **Ste Jean** 90.76 330 *e*P P 15 31 32.0 -0.1
SJPF **Ste Jean** 90.76 330 *e*P P 15 31 32.0 -0.1
T32A **Huddler Ranch,** 90.79 40 ⇓P P 15 31 33.1 +0.8
baz=91
S33A **Kaszmaul Farm,** 90.94 39 ⇑P P 15 31 34.1 +1.0
baz=91
AMTX **Amarillo** 91.05 43 ⇓P P 15 31 34.7 +1.0
baz=91
MSTX **Muleshoe** 91.11 45 ⇓P P 15 31 34.8 +0.8
baz=91
MNTX **Cornudas Mount** 91.25 48 ⇓P P 15 31 35.4 +0.8
baz=91
MNTX **Cornudas Mount** 91.25 48 *e*P P 15 31 34.6 0.0
comp=Z,7.2nm,1.2s
X29A **Tulia** 91.36 44 ⇑P P 15 31 35.9 +0.8
baz=91
V31A **Spring Creek L** 91.37 42 ⇑P P 15 31 36.4 +1.3
baz=91
R36A **Gordon, Harris** 91.61 37 ⇓P P 15 31 37.0 +0.8
baz=91

S35A	**Otter Creek Ra**	**91.72**	**38**	⇑P		**P**	**15 31 37.5 +0.9**
	baz=92						
W31A	**Holland Ranch,**	**91.76**	**42**	⇓P		**P**	**15 31 37.8 +0.9**
	baz=92						
U33A	**Lingo Farm, Me**	**91.78**	**40**	⇓P		**P**	**15 31 37.9 +1.0**
	baz=92						
S36A	**Lake Cedric, C**	**92.04**	**38**	⇑P		**P**	**15 31 38.8 +0.7**
	baz=92						
U34A	**Anderson Ranch**	**92.07**	**40**	⇓P		**P**	**15 31 39.2 +0.9**
	baz=92						
V33A	**Lossen Ranch,**	**92.16**	**41**	⇑P		**P**	**15 31 39.2 +0.5**
	baz=92						
X31A	**McDonald Ranch**	**92.16**	**43**	⇓P		**P**	**15 31 39.6 +0.8**
	baz=92						
W32A	**Sentinel**	**92.18**	**42**	⇑P		**P**	**15 31 39.2 +0.4**
	baz=92						
Z29A	**Hungry Hill Ra**	**92.24**	**45**	⇑P		**P**	**15 31 40.0 +0.8**
	baz=92,SNR=7.8						
128A	**Castleberry Fa**	**92.27**	**45**	⇓P		**P**	**15 31 40.2 +0.8**
	baz=92						
Z30A	**Sanderson Ranc**	**92.54**	**44**	⇑P		**P**	**15 31 41.0 +0.4**
	baz=92						
V34A	**Guthrie**	**92.54**	**40**	⇓P		**P**	**15 31 41.8 +1.4**
	baz=92						
W33A	**Caddo, Fort Co**	**92.57**	**41**	⇑P		**P**	**15 31 42.0 +1.4**
	baz=92						
228A	**UT Block 9, Go**	**92.58**	**46**	⇓P		**P**	**15 31 41.4 +0.6**
	baz=92						
X32A	**Elmer**	**92.69**	**42**	⇑P		**P**	**15 31 42.1 +0.9**
	baz=92						
W34A	**Bridge Creek,**	**92.87**	**41**	⇑P		**P**	**15 31 43.0 +1.0**
	baz=93						
Z31A	**Sharp Cattle R**	**93.06**	**44**	⇑P		**P**	**15 31 43.2 +0.3**
	baz=93						
Y33A	**Hilltop Ranch,**	**93.36**	**42**	⇓P		**P**	**15 31 44.8 +0.5**
	baz=93						
TUL1	**Leonard**	**93.36**	**39**	⇓P		**P**	**15 31 44.8 +0.6**
	baz=93						
329A	**Wagon Wheel Ra**	**93.39**	**46**	⇓P		**P**	**15 31 45.1 +0.6**
	baz=93						
W35A	**Tecumseh**	**93.40**	**40**	⇓P		**P**	**15 31 45.0 +0.6**
	baz=93						
Z32A	**Haskell**	**93.43**	**43**	⇓P		**P**	**15 31 45.0 +0.4**
	baz=93						
230A	**Sterling City**	**93.59**	**45**	⇓P		**P**	**15 31 45.8 +0.4**
	baz=93						
SFIN	**Lafayette**	**93.71**	**31**	⇑P		**P**	**15 31 46.2 +0.5**
	baz=93						
W36A	**Wetumka**	**93.75**	**40**	⇑P		**P**	**15 31 46.3 +0.4**
	baz=94						
330A	**Mertzon**	**93.91**	**45**	⇑P		**P**	**15 31 47.2 +0.3**
	baz=94						
TXAR	**Lajitas Array**	**93.98**	**48**	P		**P**	**15 31 48.2 +0.9**
	comp=Z,9.6nm,0.7s,baz=290,slow=3.4,SNR=138						
TXAR				PP		**PP**	**15 35 36.1 -2.2**
	comp=Z,0.5nm,0.8s,baz=302,slow=7.2,SNR=4.1						
TXAR	**Lajitas Array**	**93.98**	**48**	P		**P**	**15 31 48.2 +0.9**
TXAR							15 35 36.1
TXAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
231A	**Bronte**	**94.00**	**45**	⇑P		**P**	**15 31 47.7 +0.4**
	baz=94						
X36A	**Centrahoma**	**94.12**	**40**	⇑P		**P**	**15 31 48.5 +0.7**
	baz=94						
529A	**Stev Forest Ra**	**94.26**	**47**	⇓P		**P**	**15 31 49.0 +0.5**
	baz=94						
430A	**Baggett Ranch,**	**94.34**	**46**	⇑P		**P**	**15 31 49.3 +0.4**
	baz=94						
331A	**San Angelo**	**94.41**	**45**	⇑P		**P**	**15 31 49.2 +0.1**
	baz=94						
232A	**Coleman**	**94.41**	**44**	⇑P		**P**	**15 31 49.4 +0.3**
	baz=94						
W38A	**Poteau**	**94.67**	**39**	⇓P		**P**	**15 31 50.8 +0.7**
	baz=94						
332A	**Millersview**	**94.74**	**45**	⇓P		**P**	**15 31 51.4 +0.8**
	baz=94						
530A	**J-C Ranch, Com**	**94.75**	**46**	⇓P		**P**	**15 31 52.2 +1.5**
	baz=95						
431A	**Sonora**	**94.78**	**46**	⇓P		**P**	**15 31 51.9 +1.0**
	baz=95						
432A	**Menard**	**95.09**	**45**	⇓P		**P**	**15 31 52.9 +0.6**
	baz=95						
531A	**Rocksprings**	**95.20**	**46**	⇓P		**P**	**15 31 53.3 +0.6**
	baz=95						
333A	**Richland Sprin**	**95.21**	**44**	⇑P		**P**	**15 31 53.6 +0.9**
	baz=95						
JCT	**Junction City**	**95.39**	**45**	*e*P		**P**	**15 31 52.9 -0.7**
JCT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
JCT	**Junction City**	**95.39**	**45**	⇓P		**P**	**15 31 54.3 +0.7**
	baz=95						
JCT	**Junction City**	**95.39**	**45**	*e*P		**P**	**15 31 52.9 -0.7**
	comp=Z,4.5nm,0.6s						
MIAR	**Mount Ida**	**95.55**	**38**	*e*P		**P**	**15 31 53.9 -0.3**
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MIAR	**Mount Ida**	**95.55**	**38**	*e*P		**P**	**15 31 53.9 -0.3**
	comp=Z,9.9nm,0.9s						
532A	**Rocksprings**	**95.59**	**45**	⇑P		**P**	**15 31 55.0 +0.4**
	baz=95						
334A	**Lometa**	**95.61**	**44**	⇓P		**P**	**15 31 54.8 +0.3**
	baz=95						
631A	**Perdido Creek**	**95.74**	**46**	⇓P		**P**	**15 31 56.2 +1.0**
	baz=96						
633A	**Saathoff Ranch**	**96.51**	**45**	⇑P		**P**	**15 31 59.3 +0.7**
	baz=96						
TORD	**Torodi Ar. Bea**	**113.47**	**309**	PKiKP		**PKiKP**	**15 37 04.6 -0.7**
	comp=Z,0.5nm,0.4s,baz=3.0,slow=2.6,SNR=12						
TORD				PKKPbc		**PKKPbc**	**15 47 50.9 +1.7**
	comp=Z,0.6nm,0.5s,baz=224,slow=2.6,SNR=5.7						
MAW	**Mawson**	**117.49**	**204**	PKP		**PKPdf**	**15 37 11.9 +0.6**
	comp=Z,1.6nm,0.6s,baz=39,slow=4.3,SNR=2.4						
MAW	**Mawson**	**117.49**	**204**	PKIKP		**PKPdf**	**15 37 11.9 +0.6**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC	**Dimbokro**	**122.53**	**311**	PKP		**PKPdf**	**15 37 22.2 -0.6**
	comp=Z,3.0nm,0.4s,baz=56,slow=2.3,SNR=7.0						
DBIC	**Dimbokro**	**122.53**	**311**	PKIKP		**PKPdf**	**15 37 22.2 -0.6**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LIC	**Lamto**	**122.98**	**310**	*e*P		**PKPdf**	**15 37 21.7 -2.0**
	comp=Z,5.8nm,0.5s						
LIC	**Lamto**	**122.98**	**310**	*e*P		**PKPdf**	**15 37 21.7 -2.0**
QSPA	**South Pole Qui**	**126.89**	**180**	PKP		**PKPdf**	**15 37 30.0 +0.5**
	comp=Z,4.3nm,0.8s,baz=218,slow=0.3,SNR=16						
SDV	**Santo Domingo**	**128.28**	**33**	*e*PKPdf		**PKPdf**	**15 37 33.8 -0.2**
ATAH	**Atahualpa**	**137.39**	**54**	PKP		**PKPdf**	**15 37 51.9 +0.5**
	comp=Z,4.5nm,0.6s,baz=292,slow=3.2,SNR=3.6						
SNAA	**Sanae**	**139.28**	**199**	PKP		**PKPdf**	**15 37 51.6 -1.1**
	comp=Z,0.5nm,0.5s,baz=192,slow=7.7,SNR=6.3						
SNAA	**Sanae**	**139.28**	**199**	PKIKP		**PKPdf**	**15 37 51.6 -1.1**
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNA2	**Neumayer--Watz**	**140.90**	**199**	P		**SKPbc**	**15 40 57.6 +1.0**
	baz=99,slow=1.9						
VNA3	**Neumayer Olymp**	**141.25**	**197**	P		**SKPbc**	**15 40 58.0 +0.5**
VNA1	**Neumayer--Stat**	**141.30**	**199**	P		**SKPbc**	**15 40 58.9 +1.3**
NNA	**Nana**	**142.00**	**57**	PKhKP		PKPpre	15 37 55.9
	comp=Z,5.3nm,0.4s,baz=267,slow=4.7,SNR=4.0						
NNA	**Nana**	**142.00**	**57**	*i* PKIKP		PKPpre	15 37 55.9
NNA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SAML	**Samuel**	**147.44**	**35**	*e*PKPdf		**PKPdf**	**15 38 08.7 +0.2**
SAML				*e*PKPbc		**PKPbc**	**15 38 11.6 -0.1**
SAML				*ep*PKPdf		**pPKPdf**	**15 39 42.2 +2.9**
LVC	**Limon Verde**	**154.78**	**62**	PKPab		**PKPab**	**15 38 46.7 +1.2**
	comp=Z,54nm,0.6s,baz=299,slow=3.7,SNR=19						
BDFB	**Brasilia**	**158.41**	**8**	PKPab		**PKPab**	**15 39 01.7 +0.7**
	comp=Z,1.9nm,0.5s,baz=25,slow=4.2,SNR=4.0						
BDFB	**Brasilia**	**158.41**	**8**	PKP2		**PKPab**	**15 39 01.7 +0.7**
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PLCA	**Paso Flores**	**159.80**	**108**	PKPab		**PKPab**	**15 39 07.4 +0.7**
	comp=Z,4.5nm,0.9s,baz=241,slow=4.9,SNR=7.0						
PLCA	**Paso Flores**	**159.80**	**108**	PKP2		**PKPab**	**15 39 07.4 +0.7**
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CFAA	**Coronel Fontan**	**160.03**	**81**	PKPab		**PKPab**	**15 39 08.9 +1.0**
	comp=Z,1.4nm,0.8s,baz=259,slow=4.2,SNR=17						
CPUP	**Villa Florida**	**164.96**	**48**	PKPab		**PKPab**	**15 39 29.4 0.0**
	comp=Z,0.3nm,0.5s,baz=314,slow=5.2,SNR=4.1						

*ISCJB **29** 15:58:56.9±0.2, 7°.17S±0°.03×129°.25E±0°.04, h150km, mb4.2/31, Error ellipse: s-maj=5.4km s-min=3.4km*

az=155.3
*NEIC **29** 15:58:59.8±0.7, 7°.20S×129°.18E, h163km±6km, mb4.4/23, Error ellipse: s-maj=7.6km s-min=5.2km az=67.0*
*KLM **29** 15:59:00.7, 7°.43S×129°.12E, h158km, mb4.7, MS5.8*
*DJA **29** 15:59:01.8±0.6, 7°.5S×.12°.9E, h139km±15km, M4.7/13, mb4.8/10, mB5.1/8, MLv4.9/5, MLv4.9/13, Mw(mB)4.4/8*
*IDC **29** 15:59:01.4±2.2, 7°.19S×129°.13E, h175km±19km, mb3.8/11, mb1 4.0/12, mb1mx3.8/24, mbtmp4.2/12, Error ellipse: s-maj=21.6km s-min=10.7km az=69.0*

ISC 29 15:58:58.2±0.3, 7°.26S±0°.03×129°.28E±0°.04, h150km, n127, σ1°.76/125, mb4.1/31, 4C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.79**	**13**	P		P	Pn	15 59 47.0	+4.0
AAI	**Ambon**	**3.71**	**343**	P		P	Pn	15 59 58.5	+3.7
AAI	**Ambon**	**3.71**	**343**	P		P	Pn	15 59 58.6	+3.7
	baz=3.9,SNR=34								
MSAI	**Masohi**	**3.91**	**355**	P		P	Pn	16 00 01.4	+4.1
NLAI	**Namlea**	**4.55**	**331**	P		P	Pn	16 00 10.1	+4.4
FAKI	**Fak Fak**	**5.23**	**35**	P		P	**Pn**	**16 00 15.9**	**+1.1**
FAKI	**Fak Fak**	**5.23**	**35**	P		P	**Pn**	**16 00 15.2**	**+0.4**
	baz=5.6,SNR=13								
FAKI					S		**Sn**	**16 01 11.4**	**-3.1**
	baz=5.6,SNR=26								
FAKI	**Fak Fak**	**5.23**	**35**	*e*Pn		P	**Pn**	**16 00 15.2**	**+0.4**
	228nm,0.5s								
FAKI				*e*Sn		P	Sn	16 01 06.4	-8.2
SOEI	**Soe**	**5.54**	**243**	P		P	Pn	16 00 22.5	+3.5
	100nm,0.9s,3µm1.7nm1.7nm								
SOEI	**Soe**	**5.54**	**243**	P		P	**Pn**	**16 00 21.4**	**+2.5**
	baz=5.2,SNR=29								
SOEI					S		**Sn**	**16 01 23.0**	**+1.0**
	baz=5.2,SNR=10								
SOEI	**Soe**	**5.54**	**243**	*e*Pn		P	**Pn**	**16 00 21.2**	**+2.2**
	63nm,0.4s								
SOEI				*e*Sn		P	Sn	16 01 13.4	-8.7
SANI	**Sanana**	**6.13**	**328**	P		P	Pn	16 00 30.1	+3.4
	112nm,0.7s,989nm0.3nm0.3nm								
KDU	**Kakadu**	**6.24**	**150**	P		P	**Pn**	**16 00 30.5**	**+2.4**
	baz=6.2,SNR=458								
KDU					S		**Sn**	**16 01 38.5**	**-0.1**
	baz=6.2,SNR=4.9								
BATI	**Baumata**	**6.27**	**242**	P		P	Pn	16 00 31.9	+3.3
LBMI	**Labuha**	**6.82**	**345**	P		P	Pn	16 00 39.4	+3.5
	392nm,0.7s,3µm1.2nm1.2nm								
MMRI	**Maumere**	**7.11**	**258**	P		P	Pn	16 00 45.1	+5.4
	51nm,0.7s,892nm0.2nm								
MMRI	**Maumere**	**7.11**	**258**	*e*Pn		P	**Pn**	**16 00 40.9**	**+1.1**
	35nm,0.4s								
RKPI	**Ransiki, Papua**	**7.52**	**41**	P		P	**Pn**	**16 00 47.1**	**+1.9**
	370nm,0.6s,7µm3.2nm								
EDFI	**Ende, Flores**	**7.66**	**258**	P		P	Pn	16 00 51.4	+4.2
	19nm,0.8s,0.1nm								
TNTI	**Ternate**	**8.21**	**346**	P		P	**Pn**	**16 00 57.0**	**+2.5**
	122nm,1.1s,1µm								
TNTI	**Ternate**	**8.21**	**346**	*e*Pn		P	**Pn**	**16 00 56.3**	**+1.9**
	169nm,1.1s								
KNRA	**Kununurra**	**8.38**	**183**	P		P	**Pn**	**16 00 57.8**	**+1.2**
	baz=8.2,SNR=59								
KNRA					S		**Sn**	**16 02 25.7**	**-4.2**
	baz=8.2,SNR=7.2								
WSI	**Waingapu**	**9.20**	**254**	P		P	**Pn**	**16 01 08.1**	**+0.4**
	baz=8.9,SNR=7.7								
WSI					S		**Sn**	**16 02 45.5**	**-4.3**
	baz=8.9,SNR=4.7								
BNSI	**Bone**	**9.56**	**287**	P		P	Pn	16 01 16.6	+4.2
	14nm,1.2s								
MRSI	**Marisa**	**10.62**	**316**	P		P	Pn	16 01 31.0	+4.5
PCI	**Palu**	**11.34**	**303**	P		P	P	16 01 48.4	+4.6
FITZ	**Fitzroy Crossi**	**11.34**	**198**	P		P	**Pn**	**16 01 35.3**	**-0.7**
	baz=11,SNR=38								
FITZ	**Fitzroy Crossi**	**11.34**	**198**	*e*Pn		P	**Pn**	**16 01 35.2**	**-0.7**
	15nm,0.6s								
FITZ				*e*Sn		P	Sn	16 03 30.6	-11
WRAB	**Tennant Creek**	**13.52**	**159**	*e*Pn		P	**Pn**	**16 02 02.5**	**-1.7**
WRAB				*e*Sn		P	Sn	16 04 19.1	-15
WRA	**Warramunga Arr**	**13.53**	**159**	P		P	**Pn**	**16 02 02.9**	**-1.3**
	2.6nm,0.3s,baz=342,slow=13,SNR=87								
WRA					S		Sn	16 04 27.4	-6.6
	5.6nm,0.3s,baz=332,slow=21,SNR=7.6								
WRA					ScP		**ScP**	**16 10 35.6**	**-3.2**
	0.3nm,0.3s,baz=328,slow=1.4,SNR=9.0								
JAGI	**Jajag, Banyuwa**	**15.03**	**264**	P		P	**Pn**	**16 02 19.9**	**-3.3**
	baz=15,SNR=13								
JAGI					S		Sn	16 05 01.8	-8.6
	baz=15,SNR=4.6								
COEN	**Coen**	**15.19**	**117**	P		P	**P**	**16 02 27.5**	**+0.9**
	baz=15,SNR=34								
COEN					S		**Sn**	**16 05 09.6**	**-4.4**
	baz=15,SNR=4.2								
COEN	**Coen**	**15.19**	**117**	*e*Pn		P	**P**	**16 02 27.1**	**+0.5**
	28nm,0.7s								
COEN				*e*S			Sn	16 05 04.1	-10
TSM	**Tawau**	**16.17**	**315**	⇑P		P	**P**	**16 02 39.6**	**+2.1**
QIS	**Mount Isa**	**16.57**	**144**	P		P	**Pn**	**16 02 43.4**	**+1.3**
	baz=17,SNR=40								
MBWA	**Maule Bar**	**16.61**	**213**	*e*Pn		P	**P**	**16 02 41.8**	**-0.5**
	25nm,1.1s								
AS31	**Alice Springs**	**16.90**	**165**	*e*P		P	**Pn**	**16 02 47.8**	**+1.7**
AS31				*e*S			**S**	**16 05 48.4**	**-5.6**
ASAR	**Alice Springs**	**16.90**	**165**	P		P	**Pn**	**16 02 48.1**	**+2.1**
	4.3nm,0.3s,baz=343,slow=10,SNR=728								
ASAR					S		**S**	**16 05 48.6**	**-5.4**
	1.8nm,0.3s,baz=352,slow=25,SNR=5.2								
ASAR					ScP		**ScP**	**16 10 41.8**	**-3.2**
	0.5nm,0.3s,baz=351,slow=1.6,SNR=11								
SDKM	**Sandakan**	**17.60**	**316**	⇑P		P	**Pn**	**16 02 55.7**	**+1.2**
WRKA	**Warakurna**	**17.70**	**183**	P		P	**Pn**	**16 02 56.8**	**+1.2**
	baz=18,SNR=132								
WRKA					S		**S**	**16 06 09.1**	**-1.4**
	baz=18,SNR=3.2								
PMG	**Port Moresby**	**17.82**	**98**	P		P	Pn	16 03 01.8	+4.8
	baz=18,SNR=3.6								
PMG	**Port Moresby**	**17.82**	**98**	*e*P		P	**Pn**	**16 03 01.0**	**+4.0**
KKM	**Kota Kinabalu**	**18.57**	**315**	P		P	Pn	16 03 13.3	+7.3
	baz=19,SNR=3.2								
KKM	**Kota Kinabalu**	**18.57**	**315**	*e*P		P	**P**	**16 03 03.3**	**-0.6**
	34nm,1.2s								
UGM	**Wanagama**	**18.60**	**267**	P		P	**P**	**16 03 05.5**	**+1.2**
	baz=18,SNR=4.5								
UGM					S		**S**	**16 06 29.3**	**+0.7**
	baz=18,SNR=4.1								
CTA	**Charters Tower**	**20.82**	**129**	P		P	Pn	16 03 30.6	-1.8
	9.0nm,0.9s,baz=308,slow=12,SNR=7.1								
CTAO	**Charters Tower**	**20.82**	**129**	*e*P		P	**P**	**16 03 30.4**	**+2.3**
	7.7nm,0.7s								
KSM	**Kuching**	**20.82**	**294**	P		P	**P**	**16 03 29.1**	**+0.9**
	baz=21,SNR=12								
KSM	**Kuching**	**20.82**	**294**	⇓P		P	**P**	**16 03 28.3**	**+0.2**
KSM	**Kuching**	**20.82**	**294**	*e*P		P	**P**	**16 03 26.8**	**-1.4**
	23nm,1.0s								
GIRL	**Giralia**	**21.06**	**222**	P		P	**P**	**16 03 34.0**	**+3.4**
	baz=21,SNR=4.2								
CISI	**Cisompet, Garu**	**21.29**	**268**	P		P	**P**	**16 03 32.7**	**-0.5**
	baz=21,SNR=4.3								
LEM	**Lembang**	**21.50**	**270**	P		P	**P**	**16 03 34.8**	**-0.8**
	8.1nm,0.4s,baz=95,slow=14,SNR=3.5								
MEEK	**Meekatharra**	**21.77**	**207**	P		P	**P**	**16 03 38.5**	**+0.3**
	baz=22,SNR=5.5								
FORT	**Forrest**	**23.42**	**183**	P		P	**P**	**16 03 55.4**	**+1.5**
	baz=23,SNR=22								
FORT	**Forrest**	**23.42**	**183**	*e*P		P	**P**	**16 03 54.9**	**+1.1**
	45nm,0.6s								
QLP	**Quilpie**	**23.91**	**145**	P		P	**P**	**16 04 02.3**	**+4.0**
	baz=24,SNR=18								
MORW	**Morawa**	**25.02**	**208**	P		P	**P**	**16 04 11.5**	**+3.1**
	baz=25,SNR=16								
BLDU	**Ballidu**	**26.05**	**205**	P		P	**P**	**16 04 18.4**	**+0.7**
	baz=26,SNR=4.6								
BBOO	**Buckleboo**	**26.19**	**167**	P		P	**P**	**16 04 20.3**	**+1.4**
	baz=26,SNR=8.0								
BBOO	**Buckleboo**	**26.19**	**167**	*e*P		P	**P**	**16 04 19.7**	**+0.8**
MYKOM	**Kota Tinggi**	**26.92**	**289**	⇑P		P	**P**	**16 04 26.5**	**+0.8**
STKA	**Stephens Creek**	**27.05**	**156**	P		P	**P**	**16 04 29.2**	**+2.6**
	1.9nm,0.5s,baz=333,slow=10,SNR=12								
STKA	**Stephens Creek**	**27.05**	**156**	P		P	**P**	**16 04 28.5**	**+1.8**
	baz=27,SNR=4.7								
STKA	**Stephens Creek**	**27.05**	**156**	*e*P		P	**P**	**16 04 28.0**	**+1.3**
	1.8nm,1.2s								
KGM	**Kluang**	**27.50**	**289**	⇓P		P	**P**	**16 04 31.6**	**+0.8**
CMSA	**Cobar Meteorol**	**28.60**	**150**	P		P	**P**	**16 04 43.3**	**+2.8**
	baz=29,SNR=5.8								
KTGM	**Kuala Trenggan**	**28.93**	**295**	⇓P		P	**P**	**16 04 44.7**	**+1.2**
IPM	**Ipoh**	**30.51**	**292**	⇓P		P	**P**	**16 04 58.4**	**+0.8**
KULM	**Kulim**	**31.17**	**293**	⇑P		P	**P**	**16 05 04.5**	**+1.2**
KULM	**Kulim**	**31.17**	**293**	*e*P		P	**P**	**16 05 03.6**	**+0.3**
	7.0nm,0.9s								
TRTT	**Trang**	**33.10**	**296**	P		P	**P**	**16 05 21.4**	**+1.2**
	22nm,0.8s								
SKNT	**Sakolnakorn**	**34.72**	**314**	P		P	**P**	**16 05 34.0**	**-0.2**
	7.6nm,1.1s								
UTTA	**Uttaradit**	**37.71**	**312**	P		P	**P**	**16 06 00.0**	**+0.5**
	3.0nm,0.9s								
SUKH	**Sukhothai**	**38.24**	**310**	P		P	**P**	**16 06 04.8**	**+0.8**
	2.9nm,0.9s								
CM31	**Chiang Mai Arr**	**39.36**	**311**	*e*P		P	**P**	**16 06 13.2**	**-0.1**
	2.4nm,0.7s								
CMAR	**Chiang Mai Arr**	**39.36**	**311**	P		P	**P**	**16 06 12.7**	**-0.6**
	3.7nm,0.9s,baz=142,slow=7.4,SNR=27								
CMAR						PcP	**PcP**	**16 08 18.6**	**-0.2**
	1.5nm,0.8s,baz=170,slow=3.0,SNR=10								
CMMT	**Chiang Mai**	**39.57**	**311**	P		P	**P**	**16 06 15.0**	**-0.1**
	14nm,0.9s								
CHTO	**Chiang Mai**	**39.57**	**311**	*e*P		P	**P**	**16 06 14.3**	**-0.8**
	8.0nm,0.9s								
CHTO	**Chiang Mai**	**39.57**	**311**	P		P	**P**	**16 06 15.0**	**-0.1**
	54nm,1.1s								
CMAI	**Chiengmai2**	**40.20**	**313**	P		P	**P**	**16 06 20.0**	**-0.4**
CN2	**Changchun**	**50.94**	**356**	*e*P		P	P	16 07 48.5	+4.3
USRK	**Ussuriysk Ar.**	**51.28**	**2**	P		P	**P**	**16 07 46.5**	**-0.3**
	1.2nm,0.5s,baz=175,slow=6.7,SNR=5.7								
ODAN	**Odare**	**52.89**	**312**	*e*P		P	**P**	**16 07 58.3**	**-1.0**
	12nm,0.5s								
TAPN	**Taplejung**	**52.93**	**312**	*e*P		P	**P**	**16 07 58.7**	**-0.9**
	15nm,0.3s								
RAMN	**Ramite**	**53.53**	**311**	*e*P		P	**P**	**16 08 03.4**	**-0.6**
	21nm,0.6s								
JIRN	**Jiri**	**54.22**	**312**	*e*P		P	**P**	**16 08 08.2**	**-1.0**
	8.1nm,0.4s								
GUN	**Gumba**	**54.59**	**312**	*e*P		P	**P**	**16 08 10.9**	**-0.9**
	16nm,0.4s								
PKI	**Pulchoki**	**54.76**	**311**	*e*P		P	**P**	**16 08 11.6**	**-1.4**
	7.3nm,0.5s								
DMN	**Daman**	**55.00**	**311**	*e*P		P	**P**	**16 08 13.5**	**-1.1**
	7.7nm,0.6s								
GKN	**Gorkha**	**55.56**	**311**	*e*P		P	**P**	**16 08 17.6**	**-0.9**
	14nm,0.3s								
KOLN	**Koldanda**	**56.22**	**310**	*e*P		P	**P**	**16 08 22.4**	**-0.9**
	13nm,0.5s								
PYUN	**Piuthan**	**56.85**	**310**	*e*P		P	**P**	**16 08 26.9**	**-0.8**
ULN	**Ulaanbaatar**	**58.30**	**343**	*e*P		P	**P**	**16 08 37.0**	**-0.4**
	1.8nm,0.8s								
ULN						*e*PcP	**PcP**	**16 09 26.3**	**-0.6**
SONM	**Songino Array**	**58.47**	**342**	P		P	**P**	**16 08 39.5**	**+0.9**
	1.3nm,0.6s,baz=157,slow=6.3,SNR=16								
SONM						PcP	**PcP**	**16 09 26.7**	**-0.8**
	1.0nm,0.6s,baz=141,slow=4.1,SNR=6.5								
SONM						ScP	**ScP**	**16 13 10.8**	**-3.1**
	0.2nm,0.3s,baz=145,slow=5.4,SNR=3.8								
TLY	**Talaya**	**62.70**	**342**	P		P	**P**	**16 09 07.3**	**+0.3**
	3.1nm,0.7s								
PETK	**Petropavlovsk-**	**64.80**	**18**	P		P	**P**	**16 09 21.1**	**+0.4**
	2.9nm,0.7s,baz=159,slow=4.2,SNR=9.7								
MK31	**Makanchi Array**	**68.06**	**327**	*e*P		P	**P**	**16 09 40.6**	**-1.0**
MKAR	**Makanchi Array**	**68.06**	**327**	P		P	**P**	**16 09 41.2**	**-0.4**
	1.3nm,0.6s,baz=112,slow=8.9,SNR=32								
MKAR						PcP	**PcP**	**16 10 04.6**	**-2.1**
	0.9nm,0.5s,baz=162,slow=5.1,SNR=4.7								
YAK	**Yakutsk**	**69.09**	**0**	*e*P		P	**P**	**16 09 46.6**	**-0.9**
	20nm,0.9s								
TKM2	**Tokmak 2**	**69.73**	**321**	*e*P		P	**P**	**16 09 51.4**	**-0.8**
AAK	**Ala-Archa**	**70.28**	**320**	*e*P		P	**P**	**16 09 54.2**	**-1.3**
EKS2	**Erkin-Say**	**70.75**	**320**	*e*P		P	**P**	**16 09 58.2**	**-0.1**
	2.3nm,1.0s								
ZAA0	**Zalesovo Array**	**71.50**	**334**	*e*P		P	**P**	**16 10 01.1**	**-1.

	baz=337							
WSF				S	Sb	16 01 27.4	+0.9	
	baz=337							
CHN5	**Tsauling**	**0.42**	**37**	⇓*i*P	Pg	16 01 19.8	0.0	
	baz=34							
CHN5				S	Sb	16 01 27.3	+0.6	
	baz=34							
TWM1	**Shoushan**	**0.44**	**178**	⇑*i*P	Pb	16 01 21.8	+0.9	
	baz=178							
ALS	**Alishan**	**0.44**	**56**	P	Pg	16 01 20.3	0.0	
	baz=54							
ALS				S	Sb	16 01 27.9	+0.2	
	baz=54							
WGK	**Gukeng**	**0.45**	**19**	⇓P	Pb	16 01 20.6	-0.5	
	baz=18							
WGK				*e*S	Sb	16 01 29.1	+1.6	
	baz=18							
SGLT	**Jiouru**	**0.54**	**172**	*e*P	Pb	16 01 22.7	+0.1	
	baz=171							
YUS	**Yu-Shan**	**0.55**	**66**	⇑*i*P	Pb	16 01 22.5	-0.6	
	baz=63							
YUS				S	Sb	16 01 31.2	+0.2	
	baz=63							
SSD	**Sandimen**	**0.55**	**158**	⇑*i*P	Pb	16 01 22.7	-0.2	
	baz=144							
SSD				S	Sb	16 01 31.5	+0.9	
	baz=144							
ELDTW	**Lidau**	**0.57**	**97**	⇑*i*P	Pg	16 01 22.2	-0.4	
	baz=94							
ELDTW				*e*S	Sb	16 01 30.9	-0.2	
	baz=94							
WTCT	**Ta-ch'eng**	**0.61**	**349**	⇓*i*P	Pg	16 01 23.1	-0.3	
	baz=350							
WTCT				S	Sb	16 01 33.1	+0.9	
	baz=350							
WNT	**Mingjian**	**0.66**	**22**	⇓*i*P	Pb	16 01 24.5	-0.2	
	baz=22							
WNT				S	Sn	16 01 35.2	-1.4	
	baz=22							
WDGT	**Dungji**	**0.69**	**270**	P	Pg	16 01 23.7	-1.1	
	baz=272							
WDGT				S	Sg	16 01 34.0	+0.1	
	baz=272							
TWG	**Pinlang**	**0.75**	**126**	P	Pg	16 01 25.8	-0.3	
	baz=124							
TWG				*e*S	Sb	16 01 36.7	+0.3	
	baz=124							
TYC	**Yuchr**	**0.76**	**33**	⇑*i*P	Pb	16 01 26.0	-0.4	
	baz=32							
TYC				*i* S	Sn	16 01 38.0	-0.9	
	baz=32							
SMLT	**Sun Moon Lake**	**0.77**	**36**	⇓*i*P	Pb	16 01 26.3	-0.3	
	baz=35							
SMLT				*i* S	Sb	16 01 37.7	+0.9	
	baz=35							
TWF1	**Yuli**	**0.82**	**84**	⇑*i*P	Pg	16 01 26.8	-0.6	
	baz=81							
TWF1				*e*S	Sb	16 01 38.2	-0.2	
	baz=81							
WDT	**Danda**	**0.83**	**53**	⇓*i*P	Pb	16 01 27.6	-0.2	
	baz=52							
WDT				S	Sb	16 01 39.6	+0.8	
	baz=52							
ECL	**Taimali**	**0.83**	**143**	*e*P	Pg	16 01 27.1	-0.5	
	baz=142							
ECL				S	Sn	16 01 40.3	-0.4	
	baz=142							
PNG	**Penghu**	**0.84**	**291**	⇑*i*P	Pg	16 01 26.5	-1.3	
	baz=293							
PNG				*i* S	Sg	16 01 38.3	-0.4	
	baz=293							
TTN	**Taitung**	**0.85**	**126**	*e*P	Pb	16 01 28.1	+0.2	
	baz=113							
EHY	**Hungye**	**0.88**	**74**	P	Pg	16 01 27.9	-0.5	
	baz=80							
EHY				*i* S	Sb	16 01 40.2	+0.3	
	baz=80							
CHKT	**Chengkung**	**0.90**	**100**	*e*P	Pb	16 01 28.8	+0.1	
	baz=98							
CHKT				*e*S	Sn	16 01 44.3	+2.0	
	baz=98							
SCZT	**Fangliau**	**0.91**	**167**	P	Pb	16 01 28.9	0.0	
	baz=154							
SCZT				*e*S	Sn	16 01 42.2	-0.3	
	baz=154							
TWP	**Hsiaoliuchiu**	**0.91**	**183**	*e*P	Pn	16 01 30.0	+0.2	
	baz=196							
TCU	**Taichung**	**0.92**	**16**	*e*P	Pg	16 01 28.5	-0.6	
	baz=16							
EAST	**Anshuo**	**0.96**	**155**	⇓P	Pb	16 01 29.8	-0.1	
	baz=144							
EAST				S	Sn	16 01 44.8	+0.7	
	baz=144							
TAW	**Tawu**	**1.01**	**153**	*e*P	Pb	16 01 30.5	-0.1	
	baz=145							
TAW				*e*S	Sn	16 01 44.9	-0.1	
	baz=145							
ESL	**Shilin**	**1.09**	**60**	P	Pn	16 01 32.3	+0.1	
	baz=58							
ESL				S	Sn	16 01 46.9	-0.2	
	baz=58							
TWQ1	**Liyutan**	**1.13**	**17**	⇓*i*P	Pb	16 01 32.4	-0.4	
	baz=16							
TWQ1				*e*S	Sn	16 01 48.7	+0.6	
	baz=16							
WHF	**Hehuan Shan**	**1.18**	**42**	⇑P	Pb	16 01 33.4	-0.4	
	baz=40							
WHF				*e*S	Sn	16 01 50.1	+0.2	
	baz=40							
NSY	**Sanyi**	**1.19**	**16**	P	Pn	16 01 33.5	-0.2	
	baz=15							
NSY				*e*S	Sn	16 01 50.7	+1.0	
	baz=15							
TWT	**Tachien**	**1.21**	**35**	*e*P	Pb	16 01 33.9	-0.3	
	baz=33							
TWT				*e*S	Sg	16 01 51.0	+0.3	
	baz=33							
HEN	**Hengchun**	**1.29**	**166**	*e*P	Pn	16 01 34.3	-0.6	
	baz=164							
HWA	**Hwalien**	**1.31**	**57**	*e*P	Pb	16 01 36.0	-0.6	
	baz=57							
TWD	**Chiawan**	**1.36**	**53**	*e*P	Pn	16 01 36.0	0.0	
	baz=51							
TWD				*e*S	Sg	16 01 54.7	-0.6	
	baz=51							
TWK1	**Hengchun**	**1.36**	**164**	*e*P	Pn	16 01 33.2	-2.8	
	baz=162							
NSTT	**Nanjuang**	**1.47**	**22**	⇓*i*P	Pn	16 01 37.0	-0.4	
	baz=21							
NSTT				S	Sg	16 01 57.6	-1.1	
	baz=21							
NNS	**Nan Shan**	**1.47**	**37**	⇑P	Pn	16 01 37.8	+0.2	
	baz=20							
LAY	**Lan-yu**	**1.61**	**139**	*e*P	Pn	16 01 38.8	-0.6	
	baz=125							
NSK	**Sanguang**	**1.65**	**32**	*e*P	Pn	16 01 40.2	+0.2	
	baz=30							
NSK				*e*S	Sg	16 02 03.2	-1.6	
	baz=30							
ENA	**Nanau**	**1.69**	**46**	P	Pb	16 01 41.6	-0.5	
	baz=44							
ENA				*e*S	Sg	16 02 04.3	-1.4	
	baz=44							
ENTT	**Nioudou**	**1.73**	**37**	*e*P	Pb	16 01 42.0	-1.0	
	baz=22							
TWE	**Neicheng**	**1.85**	**38**	*e*P	Pb	16 01 43.8	-1.3	
	baz=36							
TWE				*e*S	Sg	16 02 09.8	-1.3	
	baz=36							
TWC	**Suao**	**1.88**	**44**	*e*P	Pb	16 01 44.7	-0.8	
	baz=42							
TWC				*e*S	Sb	16 02 09.9	+1.0	
	baz=42							
TWA	**Mucha**	**2.02**	**32**	*e*P	Pn	16 01 44.8	-0.3	
	baz=16							
KNM	**Kinmen**	**2.14**	**303**	*e*P	Pn	16 01 47.4	+0.7	
	baz=302							
NWF	**Wu-fen Shan**	**2.19**	**35**	*e*P	Pb	16 01 50.3	-0.6	
	baz=18							
TWB1	**Santiao Chiao**	**2.26**	**39**	*e*P	Pb	16 01 51.1	-0.9	
	baz=23							
JYNG	**Yonagunijimaku**	**2.61**	**63**	P	Pn	16 01 54.2	+1.1	
JYNG				*e*S	Sn	16 02 26.6	+2.1	
HATJ	**Hateruma jima**	**3.21**	**75**	*e*S	Sn	16 02 41.2	+1.7	
IRIF	**Iriomote-Funau**	**3.23**	**70**	P	Pn	16 02 02.4	+0.8	
IRIF				*e*S	Sn	16 02 41.3	+1.5	
JKRS	**Kuro-shima**	**3.44**	**73**	P	Pn	16 02 05.6	+1.1	
JKRS				*e*S	Sn	16 02 47.0	+1.9	
JIJ	**Ishigaki jima**	**3.59**	**71**	P	Pn	16 02 06.8	+0.2	
JIJ				*e*S	Sn	16 02 50.0	+1.1	
JISG	**Ishigakijimahi**	**3.81**	**69**	P	Pn	16 02 09.9	+0.3	
JISG				*e*S	Sn	16 02 54.9	+0.7	

*NEIC **29** 16:05:13.2, 44˚.48S×167˚.08E, h5km, ML4.1(WEL), After WEL.*

WEL 29 16:05:12.2±0.5, 44˚.43S×167˚.05E, h2km, ML4.1/13, 1C-1D, Error ellipse: s-maj=3.7km s-min=2.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.67**	**111**	⇓PG		Pg	16 05 25.5	+0.3
MSZ				SG		Sg	16 05 34.1	+0.2
MSZ				AML		AML	16 05 35.2	
MSZ				AML		AML	16 05 35.2	
MSZ				AML		AML	16 05 35.3	
MSZ	**Milford Sound**	**0.67**	**111**	P*		Pg	16 05 25.5	+0.3
MSZ				Sg		Sg	16 05 34.1	+0.2
MLZ	**Mavora Lakes**	**1.22**	**139**	P*		Pg	16 05 35.2	-0.5
MLZ				S*		Sb	16 05 52.2	-0.1
MLZ				AML		AML	16 05 54.7	
MLZ	**Mavora Lakes**	**1.22**	**139**	P*		Pg	16 05 35.2	-0.5
JCZ	**Jackson Bay**	**1.28**	**74**	P*		Pg	16 05 35.7	-1.2
JCZ				AML		AML	16 05 54.7	
JCZ				AML		AML	16 05 56.0	
WKZ	**Wanaka**	**1.46**	**107**	⇑PN		Pn	16 05 38.7	-0.9
WKZ				SN		Sg	16 05 59.3	0.0
WKZ				AML		AML	16 05 59.6	
WKZ				AML		AML	16 05 59.6	
WKZ				AML		AML	16 06 00.0	
WKZ	**Wanaka**	**1.46**	**107**	Pn		Pn	16 05 38.8	-0.9
WKZ				Sn		Sg	16 05 59.3	0.0
WHZ	**Wether Hill Ro**	**1.60**	**157**	PN		Pn	16 05 40.8	-0.7
WHZ				AML		AML	16 06 04.7	
WHZ				AML		AML	16 06 07.8	
WHZ	**Wether Hill Ro**	**1.60**	**157**	Pn		Pn	16 05 40.8	-0.7
PYZ	**Puysegur Point**	**1.76**	**188**	PN		Pb	16 05 44.8	-0.5
EAZ	**Earnscleugh**	**1.80**	**117**	PN		Pn	16 05 43.9	-0.3
EAZ				AML		AML	16 06 11.0	
EAZ				AML		AML	16 06 11.0	
EAZ				AML		AML	16 06 11.9	
EAZ				AML		AML	16 06 11.9	
EAZ	**Earnscleugh**	**1.80**	**117**	Pn		Pn	16 05 44.0	-0.3
FOZ	**Fox Glacier**	**2.09**	**66**	*e*PN		Pn	16 05 45.5	-2.8
FOZ				SN		Sb	16 06 17.5	+0.2
FOZ				AML		AML	16 06 19.6	
FOZ				AML		AML	16 06 21.6	
FOZ				AML		AML	16 06 21.6	
LBZ	**Lake Benmore**	**2.25**	**90**	*e*PN		Pn	16 05 49.2	-1.3
LBZ				AML		AML	16 06 22.0	
LBZ				AML		AML	16 06 22.0	
LBZ				AML		AML	16 06 22.6	
LBZ	**Lake Benmore**	**2.25**	**90**	Pn		Pn	16 05 49.2	-1.2
TUZ	**Tuapeka**	**2.38**	**131**	*e*PN		Pn	16 05 51.5	-0.8
TUZ				SN		Sb	16 06 23.9	-1.7
TUZ	**Tuapeka**	**2.38**	**131**	Pn		Pn	16 05 51.6	-0.6
APZ	**The Paps**	**2.49**	**165**	AML		AML	16 06 39.4	
SYZ	**Scrubby Hill**	**2.57**	**146**	PN		Pn	16 05 54.2	-0.6
SYZ				AML		AML	16 06 35.6	
SYZ				AML		AML	16 06 35.6	
SYZ				AML		AML	16 06 36.5	
SYZ				AML		AML	16 06 36.6	
SYZ	**Scrubby Hill**	**2.57**	**146**	Pn		Pn	16 05 54.4	-0.4
ODZ	**Otahua Downs**	**2.63**	**105**	PN		Pn	16 05 54.3	-1.5
ODZ	**Otahua Downs**	**2.63**	**105**	Pn		Pn	16 05 54.6	-1.2
HHSZ	**Highcliff Hill**	**2.90**	**121**	PN		Pn	16 05 58.9	-0.5
HHSZ	**Highcliff Hill**	**2.90**	**121**	Pn		Pn	16 05 59.0	-0.5
RPZ	**Rata Peaks**	**2.97**	**78**	PN		Pn	16 05 58.1	-2.3
RPZ				AML		AML	16 06 44.5	
RPZ				AML		AML	16 06 45.8	
RPZ	**Rata Peaks**	**2.97**	**78**	Pn		Pn	16 05 58.1	-2.3
WVZ	**Waitaha Valley**	**3.00**	**64**	PN		Pn	16 05 56.6	-4.1
WVZ				AML		AML	16 06 50.8	
WVZ	**Waitaha Valley**	**3.00**	**64**	Pn		Pn	16 05 56.5	-4.1
WVZ				Sn		Sb	16 06 43.1	-0.1
OXZ	**Oxford**	**3.77**	**75**	PN		Pn	16 06 07.1	-4.3
MQZ	**McQueen's Vall**	**4.10**	**82**	PN		Pn	16 06 11.8	-4.1
MQZ	**McQueen's Vall**	**4.10**	**82**	Pn		Pn	16 06 11.8	-4.1
CRLZ	**Canterbury Las**	**4.11**	**80**	PN		Pn	16 06 11.9	-4.1
CRLZ	**Canterbury Las**	**4.11**	**80**	Pn		Pn	16 06 11.9	-4.1
LTZ	**Lake Taylor**	**4.13**	**68**	PN		Pn	16 06 09.9	-6.6
LTZ	**Lake Taylor**	**4.13**	**68**	Pn		Pn	16 06 09.9	-6.6
DSZ	**Denniston Nort**	**4.39**	**54**	PN		Pn	16 06 15.6	-4.4
DSZ	**Denniston Nort**	**4.39**	**54**	Pn		Pn	16 06 15.6	-4.4
THZ	**Tophouse**	**5.05**	**60**	PN		Pn	16 06 25.7	-3.3
THZ				AML		AML	16 07 58.4	
THZ				AML		AML	16 08 09.6	
THZ	**Tophouse**	**5.05**	**60**	Pn		Pn	16 06 25.9	-3.1
NNZ	**Nelson**	**5.65**	**58**	Pn		Pn	16 06 34.5	-2.8

*IDC **29** 16:11:56.1±35.0, 6˚.28N×126˚.09E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/32, mbtmp3.6/3, Error ellipse: s-maj=590.4km s-min=155.4km az=160.0*

*DJA **29** 16:12:38.8±1.1, 4˚N±7˚×12˚8E±˚, h10km, M4.1/5, mb4.5/1, MLv3.9/5*

ISC 29 16:12:28.9±1.9, 3˚.7N±0˚.1×128˚.8E±0˚.1, h35km, n8, σ2ş49/8, mb3.3/3, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.25**	**269**	P		**Pn**	**16 13 18.4**	**+0.9**
SGSI				S		**Sn**	**16 13 52.1**	**-3.0**
TNTI	**Ternate**	**3.27**	**206**	P		Pn	16 13 28.7	+11
LBMI	**Labuha**	**4.53**	**197**	P		Pn	16 13 45.4	+10
KMSI	**Cibinong**	**5.74**	**237**	P		**Pn**	**16 13 54.9**	**+3.2**
KMSI				S		**Sn**	**16 14 56.9**	**+0.5**
SANI	**Sanana**	**6.39**	**206**	P		Pn	16 14 04.7	+4.0
SANI				S		**Sn**	**16 15 09.4**	**-3.1**
WRA	**Warramunga Arr**	**24.16**	**167**	P		**P**	**16 17 42.5**	**+0.6**
	0.3nm,0.5s,baz=342,slow=10,SNR=14							
ASAR	**Alice Springs**	**27.69**	**170**	P		**P**	**16 18 13.3**	**-0.6**
	0.3nm,0.5s,baz=348,slow=7.4,SNR=14							
STKA	**Stephens Creek**	**37.45**	**162**	P		**P**	**16 19 38.4**	**-0.7**
	1.5nm,0.9s,baz=331,slow=11,SNR=3.5							

IDC 29 16:26:53.0±26.0, 18˚.41S×172˚.57W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/20, mbtmp4.2/4, Error ellipse: s-maj=489.5km s-min=159.6km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.84**	**261**	P		P	16 34 21.6	+1.4
	1.4nm,0.4s,baz=95,slow=12,SNR=4.8							
STKA	**Stephens Creek**	**43.30**	**243**	P		P	16 34 56.8	0.0
	1.1nm,0.8s,baz=83,slow=6.3,SNR=4.5							
WRA	**Warramunga Arr**	**50.00**	**259**	P		P	16 35 48.8	-0.7
	1.7nm,0.4s,baz=97,slow=7.7,SNR=48							
ASAR	**Alice Springs**	**50.00**	**254**	P		P	16 35 49.0	-0.6
	4.4nm,0.5s,baz=92,slow=7.8,SNR=110							

*CSEM **29** 16:27:43.2, 37˚.69N×20˚.85E, h28km, MD3.0*

ATH 29 16:27:43.2, 37˚.69N×20˚.85E, h28km±2km, MD3.0/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.53**	**337**	*e*PN		Pn	16 27 54.7	-0.2
VLS				*e*SN		Sn	16 28 03.0	0.0
VLS	**Valsamata**	**0.53**	**337**	*e*Pn		Pn	16 27 54.7	-0.2
VLS				*e*Sn		Sn	16 28 03.0	0.0
RLS	**Riolos of Patr**	**0.61**	**53**	*e*PB		Pb	16 27 55.2	-0.2
RLS				*e*SN		Sn	16 28 04.3	-0.6
RLS	**Riolos of Patr**	**0.61**	**53**	*e*Pb		Pb	16 27 55.2	-0.2
RLS				*e*Sn		Sn	16 28 04.3	-0.6
AMT	**Artemida-Makis**	**0.70**	**103**	*e*PN		Pn	16 27 57.2	-0.1
AMT				*e*SN		Sn	16 28 07.4	+0.2
AMT	**Artemida-Makis**	**0.70**	**103**	*e*Pn		Pn	16 27 57.2	-0.1
AMT				*e*Sn		Sn	16 28 07.4	+0.2
DRO	**Drossia**	**0.73**	**69**	*e*PN		Pb	16 27 57.4	0.0
DRO	**Drossia**	**0.73**	**69**	*e*Pn		Pb	16 27 57.4	0.0
PDO	**Prodromos**	**0.94**	**16**	*e*PN		Pb	16 28 01.2	+0.2
PDO				*e*SN		Sn	16 28 15.7	+2.5
PDO	**Prodromos**	**0.94**	**16**	*e*Pn		Pb	16 28 01.2	+0.2
PDO				*e*Sn		Sn	16 28 15.7	+2.5
ITM	**Ithomi**	**1.00**	**120**	*e*PN		Pb	16 28 03.0	+1.1
ITM				*e*SN		Sb	16 28 17.6	+2.9
ITM	**Ithomi**	**1.00**	**120**	*e*Pn		Pb	16 28 03.0	+1.1
ITM				*e*Sn		Sb	16 28 17.6	+2.9
KLV	**Kalavryta, Ach**	**1.09**	**71**	*e*PN		Pb	16 28 03.5	0.0
KLV				*e*SN		Sb	16 28 20.1	+2.7
KLV	**Kalavryta, Ach**	**1.09**	**71**	*e*Pn		Pb	16 28 03.5	0.0
KLV				*e*Sn		Sb	16 28 20.1	+2.7
KALE	**Kalithea**	**1.24**	**55**	*e*PN		Pb	16 28 05.9	-0.1
KALE	**Kalithea**	**1.24**	**55**	*e*Pn		Pb	16 28 05.9	-0.1

GUC 29 16:38:53.2±0.3, 34˚.15S×71˚.91W, h105km±9km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.02**	**147**	*e*P		Pn	16 39 13.9	-0.3
NICH				*e*S		Sn	16 39 29.8	-0.3
RCDM	**Rinconada Maip**	**1.12**	**55**	*e*P		Pn	16 39 13.9	-1.5
RCDM				*e*S		Sn	16 39 30.6	-1.6
TALC	**Talca**	**1.27**	**170**	*e*P		Pn	16 39 16.9	-0.1
TALC				*e*S		Sn	16 39 34.5	-0.4
CLCH	**Cerro Calan**	**1.36**	**57**	*e*P		Pn	16 39 18.0	-0.2
CLCH				*e*S		Sn	16 39 36.9	-0.2
CLCH				AML		AML	16 39 38.5	
	comp=N,2μm,0.8s							
SJCH	**San Jose de Ma**	**1.39**	**69**	*e*P		Pn	16 39 18.4	-0.1
SJCH				*e*S		Sn	16 39 37.5	-0.1
PEL	**Peldehue**	**1.43**	**46**	*e*P		Pn	16 39 18.9	0.0
PEL				*e*S		Sn	16 39 38.3	-0.1
PEL				AML		AML	16 39 47.6	
	comp=N,2μm,0.4s							

*IDC **29** 16:46:40.3±0.4, 13˚.48N×122˚.85E, h0km, mb4.4/37, mb1 4.5/37, mb1mx4.5/45, mbtmp4.4/37, ML2.9/1, MS4.4/28, Ms1 4.4/28, ms1mx4.4/33, Error ellipse: s-maj=14.6km s-min=10.1km az=77.0*

*ISCJB **29** 16:46:43.1±0.5, 13˚.56N±0˚.02×122˚.91E±0˚.02, h26km±3km, mb4.7/126, MS4.5/42, Error ellipse: s-maj=4.0km s-min=2.7km az=161.6*

*MOS **29** 16:46:43.6±1.0, 13˚.53N×122˚.94E, h33km, mb5.0/37, MS4.7/8, Error ellipse: s-maj=9.5km s-min=4.6km az=115.4*

*BJI **29** 16:46:43.3, 13˚.44N×122˚.94E, h38km, mB5.1/53, mb4.8/68, Ms4.9/76, Ms7 4.7/71*

*MAN **29** 16:46:43, 13˚.52N×122˚.79E, h20km, mb5.6, ML4.6, MS4.9*

MAN INTENSITY III -NAGA CAMARINES SUR; INTENSITY II - PASAY CITY; ALABANG MUNTNLUPA; GUINAYANGAN & LUCBAN QUEZON.

*DJA **29** 16:46:45.1±1.4, 14˚N±4˚×12˚3E±˚, h20km±11km, M4.6/46, mb4.8/46, mB5.2/32, Mw(mB)4.6/32*

*BKK **29** 16:46:45.0±0.5, 14˚N±5˚×12˚3E±˚, h10km, M4.5/26, mB5.1/19, mb4.7/26, Mw(mB)4.5/19*

*GCMT **29** 16:46:46.2±0.1, 13˚.61N×122˚.86E, h19km, MW5.2/98, Moment Tensor Solution. s52,c76; s98,c182; Duration: 1ş0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$0.83±.02; $M_{\phi\phi}$-0.75±.02; $M_{r\theta}$0.10±.03; $M_{\theta\phi}$0.25±.01; $M_{\phi r}$0.21±.03; Best double couple: $M_0$0.86300×10^{17} NP1:ϕ_s217.00000°, δ86.00000°, λ-164.00000°. NP2: ϕ_s126.00000°, δ74.00000°, λ-4.00000°. Principal axes: T 0.8860, Plg8.0000°, Azm350.0000°; N -0.0460, Plg74.0000°, Azm232.0000°; P -0.8400, Plg14.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 16:46:46.2±0.6, 13˚.50N×122˚.88E, h42km±5km, mb4.9/50 Error ellipse: s-maj=5.4km s-min=3.4km az=89.0*

NEIC Felt [III PIVS] at Naga; [II PIVS] at Alabang, Guinayangan, Muntinlupa and Pasay. Also felt at Calauan, Cantanauan, Daet, Lipa, Manila, Ragay, San Pablo and Tagatay. Also felt at Bacalod and Iloilo, Panay.

ISC 29 16:46:45.5±0.3, 13˚.50N±0˚.02×122˚.84E±0˚.03, h32km±1km, h33km:pP-P, n386, σ1ş58/430, mb4.7/127, MS4.6/42, 38C-24D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.24**	**222**	*e*P		**Pb**	**16 46 50.0**	**-2.5**
AUQP				*e*S		**Sb**	**16 46 54.9**	**-2.2**
GQP	**Guinayangan**	**0.55**	**317**	⇑*e*P		Pb	16 46 52.9	-4.0
GQP				*i* S		**Sb**	**16 47 00.4**	**-4.3**
PVCP	**Virac**	**1.28**	**86**	*e*P		**Pn**	**16 47 06.6**	**-0.6**
PVCP				*e*S		**Sb**	**16 47 25.3**	**0.0**
PVCP	**Virac**	**1.28**	**86**	⇓*i*P		**Pn**	**16 47 06.6**	**-0.6**
PVCP				*i* S		**Sb**	**16 47 28.2**	**+2.9**
MMPH	**Masbate**	**1.37**	**146**	*e*P		**Pn**	**16 47 07.4**	**-1.0**
MMPH				*e*S		**Sb**	**16 47 28.1**	**+0.3**
OTRP	**Odiongan**	**1.38**	**215**	*e*P		**Pn**	**16 47 07.8**	**-0.8**
OTRP				*e*S		**Sn**	**16 47 25.1**	**-0.6**
LQP	**Lukban**	**1.40**	**296**	*i* P		**Pn**	**16 47 08.1**	**-0.9**
PGP	**Puerto Galera**	**1.83**	**270**	⇑*e*P		**Pn**	**16 47 14.5**	**-0.3**
PGP				*i* S		**Sb**	**16 47 39.7**	**-1.3**
RCP	**Roxas**	**1.93**	**183**	⇑*e*P		**Pn**	**16 47 15.4**	**-0.7**
TGY	**Tagaytay City**	**1.94**	**288**	⇑*i*P		**Pn**	**16 47 17.7**	**+1.4**
TGY				*i* S		**Sb**	**16 47 44.8**	**+0.6**
SJMP	**San Jose**	**1.97**	**239**	*e*P		**Pn**	**16 47 16.8**	**+0.2**
CNP	**Catarman**	**2.04**	**119**	*e*P		**Pn**	**16 47 17.3**	**-0.2**
LUBP	**Lubang**	**2.53**	**276**	*e*P		**Pn**	**16 47 23.6**	**-0.7**
BALP	**Baler**	**2.54**	**331**	*e*P		**Pn**	**16 47 24.0**	**-0.5**
PCPH	**Palayan**	**2.65**	**321**	⇑*i*P		**Pn**	**16 47 25.5**	**-0.5**
PCPH				*i* S		**Sn**	**16 47 59.8**	**+2.7**
BUSP	**Coron**	**2.97**	**240**	*e*P		**Pn**	**16 47 30.4**	**0.0**
PLP	**Palo**	**3.13**	**138**	⇓*e*P		**Pn**	**16 47 31.8**	**-0.8**
PLP				*e*S		**Sb**	**16 48 22.0**	**+3.9**
CUYO	**Cuyo Island**	**3.18**	**214**	*e*P		**Pn**	**16 47 33.0**	**-0.3**
BCPH	**Baguio City Da**	**3.60**	**323**	⇑*i*P		**Pn**	**16 47 40.1**	**+0.9**
BCPH				*i* S		**Sn**	**16 48 23.2**	**+2.5**
BOLP	**Bolinao**	**4.02**	**316**	*e*P		**Pn**	**16 47 45.4**	**+0.5**
ENPP	**El Nido**	**4.04**	**236**	*e*P		**Pn**	**16 47 45.1**	**+0.1**
CVP	**Callao Caves**	**4.29**	**347**	⇑*e*P		**Pn**	**16 47 48.2**	**-0.3**
SCPH	**Surigao**	**4.52**	**145**	⇓*e*P		**Pn**	**16 47 53.6**	**+1.9**
SCPH	**Surigao**	**4.52**	**145**	⇓*e*P		**Pn**	**16 47 53.6**	**+1.

LUWI	**Luwuk**		**14.45**	**180**	P		**P**		**16 50 12.4 -1.8**
	110nm,1.3s,2µm								
LUWI	**Luwuk**		**14.45**	**180**	Pn		**Pn**		**16 50 09.2 +1.4**
	120nm,1.0s								
PCI	**Palu**		**14.62**	**192**	P		**P**		**16 50 15.3 -0.8**
	60nm,1.3s,898nm								
LBMI	**Labuha**		**14.79**	**161**	P		**P**		**16 50 16.3 -1.7**
SANI	**Sanana**		**15.76**	**168**	P		**Pn**		**16 50 23.0 -2.2**
TTSI	**Tana Toraja**		**16.71**	**191**	P		**Pn**		**16 50 38.0 +0.7**
	56nm,0.9s,1µm								
NLAI	**Namlea**		**17.16**	**165**	P		**P**		**16 50 45.1 +0.8**
	42nm,1.1s,554nm								
KSM	**Kuching**		**17.22**	**227**	*e*Pn		**P**		**16 50 45.3 +0.3**
	96nm,1.4s								
STKI	**Sintang**		**17.46**	**221**	P		**P**		**16 50 51.4 +3.8**
	50nm,1.4s								
SSE	**Sheshan**		**17.58**	**355**	⇑P		**Pn**		**16 50 45.0 -3.0**
SSE					pP		**pP**		**16 50 54.0 -3.4**
SSE					sP		**sP**		**16 50 56.8 -4.7**
SSE					S		**Sn**		**16 54 01.8 -1.1**
SSE					sS		**S**		**16 54 13.0 +3.2**
SSE					PMZ				
	9.0nm,0.6s								
SSE					PMZ				
	330nm,12.0s								
SSE					LN				
	640nm,20.8s								
SSE					LE				
	1µm,20.8s								
SSE					LZ				
	1µm,16.3s								
SPSI	**Sidrap Palu**		**17.62**	**190**	P		P		16 50 54.3 +4.9
	30nm,0.9s,794nm								
MSAI	**Masohi**		**17.80**	**160**	P		**P**		**16 50 54.5 +3.1**
KBKI	**Kotabaru**		**17.95**	**202**	P		P		16 50 59.6 +6.5
	33nm,1.1s,963nm								
BNSI	**Bone**		**17.99**	**189**	P		P		16 50 59.1 +5.6
	76nm,1.2s,2µm								
SKNT	**Sakolnakorn**		**18.52**	**283**	P		**Pn**		**16 51 02.8 +3.1**
	38nm,3.3s,2µm								
BBKI	**Banjar Baru**		**18.63**	**206**	P		**Pn**		**16 51 05.3 +4.3**
KAPI	**Kappang**		**18.65**	**190**	⇓Pn		**Pn**		**16 51 02.5 +1.3**
	SNR=12								
KAPI	**Kappang**		**18.65**	**190**	*e*P		**Pn**		**16 51 01.8 +0.5**
	64nm,0.9s								
WHN	**Wuhan**		**18.68**	**337**	⇑P		**Pn**		**16 51 02.5 +1.0**
WHN					S		**Sn**		**16 54 25.5 -4.1**
WHN					LN				
	6µm,18.9s								
WHN					LE				
	2µm,13.5s								
WHN					LZ				
	5µm,17.9s								
NJ2	**Nanjing**		**18.82**	**349**	*e*P		**Pn**		**16 51 04.5 +1.3**
NJ2					pP		**pP**		**16 51 12.0 +0.9**
NJ2					sP		**sP**		**16 51 16.3 +1.0**
NJ2					S		**S**		**16 54 35.3 +0.5**
NJ2					PMZ				
	230nm,0.6s								
NJ2					PMZ				
	820nm,4.3s								
NJ2					LN				
	2µm,25.7s								
NJ2					LE				
	2µm,21.7s								
NJ2					LZ				
	2µm,21.4s								
BKSI	**Bulukumba**		**18.89**	**188**	P		**Pn**		**16 51 05.8 +1.6**
	63nm,1.3s,1µm								
BNDI	**Bandanaira**		**19.23**	**158**	P		**Pn**		**16 51 09.8 +1.5**
	194nm,1.5s,5µm								
KHON	**Khomkaen**		**19.54**	**281**	P		**Pn**		**16 51 13.4 +1.4**
	19nm,1.1s								
PBKI	**Pangkalan Bun**		**19.54**	**215**	P		Pn		16 51 18.7 +6.7
	83nm,1.0s,929nm								
GYA	**Guiyang**		**19.90**	**313**	*e*P		**Pn**		**16 51 16.8 +0.5**
GYA					pP		**pP**		**16 51 25.5 +2.3**
GYA					PP		**PnPn**		**16 51 30.3 -0.5**
GYA					S		**S**		**16 54 55.8 -1.2**
GYA					sS		**sS**		**16 55 07.5 -3.2**
GYA					PMZ				
	10.0nm,0.8s								
GYA					PMZ				
	90nm,4.7s								
GYA					LN				
	490nm,15.4s								
GYA					LE				
	380nm,16.2s								
GYA					LZ				
	470nm,15.0s								
CHBT	**CHBT**		**19.98**	**270**	P		**Pn**		**16 51 19.3 +2.0**
	42nm,1.4s,785nm								
SRPI	**Serui, Papua**		**20.25**	**138**	P		Pn		16 51 19.8 -0.6
ENH	**Enshi**		**20.75**	**326**	P		**P**		**16 51 24.8 +1.2**
	38nm,1.2s								
JNU	**Nakatsue**		**20.86**	**19**	P		**P**		**16 51 25.8 +0.9**
	9.8nm,0.9s,baz=15,slow=12,SNR=2.8								
JNU					LR		LR		16 59 27.6
	comp=Z,728nm,20.3s,baz=206,slow=37								
PBKT	**Sadao Pong**		**21.34**	**281**	P		**P**		**16 51 31.9 +1.9**
	40nm,1.5s,872nm								
GUMO	**Guam**		**21.42**	**87**	LR		LR		16 58 09.0
	comp=Z,497nm,21.3s,baz=264,slow=32								
UTTA	**Uttaradit**		**21.86**	**284**	P		**P**		**16 51 37.2 +1.5**
	4.4nm,0.9s,51nm								
MMRI	**Maumere**		**22.00**	**182**	P		P		16 51 44.9 +7.8
MMRI	**Maumere**		**22.00**	**182**	*e*P		**P**		**16 51 35.9 -1.3**
	97nm,1.2s								
SMPI	**Sarmi**		**22.02**	**133**	P		**P**		**16 51 37.0 -0.3**
	70nm,1.2s,2µm								
TPI	**Tanjungpandan**		**22.09**	**224**	P		P		16 51 42.9 +4.8
	22nm,1.1s,404nm								
EDFI	**Ende, Flores**		**22.14**	**183**	P		P		16 51 48.5 +10
KMI	**Kunming**		**22.18**	**304**	P		**P**		**16 51 40.8 +1.6**
KMI					pP		**pP**		**16 51 47.0 -0.9**
KMI					sP		**sP**		**16 51 50.3 -1.8**
KMI					PP		**PnPn**		**16 52 08.3 +6.2**
KMI					S		**S**		**16 55 44.0 +2.0**
KMI					sS		**sS**		**16 55 55.3 -0.8**
KMI					PMZ				
	56nm,1.5s								
KMI					PMZ				
	440nm,3.7s								
KMI					LN				
	1µm,15.4s								
KMI					LE				
	2µm,18.1s								
KMI					LZ				
	2µm,16.5s								
KMMI	**Kalianget**		**22.24**	**204**	P		**P**		**16 51 42.5 +2.9**
	56nm,1.5s								
CRAI	**Chiangrai**		**22.50**	**290**	P		**P**		**16 51 39.6 -2.9**
	48nm,0.8s								
JCJ	**Chichijima**		**22.59**	**50**	LR		LR		16 59 10.6
	comp=Z,936nm,21.6s,baz=238,slow=33								
SUKH	**Sukhothai**		**22.70**	**283**	P		**P**		**16 51 46.7 +2.0**
	11nm,0.9s,122nm								
PPBI	**Pangkal Pinang**		**22.73**	**228**	P		P		16 51 55.7 +11
GRJI	**Gresik**		**22.74**	**207**	P		P		16 51 58.6 +14
SRBI	**Singaraja**		**22.74**	**200**	P		P		16 51 50.3 +5.3
	40nm,1.2s								
ABJI	**Asem Bagus**		**22.82**	**202**	P		sP		16 51 59.8 +1.2
LAMP	**Lampang**		**22.85**	**286**	P		**P**		**16 51 47.3 +1.1**
	12nm,0.7s,107nm								
SRDT	**SRDT**		**23.03**	**275**	P		**P**		**16 51 50.4 +2.3**
	52nm,0.9s								
TJN	**Taejon**		**23.14**	**9**	⇓*e*P		**P**		**16 51 48.6 -0.4**
SOEI	**Soe**		**23.15**	**176**	P		**P**		**16 51 52.9 +3.5**
SOEI	**Soe**		**23.15**	**176**	*e*P		**P**		**16 51 50.3 +1.0**
	85nm,1.0s								
TIA	**Tai'an**		**23.19**	**348**	⇓P		**P**		**16 51 49.5 0.0**
TIA					S		**S**		**16 55 57.5 -1.6**
TIA					PMZ				
	120nm,0.8s								
TIA					PMZ				
	730nm,4.0s								
TIA					LN				
	660nm,17.8s								
TIA					LE				
	960nm,26.2s								
TIA					LZ				
	1µm,28.5s								
IPM	**Ipoh**		**23.31**	**249**	*e*P		**P**		**16 51 49.8 -1.1**
	18nm,0.8s								
KULM	**Kulim**		**23.34**	**252**	*e*P		**P**		**16 51 50.9 -0.3**
	62nm,1.5s								

TRTT	**Trang**		**23.42**	**258**	P		P		16 52 00.6 +8.6
JAGI	**Jajag, Banyuwa**		**23.47**	**202**	P		sP		16 52 08.9 +3.4
JAGI	**Jajag, Banyuwa**		**23.47**	**202**	P		**P**		**16 51 51.6 -0.8**
	61nm,1.2s								
GENI	**Genyem**		**23.48**	**132**	P		**P**		**16 51 54.4 +1.9**
	98nm,1.1s,3µm								
CM31	**Chiang Mai Arr**		**23.48**	**285**	*e*P		**P**		**16 51 52.9 +0.3**
	13nm,0.6s								
CM31					*e*PcP		**PcP**		**16 55 38.9 +0.9**
CMAR	**Chiang Mai Arr**		**23.48**	**285**	P		**P**		**16 51 52.8 +0.2**
	12nm,0.6s,baz=96,slow=8.0,SNR=97								
CMAR					PcP		**PcP**		**16 55 39.5 +1.5**
	2.6nm,0.7s,baz=125,slow=0.6,SNR=11								
CMAR					LR		LR		17 01 19.3
	comp=Z,768nm,19.4s,baz=98,slow=37								
CMMT	**Chiang Mai**		**23.53**	**286**	P		**P**		**16 51 53.2 +0.1**
	26nm,1.5s,771nm								
CHTO	**Chiang Mai**		**23.54**	**286**	⇓P		**P**		**16 51 52.7 -0.5**
	SNR=12								
CHTO	**Chiang Mai**		**23.54**	**286**	P		**P**		**16 51 53.2 +0.1**
	90nm,1.6s,2µm								
KHLT	**Khaolaem Dam**		**23.55**	**276**	P		P		16 52 02.1 +8.9
BATI	**Baumata**		**23.57**	**178**	LR		LR		17 03 10.0
	comp=Z,644nm,20.1s,slow=42								
CMAI	**Chiengmai2**		**23.65**	**289**	P		**P**		**16 51 54.6 +0.2**
	48nm,1.5s,1µm								
JAY	**Jayapura**		**23.82**	**131**	P		**P**		**16 51 53.2 -2.6**
	10.0nm,0.9s,baz=180,slow=13,SNR=2.9								
SMRI	**Semarang**		**23.84**	**212**	P		**P**		**16 51 56.6 +0.7**
	49nm,0.8s								
SURT	**Suratani**		**24.00**	**262**	P		P		16 52 06.5 +9.0
XAN	**Xi'an**		**24.04**	**331**	P		**P**		**16 51 57.0 -0.7**
XAN					pP		**pP**		**16 52 07.5 +0.5**
XAN					S		**S**		**16 56 10.8 -2.1**
XAN					PMZ				
	17nm,0.9s								
XAN					PMZ				
	72nm,7.7s								
XAN					LN				
	1µm,15.5s								
XAN					LE				
	510nm,14.3s								
XAN					LZ				
	430nm,19.3s								
KSAR	**Wonju Array Be**		**24.27**	**10**	P		**P**		**16 51 59.7 0.0**
KSAR	**Wonju Array Be**		**24.27**	**10**	P		**P**		**16 51 59.7 0.0**
KSRS	**Korea Array**		**24.28**	**10**	P		**P**		**16 51 59.7 -0.1**
	3.8nm,0.7s,baz=188,slow=10.0,SNR=14								
KSRS					LR		LR		17 00 10.0
	comp=Z,614nm,21.7s,baz=190,slow=33								
MHMT	**Maesarieng**		**24.40**	**284**	P		**P**		**16 52 03.0 +1.9**
	19nm,1.1s,367nm								
PCJI	**Pacitan**		**24.47**	**209**	P		sP		16 52 14.4 -0.6
CD2	**Chengdu**		**24.67**	**318**	⇑P		**P**		**16 52 03.3 -0.3**
CD2					pP		**pP**		**16 52 13.0 +0.1**
CD2					sP		**sP**		**16 52 17.0 +0.1**
CD2					PP		**PnPn**		**16 52 40.3 +4.3**
CD2					PcP		**PcP**		**16 55 40.5 0.0**
CD2					S		**S**		**16 56 20.3 -3.0**
CD2					sS		**sS**		**16 56 36.3 -2.4**
CD2					SS		**SnSn**		**16 57 18.0 +7.2**
CD2					PMZ				
	120nm,0.9s								
CD2					PMZ				
	340nm,6.0s								
CD2					LN				
	4µm,17.1s								
CD2					LE				
	4µm,16.2s								
CD2					LZ				
	3µm,16.2s								
KPJI	**Karang Pucung**		**24.88**	**215**	P		sP		16 52 19.8 +1.0
LEM	**Lembang**		**25.22**	**218**	P		sP		16 52 23.1 +1.0
LEM	**Lembang**		**25.22**	**218**	P		**P**		**16 52 10.7 +1.9**
	4.4nm,0.4s,baz=166,slow=20,SNR=6.9								
LEM					LR		LR		17 03 10.5
	comp=Z,515nm,20.3s,baz=38,slow=39								
MDSI	**Maura Dua**		**25.74**	**227**	P		**P**		**16 52 15.9 +2.6**
	28nm,1.6s								
LHSI	**Lahat**		**25.77**	**229**	P		P		16 52 18.5 +5.0
TIY	**Taiyuan**		**25.83**	**341**	*e*P		**P**		**16 52 14.0 0.0**
TIY					sP		**sP**		**16 52 32.0 +4.7**
TIY					PP		**PnPn**		**16 52 55.3 +3.4**
TIY					S		**S**		**16 56 40.3 -1.4**
TIY					sS		**sS**		**16 56 58.0 +0.9**
TIY					PMZ				
	290nm,4.2s								
TIY					LN				
	1µm,12.8s								
TIY					LE				
	580nm,13.1s								
TIY					LZ				
	1µm,15.1s								
PSI	**Prapat**		**25.91**	**248**	P		**P**		**16 52 15.9 +0.9**
	7.9nm,0.8s,baz=42,slow=2.4,SNR=7.9								
PSI					LR		LR		17 02 31.9
	comp=Z,1µm,20.5s,baz=74,slow=37								
TSI	**Tuntungan**		**25.95**	**250**	P		P		16 52 23.8 +8.6
LWLI	**Liwa**		**26.19**	**227**	P		**P**		**16 52 21.2 +3.7**
	78nm,0.8s,3µm								
MNSI	**Mandailing Nat**		**26.26**	**243**	P		**P**		**16 52 20.1 +2.1**
	36nm,0.7s								
MJAR	**Matsushiro Arr**		**26.77**	**28**	P		**P**		**16 52 20.8 -1.6**
	1.1nm,0.6s,baz=205,slow=7.8,SNR=4.7								
BJT	**Baijiatuau**		**27.06**	**349**	P		**P**		**16 52 24.9 -0.1**
BJT					pmax	pmax			
	comp=Z,74nm,0.9s								
BJT	**Baijiatuau**		**27.06**	**349**	P		**P**		**16 52 24.9 -0.1**
	comp=Z,74nm,0.9s								
BJI	**Beijing**		**27.08**	**349**	P		**P**		**16 52 25.3 +0.2**
BJI					pP		**pP**		**16 52 34.0 -0.5**
BJI					sP		**sP**		**16 52 37.3 -1.2**
BJI					S		**S**		**16 56 59.5 -1.6**
BJI					PMZ				
	comp=Z,30nm,1.3s								
BJI					LN				
	comp=Z,430nm,14.8s								
BJI					LE				
	comp=Z,970nm,17.9s								
BJI					LZ				
	comp=Z,710nm,27.2s								
GSI	**Gunungsitoli**		**27.78**	**246**	P		P		16 52 39.5 +7.7
GSI	**Gunungsitoli**		**27.78**	**246**	*e*P		**P**		**16 52 29.8 -2.0**
	comp=Z,22nm,0.8s								
LZH	**Lanzhou**		**28.23**	**326**	⇑P		**P**		**16 52 36.5 +0.8**
LZH					pP		**pP**		**16 52 46.8 +1.7**
LZH					sP		**sP**		**16 52 50.3 +1.2**
LZH					S		**S**		**16 57 16.0 -3.7**
LZH					PMZ				
	comp=Z,52nm,1.1s								
LZH					PMZ				
	comp=Z,260nm,4.0s								
LZH					LN				
	comp=Z,6µm,14.5s								
LZH					LE				
	comp=Z,3µm,15.9s								
LZH					LZ				
	comp=Z,5µm,16.0s								
SNY	**Shenyang**		**28.23**	**1**	⇑P		**P**		**16 52 35.0 -0.4**
SNY					S		**S**		**16 57 17.3 -1.9**
SNY					PMZ				
	comp=Z,35nm,1.9s								
SNY					PMZ				
	comp=Z,340nm,2.9s								
SNY					LN				
	comp=Z,940nm,20.8s								
SNY					LE				
	comp=Z,1µm,19.6s								
SNY					LZ				
	comp=Z,880nm,21.8s								
HHC	**Hu-ho-hao-te**		**28.98**	**342**	*e*P		**P**		**16 52 44.5 +2.3**
HHC					pP		**pP**		**16 52 54.3 +2.7**
HHC					sP		**sP**		**16 52 58.3 +2.7**
HHC					PP		**PnPn**		**16 53 38.5 +3.8**
HHC					S		**S**		**16 57 34.0 +2.8**
HHC					sS		**sS**		**16 57 48.5 +1.8**
HHC					SS		**SnSn**		**16 59 03.3 +7.5**
HHC					PMZ				
	comp=Z,16nm,0.6s								
HHC					PMZ				
	comp=Z,170nm,5.7s								
HHC					LN				
	comp=Z,1µm,17.7s								
HHC					LE				
	comp=Z,730nm,20.1s								
HHC					LZ				

	comp=Z,930nm,15.2s								
BTO	**Baotou**		**29.25**	**340**	*e*P		**P**		**16 52 43.3 -1.3**
CN2	**Changchun**		**30.28**	**4**	*e*P		**P**		**16 52 54.3 +0.7**
CN2					*e*pP		pP		16 53 09.0 +6.0
CN2					*e*S		**S**		**16 57 49.5 -1.9**
CN2					PMZ				
	comp=Z,10.0nm,0.5s								
CN2					PMZ				
	comp=Z,200nm,5.0s								
CN2					LN				
	comp=Z,1µm,13.0s								
CN2					LE				
	comp=Z,700nm,13.0s								
CN2					LZ				
	comp=Z,500nm,15.0s								
SHL	**Shillong**		**31.46**	**297**	*e*P		**P**		**16 53 05.0 +0.5**
MDJ	**Mudanjiang**		**31.54**	**9**	P		**P**		**16 53 05.3 +0.6**
MDJ					pP		**pP**		**16 53 14.0 -0.2**
MDJ					sP		**sP**		**16 53 18.0 -0.1**
MDJ					S		**S**		**16 58 12.3 +1.2**
MDJ					sS		**sS**		**16 58 27.3 +0.6**
MDJ					PMZ				
	comp=Z,11nm,1.0s								
MDJ					PMZ				
	comp=Z,89nm,2.9s								
MDJ					LN				
	comp=Z,320nm,27.8s								
MDJ					LE				
	comp=Z,920nm,28.4s								
MDJ					LZ				
	comp=Z,600nm,33.8s								
MDJ	**Mudanjiang**		**31.54**	**9**	*e*P		**P**		**16 53 03.4 -1.4**
	comp=Z,9.0nm,0.8s								
USRK	**Ussuriysk Ar.**		**31.58**	**13**	P		**P**		**16 53 05.7 +0.6**
	comp=Z,2.6nm,0.6s,baz=193,slow=7.3,SNR=6.4								
USRK					LR		LR		17 06 02.7
	comp=Z,314nm,19.5s,baz=176,slow=37								
GTA	**Gaotai**		**32.84**	**326**	⇑P		**P**		**16 53 16.8 +0.5**
GTA					pP		**pP**		**16 53 26.5 +0.7**
GTA					sP		**sP**		**16 53 30.3 +0.6**
GTA					PcP		**PcP**		**16 56 01.0 +0.2**
GTA					S		**S**		**16 58 32.0 +0.3**
GTA					sS		**sS**		**16 58 47.5 +0.2**
GTA					SS		**SnSn**		**17 00 33.0 +3.3**
GTA					PMZ				
	comp=Z,13nm,2.0s								
GTA					PMZ				
	comp=Z,160nm,4.5s								
GTA					LN				
	comp=Z,2µm,20.4s								
GTA					LE				
	comp=Z,2µm,20.4s								
GTA					LZ				
	comp=Z,2µm,19.0s								
LSA	**Lhasa**		**33.43**	**304**	P		**P**		**16 53 22.8 +0.7**
LSA					PMZ				
	comp=Z,10.0nm,1.3s								
LSA	**Lhasa**		**33.43**	**304**	*e*P		**P**		**16 53 22.7 +0.7**
LSA					pmax	pmax			
	comp=Z,20nm,0.9s								
LSA	**Lhasa**		**33.43**	**304**	*e*P		**P**		**16 53 22.6 +0.6**
	comp=Z,20nm,0.9s								
COEN	**Coen**		**33.91**	**143**	*e*P		**P**		**16 53 25.6 -0.2**
	comp=Z,7.9nm,0.8s								
MBWA	**Marble Bar**		**34.58**	**185**	⇑P		**P**		**16 53 31.8 +0.3**
MBWA	**Marble Bar**		**34.58**	**185**	*e*P		**P**		**16 53 31.5 0.0**
	comp=Z,4.8nm,0.5s								
ASAJ	**Asahikawa**		**34.89**	**25**	P		**P**		**16 53 34.7 +0.8**
	comp=Z,5.3nm,0.8s,baz=49,slow=20,SNR=4.1								
ASAJ					LR		LR		17 06 18.7
	comp=Z,590nm,20.7s,baz=192,slow=34								
WRAB	**Tennant Creek**		**35.10**	**161**	*e*P		**P**		**16 53 33.9 -2.1**
WRAB					pmax	pmax			
	comp=Z,13nm,0.9s								
WRAB	**Tennant Creek**		**35.10**	**161**	*e*P		**P**		**16 53 33.9 -2.1**
	comp=Z,13nm,0.9s								
WRA	**Warramunga Arr**		**35.11**	**161**	P		**P**		**16 53 34.8 -1.3**
	comp=Z,4.9nm,0.7s,baz=346,slow=9.1,SNR=38								
TAPN	**Taplejung**		**35.55**	**298**	*e*P		**P**		**16 53 40.1 -0.1**
	comp=Z,64nm,1.2s								
ODAN	**Odare**		**35.69**	**297**	*e*P		**P**		**16 53 41.0 -0.4**
	comp=Z,60nm,0.8s								
HIA	**Hailar**		**35.75**	**357**	P		**P**		**16 53 39.8 -1.6**
HIA	**Hailar**		**35.75**	**357**	P		**P**		**16 53 39.8 -1.6**
COCO	**West Island**		**36.28**	**226**	⇓P		**P**		**16 53 45.1 -1.0**
HABR	**Khabarovsk**		**36.31**	**14**	P		**P**		**16 53 43.6 -2.5**
HABR					*e*				16 56 06.9
HABR					*e*S		**S**		**16 59 19.7 -5.0**
HABR					*e*SS		**SnSn**		**17 01 54.1 +0.7**
HABR					*e*SSS		SSS		17 02 11.3
HABR					*e*				17 03 52.9
HABR					pmax	pmax			
	comp=Z,39nm,1.9s								
HABR					MLR		MLR		
	comp=Z,335nm,19.0s								
KLR	**Kul'dur**		**36.38**	**10**	*e*P		**P**		**16 53 46.2 -0.4**
KLR					MLR		MLR		
	comp=E,500nm,13.0s								
KLR					MLR		MLR		
	comp=Z,2µm,13.0s								
RAMN	**Ramite**		**36.40**	**297**	*e*P		**P**		**16 53 47.4 0.0**
	comp=Z,128nm,1.5s								
ULN	**Ulaanbaatar**		**36.70**	**342**	*c i*P		**P**		**16 53 49.9 +0.3**
ULN					pmax	pmax			
	comp=Z,27nm,1.2s								
ULN	**Ulaanbaatar**		**36.70**	**342**	P		**P**		**16 53 50.3 +0.7**
	SNR=15								
ULN	**Ulaanbaatar**		**36.70**	**342**	*e*P		**P**		**16 53 50.0 +0.3**
	comp=Z,27nm,1.0s								
SONM	**Songino Array**		**36.87**	**341**	P		**P**		**16 53 51.2 +0.1**
	comp=Z,4.9nm,0.7s,baz=161,slow=9.9,SNR=50								
SONM					LR		LR		17 10 59.9
	comp=Z,1µm,18.9s,baz=152,slow=40								
JIRN	**Jiri**		**36.93**	**298**	*e*P		**P**		**16 53 52.2 +0.1**
	comp=Z,47nm,0.7s								
GUN	**Gumba**		**37.26**	**299**	*e*P		**P**		**16 53 54.6 -0.3**
YSS	**Yuzh-Sakhalins**		**37.30**	**23**	*e*P		**P**		**16 53 56.0 +1.5**
YSS					*e*S		**S**		**16 59 42.0 +2.1**
YSS					*e*				17 02 38.0
YSS					MLR		MLR		
	comp=Z,500nm,17.0s								
YSS	**Yuzh-Sakhalins**		**37.30**	**23**	P		**P**		**16 53 54.6 +0.1**
	comp=Z,40nm,1.3s								
CHLP	**Challavanipeta**		**37.55**	**283**	*e*P		**P**		**16 53 56.6 -0.5**
PKI	**Pulchoki**		**37.58**	**298**	*e*P		**P**		**16 53 56.8 -0.8**
	comp=Z,97nm,1.0s								
PKIN	**Phulchoki**		**37.59**	**298**	*e*P		**P**		**16 53 57.6 0.0**
KKN	**Kakani**		**37.74**	**298**	*e*P		**P**		**16 53 58.3 -0.5**
DMN	**Daman**		**37.85**	**298**	*e*P		**P**		**16 53 59.1 -0.7**
GKN	**Gorkha**		**38.35**	**298**	*e*P		**P**		**16 54 02.9 -1.0**
AS31	**Alice Springs**		**38.49**	**164**	*e*P		**P**		**16 54 03.5 -1.4**
ASAR	**Alice Springs**		**38.49**	**164**	P		**P**		**16 54 04.3 -0.6**
	comp=Z,3.6nm,0.8s,baz=340,slow=6.5,SNR=51								
ASAR					LR		LR		17 11 07.5
	comp=Z,569nm,21.3s,baz=340,slow=38								
CIT	**Chita**		**39.14**	**351**	*e*P		**P**		**16 54 08.8 -1.2**
CIT					*e*				16 54 18.7
KOLN	**Koldanda**		**39.18**	**297**	*e*P		**P**		**16 54 10.5 -0.4**
	comp=Z,18nm,0.8s								
PYUN	**Piuthan**		**39.78**	**298**	*e*P		**P**		**16 54 15.6 -0.3**
	comp=Z,49nm,0.7s								
ZAK	**Zakamensk**		**40.09**	**341**	*e*P		**P**		**16 54 17.6 -0.4**
ZAK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
CTA	**Charters Tower**		**40.56**	**145**	P		**P**		**16 54 21.9 -0.2**
	comp=Z,

RPR	**Rampur**	**42.08**	**283**	*e*P		**P**	**16 54 33.7**	**-1.0**
NJS	**Nagarjunasagar**	**42.09**	**280**	*e*P		P	16 54 31.6	-3.2
WMQ	**Urumqi**	**42.62**	**322**	*e*P		**P**	**16 54 39.8**	**+0.9**
WMQ					pP	**pP**	**16 54 49.5**	**+1.0**
WMQ					sP	**sP**	**16 54 53.5**	**+1.1**
WMQ					S	S	17 00 50.0	-10
WMQ					PMZ			
	comp=Z,15nm,1.0s							
WMQ					PMZ			
	comp=Z,170nm,6.4s							
WMQ					LN			
	comp=Z,4μm,19.2s							
WMQ					LE			
	comp=Z,2μm,19.3s							
WMQ					LZ			
	comp=Z,3μm,21.0s							
HYB	**Hyderabad**	**42.79**	**281**	*i* P		**P**	**16 54 40.0**	**-0.6**
HYB				*e*			16 54 49.5	
HYBB	**Hyderabad (bro**	**42.79**	**281**	*e*P		P	16 54 44.0	+3.5
URV	**Uravakonda**	**44.15**	**278**	*e*P		**P**	**16 54 51.8**	**+0.3**
FORT	**Forrest**	**44.31**	**174**	*e*P		**P**	**16 54 52.0**	**-0.4**
	comp=Z,34nm,0.8s							
BOD	**Bodaibo**	**44.74**	**353**	*e*P		**P**	**16 54 55.0**	**-0.5**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.4s							
NWAO	**Narrogin (SRO)**	**46.48**	**187**	P		**P**	**16 55 09.3**	**-0.3**
	comp=Z,8.0nm,0.7s,baz=15,slow=8.0,SNR=7.2							
MK31	**Makanchi Array**	**47.44**	**323**	*i* P		**P**	**16 55 17.1**	**0.0**
MK31					pmax	pmax		
	comp=Z,14nm,0.9s							
MK31	**Makanchi Array**	**47.44**	**323**	*e*P		**P**	**16 55 17.2**	**+0.1**
MKAR	**Makanchi Array**	**47.44**	**323**	P		**P**	**16 55 17.2**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=165,slow=5.6,SNR=55							
MKAR					ScP	**ScP**	**17 00 40.7**	**+1.7**
	comp=Z,1.4nm,1.1s,baz=119,slow=1.8,SNR=4.6							
MKAR					LR	LR	17 14 11.3	
	comp=Z,1μm,21.4s,baz=108,slow=35							
PDGK	**Podgornoye**	**47.56**	**317**	P		**P**	**16 55 17.5**	**-0.5**
PDGK					pmax	pmax		
	comp=Z,22nm,1.1s							
BBOO	**Buckleboo**	**47.75**	**165**	*e*P		**P**	**16 55 18.3**	**-1.3**
	comp=Z,41nm,1.2s							
PEA0B	**Petropavlovsk-**	**48.22**	**28**	*e*P		**P**	**16 55 23.1**	**+0.1**
PETK	**Petropavlovsk-**	**48.22**	**28**	P		**P**	**16 55 22.8**	**-0.2**
	comp=Z,6.8nm,0.8s,baz=201,slow=7.9,SNR=6.2							
PETK					LR	LR	17 16 16.2	
	comp=Z,170nm,20.2s,baz=217,slow=37							
STKA	**Stephens Creek**	**48.57**	**159**	P		**P**	**16 55 25.7**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=337,slow=7.3,SNR=12							
STKA					LR	LR	17 17 25.4	
	comp=Z,582nm,21.5s,baz=336,slow=38							
STKA	**Stephens Creek**	**48.57**	**159**	*e*P		**P**	**16 55 25.1**	**-0.8**
STKA					pmax	pmax		
	comp=Z,2.0nm,0.9s							
STKA	**Stephens Creek**	**48.57**	**159**	*e*P		**P**	**16 55 25.1**	**-0.8**
	comp=Z,1.7nm,0.9s							
STKA					P	**P**	**16 55 25.7**	**-0.2**
KSH	**Kashi**	**48.59**	**311**	P		**P**	**16 55 28.3**	**+2.1**
KSH					pP	**pP**	**16 55 38.3**	**+2.3**
KSH					PP	**PP**	**16 57 21.0**	**+1.8**
KSH					S	**S**	**17 02 26.8**	**+0.7**
KSH					ScS	**ScS**	**17 05 15.3**	**-1.5**
KSH					SS	**SS**	**17 05 52.3**	**-4.1**
KSH					PMZ			
	comp=Z,88nm,4.7s							
KSH					LN			
	comp=Z,880nm,12.4s							
KSH					LE			
	comp=Z,660nm,13.9s							
KSH					LZ			
	comp=Z,1μm,16.2s							
PET	**Petropavlovsk**	**48.60**	**28**	*e*P		**P**	**16 55 23.6**	**-2.3**
PET					pmax	pmax		
	comp=Z,56nm,1.1s							
PET	**Petropavlovsk**	**48.60**	**28**	*e*P		**P**	**16 55 23.6**	**-2.3**
	comp=Z,56nm,1.1s							
YAK	**Yakutsk**	**48.71**		4*c* *i*P		**P**	**16 55 25.8**	**-0.7**
YAK				*e*			16 56 47.6	
YAK				*e*			16 57 19.2	
YAK				*e*PPP		PPP	16 58 13.3	
YAK				*e*S		**S**	**17 02 21.3**	**-5.4**
YAK				*e*			17 05 08.2	
YAK				*e*SSS		SSS	17 07 18.4	
YAK				pmax		pmax		
	comp=Z,14nm,0.9s							
YAK				pmax		pmax		
	comp=Z,71nm,3.3s							
YAK				pmax		pmax		
	comp=N,104nm,3.6s							
YAK				pmax		pmax		
	comp=E,57nm,4.2s							
YAK				smax		smax		
	comp=N,39nm,2.6s							
YAK				smax		smax		
	comp=E,64nm,3.0s							
YAK	**Yakutsk**	**48.71**	**4**	*e*P		**P**	**16 55 25.5**	**-1.1**
	comp=E,14nm,0.7s							
ULHL	**Ulahol**	**49.33**	**315**	P		**P**	**16 55 32.7**	**+0.7**
	SNR=6.8							
ULHL	**Ulahol**	**49.33**	**315**	*i* P		**P**	**16 55 32.6**	**+0.7**
KZA	**Kyzart**	**49.96**	**314**	P		**P**	**16 55 38.2**	**+1.2**
	SNR=8.3							
KZA	**Kyzart**	**49.96**	**314**	*i* P		**P**	**16 55 38.2**	**+1.2**
TKM2	**Tokmak 2**	**50.02**	**315**	P		**P**	**16 55 37.7**	**+0.5**
	SNR=6.3							
TKM2	**Tokmak 2**	**50.02**	**315**	*i* P		**P**	**16 55 37.3**	**+0.1**
TKM2					pmax	pmax		
	comp=Z,16nm,1.6s							
TKM2	**Tokmak 2**	**50.02**	**315**	*e*P		**P**	**16 55 36.0**	**-1.3**
	comp=Z,5.0nm,0.8s							
ZAA0	**Zalesovo Array**	**50.20**	**332**	*e*P		**P**	**16 55 37.1**	**-1.0**
ZALV	**Zalesovo Beam**	**50.20**	**332**	P		**P**	**16 55 37.3**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=132,slow=6.4,SNR=12							
ZALV					LR	LR	17 18 10.3	
	comp=Z,805nm,18.2s,baz=72,slow=38							
ZALV	**Zalesovo Beam**	**50.20**	**332**	*i* P		**P**	**16 55 40.2**	**+2.1**
ZALV					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KBK	**Karagaybulak**	**50.37**	**315**	P		**P**	**16 55 40.6**	**+0.8**
	SNR=7.2							
KBK	**Karagaybulak**	**50.37**	**315**	*i* P		**P**	**16 55 40.6**	**+0.8**
UCH	**Uchtor**	**50.53**	**314**	P		**P**	**16 55 42.5**	**+1.2**
	SNR=8.9							
UCH	**Uchtor**	**50.53**	**314**	*i* P		**P**	**16 55 42.5**	**+1.2**
SFK	**Sufi-Kurgan**	**50.55**	**311**	P		**P**	**16 55 41.5**	**+0.2**
SFK					pmax	pmax		
	comp=Z,6.0nm,0.7s							
FRU	**Bishkek**	**50.66**	**315**	*e*P		**P**	**16 55 41.5**	**-0.4**
AAK	**Ala-Archa**	**50.68**	**315⇑**	*e*P		**P**	**16 55 43.7**	**+1.6**
AAK					pmax	pmax		
	comp=Z,27nm,2.5s							
AAK	**Ala-Archa**	**50.68**	**315**	⇓P		**P**	**16 55 41.0**	**-1.1**
AAK	**Ala-Archa**	**50.68**	**315**	*e*P		**P**	**16 55 42.6**	**+0.5**
	comp=Z,8.3nm,1.1s							
USP	**Ospenovka**	**50.89**	**315**	P		**P**	**16 55 44.0**	**+0.4**
	SNR=5.1							
USP	**Ospenovka**	**50.89**	**315**	*i* P		**P**	**16 55 44.0**	**+0.4**
AML	**Almayashu**	**51.07**	**314**	P		**P**	**16 55 46.2**	**+0.8**
	SNR=6.1							
AML	**Almayashu**	**51.07**	**314**	*i* P		**P**	**16 55 46.2**	**+0.8**
EKS2	**Erkin-Say**	**51.19**	**314**	*e*P		**P**	**16 55 46.2**	**+0.3**
EKS2					pmax	pmax		
	comp=Z,8.0nm,0.9s							
EKS2	**Erkin-Say**	**51.19**	**314**	*e*P		**P**	**16 55 46.2**	**+0.3**
	comp=Z,7.6nm,0.9s							
NVS	**Novosibirsk**	**51.48**	**332⇑**	*i*P		**P**	**16 55 46.9**	**-0.8**
NVS				*i*			16 57 44.9	
NVS					pmax	pmax		
	comp=Z,10.0nm,1.1s							
KURK	**Kurchatov**	**51.52**	**326**	P		**P**	**16 55 47.7**	**-0.4**
KURK					pmax	pmax		
	comp=Z,22nm,0.9s							
KURK	**Kurchatov**	**51.52**	**326**	P		**P**	**16 55 48.7**	**+0.6**
	SNR=22							
KURK	**Kurchatov**	**51.52**	**326**	*e*P		**P**	**16 55 48.3**	**+0.2**
	comp=Z,44nm,0.9s							
MNAS	**Manas**	**52.02**	**314**	P		**P**	**16 55 51.9**	**-0.3**
MNAS					pmax	pmax		
	comp=Z,20nm,1.6s							
KBL	**Kabul**	**52.75**	**303**	*e*P		**P**	**16 55 56.6**	**-1.2**
KBL					pmax	pmax		
	comp=Z,10.0nm,0.6s							
KBL	**Kabul**	**52.75**	**303**	*e*P		**P**	**16 55 56.6**	**-1.2**
	comp=Z,9.7nm,0.6s							
SEY	**Seymchan**	**53.60**	**16**	P		**P**	**16 56 04.3**	**+1.0**
	comp=Z,3.7nm,0.8s,baz=220,slow=5.5,SNR=20							
KKAR	**Karatay Array**	**53.60**	**314**	*e*P		**P**	**16 56 03.5**	**-0.2**
KKAR					pmax	pmax		
	comp=Z,5.0nm,0.6s							
KKAR	**Karatay Array**	**53.60**	**314**	*e*P		**P**	**16 56 03.5**	**-0.2**
	comp=Z,5.2nm,0.6s							
DZM	**Mont Dzumac**	**55.48**	**129**	*e*S		**S**	**17 03 59.3**	**-1.7**
	comp=Z,322nm,27.2s							
DZM				*e*LQ		LQ	17 10 08.2	
	comp=Z,1μm,31.3s							
DZM				*e*LR		LR	17 12 22.4	
	comp=Z,508nm,25.1s							
BRVK	**Borovoye**	**57.18**	**325**	*c**e*P		**P**	**16 56 29.4**	**+0.1**
BRVK					pmax	pmax		
	comp=Z,48nm,1.8s							
BRVK	**Borovoye**	**57.18**	**325**	P		**P**	**16 56 29.6**	**+0.3**
	SNR=11							
BRVK	**Borovoye**	**57.18**	**325**	*e*P		**P**	**16 56 29.0**	**-0.3**
	comp=Z,21nm,0.9s							
TIXI	**Tiksi**	**58.23**	**2**	*c**e*P		**P**	**16 56 35.3**	**-1.0**
TIXI					pmax	pmax		
	comp=Z,5.0nm,0.8s							
TIXI	**Tiksi**	**58.23**	**2**	*e*P		**P**	**16 56 35.0**	**-1.3**
	comp=Z,6.8nm,0.8s							
BILL	**Bilibino**	**61.27**	**17**	*d* *i*P		**P**	**16 56 57.3**	**0.0**
BILL					*e*S	**S**	**17 05 18.5**	**+3.5**
BILL					pmax	pmax		
	comp=Z,19nm,1.9s							
BILL					MLR	MLR		
	comp=Z,277nm,18.0s							
BILL	**Bilibino**	**61.27**	**17**	*e*P		**P**	**16 56 57.1**	**-0.2**
	comp=Z,5.8nm,0.8s							
GEYT	**Alibeck**	**61.93**	**306**	P		**P**	**16 57 03.0**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=101,slow=1.5,SNR=10							
GEYT					LR	LR	17 26 58.9	
	comp=Z,697nm,19.3s,baz=65,slow=39							
AB31	**Akbulak array**	**62.25**	**319**	P		**P**	**16 57 03.6**	**-0.6**
AB31					pmax	pmax		
	comp=Z,2.0nm,0.5s							
ABKAR	**Akbulak array**	**62.25**	**319**	*e*P		**P**	**16 57 03.6**	**-0.6**
	comp=Z,2.4nm,0.4s							
MSVF	**Nonsavu**	**62.70**	**118**	*e*P		**P**	**16 57 08.7**	**+1.0**
MSVF					pmax	pmax		
	comp=Z,15nm,0.9s							
MSVF	**Nonsavu**	**62.70**	**118**	*e*P		**P**	**16 57 08.7**	**+1.0**
	comp=Z,15nm,0.9s							
SVE	**Sverdlovsk**	**63.69**	**327⇑**	*i*P		**P**	**16 57 14.0**	**+0.4**
SVE					pmax	pmax		
	comp=Z,32nm,1.1s							
ARU	**Arti**	**64.69**	**326**	*d* *i*P		**P**	**16 57 19.9**	**-0.3**
ARU							16 57 50.9	
ARU							16 59 39.1	
ARU					S	**S**	**17 05 58.6**	**+0.4**
ARU					pmax	pmax		
	comp=Z,16nm,1.7s							
ARU	**Arti**	**64.69**	**326**	*e*P		**P**	**16 57 19.2**	**-1.0**
	comp=Z,8.8nm,0.6s							
GAMB	**Gambell**	**67.21**	**26**	*e*P		**P**	**16 57 36.8**	**+0.6**
	comp=Z,8.9nm,1.2s							
TNA	**Tin City**	**69.24**	**25**	*e*P		**P**	**16 57 49.4**	**+0.4**
	comp=Z,3.0nm,0.9s							
DGRG	**David-gareji**	**71.84**	**309**	P		**P**	**16 58 06.4**	**+1.0**
PRGR	**Permogore**	**72.14**	**331**	P		**P**	**16 58 03.8**	**-2.9**
PRGR					pmax	pmax		
	comp=Z,11nm,0.8s							
ZEI	**Tsey**	**72.88**	**311**	*e*P		**P**	**16 58 10.5**	**-1.2**
ZEI					pmax	pmax		
	comp=Z,6.0nm,0.8s							
ONI	**Oni**	**73.22**	**311**	P		**P**	**16 58 13.9**	**+0.4**
RAYN	**Ar Rayn**	**73.27**	**291**	*e*P		**P**	**16 58 14.2**	**-0.1**
	comp=Z,17nm,1.1s							
KBZ	**Khabaz**	**73.56**	**312**	P		**P**	**16 58 14.8**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=236,slow=24,SNR=5.1							
KBZ					LR	LR	17 33 45.6	
	comp=Z,342nm,20.7s,baz=171,slow=38							
KIV	**Kislovodsk**	**73.70**	**312**	*e*P		**P**	**16 58 16.2**	**-0.2**
KIV					*e*S	**SKiKP**	**17 07 44.5**	**+0.6**
KIV					pmax	pmax		
	comp=Z,15nm,1.1s							
KIV					MLR	MLR		
	comp=Z,550nm,18.0s							
KIV	**Kislovodsk**	**73.70**	**312**	P		**P**	**16 58 16.1**	**-0.4**
	comp=Z,15nm,0.9s							
CHVG	**Ch'k'valeri**	**74.22**	**311**	P		**P**	**16 58 19.1**	**-0.2**
KLMR	**Klimovskoe**	**75.07**	**330**	*e*P		**P**	**16 58 21.5**	**-2.4**
KLMR					pmax	pmax		
	comp=Z,24nm,1.2s							
IM04	**Indian Mountai**	**75.08**	**25**	*e*P		**P**	**16 58 24.1**	**+0.2**
VSR	**Storozhevoye**	**75.65**	**320**	*e*P		**P**	**16 58 26.8**	**-0.6**
VSR					pmax	pmax		
	comp=N,6.0nm,0.8s							
VSR					pmax	pmax		
	comp=E,8.0nm,0.8s							
VSR					pmax	pmax		
	comp=Z,9.0nm,0.8s							
LPSR	**Galich'ya Gora**	**75.71**	**321**	*e*P		**P**	**16 58 27.0**	**-0.7**
LPSR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
LPSR					pmax	pmax		
	comp=N,4.0nm,0.5s							
LPSR					pmax	pmax		
	comp=E,10.0nm,0.8s							
COLD	**Coldfoot**	**76.48**	**24**	*e*P		**P**	**16 58 32.6**	**+0.8**
	comp=E,5.0nm,0.7s							
OBN	**Obninsk**	**76.92**	**324⇓**	*e*P		**P**	**16 58 33.9**	**-0.6**
OBN					pmax	pmax		
	comp=Z,46nm,1.9s							
OBN					MLR	MLR		
	comp=Z,323nm,18.0s							
MCK	**McKinley**	**77.22**	**27**	*e*P		**P**	**16 58 35.8**	**-0.4**
MCK					pmax	pmax		
	comp=Z,22nm,1.1s							
MCK	**McKinley**	**77.22**	**27**	*e*P		**P**	**16 58 35.8**	**-0.4**
	comp=Z,22nm,1.1s							
ANN	**Anapa**	**77.38**	**313**	*e*P		**P**	**16 58 36.6**	**-0.8**
ANN					MLR	MLR		
	comp=E,343nm,17.0s							
ANN					MLR	MLR		
	comp=Z,363nm,17.0s							
ANN					MLR	MLR		
	comp=N,236nm,17.0s							
APA	**Apatity**	**77.41**	**337⇑**	*i*P		**P**	**16 58 36.0**	**-1.1**
APA				*i*			16 58 48.0	
APA				*i*			17 01 34.0	
APA				*i* S		**S**	**17 08 23.0**	**-2.2**
APA				*i*			17 08 42.0	
APA				*i* SS		**SS**	**17 13 30.0**	**+6.3**
APA				MLR		MLR		
	comp=Z,1μm,26.0s							
ILAR	**Eielson Array**	**78.02**	**26**	P		**P**	**16 58 40.0**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=245,slow=4.6,SNR=13							
ILAR					LR	LR	17 34 38.5	
	comp=Z,81nm,19.7s,baz=274,slow=37							
JOF	**Joensuu**	**78.79**	**332**	*e*p		**P**	**16 58 43.8**	**-1.0**
	comp=Z,6.3nm,0.7s							
JOF	**Joensuu**	**78.79**	**332**	*e*P		**P**	**16 58 43.8**	**-1.0**
JOF					pmax	pmax		
	comp=Z,6.0nm,0.7s							
PAX	**Paxson**	**78.86**	**28**	*e*P		**P**	**16 58 45.4**	**+0.1**
PAX					pmax	pmax		
	comp=Z,4.0nm,0.8s							
PAX	**Paxson**	**78.86**	**28**	*e*P		**P**	**16 58 45.4**	**+0.1**
	comp=Z,3.9nm,0.8s							
DOT	**Dot Lake**	**79.39**	**27**	*e*P		**P**	**16 58 46.9**	**-1.3**
	comp=Z,6.5nm,1.1s							
KEV	**Kevo**	**79.45**	**339**	*e*p		**P**	**16 58 47.7**	**-0.6**
	comp=Z,6.7nm,0.7s							
KEV	**Kevo**	**79.45**	**339**	*e*P		**P**	**16 58 47.7**	**-0.6**
KEV					pmax	pmax		
	comp=Z,7.0nm,0.7s							
ASF	**Jabal al Asfar**	**79.55**	**301**	P		**P**	**16 58 49.3**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=45,slow=3.7,SNR=5.2							
ARCES	**ARCESS Array B**	**80.01**	**339**	P		**P**	**16 58 51.6**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=73,slow=7.1,SNR=25							
ARCES					LR	LR	17 36 23.7	
	comp=Z,331nm,20.8s,baz=82,slow=37							
ARE0	**ARCESS Array S**	**80.01**	**339**	*e*P		**P**	**16 58 51.7**	**+0.3**
SPITS	**Spitsbergen Ar**	**80.20**	**348**	P		**P**	**16 58 52.8**	**+0.4**
	comp=Z,8.8nm,0.6s,baz=91,slow=8.8,SNR=38							
EGAK	**Eagle**	**80.44**	**26**	*e*P		**P**	**16 58 53.7**	**-0.1**
	comp=Z,7.3nm,0.9s							
MMAI	**Mount Meron Ar**	**80.65**	**302**	P		**P**	**16 58 56.6**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=78,slow=4.4,SNR=3.9							
BRTR	**Keskin Array B**	**80.90**	**309**	P		**P**	**16 58 56.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=106,slow=4.6,SNR=4.7							
BRTR					LR	LR	17 40 10.2	
	comp=Z,145nm,20.2s,baz=52,slow=40							
KAF	**Kangasniemi**	**81.22**	**332**	*e*p		**P**	**16 58 56.0**	**-1.9**
	comp=Z,3.0nm,0.7s							
KAF	**Kangasniemi**	**81.22**	**332**	*e*P		**P**	**16 58 56.0**	**-1.9**
KAF					pmax	pmax		
	comp=Z,3.0nm,0.7s							
DAWY	**Dawson**	**81.34**	**26**	*e*P		**P**	**16 58 58.7**	**0.0**
	comp=Z,17nm,1.4s							
FIA1	**FINESS Array S**	**81.46**	**331**	*e*P		**P**	**16 58 58.4**	**-0.9**
FINES	**FINESS Array B**	**81.46**	**331**	P		**P**	**16 58 58.9**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=72,slow=5.1,SNR=18							
FINES					LR	LR	17 37 54.0	
	comp=Z,510nm,19.4s,baz=85,slow=38							
EIL	**Elat**	**81.63**	**298**	P		**P**	**16 59 00.3**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=156,slow=3.9,SNR=4.5							
AKASG	**Malin Array Be**	**81.95**	**320**	P		**P**	**16 59 00.8**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=65,slow=5.3,SNR=18							
AKASG					LR	LR	17 35 53.0	
	comp=Z,425nm,21.6s,baz=95,slow=36							
KIEV	**Kiev**	**81.96**	**320**	⇓*i*P		**P**	**16 59 01.2**	**-0.9**
AK02	**Malin Array Si**	**81.97**	**320**	*e*P		**P**	**16 59 00.6**	**-1.5**
INK	**Inuvik**	**82.53**	**21**	P		**P**	**16 59 05.0**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=295,slow=7.6,SNR=8.6							
TIRR	**Tirgusor**	**83.79**	**314⇑**	*i*P		**P**	**16 59 11.5**	**-0.2**
TIRR	**Tirgusor**	**83.79**	**314**	⇑P		**P**	**16 59 11.5**	**-0.2**
TLB	**Topalu**	**84.02**	**314⇑**	*i*P		**P**	**16 59 12.8**	**-0.1**
TLB	**Topalu**	**84.02**	**314**	⇑P		**P**	**16 59 12.8**	**-0.1**
TESR	**Tescani**	**84.53**	**316⇑**	*i*P		**P**	**16 59 15.2**	**-0.3**
VRI	**Vrincioaia**	**84.63**	**316**	⇓*i*P		**P**	**16 59 16.5**	**+0.5**
VRI	**Vrincioaia**	**84.63**	**316**	⇓P		**P**	**16 59 16.5**	**+0.5**
PLOR	**Plostina**	**84.68**	**316⇑**	*i*P		**P**	**16 59 16.7**	**+0.4**
PLOR	**Plostina**	**84.68**	**316**	⇑P		**P**	**16 59 16.7**	**+0.4**
SUW	**Suwalki**	**84.78**	**324**	*e*P		**P**	**16 59 16.3**	**-0.2**
SUW	**Suwalki**	**84.78**	**324**	*e*P		**P**	**16 59 15.8**	**-0.7**
SUW					pmax	pmax		
	comp=Z,39nm,1.0s							
SUW	**Suwalki**	**84.78**	**324**	*e*P		**P**	**16 59 15.8**	**-0.7**
	comp=Z,39nm,1.0s							
BUR08	**Bucovina Ar. S**	**85.21**	**318**	*e*P		**P**	**16 59 18.7**	**-0.4**
MLR	**Muntele Rosu**	**85.25**	**316**	⇓*i*P		**P**	**16 59 19.3**	**0.0**
MLR	**Muntele Rosu**	**85.25**	**316**	P		**P**	**16 59 19.5**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=75,slow=0.8,SNR=17							
LVV	**L'vov**	**85.39**	**320**	*e*P		P	16 59 26.1	+6.4
DOPR	**Dopca**	**85.51**	**316**	⇓*i*P		**P**	**16 59 19.0**	**-1.4**
KMBO	**Kilima Mbogo**	**85.97**	**268**	P		**P**	**16 59 24.5**	**+1.0**
	comp=Z,6.2nm,0.8s,baz=54,slow=7.1,SNR=14							
KMBO	**Kilima Mbogo**	**85.97**	**268**	*c**e*P		**P**	**16 59 25.0**	**+1.4**
KMBO					pmax	pmax		
	comp=Z,6.0nm,0.8s							
KWP	**Kalwaria Pacla**	**86.27**	**320**	*e*P		**P**	**16 59 24.3**	**+0.2**
KWP	**Kalwaria Pacla**	**86.27**	**320**	⇓*i*P		**P**	**16 59 24.7**	**+0.6**
KWP	**Kalwaria Pacla**	**86.27**	**320**	*e*P		**P**	**16 59 24.1**	**0.0**
KWP					pmax	pmax		
	comp=Z,33nm,0.9s							
KWP	**Kalwaria Pacla**	**86.27**	**320**	*e*P		**P**	**16 59 24.1**	**0.0**
	comp=Z,33nm,0.9s							
KOLS	**Kolonicke sedl**	**86.74**	**320**	*e*P		**P**	**16 59 26.6**	**+0.2**
KOLS					pmax	pmax		
	comp=Z,5.0nm,1.0s							
KOLS	**Kolonicke sedl**	**86.74**	**320**	*e*P		**P**	**16 59 26.6**	**+0.2**
UZH	**Uzhgorod**	**86.82**	**319⇑**	*i*P		**P**	**16 59 26.5**	**-0.3**
UZH				*e*			16 59 34.7	
DRGR		**87.07**	**317**	⇓*i*P		**P**	**16 59 28.4**	**+0.2**
DRGR		**87.07**	**317**	⇓P		**P**	**16 59 28.4**	**+0.2**
STHS	**Stebnicka Huta**	**87.25**	**320**	*e*P		**P**	**16 59 30.3**	**+1.4**
STHS					pmax	pmax		
	comp=Z,4.0nm,0.8s							
STHS	**Stebnicka Huta**	**87.25**	**320**	*e*P		**P**	**16 59 30.3**	**+1.4**
CRVS	**Cervenica-Dubn**	**87.27**	**320**	*e*P		**P**	**16 59 29.1**	**+0.1**
CRVS					pmax	pmax		
	comp=Z,58nm,2.0s							
CRVS	**Cervenica-Dubn**	**87.27**	**320**	*e*P		**P**	**16 59 29.1**	**+0.1**
HFS	**Hagfors**	**87.64**	**332**	P		**P**	**16 59 29.4**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=86,slow=4.6,SNR=7.5							
NIE	**Niedzica**	**87.83**	**320**	*e*P		**P**	**16 59 31.9**	**+0.2**
OJC	**Ojcow**	**87.89**	**321**	*e*P		**P**	**16 59 31.7**	**-0.2**
KECS	**Kecovo**	**88.01**	**319**	*e*P		**P**	**16 59 33.0**	**+0.5**
KECS					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KECS	**Kecovo**	**88.01**	**319**	*e*P		**P**	**16 59 33.0**	**+0.5**
NB2	**NORSAR Subarra**	**88.38**	**333**	P		**P**	**16 59 32.8**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=67,slow=4.8							
NOA	**NORSAR Array B**	**88.38**	**333**	P		**P**	**16 59 32.8**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=68,slow=4.7,SNR=11							
NOA					LR	LR	17 43 18.4	
	comp=Z,283nm,18.2s,baz=55,slow=38							
OKC	**Ostrava-Krasne**	**89.02**	**321**	AMS		AMS	17 39 20.0	
	comp=Z,300nm,19.0s							
VYHS	**Vyhne**	**89.04**	**320**	*e*P		**P**	**16 59 37.5**	**+0.1**
VYHS					pmax	pmax		
	comp=Z,22nm,2.6s							
VYHS	**Vyhne**	**89.04**	**320**	*e*P		**P**	**16 59 37.5**	**+0.1**
MORC	**Moravsky Berou**	**89.41**	**321⇑**	*i*P		P	16 59 47.2	+8.0
**MOR

LSP	**Las Mesas**	**1.36**	**87**	*eS*		Sn	16 48 04.2	+2.0
AGPR	**Aguadilla, PR**	**1.38**	**75**	⇑*eP*		Pn	16 47 41.5	+0.1
AGPR	**Aguadilla, PR**	**1.38**	**75**	*eS*		Sn	16 48 03.5	+1.0
GBPR	**Guanica, Bosqu**	**1.56**	**95**	⇓*eP*		Pn	16 47 43.7	+0.3
GBPR				*eS*		Sn	16 48 05.5	-0.5
LRS	**Lares**	**1.60**	**84**	⇓*eP*		Pn	16 47 43.8	-0.1
LRS				*eS*		Sn	16 48 07.4	+0.6
AOPR	**Arecibo Observ**	**1.69**	**82**	⇑*eP*		Pn	16 47 44.5	-0.4
AOPR	**Arecibo Observ**	**1.69**	**82**	*eS*		Sn	16 48 08.8	+0.2
OBIP	**Obispado Ponce**	**1.82**	**92**	⇓*eP*		Pn	16 47 46.2	-0.1
OBIP	**Obispado Ponce**	**1.82**	**92**	*eS*		Sn	16 48 11.7	+0.6
CELP	**Cerrillos**	**1.84**	**91**	⇓*eP*		Pn	16 47 46.4	-0.2
CELP				*eS*		Sn	16 48 12.9	+1.2
ICM	**Isla Caja Muer**	**1.91**	**96**	⇓*eP*		Pn	16 47 46.9	-0.4
ICM	**Isla Caja Muer**	**1.91**	**96**	*eS*		Sn	16 48 14.7	+1.7
SJG	**San Juan**	**2.25**	**90**	⇑*eP*		Pn	16 47 52.0	+0.6
SJG				*eS*		Sn	16 48 21.4	+1.0
HUMP	**Col San Antoni**	**2.54**	**89**	⇓*eP*		Pn	16 47 54.8	-0.2
HUMP	**Col San Antoni**	**2.54**	**89**	*eS*		Sn	16 48 26.0	-0.7
SDDR	**Presa de Saban**	**2.77**	**289**	⇓*eP*		Pn	16 47 58.9	+1.0
MTP	**Monte Pirata**	**2.82**	**90**	⇑*eP*		Pn	16 47 58.5	-0.1
STVI	**Saint Thomas**	**3.39**	**86**	⇑*eP*		Pn	16 48 05.5	-0.4

SKO **29** *16:54:20.0, 39˚.99N×21˚.47E, h13km*
ISCJB **29** *16:54:22.8±0.6, 40˚.16N±0˚.03×21˚.67E±0˚.04, h3km±8km, Error ellipse: s-maj=5.8km s-min=4.8km az=29.5*
ATH **29** *16:54:22.5, 40˚.16N×21˚.65E, h5km±2km, MD3.0/7*
CSEM **29** *16:54:22.7±0.2, 40˚.18N×21˚.64E, h10km, MD3.0, Error ellipse: s-maj=6.3km s-min=4.2km az=73.0*
THE **29** *16:54:23.2, 40˚.15N×21˚.67E, h0km±3km, ML2.1/5, Error ellipse: s-maj=3.7km s-min=0.8km az=189.0*

ISC 29 16:54:22.7±0.9, 40˚.17N±0˚.02×21˚.66E±0˚.03, h11km±7km, n34, σ0966/54, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.16**	**32**	P	**Pg**	**16 54 26.4**	**+0.1**
KZN				S	**Sg**	**16 54 29.4**	**+0.5**
KZN	**Kozani**	**0.16**	**32**	*e*PG	**Sg**	**16 54 26.2**	**-0.1**
KZN				*e*SG	**Sg**	**16 54 29.4**	**+0.5**
KZN	**Kozani**	**0.16**	**32**	*e*Pg	**Pg**	**16 54 26.2**	**-0.1**
KZN				S	**Sg**	**16 54 29.4**	**+0.5**
NEST	**Nestorio**	**0.53**	**298**	P	**Pg**	**16 54 33.0**	**0.0**
NEST				S	**Sb**	**16 54 42.6**	**+0.9**
NEST	**Nestorio**	**0.53**	**298**	*e*PB	**Pg**	**16 54 33.0**	**0.0**
NEST	**Nestorio**	**0.53**	**298**	P	**Pg**	**16 54 33.0**	**0.0**
NEST				S	**Sb**	**16 54 42.6**	**+0.9**
LIT	**Litokhoron**	**0.64**	**96**	P	**Pg**	**16 54 34.5**	**-0.6**
LIT				S	**Sb**	**16 54 44.6**	**-0.3**
LIT	**Litokhoron**	**0.64**	**96**	*e*PB	**Pg**	**16 54 34.5**	**-0.6**
LIT				*e*SB	**Sb**	**16 54 44.7**	**-0.2**
LIT	**Litokhoron**	**0.64**	**96**	P	**Pg**	**16 54 34.5**	**-0.6**
LIT				*e*Sb	**Sb**	**16 54 44.7**	**-0.2**
FNA	**Florina**	**0.65**	**341**	P	**Pg**	**16 54 35.1**	**-0.2**
FNA				S	**Sb**	**16 54 45.1**	**-0.1**
FNA	**Florina**	**0.65**	**341**	*e*PG	**Pg**	**16 54 35.2**	**-0.1**
FNA	**Florina**	**0.65**	**341**	P	**Pg**	**16 54 35.1**	**-0.2**
FNA				S	**Sb**	**16 54 45.1**	**-0.1**
THL	**Klokotos Trika**	**0.67**	**156**	P	**Pg**	**16 54 34.9**	**-0.7**
THL	**Klokotos Trika**	**0.67**	**156**	*e*PG	**Pg**	**16 54 34.9**	**-0.7**
THL				*e*SB	**Sb**	**16 54 45.2**	**-0.4**
THL	**Klokotos Trika**	**0.67**	**156**	P	**Pg**	**16 54 34.9**	**-0.7**
THL				*e*Sb	**Sb**	**16 54 45.2**	**-0.4**
DSL	**Palaion Diasel**	**1.12**	**203**	P	**Pn**	**16 54 45.0**	**+0.6**
DSL	**Palaion Diasel**	**1.12**	**203**	P	**Pn**	**16 54 45.0**	**+0.6**
OHR	**Ohrid**	**1.14**	**325**	*e*Pn	**Pb**	**16 54 42.6**	**-2.0**
OHR				*e*Sg	**Sn**	**16 55 00.8**	**+0.3**
OHR	**Ohrid**	**1.14**	**325**	*e*Pn	**Pb**	**16 54 42.5**	**-2.0**
OHR				*e*Sg	**Sn**	**16 55 00.8**	**+0.3**
HORT	**Hortiatis**	**1.18**	**68**	P	**Pn**	**16 54 45.6**	**+0.4**
HORT	**Hortiatis**	**1.18**	**68**	*e*PB	**Pg**	**16 54 45.8**	**+0.4**
HORT	**Hortiatis**	**1.18**	**68**	P	**Pn**	**16 54 45.6**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.21**	**162**	P	**Pn**	**16 54 45.5**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.21**	**162**	*e*PB	**Pn**	**16 54 45.5**	**-0.2**
MAKR				*e*SB	**Sn**	**16 55 02.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.21**	**162**	P	**Pn**	**16 54 45.5**	**-0.2**
MAKR				*e*Sb	**Sn**	**16 55 02.4**	**+0.3**
EVR	**Evrytania**	**1.26**	**175**	P	**Pn**	**16 54 46.2**	**-0.2**
EVR				S	**Sn**	**16 55 05.1**	**+1.8**
EVR	**Evrytania**	**1.26**	**175**	*e*PB	**Pn**	**16 54 46.2**	**-0.2**
EVR				*e*SB	**Sn**	**16 55 03.6**	**+0.3**
EVR	**Evrytania**	**1.26**	**175**	P	**Pn**	**16 54 46.2**	**-0.2**
EVR				*e*Sb	**Sn**	**16 55 03.6**	**+0.3**
EVR				S	**Sn**	**16 55 05.1**	**+1.8**
AGG	**Agios Georgios**	**1.26**	**156**	P	**Pb**	**16 54 46.6**	**+0.1**
AGG	**Agios Georgios**	**1.26**	**156**	P	**Pb**	**16 54 46.6**	**+0.1**
KNT	**Kendrikon**	**1.36**	**43**	P	**Pg**	**16 54 49.1**	**+0.2**
KNT	**Kendrikon**	**1.36**	**43**	P	**Pg**	**16 54 49.1**	**+0.2**
PLG	**Polygyros**	**1.38**	**81**	P	**Pg**	**16 54 49.4**	**+0.2**
PLG	**Polygyros**	**1.38**	**81**	P	**Pg**	**16 54 49.4**	**+0.2**

IDC **29** *16:59:59.2±0.6, 1˚.97S×119˚.99E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/35, mbtmp4.3/17, ML4.2/1, Error ellipse: s-maj=22.3km s-min=12.9km az=66.0*
MOS **29** *17:00:02.0±1.2, 1˚.98S×119˚.93E, h33km, mb4.8/23, Error ellipse: s-maj=15.3km s-min=7.0km az=119.6*
DJA **29** *17:00:03.0±0.2, 2˚.52S×12˚.0E±˚, h10km, M4.9/18, mb5.0/15, mB5.7/3, MLv4.8/18, Mw(mB)5.2/3*
ISCJB **29** *17:00:04.4±0.2, 2˚.04S±0˚.02×119˚.76E±0˚.03, h50km, mb4.5/44, Error ellipse: s-maj=4.0km s-min=3.1km az=165.3*
KLM **29** *17:00:05.2, 2˚.07S×119˚.77E, h40km, mb4.9, ML5.1, MS5.7*
BJI **29** *17:00:05.4, 2˚.00S×119˚.70E, h40km, mB5.0/6, mb4.6/15, Ms4.4/2*
NEIC **29** *17:00:06.4±0.7, 2˚.06S×119˚.89E, h59km±7km, mb4.5/21, Error ellipse: s-maj=7.8km s-min=6.0km az=62.0*

ISC 29 17:00:06.2±0.4, 2˚.03S±0˚.04×119˚.80E±0˚.06, h50km, n153, σ1854/156, mb4.6/44, 7C-4D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.01**	**179**	P	Pn	17 00 20.5	-3.6
TTSI				S	**Sn**	**17 00 37.6**	**+0.4**
PCI	**Palu**	**1.12**	**2**	P	Pn	17 00 22.2	-3.3
PCI				S	**Sn**	**17 00 39.2**	**-0.6**
SPSI	**Sidrap Palu**	**1.92**	**181**	P	**Pn**	**17 00 35.6**	**-0.9**
MPSI	**Mapaga**	**2.35**	**2**	P	**Pn**	**17 00 41.5**	**-0.9**
BNSI	**Bone**	**2.38**	**173**	P	**Pn**	**17 00 42.5**	**-0.2**
BNSI				S	**Sn**	**17 01 13.3**	**+2.7**
KAPI	**Kappang**	**2.97**	**181**	*e*Pn	**Pn**	**17 00 50.0**	**-0.8**
KAPI				*e*Sn	Sn	17 01 34.1	+9.0
BKB	**Balikpapan**	**3.00**	**285**	P	**Pn**	**17 00 49.0**	**-2.3**
LUWI	**Luwuk**	**3.12**	**72**	P	**Pn**	**17 00 54.0**	**+1.0**
LUWI	**Luwuk** baz=3.1,SNR=76	**3.12**	**72**	P	**Pn**	**17 00 52.3**	**-0.7**
LUWI	**Luwuk**	**3.12**	**72**	*e*Pn	**Pn**	**17 00 52.0**	**-1.0**
MRSI	**Marisa**	**3.28**	**41**	P	**Pn**	**17 00 54.2**	**-0.9**
MRSI				S	Sn	17 01 07.5	-25
TOLI	**Toli-Toli**	**3.28**	**18**	*e*Pn	**Pn**	**17 00 55.9**	**+0.7**
TOLI				*e*Sg	Sn	17 01 39.7	+6.7
BKSI	**Bulukumba**	**3.29**	**174**	P	**Pn**	**17 00 55.2**	**0.0**
KDI	**Kendari**	**3.40**	**124**	P	**Pn**	**17 00 57.9**	**+1.1**
KBKI	**Kotabaru**	**3.85**	**251**	P	**Pn**	**17 01 00.2**	**-2.7**
BSSI	**Bau Bau, Buton**	**4.14**	**171**	P	**Pn**	**17 01 07.0**	**0.0**
GTOI	**Gorontalo**	**4.16**	**50**	P	**Pn**	**17 01 07.2**	**0.0**
KMSI	**Cibinong** 1µm,0.7s,15µm	**4.91**	**58**	P	**Pn**	**17 01 18.3**	**+0.8**
MTKI	**Muara Teweh, K**	**5.02**	**282**	P	**Pn**	**17 01 16.1**	**-3.0**
BBKI	**Banjar Baru** 541nm,0.6s,5µm	**5.16**	**254**	P	**Pn**	**17 01 18.3**	**-2.6**
SANI	**Sanana**	**6.18**	**90**	P	**Pn**	**17 01 35.8**	**+0.9**
EDFI	**Ende, Flores** 21nm,0.8s	**6.94**	**164**	P	**Pn**	**17 01 45.7**	**+0.3**
MMRI	**Maumere** 53nm,1.1s	**7.00**	**160**	P	**Pn**	**17 01 46.6**	**+0.5**
TWSI	**Taliwang, Sumb** 4µm,0.7s	**7.27**	**203**	P	**Pn**	**17 01 48.7**	**-1.2**
MYLDM	**Lahad Datu**	**7.28**	**350**	⇑P	**Pn**	**17 01 50.2**	**+0.2**
SRBI	**Singaraja** 37nm,0.7s	**7.56**	**217**	P	**Pn**	**17 01 52.2**	**-1.6**
KMMI	**Kalianget** 62nm,0.8s	**7.66**	**229**	P	**Pn**	**17 01 53.7**	**-1.6**
LBMI	**Labuha** 251nm,1.0s,3µm	**7.82**	**80**	P	**Pn**	**17 01 58.6**	**+1.2**
ABJI	**Asem Bagus** 29nm,0.9s	**7.97**	**224**	P	**Pn**	**17 01 57.7**	**-1.8**
SDKM	**Sandakan**	**8.05**	**341**	⇑P	**Pn**	**17 02 00.7**	**0.0**
TNTI	**Ternate**	**8.06**	**70**	P	**Pn**	**17 02 01.5**	**+0.8**
TNTI	**Ternate** 46nm,0.6s	**8.06**	**70**	*e*Pn	**Pn**	**17 02 00.2**	**-0.5**
PBKI	**Pangkalan Bun**	**8.15**	**265**	P	**Pn**	**17 02 00.8**	**-1.2**
BTM	**Bintulu**	**8.49**	**308**	⇑P	**Pn**	**17 02 05.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**8.52**	**221**	P	**Pn**	**17 02 07.7**	**+0.7**
JAGI	**Jajag, Banyuwa** baz=8.5,SNR=4.5	**8.52**	**221**	P	**Pn**	**17 02 05.8**	**-1.2**
STKI	**Sintang** 52nm,0.8s	**8.58**	**284**	P	**Pn**	**17 02 05.1**	**-2.8**
KKM	**Kota Kinabalu** baz=8.8,SNR=7.9	**8.78**	**336**	P	Pn	17 02 14.2	+3.5
KKM	baz=8.8,SNR=4.0			S	Sn	17 04 00.9	+12
KKM	**Kota Kinabalu**	**8.78**	**336**	⇑P	**Pn**	**17 02 10.3**	**-0.4**
KKM	**Kota Kinabalu** 25nm,0.6s	**8.78**	**336**	*e*Pn	**Pn**	**17 02 12.9**	**+2.2**
KKM				*e*Sn	Sn	17 03 29.6	-19
SOEI	**Soe** 80nm,1.1s	**8.87**	**150**	P	**Pn**	**17 02 12.5**	**+0.6**
SOEI	**Soe** 93nm,1.1s	**8.87**	**150**	*e*Pn	Pn	17 02 16.7	+4.8
KSM	**Kuching** baz=10,SNR=6.2	**10.11**	**290**	P	**Pn**	**17 02 26.0**	**-2.9**
KSM	**Kuching** 7.7nm,0.8s	**10.11**	**290**	*e*Pn	Pn	17 02 25.2	-3.6
UGM	**Wanagama** baz=11,SNR=4.2	**10.94**	**237**	P	Pn	17 02 43.8	+3.7
FAKI	**Fak Fak** baz=12,SNR=5.3	**12.46**	**94**	P	**Pn**	**17 03 02.9**	**+1.8**
LEM	**Lembang** 1.3nm,0.3s,baz=300,slow=20,SNR=2.3	**13.05**	**248**	Pn	**Pn**	**17 03 08.7**	**-0.4**
FITZ	**Fitzroy Crossi** baz=17,SNR=4.2	**16.97**	**161**	P	**P**	**17 04 05.1**	**+3.7**
IPM	**Ipoh** 8.4nm,0.6s	**19.85**	**289**	*e*P	**P**	**17 04 33.5**	**+0.3**
KULM	**Kulim** 14nm,1.0s	**20.47**	**291**	*e*P	**P**	**17 04 40.2**	**+0.2**
PSI	**Prapat** 8.2nm,0.6s,baz=96,slow=6.3,SNR=8.3	**21.42**	**283**	P	**P**	**17 04 50.4**	**+0.1**
MMPI	**Merauke** baz=22,SNR=3.4	**21.46**	**108**	S	**S**	**17 08 40.5**	**-5.6**
WRA	**Warramunga Arr** 9.5nm,0.9s,baz=312,slow=11,SNR=29	**22.78**	**142**	P	**P**	**17 05 03.5**	**-1.2**
WRAB	**Tennant Creek**	**22.78**	**142**	⇑*e*P	**P**	**17 05 03.2**	**-1.4**
WRAB	comp=Z,44nm,1.2s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,41nm,1.3s	**22.78**	**142**	*e*P	**P**	**17 05 03.3**	**-1.4**
WRKA	**Warakurna** baz=24,SNR=15	**24.30**	**161**	P	**P**	**17 05 20.8**	**+1.6**
MEEK	**Meekatharra** baz=25,SNR=3.6	**24.50**	**183**	P	**P**	**17 05 21.8**	**+0.9**
AS31	**Alice Springs**	**25.48**	**149**	*e*P	**P**	**17 05 30.1**	**+0.2**
ASAR	**Alice Springs** comp=Z,4.9nm,0.7s,baz=316,slow=7.8,SNR=36	**25.48**	**149**	P	**P**	**17 05 29.9**	**0.0**
ASAR				PcP	**PcP**	**17 09 01.1**	**+0.2**
CM31	**Chiang Mai Arr** comp=Z,0.7nm,0.7s,baz=341,slow=1.9,SNR=6.4	**28.91**	**316**	P	**P**	**17 06 01.1**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,2.8nm,0.7s	**28.91**	**316**	P	**P**	**17 06 02.4**	**+1.7**
CMAR	comp=Z,1.5nm,0.8s,baz=140,slow=7.0,SNR=14			PcP	**PcP**	**17 09 07.8**	**-1.3**
CHTO	**Chiang Mai** comp=Z,1.1nm,0.9s,baz=160,slow=2.9,SNR=4.2	**29.15**	**316**	*e*P	**P**	**17 06 02.5**	**-0.4**
CHTO	comp=Z,2.0nm,0.7s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,2.5nm,0.7s	**29.15**	**316**	*e*P	**P**	**17 06 02.5**	**-0.4**
KMI	**Kunming**	**31.66**	**330**	P	**P**	**17 06 27.5**	**+2.3**
KMI				pP	**pP**	**17 06 35.0**	**-3.1**
KMI	comp=Z,13nm,1.1s			PMZ			
WHN	**Wuhan**	**32.81**	**351**	P	**P**	**17 06 38.0**	**+3.1**
QLP	**Quilpie** baz=34,SNR=5.0	**33.85**	**138**	P	**P**	**17 06 45.4**	**+1.3**
STKA	**Stephens Creek** comp=Z,5.8nm,0.8s,baz=318,slow=9.2,SNR=8.8	**36.10**	**148**	P	**P**	**17 07 03.0**	**-0.4**
STKA	**Stephens Creek**	**36.10**	**148**	P	**P**	**17 07 03.0**	**0.0**
STKA	**Stephens Creek** baz=36,SNR=7.0	**36.10**	**148**	P	**P**	**17 07 03.5**	**0.0**
STKA	**Stephens Creek**	**36.10**	**148**	P	**P**	**17 07 03.0**	**-0.4**
JNU	**Nakatsue** comp=Z,3.9nm,0.9s,baz=210,slow=20,SNR=2.4	**36.49**	**16**	P	**P**	**17 07 05.7**	**-1.1**
CMSA	**Cobar Meteorol** baz=38,SNR=8.0	**38.19**	**143**	P	**P**	**17 07 22.6**	**+1.5**
KSAR	**Wonju Array Be**	**39.98**	**10**	P	**P**	**17 07 34.5**	**-1.5**
KSAR	**Wonju Array Be**	**39.98**	**10**	P	**P**	**17 07 34.5**	**-1.5**
KSRS	**Korea Array** comp=Z,1.3nm,0.7s,baz=195,slow=8.8,SNR=4.4	**40.00**	**10**	P	**P**	**17 07 34.5**	**-1.6**
CHLP	**Challavanipeta**	**40.66**	**302**	*e*P	**P**	**17 07 42.2**	**+0.3**
LSA	**Lhasa**	**41.78**	**321**	P	**P**	**17 07 52.5**	**+0.9**
LSA	comp=Z,6.0nm,0.6s			pmax	pmax		
LSA	**Lhasa** comp=Z,5.6nm,0.6s	**41.78**	**321**	P	**P**	**17 07 52.5**	**+0.9**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.6s,baz=205,slow=9.4,SNR=3.7	**42.03**	**22**	P	**P**	**17 07 49.8**	**-3.1**
ODAN	**Odare**	**42.45**	**315**	*e*P	**P**	**17 07 58.0**	**+1.2**
TAPN	**Taplejung** comp=Z,26nm,1.1s	**42.52**	**316**	*e*P	**P**	**17 07 58.4**	**+1.0**
SKHT	**Srikalahasti**	**42.73**	**293**	*e*P	**P**	**17 07 59.6**	**+0.7**
RAMN	**Ramite** comp=Z,9.1nm,0.5s	**43.07**	**314**	*e*P	**P**	**17 08 03.3**	**+1.5**
HHC	**Hu-ho-hao-te**	**43.33**	**351**	*e*P	**P**	**17 08 06.0**	**+2.5**
HHC				PP	**PP**	**17 09 47.5**	**+2.4**
HHC				S	**S**	**17 14 30.0**	**+2.2**
HHC	comp=Z,21nm,0.9s			PMZ			
HHC	comp=Z,110nm,5.8s			PMZ			
HHC	comp=Z,190nm,17.3s			LN			
HHC	comp=Z,210nm,14.8s			LE			
JIRN	**Jiri** comp=Z,14nm,0.6s	**43.78**	**315**	*e*P	**P**	**17 08 08.5**	**+0.8**
NJS	**Nagarjunasagar**	**44.04**	**296**	*e*P	**P**	**17 08 09.3**	**-0.2**
GUN	**Gumba** comp=Z,21nm,0.7s	**44.15**	**315**	*e*P	**P**	**17 08 11.4**	**+0.8**
PKI	**Pulchoki** comp=Z,6.8nm,0.5s	**44.29**	**314**	*e*P	**P**	**17 08 12.2**	**+0.5**
PKIN	**Phulchoki** comp=Z,3.6nm,0.4s	**44.30**	**314**	*e*P	**P**	**17 08 13.3**	**+1.6**
KKN	**Kakani**	**44.51**	**314**	*e*P	**P**	**17 08 14.1**	**+0.8**
DMN	**Daman** comp=Z,8.0nm,0.5s	**44.53**	**314**	*e*P	**P**	**17 08 14.2**	**+0.7**
RPR	**Rampur**	**44.91**	**299**	*e*P	**P**	**17 08 17.7**	**+1.3**
HYB	**Hyderabad**	**45.02**	**297**	*i* P	**P**	**17 08 20.0**	**+2.7**
GKN	**Gorkha** comp=Z,9.1nm,0.4s	**45.09**	**314**	*e*P	**P**	**17 08 18.5**	**+0.6**
GTA	**Gaotai**	**45.14**	**338**	*e*P	**P**	**17 08 19.5**	**+1.4**
GTA				pP	**pP**	**17 08 26.8**	**-4.7**
GTA				sP	sP	17 08 30.3	-7.0
GTA	comp=Z,7.0nm,1.5s			PMZ			
URV	**Uravakonda**	**45.36**	**293**	*e*P	**P**	**17 08 19.6**	**-0.4**
KOLN	**Koldanda** comp=Z,16nm,0.5s	**45.71**	**313**	*e*P	**P**	**17 08 23.1**	**+0.2**
PYUN	**Piuthan** comp=Z,59nm,0.7s	**46.34**	**313**	*e*P	**P**	**17 08 28.8**	**+1.0**
MDJ	**Mudanjiang**	**47.26**	**10**	*e*P	**P**	**17 08 33.1**	**-1.3**
USRK	**Usuriysk Ar.** comp=Z,2.0nm,0.6s,baz=187,slow=4.8,SNR=8.7	**47.30**	**12**	P	**P**	**17 08 33.6**	**-1.1**
ULN	**Ulaanbaatar** comp=Z,17nm,1.7s	**50.92**	**349**	⇑*e*P	**P**	**17 09 03.2**	**+0.6**
ULN				pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,12nm,1.0s	**50.92**	**349**	*e*P	**P**	**17 09 03.0**	**+0.4**
SONM	**Songino Array** comp=Z,4.8nm,0.8s,baz=164,slow=8.2,SNR=18	**51.02**	**348**	P	**P**	**17 09 04.2**	**+0.9**
ZAK	**Zakamensk** comp=Z,3.0nm,1.2s	**54.10**	**347**	*e*P	**P**	**17 09 26.2**	**+0.2**
ZAK				pmax	pmax		
TLY	**Talaya** comp=Z,7.0nm,0.8s	**55.24**	**348**	*e*P	**P**	**17 09 35.2**	**+1.0**
TLY				pmax	pmax		
MOY	**Mondy**	**55.83**	**346**	*e*P	**P**	**17 09 40.0**	**+1.5**
PDGK	**Podgornoye** comp=Z,14nm,1.0s	**57.86**	**326**	P	**P**	**17 09 53.6**	**+0.7**
PDGK				pmax	pmax		
MK31	**Makanchi Array**	**58.73**	**331**	*i* P	**P**	**17 09 59.9**	**+0.9**
MK31	comp=Z,19nm,0.8s			pmax	pmax		
MK31	**Makanchi Array**	**58.73**	**331**	*e*P	**P**	**17 09 59.6**	**+0.7**
MKAR	**Makanchi Array**	**58.73**	**331**	P	**P**	**17 10 00.0**	**+1.1**
BOD	**Bodaibo** comp=Z,10nm,0.7s,baz=175,slow=5.5,SNR=132	**59.84**	**356**	*e*P	**P**	**17 10 05.5**	**-0.9**
BOD	comp=Z,6.0nm,1.1s			pmax	pmax		
TKM2	**Tokmak 2**	**59.84**	**324**	*e*P	**P**	**17 10 07.0**	**+0.1**
TKM2	comp=Z,11nm,1.2s			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,11nm,1.2s	**59.84**	**324**	*e*P	**P**	**17 10 07.0**	**+0.1**
KBL	**Kabul**	**59.87**	**312**	*e*P	**P**	**17 10 07.0**	**-0.3**
KBL	comp=Z,13nm,0.6s			pmax	pmax		
KBL	**Kabul** baz=60,SNR=5.0	**59.87**	**312**	P	**P**	**17 10 07.6**	**+0.3**
KBL	**Kabul** comp=Z,13nm,0.6s	**59.87**	**312**	*e*P	**P**	**17 10 07.0**	**-0.3**
AAK	**Ala-Archa**	**60.34**	**323**	⇓*e*P	**P**	**17 10 11.7**	**+1.4**
AAK	comp=Z,32nm,1.6s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,5.1nm,0.8s	**60.34**	**323**	*e*P	**P**	**17 10 11.2**	**+0.9**
EKS2	**Erkin-Say**	**60.78**	**323**	*e*P	**P**	**17 10 11.5**	**-1.8**
EKS2	comp=Z,8.0nm,1.2s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,8.0nm,1.2s	**60.78**	**323**	*e*P	**P**	**17 10 11.5**	**-1.8**
ZAA0	**Zalesovo Array**	**62.90**	**338**	*e*P	**P**	**17 10 25.9**	**-1.2**
ZALV	**Zalesovo Beam** comp=Z,14nm,0.9s,baz=129,slow=5.9,SNR=48	**62.90**	**338**	P	**P**	**17 10 26.9**	**-0.2**
ZALV	**Zalesovo Beam**	**62.90**	**338**	*i* P	**P**	**17 10 26.8**	**-0.2**
ZALV	comp=Z,14nm,0.9s			pmax	pmax		
KKAR	**Karatay Array**	**63.04**	**321**	*e*P	**P**	**17 10 28.2**	**-0.1**
KKAR	comp=Z,2.0nm,0.7s			pmax	pmax		
KKAR	**Karatay Array** comp=Z,2.1nm,0.7s	**63.04**	**321**	*e*P	**P**	**17 10 28.2**	**-0.1**
KURK	**Kurchatov**	**63.19**	**332**	P	**P**	**17 10 29.2**	**+0.1**
KURK	comp=Z,15nm,0.9s			pmax	pmax		
KURK	**Kurchatov** comp=Z,26nm,0.8s	**63.19**	**332**	*e*P	**P**	**17 10 29.3**	**+0.2**
NVS	**Novosibirsk**	**64.18**	**337**	*i* P	P	17 10 31.7	-3.8
YAK	**Yakutsk**	**64.33**	**5**	*e*P	**P**	**17 10 34.5**	**-1.9**
YAK	comp=Z,13nm,0.8s			pmax	pmax		
YAK	**Yakutsk** comp=Z,13nm,0.8s	**64.33**	**5**	*e*P	**P**	**17 10 34.5**	**-1.9**
BRVK	**Borovoye**	**68.68**	**330**	*de*P	**P**	**17 11 04.6**	**+0.2**
BRVK	comp=Z,8.0nm,1.0s			pmax	pmax		
BRVK	**Borovoye** comp=Z,7.1nm,0.9s	**68.68**	**330**	*e*P	**P**	**17 11 04.0**	**-0.3**
GEYT	**Alibeck** comp=Z,6.0nm,0.7s,baz=134,slow=4.3,SNR=11	**69.31**	**312**	P	**P**	**17 11 09.3**	**+0.6**
AB31	**Akbulak array**	**72.41**	**324**	*i* P	**P**	**17 11 26.4**	**-0.8**
ABKAR	**Akbulak array** comp=Z,4.2nm,0.8s	**72.41**	**324**	*e*P	**P**	**17 11 26.8**	**-0.4**
TIXI	**Tiksi**	**73.78**	**3**	⇓*e*P	**P**	**17 11 32.9**	**-1.9**
TIXI				*i* *PP	PcP	17 11 56.2	+6.0
TIXI	comp=Z,8.0nm,0.8s			pmax	pmax		
TIXI	**Tiksi** comp=Z,7.9nm,0.9s	**73.78**	**3**	*e*P	**P**	**17 11 32.5**	**-2.3**
AKTO	**Aktyubinsk**	**74.03**	**324**	P	**P**	**17 11 36.5**	**-0.2**
AKTO	comp=Z,6.0nm,1.2s			pmax	pmax		
SVE	**Sverdlovsk**	**75.39**	**331**	*e*P	**P**	**17 11 44.2**	**-0.2**
SVE	comp=Z,9.0nm,1.0s			pmax	pmax		
ARU	**Arti**	**76.24**	**330**	*d* iP	**P**	**17 11 47.4**	**-1.9**
ARU				S	**S**	**17 21 30.1**	**+0.3**
ARU				SS	**SS**	**17 26 29.5**	**+5.0**
ARU	comp=Z,6.0nm,1.4s			pmax	pmax		
ARU	**Arti** comp=Z,4.8nm,0.9s	**76.24**	**330**	P	**P**	**17 11 47.7**	**-1.6**
VNDA	**Vanda** comp=Z,1.5nm,0.8s,baz=330,slow=7.3,SNR=6.9	**78.71**	**171**	P	**P**	**17 12 02.5**	**-0.2**
VNDA	**Vanda**	**78.71**	**171**	*e*P	**P**	**17 12 02.5**	**-0.2**
VNDA	comp=Z,2.0nm,0.8s			pmax	pmax		
SBA	**Scott Base**	**79.70**	**171**	P	**P**	**17 12 05.1**	**-3.0**
SBA	comp=Z,4.0nm,1.2s			pmax	pmax		
SBA	**Scott Base** comp=Z,4.1nm,1.2s	**79.70**	**171**	P	**P**	**17 12 05.0**	**-3.0**
ZEI	**Tsey**	**81.06**	**314**	*e*P	**P**	**17 12 17.8**	**+1.4**
ZEI	comp=Z,4.0nm,0.9s			pmax	pmax		
KBZ	**Khabaz** comp=Z,1.7nm,0.8s,baz=233,slow=20,SNR=2.6	**81.96**	**315**	P	**P**	**17 12 22.2**	**+1.4**
PRGR	**Permogore**	**84.31**	**333**	P	**P**	**17 12 30.0**	**-2.5**
PRGR	comp=Z,7.0nm,1.0s			pmax	pmax		
KLMR	**Klimovskoe**	**87.03**	**331**	*e*P	P	17 12 42.4	-3.7
KLMR	comp=Z,23nm,1.4s			pmax	pmax		
QSPA	**South Pole Qui**

DSL	**Palaion Diesel**	**1.11**	**203**	P		**Pb**	**17 14 30.8**	**+0.1**
DSL	**Palaion Diesel**	**1.11**	**203**	P		**Pb**	**17 14 30.8**	**+0.1**
OHR	**Ohrid**	**1.16**	**326**	*e*Pn		**Pg**	**17 14 29.8**	**-1.5**
OHR				*e*Sg		**Sb**	**17 14 46.9**	**-0.2**
OHR	**Ohrid**	**1.16**	**326**	*e*Pn		**Pg**	**17 14 29.7**	**-1.5**
OHR				*e*Sg		**Sb**	**17 14 46.9**	**-0.2**
HORT	**Hortiatis**	**1.19**	**68**	P		**Pn**	**17 14 31.8**	**-0.7**
HORT	**Hortiatis**	**1.19**	**68**	P		**Pn**	**17 14 31.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.20**	**162**	P		**Pg**	**17 14 32.0**	**+0.1**
MAKR				S		**Sn**	**17 14 49.9**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.20**	**162**	*e*PN		**Pg**	**17 14 31.8**	**-0.1**
MAKR				*e*SN		**Sn**	**17 14 50.5**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.20**	**162**	P		**Pg**	**17 14 32.0**	**+0.1**
MAKR				S		**Sn**	**17 14 49.9**	**+0.6**
MAKR				*e*Sn		**Sn**	**17 14 50.5**	**+1.2**
EVR	**Evrytania**	**1.24**	**175**	P		**Pg**	**17 14 32.4**	**-0.4**
EVR				S		**Sn**	**17 14 50.3**	**-0.2**
EVR	**Evrytania**	**1.24**	**175**	*e*PB		**Pg**	**17 14 32.4**	**-0.4**
EVR				*e*SN		**Sn**	**17 14 52.1**	**+1.6**
EVR	**Evrytania**	**1.24**	**175**	P		**Pg**	**17 14 32.4**	**-0.4**
EVR				*e*Sn		**Sn**	**17 14 52.1**	**+1.6**
AGG	**Agios Georgios**	**1.24**	**155**	P		**Pg**	**17 14 32.3**	**-0.5**
AGG	**Agios Georgios**	**1.24**	**155**	P		**Pg**	**17 14 32.3**	**-0.5**
VAY	**Valandovo**	**1.36**	**30**	*e*Pn		**Pg**	**17 14 35.4**	**+0.5**
VAY				*e*Sg		**Sn**	**17 14 55.7**	**+2.5**
VAY	**Valandovo**	**1.36**	**30**	*e*Pn		**Pg**	**17 14 35.4**	**+0.4**
VAY				*e*Sg		**Sn**	**17 14 55.6**	**+2.4**
KNT	**Kendrikon**	**1.38**	**43**	P		**Pn**	**17 14 34.5**	**-0.6**
KNT				S		**Sn**	**17 14 53.8**	**0.0**
KNT	**Kendrikon**	**1.38**	**43**	P		**Pn**	**17 14 34.5**	**-0.6**
KNT				S		**Sn**	**17 14 53.8**	**0.0**
XOR	**Xorichti**	**1.42**	**123**	P		**Sb**	**17 14 54.3**	**-0.2**
XOR				S		**Sb**	**17 14 54.3**	**-0.2**
XOR	**Xorichti**	**1.42**	**123**	*e*PN		**Pn**	**17 14 35.5**	**-0.1**
XOR	**Xorichti**	**1.42**	**123**	P		**Pn**	**17 14 35.3**	**-0.3**
XOR				S		**Sb**	**17 14 54.3**	**-0.2**

*IDC **29** 17:37:34.1±1.0,30.°64N×102.°61E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.6/39,mbtmp3.7/8,ML3.4/2,Error ellipse: s-maj=33.9km s-min=17.5km az=62.0*
*ISCJB **29** 17:37:36.7±0.7,30.°58N±0.°08×102.°50E±0.°08,h33km, mb3.8/6,Error ellipse: s-maj=12.2km s-min=9.9km az=152.6*

ISC 29 17:37:38.8±0.9,30.°7N±0.°1×102.°5E±0.°1,h35km,n15, σ1s20/14,mb3.7/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.58**	**196**	Pn	**Pn**	**17 40 36.1**	**+0.7**
	0.1nm,0.3s,baz=7.0,slow=15,SNR=3.5						
TAPN	**Taplejung**	**13.37**	**259**	*e*P	P	17 40 50.3	-5.2
ODAN	**Odare**	**13.79**	**258**	*e*P	**Pn**	**17 40 53.1**	**+0.9**
RAMN	**Ramite**	**14.43**	**259**	*e*P	**Pn**	**17 40 59.1**	**-1.8**
	6.5nm,0.8s						
JIRN	**Jiri**	**14.57**	**262**	*e*P	**Pn**	**17 41 02.1**	**-0.8**
	3.2nm,0.5s						
PKI	**Pulchoki**	**15.26**	**263**	*e*P	**Pn**	**17 41 10.4**	**-1.7**
	7.0nm,0.6s						
PKIN	**Phulchoki**	**15.27**	**263**	*e*P	**Pn**	**17 41 10.4**	**-1.7**
KKN	**Kakani**	**15.32**	**264**	*e*P	**Pn**	**17 41 11.8**	**-0.8**
	9.1nm,0.8s						
SONM	**Songino Array**	**17.40**	**9**	P	**P**	**17 41 40.5**	**+0.6**
	0.0nm,0.3s,baz=178,slow=13,SNR=6.6						
KSRS	**Korea Array**	**22.07**	**65**	P	**P**	**17 42 29.9**	**-0.9**
	1.7nm,0.7s,baz=251,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**22.44**	**322**	P	**P**	**17 42 35.5**	**+0.9**
	0.9nm,1.0s,baz=171,slow=9.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**26.54**	**336**	P	**P**	**17 43 13.2**	**0.0**
	0.7nm,0.5s,baz=132,slow=6.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**26.78**	**325**	P	**P**	**17 43 16.4**	**+1.0**
	2.4nm,0.2s,baz=136,slow=9.7,SNR=5.3						
WRA	**Warramunga Arr**	**58.90**	**145**	P	**P**	**17 47 33.6**	**-0.9**
	2.5nm,0.8s,baz=337,slow=7.4,SNR=20						
ASAR	**Alice Springs**	**61.85**	**147**	P	**P**	**17 47 55.4**	**+0.7**
	0.5nm,0.7s,baz=335,slow=7.1,SNR=11						

*ISCJB **29** 17:51:14.5±0.4,32.°64N±0.°02×115.°72W±0.°02,h10km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=149.4*
*MEX **29** 17:51:15.8±0.5,32.°83N×115.°74W,h14km±9km,MD3.7*
*ECX **29** 17:51:16.4±0.6,32.°62N×115.°79W,h3km,MD4.3,ML4.5*
*NEIC **29** 17:51:16.4,32.°62N×115.°78W,h3km,MD4.3(MEX), ML4.4(PAS),ML4.4(ECX),After ECX.*
NEIC Felt [II] at Mexicali. Also felt at Ensenada. Felt [II] at Alpine, Calexico, Carlsbad, El Cajon, El Centro, La Jolla, La Mesa, Lakeside, Ocotillo, Poway, San Diego, Santee and Vista, California. Felt in much of Imperial and San Diego Counties and in parts of Los Angeles, Orange and Riverside Counties. Also felt at Yuma, Arizona.

ISC 29 17:51:15.2±0.9,32.°62N±0.°02×115.°75W±0.°02,h14km±6km, n67,σ1s19/92,6C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.03**	**31**	⇓*i*P	**Pg**	**17 51 17.2**	**-0.4**
COK	**Cook Ranch**	**0.23**	**4**	⇓*i*P	**Pg**	**17 51 20.9**	**+0.8**
RMX	**La Rumorosa**	**0.28**	**266**	⇑*i*P	**Pg**	**17 51 21.0**	**-0.2**
RMX				*e*S	**Sg**	**17 51 24.9**	**-0.3**
IBP	**Imperial Bould**	**0.30**	**278**	P	**Pg**	**17 51 21.3**	**-0.1**
	baz=0.3						
IBP				S	**Sg**	**17 51 25.2**	**-0.4**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.32**	**352**	P	**Pg**	**17 51 22.1**	**+0.3**
	baz=0.4						
CRR	**Carrizo Plain**	**0.33**	**325**	⇓*i*P	**Pg**	**17 51 22.1**	**+0.2**
COA	**Coachella**	**0.58**	**65**	⇑*i*P	**Pb**	**17 51 27.3**	**+0.2**
MONP	**Monument Peak,**	**0.63**	**295**	P	**Pg**	**17 51 27.4**	**-0.2**
	baz=0.6						
MONP				S	**Sg**	**17 51 35.5**	**-0.4**
	baz=0.6						
RDX	**Rancho Dawling**	**0.71**	**194**	⇓*e*P	**Pg**	**17 51 28.6**	**-0.5**
RDX				⇑*e*		17 51 39.1	
	comp=E,22μm,0.8s						
RDX				⇓*e*		17 51 46.4	
RDX				AML	AML	17 51 46.4	
	comp=N,7μm,0.5s						
BAR	**Barrett**	**0.79**	**275**	*e*P	**Pg**	**17 51 30.0**	**-0.4**
BAR				⇑*i*P	**Pg**	**17 51 30.1**	**-0.4**
BAR				*e*S	**Sg**	**17 51 39.9**	**-0.8**
BAR	**Barrett**	**0.79**	**275**	*e*Pg	**Pg**	**17 51 29.8**	**-0.7**
BAR				*e*Sg	**Sg**	**17 51 39.5**	**-1.3**
CBX	**Cerro Bola**	**0.83**	**249**	*i*P	**Pg**	**17 51 31.0**	**-0.4**
CBX				*i*S	**Sg**	**17 51 41.9**	**-0.5**
CBX	**Cerro Bola**	**0.83**	**249**	⇑*e*P	**Pg**	**17 51 31.1**	**-0.3**
CBX				*e*S	**Sg**	**17 51 41.9**	**-0.5**
CBX				⇓*e*		17 51 46.3	
CBX				AML	AML	17 51 46.3	
CBX	**Cerro Bola**	**0.83**	**249**	*i*P	**Pg**	**17 51 31.0**	**-0.4**
CBX				*i*S	**Sg**	**17 51 41.9**	**-0.5**
GLA	**Glamis**	**0.88**	**61**	P	**Pg**	**17 51 31.6**	**-0.7**
	baz=0.9						
GLA				S	**Sg**	**17 51 43.4**	**-0.5**
	baz=0.9						
BC3	**Big Chuckawall**	**1.06**	**13**	P	**Pg**	**17 51 34.5**	**-1.2**
	baz=1.1						
BC3				S	**Sg**	**17 51 47.9**	**-1.7**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.15**	**329**	P	**Pg**	**17 51 35.5**	**-1.9**
	baz=1.2						
PFO				S	**Sg**	**17 51 50.2**	**-2.3**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.15**	**329**	*e*Pg	**Pg**	**17 51 35.4**	**-2.1**
PFO				*e*Sg	**Sg**	**17 51 50.0**	**-2.5**
109C	**Camp Elliot, M**	**1.18**	**283**	P	**Pg**	**17 51 36.7**	**-1.2**
	baz=1.2						
109C				S	**Sg**	**17 51 51.3**	**-1.9**
	baz=1.2						
ZAX	**El Zacaton**	**1.19**	**202**	*e*P	**Pg**	**17 51 37.3**	**-0.9**
ZAX				*e*S	**Sg**	**17 51 52.8**	**-0.9**
ZAX				AML	AML	17 51 55.8	
	comp=N,14μm,0.3s						
ZAX				⇓*e*		17 51 55.8	
ZAX				⇑*e*		17 51 57.8	
ZAX				AML	AML	17 51 57.8	
	comp=E,11μm,0.6s						
ECNX	**Esteban Cantu**	**1.20**	**217**	*e*P	**Pg**	**17 51 37.4**	**-1.0**
ECNX				*e*S	**Sg**	**17 51 53.1**	**-1.0**
PBX	**Punta Banda**	**1.21**	**224**	*e*P	**Pg**	**17 51 37.5**	**-1.0**
PBX				*e*S	**Sg**	**17 51 53.1**	**-1.1**
BELC	**Belle Mtn. Jos**	**1.39**	**351**	P	**Pn**	**17 51 39.3**	**-1.2**
	baz=1.4						
Y12C	**Blythe**	**1.52**	**42**	P	**Pn**	**17 51 41.2**	**-0.8**
	baz=1.6						
MURC	**Murrieta**	**1.56**	**309**	P	**Pn**	**17 51 41.6**	**-1.1**
	baz=1.6						
MURC				Sb	**Sn**	**17 52 03.8**	**+1.1**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.59**	**171**	*e*P	**Pn**	**17 51 42.9**	**-0.3**
SPIG				*e*S	**Sn**	**17 52 04.6**	**+0.8**
SPIG	**San Pedro Mart**	**1.59**	**171**	*e*P	**Pn**	**17 51 42.9**	**-0.3**
SPIG				*e*S	**Sn**	**17 52 04.6**	**+0.8**
SPX	**San Pedro Mart**	**1.59**	**171**	*e*P	**Pn**	**17 51 43.8**	**+0.5**
SPX				*e*S	**Sg**	**17 52 06.0**	**-0.5**
SPX	**San Pedro Mart**	**1.59**	**171**	*e*P	**Pn**	**17 51 43.0**	**-0.3**
SPX				*e*S	**Sn**	**17 52 04.5**	**+0.7**
IRM	**Iron Mountain**	**1.61**	**18**	P	**Pn**	**17 51 42.6**	**-0.8**
	baz=1.7						
IRM				S	**Sn**	**17 52 02.8**	**-1.2**
	baz=1.7						
113A	**Mohawk Valley,**	**1.67**	**84**	P	**Pn**	**17 51 43.4**	**-0.7**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.91**	**329**	P	**Pn**	**17 51 47.2**	**-0.4**
	baz=1.9						
PDMCI	**Parker Dam,Lak**	**2.15**	**38**	S	**Sn**	**17 52 16.3**	**-0.8**
	baz=2.2						
GMRC	**Granite Mounta**	**2.15**	**2**	P	**Pn**	**17 51 50.3**	**-0.6**
	baz=2.2						
HEC	**Hector,Ludlow**	**2.26**	**348**	P	**Pn**	**17 51 51.6**	**-0.6**
	baz=2.3						
BFSC	**Mount Baldy Ra**	**2.27**	**316**	Pb	**Pb**	**17 51 56.3**	**+0.2**
	baz=2.3						
BFSC				Sb	**Sb**	**17 52 24.9**	**+0.7**
	baz=2.3						
CIS	**Catalina Islan**	**2.37**	**290**	Sb	**Sb**	**17 52 28.5**	**+1.7**
	baz=2.4						
FMP	**Fort Macarthur**	**2.40**	**298**	Sb	**Sb**	**17 52 29.3**	**+1.6**
	baz=2.4						
Z14A	**Wintersburg**	**2.47**	**72**	P	**Pn**	**17 51 54.5**	**-0.5**
	baz=2.5						
LDFC	**Landfair**	**2.51**	**12**	*e*Pn	**Pn**	**17 51 54.2**	**-1.6**
PASC	**Pasadena Art C**	**2.56**	**308**	*e*Pn	**Pb**	**17 52 00.4**	**-0.6**
214A	**Organ Pipe Nat**	**2.57**	**104**	P	**Pn**	**17 51 55.2**	**-1.4**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.57**	**104**	*e*Pn	**Pn**	**17 51 55.1**	**-1.4**
DECC	**Green Verdugo**	**2.70**	**308**	Sb	**Sb**	**17 52 38.3**	**+1.8**
	baz=2.7						
W13A	**Hualapai Mount**	**2.92**	**32**	P	**Pn**	**17 52 01.6**	**+0.1**
	baz=3.0						
EDW2	**Edwards Air Fo**	**2.93**	**321**	Sb	**Sb**	**17 52 44.7**	**+1.8**
	baz=2.9						
MPMC	**Manual Prospec**	**3.72**	**338**	P	**Pn**	**17 52 12.2**	**-0.3**
	baz=3.7						
ISA	**Isabella, Lake**	**3.79**	**324**	*e*Pn	**Pn**	**17 52 12.7**	**-0.5**
ISA				*e*Pg	**Pb**	**17 52 24.4**	**+2.5**
SHPR	**Sheep Range**	**3.91**	**7**	*e*Pn	**Pn**	**17 52 15.4**	**+0.4**
SHPR				*e*Pg	**Pg**	**17 52 31.3**	**+1.2**
DAC	**Darwin (Calif)**	**3.95**	**338**	*e*Pn	**Pn**	**17 52 15.0**	**-0.7**
DAC				*e*Pg	**Pg**	**17 52 28.9**	**-2.1**
X16A	**Lo Mia Camp, P**	**4.02**	**62**	P	**Pn**	**17 52 17.6**	**+1.0**
	baz=4.1						
TUC	**Tucson**	**4.20**	**93**	*e*P	**Pn**	**17 52 16.8**	**-2.3**
TUC				*e*S	**Sn**	**17 53 05.4**	**-2.6**
WUAZ	**Wupatki**	**4.64**	**50**	P	**Pn**	**17 52 26.6**	**+1.5**
	baz=4.7						
WUAZ	**Wupatki**	**4.64**	**50**	*e*Pn	**Pn**	**17 52 23.5**	**-1.5**
U15A	**North Rim**	**4.75**	**36**	P	**Pn**	**17 52 28.3**	**+1.6**
	baz=4.8						
X18A	**Snowflake**	**5.20**	**67**	P	**Pn**	**17 52 33.9**	**+1.1**
	baz=5.2						
CCUT	**Cedar City**	**5.29**	**21**	*e*Pn	**Pn**	**17 52 35.9**	**+1.8**
	comp=E,24nm,0.7s						
W18A	**Petrified Fore**	**5.58**	**62**	P	**Pn**	**17 52 40.0**	**+1.9**
	baz=5.6						
W18A	**Petrified Fore**	**5.58**	**62**	*e*Pn	**Pn**	**17 52 40.2**	**+2.1**
	comp=E,56nm,0.5s						
R11A	**Troy Canyon, C**	**5.72**	**1**	*e*Pg	**Pg**	**17 53 04.8**	**+0.1**
MSU	**Marysvale**	**6.56**	**25**	*e*Pn	Pn	17 52 56.3	+4.8
	comp=E,23nm,0.8s						
121A	**Cookes Peak, D**	**6.72**	**89**	P	**Pn**	**17 52 54.2**	**+0.5**
	baz=6.7						
121A	**Cookes Peak, D**	**6.72**	**89**	*e*Pn	**Pn**	**17 52 54.0**	**+0.4**
	comp=E,49nm,0.6s						
MVCO	**Mesa Verde**	**7.51**	**50**	*e*Pn	Pn	17 53 07.8	+3.3
	comp=E,28nm,0.6s						
PV01	**Paradox Valley**	**8.03**	**45**	*e*Pn	Pn	17 53 16.5	+4.7
	comp=E,2μm,0.9s						
ANMO	**Albuquerque**	**8.07**	**71**	*e*Pn	**Pn**	**17 53 13.0**	**+0.7**
	comp=E,5.8nm,0.8s						
SMCO	**Snowmass**	**9.66**	**45**	*e*Pn	**Pn**	**17 53 36.9**	**+2.7**
	comp=E,10.0nm,0.9s						

*IDC **29** 18:17:40.2±2.7,7.°50S×118.°76E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/22,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=242.4km s-min=23.8km az=53.0*
*ISCJB **29** 18:18:09.2±0.7,7.°77S±0.°09×119.°43E±0.°04,h250km, mb3.4/3,Error ellipse: s-maj=12.7km s-min=5.0km az=11.4*
*DJA **29** 18:18:10.2±0.5,8.°5S±5.°×11.°9E±.°,h256km±6km,M3.9/11, mb3.8/3,mB4.7/2,MLv3.9/11,Mw(mB)4.0/2*

ISC 29 18:18:09.5±1.0,7.°80S±0.°08×119.°38E±0.°05,h250km,n23, σ1s35/28,mb3.4/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.06**	**154**	P	**Pn**	**18 18 53.3**	**+0.7**
WSI				S	**S**	**18 19 26.7**	**+0.2**
WSI	**Waingapu**	**2.06**	**154**	P	**Pn**	**18 18 54.5**	**+1.9**
	baz=2.5,SNR=6.4						
WSI				S	**S**	**18 19 26.8**	**+0.2**
	baz=2.5,SNR=14						
EDFI	**Ende, Flores**	**2.47**	**113**	P	**Pn**	**18 18 56.9**	**+0.3**
EDFI				S	**S**	**18 19 36.6**	**+2.9**
BASI	**Baing, Sumba**	**2.68**	**154**	P	**Pn**	**18 19 00.0**	**+1.4**
BASI				S	**S**	**18 19 37.5**	**+0.1**
MMRI	**Maumere**	**2.94**	**107**	P	**Pn**	**18 19 01.5**	**+0.1**
BNSI	**Bone**	**3.45**	**12**	P	**Pn**	**18 19 08.6**	**+1.5**
IGBI	**Denpasar**	**4.31**	**256**	P	**Pn**	**18 19 18.7**	**+1.6**
IGBI				S	**S**	**18 20 11.5**	**+0.8**
BATI	**Baumata**	**4.86**	**120**	P	**Pn**	**18 19 23.3**	**-0.3**
SOEI	**Soe**	**5.20**	**112**	P	**Pn**	**18 19 27.2**	**-0.8**
	48nm,1.3s,2μm0.2nm						
SOEI	**Soe**	**5.20**	**112**	P	**Pn**	**18 19 27.2**	**-0.8**
	baz=5.4,SNR=22						
JAGI	**Jajag, Banyuwa**	**5.22**	**262**	P	**Pn**	**18 19 28.9**	**+0.8**
	20nm,0.8s,1μm0.2nm						
JAGI				S	**S**	**18 20 30.7**	**0.0**
	20nm,0.8s,1μm0.2nm						
JAGI	**Jajag, Banyuwa**	**5.22**	**262**	P	**Pn**	**18 19 28.7**	**+0.6**
	baz=5.3,SNR=16						
JAGI				S	**S**	**18 20 31.3**	**+0.5**
	baz=5.3,SNR=3.3						
GMJI	**Pumukmas**	**5.90**	**265**	P	**Pn**	**18 19 37.7**	**+1.2**
UGM	**Wanagama**	**8.78**	**269**	S	**S**	**18 21 50.0**	**-2.4**
	baz=8.8,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.91**	**150**	P	**P**	**18 20 55.6**	**+0.4**
	baz=12,SNR=8.4						
FITZ				S	**S**	**18 23 07.2**	**+2.2**
	baz=12,SNR=3.8						
KNRA	**Kununurra**	**12.06**	**131**	P	**Pn**	**18 20 52.1**	**-1.8**
	baz=12,SNR=14						
FAKI	**Fak Fak**	**13.69**	**70**	P	Pn	18 21 10.0	-4.1
	baz=14,SNR=3.4						
KDU	**Kakadu**	**13.76**	**112**	P	**P**	**18 21 15.8**	**0.0**
	baz=14,SNR=4.0						
WRA	**Warramunga Arr**	**18.86**	**131**	P	**P**	**18 22 09.5**	**-2.0**
	0.3nm,0.3s,baz=303,slow=12,SNR=26						
WRKA	**Warakurna**	**19.14**	**155**	P	**P**	**18 22 14.1**	**-0.4**
	baz=20,SNR=6.5						
ASAR	**Alice Springs**	**21.04**	**140**	P	**P**	**18 22 32.9**	**-1.8**
	0.5nm,0.4s,baz=315,slow=8.8,SNR=42						
MKAR	**Makanchi Array**	**63.57**	**332**	P	P	18 28 10.0	-3.7
	2.2nm,0.4s,baz=157,slow=5.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**68.07**	**339**	P	P	18 28 37.3	-4.8
	0.6nm,0.3s,baz=140,slow=5.9,SNR=3.3						

KRSC 29 18:18:31.8±1.1,50.°30N×157.°21E,h30km±23km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.80**	**299**	*i*P	Pn	18 18 46.7	-0.2
SKR				*e*S	Sb	18 18 57.5	0.0
PAU	**Pauzhetka**	**1.20**	**348**	*e*P	Pb	18 18 54.2	+0.4
PAU				*e*S	Sb	18 19 10.3	+1.4
ASAK	**Asacha**	**2.13**	**11**	*e*P	Pb	18 19 08.0	-1.8
MTVR	**Mutnovka**	**2.27**	**15**	*e*P	Pn	18 19 01.0	-6.4
MTVR				*e*S	Sn	18 19 36.7	+2.3
RUS	**Russkaya**	**2.29**	**20**	*e*P	Pb	18 19 10.1	-2.2
RUS				*e*S	Sn	18 19 36.4	+1.9
UGLR	**Uglovaya**	**3.08**	**18**	*e*P	Pn	18 19 21.5	+3.0
AVH	**Avacha**	**3.12**	**17**	*e*P	Pn	18 19 22.2	+3.3
KRER	**Koryakskii**	**3.16**	**17**	*e*P	Pn	18 19 21.9	+2.3
SDLR	**Sedlovina**	**3.16**	**19**	*e*P	Pn	18 19 23.1	+3.6
KRX	**Arik**	**3.19**	**16**	*e*P	Pn	18 19 23.5	+3.5
GNL	**Ganaly**	**3.43**	**7**	*e*P	Pn	18 19 27.3	+4.0

*ISCJB **29** 18:36:30.3±0.7,37.°64N±0.°04×115.°37E±0.°07,h10km, mb3.0/2,MS3.8/1,Error ellipse: s-maj=8.6km s-min=4.8km az=158.7*
*IDC **29** 18:36:31.0±1.8,37.°63N×115.°19E,h0km,mb3.2/2, mb1 3.4/4,mb1mx3.2/27,mbtmp3.3/4,ML3.0/2,MS3.2/2, Ms1 3.2/2,ms1mx2.6/18,Error ellipse: s-maj=31.2km s-min=24.9km az=18.0*
*BJI **29** 18:36:32.0,37.°50N×115.°03E,h11km,mb3.8/2,ML3.8/23, Ms3.5/4,Ms7 3.3/2*

ISC 29 18:36:32.2±0.8,37.°57N±0.°04×115.°27E±0.°04,h10km,n12, σ1s84/19,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIA	**Tai'an**	**2.01**	**132**	Pn	**Pn**	**18 37 05.8**	**-0.4**
TIA				Pg	**Pb**	**18 37 08.0**	**-0.8**
TIA				Sn	**Sn**	**18 37 31.3**	**0.0**
TIA				Sg	**Sb**	**18 37 34.8**	**+1.0**
TIA				SMN			
	760nm,0.4s						
TIA				SME			
	780nm,0.5s						
TIY	**Taiyuan**	**2.26**	**275**	*e*Pg	**Pn**	**18 37 08.5**	**-1.2**
TIY				Sg	**Sn**	**18 37 35.3**	**-2.3**
TIY				SMN			
	630nm,0.6s						
TIY				SME			
	760nm,0.3s						
BJI	**Beijing**	**2.57**	**16**	Pn	**Pn**	**18 37 12.5**	**-1.4**
BJI				Pg	**Pb**	**18 37 18.5**	**+0.1**
BJI				Sn	**Sn**	**18 37 43.0**	**-2.2**
BJI				Sg	**Sb**	**18 37 51.5**	**+1.5**
BJI				SMN			
	710nm,0.9s						
BJI				SME			
	490nm,0.6s						
BTO	**Baotou**	**5.09**	**308**	*e*Pg	**Pb**	**18 37 59.8**	**-1.6**
BTO				Sn	**Sn**	**18 38 52.0**	**+4.5**
BTO				SMN			
	13nm,0.3s						
BTO				SME			
	12nm,0.3s						
XAN	**Xi'an**	**6.25**	**238**	Pg	Pg	18 38 43.8	+12
XAN				Sg	**Sb**	**18 39 39.0**	**+3.1**
XAN				smax	smax		
	comp=N,25nm,0.9s						
XAN				smax	smax		
	comp=E,9.0nm,0.7s						
SNY	**Shenyang**	**7.69**	**54**	P	**Pn**	**18 38 26.0**	**+1.8**
SNY				SMN			
	comp=E,24nm,1.2s						
SNY				SME			
	comp=E,11nm,0.9s						
KSRS	**Korea Array**	**10.05**	**87**	Pn	**Pn**	**18 38 57.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=272,slow=14,SNR=4.1						
KSRS				Lg	Lg	18 41 51.6	
	comp=E,0.3nm,0.3s,baz=257,slow=27,SNR=3.0						
SONM	**Songino Array**	**12.15**	**330**	Pn	**Pn**	**18 39 24.8**	**-0.7**
	comp=E,0.1nm,0.3s,baz=138,slow=14,SNR=3.4						
SONM				Lg	Lg	18 42 53.2	
	comp=E,0.2nm,0.3s,baz=142,slow=29,SNR=5.3						
SONM				LR	LR	18 43 20.6	
	comp=E,27nm,20.2s,baz=38,slow=34						
WMQ	**Urumqi**	**21.77**	**295**	*e*P	**P**	**18 41 24.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**23.81**	**221**	P	**P**	**18 41 45.7**	**+0.3**
	comp=E,0.7nm,0.7s,baz=27,slow=9.5,SNR=5.6						
JCJ	**Chichijima**	**24.94**	**107**	LR	LR	18 50 07.2	
	comp=E,298nm,20.9s,baz=114,slow=33						
MKAR	**Makanchi Array**	**25.96**	**301**	P	**P**	**18 42 04.4**	**-0.5**
	comp=E,0.2nm,0.6s,baz=101,slow=7.6,SNR=4.0						

*IDC **29** 18:55:18.8±7.8,1.°37N×122.°95E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/23,mbtmp3.7/3,Error ellipse: s-maj=216.4km s-min=122.4km az=62.0*
*DJA **29** 18:55:46.3±0.6,0.°5S±5.°×12.°3E±.°,h120km±6km,M3.9/8, mb4.0/1,mB4.5/1,MLv3.9/8,Mw(mB)3.7/1*

ISC 29 18:55:47.0±1.2,0.°22S±0.°07×122.°93E±0.°05,h100km,n10, σ3s09/12,mb3.5/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.83**	**191**	P	**Pn**	**18 56 07.8**	**+2.1**
LUWI				S	**Sn**	**18 56 24.7**	**+5.0**
MRSI	**Marisa**	**1.20**	**305**	P	**Pn**	**18 56 09.7**	**0.0**
MRSI				S	**Sn**	**18 56 27.4**	**+0.6**
KMSI	**Cibinong**	**1.32**	**53**	P	**Pn**	**18 56 12.2**	**+1.2**
KMSI				S	**

KZN	**Kozani**	**0.26**	**119**	P	Pg	19 16 27.4	+0.7
KZN				S	Sg	19 16 31.9	+1.7
KZN	**Kozani**	**0.26**	**119**	*e*PG	Pg	19 16 27.4	+0.7
KZN				*e*SG	Sg	19 16 31.7	+1.5
KZN	**Kozani**	**0.26**	**119**	P	Pg	19 16 27.4	+0.7
KZN				*e*Sg	Sg	19 16 31.7	+1.5
NEST	**Nestorio**	**0.32**	**266**	P	Pg	19 16 27.8	0.0
NEST				S	Sg	19 16 32.1	-0.1
NEST	**Nestorio**	**0.32**	**266**	*e*PG	Pg	19 16 27.8	0.0
NEST				*e*SB	Sg	19 16 32.8	+0.6
NEST	**Nestorio**	**0.32**	**266**	P	Pg	19 16 27.8	0.0
NEST				S	Sg	19 16 32.1	-0.1
NEST				*e*Sb	Sb	19 16 32.8	-2.6
FNA	**Florina**	**0.35**	**348**	P	Pg	19 16 28.7	+0.3
FNA				S	Sg	19 16 32.9	-0.3
FNA	**Florina**	**0.35**	**348**	*e*PB	Pg	19 16 28.8	+0.4
FNA				*e*SB	Sg	19 16 33.7	+0.5
FNA	**Florina**	**0.35**	**348**	P	Pg	19 16 28.7	+0.3
FNA				S	Sg	19 16 32.9	-0.3
FNA				*e*Sb	Sb	19 16 33.7	-2.6
OHR	**Ohrid**	**0.85**	**323**	*i* Pg	Pg	19 16 36.4	-1.3
OHR				*i* Sg	Sb	19 16 50.0	-0.5
OHR	**Ohrid**	**0.85**	**323**	*i* Pg	Pg	19 16 36.4	-1.4
OHR				*i* Sg	Sb	19 16 49.9	-0.5
LIT	**Litokhoron**	**0.85**	**113**	P	Pg	19 16 37.7	-0.1
LIT				S	Sb	19 16 50.5	+0.1
LIT	**Litokhoron**	**0.85**	**113**	*e*PB	Pg	19 16 38.1	+0.3
LIT				*e*SB	Sb	19 16 50.6	+0.2
LIT	**Litokhoron**	**0.85**	**113**	P	Pg	19 16 37.7	-0.1
LIT	**Litokhoron**	**0.85**	**113**	*e*Pb	Pg	19 16 38.1	+0.3
LIT				*e*Sb	Sb	19 16 50.6	+0.2
GRG	**Griva**	**0.88**	**53**	*e*PB	Pb	19 16 39.1	-0.1
GRG	**Griva**	**0.88**	**53**	*e*Pb	Pb	19 16 39.1	-0.1
THL	**Klokotos Trika**	**0.96**	**154**	*e*PB	Pg	19 16 39.3	-0.6
THL				*e*SB	Sb	19 16 54.4	+0.8
THL	**Klokotos Trika**	**0.96**	**154**	*e*Pb	Pg	19 16 39.3	-0.6
THL				*e*Sb	Sb	19 16 54.4	+0.8
IGT	**Igoumenitsa**	**1.26**	**224**	*e*PB	Pn	19 16 46.0	+0.4
IGT	**Igoumenitsa**	**1.26**	**224**	*e*Pb	Pn	19 16 46.0	+0.4
KNT	**Kendrikon**	**1.30**	**56**	*e*PB	Pg	19 16 47.0	+0.5
KNT	**Kendrikon**	**1.30**	**56**	*e*Pb	Pg	19 16 47.0	+0.5
DSL	**Palaion Diasel**	**1.33**	**193**	*e*PB	Pg	19 16 47.5	+0.5
DSL	**Palaion Diasel**	**1.33**	**193**	*e*Pb	Pg	19 16 47.5	+0.5
MAKR	**Makrakomi, Fth**	**1.51**	**160**	*e*PB	Pg	19 16 50.4	0.0
MAKR	**Makrakomi, Fth**	**1.51**	**160**	*e*Pb	Pg	19 16 50.4	0.0
AGG	**Agios Georgios**	**1.56**	**155**	*e*PG	Pb	19 16 50.5	-0.3
AGG	**Agios Georgios**	**1.56**	**155**	*e*Pg	Pb	19 16 50.5	-0.3

*DDA **29** 19:31:57.9, 38°.94N×29°.36E, h7km, MD2.7*
*ISK **29** 19:31:57.7, 38°.93N×29°.32E, h5km, MD2.8*
*CSEM **29** 19:31:58.0±0.1, 38°.94N×29°.30E, h2km, MD2.8, Error ellipse: s-maj=2.4km s-min=2.0km az=53.0*

ISC 29 19:31:58.3±1.2, 38°.94N±0°.03×29°.31E±0°.03, h4km±13km, n30, σ0°27/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.20**	**41**	*i* P	**Pg**	**19 32 01.9**	**-0.3**
GDZ				*i* S	**Sg**	**19 32 04.8**	**0.0**
GDZ	**Gediz**	**0.20**	**41**	*i* P	**Pg**	**19 32 01.9**	**-0.3**
GDZ				*i* S	**Sg**	**19 32 04.8**	**0.0**
TVSB	**Tavsanli**	**0.52**	**13**	*e*Pg	**Pg**	**19 32 08.2**	**-0.1**
TVSB	**Tavsanli**	**0.52**	**13**	*e*Pg	**Pg**	**19 32 08.2**	**-0.1**
ALT	**Altintas**	**0.63**	**79**	*e*PG	**Pg**	**19 32 19.5**	**-0.1**
ALT				*e*SG	**Sg**	**19 32 19.5**	**+0.9**
ALT	**Altintas**	**0.63**	**79**	*e*Pg	**Pg**	**19 32 10.3**	**-0.1**
ALT				*e*Sg	**Sg**	**19 32 19.5**	**+0.9**
KHL	**Karahalli**	**0.64**	**165**	*e*PG	**Pg**	**19 32 10.2**	**-0.3**
KHL	**Karahalli**	**0.64**	**165**	*e*Pg	**Pg**	**19 32 10.2**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**230**	*e*PG	**Pg**	**19 32 11.0**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**230**	*e*Pg	**Pg**	**19 32 11.0**	**0.0**
DST	**Dursunbey**	**0.85**	**321**	*e*PG	**Pg**	**19 32 14.5**	**-0.2**
DST	**Dursunbey**	**0.85**	**321**	*e*Pg	**Pg**	**19 32 14.5**	**-0.2**
SHUT	**Suhut-Afyon**	**1.04**	**111**	*e*PG	**Pg**	**19 32 18.3**	**0.0**
SHUT				*e*SG	**Sb**	**19 32 32.8**	**-0.2**
SHUT	**Suhut-Afyon**	**1.04**	**111**	*e*Pg	**Pg**	**19 32 18.3**	**0.0**
SHUT				*e*Sg	**Sb**	**19 32 32.8**	**-0.2**
ORLT	**Orhaneli**	**1.15**	**344**	*e*PN	**Pg**	**19 32 20.4**	**+0.1**
ORLT	**Orhaneli**	**1.15**	**344**	*e*Pn	**Pg**	**19 32 20.4**	**+0.1**
ULDT	**Uludag**	**1.21**	**354**	*i* P	**Pg**	**19 32 21.2**	**-0.3**
ULDT				*i* S	**Sb**	**19 32 38.1**	**+0.2**
ULDT	**Uludag**	**1.21**	**354**	*i* P	**Pg**	**19 32 21.2**	**-0.3**
ULDT				*i* S	**Sb**	**19 32 38.1**	**+0.2**
BALB	**Balikesir**	**1.31**	**303**	*e*PN	**Pg**	**19 32 23.4**	**0.0**
BALB	**Balikesir**	**1.31**	**303**	*e*Pn	**Pg**	**19 32 23.4**	**0.0**
CAVI	**Cavuskoy**	**1.33**	**18**	*e*PN	**Pg**	**19 32 23.7**	**0.0**
CAVI	**Cavuskoy**	**1.33**	**18**	*e*Pn	**Pg**	**19 32 23.7**	**0.0**
IZI	**Iznik**	**1.40**	**5**	*e*PN	**Pb**	**19 32 24.8**	**-0.3**
IZI	**Iznik**	**1.40**	**5**	*e*Pn	**Pb**	**19 32 24.8**	**-0.3**
GEMT	**Gemlik**	**1.50**	**356**	*e*PN	**Pn**	**19 32 26.1**	**+0.2**
GEMT	**Gemlik**	**1.50**	**356**	*e*Pn	**Pn**	**19 32 26.1**	**+0.2**
ARMT	**Armutlu**	**1.66**	**348**	*e*PN	**Pn**	**19 32 28.2**	**0.0**
ARMT	**Armutlu**	**1.66**	**348**	*e*Pn	**Pn**	**19 32 28.2**	**0.0**
GULT	**Gulveren**	**1.76**	**32**	*e*PN	**Pn**	**19 32 29.6**	**0.0**
GULT	**Gulveren**	**1.76**	**32**	*e*Pn	**Pn**	**19 32 29.6**	**0.0**

DJA 29 19:48:16.8±1.0, 8°S±5°×111°8E±°, h10km, M3.6/6, MLv3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.40**	**125**	P	Pn	19 48 57.7	+1.6
WSI				S	Sg	19 49 35.2	+1.3
BKSI	**Bulukumba**	**3.47**	**32**	P	Pn	19 49 10.4	-0.5
BKSI				S	Sn	19 49 55.0	+3.0
MMRI	**Maumere**	**3.91**	**95**	P	Pn	19 49 15.9	-1.1
BNSI	**Bone**	**4.27**	**25**	P	Pn	19 49 22.2	+0.3

IDC 29 20:15:55.8±352.0, 56°.91N×29°.94E, h0km, Error ellipse: s-maj=147.6km s-min=90.2km az=96.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 4.00**		**90**	*i*		20 41 40.0	
	baz=276,slow=315,SNR=2.8						
I26DE	**FREYUNG INFRAS12.67**		**237**	*i*		21 35 20.0	
	baz=45,slow=332,SNR=0.5						
I48TN	**KESRA INFRASON25.27**		**222**	*i*		22 50 00.0	
	baz=30,slow=323,SNR=0.9						

*ECX **29** 20:25:17.9±0.5, 32°.62N×115°.72W, h5km, MD3.3, ML3.5*
*MEX **29** 20:25:17.8±0.7, 32°.83N×115°.74W, h10km, MD3.6*
*NEIC **29** 20:25:18.0, 32°.62N×115°.72W, h5km, MD3.5(MEX), ML3.4(ECX), ML3.5(PAS), After ECX.*

ISC 29 20:25:17.0±0.9, 32°.65N±0°.03×115°.73W±0°.02, h15km±6km, n24, σ1§40/42, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.00**	**56**	⇓*i*P	**Pg**	**20 25 19.0**	**-0.6**
YUH	**Yuha Desert**	**0.17**	**270**	⇓*i*P	**Pg**	**20 25 20.9**	**-0.2**
COK	**Cook Ranch**	**0.20**	**0**	⇑*i*P	**Pg**	**20 25 22.1**	**+0.4**
RMX	**La Rumorosa**	**0.30**	**261**	⇓*i*P	**Pg**	**20 25 23.3**	**-0.1**
RMX				*e*S	**Sg**	**20 25 28.1**	**+0.3**
CPBX	**Cerro Prieto**	**0.42**	**123**	*e*P	**Pg**	**20 25 25.0**	**-0.5**
CPBX				*e*S	**Sg**	**20 25 30.8**	**-0.5**
CPBX				⇓*e*		20 25 37.3	
	comp=E,13µm,0.6s						
MBIG	**Mexicali**	**0.51**	**118**	*e*P	**Pb**	**20 25 29.1**	**+1.4**
MBIG				*i* S	**Sb**	**20 25 36.3**	**+1.4**
COA	**Coachella**	**0.55**	**67**	⇑*i*P	**Pg**	**20 25 28.0**	**+0.1**
RDX	**Rancho Dawling**	**0.74**	**194**	*e*P	**Pg**	**20 25 30.4**	**-1.1**
RDX				*e*S	**Sg**	**20 25 40.1**	**-1.1**
RDX				*e*S	**Sg**	**20 25 40.2**	**-1.1**
RDX				*e*		20 25 43.0	
	comp=E,974nm,0.6s						
BAR	**Barrett**	**0.80**	**273**	*e*P	**Pg**	**20 25 32.1**	**-0.4**
BAR	**Barrett**	**0.80**	**273**	*e*Pg	**Pg**	**20 25 31.7**	**-0.9**
BAR				*e*Sg	**Sg**	**20 25 42.1**	**-1.0**
CBX	**Cerro Bola**	**0.86**	**247**	*i* P	**Pg**	**20 25 33.2**	**-0.5**
CBX				*i* S	**Sg**	**20 25 44.8**	**-0.3**
CBX	**Cerro Bola**	**0.86**	**247**	*e*P	**Pg**	**20 25 33.3**	**-0.5**
CBX				*e*S	**Sg**	**20 25 44.8**	**-0.3**
CBX	**Cerro Bola**	**0.86**	**247**	*i* P	**Pg**	**20 25 33.2**	**-0.5**
CBX				*i* S	**Sg**	**20 25 44.8**	**-0.3**

GLA	**Glamis**	**0.86**	**62**	*e*Pg	**Pg**	**20 25 32.2**	**-1.5**
GLA				*e*Sg	**Sg**	**20 25 43.6**	**-1.5**
PFO	**Pinyon Flats O**	**1.14**	**328**	*e*PG	**Pg**	**20 25 36.7**	**-2.3**
PFO				*e*Sg	**Sg**	**20 25 50.9**	**-3.0**
ZAX	**El Zacaton**	**1.22**	**202**	*e*P	**Pg**	**20 25 38.6**	**-2.0**
ZAX				*e*S	**Sg**	**20 25 54.9**	**-1.7**
ECNX	**Esteban Cantu**	**1.23**	**217**	*e*P	**Pg**	**20 25 39.2**	**-1.6**
ECNX				*e*S	**Sg**	**20 25 55.1**	**-1.8**
PBX	**Punta Banda**	**1.24**	**223**	*e*P	**Pg**	**20 25 39.2**	**-1.7**
PBX				*e*S	**Sg**	**20 25 55.7**	**-1.4**
ECBX	**El Chinero**	**1.30**	**154**	*e*P	Pg	20 25 37.4	-4.8
ECBX				*e*S	**Sg**	**20 25 54.8**	**-4.4**
ECBX				⇓*e*		20 25 56.9	
ECBX				AML	AML	20 25 56.9	
	comp=N,620nm,0.4s						
ECBX				AML	AML	20 25 57.8	
	comp=E,536nm,0.6s						
ECBX				⇑*e*		20 25 57.8	
SPIG	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**20 25 46.4**	**+1.0**
SPIG				*e*S	**Sg**	**20 26 08.2**	**-0.9**
SPIG	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**20 25 46.4**	**+1.0**
SPIG				*e*S	**Sg**	**20 26 08.2**	**-0.9**
SPX	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**20 25 45.5**	**+0.1**
SPX				*e*S	**Sn**	**20 26 07.1**	**+1.0**
SPX	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**20 25 46.0**	**+0.6**
SPX				*e*S	**Sb**	**20 26 08.0**	**+0.9**
GSC	**Goldstone, Bar**	**2.79**	**342**	*e*Pg	**Pg**	**20 26 09.3**	**-1.3**

IDC 29 20:37:04.8±3.0, 19°.86S×175°.84W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/35, mbtmp4.1/4, Error ellipse: s-maj=106.6km s-min=39.4km az=11.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.58**	**263**	P	P	20 44 05.0	+0.8
	1.1nm,0.3s,baz=93,slow=9.5,SNR=2.8						
STKA	**Stephens Creek**	**39.89**	**244**	P	P	20 44 41.5	+0.9
	0.8nm,0.5s,baz=82,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**46.64**	**256**	P	P	20 45 34.6	-0.8
	2.4nm,0.5s,baz=97,slow=7.5,SNR=46						
WRA	**Warramunga Arr**	**46.70**	**261**	P	P	20 45 34.8	-1.1
	1.0nm,0.3s,baz=97,slow=7.5,SNR=69						
AKASG	**Malin Array Be**	**143.40**	**333**	PKP	PKPdf	20 56 42.5	+1.3
	0.5nm,0.3s,baz=36,slow=3.1,SNR=7.1						
TORD	**Torodi Ar. Bea**	**172.92**	**160**	PKPab	PKPab	20 58 42.3	-0.8
	0.3nm,0.7s,baz=202,slow=3.7,SNR=2.7						

*IDC **29** 20:44:01.8±5.8, 35°.29N×136°.18E, h221km±107km, mb2.7/2, mb1 2.9/3, mb1mx2.6/34, mbtmp3.2/3, Error ellipse: s-maj=168.0km s-min=27.9km az=58.0*
*ISCJB **29** 20:44:03.2±0.7, 35°.9N±0°.1×137°.4E±0°.1, h300km, mb2.7/2, Error ellipse: s-maj=17.9km s-min=11.9km az=158.2*
*JMA **29** 20:44:04.0±0.3, 35°.78N×137°.16E, h284km±3km, M2.9*

ISC 29 20:44:03.8±1.1, 35°.9N±0°.1×137°.4E±0°.1, h300km, n12, σ1§46/15, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**0.67**	**142**	S	**S**	**20 45 11.3**	**-3.0**
JNG	**Nsakai**	**0.79**	**49**	P	**Pn**	**20 44 43.0**	**-0.4**
MAT	**Matsushiro**	**0.95**	**46**	P	**Pn**	**20 44 43.5**	**-0.5**
MAT				S	**S**	**20 45 13.9**	**-1.9**
MJAR	**Matsushiro Arr**	**0.95**	**47**	P	**Pn**	**20 44 43.8**	**-0.2**
	2.0nm,0.3s,baz=235,slow=9.8,SNR=33						
MJAR				S	**S**	**20 45 15.0**	**-0.9**
	0.3nm,0.3s,baz=280,slow=12,SNR=8.1						
JYN	**Shimodo**	**1.04**	**112**	P	**Pn**	**20 44 43.8**	**-0.7**
JYT	**Yasato**	**2.32**	**81**	P	**Pn**	**20 44 55.2**	**+2.0**
BSO4	**Boso 4**	**2.60**	**109**	P	**Pn**	**20 44 55.7**	**+0.1**
JHO	**Hitachi**	**2.69**	**74**	P	**Pn**	**20 44 57.1**	**+0.5**
JHO				S	**S**	**20 45 37.2**	**-1.5**
JFK	**Kawauchi**	**3.19**	**61**	S	**S**	**20 45 45.9**	**-1.6**
BSO1	**Boso 1**	**3.21**	**112**	P	**Pn**	**20 45 01.7**	**+0.6**
MKAR	**Makanchi Array**	**41.96**	**303**	P	**P**	**20 51 26.9**	**+1.0**
	0.2nm,0.7s,baz=67,slow=8.5,SNR=3.8						
WRA	**Warramunga Arr**	**55.60**	**183**	P	**P**	**20 53 09.9**	**+0.9**
	0.4nm,0.9s,baz=0.1,slow=7.6,SNR=7.6						

IDC 29 20:46:39.7±3.0, 38°.56S×73°.91W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/17, Error ellipse: s-maj=114.5km s-min=33.4km az=43.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.38**	**131**	Pn	Pn	20 47 33.7	-0.2
	1.8nm,0.3s,baz=313,slow=12,SNR=18						
PLCA				Sn	Sb	20 48 22.2	-0.1
	3.3nm,0.3s,baz=241,slow=13,SNR=3.5						
CFAA	**Coronel Fontan**	**8.35**	**35**	LR	LR	20 52 24.1	
	comp=Z,12nm,19.6s,baz=226,slow=41						
CPUP	**Villa Florida**	**18.52**	**54**	LR	LR	20 58 55.6	
	comp=Z,341nm,20.4s,baz=194,slow=40						
TXAR	**Lajitas Array**	**73.04**	**333**	P	P	20 58 11.5	0.0
	0.4nm,0.5s,baz=157,slow=9.2,SNR=4.5						
DBIC	**Dimbokro**	**78.06**	**71**	P	P	20 58 40.9	+0.3
	2.8nm,0.7s,baz=230,slow=7.9,SNR=4.3						
TSUM	**Tsumeb**	**79.41**	**106**	LR	LR	21 27 45.7	
	comp=Z,31nm,21.9s,baz=152,slow=31						
TORD	**Torodi Ar. Bea**	**87.16**	**71**	P	P	20 59 27.8	-0.1
	0.5nm,0.9s,baz=220,slow=4.7,SNR=5.4						

*OMAN **29** 21:12:55.2±99.0, 30°.67N×57°.79E, h30km, Error ellipse: s-maj=490.7km s-min=31.8km az=4.0*
*ISCJB **29** 21:13:19.2±0.4, 28°.65N±0°.04×57°.42E±0°.07, h10km, mb3.2/8, Error ellipse: s-maj=8.6km s-min=5.1km az=1.9*
*CSEM **29** 21:13:23.6±0.3, 28°.61N×57°.44E, h30km, ML3.6, Error ellipse: s-maj=9.9km s-min=8.4km az=99.0*
*IDC **29** 21:13:29.8±6.9, 28°.61N×57°.26E, h105km±54km, mb3.1/8, mb1 3.2/10, mb1mx3.0/42, mbtmp3.5/10, Error ellipse: s-maj=56.5km s-min=19.5km az=157.0*
*DSN **29** 21:13:40.5±2.3, 27°.42N×56°.68E, h15km, mb2.6/7, ML3.2/3, Error ellipse: s-maj=43.2km s-min=14.9km az=134.0*

ISC 29 21:13:20.4±0.8, 28°.61N±0°.05×57°.43E±0°.05, h10km, n45, σ1§35/43, mb3.2/8, 7C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.48**	**337**	*e*Pg	**Pn**	**21 13 48.2**	**+0.8**
KRBR				AML	AML	21 14 17.3	
	comp=N,815nm,0.5s						
KRBR	**Kerman**	**1.48**	**337**	*e*Pg	**Pn**	**21 13 48.2**	**+0.8**
	comp=N,815nm,0.5s						
BNDS	**Bandar-Abbas**	**1.64**	**223**	*e*Pg	**Pn**	**21 13 50.5**	**+1.0**
BNDS	**Bandar-Abbas**	**1.64**	**223**	*e*Pg	**Pn**	**21 13 50.5**	**+1.0**
BANOM	**Banah**	**2.86**	**201**	P	**Pn**	**21 14 06.5**	**+0.4**
	SNR=18						
BANOM	**Banah**	**2.86**	**201**	⇓P	**Pn**	**21 14 06.7**	**+0.5**
BANOM	**Banah**	**2.86**	**201**	⇑P	**Pn**	**21 14 06.5**	**+0.4**
	SNR=18						
ZHSF	**Zahedan**	**3.09**	**70**	*e*Pn	**Pn**	**21 14 11.0**	**+1.6**
ZHSF	**Zahedan**	**3.09**	**70**	*e*Pn	**Pn**	**21 14 11.0**	**+1.6**
GHIR	**Ghir-Karzin**	**3.93**	**266**	*e*Pn	**Pn**	**21 14 22.5**	**+1.7**
GHIR				AML	AML	21 15 10.6	
	comp=N,77nm,0.4s						
GHIR	**Ghir-Karzin**	**3.93**	**266**	*e*Pn	**Pn**	**21 14 22.5**	**+1.7**
	comp=N,77nm,0.4s						
NAZ	**Nazwa, Dubai**	**3.94**	**204**	P	**Pn**	**21 14 20.7**	**-0.2**
NAZ	**Nazwa, Dubai**	**3.94**	**204**	⇑P	**Pn**	**21 14 20.7**	**-0.2**
HATD	**Hatta, Dubai**	**3.95**	**197**	P	**Pn**	**21 14 23.6**	**+2.6**
HATD	**Hatta, Dubai**	**3.95**	**197**	⇓P	**Pn**	**21 14 23.6**	**+2.6**
CHBR	**Chabahar**	**4.05**	**137**	*e*Pn	**Pn**	**21 14 23.6**	**+1.1**
CHBR	**Chabahar**	**4.05**	**137**	*e*Pn	**Pn**	**21 14 23.6**	**+1.1**
ASHO	**Ashiyiah**	**4.10**	**198**	P	**Pn**	**21 14 24.6**	**+1.4**
ASHO	**Ashiyiah**	**4.10**	**198**	⇓P	**Pn**	**21 14 24.6**	**+1.4**
ASHO	**Ashiyiah**	**4.10**	**198**	⇑P	**Pn**	**21 14 24.7**	**+1.4**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**4.19**	**204**	P	**Pn**	**21 14 25.9**	**+1.6**
FAQ	**Al Faqa, Dubai**	**4.19**	**204**	⇓P	**Pn**	**21 14 25.9**	**+1.6**
ASUD	**Al Ashush, Dub**	**4.39**	**206**	P	**Pn**	**21 14 28.8**	**+1.7**
ASUD	**Al Ashush, Dub**	**4.39**	**206**	⇑P	**Pn**	**21 14 28.8**	**+1.7**
HOQ	**Hoqain**	**5.01**	**181**	P	**Pn**	**21 14 35.5**	**-0.2**
HOQ	**Hoqain**	**5.01**	**181**	⇑P	**Pn**	**21 14 35.5**	**-0.2**
ARQ	**Araqi**	**5.32**	**189**	P	**Pn**	**21 14 41.5**	**+1.6**
	SNR=9.2						
ARQ	**Araqi**	**5.32**	**189**	⇓P	**Pn**	**21 14 41.5**	**+1.6**
	SNR=9.2						
SMDO	**Samad**	**5.56**	**174**	P	**Pn**	**21 14 43.6**	**+0.3**

SMDO	**Samad**	**5.56**	**174**	⇓P	**Pn**	**21 14 43.6**	**+0.3**
BSY	**Bisya**	**5.85**	**182**	⇑P	**Pn**	**21 14 49.0**	**+1.8**
BSYO	**Bisya**	**5.86**	**182**	P	**Pn**	**21 14 49.0**	**+1.7**
WBK	**Wadi Bani Khal**	**6.14**	**167**	P	**Pn**	**21 14 51.3**	**+0.2**
WBK	**Wadi Bani Khal**	**6.14**	**167**	⇑P	**Pn**	**21 14 51.3**	**+0.2**
GEYT	**Alibeck**	**9.31**	**3**	P	Pn	21 15 41.3	+6.7
	comp=N,0.2nm,0.3s,baz=168,slow=7.6,SNR=5.0						
ASF	**Jabal al Asfar**	**18.06**	**286**	P	**Pn**	**21 17 32.2**	**+0.6**
	comp=N,0.3nm,0.3s,baz=231,slow=14,SNR=4.7						
KBZ	**Khabaz**	**19.07**	**326**	P	**Pn**	**21 17 45.8**	**+2.3**
	comp=N,0.1nm,0.3s,baz=221,slow=10.0,SNR=3.0						
AKTO	**Aktyubinsk**	**21.80**	**1**	P	**P**	**21 18 13.0**	**+0.6**
	comp=N,2.2nm,0.8s,baz=185,slow=12,SNR=10						
BRTR	**Keskin Array B**	**22.52**	**306**	P	**P**	**21 18 19.2**	**-1.3**
	comp=N,0.5nm,0.8s,baz=124,slow=15,SNR=4.3						
BVAR	**Borovoye Array**	**26.20**	**18**	P	**P**	**21 18 55.3**	**+0.2**
	comp=N,0.5nm,0.5s,baz=195,slow=8.4,SNR=7.0						
MKAR	**Makanchi Array**	**26.59**	**40**	P	**P**	**21 18 59.0**	**+0.4**
	comp=N,0.1nm,0.5s,baz=250,slow=12,SNR=2.5						
KURBB	**Kurchatov Arra**	**27.16**	**30**	P	**P**	**21 19 03.2**	**-0.5**
	comp=N,0.1nm,0.3s,baz=336,slow=6.7,SNR=4.9						
GERES	**GERESS Array B**	**38.98**	**313**	P	**P**	**21 20 44.5**	**-2.3**
	comp=N,0.1nm,0.3s,baz=104,slow=8.5,SNR=4.1						
ARCES	**ARCESS Array B**	**44.89**	**345**	P	**P**	**21 21 33.4**	**-1.4**
	comp=N,1.8nm,0.8s,baz=148,slow=5.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**53.85**	**266**	P	P	21 22 41.1	-2.8
	comp=N,0.4nm,0.7s,baz=63,slow=6.4,SNR=6.0						

*ISCJB **29** 21:13:58.5±0.4, 28°.55N±0°.03×57°.54E±0°.05, h10km, mb3.6/16, MS3.1/3, Error ellipse: s-maj=6.5km s-min=3.9km az=10.5*
*CSEM **29** 21:14:01.0±0.2, 28°.48N×57°.43E, h2km, ML3.9, Error ellipse: s-maj=5.9km s-min=3.8km az=94.0*
*THR **29** 21:14:01.3±0.7, 28°.55N×57°.45E, h29km±11km, ML3.9*
*OMAN **29** 21:14:02.8±0.5, 28°.55N×57°.61E, h30km, Error ellipse: s-maj=17.3km s-min=11.6km az=302.0*
*TEH **29** 21:14:03.4, 28°.54N×57°.34E, h8km, ML3.9*
*IDC **29** 21:14:09.1±5.0, 28°.70N×57°.19E, h105km±38km, mb3.4/16, mb1 3.5/20, mb1mx3.4/46, mbtmp3.8/20, MS3.1/4, Ms1 3.1/4, ms1mx2.7/27, Error ellipse: s-maj=41.0km s-min=13.9km az=165.0*

ISC 29 21:13:59.3±0.6, 28°.55N±0°.04×57°.51E±0°.06, h10km, n60, σ1§96/54, mb3.7/16, MS3.1/3, 4C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.39**	**218**	*e*Pg	**Pg**	**21 14 26.7**	**+0.7**
IBND				*e*		21 15 02.5	
	comp=Z,45µm,0.2s						
IBND	**Bandar-abas**	**1.39**	**218**	*e*Pg	**Pg**	**21 14 26.7**	**+0.7**
BNDS	**Bandar-Abbas**	**1.64**	**226**	*e*Pg	**Pb**	**21 14 30.2**	**+0.4**
BNDS				*e*Sg	**Sb**	**21 14 52.0**	**+1.3**
BNDS				AML	AML	21 14 54.7	
	comp=E,1µm,0.6s						
BNDS				AML	AML	21 14 58.9	
	comp=N,1µm,0.6s						
BNDS	**Bandar-Abbas**	**1.64**	**226**	*e*Pg	**Pb**	**21 14 30.2**	**+0.4**
BANOM	**Banah**	**2.82**	**203**	S	**Sn**	**21 15 21.0**	**+2.3**
BANOM	**Banah**	**2.82**	**203**	⇑S	**Sn**	**21 15 21.0**	**+2.3**
ZHSF	**Zahedan**	**3.05**	**69**	*e*Pn	**Pn**	**21 14 50.7**	**+2.9**
ZHSF	**Zahedan**	**3.05**	**69**	*e*Pn	**Pn**	**21 14 50.7**	**+2.9**
IBAF	**Bafgh**	**3.47**	**331**	*e*Pn	**Pn**	**21 14 56.2**	**+2.6**
IBAF				*e*		21 15 22.5	
	comp=Z,2µm,0.2s						
IBAF				*e*Sg	**Sg**

ESDC	**Sonseca Array**	**51.20**	**300**	P		P		21 22 59.6	-3.4
	comp=Z,0.2nm,0.4s,baz=65,slow=8.4,SNR=4.5								
TORD	**Torodi Ar. Bea**	**53.91**	**266**	P		P		21 23 19.9	-3.5
	comp=Z,0.7nm,0.6s,baz=61,slow=7.2,SNR=5.4								
ILAR	**Eielson Array**	**85.06**	**10**	P		P		21 26 32.0	-2.9
	comp=Z,0.4nm,0.6s,baz=320,slow=4.4,SNR=6.7								
YKA	**Yellowknife Ar**	**89.06**	**356**	P		**P**		**21 26 52.3**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=360,slow=5.2,SNR=8.1								

NNC ***29*** *21:22:54.9±2.0, 37.72N×71.64E, h169km, mb2.7, mpv3.7, Error ellipse: s-maj=19.6km s-min=7.3km az=160.0*

ISC 29 21:22:52.2±2.6, 37.6N±0.2×71.65E±0.0, h200km, n26, σ2s05/21, 5C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**300**	⇑P			**Pn**	**21 23 36.4**	**-0.4**
	4.8nm,0.4s								
DZET				⇓S			**Sn**	**21 24 08.9**	**-2.7**
	34nm,0.3s								
SFK	**Sufi-Kurgan**	**2.85**	**30**	⇓P			**Pn**	**21 23 39.6**	**-0.7**
	13nm,0.3s								
SFK				⇓S			**Sn**	**21 24 14.4**	**-3.6**
	42nm,0.3s								
AML	**Almayashu**	**4.84**	**18**	P			**Pn**	**21 24 05.8**	**+0.9**
	SNR=27								
MNAS	**Manas**	**4.97**	**7**	⇑P			**Pn**	**21 24 08.1**	**+1.8**
	12nm,0.6s								
MNAS				⇑S			**Sn**	**21 25 03.2**	**-1.7**
	23nm,0.6s								
UCH	**Uchtor**	**5.16**	**24**	P			**Pn**	**21 24 09.9**	**+0.8**
	SNR=8.1								
EKS2	**Erkin-Say**	**5.36**	**17**	P			**Pn**	**21 24 13.0**	**+1.8**
	SNR=14								
AAK	**Ala-Archa**	**5.52**	**22**	⇓P			**Pn**	**21 24 14.9**	**+1.6**
	7.4nm,0.5s								
AAK				⇓S			**Sn**	**21 25 15.6**	**-2.0**
	12nm,0.7s								
AAK	**Ala-Archa**	**5.52**	**22**	P			**Pn**	**21 24 15.2**	**+1.8**
	SNR=8.2								
KK31	**Karatay Array**	**5.62**	**351**	P			**Pn**	**21 24 17.0**	**+2.6**
	10nm,0.3s,baz=167,slow=12,SNR=301								
KK31				S			**Sn**	**21 25 18.9**	**-0.6**
	3.3nm,0.3s,baz=187,slow=26,SNR=14								
CHMS	**Chumysh**	**5.94**	**23**	P			**Pn**	**21 24 20.1**	**+1.6**
	SNR=10								
USP	**Ospenovka**	**6.11**	**20**	P			**Pn**	**21 24 22.3**	**+1.5**
	SNR=7.2								
TKM2	**Tokmak 2**	**6.15**	**28**	⇓P			**Pn**	**21 24 22.8**	**+1.3**
	2.6nm,0.6s								
TKM2				⇑S			**Sn**	**21 25 29.7**	**-2.6**
	1.7nm,0.5s								
PYUN	**Piuthan**	**13.39**	**131**	*e*P			Pn	21 25 50.1	-4.7
	6.8nm,0.3s								
KOLN	**Koldanda**	**14.00**	**131**	*e*P			Pn	21 25 58.8	-3.5
	3.5nm,0.3s								
AB31	**Akbulak array**	**14.45**	**328**	⇓P			P	21 26 13.0	+4.2
	0.5nm,0.4s,baz=136,slow=14,SNR=27								
AB31				⇓S			**S**	**21 28 47.0**	**-0.9**
	1.7nm,0.8s,baz=159,slow=23,SNR=4.5								
GKN	**Gorkha**	**14.47**	**127**	*e*P			Pn	21 26 03.4	-4.7
	4.0nm,0.3s								
GKN				*e*S			S	21 28 32.3	-17
KKN	**Kakani**	**15.03**	**126**	*e*P			Pn	21 26 10.4	-4.6
DMN	**Daman**	**15.05**	**127**	*e*P			Pn	21 26 10.3	-4.9
PKIN	**Phulchoki**	**15.25**	**127**	*e*P			Pn	21 26 13.5	-4.3
	4.8nm,0.5s								
PKI	**Pulchoki**	**15.26**	**127**	*e*P			Pn	21 26 13.5	-4.5
GUN	**Gumba**	**15.34**	**125**	*e*P			Pn	21 26 14.8	-4.1
	6.5nm,0.6s								
JIRN	**Jiri**	**15.71**	**125**	*e*P			P	21 26 19.2	-4.1
	6.2nm,0.3s								
AKTO	**Aktyubinsk**	**16.16**	**327**	⇑P			**Pn**	**21 26 31.4**	**+3.2**
	2.2nm,0.9s								
AKTO				⇓S			**Sn**	**21 29 28.0**	**-1.5**
	1.2nm,0.7s								
RAMN	**Ramite**	**16.46**	**126**	*e*P			P	21 26 29.7	-1.7
TAPN	**Taplejung**	**16.92**	**122**	*e*P			P	21 26 34.4	-2.2
	2.3nm,0.4s								
ODAN	**Odare**	**17.03**	**124**	*e*P			P	21 26 35.2	-2.5
	3.6nm,0.5s								

GUC 29 21:23:04.5±0.4, 35.23S×72.78W, h14km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.90**	**181**	*e*P			Pg	21 23 22.1	0.0
COCH				*e*S			Sn	21 23 35.1	-0.5
TALC	**Talca**	**0.95**	**101**	*e*P			Pb	21 23 22.7	-0.1
TALC				*e*S			Sn	21 23 36.7	-0.1
LNCH	**Linares**	**1.14**	**123**	*e*P			Pn	21 23 26.2	+0.1
LNCH				*e*S			Sg	21 23 42.3	+0.8
NICH	**Los Niches**	**1.29**	**81**	*e*P			Pb	21 23 28.4	-0.1
NICH				*e*S			Sg	21 23 46.0	-0.1
CLCH	**Cerro Calan**	**2.60**	**46**	*e*P			Pn	21 23 48.6	+2.4
CLCH				*e*S			Sb	21 24 22.7	-0.2
CLCH				AML		AML		21 24 32.1	
	comp=N,293nm,0.5s								
PEL	**Peldehue**	**2.71**	**40**	*e*P			Pn	21 23 50.2	+2.6
PEL				*e*S			Sb	21 24 25.2	-0.6
PEL				AML		AML		21 24 35.2	
	comp=N,296nm,0.6s								

MEX 29 21:34:04.8±0.6, 15.83N×94.18W, h60km±15km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**97**	*e*P			Pn	21 34 20.2	-1.8
PCIG				*e*S			Sn	21 34 33.1	-1.7
TGIG		**1.39**	**47**	*e*P			Pn	21 34 26.1	-2.0
TGIG				*e*S			Sn	21 34 43.1	-2.5
CMIG	**Matias Romero**	**1.42**	**332**	*e*P			Pn	21 34 27.5	-1.0
CMIG				*e*S			Sn	21 34 45.1	-1.2
HUIG	**Huatulco**	**1.85**	**268**	*e*P			Pn	21 34 32.2	-2.1
HUIG				*e*S			Sn	21 34 54.2	-2.5
CCIG	**Comitan**	**2.02**	**77**	*e*P			Pn	21 34 35.0	-1.8
CCIG				*e*S			Sn	21 34 58.3	-2.9

NIED ***29*** *22:50:00, 35.70N×135.00E, h8km, Mw3.3 Best double couple: M0 1.09000×10^14 NP1:φs9.00000°, δ45.00000°, λ29.00000°. NP2:φs258.00000°, δ70.00000°, λ131.00000°.*

JMA 29 22:50:21.0, 35.67N×135.04E, h10km, M3.6, 3C-2D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**0.07**	**128**	⇓P			Pg	22 50 23.2	0.0
JKY				⇓S			Sg	22 50 24.7	-0.1
JKSM	**Kasumi**	**0.32**	**255**	⇑P			Pg	22 50 27.4	0.0
JKSM				S			Sg	22 50 31.8	+0.2
JWT	**Wachi**	**0.49**	**143**	⇓P			Pg	22 50 30.3	-0.2
JWT				S			Sg	22 50 36.8	-0.1
JKS	**Kasai**	**0.70**	**193**	⇑P			Pg	22 50 34.5	-0.1
JKS				S			Sg	22 50 43.7	-0.1
JAD	**Aida**	**1.02**	**225**	⇑P			Pg	22 50 39.8	-0.8
JAD				S			Sg	22 50 53.0	-0.9
MAT	**Matsushiro**	**2.71**	**70**	P			Pn	22 51 03.9	-0.7
MAT				S			Sb	22 51 40.5	-2.4

ISCJB ***29*** *22:52:24.1±0.6, 43.68N±0.07×145.45E±0.07, h119km±3km, mb3.7/11, Error ellipse: s-maj=11.2km s-min=8.6km az=15.9*

JMA ***29*** *22:52:25.8±0.1, 43.68N×145.44E, h109km±1km, M3.4*

JMA Felt I J1.

IDC ***29*** *22:52:26.9±2.6, 43.75N×145.31E, h125km±18km, mb3.5/11, mb1 3.6/11, mb1mx3.3/45, mbtmp3.8/11, Error ellipse: s-maj=30.2km s-min=22.7km az=50.0*

ISC 29 22:52:25.1±0.8, 43.69N±0.07×145.46E±0.06, h113km±6km, n29, σ0s63/34, mb3.8/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**0.35**	**316**	P			**Pn**	**22 52 41.6**	**+0.3**
JRA				*e*S			**Sn**	**22 52 53.6**	**+0.1**
NEM2	**Nemuro 2**	**0.38**	**147**	P			**Pn**	**22 52 41.9**	**+0.4**
NEM2				*e*S			**Sn**	**22 52 53.5**	**-0.3**
JNK	**Nakash**	**0.55**	**259**	P			**Pn**	**22 52 42.7**	**+0.2**
JNK				*e*S			**Sn**	**22 52 55.5**	**-0.1**
JAK	**Akkeshi**	**0.89**	**219**	P			**Pn**	**22 52 45.6**	**+0.3**
JAK				*e*S			**Sn**	**22 53 00.2**	**-0.4**
JTKR	**Abashiri--Toko**	**1.16**	**285**	P			**Pn**	**22 52 48.3**	**+0.2**
JTKR				*e*S			**Sn**	**22 53 04.8**	**-0.7**
JAR	**Ashorobuto**	**1.29**	**253**	P			**Pn**	**22 52 50.1**	**+0.5**
JAR				*e*S			**Sn**	**22 53 08.9**	**+0.7**
JOB	**Onbets**	**1.42**	**237**	P			**Pn**	**22 52 51.7**	**+0.6**
JOB				*e*S			**Sn**	**22 53 10.8**	**0.0**
JMP	**Maruseppu**	**1.55**	**283**	P			**Pn**	**22 52 52.9**	**+0.3**
JMP				*e*S			**Sn**	**22 53 13.0**	**-0.6**
JCH	**Churui**	**1.87**	**236**	P			**Pn**	**22 52 56.7**	**+0.2**
JCH				*e*S			**Sn**	**22 53 19.6**	**-0.9**
JKK2	**Kamakawa 2**	**1.97**	**276**	P			**Pn**	**22 52 58.3**	**+0.5**
JKK2				*e*S			**Sn**	**22 53 23.2**	**+0.4**
ASAJ	**Asahikawa**	**2.11**	**283**	P			**Pn**	**22 53 00.7**	**+1.1**
	38nm,0.3s,baz=96,slow=9.8,SNR=153								
ASAJ				S			**Sn**	**22 53 26.6**	**+0.6**
	3.6nm,0.3s,baz=6.2,slow=29,SNR=6.8								
SONM	**Songino Array**	**27.36**	**293**	P			**P**	**22 57 59.2**	**-0.4**
	0.6nm,0.5s,baz=89,slow=8.6,SNR=7.8								
H11N2	**WAKE ISLAND Hy**	**29.88**	**136**	T			T	23 29 36.8	
	baz=328,slow=75,SNR=160								
H11N1	**WAKE ISLAND Hy**	**29.89**	**136**	T			T	23 29 37.7	
	baz=328,slow=75,SNR=108								
H11N3	**WAKE ISLAND Hy**	**29.90**	**136**	T			T	23 29 38.2	
	baz=328,slow=75,SNR=115								
H11S1	**WAKE ISLAND Hy**	**30.82**	**138**	T			T	23 30 49.3	
	baz=329,slow=76,SNR=322								
H11S3	**WAKE ISLAND Hy**	**30.82**	**138**	T			T	23 30 50.2	
	baz=329,slow=76,SNR=209								
H11S2	**WAKE ISLAND Hy**	**30.84**	**138**	T			T	23 30 49.8	
	baz=329,slow=76,SNR=158								
ZALV	**Zalesovo Beam**	**40.05**	**307**	P			**P**	**22 59 49.5**	**+0.7**
	0.3nm,0.4s,baz=70,slow=8.4,SNR=2.1								
MKAR	**Makanchi Array**	**43.52**	**297**	P			**P**	**23 00 17.2**	**-0.1**
	0.4nm,0.5s,baz=76,slow=6.1,SNR=7.8								
KURBB	**Kurchatov Arra**	**44.63**	**303**	P			**P**	**23 00 25.5**	**-0.4**
	0.6nm,0.4s,baz=75,slow=8.0,SNR=6.6								
BVAR	**Borovoye Array**	**48.59**	**309**	P			**P**	**23 00 56.1**	**-0.7**
	0.2nm,0.3s,baz=95,slow=10.0,SNR=4.7								
AAK	**Ala-Archa**	**50.28**	**295**	P			**P**	**23 01 10.1**	**+0.1**
	1.0nm,0.4s,baz=115,slow=9.5,SNR=5.4								
WRA	**Warrannunga Arr**	**64.13**	**192**	P			**P**	**23 02 47.6**	**+0.3**
	1.0nm,0.8s,baz=0.8,slow=6.8,SNR=5.5								
FINES	**FINESS Array B**	**64.37**	**332**	P			**P**	**23 02 47.6**	**-0.7**
	1.9nm,0.5s,baz=52,slow=7.1,SNR=35								
NB2	**NORSAR Subarra**	**69.21**	**338**	P			**P**	**23 03 18.7**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=32,slow=6.9								
NOA	**NORSAR Array B**	**69.21**	**338**	P			**P**	**23 03 18.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=35,slow=4.5,SNR=9.8								
AKASG	**Malin Array Be**	**70.32**	**325**	P			**P**	**23 03 28.3**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=39,slow=5.9,SNR=7.7								
TXAR	**Lajitas Array**	**83.70**	**55**	P			**P**	**23 04 43.1**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=300,slow=2.0,SNR=3.3								

ISCJB ***29*** *23:09:42.9±0.7, 18.3S±0.2×177.8W±0.2, h400km, mb3.8/10, Error ellipse: s-maj=24.9km s-min=14.0km az=138.2*

IDC ***29*** *23:09:45.4±3.2, 18.37S×177.70W, h415km±36km, mb3.5/11, mb1 3.7/11, mb1mx3.4/37, mbtmp4.2/11, Error ellipse: s-maj=28.6km s-min=13.7km az=144.0*

ISC 29 23:09:44.2±0.8, 18.3S±0.2×177.7W±0.2, h400km, n14, σ1s34/15, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.38**	**192**	P			**P**	**23 13 51.0**	**-1.0**
	3.1nm,0.5s,baz=8.2,slow=3.2,SNR=5.5								
STKA	**Stephens Creek**	**39.00**	**242**	P			**P**	**23 16 34.5**	**+0.4**
	1.6nm,0.5s,baz=68,slow=8.4,SNR=5.8								
WRA	**Warramunga Arr**	**45.19**	**260**	P			**P**	**23 17 23.2**	**-0.5**
	0.5nm,0.5s,baz=96,slow=9.0,SNR=5.9								
ASAR	**Alice Springs**	**45.30**	**255**	P			**P**	**23 17 24.6**	**0.0**
	4.6nm,0.4s,baz=91,slow=8.3,SNR=88								
ASAR				S			**S**	**23 23 33.3**	**-1.3**
	0.7nm,0.8s,baz=87,slow=17,SNR=4.6								
MJAR	**Matsushiro Arr**	**68.61**	**323**	P			**P**	**23 20 05.1**	**-0.5**
	1.8nm,0.5s,baz=165,slow=5.9,SNR=5.6								
PETK	**Petropavlovsk-**	**74.23**	**345**	P			**P**	**23 20 38.2**	**-0.2**
	2.0nm,0.6s,baz=134,slow=10,SNR=3.6								
NVAR	**Mina Array Bea**	**79.28**	**43**	P			**P**	**23 21 07.0**	**+0.1**
	0.6nm,0.7s,baz=224,slow=8.3,SNR=5.1								
TXAR	**Lajitas Array**	**85.67**	**57**	P			**P**	**23 21 39.8**	**+0.2**
	1.1nm,0.8s,baz=224,slow=7.0,SNR=6.4								
CMAR	**Chiang Mai Arr**	**89.62**	**289**	P			**P**	**23 21 60.0**	**+1.6**
	2.2nm,1.1s,baz=116,slow=3.4,SNR=5.9								
INK	**Inuvik**	**92.11**	**15**	P			**P**	**23 22 07.5**	**-1.1**
	2.3nm,0.9s,baz=247,slow=4.7,SNR=6.1								
YKA	**Yellowknife Ar**	**94.43**	**25**	P			**P**	**23 22 17.8**	**-1.7**
	0.6nm,0.6s,baz=241,slow=4.6,SNR=7.3								
BRTR	**Keskin Array B**	**145.51**	**315**	PKPbc			**PKPdf**	**23 28 37.1**	**+1.1**
	0.7nm,0.5s,baz=99,slow=2.4,SNR=6.7								
DPC	**Dobruska-Polom**	**146.11**	**344**	*e*P			**PKPdf**	**23 28 38.3**	**+1.8**
DPC				*ex*			x	23 28 40.0	
GERES	**GERESS Array B**	**148.16**	**346**	PKPbc			**PKPdf**	**23 28 42.6**	**+2.6**
	0.7nm,0.5s,baz=18,slow=3.1,SNR=8.8								

ISCJB ***29*** *23:19:38.2±0.5, 57.31N±0.04×153.72W±0.06, h71km±4km, mb3.6/8, Error ellipse: s-maj=7.4km s-min=5.3km az=166.8*

NEIC ***29*** *23:19:40.8, 57.33N×153.86W, h51km, ML3.3(AEIC), After AEIC.*

IDC ***29*** *23:19:45.6±5.5, 58.07N×154.46W, h70km±43km, mb3.3/9, mb1 3.5/11, mb1mx3.3/36, mbtmp3.6/11, ML3.4/2, Error ellipse: s-maj=36.8km s-min=22.0km az=30.0*

ISC 29 23:19:39.6±0.9, 57.35N±0.06×153.80W±0.05, h61km±8km, n68, σ0s96/72, mb3.7/8, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.31**	**115**	P			**Pn**	**23 19 49.7**	**-0.1**
OHAK				S			**Sn**	**23 19 57.1**	**-0.1**
KDAK	**Kodiak Island**	**0.79**	**56**	P			**Pn**	**23 19 55.4**	**+0.4**
KDAK				S			**Sn**	**23 20 07.1**	**+0.9**
KABR	**Katmai Barrier**	**1.00**	**322**	P			**Pn**	**23 19 57.5**	**-0.3**
KCE	**Katmai Mt Cerb**	**1.16**	**321**	P			**Pn**	**23 20 00.8**	**+1.0**
KAKN	**Katmai Knife C**	**1.16**	**325**	P			**Pn**	**23 19 59.9**	**0.0**
KAKN				S			**Sn**	**23 20 14.4**	**-0.6**
KVTA	**Katmai Vly 10**	**1.30**	**323**	P			**Pn**	**23 20 01.9**	**+0.3**
KELA	**Mount Kelaz**	**1.50**	**317**	P			**Pn**	**23 20 04.2**	**-0.2**
MCNL	**McNeil River**	**1.86**	**352**	P			**Pn**	**23 20 09.8**	**+0.6**
AUI	**Augustine Isla**	**2.00**	**6**	P			**Pn**	**23 20 12.2**	**+1.2**
AUI				S			**Sn**	**23 20 35.8**	**+0.8**
AUH	**Augustine H**	**2.03**	**5**	P			**Pn**	**23 20 12.8**	**+1.3**
AUP	**Augustine Pinn**	**2.03**	**6**	P			**Pn**	**23 20 12.8**	**+1.4**
OPT	**Oil Point**	**2.33**	**7**	P			**Pn**	**23 20 16.6**	**+1.1**
ILW	**Iliamna West**	**2.74**	**7**	P			**Pn**	**23 20 21.9**	**+0.6**
BRLK	**Bradley Lake**	**2.86**	**31**	P			**Pn**	**23 20 23.0**	**+0.2**
BRLK				S			**Sn**	**23 20 54.9**	**-1.1**
VNSG	**Veniaminof 6**	**3.16**	**249**	P			**Pn**	**23 20 26.9**	**0.0**
VNHG	**Veniaminof 1**	**3.16**	**251**	P			**Pn**	**23 20 27.4**	**+0.5**
RDWB	**Redoubt West**	**3.19**	**9**	P			**Pn**	**23 20 27.9**	**+0.6**
NCT	**North Crescent**	**3.25**	**8**	P			**Pn**	**23 20 29.1**	**+0.9**
DFR	**Drift River**	**3.30**	**10**	P			**Pn**	**23 20 29.8**	**+0.9**
SEW	**Seward**	**3.57**	**38**	P			**Pn**	**23 20 32.3**	**-0.1**
SLKM	**Skilak Lake**	**3.67**	**29**	P			**Pn**	**23 20 34.2**	**+0.3**
SVW2	**Sparrevohn**	**3.87**	**347**	P			**Pn**	**23 20 36.9**	**+0.4**
CKL	**Chakachamna La**	**3.93**	**10**	P			**Pn**	**23 20 38.1**	**+0.6**
CKN	**Chakachatna No**	**3.97**	**11**	P			**Pn**	**23 20 39.3**	**+1.3**
SPBG	**Spurr Blockage**	**3.99**	**10**	P			**Pn**	**23 20 39.4**	**+1.2**
BGL	**Barrier Glacie**	**3.99**	**10**	P			**Pn**	**23 20 39.7**	**+1.4**
SDPT	**Sand Point**	**4.22**	**244**	P			**Pn**	**23 20 40.6**	**-0.7**
STLK	**Strandline Lak**	**4.28**	**13**	P			**Pn**	**23 20 43.1**	**+0.9**
RC01	**Rabbit Creek A**	**4.29**	**27**	P			**Pn**	**23 20 42.8**	**+0.5**
SUA	**Susitna One**	**4.41**	**19**	P			**Pn**	**23 20 44.9**	**+0.8**
SKT	**Skwentna**	**4.78**	**13**	P			**Pn**	**23 20 49.6**	**+0.5**
GLI	**Glacier Island**	**4.95**	**42**	P			**Pn**	**23 20 50.6**	**-0.6**
JPK	**Jack Peak**	**5.24**	**42**	P			**Pn**	**23 20 55.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**5.26**	**49**	P			**Pn**	**23 20 55.4**	**-0.2**
VLZ	**Valdez**	**5.39**	**42**	P			**Pn**	**23 20 57.4**	**+0.1**
SCM	**Sheep Creek Mo**	**5.57**	**33**	P			**Pn**	**23 20 60.0**	**+0.2**
DIV	**Divide**	**5.60**	**44**	P			**Pn**	**23 21 00.6**	**+0.4**
RAGM	**Ragged Mountai**	**5.63**	**53**	P			**Pn**	**23 21 00.9**	**+0.3**
TT01	**Tatalina**	**5.68**	**350**	P			**Pn**	**23 21 01.5**	**+0.1**
GOAT	**Goat Mountain**	**5.70**	**52**	P			**Pn**	**23 21 01.9**	**+0.3**
KLU	**Klutina**	**5.78**	**41**	P			**Pn**	**23 21 02.9**	**+0.1**
BMRM	**Bremner River**	**5.96**	**49**	P			**Pn**	**23 21 05.3**	**+0.1**
CAST	**Castle Rocks**	**6.15**	**7**	P			**Pn**	**23 21 08.1**	**+0.4**
RND	**Reindeer**	**6.55**	**20**	P			**Pn**	**23 21 13.7**	**+0.4**
VRDI	**Verde Repeater**	**6.57**	**49**	P			**Pn**	**23 21 13.8**	**+0.2**
BARK	**Barkley Ridge**	**6.61**	**58**	P			**Pn**	**23 21 14.8**	**+0.6**
ISLE	**Juniper Island**	**6.76**	**56**	P			**Pn**	**23 21 16.5**	**+0.3**
BAGL	**Bagley Icefiel**	**6.83**	**58**	P			**Pn**	**23 21 17.6**	**+0.6**
MCK	**McKinley**	**6.83**	**19**	P			**Pn**	**23 21 18.1**	**+1.0**
KIAG	**Kiagna River**	**6.89**	**54**	P			**Pn**	**23 21 18.2**	**+0.2**
PTPK	**Patty Peak**	**6.96**	**52**	P			**Pn**	**23 21 19.4**	**+0.4**
PAX	**Paxson**	**7.00**	**33**	P			**Pn**	**23 21 19.3**	**-0.1**
GRNC	**Granite Creek**	**7.08**	**56**	P			**Pn**	**23 21 21.0**	**+0.3**
RKAV	**Rock Avalanche**	**7.11**	**60**	P			**Pn**	**23 21 21.3**	**+0.3**
TABL	**Table Mountain**	**7.25**	**59**	P			**Pn**	**23 21 23.4**	**+0.4**
BARN	**Barnard Glacie**	**7.25**	**54**	P			**Pn**	**23 21 23.4**	**+0.4**
ILAR	**Eielson Array**	**8.16**	**21**	P			**Pn**	**23 21 33.9**	**-1.3**
	0.5nm,0.3s,baz=208,slow=13,SNR=12								
ILAR				S			**Sn**	**23 23 00.2**	**-5.5**
	0.5nm,0.3s,baz=341,slow=29,SNR=5.0								
ILB	**Eielson Array**	**8.16**	**21**	P			**Pn**	**23 21 34.6**	**-0.6**
INK	**Inuvik**	**14.27**	**32**	P			**Pn**	**23 22 57.5**	**-0.7**
	0.1nm,0.3s,baz=228,slow=15,SNR=5.4								
YKA	**Yellowknife Ar**	**20.06**	**59**	P			Pn	23 24 11.5	+1.7
	0.9nm,0.6s,baz=273,slow=10.0,SNR=10								
TXAR	**Lajitas Array**	**44.52**	**107**	P			P	23 27 54.8	+10
	1.0nm,0.6s,baz=325,slow=8.7,SNR=8.8								
SONM	**Songino Array**	**56.03**	**307**	P			**P**	**23 29 12.3**	**+0.4**
	1.2nm,0.7s,baz=47,slow=6.6,SNR=12								
ZALV	**Zalesovo Beam**	**59.27**	**324**	P			**P**	**23 29 34.2**	**-0.1**
	1.0nm,0.7s,baz=46,slow=8.5,SNR=4.3								
NOA	**NORSAR Array B**	**61.36**	**8**	P			**P**	**23 29 49.9**	**+1.3**
	0.3nm,0.7s,baz=347,slow=7.0,SNR=2.8								
FINES	**FINESS Array B**	**61.54**	**0**	P			**P**	**23 29 50.0**	**+0.3**
	0.5nm,0.5s,baz=12,slow=7.1,SNR=4.9								
MKAR	**Makanchi Array**	**66.24**	**321**	P			**P**	**23 30 19.8**	**-1.0**
	0.3nm,0.4s,baz=33,slow=7.0,SNR=8.9								
AKASG	**Malin Array Be**	**72.28**	**358**	P			**P**	**23 30 57.6**	**-0.4**
	0.2nm,0.3s,baz=6.6,slow=4.9,SNR=3.0								
GERES	**GERESS Array B**	**73.66**	**9**	P			**P**	**23 31 07.5**	**+1.1**
	0.1nm,0.3s,baz=349,slow=6.9,SNR=2.5								

NIED ***29*** *23:37:00, 33.80N×135.00E, h41km, Mw3.6 Best double couple: M0 3.26000×10^14 NP1:φs141.00000°, δ78.00000°, λ169.00000°. NP2:φs233.00000°, δ80.00000°, λ13.00000°.*

JMA 29 23:37:05.6, 33.85N×134.96E, h43km±1km, M3.4, 7C-3D Broadband fault plane solution: P waves. NP1: φs53.00000°, δ88.00000°, λ24.00000°. **NP2:**φs322.00000°, δ66.00000°, λ178.00000°. **Principal axes:** T Plg18.0000°, Azm280.0000°; N Plg66.0000°, Azm58.0000°; P Plg15.0000°, Azm185.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.33**	**90**	⇑P			Pn	23 37 14.3	-0.1
JWM				S			Sn	23 37 20.3	-0.3
JAI	**Aioi**	**0.43**	**262**	⇑P			Pn	23 37 15.6	0.0
JAI				S			Sn	23 37 22.4	-0.2
JAJ2	**Tsuna**	**0.57**	**354**	⇓P			Pn	23 37 17.4	0.0
JAJ2				S			Sn	23 37 25.8	0.0
JWY	**Kouya**	**0.64**	**55**	⇑P			Pn	23 37 18.3	-0.1
JWY				S			Sn	23 37 27.1	-0.5
JWZ	**Kozaga**	**0.70**	**117**	P			Pn	23 37 19.0	-0.2
JWZ				S			Sn	23 37 28.8	-0.2
JMN	**Monobe**	**0.91**	**263**	⇑P			Pn	23 37 21.9	-0.1
JMN				S			Sn	23

STKA **Stephens Creek** 19.29 6 P P 23 52 30.2 -1.1
4.6nm,0.3s,baz=172,slow=10,SNR=162
STKA LR LR 23 58 44.8
comp=Z,12µm,20.0s,baz=182,slow=33
STKA Stephens Creek 19.29 6 P P 23 52 30.3 -1.1
STKA pmax pmax
comp=Z,5.0nm,0.3s
STKA MLR MLR
comp=Z,12µm,20.0s
STKA Stephens Creek 19.29 6 P P 23 52 30.1 -1.1
baz=19,SNR=135
STKA Stephens Creek 19.29 6 eP P 23 52 29.6 -1.7
comp=Z,24nm,0.9s
WHZ Wether Hill Ro 19.54 86 eP Pn 23 52 34.9 -0.3
comp=Z,962nm,1.4s
MGCD Mangrove Creek 19.84 30 P Pn 23 52 39.0 +0.1
baz=19,SNR=8.5
CMSA Cobar Meteorol 20.11 16 P P 23 52 39.5 -0.7
baz=20,SNR=41
CASY Casey 21.05 213 eP P 23 52 49.6 -0.5
comp=Z,197nm,1.0s
CASY LR LR
comp=Z,20µm,19.0s
ODZ Otahua Downs 21.61 86 eP P 23 52 56.3 -0.1
comp=Z,698nm,1.7s
ODZ LR LR
comp=Z,17µm,20.0s
FORT Forrest 22.01 333 P P 23 52 59.9 -0.8
baz=21,SNR=20
FORT Forrest 22.01 333 eP P 23 52 59.1 -1.6
comp=Z,824nm,1.5s
FORT LR LR
comp=Z,16µm,21.0s
RPZ Rata Peaks 22.51 83 P P 23 53 05.6 -0.4
comp=Z,104nm,0.9s,baz=106,slow=3.6,SNR=13
RPZ LR LR 23 59 54.6
comp=Z,22µm,20.1s,baz=244,slow=32
RPZ Rata Peaks 22.51 83 eP P 23 53 05.6 -0.4
comp=Z,133nm,1.4s
RPZ LR LR
comp=Z,23µm,19.0s
ARMA Armidale 22.59 28 P P 23 53 06.8 -0.2
baz=22,SNR=52
ARMA Armidale 22.59 28 eP P 23 53 06.4 -0.6
comp=Z,980nm,1.6s
ARMA LR LR
comp=Z,40µm,19.0s
RKGY Rocky Gully 23.16 307 P P 23 53 14.0 +1.2
baz=22,SNR=5.0
KMBL Kambalda 23.63 320 P P 23 53 16.2 -1.3
baz=23,SNR=10.0
NWAO Narrogin (SRO) 24.38 310 P P 23 53 22.7 -1.9
comp=Z,87nm,1.1s,baz=145,slow=9.4,SNR=12
NWAO LR LR 00 00 59.0
comp=Z,98nm,18.4s,baz=138,slow=32
NWAO Narrogin (SRO) 24.38 310 P P 23 53 22.8 -1.8
baz=24,SNR=13
NWAO Narrogin (SRO) 24.38 310 eP P 23 53 22.2 -2.3
H01W1 Cape Leeuwin H 24.41 302 T T 00 18 37.0
baz=139,slow=75,SNR=3704
H01W2 Cape Leeuwin H 24.42 302 T T 00 18 37.4
baz=139,slow=75,SNR=3586
H01W3 Cape Leeuwin H 24.43 302 T T 00 18 38.8
baz=139,slow=75,SNR=4611
KHZ Kahutara 24.74 83 eP P 23 53 27.4 -0.3
comp=Z,153nm,1.0s
KHZ LR LR
comp=Z,12µm,21.0s
QLP Quilpie 24.77 10 P P 23 53 27.4 -0.7
baz=24,SNR=19
RMQ Roma 25.61 20 P P 23 53 35.1 -0.6
baz=25,SNR=49
SNZO South Karori 26.08 82 eP P 23 53 40.9 +1.1
comp=Z,185nm,1.1s
SNZO LR LR
comp=Z,8µm,18.0s
BLDU Ballidu 26.54 312 P P 23 53 42.2 -1.9
baz=26,SNR=12
EIDS Eidsvold 27.22 24 P P 23 53 49.5 -0.8
baz=27,SNR=3.8
EIDS Eidsvold 27.22 24 eP P 23 53 48.5 -1.8
comp=Z,134nm,1.3s
EIDS LR LR
comp=Z,17µm,18.0s
BFZ Birch Farm 27.39 82 eP P 23 53 51.1 -0.7
comp=Z,217nm,1.1s
BFZ LR LR
comp=Z,8µm,19.0s
WRKA Warakurna 27.41 338 P P 23 53 49.9 -2.1
baz=27,SNR=12
MIR Mirnyy 27.70 219 eP P 23 53 55.0 +0.8
AS12 Alice Springs 27.74 349 ePcP P 23 53 52.6 -2.3
AS12 PcP PcP 23 57 10.0 -1.3
ASAR Alice Springs 27.74 349 P P 23 53 52.6 -2.3
comp=Z,16nm,0.8s,baz=165,slow=9.4,SNR=59
ASAR PcP PcP 23 57 10.0 -1.3
comp=Z,3.7nm,0.7s,baz=166,slow=2.3,SNR=8.7
ASAR LR LR 00 03 35.9
comp=Z,9µm,20.4s,baz=169,slow=34
ASAR Alice Springs 27.74 349 P P 23 53 52.7 -2.3
ASAR 23 57 10.0
ASAR pmax pmax
comp=Z,17nm,0.8s
ASAR MLR MLR
comp=Z,9µm,20.4s
VNDA Vanda 27.81 170 P P 23 53 54.9 -0.1
comp=Z,25nm,1.2s,baz=319,slow=9.1,SNR=27
VNDA LR LR 00 03 24.8
comp=Z,7µm,20.7s,baz=335,slow=33
VNDA Vanda 27.81 170 P P 23 53 54.9 -0.1
VNDA pmax pmax
comp=Z,25nm,1.2s
VNDA MLR MLR
comp=Z,7µm,20.7s
VNDA Vanda 27.81 170 eP P 23 53 54.8 -0.3
comp=Z,135nm,1.6s
MORW Morawa 28.16 313 P P 23 53 59.2 +0.6
baz=28,SNR=4.2
BKZ Black Stump Fm 28.44 80 eP P 23 54 00.8 -0.3
comp=Z,67nm,1.3s
BKZ LR LR
comp=Z,12µm,19.0s
SBA Scott Base 28.67 168 eP P 23 54 03.0 +0.2
SBA pmax pmax
comp=Z,96nm,1.4s
SBA MLR MLR
comp=Z,10µm,21.0s
SBA Scott Base 28.67 168 eP P 23 54 03.0 +0.2
comp=Z,96nm,1.4s
SBA LR LR
comp=Z,10µm,21.0s
MEEK Meekatharra 29.13 319 P P 23 54 07.0 -0.3
baz=28,SNR=7.0
OUZ Omahuta 29.22 70 eP P 23 54 07.6 -0.4
comp=Z,567nm,1.7s
OUZ LR LR
comp=Z,15µm,18.0s
URZ Urewera 29.37 79 P P 23 54 07.7 -1.7
comp=Z,23nm,0.8s,baz=259,slow=3.3,SNR=13
URZ LR LR 00 04 60.0
comp=Z,10µm,18.6s,baz=232,slow=35
URZ Urewera 29.37 79 eP P 23 54 07.2 -2.1
comp=Z,216nm,1.2s
URZ eScS ScS 00 04 60.0 +10
URZ LR LR
comp=Z,10µm,19.0s
QIS Mount Isa 30.50 0 P P 23 54 18.1 -1.4
baz=30,SNR=26
WRA Warramunga Arr 31.37 351 P P 23 54 24.7 -2.4
comp=Z,28nm,0.8s,baz=176,slow=7.8,SNR=92
WRA PcP PcP 23 57 19.2 -1.4
comp=Z,5.2nm,0.7s,baz=181,slow=2.0,SNR=7.0
WRA LR LR 00 05 50.2
comp=Z,7µm,20.4s,baz=180,slow=34
WRA Warramunga Arr 31.37 351 P P 23 54 24.7 -2.4
WRA 23 57 19.2
WRA pmax pmax
comp=Z,28nm,0.8s
WRA MLR MLR
comp=Z,7µm,20.4s
WRAB Tennant Creek 31.38 351 P P 23 54 25.5 -1.7
comp=Z,300nm,0.8s,SNR=29
WRAB Tennant Creek 31.38 351 eP P 23 54 24.8 -2.4
WRAB pmax pmax
comp=Z,131nm,1.3s
WRAB MLR MLR
comp=Z,14µm,18.0s
WRAB Tennant Creek 31.38 351 eP P 23 54 24.8 -2.4
comp=Z,131nm,1.3s
WRAB LR LR
comp=Z,14µm,18.0s
CTA Charters Tower 31.43 12 P P 23 54 26.8 -0.9
comp=Z,24nm,1.0s,baz=203,slow=9.2,SNR=8.9
CTA Charters Tower 31.43 12 P P 23 54 26.8 -0.9
CTA pmax pmax
comp=Z,24nm,1.0s
CTAO Charters Tower 31.43 12 eP P 23 54 26.1 -1.6
CTAO pmax pmax
comp=Z,64nm,1.2s
CTAO MLR MLR
comp=Z,19µm,19.0s
CTAO Charters Tower 31.43 12 eP P 23 54 26.1 -1.6
comp=Z,64nm,1.2s
CTAO LR LR
comp=Z,19µm,19.0s
MBWA Marble Bar 33.65 325 eP P 23 54 45.3 -1.8
comp=Z,98nm,1.3s
MBWA LR LR
comp=Z,14µm,20.0s
DZM Mont Dzumac 35.82 46 eP P 23 55 05.6 -0.3
comp=Z,228nm,1.6s
DZM eS S 00 00 45.5 +2.9
comp=Z,3µm,25.4s
DZM eLR LR 00 04 44.0
comp=Z,24µm,26.0s
KNRA Kununurra 36.38 343 P P 23 55 08.6 -2.0
baz=36,SNR=6.8
COEN Coen 37.19 6 P P 23 55 16.3 -1.2
baz=37,SNR=4.5
COEN Coen 37.19 6 eP P 23 55 16.2 -1.4
comp=Z,142nm,1.6s
COEN LR LR
comp=Z,14µm,18.0s
RAO Raoul Island 38.51 72 PFAKE 23 55 40.0 +11
RAO LR LR
comp=Z,6µm,18.0s
QSPA South Pole Qui 39.00 180 P P 23 55 32.7 +0.2
comp=Z,75nm,0.8s,baz=331,slow=1.4,SNR=133
QSPA PP PnPn 23 57 07.8 +3.7
comp=Z,22nm,1.0s,baz=323,slow=6.5,SNR=4.3
MAW Mawson 39.35 216 P P 23 55 35.5 +0.3
comp=Z,44nm,1.0s,baz=107,slow=10,SNR=33
MAW LR LR 00 09 23.4
comp=Z,17µm,21.8s,baz=92,slow=32
MAW Mawson 39.35 216 P P 23 55 35.2 0.0
baz=40,SNR=32
MAW Mawson 39.35 216 eP P 23 55 34.6 -0.7
PMG Port Moresby 42.07 11 eP P 23 55 56.8 -1.4
PMG Port Moresby 42.07 11 eP P 23 55 56.8 -1.4
comp=Z,649nm,2.1s
PMG LR LR
comp=Z,40µm,18.0s
MMRI Maumere 44.67 335 P P 23 56 18.0 -1.2
MMRI Maumere 44.67 335 eP P 23 56 18.8 -0.4
comp=Z,195nm,1.3s
MMRI LR LR
comp=Z,5µm,20.0s
AIS Amsterdam Isla 44.82 262 S S 00 02 49.0 -7.6
AIS L L 00 06 00.0
AIS R 00 09 00.0
HNR Honiara 44.86 29 eP P 23 56 20.0 -0.7
HNR MLR MLR
comp=Z,28µm,18.0s
HNR Honiara 44.86 29 eP P 23 56 20.0 -0.7
comp=Z,2.8nm,1.4s
HNR LR LR
comp=Z,28µm,18.0s
MSVF Nonsavu 45.22 57 eP P 23 56 21.6 -2.1
MSVF pmax pmax
comp=Z,46nm,1.0s
MSVF MLR MLR
comp=Z,9µm,18.0s
MSVF Nonsavu 45.22 57 eP P 23 56 21.6 -2.1
comp=Z,46nm,1.0s
MSVF LR LR
comp=Z,9µm,18.0s
FAKI Fak Fak 48.41 350 eP P 23 56 47.5 -1.0
comp=Z,274nm,1.7s
KAPI Kappang 48.80 334 P P 23 56 51.9 +0.4
comp=Z,307nm,1.4s,SNR=9.2
KAPI Kappang 48.80 334 PFAKE 23 57 00.0 +8.5
KAPI LR LR
comp=Z,4µm,19.0s
XMIS Christmas Isla 49.04 314 PFAKE 23 57 00.0 +6.6
XMIS LR LR
comp=Z,3µm,22.0s
UGM Wanagama 49.25 321 PFAKE 23 57 10.0 +15
UGM LR LR
comp=Z,8µm,20.0s
CISI Cisompet, Garu 50.69 318 PFAKE 23 57 20.0 +14
CISI LR LR
comp=Z,2µm,20.0s
LEM Lembang 51.43 318 P P 23 57 11.6 0.0
comp=Z,67nm,0.9s,baz=161,slow=7.6,SNR=14
LEM Lembang 51.43 318 P P 23 57 11.6 0.0
LEM pmax pmax
comp=Z,67nm,0.9s
LUWI Luwuk 51.85 339 eP P 23 57 13.3 -1.3
comp=Z,134nm,1.2s
LUWI LR LR
comp=Z,5µm,20.0s
COCO West Island 51.94 303 PFAKE 23 57 30.0 +15
COCO LR LR
comp=Z,3µm,21.0s
TNTI Ternate 52.71 345 eP P 23 57 20.0 -0.9
comp=Z,222nm,1.4s
TNTI LR LR
comp=Z,2µm,19.0s
NVL N'lazarevskaya 52.77 199 ⇓*i*P P 23 57 20.9 +0.2
NVL *i*S S 00 04 41.0 -6.6
NVL pmax pmax
comp=Z,42nm,0.9s
AFI Afiamalu 53.94 65 PFAKE 23 57 40.0 +10
AFI LR LR
comp=Z,5µm,22.0s
TOLI Toli-Toli 54.41 337 PFAKE 23 57 40.0 +6.6
TOLI LR LR
comp=Z,5µm,22.0s
CRZF Crozet Islands 54.60 238 S S 00 05 10.0 -3.1
CRZF R 00 12 00.0
SNAA Sanae 54.63 194 P P 23 57 34.5 0.0
SNAA Sanae 54.63 194 P P 23 57 34.3 -0.2
comp=Z,22nm,1.0s,baz=167,slow=8.8,SNR=31
SNAA LR LR 00 20 19.7
comp=Z,3µm,18.2s,baz=122,slow=35
SNAA Sanae 54.63 194 *d*iP P 23 57 35.7 +1.2
SNAA pmax pmax
comp=Z,92nm,1.0s
SNAA MLR MLR
comp=Z,6µm,17.0s
SNAA Sanae 54.63 194 eP P 23 57 34.8 +0.3
comp=Z,139nm,1.3s
SNAA LR LR
comp=Z,7µm,19.0s
MNAI Manna 55.67 314 PFAKE 23 57 50.0 +7.4
MNAI LR LR
comp=Z,3µm,21.0s
VNA2 Neumayer--Watz 55.96 193 P P 23 57 43.7 -0.3
baz=158,slow=6.4
VNA3 Neumayer Olymp 55.97 192 P P 23 57 43.4 -0.7
PMBI Palembang 56.14 317 eP P 23 57 45.0 -1.0
comp=Z,199nm,0.4s
PMBI LR LR
comp=Z,5µm,22.0s
VNA1 Neumayer--Stat 56.33 192 P P 23 57 46.4 -0.2
KSM Kuching 57.95 325 P P 23 58 01.9 +3.1
baz=57,SNR=11
KSM Kuching 57.95 325 eP P 23 57 58.3 -0.5
comp=Z,51nm,1.2s
KSM LR LR
comp=Z,4µm,22.0s
TARA Tarawa 59.52 40 PFAKE 23 58 20.0 +10
TARA LR LR
comp=Z,2µm,21.0s
KKM Kota Kinabalu 60.34 333 PFAKE 23 58 30.0 +15
KKM LR LR
comp=Z,5µm,21.0s
TBI Tubuai 60.43 91 eS S 00 06 32.7 +2.6
comp=Z,856nm,27.2s
TBI eLQ LQ 00 13 33.3
comp=Z,6µm,30.0s
TBI eLR LR 00 16 10.0
comp=Z,3µm,30.8s,baz=226
BKNI Bangkinang 60.69 315 PFAKE 23 58 30.0 +12
BKNI LR LR
comp=Z,2µm,19.0s
MYKOM Kota Tinggi 60.77 318 eP P 23 58 17.2 -1.0
comp=Z,76nm,1.7s
MYKOM eP pP 23 58 22.3 -1.7
MYKOM LR LR
comp=Z,4µm,20.0s
GSI Gunungsitoli 63.14 312 eP P 23 58 33.4 -0.8
comp=Z,55nm,1.1s
GSI epP pP 23 58 37.6 -2.3
GSI LR LR
comp=Z,2µm,20.0s
PSI Prapat 63.84 314 PFAKE 23 58 50.0 +11
PSI LR LR
comp=Z,3µm,21.0s
IPM Ipoh 64.39 317 ⇓P P 23 58 42.3 -0.1
IPM Ipoh 64.39 317 eP P 23 58 40.5 -1.9
comp=Z,42nm,1.1s
IPM LR LR
comp=Z,2µm,22.0s
PAE Paea 64.54 87 eP P 23 58 43.8 +0.4
comp=Z,24nm,1.2s
PPT2 Papeete2 64.60 87 eP P 23 58 44.6 +0.7
comp=Z,75nm,1.2s
PPT2 eS S 00 07 24.9 +2.1
comp=Z,3µm,27.8s
PPT2 eLQ LQ 00 15 01.5
comp=Z,11µm,32.0s
PPT2 eLR LR 00 18 09.1
comp=Z,4µm,23.2s,baz=220
GUMO Guam 64.61 6 PFAKE 23 58 50.0 +6.3
GUMO LR LR
comp=Z,2µm,21.0s
PPT Papeete 64.61 87 LR LR 00 20 21.8
comp=Z,2µm,21.9s,baz=232,slow=30
TVO Taravao 64.66 87 eP P 23 58 44.9 +0.6
comp=Z,34nm,1.1s
TIAR Tiarei 64.77 87 eP P 23 58 45.7 +0.8
comp=Z,52nm,1.0s
KULM Kulim 65.28 317 ⇑P P 23 58 48.9 +0.7
KULM Kulim 65.28 317 eP P 23 58 47.5 -0.7
comp=Z,88nm,1.3s
KULM LR LR
comp=Z,3µm,21.0s
LHMI Lhok Sumawe 66.88 313 PFAKE 23 59 10.0 +12
LHMI LR LR
comp=Z,4µm,20.0s
VAH Vaihoa 67.59 87 eP P 23 59 03.3 +0.3
comp=Z,126nm,1.1s
PMOR Pomariorio Ree 67.60 86 eP P 23 59 03.8 +0.7
comp=Z,140nm,1.1s
TRTT Trang 67.97 317 P P 23 59 09.4 +4.0
comp=Z,39nm,1.3s,comp=Z,738nm
SURT Suratani 69.36 317 P P 23 59 18.3 +4.3
comp=Z,16nm,1.3s,comp=Z,305nm
RKT Rikitea 69.66 102 eLQ LQ 00 17 11.6
comp=Z,7µm,31.0s
RKT eLR LR 00 20 30.7
comp=Z,2µm,23.8s
H08S2 Diego Garcia H 69.67 283 T T 01 15 11.4
baz=142,slow=77,SNR=294
H08S1 Diego Garcia H 69.69 283 T T 01 15 12.4
baz=142,slow=77,SNR=280
H08S3 Diego Garcia H 69.69 283 T T 01 15 11.0
baz=142,slow=77,SNR=299
DGAR Diego Garcia 69.88 284 PFAKE 23 59 30.0 +13
DGAR LR LR
comp=Z,3µm,20.0s
QIZ Qiongzhong 74.52 331 P P 23 59 46.0 +1.2
QIZ PP PP 00 02 33.0 +1.2
QIZ S S 00 09 22.5 +3.4
QIZ ScS ScS 00 09 58.0 +3.0
QIZ SS SS 00 14 12.0 +5.4
QIZ PMZ
comp=Z,18nm,1.3s
QIZ LN
comp=Z,1µm,22.7s
QIZ LZ
comp=Z,2µm,24.4s
QIZ Qiongzhong 74.52 331 PFAKE 00 00 00.0 +15
QIZ LR LR
comp=Z,2µm,21.0s
YULB Yu-li 75.89 343 PFAKE 00 00 00.0 +7.4
YULB LR LR
comp=Z,900nm,18.0s
TPUB Ta-pu 75.92 342 PFAKE 00 00 00.0 +7.1
TPUB LR LR
comp=Z,1µm,20.0s
SSLB Suanglung 76.34 343 eP P 23 59 55.1 -0.1
comp=Z,38nm,1.2s
SSLB LR LR
comp=Z,1µm,19.0s
EFI East Falkland 76.51 169 ⇑eP P 23 59 54.3 -1.7
EFI pmax pmax
comp=Z,63nm,1.1s
EFI East Falkland 76.51 169 PFAKE 00 00 10.0 +14
EFI LR LR
comp=Z,3µm,21.0s
NACB Ninganchiao 76.60 343 PFAKE 00 00 10.0 +13
NACB LR LR
comp=Z,1µm,20.0s
ABPO Ambohimpanom 76.79 256 PFAKE 00 00 10.0 +12
ABPO LR LR
comp=Z,4µm,18.0s
PALK Pallekele 76.88 299 PFAKE 00 00 10.0 +11
PALK LR LR
comp=Z,4µm,20.0s
YHNB Yeheng 77.12 343 PFAKE 00 00 10.0 +10
YHNB LR LR
comp=Z,1µm,19.0s
CM31 Chiang Mai Arr 77.84 321 eP P 00 00 03.9 +0.2
CMAR Chiang Mai Arr 77.84 321 P P 00 00 03.9 +0.2
comp=Z,5.7nm,0.9s,baz=171,slow=5.1,SNR=23
CMAR LR LR 00 34 13.5
comp=Z,2µm,19.6s,baz=174,slow=36
CMAR Chiang Mai Arr 77.84 321 P P 00 00 03.9 +0.2
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR MLR MLR
comp=Z,2µm,19.6s
QZH Quanzhou 77.93 341 P P 00 00 04.5 +0.4
QZH S S 00 09 55.5 -0.8
QZH LN
comp=Z,3µm,20.8s
QZH LE
comp=Z,1µm,17.8s
QZH LZ
comp=Z,3µm,23.4s
CHTO Chiang Mai 78.16 321 eP P 00 00 05.4 -0.1
CHTO pmax pmax
comp=Z,105nm,1.4s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 78.16 321 eP P 00 00 05.4 -0.1
comp=Z,104nm,1.4s
CHTO LR LR
comp=Z,2µm,20.0s
JOW Kunigami 78.23 350 PFAKE 00 00 20.0 +14
JOW LR LR
comp=Z,2µm,19.0s
SUR Sutherland 80.89 229 eP P 00 00 20.3 -0.4
SUR LR LR
comp=Z,3µm,20.0s
GYA Guiyang 82.47 331 ⇑*i*P P 00 00 31.0 +2.3
GYA PP PP 00 03 42.5 +4.1
GYA S S 00 10 47.3 +3.0
GYA SKS SKSac 00 10 49.0 +0.3
GYA SS SS 00 16 12.0 +5.7
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,640nm,6.9s
GYA LN
comp=Z,10µm,20.4s
GYA LE
comp=Z,8µm,21.2s
GYA LZ
comp=Z,9µm,20.0s
KMI Kunming 82.51 327 P P 00 00 30.0 +0.9
KMI pP pP 00 00 35.5 +0.6
KMI sP sP 00 00 38.0 +1.0
KMI S SKSac 00 10 50.0 +0.8
KMI sS ScS 00 10 59.8 -0.4
KMI PMZ
comp=Z,18nm,1.0s
KMI PMZ
comp=Z,280nm,4.8s

KMI LN
comp=Z,2µm,18.9s
KMI LE
comp=Z,420nm,19.7s
KMI LZ
comp=Z,3µm,18.9s
MSEY Mahe Island 82.59 272 PFAKE 00 00 40.0 +10
MSEY LR LR
comp=Z,2µm,22.0s
SKHT Srikalahasti 82.79 302 *e*P **P** **00 00 30.4 0.0**
SKHT *e*S **S** **00 10 46.8 -0.9**
SKHT *e*SS **SS** **00 16 11.5 +0.7**
SKHT IVMs_BB IVMs_BB 00 30 27.9
comp=Z,662nm,21.1s
SSE Sheshan 83.43 344 P **P** **00 00 34.5 +1.1**
SSE S **S** **00 10 50.5 -3.0**
SSE PMZ
comp=Z,25nm,1.2s
SSE PMZ
comp=Z,180nm,4.4s
SSE LN
comp=Z,740nm,20.1s
SSE LE
comp=Z,580nm,20.8s
SSE LZ
comp=Z,1µm,19.2s
WHN Wuhan 84.27 338 P **P** **00 00 38.8 +1.1**
WHN SKS **SKSac** **00 10 57.5 -2.5**
WHN S **SKKSac** **00 11 05.0 -0.3**
WHN LN
comp=Z,2µm,16.8s
WHN LE
comp=Z,1µm,15.6s
WHN LZ
comp=Z,2µm,25.7s
LBTB Lobatse 84.52 236 *e*P **P** **00 00 40.6 +1.0**
LBTB pmax pmax
comp=Z,11nm,0.9s
LBTB Lobatse 84.52 236 *e*P **P** **00 00 40.6 +1.0**
comp=Z,11nm,0.9s
CHLP Challavanipeta 84.55 308 *e*P **P** **00 00 39.6 +0.2**
CHLP *e*PP **PP** **00 03 52.8 -2.5**
CHLP *e*SKSac **SKSac** **00 11 00.0 -2.4**
CHLP *e* 00 11 03.1
CHLP *e*SS **SS** **00 16 37.5 +0.5**
CHLP IVMs_BB IVMs_BB 00 36 19.2
comp=Z,603nm,19.0s
PLCA Paso Flores 84.85 158 P **P** **00 00 40.4 -0.5**
comp=Z,2.7nm,0.9s,baz=207,slow=11,SNR=5.0
PLCA LR LR 00 31 23.8
comp=Z,2µm,21.7s,baz=192,slow=31
PLCA Paso Flores 84.85 158 *e*P **P** **00 00 40.2 -0.8**
comp=Z,45nm,1.5s
URV Uravakonda 85.10 301 *e*P **P** **00 00 41.6 -0.7**
URV *e*SKSac **SKSac** **00 11 03.5 -2.6**
URV *e* 00 11 08.7
URV IVMs_BB IVMs_BB 00 41 49.9
comp=Z,616nm,20.6s
ENH Enshi 85.24 334 PFAKE 00 00 50.0 +7.4
ENH LR LR
comp=Z,900nm,20.0s
HYBB Hyderabad (bro 86.45 303 *e*P **P** **00 00 48.1 -0.9**
HYBB *e*SKSac **SKSac** **00 11 12.2 -2.3**
HYBB *e* 00 11 17.9
HYBB *e*SS **SS** **00 17 03.6 -1.5**
HYBB IVMsBB 00 33 28.2
comp=Z,861nm,16.5s
SHL Shillong 87.08 318 *e*P **P** **00 00 54.0 +2.0**
SHL *e*S **S** **00 11 33.0 +2.7**
RPR Rampur 87.26 305 *e*P **P** **00 00 52.5 -0.3**
RPR *e*PP **PP** **00 04 16.4 -0.9**
RPR *e*SKSac **SKSac** **00 11 18.5 -0.9**
RPR *e* 00 11 33.0
RPR IVMs_BB IVMs_BB 00 29 30.6
comp=Z,697nm,22.1s
MJAR Matsushiro Arr 87.30 359 P **P** **00 00 52.4 -0.2**
comp=Z,2.7nm,0.4s,baz=183,slow=6.2,SNR=8.9
MJAR LR LR 00 38 22.7
comp=Z,988nm,21.0s,baz=170,slow=35
MJAR Matsushiro Arr 87.30 359 P **P** **00 00 52.4 -0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.4s
MJAR MLR MLR
comp=Z,988nm,21.0s
MAJO Matsushiro 87.30 359*de*P **P** **00 00 54.5 +1.9**
MAJO MLR MLR
comp=Z,7µm,19.0s
MAJO Matsushiro 87.30 359 *e*P **P** **00 00 52.0 -0.6**
comp=Z,242nm,2.4s
MAJO LR LR
comp=Z,2µm,21.0s
CD2 Chengdu 87.52 330 *e*P **P** **00 00 55.5 +1.6**
CD2 pP **pP** **00 01 00.3 +0.5**
CD2 sP **sP** **00 01 02.5 +0.6**
CD2 PP **PP** **00 04 23.5 +4.1**
CD2 SKS **SKSac** **00 11 21.3 +0.8**
CD2 S **S** **00 11 36.0 +1.9**
CD2 sS **sS** **00 11 43.5 -0.3**
CD2 SS **SS** **00 17 26.0 +5.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,280nm,4.0s
CD2 LN
comp=Z,2µm,19.0s
CD2 LE
comp=Z,970nm,17.8s
CD2 LZ
comp=Z,2µm,20.2s
TJN Taejon 87.77 350⇓ *e*P **P** **00 00 56.2 +1.4**
KS15 Wonju Array Si 88.77 351 *e*P **P** **00 00 58.0 -1.6**
KSAR Wonju Array Be 88.77 351 P **P** **00 00 58.0 -1.6**
KSAR Wonju Array Be 88.77 351 P **P** **00 00 58.0 -1.6**
KSRS Korea Array 88.78 351 P **P** **00 00 58.0 -1.6**
comp=Z,4.7nm,0.8s,baz=184,slow=4.4,SNR=10
KSRS LR LR 00 39 44.2
comp=Z,657nm,20.7s,baz=150,slow=35
KSRS Korea Array 88.78 351 P **P** **00 00 58.0 -1.6**
KSRS pmax pmax
comp=Z,5.0nm,0.8s
KSRS MLR MLR
comp=Z,657nm,20.7s
INCN Inchon 88.94 350 PFAKE 00 01 10.0 +10
INCN LR LR
comp=Z,900nm,21.0s
TIA Tai'an 89.14 342 ⇓P **P** **00 01 00.5 -0.9**
TIA SKS **SKSac** **00 11 31.3 +1.4**
TIA S **ScS** **00 11 54.3 +0.3**
TIA PMZ
comp=Z,20nm,1.2s
TIA PMZ
comp=Z,290nm,3.6s
TIA LN
comp=Z,1µm,18.8s
TIA LE
comp=Z,920nm,19.6s
TIA LZ
comp=Z,1µm,17.7s
TRQA Tornquist 89.23 163 *e*P **P** **00 01 03.2 +1.0**
comp=Z,41nm,1.5s
TRQA LR LR
comp=Z,3µm,20.0s
ODAN Odare 90.15 315 *e*P **P** **00 01 05.9 -0.7**
comp=Z,79nm,1.2s
TAPN Taplejung 90.43 316 *e*P **P** **00 01 07.6 -0.4**
comp=Z,125nm,1.3s
RAMN Ramite 90.58 315 *e*P **P** **00 01 08.2 -0.4**
comp=Z,192nm,1.6s
LSZ Lusaka 90.98 244 *e*P **P** **00 01 11.0 +0.2**
LSZ pmax pmax
comp=Z,27nm,0.9s
LSZ MLR MLR
comp=Z,5µm,20.0s
LSZ Lusaka 90.98 244 *e*P **P** **00 01 11.0 +0.2**
comp=Z,27nm,0.9s
LSZ LR LR
comp=Z,5µm,20.0s
LSA Lhasa 91.02 319 *e*P **P** **00 01 09.7 -1.2**
LSA pmax pmax
comp=Z,17nm,0.9s
LSA MLR MLR
comp=Z,1µm,18.0s
LSA Lhasa 91.02 319 *e*P **P** **00 01 09.7 -1.2**
comp=Z,17nm,0.9s
LSA LR LR
comp=Z,1µm,18.0s

JIRN Jiri 91.37 315 *e*P **P** **00 01 11.1 -1.4**
comp=Z,108nm,1.5s
PKI Pulchoki 91.65 314 *e*P **P** **00 01 12.3 -1.4**
comp=Z,74nm,1.1s
PKIN Phulchoki 91.66 314 *e*P **P** **00 01 12.9 -0.8**
comp=Z,148nm,1.6s
GUN Gumba 91.73 315 *e*P **P** **00 01 13.8 -0.3**
comp=Z,261nm,1.6s
DMN Daman 91.82 314 *e*P **P** **00 01 14.0 -0.4**
comp=Z,96nm,1.1s
KKN Kakani 91.89 314 *e*P **P** **00 01 14.5 -0.2**
comp=Z,140nm,1.3s
LZH Lanzhou 92.30 332 *e*P **P** **00 01 17.0 +0.7**
LZH pP **pP** **00 01 21.5 -0.7**
LZH sP **sP** **00 01 24.0 -0.3**
LZH SKS **SKSac** **00 11 49.3 +0.9**
LZH S **S** **00 12 19.0 +0.6**
LZH sS **sS** **00 12 24.5 -3.7**
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,88nm,4.0s
LZH LN
comp=Z,590nm,18.8s
LZH LE
comp=Z,820nm,17.4s
LZH LZ
comp=Z,2µm,19.1s
GKN Gorkha 92.37 314 *e*P **P** **00 01 15.7 -1.1**
comp=Z,99nm,1.1s
BJT Baijiatuau 93.02 342 PFAKE 00 01 30.0 +11
BJT LR LR
comp=Z,1µm,21.0s
BJI Beijing 93.03 342 P **P** **00 01 20.0 +0.7**
BJI PP **PP** **00 05 00.5 -2.5**
BJI SS SS 00 18 43.3 +3.3
BJI PMZ
comp=Z,17nm,0.9s
BJI PMZ
comp=Z,87nm,5.9s
BJI PPMZ
comp=Z,160nm,4.5s
BJI LN
comp=Z,960nm,21.4s
BJI LE
comp=Z,590nm,21.9s
BJI LZ
comp=Z,770nm,21.9s
PYUN Piuthan 93.21 312 *e*P **P** **00 01 19.2 -1.5**
comp=Z,112nm,0.9s
TSUM Tsumeb 93.47 234 PFAKE 00 01 30.0 +7.8
TSUM LR LR
comp=Z,5µm,22.0s
HHC Hu-ho-hao-te 94.77 339 *e*P **P** **00 01 29.8 +2.3**
HHC pP **pP** **00 01 34.5 +1.1**
HHC sP **sP** **00 01 37.3 +1.8**
HHC PP **PP** **00 05 21.3 +4.6**
HHC S **ScS** **00 12 40.5 -0.4**
HHC sS **sS** **00 12 49.5 -0.1**
HHC PMZ
comp=Z,13nm,0.6s
HHC PMZ
comp=Z,100nm,5.9s
HHC LN
comp=Z,560nm,23.7s
HHC LE
comp=Z,450nm,20.0s
HHC LZ
comp=Z,630nm,21.6s
ASAJ Asahikawa 94.89 2 PFAKE 00 01 40.0 +12
ASAJ LR LR
comp=Z,1µm,21.0s
USRK Ussuriysk Ar. 95.16 355 P **P** **00 01 28.9 -0.1**
comp=Z,4.7nm,0.8s,baz=185,slow=4.7,SNR=5.9
USRK LR LR 00 45 15.0
comp=Z,621nm,18.2s,baz=163,slow=36
MDJ Mudanjiang 95.73 353 P **P** **00 01 32.5 +0.9**
MDJ pP **pP** **00 01 35.5 -2.0**
MDJ S **S** **00 12 50.3 +2.6**
MDJ sS **sS** **00 12 58.0 +0.5**
MDJ SS **SS** **00 19 17.0 -1.4**
MDJ PMZ
comp=Z,6.0nm,1.4s
MDJ PMZ
comp=Z,61nm,3.5s
MDJ LN
comp=Z,580nm,32.2s
MDJ LE
comp=Z,960nm,33.6s
MDJ LZ
comp=Z,810nm,21.0s
GTA Gaotai 96.59 330 *e*P **P** **00 01 37.0 +1.2**
GTA pP **pP** **00 01 42.0 +0.3**
GTA sP **sP** **00 01 44.0 +0.2**
GTA SKS **SKSac** **00 12 11.3 -0.1**
GTA S **ScS** **00 12 57.0 +0.8**
GTA sS **sS** **00 13 05.5 0.0**
GTA PMZ
comp=Z,6.0nm,1.2s
GTA PMZ
comp=Z,160nm,5.5s
GTA LN
comp=Z,1µm,20.0s
GTA LE
comp=Z,650nm,18.5s
GTA LZ
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 96.76 260 PFAKE 00 01 50.0 +13
KMBO LR LR
comp=Z,7µm,18.0s
HABR Khabarovsk 99.28 357 *e*P **Pdif** **00 01 46.6 -0.9**
HABR *e**PP **pP** **00 01 50.0 -3.4**
HABR 00 05 47.8
HABR PPP PPP 00 07 54.7
HABR *e*S **SKSac** **00 12 24.9 +0.7**
HABR *e*PS **PS** **00 14 45.1 -2.1**
HABR *e*SS **SS** **00 20 06.7 -1.6**
HABR *e*SSS SSS 00 23 54.2
HABR pmax pmax
comp=Z,36nm,1.5s
HABR MLR MLR
comp=Z,570nm,22.0s
HIA Hailar 101.41 347 PFAKE 00 02 10.0 +13
HIA LR LR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 102.45 338⇑ *i*P **Pdif** **00 02 01.7 -0.1**
ULN Ulaanbaatar 102.45 338 PFAKE 00 02 10.0 +8.1
ULN LR LR
comp=Z,1µm,20.0s
SONA0 Songino Array 102.58 338 *e*Pdif **Pdif** **00 02 01.6 -0.8**
SONA0 *e*PKiKP **PKiKP** **00 06 20.6 -2.7**
SONM Songino Array 102.58 338 P **Pdif** **00 02 01.6 -0.8**
comp=Z,0.5nm,0.8s,baz=147,slow=3.9,SNR=4.6
SONM PKiKP **PKiKP** **00 06 20.6 -2.7**
comp=Z,0.9nm,1.0s,baz=194,slow=2.4,SNR=3.7
FURI Furi 103.62 267 PFAKE 00 02 20.0 +12
FURI LR LR
comp=Z,1µm,21.0s
DAMY Dhamar 104.34 275 PFAKE 00 02 20.0 +8.7
DAMY LR LR
comp=Z,2µm,21.0s
PEA2 Petropavlovsk- 104.99 11 *e*Pdif **Pdif** **00 02 10.6 -2.2**
PETK Petropavlovsk- 104.99 11 Pdiff **Pdif** **00 02 10.6 -2.2**
comp=Z,2.7nm,0.5s,baz=56,slow=3.7,SNR=4.7
PETK Petropavlovsk- 104.99 11 P **Pdif** **00 02 10.6 -2.2**
PETK pmax pmax
comp=Z,3.0nm,0.5s
PET Petropavlovsk 105.03 12 PFAKE 00 02 20.0 +7.1
PET LR LR
comp=Z,1µm,22.0s
KBL Kabul 105.28 306 PFAKE 00 06 40.0
KBL LR LR
comp=Z,1µm,19.0s
ZAK Zakamensk 105.70 337 *e*P **Pdif** **00 02 14.7 -1.5**
ZAK pmax pmax
comp=Z,2.0nm,2.3s
KSH Kashi 105.91 314 *e*Pdif **Pdif** **00 02 21.3 +3.9**
KSH PP PP 00 06 47.3 +6.0
KSH S **Sdif** **00 14 16.5 +2.6**
KSH PPMZ
comp=Z,88nm,9.0s
KSH LN
comp=Z,450nm,16.7s
KSH LE
comp=Z,960nm,16.8s

KSH LZ
comp=Z,870nm,19.9s
TLY Talaya 106.81 338 PFAKE 00 06 40.0
TLY LR LR
comp=Z,1µm,19.0s
TKM2 Tokmak 2 108.82 316 PFAKE 00 06 50.0
TKM2 LR LR
comp=Z,1µm,21.0s
AAK Ala-Archa 109.08 315 PFAKE 00 06 50.0
AAK LR LR
comp=Z,900nm,22.0s
ADK Adak 109.13 27 PFAKE 00 06 50.0
ADK LR LR
comp=Z,2µm,20.0s
MK32 Makanchi Array 109.22 322 *e*PKiKP **PKiKP** **00 06 33.5 -1.9**
MKAR Makanchi Array 109.22 322 PKiKP **PKiKP** **00 06 33.5 -1.9**
comp=Z,0.3nm,0.6s,baz=135,slow=1.4,SNR=3.7
EKS2 Erkin-Say 109.42 315 PFAKE 00 06 50.0
EKS2 LR LR
comp=Z,800nm,20.0s
MSKU Masuku 110.27 240 PFAKE 00 06 50.0
MSKU LR LR
comp=Z,3µm,18.0s
RAYN Ar Rayn 110.35 282 *e*PKiKP **PKiKP** **00 06 36.1 -2.2**
RAYN *e*PP **PP** **00 07 13.0 -0.7**
RAYN LR LR
comp=Z,2µm,22.0s
YAK Yakutsk 113.07 355 PFAKE 00 06 50.0
YAK LR LR
comp=Z,600nm,19.0s
KURBB Kurchatov Arra 113.78 323 Pdiff **Pdif** **00 02 52.4 +0.4**
comp=Z,0.2nm,0.4s,baz=129,slow=4.4,SNR=3.4
KURBB PKiKP **PKiKP** **00 06 42.0 -1.9**
comp=Z,0.6nm,0.5s,baz=135,slow=1.6,SNR=5.9
KURK Kurchatov 113.82 323 *i* PKiKP **PKiKP** **00 06 42.0 -2.0**
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 113.82 323 *e*Pdif **Pdif** **00 02 52.4 +0.3**
KURK *e*PKiKP **PKiKP** **00 06 42.5 -1.6**
KURK *e*PP **PP** **00 07 41.8 +3.6**
KURK LR LR
comp=Z,805nm,20.0s
UNV Unalaska Valle 113.97 32 PFAKE 00 07 00.0
UNV LR LR
comp=Z,900nm,22.0s
ZALV Zalesovo Beam 114.23 328 PKKPbc PKKPbc 00 17 26.0 +1.1
comp=Z,1.0nm,0.6s,baz=320,slow=4.4,SNR=5.2
ZAA1 Zalesovo Array 114.24 328 *e*PKKPbc PKKPbc 00 17 26.0 +1.1
SAML Samuel 117.06 155 PFAKE 00 07 00.0 +8.5
SAML LR LR
comp=Z,600nm,20.0s
BVAR Borovoye Array 118.85 320 PKP **PKPdf** **00 06 52.1 -1.6**
comp=Z,0.8nm,0.4s,baz=134,slow=1.7,SNR=7.0
BVAR PKKPbc PKKPab 00 17 14.1 +5.5
comp=Z,1.2nm,0.7s,baz=299,slow=3.1,SNR=7.8
BRVK Borovoye 118.92 320⇑ *i*PKiKP **PKPdf** **00 06 54.6 +0.8**
BRVK MLR MLR
comp=Z,1µm,20.0s
BRVK Borovoye 118.92 320 PFAKE 00 07 00.0 +6.2
BRVK LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 120.04 135 PFAKE 00 07 10.0 +12
OTAV LR LR
comp=Z,800nm,21.0s
BILL Bilibino 120.52 11 *i* PKiKP **PKPdf** **00 06 58.8 +2.4**
BILL *i* 00 08 34.2
BILL *i* 00 14 03.5
BILL *i* SS SS 00 24 50.2 -2.5
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,1µm,21.0s
ABKAR Akbulak array 120.74 311 *e*PKPdf **PKPdf** **00 06 56.5 -0.8**
GAMB Gambell 120.76 23 *e*PKPdf **PKPdf** **00 06 58.2 +1.3**
KDAK Kodiak Island 121.94 36 PFAKE 00 07 10.0 +11
KDAK LR LR
comp=Z,1µm,22.0s
AKTO Aktyubinsk 122.46 311 PKP **PKPdf** **00 06 59.6 -1.1**
comp=Z,0.5nm,0.4s,baz=240,slow=6.0,SNR=3.3
AKTO Aktyubinsk 122.46 311 PKiKP **PKPdf** **00 06 59.6 -1.1**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
GNI Garni 122.56 295 PFAKE 00 07 10.0 +8.6
GNI LR LR
comp=Z,800nm,22.0s
TIXI Tiksi 122.69 356⇑ *i*PKiKP **PKPdf** **00 06 58.9 -1.5**
TIXI Tiksi 122.69 356 *e*PKPpre PKPpre 00 06 54.6
TIXI *e*PKPdf **PKPdf** **00 06 58.0 -2.4**
TIXI LR LR
comp=Z,900nm,20.0s
OSI Osito Audit: C 123.08 74 PFAKE 00 07 10.0 +7.5
OSI LR LR
comp=Z,1µm,19.0s
PASC Pasadena Art C 123.10 75 PFAKE 00 07 10.0 +7.5
PASC LR LR
comp=Z,2µm,18.0s
RCBR Riachuelo 123.14 186 PFAKE 00 07 10.0 +6.7
RCBR LR LR
comp=Z,2µm,18.0s
TNA Tin City 123.16 23 *e*PKPdf **PKPdf** **00 07 01.1 -0.4**
TNA LR LR
comp=Z,1µm,22.0s
SVW2 Sparrevohn 123.31 32 *e*PKPdf **PKPdf** **00 07 02.6 +0.6**
DGR Domenigoni Val 123.47 76 *e*PKPdf **PKPdf** **00 07 06.0 +2.8**
PFO Pinyon Flats O 123.78 77 PFAKE 00 07 10.0 +6.1
PFO LR LR
comp=Z,1µm,19.0s
RSO Redoubt South 123.81 34 *e*PKPdf **PKPdf** **00 07 06.5 +3.3**
ISA Isabella, Lake 123.93 74 *e*PKiKP **PKPdf** **00 07 04.1 0.0**
ISA *e* 00 07 10.1
ISA Isabella, Lake 123.93 74⇓ PKiKP **PKiKP** **00 07 04.4 +0.1**
baz=124
ISA Isabella, Lake 123.93 74 *e*PKPdf **PKPdf** **00 07 04.1 0.0**
ISA *e*pPKPdf **pPKPdf** **00 07 10.1 0.0**
BRLK Bradley Lake 123.98 35 PFAKE 00 07 10.0 +6.7
BRLK LR LR
comp=Z,1µm,21.0s
KHMM Horse Mountain 124.27 66 PFAKE 00 07 20.0 +15
KHMM LR LR
comp=Z,2µm,20.0s
CMB Columbia Colle 124.36 70 PFAKE 00 07 20.0 +15
CMB LR LR
comp=Z,1µm,20.0s
GSC Goldstone, Bar 124.70 75 *e*PKiKP **PKPdf** **00 07 04.9 -0.7**
GSC *e* 00 07 11.7
GSC Goldstone, Bar 124.70 75⇑ PKiKP **PKiKP** **00 07 05.9 0.0**
baz=125
GSC Goldstone, Bar 124.70 75 *e*PKPdf **PKPdf** **00 07 04.9 -0.7**
GSC *e*pPKPdf **pPKPdf** **00 07 11.7 +0.1**
SEW Seward 124.73 35 PFAKE 00 07 20.0 +15
SEW LR LR
comp=Z,800nm,20.0s
WDC Whiskeytown Da 124.76 67 PFAKE 00 07 20.0 +15
WDC LR LR
comp=Z,2µm,22.0s
ZEI Tsey 124.76 297 *e*PKiKP PKPdf 00 07 13.6 +8.0
ZEI pmax pmax
comp=Z,9.0nm,1.2s
DAC Darwin (Calif) 124.87 74 *e*PKiKP **PKPdf** **00 07 04.9 -1.1**
DAC *e* 00 07 11.6
DAC MLR MLR
comp=Z,1µm,18.0s
DAC Darwin (Calif) 124.87 74 *e*PKPdf **PKPdf** **00 07 04.9 -1.1**
DAC *e*PKPdf PKiKP 00 07 11.6 +5.2
DAC LR LR
comp=Z,1µm,18.0s
N02D Trinity Center 124.92 66⇓ PKiKP **PKiKP** **00 07 06.8 +0.7**
baz=125
M02C Callahan 125.11 66⇑ PKiKP **PKPdf** **00 07 05.3 -0.8**
baz=125
RC01 Rabbit Creek A 125.31 34 *e*PKPdf **PKPdf** **00 07 06.0 +0.2**
RC01 *e*PKPdf **PKiKP** **00 07 11.1 +5.0**
RC01 LR LR
comp=Z,1µm,21.0s
NCK Nalchik 125.39 297⇓ *i*PKiKP **PKPdf** **00 07 06.8 +0.3**
YBH Yreka Blue Hor 125.41 65 PFAKE 00 07 20.0 +13
YBH LR LR
comp=Z,2µm,21.0s
FURC Furnace Creek, 125.44 74⇓ PKiKP **PKiKP** **00 07 07.3 +0.1**
baz=126
GRAC Grapevine Rang 125.48 73⇑ PKiKP **PKiKP** **00 07 07.4 0.0**
baz=126
JTS JuntasAbangare 125.53 122 PFAKE 00 07 20.0 +12
JTS LR LR
comp=Z,1µm,18.0s

SVE	Sverdlovsk	125.53	318	*i* PKIKP	PKPdf	00 07 05.6	-0.7		
SVE				pmax	pmax				
	comp=Z,15nm,1.4s								
SVE				MLR	MLR				
	comp=Z,1μm,22.0s								
WCN	Washoe City	125.56	70	PFAKE		00 07 20.0	+13		
WCN				LR	LR				
	comp=Z,1μm,18.0s								
PPLA	Purkeypile	125.72	32	*e*PKPdf	PKPdf	00 07 06.8	+0.1		
PPLA				*ep*PKPdf	pPKPdf	00 07 15.4	+2.6		
PPLA				LR	LR				
	comp=Z,1μm,22.0s								
NEY	Neytrino	125.72	297	⇓*e*PKIKP	PKPdf	00 07 09.9	+2.5		
PTGA	Pitinga	125.78	156	PFAKE		00 07 20.0	+12		
PTGA				LR	LR				
	comp=Z,1μm,20.0s								
HUMO	Hull Mountain	125.83	64	*e*PKPdf	PKPdf	00 07 06.8	-0.7		
HUMO				*ep*PKPdf	pPKPdf	00 07 13.7	+0.2		
HUMO				LR	LR				
	comp=Z,2μm,22.0s								
NV01	Mina Array Sit	125.86	71	*e*PKPdf	PKPdf	00 07 09.0	+1.1		
NVAR	Mina Array Bea	125.86	71	PKP	PKPdf	00 07 09.0	+1.1		
	comp=Z,4.6nm,0.9s,baz=196,slow=3.5,SNR=10								
PMR	Palmer	125.87	34	*e*PKIKP	PKPdf	00 07 09.8	+3.0		
PMR	Palmer	125.87	34	*e*PKPdf	PKPdf	00 07 09.8	+3.0		
SSN	San Juan del S	125.88	121	PFAKE		00 07 20.0	+12		
SSN				LR	LR				
	comp=Z,1μm,22.0s								
CSS	Prodhromos	125.90	283	PFAKE		00 07 20.0	+12		
CSS				LR	LR				
	comp=Z,200nm,20.0s								
ROSC	El Rosal	125.97	137	PKP	PKPdf	00 07 07.7	-1.4		
	comp=Z,3.1nm,0.3s,baz=202,slow=1.8,SNR=2.5								
ROSC	El Rosal	125.97	137	*e*PKPdf	PKPdf	00 07 07.1	-2.0		
ROSC				*e*PKPdf	PKiKP	00 07 14.8	+5.3		
CAST	Castle Rocks	126.11	31	*e*PKPdf	PKPdf	00 07 07.9	+0.6		
CAST				LR	LR				
	comp=Z,800nm,20.0s								
TPNV	Topopah Spring	126.13	74	*e*PKIKP	PKPdf	00 07 07.2	-1.2		
TPNV				MLR	MLR				
	comp=Z,1μm,18.0s								
TPNV	Topopah Spring	126.13	74	⇓PKiKP	PKiKP	00 07 09.1	+0.3		
	baz=126								
TPNV	Topopah Spring	126.13	74	*e*PKPdf	PKPdf	00 07 07.2	-1.2		
TPNV				LR	LR				
	comp=Z,1μm,18.0s								
ARU	Arti	126.16	317	*i* PKIKP	PKPdf	00 07 08.5	+1.0		
ARU						00 09 04.7			
ARU						00 14 13.1			
ARU				SS	SS	00 26 10.9	+6.3		
ARU				MLR	MLR				
	comp=Z,1μm,22.0s								
ARU	Arti	126.16	317	*e*PKPdf	PKPdf	00 07 06.4	-1.1		
ARU				LR	LR				
	comp=Z,1μm,20.0s								
KIV	Kislovodsk	126.19	297	*i* PKIKP	PKPdf	00 07 08.2	0.0		
KIV				pmax	pmax				
	comp=Z,17nm,1.0s								
KIV				MLR	MLR				
	comp=Z,620nm,18.0s								
KIV	Kislovodsk	126.19	297	*e*PKPdf	PKPdf	00 07 08.5	+0.4		
KIV				*e*PKPdf	PKiKP	00 07 11.7	+3.1		
KIV				LR	LR				
	comp=Z,600nm,18.0s								
TPH	Tonopah	126.27	72	*e*PKIKP	PKPdf	00 07 07.8	-0.9		
TPH				*e*		00 07 14.2			
TPH				MLR	MLR				
	comp=Z,1μm,21.0s								
TPH	Tonopah	126.27	72	*e*PKPdf	PKPdf	00 07 07.8	-0.9		
TPH				*e*PKPdf	PKiKP	00 07 14.2	+5.1		
TPH				LR	LR				
	comp=Z,1μm,21.0s								
TUC	Tucson	126.42	82	PFAKE		00 07 20.0	+11		
TUC				LR	LR				
	comp=Z,1μm,18.0s								
KTH	Kantishna Hill	126.59	32	PFAKE		00 07 20.0	+12		
KTH				LR	LR				
	comp=Z,1μm,22.0s								
SCM	Sheep Creek Mo	126.67	35	PFAKE		00 07 20.0	+12		
SCM				LR	LR				
	comp=Z,700nm,21.0s								
GOF	Gofitskoye	126.68	299	*e*PKIKP	PKPdf	00 07 09.7	+0.8		
RAGM	Ragged Mountai	126.70	37	PFAKE		00 07 20.0	+11		
RAGM				LR	LR				
	comp=Z,1μm,20.0s								
TRF	Thorofare Moun	126.73	32	*e*PKPdf	PKPdf	00 07 07.8	-0.8		
TRF				LR	LR				
	comp=Z,2μm,22.0s								
DIV	Divide	126.77	36	PFAKE		00 07 20.0	+11		
DIV				LR	LR				
	comp=Z,1μm,22.0s								
I04A	Tendick Farm,	126.88	64	⇓PKiKP	PKiKP	00 07 11.5	+1.6		
	baz=127								
KLU	Klutina	126.95	35	PFAKE		00 07 20.0	+11		
KLU				LR	LR				
	comp=Z,900nm,22.0s								
BMRM	Bremner River	127.10	36	*e*PKPdf	PKPdf	00 07 09.2	-0.1		
BMRM				*e*PKPdf	PKiKP	00 07 15.3	+5.5		
BMRM				LR	LR				
	comp=Z,900nm,19.0s								
RND	Reindeer	127.18	32	PFAKE		00 07 20.0	+11		
RND				LR	LR				
	comp=Z,1μm,21.0s								
BCIP	Isla Barro Col	127.20	128	PFAKE		00 07 20.0	+9.1		
BCIP				LR	LR				
	comp=Z,1μm,22.0s								
IM04	Indian Mountai	127.34	28	*e*PKPdf	PKPdf	00 07 08.7	-0.9		
MCK	McKinley	127.37	32	*e*PKIKP	PKPdf	00 07 08.2	-1.5		
MCK				MLR	MLR				
	comp=Z,900nm,22.0s								
MCK	McKinley	127.37	32	*e*PKPdf	PKPdf	00 07 08.2	-1.5		
MCK				LR	LR				
	comp=Z,900nm,22.0s								
X16A	Lo Mia Camp, P	127.41	80	⇓PKiKP	PKiKP	00 07 12.3	+0.8		
	baz=128								
R11A	Troy Canyon, C	127.43	73	⇑PKiKP	PKiKP	00 07 12.5	+1.1		
	baz=128								
R11A	Troy Canyon, C	127.43	73	*e*PKPdf	PKPdf	00 07 10.1	-0.7		
R11A				*e*PKPdf	PKiKP	00 07 14.1	+2.7		
R11A				LR	LR				
	comp=Z,1μm,19.0s								
BWN	Browne	127.48	31	PFAKE		00 07 20.0	+10		
BWN				LR	LR				
	comp=Z,2μm,21.0s								
MLY	Manley	127.64	30	PFAKE		00 07 20.0	+10		
MLY				LR	LR				
	comp=Z,1μm,22.0s								
BMN	Battle Mountai	127.78	70	PFAKE		00 07 20.0	+8.6		
BMN				LR	LR				
	comp=Z,1μm,18.0s								
PAX	Paxson	128.07	34	PFAKE		00 07 20.0	+8.9		
PAX				LR	LR				
	comp=Z,1μm,22.0s								
WRH	Wood River Hil	128.13	32	PFAKE		00 07 20.0	+8.9		
WRH				LR	LR				
	comp=Z,900nm,22.0s								
WUAZ	Wupatki	128.18	79	PFAKE		00 07 20.0	+7.7		
WUAZ				LR	LR				
	comp=Z,1μm,19.0s								
WVOR	Wild Horse Val	128.20	67	*e*PKIKP	PKPdf	00 07 10.8	-1.3		
WVOR				MLR	MLR				
	comp=Z,1μm,20.0s								
WVOR	Wild Horse Val	128.20	67	*e*PKPdf	PKPdf	00 07 10.8	-1.3		
WVOR				LR	LR				
	comp=Z,1μm,20.0s								
KNB	Kanab	128.26	76	*e*PKIKP	PKPdf	00 07 10.1	-2.4		
KNB				MLR	MLR				
	comp=Z,1μm,19.0s								
KNB	Kanab	128.26	76	*e*PKPdf	PKPdf	00 07 10.1	-2.4		
KNB				*ep*PKPdf	pPKPdf	00 07 19.1	+0.6		
KNB				LR	LR				
	comp=Z,1μm,19.0s								
CCUT	Cedar City	128.27	75	*e*PKPdf	PKPdf	00 07 11.5	-1.0		
CCUT				*e*PKPdf	PKiKP	00 07 18.5	+5.4		
CCUT				LR	LR				
	comp=Z,1μm,19.0s								
NLWA	Neilton Lookou	128.29	59	PFAKE		00 07 20.0	+8.0		
NLWA				LR	LR				
	comp=Z,2μm,22.0s								
CCB	Clear Creek Bu	128.34	32	PFAKE		00 07 20.0	+8.5		
CCB				LR	LR				
	comp=Z,700nm,20.0s								
MDM	Murphy Dome	128.40	31	PFAKE		00 07 20.0	+8.4		
MDM				LR	LR				
	comp=Z,1μm,22.0s								
X18A	Snowflake	128.41	80	⇑PKiKP	PKiKP	00 07 14.3	+0.8		
	baz=129								
121A	Cookes Peak, D	128.44	84	⇑PKiKP	PKiKP	00 07 13.9	+0.3		
	baz=129								
DDM	Donnelly Dome	128.45	33	PFAKE		00 07 20.0	+8.2		
DDM				LR	LR				
	comp=Z,1μm,20.0s								
HDA	Harding Lake	128.47	32	PFAKE		00 07 20.0	+8.3		
HDA				LR	LR				
	comp=Z,1μm,21.0s								
COLA	College	128.47	31	⇓*i* PKIKP	PKPdf	00 07 11.5	-0.2		
COLA				MLR	MLR				
	comp=Z,4μm,21.0s								
COLA	College	128.47	31	PFAKE		00 07 20.0	+8.3		
COLA				LR	LR				
	comp=Z,1μm,21.0s								
ILAR	Eielson Array	128.72	32	PKP	PKPdf	00 07 11.4	-0.7		
	comp=Z,1.8nm,1.0s,baz=260,slow=3.2,SNR=9.8								
ILAR	Eielson Array	128.72	32	PKIKP	PKPdf	00 07 11.5	-0.7		
ILAR				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ILB	Eielson Array	128.72	32	*e*PKPdf	PKPdf	00 07 11.2	-1.0		
ASR	Mount Adams--S	128.79	62	*e*PKPpre	PKPpre	00 07 08.3			
BR101	Keskin Array S	128.79	288	*e*PKPdf	PKPdf	00 07 14.4	+1.1		
BR101				*e*PP	PP	00 09 22.9	+2.1		
BRTR	Keskin Array B	128.79	288	PKP	PKPdf	00 07 14.4	+1.1		
	comp=Z,2.5nm,1.0s,baz=157,slow=4.0,SNR=9.4								
BRTR				PP	PP	00 09 22.9	+2.1		
	comp=Z,3.9nm,1.2s,baz=140,slow=6.4,SNR=5.3								
BRTR	Keskin Array B	128.79	288	PKIKP	PKPdf	00 07 14.4	+1.1		
BRTR						00 09 22.9			
BRTR				pmax	pmax				
	comp=Z,3.0nm,1.0s								
BRTR				pmax	pmax				
	comp=Z,4.0nm,1.2s								
LTX	Lajitas	128.86	90	*e*PKIKP	PKPdf	00 07 14.7	+0.9		
LTX	Lajitas	128.86	90	*e*PKPdf	PKPdf	00 07 14.7	+0.9		
TXAR	Lajitas Array	128.86	90	PKP	PKPdf	00 07 14.7	+0.9		
	comp=Z,3.0nm,0.9s,baz=189,slow=5.8,SNR=15								
TXAR	Lajitas Array	128.86	90	PKIKP	PKPdf	00 07 14.7	+0.9		
TXAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
W18A	Petrified Fore	128.93	80	⇓PKiKP	PKiKP	00 07 15.3	+0.8		
	baz=129								
W18A	Petrified Fore	128.93	80	PFAKE		00 07 20.0	+6.2		
W18A				LR	LR				
	comp=Z,1μm,21.0s								
DOT	Dot Lake	128.99	34	*e*PKPdf	PKPdf	00 07 12.4	-0.4		
LON	Longmire	129.03	61	PFAKE		00 07 20.0	+6.6		
LON				LR	LR				
	comp=Z,1μm,20.0s								
TOA0	Torodi Ar. Sit	129.04	238	*e*PKPdf	PKPdf	00 07 12.9	-1.4		
TORD	Torodi Ar. Bea	129.04	238	PKP	PKPdf	00 07 12.9	-1.4		
	comp=Z,1.4nm,0.8s,baz=88,slow=2.2,SNR=8.5								
SCRK	Sand Creek	129.22	34	PFAKE		00 07 20.0	+6.7		
SCRK				LR	LR				
	comp=Z,900nm,20.0s								
PIER	Pier 30 Seattl	129.23	60	*e*PKPpre	PKPpre	00 07 01.7			
COLD	Coldfoot	129.25	28	*e*PKPdf	PKPdf	00 07 13.1	-0.1		
COLD				*ep*PKPdf	pPKPdf	00 07 19.9	+0.7		
COLD				LR	LR				
	comp=Z,1μm,20.0s								
PGC	Sidney	129.26	58	PFAKE		00 07 20.0	+6.3		
PGC				LR	LR				
	comp=Z,2μm,21.0s								
ANTO	Ankara	129.39	287	PFAKE		00 07 30.0	+16		
ANTO				LR	LR				
	comp=Z,600nm,18.0s								
MNTX	Cornudas Mount	129.39	86	⇓PKiKP	PKiKP	00 07 16.1	+0.8		
	baz=130								
MNTX	Cornudas Mount	129.39	86	PFAKE		00 07 30.0	+15		
MNTX				LR	LR				
	comp=Z,1μm,20.0s								
WRAK	Wrangell Islan	129.39	46	PFAKE		00 07 20.0	+6.3		
WRAK				LR	LR				
	comp=Z,2μm,22.0s								
ISP	Isparta	129.48	284	PFAKE		00 07 30.0	+15		
ISP				LR	LR				
	comp=Z,600nm,19.0s								
BESE	Bessie Mountai	129.54	43	PFAKE		00 07 20.0	+6.0		
BESE				LR	LR				
	comp=Z,600nm,21.0s								
MVU	Marysvale	129.58	75	PFAKE		00 07 30.0	+15		
MVU				LR	LR				
	comp=Z,2μm,19.0s								
MSU	Marysvale	129.60	75	*e*PKIKP	PKPdf	00 07 15.0	-0.1		
MSU	Marysvale	129.60	75	*e*PKPdf	PKPdf	00 07 15.0	-0.1		
ANN	Anapa	129.68	295	*i* PKIKP	PKPdf	00 07 15.5	+0.9		
ANN				*e*		00 07 18.9			
ANN				pmax	pmax				
	comp=Z,21nm,1.1s								
ANN				MLR	MLR				
	comp=E,459nm,22.0s								
ANN				MLR	MLR				
	comp=Z,570nm,22.0s								
G08A	Pilot Rock	129.75	64	*e*PKPdf	PKPdf	00 07 14.3	-0.7		
G08A				*e*PKPdf	PKiKP	00 07 18.6	+2.8		
LTY	Liberty	129.96	61	PFAKE		00 07 30.0	+15		
LTY				LR	LR				
	comp=Z,2μm,21.0s								
LAZ	Ladron	130.08	83	*e*PKPpre	PKPpre	00 07 06.5			
LAZ				*e*PKPdf	PKiKP	00 07 22.4	+5.5		
HAWA	Hanford	130.08	63	PFAKE		00 07 30.0	+15		
HAWA				LR	LR				
	comp=Z,2μm,21.0s								
BNM	Barren Site	130.24	83	*e*PKPdf	PKPdf	00 07 14.9	-1.5		
BNM				*ep*PKPdf	pPKPdf	00 07 24.8	+2.3		
DUG	Dugway, Tooele	130.27	73	*e*PKIKP	PKPdf	00 07 15.1	-1.0		
DUG				*e*		00 07 20.1			
DUG				MLR	MLR				
	comp=Z,1μm,20.0s								
DUG	Dugway, Tooele	130.27	73	⇓PKiKP	PKiKP	00 07 16.7	-0.3		
	baz=130								
DUG	Dugway, Tooele	130.27	73	*e*PKPdf	PKPdf	00 07 15.1	-1.0		
DUG				*e*PKPdf	PKiKP	00 07 20.1	+3.1		
DUG				LR	LR				
	comp=Z,1μm,20.0s								
FYU	Fort Yukon	130.37	31	PFAKE		00 07 30.0	+15		
FYU				LR	LR				
	comp=Z,900nm,21.0s								
034A	Hebbronville	130.41	96	⇓PKiKP	PKiKP	00 07 17.0	-0.4		
	baz=130								
933A	Laredo	130.43	95	⇑PKiKP	PKPdf	00 07 16.6	0.0		
	baz=131								
BMO	Blue Mountains	130.43	65	*e*PKIKP	PKPdf	00 07 14.5	-1.7		
BMO				MLR	MLR				
	comp=Z,2μm,22.0s								
BMO	Blue Mountains	130.43	65	*e*PKPdf	PKPdf	00 07 14.5	-1.7		
BMO				LR	LR				
	comp=Z,2μm,22.0s								
MFID	Camas Ranch	130.43	68	*e*PKPdf	PKPdf	00 07 15.1	-1.2		
MFID				*e*PKPdf	PKiKP	00 07 21.7	+4.5		
NLU	North Lily Min	130.56	74	PFAKE		00 07 30.0	+13		
NLU				LR	LR				
	comp=Z,900nm,21.0s								
EGAK	Eagle	130.68	34	PFAKE		00 07 30.0	+14		
EGAK				LR	LR				
	comp=Z,1μm,21.0s								
732A	Laxson Ranch,	130.77	93	⇓PKiKP	PKiKP	00 07 19.1	+1.0		
	baz=131								
833A	Chaparral WMA,	130.85	94	⇑PKiKP	PKiKP	00 07 18.2	-0.1		
	baz=131								
ANMO	Albuquerque	130.86	82	⇑*i* PKIKP	PKPdf	00 07 18.2	+0.7		
ANMO	Albuquerque	130.86	82	*e*PKPdf	PKPdf	00 07 16.2	-1.3		
ANMO				*e*PKPdf	PKiKP	00 07 23.3	+4.9		
ANMO				LR	LR				
	comp=Z,1μm,18.0s								
429A	Davenport Ranc	130.86	90	⇑PKiKP	PKPdf	00 07 17.0	-0.5		
	baz=131								
631A	Perdido Creek	130.86	92	⇓PKiKP	PKiKP	00 07 18.0	-0.4		
	baz=131								
MPU	Maple Canyon	130.87	74	PFAKE		00 07 30.0	+13		
MPU				LR	LR				
	comp=Z,2μm,19.0s								
530A	J-C Ranch, Com	130.89	91	⇓PKiKP	PKiKP	00 07 19.4	+1.0		
	baz=131								
DAWY	Dawson	130.90	35	*e*PKPdf	PKPdf	00 07 16.0	-0.4		
DAWY				LR	LR				
	comp=Z,1μm,22.0s								
SRU	San Rafael Swe	130.98	76	PFAKE		00 07 30.0	+12		
SRU				LR	LR				
	comp=Z,1μm,19.0s								
MVCO	Mesa Verde	131.04	79	⇓PKiKP	PKiKP	00 07 18.9	+0.1		
	baz=131								
MVCO	Mesa Verde	131.04	79	*e*PKPdf	PKPdf	00 07 17.4	-0.5		
MVCO				LR	LR				
	comp=Z,1μm,20.0s								
SDV	Santo Domingo	131.16	139	*e*PKPdf	PKPdf	00 07 17.5	-1.2		
SDV				*e*PKPdf	PKiKP	00 07 21.7	+2.1		
SDV				LR	LR				
	comp=Z,2μm,21.0s								
HVU	Hansel Valley	131.25	71	PFAKE		00 07 30.0	+12		
HVU				LR	LR				
	comp=Z,1μm,20.0s								
JLU	Jordanelle	131.34	73	*e*PKPdf	PKPdf	00 07 17.7	-0.6		
JLU				LR	LR				
	comp=Z,1μm,20.0s								
HLID	Hailey	131.35	68	PFAKE		00 07 30.0	+12		
HLID				LR	LR				
	comp=Z,1μm,20.0s								
430A	Baggett Ranch,	131.39	90	⇓PKiKP	PKiKP	00 07 19.7	+0.3		
	baz=132								
531A	Rocksprings	131.40	92	⇑PKiKP	PKiKP	00 07 19.2	-0.2		
	baz=132								
632A	Uvalde	131.43	93	⇓PKiKP	PKiKP	00 07 20.0	+0.5		
	baz=132								
GVD	Gavdhos	131.56	277	PFAKE		00 07 30.0	+11		
GVD				LR	LR				
	comp=Z,2μm,19.0s								
DLBC	Dease Lake	131.56	45	PFAKE		00 07 30.0	+12		
DLBC				LR	LR				
	comp=Z,2μm,22.0s								
SIM	Simferopol'	131.67	294	*e*PKIKP	PKPdf	00 07 14.5	-3.9		
SIM				*e*SS	SS	00 27 14.0	+0.8		
SIM				MLR	MLR				
	comp=E,600nm,22.0s								
TCUT	Toone Canyon	131.68	73	PFAKE		00 07 30.0	+11		
TCUT				LR	LR				
	comp=Z,2μm,18.0s								
SANT	Santorini	131.69	279	PFAKE		00 07 30.0	+11		
SANT				LR	LR				
	comp=Z,700nm,18.0s								
TEIG	Tepich	131.69	112	PFAKE		00 07 30.0	+11		
TEIG				LR	LR				
	comp=Z,900nm,18.0s								
431A	Sonora	131.71	91	⇓PKiKP	PKiKP	00 07 20.9	+0.8		
	baz=132								
532A	Rocksprings	131.78	92	⇓PKiKP	PKiKP	00 07 20.7	+0.4		
	baz=132								
128A	Castleberry Fa	131.83	88	⇑PKiKP	PKiKP	00 07 21.0	+0.8		
	baz=132								
330A	Mertzon	131.84	90	⇓PKiKP	PKPdf	00 07 19.8	+0.5		
	baz=132								
HWUT	Hardware Ranch	131.88	72	*e*PKPdf	PKPdf	00 07 18.4	-0.8		
HWUT				*e*PKPdf	PKiKP	00 07 22.5	+2.2		
HWUT				LR	LR				
	comp=Z,1μm,19.0s								
JCT	Junction City	132.08	92	*e*PKIKP	PKPdf	00 07 18.3	-1.5		
JCT				*e*		00 07 24.7			
JCT				MLR	MLR				
	comp=Z,900nm,20.0s								
JCT	Junction City	132.08	92	⇑PKiKP	PKiKP	00 07 21.7	+0.9		
	baz=132								
JCT	Junction City	132.08	92	*e*PKPdf	PKPdf	00 07 18.3	-1.5		
JCT				*e*PKPdf	PKiKP	00 07 24.7	+3.9		
JCT				LR	LR				
	comp=Z,900nm,20.0s								
432A	Menard	132.36	92	⇑PKiKP	PKiKP	00 07 21.2	-0.2		
	baz=132								
S22A	4UR Ranch, Cre	132.41	79	⇑PKiKP	PKiKP	00 07 22.0	+0.5		
	baz=133								
S22A	4UR Ranch, Cre	132.41	79	*e*PKPdf	PKPdf	00 07 20.2	-0.3		
S22A				*e*PKPdf	PKiKP	00 07 24.9	+3.3		
S22A				LR	LR				
	comp=Z,1μm,22.0s								
NEW	Newport	132.50	62	PFAKE		00 07 30.0	+10		
NEW				LR	LR				
	comp=Z,1μm,20.0s								
MSTX	Muleshoe	132.54	86	*e*PKPdf	PKPdf	00 07 19.3	-1.3		
MSTX				*ep*PKPdf	pPKPdf	00 07 29.5	+2.8		
MSTX				LR	LR				
	comp=Z,1μm,20.0s								
534A	Blanco	132.61	93	⇓PKiKP	PKiKP	00 07 22.7	+0.9		
	baz=133								
433A	Art	132.72	92	⇑PKiKP	PKiKP	00 07 22.4	+0.4		
	baz=133								
332A	Millersview	132.73	91	⇓PKiKP	PKiKP	00 07 22.5	+0.4		
	baz=133								
231A	Bronte	132.74	90	⇑PKiKP	PKiKP	00 07 22.5	+0.4		
	baz=133								
AHID	Auburn Hatcher	132.84	71	PFAKE		00 07 30.0	+9.0		
AHID				LR	LR				
	comp=Z,1μm,19.0s								
O20A	White River Ci	133.00	76	⇓PKiKP	PKPdf	00 07 21.5	+0.1		
	baz=133								
O20A	White River Ci	133.00	76	*e*PKPdf	PKPdf	00 07 19.5	-1.9		
O20A				*e*PKPdf	PKiKP	00 07 24.1	+1.5		
O20A				LR	LR				
	comp=Z,1μm,21.0s								
636A	Smothers Creek	133.12	95	⇑PKiKP	PKiKP	00 07 23.2	+0.3		
	baz=133								
232A	Coleman	133.13	91	⇑PKiKP	PKiKP	00 07 23.2	+0.3		
	baz=133								
333A	Richland Sprin	133.17	92	⇑PKiKP	PKiKP	00 07 22.9	-0.1		
	baz=133								
131A	Roby	133.19	89	⇑PKiKP	PKPdf	00 07 22.3	+0.5		
	baz=133								
SMCO	Snowmass	133.20	78	*e*PKPdf	PKPdf	00 07 17.3	-4.7		
SDCO	Great Sand Dun	133.23	80	⇑PKiKP	PKiKP	00 07 23.1	-0.1		
	baz=133								
SDCO	Great Sand Dun	133.23	80	PFAKE		00 07 30.0	+8.0		
SDCO				LR	LR				
	comp=Z,1μm,19.0s								
434A	Burnet	133.27	93	⇑PKiKP	PKiKP	00 07 23.7	+0.5		
	baz=133								
REDW	Red Top Meadow	133.34	71	*e*PKPdf	PKPdf	00 07 20.7	-1.2		
REDW				*ep*PKPdf	pPKPdf	00 07 30.9	+2.9		
REDW				LR	LR				
	comp=Z,1μm,20.0s								
TPAW	Teton Pass	133.35	71	PFAKE		00 07 30.0	+8.0		
TPAW				LR	LR				
	comp=Z,900nm,18.0s								
FXWY	Fox Creek	133.39	70	PFAKE		00 07 30.0	+7.9		
FXWY				LR	LR				
	comp=Z,1μm,22.0s								
N20A	Spence Gulch,	133.41	75	⇑PKiKP	PKiKP	00 07 24.1	+0.6		
	baz=134								

AMTX LR LR
comp=Z,1µm,19.0s
I17A Pilgrim Ck. 133.82 70 ⇓PKiKP **PKiKP 00 07 24.2 +0.1**
baz=134
SWMT Swartz Lake 133.84 64 *e*PKPdf **PKPdf 00 07 21.0 -1.6**
SWMT *e*PKPdf **PKiKP 00 07 25.9 +2.1**
FLWY Flagg Ranch 133.84 70 PFAKE 00 07 30.0 +7.1
FLWY LR LR
comp=Z,1µm,22.0s
YFT Old Faithful 133.97 69 PFAKE 00 07 30.0 +6.9
YFT LR LR
comp=Z,3µm,21.0s
P23A Jefferson 134.02 78 ⇓PKiKP **PKiKP 00 07 24.4 -0.5**
baz=134
X30A Coker Ranch, T 134.04 87 ⇑PKiKP **PKiKP 00 07 24.7 0.0**
baz=134
O22A Kremmling 134.06 77 ⇑PKiKP **PKPdf 00 07 24.0 +0.4**
baz=134
133A Hamilton Ranch 134.07 90 ⇓PKiKP **PKiKP 00 07 24.8 +0.1**
baz=134
H17A Grant Village 134.09 70 PFAKE 00 07 30.0 +6.6
H17A LR LR
comp=Z,2µm,19.0s
Y31A Rekieta Farm, 134.11 88 ⇑PKiKP **PKPdf 00 07 23.1 -0.4**
baz=134
335A Moody 134.12 93 ⇑PKiKP **PKiKP 00 07 24.3 -0.5**
baz=134
BOZ Bozeman (W) 134.17 68 PFAKE 00 07 30.0 +6.7
BOZ LR LR
comp=Z,1µm,22.0s
Z32A Haskell 134.18 89 ⇓PKiKP **PKiKP 00 07 24.7 -0.3**
baz=134
Q24A Divide 134.20 79 PFAKE 00 07 30.0 +6.2
Q24A LR LR
comp=Z,1µm,21.0s
HKT Hockley 134.21 96 PFAKE 00 07 30.0 +6.4
HKT LR LR
comp=Z,700nm,21.0s
J19A Crowheart 134.35 72 ⇓PKiKP **PKiKP 00 07 25.1 -0.1**
baz=134
ISCO Idaho Springs 134.42 78 ⇓PKiKP **PKPdf 00 07 24.6 +0.4**
baz=135
ISCO Idaho Springs 134.42 78 PFAKE 00 07 40.0 +16
ISCO LR LR
comp=Z,1µm,21.0s
S26A Kim 134.42 82 ⇑PKiKP **PKiKP 00 07 25.5 +0.1**
baz=135
O23A Lake Granby, G 134.47 77 ⇓PKiKP **PKPdf 00 07 24.3 0.0**
baz=135
N22A Wattenberg Ran 134.50 76 ⇑PKiKP **PKiKP 00 07 25.4 -0.2**
baz=135
WHTX Lake Whitney, 134.58 92 PFAKE 00 07 40.0 +16
WHTX LR LR
comp=Z,1µm,22.0s
PRGR Permogore 134.59 318 *e*PKIKP **PKPdf 00 07 20.7 -2.6**
PRGR pmax pmax
comp=Z,9.0nm,1.0s
Z33A Whitaker Ranch 134.61 90 ⇑PKiKP **PKiKP 00 07 25.7 -0.1**
baz=135
Y32A R-V Farms, Ver 134.66 89 ⇓PKiKP **PKiKP 00 07 25.8 -0.1**
baz=135
WALA Waterton Lakes 134.72 62 PFAKE 00 07 40.0 +16
WALA LR LR
comp=Z,1µm,20.0s
TIRR Tirgusor 134.73 290 ⇓*i*P **PKPdf 00 07 26.7 +2.5**
TIRR Tirgusor 134.73 290 ⇓PKIKP **PKPdf 00 07 26.7 +2.5**
TIRR Tirgusor 134.73 290 PFAKE 00 07 40.0 +16
TIRR LR LR
comp=Z,500nm,22.0s
M22A Cedar Creek Ra 134.76 75 ⇓PKiKP **PKiKP 00 07 27.6 +1.4**
baz=135
H18A Shoshone NF, C 134.79 70 ⇓PKiKP **PKiKP 00 07 27.7 +1.6**
baz=135
I19A Meeteetse 134.83 71 ⇑PKiKP **PKiKP 00 07 26.2 0.0**
baz=135
N23A Red Feather La 134.86 76 PFAKE 00 07 40.0 +15
N23A LR LR
comp=Z,1µm,20.0s
TLB Topalu 135.02 290 ⇓*i*P **PKPdf 00 07 21.7 -3.0**
TLB Topalu 135.02 290 ⇓PKIKP **PKPdf 00 07 21.7 -3.0**
337A Centerville 135.11 94 ⇑PKiKP **PKiKP 00 07 26.8 0.0**
baz=135
INK Inuvik 135.13 32 PKP **PKPdf 00 07 22.6 -1.5**
comp=Z,3.2nm,0.7s,baz=284,slow=1.1,SNR=7.5
INK Inuvik 135.13 32 PKiKP **PKPdf 00 07 22.7 -1.5**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 135.13 32 *e*PKPdf **PKPdf 00 07 23.0 -1.2**
Y33A Hilltop Ranch, 135.17 89 ⇑PKiKP **PKiKP 00 07 27.4 +0.5**
baz=135
R27A Eads 135.25 81 ⇓PKiKP **PKiKP 00 07 26.7 -0.4**
baz=135
RLMT Red Lodge 135.27 70 PFAKE 00 07 40.0 +14
RLMT LR LR
comp=Z,900nm,21.0s
AGG Agios Georgios 135.28 280 PFAKE 00 07 40.0 +15
AGG LR LR
comp=Z,800nm,22.0s
CFR Carcaliu 135.29 290 ⇓*i*P **PKPdf 00 07 27.4 +2.2**
CFR Carcaliu 135.29 290 ⇓PKIKP **PKPdf 00 07 27.4 +2.2**
PHWY Pilot Hill 135.40 76 PFAKE 00 07 40.0 +14
PHWY LR LR
comp=Z,799nm,19.0s
K22A Casper 135.53 74 PFAKE 00 07 40.0 +14
K22A LR LR
comp=Z,1µm,19.0s
WMOK Wichita Mounta 135.55 88 PFAKE 00 07 40.0 +14
WMOK LR LR
comp=Z,2µm,19.0s
OBN Obninsk 135.73 307 *e*PKIKP **PKPdf 00 07 26.6 +0.9**
OBN *i* 00 07 32.0
OBN *i* 00 10 14.3
OBN *i* SS SS 00 28 07.5 +5.7
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN MLR MLR
comp=Z,520nm,18.0s
OBN Obninsk 135.73 307 PFAKE 00 07 40.0 +14
OBN LR LR
comp=Z,700nm,21.0s
KSCO Kaye Shedlock' 135.79 81 PFAKE 00 07 40.0 +13
KSCO LR LR
comp=Z,1µm,21.0s
MTDJ Mount Denham 136.05 125 PFAKE 00 07 40.0 +12
MTDJ LR LR
comp=Z,1µm,19.0s
VRI Vrincioaia 136.50 291 ⇓*i*P PKPpre 00 07 20.3
VRI Vrincioaia 136.50 291 ⇓PKIKP PKPpre 00 07 20.3
W34A Bridge Creek, 136.50 89 PFAKE 00 07 40.0 +12
W34A LR LR
comp=Z,1µm,19.0s
EGMT Eagleton 136.53 66 *e*PKPdf **PKPdf 00 07 28.2 +0.7**
EGMT *e*PKPdf **PKiKP 00 07 32.1 +2.8**
MLR Muntele Rosu 136.76 290 ⇓*i*P **PKPdf 00 07 27.9 -0.2**
MLR Muntele Rosu 136.76 290 ⇓PKIKP **PKPdf 00 07 27.9 -0.2**
TESR Tescani 136.89 291 ⇓*i*P **PKPdf 00 07 27.4 -0.8**
KLMR Klimovskoe 136.90 315 *e*PKIKP **PKPdf 00 07 31.6 +3.9**
KLMR pmax pmax
comp=Z,25nm,1.2s
V34A Guthrie 137.04 88 PFAKE 00 07 40.0 +11
V34A LR LR
comp=Z,2µm,19.0s
EDM Edmonton 137.10 58 PFAKE 00 07 40.0 +12
EDM LR LR
comp=Z,2µm,22.0s
DOPR Dopca 137.34 290 ⇓*i*P **PKPdf 00 07 30.1 +1.0**
U34A Anderson Ranch 137.41 87 PFAKE 00 07 40.0 +11
U34A LR LR
comp=Z,1µm,20.0s
ARR Arges 137.48 289 ⇓*i*P **PKPdf 00 07 30.2 +0.8**
GRGR Grenville 137.50 149 PFAKE 00 07 40.0 +10
GRGR LR LR
comp=Z,1µm,19.0s
AKASG Malin Array Be 137.53 298 PKhKP PKPpre 00 07 22.9
comp=Z,0.7nm,0.6s,baz=90,slow=2.6,SNR=5.3
AKASG PKP **PKPdf 00 07 28.7 -0.5**
comp=Z,0.3nm,0.4s,baz=76,slow=2.4,SNR=5.3
AKASG Malin Array Be 137.53 298 *i* PKIKP PKPpre 00 07 22.9
AKASG 00 07 28.7
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 137.53 298 *e*PKIKP PKPpre 00 07 22.9
AKBB *e* 00 07 28.7
AKBB Malin Array Si 137.53 298 *e*PKPpre PKPpre 00 07 22.9
AKBB *e*PKPdf **PKPdf 00 07 28.7 -0.5**

KIEV Kiev 137.53 298 ⇓*i*PKIKP **PKPdf 00 07 33.3 +4.1**
KIEV Kiev 137.53 298 PFAKE 00 07 40.0 +11
KIEV LR LR
comp=Z,700nm,22.0s
RSSD Black Hills 137.85 74 *e*PKIKP PKPpre 00 07 23.5
RSSD *e* 00 07 26.8
RSSD MLR MLR
comp=Z,1µm,18.0s
RSSD Black Hills 137.85 74 *e*PKPpre PKPpre 00 07 23.5
RSSD *e*PKPdf **PKPdf 00 07 26.8 -3.6**
RSSD LR LR
comp=Z,1µm,18.0s
LAO LASA Array 137.90 69 PFAKE 00 07 40.0 +10
LAO LR LR
comp=Z,1µm,22.0s
TUL1 Leonard 138.18 89 PFAKE 00 07 40.0 +9.1
TUL1 LR LR
comp=Z,2µm,20.0s
WDD Wield Dalam 138.23 271 PFAKE 00 07 40.0 +9.0
WDD LR LR
comp=Z,2µm,20.0s
BURAR Bucovina Array 138.30 292 ⇓*i*P PKPdf 00 07 39.6 +8.7
BURAR Bucovina Array 138.30 292 ⇓PKIKP PKPdf 00 07 39.6 +8.7
MIAR Mount Ida 138.71 93 PFAKE 00 07 40.0 +8.1
MIAR LR LR
comp=Z,900nm,22.0s
CEL Celeste 138.84 274 PFAKE 00 07 40.0 +7.9
CEL LR LR
comp=Z,900nm,19.0s
VBMS Vicksburg 139.09 98 PFAKE 00 07 40.0 +7.3
VBMS LR LR
comp=Z,600nm,22.0s
DRGR 139.36 290 ⇓*i*P **PKPdf 00 07 31.7 -1.1**
DRGR 139.36 290 ⇓PKIKP **PKPdf 00 07 31.7 -1.1**
K29A Lazy Trails An 139.38 78 ⇑PKPdf **PKPdf 00 07 31.9 -1.0**
baz=140
KSU1 Kansas State U 139.61 85 PFAKE 00 07 40.0 +6.6
KSU1 LR LR
comp=Z,1µm,19.0s
SDDR Presa de Saban 139.80 132 PFAKE 00 07 50.0 +16
SDDR LR LR
comp=Z,600nm,20.0s
CUC Castrocucco 139.91 277 PFAKE 00 07 50.0 +16
CUC LR LR
comp=Z,600nm,21.0s
BGNE Belgrade 139.97 81 PFAKE 00 07 50.0 +16
BGNE LR LR
comp=Z,1µm,20.0s
DGMT Dagmar 139.98 68 PFAKE 00 07 40.0 +6.2
DGMT LR LR
comp=Z,1µm,20.0s
LVV L'vov 140.05 294 *e*PKIKP **PKPdf 00 07 36.4 +2.6**
CLTB Caltabellotta 140.11 272 PFAKE 00 07 50.0 +15
CLTB LR LR
comp=Z,900nm,20.0s
TRPA Tarpa 140.12 291 ⇑*i*P PKPpre 00 07 28.0
YKA Yellowknife Ar 140.19 44 PKhKP PKPpre 00 07 25.8
comp=Z,0.8nm,0.7s,baz=247,slow=3.8,SNR=9.5
YKA PKP **PKPdf 00 07 31.7 -1.9**
comp=Z,3.7nm,0.9s,baz=239,slow=2.9,SNR=12
YKA PP **PP 00 10 34.3 +2.0**
comp=Z,1.3nm,1.1s,baz=252,slow=6.2,SNR=5.1
YKA Yellowknife Ar 140.19 44 *i* PKHKP PKPpre 00 07 25.8
YKA 00 07 31.7
YKA 00 10 34.3
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKB5 Yellowknife Ar 140.19 44 *e*PKPpre PKPpre 00 07 25.8
YKB5 *e*PKPdf **PKPdf 00 07 31.7 -1.9**
B25A Knox Farm, Ray 140.49 69 ⇓PKPdf **PKPdf 00 07 33.9 -0.8**
baz=141
UZH Uzhgorod 140.50 292 *e*PKIKP **PKPdf 00 07 33.5 -1.2**
UZH *e* 00 07 40.1
UZH MLR MLR
comp=N,300nm,19.0s
UZH MLR MLR
comp=E,200nm,19.0s
UZH MLR MLR
comp=Z,100nm,19.0s
KOLS Kolonicke sedl 140.66 292 *e*PKIKP **PKPdf 00 07 31.8 -3.2**
F28A McLaughlin 140.71 73 ⇓PKPdf **PKPdf 00 07 34.5 -0.7**
baz=141
CRPR Cabo Rojo, PR 140.82 138 PFAKE 00 07 50.0 +14
CRPR LR LR
comp=Z,600nm,21.0s
BRSD Miller 141.12 76 PFAKE 00 07 50.0 +14
BRSD LR LR
comp=Z,1µm,20.0s
CRVS Cervenica-Dubn 141.12 292 *e*PKIKP **PKPdf 00 07 37.0 +1.2**
OXF Oxford 141.30 96 PFAKE 00 07 50.0 +13
OXF LR LR
comp=Z,700nm,20.0s
SJG San Juan 141.31 139 PFAKE 00 07 50.0 +13
SJG LR LR
comp=Z,3µm,22.0s
G30A Faulkton 141.35 75 ⇓PKPdf **PKPdf 00 07 35.4 -1.0**
baz=142
KEST Kesra 141.41 266 PKP **PKPdf 00 07 36.0 -0.9**
comp=Z,2.1nm,0.9s,baz=119,slow=3.8,SNR=4.8
KEST Kesra 141.41 266 *e*PKPdf **PKPdf 00 07 36.0 -0.9**
HUMP Col San Antoni 141.46 139 PFAKE 00 07 50.0 +13
HUMP LR LR
comp=Z,900nm,22.0s
PKSM Moragy 141.51 287 ⇓*i*P **PKPdf 00 07 33.8 -2.8**
PKSM Moragy 141.51 287 ⇓PKIKP **PKPdf 00 07 33.8 -2.8**
PKSM Moragy 141.51 287 *e* **PKPdf 00 07 33.5 -3.1**
MTP Monte Pirata 141.54 140 PFAKE 00 07 50.0 +12
MTP LR LR
comp=Z,801nm,19.0s
PSZ Piszkesteto 141.58 290 ⇓*i*P **PKPdf 00 07 34.3 -2.5**
PSZ Piszkesteto 141.58 290 ⇓PKIKP **PKPdf 00 07 34.3 -2.5**
PSZ Piszkesteto 141.58 290 PFAKE 00 07 50.0 +13
PSZ LR LR
comp=Z,600nm,20.0s
APA Apatity 141.60 324 *e*PKIKP PKPdf 00 07 41.6 +5.5
APA MLR MLR
comp=Z,1µm,22.0s
LRAL Lakeview Retre 141.83 100 *e*PKPdf **PKPdf 00 07 36.0 -1.7**
LRAL LR LR
comp=Z,600nm,18.0s
VSU Vasula 142.03 308 ⇓*i*PKIKP **PKPdf 00 07 41.2 +4.1**
VSU MLR MLR
comp=Z,2µm,19.0s
D29A Pettibone, Tap 142.03 72 ⇓PKPdf **PKPdf 00 07 37.5 -0.1**
baz=142
E30A Jud 142.18 73 ⇓PKPdf **PKPdf 00 07 37.4 -0.5**
baz=142
ECSD EROS Data Cent 142.19 79 ⇑PKPdf **PKPdf 00 07 37.0 -0.9**
baz=142
ECSD EROS Data Cent 142.19 79 *e*PKPpre PKPpre 00 07 31.1
ECSD LR LR
comp=Z,1µm,21.0s
B28A Dugan Ranch, T 142.22 70 ⇑PKPdf **PKPdf 00 07 36.8 -1.1**
baz=142
PKSG 142.23 288 *e*PKPdf **PKPdf 00 07 36.4 -1.4**
SUW Suwalki 142.30 300 *e*PKP PKPdf 00 07 44.5 +6.8
SUW Suwalki 142.30 300 *e*PKIKP PKPdf 00 07 44.6 +6.8
SUW Suwalki 142.30 300 *e*PKPpre PKPpre 00 07 32.6
SUW *e*PKPdf **PKiKP 00 07 39.5 -1.2**
SUW LR LR
comp=Z,700nm,22.0s
PKST T"'s 142.38 288 *e*PKPdf **PKPdf 00 07 39.8 +1.6**
MDND Maddock 142.40 71 ⇓PKPdf **PKPdf 00 07 37.3 -0.9**
baz=142
MDND Maddock 142.40 71 *e*PKPpre PKPpre 00 07 32.7
MDND *e*PKPdf **PKPdf 00 07 38.5 +0.3**
MDND LR LR
comp=Z,2µm,18.0s
VYHS Vyhne 142.47 290 *e*PKIKP **PKPdf 00 07 37.8 -0.5**
A28A Rude Farm, Bot 142.49 69 ⇓PKPdf **PKPdf 00 07 37.0 -1.3**
baz=143
D30A Buchanan 142.56 73 ⇑PKPdf **PKPdf 00 07 38.0 -0.5**
baz=143
OJC Ojcow 142.67 293 *e*PKP **PKPdf 00 07 37.4 -1.2**
OJC Ojcow 142.67 293 *e*PKIKP PKPpre 00 07 34.2
OJC Ojcow 142.67 293 *e*PKPpre PKPpre 00 07 34.2
AQU L'Aquila 142.74 278 *e*PKIKP PKPpre 00 07 35.7
AQU MLR MLR
comp=Z,1µm,21.0s
AQU L'Aquila 142.74 278 *e*PKPpre PKPpre 00 07 35.7
AQU *e*pPKPdf pPKPdf 00 07 46.6 +1.6

AQU LR LR
comp=Z,1µm,21.0s
TIGA Tifton 142.83 105 ⇑PKPdf **PKPdf 00 07 38.5 -1.0**
baz=143
TIGA Tifton 142.83 105 PFAKE 00 07 50.0 +11
TIGA LR LR
comp=Z,500nm,21.0s
B29A Wagenman Farm, 142.83 70 ⇓PKPdf **PKPdf 00 07 38.6 -0.3**
baz=143
C30A Mose, Pekin 143.00 72 ⇓PKPdf **PKPdf 00 07 38.9 -0.3**
baz=143
A29A Manning Farm, 143.11 70 ⇓PKPdf **PKPdf 00 07 39.1 -0.3**
baz=143
FIA0 FINESS Array S 143.22 313 *e*PKHKP PKPpre 00 07 34.4
FIA0 *e* 00 07 39.4
FIA0 FINESS Array S 143.22 313 *e*PKPpre PKPpre 00 07 34.4
FIA0 *e*PKPdf **PKPdf 00 07 39.4 +0.3**
FINES FINESS Array B 143.22 313 PKhKP PKPpre 00 07 34.4
comp=Z,1.9nm,0.7s,baz=98,slow=4.2,SNR=10
FINES PKP **PKPdf 00 07 39.4 +0.3**
comp=Z,3.4nm,0.7s,baz=125,slow=4.1,SNR=13
FINES FINESS Array B 143.22 313 PKHKP PKPpre 00 07 34.4
FINES 00 07 39.4
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=Z,3.0nm,0.7s
WVT Waverly 143.33 95 *e*PKHKP PKPpre 00 07 35.3
WVT MLR MLR
comp=Z,900nm,20.0s
WVT Waverly 143.33 95 *e*PKPpre PKPpre 00 07 35.3
WVT LR LR
comp=Z,900nm,20.0s
SCIA State Center 143.33 83 *e*PKPpre PKPpre 00 07 35.3
SCIA *e*PKPpre PKPpre 00 07 38.5
SCIA LR LR
comp=Z,2µm,20.0s
B30A Myrvik Farm, E 143.43 71 ⇑PKPdf **PKPdf 00 07 39.6 -0.4**
baz=144
SIUC Southern Illin 143.43 92 *e*PKPpre PKPpre 00 07 35.2
SIUC *e*PKPdf **PKPdf 00 07 39.3 -1.0**
SIUC LR LR
comp=Z,900nm,21.0s
OKC Ostrava-Krasne 143.47 292 *e*PKP **PKPdf 00 07 44.2 +4.2**
OKC AMS AMS 01 07 00.0
comp=Z,500nm,23.0s
OKC Ostrava-Krasne 143.47 292 *e*PKIKP **PKPdf 00 07 44.2 +4.2**
OKC MLR MLR
comp=Z,500nm,23.0s
A30A Hoffart Farm, 143.67 70 ⇓PKPdf **PKPdf 00 07 40.0 -0.4**
baz=144
VSL Villasalto 143.67 271 *e*PKPdf **PKPbc** 00 07 39.0 +0.8
VSL LR LR
comp=Z,1µm,20.0s
MORC Moravsky Berou 143.80 291 *e*PKIKP PKPab 00 07 37.5 -0.1
MORC MLR MLR
comp=Z,600nm,18.0s
MORC Moravsky Berou 143.80 291 *e*PKPpre PKPab 00 07 37.5 -0.1
MORC LR LR
comp=Z,600nm,18.0s
FFC Flin Flon 143.84 60 *e*PKIKP PKPab 00 07 37.5 -0.1
FFC MLR MLR
comp=Z,2µm,22.0s
FFC Flin Flon 143.84 60 *e*PKPpre PKPab 00 07 37.5 -0.1
FFC LR LR
comp=Z,2µm,22.0s
ARSA Arzberg 143.89 286 ⇑*i*PKPdf PKPab 00 07 36.5 -1.6
comp=Z,31nm,1.1s,SNR=12
SOKA Soboth 143.92 285 ⇑*i*PKPdf PKPab 00 07 38.2 0.0
comp=Z,29nm,1.1s,SNR=16
SWET Sewanee 143.93 98 *e*PKPpre PKPab 00 07 37.1 -1.5
CONA Conrad Observa 143.99 288 *i* PKPdf **PKPdf 00 07 40.5 -0.5**
comp=Z,14nm,1.1s,SNR=8.9
TRI Trieste 144.23 283 *e*PKIKP **PKPdf 00 07 41.2 -0.2**
TRI *e* 00 07 47.3
TRI MLR MLR
comp=Z,600nm,20.0s
TRI Trieste 144.23 283 *e*PKPdf **PKPdf 00 07 41.2 -0.2**
TRI *e*PKPdf **PKiKP 00 07 47.2 +2.2**
TRI LR LR
comp=Z,600nm,20.0s
KEV Kevo 144.24 327 PFAKE 00 07 50.0 +9.3
KEV LR LR
comp=Z,1µm,20.0s
GOGA Godfrey 144.26 103 *e*PKIKP **PKPab 00 07 39.8 0.0**
GOGA MLR MLR
comp=Z,900nm,20.0s
GOGA Godfrey 144.26 103 *e*PKPdf **PKPab 00 07 39.8 0.0**
GOGA LR LR
comp=Z,900nm,20.0s
KRLC Kraliky 144.37 291 *e*PKP **PKPab 00 07 39.3 -0.5**
KRLC *ex* x 00 07 44.8
KRLC Kraliky 144.37 291 *e*PKIKP **PKPab 00 07 39.3 -0.5**
KRLC *e* 00 07 44.8
USIN University of 144.56 93 *e*PKPdf **PKPab 00 07 39.6 -1.2**
MYKA Terra Mystica 144.74 284 *i* PKPbc **PKPab 00 07 40.6 -0.7**
comp=Z,86nm,1.3s,SNR=27
OLIL Olney 144.75 92 *e*PKPdf **PKPab 00 07 40.2 -1.2**
OLIL LR LR
comp=Z,1µm,21.0s
ARA0 ARCESS Array S 144.75 326 *e*PKPdf **PKPab 00 07 39.6 -0.9**
ARCES ARCESS Array B 144.75 326 PKP **PKPab 00 07 39.6 -0.9**
comp=Z,22nm,0.7s,baz=96,slow=3.1,SNR=66
ARCES ARCESS Array B 144.75 326 PKIKP **PKPab 00 07 39.7 -0.9**
ARCES pmax pmax
comp=Z,22nm,0.7s
ARE0 ARCESS Array S 144.75 326 *e*P **PKPab 00 07 39.7 -0.9**
DPC Dobruska-Polom 144.75 292 *e*PKP **PKPab 00 07 40.7 -0.4**
DPC Dobruska-Polom 144.75 292 *e*PKIKP **PKPab 00 07 40.8 -0.4**
DPC MLR MLR
comp=Z,3µm,20.0s
DPC Dobruska-Polom 144.75 292 *e*PKPdf **PKPab 00 07 40.8 -0.4**
DPC LR LR
comp=Z,3µm,20.0s
TREC Trest 144.81 290 *e*PKP **PKPab 00 07 37.7 -3.7**
TREC *ex* x 00 29 42.7
TREC AMS AMS 01 16 30.0
comp=Z,900nm,22.6s
TREC Trest 144.81 290 *e*PKHKP **PKPab 00 07 37.7 -3.7**
TREC *e* 00 29 42.7
TREC MLR MLR
comp=Z,900nm,22.6s
AGMN Agassiz Nation 144.84 72 ⇓PKPdf **PKPab 00 07 41.0 -0.5**
baz=145
AGMN Agassiz Nation 144.84 72 *e*PKPdf **PKPab 00 07 40.1 -1.4**
AGMN LR LR
comp=Z,1µm,19.0s
MOA Molln 144.92 287 *i* PKPbc **PKPab 00 07 40.3 -1.6**
comp=Z,48nm,1.4s,SNR=7.9
CPCT Cooper Cave 144.96 99 *e*PKPbc **PKPab 00 07 41.9 -0.5**
KSP Ksiaz 144.97 292 *e*PKP PKPbc 00 07 41.4 -0.5
KSP Ksiaz 144.97 292 *e*PKIKP PKPbc 00 07 41.2 -0.7
KSP *e*SS SS 00 29 52.0 +1.7
UPC Upice 145.00 292 *e*PKP **PKPdf 00 07 43.4 +0.8**
UPC Upice 145.00 292 *e*PKIKP **PKPdf 00 07 43.4 +0.8**
HDIL Hopedale 145.05 88 *e*PKPbc **PKPbc 00 07 41.0 -1.5**
HDIL LR LR
comp=Z,2µm,20.0s
KBA Koelnbreinsper 145.13 285 ⇑*i*PKPbc **PKPbc 00 07 40.9 -1.9**
comp=Z,51nm,1.0s,SNR=30
SPMN Marine on St. 145.29 79 ⇑PKPdf **PKPbc 00 07 43.1 0.0**
baz=145
SPMN Marine on St. 145.29 79 *e*PKPbc **PKPbc 00 07 41.6 -1.5**
SPMN LR LR
comp=Z,900nm,19.0s
GKP Gorka Klasztor 145.33 297 *e*PKP **PKPab 00 07 44.4 +1.3**
GKP Gorka Klasztor 145.33 297 *e*PKIKP **PKPab 00 07 44.5 +1.3**
GOPC GO Pecny, Ondr 145.48 290 *e*PKP **PKPdf 00 07 43.1 -0.4**
GOPC *e*SS SS 00 29 50.7 -5.6
GOPC AMS AMS 01 15 10.0
comp=Z,800nm,19.3s
ABTA Abfaltersbach 145.49 284 *i* PKPbc **PKPdf 00 07 42.6 -1.1**
comp=Z,120nm,1.4s,SNR=46
KTK1 Kautokeino 145.53 325 *e*P **PKPbc 00 07 43.1 0.0**
TKL Tuckaleechee C 145.56 100 *e*PKP2 **PKPdf 00 07 42.6 -1.5**
TKL Tuckaleechee C 145.56 100 *e*PKPdf **PKPdf 00 07 42.6 -1.5**
VLC Villacollemand 145.56 279 *e*PKPdf **PKPdf 00 07 42.9 -0.9**
VLC LR LR
comp=Z,1µm,19.0s
WCI Wyandotte Cave 145.59 94 *e*PKP2 **PKPdf 00 07 41.9 -2.2**
WCI Wyandotte Cave 145.59 94 *e*PKPdf **PKPdf 00 07 41.9 -2.2**
ULM Lac du Bonnet 145.65 69 PKPbc **PKPdf 00 07 42.3 -1.4**
comp=Z,24nm,1.0s,baz=250,slow=5.0,SNR=9.8
ULM Lac du Bonnet 145.65 69 PKP2 **PKPdf 00 07 42.3 -1.4**
ULM pmax pmax

	comp=Z,24nm,1.0s							
ULM	**Lac du Bonnet**	**145.65**	**69**	*e*PKPdf		**PKPdf**	**00 07 41.9**	**-1.8**
PRU	**Pruhonice**	**145.66**	**290**	*e*PKP		**PKPdf**	**00 07 43.1**	**-0.7**
PRU				*ex*		x	00 07 45.6	
PRU				*e*SS		SS	00 29 54.4	-3.8
PRU				AMS		AMS	01 15 30.0	
	comp=Z,800nm,23.6s							
PRU	**Pruhonice**	**145.66**	**290**	*e*PKP2		**PKPdf**	**00 07 43.1**	**-0.7**
PRU				*e*			00 07 45.6	
PRU				MLR		MLR		
	comp=Z,800nm,23.6s							
GEC2	**GERESS Array S**	**145.69**	**288**	*e*PKIKP		**PKPdf**	**00 07 42.8**	**-1.1**
GEC2	**GERESS Array S**	**145.69**	**288**	*e*PKPdf		**PKPdf**	**00 07 42.8**	**-1.1**
GERES	**GERESS Array B**	**145.69**	**288**	PKPbc		**PKPdf**	**00 07 42.9**	**-1.1**
	comp=Z,6.4nm,0.8s,baz=136,slow=3.8,SNR=40							
GERES	**GERESS Array B**	**145.69**	**288**	PKIKP		**PKPdf**	**00 07 42.9**	**-1.1**
GERES				pmax		pmax		
	comp=Z,6.0nm,0.8s							
JFWS	**Jewell Farm**	**145.72**	**84**	*e*PKP2		**PKPdf**	**00 07 42.7**	**-1.4**
JFWS				MLR		MLR		
	comp=Z,1μm,19.0s							
JFWS	**Jewell Farm**	**145.72**	**84**	*e*PKPdf		**PKPdf**	**00 07 42.7**	**-1.4**
JFWS				LR		LR		
	comp=Z,1μm,19.0s							
PRA	**Prague**	**145.75**	**290**	*e*PKP		**PKPab**	**00 07 46.1**	**+1.3**
PRA				AMS		AMS	01 15 30.0	
	comp=Z,800nm,23.5s							
PRA	**Prague**	**145.75**	**290**	*e*PKP2		**PKPab**	**00 07 46.1**	**+1.3**
PRA				MLR		MLR		
	comp=Z,800nm,23.5s							
PVCC	**Panska Ves**	**145.85**	**291**	*e*PKP		**PKPbc**	**00 07 44.4**	**-0.3**
PVCC				*ex*		x	00 07 47.1	
PVCC				AMS		AMS	01 28 20.0	
	comp=Z,700nm,20.6s							
PVCC	**Panska Ves**	**145.85**	**291**	*e*PKP2		**PKPbc**	**00 07 44.4**	**-0.3**
PVCC				MLR		MLR		
	comp=Z,700nm,20.6s							
KHC	**Kasperske Hory**	**145.88**	**288**	*e*PKP		**PKPdf**	**00 07 43.0**	**-1.2**
KHC				x		x	00 07 47.0	
KHC				x		x	00 08 02.5	
KHC	**Kasperske Hory**	**145.88**	**288**	*e*PKIKP		**PKPdf**	**00 07 43.0**	**-1.2**
KHC				*e*			00 07 47.0	
BLO	**Bloomington**	**146.00**	**92**	*e*PKP2		**PKPbc**	**00 07 45.5**	**-0.1**
BLO				MLR		MLR		
	comp=Z,1μm,20.0s							
BLO	**Bloomington**	**146.00**	**92**	*e*PKPdf		**PKPbc**	**00 07 45.5**	**-0.1**
BLO				LR		LR		
	comp=Z,1μm,20.0s							
SPA0	**Spitsbergen Ar**	**146.16**	**342**	*e*P		**PKPdf**	**00 07 43.6**	**-0.3**
WTTA	**Wattenberg**	**146.26**	**284**	*i* PKPdf		**PKPdf**	**00 07 45.0**	**-0.1**
	comp=Z,125nm,1.4s,SNR=30							
WATA	**Walderalm**	**146.32**	**284**	⇑*i*PKPdf		**PKPdf**	**00 07 44.8**	**-0.4**
	comp=Z,126nm,1.5s,SNR=14							
SFIN	**Lafayette**	**146.33**	**90**	⇓⇓PKPdf		**PKPdf**	**00 07 45.4**	**+0.2**
	baz=146							
SFIN	**Lafayette**	**146.33**	**90**	*e*PKPdf		**PKPdf**	**00 07 44.4**	**-0.8**
SFIN				LR		LR		
	comp=Z,2μm,22.0s							
BRG	**Berggiesshubel**	**146.35**	**291**	*e*PKP		**PKPdf**	**00 07 45.3**	**+0.4**
	comp=Z,21nm,1.4s							
BRG				*e*			00 07 50.6	
	comp=Z,41nm,1.2s							
BRG	**Berggiesshubel**	**146.35**	**291**	*e*PKPbc		**PKPab**	**00 07 47.3**	**+0.2**
BRG	**Berggiesshubel**	**146.35**	**291**	*e*PKP2		**PKPdf**	**00 07 45.3**	**+0.4**
BRG				pmax		pmax		
	comp=Z,21nm,1.4s							
MOTA	**Moosalm**	**146.62**	**284**	⇓*i*PKPdf		**PKPdf**	**00 07 45.6**	**-0.1**
	comp=Z,48nm,0.8s,SNR=41							
FETA	**Feichten**	**146.70**	**283**	⇑*i*PKPbc		**PKPdf**	**00 07 46.7**	**+0.9**
	comp=Z,70nm,1.0s,SNR=34							
KBS	**Kingsbay**	**146.71**	**344**	PFAKE			00 08 00.0	+12
KBS				LR		LR		
	comp=Z,1μm,22.0s							
KMSC	**Kings Mountain**	**146.73**	**103**	⇓⇓P		**PKPbc**	**00 07 47.3**	**-0.5**
	baz=147							
KMSC	**Kings Mountain**	**146.73**	**103**	*e*PKPdf		**PKPdf**	**00 07 46.0**	**-0.1**
KMSC				LR		LR		
	comp=Z,800nm,21.0s							
FUORN	**Ofenpass-Fuorn**	**146.81**	**283**	*e*PKPdf		**PKPdf**	**00 07 46.5**	**+0.3**
FUORN				LR		LR		
	comp=Z,1μm,22.0s							
FUR	**Furstenfeldbru**	**146.87**	**286**	*e*PKPab		**PKPab**	**00 07 51.0**	**+1.8**
RETA	**Reutte**	**146.89**	**284**	⇑*i*PKPbc		**PKPdf**	**00 07 46.7**	**+0.6**
	comp=Z,128nm,1.4s,SNR=31							
ROTZ	**Rotzenmuhle**	**146.96**	**289**	*e*PKPbc		**PKPab**	**00 07 49.3**	**-0.2**
ROTZ				*e*PKPab		**PKiKP**	**00 07 51.6**	**+1.1**
RUE	**Ruedersdorf**	**147.03**	**294**	PFAKE			00 08 00.0	+10
RUE				LR		LR		
	comp=Z,800nm,22.0s							
TRO	**Tromso**	**147.06**	**326**	*e*P		**PKPdf**	**00 07 45.6**	**+0.1**
CLL	**Collm**	**147.07**	**292**	*e*PKPbc		**PKPab**	**00 07 49.3**	**-0.6**
CLL				*e*PKPab		**PKiKP**	**00 07 51.6**	**+0.9**
CLL	**Collm**	**147.07**	**292**	*e*PKPdf		**PKPdf**	**00 07 47.0**	**+0.9**
CLL				*e*PKPbc		**PKPbc**	**00 07 49.0**	**+0.8**
CLL				⇓*i*PKPab		**PKiKP**	**00 07 51.4**	**+0.7**
	comp=Z,45nm,1.3s							
CLL				*e*pPKPbc		**pPKPbc**	**00 07 55.0**	**+0.8**
CLL				*e*(PKSdf)			00 11 20.0	
CLL				*e*PSKS			00 21 30.0	
CLL				*e*			00 28 36.0	
CLL				*e*SS		SS	00 30 12.0	-2.1
CLL				*e*PSS		PSS	00 30 58.0	
CLL				*e*SKSSKSac		**B'S'ac**	**00 31 24.0**	**-3.6**
CLL				*e*(SSS)			00 35 30.0	
CLL				LmV			01 27 00.0	
	comp=N,300nm,19.7s							
CLL				LmV			01 27 00.0	
	comp=E,300nm,20.5s							
CLL				LmV			01 27 00.0	
	comp=Z,700nm,19.8s							
CLL	**Collm**	**147.07**	**292**	⇓*e*PKP2		**PKPdf**	**00 07 47.0**	**+0.9**
CLL				pmax		pmax		
	comp=Z,45nm,1.3s							
CLL				MLR		MLR		
	comp=Z,700nm,19.8s							
CLL	**Collm**	**147.07**	**292**	*e*PKPdf		**PKPdf**	**00 07 45.9**	**-0.2**
CLL				LR		LR		
	comp=Z,900nm,20.0s							
BSD	**Bornholm Skovb**	**147.21**	**299**	*i* PKP2		**PKPbc**	**00 07 47.6**	**-0.9**
BSD				pmax		pmax		
	comp=Z,110nm,0.9s							
BSD				MLR		MLR		
	comp=Z,1μm,23.0s							
BSD	**Bornholm Skovb**	**147.21**	**299**	*i* P		**PKPbc**	**00 07 47.6**	**-0.9**
	comp=Z,113nm,0.9s							
	comp=Z,1μm,23.0s							
EYMN	**Ely**	**147.33**	**75**	*e*PKPdf		**PKPdf**	**00 07 45.3**	**-1.4**
EYMN				*e*PKPdf		**PKPbc**	**00 07 49.3**	**+0.2**
EYMN				LR		LR		
	comp=Z,1μm,20.0s							
DAVA	**Damuels**	**147.34**	**283**	⇑*i*PKPbc		**PKPdf**	**00 07 48.1**	**+1.2**
	comp=Z,85nm,1.2s,SNR=18							
GRF	**Grafenberg Arr**	**147.52**	**288**	*e*PKPbc		**PKPbc**	**00 07 50.5**	**+0.9**
GRF				*e*L		L	01 18 17.4	
	comp=Z,770nm,22.0s							
GRFO	**Grafenberg**	**147.52**	**288**	*e*PKP2		**PKPab**	**00 07 53.0**	**+1.3**
GRFO				MLR		MLR		
	comp=Z,1μm,22.0s							
GRFO	**Grafenberg**	**147.52**	**288**	*e*PKPdf		**PKPab**	**00 07 53.0**	**+1.3**
GRFO				LR		LR		
	comp=Z,1μm,22.0s							
MOX	**Moxa**	**147.64**	**290**	*e*PKPbc		**PKPbc**	**00 07 50.5**	**+0.6**
MOX				*e*L		L	01 18 02.1	
	comp=Z,1μm,21.7s							
RES	**Resolute Bay**	**147.79**	**24**	*e*PKP2		**PKPdf**	**00 07 47.4**	**+0.8**
RES	**Resolute Bay**	**147.79**	**24**	*e*PKPdf		**PKPdf**	**00 07 47.4**	**+0.8**
RGN	**Rugen**	**147.93**	**298**	*e*PKPdf		**PKPdf**	**00 07 47.1**	**-0.3**
RGN				*e*PKPbc		**PKiKP**	**00 07 52.2**	**-0.1**
COWI	**Conover**	**147.97**	**80**	*e*PKPdf		**PKPdf**	**00 07 48.0**	**+0.2**
COWI				LR		LR		
	comp=Z,1μm,20.0s							
MDT	**Midelt**	**148.03**	**249**	PKPbc		**PKPbc**	**00 07 51.5**	**-0.2**
	comp=Z,5.9nm,1.1s,baz=128,slow=0.6,SNR=4.5							
BNI	**Bardonecchia**	**148.31**	**278**	*e*PKP2		**PKPbc**	**00 07 50.3**	**-1.7**
BNI				MLR		MLR		
	comp=Z,1μm,20.0s							
BNI	**Bardonecchia**	**148.31**	**278**	*e*PKPdf		**PKPbc**	**00 07 50.3**	**-1.7**
BNI				LR		LR		
	comp=Z,1μm,20.0s							
STU	**Stuttgart**	**148.38**	**286**	*e*PKPbc		**PKPbc**	**00 07 52.3**	**+0.4**
STU				*e*PKPab		**PKPab**	**00 07 55.3**	**+0.1**
STU	**Stuttgart**	**148.38**	**286**	PFAKE			00 08 00.0	+4.8
STU				LR		LR		
	comp=Z,700nm,21.0s							
STEI	**Steigen**	**148.50**	**323**	*e*P		**PKPbc**	**00 07 50.9**	**-0.7**
SENIN	**Lac Senin/Sane**	**148.53**	**280**	*e*PKPdf		**PKPdf**	**00 07 49.2**	**+0.2**
BLA	**Blacksburg**	**148.63**	**101**	*e*PKIKP		**PKPdf**	**00 07 49.1**	**-0.1**
BLA				*e*			00 07 52.6	
BLA				MLR		MLR		
	comp=Z,1μm,21.0s							
BLA	**Blacksburg**	**148.63**	**101**	*e*PKPdf		**PKPdf**	**00 07 49.1**	**-0.1**
BLA				*e*PKPbc		**PKPbc**	**00 07 52.6**	**-0.3**
BLA				LR		LR		
	comp=Z,1μm,21.0s							
UBBA	**Unterbreizbach**	**148.66**	**290**	*e*PKPbc		**PKPbc**	**00 07 53.0**	**+0.6**
COP	**Copenhagen**	**148.72**	**299**	*e*PKP2		**PKPab**	**00 07 57.3**	**+1.0**
COP				pmax		pmax		
	comp=Z,18nm,0.9s							
COP				MLR		MLR		
	comp=Z,520nm,25.0s							
COP	**Copenhagen**	**148.72**	**299**	*i* P		**PKPab**	**00 07 57.3**	**+1.0**
	comp=Z,18nm,0.9s							
	comp=Z,520nm,25.0s							
BFO	**Black Forest**	**148.73**	**284**	*e*PKPbc		**PKPbc**	**00 07 53.0**	**+0.2**
BFO	**Black Forest**	**148.73**	**284**	*i* PKP2		**PKPbc**	**00 07 54.4**	**+1.6**
BFO	**Black Forest**	**148.73**	**284**	*e*PKPdf		**PKPdf**	**00 07 49.1**	**+0.1**
BFO				*e*PKPbc		**PKPbc**	**00 07 52.2**	**-0.7**
BFO				LR		LR		
	comp=Z,800nm,22.0s							
LLD	**Lille Linde**	**148.76**	**299**	*i* PKP2		**PKPbc**	**00 07 54.0**	**+1.4**
LLD	**Lille Linde**	**148.76**	**299**	*i* P		**PKPbc**	**00 07 54.0**	**+1.4**
CLZ	**Clausthal**	**148.79**	**292**	*e*PKPbc		**PKPbc**	**00 07 53.7**	**+0.8**
ACSO	**Alum Creek Sta**	**148.84**	**94**	*e*PKPdf		**PKPdf**	**00 07 48.6**	**-0.8**
ACSO				*e*PKPbc		**PKPbc**	**00 07 53.5**	**+0.1**
ACSO				LR		LR		
	comp=Z,1μm,20.0s							
CNNC	**Cliffs of the**	**148.90**	**106**	*e*PKPdf		**PKPdf**	**00 07 49.8**	**+0.2**
CNNC				*e*PKPbc		**PKiKP**	**00 07 54.4**	**-0.5**
CNNC				LR		LR		
	comp=Z,1μm,22.0s							
VWCC	**Virginia Weste**	**148.93**	**101**	*e*PKPdf		**PKPdf**	**00 07 50.3**	**+0.6**
VWCC				*e*PKPbc		**PKiKP**	**00 07 54.4**	**-0.6**
FCC	**Fort Churchill**	**149.08**	**55**	*e*PKPdf		**PKPdf**	**00 07 47.4**	**-1.7**
FCC				*e*PKPdf		**PKPbc**	**00 07 51.6**	**-1.7**
FCC				LR		LR		
	comp=Z,2μm,20.0s							
NRDL	**Niedersach Rie**	**149.15**	**293**	*e*PKPbc		**PKPbc**	**00 07 54.8**	**+1.2**
TNS	**Taunus Mts**	**149.38**	**288**	*e*PKPbc		**PKPbc**	**00 07 55.4**	**+1.0**
BSEG	**Bad Segeberg**	**149.45**	**295**	*e*PKPbc		**PKPbc**	**00 07 55.5**	**+1.1**
AAM	**Ann Arbor**	**149.55**	**90**	*e*PKP2		**PKPab**	**00 07 59.6**	**-0.5**
AAM				MLR		MLR		
	comp=Z,2μm,21.0s							
AAM	**Ann Arbor**	**149.55**	**90**	*e*PKPbc		**PKPab**	**00 07 59.6**	**-0.5**
AAM				LR		LR		
	comp=Z,2μm,21.0s							
NSS	**Namsos**	**149.98**	**317**	*e*P		**PKPbc**	**00 07 53.7**	**-1.6**
GLMI	**Grayling**	**150.21**	**85**	PFAKE			00 08 00.0	-2.8
GLMI				LR		LR		
	comp=Z,1μm,21.0s							
NB2	**NORSAR Subarra**	**150.22**	**310**	PKP		**PKPbc**	**00 07 54.6**	**-1.5**
	comp=Z,60nm,1.7s,baz=102,slow=4.1							
NB2	**NORSAR Subarra**	**150.22**	**310**	PKP		**PKPbc**	**00 07 54.6**	**-1.5**
	baz=102,slow=4.1							
NB200	**NORSAR Array S**	**150.22**	**310**	*e*PKPbc		**PKPbc**	**00 07 54.9**	**-1.3**
NOA	**NORSAR Array B**	**150.22**	**310**	PKPbc		**PKPbc**	**00 07 54.9**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=251,slow=2.9,SNR=11							
NOA	**NORSAR Array B**	**150.22**	**310**	PKIKP		**PKPbc**	**00 07 54.9**	**-1.3**
NOA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
IBBN	**Ibbenburen**	**150.47**	**291**	*e*PKPbc		**PKPbc**	**00 07 57.7**	**+0.8**
BUG	**Bochum--Univer**	**150.49**	**290**	*e*PKPbc		**PKPbc**	**00 07 57.6**	**+0.6**
JSRW	**J. Sargeant Re**	**150.50**	**102**	*e*PKPbc		**PKPbc**	**00 07 56.0**	**-1.4**
WLF	**Walferdange**	**150.56**	**286**	*e*PKPbc		**PKPbc**	**00 07 58.4**	**+1.2**
WLF	**Walferdange**	**150.56**	**286**	*e*PKIKP		**PKPdf**	**00 07 53.0**	**+1.2**
WLF				*e*			00 08 01.9	
WLF				MLR		MLR		
	comp=Z,1μm,20.0s							
WLF	**Walferdange**	**150.56**	**286**	*e*PKPdf		**PKPdf**	**00 07 53.0**	**+1.2**
WLF				*e*PKPbc		**PKPab**	**00 08 01.9**	**-2.2**
WLF				LR		LR		
	comp=Z,1μm,20.0s							
URVA	**University of**	**150.64**	**103**	*e*PKPbc		**PKPbc**	**00 07 57.5**	**-0.3**
MUD	**Monsted U'grnd**	**150.68**	**300**	*i* PKIKP		**PKPbc**	**00 07 59.5**	**+2.3**
MUD				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MUD	**Monsted U'grnd**	**150.68**	**300**	*i* P		**PKPbc**	**00 07 59.5**	**+2.3**
	comp=Z,10nm,0.8s							
KONO	**Kongsberg**	**150.91**	**307**	*e*PKIKP		**PKPdf**	**00 07 50.3**	**-1.7**
KONO	**Kongsberg**	**150.91**	**307**	*e*PKPdf		**PKPdf**	**00 07 50.3**	**-1.7**
KONO				*e*PKPab		**PKPab**	**00 08 06.6**	**+1.3**
WTSB	**Winterswijk**	**150.93**	**290**	*e*PKP		**PKPbc**	**00 07 56.6**	**-1.3**
MEM	**Membach**	**150.98**	**287**	*e*PKIKP		**PKPab**	**00 08 02.6**	**-3.2**
MEM				MLR		MLR		
	comp=Z,900nm,22.0s							
MEM	**Membach**	**150.98**	**287**	*e*PKPbc		**PKPab**	**00 08 02.6**	**-3.2**
MEM				LR		LR		
	comp=Z,900nm,22.0s							
CBN	**Corbin Frederi**	**151.13**	**102**	PFAKE			00 08 00.0	+1.1
CBN				LR		LR		
	comp=Z,1μm,20.0s							
ERPA	**Erie**	**151.76**	**93**	*e*PKPdf		**PKPdf**	**00 07 52.9**	**-1.1**
ERPA				*e*PKPbc		**PKiKP**	**00 08 00.7**	**+0.1**
ERPA				LR		LR		
	comp=Z,1μm,20.0s							
UCC	**Uccle**	**152.03**	**287**	PFAKE			00 08 00.0	-0.6
UCC				LR		LR		
	comp=Z,1μm,20.0s							
ESDC	**Sonseca Array**	**152.15**	**260**	PKPbc		**PKPbc**	**00 08 00.5**	**-0.8**
	comp=Z,12nm,1.0s,baz=98,slow=1.1,SNR=17							
SSPA	**Standing Stone**	**152.26**	**98**	*e*PKPdf		**PKPdf**	**00 07 55.5**	**+0.8**
SSPA				*e*PKPbc		**PKiKP**	**00 08 03.8**	**+2.1**
SSPA				LR		LR		
	comp=Z,900nm,21.0s							
PAB	**San Pablo**	**152.31**	**260**	*e*PKIKP		**PKPdf**	**00 07 54.5**	**-0.5**
PAB				MLR		MLR		
	comp=Z,2μm,20.0s							
PAB	**San Pablo**	**152.31**	**260**	*e*PKPdf		**PKPdf**	**00 07 54.5**	**-0.5**
PAB				*e*PKPbc		**PKiKP**	**00 08 03.7**	**+1.7**
PAB				LR		LR		
	comp=Z,2μm,20.0s							
MVL	**Millersville**	**152.85**	**100**	PFAKE			00 08 10.0	-3.9
MVL				LR		LR		
	comp=Z,1μm,22.0s							
PVAQ	**Vaqueiros**	**153.03**	**252**	*e*PKPdf		**PKPdf**	**00 07 55.6**	**-0.3**
PVAQ				*i* P		**PKPab**	**00 08 11.1**	**-3.7**
PVAQ	**Vaqueiros**	**153.03**	**252**	*e*LQ		LQ	00 54 32.7	
PVAQ				*e*LR		LR	01 01 09.6	
	comp=Z,2μm,18.0s							
PBDV	**Barranco-do-Ve**	**153.05**	**252**	*e*PKPab		**PKPab**	**00 08 18.2**	**+3.3**
PBAR	**Barrancos**	**153.12**	**254**	*i* P		**PKPbc**	**00 08 08.3**	**+4.9**
PCVE	**Castro Verde**	**153.37**	**252**	*e*PKPbc		**PKPbc**	**00 08 05.4**	**+1.4**
MMNY	**Mt. Morris Dam**	**153.40**	**94**	PFAKE			00 08 10.0	+6.1
MMNY				LR		LR		
	comp=Z,3μm,20.0s							
MESJ	**Messejana**	**153.62**	**252**	*e*PKPdf		**PKPdf**	**00 07 57.5**	**+0.7**
MESJ	**Messejana**	**153.62**	**252**	*e*PKPbc		**PKPbc**	**00 08 06.4**	**+1.9**
LUPA	**Lehigh Univers**	**153.81**	**100**	PFAKE			00 08 10.0	+5.1
LUPA				LR		LR		
	comp=Z,200nm,20.0s							
PESTR	**Estremoz**	**153.89**	**255**	*e*PKPbc		**PKPbc**	**00 08 07.0**	**+1.9**
PESTR				*i* P		PKiKP	00 08 11.4	+6.2
EVO	**Evora**	**153.94**	**254**	*e*PKPbc		**PKPbc**	**00 08 07.2**	**+2.0**
PNCL	**Nicolau / Gran**	**153.98**	**253**	*i* P		PKPab	00 08 24.3	+5.6
KSPA	**Keystone Colle**	**154.11**	**98**	PFAKE			00 08 10.0	+4.5
KSPA				LR		LR		
	comp=Z,1μm,19.0s							
PMRV	**Marv??o**	**154.12**	**256**	*e*PKPab		**PKPab**	**00 08 19.2**	**-0.2**
PMRV	**Marv??o**	**154.12**	**256**	*e*LQ		LQ	00 55 22.0	
PMRV				*e*LR		LR	01 02 00.5	
	comp=Z,912nm,20.0s							
BINY	**Binghamton**	**154.32**	**96**	PFAKE			00 08 10.0	+4.0
BINY				LR		LR		
	comp=Z,1μm,21.0s							
PMTG	**Montargil**	**154.40**	**255**	*e*PKPbc		**PKPbc**	**00 08 08.8**	**+2.6**
PMTG				*i* P		PKPab	00 08 25.9	+5.4
ODNJ	**Ogdensburg**	**154.56**	**100**	PFAKE			00 08 10.0	+3.5
ODNJ				LR		LR		
	comp=Z,1μm,21.0s							
MTE	**Manteigas**	**154.79**	**258**	*e*LQ		LQ	00 54 51.3	
MTE				*e*LR		LR	01 02 46.3	
	comp=Z,1μm,18.0s							
MTE	**Manteigas**	**154.79**	**258**	PFAKE			00 08 10.0	+2.9
MTE				LR		LR		
	comp=Z,1μm,19.0s							
MVO	**Moncorvo**	**154.92**	**260**	*e*PKPbc		**PKPbc**	**00 08 07.4**	**+0.1**
MVO				*i* P		PKPab	00 08 28.4	+5.6
MVO	**Moncorvo**	**154.92**	**260**	*e*LQ		LQ	00 54 41.9	
MVO				*e*LR		LR	01 02 34.8	
	comp=Z,841nm,18.0s							
PAL	**Palisades**	**154.95**	**101**	PFAKE			00 08 10.0	+2.7
PAL				LR		LR		
	comp=Z,1μm,20.0s							
PMOZ	**Porto Moniz, M**	**154.96**	**232**	*e*LR		LR	01 06 37.6	
	comp=Z,1μm,20.0s							
PBRG	**Braganca**	**155.10**	**261**	*e*PKPab		**PKPab**	**00 08 23.3**	**-0.2**
PBRG				*i* P		**PKPab**	**00 08 25.8**	**+2.3**
PVIS	**Viseu**	**155.19**	**258**	*i* P		PKPab	00 08 29.7	+5.7
PVRL	**Vila Real**	**155.41**	**259**	*e*PKPab		**PKPab**	**00 08 27.7**	**+2.8**
POLO	**Lamas de Olo**	**155.51**	**259**	*e*PKPab		**PKPab**	**00 08 27.8**	**+2.4**
POLO				*i* P		PKPab	00 08 30.9	+5.5
YLE	**Yale**	**155.73**	**101**	PFAKE			00 08 10.0	+10
YLE				LR		LR		
	comp=Z,2μm,22.0s							
PCAB	**Cabril**	**155.85**	**260**	*e*PKPab		**PKPab**	**00 08 29.2**	**+2.5**
PGAV	**Gavieira, Arco**	**156.14**	**260**	*i* P		**PKPab**	**00 08 30.0**	**+2.0**
PTN	**Potsdam (NY)**	**156.15**	**92**	PFAKE			00 08 10.0	+10
PTN				LR		LR		
	comp=Z,4μm,20.0s							
NCB	**Newcomb**	**156.34**	**94**	PFAKE			00 08 10.0	+10
NCB				LR		LR		
	comp=Z,2μm,20.0s							
ACCN	**Adirondack Com**	**156.40**	**96**	PFAKE			00 08 10.0	+10
ACCN				LR		LR		
	comp=Z,1μm,20.0s							
LONY	**Lake Ozonia**	**156.43**	**93**	PFAKE			00 08 10.0	+10
LONY				LR		LR		
	comp=Z,2μm,21.0s							
DYA	**Yadsworthy**	**156.97**	**283**	PFAKE			00 08 10.0	+9.1
DYA				LR		LR		
	comp=Z,1μm,20.0s							
SUMG	**Summit**	**158.44**	**358**	*i* PKP2		**PKPab**	**00 08 38.6**	**+1.1**
SUMG				pmax		pmax		
	comp=Z,220nm,2.6s							
SUMG				MLR		MLR		
	comp=Z,2μm,27.0s							
SUMG	**Summit**	**158.44**	**358**	PFAKE			00 08 10.0	+7.4
SUMG				LR		LR		
	comp=Z,2μm,22.0s							
SUMG	**Summit**	**158.44**	**358**	*i* P		**PKPab**	**00 08 38.6**	**+1.1**
	comp=Z,221nm,2.6s							
	comp=Z,2μm,27.0s							
DSB	**Dublin**	**159.04**	**289**	PFAKE			00 08 10.0	+6.7
DSB				LR		LR		
	comp=Z,1μm,18.0s							
WVL	**Waterville**	**159.49**	**97**	PFAKE			00 08 10.0	+5.9
WVL				LR		LR		
	comp=Z,2μm,22.0s							
SFJD	**Kangerlussuaq**	**163.30**	**14**	*i* PKP2		**PKPab**	**00 08 56.0**	**-2.2**
SFJD				pmax		pmax		
	comp=Z,26nm,1.3s							
SFJD				MLR		MLR		
	comp=Z,2μm,19.0s							
SFJD	**Kangerlussuaq**	**163.30**	**14**	*e*PKPdf		**PKPdf**	**00 08 08.2**	**+0.8**
SFJD				*e*PKPab		**PKPab**	**00 08 56.5**	**-1.8**
SFJD	**Kangerlussuaq**	**163.30**	**14**	*i* P		**PKPab**	**00 08 56.0**	**-2.2**
	comp=Z,26nm,1.3s							
	comp=Z,2μm,19.0s							

IDC 29 23:58:24.9±13.0, 38.17N×73.15E, h157km±71km, mb3.1/1, mb1 2.9/7, mb1mx2.7/47, mbtmp3.4/7, Error ellipse: s-maj=149.9km s-min=52.6km az=2.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.57**	**13**	P		Pn	23 59 33.0	+0.1
	0.3nm,0.3s,baz=151,slow=8.3,SNR=2.9							
MKAR	**Makanchi Array**	**10.93**	**35**	P		Pn	00 00 57.3	+0.3
	0.1nm,0.3s,baz=222,slow=13,SNR=3.8							
KURBB	**Kurchatov Arra**	**13.02**	**15**	P		Pn	00 01 22.2	-1.7
	0.0nm,0.3s,baz=204,slow=14,SNR=3.5							
BVAR	**Borovoye Array**	**14.98**	**354**	P		P	00 01 50.1	0.0
	0.1nm,0.3s,baz=173,slow=12,SNR=2.1							
AKTO	**Aktyubinsk**	**16.32**	**324**	P		Pn	00 02 04.3	-0.7
	0.1nm,0.3s,baz=130,slow=9.8,SNR=4.1							
ZALV	**Zalesovo Beam**

	13nm,0.9s,baz=152,slow=6.6,SNR=4.6							
H01W1	**Cape Leeuwin H**	**24.52 302**	T	T	00 57 16.3			
	baz=138,slow=75,SNR=318							
H01W2	**Cape Leeuwin H**	**24.52 302**	T	T	00 57 18.2			
	baz=138,slow=75,SNR=373							
H01W3	**Cape Leeuwin H**	**24.53 302**	T	T	00 57 17.5			
	baz=138,slow=75,SNR=326							
VNDA	**Vanda**	**27.77 170**	P	**P**	**00 32 31.3**	**+1.3**		
	3.2nm,0.9s,baz=324,slow=9.1,SNR=15							
ASAR	**Alice Springs**	**27.78 349**	P	**P**	**00 32 30.0**	**-0.6**		
	3.6nm,0.8s,baz=165,slow=10,SNR=16							
ASAR			PcP	**PcP**	**00 35 45.0**	**-1.9**		
	0.7nm,0.5s,baz=166,slow=2.3,SNR=5.4							
ASAR			LR	LR	00 42 20.3			
	comp=Z,433nm,18.7s,baz=337,slow=34							
AS31	**Alice Springs**	**27.78 349**	*e*P	**P**	**00 32 29.7**	**-0.9**		
URZ	**Urewera**	**29.26 79**	P	**P**	**00 32 44.0**	**+0.3**		
	11nm,0.8s,baz=271,slow=5.3,SNR=6.2							
WRA	**Warramunga Arr**	**31.40 350**	P	**P**	**00 33 02.1**	**-0.6**		
	4.6nm,0.8s,baz=178,slow=8.0,SNR=22							
WRAB	**Tennant Creek**	**31.41 350**	*e*P	**P**	**00 33 01.6**	**-1.2**		
	7.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**34.78 336**	*e*P	**P**	**00 33 30.9**	**-1.3**		
QSPA	**South Pole Qui**	**38.98 180**	P	**P**	**00 34 08.9**	**+1.2**		
	16nm,0.8s,baz=320,slow=1.7,SNR=57							
QSPA	**South Pole Qui**	**38.98 180**	*e*P	**P**	**00 34 08.7**	**+1.0**		
	32nm,1.1s							
MAW	**Mawson**	**39.41 216**	P	**P**	**00 34 11.1**	**+0.1**		
	3.0nm,0.8s,baz=105,slow=12,SNR=5.0							
MAW			LR	LR	00 48 58.3			
	comp=Z,611nm,18.6s,baz=80,slow=34							
LEM	**Lembang**	**51.52 318**	LR	LR	00 56 13.0			
	comp=Z,255nm,20.3s,baz=190,slow=34							
SNAA	**Sanae**	**54.65 194**	P	**P**	**00 36 09.9**	**-0.1**		
SNAA	**Sanae**	**54.65 194**	*e*P	**P**	**00 36 09.6**	**-0.3**		
	11nm,1.1s							
VNA2	**Neumayer--Watz**	**55.97 192**	P	P	00 36 10.7	-8.7		
	baz=59,slow=28							
VNA3	**Neumayer Olymp**	**55.97 192**	P	**P**	**00 36 16.9**	**-2.6**		
PPT	**Papeete**	**64.50 87**	LR	LR	01 01 13.0			
	comp=Z,106nm,18.5s,baz=205,slow=32							
H08S2	**Diego Garcia H**	**69.79 283**	T	T	01 53 47.3			
	baz=142,slow=77,SNR=57							
H08S1	**Diego Garcia H**	**69.80 283**	T	T	01 53 48.1			
	baz=142,slow=77,SNR=50							
H08S3	**Diego Garcia H**	**69.81 283**	T	T	01 53 48.7			
	baz=142,slow=77,SNR=60							
H08N1	**Diego Garcia H**	**71.72 283**	T	T	01 56 12.9			
	baz=338,slow=75,SNR=8.0							
H08N3	**Diego Garcia H**	**71.73 283**	T	T	01 56 14.8			
	baz=338,slow=75,SNR=12							
H08N2	**Diego Garcia H**	**71.74 283**	T	T	01 56 15.5			
	baz=338,slow=75,SNR=7.6							
CMAR	**Chiang Mai Arr**	**77.92 321**	P	**P**	**00 38 41.1**	**+1.5**		
	0.9nm,0.3s,baz=180,slow=5.6,SNR=11							
CMAR			LR	LR	01 13 28.5			
	comp=Z,115nm,19.0s,baz=140,slow=36							
CHTO	**Chiang Mai**	**78.24 321**	*e*P	**P**	**00 38 39.4**	**-2.0**		
	6.3nm,0.8s							
JOW	**Kunigami**	**78.27 350**	LR	LR	01 08 52.4			
	comp=Z,46nm,21.3s,baz=255,slow=32							
SHL	**Shillong**	**87.16 318**	*ex*	P	00 39 32.0	+4.1		
HHC	**Hu-ho-hao-te**	**94.83 339**	*e*P	**P**	**00 40 06.0**	**+2.9**		
HHC			pmax	pmax				
	comp=Z,20nm,1.1s							
HHC			pmax	pmax				
	comp=Z,140nm,6.7s							
TXAR	**Lajitas Array**	**128.75 90**	PKP	**PKPdf**	**00 45 49.2**	**+0.3**		
	comp=Z,0.4nm,0.7s,baz=199,slow=5.3,SNR=3.2							
TORD	**Torodi Ar. Bea**	**129.12 237**	PKP	**PKPdf**	**00 45 48.0**	**-2.0**		
	comp=Z,0.3nm,0.8s,baz=141,slow=0.5,SNR=2.8							
YKA	**Yellowknife Ar**	**140.12 44**	PKP	**PKPdf**	**00 46 07.6**	**-1.4**		
	comp=Z,0.5nm,0.8s,baz=250,slow=3.6,SNR=7.1							
FINES	**FINESS Array B**	**143.31 312**	PKP	**PKPdf**	**00 46 14.0**	**-0.7**		
	comp=Z,0.9nm,0.6s,baz=42,slow=3.1,SNR=4.6							
CONA	**Conrad Observa**	**144.11 287**	⇓*i*PKPdf	PKPbc	00 46 15.1	+0.3		
	comp=Z,2.1nm,1.0s							
GOGA	**Godfrey**	**144.15 103**	*e*PKPdf	**PKPdf**	**00 46 16.5**	**-0.6**		
AGMN	**Agassiz Nation**	**144.74 72**	*e*PKPdf	**PKPdf**	**00 46 18.3**	**+0.6**		
ARCES	**ARCESS Array B**	**144.83 326**	PKP	PKPbc	00 46 16.4	+0.1		
	comp=Z,4.2nm,0.7s,baz=60,slow=2.9,SNR=17							
MYKA	**Terra Mystica**	**144.86 284**	⇓*i*pPKPbc	**PKPdf**	**00 46 19.3**	**+1.3**		
	comp=Z,5.8nm,0.9s							
MOA	**Molln**	**145.03 287**	⇑*i*PKPdf	**PKPdf**	**00 46 18.9**	**+0.6**		
	comp=Z,3.9nm,0.8s							
SPMN	**Marine on St.**	**145.19 79**	*e*PKPdf	**PKPdf**	**00 46 18.6**	**+0.1**		
ABTA	**Abfaltersbach**	**145.60 284**	⇑*i*pPKPbc	**PKPab**	**00 46 21.3**	**+1.4**		
	comp=Z,14nm,1.5s							
JFWS	**Jewell Farm**	**145.61 84**	*e*PKPdf	**PKPbc**	**00 46 19.4**	**-0.2**		
GEC2	**GERESS Array S**	**145.80 288**	*e*PKPbc	**PKPab**	**00 46 21.2**	**+0.6**		
GERES	**GERESS Array B**	**145.80 288**	PKPbc	**PKPdf**	**00 46 19.6**	**0.0**		
	comp=Z,3.7nm,0.9s,baz=123,slow=4.9,SNR=28							
RJOB	**Jochberg**	**145.87 286**	*e*PKPbc	**PKPab**	**00 46 21.2**	**+0.3**		
WTTA	**Wattenberg**	**146.37 284**	⇓*i*pPKPdf	**PKPab**	**00 46 23.6**	**+0.7**		
	comp=Z,16nm,1.4s							
WET	**Wettzell**	**146.42 288**	*e*PKPbc	**PKPab**	**00 46 23.0**	**+0.1**		
WATA	**Walderalm**	**146.44 284**	⇑*i*pPKPdf	**PKPab**	**00 46 24.0**	**+0.8**		
	comp=Z,4.0nm,0.6s							
BRG	**Berggiesshubel**	**146.47 291**	*e*PKP	**PKPab**	**00 46 23.4**	**+0.4**		
	comp=Z,4.6nm,1.0s							
	comp=Z,766nm,16.8s							
	comp=N,731nm,23.1s							
	comp=E,675nm,23.1s							
MOTA	**Moosalm**	**146.73 284**	⇓*i*PKPab	**PKPab**	**00 46 23.8**	**-0.6**		
	comp=E,5.0nm,0.7s							
FETA	**Feichten**	**146.82 283**	⇑*i*pPKPdf	**PKPab**	**00 46 24.9**	**+0.2**		
	comp=E,6.1nm,0.8s							
RETA	**Reutte**	**147.00 284**	⇑*i*PKPab	**PKPab**	**00 46 25.3**	**0.0**		
	comp=E,4.7nm,0.7s							
CLL	**Collm**	**147.18 292**	*e*PKPbc	**PKPab**	**00 46 25.0**	**-0.7**		
CLL			*e*		00 46 35.0			
DAVA	**Damuels**	**147.46 283**	⇓*i*PKPab	**PKPab**	**00 46 27.0**	**-0.2**		
	comp=E,7.2nm,0.8s							
GRF	**Grafenberg Arr**	**147.63 288**	*e*PKPbc	**PKPab**	**00 46 27.0**	**-0.6**		
RES	**Resolute Bay**	**147.76 24**	*e*PKPbc	**PKPbc**	**00 46 24.6**	**-0.4**		
ACSO	**Alum Creek Sta**	**148.73 94**	*e*PKPdf	**PKPdf**	**00 46 22.8**	**-1.9**		
UBBA	**Unterbreizbach**	**148.77 289**	*e*PKPbc	**PKPbc**	**00 46 29.4**	**+1.3**		
CLZ	**Clausthal**	**148.90 292**	*e*PKPbc	**PKPab**	**00 46 30.6**	**-2.1**		
FCC	**Fort Churchill**	**149.00 55**	*e*PKPbc	**PKPbc**	**00 46 27.8**	**-0.7**		
NB2	**NORSAR Subarra**	**150.32 310**	PKP	**PKPbc**	**00 46 32.7**	**+0.9**		
	comp=Z,8.4nm,1.2s,baz=86,slow=3.8							
NOA	**NORSAR Array B**	**150.32 310**	PKPbc	**PKPbc**	**00 46 31.2**	**-0.5**		
	comp=Z,2.0nm,0.9s,baz=90,slow=3.8,SNR=4.0							
ESDC	**Sonseca Array**	**152.26 260**	PKPbc	**PKPbc**	**00 46 36.0**	**-1.0**		
	comp=Z,0.8nm,0.7s,baz=97,slow=1.0,SNR=7.6							

DJA 30 00:26:59.4±0.6,1°S±3°×12°0E±°,h32km±4km,M3.5/10, MLv3.5/10,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PCI	**Palu**	**0.11**	**127**	P	Pn	00 27 04.8	-0.2	
PCI				S	Sb	00 27 11.5	+2.5	
MPSI	**Mapaga**	**1.18**	**7**	P	Pn	00 27 19.6	-0.1	
TTSI	**Tana Toraja**	**2.19**	**178**	P	Pn	00 27 34.1	+0.5	
TTSI				S	Sn	00 28 02.0	+2.3	
MRSI	**Marisa**	**2.55**	**59**	P	Pn	00 27 39.5	+0.9	
LUWI	**Luwuk**	**3.03**	**94**	P	Pn	00 27 45.1	0.0	
SPSI	**Sidrap Palu**	**3.10**	**180**	P	Pn	00 27 45.5	-0.7	
BNSI	**Bone**	**3.56**	**174**	P	Pn	00 27 51.9	-0.5	
BKSI	**Bulukumba**	**4.47**	**175**	P	Pn	00 28 05.2	+0.3	

KRSC 30 00:29:54.2±1.2,54°10N×166°82E,h48km±22km,ML4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BKI	**Bering**	**1.21**	**336**	*e*P	Pn	00 30 15.3	+0.6	
BKI				*e*S	Sn	00 30 31.2	+1.2	
MKZ	**Mys Kozlova**	**3.02**	**281**	*e*P	Pn	00 30 43.2	+3.8	
MKZ				*e*S	Sn	00 31 19.0	+4.7	
KBTR	**Krutoberegovo**	**3.12**	**314**	P	Pn	00 30 44.1	+3.2	
KBTR				S	Sn	00 31 21.4	+4.5	
KZV	**Kizimen**	**3.93**	**288**	P	Pn	00 30 55.9	+3.7	
TUMR	**Tumrok**	**4.05**	**290**	P	Pn	00 30 57.0	+3.2	
SPN	**Mys Shipunski**	**4.17**	**259**	P	Pn	00 30 59.0	+3.7	
SPN				S	Sn	00 31 46.6	+3.8	
NLC	**Nalytchevo**	**4.55**	**261**	*e*P	Pn	00 31 04.2	+3.8	
NLC				*e*S	Sn	00 31 55.6	+3.7	
SDLR	**Sedlovina**	**4.79**	**263**	*e*P	Pn	00 31 08.0	+4.1	
SDLR				S	Sn	00 32 03.3	+5.1	
UGLR	**Uglovaya**	**4.84**	**263**	*e*P	Pn	00 31 08.8	+4.2	
SMAR	**Somma**	**4.84**	**263**	*e*P	Pn	00 31 08.7	+3.9	
KRER	**Koryakskii**	**4.86**	**264**	*e*P	Pn	00 31 09.5	+4.4	
KRER				S	Sn	00 32 05.0	+4.8	
AVH	**Avacha**	**4.88**	**263**	*e*P	Pn	00 31 09.5	+4.4	
AVH				S	Sn	00 32 04.4	+4.1	
KRX	**Arik**	**4.91**	**265**	*e*P	Pn	00 31 09.9	+4.3	
KRX				S	Sn	00 32 06.0	+4.8	
KOK	**Koryaka**	**4.93**	**264**	*e*P	Pn	00 31 10.2	+4.3	
RUS	**Russkaya**	**5.26**	**255**	*e*P	Pn	00 31 14.0	+3.8	
RUS				S	Sn	00 32 12.0	+2.6	
GNL	**Ganaly**	**5.27**	**269**	*e*P	Pn	00 31 15.5	+5.0	
MTVR	**Mutnovka**	**5.43**	**256**	*e*P	Pn	00 31 17.1	+4.4	
MTVR				*e*S	Sn	00 32 17.4	+3.4	
ASAK	**Asacha**	**5.63**	**256**	*e*P	Pn	00 31 19.7	+4.3	
ASAK				S	Sn	00 32 22.2	+3.5	

*ISCJB **30** 00:32:39.8±0.2,6°29S±0.03°×130°34E±0.05,h124km, mb4.2/21, Error ellipse: s-maj=6.5km s-min=3.6km az=165.3*
*IDC **30** 00:32:40.0±4.5,6°24S×130°21E,h104km±45km,mb3.9/14, mb1 4.1/17,mb1mx4.0/33,mbtmp4.3/17, Error ellipse: s-maj=31.3km s-min=14.8km az=80.0*
*NEIC **30** 00:32:40.2±0.8,6°30S×130°17E,h108km±8km,mb4.4/12, Error ellipse: s-maj=9.7km s-min=5.2km az=75.0*
*DJA **30** 00:32:45.7±1.3,6°S±13°×13°0E±°,h148km±10km,M4.9/10, mb5.0/5,mB5.5/5,MLv4.9/10,Mw(mB)4.9/5*

ISC 30 00:32:41.8±0.5,6°24S±0.05×130°42E±0.06,h124km,n68, σ1§37/70,mb4.2/21,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BNDI	**Bandanaira**	**1.78**	**343**	P	**Pn**	**00 33 14.4**	**+1.7**	
BNDI				S	**Sn**	**00 33 40.2**	**+3.8**	
AAI	**Ambon**	**3.36**	**319**	P	**Pn**	**00 33 35.6**	**+2.6**	
AAI				S	**Sn**	**00 34 12.2**	**-0.3**	
FAKI	**Fak Fak**	**3.77**	**29**	P	**Pn**	**00 33 39.1**	**+0.8**	
FAKI				S	**Sn**	**00 34 21.1**	**-1.1**	
FAKI	**Fak Fak**	**3.77**	**29**	*e*Pn	**Pn**	**00 33 38.5**	**+0.2**	
FAKI				*e*Sn	**Sn**	**00 34 21.0**	**-1.2**	
NLAI	**Namlea**	**4.45**	**312**	P	Pn	00 33 50.6	+3.2	
SWI	**Sorong**	**5.40**	**9**	P	**Pn**	**00 33 59.8**	**-0.5**	
	84nm,0.6s,8µm1.7nm							
SWI	**Sorong**	**5.40**	**9**	P	**Pn**	**00 33 59.7**	**-0.5**	
	baz=5.7,SNR=9.8							
SWI				S	**Sn**	**00 34 56.4**	**-5.0**	
	baz=5.7,SNR=14							
RKPI	**Ransiki, Papua**	**6.01**	**39**	P	**Pn**	**00 34 09.8**	**+1.4**	
	215nm,1.0s,15µm8.5nm							
RKPI				S	**Sn**	**00 35 14.5**	**-1.5**	
	215nm,1.0s,15µm8.5nm							
SANI	**Sanana**	**6.07**	**313**	P	**Pn**	**00 34 09.6**	**+0.5**	
	70nm,0.8s,1µm0.3nm							
LBMI	**Labuha**	**6.28**	**332**	P	**Pn**	**00 34 12.4**	**+0.4**	
	324nm,1.1s,4µm1.2nm							
LBMI				S	**Sn**	**00 35 20.2**	**-2.3**	
	324nm,1.1s,4µm1.2nm							
KDU	**Kakadu**	**6.72**	**163**	P	**Pn**	**00 34 16.2**	**-1.8**	
	baz=6.7,SNR=123							
KDU				S	**Sn**	**00 35 30.4**	**-2.8**	
	baz=6.7,SNR=14							
SOEI	**Soe**	**7.02**	**240**	P	**Pn**	**00 34 21.7**	**-0.5**	
TNTI	**Ternate**	**7.60**	**336**	P	**Pn**	**00 34 29.9**	**+0.1**	
TNTI	**Ternate**	**7.60**	**336**	*e*Pn	**Pn**	**00 34 29.6**	**-0.3**	
KNRA	**Kununurra**	**9.52**	**190**	P	Pn	00 34 53.3	-2.5	
	baz=9.3,SNR=78							
KNRA				S	Sn	00 36 31.1	-10	
	baz=9.3,SNR=17							
JAY	**Jayapura**	**10.90**	**71**	P	**Pn**	**00 35 16.1**	**+1.6**	
	2.3nm,0.3s,baz=227,slow=12,SNR=8.5							
FITZ	**Fitzroy Crossi**	**12.68**	**201**	*e*Pn	Pn	00 35 34.1	-3.7	
FITZ				*e*Sn	Sn	00 37 49.3	-8.3	
WRAB	**Tennant Creek**	**14.14**	**165**	*e*Pn	Pn	00 35 54.0	-2.7	
WRAB				*e*Sn	Sn	00 38 22.8	-10	
WRA	**Warramunga Arr**	**14.15**	**165**	P	Pn	00 35 54.6	-2.1	
	7.1nm,0.3s,baz=351,slow=13,SNR=27							
WRA				S	Sn	00 38 21.5	-12	
	12nm,0.3s,baz=342,slow=22,SNR=9.2							
COEN	**Coen**	**14.71**	**122**	*e*Pn	**Pn**	**00 36 05.1**	**+1.2**	
	45nm,0.8s							
COEN				*e*Sn	Sn	00 38 38.2	-8.5	
PMG	**Port Moresby**	**16.88**	**102**	*e*Pn	**Pn**	**00 36 34.3**	**+3.5**	
	42nm,0.9s							
AS31	**Alice Springs**	**17.65**	**169**	*e*P	**P**	**00 36 39.5**	**+0.3**	
ASAR	**Alice Springs**	**17.65**	**169**	P	**P**	**00 36 40.5**	**+1.3**	
	4.3nm,0.3s,baz=351,slow=9.0,SNR=69							
ASAR				S	S	00 39 47.4	-9.2	
	3.2nm,0.3s,baz=349,slow=27,SNR=11							
CTA	**Charters Tower**	**20.64**	**133**	P	**P**	**00 37 12.7**	**+1.0**	
	11nm,0.8s,baz=310,slow=12,SNR=11							
CTAO	**Charters Tower**	**20.64**	**133**	*e*P	**P**	**00 37 12.9**	**+1.2**	
	18nm,1.0s							
FORT	**Forrest**	**24.52**	**185**	*e*P	**P**	**00 37 49.4**	**-0.2**	
	22nm,0.6s							
STKA	**Stephens Creek**	**27.57**	**159**	P	**P**	**00 38 18.4**	**+1.2**	
	1.7nm,0.8s,baz=320,slow=8.0,SNR=3.1							
CMAR	**Chiang Mai Arr**	**39.57**	**309**	P	**P**	**00 39 59.7**	**-1.4**	
	0.9nm,0.4s,baz=137,slow=7.3,SNR=6.7							
MAT	**Matsushiro**	**43.18**	**9**	P	**P**	**00 40 29.4**	**-0.9**	
MJAR	**Matsushiro Arr**	**43.18**	**9**	P	**P**	**00 40 29.6**	**-0.7**	
	6.7nm,0.7s,baz=187,slow=9.7,SNR=13							
KSAR	**Wonju Array Be**	**43.52**	**357**	P	**P**	**00 40 33.8**	**+0.8**	
KSRS	**Korea Array**	**43.53**	**357**	P	**P**	**00 40 33.8**	**+0.7**	
	1.1nm,0.5s,baz=173,slow=9.6,SNR=4.0							
USRK	**Ussuriysk Ar.**	**50.22**	**1**	P	**P**	**00 41 25.5**	**+0.5**	
	2.8nm,0.6s,baz=191,slow=7.6,SNR=6.6							
ODAN	**Odare**	**53.08**	**310**	*e*P	**P**	**00 41 45.9**	**-1.0**	
	18nm,0.8s							
TAPN	**Taplejung**	**53.09**	**311**	*e*P	**P**	**00 41 46.1**	**-1.0**	
	14nm,0.6s							
RAMN	**Ramite**	**53.72**	**310**	*e*P	**P**	**00 41 51.0**	**-0.6**	
	36nm,0.7s							
JIRN	**Jiri**	**54.40**	**310**	*e*P	**P**	**00 41 55.5**	**-1.2**	
	17nm,0.8s							
GUN	**Gumba**	**54.77**	**311**	*e*P	**P**	**00 41 58.4**	**-0.9**	
	27nm,0.6s							
PKI	**Pulchoki**	**54.95**	**310**	*e*P	**P**	**00 41 59.3**	**-1.3**	
	11nm,0.7s							
PKIN	**Phulchoki**	**54.96**	**310**	*e*P	**P**	**00 41 59.1**	**-1.5**	
	4.1nm,0.4s							
KKN	**Kakani**	**55.16**	**310**	*e*P	**P**	**00 42 00.9**	**-1.1**	
	12nm,0.6s							
DMN	**Daman**	**55.20**	**310**	*e*P	**P**	**00 42 01.4**	**-0.9**	
	14nm,0.3s							
GKN	**Gorkha**	**55.76**	**310**	*e*P	**P**	**00 42 05.0**	**-1.2**	
	19nm,0.6s							
KOLN	**Koldanda**	**56.44**	**309**	*e*P	**P**	**00 42 10.2**	**-0.9**	
	19nm,0.8s							
PYUN	**Piuthan**	**57.07**	**309**	*e*P	**P**	**00 42 14.0**	**-1.6**	
	42nm,0.8s							
ULN	**Ulaanbaatar**	**57.67**	**342**	*e*P	**P**	**00 42 19.5**	**+0.1**	
	5.8nm,0.7s							
SONM	**Songino Array**	**57.85**	**341**	P	**P**	**00 42 21.2**	**+0.6**	
	2.1nm,0.7s,baz=159,slow=6.4,SNR=12							
PETK	**Petropavlovsk-**	**63.48**	**18**	P	**P**	**00 42 59.5**	**+1.0**	
	3.0nm,0.6s,baz=193,slow=6.1,SNR=3.7							
MK31	**Makanchi Array**	**67.82**	**326**	*e*P	**P**	**00 43 26.2**	**-0.3**	
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**00 43 26.6**	**+0.1**	
	6.0nm,0.6s,baz=150,slow=5.1,SNR=92							
KZA	**Kyzart**	**69.47**	**319**	P	**P**	**00 43 38.4**	**+1.1**	
	SNR=5.2							
TKM2	**Tokmak 2**	**69.66**	**320**	P	**P**	**00 43 38.3**	**+0.1**	
	SNR=7.0							
TKM2	**Tokmak 2**	**69.66**	**320**	*e*P	**P**	**00 43 38.2**	**-0.1**	
	4.8nm,0.8s							
UCH	**Uchtor**	**70.02**	**319**	P	**P**	**00 43 41.8**	**+1.0**	
	SNR=6.6							
AAK	**Ala-Archa**	**70.23**	**319**	*e*P	**P**	**00 43 41.6**	**0.0**	
	5.6nm,1.0s							
AML	**Almaty,shu**	**70.51**	**319**	P	**P**	**00 43 44.4**	**+0.7**	
	SNR=6.8							
USP	**Ospenovka**	**70.53**	**320**	P	**P**	**00 43 43.6**	**+0.3**	
	SNR=5.8							
EKS2	**Erkin-Say**	**70.71**	**319**	P	**P**	**00 43 45.6**	**+1.1**	
	SNR=6.2							
EKS2	**Erkin-Say**	**70.71**	**319**	*e*P	**P**	**00 43 44.5**	**0.0**	
	6.3nm,0.8s							
ZALV	**Zalesovo Beam**	**71.09**	**333**	P	**P**	**00 43 45.8**	**-0.5**	
	2.7nm,0.8s,baz=123,slow=5.3,SNR=13							
KURK	**Kurchatov**	**72.09**	**328**	*e*P	**P**	**00 43 51.7**	**-0.7**	
	6.0nm,1.1s							
KKAR	**Karatay Array**	**73.04**	**319**	*e*P	**P**	**00 43 58.0**	**-0.3**	
	4.7nm,1.0s							
VNDA	**Vanda**	**73.15**	**173**	P	**P**	**00 43 59.1**	**+0.8**	
	0.8nm,0.9s,baz=316,slow=4.2,SNR=4.4							
BVAR	**Borovoye Array**	**77.64**	**328**	P	**P**	**00 44 24.0**	**-0.4**	
	1.5nm,0.5s,baz=138,slow=7.6,SNR=14							
GEYT	**Alibeck**	**80.04**	**310**	P	**P**	**00 44 37.7**	**-0.2**	
	1.4nm,0.6s,baz=126,slow=2.0,SNR=3.7							
ABKAR	**Akbulak array**	**82.17**	**321**	*e*P	**P**	**00 44 48.0**	**-0.8**	
	1.2nm,0.7s							
AKTO	**Aktyubinsk**	**83.73**	**322**	P	**P**	**00 44 56.0**	**-0.9**	
	1.5nm,0.7s,baz=166,slow=3.5,SNR=7.8							
TORD	**Torodi Ar. Bea**	**129.06**	**282**	SKPbc	SKPab	00 54 42.5	-2.6	
	0.5nm,1.0s,baz=59,slow=3.2,SNR=4.6							

*MOS **30** 00:35:20.0±2.5,54°05N×166°84E,h40km,mb4.3/1, Error ellipse: s-maj=26.0km s-min=21.9km az=23.8*
*KRSC **30** 00:35:20.1±1.9,54°05N×166°84E,h40km±25km,ML4.2*

ISC 30 00:35:18.5±3.5,54°06N±0.08×167°4E±0°2,h35km,n28, σ1§85/50,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BKI	**Bering**	**1.41**	**325**	*e*P	**Pn**	**00 35 41.0**	**-0.6**	
BKI				*e*S	**Sn**	**00 35 57.7**	**-1.2**	
BKI	**Bering**	**1.41**	**325**	PN	**Pn**	**00 35 41.0**	**-0.6**	
BKI				S	**Sn**	**00 35 57.7**	**-1.2**	
MKZ	**Mys Kozlova**	**3.35**	**281**	*e*P	**Pn**	**00 36 09.4**	**+1.2**	
MKZ				*e*S	**Sn**	**00 36 45.5**	**-1.2**	
MKZ	**Mys Kozlova**	**3.35**	**281**	PN	**Pn**	**00 36 09.4**	**+1.2**	
MKZ				S	**Sn**	**00 36 45.5**	**-1.2**	
KBTR	**Krutoberegovo**	**3.39**	**311**	P	Pn	00 36 01.0	-7.8	
KBTR				S	**Sn**	**00 36 46.6**	**-1.1**	
KBTR	**Krutoberegovo**	**3.39**	**311**	PN	**Pn**	**00 36 10.0**	**+1.2**	
KBTR				S	**Sn**	**00 36 46.6**	**-1.1**	
KZV	**Kizimen**	**4.25**	**287**	*e*P	**Pn**	**00 36 22.2**	**+1.3**	
KZV				*e*S	**Sn**	**00 37 08.6**	**-0.7**	
TUMR	**Tumrok**	**4.37**	**289**	*e*P	**Pn**	**00 36 25.0**	**+2.5**	
TUMR				*e*S	**Sn**	**00 37 13.1**	**+0.9**	
KMNR	**Kamenistaya**	**4.46**	**295**	P	**Pn**	**00 36 26.5**	**+2.9**	
SPN	**Mys Shipunski**	**4.49**	**261**	*e*P	**Pn**	**00 36 25.2**	**+1.3**	
SPN				*e*S	**Sn**	**00 37 12.6**	**-2.3**	
SPN	**Mys Shipunski**	**4.49**	**261**	PN	**Pn**	**00 36 25.2**	**+1.3**	
SPN				S	**Sn**	**00 37 12.6**	**-2.3**	
KII	**Karymskiy**	**4.67**	**273**	*e*P	**Pn**	**00 36 28.3**	**+1.7**	
KII				*e*S	**Sn**	**00 37 16.7**	**-2.8**	
NLC	**Nalytchevo**	**4.87**	**263**	*e*P	**Pn**	**00 36 30.4**	**+1.3**	
NLC				*e*S	**Sn**	**00 37 21.6**	**-2.5**	
NLC	**Nalytchevo**	**4.87**	**263**	PN	**Pn**	**00 36 30.4**	**+1.3**	
NLC				S	**Sn**	**00 37 21.6**	**-2.5**	
SDLR	**Sedlovina**	**5.11**	**265**	*e*P	**Pn**	**00 36 34.3**	**+1.7**	
SDLR				*e*S	**Sn**	**00 37 29.1**	**-1.3**	
UGLR	**Uglovaya**	**5.16**	**264**	*e*P	**Pn**	**00 36 35.3**	**+2.0**	
UGLR				*e*S	**Sn**	**00 37 30.4**	**-1.2**	
SMAR	**Somma**	**5.16**	**265**	*e*P	**Pn**	**00 36 35.1**	**+1.7**	
KRER	**Koryakskii**	**5.18**	**265**	*e*P	**Pn**	**00 36 35.6**	**+1.9**	
KRER				*e*S	**Sn**	**00 37 30.5**	**-1.8**	
AVH	**Avacha**	**5.20**	**265**	*e*P	**Pn**	**00 36 35.9**	**+2.1**	
AVH				*e*S	**Sn**	**00 37 31.8**	**-0.7**	

ARKR				eS		Sn	00 37 58.8	+0.2
ARKR	**Arakani**	**1.09**	**127**	Pg		**Pg**	**00 37 41.0**	**-0.6**
ARKR				eSg		Sn	00 37 58.8	+0.2
ARNR	**Ardon**	**1.12**	**266**	⇓*i*PG		**Pg**	**00 37 42.3**	**+0.2**
ARNR				eS		Sn	00 37 58.9	-0.3
ARNR	**Ardon**	**1.12**	**266**	*i* Pg		**Pg**	**00 37 42.3**	**+0.2**
ARNR				eSg		Sn	00 37 58.9	-0.3
LACR	**Lac**	**1.20**	**249**	⇓*i*PG		**Pg**	**00 37 42.3**	**-1.3**
LACR				*i* S		**Sg**	**00 37 59.4**	**+0.3**
LACR	**Lac**	**1.20**	**249**	*i* Pg		**Pg**	**00 37 42.3**	**-1.3**
LACR				*i* Sg		**Sg**	**00 37 59.4**	**+0.3**
PRTR	**Priterechnaya**	**1.21**	**294**	⇓*i*PG		**Pb**	**00 37 44.1**	**-0.1**
PRTR				eS		Sn	00 38 02.4	+1.0
PRTR	**Priterechnaya**	**1.21**	**294**	*i* Pg		**Pn**	**00 37 44.1**	**-0.1**
PRTR				eSg		Sn	00 38 02.4	+1.0
MAK	**Makhachkala**	**1.28**	**103**	ePG		Pn	00 37 50.9	+5.5
MAK				*e*			00 38 05.6	
MAK	**Makhachkala**	**1.28**	**103**	ePg		Pn	00 37 50.9	+5.5
MAK				eSg		**Sn**	**00 38 05.6**	**+2.6**
STDR	**Stavd-Durt**	**1.28**	**275**	⇑*i*PG		**Pg**	**00 37 45.1**	**-0.1**
STDR				eS		**Sn**	**00 38 03.8**	**+0.7**
STDR	**Stavd-Durt**	**1.28**	**275**	*i* Pg		**Pg**	**00 37 45.1**	**-0.1**
STDR				eSg		**Sn**	**00 38 03.8**	**+0.7**
KORR	**Kora**	**1.29**	**262**	⇓*i*PG		**Pg**	**00 37 44.6**	**-0.8**
KORR				eS		**Sn**	**00 38 03.4**	**0.0**
KORR	**Kora**	**1.29**	**262**	*i* Pg		**Pg**	**00 37 44.6**	**-0.8**
KORR				eSg		**Sn**	**00 38 03.4**	**0.0**
LSNR	**Lesken**	**1.45**	**271**	⇓*i*PG		**Pn**	**00 37 47.5**	**-0.3**
LSNR				eS		**Sg**	**00 38 08.6**	**+1.4**
LSNR	**Lesken**	**1.45**	**271**	*i* Pg		**Pn**	**00 37 47.5**	**-0.3**
LSNR				eSg		**Sg**	**00 38 08.6**	**+1.4**
KMKR	**Kumukh**	**1.48**	**140**	ePG		**Sg**	**00 38 10.0**	**+1.8**
KMKR				eS		**Sg**		
KMKR				pmax		pmax		
	comp=Z,26nm,0.3s							
KMKR	**Kumukh**	**1.48**	**140**	ePg		**Pb**	**00 37 49.0**	**+0.1**
	comp=Z,26nm,0.3s							
KMKR				eSg		**Sg**	**00 38 10.0**	**+1.8**
ZEI	**Tsey**	**1.48**	**252**	ePG		**Pn**	**00 37 46.8**	**-1.6**
ZEI				*i* S		**Sn**	**00 38 07.0**	**-1.3**
ZEI	**Tsey**	**1.48**	**252**	ePg		**Pn**	**00 37 46.8**	**-1.6**
ZEI				*i* Sg		**Sn**	**00 38 07.0**	**-1.3**
DIGR	**Digorskoe uzhe**	**1.68**	**258**	ePN		**Pn**	**00 37 49.6**	**-1.5**
DIGR				*i* S		**Sn**	**00 38 12.8**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.68**	**258**	ePn		**Pn**	**00 37 49.6**	**-1.5**
DIGR				*i* Sg		**Sn**	**00 38 12.8**	**-0.3**
TBLG	**Delisi**	**1.73**	**208**	P		**Pn**	**00 37 51.8**	**+0.2**
TBLG				S		**Sb**	**00 38 15.6**	**+0.4**
TBLG	**Delisi**	**1.73**	**208**	P		**Pn**	**00 37 51.8**	**+0.2**
TBLG				S		**Sb**	**00 38 15.6**	**+0.4**
ZKTA	**Zakatala**	**1.74**	**160**	⇓P		**Pn**	**00 37 51.9**	**+0.2**
	SNR=6.9							
ZKTA				⇓S		**Sb**	**00 38 14.8**	**-0.6**
DGRG	**David-gareji**	**1.85**	**190**	P		**Pb**	**00 37 54.6**	**-0.5**
DGRG				S		**Sg**	**00 38 23.3**	**+3.4**
ONI	**Oni**	**1.86**	**249**	P		**Pn**	**00 37 53.5**	**+0.1**
ONI				S		**Sn**	**00 38 17.3**	**-0.2**
KZR	**Kazreti**	**2.15**	**209**	P		**Pn**	**00 37 58.8**	**+1.4**
KZR				S		**Sb**	**00 38 26.9**	**-0.4**
QZX	**Qazax, Azerbai**	**2.23**	**189**	⇓P		**Pb**	**00 38 00.1**	**-1.6**
	SNR=4.8							
QZX				⇑S		**Sg**	**00 38 31.1**	**-1.3**
SEKA	**Sheki**	**2.30**	**153**	⇑P		**Pn**	**00 38 00.2**	**+0.7**
	SNR=4.2							
SEKA				⇓S		**Sb**	**00 38 31.1**	**-0.6**
GANJ	**Ganja**	**2.65**	**172**	⇓P		**Pn**	**00 38 04.7**	**+0.5**
	SNR=5.2							
GANJ				⇑S		**Sn**	**00 38 39.1**	**+2.2**
GOF	**Gofitskoye**	**2.68**	**313**	*e*PN		**Pn**	**00 38 04.4**	**-0.2**
GOF				eS		**Sg**	**00 38 46.8**	**+0.2**
GOF	**Gofitskoye**	**2.68**	**313**	*e*Pn		**Pn**	**00 38 04.4**	**-0.2**
GOF				eSb		**Sg**	**00 38 46.8**	**+0.2**
QUBA	**Quba, Azerbaij**	**2.76**	**133**	⇑P		**Pn**	**00 38 03.9**	**-1.9**
QUBA				⇑S		**Sn**	**00 38 38.8**	**-0.8**
IML	**Ismayilli**	**3.04**	**144**	⇑P		**Pn**	**00 38 09.0**	**-0.7**
IML				⇑S		**Sn**	**00 38 46.0**	**-0.5**
PQL	**Pirkuli**	**3.23**	**139**	⇑P		**Pn**	**00 38 12.6**	**+0.2**
PQL				⇑S		**Sn**	**00 38 50.9**	**-0.5**
ATGJ	**Altiaghaj**	**3.35**	**135**	⇑P		**Pn**	**00 38 12.4**	**-1.5**
LRK	**Lerik**	**5.00**	**157**	⇓P		**Pn**	**00 38 36.7**	**0.0**
LRK				⇓S		**Sn**	**00 39 35.2**	**0.0**

NNC 30 00:50:13.5±2.7, 36°51N×68°81E, h21km±12km, mb3.8, mpv3.4, 13C-2D, Error ellipse: s-maj=21.0km s-min=17.1km az=124.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.29**	**0**	⇑Pn	Pn	00 50 51.4	+1.1
	0.8nm,0.1s						
DZET				⇑Pg	Pb	00 50 55.9	+1.5
	8.5nm,0.3s						
DZET				⇑Lg	Lg	00 51 26.7	
	90nm,0.5s						
SFK	**Sufi-Kurgan**	**5.09**	**45**	⇓Pn	Pn	00 51 28.1	-0.8
	0.8nm,0.2s						
SFK				⇑Pg	Pb	00 51 42.4	+0.3
	2.4nm,0.3s						
SFK				⇑Sn	Sn	00 52 29.9	+2.7
	4.3nm,0.2s						
MNAS	**Manas**	**6.62**	**24**	⇑Pn	Pn	00 51 49.1	-0.7
	1.1nm,0.3s						
MNAS				⇑Sn	Sn	00 53 05.1	+0.3
	2.5nm,0.7s						
MNAS				⇑Lg	Lg	00 53 42.6	
	5.6nm,0.8s						
KK31	**Karatay Array**	**6.72**	**11**	Pn	Pn	00 51 50.3	-0.6
	0.6nm,0.3s,baz=302,slow=35,SNR=17						
KK31				⇓Sn	Sn	00 53 07.2	+0.4
	0.4nm,0.2s,baz=196,slow=13,SNR=4.1						
KK31				⇑Lg	Lg	00 53 46.9	
	2.9nm,0.5s,baz=193,slow=29,SNR=6.9						
AAK	**Ala-Archa**	**7.53**	**34**	⇑Pn	Pn	00 52 01.6	-0.7
	2.2nm,0.5s						
AAK				⇑Sn	Sn	00 53 25.9	-1.2
	4.1nm,0.9s						
AAK				⇑Lg	Lg	00 54 09.7	
	6.0nm,1.1s						
TKM2	**Tokmak 2**	**8.27**	**37**	⇑Pn	Pn	00 52 10.7	-1.8
	1.0nm,0.4s						
AB31	**Akbulak array**	**14.29**	**336**	P	Pn	00 53 30.7	-3.9
	0.5nm,0.5s,baz=151,slow=13,SNR=11						

GUC 30 00:51:42.1±0.7, 34°82S×72°33W, h23km±9km, ML3.5, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.81**	**135**	⇓*i*P	Pb	00 51 57.1	-0.4
TALC				*i* S	Sb	00 52 07.7	-0.2
NICH	**Los Niches**	**0.92**	**102**	⇑*i*P	Pb	00 51 59.3	-0.1
NICH				*i* S	Sn	00 52 12.1	-0.1
LNCH	**Linares**	**1.18**	**150**	⇑*i*P	Pn	00 52 03.1	-0.2
LNCH				*i* S	Sn	00 52 18.7	0.0
COCH	**Cobquecura**	**1.36**	**196**	⇓*i*P	Pn	00 52 05.4	-0.3
RCDM	**Rinconada Majo**	**1.83**	**44**	⇑*i*P	Pn	00 52 12.8	+0.5
CLCH	**Cerro Calan**	**2.06**	**47**	*e*P	Pn	00 52 17.0	+1.6
CLCH				AML	AML	00 52 54.5	
	comp=E,448nm,0.5s						
PEL	**Peldehue**	**2.16**	**40**	⇓*i*P	Pb	00 52 19.1	-1.5
PEL				*i* S	Sb	00 52 46.2	-0.9
PEL				AML	AML	00 52 53.1	
	comp=E,618nm,0.5s						

*ISCJB **30** 00:54:20.7±0.3, 32°.70N×115°.67W±0°.02, h24km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=28.9*
*NEIC **30** 00:54:21.5, 32°.69N×115°.68W, h17km, MD3.3(MEX), ML3.0(PAS), After PAS.*
*ECX **30** 00:54:22.5±0.5, 32°.68N×115°.72W, h4km±1km, MD2.9, ML3.1*
*MEX **30** 00:54:23.0±0.5, 32°.70N×115°.62W, h15km, MD3.5*
ISC 30 00:54:20.4±1.0, 32°.68N±0°.02×115°.66W±0°.02, h21km±1km, n36, σ0°59/58, 12C-14D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.06**	**237**	⇓*i*P	**Pb**	**00 54 23.4**	**-0.8**
COK	**Cook Ranch**	**0.17**	**342**	⇑*i*P	**Pb**	**00 54 26.0**	**-0.2**
YUH	**Yuha Desert**	**0.22**	**261**	⇑*i*P	**Pb**	**00 54 25.7**	**-0.6**
SWSC	**Sam W. Stewart**	**0.28**	**336**	⇑P	**Pb**	**00 54 27.3**	**+0.5**
	baz=0.3,SNR=32						
SWSC				⇑S	**Sb**	**00 54 31.4**	**+0.2**
	baz=0.3						
CRR	**Carrizo Plain**	**0.33**	**308**	⇑*i*P	**Pb**	**00 54 28.0**	**+0.6**
RMX	**La Rumorosa**	**0.36**	**257**	*e*P	**Pb**	**00 54 28.1**	**+0.1**
RMX				*e*S	**Sb**	**00 54 33.1**	**-0.2**
IBP	**Imperial Bould**	**0.36**	**267**	⇓P	**Pb**	**00 54 28.3**	**+0.2**
	baz=0.3,SNR=44						
IBP				⇓S	**Sb**	**00 54 33.2**	**-0.1**
	baz=0.3						
CPBX	**Cerro Prieto**	**0.40**	**131**	*e*P	Pb	00 54 22.2	-6.4
CPBX				*e*S	Sb	00 54 28.3	-6.0
CPBX				AML	AML	00 54 30.6	
	comp=N,7μm,0.3s						
CPBX				*e*		00 54 30.6	
CPBX	**Cerro Prieto**	**0.40**	**131**	*e*P	**Pn**	**00 54 31.0**	**+0.1**
CPBX				*e*S	**Sn**	**00 54 36.6**	**-1.3**
MBIG	**Mexicali**	**0.48**	**125**	*e*P	**Pn**	**00 54 31.4**	**-0.6**
MBIG				*e*S	**Sb**	**00 54 37.8**	**+1.2**
MONP	**Monument Peak,**	**0.67**	**288**	⇑P	**Pb**	**00 54 34.0**	**+0.5**
	baz=0.7,SNR=62						
MONP				⇓S	**Sb**	**00 54 43.0**	**+0.4**
	baz=0.7						
RDX	**Rancho Dawling**	**0.79**	**198**	*e*P	**Pn**	**00 54 36.1**	**-0.4**
RDX				*e*S	**Sn**	**00 54 46.9**	**-0.9**
RDX				⇓*e*		00 54 48.3	
	comp=E,436nm,0.6s						
GLA	**Glamis**	**0.79**	**62**	⇑P	**Pb**	**00 54 36.0**	**+0.5**
	baz=0.8						
GLA				⇑S	**Sb**	**00 54 46.6**	**+0.8**
	baz=0.8						
GLA	**Glamis**	**0.79**	**62**	*e*Pb	**Pb**	**00 54 35.7**	**+0.2**
GLA				*e*Sb	**Sn**	**00 54 46.7**	**-0.9**
BAR	**Barrett**	**0.85**	**270**	*e*P	**Pn**	**00 54 37.0**	**-0.2**
BAR	**Barrett**	**0.85**	**270**	*e*Pb	**Pb**	**00 54 36.7**	**+0.2**
BAR				*e*Sb	**Sb**	**00 54 47.4**	**0.0**
CBX	**Cerro Bola**	**0.92**	**247**	*e*P	**Pn**	**00 54 38.1**	**-0.1**
CBX				*e*S	**Sb**	**00 54 49.8**	**+0.1**
CBX	**Cerro Bola**	**0.92**	**247**	*e*P	**Pn**	**00 54 38.2**	**-0.1**
CBX				*e*S	**Sb**	**00 54 50.0**	**+0.4**
CBX				⇓*e*		00 54 52.1	
CBX				AML	AML	00 54 52.1	
	comp=N,496nm,0.5s						
CBX	**Cerro Bola**	**0.92**	**247**	*e*P	**Pn**	**00 54 38.1**	**-0.1**
CBX				*e*S	**Sb**	**00 54 49.8**	**+0.1**
BC3	**Big Chuckawall**	**0.98**	**10**	⇑S	**Sb**	**00 54 51.6**	**+0.3**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.14**	**324**	⇓P	**Pn**	**00 54 41.0**	**-0.2**
	baz=1.2						
PFO				⇓S	**Sb**	**00 54 55.7**	**-0.1**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.14**	**324**	*e*Pb	**Pn**	**00 54 40.8**	**-0.4**
PFO				*e*Sb	**Sb**	**00 54 54.9**	**-0.9**
109C	**Camp Elliot, M**	**1.23**	**280**	⇓P	**Pn**	**00 54 42.6**	**+0.3**
	baz=1.2,SNR=17						
109C				⇑S	**Sn**	**00 54 59.0**	**+0.6**
	baz=1.2						
ZAX	**El Zacaton**	**1.28**	**204**	*e*P	**Pb**	**00 54 44.7**	**+0.9**
ECNX	**Esteban Cantu**	**1.29**	**218**	*e*P	**Pb**	**00 54 44.5**	**+0.4**
ECNX				*e*S	**Sb**	**00 55 01.5**	**+1.2**
PBX	**Punta Banda**	**1.30**	**224**	*i* P	**Pb**	**00 54 44.4**	**+0.3**
ECBX	**El Chinero**	**1.31**	**157**	*e*P	**Pb**	**00 54 44.2**	**-0.1**
ECBX				*e*S	**Sb**	**00 55 02.1**	**+1.4**
ECBX				AML	AML	00 55 03.2	
	comp=N,350nm,0.4s						
ECBX				⇓*e*		00 55 03.2	
ECBX				*e*		00 55 04.1	
ECBX				AML	AML	00 55 04.1	
	comp=E,272nm,0.3s						
BELC	**Belle Mtn. Jos**	**1.34**	**348**	⇓S	**Sn**	**00 55 00.8**	**-0.5**
	baz=1.4						
MURC	**Murrieta**	**1.58**	**306**	⇑P	**Pn**	**00 54 47.4**	**+0.2**
	baz=1.6						
MURC				⇓S	**Sn**	**00 55 07.2**	**+0.1**
	baz=1.6						
113A	**Mohawk Valley,**	**1.60**	**86**	⇓P	**Pn**	**00 54 47.7**	**+0.3**
	baz=1.6						
113A				⇑S	**Sn**	**00 55 07.3**	**-0.2**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.64**	**174**	*e*P	**Pn**	**00 54 48.8**	**+0.5**
SPIG				*e*S	**Sn**	**00 55 08.3**	**-0.7**
SPIG	**San Pedro Mart**	**1.64**	**174**	*e*P	**Pn**	**00 54 48.8**	**+0.5**
SPIG				*e*S	**Sn**	**00 55 08.3**	**-0.7**
SPX	**San Pedro Mart**	**1.64**	**174**	*e*P	**Pb**	**00 54 49.5**	**-0.6**
SPX	**San Pedro Mart**	**1.64**	**174**	*e*P	**Pn**	**00 54 48.5**	**+0.2**
SPX				*e*S	**Sn**	**00 55 08.3**	**-0.7**
214A	**Organ Pipe Nat**	**2.52**	**106**	⇓S	**Sn**	**00 55 29.2**	**-1.1**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.52**	**106**	*e*Pn	**Pn**	**00 55 00.4**	**+0.2**

*ISCJB **30** 00:55:18.9±0.6, 50°.97S±0°.07×139°.8E±0°.4, h10km, mb4.2/8, MS3.9/4, Error ellipse: s-maj=36.6km s-min=9.4km az=0.6*
*IDC **30** 00:55:18.9±0.9, 51°.04S×140°.00E, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.2/21, mbtmp4.2/6, ML4.0/1, MS4.0/4, Ms1 4.0/4, ms1mx3.7/16, Error ellipse: s-maj=71.8km s-min=18.1km az=84.0*
*NEIC **30** 00:55:20.6±0.5, 50°.98S×139°.93E, h10km, mb4.4/5, Error ellipse: s-maj=26.4km s-min=9.7km az=89.0*
ISC 30 00:55:20.6±0.7, 50°.98S±0°.09×139°.9E±0°.3, h10km, n32, σ0°86/25, mb4.3/8, MS3.9/4, 3C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.13**	**4**	P	**Pn**	**00 59 45.6**	**+1.1**
	0.2nm,0.3s,baz=158,slow=1.1,SNR=10						
STKA	**Stephens Creek**	**19.13**	**4**	*e*P	**P**	**00 59 43.4**	**-0.3**
	2.3nm,0.8s						
RPZ	**Rata Peaks**	**22.20**	**83**	LR	LR	01 06 59.0	
	comp=Z,597nm,19.4s,baz=251,slow=32						
ARMA	**Armidale**	**22.33**	**28**	*e*P	**P**	**01 00 18.4**	**0.0**
	19nm,1.1s						
H01W1	**Cape Leeuwin H**	**24.59**	**301**	T	T	01 25 52.4	
	baz=138,slow=75,SNR=113						
H01W2	**Cape Leeuwin H**	**24.60**	**301**	T	T	01 25 53.5	
	baz=138,slow=75,SNR=118						
H01W3	**Cape Leeuwin H**	**24.61**	**301**	T	T	01 25 53.5	
	baz=138,slow=75,SNR=125						
ASAR	**Alice Springs**	**27.66**	**348**	P	**P**	**01 01 08.8**	**+0.3**
	1.8nm,0.8s,baz=173,slow=11,SNR=7.2						
ASAR				PcP	**PcP**	**01 04 24.1**	**-1.5**
	0.7nm,0.6s,baz=167,slow=3.0,SNR=5.8						
ASAR				LR	LR	01 12 13.5	
	comp=Z,190nm,18.1s,baz=156,slow=37						
VNDA	**Vanda**	**27.89**	**170**	P	**P**	**01 01 10.3**	**+0.3**
	3.2nm,1.1s,baz=334,slow=9.0,SNR=4.3						
URZ	**Urewera**	**29.05**	**79**	LR	LR	01 11 18.3	
	comp=Z,182nm,19.1s,baz=220,slow=33						
WRA	**Warramunga Arr**	**31.29**	**350**	P	**P**	**01 01 41.0**	**+0.3**
	2.8nm,0.8s,baz=175,slow=7.8,SNR=14						
WRA				PcP	**PcP**	**01 04 33.4**	**-1.4**
	0.8nm,0.8s,baz=184,slow=2.7,SNR=3.7						
WRAB	**Tennant Creek**	**31.29**	**350**	*e*P	**P**	**01 01 40.2**	**-0.5**
	7.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**34.72**	**336**	*e*P	**P**	**01 02 09.7**	**-0.9**
	3.9nm,0.7s						
QSPA	**South Pole Qui**	**39.13**	**180**	P	**P**	**01 02 47.4**	**-0.6**
	5.3nm,0.7s,baz=329,slow=1.9,SNR=21						
QSPA	**South Pole Qui**	**39.13**	**180**	*e*P	**P**	**01 02 48.3**	**+0.3**
	7.0nm,0.8s						
SNAA	**Sanae**	**54.84**	**194**	P	**P**	**01 04 50.9**	**+0.6**
VNA2	**Neumayer--Watz**	**56.16**	**192**	P	**P**	**01 04 59.2**	**-0.5**
	baz=163,slow=7.2						
VNA3	**Neumayer Olymp**	**56.16**	**191**	P	**P**	**01 05 00.1**	**+0.4**
VNA1	**Neumayer--Stat**	**56.52**	**192**	P	**P**	**01 05 04.0**	**+1.7**
PPT	**Papeete**	**64.31**	**86**	LR	LR	01 28 33.2	
	comp=Z,98nm,18.5s,baz=286,slow=31						
H08S2	**Diego Garcia H**	**69.93**	**283**	T	T	02 22 23.2	
	baz=142,slow=77,SNR=7.8						
H08S1	**Diego Garcia H**	**69.95**	**283**	T	T	02 22 22.6	
	baz=142,slow=77,SNR=6.9						
H08S3	**Diego Garcia H**	**69.95**	**283**	T	T	02 22 21.3	
	baz=142,slow=77,SNR=11						
CMAR	**Chiang Mai Arr**	**77.92**	**320**	P	**P**	**01 07 20.3**	**+1.7**
	1.1nm,0.4s,baz=178,slow=6.9,SNR=4.4						
ARCES	**ARCESS Array B**	**144.81**	**326**	PKP	**PKPdf**	**01 14 55.9**	**-0.3**
	2.8nm,0.7s,baz=94,slow=3.6,SNR=13						
ABTA	**Abfaltersbach**	**145.75**	**284**	⇑*i*PKPbc	**PKPab**	**01 14 59.5**	**0.0**
	12nm,1.7s						
GERES	**GERESS Array B**	**145.93**	**288**	PKPbc	**PKPbc**	**01 14 59.3**	**-0.2**
	1.5nm,0.9s,baz=142,slow=4.8,SNR=9.3						
MOTA	**Moosalm**	**146.87**	**284**	⇑*i*PKPbc	**PKPab**	**01 15 03.3**	**-0.5**
	6.2nm,0.9s						
FETA	**Feichten**	**146.96**	**283**	⇑*i*PKPbc	**PKPbc**	**01 15 02.3**	**-0.4**
	6.6nm,1.0s						
RES	**Resolute Bay**	**147.55**	**24**	PKPbc	**PKPbc**	**01 15 03.0**	**-0.3**
	2.0nm,0.8s,baz=261,slow=3.6,SNR=7.0						
NOA	**NORSAR Array B**	**150.37**	**310**	PKPbc	**PKPbc**	**01 15 11.6**	**+0.7**
	1.6nm,0.9s,baz=88,slow=3.9,SNR=3.4						
ESDC	**Sonseca Array**	**152.47**	**260**	PKPbc	**PKPbc**	**01 15 15.3**	**-1.1**
	0.3nm,0.5s,baz=124,slow=1.4,SNR=5.7						

*ATH **30** 00:57:05.2, 40°.19N×21°.65E, h5km±1km, MD3.0/8*
*THE **30** 00:57:05.0, 40°.16N×21°.68E, h2km±27km, ML1.7/3, Error ellipse: s-maj=27.4km s-min=0.5km az=0.0*
CSEM 30 00:57:04.9±0.1, 40°.18N×21°.66E, h2km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.2km az=86.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.15**	**33**	P	Pg	00 57 08.1	0.0
KZN				S	Sg	00 57 10.3	+0.1
KZN	**Kozani**	**0.15**	**33**	*e*PG	Pg	00 57 08.1	0.0
KZN				*e*SG	Sg	00 57 11.2	+1.0
KZN	**Kozani**	**0.15**	**33**	P	Pg	00 57 08.1	0.0
KZN				S	Sg	00 57 10.3	+0.1
KZN				*e*Sg	Sg	00 57 11.2	+1.0
NEST	**Nestorio**	**0.52**	**297**	P	Pg	00 57 15.1	0.0
NEST				S	Sb	00 57 23.6	-1.5
NEST	**Nestorio**	**0.52**	**297**	*e*PB	Pg	00 57 15.3	+0.2
NEST	**Nestorio**	**0.52**	**297**	*e*Pb	Pg	00 57 15.3	+0.2
NEST				S	Sb	00 57 23.6	-1.5
LIT	**Litokhoron**	**0.64**	**97**	P	Pg	00 57 17.0	-0.3
LIT				S	Sg	00 57 26.3	+0.7
LIT	**Litokhoron**	**0.64**	**97**	*e*PB	Pg	00 57 17.1	-0.2
LIT	**Litokhoron**	**0.64**	**97**	*e*Pb	Pg	00 57 17.1	-0.2
LIT				S	Sg	00 57 26.3	+0.7
FNA	**Florina**	**0.64**	**340**	P	Pg	00 57 17.7	-0.3
FNA	**Florina**	**0.64**	**340**	*e*PB	Pg	00 57 17.3	-0.1
FNA				*e*SB	Sg	00 57 26.4	+0.6
FNA	**Florina**	**0.64**	**340**	*e*Pb	Pg	00 57 17.3	-0.1
FNA				*e*Sb	Sg	00 57 26.4	+0.6
THL	**Klokotos Trika**	**0.67**	**156**	P	Pg	00 57 17.0	-0.8
THL				S	Sg	00 57 26.3	-0.1
THL	**Klokotos Trika**	**0.67**	**156**	P	Pg	00 57 17.0	-0.8
THL				S	Sg	00 57 26.3	-0.1
JAN	**Janina**	**0.81**	**230**	*e*PB	Pb	00 57 21.4	-0.4
JAN	**Janina**	**0.81**	**230**	*e*Pb	Pb	00 57 21.4	-0.4
DSL	**Palaion Diasel**	**1.13**	**203**	*e*PB	Pn	00 57 27.9	+0.1
DSL				*e*SB	Sn	00 57 43.4	-0.5
DSL	**Palaion Diasel**	**1.13**	**203**	*e*Pb	Pn	00 57 27.9	+0.1
DSL				*e*Sb	Sn	00 57 43.4	-0.5
HORT	**Hortiatis**	**1.18**	**69**	*e*PB	Pg	00 57 27.7	+0.1
HORT				*e*SB	Sb	00 57 43.8	-0.1
HORT	**Hortiatis**	**1.18**	**69**	*e*Pb	Pg	00 57 27.7	+0.1
HORT				*e*Sb	Sb	00 57 43.8	-0.1
IGT	**Igoumenitsa**	**1.21**	**238**	*e*PB	Pg	00 57 28.2	+0.1
IGT				*e*SB	Sb	00 57 44.8	+0.2
IGT	**Igoumenitsa**	**1.21**	**238**	*e*Pb	Pg	00 57 28.2	+0.1
IGT				*e*Sb	Sb	00 57 44.8	+0.2
MAKR	**Makrakomi, Fth**	**1.22**	**162**	P	Pg	00 57 27.9	-0.4
MAKR				S	Sb	00 57 45.2	+0.2
MAKR	**Makrakomi, Fth**	**1.22**	**162**	*e*PG	Pg	00 57 28.2	-0.1
MAKR				*e*SB	Sn	00 57 45.8	-0.3
MAKR	**Makrakomi, Fth**	**1.22**	**162**	P	Pg	00 57 27.9	-0.4
MAKR	**Makrakomi, Fth**	**1.22**	**162**	*e*Pg	Pg	00 57 28.2	-0.1
MAKR				S	Sb	00 57 45.2	+0.2
MAKR				*e*Sb	Sn	00 57 45.8	-0.3
EVR	**Evrytania**	**1.26**	**175**	P	Pg	00 57 28.3	-1.0
EVR				S	Sb	00 57 46.2	-0.2
EVR	**Evrytania**	**1.26**	**175**	*e*PG	Pg	00 57 29.2	-0.1
EVR				*e*SB	Sb	00 57 46.8	+0.4
EVR	**Evrytania**	**1.26**	**175**	P	Pg	00 57 28.3	-1.0
EVR	**Evrytania**	**1.26**	**175**	*e*Pg	Pg	00 57 29.2	-0.1
EVR				S	Sb	00 57 46.2	-0.2
EVR				*e*Sb	Sn	00 57 46.8	-0.6
AGG	**Agios Georgios**	**1.27**	**156**	P	Pg	00 57 28.5	-0.7
AGG	**Agios Georgios**	**1.27**	**156**	*e*PG	Pg	00 57 28.8	-0.4
AGG				*e*SB	Sn	00 57 47.6	+0.3
AGG	**Agios Georgios**	**1.27**	**156**	P	Pg	00 57 28.5	-0.7
AGG	**Agios Georgios**	**1.27**	**156**	*e*Pg	Pg	00 57

	0.9nm,0.9s,baz=182,slow=7.8,SNR=6.8								
SONM					PcP	PcP	01 07 54.6	-1.3	
	0.5nm,0.6s,baz=176,slow=3.2,SNR=3.2								
MKAR	**Makanchi Array**	56.57	341	P	P		01 07 07.9	-2.3	
	1.0nm,0.9s,baz=185,slow=7.2,SNR=9.6								
GEYT	**Alibeck**	62.09	319	P	P		01 07 47.5	-1.1	
	5.6nm,0.8s,baz=145,slow=5.4,SNR=16								
ZALV	**Zalesovo Beam**	62.34	346	P	P		01 07 47.4	-2.5	
	1.3nm,0.8s,baz=145,slow=3.6,SNR=6.5								
KBZ	**Khabaz**	74.97	318	P	P		01 09 08.3	-0.6	
	4.7nm,0.9s,baz=53,slow=20,SNR=14								
LSZ	**Lusaka**	76.09	256	P	P		01 09 17.8	+1.7	
	1.2nm,0.6s,baz=78,slow=6.4,SNR=3.6								
VNDA	**Vanda**	77.08	169	P	P		01 09 21.2	+0.8	
	1.4nm,0.9s,baz=343,slow=19,SNR=9.3								
BRTR	**Keskin Array B**	80.09	312	P	P		01 09 36.7	-1.1	
	2.0nm,0.7s,baz=132,slow=7.4,SNR=15								
TIRR	**Tirgusor**	85.07	316	⇓*iP*	P		01 10 03.6	+0.2	
TLB	**Topalu**	85.36	316	⇓*iP*	P		01 10 05.1	+0.2	
CFR	**Carcaliu**	85.43	316	⇓*iP*	P		01 10 04.2	-1.0	
AKASG	**Malin Array Be**	86.05	322	P	P		01 10 06.8	-1.4	
	0.5nm,0.4s,baz=82,slow=4.8,SNR=9.1								
VRI	**Vrincioaia**	86.55	317	⇓*iP*	P		01 10 12.1	+1.3	
PLOR	**Plostina**	86.60	317	⇓*iP*	P		01 10 11.7	+0.6	
TESR	**Tescani**	86.74	317	⇓*iP*	P		01 10 12.4	+0.7	
PRAR	**RASCA**	87.20	318	⇑*iP*	P		01 10 13.9	-0.1	
VOIR		87.61	316	⇓*iP*	P		01 10 15.1	-1.0	
ARR	**Arges**	87.89	316	⇓*iP*	P		01 10 17.7	+0.3	
BURAR	**Bucovina Array**	87.92	318	⇑*iP*	P		01 10 18.0	+0.5	
VTS	**Vitosha**	88.40	313	⇓*iP*	P		01 10 20.4	+0.4	
BZS	**Buzias**	90.02	316	⇓*iP*	P		01 10 28.5	+1.2	
FINES	**FINESS Array B**	90.28	332	P	P		01 10 27.4	-0.8	
	1.0nm,0.7s,baz=141,slow=7.3,SNR=4.2								
PKSM	**Moragy**	92.16	316	⇓*iP*	P		01 10 37.1	-0.1	
TXAR	**Lajitas Array**	144.18	46	PKP	PKPbc		01 17 02.5	+0.2	
	0.3nm,0.7s,baz=236,slow=2.9,SNR=3.6								

*MOS **30** 01:15:39.7±1.1,10°.29N×126°.17E,h33km,mb4.7/23,Error ellipse: s-maj=15.9km s-min=6.9km az=113.4*
*NEIC **30** 01:15:40.2±2.5,10°.26N×126°.12E,h25km±18km,mb4.5/26,Error ellipse: s-maj=8.3km s-min=5.0km az=78.0*
*MAN **30** 01:15:40,10°.37N×126°.33E,h20km,mb5.1,ML4.0,MS4.2*
MAN INTENSITY II - LORETO DINAGAT PROVINCE.
*ISCJB **30** 01:15:41.4±0.6,10°.35N±0°.03×126°.34E±0°.04,h47km±5km,mb4.4/63,MS3.7/7,Error ellipse: s-maj=6.8km s-min=4.2km az=157.7*
*IDC **30** 01:15:41.3±3.7,10°.28N×126°.19E,h31km±26km,mb4.1/23,mb1 4.2/24,mb1mx4.2/30,mbtmp4.3/24,ML4.0/1,MS3.8/8,Ms1 3.8/8,ms1mx3.5/40,Error ellipse: s-maj=20.1km s-min=11.4km az=78.0*
*BJI **30** 01:15:50.8,10°.50N×126°.20E,h120km,mB4.8/7,mb4.6/16*
ISC 30 01:15:43.0±1.0,10°.35N±0°.04×126°.33E±0°.06,h45km±9km,n172,σ1$29/176,mb4.4/63,MS3.6/7,7C-7D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	1.00	236	⇑*eP*		Pn	01 15 58.8	-1.9
SCPH				*eS*		Sn	01 16 12.3	-1.4
MSLP	**Maasin**	1.46	262	*eP*		Pn	01 16 04.9	-2.1
MSLP				*eS*		Sn	01 16 25.5	+0.5
BUTP	**Butuan**	1.54	207	*eP*		Pn	01 16 06.7	-1.3
BUTP				*eS*		Sn	01 16 30.0	+3.1
PLP	**Palo**	1.56	302	⇓*eP*		Pn	01 16 06.3	-2.0
PLP				*eS*		Sn	01 16 25.5	-1.8
OCLP	**Ormoc**	1.83	293	*eP*		Pn	01 16 12.0	-0.1
OCLP				*eS*		Sn	01 16 37.6	+3.5
BIPH	**Bislig**	2.15	179	⇓*eP*		Pn	01 16 14.8	-1.7
BIPH				*eS*		Sn	01 16 42.3	+0.3
CGP	**Cagayan de Oro**	2.48	221	⇑*iP*		Pn	01 16 21.3	+0.3
CGP				*i* S		Sn	01 16 52.3	+2.2
TBP	**Tagbilaran**	2.52	255	*eP*		Pn	01 16 21.5	+0.1
TBP				*eS*		Sn	01 16 50.5	-0.5
BUKP	**Musuan**	2.75	207	*eP*		Pn	01 16 25.6	+0.8
SNPH	**Sibulan**	3.21	252	*eP*		Pn	01 16 26.3	-4.7
MATI	**Mati**	3.38	181	*eP*		Pn	01 16 36.7	+3.3
DCPH	**Dipolog City**	3.42	239	⇑*eP*		Pn	01 16 32.7	-1.2
GUIM	**Jordan**	3.69	275	*eP*		Pn	01 16 37.3	-0.3
RCP	**Roxas**	3.72	289	⇓*eP*		Pn	01 16 37.7	-0.3
CTBH	**Cotabato--PC H**	3.73	214	*eP*		Pn	01 16 37.7	-0.4
PAGZ	**Pagadian**	3.83	230	*eP*		Pn	01 16 39.7	+0.2
PVCP	**Virac**	3.87	327	*eP*		Pn	01 16 40.6	+0.6
PVCP				*eS*		Sn	01 17 21.4	-2.8
OTRP	**Odiongan**	4.67	296	*eP*		Pn	01 16 51.1	0.0
CUYO	**Cuyo Island**	5.25	276	*eP*		Pn	01 16 59.1	+0.1
SJMP	**San Jose**	5.52	293	*eP*		Pn	01 17 03.9	+1.1
LUBP	**Lubang**	6.84	300	*eP*		Pn	01 17 22.2	+1.4
CAUP	**Cauayan**	7.88	327	*eP*		Pn	01 17 33.6	-1.5
FAKI	**Fak Fak**	14.44	156	P		P	01 19 14.7	+4.0
	baz=14,SNR=5.0							
FAKI	**Fak Fak**	14.44	156	*e*	P	Pn	01 19 03.8	-1.0
KAPI	**Kappang**	16.61	204	*e*	Pn	Pn	01 19 27.4	-5.4
QIZ	**Qiongzhong**	18.12	300	P		Pn	01 19 55.3	+3.8
QIZ				S		Sn	01 23 12.3	-0.7
QIZ				PMZ				
	14nm,1.5s							
QIZ				PMZ				
	210nm,4.9s							
QIZ				LN				
	340nm,15.1s							
QIZ				LE				
	190nm,17.2s							
QIZ				LZ				
	880nm,18.9s							
KSM	**Kuching**	18.20	242	P		Pn	01 19 58.5	+6.0
	baz=19,SNR=3.9							
GUMO	**Guam**	18.42	78	LR		LR	01 25 30.7	
	comp=Z,432nm,20.8s,baz=235,slow=32							
JAY	**Jayapura**	19.19	131	P		Pn	01 20 04.9	+0.4
	0.5nm,0.3s,baz=282,slow=6.6,SNR=7.5							
JAY				LR		LR	01 28 15.0	
	comp=Z,806nm,18.2s,baz=318,slow=39							
CBIJ	**Chichi jima**	22.38	40	P		P	01 20 37.8	+0.2
JCJ	**Chichijima**	22.38	40	P		P	01 20 37.8	+0.2
	40nm,0.4s,baz=288,slow=22,SNR=5.7							
SKNT	**Sakolnakorn**	22.68	289	P		P	01 20 40.8	-0.1
	21nm,1.2s,1μm							
JNU	**Nakatsue**	23.05	10	P		P	01 20 44.9	+0.3
	17nm,1.0s,baz=170,slow=7.2,SNR=4.8							
JNU				LR		LR	01 28 31.8	
	comp=Z,165nm,21.2s,baz=186,slow=33							
KHON	**Khomkaen**	23.62	287	P		P	01 20 52.5	+2.2
	24nm,0.9s,2μm							
CHBT	**CHBT**	23.63	278	P		P	01 20 52.5	+2.1
	29nm,0.6s							
KDU	**Kakadu**	23.68	165	P		P	01 20 50.1	-0.6
	baz=24,SNR=6.9							
PBKT	**Sadao Pong**	25.41	287	P		P	01 21 07.2	+0.6
	17nm,0.9s							
IPM	**Ipoh**	25.75	259	*eP*		P	01 21 10.8	+1.0
	12nm,0.9s							
KNRA	**Kununurra**	25.97	175	P		P	01 21 15.0	+3.4
	baz=26,SNR=6.0							
UTTA	**Uttaradit**	26.04	289	P		P	01 21 15.1	+2.8
	3.6nm,0.8s							
CRAI	**Chiangrai**	26.86	295	P		P	01 21 17.1	-2.6
	6.4nm,1.3s,461nm							
SRDT	**SRDT**	26.87	281	P		P	01 21 21.9	+2.1
	53nm,1.2s,7μm							
KSAR	**Wonju Array Be**	27.01	3	P		P	01 21 21.3	+0.4
KSAR	**Wonju Array Be**	27.01	3	P		P	01 21 21.2	+0.4
KSRS	**Korea Array**	27.03	3	P		P	01 21 21.2	+0.3
	5.1nm,0.9s,baz=175,slow=10,SNR=9.4							
KSRS				LR		LR	01 30 55.9	
	comp=Z,86nm,21.6s,baz=350,slow=34							
TIA	**Tai'an**	27.07	343	⇑P		P	01 21 22.0	+0.6
TIA				PMZ				
	10.0nm,0.6s							
LAMP	**Lampang**	27.07	291	P		P	01 21 25.4	+3.8
	3.6nm,0.6s							
UMPA	**Umpang Tak**	27.34	285	P		P	01 21 23.3	-0.8
	83nm,0.6s,7μm							
CMAR	**Chiang Mai Arr**	27.69	290	P		P	01 21 27.1	-0.2
	7.1nm,0.9s,baz=106,slow=7.4,SNR=22							
CMAR				LR		LR	01 32 12.9	
	comp=Z,227nm,20.9s,baz=124,slow=36							
CMMT	**Chiang Mai**	27.77	291	P		P	01 21 29.7	+1.8
	13nm,0.7s							
CHTO	**Chiang Mai**	27.78	291	*eP*		P	01 21 27.5	-0.5
CHTO				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CHTO	**Chiang Mai**	27.78	291	*eP*		P	01 21 27.5	-0.5
	comp=Z,2.4nm,0.7s							
CHTO	**Chiang Mai**	27.78	291	P		P	01 21 29.8	+1.8
	comp=Z,33nm,1.2s							
CMAI	**Chiengmai2**	27.97	293	P		P	01 21 30.1	+0.3
	comp=Z,13nm,1.1s							
MJAR	**Matsushiro Arr**	28.21	21	P		P	01 21 31.3	-0.3
	comp=Z,0.6nm,0.3s,baz=182,slow=10,SNR=4.3							
MJAR				LR		LR	01 30 52.1	
	comp=Z,147nm,21.7s,baz=200,slow=32							
FITZ	**Fitzroy Crossi**	28.28	181	P		P	01 21 31.4	-0.9
	baz=29,SNR=10							
FITZ	**Fitzroy Crossi**	28.28	181	*eP*		P	01 21 31.2	-1.1
	comp=Z,27nm,1.4s							
COEN	**Coen**	29.37	145	*eP*		P	01 21 42.1	0.0
WRAB	**Tennant Creek**	31.11	165	*eP*		P	01 21 55.6	-1.8
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.9s							
WRAB	**Tennant Creek**	31.11	165	*eP*		P	01 21 55.6	-1.8
	comp=Z,8.3nm,0.9s							
WRA	**Warramunga Arr**	31.12	165	P		P	01 21 55.6	-1.9
	comp=Z,1.6nm,0.6s,baz=346,slow=9.4,SNR=7.2							
WRA				PcP		PcP	01 24 51.4	-0.8
	comp=Z,0.9nm,0.6s,baz=340,slow=2.9,SNR=4.1							
MBWA	**Marble Bar**	31.98	192	*eP*		P	01 22 03.1	-1.9
	comp=Z,12nm,0.9s							
HHC	**Hu-ho-hao-te**	33.06	339	*eP*		P	01 22 17.8	+3.3
HHC				sP		sP	01 23 00.3	+28
HHC				S		S	01 27 25.3	-5.1
HHC				SS		SnSn	01 29 34.8	+2.8
HHC				PMZ				
	comp=Z,16nm,1.0s							
HHC				PMZ				
	comp=Z,49nm,5.3s							
HHC				LN				
	comp=Z,230nm,17.3s							
HHC				LE				
	comp=Z,170nm,14.8s							
HHC				LZ				
	comp=Z,140nm,11.8s							
QIS	**Mount Isa**	33.37	157	P		P	01 22 16.7	-0.5
	baz=34,SNR=4.6							
USRK	**Ussuriysk Ar.**	34.08	7	P		P	01 22 23.0	-0.1
	comp=Z,5.6nm,0.9s,baz=178,slow=9.7,SNR=7.4							
ASAR	**Alice Springs**	34.61	168	P		P	01 22 27.0	-1.0
	comp=Z,1.0nm,0.5s,baz=0.5,slow=7.3,SNR=16							
ASAR				PcP		PcP	01 25 01.4	-0.4
	comp=Z,0.8nm,0.5s,baz=347,slow=3.0,SNR=5.3							
WRKA	**Warakurna**	35.22	177	P		P	01 22 32.9	-0.4
	baz=36,SNR=19							
SHL	**Shillong**	35.95	300	*ex*		P	01 22 40.0	+0.2
CTAO	**Charters Tower**	36.05	147	*eP*		P	01 22 41.5	+1.1
CTAO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CTAO	**Charters Tower**	36.05	147	*eP*		P	01 22 41.5	+1.1
	comp=Z,9.6nm,0.8s							
ASAJ	**Asahikawa**	36.47	20	LR		LR	01 37 48.2	
	comp=Z,98nm,20.7s,baz=84,slow=36							
GTA	**Gaotai**	37.35	325	*eP*		P	01 22 51.8	+0.3
GTA				sS		sS	01 29 19.0	+22
GTA				PMZ				
	comp=Z,8.0nm,1.1s							
GTA				PMZ				
	comp=Z,140nm,5.1s							
GTA				LN				
	comp=Z,310nm,18.0s							
GTA				LE				
	comp=Z,270nm,18.1s							
GTA				LZ				
	comp=Z,470nm,18.1s							
MEEK	**Meekatharra**	37.52	191	P		P	01 22 52.2	-0.6
	baz=38,SNR=6.0							
H11S3	**WAKE ISLAND Hy**	39.84	74	T		T	02 06 07.5	
	baz=268,slow=80,SNR=95							
H11S1	**WAKE ISLAND Hy**	39.86	74	T		T	02 06 06.8	
	baz=268,slow=80,SNR=60							
H11S2	**WAKE ISLAND Hy**	39.86	74	T		T	02 06 04.8	
	baz=268,slow=80,SNR=71							
TAPN	**Taplejung**	40.06	300	*eP*		P	01 23 13.8	-0.8
	comp=Z,13nm,0.4s							
H11N1	**WAKE ISLAND Hy**	40.17	72	T		T	02 06 34.3	
	baz=265,slow=74,SNR=187							
H11N2	**WAKE ISLAND Hy**	40.18	72	T		T	02 06 33.1	
	baz=265,slow=74,SNR=138							
H11N3	**WAKE ISLAND Hy**	40.19	72	T		T	02 06 35.7	
	baz=265,slow=74,SNR=206							
ODAN	**Odare**	40.19	300	*eP*		P	01 23 14.3	-1.3
	comp=Z,36nm,0.8s							
MORW	**Morawa**	40.43	194	P		P	01 23 16.8	-0.3
	baz=41,SNR=3.4							
ULN	**Ulaanbaatar**	40.77	340	⇓*eP*		P	01 23 20.5	+0.6
ULN				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ULN	**Ulaanbaatar**	40.77	340	*eP*		P	01 23 20.4	+0.4
	comp=Z,3.4nm,0.6s							
RAMN	**Ramite**	40.89	299	*eP*		P	01 23 20.6	-0.8
	comp=Z,8.7nm,0.4s							
FORT	**Forrest**	40.92	178	*eP*		P	01 23 20.6	-0.6
	comp=Z,27nm,0.7s							
SONM	**Songino Array**	40.97	339	P		P	01 23 21.9	+0.3
	comp=Z,1.4nm,0.6s,baz=160,slow=11,SNR=16							
SONM				PcP		PcP	01 25 20.4	-0.7
	comp=Z,0.7nm,0.7s,baz=157,slow=4.0,SNR=4.8							
SONM				ScP		ScP	01 29 08.6	+1.2
	comp=Z,0.5nm,0.7s,baz=132,slow=2.2,SNR=3.9							
JIRN	**Jiri**	41.44	300	*eP*		P	01 23 25.8	-0.3
	comp=Z,20nm,0.5s							
KMBL	**Kambalda**	41.70	186	P		P	01 23 27.7	+0.2
	baz=42,SNR=5.1							
GUN	**Gumba**	41.78	300	*eP*		P	01 23 28.0	-0.8
	comp=Z,20nm,0.7s							
PKI	**Pulchoki**	42.08	300	*eP*		P	01 23 30.3	-0.9
	comp=Z,8.4nm,0.5s							
PKIN	**Phulchoki**	42.10	300	*eP*		P	01 23 30.1	-1.2
	comp=Z,6.3nm,0.4s							
KKN	**Kakani**	42.25	300	*eP*		P	01 23 31.6	-0.9
	comp=Z,7.9nm,0.4s							
DMN	**Daman**	42.35	300	*eP*		P	01 23 33.5	+0.1
	comp=Z,9.9nm,0.7s							
GKN	**Gorkha**	42.86	300	*eP*		P	01 23 37.0	-0.3
	comp=Z,6.2nm,0.4s							
KOLN	**Koldanda**	43.68	299	*eP*		P	01 23 43.9	-0.2
	comp=Z,9.7nm,0.6s							
ZAK	**Zakamensk**	44.21	339	*eP*		P	01 23 46.9	-0.9
ZAK				*e*			01 25 31.2	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.7s							
PYUN	**Piuthan**	44.29	300	*eP*		P	01 23 48.9	0.0
	comp=Z,23nm,0.6s							
STKA	**Stephens Creek**	44.46	161	P		P	01 23 49.5	-0.3
	comp=Z,3.9nm,0.7s,baz=335,slow=8.5,SNR=8.0							
STKA	**Stephens Creek**	44.46	161	*eP*		P	01 23 49.3	-0.6
STKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
STKA	**Stephens Creek**	44.46	161	P		P	01 23 49.8	0.0
	baz=45,SNR=5.5							
STKA	**Stephens Creek**	44.46	161	*eP*		P	01 23 49.2	-0.6
	comp=Z,1.4nm,0.8s							
TLY	**Talaya**	45.18	340	*eP*		P	01 23 55.6	+0.2
TLY				pmax	pmax			
	comp=Z,10.0nm,1.3s							
TLY	**Talaya**	45.18	340	*eP*		P	01 23 56.1	+0.7
	comp=Z,3.3nm,0.7s							
BOD	**Bodaibo**	48.30	351	*eP*		P	01 24 19.1	-0.6
BOD				pmax	pmax			
	comp=Z,5.0nm,1.8s							
PETK	**Petropavlovsk-**	49.54	24	P		P	01 24 30.3	+1.1
	comp=Z,3.1nm,0.5s,baz=206,slow=4.3,SNR=4.8							
YAK	**Yakutsk**	51.65	2	⇓*eP*		P	01 24 46.3	+1.3
YAK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
MK31	**Makanchi Array**	52.00	323	*eP*		P	01 24 47.3	-0.6
MK31	**Makanchi Array**	52.00	323	*eP*		P	01 24 47.3	-0.6
MKAR	**Makanchi Array**	52.00	323	P		P	01 24 47.3	-0.7
	comp=Z,4.2nm,0.8s,baz=134,slow=5.2,SNR=25							
MKAR	**Makanchi Array**	52.00	323	*ceP*		P	01 24 47.2	-0.7
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ZALV	**Zalesovo Beam**	54.59	331	P		P	01 25 04.0	-2.8
	comp=Z,1.5nm,0.5s,baz=126,slow=7.9,SNR=5.8							
ZALV	**Zalesovo Beam**	54.59	331	*i* P		P	01 25 05.8	-0.9
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.5s							
TKM2	**Tokmak 2**	54.65	316	*eP*		P	01 25 06.8	-0.9
TKM2				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TKM2	**Tokmak 2**	54.65	316	*eP*		P	01 25 06.8	-0.9
	comp=Z,1.4nm,0.5s							
AAK	**Ala-Archa**	55.31	315	*eP*		P	01 25 11.7	-0.7
AAK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AAK	**Ala-Archa**	55.31	315	*eP*		P	01 25 11.7	-0.7
	comp=Z,1.2nm,0.7s							
EKS2	**Erkin-Say**	55.82	315	*eP*		P	01 25 15.5	-0.5
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.5s							
EKS2	**Erkin-Say**	55.82	315	*eP*		P	01 25 15.5	-0.5
	comp=Z,2.1nm,0.5s							
NVS	**Novosibirsk**	55.86	331	*eP*		P	01 25 14.4	-1.5
KURK	**Kurchatov**	56.04	325	*eP*		P	01 25 16.6	-0.7
KURK				pmax	pmax			
	comp=Z,15nm,1.0s							
KURK	**Kurchatov**	56.04	325	*eP*		P	01 25 16.6	-0.7
	comp=Z,15nm,1.0s							
TIXI	**Tiksi**	61.27	1	⇓*eP*		P	01 25 53.2	-0.1
TIXI				pmax	pmax			
	comp=Z,12nm,1.7s							
TIXI	**Tiksi**	61.27	1	*eP*		P	01 25 52.2	-1.1
	comp=Z,8.4nm,1.1s							
BRVK	**Borovoye**	61.71	325	⇑*iP*		P	01 25 56.0	-0.6
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BILL	**Bilibino**	63.31	16	*eP*		P	01 26 07.1	+0.1
BILL				pmax	pmax			
	comp=Z,7.0nm,1.7s							
BILL				MLR	MLR			
	comp=Z,410nm,20.0s							
BILL	**Bilibino**	63.31	16	*eP*		P	01 26 07.5	+0.5
	comp=Z,3.9nm,1.0s							
GEYT	**Alibeck**	66.55	307	P		P	01 26 28.2	-0.5
	comp=Z,1.4nm,0.9s,baz=70,slow=4.7,SNR=3.5							
ABKAR	**Akbulak array**	66.86	319	*eP*		P	01 26 28.9	-1.4
	comp=Z,0.9nm,0.4s							
GAMB	**Gambell**	68.57	25	*eP*		P	01 26 42.3	+1.4
	comp=Z,3.6nm,1.0s							
ARU	**Arti**	69.19	327	*d iP*		P	01 26 43.6	-1.3
ARU							01 29 13.3	
ARU				S		S	01 35 50.4	+3.0
ARU				SS		SS	01 40 13.3	-1.0
ARU				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ARU	**Arti**	69.19	327	*eP*		P	01 26 43.2	-1.7
	comp=Z,4.1nm,0.5s							
IM04	**Indian Mountai**	76.49	24	*eP*		P	01 27 28.6	+0.6
ZEI	**Tsey**	77.51	312	*eP*		P	01 27 34.8	+0.3
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.3s							
RAYN	**Ar Rayn**	77.60	292	*eP*		P	01 27 33.8	-1.3
	comp=Z,5.1nm,0.6s							
KIV	**Kislovodsk**	78.34	313	*eP*		P	01 27 37.6	-1.3
KIV				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KIV	**Kislovodsk**	78.34	313	*eP*		P	01 27 37.6	-1.3
	comp=Z,4.2nm,0.8s							
MCK	**McKinley**	78.46	27	*eP*		P	01 27 39.2	+0.1
MCK				pmax	pmax			
	comp=Z,15nm,1.2s							
MCK	**McKinley**	78.46	27	*eP*		P	01 27 39.2	+0.1
	comp=Z,15nm,1.2s							
ILAR	**Eielson Array**	79.34	26	P		P	01 27 44.6	+0.8
	comp=Z,1.0nm,0.7s,baz=238,slow=6.1,SNR=12							
HYT	**Haines Junctio**	84.04	29	*eP*		P	01 28 10.8	+2.0
ARCES	**ARCESS Array B**	84.14	340	P		P	01 28 09.1	0.0
	comp=Z,2.4nm,0.7s,baz=74,slow=6.4,SNR=14							
BR131	**Keskin Array S**	85.53	309	*eP*		P	01 28 16.3	-0.5
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	85.53	309	P		P	01 28 16.1	-0.8
	comp=Z,0.8nm,0.8s,baz=118,slow=4.5,SNR=5.6							
BRTR	**Keskin Array B**	85.53	309	*ceP*		P	01 28 16.3	-0.5
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	85.85	332	P		P	01 28 17.0	-0.8
	comp=Z,1.0nm,0.4s,baz=104,slow=4.7,SNR=17							
FINES	**FINESS Array B**	85.85	332	*i* P		P	01 28 17.1	-0.6
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	86.54	321	P		P	01 28 19.7	-1.7
	comp=Z,0.2nm,0.2s,baz=65,slow=4.3,SNR=5.4							
CSS	**Prodhromos**	86.59	305	*eP*		P	01 28 21.4	-0.6
	comp=Z,1.6nm,0.6s							
MAW	**Mawson**	89.79	200	P		P	01 28 36.0	-0.3
	comp=Z,1.9nm,0.8s,baz=87,slow=9.9,SNR=6.0							
MAW	**Mawson**	89.79	200	P		P	01 28 36.0	-0.3
BUR08	**Bucovina Ar. S**	89.83	318	*eP*		P	01 28 36.6	-0.6
VNDA	**Vanda**	90.00	173	P		P	01 28 37.0	-0.2
	comp=Z,0.9nm,0.6s,baz=330,slow=5.8,SNR=7.0							
VNDA	**Vanda**	90.00	173	*eP*		P	01 28 36.8	-0.4
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	90.00	173	*eP*		P	01 28 36.8	-0.4
	comp=Z,1.5nm,0.7s							
KOLS	**Kolonicke sedl**	91.34

THZ	**Tophouse**	**5.81**	**53**	*e*PN	Pn	01 55 45.5	-0.1

KMA 30 02:30:15.8, 37°29N×128°77E, h0km, 2C-2D, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDGY	**Daegwallycong** SNR=18	**0.41**	**350**	P	Pg	02 30 23.0	-0.7
KSDGY	**Daegwallycong** SNR=18	**0.41**	**350**	P	Pg	02 30 23.0	-0.7
KSWJU	**Wonju** SNR=6.7	**0.58**	**282**	P	Pg	02 30 26.4	-0.5
KSWJU	**Wonju** SNR=6.7	**0.58**	**282**	P	Pg	02 30 26.4	-0.5
KSJMJ	**Jumunjin** SNR=8.6	**0.59**	**359**	⇓P	Pg	02 30 26.8	-0.3
KSJMJ	**Jumunjin** SNR=8.6	**0.59**	**359**	⇓P	Pg	02 30 26.8	-0.3
KSULJ	**Uljin** SNR=39	**0.78**	**138**	P	Pb	02 30 33.0	+0.8
KSULJ	**Uljin** SNR=39	**0.78**	**138**	P	Pb	02 30 33.0	+0.8
SEHB	**SEOHWA** SNR=8.9	**1.06**	**338**	⇑P	Pg	02 30 35.8	-0.3
SEHB	**SEOHWA** SNR=8.9	**1.06**	**338**	⇑P	Pg	02 30 35.8	-0.3
KSBON	**Boeun** SNR=11	**1.10**	**225**	P	Pg	02 30 36.9	-0.1
KSBON	**Boeun** SNR=11	**1.10**	**225**	P	Pg	02 30 36.9	-0.1

*CSEM **30** 03:17:15.1, 42°.59N×13°.17E, h11km, ML1.6/6*
ROM 30 03:17:15.1±0.1, 42°.59N×13°.17E, h11km, MI1.6/6, 7C-1D, Error ellipse: s-maj=0.8km s-min=0.7km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.10**	**280**	⇑*i*P	Pg	03 17 18.2	+0.2
LNSS	543nm,0.2s			Sg	Sg	03 17 20.4	+0.3
LNSS	**Leonessa**	**0.10**	**280**	⇑*i*Pg	Pg	03 17 18.2	+0.2
LNSS	543nm,0.2s			Sg	Sg	03 17 20.4	+0.3
T0107	**San Pelino (Ca**	**0.13**	**153**	⇓*i*Pg	Pg	03 17 18.7	+0.3
T0107				Sg	Sg	03 17 21.2	+0.5
SMA1	**SAN MARTINO**	**0.13**	**70**	⇑*i*Pg	Pg	03 17 19.0	+0.6
SMA1	162nm,0.2s			Sg	Sg	03 17 21.5	+0.7
CAMP	**Campotosto**	**0.18**	**106**	⇑*i*Pg	Pg	03 17 19.7	+0.4
CAMP	48nm,0.6s			Sg	Sg	03 17 22.9	+0.7
CAMP	**Campotosto**	**0.18**	**106**	⇑*i*Pg	Pg	03 17 19.7	+0.4
CAMP	48nm,0.6s			Sg	Sg	03 17 22.9	+0.7
NRCA	**Norcia**	**0.25**	**351**	Pg	Pg	03 17 20.7	+0.2
NRCA	135nm,0.1s			Sg	Sg	03 17 24.8	+0.8
NRCA	**Norcia**	**0.25**	**351**	Pg	Pg	03 17 20.7	+0.2
NRCA	135nm,0.1s			Sg	Sg	03 17 24.8	+0.8
FIAM	**Fiamignano**	**0.32**	**187**	Pg	Pg	03 17 21.9	+0.2
FIAM				Sg	Sb	03 17 27.3	-1.0
FIAM	**Fiamignano**	**0.32**	**187**	Pg	Pg	03 17 21.9	+0.2
FIAM				Sg	Sb	03 17 27.3	-1.0
TERO	**Teramo**	**0.32**	**83**	⇑*i*Pg	Pg	03 17 21.9	+0.2
TERO	27nm,0.2s			Sg	Sg	03 17 26.8	+0.7
TERO	**Teramo**	**0.32**	**83**	⇑*i*Pg	Pg	03 17 21.9	+0.2
TERO	27nm,0.2s			Sg	Sg	03 17 26.8	+0.7
MNS	**Montasola**	**0.41**	**241**	Pg	Pg	03 17 23.5	+0.1
	16nm,0.2s						
MNS	**Montasola**	**0.41**	**241**	Pg	Pg	03 17 23.5	+0.1
	16nm,0.2s						
FDMO	**Fiordimonte**	**0.45**	**352**	Pg	Pg	03 17 24.5	+0.4
FDMO				Sg	Sb	03 17 31.5	-0.5
FDMO	**Fiordimonte**	**0.45**	**352**	Pg	Pg	03 17 24.5	+0.4
FDMO				Sg	Sb	03 17 31.5	-0.5
CESI	**CESI - Serrava**	**0.46**	**335**	Pg	Pg	03 17 24.4	+0.1
CESI	**CESI - Serrava**	**0.46**	**335**	Pg	Pg	03 17 24.4	+0.1
VCEL	**Villa Celiera**	**0.53**	**111**	Pg	Pg	03 17 26.1	+0.4
VCEL	**Villa Celiera**	**0.53**	**111**	Pg	Pg	03 17 26.1	+0.4

*NIED **30** 03:21:00, 23°.20N×121°.60E, h35km, Mw3.8 Best double couple: M₀5.80000×10¹⁴ NP1:φ₈318.00000°, δ32.00000°, λ31.00000°. NP2:φ₈202.00000°, δ74.00000°, λ118.00000°.*
*IDC **30** 03:21:42.3±0.8, 23°.20N×121°.52E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/48, mbtmp3.7/8, MS3.1/4, Ms1 3.2/4, ms1mx2.7/41, Error ellipse: s-maj=42.0km s-min=16.6km az=64.0*
*JMA **30** 03:21:44.3±0.1, 23°.17N×121°.57E, h0km±1km, M3.9*
*BJI **30** 03:21:44.2, 23°.22N×121°.39E, h9km, ML3.8/5*
*ISCJB **30** 03:21:46.2±0.3, 23°.15N±0°.02×121°.51E±0°.02, h24km±2km, mb3.6/8, MS3.3/3, Error ellipse: s-maj=2.9km s-min=2.2km az=152.4*
*TAP **30** 03:21:47.2, 23°.22N×121°.39E, h19km, ML4.2, B*
ISC 30 03:21:44.8±1.0, 23°.20N±0°.02×121°.53E±0°.02, h14km±7km, n97, σ1s02/138, mb3.8/8, MS3.3/3, 16C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=186	**0.18**	**236**	⇓*i*P	Pb	03 21 51.7	+1.7
CHKT	baz=186			*i* S	Sb	03 21 54.8	+1.4
TWF1	**Yuli** baz=323	**0.26**	**305**	⇑*i*P	Pb	03 21 52.2	+0.9
EHY	**Hungye** baz=335	**0.36**	**328**	⇑*i*P	Pb	03 21 53.9	+1.0
EHY	baz=335			*i* S	Sb	03 21 59.1	+0.6
ELDTW	**Lidau** baz=265	**0.47**	**268**	⇑*i*P	Pg	03 21 54.4	+0.2
ELDTW	baz=265			*e*S	Sg	03 21 59.3	-1.2
TEGC	**Jichi Village** baz=24	**0.50**	**1**	*e*P	Pn	03 21 58.2	+0.6
TEGC	baz=24			*e*S	Sn	03 22 07.3	+1.2
TWG	**Pinlang** baz=227	**0.57**	**228**	⇓*i*P	Pb	03 21 56.7	+0.1
TWG	baz=227			*i* S	Sg	03 22 03.6	+0.1
TTN	**Taitung** baz=207	**0.57**	**219**	*e*P	Pb	03 21 57.8	+1.2
TTN	baz=207			*e*S	Sn	03 22 06.7	-1.0
YUS	**Yu-Shan** baz=298	**0.60**	**298**	⇑*i*P	Pb	03 21 57.5	+0.1
YUS	baz=298			*e*S	Sg	03 22 04.7	-0.1
ESL	**Shilin** baz=353	**0.62**	**352**	*e*P	Pn	03 21 58.7	-0.5
ESL	baz=353			*e*S	Sn	03 22 09.4	+0.5
ESF	**Shoufeng Towns** baz=356	**0.67**	**358**	*e*P	Pn	03 22 00.2	+0.3
STYT	**Tauyuan** baz=264	**0.71**	**267**	⇑*i*P	Pg	03 21 58.7	0.0
STYT	baz=264			*e*S	Sg	03 22 06.3	-1.8
ALS	**Alishan** baz=291	**0.73**	**295**	⇑*i*P	Pb	03 21 59.8	+0.2
ALS	baz=291			*e*S	Sg	03 22 08.4	-0.5
HWA	**Hwalien**	**0.77**	**5**	*e*P	Pn	03 22 02.3	+1.0
HWA				*e*S	Sn	03 22 15.4	+2.6
ECL	**Taimali** baz=214	**0.80**	**222**	⇓*e*P	Pg	03 21 59.8	-0.6
WTP	**Ta-pu** baz=272	**0.84**	**273**	⇑*i*P	Pb	03 22 01.6	+0.3
WTP	baz=272			S	Sg	03 22 11.7	-0.6
CHN4	**Tsaushan** baz=280	**0.88**	**280**	⇑*i*P	Pb	03 22 02.3	+0.5
CHN4	baz=280			S	Sg	03 22 13.2	0.0
TWD	**Chiawan** baz=359	**0.88**	**4**	*e*P	Pn	03 22 03.1	+0.4
TWD				*e*S	Sn	03 22 17.7	+2.4
CHN5	**Tsauling** baz=300	**0.88**	**297**	⇑*i*P	Pn	03 22 02.7	-0.1
CHN5	baz=300			*e*S	Sb	03 22 13.8	+0.3
SGST	**Jiashian** baz=257	**0.88**	**262**	⇑*i*P	Pb	03 22 02.3	+0.4
SGST	baz=257			*e*S	Sg	03 22 13.0	-0.4
SMLT	**Sun Moon Lake** baz=332	**0.89**	**320**	*e*P	Pn	03 22 02.7	-0.4
SMLT	baz=332			S	Sb	03 22 13.7	-0.2
CHN1	**Nanshi** baz=268	**0.92**	**269**	⇑*i*P	Pn	03 22 03.2	-0.1
CHN1	baz=268			S	Sg	03 22 14.7	-0.1
TYC	**Yuchr** baz=335	**0.93**	**319**	P	Pn	03 22 03.4	-0.1
TYC	baz=335			*e*S	Sn	03 22 17.5	+0.8
SSD	**Sandimen** baz=233	**0.95**	**241**	*e*P	Pg	03 22 02.4	-0.6
TWK	**Hsinying** baz=273	**0.96**	**274**	⇑*i*P	Pg	03 22 03.7	+0.3
TWK	baz=273			*i* S	Sg	03 22 15.9	-0.1
WHF	**Hehuan Shan** baz=3.0	**0.97**	**345**	*e*P	Pn	03 22 04.3	-0.1
WHF	baz=3.0			*e*S	Sn	03 22 18.4	+0.2
WGK	**Gukeng** baz=301	**1.01**	**299**	P	Pn	03 22 05.3	+0.8
WGK	baz=301			*e*S	Sn	03 22 18.6	0.0
CHN2	**Minshiung** baz=290	**1.02**	**289**	P	Pn	03 22 05.6	+0.8
CHN2	baz=290			S	Sn	03 22 19.2	+0.3
TAW	**Tawu** baz=211	**1.02**	**215**	*e*P	Pb	03 22 03.7	-0.6
WNT	**Mingjian** baz=315	**1.03**	**311**	*e*P	Pn	03 22 05.9	+1.1
WNT	baz=315			S	Sn	03 22 19.5	+0.5
EAST	**Anshuo** baz=214	**1.03**	**218**	⇓*i*P	Pb	03 22 03.8	-0.7
CHY	**Chiayi** baz=287	**1.06**	**286**	⇑*i*P	Pn	03 22 05.9	+0.7
CHY	baz=287			*i* S	Sn	03 22 19.5	-0.3
SGLT	**Jiouru** baz=240	**1.07**	**244**	*e*P	Pn	03 22 06.1	+0.7
CHN3	**Shinhua** baz=270	**1.08**	**264**	*e*P	Pn	03 22 07.1	+1.6
CHN3	baz=270			*e*S	Sn	03 22 21.8	+1.5
TWM1	**Shoushan** baz=248	**1.09**	**250**	⇑P	Pn	03 22 07.4	+1.7
TWT	**Tachien** baz=346	**1.10**	**343**	*e*P	Pn	03 22 06.5	+0.6
LAY	**Lan-yu** baz=160	**1.16**	**179**	⇑P	Pb	03 22 06.4	-0.2
LAY	baz=160			*e*S	Sb	03 22 21.2	-0.3
SCZT	**Fangliau** baz=218	**1.18**	**226**	*e*P	Pn	03 22 06.6	-0.3
TAI1	**Yung-k'ang** baz=270	**1.21**	**263**	P	Pg	03 22 09.0	+0.9
TAI1	baz=270			*e*S	Sg	03 22 24.5	+0.6
CHN8	**Yiju** baz=277	**1.22**	**277**	*e*P	Pg	03 22 08.3	0.0
CHN8	baz=277			S	Sg	03 22 24.8	+0.5
TCU	**Taichung** baz=323	**1.23**	**320**	*e*P	Pg	03 22 09.3	+1.0
TCU	baz=323			*e*S	Sg	03 22 24.8	+0.5
SCLT	**Jiali** baz=268	**1.23**	**269**	*e*P	Pg	03 22 08.6	+0.1
SCLT	baz=268			*e*S	Sg	03 22 25.5	+1.0
ENA	**Nanau** baz=360	**1.23**	**9**	*e*P	Pg	03 22 08.3	-0.2
NNS	**Nan Shan** baz=8.0	**1.24**	**353**	*e*P	Pb	03 22 08.7	0.0
WSF	**Szhu** baz=291	**1.28**	**290**	*e*P	Pb	03 22 08.7	0.0
WSF	baz=291			*e*S	Sn	03 22 25.4	+0.2
KAU	**Kaohsiung** baz=257	**1.29**	**241**	*e*P	Pg	03 22 11.1	+1.5
KAU	baz=257			*e*S	Sg	03 22 29.2	+2.7
WTCT	**Ta-ch'eng** baz=302	**1.32**	**300**	*e*P	Pb	03 22 09.6	+0.2
WTCT	baz=302			*e*S	Sg	03 22 26.9	-0.6
TWQ1	**Liyutan** baz=332	**1.34**	**329**	⇓*i*P	Pg	03 22 11.5	+1.0
TWQ1	baz=332			*e*S	Sg	03 22 28.4	+0.6
TWP	**Hsiaoliuchiu** baz=215	**1.38**	**232**	*e*P	Pg	03 22 11.6	+0.4
HEN	**Hengchun** baz=202	**1.40**	**212**	*e*P	Pg	03 22 11.6	0.0
NSY	**Sanyi** baz=333	**1.40**	**330**	*e*P	Pg	03 22 12.5	+0.8
NSY	baz=333			S	Sg	03 22 31.0	+1.1
TSEB	**Hengchuen, Pin** baz=194	**1.42**	**204**	*e*P	Pb	03 22 11.4	+0.4
TWK1	**Hengchun** baz=197	**1.42**	**208**	*e*P	Pn	03 22 10.2	-0.1
TWC	**Suao**	**1.43**	**12**	*e*P	Pg	03 22 12.0	-0.3
ENTT	**Nioudou** baz=3.0	**1.43**	**1**	*e*P	Pg	03 22 11.9	-0.4
NSK	**Sanguang** baz=9.0	**1.48**	**354**	*e*P	Pg	03 22 12.7	-0.5
NSTT	**Nanjuang** baz=343	**1.50**	**341**	*e*P	Pg	03 22 13.5	-0.2
TWE	**Neicheng** baz=5.0	**1.52**	**5**	*e*P	Pg	03 22 13.3	-0.6
WDGT	**Dungji** baz=272	**1.72**	**272**	*e*P	Pn	03 22 14.5	+0.1
WDGT	baz=272			*e*S	Sn	03 22 35.6	-0.6
TWA	**Mucha** baz=13	**1.77**	**2**	*e*P	Pb	03 22 17.3	+0.2
JYNG	**Yonaguni jima**	**1.79**	**46**	P	Pb	03 22 17.7	+0.3
JYNG				*e*S	Sb	03 22 40.1	+0.3
YOJ	**Yonaguni jima**	**1.84**	**47**	P	Pb	03 22 18.5	+0.2
YOJ				*e*S	Sb	03 22 40.7	-0.6
YOJ	**Yonaguni jima** baz=50	**1.84**	**47**	*e*P	Pb	03 22 18.3	0.0
TWB1	**Santiao Chiao** baz=1.0	**1.85**	**13**	*e*P	Pb	03 22 19.2	+0.9
PNG	**Penghu** baz=281	**1.85**	**282**	*e*P	Pn	03 22 16.5	+0.4
PNG	baz=281			*e*S	Sn	03 22 38.1	-1.3
NWF	**Wu-fen Shan** baz=5.0	**1.87**	**7**	*e*P	Pb	03 22 18.1	-0.7
TWS1	**Kuangyinshan** baz=13	**1.89**	**357**	*e*P	Pb	03 22 18.0	-1.1
HATJ	**Hateruma jima**	**2.25**	**67**	P	Pb	03 22 23.8	-1.4
HATJ				*e*S	Sn	03 22 51.2	+2.0
IRIF	**Iriomote-Funau**	**2.31**	**60**	P	Pb	03 22 24.8	-1.4
IRIF				*e*S	Sb	03 22 53.5	-1.1
PCYT	**Pengchaiyu** baz=8.0	**2.47**	**11**	*e*P	Pb	03 22 27.5	-1.4
JKRS	**Kuro-shima**	**2.49**	**65**	P	Pb	03 22 27.5	-1.9
JKRS				*e*S	Sb	03 22 57.9	-2.0
JIJ	**Ishigaki jima**	**2.66**	**64**	P	Pn	03 22 29.1	+1.9
JIJ				*e*S	Sn	03 23 00.3	+1.1
JISG	**Ishigakijimahi**	**2.89**	**61**	P	Pn	03 22 32.2	+1.8
JISG				*e*S	Sn	03 23 06.4	+1.3
KNM	**Kinmen** baz=291	**3.08**	**294**	⇓*e*P	Pn	03 22 34.8	+1.7
KNM	baz=291			*e*S	Sn	03 23 10.1	+0.3
QZH	**Quanzhou**	**3.20**	**303**	⇑*i*Pn	Pn	03 22 34.5	-0.1
QZH				Sn	Sn	03 23 09.8	-2.8
QZH	330nm,0.5s			SMN			
QZH	330nm,0.7s			SME			
JTJ	**Tarama**	**3.23**	**63**	P	Pn	03 22 37.6	+2.4
JTJ				*e*S	Sn	03 23 16.4	+2.9
JIRB	**Irabujima**	**3.70**	**63**	P	Pn	03 22 43.7	+2.1
JIRB				*e*S	Sn	03 23 26.2	+1.2
JIKM	**Ikemajima**	**3.80**	**62**	P	Pn	03 22 44.8	+1.8
JKE	**Kume jima 2**	**5.70**	**56**	P	Pn	03 23 10.4	+1.4
JOW	**Kunigami**	**7.10**	**58**	P	Pn	03 23 29.4	+1.0
JOW	**Kunigami** baz=180,slow=0.0	**7.10**	**58**	Pn	Pn	03 23 28.0	-0.4
JNU	**Nakatsue** comp=Z,39nm,19.0s,baz=231,slow=39	**12.86**	**38**	LR	LR	03 30 03.2	
SONM	**Songino Array** 0.4nm,0.7s,baz=167,slow=8.9,SNR=2.6	**27.39**	**338**	P	P	**03 27 28.9**	**-1.0**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=115,slow=5.4,SNR=3.8	**39.26**	**317**	P	P	**03 29 12.6**	**-0.4**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=101,slow=7.5,SNR=3.9	**41.24**	**328**	P	P	**03 29 29.6**	**+0.4**
H11N1	**WAKE ISLAND Hy 42.23** baz=283,slow=74,SNR=104	**86**		T	T	04 14 47.2	
H11N2	**WAKE ISLAND Hy 42.23** baz=283,slow=74,SNR=96	**86**		T	T	04 14 47.6	
H11N3	**WAKE ISLAND Hy 42.25** baz=283,slow=74,SNR=85	**86**		T	T	04 14 50.1	
H11S3	**WAKE ISLAND Hy 42.33** baz=284,slow=75,SNR=175	**88**		T	T	04 14 58.4	
H11S1	**WAKE ISLAND Hy 42.34** baz=284,slow=75,SNR=97	**88**		T	T	04 15 01.6	
H11S2	**WAKE ISLAND Hy 42.35** baz=284,slow=75,SNR=110	**88**		T	T	04 14 58.5	
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=345,slow=8.6,SNR=11	**44.67**	**163**	P	P	**03 29 56.4**	**-1.0**
WRA	0.7nm,0.9s,baz=349,slow=4.0,SNR=2.7			PcP	PcP	**03 31 38.4**	**-1.5**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=341,slow=6.8,SNR=6.4	**48.12**	**165**	P	P	**03 30 24.9**	**+0.5**
STKA	**Stephens Creek** 1.4nm,0.8s,baz=327,slow=15,SNR=3.7	**58.04**	**160**	P	P	**03 31 37.5**	**+0.1**
SPITS	**Spitsbergen Ar** comp=Z,15nm,19.4s,baz=350,slow=38	**70.51**	**348**	LR	LR	04 06 47.3	
FINES	**FINESS Array B** 0.7nm,0.7s,baz=83,slow=4.3,SNR=3.4	**72.45**	**330**	P	P	**03 33 10.5**	**-0.1**
BRTR	**Keskin Array B** 0.7nm,0.9s,baz=81,slow=4.5,SNR=3.7	**74.01**	**307**	P	P	**03 33 20.1**	**-0.4**
BRTR	comp=Z,17nm,18.2s,baz=276,slow=41			LR	LR	04 12 43.0	
NOA	**NORSAR Array B** comp=Z,15nm,19.2s,baz=65,slow=37	**79.24**	**332**	LR	LR	04 10 16.1	

*IDC **30** 03:32:26.3±1.1, 40°.21N×21°.72E, h0km, mb3.4/6, mb1 3.6/9, mb1mx3.4/33, mbtmp3.4/9, ML3.1/2, MS2.2/3, Ms1 2.2/3, ms1mx2.0/38, Error ellipse: s-maj=21.2km s-min=16.4km az=87.0*
*SOF **30** 03:32:27.3, 40°.37N×21°.24E, h13km, MD3.1*
*ATH **30** 03:32:27.3, 40°.20N×21°.73E, h15km±1km, MD3.3/30*
*THE **30** 03:32:27.7, 40°.17N×21°.70E, h0km±1km, ML3.3/14, Error ellipse: s-maj=1.2km s-min=0.4km az=304.0*
*SKO **30** 03:32:28.4, 40°.22N×21°.67E, h3km*
*PDG **30** 03:32:28.8±0.7, 40°.24N×21°.79E, h6km±1km, ML3.3/12, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*CSEM **30** 03:32:28.0±0.1, 40°.16N×21°.73E, h2km, MD3.3, Error ellipse: s-maj=2.5km s-min=2.1km az=75.0*
ISC 30 03:32:27.5±0.9, 40°.17N±0°.01×21°.72E±0°.01, h6km±7km, n235, σ1s23/310, mb3.4/5, 32C-16D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.15**	**17**	P	Pg	**03 32 30.5**	**0.0**
KZN				S	Sg	03 32 33.0	+0.4
KZN	**Kozani**	**0.15**	**17**	*e*PB	Pg	03 32 30.6	0.0
KZN				*e*SB	Sg	03 32 33.5	+0.9
KZN	**Kozani**	**0.15**	**17**	*e*Pb	Pg	03 32 30.6	0.0
KZN				S	Sg	03 32 33.0	+0.4
KZN				*e*Sb	Sg	03 32 33.5	+0.9
NEST	**Nestorio**	**0.57**	**296**	P	Pg	03 32 37.5	-0.9
NEST				S	Sg	03 32 46.7	+0.9
NEST	**Nestorio**	**0.57**	**296**	*e*PN	Pg	03 32 37.6	-0.9
NEST				*e*SN	Sg	03 32 46.7	+0.9
NEST	**Nestorio**	**0.57**	**296**	P	Pg	03 32 37.5	-0.9
NEST				S	Sg	03 32 46.7	+0.9
LIT	**Litokhoron**	**0.60**	**96**	P	Pg	03 32 38.8	-0.2
LIT				S	Sb	03 32 48.2	-0.9
LIT	**Litokhoron**	**0.60**	**96**	*e*PN	Pg	03 32 39.1	+0.1
LIT				*e*SN	Sg	03 32 47.7	+0.9
LIT	**Litokhoron**	**0.60**	**96**	P	Pg	03 32 38.8	-0.2
LIT	**Litokhoron**	**0.60**	**96**	*e*Pn	Pg	03 32 39.1	+0.1
LIT				*e*Sn	Sg	03 32 47.7	+0.9
LIT				S	Sb	03 32 48.2	-0.9
THL	**Klokotos Trika**	**0.64**	**159**	P	Pg	03 32 39.3	-0.5
THL				S	Sb	03 32 50.3	0.0
THL	**Klokotos Trika**	**0.64**	**159**	*e*PB	Pg	03 32 39.4	-0.4
THL				*e*SN	Sb	03 32 49.6	-0.7
THL	**Klokotos Trika**	**0.64**	**159**	P	Pg	03 32 39.3	-0.5
THL				*e*Sn	Sb	03 32 49.6	-0.7
THL				S	Sb	03 32 50.3	0.0
FNA	**Florina**	**0.67**	**337**	P	Pg	03 32 39.5	-0.8
FNA				S	Sg	03 32 49.0	-0.1
FNA	**Florina**	**0.67**	**337**	*e*PN	Pg	03 32 39.6	-0.8
FNA				*e*SN	Sg	03 32 48.2	-0.9
FNA	**Florina**	**0.67**	**337**	P	Pg	03 32 39.5	-0.8
FNA				S	Sg	03 32 49.0	-0.1
JAN	**Janina**	**0.84**	**233**	P	Pg	03 32 43.4	-0.1
JAN				S	Sb	03 32 56.3	+0.3
JAN	**Janina**	**0.84**	**233**	*e*PB	Pg	03 32 43.1	-0.4
JAN				*e*SN	Sb	03 32 56.5	+0.5
JAN	**Janina**	**0.84**	**233**	*e*Pb	Pg	03 32 43.1	-0.4
JAN	**Janina**	**0.84**	**233**	P	Pg	03 32 43.4	-0.1
JAN				S	Sb	03 32 56.3	+0.3
THE	**Thessaloniki**	**1.06**	**64**	P	Pb	03 32 48.6	+0.3
THE				S	Sn	03 33 04.4	+0.4
THE	**Thessaloniki**	**1.06**	**64**	*e*PN	Pb	03 32 48.7	+0.4
THE	**Thessaloniki**	**1.06**	**64**	P	Pb	03 32 48.6	+0.3
THE				S	Sn	03 33 04.4	+0.4
DSL	**Palaion Diasel**	**1.14**	**205**	P	Pg	03 32 48.9	-0.3
DSL				S	Sn	03 33 05.8	-0.1
DSL	**Palaion Diasel**	**1.14**	**205**	*e*PN	Pg	03 32 49.4	+0.2
DSL	**Palaion Diasel**	**1.14**	**205**	P	Pg	03 32 48.9	-0.3
DSL	**Palaion Diasel**	**1.14**	**205**	*e*Pn	Pg	03 32 49.4	+0.2
DSL				S	Sn	03 33 05.8	-0.1
HORT	**Hortiatis**	**1.14**	**67**	P	Pg	03 32 49.7	+0.3
HORT				S	Sn	03 33 06.6	+0.4
HORT	**Hortiatis**	**1.14**	**67**	*e*PN	Pg	03 32 49.5	+0.1
HORT	**Hortiatis**	**1.14**	**67**	P	Pg	03 32 49.7	+0.3
HORT				S	Sn	03 33 06.6	+0.4
MAKR	**Makrakomi, Fth**	**1.20**	**164**	P	Pg	03 32 50.0	-0.4
MAKR				S	Sn	03 33 07.9	+0.5
MAKR	**Makrakomi, Fth**	**1.20**	**164**	*e*PN	Pg	03 32 50.3	-0.1
MAKR	**Makrakomi, Fth**	**1.20**	**164**	P	Pg	03 32 50.0	-0.4
MAKR	**Makrakomi, Fth**	**1.20**	**164**	*e*Pn	Pg	03 32 50.3	-0.1
MAKR				S	Sn	03 33 07.9	+0.5
AGG	**Agios Georgios**	**1.24**	**157**	P	Pg	03 32 50.9	-0.2
AGG	**Agios Georgios**	**1.24**	**157**	*e*PN	Pg	03 32 51.0	-0.2
AGG	**Agios Georgios**	**1.24**	**157**	P	Pg	03 32 50.9	-0.2
IGT	**Igoumenitsa**	**1.24**	**240**	P	Pg	03 32 50.6	-0.6
IGT				S	Sn	03 33 09.5	+1.1
IGT	**Igoumenitsa**	**1.24**	**240**	*e*PN	Pg	03 32 51.5	+0.3
IGT	**Igoumenitsa**	**1.24**	**240**	P	Pg	03 32 50.6	-0.6
IGT	**Igoumenitsa**	**1.24**	**240**	*e*Pn	Pg	03 32 51.5	+0.3
IGT				S	Sn	03 33 09.5	+1.1
EVR	**Evrytania**	**1.25**	**177**	P	Pg	03 32 50.6	-0.8
EVR				S	Sn	03 33 09.6	+0.8
EVR	**Evrytania**	**1.25**	**177**	*e*PB	Pg	03 32 50.3	-1.1
EVR	**Evrytania**	**1.25**	**177**	*e*Pb	Pg	03 32 50.3	-1.1
EVR	**Evrytania**	**1.25**	**177**	P	Pg	03 32 50.6	-0.8
EVR				S	Sn	03 33 09.6	+0.8
PLG	**Polygyros**	**1.34**	**81**	P	Pn	03 32 52.7	-0.1
PLG	**Polygyros**	**1.34**	**81**	*e*PN	Pn	03 32 52.9	+0.1
PLG	**Polygyros**	**1.34**	**81**	P	Pn	03 32 52.7	-0.1
KNT	**Kendrikon**	**1.34**	**42**	P	Pn	03 32 52.3	-0.5
KNT	**Kendrikon**	**1.34**	**42**	*e*PN	Pn	03 32 52.2	-0.5
KNT	**Kendrikon**	**1.34**	**42**	P	Pn	03 32 52.3	-0.5
XOR	**Xorichti**	**1.39**	**125**	P	Pn	03 32 53.5	0.0
XOR				S	Sg	03 33 13.4	+1.3
XOR	**Xorichti**	**1.39**	**125**	*e*PN	Pn	03 32 53.5	0.0
XOR	**Xorichti**	**1.39**	**125**	P	Pn	03 32 53.5	0.0
XOR				S	Sg	03 33 13.4	+1.3
SOH	**Sokhos**	**1.41**	**62**	P	Pb	03 32 54.3	0.0
SOH				S	Sg	03 33 14.4	+1.6
SOH	**Sokhos**	**1.41**	**62**	*e*PN	Pb	03 32 54.4	+0.1
SOH	**Sokhos**	**1.41**	**62**	*e*Pn	Pb	03 32 54.4	+0.1

SOH				S	Sg	03 33 14.4	+1.6			
NEO	**Neokhori**	**1.45**	**126**	P	Pn	03 32 54.6	+0.4			
NEO				S	Sg	03 33 14.9	+1.0			
NEO	**Neokhori**	**1.45**	**126**	*e*PN	Pn	03 32 54.6	+0.4			
NEO	**Neokhori**	**1.45**	**126**	P	Pn	03 32 54.6	+0.4			
NEO				S	Sg	03 33 14.9	+1.0			
PAIG	**Paliouri**	**1.53**	**98**	P	Pn	03 32 55.2	-0.1			
PAIG				S	Sg	03 33 18.1	+1.6			
PAIG	**Paliouri**	**1.53**	**98**	*e*PN	Pn	03 32 55.5	+0.2			
PAIG	**Paliouri**	**1.53**	**98**	P	Pn	03 32 55.2	-0.1			
PAIG	**Paliouri**	**1.53**	**98**	*e*Pn	Pn	03 32 55.5	+0.2			
PAIG				S	Sg	03 33 18.1	+1.6			
KEK	**Kerkira**	**1.54**	**254**	P	Pn	03 32 55.3	-0.2			
KEK				S	Sb	03 33 16.7	+0.5			
KEK	**Kerkira**	**1.54**	**254**	*e*PN	Pg	03 32 57.2	+0.2			
KEK	**Kerkira**	**1.54**	**254**	P	Pn	03 32 55.3	-0.2			
KEK	**Kerkira**	**1.54**	**254**	*e*Pn	Pg	03 32 57.2	+0.2			
KEK				S	Sb	03 33 16.7	+0.5			
PVO	**Paravola**	**1.55**	**185**	P	Pg	03 32 57.5	+0.3			
PVO	**Paravola**	**1.55**	**185**	P	Pg	03 32 57.5	+0.3			
AXAR	**Agios Charalam**	**1.58**	**152**	P	Pn	03 32 56.5	+0.5			
AXAR	**Agios Charalam**	**1.58**	**152**	*e*PN	Pn	03 32 56.7	+0.7			
AXAR	**Agios Charalam**	**1.58**	**152**	*e*Pn	Pn	03 32 56.7	+0.7			
LKD2	**Lefkada island**	**1.60**	**211**	P	Pn	03 32 57.0	+0.7			
LKD2				S	Sg	03 33 19.1	+0.2			
LKD2	**Lefkada island**	**1.60**	**211**	*e*PN	Pb	03 32 57.8	+0.3			
LKD2	**Lefkada island**	**1.60**	**211**	P	Pn	03 32 57.0	+0.7			
LKD2	**Lefkada island**	**1.60**	**211**	*e*Pn	Pb	03 32 57.8	+0.3			
LKD2				S	Sg	03 33 19.1	+0.2			
PDO	**Prodromos**	**1.62**	**195**	P	Pb	03 32 57.5	-0.2			
PDO	**Prodromos**	**1.62**	**195**	*e*PN	Pb	03 32 58.3	+0.6			
PDO	**Prodromos**	**1.62**	**195**	P	Pb	03 32 57.5	-0.2			
PDO	**Prodromos**	**1.62**	**195**	*e*Pn	Pb	03 32 58.3	+0.6			
SKIA	**Skiathos**	**1.68**	**126**	P	Pn	03 32 57.7	+0.3			
SKIA				S	Sb	03 33 20.8	+0.6			
SKIA	**Skiathos**	**1.68**	**126**	*e*PN	Pn	03 32 57.9	+0.5			
SKIA	**Skiathos**	**1.68**	**126**	*e*Pn	Pn	03 32 57.9	+0.5			
SKIA				S	Sb	03 33 20.8	+0.6			
SRS	**Serrai**	**1.72**	**56**	P	Pn	03 32 58.3	+0.4			
SRS				S	Sg	03 33 22.2	-0.4			
SRS	**Serrai**	**1.72**	**56**	*e*PN	Pn	03 32 58.4	+0.5			
SRS	**Serrai**	**1.72**	**56**	*e*Pn	Pn	03 32 58.4	+0.5			
SRS				S	Sg	03 33 22.2	-0.4			
SMIA	**Simia**	**1.73**	**138**	P	Pn	03 32 57.2	-0.9			
SMIA	**Simia**	**1.73**	**138**	*e*PN	Pn	03 32 58.9	+0.8			
SMIA	**Simia**	**1.73**	**138**	P	Pn	03 32 57.2	-0.9			
SMIA	**Simia**	**1.73**	**138**	*e*Pn	Pn	03 32 58.9	+0.8			
EFP	**Efpalio**	**1.74**	**175**	P	Pb	03 32 59.5	-0.3			
EFP	**Efpalio**	**1.74**	**175**	*e*PN	Pb	03 32 59.6	-0.3			
EFP	**Efpalio**	**1.74**	**175**	P	Pb	03 32 59.5	-0.3			
OUR	**Ouranopolis**	**1.74**	**84**	P	Pn	03 32 58.1	-0.2			
OUR	**Ouranopolis**	**1.74**	**84**	*e*PN	Pn	03 32 58.8	+0.5			
OUR	**Ouranopolis**	**1.74**	**84**	P	Pn	03 32 58.1	-0.2			
OUR	**Ouranopolis**	**1.74**	**84**	*e*Pn	Pn	03 32 58.8	+0.5			
KALE	**Kalithea**	**1.80**	**169**	P	Pn	03 32 59.6	+0.4			
KALE				S	Sb	03 33 23.9	+0.1			
KALE	**Kalithea**	**1.80**	**169**	*e*PB	Pn	03 32 59.6	+0.4			
KALE	**Kalithea**	**1.80**	**169**	P	Pn	03 32 59.6	+0.4			
KALE				S	Sb	03 33 23.9	+0.1			
LKR	**Lokris**	**1.81**	**146**	P	Pn	03 32 59.5	+0.3			
LKR	**Lokris**	**1.81**	**146**	*e*PN	Pn	03 32 59.8	+0.6			
LKR	**Lokris**	**1.81**	**146**	P	Pn	03 32 59.5	+0.3			
LKR	**Lokris**	**1.81**	**146**	*e*Pn	Pn	03 32 59.8	+0.6			
DSF	**Desfina**	**1.86**	**160**	P	Pn	03 33 00.1	+0.1			
DSF	**Desfina**	**1.86**	**160**	*e*PB	Pn	03 33 00.4	+0.4			
DSF	**Desfina**	**1.86**	**160**	P	Pn	03 33 00.1	+0.1			
AOS	**Alonnisos**	**1.94**	**120**	P	Pn	03 33 01.8	+0.8			
AOS	**Alonnisos**	**1.94**	**120**	*e*PB	Pn	03 33 00.9	+0.1			
AOS	**Alonnisos**	**1.94**	**120**	P	Pn	03 33 01.8	+0.8			
KKB	**Krupnik**	**1.99**	**31**	*i* P	Pn	03 31 01.6	-0.1			
KKB	**Krupnik**	**1.99**	**31**	*i* P	Pn	03 33 01.6	-0.1			
NVR	**Nevrokopi**	**2.02**	**53**	P	Pn	03 33 03.0	+0.9			
NVR	**Nevrokopi**	**2.02**	**53**	*e*PN	Pn	03 33 02.9	+0.9			
NVR	**Nevrokopi**	**2.02**	**53**	*e*Pn	Pn	03 33 02.9	+0.9			
MRKA	**Markates**	**2.06**	**135**	P	Pn	03 33 02.9	+0.3			
MRKA	**Markates**	**2.06**	**135**	*e*PN	Pn	03 33 03.9	+1.3			
MRKA	**Markates**	**2.06**	**135**	P	Pn	03 33 02.9	+0.3			
MRKA	**Markates**	**2.06**	**135**	*e*Pn	Pn	03 33 03.9	+1.3			
MMB	**Musomiste**	**2.09**	**46**	*i*P	Pn	03 33 04.1	+1.0			
MMB	**Musomiste**	**2.09**	**46**	S	Sb	03 33 32.4	+0.4			
MMB	**Musomiste**	**2.09**	**46**	*i* P	Pb	03 33 04.9	-0.9			
MMB	**Musomiste**	**2.09**	**46**	*i* P	Pb	03 33 04.9	-0.9			
RLS	**Riolos of Patr**	**2.11**	**185**	P	Pb	03 33 05.2	-1.0			
RLS	**Riolos of Patr**	**2.11**	**185**	*e*PN	Pb	03 33 06.4	+0.2			
RLS	**Riolos of Patr**	**2.11**	**185**	P	Pb	03 33 05.2	-1.0			
RLS	**Riolos of Patr**	**2.11**	**185**	*e*Pn	Pb	03 33 06.4	+0.2			
KLV	**Kalavryta, Ach**	**2.15**	**171**	P	Pn	03 33 04.6	+0.7			
KLV	**Kalavryta, Ach**	**2.15**	**171**	*e*PB	Pn	03 33 04.8	+0.9			
KLV	**Kalavryta, Ach**	**2.15**	**171**	P	Pn	03 33 04.6	+0.7			
VLS	**Valsamata**	**2.17**	**204**	P	Pb	03 33 06.4	-0.8			
VLS	**Valsamata**	**2.17**	**204**	*e*PN	Pb	03 33 06.8	-0.4			
VLS	**Valsamata**	**2.17**	**204**	P	Pb	03 33 06.4	-0.8			
VLS	**Valsamata**	**2.17**	**204**	*e*Pn	Pb	03 33 06.8	-0.4			
KFL	**Anninata**	**2.18**	**200**	P	Pb	03 33 07.3	0.0			
KFL	**Anninata**	**2.18**	**200**	P	Pb	03 33 07.3	0.0			
DRO	**Drossia**	**2.21**	**180**	P	Pb	03 33 07.8	-0.1			
DRO	**Drossia**	**2.21**	**180**	*e*PN	Pb	03 33 07.9	0.0			
DRO	**Drossia**	**2.21**	**180**	P	Pb	03 33 07.8	-0.1			
GUR	**Goura**	**2.28**	**167**	P	Pn	03 33 06.7	+0.9			
GUR	**Goura**	**2.28**	**167**	*e*PB	Pn	03 33 06.0	+0.2			
GUR	**Goura**	**2.28**	**167**	P	Pn	03 33 06.7	+0.9			
KAVA	**Kavala**	**2.29**	**68**	*e*PN	Pn	03 33 06.4	+0.6			
KAVA	**Kavala**	**2.29**	**68**	*e*Pn	Pn	03 33 06.4	+0.6			
LTK	**Loutraki**	**2.35**	**155**	*e*PB	Pn	03 33 07.1	+0.4			
ULC	**Ulcinj**	**2.59**	**315**	*i*Pn	Pn	03 33 12.0	+2.0			
ULC				*e*Sn	Sb	03 33 45.6	-0.9			
ULC	**Ulcinj**	**2.59**	**315**	*i*Pn	Pn	03 33 12.0	+2.0			
ULC				*e*Sn	Sb	03 33 45.6	-0.9			
AMT	**Artemida-Makis**	**2.63**	**180**	P	Pn	03 33 12.8	+2.3			
AMT	**Artemida-Makis**	**2.63**	**180**	*e*PB	Pb	03 33 13.6	-1.4			
AMT	**Artemida-Makis**	**2.63**	**180**	P	Pn	03 33 12.8	+2.3			
BARS	**Barje**	**2.65**	**2**	*i*Pn	Pn	03 33 11.7	+0.9			
VTS	**Vitosha**	**2.67**	**24**	*i*P	Pn	03 33 12.3	+1.1			
VTS	**Vitosha**	**2.67**	**24**	S	Sn	03 33 46.0	+2.0			
VTS	**Vitosha**	**2.67**	**24**	*i* P	Pn	03 33 12.0	+0.8			
VTS	**Vitosha**	**2.67**	**24**	*i* P	Pn	03 33 12.0	+0.8			
RZN	**Rozhen**	**2.74**	**55**	*i* P	Pb	03 33 15.4	-1.5			
RZN	**Rozhen**	**2.74**	**55**	*i* P	Pb	03 33 15.4	-1.5			
PVY	**Plav**	**2.76**	**332**	*i*Pn	Pn	03 33 14.2	+1.7			
PVY				*e*Sn	Sn	03 33 49.1	+2.9			
PVY	**Plav**	**2.76**	**332**	*i*Pn	Pn	03 33 14.2	+1.7			
PVY				*e*Sn	Sn	03 33 49.1	+2.9			
NAIG	**Nisos Aigina**	**2.77**	**150**	*e*PN	Pn	03 33 13.2	+0.8			
NAIG	**Nisos Aigina**	**2.77**	**150**	*e*Pn	Pn	03 33 13.2	+0.8			
DRME	**Dracevica, Mon**	**2.78**	**317**	*i*Pn	Pn	03 33 14.5	+1.9			
DRME				*e*Sn	Sb	03 33 50.2	-1.7			
DRME	**Dracevica, Mon**	**2.78**	**317**	*i*Pn	Pn	03 33 14.5	+1.9			
DRME				*e*Sn	Sb	03 33 50.2	-1.7			
PDG	**Podgorica**	**2.92**	**321**	*i*Pn	Pn	03 33 17.0	+2.5			
PDG				*e*Sn	Sb	03 33 53.6	-2.4			
TTG	**Podgorica**	**2.92**	**321**	*i*Pn	Pn	03 33 17.0	+2.5			
TTG				*e*Sn	Sb	03 33 53.6	-2.4			
ITM	**Ithomi**	**2.99**	**177**	*e*PB	Pb	03 33 18.7	-2.4			
BUM	**Brajici-Budva**	**3.01**	**316**	*i*Pn	Pn	03 33 17.8	+2.0			
BUM				*e*Sn	Sb	03 33 55.8	-2.9			
BUM	**Brajici-Budva**	**3.01**	**316**	*i*Pn	Pn	03 33 17.8	+2.0			
BUM				*e*Sn	Sb	03 33 55.8	-2.9			
BEY	**Berane**	**3.03**	**334**	*i*Pn	Pn	03 33 17.8	+1.7			
BEY				*e*Sn	Sn	03 33 55.6	+2.9			
IVA	**Berane**	**3.03**	**334**	*i*Pn	Pn	03 33 17.8	+1.7			
IVA				*e*Sn	Sn	03 33 55.6	+2.9			
KDZ	**Kurdzhali**	**3.17**	**61**	*i*P	Pn	03 33 19.8	+1.8			
KDZ	**Kurdzhali**	**3.17**	**61**	*i*P	Pn	03 33 19.8	+1.8			
PYL	**PYLOS**	**3.27**	**180**	*e*PN	Pn	03 33 21.3	+2.1			
PYL	**PYLOS**	**3.27**	**180**	*e*Pn	Pn	03 33 21.3	+2.1			
NKME	**Niksic**	**3.33**	**322**	*e*Pn	Pn	03 33 22.2	+2.1			
NKME				*e*Sn	Sn	03 34 02.7	+2.7			
NKME	**Niksic**	**3.33**	**322**	*e*Pn	Pn	03 33 22.2	+2.1			
NKME				*e*Sn	Sn	03 34 02.7	+2.7			
HCY	**Herceg Novi**	**3.33**	**314**	*e*Pn	Pn	03 33 22.0	+1.9			
HCY				*e*Sn	Sn	03 34 03.5	+3.5			
HCY	**Herceg Novi**	**3.33**	**314**	*e*Pn	Pn	03 33 22.0	+1.9			
HCY				*e*Sn	Sn	03 34 03.5	+3.5			
NKY	**Niksic**	**3.34**	**323**	*i*Pn	Pn	03 33 23.0	+2.6			
NKY				*e*Sn	Sn	03 34 03.6	+3.1			
NKY	**Niksic**	**3.34**	**323**	*i*Pn	Pn	03 33 23.0	+2.6			
NKY				*e*Sn	Sn	03 34 03.6	+3.1			
MPEP	**Malo Peshtene**	**3.53**	**25**	*i* P	Pn	03 33 24.4	+1.5			
IVAS	**Ivanjica**	**3.60**	**342**	*e*Pn	Pn	03 33 24.8	+0.9			
PLE	**Pljevlja**	**3.61**	**332**	*e*Pn	Pn	03 33 25.5	+1.4			
PLE				*e*Sn	Sn	03 34 09.2	+2.1			
PLE	**Pljevlja**	**3.61**	**332**	*e*Pn	Pn	03 33 25.5	+1.4			
PLE				*e*Sn	Sn	03 34 09.2	+2.1			
BRY	**Bratogost**	**3.63**	**320**	*i*Pn	Pn	03 33 25.9	+1.6			
BRY				*e*Sn	Sn	03 34 10.3	+2.8			
BRY	**Bratogost**	**3.63**	**320**	*i*Pn	Pn	03 33 25.9	+1.6			
BRY				*e*Sn	Sn	03 34 10.3	+2.8			
BOLS	**Boljevac**	**3.67**	**3**	*e*Pn	Pn	03 33 24.0	-0.7			
UPM	**Unac-Piva**	**3.69**	**326**	*i*Pn	Pn	03 33 27.7	+2.4			
UPM				*e*Sn	Sn	03 34 11.7	+2.5			
UPM	**Unac-Piva**	**3.69**	**326**	*i*Pn	Pn	03 33 27.7	+2.4			
UPM				*e*Sn	Sn	03 34 11.7	+2.5			
GRUS	**Gruza**	**3.79**	**349**	*i*Pn	Pn	03 33 27.7	+1.2			
CHOS	**Chios island**	**3.81**	**116**	*e*PN	Pn	03 33 28.1	+1.4			
CHOS	**Chios island**	**3.81**	**116**	*e*Pn	Pn	03 33 28.1	+1.4			
BBLS	**Lazići**	**4.08**	**336**	*e*Pn	Pn	03 33 32.3	+1.8			
DIVS	**Divibare**	**4.13**	**343**	*i*P	Pn	03 33 32.3	+1.1			
DIVS	**Divibare**	**4.13**	**343**	*i*P	Pn	03 33 32.3	+1.1			
TRUS	**Trudelj**	**4.17**	**347**	*e*Pn	Pn	03 33 31.7	0.0			
CDT	**Castel del Mon**	**4.24**	**284**	*e*Pn	Pn	03 33 33.4	+0.7			
APE	**Apeiranthos**	**4.30**	**135**	*i*P	Pn	03 33 38.1	+4.6			
APE	**Apeiranthos**	**4.30**	**135**	*i*P	Pn	03 33 38.1	+4.6			
MS1	**Monte Sant'Ang**	**4.63**	**291**	*e*Pn	Pn	03 33 38.1	0.0			
TEKS	**Tekeris**	**4.67**	**340**	*i*Pn	Pn	03 33 39.4	+0.8			
GZR	**Gura Zlata**	**5.28**	**8**	*i*P	Pn	03 33 47.4	+0.4			
GZR	**Gura Zlata**	**5.28**	**8**	*i*P	Pn	03 33 47.4	+0.4			
BZS	**Buzias**	**5.45**	**359**	*i*P	Pn	03 33 49.3	+0.1			
BZS	**Buzias**	**5.45**	**359**	*i*P	Pn	03 33 49.3	+0.1			
IDI	**Anoyia**	**5.48**	**152**	Pn	Pn	03 33 49.6	-0.1			
	0.4nm,0.3s,baz=13,slow=18,SNR=3.9									
IDI				Sn	Sn	03 34 55.0	+1.9			
	0.7nm,0.3s,baz=286,slow=19,SNR=3.3									
VOIR		**5.81**	**24**	*i*P	Pn	03 33 54.7	+0.4			
VOIR		**5.81**	**24**	*i*P	Pn	03 33 54.7	+0.4			
MLR	**Muntele Rosu**	**6.16**	**29**	*i*P	Pn	03 34 00.9	+1.7			
MLR	**Muntele Rosu**	**6.16**	**29**	Pn	Pn	03 33 59.2	+0.1			
	baz=208,slow=14									
MLR				LR	LR	03 36 10.0				
	comp=Z,5.6nm,19.8s,baz=265,slow=37									
MLR	**Muntele Rosu**	**6.16**	**29**	*i*P	Pn	03 34 00.9	+1.7			
UDBI	**Udbina**	**6.20**	**317**	*i* Pn	Pn	03 34 00.7	+1.1			
UDBI				Sn	Sn	03 35 11.2	+0.4			
PKSM	**Moragy**	**6.45**	**341**	*i*P	Pn	03 34 03.7	+0.8			
PKSM	**Moragy**	**6.45**	**341**	*i*P	Pn	03 34 03.7	+0.8			
NVLJ	**Novalja**	**6.71**	**313**	*e*Pn	Pn	03 34 05.6	-0.9			
NVLJ				Sn	Sn	03 35 19.6	-3.5			
VRI	**Vrincioaia**	**6.78**	**31**	*i*P	Pn	03 34 09.5	+2.0			
VRI	**Vrincioaia**	**6.78**	**31**	*i*P	Pn	03 34 09.5	+2.0			
CFR	**Carcaliu**	**6.89**	**41**	*i*P	Pn	03 34 11.3	+2.3			
CFR	**Carcaliu**	**6.89**	**41**	*i*P	Pn	03 34 11.3	+2.3			
PSZ	**Piszkesteto**	**7.86**	**351**	*i*P	Pn	03 34 23.0	+0.6			
PSZ	**Piszkesteto**	**7.86**	**351**	*i*P	Pn	03 34 23.0	+0.6			
BURAR	**Bucovina Array**	**7.86**	**18**	*i*P	Pn	03 34 24.9	+2.4			
BURAR	**Bucovina Array**	**7.86**	**18**	*i*P	Pn	03 34 24.9	+2.4			
SOKA	**Soboth**	**8.12**	**325**	*i*Pn	Pn	03 34 25.6	-0.4			
VRAC	**Vranov**	**9.84**	**340**	LR	LR	03 39 55.2				
	comp=Z,26nm,19.5s,baz=172,slow=46									
GERES	**GERESS Array B**	**10.39**	**329**	Pn	Pn	03 34 56.9	-0.2			
	0.1nm,0.3s,baz=147,slow=12,SNR=4.7									
GERES				LR	LR	03 39 42.0				
	comp=Z,33nm,18.3s,baz=304,slow=42									
HFS	**Hagfors**	**20.61**	**349**	P	P	03 37 05.8	-1.4			
	1.0nm,0.5s,baz=172,slow=12,SNR=9.1									
FINES	**FINESS Array B**	**21.47**	**6**	P	P	03 37 16.3	-0.2			
	1.6nm,0.9s,baz=156,slow=7.6,SNR=2.8									
NB2	**NORSAR Subarra**	**21.88**	**346**	P	P	03 37 19.9	-1.0			
	comp=Z,1.0nm,0.7s,baz=161,slow=11									
NB2	**NORSAR Subarra**	**21.88**	**346**	P	P	03 37 19.9	-1.0			
	comp=Z,1.0nm,0.7s,SNR=6.5									
NOA	**NORSAR Array B**	**21.88**	**346**	P	P	03 37 19.8	-1.1			
	comp=Z,2.1nm,0.8s,baz=161,slow=11,SNR=6.6									
EKA	**Eskdalemuir Ar**	**22.41**	**321**	P	P	03 37 25.2	-1.3			
	comp=Z,2.0nm,0.7s,baz=117,slow=11,SNR=7.0									
TORD	**Torodi Ar. Bea**	**32.16**	**219**	P	P	03 38 56.3	+0.3			
	comp=Z,0.6nm,0.5s,baz=32,slow=8.6,SNR=8.0									
MKAR	**Makanchi Array**	**43.49**	**60**	P	P	03 40 30.7	-0.9			
	comp=Z,0.1nm,0.6s,baz=282,slow=7.1,SNR=2.9									

STR ***30*** *03:51:34.8±0.5, 51.15N×16.66E, h5km, Ml4.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISCJB ***30*** *03:51:35.4±0.1, 51.57N±0.01×16.06E±0.01, h0km, mb4.0/15, MS3.2/1, Error ellipse: s-maj=1.6km s-min=1.3km az=2.3*

BNS ***30*** *03:51:36.5±0.4, 51.81N×16.44E, h5km, ML3.9*

MOS ***30*** *03:51:36.1±1.3, 51.64N×15.92E, h10km, mb4.3/6, Error ellipse: s-maj=5.2km s-min=3.3km az=73.0*

BJI ***30*** *03:51:36.3, 51.60N×16.10E, h10km, mb4.7/2*

LDG ***30*** *03:51:36.9±0.1, 51.60N×16.22E, h1km, Ml4.6/36, Error ellipse: s-maj=3.2km s-min=2.2km az=176.0, Suspected Mining induced.*

NEIC ***30*** *03:51:37.6±0.2, 51.62N×15.98E, h5km, mb4.2/2, ML4.1(SZGRF), Error ellipse: s-maj=4.6km s-min=3.0km az=154.0*

CSEM ***30*** *03:51:37.6±0.1, 51.56N×16.03E, h0km, mb4.3/5, ML4.5/16, Ms4.2, Error ellipse: s-maj=1.9km s-min=1.6km az=173.0*

IPEC ***30*** *03:51:37.2±0.4, 51.61N×16.21E, h0km±2km, ML3.7/3, Error ellipse: s-maj=3.7km s-min=1.8km az=59.0*

IDC ***30*** *03:51:38.4±0.5, 51.52N×15.96E, h0km, mb3.9/11, mb1 4.0/21, mb1mx3.9/34, mbtmp3.9/21, ML4.0/8, MS3.4/1, Ms1 3.4/1, ms1mx2.0/44, Error ellipse: s-maj=8.8km s-min=6.0km az=95.0*

BGR ***30*** *03:51:39.2±0.3, 51.55N×16.08E, h1km, ML4.1/22, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*

PRU ***30*** *03:51:39.4, 51.51N×16.03E, h0km, M4.2, Felt In Ponikla, Harrachov*

VIE ***30*** *03:51:40.7±0.3, 51.34N×15.90E, h1km, mb3.6/16, ML3.6/16, Ms4.2/2, Error ellipse: s-maj=2.3km s-min=1.9km az=5.0 81 km WNW of Wroclaw Suspected Mining induced.*

UPP ***30*** *03:51:41.1, 51.74N×15.48E, h0km, ML3.1, Suspected Mining explosion.*

ISC 30 03:51:37.3±0.4, 51.58N±0.02×16.07E±0.02, h0km, n508, σ1§37/686, mb4.0/15, 30C-34D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg		**Pb**	**03 51 52.6**	**-0.6**
KSP				*e*Sg		**Sg**	**03 52 02.3**	**+1.0**
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg		**Pg**	**03 51 52.5**	**+0.8**
KSP				*e*Sg		**Sg**	**03 52 01.9**	**+0.6**
KSP	**Ksiaz**	**0.75**	**169**	*i*P		**Pg**	**03 51 52.5**	**+0.8**
KSP				*e*			03 52 05.5	
KSP	**Ksiaz**	**0.75**	**169**	*i* P		**Pg**	**03 51 52.5**	**+0.8**
KSP				Sg		**Sg**	**03 52 02.3**	**+1.0**
KSP				*e*S		**Sb**	**03 52 05.5**	**+1.5**
UPC	**Upice**	**1.07**	**182**	*i* PG		**Pb**	**03 51 58.4**	**-0.3**
UPC				*e*SG		**Sg**	**03 52 11.9**	**+0.2**
	comp=Z,492nm,0.3s							
UPC	**Upice**	**1.07**	**182**	*i* P		**Pb**	**03 51 58.4**	**-0.3**
UPC				*e*			03 52 11.9	
UPC				smax		smax		
	comp=N,492nm,0.3s							
UPC	**Upice**	**1.07**	**182**	Pg		**Pb**	**03 51 58.4**	**-0.3**
UPC				Sg		**Sg**	**03 52 11.9**	**+0.2**
	comp=N,492nm,0.3s							
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg		**Pg**	**03 52 01.4**	**+0.4**
DPC				*e*Sg		**Sg**	**03 52 17.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG		**Pg**	**03 52 01.3**	**+0.2**
DPC				*e*SG		**Sg**	**03 52 16.6**	**-0.5**
DPC	**Dobruska-Polom**	**1.24**	**173**	*i* P		**Pg**	**03 52 01.3**	**+0.2**
DPC				*e*			03 52 16.6	
DPC	**Dobruska-Polom**	**1.24**	**173**	Pg		**Pg**	**03 52 01.3**	**+0.2**
DPC				Sg		**Sg**	**03 52 17.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pn		**Pg**	**03 52 01.3**	**+0.2**
DPC				*e*Sb		**Sg**	**03 52 17.3**	**+0.2**
PVCC	**Panska Ves**	**1.42**	**223**	*e*Pn		**Pb**	**03 52 04.7**	**+0.1**
PVCC				*e*Sg		**Sn**	**03 52 25.2**	**+1.5**
PVCC	**Panska Ves**	**1.42**	**223**	*i* PG		**Pb**	**03 52 04.7**	**+0.1**
PVCC				*e*SG		**Sn**	**03 52 24.1**	**+0.4**
	comp=N,3μm,0.3s							
PVCC				AMS		AMS	03 52 30.0	
	comp=N,2μm,5.7s							
PVCC	**Panska Ves**	**1.42**	**223**	*i* P		**Pb**	**03 52 04.7**	**+0.1**
PVCC				*e*			03 52 24.1	
PVCC				smax		smax		
	comp=N,3μm,0.3s							
PVCC				MLR		MLR		
	comp=Z,2μm,5.7s							
PVCC	**Panska Ves**	**1.42**	**223**	*i* P		**Pb**	**03 52 04.7**	**+0.1**
	comp=Z,3μm,0.3s							
PVCC				Sg		**Sn**	**03 52 24.1**	**+0.4**
	comp=Z,3μm,0.3s							
BRG	**Berggiesshubel**	**1.51**	**243**	PN		**Pn**	**03 52 05.5**	**-0.2**
BRG				PG		**Pg**	**03 52 07.2**	**+0.9**
BRG				SG		**Sn**	**03 52 27.5**	**+1.4**
	comp=Z,1μm,0.3s							
BRG	**Berggiesshubel**	**1.51**	**243**	*e*Pn		**Pn**	**03 52 05.7**	**0.0**
BRG				*e*Sg		**Sn**	**03 52 27.7**	**+1.6**
BRG	**Berggiesshubel**	**1.51**	**243**	P		**Pn**	**03 52 05.5**	**-0.2**
BRG	**Berggiesshubel**	**1.51**	**243**	Pn		**Pn**	**03 52 05.7**	**0.0**
BRG				Sg		**Sn**	**03 52 27.7**	**+1.6**
RUE	**Ruedersdorf**	**1.68**	**303**	*e*Pn		**Pn**	**03 52 07.5**	**-0.5**
FBE	**Freiberg**	**1.83**	**250**	*e*Pn		**Pn**	**03 52 10.2**	**+0.2**
FBE				*e*Sg		**Sg**	**03 52 37.6**	**+1.5**
FBE	**Freiberg**	**1.83**	**250**	Pn		**Pn**	**03 52 10.2**	**+0.2**
FBE				Sg		**Sg**	**03 52 37.6**	**+1.5**
PRA	**Prague**	**1.83**	**215**	*e*PN		**Pn**	**03 52 10.5**	**+0.5**
PRA				*i* PG		**Pg**	**03 52 12.8**	**+0.4**
PRA				*e*SG		**Sg**	**03 52 35.7**	**-0.5**
PRA				AMS		AMS	03 53 00.0	
	comp=Z,3μm,2.5s							
PRA	**Prague**	**1.83**

JAVC	**Velka Javorina**	**2.91**	**159**	Pn	**Pn**	**03 52 26.3**	**+1.4**
JAVC				Sg	**Sg**	**03 53 12.8**	**+2.1**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN	**Pn**	**03 52 25.4**	**+0.3**
KHC				*e*PG	**Pb**	**03 52 31.0**	**+0.7**
KHC				*e*SN	**Sn**	**03 52 59.0**	**-1.9**
KHC				*e*SG	**Sb**	**03 53 08.0**	**+1.4**
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	**Pn**	**03 52 25.4**	**+0.3**
KHC	**Kasperske Hory**	**2.92**	**214**	Pg	**Pb**	**03 52 31.0**	**+0.7**
KHC				Sn	**Sn**	**03 52 59.0**	**-1.9**
KHC				Sg	**Sb**	**03 53 08.0**	**+1.4**
BEL	**Belsk**	**2.95**	**83**	*e*Pn	**Pn**	**03 52 25.3**	**-0.1**
BEL				*e*Pb	**Pb**	**03 52 27.7**	**-3.0**
BEL				*e*Pg		03 52 37.0	+3.2
BEL	**Belsk**	**2.95**	**83**	*e*P	**Pn**	**03 52 25.3**	**-0.1**
BEL	**Belsk**	**2.95**	**83**	*e*P	**Pn**	**03 52 25.3**	**-0.1**
MOX	**Moxa**	**2.96**	**253**	*e*Pn	**Pn**	**03 52 26.0**	**+0.4**
MOX				*e*Sg	**Sg**	**03 53 12.5**	**+0.1**
MOX	**Moxa**	**2.96**	**253**	Pn	**Pn**	**03 52 26.0**	**+0.4**
MOX				Sg	**Sg**	**03 53 12.5**	**+0.1**
MANZ	**Manzenberg**	**2.98**	**239**	*e*Pn	**Pn**	**03 52 26.6**	**+0.8**
MANZ	**Manzenberg**	**2.98**	**239**	Pn	**Pn**	**03 52 26.6**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	*e*Pn	**Pn**	**03 52 27.8**	**+0.9**
ROTZ				*e*Sg	**Sg**	**03 53 15.1**	**-0.3**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	Pn	**Pn**	**03 52 27.8**	**+0.9**
ROTZ				Sg	**Sg**	**03 53 15.1**	**-0.3**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**03 52 28.5**	**+0.5**
GEC2				*e*Sg	**Sg**	**03 53 16.2**	**-1.6**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*P	**Pn**	**03 52 28.2**	**+0.2**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*P	**Pn**	**03 52 28.2**	**+0.2**
GEC2	**GERESS Array S**	**3.13**	**210**	Pn	**Pn**	**03 52 28.5**	**+0.5**
GEC2				Sg	**Sg**	**03 53 16.2**	**-1.6**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**03 52 28.2**	**+0.2**
GEC2				*e*Sg	**Sg**	**03 53 16.2**	**-1.6**
GERES	**GERESS Array B**	**3.13**	**210**	Pn	**Pn**	**03 52 28.2**	**+0.2**
	comp=Z,18nm,0.3s,baz=32,slow=12,SNR=427						
GERES				Lg	Lg	03 53 15.5	
	comp=Z,46nm,0.3s,baz=28,slow=26,SNR=8.9						
WET	**Wettzell**	**3.18**	**221**	*e*Pn	**Pn**	**03 52 29.1**	**+0.5**
WET				*e*Sg	**Sg**	**03 53 18.4**	**-1.1**
WET	**Wettzell**	**3.18**	**221**	Pn	**Pn**	**03 52 29.1**	**+0.5**
WET				Sg	**Sg**	**03 53 18.4**	**-1.1**
SMOL	**Smolenice**	**3.19**	**164**	*e*P	**Pn**	**03 52 30.3**	**+1.6**
SMOL	**Smolenice**	**3.19**	**164**	*e*P	**Pn**	**03 52 30.3**	**+1.6**
SMOL	**Smolenice**	**3.19**	**164**	*e*PN	**Pn**	**03 52 30.3**	**+1.6**
SMOL				*e*PG	**Pg**	**03 52 38.8**	**+0.4**
SMOL				*e*SG	**Sg**	**03 53 20.5**	**+0.9**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*P	**Pn**	**03 52 39.5**	**-0.3**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*Pg	**Pg**	**03 52 39.5**	**-0.3**
LANS				*e*Sg	**Sg**	**03 53 22.3**	**+0.3**
RGN	**Rugen**	**3.41**	**332**	*e*Pn	**Pn**	**03 52 30.3**	**-1.3**
RGN				*e*Pg	**Pb**	**03 52 38.8**	**+0.3**
NIE	**Niedzica**	**3.46**	**127**	*e*Pn	**Pn**	**03 52 33.0**	**+0.6**
NIE				*e*PP	**PbPb**	**03 52 43.4**	**+0.7**
NIE				*e*Pg	Pg	03 52 47.8	+4.1
NIE				*e*Sb	**Sg**	**03 53 29.9**	**+1.3**
NIE	**Niedzica**	**3.46**	**127**	*e*Pn	**Pn**	**03 52 33.1**	**+0.6**
NIE				*e*Pg	**PbPb**	**03 52 43.4**	**+0.7**
NIE				*e*Sg	**Sg**	**03 53 29.2**	**+0.6**
NIE	**Niedzica**	**3.46**	**127**	*e*P	**Pn**	**03 52 33.1**	**+0.6**
NIE	**Niedzica**	**3.46**	**127**	*e*P	**Pn**	**03 52 33.1**	**+0.6**
CLZ	**Clausthal**	**3.56**	**276**	*e*Pn	**Pn**	**03 52 35.3**	**+1.5**
CLZ	**Clausthal**	**3.56**	**276**	Pn	**Pn**	**03 52 35.3**	**+1.5**
VYHS	**Vyhne**	**3.56**	**149**	*e*P	**Pn**	**03 52 33.8**	**-0.1**
VYHS	**Vyhne**	**3.56**	**149**	*e*P	**Pn**	**03 52 33.8**	**-0.1**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**03 52 33.8**	**-0.1**
VYHS				*e*PG	**Pg**	**03 52 45.5**	**-0.1**
VYHS				*e*SG	**Sg**	**03 53 31.5**	**-0.3**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**03 52 34.9**	**+0.4**
BSD				*i* S	**Sn**	**03 53 16.1**	**-1.6**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**03 52 34.9**	**+0.4**
BSD				*i* S	**Sn**	**03 53 16.1**	**-1.6**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**03 52 34.9**	**+0.4**
BSD				*i* S	**Sn**	**03 53 16.1**	**-1.6**
GRA1	**Grafenberg Arr**	**3.62**	**240**	Pn	**Pn**	**03 52 35.8**	**+1.2**
GRA1				Sg	**Sg**	**03 53 34.8**	**+1.3**
GRF	**Grafenberg Arr**	**3.62**	**240**	*e*Pn	**Pn**	**03 52 35.8**	**+1.2**
GRF				*e*Sg	**Sg**	**03 53 34.8**	**+1.3**
GRFO	**Grafenberg**	**3.62**	**240**	*e*P	**Pn**	**03 52 35.3**	**+0.7**
GRFO	**Grafenberg**	**3.62**	**240**	*e*P	**Pn**	**03 52 35.3**	**+0.7**
GRFO	**Grafenberg**	**3.62**	**240**	*e*Pn	**Pn**	**03 52 35.3**	**+0.7**
GRFO				*e*Sg	**Sg**	**03 53 34.1**	**+0.5**
CONA	**Conrad Observa**	**3.66**	**182**	⇓*i*Pn	**Pn**	**03 52 35.8**	**+0.6**
	SNR=53						
CONA				⇑*i*Sg	**Sg**	**03 53 34.4**	**-0.3**
	comp=Z,346nm,0.5s						
CONA	**Conrad Observa**	**3.66**	**182**	Pn	**Pn**	**03 52 35.8**	**+0.6**
	SNR=53						
CONA				Sg	**Sg**	**03 53 34.4**	**-0.3**
	comp=Z,346nm,0.5s						
SOP	**Sopron**	**3.91**	**175**	*e*Pn	**Pn**	**03 52 39.0**	**+0.4**
SOP	**Sopron**	**3.91**	**175**	*e*Pn	**Pn**	**03 52 39.0**	**+0.4**
SOP				*e*Sb	**Sb**	**03 53 38.7**	**+3.7**
MOA	**Molln**	**3.91**	**198**	⇓*i*Pn	**Pn**	**03 52 39.1**	**+0.4**
	SNR=71						
MOA				⇑*i*Sg	**Sg**	**03 53 41.8**	**-1.1**
	comp=Z,257nm,0.6s						
MOA	**Molln**	**3.91**	**198**	Pn	**Pn**	**03 52 39.1**	**+0.4**
	SNR=71						
MOA				Sg	**Sg**	**03 53 41.8**	**-1.1**
	comp=Z,257nm,0.6s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*P	**Pn**	**03 52 39.8**	**+0.7**
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*P	**Pn**	**03 52 39.8**	**+0.7**
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PN	**Pn**	**03 52 39.8**	**+0.7**
STHS				*e*PG	**Pg**	**03 52 53.8**	**+0.9**
STHS				*e*SG	**Sg**	**03 53 47.0**	**+2.9**
KECS	**Kecovo**	**4.21**	**136**	*e*P	**Pn**	**03 52 43.0**	**+0.3**
KECS	**Kecovo**	**4.21**	**136**	*e*P	**Pn**	**03 52 43.0**	**+0.3**
KECS	**Kecovo**	**4.21**	**136**	*e*PN	**Pn**	**03 52 43.0**	**+0.3**
KECS				*e*PG	**Pg**	**03 52 59.0**	**+1.1**
KECS				*e*SG	**Sg**	**03 53 52.7**	**+0.3**
ARSA	**Arzberg**	**4.35**	**185**	⇓*i*Pn	**Pn**	**03 52 44.7**	**+0.1**
	SNR=19						
ARSA				⇑*i*Sg	**Sg**	**03 53 55.6**	**-1.3**
	comp=Z,182nm,0.6s						
ARSA	**Arzberg**	**4.35**	**185**	Pn	**Pn**	**03 52 44.7**	**+0.1**
	SNR=19						
ARSA				Sg	**Sg**	**03 53 55.6**	**-1.3**
	comp=Z,182nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*P	**Pn**	**03 52 45.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*P	**Pn**	**03 52 45.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*PN	**Pn**	**03 52 45.9**	**+0.9**
CRVS				*e*PG	**Pg**	**03 53 03.1**	**+2.0**
CRVS				*e*SG	**Sg**	**03 53 57.9**	**+0.1**
LLD	**Lille Linde**	**4.41**	**330**	*i* P	**Pn**	**03 52 44.3**	**-1.2**
LLD				*i* S	**Sn**	**03 53 34.8**	**-2.7**
LLD	**Lille Linde**	**4.41**	**330**	*i* P	**Pn**	**03 52 44.3**	**-1.2**
LLD				*i* S	**Sn**	**03 53 34.8**	**-2.7**
LLD	**Lille Linde**	**4.41**	**330**	*i* P	**Pn**	**03 52 44.3**	**-1.2**
LLD				*i*		03 53 08.2	
LLD				*i* S	**Sn**	**03 53 34.8**	**-2.7**
PSZ	**Piszkesteto**	**4.42**	**144**	⇓*i*P	**Pn**	**03 52 46.6**	**+0.9**
PSZ	**Piszkesteto**	**4.42**	**144**	*e*P	**Pn**	**03 52 46.0**	**+0.3**
PSZ	**Piszkesteto**	**4.42**	**144**	*e*P	**Pn**	**03 52 46.0**	**+0.3**
PSZ	**Piszkesteto**	**4.42**	**144**	⇑*e*Pn	**Pn**	**03 52 46.6**	**+0.9**
PSZ	**Piszkesteto**	**4.42**	**144**	*e*Pn	**Pn**	**03 52 46.0**	**+0.3**
PSZ				*e*Sg	**Sg**	**03 53 58.3**	**-1.1**
PSZ	**Piszkesteto**	**4.42**	**144**	⇑*e*Pn	**Pn**	**03 52 46.6**	**+0.9**
PSZ				*e*Sb	**Sg**	**03 53 57.9**	**-1.4**
CSKK	**Cs˙‡kako**	**4.45**	**160**	⇑*e*Pn	**Pn**	**03 52 46.6**	**+0.5**
CSKK	**Cs˙‡kako**	**4.45**	**160**	⇑*e*Pn	**Pn**	**03 52 46.6**	**+0.5**
CSKK				*e*sn	**Sg**	**03 54 04.3**	**+4.0**
PKSG		**4.45**	**159**	⇑*e*Pn	**Pn**	**03 52 46.7**	**+0.6**
PKSG		**4.45**	**159**	⇑*e*Pn	**Pn**	**03 52 46.7**	**+0.6**
PKSG				*e*Sb	**Sg**	**03 53 56.7**	**-3.6**
PKST	**T˜'s**	**4.51**	**163**	⇑*e*Pn	**Pn**	**03 52 47.4**	**+0.6**
PKST	**T˜'s**	**4.51**	**163**	⇑*e*Pn	**Pn**	**03 52 47.4**	**+0.6**
KWP	**Kalwaria Pacla**	**4.65**	**112**	*e*Pn	**Pn**	**03 52 49.0**	**+0.1**
KWP				*e*Pb	Pb	03 52 56.6	-3.2
KWP				*e*		03 53 03.8	
KWP				*e*Pg	**Pg**	**03 53 08.4**	**+1.9**
KWP				*e*Sg	**Sg**	**03 54 11.1**	**+4.4**
KWP	**Kalwaria Pacla**	**4.65**	**112**	⇓*i*P	**Pn**	**03 52 48.9**	**+0.1**
KWP	**Kalwaria Pacla**	**4.65**	**112**	S	**Pg**	**03 53 04.5**	**-2.0**
KWP	**Kalwaria Pacla**	**4.65**	**112**	*e*P	**Pn**	**03 52 49.0**	**+0.1**
KWP	**Kalwaria Pacla**	**4.65**	**112**	*e*P	**Pn**	**03 52 49.0**	**+0.1**
KWP	**Kalwaria Pacla**	**4.65**	**112**	*e*Pg	**Pg**	**03 53 03.7**	**-2.8**
KWP				*e*Sg	**Sg**	**03 54 08.0**	**+1.2**
BLEU	**Blekinge**	**4.74**	**358**	P	**Pn**	**03 52 50.4**	**+0.5**
BLEU	**Blekinge**	**4.74**	**358**	P	**Pn**	**03 52 50.4**	**+0.5**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*P	**Pn**	**03 52 50.8**	**+0.3**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*P	**Pn**	**03 52 50.8**	**+0.3**
KOLS				*e*Sg	**Sg**	**03 54 13.3**	**+2.6**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*PN	**Pn**	**03 52 50.8**	**+0.3**
KOLS				*e*SG	**Sg**	**03 54 13.3**	**+2.6**
KBA	**Koelnbreinsper**	**4.84**	**203**	*i* Pn	**Pn**	**03 52 52.7**	**+1.1**
	SNR=59						
KBA				⇓*i*Sg	**Sg**	**03 54 12.6**	**-0.3**
	comp=Z,124nm,0.7s						
KBA	**Koelnbreinsper**	**4.84**	**203**	Pn	**Pn**	**03 52 52.7**	**+1.1**
	SNR=59						
KBA				Sg	**Sg**	**03 54 12.6**	**-0.3**
	comp=Z,124nm,0.7s						
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**03 52 50.5**	**-1.0**
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**03 52 50.5**	**-1.0**
BJUU				S	**Sn**	**03 53 44.1**	**-4.3**
SOKA	**Soboth**	**4.95**	**188**	⇑*i*Pn	**Pn**	**03 52 53.4**	**+0.4**
	SNR=18						
SOKA	**Soboth**	**4.95**	**188**	Pn	**Pn**	**03 52 53.4**	**+0.4**
	SNR=18						
SUW	**Suwalki**	**4.96**	**58**	*e*Pn	**Pn**	**03 52 54.3**	**+1.4**
SUW				*e*Pg	**Pg**	**03 53 15.3**	**+3.1**
SUW	**Suwalki**	**4.96**	**58**	*e*P	**Pn**	**03 52 54.4**	**+1.5**
SUW	**Suwalki**	**4.96**	**58**	*e*P	**Pn**	**03 52 54.4**	**+1.5**
SUW	**Suwalki**	**4.96**	**58**	*e*Pn	**Pn**	**03 52 53.5**	**+0.6**
SUW				*e*Sg	**Sg**	**03 54 14.2**	**-2.2**
UZH	**Uzhgorod**	**4.97**	**124**	*e*P	**Pn**	**03 52 53.0**	**-0.2**
UZH				*e*S	**Sn**	**03 53 50.2**	**-1.1**
UZH	**Uzhgorod**	**4.97**	**124**	*e*P	**Pn**	**03 52 53.0**	**-0.2**
UZH				*e*S	**Sn**	**03 53 50.2**	**-1.1**
PERS	**Pernice**	**4.99**	**188**	*i* Pn	**Pn**	**03 52 54.3**	**+0.8**
PERS	**Pernice**	**4.99**	**188**	*i* Pn	**Pn**	**03 52 54.3**	**+0.8**
TOD	**Tromm**	**5.03**	**250**	P	**Pn**	**03 52 54.0**	**-0.1**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**03 52 54.1**	**-0.4**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**03 52 54.1**	**-0.4**
BEHE	**Becsehely**	**5.13**	**175**	⇓*e*Pn	**Pn**	**03 52 57.7**	**+2.3**
BEHE	**Becsehely**	**5.13**	**175**	⇓*e*pPn	**Pn**	**03 52 57.7**	**+2.3**
WATA	**Walderalm**	**5.16**	**216**	⇑*i*Pn	**Pn**	**03 52 55.1**	**-0.8**
	SNR=6.4						
WATA				⇓*i*Sg	**Sg**	**03 54 22.8**	**-0.2**
	comp=Z,46nm,0.5s						
WATA	**Walderalm**	**5.16**	**216**	Pn	**Pn**	**03 52 55.1**	**-0.8**
	SNR=6.4						
WATA				Sg	**Sg**	**03 54 22.8**	**-0.2**
	comp=Z,46nm,0.5s						
OBKA	**Obir**	**5.17**	**192**	⇑*i*Pn	**Pn**	**03 52 55.0**	**-1.0**
	SNR=8.5						
OBKA	**Obir**	**5.17**	**192**	Pn	**Pn**	**03 52 55.0**	**-1.0**
	SNR=8.5						
WTTA	**Wattenberg**	**5.20**	**216**	⇓*i*Pn	**Pn**	**03 52 55.5**	**-1.0**
	SNR=5.5						
WTTA				⇑*i*Sg	**Sg**	**03 54 23.4**	**-0.8**
	comp=Z,98nm,0.5s						
WTTA	**Wattenberg**	**5.20**	**216**	Pn	**Pn**	**03 52 55.5**	**-1.0**
	SNR=5.5						
WTTA				Sg	**Sg**	**03 54 23.4**	**-0.8**
	comp=Z,98nm,0.5s						
PKS9	**Tamasi**	**5.20**	**163**	⇓*e*Pn	**Pn**	**03 52 58.4**	**+2.1**
PKS9	**Tamasi**	**5.20**	**163**	⇓*e*Pn	**Pn**	**03 52 58.4**	**+2.1**
STU	**Stuttgart**	**5.24**	**240**	*e*Pg	**Pg**	**03 53 16.2**	**-1.4**
STU				*e*Sg	**Sg**	**03 54 24.5**	**-0.9**
MOTA	**Moosalm**	**5.33**	**219**	⇓*i*Pn	**Pn**	**03 52 58.5**	**+0.2**
	SNR=32						
MOTA	**Moosalm**	**5.33**	**219**	Pn	**Pn**	**03 52 58.5**	**+0.2**
	SNR=32						
LVV	**L'vov**	**5.36**	**106**	*e*P	**Pn**	**03 52 58.5**	**0.0**
LVV				*i* S	**Sn**	**03 54 00.3**	**-0.5**
LVV	**L'vov**	**5.36**	**106**	*e*P	**Pn**	**03 52 58.5**	**0.0**
LVV				*i* S	**Sn**	**03 54 00.3**	**-0.5**
RETA	**Reutte**	**5.36**	**222**	⇓*i*Pn	**Pn**	**03 52 58.3**	**-0.3**
	SNR=15						
RETA	**Reutte**	**5.36**	**222**	Pn	**Pn**	**03 52 58.3**	**-0.3**
	SNR=15						
ABTA	**Abfaltersbach**	**5.37**	**207**	⇓*i*Pn	**Pn**	**03 52 58.9**	**+0.2**
	SNR=27						
ABTA	**Abfaltersbach**	**5.37**	**207**	Pn	**Pn**	**03 52 58.9**	**+0.2**
	SNR=27						
VXJU	**Vaexsjoe**	**5.40**	**353**	P	**Pn**	**03 52 59.3**	**+0.3**
VXJU	**Vaexsjoe**	**5.40**	**353**	P	**Pn**	**03 52 59.4**	**+0.3**
TRPA	**Tarpa**	**5.42**	**127**	⇓*i*P	**Pn**	**03 52 59.4**	**+0.1**
TRPA	**Tarpa**	**5.42**	**127**	⇓*i*P	**Pn**	**03 52 59.4**	**+0.1**
HOBG	**Hohbusch**	**5.52**	**267**	*e*Pn	**Pn**	**03 53 01.3**	**+0.6**
HOBG	**Hohbusch**	**5.52**	**267**	Pn	**Pn**	**03 53 01.3**	**+0.6**
KTD	**Kalmit**	**5.58**	**249**	P	**Pn**	**03 53 01.4**	**-0.2**
BNS	**Bensberg**	**5.62**	**267**	*e*Pn	**Pn**	**03 53 02.6**	**+0.5**
BNS	**Bensberg**	**5.62**	**267**	Pn	**Pn**	**03 53 02.6**	**+0.5**
OSKU	**Oskarshamn**	**5.63**	**0**	P	**Pn**	**03 53 02.6**	**+0.4**
OSKU	**Oskarshamn**	**5.63**	**0**	P	**Pn**	**03 53 02.6**	**+0.4**
PKSM	**Moragy**	**5.63**	**162**	⇑*i*P	**Pn**	**03 53 02.4**	**+0.2**
PKSM	**Moragy**	**5.63**	**162**	⇑*i*P	**Pn**	**03 53 02.4**	**+0.2**
PKSM	**Moragy**	**5.63**	**162**	⇓*e*Pn	**Pn**	**03 53 03.4**	**+1.2**
PKSM	**Moragy**	**5.63**	**162**	⇓*e*Pn	**Pn**	**03 53 03.4**	**+1.2**
PKSM				*esn*	Sn	03 54 15.9	+8.3
ABH	**Alteburg**	**5.67**	**256**	P	**Pn**	**03 53 03.6**	**+0.7**
BGG	**Burgeitz**	**5.70**	**259**	*e*Pn	**Pn**	**03 53 04.1**	**+1.0**
BGG	**Burgeitz**	**5.70**	**259**	Pn	**Pn**	**03 53 04.1**	**+1.0**
LAUG	**Laupendahl**	**5.71**	**271**	*e*Pn	**Pn**	**03 53 03.8**	**+0.5**
LAUG	**Laupendahl**	**5.71**	**271**	Pn	**Pn**	**03 53 03.8**	**+0.5**
FETA	**Feichten**	**5.75**	**220**	⇓*i*Pn	**Pn**	**03 53 03.5**	**-0.5**
	SNR=7.4						
FETA				⇑*i*Sg	**Sg**	**03 54 41.4**	**-0.4**
	comp=Z,98nm,1.0s						
FETA	**Feichten**	**5.75**	**220**	Pn	**Pn**	**03 53 03.5**	**-0.5**
	SNR=7.4						
FETA				Sg	**Sg**	**03 54 41.4**	**-0.4**
	comp=Z,98nm,1.0s						
BYXU	**Byxelkrok**	**5.75**	**5**	P	**Pn**	**03 53 04.8**	**+1.0**
BYXU	**Byxelkrok**	**5.75**	**5**	P	**Pn**	**03 53 04.8**	**+1.0**
WTSB	**Winterswijk**	**5.77**	**277**	*e*Pn	**Pn**	**03 53 05.4**	**+1.3**
	comp=Z,29nm,0.6s						
WTSB	**Winterswijk**	**5.77**	**277**	*e*Pn	**Pn**	**03 53 05.4**	**+1.3**
	comp=Z,29nm,0.6s						
FABU	**Falkenberg**	**5.78**	**341**	P	**Pn**	**03 53 03.5**	**-0.7**
FABU	**Falkenberg**	**5.78**	**341**	P	**Pn**	**03 53 03.5**	**-0.7**
VISS	**Visnje**	**5.84**	**189**	*i* Pn	**Pn**	**03 53 05.9**	**+0.8**
VISS	**Visnje**	**5.84**	**189**	*i* Pn	**Pn**	**03 53 05.9**	**+0.8**
JAVS	**Javornik**	**5.84**	**194**	*i* Pn	**Pn**	**03 53 05.5**	**+0.3**
JAVS	**Javornik**	**5.84**	**194**	*i* Pn	**Pn**	**03 53 05.5**	**+0.3**
SPAK	**Spaichingen-Ko**	**5.86**	**236**	P	**Pn**	**03 53 03.6**	**-1.8**
ASPU	**Aespoe**	**5.86**	**3**	P	**Pn**	**03 53 06.2**	**+0.8**
ASPU	**Aespoe**	**5.86**	**3**	P	**Pn**	**03 53 06.2**	**+0.8**
GNOU	**Gnosjoe**	**5.88**	**348**	P	**Pn**	**03 53 05.7**	**+0.1**
GNOU	**Gnosjoe**	**5.88**	**348**	P	**Pn**	**03 53 05.7**	**+0.1**
DAVA	**Damuels**	**5.89**	**226**	⇑*i*Pn	**Pn**	**03 53 06.1**	**+0.1**
	SNR=14						
DAVA				⇓*i*Sg	**Sg**	**03 54 47.5**	**+0.9**
	comp=Z,154nm,0.8s						
DAVA	**Damuels**	**5.89**	**226**	Pn	**Pn**	**03 53 06.1**	**+0.1**
	SNR=14						
DAVA				Sg	**Sg**	**03 54 47.5**	**+0.9**
	comp=Z,154nm,0.8s						
STB	**Steinbach**	**5.90**	**264**	*e*Pn	**Pn**	**03 53 07.0**	**+1.1**
STB	**Steinbach**	**5.90**	**264**	Pn	**Pn**	**03 53 07.0**	**+1.1**
LANF	**Langenberg**	**5.90**	**247**	P	**Pn**	**03 53 05.5**	**-0.5**
LANF	**Langenberg**	**5.90**	**247**	P	**Pn**	**03 53 05.5**	**-0.5**
BFO	**Black Forest**	**5.96**	**240**	*i* P	**Pn**	**03 53 07.4**	**+0.6**
BFO	**Black Forest**	**5.96**	**240**	*i* P	**Pn**	**03 53 07.4**	**+0.6**
BFO	**Black Forest**	**5.96**	**240**	*e*Pn	**Pn**	**03 53 06.0**	**-0.8**
BFO				*e*Pg	**Pg**	**03 53 30.2**	**-1.3**
BFO				*e*Sn	**Sn**	**03 54 15.2**	**-0.5**
BFO				*e*Sg	**Sg**	**03 54 45.6**	**-3.1**
EKSU	**Eksjoe**	**6.03**	**356**	P	**Pn**	**03 53 08.0**	**+0.4**
EKSU	**Eksjoe**	**6.03**	**356**	P	**Pn**	**03 53 08.0**	**+0.4**
RUP	**Ruppelstein**	**6.03**	**255**	P	**Pn**	**03 53 08.3**	**+0.5**
TRI	**Trieste**	**6.07**	**195**	*e*P	**Pn**	**03 53 08.8**	**+0.6**
TRI	**Trieste**	**6.07**	**195**	*e*P	**Pn**	**03 53 08.8**	**+0.6**
TRI	**Trieste**	**6.07**	**195**	*e*Pn	**Pn**	**03 53 08.8**	**+0.6**
HILG	**Hillesheim**	**6.08**	**261**	*e*Pn	**Pn**	**03 53 09.5**	**+1.1**
HILG	**Hillesheim**	**6.08**	**261**	Pn	**Pn**	**03 53 09.5**	**+1.1**
VSTU	**Vaestervik**	**6.10**	**2**	P	**Pn**	**03 53 09.2**	**+0.6**
VSTU	**Vaestervik**	**6.10**	**2**	P	**Pn**	**03 53 09.2**	**+0.6**
BOJS	**Bojanci**	**6.10**	**185**	*i* Pn	**Pn**	**03 53 09.7**	**+1.0**
BOJS	**Bojanci**	**6.10**	**185**	*i* Pn	**Pn**	**03 53 09.7**	**+1.0**
KLL	**Kalltalsperre**	**6.22**	**265**	*e*Pn	**Pn**	**03 53 11.1**	**+0.8**
KLL	**Kalltalsperre**	**6.22**	**265**	Pn	**Pn**	**03 53 11.1**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**6.26**	**220**	*e*Pn	**Pn**	**03 53 11.7**	**+0.6**
DREG	**Dreilaegerbach**	**6.26**	**265**	*e*Pn	**Pn**	**03 53 11.4**	**+0.5**
DREG				*e*Sn	**Sn**	**03 54 23.9**	**+0.7**
DREG	**Dreilaegerbach**	**6.26**	**265**	Pn	**Pn**	**03 53 11.4**	**+0.5**
DREG				Sn	**Sn**	**03 54 23.9**	**+0.7**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**03 53 12.0**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=36,slow=15,SNR=23						
DAVOX				Lg	Lg	03 54 56.7	
	comp=Z,2.9nm,0.3s,baz=353,slow=5.6,SNR=8.2						
DAVOX	**Davos/Dischmat**	**6.29**	**223**	P	**Pn**	**03 53 12.0**	**+0.6**
DAVOX				pmax	pmax		
	comp=Z,4.0nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.29**	**223**	P	**Pn**	**03 53 12.0**	**+0.6**
MUD	**Monsted U'grnd**	**6.36**	**323**	*e*P	Pn	03 53 18.4	+6.3
MUD	**Monsted U'grnd**	**6.36**	**323**	*i* P	Pn	03 53 18.4	+6.3
MUD				*i* S	**Sn**	**03 54 22.9**	**-2.4**
MEM	**Membach**	**6.42**	**265**	PN	**Pn**	**03 53 13.4**	**+0.4**
MEM				SG	**Sg**	**03 55 08.7**	**+5.4**
	comp=N,54nm,0.0s						
MEM	**Membach**	**6.42**	**265**	*e*P	**Pn**	**03 53 13.4**	**+0.4**
MEM	**Membach**	**6.42**	**265**	Pn	**Pn**	**03 53 13.3**	**+0.4**
MEM	**Membach**	**6.42**	**265**	*e*Pn	**Pn**	**03 53 13.4**	**+0.4**
MEM				*e*Sg	**Sg**	**03 55 00.3**	**-2.9**
HGN	**Heimansgroeve**	**6.43**	**267**	*e*Pn	**Pn**	**03 53 13.9**	**+0.7**
	comp=N,2.3nm,0.4s						
HGN	**Heimansgroeve**	**6.43**	**267**	*e*Pn	**Pn**	**03 53 13.9**	**+0.7**
	comp=N,2.3nm,0.4s						
LIBD	**Limburg**	**6.46**	**241**	P	**Pn**	**03 53 12.0**	**-1.6**
SIRR	**Siria**	**6.46**	**143**	⇑*i*P	**Pn**	**03 53 14.6**	**+0.9**
SIRR	**Siria**	**6.46**	**143**	⇑*i*P	**Pn**	**03 53 14.6**	**+0.9**
DRGR		**6.47**	**135**	⇑*i*P	**Pn**	**03 53 14.0**	**+0.2**
DRGR		**6.47**	**135**

LPG				*e*Pg	**Pg**	**03 54 20.7**	**-2.6**	
LPG				*e*Sg	**Sg**	**03 56 10.4**	**-5.2**	
HFS	**Hagfors**	**8.68**	**352**	Pn	**Pn**	**03 53 43.6**	**-0.4**	
	comp=N,0.8nm,0.3s,baz=178,slow=14,SNR=29							
HFS				Sn	**Sn**	**03 55 18.9**	**-3.6**	
	comp=N,0.8nm,0.3s,baz=170,slow=24,SNR=3.2							
HFS				Lg	Lg	03 56 17.1		
	comp=N,1.5nm,0.3s,baz=179,slow=30,SNR=3.9							
MLR	**Muntele Rosu**	**8.94**	**129**	⇑*i*P	**Pn**	**03 53 47.8**	**0.0**	
MLR	**Muntele Rosu**	**8.94**	**129**	⇑*i*P	**Pn**	**03 53 47.8**	**0.0**	
BNI	**Bardonecchia**	**9.04**	**227**	*e*P	**Pn**	**03 53 50.1**	**+1.0**	
BNI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BNI	**Bardonecchia**	**9.04**	**227**	*e*P	**Pn**	**03 53 50.1**	**+1.0**	
	comp=Z,7.0nm,1.0s							
BNI	**Bardonecchia**	**9.04**	**227**	*e*Pn	**Pn**	**03 53 50.1**	**+1.0**	
	comp=Z,7.5nm,1.0s							
LOR	**Lormes**	**9.05**	**246**	*e*Pn	**Pn**	**03 53 48.1**	**-1.1**	
	baz=63							
LOR				*e*Sg	Sn	03 56 23.6	+52	
	comp=Z,105nm,1.1s							
LOR	**Lormes**	**9.05**	**246**	*e*P	**Pn**	**03 53 48.1**	**-1.1**	
LOR	**Lormes**	**9.05**	**246**	*e*Pn	**Pn**	**03 53 48.1**	**-1.1**	
LOR				*e*Sg	Sn	03 56 23.6	+52	
	comp=Z,52nm,1.1s							
LOR	**Lormes**	**9.05**	**246**	*e*Pn	**Pn**	**03 53 48.1**	**-1.1**	
LOR				*e*Sg	Sn	03 56 23.6	+52	
VRI	**Vrincioaia**	**9.06**	**125**	⇓*i*P	**Pn**	**03 53 50.1**	**+0.7**	
VRI	**Vrincioaia**	**9.06**	**125**	⇓*i*P	**Pn**	**03 53 50.1**	**+0.7**	
VSU	**Vasula**	**9.21**	**37**	*de*P	**Pn**	**03 53 52.5**	**+1.2**	
VSU	**Vasula**	**9.21**	**37**	*e*P	**Pn**	**03 53 52.5**	**+1.2**	
MBDF	**Montbardon**	**9.25**	**226**	*e*Pn	**Pn**	**03 53 51.0**	**-1.0**	
MBDF				*e*Sg	Sn	03 56 28.3	+51	
	comp=Z,90nm,1.2s							
MBDF	**Montbardon**	**9.25**	**226**	*e*P	**Pn**	**03 53 51.0**	**-1.0**	
MBDF	**Montbardon**	**9.25**	**226**	*e*Pn	**Pn**	**03 53 51.0**	**-1.0**	
MBDF	**Montbardon**	**9.25**	**226**	*e*Pn	**Pn**	**03 53 51.0**	**-1.0**	
MBDF				*e*Sg	Sn	03 56 28.3	+51	
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn	**Pn**	**03 53 52.2**	**-1.3**	
SSF				*e*Sg	Sn	03 56 34.1	+55	
	comp=Z,110nm,1.3s							
SSF	**Saint Saulge**	**9.37**	**246**	*e*P	**Pn**	**03 53 52.2**	**-1.3**	
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn	**Pn**	**03 53 52.2**	**-1.3**	
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn	**Pn**	**03 53 52.2**	**-1.3**	
SSF				*e*Sg	Sn	03 56 34.1	+55	
SMF	**Signal de Mont**	**9.41**	**243**	*e*Pn	**Pn**	**03 53 52.3**	**-1.9**	
SMF				*e*Sg	Sn	03 56 33.9	+53	
	comp=Z,88nm,1.2s							
SMF	**Signal de Mont**	**9.41**	**243**	*e*P	**Pn**	**03 53 52.3**	**-1.9**	
SMF	**Signal de Mont**	**9.41**	**243**	*e*Pn	**Pn**	**03 53 52.3**	**-1.9**	
SMF	**Signal de Mont**	**9.41**	**243**	*e*Pn	**Pn**	**03 53 52.3**	**-1.9**	
SMF				*e*Sg	Sn	03 56 33.9	+53	
KIS	**Kishinev**	**9.50**	**114**	*e*P	Pn	03 54 16.0	+21	
ORIF	**Oris-en-Rattie**	**9.51**	**230**	*e*Pn	**Pn**	**03 53 55.0**	**-0.6**	
ORIF				*e*Sg	Sn	03 56 36.3	+53	
	comp=Z,183nm,1.5s							
ORIF	**Oris-en-Rattie**	**9.51**	**230**	*e*P	**Pn**	**03 53 55.0**	**-0.6**	
ORIF	**Oris-en-Rattie**	**9.51**	**230**	*e*Pn	**Pn**	**03 53 55.0**	**-0.6**	
ORIF	**Oris-en-Rattie**	**9.51**	**230**	*e*Pn	**Pn**	**03 53 55.0**	**-0.6**	
ORIF				*e*Sg	Sn	03 56 36.3	+53	
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn	**Pn**	**03 53 55.4**	**-1.3**	
AVF				*e*Sg	Sn	03 56 39.5	+54	
	comp=Z,85nm,1.2s							
AVF	**Avril sur Loir**	**9.61**	**245**	*e*P	**Pn**	**03 53 55.4**	**-1.3**	
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn	**Pn**	**03 53 55.4**	**-1.3**	
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn	**Pn**	**03 53 55.4**	**-1.3**	
AVF				*e*Sg	Sn	03 56 39.5	+54	
SBF	**Sospel**	**9.66**	**220**	*e*Pn	**Pn**	**03 53 57.6**	**0.0**	
SBF	**Sospel**	**9.66**	**220**	*e*P	**Pn**	**03 53 57.6**	**0.0**	
SBF	**Sospel**	**9.66**	**220**	*e*Pn	**Pn**	**03 53 57.6**	**0.0**	
SBF	**Sospel**	**9.66**	**220**	*e*Pn	**Pn**	**03 53 57.6**	**0.0**	
NAO01	**NORSAR Array S**	**9.72**	**345**	*e*Pn	**Pn**	**03 53 56.3**	**-2.0**	
HYF	**Humbligny**	**9.76**	**249**	*e*Pn	**Pn**	**03 53 58.5**	**-0.3**	
HYF				*e*Sg	Sn	03 56 44.7	+56	
HYF	**Humbligny**	**9.76**	**249**	*e*Pn	**Pn**	**03 53 58.5**	**-0.3**	
HYF	**Humbligny**	**9.76**	**249**	*e*Pn	**Pn**	**03 53 58.5**	**-0.3**	
HYF				*e*Sg	Sn	03 56 44.7	+56	
NOA	**NORSAR Array B**	**9.86**	**346**	Pn	**Pn**	**03 53 58.3**	**-1.9**	
	comp=Z,0.7nm,0.3s,baz=176,slow=12,SNR=13							
NOA				Sn	**Sn**	**03 55 45.7**	**-5.8**	
	comp=Z,0.5nm,0.3s,baz=152,slow=20,SNR=2.9							
NOA				Lg	Lg	03 56 54.3		
	comp=Z,1.0nm,0.3s,baz=339,slow=14,SNR=4.5							
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn	**Pn**	**03 54 02.4**	**-1.8**	
VIVF				*e*Sg	Sn	03 56 56.3	+58	
	comp=Z,65nm,1.1s							
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*P	**Pn**	**03 54 02.4**	**-1.8**	
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn	**Pn**	**03 54 02.4**	**-1.8**	
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn	**Pn**	**03 54 02.4**	**-1.8**	
VIVF				*e*Sg	Sn	03 56 56.3	+58	
FRF	**La Foret Royal**	**10.23**	**222**	*e*Pn	**Pn**	**03 54 05.7**	**+0.3**	
FRF				*e*Sg	Sn	03 56 59.1	+58	
	comp=Z,10nm,0.8s							
FRF	**La Foret Royal**	**10.23**	**222**	*e*P	**Pn**	**03 54 05.7**	**+0.3**	
FRF	**La Foret Royal**	**10.23**	**222**	*e*Pn	**Pn**	**03 54 05.7**	**+0.3**	
FRF	**La Foret Royal**	**10.23**	**222**	*e*Pn	**Pn**	**03 54 05.7**	**+0.3**	
FRF				*e*Sg	Sn	03 56 59.1	+58	
PGF	**Pioggiola**	**10.23**	**211**	*e*Pn	**Pn**	**03 54 04.2**	**-1.3**	
PGF	**Pioggiola**	**10.23**	**211**	*e*P	**Pn**	**03 54 04.2**	**-1.3**	
PGF	**Pioggiola**	**10.23**	**211**	*e*Pn	**Pn**	**03 54 04.2**	**-1.3**	
PGF	**Pioggiola**	**10.23**	**211**	*e*Pn	**Pn**	**03 54 04.2**	**-1.3**	
SMRF	**Simiane la Rot**	**10.37**	**227**	*e*Pn	**Pn**	**03 54 06.2**	**-1.1**	
SMRF				*e*Sg	Sn	03 57 03.5	+59	
	comp=Z,62nm,1.4s							
SMRF	**Simiane la Rot**	**10.37**	**227**	*e*Pn	**Pn**	**03 54 06.2**	**-1.1**	
SMRF	**Simiane la Rot**	**10.37**	**227**	*e*Pn	**Pn**	**03 54 06.2**	**-1.1**	
SMRF				*e*Sg	Sn	03 57 03.5	+59	
LMR	**La Mourre**	**10.48**	**222**	*e*Pn	**Pn**	**03 54 08.9**	**+0.2**	
LMR				*e*Sg		03 57 06.9		
	comp=Z,41nm,1.4s							
LMR	**La Mourre**	**10.48**	**222**	*e*P	**Pn**	**03 54 08.9**	**+0.2**	
LMR	**La Mourre**	**10.48**	**222**	*e*Pn	**Pn**	**03 54 08.9**	**+0.2**	
LMR	**La Mourre**	**10.48**	**222**	*e*Pn	**Pn**	**03 54 08.9**	**+0.2**	
LMR				*e*Sg		03 57 06.9		
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn	**Pn**	**03 54 08.6**	**-1.0**	
TCF				*e*Sg		03 57 11.3		
	comp=Z,99nm,1.2s							
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*P	**Pn**	**03 54 08.6**	**-1.0**	
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn	**Pn**	**03 54 08.6**	**-1.0**	
TCF	**Toulx Ste Croi**	**10.54**	**245**	*e*Pn	**Pn**	**03 54 08.6**	**-1.0**	
TCF				*e*Sg		03 57 11.3		
TIRR	**Tirgusor**	**10.90**	**126**	*e*P	**Pn**	**03 54 13.4**	**-1.1**	
TIRR	**Tirgusor**	**10.90**	**126**	*e*P	**Pn**	**03 54 13.4**	**-1.1**	
TIRR	**Tirgusor**	**10.90**	**126**	*e*Pn	**Pn**	**03 54 13.4**	**-1.1**	
LASF	**Ste Croix**	**11.11**	**232**	*e*Pn	**Pn**	**03 54 15.6**	**-1.8**	
LASF				*e*Sg		03 57 26.8		
	comp=Z,106nm,1.4s							
LASF	**Ste Croix**	**11.11**	**232**	*e*Pn	**Pn**	**03 54 15.6**	**-1.8**	
LASF	**Ste Croix**	**11.11**	**232**	*e*Pn	**Pn**	**03 54 15.6**	**-1.8**	
LASF				*e*Sg		03 57 26.8		
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**03 54 18.9**	**-1.1**	
	comp=Z,1.6nm,0.3s,baz=206,slow=12,SNR=65							
FINES				Sn	**Sn**	**03 56 21.2**	**-5.7**	
	comp=Z,1.2nm,0.3s,baz=211,slow=22,SNR=5.5							
CAF	**Calviac**	**11.46**	**240**	*e*Pn	**Pn**	**03 54 19.9**	**-2.2**	
CAF				*e*Sg		03 57 37.4		
	comp=Z,114nm,1.6s							
CAF	**Calviac**	**11.46**	**240**	*e*P	**Pn**	**03 54 19.9**	**-2.2**	
CAF	**Calviac**	**11.46**	**240**	*e*Pn	**Pn**	**03 54 19.9**	**-2.2**	
CAF				*e*Sg		03 57 37.4		
RJF	**Les Rejaudoux**	**11.52**	**243**	*e*Pn	**Pn**	**03 54 20.9**	**-2.0**	
RJF				*e*Sg		03 57 39.3		
	comp=Z,146nm,1.6s							
RJF	**Les Rejaudoux**	**11.52**	**243**	*e*P	**Pn**	**03 54 20.9**	**-2.0**	
RJF	**Les Rejaudoux**	**11.52**	**243**	*e*Pn	**Pn**	**03 54 20.9**	**-2.0**	
RJF	**Les Rejaudoux**	**11.52**	**243**	*e*Pn	**Pn**	**03 54 20.9**	**-2.0**	
RJF				*e*Sg		03 57 39.3		
KAF	**Kangasniemi**	**11.93**	**24**	*e*P	**Pn**	**03 54 26.6**	**-1.9**	
	comp=Z,5.6nm,0.6s							
KAF	**Kangasniemi**	**11.93**	**24**	*e*P	**Pn**	**03 54 26.6**	**-1.9**	
KAF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**12.05**	**296**	Pn	Pn	03 54 26.9	-3.3	
	baz=105,slow=14,SNR=17							
ESK	**Eskdalemuir**	**12.08**	**296**	*e*P	**Pn**	**03 54 27.6**	**-2.9**	
ESK	**Eskdalemuir**	**12.08**	**296**	*e*Pn	**Pn**	**03 54 27.6**	**-2.9**	
LFF	**La Frestale**	**12.17**	**243**	*e*Pn	**Pn**	**03 54 29.4**	**-2.5**	
LFF				*e*Sg		03 57 59.7		
	comp=Z,136nm,1.4s							
LFF	**La Frestale**	**12.17**	**243**	*e*P	**Pn**	**03 54 29.4**	**-2.5**	
LFF	**La Frestale**	**12.17**	**243**	*e*Pn	**Pn**	**03 54 29.4**	**-2.5**	
LFF				*e*Sg		03 57 59.7		
MTLF	**Montolieu**	**12.46**	**234**	*e*Pn	**Pn**	**03 54 33.5**	**-2.4**	
MTLF				*e*Sg		03 58 08.9		
	comp=Z,67nm,1.6s							
MTLF	**Montolieu**	**12.46**	**234**	*e*P	**Pn**	**03 54 33.5**	**-2.4**	
MTLF	**Montolieu**	**12.46**	**234**	*e*Pn	**Pn**	**03 54 33.5**	**-2.4**	
MTLF				*e*Sg		03 58 08.9		
OBN	**Obninsk**	**12.74**	**66**	*e*P	**Pn**	**03 54 38.7**	**-0.8**	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,26nm,16.0s							
OBN	**Obninsk**	**12.74**	**66**	*e*P	**Pn**	**03 54 38.7**	**-0.8**	
	comp=Z,26nm,16.0s							
MOS	**Moscow**	**13.42**	**63**	*e*P	Pn	03 54 44.2	-4.7	
MOS				*e*S	**Sn**	**03 57 19.7**	**+1.1**	
EPF	**Esparros**	**13.65**	**237**	*e*Sg	S	03 58 46.2	+58	
	comp=Z,51nm,1.4s							
JOF	**Joensuu**	**13.99**	**30**	*e*p	**Pn**	**03 54 54.7**	**-1.9**	
	comp=Z,3.0nm,0.5s							
JOF	**Joensuu**	**13.99**	**30**	*e*P	**Pn**	**03 54 54.7**	**-1.9**	
JOF				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ETSF	**Etsaut**	**14.22**	**239**	*e*Sg		03 59 04.5		
	comp=Z,60nm,1.7s							
SJPF	**Ste Jean**	**14.44**	**241**	*e*Sg		03 59 11.0		
	comp=Z,30nm,1.2s							
KEST	**Kesra**	**16.56**	**200**	Pn	**Pn**	**03 55 30.8**	**0.0**	
	comp=Z,0.0nm,0.3s,baz=36,slow=14,SNR=2.0							
KEST	**Kesra**	**16.56**	**200**	*e*Pn	**Pn**	**03 55 31.2**	**+0.4**	
BRTR	**Keskin Array B**	**17.01**	**127**	P	**P**	**03 55 38.8**	**+0.1**	
	comp=Z,0.0nm,0.3s,baz=310,slow=8.9,SNR=3.9							
BRTR	**Keskin Array B**	**17.01**	**127**	*ce*P	**P**	**03 55 40.9**	**+2.2**	
BRTR	**Keskin Array B**	**17.01**	**127**	*e*P	**P**	**03 55 40.9**	**+2.2**	
TMCR	**Tamitsa**	**17.06**	**34**	*e*P	**Pn**	**03 55 33.4**	**-3.5**	
TMCR				*e*		03 58 44.6		
TMCR				pmax	pmax			
	comp=Z,11nm,0.4s							
ESDC	**Sonseca Array**	**18.32**	**237**	P	**P**	**03 55 52.8**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=42,slow=11,SNR=6.7							
ARCES	**ARCESS Array B**	**18.56**	**10**	P	**P**	**03 55 52.2**	**-3.1**	
	comp=Z,1.0nm,0.3s,baz=197,slow=11,SNR=25							
AREO	**ARCESS Array S**	**18.56**	**10**	*e*P	**P**	**03 55 52.3**	**-3.0**	
KIV	**Kislovodsk**	**19.37**	**103**	*i* P	**P**	**03 56 05.1**	**+0.6**	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KIV	**Kislovodsk**	**19.37**	**103**	*i* P	**P**	**03 56 05.1**	**+0.6**	
	comp=Z,6.0nm,1.2s							
ZEI	**Tsey**	**20.75**	**104**	*e*P	**P**	**03 56 20.9**	**+1.2**	
ZEI				pmax	pmax			
	comp=Z,11nm,1.8s							
ZEI	**Tsey**	**20.75**	**104**	*e*P	**P**	**03 56 20.9**	**+1.2**	
	comp=Z,11nm,1.8s							
MMAI	**Mount Meron Ar**	**23.29**	**135**	LR	LR	04 08 36.5		
	comp=Z,83nm,19.1s,baz=355,slow=44							
ARU	**Arti**	**25.13**	**62**	*d* iP	**P**	**03 57 03.3**	**-0.3**	
ARU				S	**S**	**04 01 29.2**	**+0.1**	
ARU				pmax	pmax			
	comp=Z,22nm,2.5s							
ARU	**Arti**	**25.13**	**62**	*i* P	**P**	**03 57 03.3**	**-0.3**	
	comp=Z,22nm,2.5s							
ARU	**Arti**	**25.13**	**62**	*e*P	**P**	**03 57 03.2**	**-0.5**	
	comp=Z,2.2nm,0.5s							
AKTK	**Aktyubinsk**	**26.16**	**76**	P	**P**	**03 57 13.0**	**-0.1**	
AKTO	**Aktyubinsk**	**26.16**	**76**	P	**P**	**03 57 13.0**	**0.0**	
	comp=Z,2.3nm,0.6s,baz=286,slow=11,SNR=10							
ABKAR	**Akbulak array**	**27.74**	**77**	*e*P	**P**	**03 57 25.9**	**-1.4**	
BRVK	**Borovoye**	**32.51**	**66**	*c* iP	**P**	**03 58 11.3**	**+1.9**	
BRVK				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BRVK	**Borovoye**	**32.51**	**66**	*i* P	**P**	**03 58 11.3**	**+1.9**	
	comp=Z,9.0nm,1.2s							
BRVK	**Borovoye**	**32.51**	**66**	*e*P	**P**	**03 58 09.7**	**+0.3**	
	comp=Z,2.7nm,0.7s							
BVAR	**Borovoye Array**	**32.58**	**66**	P	**P**	**03 58 11.9**	**+1.8**	
	comp=Z,2.0nm,0.6s,baz=293,slow=7.9,SNR=12							
KURBB	**Kurchatov Arra**	**38.17**	**66**	P	**P**	**03 58 58.9**	**+0.7**	
	comp=Z,1.2nm,0.6s,baz=296,slow=8.9,SNR=5.2							
KURK	**Kurchatov**	**38.18**	**66**	P	**P**	**03 58 58.9**	**+0.7**	
KURK	**Kurchatov**	**38.18**	**66**	P	**P**	**03 58 58.9**	**+0.7**	
KURK	**Kurchatov**	**38.18**	**66**	P	**P**	**03 58 58.9**	**+0.7**	
NVS	**Novosibirsk**	**38.97**	**58**	*e*P	**P**	**03 59 04.4**	**-0.4**	
NVS	**Novosibirsk**	**38.97**	**58**	*e*P	**P**	**03 59 04.4**	**-0.4**	
TOA0	**Torodi Ar. Sit**	**40.05**	**202**	*e*P	**P**	**03 59 15.3**	**+1.1**	
TORD	**Torodi Ar. Bea**	**40.05**	**202**	P	**P**	**03 59 14.3**	**+0.1**	
	comp=Z,1.1nm,0.6s,baz=13,slow=9.0,SNR=11							
TORD				PcP	**PcP**	**04 01 20.1**	**+1.0**	
	comp=Z,0.3nm,0.6s,baz=347,slow=3.1,SNR=3.0							
ZALV	**Zalesovo Beam**	**40.18**	**59**	P	**P**	**03 59 16.2**	**+1.3**	
	comp=Z,1.5nm,0.4s,baz=292,slow=7.6,SNR=2.8							
MKAR	**Makanchi Array**	**42.21**	**69**	P	**P**	**03 59 32.8**	**+1.1**	
	comp=Z,0.4nm,0.6s,baz=304,slow=8.6,SNR=6.3							
WMQ	**Urumqi**	**47.03**	**70**	*e*P	**P**	**04 00 10.3**	**0.0**	
WMQ				pP		04 00 17.0		
ZAK	**Zakamensk**	**51.70**	**55**	*e*P	**P**	**04 00 48.2**	**+2.2**	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.5s							
ZAK	**Zakamensk**	**51.70**	**55**	*e*P	**P**	**04 00 48.2**	**+2.2**	
	comp=Z,3.0nm,1.5s							
SONM	**Songino Array**	**54.90**	**55**	P	**P**	**04 01 11.3**	**+1.8**	
	comp=Z,1.5nm,0.9s,baz=283,slow=9.1,SNR=11							
ULN	**Ulaanbaatar**	**55.21**	**55**	⇑*e*P	**P**	**04 01 13.9**	**+2.1**	
ULN				pmax	pmax			
	comp=Z,3.0nm,1.7s							
ULN	**Ulaanbaatar**	**55.21**	**55**	*e*P	**P**	**04 01 13.9**	**+2.1**	
	comp=Z,3.0nm,1.7s							
YKA	**Yellowknife Ar**	**59.79**	**336**	P	**P**	**04 01 45.1**	**+1.5**	
	comp=Z,1.5nm,0.7s,baz=28,slow=6.9,SNR=25							
YKA	**Yellowknife Ar**	**59.79**	**336**	P	**P**	**04 01 45.1**	**+1.5**	
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
LZH	**Lanzhou**	**61.45**	**67**	*e*P	**P**	**04 01 54.0**	**-1.6**	
LZH				pP	pP	04 01 58.0		
LZH				sP		04 02 00.0		
ILAR	**Eielson Array**	**63.24**	**352**	P	**P**	**04 02 08.2**	**+1.3**	
	comp=Z,0.2nm,0.6s,baz=9.8,slow=4.3,SNR=6.7							
CD2	**Chengdu**	**65.10**	**71**	*e*P	**P**	**04 02 19.0**	**-0.7**	
CMAR	**Chiang Mai Arr**	**71.37**	**84**	P	**P**	**04 03 00.1**	**+1.0**	
	comp=Z,0.7nm,0.3s,baz=304,slow=7,SNR=5.1							
PDAR	**Pinedale Array**	**74.87**	**322**	P	**P**	**04 03 21.2**	**+1.4**	
	comp=Z,0.5nm,0.5s,baz=60,slow=8.4,SNR=7.8							

IDC ***30*** *03:56:57.1±1.0,36°.55N×71°.20E, h0km, mb3.7/11, mb1 3.9/18, mb1mx3.7/55, mbtmp3.8/18, ML3.8/7, MS2.5/2, Ms1 2.5/2, ms1mx2.3/36, Error ellipse: s-maj=20.9km s-min=16.3km az=145.0*

ISCJB ***30*** *03:57:07.3±0.3, 36°.92N±0°.03×71°.20E±0°.05, h88km, mb3.8/16, Error ellipse: s-maj=6.2km s-min=3.2km az=158.9*

NEIC ***30*** *03:57:10.4±1.0, 37°.06N×71°.17E, h92km±9km, mb4.3/4, Error ellipse: s-maj=13.9km s-min=9.4km az=131.0*

NNC ***30*** *03:57:11.5±1.8, 37°.46N×70°.95E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=15.6km s-min=6.6km az=171.0*

ISC 30 03:57:08.8±0.5, 36°.88N±0°.04×71°.18E±0°.06, h88km, n71, σ1§68/72, mb3.8/16, 6C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.68**	**317**	⇑Pn		**Pn**		**03 57 48.5**	**-1.5**
	92nm,0.5s								
DZET				⇑Sn		**Sn**		**03 58 17.2**	**-4.4**
	202nm,0.3s								
KBL	**Kabul**	**2.91**	**217**	*e*Pn		Pn		03 57 57.2	+3.9
KBL				*e*Sn		**Sn**		**03 58 31.3**	**+3.8**
CEP	**Cherat**	**3.11**	**169**	P		Pn		03 58 00.7	+4.8
CEP				S		Sn		03 58 41.0	+8.9
SFK	**Sufi-Kurgan**	**3.62**	**30**	⇓Pn		**Pn**		**03 58 04.7**	**+1.8**
	26nm,0.5s								
SFK				⇓Lg		Lg		03 58 55.5	
	75nm,0.4s								
CHCP	**Chirah Chowk**	**3.64**	**151**	P		Pn		03 58 08.3	+5.3
THW	**Thamme Wali**	**4.10**	**173**	P		Pn		03 58 13.4	+4.2
SARP	**Sargodha**	**5.10**	**166**	P		**Pn**		**03 58 25.6**	**+2.9**
AML	**Almayashu**	**5.59**	**20**	P		**Pn**		**03 58 29.8**	**0.0**
	SNR=53								
MNAS	**Manas**	**5.69**	**10**	⇑Pn		**Pn**		**03 58 30.5**	**-0.4**
	4.2nm,0.4s								
MNAS				⇓Sn		**Sn**		**03 59 30.6**	**-4.3**
	20nm,0.7s								
DLH	**Dalhousie**	**5.85**	**136**	*e*P		**Pn**		**03 58 35.0**	**+1.8**
DLH				*e*S		**Sn**		**03 59 39.0**	**-0.1**
UCH	**Uchtor**	**5.93**	**25**	P		**Pn**		**03 58 35.0**	**+0.6**
	SNR=15								
KZA	**Kyzart**	**6.07**	**30**	P		**Pn**		**03 58 37.0**	**+0.7**
	SNR=17								
EKS2	**Erkin-Say**	**6.11**	**18**	P		**Pn**		**03 58 37.3**	**+0.7**
	SNR=28								
EKS2	**Erkin-Say**	**6.11**	**18**	*e*Pn		**Pn**		**03 58 36.8**	**+0.2**
	19nm,0.6s								
EKS2				*e*Sn		**Sn**		**03 59 42.3**	**-2.8**
KK31	**Karatay Array**	**6.24**	**355**	⇓Pn		**Pn**		**03 58 37.2**	**-1.0**
	8.3nm,0.2s,baz=172,slow=12,SNR=140								
KK31				⇑Sn		**Sn**		**03 59 44.4**	**-3.6**
	10nm,0.4s								
DHRM	**DHARAMSHALA**	**6.26**	**136**	*e*P		**Pn**		**03 58 41.5**	**+2.8**
DHRM				*e*S		**Sn**		**03 59 50.2**	**+1.2**
DHRM				AML	AML			03 59 54.3	
	comp=E,950nm,0.6s								
DHRM				AML	AML			03 59 55.1	
	comp=N,608nm,0.7s								
AAK	**Ala-Archa**	**6.29**	**23**	⇑Pn		**Pn**		**03 58 39.6**	**+0.6**
	comp=N,7.9nm,0.5s								
AAK				⇓Sn		**Sn**		**03 59 48.1**	**-1.3**
	comp=N,17nm,0.6s								
AAK				⇓Lg		Lg		04 00 13.4	
	comp=N,15nm,0.6s								
AAK	**Ala-Archa**	**6.29**	**23**	P		**Pn**		**03 58 40.1**	**+1.1**
	SNR=18								
AAK	**Ala-Archa**	**6.29**	**23**	Pn		**Pn**		**03 58 40.1**	**+1.1**
	comp=N,3.6nm,0.3s,baz=195,slow=8.5,SNR=36								
AAK				Sn		**Sn**		**03 59 49.3**	**-0.2**
	comp=N,1.7nm,0.3s,baz=145,slow=3.3,SNR=7.6								
AAK				Lg		Lg		04 00 25.7	
	comp=N,1.0nm,0.3s,baz=182,slow=3.4,SNR=4.3								
AAK				LR		LR		04 00 36.6	
	comp=N,20nm,21.8s,baz=176,slow=33								
AAK	**Ala-Archa**	**6.29**	**23**	*e*Pn		**Pn**		**03 58 39.3**	**+0.2**
	comp=N,13nm,0.5s								
AAK				Sn		**Sn**		**03 59 49.3**	**-0.2**
AAK				Lg		Lg		04 00 25.7	
ULHL	**Ulahol**	**6.63**	**35**	P		**Pn**		**03 58 45.5**	**+1.7**
	SNR=7.3								
CHMS	**Chumysh**	**6.70**	**23**	P		**Pn**		**03 58 45.1**	**+0.6**
	SNR=21								
USP	**Ospenovka**	**6.87**	**21**	P		**Pn**		**03 58 46.8**	**0.0**
	SNR=10								
TKM2	**Tokmak 2**	**6.92**	**28**	⇓Pn		**Pn**		**03 58 48.4**	**+0.6**
	comp=N,12nm,0.6s								
TKM2				Sn		**Sn**		**04 00 05.1**	**0.0**
	comp=N,7.3nm,0.6s								
TKM2				⇓Lg

STKA	**Stephens Creek**	**19.05**	**6**	P	**Pn**	**04 23 14.1**	**+0.8**
	0.1nm,0.3s,baz=164,slow=7.5,SNR=5.9						
STKA				LR	LR	04 29 18.5	
	comp=Z,140nm,19.2s,baz=203,slow=33						
H01W1	**Cape Leeuwin H**	**24.23**	**302**	T	T	04 49 22.0	
	baz=138,slow=75,SNR=244						
H01W2	**Cape Leeuwin H**	**24.23**	**302**	T	T	04 49 19.7	
	baz=138,slow=75,SNR=226						
H01W3	**Cape Leeuwin H**	**24.24**	**302**	T	T	04 49 23.2	
	baz=138,slow=75,SNR=274						
ASAR	**Alice Springs**	**27.48**	**349**	P	**P**	**04 24 36.6**	**0.0**
	0.6nm,0.8s,baz=164,slow=11,SNR=4.2						
ASAR				PcP	**PcP**	**04 27 53.8**	**-1.0**
	0.4nm,0.6s,baz=174,slow=2.0,SNR=5.7						
VNDA	**Vanda**	**28.06**	**170**	P	**P**	**04 24 43.0**	**+1.7**
	0.6nm,0.5s,baz=319,slow=6.6,SNR=3.7						
VNDA	**Vanda**	**28.06**	**170**	*e*P	**P**	**04 24 40.1**	**-1.3**
	7.2nm,1.5s						
WRA	**Warramunga Arr**	**31.11**	**351**	P	**P**	**04 25 08.9**	**0.0**
	1.4nm,0.7s,baz=178,slow=8.1,SNR=17						
WRA				PcP	**PcP**	**04 28 04.1**	**0.0**
	0.5nm,0.7s,baz=186,slow=2.3,SNR=4.7						
WRAB	**Tennant Creek**	**31.12**	**351**	*e*P	**P**	**04 25 07.9**	**-1.1**
	4.5nm,0.8s						
QSPA	**South Pole Qui**	**39.25**	**180**	*e*P	**P**	**04 26 17.3**	**-1.4**
	10nm,1.1s						
SNAA	**Sanae**	**54.86**	**194**	P	**P**	**04 28 21.6**	**+1.4**
	1.6nm,1.1s,baz=153,slow=14,SNR=6.1						
H08S2	**Diego Garcia H**	**69.56**	**283**	T	T	05 45 45.6	
	baz=142,slow=77,SNR=12						
H08S1	**Diego Garcia H**	**69.57**	**283**	T	T	05 45 48.0	
	baz=142,slow=77,SNR=7.4						
H08S3	**Diego Garcia H**	**69.58**	**283**	T	T	05 45 46.1	
	baz=142,slow=77,SNR=31						
H08N1	**Diego Garcia H**	**71.48**	**283**	T	T	05 47 53.9	
	baz=278,slow=75,SNR=40						
H08N3	**Diego Garcia H**	**71.50**	**283**	T	T	05 47 52.6	
	baz=278,slow=75,SNR=41						
H08N2	**Diego Garcia H**	**71.50**	**283**	T	T	05 47 52.7	
	baz=278,slow=75,SNR=42						
OTAV	**Otavalo**	**120.26**	**135**	*e*PKPdf	**PKPdf**	**04 37 42.7**	**+0.3**
ARCES	**ARCESS Array B**	**144.51**	**326**	PKP	**PKPab**	**04 38 23.4**	**-0.4**
	2.0nm,0.6s,baz=100,slow=3.7,SNR=15						
GERES	**GERESS Array B**	**145.55**	**288**	PKPbc	**PKPab**	**04 38 28.8**	**+0.5**
	1.6nm,0.8s,baz=123,slow=4.9,SNR=9.8						
FCC	**Fort Churchill**	**148.99**	**54**	*e*PKPbc	**PKPbc**	**04 38 37.4**	**+0.2**
ESDC	**Sonseca Array**	**152.13**	**261**	PKPbc	**PKPbc**	**04 38 45.2**	**-0.2**
	0.3nm,0.6s,baz=120,slow=0.9,SNR=4.9						

MEX 30 04:30:56.0±0.5, **16°.11N**×**92°.90W**, **h202**km±5km, **MD3.5, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.51**	**218**	*e*P	Pn	04 31 21.6	-1.7
PCIG				*e*S	S	04 31 42.4	-2.3
TGIG		**0.70**	**342**	*e*P	Pn	04 31 23.0	-1.3
TGIG				*i* S	S	04 31 44.2	-2.2
CCIG	**Comitan**	**0.75**	**77**	*e*P	Pn	04 31 23.7	-1.0
CCIG				*e*S	S	04 31 43.9	-3.0
CMIG	**Matias Romero**	**2.14**	**297**	*i* P	Pn	04 31 35.8	-0.4
CMIG				*i* S	S	04 32 04.9	-2.0
HUIG	**Huatulco**	**3.11**	**264**	*i* P	Pn	04 31 45.8	-1.3
HUIG				*i* S	S	04 32 25.5	-0.8

*ISCJB **30** 04:40:43.8±0.2, 58°.97N±0°.03×154°.44W±0°.05, h136km±3km, mb3.5/6, Error ellipse: s-maj=5.4km s-min=3.2km az=136.3*
*NEIC **30** 04:40:46.0, 58°.91N×154°.41W, h127km, MG3.9(AEIC), After AEIC.*
*IDC **30** 04:40:48.0±4.0, 59°.29N×154°.29W, h147km±35km, mb3.3/6, mb1 3.7/10, mb1mx3.4/32, mbtmp4.0/10, Error ellipse: s-maj=30.3km s-min=19.3km az=23.0*
ISC 30 04:40:44.7±0.7, **58°.98N**±0°.04×**154°.39W**±0°.04, **h132**km±6km, **n121**, σ1§**05**/133, **mb3.6**/6, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCNL	**McNeil River**	**0.21**	**7**	P	**Pn**	**04 41 02.9**	**+0.1**
AUI	**Augustine Isla**	**0.61**	**54**	P	**Pn**	**04 41 05.3**	**+0.6**
AUI				S	**Sn**	**04 41 20.0**	**+0.2**
AUH	**Augustine H**	**0.62**	**51**	P	**Pn**	**04 41 05.6**	**+0.8**
AUP	**Augustine Pinn**	**0.63**	**52**	P	**Pn**	**04 41 05.6**	**+0.7**
KVTA	**Katmai Vly 10**	**0.76**	**219**	P	**Pn**	**04 41 05.5**	**-0.3**
KAKN	**Katmai Knife C**	**0.77**	**208**	P	**Pn**	**04 41 05.5**	**-0.5**
KAKN				S	**Sn**	**04 41 20.5**	**-1.5**
PDB	**Pedro Bay**	**0.82**	**7**	P	**Pn**	**04 41 06.5**	**+0.4**
KCE	**Katmai Mt Cerb**	**0.85**	**210**	P	**Pn**	**04 41 06.4**	**-0.1**
KABU	**Katmai Buttres**	**0.85**	**214**	P	**Pn**	**04 41 06.2**	**-0.4**
KABU				S	**Sn**	**04 41 22.9**	**-0.2**
KELA	**Mount Kelaz**	**0.89**	**233**	P	**Pn**	**04 41 06.4**	**-0.5**
OPT	**Oil Point**	**0.90**	**41**	P	**Pn**	**04 41 08.0**	**+1.1**
KABR	**Katmai Barrier**	**0.90**	**200**	P	**Pn**	**04 41 06.3**	**-0.6**
ILS	**Iliamna Low So**	**1.19**	**34**	P	**Pn**	**04 41 10.6**	**+0.9**
ILW	**Iliamna West**	**1.26**	**30**	P	**Pn**	**04 41 11.2**	**+0.8**
KDAK	**Kodiak Island**	**1.53**	**141**	P	**Pn**	**04 41 12.8**	**-0.4**
KDAK				S	**Sn**	**04 41 34.1**	**-0.9**
HOM	**Homer**	**1.56**	**63**	P	**Pn**	**04 41 14.6**	**+1.0**
HOM				S	**Sn**	**04 41 36.8**	**+1.1**
PLK5	**Peulik 5**	**1.64**	**234**	P	**Pn**	**04 41 14.6**	**+0.2**
RSO	**Redoubt South**	**1.70**	**28**	*e*Pn	**Pn**	**04 41 16.3**	**+0.9**
PLK4	**Peulik 4**	**1.70**	**218**	P	**Pn**	**04 41 15.2**	**-0.2**
RDWB	**Redoubt West**	**1.71**	**27**	P	**Pn**	**04 41 16.3**	**+0.9**
RDWB				S	**Sn**	**04 41 39.3**	**+0.5**
RDN	**Redoubt North**	**1.75**	**27**	P	**Pn**	**04 41 16.9**	**+1.1**
NCT	**North Crescent**	**1.75**	**24**	P	**Pn**	**04 41 16.9**	**+1.1**
DFT	**Drift River**	**1.83**	**27**	P	**Pn**	**04 41 18.0**	**+1.2**
OHAK	**Old Harbor**	**1.86**	**161**	P	**Pn**	**04 41 16.0**	**-1.0**
OHAK				S	**Sn**	**04 41 39.3**	**-2.4**
BRLK	**Bradley Lake**	**1.96**	**65**	P	**Pn**	**04 41 18.5**	**+0.2**
BRLK				S	**Sn**	**04 41 43.2**	**-0.8**
SVW2	**Sparrevohn**	**2.21**	**345**	P	**Pn**	**04 41 22.0**	**+0.7**
CKL	**Chakachamna La**	**2.45**	**24**	P	**Pn**	**04 41 25.7**	**+1.3**
BGL	**Barrier Glacie**	**2.50**	**23**	P	**Pn**	**04 41 26.5**	**+1.4**
SPBG	**Spurr Blockage**	**2.50**	**23**	P	**Pn**	**04 41 26.4**	**+1.4**
CKN	**Chakachatna No**	**2.51**	**25**	P	**Pn**	**04 41 26.4**	**+1.3**
SLKM	**Skilak Lake**	**2.61**	**52**	P	**Pn**	**04 41 26.9**	**+0.5**
SEW	**Seward**	**2.76**	**64**	P	**Pn**	**04 41 28.5**	**+0.4**
SEW				S	**Sn**	**04 41 59.6**	**-2.0**
STLK	**Strandline Lak**	**2.83**	**26**	P	**Pn**	**04 41 30.4**	**+1.2**
FIB	**Fire Island**	**3.04**	**42**	P	**Pn**	**04 41 33.6**	**+1.8**
SUA	**Susitna One**	**3.09**	**35**	P	**Pn**	**04 41 33.1**	**+0.6**
RC01	**Rabbit Creek A**	**3.15**	**46**	P	**Pn**	**04 41 34.0**	**+0.7**
RC01				S	**Sn**	**04 42 09.7**	**-1.1**
PTE	**Portage**	**3.30**	**53**	P	**Pn**	**04 41 35.1**	**0.0**
SKT	**Skwentna**	**3.33**	**24**	P	**Pn**	**04 41 36.4**	**+0.9**
PMR	**Palmer**	**3.70**	**43**	P	**Pn**	**04 41 39.9**	**-0.5**
VNHG	**Veniaminof 1**	**3.77**	**225**	P	**Pn**	**04 41 42.4**	**+0.8**
VNSG	**Veniaminof 6**	**3.82**	**224**	P	**Pn**	**04 41 42.5**	**+0.4**
TT01	**Tatalina**	**4.02**	**349**	P	**Pn**	**04 41 45.6**	**+1.0**
PPLA	**Purkeypile**	**4.08**	**14**	P	**Pn**	**04 41 47.3**	**+1.8**
GLI	**Glacier Island**	**4.14**	**59**	P	**Pn**	**04 41 45.9**	**-0.3**
MID	**Middleton Isla**	**4.16**	**80**	P	**Pn**	**04 41 47.0**	**+0.5**
JPK	**Jack Peak**	**4.43**	**59**	P	**Pn**	**04 41 50.2**	**+0.1**
SCM	**Sheep Creek Mo**	**4.52**	**48**	P	**Pn**	**04 41 51.2**	**-0.2**
VLZ	**Valdez**	**4.58**	**58**	P	**Pn**	**04 41 52.3**	**+0.2**
CAST	**Castle Rocks**	**4.59**	**13**	P	**Pn**	**04 41 53.4**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.64**	**66**	P	**Pn**	**04 41 53.2**	**+0.3**
DIV	**Divide**	**4.83**	**60**	P	**Pn**	**04 41 56.0**	**+0.5**
KTH	**Kantishna Hill**	**4.88**	**19**	P	**Pn**	**04 41 56.4**	**+0.2**
TRF	**Thorofare Moun**	**4.91**	**22**	P	**Pn**	**04 41 56.7**	**+0.1**
KLU	**Klutina**	**4.92**	**56**	P	**Pn**	**04 41 56.7**	**+0.1**
SDPT	**Sand Point**	**4.92**	**225**	P	**Pn**	**04 41 55.6**	**-1.1**
RAGM	**Ragged Mountai**	**5.12**	**70**	P	**Pn**	**04 41 59.9**	**+0.6**
GOAT	**Goat Mountain**	**5.14**	**68**	P	**Pn**	**04 42 00.4**	**+0.8**
RND	**Reindeer**	**5.18**	**29**	P	**Pn**	**04 41 59.9**	**-0.3**
BMRM	**Bremner River**	**5.30**	**64**	P	**Pn**	**04 42 02.3**	**+0.5**
DHY	**Denali Highway**	**5.34**	**37**	P	**Pn**	**04 42 02.1**	**-0.3**
NICHA	**Nichawak Mount**	**5.44**	**72**	P	**Pn**	**04 42 04.7**	**+1.1**
MCK	**McKinley**	**5.44**	**26**	P	**Pn**	**04 42 03.5**	**-0.1**
HARP	**HAARP**	**5.69**	**49**	P	**Pn**	**04 42 07.9**	**+0.9**
BWN	**Browne**	**5.72**	**22**	P	**Pn**	**04 42 07.4**	**+0.1**
GRIN	**Grindle Hills**	**5.77**	**72**	P	**Pn**	**04 42 08.7**	**+0.7**
DT1	**Dutton Round H**	**5.80**	**231**	P	**Pn**	**04 42 08.3**	**-0.1**
GLB	**Gilahina Butte**	**5.82**	**60**	P	**Pn**	**04 42 09.5**	**+0.8**
KHIT	**Khitrov Hills**	**5.83**	**71**	P	**Pn**	**04 42 09.3**	**+0.5**
PAX	**Paxson**	**5.90**	**44**	P	**Pn**	**04 42 09.7**	**-0.2**
GCSA	**Galena City Sc**	**5.91**	**350**	P	**Pn**	**04 42 10.2**	**+0.5**
VRDI	**Verde Repeater**	**5.92**	**63**	P	**Pn**	**04 42 11.0**	**+0.8**
KULT	**Kultieth River**	**6.06**	**73**	P	**Pn**	**04 42 13.2**	**+1.2**
PS10	**TAPS Pump St10**	**6.10**	**39**	P	**Pn**	**04 42 13.2**	**+0.8**
BARK	**Barkley Ridge**	**6.19**	**72**	P	**Pn**	**04 42 14.9**	**+1.2**
WRH	**Wood River Hil**	**6.27**	**26**	P	**Pn**	**04 42 13.8**	**-0.9**
ISLE	**Juniper Island**	**6.30**	**70**	P	**Pn**	**04 42 16.1**	**+0.8**
MLY	**Manley**	**6.31**	**14**	P	**Pn**	**04 42 14.8**	**-0.5**
DDM	**Donnelly Dome**	**6.33**	**37**	P	**Pn**	**04 42 16.6**	**+1.1**
KIAG	**Kiagna River**	**6.35**	**67**	P	**Pn**	**04 42 16.8**	**+0.8**
PTPK	**Patty Peak**	**6.36**	**65**	P	**Pn**	**04 42 17.3**	**+1.2**
BAGL	**Bagley Icefiel**	**6.40**	**71**	P	**Pn**	**04 42 18.1**	**+1.6**
MESA	**MESA**	**6.43**	**74**	P	**Pn**	**04 42 18.4**	**+1.3**
FALS	**False Pass**	**6.44**	**234**	P	**Pn**	**04 42 16.8**	**-0.2**
CCB	**Clear Creek Bu**	**6.48**	**26**	P	**Pn**	**04 42 16.6**	**-1.0**
HDA	**Harding Lake**	**6.49**	**30**	P	**Pn**	**04 42 16.9**	**-0.7**
GRNC	**Granite Creek**	**6.60**	**69**	P	**Pn**	**04 42 20.3**	**+0.9**
PS08	**TAPS Pump Stn8**	**6.63**	**30**	P	**Pn**	**04 42 18.7**	**-0.8**
MDM	**Murphy Dome**	**6.66**	**23**	P	**Pn**	**04 42 19.2**	**-0.8**
COLA	**College**	**6.67**	**25**	P	**Pn**	**04 42 19.4**	**-0.6**
BARN	**Barnard Glacie**	**6.71**	**66**	P	**Pn**	**04 42 22.0**	**+1.2**
RKAV	**Rock Avalanche**	**6.75**	**73**	P	**Pn**	**04 42 22.8**	**+1.6**
ILAR	**Eielson Array**	**6.80**	**28**	P	**Pn**	**04 42 21.1**	**-0.9**
	7.4nm,0.3s,baz=213,slow=13,SNR=301						
ILAR				S	**Sn**	**04 43 33.2**	**-4.7**
	5.9nm,0.3s,baz=212,slow=25,SNR=14						
ILB	**Eielson Array**	**6.80**	**28**	P	**Pn**	**04 42 21.0**	**-0.9**
DOT	**Dot Lake**	**6.83**	**42**	*e*Pn	**Pn**	**04 42 23.3**	**+1.1**
	12nm,0.7s						
TABL	**Table Mountain**	**6.86**	**72**	P	**Pn**	**04 42 24.1**	**+1.2**
SAMH	**Samovar Hills**	**7.01**	**75**	P	**Pn**	**04 42 26.8**	**+2.0**
IM04	**Indian Mountai**	**7.03**	**2**	*e*Pn	**Pn**	**04 42 25.4**	**+0.5**
IM3	**Indian Mountai**	**7.04**	**2**	P	**Pn**	**04 42 25.6**	**+0.7**
SCRK	**Sand Creek**	**7.06**	**40**	P	**Pn**	**04 42 24.5**	**-0.9**
WESE	**West Dahl East**	**7.20**	**236**	P	**Pn**	**04 42 27.6**	**+0.3**
PS06	**TAPS Pump Stn6**	**7.23**	**15**	P	**Pn**	**04 42 27.6**	**0.0**
BCA3	**Beaver Creek A**	**7.36**	**51**	P	**Pn**	**04 42 29.9**	**+0.5**
UNV	**Unalaska Valle**	**8.45**	**238**	P	**Pn**	**04 42 42.8**	**-1.3**
COLD	**Coldfoot**	**8.49**	**11**	P	**Pn**	**04 42 43.9**	**-0.6**
MREP	**Makushin Rep't**	**8.58**	**238**	P	**Pn**	**04 42 45.8**	**-0.1**
HYT	**Haines Junctio**	**8.68**	**71**	P	**Pn**	**04 42 48.9**	**+1.7**
DAWY	**Dawson**	**8.78**	**48**	P	**Pn**	**04 42 49.3**	**+0.8**
OKFG	**Magazine Ridge**	**9.37**	**239**	P	**Pn**	**04 42 54.7**	**-1.7**
BM3	**Burnt Mountain**	**9.54**	**23**	P	**Pn**	**04 42 56.5**	**-2.1**
DLBC	**Dease Lake**	**12.66**	**82**	P	**Pn**	**04 43 42.9**	**+3.0**
	3.1nm,0.3s,baz=271,slow=7.0,SNR=48						
DLBC				S	**Sn**	**04 45 59.4**	**+0.1**
	0.2nm,0.3s,baz=253,slow=19,SNR=3.4						
DLBC	**Dease Lake**	**12.66**	**82**	*e*Pn	**P**	**04 43 44.6**	**-1.3**
INK	**Inuvik**	**13.08**	**36**	P	**Pn**	**04 43 45.2**	**0.0**
	1.4nm,0.3s,baz=237,slow=13,SNR=68						
INK	**Inuvik**	**13.08**	**36**	*e*Pn	**Pn**	**04 43 45.0**	**-0.2**
	6.9nm,0.6s						
YKA	**Yellowknife Ar**	**19.54**	**63**	P	**P**	**04 45 02.8**	**+1.3**
	0.7nm,0.3s,baz=275,slow=9.8,SNR=40						
NEW	**Newport**	**24.24**	**100**	P	**P**	**04 45 50.7**	**+1.6**
	0.6nm,0.4s,baz=315,slow=16,SNR=3.6						
RES	**Resolute Bay**	**26.55**	**31**	P	**P**	**04 46 08.8**	**-0.8**
	0.5nm,0.7s,baz=260,slow=12,SNR=3.3						
KSRS	**Korea Array**	**52.71**	**282**	P	**P**	**04 49 46.6**	**+1.3**
	1.1nm,0.5s,baz=37,slow=6.4,SNR=3.6						
SONM	**Songino Array**	**54.81**	**306**	P	**P**	**04 50 01.9**	**+1.2**
	0.7nm,0.3s,baz=44,slow=6.6,SNR=7.9						
FINES	**FINESS Array B**	**59.91**	**360**	P	**P**	**04 50 35.4**	**-0.6**
	1.1nm,0.9s,baz=316,slow=12,SNR=2.5						
ESDC	**Sonseca Array**	**78.68**	**23**	P	**P**	**04 52 31.8**	**-0.1**
	0.3nm,0.5s,baz=352,slow=3.8,SNR=2.9						
QSPA	**South Pole Qui**	**148.77**	**180**	PKPbc	**PKPbc**	**05 00 15.9**	**+1.0**
	1.7nm,0.8s,baz=44,slow=19,SNR=9.0						

*ISCJB **30** 04:50:04.5±0.5, 32°.21N±0°.02×115°.16W±0°.03, h12km±4km, Error ellipse: s-maj=4.2km s-min=3.9km az=169.4*
*ECX **30** 04:50:06.5±0.6, 32°.19N×115°.24W, h9km, MD3.0, ML3.2*
*NEIC **30** 04:50:06.5, 32°.19N×115°.23W, h9km, MD3.5(MEX), ML3.1(PAS), ML3.2(ECX), After ECX.*
*MEX **30** 04:50:07.3±0.5, 32°.23N×115°.19W, h10km±24km, MD3.5*
ISC 30 04:50:04.9±0.9, **32°.19N**±0°.02×**115°.21W**±0°.02, **h14**km±8km, **n33**, σ0§**85**/58, **3C-7D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.22**	**2**	*i* P	**Pb**	**04 50 10.9**	**+0.2**
MBIG				*i* S	**Sg**	**04 50 13.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.24**	**340**	*e*P	**Pb**	**04 50 10.8**	**-0.3**
CPBX				*e*S	**Sb**	**04 50 14.8**	**-0.4**
CPBX				*e*		04 50 16.9	
CPBX				AML	AML	04 50 16.9	
	comp=N,19μm,0.2s						
CPBX	**Cerro Prieto**	**0.24**	**340**	*i* P	**Pb**	**04 50 10.9**	**-0.3**
CPBX				*i* S	**Sg**	**04 50 13.9**	**+0.3**
SGL	**Mount Signal**	**0.63**	**316**	⇓*i* P	**Pg**	**04 50 17.3**	**0.0**
YMD	**Yuma Desert**	**0.67**	**57**	⇑*i* P	**Pb**	**04 50 18.5**	**+0.1**
COA	**Coachella**	**0.68**	**6**	⇓*i* P	**Pg**	**04 50 18.3**	**+0.2**
RDX	**Rancho Dawling**	**0.68**	**248**	*e*P	**Pg**	**04 50 18.4**	**+0.3**
RDX				*e*S	**Sg**	**04 50 27.3**	**+0.2**
RDX				⇓*e*		04 50 29.2	
RDX				AML	AML	04 50 29.2	
	comp=N,921nm,0.5s						
RDX	**Rancho Dawling**	**0.68**	**248**	*e*P	**Pg**	**04 50 18.4**	**+0.3**
RDX				*e*S	**Sg**	**04 50 27.3**	**+0.2**
ECBX	**El Chinero**	**0.73**	**169**	*e*P	**Pb**	**04 50 19.4**	**0.0**
ECBX				*e*S	**Sb**	**04 50 29.6**	**+0.4**
ECBX				⇓*e*		04 50 30.2	
	comp=E,666nm,0.3s						
YUH	**Yuha Desert**	**0.76**	**307**	⇑*i* P	**Pg**	**04 50 19.1**	**-0.5**
COK	**Cook Ranch**	**0.79**	**326**	⇓*i* P	**Pg**	**04 50 20.1**	**-0.1**
RUN	**Ruthven**	**0.81**	**14**	⇓*i* P	**Pg**	**04 50 19.9**	**-0.6**
RMX	**La Rumorosa**	**0.84**	**299**	*e*P	**Pg**	**04 50 20.8**	**-0.5**
RMX				*e*S	**Sg**	**04 50 31.8**	**-0.6**
RMX				AML	AML	04 50 32.6	
	comp=N,1μm,0.1s						
RMX				*e*		04 50 32.6	
RMX	**La Rumorosa**	**0.84**	**299**	*e*P	**Pg**	**04 50 20.8**	**-0.5**
RMX				*e*S	**Sg**	**04 50 31.8**	**-0.6**
GLA	**Glamis**	**0.92**	**20**	*e*Pg	**Pb**	**04 50 21.5**	**-1.2**
GLA				*e*Sg	**Sb**	**04 50 33.3**	**-1.5**
ZAX	**El Zacaton**	**1.13**	**234**	*e*P	**Pb**	**04 50 26.0**	**-0.3**
ZAX				*e*S	**Sb**	**04 50 41.0**	**+0.1**
SPIG	**San Pedro Mart**	**1.16**	**191**	*e*P	**Pb**	**04 50 26.6**	**-0.3**
SPIG				*e*S	**Sb**	**04 50 41.5**	**-0.6**
SPIG	**San Pedro Mart**	**1.16**	**191**	*e*P	**Pb**	**04 50 26.6**	**-0.3**
SPIG				*e*S	**Sb**	**04 50 41.5**	**-0.6**
SPX	**San Pedro Mart**	**1.16**	**191**	*e*P	**Pb**	**04 50 26.7**	**-0.3**
SPX				*e*S	**Sb**	**04 50 42.5**	**+0.4**
SPX	**San Pedro Mart**	**1.16**	**191**	*e*P	**Pb**	**04 50 26.7**	**-0.3**
SPX				*e*S	**Sb**	**04 50 42.5**	**+0.4**
CBX	**Cerro Bola**	**1.24**	**276**	*e*P	**Pn**	**04 50 27.1**	**-0.8**
CBX				*e*S	**Sb**	**04 50 42.9**	**-1.2**
CBX	**Cerro Bola**	**1.24**	**276**	⇑*e*P	**Pn**	**04 50 27.2**	**-0.8**
CBX				⇓*e*		04 50 49.9	
	comp=N,479nm,0.7s						
ECNX	**Esteban Cantu**	**1.30**	**246**	*e*P	**Pn**	**04 50 28.1**	**-0.6**
ECNX				*e*S	**Sn**	**04 50 46.2**	**+0.2**
PBX	**Punta Banda**	**1.36**	**251**	*e*P	**Pn**	**04 50 29.4**	**-0.2**
PBX				*e*S	**Sb**	**04 50 47.9**	**+0.3**
PBX	**Punta Banda**	**1.36**	**251**	*e*P	**Pn**	**04 50 29.4**	**-0.2**
PBX				*e*S	**Sb**	**04 50 47.9**	**+0.3**
PFO	**Pinyon Flats O**	**1.76**	**324**	*e*Pn	**Pn**	**04 50 35.2**	**0.0**
PFO				*e*Sn	**Sb**	**04 50 59.1**	**-0.1**
214A	**Organ Pipe Nat**	**2.05**	**96**	*e*Pn	**Pn**	**04 50 37.9**	**-1.1**
214A				*e*Pg	**Pg**	**04 50 42.9**	**+1.0**
LDFC	**Landfair**	**2.88**	**2**	*e*Pg	**Pg**	**04 51 00.8**	**+0.6**
PASC	**Pasadena Art C**	**3.19**	**309**	*e*Pn	**Pn**	**04 50 57.3**	**+2.7**
PASC				*e*Sg	**Sb**	**04 51 45.1**	**+1.5**
TUC	**Tucson**	**3.75**	**87**	*e*Pn	**Pn**	**04 51 03.4**	**+1.0**
TUC				*e*Pg	**Pg**	**04 51 17.2**	**+0.5**
TUC				*e*Sg	**Sg**	**04 52 02.5**	**-2.8**
SHPR	**Sheep Range**	**4.31**	**1**	*e*Pn	**Pn**	**04 51 11.4**	**+1.2**
SHPR				*e*Pg	**Pg**	**04 51 28.1**	**+0.8**
SHPR				*e*Sg	**Sg**	**04 52 21.9**	**-1.3**
WUAZ	**Wupatki**	**4.60**	**43**	*e*Pn	**Pn**	**04 51 15.7**	**+1.5**
TPH	**Tonopah**	**6.10**	**345**	*e*Pn	**Pn**	**04 51 35.2**	**+0.3**
TPH				*e*Sg	Sb	04 53 10.7	+6.7

*ISCJB **30** 04:54:31.9±0.4, 4°.33S±0°.05×153°.14E±0°.08, h100km, mb4.3/29, Error ellipse: s-maj=11.2km s-min=5.9km az=20.5*
*IDC **30** 04:54:31.8±0.7, 4°.34S×153°.17E, h84km±5km, mb4.1/18, mb1 4.2/19, mb1mx4.1/29, mbtmp4.4/19, MS3.2/4, Ms1 3.2/4, ms1mx2.9/21, Error ellipse: s-maj=17.9km s-min=10.1km az=96.0*
*NEIC **30** 04:54:33.2±1.4, 4°.34S×153°.17E, h96km±11km, mb4.4/15, Error ellipse: s-maj=10.3km s-min=6.7km az=86.0*
ISC 30 04:54:33.2±0.5, **4°.37S**±0°.07×**153°.21E**±0°.09, **h100**km, **n109**, σ1§**26**/109, **mb4.4**/29, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.82**	**230**	P	**Pn**	**04 56 26.4**	**+2.1**
	baz=7.2,SNR=4.8						
PMG				S	**Sn**	**04 57 51.7**	**+0.4**
	baz=7.2,SNR=5.7						
PMG	**Port Moresby**	**7.82**	**230**	*e*Pn	**Pn**	**04 56 24.6**	**+0.2**
PMG				*e*Sn	**Sn**	**04 57 48.6**	**-2.8**
COEN	**Coen**	**13.74**	**225**	P	**P**	**04 57 51.3**	**+2.2**
	baz=13,SNR=7.1						
COEN	**Coen**	**13.74**	**225**	*e*Pn	**Pn**	**04 57 44.3**	**+0.4**
CTA	**Charters Tower**	**17.04**	**203**	P	**P**	**04 58 26.6**	**+1.0**
	0.4nm,0.3s,baz=39,slow=12,SNR=5.0						
CTAO	**Charters Tower**	**17.04**	**203**	*e*P	**P**	**04 58 26.1**	**+0.5**
	10nm,0.7s						
QIS	**Mount Isa**	**20.84**	**218**	P	**P**	**04 59 07.5**	**+0.4**
	baz=20,SNR=6.8						
KDU	**Kakadu**	**22.10**	**247**	P	**P**	**04 59 19.4**	**-1.1**
	baz=22,SNR=16						
RMQ	**Roma**	**22.41**	**191**	P	**P**	**04 59 24.8**	**+1.2**
	baz=22,SNR=13						
QLP	**Quilpie**	**23.70**	**200**	P	**P**	**04 59 36.7**	**+0.6**
	baz=23,SNR=31						
WRAB	**Tennant Creek**	**24.02**	**228**	*e*P	**P**	**04 59 39.1**	**0.0**
	17nm,0.8s						
WRA	**Warramunga Arr**	**24.04**	**228**	P	**P**	**04 59 39.3**	**+0.1**
	7.4nm,0.4s,baz=53,slow=9.9,SNR=212						
WRA				S	**S**	**05 03 50.0**	**+0.5**
	2.0nm,0.9s,baz=45,slow=15,SNR=6.1						
WRA				ScP	**ScP**	**05 06 49.8**	**+1.6**
	1.2nm,0.8s,baz=61,slow=3.9,SNR=5.2						
ARMA	**Armidale**	**25.96**	**183**	P	**P**	**04 59 58.5**	**+2.0**
	baz=26,SNR=4.5						
ARMA	**Armidale**	**25.96**	**183**	*e*P	**P**	**04 59 58.2**	**+1.6**
	9.7nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.31**	**30**	T	T	05 27 52.2	
	baz=207,slow=73,SNR=19						
H11S2	**WAKE ISLAND Hy**	**26.32**	**30**	T	T	05 27 53.8	
	baz=207,slow=73,SNR=27						
H11S1	**WAKE ISLAND Hy**	**26.33**	**30**	T	T	05 27 53.2	
	baz=207,slow=73,SNR=11						
KNRA	**Kununurra**	**26.53**	**243**	P	**P**	**05 00 01.6**	**-0.2**
	baz=26,SNR=6.6						
AS31	**Alice Springs**	**26

HAU	**Haudompre**	**128.08**	**332**	*e*PKPdf	**PKPdf**	**05 13 28.6**	**+0.8**
OTAV	**Otavalo**	**128.23**	**93**	*e*PKPdf	**PKPdf**	**05 13 29.8**	**+0.1**
CABF	**La Chapelle**	**129.21**	**331**	*e*PKIKP	**PKPdf**	**05 13 31.4**	**+1.3**
	comp=Z,4.1nm,0.5s						
CABF	**La Chapelle**	**129.21**	**331**	*e*PKPdf	**PKPdf**	**05 13 31.4**	**+1.3**
LPL	**La Plagne**	**129.66**	**330**	*e*PKIKP	**PKPdf**	**05 13 32.3**	**+1.1**
	comp=Z,2.9nm,0.6s						
LPL	**La Plagne**	**129.66**	**330**	*e*PKPdf	**PKPdf**	**05 13 32.3**	**+1.1**
LPG	**La Plagne**	**129.67**	**330**	*e*PKIKP	**PKPdf**	**05 13 32.5**	**+1.2**
	comp=Z,3.9nm,0.5s						
LPG	**La Plagne**	**129.67**	**330**	*e*PKPdf	**PKPdf**	**05 13 32.5**	**+1.2**
LOR	**Lormes**	**129.76**	**333**	*e*PKIKP	**PKPdf**	**05 13 32.2**	**+1.2**
	comp=Z,8.5nm,0.9s						
LOR	**Lormes**	**129.76**	**333**	*e*PKPdf	**PKPdf**	**05 13 32.2**	**+1.2**
SSF	**Saint Saulge**	**130.08**	**333**	*e*PKIKP	**PKPdf**	**05 13 32.9**	**+1.3**
	comp=Z,6.0nm,0.8s						
SSF	**Saint Saulge**	**130.08**	**333**	*e*PKPdf	**PKPdf**	**05 13 32.9**	**+1.3**
AVF	**Avril sur Loir**	**130.35**	**333**	*e*PKIKP	**PKPdf**	**05 13 33.4**	**+1.3**
AVF	**Avril sur Loir**	**130.35**	**333**	*e*PKPdf	**PKPdf**	**05 13 33.4**	**+1.3**
PGF	**Pioggiola**	**130.44**	**325**	*e*PKIKP	**PKPdf**	**05 13 33.6**	**+1.0**
	comp=Z,3.9nm,0.7s						
PGF	**Pioggiola**	**130.44**	**325**	*e*PKPdf	**PKPdf**	**05 13 33.6**	**+1.0**
ORIF	**Oris-en-Rattie**	**130.51**	**330**	*e*PKIKP	**PKPdf**	**05 13 33.8**	**+1.2**
ORIF	**Oris-en-Rattie**	**130.51**	**330**	*e*PKPdf	**PKPdf**	**05 13 33.8**	**+1.2**
GRR	**Gorron**	**130.85**	**337**	*e*PKIKP	**PKPdf**	**05 13 34.3**	**+1.3**
GRR	**Gorron**	**130.85**	**337**	*e*PKPdf	**PKPdf**	**05 13 34.3**	**+1.3**
TCF	**Toulx Ste Croi**	**131.25**	**333**	*e*PKIKP	**PKPdf**	**05 13 35.2**	**+1.3**
TCF	**Toulx Ste Croi**	**131.25**	**333**	*e*PKPdf	**PKPdf**	**05 13 35.2**	**+1.3**
MFF	**Saint Martin d**	**132.01**	**335**	*e*PKIKP	**PKPdf**	**05 13 35.2**	**-0.1**
MFF	**Saint Martin d**	**132.01**	**335**	*e*PKPdf	**PKPdf**	**05 13 35.2**	**-0.1**
LASF	**Ste Croix**	**132.12**	**330**	*e*PKIKP	**PKPdf**	**05 13 37.1**	**+1.5**
LASF	**Ste Croix**	**132.12**	**330**	*e*PKPdf	**PKPdf**	**05 13 37.1**	**+1.5**
MTLF	**Montolieu**	**133.47**	**331**	*e*PKIKP	**PKPdf**	**05 13 38.1**	**-0.1**
MTLF	**Montolieu**	**133.47**	**331**	*e*PKPdf	**PKPdf**	**05 13 38.1**	**-0.1**
ETSF	**Etsaut**	**135.12**	**333**	*e*PKIKP	**PKPdf**	**05 13 43.8**	**+2.4**
	comp=Z,3.2nm,0.6s						
ETSF	**Etsaut**	**135.12**	**333**	*e*PKPdf	**PKPdf**	**05 13 43.8**	**+2.4**
SAML	**Samuel**	**141.38**	**110**	*e*PKPdf	**PKPdf**	**05 13 53.6**	**+0.1**
TOA0	**Torodi Ar. Sit**	**150.56**	**289**	*e*PKPbc	**PKPbc**	**05 14 14.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**150.56**	**289**	PKPbc	**pPKPbc**	**05 14 14.2**	**-0.3**
	comp=Z,2.6nm,0.4s,baz=88,slow=2.2,SNR=38						
TORD				pPKPbc	**pPKPbc**	**05 14 36.3**	**-5.6**
	comp=Z,1.9nm,0.8s,baz=76,slow=2.6,SNR=2.4						

IGQ 30 05:30:10±0.2, 1.72°S×77.73°W, h3km±43km, Mb4.0, 17C-20D, Error ellipse: s-maj=1.3km s-min=0.7km az=13.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.71**	**222**	⇑P	Pb	05 30 25.8	+0.5
MACE	**Macas**	**0.71**	**222**	⇑S	Sg	05 30 32.4	-0.9
ULBA	**Ulba**	**0.73**	**292**	⇓P	Pg	05 30 25.1	+0.5
BULB	**Ulba Tungurahu**	**0.74**	**292**	⇓S	Sg	05 30 35.6	+1.0
BULB	**Ulba Tungurahu**	**0.74**	**292**	⇓P	Pg	05 30 25.2	+0.5
BPAT	**Tungurahua Vol**	**0.74**	**287**	⇓P	Pg	05 30 25.3	+0.5
BPAT	**Tungurahua Vol**	**0.74**	**287**	⇓S	Sg	05 30 35.3	+0.5
PAT1	**Patacocha**	**0.74**	**287**	⇓P	Pg	05 30 25.3	+0.4
BRUN	**Tungurahua Vol**	**0.75**	**294**	⇓S	Sb	05 30 36.7	-0.4
BRUN	**Tungurahua Vol**	**0.75**	**294**	⇓P	Pb	05 30 26.5	+0.4
ARRY	**Arrayan**	**0.76**	**286**	⇑P	Pg	05 30 25.2	+0.2
RUN5	**Runtun**	**0.76**	**294**	⇓P	Pg	05 30 25.5	+0.4
RETU	**Refugio**	**0.77**	**290**	⇓P	Pb	05 30 26.7	0.0
BMAS	**Trigal station**	**0.78**	**286**	⇓S	Sg	05 30 36.1	+0.1
BMAS	**Trigal station**	**0.78**	**286**	⇓P	Pb	05 30 26.8	0.0
JUI6	**Juive**	**0.80**	**292**	⇓S	Sg	05 30 36.7	+0.3
JUI6	**Juive**	**0.80**	**292**	⇓P	Pb	05 30 26.9	-0.1
BBIL	**Ulba Tungurahu**	**0.81**	**290**	⇓P	Pg	05 30 26.2	+0.3
BBIL	**Ulba Tungurahu**	**0.81**	**290**	⇓S	Sb	05 30 37.8	-1.0
BIL2	**Estacion Bilba**	**0.82**	**289**	P	Pg	05 30 26.4	+0.3
RIOE	**Riobamba**	**0.90**	**268**	⇓S	Sg	05 30 39.4	-0.4
RIOE	**Riobamba**	**0.90**	**268**	⇓P	Pb	05 30 28.9	+0.1
PISA	**Pisayambo**	**0.93**	**315**	⇓P	Pb	05 30 29.8	+0.3
IGUA	**Igualata**	**0.94**	**284**	⇓P	Pg	05 30 29.2	+0.4
TAMB	**Tambo**	**1.20**	**328**	P	Pn	05 30 34.5	0.0
COV1	**Cotopaxi Volc**	**1.22**	**330**	P	Pn	05 30 35.2	+0.3
COV1	**Cotopaxi Volc**	**1.22**	**330**	S	Sn	05 30 53.7	+1.2
BMOR	**Cotopaxi Volca**	**1.23**	**323**	⇑P	Pg	05 30 34.0	-0.2
MOV1	**Cotopaxi Vol s**	**1.23**	**325**	P	Pn	05 30 35.8	+0.8
BTAM	**Cotopaxi Volca**	**1.24**	**327**	⇑P	Pg	05 30 34.3	-0.1
BTAM	**Cotopaxi Volca**	**1.24**	**327**	⇑S	Sg	05 30 51.1	+0.1
BVC2	**Cotopaxi Volca**	**1.26**	**327**	⇑P	Pn	05 30 35.7	+0.4
BVC2	**Cotopaxi Volca**	**1.26**	**327**	⇑S	Sg	05 30 51.1	-0.7
BREF	**Cotopaxi Volca**	**1.26**	**326**	⇑P	Pg	05 30 35.0	-0.1
VC1	**Cotopaxi 1**	**1.27**	**328**	P	Pn	05 30 35.8	+0.5
CAMI	**Rancho Maria**	**1.30**	**323**	⇑P	Pn	05 30 36.7	+1.0
NAS2	**Nasa**	**1.30**	**325**	P	Pb	05 30 36.0	+0.2
ANTI	**Antisana**	**1.34**	**341**	⇑P	Pn	05 30 35.3	-1.1
PITA	**Cotopaxi Volc**	**1.35**	**329**	⇑P	Pn	05 30 36.3	-0.2
PAST	**Pastocalle**	**1.37**	**318**	S	Sg	05 30 55.1	0.0
PAST	**Pastocalle**	**1.37**	**318**	P	Pb	05 30 37.2	+0.3
LAV4	**Lava4-Reventad**	**1.62**	**3**	⇑P	Pn	05 30 40.0	+0.1
LAV4	**Lava4-Reventad**	**1.62**	**3**	⇑S	Sg	05 31 02.5	-0.3
CHAR	**Charly**	**1.62**	**2**	P	Pn	05 30 40.4	+0.3
CHAR	**Charly**	**1.62**	**2**	S	Sg	05 31 04.1	+0.9
CONE	**Cono NE Rev Vo**	**1.64**	**3**	⇑S	Sg	05 31 04.8	+1.2
CONE	**Cono NE Rev Vo**	**1.64**	**3**	⇑P	Pb	05 30 41.5	+0.1
JUA2	**San Juan 2**	**1.73**	**330**	S	Sg	05 31 07.3	+0.4
JUA2	**San Juan 2**	**1.73**	**330**	P	Pg	05 30 43.8	-0.1
CAYR	**Refugio Cayamb**	**1.75**	**351**	P	Pb	05 30 43.0	-0.6
CAYR	**Refugio Cayamb**	**1.75**	**351**	S	Sb	05 31 06.3	-0.2
GGP	**Refugio Guagua**	**1.76**	**331**	P	Pg	05 30 44.6	0.0
TERV	**Terraza Guagua**	**1.77**	**330**	P	Pg	05 30 44.8	+0.2
PINO	**Pino**	**1.78**	**330**	P	Pb	05 30 44.2	0.0
CAYA	**Cayambe**	**1.80**	**352**	S	Sg	05 31 09.7	+0.6
CAYA	**Cayambe**	**1.80**	**352**	P	Pb	05 30 44.7	+0.3
YANA	**Yana**	**1.80**	**332**	P	Pb	05 30 44.0	-0.3
OTAV	**Otavalo**	**2.08**	**340**	⇑P	Pb	05 30 49.6	+0.7
MAG1	**Magdalena**	**2.62**	**309**	P	Pb	05 30 58.1	+0.4

NNC 30 05:44:29.1±2.2, 36°.95N×70°.92E, h0km, mb3.6, mpv3.2, 5C-2D, Error ellipse: s-maj=18.4km s-min=7.9km az=176.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.48**	**319**	⇑Pn	Pn	05 45 10.7	-0.2
	5.1nm,0.4s						
DZET				⇑Sn	Sn	05 45 43.3	+1.2
	12nm,0.4s						
SFK	**Sufi-Kurgan**	**3.67**	**33**	⇑Pn	Pn	05 45 27.6	+0.2
	2.0nm,0.3s						
SFK				⇑Sn	Sn	05 46 13.3	+1.7
	8.9nm,0.3s						
MNAS	**Manas**	**5.66**	**12**	⇓Pn	Pn	05 45 53.8	-0.8
	1.8nm,0.8s						
MNAS				⇑Sn	Sn	05 47 00.1	-0.4
	1.7nm,0.5s						
KK31	**Karatay Array**	**6.15**	**357**	Pn	Pn	05 46 00.5	-0.7
	1.5nm,0.3s,baz=181,slow=12,SNR=23						
KK31				⇓Sn	Sn	05 47 13.2	+0.9
	0.3nm,0.3s						

KMA 30 05:53:33.2±0.2, 37°.68N×128°.62E, h0km, 2C-2D, Error ellipse: s-maj=2.6km s-min=2.2km az=131.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDGY	**Daegwallycong**	**0.04**	**75**	P	Pg	05 53 33.9	-0.2
	SNR=706						
KSDGY	**Daegwallycong**	**0.04**	**75**	P	Pg	05 53 33.9	-0.2
	SNR=706						
KSJMJ	**Jumunjin**	**0.23**	**28**	P	Pg	05 53 37.8	+0.2
	SNR=17						
KSJMJ	**Jumunjin**	**0.23**	**28**	P	Pg	05 53 37.8	+0.2
	SNR=17						
KSIJA	**INJE**	**0.51**	**307**	P	Pg	05 53 43.1	+0.2
	SNR=5.7						
KSIJA	**INJE**	**0.51**	**307**	P	Pg	05 53 43.1	+0.2
	SNR=5.7						
KSWJU	**Wonju**	**0.53**	**239**	⇑P	Pg	05 53 43.1	-0.3
KSCHC	**Chuncheon**	**0.65**	**279**	P	Pg	05 53 45.6	0.0
	SNR=10.0						
KSCHC	**Chuncheon**	**0.65**	**279**	P	Pg	05 53 45.6	0.0
	SNR=10.0						
KSCHJ	**Chungju**	**0.96**	**213**	⇑P	Pg	05 53 51.0	-0.6
KSCWO	**Cheorwon**	**0.96**	**295**	P	Pg	05 53 51.6	-0.1
	SNR=8.9						
KSCWO	**Cheorwon**	**0.96**	**295**	P	Pg	05 53 51.6	-0.1
	SNR=8.9						
KSMGY	**Mungyeong**	**1.12**	**204**	⇓P	Pb	05 53 55.0	-0.3
KSULJ	**Uljin**	**1.16**	**147**	⇓P	Pg	05 53 54.8	-0.6
	SNR=11						

BJI ***30*** *06:09:23.6, 24°.03S×67°.11W, h167km, mB5.1/1*
SJA ***30*** *06:09:24.5±0.8, 24°.22S×67°.13W, h182km±11km, ML3.8*
IDC ***30*** *06:09:24.8±0.9, 24°.30S×66°.94W, h177km±9km, mb3.9/7, mb1 4.0/10, mb1mx3.8/17, mbtmp4.3/10, Error ellipse: s-maj=16.7km s-min=11.0km az=59.0*
ISCJB ***30*** *06:09:25.2±0.3, 24°.26S±0°.04×67°.01W±0°.04, h188km±2km, mb4.2/47, Error ellipse: s-maj=7.6km s-min=4.3km az=44.8*
NEIC ***30*** *06:09:25.1±0.6, 24°.27S×66°.88W, h176km±6km, mb4.3/40, Error ellipse: s-maj=8.5km s-min=5.9km az=60.0*
GUC ***30*** *06:09:27.4±0.6, 23°.93S×67°.43W, h235km±19km, ML5.1*

ISC 30 06:09:24.9±0.6, 24°.26S±0°.04×67°.01W±0°.05, h176km±5km, n88, σ1ᵎ53/103, mb4.3/47, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.45**	**109**	*i* P	**Pn**	**06 09 58.7**	**+2.6**
SLA				*i* S	**Sn**	**06 10 23.1**	**+2.8**
SLA				AML	AML	06 10 26.0	
	comp=Z,708nm,0.7s						
AZAP	**Zapla**	**1.77**	**89**	*i* P	**Pn**	**06 10 01.8**	**+2.3**
AZAP				*i* S	**Sn**	**06 10 28.9**	**+2.6**
AZAP				AML	AML	06 10 32.3	
	comp=Z,649nm,0.7s						
FSA	**Cafayete**	**2.03**	**154**	*i* P	**Pn**	**06 10 04.8**	**+2.5**
FSA				*i* S	**Sn**	**06 10 33.7**	**+2.4**
ASTB	**Santa Barbara**	**2.33**	**83**	*i* P	**Pn**	**06 10 07.8**	**+2.2**
LVC	**Limon Verde**	**2.40**	**313**	P	**Pn**	**06 10 08.2**	**+1.8**
	comp=Z,13μm,0.3s,baz=128,slow=9.7,SNR=2942						
LVC				S	**Sn**	**06 10 40.3**	**+1.7**
	comp=Z,6μm,0.3s,baz=55,slow=22,SNR=16						
LVC	**Limon Verde**	**2.40**	**313**	*e*Pn	**Pn**	**06 10 08.2**	**+1.8**
LVC				S	**Sn**	**06 10 40.3**	**+1.7**
LVC				*e*Sn	Sn	06 10 40.5	+1.7
YJA	**Yavi**	**2.49**	**34**	*i* P	**Pn**	**06 10 08.9**	**+1.2**
ALOL	**LOMAS DE OLMED**	**2.81**	**82**	*i* P	**Pn**	**06 10 13.0**	**+1.9**
PB06	**IPOC Station P**	**2.82**	**303**	⇑*i* P	**Pn**	**06 10 12.8**	**+1.4**
PB06				*i* S	**Sn**	**06 10 47.5**	**+0.1**
PB06				AML	AML	06 10 48.6	
	comp=E,4μm,0.1s						
AHML	**Horco Molle**	**2.93**	**149**	*i* P	**Pn**	**06 10 14.1**	**+1.5**
AHML				*i* S	**Sn**	**06 10 51.1**	**+1.4**
AHML				AML	AML	06 10 52.7	
	comp=Z,109nm,0.7s						
PB04	**IPOC Station P**	**3.02**	**311**	*i* P	Pn	06 10 19.9	+6.2
PB04				*i* S	Sn	06 11 00.2	+8.6
PB04				AML	AML	06 11 03.6	
	comp=N,3μm,0.4s						
CEN1	**Los Morros**	**3.05**	**286**	*i* P	**Pn**	**06 10 17.2**	**+3.1**
CEN1				*i* S	**Sn**	**06 10 54.3**	**+2.0**
CEN1				AML	AML	06 10 57.0	
	comp=N,3μm,0.5s						
PB09	**IPOC Station P**	**3.20**	**320**	⇑*i* P	**Pn**	**06 10 17.5**	**+1.4**
PB09				*i* S	**Sn**	**06 10 54.9**	**-1.0**
PB09				AML	AML	06 11 00.5	
	comp=E,4μm,0.5s						
PB01	**IPOC Station P**	**3.94**	**324**	⇑*i* P	**Pn**	**06 10 25.2**	**-0.1**
PB01				*i* S	**Sn**	**06 11 10.0**	**-2.4**
PB01				AML	AML	06 11 13.4	
	comp=E,899nm,0.3s						
CYA	**Choya**	**4.30**	**166**	*i* P	**Pn**	**06 10 31.4**	**+1.7**
LCO	**Las Campanas**	**5.77**	**214**	*e*Pn	**Pn**	**06 10 48.7**	**-0.3**
LCO				*e*Sn	Sn	06 11 45.5	-10
CFAA	**Coronel Fontan**	**7.39**	**188**	P	**Pn**	**06 11 10.6**	**+0.4**
	comp=E,0.4nm,0.3s,baz=12,slow=15,SNR=51						
CFAA				S	**Sn**	**06 12 30.1**	**-3.3**
	comp=E,1.2nm,0.3s,baz=108,slow=20,SNR=28						
CPUP	**Villa Florida**	**9.00**	**105**	P	**Pn**	**06 11 31.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=283,slow=15,SNR=9.6						
CPUP	**Villa Florida**	**9.00**	**105**	*e*Pn	**Pn**	**06 11 30.9**	**-0.5**
	comp=E,0.3nm,0.9s						
TRQA	**Tornquist**	**14.41**	**164**	*e*Pn	**Pn**	**06 12 39.9**	**-0.8**
SAML	**Samuel**	**15.66**	**14**	*e*P	**Pn**	**06 12 55.2**	**-1.2**
	comp=E,4.8nm,0.9s						
PLCA	**Paso Flores**	**16.69**	**189**	P	**Pn**	**06 13 08.8**	**+0.1**
	comp=E,1.1nm,0.3s,baz=13,slow=12,SNR=5.6						
PLCA	**Paso Flores**	**16.69**	**189**	*e*P	**Pn**	**06 13 09.0**	**+0.3**
	comp=E,13nm,1.3s						
BDFB	**Brasilia**	**19.79**	**68**	P	**P**	**06 13 41.5**	**-0.5**
	comp=E,2.1nm,0.3s,baz=236,slow=10,SNR=58						
SDV	**Santo Domingo**	**33.13**	**353**	*e*P	**P**	**06 15 45.2**	**+0.4**
	comp=E,3.0nm,0.5s						
VNA3	**Neumayer Olymp**	**56.91**	**161**	P	**P**	**06 18 52.3**	**+1.1**
VNA2	**Neumayer--Watz**	**57.48**	**160**	P	**P**	**06 18 56.4**	**+1.3**
	baz=288,slow=6.9						
SNAA	**Sanae**	**59.11**	**161**	P	**P**	**06 19 07.7**	**+1.3**
JCT	**Junction City**	**62.86**	**328**	*e*P	**P**	**06 19 32.5**	**+0.3**
	comp=E,12nm,0.8s						
WVT	**Waverly**	**63.21**	**341**	*e*P	**P**	**06 19 32.9**	**-1.4**
	comp=E,6.2nm,0.4s						
MIAR	**Mount Ida**	**63.69**	**336**	*e*P	**P**	**06 19 37.2**	**-0.4**
	comp=E,4.7nm,0.9s						
ACSO	**Alum Creek Sta**	**65.87**	**347**	*e*P	**P**	**06 19 50.8**	**-0.7**
	comp=E,7.1nm,0.9s						
MSTX	**Muleshoe**	**67.16**	**328**	*e*P	**P**	**06 20 00.4**	**+0.4**
	comp=E,7.5nm,0.8s						
DBIC	**Dimbokro**	**67.89**	**71**	P	**P**	**06 20 04.2**	**-0.6**
	comp=E,5.8nm,1.0s,baz=198,slow=7.0,SNR=2.9						
ANMO	**Albuquerque**	**69.76**	**326**	*e*P	**P**	**06 20 17.4**	**+1.2**
	comp=E,4.7nm,0.9s						
T25A	**Trinidad**	**70.50**	**329**	*e*P	**P**	**06 20 22.1**	**+1.3**
	comp=E,3.9nm,0.8s						
BGNE	**Belgrade**	**71.44**	**336**	*e*P	**P**	**06 20 26.2**	**+0.2**
	comp=E,32nm,0.8s						
SDCO	**Great Sand Dun**	**71.51**	**329**	*e*P	**P**	**06 20 27.6**	**+0.8**
	comp=E,3.5nm,0.9s						
Q24A	**Divide**	**72.32**	**330**	*e*P	**P**	**06 20 33.0**	**+1.3**
	comp=E,6.0nm,0.9s						
MVCO	**Mesa Verde**	**72.56**	**326**	*e*P	**P**	**06 20 34.0**	**+1.0**
	comp=E,12nm,1.3s						
WUAZ	**Wupatki**	**72.78**	**323**	*e*P	**P**	**06 20 35.8**	**+1.5**
	comp=E,5.2nm,0.9s						
ECSD	**EROS Data Cent**	**72.92**	**338**	*e*P	**P**	**06 20 34.0**	**-0.7**
	comp=E,9.1nm,1.1s						
SMCO	**Snowmass**	**73.34**	**329**	*e*P	**P**	**06 20 39.3**	**+1.5**
	comp=E,3.5nm,0.8s						
SRU	**San Rafael Swe**	**75.03**	**326**	*e*P	**P**	**06 20 48.6**	**+1.3**
	comp=E,5.1nm,0.8s						
CCUT	**Cedar City**	**75.36**	**324**	*e*P	**P**	**06 20 51.1**	**+1.8**
	comp=E,7.7nm,0.9s						
MSU	**Marysvale**	**75.44**	**325**	*e*P	**P**	**06 20 51.1**	**+1.4**
	comp=E,5.0nm,0.9s						
RSSD	**Black Hills**	**76.04**	**333**	*e*P	**P**	**06 20 53.6**	**+0.7**
	comp=E,4.7nm,1.1s						
TPNV	**Topopah Spring**	**76.54**	**321**	*e*P	**P**	**06 20 57.8**	**+1.9**
	comp=E,9.0nm,1.2s						
JLU	**Jordanelle**	**76.63**	**327**	*e*P	**P**	**06 20 57.6**	**+1.2**
	comp=E,2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**06 20 55.6**	**-1.3**
	comp=E,1.5nm,0.5s,baz=257,slow=5.3,SNR=28						
AGMN	**Agassiz Nation**	**76.72**	**341**	*e*P	**P**	**06 20 56.1**	**-0.4**
	comp=E,7.5nm,1.0s						
DUG	**Dugway, Tooele**	**77.02**	**326**	*e*P	**P**	**06 20 59.8**	**+1.4**
	comp=E,6.6nm,1.3s						
R11A	**Troy Canyon, C**	**77.15**	**323**	*e*P	**P**	**06 21 00.6**	**+1.3**
	comp=E,2.1nm,0.8s						
PDAR	**Pinedale Array**	**77.37**	**329**	P	**P**	**06 21 01.1**	**+0.6**
	comp=E,0.9nm,0.7s,baz=114,slow=8.1,SNR=5.9						
HWUT	**Hardware Ranch**	**77.44**	**327**	*e*P	**P**	**06 21 01.5**	**+0.6**
	comp=E,4.1nm,1.0s						
MDND	**Maddock**	**77.53**	**338**	*e*P	**P**	**06 21 01.4**	**+0.4**
	comp=E,26nm,0.8s						
TSUM	**Tsumeb**	**77.59**	**106**	*e*P	**P**	**06 21 01.8**	**-0.4**
	comp=E,1.8nm,0.5s						
TPH	**Tonopah**	**77.88**	**322**	*e*P	**P**	**06 21 05.0**	**+1.6**
	comp=E,6.1nm,1.1s						
REDW	**Red Top Meadow**	**78.43**	**329**	*e*P	**P**	**06 21 07.0**	**+0.7**
	comp=E,2.7nm,0.9s						
ULM	**Lac du Bonnet**	**78.47**	**342**	P	**P**	**06 21 05.2**	**-0.8**
	comp=E,3.3nm,0.8s,baz=156,slow=6.5,SNR=5.7						
LOHW	**Long Hollow**	**78.51**	**329**	*e*P	**P**	**06 21 07.4**	**+0.7**
	comp=E,3.7nm,0.9s						
ELK	**Elko**	**78.68**	**325**	*e*P	**P**	**06 21 08.5**	**+0.8**
	comp=E,2.1nm,0.8s						
NVAR	**Mina Array Bea**	**78.74**	**321**	P	**P**	**06 21 08.9**	**+0.8**
	comp=E,2.0nm,0.9s,baz=142,slow=6.4,SNR=6.7						
IMW	**Indian Meadow**	**78.88**	**329**	*e*P	**P**	**06 21 10.1**	**+1.3**
	comp=E,5.5nm,0.9s						
YMR	**Madison River**	**79.48**	**330**	*e*P	**P**	**06 21 13.2**	**+1.2**
	comp=E,22nm,1.5s						
HLID	**Hailey**	**80.30**	**327**	*e*P	**P**	**06 21 18.0**	**+1.6**
	comp=E,7.7nm,0.9s						
DLMT	**Dillon**	**80.76**	**329**	*e*P	**P**	**06 21 19.6**	**+0.9**
	comp=E,3.5nm,1.0s						
MAW	**Mawson**	**81.19**	**163**	P	**P**	**06 21 20.4**	**-0.2**
	comp=E,3.4nm,0.8s,baz=198,slow=7.0,SNR=6.9						
LBTB	**Lobatse**	**82.29**	**114**	*e*P	**P**	**06 21 27.0**	**-0.3**
	comp=E,3.9nm,0.6s						
JTMT	**Jette**	**83.31**	**330**	*e*P	**P**	**06 21 32.3**	**+0.3**
	comp=E,2.7nm,0.9s						
C09A	**Chrisman Ranch**	**85.22**	**328**	*e*P	**P**	**06 21 42.1**	**+0.7**
	comp=E,7.0nm,0.7s						
FCC	**Fort Churchill**	**85.71**	**346**	*e*P	**P**	**06 21 43.6**	**+0.2**
	comp=E,17nm,1.3s						
EDM	**Edmonton**	**87.00**	**334**	*e*P	**P**	**06 21 49.1**	**-0.8**
LSZ	**Lusaka**	**88.44**	**106**	*e*P	**P**	**06 21 59.8**	**+1.9**
	comp=E,4.3nm,1.0s						
YKA	**Yellowknife Ar**	**94.37**	**340**	P	**P**	**06 22 23.7**	**-0.3**
	comp=E,0.8nm,0.5s,baz=132,slow=4.3,SNR=20						
ASAR	**Alice Springs**	**128.22**	**205**	PKP	**PKPdf**	**06 28 10.2**	**-0.8**
	comp=E,0.5nm,0.5s,baz=154,slow=1.4,SNR=8.8						
WRA	**Warramunga Arr**	**131.39**	**207**	PKP	**PKPdf**	**06 28 16.6**	**-0.5**
	comp=E,0.5nm,0.4s,baz=158,slow=1.8,SNR=19						
WRAB	**Tennant Creek**	**131.39**	**207**	*e*PKPdf	**PKPdf**	**06 28 17.3**	**+0.2**
ABKAR	**Abkulak array**	**131.93**	**45**	*e*PKPdf	**PKPdf**	**06 28 18.6**	**+1.5**
ZALV	**Zalesovo Beam**	**143.63**	**28**	PKP	PKPab	06 28 35.9	+0.5
	comp=E,1.2nm,0.4s,baz=288,slow=4.1,SNR=6.9						
KSH	**Kashi**	**145.35**	**55**	*e*PKPbc	**PKPdf**	**06 28 41.8**	**-0.3**
KSH				*ep*PKP	**pPKPdf**	**06 29 23.5**	**-4.7**
KSH				PP	**PP**	**06 32 01.0**	**-2.8**
KSH				PKS	**PKSdf**	**06 32 15.8**	**-1.8**
KSH				PPMZ			
	comp=E,42nm,3.3s						
KSH				LN			
	comp=E,94nm,6.2s						
KSH				LE			
	comp=E,51nm,6.1s						
KSH				LZ			
	comp=E,91nm,6.9s						
MK31	**Makanchi Array**	**146.73**	**40**	*e*PKPbc	**PKPbc**	**06 28 46.0**	**0.0**
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	**PKPdf**	**06 28 44.9**	**+0.8**
	comp=E,1.1nm,0.4s,baz=234,slow=20,SNR=11						
WMQ	**Urumqi**	**151.55**	**40**	*e*PKPbc	**PKPdf**	**06 28 52.0**	**+0.1**
MJAR	**Matsushiro Arr**	**155.12**	**305**	PKPab	**PKPab**	**06 29 22.1**	**-0.7**
	comp=E,0.7nm,0.3s,baz=78,slow=1.6,SNR=4.8						
BJI	**Beijing**	**164.04**	**351**	PKP	**PKPdf**	**06 29 08.0**	**+0.9**
BJI				PP	**PP**	**06 33 49.0**	**+2.6**
BJI				PPMZ			
	comp=E,110nm,5.4s						
BJI				LN			
	comp=E,150nm,5.2s						
BJI				LE			
	comp=E,

MNAS	**Manas**	**3.82**	**317**	Pn	**Pn**	**06 26 31.0**	**+1.2**
MNAS				⇓Pg	**Pb**	**06 26 36.4**	**-2.1**
	8.8nm,0.5s						
MNAS				⇑Lg	Lg	06 27 23.9	
	33nm,0.9s						
PDGK	**Podgornoye**	**4.44**	**35**	⇑Pn	Pb	06 26 45.0	-4.0
	8.5nm,0.6s						
PDGK				⇓Pg	**Pg**	**06 26 55.9**	**-0.5**
	8.8nm,0.7s						
PDGK				⇑Sn	**Sb**	**06 27 37.9**	**-4.4**
	19nm,0.8s						
PDGK				⇑Lg	Lg	06 27 56.7	
	44nm,1.5s						
KK31	**Karatay Array**	**5.33**	**311**	Pn	**Pn**	**06 26 51.0**	**+0.6**
	0.3nm,0.2s,baz=129,slow=12,SNR=18						
KK31				⇓Pg	**Pb**	**06 27 04.4**	**+0.2**
	1.0nm,0.3s,baz=120,slow=16,SNR=10						
KK31				⇓Lg	Lg	06 28 11.7	
	22nm,0.8s						
DZET	**Dzherino**	**5.65**	**263**	⇑Pn	**Pn**	**06 26 55.7**	**+0.8**
	12nm,0.7s						
DZET				⇑Pg	**Pb**	**06 27 11.6**	**+1.9**
	12nm,0.7s						
DZET				⇑Sn	**Sn**	**06 27 58.2**	**-1.4**
	14nm,0.4s						
DZET				⇑Lg	Lg	06 28 22.5	
	24nm,0.6s						

KMA 30 06:26:28.2,37°30N×128°33E,h5km,2C-1D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSYOW	**Yeongwol**	**0.16**	**140**	⇑P	Pg	06 26 34.9	+3.5
	SNR=6.5						
KSYOW				⇓S	Sg	06 26 38.6	+5.0
KSYOW	**Yeongwol**	**0.16**	**140**	⇑P	Pg	06 26 34.9	+3.5
	SNR=6.5						
KSWJU	**Wonju**	**0.24**	**296**	P	Pg	06 26 32.9	-0.1
	SNR=182						
KSWJU	**Wonju**	**0.24**	**296**	P	Pg	06 26 32.9	-0.1
	SNR=182						
KSDGY	**Daegwallycong**	**0.48**	**35**	P	Pn	06 26 41.0	-0.8
	SNR=31						
KSDGY	**Daegwallycong**	**0.48**	**35**	P	Pn	06 26 41.0	-0.8
	SNR=31						
KSCHJ	**Chungju**	**0.51**	**214**	P	Pg	06 26 38.0	0.0
	SNR=18						
KSCHJ	**Chungju**	**0.51**	**214**	P	Pg	06 26 38.0	0.0
	SNR=18						
KSCHC	**Chuncheon**	**0.63**	**320**	P	Pg	06 26 40.7	+0.4
	SNR=8.5						
KSCHC	**Chuncheon**	**0.63**	**320**	P	Pg	06 26 40.7	+0.4
	SNR=8.5						
KSICN	**Icheon**	**0.72**	**270**	P	Pg	06 26 41.1	-1.1
	SNR=6.7						
KSICN	**Icheon**	**0.72**	**270**	P	Pg	06 26 41.1	-1.1
	SNR=6.7						
KSBON	**Boeun**	**0.90**	**208**	P	Pg	06 26 44.7	-0.8
	SNR=11						
KSBON	**Boeun**	**0.90**	**208**	P	Pg	06 26 44.7	-0.8
	SNR=11						
KSCWO	**Cheorwon**	**1.01**	**321**	P	Pb	06 26 48.1	-0.2
	SNR=5.6						
KSCWO	**Cheorwon**	**1.01**	**321**	P	Pb	06 26 48.1	-0.2
	SNR=5.6						

MAN 30 06:30:21,17°93N×120°36E,h28km,mb4.1,ML2.9,MS2.6, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.09**	**97**	⇑*i*P	Pb	06 30 28.3	+2.3
SIPP				*e*S	Sb	06 30 33.6	+4.2
ABRA	**Dolores**	**0.44**	**130**	*e*P	Pb	06 30 30.9	+0.5
PIP	**Pasuquin**	**0.46**	**32**	⇓*i*P	Pn	06 30 32.5	+0.7
APYP	**Conner**	**0.84**	**95**	*e*P	Pb	06 30 37.5	+0.4
APYP				*e*S	Sn	06 30 49.3	+0.9
BOLP	**Bolinao**	**1.60**	**196**	*e*P	Pn	06 30 48.4	+0.9
CAUP	**Cauayan**	**1.71**	**125**	*e*P	Pb	06 30 50.7	-1.0

GUC 30 06:40:02.2±0.8,33°86S×72°28W,h37km±4km,ML3.7,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**1.28**	**74**	*i* P	Pn	06 40 25.6	+1.9
RCDM				*i* S	Sn	06 40 43.1	+3.4
RCDM				AML	AML	06 40 45.4	
	comp=N,1μm,0.4s						
NICH	**Los Niches**	**1.43**	**143**	*i* P	Pn	06 40 27.9	+2.3
NICH				*i* S	Sn	06 40 47.0	+3.8
NICH				AML	AML	06 40 51.5	
	comp=N,4μm,0.6s						
STL	**Santa Lucia**	**1.43**	**73**	*i* P	Pn	06 40 27.8	+2.1
STL				*i* S	Sn	06 40 47.5	+4.2
FSR	**Penalolen**	**1.51**	**76**	*i* P	Pn	06 40 29.2	+2.4
FSR				*i* S	Sn	06 40 49.5	+4.2
LACH	**Col Las Americ**	**1.52**	**75**	*i* P	Pn	06 40 29.8	+2.9
LACH				*i* S	Sn	06 40 49.4	+4.0
LACH				AML	AML	06 40 59.3	
	comp=E,676nm,0.4s						
CLCH	**Cerro Calan**	**1.53**	**73**	*i* P	Pn	06 40 28.9	+1.8
CLCH				*i* S	Sn	06 40 50.2	+4.4
CLCH				AML	AML	06 40 59.9	
	comp=N,2μm,0.7s						
SJCH	**San Jose de Ma**	**1.62**	**83**	*i* P	Pn	06 40 30.6	+2.2
SJCH				*i* S	Sn	06 40 52.3	+4.2
SJCH				AML	AML	06 41 00.5	
	comp=N,2μm,0.5s						
TALC	**Talca**	**1.62**	**161**	*i* P	Pn	06 40 28.9	+0.6
TALC				*e*S	Sn	06 40 51.5	+3.6
LNCH	**Linares**	**2.06**	**164**	*i* P	Pn	06 40 36.6	+2.4
LNCH				*i* S	Sn	06 41 03.1	+4.4
LNCH				AML	AML	06 41 13.0	
	comp=N,1μm,0.7s						

NNC 30 06:48:02.3±3.8,54°26N×86°24E,h22km±26km,mb3.9, mpv3.6,6C-4D,Error ellipse: s-maj=29.4km s-min=18.2km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.85**	**236**	⇓Pn	Pn	06 49 27.9	+0.2
	3.8nm,0.7s						
KURK				⇓Sn	Sn	06 50 36.9	+2.8
	2.6nm,1.1s						
KURK				⇑Lg	Lg	06 51 06.4	
	8.6nm,1.0s						
KURBB	**Kurchatov Arra**	**5.96**	**235**	⇑Pn	Pn	06 49 29.5	+0.3
	13nm,0.7s						
MK31	**Makanchi Array**	**7.89**	**200**	⇑Pn	Pn	06 49 54.5	-1.2
	0.8nm,0.6s,baz=39,slow=15,SNR=12						
MK31				⇑Sn	Sn	06 51 23.6	-0.7
	1.5nm,0.4s,baz=242,slow=50,SNR=13						
MK31				⇑Lg	Lg	06 52 11.6	
	11nm,0.9s,baz=15,slow=28,SNR=5.9						
BVA0	**Borovoye Array**	**9.50**	**269**	⇓Pn	Pn	06 50 19.2	+1.5
	1.4nm,0.7s,baz=74,slow=16,SNR=5.0						
BVA0				Sn	Sn	06 52 02.5	-1.2
	3.1nm,0.8s,baz=74,slow=16,SNR=10						
BRVK	**Borovoye**	**9.55**	**269**	⇓Pn	Pn	06 50 18.6	+0.1
	3.1nm,0.8s						
BRVK				⇑Sn	Sn	06 52 03.9	-1.1
	4.4nm,0.9s						

IDC 30 06:49:22.3±9.9,19°25S×179°42W,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.6/29,mbtmp3.8/3,MS3.4/2,Ms1 3.4/2, ms1mx2.8/32,Error ellipse: s-maj=443.2km s-min=36.7km az=145.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.05**	**172**	LR	LR	06 55 03.6	
	comp=Z,137nm,18.1s,baz=114,slow=34						
WRA	**Warramunga Arr**	**43.46**	**261**	P	P	06 57 27.1	-0.5
	0.4nm,0.3s,baz=96,slow=7.6,SNR=7.7						
ASAR	**Alice Springs**	**43.52**	**256**	P	P	06 57 28.2	+0.2
	0.9nm,0.7s,baz=92,slow=7.5,SNR=8.8						
LPIG	**La Paz**	**79.93**	**60**	LR	LR	07 30 39.7	
	comp=Z,29nm,19.1s,baz=187,slow=31						
ILAR	**Eielson Array**	**87.41**	**13**	P	P	07 02 11.0	0.0
	0.9nm,1.2s,baz=213,slow=4.8,SNR=3.4						

JMA ***30*** *06:52:25.1±0.8,46°83N×152°84E,h30km,M4.8*
ISCJB ***30*** *06:52:25.5±0.4,46°73N±0°06×152°83E±0°07,h40km, mb4.2/38,MS3.3/7,Error ellipse: s-maj=11.1km s-min=3.4km az=142.3*
MOS ***30*** *06:52:28.0±1.1,46°73N×152°75E,h62km,mb4.4/26,Error ellipse: s-maj=11.4km s-min=7.1km az=70.1*
IDC ***30*** *06:52:31.2±2.3,46°74N×152°67E,h75km±21km,mb3.7/23, mb1 3.9/28,mb1mx3.9/40,mbtmp4.1/28,MS3.2/10, Ms1 3.2/10,ms1mx3.0/44,Error ellipse: s-maj=16.6km s-min=10.4km az=142.0*
SKHL ***30*** *06:52:31.0±0.2,46°90N×152°51E,h86km±8km,mb5.4/2, msh5.7/4*
BJI ***30*** *06:52:31.0,46°73N×152°58E,h82km,mB4.8/8,mb4.6/15, Ms4.2/3,Ms7 4.0/3*
NEIC ***30*** *06:52:32.5±1.7,46°86N×152°55E,h83km±20km,mb4.3/10, Error ellipse: s-maj=29.9km s-min=13.5km az=163.0*

ISC 30 06:52:27.0±0.5,46°64N±0°08×152°84E±0°07,h40km,n156, σ1s27/150,mb4.2/38,MS3.2/7,3C-9D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.75**	**250**	⇓*i*PN	**Pn**	**06 53 23.7**	**+1.5**
KUR				*e*S	**Sn**	**06 54 07.4**	**+2.3**
KUR				pmax	pmax		
	comp=E,61nm,0.7s						
KUR				pmax	pmax		
	comp=Z,172nm,0.7s						
KUR				pmax	pmax		
	comp=N,67nm,0.4s						
KUR				smax	smax		
	comp=N,261nm,0.5s						
KUR				smax	smax		
	comp=E,201nm,0.5s						
KUR	**Kuril'sk**	**3.75**	**250**	*e*P	**Pn**	**06 53 23.7**	**+1.5**
KUR				AMB	AMB	06 53 29.0	
	comp=E,170nm,0.7s						
KUR				*e*S	**Sn**	**06 54 07.4**	**+2.3**
KUR				A	A	06 54 21.3	
	comp=E,260nm,0.5s						
KUR				A	A	06 54 21.3	
	comp=E,200nm,0.5s						
SKR	**Severo-Kuril's**	**4.59**	**27**	*e*PN	Pn	06 53 24.7	-9.0
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**4.59**	**27**	*e*P	**Pn**	**06 53 36.4**	**+2.7**
SKR				*e*S	**Sn**	**06 54 25.6**	**-0.1**
SKR				A	A	06 54 27.1	
	comp=Z,268nm,0.7s						
SHO	**Shikotan**	**5.07**	**239**	*e*P	Pn	06 53 44.7	+4.3
SHO				*e*S	**Sn**	**06 54 39.9**	**+2.2**
SHO				A	A	06 54 58.6	
	comp=Z,382nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**245**	*d i*PN	Pn	06 53 51.9	+4.7
YUK				S	**Sn**	**06 54 52.6**	**+2.6**
YUK				pmax	pmax		
	comp=Z,252nm,0.3s						
YUK				pmax	pmax		
	comp=N,157nm,0.2s						
YUK				pmax	pmax		
	comp=E,112nm,0.2s						
YUK				smax	smax		
	comp=N,262nm,0.6s						
YUK				smax	smax		
	comp=E,519nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.57**	**245**	*e*P	Pn	06 53 51.9	+4.7
YUK				AMB	AMB	06 53 53.2	
	comp=E,250nm,0.3s						
YUK				*e*S	**Sn**	**06 54 52.6**	**+2.6**
YUK				A	A	06 55 12.9	
	comp=E,520nm,0.6s						
YUK				A	A	06 55 12.9	
	comp=E,260nm,0.6s						
NEM2	**Nemuro 2**	**6.01**	**239**	P	**Pn**	**06 53 52.4**	**-0.8**
NEM2				*e*S	**Sn**	**06 54 58.0**	**-2.7**
JRA	**Rausu**	**6.08**	**246**	P	**Pn**	**06 53 56.3**	**+2.0**
JNK	**Nakash**	**6.51**	**245**	P	**Pn**	**06 54 01.5**	**+1.3**
JTKR	**Abashiri--Toko**	**6.84**	**250**	P	**Pn**	**06 54 07.0**	**+2.3**
JAK	**Akkeshi**	**6.84**	**241**	P	**Pn**	**06 54 04.3**	**-0.4**
JAK				*e*S	**Sn**	**06 55 17.6**	**-3.7**
YSS	**Yuzh-Sakhalins**	**6.93**	**276**	*e*PN	**Pn**	**06 54 08.0**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.93**	**276**	*e*P	**Pn**	**06 54 08.0**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.93**	**276**	*e*Pn	Pn	06 54 09.7	+3.8
JMP	**Maruseppu**	**7.19**	**252**	P	**Pn**	**06 54 12.3**	**+2.8**
PETK	**Petropavlovsk-**	**7.19**	**24**	P	**Pn**	**06 54 11.8**	**+2.3**
	comp=E,1.1nm,0.3s,baz=185,slow=13,SNR=11						
PETK				S	Sn	06 55 43.9	+14
	comp=E,0.6nm,0.3s,baz=146,slow=18,SNR=2.4						
PETK				LR	LR	06 57 37.4	
	comp=E,25nm,18.4s,baz=203,slow=43						
JAR	**Ashorobuto**	**7.25**	**246**	P	**Pn**	**06 54 11.9**	**+1.5**
HRK	**Horoka**	**7.58**	**249**	*e*P	**Pn**	**06 54 17.1**	**+2.2**
JKK2	**Kamakawa 2**	**7.64**	**252**	P	**Pn**	**06 54 18.4**	**+2.7**
ASAJ	**Asahikawa**	**7.64**	**254**	P	Pn	06 54 19.3	+3.6
	comp=E,1.6nm,0.3s,baz=76,slow=17,SNR=9.6						
ASAJ				LR	LR	06 57 04.8	
	comp=E,133nm,19.9s,baz=18,slow=36						
ASAJ	**Asahikawa**	**7.64**	**254**	*e*Pn	Pn	06 54 19.5	+3.8
ERM	**Erimo**	**8.34**	**240**	⇓*i*PN	**Pn**	**06 54 26.6**	**+1.3**
ERM	**Erimo**	**8.34**	**240**	*e*P	**Pn**	**06 54 26.6**	**+1.3**
ERM	**Erimo**	**8.34**	**240**	*e*Pn	**Pn**	**06 54 26.5**	**+1.2**
JANG	**Nango**	**10.34**	**237**	*e*S	Sn	06 56 36.8	-10
KLR	**Kul'dur**	**14.37**	**288**	*e*P	Pn	06 55 50.9	+3.3
USRK	**Ussuriysk Ar.**	**14.85**	**268**	P	**Pn**	**06 55 55.2**	**+1.2**
	comp=E,1.0nm,0.3s,baz=72,slow=11,SNR=11						
USRK				LR	LR	07 01 20.1	
	comp=E,73nm,19.4s,baz=60,slow=36						
MAJO	**Matsushiro**	**14.87**	**232**	*e*P	**P**	**06 56 00.7**	**+1.2**
MAJO	**Matsushiro**	**14.87**	**232**	*e*Pn	**P**	**06 56 00.7**	**+1.2**
MJAR	**Matsushiro Arr**	**14.87**	**232**	P	**P**	**06 55 58.5**	**-1.0**
	comp=E,0.7nm,0.3s,baz=37,slow=10,SNR=9.9						
MJAR	**Matsushiro Arr**	**14.87**	**232**	P	**P**	**06 55 58.5**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**16.33**	**359**	P	**P**	**06 56 15.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=163,slow=14,SNR=11						
MDJ	**Mudanjiang**	**16.38**	**271**	P	**Pn**	**06 56 14.3**	**+0.5**
MDJ				PMZ			
	comp=Z,9.0nm,0.8s						
MDJ				PMZ			
	comp=Z,44nm,3.0s						
YAK	**Yakutsk**	**20.31**	**328**	LR	LR	07 04 13.9	
	comp=Z,69nm,20.4s,baz=122,slow=35						
YAK	**Yakutsk**	**20.31**	**328**	*e*P	Pn	06 57 02.9	+1.5
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	**20.59**	**252**	P	**P**	**06 57 04.2**	**+1.8**
	comp=Z,2.7nm,0.6s,baz=59,slow=9.8,SNR=11						
KSRS				LR	LR	07 03 54.9	
	comp=Z,53nm,19.1s,baz=36,slow=33						
KSRS	**Korea Array**	**20.59**	**252**	P	**P**	**06 57 04.2**	**+1.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,53nm,19.1s						
JNU	**Nakatsue**	**21.51**	**239**	P	**P**	**06 57 12.5**	**+0.1**
	comp=Z,9.4nm,0.9s,baz=349,slow=18,SNR=3.8						
JNU				LR	LR	07 05 32.3	
	comp=Z,62nm,20.7s,baz=34,slow=36						
TIK	**Tiksi**	**27.50**	**344**	*e*P	**P**	**06 58 08.9**	**-0.2**
TIXI	**Tiksi**	**27.52**	**344**	⇓*e*P	**P**	**06 58 08.9**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**29.21**	**152**	T	T	07 29 55.5	
	baz=340,slow=76,SNR=584						
H11N1	**WAKE ISLAND Hy**	**29.23**	**152**	T	T	07 29 56.6	
	baz=340,slow=76,SNR=480						
H11N3	**WAKE ISLAND Hy**	**29.23**	**152**	T	T	07 29 45.9	
	baz=340,slow=76,SNR=237						
HHC	**Hu-ho-hao-te**	**30.12**	**274**	*e*P	**P**	**06 58 33.0**	**+0.2**
HHC				PMZ			
	comp=Z,15nm,0.8s						
HHC				PMZ			
	comp=Z,94nm,4.7s						
H11S1	**WAKE ISLAND Hy**	**30.30**	**153**	T	T	07 31 23.1	
	SNR=626						
H11S3	**WAKE ISLAND Hy**	**30.30**	**153**	T	T	07 31 01.9	
	baz=229,slow=74,SNR=593						
H11S2	**WAKE ISLAND Hy**	**30.31**	**153**	T	T	07 30 48.9	
	baz=340,slow=74,SNR=509						
SONM	**Songino Array**	**31.19**	**289**	P	**P**	**06 58 41.9**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=79,slow=7.5,SNR=3.0						
SONM	**Songino Array**	**31.19**	**289**	P	**P**	**06 58 41.9**	**-0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KDAK	**Kodiak Island**	**34.31**	**51**	*ce*P	**P**	**06 59 09.8**	**+0.6**
KDAK	**Kodiak Island**	**34.31**	**51**	*e*P	**P**	**06 59 09.9**	**+0.7**
MCK	**McKinley**	**35.85**	**40**	*e*P	**P**	**06 59 23.1**	**+0.7**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MCK	**McKinley**	**35.85**	**40**	*e*P	**P**	**06 59 23.1**	**+0.7**
MCK	**McKinley**	**35.85**	**40**	*e*P	**P**	**06 59 23.1**	**+0.7**
	comp=Z,3.8nm,1.1s						
COLA	**College**	**36.34**	**38**	*e*P	**P**	**06 59 27.9**	**+1.4**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COLA	**College**	**36.34**	**38**	*e*P	**P**	**06 59 27.9**	**+1.4**
COLA	**College**	**36.34**	**38**	*e*P	**P**	**06 59 27.9**	**+1.4**
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**36.75**	**38**	P	**P**	**06 59 30.1**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=255,slow=6.8,SNR=12						
ILAR	**Eielson Array**	**36.75**	**38**	P	**P**	**06 59 30.2**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LZH	**Lanzhou**	**37.71**	**272**	*e*P	**P**	**06 59 39.5**	**+0.8**
LZH				pP	pP	06 59 58.8	+8.9
LZH				sP	sP	07 00 07.0	+12
LZH				PMZ			
	comp=Z,14nm,1.0s						
CD2	**Chengdu**	**40.69**	**265**	*e*P	**P**	**07 00 03.0**	**-0.5**
INK	**Inuvik**	**41.84**	**32**	P	**P**	**07 00 13.4**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=300,slow=6.4,SNR=12						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**07 00 13.4**	**+1.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**41.84**	**32**	*e*P	**P**	**07 00 13.5**	**+1.0**
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.52**	**306**	P	**P**	**07 00 16.8**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=56,slow=7.8,SNR=3.5						
ZALV				PcP	**PcP**	**07 02 09.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=85,slow=3.0,SNR=5.6						
ZALV				LR	LR	07 19 05.8	
	comp=Z,74nm,19.1s,baz=68,slow=38						
ZALV	**Zalesovo Beam**	**42.52**	**306**	P	**P**	**07 00 16.8**	**-1.4**
ZALV						07 02 09.8	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				MLR	MLR		
	comp=Z,74nm,19.1s						
WMQ	**Urumqi**	**44.79**	**291**	*e*P	**P**	**07 00 38.0**	**+1.3**
WMQ				pP	pP	07 00 56.5	+8.5
WMQ				PMZ			
	comp=Z,7.0nm,0.5s						
WMQ				PMZ			
	comp=Z,110nm,4.9s						
DLBC	**Dease Lake**	**45.80**	**46**	P	**P**	**07 00 46.4**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=284,slow=8.3,SNR=5.0						
MK31	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**07 00 50.8**	**-1.8**
MK31	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**07 00 50.8**	**-1.8**
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**07 00 50.7**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=56,slow=3.6,SNR=17						
MKAR				PcP	**PcP**	**07 02 24.8**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=101,slow=4.6,SNR=5.7						
MKAR				LR	LR	07 21 40.3	
	comp=Z,79nm,19.4s,baz=56,slow=38						
MKAR	**Makanchi Array**	**46.83**	**297**	P	**P**	**07 00 50.7**	**-1.9**
MKAR						07 02 24.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,79nm,19.4s						
MKAR	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**07 00 51.1**	**-1.5**
MKAR	**Makanchi Array**	**46.83**	**297**	*e*P	**P**	**07 00 51.2**	**-1.5**
RES	**Resolute Bay**	**51.00**	**18**	P	**P**	**07 01 24.0**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=182,slow=4.0,SNR=8.1						
RES	**Resolute Bay**	**51.00**	**18**	P	**P**	**07 01 24.0**	**-0.1**
RES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**51.00**	**18**	*e*P	**P**	**07 01 23.9**	**-0.2**
RES	**Resolute Bay**	**51.00**	**18**	*e*P	**P**	**07 01 23.9**	**-0.2**
	comp=Z,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**51.12**	**37**	P	**P**	**07 01 25.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=298,slow=6.9,SNR=8.3						
YKA				PcP	**PcP**	**07 02 40.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=296,slow=3.0,SNR=4.0						
YKA	**Yellowknife Ar**	**51.12**	**37**	P	**P**	**07 01 25.8**	**+0.6**
YKA						07 02 40.2	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**52.16**	**256**	P	**P**	**07 01 34.4**	**+0.8**
	comp=Z,2.3nm,0.4s,baz=35,slow=6.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**52.16**	**256**	P	**P**	**07 01 34.4**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**53.72**	**296**	*e*P	**P**	**07 01 44.5**	**-0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**53.72**	**296**	*e*P	**P**	**07 01 44.5**	**-0.5**
AAK	**Ala-Archa**	**53.72**	**296**	*e*P	**P**	**07 01 44.5**	**-0.5**
	comp=Z,1.6nm,0.8s						
TAPN	**Taplejung**	**53.92**	**273**	*e*P	**P**	**07 01 47.6**	**+0.8**
	comp=Z,16nm,0.7s						
ODAN	**Odare**	**54.45**	**273**	*e*P	**P**	**07 01 50.6**	**0.0**
JIRN	**Jiri**	**54.77**	**274**	*e*P	**P**	**07 01 53.5**	**+0.4**
	comp=Z,36nm,0.6s						
GUN	**Gumba**	**54.83**	**275**	*e*P	**P**	**07 01 53.5**	**+0.1**
	comp=Z,11nm,0.5s						
RAMN	**Ramite**	**54.94**	**274**	*e*P	**P**	**07 01 54.2**	**+0.1**
	comp=Z,45nm,0.8s						
KKN	**Kakani**	**55.31**	**275**	*e*P	**P**	**07 01 57.6**	**+0.8**
	comp=Z,26nm,0.6s						
PKI	**Pulchoki**	**55.36**	**275**	*e*P	**P**	**07 01 57.4**	**+0.1**
	comp=Z,16nm,0.7s						
PKIN	**Phulchoki**	**55.37**	**275**	*e*P	**P**	**07 01 57.0**	**-0.3**
	comp=Z,10nm,0.5s						
DMN	**Daman**	**55.55**	**275**	*e*P	**P**	**07 01 59.0**	**+0.5**
	comp=Z,35nm,0.8s						
GKN	**Gorkha**	**55.62**	**276**	*e*P	**P**	**07 01 59.0**	**+0.1**
	comp=Z,46nm,0.8s						
KOLN	**Koldanda**	**56.48**	**276**	*e*P	**P**	**07 02 05.4**	**+0.3**
	comp=Z,25nm,0.7s						
EDM	**Edmonton**	**56.52**	**46**	*e*P	**P**	**07 02 05.6**	**+0.7**
EDM	**Edmonton**	**56.52**	**46**	*e*P	**P**	**07 02 05.5**	**+0.7**
EDM	**Edmonton**	**56.52**	**46**	*e*P	**P**	**07 02 05.6**	**+0.7**
PYUN	**Piuthan**	**56.69**	**277**	*e*P	**P**	**07 02 06.9**	**+0.3**

NOA	**NORSAR Array B**	**68.27**	**341**	P	**P**	**07 03 22.6**	**-0.6**
	comp=Z,5.5nm,0.8s,baz=28,slow=6.3,SNR=17						
NOA				LR	LR	07 36 03.2	
	comp=Z,13nm,18.9s,baz=40,slow=38						
NOA	**NORSAR Array B**	**68.27**	**341**	P	**P**	**07 03 22.7**	**-0.6**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,13nm,18.9s						
WRA	**Warramunga Arr**	**68.35**	**199**	P	**P**	**07 03 23.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=18,slow=6.5,SNR=3.2						
WRA	**Warramunga Arr**	**68.35**	**199**	P	**P**	**07 03 23.7**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.53**	**326**	P	**P**	**07 03 42.2**	**-1.2**
	comp=Z,3.4nm,0.5s,baz=34,slow=6.2,SNR=15						
AKASG				LR	LR	07 37 14.6	
	comp=Z,32nm,18.1s,baz=325,slow=38						
AKASG	**Malin Array Be**	**71.53**	**326**	P	**P**	**07 03 42.2**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG				MLR	MLR		
	comp=Z,32nm,18.1s						
KIEV	**Kiev**	**71.54**	**326**	*e*P	**P**	**07 03 42.2**	**-1.2**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIEV	**Kiev**	**71.54**	**326**	*e*P	**P**	**07 03 42.0**	**-1.4**
KIEV	**Kiev**	**71.54**	**326**	*e*P	**P**	**07 03 42.2**	**-1.2**
	comp=Z,3.4nm,0.7s						
AK02	**Malin Array Si**	**71.57**	**326**	*e*P	**P**	**07 03 42.0**	**-1.6**
ASAR	**Alice Springs**	**72.05**	**198**	P	**P**	**07 03 47.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=11,slow=5.7,SNR=20						
ASAR	**Alice Springs**	**72.05**	**198**	P	**P**	**07 03 47.4**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STHS	**Stebnicka Huta**	**75.51**	**330**	*e*P	**P**	**07 04 07.4**	**+0.6**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STHS	**Stebnicka Huta**	**75.51**	**330**	*e*P	**P**	**07 04 07.4**	**+0.6**
BUR08	**Bucovina Ar. S**	**75.56**	**326**	*e*P	**P**	**07 04 06.1**	**-1.1**
CRVS	**Cervenica-Dubn**	**75.87**	**329**	*e*P	**P**	**07 04 08.0**	**-0.9**
CRVS	**Cervenica-Dubn**	**75.87**	**329**	*e*P	**P**	**07 04 08.0**	**-0.9**
DPC	**Dobruska-Polom**	**76.33**	**333**	*e*P	**P**	**07 04 11.6**	**+0.1**
DPC	**Dobruska-Polom**	**76.33**	**333**	*e*P	**P**	**07 04 11.6**	**+0.1**
MORC	**Moravsky Berou**	**76.45**	**332**	*e*P	**P**	**07 04 12.4**	**+0.2**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MORC	**Moravsky Berou**	**76.45**	**332**	*e*P	**P**	**07 04 12.4**	**+0.2**
	comp=Z,4.2nm,0.8s						
CLL	**Collm**	**76.48**	**335**	↓*i*P	**P**	**07 04 11.6**	**-0.7**
	comp=Z,8.0nm,0.8s						
CLL	**Collm**	**76.48**	**335**	↓*i*P	**P**	**07 04 11.6**	**-0.7**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VYHS	**Vyhne**	**77.13**	**331**	*e*P	**P**	**07 04 15.8**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.4s						
VYHS	**Vyhne**	**77.13**	**331**	*e*P	**P**	**07 04 15.8**	**-0.2**
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**07 04 20.1**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=308,slow=4.4,SNR=3.7						
TXAR	**Lajitas Array**	**77.71**	**60**	P	**P**	**07 04 20.1**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.34**	**317**	P	**P**	**07 04 23.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=54,slow=4.9,SNR=9.3						
BRTR	**Keskin Array B**	**78.34**	**317**	P	**P**	**07 04 23.3**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**78.47**	**334**	P	**P**	**07 04 23.2**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=43,slow=7.3,SNR=6.7						
GERES	**GERESS Array B**	**78.47**	**334**	P	**P**	**07 04 23.2**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CONA	**Conrad Observa**	**78.60**	**332**	↑*i*P	**P**	**07 04 21.8**	**-2.5**
KBA	**Koelnbreinsper**	**80.15**	**333**	↓*i*P	**P**	**07 04 30.1**	**-2.8**
	comp=Z,6.1nm,0.6s						
WATA	**Walderalm**	**80.46**	**334**	↓*i*P	**P**	**07 04 31.6**	**-2.9**
	comp=Z,4.7nm,0.5s						
BFO	**Black Forest**	**80.48**	**337**	*ce*P	**P**	**07 04 35.5**	**+1.1**
WTTA	**Wattenberg**	**80.50**	**334**	↓*i*P	**P**	**07 04 32.5**	**-2.3**
	comp=Z,5.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**115.09**	**329**	PKP	**PKPdf**	**07 11 02.7**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=340,slow=2.0,SNR=2.2						

*IDC **30** 07:16:47.4±0.8, 10°.33N×126°.34E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.8/28, mbtmp3.7/13, MS3.2/16, Ms1 3.2/16, ms1mx3.1/41, Error ellipse: s-maj=35.5km s-min=17.2km az=66.0*

*ISCJB **30** 07:16:53.9±1.0, 10°.36N±0°.04×126°.27E±0°.09, h60km±9km, mb3.7/13, Error ellipse: s-maj=14.9km s-min=6.7km az=174.8*

*MAN **30** 07:16:53, 10°.35N×126°.34E, h30km, mb4.8, ML3.7, MS3.7*

ISC 30 07:16:54.8±1.7, 10°.35N±0°.05×126°.3E±0°.1, h52km±15km, n47, σ1°s24/32, mb3.8/13, MS3.1/14, 5C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.94**	**233**	↑*e*P	**Pn**	**07 17 10.7**	**-1.1**
SCPH				*e*S	**Sn**	**07 17 24.0**	**-0.3**
MSLP	**Maasin**	**1.39**	**261**	*e*P	**Pn**	**07 17 16.8**	**-1.1**
MSLP				*e*S	**Sn**	**07 17 37.3**	**+2.1**
BESP	**Borongan**	**1.48**	**327**	*e*P	**Pn**	**07 17 19.7**	**+0.6**
PLP	**Palo**	**1.50**	**303**	↑*e*P	**Pn**	**07 17 18.9**	**-0.4**
PLP				*e*S	**Sn**	**07 17 36.4**	**-1.3**
BUTP	**Butuan**	**1.51**	**205**	*e*P	**Pn**	**07 17 18.3**	**-1.2**
BUTP				*e*S	**Sn**	**07 17 40.4**	**+2.4**
CGP	**Cagayan de Oro**	**2.43**	**220**	↑*e*P	**Pn**	**07 17 32.0**	**-0.1**
CGP				*e*S	**Sn**	**07 18 02.0**	**+1.3**
TBP	**Tagbilaran**	**2.45**	**255**	*e*P	**Pn**	**07 17 33.6**	**+1.3**
CNP	**Catarman**	**2.66**	**324**	*e*P	**Pn**	**07 17 34.8**	**-0.4**
BUKP	**Musuan**	**2.72**	**206**	*e*P	**Pn**	**07 17 37.6**	**+1.5**
SNPH	**Sibulan**	**3.14**	**252**	*i* P	Pn	07 17 37.8	-4.0
SNPH				*e*S	**Sn**	**07 18 15.7**	**-2.5**
DCPH	**Dipolog City**	**3.36**	**239**	↑*e*P	**Pn**	**07 17 45.6**	**+0.8**
RCP	**Roxas**	**3.65**	**290**	↑*e*P	**Pn**	**07 17 49.9**	**+1.0**
PAGZ	**Pagadian**	**3.77**	**229**	*e*P	**Pn**	**07 17 52.3**	**+1.8**
PVCP	**Virac**	**3.83**	**328**	*e*P	**Pn**	**07 17 52.9**	**+1.6**
GUMO	**Guam**	**18.49**	**78**	LR	LR	07 26 43.5	
	comp=Z,97nm,19.7s,baz=298,slow=32						
JAY	**Jayapura**	**19.24**	**131**	LR	LR	07 28 26.9	
	comp=Z,66nm,18.7s,baz=113,slow=36						
JCJ	**Chichijima**	**22.43**	**40**	LR	LR	07 29 27.7	
	comp=Z,68nm,20.4s,baz=126,slow=34						
JNU	**Nakatsue**	**23.06**	**10**	LR	LR	07 32 01.3	
	comp=Z,35nm,18.4s,baz=34,slow=40						
KSRS	**Korea Array**	**27.03**	**3**	LR	LR	07 34 16.7	
	comp=Z,21nm,19.2s,baz=188,slow=39						
CMAR	**Chiang Mai Arr**	**27.63**	**290**	P	**P**	**07 22 38.2**	**+0.5**
	1.8nm,0.8s,baz=105,slow=7.0,SNR=8.0						
CMAR				LR	LR	07 33 13.1	
	comp=Z,58nm,19.8s,baz=127,slow=36						
MJAR	**Matsushiro Arr**	**28.23**	**21**	LR	LR	07 34 35.1	
	comp=Z,32nm,18.1s,baz=220,slow=38						
WRA	**Warramunga Arr**	**31.13**	**165**	P	**P**	**07 23 07.2**	**-1.6**
	0.4nm,0.7s,baz=341,slow=9.5,SNR=3.7						
ASAR	**Alice Springs**	**34.62**	**168**	P	**P**	**07 23 38.3**	**-0.9**
	0.2nm,0.3s,baz=349,slow=7.0,SNR=7.0						
ASAJ	**Asahikawa**	**36.50**	**20**	LR	LR	07 38 59.5	
	comp=Z,31nm,19.4s,baz=146,slow=36						
H11S3	**WAKE ISLAND Hy**	**39.91**	**74**	T	T	08 07 19.5	
	baz=261,slow=74,SNR=43						
H11S1	**WAKE ISLAND Hy**	**39.92**	**74**	T	T	08 07 17.7	
	baz=261,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**39.93**	**74**	T	T	08 07 19.9	
	baz=261,slow=74,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.24**	**72**	T	T	08 07 55.5	
	baz=265,slow=75,SNR=50						
H11N2	**WAKE ISLAND Hy**	**40.25**	**72**	T	T	08 07 43.9	
	baz=265,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	08 07 45.1	
	baz=265,slow=75,SNR=4.4						
SONM	**Songino Array**	**40.94**	**340**	P	**P**	**07 24 33.9**	**+1.5**
	0.3nm,0.5s,baz=157,slow=7.8,SNR=3.1						
STKA	**Stephens Creek**	**44.48**	**161**	P	**P**	**07 25 00.5**	**-0.6**
	1.0nm,0.7s,baz=350,slow=6.1,SNR=1.8						
PETK	**Petropavlovsk-**	**49.57**	**24**	LR	LR	07 47 39.1	
	comp=Z,18nm,18.6s,baz=218,slow=37						
MKAR	**Makanchi Array**	**51.96**	**323**	P	**P**	**07 25 58.4**	**-0.3**
	0.6nm,0.5s,baz=155,slow=4.8,SNR=12						
MKAR				LR	LR	07 48 33.1	
	comp=Z,27nm,18.2s,baz=88,slow=37						
ZALV	**Zalesovo Beam**	**54.55**	**331**	LR	LR	07 49 53.8	
	comp=Z,26nm,20.2s,baz=70,slow=36						
KURBB	**Kurchatov Arra**	**56.00**	**325**	P	**P**	**07 26 27.3**	**-0.7**
	0.9nm,0.5s,baz=127,slow=6.9,SNR=6.9						
BVAR	**Borovoye Array**	**61.59**	**325**	P	**P**	**07 27 06.9**	**+0.1**
	0.4nm,0.5s,baz=130,slow=8.1,SNR=3.9						
RAO	**Raoul Island**	**66.66**	**128**	LR	LR	07 50 45.6	
	comp=Z,75nm,21.0s,baz=124,slow=31						
ILAR	**Eielson Array**	**79.38**	**26**	P	**P**	**07 28 55.3**	**+0.3**
	0.4nm,0.7s,baz=263,slow=5.3,SNR=6.8						
ARCES	**ARCESS Array B**	**84.12**	**340**	P	**P**	**07 29 20.0**	**+0.2**
	4.7nm,1.1s,baz=74,slow=6.7,SNR=5.6						
INK	**Inuvik**	**84.22**	**22**	P	**P**	**07 29 19.8**	**-0.5**
	0.6nm,0.9s,baz=296,slow=4.3,SNR=2.7						
MMAI	**Mount Meron Ar**	**85.16**	**303**	LR	LR	08 11 21.0	
	comp=Z,13nm,18.3s,baz=175,slow=38						
BRTR	**Keskin Array B**	**85.47**	**309**	P	**P**	**07 29 27.3**	**-0.2**
	0.4nm,0.6s,baz=53,slow=5.6,SNR=2.5						
EIL	**Elat**	**86.08**	**299**	LR	LR	08 13 55.8	
	comp=Z,17nm,18.6s,baz=258,slow=40						
MLR	**Muntele Rosu**	**89.83**	**316**	LR	LR	08 14 54.4	
	comp=Z,6.9nm,18.4s,baz=147,slow=39						
NOA	**NORSAR Array B**	**92.68**	**334**	LR	LR	08 16 22.1	
	comp=Z,14nm,18.1s,baz=100,slow=38						
YKA	**Yellowknife Ar**	**93.69**	**24**	P	**P**	**07 30 05.7**	**+0.1**
	0.3nm,0.8s,baz=302,slow=4.8,SNR=4.0						

SJA 30 07:20:57.6±0.8, 24°.90S×65°.67W, h7km±3km, ML3.0, MW3.8, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.23**	**40**	*e*P	Pg	07 21 03.0	+0.5
SLA				*e*S	Sg	07 21 07.6	+1.8
SLA				AML	AML	07 21 08.5	
	comp=Z,2μm,0.5s						
AZAP	**Zapla**	**0.87**	**39**	*e*P	Pb	07 21 15.5	+0.2
AZAP				IAML		07 21 36.9	
	comp=Z,454nm,0.2s						
FSA	**Cafayete**	**1.23**	**195**	*e*P	Pg	07 21 21.6	+0.2
FSA				*e*S	Sn	07 21 39.9	+1.5
FSA				AML	AML	07 21 42.9	
	comp=Z,508nm,0.2s						
ASTB	**Santa Barbara**	**1.44**	**49**	*e*P3	Pn	07 21 26.6	+2.3
ASTB				*e*S	Sg	07 21 46.1	+1.8
ALOL	**LOMAS DE OLMED**	**1.89**	**55**	*e*P	Pb	07 21 32.5	0.0
ALOL				*e*S	Sg	07 21 58.0	-0.4
AHML	**Horco Molle**	**1.90**	**171**	*e*P	Pb	07 21 32.8	+0.1
AHML				*e*S	Sg	07 21 58.6	-0.3
AHML				IAML		07 22 04.1	
	comp=Z,122nm,0.7s						
CYA	**Choya**	**3.53**	**182**	*e*P	Pn	07 21 55.0	+2.1
CYA				AML	AML	07 22 56.5	
	comp=Z,32nm,0.3s						

IDC 30 07:34:16.6±57.0, 12°.90S×169°.74E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/28, mbtmp3.6/3, Error ellipse: s-maj=977.6km s-min=121.8km az=65.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.00**	**229**	P	P	07 40 44.8	0.0
	1.3nm,0.5s,baz=58,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**34.62**	**254**	P	P	07 41 08.1	+0.2
	0.2nm,0.3s,baz=85,slow=8.8,SNR=7.8						
ASAR	**Alice Springs**	**35.58**	**247**	P	P	07 41 15.7	-0.4
	0.3nm,0.5s,baz=77,slow=8.8,SNR=6.4						

MAN 30 07:58:04, 11°.79N×125°.42E, h21km, mb4.7, ML3.6, MS3.6, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.19**	**174**	*e*P	Pb	07 58 10.2	+0.3
PLP	**Palo**	**0.76**	**215**	↓*e*P	Pn	07 58 19.2	-0.3
PLP				*e*S	Sn	07 58 30.2	0.0
CNP	**Catarman**	**1.03**	**314**	*e*P	Pn	07 58 23.5	+0.3
CNP				*e*S	Sn	07 58 37.5	+0.5
MSLP	**Maasin**	**1.73**	**199**	*e*P	Pb	07 58 35.0	-0.1
MSLP				*e*S	Sn	07 58 51.0	-3.4
SCPH	**Surigao**	**2.00**	**178**	↑*e*P	Pn	07 58 37.0	+0.5
PVCP	**Virac**	**2.18**	**326**	*e*P	Pn	07 58 39.5	+0.5
OTRP	**Odiongan**	**3.37**	**280**	*e*P	Pn	07 58 58.3	+2.9

IDC 30 07:59:26.6±2.3, 52°.56N×36°.59E, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.3/44, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=36.7km s-min=14.9km az=123.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBN	**Obninsk**	**2.56**	**360**	Lg	Lg	08 00 52.0	
	4.1nm,0.3s,baz=6.2,slow=23,SNR=8.2						
I43RU	**DUBNA INFRASON**	**4.18**	**5**	*i*		08 26 50.0	
	baz=194,slow=314,SNR=1.0						
AKASG	**Malin Array Be**	**4.95**	**251**	Pn	Pn	08 00 41.4	-0.7
	1.3nm,0.3s,baz=59,slow=15,SNR=4.0						
AKASG				Sn	Sn	08 01 36.0	-4.1
	1.7nm,0.3s,baz=69,slow=29,SNR=4.0						
KIS	**Kishinev**	**7.50**	**225**	*e*	Pg	08 01 50.0	-0.2
MLR	**Muntele Rosu**	**9.94**	**229**	Pn	Pn	08 01 48.1	-2.7
	0.2nm,0.3s,baz=26,slow=16,SNR=4.6						
FINES	**FINESS Array B**	**10.57**	**331**	Pn	Pn	08 01 54.7	-4.4
	0.2nm,0.3s,baz=155,slow=15,SNR=3.8						
ARCES	**ARCESS Array B**	**17.80**	**347**	P	Pn	08 03 34.0	-1.4
	0.4nm,0.3s,baz=159,slow=10,SNR=9.5						
YKA	**Yellowknife Ar**	**63.06**	**345**	P	P	08 09 55.0	+0.1
	0.4nm,0.6s,baz=13,slow=6.9,SNR=5.5						

GUC 30 08:48:33.4±0.4, 35°.65S×72°.28W, h39km±2km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.58**	**109**	*e*P	Pn	08 48 44.1	-1.2
LNCH				*e*S	Sn	08 48 52.5	-1.2
TALC	**Talca**	**0.59**	**64**	*e*P	Pn	08 48 44.6	-0.7
TALC				*e*S	Sn	08 48 53.3	-0.4
COCH	**Cobquecura**	**0.63**	**221**	*e*P	Pn	08 48 45.3	-0.6
COCH				*e*S	Sn	08 48 54.2	-0.6
NICH	**Los Niches**	**1.08**	**53**	*e*P	Pn	08 48 52.0	+0.1
NICH				*e*S	Sn	08 49 06.3	+0.6
CLCH	**Cerro Calan**	**2.67**	**33**	*e*P	Pn	08 49 14.5	+0.5
CLCH				*e*S	Sn	08 49 46.0	+0.7
CLCH				AML	AML	08 50 04.2	
	comp=E,503nm,0.5s						
PEL	**Peldehue**	**2.83**	**28**	*e*P	Pn	08 49 17.0	+0.9
PEL				*e*S	Sn	08 49 50.2	+1.1
PEL				AML	AML	08 50 10.7	
	comp=E,308nm,0.6s						

IDC 30 08:50:13.3±6.8, 30°.95S×177°.97W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/22, mbtmp4.1/2, Error ellipse: s-maj=283.9km s-min=56.4km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.11**	**268**	P	P	08 58 15.4	-0.2
	1.6nm,0.6s,baz=106,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**44.15**	**273**	P	P	08 58 23.8	-0.1
	1.3nm,0.4s,baz=112,slow=8.0,SNR=32						
FINES	**FINESS Array B**	**145.67**	**340**	PKPbc	PKPdf	09 09 52.5	-0.5
	0.8nm,0.5s,baz=27,slow=3.4,SNR=6.1						

*ISCJB **30** 09:16:35.9±1.6, 34°.24S±0°.03×72°.43W±0°.05, h8km±10km, mb4.3/17, MS3.8/2, Error ellipse: s-maj=6.3km s-min=5.1km az=173.6*

*IDC **30** 09:16:36.2±0.8, 34°.29S×72°.28W, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/26, mbtmp3.9/7, ML4.2/2, MS3.9/5, Ms1 3.9/5, ms1mx3.4/18, Error ellipse: s-maj=36.5km s-min=20.8km az=87.0*

*GUC **30** 09:16:38.3±0.4, 34°.28S×72°.27W, h30km±7km, ML4.2*

*NEIC **30** 09:16:40.0±3.6, 34°.19S×72°.12W, h25km±25km, mb4.4/10, Error ellipse: s-maj=19.4km s-min=9.8km az=86.0*

ISC 30 09:16:35.9±1.8, 34°.30S±0°.04×72°.37W±0°.06, h0km±11km, n46, σ1°s33/47, mb4.3/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.86**	**67**	*e*P	**Pb**	**09 16 53.5**	**-0.2**
NICH	**Los Niches**	**1.17**	**127**	*e*P	**Pb**	**09 16 59.1**	**+0.2**
NICH				*e*S	**Sb**	**09 17 14.6**	**0.0**
TALC	**Talca**	**1.25**	**151**	*e*P	**Pn**	**09 17 00.9**	**+0.3**
TALC				*e*S	**Sb**	**09 17 17.7**	**+0.8**
LNCH	**Linares**	**1.66**	**158**	*e*P	**Pg**	**09 17 08.0**	**+0.3**
LNCH				*e*S	**Sg**	**09 17 29.6**	**+0.3**
ROCH	**El Roble**	**1.75**	**41**	*e*P	**Pn**	**09 17 07.1**	**-0.5**
ROCH				*e*S	**Sg**	**09 17 33.5**	**+1.6**
LACH	**Col Las Americ**	**1.75**	**61**	*e*P	**Pn**	**09 17 07.5**	**0.0**
LACH				*e*S	**Sn**	**09 17 30.0**	**-0.5**
CLCH	**Cerro Calan**	**1.77**	**60**	*e*P	**Pn**	**09 17 07.8**	**0.0**
CLCH				*e*S	**Sn**	**09 17 30.5**	**-0.6**
CLCH				AML	AML	09 17 40.8	
	comp=E,4μm,0.4s						
PEL	**Peldehue**	**1.82**	**51**	*e*P	**Pn**	**09 17 08.7**	**+0.3**
PEL				*e*S	**Sn**	**09 17 32.1**	**-0.1**
PEL				AML	AML	09 17 37.6	
	comp=N,5μm,0.5s						
CFAA	**Coronel Fontan**	**4.39**	**53**	Pn	**Pn**	**09 17 44.9**	**+1.0**
	comp=N,0.4nm,0.3s,baz=224,slow=13,SNR=29						
CFAA				Lg	Lg	09 18 43.6	
	comp=N,1.8nm,0.3s,baz=60,slow=18,SNR=7.1						
CFAA				LR	LR	09 19 35.3	
	comp=N,66nm,20.2s,baz=208,slow=41						
LCO	**Las Campanas**	**5.46**	**16**	*e*Pn	**Pn**	**09 17 58.0**	**-0.8**
	comp=N,33nm,0.7s						
LCO				*e*Sn	**Sn**	**09 19 01.3**	**-1.2**
PLCA	**Paso Flores**	**6.58**	**168**	Pn	**Pn**	**09 18 16.2**	**+2.3**
	comp=N,0.6nm,0.3s,baz=346,slow=12,SNR=7.7						
PLCA				Lg	Lg	09 19 53.9	
	comp=N,0.4nm,0.3s,baz=263,slow=17,SNR=2.9						
PLCA				LR	LR	09 21 00.4	
	comp=N,321nm,20.7s,baz=354,slow=40						
PLCA	**Paso Flores**	**6.58**	**168**	*e*Pn	**Pn**	**09 18 16.4**	**+2.6**
PLCA				Lg	Lg	09 19 53.9	
PLCA				*e*Sg	**Sg**	**09 20 03.1**	**-4.0**
LVC	**Limon Verde**	**12.04**	**15**	Pn	**Pn**	**09 19 30.3**	**+1.3**
	comp=N,6.1nm,0.3s,baz=202,slow=13,SNR=2.6						
LVC				Sn	Sn	09 22 03.8	+20
	comp=N,5.8nm,0.3s,baz=332,slow=17,SNR=2.1						
LVC				LR	LR	09 24 37.3	
	comp=N,977nm,18.5s,baz=209,slow=40						
LVC	**Limon Verde**	**12.04**	**15**	*e*Pn	Pn	09 19 25.5	-3.4
LVC				*e*Sn	**Sn**	**09 21 44.9**	**+0.9**
CPUP	**Villa Florida**	**15.21**	**63**	LR	LR	09 26 34.2	
	comp=N,1μm,18.6s,baz=204,slow=40						
CPUP	**Villa Florida**	**15.21**	**63**	*e*Pn	**Pn**	**09 20 09.1**	**-2.9**
CPUP				*e*Sn	**Sn**	**09 23 03.2**	**+2.0**
USHA	**Ushuaia**	**20.71**	**174**	LR	LR	09 29 50.5	
	comp=N,325nm,20.4s,baz=160,slow=38						
SAML	**Samuel**	**26.61**	**21**	*e*P	**P**	**09 22 15.2**	**-0.8**
	comp=N,3.8nm,0.8s						
OTAV	**Otavalo**	**34.83**	**349**	*e*P	**P**	**09 23 27.6**	**-1.6**
	comp=N,1.2nm,0.6s						
SNAA	**Sanae**	**51.41**	**158**	P	**P**	**09 25 42.5**	**+0.4**
	comp=N,0.9nm,0.9s,baz=350,slow=11,SNR=3.7						
QSPA	**South Pole Qui**	**55.93**	**180**	P	**P**	**09 26 16.5**	**+1.0**
	comp=N,1.8nm,0.9s,baz=130,slow=0.5,SNR=3.9						
JCT	**Junction City**	**69.44**	**335**	*e*P	**P**	**09 27 47.0**	**+1.1**
TXAR	**Lajitas Array**	**69.87**	**331**	P	**P**	**09 27 49.2**	**+0.7**
	comp=N,0.7nm,0.6s,baz=152,slow=8.2,SNR=6.5						
SWET	**Sewanee**	**70.31**	**348**	*e*P	**P**	**09 27 51.1**	**0.0**
	comp=N,5.8nm,0.7s						
WVT	**Waverly**	**71.54**	**347**	*e*P	**P**	**09 27 58.3**	**-0.2**
	comp=N,7.0nm,0.8s						
MAW	**Mawson**	**72.97**	**164**	LR	LR	10 00 15.7	
	comp=N,71nm,18.4s,baz=225,slow=36						
ACSO	**Alum Creek Sta**	**74.81**	**352**	*e*P	**P**	**09 28 17.7**	**-0.1**
	comp=N,8.3nm,0.2s						
ANMO	**Albuquerque**	**75.92**	**332**	*e*P	**P**	**09 28 26.0**	**+1.5**
	comp=N,1.1nm,1.0s						
ECSD	**EROS Data Cent**	**80.75**	**342**	*e*P	**P**	**09 28 50.9**	**0.0**
	comp=N,4.5nm,0.8s						
CCUT	**Cedar City**	**81.02**	**328**	*e*P	**P**	**09 28 52.4**	**-0.3**
LBTB	**Lobatse**	**82.42**	**115**	*e*P	**P**	**09 28 58.4**	**-2.0**
	comp=N,8.4nm,1.3s						
DUG	**Dugway, Tooele**	**83.00**	**330**	*e*P	**P**	**09 29 04.6**	**+1.7**
	comp=N,3.2nm,1.1s						
HWUT	**Hardware Ranch**	**83.69**	**332**	*e*P	**P**	**09 29 04.3**	**-2.1**
	comp=N,2.2nm,0.8s						
NVAR	**Mina Array Bea**	**83.98**	**325**	P	**P**	**09 29 09.4**	**+1.3**
	comp=N,0.6nm,0.5s,baz=157,slow=5.6,SNR=4.2						
HVU	**Hansel Valley**	**84.31**	**331**	*e*P	**P**	**09 29 10.0**	**+0.4**
	comp=N,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**84.57**	**70**	P	**P**	**09 29 10.1**	**-1.2**
	comp=N,1.7nm,0.9s,baz=254,slow=3.2,SNR=6.5						
MSVF	**

n177,σ1ˢ29/191,5C-4D,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.38**	**180**	⇑PN	**Pn**	**09 46 25.8**	**+1.1**
THZ	**Tophouse**	**0.38**	**180**	Pn	**Pn**	**09 46 25.8**	**+1.1**
NNZ	**Nelson**	**0.40**	**65**	PN	**Pn**	**09 46 25.2**	**+0.4**
NNZ				SN	**Sn**	**09 46 37.4**	**-0.5**
NNZ	**Nelson**	**0.40**	**65**	Pn	**Pn**	**09 46 25.2**	**+0.4**
NNZ				Sn	**Sn**	**09 46 37.4**	**-0.5**
QRZ	**Quartz Range**	**0.62**	**333**	⇓PN	**Pn**	**09 46 25.8**	**-0.4**
QRZ				SN	**Sn**	**09 46 37.6**	**-2.7**
QRZ	**Quartz Range**	**0.62**	**333**	Pn	**Pn**	**09 46 25.8**	**-0.4**
QRZ				Sn	**Sn**	**09 46 37.6**	**-2.7**
QRZ				Sn	Sn	09 46 37.8	-2.6
TUWZ	**Tuamarina**	**0.79**	**94**	⇑PN	**Pn**	**09 46 28.7**	**+1.4**
TUWZ				AML	AML	09 46 45.4	
TUWZ				AML	AML	09 46 45.5	
TUWZ	**Tuamarina**	**0.79**	**94**	Pn	**Pn**	**09 46 28.8**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.80**	**114**	PN	**Pn**	**09 46 29.0**	**+1.5**
BSWZ				AML	AML	09 46 50.1	
BSWZ				AML	AML	09 46 51.1	
BSWZ	**Blackbirch Sta**	**0.80**	**114**	Pn	**Pn**	**09 46 29.2**	**+1.6**
DSZ	**Denniston Nort**	**0.90**	**246**	⇑PN	**Pn**	**09 46 29.0**	**+0.6**
DSZ	**Denniston Nort**	**0.90**	**246**	Pn	**Pn**	**09 46 29.0**	**+0.6**
DUWZ	**D'Urville Isla**	**0.97**	**53**	⇑PN	**Pn**	**09 46 30.1**	**+1.0**
DUWZ				SN	**Sn**	**09 46 45.6**	**0.0**
DUWZ	**D'Urville Isla**	**0.97**	**53**	Pn	**Pn**	**09 46 30.1**	**+1.0**
DUWZ				Sn	**Sn**	**09 46 45.6**	**0.0**
CMWZ	**Cape Campbell**	**1.05**	**111**	PN	**Pn**	**09 46 31.6**	**+1.7**
CMWZ				AML	AML	09 46 54.5	
CMWZ				AML	AML	09 46 56.4	
CMWZ	**Cape Campbell**	**1.05**	**111**	Pn	**Pn**	**09 46 31.6**	**+1.7**
TCW	**Tory Channel**	**1.05**	**81**	⇑PN	**Pn**	**09 46 31.2**	**+1.4**
TCW				AML	AML	09 46 49.4	
TCW				AML	AML	09 46 49.9	
TCW	**Tory Channel**	**1.05**	**81**	Pn	**Pn**	**09 46 31.2**	**+1.4**
KHZ	**Kahutara**	**1.14**	**155**	PN	**Pn**	**09 46 32.7**	**+2.0**
KHZ				AML	AML	09 46 50.7	
KHZ				AML	AML	09 46 50.8	
KHZ	**Kahutara**	**1.14**	**155**	Pn	**Pn**	**09 46 32.7**	**+2.0**
SNZO	**South Karori**	**1.36**	**87**	*e*Pn	**Pn**	**09 46 34.0**	**+0.9**
SNZO				*e*Sn	**Sn**	**09 46 53.1**	**+0.3**
WEL	**Wellington**	**1.41**	**87**	PN	**Pn**	**09 46 34.4**	**+0.8**
WEL				AML	AML	09 46 55.1	
WEL				AML	AML	09 46 55.2	
WEL	**Wellington**	**1.41**	**87**	Pn	**Pn**	**09 46 34.5**	**+0.9**
LTZ	**Lake Taylor**	**1.47**	**198**	⇓PN	**Pn**	**09 46 36.4**	**+2.0**
LTZ	**Lake Taylor**	**1.47**	**198**	Pn	**Pn**	**09 46 36.4**	**+2.0**
BHW	**Baring Head**	**1.48**	**91**	PN	**Pn**	**09 46 35.1**	**+0.6**
BHW				AML	AML	09 46 56.2	
BHW				AML	AML	09 46 56.2	
BHW	**Baring Head**	**1.48**	**91**	Pn	**Pn**	**09 46 35.1**	**+0.6**
KIW	**Kapiti Island**	**1.61**	**72**	PN	**Pn**	**09 46 36.9**	**+0.9**
KIW				AML	AML	09 47 02.9	
KIW				AML	AML	09 47 03.7	
KIW	**Kapiti Island**	**1.61**	**72**	Pn	**Pn**	**09 46 36.9**	**+0.9**
CAW	**Cannon Point**	**1.66**	**81**	PN	**Pn**	**09 46 37.1**	**+0.5**
CAW				AML	AML	09 47 00.3	
CAW				AML	AML	09 47 00.7	
CAW	**Cannon Point**	**1.66**	**81**	Pn	**Pn**	**09 46 37.2**	**+0.5**
MSWZ	**Moikau Station**	**1.77**	**92**	PN	**Pn**	**09 46 38.3**	**+0.4**
MSWZ				AML	AML	09 47 02.3	
MSWZ				AML	AML	09 47 03.7	
MSWZ	**Moikau Station**	**1.77**	**92**	Pn	**Pn**	**09 46 38.3**	**+0.4**
PLWZ	**Palliser**	**1.78**	**97**	PN	**Pn**	**09 46 38.5**	**+0.4**
PLWZ	**Palliser**	**1.78**	**97**	Pn	**Pn**	**09 46 38.5**	**+0.4**
OGWZ	**Otaki Gorge**	**1.81**	**72**	PN	**Pn**	**09 46 39.0**	**+0.6**
OGWZ	**Otaki Gorge**	**1.81**	**72**	Pn	**Pn**	**09 46 39.0**	**+0.6**
PAWZ	**Paruwai Farm**	**1.90**	**91**	PN	**Pn**	**09 46 39.7**	**+0.2**
PAWZ				AML	AML	09 47 04.7	
PAWZ				AML	AML	09 47 06.4	
PAWZ	**Paruwai Farm**	**1.90**	**91**	Pn	**Pn**	**09 46 39.7**	**+0.2**
MTW	**Mount Morrison**	**1.98**	**84**	PN	**Pn**	**09 46 40.7**	**+0.2**
MTW				AML	AML	09 47 07.2	
MTW				AML	AML	09 47 09.4	
MTW	**Mount Morrison**	**1.98**	**84**	Pn	**Pn**	**09 46 40.7**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.03**	**77**	PN	**Pn**	**09 46 41.3**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.03**	**77**	Pn	**Pn**	**09 46 41.4**	**+0.2**
OXZ	**Oxford**	**2.04**	**198**	⇓PN	**Pn**	**09 46 42.3**	**+1.0**
TRWZ	**Traveller**	**2.10**	**91**	PN	**Pn**	**09 46 42.6**	**+0.6**
TRWZ				AML	AML	09 47 09.1	
TRWZ				AML	AML	09 47 09.7	
TRWZ	**Traveller**	**2.10**	**91**	Pn	**Pn**	**09 46 42.6**	**+0.6**
NMEZ	**Namu Road**	**2.11**	**21**	Pn	**Pn**	**09 46 43.3**	**+1.2**
MRZ	**Mangatainoka R**	**2.15**	**71**	Pn	**Pn**	**09 46 42.6**	**0.0**
MRZ				AML	AML	09 47 10.4	
MRZ				AML	AML	09 47 18.8	
MRZ	**Mangatainoka R**	**2.15**	**71**	Pn	**Pn**	**09 46 42.6**	**0.0**
CRLZ	**Canterbury Las**	**2.20**	**185**	PN	**Pn**	**09 46 44.1**	**+0.9**
CRLZ	**Canterbury Las**	**2.20**	**185**	Pn	**Pn**	**09 46 44.5**	**+1.3**
NWEZ	**Newall Road**	**2.24**	**20**	PN	**Pn**	**09 46 44.6**	**+0.8**
NWEZ	**Newall Road**	**2.24**	**20**	Pn	**Pn**	**09 46 44.8**	**+1.0**
LREZ	**Lake Rotokare**	**2.24**	**31**	PN	**Pn**	**09 46 45.3**	**+1.5**
KHEZ	**Kahui Hut**	**2.26**	**23**	PN	**Pn**	**09 46 45.0**	**+0.9**
PREZ	**Palmer Road**	**2.26**	**26**	PN	**Pn**	**09 46 45.1**	**+1.1**
TMWZ	**Te Maipa**	**2.27**	**84**	PN	**Pn**	**09 46 44.2**	**0.0**
TMWZ	**Te Maipa**	**2.27**	**84**	Pn	**Pn**	**09 46 44.4**	**+0.2**
WAZ	**Wanganui**	**2.27**	**45**	PN	**Pn**	**09 46 45.6**	**+1.4**
WAZ	**Wanganui**	**2.27**	**45**	Pn	**Pn**	**09 46 46.0**	**+1.7**
NEZ	**North Egmont**	**2.30**	**24**	PN	**Pn**	**09 46 45.3**	**+0.7**
NEZ	**North Egmont**	**2.30**	**24**	Pn	**Pn**	**09 46 45.6**	**+1.0**
MQZ	**McQueen's Vall**	**2.33**	**184**	⇓PN	**Pn**	**09 46 45.6**	**+0.8**
MQZ	**McQueen's Vall**	**2.33**	**184**	Pn	**Pn**	**09 46 45.6**	**+0.8**
WVZ	**Waitaha Valley**	**2.33**	**223**	PN	**Pn**	**09 46 46.0**	**+1.2**
WVZ	**Waitaha Valley**	**2.33**	**223**	Pn	**Pn**	**09 46 46.1**	**+1.2**
TIWZ	**Tintock**	**2.34**	**76**	PN	**Pn**	**09 46 44.8**	**-0.2**
TIWZ				AML	AML	09 47 15.2	
TIWZ				AML	AML	09 47 16.8	
TIWZ	**Tintock**	**2.34**	**76**	Pn	**Pn**	**09 46 44.9**	**-0.1**
PKE	**Pukeiti**	**2.34**	**21**	PN	**Pn**	**09 46 46.0**	**+0.9**
PKE	**Pukeiti**	**2.34**	**21**	Pn	**Pn**	**09 46 46.0**	**+0.9**
DREZ	**Durham Road**	**2.41**	**25**	PN	**Pn**	**09 46 46.6**	**+0.6**
DREZ	**Durham Road**	**2.41**	**25**	Pn	**Pn**	**09 46 46.8**	**+0.9**
PRWZ	**Pori Road**	**2.47**	**71**	PN	**Pn**	**09 46 46.7**	**+0.1**
MHEZ	**Mangahewa**	**2.55**	**26**	PN	**Pn**	**09 46 48.8**	**+1.1**
MHEZ	**Mangahewa**	**2.55**	**26**	Pn	**Pn**	**09 46 48.8**	**+1.1**
BFZ	**Birch Farm**	**2.63**	**76**	PN	**Pn**	**09 46 48.5**	**-0.3**
BFZ	**Birch Farm**	**2.63**	**76**	Pn	**Pn**	**09 46 48.4**	**-0.3**
VRZ	**Vera Road**	**2.67**	**33**	PN	**Pn**	**09 46 50.2**	**+1.0**
VRZ	**Vera Road**	**2.67**	**33**	Pn	**Pn**	**09 46 50.3**	**+1.0**
TSZ	**Takapari Road**	**2.68**	**61**	PN	**Pn**	**09 46 49.3**	**-0.1**
TSZ				AML	AML	09 47 31.0	
TSZ				AML	AML	09 47 32.0	
RPZ	**Rata Peaks**	**2.70**	**210**	PN	**Pn**	**09 46 50.1**	**+0.4**
RPZ	**Rata Peaks**	**2.70**	**210**	P	**Pn**	**09 46 50.2**	**+0.6**
	5.9nm,0.3s,baz=233,slow=3.0,SNR=48						
RPZ				S	**Sn**	**09 47 21.3**	**-1.0**
	18nm,0.3s,baz=8.3,slow=19,SNR=7.3						
MTVZ	**Mangateitei**	**2.80**	**45**	Pn	**Pn**	**09 46 54.1**	**+3.0**
PKVZ	**Pokaka**	**2.81**	**43**	*e*PN	**Pn**	**09 46 52.7**	**+1.5**
PKVZ	**Pokaka**	**2.81**	**43**	Pn	**Pn**	**09 46 52.8**	**+1.6**
TRVZ	**Turoa**	**2.91**	**45**	Pn	**Pn**	**09 46 54.2**	**+1.6**
PNHZ	**Pukenui**	**2.91**	**61**	*e*PN	**Pn**	**09 46 51.4**	**-1.1**
PNHZ	**Pukenui**	**2.91**	**61**	Pn	**Pn**	**09 46 51.6**	**-0.9**
WNVZ	**Wahianoa**	**2.91**	**46**	*e*Pn	**Pn**	**09 46 53.3**	**+0.8**
WNVZ	**Wahianoa**	**2.91**	**46**	Pn	**Pn**	**09 46 54.5**	**+1.9**
FWVZ	**Far West T-bar**	**2.94**	**44**	*e*PN	**Pn**	**09 46 54.5**	**+1.5**
FWVZ	**Far West T-bar**	**2.94**	**44**	Pn	**Pn**	**09 46 54.7**	**+1.7**
MOVZ	**Moawhango**	**2.94**	**49**	*e*PN	**Pn**	**09 46 52.8**	**-0.1**
MOVZ	**Moawhango**	**2.94**	**49**	Pn	**Pn**	**09 46 53.2**	**+0.3**
WPVZ	**Whakapapa**	**2.97**	**44**	*e*PN	**Pn**	**09 46 54.0**	**+0.6**
WPVZ	**Whakapapa**	**2.97**	**44**	Pn	**Pn**	**09 46 54.5**	**+1.2**
COVZ	**Chateau Observ**	**2.98**	**44**	*e*PN	**Pn**	**09 46 54.2**	**+0.9**
TUVZ	**Tukino**	**2.98**	**46**	Pn	Pn	09 46 57.0	+3.5
WPHZ	**Waipukurau**	**3.00**	**65**	*e*PN	**Pn**	**09 46 53.0**	**-0.6**
WPHZ	**Waipukurau**	**3.00**	**65**	Pn	**Pn**	**09 46 53.2**	**-0.4**
TWVZ	**Taurewa**	**3.02**	**41**	*e*PN	**Pn**	**09 46 55.2**	**+1.3**
TWVZ	**Taurewa**	**3.02**	**41**	Pn	**Pn**	**09 46 55.2**	**+1.3**
NGZ	**Ngauruhoe**	**3.02**	**44**	*e*PN	**Pn**	**09 46 55.9**	**+1.8**
NGZ	**Ngauruhoe**	**3.02**	**44**	Pn	**Pn**	**09 46 55.8**	**+1.8**
PRHZ	**Porangahau**	**3.05**	**70**	*e*PN	**Pn**	**09 46 53.8**	**-0.4**
PRHZ	**Porangahau**	**3.05**	**70**	Pn	**Pn**	**09 46 54.2**	**0.0**
WTVZ	**West Tongariro**	**3.06**	**43**	*e*PN	**Pn**	**09 46 55.1**	**+0.6**
WTVZ	**West Tongariro**	**3.06**	**43**	Pn	**Pn**	**09 46 56.0**	**+1.5**
OTVZ	**Oturere**	**3.07**	**45**	*e*PN	**Pn**	**09 46 55.2**	**+0.6**
OTVZ	**Oturere**	**3.07**	**45**	Pn	**Pn**	**09 46 55.8**	**+1.1**
BHHZ	**Black Hill Sta**	**3.07**	**53**	*e*PN	**Pn**	**09 46 54.4**	**-0.2**
BHHZ	**Black Hill Sta**	**3.07**	**53**	Pn	**Pn**	**09 46 54.8**	**+0.2**
KRVZ	**Karewarewa**	**3.10**	**43**	*e*Pn	**Pn**	**09 46 56.0**	**+1.0**
KRVZ	**Karewarewa**	**3.10**	**43**	Pn	**Pn**	**09 46 56.2**	**+1.2**
KRHZ	**Kereru**	**3.17**	**58**	*e*PN	**Pn**	**09 46 55.4**	**-0.4**
FOZ	**Fox Glacier**	**3.22**	**226**	PN	**Pn**	**09 46 56.2**	**-0.2**
FOZ	**Fox Glacier**	**3.22**	**226**	Pn	**Pn**	**09 46 56.2**	**-0.2**
KATZ	**Kakaramea**	**3.22**	**43**	*e*PN	**Pn**	**09 46 58.4**	**+1.8**
KATZ	**Kakaramea**	**3.22**	**43**	Pn	**Pn**	**09 46 58.5**	**+1.9**
HIZ	**Hauiti**	**3.24**	**28**	PN	**Pn**	**09 46 56.9**	**+0.2**
HIZ	**Hauiti**	**3.24**	**28**	Pn	**Pn**	**09 46 56.9**	**+0.2**
PXZ	**Pawanui**	**3.30**	**67**	*e*PN	**Pn**	**09 46 56.6**	**-0.9**
PXZ				AML	AML	09 47 37.2	
PXZ				AML	AML	09 47 38.6	
PXZ	**Pawanui**	**3.30**	**67**	Pn	**Pn**	**09 46 56.8**	**-0.7**
RATZ	**Rangitukua**	**3.34**	**42**	*e*PN	**Pn**	**09 47 00.1**	**+2.0**
RATZ	**Rangitukua**	**3.34**	**42**	Pn	**Pn**	**09 47 01.0**	**+2.8**
KAHZ	**Kahuranaki**	**3.42**	**64**	*e*PN	**Pn**	**09 46 58.2**	**-1.0**
KAHZ	**Kahuranaki**	**3.42**	**64**	Pn	**Pn**	**09 46 58.6**	**-0.6**
WATZ	**Wairara**	**3.45**	**40**	*e*PN	**Pn**	**09 47 01.0**	**+1.5**
WATZ	**Wairara**	**3.45**	**40**	Pn	**Pn**	**09 47 01.2**	**+1.7**
MCHZ	**McNeill Hill**	**3.49**	**57**	*e*PN	**Pn**	**09 46 59.6**	**-0.4**
BKZ	**Black Stump Fm**	**3.53**	**52**	*e*PN	**Pn**	**09 47 00.1**	**-0.6**
BKZ				AML	AML	09 47 55.3	
BKZ				AML	AML	09 47 55.3	
BKZ	**Black Stump Fm**	**3.53**	**52**	Pn	**Pn**	**09 47 00.5**	**-0.2**
LBZ	**Lake Benmore**	**3.60**	**213**	*e*PN	**Pn**	**09 47 01.2**	**-0.3**
LBZ				SN	**Sn**	**09 47 41.5**	**-2.0**
LBZ	**Lake Benmore**	**3.60**	**213**	Pn	**Pn**	**09 47 01.3**	**-0.2**
TLZ	**Tolley Road**	**3.67**	**34**	PN	**Pn**	**09 47 03.2**	**+0.8**
ODZ	**Otahua Downs**	**4.01**	**204**	PN	**Pn**	**09 47 07.2**	**+0.3**
ODZ	**Otahua Downs**	**4.01**	**204**	Pn	**Pn**	**09 47 07.6**	**+0.7**
JCZ	**Jackson Bay**	**4.06**	**227**	PN	**Pn**	**09 47 08.1**	**+0.4**
JCZ	**Jackson Bay**	**4.06**	**227**	Pn	**Pn**	**09 47 08.3**	**+0.6**
TOZ	**Tahuroa Road**	**4.17**	**30**	PN	**Pn**	**09 47 09.2**	**+0.2**
TOZ	**Tahuroa Road**	**4.17**	**30**	Pn	**Pn**	**09 47 09.6**	**+0.6**
KNZ	**Kokohu**	**4.35**	**59**	PN	**Pn**	**09 47 09.4**	**-2.1**
KNZ	**Kokohu**	**4.35**	**59**	Pn	**Pn**	**09 47 09.6**	**-1.9**
MHGZ	**Mahia Peninsul**	**4.43**	**61**	Pn	**Pn**	**09 47 11.1**	**-1.5**
WKZ	**Wanaka**	**4.46**	**218**	PN	**Pn**	**09 47 12.0**	**-1.0**
WKZ	**Wanaka**	**4.46**	**218**	Pn	**Pn**	**09 47 12.0**	**-1.0**
URZ	**Urewera**	**4.50**	**47**	*e*PN	**Pn**	**09 47 11.4**	**-2.1**
URZ	**Urewera**	**4.50**	**47**	P	**Pn**	**09 47 11.7**	**-1.8**
	3.1nm,0.3s,baz=243,slow=7.4,SNR=19						
URZ				S	**Sn**	**09 48 01.5**	**-3.5**
	15nm,0.3s,baz=307,slow=4.1,SNR=16						
URZ	**Urewera**	**4.50**	**47**	*e*Pn	**Pn**	**09 47 14.0**	**+0.5**
URZ				*e*Sn	**Sn**	**09 48 02.0**	**-2.9**
KBAZ	**Karaka Road Bo**	**4.55**	**20**	*e*PN	**Pn**	**09 47 15.1**	**+0.9**
MKAZ	**Moumakai**	**4.62**	**23**	PN	**Pn**	**09 47 15.7**	**+0.6**
MKAZ	**Moumakai**	**4.62**	**23**	Pn	**Pn**	**09 47 15.7**	**+0.6**
WTAZ	**Waiatarua**	**4.63**	**17**	Pn	**Pn**	**09 47 16.2**	**+0.9**
EAZ	**Earnscleugh**	**4.65**	**213**	PN	**Pn**	**09 47 14.6**	**-0.8**
EAZ				SN	**Sn**	**09 48 05.4**	**-3.1**
EAZ	**Earnscleugh**	**4.65**	**213**	Pn	**Pn**	**09 47 14.7**	**-0.7**
MWZ	**Matawai**	**4.69**	**51**	*e*PN	**Pn**	**09 47 15.0**	**-1.0**
MWZ				SN	**Sn**	**09 48 06.0**	**-3.5**
MWZ	**Matawai**	**4.69**	**51**	Pn	**Pn**	**09 47 15.7**	**-0.4**
ETAZ	**East Tamaki Re**	**4.70**	**20**	*e*PN	**Pn**	**09 47 16.8**	**+0.6**
TKGZ	**Te Karaka**	**4.81**	**54**	SN	**Sn**	**09 48 09.4**	**-3.0**
MSZ	**Milford Sound**	**4.91**	**226**	PN	**Pn**	**09 47 19.5**	**+0.7**
MSZ	**Milford Sound**	**4.91**	**226**	Pn	**Pn**	**09 47 19.7**	**+0.9**
KUZ	**Kuaotunu**	**5.13**	**26**	*e*PN	**Pn**	**09 47 21.9**	**-0.1**
KUZ	**Kuaotunu**	**5.13**	**26**	Pn	**Pn**	**09 47 22.2**	**+0.3**
TUZ	**Tuapeka**	**5.14**	**206**	*e*PN	**Pn**	**09 47 22.1**	**0.0**
TUZ	**Tuapeka**	**5.14**	**206**	Pn	**Pn**	**09 47 22.5**	**+0.4**
HAZ	**Te Kaha**	**5.23**	**46**	*e*PN	**Pn**	**09 47 20.7**	**-2.6**
PUZ	**Puketiti**	**5.29**	**53**	SN	**Sn**	**09 48 20.7**	**-3.3**
WHZ	**Wether Hill Ro**	**5.76**	**217**	*e*PN	**Pn**	**09 47 29.2**	**-1.2**
WHZ				SN	**Sn**	**09 48 32.2**	**-3.1**
WHZ	**Wether Hill Ro**	**5.76**	**217**	Pn	**Pn**	**09 47 29.7**	**-0.7**
SYZ	**Scrubby Hill**	**5.82**	**207**	*e*PN	**Pn**	**09 47 31.0**	**-0.1**
SYZ	**Scrubby Hill**	**5.82**	**207**	Pn	**Pn**	**09 47 31.3**	**+0.2**
OUZ	**Omahuta**	**6.18**	**5**	*e*PN	**Pn**	**09 47 36.6**	**+0.5**
OUZ	**Omahuta**	**6.18**	**5**	Pn	**Pn**	**09 47 37.0**	**+0.9**
CTZ	**Chatham Island**	**8.09**	**110**	*e*PN	**Pn**	**09 48 03.2**	**+1.5**
CTZ				SN	**Sn**	**09 49 27.4**	**-4.1**
ASAR	**Alice Springs**	**36.96**	**286**	P	**P**	**09 53 07.0**	**+2.1**
	0.8nm,0.4s,baz=125,slow=7.0,SNR=27						
WRA	**Warramunga Arr**	**39.03**	**291**	P	**P**	**09 53 24.2**	**+2.0**
	0.6nm,0.6s,baz=127,slow=8.7,SNR=12						
TORD	**Torodi Ar. Bea**	**150.84**	**198**	PKPbc	**PKPbc**	**10 05 46.5**	**+0.6**
	0.3nm,0.4s,baz=158,slow=2.4,SNR=8.0						

JMA 30 09:46:58.8±0.2,24°88N×122°98E,h142km±3km,M3.9,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.42**	**176**	P	Pn	09 47 19.0	+0.1
YOJ				S	Sn	09 47 34.2	+0.2
JYNG	**Yonagunijimaku**	**0.43**	**184**	P	Pn	09 47 19.1	+0.2
JYNG				S	Sn	09 47 34.3	+0.2
IRIF	**Iriomote-Funau**	**0.87**	**128**	P	Pn	09 47 21.8	+0.1
HATJ	**Hateruma jima**	**1.11**	**137**	P	Pn	09 47 24.4	+0.6
HATJ				S	Sn	09 47 43.1	+0.2
JKRS	**Kuro-shima**	**1.14**	**124**	P	Pn	09 47 24.6	+0.6
JKRS				S	Sn	09 47 43.3	+0.1
JIJ	**Ishigaki jima**	**1.18**	**116**	P	Pn	09 47 24.4	0.0
JIJ				S	Sn	09 47 42.5	-1.4
JISG	**Ishigakijimahi**	**1.25**	**103**	P	Pn	09 47 25.0	-0.1
JISG				S	Sn	09 47 44.1	-1.0
JTJ	**Tarama**	**1.58**	**98**	P	Pn	09 47 28.9	+0.3
JTJ				S	Sn	09 47 50.7	-0.7
JIRB	**Irabujima**	**1.99**	**91**	P	Pn	09 47 33.3	0.0
JIRB				S	Sn	09 47 58.6	-1.2
JIKM	**Ikemajima**	**2.06**	**88**	P	Pn	09 47 34.6	+0.5
JIKM				S	Sn	09 48 00.2	-1.0
JMJ	**Miyako jima 2**	**2.10**	**91**	P	Pn	09 47 35.1	+0.5
JMJ				S	Sn	09 48 01.4	-0.8
JOGS	**Gusukube**	**2.21**	**93**	P	Pn	09 47 36.7	+0.8
JOGS				S	Sn	09 48 03.8	-0.6
JKE	**Kume jima 2**	**3.73**	**66**	P	Pn	09 47 54.2	-1.0
JKE				*e*S	Sn	09 48 37.1	-1.9
JAGN	**Aguni-jima**	**4.20**	**65**	P	Pn	09 48 00.4	-1.1
JAGN				*e*S	Sn	09 48 48.0	-2.2
JOW	**Kunigami**	**5.15**	**67**	P	Pn	09 48 11.6	-2.5
JOKE	**Okinoerabujima**	**5.60**	**63**	P	Pn	09 48 16.4	-3.7
JAM	**Amami Oshima**	**6.89**	**58**	P	Pn	09 48 33.5	-3.8
JAM				*e*S	Sn	09 49 47.8	-6.7
JMZ	**Minamidaito 2**	**7.51**	**81**	P	Pn	09 48 43.0	-2.7
JMZ				*e*S	Sn	09 50 00.6	-8.9

*THE **30** 10:27:53.4,40°.80N×19°.59E,h2km±1km,ML2.7/4,Error ellipse: s-maj=2.4km s-min=1.1km az=132.0*
*ISCJB **30** 10:27:54.4±0.6,40°.72N±0°.02×19°.59E±0°.03,h9km±4km, Error ellipse: s-maj=4.1km s-min=3.9km az=169.9*
*TIR **30** 10:27:54.1±1.4,40°.66N×19°.59E,h2km±999km,ML2.7*
*ATH **30** 10:27:54.1,40°.72N×19°.42E,h37km±6km,MD3.3/13*
*CSEM **30** 10:27:55.4±0.2,40°.69N×19°.64E,h10km,ML2.7,Error ellipse: s-maj=5.1km s-min=4.8km az=113.0*

ISC 30 10:27:54.3±1.3,40°.71N±0°.02×19°.62E±0°.03,h5km±10km,
n59,σ0ˢ88/92,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.25**	**202**	*i* PG	**Pb**	**10 28 00.4**	**-0.9**
VLO				*i* SG	**Sb**	**10 28 06.0**	**0.0**
VLO	**Vlora**	**0.25**	**202**	*i* Pg	**Pb**	**10 28 00.4**	**-0.9**
	SNR=90						
VLO				*i* Sg	**Sb**	**10 28 06.0**	**0.0**
	SNR=90						
SRN	**Sarande**	**0.87**	**160**	*i* PG	**Pb**	**10 28 12.2**	**+0.3**
SRN				*i* SG	**Sb**	**10 28 23.6**	**-0.2**
SRN	**Sarande**	**0.87**	**160**	*i* Pg	**Pb**	**10 28 12.2**	**+0.3**
	SNR=90						
SRN				*i* Sg	**Sb**	**10 28 23.6**	**-0.2**
	SNR=90						
KBN	**Korca**	**0.89**	**95**	*i* PG	**Pg**	**10 28 10.8**	**-0.6**
KBN				*i* SG	**Sg**	**10 28 23.0**	**+0.1**
KBN	**Korca**	**0.89**	**95**	*i* Pg	**Pg**	**10 28 10.8**	**-0.6**
	SNR=90						
KBN				*i* Sg	**Sg**	**10 28 23.0**	**+0.1**
	SNR=90						
OHR	**Ohrid**	**0.98**	**65**	*e*Pn	**Pg**	**10 28 12.4**	**-0.7**
OHR				*e*Sg	**Sn**	**10 28 29.3**	**+0.2**
OHR	**Ohrid**	**0.98**	**65**	*e*Pn	**Pg**	**10 28 12.4**	**-0.7**
OHR				*e*Sg	**Sn**	**10 28 29.2**	**+0.1**
KEK	**Kerkira**	**1.00**	**172**	P	**Pb**	**10 28 14.1**	**+0.1**
KEK				S	**Sn**	**10 28 29.5**	**+0.1**
KEK	**Kerkira**	**1.00**	**172**	*e*PN	**Pn**	**10 28 14.2**	**-0.7**
KEK				*e*SN	**Sn**	**10 28 28.5**	**-0.9**
KEK	**Kerkira**	**1.00**	**172**	P	**Pb**	**10 28 14.1**	**+0.1**
KEK				*e*Sn	**Sn**	**10 28 28.5**	**-0.9**
KEK				S	**Sn**	**10 28 29.5**	**+0.1**
SCTE	**Santa Cesarea**	**1.08**	**235**	*i* PG	**Pn**	**10 28 16.7**	**+0.6**
SCTE				*i* SG	**Sn**	**10 28 31.4**	**0.0**
SCTE	**Santa Cesarea**	**1.08**	**235**	*i* Pg	**Pn**	**10 28 16.7**	**+0.6**
	SNR=90						
SCTE				*i* Sg	**Sn**	**10 28 31.4**	**0.0**
	SNR=90						
NEST	**Nestorio**	**1.13**	**104**	P	**Pb**	**10 28 15.2**	**-1.0**
NEST				S	**Sn**	**10 28 33.0**	**+0.3**
NEST	**Nestorio**	**1.13**	**104**	*e*PN	**Pb**	**10 28 15.3**	**-1.0**
NEST				*e*SN	**Sn**	**10 28 33.9**	**+1.2**
NEST	**Nestorio**	**1.13**	**104**	P	**Pb**	**10 28 15.2**	**-1.0**
NEST				S	**Sn**	**10 28 33.0**	**+0.3**
NEST				*e*Sn	**Sn**	**10 28 33.9**	**+1.2**
FNA	**Florina**	**1.34**	**86**	P	**Pn**	**10 28 18.6**	**-1.0**
FNA				S	**Sg**	**10 28 37.9**	**+0.7**
FNA	**Florina**	**1.34**	**86**	*e*PN	**Pn**	**10 28 18.8**	**-0.8**
FNA				*e*SN	**Sg**	**10 28 38.8**	**+1.6**
FNA	**Florina**	**1.34**	**86**	*e*Pn	**Pn**	**10 28 18.8**	**-0.8**
FNA				S	**Sg**	**10 28 37.9**	**+0.7**
FNA				*e*Sn	**Sg**	**10 28 38.8**	**+1.6**
JAN	**Janina**	**1.41**	**138**	*e*PB	**Pg**	**10 28 21.5**	**+0.2**
JAN				*e*SN	**Sb**	**10 28 39.4**	**+0.1**
JAN	**Janina**	**1.41**	**138**	*e*Pb	**Pg**	**10 28 21.5**	**+0.2**
JAN				*e*Sn	**Sb**	**10 28 39.4**	**+0.1**
KZN	**Kozani**	**1.69

USRK	**Ussuriysk Ar.** baz=140,slow=18,SNR=1.9	**9.62**	**328**	Pn		**Pn**	**10 35 56.6**	**+2.2**
YAK	**Yakutsk** comp=Z,23nm,18.1s,baz=204,slow=36	**26.45**	**350**	LR		LR	10 49 29.7	
SONM	**Songino Array** comp=Z,35nm,18.3s,baz=70,slow=36	**26.72**	**306**	LR		LR	10 49 52.1	
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=81,slow=9.3,SNR=1.5	**42.98**	**302**	P		**P**	**10 41 36.6**	**+1.4**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=269,slow=5.9,SNR=7.6	**51.10**	**32**	P		**P**	**10 42 38.0**	**-0.4**
INK	**Inuvik** 0.6nm,0.5s,baz=298,slow=6.7,SNR=5.8	**55.88**	**27**	P		**P**	**10 43 12.9**	**-0.5**
WRA	**Warramunga Arr** 0.9nm,0.7s,baz=0.4,slow=7.6,SNR=23	**56.10**	**185**	P		**P**	**10 43 13.9**	**-1.5**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=18,slow=12,SNR=6.7	**59.83**	**186**	P		**P**	**10 43 42.1**	**+0.6**
ARCES	**ARCESS Array B** 3.4nm,1.0s,baz=46,slow=7.7,SNR=2.3	**64.06**	**339**	P		**P**	**10 44 09.9**	**+0.4**
YKA	**Yellowknife Ar** 0.3nm,0.3s,baz=299,slow=6.2,SNR=3.7	**65.37**	**29**	P		**P**	**10 44 17.4**	**-0.7**
FINES	**FINESS Array B** 1.2nm,0.7s,baz=42,slow=8.8,SNR=4.6	**68.62**	**332**	P		**P**	**10 44 40.0**	**+1.2**
NB2	**NORSAR Subarra** comp=Z,1.2nm,0.6s,baz=41,slow=6.2	**74.16**	**336**	P		P	10 45 17.2	+4.8
NOA	**NORSAR Array B** comp=Z,0.6nm,0.8s,baz=41,slow=5.8,SNR=2.7	**74.16**	**336**	P		**P**	**10 45 11.8**	**-0.6**

MAN 30 11:10:12.1±2.2N×121°04.1E±0.4, h33km±7km, mb4.3, ML3.2, MS3.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.30**	**343**	*e*P	Pn	11 10 20.9	+0.8
PGP				*i* S	Sb	11 10 26.4	+1.4
SJMP	**San Jose**	**0.75**	**174**	*e*P	Pb	11 10 27.3	+0.5
SJMP				*e*S	Sb	11 10 37.3	+0.5
LUBP	**Lubang**	**0.93**	**304**	*e*P	Pb	11 10 31.4	+1.8
OTRP	**Odiongan**	**1.28**	**131**	*e*P	Pn	11 10 34.1	+0.5

IDC 30 11:16:18.6±7.7, 0.76N×99.40E±6.0, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/42, mbtmp3.4/3, Error ellipse: s-maj=283.2km s-min=25.8km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.9nm,0.3s,baz=179,slow=24,SNR=2.1	**2.08**	**347**	Pn	Pn	11 16 51.4	-3.6
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=304,slow=9.0,SNR=3.0	**39.95**	**123**	P	P	11 23 54.7	-0.4
ASAR	**Alice Springs** 0.3nm,0.4s,baz=300,slow=7.7,SNR=2.8	**41.39**	**128**	P	P	11 24 06.5	-0.5
SONM	**Songino Array** 0.2nm,0.5s,baz=204,slow=8.3,SNR=2.6	**47.28**	**6**	P	P	11 24 55.6	+1.6

DJA 30 11:17:21.8±0.6, 4°S±3°×10°3E±°, h60km±6km, M3.0/8, MLv3.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.38**	**206**	P	Pn	11 17 34.2	+1.6
MNAI				S	Sn	11 17 43.7	+3.3
LHSI	**Lahat**	**0.45**	**65**	P	Pn	11 17 34.1	+0.9
LHSI				S	Sn	11 17 44.6	+3.1
MDSI	**Maura Dua**	**1.15**	**114**	P	Pn	11 17 43.0	+1.2
MDSI				S	Sn	11 17 57.8	+1.0
MASI	**Maura Aman, Be**	**1.24**	**315**	P	Pn	11 17 43.1	0.0
LWLI	**Liwa**	**1.36**	**137**	P	Pn	11 17 44.5	-0.3
LWLI				S	Sn	11 18 02.5	+0.4
KLSI		**1.74**	**113**	P	Pn	11 17 50.0	+0.3
KLSI				S	Sn	11 18 12.0	+1.1
KASI	**Kota Agung**	**2.03**	**137**	P	Pn	11 17 53.1	-0.6
KASI				S	Sn	11 18 19.6	+1.7

*ATH **30** 11:22:07.6, 38°.93N×24°.11E, h26km, MD3.0/22, ML3.0*
*CSEM **30** 11:22:07.6±0.2, 38°.92N×24°.11E, h12km, ML2.8, Error ellipse: s-maj=3.5km s-min=2.7km az=124.0*
*THE **30** 11:22:08.3, 38°.91N×24°.05E, h14km±1km, ML2.8/9, Error ellipse: s-maj=1.4km s-min=0.8km az=303.0*

ISC 30 11:22:07.7±0.9, 38°92N±0°.01×24°10E±0°.02, h14km±7km, n101, σ0.63/163, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.31**	**326**	P	**Pg**	**11 22 13.9**	**-0.1**
AOS				S	**Sg**	**11 22 18.5**	**+0.2**
AOS	**Alonnisos**	**0.31**	**326**	*e*PB	**Pg**	**11 22 14.2**	**+0.2**
AOS				*e*SB	**Sb**	**11 22 19.3**	**-0.5**
AOS	**Alonnisos**	**0.31**	**326**	P	**Pg**	**11 22 13.9**	**-0.1**
AOS	**Alonnisos**	**0.31**	**326**	*e*Pb	**Pg**	**11 22 14.2**	**+0.2**
AOS				S	**Sg**	**11 22 18.5**	**+0.2**
AOS				*e*Sb	**Sb**	**11 22 19.3**	**-0.5**
MRKA	**Markates**	**0.45**	**242**	P	**Pg**	**11 22 16.4**	**-0.3**
MRKA				S	**Sg**	**11 22 21.7**	**-1.1**
MRKA	**Markates**	**0.45**	**242**	*e*PB	**Pg**	**11 22 16.9**	**+0.2**
MRKA				*e*SB	**Sb**	**11 22 24.1**	**0.0**
MRKA	**Markates**	**0.45**	**242**	P	**Pg**	**11 22 16.4**	**-0.3**
MRKA	**Markates**	**0.45**	**242**	*e*Pb	**Pg**	**11 22 16.9**	**+0.2**
MRKA				S	**Sg**	**11 22 21.7**	**-1.1**
MRKA				*e*Sb	**Sb**	**11 22 24.1**	**0.0**
SKIA	**Skiathos**	**0.55**	**297**	P	**Pb**	**11 22 19.1**	**-0.1**
SKIA				S	**Sg**	**11 22 26.4**	**+0.5**
SKIA	**Skiathos**	**0.55**	**297**	*e*PN	**Pb**	**11 22 19.9**	**+0.7**
SKIA				*e*SN	**Sb**	**11 22 27.8**	**+0.8**
SKIA	**Skiathos**	**0.55**	**297**	P	**Pb**	**11 22 19.1**	**-0.1**
SKIA	**Skiathos**	**0.55**	**297**	*e*Pn	**Pb**	**11 22 19.9**	**+0.7**
SKIA				S	**Sg**	**11 22 26.4**	**+0.5**
SKIA				*e*Sn	**Sb**	**11 22 27.8**	**+0.8**
SMIA	**Simia**	**0.70**	**267**	P	**Pg**	**11 22 21.4**	**+0.2**
SMIA				S	**Sg**	**11 22 30.4**	**0.0**
SMIA	**Simia**	**0.70**	**267**	*e*PN	**Pg**	**11 22 21.5**	**+0.2**
SMIA				*e*SN	**Sn**	**11 22 32.6**	**-1.2**
SMIA	**Simia**	**0.70**	**267**	P	**Pg**	**11 22 21.4**	**+0.2**
SMIA				S	**Sg**	**11 22 30.4**	**0.0**
SMIA				*e*Sn	**Sn**	**11 22 32.6**	**-1.2**
NEO	**Neokhori**	**0.79**	**300**	P	**Pg**	**11 22 21.5**	**-1.4**
NEO				S	**Sb**	**11 22 33.6**	**-0.1**
NEO	**Neokhori**	**0.79**	**300**	*e*PN	**Pg**	**11 22 21.7**	**-1.2**
NEO				*e*SN	**Sb**	**11 22 34.2**	**+0.5**
NEO	**Neokhori**	**0.79**	**300**	P	**Pg**	**11 22 21.5**	**-1.4**
NEO				S	**Sb**	**11 22 33.6**	**-0.1**
NEO				*e*Sn	**Sb**	**11 22 34.2**	**+0.5**
XOR	**Xorichti**	**0.84**	**303**	P	**Pb**	**11 22 24.3**	**+0.3**
XOR				S	**Sg**	**11 22 34.9**	**0.0**
XOR	**Xorichti**	**0.84**	**303**	*e*PN	**Pn**	**11 22 25.0**	**-0.1**
XOR				*e*SN	**Sb**	**11 22 35.5**	**+0.3**
XOR	**Xorichti**	**0.84**	**303**	P	**Pb**	**11 22 24.3**	**+0.3**
XOR	**Xorichti**	**0.84**	**303**	*e*Pn	**Pn**	**11 22 25.0**	**-0.1**
XOR				S	**Sg**	**11 22 34.9**	**0.0**
XOR				*e*Sn	**Sb**	**11 22 35.5**	**+0.3**
PTL	**Penteli**	**0.89**	**192**	P	**Pb**	**11 22 24.4**	**-0.5**
PTL				S	**Sg**	**11 22 36.8**	**+0.4**
PTL	**Penteli**	**0.89**	**192**	*e*PN	**Pg**	**11 22 24.9**	**+0.1**
PTL				*e*SN	**Sn**	**11 22 37.6**	**-0.8**
PTL	**Penteli**	**0.89**	**192**	P	**Pb**	**11 22 24.4**	**-0.5**
PTL	**Penteli**	**0.89**	**192**	*e*Pn	**Pg**	**11 22 24.9**	**+0.1**
PTL				S	**Sg**	**11 22 36.8**	**+0.4**
PTL				*e*Sn	**Sn**	**11 22 37.6**	**-0.8**
LKR	**Lokris**	**0.90**	**253**	P	**Pb**	**11 22 24.1**	**-1.0**
LKR				S	**Sb**	**11 22 36.6**	**-0.3**
LKR	**Lokris**	**0.90**	**253**	*e*PN	**Pb**	**11 22 24.9**	**-0.2**
LKR				*e*SN	**Sn**	**11 22 39.1**	**+0.3**
LKR	**Lokris**	**0.90**	**253**	P	**Pb**	**11 22 24.1**	**-1.0**
LKR	**Lokris**	**0.90**	**253**	*e*Pn	**Pb**	**11 22 24.9**	**-0.2**
LKR				S	**Sb**	**11 22 36.6**	**-0.3**
LKR				*e*Sn	**Sn**	**11 22 39.1**	**+0.3**
ATH	**Athens Observa**	**0.99**	**198**	*e*PN	**Pn**	**11 22 27.1**	**0.0**
ATH				*e*SN	**Sg**	**11 22 40.3**	**+0.6**
ATH	**Athens Observa**	**0.99**	**198**	*e*Pn	**Pn**	**11 22 27.1**	**0.0**
ATH				*e*Sn	**Sg**	**11 22 40.3**	**+0.6**
PAIG	**Paliouri**	**1.06**	**342**	P	**Pn**	**11 22 28.0**	**-0.1**
PAIG				S	**Sg**	**11 22 42.0**	**0.0**
PAIG	**Paliouri**	**1.06**	**342**	*e*PN	**Pg**	**11 22 28.3**	**+0.2**
PAIG				*e*SN	**Sb**	**11 22 41.3**	**-0.2**
PAIG	**Paliouri**	**1.06**	**342**	P	**Pn**	**11 22 28.0**	**-0.1**
PAIG	**Paliouri**	**1.06**	**342**	*e*Pn	**Pg**	**11 22 28.3**	**+0.2**
PAIG				*e*Sn	**Sb**	**11 22 41.3**	**-0.2**
PAIG				S	**Sg**	**11 22 42.0**	**0.0**
AXAR	**Agios Charalam**	**1.14**	**263**	P	**Pb**	**11 22 28.4**	**-0.7**
AXAR				S	**Sb**	**11 22 42.8**	**-0.9**
AXAR	**Agios Charalam**	**1.14**	**263**	*e*PN	**Pg**	**11 22 29.8**	**+0.2**
AXAR	**Agios Charalam**	**1.14**	**263**	P	**Pb**	**11 22 28.4**	**-0.7**
AXAR	**Agios Charalam**	**1.14**	**263**	*e*Pn	**Pg**	**11 22 29.8**	**+0.2**
AXAR				S	**Sb**	**11 22 42.8**	**-0.9**
NAIG	**Nisos Aigina**	**1.25**	**203**	*e*PN	**Pg**	**11 22 31.7**	**-0.1**
NAIG	**Nisos Aigina**	**1.25**	**203**	*e*Pn	**Pg**	**11 22 31.7**	**-0.1**
LTK	**Loutraki**	**1.26**	**225**	P	**Pn**	**11 22 30.4**	**-0.5**
LTK				S	**Sb**	**11 22 47.0**	**-0.3**
LTK	**Loutraki**	**1.26**	**225**	*e*PN	**Pb**	**11 22 31.5**	**+0.3**
LTK				*e*SN	**Sg**	**11 22 49.5**	**+1.2**
LTK	**Loutraki**	**1.26**	**225**	P	**Pn**	**11 22 30.4**	**-0.5**
LTK	**Loutraki**	**1.26**	**225**	*e*Pn	**Pb**	**11 22 31.5**	**+0.3**
LTK				S	**Sb**	**11 22 47.0**	**-0.3**
LTK				*e*Sn	**Sg**	**11 22 49.5**	**+1.2**
LIA	**Limnos Island**	**1.29**	**40**	P	**Pb**	**11 22 31.5**	**-0.2**
LIA				S	**Sg**	**11 22 48.9**	**-0.4**
LIA	**Limnos Island**	**1.29**	**40**	*e*PN	**Pg**	**11 22 32.3**	**-0.2**
LIA				*e*SN	**Sg**	**11 22 49.7**	**+0.4**
LIA	**Limnos Island**	**1.29**	**40**	P	**Pb**	**11 22 31.5**	**-0.2**
LIA	**Limnos Island**	**1.29**	**40**	*e*Pn	**Pg**	**11 22 32.3**	**-0.2**
LIA				S	**Sg**	**11 22 48.9**	**-0.4**
LIA				*e*Sn	**Sg**	**11 22 49.7**	**+0.4**
DSF	**Desfina**	**1.33**	**248**	P	**Pn**	**11 22 32.0**	**+0.1**
DSF				S	**Sn**	**11 22 49.1**	**-0.4**
DSF	**Desfina**	**1.33**	**248**	*e*PN	**Pb**	**11 22 32.2**	**-0.3**
DSF				*e*SN	**Sg**	**11 22 50.2**	**-0.4**
DSF	**Desfina**	**1.33**	**248**	*e*Pn	**Pb**	**11 22 32.2**	**-0.3**
DSF				S	**Sn**	**11 22 49.1**	**-0.4**
DSF				*e*Sn	**Sg**	**11 22 50.2**	**-0.4**
AGG	**Agios Georgios**	**1.38**	**275**	P	**Pn**	**11 22 32.3**	**-0.3**
AGG	**Agios Georgios**	**1.38**	**275**	*e*PN	**Pb**	**11 22 33.4**	**+0.1**
AGG	**Agios Georgios**	**1.38**	**275**	P	**Pn**	**11 22 32.3**	**-0.3**
AGG	**Agios Georgios**	**1.38**	**275**	*e*Pn	**Pb**	**11 22 33.4**	**+0.1**
SIGR	**SIGRI**	**1.40**	**77**	P	**Pb**	**11 22 33.5**	**0.0**
SIGR				S	**Sg**	**11 22 52.1**	**-0.6**
SIGR	**SIGRI**	**1.40**	**77**	P	**Pb**	**11 22 33.5**	**0.0**
SIGR				S	**Sg**	**11 22 52.1**	**-0.6**
OUR	**Ouranopolis**	**1.42**	**356**	*e*PB	**Pn**	**11 22 32.3**	**-0.7**
OUR	**Ouranopolis**	**1.42**	**356**	*e*Pb	**Pn**	**11 22 32.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.54**	**274**	*e*PN	**Pb**	**11 22 36.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.54**	**274**	*e*Pn	**Pb**	**11 22 36.5**	**+0.5**
PLG	**Polygyros**	**1.54**	**341**	*e*PN	**Pn**	**11 22 35.2**	**+0.4**
PLG				*e*SN	**Sn**	**11 22 54.8**	**+0.2**
PLG	**Polygyros**	**1.54**	**341**	*e*Pn	**Pn**	**11 22 35.2**	**+0.4**
PLG				*e*Sn	**Sn**	**11 22 54.8**	**+0.2**
CHOS	**Chios island**	**1.62**	**108**	*e*PN	**Pn**	**11 22 36.5**	**+0.6**
CHOS	**Chios island**	**1.62**	**108**	*e*Pn	**Pn**	**11 22 36.5**	**+0.6**
KALE	**Kalithea**	**1.62**	**252**	*e*PN	**Pb**	**11 22 36.7**	**-0.7**
KALE	**Kalithea**	**1.62**	**252**	*e*Pn	**Pb**	**11 22 36.7**	**-0.7**
GUR	**Goura**	**1.69**	**235**	*e*PN	**Pn**	**11 22 37.6**	**+0.7**
GUR				*e*SN	**Sn**	**11 22 59.1**	**+0.6**
GUR	**Goura**	**1.69**	**235**	*e*Pn	**Pn**	**11 22 37.6**	**+0.7**
GUR				*e*Sn	**Sn**	**11 22 59.1**	**+0.6**
LIT	**Litokhoron**	**1.72**	**314**	*e*PN	**Pn**	**11 22 37.6**	**+0.4**
LIT	**Litokhoron**	**1.72**	**314**	*e*Pn	**Pn**	**11 22 37.6**	**+0.4**
THL	**Klokotos Trika**	**1.74**	**292**	P	**Pn**	**11 22 37.6**	**+0.1**
THL				S	**Sn**	**11 22 59.1**	**-0.5**
THL	**Klokotos Trika**	**1.74**	**292**	*e*PN	**Pn**	**11 22 38.1**	**+0.6**
THL	**Klokotos Trika**	**1.74**	**292**	P	**Pn**	**11 22 37.6**	**+0.1**
THL	**Klokotos Trika**	**1.74**	**292**	*e*Pn	**Pn**	**11 22 38.1**	**+0.6**
THL				S	**Sn**	**11 22 59.1**	**-0.5**
KLV	**Kalavryta, Ach**	**1.76**	**241**	*e*PB	**Pn**	**11 22 38.3**	**+0.5**
KLV	**Kalavryta, Ach**	**1.76**	**241**	*e*Pb	**Pn**	**11 22 38.3**	**+0.5**
EFP	**Efpalio**	**1.79**	**255**	*e*PN	**Pn**	**11 22 38.9**	**+0.8**
EFP	**Efpalio**	**1.79**	**255**	*e*Pn	**Pn**	**11 22 38.9**	**+0.8**
HORT	**Hortiatis**	**1.85**	**336**	*e*PN	**Pb**	**11 22 40.1**	**-1.2**
HORT				*e*SN	**Sn**	**11 23 03.2**	**+0.9**
HORT	**Hortiatis**	**1.85**	**336**	*e*Pn	**Pb**	**11 22 40.1**	**-1.2**
HORT				*e*Sn	**Sn**	**11 23 03.2**	**+0.9**
SMTH	**Samothraki Isl**	**1.90**	**35**	*e*PB	**Pn**	**11 22 39.4**	**-0.3**
SMTH	**Samothraki Isl**	**1.90**	**35**	*e*Pb	**Pn**	**11 22 39.4**	**-0.3**
KAVA	**Kavala**	**2.10**	**9**	*e*PN	**Pn**	**11 22 43.0**	**+0.6**
KAVA	**Kavala**	**2.10**	**9**	*e*Pn	**Pn**	**11 22 43.0**	**+0.6**
DRO	**Drossia**	**2.11**	**244**	*e*PN	**Pn**	**11 22 43.7**	**+1.1**
DRO	**Drossia**	**2.11**	**244**	*e*Pn	**Pn**	**11 22 43.7**	**+1.1**
PDO	**Prodromos**	**2.30**	**263**	*e*PB	**Pb**	**11 22 47.8**	**-1.2**
PDO	**Prodromos**	**2.30**	**263**	*e*Pb	**Pb**	**11 22 47.8**	**-1.2**
DSL	**Palaion Diasel**	**2.35**	**276**	*e*PN	**Pn**	**11 22 47.2**	**+1.3**
DSL	**Palaion Diasel**	**2.35**	**276**	*e*Pn	**Pn**	**11 22 47.2**	**+1.3**
KNT	**Kendrikon**	**2.42**	**338**	*e*PB	**Pn**	**11 22 48.5**	**+1.6**
KNT	**Kendrikon**	**2.42**	**338**	*e*Pb	**Pn**	**11 22 48.5**	**+1.6**
ITM	**Ithomi**	**2.44**	**225**	*e*PN	**Pn**	**11 22 48.3**	**+1.2**
ITM	**Ithomi**	**2.44**	**225**	*e*Pn	**Pn**	**11 22 48.3**	**+1.2**
ALN	**Alexandroupoli**	**2.48**	**36**	*e*PN	**Pn**	**11 22 48.5**	**+0.9**
ALN	**Alexandroupoli**	**2.48**	**36**	*e*Pn	**Pn**	**11 22 48.5**	**+0.9**
LKD2	**Lefkada island**	**2.69**	**268**	*e*PN	**Pn**	**11 22 51.1**	**+0.5**
LKD2	**Lefkada island**	**2.69**	**268**	*e*Pn	**Pn**	**11 22 51.1**	**+0.5**

MAN 30 11:26:54.1±3.2N×121°10.1E±0.8, h31km±7km, mb4.5, ML3.3, MS3.2, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.28**	**330**	*e*P	Pn	11 27 02.9	+0.8
PGP				*i* S	Sn	11 27 08.1	+0.7
SJMP	**San Jose**	**0.79**	**179**	*e*P	Pb	11 27 09.4	+0.1
SJMP				*e*S	Sb	11 27 19.2	-0.5
TGY	**Tagaytay City**	**0.86**	**349**	*i* P	Pb	11 27 14.7	+4.2
LUBP	**Lubang**	**0.96**	**300**	*e*P	Pb	11 27 13.4	+1.3
LUBP				*e*S	Sb	11 27 24.6	+0.2
OTRP	**Odiongan**	**1.26**	**135**	*e*P	Pb	11 27 16.7	-0.5
OTRP				*e*S	Sn	11 27 31.9	+0.4
BUSP	**Coron**	**1.52**	**215**	*e*P	Pn	11 27 19.9	+0.7
CUYO	**Cuyo Island**	**2.39**	**182**	*e*P	Pn	11 27 33.1	+2.0
ENPP	**El Nido**	**2.61**	**219**	*e*P	Pn	11 27 35.0	+0.9

*IDC **30** 11:32:51.3±1.4, 22°.12S×174°.30W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.2/29, mbtmp4.3/11, Error ellipse: s-maj=60.3km s-min=19.7km az=153.0*
*ISCJB **30** 11:32:54.0±0.5, 22°.15S±0°.07×174°.4W±0°.1, h27km, mb4.3/17, Error ellipse: s-maj=15.3km s-min=7.7km az=32.7*
*NEIC **30** 11:32:56.6±0.4, 22°.12S×174°.40W, h35km, mb4.6/5, Error ellipse: s-maj=15.2km s-min=9.1km az=134.0*

ISC 30 11:32:55.7±0.7, 22°09S±0°.10×174°3W±0°.1, h27km, n35, σ0.89/34, mb4.5/17, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.83**	**204**	*e*Pn	**Pn**	**11 34 46.5**	**-1.3**
RAO				*e*Sn	**Sn**	**11 36 16.3**	**+0.8**
MSVF	**Nonsavu** 40nm,0.8s	**8.37**	**300**	*e*Pn	Pn	11 35 00.8	+5.5
TARA	**Tarawa**	**26.41**	**330**	P	**P**	**11 38 28.5**	**-1.7**
EIDS	**Eidsvold** baz=36,SNR=4.9	**31.77**	**257**	P	P	11 39 08.5	-9.4
RMQ	**Roma** baz=38,SNR=8.9	**33.84**	**255**	P	**P**	**11 39 37.6**	**+1.6**
CTAO	**Charters Tower** 8.2nm,0.7s	**36.75**	**266**	*e*P	**P**	**11 40 01.7**	**+0.6**
QLP	**Quilpie** baz=42,SNR=7.8	**37.89**	**255**	P	**P**	**11 40 11.1**	**+0.4**
MCQ	**Macquarie Isla** baz=42,SNR=6.0	**38.09**	**205**	P	P	11 40 19.2	+7.3
STKA	**Stephens Creek** 1.1nm,0.3s,baz=71,slow=11,SNR=3.1	**40.23**	**246**	P	**P**	**11 40 30.2**	**+0.1**
STKA	**Stephens Creek** 0.2nm,0.4s	**40.23**	**246**	*e*P	**P**	**11 40 28.1**	**-2.1**
AS31	**Alice Springs**	**47.50**	**258**	*e*P	**P**	**11 41 28.3**	**-0.5**
ASAR	**Alice Springs** 9.8nm,0.8s,baz=91,slow=8.3,SNR=96	**47.50**	**258**	P	**P**	**11 41 28.8**	**0.0**
WRAB	**Tennant Creek** 7.7nm,0.9s	**47.77**	**263**	*e*P	**P**	**11 41 30.1**	**-0.7**
WRA	**Warramunga Arr** 6.1nm,0.8s,baz=103,slow=7.1,SNR=46	**47.77**	**263**	P	**P**	**11 41 30.2**	**-0.7**
FORT	**Forrest** baz=56,SNR=8.6	**51.82**	**248**	P	**P**	**11 42 01.8**	**+0.2**
WRKA	**Warakurna** baz=56,SNR=16	**52.33**	**255**	P	**P**	**11 42 05.6**	**+0.1**
KNRA	**Kununurra** baz=57,SNR=7.0	**53.96**	**266**	P	**P**	**11 42 17.7**	**+0.1**
VNDA	**Vanda** 0.6nm,0.9s	**56.66**	**186**	*e*P	**P**	**11 42 36.2**	**+0.1**
MEEK	**Meekatharra** baz=65,SNR=3.4	**60.63**	**251**	S	S	11 51 26.1	+6.6
MJAR	**Matsushiro Arr** 3.2nm,0.8s,baz=158,slow=5.5,SNR=11	**73.54**	**322**	P	**P**	**11 44 26.5**	**+0.3**

PETK	**Petropavlovsk-** 4.2nm,0.8s,baz=148,slow=6.7,SNR=3.8	**78.72**	**343**	P		**P**	**11 44 55.0**	**-0.3**
YBH	**Yreka Blue Hor** 2.6nm,0.8s,baz=196,slow=4.2,SNR=5.3	**79.46**	**37**	P		**P**	**11 44 59.3**	**-0.4**
NVAR	**Mina Array Bea** 1.4nm,0.7s,baz=224,slow=8.1,SNR=8.2	**79.89**	**41**	P		**P**	**11 45 02.9**	**+0.6**
MSU	**Marysvale** 3.9nm,1.2s	**83.81**	**44**	*e*P		**P**	**11 45 23.3**	**+0.3**
TXAR	**Lajitas Array** 0.7nm,1.1s,baz=220,slow=7.6,SNR=3.9	**85.08**	**56**	P		**P**	**11 45 29.9**	**+0.4**
ANMO	**Albuquerque** 7.4nm,1.6s	**85.78**	**50**	*e*P		**P**	**11 45 33.4**	**+0.5**
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=236,slow=1.6,SNR=4.1	**87.82**	**42**	P		**P**	**11 45 41.9**	**-0.9**
MCK	**McKinley** 2.5nm,0.9s	**87.83**	**11**	*e*P		**P**	**11 45 41.4**	**-0.6**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=211,slow=5.3,SNR=7.4	**89.15**	**11**	P		**P**	**11 45 48.4**	**+0.2**
CMAR	**Chiang Mai Arr** 1.1nm,0.6s,baz=108,slow=2.5,SNR=6.4	**93.86**	**288**	P		**P**	**11 46 12.9**	**+1.8**
LBTB	**Lobatse**	**129.33**	**204**	*e*PKPdf		**PKPdf**	**11 52 01.9**	**-0.6**
AKASG	**Malin Array Be** 0.9nm,0.5s,baz=41,slow=4.1,SNR=9.0	**146.01**	**333**	PKPbc		**PKPbc**	**11 52 32.8**	**0.0**
BUR08	**Bucovina Ar. S**	**150.05**	**333**	*e*PKPdf		**PKPdf**	**11 52 39.8**	**+0.9**
BUR08				*e*PKPbc		**PKPbc**	**11 52 44.0**	**+0.1**
BUR08				*e*PKPab		**PKPab**	**11 52 48.8**	**-0.9**
CLL	**Collm** comp=Z,6.0nm,1.1s	**150.28**	**351**	*i* PKPbc		**PKPbc**	**11 52 45.0**	**+0.9**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.8s,baz=166,slow=2.5,SNR=6.3	**150.42**	**313**	PKPbc		**PKPbc**	**11 52 43.8**	**-1.3**

IDC 30 11:52:58.3±3.9, 5.81N×76.37W, h0km, Error ellipse: s-maj=226.2km s-min=17.8km az=20.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal** 15nm,0.3s,baz=296,slow=8.2,SNR=22	**2.24**	**115**	Pg	Pb	11 53 40.4	+0.1
ROSC				Lg	Lg	11 54 09.6	
ASAR	**Alice Springs** 0.3nm,0.5s,baz=110,slow=3.6,SNR=4.8	**145.89**	**236**	PKPbc	PKPdf	12 12 40.1	0.0
WRA	**Warramunga Arr** 0.3nm,1.0s,baz=105,slow=3.2,SNR=6.0	**147.02**	**242**	PKPbc	PKPdf	12 12 42.9	+0.8

*CSEM **30** 11:54:16.0±0.5, 38°.64N×37°.42E, h10km, MD2.6, Error ellipse: s-maj=10.3km s-min=8.7km az=58.0*
*DDA **30** 11:54:27.8, 38°.44N×37°.76E, h23km, MD2.7*

ISK 30 11:54:16.4, 38°66N×37°46E, h6km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.09**	**169**	Pg	Pg	11 54 18.3	-0.2
DARE				Sg	Sg	11 54 20.8	+0.8
DARE	**Darende-Malaty**	**0.09**	**169**	*i* Pg	Pg	11 54 18.3	-0.2
DARE				*i* Sg	Sg	11 54 20.8	+0.8
AKCD	**Akcadag**	**0.51**	**135**	*i* P	Pg	11 54 26.9	+0.5
AKCD				*i* S	Sb	11 54 36.8	+1.0
AKCD	**Akcadag**	**0.51**	**135**	*i* P	Pg	11 54 26.9	+0.5
AKCD				*i* S	Sb	11 54 36.8	+1.0
MALT	**Malatya**	**0.83**	**114**	*e*PG	Pg	11 54 33.0	+0.4
MALT				*e*SG	Sb	11 54 44.7	-0.3
MALT	**Malatya**	**0.83**	**114**	*e*Pg	Pb	11 54 33.0	-0.4
MALT				*e*Sg	Sb	11 54 44.7	-0.3
ELZG	**Elazig**	**1.20**	**97**	*i* P	Pg	11 54 38.6	-1.1
ELZG				*i* S	Sn	11 54 58.3	+1.5
ELZG	**Elazig**	**1.20**	**97**	*i* P	Pg	11 54 38.6	-1.1
ELZG				*i* S	Sn	11 54 58.3	+1.5
GZT	**Gaziantep**	**1.30**	**176**	*i* P	Pg	11 54 43.5	+2.0
GZT				*i* S	Sn	11 55

AS31	**Alice Springs**	**47.58**	**258**	*e*P		**P**	**12 08 04.2**	**-1.2**
ASAR	**Alice Springs**	**47.58**	**258**	P		**P**	**12 08 04.5**	**-0.9**
	16nm,0.6s,baz=90,slow=8.3,SNR=103							
WRAB	**Tennant Creek**	**47.86**	**263**	*e*P		**P**	**12 08 06.0**	**-1.6**
	14nm,0.9s							
WRA	**Warramunga Arr**	**47.87**	**263**	P		**P**	**12 08 06.2**	**-1.5**
	11nm,0.8s,baz=98,slow=8.3,SNR=58							
FORT	**Forrest**	**51.88**	**248**	P		**P**	**12 08 37.6**	**-0.4**
	baz=52,SNR=11							
WRKA	**Warakurna**	**52.41**	**255**	P		**P**	**12 08 41.2**	**-0.9**
	baz=53,SNR=14							
GUMO	**Guam**	**53.62**	**308**	LR		LR	12 29 49.6	
	comp=Z,11nm,20.2s,baz=81,slow=34							
KNRA	**Kununurra**	**54.07**	**266**	P		**P**	**12 08 53.6**	**-0.6**
	baz=55,SNR=5.1							
SWI	**Sorong**	**57.09**	**284**	P		**P**	**12 09 15.4**	**-0.5**
	baz=58,SNR=5.3							
MJAR	**Matsushiro Arr**	**73.70**	**322**	P		**P**	**12 11 02.9**	**-0.2**
	4.2nm,0.8s,baz=160,slow=6.2,SNR=15							
MAT	**Matsushiro**	**73.70**	**322**	P		**P**	**12 11 03.1**	**0.0**
ASAJ	**Asahikawa**	**76.94**	**330**	LR		LR	12 41 00.8	
	comp=Z,49nm,18.7s,baz=334,slow=32							
KSM	**Kuching**	**77.13**	**277**	P		**P**	**12 11 24.2**	**+0.9**
	baz=78,SNR=4.9							
KSM	**Kuching**	**77.13**	**277**	*e*P		**P**	**12 11 23.3**	**0.0**
	6.7nm,0.8s							
PETK	**Petropavlovsk-**	**78.87**	**343**	P		**P**	**12 11 32.0**	**0.0**
	7.1nm,0.9s,baz=132,slow=10,SNR=4.4							
YBH	**Yreka Blue Hor**	**79.48**	**37**	P		**P**	**12 11 35.8**	**0.0**
	2.7nm,0.7s,baz=108,slow=2.0,SNR=6.6							
NVAR	**Mina Array Bea**	**79.91**	**41**	P		**P**	**12 11 38.9**	**+0.6**
	1.4nm,0.6s,baz=225,slow=8.2,SNR=10							
MSU	**Marysvale**	**83.81**	**44**	*e*P		**P**	**12 12 00.1**	**+1.2**
	7.6nm,1.3s							
BMO	**Blue Mountains**	**84.51**	**37**	*e*P		**P**	**12 12 02.3**	**+0.2**
	2.1nm,0.7s							
TXAR	**Lajitas Array**	**85.05**	**56**	P		**P**	**12 12 04.2**	**-1.0**
	0.5nm,0.8s,baz=234,slow=4.2,SNR=6.0							
PLCA	**Paso Flores**	**85.53**	**132**	P		**P**	**12 12 07.8**	**+0.2**
	2.8nm,1.0s,baz=246,slow=9.4,SNR=2.8							
GAMB	**Gambell**	**85.72**	**1**	*e*P		**P**	**12 12 08.3**	**+0.7**
	5.5nm,0.9s							
ANMO	**Albuquerque**	**85.77**	**50**	P		**P**	**12 12 09.2**	**+0.4**
	2.0nm,0.9s,baz=226,slow=4.0,SNR=5.2							
ANMO	**Albuquerque**	**85.77**	**50**	*e*P		**P**	**12 12 09.5**	**+0.8**
TRF	**Thorofare Moun**	**87.43**	**11**	*e*P		**P**	**12 12 15.8**	**-0.3**
	4.3nm,0.9s							
PDAR	**Pinedale Array**	**87.83**	**42**	P		**P**	**12 12 18.3**	**-0.4**
	0.6nm,0.8s,baz=180,slow=0.9,SNR=5.6							
ILAR	**Eielson Array**	**89.24**	**11**	P		**P**	**12 12 23.4**	**-1.1**
	1.2nm,0.9s,baz=215,slow=6.3,SNR=11							
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P		**P**	**12 12 48.2**	**+0.6**
	0.7nm,0.3s,baz=123,slow=3.3,SNR=6.1							
YKA	**Yellowknife Ar**	**96.61**	**24**	P		**P**	**12 12 56.8**	**-1.7**
	0.5nm,0.8s,baz=246,slow=4.5,SNR=3.9							
FINES	**FINESS Array B**	**138.35**	**345**	PKP		**PKPdf**	**12 18 55.4**	**+1.5**
	0.7nm,0.6s,baz=86,slow=9.8,SNR=4.0							
TBLG	**Delisi**	**142.06**	**310**	P		**PKPdf**	**12 19 03.0**	**+1.7**
AKASG	**Malin Array Be**	**146.17**	**333**	PKPbc		**PKPbc**	**12 19 08.7**	**-0.5**
	1.5nm,0.6s,baz=38,slow=4.1,SNR=6.3							
CLL	**Collm**	**150.41**	**351**	*i* PKPbc		**PKPbc**	**12 19 21.0**	**+0.7**
	comp=Z,10.0nm,1.3s							
CLL				*i* pPKPab		**pPKPab**	**12 19 33.4**	**-4.6**
BRTR	**Keskin Array B**	**150.59**	**313**	PKPbc		**PKPbc**	**12 19 21.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=126,slow=3.9,SNR=7.8							
BRG	**Berggiesshubel**	**150.69**	**349**	*e*P		**PKPbc**	**12 19 22.1**	**+1.2**
	comp=Z,6.1nm,1.0s							
BRG				*e*			12 19 34.4	
	comp=Z,7.2nm,1.0s							
GERES	**GERESS Array B**	**152.68**	**349**	PKPab		**PKPab**	**12 19 37.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=48,slow=2.0,SNR=4.8							
TORD	**Torodi Ar. Bea**	**170.18**	**156**	PKPab		**PKPab**	**12 20 54.6**	**+1.3**
	comp=Z,1.4nm,1.1s,baz=227,slow=5.9,SNR=4.1							

*IDC **30** 12:00:58.5±2.9, 22°.35N×123°.61E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/52, mbtmp3.6/6, ML3.4/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=65.7km s-min=28.9km az=154.0*

*JMA **30** 12:01:00.4±0.5, 22°.28N×123°.60E, h53km, M4.0*

*NIED **30** 12:01:00, 22°.30N×123°.60E, h5km, Mw3.8 Best double couple: M₀5.22000×10¹⁴ NP1:φs16.00000°, δ25.00000°, λ137.00000°. NP2:φs147.00000°, δ73.00000°, λ71.00000°.*

*ISCJB **30** 12:01:01.8±0.9, 22°.37N±0°.05×123°.74E±0°.07, h33km, mb3.4/4, MS2.7/1, Error ellipse: s-maj=9.2km s-min=6.8km az=31.4*

ISC 30 12:01:02.9±1.4, 22°.4N±0°.1×123°.79E±0°.07, h35km, n20, σ1^{8}28/32, mb3.4/4, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.69**	**0**	P	**Pn**	**12 01 29.8**	**-0.1**
HATJ				S	**Sn**	**12 01 50.3**	**+0.1**
JKRS	**Kuro-shima**	**1.88**	**6**	P	**Pn**	**12 01 32.9**	**+0.4**
JKRS				S	**Sn**	**12 01 55.1**	**+0.2**
IRIF	**Iriomote-Funau**	**1.96**	**358**	P	**Pn**	**12 01 33.8**	**+0.1**
IRIF				S	**Sn**	**12 01 58.0**	**+0.9**
JIJ	**Ishigaki jima**	**2.02**	**9**	P	**Pn**	**12 01 34.1**	**-0.3**
JIJ				S	**Sn**	**12 01 58.0**	**-0.4**
YOJ	**Yonaguni jima**	**2.21**	**341**	P	**Pn**	**12 01 36.9**	**-0.2**
YOJ				S	**Sn**	**12 02 02.2**	**-0.9**
JYNG	**Yonagunijimaku**	**2.22**	**340**	P	**Pn**	**12 01 36.9**	**-0.3**
JYNG				*e*S	**Sn**	**12 02 02.2**	**-1.2**
JISG	**Ishigakijimahi**	**2.26**	**12**	P	**Pn**	**12 01 36.7**	**-1.1**
JISG				S	**Sn**	**12 02 03.8**	**-0.7**
JTJ	**Tarama**	**2.42**	**20**	P	**Pn**	**12 01 40.3**	**+0.4**
JTJ				*e*S	**Sn**	**12 02 08.6**	**+0.3**
JIRB	**Irabujima**	**2.76**	**27**	P	**Pn**	**12 01 44.9**	**+0.2**
JIRB				*e*S	**Sn**	**12 02 16.5**	**-0.3**
JOGS	**Gusukube**	**2.81**	**32**	P	**Pn**	**12 01 46.4**	**+1.1**
JOGS				*e*S	**Sn**	**12 02 19.0**	**+1.1**
JIKM	**Ikemajima**	**2.88**	**27**	P	**Pn**	**12 01 47.5**	**+1.2**
JIKM				*e*S	**Sn**	**12 02 20.6**	**+1.0**
JKE	**Kume jima 2**	**4.80**	**34**	*e*S	**Sn**	**12 03 05.2**	**-1.8**
JIH	**Iheya**	**6.00**	**38**	*e*S	**Sn**	**12 03 33.3**	**-3.4**
JOW	**Kunigami**	**6.04**	**42**	P	**Pn**	**12 02 29.2**	**-0.5**
JOW				*e*S	**Sn**	**12 03 33.8**	**-3.8**
KSRS	**Korea Array**	**15.46**	**12**	Pn	**Pn**	**12 04 38.8**	**+0.5**
	0.2nm,0.3s,baz=186,slow=12,SNR=9.0						
MJAR	**Matsushiro Arr**	**18.87**	**38**	P	**Pn**	**12 05 22.9**	**+2.1**
	baz=223,slow=9.0,SNR=6.8						
CMAR	**Chiang Mai Arr**	**23.60**	**265**	P	**P**	**12 06 09.8**	**-1.0**
	0.9nm,0.6s,baz=66,slow=7.7,SNR=6.6						
CMAR				LR	LR	12 15 32.7	
	comp=Z,23nm,18.7s,baz=165,slow=37						
SONM	**Songino Array**	**28.99**	**335**	P	**P**	**12 06 58.7**	**-0.7**
	0.3nm,0.5s,baz=142,slow=7.3,SNR=2.6						
MKAR	**Makanchi Array**	**41.30**	**316**	P	**P**	**12 08 45.4**	**+0.3**
	0.3nm,0.5s,baz=170,slow=4.0,SNR=3.3						
YKA	**Yellowknife Ar**	**83.69**	**23**	P	**P**	**12 13 28.8**	**+1.0**
	0.4nm,0.7s,baz=302,slow=5.8,SNR=3.4						

JMA 30 12:14:27.5±0.5, 22°.36N×123°.79E, h60km, M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.69**	**0**	P	Pn	12 14 55.6	+0.9
HATJ				*e*S	Sn	12 15 15.6	+0.3
JKRS	**Kuro-shima**	**1.88**	**6**	P	Pn	12 14 58.5	+1.2
JKRS				S	Sn	12 15 20.6	+0.6
IRIF	**Iriomote-Funau**	**1.97**	**358**	P	Pn	12 14 59.8	+1.3
IRIF				S	Sn	12 15 22.0	-0.1
JIJ	**Ishigaki jima**	**2.02**	**9**	P	Pn	12 14 59.7	+0.4
JIJ				S	Sn	12 15 22.4	-1.0
YOJ	**Yonaguni jima**	**2.21**	**341**	P	Pn	12 15 03.5	+1.7
YOJ				*e*S	Sn	12 15 28.8	+0.7
JYNG	**Yonagunijimaku**	**2.22**	**340**	P	Pn	12 15 03.5	+1.5
JYNG				S	Sn	12 15 28.6	+0.3
JISG	**Ishigakijimahi**	**2.27**	**12**	P	Pn	12 15 02.7	+0.1
JTJ	**Tarama**	**2.42**	**20**	P	Pn	12 15 05.1	+0.4
JTJ				*e*S	Sn	12 15 33.2	+0.1
JIRB	**Irabujima**	**2.77**	**27**	P	Pn	12 15 10.4	+1.0
JIRB				*e*S	Sn	12 15 41.2	-0.4
JOGS	**Gusukube**	**2.81**	**32**	P	Pn	12 15 10.1	+0.1
JOGS				*e*S	Sn	12 15 43.0	+0.2
JIKM	**Ikemajima**	**2.88**	**27**	P	Pn	12 15 12.8	+1.8
JIKM				*e*S	Sn	12 15 44.9	+0.5
JKE	**Kume jima 2**	**4.80**	**34**	P	Pn	12 15 37.1	-0.2
JKE				*e*S	Sn	12 16 29.2	-2.4
JOW	**Kunigami**	**6.04**	**42**	P	Pn	12 15 53.9	-0.4
JOW				*e*S	Sn	12 16 59.3	-2.8

*ISCJB **30** 12:15:02.7±0.5, 47°.00N±0°.07×152°.2E±0°.1, h100km, mb3.7/14, Error ellipse: s-maj=14.6km s-min=3.1km az=42.6*

*SKHL **30** 12:15:04.4±0.9, 46°.91N×152°.41E, h121km±12km, mb5.4/3, msh5.9/6*

*MOS **30** 12:15:04.7±1.5, 46°.95N×152°.24E, h125km, mb4.1/5, Error ellipse: s-maj=15.1km s-min=7.8km az=65.3*

*IDC **30** 12:15:07.0±2.2, 47°.11N×152°.04E, h122km±20km, mb3.4/13, mb1 3.5/16, mb1mx3.4/37, mbtmp3.8/16, Error ellipse: s-maj=22.0km s-min=12.6km az=138.0*

*JMA **30** 12:15:08.5±0.6, 45°.99N×152°.35E, h116km, M4.1*

ISC 30 12:15:03.4±0.7, 46°.85N±0°.09×152°.42E±0°.09, h100km, n83, σ1^{9}62/81, mb3.7/14, 6C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.56**	**245**	*i* PN	**Pn**	**12 15 59.2**	**+2.6**
KUR				*i* S	**Sn**	**12 16 40.7**	**+2.9**
KUR				pmax	pmax		
	comp=N,119nm,0.5s						
KUR				pmax	pmax		
	comp=Z,259nm,0.5s						
KUR				pmax	pmax		
	comp=E,51nm,0.2s						
KUR				smax	smax		
	comp=N,182nm,0.6s						
KUR				smax	smax		
	comp=E,105nm,0.2s						
KUR	**Kuril'sk**	**3.56**	**245**	*e*P	**Pn**	**12 15 59.2**	**+2.6**
KUR				AMB	AMB	12 16 00.3	
	comp=E,260nm,0.5s						
KUR				*e*S	**Sn**	**12 16 40.7**	**+2.9**
KUR				A	A	12 16 48.2	
	comp=E,182nm,0.6s						
KUR				A	A	12 16 48.2	
	comp=E,110nm,0.6s						
SKR	**Severo-Kuril's**	**4.55**	**31**	*e*PN	Pn	12 16 01.2	-8.7
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				pmax	pmax		
	comp=N,90nm,0.4s						
SKR	**Severo-Kuril's**	**4.55**	**31**	*e*P	**Pn**	**12 16 11.6**	**+1.7**
SKR				AMB	AMB	12 16 13.4	
	comp=N,182nm,0.4s						
SKR				*e*S	**Sn**	**12 17 01.1**	**-0.5**
SKR				A	A	12 17 05.3	
	comp=N,229nm,0.2s						
SHO	**Shikotan**	**4.94**	**235**	*e*P	**Pn**	**12 16 15.6**	**+0.3**
SHO				*e*S	**Sn**	**12 17 08.4**	**-2.8**
SHO				A	A	12 17 09.0	
	comp=N,878nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.41**	**241**	*c i* PN	**Pn**	**12 16 23.5**	**+1.9**
YUK				*e*S	**Sn**	**12 17 23.6**	**+1.1**
YUK				pmax	pmax		
	comp=N,81nm,0.2s						
YUK				pmax	pmax		
	comp=E,91nm,0.2s						
YUK				pmax	pmax		
	comp=Z,733nm,0.2s						
YUK				smax	smax		
	comp=E,99nm,0.8s						
YUK				smax	smax		
	comp=N,152nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.41**	**241**	*e*P	**Pn**	**12 16 23.5**	**+1.9**
YUK				AMB	AMB	12 16 24.1	
	comp=N,73nm,0.2s						
YUK				*e*S	**Sn**	**12 17 23.6**	**+1.1**
YUK				A	A	12 17 25.2	
	comp=N,99nm,0.8s						
YUK				A	A	12 17 25.2	
	comp=N,152nm,0.8s						
PAU	**Pauzhetka**	**5.44**	**30**	*e*P	**Pn**	**12 16 23.3**	**+1.3**
PAU				*e*S	**Sn**	**12 17 22.5**	**-0.8**
PAU				A	A	12 17 25.1	
	comp=N,798nm,0.3s						
NEM2	**Nemuro 2**	**5.87**	**236**	P	**Pn**	**12 16 27.6**	**-0.3**
NEM2				*e*S	Sn	12 17 29.4	-4.4
JRA	**Rausu**	**5.91**	**243**	P	**Pn**	**12 16 30.0**	**+1.6**
JNK	**Nakash**	**6.34**	**242**	P	**Pn**	**12 16 35.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.63**	**274**	*i* PN	Pn	12 16 41.9	+3.8
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.63**	**274**	*e*P	Pn	12 16 41.9	+3.8
JTKR	**Abashiri--Toko**	**6.65**	**247**	P	**Pn**	**12 16 40.5**	**+2.1**
JAK	**Akkeshi**	**6.70**	**238**	P	**Pn**	**12 16 38.9**	**-0.3**
JAR	**Ashorotuto**	**7.08**	**243**	P	**Pn**	**12 16 45.7**	**+1.4**
PETK	**Petropavlovsk-**	**7.13**	**27**	P	**Pn**	**12 16 46.5**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=178,slow=13,SNR=28						
PETK				S	**Sn**	**12 18 03.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=184,slow=18,SNR=1.5						
PETK	**Petropavlovsk-**	**7.13**	**27**	PN	**Pn**	**12 16 46.5**	**+1.6**
PETK				S	**Sn**	**12 18 03.4**	**-0.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOB	**Onbets**	**7.26**	**240**	P	**Pn**	**12 16 47.5**	**+0.7**
JOB				*e*S	**Sn**	**12 18 04.6**	**-3.1**
PET	**Petropavlovsk**	**7.37**	**31**	*i* PN	**Pn**	**12 16 48.9**	**+0.7**
PET	**Petropavlovsk**	**7.37**	**31**	*e*P	**Pn**	**12 16 48.7**	**+0.5**
PET				*e*S	**Sn**	**12 18 07.1**	**-3.0**
PET				A	A	12 18 08.0	
	comp=Z,308nm,0.6s						
HRK	**Horoka**	**7.39**	**246**	*e*P	**Pn**	**12 16 50.3**	**+1.7**
ASAJ	**Asahikawa**	**7.43**	**252**	P	**Pn**	**12 16 52.1**	**+3.1**
ASAJ	**Asahikawa**	**7.43**	**252**	P	**Pn**	**12 16 52.1**	**+3.1**
	comp=Z,2.0nm,0.3s,baz=82,slow=14,SNR=20						
ASAJ	**Asahikawa**	**7.43**	**252**	PN	**Pn**	**12 16 52.2**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.44**	**250**	P	**Pn**	**12 16 51.6**	**+2.4**
JCH	**Churui**	**7.71**	**240**	P	**Pn**	**12 16 52.8**	**-0.2**
JCH				*e*S	Sn	12 18 13.5	-5.2
JAB	**Ashibetsu**	**7.94**	**249**	P	**Pn**	**12 16 58.8**	**+2.7**
MYR	**Moyori**	**7.96**	**238**	*e*P	**Pn**	**12 16 55.7**	**-0.5**
JEM	**Erimo**	**8.20**	**237**	P	**Pn**	**12 16 59.7**	**+0.1**
ERM	**Erimo**	**8.20**	**237**	*i* PN	**Pn**	**12 16 59.7**	**+0.1**
ERM	**Erimo**	**8.20**	**237**	*e*P	**Pn**	**12 16 59.7**	**+0.1**
JBT2	**Biratori 2**	**8.23**	**244**	P	**Pn**	**12 17 00.4**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.28**	**240**	P	**Pn**	**12 16 59.4**	**-1.2**
JNBK				*e*S	Sn	12 18 26.9	-5.4
JNB	**Noboribetsu**	**9.22**	**246**	P	**Pn**	**12 17 14.5**	**+1.1**
JKB	**Kayabe**	**9.54**	**243**	P	**Pn**	**12 17 16.4**	**-1.4**
JYM2	**Yakumo 2**	**9.82**	**246**	P	**Pn**	**12 17 21.3**	**-0.3**
JSR	**Shiriuchi**	**10.13**	**243**	P	**Pn**	**12 17 24.0**	**-1.7**
JTM	**Tenmabayashi**	**10.20**	**238**	P	Pn	12 17 23.7	-3.0
JTM				*e*S	Sn	12 19 10.1	-8.9
JANG	**Nango**	**10.21**	**235**	P	Pn	12 17 23.5	-3.5
JOSM	**Okushiri--Mats**	**10.41**	**247**	P	**Pn**	**12 17 29.7**	**+0.2**
JRG	**Rokugo**	**11.38**	**233**	P	Pn	12 17 40.1	-2.6
JIO	**Ouri**	**11.69**	**228**	P	Pn	12 17 43.6	-3.2
JIO				*e*S	Sn	12 19 44.7	-11
USRK	**Ussuriysk Ar.**	**14.56**	**267**	P	**Pn**	**12 18 23.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=68,slow=10,SNR=4.7						
MJAR	**Matsushiro Arr**	**14.77**	**231**	P	**Pn**	**12 18 26.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=31,slow=13,SNR=20						
MJAR	**Matsushiro Arr**	**14.77**	**231**	P	**Pn**	**12 18 26.6**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**14.77**	**231**	*i* P	**Pn**	**12 18 25.6**	**-1.5**
MAJO	**Matsushiro**	**14.77**	**231**	*e*P	**Pn**	**12 18 25.6**	**-1.5**
SEY	**Seymchan**	**16.12**	**360**	*e*P	**Pn**	**12 18 43.4**	**-0.4**
SEY	**Seymchan**	**16.12**	**360**	*e*P	**Pn**	**12 18 43.3**	**-0.5**
KSRS	**Korea Array**	**20.38**	**251**	P	**P**	**12 19 33.8**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=54,slow=10,SNR=2.6						
BILL	**Bilibino**	**22.41**	**14**	*i* P	**P**	**12 19 50.3**	**-3.0**
BILL				*i* *PP	pP	12 20 21.5	+8.7
BILL	**Bilibino**	**22.41**	**14**	*e*P	**P**	**12 19 53.1**	**-0.2**
TIK	**Tiksi**	**27.23**	**344**	*e*P	**P**	**12 20 36.1**	**-1.4**
TIXI	**Tiksi**	**27.24**	**344**	*e*P	**P**	**12 20 36.1**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.7s						
H11N2	**WAKE ISLAND Hy**	**29.53**	**151**	T	T	12 52 36.9	
	baz=340,slow=76,SNR=318						
H11N1	**WAKE ISLAND Hy**	**29.54**	**151**	T	T	12 52 39.5	
	baz=340,slow=76,SNR=210						
H11N3	**WAKE ISLAND Hy**	**29.55**	**151**	T	T	12 52 36.2	
	baz=340,slow=76,SNR=203						
H11S1	**WAKE ISLAND Hy**	**30.61**	**153**	T	T	12 53 53.0	
	baz=340,slow=76,SNR=299						
H11S3	**WAKE ISLAND Hy**	**30.62**	**153**	T	T	12 53 53.8	
	baz=340,slow=76,SNR=147						
H11S2	**WAKE ISLAND Hy**	**30.63**	**153**	T	T	12 53 54.5	
	baz=340,slow=76,SNR=178						

ILAR	**Eielson Array**	**36.77**	**39**	P		**P**	**12 22 02.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=269,slow=6.7,SNR=7.3							
INK	**Inuvik**	**41.82**	**32**	P		**P**	**12 22 44.0**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=305,slow=5.8,SNR=16							
INK	**Inuvik**	**41.82**	**32**	P		**P**	**12 22 44.1**	**+1.3**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**46.47**	**297**	P		**P**	**12 23 18.7**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=63,slow=6.4,SNR=7.5							
MKAR	**Makanchi Array**	**46.47**	**297**	*e*P		**P**	**12 23 18.6**	**-1.6**
KURK	**Kurchatov**	**46.91**	**303**	P		**P**	**12 23 22.1**	**-1.4**
KURBB	**Kurchatov Arra**	**47.01**	**303**	P		**P**	**12 23 22.1**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=69,slow=8.5,SNR=5.3							
YKA	**Yellowknife Ar**	**51.13**	**37**	P		**P**	**12 23 56.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=306,slow=8.0,SNR=4.0							
ARCES	**ARCESS Array B**	**57.60**	**341**	P		**P**	**12 24 41.2**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=27,slow=8.2,SNR=7.2							
ARCES	**ARCESS Array B**	**57.60**	**341**	P		**P**	**12 24 41.2**	**-1.1**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**57.60**	**341**	*e*P		**P**	**12 24 41.1**	**-1.2**
SUMG	**Summit**	**60.63**	**4**	*i* P		**P**	**12 25 04.1**	**+0.5**
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SUMG	**Summit**	**60.63**	**4**	*i* P		**P**	**12 25 04.1**	**+0.5**
	comp=Z,7.3nm,0.9s							
FINES	**FINESS Array B**	**63.75**	**334**	P		**P**	**12 25 22.5**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=36,slow=6.9,SNR=20							
FINES	**FINESS Array B**	**63.75**	**334**	P		**P**	**12 25 22.5**	**-1.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**68.45**	**198**	P		**P**	**12 25 55.8**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=15,slow=6.4,SNR=1.9							
AKASG	**Malin Array Be**	**71.20**	**326**	P		**P**	**12 26 09.6**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=33,slow=6.2,SNR=6.9							
AKASG	**Malin Array Be**	**71.20**	**326**	*e*P		**P**	**12 26 10.4**	**-0.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAR	**Alice Springs**	**72.16**	**198**	P		**P**	**12 26 18.6**	**+1.5**
	comp=Z,2.2nm,0.5s,baz=7.9,slow=5.0,SNR=5.1							
TXAR	**Lajitas Array**	**77.86**	**60**	P		**P**	**12 26 52.2**	**+2.1**
	comp=Z,0.2nm,0.8s,baz=286,slow=3.7,SNR=1.9							
GERES	**GERESS Array B**	**78.16**	**334**	P		**P**	**12 26 51.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=46,slow=5.8,SNR=6.6							
GERES	**GERESS Array B**	**78.16**	**334**	*e*P		**P**	**12 26 51.2**	**-0.3**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							

MAN 30 12:24:52, 13°.21N×121°.21E, h31km, mb4.4, ML3.3, MS3.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.38**	**320**	*e*P	Pb	12 25 01.1	+0.3
PGP				*i* S	Sb	12 25 06.3	-0.4
SJMP	**San Jose**	**0.75**	**187**	*e*P	Pb	12 25 07.5	+0.9
SJMP				*e*S	Sn	12 25 17.0	+0.3
LUBP	**Lubang**	**1.07**	**299**	*e*P	Pb	12 25 11.5	-0.5
LUBP				*e*S	Sn	12 25 21.5	-3.2
BALP	**Baler**	**2.54**	**8**	*e*P	Pn	12 25 32.1	+0.9

MAN 30 12:27:55, 12°.98N×120°.77E, h28km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.55**	**19**	*i* P	Pn	12 28 07.8	+0.7
SJMP	**San Jose**	**0.62**	**146**	*e*P	Pn	12 28 08.1	+0.2
SJMP				*e*S	Sn	12 28 19.3	+2.4
LUBP	**Lubang**	**0.91**	**326**	*e*P	Pb	12 28 13.0	+0.8
LUBP				*e*S	Sn	12 28 25.0	+0.9
OTRP	**Odiongan**	**1.37**	**116**	*e*P	Pb	12 28 21.7	+1.8

*IDC **30** 12:40:29.6±0.6, 52°.93N×168°.43W, h0km, mb4.2/27, mb1 4.4/28, mb1mx4.2/47, mbtmp4.2/28, ML4.5/

COLA *e* 12 47 10.8
COLA pmax pmax
comp=Z,18nm,1.1s
COLA College 15.95 33 *e*Pn **Pn** **12 44 15.9 -0.3**
comp=Z,18nm,1.1s
COLA *e*Sn **Sn** **12 47 10.8 -0.9**
ILAR Eielson Array 16.20 34 Pn **Pn** **12 44 16.8 -2.7**
comp=Z,0.7nm,0.3s,baz=230,slow=11,SNR=41
ILAR LR LR 12 51 05.1
comp=Z,212nm,19.2s,baz=205,slow=39
DOT Dot Lake 16.61 40 *e*Pn **Pn** **12 44 25.0 +0.3**
comp=Z,7.2nm,0.9s
DOT *e*Sn **Sn** **12 47 30.1 +2.0**
COLD Coldfoot 16.92 25 *e*Pn **Pn** **12 44 30.2 +1.6**
comp=Z,8.1nm,0.9s
COLD *e*Sn **Sn** **12 47 32.8 -2.7**
EGAK Eagle 18.27 39 *e*P **P** **12 44 44.9 -0.3**
comp=Z,8.2nm,0.6s
HYT Haines Junctio 18.50 52 *e*Pn **Pn** **12 44 48.7 +0.5**
HYT *e*Sn **Sn** **12 48 16.2 +2.3**
DAWY Dawson 18.65 42 *e*P **P** **12 44 49.8 +0.3**
SKAG Skagway 19.37 57 *e*P **Pn** **12 44 58.6 0.0**
comp=Z,18nm,0.6s
BILL Bilibino 19.51 331 ⇓ *e*P **Pn** **12 45 01.1 +1.0**
BILL pmax pmax
comp=Z,10.0nm,1.5s
BILL MLR MLR 13 10 42.0
comp=Z,136nm,23.0s
BILL Bilibino 19.51 331 *e*P **Pn** **12 45 01.4 +1.3**
comp=Z,14nm,1.3s
PETK Petropavlovsk- 20.38 284 P **P** **12 45 08.3 0.0**
comp=Z,1.8nm,0.4s,baz=89,slow=14,SNR=7.1
PETK LR LR 12 53 51.2
comp=Z,36nm,19.4s,baz=84,slow=40
DLBC Dease Lake 22.09 60 P **P** **12 45 30.1 +3.4**
comp=Z,3.9nm,0.6s,baz=261,slow=11,SNR=6.7
DLBC Dease Lake 22.09 60 *e*P **P** **12 45 28.2 +1.4**
comp=Z,3.6nm,0.6s
INK Inuvik 22.60 33 P **P** **12 45 30.4 -1.6**
comp=Z,8.4nm,0.5s,baz=215,slow=11,SNR=48
INK PcP **PcP** **12 49 23.9 0.0**
comp=Z,0.3nm,0.4s,baz=131,slow=1.3,SNR=5.3
INK Inuvik 22.60 33 *e*P **P** **12 45 29.7 -2.3**
INK 12 49 23.9
INK pmax pmax
comp=Z,11nm,0.6s
INK Inuvik 22.60 33 *e*P **P** **12 45 29.7 -2.3**
comp=Z,10nm,0.6s
INK PcP **PcP** **12 49 23.9 0.0**
SEY Seymchan 22.85 312 *i* P **P** **12 45 34.5 -0.2**
YKA Yellowknife Ar 29.45 50 P **P** **12 46 35.2 +0.3**
comp=Z,2.5nm,0.5s,baz=273,slow=7.8,SNR=45
YKA PcP **PcP** **12 49 39.8 0.0**
comp=Z,1.0nm,0.7s,baz=285,slow=2.2,SNR=9.6
B08A Colville Reser 30.91 78 *e*P **P** **12 46 49.4 +1.2**
comp=Z,4.0nm,0.7s
H04A Detroit Lake 31.00 86 *e*P **P** **12 46 50.9 +1.9**
comp=Z,65nm,1.9s
NEW Newport 32.27 77 P **P** **12 47 00.9 +0.8**
comp=Z,7.0nm,0.8s,baz=292,slow=8.0,SNR=14
NEW Newport 32.27 77 *e*P **P** **12 47 00.4 +0.4**
NEW pmax pmax
comp=Z,5.0nm,0.7s
NEW Newport 32.27 77 ⇓P **P** **12 47 00.0 0.0**
baz=32,SNR=6.9
NEW Newport 32.27 77 *e*P **P** **12 47 00.4 +0.4**
comp=Z,5.3nm,0.7s
EDM Edmonton 32.36 67 *e*P **P** **12 47 01.6 +0.8**
EDM pmax pmax
comp=Z,7.0nm,0.7s
EDM Edmonton 32.36 67 *e*P **P** **12 47 01.6 +0.8**
comp=Z,6.6nm,0.7s
M04C Macdoel 32.83 91 ⇑P **P** **12 47 06.6 +1.4**
baz=33
ASAJ Asahikawa 33.12 275 LR LR 12 58 53.2
comp=Z,32nm,21.9s,baz=350,slow=33
F10A Beach Ranch, E 33.32 81 *e*P **P** **12 47 10.1 +0.8**
comp=Z,82nm,2.9s
WALA Waterton Lakes 33.78 74 *e*P **P** **12 47 13.6 +0.2**
comp=Z,2.0nm,0.5s
BSMT Bassoo Peak 33.84 76 *e*P **P** **12 47 14.9 +0.9**
BLMT Blacktail Moun 34.01 76 *e*P **P** **12 47 16.4 +1.0**
JTMT Jette 34.19 76 *e*P **P** **12 47 17.3 +0.4**
comp=Z,1.4nm,0.6s
YBMT Yellow Bay 34.29 76 *e*P **P** **12 47 18.4 +0.6**
CHMT Chamberlain Mo 35.21 77 *e*P **P** **12 47 25.8 -0.1**
RES Resolute Bay 35.67 26 P **P** **12 47 27.9 -1.3**
comp=Z,0.7nm,0.5s,baz=324,slow=5.4,SNR=8.5
RES PcP **PcP** **12 49 56.2 -0.5**
comp=Z,1.2nm,0.6s,baz=280,slow=1.4,SNR=4.9
HLID Hailey 36.31 83 ⇓P **P** **12 47 36.0 +0.8**
baz=36
HLID Hailey 36.31 83 *e*P **P** **12 47 36.0 +0.8**
comp=Z,2.1nm,0.8s
EGMT Eagleton 36.70 73 ⇑P **P** **12 47 40.6 +2.1**
baz=37
BOZ Bozeman (W) 36.83 78 *e*P **P** **12 47 40.4 +0.7**
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ Bozeman (W) 36.83 78 *e*P **P** **12 47 40.4 +0.7**
comp=Z,3.7nm,0.6s
A19A Klindworth Far 36.84 71 ⇑P **P** **12 47 39.5 -0.1**
baz=37
B19A Brinkman Farms 36.96 72 ⇓P **P** **12 47 40.8 +0.2**
baz=37
NVAR Mina Array Bea 37.02 92 P **P** **12 47 42.7 +1.3**
comp=Z,0.8nm,0.7s,baz=297,slow=8.7,SNR=5.6
NVAR PcP **PcP** **12 50 01.6 -0.2**
comp=Z,0.7nm,0.6s,baz=293,slow=3.9,SNR=3.8
D19A Cripps Ranch, 37.65 74 ⇑P **P** **12 47 46.9 +0.4**
baz=38
YMR Madison River 37.76 79 *e*P **P** **12 47 48.9 +1.3**
comp=Z,7.1nm,0.7s
YNR Norris Junctio 37.90 79 *e*P **P** **12 47 50.6 +1.8**
comp=Z,6.5nm,0.9s
E19A Rath Farm, Rou 38.08 75 ⇓P **P** **12 47 50.9 +0.9**
baz=38
D20A Manuel Ranch, 38.12 74 ⇑P **P** **12 47 51.5 +1.0**
baz=38
H17A Grant Village 38.14 79 ⇓P **P** **12 47 52.5 +1.6**
baz=38
H17A Grant Village 38.14 79 *e*P **P** **12 47 52.9 +2.1**
comp=Z,12nm,1.4s
IMW Indian Meadow 38.20 80 *e*P **P** **12 47 52.6 +1.2**
comp=Z,3.6nm,0.9s
H11N2 WAKE ISLAND Hy 38.22 220 T T 13 28 40.6
baz=24,slow=76,SNR=943
H11N3 WAKE ISLAND Hy 38.23 220 T T 13 28 41.1
baz=24,slow=76,SNR=737
H11N1 WAKE ISLAND Hy 38.24 220 T T 13 28 42.0
baz=24,slow=76,SNR=707
C21A Desert Coulee 38.34 72 ⇓P **P** **12 47 52.4 +0.2**
baz=38
A22A Carney Farms, 38.43 70 ⇑P **P** **12 47 53.1 +0.1**
baz=38
E20A Meyer Farm, Mu 38.44 75 ⇑P **P** **12 47 53.8 +0.7**
baz=38
H18A Shoshone NF, C 38.53 78 ⇑P **P** **12 47 54.4 +0.3**
baz=38
F20A Billings 38.80 76 ⇓P **P** **12 47 56.6 +0.3**
baz=39
H19A Powell 38.93 78 ⇓P **P** **12 47 58.3 +0.9**
baz=39
B23A Brockton 39.23 70 ⇑P **P** **12 48 00.3 +0.6**
baz=39
D22A Cohagen 39.23 73 ⇑P **P** **12 47 59.8 +0.1**
baz=39,SNR=6.8
DUG Dugway, Tooele 39.25 86 *e*P **P** **12 48 01.2 +1.1**
DUG pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 39.25 86 ⇓P **P** **12 48 00.7 +0.6**
baz=39
DUG Dugway, Tooele 39.25 86 *e*P **P** **12 48 01.2 +1.1**
comp=Z,6.3nm,1.1s
I19A Meeteetse 39.28 78 ⇓P **P** **12 48 01.1 +0.7**
baz=39
H11S1 WAKE ISLAND Hy 39.41 219 T T 13 29 51.4
baz=23,slow=76,SNR=1508
H11S2 WAKE ISLAND Hy 39.42 219 T T 13 30 04.9
baz=23,slow=76,SNR=1104
H11S3 WAKE ISLAND Hy 39.43 219 T T 13 29 52.8
baz=23,slow=76,SNR=773
C23A Lambert 39.46 71 ⇓P **P** **12 48 01.7 +0.1**
baz=39,SNR=9.9
A24A Westby 39.55 69 ⇑P **P** **12 48 02.5 +0.1**
baz=39
H20A Greybull 39.62 77 ⇑P **P** **12 48 03.1 0.0**
baz=40
G21A Lodge Grass 39.67 76 ⇑P **P** **12 48 03.0 -0.5**
baz=40,SNR=6.8
PDAR Pinedale Array 39.68 80 P **P** **12 48 03.9 +0.1**
comp=Z,4.0nm,0.9s,baz=331,slow=4.8,SNR=25
E22A Miles City 39.74 73 ⇓P **P** **12 48 04.4 +0.4**
baz=40
D23A Lindsay 39.78 72 ⇑P **P** **12 48 04.8 +0.5**
baz=40
I20A Worland 39.85 78 ⇓P **P** **12 48 05.5 +0.5**
baz=40
F22A Rosebud 39.92 74 ⇑P **P** **12 48 05.5 0.0**
baz=40
A25A Svangstu Ranch 40.05 68 ⇑P **P** **12 48 06.5 0.0**
baz=40
E23A Ismay 40.09 73 ⇓P **P** **12 48 07.3 +0.5**
baz=40
FCC Fort Churchill 40.14 51 *e*P **P** **12 48 07.6 +0.6**
FCC pmax pmax
comp=Z,12nm,0.6s
FCC Fort Churchill 40.14 51 *e*P **P** **12 48 07.6 +0.6**
comp=Z,12nm,0.6s
G22A Birney 40.21 75 ⇑P **P** **12 48 08.3 +0.3**
baz=40
J20A Shoshoni 40.22 79 ⇓P **P** **12 48 08.8 +0.7**
baz=40
D24A Glendive 40.32 72 ⇑P **P** **12 48 09.7 +1.0**
baz=40,SNR=7.0
MJAR Matsushiro Arr 40.37 268 P **P** **12 48 09.0 -0.2**
comp=Z,0.6nm,0.4s,baz=33,slow=6.0,SNR=3.3
MJAR LR LR 13 03 06.0
comp=Z,23nm,21.9s,baz=65,slow=34
I21A Big Trails, Te 40.42 78 ⇓P **P** **12 48 09.7 0.0**
baz=40
F23A Volborg 40.45 74 ⇑P **P** **12 48 10.0 +0.1**
baz=40,SNR=5.2
H22A Clearmont 40.53 76 ⇓P **P** **12 48 10.9 +0.3**
baz=40
A26A Wade Farm, Ken 40.67 68 ⇑P **P** **12 48 11.7 0.0**
baz=40
G23A Biddle 40.75 75 ⇓P **P** **12 48 12.5 0.0**
baz=41
I22A 9 Mile Ranch, 40.85 77 ⇑P **P** **12 48 13.4 +0.1**
baz=41,SNR=5.3
K21A Alcova 41.13 79 ⇑P **P** **12 48 15.0 -0.7**
baz=41,SNR=5.6
J22A Midwest 41.13 78 ⇓P **P** **12 48 15.5 -0.2**
baz=41
C26A Wahner Farm, P 41.21 69 ⇓P **P** **12 48 16.4 +0.4**
baz=41
SRU San Rafael Swe 41.31 86 *e*P **P** **12 48 18.2 +1.0**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 41.31 86 *e*P **P** **12 48 18.2 +1.0**
comp=Z,4.3nm,0.8s
K22A Casper 41.55 78 ⇓P **P** **12 48 19.7 +0.6**
baz=41
N20A Spence Gulch, 41.61 82 ⇑P **P** **12 48 19.8 +0.1**
baz=41
A28A Rude Farm, Bot 41.66 67 ⇑P **P** **12 48 19.9 +0.1**
baz=42
E26A Carlson Angus 41.74 71 ⇓P **P** **12 48 20.3 -0.2**
baz=42
W13A Hupai Mount 41.88 93 ⇑P **P** **12 48 22.5 +0.6**
baz=42
U15A North Rim 41.96 90 ⇓P **P** **12 48 23.1 +0.5**
baz=42
I24A Kuemmerle Ranc 41.97 76 ⇑P **P** **12 48 22.3 -0.1**
baz=42
L22A Ellis Ranch, M 41.98 79 ⇓P **P** **12 48 22.9 +0.2**
baz=42
O20A White River Ci 42.05 83 ⇑P **P** **12 48 23.0 -0.2**
baz=42,SNR=7.9
O20A White River Ci 42.05 83 *e*P **P** **12 48 22.9 -0.4**
comp=Z,13nm,0.8s
H25A Fruitdale 42.13 74 ⇓P **P** **12 48 23.1 -0.6**
baz=42
RSSD Black Hills 42.16 75 *e*P **P** **12 48 23.3 -0.8**
RSSD pmax pmax
comp=Z,3.0nm,0.6s
RSSD Black Hills 42.16 75 *e*P **P** **12 48 23.3 -0.8**
comp=Z,2.8nm,0.6s
BOD Bodaibo 42.22 309 *e*P P 12 48 21.4 -2.7
BOD pmax pmax
comp=Z,2.0nm,1.7s
A29A Manning Farm, 42.23 66 ⇑P **P** **12 48 24.6 +0.2**
baz=42
J24A Dixon Ranch, L 42.26 76 ⇑P **P** **12 48 24.9 +0.1**
baz=42
G26A Maurine 42.33 73 ⇓P **P** **12 48 25.1 -0.2**
baz=42,SNR=7.9
F27A Lemmon 42.33 72 ⇑P **P** **12 48 25.0 -0.3**
baz=42,SNR=7.1
L23A Garrett 42.36 79 ⇓P **P** **12 48 25.4 -0.4**
baz=42,SNR=9.0
D28A Regan 42.42 69 ⇓P **P** **12 48 26.1 +0.1**
baz=42
N22A Wattenberg Ran 42.71 81 ⇑P **P** **12 48 28.5 -0.2**
baz=42
I26A New Underwood 42.90 74 ⇑P **P** **12 48 29.9 -0.1**
baz=43
N23A Red Feather La 42.96 80 ⇑P **P** **12 48 31.0 +0.3**
baz=43
B30A Myrvik Farm, E 42.99 67 ⇑P **P** **12 48 30.0 -0.5**
baz=43
H27A Howes 43.01 73 ⇑P **P** **12 48 30.6 -0.2**
baz=43
F28A McLaughlin 43.05 71 ⇓P **P** **12 48 31.3 +0.2**
baz=43
O22A Kremmling 43.05 81 ⇓P **P** **12 48 31.5 0.0**
baz=43
PV01 Paradox Valley 43.11 85 *e*P **P** **12 48 31.6 -0.3**
ULM Lac du Bonnet 43.36 63 P **P** **12 48 32.0 -1.4**
comp=Z,5.0nm,1.0s,baz=332,slow=8.2,SNR=3.1
O23A Lake Granby, G 43.40 81 ⇓P **P** **12 48 34.8 +0.5**
baz=43,SNR=6.2
D30A Buchanan 43.49 68 ⇑P **P** **12 48 34.4 -0.3**
baz=43
MVCO Mesa Verde 43.75 86 ⇓P **P** **12 48 37.1 0.0**
baz=44
M25A Palm-Egli Farm 43.75 78 ⇑P **P** **12 48 37.5 +0.5**
baz=44
X16A Lo Mia Camp, P 43.82 91 ⇑P **P** **12 48 38.8 +1.2**
baz=44
ISCO Idaho Springs 43.84 81 ⇑P **P** **12 48 39.0 +1.1**
baz=44
J27A Elkhorn Farm, 43.86 75 ⇑P **P** **12 48 37.7 0.0**
baz=44
I28A Midland 43.91 73 ⇓P **P** **12 48 38.0 -0.1**
baz=44
J28A Allard Ranch, 44.21 74 ⇓P **P** **12 48 40.5 0.0**
baz=44
Q23A Hartsel 44.27 82 ⇑P **P** **12 48 41.7 +0.4**
baz=44
G30A Faulkton 44.41 71 ⇑P **P** **12 48 41.9 -0.2**
baz=44
S22A 4UR Ranch, Cre 44.41 84 ⇑P **P** **12 48 43.1 +0.6**
baz=44
S22A 4UR Ranch, Cre 44.41 84 *e*P **P** **12 48 44.4 +1.9**
comp=Z,41nm,2.7s
AGMN Agassiz Nation 44.44 65 ⇑P **P** **12 48 42.0 -0.2**
baz=44
AGMN Agassiz Nation 44.44 65 *e*P **P** **12 48 41.2 -1.0**
AGMN *e*pP **pP** **12 48 48.3 -2.7**
comp=Z,7.2nm,0.9s
N26A Koester Ranch, 44.62 78 ⇓P **P** **12 48 43.8 0.0**
baz=44
X18A Snowflake 44.65 90 ⇑P **P** **12 48 44.6 +0.3**
baz=44
M27A Reverse DX Ran 44.69 77 ⇓P **P** **12 48 44.7 +0.3**
baz=44
214A Organ Pipe Nat 44.69 95 ⇑P **P** **12 48 44.5 +0.1**
baz=44
R23A Moffat 44.73 83 ⇑P **P** **12 48 44.8 -0.2**
baz=45
J29A Okreek 44.75 74 ⇑P **P** **12 48 45.1 +0.3**
baz=45
P25A Willow Gulch B 44.88 81 ⇓P **P** **12 48 46.8 +0.8**
baz=45
N27A Anderson Farm, 45.04 78 ⇑P **P** **12 48 47.3 +0.1**
baz=45
R24A Sanders Place, 45.14 83 ⇑P **P** **12 48 48.2 +0.1**
baz=45
K29A Lazy Trails An 45.15 74 ⇑P **P** **12 48 47.6 -0.4**
baz=45
SDCO Great Sand Dun 45.22 83 ⇓P **P** **12 48 49.4 +0.5**
baz=45
SDCO Great Sand Dun 45.22 83 *e*P **P** **12 48 49.5 +0.7**
comp=Z,7.6nm,1.5s
OGNE Ogallala 45.26 77 ⇓P **P** **12 48 49.4 +0.5**
baz=45
J30A Dallas 45.29 73 ⇑P **P** **12 48 49.6 +0.5**
baz=45
P26A Davis Ranch, A 45.34 80 ⇓P **P** **12 48 50.0 +0.3**
baz=45,SNR=10
K30A Basset 45.61 74 ⇓P **P** **12 48 52.0 +0.4**
baz=45
Q26A Hugo 45.65 81 ⇓P **P** **12 48 52.9 +0.8**
baz=46
O28A Krutsinger Ran 45.92 78 ⇑P **P** **12 48 54.2 0.0**
baz=46
KSRS Korea Array 46.00 277 LR LR 13 10 42.0
comp=Z,18nm,18.1s,baz=58,slow=40
R26A Arlington 46.09 81 ⇑P **P** **12 48 55.4 -0.2**
baz=46,SNR=5.8
T25A Trinidad 46.27 83 ⇓P **P** **12 48 57.3 +0.2**
baz=46,SNR=6.3
T25A Trinidad 46.27 83 *e*P **P** **12 48 57.9 +0.8**
comp=Z,12nm,1.1s
L31A Butterfield Fa 46.37 74 ⇑P **P** **12 48 57.9 +0.3**
baz=46
LAZ Ladron 46.44 88 *e*P **P** **12 48 59.4 +1.0**
comp=Z,0.5nm,0.5s
ANMO Albuquerque 46.49 87 *ce*P **P** **12 48 58.6 -0.2**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
R27A Eads 46.49 81 ⇓P **P** **12 48 59.1 +0.5**
baz=46
O29A 4D Ranch, Culb 46.50 78 ⇑P **P** **12 48 59.0 +0.3**
baz=46
S26A Kim 46.52 82 ⇓P **P** **12 48 58.3 -0.7**
baz=46,SNR=7.2
Q28A Sharon Springs 46.57 79 ⇑P **P** **12 48 59.4 +0.1**
baz=46
ECSD EROS Data Cent 46.70 71 ⇑P **P** **12 48 58.4 -1.7**
baz=46,SNR=6.0
ECSD EROS Data Cent 46.70 71 *e*P **P** **12 48 59.1 -1.0**
comp=Z,4.4nm,0.7s
T26A Comanche Natio 46.74 83 ⇓P **P** **12 48 60.0 -0.8**
baz=47
O30A MW Ranch, Wils 46.91 77 ⇓P **P** **12 49 02.0 +0.1**
baz=47
R28A Tribune 47.04 80 ⇑P **P** **12 49 03.1 +0.1**
baz=47
JNU Nakatsue 47.12 270 P **P** **12 49 02.7 -0.8**
comp=Z,7.8nm,0.8s,baz=1.0,slow=12,SNR=2.6
JNU LR LR 13 07 56.2
comp=Z,38nm,20.9s,baz=44,slow=35
P30A Selden 47.20 78 ⇓P **P** **12 49 03.9 -0.2**
baz=47,SNR=6.6
BGNE Belgrade 47.25 74 ⇓P **P** **12 49 04.4 -0.1**
baz=47
121A Cookes Peak, D 47.33 90 ⇓P **P** **12 49 05.5 +0.1**
baz=47
R29A Marienthal 47.39 80 ⇓P **P** **12 49 06.0 +0.4**
baz=47
S28A Manter 47.48 81 ⇑P **P** **12 49 06.6 +0.2**
baz=47
Q30A Quinter 47.58 78 ⇑P **P** **12 49 07.2 +0.1**
baz=47
T28A Walsh 47.66 82 ⇓P **P** **12 49 07.8 0.0**
baz=48
U27A Thompson Grove 47.70 83 ⇑P **P** **12 49 08.1 -0.1**
baz=48
P31A Stockton 47.73 77 ⇑P **P** **12 49 08.4 +0.1**
baz=48
O32A Brockman Farm, 47.91 76 ⇓P **P** **12 49 09.0 -0.6**
baz=48
R30A Dighton 48.00 79 ⇓P **P** **12 49 10.1 -0.2**
baz=48
Q31A Ellis 48.05 78 ⇑P **P** **12 49 10.3 -0.5**
baz=48
U28A Mallet 48.09 82 ⇑P **P** **12 49 11.1 0.0**
baz=48
P32A Huiting Farm, 48.12 77 ⇓P **P** **12 49 11.2 -0.1**
baz=48
Q32A Meitler Ranch, 48.56 77 ⇓P **P** **12 49 14.4 -0.2**
baz=48
P33A Williams Farm, 48.78 76 ⇑P **P** **12 49 16.4 0.0**
baz=49
R32A Long Quarter, 48.84 78 ⇑P **P** **12 49 16.7 -0.1**
baz=49
U30A WK&E Inc. Balk 48.93 81 ⇓P **P** **12 49 17.2 -0.4**
baz=49
Q33A Connelly Farm, 48.98 77 ⇑P **P** **12 49 17.9 +0.1**
baz=49
T31A Randall Ranch, 49.13 80 ⇑P **P** **12 49 19.0 -0.1**
baz=49
MNTX Cornudas Mount 49.37 89 ⇑P **P** **12 49 21.1 +0.2**
baz=49,SNR=6.7
MNTX Cornudas Mount 49.37 89 *e*P **P** **12 49 21.8 +0.8**
comp=Z,5.3nm,0.8s
S33A Kaszmaul Farm, 49.80 78 ⇓P **P** **12 49 23.9 -0.3**
baz=50
SUMG Summit 50.15 18 *e*P **P** **12 49 26.6 -0.2**
SUMG *e**PP **pP** **12 49 34.2 -1.5**
SUMG pmax pmax
comp=Z,4.0nm,0.6s
SUMG Summit 50.15 18 *e*P **P** **12 49 26.6 -0.2**
comp=Z,4.3nm,0.6s
SUMG *e*pP **pP** **12 49 34.1 -1.5**
SUMG Summit 50.15 18 *i* P **P** **12 49 26.0 -0.8**
comp=Z,3.6nm,0.7s
W31A Holland Ranch, 50.26 82 ⇓P **P** **12 49 27.7 +0.1**
baz=50
128A Castleberry Fa 50.48 86 ⇓P **P** **12 49 29.4 -0.1**
baz=50
U33A Lingo Farm, Me 50.51 79 ⇑P **P** **12 49 29.4 -0.2**
baz=50
Z29A Hungry Hill Ra 50.51 85 ⇑P **P** **12 49 29.3 -0.3**
baz=50
Y30A Stafford Cattl 50.58 84 ⇑P **P** **12 49 30.0 -0.1**
baz=50
TLY Talaya 50.60 306 ⇑ *i* P **P** **12 49 29.3 -0.7**
TLY pmax pmax
comp=Z,5.0nm,1.3s
X31A McDonald Ranch 50.61 82 ⇓P **P** **12 49 29.8 -0.5**
baz=50
W32A Sentinel 50.72 81 ⇑P **P** **12 49 31.1 -0.1**
baz=50
R36A Gordon, Harris 50.80 76 ⇑P **P** **12 49 31.3 -0.3**
baz=51
Z30A Sanderson Ranc 50.84 85 ⇓P **P** **12 49 32.0 -0.2**
baz=51
U34A Anderson Ranch 50.85 79 ⇓P **P** **12 49 31.7 -0.4**
baz=51
S36A Lake Cedric, C 51.14 76 ⇓P **P** **12 49 33.6 -0.7**
baz=51
ULN Ulaanbaatar 51.26 301 *e*P **P** **12 49 34.6 -0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 51.26 301 *e*P **P** **12 49 34.6 -0.6**
comp=Z,2.7nm,1.0s
V34A Guthrie 51.27 80 ⇑P **P** **12 49 35.0 -0.3**
baz=51
Y32A R-V Farms, Ver 51.37 83 ⇓P **P** **12 49 35.7 -0.3**
baz=51
Z31A Sharp Cattle R 51.42 84 ⇓P **P** **12 49 36.4 0.0**
baz=51
329A Wagon Wheel Ra 51.58 87 ⇓P **P** **12 49 37.5 -0.2**
baz=51
SONM Songino Array 51.63 301 P **P** **12 49 37.0 -0.9**
comp=Z,0.4nm,0.5s,baz=104,slow=4.8,SNR=3.8
SONM PcP **PcP** **12 50 51.3 0.0**
comp=Z,0.4nm,0.4s,baz=25,slow=2.0,SNR=4.0
SONM LR LR 13 11 48.3
comp=Z,25nm,21.0s,baz=54,slow=36
V35A Meyer Ranch, C 51.73 79 ⇓P **P** **12 49 38.2 -0.4**
baz=52
Z32A Haskell 51.83 83 ⇓P **P** **12 49 39.0 -0.4**
baz=52
230A Sterling City 51.83 86 ⇑P **P** **12 49 39.5 0.0**
baz=52
TXAR Lajitas Array 52.09 90 P **P** **12 49 41.6 0.0**
comp=Z,4.6nm,0.8s,baz=298,slow=5.3,SNR=54
W35A Tecumseh 52.12 80 ⇓P **P** **12 49 41.5 0.0**
baz=52
429A Davenport Ranc 52.24 88 ⇑P **P** **12 49 42.2 -0.4**
baz=52
529A Stev Forest Ra 52.40 88 ⇑P **P** **12 49 43.7 -0.1**
baz=52
Y34A Reagan Ranch, 52.41 81 ⇓P **P** **12 49 43.6 -0.1**
baz=52
W36A Wetumka 52.52 79 ⇓P **P** **12 49 44.0 -0.5**
baz=52
430A Baggett Ranch, 52.53 87 ⇑P **P** **12 49 44.3 -0.4**

baz=52
X35A **Drake** 52.58 81 ⇑P P 12 49 44.6 -0.4
baz=52
331A **San Angelo** 52.65 86 ⇑P P 12 49 45.2 -0.4
baz=52
133A **Hamilton Ranch** 52.65 84 ⇑P P 12 49 45.4 -0.1
baz=52
232A **Coleman** 52.71 85 ⇑P P 12 49 45.5 -0.5
baz=52
X36A **Centrahoma** 52.83 80 ⇑P P 12 49 46.2 -0.6
baz=53
530A **J-C Ranch, Com** 52.92 88 ⇑P P 12 49 47.1 -0.5
baz=53,SNR=7.8
431A **Sonora** 52.98 87 ⇑P P 12 49 47.8 -0.3
baz=53,SNR=9.2
W37A **Quinton** 52.99 79 ⇓P P 12 49 47.9 -0.2
baz=53
332A **Millersview** 53.01 85 ⇓P P 12 49 48.4 +0.1
baz=53
233A **Rising Star** 53.07 84 ⇓P P 12 49 48.7 0.0
baz=53
Z35A **Perchaven, San** 53.15 82 ⇑P P 12 49 49.1 -0.1
baz=53
HHC **Hu-ho-hao-te** 53.37 291 eP P 12 49 51.5 +0.7
HHC PMZ
comp=Z,22nm,0.9s
HHC PMZ
comp=Z,54nm,3.5s
531A **Rocksprings** 53.39 87 ⇓P P 12 49 50.8 -0.3
baz=53
X37A **Clayton** 53.40 79 ⇑P P 12 49 50.3 -0.8
baz=53,SNR=5.7
333A **Richland Sprin** 53.51 85 ⇓P P 12 49 51.6 -0.4
baz=53
W38A **Poteau** 53.58 78 ⇓P P 12 49 52.2 -0.1
baz=53
JCT **Junction City** 53.61 86 eP P 12 49 52.2 -0.5
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT **Junction City** 53.61 86 ⇑P P 12 49 52.2 -0.5
baz=53
JCT **Junction City** 53.61 86 eP P 12 49 52.1 -0.5
comp=Z,5.7nm,0.8s
532A **Rocksprings** 53.80 86 ⇓P P 12 49 53.6 -0.5
baz=54
433A **Art** 53.85 85 ⇑P P 12 49 53.9 -0.5
baz=54
631A **Perdido Creek** 53.91 88 ⇓P P 12 49 53.9 -0.9
baz=54
334A **Lometa** 53.96 84 ⇓P P 12 49 55.1 -0.1
baz=54
WHTX **Lake Whitney,** 53.96 83 ⇓P P 12 49 55.6 +0.4
baz=54
SFIN **Lafayette** 54.28 68 ⇑P P 12 49 57.3 -0.1
baz=54
434A **Burnet** 54.30 85 ⇓P P 12 49 57.4 -0.4
baz=54
MIAR **Mount Ida** 54.50 78 eP P 12 49 58.6 -0.5
MIAR pmax pmax
comp=Z,7.0nm,0.9s
MIAR **Mount Ida** 54.50 78 eP P 12 49 58.6 -0.5
comp=Z,7.3nm,0.9s
SCHQ **Schefferville** 54.65 44 P P 12 49 59.4 -0.5
comp=Z,11nm,0.9s,baz=302,slow=8.4,SNR=12
SCHQ LR LR 13 15 40.9
comp=Z,44nm,18.4s,baz=360,slow=39
SCHQ **Schefferville** 54.65 44 eP P 12 49 59.8 -0.1
336A **Riesel** 54.76 83 ⇑P P 12 50 01.5 +0.5
baz=55
832A **Faith Ranch, C** 55.08 88 ⇓P P 12 50 03.1 -0.3
baz=55
833A **Chaparral WMA,** 55.41 88 ⇓P P 12 50 05.7 0.0
baz=55
H06E1 **SOCORRO T-PHAS** 55.64 105 T T 13 50 35.5
SNR=4.7
ZALV **Zalesovo Beam** 57.52 318 PcP PcP 12 51 13.3 -0.3
comp=Z,1.7nm,0.5s,baz=39,slow=3.5,SNR=8.2
ZALV LR LR 13 16 34.9
comp=Z,30nm,20.5s,baz=68,slow=38
ARCES **ARCESS Array B** 57.53 354 P P 12 50 18.9 -1.4
comp=Z,1.7nm,0.7s,baz=12,slow=6.2,SNR=5.7
ARCES PcP PcP 12 51 12.9 -0.5
comp=Z,4.2nm,0.9s,baz=18,slow=3.7,SNR=7.2
ARCES LR LR 13 15 56.7
comp=Z,42nm,20.0s,baz=28,slow=37
LZH **Lanzhou** 61.02 292 eP P 12 50 45.8 +0.7
LZH pP pP 12 50 56.3 +2.1
LZH sP sP 12 51 00.0 +2.4
LZH PMZ
comp=Z,13nm,1.0s
KURK **Kurchatov** 62.46 319 P P 12 50 53.1 -1.2
KURK 12 51 33.0
KURK **Kurchatov** 62.46 319 P P 12 50 53.0 -1.2
KURK PcP PcP 12 51 33.0 -0.4
KURBB **Kurchatov Arra** 62.57 319 P P 12 50 53.0 -2.0
comp=Z,0.5nm,0.7s,baz=46,slow=7.1,SNR=7.9
KURBB PcP PcP 12 51 33.0 -0.9
comp=Z,0.5nm,0.7s,baz=48,slow=6.7,SNR=4.5
BRVK **Borovoye** 63.72 325 ⇑iP P 12 51 01.9 -0.7
BRVK pmax pmax
comp=Z,4.0nm,1.7s
WMQ **Urumqi** 63.76 308 eP P 12 51 06.5 +3.3
WMQ pP pP 12 51 19.8 +7.5
WMQ PMZ
comp=Z,6.0nm,0.5s
WMQ PMZ
comp=Z,110nm,5.2s
MKAR **Makanchi Array** 63.96 314 P P 12 51 02.9 -1.5
comp=Z,0.2nm,0.3s,baz=346,slow=4.6,SNR=5.0
MKAR PcP PcP 12 51 38.6 -1.1
comp=Z,0.5nm,0.6s,baz=339,slow=3.6,SNR=4.3
MKAR LR LR 13 20 05.5
comp=Z,27nm,18.6s,baz=40,slow=37
ARU **Arti** 64.51 333 diP P 12 51 07.0 -0.7
ARU S S 12 59 45.1 +0.6
ARU SS SS 13 03 51.8 -2.2
ARU pmax pmax
comp=Z,10.0nm,2.5s
CD2 **Chengdu** 64.85 288 eP P 12 51 11.0 +0.6
FINES **FINESS Array B** 65.50 352 P P 12 51 13.0 -1.1
comp=Z,1.0nm,0.3s,baz=15,slow=8.3,SNR=6.8
FINES LR LR 13 21 34.4
comp=Z,35nm,19.8s,baz=352,slow=38
TAOE **Nuku Hiva Isla** 65.97 149 eT T 14 03 20.5
comp=Z,157nm,0.2s
NB2 **NORSAR Subarra** 66.48 0 P P 12 51 19.7 -0.8
comp=Z,0.5nm,0.6s,baz=1,2,slow=6.5
NOA **NORSAR Array B** 66.48 0 P P 12 51 19.5 -1.0
comp=Z,1.4nm,0.8s,baz=360,slow=5.8,SNR=3.4
NOA LR LR 13 21 25.7
comp=Z,12nm,18.9s,baz=315,slow=37
PMOR **Pomariorio Ree** 69.81 159 eT T 14 08 05.5
comp=Z,4.4nm,0.2s
AAK **Ala-Archa** 70.63 316 P P 12 51 46.1 -0.8
comp=Z,1.4nm,0.6s,baz=92,slow=5.1,SNR=6.1
AAK **Ala-Archa** 70.63 316 ⇓iP P 12 51 46.3 -0.6
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK **Ala-Archa** 70.63 316 eP P 12 51 46.4 -0.4
PPT2 **Papeete2** 71.98 161 eLR LR 13 13 44.9
comp=Z,118nm,29.5s
AKASG **Malin Array Be** 75.79 349 P P 12 52 15.5 -1.4
comp=Z,2.4nm,0.5s,baz=13,slow=5.6,SNR=9.9
AKASG LR LR 13 29 49.6
comp=Z,22nm,18.8s,baz=330,slow=39
DPC **Dobruska-Polom** 77.12 357 eP P 12 52 24.2 -0.3
DPC **Dobruska-Polom** 77.12 357 eP P 12 52 24.2 -0.3
CMAR **Chiang Mai Arr** 77.15 283 P P 12 52 25.4 +0.3
comp=Z,4.5nm,0.8s,baz=25,slow=6.3,SNR=18
TBI **Tubuai** 77.61 162 eT T 14 17 48.8
comp=Z,7.7nm,0.2s
ROSF **Rostrenen** 78.41 10 eP P 12 52 32.6 +0.9
ROSF **Rostrenen** 78.41 10 eP P 12 52 32.6 +0.9
ROSF **Rostrenen** 78.41 10 eP P 12 52 32.6 +0.9
GERES **GERESS Array B** 78.69 359 P P 12 52 32.3 -1.1
comp=Z,0.8nm,0.7s,baz=5.2,slow=7.4,SNR=3.5
VYHS **Vyhne** 78.87 355 eP P 12 52 33.9 -0.4
VYHS **Vyhne** 78.87 355 eP P 12 52 33.9 -0.4
CDF **Champ du Feu** 79.07 3 eP P 12 52 34.8 -0.6
CDF **Champ du Feu** 79.07 3 eP P 12 52 34.8 -0.6
CDF **Champ du Feu** 79.07 3 eP P 12 52 34.8 -0.6
SFTF **Sexfontaines** 79.18 5 eP P 12 52 35.8 -0.2
SFTF **Sexfontaines** 79.18 5 eP P 12 52 35.8 -0.2
BUR08 **Bucovina Ar. S** 79.25 351 eP P 12 52 36.0 -0.5
HAU **Haudompre** 79.44 4 eP P 12 52 37.0 -0.4
HAU **Haudompre** 79.44 4 eP P 12 52 37.0 -0.4
HAU **Haudompre** 79.44 4 eP P 12 52 37.0 -0.4
AVF **Avril sur Loir** 80.50 6 eP P 12 52 42.6 -0.5
comp=Z,3.4nm,0.6s
AVF **Avril sur Loir** 80.50 6 eP P 12 52 42.6 -0.5
AVF pmax pmax
comp=Z,3.0nm,0.6s
AVF **Avril sur Loir** 80.50 6 eP P 12 52 42.6 -0.5
comp=Z,3.4nm,0.6s
SMF **Signal de Mont** 80.68 5 eP P 12 52 43.5 -0.6
SMF **Signal de Mont** 80.68 5 eP P 12 52 43.5 -0.6
SMF **Signal de Mont** 80.68 5 eP P 12 52 43.5 -0.6
CABF **La Chapelle** 80.82 4 eP P 12 52 44.9 0.0
CABF **La Chapelle** 80.82 4 eP P 12 52 44.9 0.0
CABF **La Chapelle** 80.82 4 eP P 12 52 44.9 0.0
GEYT **Alibeck** 81.04 325 P P 12 52 46.0 -0.3
comp=Z,1.6nm,0.4s,baz=308,slow=7.3,SNR=4.3
GEYT LR LR 13 31 18.3
comp=Z,43nm,20.1s,baz=145,slow=38
CAF **Calviac** 82.27 7 eP P 12 52 53.3 +0.7
CAF **Calviac** 82.27 7 eP P 12 52 53.3 +0.7
CAF **Calviac** 82.27 7 eP P 12 52 53.3 +0.7
LRS **Lares** 82.33 70 eP P 12 52 52.8 -0.4
BNI **Bardonecchia** 82.40 4 eP P 12 52 54.6 +1.2
BNI pmax pmax
comp=Z,4.0nm,0.6s
BNI **Bardonecchia** 82.40 4 eP P 12 52 54.6 +1.2
comp=Z,4.5nm,0.6s
VIVF **Saint-Julien-l** 82.51 5 eP P 12 52 53.8 0.0
VIVF **Saint-Julien-l** 82.51 5 eP P 12 52 53.8 0.0
VIVF **Saint-Julien-l** 82.51 5 eP P 12 52 53.8 0.0
MBDF **Montbardon** 82.73 4 eP P 12 52 55.9 +0.8
comp=Z,12nm,0.8s
MBDF **Montbardon** 82.73 4 eP P 12 52 55.9 +0.8
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF **Montbardon** 82.73 4 eP P 12 52 55.9 +0.8
comp=Z,12nm,0.8s
SMRF **Simiane la Rot** 83.43 4 eP P 12 52 59.3 +0.7
comp=Z,3.0nm,0.5s
SMRF **Simiane la Rot** 83.43 4 eP P 12 52 59.3 +0.7
comp=Z,3.0nm,0.5s
SJPF **Ste Jean** 83.79 9 eP P 12 53 00.8 +0.4
comp=Z,3.3nm,0.6s
SJPF **Ste Jean** 83.79 9 eP P 12 53 00.8 +0.4
SJPF pmax pmax
comp=Z,3.0nm,0.6s
SJPF **Ste Jean** 83.79 9 eP P 12 53 00.8 +0.4
comp=Z,3.3nm,0.6s
MTLF **Montolieu** 83.86 7 eP P 12 53 00.8 0.0
comp=Z,1.9nm,0.5s
MTLF **Montolieu** 83.86 7 eP P 12 53 00.8 0.0
MTLF pmax pmax
comp=Z,2.0nm,0.5s
MTLF **Montolieu** 83.86 7 eP P 12 53 00.8 0.0
comp=Z,1.9nm,0.5s
ETSF **Etsaut** 84.07 9 eP P 12 53 02.2 +0.3
comp=Z,8.1nm,0.8s
ETSF **Etsaut** 84.07 9 eP P 12 53 02.2 +0.3
ETSF pmax pmax
comp=Z,8.0nm,0.8s
ETSF **Etsaut** 84.07 9 eP P 12 53 02.2 +0.3
comp=Z,8.1nm,0.8s
PGF **Pioggiola** 84.97 2 eP P 12 53 06.6 +0.1
comp=Z,1.5nm,0.8s
PGF **Pioggiola** 84.97 2 eP P 12 53 06.6 +0.1
PGF pmax pmax
comp=Z,1.5nm,0.8s
PGF **Pioggiola** 84.97 2 eP P 12 53 06.6 +0.1
comp=Z,1.5nm,0.8s
BR131 **Keskin Array S** 85.88 343 eP P 12 53 11.6 +0.4
BRTR **Keskin Array B** 85.88 343 P P 12 53 11.6 +0.4
comp=Z,2.3nm,0.7s,baz=58,slow=3.1,SNR=12
BRTR LR LR 13 37 15.9
comp=Z,9.7nm,18.9s,baz=46,slow=40
ESDC **Sonseca Array** 86.88 12 P P 12 53 14.9 -1.1
comp=Z,1.2nm,0.5s,baz=345,slow=4.7,SNR=8.3
ESDC LR LR 13 36 28.9
comp=Z,16nm,18.1s,baz=290,slow=39
WRA **Warramunga Arr** 87.80 232 P P 12 53 19.0 -1.4
comp=Z,0.3nm,0.7s,baz=32,slow=6.0,SNR=2.3
WRA **Warramunga Arr** 87.80 232 P P 12 53 19.0 -1.4
WRA **Warramunga Arr** 87.80 232 P P 12 53 19.0 -1.4
ASAR **Alice Springs** 91.19 231 P P 12 53 34.6 -1.6
comp=Z,0.6nm,0.9s,baz=28,slow=3.9,SNR=5.8
STKA **Stephens Creek** 94.97 221 LR LR 13 31 45.2
comp=Z,53nm,20.2s,baz=27,slow=32

MAN 30 12:44:47.10˚36N×126˚11E,h30km,mb5.1,ML4.0,MS4.1, 3C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.84	227	⇑eP		Pn		12 45 02.4	-0.5
SCPH				eS		Sn		12 45 15.8	+1.6
MSLP	**Maasin**	1.25	260	eP		Pn		12 45 08.4	-0.1
MSLP				eS		Sn		12 45 24.3	-0.1
PLP	**Palo**	1.37	306	⇓eP		Pn		12 45 10.6	+0.5
PLP				eS		Sn		12 45 28.0	+0.7
BUTP	**Butuan**	1.47	199	eP		Pn		12 45 10.0	-1.4
BUTP				eS		Sb		12 45 30.9	-1.0
OCLP	**Ormoc**	1.63	295	eP		Pb		12 45 15.3	-1.1
BUKP	**Musuan**	2.68	203	eP		Pn		12 45 29.6	+1.4
DCPH	**Dipolog City**	3.25	237	⇑eP		Pn		12 45 37.2	+1.2
GUIM	**Jordan**	3.48	275	eP		Pn		12 45 40.8	+1.7
RCP	**Roxas**	3.52	290	⇑eP		Pn		12 45 41.7	+2.1
PAGZ	**Pagadian**	3.68	227	eP		Pn		12 45 43.7	+1.8
PVCP	**Virac**	3.74	329	eP		Pn		12 45 43.3	+0.6

*IDC **30** 12:54:51.9±1.1, 10˚22N×126˚11E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.6/30,mbtmp3.7/7,MS3.0/1,Ms1 3.0/1, ms1mx2.4/36,Error ellipse: s-maj=66.2km s-min=18.5km az=63.0*
*ISCJB **30** 12:54:56.3±0.8, 10˚38N±0˚05×126˚31E±0˚06,h51km, mb3.6/7,Error ellipse: s-maj=8.7km s-min=6.6km az=165.8*
*MAN **30** 12:54:57, 10˚37N×126˚21E,h31km,mb4.7,ML3.6,MS3.6*
ISC 30 12:54:58.0±1.0,10˚36N±0˚05×126˚26E±0˚09,h51km,n25, σ0°95/21,mb3.7/7,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	0.96	233	⇑eP			Pn	12 55 14.1	-1.1
SCPH				eS			Sn	12 55 27.6	-0.2
MSLP	**Maasin**	1.40	261	eP			Pn	12 55 20.3	-0.9
MSLP				eS			Sn	12 55 38.3	-0.2
PLP	**Palo**	1.49	302	⇓eP			Pn	12 55 22.6	+0.2
PLP				eS			Sn	12 55 39.1	-1.7
BUTP	**Butuan**	1.52	205	eP			Pn	12 55 21.9	-0.9
BUTP				eS			Sn	12 55 41.4	-0.1
OCLP	**Ormoc**	1.76	293	eP			Pn	12 55 26.8	+0.7
BUKP	**Musuan**	2.74	206	eP			Pn	12 55 41.1	+1.6
DCPH	**Dipolog City**	3.37	239	⇓eP			Pn	12 55 49.7	+1.6
GUIM	**Jordan**	3.62	274	eP			Pn	12 55 51.9	+0.3
RCP	**Roxas**	3.65	289	⇑eP			Pn	12 55 53.5	+1.5
PAGZ	**Pagadian**	3.79	229	eP			Pn	12 55 53.2	-0.6
PVCP	**Virac**	3.82	327	eP			Pn	12 55 53.5	-0.7
GUMO	**Guam**	18.48	78	LR			LR	13 06 22.5
	comp=Z,41nm,18.9s,baz=156,slow=37								
CMAR	**Chiang Mai Arr**	27.63	290	P			P	13 00 40.7	-0.3
	0.6nm,0.6s,baz=99,slow=7.2,SNR=3.3								
WRA	**Warramunga Arr**	31.15	165	P			P	13 01 11.7	-0.4
	0.3nm,0.7s,baz=345,slow=9.3,SNR=3.6								
ASAR	**Alice Springs**	34.64	168	P			P	13 01 42.3	-0.3
	0.2nm,0.7s,baz=351,slow=7.2,SNR=8.4								
H11S3	**WAKE ISLAND Hy**	39.90	74	T			T	13 45 26.7	
	baz=255,slow=75,SNR=17								
H11S1	**WAKE ISLAND Hy**	39.91	74	T			T	13 45 24.2	
	baz=255,slow=75,SNR=8.0								
H11S2	**WAKE ISLAND Hy**	39.92	74	T			T	13 45 21.9	
	baz=255,slow=75,SNR=8.8								
H11N1	**WAKE ISLAND Hy**	40.23	72	T			T	13 45 44.4	
	baz=265,slow=74,SNR=34								
H11N2	**WAKE ISLAND Hy**	40.24	72	T			T	13 45 47.3	
	baz=265,slow=74,SNR=39								
H11N3	**WAKE ISLAND Hy**	40.25	72	T			T	13 45 45.5	
	baz=265,slow=74,SNR=33								
STKA	**Stephens Creek**	44.49	161	P			P	13 03 04.1	-0.3
	3.5nm,1.2s,baz=349,slow=5.2,SNR=3.5								
MKAR	**Makanchi Array**	51.95	323	P			P	13 04 02.3	+0.4
	0.4nm,0.5s,baz=134,slow=3.5,SNR=4.0								
ARCES	**ARCESS Array B**	84.10	340	P			P	13 07 24.1	+1.0
	1.8nm,0.9s,baz=61,slow=7.3,SNR=3.5								
FINES **FINESS Array B** 85.81 332 P P 13 07 34.9 +3.1
0.4nm,0.4s,baz=87,slow=3.7,SNR=7.2

*ISCJB **30** 13:05:18.9±0.4, 32˚24N±0˚02×115˚23W±0˚03,h19km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=14.3*
*NEIC **30** 13:05:18.0, 32˚09N×115˚28W,h12km, ML2.9(PAS), ML3.0(ECX),After PAS.*
*ECX **30** 13:05:20.3±0.5, 32˚23N×115˚28W,h8km,MD2.8,ML3.1*
*MEX **30** 13:05:20.9±0.5, 32˚30N×115˚12W,h15km,MD3.6*
ISC 30 13:05:18.7±1.1,32˚22N±0˚02×115˚25W±0˚03,h18km±3km, n26,σ0°43/47,11C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	0.19	12	eP			Pg	13 05 23.9	+0.4
MBIG				eS			Sb	13 05 26.2	+0.2
CPBX	**Cerro Prieto**	0.20	346	eP			Pg	13 05 23.7	0.0
CPBX				eS			Sb	13 05 26.9	+0.3
CPBX				⇓e				13 05 27.9	
	comp=N,28μm,0.4s								
CPBX				⇓e				13 05 31.0	
	comp=E,34μm,0.3s								
CPBX	**Cerro Prieto**	0.20	346	eP			Pg	13 05 23.7	0.0
CPBX				iS			Sb	13 05 26.4	-0.1
SGL	**Mount Signal**	0.59	316	⇑iP			Pg	13 05 29.9	-0.6
SGL				⇑iP			Pg	13 05 29.9	-0.6
COA	**Coachella**	0.65	9	⇑iP			Pg	13 05 31.8	+0.3
COA				⇑iP			Pg	13 05 31.8	+0.3
RDX	**Rancho Dawling**	0.66	244	⇑eP			Sb	13 05 31.6	-0.2
RDX				eS			Sb	13 05 40.1	-0.6
RDX				⇑e				13 05 42.6	
	comp=N,357nm,0.3s								
YMD	**Yuma Desert**	0.68	61	⇑iP			Pg	13 05 32.4	+0.3
YMD				⇑iP			Pg	13 05 32.4	+0.3
YUH	**Yuha Desert**	0.71	307	⇓iP			Pb	13 05 32.3	-0.3
YUH				⇓iP			Pb	13 05 32.3	-0.3
COK	**Cook Ranch**	0.74	327	⇑iP			Pb	13 05 33.3	+0.2
COK				⇑iP			Pb	13 05 33.3	+0.2
ECBX	**El Chinero**	0.77	168	eP			Pb	13 05 33.0	-0.5
ECBX				eS			Sb	13 05 43.4	-0.2
RMX	**La Rumorosa**	0.80	298	⇑eP			Pb	13 05 33.9	-0.3
RMX				eS			Sb	13 05 44.2	-0.5
RMX				⇓e				13 05 44.8	
	comp=N,329nm,0.2s								
GLA	**Glamis**	0.90	23	eP	g		Pb	13 05 35.2	-0.5
GLA				eS	g		Sb	13 05 47.3	-0.1
CRR	**Carrizo Plain**	0.90	317	⇓iP			Pb	13 05 35.9	+0.1
ZAX	**El Zacaton**	1.12	231	eP			Pn	13 05 39.6	0.0
ZAX				eS			Sb	13 05 54.6	+0.6
SPIG	**San Pedro Mart**	1.19	189	iP			Pn	13 05 40.5	-0.2
SPIG				iS			Sn	13 05 57.3	+0.7
SPIG	**San Pedro Mart**	1.19	189	iP			Pn	13 05 40.5	-0.2
SPX	**San Pedro Mart**	1.19	189	eP			Pn	13 05 41.0	+0.2
SPX				eS			Sg	13 05 57.6	+0.1
SPX	**San Pedro Mart**	1.19	189	eP			Pn	13 05 40.6	-0.1
CBX	**Cerro Bola**	1.21	275	eP			Pn	13 05 40.6	-0.2
CBX				iS			Sb	13 05 56.7	+0.3
CBX	**Cerro Bola**	1.21	275	eP			Pn	13 05 40.7	-0.1
CBX				eS			Sb	13 05 56.7	+0.3
CBX				⇓e				13 06 01.1	
	comp=N,189nm,0.5s								
CBX	**Cerro Bola**	1.21	275	eP			Pn	13 05 40.6	-0.2
ECNX	**Esteban Cantu**	1.28	244	eP			Pn	13 05 42.2	+0.4
ECNX				eS			Sn	13 05 58.6	+0.1
BAR	**Barrett**	1.29	291	ePn			Pn	13 05 42.1	+0.2
BAR				eSn			Sb	13 05 59.1	+0.4
PBX	**Punta Banda**	1.35	249	eP			Pb	13 05 43.2	-0.2
PFO	**Pinyon Flats O**	1.72	324	ePn			Pn	13 05 46.7	-1.1
PFO				eSn			Sb	13 06 12.5	+1.4
214A	**Organ Pipe Nat**	2.08	97	ePn			Pn	13 05 52.4	-0.4
214A				eSn			Sn	13 06 18.2	-0.1

*ISCJB **30** 13:08:16.4±0.6, 32˚25N±0˚03×115˚25W±0˚05, h20km±8km, Error ellipse: s-maj=6.9km s-min=4.8km az=162.7*
*ECX **30** 13:08:17.6±0.5, 32˚23N×115˚28W,h8km,MD2.8,ML3.0*
*MEX **30** 13:08:18.1±0.4, 32˚36N×115˚11W,h21km±4km,MD3.7*
ISC 30 13:08:16.0±1.0,32˚23N±0˚03×115˚26W±0˚03,h14km±9km, n16,σ0°33/25,3C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	0.18	18	eP			Pb	13 08 20.8	-0.3
MBIG				iS			Sg	13 08 23.4	+0.3
CPBX	**Cerro Prieto**	0.19	349	eP			Pb	13 08 21.1	-0.1
CPBX				eS			Sb	13 08 24.6	-0.1
SGL	**Mount Signal**	0.57	317	⇓eP			Pb	13 08 27.5	-0.2
COA	**Coachella**	0.64	11	⇑eP			Pb	13 08 29.1	+0.2
RDX	**Rancho Dawling**	0.65	242	eP			Pg	13 08 28.7	0.0
RDX				eS			Sg	13 08 38.0	+0.6
YMD	**Yuma Desert**	0.69	62	⇑eP			Pb	13 08 29.5	+0.1
YUH	**Yuha Desert**	0.69	307	⇓eP			Pg	13 08 29.4	-0.1
ECBX	**El Chinero**	0.78	167	eP			Pg	13 08 30.4	-0.7
ECBX				eS			Sg	13 08 41.1	-0.3
ECBX				AML			AML	13 08 42.6	
	comp=E,594nm,0.4s								
ECBX				⇓e				13 08 42.6	
RMX	**La Rumorosa**	0.78	298	eP			Pg	13 08 31.0	-0.2
RMX				eS			Sg	13 08 41.5	0.0
ZAX	**El Zacaton**	1.12	230	eP			Pb	13 08 36.8	-0.4
CBX	**Cerro Bola**	1.19	274	eP			Pn	13 08 38.3	0.0
CBX				iS			Sb	13 08 53.7	0.0
CBX	**Cerro Bola**	1.19	274	eP			Pn	13 08 38.4	0.0
CBX				eS			Sb	13 08 54.0	+0.3
CBX				AML			AML	13 08 55.3	
	comp=E,372nm,0.5s								
CBX				⇑e				13 08 55.3	
SPIG	**San Pedro Mart**	1.20	188	iP			Pb	13 08 39.1	+0.5
SPIG				iS			Sn	13 08 54.9	+0.1
SPX	**San Pedro Mart**	1.20	188	eP			Pn	13 08 38.5	-0.1
SPX				eS			Sb	13 08 54.8	+0.6
BAR	**Barrett**	1.27	291	eP			Pn	13 08 39.2	-0.1
ECNX	**Esteban Cantu**	1.27	243	eP			Pn	13 08 39.2	-0.2

*IDC **30** 13:14:52.7±1.2, 32˚74N×82˚30E,h0km,mb3.3/5, mb1 3.5/6,mb1mx3.2/31,mbtmp3.3/6,ML3.0/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/38,Error ellipse: s-maj=55.2km s-min=24.1km az=52.0*
*ISCJB **30** 13:14:55.8±0.8, 32˚99N±0˚09×82˚3E±0˚2,h33km,mb3.3/4, MS3.1/1,Error ellipse: s-maj=26.0km s-min=8.9km az=158.1*
ISC 30 13:14:57.8±0.9,32˚9N±0˚1×82˚1E±0˚2,h35km,n18, σ1°58/17,mb3.4/4,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	4.80	171	eP			Pn	13 16 06.7	-1.2
	26nm,0.5s								
KOLN	**Koldanda**	5.24	165	eP			Pn	13 16 13.0	-0.8
	8.1nm,0.3s								
GKN	**Gorkha**	5.31	155	eP			Pn	13 16 16.8	+2.0
	23nm,0.5s								
DMN	**Daman**	5.84	153	eP			Pn	13 16 23.8	+1.6
	9.3nm,0.3s								
GUN	**Gumba**	5.91	146	eP			Pn	13 16 25.0	+1.8
	9.3nm,0.4s								
PKIN	**Phulchoki**	5.99	151	eP			Pn	13 16 25.5	+1.3
	6.2nm,0.2s								
PKI	**Pulchoki**	6.00	151	eP			Pn	13 16 25.4	+1.0
	8.8nm,0.2s								
JIRN	**Jiri**	6.27	145	eP			Pn	13 16 30.1	+1.9
	12nm,0.3s								
RAMN	**Ramite**	7.07	145	eP			Pn	13 16 39.5	+0.6
	9.7nm,0.4s								
TAPN	**Taplejung**	7.33	137	eP			Pn	13 16 43.2	+0.6
	6.6nm,0.3s								
ODAN	**Odare**	7.54	141	eP			Pn	13 16 45.4	0.0
	14nm,0.5s								
MKAR	**Makanchi Array**	13.92	1	Pn			Pn	13 18 10.7	-1.8
	0.1nm,0.3s,baz=181,slow=12,SNR=2.7								
CMAR	**Chiang Mai Arr**	20.84	129	P			P	13 19 35.4	-1.2
	1.2nm,0.8s,baz=313,slow=10,SNR=7.1								
BVAR	**Borovoye Array**	21.85	341	P			P	13 19 49.5	+2.4
	0.3nm,0.4s,baz=120,slow=8.5,SNR=1.6								
MJAR	**Matsushiro Arr**	45.73	69	LR			LR	13 42 01.5	
	comp=Z,25nm,20.3s,baz=235,slow=36								
WRA	**Warramunga Arr**	72.43	129	P			P	13 26 19.6	-1.1

0.4nm,1.0s,baz=320,slow=6.4,SNR=1.8
ASAR Alice Springs 74.83 132 P **P** **13 26 33.5 -1.3**
0.3nm,0.8s,baz=319,slow=5.9,SNR=4.8
TORD Torodi Ar. Bea 75.01 276 P **P** **13 26 37.6 +1.5**
0.4nm,0.8s,baz=49,slow=5.1,SNR=2.7

IDC 30 13:25:51.2±1.8, 2.76N×125.11E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/35, mbtmp3.8/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/36, Error ellipse: s-maj=179.1km s-min=25.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**19.88**	**241**	LR	LR	13 38 44.1	
	comp=Z,68nm,18.1s,baz=328,slow=39						
GUMO	**Guam**	**22.30**	**60**	LR	LR	13 38 11.4	
	comp=Z,26nm,18.6s,baz=194,slow=33						
WRA	**Warramunga Arr**	**24.31**	**158**	P	P	13 31 10.3	-0.4
	2.4nm,0.7s,baz=337,slow=10,SNR=38						
ASAR	**Alice Springs**	**27.62**	**162**	P	P	13 31 41.8	+1.0
	0.2nm,0.3s,baz=345,slow=11,SNR=14						
STKA	**Stephens Creek**	**37.84**	**157**	P	P	13 33 09.2	-0.6
	2.3nm,0.6s,baz=324,slow=7.9,SNR=6.0						
USRK	**Ussuriysk Ar.**	**41.72**	**7**	LR	LR	13 51 02.5	
	comp=Z,17nm,21.9s,baz=291,slow=36						
MKAR	**Makanchi Array**	**57.44**	**326**	P	P	13 35 41.6	-0.4
	0.2nm,0.3s,baz=120,slow=8.8,SNR=4.5						
ASF	**Jabal al Asfar**	**87.03**	**302**	LR	LR	14 21 49.9	
	comp=Z,262nm,20.8s,baz=50,slow=39						

*IDC **30** 13:36:36.4±1.2, 1.58S×128.24E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/30, mbtmp3.6/5, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/29, Error ellipse: s-maj=68.2km s-min=20.8km az=76.0*
*ISCJB **30** 13:36:43.9±0.4, 1.64S±0.03×128.17E±0.03, h85km±7km, mb3.6/4, Error ellipse: s-maj=5.8km s-min=4.9km az=31.9*
*DJA **30** 13:36:45.2±0.2, 2.2S±2×12.8E±°, h50km±8km, M4.4/13, mb4.7/11, mB5.1/10, MLv4.3/13, Mw(mB)4.4/10, Mwp5.7/1*
ISC 30 13:36:45.0±0.9, 1.65S±0.04×128.17E±0.05, h74km±12km, n22, σ0°60/29, mb3.7/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.21**	**327**	P	**Pn**	**13 37 06.2**	**-0.2**
LBMI				S	**Sn**	**13 37 21.9**	**-0.4**
MSAI	**Masohi**	**1.85**	**156**	P	**Pn**	**13 37 14.6**	**-0.2**
MSAI				S	**Sn**	**13 37 37.3**	**0.0**
NLAI	**Namlea**	**1.90**	**214**	P	**Pn**	**13 37 15.7**	**+0.2**
NLAI				S	**Sn**	**13 37 38.8**	**+0.2**
AAI	**Ambon**	**2.02**	**179**	P	**Pn**	**13 37 17.6**	**+0.5**
AAI				S	**Sn**	**13 37 41.8**	**+0.3**
SANI	**Sanana**	**2.21**	**260**	P	**Pn**	**13 37 18.2**	**-1.4**
SANI				S	**Sn**	**13 37 46.7**	**+0.6**
TNTI	**Ternate**	**2.54**	**342**	P	**Pn**	**13 37 24.3**	**+0.3**
TNTI				S	**Sn**	**13 37 54.8**	**+0.9**
SWI	**Sorong**	**3.19**	**76**	P	**Pn**	**13 37 32.8**	**-0.1**
SWI				S	**Sn**	**13 38 09.9**	**0.0**
FAKI	**Fak Fak**	**4.27**	**107**	P	**Pn**	**13 37 47.4**	**-0.2**
FAKI				S	**Sn**	**13 38 36.9**	**+0.6**
LUWI	**Luwuk**	**5.43**	**276**	P	**Pn**	**13 38 02.6**	**-0.8**
	92nm,0.7s,5µm0.4nm						
RKPI	**Ransiki, Papua**	**6.01**	**89**	P	**Pn**	**13 38 11.4**	**0.0**
	50nm,0.7s,6µm0.3nm						
MRSI	**Marisa**	**6.57**	**289**	P	**Pn**	**13 38 18.8**	**-0.3**
	73nm,0.6s,2µm0.4nm						
PCI	**Palu**	**8.36**	**275**	P	**Pn**	**13 38 43.9**	**+0.3**
	40nm,0.9s,536nm						
TTSI	**Tana Toraja**	**8.45**	**260**	P	**Pn**	**13 38 45.1**	**+0.3**
	19nm,0.8s,1µm						
MPSI	**Mapaga**	**8.50**	**283**	P	**Pn**	**13 38 45.9**	**+0.4**
	14nm,0.6s,358nm						
SPSI	**Sidrap Palu**	**8.70**	**255**	P	**Pn**	**13 38 48.5**	**+0.4**
	101nm,0.6s,1µm						
BKSI	**Bulukumba**	**8.82**	**245**	P	**Pn**	**13 38 50.3**	**+0.5**
	44nm,0.7s,411nm25µm						
WRA	**Warramunga Arr**	**19.15**	**162**	P	**P**	**13 41 01.5**	**-1.2**
	0.2nm,0.3s,baz=340,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.58**	**166**	P	**P**	**13 41 39.6**	**0.0**
	0.6nm,0.4s,baz=344,slow=11,SNR=14						
CTA	**Charters Tower**	**25.46**	**137**	LR	LR	13 53 38.8	
	comp=Z,199nm,21.1s,baz=155,slow=40						
MJAR	**Matsushiro Arr**	**39.13**	**13**	P	**P**	**13 44 04.5**	**-1.0**
	1.6nm,0.8s,baz=178,slow=8.8,SNR=5.3						
SONM	**Songino Array**	**52.82**	**342**	P	**P**	**13 45 53.5**	**+0.4**
	0.4nm,0.7s,baz=142,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**62.78**	**326**	P	**P**	**13 47 03.6**	**+0.8**
	0.5nm,0.5s,baz=133,slow=5.3,SNR=8.8						

IDC 30 13:50:59.1±2.3, 1.96S×129.60E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/40, mbtmp3.5/4, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/21, Error ellipse: s-maj=233.4km s-min=23.2km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.46**	**166**	P	Pn	13 55 14.6	-2.0
	0.2nm,0.3s,baz=332,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**21.97**	**169**	P	P	13 55 55.8	+0.9
	0.8nm,0.6s,baz=342,slow=10,SNR=15						
CTA	**Charters Tower**	**24.27**	**139**	LR	LR	14 07 12.1	
	comp=Z,173nm,21.5s,baz=122,slow=40						
SONM	**Songino Array**	**53.58**	**341**	P	P	14 00 20.7	-1.4
	0.7nm,1.0s,baz=138,slow=5.4,SNR=4.2						
MKAR	**Makanchi Array**	**63.84**	**326**	P	P	14 01 34.4	+0.9
	0.5nm,0.7s,baz=97,slow=6.1,SNR=6.6						

*ATH **30** 14:05:53.1, 39.23N×20.82E, h5km±4km, MD3.2/32*
*THE **30** 14:05:53.3, 39.24N×20.81E, h0km±2km, ML2.8/6, Error ellipse: s-maj=2.5km s-min=0.7km az=225.0*
CSEM 30 14:05:53.2±0.2, 39.22N×20.82E, h2km, ML2.8, Error ellipse: s-maj=5.1km s-min=3.4km az=78.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSL	**Palaion Diesel**	**0.23**	**112**	P	Pg	14 05 57.1	-0.7
DSL				S	Sg	14 06 01.5	+0.6
DSL	**Palaion Diesel**	**0.23**	**112**	P	Pg	14 05 57.1	-0.7
DSL				S	Sg	14 06 01.5	+0.6
JAN	**Janina**	**0.43**	**3**	P	Pg	14 06 00.5	-1.1
JAN				S	Sg	14 06 07.6	+0.2
JAN	**Janina**	**0.43**	**3**	*e*PB	Pg	14 06 01.5	-0.1
JAN	**Janina**	**0.43**	**3**	P	Pg	14 06 00.5	-1.1
JAN				S	Sg	14 06 07.6	+0.2
JAN	**Janina**	**0.43**	**3**	*e*Pb	Pg	14 06 01.5	-0.1
JAN				S	Sg	14 06 07.6	+0.2
LKD2	**Lefkada island**	**0.45**	**196**	*i* PG	Pb	14 06 03.4	-0.6
LKD2				*i* SG	Sb	14 06 11.1	0.0
LKD2	**Lefkada island**	**0.45**	**196**	P	Pg	14 06 02.5	+0.6
LKD2				S	Sb	14 06 09.6	-1.5
LKD2	**Lefkada island**	**0.45**	**196**	*e*PB	Pg	14 06 02.6	+0.7
LKD2	**Lefkada island**	**0.45**	**196**	P	Pg	14 06 02.5	+0.6
LKD2	**Lefkada island**	**0.45**	**196**	*i* Pg	Pb	14 06 03.4	-0.5
LKD2				*i* Sg	Sb	14 06 11.1	0.0
IGT	**Igoumenitsa**	**0.49**	**310**	P	Pg	14 06 01.9	-0.7
IGT				S	Sg	14 06 09.9	+0.9
IGT	**Igoumenitsa**	**0.49**	**310**	*e*PB	Pg	14 06 02.0	-0.6
IGT				*e*SB	Sg	14 06 10.1	+1.1
IGT	**Igoumenitsa**	**0.49**	**310**	*e*Pb	Pg	14 06 02.0	-0.6
IGT				S	Sg	14 06 09.9	+0.9
MEV	**Metsovon**	**0.65**	**29**	P	Pg	14 06 04.6	-1.3
MEV	**Metsovon**	**0.65**	**29**	P	Pg	14 06 04.6	-1.3
PDO	**Prodromos**	**0.69**	**155**	P	Pg	14 06 06.7	+0.3
PDO				S	Sg	14 06 16.2	+1.0
PDO	**Prodromos**	**0.69**	**155**	*e*PB	Pg	14 06 07.0	+0.6
PDO	**Prodromos**	**0.69**	**155**	P	Pg	14 06 06.7	+0.3
PDO	**Prodromos**	**0.69**	**155**	*e*Pb	Pg	14 06 07.0	+0.6
PDO				S	Sg	14 06 16.2	+1.0
PVO	**Paravola**	**0.82**	**137**	P	Pg	14 06 09.2	+0.3
PVO	**Paravola**	**0.82**	**137**	P	Pg	14 06 09.2	+0.3
EVR	**Evrytania**	**0.83**	**111**	P	Pg	14 06 09.2	-0.1
EVR	**Evrytania**	**0.83**	**111**	*e*PB	Pg	14 06 09.1	-0.2
EVR	**Evrytania**	**0.83**	**111**	*e*Pb	Pg	14 06 09.1	-0.2
SRN	**Sarande**	**0.91**	**316**	*i* PG	Pg	14 06 10.3	-0.4
SRN				*i* SG	Sn	14 06 28.9	+2.2
SRN	**Sarande**	**0.91**	**316**	*i* Pg	Pg	14 06 10.3	-0.4
KEK	**Kerkira**	**0.93**	**302**	P	Pg	14 06 10.4	-0.6
KEK				S	Sb	14 06 24.8	-0.1
KEK	**Kerkira**	**0.93**	**302**	*e*PN	Pb	14 06 12.0	-0.1
KEK	**Kerkira**	**0.93**	**302**	P	Pg	14 06 10.4	-0.6
KEK	**Kerkira**	**0.93**	**302**	P	Pg	14 06 12.0	-0.1
KEK				S	Sb	14 06 24.8	-0.1
THL	**Klokotos Trika**	**0.99**	**69**	P	Pg	14 06 12.1	-0.1
THL				S	Sb	14 06 27.4	+0.9
THL	**Klokotos Trika**	**0.99**	**69**	*e*PB	Pg	14 06 12.1	-0.1
THL	**Klokotos Trika**	**0.99**	**69**	P	Pg	14 06 12.1	-0.1
THL				S	Sb	14 06 27.4	+0.9
MAKR	**Makrakomi, Fth**	**1.04**	**101**	P	Pg	14 06 12.7	-0.6
MAKR	**Makrakomi, Fth**	**1.04**	**101**	*e*PN	Pg	14 06 13.4	+0.1
MAKR	**Makrakomi, Fth**	**1.04**	**101**	P	Pg	14 06 12.7	-0.6
MAKR	**Makrakomi, Fth**	**1.04**	**101**	*e*Pn	Pg	14 06 13.4	+0.1
VLS	**Valsamata**	**1.06**	**190**	P	Pg	14 06 12.7	-0.8
VLS	**Valsamata**	**1.06**	**190**	*e*PG	Pg	14 06 13.2	-0.3
VLS	**Valsamata**	**1.06**	**190**	P	Pg	14 06 12.7	-0.8
VLS	**Valsamata**	**1.06**	**190**	*e*Pg	Pg	14 06 13.2	-0.3
KFL	**Anninata**	**1.11**	**181**	P	Pg	14 06 14.0	-0.5
KFL	**Anninata**	**1.11**	**181**	P	Pg	14 06 14.0	-0.5
EFP	**Efpalio**	**1.16**	**133**	P	Pg	14 06 15.1	-0.4
EFP	**Efpalio**	**1.16**	**133**	*e*PB	Pg	14 06 15.7	+0.2
EFP	**Efpalio**	**1.16**	**133**	P	Pg	14 06 15.1	-0.4
EFP	**Efpalio**	**1.16**	**133**	*e*Pb	Pg	14 06 15.7	+0.2
AGG	**Agios Georgios**	**1.19**	**99**	P	Pg	14 06 15.1	-1.1
AGG	**Agios Georgios**	**1.19**	**99**	*e*PN	Pg	14 06 15.2	-1.0
AGG	**Agios Georgios**	**1.19**	**99**	P	Pg	14 06 15.1	-1.1
NEST	**Nestorio**	**1.21**	**8**	*i* PG	Pg	14 06 15.0	-1.5
NEST				*i* SG	Sn	14 06 36.2	+2.0
NEST	**Nestorio**	**1.21**	**8**	P	Pg	14 06 14.9	-1.6
NEST	**Nestorio**	**1.21**	**8**	*i* Pg	Pg	14 06 15.0	-1.5
NEST				*i* Sg	Sn	14 06 36.2	+1.9
RLS	**Riolos of Patr**	**1.27**	**156**	P	Pg	14 06 17.0	-0.5
RLS				S	Sn	14 06 37.0	+1.5
RLS	**Riolos of Patr**	**1.27**	**156**	*e*PG	Pg	14 06 16.9	-0.6
RLS	**Riolos of Patr**	**1.27**	**156**	P	Pg	14 06 17.0	-0.5
KZN	**Kozani**	**1.31**	**34**	P	Pg	14 06 17.8	-0.7
KZN	**Kozani**	**1.31**	**34**	*e*PB	Pg	14 06 17.9	-0.6
KZN	**Kozani**	**1.31**	**34**	P	Pg	14 06 17.8	-0.7
KALE	**Kalithea**	**1.32**	**128**	P	Pg	14 06 18.4	-0.3
KALE	**Kalithea**	**1.32**	**128**	*e*PB	Pb	14 06 18.9	0.0
KALE				*e*SN	Sn	14 06 41.9	+4.8
KALE	**Kalithea**	**1.32**	**128**	P	Pg	14 06 18.4	-0.3
KALE	**Kalithea**	**1.32**	**128**	*e*Pb	Pb	14 06 18.9	0.0
KALE				*e*Sn	Sn	14 06 41.9	+4.8
KBN	**Korca**	**1.40**	**359**	*i* PG	Pn	14 06 09.9	-10
KBN				*i* SG	Sn	14 06 42.7	+3.7
KBN	**Korca**	**1.40**	**359**	*i* Sg	Sn	14 06 42.7	+3.7
DRO	**Drossia**	**1.45**	**151**	P	Pn	14 06 20.0	-0.5
DRO	**Drossia**	**1.45**	**151**	*e*PG	Pn	14 06 20.0	-0.5
DRO				*e*SG	Sn	14 06 46.0	+5.9
DRO	**Drossia**	**1.45**	**151**	P	Pn	14 06 20.0	-0.5
AXAR	**Agios Charalam**	**1.51**	**107**	*e*PB	Pb	14 06 22.0	+0.1
AXAR	**Agios Charalam**	**1.51**	**107**	*e*Pb	Pb	14 06 22.0	+0.1
LIT	**Litokhoron**	**1.56**	**55**	P	Pn	14 06 22.2	+0.2
LIT				S	Sb	14 06 43.3	+0.2
LIT	**Litokhoron**	**1.56**	**55**	*e*PB	Pn	14 06 22.4	+0.4
LIT				*e*SB	Sg	14 06 45.5	+2.0
LIT	**Litokhoron**	**1.56**	**55**	P	Pn	14 06 22.2	+0.2
LIT				S	Sb	14 06 43.3	+0.2
LIT				*e*Sb	Sg	14 06 45.5	+2.0
DSF	**Desfina**	**1.56**	**121**	P	Pn	14 06 22.0	-0.1
DSF	**Desfina**	**1.56**	**121**	P	Pn	14 06 22.0	-0.1
KLV	**Kalavryta, Ach**	**1.57**	**138**	P	Pn	14 06 22.0	-0.2
KLV	**Kalavryta, Ach**	**1.57**	**138**	*e*PB	Pb	14 06 22.9	-0.2
KLV				*e*SG	Sg	14 06 50.6	+6.7
KLV	**Kalavryta, Ach**	**1.57**	**138**	P	Pn	14 06 22.0	-0.2
KLV	**Kalavryta, Ach**	**1.57**	**138**	*e*Pb	Pb	14 06 22.9	-0.2
FNA	**Florina**	**1.62**	**15**	P	Pn	14 06 22.5	-0.4
FNA	**Florina**	**1.62**	**15**	*e*PG	Pn	14 06 22.1	+0.2
FNA	**Florina**	**1.62**	**15**	P	Pn	14 06 22.5	-0.4
FNA	**Florina**	**1.62**	**15**	*e*Pg	Pn	14 06 23.1	+0.2
GUR	**Goura**	**1.75**	**137**	P	Pb	14 06 25.7	-0.6
GUR	**Goura**	**1.75**	**137**	*e*PN	Pb	14 06 26.2	-0.1
GUR	**Goura**	**1.75**	**137**	P	Pb	14 06 25.7	-0.6
GUR	**Goura**	**1.75**	**137**	*e*Pn	Pb	14 06 26.2	-0.1
LKR	**Lokris**	**1.79**	**108**	*e*PG	Pb	14 06 26.3	-0.5
LKR	**Lokris**	**1.79**	**108**	*e*Pg	Pb	14 06 26.3	-0.5
AMT	**Artemida-Makis**	**1.83**	**157**	*e*PN	Pg	14 06 28.4	+0.1
AMT	**Artemida-Makis**	**1.83**	**157**	*e*Pn	Pg	14 06 28.4	+0.1
XOR	**Xorichti**	**1.85**	**85**	P	Pn	14 06 26.8	+0.8
XOR	**Xorichti**	**1.85**	**85**	P	Pn	14 06 26.8	+0.8
NEO	**Neokhori**	**1.87**	**87**	P	Pn	14 06 26.1	-0.2
NEO	**Neokhori**	**1.87**	**87**	*e*PB	Pn	14 06 25.6	-0.7
NEO	**Neokhori**	**1.87**	**87**	*e*Pb	Pn	14 06 25.6	-0.7
NEO	**Neokhori**	**1.87**	**87**	P	Pn	14 06 26.1	-0.2
OHR	**Ohrid**	**1.89**	**360**	*e*Pn	Pn	14 06 27.4	+0.9
OHR				*i* Sg	Sg	14 06 54.9	+0.8
OHR	**Ohrid**	**1.89**	**360**	*e*Pn	Pn	14 06 27.4	+0.8
OHR				*i* Sg	Sg	14 06 54.8	+0.7
SKIA	**Skiathos**	**2.06**	**91**	*e*PN	Pb	14 06 31.1	-0.2
SKIA	**Skiathos**	**2.06**	**91**	*e*Pn	Pb	14 06 31.1	-0.2
LTK	**Loutraki**	**2.07**	**125**	*e*PG	Pb	14 06 31.5	0.0
LTK	**Loutraki**	**2.07**	**125**	*e*Pg	Pb	14 06 31.5	0.0
ITM	**Ithomi**	**2.22**	**156**	*e*PG	Pb	14 06 34.1	0.0
ITM	**Ithomi**	**2.22**	**156**	*e*Pg	Pb	14 06 34.1	0.0
VLX	**Vlachokerasia**	**2.22**	**146**	*e*PG	Pg	14 06 35.2	-0.7
VLX	**Vlachokerasia**	**2.22**	**146**	*e*Pg	Pg	14 06 35.2	-0.7
HORT	**Hortiatis**	**2.23**	**51**	*e*PN	Pb	14 06 33.3	-1.0
HORT	**Hortiatis**	**2.23**	**51**	*e*Pn	Pb	14 06 33.3	-1.0
PLG	**Polygyros**	**2.33**	**60**	*e*PN	Pb	14 06 34.9	-1.1
PLG				*e*SN	Sb	14 07 04.4	-0.9
PLG	**Polygyros**	**2.33**	**60**	*e*Pn	Pb	14 06 34.9	-1.1
PLG				*e*Sn	Sb	14 07 04.4	-0.9
PYL	**PYLOS**	**2.44**	**162**	*e*PN	Pb	14 06 36.5	-1.2
PYL	**PYLOS**	**2.44**	**162**	*e*Pn	Pb	14 06 36.5	-1.2
VAY	**Valandovo**	**2.49**	**32**	*e*PN	Pn	14 06 35.0	+0.2
VAY				*i* Sg	Sb	14 07 10.9	+1.2
VAY	**Valandovo**	**2.49**	**32**	*e*Pn	Pn	14 06 34.9	+0.2
VAY				*i* Sg	Sb	14 07 10.9	+1.2
KNT	**Kendrikon**	**2.51**	**39**	*e*PB	Pn	14 06 35.5	+0.5
KNT	**Kendrikon**	**2.51**	**39**	*e*Pb	Pn	14 06 35.5	+0.5
SRS	**Serrai**	**2.85**	**47**	*e*PN	Pn	14 06 42.0	+2.3
SRS	**Serrai**	**2.85**	**47**	*e*Pn	Pn	14 06 42.0	+2.3
KKB	**Krupnik**	**3.16**	**32**	*i* P	Pn	14 06 44.5	+0.6
KKB	**Krupnik**	**3.16**	**32**	*i* P	Pn	14 06 44.5	+0.6
MMB	**Musomiste**	**3.25**	**42**	*i* P	Pn	14 06 42.8	-2.4
MMB	**Musomiste**	**3.25**	**42**	*i* P	Pn	14 06 42.8	-2.4
VTS	**Vitosha**	**3.82**	**28**	*i* P	Pn	14 06 55.7	+2.4
VTS	**Vitosha**	**3.82**	**28**	*i* P	Pn	14 06 55.7	+2.4
RZN	**Rozhen**	**3.86**	**49**	*i* P	Pn	14 06 55.9	+2.0
RZN	**Rozhen**	**3.86**	**49**	*i* P	Pn	14 06 55.9	+2.0
MPEP	**Malo Peshtene**	**4.68**	**27**	*i* P	Pb	14 07 17.1	+1.1

*IDC **30** 14:09:27.9±0.9, 38.19N×69.63E, h0km, mb3.9/15, mb1 4.0/22, mb1mx3.9/45, mbtmp3.9/22, ML3.4/7, MS3.0/5, Ms1 3.0/5, ms1mx2.6/39, Error ellipse: s-maj=17.3km s-min=10.2km az=153.0*
*ISCJB **30** 14:09:29.7±0.4, 38.41N±0.03×69.54E±0.04, h12km, mb4.0/22, MS3.0/3, Error ellipse: s-maj=5.2km s-min=3.9km az=147.7*
*NNC **30** 14:09:31.4±1.4, 38.40N×69.46E, h3km±11km, mb4.6, mpv4.3, Error ellipse: s-maj=16.6km s-min=9.2km az=40.0*
*BJI **30** 14:09:32.9, 38.91N×69.47E, h42km, mB4.2/3, mb4.2/8, ML3.7/3, Ms3.5/3, Ms7 3.2/2*
*MOS **30** 14:09:33.4±1.5, 38.52N×69.57E, h33km, mb4.2/18, Error ellipse: s-maj=7.6km s-min=5.0km az=76.0*
*NEIC **30** 14:09:35.0±0.9, 38.57N×69.70E, h42km±9km, mb4.3/3, Error ellipse: s-maj=10.0km s-min=8.4km az=150.0*
ISC 30 14:09:30.7±0.6, 38.35N±0.05×69.50E±0.04, h12km, n109, σ1°83/112, mb4.0/23, MS3.0/3, 15C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**0.69**	**311**	⇓P	**Pg**	**14 09 44.2**	**0.0**
	487nm,0.4s						
DZET				⇓S	**Sg**	**14 09 53.5**	**+0.1**
	5µm,0.4s						
SFK	**Sufi-Kurgan**	**3.53**	**61**	⇑Pn	**Pn**	**14 10 26.6**	**+1.1**
	99nm,1.1s						
SFK				⇑Sn	**Sb**	**14 11 14.4**	**-1.6**
	333nm,1.0s						
KBL	**Kabul**	**3.82**	**186**	*e*PN	Pb	14 10 35.1	-3.1
KBL	**Kabul**	**3.82**	**186**	*e*Pn	Pb	14 10 35.1	-3.1
KBL				*e*Sn	**Sn**	**14 11 18.3**	**+3.7**
MNAS	**Manas**	**4.72**	**28**	⇓Pn	**Pn**	**14 10 42.3**	**+0.4**
	37nm,0.7s						
MNAS				⇑Pg	Pb	14 10 57.2	+3.7
	66nm,1.0s						
MNAS				⇑Sn	**Sn**	**14 11 42.1**	**+5.4**
	46nm,0.7s						
MNAS				⇑Lg	Lg	14 11 59.4	
	175nm,1.2s						
KK31	**Karatay Array**	**4.81**	**9**	Pn	**Pn**	**14 10 43.9**	**+0.9**
	16nm,0.8s,baz=192,slow=14,SNR=122						
KK31				Pg	**Pb**	**14 10 57.0**	**+2.1**
	60nm,0.8s,baz=186,slow=15,SNR=26						
KK31				⇑Sn	**Sn**	**14 11 39.1**	**+0.5**
	22nm,0.6s,baz=30,slow=84,SNR=4.9						
KK31				⇓Lg	Lg	14 11 58.2	
	104nm,0.7s,baz=190,slow=27,SNR=7.8						
KKAR	**Karatay Array**	**4.81**	**9**	*e*PN	**Pn**	**14 10 43.5**	**+0.6**
KKAR	**Karatay Array**	**4.81**	**9**	*e*Pn	**Pn**	**14 10 43.5**	**+0.6**
KKAR				*e*Sn	**Sn**	**14 11 35.4**	**-3.2**
AML	**Almayashu**	**4.96**	**39**	P	Pn	14 10 48.7	+3.4
	SNR=18						
AML	**Almayashu**	**4.96**	**39**	*i* PN	Pn	14 10 48.7	+3.4
KSH	**Kashi**	**5.18**	**75**	P	**Pn**	**14 10 48.8**	**+0.6**
KSH				SMN			
	100nm,0.9s						
KSH				SME			
	98nm,0.8s						
EKS2	**Erkin-Say**	**5.40**	**36**	P	Pn	14 10 54.4	+3.2
	SNR=14						
EKS2	**Erkin-Say**	**5.40**	**36**	*i* PN	Pn	14 10 54.3	+3.2
EKS2	**Erkin-Say**	**5.40**	**36**	*e*Pn	**Pn**	**14 10 50.1**	**-1.1**
	28nm,0.7s						
EKS2				*e*Sn	**Sn**	**14 11 49.5**	**-3.8**
UCH	**Uchtor**	**5.45**	**43**	P	**Pn**	**14 10 53.3**	**+1.2**
	SNR=18						
UCH	**Uchtor**	**5.45**	**43**	*i* PN	**Pn**	**14 10 53.3**	**+1.2**
AAK	**Ala-Archa**	**5.73**	**40**	⇓Pn	**Pn**	**14 10 57.8**	**+2.1**
	11nm,0.6s						
AAK				⇓Pg	Pb	14 11 13.7	+3.1
	27nm,0.8s						
AAK				⇑Sn	**Sn**	**14 12 02.8**	**+1.4**
	62nm,0.8s						
AAK				⇓Lg	Lg	14 12 27.5	
	98nm,1.1s						
AAK	**Ala-Archa**	**5.73**	**40**	P	**Pn**	**14 10 58.3**	**+2.6**
	SNR=12						
AAK	**Ala-Archa**	**5.73**	**40**	Pn	**Pn**	**14 10 56.1**	**+0.4**
	1.3nm,0.3s,baz=216,slow=6.3,SNR=24						
AAK				Sn	**Sn**	**14 12 05.4**	**+4.0**
	1.6nm,0.3s,baz=338,slow=19,SNR=2.4						
AAK				Lg	Lg	14 12 28.4	
	2.1nm,0.3s,baz=107,slow=9.8,SNR=4.1						
AAK				LR	LR	14 13 23.9	
	comp=Z,111nm,19.0s,baz=224,slow=41						
KZA	**Kyzart**	**5.76**	**48**	P	**Pn**	**14 10 57.1**	**+0.6**
	SNR=22						
KZA	**Kyzart**	**5.76**	**48**	*i* PN	**Pn**	**14 10 57.0**	**+0.6**
FRU	**Bishkek**	**5.93**	**39**	*e*PN	**Pn**	**14 11 01.0**	**+2.6**
FRU				*i*		14 11 19.0	
FRU				*e*S	**Sn**	**14 12 10.0**	**+3.7**
FRU				pmax	pmax		
	comp=Z,44nm,1.4s						
KBK	**Karagaybulak**	**5.98**	**42**	P	**Pn**	**14 11 02.0**	**+2.8**
	SNR=20						
KBK	**Karagaybulak**	**5.98**	**42**	*i* PN	**Pn**	**14 11 02.0**	**+2.8**
CHMS	**Chumysh**	**6.12**	**39**	P	Pn	14 11 05.2	+4.2
	SNR=6.6						
CHMS	**Chumysh**	**6.12**	**39**	*i* PN	Pn	14 11 05.2	+4.2
USP	**Ospenovka**	**6.20**	**36**	P	**Pn**	**14 11 04.4**	**+2.2**
	SNR=8.1						
USP	**Ospenovka**	**6.20**	**36**	*i* PN	**Pn**	**14 11 04.3**	**+2.2**
ULHL	**Ulahol**	**6.46**	**51**	P	**Pn**	**14 11 05.6**	**-0.2**
	SNR=10						
ULHL	**Ulahol**	**6.46**	**51**	*i* PN	**Pn**	**14 11 05.6**	**-0.2**
TKM2	**Tokmak 2**	**6.51**	**44**	⇑Pn	**

KIV					MLR	MLR			
	comp=Z,49nm,16.0s								
ZAK	**Zakamensk**	**26.74**	**52**	*eP*	**P**	**14 15 08.1**	**-2.0**
ZAK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
OBN	**Obninsk**	**27.76**	**318**	*eP*	**P**	**14 15 19.7**	**+0.7**
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BR131	**Keskin Array S**	**27.77**	**284**	*eP*	**P**	**14 15 21.8**	**+2.2**
	comp=Z,5.8nm,0.7s								
BRTR	**Keskin Array B**	**27.77**	**284**	P	**P**	**14 15 21.2**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=92,slow=8.7,SNR=4.6								
BRTR	**Keskin Array B**	**27.77**	**284**	*eP*	**P**	**14 15 21.7**	**+2.2**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**28.33**	**58**	P	**P**	**14 15 23.2**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=278,slow=10.0,SNR=2.6								
SONM					LR	LR	14 27 06.4		
	comp=Z,40nm,18.2s,baz=15,slow=37								
EIL	**Elat**	**29.78**	**264**	LR	LR	14 28 38.1			
	comp=Z,25nm,18.5s,baz=94,slow=38								
AKASG	**Malin Array Be**	**30.87**	**307**	P	**P**	**14 15 45.7**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=81,slow=6.8,SNR=9.8								
AKASG	**Malin Array Be**	**30.87**	**307**	*eP*	**P**	**14 15 46.4**	**-0.3**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
KIEV	**Kiev**	**30.88**	**307**	⇓*iP*	**P**	**14 15 47.0**	**+0.3**
BOD	**Bodaibo**	**34.71**	**41**	*eP*	**P**	**14 16 18.6**	**-1.6**
BOD					pmax	pmax			
	comp=Z,3.0nm,1.1s								
KOLS	**Kolonicke sedl**	**35.25**	**303**	*eP*	**P**	**14 16 26.7**	**+1.7**
KOLS					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KOLS	**Kolonicke sedl**	**35.25**	**303**	*eP*	**P**	**14 16 26.7**	**+1.7**
FINES	**FINESS Array B**	**35.28**	**325**	P	**P**	**14 16 25.6**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=106,slow=10,SNR=10								
FINES	**FINESS Array B**	**35.28**	**325**	*eP*	**P**	**14 16 25.5**	**+0.5**
FINES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
CRVS	**Cervenica-Dubn**	**35.79**	**303**	*eP*	**P**	**14 16 31.5**	**+1.9**
CRVS	**Cervenica-Dubn**	**35.79**	**303**	*eP*	**P**	**14 16 31.5**	**+1.9**
STHS	**Stebnicka Huta**	**35.92**	**304**	*eP*	**P**	**14 16 31.9**	**+1.2**
STHS					pmax	pmax			
	comp=Z,2.0nm,0.9s								
STHS	**Stebnicka Huta**	**35.92**	**304**	*eP*	**P**	**14 16 31.9**	**+1.2**
VYHS	**Vyhne**	**37.54**	**302**	*eP*	**P**	**14 16 46.7**	**+2.1**
VYHS					pmax	pmax			
	comp=Z,35nm,3.0s								
VYHS	**Vyhne**	**37.54**	**302**	*eP*	**P**	**14 16 46.7**	**+2.1**
ARCES	**ARCESS Array B**	**38.98**	**337**	P	**P**	**14 16 56.9**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=108,slow=8.0,SNR=15								
ARCES	**ARCESS Array B**	**38.98**	**337**	*eP*	**P**	**14 16 56.8**	**+0.5**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BRG	**Berggiesshubel**	**40.55**	**307**	*eP*	**P**	**14 17 11.7**	**+2.0**
	comp=Z,4.7nm,0.8s								
BRG				*e*		14 17 15.9			
	comp=Z,3.5nm,0.6s								
BRG	**Berggiesshubel**	**40.55**	**307**	*eP*	**P**	**14 17 11.7**	**+2.0**
BRG					pmax	pmax			
	comp=Z,5.0nm,0.8s								
HFS	**Hagfors**	**40.88**	**321**	P	**P**	**14 17 12.6**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=104,slow=11,SNR=13								
GERES	**GERESS Array B**	**40.90**	**303**	P	**P**	**14 17 13.8**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=74,slow=9.8,SNR=6.0								
GERES	**GERESS Array B**	**40.90**	**303**	*eP*	**P**	**14 17 14.9**	**+2.2**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CLL	**Collm**	**41.11**	**307**	*eP*	**P**	**14 17 14.0**	**-0.3**
CLL				*ePP*		**PnPn**	**14 18 54.0**	**+0.6**	
CLL	**Collm**	**41.11**	**307**	*eP*	**P**	**14 17 14.0**	**-0.3**
NB2	**NORSAR Subarra**	**42.19**	**322**	P	**P**	**14 17 22.9**	**-0.1**
	comp=Z,3.7nm,1.0s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**42.19**	**322**	P	**P**	**14 17 23.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=96,slow=8.2,SNR=5.4								
NOA	**NORSAR Array B**	**42.19**	**322**	*eP*	**P**	**14 17 22.9**	**-0.1**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**44.52**	**23**	*ceP*	**P**	**14 17 39.8**	**-1.8**
TIXI					pmax	pmax			
	comp=Z,11nm,1.0s								
KMBO	**Kilima Mbogo**	**49.25**	**225**	*ceP*	**P**	**14 18 20.7**	**+1.1**
KMBO					pmax	pmax			
	comp=Z,1.0nm,0.3s								
SUMG	**Summit**	**58.92**	**340**	*eP*	**P**	**14 19 28.3**	**-1.3**
SUMG					pmax	pmax			
	comp=Z,6.0nm,1.1s								
SUMG	**Summit**	**58.92**	**340**	*eP*	**P**	**14 19 28.3**	**-1.3**
	comp=Z,5.6nm,1.1s								
TORD	**Torodi Ar. Bea**	**64.60**	**267**	P	**P**	**14 20 07.5**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=48,slow=4.1,SNR=6.5								
INK	**Inuvik**	**72.27**	**9**	P	**P**	**14 20 54.5**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=359,slow=8.6,SNR=4.7								
ILAR	**Eielson Array**	**73.32**	**15**	P	**P**	**14 21 00.2**	**-1.5**
	comp=Z,0.4nm,0.9s,baz=302,slow=3.5,SNR=5.2								
ILAR	**Eielson Array**	**73.32**	**15**	*eP*	**P**	**14 21 04.2**	**+2.5**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**79.45**	**2**	P	**P**	**14 21 36.4**	**0.0**
	comp=Z,1.3nm,0.8s,baz=350,slow=5.7,SNR=13								
YKA	**Yellowknife Ar**	**79.45**	**2**	P	**P**	**14 21 36.4**	**0.0**
YKA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**83.98**	**121**	P	**P**	**14 22 00.1**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=330,slow=4.9,SNR=6.8								
WRA	**Warramunga Arr**	**83.98**	**121**	*eP*	**P**	**14 22 02.1**	**+1.1**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**86.29**	**124**	P	**P**	**14 22 12.0**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=327,slow=6.3,SNR=6.1								

*IDC **30** 14:12:32.6±4.4, 37.17N×70.06E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/39, mbtmp3.8/7, ML3.7/3, Error ellipse: s-maj=76.1km s-min=33.7km az=165.0*

ISC 30 14:12:43.5±3.2, 37.9N±0.3×69.5E±0.2, h35km, n8, σ1s24/9, mb3.6/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.08**	**38**	Pn	**Pn**	**14 14 11.5**	**+0.5**
	1.7nm,0.3s,baz=336,slow=21,SNR=1.3						
AAK				Sn	**Sn**	**14 15 20.0**	**+0.6**
	0.7nm,0.3s,baz=357,slow=22,SNR=1.2						
AKTO	**Aktyubinsk**	**14.95**	**331**	Pn	**P**	**14 16 15.9**	**-1.4**
	0.8nm,0.3s,baz=115,slow=9.0,SNR=1.9						
BVAR	**Borovoye Array**	**15.13**	**2**	Pn	**Pn**	**14 16 15.0**	**+0.6**
	0.5nm,0.3s,baz=180,slow=21,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.20**	**28**	P	**P**	**14 17 01.7**	**-2.4**
	0.3nm,0.3s,baz=221,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**35.63**	**325**	P	**P**	**14 19 38.1**	**+0.4**
	1.1nm,0.7s,baz=115,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**39.37**	**337**	P	**P**	**14 20 09.4**	**+0.2**
	1.3nm,0.8s,baz=99,slow=6.4,SNR=5.2						
NOA	**NORSAR Array B**	**42.52**	**322**	P		**14 20 36.0**	**+0.7**
	0.2nm,0.4s,baz=240,slow=7.2,SNR=2.0						
YKA	**Yellowknife Ar**	**79.88**	**2**	P	**P**	**14 24 48.6**	**+0.4**
	0.2nm,0.4s,baz=348,slow=5.4,SNR=3.4						

*CSEM **30** 14:15:07.3, 41.69N×24.02E, h9km, MD3.8*

SOF 30 14:15:07.3, 41.69N×24.02E, h9km, MD3.8, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMB	**Musomiste**	**0.24**	**245**	*i* Pg	Pg	14 15 12.6	+0.3
MMB	**Musomiste**	**0.24**	**245**	*i* Pg	Pg	14 15 12.6	+0.3
RZN	**Rozhen**	**0.52**	**90**	Pg	Pb	14 15 18.7	-0.2
RZN	**Rozhen**	**0.52**	**90**	Pg	Pb	14 15 18.7	-0.2
PLD	**Plovdiv**	**0.66**	**51**	*i* Pg	Pb	14 15 21.7	+0.7
PLD	**Plovdiv**	**0.66**	**51**	*i* Pg	Pb	14 15 21.7	+0.7
KKB	**Krupnik**	**0.72**	**284**	*i* Pg	Pg	14 15 20.7	-0.6
KKB	**Krupnik**	**0.72**	**284**	*i* Pg	Pg	14 15 20.7	-0.6
PGB	**Panagyurishte**	**0.87**	**7**	*i* Pg	Pg	14 15 24.0	-0.1
PGB	**Panagyurishte**	**0.87**	**7**	*i* Pg	Pg	14 15 24.0	-0.1
KDZ	**Kurdzhali**	**1.05**	**92**	Pg	Pg	14 15 26.9	-0.6
KDZ	**Kurdzhali**	**1.05**	**92**	Pg	Pg	14 15 26.9	-0.6
VTS	**Vitosha**	**1.08**	**326**	P	Pg	14 15 28.1	-0.3
VTS				Pg	Pn	14 15 29.7	+0.8
VTS	**Vitosha**	**1.08**	**326**	P	Pg	14 15 28.1	-0.3
DIM	**Dimitrovgrad**	**1.19**	**72**	Pg	Pg	14 15 31.3	+1.2
DIM	**Dimitrovgrad**	**1.19**	**72**	Pg	Pg	14 15 31.3	+1.2
MPEP	**Malo Peshtene**	**1.68**	**353**	P	Pg	14 15 39.6	+0.1
PVL	**Pavlikeni**	**1.81**	**32**	P	Pb	14 15 40.1	-0.5
PVL	**Pavlikeni**	**1.81**	**32**	P	Pb	14 15 40.1	-0.5
SZH	**Strazhica**	**2.12**	**41**	P	Pg	14 15 48.1	+0.2
SZH	**Strazhica**	**2.12**	**41**	P	Pg	14 15 48.1	+0.2
PRD	**Provadia**	**2.92**	**58**	P	Pb	14 15 58.2	-1.3
PRD	**Provadia**	**2.92**	**58**	P	Pb	14 15 58.2	-1.3

IDC 30 14:20:16.3±46.0, 15.84S×177.05W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=858.6km s-min=161.3km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.78**	**239**	P	P	14 27 59.3	-0.2
	1.3nm,0.6s,baz=84,slow=8.0,SNR=5.2						
WRA	**Warramunga Arr**	**46.32**	**257**	P	P	14 28 44.2	-0.1
	0.2nm,0.4s,baz=91,slow=7.7,SNR=8.4						
ASAR	**Alice Springs**	**46.63**	**252**	P	P	14 28 46.7	-0.1
	2.5nm,0.7s,baz=88,slow=8.1,SNR=44						

CASC 30 14:43:32.3±2.5, 9.95N×83.85W, h6km±11km, MD3.7, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URSC	**Urasca**	**0.14**	**151**	⇑*iP*	Pg	14 43 36.1	+0.8
URSC				*eS*	Sg	14 43 39.7	+2.3
SJS	**Escuela Geolog**	**0.21**	**266**	*eP*	Pg	14 43 36.7	0.0
BUS	**Buena Vista**	**0.41**	**168**	⇑*eP*	Pg	14 43 40.7	-0.1
BUS				*eS*	Sg	14 43 47.2	+0.7
CGA2	**Cerro Gallo 2**	**0.61**	**276**	*eP*	Pg	14 43 44.0	-0.4
CGA2				*eS*	Sg	14 43 52.3	-0.2
JCR	**Jicaral**	**1.25**	**265**	*eP*	Pb	14 43 54.5	-1.9
JCR				*eS*	Sg	14 44 11.4	-1.4
CUI	**Cuipilapa**	**1.47**	**298**	*iP*	Pn	14 43 59.4	-0.1
CUI				*iS*	Sg	14 44 19.9	0.0
LIM1	**Limonal**	**1.57**	**298**	*iP*	Pn	14 44 00.6	-0.3
LIM1				*iS*	Sg	14 44 23.3	+0.4
LAPC	**Finca la Perla**	**1.76**	**298**	*iP*	Pn	14 44 04.2	+0.8
LAPC				*iS*	Sb	14 44 27.4	-0.1
GBS3	**Finca Las Im¯¡**	**1.79**	**298**	*iP*	Pn	14 44 04.6	+0.8

KRSC 30 14:47:49.8±0.9, 54.95N×161.32E, h15km±7km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.61**	**286**	*i* P	Pg	14 48 00.9	-1.1
KZV				*eS*	Sg	14 48 08.4	-1.9
TUMR	**Tumrok**	**0.75**	**297**	*eP*	Pg	14 48 03.7	-0.9
TUMR				*eS*	Sg	14 48 13.2	-1.4
KMNS	**Kamenistaya**	**1.01**	**323**	*eP*	Pb	14 48 08.8	-0.4
KMNR				*eS*	Sb	14 48 22.0	-0.5
BZGR	**Bezymyannyi-Gr**	**1.05**	**341**	*eP*	Pb	14 48 09.3	-0.6
KPT	**Kopyto**	**1.19**	**329**	*eS*	Sn	14 48 28.3	+0.2
KOZ	**Kozyrevsk**	**1.38**	**324**	*eP*	Pb	14 48 15.0	-0.3
KOZ				*eS*	Sb	14 48 33.1	+0.3
KLY	**Klyuchi**	**1.42**	**345**	*eP*	Pn	14 48 14.8	-0.2
KLY				*eS*	Sn	14 48 32.8	-0.5
KII	**Karymskiy**	**1.42**	**231**	*eP*	Pn	14 48 15.6	+0.4
KBTR	**Krutoberegovo**	**1.52**	**34**	P	Pn	14 48 16.9	+0.5
KBTR				*eS*	Sn	14 48 35.8	-0.1
BDR	**Baidarnaya**	**1.62**	**358**	*eP*	Pb	14 48 19.1	-0.4
BDR				*eS*	Sb	14 48 40.2	+0.3
SMKR	**Semkarok**	**1.64**	**3**	*eP*	Pb	14 48 19.4	-0.4
SMKR				*eS*	Sb	14 48 41.2	+0.9
SRDR	**Sredinnyy**	**1.64**	**327**	*eP*	Pn	14 48 18.7	+0.5
SRDR				*eS*	Sb	14 48 39.9	-0.5
SRKR	**Sorokina**	**1.71**	**357**	*eP*	Pb	14 48 20.4	-0.6
SRKR				*eS*	Sb	14 48 42.2	-0.1
ESO	**Esso**	**1.78**	**304**	P	Pn	14 48 21.1	+1.0
ESO				S	Sn	14 48 43.0	+0.6
SPN	**Mys Shipunski**	**2.01**	**203**	*eS*	Sn	14 48 48.6	+0.7
NLC	**Nalytchevo**	**2.13**	**214**	*eP*	Pn	14 48 26.0	+1.2
NLC				*eS*	Sn	14 48 52.1	+1.2
SDLR	**Sedlovina**	**2.21**	**221**	*eP*	Pn	14 48 27.7	+1.7
SDLR				*eS*	Sb	14 48 56.2	-0.5
KRER	**Koryakskii**	**2.24**	**223**	*eP*	Pb	14 48 29.4	-0.8
KRER				*eS*	Sb	14 48 58.2	+0.3
KRX	**Arik**	**2.24**	**226**	*eP*	Pb	14 48 29.3	-0.8
KRX				S	Sb	14 48 57.1	-0.6
AVH	**Avacha**	**2.27**	**223**	*eP*	Pb	14 48 29.1	-1.5
AVH				*eS*	Sb	14 48 57.0	-1.6
UGLR	**Uglovaya**	**2.28**	**221**	*eP*	Pb	14 48 29.2	-1.6
KOK	**Koryaka**	**2.29**	**225**	*eP*	Pb	14 48 30.1	-0.9
GNL	**Ganaly**	**2.34**	**239**	*eP*	Pn	14 48 29.3	+1.4
PET	**Petropavlovsk**	**2.49**	**220**	*eP*	Pn	14 48 31.5	+1.8
PET				*eS*	Sb	14 49 02.9	-1.7
BKI	**Bering**	**2.69**	**83**	P	Pn	14 48 34.5	+2.0
BKI				S	Sn	14 49 06.0	+1.3
RUS	**Russkaya**	**3.02**	**215**	*eP*	Pn	14 48 38.6	+1.5
RUS				*eS*	Sn	14 49 14.0	+1.0
MTVR	**Mutnovka**	**3.10**	**218**	*eP*	Pn	14 48 40.3	+2.0
MTVR				*eS*	Sn	14 49 17.6	+2.5
APC	**Apacha**	**3.19**	**232**	P	Pn	14 48 42.7	+3.4
ASAK	**Asacha**	**3.28**	**220**	*eP*	Pn	14 48 43.5	+2.8
ASAK				*eS*	Sn	14 49 22.7	+3.2

*IDC **30** 14:48:30.5±0.6, 10.57N×122.68E, h0km, mb4.1/20, mb1 4.3/20, mb1mx4.2/34, mbtmp4.1/20, ML2.5/1, MS3.7/22, Ms1 3.7/22, ms1mx3.5/45, Error ellipse: s-maj=21.1km s-min=14.0km az=73.0*

*MOS **30** 14:48:33.4±1.2, 10.59N×122.70E, h33km, mb4.8/16, Error ellipse: s-maj=15.9km s-min=7.4km az=117.8*

*BKK **30** 14:48:34.0±1.3, 11.6°×12.3°E×1.5, h10km, M4.5/14, mB4.9/2, mb4.4/14, MLv4.6/1, Mw(mB)4.2/2*

*MAN **30** 14:48:35, 10.73N×122.52E, h22km, mb5.2, ML4.1, MS4.3 MAN INTENSITY IV - MANDURIAO ILOILO CITY; LEMERY ILOILO; JARO.*

*ISCJB **30** 14:48:37.0±0.3, 10.73N±0.02×122.59E±0.02, h50km±4km, mb4.3/49, MS3.6/24, Error ellipse: s-maj=4.1km s-min=3.9km az=147.4*

*BJI **30** 14:48:37.3, 10.56N×122.61E, h65km, mB4.7/18, mb4.4/28, Ms4.1/14, Ms7 3.9/13*

*NEIC **30** 14:48:38.6±1.2, 10.63N×122.69E, h63km±12km, mb4.5/13, Error ellipse: s-maj=9.6km s-min=8.7km az=77.0*

NEIC Felt [V] at Iloilo; [IV PIVS] at Jaro, Lemery and Mandurriao; [III PIVS] at Oton. Also felt at Barotac Viejo, Cabatuan, Guimbal and Santa Barbara. Felt [III PIVS] at Bacolod, Bago, Binalbagan, Hinigaran and La Carlota, Negros. Also felt at Victorias.

*KLM **30** 14:48:40.1, 10.75N×122.59E, h70km, mb4.6, MS5.6*

*DJA **30** 14:48:55.8±1.2, 11.7°×12.2°E±, h172km±12km, M4.5/24, mb4.3/24, mB5.3/8, MLv4.4/1, Mw(mB)4.8/8*

ISC 30 14:48:38.5±0.8, 10.69N±0.03×122.57E±0.03, h55km±7km, n170, σ1s50/158, mb4.4/49, MS3.6/24, 19C-10D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.06**	**160**	*eP*	Pn	14 48 41.2	-5.6
RCP	**Roxas**	**0.89**	**11**	⇑*eP*	Pn	14 48 51.2	-3.7
RCP				*eS*	**Sn**	**14 49 04.7**	**-2.2**
SNPH	**Sibulan**	**1.49**	**154**	⇓*iP*	Pn	14 48 56.7	-6.4
SNPH				*i* S	**Sn**	**14 49 20.0**	**-1.4**
CUYO	**Cuyo Island**	**1.53**	**276**	*eP*	**Pn**	**14 49 01.5**	**-2.0**
CUYO				*eS*	**Sn**	**14 49 20.2**	**-2.1**
TBP	**Tagbilaran**	**1.61**	**128**	*eP*	**Pn**	**14 49 04.6**	**-0.1**
MMPH	**Masbate**	**1.96**	**32**	*eP*	**Pn**	**14 49 08.6**	**-0.8**
OCLP	**Ormoc**	**2.04**	**80**	*eP*	**Pn**	**14 49 10.0**	**-0.4**
OCLP				*eS*	**Sn**	**14 49 32.2**	**-2.5**
DCPH	**Dipolog City**	**2.23**	**160**	⇑*eP*	**Pn**	**14 49 12.0**	**-1.1**
MSLP	**Maasin**	**2.32**	**103**	*eP*	**Pn**	**14 49 14.4**	**+0.1**
MSLP				*eS*	**Sn**	**14 49 43.2**	**+1.5**
PLP	**Palo**	**2.42**	**78**	⇑*iP*	**Pn**	**14 49 15.3**	**-0.3**
PLP				*eS*	**Sn**	**14 49 43.2**	**-0.9**
CNP	**Catarman**	**2.74**	**48**	*eP*	**Pn**	**14 49 18.9**	**-1.2**
IPIL	**Ipil**	**2.88**	**180**	⇑*iP*	**Pn**	**14 49 21.9**	**-0.2**
PAGZ	**Pagadian**	**2.93**	**164**	*eP*	**Pn**	**14 49 23.1**	**+0.4**
SCPH	**Surigao**	**3.01**	**107**	⇑*eP*	**Pn**	**14 49 23.9**	**+0.1**
CGP	**Cagayan de Oro**	**3.05**	**136**	⇑*iP*	**Pn**	**14 49 23.8**	**-0.6**
ENPP	**El Nido**	**3.13**	**280**	*eP*	**Pn**	**14 49 23.6**	**-1.7**
GQP	**Guinayangan**	**3.20**	**358**	⇑*eP*	**Pn**	**14 49 26.1**	**-0.3**
PGP	**Puerto Galera**	**3.21**	**331**	⇑*iP*	**Sn**	**14 50 03.0**	**-0.7**
PVCP	**Virac**	**3.28**	**28**	⇓*eP*	**Pn**	**14 49 26.7**	**-0.8**
BUTP	**Butuan**	**3.46**	**119**	*eP*	**Pn**	**14 49 30.1**	**+0.2**
BUKP	**Musuan**	**3.72**	**138**	*eP*	**Pn**	**14 49 34.5**	**+0.9**
ZMPH	**Zamboanga City**	**3.74**	**188**	⇑*iP*	**Pn**	**14 49 33.6**	**-0.2**
ZMPH				*i* S	**Sn**	**14 50 11.5**	**-5.2**
CTBH	**Cotabato--PC H**	**3.82**	**154**	*eP*	**Pn**	**14 49 35.5**	**+0.5**
CTBH				*i* S	**Sn**	**14 50 21.1**	**+2.4**
PPR	**Puerto Princes**	**3.88**	**257**	⇓*eP*	**Sn**	**14 50 17.1**	**-3.1**
DAV	**Davao City (W)**	**4.67**	**140**	Pn	**Pn**	**14 49 45.0**	**-1.5**
BALP	**Baler**	**5.12**	**349**	*eP*	Pn	14 49 53.8	+1.2
APYP	**Conner**	**7.25**	**350**	*eP*	Pn	14 50 25.1	+3.2
KKM	**Kota Kinabalu**	**7.79**	**234**	⇓P	**Pn**	**14 50 30.1**	**+0.6**
KKM	**Kota Kinabalu**	**7.79**	**234**	*ePn*	Pn	14 50 31.2	+1.7
KKM				*eSn*	**Sn**	**14 51 58.6**	**+2.2**
TSM	**Tawau**	**7.87**	**217**	⇑P	**Pn**	**14 50 31.5**	**+1.0**
SBUM	**Sibu**	**13.13**	**232**	⇑P	P	14 51 46.1	-4.7
SBUM	**Sibu**	**13.13**	**232**	*ePn*	Pn	14 51 44.2	+1.8
TTSI	**Tana Toraja**	**13.91**	**191**	P	P	14 52 06.1	+6.5
	22nm,0.9s						
SPSI	**Sidrap Palu**	**14.82**	**191**	P	P	14 52 14.1	+4.5
	14nm,1.1s						
QIZ	**Qiongzhong**	**14.83**	**305**	P	**Pn**	**14 52 05.5**	**+0.5**
QIZ				S	**Sn**	**14 54 48.0**	**-0.2**
QIZ				PMZ			
	13nm,1.4s						
QIZ				LN			
	310nm,20.3s						
QIZ				LE			
	170nm,20.1s						
QIZ				LZ			
	460nm,19.2s						
BNSI	**Bone**	**15.19**	**189**	P	P	14 52 20.8	+7.1
	28nm,0.8s						
KSM	**Kuching**	**15.23**	**234**	⇓P	**P**	**14 52 13.2**	**-1.1**
KSM	**Kuching**	**15.23**	**234**	*eP*	**P**	**14 52 12.0**	**-2.2**
	16nm,1.0s						
STKI	**Sintang**	**15.26**	**227**	P	P	14 52 18.8	+4.2
	19nm,1.3s,13µm						
KAPI	**Kappang**	**15.85**	**190**	Pn	**Pn**	**14 52 15.6**	**-2.6**
BBKI	**Banjar Baru**	**16.02**	**209**	P	P	14 52 29.5	+6.5
	26nm,2.0s,2µm						
JOW	**Kunigami**	**16.94**	**18**	P	**Pn**	**14 52 30.0**	**-1.9**
	0.0nm,0.3s,baz=167,slow=14,SNR=2.2						
SKNT	**Sakolnakorn**	**19.09**	**291**	P	**Pn**	**14 52 58.9**	**+0.7**
	40nm,1.0s						
KTGM	**Kuala Trenggan**	**19.96**	**256**	⇑P	**Pn**	**14 53 10.2**	**+1.7**
TPI	**Tanjungpandan**	**19.97**	**229**	P	**Pn**	**14 53 09.1**	**+0.5**
	91nm,0.9s,727nm						
SMPI	**Sarmi**	**20.41**	**127**	P	Pn	14 53 22.7	+8.9
	32nm,1.1s,8µm						
MYKOM	**Kota Tinggi**	**20.58**	**246**	⇓P	Pn	14 53 16.4	+0.6
PPBI	**Pangkal Pinang**	**20.74**	**233**	P	Pn	14 53 20.1	+2.4
	13nm,0.3s,6µm						
BATI	**Baumata**	**20.79**	**177**	LR	LR	15 01 25.1	
	comp=Z,34nm,22.0s,slow=38						
KGM	**Kluang**	**20.96**	**247**	⇑P	**P**	**14 53 17.5**	**+0.3**
GYA	**Guiyang**	**21.72**	**318**	*eP*	**P**	**14 53 27.0**	**+1.6**
GYA				PMZ			
	10.0nm,0.8s						
PBKT	**Sadao Pong**	**21.78**	**288**	P	**P**	**14 53 28.7**	**+2.8**
	11nm,1.7s,866nm						
GENI	**Genyem**	**21.93**	**126**	P	P	14 53 39.8	+12
	69nm,1.4s						
GUMO	**Guam**	**21.99**	**80**	LR	LR	15 00 20.3	
	comp=Z,176nm,21.4s,baz=254,slow=32						
IPM	**Ipoh**	**22.21**	**256**	⇓P	**P**	**14 53 32.2**	**+1.4**
IPM	**Ipoh**	**22.21**	**256**	P	**P**	**14 53 28.9**	**-1.8**
	14nm,0.9s						
JAY	**Jayapura**	**22.31**	**125**	LR	LR	15 00 45.0	
	comp=Z,120nm,21.4s,baz=262,slow=33						
KULM	**Kulim**	**22.35**	**258**	⇓P	**P**	**14 53 31.9**	**-0.2**
LEM	**Lembang**	**22.89**	**221**	P	P	14 53 42.7	+4.7
	41nm,1.0s						
LEM	**Lembang**	**22.89**	**221**	P	**P**	**14 53 40.4**	**+2.4**
	44nm,1.0s,baz=94,slow=6.7,SNR=5.8						
LEM				LR	LR	15 03 59.1	
	comp=Z,378nm,19.3s,baz=26,slow=41						
CRAI	**Chiangrai**

USRK	**Ussuriysk Ar.**	**34.37**	**12**	P		**P**	**14 55 20.8**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=200,slow=8.8,SNR=10							
USRK				LR		LR	15 09 04.6	
	comp=Z,108nm,20.2s,baz=177,slow=36							
AS31	**Alice Springs**	**35.90**	**162**	*e*P		**P**	**14 55 31.6**	**-2.1**
ASAR	**Alice Springs**	**35.90**	**162**	P		**P**	**14 55 31.7**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=342,slow=7.0,SNR=25							
TAPN	**Taplejung**	**36.72**	**302**	*e*P		**P**	**14 55 41.6**	**+0.6**
	comp=Z,43nm,1.1s							
ODAN	**Odare**	**36.82**	**301**	*e*P		**P**	**14 55 42.6**	**+0.8**
RAMN	**Ramite**	**37.52**	**301**	*e*P		**P**	**14 55 48.8**	**+1.0**
	comp=Z,88nm,1.4s							
ASAJ	**Asahikawa**	**37.54**	**24**	LR		LR	15 10 57.8	
	comp=Z,62nm,21.5s,baz=14,slow=36							
CHLP	**Challavanipeta**	**38.01**	**286**	*e*P		**P**	**14 55 52.4**	**+0.8**
JIRN	**Jiri**	**38.09**	**301**	*e*P		**P**	**14 55 53.4**	**+0.7**
	comp=Z,66nm,1.0s							
GUN	**Gumba**	**38.44**	**302**	*e*P		**P**	**14 55 56.1**	**+0.5**
	comp=Z,77nm,1.0s							
PKI	**Pulchoki**	**38.72**	**301**	*e*P		**P**	**14 55 58.0**	**0.0**
	comp=Z,58nm,1.2s							
PKIN	**Phulchoki**	**38.73**	**301**	*e*P		**P**	**14 55 58.0**	**0.0**
	comp=Z,30nm,1.0s							
KKN	**Kakani**	**38.90**	**301**	*e*P		**P**	**14 55 59.6**	**+0.3**
	comp=Z,50nm,1.1s							
DMN	**Daman**	**38.99**	**301**	*e*P		**P**	**14 56 00.5**	**+0.4**
	comp=Z,50nm,1.1s							
ULN	**Ulaanbaatar**	**39.29**	**343**	*d i*P		**P**	**14 56 03.0**	**+0.8**
ULN				pmax		pmax		
	comp=Z,22nm,1.5s							
ULN	**Ulaanbaatar**	**39.29**	**343**	*e*P		**P**	**14 56 02.7**	**+0.5**
	comp=Z,15nm,1.1s							
SONM	**Songino Array**	**39.45**	**343**	P		**P**	**14 56 04.6**	**+1.0**
	comp=Z,6.1nm,0.9s,baz=160,slow=9.4,SNR=42							
SONM				PcP		**PcP**	**14 58 10.3**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=150,slow=6.0,SNR=1.9							
SONM				LR		LR	15 13 47.0	
	comp=Z,212nm,19.2s,baz=152,slow=38							
GKN	**Gorkha**	**39.51**	**301**	*e*P		**P**	**14 56 04.2**	**-0.1**
	comp=Z,54nm,1.4s							
KOLN	**Koldanda**	**40.31**	**301**	*e*P		**P**	**14 56 11.4**	**+0.3**
	comp=Z,27nm,0.8s							
PYUN	**Piuthan**	**40.92**	**301**	*e*P		**P**	**14 56 16.7**	**+0.6**
	comp=Z,120nm,1.0s							
SKHT	**Srikalahasti**	**41.96**	**279**	*e*P		**P**	**14 56 26.4**	**+1.9**
RPR	**Rampur**	**42.53**	**286**	*e*P		**P**	**14 56 30.2**	**+1.1**
ZAK	**Zakamensk**	**42.65**	**342**	*e*P		**P**	**14 56 27.9**	**-1.9**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.6s							
HYB	**Hyderabad**	**43.14**	**284**	*i*P		**P**	**14 56 35.0**	**+0.9**
HYBB	**Hyderabad (bro**	**43.14**	**284**	*e*P		**P**	**14 56 35.5**	**+1.3**
TLY	**Talaya**	**43.69**	**343**	*e*P		**P**	**14 56 39.6**	**+1.6**
TLY				*e*S		**S**	**15 03 04.7**	**+0.6**
TLY				*e*SS		SS	15 06 09.8	-11
TLY				pmax		pmax		
	comp=Z,16nm,1.6s							
TLY				MLR		MLR		
	comp=Z,98nm,17.0s							
URV	**Uravakonda**	**44.32**	**280**	*e*P		**P**	**14 56 44.6**	**+0.9**
MOY	**Mondy**	**44.49**	**341**	*e*P		**P**	**14 56 45.3**	**+0.8**
STKA	**Stephens Creek**	**46.08**	**157**	P		**P**	**14 56 55.5**	**-1.7**
	comp=Z,2.9nm,0.9s,baz=338,slow=6.9,SNR=5.1							
BOD	**Bodaibo**	**47.49**	**354**	*e*P		P	14 57 03.8	-4.1
BOD				pmax		pmax		
	comp=Z,4.0nm,1.8s							
MK31	**Makanchi Array**	**49.53**	**324**	*e*P		**P**	**14 57 22.7**	**-1.1**
MK31	**Makanchi Array**	**49.53**	**324**	*e*P		**P**	**14 57 22.7**	**-1.1**
MKAR	**Makanchi Array**	**49.53**	**324**	P		**P**	**14 57 24.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=116,slow=7.6,SNR=14							
MKAR				PcP		**PcP**	**14 58 45.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.5							
MKAR				LR		LR	15 20 06.4	
	comp=Z,73nm,21.1s,baz=116,slow=38							
MKAR	**Makanchi Array**	**49.53**	**324**	*ce*P		**P**	**14 57 24.3**	**+0.5**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**49.53**	**324**	*e*P		**P**	**14 57 26.1**	**+2.3**
MKAR				PcP		**PcP**	**14 58 45.1**	**+0.1**
KSH	**Kashi**	**50.27**	**313**	*e*P		P	14 57 32.3	+2.6
KSH				*ep*P		pP	14 57 48.0	+3.7
KSH				PP		**PP**	**14 59 29.5**	**+4.0**
KSH				PcS		**PcS**	**15 02 46.5**	**+1.2**
KSH				S		**S**	**15 04 38.8**	**+0.4**
KSH				PMZ				
	comp=Z,71nm,5.2s							
KSH				LN				
	comp=Z,130nm,5.9s							
KSH				LE				
	comp=Z,150nm,9.0s							
KSH				LZ				
	comp=Z,170nm,5.4s							
PETK	**Petropavlovsk-**	**50.83**	**27**	P		**P**	**14 57 33.2**	**-0.3**
	comp=Z,7.2nm,0.9s,baz=227,slow=5.9,SNR=3.7							
PETK				LR		LR	15 20 55.2	
	comp=Z,34nm,18.8s,baz=234,slow=38							
TKM2	**Tokmak 2**	**51.85**	**317**	*e*P		**P**	**14 57 43.1**	**+1.5**
TKM2				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TKM2	**Tokmak 2**	**51.85**	**317**	*e*P		**P**	**14 57 43.1**	**+1.5**
	comp=Z,1.6nm,0.8s							
AAK	**Ala-Archa**	**52.48**	**316**	P		**P**	**14 57 46.9**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=136,slow=6.0,SNR=4.3							
AAK	**Ala-Archa**	**52.48**	**316**	*ce*P		**P**	**14 57 47.3**	**+1.0**
AAK				pmax		pmax		
	comp=Z,11nm,1.7s							
AAK	**Ala-Archa**	**52.48**	**316**	*e*P		**P**	**14 57 46.4**	**+0.1**
	comp=Z,19nm,2.1s							
ZAA0	**Zalesovo Array**	**52.55**	**333**	*e*P		**P**	**14 57 45.1**	**-1.2**
ZALV	**Zalesovo Beam**	**52.55**	**333**	P		**P**	**14 57 46.0**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=114,slow=7.2,SNR=8.4							
ZALV				LR		LR	15 21 52.0	
	comp=Z,100nm,19.1s,baz=70,slow=38							
EKS2	**Erkin-Say**	**52.98**	**316**	*e*P		**P**	**14 57 48.0**	**-1.9**
EKS2				pmax		pmax		
	comp=Z,5.0nm,1.2s							
EKS2	**Erkin-Say**	**52.98**	**316**	*e*P		**P**	**14 57 48.0**	**-1.9**
	comp=Z,5.3nm,1.2s							
KURBB	**Kurchatov Arra**	**53.69**	**327**	P		**P**	**14 57 54.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=127,slow=7.4,SNR=13							
KURK	**Kurchatov**	**53.69**	**327**	*e*P		**P**	**14 57 54.8**	**0.0**
KURK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KURK	**Kurchatov**	**53.69**	**327**	*e*P		**P**	**14 57 54.8**	**0.0**
	comp=Z,8.8nm,1.0s							
NVS	**Novosibirsk**	**53.84**	**333**	*e*P		**P**	**14 57 54.1**	**-1.7**
NVS				pmax		pmax		
	comp=N,5.0nm,1.3s							
NVS				pmax		pmax		
	comp=E,6.0nm,1.3s							
NVS				pmax		pmax		
	comp=Z,8.0nm,1.3s							
KKAR	**Karatay Array**	**55.38**	**315**	*e*P		**P**	**14 58 05.5**	**-1.7**
KKAR	**Karatay Array**	**55.38**	**315**	*e*P		**P**	**14 58 05.5**	**-1.7**
SEY	**Seymchan**	**56.36**	**16**	LR		LR	15 21 10.1	
	comp=Z,67nm,21.7s,baz=198,slow=35							
BRVK	**Borovoye**	**59.35**	**326**	*ce*P		**P**	**14 58 35.2**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BRVK	**Borovoye**	**59.35**	**326**	*e*P		**P**	**14 58 34.5**	**-0.5**
	comp=Z,4.4nm,0.7s							
TIXI	**Tiksi**	**61.04**	**2**	*ce*P		**P**	**14 58 45.6**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,15nm,1.8s							
TIXI	**Tiksi**	**61.04**	**2**	*e*P		**P**	**14 58 45.2**	**-0.9**
	comp=Z,7.1nm,0.8s							
GEYT	**Alibeck**	**63.38**	**307**	P		**P**	**14 59 03.6**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=77,slow=2.0,SNR=6.1							
ABKAR	**Akbulak array**	**64.19**	**320**	*e*P		**P**	**14 59 06.0**	**-1.6**
ARU	**Arti**	**66.89**	**327**	*c i*P		**P**	**14 59 24.6**	**-0.3**
ARU							14 59 51.4	
ARU							15 01 48.3	
ARU				S		S	15 08 10.0	-3.6
ARU				pmax		pmax		
	comp=Z,8.0nm,1.7s							
GNI	**Garni**	**73.91**	**309**	*ce*P		**P**	**15 00 10.0**	**+1.7**
GNI				pmax		pmax		
	comp=Z,22nm,2.0s							
RAYN	**Ar Rayn**	**74.03**	**291**	*e*P		**P**	**15 00 09.2**	**0.0**
	comp=Z,5.3nm,1.1s							
KBZ	**Khabaz**	**75.25**	**312**	P		**P**	**15 00 16.0**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=56,slow=24,SNR=7.8							
KIV	**Kislovodsk**	**75.39**	**313**	*i*P		**P**	**15 00 17.0**	**+0.3**
KIV				*i*			15 00 30.8	
KIV				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,39nm,27.0s							
KLMR	**Klimovskoe**	**77.36**	**330**	*e*P		**P**	**15 00 24.9**	**-2.4**
KLMR				pmax		pmax		
	comp=Z,32nm,2.0s							
CAST	**Castle Rocks**	**78.44**	**27**	*e*P		**P**	**15 00 33.8**	**+0.4**
	comp=Z,4.3nm,1.0s							
OBN	**Obninsk**	**79.03**	**324**	*i*P		**P**	**15 00 35.9**	**-0.8**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MCK	**McKinley**	**79.84**	**27**	*e*P		**P**	**15 00 39.9**	**-1.1**
MCK				pmax		pmax		
	comp=Z,16nm,1.3s							
MCK	**McKinley**	**79.84**	**27**	*e*P		**P**	**15 00 39.9**	**-1.1**
	comp=Z,16nm,1.3s							
ILAR	**Eielson Array**	**80.65**	**26**	P		**P**	**15 00 45.3**	**0.0**
	comp=Z,0.7nm,0.8s,baz=239,slow=6.1,SNR=7.8							
BRTR	**Keskin Array B**	**82.45**	**309**	P		**P**	**15 00 55.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=151,slow=2.8,SNR=7.3							
ARCES	**ARCESS Array B**	**82.53**	**339**	P		**P**	**15 00 55.5**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=84,slow=6.1,SNR=9.8							
ARCES				LR		LR	15 41 53.7	
	comp=Z,39nm,19.6s,baz=52,slow=39							
FINES	**FINESS Array B**	**83.79**	**331**	P		**P**	**15 01 01.9**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=84,slow=3.9,SNR=12							
FINES				LR		LR	15 41 58.0	
	comp=Z,68nm,18.4s,baz=42,slow=38							
AKASG	**Malin Array Be**	**83.93**	**320**	P		**P**	**15 01 01.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=78,slow=4.1,SNR=5.1							
AKASG	**Malin Array Be**	**83.93**	**320**	*i*P		**P**	**15 01 02.2**	**-0.5**
DAWY	**Dawson**	**83.97**	**26**	*e*P		**P**	**15 01 03.3**	**+0.6**
INK	**Inuvik**	**85.23**	**21**	*e*P		**P**	**15 01 09.4**	**+0.5**
INK	**Inuvik**	**85.23**	**21**	*e*P		**P**	**15 01 09.3**	**+0.5**
HYT	**Haines Junctio**	**85.55**	**29**	*e*P		**P**	**15 01 12.0**	**+1.1**
KMBO	**Kilima Mbogo**	**85.60**	**268**	LR		LR	15 39 07.6	
	comp=Z,37nm,18.6s,baz=88,slow=35							
KMBO	**Kilima Mbogo**	**85.60**	**268**	*i*P		P	15 01 15.0	+2.8
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
HFS	**Hagfors**	**89.98**	**332**	LR		LR	15 45 00.3	
	comp=Z,75nm,20.1s,baz=89,slow=38							
NOA	**NORSAR Array B**	**90.76**	**333**	LR		LR	15 45 59.8	
	comp=Z,51nm,21.1s,baz=65,slow=38							
GERES	**GERESS Array B**	**94.11**	**321**	LR		LR	15 47 38.9	
	comp=Z,38nm,18.5s,baz=74,slow=38							
YKA	**Yellowknife Ar**	**94.83**	**23**	P		**P**	**15 01 54.3**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=308,slow=4.7,SNR=12							
TORD	**Torodi Ar. Bea**	**116.72**	**291**	PKP		**PKPdf**	**15 07 16.7**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=334,slow=1.5,SNR=3.5							

IDC 30 15:03:40.8±2.3, 5.72S×130.47E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.4/28, mbtmpb3.6/3, ML3.9/2, Error ellipse: s-maj=94.0km s-min=32.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.63**	**165**	Pn	Pn	15 07 09.8	+0.6
	0.7nm,0.3s,baz=346,slow=11,SNR=11						
WRA				Sn	Sn	15 09 41.2	-11
	0.4nm,0.3s,baz=341,slow=21,SNR=4.4						
ASAR	**Alice Springs**	**18.15**	**170**	P	Pn	15 07 53.9	-0.5
	0.3nm,0.3s,baz=347,slow=11,SNR=16						
MKAR	**Makanchi Array**	**67.42**	**326**	P	P	15 14 38.3	+0.1
	0.2nm,0.5s,baz=125,slow=8.2,SNR=3.0						

MEX 30 15:04:43.1±0.9, 17.44N×95.05W, h134km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.38**	**156**	*i*P	Pn	15 05 01.1	-1.0
CMIG				*i*S	Sn	15 05 14.3	-2.1
TUIG	**Tuzandepetl**	**0.83**	**45**	*e*P	Pn	15 05 03.8	-1.2
TUIG				*e*S	Sn	15 05 19.0	-2.5
VHO	**Vista Hermosa**	**1.66**	**257**	*i*P	Pn	15 05 12.4	-1.1
VHO				*e*S	Sn	15 05 35.1	-1.5
HUIG	**Huatulco**	**1.95**	**212**	*e*P	Pn	15 05 14.7	-2.0
HUIG				*e*S	Sn	15 05 39.9	-2.6
TGIG		**1.95**	**110**	*e*P	Pn	15 05 15.5	-1.3
TGIG				*e*S	Sn	15 05 41.2	-1.4
PCIG		**2.46**	**134**	*i*P	Pn	15 05 23.4	+0.5
PCIG				*i*S	Sn	15 05 54.3	+0.6
PNIG	**Pinotepa**	**3.13**	**251**	*e*P	Pn	15 05 27.8	-3.8
PNIG				*i*S	Sn	15 06 05.3	-3.7

*ISCJB **30** 15:15:36.5±0.4, 32.60N±0.03×115.64W±0.03, h13km±5km, Error ellipse: s-maj=5.5km s-min=3.4km az=17.9*
*MEX **30** 15:15:37.8±0.6, 32.61N×115.55W, h10km, MD3.6*
*NEIC **30** 15:15:37.6, 32.54N×115.65W, h6km, ML3.2(PAS), ML3.3(ECX), After PAS.*
*ECX **30** 15:15:38.5±0.7, 32.57N×115.68W, h6km, MD3.1, ML3.3*

ISC 30 15:15:36.8±1.0, 32.59N±0.03×115.63W±0.03, h23km±9km, n24, σ0.60/40, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.26**	**283**	⇑*i*P	Pb	**15 15 43.4**	**+0.4**
COK	**Cook Ranch**	**0.27**	**342**	⇓*i*P	Pb	**15 15 43.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.32**	**122**	⇑*e*P	Pb	**15 15 43.6**	**-0.4**
CPBX				*e*S	Sb	**15 15 49.0**	**+0.2**
CPBX				AML	AML	15 15 52.4	
	comp=N,14μm,0.3s						
CPBX				*e*		15 15 52.4	
CPBX	**Cerro Prieto**	**0.32**	**122**	*i*P	Pb	**15 15 44.6**	**+0.7**
CPBX				*i*S	Sb	**15 15 49.3**	**+0.5**
RMX	**La Rumorosa**	**0.38**	**272**	*e*P	Pb	**15 15 44.5**	**-0.5**
RMX				*e*S	Sb	**15 15 50.0**	**-0.7**
RMX				⇑*e*		15 15 50.3	
RMX				AML	AML	15 15 50.3	
	comp=N,3μm,0.1s						
MBIG	**Mexicali**	**0.41**	**117**	*e*P	Pb	**15 15 45.1**	**-0.2**
MBIG				*i*S	Sb	**15 15 49.1**	**-2.0**
CRR	**Carrizo Plain**	**0.41**	**316**	⇓*i*P	Pb	**15 15 45.7**	**+0.2**
COA	**Coachella**	**0.50**	**57**	⇑*i*P	Pn	**15 15 48.1**	**-0.4**
RDX	**Rancho Dawling**	**0.71**	**202**	*e*P	Pb	**15 15 50.2**	**-0.4**
RDX				*e*S	Sb	**15 15 59.3**	**-0.7**
RDX				⇓*e*		15 16 00.1	
	comp=N,1μm,0.3s						
GLA	**Glamis**	**0.82**	**55**	*e*Pg	Pb	**15 15 52.5**	**+0.2**
GLA				*e*Sg	Sn	**15 16 04.0**	**-0.3**
BAR	**Barrett**	**0.89**	**276**	*e*P	Pb	**15 15 53.6**	**+0.1**
BAR	**Barrett**	**0.89**	**276**	*e*Pg	Pb	**15 15 53.6**	**+0.1**
BAR				*e*Sg	Sb	**15 16 04.7**	**-0.2**
CBX	**Cerro Bola**	**0.92**	**253**	*i*P	Pb	**15 15 54.1**	**0.0**
CBX				*i*S	Sb	**15 16 05.8**	**-0.2**
CBX	**Cerro Bola**	**0.92**	**253**	*e*P	Pb	**15 15 54.1**	**0.0**
CBX				*e*S	Sb	**15 16 05.8**	**-0.2**
CBX				*e*		15 16 09.0	
	comp=N,1μm,0.5s						
CBX	**Cerro Bola**	**0.92**	**253**	*i*P	Pb	**15 15 54.1**	**0.0**
ZAX	**El Zacaton**	**1.21**	**207**	*e*P	Pb	**15 15 59.2**	**+0.2**
ZAX				*e*S	Sb	**15 16 14.5**	**+0.4**
ECBX	**El Chinero**	**1.22**	**156**	*e*P	Pn	**15 15 58.4**	**0.0**
ECBX				*e*S	Sb	**15 16 15.0**	**+0.7**
ECBX				⇓*e*		15 16 16.0	
	comp=E,488nm,0.2s						
PFO	**Pinyon Flats O**	**1.23**	**326**	*e*Pg	Pb	**15 15 60.0**	**+0.5**
PFO				*e*Sg	Sb	**15 16 15.4**	**+0.4**
ECNX	**Esteban Cantu**	**1.24**	**222**	*e*P	Pb	**15 15 59.4**	**-0.2**
ECNX				*e*S	Sb	**15 16 15.5**	**+0.3**
PBX	**Punta Banda**	**1.26**	**228**	*e*P	Pb	**15 15 59.8**	**0.0**
PBX				*e*S	Sb	**15 16 16.1**	**+0.5**
SPIG	**San Pedro Mart**	**1.55**	**175**	*e*P	Pn	**15 16 02.6**	**-0.6**
SPIG				*i*S	Sn	**15 16 22.3**	**-0.4**
SPIG	**San Pedro Mart**	**1.55**	**175**	*e*P	Pn	**15 16 03.8**	**+0.6**
SPX	**San Pedro Mart**	**1.55**	**175**	*e*P	Pb	**15 16 05.4**	**+0.5**
SPX				*e*S	Sb	**15 16 26.0**	**+1.8**
SPX	**San Pedro Mart**	**1.55**	**175**	*e*P	Pn	**15 16 03.6**	**+0.4**

*ATH **30** 15:28:35.0, 40.19N×19.49E, h11km±1km, MD3.4/22*
*TIR **30** 15:28:37.0±3.3, 40.07N×19.80E, h22km±16km, ML3.2*
*PDG **30** 15:28:38.4±0.5, 40.10N×19.76E, h3km±1km, ML3.3/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*IDC **30** 15:28:38.0±1.7, 40.35N×20.02E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.2/41, mbtmpb3.4/6, ML3.3/1, Error ellipse: s-maj=35.8km s-min=25.2km az=87.0*
*CSEM **30** 15:28:38.5±0.2, 40.10N×19.73E, h2km, ML3.2, Error ellipse: s-maj=4.6km s-min=2.5km az=62.0*
*THE **30** 15:28:39.0, 40.11N×19.78E, h0km±2km, ML3.2/10, Error ellipse: s-maj=2.9km s-min=1.2km az=293.0*

ISC 30 15:28:37.8±1.0, 40.13N±0.01×19.73E±0.02, h8km±8km, n160, σ1.39/241, mb3.3/4, 14C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.32**	**140**	*i*PG	Pg	**15 28 43.0**	**-1.1**
SRN				*i*SG	Sg	**15 28 48.4**	**0.0**
SRN	**Sarande**	**0.32**	**140**	*i*Pg	Pg	**15 28 43.0**	**-1.1**
	SNR=131						
SRN				*i*Sg	Sg	**15 28 48.4**	**0.0**
	SNR=131						
VLO	**Vlora**	**0.39**	**332**	*i*PG	Pb	**15 28 47.0**	**+0.2**
VLO				*i*SG	Sb	**15 28 56.3**	**+3.4**
VLO	**Vlora**	**0.39**	**332**	*i*Pg	Pb	**15 28 47.0**	**+0.2**
	SNR=113						
KEK	**Kerkira**	**0.42**	**173**	P	Pg	**15 28 45.2**	**-0.7**
KEK				S	Sb	**15 28 52.7**	**-1.1**
KEK	**Kerkira**	**0.42**	**173**	*e*PB	Pg	**15 28 46.0**	**+0.1**
KEK				*e*SB	Sb	**15 28 53.7**	**-0.1**
KEK	**Kerkira**	**0.42**	**173**	P	Pg	**15 28 45.2**	**-0.7**
KEK	**Kerkira**	**0.42**	**173**	*e*Pb	Pg	**15 28 46.0**	**+0.1**
KEK				S	Sb	**15 28 52.7**	**-1.1**
KEK				*e*Sb	Sb	**15 28 53.7**	**-0.1**
IGT	**Igoumenitsa**	**0.75**	**142**	*i*PG	Pg	**15 28 51.0**	**-1.3**
IGT				*i*SG	Sb	**15 29 02.9**	**-0.6**
IGT	**Igoumenitsa**	**0.75**	**142**	P	Pg	**15 28 51.2**	**-1.1**
IGT				S	Sb	**15 29 03.7**	**+0.2**
IGT	**Igoumenitsa**	**0.75**	**142**	*e*PG	Pg	**15 28 52.1**	**-0.1**
IGT	**Igoumenitsa**	**0.75**	**142**	*e*PB	Pg	**15 28 51.5**	**-0.8**
IGT				*e*SB	Sn	**15 29 04.7**	**-1.5**
IGT	**Igoumenitsa**	**0.75**	**142**	P	Pg	**15 28 51.2**	**-1.1**
IGT	**Igoumenitsa**	**0.75**	**142**	*e*Pb	Pg	**15 28 51.5**	**-0.8**
IGT				*i*Sg	Sb	**15 29 02.9**	**-0.6**
	SNR=105						
IGT				S	Sb	**15 29 03.7**	**+0.2**
IGT				*e*Sb	Sn	**15 29 04.7**	**-1.5**
KBN	**Korca**	**0.95**	**58**	*i*PG	Pn	**15 28 59.8**	**+2.3**
KBN	**Korca**	**0.95**	**58**	*i*Pg	Pn	**15 28 59.8**	**+2.3**
	SNR=98						
JAN	**Janina**	**0.98**	**118**	P	Pg	**15 28 56.2**	**-0.5**
JAN				S	Sb	**15 29 09.9**	**-0.2**
JAN	**Janina**	**0.98**	**118**	*e*PN	Pg	**15 28 56.2**	**-0.5**
JAN				*e*SB	Sn	**15 29 13.3**	**+1.4**
JAN	**Janina**	**0.98**	**118**	P	Pg	**15 28 56.2**	**-0.5**
JAN				S	Sb	**15 29 09.9**	**-0.2**
JAN				*e*Sb	Sn	**15 29 13.3**	**+1.4**
NEST	**Nestorio**	**1.05**	**74**	*i*PG	Pg	**15 28 56.4**	**-1.5**
NEST	**Nestorio**	**1.05**	**74**	P	Pg	**15 28 57.0**	**-1.0**
NEST				S	Sn	**15 29 13.7**	**0.0**
NEST	**Nestorio**	**1.05**	**74**	P	Pg	**15 28 57.0**	**-1.0**
NEST				S	Sn	**15 29 13.7**	**0.0**
MEV	**Metsovon**	**1.20**	**106**	P	Pb	**15 29 00.0**	**-0.9**
MEV	**Metsovon**	**1.20**	**106**	P	Pb	**15 29 00.0**	**-0.9**
OHR	**Ohrid**	**1.28**	**39**	*e*Pn	Pn	**15 29 00.6**	**-1.4**
OHR				*e*Sg	Sg	**15 29 21.0**	**+2.0**
OHR	**Ohrid**	**1.28**	**39**	*e*Pn	Pn	**15 29 00.5**	**-1.4**
OHR				*e*Sg	Sg	**15 29 20.9**	**+2.0**
FNA	**Florina**	**1.42**	**62**	*i*PN	Pb	**15 29 04.0**	**-0.5**
FNA				*i*SN	Sg	**15 29 25.0**	**+1.6**
FNA	**Florina**	**1.42**	**62**	P	Pb	**15 29 04.4**	**0.0**
FNA				S	Sg	**15 29 25.3**	**+1.9**
FNA	**Florina**	**1.42**	**62**	*e*PN	Pb	**15 29 04.0**	**-0.5**
FNA				*e*SN	Sg	**15 29 26.3**	**+2.9**
FNA	**Florina**	**1.42**	**62**	*e*PB	Pb	**15 29 04.5**	**0.0**
FNA	**Florina**	**1.42**	**62**	*i*Pn	Pb	**15 29 04.0**	**-0.5**
	SNR=63						
FNA	**Florina**	**1.42**	**62**	*e*Pb	Pb	**15 29 04.5**	**0.0**
FNA				*i*Sn	Sg	**15 29 25.0**	**+1.6**
	SNR=63						
FNA				S	Sg	**15 29 25.3**	**+1.9**
DSL	**Palaion Diasel**	**1.45**	**133**	P	Pb	**15 29 05.2**	**+0.2**
DSL				S	Sg	**15 29 25.7**	**+1.4**
DSL	**Palaion Diasel**	**1.45**	**133**	*e*PG	Pg	**15 29 05.4**	**-0.2**
DSL				*e*SB	Sg	**15 29 28.4**	**+4.1**
DSL	**Palaion Diasel**	**1.45**	**133**	P	Pb	**15 29 05.2**	**+0.2**
DSL				S	Sg	**15 29 25.7**	**+1.4**
DSL				*e*Sb	Sg	**15 29 28.4**	**+4.1**
LKD2	**Lefkada island**	**1.52**	**151**	P	Pb	**15 29 05.8**	**-0.4**
LKD2				S	Sg	**15 29 27.9**	**+1.4**
LKD2	**Lefkada island**	**1.52**	**151**	*e*PB	Pg	**15 29 06.5**	**-0.4**
LKD2	**Lefkada island**	**1.

RLS	**Riolos of Patr**	**2.47**	**146**	P	**Pn**	**15 29 19.7**	**+1.5**
RLS	**Riolos of Patr**	**2.47**	**146**	P	**Pn**	**15 29 19.7**	**+1.5**
PVY	**Plav**	**2.47**	**4**⇑	*i*Pn	**Pn**	**15 29 20.1**	**+1.7**
PVY				*e*Sn	**Sb**	**15 29 53.5**	**+0.4**
PVY	**Plav**	**2.47**	**4**⇑	*i*Pn	**Pn**	**15 29 20.1**	**+1.7**
PVY				*e*Sn	**Sb**	**15 29 53.5**	**+0.4**
TIP	**Timpagrande**	**2.48**	**249**	P	**Pn**	**15 29 20.2**	**+1.7**
TIP	**Timpagrande**	**2.48**	**249**	P	**Pn**	**15 29 20.2**	**+1.7**
HCY	**Herceg Novi**	**2.50**	**339**⇑	*i*Pn	**Pb**	**15 29 21.8**	**-1.1**
HCY				*e*Sn	**Sb**	**15 29 54.9**	**+1.1**
HCY	**Herceg Novi**	**2.50**	**339**⇑	*i*Pn	**Pb**	**15 29 21.8**	**-1.1**
HCY				*e*Sn	**Sb**	**15 29 54.9**	**+1.1**
KALE	**Kalithea**	**2.55**	**132**	P	**Pb**	**15 29 21.6**	**-2.2**
KALE	**Kalithea**	**2.55**	**132**	*e*PN	**Pb**	**15 29 21.7**	**-2.1**
KALE	**Kalithea**	**2.55**	**132**	P	**Pb**	**15 29 21.6**	**-2.2**
HORT	**Hortiatis**	**2.62**	**79**	*e*PN	**Pn**	**15 29 22.4**	**+2.0**
HORT	**Hortiatis**	**2.62**	**79**	*e*PN	**Pn**	**15 29 22.4**	**+2.0**
KNT	**Kendrikon**	**2.62**	**66**	*e*PN	**Pn**	**15 29 22.4**	**+2.0**
KNT	**Kendrikon**	**2.62**	**66**	*e*Pn	**Pn**	**15 29 22.4**	**+2.0**
DRO	**Drossia**	**2.66**	**144**	P	**Pn**	**15 29 22.4**	**+1.4**
DRO	**Drossia**	**2.66**	**144**	P	**Pn**	**15 29 22.4**	**+1.4**
NKME	**Niksic**	**2.70**	**348**⇓	*i*Pn	**Pb**	**15 29 25.2**	**-1.2**
NKME				*e*Sn	**Sb**	**15 29 59.4**	**-0.3**
NKME	**Niksic**	**2.70**	**348**⇓	*i*Pn	**Pb**	**15 29 25.2**	**-1.2**
NKME				*e*Sn	**Sb**	**15 29 59.4**	**-0.3**
NKY	**Niksic**	**2.74**	**349**⇑	*i*Pn	**Pb**	**15 29 25.2**	**-1.9**
NKY				*e*Sn	**Sb**	**15 30 00.9**	**+0.1**
NKY	**Niksic**	**2.74**	**349**⇑	*i*Pn	**Pb**	**15 29 25.2**	**-1.9**
NKY				*e*Sn	**Sb**	**15 30 00.9**	**+0.1**
BEY	**Berane**	**2.75**	**3**⇓	*i*Pn	**Pn**	**15 29 24.0**	**+1.8**
BEY				*e*Sn	**Sb**	**15 30 00.2**	**-0.8**
IVA	**Berane**	**2.75**	**3**⇓	*i*Pn	**Pn**	**15 29 24.0**	**+1.8**
IVA				*e*Sn	**Sb**	**15 30 00.2**	**-0.8**
DSF	**Desfina**	**2.77**	**127**	P	**Pn**	**15 29 24.1**	**+1.7**
DSF	**Desfina**	**2.77**	**127**	*e*PN	**Pn**	**15 29 24.1**	**+1.7**
DSF	**Desfina**	**2.77**	**127**	P	**Pn**	**15 29 24.1**	**+1.7**
XOR	**Xorichti**	**2.77**	**105**	P	**Pn**	**15 29 23.6**	**+1.1**
XOR	**Xorichti**	**2.77**	**105**	P	**Pn**	**15 29 23.6**	**+1.1**
KLV	**Kalavryta, Ach**	**2.81**	**137**	P	**Pn**	**15 29 24.6**	**+1.6**
KLV	**Kalavryta, Ach**	**2.81**	**137**	*e*PN	**Pn**	**15 29 24.9**	**+1.9**
KLV	**Kalavryta, Ach**	**2.81**	**137**	P	**Pn**	**15 29 24.6**	**+1.6**
KLV	**Kalavryta, Ach**	**2.81**	**137**	*e*Pn	**Pn**	**15 29 24.9**	**+1.9**
NEO	**Neokhori**	**2.82**	**106**	*e*PN	**Pn**	**15 29 24.5**	**+1.4**
NEO	**Neokhori**	**2.82**	**106**	*e*Pn	**Pn**	**15 29 24.5**	**+1.4**
PLG	**Polygyros**	**2.85**	**84**	*e*PB	**Pn**	**15 29 25.7**	**+2.1**
PLG				*e*SN	**Sb**	**15 30 01.1**	**-2.9**
BRY	**Bratogost**	**2.91**	**343**⇑	*i*Pn	**Pn**	**15 29 26.9**	**+2.4**
BRY				*e*Sn	**Sb**	**15 30 04.2**	**-1.6**
BRY	**Bratogost**	**2.91**	**343**⇑	*i*Pn	**Pn**	**15 29 26.9**	**+2.4**
BRY				*e*Sn	**Sb**	**15 30 04.2**	**-1.6**
LKR	**Lokris**	**2.93**	**119**	*e*PN	**Pn**	**15 29 26.3**	**+1.7**
LKR	**Lokris**	**2.93**	**119**	*e*Pn	**Pn**	**15 29 26.3**	**+1.7**
SKIA	**Skiathos**	**3.04**	**107**	*e*PN	**Pn**	**15 29 27.3**	**+1.2**
SKIA	**Skiathos**	**3.04**	**107**	*e*Pn	**Pn**	**15 29 27.3**	**+1.2**
BARS	**Barje**	**3.11**	**30**	*e*Pn	**Pn**	**15 29 28.5**	**+1.4**
PLE	**Pljevlja**	**3.21**	**356**⇑	*i*Pn	**Pn**	**15 29 31.1**	**+2.5**
PLE				*e*Sn	**Sb**	**15 30 12.4**	**-2.0**
PLE	**Pljevlja**	**3.21**	**356**⇑	*i*Pn	**Pn**	**15 29 31.1**	**+2.5**
PLE				*e*Sn	**Sb**	**15 30 12.4**	**-2.0**
OUR	**Ouranopolis**	**3.26**	**85**	*e*PN	**Pn**	**15 29 31.5**	**+2.3**
OUR	**Ouranopolis**	**3.26**	**85**	*e*Pn	**Pn**	**15 29 31.5**	**+2.3**
AOS	**Alonnisos**	**3.34**	**105**	*e*PN	**Pn**	**15 29 32.5**	**+2.2**
AOS	**Alonnisos**	**3.34**	**105**	*e*Pn	**Pn**	**15 29 32.5**	**+2.2**
ITM	**Ithomi**	**3.41**	**149**	*e*PN	**Pn**	**15 29 32.6**	**+1.4**
ITM	**Ithomi**	**3.41**	**149**	*e*Pn	**Pn**	**15 29 32.6**	**+1.4**
BBLS	**Lazići**	**3.75**	**356**	*e*Pn	**Pn**	**15 29 36.7**	**+0.8**
GRUS	**Gruza**	**3.89**	**11**	*e*Pn	**Pn**	**15 29 36.9**	**-0.1**
DIVS	**Divibare**	**3.97**	**3**	*e*Pn	**Pn**	**15 29 39.3**	**+0.3**
BOLS	**Boljevac**	**4.05**	**23**	*e*PN	**Pn**	**15 29 40.4**	**+0.3**
TEKS	**Tekeris**	**4.42**	**358**	*e*Pn	**Pn**	**15 29 45.2**	**+0.1**
KYTH	**Kithira**	**4.64**	**145**	P	**Pn**	**15 29 50.5**	**+2.4**
KYTH	**Kithira**	**4.64**	**145**	P	**Pn**	**15 29 50.5**	**+2.4**
UDBI	**Udbina**	**5.29**	**328**	*e*Pn	**Pn**	**15 29 58.4**	**+1.2**
UDBI					Sn	**15 30 59.1**	**+0.8**
UDBI	**Udbina**	**5.29**	**328**	*e*Pn	**Pn**	**15 29 58.3**	**+1.2**
UDBI					Sn	**15 30 59.0**	**+0.8**
NVLJ	**Novalja**	**5.71**	**323**	*e*Pn	**Pn**	**15 30 03.7**	**+0.9**
NVLJ					Sn	**15 31 06.7**	**-1.8**
NVLJ	**Novalja**	**5.71**	**323**	*e*Pn	**Pn**	**15 30 03.7**	**+0.9**
BOJS	**Bojanci**	**6.30**	**330**	*i* Pn	**Pn**	**15 30 11.8**	**+0.9**
BOJS				*i* Sn	**Sn**	**15 31 22.8**	**-0.3**
BOJS	**Bojanci**	**6.30**	**330**	*i* Pn	**Pn**	**15 30 11.8**	**+0.9**
BOJS				*i* Sn	**Sn**	**15 31 22.8**	**-0.3**
CRES	**Cresnjev**	**6.50**	**333**	*i* Pn	**Pn**	**15 30 14.7**	**+1.0**
CRES				*i* Sn	**Sn**	**15 31 27.2**	**-0.7**
CRES	**Cresnjev**	**6.50**	**333**	*i* Pn	**Pn**	**15 30 14.7**	**+1.0**
CRES				*i* Sn	**Sn**	**15 31 27.2**	**-0.7**
VISS	**Visnje**	**6.71**	**329**	*i* Pn	**Pn**	**15 30 17.9**	**+1.4**
VISS				*e*Sn	**Sn**	**15 31 31.8**	**-1.4**
VISS	**Visnje**	**6.71**	**329**	*i* Pn	**Pn**	**15 30 17.9**	**+1.4**
KECS	**Kecovo**	**8.37**	**3**	*e*	Pn	15 30 49.4	+10
KECS				*e*		16 03 43.6	
CRVS	**Cervenica-Dubn**	**8.86**	**7**	*e*	Pn	15 30 51.2	+5.2
GERES	**GERESS Array B**	**9.72**	**336**	Pn	**Pn**	**15 30 58.5**	**+0.6**
	0.1nm,0.3s,baz=161,slow=13,SNR=2.5						
HFS	**Hagfors**	**20.38**	**351**	P	**P**	**15 33 13.3**	**-1.3**
	2.1nm,0.9s,baz=168,slow=16,SNR=2.5						
NB2	**NORSAR Subarra**	**21.59**	**349**	P	**P**	**15 33 30.7**	**+3.0**
	comp=Z,1.0nm,0.7s,baz=161,slow=11						
NB2	**NORSAR Subarra**	**21.59**	**349**	P	**P**	**15 33 30.7**	**+3.0**
	comp=Z,1.0nm,0.7s,SNR=4.0						
NOA	**NORSAR Array B**	**21.59**	**349**	P	**P**	**15 33 28.6**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=158,slow=8.7,SNR=3.6						
FINES	**FINESS Array B**	**21.70**	**8**	P	**P**	**15 33 27.6**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=190,slow=6.4,SNR=1.5						
TORD	**Torodi Ar. Bea**	**31.21**	**216**	P	P	15 35 01.8	+4.3
	comp=Z,0.2nm,0.5s,baz=32,slow=8.5,SNR=2.1						
MKAR	**Makanchi Array**	**44.83**	**60**	P	**P**	**15 36 51.1**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=288,slow=6.1,SNR=3.9						

*ISCJB **30** 15:28:44.6±0.5, 33°.97N±0°.04×87°.6E±0°.1, h10km, mb3.7/4, MS3.1/2, Error ellipse: s-maj=13.0km s-min=6.2km az=3.7*
*IDC **30** 15:28:44.7±1.0, 33°.85N×87°.42E, h0km, mb3.6/5, mb1 3.8/9, mb1mx3.5/50, mbtmp3.6/9, ML3.3/4, MS3.0/5, Ms1 3.1/5, ms1mx2.8/35, Error ellipse: s-maj=40.7km s-min=17.6km az=58.0*
*BJI **30** 15:28:53.3, 33°.23N×87°.62E, h7km, Ms3.7/1, Ms7 3.7/1*

ISC 30 15:28:46.6±0.8, 33°.93N±0°.08×87°.5E±0°.1, h10km, n25, σ1§35/22, mb3.8/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.22**	**143**	Pn	**Pn**	**15 30 07.3**	**+2.2**
GUN	**Gumba**	**6.16**	**194**	*e*P	**Pn**	**15 30 19.6**	**+1.6**
	44nm,0.8s						
JIRN	**Jiri**	**6.35**	**191**	*e*P	**Pn**	**15 30 22.2**	**+1.6**
	11nm,0.5s						
GKN	**Gorkha**	**6.41**	**204**	*e*P	**Pn**	**15 30 22.2**	**+1.0**
	19nm,0.6s						
KKN	**Kakani**	**6.42**	**198**	*e*P	**Pn**	**15 30 22.5**	**+1.1**
	9.6nm,0.5s						
TAPN	**Taplejung**	**6.56**	**179**	*e*P	**Pn**	**15 30 21.6**	**-1.8**
	47nm,0.8s						
PKIN	**Phulchoki**	**6.59**	**197**	*e*P	**Pn**	**15 30 25.9**	**+2.1**
	11nm,0.4s						
PKI	**Pulchoki**	**6.59**	**197**	*e*P	**Pn**	**15 30 26.2**	**+2.3**
	6.4nm,0.3s						
DMN	**Daman**	**6.64**	**199**	*e*P	**Pn**	**15 30 25.8**	**+1.4**
	14nm,0.4s						
PYUN	**Piuthan**	**7.00**	**215**	*e*P	**Pn**	**15 30 30.6**	**+1.3**
	68nm,0.6s						
RAMN	**Ramite**	**7.00**	**187**	*e*P	**Pn**	**15 30 28.9**	**-0.5**
	26nm,0.9s						
KOLN	**Koldanda**	**7.01**	**210**	*e*P	**Pn**	**15 30 30.0**	**+0.6**
	14nm,0.7s						
ODAN	**Odare**	**7.05**	**181**	*e*P	**Pn**	**15 30 28.8**	**-1.2**
	41nm,0.7s						
WMQ	**Urumqi**	**9.88**	**1**	*e*P	Pn	15 31 27.5	+19
AAK	**Ala-Archa**	**13.42**	**314**	LR	LR	15 38 28.9	
	comp=Z,20nm,18.4s,baz=120,slow=44						
MKAR	**Makanchi Array**	**13.45**	**344**	Pn	**Pn**	**15 31 58.0**	**+0.5**
	0.1nm,0.3s,baz=174,slow=13,SNR=9.6						
KURBB	**Kurchatov Arra**	**17.94**	**341**	P	**Pn**	**15 32 56.1**	**+0.1**
	0.0nm,0.3s,baz=156,slow=12,SNR=16						
CMAR	**Chiang Mai Arr**	**18.48**	**144**	P	**P**	**15 33 01.5**	**-1.2**
	0.1nm,0.3s,baz=217,slow=29,SNR=8.8						
CMAR				LR	LR	15 40 18.9	
	comp=Z,42nm,19.9s,baz=290,slow=38						
SONM	**Songino Array**	**19.84**	**40**	P	**P**	**15 33 18.2**	**+0.7**
	0.1nm,0.3s,baz=229,slow=12,SNR=8.4						
SONM				LR	LR	15 41 43.8	
	comp=Z,68nm,22.0s,baz=226,slow=39						
ZALV	**Zalesovo Beam**	**20.11**	**355**	P	**P**	**15 33 20.0**	**-0.3**
	0.7nm,0.5s,baz=174,slow=6.0,SNR=4.7						
ZALV				LR	LR	15 42 16.9	
	comp=Z,54nm,19.0s,baz=192,slow=40						
GEYT	**Alibeck**	**24.10**	**288**	LR	LR	15 45 24.3	
	comp=Z,96nm,20.5s,baz=135,slow=42						
AKASG	**Malin Array Be**	**45.05**	**310**	P	**P**	**15 37 01.1**	**-1.3**
	0.2nm,0.3s,baz=78,slow=6.9,SNR=1.7						
GERES	**GERESS Array B**	**55.25**	**309**	P	**P**	**15 38 19.7**	**-0.2**
	0.4nm,0.4s,baz=72,slow=7.6,SNR=4.7						
WRA	**Warramunga Arr**	**69.69**	**133**	P	**P**	**15 39 56.5**	**-0.1**
	1.0nm,0.7s,baz=325,slow=6.2,SNR=15						
ASAR	**Alice Springs**	**72.29**	**136**	P	**P**	**15 40 12.6**	**+0.2**
	0.7nm,0.7s,baz=329,slow=6.5,SNR=14						

IDC 30 15:46:50.1±2.2, 4°.54S×147°.18E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/32, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=240.8km s-min=29.2km az=121.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**218**	P	P	15 51 22.6	+0.6
	0.2nm,0.3s,baz=39,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.93**	**213**	P	P	15 51 55.8	-0.2
	0.9nm,0.5s,baz=47,slow=7.9,SNR=14						
ILAR	**Eielson Array**	**84.08**	**23**	P	P	15 59 22.9	+0.4
	0.5nm,0.9s,baz=251,slow=5.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**144.88**	**286**	PKP	PKPab	16 06 28.7	-0.7
	0.4nm,0.5s,baz=75,slow=3.1,SNR=6.0						

IDC 30 15:49:26.8±49.0, 15°.40S×178°.05W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/36, mbtmp3.6/3, Error ellipse: s-maj=905.0km s-min=162.3km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.18**	**239**	P	P	15 57 03.0	-2.0
	0.7nm,0.5s,baz=92,slow=5.9,SNR=4.9						
WRA	**Warramunga Arr**	**45.48**	**257**	P	P	15 57 49.4	+1.2
	0.1nm,0.3s,baz=86,slow=8.1,SNR=7.9						
ASAR	**Alice Springs**	**45.85**	**252**	P	P	15 57 51.2	+0.1
	0.7nm,0.4s,baz=90,slow=7.8,SNR=19						

IDC 30 15:58:40.3±27.0, 20°.45S×172°.95W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/31, mbtmp3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.7/35, Error ellipse: s-maj=501.6km s-min=167.4km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.20**	**263**	P	P	16 06 02.4	+0.3
	2.9nm,0.7s,baz=95,slow=8.0,SNR=6.0						
STKA	**Stephens Creek**	**42.08**	**245**	P	P	16 06 33.1	-1.1
	0.7nm,0.6s,baz=86,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**49.13**	**256**	P	P	16 07 30.2	0.0
	0.8nm,0.7s,baz=95,slow=6.4,SNR=15						
WRA	**Warramunga Arr**	**49.29**	**261**	P	P	16 07 31.4	0.0
	0.3nm,0.3s,baz=96,slow=8.2,SNR=34						
RPN	**Rapa Nui**	**58.07**	**110**	LR	LR	16 30 02.0	
	comp=Z,23nm,18.3s,baz=358,slow=32						
ELK	**Elko**	**81.10**	**41**	LR	LR	16 42 56.4	
	comp=Z,27nm,18.6s,baz=84,slow=33						

IDC 30 16:05:52.5±4.3, 4°.10S×153°.65E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.2/31, mbtmp3.4/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/14, Error ellipse: s-maj=184.6km s-min=55.8km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.54**	**229**	P	P	16 11 14.6	+0.5
	0.9nm,0.5s,baz=54,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**27.23**	**223**	P	P	16 11 38.2	-0.3
	0.3nm,1.0s,baz=56,slow=9.2,SNR=5.6						
URZ	**Urewera**	**40.17**	**151**	LR	LR	16 29 18.6	
	comp=Z,71nm,18.7s,baz=7.0,slow=35						
RPZ	**Rata Peaks**	**42.35**	**161**	LR	LR	16 32 12.2	
	comp=Z,53nm,18.4s,baz=208,slow=37						
TORD	**Torodi Ar. Bea**	**150.88**	**290**	PKPbc	PKPbc	16 25 47.7	-0.6
	0.3nm,0.7s,baz=90,slow=2.9,SNR=1.7						

IDC 30 16:10:33.2±4.1, 5°.46S×132°.42E, h0km, mb3.9/2, mb1 4.3/4, mb1mx3.7/27, mbtmp4.1/4, ML4.2/2, Error ellipse: s-maj=287.9km s-min=28.9km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**7.18**	**180**	P	Pn	16 12 23.4	+3.8
	baz=6.5,SNR=143						
KDU				S	Sn	16 13 35.1	-6.8
	baz=6.5,SNR=5.3						
KNRA	**Kununurra**	**10.77**	**199**	P	Pn	16 13 02.8	-6.0
	baz=9.4,SNR=48						
KNRA				S	Sn	16 14 42.2	-28
	baz=9.4,SNR=6.6						
COEN	**Coen**	**13.55**	**129**	P	P	16 14 09.6	+13
	baz=14,SNR=16						
COEN				S	S	16 16 37.4	-4.7
	baz=14,SNR=3.8						
WRA	**Warramunga Arr**	**14.52**	**173**	Pn	Pn	16 13 59.5	-0.7
	1.2nm,0.3s,baz=355,slow=13,SNR=41						
WRA				Sn	Sn	16 16 27.6	-14
	0.9nm,0.3s,baz=337,slow=22,SNR=6.9						
QIS	**Mount Isa**	**16.55**	**156**	P	P	16 14 37.2	+7.6
	baz=17,SNR=3.6						
ASAR	**Alice Springs**	**18.16**	**176**	P	P	16 14 47.3	-0.1
	0.9nm,0.3s,baz=348,slow=9.6,SNR=121						
ASAR				S	Sn	16 17 54.9	-16
	0.3nm,0.3s,baz=54,slow=28,SNR=5.9						
WRKA	**Warakurna**	**19.87**	**191**	P	P	16 15 01.5	-4.6
	baz=19,SNR=16						
WRKA				S	S	16 18 23.2	-28
	baz=19,SNR=4.5						
MKAR	**Makanchi Array**	**68.29**	**325**	P	P	16 21 36.0	-0.2
	0.7nm,0.4s,baz=109,slow=8.1,SNR=24						
ZALV	**Zalesovo Beam**	**71.30**	**333**	P	P	16 21 54.9	+0.3
	0.3nm,0.4s,baz=119,slow=5.1,SNR=2.1						

KRSC 30 16:14:05.0±0.4, 55°.11N×160°.21E, h-2km±3km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.05**	**91**	*e*P	Pg	16 14 07.3	+1.0
TUMR	**Tumrok**	**0.17**	**349**	*e*P	Pg	16 14 10.1	+1.5
KMNR	**Kamenistaya**	**0.64**	**2**	*e*P	Pb	16 14 18.7	-0.6
KMNR				*e*S	Sb	16 14 30.0	+1.0
BZMR	**Bezymyannaya**	**0.84**	**11**	*e*P	Pg	16 14 21.9	+0.5
KIRR	**Kirishev**	**0.84**	**5**	*e*P	Pb	16 14 22.4	-0.4
KIRR				*e*S	Sb	16 14 35.5	+0.6
KPT	**Kopyto**	**0.85**	**1**	*e*P	Pb	16 14 23.1	+0.2
BZWR	**Bezymyannyi-We**	**0.87**	**11**	*e*P	Pb	16 14 22.6	-0.6
BZWR				*e*S	Sb	16 14 36.9	+1.3
KOZ	**Kozyrevsk**	**0.96**	**349**	*e*P	Pb	16 14 24.5	-0.2
KOZ				*e*S	Sn	16 14 40.3	-0.1
ZLN	**Zelenaya**	**0.97**	**20**	*e*P	Pb	16 14 24.4	-0.4
ZLN				*e*S	Sn	16 14 39.9	-0.7
LGNR	**Loginova**	**1.01**	**16**	*i* P	Pn	16 14 26.4	-0.5
CIRR	**Tsirk**	**1.05**	**17**	*e*P	Pn	16 14 27.0	-0.2
KRSR	**Krestovskiy**	**1.12**	**10**	*e*P	Pb	16 14 27.5	0.0
KII	**Karymskiy**	**1.17**	**202**	*e*P	Pg	16 14 27.8	+0.3
ESO	**Esso**	**1.18**	**314**	*e*P	Pg	16 14 27.7	0.0
ESO				*e*S	Sn	16 14 45.1	-0.6
KLY	**Klyuchi**	**1.23**	**12**	*e*P	Pn	16 14 29.6	+0.1
KLY				*e*S	Sn	16 14 49.4	+2.7
SRDR	**Sredinnyy**	**1.24**	**347**	*e*P	Pg	16 14 28.3	-0.6
SRDR				*e*S	Sb	16 14 46.2	+0.2
BDR	**Baidarnaya**	**1.56**	**21**	*i* P	Pb	16 14 35.0	0.0
SMKR	**Semkarok**	**1.64**	**25**	*i* P	Pb	16 14 36.2	0.0
SRKR	**Sorokina**	**1.64**	**19**	*e*P	Pb	16 14 35.7	-0.5
KBTR	**Krutoberegovo**	**1.84**	**52**	*e*P	Pn	16 14 37.4	-0.5
GNL	**Ganaly**	**1.94**	**224**	*e*P	Pn	16 14 40.4	+1.0
GNL				*e*S	Sb	16 15 06.9	+0.6
KRX	**Arik**	**1.98**	**208**	*e*P	Pb	16 14 41.9	-0.3
SDLR	**Sedlovina**	**2.00**	**203**	*e*P	Pb	16 14 41.4	-1.0
SDLR				*e*S	Sg	16 15 09.5	0.0
KRER	**Koryakskii**	**2.00**	**206**	*e*P	Pb	16 14 42.2	-0.4
NLC	**Nalytchevo**	**2.01**	**195**	*e*P	Pn	16 14 40.5	+0.3
NLC				*e*S	Sg	16 15 08.9	-0.7
SMAR	**Somma**	**2.03**	**205**	*e*P	Pn	16 14 41.8	+1.0
SMAR				*e*S	Sg	16 15 10.4	-0.4
AVH	**Avacha**	**2.04**	**206**	*e*P	Pb	16 14 42.3	-0.8
KOK	**Koryaka**	**2.04**	**207**	*i* P	Pb	16 14 42.2	-1.0
UGLR	**Uglovaya**	**2.08**	**204**	*i* P	Pb	16 14 42.7	-1.0
RUS	**Russkaya**	**2.87**	**201**	*i* P	Pn	16 14 52.9	+0.9
MTVR	**Mutnovka**	**2.90**	**205**	*e*P	Pb	16 14 55.4	-2.4
ASAK	**Asacha**	**3.06**	**208**	*i* P	Pb	16 14 58.7	-1.8

*ISCJB **30** 16:27:19.2±0.5, 16°.00S±0°.05×168°.09E±0°.08, h177km, mb4.4/28, Error ellipse: s-maj=10.6km s-min=6.6km az=171.6*
*IDC **30** 16:27:21.4±2.1, 16°.03S×168°.12E, h182km±17km, mb4.1/19, mb1 4.2/19, mb1mx4.0/36, mbtmp4.6/19, Error ellipse: s-maj=17.8km s-min=11.6km az=74.0*
*NEIC **30** 16:27:23.9±1.2, 16°.09S×168°.03E, h208km±11km, mb4.5/10, Error ellipse: s-maj=9.7km s-min=8.6km az=208.0*

ISC 30 16:27:21.0±0.5, 16°.02S±0°.07×168°.06E±0°.08, h177km, n64, σ1§18/68, mb4.4/27, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.21**	**194**	*e*P	**Pn**	**16 28 51.4**	**+0.6**
DZM				*e*S	**Sn**	**16 30 02.9**	**+1.3**
MSVF	**Nonsavu**	**9.72**	**102**	*e*Pn	**Pn**	**16 29 39.6**	**+2.6**
	20nm,1.1s						
HNR	**Honiara**	**10.26**	**309**	*e*Pn	**Pn**	**16 29 47.0**	**+2.9**
	53nm,0.6s						
HNR				*e*Sn	**Sn**	**16 31 37.1**	**-1.2**
EIDS	**Eidsvold**	**18.39**	**237**	*e*P	**P**	**16 31 21.3**	**-1.3**
RABL	**Rabaul**	**19.55**	**305**	P	**Pn**	**16 31 41.3**	**+2.7**
	baz=20,SNR=4.4						
CTA	**Charters Tower**	**21.12**	**256**	P	**P**	**16 31 54.6**	**+2.6**
	27nm,0.6s,baz=83,slow=12,SNR=40						
PMG	**Port Moresby**	**21.41**	**285**	P	**P**	**16 31 56.6**	**+1.5**
	baz=22,SNR=5.1						
URZ	**Urewera**	**23.55**	**162**	P	**P**	**16 32 15.5**	**+0.2**
	14nm,0.6s,baz=286,slow=3.8,SNR=15						
COEN	**Coen**	**24.12**	**272**	P	**P**	**16 32 21.2**	**+0.5**
	baz=24,SNR=16						
COEN	**Coen**	**24.12**	**272**	*e*P	**P**	**16 32 20.5**	**-0.2**
QLP	**Quilpie**	**24.52**	**241**	P	**P**	**16 32 24.6**	**+0.4**
	baz=24,SNR=10						
QIS	**Mount Isa**	**27.37**	**256**	P	**P**	**16 32 53.6**	**+3.6**
	baz=27,SNR=3.3						
RPZ	**Rata Peaks**	**27.73**	**175**	P	**P**	**16 32 52.2**	**-0.6**
	12nm,0.6s,baz=299,slow=5.3,SNR=9.8						
STKA	**Stephens Creek**	**28.77**	**232**	P	**P**	**16 33 03.2**	**+0.9**
	1.5nm,0.6s,baz=66,slow=11,SNR=6.2						
STKA				ScP	**ScP**	**16 39 32.6**	**0.0**
	2.3nm,0.9s,baz=34,slow=5.9,SNR=3.9						
JAY	**Jayapura**	**30.08**	**294**	P	**P**	**16 33 14.3**	**+0.3**
	9.0nm,0.7s,baz=144,slow=6.5,SNR=6.8						
WRAB	**Tennant Creek**	**32.27**	**258**	*e*P	**P**	**16 33 31.4**	**-1.7**
	18nm,1.4s						
WRA	**Warramunga Arr**	**32.28**	**258**	P	**P**	**16 33 32.0**	**-1.2**
	4.8nm,0.7s,baz=88,slow=8.9,SNR=46						
WRA				PcP	**PcP**	**16 36 16.9**	**-0.4**
	0.7nm,0.8s,baz=88,slow=3.4,

mb1 3.9/18,mb1mx3.7/44,mbtmp4.1/18,MS3.3/7, Ms1 3.3/7,ms1mx3.1/32,Error ellipse: s-maj=23.0km s-min=16.4km az=75.0

ISC 30 16:28:01.7±0.6, 10°41.N±0°05.×126°23.E±0°08, h51km, n44, σ1§42/40, mb4.1/19, MS3.3/6, 5C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.96**	**229**⇓	*eP*	**Pn**	**16 28 17.4**	**-1.6**
SCPH				*eS*	**Sn**	**16 28 31.0**	**-0.6**
MSLP	**Maasin**	**1.37**	**258**	*eP*	**Pn**	**16 28 23.5**	**-1.0**
MSLP				*eS*	**Sn**	**16 28 43.5**	**+1.8**
PLP	**Palo**	**1.43**	**301**⇑	*eP*	**Pn**	**16 28 24.2**	**-1.2**
BUTP	**Butuan**	**1.55**	**203**	*eP*	**Pn**	**16 28 25.3**	**-1.7**
BUTP				*eS*	**Sn**	**16 28 49.6**	**+3.5**
OCLP	**Ormoc**	**1.71**	**292**	*eP*	**Pn**	**16 28 29.7**	**+0.5**
TBP	**Tagbilaran**	**2.44**	**253**	*eP*	**Pn**	**16 28 39.9**	**+0.8**
CGP	**Cagayan de Oro**	**2.46**	**218**⇑	*iP*	**Pn**	**16 28 38.7**	**-0.7**
CGP				*i* S	**Sn**	**16 29 10.0**	**+1.6**
BUKP	**Musuan**	**2.77**	**205**	*eP*	**Pn**	**16 28 44.4**	**+0.7**
SNPH	**Sibulan**	**3.13**	**250**	*i* P	Pn	16 28 44.5	-4.2
SNPH				*i* S	**Sn**	**16 29 22.7**	**-2.2**
DCPH	**Dipolog City**	**3.37**	**238**⇑	*eP*	**Pn**	**16 28 51.8**	**0.0**
RCP	**Roxas**	**3.60**	**289**⇑	*eP*	**Pn**	**16 28 56.6**	**+1.5**
CTBH	**Cotabato--PC H**	**3.73**	**212**	*eP*	**Pn**	**16 28 56.3**	**-0.6**
PVCP	**Virac**	**3.76**	**326**⇑	*eP*	**Pn**	**16 28 55.3**	**-1.9**
PAGZ	**Pagadian**	**3.79**	**228**	*eP*	**Pn**	**16 28 58.6**	**+0.9**
JOW	**Kunigami**	**16.45**	**6**	P	**P**	**16 31 54.0**	**+2.8**
	0.0nm,0.3s,baz=186,slow=8.3,SNR=4.8						
GUMO	**Guam**	**18.51**	**78**	LR	LR	16 37 48.1	
	comp=Z,100nm,20.2s,baz=252,slow=31						
JNU	**Nakatsue**	**23.00**	**10**	P	**P**	**16 33 01.9**	**-0.4**
	8.4nm,0.9s,baz=136,slow=8.0,SNR=3.7						
KSRS	**Korea Array**	**26.97**	**3**	P	**P**	**16 33 39.1**	**+0.5**
	3.4nm,0.9s,baz=174,slow=10.0,SNR=13						
KSRS				LR	LR	16 44 10.6	
	comp=Z,27nm,21.7s,baz=179,slow=36						
CMAR	**Chiang Mai Arr**	**27.57**	**290**	P	**P**	**16 33 44.8**	**+0.5**
	2.7nm,0.8s,baz=102,slow=7.2,SNR=24						
MJAR	**Matsushiro Arr**	**28.18**	**21**	LR	LR	16 44 53.6	
	comp=Z,56nm,19.2s,baz=200,slow=36						
USRK	**Ussuriysk Ar.**	**34.03**	**7**	P	**P**	**16 34 42.0**	**+1.1**
	5.3nm,1.0s,baz=234,slow=6.6,SNR=6.7						
ASAR	**Alice Springs**	**34.69**	**168**	P	**P**	**16 34 45.8**	**-1.1**
	0.4nm,0.3s,baz=352,slow=6.9,SNR=4.3						
ASAJ	**Asahikawa**	**36.45**	**20**	LR	LR	16 51 14.6	
	comp=Z,38nm,18.1s,baz=89,slow=38						
H11S3	**WAKE ISLAND Hy**	**39.92**	**74**	T	T	17 18 21.0	
	baz=261,slow=72,SNR=42						
H11S1	**WAKE ISLAND Hy**	**39.94**	**74**	T	T	17 18 25.5	
	baz=261,slow=72,SNR=23						
H11S2	**WAKE ISLAND Hy**	**39.94**	**74**	T	T	17 18 24.2	
	baz=261,slow=72,SNR=24						
H11N1	**WAKE ISLAND Hy**	**40.25**	**72**	T	T	17 18 47.3	
	baz=264,slow=74,SNR=79						
H11N2	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	17 18 53.7	
	baz=264,slow=74,SNR=47						
H11N3	**WAKE ISLAND Hy**	**40.27**	**72**	T	T	17 18 48.6	
	baz=264,slow=74,SNR=72						
SONM	**Songino Array**	**40.87**	**340**	P	**P**	**16 35 39.8**	**+0.9**
	1.7nm,0.9s,baz=158,slow=9.7,SNR=13						
SONM				PcP	**PcP**	**16 37 39.6**	**+0.8**
	0.9nm,0.7s,baz=153,slow=3.6,SNR=3.8						
SONM				LR	LR	16 54 49.4	
	comp=Z,49nm,18.5s,baz=200,slow=39						
STKA	**Stephens Creek**	**44.55**	**161**	P	**P**	**16 36 08.8**	**+0.1**
	0.9nm,0.6s,baz=325,slow=6.5,SNR=3.5						
PETK	**Petropavlovsk-**	**49.53**	**24**	P	**P**	**16 36 49.3**	**+2.0**
	5.6nm,1.0s,baz=200,slow=3.7,SNR=9.5						
MKAR	**Makanchi Array**	**51.89**	**323**	P	**P**	**16 37 05.2**	**+0.1**
	1.5nm,0.7s,baz=164,slow=4.9,SNR=27						
MKAR				LR	LR	17 01 26.1	
	comp=Z,32nm,18.0s,baz=123,slow=38						
ZALV	**Zalesovo Beam**	**54.48**	**331**	P	**P**	**16 37 23.6**	**-0.5**
	0.7nm,0.3s,baz=124,slow=6.2,SNR=5.4						
KURBB	**Kurchatov Arra**	**55.93**	**325**	P	**P**	**16 37 34.4**	**-0.2**
	2.0nm,0.6s,baz=125,slow=6.9,SNR=25						
BVAR	**Borovoye Array**	**61.52**	**325**	P	**P**	**16 38 13.1**	**-0.3**
	1.0nm,0.7s,baz=125,slow=9.8,SNR=7.0						
ILAR	**Eielson Array**	**79.33**	**26**	P	**P**	**16 40 01.8**	**-0.1**
	1.1nm,0.7s,baz=244,slow=5.9,SNR=10.0						
SPITS	**Spitsbergen Ar**	**83.87**	**349**	P	**P**	**16 40 25.9**	**+0.3**
	6.4nm,0.8s,baz=99,slow=7.7,SNR=13						
ARCES	**ARCESS Array B**	**84.04**	**340**	P	**P**	**16 40 26.9**	**+0.3**
	1.1nm,0.6s,baz=84,slow=6.7,SNR=10						
FINES	**FINESS Array B**	**85.74**	**332**	P	**P**	**16 40 32.9**	**-2.4**
	2.0nm,0.9s,baz=59,slow=5.4,SNR=3.6						
AKASG	**Malin Array Be**	**86.42**	**321**	P	**P**	**16 40 36.4**	**-2.4**
	0.1nm,0.3s,baz=62,slow=4.3,SNR=4.2						
NOA	**NORSAR Array B**	**92.61**	**334**	P	**P**	**16 41 06.2**	**-1.6**
	0.7nm,0.8s,baz=67,slow=4.8,SNR=2.6						
NOA				LR	LR	17 27 33.0	
	comp=Z,15nm,18.2s,baz=185,slow=38						
YKA	**Yellowknife Ar**	**93.64**	**24**	P	**P**	**16 41 13.0**	**+0.5**
	0.8nm,0.8s,baz=296,slow=4.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**120.17**	**292**	PKP	**PKPdf**	**16 46 46.4**	**-1.7**
	0.3nm,0.4s,baz=126,slow=1.5,SNR=3.2						

*ISCJB **30** 16:29:38.0±0.6,59°.76N±0°.03×24°.44E±0°.07,h0km, Error ellipse: s-maj=5.6km s-min=4.1km az=38.6*
*IDC **30** 16:29:38.7±2.2,59°.75N×24°.72E,h0km,mb1 2.9/3, mb1mx2.7/51,mbtmp2.8/3,ML2.4/3,Error ellipse: s-maj=24.2km s-min=8.2km az=143.0*
*HEL **30** 16:29:39.7±0.1,59°.78N×24°.53E,h0km,ML1.7,Explosion*

ISC 30 16:29:38.2±0.8, 59°.78N±0°.03×24°.47E±0°.04, h0km, n12, σ0§94/22, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.44**	**355**	*eP*	**Pg**	**16 29 47.4**	**+0.9**
MEF				*eS*	**Sg**	**16 29 53.2**	**+1.0**
PVF	**Pernaja**	**1.03**	**42**	*eP*	**Pg**	**16 29 57.8**	**-0.1**
PVF				*eS*	**Sg**	**16 30 10.9**	**-0.4**
MTSE	**Matsula**	**1.12**	**198**	*eP*	**Pg**	**16 29 60.0**	**+0.2**
MTSE				*eS*	**Sg**	**16 30 15.0**	**+0.7**
VJF	**Virojoki**	**1.72**	**63**	*ePN*	**Pb**	**16 30 10.5**	**0.0**
VJF				*eSN*	**Sg**	**16 30 34.3**	**+1.0**
RAF	**Rauma**	**1.83**	**314**	*eP*	**Pb**	**16 30 12.7**	**+0.2**
RAF				*eS*	**Sg**	**16 30 37.1**	**+0.2**
RAF				MSG		16 30 41.8	
	comp=Z,3.5nm,0.2s						
FINES	**FINESS Array B**	**1.84**	**25**	Pn	**Pb**	**16 30 12.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=198,slow=16,SNR=10						
FINES				Lg	Lg	16 30 36.4	
	comp=Z,1.2nm,0.3s,baz=204,slow=26,SNR=10						
AAL	**Aland**	**2.29**	**282**	*ePB*	**Pb**	**16 30 20.1**	**-0.1**
AAL				*eSB*	**Sb**	**16 30 49.4**	**+0.4**
KEF	**Keuruu**	**2.40**	**4**	*ePB*	**Pb**	**16 30 21.6**	**-0.5**
KEF				*eSG*	**Sb**	**16 30 53.0**	**+0.7**
KEF				MSG		16 30 55.4	
	comp=Z,2.8nm,0.2s						
SLIT	**Slitere, Latvi**	**2.44**	**209**	*ePB*	**Pb**	**16 30 22.1**	**-0.8**
SLIT				*eSG*	**Sb**	**16 30 55.0**	**+1.5**
HFS	**Hagfors**	**5.43**	**278**	Pn	**Pn**	**16 31 00.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=115,slow=14,SNR=1.5						
HFS				Sn	**Sn**	**16 32 03.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=89,slow=22,SNR=2.0						
NOA	**NORSAR Array B**	**6.69**	**287**	Pn	**Pn**	**16 31 17.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=88,slow=13,SNR=1.3						
NOA				Sn	**Sn**	**16 32 31.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=159,slow=15,SNR=1.5						
ARCES	**ARCESS Array B**	**9.80**	**2**	Pn	**Pn**	**16 31 59.4**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=178,slow=14,SNR=1.6						

MAN 30 16:30:50.1±0.55N×126°.25E,h25km, mb4.9,ML3.9,MS3.9, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.07**	**224**⇑	*eP*	Pb	16 31 09.7	-0.1
SCPH				*eS*	Sb	16 31 22.6	-0.7
PLP	**Palo**	**1.39**	**296**⇓	*eP*	Pb	16 31 17.4	+2.1
PLP				*eS*	Sb	16 31 33.1	+0.4
MSLP	**Maasin**	**1.43**	**253**	*eP*	Pb	16 31 16.3	+0.3
MSLP				*eS*	Sb	16 31 34.0	+0.3
OCLP	**Ormoc**	**1.69**	**287**	*eP*	Pn	16 31 10.9	-7.0
BUTP	**Butuan**	**1.69**	**201**	*eP*	Pn	16 31 17.7	-0.2
TBP	**Tagbilaran**	**2.50**	**250**	*eP*	Pb	16 31 34.0	-0.2
CGP	**Cagayan de Oro**	**2.58**	**216**⇑	*eP*	Pn	16 31 31.1	+0.8
CGP				*i* S	Sn	16 32 01.3	+0.4
BUKP	**Musuan**	**2.90**	**204**	*eP*	Pn	16 31 36.8	+2.1
MATI	**Mati**	**3.58**	**180**	*eP*	Pn	16 31 47.7	+3.7
PVCP	**Virac**	**3.66**	**326**	*eP*	Pn	16 31 46.9	+1.9

*DDA **30** 16:36:53.5,39°.93N×32°.66E,h5km,ML3.9*
*NEIC **30** 16:36:54.0,39°.94N×32°.73E,h4km,ML3.5(ISK), ML3.9(DDA),After ISK.*
NEIC Felt [III] at Ankara.
*ISK **30** 16:36:54.4,39°.94N×32°.75E,h2km,ML3.5*
*IASPEI **30** 16:36:55.1±0.9,39°.95N±0°.03×32°.71E±0°.03,h4km±7km, Error ellipse: s-maj=4.1km s-min=3.8km az=78.6*
*CSEM **30** 16:36:55.2±0.1,39°.94N×32°.73E,h2km,ML3.5,Error ellipse: s-maj=3.0km s-min=2.5km az=177.0*

ISC 30 16:36:54.7±1.0, 39°.95N±0°.02×32°.69E±0°.01, h3km±8km, n122, σ1§01/161, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAD	**Ankara**	**0.07**	**131**	*i* P	**Pg**	**16 36 55.9**	**-0.3**
DAD				*i* S	**Sg**	**16 36 58.1**	**+1.0**
DAD	**Ankara**	**0.07**	**131**	*i* P	**Pg**	**16 36 55.9**	**-0.3**
DAD				*i* S	**Sg**	**16 36 58.1**	**+1.0**
LOD	**Lodumlu**	**0.09**	**137**	PG	**Pg**	**16 36 55.9**	**-0.6**
LOD	**Lodumlu**	**0.09**	**137**	*i* Pg	**Pg**	**16 36 55.9**	**-0.6**
LOD	**Lodumlu**	**0.09**	**137**	Pg	**Pg**	**16 36 55.9**	**-0.6**
ANTO	**Ankara**	**0.12**	**135**	PG	**Pg**	**16 36 56.6**	**-0.5**
ANTO	**Ankara**	**0.12**	**135**	*i* Pg	**Pg**	**16 36 56.6**	**-0.5**
ANTO	**Ankara**	**0.12**	**135**	*e*Pg	**Pg**	**16 36 55.8**	**-1.2**
ANTO				*e*Sg	**Sg**	**16 36 58.5**	**-0.1**
BBAL	**Bala**	**0.53**	**140**	*i* P	**Pg**	**16 37 04.5**	**-0.4**
BBAL				*i* S	**Sb**	**16 37 13.9**	**-1.0**
BBAL	**Bala**	**0.53**	**140**	*i* P	**Pg**	**16 37 04.5**	**-0.4**
BBAL				*i* S	**Sb**	**16 37 13.9**	**-1.0**
AFSR	**Afˇar-Bala (A**	**0.59**	**149**	PG	**Pg**	**16 37 06.0**	**0.0**
AFSR				SG	**Sg**	**16 37 14.4**	**+0.8**
AFSR	**Afˇar-Bala (A**	**0.59**	**149**	*i* Pg	**Pg**	**16 37 06.0**	**0.0**
AFSR				*i* Sg	**Sg**	**16 37 14.4**	**+0.8**
BR131	**Keskin Array S**	**0.77**	**107**	*e*Pg	**Pg**	**16 37 08.8**	**-0.6**
BR131				*e*S	**Sg**	**16 37 18.5**	**-0.9**
ELDT	**Eldivan**	**0.78**	**46**	*i* P	**Pg**	**16 37 09.5**	**-0.2**
ELDT				*i* S	**Sb**	**16 37 22.3**	**+0.1**
ELDT	**Eldivan**	**0.78**	**46**	*i* P	**Pg**	**16 37 09.5**	**-0.2**
ELDT				*i* S	**Sb**	**16 37 22.3**	**+0.1**
CANT	**Cankiri**	**0.97**	**47**	*e*PG	**Pg**	**16 37 13.2**	**-0.1**
CANT	**Cankiri**	**0.97**	**47**	Pg	**Pg**	**16 37 13.1**	**-0.1**
BCAM	**Yenicaga**	**0.98**	**331**	*i* P	**Pg**	**16 37 13.6**	**0.0**
BCAM				*i* S	**Sn**	**16 37 30.6**	**+0.5**
BCAM	**Yenicaga**	**0.98**	**331**	*i* P	**Pg**	**16 37 13.6**	**0.0**
BCAM				*i* S	**Sn**	**16 37 30.6**	**+0.5**
KAMT	**Kaman**	**0.98**	**126**	*e*PG	**Pg**	**16 37 13.1**	**-0.5**
KAMT	**Kaman**	**0.98**	**126**	*e*Pg	**Pg**	**16 37 13.1**	**-0.5**
KAMT	**Kaman**	**0.98**	**126**	Pg	**Pg**	**16 37 12.6**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.03**	**241**	*e*PG	**Pg**	**16 37 14.8**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.03**	**241**	*e*Pg	**Pg**	**16 37 14.8**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.03**	**241**	Pg	**Pg**	**16 37 13.5**	**-0.9**
KIZT	**Kizilcal**	**1.24**	**210**	*e*PN	**Pg**	**16 37 18.6**	**+0.1**
KIZT	**Kizilcal**	**1.24**	**210**	*e*Pn	**Pg**	**16 37 18.6**	**+0.1**
MDUB	**Mudurnu**	**1.25**	**295**	*e*PN	**Pn**	**16 37 20.0**	**+0.7**
MDUB	**Mudurnu**	**1.25**	**295**	*e*Pn	**Pn**	**16 37 20.0**	**+0.7**
SAFT	**Safranbolu**	**1.28**	**0**	*e*PN	**Pg**	**16 37 19.6**	**+0.2**
SAFT	**Safranbolu**	**1.28**	**0**	*e*Pn	**Pg**	**16 37 19.6**	**+0.2**
CDAG	**Cicekdag**	**1.34**	**104**	*i* P	**Pn**	**16 37 19.2**	**-1.3**
CDAG				*i* S	**Sg**	**16 37 38.1**	**+0.3**
CDAG	**Cicekdag**	**1.34**	**104**	*i* P	**Pn**	**16 37 19.2**	**-1.3**
CDAG				*i* S	**Sg**	**16 37 38.1**	**+0.3**
ILGA	**Ilgaz**	**1.35**	**35**	*i* P	**Pn**	**16 37 19.9**	**-0.8**
ILGA				*i* S	**Sn**	**16 37 40.6**	**+1.2**
ILGA	**Ilgaz**	**1.35**	**35**	*i* P	**Pn**	**16 37 19.9**	**-0.8**
ILGA				*i* S	**Sn**	**16 37 40.6**	**+1.2**
BTAS	**Taskesti**	**1.43**	**296**	*i* P	**Pn**	**16 37 21.1**	**-0.6**
BTAS				*i* S	**Sn**	**16 37 42.3**	**+1.2**
BTAS	**Taskesti**	**1.43**	**296**	*i* P	**Pn**	**16 37 21.1**	**-0.6**
BTAS				*i* S	**Sn**	**16 37 42.3**	**+1.2**
ESKT	**Eskisehir**	**1.48**	**254**	*e*PN	**Pb**	**16 37 22.9**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**254**	*e*Pn	**Pb**	**16 37 22.9**	**-0.1**
SEYT	**Eskypehyr**	**1.48**	**254**	*i* P	**Pn**	**16 37 21.0**	**-1.4**
SEYT				*i* S	**Sn**	**16 37 42.5**	**+0.1**
SEYT	**Eskypehyr**	**1.48**	**254**	*i* P	**Pn**	**16 37 21.0**	**-1.4**
SEYT				*i* S	**Sn**	**16 37 42.5**	**+0.1**
TOS	**Tosya**	**1.49**	**43**	*e*PN	**Pn**	**16 37 22.5**	**0.0**
TOS	**Tosya**	**1.49**	**43**	*e*Pn	**Pn**	**16 37 22.5**	**0.0**
KDHN	**Kadinhani**	**1.50**	**197**	*i* P	**Pn**	**16 37 21.7**	**-0.9**
KDHN				*i* S	**Sg**	**16 37 43.3**	**+0.5**
KDHN	**Kadinhani**	**1.50**	**197**	*i* P	**Pn**	**16 37 21.7**	**-0.9**
KDHN				*i* S	**Sg**	**16 37 43.3**	**+0.5**
CORM	**Corum**	**1.51**	**81**	*e*PN	**Pn**	**16 37 22.5**	**-0.4**
CORM	**Corum**	**1.51**	**81**	*e*Pn	**Pn**	**16 37 22.5**	**-0.4**
KDZE	**Karadeniz Ereo**	**1.66**	**326**	*e*PN	**Pb**	**16 37 25.8**	**-0.1**
KDZE	**Karadeniz Ereo**	**1.66**	**326**	*e*Pn	**Pb**	**16 37 25.8**	**-0.1**
BORA	**Eskisehir**	**1.72**	**268**	*i* P	**Pb**	**16 37 27.1**	**+0.1**
BORA				*i* S	**Sg**	**16 37 50.4**	**+0.5**
BORA	**Eskisehir**	**1.72**	**268**	*i* P	**Pb**	**16 37 27.1**	**+0.1**
BORA				*i* S	**Sg**	**16 37 50.4**	**+0.5**
GULT	**Gulveren**	**1.73**	**287**	*e*PN	**Pb**	**16 37 26.8**	**-0.4**
GULT	**Gulveren**	**1.73**	**287**	*e*Pn	**Pb**	**16 37 26.8**	**-0.4**
CTKT	**Corum**	**1.74**	**67**	*i* P	**Pn**	**16 37 25.8**	**-0.3**
CTKT				*i* S	**Sn**	**16 37 48.8**	**-0.2**
CTKT	**Corum**	**1.74**	**67**	*i* P	**Pn**	**16 37 25.8**	**-0.3**
CTKT				*i* S	**Sn**	**16 37 48.8**	**-0.2**
LADK	**Ladik-KONYA**	**1.77**	**188**	*e*PN	**Pn**	**16 37 26.9**	**+0.5**
LADK	**Ladik-KONYA**	**1.77**	**188**	*e*Pn	**Pn**	**16 37 26.9**	**+0.5**
BOLV	**Bolvadin**	**1.83**	**228**	*i* P	**Pb**	**16 37 28.2**	**-0.7**
BOLV				*i* S	**Sb**	**16 37 52.5**	**+0.3**
BOLV	**Bolvadin**	**1.83**	**228**	*i* P	**Pb**	**16 37 28.2**	**-0.7**
BOLV				*i* S	**Sb**	**16 37 52.5**	**+0.3**
SULT	**Sultanhani-AKS**	**1.87**	**160**	*e*PN	**Pn**	**16 37 28.1**	**+0.4**
SULT	**Sultanhani-AKS**	**1.87**	**160**	*e*Pn	**Pn**	**16 37 28.1**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.96**	**293**	*e*PN	**Pb**	**16 37 30.5**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.96**	**293**	*e*Pn	**Pb**	**16 37 30.5**	**-0.6**
KONT	**Konya--Tatoy**	**2.02**	**187**	*e*PN	**Pn**	**16 37 30.4**	**+0.6**
KONT	**Konya--Tatoy**	**2.02**	**187**	*e*Pn	**Pn**	**16 37 30.4**	**+0.6**
YOZ	**Yozgat**	**2.05**	**98**	*e*PN	**Pn**	**16 37 30.2**	**-0.1**
YOZ	**Yozgat**	**2.05**	**98**	*e*Pn	**Pn**	**16 37 30.2**	**-0.1**
SHUT	**Suhut-Afyon**	**2.17**	**231**	*e*PN	**Pn**	**16 37 33.2**	**+1.4**
SHUT	**Suhut-Afyon**	**2.17**	**231**	*e*Pn	**Pn**	**16 37 33.3**	**+1.4**
ALT	**Altintas**	**2.19**	**247**	*e*PN	**Pb**	**16 37 33.6**	**-1.4**
ALT	**Altintas**	**2.19**	**247**	*e*Pn	**Pb**	**16 37 33.6**	**-1.4**
CAVI	**Cavuskoy**	**2.20**	**277**	*e*PN	**Pb**	**16 37 34.3**	**-0.8**
CAVI	**Cavuskoy**	**2.20**	**277**	*e*Pn	**Pb**	**16 37 34.3**	**-0.8**
BOYT	**Boyabat**	**2.23**	**48**	*i* P	**Pn**	**16 37 32.9**	**+0.1**
BOYT	**Boyabat**	**2.23**	**48**	*i* P	**Pn**	**16 37 32.9**	**+0.1**
BOYT				*i* S	**Sg**	**16 38 08.5**	**+2.0**
BZK	**Bozkurt**	**2.24**	**26**	*e*PN	**Pn**	**16 37 33.6**	**+0.8**
BZK	**Bozkurt**	**2.24**	**26**	*e*Pn	**Pn**	**16 37 33.6**	**+0.8**
ADVT	**Abdulvahap**	**2.31**	**283**	*e*PN	**Pn**	**16 37 35.4**	**+1.7**
ADVT	**Abdulvahap**	**2.31**	**283**	*e*Pn	**Pn**	**16 37 35.4**	**+1.7**
NIG	**Nigde**	**2.37**	**140**	*e*PN	**Pn**	**16 37 35.4**	**+0.6**
NIG	**Nigde**	**2.37**	**140**	*e*Pn	**Pn**	**16 37 35.4**	**+0.6**
HRT	**Hereke**	**2.46**	**292**	*e*PN	**Pn**	**16 37 37.2**	**+1.3**
HRT	**Hereke**	**2.46**	**292**	*e*Pn	**Pn**	**16 37 37.2**	**+1.3**
IZI	**Iznik**	**2.49**	**280**	*e*PN	**Pb**	**16 37 38.6**	**-1.6**
IZI	**Iznik**	**2.49**	**280**	*e*Pn	**Pb**	**16 37 38.6**	**-1.6**
TVSB	**Tavsanli**	**2.54**	**260**	*e*PN	**Pn**	**16 37 38.6**	**+1.6**
TVSB	**Tavsanli**	**2.54**	**260**	*e*Pn	**Pn**	**16 37 38.6**	**+1.6**
HAVZ	**Havza**	**2.57**	**63**	*i* P	**Pn**	**16 37 37.7**	**+0.4**
HAVZ	**Havza**	**2.57**	**63**	*i* P	**Pn**	**16 37 37.7**	**+0.4**
HAVZ				*i* S	**Sg**	**16 38 16.4**	**-0.9**
DIKM	**Dikmen**	**2.58**	**48**	*e*PN	**Pn**	**16 37 38.2**	**+0.7**
DIKM	**Dikmen**	**2.58**	**48**	*e*Pn	**Pn**	**16 37 38.2**	**+0.7**
SILT	**Sile**	**2.61**	**298**	*e*PN	**Pn**	**16 37 39.7**	**+1.9**
SILT	**Sile**	**2.61**	**298**	*e*Pn	**Pn**	**16 37 39.7**	**+1.9**
GDZ	**Gediz**	**2.62**	**252**	*i* P	**Pb**	**16 37 43.2**	**+0.7**
GDZ	**Gediz**	**2.62**	**252**	*i* P	**Pb**	**16 37 43.2**	**+0.7**
GDZ				*i* S	**Sg**	**16 38 18.5**	**-0.5**
ISP	**Isparta**	**2.72**	**219**	*e*PN	**Pn**	**16 37 40.8**	**+1.4**
ISP	**Isparta**	**2.72**	**219**	*e*Pn	**Pn**	**16 37 40.8**	**+1.4**
ISP	**Isparta**	**2.72**	**219**	*e*Pn	**Pn**	**16 37 38.6**	**-0.8**
GEMT	**Gemlik**	**2.72**	**281**	*e*PN	**Pb**	**16 37 41.8**	**-2.3**
GEMT	**Gemlik**	**2.72**	**281**	*e*Pn	**Pb**	**16 37 41.8**	**-2.3**
KVT	**Kavak**	**2.80**	**65**	*e*PN	**Pn**	**16 37 40.8**	**+0.3**
KVT	**Kavak**	**2.80**	**65**	*e*Pn	**Pn**	**16 37 40.8**	**+0.3**
TOKA	**Tokat**	**2.93**	**82**	*i* P	**Pn**	**16 37 42.7**	**+0.4**
TOKA	**Tokat**	**2.93**	**82**	*i* P	**Pn**	**16 37 42.7**	**+0.4**
TOKA				*i* S	**Sb**	**16 38 23.5**	**-0.4**
TOKT	**Tokat**	**2.98**	**82**	*e*PN	**Pn**	**16 37 43.6**	**+0.6**
TOKT	**Tokat**	**2.98**	**82**	*e*Pn	**Pn**	**16 37 43.6**	**+0.6**
PINB	**Pinarbasi**	**3.15**	**113**	*i* P	**Pb**	**16 37 52.7**	**+1.1**
PINB				*i* S	**Sg**	**16 38 35.8**	**-0.2**
DEMI	**Demirci**	**3.20**	**255**	*i* P	**Pg**	**16 37 54.6**	**-1.5**
DEMI				*i* S	**Sg**	**16 38 40.5**	**+2.9**
KARA	**Karaisali**	**3.27**	**145**	*e*PN	**Pn**	**16 37 47.9**	**+1.0**
KARA	**Karaisali**	**3.27**	**145**	*e*Pn	**Pn**	**16 37 47.9**	**+1.0**
ERMK	**Ermenek**	**3.31**	**177**	*i* P	**Pb**	**16 37 55.7**	**+1.5**
ERMK				*i* S	**Sg**	**16 38 43.1**	**+2.0**
SVSK	**Karacayir**	**3.31**	**89**	*e*PN	**Pn**	**16 37 48.2**	**+0.7**
SVSK	**Karacayir**	**3.31**	**89**	*e*Pn	**Pn**	**16 37 48.2**	**+0.7**
KOZT	**Kozan**	**3.48**	**134**	*e*PN	**Pn**	**16 37 50.7**	**+0.8**
KOZT	**Kozan**	**3.48**	**134**	*e*Pn	**Pn**	**16 37 50.7**	**+0.8**
GAZI	**Gazipasa**	**3.72**	**185**	*i* P	**Pn**	**16 37 55.1**	**+1.9**
GAZI	**Gazipasa**	**3.72**	**185**	*i* P	**Pn**	**16 37 55.1**	**+1.9**
GAZI				*i* S	**Sb**	**16 38 45.3**	**-1.4**
BALY	**Balya**	**3.91**	**268**	*i* P	**Pg**	**16 38 08.8**	**-0.7**
BALY				*i* S	**Sg**	**16 39 01.7**	**+1.5**
SUSE	**Susehri**	**4.24**	**85**	*i* P	**Pn**	**16 38 02.6**	**+2.2**
SUSE	**Susehri**	**4.24**	**85**	*i* P	**Pn**	**16 38 02.6**	**+2.2**
SUSE				*i* S	**Sg**	**16 39 11.9**	**+1.0**
AKCD	**Akcadag**	**4.40**	**110**	*i* P	**Pb**	**16 38 15.5**	**+2.8**
AKCD				*i* S	**Sg**	**16 39 14.7**	**-1.2**
CRVS	**Cervenica-Dubn**	**12.01**	**322**	*e*PN	**Pn**	**16 39 44.1**	**-2.6**

*IDC **30** 16:50:35.9±1.0,10°.32N×126°.33E,h0km,mb3.5/8, mb1 3.7/8,mb1mx3.6/34,mbtmp3.5/8,MS2.7/2,Ms1 2.7/2, ms1mx2.3/24,Error ellipse: s-maj=46.6km s-min=21.1km az=68.0*
*ISCJB **30** 16:50:41.3±0.7,10°.35N±0°.04×126°.24E±0°.07,h51km, mb3.5/8,MS2.2/1,Error ellipse: s-maj=10.6km s-min=6.1km az=5.4*
*MAN **30** 16:50:41,10°.42N×126°.17E,h31km,mb4.9,ML3.9,MS4.0*

**ISC 30 16:50:43.0±0.

KBSD				*e*S		**Sb**	**17 03 44.7**	**-0.2**
KBSD				AML		AML	17 03 51.1	
	comp=Z,579nm,0.2s							
SFNV	**Sufian**	**1.42**	**136**	*e*P		**Pb**	**17 03 27.3**	**+0.1**
SFNV				AML		AML	17 03 53.2	
	comp=Z,1μm,0.3s							
MARD	**Mardin**	**1.52**	**94**	*i* P		**Pn**	**17 03 27.7**	**-0.4**
MARD				*i* S		**Sn**	**17 03 47.9**	**-0.3**
MNKR	**ALMNKUR**	**1.53**	**168**	*e*P		**Pn**	**17 03 28.1**	**0.0**
MNKR				*e*S		**Sn**	**17 03 47.4**	**-0.9**
MNKR				AML		AML	17 03 54.2	
	comp=Z,1μm,0.2s							
HCB	**Kahramanmara⁻**	**1.57**	**267**	*i* P		**Pn**	**17 03 28.0**	**-0.8**
HCB				*i* S		**Sn**	**17 03 48.3**	**-1.2**
KMRS	**Kahramanmaras**	**1.58**	**273**	*e*PN		**Pn**	**17 03 28.0**	**-0.9**
KMRS	**Kahramanmaras**	**1.58**	**273**	*e*Pn		**Pn**	**17 03 28.0**	**-0.9**
DARE	**Darende-Malaty**	**1.58**	**316**	*e*PN		**Pn**	**17 03 29.3**	**+0.3**
DARE	**Darende-Malaty**	**1.58**	**316**	*e*Pn		**Pn**	**17 03 29.3**	**+0.3**
KUZU	**Kuzuini**	**1.59**	**246**	*i* P		**Pg**	**17 03 30.8**	**0.0**
KUZU				*i* S		**Sg**	**17 03 51.4**	**0.0**
KUZU	**Kuzuini**	**1.59**	**246**	*i* P		**Pg**	**17 03 30.8**	**0.0**
KUZU				*i* S		**Sg**	**17 03 51.4**	**0.0**
KAMA	**Osmaniye**	**1.78**	**262**	*i* P		**Pn**	**17 03 31.0**	**-0.7**
KAMA				*i* S		**Sb**	**17 03 56.4**	**+0.4**
JHLN	**Al Jahlan**	**1.80**	**191**	*e*P		**Pn**	**17 03 31.3**	**-0.6**
JHLN				*e*S		**Sn**	**17 03 55.5**	**+0.5**
BEST	**Besiri**	**1.95**	**76**	*i* P		**Pn**	**17 03 34.2**	**+0.2**
BEST				*i* S		**Sb**	**17 04 01.0**	**+0.1**
ILIC	**ilic-Erzincan**	**2.02**	**353**	*e*PN		**Pn**	**17 03 36.0**	**+0.9**
ILIC	**ilic-Erzincan**	**2.02**	**353**	*e*Pn		**Pn**	**17 03 36.0**	**+0.9**
BNGB	**Bing˜ll**	**2.10**	**42**	*e*PN		**Pn**	**17 03 37.0**	**+0.9**
MZRK	**Al-Mazaregh**	**2.15**	**138**	*e*P		**Pn**	**17 03 35.7**	**-1.0**
MZRK				*e*S		**Sn**	**17 04 03.1**	**-0.5**
MZRK				AML		AML	17 04 09.0	
	comp=Z,444nm,0.3s							
BTMT	**Batman**	**2.20**	**69**	*e*PN		**Pn**	**17 03 38.9**	**+1.5**
BTMT	**Batman**	**2.20**	**69**	*e*Pn		**Pn**	**17 03 38.9**	**+1.5**
ERZN	**Erzincan**	**2.24**	**17**	*e*PN		**Pn**	**17 03 39.0**	**+0.8**
EZC	**Erzincan**	**2.34**	**9**	*e*Pn		**Pn**	**17 03 39.0**	**-0.4**
BNGL	**BINGOL**	**2.34**	**49**	*i* P		**Pb**	**17 03 43.0**	**-0.1**
BNGL				*i* S		**Sb**	**17 04 11.2**	**-1.1**
BTCH	**Batrach**	**2.40**	**235**	*e*P		**Pb**	**17 03 42.2**	**-1.7**
BTCH				*e*S		**Sb**	**17 04 13.1**	**-0.6**
BTCH				AML		AML	17 04 25.5	
	comp=N,620nm,0.4s							
KOZT	**Kozan**	**2.43**	**272**	*e*PN		**Pn**	**17 03 41.0**	**+0.4**
KOZT	**Kozan**	**2.43**	**272**	*e*Pn		**Pn**	**17 03 41.0**	**+0.4**
VRTB	**Varto-Mus**	**2.66**	**49**	*e*PN		**Pn**	**17 03 44.5**	**+0.7**
VRTB	**Varto-Mus**	**2.66**	**49**	*e*Pn		**Pn**	**17 03 44.5**	**+0.7**
ARNB	**Al Arnab**	**2.82**	**237**	*e*P		**Pn**	**17 03 47.5**	**+1.5**
ARNB				*e*S		**Sn**	**17 04 22.2**	**+1.9**
ARNB				AML		AML	17 04 38.7	
	comp=N,214nm,0.5s							
ARNB				AML		AML	17 04 40.8	
	comp=E,219nm,0.5s							
SIRT	**Sirnak**	**2.83**	**88**	*e*PN		**Pn**	**17 03 47.4**	**+1.2**
SIRT	**Sirnak**	**2.83**	**88**	*e*Pn		**Pn**	**17 03 47.4**	**+1.2**
SVSK	**Karacayir**	**2.88**	**330**	*e*PN		**Pn**	**17 03 47.6**	**+0.9**
SVSK	**Karacayir**	**2.88**	**330**	*e*Pn		**Pn**	**17 03 47.6**	**+0.9**
GUMT	**Gumushane**	**3.05**	**9**	*e*PN		**Pn**	**17 03 51.0**	**+1.8**
GUMT	**Gumushane**	**3.05**	**9**	*e*Pn		**Pn**	**17 03 51.0**	**+1.8**
BAYT	**Ayd¯–ntepe-Bay**	**3.11**	**18**	*e*PN		**Pn**	**17 03 51.2**	**+1.2**
BAYT	**Ayd¯–ntepe-Bay**	**3.11**	**18**	*e*Pn		**Pn**	**17 03 51.3**	**+1.2**
EZM	**Erzurum**	**3.14**	**38**	*e*PN		**Pn**	**17 03 51.0**	**+0.5**
CUKT	**Cukurca**	**3.77**	**91**	*e*PN		**Pn**	**17 04 00.8**	**+1.7**
CUKT	**Cukurca**	**3.77**	**91**	*e*Pn		**Pn**	**17 04 00.8**	**+1.7**
AGRB	**Hanur-Agry**	**3.87**	**55**	*e*PN		**Pn**	**17 04 01.8**	**+1.3**
AGRB	**Hanur-Agry**	**3.87**	**55**	*e*Pn		**Pn**	**17 04 01.8**	**+1.3**
HKR	**Hakkari**	**3.87**	**86**	*e*PN		**Pn**	**17 04 02.0**	**+1.5**
HKR	**Hakkari**	**3.87**	**86**	*e*Pn		**Pn**	**17 04 02.0**	**+1.5**
MARH	**Ras Al Marh**	**3.93**	**211**	*e*P		**Pn**	**17 04 03.4**	**+2.0**
ZALF	**Zalf**	**4.68**	**196**	*e*P		**Pn**	**17 04 13.0**	**+1.4**

WEL 30 17:04:08.8±0.6, 36°58S×177°25E, h241km±5km, ML4.6/20, 16C-2D, Error ellipse: s-maj=4.7km s-min=3.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.24**	**262**	⇓PN	Pn	17 04 44.4	0.0
HAZ	**Te Kaha**	**1.25**	**160**	PN	Pn	17 04 43.9	-0.4
MXZ	**Matakaoa Point**	**1.29**	**140**	PN	Pn	17 04 44.9	+0.2
MXZ				SN	S	17 05 13.3	+0.4
MXZ				AML	AML	17 05 21.8	
MXZ				AML	AML	17 05 21.8	
MXZ				AML	AML	17 05 23.0	
OPRZ	**Ohinepanea**	**1.38**	**204**	PN	Pn	17 04 45.5	+0.2
WMGZ	**Waiomatatini S**	**1.54**	**143**	PN	Pn	17 04 46.8	+0.2
WMGZ				SN	S	17 05 15.3	-1.0
EDRZ	**Edgecumbe**	**1.58**	**195**	*e*PN	Pn	17 04 47.6	+0.7
KARZ	**Kaharoa**	**1.65**	**209**	PN	Pn	17 04 48.3	+0.8
URZ	**Urewera**	**1.68**	**184**	⇑PN	Pn	17 04 47.3	-0.3
URZ				AML	AML	17 05 17.8	
URZ				AML	AML	17 05 26.7	
PUZ	**Puketiti**	**1.69**	**152**	⇑PN	Pn	17 04 47.9	+0.1
PUZ				AML	AML	17 05 30.8	
PUZ				AML	AML	17 05 30.8	
TWGZ	**Tauwhareparae**	**1.69**	**160**	⇑PN	Pn	17 04 48.5	+0.7
MWZ	**Matawai**	**1.76**	**173**	PN	Pn	17 04 48.4	-0.1
MWZ				AML	AML	17 05 31.2	
MWZ				AML	AML	17 05 31.2	
MWZ				AML	AML	17 05 31.3	
MWZ				AML	AML	17 05 31.3	
HLRZ	**Highlands Stat**	**1.82**	**203**	PN	Pn	17 04 49.6	+0.7
RRRZ	**Republican Roa**	**1.85**	**198**	PN	Pn	17 04 49.5	+0.3
HSRZ	**Hossack Road**	**1.90**	**205**	PN	Pn	17 04 50.7	+1.1
TKGZ	**Te Karaka**	**1.91**	**166**	⇑PN	Pn	17 04 49.8	+0.2
TKGZ				SN	S	17 05 20.8	-1.1
RAGZ	**Rawiri**	**1.91**	**176**	PN	Pn	17 04 49.9	0.0
HRRZ	**Handcock Road**	**1.96**	**203**	PN	Pn	17 04 50.8	+0.6
PRRZ	**Plateau Road**	**2.03**	**199**	⇑PN	Pn	17 04 51.1	+0.3
CNGZ	**Carnagh Statio**	**2.05**	**159**	PN	Pn	17 04 51.5	+0.6
ALRZ	**Allen Road**	**2.11**	**200**	PN	Pn	17 04 51.8	+0.3
WPRZ	**Whakapapatarin**	**2.12**	**204**	PN	Pn	17 04 52.1	+0.4
RIGZ	**Rimuhau**	**2.16**	**169**	⇑PN	Pn	17 04 52.2	+0.2
SNGZ	**Shannon Statio**	**2.20**	**178**	⇑PN	Pn	17 04 52.4	0.0
TLZ	**Tolley Road**	**2.21**	**218**	PN	Pn	17 04 53.8	+1.2
RAHZ	**Arahi**	**2.33**	**183**	⇑PN	Pn	17 04 53.9	+0.2
PRGZ	**Paritu Road**	**2.39**	**168**	PN	Pn	17 04 54.3	0.0
WATZ	**Wairara**	**2.44**	**209**	PN	Pn	17 04 55.3	+0.5
KNZ	**Kokohu**	**2.46**	**172**	⇑PN	Pn	17 04 54.5	-0.4
HATZ	**Hinemaiaia**	**2.48**	**201**	PN	Pn	17 04 55.1	-0.2
WHHZ	**Waihua**	**2.49**	**180**	⇑PN	Pn	17 04 55.3	0.0
NMHZ	**Naumai**	**2.54**	**188**	PN	Pn	17 04 55.9	+0.1
RATZ	**Rangitukua**	**2.57**	**207**	PN	Pn	17 04 56.1	0.0
MHGZ	**Mahia Peninsul**	**2.62**	**169**	PN	Pn	17 04 56.2	-0.4
RITZ	**Rihia Road**	**2.63**	**204**	PN	Pn	17 04 56.8	0.0
BKZ	**Black Stump Fm**	**2.65**	**193**	⇑PN	Pn	17 04 56.1	-0.9
BKZ				AML	AML	17 05 43.1	
BKZ				AML	AML	17 05 48.5	
ARHZ	**Aropaoanui**	**2.68**	**184**	⇑PN	Pn	17 04 57.1	-0.1
HIZ	**Hauiti**	**2.71**	**224**	PN	Pn	17 04 58.9	+1.3
KRVZ	**Karewarewa**	**2.81**	**206**	PN	Pn	17 04 58.6	-0.2
WTVZ	**West Tongariro**	**2.85**	**207**	PN	Pn	17 04 59.2	-0.1
OTVZ	**Oturere**	**2.87**	**206**	PN	Pn	17 04 59.3	+0.1
TWVZ	**Taurewa**	**2.87**	**209**	*e*PN	Pn	17 04 59.7	+0.3
MCHZ	**McNeill Hill**	**2.89**	**189**	⇑PN	Pn	17 04 59.3	-0.2
NGZ	**Ngauruhoe**	**2.90**	**206**	PN	Pn	17 04 59.9	+0.1
COVZ	**Chateau Observ**	**2.94**	**207**	PN	Pn	17 04 59.9	-0.3
WPVZ	**Whakapapa**	**2.95**	**207**	PN	Pn	17 05 00.2	0.0
TUVZ	**Tukino**	**2.97**	**205**	PN	Pn	17 05 00.0	-0.5
WHVZ	**Whangaehu Hut**	**3.00**	**206**	PN	Pn	17 05 00.1	-0.9
DRZ	**Dome Shelter**	**3.00**	**206**	PN	Pn	17 05 01.6	+0.5
TRVZ	**Turoa**	**3.03**	**206**	PN	Pn	17 05 00.8	-0.6
WNVZ	**Wahianoa**	**3.04**	**205**	⇑PN	Pn	17 05 00.6	-0.7
BHHZ	**Black Hill Sta**	**3.05**	**198**	⇑PN	Pn	17 05 00.2	-1.1
MOVZ	**Moawhango**	**3.06**	**202**	PN	Pn	17 05 00.3	-1.2
CKHZ	**Cape Kidnapper**	**3.08**	**183**	PN	Pn	17 05 00.8	-0.7
PKVZ	**Pokaka**	**3.10**	**209**	PN	Pn	17 05 01.4	-0.4
MTVZ	**Mangateitei**	**3.13**	**206**	PN	Pn	17 05 01.9	-0.3
KRHZ	**Kereru**	**3.14**	**193**	PN	Pn	17 05 01.2	-1.0
VRZ	**Vera Road**	**3.22**	**217**	*e*PN	Pn	17 05 03.8	+0.7
KAHZ	**Kahuranaki**	**3.22**	**185**	PN	Pn	17 05 02.4	-0.8
PNHZ	**Pukenui**	**3.43**	**194**	PN	Pn	17 05 04.1	-1.5
PXZ	**Pawanui**	**3.46**	**185**	PN	Pn	17 05 04.4	-1.4
PXZ				AML	AML	17 05 52.3	
PXZ				AML	AML	17 05 52.4	
PXZ				AML	AML	17 05 58.8	
PXZ				AML	AML	17 05 58.9	

WPHZ	**Waipukurau**	**3.54**	**190**	PN		Pn	17 05 05.2	-1.5
TSZ	**Takapari Road**	**3.62**	**196**	PN		Pn	17 05 06.1	-1.6
TSZ				AML		AML	17 05 55.7	
TSZ				AML		AML	17 05 57.0	
WAZ	**Wanganui**	**3.64**	**209**	PN		Pn	17 05 07.1	-0.8
LREZ	**Lake Rotokare**	**3.65**	**217**	PN		Pn	17 05 08.8	+0.8
NEZ	**North Egmont**	**3.67**	**222**	PN		Pn	17 05 10.6	+2.3
PRHZ	**Porangahau**	**3.71**	**187**	PN		Pn	17 05 07.3	-1.5
DVHZ	**Dannevirke**	**3.81**	**193**	PN		Pn	17 05 07.9	-2.0
ANWZ	**Angora Road**	**3.92**	**189**	⇓PN		Pn	17 05 09.6	-1.5
POWZ	**Post Office Ro**	**3.98**	**197**	PN		Pn	17 05 10.3	-1.6
PRWZ	**Pori Road**	**4.09**	**194**	PN		Pn	17 05 11.5	-1.8
BFZ	**Birch Farm**	**4.17**	**191**	PN		Pn	17 05 12.1	-2.1
MRZ	**Mangatainoka R**	**4.28**	**197**	⇑PN		Pn	17 05 12.9	-2.6
MRZ				AML		AML	17 06 09.4	
MRZ				AML		AML	17 06 14.4	
TIWZ	**Tintock**	**4.32**	**194**	PN		Pn	17 05 13.9	-2.2
TIWZ				AML		AML	17 06 11.2	
TIWZ				AML		AML	17 06 12.1	
CPWZ	**Castlepoint**	**4.40**	**190**	*e*PN		Pn	17 05 15.1	-1.8
HOWZ	**Holdsworth Sta**	**4.52**	**197**	PN		Pn	17 05 15.7	-2.7
OGWZ	**Otaki Gorge**	**4.53**	**200**	PN		Pn	17 05 15.9	-2.6
TMWZ	**Te Maipa**	**4.64**	**193**	PN		Pn	17 05 17.5	-2.4
MTW	**Mount Morrison**	**4.77**	**196**	PN		Pn	17 05 18.6	-2.8
MTW				AML		AML	17 06 17.6	
MTW				AML		AML	17 06 22.8	
CAW	**Cannon Point**	**4.83**	**200**	*e*PN		Pn	17 05 18.9	-3.3
CAW				AML		AML	17 06 20.6	
CAW				AML		AML	17 06 21.9	
DUWZ	**D'Urville Isla**	**4.96**	**211**	*e*PN		Pn	17 05 20.9	-2.8
TRWZ	**Traveller**	**4.96**	**194**	PN		Pn	17 05 20.9	-2.9
TRWZ				AML		AML	17 06 22.2	
TRWZ				AML		AML	17 06 25.4	
PAWZ	**Paruwai Farm**	**5.00**	**196**	PN		Pn	17 05 21.8	-2.5
PAWZ				AML		AML	17 06 26.0	
PAWZ				AML		AML	17 06 26.1	
MSWZ	**Moikau Station**	**5.07**	**197**	PN		Pn	17 05 22.2	-3.0
MSWZ				AML		AML	17 06 24.2	
MSWZ				AML		AML	17 06 27.8	
WEL	**Wellington**	**5.08**	**202**	AML		AML	17 06 26.3	
WEL				AML		AML	17 06 29.5	
BHW	**Baring Head**	**5.17**	**200**	PN		Pn	17 05 23.0	-3.2
BHW				AML		AML	17 06 27.2	
BHW				AML		AML	17 06 30.3	
TCW	**Tory Channel**	**5.17**	**206**	PN		Pn	17 05 23.4	-3.0
TCW				AML		AML	17 06 30.5	
TCW				AML		AML	17 06 31.5	
PLWZ	**Palliser**	**5.22**	**197**	PN		Pn	17 05 24.0	-3.0
TUWZ	**Tuamarina**	**5.49**	**207**	PN		Pn	17 05 27.1	-3.1
TUWZ				AML		AML	17 06 33.5	
TUWZ				AML		AML	17 06 35.3	
QRZ	**Quartz Range**	**5.62**	**220**	PN		Pn	17 05 28.7	-3.2
BSWZ	**Blackbirch Sta**	**5.76**	**206**	PN		Pn	17 05 31.7	-2.0
BSWZ				AML		AML	17 06 44.2	
BSWZ				AML		AML	17 06 44.9	
THZ	**Tophouse**	**6.18**	**212**	*e*PN		Pn	17 05 34.7	-4.3
KHZ	**Kahutara**	**6.50**	**205**	PN		Pn	17 05 39.3	-3.5
KHZ				AML		AML	17 06 57.9	
KHZ				AML		AML	17 06 58.1	
DSZ	**Denniston Nort**	**6.67**	**218**	*e*PN		Pn	17 05 40.6	-4.6
LTZ	**Lake Taylor**	**7.29**	**210**	*e*PN		Pn	17 05 48.1	-4.9
OXZ	**Oxford**	**7.83**	**209**	*e*PN		Pn	17 05 55.4	-4.5
CRLZ	**Canterbury Las**	**7.83**	**206**	*e*PN		Pn	17 05 55.4	-4.4
MQZ	**McQueen's Vall**	**7.94**	**205**	PN		Pn	17 05 56.7	-4.5
MQZ				SN		S	17 07 21.6	-10
WVZ	**Waitaha Valley**	**8.20**	**216**	*e*PN		Pn	17 06 00.7	-3.8
RPZ	**Rata Peaks**	**8.56**	**212**	*e*PN		Pn	17 06 05.2	-3.9
LBZ	**Lake Benmore**	**9.47**	**212**	*e*PN		Pn	17 06 17.2	-3.5
ODZ	**Otahua Downs**	**9.82**	**209**	PN		Pn	17 06 22.5	-2.6
JCZ	**Jackson Bay**	**9.90**	**218**	*e*PN		Pn	17 06 22.0	-4.2
WKZ	**Wanaka**	**10.34**	**215**	*e*PN		Pn	17 06 27.0	-4.6
TUZ	**Tuapeka**	**10.97**	**209**	*e*PN		Pn	17 06 38.0	-1.7
WHZ	**Wether Hill Ro**	**11.64**	**214**	*e*PN		Pn	17 06 44.9	-3.0

*IDC **30** 17:09:25.2±0.7, 10°33N×126°21E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.8/30, mbtmp3.8/14, MS3.1/7, Ms1 3.1/7, ms1mx2.9/25, Error ellipse: s-maj=30.6km s-min=14.9km az=75.0*

*ISCJB **30** 17:09:30.7±1.1, 10°35N±0°04×126°22E±0°09, h50km±10km, mb3.8/15, MS3.0/7, Error ellipse: s-maj=15.3km s-min=6.1km az=170.4*

*MAN **30** 17:09:31, 10°36N×126°13E, h31km, mb4.9, ML3.8, MS3.8*

ISC 30 17:09:31.1±0.9, 10°35N±0°05×126°3E±0°1, h38km±3km, n41, σ1°19/36, mb3.7/15, MS2.9/7, 4C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.94**	**233**	⇑*e*P	**Pn**	**17 09 47.4**	**-0.3**
SCPH				*e*S	**Sn**	**17 10 00.4**	**+0.4**
MSZ	**Maasin**	**1.39**	**261**	*e*P	**Pn**	**17 09 53.5**	**-0.4**
BESP	**Borongan**	**1.48**	**327**	*e*P	**Pn**	**17 09 55.1**	**0.0**
PLP	**Palo**	**1.49**	**303**	⇓*e*P	**Pn**	**17 09 55.0**	**-0.3**
PLP				*e*S	**Sn**	**17 10 12.1**	**-1.4**
BUTP	**Butuan**	**1.51**	**204**	*e*P	**Pn**	**17 09 55.5**	**-0.1**
BUTP				*e*S	**Sn**	**17 10 12.6**	**-1.4**
OCLP	**Ormoc**	**1.76**	**293**	*e*P	**Pn**	**17 09 59.8**	**+0.8**
OCLP				*e*S	**Sn**	**17 10 18.7**	**-1.4**
CGP	**Cagayan de Oro**	**2.43**	**219**	⇑*i*P	**Pn**	**17 10 09.0**	**+0.7**
CGP				*i* S	**Sn**	**17 10 38.0**	**+1.2**
BUKP	**Musuan**	**2.72**	**206**	*e*P	**Pn**	**17 10 14.4**	**+2.0**
SNPH	**Sibulan**	**3.14**	**252**	*e*P	Pn	17 10 13.9	-4.1
DCPH	**Dipolog City**	**3.36**	**239**	⇑*e*P	**Pn**	**17 10 22.1**	**+1.0**
GUIM	**Jordan**	**3.61**	**275**	*e*P	**Pn**	**17 10 24.9**	**+0.4**
RCP	**Roxas**	**3.65**	**290**	⇑*e*P	**Pn**	**17 10 26.4**	**+1.4**
PAGZ	**Pagadian**	**3.77**	**229**	*e*P	**Pn**	**17 10 27.3**	**+0.6**
PVCP	**Virac**	**3.82**	**328**	*e*P	**Pn**	**17 10 29.0**	**+1.6**
OTRP	**Odiongan**	**4.60**	**296**	*e*P	**Pn**	**17 10 39.8**	**+1.6**
CUYO	**Cuyo Island**	**5.17**	**276**	*e*P	**Pn**	**17 10 47.2**	**+1.3**
SJMP	**San Jose**	**5.45**	**293**	*e*P	**Pn**	**17 10 52.0**	**+2.2**
KSRS	**Korea Array**	**27.03**	**3**	P	**P**	**17 15 08.8**	**-0.9**
	0.7nm,0.8s,baz=175,slow=9.4,SNR=3.8						
KSRS				LR	LR	17 26 14.1	
	comp=Z,27nm,19.7s,baz=173,slow=37						
CMAR	**Chiang Mai Arr**	**27.62**	**290**	P	**P**	**17 15 14.9**	**-0.4**
	1.3nm,0.7s,baz=98,slow=7.9,SNR=12						
CMAR				LR	LR	17 26 09.6	
	comp=Z,18nm,18.5s,baz=130,slow=36						
MJAR	**Matsushiro Arr**	**28.23**	**21**	LR	LR	17 27 11.4	
	comp=Z,26nm,18.0s,baz=190,slow=38						
WRA	**Warramunga Arr**	**31.14**	**165**	P	**P**	**17 15 44.5**	**-1.9**
	0.4nm,0.5s,baz=345,slow=8.9,SNR=7.9						
USRK	**Ussuriysk Ar.**	**34.09**	**7**	LR	LR	17 29 11.9	
	comp=Z,32nm,21.6s,baz=184,slow=35						
ASAR	**Alice Springs**	**34.63**	**168**	P	**P**	**17 16 16.0**	**-0.9**
	0.3nm,0.3s,baz=350,slow=6.8,SNR=24						
H11S3	**WAKE ISLAND Hy**	**39.92**	**74**	T	T	17 59 53.5	
	baz=267						
H11S1	**WAKE ISLAND Hy**	**39.93**	**74**	T	T	17 59 56.3	
	baz=267						
H11S2	**WAKE ISLAND Hy**	**39.93**	**74**	T	T	17 59 54.2	
	baz=267						
H11N1	**WAKE ISLAND Hy**	**40.25**	**72**	T	T	18 00 32.8	
	baz=265,slow=74,SNR=38						
H11N2	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	18 00 32.6	
	baz=265,slow=74,SNR=26						
H11N3	**WAKE ISLAND Hy**	**40.27**	**72**	T	T	18 00 28.8	
	baz=265,slow=74,SNR=37						
SONM	**Songino Array**	**40.94**	**340**	P	**P**	**17 17 09.1**	**-1.0**
	0.2nm,0.3s,baz=150,slow=6.0,SNR=2.8						
STKA	**Stephens Creek**	**44.48**	**161**	P	**P**	**17 17 39.1**	**+0.3**
	1.4nm,0.6s,baz=338,slow=8.9,SNR=8.1						
PETK	**Petropavlovsk-**	**49.57**	**24**	P	**P**	**17 18 18.8**	**+0.5**
	6.0nm,1.1s,baz=205,slow=5.9,SNR=2.8						
PETK				LR	LR	17 39 55.0	
	comp=Z,10nm,19.3s,baz=262,slow=37						
MKAR	**Makanchi Array**	**51.95**	**323**	P	**P**	**17 18 34.9**	**-1.5**
	0.6nm,0.7s,baz=131,slow=4.4,SNR=6.2						
MKAR				LR	LR	17 42 18.4	
	comp=Z,22nm,18.7s,baz=104,slow=38						
ZALV	**Zalesovo Beam**	**54.55**	**331**	P	**P**	**17 18 57.5**	**+2.2**
	0.4nm,0.3s,baz=140,slow=9.4,SNR=3.1						
ILAR	**Eielson Array**	**79.38**	**26**	P	**P**	**17 21 33.3**	**+0.4**
	0.5nm,0.8s,baz=254,slow=5.4,SNR=3.1						
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**	**17 21 57.1**	**-0.7**
	2.1nm,1.1s,baz=74,slow=4.3,SNR=4.9						
FINES	**FINESS Array B**	**85.81**	**332**	P	**P**	**17 22 06.1**	**-0.3**
	0.4nm,0.4s,baz=74,slow=6.9,SNR=5.9						
AKASG	**Malin Array Be**	**86.49**	**321**	P	**P**	**17 22 11.7**	**+1.6**
	0.1nm,0.3s,baz=61,slow=5.9,SNR=3.5						
PPT	**Papeete**	**87.61**	**108**	LR	LR	17 55 33.0	
	comp=Z,320nm,19.1s,baz=334,slow=32						
VNDA	**Vanda**	**90.01**	**173**	P	**P**	**17 22 26.1**	**0.0**
	0.6nm,0.8s,baz=326,slow=3.6,SNR=3.1						
YKA	**Yellowknife Ar**	**93.69**	**24**	P	**P**	**17 22 43.6**	**0.0**
	0.2nm,0.7s,baz=294,slow=4.6,SNR=3.4						

*ISCJB **30** 17:17:59.0±0.4, 32°52N±0°03×115°54W±0°03, h14km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=24.4*

*ECX **30** 17:18:00.9±0.6, 32°49N×115°58W, h6km, MD3.0, ML3.2*

*MEX **30** 17:18:00.1±0.8, 32°56N×115°42W, h10km, MD3.5*

*NEIC **30** 17:18:01.0, 32°49N×115°58W, h6km, ML3.0(PAS), ML3.2(ECX), After ECX.*

ISC 30 17:17:58.5±1.0, 32°50N±0°03×115°56W±0°02, h14km±8km, n25, σ0°62/40, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.20**	**317**	⇓*i*P	**Pb**	**17 18 04.5**	**+0.5**
CPBX	**Cerro Prieto**	**0.23**	**111**	*e*P	**Pb**	**17 18 05.2**	**+0.6**
CPBX				*e*S	**Sb**	**17 18 09.2**	**+0.5**
CPBX				⇓*e*		17 18 13.6	
	comp=N,19μm,0.4s						
CPBX				⇓*e*		17 18 14.7	
	comp=E,22μm,0.4s						
CPBX	**Cerro Prieto**	**0.23**	**111**	*e*P	**Pb**	**17 18 05.2**	**+0.6**
CPBX				*i* S	**Sg**	**17 18 07.8**	**+0.6**
MBIG	**Mexicali**	**0.32**	**107**	*e*P	**Pg**	**17 18 04.3**	**-0.9**
MBIG				*i* S	**Sg**	**17 18 08.4**	**-1.2**
YUH	**Yuha Desert**	**0.34**	**296**	⇑*i*P	**Pb**	**17 18 06.7**	**+0.4**
COK	**Cook Ranch**	**0.37**	**338**	⇓*i*P	**Pb**	**17 18 08.2**	**+1.2**
RMX	**La Rumorosa**	**0.45**	**283**	⇑*e*P	**Pb**	**17 18 08.7**	**+0.3**
RMX				*e*S	**Sb**	**17 18 14.9**	**0.0**
RMX				⇑*e*		17 18 15.7	
	comp=N,892nm,0.2s						
COA	**Coachella**	**0.52**	**46**	⇑*i*P	**Pb**	**17 18 10.6**	**+1.2**
RDX	**Rancho Dawling**	**0.66**	**209**	⇑*e*P	**Pb**	**17 18 12.1**	**+0.2**
RDX				*e*S	**Sb**	**17 18 20.8**	**-0.2**
RDX				⇓*e*		17 18 23.5	
	comp=N,1μm,0.3s						
GLA	**Glamis**	**0.83**	**48**	*e*Pg	**Pb**	**17 18 14.8**	**0.0**
GLA				*e*Sg	**Sb**	**17 18 25.8**	**0.0**
YMD	**Yuma Desert**	**0.86**	**86**	⇑*i*P	**Pb**	**17 18 15.4**	**+0.1**
CBX	**Cerro

h60km±18km, mb3.2/1, Error ellipse: s-maj=13.0km s-min=5.8km az=30.4

JMA ***30*** *17:46:50.7±0.2, 39°.32N×143°.82E, h56km, M3.6*

IDC ***30*** *17:46:50.7±7.8, 39°.38N×144°.09E, h65km±36km, mb3.2/1, mb1 3.3/4, mb1mx2.9/32, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=107.7km s-min=22.0km az=103.0*

ISC 30 17:46:49.7±2.2, 39°.32N±0°.08×144°.0E±0°.1, h47km±27km, n16, σ1s08/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.67**	**280**	P	**Pn**	**17 47 17.0**	**+0.5**
MIYJ				S	**Sn**	**17 47 36.4**	**-0.3**
JTH	**Tanohata**	**1.73**	**292**	P	**Pn**	**17 47 17.7**	**+0.4**
JTH				S	**Sn**	**17 47 38.2**	**+0.1**
OFUJ	**Ofunato**	**1.79**	**263**	P	**Pn**	**17 47 18.3**	**+0.2**
OFUJ				*e*S	**Sn**	**17 47 38.5**	**-1.1**
JOM	**Ohasama**	**2.07**	**275**	P	**Pn**	**17 47 22.7**	**+0.8**
JOM				*e*S	**Sn**	**17 47 45.9**	**-0.6**
JANG	**Nango**	**2.15**	**300**	P	**Pn**	**17 47 23.1**	**0.0**
JANG				*e*S	**Sn**	**17 47 47.2**	**-1.4**
JMK	**Ichinoseki**	**2.16**	**261**	P	**Pn**	**17 47 23.6**	**+0.5**
JMK				*e*S	**Sn**	**17 47 47.9**	**-0.7**
JYK	**Kaneyama**	**2.82**	**263**	P	**Pn**	**17 47 33.2**	**+0.9**
JYK				*e*S	**Sn**	**17 48 05.6**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.10**	**343**	P	**Pn**	**17 47 37.0**	**+1.0**
JNBK				*e*S	**Sn**	**17 48 12.6**	**+0.8**
JCH	**Churui**	**3.33**	**352**	P	**Pn**	**17 47 39.4**	**+0.2**
JCH				*e*S	**Sn**	**17 48 15.8**	**-1.6**
JFT	**Otama**	**3.36**	**239**	P	**Pn**	**17 47 40.1**	**+0.4**
JFT				*e*S	**Sn**	**17 48 16.1**	**-2.2**
JAK	**Akkeshi**	**3.72**	**8**	*e*S	**Sn**	**17 48 25.1**	**-2.0**
ASAJ	**Asahikawa**	**4.90**	**349**	P	**Pn**	**17 48 02.3**	**+1.5**
	0.9nm,0.3s,baz=183,slow=19,SNR=8.8						
ASAJ				S	**Sn**	**17 48 56.0**	**-0.2**
	0.3nm,0.3s,baz=18,slow=20,SNR=3.1						
MAT	**Matsushiro**	**5.32**	**240**	P	**Pn**	**17 48 07.9**	**+1.3**
MJAR	**Matsushiro Arr**	**5.32**	**240**	P	**Pn**	**17 48 08.0**	**+1.4**
	1.6nm,0.3s,baz=57,slow=14,SNR=21						
USRK	**Ussuriysk Ar.**	**10.18**	**302**	P	Pn	17 49 16.6	+3.5
	0.2nm,0.3s,baz=102,slow=14,SNR=5.4						
SONM	**Songino Array**	**28.28**	**300**	P	**P**	**17 52 38.4**	**-0.2**
	0.2nm,0.3s,baz=84,slow=7.6,SNR=5.3						

MEX 30 18:17:00.5±0.4, 18°.06N×103°.25W, h6km±2km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.24**	**339**	*i* P	Pg	18 17 05.1	-0.2
MMIG				*i* S	Sg	18 17 08.5	-0.1
R15V		**1.30**	**328**	*e*P	Pn	18 17 21.4	-4.0
R15V				*i* S	Sg	18 17 38.2	-4.5
EZ5V		**1.45**	**347**	*e*P	Pn	18 17 24.0	-3.7
EZ5V				*i* S	Sb	18 17 42.0	-5.3

IDC 30 18:32:37.4±2.7, 0°.20S×132°.65E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/28, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=142.4km s-min=25.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.69**	**175**	P	P	18 37 08.2	-0.2
	0.2nm,0.3s,baz=355,slow=11,SNR=9.9						
WRA				S	S	18 40 42.9	-8.6
	0.1nm,0.3s,baz=352,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**23.36**	**177**	P	P	18 37 47.6	-0.1
	1.2nm,0.8s,baz=357,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	18 43 14.1	+0.1
	0.2nm,0.6s,baz=104,slow=6.1,SNR=3.5						

IDC ***30*** *18:34:09.6±3.2, 22°.22S×174°.17W, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/29, mbtmp4.1/8, Error ellipse: s-maj=95.7km s-min=32.6km az=137.0*

ISCJB ***30*** *18:34:11.6±1.4, 22°.5S±0°.2×174°.1W±0°.2, h31km, mb4.2/10, Error ellipse: s-maj=30.2km s-min=24.7km az=42.6*

NEIC ***30*** *18:34:13.4±1.1, 22°.53S×173°.98W, h35km, mb4.6/3, Error ellipse: s-maj=23.8km s-min=18.9km az=133.0*

ISC 30 18:34:12.9±1.6, 22°.5S±0°.2×174°.0W±0°.2, h31km, n15, σ0s79/15, mb4.4/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.88**	**301**	*e*Pn	**Pn**	**18 36 19.8**	**+0.6**
	22nm,0.6s						
CTA	**Charters Tower**	**37.08**	**266**	P	**P**	**18 41 20.2**	**-0.3**
	9.6nm,1.1s,baz=82,slow=7.0,SNR=7.7						
CTAO	**Charters Tower**	**37.08**	**266**	P	**P**	**18 41 20.4**	**-0.1**
	14nm,1.0s						
STKA	**Stephens Creek**	**40.39**	**247**	P	**P**	**18 41 49.0**	**+0.7**
	1.2nm,0.8s,baz=91,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**40.39**	**247**	*e*P	**P**	**18 41 48.4**	**+0.1**
	1.3nm,1.2s						
AS31	**Alice Springs**	**47.76**	**258**	*e*P	**P**	**18 42 46.7**	**-0.8**
ASAR	**Alice Springs**	**47.76**	**258**	P	**P**	**18 42 47.7**	**+0.2**
	3.9nm,0.9s,baz=90,slow=8.1,SNR=31						
WRAB	**Tennant Creek**	**48.07**	**263**	*e*P	**P**	**18 42 48.7**	**-1.2**
	6.2nm,1.0s						
WRA	**Warramunga Arr**	**48.08**	**263**	P	**P**	**18 42 49.4**	**-0.6**
	3.5nm,0.9s,baz=101,slow=9.0,SNR=16						
JAY	**Jayapura**	**48.24**	**288**	P	**P**	**18 42 50.0**	**-1.2**
	7.3nm,0.6s,baz=154,slow=10,SNR=5.0						
MBWA	**Marble Bar**	**61.10**	**258**	P	**P**	**18 44 24.8**	**+0.4**
MJAR	**Matsushiro Arr**	**74.07**	**322**	P	**P**	**18 45 45.8**	**-0.2**
	0.5nm,0.5s,baz=167,slow=6.4,SNR=5.2						
KSM	**Kuching**	**77.41**	**277**	P	**P**	**18 46 05.3**	**-0.2**
	7.0nm,1.1s						
ILAR	**Eielson Array**	**89.47**	**11**	P	**P**	**18 47 06.2**	**-0.2**
	0.4nm,0.9s,baz=208,slow=6.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**94.32**	**288**	P	**P**	**18 47 31.4**	**+1.6**
	0.4nm,0.9s,baz=115,slow=4.1,SNR=3.0						

WEL 30 18:53:49.0±0.4, 37°.47S×175°.97E, h268km±4km, ML3.5/7, 2D, Error ellipse: s-maj=6.6km s-min=5.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.20**	**131**	PN	Pn	18 54 27.2	+0.2
URZ				SN	S	18 54 57.0	-0.1
HAZ	**Te Kaha**	**1.47**	**102**	PN	Pn	18 54 28.7	-0.2
MWZ	**Matawai**	**1.50**	**125**	⇓PN	Pn	18 54 29.4	+0.3
BKZ	**Black Stump Fm**	**1.74**	**166**	PN	Pn	18 54 31.4	+0.4
BKZ				SN	S	18 55 03.1	-1.0
RIGZ	**Rimuhau**	**1.87**	**132**	PN	Pn	18 54 32.3	+0.3
WMGZ	**Waiomatatini S**	**1.97**	**101**	PN	Pn	18 54 32.9	+0.1
WMGZ				SN	S	18 55 06.7	-0.7
BHHZ	**Black Hill Sta**	**2.01**	**178**	⇓PN	Pn	18 54 33.4	+0.2
KNZ	**Kokohu**	**2.05**	**140**	PN	Pn	18 54 33.2	-0.1
CKHZ	**Cape Kidnapper**	**2.35**	**159**	SN	S	18 55 12.3	-1.2
KAHZ	**Kahuranaki**	**2.42**	**163**	*e*PN	Pn	18 54 36.5	-0.4
MRZ	**Mangatainoka R**	**3.20**	**185**	PN	Pn	18 54 43.0	-1.7
MRZ				SN	S	18 55 25.3	-3.7
OGWZ	**Otaki Gorge**	**3.40**	**190**	PN	Pn	18 54 45.3	-1.5
TCW	**Tory Channel**	**3.96**	**199**	PN	Pn	18 54 51.3	-1.8
TUWZ	**Tuamarina**	**4.25**	**201**	PN	Pn	18 54 54.5	-2.0
THZ	**Tophouse**	**4.89**	**208**	PN	Pn	18 55 01.7	-2.4
KHZ	**Kahutara**	**5.28**	**200**	PN	Pn	18 55 06.5	-2.1
MQZ	**McQueen's Vall**	**6.72**	**201**	*e*PN	Pn	18 55 21.8	-4.4
MQZ				SN	S	18 56 36.0	-8.5

IDC ***30*** *18:56:36.4±2.1, 43°.22N×105°.20W, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.3/45, mbtmp3.6/5, ML3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.6/29, Error ellipse: s-maj=47.5km s-min=9.3km az=158.0*

ISCJB ***30*** *18:56:39.2±0.2, 43°.57N±0°.01×105°.27W±0°.02, h0km, mb4.0/2, MS3.5/1, Error ellipse: s-maj=2.2km s-min=2.0km az=146.8*

NEIC ***30*** *18:56:39.3±0.4, 43°.56N×105°.21W, h0km, ML3.2, Error ellipse: s-maj=6.0km s-min=5.5km az=169.0, Suspected Mining explosion.*

NEIC 85 km [50 miles] SSE of Gillette.

ISC 30 18:56:38.8±0.7, 43°.53N±0°.02×105°.22W±0°.02, h0km, n109, σ1s09/110, 41C-27D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.27**	**243**	⇑P	**Pb**	**18 56 45.4**	**-1.1**
	baz=0.3,SNR=379						
J23A				⇓S	**Sg**	**18 56 48.7**	**+1.4**
	baz=0.3						
J24A	**Dixon Ranch, L**	**0.45**	**115**	P	**Pb**	**18 56 49.6**	**-0.1**
	baz=0.5,SNR=349						
J24A				⇑S	**Sb**	**18 56 56.5**	**-0.5**
	baz=0.5						
I23A	**Meade Ranch, G**	**0.47**	**338**	⇑P	**Pg**	**18 56 48.1**	**+0.4**
	baz=0.4,SNR=47						
I23A				⇓S	**Sg**	**18 56 53.9**	**0.0**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.55**	**52**	P	**Pb**	**18 56 50.2**	**-1.1**
	baz=0.5,SNR=565						
K23A	**Bowen Ranch, D**	**0.82**	**201**	⇑P	**Pn**	**18 56 56.7**	**-1.1**
	baz=0.9,SNR=14						
K23A				⇑S	**Sb**	**18 57 06.5**	**-1.2**
	baz=0.9						
K24A	**Anderson Ranch**	**0.86**	**159**	P	**Pn**	**18 56 56.9**	**-1.3**
	baz=0.9,SNR=47						
J22A	**Midwest**	**0.92**	**263**	P	**Pg**	**18 56 56.6**	**+0.2**
	baz=0.9,SNR=359						
I22A	**9 Mile Ranch,**	**0.98**	**292**	⇑P	**Pg**	**18 56 57.4**	**-0.2**
	baz=1.0,SNR=95						
J25A	**Sunshine Ranch**	**1.04**	**97**	P	**Pn**	**18 57 00.1**	**-0.6**
	baz=1.0,SNR=103						
H23A	**Clabaugh Cattl**	**1.04**	**353**	⇓P	**Pg**	**18 56 58.0**	**-0.8**
	baz=1.0,SNR=37						
RSSD	**Black Hills**	**1.05**	**55**	*e*Pg	**Pg**	**18 56 58.7**	**-0.1**
I25A	**Rochford**	**1.19**	**65**	⇓P	**Pb**	**18 57 01.6**	**-0.7**
	baz=1.2						
K22A	**Casper**	**1.29**	**228**	P	**Pn**	**18 57 03.8**	**-0.5**
	baz=1.3,SNR=40						
K22A	**Casper**	**1.29**	**228**	*e*Pn	**Pb**	**18 57 03.4**	**-0.6**
H24A	**Dirks Ranch, A**	**1.31**	**21**	⇑P	**Pg**	**18 57 02.9**	**-1.1**
	baz=1.3						
H24A				⇑S	**Sb**	**18 57 22.3**	**+0.5**
	baz=1.3						
H22A	**Clearmont**	**1.34**	**323**	P	**Pg**	**18 57 04.1**	**-0.4**
	baz=1.3,SNR=47						
K25A	**Mack Ranch, Ha**	**1.35**	**132**	⇓P	**Pn**	**18 57 06.7**	**+1.7**
	baz=1.4,SNR=85						
K25A				⇓S	**Sn**	**18 57 25.9**	**+2.3**
	baz=1.4						
L23A	**Garrett**	**1.45**	**194**	P	**Pb**	**18 57 07.2**	**+0.4**
	baz=1.5,SNR=129						
L24A	**Wheatland**	**1.50**	**172**	P	**Pb**	**18 57 08.2**	**+0.7**
	baz=1.5,SNR=17						
I21A	**Big Trails, Te**	**1.53**	**282**	P	**Pn**	**18 57 06.6**	**-0.9**
	baz=1.5,SNR=695						
I21A				⇑S	**Sn**	**18 57 27.6**	**-0.5**
	baz=1.5						
J26A	**Sides Ranch, S**	**1.58**	**97**	⇑P	**Pg**	**18 57 09.3**	**+0.2**
	baz=1.6,SNR=27						
H25A	**Fruitdale**	**1.60**	**46**	⇓P	**Pb**	**18 57 09.0**	**-0.3**
	baz=1.6,SNR=29						
J21A	**Lysite**	**1.63**	**264**	P	**Pn**	**18 57 08.8**	**-0.1**
	baz=1.6,SNR=39						
J21A				⇑S	**Sn**	**18 57 30.3**	**-0.4**
	baz=1.6						
L25A	**Engebretsen Ra**	**1.65**	**146**	⇑Pb	**Pg**	**18 57 11.9**	**+1.5**
	baz=1.7,SNR=43						
G23A	**Biddle**	**1.68**	**356**	⇑P	**Pn**	**18 57 09.7**	**+0.2**
	baz=1.6,SNR=111						
K26A	**Motz Farm, Whi**	**1.71**	**118**	⇑P	**Pg**	**18 57 12.0**	**+0.5**
	baz=1.7,SNR=37						
H21A	**Big Horn, Sher**	**1.71**	**311**	⇑P	**Pn**	**18 57 10.1**	**+0.1**
	baz=1.7,SNR=68						
K21A	**Alcova**	**1.73**	**240**	⇑P	**Pg**	**18 57 11.2**	**-0.8**
	baz=1.8,SNR=91						
K21A				⇓Sb	**Sg**	**18 57 35.6**	**+1.2**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.74**	**211**	⇑P	**Pg**	**18 57 11.5**	**-0.6**
	baz=1.8,SNR=44						
I26A	**New Underwood**	**1.79**	**73**	⇓S	**Sg**	**18 57 36.9**	**+0.8**
	baz=1.8						
G22A	**Birney**	**1.86**	**336**	⇓P	**Pn**	**18 57 12.3**	**+0.3**
	baz=1.8,SNR=29						
G24A	**Alzada**	**1.89**	**18**	⇓P	**Pn**	**18 57 13.1**	**+0.7**
	baz=1.9,SNR=9.9						
M24A	**Cheyenne**	**2.08**	**172**	⇑P	**Pg**	**18 57 17.4**	**-1.2**
	baz=2.1,SNR=27						
M23A	**Laramie**	**2.09**	**190**	⇓P	**Pg**	**18 57 17.6**	**-1.1**
	baz=2.1,SNR=16						
J20A	**Shoshoni**	**2.09**	**266**	⇑Pb	**Pb**	**18 57 17.5**	**-0.2**
	baz=2.1,SNR=115						
I20A	**Worland**	**2.15**	**282**	⇓P	**Pn**	**18 57 17.2**	**+1.2**
	baz=2.1,SNR=44						
I20A				⇓Sb	**Sb**	**18 57 46.5**	**+0.7**
	baz=2.1						
L26A	**Underwood Farm**	**2.17**	**133**	⇓P	**Pg**	**18 57 19.9**	**-0.4**
	baz=2.2,SNR=11						
F23A	**Volborg**	**2.20**	**357**	⇑P	**Pn**	**18 57 16.7**	**+0.1**
	baz=2.2,SNR=24						
G21A	**Lodge Grass**	**2.22**	**321**	P	**Pn**	**18 57 17.6**	**+0.7**
	baz=2.2,SNR=36						
G21A				⇓Sb	**Sb**	**18 57 48.7**	**+0.9**
	baz=2.2						
H20A	**Greybull**	**2.22**	**297**	⇑P	**Pn**	**18 57 17.1**	**+0.2**
	baz=2.2,SNR=31						
PHWY	**Pilot Hill**	**2.23**	**185**	*e*Pn	**Pb**	**18 57 19.3**	**-0.7**
M25A	**Palm-Egli Farm**	**2.26**	**157**	⇓P	**Pg**	**18 57 20.6**	**-1.5**
	baz=2.3,SNR=14						
M25A				⇑S	**Sg**	**18 57 49.1**	**-2.2**
	baz=2.3						
K27A	**Flueckinger Fa**	**2.34**	**110**	⇓P	**Pb**	**18 57 21.1**	**-0.7**
	baz=2.3,SNR=20						
M22A	**Cedar Creek Ra**	**2.35**	**206**	⇑P	**Pb**	**18 57 21.9**	**-0.2**
	baz=2.4,SNR=100						
M22A				⇑Sb	**Sg**	**18 57 55.4**	**+1.2**
	baz=2.4						
I27A	**Quinn**	**2.36**	**76**	⇑P	**Pb**	**18 57 21.9**	**-0.3**
	baz=2.3,SNR=29						
F22A	**Rosebud**	**2.37**	**342**	⇑P	**Pn**	**18 57 19.0**	**0.0**
	baz=2.3,SNR=37						
F22A				⇑S	**Sn**	**18 57 49.6**	**+0.8**
	baz=2.3						
F24A	**Ekalaka**	**2.39**	**13**	⇑S	**Sn**	**18 57 49.1**	**-0.1**
	baz=2.3						
G26A	**Maurine**	**2.58**	**46**	⇑P	**Pb**	**18 57 23.6**	**-2.3**
	baz=2.5,SNR=56						
N23A	**Red Feather La**	**2.68**	**192**	⇑P	**Pb**	**18 57 25.8**	**-2.0**
	baz=2.7,SNR=28						
F25A	**Bowman**	**2.71**	**27**	⇓P	**Pn**	**18 57 25.1**	**+1.5**
	baz=2.7,SNR=11						
G20A	**Bridger**	**2.73**	**309**	⇑P	**Pn**	**18 57 23.7**	**-0.3**
	baz=2.7,SNR=44						
I19A	**Meeteetse**	**2.78**	**282**	⇓P	**Pn**	**18 57 26.0**	**+1.3**
	baz=2.8,SNR=24						
J19A	**Crowheart**	**2.80**	**266**	⇓P	**Pn**	**18 57 26.6**	**+1.6**
	baz=2.8,SNR=61						
H19A	**Powell**	**2.94**	**294**	⇑P	**Pn**	**18 57 27.7**	**+0.8**
	baz=2.9,SNR=25						
F20A	**Billings**	**3.09**	**318**	⇑P	**Pn**	**18 57 28.6**	**-0.3**
	baz=3.1,SNR=11						
BW06	**Boulder Array**	**3.26**	**258**	*e*Pn	**Pn**	**18 57 32.6**	**+1.2**
PDAR	**Pinedale Array**	**3.26**	**258**	Pn	**Pn**	**18 57 31.8**	**+0.4**
	2.8nm,0.3s,baz=84,slow=15,SNR=45						
PDAR				Lg	Lg	18 58 16.9	
	5.9nm,0.3s,baz=82,slow=31,SNR=5.8						
RLMT	**Red Lodge**	**3.31**	**300**	*e*Pn	**Pn**	**18 57 32.5**	**+0.4**
H18A	**Shoshone NF, C**	**3.40**	**291**	⇓P	**Pn**	**18 57 34.1**	**+0.8**
	baz=3.4,SNR=13						
OGNE	**Ogallala**	**3.50**	**136**	⇓P	Pb	18 57 37.2	-4.5
	baz=3.5,SNR=7.9						
OGNE	**Ogallala**	**3.50**	**136**	*e*Pn	Pn	18 57 36.9	+2.4
O22A	**Kremmling**	**3.50**	**197**	P	Pb	18 57 37.5	-4.3
	baz=3.5,SNR=14						
N20A	**Spence Gulch,**	**3.51**	**221**	⇑P	**Pn**	**18 57 36.7**	**+1.9**
	baz=3.5,SNR=7.4						
D23A	**Lindsay**	**3.65**	**0**	⇑P	**Pn**	**18 57 37.8**	**+1.3**
	baz=3.6,SNR=5.5						
ISCO	**Idaho Springs**	**3.73**	**185**	⇑P	Pn	18 57 40.3	+2.4
	baz=3.8,SNR=11						
ISCO	**Idaho Springs**	**3.73**	**185**	*e*Pn	Pn	18 57 40.4	+2.4
D25A	**Fairfield**	**3.87**	**20**	⇑P	**Pn**	**18 57 40.8**	**+1.3**
	baz=3.8,SNR=6.9						
GCMT	**Greycliff**	**3.90**	**307**	*e*Pn	**Pn**	**18 57 38.4**	**-1.6**
LOHW	**Long Hollow**	**3.91**	**273**	*e*Pn	**Pn**	**18 57 40.2**	**-0.1**
H17A	**Grant Village**	**3.96**	**285**	*e*Pn	**Pn**	**18 57 39.7**	**-1.3**
FLWY	**Flagg Ranch**	**4.00**	**280**	*e*Pn	**Pn**	**18 57 43.1**	**+1.6**
MOOW	**Moose Ponds**	**4.01**	**275**	*e*Pn	**Pn**	**18 57 43.4**	**+1.7**
SNOW	**Snow King Moun**	**4.03**	**271**	*e*Pn	**Pn**	**18 57 42.5**	**+0.6**
O20A	**White River Ci**	**4.07**	**215**	*e*Pn	**Pn**	**18 57 44.8**	**+2.4**
P25A	**Willow Gulch B**	**4.09**	**168**	⇓P	Pn	18 57 45.0	+2.3
	baz=4.1,SNR=39						
REDW	**Red Top Meadow**	**4.10**	**270**	*e*Pn	**Pn**	**18 57 44.1**	**+1.2**
IMW	**Indian Meadow**	**4.16**	**277**	*e*Pn	**Pn**	**18 57 45.5**	**+1.8**
TPAW	**Teton Pass**	**4.17**	**271**	*e*Pn	**Pn**	**18 57 45.1**	**+1.3**
P26A	**Davis Ranch, A**	**4.20**	**160**	⇑P	Pn	18 57 46.7	+2.5
	baz=4.2,SNR=17						
O28A	**Krutsinger Ran**	**4.26**	**142**	⇑P	**Pn**	**18 57 46.7**	**+1.7**
	baz=4.3,SNR=11						
C23A	**Lambert**	**4.28**	**0**	⇓P	**Pn**	**18 57 46.9**	**+1.7**
	baz=4.2,SNR=6.4						
YMR	**Madison River**	**4.29**	**287**	*e*Pn	Pb	18 57 51.9	-3.3
AHID	**Auburn Hatcher**	**4.37**	**262**	*e*Pn	**Pn**	**18 57 46.9**	**+0.3**
P27A	**Ficken Ranch,**	**4.43**	**153**	P	Pn	18 57 49.7	+2.3
	baz=4.5,SNR=22						
SMCO	**Snowmass**	**4.54**	**197**	*e*Pn	**Pn**	**18 57 47.8**	**-1.3**
Q25A	**Bedland, Calha**	**4.67**	**171**	P	**Pn**	**18 57 52.6**	**+2.0**
	baz=4.7,SNR=18						
Q26A	**Hugo**	**4.77**	**164**	⇓P	**Pn**	**18 57 54.1**	**+2.0**
	baz=4.8,SNR=12						
KSCO	**Kaye Shedlock'**	**4.92**	**156**	*e*Pn	**Pn**	**18 57 54.2**	**+0.2**
DGMT	**Dagmar**	**5.00**	**8**	*e*Pn	**Pn**	**18 57 56.1**	**+1.0**
BOZ	**Bozeman (W)**	**5.04**	**297**	*e*Pn	**Pn**	**18 57 54.9**	**-0.9**
	4.2nm,0.4s						
HWUT	**Hardware Ranch**	**5.06**	**250**	*e*Pn	**Pn**	**18 57 56.5**	**+0.4**
	6.0nm,0.5s						
R26A	**Arlington**	**5.39**	**165**	⇑P	**Pn**	**18 58 02.3**	**+1.7**
	baz=5.4,SNR=65						
R27A	**Eads**	**5.55**	**160**	⇑P	**Pn**	**18 58 04.2**	**+1.5**
	baz=5.6,SNR=12						
R28A	**Tribune**	**5.79**	**152**	P	**Pn**	**18 58 07.5**	**+1.6**
	baz=5.8,SNR=16						
MDND	**Maddock**	**5.85**	**40**	*e*Pn	Pn	18 58 01.8	-4.9
	50nm,0.9s						
SRU	**San Rafael Swe**	**5.95**	**224**	*e*Pn	**Pn**	**18 58 08.2**	**-0.1**
	6.3nm,0.3s						
PV01	**Paradox Valley**	**5.95**	**206**	*e*Pn	**Pn**	**18 58 09.0**	**+0.7**
	217nm,0.4s						
ECSD	**EROS Data Cent**	**6.25**	**85**	*e*Pn	**Pn**	**18 58 12.4**	**+0.1**
	4.0nm,0.4s						
CHMT	**Chamberlain Mo**	**6.60**	**304**	*e*Pn	**Pn**	**18 58 17.6**	**+0.3**
	1.1nm,0.3s						
T28A	**Walsh**	**6.82**	**159**	⇓P	**Pn**	**18 58 21.6**	**+1.4**
	baz=6.9,SNR=10						
SWMT	**Swartz Lake**	**7.34**	**306**	*e*Pn	**Pn**	**18 58 27.7**	**+0.4**
YBMT	**Yellow Bay**	**7.53**	**308**	*e*Pn	**Pn**	**18 58 30.9**	**+1.0**
	3.0nm,0.2s						
ANMO	**Albuquerque**	**8.62**	**187**	LR	LR	19 02 18.8	
	comp=Z,106nm,18.7s,baz=28,slow=41						
ULM	**Lac du Bonnet**	**9.28**	**40**	Pn	**Pn**	**18 58 51.7**	**-2.0**
	1.3nm,0.3s,baz=226,slow=12,SNR=12						
NEW	**Newport**	**9.55**	**304**	LR	LR	19 03 01.4	
	comp=Z,106nm,19.7s,baz=51,slow=40						
YKA	**Yellowknife Ar**	**19.78**	**347**	P	**Pn**	**19 01 12.6**	**+0.9**
	0.2nm,0.5s,baz=156,slow=9.2,SNR=5.5						
FRB	**Frobisher Bay**	**29.06**	**33**	LR	LR	19 14 18.5	
	comp=Z,100nm,18.8s,baz=228,slow=36						
ARCES	**ARCESS Array B**	**61.61**	**18**	P	**P**	**19 06 56.8**	**-0.7**
	1.2nm,0.7s,baz=319,slow=6.9,SNR=4.0						
FINES	**FINESS Array B**	**68.21**	**23**	P	**P**	**19 07 40.0**	**-0.6**
	0.4nm,0.6s,baz=359,slow=7.4,SNR=4.2						

DJA 30 18:58:19.8±0.5, 2°.5S×72°.1E±, h60km±12km, M3.9/10, mb4.4/1, MLv3.6/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.46**	**339**	P	Pn	18 58 43.8	-0.2
LBMI				S	Sn	18 59 02.3	+0.1
NLAI	**Namlea**	**1.53**	**217**	P	Pn	18 58 46.8	+1.8
MSAI	**Masohi**	**1.60**	**146**	P	Pn	18 58 47.5	+1.6
MSAI				S	Sn	18 59 06.6	+1.0
SANI	**Sanana**	**2.04**	**269**	P	Pn	18 58 52.0	+0.2
SANI				S	Sn	18 59 16.4	+0.2
TNTI	**Ternate**	**2.84**	**346**	P	Pn	18 59 03.7	+0.9
BNDI	**Bandanaira**	**3.12**	**143**	P	Pn	18 59 06.8	+0.2
BNDI				S	Sn	18 59 43.3	+0.7
FAKI	**Fak Fak**	**4.31**	**102**	P	Pn	18 59 21.2	-1.7

WEL 30 18:58:21.1±0.3, 40°.22S×173°.85E, h152km±2km, ML3.9/17, 11C-17D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.59**	**175**	⇑PN	Pn	18 58 43.1	0.0
NMEZ	**Namu Road**	**0.80**	**1**	PN	Pn	18 58 44.6	+0.1
NMEZ				SN	Sn

PNHZ	**Pukenui**	**1.82**	**81**	PN	Pn	18 58 54.1	-0.3
TRWZ	**Traveller**	**1.83**	**131**	PN	Pn	18 58 54.3	0.0
TRWZ				AML	AML	18 59 17.7	
TRWZ				AML	AML	18 59 18.9	
BHHZ	**Black Hill Sta**	**1.85**	**68**	PN	Pn	18 58 54.0	-0.7
HIZ	**Hauiti**	**1.87**	**25**	⇑PN	Pn	18 58 54.4	-0.5
BFZ	**Birch Farm**	**1.88**	**105**	PN	Pn	18 58 54.8	-0.2
BFZ				SN	Sn	18 59 18.0	-3.1
CPWZ	**Castlepoint**	**1.92**	**112**	PN	Pn	18 58 55.9	+0.5
WPHZ	**Waipukurau**	**1.99**	**86**	PN	Pn	18 58 55.8	-0.4
RATZ	**Rangitukua**	**2.00**	**48**	⇓PN	Pn	18 58 56.6	+0.1
KRHZ	**Kereru**	**2.02**	**74**	PN	Pn	18 58 56.1	-0.4
WATZ	**Wairara**	**2.09**	**45**	PN	Pn	18 58 57.7	+0.2
HATZ	**Hinemaiaia**	**2.18**	**150**	PN	Pn	18 58 57.6	-0.9
DSZ	**Denniston Nort**	**2.18**	**225**	PN	Pn	18 58 58.0	-0.4
KHZ	**Kahutara**	**2.21**	**186**	⇓PN	Pn	18 58 58.6	-0.1
KHZ				AML	AML	18 59 27.0	
KHZ				AML	AML	18 59 27.0	
BKZ	**Black Stump Fm**	**2.29**	**64**	⇓PN	Pn	18 58 58.9	-0.9
BKZ				AML	AML	18 59 28.2	
BKZ				AML	AML	18 59 28.6	
TLZ	**Tolley Road**	**2.29**	**35**	PN	Pn	18 58 59.3	-0.6
PXZ	**Pawanui**	**2.31**	**86**	⇓PN	Pn	18 58 59.8	-0.2
PXZ				AML	AML	18 59 31.4	
PXZ				AML	AML	18 59 31.4	
PXZ				AML	AML	18 59 31.6	
PXZ				AML	AML	18 59 31.6	
KAHZ	**Kahuranaki**	**2.36**	**81**	PN	Pn	18 59 00.4	-0.2
NMHZ	**Naumai**	**2.54**	**65**	PN	Pn	18 59 02.8	-0.1
CKHZ	**Cape Kidnapper**	**2.54**	**78**	*e*PN	Pn	18 59 02.0	-0.8
ARHZ	**Aropaoanui**	**2.60**	**70**	PN	Pn	18 59 03.1	-0.5
LTZ	**Lake Taylor**	**2.83**	**204**	PN	Pn	18 59 05.1	-1.3
WHHZ	**Waihua**	**2.85**	**68**	PN	Pn	18 59 05.9	-0.7
KNZ	**Kokohu**	**3.18**	**69**	PN	Pn	18 59 09.5	-1.3
URZ	**Urewera**	**3.19**	**53**	⇑PN	Pn	18 59 09.3	-1.7
URZ				AML	AML	18 59 48.7	
MHGZ	**Mahia Peninsul**	**3.30**	**73**	PN	Pn	18 59 11.6	-0.7
RIGZ	**Rimuhau**	**3.38**	**65**	PN	Pn	18 59 12.4	-1.0
OXZ	**Oxford**	**3.39**	**203**	PN	Pn	18 59 11.5	-2.0
MWZ	**Matawai**	**3.41**	**58**	PN	Pn	18 59 12.3	-1.6
CRLZ	**Canterbury Las**	**3.48**	**195**	PN	Pn	18 59 12.6	-1.9
MQZ	**McQueen's Vall**	**3.60**	**194**	⇑PN	Pn	18 59 13.9	-2.2
TWGZ	**Tauwhareparae**	**3.80**	**59**	SN	Sn	19 00 01.7	-2.0
HAZ	**Te Kaha**	**3.92**	**52**	PN	Pn	18 59 17.9	-2.5
PUZ	**Puketiti**	**4.04**	**59**	SN	Sn	19 00 04.6	-4.6
RPZ	**Rata Peaks**	**4.07**	**210**	PN	Pn	18 59 21.6	-0.7
WMGZ	**Waiomatatini S**	**4.28**	**57**	PN	Pn	18 59 22.7	-2.4
ODZ	**Otahua Downs**	**5.37**	**205**	PN	Pn	18 59 37.6	-1.8
JCZ	**Jackson Bay**	**5.40**	**223**	SN	Sn	19 00 34.5	-7.1
TUZ	**Tuapeka**	**6.51**	**207**	PN	Pn	18 59 54.6	0.0

*ISCJB **30** 19:18:57.1±1.1, 11.0°N±0.0°×63.84°W±0.02, h5km±8km, mb4.3/10, MS2.7/1, Error ellipse: s-maj=4.9km s-min=3.6km az=166.6*

*IDC **30** 19:18:57.9±0.8, 10.92°N×63.82°W, h0km, mb4.2/7, mb1 4.4/8, mb1mx3.9/35, mbtmp4.2/8, ML4.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/27, Error ellipse: s-maj=21.7km s-min=16.0km az=108.0*

*FUNV **30** 19:18:59.4, 10.94°N×63.79°W, h2km, MW3.7*

*NEIC **30** 19:18:59.4, 10.98°N×63.78°W, h5km, mb4.3/5, MW3.7(CAR), After CAR.*

NEIC Felt [III] at Porlamar. Also felt at Asuncion.

ISC 30 19:18:58.2±1.5, 10.99N±0.04°×63.83W±0.03°, h6km±10km, n55, σ1§24/65, mb4.4/10, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.66**	**119**	*e*P	**Pb**	**19 19 12.0**	**-0.2**
CRUV				*e*S	**Sb**	**19 19 22.7**	**+1.1**
PCRV	**Puerto La Cruz**	**1.14**	**225**	*e*P	**Pg**	**19 19 19.8**	**-0.2**
PCRV				*e*S	**Sb**	**19 19 35.1**	**-0.3**
PCRV	**Puerto La Cruz**	**1.14**	**225**	Pn	**Pg**	**19 19 20.0**	**0.0**
	128nm,0.3s,baz=61,slow=3.5,SNR=163						
PCRV				Sn	**Sn**	**19 19 36.9**	**+0.1**
	68nm,0.3s,baz=299,slow=19,SNR=27						
GUNV	**Guanoco**	**1.20**	**134**	*e*P	**Pb**	**19 19 20.5**	**-0.8**
GUNV				*e*S	**Sb**	**19 19 37.5**	**+0.4**
GUIV	**Guiria**	**1.61**	**102**	*e*P	**Pn**	**19 19 27.1**	**-0.2**
GUIV				*e*S	**Sb**	**19 19 49.5**	**+0.4**
ORIV	**Oritupano**	**1.96**	**168**	*e*P	**Pn**	**19 19 33.0**	**+1.0**
ORIV				*e*S	**Sn**	**19 19 55.9**	**-1.0**
CUPV	**Cœpira**	**2.14**	**244**	*e*P	**Pn**	**19 19 35.8**	**+1.2**
CUPV				*e*S	**Sn**	**19 20 02.5**	**+0.9**
PRGV	**PARIAGUAN**	**2.36**	**200**	⇑*i*P	**Pn**	**19 19 38.3**	**+0.8**
GRGR	**Grenville**	**2.41**	**62**	*e*Pn	**Pn**	**19 19 38.6**	**+0.4**
GRGR				*e*Sg	**Sg**	**19 20 16.0**	**+0.4**
BIRV	**Birongo**	**2.46**	**258**	⇑*e*P	**Pn**	**19 19 40.0**	**+1.2**
BIRV				*e*S	**Sn**	**19 20 09.8**	**+0.5**
ORCV	**Isla La Orchil**	**2.46**	**290**	*e*P	**Pn**	**19 19 39.6**	**+0.7**
FUNV	**FUNVISIS**	**2.98**	**260**	*e*P	**Pn**	**19 19 47.2**	**+1.0**
MERV	**Las Mercedes**	**2.99**	**235**	*e*P	**Pn**	**19 19 46.6**	**+0.5**
GURV	**El Guri**	**3.29**	**167**	*e*P	**Pn**	**19 19 50.3**	**-0.1**
TURV	**Turiamo**	**3.98**	**263**	*e*P	**Pn**	**19 20 00.6**	**+0.7**
TRMF	**Trois Ilets**	**4.44**	**37**	*e*P	**Pn**	**19 20 07.5**	**+1.4**
ZAM	**Aeronautique**	**4.48**	**37**	*e*P	**Pn**	**19 20 07.4**	**+0.6**
FDF	**Fort de France**	**4.54**	**35**	*e*P	**Pn**	**19 20 08.3**	**+0.8**
FDF	**Fort de France**	**4.54**	**35**	⇑*e*P	**Pn**	**19 20 08.4**	**+0.8**
FDF	**Fort de France**	**4.54**	**35**	*e*S	**Sn**	**19 20 57.1**	**-3.7**
FDF	**Fort de France**	**4.54**	**35**	*e*Pn	**Pn**	**19 20 07.8**	**+0.2**
FDF				*e*Sn	**Sn**	**19 20 59.4**	**-1.4**
MVM	**Montagne Vaucl**	**4.55**	**39**	*e*P	**Pn**	**19 20 09.3**	**+1.6**
BVM	**Bellevue**	**4.59**	**36**	*e*P	**Pn**	**19 20 08.6**	**+0.2**
BAUV	**El Baul**	**4.63**	**244**	*e*P	**Pn**	**19 20 08.5**	**-0.2**
BAUV				*e*S	**Sn**	**19 21 00.6**	**-2.2**
MAPV	**Macapo**	**4.70**	**256**	*e*P	**Pn**	**19 20 10.8**	**+1.0**
LUEV	**Luepa**	**5.63**	**155**	*e*P	**Pn**	**19 20 21.1**	**-1.5**
SANV	**Sanarito**	**5.81**	**256**	*e*P	**Pn**	**19 20 25.9**	**+0.8**
SIQV	**Siquisique**	**5.89**	**267**	*e*P	**Pn**	**19 20 26.3**	**+0.2**
MONV	**Montecano**	**6.10**	**280**	*e*P	**Pn**	**19 20 29.0**	**0.0**
CURV	**Curarigua**	**6.11**	**261**	*e*P	**Pn**	**19 20 29.6**	**+0.3**
SDV	**Santo Domingo**	**7.03**	**253**	Pn	**Pn**	**19 20 39.2**	**-2.7**
SDV				*e*Sn	**Sn**	**19 22 00.0**	**-2.3**
SOCV	**Socops**	**7.44**	**249**	*e*P	**Pn**	**19 20 47.4**	**0.0**
VIRV	**Villa del Rosa**	**8.45**	**267**	*e*P	**Pn**	**19 21 01.1**	**-0.1**
SDDR	**Presa de Saban**	**10.72**	**319**	Pn	**Pn**	**19 21 32.4**	**-0.1**
SDDR				*e*Sn	**Sn**	**19 23 29.2**	**-3.8**
ROSC	**El Rosal**	**12.06**	**240**	LR	LR	19 27 32.9	
	comp=Z,90nm,19.9s,baz=72,slow=43						
PTGA	**Pitinga**	**12.26**	**162**	Pn	**Pn**	**19 21 53.4**	**-0.1**
	1.1nm,0.3s,baz=2.4,slow=15,SNR=11						
PTGA				LR	LR	19 26 46.0	
	comp=Z,53nm,20.7s,baz=246,slow=38						
PTGA	**Pitinga**	**12.26**	**162**	*e*Pn	**Pn**	**19 21 52.6**	**-1.0**
OTAV	**Otavalo**	**18.04**	**235**	P	**Pn**	**19 23 08.0**	**-2.2**
	2.6nm,0.4s						
SAML	**Samuel**	**19.82**	**178**	*e*P	**P**	**19 23 29.6**	**-0.2**
	2.8nm,0.6s						
JTS	**JuntasAbangare**	**20.78**	**270**	LR	LR	19 32 17.7	
	comp=Z,29nm,19.1s,baz=134,slow=38						
LVC	**Limon Verde**	**33.77**	**188**	P	**P**	**19 25 40.9**	**-0.4**
	18nm,0.6s,baz=6.2,slow=7.1,SNR=8.1						
CPUP	**Villa Florida**	**37.83**	**171**	P	**P**	**19 26 12.1**	**-2.0**
LCO	**Las Campanas**	**40.32**	**189**	P	**P**	**19 26 35.2**	**-1.7**
	26nm,1.4s						
TXAR	**Lajitas Array**	**41.35**	**302**	P	**P**	**19 26 46.8**	**+1.4**
	0.9nm,0.8s,baz=115,slow=8.4,SNR=7.9						
ULM	**Lac du Bonnet**	**47.19**	**332**	P	**P**	**19 27 32.2**	**+0.5**
	5.0nm,0.6s,baz=138,slow=11,SNR=8.2						
PDAR	**Pinedale Array**	**50.74**	**317**	P	**P**	**19 28 00.4**	**+1.0**
	1.1nm,0.7s,baz=108,slow=11,SNR=8.0						
PLCA	**Paso Flores**	**51.84**	**186**	P	**P**	**19 28 08.4**	**+1.1**
YKA	**Yellowknife Ar**	**62.87**	**336**	P	**P**	**19 29 25.8**	**+1.0**
	1.0nm,0.7s,baz=111,slow=7.2,SNR=11						
SUMG	**Summit**	**63.39**	**8**	*e*P	**P**	**19 29 30.1**	**+1.4**
	7.1nm,0.9s						
TOA0	**Torodi Ar. Sit**	**63.95**	**81**	*e*P	**P**	**19 29 33.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**63.95**	**81**	P	**P**	**19 29 33.9**	**+1.0**
	1.9nm,0.8s,baz=280,slow=5.2,SNR=10						
PMSA	**Palmer Station**	**75.55**	**180**	*e*P	**P**	**19 30 44.8**	**+1.5**
ILAR	**Eielson Array**	**77.17**	**334**	P	**P**	**19 30 53.7**	**+1.0**
	1.3nm,0.8s,baz=107,slow=4.3,SNR=12						
PPLA	**Purkeypile**	**79.56**	**332**	*e*P	P	19 31 02.3	-3.8
	3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**146.16**	**30**	PKPbc	**PKPdf**	**19 38 39.8**	**+0.3**
	0.5nm,0.8s,baz=293,slow=3.4,SNR=4.0						

*ISCJB **30** 19:19:59.4±0.3, 40.80°S±0.03°×173.89°E±0.04, h127km±4km, mb3.7/2, Error ellipse: s-maj=6.1km s-min=3.3km az=34.6*

*IDC **30** 19:20:00.1±1.7, 40.74°S×174.08°E, h117km±16km, mb3.4/2, mb1 3.6/4, mb1mx3.4/24, mbtmp3.9/4, Error ellipse: s-maj=29.3km s-min=15.1km az=141.0*

*NEIC **30** 19:20:01.6, 40.77°S×173.90°E, h113km, MG4.4(WEL), After WEL.*

NEIC Felt [IV] at Nelson.

*WEL **30** 19:20:01.9±0.1, 40.77°S×173.92°E, h110km±1km, ML4.4/20, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0*

WEL Felt from Nelson to Wellington, maximum reported intensity MM 4.

ISC 30 19:20:00.1±0.8, 40.80S±0.04°×173.90E±0.04, h124km±5km, n180, σ0§88/189, 25C-18D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.01**	**91**	⇑PN	**Pn**	**19 20 16.8**	**-0.2**
DUWZ				SN	**Sn**	**19 20 28.0**	**-1.6**
DUWZ	**D'Urville Isla**	**0.01**	**91**	Pn	**Pn**	**19 20 16.8**	**-0.2**
DUWZ				SN	**Sn**	**19 20 28.0**	**-1.6**
TCW	**Tory Channel**	**0.50**	**146**	⇑PN	**Pn**	**19 20 19.3**	**+0.9**
TCW				SN	**Sn**	**19 20 31.4**	**-0.9**
TCW				AML	AML	19 20 32.8	
TCW	**Tory Channel**	**0.50**	**146**	Pn	**Pn**	**19 20 19.3**	**+0.9**
TCW				Sn	**Sn**	**19 20 31.4**	**-0.9**
NNZ	**Nelson**	**0.57**	**224**	⇑PN	**Pn**	**19 20 19.1**	**+0.3**
NNZ				SN	**Sn**	**19 20 31.8**	**-1.3**
NNZ	**Nelson**	**0.57**	**224**	Pn	**Pn**	**19 20 19.1**	**+0.3**
TUWZ	**Tuamarina**	**0.63**	**177**	⇑PN	**Pn**	**19 20 20.0**	**+0.8**
TUWZ				AML	AML	19 20 33.6	
TUWZ				AML	AML	19 20 34.2	
TUWZ	**Tuamarina**	**0.63**	**177**	Pn	**Pn**	**19 20 20.0**	**+0.8**
SNZO	**South Karori**	**0.79**	**130**	*e*Pn	**Pn**	**19 20 21.2**	**+0.7**
SNZO				*e*Sn	**Sn**	**19 20 34.2**	**-1.8**
WEL	**Wellington**	**0.81**	**127**	PN	**Pn**	**19 20 21.5**	**+0.9**
WEL				AML	AML	19 20 37.1	
WEL				AML	AML	19 20 37.6	
WEL	**Wellington**	**0.81**	**127**	Pn	**Pn**	**19 20 21.9**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.91**	**181**	⇓PN	**Pn**	**19 20 22.9**	**+1.3**
BSWZ				AML	AML	19 20 39.3	
BSWZ				AML	AML	19 20 40.8	
BSWZ	**Blackbirch Sta**	**0.91**	**181**	Pn	**Pn**	**19 20 22.9**	**+1.3**
CAW	**Cannon Point**	**0.93**	**109**	⇑PN	**Pn**	**19 20 22.5**	**+0.7**
CAW				AML	AML	19 20 38.9	
CAW				AML	AML	19 20 39.9	
CAW	**Cannon Point**	**0.93**	**109**	Pn	**Pn**	**19 20 22.5**	**+0.7**
BHW	**Baring Head**	**0.95**	**130**	⇑PN	**Pn**	**19 20 22.7**	**+0.8**
BHW				AML	AML	19 20 39.2	
BHW				AML	AML	19 20 39.4	
BHW	**Baring Head**	**0.95**	**130**	Pn	**Pn**	**19 20 22.7**	**+0.8**
OGWZ	**Otaki Gorge**	**0.96**	**91**	⇑PN	**Pn**	**19 20 22.8**	**+0.7**
OGWZ				SN	**Sn**	**19 20 37.4**	**-1.3**
CMWZ	**Cape Campbell**	**0.97**	**166**	AML	AML	19 20 42.3	
CMWZ				AML	AML	19 20 42.7	
QRZ	**Quartz Range**	**1.04**	**268**	⇓PN	**Pn**	**19 20 22.7**	**-0.2**
QRZ	**Quartz Range**	**1.04**	**268**	Pn	**Pn**	**19 20 22.6**	**-0.2**
MSWZ	**Moikau Station**	**1.19**	**121**	⇑PN	**Pn**	**19 20 25.3**	**+1.0**
MSWZ				AML	AML	19 20 43.5	
MSWZ				AML	AML	19 20 43.8	
MSWZ	**Moikau Station**	**1.19**	**121**	Pn	**Pn**	**19 20 25.3**	**+1.0**
THZ	**Tophouse**	**1.22**	**218**	⇑PN	**Pn**	**19 20 25.5**	**+0.8**
THZ	**Tophouse**	**1.22**	**218**	Pn	**Pn**	**19 20 25.5**	**+0.8**
HOWZ	**Holdsworth Sta**	**1.23**	**95**	⇑PN	**Pn**	**19 20 25.3**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.23**	**95**	Pn	**Pn**	**19 20 25.3**	**+0.6**
MTW	**Mount Morrison**	**1.26**	**107**	PN	**Pn**	**19 20 25.9**	**+0.8**
MTW				AML	AML	19 20 44.8	
MTW				AML	AML	19 20 45.0	
MTW	**Mount Morrison**	**1.26**	**107**	Pn	**Pn**	**19 20 25.9**	**+0.8**
PLWZ	**Palliser**	**1.28**	**127**	⇑PN	**Pn**	**19 20 26.3**	**+1.0**
PLWZ	**Palliser**	**1.28**	**127**	Pn	**Pn**	**19 20 26.3**	**+1.0**
MRZ	**Mangatainoka R**	**1.28**	**84**	PN	**Pn**	**19 20 25.6**	**+0.3**
MRZ				AML	AML	19 20 44.7	
MRZ				AML	AML	19 20 45.0	
MRZ	**Mangatainoka R**	**1.28**	**84**	Pn	**Pn**	**19 20 25.6**	**+0.3**
PAWZ	**Paruwai Farm**	**1.29**	**117**	PN	**Pn**	**19 20 26.3**	**+0.9**
PAWZ				AML	AML	19 20 45.3	
PAWZ				AML	AML	19 20 45.5	
PAWZ	**Paruwai Farm**	**1.29**	**117**	Pn	**Pn**	**19 20 26.3**	**+0.9**
WAZ	**Wanganui**	**1.33**	**39**	PN	**Pn**	**19 20 26.6**	**+0.7**
WAZ	**Wanganui**	**1.33**	**39**	Pn	**Pn**	**19 20 26.7**	**+0.8**
NMEZ	**Namu Road**	**1.39**	**359**	⇓PN	**Pn**	**19 20 26.8**	**+0.3**
LREZ	**Lake Rotokare**	**1.40**	**16**	⇓PN	**Pn**	**19 20 27.3**	**+0.8**
PREZ	**Palmer Road**	**1.47**	**8**	PN	**Pn**	**19 20 28.0**	**+0.5**
TRWZ	**Traveller**	**1.47**	**114**	⇑PN	**Pn**	**19 20 28.5**	**+1.0**
TRWZ				AML	AML	19 20 50.0	
TRWZ				AML	AML	19 20 51.8	
TRWZ	**Traveller**	**1.47**	**114**	Pn	**Pn**	**19 20 28.5**	**+1.0**
POWZ	**Post Office Ro**	**1.48**	**75**	⇑PN	**Pn**	**19 20 27.8**	**+0.3**
POWZ	**Post Office Ro**	**1.48**	**75**	Pn	**Pn**	**19 20 27.8**	**+0.3**
TIWZ	**Tintock**	**1.50**	**90**	⇑PN	**Pn**	**19 20 28.4**	**+0.6**
TIWZ				AML	AML	19 20 49.2	
TIWZ				AML	AML	19 20 49.3	
TIWZ	**Tintock**	**1.50**	**90**	Pn	**Pn**	**19 20 28.4**	**+0.6**
KHEZ	**Kahui Hut**	**1.51**	**3**	⇓PN	**Pn**	**19 20 28.3**	**+0.3**
NWEZ	**Newall Road**	**1.53**	**359**	⇓PN	**Pn**	**19 20 28.4**	**+0.3**
NWEZ	**Newall Road**	**1.53**	**359**	Pn	**Pn**	**19 20 28.4**	**+0.3**
TMWZ	**Te Maipa**	**1.54**	**102**	⇑PN	**Pn**	**19 20 29.0**	**+0.9**
TMWZ	**Te Maipa**	**1.54**	**102**	Pn	**Pn**	**19 20 29.0**	**+0.9**
NEZ	**North Egmont**	**1.54**	**6**	⇑PN	**Pn**	**19 20 28.4**	**+0.1**
NEZ	**North Egmont**	**1.54**	**6**	Pn	**Pn**	**19 20 28.4**	**+0.1**
PRWZ	**Pori Road**	**1.59**	**82**	PN	**Pn**	**19 20 29.3**	**+0.5**
PKE	**Pukeiti**	**1.61**	**2**	PN	**Pn**	**19 20 29.3**	**+0.3**
PKE	**Pukeiti**	**1.61**	**2**	Pn	**Pn**	**19 20 29.3**	**+0.3**
DREZ	**Durham Road**	**1.63**	**8**	⇓PN	**Pn**	**19 20 29.7**	**+0.4**
DREZ	**Durham Road**	**1.63**	**8**	Pn	**Pn**	**19 20 29.7**	**+0.4**
KHZ	**Kahutara**	**1.64**	**189**	⇓PN	**Pn**	**19 20 30.8**	**+1.5**
KHZ				AML	AML	19 20 52.8	
KHZ				AML	AML	19 20 53.0	
KHZ	**Kahutara**	**1.64**	**189**	Pn	**Pn**	**19 20 30.4**	**+1.1**
TSZ	**Takapari Road**	**1.74**	**65**	PN	**Pn**	**19 20 30.6**	**+0.1**
TSZ				AML	AML	19 20 53.6	
TSZ				AML	AML	19 20 58.9	
TSZ	**Takapari Road**	**1.74**	**65**	Pn	**Pn**	**19 20 30.6**	**+0.1**
CPWZ	**Castlepoint**	**1.75**	**94**	⇑PN	**Pn**	**19 20 31.7**	**+1.2**
MHEZ	**Mangahewa**	**1.75**	**11**	PN	**Pn**	**19 20 31.3**	**+0.6**
MHEZ	**Mangahewa**	**1.75**	**11**	Pn	**Pn**	**19 20 31.3**	**+0.6**
BFZ	**Birch Farm**	**1.78**	**87**	PN	**Pn**	**19 20 31.2**	**+0.1**
BFZ	**Birch Farm**	**1.78**	**87**	Pn	**Pn**	**19 20 31.2**	**+0.1**
DVHZ	**Dannevirke**	**1.80**	**74**	⇑PN	**Pn**	**19 20 31.2**	**0.0**
DVHZ	**Dannevirke**	**1.80**	**74**	Pn	**Pn**	**19 20 31.2**	**0.0**
VRZ	**Vera Road**	**1.80**	**22**	⇓PN	**Pn**	**19 20 31.8**	**+0.5**
VRZ	**Vera Road**	**1.80**	**22**	Pn	**Pn**	**19 20 31.8**	**+0.5**
DSZ	**Denniston Nort**	**1.84**	**239**	PN	**Pn**	**19 20 32.2**	**+0.4**
DSZ	**Denniston Nort**	**1.84**	**239**	Pn	**Pn**	**19 20 32.2**	**+0.4**
MTVZ	**Mangateitei**	**1.86**	**41**	PN	**Pn**	**19 20 32.5**	**+0.4**
MTVZ	**Mangateitei**	**1.86**	**41**	Pn	**Pn**	**19 20 32.5**	**+0.4**
PKVZ	**Pokaka**	**1.87**	**37**	⇑PN	**Pn**	**19 20 32.4**	**+0.2**
PKVZ	**Pokaka**	**1.87**	**37**	Pn	**Pn**	**19 20 32.4**	**+0.2**
TRVZ	**Turoa**	**1.96**	**41**	⇑PN	**Pn**	**19 20 33.6**	**+0.1**
TRVZ	**Turoa**	**1.96**	**41**	Pn	**Pn**	**19 20 33.6**	**+0.1**
WNVZ	**Wahianoa**	**1.96**	**42**	PN	**Pn**	**19 20 33.7**	**+0.2**
WNVZ	**Wahianoa**	**1.96**	**42**	Pn	**Pn**	**19 20 33.7**	**+0.2**
PNHZ	**Pukenui**	**1.97**	**64**	⇑PN	**Pn**	**19 20 33.2**	**-0.1**
PNHZ	**Pukenui**	**1.97**	**64**	Pn	**Pn**	**19 20 33.2**	**-0.1**
DRZ	**Dome Shelter**	**1.99**	**40**	PN	**Pn**	**19 20 34.1**	**+0.2**
DRZ	**Dome Shelter**	**1.99**	**40**	Pn	**Pn**	**19 20 34.1**	**+0.2**
MOVZ	**Moawhango**	**1.99**	**46**	⇓PN	**Pn**	**19 20 33.5**	**-0.1**
MOVZ	**Moawhango**	**1.99**	**46**	Pn	**Pn**	**19 20 33.5**	**-0.1**
WHVZ	**Whangaehu Hut**	**2.00**	**41**	PN	**Pn**	**19 20 34.0**	**+0.1**
FWVZ	**Far West T-bar**	**2.00**	**40**	PN	**Pn**	**19 20 33.9**	**0.0**
FWVZ	**Far West T-bar**	**2.00**	**40**	Pn	**Pn**	**19 20 34.1**	**+0.2**
WPVZ	**Whakapapa**	**2.03**	**39**	⇓PN	**Pn**	**19 20 34.4**	**+0.1**
WPVZ	**Whakapapa**	**2.03**	**39**	Pn	**Pn**	**19 20 34.4**	**+0.1**
COVZ	**Chateau Observ**	**2.04**	**39**	⇓PN	**Pn**	**19 20 34.3**	**0.0**
TUVZ	**Tukino**	**2.04**	**42**	PN	**Pn**	**19 20 34.5**	**+0.2**
TUVZ	**Tukino**	**2.04**	**42**	Pn	**Pn**	**19 20 34.5**	**+0.2**
WPHZ	**Waipukurau**	**2.07**	**70**	⇓PN	**Pn**	**19 20 34.8**	**+0.2**
WPHZ	**Waipukurau**	**2.07**	**70**	Pn	**Pn**	**19 20 34.8**	**+0.2**
NGZ	**Ngauruhoe**	**2.08**	**39**	PN	**Pn**	**19 20 34.8**	**-0.1**
NGZ	**Ngauruhoe**	**2.08**	**39**	Pn	**Pn**	**19 20 34.9**	**0.0**
TWVZ	**Taurewa**	**2.09**	**35**	PN	**Pn**	**19 20 34.8**	**-0.1**
TWVZ	**Taurewa**	**2.09**	**35**	Pn	**Pn**	**19 20 34.9**	**-0.1**
BHHZ	**Black Hill Sta**	**2.11**	**52**	PN	**Pn**	**19 20 34.9**	**-0.3**
OTVZ	**Oturere**	**2.12**	**40**	PN	**Pn**	**19 20 35.6**	**+0.2**
OTVZ	**Oturere**	**2.12**	**40**	Pn	**Pn**	**19 20 35.6**	**+0.2**
WTVZ	**West Tongariro**	**2.12**	**38**	⇓PN	**Pn**	**19 20 35.3**	**-0.1**
WTVZ	**West Tongariro**	**2.12**	**38**	Pn	**Pn**	**19 20 35.3**	**-0.1**
PRHZ	**Porangahau**	**2.15**	**76**	PN	**Pn**	**19 20 35.9**	**+0.3**
PRHZ	**Porangahau**	**2.15**	**76**	Pn	**Pn**	**19 20 35.9**	**+0.3**
KRVZ	**Karewarewa**	**2.17**	**39**	PN	**Pn**	**19 20 35.7**	**-0.2**
KRVZ	**Karewarewa**	**2.17**	**39**	Pn	**Pn**	**19 20 35.7**	**-0.2**
KRHZ	**Kereru**	**2.21**	**59**	PN	**Pn**	**19 20 36.1**	**-0.3**
LTZ	**Lake Taylor**	**2.33**	**211**	PN	**Pn**	**19 20 38.3**	**+0.5**
LTZ	**Lake Taylor**	**2.33**	**211**	Pn	**Pn**	**19 20 38.3**	**+0.5**
PXZ	**Pawanui**	**2.39**	**72**	⇓PN	**Pn**	**19 20 38.4**	**-0.1**
PXZ				AML	AML	19 21 08.2	
PXZ				AML	AML	19 21 08.2	
PXZ				AML	AML	19 21 08.8	
PXZ				AML	AML	19 21 08.8	
PXZ	**Pawanui**	**2.39**	**72**	Pn	**Pn**	**19 20 38.4**	**-0.1**
HIZ	**Hauiti**	**2.40**	**18**	PN	**Pn**	**19 20 38.6**	**-0.1**
HIZ	**Hauiti**	**2.40**	**18**	Pn	**Pn**	**19 20 38.6**	**-0.1**
RATZ	**Rangitukua**	**2.41**	**37**	PN	**Pn**	**19 20 38.9**	**0.0**
RATZ	**Rangitukua**	**2.41**	**37**	Pn	**Pn**	**19 20 38.9**	**0.0**
KAHZ	**Kahuranaki**	**2.49**	**67**	⇓PN	**Pn**	**19 20 39.8**	**0.0**
KAHZ	**Kahuranaki**	**2.49**	**67**	Pn	**Pn**	**19 20 39.8**	**0.0**
WATZ	**Wairara**	**2.52**	**35**	PN	**Pn**	**19 20 40.2**	**-0.2**
WATZ	**Wairara**	**2.52**	**35**	Pn	**Pn**	**19 20 40.3**	**0.0**
BKZ	**Black Stump Fm**	**2.57**	**51**	⇑PN	**Pn**	**19 20 40.6**	**-0.4**
BKZ				AML	AML	19 21 12.8	
BKZ				AML	AML	19 21 13.7	
BKZ	**Black Stump Fm**	**2.57**	**51**	Pn	**Pn**	**19 20 40.6**	**-0.4**
TLZ	**Tolley Road**	**2.77**	**28**	PN	**Pn**	**19 20 43.2**	**-0.5**
NMHZ	**Naumai**	**2.81**	**54**	PN	**Pn**	**19 20 43.7**	**-0.3**
NMHZ	**Naumai**	**2.81**	**54**	Pn	**Pn**	**19 20 43.7**	**-0.3**
OXZ	**Oxford**	**2.88**	**208**	⇓PN	**Pn**	**19 20 44.4**	**-0.5**
CRLZ	**Canterbury Las**

MKAR				PcP	**PcP**	19 41 44.5	**-0.7**
	0.4nm,0.8s,baz=132,slow=2.1,SNR=2.8						
ZALV	**Zalesovo Beam**	**58.99**	**333**	P	P	19 41 05.5	-2.3
	0.3nm,0.2s,baz=151,slow=6.6,SNR=2.5						
ILAR	**Eielson Array**	**83.85**	**25**	LR	LR	20 24 47.0	
	comp=Z,6.4nm,18.6s,baz=212,slow=38						
ARCES	**ARCESS Array B**	**88.82**	**340**	P	**P**	**19 44 00.7**	**-1.3**
	2.4nm,1.0s,baz=73,slow=4.1,SNR=4.8						
FINES	**FINESS Array B**	**90.25**	**332**	P	**P**	**19 44 07.5**	**-1.3**
	1.0nm,0.9s,baz=90,slow=4.4,SNR=5.6						

*ISCJB **30** 19:42:13.6±0.5,32°.46N±0°.03×7°.47W±0°.04, h10km, Error ellipse: s-maj=5.3km s-min=3.9km az=159.3*
*CSEM **30** 19:42:13.8±0.2,32°.22N×7°.41W, h10km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.6km az=115.0*
*CNRM **30** 19:42:15.6,32°.17N×7°.38W, h11km, MD2.9*
*MDD **30** 19:42:16.1±1.4,32°.20N×7°.37W, h24km±14km, mb4.3/2, Error ellipse: s-maj=7.6km s-min=5.4km az=127.0, PRXIMO*
*INMG **30** 19:42:17.1±1.2,32°.27N×7°.35W, h31km, MD2.3, ML2.6, Error ellipse: s-maj=10.4km s-min=3.2km az=100.0*

ISC 30 19:42:12.5±0.8, 32°.28N±0°.04×7°.39W±0°.04, h10km, n56, σ2s14/101, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TZC	**Tazercounte**	**0.78**	**100**	P	**Pn**	**19 42 30.0**	**+0.3**
TZC				S	**Sb**	**19 42 40.0**	**+1.1**
TZC	**Tazercounte**	**0.78**	**100**	*i* P	**Pn**	**19 42 30.0**	**+0.3**
TZC				*i* S	**Sb**	**19 42 40.0**	**+1.1**
OUK	**Oukaimeden**	**1.14**	**201**	P	**Pn**	**19 42 34.0**	**-0.5**
OUK				S	**Sb**	**19 42 48.0**	**-1.5**
OUK	**Oukaimeden**	**1.14**	**201**	*i* P	**Pb**	**19 42 34.0**	**-0.5**
OUK				*i* S	**Sb**	**19 42 48.0**	**-1.5**
KIB	**El Ksiba**	**1.18**	**75**	P	**Pn**	**19 42 36.0**	**+0.8**
KIB				S	**Sn**	**19 42 53.0**	**+1.6**
KIB	**El Ksiba**	**1.18**	**75**	*i* P	**Pn**	**19 42 36.0**	**+0.8**
KIB				*i* S	**Sn**	**19 42 53.0**	**+1.6**
CIA	**Chichaoua**	**1.36**	**239**	P	**Pg**	**19 42 39.0**	**+0.4**
CIA				S	**Sn**	**19 42 55.0**	**-0.7**
CIA	**Chichaoua**	**1.36**	**239**	*i* P	**Pg**	**19 42 39.0**	**+0.4**
CIA				*i* S	**Sn**	**19 42 55.0**	**-0.7**
ESPR	**Espera**	**4.75**	**15**	S	**Sn**	**19 44 17.9**	**-1.3**
	1.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.75**	**15**	S	**Sn**	**19 44 17.9**	**-1.3**
	1.9nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.79**	**26**	S	**Sn**	**19 44 18.6**	**-1.7**
	0.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.79**	**26**	S	**Sn**	**19 44 18.6**	**-1.7**
	0.7nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.97**	**355**	*e*Pn	**Pn**	**19 43 29.5**	**+2.3**
PBDV				*e*Sn	**Sn**	**19 44 23.8**	**-0.9**
PBDV				A	A	19 44 28.4	
	4.1nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.97**	**355**	Pn	**Pn**	**19 43 29.5**	**+2.3**
PBDV				Sn	**Sn**	**19 44 23.8**	**-0.9**
	4.1nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.97**	**355**	*e*Pn	**Pn**	**19 43 29.5**	**+2.3**
PBDV				*e*Sn	**Sn**	**19 44 23.8**	**-0.9**
	4.1nm,0.4s						
PFVI	**Vila Bisbo**	**4.98**	**347**	*e*Sn	**Sn**	**19 44 23.6**	**-1.4**
PFVI				A	A	19 44 27.1	
	8.2nm,0.4s						
PFVI	**Vila Bisbo**	**4.98**	**347**	P	**Pn**	**19 43 29.7**	**+2.4**
	2.3nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**19 44 22.8**	**-2.2**
	17nm,0.1s,SNR=8.4						
PFVI	**Vila Bisbo**	**4.98**	**347**	P	**Pn**	**19 43 29.7**	**+2.4**
	2.3nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**19 44 22.8**	**-2.2**
	17nm,0.1s,SNR=8.4						
PFVI				*e*Sn	**Sn**	**19 44 23.6**	**-1.4**
	8.2nm,0.4s						
PVAQ	**Vaqueiros**	**5.12**	**357**	*e*Pn	**Pn**	**19 43 31.4**	**+2.2**
PVAQ				*e*Sn	**Sn**	**19 44 26.7**	**-1.6**
PVAQ				A	A	19 44 29.2	
	4.9nm,0.3s						
PVAQ	**Vaqueiros**	**5.12**	**357**	Pn	**Pn**	**19 43 31.4**	**+2.2**
PVAQ				Sn	**Sn**	**19 44 26.7**	**-1.6**
	4.9nm,0.3s						
PVAQ	**Vaqueiros**	**5.12**	**357**	*e*Pn	**Pn**	**19 43 31.4**	**+2.2**
PVAQ				*e*Sn	**Sn**	**19 44 26.7**	**-1.6**
	4.9nm,0.3s						
MORF	**Marmelete**	**5.12**	**349**	*e*Pn	**Pn**	**19 43 31.8**	**+2.6**
MORF				*e*Sn	**Sn**	**19 44 27.7**	**-0.7**
MORF				A	A	19 44 29.8	
	9.9nm,0.1s						
MORF	**Marmelete**	**5.12**	**349**	Pn	**Pn**	**19 43 31.8**	**+2.6**
MORF				Sn	**Sn**	**19 44 27.7**	**-0.7**
	9.9nm,0.1s						
MORF	**Marmelete**	**5.12**	**349**	*e*Pn	**Pn**	**19 43 31.8**	**+2.6**
MORF				*e*Sn	**Sn**	**19 44 27.7**	**-0.7**
	9.9nm,0.1s						
EGRO	**El Granado**	**5.24**	**359**	P	**Pn**	**19 43 33.2**	**+2.4**
	1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**19 44 28.6**	**-2.7**
	4.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.24**	**359**	P	**Pn**	**19 43 33.2**	**+2.4**
	1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**19 44 28.6**	**-2.7**
	4.4nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**5.37**	**355**	*e*Pn	**Pn**	**19 43 35.0**	**+2.4**
PCVE				*e*Sn	**Sn**	**19 44 32.6**	**-1.8**
PCVE	**Castro Verde**	**5.37**	**355**	Pn	**Pn**	**19 43 35.0**	**+2.4**
PCVE				Sn	**Sn**	**19 44 32.6**	**-1.8**
PCVE	**Castro Verde**	**5.37**	**355**	*e*Pn	**Pn**	**19 43 35.0**	**+2.4**
PCVE				*e*Sn	**Sn**	**19 44 32.6**	**-1.8**
PTEO	**Sao Teotonio**	**5.37**	**349**	*e*Pn	**Pn**	**19 43 35.0**	**+2.4**
PTEO				*e*Sn	**Sn**	**19 44 33.5**	**-0.9**
PTEO				A	A	19 44 38.7	
	6.8nm,0.3s						
PTEO	**Sao Teotonio**	**5.37**	**349**	Pn	**Pn**	**19 43 35.0**	**+2.4**
PTEO				Sn	**Sn**	**19 44 33.5**	**-0.9**
	3.4nm,0.3s						
PTEO	**Sao Teotonio**	**5.37**	**349**	*e*Pn	**Pn**	**19 43 35.0**	**+2.4**
PTEO				*e*Sn	**Sn**	**19 44 33.5**	**-0.9**
	6.8nm,0.3s						
EMIN	**Mina Concepcio**	**5.51**	**6**	P	**Pn**	**19 43 36.1**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**19 44 34.4**	**-3.5**
	2.1nm,0.1s,SNR=6.7						
EMIN	**Mina Concepcio**	**5.51**	**6**	P	**Pn**	**19 43 36.1**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**19 44 34.4**	**-3.5**
	2.1nm,0.1s,SNR=6.7						
MESJ	**Messejana**	**5.59**	**353**	*e*Pn	**Pn**	**19 43 38.2**	**+2.6**
MESJ				*e*Sn	**Sn**	**19 44 39.7**	**-0.2**
MESJ				A	A	19 44 41.0	
	3.6nm,0.2s						
MESJ	**Messejana**	**5.59**	**353**	Pn	**Pn**	**19 43 38.2**	**+2.6**
MESJ				Sn	**Sn**	**19 44 39.7**	**-0.2**
	3.6nm,0.2s						
MESJ	**Messejana**	**5.59**	**353**	*e*Pn	**Pn**	**19 43 38.2**	**+2.6**
MESJ				*e*Sn	**Sn**	**19 44 39.7**	**-0.2**
	3.6nm,0.2s						
PBAR	**Barrancos**	**5.89**	**3**	*e*Pn	**Pn**	**19 43 41.7**	**+1.9**
PBAR				*e*Sn	**Sn**	**19 44 44.6**	**-2.7**
PBAR				A	A	19 44 46.0	
	5.0nm,0.8s						
PBAR	**Barrancos**	**5.89**	**3**	Pn	**Pn**	**19 43 41.7**	**+1.9**
PBAR				Sn	**Sn**	**19 44 44.6**	**-2.7**
	5.0nm,0.8s						
PBAR	**Barrancos**	**5.89**	**3**	*e*Pn	**Pn**	**19 43 41.7**	**+1.9**
PBAR				*e*Sn	**Sn**	**19 44 44.6**	**-2.7**
	5.0nm,0.8s						
PNCL	**Nicolau / Gran**	**5.89**	**351**	*e*Pn	**Pn**	**19 43 42.0**	**+2.2**
PNCL				*e*Sn	**Sn**	**19 44 45.3**	**-2.1**
PNCL				A	A	19 44 49.3	
	3.3nm,0.3s						
PNCL	**Nicolau / Gran**	**5.89**	**351**	*e*Pn	**Pn**	**19 43 42.0**	**+2.2**
PNCL				*e*Sn	**Sn**	**19 44 45.3**	**-2.1**
	3.3nm,0.3s						
ECAB	**El Cabril**	**6.00**	**15**	P	**Pn**	**19 43 43.1**	**+1.7**
	0.3nm,0.0s,SNR=7.9						
ECAB				S	**Sn**	**19 44 45.8**	**-4.4**
	0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.00**	**15**	P	**Pn**	**19 43 43.1**	**+1.7**
	0.3nm,0.0s,SNR=7.9						
ECAB				S	**Sn**	**19 44 45.8**	**-4.4**
	0.7nm,0.1s,SNR=7.9						
EVO	**Evora**	**6.26**	**356**	*e*Sn	**Sn**	**19 44 55.4**	**-1.0**
EVO				A	A	19 44 57.6	
	3.4nm,0.3s						
EVO	**Evora**	**6.26**	**356**	Sn	**Sn**	**19 44 55.4**	**-1.0**
	3.4nm,0.3s						
EVO	**Evora**	**6.26**	**356**	*e*Sn	**Sn**	**19 44 55.4**	**-1.0**
	3.4nm,0.3s						
EADA	**Adamuz**	**6.31**	**21**	P	**Pn**	**19 43 47.7**	**+2.1**
	0.8nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**19 44 53.2**	**-4.5**
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.31**	**21**	P	**Pn**	**19 43 47.7**	**+2.1**
	0.8nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**19 44 53.2**	**-4.5**
	0.9nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.47**	**3**	P	**Pn**	**19 43 49.8**	**+2.1**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**19 44 57.5**	**-4.1**
	1.5nm,0.1s,SNR=6.8						
EBAD	**Badajoz**	**6.47**	**3**	P	**Pn**	**19 43 49.8**	**+2.1**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**19 44 57.5**	**-4.1**
	1.5nm,0.1s,SNR=6.8						
PESTR	**Estremoz**	**6.57**	**359**	*e*Sn	**Sn**	**19 45 03.1**	**-1.1**
PESTR	**Estremoz**	**6.57**	**359**	*e*Sn	**Sn**	**19 45 03.1**	**-1.1**
PMTG	**Montargil**	**6.81**	**355**	*e*Pn	**Pn**	**19 43 54.9**	**+2.5**
PMTG				*e*Sn	**Sn**	**19 45 07.8**	**-2.1**
PMTG				A	A	19 45 10.0	
	2.0nm,0.3s						
PMTG	**Montargil**	**6.81**	**355**	*e*Pn	**Pn**	**19 43 54.9**	**+2.5**
PMTG				*e*Sn	**Sn**	**19 45 07.8**	**-2.1**
	2.0nm,0.3s						
PAB	**San Pablo**	**7.66**	**18**	S	Sn	19 45 25.1	-5.9
	0.1nm,0.1s,SNR=7.9						

*ISCJB **30** 19:53:22.5±1.0,24°.14N±0°.08×36°.72E±0°.06, h10km, mb3.3/5, Error ellipse: s-maj=12.2km s-min=8.2km az=172.1*
*IDC **30** 19:53:26.9±1.9,24°.37N×36°.09E, h0km, mb3.4/5, mb1 3.4/6, mb1mx3.3/37, mbtmp3.3/6, ML2.8/1, Error ellipse: s-maj=47.5km s-min=24.3km az=159.0*
*SGS **30** 19:53:27.8,24°.19N×36°.81E, h29km*

ISC 30 19:53:23.9±1.2, 24°.19N±0°.10×36°.79E±0°.07, h10km, n11, σ0s91/9, mb3.3/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNBS	**Yanbu' al Bahr**	**1.11**	**82**	S	**Sg**	**19 53 59.3**	**-0.4**
YNBS	**Yanbu' al Bahr**	**1.11**	**82**	P	**Pb**	**19 53 44.8**	**-0.4**
UMJS	**Umm Lajj**	**1.14**	**24**	S	**Sb**	**19 54 00.4**	**-0.3**
UMJS	**Umm Lajj**	**1.14**	**24**	P	**Pb**	**19 53 44.9**	**-0.8**
YOBS		**1.79**	**84**	P	**Pn**	**19 53 55.6**	**+0.7**
BRTR	**Keskin Array B**	**15.72**	**351**	P	**Pn**	**19 57 06.2**	**+0.7**
	0.0nm,0.3s,baz=169,slow=13,SNR=2.2						
AKASG	**Malin Array Be**	**27.11**	**349**	P	**P**	**19 59 08.0**	**+1.2**
	0.2nm,0.3s,baz=167,slow=8.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**34.92**	**258**	P	**P**	**20 00 14.9**	**-1.2**
	0.4nm,0.8s,baz=67,slow=8.0,SNR=2.7						
ESDC	**Sonseca Array**	**37.53**	**304**	P	**P**	**20 00 38.6**	**+0.4**
	0.4nm,0.6s,baz=86,slow=5.7,SNR=4.7						
MKAR	**Makanchi Array**	**42.62**	**46**	P	P	20 01 28.1	+7.7
	0.7nm,0.8s,baz=262,slow=10.0,SNR=7.1						
SONM	**Songino Array**	**58.97**	**47**	P	P	20 03 30.5	+6.7
	0.1nm,0.4s,baz=264,slow=5.7,SNR=2.6						

IDC 30 20:21:55.8±1.2, 12°.10N×92°.46E, h0km, mb3.3/6, mb1 3.5/7, mb1mx3.3/38, mbtmp3.3/7, ML3.4/1, Error ellipse: s-maj=39.6km s-min=20.3km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.89**	**44**	Pn	Pn	20 24 06.3	+0.6
	0.1nm,0.3s,baz=235,slow=14,SNR=3.4						
H08S3	**Diego Garcia H**	**27.91**	**226**	T	T	20 56 60.0	
	baz=44,slow=74,SNR=5.8						
H08S2	**Diego Garcia H**	**27.91**	**226**	T	T	20 57 02.0	
	baz=44,slow=74,SNR=5.2						
H08S1	**Diego Garcia H**	**27.92**	**226**	T	T	20 57 04.4	
	baz=44,slow=74,SNR=3.6						
MKAR	**Makanchi Array**	**35.63**	**348**	P	P	20 28 56.7	+1.3
	0.1nm,0.7s,baz=160,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**37.49**	**15**	P	P	20 29 10.2	-1.2
	0.2nm,0.7s,baz=199,slow=4.0,SNR=1.9						
GEYT	**Alibeck**	**40.00**	**316**	P	P	20 29 32.3	-0.2
	0.5nm,0.5s,baz=258,slow=6.6,SNR=2.2						
WRA	**Warramunga Arr**	**52.08**	**127**	P	P	20 31 07.5	-0.5
	0.4nm,1.0s,baz=308,slow=6.6,SNR=3.2						
ASAR	**Alice Springs**	**53.90**	**131**	P	P	20 31 21.9	+0.4
	0.2nm,0.7s,baz=309,slow=7.0,SNR=2.8						
GERES	**GERESS Array B**	**73.61**	**318**	P	P	20 33 30.7	-0.5
	0.3nm,0.6s,baz=97,slow=5.5,SNR=3.8						

IDC 30 20:29:02.6±6.1, 17°.08S×173°.30W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/33, mbtmp4.0/2, Error ellipse: s-maj=321.0km s-min=43.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.57**	**258**	P	P	20 37 55.4	-0.5
	0.3nm,0.4s,baz=96,slow=8.2,SNR=13						
ASAR	**Alice Springs**	**49.70**	**253**	P	P	20 37 57.2	+0.3
	1.8nm,0.4s,baz=87,slow=7.8,SNR=38						
BRTR	**Keskin Array B**	**147.50**	**319**	PKPbc	PKPbc	20 48 48.0	-1.2
	0.7nm,0.8s,baz=55,slow=3.2,SNR=4.4						
GERES	**GERESS Array B**	**147.81**	**351**	PKPbc	PKPbc	20 48 49.2	-0.5
	0.4nm,0.7s,baz=3.8,slow=2.9,SNR=2.6						

DJA 30 20:31:43.1±0.6, 1°N±10°, 12°4E±°, h187km±6km, M3.6/7, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.21**	**252**	P	Pn	20 32 07.8	-0.1
KMSI				S	Sn	20 32 28.5	+1.6
LUWI	**Luwuk**	**2.19**	**220**	P	Pn	20 32 22.9	+0.2
MRSI	**Marisa**	**2.25**	**266**	P	Pn	20 32 23.3	0.0
TNTI	**Ternate**	**3.19**	**88**	P	Pn	20 32 34.3	-0.1
SANI	**Sanana**	**3.23**	**146**	P	Pn	20 32 34.4	-0.4
LBMI	**Labuha**	**3.56**	**111**	P	Pn	20 32 38.8	-0.1

*IDC **30** 20:34:29.2±0.6, 1°.79S×133°.73E, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/32, mbtmp4.3/14, ML4.2/2, MS3.5/15, Ms1 3.5/15, ms1mx3.3/26, Error ellipse: s-maj=24.8km s-min=10.6km az=76.0*
*ISCJB **30** 20:34:31.1±0.2, 1°.67S±0°.03×133°.78E±0°.03, h24km, mb4.3/29, MS3.5/13, Error ellipse: s-maj=4.8km s-min=3.9km az=169.8*
*DJA **30** 20:34:32.4±0.2,2°S±3°×13°4E±°, h13km, M4.5/8, mb4.7/8, mB4.8/4, MLv4.6/7, Mw(mB)4.1/4*
*NEIC **30** 20:34:32.4±3.2, 1°.70S×133°.77E, h23km±24km, mb4.4/23, Error ellipse: s-maj=9.9km s-min=6.8km az=79.0*

ISC 30 20:34:32.7±0.4, 1°.71S±0°.05×133°.80E±0°.04, h24km, n83, σ1s31/80, mb4.4/29, MS3.4/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.43**	**62**	P	**Pb**	**20 34 39.7**	**-1.9**
RKPI				S	**Sb**	**20 34 46.3**	**-1.5**
FAKI	**Fak Fak**	**1.96**	**232**	P	**Pn**	**20 35 04.7**	**+0.3**
FAKI				S	**Sb**	**20 35 30.9**	**-0.8**
SRPI	**Serui, Papua**	**2.44**	**94**	P	**Pn**	**20 35 12.7**	**+1.6**
BNDI	**Bandanaira**	**4.79**	**234**	P	**Pn**	**20 35 44.3**	**+1.0**
BNDI				S	**Sn**	**20 36 40.6**	**+2.5**
SMPI	**Sarmi**	**4.92**	**93**	P	**Pn**	**20 35 47.1**	**+2.0**
MSAI	**Masohi**	**5.13**	**251**	P	**Pn**	**20 35 49.6**	**+1.5**
	19nm,0.6s,259nm0.1nm						
MSAI				S	**Sn**	**20 36 48.9**	**+2.3**
	19nm,0.6s,259nm0.1nm						
LBMI	**Labuha**	**6.39**	**280**	P	**Pn**	**20 36 06.5**	**+1.1**
	42nm,0.9s						
GENI	**Genyem**	**6.42**	**98**	P	**Pn**	**20 36 08.3**	**+2.4**
	71nm,0.9s						
NLAI	**Namlea**	**6.86**	**257**	P	**Pn**	**20 36 12.2**	**+0.3**
	47nm,0.6s,668nm						
TNTI	**Ternate**	**6.89**	**291**	P	**Pn**	**20 36 13.0**	**+0.8**
	23nm,0.9s						
JAY	**Jayapura**	**6.95**	**97**	Pn	**Pn**	**20 36 14.9**	**+1.9**
	1.4nm,0.3s,baz=244,slow=7.0,SNR=6.8						
JAY				Sn	**Sn**	**20 37 36.5**	**+5.0**
	0.6nm,0.3s,baz=307,slow=20,SNR=2.1						
JAY				LR	LR	20 39 17.6	
	comp=Z,409nm,19.4s,baz=250,slow=41						
KDU	**Kakadu**	**10.98**	**187**	P	**Pn**	**20 37 08.1**	**-0.3**
	baz=11,SNR=22						
KDU				S	**Sn**	**20 39 06.7**	**-4.0**
	baz=11,SNR=4.8						
KNRA	**Kununurra**	**14.74**	**199**	P	**Pn**	**20 37 57.1**	**-2.7**
	baz=14,SNR=33						
KNRA				S	Sn	20 40 33.6	-8.8
	baz=14,SNR=6.0						
COEN	**Coen**	**15.30**	**143**	P	**Pn**	**20 38 08.7**	**+1.5**
	baz=15,SNR=5.3						
WRAB	**Tennant Creek**	**18.12**	**178**	*e*Pn	**Pn**	**20 38 43.0**	**+0.1**
	20nm,0.8s						
WRAB				*e*Sn	Sn	20 41 48.7	-16
WRA	**Warramunga Arr**	**18.13**	**178**	P	**Pn**	**20 38 42.8**	**-0.2**
	1.3nm,0.3s,baz=358,slow=12,SNR=68						
WRA				S	Sn	20 41 53.9	-11
	0.2nm,0.3s,baz=358,slow=24,SNR=5.5						
GUMO	**Guam**	**18.75**	**36**	LR	LR	20 45 20.4	
	comp=Z,67nm,19.5s,baz=193,slow=34						
GUMO	**Guam**	**18.75**	**36**	P	**P**	**20 38 47.5**	**-2.6**
	7.2nm,0.8s						
KKM	**Kota Kinabalu**	**19.18**	**294**	P	**Pn**	**20 38 57.6**	**+1.7**
	baz=19,SNR=3.4						
KKM	**Kota Kinabalu**	**19.18**	**294**	*e*P	**P**	**20 38 52.9**	**-1.9**
	12nm,0.9s						
QIS	**Mount Isa**	**19.57**	**164**	P	**Pn**	**20 39 00.3**	**-0.1**
	baz=20,SNR=6.0						
AS31	**Alice Springs**	**21.82**	**180**	*e*P	**P**	**20 39 23.5**	**+0.1**
ASAR	**Alice Springs**	**21.83**	**180**	P	**P**	**20 39 24.4**	**+0.9**
	26nm,0.8s,baz=5.3,slow=11,SNR=108						
ASAR				S	**S**	**20 43 23.4**	**-0.4**
	5.7nm,0.9s,baz=3.8,slow=24,SNR=10						
ASAR				LR	LR	20 49 14.0	
	comp=Z,213nm,19.4s,baz=0.0,slow=41						
CTA	**Charters Tower**	**21.95**	**147**	P	**P**	**20 39 25.1**	**+0.3**
	4.1nm,0.6s,baz=337,slow=13,SNR=2.5						
CTAO	**Charters Tower**	**21.95**	**147**	P	**P**	**20 39 24.8**	**0.0**
	14nm,1.0s						
KSM	**Kuching**	**23.70**	**278**	P	**P**	**20 39 45.6**	**+2.6**
	baz=23,SNR=5.8						
KSM	**Kuching**	**23.70**	**278**	*e*P	**P**	**20 39 41.3**	**-1.7**
	8.3nm,0.8s						
MBWA	**Marble Bar**	**23.70**	**214**	P	**P**	**20 39 42.6**	**-0.3**
	13nm,0.9s						
WRKA	**Warakurna**	**23.79**	**192**	P	**P**	**20 39 44.1**	**+0.4**
	baz=24,SNR=15						
LEM	**Lembang**	**26.59**	**258**	LR	LR	20 53 57.1	
	comp=Z,87nm,18.5s,baz=78,slow=44						
QLP	**Quilpie**	**26.68**	**159**	P	**P**	**20 40 10.1**	**0.0**
	baz=27,SNR=8.0						
JCJ	**Chichijima**	**29.76**	**15**	LR	LR	20 50 22.5	
	comp=Z,54nm,19.0s,baz=36,slow=32						
STKA	**Stephens Creek**	**30.89**	**167**	P	**P**	**20 40 46.6**	**-0.8**
	2.8nm,0.8s,baz=332,slow=8.4,SNR=5.5						
STKA				LR	LR	20 54 21.2	
	comp=Z,219nm,19.1s,baz=4.7,slow=39						
STKA	**Stephens Creek**	**30.89**	**167**	*e*P	**P**	**20 40 46.3**	**-1.2**
	2.1nm,1.1s						
BLDU	**Ballidu**	**33.00**	**208**	P	**P**	**20 41 06.4**	**+0.5**
	baz=33,SNR=5.7						
JNU	**Nakatsue**	**34.76**	**356**	P	**P**	**20 41 20.7**	**-0.6**
	10.0nm,0.9s,baz=93,slow=3.5,SNR=4.4						
MJAR	**Matsushiro Arr**	**38.28**	**6**	LR	LR	20 54 47.5	
	comp=Z,63nm,20.5s,baz=180,slow=32						
KSRS	**Korea Array**	**39.35**	**353**	LR	LR	20 59 48.2	
	comp=Z,18nm,18.0s,baz=152,slow=38						
CM31	**Chiang Mai Arr**	**39.72**	**302**	P	P	20 41 59.0	-4.6
	5.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.72**	**302**	P	**P**	**20 42 04.2**	**+0.6**
	2.4nm,0.9s,baz=122,slow=6.9,SNR=14						
CHTO	**Chiang Mai**	**39.88**	**302**	*e*P	**P**	**20 42 04.0**	**-0.9**
	4.1nm,1.0s						
USRK	**Ussuriysk Ar.**	**45.74**	**358**	P	**P**	**20 42 52.7**	**+0.7**
	1.8nm,0.8s,baz=166,slow=8.0,SNR=5.2						
USRK				LR	LR	21 00 57.9	
	comp=Z,14nm,18.7s,baz=178,slow=35						
ASAJ	**Asahikawa**	**46.30**	**9**	LR	LR	20 59 51.1	
	comp=Z,38nm,21.9s,baz=162,slow=33						
LSA	**Lhasa**	**51.31**	**311**	*e*P	**P**	**20 43 36.6**	**+0.7**
	2.9nm,0.7s						
TAPN	**Taplejung**	**52.91**	**307**	*e*P	**P**	**20 43 47.5**	**-0.1**
	16nm,1.0s						
ODAN	**Odare**	**52.96**	**306**	*e*P	**P**	**20 43 47.9**	**0.0**
	17nm,0.8s						
RAMN	**Ramite**	**53.64**	**306**	*e*P	**P**	**20 43 53.2**	**+0.3**
	24nm,0.9s						
JIRN	**Jiri**	**54.27**	**306**	*e*P	**P**	**20 43 57.7**	**+0.1**
	12nm,0.9s						
ULN	**Ulaanbaatar**	**54.61**	**338**	P	**P**	**20 44 00.1**	**+0.6**
	2.5nm,0.3s						
GUN	**Gumba**	**54.62**	**306**	*e*P	**P**	**20 44 00.2**	**+0.1**
	17nm,0.9s						
SONM	**Songino Array**	**54.83**	**338**	P	**P**	**20 44 01.7**	**+0.6**
	1.9nm,0.9s,baz=152,slow=7.4,SNR=12						
PKI	**Pulchoki**	**54.86**	**306**	*e*P	**P**	**20 44 01.8**	**-0.1**
PKIN	**

TALC				*e*S		Sn	20 38 26.9	+1.3	
LNCH	**Linares**	**1.12**	**180**	*e*P		Pn	20 38 22.6	+2.5	
LNCH				*e*S		Sn	20 38 40.0	+4.9	
SJCH	**San Jose de Ma**	**1.50**	**44**	*e*P		Pn	20 38 26.4	+1.1	
SJCH				*e*S		Sn	20 38 46.1	+1.9	
CLCH	**Cerro Calan**	**1.60**	**34**	*e*P		Pn	20 38 27.7	+1.2	
CLCH				*e*S		Sn	20 38 48.6	+2.2	
CLCH					AML	AML	20 38 55.1		
	comp=N,748nm,0.6s								
COCH	**Cobquecura**	**1.70**	**214**	*e*P		Pn	20 38 31.2	+3.4	
COCH				*e*S		Sn	20 38 52.6	+3.9	
PEL	**Peldehue**	**1.75**	**26**	*e*P		Pn	20 38 29.8	+1.2	
PEL				*e*S		Sn	20 38 52.2	+2.0	
PEL					AML	AML	20 38 56.0		
	comp=N,693nm,0.5s								

SJA 30 20:49:32.9±0.8, 24.00S×66.79W, h202km±20km, ML3.8, MW4.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.38**	**122**	*e*P	Pn	20 50 07.2	+1.3
HJA	**Humahuaca**	**1.49**	**59**	*e*P	Pn	20 50 07.8	+0.6
AZAP	**Zapla**	**1.59**	**99**	*e*P	Pn	20 50 08.5	+0.6
ASTB	**Santa Barbara**	**2.11**	**89**	*e*P	Pn	20 50 13.7	+0.8
FSA	**Cafayete**	**2.20**	**162**	*e*P	Pn	20 50 14.8	+0.9
FSA				*e*S	S	20 50 45.9	+0.4
LVC	**Limon Verde**	**2.39**	**305**	*e*P	Pn	20 50 16.7	+0.7
LVC					AML AML	20 50 51.3	
	comp=Z,316nm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.59**	**87**	*e*P	Pn	20 50 18.5	+0.5

IDC 30 21:06:27.3±9.7, 2.37N×97.10E, h105km±65km, mb3.2/4, mb1 3.3/5, mb1mx3.0/31, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=138.2km s-min=22.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.87**	**77**	P	Pn	21 06 58.1	-0.4
	1.6nm,0.3s,baz=204,slow=19,SNR=3.8						
PSI				LR	LR	21 07 55.9	
	comp=Z,43nm,18.2s,baz=270,slow=48						
CMAR	**Chiang Mai Arr**	**16.09**	**6**	P	Pn	21 10 07.9	+0.4
	0.1nm,0.3s,baz=198,slow=11,SNR=12						
H08S2	**Diego Garcia H**	**26.49**	**248**	T	T	21 38 36.5	
	baz=68,slow=75,SNR=42						
H08S3	**Diego Garcia H**	**26.49**	**248**	T	T	21 38 44.1	
	baz=68,slow=75,SNR=46						
H08S1	**Diego Carcia H**	**26.51**	**248**	T	T	21 38 45.4	
	baz=68,slow=75,SNR=37						
WRA	**Warramunga Arr**	**42.75**	**123**	P	P	21 14 14.5	-0.1
	0.1nm,0.5s,baz=302,slow=9.1,SNR=2.9						
SONM	**Songino Array**	**45.99**	**9**	P	P	21 14 40.0	-0.2
	0.2nm,0.3s,baz=184,slow=9.2,SNR=4.4						
MKAR	**Makanchi Array**	**46.09**	**346**	P	P	21 14 40.5	-0.4
	0.7nm,0.7s,baz=160,slow=9.7,SNR=12						
ZALV	**Zalesovo Beam**	**52.39**	**351**	P	P	21 15 28.7	+0.1
	1.2nm,0.6s,baz=180,slow=6.8,SNR=7.0						

WEL 30 21:24:13.7±0.4, 36.56S×177.12E, h12km, ML3.9/6, 2C, Error ellipse: s-maj=3.2km s-min=1.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**1.01**	**224**	⇑P*	Pb	21 24 31.4	-1.8
MYRZ				S*	Sg	21 24 43.5	-2.8
MYRZ				S*	Sb	21 24 43.6	-2.8
KUZ	**Kuaotunu**	**1.14**	**260**	⇑P*	Pb	21 24 34.3	-1.1
KUZ				AML	AML	21 24 48.8	
KUZ				AML	AML	21 24 48.8	
KUZ				S*	Sb	21 24 49.1	-1.1
KUZ				AML	AML	21 24 49.5	
HAZ	**Te Kaha**	**1.30**	**156**	P*	Pn	21 24 34.9	-2.8
HAZ				S*	Sb	21 24 51.9	-2.9
OPRZ	**Ohinepanea**	**1.36**	**199**	*e*P*	Pn	21 24 35.7	-2.8
WMGZ	**Waiomatatini S**	**1.62**	**141**	PN	Pn	21 24 41.8	-0.3
MKAZ	**Moumakai**	**1.66**	**250**	PN	Pn	21 24 42.5	-0.2
MKAZ				SN	Sn	21 25 03.0	-0.9
MKAZ				SN	Sb	21 25 03.2	-2.0
URZ	**Urewera**	**1.69**	**180**	*e*P*	Pn	21 24 42.7	-0.5
TOZ	**Tahuroa Road**	**1.74**	**228**	*e*P*	Pn	21 24 42.6	-1.2
TOZ				S*	Sn	21 25 04.2	-1.7
PUZ	**Puketiti**	**1.76**	**149**	PN	Pn	21 24 44.0	0.0
MWZ	**Matawai**	**1.80**	**170**	*e*P*	Pn	21 24 42.5	-2.1
MWZ				AML	AML	21 25 20.0	
ETAZ	**East Tamaki Re**	**1.81**	**257**	*e*PN	Pn	21 24 44.6	-0.1
ETAZ				SN	Sn	21 25 07.9	+0.3
TLZ	**Tolley Road**	**2.17**	**215**	*e*P*	Pn	21 24 47.9	-1.9

WEL 30 21:24:31.8±0.7, 36.53S×177.10E, h12km, ML4.0/5, Error ellipse: s-maj=4.6km s-min=2.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**1.02**	**222**	*e*P*	Pb	21 24 49.4	-2.0
MYRZ				S*	Sb	21 25 01.3	-3.5
MYRZ				S*	Sg	21 25 01.9	-2.9
KUZ	**Kuaotunu**	**1.13**	**259**	S*	Sb	21 25 06.7	-1.3
KUZ				S*	Sb	21 25 06.7	-1.3
KUZ				AML	AML	21 25 06.8	
KUZ				AML	AML	21 25 06.8	
HAZ	**Te Kaha**	**1.34**	**156**	P*	Pn	21 24 53.0	-3.3
HAZ				S*	Sb	21 25 10.4	-3.6
HAZ				S*	Sn	21 25 10.6	-3.4
MKAZ	**Moumakai**	**1.66**	**249**	*e*PN	Pn	21 25 00.7	0.0
MKAZ				SN	Sn	21 25 21.5	-0.4
MKAZ				AML	AML	21 25 22.7	
WMGZ	**Waiomatatini S**	**1.66**	**141**	*e*PN	Pn	21 25 00.9	+0.1
URZ	**Urewera**	**1.73**	**180**	AML	AML	21 25 26.2	
URZ				AML	AML	21 25 27.4	
TOZ	**Tahuroa Road**	**1.75**	**226**	*e*P*	Pn	21 25 02.0	0.0
TOZ				S*	Sn	21 25 22.2	-2.0
PUZ	**Puketiti**	**1.79**	**149**	SN	Sb	21 25 27.2	0.0
PUZ				AML	AML	21 25 29.1	
ETAZ	**East Tamaki Re**	**1.80**	**256**	*e*PN	Pb	21 25 03.7	-0.9
ETAZ				SN	Sn	21 25 25.9	+0.6

*IDC **30** 21:36:07.2±1.0, 0.24N×129.80E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/28, mbtmp3.8/7, MS3.1/8, Ms1 3.1/8, ms1mx2.9/24, Error ellipse: s-maj=58.5km s-min=16.9km az=72.0*

*ISCJB **30** 21:36:10.8±0.6, 0.12N±0.05×129.69E±0.07, h33km, mb3.9/6, MS3.1/7, Error ellipse: s-maj=9.8km s-min=6.8km az=4.1*

*DJA **30** 21:36:16.7±0.5, 0.3S±3.2×12.9E±°, h17km, M3.8/8, MLv3.8/8*

ISC 30 21:36:13.1±0.9, 0.10N±0.07×129.63E±0.10, h35km, n27, σ1933/22, mb3.8/6, MS3.1/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.25**	**251**	P	**Pn**	**21 36 48.6**	**+0.8**
LBMI				S	**Sn**	**21 37 14.0**	**-0.3**
TNTI	**Ternate**	**2.35**	**287**	P	**Pn**	**21 36 48.8**	**-0.5**
TNTI				S	**Sn**	**21 37 20.9**	**+3.9**
MSAI	**Masohi**	**3.49**	**191**	P	**Pn**	**21 37 07.2**	**+2.3**
MSAI				S	**Sn**	**21 37 45.4**	**+0.3**
FAKI	**Fak Fak**	**3.98**	**139**	P	Pn	21 37 18.7	+7.0
NLAI	**Namlea**	**4.17**	**217**	P	**Pn**	**21 37 14.6**	**+0.4**
NLAI				S	**Sn**	**21 37 59.8**	**-1.9**
SANI	**Sanana**	**4.21**	**240**	P	**Pn**	**21 37 14.3**	**-0.6**
JAY	**Jayapura**	**11.38**	**103**	LR	LR	21 43 12.3	
	comp=Z,46nm,21.0s,baz=156,slow=38						
WRA	**Warramunga Arr**	**20.45**	**167**	P	**P**	**21 40 47.0**	**-0.7**
	2.6nm,0.7s,baz=346,slow=11,SNR=16						
WRA				S	S	21 44 26.0	-8.8
	0.6nm,0.8s,baz=344,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**23.98**	**170**	P	**P**	**21 41 25.0**	**+0.4**
	5.6nm,0.9s,baz=348,slow=9.8,SNR=29						
ASAR				LR	LR	21 51 07.3	
	comp=Z,81nm,20.1s,baz=352,slow=37						
STKA	**Stephens Creek**	**33.76**	**161**	P	**P**	**21 42 51.6**	**0.0**
	2.5nm,0.8s,baz=347,slow=10,SNR=5.6						
STKA				LR	LR	22 00 01.8	
	comp=Z,84nm,21.0s,baz=18,slow=42						
CMAR	**Chiang Mai Arr**	**35.23**	**303**	P	**P**	**21 43 04.0**	**-0.5**

	1.2nm,0.9s,baz=115,slow=7.4,SNR=4.7								
MJAR	**Matsushiro Arr**	**37.13**	**11**	LR	LR		21 56 49.2		
	comp=Z,26nm,21.9s,baz=150,slow=34								
KSRS	**Korea Array**	**37.20**	**358**	LR	LR		21 56 25.9		
	comp=Z,33nm,20.2s,baz=154,slow=33								
H11N1	**WAKE ISLAND Hy**	**41.38**	**60**	T	T		22 27 35.5		
	baz=246,slow=75,SNR=5.4								
H11N2	**WAKE ISLAND Hy**	**41.39**	**60**	T	T		22 27 31.6		
	baz=246,slow=75,SNR=4.0								
H11N3	**WAKE ISLAND Hy**	**41.40**	**60**	T	T		22 27 31.0		
	baz=246,slow=75,SNR=7.6								
USRK	**Ussuriysk Ar.**	**43.96**	**2**	P	P		21 44 14.6	-2.2	
	1.0nm,0.7s,baz=134,slow=8.4,SNR=3.1								
ASAJ	**Asahikawa**	**45.33**	**13**	LR	LR		22 03 18.9		
	comp=Z,14nm,19.1s,baz=107,slow=36								
TAPN	**Taplejung**	**48.50**	**307**	*e*P	**P**		**21 44 54.3**	**+1.1**	
	8.5nm,1.0s								
ODAN	**Odare**	**48.53**	**307**	*e*P	**P**		**21 44 55.4**	**+2.0**	
	9.5nm,0.8s								
RAMN	**Ramite**	**49.21**	**306**	*e*P	**P**		**21 44 58.4**	**-0.2**	
	14nm,1.0s								
JIRN	**Jiri**	**49.84**	**307**	*e*P	**P**		**21 45 03.4**	**-0.2**	
	10nm,1.0s								
GUN	**Gumba**	**50.20**	**307**	*e*P	**P**		**21 45 06.1**	**-0.1**	
	18nm,1.0s								
PKIN	**Phulchoki**	**50.44**	**307**	*e*P	**P**		**21 45 08.5**	**+0.5**	
SONM	**Songino Array**	**51.66**	**340**	P	**P**		**21 45 15.5**	**-1.1**	
	0.8nm,0.8s,baz=155,slow=8.7,SNR=7.6								
SONM				LR	LR		22 08 34.8		
	comp=Z,14nm,21.3s,baz=216,slow=38								
KOLN	**Koldanda**	**51.97**	**306**	*e*P	**P**		**21 45 19.4**	**0.0**	
	7.6nm,0.7s								
MKAR	**Makanchi Array**	**62.17**	**325**	P	**P**		**21 46 30.5**	**-0.5**	
	0.5nm,0.6s,baz=134,slow=5.2,SNR=10								
MKAR				LR	LR		22 15 05.6		
	comp=Z,20nm,18.8s,baz=160,slow=38								

GUC 30 21:39:38.5±0.3, 36.31S×73.69W, h9km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.71**	**139**	*e*P	Pg	21 39 51.4	-0.8
CCSP				*e*S	Sg	21 40 01.1	-0.4
COCH	**Cobquecura**	**0.75**	**77**	*e*P	Pg	21 39 52.1	-0.8
COCH				*e*S	Sg	21 40 02.1	-0.6

WEL 30 21:46:22.6±0.4, 36.55S×177.13E, h12km, ML3.7/6, 1C, Error ellipse: s-maj=3.1km s-min=2.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**1.02**	**224**	P*	Pb	21 46 40.4	-1.9
MYRZ				S*	Sb	21 46 52.8	-2.8
KUZ	**Kuaotunu**	**1.15**	**260**	⇑P*	Pb	21 46 43.4	-1.0
KUZ				S*	Sb	21 46 57.8	-1.5
KUZ				AML	AML	21 46 58.0	
KUZ				AML	AML	21 46 58.0	
KUZ				AML	AML	21 47 01.2	
HAZ	**Te Kaha**	**1.31**	**157**	P*	Pn	21 46 44.2	-2.6
HAZ				S*	Sb	21 46 59.8	-4.1
OPRZ	**Ohinepanea**	**1.37**	**199**	P*	Pn	21 46 45.8	-1.7
WMGZ	**Waiomatatini S**	**1.63**	**141**	*e*PN	Pn	21 46 50.9	-0.2
MKAZ	**Moumakai**	**1.67**	**250**	PN	Pn	21 46 51.5	-0.2
MKAZ				SN	Sn	21 47 12.0	-1.1
MKAZ				AML	AML	21 47 13.8	
URZ	**Urewera**	**1.70**	**181**	P*	Pn	21 46 51.3	-0.9
PUZ	**Puketiti**	**1.76**	**150**	*e*PN	Pn	21 46 52.8	-0.3
MWZ	**Matawai**	**1.81**	**170**	P*	Pn	21 46 51.6	-2.0

NNC 30 21:47:23.4±3.6, 36.48N×70.46E, h0km, mb3.7, mpv3.3, 5C-4D, Error ellipse: s-maj=27.9km s-min=14.9km az=3.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**331**	⇑Pn	Pn	21 48 07.2	-0.5
	6.1nm,0.4s						
DZET				⇓Sn	Sn	21 48 42.5	+1.7
	24nm,0.5s						
SFK	**Sufi-Kurgan**	**4.26**	**33**	⇑Pn	Pn	21 48 30.5	+0.5
	3.9nm,0.3s						
SFK				⇑Sn	Sn	21 49 22.8	+2.1
	4.0nm,0.2s						
MNAS	**Manas**	**6.21**	**14**	⇑Pn	Pn	21 48 57.0	+0.6
	0.8nm,0.4s						
MNAS				⇓Sn	Sn	21 50 07.0	-1.3
	2.4nm,0.3s						
KK31	**Karatay Array**	**6.62**	**0**	Pn	Pn	21 49 01.1	-0.9
	0.3nm,0.2s,baz=176,slow=12,SNR=25						
KK31				⇓Sn	Sn	21 50 17.1	-1.0
	0.9nm,0.5s,baz=191,slow=25,SNR=5.5						
AAK	**Ala-Archa**	**6.89**	**26**	⇑Pn	Pn	21 49 06.9	+1.0
	1.0nm,0.4s						
AAK				⇓Sn	Sn	21 50 25.9	+0.8
	3.4nm,0.6s						
AB31	**Akbulak array**	**14.90**	**332**	P	Pn	21 50 49.7	-5.4
	1.0nm,0.5s,baz=154,slow=13,SNR=20						

*ISCJB **30** 21:47:56.0±0.4, 38.86N±0.01×23.63E±0.02, h11km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=13.9*

*ATH **30** 21:47:55.6, 38.88N×23.62E, h22km±1km, MD3.0/23, ML3.5*

*THE **30** 21:47:56.5, 38.85N×23.59E, h7km, ML3.0/16, Error ellipse: s-maj=0.9km s-min=0.5km az=120.0*

*CSEM **30** 21:47:56.1±0.1, 38.85N×23.61E, h12km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.7km az=104.0*

ISC 30 21:47:56.4±0.8, 38.85N±0.01×23.60E±0.02, h14km±6km, n99, σ0951/153, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.15**	**182**	S	**Sg**	**21 48 02.5**	**-0.3**
MRKA	**Markates**	**0.15**	**182**	*e*PB	**Pg**	**21 48 00.1**	**-0.1**
MRKA	**Markates**	**0.15**	**182**	*e*Pb	**Pg**	**21 48 00.1**	**-0.1**
SMIA	**Simia**	**0.30**	**275**	P	**Pg**	**21 48 02.6**	**-0.1**
SMIA				S	**Sg**	**21 48 07.6**	**+0.6**
SMIA	**Simia**	**0.30**	**275**	*e*PB	**Pg**	**21 48 02.7**	**0.0**
SMIA				*e*SB	**Sg**	**21 48 07.6**	**+0.6**
SMIA	**Simia**	**0.30**	**275**	*e*Pb	**Pg**	**21 48 02.7**	**0.0**
SMIA				S	**Sg**	**21 48 07.6**	**+0.6**
SKIA	**Skiathos**	**0.33**	**342**	P	**Pg**	**21 48 03.5**	**+0.3**
SKIA				S	**Sg**	**21 48 07.5**	**-0.3**
SKIA	**Skiathos**	**0.33**	**342**	*e*PB	**Pg**	**21 48 03.3**	**+0.1**
SKIA				*e*SB	**Sg**	**21 48 08.2**	**+0.4**
SKIA	**Skiathos**	**0.33**	**342**	*e*Pb	**Pg**	**21 48 03.3**	**+0.1**
SKIA				S	**Sg**	**21 48 07.5**	**-0.3**
SKIA				*e*Sb	**Sg**	**21 48 08.2**	**+0.4**
AOS	**Alonnisos**	**0.39**	**35**	P	**Pg**	**21 48 04.0**	**-0.2**
AOS				S	**Sg**	**21 48 09.9**	**+0.4**
AOS	**Alonnisos**	**0.39**	**35**	P	**Pg**	**21 48 04.0**	**-0.2**
AOS				S	**Sg**	**21 48 09.9**	**+0.4**
LKR	**Lokris**	**0.51**	**247**	P	**Pg**	**21 48 06.0**	**-0.5**
LKR				S	**Sb**	**21 48 14.0**	**-0.4**
LKR	**Lokris**	**0.51**	**247**	*e*PN	**Pg**	**21 48 06.3**	**-0.2**
LKR				*e*SN	**Sb**	**21 48 14.1**	**-0.4**
LKR	**Lokris**	**0.51**	**247**	P	**Pg**	**21 48 06.0**	**-0.5**
LKR	**Lokris**	**0.51**	**247**	*e*Pn	**Pg**	**21 48 06.3**	**-0.2**
LKR				*e*Sn	**Sb**	**21 48 14.1**	**-0.4**
NEO	**Neokhori**	**0.54**	**327**	P	**Pg**	**21 48 06.9**	**-0.1**
NEO				S	**Sg**	**21 48 14.3**	**+0.1**
NEO	**Neokhori**	**0.54**	**327**	*e*PN	**Pg**	**21 48 07.1**	**+0.1**
NEO				*e*SN	**Sg**	**21 48 14.3**	**+0.1**
NEO	**Neokhori**	**0.54**	**327**	P	**Pg**	**21 48 06.9**	**-0.1**
NEO				S	**Sg**	**21 48 14.3**	**+0.1**
XOR	**Xorichti**	**0.60**	**329**	P	**Pg**	**21 48 08.1**	**-0.1**
XOR				S	**Sg**	**21 48 15.8**	**-0.4**
XOR	**Xorichti**	**0.60**	**329**	P	**Pg**	**21 48 08.1**	**-0.1**
XOR				S	**Sg**	**21 48 15.8**	**-0.4**
AXAR	**Agios Charalam**	**0.74**	**263**	P	**Pg**	**21 48 10.4**	**-0.3**
AXAR				S	**Sb**	**21 48 21.7**	**+0.7**
AXAR	**Agios Charalam**	**0.74**	**263**	*e*PN	**Pg**	**21 48 10.5**	**-0.3**
AXAR				*e*SN	**Sb**	**21 48 21.8**	**+0.7**
AXAR	**Agios Charalam**	**0.74**	**263**	P	**Pg**	**21 48 10.4**	**-0.3**
AXAR				S	**Sb**	**21 48 21.7**	**+0.7**
PTL	**Penteli**	**0.83**	**165**	P	**Pg**	**21 48 12.2**	**-0.4**
PTL				S	**Sb**	**21 48 23.8**	**+0.1**
PTL	**Penteli**	**0.83**	**165**	*e*PN	**Pg**	**21 48 12.2**	**-0.4**

PTL				*e*SN	**Sb**	**21 48 23.8**	**+0.1**		
PTL	**Penteli**	**0.83**	**165**	P	**Pg**	**21 48 12.2**	**-0.4**		
PTL				S	**Sb**	**21 48 23.8**	**+0.1**		
ATH	**Athens Observa**	**0.89**	**174**	P	**Pb**	**21 48 13.3**	**-0.3**		
ATH				S	**Sg**	**21 48 26.0**	**+0.8**		
ATH	**Athens Observa**	**0.89**	**174**	*e*PN	**Pg**	**21 48 13.7**	**+0.1**		
ATH				*e*SN	**Sg**	**21 48 25.7**	**+0.5**		
ATH	**Athens Observa**	**0.89**	**174**	P	**Pb**	**21 48 13.3**	**-0.3**		
ATH	**Athens Observa**	**0.89**	**174**	*e*Pn	**Pg**	**21 48 13.7**	**+0.1**		
ATH				*e*Sn	**Sg**	**21 48 25.7**	**+0.5**		
ATH				S	**Sg**	**21 48 26.0**	**+0.8**		
ATHU	**Athens Univers**	**0.90**	**170**	P	**Pb**	**21 48 13.3**	**-0.5**		
ATHU				S	**Sb**	**21 48 25.4**	**-0.3**		
ATHU	**Athens Univers**	**0.90**	**170**	P	**Pb**	**21 48 13.3**	**-0.5**		
ATHU				S	**Sb**	**21 48 25.4**	**-0.3**		
DSF	**Desfina**	**0.95**	**242**	P	**Pb**	**21 48 13.1**	**-1.6**		
DSF				S	**Sg**	**21 48 27.8**	**+0.7**		
DSF	**Desfina**	**0.95**	**242**	P	**Pb**	**21 48 13.1**	**-1.6**		
DSF				S	**Sg**	**21 48 27.8**	**+0.7**		
LTK	**Loutraki**	**0.97**	**211**	P	**Pb**	**21 48 14.1**	**-0.9**		
LTK				S	**Sg**	**21 48 28.4**	**+0.7**		
LTK	**Loutraki**	**0.97**	**211**	P	**Pb**	**21 48 14.1**	**-0.9**		
LTK				S	**Sg**	**21 48 28.4**	**+0.7**		
AGG	**Agios Georgios**	**1.00**	**280**	P	**Pb**	**21 48 14.6**	**-1.0**		
AGG	**Agios Georgios**	**1.00**	**280**	*e*PN	**Pb**	**21 48 14.7**	**-0.9**		
AGG	**Agios Georgios**	**1.00**	**280**	P	**Pb**	**21 48 14.6**	**-1.0**		
PAIG	**Paliouri**	**1.07**	**3**	P	**Pb**	**21 48 16.5**	**-0.3**		
PAIG				S	**Sn**	**21 48 32.1**	**+0.3**		
PAIG	**Paliouri**	**1.07**	**3**	P	**Pb**	**21 48 16.5**	**-0.3**		
PAIG				S	**Sn**	**21 48 32.1**	**+0.3**		
MAKR	**Makrakomi, Fth**	**1.15**	**278**	P	**Pn**	**21 48 17.5**	**-0.6**		
MAKR				S	**Sg**	**21 48 34.9**	**+1.2**		
MAKR	**Makrakomi, Fth**	**1.15**	**278**	*e*PN	**Pn**	**21 48 17.6**	**-0.6**		
MAKR				*e*SN	**Sg**	**21 48 34.5**	**+0.8**		
MAKR	**Makrakomi, Fth**	**1.15**	**278**	*e*Pn	**Pn**	**21 48 17.6**	**-0.6**		
MAKR				*e*Sn	**Sg**	**21 48 34.5**	**+0.8**		
MAKR				S	**Sg**	**21 48 34.9**	**+1.2**		
KALE	**Kalithea**	**1.23**	**248**	P	**Pn**	**21 48 18.4**	**-0.9**		
KALE				S	**Sg**	**21 48 36.3**	**+0.1**		
KALE	**Kalithea**	**1.23**	**248**	*e*PN	**Pn**	**21 48 18.7**	**-0.6**		
KALE				*e*SN	**Sg**	**21 48 36.4**	**+0.2**		
KALE	**Kalithea**	**1.23**	**248**	P	**Pn**	**21 48 18.4**	**-0.9**		
KALE	**Kalithea**	**1.23**	**248**	*e*Pn	**Pn**	**21 48 18.7**	**-0.6**		
KALE				*e*Sn	**Sg**	**21 48 36.4**	**+0.2**		
GUR	**Goura**	**1.34**	**227**	P	**Pn**	**21 48 20.8**	**-0.1**		
GUR				S	**Sg**	**21 48 39.9**	**+0.1**		
GUR	**Goura**	**1.34**	**227**	P	**Pn**	**21 48 20.8**	**-0.1**		
GUR				S	**Sg**	**21 48 39.9**	**+0.1**		
EFP	**Efpalio**	**1.39**	**253**	P	**Pn**	**21 48 22.0**	**-0.2**		
EFP				S	**Sg**	**21 48 41.5**	**+0.2**		
EFP	**Efpalio**	**1.39**	**253**	P	**Pb**	**21 48 22.0**	**-0.2**		
EFP				S	**Sg**	**21 48 41.5**	**+0.2**		
KLV	**Kalavryta, Ach**	**1.39**	**235**	P	**Pn**	**21 48 21.5**	**-0.1**		
KLV				S	**Sb**	**21 48 40.0**	**0.0**		
KLV	**Kalavryta, Ach**	**1.39**	**235**	*e*PN	**Pn**	**21 48 21.5**	**-0.1**		
KLV	**Kalavryta, Ach**	**1.39**	**235**	P	**Pn**	**21 48 21.5**	**-0.1**		
KLV				S	**Sb**	**21 48 40.0**	**0.0**		
EVR	**Evrytania**	**1.40**	**273**	P	**Pb**	**21 48 22.6**	**+0.2**		
EVR				S	**Sn**	**21 48 40.1**	**+0.2**		
EVR	**Evrytania**	**1.40**	**273**	*e*PN	**Pb**	**21 48 22.7**	**+0.3**		
EVR	**Evrytania**	**1.40**	**273**	P	**Pb**	**21 48 22.6**	**+0.2**		
EVR				S	**Sn**	**21 48 40.1**	**+0.2**		
THL	**Klokotos Trika**	**1.42**	**301**	P	**Pn**	**21 48 22.1**	**+0.3**		
THL				S	**Sg**	**21 48 42.2**	**0.0**		
THL	**Klokotos Trika**	**1.42**	**301**	*e*PN	**Pn**	**21 48 22.2**	**+0.4**		
THL	**Klokotos Trika**	**1.42**	**301**	P	**Pn**	**21 48 22.1**	**+0.3**		
THL				S	**Sg**	**21 48 42.2**	**0.0**		
PLG	**Polygyros**	**1.52**	**356**	P	**Pn**	**21 48 23.0**	**-0.3**		
PLG	**Polygyros**	**1.52**	**356**	*e*PN	**Pn**	**21 48 23.0**	**-0.3**		
PLG	**Polygyros**	**1.52**	**356**	P	**Pn**	**21 48 23.0**	**-0.3**		
LIA	**Limnos Island**	**1.61**	**49**	P	**Pn**	**21 48 24.1**	**-0.4**		
LIA				S	**Sb**	**21 48 47.0**	**+0.8**		
LIA	**Limnos Island**	**1.61**	**49**	*e*PN	**Pn**	**21 48 24.1**	**-0.4**		
LIA	**Limnos Island**	**1.61**	**49**	P	**Pn**	**21 48 24.1**	**-0.4**		
VLX	**Vlachokerasia**	**1.77**	**213**	P	**Pn**	**21 48 27.1**	**+0.4**		
VLX	**Vlachokerasia**	**1.77**	**213**	P	**Pn**	**21 48 27.1**	**+0.4**		
HORT	**Hortiatis**	**1.78**	**348**	*e*PN	**Pn**	**21 48 27.1**	**+0.2**		
HORT	**Hortiatis**	**1.78**	**348**	*e*Pn	**Pn**	**21 48 27.1**	**+0.2**		
SIGR	**SIGRI**	**1.80**	**78**	*e*PN	**Pn**	**21 48 27.0**	**0.0**		
SIGR	**SIGRI**	**1.80**	**78**	*e*Pn	**Pn**	**21 48 27.0**	**0.0**		
SOH	**Sokhos**	**1.97**	**355**	P	**Pn**

LUBP	**Lubang**	**0.37**	**336**	*e*P	Pn	22 32 43.7	+1.5
LUBP				*e*S	Sn	22 32 55.4	+7.0
PGP	**Puerto Galera**	**0.55**	**78**	⇑*i*P	Pn	22 32 46.0	+1.4
PGP				*i* S	Sn	22 32 55.0	+2.3
SJMP	**San Jose**	**1.16**	**143**	*e*P	Pb	22 32 54.3	-0.2
OTRP	**Odiongan**	**1.88**	**123**	*e*P	Pn	22 32 57.0	-6.0

*IDC **30** 22:52:48.6±2.6, 4°.59S×153°.51E, h63^{km}±22^{km}, mb4.0/15, mb1 4.1/16, mb1mx3.9/33, mbtmp4.2/16, MS3.1/3, Ms1 3.0/3, ms1mx3.0/25, Error ellipse: s-maj=21.9km s-min=13.7km az=89.0*

*ISCJB **30** 22:52:49.4±0.4, 4°.63S±0°.05×153°.51E±0°.05, h85^{km}, mb4.2/21, Error ellipse: s-maj=7.2km s-min=6.7km az=28.3*

*NEIC **30** 22:52:50.9±1.1, 4°.63S×153°.45E, h85^{km}±10^{km}, mb4.6/7, Error ellipse: s-maj=9.2km s-min=8.1km az=136.0*

ISC 30 22:52:51.0±0.5, 4°.62S±0°.07×153°.45E±0°.06, h85^{km}, n50, σ1§10/55, mb4.2/21, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.35**	**288**	P	**Pn**	**22 53 14.3**	**-0.4**
	baz=1.5,SNR=122						
RABL				S	**Sn**	**22 53 35.2**	**+2.7**
	baz=1.5,SNR=4.8						
PMG	**Port Moresby**	**7.85**	**232**	P	**Pn**	**22 54 44.1**	**+1.6**
	baz=8.2,SNR=14						
PMG				S	**Sn**	**22 56 11.1**	**+1.3**
	baz=8.2,SNR=4.6						
PMG	**Port Moresby**	**7.85**	**232**	*e*Pn	**Pn**	**22 54 41.3**	**-1.2**
PMG				*e*Sn	**Sn**	**22 56 07.8**	**-2.0**
HNR	**Honiara**	**8.03**	**127**	*e*P	Pn	22 54 54.0	+9.0
HNR				*e*S	**Sn**	**22 56 14.0**	**-0.2**
HNR	**Honiara**	**8.03**	**127**	*e*Pn	**Pn**	**22 54 45.1**	**+0.1**
JAY	**Jayapura**	**12.89**	**279**	P	**P**	**22 55 55.5**	**-3.0**
	3.6nm,0.3s,baz=112,slow=4.7,SNR=13						
COEN	**Coen**	**13.74**	**227**	P	**Pn**	**22 56 04.5**	**+2.3**
	baz=14,SNR=4.7						
COEN	**Coen**	**13.74**	**227**	*e*Pn	**Pn**	**22 56 03.0**	**+0.8**
CTA	**Charters Tower**	**16.90**	**204**	P	**Pn**	**22 56 42.2**	**-0.1**
	0.2nm,0.3s,baz=21,slow=14,SNR=3.4						
GUMO	**Guam**	**19.99**	**335**	LR	LR	23 03 55.9	
	comp=Z,27nm,19.8s,baz=100,slow=33						
EIDS	**Eidsvold**	**20.76**	**186**	P	Pn	22 57 28.4	+0.1
	baz=21,SNR=3.7						
QIS	**Mount Isa**	**20.79**	**219**	P	**P**	**22 57 26.5**	**+1.0**
	baz=21,SNR=5.2						
KDU	**Kakadu**	**22.22**	**248**	P	**P**	**22 57 39.5**	**-1.3**
	baz=22,SNR=19						
QLP	**Quilpie**	**23.55**	**201**	P	**P**	**22 57 54.0**	**+0.1**
	baz=24,SNR=12						
WRAB	**Tennant Creek**	**24.04**	**229**	*e*P	**P**	**22 57 58.0**	**-0.4**
	34nm,0.6s						
WRA	**Warramunga Arr**	**24.05**	**229**	P	**P**	**22 57 58.1**	**-0.4**
	20nm,0.7s,baz=53,slow=9.8,SNR=134						
WRA				ScP	**ScP**	**23 05 10.8**	**+1.4**
	1.0nm,0.8s,baz=55,slow=2.8,SNR=5.0						
ARMA	**Armidale**	**25.72**	**184**	P	**P**	**22 58 14.4**	**+0.7**
	baz=26,SNR=4.4						
KNRA	**Kununurra**	**26.63**	**244**	P	**P**	**22 58 23.6**	**+1.7**
	baz=27,SNR=12						
AS31	**Alice Springs**	**26.72**	**223**	*e*P	**P**	**22 58 22.0**	**-0.7**
ASAR	**Alice Springs**	**26.72**	**223**	P	**P**	**22 58 22.1**	**-0.7**
	2.8nm,0.8s,baz=54,slow=8.6,SNR=18						
ASAR				PcP	**PcP**	**23 01 44.2**	**-0.1**
	1.4nm,0.6s,baz=48,slow=3.3,SNR=5.3						
ASAR				ScP	**ScP**	**23 05 18.6**	**+1.7**
	0.5nm,0.6s,baz=50,slow=3.8,SNR=4.2						
ASAR				LR	LR	23 08 50.4	
	comp=Z,61nm,18.1s,baz=42,slow=36						
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**22 58 45.5**	**-0.1**
	3.1nm,0.7s,baz=32,slow=13,SNR=9.9						
STKA				LR	LR	23 10 18.8	
	comp=Z,34nm,18.7s,baz=21,slow=36						
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**22 58 45.5**	**-0.1**
	baz=30,SNR=5.1						
STKA	**Stephens Creek**	**29.31**	**201**	*e*P	**P**	**22 58 44.8**	**-0.8**
WRKA	**Warakurna**	**31.55**	**227**	P	**P**	**22 59 04.4**	**-1.2**
	baz=32,SNR=35						
FORT	**Forrest**	**35.34**	**220**	P	**P**	**22 59 37.9**	**-0.4**
	baz=36,SNR=8.5						
URZ	**Urewera**	**39.82**	**150**	P	**P**	**23 00 16.1**	**0.0**
	4.8nm,0.7s,baz=241,slow=6.4,SNR=2.7						
MEEK	**Meekatharra**	**39.83**	**233**	P	**P**	**23 00 15.9**	**-0.5**
	baz=40,SNR=16						
RPZ	**Rata Peaks**	**41.93**	**161**	P	**P**	**23 00 32.7**	**-0.6**
	13nm,0.5s,baz=320,slow=7.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**58.39**	**295**	P	**P**	**23 02 39.5**	**+1.4**
	0.9nm,0.7s,baz=122,slow=5.0,SNR=6.4						
SONM	**Songino Array**	**66.52**	**327**	P	**P**	**23 03 32.0**	**0.0**
	0.4nm,0.5s,baz=141,slow=6.7,SNR=5.2						
SEY	**Seymchan**	**67.37**	**359**	P	**P**	**23 03 35.9**	**-1.0**
	0.6nm,0.4s,baz=214,slow=6.1,SNR=4.0						
VNDA	**Vanda**	**72.99**	**178**	P	**P**	**23 04 11.3**	**+0.3**
	6.4nm,0.8s,baz=329,slow=6.7,SNR=30						
VNDA	**Vanda**	**72.99**	**178**	*e*P	**P**	**23 04 10.6**	**-0.5**
	6.5nm,0.9s						
BILL	**Bilibino**	**73.05**	**5**	*e*P	P	23 04 06.0	-5.5
	12nm,1.1s						
MCK	**McKinley**	**80.45**	**22**	*e*P	**P**	**23 04 52.0**	**-1.3**
	9.7nm,1.1s						
MK31	**Makanchi Array**	**80.61**	**319**	*e*P	**P**	**23 04 54.4**	**-0.1**
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**23 04 55.1**	**+0.6**
	0.6nm,0.4s,baz=98,slow=3.3,SNR=20						
ZALV	**Zalesovo Beam**	**81.36**	**326**	P	**P**	**23 04 57.6**	**-0.7**
	0.9nm,0.4s,baz=124,slow=5.7,SNR=5.2						
ILAR	**Eielson Array**	**81.75**	**22**	P	**P**	**23 04 58.8**	**-1.3**
	1.0nm,0.6s,baz=247,slow=5.0,SNR=16						
HYT	**Haines Junctio**	**83.98**	**27**	*e*P	**P**	**23 05 12.7**	**+0.8**
AAK	**Ala-Archa**	**85.01**	**313**	*e*P	**P**	**23 05 18.4**	**+0.9**
	2.7nm,0.8s						
QSPA	**South Pole Qui**	**85.34**	**180**	*e*P	**P**	**23 05 18.1**	**-0.5**
	12nm,0.9s						
EKS2	**Erkin-Say**	**85.54**	**313**	*e*P	**P**	**23 05 19.6**	**-0.5**
	2.7nm,0.8s						
MAW	**Mawson**	**85.98**	**203**	P	**P**	**23 05 22.0**	**+0.4**
	1.4nm,0.6s,baz=128,slow=2.6,SNR=5.5						
INK	**Inuvik**	**88.06**	**21**	P	**P**	**23 05 32.4**	**+0.8**
	0.7nm,0.5s,baz=262,slow=1.8,SNR=5.8						
YKA	**Yellowknife Ar**	**94.97**	**28**	P	**P**	**23 06 03.4**	**-0.4**
	0.4nm,0.8s,baz=270,slow=4.8,SNR=3.7						
GERES	**GERESS Array B**	**124.24**	**329**	PKP	**PKPdf**	**23 11 40.3**	**+0.1**
	0.1nm,0.5s,baz=27,slow=0.6,SNR=4.1						
BDFB	**Brasilia**	**150.73**	**134**	PKP	**PKPdf**	**23 12 30.3**	**+1.2**
	1.4nm,0.5s,baz=233,slow=2.3,SNR=3.4						
BDFB				PKPbc	**PKiKP**	**23 12 36.1**	**+0.8**
	2.7nm,0.4s,baz=167,slow=4.2,SNR=3.3						
TOA0	**Torodi Ar. Sit**	**150.86**	**289**	*e*PKPbc	**PKPbc**	**23 12 34.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**150.86**	**289**	PKPbc	**PKPbc**	**23 12 34.5**	**-0.3**
	4.9nm,0.7s,baz=80,slow=2.2,SNR=51						
TORD				PKPab	**PKPab**	**23 12 44.1**	**+1.8**
	0.7nm,0.4s,baz=86,slow=2.2,SNR=6.5						

*ISCJB **30** 23:10:19.5±0.2, 60°.44N±0°.05×177°.82W±0°.06, h10^{km}, mb4.7/38, Error ellipse: s-maj=6.5km s-min=4.0km az=2.0*

*IDC **30** 23:10:19.9±0.7, 60°.51N×177°.92W, h0^{km}, mb4.0/19, mb1 4.2/19, mb1mx4.0/38, mbtmp4.0/19, Error ellipse: s-maj=25.4km s-min=12.8km az=3.0*

*BJI **30** 23:10:20.3, 60°.60N×177°.90W, h14^{km}, mB4.7/6, mb4.5/9*

*NEIC **30** 23:10:22.0±2.9, 60°.49N×177°.83W, h15^{km}±4^{km}, mb4.5/28, Error ellipse: s-maj=13.3km s-min=10.3km az=215.0*

ISC 30 23:10:21.5±0.4, 60°.47N±0°.08×177°.78W±0°.05, h10^{km}, n98, σ1§20/91, mb4.5/38, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**4.37**	**38**	*e*Pn	Pn	23 11 24.1	-3.8
SPIA	**Saint Paul Isl**	**5.12**	**127**	*e*Pn	Pn	23 11 32.9	-5.3
TNA	**Tin City**	**6.79**	**37**	*e*Pn	Pn	23 11 57.5	-3.5
GSTR	**Great Sitkin T**	**8.45**	**173**	*e*Pn	**Pn**	**23 12 24.0**	**+0.1**
ADK	**Adak**	**8.63**	**175**	*e*Pn	**Pn**	**23 12 26.3**	**-0.1**
SMY	**Shemya**	**8.95**	**214**	*e*Pn	**Pn**	**23 12 30.1**	**-0.6**
NIKH	**Nikolski High**	**8.97**	**143**	*e*Pn	**Pn**	**23 12 31.5**	**+0.5**
UNV	**Unalaska Valle**	**9.02**	**132**	*e*Pn	**Pn**	**23 12 31.8**	**0.0**
AKUT	**Akutan**	**9.07**	**129**	*e*Pn	**Pn**	**23 12 34.8**	**+2.4**
FALS	**False Pass**	**9.52**	**120**	*e*Pn	**Pn**	**23 12 39.5**	**+1.0**
SVW2	**Sparrevohn**	**10.86**	**77**	*e*Pn	**Pn**	**23 12 54.4**	**-2.3**
IM04	**Indian Mountai**	**12.09**	**53**	*e*Pn	Pn	23 13 10.3	-3.3
RSO	**Redoubt South**	**12.32**	**79**	*e*Pn	**Pn**	**23 13 16.1**	**-0.9**
PPLA	**Purkeypile**	**12.35**	**68**	*e*Pn	**Pn**	**23 13 15.0**	**-2.3**
CAST	**Castle Rocks**	**12.41**	**65**	*e*Pn	**Pn**	**23 13 16.0**	**-2.0**
KTH	**Kantishna Hill**	**12.94**	**65**	*e*Pn	**Pn**	**23 13 26.9**	**+1.7**
KDAK	**Kodiak Island**	**13.18**	**91**	*e*Pn	**Pn**	**23 13 30.1**	**+1.6**
TRF	**Thorofare Moun**	**13.22**	**65**	*e*Pn	**Pn**	**23 13 28.5**	**-0.6**
COLD	**Coldfoot**	**13.81**	**49**	*e*Pn	**Pn**	**23 13 36.8**	**-0.3**
MCK	**McKinley**	**13.83**	**64**	*e*Pn	**Pn**	**23 13 37.9**	**+0.6**
SEY	**Seymchan**	**14.30**	**293**	Pn	**Pn**	**23 13 45.4**	**+1.6**
	0.2nm,0.3s,baz=92,slow=10,SNR=12						
ILAR	**Eielson Array**	**14.75**	**60**	Pn	**Pn**	**23 13 49.4**	**-0.5**
	0.1nm,0.3s,baz=263,slow=13,SNR=21						
ILB	**Eielson Array**	**14.75**	**60**	*e*Pn	**Pn**	**23 13 49.4**	**-0.5**
PEA2	**Petropavlovsk-**	**15.25**	**252**	*e*Pn	**P**	**23 13 59.9**	**-1.7**
PETK	**Petropavlovsk-**	**15.26**	**252**	Pn	**P**	**23 13 59.9**	**-1.8**
	1.8nm,0.3s,baz=76,slow=18,SNR=22						
PAX	**Paxson**	**15.42**	**67**	*e*Pn	**Pn**	**23 13 58.3**	**-0.6**
	14nm,1.2s						
DOT	**Dot Lake**	**16.00**	**64**	*e*Pn	**Pn**	**23 14 07.2**	**+0.9**
	8.5nm,1.0s						
BMRM	**Bremner River**	**16.14**	**74**	*e*Pn	**Pn**	**23 14 09.6**	**+1.3**
	21nm,1.0s						
RAGM	**Ragged Mountai**	**16.25**	**76**	*e*Pn	**Pn**	**23 14 07.6**	**-2.0**
	22nm,0.7s						
EGAK	**Eagle**	**17.20**	**60**	*e*Pn	**Pn**	**23 14 21.5**	**-0.1**
	10nm,0.8s						
DAWY	**Dawson**	**18.02**	**62**	*e*Pn	**Pn**	**23 14 32.2**	**+0.4**
	20nm,1.0s						
HYT	**Haines Junctio**	**19.53**	**71**	*e*P	**P**	**23 14 48.9**	**-0.1**
INK	**Inuvik**	**20.23**	**49**	P	**P**	**23 14 55.2**	**-1.0**
	4.0nm,0.6s,baz=271,slow=11,SNR=18						
INK	**Inuvik**	**20.23**	**49**	*e*P	**P**	**23 14 55.0**	**-1.3**
	27nm,1.0s						
SKAG	**Skagway**	**21.01**	**74**	*e*P	**P**	**23 15 05.9**	**+1.1**
	21nm,1.0s						
TIXI	**Tiksi**	**23.42**	**320**	*e*P	**P**	**23 15 30.5**	**+0.2**
	21nm,1.5s						
YAK	**Yakutsk**	**24.75**	**297**	P	P	**23 15 41.4**	**-1.4**
	12nm,0.5s,baz=250,slow=6.1,SNR=15						
YKA	**Yellowknife Ar**	**29.17**	**58**	P	P	23 16 18.5	-4.0
	0.2nm,0.7s,baz=297,slow=9.6,SNR=3.3						
YKB5	**Yellowknife Ar**	**29.17**	**58**	*e*P	P	23 16 18.5	-4.0
EDM	**Edmonton**	**34.65**	**73**	*e*P	**P**	**23 17 09.8**	**-0.9**
NEW	**Newport**	**36.05**	**82**	P	**P**	**23 17 23.8**	**+1.0**
	2.3nm,0.6s,baz=287,slow=10,SNR=3.7						
NEW	**Newport**	**36.05**	**82**	*e*P	**P**	**23 17 22.9**	**+0.2**
	13nm,1.4s						
H04A	**Detroit Lake**	**36.05**	**90**	*e*P	**P**	**23 17 22.5**	**-0.4**
	28nm,1.6s						
G06A	**Carlson Farm,**	**36.43**	**88**	*e*P	P	23 17 29.4	+3.4
	151nm,2.9s						
MAJO	**Matsushiro**	**36.69**	**249**	*e*P	**P**	**23 17 27.9**	**-0.4**
	40nm,0.9s						
MJAR	**Matsshiro Arr**	**36.69**	**249**	P	**P**	**23 17 27.9**	**-0.4**
	3.4nm,1.0s,baz=13,slow=8.2,SNR=7.0						
F10A	**Beach Ranch, E**	**37.59**	**85**	*e*P	**P**	**23 17 36.5**	**+0.6**
JTMT	**Jette**	**37.79**	**80**	*e*P	**P**	**23 17 37.7**	**-0.1**
SLMT	**Seeley Lake**	**38.53**	**80**	*e*P	**P**	**23 17 44.5**	**+0.6**
HRY	**Holter Researc**	**39.71**	**80**	*e*P	**P**	**23 17 53.3**	**-0.5**
EGMT	**Eagleton**	**39.80**	**77**	*e*P	**P**	**23 17 55.1**	**+0.7**
	78nm,0.9s						
HOPS	**Hopland Field**	**39.88**	**97**	*e*P	**P**	**23 17 55.4**	**+0.3**
	174nm,1.5s						
KSRS	**Korea Array**	**40.88**	**261**	P	P	23 18 00.2	-3.2
	3.5nm,0.9s,baz=41,slow=8.5,SNR=9.0						
KS15	**Wonju Array Si**	**40.91**	**261**	*e*P	P	23 18 00.2	-3.4
TLY	**Talaya**	**42.20**	**295**	*e*P	**P**	**23 18 13.4**	**-0.7**
	364nm,1.3s						
NV01	**Mina Array Sit**	**42.66**	**93**	*e*P	**P**	**23 18 17.1**	**-1.1**
NVAR	**Mina Array Bea**	**42.66**	**93**	P	**P**	**23 18 17.1**	**-1.1**
	1.1nm,0.7s,baz=284,slow=11,SNR=3.8						
HVU	**Hansel Valley**	**42.85**	**85**	*e*P	**P**	**23 18 21.3**	**+1.7**
	659nm,2.4s						
ULN	**Ulaanbaatar**	**43.31**	**288**	*e*P	**P**	**23 18 22.6**	**-0.8**
	65nm,0.9s						
SONA0	**Songino Array**	**43.65**	**289**	*e*P	**P**	**23 18 25.0**	**-1.0**
SONM	**Songino Array**	**43.65**	**289**	P	**P**	**23 18 25.0**	**-1.0**
	1.1nm,0.7s,baz=51,slow=7.0,SNR=8.6						
PD31	**Pinedale Array**	**43.69**	**82**	*e*P	**P**	**23 18 27.4**	**+0.9**
PDAR	**Pinedale Array**	**43.69**	**82**	P	**P**	**23 18 27.4**	**+0.9**
	1.1nm,0.7s,baz=321,slow=9.1,SNR=3.1						
JLU	**Jordanelle**	**44.39**	**85**	*e*P	**P**	**23 18 32.5**	**+0.3**
	665nm,2.6s						
ULM	**Lac du Bonnet**	**44.70**	**65**	P	**P**	**23 18 35.1**	**+0.9**
	1.6nm,0.6s,baz=314,slow=7.3,SNR=6.2						
AGMN	**Agassiz Nation**	**46.12**	**67**	*e*P	**P**	**23 18 46.0**	**+0.5**
	119nm,0.9s						
ZAA1	**Zalesovo Array**	**48.47**	**308**	*e*P	**P**	**23 19 04.1**	**+0.3**
ZALV	**Zalesovo Beam**	**48.48**	**308**	P	**P**	**23 19 04.1**	**+0.3**
	0.7nm,0.5s,baz=33,slow=5.9,SNR=3.4						
LAZ	**Ladron**	**51.37**	**87**	*e*P	**P**	**23 19 28.4**	**+2.1**
SCHQ	**Schefferville**	**52.69**	**43**	P	**P**	**23 19 34.6**	**-1.1**
	3.1nm,0.8s,baz=290,slow=12,SNR=3.2						
SCHQ	**Schefferville**	**52.69**	**43**	*e*P	**P**	**23 19 34.8**	**-0.9**
	10nm,0.9s						
GTA	**Gaotai**	**53.13**	**286**	*e*P	**P**	**23 19 39.3**	**+0.1**
GTA				pP	**pP**	**23 19 43.5**	**+1.1**
GTA				sP	**sP**	**23 19 46.3**	**+2.7**
GTA				PMZ			
	6.0nm,1.1s						
KURK	**Kurchatov**	**53.38**	**310**	*e*P	**P**	**23 19 41.0**	**+0.3**
	453nm,1.0s						
BRVK	**Borovoye**	**54.49**	**317**	*e*P	**P**	**23 19 48.3**	**-0.5**
	1µm,1.9s						
MK32	**Makanchi Array**	**55.08**	**304**	*e*P	**P**	**23 19 53.0**	**-0.2**
MKAR	**Makanchi Array**	**55.08**	**304**	P	**P**	**23 19 53.0**	**-0.2**
	0.4nm,0.4s,baz=30,slow=8.0,SNR=9.2						
MKAR	**Makanchi Array**	**55.08**	**304**	*e*P	**P**	**23 19 52.7**	**-0.5**
FIA0	**FINESS Array S**	**57.03**	**347**	*e*P	**P**	**23 20 08.1**	**+1.2**
FINES	**FINESS Array B**	**57.03**	**347**	P	**P**	**23 20 08.1**	**+1.2**
	2.2nm,1.0s,baz=348,slow=8.4,SNR=4.2						
LTX	**Lajitas**	**57.19**	**88**	*e*P	**P**	**23 20 10.7**	**+2.1**
TXAR	**Lajitas Array**	**57.19**	**88**	P	**P**	**23 20 10.7**	**+2.1**
	1.3nm,0.7s,baz=314,slow=4.1,SNR=10.0						
CD2	**Chengdu**	**58.05**	**277**	*e*P	**P**	**23 20 16.0**	**+1.4**
JCT	**Junction City**	**58.16**	**84**	*e*P	**P**	**23 20 15.2**	**-0.1**
	137nm,0.9s						
AAK	**Ala-Archa**	**61.65**	**307**	*e*P	**P**	**23 20 40.0**	**+0.7**
	312nm,1.2s						
EKS2	**Erkin-Say**	**61.91**	**308**	*e*P	**P**	**23 20 41.6**	**+0.6**
	366nm,1.4s						
KSH	**Kashi**	**63.69**	**304**	*e*P	P	23 20 57.5	+4.6
KSH				*e*pP	pP	23 21 02.3	+6.2
KSH				S	**S**	**23 29 30.5**	**+3.5**
KSH				PMZ			
	45nm,5.0s						
LSA	**Lhasa**	**65.16**	**287**	*e*P	**P**	**23 21 02.7**	**-0.4**
	203nm,1.0s						
AKASG	**Malin Array Be**	**67.06**	**342**	P	P	**23 21 12.2**	**-2.2**
	0.3nm,0.4s,baz=13,slow=5.4,SNR=3.8						
AKBB	**Malin Array Si**	**67.06**	**342**	*e*P	**P**	**23 21 12.2**	**-2.2**
GEC2	**GERESS Array S**	**70.64**	**352**	*e*P	**P**	**23 21 36.5**	**-0.4**
GERES	**GERESS Array B**	**70.64**	**352**	P	**P**	**23 21 36.5**	**-0.4**
	0.6nm,1.0s,baz=27,slow=3.3,SNR=4.6						
CM31	**Chiang Mai Arr**	**70.83**	**274**	*e*P	**P**	**23 21 37.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**70.83**	**274**	P	**P**	**23 21 37.0**	**-1.3**
	0.9nm,0.5s,baz=18,slow=6.9,SNR=6.1						
GEYT	**Ailbeck**	**71.81**	**316**	P	**P**	**23 21 45.6**	**+1.5**
	0.9nm,0.6s,baz=29,slow=3.3,SNR=2.9						
BR101	**Keskin Array S**	**76.88**	**336**	*e*P	**P**	**23 22 12.8**	**-0.8**
BRTR	**Keskin Array B**	**76.88**	**336**	P	**P**	**23 22 12.8**	**-0.8**
	0.2nm,0.5s,baz=21,slow=6.9,SNR=3.1						
ESDC	**Sonseca Array**	**80.08**	**5**	P	**P**	**23 22 30.6**	**-0.6**
	1.0nm,0.8s,baz=352,slow=5.7,SNR=7.1						
QSPA	**South Pole Qui**	**150.25**	**180**	PKPbc	**PKPbc**	**23 30 10.2**	**-0.9**
	3.2nm,0.8s,baz=75,slow=0.9,SNR=11						

*ISCJB **30** 23:11:40.2±0.7, 60°.47N±0°.02×177°.81W±0°.02, h3^{km}±4^{km}, mb5.8/519, MS6.7/237, Error ellipse: s-maj=3.1km s-min=1.6km az=3.9*

*IDC **30** 23:11:40.4±0.4, 60°.48N×177°.83W, h0^{km}, mb5.1/34, mb1 5.3/35, mb1mx5.2/38, mbtmp5.1/35, ML4.7/1, MS6.5/30, Ms1 6.5/30, ms1mx6.5/36, Error ellipse: s-maj=12.4km s-min=8.9km az=168.0*

*MOS **30** 23:11:41.9±0.9, 60°.55N×177°.88W, h19^{km}, mb6.1/125, MS6.6/82, Error ellipse: s-maj=7.6km s-min=6.2km az=86.9 Broadband fault plane solution: P waves. M$_o$3.70000×10^{18} NP1:φ$_s$231.00000°, δ88.00000°, λ164.00000°. NP2:φ$_s$322.00000°, δ74.00000°, λ2.00000°. Principal axes: T Plg13.0000°, Azm185.0000°; N Plg74.0000°, Azm45.0000°; P Plg10.0000°, Azm278.0000°;*

*BJI **30** 23:11:41.2, 60°.73N×178°.55W, h6^{km}, mB6.1/66, mb5.9/73, Ms6.9/85, Ms7 6.7/80*

*NEIC **30** 23:11:43.1±0.1, 60°.47N×177°.88W, h12^{km}, mb6.0/265, ME6.9, MS6.7/172, MW6.4, MW6.3, MW6.4, ML6.2(AEIC), Error ellipse: s-maj=4.3km s-min=2.3km az=6.0, Moment Tensor Solution. s78 Moment tensor: Scale 10^{18}Nm; M$_{rr}$0.11; M$_{θθ}$3.58; M$_{φφ}$-3.68; M$_{rθ}$0.47; M$_{rφ}$-0.59; M$_{θr}$-0.15; Best double couple: M$_o$3.70000×10^{18} NP1:φ$_s$49.00000°, δ83.00000°, λ176.00000°. NP2:φ$_s$140.00000°, δ86.00000°, λ7.00000°. Principal axes: T 3.6900, Plg7.0000°, Azm4.0000°; N 0.0500, Plg82.0000°, Azm172.0000°; P -3.7300, Plg1.0000°, Azm274.0000°; Broadband fault plane solution: P waves. NP1:φ$_s$55.00000°, δ85.00000°, λ-178.00000°. NP2:φ$_s$325.00000°, δ88.00000°, λ-5.00000°. Principal axes: T Plg2.0000°, Azm10.0000°; N Plg0.0000°, Azm0.0000°; P Plg5.0000°, Azm280.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*GCMT **30** 23:11:43.3±0.1, 60°.45N×177°.71W, h15^{km}, MW6.5/134, Moment Tensor Solution. s130, c313; s134, c534; Duration: 4^{s}3 Moment tensor: Scale 10^{18}Nm; M$_{rr}$0.13±.03; M$_{θθ}$6.19±.04; M$_{φφ}$-6.32±.04; M$_{rθ}$0.34±.07; M$_{θφ}$-1.87±.03; M$_{φr}$-1.46±.09; Best double couple: M$_o$6.69200×10^{18} NP1:φ$_s$323.00000°, δ86.00000°, λ-12.00000°. NP2:φ$_s$54.00000°, δ78.00000°, λ-176.00000°. Principal axes: T 6.5120, Plg5.0000°, Azm9.0000°; N 0.3620, Plg78.0000°, Azm123.0000°; P -6.8720, Plg11.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **30** 23:11:44.0±0.0, 60°.55N×177°.88W, h15^{km}, Moment Tensor Solution. s92 Moment tensor: Scale 10^{18}Nm; M$_{rr}$-0.40; M$_{θθ}$5.45; M$_{φφ}$-5.04; M$_{rθ}$0.19; M$_{rφ}$-1.63; M$_{θφ}$-0.83; Best double couple: M$_o$5.60000×10^{18} NP1:φ$_s$323.00000°, δ85.00000°, λ-7.00000°. NP2:φ$_s$53.00000°, δ81.00000°, λ-174.00000°. Principal axes: T 5.7100, Plg2.0000°, Azm8.0000°; N -0.2900, Plg80.0000°, Azm116.0000°; P -5.4100, Plg8.0000°, Azm278.0000°;*

*SZGRF **30** 23:11:54.1, 61°.55N×178°.38W, h33^{km}, mb6.1, Bering Sea*

*NEIC **30** 23:12:06.4±0.0, 60°.72N×178°.39W, h10^{km}, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M$_{rr}$0.42; M$_{θθ}$5.24; M$_{φφ}$-5.66; M$_{rθ}$1.21; M$_{θφ}$-1.69; M$_{φr}$0.30; Best double couple: M$_o$5.80000×10^{18} NP1:φ$_s$144.00000°, δ78.00000°, λ6.00000°. NP2:φ$_s$53.00000°, δ84.00000°, λ168.00000°. Principal axes: T 5.7500, Plg12.0000°, Azm8.0000°; N 0.2100, Plg76.0000°, Azm208.0000°; P -5.9500, Plg4.0000°, Azm99.0000°;*

ISC 30 23:11:43.7±0.3, 60°.47N±0°.03×177°.85W±0°.02, h13^{km}±1^{km}, h13^{km}:pP-P,n2009, σ1§42/2038, mb5.9/526, MS6.7/252, 321C-296D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**4.40**	**38**	*e*Pn	**Pn**	**23 12 48.9**	**-1.1**
TNA	**Tin City**	**6.81**	**37**	*e*Pn	**Pn**	**23 13 23.7**	**+0.6**
GSTR	**Great Sitkin T**	**8.46**	**172**	*e*Pn	Pn	23 13 40.8	-4.9
ADK	**Adak**	**8.63**	**175**	*e*PN	Pn	23 13 43.8	-4.4
ADK	**Adak**	**8.63**	**175**	*e*Pn	Pn	23 13 43.8	-4.4
SMY	**Shemya**	**8.93**	**213**	*e*PN	**Pn**	**23 13 52.6**	**+0.4**
SMY	**Shemya**	**8.93**	**213**	*e*Pn	**Pn**	**23 13 52.6**	**+0.4**
NIKH	**Nikolski High**	**8.99**	**143**	*e*Pn	Pn	23 13 45.9	-7.1
UNV	**Unalaska Valle**	**9.05**	**132**	*e*Pn	Pn	23 13 57.1	+3.3
AKUT	**Akutan**	**9.10**	**129**	*e*Pn	**Pn

comp=Z,1μm,1.3s
SKAG Skagway 21.04 74 *e*P **P 23 16 27.2 +0.3**
comp=Z,981nm,1.4s
SIT Sitka 22.02 80 *e*P **P 23 16 38.8 +1.4**
SIT Sitka 22.02 80 *e*P **P 23 16 38.8 +1.4**
TIXI Tiksi 23.40 320 *d* iP **P 23 16 51.1 -0.6**
TIXI pmax pmax
comp=Z,1μm,2.5s
TIXI Tiksi 23.40 320 *e*P **P 23 16 51.8 +0.2**
comp=Z,5μm,2.0s
TIXI LR LR
comp=Z,211μm,19.0s
WRAK Wrangell Islan 23.77 79 *e*P **P 23 16 55.2 -0.3**
comp=Z,1μm,1.8s
WRAK LR LR
comp=Z,138μm,20.0s
CRAG Craig 23.87 82 *e*P **P 23 16 58.2 +1.9**
comp=Z,606nm,1.4s
DLBC Dease Lake 23.97 74 P **P 23 16 56.5 -0.9**
comp=Z,3.5nm,0.6s,baz=285,slow=12,SNR=18
DLBC PP **PnPn 23 17 32.2 +6.5**
comp=Z,61nm,0.9s,baz=320,slow=17,SNR=6.3
DLBC LR LR 23 27 31.9
comp=Z,190μm,18.3s,baz=301,slow=40
DLBC Dease Lake 23.97 74 *e*P **P 23 16 59.0 +1.5**
YAK Yakutsk 24.72 297 P **P 23 17 02.7 -1.5**
comp=Z,2μm,0.9s,baz=223,slow=0.4,SNR=70
YAK LR LR 23 28 02.2
comp=Z,379μm,18.8s,baz=81,slow=40
YAK Yakutsk 24.72 297 *de*P **P 23 17 05.3 +1.1**
YAK *e**PP pP 23 17 15.1 +6.9
YAK *e* 23 17 37.8
YAK *e*PPP PPP 23 17 47.5
YAK *e* 23 20 41.5
YAK *e*SS 23 22 29.0
YAK *e* 23 28 07.4
YAK pmax pmax
comp=E,2μm,1.1s
YAK pmax pmax
comp=Z,2μm,1.1s
YAK pmax pmax
comp=N,145nm,1.0s
YAK pmax pmax
comp=Z,4μm,2.0s
YAK pmax pmax
comp=N,1μm,1.8s
YAK pmax pmax
comp=E,3μm,1.9s
YAK MLR MLR
comp=Z,308μm,16.0s
YAK MLR MLR
comp=E,208μm,15.0s
YAK MLR MLR
comp=N,129μm,15.0s
YAK Yakutsk 24.72 297 *e*P **P 23 17 02.6 -1.5**
comp=N,2μm,0.9s
YAK LR LR
comp=Z,372μm,19.0s
KUR Kuril'sk 25.32 249 *d* iP P 23 17 04.8 -4.9
KUR S **S 23 21 40.3 +5.1**
KUR pmax pmax
comp=N,129nm,1.2s
KUR pmax pmax
comp=E,211nm,1.2s
KUR pmax pmax
comp=Z,1μm,1.2s
KUR pmax pmax
comp=Z,6μm,3.1s
YSS Yuzh-Sakhalins 26.48 257 *d* iP **P 23 17 20.0 -0.2**
YSS *e**SP **sP 23 17 27.9 +2.0**
YSS *e*S **S 23 21 50.0 -3.5**
YSS pmax pmax
comp=Z,300nm,1.8s
YSS pmax pmax
comp=E,230nm,1.5s
YSS smax smax
comp=E,7μm,9.0s
YSS smax smax
comp=N,12μm,11.0s
YSS MLR MLR
comp=Z,97μm,19.0s
YSS MLR MLR
comp=N,144μm,17.0s
YSS MLR MLR
comp=E,81μm,17.0s
YSS Yuzh-Sakhalins 26.48 257 *e*P **P 23 17 21.1 +0.9**
comp=E,186nm,1.1s
YSS LR LR
comp=Z,37μm,21.0s
YUK Yuzh-Kuril'sk 27.16 249 *d* iP **P 23 17 27.0 +0.6**
YUK *i* 23 18 11.7
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=N,618nm,1.4s
YUK pmax pmax
comp=E,667nm,1.4s
YUK pmax pmax
comp=Z,1μm,1.4s
YUK MLR MLR
comp=N,30μm,19.0s
YUK MLR MLR
comp=E,41μm,19.0s
YUK MLR MLR
comp=Z,60μm,19.0s
BBB Bella Bella 28.16 85 P P 23 17 44.1 +8.9
comp=Z,47nm,1.1s,baz=304,slow=11,SNR=5.1
BBB LR LR 23 28 09.8
comp=Z,137μm,20.4s,baz=334,slow=35
ASAJ Asahikawa 28.63 253 P **P 23 17 39.0 -0.5**
comp=Z,18nm,0.9s,baz=353,slow=3.9,SNR=5.3
ASAJ Asahikawa 28.63 253 P **P 23 17 39.0 -0.5**
ASAJ pmax pmax
comp=Z,18nm,0.9s
ASAJ Asahikawa 28.63 253 *e*P **P 23 17 39.6 +0.1**
comp=Z,176nm,1.0s
CLNS Chul'man 29.19 289 *e*P **P 23 17 42.7 -1.8**
CLNS *e*PPP PPP 23 18 42.8
CLNS *e* 23 20 46.2
CLNS *e*S **S 23 22 34.0 -2.2**
CLNS *e*SSS SSS 23 24 17.3
CLNS pmax pmax
comp=Z,66nm,1.2s
CLNS pmax pmax
comp=E,52nm,1.2s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS smax smax
comp=E,8μm,14.1s
CLNS smax smax
comp=N,6μm,12.7s
CLNS MLR MLR
comp=Z,181μm,19.0s
CLNS MLR MLR
comp=N,113μm,12.0s
CLNS MLR MLR
comp=E,96μm,13.0s
YKA Yellowknife Ar 29.20 58 P **P 23 17 42.3 -2.0**
comp=E,6.6nm,0.7s,baz=295,slow=8.5,SNR=15
YKB5 Yellowknife Ar 29.20 58 *e*P **P 23 17 42.4 -2.0**
HABR Khabarovsk 29.21 267 *d* iP **P 23 17 42.5 -2.1**
HABR *e**PP **pP 23 17 48.5 -0.2**
HABR *e**SP **sP 23 17 51.1 +0.8**
HABR *e* 23 18 35.9
HABR *e* 23 20 48.9
HABR *e*S **S 23 22 35.0 -1.5**
HABR *e**SS **sS 23 22 45.4 +2.3**
HABR *e*SS **SnSn 23 24 02.2 +1.0**
HABR *e* 23 24 31.7
HABR *e* 23 28 21.4
HABR pmax pmax
comp=N,44nm,1.6s
HABR pmax pmax
comp=E,94nm,1.6s
HABR pmax pmax
comp=Z,83nm,1.1s
HABR pmax pmax
comp=Z,1μm,2.5s
HABR MLR MLR
comp=N,99μm,18.0s
HABR MLR MLR
comp=Z,53μm,18.0s
HABR MLR MLR
comp=E,155μm,18.0s
ERM Erimo 29.98 250 *i* P **P 23 17 51.0 -0.5**
ERM pmax pmax
comp=Z,75nm,1.2s
ERM Erimo 29.98 250 PFAKE 23 18 00.0 +8.5
ERM LR LR
comp=Z,61μm,19.0s
KLR Kul'dur 30.35 271 *e*P P 23 17 50.2 -4.5
KLR *e* 23 18 53.5
KLR *e*S **S 23 22 50.5 -3.8**
KLR *e* 23 24 34.0
KLR pmax pmax
comp=N,150nm,2.0s
KLR pmax pmax
comp=E,300nm,2.0s
KLR pmax pmax
comp=Z,620nm,2.0s
RES Resolute Bay 31.39 30 P **P 23 18 01.8 -1.8**
comp=Z,24nm,1.2s,baz=286,slow=9.5,SNR=21
RES LR LR 23 32 03.7
comp=Z,43μm,21.5s,baz=288,slow=39
RES Resolute Bay 31.39 30 P **P 23 18 01.8 -1.8**
RES pmax pmax
comp=Z,24nm,1.2s
RES MLR MLR
comp=Z,43μm,21.5s
RES Resolute Bay 31.39 30 *e*P **P 23 18 03.0 -0.7**
comp=Z,2μm,2.9s
PGC Sidney 32.71 86 *e*P **P 23 18 17.5 +2.1**
comp=Z,2μm,1.2s
A05A Maple Falls 33.15 85 *e*P **P 23 18 20.3 +1.0**
comp=Z,136nm,1.2s
NLWA Neilton Lookou 33.35 88 *e*P **P 23 18 22.1 +1.0**
comp=Z,145nm,1.2s
NLWA LR LR
comp=Z,74μm,20.0s
ALE Alert 33.58 12 P **P 23 18 23.0 +0.3**
comp=Z,767nm,1.0s,SNR=26
USRK Ussuriysk Ar. 33.72 264 P **P 23 18 21.2 -3.1**
comp=Z,24nm,1.1s,baz=53,slow=7.4,SNR=18
USRK PcP **PcP 23 21 02.4 -1.1**
comp=Z,8.0nm,0.7s,baz=30,slow=3.1,SNR=4.2
USRK LR LR 23 31 35.1
comp=Z,80μm,21.9s,baz=42,slow=35
B06A Marblemount 33.77 85 *e*P **P 23 18 25.0 +0.4**
comp=Z,172nm,1.1s
E03A Lebam 34.09 89 *e*P **P 23 18 28.0 +0.6**
comp=Z,323nm,1.1s
D05A Enumclaw 34.42 87 *e*P **P 23 18 32.6 +2.2**
comp=Z,435nm,1.4s
F03A Seaside 34.52 90 *e*P **P 23 18 32.2 +0.9**
comp=Z,2μm,2.1s
VLA Vladivostok 34.56 263 ⇓ *i*P **P 23 18 30.4 -1.2**
VLA *e* 23 19 47.4
VLA S **S 23 23 59.7 -0.3**
VLA pmax pmax
comp=Z,39nm,1.5s
MDJ Mudanjiang 34.60 267 P **P 23 18 30.5 -1.4**
MDJ pP **pP 23 18 33.8 -2.2**
MDJ sP **sP 23 18 35.0 -2.7**
MDJ PP **PnPn 23 19 48.5 +1.3**
MDJ S **S 23 24 00.8 +0.3**
MDJ ScP **ScP 23 24 50.0 -0.6**
MDJ PcS **PcS 23 24 52.0 -0.4**
MDJ PMZ
comp=Z,35nm,1.1s
MDJ PMZ
comp=Z,2μm,12.9s
MDJ LN
comp=Z,109μm,17.9s
MDJ LE
comp=Z,55μm,20.3s
MDJ LZ
comp=Z,80μm,16.6s
MDJ Mudanjiang 34.60 267 *e*P **P 23 18 30.6 -1.4**
comp=Z,273nm,2.0s
MDJ LR LR
comp=Z,84μm,20.0s
EDM Edmonton 34.68 73 *e*P **P 23 18 32.6 0.0**
EDM Edmonton 34.68 73 *e*P **P 23 18 32.6 0.0**
F04D Rainier, OR 34.69 89 ⇑P **P 23 18 33.0 +0.4**
baz=35
LON Longmire 34.81 87 *e*P **P 23 18 33.8 0.0**
LON pmax pmax
comp=Z,636nm,2.5s
LON Longmire 34.81 87 *e*P **P 23 18 33.8 0.0**
comp=Z,636nm,2.5s
B08A Colville Reser 34.94 83 *e*P **P 23 18 35.1 +0.2**
F04A Amboy 35.09 89 *e*P **P 23 18 37.9 +1.8**
comp=Z,196nm,1.2s
G03D McMinnville, O 35.18 91 ⇑P **P 23 18 37.3 +0.4**
baz=35
COR Corvallis 35.61 91 *e*P **P 23 18 42.5 +1.9**
COR pmax pmax
comp=Z,831nm,1.8s
COR Corvallis 35.61 91 *e*P **P 23 18 42.5 +1.9**
comp=Z,831nm,1.8s
C09A Chrisman Ranch 35.84 83 *e*P **P 23 18 43.2 +0.6**
comp=Z,166nm,1.5s
E07A Sunnyside 35.91 86 *e*P **P 23 18 44.7 +1.4**
D08A Wollman Farm, 36.03 85 *e*P **P 23 18 44.8 +0.6**
comp=Z,555nm,1.9s
NEW Newport 36.09 82 P **P 23 18 42.8 -2.0**
comp=Z,9.4nm,0.7s,baz=316,slow=6.6,SNR=16
NEW Newport 36.09 82 *e*P **P 23 18 44.8 0.0**
NEW pmax pmax
comp=Z,751nm,2.0s
NEW MLR MLR
comp=Z,105μm,20.0s
NEW Newport 36.09 82 ⇓P **P 23 18 45.0 +0.3**
baz=36,SNR=27
NEW ⇑S **S 23 24 21.5 -1.9**
baz=36
NEW Newport 36.09 82 *e*P **P 23 18 44.8 0.0**
comp=Z,751nm,2.0s
NEW LR LR
comp=Z,105μm,20.0s
H04A Detroit Lake 36.09 90 *e*P **P 23 18 45.0 +0.2**
comp=Z,422nm,1.7s
G05D Wamic, OR 36.12 89 ⇑P **P 23 18 46.0 +0.9**
baz=36
HAWA Hanford 36.19 86 *e*P **P 23 18 47.1 +1.5**
comp=Z,240nm,1.4s
HAWA LR LR
comp=Z,63μm,20.0s
HIA Hailar 36.23 281 *e*P **P 23 18 44.3 -1.6**
HIA pmax pmax
comp=Z,223nm,1.2s
HIA MLR MLR
comp=Z,62μm,19.0s
HIA Hailar 36.23 281 *e*P **P 23 18 44.3 -1.6**
comp=Z,222nm,1.2s
HIA LR LR
comp=Z,62μm,19.0s
I03D Drain, OR 36.23 92 ⇑P **P 23 18 46.6 +0.7**
baz=36
KEBM Edson Butte 36.35 94 *e*P **P 23 18 49.3 +2.2**
comp=Z,294nm,1.2s
G06A Carlson Farm, 36.46 88 *e*P **P 23 18 47.8 -0.2**
comp=Z,895nm,2.3s
I04A Tendick Farm, 36.62 91 ⇑P **P 23 18 49.4 0.0**
baz=36,SNR=19
MAJO Matsushiro 36.66 249 ⇓ *e*P **P 23 18 48.6 -1.1**
MAJO pmax pmax
comp=Z,1μm,1.3s
MAJO MLR MLR
comp=Z,354μm,20.0s
MAJO Matsushiro 36.66 249 *e*P **P 23 18 49.3 -0.4**
comp=Z,241nm,1.0s
MAJO LR LR
comp=Z,56μm,19.0s
MAT Matsushiro 36.66 249 P **P 23 18 48.9 -0.8**
MAT S **S 23 24 34.2 +1.9**
MJAR Matsushiro Arr 36.66 249 P **P 23 18 48.6 -1.1**
comp=Z,51nm,1.1s,baz=19,slow=6.7,SNR=31
MJAR LR LR 23 34 08.1
comp=Z,49μm,20.1s,baz=40,slow=37
MJAR Matsushiro Arr 36.66 249 P **P 23 18 48.6 -1.1**
MJAR pmax pmax
comp=Z,51nm,1.1s
MJAR MLR MLR
comp=Z,49μm,20.1s
I05D Terrebonne, OR 36.76 90 ⇓P **P 23 18 50.9 +0.4**
baz=37
E09A Wood Farm, Sta 36.79 85 *e*P **P 23 18 49.9 -0.8**
comp=Z,327nm,1.4s
KBO Bosley Butte 36.89 95 *e*P **P 23 18 51.0 -0.7**
comp=Z,505nm,1.8s
WALA Waterton Lakes 37.11 78 *e*P **P 23 18 53.1 -0.5**
comp=Z,772nm,2.0s
J04D Umpqua Nationa 37.18 92 ⇓P **P 23 18 55.1 +0.8**
baz=37,SNR=22
HUMO Hull Mountain 37.23 93 *e*P **P 23 18 53.8 -0.7**
comp=Z,157nm,1.3s
L02D Cave Junction, 37.24 94 ⇑P **P 23 18 55.9 +1.3**
baz=37
CN2 Changchun 37.24 270 *e*P **P 23 18 53.0 -1.6**
CN2 *e*pP **pP 23 18 57.5 -1.2**
CN2 *e*sP **sP 23 19 00.3 0.0**
CN2 PP **PP 23 20 19.5 +0.2**
CN2 *e*S **S 23 24 37.5 -3.5**
CN2 PMZ
comp=Z,3μm,4.0s
CN2 LN
comp=Z,100μm,20.0s
CN2 LE
comp=Z,96μm,20.0s
CN2 LZ
comp=Z,27μm,22.0s
G08A Pilot Rock 37.25 87 *e*P **P 23 18 54.5 -0.3**
CIT Chita 37.37 289 *e*P **P 23 18 57.3 +1.6**
CIT *e* 23 20 24.5
CIT pmax pmax
comp=Z,369nm,2.9s
BSMT Bassoo Peak 37.51 80 *e*P **P 23 18 55.5 -1.5**
J05D Fort Rock, OR 37.58 91 ⇓P **P 23 18 58.1 +0.5**
baz=38,SNR=23
BLMT Blacktail Moun 37.61 80 *e*P **P 23 18 58.1 +0.2**
F10A Beach Ranch, E 37.62 85 *e*P **P 23 18 57.8 -0.1**
comp=Z,217nm,1.2s
K04D Chiloquin, OR 37.81 92 ⇑P **P 23 19 00.3 +0.7**
baz=38
JTMT Jette 37.83 80 *e*P **P 23 18 59.6 0.0**
I07A Izee 37.85 89 *e*P **P 23 19 00.3 +0.4**
comp=Z,150nm,1.4s
YBMT Yellow Bay 37.88 80 *e*P **P 23 19 00.5 +0.4**
YBH Yreka Blue Hor 38.00 94 P **P 23 18 59.8 -1.4**
comp=Z,16nm,1.0s,baz=328,slow=3.0,SNR=21
YBH Yreka Blue Hor 38.00 94 *e*P **P 23 19 01.1 -0.1**
comp=Z,161nm,1.1s
SWMT Swartz Lake 38.13 80 *e*P **P 23 19 03.0 +0.8**
KHMM Horse Mountain 38.15 96 *e*P **P 23 19 03.6 +1.2**
comp=Z,1μm,2.4s
K05A Summer Lake 38.16 91 *e*P **P 23 19 03.2 +0.6**
M02C Callahan 38.19 95 ⇑P **P 23 19 03.3 +0.6**
baz=38,SNR=11
BMO Blue Mountains 38.38 86 *e*P **P 23 19 04.6 +0.2**
comp=Z,219nm,1.4s
BMO LR LR
comp=Z,83μm,20.0s
M04C Macdoel 38.39 93 ⇓P **P 23 19 04.8 +0.3**
baz=38,SNR=9.2
SLMT Seeley Lake 38.57 80 *e*P **P 23 19 05.2 -0.8**
N02D Trinity Center 38.58 95 ⇓P **P 23 19 06.9 +1.0**
baz=38,SNR=21
MSO Missoula 38.64 81 ⇑P **P 23 19 06.6 +0.1**
baz=38,SNR=17
MSO Missoula 38.64 81 *e*P **P 23 19 06.9 +0.5**
comp=Z,268nm,1.4s
KMRM Mail Ridge 38.65 97 *e*P **P 23 19 08.7 +2.1**
comp=Z,1μm,2.4s
CHMT Chamberlain Mo 38.91 80 *e*P **P 23 19 09.4 +0.5**
FFC Flin Flon 38.95 63 P **P 23 19 07.6 -1.2**
comp=Z,428nm,1.5s,SNR=10
FFC Flin Flon 38.95 63 *e*P **P 23 19 07.4 -1.4**
FFC pmax pmax
comp=Z,191nm,1.3s
FFC MLR MLR
comp=Z,88μm,19.0s
FFC Flin Flon 38.95 63 *e*P **P 23 19 07.4 -1.4**
comp=Z,191nm,1.3s
FFC LR LR
comp=Z,88μm,19.0s
WDC Whiskeytown Da 38.96 95 *e*P **P 23 19 09.6 +0.6**
WDC pmax pmax
comp=Z,397nm,1.9s
WDC Whiskeytown Da 38.96 95 *e*P **P 23 19 09.6 +0.6**
comp=Z,397nm,1.9s
KIPM Iron Peak 39.08 97 *e*P **P 23 19 10.6 +0.3**
WVOR Wild Horse Val 39.49 90 *e*P **P 23 19 14.0 +0.3**
WVOR pmax pmax
comp=Z,1μm,2.5s
WVOR MLR MLR
comp=Z,64μm,20.0s
WVOR Wild Horse Val 39.49 90 *e*P **P 23 19 14.0 +0.3**
comp=Z,1μm,2.5s
WVOR LR LR
comp=Z,64μm,20.0s
SNY Shenyang 39.63 269 ⇓P **P 23 19 13.5 -1.1**
SNY S **S 23 25 21.0 +4.0**
SNY PMZ
comp=Z,47nm,0.7s
SNY PMZ
comp=Z,4μm,3.4s
SNY LN
comp=Z,142μm,21.7s
SNY LE
comp=Z,72μm,24.4s
SNY LZ
comp=Z,86μm,17.7s
A19A Klindworth Far 39.69 75 ⇓P **P 23 19 15.0 -0.2**
baz=40,SNR=14
KULLO Kullorsuaq 39.69 21 *i* P **P 23 19 13.9 -0.9**
comp=Z,1μm,1.9s
comp=Z,115μm,17.0s
FCC Fort Churchill 39.70 54 *e*P **P 23 19 13.9 -1.1**
FCC Fort Churchill 39.70 54 *e*P **P 23 19 13.9 -1.1**
comp=Z,7μm,1.4s
HRY Holter Researc 39.75 80 *e*P **P 23 19 14.6 -1.2**
EGMT Eagleton 39.83 76 ⇓P **P 23 19 16.3 -0.2**
baz=40,SNR=17
EGMT Eagleton 39.83 76 *e*P **P 23 19 16.2 -0.2**
comp=Z,189nm,0.9s
EGMT LR LR
comp=Z,116μm,21.0s
KSSKC Sokcho 39.90 261 P **P 23 19 18.7 +1.8**
SNR=12
KSSKC Sokcho 39.90 261 P **P 23 19 17.9 +1.1**
SNR=8.2
B19A Brinkman Farms 39.92 75 ⇑P **P 23 19 16.8 -0.3**
baz=40,SNR=14
SEHB SEOHWA 40.04 261 P **P 23 19 19.3 +1.2**
SNR=11
LRM Limekiln Ridge 40.08 81 *e*P **P 23 19 18.3 -0.3**
KSJMJ Jumunjin 40.10 260 P **P 23 19 19.5 +0.9**
SNR=18
A20A Cobblestone Ra 40.12 74 ⇓P **P 23 19 18.6 -0.1**
baz=40
MFID Camas Ranch 40.16 86 *e*P **P 23 19 17.8 -1.4**
comp=Z,786nm,2.1s
KSDGY Daegwallycong 40.29 260 P **P 23 19 22.4 +2.2**
SNR=6.4
KSDGY Daegwallycong 40.29 260 P **P 23 19 21.2 +0.9**
SNR=9.8
KSIJA INJE 40.33 261 P **P 23 19 21.4 +0.8**
SNR=21
KSIJA INJE 40.33 261 P **P 23 19 21.4 +0.8**
SNR=13
DLMT Dillon 40.34 82 *e*P **P 23 19 20.8 +0.1**
comp=Z,138nm,1.3s
B20A Solberg Farm, 40.38 75 ⇑P **P 23 19 21.1 +0.2**
baz=40
C19A Slack Wire Ran 40.38 76 ⇑P **P 23 19 21.1 +0.2**
baz=40,SNR=29
A21A Bergtoll Ranch 40.51 73 ⇓P **P 23 19 22.4 +0.4**
baz=40
KSCWO Cheorwon 40.55 262 P **P 23 19 23.3 +1.0**
SNR=27
KSCWO Cheorwon 40.55 262 P **P 23 19 23.2 +0.9**
SNR=8.3
MCMT McKenzie Canyo 40.60 82 *e*P **P 23 19 22.6 -0.3**
KSTBA Taebaek 40.60 260 P **P 23 19 25.7 +2.8**
SNR=12
KSTBA Taebaek 40.60 260 P **P 23 19 24.3 +1.4**
SNR=8.0
BOZ Bozeman (W) 40.60 81 *e*P **P 23 19 23.8 +0.9**
BOZ pmax pmax
comp=Z,312nm,1.9s
BOZ MLR MLR
comp=Z,84μm,22.0s
BOZ Bozeman (W) 40.60 81 *e*P **P 23 19 23.8 +0.9**
comp=Z,312nm,1.9s
BOZ LR LR
comp=Z,84μm,22.0s
KSCHC Chuncheon 40.64 261 P **P 23 19 22.8 -0.3**
SNR=24
KSULJ Uljin 40.72 259 P **P 23 19 26.4 +2.7**

SNR=12
KBS Kingsbay 40.72 357 *e*P P **23 19 22.0 -1.3**
KBS *e*S S 23 25 41.7 +9.1
KBS IAMs_20 IAMs_20 23 38 03.7
comp=Z,87µm,18.0s
KBS Kingsbay 40.72 357 *e*P P **23 19 24.9 +1.6**
KBS pmax pmax
comp=Z,101nm,1.1s
KBS MLR MLR
comp=Z,80µm,19.0s
KBS Kingsbay 40.72 357 *e*P P **23 19 24.9 +1.6**
comp=Z,100nm,1.1s
KBS LR LR
comp=Z,80µm,19.0s
HLID Hailey 40.75 85 ⇓P P **23 19 24.3 +0.2**
baz=41,SNR=15
HLID Hailey 40.75 85 *e*P P **23 19 23.8 -0.3**
comp=Z,67nm,1.0s
HLID LR LR
comp=Z,90µm,19.0s
KSYOW Yeongwol 40.80 260 P P **23 19 27.1 +2.7**
SNR=5.5
KSYOW Yeongwol 40.80 260 P P **23 19 25.8 +1.3**
SNR=7.9
KSWJU Wonju 40.82 261 P P **23 19 27.2 +2.6**
SNR=7.8
KSWJU Wonju 40.82 261 P P **23 19 25.6 +1.0**
SNR=12
KSRS Korea Array 40.84 261 P P **23 19 23.4 -1.4**
comp=Z,99nm,1.0s,baz=35,slow=8.4,SNR=38
KSRS Korea Array 40.84 261 P P **23 19 23.4 -1.4**
KSRS pmax pmax
comp=Z,99nm,1.0s
D19A Cripps Ranch, 40.86 77 ⇓P P **23 19 24.5 -0.4**
baz=41
B21A Ellsworth Farm 40.86 74 ⇑P P **23 19 24.7 -0.2**
baz=41,SNR=9.4
KS15 Wonju Array Si 40.87 261 *e*P P **23 19 23.4 -1.6**
YNCB YEONCHEON 40.87 262 P P **23 19 24.4 -0.6**
SNR=28
C20A Veseth Ranch, 40.89 76 ⇓P P **23 19 25.2 +0.1**
baz=41,SNR=16
A22A Carney Farms, 40.99 73 ⇓P P **23 19 25.3 -0.6**
baz=41,SNR=14
KSMUS Musan 41.07 262 P P **23 19 26.1 -0.5**
SNR=28
KSMUS Musan 41.07 262 P P **23 19 27.5 +0.9**
SNR=21
KSICN Icheon 41.22 261 P P **23 19 28.9 +1.0**
SNR=18
C21A Desert Coulee 41.25 75 ⇑P P **23 19 27.4 -0.7**
baz=41
D20A Manuel Ranch, 41.27 76 ⇑P P **23 19 28.6 +0.3**
baz=41,SNR=15
KSCHJ Chungju 41.28 260 P P **23 19 29.6 +1.2**
SNR=6.0
QLMT Earthquake Lak 41.29 81 *e*P P **23 19 29.5 +0.9**
KSSEO Seoul 41.31 262 P P **23 19 29.3 +0.7**
SNR=10
WCN Washoe City 41.31 94 *e*P P **23 19 28.1 -0.7**
WCN pmax pmax
comp=Z,1µm,2.6s
WCN Washoe City 41.31 94 *e*P P **23 19 28.1 -0.7**
comp=Z,1µm,2.6s
SPA0 Spitsbergen Ar 41.32 356 *e*P P **23 19 26.7 -1.6**
SPA0 *e* 23 25 49.6
SPA0 IAMs_20 IAMs_20 23 37 03.0
comp=Z,126µm,18.0s
SPA0 Spitsbergen Ar 41.32 356 *e*P P **23 19 27.4 -0.8**
SPITS Spitsbergen Ar 41.32 356 P P **23 19 27.4 -0.8**
comp=Z,130nm,1.2s,baz=68,slow=9.1,SNR=20
SPITS Spitsbergen Ar 41.32 356 P P **23 19 27.5 -0.8**
SPITS pmax pmax
comp=Z,131nm,1.2s
KSGAH Ganghwa 41.37 262 P P **23 19 30.2 +1.2**
SNR=14
E19A Rath Farm, Rou 41.41 77 ⇑P P **23 19 29.3 -0.1**
baz=41,SNR=21
B22A Reddig Ranch S 41.44 73 ⇓P P **23 19 29.4 -0.2**
baz=41
KIP Kipapa 41.44 151 *e*P P **23 19 31.5 +1.7**
KIP pmax pmax
comp=Z,762nm,1.8s
KIP MLR MLR
comp=Z,21µm,20.0s
KIP Kipapa 41.44 151 *e*P P **23 19 31.5 +1.7**
comp=Z,762nm,1.8s
KIP LR LR
comp=Z,21µm,20.0s
INCN Inchon 41.45 262 ⇓P P **23 19 29.7 -0.1**
SNR=10
INCN Inchon 41.45 262 *e*P P **23 19 28.7 -1.1**
comp=Z,140nm,1.0s
INCN LR LR
comp=Z,53µm,19.0s
GCMT Greycliff 41.46 79 *e*P P **23 19 30.2 +0.3**
KSSWO Suwon 41.46 262 P P **23 19 30.4 +0.6**
SNR=14
IRK Irkutsk 41.49 295 *e*P P **23 19 28.3 -1.7**
IRK *e* 23 21 14.1
IRK pmax pmax
comp=Z,872nm,1.4s
A23A Redstone 41.50 72 ⇑P P **23 19 29.9 -0.2**
baz=41
KSYOC YEONGCHEON 41.52 258 P P **23 19 33.0 +2.7**
SNR=11
KSSAJ Sangju 41.56 260 P P **23 19 32.9 +2.3**
SNR=7.4
YMR Madison River 41.64 81 *e*P P **23 19 32.9 +1.4**
comp=Z,705nm,2.1s
KSBON Boeun 41.66 260 P P **23 19 32.1 +0.6**
SNR=13
KSCEA Cheonan 41.67 261 P P **23 19 32.6 +1.1**
SNR=24
E20A Meyer Farm, Mu 41.69 77 ⇑P P **23 19 30.8 -0.9**
baz=42
BMN Battle Mountai 41.70 90 *e*P P **23 19 31.6 -0.4**
BMN pmax pmax
comp=Z,219nm,1.6s
BMN Battle Mountai 41.70 90 *e*P P **23 19 31.6 -0.4**
comp=Z,219nm,1.6s
KSDAG Daegu 41.71 258 P P **23 19 34.2 +2.3**
SNR=10.0
KSCEJ CHEONGJU 41.73 261 P P **23 19 33.0 +0.9**
SNR=5.5
YNR Norris Junctio 41.74 81 *e*P P **23 19 34.0 +1.6**
comp=Z,143nm,1.3s
F19A Roth Farm, Mol 41.76 78 ⇓P P **23 19 32.1 -0.3**
baz=42,SNR=9.1
KSCPR CHUPUNGNYEONG 41.80 260 P P **23 19 33.8 +1.2**
SNR=24
B23A Brockton 41.80 73 ⇓P P **23 19 32.7 +0.1**
baz=42,SNR=14
D21A La Casta Ranch 41.84 76 ⇓P P **23 19 32.6 -0.3**
baz=42,SNR=13
YFT Old Faithful 41.86 81 *e*P P **23 19 35.4 +2.1**
comp=Z,167nm,1.0s
C22A Vida 41.88 74 ⇑P P **23 19 32.2 -1.1**
baz=42
A24A Westby 41.94 71 ⇓P P **23 19 33.0 -0.7**
baz=42
TJN Taejon 41.97 260 *i* P P **23 19 33.8 -0.2**
KSTEJ Daejeon 41.97 260 P P **23 19 35.6 +1.6**
SNR=11
CMB Columbia Colle 41.98 96 *e*P P **23 19 33.6 -0.6**
CMB pmax pmax
comp=Z,268nm,1.8s
CMB Columbia Colle 41.98 96 *e*P P **23 19 33.5 -0.6**
comp=Z,268nm,1.8s
LKWY Lake 41.99 81 *e*P P **23 19 36.9 +2.5**
LKWY pmax pmax
comp=Z,81nm,1.0s
LKWY MLR MLR
comp=Z,142µm,20.0s
LKWY Lake 41.99 81 *e*P P **23 19 36.9 +2.5**
comp=Z,81nm,1.0s
LKWY LR LR
comp=Z,142µm,20.0s
KSKOJ Gongju 42.00 261 P P **23 19 35.3 +1.0**
SNR=15
H17A Grant Village 42.03 81 ⇓P P **23 19 34.2 -0.5**
baz=42
H17A Grant Village 42.03 81 *e*P P **23 19 36.6 +1.8**
comp=Z,308nm,1.6s
WAKR Walker 42.08 94 *e*P P **23 19 34.6 -0.5**
KSSES Seosan 42.09 262 P P **23 19 36.2 +1.3**
SNR=8.5

H11N2 WAKE ISLAND Hy 42.12 202 T T 00 06 04.0
baz=2.2,slow=76
H11N3 WAKE ISLAND Hy 42.13 202 T T 00 06 00.3
baz=2.2,slow=76
RLMT Red Lodge 42.14 79 *e*P P **23 19 36.8 +1.3**
comp=Z,630nm,2.3s
RLMT LR LR
comp=Z,115µm,22.0s
H11N1 WAKE ISLAND Hy 42.14 202 T T 00 06 02.3
baz=2.2,slow=76
TLY Talaya 42.16 295 P P **23 19 34.3 -1.2**
comp=Z,1µm,1.3s,SNR=50
TLY Talaya 42.16 295 *i* P P **23 19 35.1 -0.4**
TLY *e* 23 21 11.9
TLY *e*PPP PPP 23 21 46.1
TLY *e*S S **23 25 56.1 +1.4**
TLY pmax pmax
comp=Z,394nm,1.6s
TLY MLR MLR
comp=Z,125µm,20.0s
TLY Talaya 42.16 295 ⇑P P **23 19 34.9 -0.5**
SNR=125
TLY Talaya 42.16 295 *e*P P **23 19 34.9 -0.5**
comp=Z,364nm,1.3s
TLY LR LR
comp=Z,126µm,19.0s
D22A Cohagen 42.17 75 ⇑P P **23 19 35.3 -0.3**
baz=42,SNR=15
DGMT Dagmar 42.17 72 ⇑P P **23 19 35.6 0.0**
baz=42
DGMT Dagmar 42.17 72 *e*P P **23 19 37.5 +1.9**
comp=Z,247nm,1.3s
DGMT LR LR
comp=Z,71µm,20.0s
E21A Keefer Ranch, 42.17 76 ⇑P P **23 19 35.2 -0.4**
baz=42
C23A Lambert 42.17 73 ⇑P P **23 19 35.9 +0.3**
baz=42,SNR=38
F20A Billings 42.19 78 ⇑P P **23 19 36.2 +0.3**
baz=42,SNR=13
FLWY Flagg Ranch 42.20 81 *e*P P **23 19 37.4 +1.3**
comp=Z,490nm,1.4s
IMW Indian Meadow 42.21 82 *e*P P **23 19 35.3 -1.0**
comp=Z,223nm,1.2s
H18A Shoshone NF, C 42.27 80 ⇑P P **23 19 37.2 +0.5**
baz=42,SNR=13
A25A Svangstu Ranch 42.35 71 ⇑P P **23 19 36.4 -0.6**
baz=42,SNR=18
FXWY Fox Creek 42.36 82 *e*P P **23 19 37.5 +0.1**
comp=Z,105nm,1.1s
I17A Pilgrim Ck. 42.38 81 ⇓P P **23 19 37.7 +0.2**
baz=42,SNR=5.3
MOOW Moose Ponds 42.42 82 *e*P P **23 19 36.7 -1.2**
comp=Z,139nm,1.3s
ELK Elko 42.45 88 *e*P P **23 19 37.4 -0.7**
ELK pmax pmax
comp=Z,602nm,2.4s
ELK Elko 42.45 88 *e*P P **23 19 37.4 -0.7**
comp=Z,602nm,2.4s
LAO LASA Array 42.48 75 *e*P P **23 19 38.3 +0.2**
comp=Z,772nm,1.8s
LAO LR LR
comp=Z,83µm,21.0s
HOPEN Hopen 42.50 352 *e*P P **23 19 38.2 +0.3**
HOPEN *e* 23 26 12.0
HOPEN IAMs_20 IAMs_20 23 39 46.4
comp=Z,153µm,18.0s
TPAW Teton Pass 42.51 82 *e*P P **23 19 38.0 -0.7**
comp=Z,253nm,1.2s
HSP Hornsund 42.51 356 *e*P P **23 19 36.7 -1.3**
HSPB Hornsund (broa 42.52 356 *e*P P **23 19 35.9 -2.1**
HSPB *e* 23 26 12.0
HSPB IAMs_20 IAMs_20 23 37 49.5
comp=Z,160µm,19.7s
KSGUS GUNSAN 42.52 261 P P **23 19 39.1 +0.6**
SNR=18
G20A Bridger 42.58 78 ⇑P P **23 19 39.4 +0.3**
baz=42,SNR=14
LOHW Long Hollow 42.59 82 *e*P P **23 19 38.5 -0.8**
comp=Z,143nm,1.0s
H19A Powell 42.60 79 ⇓P P **23 19 40.0 +0.7**
baz=42,SNR=14
WAKE Wake Island 42.60 202 *e*P P **23 19 40.5 +1.2**
comp=Z,563nm,1.2s
WAKE LR LR
comp=Z,23µm,20.0s
D23A Lindsay 42.61 74 ⇓P P **23 19 39.7 +0.5**
baz=42,SNR=10
KSJIN Jinju 42.62 259 P P **23 19 41.5 +2.2**
SNR=6.2
SNOW Snow King Moun 42.62 82 *e*P P **23 19 40.8 +1.2**
comp=Z,170nm,1.3s
REDW Red Top Meadow 42.65 82 *e*P P **23 19 40.5 +0.7**
comp=Z,368nm,1.4s
F21A Absaloka Mine, 42.67 77 ⇑P P **23 19 39.5 -0.2**
baz=42,SNR=13
NV01 Mina Array Sit 42.70 93 *e*P P **23 19 39.1 -1.1**
NVAR Mina Array Bea 42.70 93 P P **23 19 39.1 -1.1**
comp=Z,30nm,0.9s,baz=302,slow=7.4,SNR=23
C24A Savage 42.73 73 ⇓P P **23 19 40.5 +0.4**
baz=43,SNR=14
E22A Miles City 42.79 75 ⇓P P **23 19 40.1 -0.5**
baz=43
B25A Knox Farm, Ray 42.80 72 ⇑P P **23 19 40.0 -0.7**
baz=43
DL2 Dalian 42.81 268 ⇓*i*P P **23 19 40.8 0.0**
DL2 S S **23 26 03.5 -0.9**
DL2 PMZ
comp=Z,170nm,0.9s
DL2 PMZ
comp=Z,2µm,7.8s
A26A Wade Farm, Ken 42.88 70 ⇑P P **23 19 41.3 0.0**
baz=43,SNR=20
HVU Hansel Valley 42.88 85 *e*P P **23 19 41.0 -0.6**
HVU pmax pmax
comp=Z,659nm,2.4s
HVU Hansel Valley 42.88 85 *e*P P **23 19 41.0 -0.6**
comp=Z,659nm,2.4s
KSJEU Jeongeup 42.89 260 P P **23 19 43.4 +1.9**
SNR=13
JNU Nakatsue 42.90 254 *e*P P **23 19 42.2 +0.5**
comp=Z,102nm,1.0s
CBIJ Chichi jima 42.94 237 *e*P P **23 19 41.7 -0.3**
comp=Z,465nm,1.0s
KSNAH Namhae 42.94 258 P P **23 19 44.7 +2.8**
SNR=11
AHID Auburn Hatcher 42.97 83 *e*P P **23 19 43.2 +0.9**
comp=Z,56nm,1.1s
AHID LR LR
comp=Z,83µm,19.0s
E23A Ismay 43.05 75 ⇓P P **23 19 42.3 -0.4**
baz=43
G21A Lodge Grass 43.06 78 ⇑P P **23 19 42.9 0.0**
baz=43,SNR=18
MLAC Mammoth, Mammo 43.06 95 ⇓P P **23 19 44.0 +0.9**
baz=43,SNR=5.1
I19A Meeteetse 43.06 80 ⇓P P **23 19 42.3 -0.8**
baz=43
D24A Glendive 43.07 74 ⇑P P **23 19 42.9 0.0**
baz=43,SNR=11
F22A Rosebud 43.12 76 ⇑P P **23 19 42.9 -0.4**
baz=43
KSKWJ Gwangju 43.12 260 P P **23 19 45.4 +2.0**
SNR=11
C25A Freed Ranch, W 43.15 72 ⇓P P **23 19 43.1 -0.5**
baz=43
B26A Jensen Ranch, 43.16 71 ⇓P P **23 19 43.9 +0.3**
baz=43,SNR=9.4
KSGWJ Gwangju-acc 43.16 260 P P **23 19 45.5 +1.9**
SNR=10
A27A Ledoux Ranch, 43.21 69 ⇓P P **23 19 43.3 -0.7**
baz=43
H20A Greybull 43.22 79 ⇑P P **23 19 44.1 -0.1**
baz=43
ZAK Zakamensk 43.23 294 *e*P P **23 19 43.1 -1.2**
ZAK *e* 23 21 35.5
ZAK pmax pmax
comp=Z,123nm,1.2s
ULN Ulaanbaatar 43.28 288 ⇓*i*P P **23 19 44.5 -0.2**
ULN pmax pmax
comp=Z,116nm,1.2s
ULN Ulaanbaatar 43.28 288 ⇑P P **23 19 43.6 -1.1**
SNR=48
ULN Ulaanbaatar 43.28 288 *e*P P **23 19 44.7 -0.1**
comp=Z,65nm,0.9s
ULN LR LR
comp=Z,193µm,20.0s

H11S1 WAKE ISLAND Hy 43.35 202 T T 00 07 28.4
baz=4.3,slow=74
MOY Mondy 43.36 296 *e*P P **23 19 44.6 -0.7**
MOY pmax pmax
comp=Z,533nm,1.2s
H11S3 WAKE ISLAND Hy 43.37 202 T T 00 07 31.6
baz=4.3
H11S2 WAKE ISLAND Hy 43.37 202 T T 00 07 42.9
baz=4.3,slow=74
BGU Big Grassy Mou 43.40 86 *e*P P **23 19 45.4 -0.4**
comp=Z,180nm,1.2s
E24A Baker 43.48 74 ⇓P P **23 19 46.3 0.0**
baz=43
G22A Birney 43.51 77 ⇑P P **23 19 46.9 +0.4**
baz=43
TPH Tonopah 43.51 93 *e*P P **23 19 45.4 -1.4**
TPH pmax pmax
comp=Z,640nm,2.0s
TPH Tonopah 43.51 93 *e*P P **23 19 45.4 -1.4**
comp=Z,640nm,2.0s
D25A Fairfield 43.53 73 ⇓P P **23 19 47.5 +0.9**
baz=43
I20A Worland 43.55 80 ⇓P P **23 19 47.2 +0.3**
baz=43
F23A Volborg 43.57 76 ⇓P P **23 19 47.6 +0.7**
baz=43
H21A Big Horn, Sher 43.58 78 ⇑P P **23 19 47.7 +0.6**
baz=43,SNR=13
B27A Peters Farms, 43.59 70 ⇓P P **23 19 47.7 +0.7**
baz=43
J19A Crowheart 43.60 81 ⇑P P **23 19 47.8 +0.4**
baz=44,SNR=6.3
HWUT Hardware Ranch 43.61 85 *e*P P **23 19 46.2 -1.3**
comp=Z,196nm,1.2s
HWUT LR LR
comp=Z,78µm,19.0s
SONA0 Songino Array 43.61 289 *e*P P **23 19 46.0 -1.3**
SONM Songino Array 43.61 289 P P **23 19 46.0 -1.4**
comp=Z,74nm,1.2s,baz=53,slow=6.9,SNR=56
SONM LR LR 23 40 03.2
comp=Z,241µm,19.2s,baz=44,slow=39
SONM Songino Array 43.61 289 P P **23 19 46.0 -1.4**
SONM pmax pmax
comp=Z,74nm,1.2s
SONM MLR MLR
comp=Z,241µm,19.2s
C26A Wahner Farm, P 43.62 71 ⇓P P **23 19 48.1 +0.8**
baz=43,SNR=10
POHA Pohakuloa 43.65 149 PFAKE **23 20 00.0 +12**
POHA LR LR
comp=Z,25µm,19.0s
A28A Rude Farm, Bot 43.69 69 ⇑P P **23 19 48.1 +0.2**
baz=44,SNR=9.2
BW06 Boulder Array 43.73 82 *e*P P **23 19 49.2 +0.7**
comp=Z,91nm,1.0s
BW06 LR LR
comp=Z,62µm,20.0s
PD31 Pinedale Array 43.73 82 *e*P P **23 19 48.4 -0.1**
PDAR Pinedale Array 43.73 82 P P **23 19 47.6 -0.9**
comp=Z,9.0nm,0.7s,baz=324,slow=6.4,SNR=16
PDAR LR LR 23 37 49.6
comp=Z,50µm,20.9s,baz=340,slow=36
KRAR Krasnoyarsk 43.76 306 ⇑*i*P P **23 19 47.6 -0.6**
KRAR pmax pmax
comp=Z,226nm,1.1s
TIN Tinemaha, Big 43.81 94 ⇓P P **23 19 50.0 +0.9**
baz=44
KSWAN Wando 43.88 259 P P **23 19 51.6 +2.0**
SNR=8.8
RCTC Rector, Farmer 43.90 96 ⇑P P **23 19 49.9 +0.3**
baz=44
H22A Clearmont 43.94 78 ⇑P P **23 19 50.0 0.0**
baz=44
F24A Ekalaka 43.94 75 ⇑P P **23 19 50.9 +0.9**
baz=44
G23A Biddle 43.95 76 ⇑P P **23 19 50.2 0.0**
baz=44
E25A Miller Ranch, 43.96 73 ⇓P P **23 19 50.4 +0.3**
baz=44
C27A Sayler Ranch, 43.98 71 ⇓P P **23 19 49.8 -0.3**
baz=44
B28A Dugan Ranch, T 43.98 69 ⇑P P **23 19 50.7 +0.5**
baz=44,SNR=13
KSJDO Jindo 44.01 260 P P **23 19 52.7 +2.1**
SNR=9.4
J20A Shoshoni 44.01 80 ⇓P P **23 19 50.1 -0.6**
baz=44
D26A Manning 44.03 72 ⇑P P **23 19 50.7 +0.1**
baz=44,SNR=12
I21A Big Trails, Te 44.06 79 ⇓P P **23 19 51.2 +0.1**
baz=44
DUG Dugway, Tooele 44.06 87 *e*P P **23 19 49.4 -1.7**
DUG pmax pmax
comp=Z,103nm,1.1s
DUG MLR MLR
comp=Z,66µm,21.0s
DUG Dugway, Tooele 44.06 87 ⇑P P **23 19 50.9 -0.2**
baz=44,SNR=28
DUG Dugway, Tooele 44.06 87 *e*P P **23 19 49.4 -1.7**
comp=Z,103nm,1.1s
DUG LR LR
comp=Z,66µm,21.0s
R11A Troy Canyon, C 44.11 91 ⇑P P **23 19 51.4 -0.1**
baz=44
R11A Troy Canyon, C 44.11 91 *e*P P **23 19 50.8 -0.7**
comp=Z,719nm,2.5s
A29A Manning Farm, 44.16 68 ⇑P P **23 19 51.8 +0.2**
baz=44,SNR=46
KSHUK Heuksando 44.26 261 P P **23 19 54.4 +1.9**
SNR=6.2
GRAC Grapevine Rang 44.28 94 ⇑P P **23 19 53.6 +0.8**
baz=44,SNR=17
SMMC Simmler 44.32 98 ⇓P P **23 19 53.3 +0.2**
baz=44
G24A Alzada 44.33 75 ⇑P P **23 19 53.3 +0.1**
baz=44
J21A Lysite 44.33 80 ⇑P P **23 19 52.7 -0.5**
baz=44
VES Vestal, Richgr 44.35 96 ⇑P P **23 19 53.0 -0.2**
baz=44
F25A Bowman 44.35 74 ⇓P P **23 19 52.8 -0.5**
baz=44
SUMG Summit 44.36 16 *e*P P **23 19 51.3 -2.1**
SUMG Summit 44.36 16 *e*P P **23 19 51.2 -2.1**
comp=Z,4µm,2.6s
SUMG Summit 44.36 16 *i* P P **23 19 52.5 -0.8**
comp=Z,4µm,2.6s
comp=Z,88µm,16.0s
I22A 9 Mile Ranch, 44.39 78 ⇓P P **23 19 54.0 +0.3**
baz=44
D27A Center 44.40 72 ⇑P P **23 19 54.0 +0.4**
baz=44
H23A Clabaugh Cattl 44.42 77 ⇓P P **23 19 53.3 -0.6**
baz=44
E26A Carlson Angus 44.42 73 ⇑P P **23 19 54.2 +0.3**
baz=44,SNR=14
JLU Jordanelle 44.43 85 *e*P P **23 19 52.9 -1.2**
comp=Z,222nm,1.7s
B29A Wagenman Farm, 44.43 69 ⇓P P **23 19 53.6 -0.3**
baz=44,SNR=21
C28A Hausauer Farms 44.49 70 ⇑P P **23 19 54.2 -0.1**
baz=44
A30A Hoffart Farm, 44.57 68 ⇑P P **23 19 55.0 +0.1**
baz=44,SNR=19
NLU North Lily Min 44.61 86 *e*P P **23 19 54.1 -1.5**
comp=Z,69nm,1.1s
BJI Beijing 44.64 274 P P **23 19 55.0 -0.5**
BJI PP PcP **23 21 38.8 +0.8**
BJI S S **23 26 31.8 +0.7**
BJI PMZ
comp=Z,100nm,1.1s
BJI PMZ
comp=Z,3µm,8.4s
BJI LN
comp=Z,55µm,23.8s
BJI LE
comp=Z,92µm,22.0s
BJI LZ
comp=Z,52µm,25.0s
BJT Baijiatuau 44.66 274 *e*P P **23 19 54.1 -1.6**
BJT pmax pmax
comp=Z,108nm,0.9s
BJT MLR MLR
comp=Z,89µm,20.0s
BJT Baijiatuau 44.66 274 *e*P P **23 19 54.1 -1.6**
comp=Z,108nm,0.9s
BJT LR LR
comp=Z,89µm,20.0s

H24A	Dirks Ranch, A	44.69	76	⇓P		P	23 19 56.0	0.0	
	baz=44,SNR=15								
ULM	Lac du Bonnet	44.73	65	P		P	23 19 53.5	-2.6	
	comp=Z,26nm,0.8s,baz=313,slow=7.6,SNR=23								
ULM				LR		LR	23 38 44.7		
	comp=Z,46µm,19.0s,baz=326,slow=36								
ULM	Lac du Bonnet	44.73	65	eP		P	23 19 54.6	-1.5	
ULM				pmax		pmax			
	comp=Z,112nm,0.9s								
ULM	Lac du Bonnet	44.73	65	eP		P	23 19 54.6	-1.5	
	comp=Z,112nm,0.9s								
DAC	Darwin (Calif)	44.74	95	eP		P	23 19 55.5	-1.1	
DAC				pmax		pmax			
	comp=Z,338nm,1.8s								
DAC	Darwin (Calif)	44.74	95	eP		P	23 19 55.5	-1.1	
	comp=Z,338nm,1.8s								
J22A	Midwest	44.75	79	⇓P		P	23 19 55.6	-1.0	
	baz=45								
MDND	Maddock	44.76	69	⇑P		P	23 19 56.2	-0.2	
	baz=45,SNR=8.8								
MDND	Maddock	44.76	69	eP		P	23 19 55.4	-1.0	
	comp=Z,2µm,1.1s								
F26A	Lodgepole	44.78	74	⇓P		P	23 19 55.7	-1.0	
	baz=45								
MPU	Maple Canyon	44.78	86	eP		P	23 19 56.3	-0.6	
	comp=Z,120nm,1.2s								
D28A	Regan	44.79	71	⇑P		P	23 19 57.0	+0.3	
	baz=45,SNR=8.5								
ISA	Isabella, Lake	44.79	96	eP		P	23 19 55.6	-1.3	
ISA				pmax		pmax			
	comp=Z,312nm,1.9s								
ISA	Isabella, Lake	44.79	96	⇑P		P	23 19 56.9	0.0	
	baz=45,SNR=6.5								
ISA	Isabella, Lake	44.79	96	eP		P	23 19 55.6	-1.3	
	comp=Z,312nm,1.9s								
BJO	Bjornoya	44.81	354	eP		P	23 19 58.2	+1.7	
BJO				e			23 26 32.5		
BJO				IAMs_20		IAMs_20	23 41 47.2		
	comp=Z,56µm,21.1s								
I23A	Meade Ranch, G	44.84	77	⇓P		P	23 19 57.4	+0.2	
	baz=45								
TPNV	Topopah Spring	44.87	93	eP		P	23 19 56.3	-1.3	
TPNV				pmax		pmax			
	comp=Z,547nm,1.9s								
TPNV	Topopah Spring	44.87	93	⇑P		P	23 19 57.4	-0.2	
	baz=45,SNR=27								
TPNV	Topopah Spring	44.87	93	eP		P	23 19 56.3	-1.3	
	comp=Z,547nm,1.9s								
E27A	Carson	44.88	72	⇓P		P	23 19 57.4	-0.1	
	baz=45,SNR=9.2								
G25A	Newell	44.91	75	⇑P		P	23 19 57.1	-0.6	
	baz=45								
B30A	Myrvik Farm, E	44.91	68	⇓P		P	23 19 57.1	-0.5	
	baz=45,SNR=38								
FURC	Furnace Creek,	44.95	94	⇑P		P	23 19 58.3	+0.3	
	baz=45,SNR=22								
K21A	Alcova	44.96	80	⇑P		P	23 19 58.5	+0.2	
	baz=45								
MPMC	Manual Prospec	44.96	95	⇓P		P	23 19 58.6	+0.2	
	baz=45,SNR=25								
ARVC	Arvin	45.04	97	⇓P		P	23 19 59.4	+0.7	
	baz=45								
F27A	Lemmon	45.07	73	⇑P		P	23 19 58.9	-0.1	
	baz=45								
ILULI	Ilulissat	45.12	24	*i* P		P	23 19 57.6	-1.4	
	comp=Z,141nm,1.2s								
	comp=Z,76µm,18.0s								
SBC	Santa Barbara	45.16	98	⇓P		P	23 20 00.3	+0.6	
	baz=45								
E28A	Huff	45.18	71	⇓P		P	23 19 59.4	-0.5	
	baz=45								
J23A	Dilts Ranch, B	45.21	78	⇓P		P	23 20 00.1	-0.1	
	baz=45								
G26A	Maurine	45.22	74	⇑P		P	23 20 00.4	+0.2	
	baz=45,SNR=19								
H25A	Fruitdale	45.24	75	⇓P		P	23 20 00.3	-0.1	
	baz=45								
K22A	Casper	45.30	80	⇑P		P	23 20 00.7	-0.3	
	baz=45,SNR=11								
K22A	Casper	45.30	80	eP		P	23 20 00.0	-0.9	
	comp=Z,256nm,1.3s								
I24A	Kuemmerle Ranc	45.31	77	⇓P		P	23 20 01.4	+0.4	
	baz=45								
LRMC	Laurel Mtn Rad	45.33	95	⇓P		P	23 20 01.5	+0.3	
	baz=45,SNR=13								
D29A	Pettibone, Tap	45.34	70	⇓P		P	23 20 01.5	+0.4	
	baz=45								
C30A	Mose, Pekin	45.39	69	⇑P		P	23 20 00.9	-0.5	
	baz=45,SNR=6.9								
RSSD	Black Hills	45.40	76	eP		P	23 20 02.2	+0.3	
RSSD				pmax		pmax			
	comp=Z,113nm,1.0s								
RSSD	Black Hills	45.40	76	eP		P	23 20 02.2	+0.3	
	comp=Z,113nm,1.0s								
G27A	Dupree	45.48	74	⇑P		P	23 20 02.4	+0.2	
	baz=45,SNR=11								
OSI	Osito Audit: C	45.50	97	⇓P		P	23 20 02.9	+0.4	
	baz=45								
TMUT	Trail Mountain	45.55	86	eP		P	23 20 03.0	-0.1	
	comp=Z,600nm,2.0s								
BSC	Santa Cruz Isl	45.55	98	⇑P		P	23 20 03.3	+0.4	
	baz=46								
I25A	Rochford	45.63	76	⇓P		P	23 20 03.4	-0.2	
	baz=46								
H26A	Fairpoint	45.64	75	⇑P		P	23 20 03.6	+0.1	
	baz=46								
EDW2	Edwards Air Fo	45.65	96	⇑P		P	23 20 03.7	0.0	
	baz=46								
K23A	Bowen Ranch, D	45.66	79	⇓P		P	23 20 03.2	-0.6	
	baz=46								
MVU	Marysvale	45.66	88	eP		P	23 20 03.5	-0.4	
	comp=Z,743nm,2.5s								
F28A	McLaughlin	45.67	72	⇓P		P	23 20 03.3	-0.3	
	baz=46								
MSU	Marysvale	45.67	88	eP		P	23 20 03.2	-0.8	
MSU	Marysvale	45.67	88	eP		P	23 20 03.2	-0.8	
E29A	Napoleon	45.68	71	⇓P		P	23 20 03.2	-0.6	
	baz=46								
SHOC	Shoshone, Teco	45.69	94	⇓P		P	23 20 04.1	+0.2	
	baz=46								
J24A	Dixon Ranch, L	45.69	77	⇑P		P	23 20 03.3	-0.7	
	baz=46								
D30A	Buchanan	45.70	70	⇑P		P	23 20 04.0	+0.1	
	baz=46,SNR=8.5								
BLG	Laguna Peak, P	45.74	98	⇑P		P	23 20 04.1	-0.2	
	baz=46								
SHPR	Sheep Range	45.76	92	eP		P	23 20 03.8	-0.9	
L22A	Ellis Ranch, M	45.81	80	⇓P		P	23 20 04.8	-0.2	
	baz=46,SNR=8.1								
N20A	Spence Gulch,	45.82	83	⇑P		P	23 20 05.3	+0.1	
	baz=46,SNR=16								
CCUT	Cedar City	45.83	90	eP		P	23 20 03.8	-1.5	
	comp=Z,599nm,2.3s								
GSC	Goldstone, Bar	45.90	95	eP		P	23 20 04.4	-1.3	
GSC				pmax		pmax			
	comp=Z,1µm,2.3s								
GSC	Goldstone, Bar	45.90	95	⇓P		P	23 20 05.8	+0.1	
	baz=46,SNR=37								
GSC	Goldstone, Bar	45.90	95	eP		P	23 20 04.4	-1.3	
	comp=Z,1µm,2.3s								
H27A	Howes	45.96	74	⇓P		P	23 20 04.9	-1.1	
	baz=46								
DECC	Green Verdugo	45.99	97	⇓P		P	23 20 06.7	+0.3	
	baz=46								
SRU	San Rafael Swe	46.03	86	eP		P	23 20 05.8	-1.0	
SRU				pmax		pmax			
	comp=Z,237nm,0.9s								
SRU	San Rafael Swe	46.03	86	eP		P	23 20 05.8	-1.0	
	comp=Z,237nm,0.9s								
I26A	New Underwood	46.04	75	⇓P		P	23 20 06.6	-0.1	
	baz=46								
J25A	Sunshine Ranch	46.06	77	⇑P		P	23 20 06.7	-0.2	
	baz=46								
E30A	Jud	46.07	70	⇓P		P	23 20 06.7	-0.1	
	baz=46								
K24A	Anderson Ranch	46.07	78	⇓P		P	23 20 06.8	-0.2	
	baz=46								
L23A	Garrett	46.10	79	⇓P		P	23 20 07.0	-0.4	
	baz=46,SNR=15								
PASC	Pasadena Art C	46.12	97	eP		P	23 20 07.4	+0.1	
	comp=Z,336nm,1.8s								
F29A	Eureka	46.14	72	⇓P		P	23 20 06.5	-0.8	
	baz=46								
RRX	Edison Barstow	46.14	95	⇑P		P	23 20 08.3	+0.8	
	baz=46								
MWC	Mount Wilson	46.14	97	eP		P	23 20 07.3	-0.5	
MWC	Mount Wilson	46.14	97	eP		P	23 20 07.3	-0.5	
AGMN	Agassiz Nation	46.15	66	⇑P		P	23 20 06.7	-0.7	
	baz=46,SNR=33								
AGMN	Agassiz Nation	46.15	66	eP		P	23 20 06.4	-1.0	
	comp=Z,119nm,0.9s								
AGMN				LR		LR			
	comp=Z,60µm,19.0s								
G28A	Parade	46.19	73	⇑P		P	23 20 08.2	+0.4	
	baz=46								
M22A	Cedar Creek Ra	46.20	81	⇓P		P	23 20 08.1	-0.2	
	baz=46								
TUQ	Turquoise Moun	46.23	94	⇑P		P	23 20 08.3	-0.1	
	baz=46								
HHC	Hu-ho-hao-te	46.30	278	eP		P	23 20 09.0	+0.2	
HHC				PP		PP	23 21 55.5	-1.7	
HHC				S		S	23 26 46.0	-9.2	
HHC				PMZ					
	comp=Z,230nm,1.0s								
HHC				PMZ					
	comp=Z,2µm,4.2s								
HHC				LN					
	comp=Z,99µm,17.8s								
HHC				LE					
	comp=Z,86µm,17.1s								
HHC				LZ					
	comp=Z,68µm,19.0s								
BFSC	Mount Baldy Ra	46.33	96	⇓P		P	23 20 09.0	-0.2	
	baz=46,SNR=22								
O20A	White River Ci	46.37	83	⇓P		P	23 20 09.1	-0.3	
	baz=46,SNR=12								
O20A	White River Ci	46.37	83	eP		P	23 20 08.5	-1.0	
	comp=Z,175nm,1.1s								
I27A	Quinn	46.39	75	⇑P		P	23 20 09.4	-0.1	
	baz=46								
H28A	Mission Ridge	46.43	73	⇓P		P	23 20 09.5	-0.2	
	baz=46								
FMP	Fort Macarthur	46.44	97	⇑P		P	23 20 09.9	+0.1	
	baz=46								
J26A	Sids Ranch, S	46.47	76	⇑P		P	23 20 10.2	+0.1	
	baz=46								
F30A	Leola	46.51	71	⇑P		P	23 20 09.8	-0.5	
	baz=46								
HEC	Hector,Ludlow	46.51	95	⇑P		P	23 20 10.3	-0.2	
	baz=46,SNR=21								
KNB	Kanab	46.52	90	eP		P	23 20 10.1	-0.6	
KNB				pmax		pmax			
	comp=Z,170nm,1.2s								
KNB	Kanab	46.52	90	eP		P	23 20 10.1	-0.6	
	comp=Z,170nm,1.2s								
L24A	Wheatland	46.53	79	⇑P		P	23 20 09.9	-0.7	
	baz=46								
M23A	Laramie	46.58	80	⇑P		P	23 20 10.3	-0.9	
	baz=46								
K25A	Mack Ranch, Ha	46.62	78	⇑P		P	23 20 10.6	-0.7	
	baz=46								
CIS	Catalina Islan	46.63	98	⇓P		P	23 20 11.6	+0.2	
	baz=46								
BBRC	Big Bear Solar	46.67	96	⇓P		P	23 20 11.7	-0.3	
	baz=47								
N22A	Wattenberg Ran	46.73	81	⇓P		P	23 20 11.6	-0.8	
	baz=47								
PHWY	Pilot Hill	46.84	80	eP		P	23 20 13.0	-0.3	
	comp=Z,273nm,2.3s								
H29A	Onida	46.85	73	⇓P		P	23 20 12.1	-0.9	
	baz=47								
I28A	Midland	46.87	74	⇓P		P	23 20 12.6	-0.5	
	baz=47								
GMRC	Granite Mounta	46.88	94	⇓P		P	23 20 13.6	+0.1	
	baz=47,SNR=33								
K26A	Motz Farm, Whi	46.88	77	⇑P		P	23 20 12.8	-0.6	
	baz=47								
SCI	San Clemente I	46.91	98	⇑P		P	23 20 13.4	-0.1	
	baz=47								
N23A	Red Feather La	46.91	81	⇑P		P	23 20 13.7	-0.1	
	baz=47,SNR=7.5								
N23A	Red Feather La	46.91	81	eP		P	23 20 14.5	+0.7	
	comp=Z,109nm,1.0s								
L25A	Engebretsen Ra	46.91	78	⇑P		P	23 20 13.1	-0.6	
	baz=47								
HVS	Khovu-Aksy	46.92	300	*c i* P		P	23 20 13.0	-0.5	
HVS				pmax		pmax			
	comp=Z,1µm,1.2s								
G30A	Faulkton	46.98	72	⇑P		P	23 20 13.9	0.0	
	baz=47,SNR=22								
M24A	Cheyenne	47.02	79	⇓P		P	23 20 13.6	-1.0	
	baz=47,SNR=14								
J27A	Elkhorn Farm,	47.03	76	⇓P		P	23 20 13.6	-0.8	
	baz=47								
MURC	Murrieta	47.07	96	⇓P		P	23 20 14.6	-0.2	
	baz=47								
SFJD	Kangerlussuaq	47.08	25	*i* P		P	23 20 12.4	-2.0	
SFJD				pmax		pmax			
	comp=Z,230nm,1.4s								
SFJD				MLR		MLR			
	comp=Z,47µm,18.0s								
SFJD	Kangerlussuaq	47.08	25	eP		P	23 20 13.5	-0.9	
	comp=Z,199nm,1.3s								
SFJD				LR		LR			
	comp=Z,49µm,20.0s								
SFJD	Kangerlussuaq	47.08	25	*i* P		P	23 20 12.4	-2.0	
	comp=Z,226nm,1.4s								
	comp=Z,47µm,18.0s								
TIA	Tai'an	47.15	270	⇓P		P	23 20 14.5	-0.9	
TIA				S		S	23 26 57.3	-10	
TIA				PMZ					
	comp=Z,120nm,1.5s								
TIA				PMZ					
	comp=Z,3µm,12.0s								
TIA				LN					
	comp=Z,58µm,19.0s								
TIA				LE					
	comp=Z,68µm,23.8s								
TIA				LZ					
	comp=Z,58µm,24.7s								
O22A	Kremmling	47.18	82	⇑P		P	23 20 15.6	-0.4	
	baz=47,SNR=7.8								
PV09	Paradox Valley	47.19	85	eP		P	23 20 14.9	-1.2	
U15A	North Rim	47.24	90	⇑P		P	23 20 16.3	-0.1	
	baz=47,SNR=31								
I29A	Vivian Onida	47.26	74	⇓P		P	23 20 16.3	+0.1	
	baz=47								
J28A	Allard Ranch,	47.27	75	⇑P		P	23 20 16.1	-0.2	
	baz=47,SNR=12								
PV10	Paradox Valley	47.33	85	eP		P	23 20 17.1	0.0	
K27A	Flueckinger Fa	47.33	76	⇑P		P	23 20 16.4	-0.5	
	baz=47								
BELC	Belle Mtn. Jos	47.34	95	⇑P		P	23 20 17.3	+0.2	
	baz=47								
M25A	Palm-Egli Farm	47.42	79	⇓P		P	23 20 17.6	0.0	
	baz=47								
PFO	Pinyon Flats O	47.43	96	P		P	23 20 16.4	-1.3	
	comp=Z,228nm,1.3s,SNR=6.2								
PFO	Pinyon Flats O	47.43	96	eP		P	23 20 16.4	-1.3	
PFO				pmax		pmax			
	comp=Z,164nm,1.5s								
PFO				MLR		MLR			
	comp=Z,48µm,19.0s								
PFO	Pinyon Flats O	47.43	96	⇓P		P	23 20 17.3	-0.5	
	baz=47,SNR=11								
PFO	Pinyon Flats O	47.43	96	eP		P	23 20 16.4	-1.3	
	comp=Z,164nm,1.5s								
PFO				LR		LR			
	comp=Z,48µm,19.0s								
L26A	Underwood Farm	47.43	77	⇓P		P	23 20 17.2	-0.4	
	baz=47								
O23A	Lake Granby, G	47.45	81	⇓P		P	23 20 17.6	-0.4	
	baz=47,SNR=21								
N24A	Carr	47.48	80	⇑P		P	23 20 18.3	+0.2	
	baz=47								
W13A	Hualapai Mount	47.51	92	⇓P		P	23 20 18.6	+0.2	
	baz=47								
P22A	Eagle	47.51	82	⇑P		P	23 20 18.4	0.0	
	baz=47,SNR=17								
PV05	Paradox Valley	47.53	86	eP		P	23 20 17.9	-0.7	
BRSD	Miller	47.58	72	⇑P		P	23 20 18.8	+0.1	
	baz=47								
BRSD	Miller	47.58	72	eP		P	23 20 18.0	-0.7	
	comp=Z,174nm,0.8s								
IRM	Iron Mountain	47.63	94	⇑P		P	23 20 19.1	-0.1	
	baz=48,SNR=35								
109C	Camp Elliot, M	47.69	97	⇑P		P	23 20 20.1	+0.5	
	baz=48								
J29A	Okreek	47.72	74	⇑P		P	23 20 19.0	-0.7	
	baz=48,SNR=12								
SMCO	Snowmass	47.73	83	eP		P	23 20 18.9	-1.4	
	comp=Z,154nm,1.4s								
K28A	Ten Mile Ranch	47.74	76	⇑P		P	23 20 19.8	-0.2	
	baz=48								
PV01	Paradox Valley	47.75	85	eP		P	23 20 19.0	-1.3	
I30A	Oacoma	47.76	73	⇑P		P	23 20 19.8	-0.3	
	baz=48								
L27A	T5 Ranch, Ells	47.77	77	⇑P		P	23 20 19.9	-0.3	
	baz=48								
M26A	McRoberts Ranc	47.84	78	⇓P		P	23 20 20.6	-0.2	
	baz=48								
N25A	Grover	47.88	79	⇑P		P	23 20 21.0	-0.2	
	baz=48								
BC3	Big Chuckawall	47.88	95	⇑P		P	23 20 20.8	-0.4	
	baz=48,SNR=15								
ISCO	Idaho Springs	47.91	81	eP		P	23 20 20.4	-1.3	
ISCO				pmax		pmax			
	comp=Z,506nm,2.3s								
ISCO				MLR		MLR			
	comp=Z,52µm,20.0s								
ISCO	Idaho Springs	47.91	81	⇑P		P	23 20 21.6	0.0	
	baz=48,SNR=22								
ISCO	Idaho Springs	47.91	81	eP		P	23 20 20.4	-1.3	
	comp=Z,506nm,2.3s								
ISCO				LR		LR			
	comp=Z,52µm,20.0s								
O24A	Longmont	47.93	81	⇑P		P	23 20 21.3	-0.3	
	baz=48								
PDMCI	Parker Dam,Lak	48.02	93	⇓P		P	23 20 21.9	-0.3	
	baz=48,SNR=13								
MONP	Monument Peak,	48.02	96	⇓P		P	23 20 22.5	0.0	
	baz=48								
BAR	Barrett	48.07	97	eP		P	23 20 24.1	+1.5	
	comp=Z,20nm,1.3s								
P23A	Jefferson	48.13	82	⇓P		P	23 20 23.6	+0.2	
	baz=48,SNR=18								
M27A	Reverse DX Ran	48.16	77	⇓P		P	23 20 22.7	-0.6	
	baz=48								
J30A	Dallas	48.17	74	⇓P		P	23 20 22.5	-0.8	
	baz=48								
L28A	Connealy Angus	48.21	76	⇑P		P	23 20 23.5	-0.2	
	baz=48								
K29A	Lazy Trails An	48.21	75	⇑P		P	23 20 22.9	-0.7	
	baz=48,SNR=9.9								
Y12C	Blythe	48.27	94	⇑P		P	23 20 24.1	0.0	
	baz=48,SNR=27								
N26A	Koester Ranch,	48.29	79	⇑P		P	23 20 23.8	-0.5	
	baz=48								
TIY	Taiyuan	48.29	275	eP		P	23 20 25.8	+1.5	
TIY				pP		pP	23 20 31.0	+2.5	
TIY				S		S	23 27 19.8	-3.8	
TIY				PMZ					
	comp=Z,410nm,1.2s								
TIY				PMZ					
	comp=Z,2µm,4.2s								
TIY				LN					
	comp=Z,81µm,14.1s								
TIY				LE					
	comp=Z,80µm,14.0s								
TIY				LZ					
	comp=Z,28µm,10.7s								
SWSC	Sam W. Stewart	48.29	96	⇓P		P	23 20 23.8	-0.4	
	baz=48								
IBP	Imperial Bould	48.37	96	⇑P		P	23 20 26.1	+1.1	
	baz=48								
EYMN	Ely	48.38	64	eP		P	23 20 24.4	-0.3	
	comp=Z,118nm,0.8s								
EYMN				LR		LR			
	comp=Z,85µm,19.0s								
NVS	Novosibirsk	48.38	310	eP		P	23 20 23.5	-1.1	
NVS				ePPP		PPP	23 22 13.8		
NVS				pmax		pmax			
	comp=E,234nm,2.1s								
NVS				pmax		pmax			
	comp=Z,380nm,2.1s								
NVS				pmax		pmax			
	comp=N,251nm,2.2s								
O25A	Wiggins	48.40	80	⇑P		P	23 20 25.0	-0.2	
	baz=48								
WUAZ	Wupatki	48.42	90	⇑P		P	23 20 25.2	-0.2	
	baz=48,SNR=18								
WUAZ	Wupatki	48.42	90	eP		P	23 20 24.9	-0.5	
	comp=N,82nm,1.0s								
WUAZ				LR		LR			
	comp=Z,37µm,20.0s								
ZAA1	Zalesovo Array	48.44	308	eP		P	23 20 23.6	-1.6	
ZALV	Zalesovo Beam	48.45	308	P		P	23 20 23.6	-1.6	
	comp=Z,24nm,0.8s,baz=28,slow=6.8,SNR=37								
ZALV				LR		LR	23 42 25.4		
	comp=Z,121µm,18.0s,baz=30,slow=38								
ZALV	Zalesovo Beam	48.45	308	*i* P		P	23 20 24.7	-0.5	
ZALV				pmax		pmax			
	comp=Z,24nm,0.8s								
P24A	Kohler Place,	48.48	81	⇓P		P	23 20 25.8	-0.1	
	baz=48								
Q23A	Hartsel	48.50	82	⇑P		P	23 20 26.0	-0.2	
	baz=48,SNR=16								
MVCO	Mesa Verde	48.51	86	⇑P		P	23 20 25.3	-0.9	
	baz=48,SNR=8.1								
MVCO	Mesa Verde	48.51	86	eP		P	23 20 25.0	-1.2	
	comp=Z,204nm,1.8s								
MVCO				LR		LR			
	comp=Z,61µm,19.0s								
JMIC	Jan Mayen	48.61	5	eP		P	23 20 27.0	+0.7	
JMIC				*e*			23 27 33.1		
JMIC				*i*			23 31 40.6		
JMIC				IAMs_20		IAMs_20	23 41 56.0		
	comp=Z,62µm,20.4s								
K30A	Basset	48.61	74	⇑P		P	23 20 26.7	0.0	
	baz=48								
N27A	Anderson Farm,	48.64	78	⇓P		P	23 20 27.1	+0.1	
	baz=48								
L29A	Maesberg Ranch	48.66	75	⇑P		P	23 20 27.2	+0.1	
	baz=48								
GLA	Glamis	48.68	95	eP		P	23 20 26.4	-0.9	
GLA				pmax		pmax			
	comp=Z,184nm,1.4s								
GLA	Glamis	48.68	95	⇓P		P	23 20 27.1	-0.2	
	baz=49,SNR=11								
GLA	Glamis	48.68	95	eP		P	23 20 26.4	-0.9	
	comp=Z,184nm,1.4s								
O26A	Horse Wrangler	48.69	79	⇓P		P	23 20 27.5	+0.1	
	baz=48								
M28A	Bar X Bar Ranc	48.75	77	⇑P		P	23 20 27.9	+0.1	
	baz=49								
OGNE	Ogallala	48.77	78	⇓P		P	23 20 28.0	0.0	
	baz=49								
OGNE	Ogallala	48.77	78	PFAKE			23 20 40.0	+12	
OGNE				LR		LR			
	comp=Z,128µm,21.0s								
Q24A	Divide	48.79	82	⇓P		P	23 20 28.6	+0.2	
	baz=49								
Q24A	Divide	48.79	82	eP		P	23 20 27.9	-0.5	
	comp=Z,57nm,0.9s								
P25A	Willow Gulch B	48.84	80	⇓P		P	23 20 29.1	+0.4	
	baz=49								
KEV	Kevo	48.86	349	ep		P	23 20 28.4	+0.3	
	comp=Z,214nm,1.4s								
KEV	Kevo	48.86	349	eP		P	23 20 27.4	-0.8	
KEV				pmax		pmax			
	comp=Z,131nm,1.0s								
KEV				MLR		MLR			
	comp=Z,81µm,19.0s								
KEV	Kevo	48.86	349	eP		P	23 20 27.4	-0.8	
	comp=Z,130nm,1.0s								
KEV		

comp=Z,104µm,18.1s
ARE0 ARCESS Array S 49.21 349 *e*P **P** **23 20 32.0 +1.1**
ARE0 *e* 23 31 35.0
ARE0 IAMs_20 IAMs_20 23 43 16.7
comp=Z,107µm,18.4s
ECSD EROS Data Cent 49.22 71 ⇑P **P** **23 20 31.0 -0.3**
baz=49,SNR=12
ECSD EROS Data Cent 49.22 71 *e*P **P** **23 20 31.1 -0.3**
comp=Z,129nm,1.5s
ECSD LR LR
comp=Z,56µm,21.0s
SSE Sheshan 49.26 262 P **P** **23 20 31.8 +0.1**
SSE PP **PP** **23 22 27.5 +2.2**
SSE S **S** **23 27 37.8 +0.7**
SSE PMZ
comp=Z,110nm,1.1s
SSE PMZ
comp=Z,2µm,7.0s
SSE LN
comp=Z,12µm,14.4s
SSE LE
comp=Z,52µm,14.4s
SSE LZ
comp=Z,41µm,18.4s
X16A Lo Mia Camp, P 49.26 91 ⇑P **P** **23 20 32.5 +0.5**
baz=49,SNR=33
Q25A Bedland, Calha 49.27 81 ⇑P **P** **23 20 31.6 -0.4**
baz=49,SNR=8.4
S23A Nye Farm, Mont 49.35 83 ⇓P **P** **23 20 32.7 0.0**
baz=49
M30A Dale-Ortello V 49.36 75 ⇑P **P** **23 20 31.8 -0.7**
baz=49
Z14A Wintersburg 49.36 93 ⇓P **P** **23 20 32.6 +0.1**
baz=49,SNR=15
L31A Butterfield Fa 49.36 74 ⇑P **P** **23 20 32.7 +0.3**
baz=49,SNR=12
R24A Sanders Place, 49.38 82 ⇑P **P** **23 20 32.8 0.0**
baz=49,SNR=19
JOW Kunigami 49.38 252 *e*P **P** **23 20 32.8 +0.1**
comp=Z,2µm,2.5s
113A Mohawk Valley, 49.43 94 ⇑P **P** **23 20 33.1 +0.1**
baz=49,SNR=19
O28A Krutsinger Ran 49.53 78 ⇑P **P** **23 20 33.6 -0.3**
baz=49
W18A Petrified Fore 49.55 89 ⇑P **P** **23 20 34.0 -0.1**
baz=49
W18A Petrified Fore 49.55 89 *e*P **P** **23 20 32.9 -1.2**
comp=Z,662nm,2.4s
N29A Votaw Ranch, W 49.55 77 ⇓P **P** **23 20 34.0 +0.1**
baz=49
SDCO Great Sand Dun 49.56 83 ⇓P **P** **23 20 34.9 +0.6**
baz=49,SNR=19
P27A Ficken Ranch, 49.58 79 ⇓P **P** **23 20 33.5 -0.8**
baz=49
Q26A Hugo 49.62 80 ⇓P **P** **23 20 34.0 -0.5**
baz=50
NJ2 Nanjing 49.62 265 *e*P **P** **23 20 34.5 0.0**
NJ2 pP **pP** **23 20 40.3 +1.7**
NJ2 sP **sP** **23 20 41.5 +1.2**
NJ2 PP **PP** **23 22 32.0 +3.4**
NJ2 S **S** **23 27 46.5 +4.3**
NJ2 sS **sS** **23 27 52.5 +3.4**
NJ2 PMZ
comp=Z,460nm,0.8s
NJ2 PMZ
comp=Z,4µm,10.5s
NJ2 LN
comp=Z,234µm,18.1s
NJ2 LE
comp=Z,139µm,19.8s
NJ2 LZ
comp=Z,663µm,19.8s
TRO Tromso 49.63 352 *e*P **P** **23 20 34.6 +0.5**
TRO *e*S **S** **23 27 39.2 -2.3**
TRO *e*S S 23 27 48.5 +7.0
TRO IAMs_20 IAMs_20 23 49 52.3
comp=Z,54µm,18.1s
LVZ Lovozero 49.76 345 P **P** **23 20 34.8 -0.3**
comp=Z,789nm,1.3s,SNR=9.6
LVZ Lovozero 49.76 345 *ce*P **P** **23 20 34.4 -0.7**
LVZ pmax pmax
comp=Z,268nm,1.5s
LVZ Lovozero 49.76 345 *e*P **P** **23 20 33.6 -1.6**
comp=Z,570nm,1.5s
LVZ LR LR
comp=Z,87µm,19.0s
N30A Hueftle Ranch, 49.82 76 ⇑P **P** **23 20 35.6 -0.4**
baz=50
SPMN Marine on St. 49.85 67 ⇑P **P** **23 20 35.6 -0.4**
baz=50,SNR=13
SPMN Marine on St. 49.85 67 *e*P **P** **23 20 35.1 -0.9**
comp=Z,141nm,0.8s
X18A Snowflake 49.91 89 ⇑P **P** **23 20 36.9 0.0**
baz=50,SNR=24
KTK1 Kautokeino 49.92 350 *e*P P 23 20 40.6 +4.3
KTK1 *e*S S 23 27 51.6 +6.0
M31A Lambtecht Ranc 49.94 75 ⇓P **P** **23 20 35.5 -1.4**
baz=50
P28A Saint Francis 49.97 78 ⇑P **P** **23 20 36.7 -0.5**
baz=50
KSCO Kaye Shedlock' 49.98 80 ⇓P **P** **23 20 37.2 -0.1**
baz=50,SNR=16
KSCO Kaye Shedlock' 49.98 80 *e*P **P** **23 20 35.8 -1.5**
comp=Z,2µm,2.4s
O29A 4D Ranch, Culb 50.00 77 ⇑P **P** **23 20 37.1 -0.2**
baz=50,SNR=8.2
R26A Arlington 50.14 81 ⇑P **P** **23 20 38.4 -0.1**
baz=50
APA Apatity 50.23 345 ⇓*i*P **P** **23 20 41.7 +3.0**
APA *i* 23 22 36.0
APA *i*S **S** **23 27 49.0 -0.9**
APA *i*SS **SS** **23 31 16.0 -6.5**
APA pmax pmax
comp=Z,237nm,1.5s
APA MLR MLR
comp=Z,105µm,20.0s
BGNE Belgrade 50.28 74 ⇑P **P** **23 20 39.1 -0.4**
baz=50
BGNE Belgrade 50.28 74 *e*P **P** **23 20 39.3 -0.1**
comp=Z,226nm,0.9s
O30A MW Ranch, Wils 50.32 77 ⇑P **P** **23 20 39.3 -0.5**
baz=50
Q28A Sharon Springs 50.33 79 ⇓P **P** **23 20 39.4 -0.5**
baz=50
P29A Atwood 50.35 78 ⇑P **P** **23 20 39.3 -0.7**
baz=50
N31A Bailey Ranch, 50.35 75 ⇑P **P** **23 20 39.2 -0.7**
baz=50
R27A Eads 50.47 80 ⇑P **P** **23 20 40.4 -0.5**
baz=50,SNR=9.1
214A Organ Pipe Nat 50.56 94 ⇓P **P** **23 20 41.7 0.0**
baz=50,SNR=20
T25A Trinidad 50.58 83 ⇓P **P** **23 20 41.9 -0.1**
baz=50,SNR=18
T25A Trinidad 50.58 83 *e*P **P** **23 20 41.0 -0.9**
comp=Z,488nm,1.9s
S26A Kim 50.66 81 ⇑P **P** **23 20 41.8 -0.6**
baz=50,SNR=26
O31A Woolen Ranch, 50.69 76 ⇓P **P** **23 20 42.2 -0.3**
baz=50
N32A Stulken Farm, 50.71 75 ⇑P **P** **23 20 42.3 -0.4**
baz=50
P30A Selden 50.72 77 ⇓P **P** **23 20 43.0 +0.2**
baz=51
COWI Conover 50.83 64 *e*P **P** **23 20 42.4 -1.1**
comp=Z,1µm,2.9s
COWI LR LR
comp=Z,72µm,21.0s
Q29A Oakley 50.88 78 ⇑P **P** **23 20 43.8 -0.2**
baz=51,SNR=13
S27A Las Animas 50.89 81 ⇓P **P** **23 20 44.2 0.0**
baz=51
R28A Tribune 50.90 80 ⇑P **P** **23 20 44.0 -0.2**
baz=51
T26A Comanche Natio 50.95 82 ⇓P **P** **23 20 44.5 -0.2**
baz=51,SNR=21
O32A Brockman Farm, 51.11 75 ⇑P **P** **23 20 45.7 0.0**
baz=51
P31A Stockton 51.16 77 ⇑P **P** **23 20 45.8 -0.3**
baz=51
R29A Marienthal 51.17 79 ⇓P **P** **23 20 46.1 -0.1**
baz=51
Q30A Quinter 51.18 78 ⇑P **P** **23 20 46.3 0.0**
baz=51,SNR=9.3
TUC Tucson 51.28 92 *e*P **P** **23 20 46.1 -1.0**
TUC pmax pmax
comp=Z,446nm,2.5s
TUC MLR MLR
comp=Z,28µm,20.0s
TUC Tucson 51.28 92 *e*P **P** **23 20 46.1 -1.0**
comp=Z,446nm,2.5s
TUC LR LR
comp=Z,28µm,20.0s
ANMO Albuquerque 51.30 86 ⇓*e*P **P** **23 20 44.6 -2.8**
ANMO pmax pmax
comp=Z,56nm,1.2s
ANMO Albuquerque 51.30 86 *e*P **P** **23 20 46.2 -1.2**
comp=Z,297nm,2.2s
ANMO LR LR
comp=Z,50µm,19.0s
LOF Lofoten 51.43 355 *e*P P 23 20 51.5 +3.9
LOF *e* 23 32 52.9
S28A Manter 51.45 80 ⇑P **P** **23 20 48.5 +0.1**
baz=51,SNR=8.3
P32A Huiting Farm, 51.45 76 ⇓P **P** **23 20 48.0 -0.3**
baz=51
T27A Campo 51.47 81 ⇓P **P** **23 20 48.3 -0.2**
baz=51
Q31A Ellis 51.55 77 ⇓P **P** **23 20 48.5 -0.6**
baz=51
LENM Lemitar 51.67 87 *e*P **P** **23 20 49.5 -0.7**
R30A Dighton 51.69 78 ⇑P **P** **23 20 50.0 -0.2**
baz=52,SNR=19
T28A Walsh 51.72 81 ⇑P **P** **23 20 50.6 +0.2**
baz=52
LPM Los Pinos Moun 51.73 87 *e*P **P** **23 20 49.2 -1.4**
Y22D IRIS PASSCAL I 51.77 87 ⇓P **P** **23 20 51.0 +0.2**
baz=52
S29A Ulysses 51.81 80 ⇓P **P** **23 20 50.7 -0.3**
baz=52
BNM Barren Site 51.86 87 *e*P **P** **23 20 50.3 -1.3**
U27A Thompson Grove 51.92 82 ⇑P **P** **23 20 51.6 -0.4**
baz=52,SNR=14
Q32A Meitler Ranch, 51.97 76 ⇓P **P** **23 20 51.5 -0.7**
baz=52
P33A Williams Farm, 52.03 75 ⇑P **P** **23 20 52.8 +0.2**
baz=52
R31A Burdett 52.05 78 ⇓P **P** **23 20 51.5 -1.3**
baz=52
T29A Hugoton 52.09 80 ⇑P **P** **23 20 52.2 -0.9**
baz=52,SNR=9.1
S30A Montezuma 52.11 79 ⇑P **P** **23 20 52.1 -1.2**
baz=52
SCIA State Center 52.22 70 *e*P **P** **23 20 53.8 -0.1**
comp=Z,137nm,0.9s
SCIA LR LR
comp=Z,44µm,20.0s
U28A Mallet 52.25 81 ⇓P **P** **23 20 53.7 -0.6**
baz=52,SNR=14
Q33A Connelly Farm, 52.31 76 ⇓P **P** **23 20 54.5 -0.2**
baz=52,SNR=21
R32A Long Quarter, 52.34 77 ⇑P **P** **23 20 54.4 -0.6**
baz=52,SNR=13
V27A Dan Oppiter Fa 52.44 82 ⇑P **P** **23 20 55.3 -0.5**
baz=52
T30A Plains 52.54 79 ⇑P **P** **23 20 55.8 -0.6**
baz=52
121A Cookes Peak, D 52.58 89 ⇑P **P** **23 20 56.4 -0.5**
baz=52
S31A Mullinville 52.60 78 ⇑P **P** **23 20 56.1 -0.8**
baz=52
U29A Oasis Ranch, S 52.66 81 ⇑P **P** **23 20 56.7 -0.6**
baz=52
SCHQ Schefferville 52.72 43 P **P** **23 20 55.1 -2.3**
comp=Z,36nm,0.8s,baz=336,slow=7.6,SNR=24
SCHQ LR LR 23 46 46.9
comp=Z,62µm,18.5s,baz=326,slow=40
SCHQ Schefferville 52.72 43 *e*P **P** **23 20 56.6 -0.9**
comp=Z,130nm,0.9s
V28A Channing 52.75 82 ⇑P **P** **23 20 56.8 -1.3**
baz=53
TMCR Tamitsa 52.77 341 *e*P **P** **23 20 59.4 +1.8**
TMCR *e* 23 23 00.6
TMCR *e*S **S** **23 28 29.2 +4.3**
TMCR pmax pmax
comp=Z,266nm,1.3s
319A Douglas 52.78 91 ⇓P **P** **23 20 58.0 -0.4**
baz=53
R33A Olander Ranch, 52.78 77 ⇓P **P** **23 20 57.3 -0.9**
baz=53
JFWS Jewell Farm 52.80 67 *e*P **P** **23 20 57.9 -0.3**
JFWS pmax pmax
comp=Z,80nm,0.9s
JFWS MLR MLR
comp=Z,71µm,21.0s
JFWS Jewell Farm 52.80 67 *e*P **P** **23 20 57.9 -0.3**
comp=Z,80nm,0.9s
JFWS LR LR
comp=Z,71µm,21.0s
S32A Newby Ranch, P 52.80 78 ⇑P **P** **23 20 57.6 -0.8**
baz=53
KSU1 Kansas State U 52.82 75 ⇓P **P** **23 20 58.2 -0.2**
baz=53,SNR=6.9
KSU1 Kansas State U 52.82 75 *e*P **P** **23 20 57.9 -0.5**
comp=Z,220nm,0.9s
KSU1 LR LR
comp=Z,114µm,20.0s
U30A WK&E Inc. Balk 52.90 80 ⇑P **P** **23 20 58.5 -0.6**
baz=53
T31A Randall Ranch, 52.92 79 ⇑P **P** **23 20 58.4 -0.9**
baz=53
XAN Xi'an 52.94 275 P **P** **23 20 57.5 -1.9**
XAN PP **PP** **23 22 56.0 -2.7**
XAN S **S** **23 28 30.5 +2.4**
XAN ScS **ScS** **23 30 47.5 -1.0**
XAN PMZ
comp=Z,65nm,1.5s
XAN PMZ
comp=Z,620nm,9.3s
XAN LN
comp=Z,98µm,19.9s
XAN LE
comp=Z,57µm,18.8s
XAN LZ
comp=Z,19µm,21.0s
V29A Stinnett 52.99 81 ⇓P **P** **23 20 58.9 -1.0**
baz=53
WHN Wuhan 53.08 268 P **P** **23 20 59.3 -1.1**
WHN S **S** **23 28 25.0 -4.9**
WHN LN
comp=Z,39µm,12.0s
WHN LE
comp=Z,112µm,15.4s
WHN LZ
comp=Z,108µm,22.7s
GTA Gaotai 53.10 286 ⇑P **P** **23 20 59.5 -1.1**
GTA pP **pP** **23 21 04.3 -0.5**
GTA sP **sP** **23 21 06.5 +0.1**
GTA S **S** **23 28 27.3 -3.0**
GTA sS **sS** **23 28 36.0 -1.2**
GTA SS **SS** **23 32 06.0 -3.1**
GTA PMZ
comp=Z,41nm,1.3s
GTA PMZ
comp=Z,2µm,4.9s
GTA LN
comp=Z,78µm,22.3s
GTA LE
comp=Z,123µm,22.3s
GTA LZ
comp=Z,74µm,23.8s
W28A Vega 53.15 82 ⇑P **P** **23 21 00.3 -0.7**
baz=53
T32A Hudler Ranch, 53.22 78 ⇑P **P** **23 21 00.8 -0.6**
baz=53
STOK Stokkvaagen 53.25 355 *e*P P 23 21 04.6 +3.5
STOK *e*S **S** **23 28 34.6 +3.3**
MOR8 Moi Rana 53.34 354 *e*P **P** **23 20 59.9 -2.0**
S33A Kaszmaul Farm, 53.34 77 ⇑P **P** **23 21 01.8 -0.5**
baz=53,SNR=7.2
KURK Kurchatov 53.35 310 P **P** **23 21 01.9 -0.3**
comp=Z,1µm,0.9s,SNR=31
KURK Kurchatov 53.35 310 *e*P **P** **23 21 01.2 -0.9**
KURK pmax pmax
comp=Z,453nm,1.0s
KURK MLR MLR
comp=Z,343µm,19.0s
KURK Kurchatov 53.35 310 ⇑P **P** **23 21 01.9 -0.3**
SNR=94
KURK Kurchatov 53.35 310 *e*P **P** **23 21 01.2 -0.9**
comp=Z,453nm,1.0s
KURK LR LR
comp=Z,343µm,19.0s
U31A Nine Bar Ranch 53.42 79 ⇓P **P** **23 21 02.5 -0.4**
baz=53
V30A Spur Ranch, Mi 53.49 81 ⇓P **P** **23 21 03.2 -0.2**
baz=53
W29A Amarillo 53.53 82 ⇑P **P** **23 21 03.6 -0.2**
baz=53
T33A Patterson Ranc 53.63 78 ⇓P **P** **23 21 03.2 -1.2**
baz=54
S34A Willow Spring 53.69 76 ⇓P **P** **23 21 03.5 -1.2**
baz=54
AMTX Amarillo 53.71 82 ⇓P **P** **23 21 04.6 -0.5**
baz=54
AMTX Amarillo 53.71 82 *e*P **P** **23 21 04.9 -0.2**
comp=Z,679nm,2.3s
PRGR Permogore 53.73 336 *e*P **P** **23 21 03.3 -1.4**
PRGR pmax pmax
comp=Z,183nm,1.4s
X28A Dimmitt 53.75 83 ⇑P **P** **23 21 05.2 -0.2**
baz=54
LZH Lanzhou 53.79 281 ⇑P **P** **23 21 04.5 -1.3**
LZH pP **pP** **23 21 08.0 -2.0**
LZH sP **sP** **23 21 12.0 +0.4**
LZH S **S** **23 28 40.3 +0.4**
LZH sS **sS** **23 28 44.8 -2.0**
LZH SS **SKiKP** **23 32 17.5 -1.3**
LZH PMZ
comp=Z,500nm,1.8s
LZH PMZ
comp=Z,2µm,4.4s
LZH LN
comp=Z,16µm,16.0s
LZH LE
comp=Z,9µm,15.3s
LZH LZ
comp=Z,15µm,17.5s
GLMI Grayling 53.81 62 *e*P **P** **23 21 05.3 -0.3**
comp=Z,441nm,0.9s
GLMI LR LR
comp=Z,109µm,21.0s
U32A Winter Ranch, 53.82 79 ⇑P **P** **23 21 05.4 -0.5**
baz=54
BORG Borgarnes 53.86 12 PFAKE 23 21 20.0 +14
BORG LR LR
comp=Z,50µm,21.0s
V31A Spring Creek L 53.90 80 ⇑P **P** **23 21 06.5 +0.1**
baz=54,SNR=7.9
MSTX Muleshoe 53.90 84 ⇑P **P** **23 21 05.4 -1.2**
baz=54
MSTX Muleshoe 53.90 84 *e*P **P** **23 21 06.5 0.0**
comp=Z,285nm,1.7s
R36A Gordon, Harris 53.96 75 ⇑P **P** **23 21 05.8 -1.0**
baz=54
W30A Crocket Farms 54.01 81 ⇓P **P** **23 21 06.7 -0.6**
baz=54
Q37A Longview Farm, 54.02 73 ⇑P **P** **23 21 05.9 -1.3**
baz=54
X29A Tulia 54.05 82 ⇓P **P** **23 21 07.0 -0.6**
baz=54
S35A Otter Creek Ra 54.08 76 ⇑P **P** **23 21 07.1 -0.5**
baz=54,SNR=20
GUMO Guam 54.12 227 PFAKE 23 21 20.0 +12
GUMO LR LR
comp=Z,2µm,19.0s
TATO Taipei 54.19 257 PFAKE 23 21 20.0 +11
TATO LR LR
comp=Z,20µm,20.0s
U33A Lingo Farm, Me 54.21 78 ⇑P **P** **23 21 08.1 -0.6**
baz=54
Y28A McKinney Farm, 54.21 83 ⇑P **P** **23 21 08.0 -0.8**
baz=54
R37A Teagarden Farm 54.29 74 ⇑P **P** **23 21 06.7 -2.5**
baz=54
W31A Holland Ranch, 54.31 80 ⇑P **P** **23 21 08.6 -0.9**
baz=54,SNR=7.2
SVE Sverdlovsk 54.32 325 *c*⇓*i*P **P** **23 21 09.7 +0.6**
SVE *e*S **S** **23 28 49.6 +3.5**
SVE pmax pmax
comp=Z,345nm,1.1s
SVE pmax pmax
comp=Z,2µm,13.1s
SVE smax smax
comp=E,10µm,12.9s
SVE MLR MLR
comp=E,183µm,18.0s
SVE MLR MLR
comp=N,44µm,15.0s
SVE MLR MLR
comp=Z,128µm,18.0s
V32A Arapaho 54.33 79 ⇓P **P** **23 21 09.6 +0.1**
baz=54,SNR=6.1
S36A Lake Cedric, C 54.40 75 ⇓P **P** **23 21 08.3 -1.6**
baz=54
MNTX Cornudas Mount 54.45 87 ⇑P **P** **23 21 10.6 +0.2**
baz=54,SNR=22
MNTX Cornudas Mount 54.45 87 PFAKE 23 21 20.0 +10
MNTX LR LR
comp=Z,60µm,19.0s
X30A Coker Ranch, T 54.45 82 ⇑P **P** **23 21 10.0 -0.5**
baz=54,SNR=5.7
BRVK Borovoye 54.46 316 P **P** **23 21 10.6 +0.4**
comp=Z,1µm,1.2s,SNR=93
BRVK Borovoye 54.46 316 ⇓*i*P **P** **23 21 09.6 -0.6**
BRVK pmax pmax
comp=Z,332nm,1.2s
BRVK Borovoye 54.46 316 P **P** **23 21 09.7 -0.6**
SNR=99
BRVK Borovoye 54.46 316 *e*P **P** **23 21 09.7 -0.6**
comp=Z,1µm,1.9s
BRVK LR LR
comp=Z,169µm,19.0s
U34A Anderson Ranch 54.49 78 ⇓P **P** **23 21 10.4 -0.2**
baz=54,SNR=7.5
U34A Anderson Ranch 54.49 78 *e*P **P** **23 21 09.7 -0.9**
comp=Z,306nm,1.4s
YHNB Yeheng 54.51 257 PFAKE 23 21 20.0 +9.0
YHNB LR LR
comp=Z,28µm,21.0s
Y29A Porterfield Fa 54.53 83 ⇓P **P** **23 21 10.1 -1.0**
baz=54
V33A Lossen Ranch, 54.62 79 ⇑P **P** **23 21 10.5 -1.1**
baz=54
Z28A Tucker Farm, M 54.64 84 ⇓P **P** **23 21 10.9 -1.0**
baz=54
W32A Sentinel 54.71 80 ⇑P **P** **23 21 12.4 +0.1**
baz=54,SNR=6.9
X31A McDonald Ranch 54.74 81 ⇓P **P** **23 21 12.1 -0.5**
baz=55,SNR=8.7
Y30A Stafford Cattl 54.90 82 ⇓P **P** **23 21 12.7 -1.0**
baz=55
JOF Joensuu 54.95 344 *ep* P **P** **23 21 13.0 -0.6**
comp=Z,114nm,1.2s
JOF Joensuu 54.95 344 *e*P **P** **23 21 13.0 -0.6**
JOF pmax pmax
comp=Z,114nm,1.2s
V34A Guthrie 54.98 78 ⇑P **P** **23 21 12.9 -1.3**
baz=55
V34A Guthrie 54.98 78 *e*P **P** **23 21 13.3 -0.9**
comp=Z,257nm,1.1s
Z29A Hungry Hill Ra 55.00 83 ⇑P **P** **23 21 14.1 -0.4**
baz=55,SNR=15
MK32 Makanchi Array 55.05 304 *e*P **P** **23 21 13.3 -1.3**
MKAR Makanchi Array 55.05 304 P **P** **23 21 13.3 -1.3**
comp=Z,23nm,0.8s,baz=1.8,slow=4.5,SNR=52
MKAR LR LR 23 47 34.3
comp=Z,142µm,18.5s,baz=24,slow=39
MKAR PKP2bc 23 51 34.5
comp=Z,1.0nm,1.1s,baz=243,slow=3.2,SNR=3.7
W33A Caddo, Fort Co 55.06 79 ⇑P **P** **23 21 13.8 -1.0**
baz=55
NSS Namsos 55.09 355 *e*P **P** **23 21 15.3 +0.6**
NSS *i* 23 29 48.7
NSS *e* 23 33 00.3
NSS IAMs_20 IAMs_20 23 43 05.6
comp=Z,87µm,22.0s
HDIL Hopedale 55.10 68 *e*P **P** **23 21 15.1 +0.1**
comp=Z,2µm,0.9s
HDIL LR LR
comp=Z,708µm,20.0s
128A Castleberry Fa 55.13 84 ⇓P **P** **23 21 15.1 -0.4**
baz=55,SNR=16
WMQ Urumqi 55.14 298 ⇑*i*P **P** **23 21 15.3 -0.1**
WMQ pP **pP** **23 21 20.8 +1.2**
WMQ PP **PP** **23 23 17.3 -1.0**
WMQ S **S** **23 28 59.8 +2.1**
WMQ PMZ
comp=Z,250nm,0.9s
WMQ PMZ
comp=Z,2µm,4.1s

WMQ LN
comp=Z,131µm,16.0s
WMQ LE
comp=Z,120µm,22.5s
WMQ LZ
comp=Z,89µm,19.5s
Y31A Rekieta Farm, 55.14 82 ⇓P **P 23 21 14.8 -0.6**
baz=55
WMOK Wichita Mounta 55.24 80 PFAKE 23 21 30.0 +14
WMOK LR LR
comp=Z,61µm,21.0s
ARU Arti 55.25 326 P **P 23 21 15.9 +0.1**
comp=Z,713nm,1.2s,SNR=27
ARU Arti 55.25 326 *d i*P **P 23 21 14.9 -0.9**
ARU 23 22 11.4
ARU 23 23 23.5
ARU PPP PPP 23 24 29.7
ARU S **S 23 28 59.8 +1.2**
ARU SS **SS 23 32 37.4 -4.5**
ARU pmax pmax
comp=Z,162nm,1.2s
ARU pmax pmax
comp=Z,1µm,8.4s
ARU MLR MLR
comp=Z,106µm,18.0s
ARU Arti 55.25 326 *e*P **P 23 21 15.6 -0.2**
comp=Z,1µm,1.9s
ARU LR LR
comp=Z,108µm,21.0s
X32A Elmer 55.25 80 ⇓P **P 23 21 15.0 -1.2**
baz=55
Z30A Sanderson Ranc 55.26 83 ⇑P **P 23 21 15.7 -0.7**
baz=55,SNR=6.7
W34A Bridge Creek, 55.33 79 ⇓P **P 23 21 16.1 -0.7**
baz=55,SNR=5.7
W34A Bridge Creek, 55.33 79 *e*P **P 23 21 16.9 +0.1**
comp=Z,195nm,1.3s
V35A Meyer Ranch, C 55.36 78 ⇓P **P 23 21 16.2 -0.8**
baz=55
129A Stewart Farms, 55.43 84 ⇑P **P 23 21 16.9 -0.7**
baz=55
SSLB Suanglung 55.45 257 *e*P **P 23 21 16.7 -1.1**
comp=Z,126nm,1.0s
228A UT Block 9, Go 55.49 85 ⇓P **P 23 21 17.4 -0.6**
baz=55
Y32A R-V Farms, Ver 55.51 81 ⇓P **P 23 21 17.2 -0.9**
baz=55,SNR=7.2
X33A Lawton 55.54 80 ⇑P **P 23 21 17.4 -0.9**
baz=55
KLMR Klimovskoe 55.62 339 *e*P **P 23 21 17.7 -0.7**
KLMR S **S 23 28 59.4 -4.0**
KLMR pmax pmax
comp=Z,727nm,1.6s
KLMR pmax pmax
comp=Z,302nm,1.5s
KLMR MLR MLR
comp=Z,106µm,18.0s
YULB Yu-li 55.62 256 *e*P **P 23 21 19.2 +0.2**
comp=Z,332nm,1.4s
QZH Quanzhou 55.63 260 ⇓*i*P **P 23 21 19.0 0.0**
QZH S **S 23 29 05.0 +0.6**
QZH PMZ
comp=Z,3µm,2.5s
QZH PMZ
comp=Z,3µm,10.8s
QZH LN
comp=Z,22µm,16.0s
QZH LE
comp=Z,80µm,14.2s
QZH LZ
comp=Z,50µm,15.7s
ENH Enshi 55.71 272 *e*P **P 23 21 18.5 -1.1**
comp=Z,167nm,1.1s
ENH LR LR
comp=Z,57µm,21.0s
Z31A Sharp Cattle R 55.72 82 ⇑P **P 23 21 19.0 -0.7**
baz=56,SNR=19
TUL1 Leonard 55.75 77 ⇑P **P 23 21 19.7 -0.1**
baz=56,SNR=6.8
TUL1 Leonard 55.75 77 *e*P **P 23 21 19.2 -0.6**
comp=Z,144nm,1.1s
X34A Smith Ranch, M 55.81 79 ⇓P **P 23 21 19.8 -0.5**
baz=56,SNR=6.9
W35A Tecumseh 55.84 78 ⇓P **P 23 21 20.0 -0.4**
baz=56,SNR=6.8
130A Snyder 55.90 83 ⇑P **P 23 21 20.7 -0.2**
baz=56
Y33A Hilltop Ranch, 55.91 80 ⇓P **P 23 21 20.4 -0.5**
baz=56
229A Bryant Ranch, 56.00 84 ⇑P **P 23 21 21.7 0.0**
baz=56
TPUB Ta-pu 56.02 257 *e*P **P 23 21 20.6 -1.2**
comp=Z,192nm,1.2s
Z32A Haskell 56.06 81 ⇓P **P 23 21 22.0 0.0**
baz=56,SNR=8.3
131A Roby 56.12 83 ⇓P **P 23 21 22.8 +0.2**
baz=56,SNR=5.5
W36A Wetumka 56.16 77 ⇓P **P 23 21 22.4 -0.3**
baz=56,SNR=6.8
SLM Saint Louis 56.20 70 *e*P **P 23 21 22.9 -0.1**
SLM pmax pmax
comp=Z,58nm,0.8s
SLM Saint Louis 56.20 70 *e*P **P 23 21 22.9 -0.1**
comp=Z,58nm,0.8s
TWG Pinlang 56.22 256 *e*P **P 23 21 22.6 -0.6**
comp=Z,357nm,1.2s
AAM Ann Arbor 56.25 63 *e*P **P 23 21 23.0 -0.2**
AAM pmax pmax
comp=Z,217nm,0.9s
AAM MLR MLR
comp=Z,69µm,21.0s
AAM Ann Arbor 56.25 63 *e*P **P 23 21 23.0 -0.2**
comp=Z,217nm,0.9s
AAM LR LR
comp=Z,69µm,21.0s
SFIN Lafayette 56.25 67 ⇓P **P 23 21 21.8 -1.5**
baz=56,SNR=12
SFIN Lafayette 56.25 67 *e*P **P 23 21 22.9 -0.3**
comp=Z,520nm,2.0s
329A Wagon Wheel Ra 56.30 85 ⇓P **P 23 21 23.8 -0.1**
baz=56,SNR=16
KAF Kangasniemi 56.35 347 *e*p **P 23 21 22.5 -1.2**
comp=Z,162nm,1.2s
KAF Kangasniemi 56.35 347 *e*P **P 23 21 22.5 -1.2**
KAF pmax pmax
comp=Z,162nm,1.2s
Y34A Reagan Ranch, 56.37 80 ⇓P **P 23 21 24.0 -0.2**
baz=56
X35A Drake 56.40 79 ⇓P **P 23 21 23.3 -1.1**
baz=56
230A Sterling City 56.40 84 ⇑P **P 23 21 24.5 -0.1**
baz=56
Z33A Whitaker Ranch 56.42 81 ⇑P **P 23 21 24.4 -0.2**
baz=56
TBLU Trondheim 56.44 356 *e*P **P 23 21 23.4 -0.9**
TBLU *e* 23 29 13.8
TBLU IAMs_20 IAMs_20 23 44 00.7
comp=Z,82µm,20.8s
ABTX Abilene, Hawle 56.53 82 ⇑P **P 23 21 24.6 -0.8**
baz=56,SNR=32
ABTX Abilene, Hawle 56.53 82 *e*P **P 23 21 23.9 -1.5**
comp=Z,233nm,1.1s
W37A Quinton 56.55 77 ⇑P **P 23 21 25.2 -0.3**
baz=56
X36A Centrahoma 56.56 78 ⇓P **P 23 21 24.7 -0.9**
baz=56
231A Bronte 56.76 83 ⇓P **P 23 21 26.9 -0.1**
baz=57,SNR=7.2
330A Mertzon 56.77 84 ⇓P **P 23 21 25.9 -1.2**
baz=57
Z34A Collier Ranch, 56.77 80 ⇑P **P 23 21 26.5 -0.6**
baz=57,SNR=8.4
133A Hamilton Ranch 56.90 81 ⇑P **P 23 21 27.5 -0.5**
baz=57,SNR=21
X37A Clayton 57.02 77 ⇓P **P 23 21 28.0 -0.8**
baz=57,SNR=7.7
FIA0 FINESS Array S 57.03 347 *e*P **P 23 21 27.1 -1.4**
FIA0 FINESS Array S 57.03 347 *e*P **P 23 21 27.1 -1.4**
FINES FINESS Array B 57.03 347 P **P 23 21 27.1 -1.4**
comp=Z,19nm,0.8s,baz=22,slow=6.2,SNR=29
FINES LR LR 23 49 26.3
comp=Z,105µm,18.6s,baz=26,slow=40
FINES FINESS Array B 57.03 347 P **P 23 21 27.1 -1.4**
FINES pmax pmax
comp=Z,19nm,0.8s
FINES MLR MLR
comp=Z,105µm,18.6s

W38A Poteau 57.04 76 ⇓P **P 23 21 29.6 +0.7**
baz=57,SNR=18
429A Davenport Ranc 57.05 85 ⇓P **P 23 21 29.4 +0.2**
baz=57,SNR=13
OLIL Olney 57.11 69 *e*P **P 23 21 28.0 -1.5**
comp=Z,158nm,0.9s
Z35A Perchaven, San 57.12 80 ⇑P **P 23 21 28.9 -0.7**
baz=57
232A Coleman 57.12 83 ⇓P **P 23 21 29.5 -0.1**
baz=57,SNR=21
331A San Angelo 57.21 84 ⇑P **P 23 21 29.7 -0.6**
baz=57,SNR=7.9
MOL Molde 57.21 357 *e*P **P 23 21 31.9 +2.2**
MOL *e*ScP ScP 23 26 15.1 -8.0
MOL *e* 23 30 06.6
MOL IAMs_20 IAMs_20 23 44 26.6
comp=Z,66µm,22.0s
LTX Lajitas 57.23 88 *e*P **P 23 21 29.1 -1.4**
LTX Lajitas 57.23 88 *e*P **P 23 21 29.1 -1.4**
TXAR Lajitas Array 57.23 88 P **P 23 21 29.1 -1.4**
comp=Z,26nn,1.1s,baz=316,slow=4.1,SNR=23
TXAR PKP2bc 23 51 29.3
comp=Z,3.9nm,1.2s,baz=101,slow=1.3,SNR=6.2
430A Baggett Ranch, 57.24 85 ⇑P **P 23 21 29.6 -0.9**
baz=57
529A Stev Forest Ra 57.30 86 ⇑P **P 23 21 31.2 +0.2**
baz=57,SNR=12
134A White-Moore Ra 57.34 81 ⇑P **P 23 21 31.2 +0.1**
baz=57,SNR=18
233A Rising Star 57.39 82 ⇑P **P 23 21 31.1 -0.4**
baz=57
SIUC Southern Illin 57.42 70 *e*P **P 23 21 30.7 -0.8**
comp=Z,129nm,1.0s
BLO Bloomington 57.48 67 *e*P **P 23 21 30.7 -1.3**
BLO pmax pmax
comp=Z,175nm,1.6s
BLO Bloomington 57.48 67 *e*P **P 23 21 30.7 -1.3**
comp=Z,175nm,1.6s
332A Millersview 57.49 83 ⇓P **P 23 21 32.0 -0.2**
baz=57,SNR=19
PBMO Poplar Bluff 57.60 72 *e*P **P 23 21 32.4 -0.5**
comp=Z,328nm,1.5s
AKN Aaknes 57.62 357 *e*P **P 23 21 35.6 +2.9**
AKN *e* 23 26 18.7
AKN IAMs_20 IAMs_20 23 44 37.3
comp=Z,68µm,22.5s
431A Sonora 57.63 84 ⇓P **P 23 21 32.8 -0.5**
baz=58
135A Vickery Place, 57.67 80 ⇓P **P 23 21 33.4 0.0**
baz=58,SNR=6.8
530A J-C Ranch, Com 57.71 85 ⇑P **P 23 21 33.8 0.0**
baz=58,SNR=21
234A Clairette 57.77 81 ⇓P **P 23 21 33.7 -0.5**
baz=58,SNR=21
432A Menard 57.88 83 ⇓P **P 23 21 34.9 -0.1**
baz=58,SNR=6.4
333A Richland Sprin 57.91 82 ⇑P **P 23 21 34.3 -0.9**
baz=58
MIAR Mount Ida 57.92 76 *e*P **P 23 21 34.8 -0.4**
MIAR pmax pmax
comp=Z,118nm,1.2s
MIAR MLR MLR
comp=Z,87µm,19.0s
MIAR Mount Ida 57.92 76 *e*P **P 23 21 34.8 -0.4**
comp=Z,118nm,1.2s
MIAR LR LR
comp=Z,87µm,19.0s
USIN University of 57.93 69 *e*P **P 23 21 34.3 -1.0**
comp=Z,145nm,0.8s
ERPA Erie 57.99 60 *e*P **P 23 21 35.4 -0.2**
comp=Z,216nm,0.9s
ERPA LR LR
comp=Z,47µm,21.0s
CD2 Chengdu 58.01 277 ⇓P **P 23 21 34.8 -1.1**
CD2 pP **pP 23 21 41.0 +0.8**
CD2 sP **sP 23 21 43.8 +2.0**
CD2 PcP **PcP 23 22 27.0 -0.8**
CD2 PP **PP 23 23 45.0 +0.8**
CD2 PcS **PcS 23 26 26.8 -2.5**
CD2 S **S 23 29 32.0 -4.0**
CD2 sS **sS 23 29 42.0 -1.0**
CD2 SS **SS 23 33 24.3 -2.3**
CD2 PMZ
comp=Z,480nm,0.9s
CD2 PMZ
comp=Z,3µm,5.2s
CD2 LN
comp=Z,125µm,20.1s
CD2 LE
comp=Z,86µm,19.1s
CD2 LZ
comp=Z,50µm,17.6s
PTN Potsdam (NY) 58.08 55 *e*P **P 23 21 34.8 -1.4**
PTN pmax pmax
comp=Z,1µm,2.6s
PTN Potsdam (NY) 58.08 55 *e*P **P 23 21 34.8 -1.4**
comp=Z,1µm,2.6s
531A Rocksprings 58.09 84 ⇓P **P 23 21 35.9 -0.6**
baz=58
PUL Pulkovo 58.11 344 ⇓*e*P **P 23 21 35.9 -0.2**
PUL pmax pmax
comp=Z,419nm,1.6s
WHTX Lake Whitney, 58.11 81 ⇑P **P 23 21 36.1 -0.5**
baz=58,SNR=6.7
WHTX Lake Whitney, 58.11 81 *e*P **P 23 21 36.5 -0.1**
comp=Z,82nm,1.0s
JCT Junction City 58.20 84 *e*P **P 23 21 35.5 -1.7**
JCT pmax pmax
comp=Z,137nm,0.9s
JCT MLR MLR
comp=Z,51µm,19.0s
JCT Junction City 58.20 84 ⇑P **P 23 21 36.9 -0.3**
baz=58,SNR=22
JCT Junction City 58.20 84 *e*P **P 23 21 35.5 -1.7**
comp=Z,137nm,0.9s
JCT LR LR
comp=Z,51µm,19.0s
LONY Lake Ozonia 58.20 55 *e*P **P 23 21 35.6 -1.5**
comp=Z,48nm,0.9s
LONY LR LR
comp=Z,44µm,20.0s
ACSO Alum Creek Sta 58.22 64 *e*P **P 23 21 36.8 -0.4**
comp=Z,213nm,1.2s
ACSO LR LR
comp=Z,91µm,21.0s
FOO Floro 58.24 358 *e*P **P 23 21 37.0 +0.1**
FOO *e*S **S 23 29 39.1 +1.2**
334A Lometa 58.27 82 ⇑P **P 23 21 37.6 -0.1**
baz=58,SNR=35
Z38A Mt. Pleasant 58.29 78 ⇓P **P 23 21 37.3 -0.5**
baz=58
UALR University of 58.32 75 *e*P **P 23 21 37.3 -0.7**
433A Art 58.32 83 ⇑P **P 23 21 37.1 -1.0**
baz=58
WCI Wyandotte Cave 58.35 68 *e*P **P 23 21 37.4 -0.8**
WCI pmax pmax
comp=Z,110nm,0.8s
WCI Wyandotte Cave 58.35 68 *e*P **P 23 21 37.4 -0.8**
comp=Z,110nm,0.8s
MMNY Mt. Morris Dam 58.38 58 *e*P **P 23 21 37.5 -0.7**
comp=Z,237nm,0.9s
532A Rocksprings 58.44 84 ⇓P **P 23 21 38.3 -0.6**
baz=58
137A Heron Place, G 58.45 79 ⇑P **P 23 21 38.2 -0.7**
baz=58
NB2 NORSAR Subarra 58.62 355 P **P 23 21 38.7 -1.0**
comp=Z,270nm,1.4s,baz=5.5,slow=6.9
NB2 NORSAR Subarra 58.62 355 P **P 23 21 38.7 -1.0**
baz=5.5,slow=6.9
NB200 NORSAR Array S 58.62 355 *e*P **P 23 21 38.6 -1.1**
NOA NORSAR Array B 58.62 355 P **P 23 21 38.6 -1.1**
comp=Z,23nm,0.8s,baz=6.1,slow=6.8,SNR=35
NOA LR LR 23 45 32.4
comp=Z,51µm,21.6s,baz=15,slow=35
NOA PKP2bc 23 51 27.3
comp=Z,3.8nm,1.0s,baz=154,slow=2.5,SNR=3.9
HYA Hoyanger 58.65 358 *e*P P 23 21 45.3 +5.4
HYA *e* 23 29 54.5
434A Burnet 58.68 82 ⇑P **P 23 21 40.3 -0.2**
baz=58,SNR=24
631A Perdido Creek 58.69 85 ⇓P **P 23 21 40.1 -0.6**
baz=59,SNR=31
335A Moody 58.71 81 ⇑P **P 23 21 40.4 -0.3**
baz=59,SNR=6.7
138A Matatall Enter 58.72 78 ⇑P **P 23 21 40.7 -0.1**
baz=59,SNR=6.8
SUE Sulen 58.78 359 *e*P **P 23 21 41.0 +0.3**

SUE *e*S **S 23 29 48.8 +3.8**
SLBS Sierra La Lagu 58.81 97 *e*P **P 23 21 40.7 -1.0**
comp=Z,286nm,1.9s
HALT Halls 58.82 72 *e*P **P 23 21 40.8 -0.6**
NCB Newcomb 58.89 55 PFAKE 23 21 50.0 +8.2
NCB LR LR
comp=Z,51µm,22.0s
NC602 NORSAR Array S 58.91 355 *e*P **P 23 21 42.1 +0.4**
NC602 *e* 23 29 58.9
336A Riesel 58.91 81 ⇓P **P 23 21 41.9 -0.2**
baz=59,SNR=7.3
237A Washetta, Mont 58.91 79 ⇓P **P 23 21 41.1 -1.0**
baz=59
533A Kerrville 58.91 83 ⇓P **P 23 21 41.6 -0.6**
baz=59,SNR=17
632A Uvalde 59.00 84 ⇓P **P 23 21 42.7 -0.1**
baz=59,SNR=5.7
435B Jarrell 59.04 82 ⇓P **P 23 21 42.2 -0.9**
baz=59
534A Blanco 59.22 83 ⇑P **P 23 21 44.0 -0.3**
baz=59,SNR=9.0
238A Jacksonville 59.24 79 ⇑P **P 23 21 43.4 -1.0**
baz=59
633A Saathoff Ranch 59.34 84 ⇓P **P 23 21 45.4 +0.2**
baz=59
WVT Waverly 59.35 70 *e*P **P 23 21 44.3 -0.8**
WVT pmax pmax
comp=Z,241nm,1.4s
WVT Waverly 59.35 70 *e*P **P 23 21 44.3 -0.8**
comp=Z,241nm,1.4s
ASK Askoy 59.35 358 *e*P P 23 21 51.3 +6.6
ASK *e*S **S 23 29 56.4 +4.0**
ASK IAMs_20 IAMs_20 23 57 23.3
comp=Z,40µm,20.1s
TARA Tarawa 59.39 191 PFAKE 23 22 00.0 +15
TARA LR LR
comp=Z,25µm,19.0s
337A Centerville 59.43 80 ⇑P **P 23 21 45.6 -0.1**
baz=59
436A Wall Ranch, Ga 59.44 81 ⇓P **P 23 21 45.9 +0.2**
baz=59,SNR=5.3
BER Bergen 59.45 358 *e*P **P 23 21 45.6 +0.2**
BER *e*S **S 23 29 58.4 +4.7**
239A Gary 59.55 78 ⇑P **P 23 21 46.8 +0.3**
baz=59
732A Laxson Ranch, 59.55 85 ⇓P **P 23 21 46.7 +0.1**
baz=59,SNR=7.5
LBNH Lisbon 59.59 53 *e*P **P 23 21 46.3 -0.4**
LBNH pmax pmax
comp=Z,333nm,1.8s
LBNH MLR MLR
comp=Z,58µm,21.0s
LBNH Lisbon 59.59 53 *e*P **P 23 21 46.2 -0.4**
comp=Z,333nm,1.8s
LBNH LR LR
comp=Z,58µm,21.0s
ACCN Adirondack Com 59.60 55 *e*P **P 23 21 45.3 -1.4**
comp=Z,636nm,2.5s
BINY Binghamton 59.62 57 *e*P **P 23 21 46.0 -1.0**
comp=Z,578nm,2.0s
BINY LR LR
comp=Z,51µm,21.0s
535A Dale 59.66 82 ⇑P **P 23 21 47.3 0.0**
baz=60,SNR=6.3
NATX Nacogdoches 59.66 79 PFAKE 23 22 00.0 +13
NATX LR LR
comp=Z,81µm,21.0s
338A Crockett 59.68 79 ⇑P **P 23 21 47.9 +0.5**
baz=60
437A Phantom Ranch, 59.71 80 ⇓P **P 23 21 47.7 0.0**
baz=60
OSL Oslo 59.74 355 *e*P **P 23 21 50.6 +3.2**
OSL *e* 23 30 09.1
PKME Peaks-Kenny Pk 59.76 51 *e*P **P 23 21 47.0 -0.8**
comp=Z,69nm,0.9s
PKME LR LR
comp=Z,153µm,21.0s
GZH Guangzhou 59.76 264 P P 23 21 43.3 -4.8
GZH pP pP 23 21 54.3 +2.0
GZH PP **PP 23 23 55.8 -3.9**
GZH S S 23 29 52.5 -6.1
GZH LN
comp=Z,38µm,19.8s
GZH LE
comp=Z,48µm,22.4s
634A China Grove, S 59.81 83 ⇓P **P 23 21 49.1 +0.7**
baz=60
VSU Vasula 59.85 345 ⇑*i*P **P 23 21 47.2 -1.0**
VSU pmax pmax
comp=Z,802nm,1.6s
536A Bastrop 59.87 82 ⇑P **P 23 21 49.1 +0.3**
baz=60
HNH Hanover 59.89 54 *e*P **P 23 21 47.5 -1.1**
comp=Z,273nm,1.9s
733A Divot King Ran 59.90 84 ⇓P **P 23 21 49.0 +0.1**
baz=60,SNR=6.6
ODD1 Odda 59.90 357 *e*P P 23 21 54.9 +6.3
ODD1 *e*ScP **ScP 23 26 34.5 -0.6**
ODD1 *e*S S 23 29 45.7 -14
ODD1 *e* 23 29 47.4
832A Faith Ranch, C 59.92 85 ⇑P **P 23 21 49.4 +0.2**
baz=60
OXF Oxford 59.93 73 *e*P **P 23 21 48.6 -0.5**
OXF pmax pmax
comp=Z,279nm,0.9s
OXF Oxford 59.93 73 *e*P **P 23 21 48.6 -0.5**
comp=Z,279nm,0.9s
HKC Hong Kong Obse 60.01 262 ⇓P **P 23 21 52.0 +2.2**
339A Huntington 60.07 79 ⇓P **P 23 21 50.3 +0.2**
baz=60
KONO Kongsberg 60.07 356 *e*S S 23 30 08.9 +7.1
KONO IAMs_20 IAMs_20 23 46 16.8
comp=Z,68µm,21.2s
KONO Kongsberg 60.07 356 *e*P **P 23 21 49.3 -0.4**
KONO pmax pmax
comp=Z,239nm,1.4s
KONO MLR MLR
comp=Z,69µm,21.0s
KONO Kongsberg 60.07 356 *e*P **P 23 21 49.3 -0.4**
comp=Z,239nm,1.4s
KONO LR LR
comp=Z,69µm,21.0s
635A Leesville 60.09 83 ⇓P **P 23 21 50.1 -0.2**
baz=60,SNR=5.1
438A Sam Houston St 60.10 80 ⇓P **P 23 21 50.7 +0.4**
baz=60
AAA Alma-Ata 60.10 306 *e*P **P 23 21 52.4 +2.1**
AAA *e*S **S 23 30 05.9 +3.1**
AAA pmax pmax
comp=Z,3µm,7.0s
AAA smax smax
comp=N,11µm,13.2s
AAA MLR MLR
comp=Z,57µm,21.0s
SSPA Standing Stone 60.11 60 *e*P **P 23 21 49.5 -0.8**
comp=Z,198nm,1.4s
TRY Troy 60.14 55 *e*P **P 23 21 51.0 +0.6**
comp=Z,60nm,1.1s
734A La Parita Cree 60.15 84 ⇓P **P 23 21 50.9 +0.2**
baz=60,SNR=5.2
833A Chaparral WMA, 60.17 85 ⇑P **P 23 21 51.8 +1.0**
baz=60,SNR=7.2
WVL Waterville 60.20 51 *e*P **P 23 21 49.9 -0.9**
comp=Z,261nm,1.6s
537A Green Hill Far 60.24 81 ⇓P **P 23 21 52.2 +0.9**
baz=60
GYA Guiyang 60.25 272 ⇑*i*P **P 23 21 54.3 +2.7**
GYA PcP **PcP 23 22 39.5 +2.7**
GYA PP **PP 23 24 08.0 +3.9**
GYA S **S 23 30 04.5 -0.6**
GYA SS **SS 23 34 02.8 +0.8**
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,270nm,5.9s
GYA LN
comp=Z,13µm,20.8s
GYA LE
comp=Z,11µm,21.0s
GYA LZ
comp=Z,10µm,20.4s
KSPA Keystone Colle 60.25 58 *e*P **P 23 21 50.5 -0.7**
comp=Z,96nm,1.1s
340A Bronson 60.32 78 ⇓P **P 23 21 51.7 -0.2**
baz=60,SNR=7.1
XMAS Kiritimati 60.34 156 PFAKE 23 22 00.0 +7.9

XMAS LR LR
comp=Z,22µm,20.0s
636A Smothers Creek 60.37 82 ⇑P P 23 21 52.8 +0.6
baz=60
BLS5 Blasjo 60.39 357 *eP* P 23 21 54.7 +2.7
BLS5 *e* 23 30 13.7
439A Center Grove, 60.41 79 ⇑P P 23 21 53.3 +0.9
baz=60
DRLN Deer Lake 60.51 41 *eP* P 23 21 52.5 -0.4
comp=Z,187nm,1.4s
735A Kenedy 60.51 83 ⇓P P 23 21 53.7 +0.5
baz=60
538A Harpers Horsep 60.52 80 ⇑P P 23 21 54.0 +0.8
baz=60
HKT Hockley 60.58 81 *eP* P 23 21 54.1 +0.6
HKT pmax pmax
comp=Z,328nm,2.0s
HKT Hockley 60.58 81 *eP* P 23 21 54.1 +0.6
comp=Z,328nm,2.0s
KMY Karmoy 60.63 358 *eP* P 23 21 55.9 +2.4
KMY *eS* S 23 30 16.8 +8.0
KMY IAMs_20 IAMs_20 23 56 12.4
comp=Z,32µm,19.3s
834A Tilden 60.75 84 ⇑P P 23 21 55.6 +0.8
baz=61
MOS Moscow 60.77 338 *deP* P 23 21 56.8 +2.2
MOS *e* 23 22 39.9
MOS *e* 23 24 13.0
MOS *ePPP* PPP 23 25 37.3
MOS *eS* S 23 30 16.4 +5.6
MOS pmax pmax
comp=Z,900nm,2.5s
MOS pmax pmax
comp=N,600nm,2.2s
MOS pmax pmax
comp=Z,240nm,1.7s
MOS pmax pmax
comp=N,198nm,1.6s
MOS MLR MLR
comp=Z,81µm,17.0s
736A Circle Diamond 60.80 82 ⇓P P 23 21 55.0 -0.1
baz=61
933A Laredo 60.82 85 ⇓P P 23 21 55.3 0.0
baz=61,SNR=5.5
EMMW East Machias 60.92 50 *eP* P 23 21 55.2 -0.5
comp=Z,812nm,2.4s
TKM2 Tokmak 2 60.94 306 P P 23 21 56.4 +0.1
SNR=59
TKM2 Tokmak 2 60.94 306 *eP* P 23 21 56.3 +0.1
TKM2 pmax pmax
comp=Z,353nm,1.4s
TKM2 MLR MLR
comp=Z,117µm,19.0s
TKM2 Tokmak 2 60.94 306 *eP* P 23 21 56.3 +0.1
comp=Z,353nm,1.4s
TKM2 LR LR
comp=Z,117µm,19.0s
835A Beeville 60.97 83 ⇓P P 23 21 57.5 +1.2
baz=61,SNR=5.7
SWET Sewanee 60.98 69 *eP* P 23 21 55.0 -1.4
539A Cross D Ranch, 60.99 80 ⇑P P 23 21 56.6 +0.2
baz=61
SZP Santa 61.02 254 *eP* P 23 21 57.1 +0.3
comp=Z,364nm,1.0s
USP Ospenovka 61.08 307 P P 23 21 56.9 -0.1
SNR=87
USP Ospenovka 61.08 307 *i* P P 23 21 56.8 -0.1
ABKAR Akbulak array 61.10 321 *eP* P 23 21 55.9 -1.0
ODNJ Ogdensburg 61.13 57 *eP* P 23 21 55.6 -1.6
comp=Z,48nm,0.9s
HRV Adam Dziewonsk 61.18 54 *eP* P 23 21 57.6 +0.1
HRV pmax pmax
comp=Z,123nm,1.4s
HRV Adam Dziewonsk 61.18 54 *eP* P 23 21 57.6 +0.1
comp=Z,123nm,1.4s
934A Benavides 61.20 84 ⇓P P 23 21 59.5 +1.7
baz=61
CHMS Chumysh 61.21 307 P P 23 21 59.1 +1.3
SNR=63
CHMS Chumysh 61.21 307 *i* P P 23 21 59.1 +1.3
LUPA Lehigh Univers 61.21 58 *eP* P 23 21 56.7 -1.1
comp=Z,22nm,1.0s
ULHL Ulahol 61.25 305 P P 23 21 58.0 -0.3
SNR=74
ULHL Ulahol 61.25 305 *i* P P 23 21 58.0 -0.3
MVL Millersville 61.30 59 *eP* P 23 21 57.6 -0.7
comp=Z,348nm,1.9s
FRU Bishkek 61.40 307 *eP* P 23 22 01.0 +1.9
FRU *i* 23 22 10.0
FRU *eS* S 23 30 20.0 +0.7
FRU *i* 23 34 20.0
FRU pmax pmax
comp=Z,718nm,2.2s
FRU smax smax
comp=E,12µm,12.0s
KBK Karagaybulak 61.42 307 P P 23 22 03.0 +3.6
SNR=22
KBK Karagaybulak 61.42 307 *i* P P 23 22 03.0 +3.6
CPCT Cooper Cave 61.44 68 *eP* P 23 21 58.9 -0.5
SNART Snartemo 61.46 357 *eP* P 23 22 03.1 +4.0
SNART *eS* S 23 30 24.9 +5.4
SNART IAMs_20 IAMs_20 23 53 03.8
comp=Z,37µm,19.1s
PAL Palisades 61.48 57 *eP* P 23 21 58.6 -1.0
PAL pmax pmax
comp=Z,150nm,1.3s
PAL Palisades 61.48 57 *eP* P 23 21 58.6 -1.0
comp=Z,150nm,1.3s
HOMB Homborsund 61.49 356 *eP* P 23 21 59.0 -0.4
HOMB *e* 23 30 29.3
HOMB IAMs_20 IAMs_20 23 46 14.5
comp=Z,60µm,19.2s
KVTX Kingsville 61.56 84 PFAKE 23 22 10.0 +10
KVTX LR LR
comp=Z,51µm,21.0s
OBN Obninsk 61.56 338 P P 23 22 00.7 +0.8
comp=Z,551nm,1.6s,SNR=6.2
OBN Obninsk 61.56 338 *c iP* P 23 21 57.5 -2.4
OBN *i* 23 22 39.1
OBN *i* 23 24 15.4
OBN pmax pmax
comp=Z,121nm,1.7s
OBN MLR MLR
comp=Z,104µm,20.0s
OBN Obninsk 61.56 338 *eP* P 23 21 58.0 -1.9
comp=Z,297nm,1.5s
OBN LR LR
comp=Z,116µm,21.0s
034A Hebbronville 61.56 85 ⇓P P 23 22 01.1 +0.8
baz=61,SNR=5.2
738A Farr-Stevens R 61.59 81 ⇑P P 23 22 02.1 +1.6
baz=61
TKL Tuckaleechee C 61.61 67 *eP* P 23 22 00.6 0.0
TKL Tuckaleechee C 61.61 67 *eP* P 23 22 00.6 0.0
AAK Ala-Archa 61.62 307 P P 23 22 01.8 +1.1
comp=Z,820nm,1.0s,SNR=50
AAK Ala-Archa 61.62 307 P P 23 21 59.8 -1.0
SNR=76
AAK Ala-Archa 61.62 307 *i* P P 23 21 59.7 -1.0
AAK pmax pmax
comp=Z,429nm,1.2s
AAK Ala-Archa 61.62 307 ⇓P P 23 21 60.0 -0.7
SNR=75
AAK Ala-Archa 61.62 307 *eP* P 23 22 00.3 -0.5
comp=Z,312nm,1.2s
AAK LR LR
comp=Z,117µm,19.0s
CPNY Central Park 61.64 57 *eP* P 23 21 58.9 -1.8
comp=Z,158nm,1.3s
BRYW Bryant College 61.68 54 *eP* P 23 21 59.9 -1.1
comp=Z,62nm,1.0s
KZA Kyzart 61.78 306 P P 23 21 59.7 -2.5
SNR=43
KZA Kyzart 61.78 306 *i* P P 23 21 59.6 -2.5
BLA Blacksburg 61.84 64 *eP* P 23 22 01.3 -0.8
BLA pmax pmax
comp=Z,109nm,1.0s
BLA MLR MLR
comp=Z,61µm,22.0s
BLA Blacksburg 61.84 64 *eP* P 23 22 01.3 -0.8
comp=Z,109nm,1.0s
BLA LR LR
comp=Z,61µm,22.0s
EKS2 Erkin-Say 61.88 307 P P 23 22 02.8 +0.4
SNR=92
EKS2 Erkin-Say 61.88 307 *i* P P 23 22 02.8 +0.4

EKS2 Erkin-Say 61.88 307 PFAKE 23 22 10.0 +7.6
EKS2 LR LR
comp=Z,228µm,19.0s
UCH Uchtor 61.95 307 P P 23 22 03.6 +0.3
SNR=43
UCH Uchtor 61.95 307 *i* P P 23 22 03.6 +0.3
035A Encino 61.96 84 ⇑P P 23 22 03.9 +0.9
baz=62
VWCC Virginia Weste 62.01 64 *eP* P 23 22 02.6 -0.6
MCD Coleburn Disti 62.21 3 *eP* P 23 22 05.2 +1.0
LRAL Lakeview Retre 62.28 72 *eP* P 23 22 04.4 -0.7
comp=Z,310nm,2.1s
MDO Dochfour 62.32 4 *eP* P 23 22 05.6 +0.6
CBN Corbin Frederi 62.35 61 PFAKE 23 22 20.0 +15
CBN LR LR
comp=Z,57µm,20.0s
AML Almayashu 62.36 307 P P 23 22 06.3 +0.3
SNR=68
AML Almayashu 62.36 307 *i* P P 23 22 06.3 +0.3
035Z Hargill 62.37 85 ⇑P P 23 22 07.3 +1.6
baz=62
JSRW J. Sargeant Re 62.56 62 *eP* P 23 22 06.4 -0.4
ISAL Salakas 62.75 345 *eP* P 23 22 06.6 -1.2
ISAL AMB AMB 23 22 14.8
comp=Z,54nm,1.5s
KKAR Karatay Array 62.76 310 *eP* P 23 22 08.0 -0.2
KKAR Karatay Array 62.76 310 *eP* P 23 22 08.0 -0.2
URVA University of 62.81 62 *eP* P 23 22 08.2 -0.3
DRUM Mains of Drumt 62.90 3 *eP* P 23 22 09.2 +0.4
DRUM AMS AMS 23 45 08.3
comp=Z,35µm,23.7s
IIGN Ignalina 62.95 345 *eP* P 23 22 08.3 -0.9
IIGN AMB AMB 23 22 16.1
comp=Z,59nm,1.4s
KMSC Kings Mountain 63.15 66 ⇑P P 23 22 11.1 +0.3
baz=63,SNR=17
KMSC Kings Mountain 63.15 66 *eP* P 23 22 10.6 -0.3
comp=Z,223nm,1.5s
MUD Monsted U'grnd 63.28 356 *i* P P 23 22 13.0 +1.6
MUD MLR MLR
comp=Z,66µm,22.0s
MUD Monsted U'grnd 63.28 356 *i* P P 23 22 13.0 +1.6
comp=Z,66µm,22.0s
KMI Kunming 63.30 274 P P 23 22 11.5 -0.8
KMI pP **pP** 23 22 18.3 +1.8
KMI sP **sP** 23 22 20.5 +2.4
KMI S S 23 30 39.5 -4.5
KMI sS **sS** 23 30 50.0 -1.1
KMI SS **SS** 23 34 45.0 -5.0
KMI PMZ
comp=Z,52nm,1.3s
KMI PMZ
comp=Z,2µm,8.8s
KMI LN
comp=Z,35µm,21.0s
KMI LE
comp=Z,36µm,19.6s
KMI LZ
comp=Z,40µm,20.2s
NACGM Naroch 63.32 344 *eP* P 23 22 06.0 -5.7
LPSR Galich'ya Gora 63.49 336 *eP* P 23 22 11.0 -1.8
LPSR *eS* S 23 30 45.3 +0.2
LPSR *eSS* SS 23 34 49.1 -2.0
LPSR pmax pmax
comp=N,60nm,1.4s
LPSR pmax pmax
comp=E,50nm,1.4s
LPSR pmax pmax
comp=Z,130nm,1.4s
LPSR smax smax
comp=E,2µm,4.3s
LPSR smax smax
comp=Z,490nm,3.8s
LPSR smax smax
comp=N,470nm,3.3s
LPSR MLR MLR
comp=N,79µm,20.0s
LPSR MLR MLR
comp=E,54µm,20.0s
LPSR MLR MLR
comp=Z,84µm,20.0s
MICGM Minsk 63.56 344 ⇑ *eP* P 23 22 12.0 -1.2
MNK Minsk 63.56 344 ⇑ *eP* P 23 22 12.0 -1.3
MNK *e* 23 24 35.0
MNK *ePPP* PPP 23 26 12.0
MNK *eS* S 23 30 44.0 -2.0
MNK *eSS* SS 23 34 48.0 -4.2
MNK *eSSS* SSS 23 37 34.0
MNK pmax pmax
comp=N,780nm,2.0s
MNK pmax pmax
comp=Z,280nm,1.4s
MNK MLR MLR
comp=N,34µm,16.0s
MNK MLR MLR
comp=Z,172µm,18.0s
MNK MLR MLR
comp=E,84µm,16.0s
EAB Aberfoyle 63.57 4 *eP* P 23 22 13.7 +0.4
GOGA Godfrey 63.61 69 *eP* P 23 22 14.5 +0.6
GOGA pmax pmax
comp=Z,138nm,1.8s
GOGA MLR MLR
comp=Z,46µm,22.0s
GOGA Godfrey 63.61 69 *eP* P 23 22 14.5 +0.6
comp=Z,138nm,1.8s
GOGA LR LR
comp=Z,46µm,22.0s
KSH Kashi 63.66 304 P P 23 22 17.8 +3.5
KSH *ePP* PP 23 22 22.5 +3.9
KSH PP PP 23 24 39.5 +5.7
KSH PcS 23 26 56.5
KSH S S 23 30 49.3 +1.4
KSH sS sS 23 30 57.3 +2.3
KSH ScS **SKKSac** 23 32 06.8 -0.4
KSH SS **SS** 23 34 58.5 +3.9
KSH PMZ
comp=Z,140nm,1.0s
KSH PMZ
comp=Z,2µm,3.5s
KSH LN
comp=Z,68µm,15.6s
KSH LE
comp=Z,29µm,14.3s
KSH LZ
comp=Z,46µm,19.2s
ESY Stoneypath 63.89 3 *eP* P 23 22 15.9 +0.4
COP Copenhagen 63.90 354 *i* P P 23 22 18.3 +2.8
COP MLR MLR
comp=Z,19µm,20.0s
COP Copenhagen 63.90 354 *i* P P 23 22 18.3 +2.8
comp=Z,19µm,20.0s
BRAL Brewton 63.93 73 PFAKE 23 22 30.0 +14
BRAL LR LR
comp=Z,67µm,20.0s
PGBU Glenifferbraes 63.94 4 *eP* P 23 22 15.6 -0.2
PGBU AMB AMB 23 22 22.1
comp=Z,226nm,1.7s
VOR Voronezh 64.25 335 P P 23 22 16.0 -1.9
VOR pmax pmax
comp=Z,250nm,2.2s
BSD Bornholm Skovb 64.31 352 *i* P P 23 22 19.1 +0.9
BSD pmax pmax
comp=Z,1µm,2.7s
BSD MLR MLR
comp=Z,64µm,18.0s
BSD Bornholm Skovb 64.31 352 *i* P P 23 22 19.1 +0.9
comp=Z,1µm,2.7s
comp=Z,64µm,18.0s
ESK Eskdalemuir 64.48 3 P P 23 22 20.3 +1.0
comp=Z,499nm,1.6s,SNR=9.6
ESK Eskdalemuir 64.48 3 *eP* P 23 22 20.0 +0.7
ESK AMS AMS 23 46 17.8
comp=Z,36µm,23.8s
ESK Eskdalemuir 64.48 3 *i* P P 23 22 21.0 +1.7
ESK Eskdalemuir 64.48 3 PFAKE 23 22 30.0 +11
ESK LR LR
comp=Z,36µm,20.0s
CNNC Cliffs of the 64.61 63 PFAKE 23 22 30.0 +10
CNNC LR LR
comp=Z,69µm,21.0s
ECK Cauldkaine Hil 64.62 3 *eP* P 23 22 21.0 +0.7
SUW Suwalki 64.64 346 *eP* P 23 22 18.8 -1.5
SUW *e* 23 22 22.0
SUW *eS* S 23 30 59.3 0.0

SUW Suwalki 64.64 346 *eP* P 23 22 18.6 -1.7
SUW pmax pmax
comp=Z,402nm,1.3s
SUW Suwalki 64.64 346 *eP* P 23 22 18.6 -1.7
comp=Z,402nm,1.3s
VSR Storozhevoye 64.75 335 *eP* P 23 22 20.3 -0.8
VSR *e*SP **sP** 23 22 26.2 -0.8
VSR *eS* S 23 31 02.4 +1.6
VSR pmax pmax
comp=Z,190nm,1.2s
VSR pmax pmax
comp=N,230nm,1.1s
VSR pmax pmax
comp=E,40nm,1.0s
VSR smax smax
comp=E,3µm,9.3s
VSR smax smax
comp=Z,1µm,6.5s
VSR smax smax
comp=N,2µm,6.4s
VSR MLR MLR
comp=Z,114µm,20.0s
VSR MLR MLR
comp=N,50µm,19.0s
VSR MLR MLR
comp=E,28µm,14.0s
GAL1 Galloway 64.88 4 *eP* P 23 22 22.5 +0.6
GAL1 AMB AMB 23 22 27.0
comp=Z,136nm,2.2s
GAL1 AMS AMS 23 50 46.3
comp=Z,39µm,18.9s
GCD Castle Douglas 64.91 4 *eP* P 23 22 22.2 +0.1
QIZ Qiongzhong 64.91 264 PFAKE 23 22 30.0 +7.4
QIZ LR LR
comp=Z,39µm,20.0s
VORD Divnogorie 64.96 335 *eP* P 23 22 23.0 +0.5
VORD *e*SP **sP** 23 22 27.2 -1.2
VORD *eS* S 23 31 05.0 +1.6
VORD pmax pmax
comp=Z,140nm,1.6s
VORD pmax pmax
comp=N,90nm,1.1s
VORD pmax pmax
comp=E,50nm,0.9s
VORD smax smax
comp=E,5µm,8.6s
VORD smax smax
comp=Z,3µm,12.9s
VORD smax smax
comp=N,4µm,8.3s
VORD MLR MLR
comp=N,39µm,19.0s
VORD MLR MLR
comp=Z,87µm,19.0s
VORD MLR MLR
comp=E,37µm,17.0s
LCP Cassop 65.10 2 *eP* P 23 22 25.1 +1.8
LSA Lhasa 65.12 286 P P 23 22 24.0 -0.5
LSA pP pP 23 22 34.5 +5.8
LSA LN
comp=E,64µm,26.2s
LSA LE
comp=E,99µm,20.2s
LSA LZ
comp=E,119µm,19.3s
LSA Lhasa 65.12 286 *eP* P 23 22 24.0 -0.5
LSA pmax pmax
comp=Z,203nm,1.0s
LSA MLR MLR
comp=Z,125µm,19.0s
LSA Lhasa 65.12 286 *eP* P 23 22 24.0 -0.5
comp=Z,203nm,1.0s
LSA LR LR
comp=Z,125µm,19.0s
RCP Roxas 65.16 248 ⇑ *eP* P 23 22 26.5 +2.2
TIGA Tifton 65.20 70 ⇓P P 23 22 25.8 +1.5
baz=65,SNR=6.0
TIGA Tifton 65.20 70 *eP* P 23 22 25.1 +0.8
comp=Z,322nm,1.5s
KESW Keswick, Cumbr 65.21 3 *eP* P 23 22 24.8 +0.8
KESW AMB AMB 23 22 29.4
comp=Z,111nm,2.2s
KESW AMS AMS 23 46 52.3
comp=Z,34µm,23.2s
GMM Mts of Mourne 65.46 5 *eP* P 23 22 26.2 +0.5
CSU Charleston Sou 65.52 66 *eP* P 23 22 26.5 +0.1
BSEG Bad Segeberg 65.76 355 *eP* P 23 22 26.9 -0.7
comp=Z,201nm,1.4s
GKP Gorka Klasztor 65.97 350 *eP* P 23 22 28.2 -0.7
GKP *e* 23 22 31.5
GKP *eS* S 23 31 19.9 +4.3
GKP Gorka Klasztor 65.97 350 *eP* P 23 22 28.3 -0.7
GKP *e* 23 22 31.6
LHO Holmfirth 66.29 3 *eP* P 23 22 31.4 +0.3
WME Myndd Eilian 66.36 4 *eP* P 23 22 32.0 +0.5
DSB Dublin 66.43 6 *eP* P 23 22 32.1 +0.1
comp=Z,559nm,2.2s
WLF1 Llynfaes 66.47 4 *eP* P 23 22 32.2 0.0
FOEL Foel Wylfa 66.91 4 *eP* P 23 22 35.8 +0.8
FOEL AMS AMS 23 47 30.7
comp=Z,32µm,24.5s
RUE Ruedersdorf 67.01 352 *eP* P 23 22 34.8 -0.9
comp=Z,154nm,1.1s
BEL Belsk 67.05 348 *eP* P 23 22 36.4 +0.5
BEL *e* 23 22 38.6
BEL *eS* S 23 31 33.1 +4.3
BEL Belsk 67.05 348 *eP* P 23 22 36.4 +0.5
BEL *e* 23 22 38.6
AKASG Malin Array Be 67.05 342 P P 23 22 33.7 -2.2
comp=Z,26nm,0.8s,baz=15,slow=6.2,SNR=18
AKASG PKP2bc 23 51 04.0
comp=Z,0.2nm,0.3s,baz=214,slow=2.4,SNR=8.5
AKASG LR LR 23 55 35.1
comp=Z,93µm,20.1s,baz=10.0,slow=39
AKASG Malin Array Be 67.05 342 *i* P P 23 22 34.2 -1.7
AKASG pmax pmax
comp=Z,27nm,0.8s
AKBB Malin Array Si 67.05 342 *eP* P 23 22 33.7 -2.2
AKBB Malin Array Si 67.05 342 *eP* P 23 22 33.7 -2.2
KIEV Kiev 67.06 342 *eP* P 23 22 34.4 -1.6
KIEV pmax pmax
comp=Z,219nm,1.4s
KIEV MLR MLR
comp=Z,90µm,21.0s
KIEV Kiev 67.06 342 *eP* P 23 22 34.4 -1.6
comp=Z,219nm,1.4s
KIEV LR LR
comp=Z,90µm,21.0s
NRDL Niedersach Rie 67.20 355 *eP* P 23 22 35.7 -1.1
comp=Z,144nm,1.5s
HLM1 Long Mynd 67.29 3 *eP* P 23 22 38.4 +0.9
HLM1 AMB AMB 23 22 42.8
comp=Z,128nm,2.2s
HLM1 AMS AMS 23 47 53.5
comp=Z,32µm,24.2s
IBBN Ibbenburen 67.48 356 *eP* P 23 22 37.7 -0.9
comp=Z,297nm,1.3s
VAL Valentia 67.50 8 *eP* P 23 22 43.6 +4.9
VAL Valentia 67.50 8 ⇑ *iS* S 23 31 40.1 +5.9
MCH1 Michaelchurch 67.81 3 *eP* P 23 22 41.3 +0.6
MCH1 AMB AMB 23 22 46.0
comp=Z,140nm,1.8s
CLZ Clausthal 67.84 355 *eP* P 23 22 40.2 -0.8
comp=Z,271nm,1.3s
DAV Davao City (W) 67.85 243 PFAKE 23 22 50.0 +8.6
DAV LR LR
comp=Z,12µm,20.0s
WTSB Winterswijk 67.85 357 *eP* P 23 22 41.9 +1.0
comp=Z,593nm,2.4s
IMP Imphal 67.91 281 *eP* P 23 22 39.5 -2.3
IMP *ex* x 23 27 36.6
MONM Monmouth 67.97 3 *eP* P 23 22 42.8 +1.1
MONM AMB AMB 23 22 48.2
comp=Z,159nm,1.4s
STRD Stroud 68.05 3 *eP* P 23 22 43.4 +1.2
STRD AMB AMB 23 22 48.6
comp=Z,284nm,1.7s
CLL Collm 68.23 353 *eP* P 23 22 42.0 -1.4
comp=Z,243nm,1.6s
CLL Collm 68.23 353 *eP* P 23 22 42.0 -1.4
CLL *i* pP **pP** 23 22 47.6 -0.1
comp=Z,242nm,1.6s
CLL *i* 23 23 03.5
CLL *i* PcP **PcP** 23 23 09.2 +0.1
CLL *ePP* **PP** 23 25 17.0 +3.8
CLL *ePPPP* 23 27 42.0

CLL eS S 23 31 47.0 +4.0
CLL e 23 33 01.0
CLL eSS SS 23 36 06.0 +1.3
CLL eSSS SSS 23 39 30.0
CLL ePKPPKP P'P'df 23 51 07.0 -1.4
comp=Z,264nm,3.3s
CLL LmH 23 55 00.0
comp=N,44µm,20.3s
CLL LmH 23 55 00.0
comp=E,59µm,19.9s
CLL LmV 23 59 00.0
comp=Z,54µm,19.3s
CLL Collm 68.23 353 eP P 23 22 42.0 -1.4
CLL i 23 22 47.6
CLL i 23 23 03.5
CLL eS S 23 31 47.0 +4.0
CLL pmax pmax
comp=Z,242nm,1.6s
CLL MLR MLR
comp=Z,54µm,19.3s
CLL Collm 68.23 353 eP P 23 22 42.8 -0.6
comp=Z,443nm,1.8s
SHL Shillong 68.24 283 eP P 23 22 43.0 -1.0
SWN1 Swindon 68.32 3 eP P 23 22 44.1 +0.2
SWN1 AMB AMB 23 22 50.5
comp=Z,375nm,1.6s
BUG Bochum--Univer 68.36 357 eP P 23 22 42.9 -1.3
comp=Z,222nm,1.6s
BATH Bath 68.38 3 eP P 23 22 45.7 +1.4
KSP Ksiaz 68.45 350 eP P 23 22 43.5 -1.3
KSP e 23 22 47.2
KSP eS S 23 31 49.2 +3.5
KSP Ksiaz 68.45 350 eP P 23 22 43.8 -1.0
KSP e*PP pP 23 22 50.1 +1.0
KSP e 23 23 16.6
KSP eS S 23 31 48.3 +2.6
KSP MLR MLR
comp=Z,245µm,23.4s
WOL Wolverton 68.54 2 eP P 23 22 46.2 +0.9
WOL AMB AMB 23 22 51.5
comp=Z,222nm,1.6s
CRAI Chiangrai 68.58 273 P P 23 22 41.8 -4.2
comp=Z,90nm,1.1s,comp=Z,14µm
BRG Berggiesshubel 68.60 352 eP P 23 22 44.8 -0.9
comp=Z,32nm,1.2s
BRG e 23 22 51.0
comp=Z,229nm,1.6s
BRG e 23 23 06.3
comp=Z,175nm,1.5s
BRG S S 23 31 50.0 +2.5
BRG SS SS 23 36 38.0 +28
BRG PKPPKP P'P'df 23 51 06.3 -1.4
comp=Z,205nm,3.0s
comp=Z,48µm,22.2s
comp=N,33µm,20.3s
comp=E,50µm,20.3s
BRG Berggiesshubel 68.60 352 eP P 23 22 44.5 -1.2
comp=Z,227nm,1.6s
BRG Berggiesshubel 68.60 352 eP P 23 22 44.8 -0.9
BRG e 23 22 51.0
BRG e 23 23 06.3
BRG S S 23 31 50.0 +2.5
BRG pmax pmax
comp=Z,32nm,1.2s
BRG MLR MLR
comp=Z,48µm,22.2s
BRG MLR MLR
comp=N,33µm,20.3s
BRG MLR MLR
comp=E,50µm,20.3s
LVV L'vov 68.65 345 eP P 23 22 46.3 +0.3
LVV i 23 23 18.1
LVV e 23 25 20.3
LVV eS S 23 31 45.7 -2.4
LVV e 23 32 09.9
LVV e 23 32 41.1
LVV e 23 36 15.7
LVV i 23 39 15.7
LVV MLR MLR
comp=N,53µm,17.0s
LVV MLR MLR
comp=E,56µm,17.0s
LVV MLR MLR
comp=Z,81µm,17.0s
HEX Exmoor 68.71 4 eP P 23 22 47.0 +0.6
TAPN Taplejung 68.72 288 eP P 23 22 45.7 -1.5
comp=Z,551nm,1.2s
TAPN Taplejung 68.72 288 eP P 23 22 45.7 -1.5
comp=Z,551nm,1.2s
OJC Ojcow 68.75 348 eP P 23 22 45.0 -1.6
OJC e 23 22 49.2
OJC eS S 23 31 51.8 +2.6
OJC Ojcow 68.75 348 eP P 23 22 45.4 -1.2
OJC pmax pmax
comp=Z,270nm,1.3s
OJC Ojcow 68.75 348 eP P 23 22 45.4 -1.2
comp=Z,270nm,1.3s
UPC Upice 68.81 351 eP P 23 22 46.1 -0.9
UPC epP pP 23 22 52.5 +1.1
UPC Upice 68.81 351 eP P 23 22 46.1 -0.9
UPC e*PP pP 23 22 52.5 +1.1
UBBA Unterbreizbach 68.88 355 eP P 23 22 46.2 -1.1
comp=Z,233nm,1.7s
PVCC Panska Ves 68.90 352 eP P 23 22 46.9 -0.7
PVCC epP pP 23 22 53.0 +1.1
PVCC ex x 23 25 28.2
PVCC eS S 23 31 54.3 +3.3
PVCC ex x 23 36 34.0
PVCC AMS AMS 23 59 20.0
comp=Z,72µm,17.4s
PVCC Panska Ves 68.90 352 eP P 23 22 46.9 -0.7
PVCC e*PP pP 23 22 53.0 +1.1
PVCC e 23 25 28.2
PVCC eS S 23 31 54.3 +3.3
PVCC MLR MLR
comp=Z,72µm,17.4s
DPC Dobruska-Polom 68.94 350 eP P 23 22 46.5 -1.4
DPC epP pP 23 22 53.6 +1.4
DPC ePP PP 23 25 28.1 +8.7
DPC eS S 23 31 54.8 +3.2
DPC ex x 23 36 34.8
DPC AMS AMS 23 59 40.0
DPC Dobruska-Polom 68.94 350 eP P 23 22 47.0 -0.9
DPC pmax pmax
comp=Z,2µm,1.4s
DPC Dobruska-Polom 68.94 350 eP P 23 22 47.0 -0.9
comp=Z,2µm,1.4s
MOX Moxa 68.97 354 eP P 23 22 47.1 -1.0
comp=Z,202nm,1.4s
KWP Kalwaria Pacla 69.00 346 eP P 23 22 47.5 -0.7
KWP e 23 22 51.2
KWP eS S 23 31 54.9 +2.7
KWP Kalwaria Pacla 69.00 346 ⇑iP P 23 22 47.9 -0.3
KWP Kalwaria Pacla 69.00 346 eP P 23 22 47.5 -0.7
KWP e 23 22 51.2
KWP Kalwaria Pacla 69.00 346 PFAKE 23 23 00.0 +12
KWP LR LR
comp=Z,122µm,20.0s
BEBN Eben Emael 69.05 358 P P 23 22 50.9 +2.4
comp=Z,42nm,1.9s
UCC Uccle 69.07 358 P P 23 22 49.7 +1.1
comp=Z,178nm,2.5s
HGN Heimansgroeve 69.08 357 eP P 23 22 47.8 -0.8
comp=Z,291nm,1.5s
GUN Gumba 69.11 290 eP P 23 22 48.5 -1.2
comp=Z,793nm,0.9s
GUN Gumba 69.11 290 eP P 23 22 48.4 -1.2
comp=Z,793nm,0.9s
TANN Tannenbergstha 69.16 353 eP P 23 22 48.4 -0.8
comp=Z,218nm,1.6s
JIRN Jiri 69.17 289 eP P 23 22 49.1 -1.0
comp=Z,777nm,1.0s
JIRN Jiri 69.17 289 eP P 23 22 49.1 -1.0
comp=Z,777nm,1.0s
MEM Membach 69.23 357 P P 23 22 50.0 +0.4
comp=Z,107nm,1.4s
MEM Membach 69.23 357 eP P 23 22 48.1 -1.5
MEM pmax pmax
comp=Z,178nm,1.1s
MEM Membach 69.23 357 eP P 23 22 48.1 -1.5
comp=Z,178nm,1.1s
ODAN Odare 69.29 288 eP P 23 22 49.3 -1.3
comp=Z,422nm,1.1s
ODAN Odare 69.29 288 eP P 23 22 48.8 -1.8
comp=Z,422nm,1.1s

OKC Ostrava-Krasne 69.29 349 eP P 23 22 47.7 -2.3
OKC epP pP 23 22 55.2 +0.9
OKC eS S 23 31 59.3 +3.7
OKC AMS AMS 23 59 20.0
comp=Z,52µm,18.3s
OKC Ostrava-Krasne 69.29 349 eP P 23 22 47.7 -2.3
OKC e*PP pP 23 22 55.2 +0.9
OKC eS S 23 31 59.3 +3.7
OKC MLR MLR
comp=Z,52µm,18.3s
DYA Yadsworthy 69.34 4 eP P 23 22 50.4 +0.1
comp=Z,218nm,1.3s
SNF Seneffe 69.36 359 P P 23 22 52.4 +2.0
PRA Prague 69.37 352 eP P 23 22 49.5 -1.0
PRA epP pP 23 22 56.1 +1.3
PRA ePP PP 23 25 32.1 +9.1
PRA eS S 23 32 00.9 +4.4
PRA ex x 23 36 38.5
PRA AMS AMS 23 59 20.0
comp=Z,69µm,18.7s
PRA Prague 69.37 352 eP P 23 22 49.5 -1.0
PRA e*PP pP 23 22 56.1 +1.3
PRA e 23 25 32.1
PRA eS S 23 32 00.9 +4.4
PRA MLR MLR
comp=Z,69µm,18.7s
STHS Stebnicka Huta 69.38 347 eP P 23 22 50.2 -0.4
STHS pmax pmax
comp=Z,80nm,1.3s
STHS Stebnicka Huta 69.38 347 eP P 23 22 50.2 -0.4
MORC Moravsky Berou 69.40 349 ⇑iP P 23 22 50.2 -0.6
MORC Moravsky Berou 69.40 349 eP P 23 22 49.6 -1.2
MORC pmax pmax
comp=Z,155nm,1.3s
MORC Moravsky Berou 69.40 349 eP P 23 22 49.6 -1.2
comp=Z,155nm,1.3s
BCLA Clavier 69.44 358 P P 23 22 53.8 +2.9
comp=Z,80nm,1.6s
PRU Pruhonice 69.44 351 eP P 23 22 50.2 -0.7
PRU epP pP 23 22 56.3 +1.0
PRU ex x 23 25 33.1
PRU eS S 23 32 00.9 +3.5
PRU ex x 23 36 41.3
PRU AMS AMS 23 57 20.0
comp=Z,63µm,17.5s
PRU Pruhonice 69.44 351 eP P 23 22 50.2 -0.7
PRU e*PP pP 23 22 56.3 +1.0
PRU e 23 25 33.1
NIE Niedzica 69.48 347 eP P 23 22 50.8 -0.5
NIE e 23 22 53.9
NIE eS S 23 32 02.9 +4.9
NIE Niedzica 69.48 347 eP P 23 22 50.8 -0.5
NIE e*PP pP 23 22 54.0 -1.6
NIE e*SP sP 23 22 57.0 -0.2
NIE eS S 23 32 01.2 +3.2
NIE MLR MLR
comp=Z,61µm,18.8s
KKN Kakani 69.49 290 eP P 23 22 50.7 -1.1
comp=Z,152nm,0.6s
KKN Kakani 69.49 290 eP P 23 22 50.7 -1.1
comp=Z,152nm,0.6s
CMAI Chiengmai2 69.49 274 P P 23 22 50.7 -1.2
comp=Z,79nm,1.3s,comp=Z,3µm
GOPC GO Pecny, Ondr 69.50 351 eP P 23 22 50.3 -1.0
GOPC epP pP 23 22 56.9 +1.3
GOPC ePP PP 23 25 32.7 +8.5
GOPC eS S 23 32 01.2 +3.1
GOPC ex x 23 36 41.6
GOPC AMS AMS 23 57 30.0
comp=Z,67µm,19.0s
CCA1 Carnmenellis 69.54 5 eP P 23 22 52.9 +1.4
CCA1 AMB AMB 23 23 02.2
comp=Z,180nm,1.3s
TNS Taunus Mts 69.54 356 eP P 23 22 50.6 -1.1
comp=Z,191nm,1.6s
SKNT Sakolnakorn 69.56 268 P P 23 22 51.0 -1.1
comp=Z,146nm,1.2s,comp=Z,3µm
RAMN Ramite 69.58 289 eP P 23 22 50.7 -1.7
comp=Z,892nm,1.0s
RAMN Ramite 69.58 289 eP P 23 22 50.8 -1.7
comp=Z,892nm,1.0s
GKN Gorkha 69.61 291 eP P 23 22 51.4 -1.1
comp=Z,1µm,1.2s
GKN Gorkha 69.61 291 eP P 23 22 51.3 -1.2
comp=Z,1µm,1.2s
DLH Dalhousie 69.61 300 eP P 23 22 53.0 +0.5
PKI Pulchoki 69.61 290 eP P 23 22 51.0 -1.7
comp=Z,485nm,1.0s
PKI Pulchoki 69.61 290 eP P 23 22 51.1 -1.7
comp=Z,485nm,1.0s
PKIN Phulchoki 69.61 290 eP P 23 22 51.1 -1.6
comp=Z,297nm,0.9s
PKIN Phulchoki 69.61 290 eP P 23 22 51.3 -1.4
comp=Z,297nm,0.9s
GOF Gofitskoye 69.67 330 eP P 23 22 51.9 -0.5
GOF eS S 23 32 06.6 +6.3
DHRM DHARAMSHALA 69.72 300 eP P 23 22 51.9 -1.3
DMN Daman 69.72 290 eP P 23 22 52.2 -1.1
comp=Z,683nm,1.1s
DMN Daman 69.72 290 eP P 23 22 52.2 -1.1
comp=Z,683nm,1.1s
KOLS Kolonicke sedl 69.74 346 eP P 23 22 51.5 -1.3
KOLS pmax pmax
comp=Z,97nm,1.2s
KOLS Kolonicke sedl 69.74 346 eP P 23 22 51.5 -1.3
KOLS eS S 23 31 49.7 -11
GIVF Givet 69.76 358 eP P 23 22 51.8 -1.1
comp=Z,364nm,1.4s
DOU Dourbes 69.77 358 P P 23 22 52.0 -0.9
comp=Z,60nm,2.1s
BAIF Baives 69.81 359 eP P 23 22 52.4 -0.8
comp=Z,339nm,1.3s
ROTZ Rotzenmuhle 69.82 353 eP P 23 22 52.8 -0.5
comp=Z,193nm,1.6s
CRVS Cervenica-Dubn 69.86 347 eP P 23 22 52.7 -0.9
CRVS pmax pmax
comp=Z,241nm,1.9s
CRVS Cervenica-Dubn 69.86 347 eP P 23 22 52.7 -0.9
CRVS eS S 23 32 04.0 +1.5
GRF Grafenberg Arr 69.95 354 eP P 23 22 53.5 -0.6
comp=Z,392nm,1.6s
GRFO Grafenberg 69.95 354 eP P 23 22 53.5 -0.6
GRFO pmax pmax
comp=Z,375nm,1.6s
GRFO Grafenberg 69.95 354 eP P 23 22 53.5 -0.6
comp=Z,375nm,1.6s
VRAC Vranov 69.95 350 ⇓iP P 23 22 54.2 +0.1
VRAC Vranov 69.95 350 ⇓P P 23 22 54.2 +0.1
UZH Uzhgorod 70.03 346 eP P 23 22 51.5 -3.1
UZH e 23 22 57.0
UZH e 23 23 20.0
UZH eS S 23 31 55.6 -8.8
UZH eSS SS 23 36 28.2 -4.3
UZH eSSS SSS 23 39 37.8
UZH MLR MLR
comp=N,36µm,18.0s
UZH MLR MLR
comp=E,21µm,18.0s
UZH MLR MLR
comp=Z,26µm,18.0s
TREC Trest 70.06 351 eP P 23 22 50.7 -4.1
TREC epP pP 23 22 57.1 -2.0
TREC eS S 23 32 05.4 +0.7
TREC eSS SS 23 36 43.9 +11
TREC AMS AMS 23 58 20.0
comp=Z,60µm,18.7s
TREC Trest 70.06 351 eP P 23 22 50.7 -4.1
TREC e*PP pP 23 22 57.1 -2.0
TREC eS S 23 32 05.4 +0.7
TREC MLR MLR
comp=Z,60µm,18.7s
WLF Walferdange 70.17 357 P P 23 22 56.5 +1.1
comp=Z,86nm,1.5s
WLF Walferdange 70.17 357 eP P 23 22 54.7 -0.7
comp=Z,156nm,1.2s
WLF Walferdange 70.17 357 eP P 23 22 54.5 -1.0
WLF pmax pmax
comp=Z,111nm,1.1s
WLF MLR MLR
comp=Z,57µm,19.0s
WLF Walferdange 70.17 357 eP P 23 22 54.5 -1.0
comp=Z,111nm,1.1s
WLF LR LR
comp=Z,57µm,19.0s

KOLN Koldanda 70.28 291 eP P 23 22 55.6 -1.2
comp=Z,525nm,1.1s
KOLN Koldanda 70.28 291 eP P 23 22 55.5 -1.2
comp=Z,525nm,1.1s
PYUN Piuthan 70.28 292 eP P 23 22 55.5 -1.2
comp=Z,2µm,1.0s
PYUN Piuthan 70.28 292 eP P 23 22 55.5 -1.2
comp=Z,2µm,1.0s
SMLA Simla 70.30 298 iP P 23 22 55.8 -0.8
KHC Kasperske Hory 70.36 352 eP P 23 22 55.5 -1.2
KHC epP pP 23 23 01.0 0.0
KHC ePCP PcP 23 23 18.0 -0.2
KHC Kasperske Hory 70.36 352 eP P 23 22 55.5 -1.2
KHC e 23 23 01.0
KHC e 23 23 18.0
LGTI Lohaghat 70.38 295 ex P 23 23 01.1 +4.1
BHK Bhakra 70.38 299 ex P 23 23 02.0 +5.0
KECS Kecovo 70.39 347 eP P 23 22 55.9 -0.9
KECS pmax pmax
comp=Z,52nm,1.3s
KECS Kecovo 70.39 347 eP P 23 22 55.9 -0.9
WET Wettzell 70.39 353 eP P 23 22 56.2 -0.7
comp=Z,252nm,1.6s
LAMP Lampang 70.40 273 P P 23 22 56.6 -0.6
comp=Z,35nm,1.0s,comp=Z,335nm
MAK Makhachkala 70.47 326 eP P 23 22 57.8 +0.5
MAK e 23 23 17.7
MAK e 23 25 36.9
MAK ePPP PPP 23 27 09.0
MAK eS S 23 32 12.9 +3.3
MAK e 23 32 55.3
MAK eSS SS 23 36 45.4 +5.9
MAK eSSS SSS 23 39 50.8
MAK pmax pmax
comp=Z,180nm,1.7s
MAK MLR MLR
comp=Z,182µm,22.0s
CMMT Chiang Mai 70.49 274 P P 23 22 56.2 -1.6
comp=Z,92nm,1.2s,comp=Z,3µm
CHTO Chiang Mai 70.49 274 eP P 23 22 56.0 -1.8
CHTO pmax pmax
comp=Z,675nm,2.5s
CHTO MLR MLR
comp=Z,41µm,19.0s
CHTO Chiang Mai 70.49 274 ⇑P P 23 22 55.7 -2.1
SNR=35
CHTO Chiang Mai 70.49 274 eP P 23 22 56.0 -1.8
comp=Z,676nm,2.5s
CHTO LR LR
comp=Z,41µm,19.0s
CHTO Chiang Mai 70.49 274 P P 23 22 56.3 -1.5
comp=Z,311nm,1.4s,comp=Z,9µm
TRPA Tarpa 70.50 346 ⇑iP P 23 22 56.9 -0.5
TRPA Tarpa 70.50 346 eP P 23 22 58.8 +1.4
JAY Jayapura 70.54 225 P P 23 22 58.5 +0.3
comp=Z,30nm,1.0s,baz=330,slow=1.4,SNR=7.6
VYHS Vyhne 70.55 348 eP P 23 22 57.1 -0.7
VYHS pmax pmax
comp=Z,107nm,1.4s
VYHS Vyhne 70.55 348 eP P 23 22 57.1 -0.7
VYHS eS S 23 32 13.9 +3.4
VYHS eSS SS 23 36 59.9 +19
UTTA Uttaradit 70.60 272 P P 23 22 57.5 -1.0
comp=Z,18nm,1.0s,comp=Z,168nm
DDI Dehra Dun 70.61 297 eP P 23 22 58.6 +0.2
DDI AMB AMB 23 23 01.8
comp=Z,356nm,0.0s
JQE Queens East 70.63 3 eP P 23 22 58.6 +0.4
GEC2 GERESS Array S 70.64 352 eP P 23 22 57.3 -1.1
comp=Z,256nm,1.6s
GEC2 GERESS Array S 70.64 352 eP P 23 22 57.3 -1.1
GEC2 GERESS Array S 70.64 352 eP P 23 22 57.3 -1.1
GERES GERESS Array B 70.64 352 P P 23 22 57.4 -1.1
comp=Z,12nm,0.7s,baz=22,slow=4.9,SNR=29
GERES PKPPKP P'P'df 23 51 05.8 +1.5
comp=Z,0.8nm,0.9s,baz=197,slow=4.2,SNR=4.3
JRS Jersey 70.64 3 eP P 23 22 59.7 +1.5
JSA Saint Aubin 70.64 3 eP P 23 22 59.1 +0.8
JSA AMB AMB 23 23 04.4
comp=Z,166nm,1.6s
JSA AMS AMS 00 01 49.5
comp=Z,29µm,20.0s
BURAR Bucovina Array 70.65 344 ⇓iP P 23 22 57.5 -1.0
BURAR Bucovina Array 70.65 344 ⇓P P 23 22 57.5 -1.0
SMOL Smolenice 70.67 349 eP P 23 22 59.4 +0.9
SMOL Smolenice 70.67 349 eP P 23 22 59.4 +0.9
KHON Khomkaen 70.67 269 P P 23 22 59.4 +0.5
comp=Z,34nm,1.1s
KIS Kishinev 70.71 341 ⇑iP P 23 23 00.0 +1.2
comp=Z,1µm,3.0s
KIS Kishinev 70.71 341 iPcP PcP 23 23 18.0 -1.6
KIS Kishinev 70.71 341 ePP PP 23 25 57.0 +22
comp=Z,1µm,10.0s
KIS iS S 23 32 12.0 -0.4
comp=Z,5µm,14.0s
KIS Kishinev 70.71 341α iP P 23 23 00.0 +1.2
KIS i 23 23 18.0
KIS iS S 23 32 12.0 -0.4
KIS iPS PnS 23 32 50.0 +10
KIS pmax pmax
comp=Z,1µm,3.0s
KIS pmax pmax
comp=Z,1µm,7.0s
KIS smax smax
comp=N,3µm,13.0s
KIS smax smax
comp=E,5µm,14.0s
KIS MLR MLR
comp=Z,130µm,16.0s
KIS Kishinev 70.71 341 iPS 23 32 50.0
IAS Iasi 70.72 342 ⇑iP P 23 22 58.7 -0.1
IAS Iasi 70.72 342 ⇑P P 23 22 58.7 -0.1
KBL Kabul 70.74 306 eP P 23 22 57.7 -1.7
KBL pmax pmax
comp=Z,106nm,0.9s
KBL Kabul 70.74 306 eP P 23 22 57.7 -1.7
comp=Z,106nm,0.9s
SMPI Sarmi 70.76 227 P P 23 23 01.4 +2.0
comp=Z,63nm,1.7s
CM31 Chiang Mai Arr 70.79 274 eP P 23 22 58.2 -1.4
CMAR Chiang Mai Arr 70.79 274 P P 23 22 58.2 -1.4
comp=Z,35nm,1.0s,baz=20,slow=6.4,SNR=50
CMAR PKPPKP P'P'df 23 51 03.6 +4.7
comp=Z,0.4nm,0.6s,baz=234,slow=1.5,SNR=3.6
CMAR LR LR 23 55 59.4
comp=Z,31µm,20.3s,baz=41,slow=38
KIV Kislovodsk 70.80 330 P P 23 22 59.4 -0.1
comp=Z,438nm,1.4s,SNR=22
KIV Kislovodsk 70.80 330d iP P 23 22 59.2 -0.3
KIV i 23 23 17.1
KIV i 23 25 37.7
KIV iS S 23 32 13.2 -0.4
KIV pmax pmax
comp=Z,59nm,1.2s
KIV MLR MLR
comp=Z,64µm,22.0s
KIV Kislovodsk 70.80 330 ⇓iP P 23 22 59.9 +0.5
SNR=36
KIV Kislovodsk 70.80 330 ⇓P P 23 22 59.5 0.0
SNR=38
KIV Kislovodsk 70.80 330 eP P 23 22 58.7 -0.7
comp=Z,842nm,2.3s
KIV LR LR
comp=Z,58µm,20.0s
GENI Genyem 70.80 225 P P 23 23 01.6 +1.9
comp=Z,81nm,1.2s,comp=Z,6µm
BMR Baia Mare 70.83 345 ⇓iP P 23 23 01.4 +1.9
BMR Baia Mare 70.83 345 ⇓P P 23 23 01.4 +1.9
KBZ Khabaz 70.96 330 P P 23 22 59.9 -0.4
comp=Z,17nm,1.0s,baz=234,slow=23,SNR=17
KBZ LR LR 23 56 56.8
comp=Z,56µm,21.8s,baz=53,slow=38
STU Stuttgart 70.96 355 eP P 23 22 59.1 -1.2
comp=Z,136nm,1.3s
STU Stuttgart 70.96 355 eP P 23 22 58.8 -1.5
STU pmax pmax
comp=Z,106nm,1.2s
STU Stuttgart 70.96 355 eP P 23 22 58.8 -1.5
comp=Z,106nm,1.2s
NCK Nalchik 71.00 329 ⇑iP P 23 23 01.1 +0.5
PSZ Piszkesteto 71.01 347 ⇑iP P 23 23 01.1 +0.4
PSZ Piszkesteto 71.01 347 eP P 23 22 59.7 -1.0
PSZ pmax pmax
comp=Z,210nm,1.4s
PSZ MLR MLR

comp=Z,76µm,20.0s
PSZ Piszkesteto 71.01 347 *e*P **P 23 22 59.7 -1.0**
comp=Z,210nm,1.4s
PSZ LR LR
comp=Z,76µm,20.0s
PSZ Piszkesteto 71.01 347 *e*P **P 23 23 02.6 +1.9**
FLN La Foliniere 71.10 2 *e*P **P 23 22 59.6 -1.5**
comp=Z,386nm,1.5s
FLN *e*R
comp=Z,51µm,18.5s
ANN Anapa 71.21 334 *e*P **P 23 23 03.1 +1.3**
ANN *e**PP **pP 23 23 06.5 +0.4**
ANN *e* 23 23 19.2
ANN *e* 23 25 40.5
ANN *i*S **S 23 32 21.5 +3.4**
ANN *e* 23 33 02.2
ANN pmax pmax
comp=Z,114nm,1.7s
ANN pmax pmax
comp=N,26nm,1.6s
ANN pmax pmax
comp=E,22nm,1.6s
ANN pmax pmax
comp=N,171nm,2.5s
ANN pmax pmax
comp=Z,500nm,2.6s
ANN pmax pmax
comp=E,115nm,2.5s
ANN smax smax
comp=N,2µm,7.1s
ANN smax smax
comp=Z,3µm,14.3s
ANN smax smax
comp=E,8µm,14.3s
ANN MLR MLR
comp=Z,72µm,24.0s
ANN MLR MLR
comp=E,68µm,24.0s
ANN MLR MLR
comp=N,62µm,24.0s
LDF La Druitiere 71.28 2 *e*P **P 23 23 00.6 -1.6**
comp=N,370nm,1.5s
PAGF Fort de Pagny 71.29 357 *e*P **P 23 23 01.8 -0.5**
comp=N,142nm,1.4s
LEOM Leova 71.31 341⇓*i*P **P 23 23 02.0 -0.4**
LEOM Leova 71.31 341⇓P **P 23 23 02.0 -0.4**
MEZF Maizieres J'vi 71.36 358 *e*P **P 23 23 02.0 -0.7**
comp=N,359nm,1.4s
CONA Conrad Observa 71.39 350 *i*P **P 23 23 02.4 -0.6**
comp=N,208nm,1.4s,SNR=38
CDF Champ du Feu 71.39 356 *e*P **P 23 23 02.0 -1.0**
comp=N,226nm,1.3s
PBKT Sadao Pong 71.39 271 P **P 23 23 03.2 -0.1**
comp=N,69nm,1.3s,comp=N,2µm
BFO Black Forest 71.44 356 P **P 23 23 02.9 -0.3**
comp=N,322nm,1.5s,SNR=7.2
BFO Black Forest 71.44 356 *e*P **P 23 23 02.1 -1.1**
comp=Z,162nm,1.5s
BFO Black Forest 71.44 356 *e*P **P 23 23 02.1 -1.1**
BFO pmax pmax
comp=Z,195nm,1.6s
BFO MLR MLR
comp=Z,39µm,20.0s
BFO Black Forest 71.44 356 *e*P **P 23 23 02.0 -1.1**
comp=Z,195nm,1.6s
BFO LR LR
comp=Z,39µm,20.0s
NEY Neytrino 71.45 330⇑*i*P **P 23 23 04.4 +0.8**
NEY pmax pmax
comp=Z,98nm,2.6s
ROSF Rostrenen 71.46 4 *e*P **P 23 23 02.2 -1.1**
comp=Z,162nm,1.1s
FUR Furstenfeldbru 71.47 354 *e*P **P 23 23 02.5 -0.9**
comp=Z,304nm,1.5s
GRR Gorron 71.47 2 *e*P **P 23 23 02.0 -1.3**
comp=Z,332nm,1.4s
TESR Tescani 71.52 342⇑*i*P **P 23 23 03.3 -0.4**
BUD Budapest 71.53 348 *e*P **P 23 23 04.1 +0.4**
MHMT Maesarieng 71.53 274 P **P 23 23 05.1 +1.0**
comp=Z,47nm,0.8s,comp=Z,1µm
SGMF Saint Gilles 71.56 3 *e*P **P 23 23 02.8 -1.1**
comp=Z,446nm,1.5s
SOP Sopron 71.57 350 *e*P **P 23 23 05.7 +1.7**
ZEI Tsey 71.58 329 *e*P **P 23 23 03.4 -1.0**
ZEI *e*S **S 23 32 20.4 -2.7**
ZEI pmax pmax
comp=Z,215nm,1.5s
ZEI pmax pmax
comp=E,215nm,1.4s
ZEI pmax pmax
comp=N,54nm,0.8s
ZEI MLR MLR
comp=Z,85µm,19.0s
MOA Molln 71.59 351 *i*P **P 23 23 03.5 -0.7**
comp=Z,143nm,1.4s,SNR=24
ECH Echery 71.59 356 PFAKE 23 23 10.0 +5.8
ECH LR LR
comp=Z,35µm,20.0s
DLV T Lat 71.64 262 *e*P **P 23 23 04.4 -0.7**
SFTF Sexfontaines 71.66 358 *e*P **P 23 23 03.6 -0.9**
comp=Z,530nm,1.4s
PKSG 71.69 348 *e*P **P 23 23 04.2 -0.5**
CSKK Cs˘‡kako 71.73 349 *e*P **P 23 23 04.9 0.0**
SIM Simferopol' 71.75 337 *de*P **P 23 23 05.8 +0.7**
SIM 23 25 44.4
SIM *e*S **S 23 32 26.4 +2.0**
SIM pmax pmax
comp=Z,1µm,11.0s
CJR Cluj-Napoca 71.75 345⇓*i*P **P 23 23 06.6 +1.4**
CJR Cluj-Napoca 71.75 345 ⇓P **P 23 23 06.6 +1.4**
GEYT Alibeck 71.79 316 P **P 23 23 05.0 -0.5**
comp=Z,58nm,0.9s,baz=343,slow=4.6,SNR=34
GEYT LR LR 23 57 05.2
comp=Z,97µm,20.4s,baz=25,slow=38
DRGR 71.79 345⇑*i*P **P 23 23 04.2 -1.2**
DRGR 71.79 345 ⇑P **P 23 23 04.2 -1.2**
RJOB Jochberg 71.80 352 *e*P **P 23 23 04.5 -1.0**
comp=Z,203nm,2.0s
HAU Haudompre 71.83 357 *e*P **P 23 23 04.5 -1.1**
comp=Z,288nm,1.4s
HAU *e*R
comp=Z,68µm,20.2s
PKST T˜'s 71.85 349 *e*P **P 23 23 08.8 +3.1**
SOC Sochi 71.86 332 *c i*P **P 23 23 08.9 +3.2**
SOC *e* 23 25 48.4
SOC *i*S **S 23 32 29.6 +3.9**
SOC *e* 23 33 08.6
SOC *e*SS **SS 23 37 02.9 +2.2**
SOC pmax pmax
comp=Z,779nm,2.8s
SOC pmax pmax
comp=Z,72nm,1.0s
SOC MLR MLR
comp=E,38µm,20.0s
SOC MLR MLR
comp=Z,98µm,20.0s
SOC MLR MLR
comp=N,30µm,20.0s
HNR Honiara 71.87 203 PFAKE 23 23 20.0 +14
HNR LR LR
comp=Z,22µm,22.0s
QUIF Quistinic 71.88 4 *e*P **P 23 23 04.6 -1.2**
comp=Z,366nm,1.6s
ONI Oni 71.89 329 P **P 23 23 08.7 +2.7**
PKS7 Kunszentmiklos 71.95 348 *e*P P 23 23 09.5 +3.3
HINF Hinteralfeld 72.00 357 *e*P **P 23 23 05.4 -1.2**
comp=Z,274nm,1.4s
PKSN Nyarlorinc 72.02 347 *e*P **P 23 23 09.7 +3.0**
ARSA Arzberg 72.09 350 *i*P **P 23 23 06.3 -0.8**
comp=Z,123nm,1.2s,SNR=32
CHVG Ch'k'valeri 72.11 330 P **P 23 23 09.2 +1.9**
VRI Vrincioaia 72.14 342⇑*i*P **P 23 23 06.7 -0.8**
VRI Vrincioaia 72.14 342⇓P P 23 23 04.3 -3.2
PLOR Plostina 72.17 342⇓*i*P **P 23 23 07.1 -0.6**
PLOR Plostina 72.17 342 ⇓P **P 23 23 07.1 -0.6**
RETA Reutte 72.17 354⇑*i*P **P 23 23 05.6 -2.1**
comp=Z,86nm,1.4s,SNR=26
PETR Petresti 72.20 342⇑*i*P P 23 23 15.3 +7.5
DOPR Dopca 72.24 343⇑*i*P **P 23 23 07.5 -0.6**
WATA Walderalm 72.28 353 *i*P **P 23 23 07.8 -0.6**
comp=Z,237nm,1.5s,SNR=30
GIUM Giurgiulesti 72.28 341⇓*i*P **P 23 23 09.7 +1.4**
MOTA Moosalm 72.30 354 *i*P **P 23 23 07.7 -0.8**
comp=Z,86nm,1.2s,SNR=32
SEAG Tbilisi Sea 72.31 328 P **P 23 23 10.7 +2.2**
WTTA Wattenberg 72.34 353 *i*P **P 23 23 08.0 -0.8**
comp=Z,191nm,1.2s,SNR=25
PKS6 Bocsa 72.35 347 *e*P **P 23 23 09.9 +1.3**
TBLG Delisi 72.36 328 P **P 23 23 11.8 +2.9**
NDI New Delhi 72.38 297 *e*P **P 23 23 06.0 -3.1**
NDI *ex* x 23 28 55.0
DAVA Damuels 72.42 354⇓*i*P **P 23 23 09.0 -0.3**
comp=Z,67nm,1.4s,SNR=7.8
KBA Koelnbreinsper 72.42 352 *i*pP **P 23 23 09.3 0.0**
comp=Z,263nm,1.8s,SNR=40
TEIG Tepich 72.42 80 PFAKE 23 23 20.0 +11
TEIG LR LR
comp=Z,43µm,19.0s
SIRR Siria 72.44 346⇓*i*P **P 23 23 10.1 +0.9**
TLCR 72.47 341⇓*i*P **P 23 23 12.2 +2.8**
TLCR 72.47 341 ⇓P **P 23 23 12.2 +2.8**
PKS2 Kecel 72.49 348 *e*P **P 23 23 10.3 +0.8**
PKS9 Tamasi 72.49 348 *e*P **P 23 23 10.6 +1.1**
SWI Sorong 72.58 234 P **P 23 23 09.6 -0.7**
comp=Z,155nm,1.1s,comp=Z,3µm
GRER 72.58 342⇓*i*P **P 23 23 09.9 -0.2**
CFR Carcaliu 72.59 341⇓*i*P **P 23 23 09.8 -0.3**
CFR Carcaliu 72.59 341 ⇓P **P 23 23 09.8 -0.3**
BOK Bokaro 72.60 287 *e*P **P 23 23 09.7 -0.8**
BOK AMB AMB 23 23 12.4
comp=Z,131nm,1.2s
LOR Lormes 72.61 359 *e*P **P 23 23 09.1 -1.1**
comp=Z,462nm,1.4s
LOR *e*R
comp=Z,69µm,20.5s
HYF Humbligny 72.62 360 *e*P **P 23 23 09.5 -0.8**
MLR Muntele Rosu 72.63 343⇓*i*P **P 23 23 10.7 +0.2**
MLR Muntele Rosu 72.63 343 ⇓P **P 23 23 10.7 +0.2**
FETA Feichten 72.64 354 *i*P **P 23 23 10.2 -0.4**
comp=Z,127nm,1.4s,SNR=23
BBSR BB Station 72.66 55 PFAKE 23 23 20.0 +9.3
BBSR LR LR
comp=Z,37µm,20.0s
SOKA Soboth 72.69 351 *i*P **P 23 23 09.9 -1.0**
comp=Z,144nm,1.5s,SNR=49
TNTI Ternate 72.71 239 P **P 23 23 12.2 +1.1**
comp=Z,104nm,1.7s,comp=Z,3µm
PERS Pernice 72.73 351 *i*P **P 23 23 09.9 -1.1**
PERS *i* 23 23 14.9
PERS *e*S **S 23 32 38.1 +2.4**
BEHE Becsehely 72.75 349 *e*P **P 23 23 12.1 +1.0**
ABTA Abfaltersbach 72.81 353⇑*i*P **P 23 23 10.8 -0.7**
comp=Z,103nm,1.1s,SNR=54
VOIR 72.81 343⇑*i*P **P 23 23 12.0 +0.5**
VOIR 72.81 343 ⇓P **P 23 23 14.1 +2.6**
SSF Saint Saulge 72.82 359 *e*P **P 23 23 10.5 -1.0**
comp=Z,410nm,1.4s
PKSM Moragy 72.83 348⇑*i*P **P 23 23 10.2 -1.3**
PKSM Moragy 72.83 348 ⇑P **P 23 23 10.2 -1.3**
PKSM Moragy 72.83 348 *e*P **P 23 23 12.8 +1.3**
MYKA Terra Mystica 72.85 352⇑*i*P **P 23 23 11.1 -0.6**
comp=Z,108nm,1.3s,SNR=32
OBKA Obir 72.90 351 *i*P **P 23 23 11.5 -0.6**
comp=Z,425nm,1.6s,SNR=76
ARR Arges 72.94 344⇑*i*P **P 23 23 14.7 +2.4**
LOT Lotru 72.97 344⇓*i*P **P 23 23 12.1 -0.5**
MTUR Matau 73.01 343⇓*i*P **P 23 23 13.0 +0.2**
MTUR Matau 73.01 343 ⇓P **P 23 23 13.0 +0.2**
KKM Kota Kinabalu 73.04 252 *e*P **P 23 23 12.6 -0.7**
comp=Z,416nm,1.8s
KKM LR LR
comp=Z,17µm,22.0s
PGOR Pogoanele 73.04 342⇑*i*P **P 23 23 11.7 -1.1**
SECR 73.05 343⇑*i*P **P 23 23 11.2 -1.7**
FUORN Ofenpass-Fuorn 73.06 354 *e*P **P 23 23 12.4 -0.8**
comp=Z,716nm,2.1s
BZS Buzias 73.08 346⇓*i*P **P 23 23 11.6 -1.4**
BZS Buzias 73.08 346 ⇓P **P 23 23 11.6 -1.4**
AVF Avril sur Loir 73.09 359 *e*P **P 23 23 12.0 -1.1**
comp=Z,413nm,1.3s
HARR Harsova 73.10 341⇑*i*P **P 23 23 13.2 +0.1**
HARR Harsova 73.10 341 ⇑P **P 23 23 13.2 +0.1**
GZR Gura Zlata 73.16 345⇑*i*P **P 23 23 12.5 -1.1**
GZR Gura Zlata 73.16 345 ⇑P **P 23 23 12.5 -1.1**
TLB Topalu 73.19 341⇓*i*P **P 23 23 13.4 -0.2**
TLB Topalu 73.19 341 ⇓P **P 23 23 13.4 -0.2**
CABF La Chapelle 73.23 357 *e*P **P 23 23 13.2 -0.8**
comp=Z,466nm,1.4s
SMF Signal de Mont 73.23 359 *e*P **P 23 23 12.7 -1.2**
comp=Z,362nm,1.3s
TIRR Tirgusor 73.25 341⇑*i*P **P 23 23 13.6 -0.4**
TIRR Tirgusor 73.25 341 *e*P **P 23 23 12.9 -1.1**
TIRR pmax pmax
comp=Z,81nm,1.1s
TIRR Tirgusor 73.25 341 *e*P **P 23 23 12.9 -1.1**
comp=Z,81nm,1.1s
TUE Stuetta 73.25 355 PFAKE 23 23 20.0 +5.7
TUE LR LR
comp=Z,56µm,19.0s
MFF Saint Martin d 73.27 2 *e*P **P 23 23 13.2 -0.9**
comp=Z,593nm,1.4s
LJU Ljubljana 73.36 351 *i*P **P 23 23 13.5 -1.2**
LJU *e* 23 23 19.8
LJU *e*PcP **PcP 23 23 34.7 +3.8**
LJU *e*S **SKiKP 23 32 44.0 -0.9**
BANR Banloc 73.37 346⇓*i*P **P 23 23 14.9 +0.2**
SULR 73.37 342⇑*i*P **P 23 23 14.0 -0.7**
SENIN Lac Senin/Sane 73.44 356 *e*P **P 23 23 14.6 -0.8**
JAVS Javornik 73.55 351 *i*P P 23 23 12.2 -3.7
JAVS *i* 23 23 20.6
JAVS *e*S **SKiKP 23 32 49.9 +4.7**
EFOR EFORIE 73.58 340⇓*i*P P 23 23 20.9 +4.9
TCF Toulx Ste Croi 73.60 360 *e*P **P 23 23 14.9 -1.2**
comp=Z,216nm,1.2s
MSAB Monastry St. A 73.70 341⇑*i*P **P 23 23 16.0 -0.7**
HUMR Humele 73.71 343⇓*i*P **P 23 23 18.4 +1.7**
SISC Sisak 73.78 350 P **P 23 23 19.4 +2.3**
GNI Garni 73.84 327 *e*P **P 23 23 20.9 +3.0**
GNI Garni 73.84 327 *d i*P **P 23 23 20.5 +2.7**
GNI pmax pmax
comp=Z,154nm,1.5s
GNI Garni 73.84 327⇑*i*P **P 23 23 20.8 +3.0**
SNR=16
GNI Garni 73.84 327 ⇑pP **P 23 23 18.4 +0.6**
SNR=23
GNI Garni 73.84 327 *e*P **P 23 23 17.1 -0.6**
comp=Z,1µm,2.4s
GNI LR LR
comp=Z,89µm,19.0s
BOJS Bojanci 73.84 350 *e*P **P 23 23 16.1 -1.4**
BOJS *i* 23 23 20.5
BOJS *i*PcP **PcP 23 23 29.3 -3.7**
BOJS *e*S **S 23 32 52.8 +4.5**
BOJS *e* 23 33 37.1
LBMI Labuha 73.92 238 P **P 23 23 19.4 +1.1**
comp=Z,121nm,1.0s,comp=Z,3µm
CHBT CHBT 73.98 268 P **P 23 23 19.2 +0.5**
comp=Z,103nm,1.3s,comp=Z,3µm
PSN Preselentsi 74.04 341⇑*i*P P 23 23 21.9 +3.2
PSN Preselentsi 74.04 341 ⇑P P 23 23 21.9 +3.2
PSN Preselentsi 74.04 341 *e*P **P 23 23 20.0 +1.3**
FAKI Fak Fak 74.05 233 P **P 23 23 19.6 +0.5**
comp=Z,143nm,1.1s,comp=Z,3µm
KHLT Khaolaem Dam 74.08 272 P **P 23 23 20.6 +1.3**
comp=Z,47nm,0.9s,comp=Z,942nm
SRDT SRDT 74.20 271 P **P 23 23 20.3 +0.3**
comp=Z,185nm,1.5s,comp=Z,9µm
AFI Afiamalu 74.29 174 PFAKE 23 23 30.0 +10
AFI LR LR
comp=Z,13µm,22.0s
LPL La Plagne 74.30 357 *e*P **P 23 23 20.1 -0.4**
comp=Z,201nm,1.4s
KTUT Trabzon 74.31 331 *e*P **P 23 23 23.4 +3.2**
LPG La Plagne 74.32 357 *e*P **P 23 23 20.4 -0.3**
comp=Z,182nm,1.4s
KMSI Cibinong 74.34 242 P **P 23 23 20.9 +0.1**
comp=Z,246nm,1.4s,comp=Z,7µm
RJF Les Rejaudoux 74.58 0 *e*P **P 23 23 20.6 -1.2**
comp=Z,357nm,1.6s
RJF *e*R
comp=Z,51µm,20.2s
SSB Saint Sauveur 74.59 358 PFAKE 23 23 30.0 +8.1
SSB LR LR
comp=Z,28µm,20.0s
ESPY Espiye-Giresun 74.62 332 *e*P **P 23 23 21.9 -0.2**
PRD Provadia 74.64 341 *e*P **P 23 23 24.3 +2.1**
DIKM Dikmen 74.68 335 *e*P P 23 23 27.1 +4.7
UDBI Udbina 74.77 350 P **P 23 23 23.4 +0.4**
BNI Bardonecchia 74.77 357 *e*P **P 23 23 22.9 -0.2**
BNI pmax pmax
comp=Z,505nm,2.0s
BNI MLR MLR
comp=Z,31µm,19.0s
BNI Bardonecchia 74.77 357 *e*P **P 23 23 22.9 -0.2**
comp=Z,505nm,2.0s
BNI LR LR
comp=Z,31µm,19.0s
DIVS Divibare 74.77 347 P **P 23 23 21.9 -1.2**
DIVS Divibare 74.77 347⇑*i*P **P 23 23 20.9 -2.2**
BAYT Ayd˘ntepe-Bay 74.78 331 *e*P **P 23 23 25.9 +2.6**
SZH Strazhica 74.80 342 *e*P **P 23 23 24.3 +1.2**
NVLJ Novalja 74.81 351 P **P 23 23 21.3 -1.8**
AGRB Hanur-Agry 74.84 328 *e*P P 23 23 27.4 +3.8
GUMT Gumushane 74.87 331 *e*P P 23 23 27.3 +3.5
ORIF Oris-en-Rattie 74.92 357 *e*P **P 23 23 23.5 -0.4**
comp=Z,104nm,1.0s
ORIF *e*R
comp=Z,50µm,20.2s
EZM Erzurum 74.94 330 *e*P **P 23 23 25.9 +1.6**
LFF La Frestale 74.94 1 *e*P **P 23 23 23.1 -0.8**
comp=Z,493nm,1.4s
BYBT Boyabat 74.96 335 *e*P P 23 23 27.9 +3.8
CAF Calviac 74.96 0 *e*P **P 23 23 23.3 -0.8**
comp=Z,336nm,1.4s
PMG Port Moresby 74.97 216 *e*P **P 23 23 23.8 -0.5**
PMG pmax pmax
comp=Z,82nm,1.0s
PMG MLR MLR
comp=Z,23µm,22.0s
PMG Port Moresby 74.97 216 *e*P **P 23 23 23.8 -0.5**
comp=Z,82nm,1.0s
PMG LR LR
comp=Z,23µm,22.0s
CLDR Caldiran 75.00 328 *e*P P 23 23 28.7 +4.1
VIVF Saint-Julien-l 75.01 358 *e*P **P 23 23 23.6 -0.8**
comp=Z,248nm,1.4s
MPEP Malo Peshtene 75.03 344 *e*P **P 23 23 25.5 +1.0**
KVT Kavak 75.06 334 *e*P P 23 23 28.2 +3.5
MBDF Montbardon 75.09 357 *e*P **P 23 23 24.8 -0.2**
comp=Z,254nm,1.2s
MRSI Marisa 75.33 244 P **P 23 23 26.7 +0.2**
comp=Z,92nm,2.0s,comp=Z,2µm
AJM Ajmer 75.42 298 *ex* **P 23 23 26.0 -1.0**
RSDY Resadiye-TOKAT 75.43 333 *e*P P 23 23 30.9 +4.0
VLC Villacollemand 75.51 354 *e*P **P 23 23 27.7 +0.5**
comp=Z,1µm,2.5s
VLC LR LR
comp=Z,56µm,21.0s
PLE Pljevlja 75.60 347 *e*P **P 23 23 29.0 +1.1**
SAFT Safranbolu 75.60 337 *e*P **P 23 23 27.9 +0.1**
VRTB Varto-Mus 75.62 329 *e*P P 23 23 31.9 +3.8
VANB Van 75.65 328 *e*P **P 23 23 30.6 +2.3**
TOKT Tokat 75.68 334 *e*P **P 23 23 28.9 +0.6**
PGB Panagyurishte 75.76 343 *e*P **P 23 23 31.2 +2.4**
KDZE Karadeniz Ereo 75.77 338 *e*P **P 23 23 30.9 +2.2**
MSAI Masohi 75.78 236 P **P 23 23 29.5 +0.5**
comp=Z,24nm,1.1s,comp=Z,2µm
UPM Unac-Piva 75.78 347⇓*i*P **P 23 23 29.8 +0.8**
LASF Ste Croix 75.80 359 *e*P **P 23 23 28.5 -0.4**
comp=Z,280nm,1.7s
SANI Sanana 75.83 239 P **P 23 23 29.6 +0.3**
comp=Z,79nm,0.9s,comp=Z,2µm
VTS Vitosha 75.86 344 P **P 23 23 27.0 -2.4**
VTS Vitosha 75.86 344 *e*P P 23 23 33.7 +4.3
VTS Vitosha 75.86 344⇑*i*P **P 23 23 27.0 -2.4**
VTS Vitosha 75.86 344 ⇑P **P 23 23 27.0 -2.4**
VTS Vitosha 75.86 344 *e*P **P 23 23 30.0 +0.6**
VTS Vitosha 75.86 344 *e*P P 23 23 27.0 -2.4
SMRF Simiane la Rot 75.87 357 *e*P **P 23 23 29.4 +0.1**
comp=Z,412nm,1.4s
SBF Sospel 75.93 356 *e*P **P 23 23 28.5 -1.2**
comp=Z,160nm,0.8s
BNGB Bing˜¶l 75.97 330 *e*P P 23 23 35.9 +5.8
IVA Berane 75.99 347⇓*i*P **P 23 23 31.0 +0.9**
CANT Cankiri 76.02 336 *e*P P 23 23 34.9 +4.6
ILIC ilic-Erzincan 76.05 332 *e*P P 23 23 39.9 +9.3
EDRB Edirne 76.06 341 P **P 23 23 31.8 +1.4**
EDRB Edirne 76.06 341 *e*P **P 23 23 33.5 +3.1**
EDRB Edirne 76.06 341 *e*P **P 23 23 31.8 +1.4**
BRY Bratogost 76.11 348⇓*i*P **P 23 23 31.4 +0.5**
PLD Plovdiv 76.12 343 P **P 23 23 29.8 -0.9**
PLD Plovdiv 76.12 343 *e*P **P 23 23 29.8 -0.9**
PLD Plovdiv 76.12 343 *e*P **P 23 23 29.8 -0.9**
NKY Niksic 76.15 347⇓*i*P **P 23 23 31.2 +0.2**
NKME Niksic 76.20 347⇓*i*P **P 23 23 31.4 +0.2**
CORM Corum 76.23 335 *e*P P 23 23 36.0 +4.5
STON Ston 76.23 348 P **P 23 23 31.1 -0.2**
SILT Sile 76.25 339 *e*P P 23 23 36.0 +4.5
PVY Plav 76.26 347 *e*P **P 23 23 31.8 +0.1**
FRF La Foret Royal 76.26 357 *e*P **P 23 23 30.7 -0.8**
comp=Z,206nm,1.4s
LUWI Luwuk 76.31 242 P **P 23 23 32.0 -0.1**
comp=Z,101nm,1.2s,comp=Z,2µm
MPSI Mapaga 76.37 246 P **P 23 23 32.3 -0.1**
comp=Z,49nm,1.1s,comp=Z,1µm
BGKT Bogazkoy 76.38 340 *e*P P 23 23 35.5 +3.3
PTK Pertek 76.38 331 *e*P P 23 23 36.9 +4.3
NLAI Namlea 76.43 237 P **P 23 23 33.1 +0.4**
comp=Z,63nm,1.0s,comp=Z,2µm
ISK Istanbul-Kandi 76.44 339 P **P 23 23 35.0 +2.5**
ISK Istanbul-Kandi 76.44 339 *e*P P 23 23 36.0 +3.5
ISK Istanbul-Kandi 76.44 339 *e*P **P 23 23 35.0 +2.5**
ISK Istanbul-Kandi 76.44 339 *e*P **P 23 23 35.0 +2.5**
KDZ Kurdzhali 76.46 342⇑*i*P **P 23 23 33.1 +0.4**
KDZ Kurdzhali 76.46 342 ⇑P P 23 23 33.1 +0.4
KDZ Kurdzhali 76.46 342 *e*P P 23 23 22.0 -11
LMR La Mourre 76.49 357 *e*P **P 23 23 31.9 -0.9**
comp=Z,317nm,1.5s
PDG Podgorica 76.50 347 P **P 23 23 33.9 +1.1**
TTG Podgorica 76.50 347 *e*P **P 23 23 33.8 +0.9**
TTG Podgorica 76.50 347 *e*P **P 23 23 33.9 +1.1**
TTG Podgorica 76.50 347 *e*P **P 23 23 33.9 +1.1**
HKR Hakkari 76.52 327 *e*P **P 23 23 36.4 +3.1**
H07N1 FLORES T-PHASE 76.53 26 *e*P **P 23 23 32.6 -0.5**
MTLF Montolieu 76.55 360 *e*P **P 23 23 32.5 -0.6**
comp=Z,201nm,1.3s
HCY Herceg Novi 76.57 348⇓*i*P **P 23 23 34.5 +1.2**
HRT Hereke 76.57 339 *e*P **P 23 23 35.8 +2.5**
KKB Krupnik 76.58 344 *e*P **P 23 23 33.8 +0.4**
SPNC Sapanca-Adapaz 76.59 338 *e*P **P 23 23 36.4 +3.0**
CRLT Corlu 76.60 340 *e*P P 23 23 36.9 +3.4
MDUB Mudumu 76.63 338 *e*P **P 23 23 36.9 +3.1**
SVAN Silvan-Diyarba 76.64 329 *e*P **P 23 23 36.4 +2.6**
BUM Brajici-Budva 76.67 347⇓*i*P **P 23 23 34.7 +0.8**
SKO Skopje 76.70 345 P **P 23 23 36.4 +2.4**
SKO Skopje 76.70 345 *e*P **P 23 23 36.4 +2.4**
SKO Skopje 76.70 345 *e*P **P 23 23 36.4 +2.4**
SJPF Ste Jean 76.74 3 *e*P **P 23 23 33.7 -0.5**
comp=Z,190nm,1.5s
DRME Dracevica, Mon 76.75 347⇓*i*P **P 23 23 35.0 +0.7**
MMB Musomiste 76.77 344⇑*i*P **P 23 23 33.7 -0.8**
MMB Musomiste 76.77 344 ⇑P **P 23 23 33.7 -0.8**
MMB Musomiste 76.77 344 *e*P **P 23 23 36.3 +1.8**
TKR Tekirdag 76.77 341 *e*P **P 23 23 36.4 +2.0**
H07S1 FLORES T-PHASE 76.81 26 *e*P **P 23 23 35.3 +0.6**
H07S1 *e*S **S 23 33 19.1 -2.3**
EPF Esparros 76.84 1 *e*P **P 23 23 33.3 -1.6**
comp=Z,184nm,1.5s
CUKT Cukurca 76.86 327 *e*P **P 23 23 36.4 +1.2**
BR101 Keskin Array S 76.87 336 *e*P **P 23 23 34.9 -0.3**
BRTR Keskin Array B 76.87 336 P **P 23 23 34.9 -0.3**
comp=Z,18nm,1.1s,baz=29,slow=2.8,SNR=19
BRTR PKPPKP **P'P'df 23 50 48.5 -4.2**
comp=Z,1.1nm,1.0s,baz=211,slow=1.2,SNR=3.8
BRTR LR LR 00 03 01.7
comp=Z,43µm,19.4s,baz=14,slow=40
LOD Lodumlu 76.89 336 *e*P **P 23 23 36.9 +1.7**
SVRC Sivrice-ELAZID 76.89 331 *e*P P 23 23 39.7 +4.4
ANTO Ankara 76.90 336 *e*P **P 23 23 37.3 +2.1**
ANTO Ankara 76.90 336⇑*i*P **P 23 23 36.5 +1.2**
ANTO Ankara 76.90 336 *e*P **P 23 23 35.1 -0.2**
ANTO pmax pmax
comp=Z,414nm,1.7s
ANTO MLR MLR
comp=Z,55µm,22.0s
ANTO Ankara 76.90 336 ⇑pP **P 23 23 35.8 +0.5**
SNR=56
ANTO Ankara 76.90 336 *e*P **P 23 23 35.1 -0.2**
comp=Z,414nm,1.7s
ANTO LR LR
comp=Z,55µm,22.0s
SIRT Sirnak 76.93 328 *e*P P 23 23 39.0 +3.4
ETSF Etsaut 76.96 2 *e*P **P 23 23 35.1 -0.5**

| | | |

CMBY	**CAMPBELL BAY**	**83.07**	**272**	*e*P		**P**	**23**	**24**	**08.0**	**-0.9**
CMBY					AMB	AMB	23	24	08.8	
	comp=Z,119nm,0.4s									
ABA	**Alger-Bouzarea**	**83.08**	**359**	P		**P**	**23**	**24**	**10.3**	**+1.7**
LHMI	**Lhok Sumawe**	**83.11**	**268**	P		**P**	**23**	**24**	**09.1**	**+0.1**
	comp=Z,215nm,1.7s,comp=Z,6µmcomp=Z,14µm									
CMAH	**Djebel Manchou**	**83.16**	**356**	P		**P**	**23**	**24**	**11.0**	**+1.9**
DZM	**Mont Dzumac**	**83.23**	**195**	*e*P		P	23	24	15.3	+5.9
	comp=Z,95nm,1.4s									
DZM	**Mont Dzumac**	**83.23**	**195**	*e*S		**S**	**23**	**34**	**32.7**	**+3.5**
	comp=Z,17µm,28.5s									
DZM	**Mont Dzumac**	**83.23**	**195**	*e*LR		LR	23	50	23.8	
	comp=Z,94µm,24.1s									
DFRA	**Djebel Bou Aff**	**83.28**	**357**	P		P	23	24	15.0	+5.2
BANOM	**Banah**	**83.31**	**313**	⇑*i*P		**P**	**23**	**24**	**09.8**	**-0.2**
	SNR=11									
BANOM	**Banah**	**83.31**	**313**	⇓P		**P**	**23**	**24**	**08.5**	**-1.5**
GVD	**Gavdhos**	**83.34**	**342**	P		**P**	**23**	**24**	**12.3**	**+2.3**
GVD	**Gavdhos**	**83.34**	**342**	*e*P		**P**	**23**	**24**	**09.8**	**-0.1**
	comp=Z,641nm,1.6s									
MMRI	**Maumere**	**83.34**	**239**	*e*P		**P**	**23**	**24**	**09.3**	**-0.8**
CKFL	**Kef-Lekhel**	**83.41**	**356**	P		P	23	24	14.0	+3.5
WDD	**Wield Dalam**	**83.47**	**350**	*e*P		**P**	**23**	**24**	**09.2**	**-1.5**
	comp=Z,132nm,1.0s									
WDD					LR	LR				
	comp=Z,36µm,19.0s									
MMLI	**Mount Malkishu**	**83.48**	**332**	*e*P		**P**	**23**	**24**	**13.7**	**+2.8**
ABSA	**Djebel Ababsia**	**83.50**	**356**	P		P	23	24	15.0	+4.0
CASM	**Ain Smara**	**83.55**	**356**	P		**P**	**23**	**24**	**12.5**	**+1.4**
EBNR	**Beni Rached**	**83.59**	**1**	P		P	23	24	07.2	-4.1
SET	**Setif**	**83.64**	**357**	P		P	23	24	15.0	+3.3
EMHD	**Djebel Mahouad**	**83.67**	**359**	P		**P**	**23**	**24**	**14.0**	**+2.1**
ADJB	**Djebel Djouab**	**83.71**	**359**	P		P	23	24	18.3	+6.2
ECHA	**Ech Chlef**	**83.72**	**1**	P		**P**	**23**	**24**	**10.0**	**-1.9**
CTEI	**Djebel Teioual**	**83.75**	**357**	P		**P**	**23**	**24**	**14.0**	**+1.7**
CKHR	**Kef el Ahmar**	**83.82**	**357**	P		P	23	24	16.0	+3.4
AGP	**Aguadilla**	**83.90**	**63**	*e*P		**P**	**23**	**24**	**11.1**	**-1.9**
	comp=Z,356nm,1.1s									
EANR	**'Ain N'Sour**	**83.92**	**1**	P		**P**	**23**	**24**	**15.0**	**+1.9**
KEST	**Kesra**	**83.96**	**354**	P		**P**	**23**	**24**	**12.7**	**-0.6**
	comp=Z,8.0nm,0.8s,baz=265,slow=2.3,SNR=8.9									
KEST					LR	LR	00	05	40.8	
	comp=Z,7µm,18.2s,baz=324,slow=39									
KEST	**Kesra**	**83.96**	**354**	*e*P		**P**	**23**	**24**	**13.1**	**-0.2**
AOPR	**Arecibo Observ**	**84.12**	**63**	*e*P		**P**	**23**	**24**	**13.4**	**-0.8**
	comp=Z,81nm,0.8s									
LRS	**Lares**	**84.13**	**63**	*e*P		**P**	**23**	**24**	**12.9**	**-1.4**
SKHT	**Srikalahasti**	**84.18**	**287**	*e*P		**P**	**23**	**24**	**13.1**	**-1.5**
SKHT					IAmb	IAmb	23	24	17.1	
	comp=Z,190nm,1.7s									
SKHT				*e*PP		**PP**	**23**	**27**	**29.4**	**+0.9**
SKHT				*i*			23	28	59.7	
SKHT				*e*SKSac		**SKSac**	**23**	**34**	**34.3**	**-3.3**
SKHT				*e*S		**S**	**23**	**34**	**38.4**	**-0.8**
SKHT					IVMs_BB	IVMs_BB	00	04	07.3	
	comp=Z,21µm,20.6s									
UOSS	**Wadi Hilu**	**84.24**	**312**	P		**P**	**23**	**24**	**12.8**	**-2.0**
	comp=Z,163nm,0.7s,SNR=5.5									
URV	**Uravakonda**	**84.28**	**290**	*e*P		**P**	**23**	**24**	**14.5**	**-0.6**
URV					IAmb	IAmb	23	24	17.8	
	comp=Z,156nm,1.9s									
URV				*i*			23	28	59.4	
URV				*e*SKSac		**SKSac**	**23**	**34**	**34.8**	**-3.6**
URV				*e*			23	39	23.8	
URV					IVMs_BB	IVMs_BB	00	05	20.4	
	comp=Z,40µm,18.9s									
HATD	**Hatta, Dubai**	**84.38**	**312**	⇑*i*P		**P**	**23**	**24**	**14.9**	**-0.5**
	SNR=14									
NAZ	**Nazwa, Dubai**	**84.40**	**313**	⇓*i*P		**P**	**23**	**24**	**15.3**	**-0.3**
	SNR=13									
CELP	**Cerrillos**	**84.44**	**63**	*e*P		**P**	**23**	**24**	**14.3**	**-1.6**
OBIP	**Obispado Ponce**	**84.45**	**63**	*e*P		**P**	**23**	**24**	**14.9**	**-1.0**
	comp=Z,79nm,0.9s									
ETRT	**Tiaret**	**84.48**	**1**	P		**P**	**23**	**24**	**17.4**	**+1.4**
ASHO	**Ashiyiah**	**84.53**	**312**	⇑*i*P		**P**	**23**	**24**	**16.1**	**-0.2**
	SNR=20									
ASHO	**Ashiyiah**	**84.53**	**312**	⇓P		**P**	**23**	**24**	**13.3**	**-3.0**
	SNR=17									
SJG	**San Juan**	**84.59**	**63**	*e*P		**P**	**23**	**24**	**17.0**	**+0.4**
SJG					pmax	pmax				
	comp=Z,63nm,0.7s									
SJG					MLR	MLR				
	comp=Z,39µm,19.0s									
SJG	**San Juan**	**84.59**	**63**	*e*P		**P**	**23**	**24**	**17.0**	**+0.4**
	comp=Z,63nm,0.7s									
SJG					LR	LR				
	comp=Z,39µm,19.0s									
ICMP	**Isla Caja de M**	**84.63**	**63**	*e*P		**P**	**23**	**24**	**16.2**	**-0.5**
FAQ	**Al Faqa, Dubai**	**84.64**	**313**	⇓*i*P		**P**	**23**	**24**	**16.8**	**0.0**
	SNR=13									
HUMP	**Col San Antoni**	**84.70**	**62**	*e*P		**P**	**23**	**24**	**17.1**	**-0.1**
	comp=Z,130nm,1.5s									
ASUD	**Al Ashush, Dub**	**84.85**	**313**	⇑*i*P		**P**	**23**	**24**	**17.1**	**-0.7**
	SNR=13									
MTP	**Monte Pirata**	**84.87**	**62**	*e*P		**P**	**23**	**24**	**17.6**	**-0.4**
	comp=Z,117nm,0.9s									
STVI	**Saint Thomas**	**84.91**	**61**	*e*P		**P**	**23**	**24**	**17.4**	**-0.8**
	comp=Z,49nm,0.8s									
HOQ	**Hoqain**	**85.07**	**311**	⇑P		**P**	**23**	**24**	**16.4**	**-2.6**
	SNR=26									
SMDO	**Samad**	**85.27**	**310**	⇑P		**P**	**23**	**24**	**18.1**	**-1.9**
	SNR=16									
WBK	**Wadi Bani Khal**	**85.32**	**309**	⇑P		**P**	**23**	**24**	**18.6**	**-1.7**
	SNR=15									
BKNI	**Bangkinang**	**85.33**	**262**	P		**P**	**23**	**24**	**19.4**	**-0.9**
	comp=Z,170nm,1.2s,comp=Z,3µm									
CTA	**Charters Tower**	**85.38**	**214**	P		**P**	**23**	**24**	**18.1**	**-2.2**
	comp=Z,23nm,0.9s,baz=33,slow=5.7,SNR=11									
CTA					LR	LR	23	57	17.5	
	comp=Z,7µm,21.9s,slow=32									
CTAO	**Charters Tower**	**85.38**	**214**	*e*P		**P**	**23**	**24**	**20.7**	**+0.4**
CTAO					pmax	pmax				
	comp=Z,270nm,2.0s									
CTAO					MLR	MLR				
	comp=Z,14µm,22.0s									
CTAO	**Charters Tower**	**85.38**	**214**	*e*P		**P**	**23**	**24**	**20.6**	**+0.4**
	comp=Z,270nm,2.0s									
CTAO					LR	LR				
	comp=Z,14µm,22.0s									
GOA	**Goa**	**85.39**	**293**	*e*P		**P**	**23**	**24**	**19.4**	**-1.2**
ARQ	**Araqi**	**85.59**	**311**	⇓P		**P**	**23**	**24**	**19.8**	**-1.8**
	SNR=32									
MNSI	**Mandailing Nat**	**85.64**	**264**	P		**P**	**23**	**24**	**20.7**	**-1.1**
	comp=Z,28nm,1.3s,comp=Z,1µm									
PMOZ	**Porto Moniz, M**	**85.69**	**16**	*e*S		**S**	**23**	**34**	**56.2**	**+2.2**
JMDO	**Jabal Madar**	**85.87**	**310**	⇑P		**P**	**23**	**24**	**21.1**	**-1.8**
	SNR=21									
BSY	**Bisya**	**85.87**	**311**	⇑P		**P**	**23**	**24**	**21.3**	**-1.7**
	SNR=28									
BCIP	**Isla Barro Col**	**86.03**	**79**	*e*P		**P**	**23**	**24**	**23.7**	**-0.1**
	comp=Z,292nm,1.9s									
BCIP					LR	LR				
	comp=Z,23µm,20.0s									
GSI	**Gunungsitoli**	**86.19**	**266**	P		**P**	**23**	**24**	**23.6**	**-1.0**
	comp=Z,133nm,0.9s,comp=Z,4µm									
TBI	**Tubuai**	**86.66**	**154**	*e*S		S	23	35	08.9	+5.9
	comp=Z,11µm,31.0s									
TBI	**Tubuai**	**86.66**	**154**	*e*LQ		LQ	23	47	29.0	
	comp=Z,26µm,38.2s									
ANWB	**Willy Bob**	**86.88**	**59**		PFAKE		23	24	40.0	+12
ANWB					LR	LR				
	comp=Z,39µm,21.0s									
PWJI	**Pagerwojo**	**87.44**	**249**	P		**P**	**23**	**24**	**28.7**	**-1.9**
	comp=Z,81nm,1.1s,comp=Z,2µm									
LHSI	**Lahat**	**87.71**	**258**	P		**P**	**23**	**24**	**31.5**	**-0.4**
	comp=Z,70nm,1.1s,comp=Z,2µm									
MDSI	**Maura Dua**	**87.97**	**257**	P		**P**	**23**	**24**	**31.0**	**-2.2**
	comp=Z,35nm,1.4s,comp=Z,793nm									
LEM	**Lembang**	**88.36**	**253**	P		**P**	**23**	**24**	**33.1**	**-2.1**
	comp=Z,15nm,0.3s,baz=130,slow=2.9,SNR=6.1									
WRAB	**Tennant Creek**	**88.93**	**224**	P		**P**	**23**	**24**	**38.0**	**+0.5**
	comp=Z,307nm,1.1s,SNR=8.2									
WRAB	**Tennant Creek**	**88.93**	**224**	⇑*i*P		**P**	**23**	**24**	**38.4**	**+0.9**
WRAB					pmax	pmax				
	comp=Z,106nm,1.3s									
WRAB	**Tennant Creek**	**88.93**	**224**	*e*P		**P**	**23**	**24**	**37.0**	**-0.5**
	comp=Z,85nm,1.2s									
WRAB					LR	LR				
	comp=Z,14µm,22.0s									
WRA	**Warramunga Arr**	**88.94**	**224**	P		**P**	**23**	**24**	**35.6**	**-1.9**
	comp=Z,21nm,1.1s,baz=27,slow=4.7,SNR=26									
WRA					LR	LR	23	59	32.2	
	comp=Z,7µm,21.0s,baz=55,slow=32									
RAYN	**Ar Rayn**	**89.19**	**321**		PFAKE		23	24	50.0	+11
RAYN					LR	LR				
	comp=Z,80µm,20.0s									

EIDS	**Eidsvold**	**89.21**	**208**	*e*P		**P**	**23**	**24**	**38.2**	**-0.5**
	comp=Z,254nm,2.3s									
PALK	**Pallekele**	**89.33**	**283**	P		**P**	**23**	**24**	**37.7**	**-2.0**
	comp=Z,420nm,1.1s,SNR=6.1									
PALK	**Pallekele**	**89.33**	**283**	*e*P		**P**	**23**	**24**	**37.7**	**-2.0**
PALK					pmax	pmax				
	comp=Z,57nm,1.1s									
PALK	**Pallekele**	**89.33**	**283**	⇑*i*P		**P**	**23**	**24**	**40.1**	**+0.4**
	comp=Z,57nm,1.1s									
PALK	**Pallekele**	**89.33**	**283**	⇑P		**P**	**23**	**24**	**37.6**	**-2.0**
	SNR=8.8									
PALK	**Pallekele**	**89.33**	**283**	*e*P		**P**	**23**	**24**	**37.7**	**-2.0**
	comp=Z,57nm,1.1s									
RAO	**Raoul Island**	**89.39**	**180**	LR		LR	23	58	38.5	
	comp=Z,5µm,20.6s,baz=24,slow=32									
RAO	**Raoul Island**	**89.39**	**180**	PFAKE			23	24	50.0	+11
RAO					LR	LR				
	comp=Z,23µm,22.0s									
FDF	**Fort de France**	**89.76**	**60**	PFAKE			23	24	50.0	+8.3
FDF					LR	LR				
	comp=Z,38µm,20.0s									
TRD	**Trivandrum**	**90.04**	**287**	*e*P		**P**	**23**	**24**	**42.8**	**-0.2**
TRD					AMB	AMB	23	25	17.4	
	comp=Z,122nm,0.9s									
RKT	**Rikitea**	**90.28**	**141**	*e*S		**S**	**23**	**35**	**42.2**	**+5.0**
	comp=Z,5µm,28.3s									
RKT				*e*SS		SS	23	41	44.9	+7.2
	comp=Z,1µm,30.0s									
RKT				*e*LQ		LQ	23	49	35.2	
	comp=Z,17µm,38.8s									
RKT				*e*LR		LR	23	53	43.0	
	comp=Z,14µm,23.5s									
FITZ	**Fitzroy Crossi**	**90.47**	**232**	*e*P		**P**	**23**	**24**	**43.0**	**-1.8**
SDV	**Santo Domingo**	**90.66**	**71**	*e*P		**P**	**23**	**24**	**44.0**	**-2.2**
	comp=Z,309nm,2.3s									
SDV					LR	LR				
	comp=Z,40µm,20.0s									
RBK	**Rabkut**	**91.78**	**311**	⇓P		**P**	**23**	**24**	**49.2**	**-1.9**
BBGH	**Gun Hill**	**91.86**	**59**	PFAKE			23	25	00.0	+8.6
BBGH					LR	LR				
	comp=Z,57µm,22.0s									
GRGR	**Grenville**	**91.86**	**61**	PFAKE			23	25	00.0	+8.5
GRGR					LR	LR				
	comp=Z,35µm,20.0s									
ABTO	**Aybut**	**92.25**	**312**	⇓P		**P**	**23**	**24**	**50.8**	**-2.5**
ROSC	**El Rosal**	**92.43**	**76**	LR		LR	00	11	14.3	
	comp=Z,17µm,19.1s,baz=5.5,slow=39									
AS12	**Alice Springs**	**92.54**	**223**	*e*P		**P**	**23**	**24**	**52.1**	**-2.1**
ASAR	**Alice Springs**	**92.54**	**223**	P		**P**	**23**	**24**	**52.1**	**-2.1**
	comp=Z,11nm,1.0s,baz=20,slow=4.7,SNR=22									
ASAR					LR	LR	00	00	52.7	
	comp=Z,6µm,21.9s,baz=14,slow=32									
PTCN	**Pitcairn Islan**	**93.67**	**138**	PFAKE			23	25	10.0	+11
PTCN					LR	LR				
	comp=Z,15µm,20.0s									
OTAV	**Otavalo**	**94.44**	**82**	*e*P		**P**	**23**	**25**	**02.0**	**-1.9**
	comp=Z,52nm,1.4s									
OTAV					LR	LR				
	comp=Z,16µm,22.0s									
MBWA	**Marble Bar**	**95.60**	**236**	PFAKE			23	25	20.0	+12
MBWA					LR	LR				
	comp=Z,7µm,22.0s									
TAM	**Tamanrasset**	**96.99**	**357**	PFAKE			23	25	20.0	+4.9
TAM					LR	LR				
	comp=Z,27µm,20.0s									
COCO	**West Island**	**98.20**	**260**	PFAKE			23	25	30.0	+10
COCO					LR	LR				
	comp=Z,11µm,20.0s									
URZ	**Urewera**	**98.47**	**184**	LR		LR	00	04	44.6	
	comp=Z,4µm,21.1s,baz=39,slow=32									
SNZO	**South Karori**	**101.61**	**186**	PFAKE			23	25	40.0	+5.3
SNZO					LR	LR				
	comp=Z,15µm,21.0s									
SACV	**Santiago Islan**	**102.02**	**25**	PFAKE			23	25	50.0	+13
SACV					LR	LR				
	comp=Z,18µm,20.0s									
PTGA	**Pitinga**	**104.04**	**66**	PFAKE			23	26	00.0	+14
PTGA					LR	LR				
	comp=Z,18µm,21.0s									
NNA	**Nana**	**105.77**	**86**	PFAKE			23	30	20.0	
NNA					LR	LR				
	comp=Z,14µm,19.0s									
DGAR	**Diego Garcia**	**106.08**	**284**	PFAKE			23	30	20.0	
DGAR					LR	LR				
	comp=Z,22µm,21.0s									
TORD	**Torodi Ar. Bea**	**106.63**	**0**	Pdiff		**Pdif**	**23**	**25**	**59.1**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=347,slow=4.8,SNR=5.3									
TORD					PKKPbc	**PKKPbc**	**23**	**41**	**29.2**	**+4.5**
	comp=Z,2.4nm,1.1s,baz=158,slow=2.0,SNR=5.5									
TAU	**Tasmania Unive**	**106.89**	**206**	PFAKE			23	30	20.0	
TAU					LR	LR				
	comp=Z,10µm,19.0s									
SAML	**Samuel**	**109.79**	**73**	PFAKE			23	30	20.0	
SAML					LR	LR				
	comp=Z,32µm,22.0s									
MSEY	**Mahe Island**	**111.42**	**301**	PFAKE			23	30	30.0	
MSEY					LR	LR				
	comp=Z,27µm,20.0s									
LIC	**Lamto**	**113.27**	**8**	*e*P		**Pdif**	**23**	**26**	**25.7**	**-1.8**
	comp=Z,95nm,1.8s									
LIC				*e*R						
	comp=Z,30µm,20.5s									
KMBO	**Kilima Mbogo**	**114.97**	**321**	PFAKE			23	30	30.0	+5.5
KMBO					LR	LR				
	comp=Z,30µm,20.0s									
RCBR	**Riachuelo**	**118.41**	**44**	PFAKE			23	30	40.0	+9.2
RCBR					LR	LR				
	comp=Z,32µm,21.0s									
LVC	**Limon Verde**	**118.73**	**85**	PFAKE			23	30	40.0	+8.6
LVC					LR	LR				
	comp=Z,11µm,20.0s									
BDFB	**Brasilia**	**122.58**	**61**	PKP		**PKPdf**	**23**	**30**	**37.9**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=324,slow=1.5,SNR=1.9									
BDFB	**Brasilia**	**122.58**	**61**	PKIKP		**PKPdf**	**23**	**30**	**37.9**	**-0.9**
BDFB					pmax	pmax				
	comp=Z,12nm,0.6s									
BDFB	**Brasilia**	**122.58**	**61**	*e*PKPdf		**PKPdf**	**23**	**30**	**36.9**	**-1.9**
LCO	**Las Campanas**	**123.17**	**91**	PFAKE			23	30	50.0	+10
LCO					LR	LR				
	comp=Z,9µm,20.0s									
RER	**Riviere de l'E**	**125.88**	**292**	PFAKE			23	30	50.0	+5.1
RER					LR	LR				
	comp=Z,12µm,21.0s									
ASCN	**Ascension**	**126.13**	**20**	PFAKE			23	31	00.0	+14
ASCN					LR	LR				
	comp=Z,15µm,19.0s									
CPUP	**Villa Florida**	**127.52**	**77**	PKP		**PKPdf**	**23**	**30**	**46.8**	**-1.0**
	comp=Z,0.8nm,1.0s,baz=326,slow=2.4,SNR=1.8									
CPUP	**Villa Florida**	**127.52**	**77**	PKIKP		**PKPdf**	**23**	**30**	**46.8**	**-1.0**
CPUP					pmax	pmax				
	comp=Z,8.0nm,1.0s									
CPUP	**Villa Florida**	**127.52**	**77**	*e*PKPdf		**PKPdf**	**23**	**30**	**48.3**	**+0.5**
ABPO	**Ambohimpanom**	**127.76**	**302**	PFAKE			23	31	00.0	+11
ABPO					LR	LR				
	comp=Z,30µm,21.0s									
AIS	**Amsterdam Isla**	**128.97**	**260**	PP		PP	23	32	38.0	-20
AIS					SP	SP	23	42	57.0	-8.1
AIS					L	L	00	05	00.0	
DRV	**Dumont d'Urvil**	**130.58**	**201**	PP		PP	23	32	54.0	-14
DRV					SS	SS	23	50	20.0	-16
DRV					L	L	00	05	00.0	
DRV					R		00	11	00.0	
LSZ	**Lusaka**	**131.07**	**326**	PFAKE			23	31	00.0	+5.0
LSZ					LR	LR				
	comp=Z,16µm,20.0s									
PLCA	**Paso Flores**	**132.58**	**100**	PKP		**PKPdf**	**23**	**30**	**56.1**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=359,slow=3.7,SNR=4.8									
PLCA	**Paso Flores**	**132.58**	**100**	PKIKP		**PKPdf**	**23**	**30**	**56.2**	**-0.9**
PLCA					pmax	pmax				
	comp=Z,38nm,0.7s									
PLCA	**Paso Flores**	**132.58**	**100**	*e*PKPdf		**PKPdf**	**23**	**30**	**55.6**	**-1.5**
TRQA	**Tornquist**	**134.74**	**90**	PFAKE			23	31	10.0	+8.8
TRQA					LR	LR				
	comp=Z,18µm,21.0s									
SHEL	**Horse Pasture**	**135.18**	**11**	PFAKE			23	31	10.0	+7.3
SHEL					LR	LR				
	comp=Z,16µm,20.0s									
CASY	**Casey**	**136.99**	**214**	PFAKE			23	31	10.0	+5.6
CASY					LR	LR				
	comp=Z,8µm,20.0s									
TSUM	**Tsumeb**	**137.33**	**338**	PFAKE			23	31	20.0	+13
TSUM					LR	LR				
	comp=Z,19µm,19.0s									
VNDA	**Vanda**	**138.31**	**187**	PKP		**PKPdf**	**23**	**31**	**05.7**	**-0.9**
	comp=Z,1.8nm,1.1s,baz=32,slow=4.4,SNR=3.1									
VNDA	**Vanda**	**138.31**	**187**	PKIKP		**PKPdf**	**23**	**31**	**05.7**	**-0.9**

VNDA					pmax	pmax			
	comp=Z,18nm,1.1s								
VNDA	**Vanda**	**138.31**	**187**	*e*PKPdf		**PKPdf**	**23**	**31**	**06.8**	**+0.2**
SBA	**Scott Base**	**138.40**	**185**	*e*PKIKP		**PKPdf**	**23**	**31**	**07.1**	**+0.4**
SBA					MLR	MLR				
	comp=Z,8µm,20.0s									
SBA	**Scott Base**	**138.40**	**185**	*e*PKPdf		**PKPdf**	**23**	**31**	**07.1**	**+0.4**
SBA					LR	LR				
	comp=Z,8µm,20.0s									
LBTB	**Lobatse**	**141.04**	**325**	*e*PKIKP		**PKPdf**	**23**	**31**	**10.4**	**-2.9**
LBTB	**Lobatse**	**141.04**	**325**	*e*PKPdf		**PKPdf**	**23**	**31**	**10.4**	**-2.9**
PAF	**Port-aux-Franc**	**141.10**	**255**	PP		PP	23	34	05.0	-10
PAF					SKKS		23	45	44.0	
PAF					SS	SS	23	52	34.0	-8.4
PAF					L	L	00	10	00.0	
PAF	**Port-aux-Franc**	**141.10**	**255**	PFAKE			23	31	20.0	+7.6
PAF					LR	LR				
	comp=Z,14µm,22.0s									
USHA	**Ushuaia**	**143.50**	**113**	PKP		PKPbc	23	31	15.0	+1.1
	comp=Z,27nm,1.0s,baz=291,slow=4.8,SNR=9.1									
EFI	**East Falkland**	**146.40**	**102**	PFAKE			23	31	30.0	+6.1
EFI					LR	LR				
	comp=Z,17µm,20.0s									
SUR	**Sutherland**	**149.33**	**328**	PKPbc		**PKPbc**	**23**	**31**	**30.6**	**-1.1**
	comp=Z,12nm,1.1s,baz=52,slow=6.1,SNR=4.2									
SUR	**Sutherland**	**149.33**	**328**	*e*PKPbc		**PKPbc**	**23**	**31**	**32.3**	**+0.5**
SUR					LR	LR				
	comp=Z,21µm,20.0s									
QSPA	**South Pole Qui**	**150.25**	**180**	PKPbc		**PKPbc**	**23**	**31**	**30.6**	**-2.1**
	comp=Z,39nm,0.8s,baz=244,slow=0.5,SNR=22									
QSPA					PKPab	**PKPab**	**23**	**31**	**39.1**	**0.0**
	comp=Z,211nm,1.0s,baz=353,slow=0.8,SNR=24									
QSPA	**South Pole Qui**	**150.25**	**180**	*e*PKPbc		**PKPbc**	**23**	**31**	**30.6**	**-2.1**
QSPA					LR	LR				
	comp=Z,12µm,20.0s									
PMSA	**Palmer Station**	**150.52**	**127**	PFAKE			23	31	40.0	-0.1
PMSA					LR	LR				
	comp=Z,10µm,20.0s									
MAW	**Mawson**	**153.53**	**229**	PKPbc		**PKPbc**	**23**	**31**	**39.1**	**-1.0**
	comp=Z,31nm,1.1s,baz=105,slow=4.2,SNR=8.8									
MAW					PKPab	**PKPab**	**23**	**31**	**52.2**	**-0.5**
	comp=Z,14nm,0.8s,baz=154,slow=2.1,SNR=7.4									
MAW	**Mawson**	**153.53**	**229**	*e*PKPdf		**PKPdf**	**23**	**31**	**34.5**	**+2.2**
MAW				*e*PKPab		**PKPab**	**23**	**31**	**51.8**	**-0.9**
TRIS	**Tristan da Cun**	**154.83**	**28**	PFAKE			23	31	40.0	-3.8
TRIS					LR	LR				
	comp=Z,12µm,20.0s									
HOPE	**Hope Point**	**158.52**	**91**	PFAKE			23	31	50.0	+11
HOPE					LR	LR				
	comp=Z,22µm,21.0s									
VNA3	**Neumayer Olymp**	**168.19**	**161**	P		**PKPab**	**23**	**33**	**00.7**	**+4.1**
SNAA	**Sanae**	**168.58**	**172**	PKPab		**PKPab**	**23**	**32**	**57.3**	**-1.0**
	comp=Z,1.5nm,1.0s,baz=166,slow=4.2,SNR=2.0									
SNAA	**Sanae**	**168.58**	**172**	PKP2		**PKPab**	**23**	**32**	**57.3**	**-1.0**
SNAA					pmax	pmax				
	comp=Z,15nm,1.0s									
SNAA	**Sanae**	**168.58**	**172**	*e*PKPdf		**PKPdf**	**23**	**31**	**48.3**	**-0.1**
SNAA				*e*PKPab		**PKPab**	**23**

YAK e*PP **pP** **23 21 59.8 +4.7**
YAK eS **S** **23 26 09.3 -2.6**
YAK e 23 32 50.4
YAK pmax pmax
comp=Z,2μm,1.2s
YAK pmax pmax
comp=N,102nm,1.0s
YAK pmax pmax
comp=E,1μm,1.1s
YAK smax smax
comp=E,28μm,5.8s
YAK MLR MLR
comp=Z,78μm,16.0s
YAK MLR MLR
comp=N,63μm,13.0s
YAK **Yakutsk** **24.83 297** eP **P** **23 21 50.3 +0.1**
comp=N,3μm,1.3s
KUR **Kuril'sk** **25.43 249** eP P 23 21 50.3 -5.5
YSS **Yuzh-Sakhalins** **26.60 257**⇓ eP **P** **23 22 06.3 -0.1**
YSS pmax pmax
comp=Z,680nm,1.8s
YSS **Yuzh-Sakhalins** **26.60 257** eP **P** **23 22 06.5 +0.1**
comp=Z,227nm,1.2s
BBB **Bella Bella** **28.04 85** P **P** **23 22 21.4 +2.2**
comp=Z,26nm,1.1s,baz=297,slow=4.5,SNR=2.7
ASAJ **Asahikawa** **28.75 253** P **P** **23 22 24.5 -1.1**
comp=Z,40nm,0.9s,baz=32,slow=3.3,SNR=5.2
ASAJ **Asahikawa** **28.75 253** P **P** **23 22 24.5 -1.1**
ASAJ pmax pmax
comp=Z,40nm,0.9s
ASAJ **Asahikawa** **28.75 253** eP **P** **23 22 26.2 +0.6**
comp=Z,124nm,0.8s
YKA **Yellowknife Ar** **29.10 58** P **P** **23 22 28.0 -0.6**
comp=Z,31nm,1.0s,baz=292,slow=8.5,SNR=8.6
YKA PcP **PcP** **23 25 35.5 -0.4**
comp=Z,4.4nm,0.8s,baz=297,slow=2.4,SNR=4.1
YKB5 **Yellowknife Ar** **29.10 58** eP **P** **23 22 28.1 -0.5**
YKB5 ePcP **PcP** **23 25 35.5 -0.4**
HABR **Khabarovsk** **29.33 267** *ceP* **P** **23 22 29.8 -1.0**
HABR e*PP **pP** **23 22 35.7 0.0**
HABR ePPP PPP 23 23 31.1
HABR e 23 25 36.0
HABR eS **S** **23 27 22.6 -0.6**
HABR e*SS **sS** **23 27 32.8 +1.6**
HABR eSS **SnSn** **23 28 50.0 +0.8**
HABR e 23 29 19.5
HABR e 23 33 10.9
HABR pmax pmax
comp=Z,921nm,1.9s
HABR pmax pmax
comp=N,168nm,1.5s
HABR pmax pmax
comp=E,362nm,1.5s
HABR pmax pmax
comp=Z,739nm,1.5s
HABR MLR MLR
comp=Z,80μm,17.0s
ERM **Erimo** **30.09 250**⇓ *i*P **P** **23 22 38.7 +1.1**
ERM pmax pmax
comp=Z,171nm,1.2s
ERM **Erimo** **30.09 250** eP **P** **23 22 37.2 -0.4**
comp=Z,301nm,1.3s
KLR **Kul'dur** **30.47 271** eP P 23 22 36.8 -4.0
KLR pmax pmax
comp=N,160nm,2.0s
KLR pmax pmax
comp=E,400nm,2.0s
KLR pmax pmax
comp=Z,800nm,2.0s
RES **Resolute Bay** **31.34 30** P **P** **23 22 47.7 -0.5**
comp=Z,32nm,1.0s,baz=288,slow=6.4,SNR=3.6
RES PcP **PcP** **23 25 42.5 +1.0**
comp=Z,32nm,1.0s,baz=318,slow=5.8,SNR=3.7
RES **Resolute Bay** **31.34 30** eP **P** **23 22 48.0 -0.2**
RES pmax pmax
comp=Z,646nm,2.3s
RES **Resolute Bay** **31.34 30** eP **P** **23 22 48.0 -0.2**
comp=Z,646nm,2.3s
NLWA **Neilton Lookou** **33.23 88** eP **P** **23 23 06.8 +1.6**
comp=Z,209nm,1.4s
ALE **Alert** **33.55 12** P **P** **23 23 07.2 -0.4**
comp=Z,528nm,1.5s,SNR=6.0
B06A **Marblemount** **33.65 85** eP **P** **23 23 09.3 +0.6**
comp=Z,219nm,1.3s
BOD **Bodaibo** **33.75 296** eP **P** **23 23 09.0 -0.5**
BOD pmax pmax
comp=Z,519nm,0.9s
USRK **Ussuriysk Ar.** **33.84 264** P **P** **23 23 08.2 -2.2**
comp=Z,35nm,1.0s,baz=53,slow=7.5,SNR=8.0
USRK PcP **PcP** **23 25 49.6 +0.7**
comp=Z,20nm,0.8s,baz=60,slow=2.7,SNR=6.3
E03A **Lebam** **33.97 89** eP **P** **23 23 11.4 -0.1**
comp=Z,606nm,1.4s
D05A **Enumclaw** **34.30 87** eP **P** **23 23 15.2 +0.8**
comp=Z,540nm,1.4s
F03A **Seaside** **34.40 90** eP **P** **23 23 16.3 +1.0**
comp=Z,768nm,1.4s
F04D **Rainier, OR** **34.57 89**⇑ P **P** **23 23 17.4 +0.7**
baz=34
EDM **Edmonton** **34.57 73** eP **P** **23 23 16.6 -0.1**
EDM **Edmonton** **34.57 73** eP **P** **23 23 16.6 -0.1**
VLA **Vladivostok** **34.68 263**⇑ *i*P **P** **23 23 15.5 -2.2**
VLA e 23 24 31.9
VLA e 23 25 50.6
VLA *i* S **S** **23 28 47.7 +1.1**
VLA pmax pmax
comp=Z,53nm,1.0s
LON **Longmire** **34.69 88** eP **P** **23 23 17.6 -0.3**
LON pmax pmax
comp=Z,247nm,1.7s
LON **Longmire** **34.69 88** eP **P** **23 23 17.6 -0.3**
comp=Z,247nm,1.7s
MDJ **Mudanjiang** **34.72 267** P **P** **23 23 16.5 -1.6**
MDJ PMZ
comp=Z,55nm,1.0s
MDJ PMZ
comp=Z,2μm,11.5s
MDJ **Mudanjiang** **34.72 267** eP **P** **23 23 16.2 -1.9**
comp=Z,61nm,1.0s
B08A **Colville Reser** **34.82 84** eP **P** **23 23 19.6 +0.7**
comp=Z,221nm,1.3s
LTY **Liberty** **34.91 86** eP **P** **23 23 19.9 +0.1**
comp=Z,524nm,1.6s
F04A **Amboy** **34.96 89** eP **P** **23 23 21.3 +1.1**
comp=Z,355nm,1.5s
G03D **McMinnville, O** **35.06 91**⇑ P **P** **23 23 22.5 +1.6**
baz=35,SNR=7.1
COR **Corvallis** **35.49 92** eP **P** **23 23 25.5 +0.9**
COR pmax pmax
comp=Z,540nm,1.4s
COR **Corvallis** **35.49 92** eP **P** **23 23 25.5 +0.9**
comp=Z,540nm,1.4s
C09A **Chrisman Ranch** **35.72 83** eP **P** **23 23 28.6 +2.0**
comp=Z,295nm,1.6s
E07A **Sunnyside** **35.80 86** eP **P** **23 23 28.3 +0.9**
D08A **Wollman Farm,** **35.91 85** eP **P** **23 23 29.2 +0.9**
comp=Z,3μm,3.0s
NEW **Newport** **35.97 82** P **P** **23 23 29.4 +0.6**
comp=Z,116nm,1.2s,baz=309,slow=6.8,SNR=14
NEW **Newport** **35.97 82** eP **P** **23 23 28.7 -0.1**
NEW pmax pmax
comp=Z,334nm,1.4s
NEW **Newport** **35.97 82**⇓ P **P** **23 23 30.2 +1.4**
baz=36,SNR=21
NEW ⇓S S 23 28 41.2 -25
baz=36
NEW **Newport** **35.97 82** eP **P** **23 23 28.7 -0.1**
comp=Z,334nm,1.4s
G05D **Wamic, OR** **36.00 89**⇓ P **P** **23 23 29.8 +0.7**
baz=36
HAWA **Hanford** **36.07 86** eP **P** **23 23 29.2 -0.4**
comp=Z,445nm,1.5s
I03D **Drain, OR** **36.11 93**⇑ P **P** **23 23 31.8 +1.8**
baz=36,SNR=6.0
KEBM **Edson Butte** **36.23 94** eP **P** **23 23 30.4 -0.7**
comp=Z,502nm,1.6s
HIA **Hailar** **36.35 281** eP **P** **23 23 31.3 -0.7**
HIA pmax pmax
comp=Z,194nm,1.0s
HIA **Hailar** **36.35 281** eP **P** **23 23 31.3 -0.7**
comp=Z,194nm,1.0s
I04A **Tendick Farm,** **36.50 92**⇓ P **P** **23 23 35.3 +1.8**
baz=36,SNR=7.4
I05D **Terrebonne, OR** **36.64 90**⇑ P **P** **23 23 36.3 +1.7**
baz=37,SNR=7.7
E09A **Wood Farm, Sta** **36.67 85** eP **P** **23 23 35.3 +0.5**

MAJO **Matsushiro** **36.77 250** *d*P **P** **23 23 35.7 -0.1**
MAJO **Matsushiro** **36.77 250** eP **P** **23 23 35.6 -0.1**
comp=Z,380nm,1.1s
MAT **Matsushiro** **36.77 250** P **P** **23 23 36.1 +0.4**
MJAR **Matsushiro Arr** **36.77 250** P **P** **23 23 36.2 +0.5**
comp=Z,166nm,1.0s,baz=16,slow=7.6,SNR=28
MJAR **Matsushiro Arr** **36.77 250** P **P** **23 23 36.2 +0.5**
MJAR pmax pmax
comp=Z,166nm,1.0s
KBO **Bosley Butte** **36.77 95** eP **P** **23 23 37.4 +1.6**
comp=Z,586nm,1.7s
WALA **Waterton Lakes** **36.99 79** eP **P** **23 23 37.8 +0.1**
comp=Z,641nm,1.8s
J04D **Umpqua Nationa** **37.06 92**⇑ P **P** **23 23 40.0 +1.7**
baz=37,SNR=7.1
HUMO **Hull Mountain** **37.11 94** eP **P** **23 23 37.8 -0.8**
comp=Z,287nm,1.5s
L02D **Cave Junction,** **37.12 95**⇑ P **P** **23 23 40.6 +1.9**
baz=37,SNR=6.4
G08A **Pilot Rock** **37.13 87** eP **P** **23 23 40.0 +1.2**
comp=Z,189nm,1.5s
CN2 **Changchun** **37.36 270** eP P 23 23 31.0 -10
CN2 epP pP 23 23 44.5 -1.1
CN2 esP sP 23 23 46.8 -0.8
CN2 eS **S** **23 29 27.3 -0.4**
CN2 pmax pmax
comp=Z,400nm,1.1s
CN2 pmax pmax
comp=Z,4μm,3.0s
CN2 LR LR
comp=N,96μm,17.0s
CN2 LR LR
comp=E,58μm,17.0s
CN2 LR LR
comp=Z,50μm,17.0s
J05D **Fort Rock, OR** **37.46 91**⇓ P **P** **23 23 43.5 +1.8**
baz=37,SNR=7.7
K04D **Chiloquin, OR** **37.69 92**⇑ P **P** **23 23 45.6 +2.0**
baz=38,SNR=5.4
YBMT **Yellow Bay** **37.76 80** eP **P** **23 23 43.7 -0.5**
YBH **Yreka Blue Hor** **37.88 94** P **P** **23 23 45.3 +0.1**
comp=Z,38nm,0.9s,baz=18,slow=9.8,SNR=8.3
YBH **Yreka Blue Hor** **37.88 94** P **P** **23 23 45.3 +0.1**
YBH pmax pmax
comp=Z,38nm,0.9s
YBH **Yreka Blue Hor** **37.88 94** eP **P** **23 23 45.5 +0.3**
comp=Z,338nm,1.5s
SWMT **Swartz Lake** **38.01 80** eP **P** **23 23 46.6 +0.3**
KHMM **Horse Mountain** **38.02 96** eP **P** **23 23 47.1 +0.6**
comp=Z,458nm,1.6s
K05A **Summer Lake** **38.04 92** eP **P** **23 23 46.5 -0.2**
M02C **Callahan** **38.06 95**⇑ P **P** **23 23 48.4 +1.6**
baz=38,SNR=12
BMO **Blue Mountains** **38.26 86** eP **P** **23 23 49.3 +0.9**
comp=Z,564nm,1.8s
M04C **Macdoel** **38.27 93**⇑ P **P** **23 23 50.5 +1.9**
baz=38,SNR=7.2
SLMT **Seeley Lake** **38.45 80** eP **P** **23 23 50.1 +0.1**
N02D **Trinity Center** **38.45 95**⇑ P **P** **23 23 52.0 +2.0**
baz=38,SNR=8.3
MSO **Missoula** **38.52 81**⇑ P **P** **23 23 52.0 +1.5**
baz=38,SNR=14
MSO **Missoula** **38.52 81** eP **P** **23 23 51.0 +0.4**
comp=Z,551nm,1.8s
KMRM **Mail Ridge** **38.53 97** eP **P** **23 23 50.8 +0.1**
comp=Z,321nm,1.4s
CHMT **Chamberlain Mo** **38.79 81** eP **P** **23 23 52.9 -0.1**
WDC **Whiskeytown Da** **38.84 95** eP **P** **23 23 53.6 +0.5**
WDC pmax pmax
comp=Z,326nm,1.7s
WDC **Whiskeytown Da** **38.84 95** eP **P** **23 23 53.6 +0.5**
comp=Z,326nm,1.7s
FFC **Flin Flon** **38.84 64** P **P** **23 23 52.8 -0.2**
comp=Z,367nm,1.5s,SNR=6.8
FFC **Flin Flon** **38.84 64** eP **P** **23 23 52.5 -0.5**
FFC pmax pmax
comp=Z,163nm,1.4s
FFC **Flin Flon** **38.84 64** eP **P** **23 23 52.5 -0.5**
comp=Z,163nm,1.4s
KIPM **Iron Peak** **38.96 97** eP **P** **23 23 54.3 -0.1**
KCPM **Cahto Peak** **39.01 97** eP **P** **23 23 54.5 -0.2**
comp=Z,193nm,1.6s
A19A **Klindworth Far** **39.58 75**⇑ P **P** **23 24 01.1 +1.8**
baz=40,SNR=6.1
FCC **Fort Churchill** **39.60 54** eP **P** **23 23 57.9 -1.4**
FCC pmax pmax
comp=Z,275nm,1.5s
FCC **Fort Churchill** **39.60 54** eP **P** **23 23 57.9 -1.4**
comp=Z,275nm,1.5s
HRY **Hoher Researc** **39.63 80** eP **P** **23 24 00.2 +0.3**
EGMT **Eagleton** **39.72 77**⇓ P **P** **23 24 01.6 +1.0**
baz=40
SNY **Shenyang** **39.75 269**⇓ P **P** **23 24 01.0 +0.3**
SNY PMZ
comp=Z,530nm,1.1s
SNY PMZ
comp=Z,8μm,9.7s
SNY LN
comp=Z,68μm,15.0s
SNY LE
comp=Z,23μm,14.5s
SNY LZ
comp=Z,65μm,15.1s
HOPS **Hopland Field** **39.79 97** eP **P** **23 24 01.1 0.0**
comp=Z,666nm,1.9s
B19A **Brinkman Farms** **39.81 76**⇑ P **P** **23 24 02.7 +1.4**
baz=40,SNR=16
LRM **Limekiln Ridge** **39.96 81** eP **P** **23 24 02.7 -0.1**
A20A **Cobblestone Ra** **40.00 74**⇓ P **P** **23 24 04.1 +1.3**
baz=40
KSSKC **Sokcho** **40.02 261** P **P** **23 24 03.3 +0.4**
SNR=6.5
KSSKC **Sokcho** **40.02 261** P **P** **23 24 03.3 +0.4**
SNR=6.5
MFID **Camas Ranch** **40.04 86** eP **P** **23 24 03.1 -0.2**
comp=Z,507nm,1.6s
SEHB **SEOHWA** **40.16 262** P **P** **23 24 04.6 +0.4**
SNR=10
SEHB **SEOHWA** **40.16 262** P **P** **23 24 04.6 +0.4**
SNR=10
DLMT **Dillon** **40.22 82** eP **P** **23 24 04.6 -0.2**
comp=Z,452nm,1.9s
KSJMJ **Jumunjin** **40.22 261** P **P** **23 24 05.2 +0.6**
SNR=22
KSJMJ **Jumunjin** **40.22 261** P **P** **23 24 05.2 +0.6**
SNR=22
C19A **Slack Wire Ran** **40.26 76**⇑ P **P** **23 24 06.8 +1.8**
baz=40,SNR=15
B20A **Solberg Farm,** **40.26 75**⇓ P **P** **23 24 06.0 +1.0**
baz=40
A21A **Bergtoll Ranch** **40.40 74**⇑ P **P** **23 24 07.1 +1.0**
baz=40
KSDGY **Daegwallycong** **40.41 261** P **P** **23 24 06.8 +0.4**
SNR=7.1
KSDGY **Daegwallycong** **40.41 261** P **P** **23 24 06.8 +0.4**
SNR=7.1
KSIJA **INJE** **40.45 261** P **P** **23 24 06.8 +0.2**
SNR=24
KSIJA **INJE** **40.45 261** P **P** **23 24 06.8 +0.2**
SNR=24
BOZ **Bozeman (W)** **40.49 81** eP **P** **23 24 07.8 +0.8**
BOZ pmax pmax
comp=Z,377nm,1.8s
BOZ **Bozeman (W)** **40.49 81** eP **P** **23 24 07.8 +0.8**
comp=Z,377nm,1.8s
HLID **Hailey** **40.63 85**⇑ P **P** **23 24 09.9 +1.6**
baz=40,SNR=5.4
HLID **Hailey** **40.63 85** eP **P** **23 24 07.2 -1.1**
comp=Z,180nm,1.5s
KSCWO **Cheorwon** **40.67 262** P **P** **23 24 08.6 +0.2**
SNR=31
KSCWO **Cheorwon** **40.67 262** P **P** **23 24 08.6 +0.2**
SNR=31
KSTBA **Taebaek** **40.72 260** P **P** **23 24 09.6 +0.7**
SNR=16
KSTBA **Taebaek** **40.72 260** P **P** **23 24 09.6 +0.7**
SNR=16
KBS **Kingsbay** **40.73 357** eP **P** **23 24 09.0 +0.6**
KBS pmax pmax
comp=Z,65nm,0.9s
KBS **Kingsbay** **40.73 357** eP **P** **23 24 09.0 +0.6**
comp=Z,65nm,0.9s
D19A **Cripps Ranch,** **40.74 77**⇓ P **P** **23 24 10.1 +1.0**
baz=41
B21A **Ellsworth Farm** **40.75 74**⇑ P **P** **23 24 10.2 +1.2**
baz=41
KSCHC **Chuncheon** **40.76 261** P **P** **23 24 09.4 +0.2**
SNR=31
KSCHC **Chuncheon** **40.76 261** P **P** **23 24 09.4 +0.2**
SNR=31
C20A **Veseth Ranch,** **40.78 76**⇓ P **P** **23 24 10.3 +1.1**
baz=41,SNR=5.7
KSULJ **Uljin** **40.83 259** P **P** **23 24 10.3 +0.6**
SNR=12
KSULJ **Uljin** **40.83 259** P **P** **23 24 10.3 +0.6**
SNR=12
A22A **Carney Farms,** **40.88 73**⇓ P **P** **23 24 11.6 +1.5**
baz=41,SNR=8.4
KSYOW **Yeongwol** **40.92 260** P **P** **23 24 11.0 +0.5**
SNR=6.6
KSYOW **Yeongwol** **40.92 260** P **P** **23 24 11.0 +0.5**
SNR=6.6
KSWJU **Wonju** **40.94 261** P **P** **23 24 11.4 +0.6**
SNR=13
KSWJU **Wonju** **40.94 261** P **P** **23 24 11.3 +0.6**
SNR=8.5
KSRS **Korea Array** **40.96 261** P **P** **23 24 11.2 +0.5**
comp=Z,155nm,1.0s,baz=38,slow=8.7,SNR=54
KSRS **Korea Array** **40.96 261** P **P** **23 24 11.3 +0.5**
KSRS pmax pmax
comp=Z,155nm,1.0s
KS15 **Wonju Array Si** **40.99 261** eP **P** **23 24 11.2 +0.2**
YNCB **YEONCHEON** **40.99 263** P **P** **23 24 11.4 +0.4**
SNR=5.5
YNCB **YEONCHEON** **40.99 263** P **P** **23 24 11.4 +0.4**
SNR=5.5
OPA **Opana** **41.13 152** eP **P** **23 24 11.6 -0.7**
OPA **Opana** **41.13 152** eP **P** **23 24 11.6 -0.7**
C21A **Desert Coulee** **41.13 75**⇑ P **P** **23 24 13.2 +1.0**
baz=41
D20A **Manuel Ranch,** **41.15 77**⇑ P **P** **23 24 13.9 +1.5**
baz=41,SNR=6.6
QLMT **Earthquake Lak** **41.17 81** eP **P** **23 24 12.5 -0.2**
WCN **Washoe City** **41.19 94** eP **P** **23 24 12.9 0.0**
WCN pmax pmax
comp=Z,674nm,1.8s
WCN **Washoe City** **41.19 94** eP **P** **23 24 12.9 0.0**
comp=Z,674nm,1.8s
KSMUS **Musan** **41.19 263** P **P** **23 24 13.2 +0.5**
SNR=9.0
KSPHA **Pohang** **41.26 259** P **P** **23 24 13.8 +0.6**
SNR=7.7
E19A **Rath Farm, Rou** **41.29 78**⇑ P **P** **23 24 14.6 +1.0**
baz=41
B22A **Reddig Ranch S** **41.32 74**⇑ P **P** **23 24 14.8 +1.0**
baz=41
SPA0 **Spitsbergen Ar** **41.34 356** eP **P** **23 24 13.8 +0.3**
SPITS **Spitsbergen Ar** **41.34 356** P **P** **23 24 13.8 +0.3**
comp=Z,31nm,0.8s,baz=60,slow=8.8,SNR=14
SPITS **Spitsbergen Ar** **41.34 356** P **P** **23 24 13.8 +0.3**
SPITS pmax pmax
comp=Z,31nm,0.8s
GCMT **Greycliff** **41.34 79** eP **P** **23 24 14.0 -0.1**
KSICN **Icheon** **41.34 261** P **P** **23 24 14.3 +0.4**
SNR=19
KIP **Kipapa** **41.38 152** *c iP* **P** **23 24 14.9 +0.5**
KIP pmax pmax
comp=Z,400nm,1.7s
KIP **Kipapa** **41.38 152** eP **P** **23 24 13.7 -0.7**
comp=Z,350nm,1.1s
A23A **Redstone** **41.39 72**⇑ P **P** **23 24 15.0 +0.7**
baz=41
KSCHJ **Chungju** **41.40 260** P **P** **23 24 14.8 +0.4**
SNR=8.7
KSSEO **Seoul** **41.43 262** P **P** **23 24 14.7 +0.1**
SNR=10
KSGAH **Ganghwa** **41.49 263** P **P** **23 24 15.4 +0.3**
SNR=31
KSGAH **Ganghwa** **41.49 263** P **P** **23 24 15.4 +0.3**
SNR=31
YMR **Madison River** **41.52 81** eP **P** **23 24 16.9 +1.3**
comp=Z,470nm,1.7s
INCN **Inchon** **41.57 262** P **P** **23 24 16.2 +0.3**
SNR=7.9
INCN **Inchon** **41.57 262** eP **P** **23 24 15.1 -0.8**
comp=Z,159nm,1.0s
E20A **Meyer Farm, Mu** **41.57 77**⇓ P **P** **23 24 17.6 +1.8**
baz=42,SNR=6.0
BMN **Battle Mountai** **41.58 91** eP **P** **23 24 16.0 -0.1**
BMN pmax pmax
comp=Z,355nm,1.6s
BMN **Battle Mountai** **41.58 91** eP **P** **23 24 16.0 -0.1**
comp=Z,355nm,1.6s
KSSWO **Suwon** **41.58 262** P **P** **23 24 16.1 +0.2**
SNR=15
IRK **Irkutsk** **41.61 295** eP **P** **23 24 15.3 -0.7**
IRK *e* 23 25 58.2
IRK *e* 23 34 08.5
IRK pmax pmax
comp=Z,903nm,1.4s
YNR **Norris Junctio** **41.62 81** eP **P** **23 24 17.8 +1.3**
comp=Z,280nm,1.5s
KSYOC **YEONGCHEON** **41.64 259** P **P** **23 24 16.9 +0.5**
SNR=13
F19A **Roth Farm, Mol** **41.65 78**⇑ P **P** **23 24 18.3 +1.8**
baz=42,SNR=16
KSSAJ **Sangju** **41.68 260** P **P** **23 24 17.1 +0.4**
SNR=10
B23A **Brockton** **41.69 73**⇑ P **P** **23 24 18.1 +1.4**
baz=42
D21A **La Casta Ranch** **41.72 76**⇓ P **P** **23 24 18.2 +1.1**
baz=42
YFT **Old Faithful** **41.74 81** eP **P** **23 24 18.6 +1.2**
comp=Z,855nm,2.2s
C22A **Vida** **41.77 74**⇑ P **P** **23 24 18.5 +1.1**
baz=42
KSBON **Boeun** **41.78 260** P **P** **23 24 17.6 +0.1**
SNR=31
KSCEA **Cheonan** **41.79 261** P **P** **23 24 18.0 +0.4**
SNR=34
KSDAG **Daegu** **41.83 259** P **P** **23 24 18.1 +0.1**
SNR=12
A24A **Westby** **41.83 72**⇑ P **P** **23 24 18.8 +1.0**
baz=42
CMB **Columbia Colle** **41.86 96** eP **P** **23 24 19.2 +0.9**
CMB pmax pmax
comp=Z,166nm,1.5s
CMB **Columbia Colle** **41.86 96** eP **P** **23 24 19.2 +0.9**
comp=Z,166nm,1.5s
LKWY **Lake** **41.87 81** eP **P** **23 24 18.7 +0.2**
LKWY pmax pmax
comp=Z,2μm,2.8s
LKWY **Lake** **41.87 81** eP **P** **23 24 18.7 +0.2**
comp=Z,2μm,2.8s
H17A **Grant Village** **41.91 81**⇓ P **P** **23 24 21.1 +2.3**
baz=42
H17A **Grant Village** **41.91 81** eP **P** **23 24 19.6 +0.8**
KSCPR **CHUPUNGNYEONG** **41.92 260** P **P** **23 24 18.9 +0.2**
SNR=6.2
WAKR **Walker** **41.96 94** eP **P** **23 24 18.9 -0.4**
RLMT **Red Lodge** **42.02 79** eP **P** **23 24 21.1 +1.4**
comp=Z,499nm,1.8s
D22A **Cohagen** **42.05 75**⇑ P **P** **23 24 21.5 +1.8**
baz=42,SNR=10
DGMT **Dagmar** **42.06 72**⇑ P **P** **23 24 20.7 +1.0**
baz=42
DGMT **Dagmar** **42.06 72** eP **P** **23 24 20.9 +1.1**
comp=Z,729nm,2.1s
E21A **Keefer Ranch,** **42.06 76**⇑ P **P** **23 24 20.9 +1.2**
baz=42
C23A **Lambert** **42.06 74**⇑ P **P** **23 24 20.8 +1.0**
baz=42,SNR=23
F20A **Billings** **42.07 78**⇓ P **P** **23 24 21.5 +1.5**
baz=42,SNR=15
FLWY **Flagg Ranch** **42.08 82** eP **P** **23 24 20.1 0.0**
comp=Z,2μm,2.1s
TJN **Taejon** **42.09 261** *i* P **P** **23 24 20.4 +0.4**
KSTEJ **Daejeon** **42.09 261** P **P** **23 24 20.8 +0.7**
SNR=7.7
IMW **Indian Meadow** **42.09 82** eP **P** **23 24 20.5 +0.1**
comp=Z,309nm,1.2s
KSKOJ **Gongju** **42.12 261** P **P** **23 24 21.0 +0.7**
SNR=8.1
KSBAR **Backryungdo** **42.13 265** P **P** **23 24 20.6 +0.2**
SNR=11
KSBUS **Busan** **42.14 258** P **P** **23 24 21.3 +0.8**
SNR=12
H18A **Shoshone NF, C** **42.15 80**⇓ P **P** **23 24 21.7 +0.9**
baz=42,SNR=6.9
KSSES **Seosan** **42.21 262** P **P** **23 24 21.2 +0.2**
SNR=21
A25A **Svangstu Ranch** **42.23 71**⇓ P **P** **23 24 21.6 +0.5**
baz=42,SNR=24
FXWY **Fox Creek** **42.24 82** eP **P** **23 24 21.4 -0.1**

comp=Z,184nm,1.2s
I17A **Pilgrim Ck.** 42.26 82 ⇑P P 23 24 22.8 +1.2
baz=42,SNR=7.2
TLY **Talaya** 42.27 295 P P 23 24 22.6 +1.1
comp=Z,1µm,1.4s,SNR=34
TLY **Talaya** 42.27 295 eP P 23 24 21.1 -0.4
TLY pmax pmax
comp=Z,352nm,1.3s
TLY **Talaya** 42.27 295 pP P 23 24 22.5 +1.1
SNR=16
TLY **Talaya** 42.27 295 eP P 23 24 21.2 -0.2
comp=Z,497nm,1.4s
ELK **Elko** 42.32 89 eP P 23 24 21.6 -0.6
ELK pmax pmax
comp=Z,239nm,1.5s
ELK **Elko** 42.32 89 eP P 23 24 21.6 -0.6
comp=Z,239nm,1.5s
LAO **LASA Array** 42.36 76 eP P 23 24 21.1 -1.1
comp=Z,848nm,1.6s
TPAW **Teton Pass** 42.39 82 eP P 23 24 23.1 +0.3
comp=Z,244nm,1.1s
G20A **Bridger** 42.46 79 ⇑P P 23 24 24.4 +1.2
baz=42,SNR=18
LOHW **Long Hollow** 42.47 82 eP P 23 24 24.0 +0.6
comp=Z,234nm,1.1s
KSJEO **Jeonju** 42.47 260 P P 23 24 23.8 +0.6
SNR=5.9
H19A **Powell** 42.48 80 ⇓P P 23 24 24.8 +1.4
baz=42,SNR=26
D23A **Lindsay** 42.50 74 ⇑P P 23 24 24.9 +1.5
baz=42,SNR=6.5
SNOW **Snow King Moun** 42.51 82 eP P 23 24 23.7 0.0
comp=Z,618nm,1.8s
HSP **Hornsund** 42.53 356 eP P 23 24 23.7 +0.6
REDW **Red Top Meadow** 42.53 82 eP P 23 24 23.8 -0.1
comp=Z,334nm,1.3s
F21A **Absaloka Mine,** 42.55 77 ⇓P P 23 24 25.4 +1.5
baz=42,SNR=5.5
NV01 **Mina Array Sit** 42.58 94 eP P 23 24 24.0 -0.3
NVAR **Mina Array Bea** 42.58 94 P P 23 24 24.0 -0.3
comp=Z,13nm,0.8s,baz=295,slow=7.0,SNR=9.6
C24A **Savage** 42.62 73 ⇑P P 23 24 25.5 +1.2
baz=42,SNR=9.3
KSGUS **GUNSAN** 42.64 261 P P 23 24 24.6 0.0
SNR=8.7
E22A **Miles City** 42.67 76 ⇓P P 23 24 25.9 +1.1
baz=43,SNR=9.4
B25A **Knox Farm, Ray** 42.68 72 ⇑P P 23 24 25.6 +0.7
baz=43
KSJIN **Jinju** 42.73 259 P P 23 24 25.6 +0.3
SNR=6.4
HVU **Hansel Valley** 42.76 86 eP P 23 24 25.8 +0.1
HVU pmax pmax
comp=Z,159nm,1.2s
HVU **Hansel Valley** 42.76 86 eP P 23 24 25.8 +0.1
comp=Z,159nm,1.2s
A26A **Wade Farm, Ken** 42.77 70 ⇓P P 23 24 26.3 +0.8
baz=43,SNR=12
AHID **Auburn Hatcher** 42.85 83 eP P 23 24 25.6 -0.8
comp=Z,991nm,2.8s
DL2 **Dalian** 42.94 268 P P 23 24 26.5 -0.4
DL2 eS S 23 30 49.5 -1.5
DL2 PMZ
comp=Z,270nm,0.9s
E23A **Ismay** 42.94 75 ⇑P P 23 24 27.7 +0.8
baz=43
MLAC **Mammoth, Mammo** 42.94 95 ⇑P P 23 24 28.7 +1.4
baz=43
G21A **Lodge Grass** 42.94 78 ⇑P P 23 24 28.7 +1.6
baz=43,SNR=13
I19A **Meeteetse** 42.94 80 ⇑P P 23 24 29.0 +1.8
baz=43,SNR=7.2
D24A **Glendive** 42.96 74 ⇑P P 23 24 28.1 +1.0
baz=43
F22A **Rosebud** 43.00 76 ⇑P P 23 24 28.5 +1.0
baz=43,SNR=5.8
KSJEU **Jeongeup** 43.01 260 P P 23 24 27.7 +0.2
SNR=7.0
JNU **Nakatsue** 43.02 254 eP P 23 24 27.0 -0.7
comp=Z,158nm,1.1s
C25A **Freed Ranch, W** 43.04 72 ⇑P P 23 24 28.4 +0.7
baz=43
CBIJ **Chichi jima** 43.04 237 eP P 23 24 27.6 -0.3
comp=Z,451nm,1.2s
B26A **Jensen Ranch,** 43.05 71 ⇑P P 23 24 29.0 +1.2
baz=43,SNR=10
KSNAH **Namhae** 43.06 259 P P 23 24 28.4 +0.4
SNR=6.2
A27A **Ledoux Ranch,** 43.10 70 ⇓P P 23 24 29.6 +1.4
baz=43,SNR=5.9
H20A **Greybull** 43.10 79 ⇓P P 23 24 29.5 +1.1
baz=43,SNR=7.6
KSKWJ **Gwangju** 43.24 260 P P 23 24 29.7 +0.3
SNR=20
BGU **Big Grassy Mou** 43.28 87 eP P 23 24 29.8 -0.1
comp=Z,722nm,1.9s
KSGWJ **Gwangju-acc** 43.28 260 P P 23 24 29.8 +0.1
SNR=8.4
ZAK **Zakamensk** 43.35 294 ⇑iP P 23 24 30.1 -0.2
ZAK pmax pmax
comp=Z,137nm,1.0s
E24A **Baker** 43.37 74 ⇑P P 23 24 31.4 +1.0
baz=43
G22A **Birney** 43.39 77 ⇑P P 23 24 32.2 +1.5
baz=43,SNR=5.3
TPH **Tonopah** 43.39 93 eP P 23 24 30.1 -0.8
TPH pmax pmax
comp=Z,411nm,1.5s
TPH **Tonopah** 43.39 93 eP P 23 24 30.1 -0.8
comp=Z,411nm,1.5s
ULN **Ulaanbaatar** 43.40 289 diP P 23 24 31.0 +0.3
ULN pmax pmax
comp=Z,122nm,1.0s
ULN **Ulaanbaatar** 43.40 289 ⇑pP P 23 24 31.1 +0.3
SNR=6.9
D25A **Fairfield** 43.41 73 ⇓P P 23 24 31.6 +0.8
baz=43
I20A **Worland** 43.43 80 ⇓P P 23 24 32.8 +1.8
baz=43,SNR=7.6
F23A **Volborg** 43.45 76 ⇓P P 23 24 32.6 +1.5
baz=43,SNR=6.5
H21A **Big Horn, Sher** 43.46 78 ⇓P P 23 24 32.6 +1.4
baz=43,SNR=14
MOY **Mondy** 43.47 296 eP P 23 24 32.3 +1.1
MOY e 23 34 53.8
MOY pmax pmax
comp=Z,790nm,2.0s
B27A **Peters Farms,** 43.48 70 ⇓P P 23 24 31.9 +0.7
baz=43
J19A **Crowheart** 43.49 81 ⇑P P 23 24 33.3 +1.7
baz=43,SNR=10
HWUT **Hardware Ranch** 43.49 85 eP P 23 24 31.5 -0.2
comp=Z,391nm,1.4s
C26A **Wahner Farm, P** 43.50 71 ⇑P P 23 24 33.0 +1.6
baz=43,SNR=8.3
A28A **Rude Farm, Bot** 43.58 69 ⇑P P 23 24 32.7 +0.6
baz=43
BW06 **Boulder Array** 43.61 82 eP P 23 24 31.6 -1.0
comp=Z,2µm,2.8s
PD31 **Pinedale Array** 43.61 82 eP P 23 24 32.8 +0.1
PDAR **Pinedale Array** 43.61 82 P P 23 24 32.8 +0.1
comp=Z,22nm,0.9s,baz=350,slow=4.6,SNR=15
TIN **Tinemaha, Big** 43.69 95 ⇓P P 23 24 33.7 +0.5
baz=44
SONA0 **Songino Array** 43.73 289 eP P 23 24 33.8 +0.5
SONA0 ePP PcP 23 26 20.9 +0.9
SONM **Songino Array** 43.73 289 P P 23 24 33.8 +0.4
comp=Z,90nm,1.1s,baz=52,slow=3.1,SNR=20
SONM PcP PcP 23 26 20.9 +0.9
comp=Z,38nm,1.1s,baz=49,slow=1.3,SNR=4.9
SONM **Songino Array** 43.73 289 P P 23 24 33.8 +0.4
SONM 23 26 20.9
SONM pmax pmax
comp=Z,90nm,1.1s
RCTC **Rector, Farmer** 43.78 96 ⇓P P 23 24 34.6 +0.9
baz=44
H22A **Clearmont** 43.82 78 ⇑P P 23 24 35.1 +1.0
baz=44,SNR=6.6
F24A **Ekalaka** 43.82 75 ⇑P P 23 24 34.7 +0.6
baz=44
G23A **Biddle** 43.84 76 ⇑P P 23 24 35.7 +1.5
baz=44,SNR=6.3
E25A **Miller Ranch,** 43.84 74 ⇑P P 23 24 34.7 +0.5
baz=44
C27A **Sayler Ranch,** 43.86 71 ⇓P P 23 24 34.7 +0.3
baz=44
B28A **Dugan Ranch, T** 43.87 70 ⇑P P 23 24 35.5 +1.2
baz=44,SNR=15
J20A **Shoshoni** 43.89 80 ⇓P P 23 24 36.6 +1.8
baz=44,SNR=7.6
D26A **Manning** 43.92 72 ⇑P P 23 24 34.9 +0.1
baz=44
I21A **Big Trails, Te** 43.94 79 ⇑P P 23 24 35.6 +0.5
baz=44
DUG **Dugway, Tooele** 43.94 87 eP P 23 24 34.7 -0.5
DUG pmax pmax
comp=Z,203nm,1.4s
DUG **Dugway, Tooele** 43.94 87 ⇑P P 23 24 36.4 +1.2
baz=44,SNR=15
DUG **Dugway, Tooele** 43.94 87 eP P 23 24 34.7 -0.5
comp=Z,203nm,1.4s
R11A **Troy Canyon, C** 43.99 91 ⇓P P 23 24 37.1 +1.5
baz=44,SNR=6.5
R11A **Troy Canyon, C** 43.99 91 eP P 23 24 35.8 +0.1
comp=Z,613nm,2.3s
KSWAN **Wando** 44.00 260 P P 23 24 35.9 +0.4
SNR=8.7
A29A **Manning Farm,** 44.05 68 ⇑P P 23 24 36.7 +0.9
baz=44,SNR=22
CTU **Camp Tracy** 44.09 86 eP P 23 24 37.9 +1.4
comp=Z,111nm,1.1s
KSJDO **Jindo** 44.12 260 P P 23 24 36.6 0.0
SNR=7.0
GRAC **Grapevine Rang** 44.16 94 ⇑P P 23 24 38.9 +2.0
baz=44,SNR=6.4
SMMC **Simmler** 44.20 98 ⇑P P 23 24 39.2 +1.9
baz=44,SNR=5.2
J21A **Lysite** 44.21 80 ⇑P P 23 24 38.8 +1.4
baz=44,SNR=5.5
G24A **Alzada** 44.21 76 ⇓P P 23 24 37.6 +0.3
baz=44
VES **Vestal, Richgr** 44.23 97 ⇑P P 23 24 38.2 +0.9
baz=44,SNR=8.9
F25A **Bowman** 44.23 74 ⇑P P 23 24 38.1 +0.7
baz=44
I22A **9 Mile Ranch,** 44.27 79 ⇓P P 23 24 38.9 +1.1
baz=44,SNR=6.5
D27A **Center** 44.29 72 ⇓P P 23 24 38.4 +0.6
baz=44
H23A **Clabaugh Cattl** 44.30 77 ⇑P P 23 24 38.7 +0.7
baz=44
JLU **Jordanelle** 44.31 86 eP P 23 24 39.2 +0.9
comp=Z,248nm,1.6s
E26A **Carson Angus** 44.31 73 ⇓P P 23 24 38.6 +0.6
baz=44
B29A **Wagenman Farm,** 44.32 69 ⇓P P 23 24 38.9 +0.9
baz=44,SNR=9.8
KSHUK **Heuksando** 44.38 261 P P 23 24 38.5 -0.1
SNR=9.4
C28A **Hausauer Farms** 44.38 70 ⇑P P 23 24 38.9 +0.4
baz=44
A30A **Hoffart Farm,** 44.46 68 ⇑P P 23 24 39.5 +0.4
baz=44
NLU **North Lily Min** 44.49 87 eP P 23 24 38.8 -0.9
comp=Z,150nm,1.4s
H24A **Dirks Ranch, A** 44.58 76 ⇓P P 23 24 40.8 +0.6
baz=44,SNR=16
DAC **Darwin (Calif)** 44.62 95 eP P 23 24 39.8 -0.9
DAC pmax pmax
comp=Z,256nm,1.6s
DAC **Darwin (Calif)** 44.62 95 eP P 23 24 39.8 -0.9
comp=Z,256nm,1.6s
ULM **Lac du Bonnet** 44.62 65 P P 23 24 39.5 -0.8
comp=Z,59nm,1.1s,baz=313,slow=8.0,SNR=8.1
ULM **Lac du Bonnet** 44.62 65 P P 23 24 39.6 -0.8
ULM pmax pmax
comp=Z,59nm,1.1s
J22A **Midwest** 44.63 79 ⇑P P 23 24 41.9 +1.2
baz=44,SNR=8.6
MDND **Maddock** 44.65 70 ⇑P P 23 24 41.6 +0.9
baz=44,SNR=10
MDND **Maddock** 44.65 70 eP P 23 24 41.0 +0.3
comp=Z,2µm,1.4s
MPU **Maple Canyon** 44.66 86 eP P 23 24 41.2 +0.1
comp=Z,996nm,2.4s
F26A **Lodgepole** 44.66 74 ⇓P P 23 24 41.4 +0.6
baz=44
ISA **Isabella, Lake** 44.67 96 eP P 23 24 41.1 +0.1
ISA pmax pmax
comp=Z,641nm,2.5s
ISA **Isabella, Lake** 44.67 96 ⇑P P 23 24 42.3 +1.3
baz=45,SNR=11
ISA **Isabella, Lake** 44.67 96 eP P 23 24 41.0 +0.1
comp=Z,641nm,2.5s
D28A **Regan** 44.68 71 ⇑P P 23 24 41.6 +0.7
baz=44
I23A **Meade Ranch, G** 44.72 78 ⇑P P 23 24 42.0 +0.6
baz=45
TPNV **Topopah Spring** 44.75 93 eP P 23 24 41.5 -0.3
TPNV pmax pmax
comp=Z,672nm,1.9s
TPNV **Topopah Spring** 44.75 93 ⇓P P 23 24 42.9 +1.2
baz=45,SNR=5.4
TPNV **Topopah Spring** 44.75 93 eP P 23 24 41.5 -0.3
comp=Z,672nm,1.9s
BJI **Beijing** 44.77 274 P P 23 24 41.3 -0.3
BJI S S 23 31 15.8 -1.9
BJI PMZ
comp=Z,120nm,1.4s
BJI PMZ
comp=Z,2µm,6.0s
BJI LZ
comp=Z,44µm,18.6s
E27A **Carson** 44.77 72 ⇑P P 23 24 42.2 +0.6
baz=45,SNR=8.1
BJT **Baijiatuau** 44.79 274 eP P 23 24 41.4 -0.4
BJT pmax pmax
comp=Z,167nm,1.1s
BJT **Baijiatuau** 44.79 274 eP P 23 24 41.4 -0.4
comp=Z,167nm,1.1s
G25A **Newell** 44.79 75 ⇑P P 23 24 42.2 +0.4
baz=45
B30A **Myrvik Farm, E** 44.80 68 ⇓P P 23 24 42.5 +0.6
baz=45,SNR=5.9
FURC **Furnace Creek,** 44.83 94 ⇓P P 23 24 43.5 +1.3
baz=45,SNR=7.7
K21A **Alcova** 44.84 80 ⇑P P 23 24 43.5 +1.1
baz=45,SNR=19
MPMC **Manual Prospec** 44.84 95 ⇑P P 23 24 43.8 +1.3
baz=45,SNR=5.7
ARVC **Arvin** 44.92 97 ⇑P P 23 24 43.7 +0.7
baz=45
F27A **Lemmon** 44.96 73 ⇑P P 23 24 43.1 0.0
baz=45
SBC **Santa Barbara** 45.04 98 ⇓P P 23 24 44.6 +0.8
baz=45
E28A **Huff** 45.07 72 ⇓P P 23 24 44.5 +0.5
baz=45
J23A **Diltz Ranch, B** 45.09 78 ⇑P P 23 24 45.0 +0.7
baz=45
G26A **Maurine** 45.11 74 ⇑P P 23 24 45.0 +0.6
baz=45,SNR=5.1
H25A **Fruitdale** 45.13 76 ⇑P P 23 24 45.0 +0.5
baz=45
K22A **Casper** 45.18 80 ⇑P P 23 24 45.7 +0.6
baz=45,SNR=18
K22A **Casper** 45.18 80 eP P 23 24 44.5 -0.7
comp=Z,464nm,1.4s
I24A **Kuemmerle Ranc** 45.20 77 ⇑P P 23 24 46.0 +0.8
baz=45,SNR=5.9
LRMC **Laurel Mtn Rad** 45.20 96 ⇓P P 23 24 46.4 +1.1
baz=45
D29A **Pettibone, Tap** 45.23 70 ⇓P P 23 24 46.1 +0.8
baz=45
C30A **Mose, Pekin** 45.28 69 ⇓P P 23 24 45.7 0.0
baz=45
RSSD **Black Hills** 45.29 76 eP P 23 24 44.8 -1.2
RSSD pmax pmax
comp=Z,423nm,1.8s
RSSD **Black Hills** 45.29 76 eP P 23 24 44.8 -1.2
comp=Z,423nm,1.8s
G27A **Dupree** 45.36 74 ⇑P P 23 24 46.8 +0.5
baz=45,SNR=12
OSI **Osito Audit: C** 45.38 97 ⇓P P 23 24 47.5 +0.8
baz=45
OSI **Osito Audit: C** 45.38 97 eP P 23 24 45.2 -1.5
comp=Z,902nm,2.6s
TMUT **Trail Mountain** 45.42 87 eP P 23 24 46.8 -0.5
comp=Z,1µm,2.4s
BSC **Santa Cruz Isl** 45.44 99 ⇓P P 23 24 47.9 +0.9
baz=45
I25A **Rochford** 45.51 76 ⇑P P 23 24 48.2 +0.5
baz=45
H26A **Fairpoint** 45.52 75 ⇓P P 23 24 48.0 +0.4
baz=45
EDW2 **Edwards Air Fo** 45.53 96 ⇓P P 23 24 48.6 +0.8
baz=46,SNR=8.4
K23A **Bowen Ranch, D** 45.54 79 ⇑P P 23 24 48.4 +0.5
baz=45
MVU **Marysvale** 45.54 88 eP P 23 24 47.7 -0.4
comp=Z,244nm,1.4s
MSU **Marysvale** 45.55 88 eP P 23 24 48.1 -0.1
MSU **Marysvale** 45.55 88 eP P 23 24 48.1 -0.1
F28A **McLaughlin** 45.55 72 ⇑P P 23 24 48.2 +0.3
baz=45
SHOC **Shoshone, Teco** 45.56 94 ⇓P P 23 24 49.1 +1.0
baz=46
E29A **Napoleon** 45.57 71 ⇑P P 23 24 48.4 +0.4
baz=45
J24A **Dixon Ranch, L** 45.58 78 ⇓P P 23 24 48.1 0.0
baz=46
D30A **Buchanan** 45.58 70 ⇑P P 23 24 48.4 +0.3
baz=45
BLG **Laguna Peak, P** 45.62 98 ⇓P P 23 24 49.5 +1.0
baz=46
SHPR **Sheep Range** 45.64 92 eP P 23 24 48.3 -0.5
L22A **Ellis Ranch, M** 45.69 80 ⇑P P 23 24 49.6 +0.4
baz=46,SNR=7.1
N20A **Spence Gulch,** 45.70 83 ⇑P P 23 24 50.0 +0.7
baz=46,SNR=16
CCUT **Cedar City** 45.71 90 eP P 23 24 49.1 -0.3
comp=Z,339nm,1.8s
GSC **Goldstone, Bar** 45.78 95 eP P 23 24 49.4 -0.4
GSC pmax pmax
comp=Z,405nm,1.5s
GSC **Goldstone, Bar** 45.78 95 ⇓P P 23 24 50.4 +0.6
baz=46,SNR=22
GSC **Goldstone, Bar** 45.78 95 eP P 23 24 49.4 -0.4
comp=Z,405nm,1.5s
H27A **Howes** 45.85 74 ⇑P P 23 24 50.9 +0.7
baz=46
DECC **Green Verdugo** 45.87 97 ⇑P P 23 24 51.4 +0.9
baz=46
SRU **San Rafael Swe** 45.91 86 eP P 23 24 50.9 0.0
SRU pmax pmax
comp=Z,499nm,1.3s
SRU **San Rafael Swe** 45.91 86 eP P 23 24 50.9 0.0
comp=Z,499nm,1.3s
I26A **New Underwood** 45.92 76 ⇑P P 23 24 51.2 +0.3
baz=46
J25A **Sunshine Ranch** 45.95 77 ⇓P P 23 24 51.3 +0.2
baz=46
K24A **Anderson Ranch** 45.96 78 ⇑P P 23 24 51.6 +0.3
baz=46
E30A **Jud** 45.96 70 ⇑P P 23 24 51.2 +0.2
baz=46
L23A **Garrett** 45.98 80 ⇑P P 23 24 51.6 0.0
baz=46,SNR=25
PASC **Pasadena Art C** 46.00 97 eP P 23 24 52.2 +0.7
comp=Z,178nm,1.4s
RRX **Edison Barstow** 46.02 95 ⇑P P 23 24 52.6 +1.0
baz=46
F29A **Eureka** 46.02 72 ⇑P P 23 24 51.8 +0.2
baz=46
MWC **Mount Wilson** 46.02 97 eP P 23 24 51.1 -0.8
MWC pmax pmax
comp=Z,385nm,1.5s
MWC **Mount Wilson** 46.02 97 eP P 23 24 51.1 -0.8
comp=Z,385nm,1.5s
AGMN **Agassiz Nation** 46.04 67 ⇓P P 23 24 52.0 +0.4
baz=46,SNR=12
AGMN **Agassiz Nation** 46.04 67 eP P 23 24 50.8 -0.9
comp=Z,353nm,1.8s
G28A **Parade** 46.07 73 ⇓P P 23 24 52.2 +0.2
baz=46
M22A **Cedar Creek Ra** 46.09 81 ⇓P P 23 24 52.6 +0.3
baz=46
TUQ **Turquoise Moun** 46.11 94 ⇓P P 23 24 53.4 +0.9
baz=46,SNR=5.6
BFSC **Mount Baldy Ra** 46.21 97 ⇓P P 23 24 54.1 +0.8
baz=46,SNR=12
O20A **White River Ci** 46.24 83 ⇑P P 23 24 53.9 +0.3
baz=46,SNR=14
O20A **White River Ci** 46.24 83 eP P 23 24 53.6 0.0
comp=Z,316nm,1.3s
I27A **Quinn** 46.28 75 ⇓P P 23 24 53.7 +0.1
baz=46
H28A **Mission Ridge** 46.32 74 ⇓P P 23 24 54.8 +0.9
baz=46
FMP **Fort Macarthur** 46.32 98 ⇑P P 23 24 54.8 +0.8
baz=46
J26A **Sides Ranch, S** 46.35 76 ⇑P P 23 24 54.5 +0.2
baz=46
HEC **Hector,Ludlow** 46.39 95 ⇓P P 23 24 55.8 +1.2
baz=46,SNR=16
F30A **Leola** 46.40 71 ⇑P P 23 24 54.6 +0.1
baz=46
KNB **Kanab** 46.40 90 eP P 23 24 54.3 -0.5
KNB pmax pmax
comp=Z,476nm,1.7s
KNB **Kanab** 46.40 90 eP P 23 24 54.3 -0.5
comp=Z,476nm,1.7s
L24A **Wheatland** 46.41 79 ⇓P P 23 24 55.4 +0.6
baz=46
HHC **Hu-ho-hao-te** 46.42 278 eP P 23 24 55.5 +0.7
HHC PP PP 23 26 44.3 +0.7
HHC sS S 23 31 48.8 +7.0
HHC SS ScS 23 34 56.3 +7.3
HHC PMZ
comp=Z,310nm,1.1s
HHC PMZ
comp=Z,4µm,4.2s
HHC LN
comp=Z,51µm,14.7s
HHC LE
comp=Z,80µm,14.1s
HHC LZ
comp=Z,91µm,15.7s
G29A **Hoven** 46.45 72 ⇑P P 23 24 55.5 +0.6
baz=46
M23A **Laramie** 46.46 80 ⇓P P 23 24 55.8 +0.5
baz=46
K25A **Mack Ranch, Ha** 46.50 78 ⇓P P 23 24 56.0 +0.6
baz=46
CIS **Catalina Islan** 46.51 98 ⇑P P 23 24 56.2 +0.6
baz=46
BBRC **Big Bear Solar** 46.55 96 ⇑P P 23 24 56.8 +0.7
baz=46
N22A **Wattenberg Ran** 46.61 81 ⇓P P 23 24 57.1 +0.5
baz=46,SNR=6.1
H29A **Onida** 46.74 73 ⇓P P 23 24 57.5 +0.4
baz=47
I28A **Midland** 46.75 74 ⇓P P 23 24 57.4 +0.1
baz=47
GMRC **Granite Mounta** 46.76 94 ⇑P P 23 24 58.5 +0.9
baz=47,SNR=21
K26A **Motz Farm, Whi** 46.76 77 ⇑P P 23 24 57.6 +0.1
baz=47
SCI **San Clemente I** 46.79 98 ⇑P P 23 24 58.3 +0.7
baz=47
N23A **Red Feather La** 46.79 81 ⇑P P 23 24 58.2 +0.2
baz=47,SNR=5.3
N23A **Red Feather La** 46.79 81 eP P 23 24 56.9 -1.0
comp=Z,237nm,1.4s
L25A **Engebretsen Ra** 46.80 78 ⇑P P 23 24 57.9 +0.1
baz=47
G30A **Faulkton** 46.87 72 ⇓P P 23 24 58.9 +0.7
baz=47,SNR=17
M24A **Cheyenne** 46.90 79 ⇓P P 23 24 59.5 +0.8
baz=47,SNR=6.4
J27A **Elkhorn Farm,** 46.91 76 ⇓P P 23 24 59.0 +0.3
baz=47
MURC **Murrieta** 46.95 97 ⇓P P 23 24 59.8 +0.8
baz=47
HVS **Khovu-Aksy** 47.02 301 diP P 23 25 00.5 +1.1
HVS pmax pmax
comp=Z,1µm,1.0s
SFJD **Kangerlussuaq** 47.03 25 eP P 23 24 58.3 -0.8
SFJD pmax pmax
comp=Z,458nm,1.5s
SFJD **Kangerlussuaq** 47.03 25 eP P 23 24 58.2 -0.8
comp=Z,458nm,1.5s
O22A **Kremmling** 47.06 82 ⇓P P 23 25 01.1 +1.0
baz=47,SNR=5.4
PV09 **Paradox Valley** 47.07 86 eP P 23 24 59.8 -0.4
U15A **North Rim** 47.12 90 ⇓P P 23 25 01.4 +0.8
baz=47,SNR=6.1
I29A **Vivian Onida** 47.15 74 ⇓P P 23 25 01.6 +1.2
baz=47,SNR=11
J28A **Allard Ranch,** 47.15 75 ⇓P P 23 25 01.3 +0.8
baz=47,SNR=5.7
PV10 **Paradox Valley** 47.21 86 eP P 23 25 00.6 -0.6
K27A **Flueckinger Fa** 47.22 76 ⇓P P 23 25 02.0 +1.0
baz=47,SNR=6.2

BELC	Belle Mtn. Jos	47.22	95	⇑	P		P	23	25	02.4	+1.2
	baz=47										
TIA	Tai'an	47.27	270	⇓	P		P	23	25	01.5	+0.1
TIA					S		S	23	31	49.8	-4.0
TIA					PMZ						
	comp=Z,100nm,1.3s										
TIA					PMZ						
	comp=Z,4μm,12.0s										
TIA					LZ						
	comp=Z,137μm,18.2s										
M25A	Palm-Egli Farm	47.30	79	⇑	P		P	23	25	02.5	+0.7
	baz=47,SNR=14										
PFO	Pinyon Flats O	47.31	96		P		P	23	25	00.1	-1.8
	comp=Z,299nm,1.6s,SNR=5.8										
PFO	Pinyon Flats O	47.31	96		*eP*		P	23	25	00.4	-1.5
PFO					pmax		pmax				
	comp=Z,201nm,1.6s										
PFO	Pinyon Flats O	47.31	96	⇓	P		P	23	25	03.2	+1.3
	baz=47										
PFO	Pinyon Flats O	47.31	96		*eP*		P	23	25	00.4	-1.5
	comp=Z,201nm,1.6s										
L26A	Underwood Farm	47.32	78	⇑	P		P	23	25	02.3	+0.5
	baz=47										
O23A	Lake Granby, G	47.33	81	⇓	P		P	23	25	03.1	+1.0
	baz=47,SNR=27										
N24A	Carr	47.36	80	⇓	P		P	23	25	02.9	+0.6
	baz=47										
W13A	Hualapai Mount	47.38	92	⇑	P		P	23	25	03.4	+0.9
	baz=47										
P22A	Eagle	47.39	83	⇓	P		P	23	25	04.0	+1.4
	baz=47,SNR=8.1										
PV05	Paradox Valley	47.41	86		*eP*		P	23	25	02.2	-0.5
BRSD	Miller	47.47	72	⇓	P		P	23	25	03.9	+1.0
	baz=47										
BRSD	Miller	47.47	72		*eP*		P	23	25	02.1	-0.8
	comp=Z,125nm,0.9s										
IRM	Iron Mountain	47.51	94	⇑	P		P	23	25	05.0	+1.7
	baz=48,SNR=32										
109C	Camp Elliot, M	47.57	97	⇑	P		P	23	25	05.0	+1.3
	baz=48										
J29A	Okreek	47.60	74	⇓	P		P	23	25	04.7	+0.7
	baz=48,SNR=14										
K28A	Ten Mile Ranch	47.63	76	⇓	P		P	23	25	05.8	+1.6
	baz=48,SNR=9.8										
PV01	Paradox Valley	47.63	85		*eP*		P	23	25	04.3	-0.2
I30A	Oacoma	47.65	73	⇓	P		P	23	25	05.1	+0.9
	baz=48										
L27A	T5 Ranch, Ells	47.65	77	⇑	P		P	23	25	05.3	+0.8
	baz=48										
M26A	McRoberts Ranc	47.72	78	⇓	P		P	23	25	06.2	+1.2
	baz=48										
N25A	Grover	47.76	79	⇑	P		P	23	25	06.6	+1.2
	baz=48										
BC3	Big Chuckawall	47.76	95	⇓	P		P	23	25	07.1	+1.7
	baz=48,SNR=5.3										
ISCO	Idaho Springs	47.79	82		*eP*		P	23	25	05.2	-0.6
ISCO					pmax		pmax				
	comp=Z,1μm,2.8s										
ISCO	Idaho Springs	47.79	82	⇓	P		P	23	25	07.3	+1.5
	baz=48,SNR=11										
ISCO	Idaho Springs	47.79	82		*eP*		P	23	25	05.2	-0.6
	comp=Z,1μm,2.8s										
O24A	Longmont	47.81	81	⇓	P		P	23	25	06.7	+1.0
	baz=48,SNR=7.8										
PDMCI	Parker Dam,Lak	47.90	93	⇑	P		P	23	25	07.9	+1.7
	baz=48,SNR=5.1										
MONP	Monument Peak,	47.91	97	⇑	P		P	23	25	08.0	+1.3
	baz=48										
BAR	Barrett	47.95	97		*eP*		P	23	25	06.8	0.0
	comp=Z,76nm,1.8s										
P23A	Jefferson	48.01	82	⇑	P		P	23	25	08.9	+1.3
	baz=48,SNR=15										
M27A	Reverse DX Ran	48.04	78	⇓	P		P	23	25	08.5	+1.1
	baz=48										
J30A	Dallas	48.06	74	⇓	P		P	23	25	08.2	+0.7
	baz=48										
L28A	Connealy Angus	48.09	76	⇑	P		P	23	25	08.9	+1.1
	baz=48										
K29A	Lazy Trails An	48.09	75	⇑	P		P	23	25	08.9	+1.1
	baz=48										
Y12C	Blythe	48.15	94	⇓	P		P	23	25	09.7	+1.4
	baz=48,SNR=23										
N26A	Koester Ranch,	48.17	79	⇑	P		P	23	25	10.0	+1.5
	baz=48,SNR=5.7										
SWSC	Sam W. Stewart	48.17	96	⇓	P		P	23	25	09.7	+1.3
	baz=48										
IBP	Imperial Bould	48.25	96	⇓	P		P	23	25	10.2	+1.0
	baz=48										
EYMN	Ely	48.27	64		*eP*		P	23	25	08.0	-1.0
	comp=Z,139nm,1.2s										
O25A	Wiggins	48.28	80	⇓	P		P	23	25	10.1	+0.8
	baz=48										
WUAZ	Wupatki	48.30	90	⇓	P		P	23	25	10.9	+1.4
	baz=48										
WUAZ	Wupatki	48.30	90		*eP*		P	23	25	09.3	-0.3
	comp=Z,150nm,1.3s										
P24A	Kohler Place,	48.36	81	⇑	P		P	23	25	10.9	+0.8
	baz=48										
Q23A	Hartsel	48.38	82	⇑	P		P	23	25	11.7	+1.4
	baz=48,SNR=19										
MVCO	Mesa Verde	48.38	86	⇑	P		P	23	25	11.3	+0.9
	baz=48										
MVCO	Mesa Verde	48.38	86		*eP*		P	23	25	09.0	-1.4
	comp=Z,356nm,2.0s										
TIY	Taiyuan	48.41	275		*eP*		P	23	25	11.0	+0.7
TIY					PMZ						
	comp=Z,520nm,1.2s										
NVS	Novosibirsk	48.47	310		*eP*		P	23	25	10.2	-0.3
NVS					pmax		pmax				
	comp=E,401nm,2.0s										
NVS					pmax		pmax				
	comp=Z,760nm,2.0s										
NVS					pmax		pmax				
	comp=N,377nm,2.2s										
K30A	Basset	48.50	74	⇓	P		P	23	25	11.5	+0.6
	baz=48										
N27A	Anderson Farm,	48.52	78	⇓	P		P	23	25	11.3	+0.1
	baz=48,SNR=12										
ZAA1	Zalesovo Array	48.54	309		*eP*		P	23	25	11.8	+0.8
ZALV	Zalesovo Beam	48.54	309		P		P	23	25	11.8	+0.8
	comp=N,42nm,0.7s,baz=34,slow=6.2,SNR=20										
ZALV	Zalesovo Beam	48.54	309		P		P	23	25	11.8	+0.8
ZALV					pmax		pmax				
	comp=Z,42nm,0.7s										
L29A	Maesberg Ranch	48.55	76	⇓	P		P	23	25	12.2	+0.9
	baz=48										
GLA	Glamis	48.56	95		*eP*		P	23	25	10.9	-0.6
GLA					pmax		pmax				
	comp=Z,305nm,1.5s										
GLA	Glamis	48.56	95	⇑	P		P	23	25	13.5	+2.0
	baz=48,SNR=5.8										
GLA	Glamis	48.56	95		*eP*		P	23	25	10.9	-0.6
	comp=Z,305nm,1.5s										
O26A	Horse Wrangler	48.58	79	⇓	P		P	23	25	11.9	+0.2
	baz=48										
M28A	Bar X Bar Ranc	48.63	77	⇑	P		P	23	25	12.7	+0.7
	baz=48										
OGNE	Ogallala	48.66	78	⇓	P		P	23	25	13.5	+1.3
	baz=48,SNR=5.1										
Q24A	Divide	48.67	82	⇓	P		P	23	25	14.2	+1.6
	baz=49,SNR=6.7										
Q24A	Divide	48.67	82		*eP*		P	23	25	12.4	-0.1
	comp=Z,646nm,2.3s										
P25A	Willow Gulch B	48.72	81	⇑	P		P	23	25	13.3	+0.5
	baz=49										
Y14A	Wickenburg	48.75	93	⇑	P		P	23	25	14.9	+1.9
	baz=49,SNR=5.3										
S22A	4UR Ranch, Cre	48.79	84	⇑	P		P	23	25	14.8	+1.3
	baz=49,SNR=18										
S22A	4UR Ranch, Cre	48.79	84		*eP*		P	23	25	13.7	+0.2
	comp=Z,319nm,1.5s										
KEV	Kevo	48.89	349		*ep*		P	23	25	12.8	-0.6
	comp=Z,218nm,1.6s										
KEV	Kevo	48.89	349		*eP*		P	23	25	12.8	-0.6
KEV					pmax		pmax				
	comp=Z,219nm,1.6s										
KEV	Kevo	48.89	349		*eP*		P	23	25	13.0	-0.4
	comp=Z,238nm,1.5s										
M29A	Burnside Ranch	48.92	76	⇓	P		P	23	25	15.1	+0.9
	baz=49										
R23A	Moffat	48.94	83	⇓	P		P	23	25	15.5	+0.9
	baz=49										
L30A	Spencer Herefo	49.00	75	⇑	P		P	23	25	15.6	+0.9
	baz=49										
O27A	Beecher Island	49.02	79	⇑	P		P	23	25	15.3	+0.3
	baz=49,SNR=5.5										
P26A	Davis Ranch, A	49.09	80	⇓	P		P	23	25	16.7	+1.1
	baz=49										
N28A	Pribbeno Ranch	49.09	78	⇓	P		P	23	25	16.7	+1.1
	baz=49										
ECSD	EROS Data Cent	49.11	71	⇑	P		P	23	25	16.5	+0.9
	baz=49,SNR=5.9										
ECSD	EROS Data Cent	49.11	71		*eP*		P	23	25	15.6	+0.1
	comp=Z,159nm,1.5s										
X16A	Lo Mia Camp, P	49.14	91	⇓	P		P	23	25	17.9	+1.9
	baz=49,SNR=5.3										
Q25A	Bedland, Calha	49.15	81	⇑	P		P	23	25	17.6	+1.4
	baz=49,SNR=8.6										
S23A	Nye Farm, Mont	49.23	84	⇑	P		P	23	25	17.5	+0.7
	baz=49										
Z14A	Wintersburg	49.24	93	⇑	P		P	23	25	18.0	+1.4
	baz=49										
ARA0	ARCESS Array S	49.24	349		*eP*		P	23	25	16.1	-0.1
ARCES	ARCESS Array B	49.24	349		P		P	23	25	16.1	-0.1
	comp=Z,13nm,0.6s,baz=23,slow=7.5,SNR=19										
ARCES	ARCESS Array B	49.24	349		P		P	23	25	16.1	-0.1
ARCES					pmax		pmax				
	comp=Z,13nm,0.6s										
M30A	Dale-Ortello V	49.24	76	⇓	P		P	23	25	17.0	+0.4
	baz=49										
L31A	Butterfield Fa	49.25	74	⇑	P		P	23	25	17.9	+1.2
	baz=49,SNR=10										
R24A	Sanders Place,	49.26	82	⇑	P		P	23	25	18.2	+1.2
	baz=49,SNR=6.3										
113A	Mohawk Valley,	49.31	94	⇑	P		P	23	25	18.8	+1.6
	baz=49,SNR=6.1										
SSE	Sheshan	49.37	262		P		P	23	25	18.0	+0.4
SSE					PMZ						
	comp=Z,110nm,1.2s										
SSE					PMZ						
	comp=Z,2μm,7.7s										
O28A	Krutsinger Ran	49.41	78	⇑	P		P	23	25	19.5	+1.5
	baz=49,SNR=5.5										
W18A	Petrified Fore	49.42	89	⇑	P		P	23	25	19.5	+1.2
	baz=49,SNR=6.4										
W18A	Petrified Fore	49.42	89		*eP*		P	23	25	18.3	0.0
	comp=Z,304nm,1.8s										
N29A	Votaw Ranch, W	49.43	77	⇓	P		P	23	25	19.3	+1.1
	baz=49,SNR=8.5										
SDCO	Great Sand Dun	49.44	83	⇑	P		P	23	25	19.8	+1.3
	baz=49,SNR=17										
P27A	Ficken Ranch,	49.46	79	⇓	P		P	23	25	19.2	+0.8
	baz=49										
Q26A	Hugo	49.50	81	⇑	P		P	23	25	19.5	+0.8
	baz=49										
JOW	Kunigami	49.50	252		*eP*		P	23	25	17.9	-0.7
	comp=Z,157nm,1.1s										
N30A	Hueftle Ranch,	49.70	76	⇓	P		P	23	25	20.9	+0.8
	baz=50										
SPMN	Marine on St.	49.74	67	⇑	P		P	23	25	20.8	+0.5
	baz=50,SNR=11										
SPMN	Marine on St.	49.74	67		*eP*		P	23	25	19.6	-0.7
	comp=Z,304nm,1.4s										
NJ2	Nanjing	49.74	265		*eP*		P	23	25	20.5	0.0
NJ2					pP		pP	23	25	25.3	-0.2
NJ2					sP		sP	23	25	27.5	0.0
NJ2					S		S	23	32	31.5	+2.8
NJ2					sS		sS	23	32	39.0	+2.0
NJ2					PMZ						
	comp=Z,230nm,1.0s										
NJ2					PMZ						
	comp=Z,2μm,9.6s										
NJ2					LN						
	comp=Z,37μm,15.1s										
NJ2					LE						
	comp=Z,64μm,14.1s										
NJ2					LZ						
	comp=Z,64μm,14.2s										
X18A	Snowflake	49.79	89	⇓	P		P	23	25	22.2	+1.2
	baz=50,SNR=15										
LVZ	Lovozero	49.80	345		P		P	23	25	20.6	+0.1
	comp=Z,509nm,1.9s,SNR=13										
LVZ	Lovozero	49.80	345	*c*	*iP*		P	23	25	20.5	+0.1
LVZ					pmax		pmax				
	comp=Z,82nm,1.2s										
LVZ	Lovozero	49.80	345		*eP*		P	23	25	20.1	-0.4
	comp=Z,154nm,1.1s										
M31A	Lambtecht Ranc	49.82	75	⇑	P		P	23	25	21.5	+0.5
	baz=50										
P28A	Saint Francis	49.85	79	⇑	P		P	23	25	22.1	+0.8
	baz=50										
KSCO	Kaye Shedlock'	49.86	80	⇓	P		P	23	25	22.6	+1.1
	baz=50										
KSCO	Kaye Shedlock'	49.86	80		*eP*		P	23	25	20.4	-1.1
	comp=Z,169nm,0.9s										
O29A	4D Ranch, Culb	49.89	77	⇓	P		P	23	25	22.9	+1.3
	baz=50										
R26A	Arlington	50.02	81	⇓	P		P	23	25	23.7	+1.1
	baz=50,SNR=7.0										
BGNE	Belgrade	50.17	74	⇓	P		P	23	25	24.0	+0.4
	baz=50										
BGNE	Belgrade	50.17	74		*eP*		P	23	25	23.5	-0.1
	comp=Z,380nm,1.4s										
O30A	MW Ranch, Wils	50.20	77	⇑	P		P	23	25	25.0	+1.0
	baz=50										
Q28A	Sharon Springs	50.21	79	⇓	P		P	23	25	24.8	+0.7
	baz=50										
P29A	Atwood	50.23	78	⇓	P		P	23	25	25.5	+1.3
	baz=50										
N31A	Bailey Ranch,	50.23	75	⇓	P		P	23	25	25.1	+0.9
	baz=50										
APA	Apatity	50.27	345	⇓	*iP*		P	23	25	24.0	0.0
APA					*i*			23	27	29.0	
APA					*i*	PPP	PPP	23	28	25.0	
APA					*i*	S	S	23	32	30.0	-5.2
APA					pmax		pmax				
	comp=Z,141nm,1.5s										
APA					MLR		MLR				
	comp=Z,70μm,17.0s										
R27A	Eads	50.35	81	⇑	P		P	23	25	26.6	+1.4
	baz=50,SNR=7.0										
214A	Organ Pipe Nat	50.44	94	⇓	P		P	23	25	27.2	+1.4
	baz=50,SNR=6.9										
T25A	Trinidad	50.46	83	⇓	P		P	23	25	27.1	+1.0
	baz=50,SNR=6.5										
T25A	Trinidad	50.46	83		*eP*		P	23	25	26.1	0.0
	comp=Z,481nm,1.8s										
S26A	Kim	50.54	82	⇑	P		P	23	25	27.6	+0.9
	baz=50,SNR=8.5										
O31A	Woolen Ranch,	50.58	76	⇓	P		P	23	25	27.8	+1.0
	baz=50										
N32A	Stulken Farm,	50.60	75	⇑	P		P	23	25	27.4	+0.5
	baz=50										
P30A	Selden	50.60	78	⇑	P		P	23	25	27.8	+0.8
	baz=50,SNR=13										
COWI	Conover	50.72	64		*eP*		P	23	25	27.0	-0.7
	comp=Z,206nm,1.7s										
Q29A	Oakley	50.76	79	⇓	P		P	23	25	29.0	+0.8
	baz=51										
S27A	Las Animas	50.77	81	⇑	P		P	23	25	29.3	+0.9
	baz=51										
R28A	Tribune	50.78	80	⇓	P		P	23	25	29.6	+1.2
	baz=51										
T26A	Comanche Natio	50.83	82	⇑	P		P	23	25	29.7	+0.8
	baz=51,SNR=5.2										
O32A	Brockman Farm,	51.00	75	⇓	P		P	23	25	30.9	+1.0
	baz=51										
P31A	Stockton	51.04	77	⇑	P		P	23	25	31.2	+0.9
	baz=51,SNR=9.0										
R29A	Marienthal	51.05	79	⇑	P		P	23	25	31.7	+1.3
	baz=51										
Q30A	Quinter	51.06	78	⇑	P		P	23	25	31.8	+1.3
	baz=51,SNR=6.6										
TUC	Tucson	51.16	92		*eP*		P	23	25	30.9	-0.4
TUC					pmax		pmax				
	comp=Z,242nm,1.9s										
TUC	Tucson	51.16	92		*eP*		P	23	25	30.9	-0.4
	comp=Z,242nm,1.9s										
ANMO	Albuquerque	51.18	86	*d*	*iP*		P	23	25	33.8	+2.2
ANMO					pmax		pmax				
	comp=Z,133nm,1.2s										
ANMO	Albuquerque	51.18	86		*eP*		P	23	25	30.6	-1.0
	comp=Z,182nm,1.6s										
LAZ	Ladron	51.28	87		*eP*		P	23	25	32.4	0.0
S28A	Manter	51.33	80	⇓	P		P	23	25	33.6	+1.1
	baz=51,SNR=13										
P32A	Huiting Farm,	51.34	76	⇑	P		P	23	25	33.0	+0.6
	baz=51										
T27A	Campo	51.35	81	⇑	P		P	23	25	33.9	+1.2
	baz=51,SNR=7.7										
Q31A	Ellis	51.44	77	⇑	P		P	23	25	33.8	+0.6
	baz=51										
LENM	Lemitar	51.55	87		*eP*		P	23	25	33.2	-1.2
R30A	Dighton	51.58	79	⇑	P		P	23	25	35.2	+0.8
	baz=52										
T28A	Walsh	51.60	81	⇑	P		P	23	25	35.5	+1.0
	baz=52,SNR=12										
LPM	Los Pinos Moun	51.60	87		*eP*		P	23	25	33.8	-0.9
Y22D	IRIS PASSCAL I	51.65	87	⇓	P		P	23	25	35.9	+0.8
	baz=52										
S29A	Ulysses	51.69	80	⇓	P		P	23	25	35.9	+0.7
	baz=52										
BNM	Barren Site	51.73	87		*eP*		P	23	25	35.3	-0.5
U27A	Thompson Grove	51.80	82	⇑	P		P	23	25	37.6	+1.5
	baz=52,SNR=6.5										
Q32A	Meitler Ranch,	51.85	77	⇓	P		P	23	25	37.0	+0.7
	baz=52										
P33A	Williams Farm,	51.92	76	⇓	P		P	23	25	37.4	+0.6
	baz=52										
R31A	Burdett	51.94	78	⇓	P		P	23	25	37.8	+0.8
	baz=52,SNR=5.5										
T29A	Hugoton	51.97	80	⇓	P		P	23	25	37.9	+0.6
	baz=52										
S30A	Montezuma	51.99	79	⇓	P		P	23	25	38.3	+0.8
	baz=52,SNR=5.1										
SCIA	State Center	52.11	70		*eP*		P	23	25	37.3	-0.9
	comp=Z,714nm,1.9s										
U28A	Mallet	52.13	82	⇓	P		P	23	25	39.4	+0.9
	baz=52,SNR=12										
Q33A	Connelly Farm,	52.20	76	⇓	P		P	23	25	39.5	+0.6
	baz=52,SNR=9.7										
R32A	Long Quarter,	52.23	77	⇑	P		P	23	25	40.1	+1.0
	baz=52,SNR=11										
V27A	Dan Oppiter Fa	52.32	83	⇑	P		P	23	25	41.1	+1.1
	baz=52										
T30A	Plains	52.43	80	⇓	P		P	23	25	41.7	+1.0
	baz=52										
121A	Cookes Peak, D	52.46	89	⇓	P		P	23	25	42.5	+1.4
	baz=52,SNR=5.4										
S31A	Mullinville	52.48	78	⇑	P		P	23	25	41.7	+0.6
	baz=52										
U29A	Oasis Ranch, S	52.54	81	⇓	P		P	23	25	42.0	+0.5
	baz=52										
V28A	Channing	52.63	82	⇑	P		P	23	25	43.1	+0.9
	baz=52										
SCHQ	Schefferville	52.64	43		P		P	23	25	41.3	-0.6
	comp=Z,130nm,0.9s,baz=335,slow=7.8,SNR=22										
SCHQ	Schefferville	52.64	43		*eP*		P	23	25	41.0	-1.0
	comp=Z,154nm,0.9s										
319A	Douglas	52.66	91	⇓	P		P	23	25	43.7	+1.1
	baz=53,SNR=6.1										
R33A	Olander Ranch,	52.67	77	⇓	P		P	23	25	43.0	+0.6
	baz=52,SNR=14										
S32A	Newby Ranch, P	52.69	78	⇓	P		P	23	25	43.0	+0.5
	baz=53										
KSU1	Kansas State U	52.70	75	⇑	P		P	23	25	43.1	+0.5
	baz=53,SNR=6.9										
KSU1	Kansas State U	52.70	75		*eP*		P	23	25	42.6	0.0
	comp=Z,182nm,1.1s										
U30A	WK&E Inc. Balk	52.78	80	⇓	P		P	23	25	43.8	+0.5
	baz=53										
T31A	Randall Ranch,	52.80	79	⇓	P		P	23	25	44.4	+1.0
	baz=53,SNR=5.2										
TMCR	Tamitsa	52.81	341		*eP*		P	23	25	43.3	+0.3
TMCR					*e*			23	27	43.0	
TMCR					pmax		pmax				
	comp=Z,244nm,1.3s										
V29A	Stinnett	52.88	81	⇑	P		P	23	25	44.8	+0.8
	baz=53										
W28A	Vega	53.03	82	⇑	P		P	23	25	46.1	+0.9
	baz=53										
XAN	Xi'an	53.06	275		P		P	23	25	44.3	-1.0
XAN					SS		SS	23	36	50.3	-3.0
XAN					PMZ						
	comp=Z,61nm,1.3s										
XAN					PMZ						
	comp=Z,840nm,10.7s										
XAN					LN						
	comp=Z,75μm,16.4s										
XAN					LE						
	comp=Z,22μm,15.6s										
XAN					LZ						
	comp=Z,18μm,16.7s										
T32A	Huddler Ranch,	53.10	78	⇓	P		P	23	25	46.4	+0.7
	baz=53										
WHN	Wuhan	53.20	268	⇓	P		P	23	25	45.8	-0.5
WHN					LE						
	comp=Z,85μm,13.2s										
WHN					LZ						
	comp=Z,112μm,16.0s										
GTA	Gaotai	53.21	286	⇓	P		P	23	25	46.5	0.0
GTA					pP		pP	23	25	50.8	-0.8
G

baz=54,SNR=15
X30A **Coker Ranch, T** 54.33 82 ⇑P P 23 25 55.6 +0.8
baz=54
U34A **Anderson Ranch** 54.37 78 ⇓P P 23 25 55.3 +0.4
baz=54,SNR=12
U34A **Anderson Ranch** 54.37 78 *e*P P 23 25 55.0 +0.1
comp=Z,294nm,1.3s
SVE **Sverdlovsk** 54.39 325*c i*P P 23 25 56.6 +1.9
SVE pmax pmax
comp=Z,564nm,1.6s
Y29A **Porterfield Fa** 54.41 83 ⇑P P 23 25 56.0 +0.7
baz=54
V33A **Lossen Ranch,** 54.50 79 ⇓P P 23 25 56.5 +0.7
baz=54
Z28A **Tucker Farm, M** 54.52 84 ⇓P P 23 25 56.9 +0.7
baz=54
BRVK **Borovoye** 54.55 317 P P 23 25 57.0 +1.1
comp=Z,2µm,1.3s,SNR=22
BRVK **Borovoye** 54.55 317*d i*P P 23 25 57.6 +1.7
BRVK pmax pmax
comp=Z,313nm,1.2s
BRVK **Borovoye** 54.55 317 ⇑pP P 23 25 57.7 +1.7
SNR=19
W32A **Sentinel** 54.59 80 ⇑P P 23 25 57.0 +0.5
baz=54,SNR=6.7
YHNB **Yeheng** 54.62 257 *e*P P 23 25 55.7 -1.3
comp=Z,85nm,1.1s
X31A **McDonald Ranch** 54.62 81 ⇓P P 23 25 57.5 +0.7
baz=54
Y30A **Stafford Cattl** 54.78 82 ⇓P P 23 25 57.7 -0.3
baz=55
V34A **Guthrie** 54.86 78 ⇓P P 23 25 58.4 -0.1
baz=55
V34A **Guthrie** 54.86 78 *e*P P 23 25 57.5 -0.9
comp=Z,263nm,1.2s
Z29A **Hungry Hill Ra** 54.88 83 ⇑P P 23 25 59.7 +1.0
baz=55,SNR=25
NACB **Ninganchiao** 54.94 257 *e*P P 23 25 58.3 -0.8
comp=Z,74nm,1.1s
W33A **Caddo, Fort Co** 54.94 79 ⇑P P 23 25 59.3 +0.2
baz=55
JOF **Joensuu** 54.98 344 *e*p P 23 25 59.3 +0.4
comp=Z,287nm,1.7s
JOF **Joensuu** 54.98 344 *e*P P
JOF pmax pmax
comp=Z,287nm,1.7s
HDIL **Hopedale** 54.99 68 *e*P P 23 25 57.9 -1.4
comp=Z,7µm,1.6s
128A **Castleberry Fa** 55.01 85 ⇑P P 23 26 00.2 +0.5
baz=55,SNR=18
Y31A **Rekieta Farm,** 55.02 82 ⇑P P 23 26 00.3 +0.6
baz=55
WMOK **Wichita Mounta** 55.12 80 *e*P P 23 26 00.7 +0.3
WMOK pmax pmax
comp=Z,551nm,1.9s
WMOK **Wichita Mounta** 55.12 80 *e*P P 23 26 00.7 +0.3
comp=Z,551nm,1.9s
X32A **Elmer** 55.13 81 ⇓P P 23 26 01.4 +1.0
baz=55,SNR=5.7
Z30A **Sanderson Ranc** 55.14 83 ⇑P P 23 26 00.7 +0.1
baz=55
MK32 **Makanchi Array** 55.15 304 *e*P P 23 26 01.2 +0.8
MKAR **Makanchi Array** 55.15 304 P P 23 26 01.2 +0.8
comp=Z,33nm,0.7s,baz=29,slow=7.2,SNR=26
MKAR **Makanchi Array** 55.15 304 P P 23 26 01.2 +0.8
MKAR pmax pmax
comp=Z,33nm,0.7s
W34A **Bridge Creek,** 55.22 79 ⇓P P 23 26 01.8 +0.8
baz=55,SNR=5.1
W34A **Bridge Creek,** 55.22 79 *e*P P 23 26 01.1 +0.1
comp=Z,396nm,1.8s
V35A **Meyer Ranch, C** 55.25 78 ⇑P P 23 26 01.5 +0.3
baz=55
WMQ **Urumqi** 55.25 299 ⇓*i*P P 23 26 02.5 +1.2
WMQ pP **pP** 23 26 05.5 -0.8
WMQ PP **PP** 23 28 07.0 +2.6
WMQ PMZ
comp=Z,330nm,0.9s
WMQ PMZ
comp=Z,3µm,3.9s
WMQ LZ
comp=Z,64µm,22.4s
129A **Stewart Farms,** 55.31 84 ⇓P P 23 26 02.3 +0.5
baz=55
ARU **Arti** 55.32 326 P P 23 26 02.7 +1.3
comp=Z,878nm,1.2s,SNR=7.5
ARU **Arti** 55.32 326*d i*P P 23 26 02.6 +1.2
ARU 23 27 04.8
ARU S **S** 23 33 47.0 +2.7
ARU pmax pmax
comp=Z,360nm,2.5s
228A **UT Block 9, Go** 55.37 85 ⇓P P 23 26 03.2 +0.9
baz=55
Y32A **R-V Farms, Ver** 55.39 81 ⇑P P 23 26 03.1 +0.8
baz=55,SNR=11
X33A **Lawton** 55.42 80 ⇓P P 23 26 03.0 +0.5
baz=55
SSLB **Suanglung** 55.57 257 *e*P P 23 26 02.2 -1.5
comp=Z,65nm,0.9s
Z31A **Sharp Cattle R** 55.60 82 ⇓P P 23 26 04.4 +0.5
baz=56,SNR=10.0
TUL1 **Leonard** 55.63 77 ⇑P P 23 26 04.4 +0.4
baz=56,SNR=5.2
TUL1 **Leonard** 55.63 77 *e*P P 23 26 03.0 -1.0
comp=Z,358nm,1.7s
KLMR **Klimovskoe** 55.66 339 *e*P P 23 26 02.7 -1.1
KLMR pmax pmax
comp=Z,255nm,1.5s
X34A **Smith Ranch, M** 55.70 79 ⇓P P 23 26 05.1 +0.6
baz=56
W35A **Tecumseh** 55.72 78 ⇑P P 23 26 05.3 +0.7
baz=56
YULB **Yu-li** 55.74 257 *e*P P 23 26 03.4 -1.6
comp=Z,515nm,2.1s
QZH **Quanzhou** 55.75 260 P P 23 26 04.8 -0.1
QZH PMZ
comp=Z,150nm,1.0s
130A **Snyder** 55.78 83 ⇓P P 23 26 05.7 +0.5
baz=56
Y33A **Hilltop Ranch,** 55.79 80 ⇓P P 23 26 05.5 +0.4
baz=56
ENH **Enshi** 55.83 272 *e*P P 23 26 03.6 -1.9
comp=Z,100nm,1.1s
229A **Bryant Ranch,** 55.88 84 ⇑P P 23 26 06.8 +0.9
baz=56
Z32A **Haskell** 55.94 82 ⇓P P 23 26 07.0 +0.8
baz=56
131A **Roby** 56.00 83 ⇑P P 23 26 07.5 +0.8
baz=56
W36A **Wetumka** 56.04 78 ⇓P P 23 26 07.8 +0.8
baz=56
SFIN **Lafayette** 56.14 67 ⇓P P 23 26 07.9 +0.3
baz=56
SFIN **Lafayette** 56.14 67 *e*P P 23 26 07.3 -0.2
comp=Z,532nm,2.1s
AAM **Ann Arbor** 56.14 63 *e*P P 23 26 07.0 -0.6
AAM pmax pmax
comp=Z,472nm,1.8s
AAM **Ann Arbor** 56.14 63 *e*P P 23 26 07.0 -0.6
comp=Z,472nm,1.8s
329A **Wagon Wheel Ra** 56.18 85 ⇑P P 23 26 08.6 +0.6
baz=56,SNR=13
Y34A **Reagan Ranch,** 56.25 80 ⇑P P 23 26 09.1 +0.6
baz=56,SNR=11
X35A **Drake** 56.28 79 ⇑P P 23 26 09.1 +0.5
baz=56
230A **Sterling City** 56.28 84 ⇓P P 23 26 09.5 +0.7
baz=56
Z33A **Whitaker Ranch** 56.30 81 ⇓P P 23 26 09.4 +0.5
baz=56
TWG **Pinlang** 56.33 257 *e*P P 23 26 08.4 -0.8
comp=Z,211nm,1.0s
KAF **Kangasniemi** 56.38 347 *e*p P 23 26 08.7 -0.3
comp=Z,341nm,1.7s
KAF **Kangasniemi** 56.38 347 *e*P P 23 26 08.7 -0.3
KAF pmax pmax
comp=Z,341nm,1.7s
ABTX **Abilene, Hawle** 56.41 82 ⇑P P 23 26 10.3 +0.7
baz=56,SNR=20
ABTX **Abilene, Hawle** 56.41 82 *e*P P 23 26 08.7 -1.0
comp=Z,254nm,1.3s
W37A **Quinton** 56.43 77 ⇑P P 23 26 10.4 +0.7
baz=56
X36A **Centrahoma** 56.44 78 ⇑P P 23 26 10.3 +0.5
baz=56
231A **Bronte** 56.64 83 ⇓P P 23 26 12.1 +0.8
baz=57
330A **Mertzon** 56.65 84 ⇓P P 23 26 12.0 +0.7
baz=57
Z34A **Collier Ranch,** 56.65 80 ⇑P P 23 26 12.1 +0.8
baz=56
133A **Hamilton Ranch** 56.78 82 ⇓P P 23 26 12.8 +0.5
baz=57,SNR=8.8
X37A **Clayton** 56.90 77 ⇓P P 23 26 13.8 +0.7
baz=57
W38A **Poteau** 56.92 76 ⇑P P 23 26 14.0 +0.8
baz=57
429A **Davenport Ranc** 56.93 85 ⇑P P 23 26 14.1 +0.7
baz=57,SNR=9.6
OLIL **Olney** 57.00 69 *e*P P 23 26 14.0 +0.3
comp=Z,273nm,1.1s
232A **Coleman** 57.01 83 ⇑P P 23 26 14.4 +0.5
baz=57,SNR=17
Z35A **Perchaven, San** 57.01 80 ⇓P P 23 26 14.0 +0.1
baz=57
FIA0 **FINESS Array S** 57.06 347 *e*P P 23 26 13.9 +0.1
FIA0 **FINESS Array S** 57.06 347 *e*P P 23 26 13.9 +0.1
FINES **FINESS Array B** 57.06 347 P P 23 26 13.9 +0.1
comp=Z,43nm,0.8s,baz=26,slow=6.9,SNR=23
FINES PKP2ab 23 56 32.4
comp=Z,1.4nm,0.8s,baz=204,slow=4.2,SNR=4.8
FINES **FINESS Array B** 57.06 347 *i* P P 23 26 13.8 0.0
FINES pmax pmax
comp=Z,43nm,0.8s
331A **San Angelo** 57.09 84 ⇓P P 23 26 14.5 0.0
baz=57
LTX **Lajitas** 57.11 88 *e*P P 23 26 14.6 -0.1
LTX **Lajitas** 57.11 88 *e*P P 23 26 14.6 -0.1
TXAR **Lajitas Array** 57.11 88 P P 23 26 14.6 -0.1
comp=Z,16nm,0.8s,baz=315,slow=4.2,SNR=14
TXAR PKP2bc 23 56 25.4
comp=Z,1.0nm,0.9s,baz=339,slow=3.1,SNR=4.8
430A **Baggett Ranch,** 57.12 85 ⇓P P 23 26 15.3 +0.6
baz=57,SNR=5.4
529A **Stev Forest Ra** 57.17 86 ⇑P P 23 26 15.7 +0.5
baz=57,SNR=14
134A **White-Moore Ra** 57.22 81 ⇑P P 23 26 16.0 +0.7
baz=57,SNR=11
233A **Rising Star** 57.27 82 ⇓P P 23 26 16.3 +0.5
baz=57
SIUC **Southern Illin** 57.30 70 *e*P P 23 26 16.5 +0.6
comp=Z,187nm,1.3s
332A **Millersview** 57.37 83 ⇑P P 23 26 16.8 +0.3
baz=57,SNR=8.3
BLO **Bloomington** 57.37 67 *e*P P 23 26 16.1 -0.3
BLO pmax pmax
comp=Z,366nm,2.0s
BLO **Bloomington** 57.37 67 *e*P P 23 26 16.1 -0.3
comp=Z,366nm,2.0s
PBMO **Poplar Bluff** 57.49 72 *e*P P 23 26 16.0 -1.2
comp=Z,667nm,2.0s
431A **Sonora** 57.52 84 ⇓P P 23 26 17.9 +0.3
baz=57,SNR=9.2
135A **Vickery Place,** 57.56 80 ⇑P P 23 26 18.4 +0.7
baz=58
530A **J-C Ranch, Com** 57.59 85 ⇑P P 23 26 18.4 +0.4
baz=58,SNR=15
234A **Clairette** 57.65 81 ⇓P P 23 26 18.7 +0.3
baz=58,SNR=16
432A **Menard** 57.76 84 ⇑P P 23 26 19.6 +0.3
baz=58,SNR=8.8
333A **Richland Sprin** 57.79 83 ⇑P P 23 26 19.7 +0.3
baz=58,SNR=13
MIAR **Mount Ida** 57.80 76 *e*P P 23 26 17.8 -1.6
MIAR pmax pmax
comp=Z,256nm,1.5s
MIAR **Mount Ida** 57.80 76 *e*P P 23 26 17.8 -1.6
comp=Z,256nm,1.5s
USIN **University of** 57.82 69 *e*P P 23 26 18.4 -1.1
comp=Z,168nm,1.0s
ERPA **Erie** 57.89 61 *e*P P 23 26 18.5 -1.4
comp=Z,118nm,0.8s
531A **Rocksprings** 57.97 85 ⇓P P 23 26 21.6 +0.9
baz=58
PTN **Potsdam (NY)** 57.99 55 *e*P P 23 26 18.6 -2.0
PTN pmax pmax
comp=Z,768nm,2.1s
PTN **Potsdam (NY)** 57.99 55 *e*P P 23 26 18.6 -2.0
comp=Z,768nm,2.1s
WHTX **Lake Whitney,** 57.99 81 ⇑P P 23 26 21.9 +1.1
baz=58
WHTX **Lake Whitney,** 57.99 81 *e*P P 23 26 20.8 0.0
comp=Z,116nm,1.2s
JCT **Junction City** 58.08 84 *e*P P 23 26 21.0 -0.5
JCT pmax pmax
comp=Z,2µm,2.8s
JCT **Junction City** 58.08 84 ⇑P P 23 26 22.2 +0.7
baz=58,SNR=12
JCT **Junction City** 58.08 84 *e*P P 23 26 21.0 -0.5
comp=Z,2µm,2.8s
LONY **Lake Ozonia** 58.11 55 *e*P P 23 26 19.9 -1.6
comp=Z,74nm,1.2s
ACSO **Alum Creek Sta** 58.11 64 *e*P P 23 26 20.8 -0.7
comp=Z,362nm,1.8s
CD2 **Chengdu** 58.13 277 ⇓P P 23 26 22.0 +0.1
CD2 sP **sP** 23 26 29.3 +0.4
CD2 PcP **PcP** 23 27 14.0 +0.7
CD2 PP **PP** 23 28 32.0 +1.7
CD2 PcS **PcS** 23 31 13.8 -1.1
CD2 S **S** 23 34 19.5 -2.8
CD2 sS **sS** 23 34 27.5 -3.3
CD2 PMZ
comp=Z,4µm,8.4s
CD2 LZ
comp=Z,46µm,14.3s
334A **Lometa** 58.15 82 ⇓P P 23 26 22.0 +0.1
baz=58,SNR=13
PUL **Pulkovo** 58.15 344 ⇑P P 23 26 22.1 +0.6
PUL pmax pmax
comp=Z,98nm,0.4s
Z38A **Mt. Pleasant** 58.17 78 ⇓P P 23 26 23.0 +1.0
baz=58
433A **Art** 58.20 83 ⇑P P 23 26 23.0 +0.7
baz=58
ALLY **Alegheny Colle** 58.20 61 *e*P P 23 26 21.3 -0.9
comp=Z,195nm,1.0s
WCI **Wyandotte Cave** 58.24 68 *e*P P 23 26 21.4 -1.1
WCI pmax pmax
comp=Z,441nm,2.1s
WCI **Wyandotte Cave** 58.24 68 *e*P P 23 26 21.4 -1.1
comp=Z,441nm,2.1s
MMNY **Mt. Morris Dam** 58.28 59 *e*P P 23 26 21.2 -1.5
comp=Z,820nm,1.8s
532A **Rocksprings** 58.32 84 ⇓P P 23 26 24.1 +1.0
baz=58
137A **Heron Place, G** 58.33 79 ⇓P P 23 26 24.2 +1.0
baz=58
434A **Burnet** 58.56 82 ⇓P P 23 26 25.4 +0.6
baz=58,SNR=8.1
631A **Perdido Creek** 58.57 85 ⇓P P 23 26 25.0 +0.1
baz=58,SNR=23
335A **Moody** 58.59 81 ⇓P P 23 26 26.1 +1.1
baz=58
138A **Matatall Enter** 58.60 78 ⇑P P 23 26 25.8 +0.8
baz=58,SNR=5.0
NB2 **NORSAR Subarra** 58.63 355 P P 23 26 25.1 +0.2
comp=Z,76nm,0.9s,baz=4.7,slow=6.9
NB2 **NORSAR Subarra** 58.63 355 P P 23 26 25.1 +0.2
baz=4.7,slow=6.9
NB200 **NORSAR Array S** 58.63 355 *e*P P 23 26 25.2 +0.3
NOA **NORSAR Array B** 58.63 355 P P 23 26 25.2 +0.3
comp=Z,53nm,1.0s,baz=5.6,slow=6.8,SNR=21
NOA **NORSAR Array B** 58.63 355 P P 23 26 25.2 +0.3
NOA pmax pmax
comp=Z,53nm,1.0s
HALT **Halls** 58.71 72 *e*P P 23 26 25.5 -0.2
336A **Riesel** 58.79 81 ⇓P P 23 26 27.4 +1.1
baz=59
533A **Kerrville** 58.79 83 ⇓P P 23 26 27.3 +0.9
baz=59,SNR=12
237A **Washetta, Mont** 58.79 79 ⇑P P 23 26 27.3 +0.9
baz=59
632A **Uvalde** 58.88 84 ⇑P P 23 26 28.2 +1.2
baz=59
435B **Jarrell** 58.92 82 ⇑P P 23 26 28.4 +1.1
baz=59
534A **Blanco** 59.10 83 ⇑P P 23 26 29.3 +0.7
baz=59,SNR=5.4
238A **Jacksonville** 59.12 79 ⇓P P 23 26 29.7 +1.0
baz=59
633A **Saathoff Ranch** 59.22 84 ⇓P P 23 26 30.5 +1.0
baz=59
WVT **Waverly** 59.24 70 *e*P P 23 26 28.8 -0.6
WVT pmax pmax
comp=Z,82nm,1.0s
WVT **Waverly** 59.24 70 *e*P P 23 26 28.8 -0.6
comp=Z,82nm,1.0s
337A **Centerville** 59.31 80 ⇑P P 23 26 30.3 +0.3
baz=59
436A **Wall Ranch, Ga** 59.32 81 ⇑P P 23 26 31.0 +1.0
baz=59
239A **Gary** 59.43 78 ⇑P P 23 26 31.4 +0.7
baz=59
732A **Laxson Ranch,** 59.43 85 ⇑P P 23 26 31.7 +0.9
baz=59,SNR=9.7
ACCN **Adirondack Com** 59.50 55 *e*P P 23 26 29.7 -1.5
comp=Z,205nm,1.7s
BINY **Binghamton** 59.52 58 *e*P P 23 26 30.4 -1.0
comp=Z,218nm,1.4s
535A **Dale** 59.55 82 ⇑P P 23 26 32.4 +0.8
baz=60
NATX **Nacogdoches** 59.55 79 *e*P P 23 26 31.5 -0.1
comp=Z,355nm,1.6s
338A **Crockett** 59.56 80 ⇑P P 23 26 33.1 +1.4
baz=60
437A **Phantom Ranch,** 59.59 81 ⇓P P 23 26 33.2 +1.4
baz=60
634A **China Grove, S** 59.69 83 ⇑P P 23 26 33.9 +1.3
baz=60
536A **Bastrop** 59.76 82 ⇑P P 23 26 34.4 +1.4
baz=60
733A **Divot King Ran** 59.77 85 ⇓P P 23 26 34.5 +1.3
baz=60
HNH **Hanover** 59.79 54 *e*P P 23 26 32.4 -0.7
comp=Z,106nm,1.4s
832A **Faith Ranch, C** 59.80 85 ⇓P P 23 26 34.1 +0.7
baz=60
OXF **Oxford** 59.82 73 *e*P P 23 26 32.7 -0.7
OXF pmax pmax
comp=Z,347nm,1.1s
OXF **Oxford** 59.82 73 *e*P P 23 26 32.7 -0.7
comp=Z,347nm,1.1s
VSU **Vasula** 59.89 345*d i*P P 23 26 33.7 +0.2
VSU pmax pmax
comp=Z,267nm,1.2s
339A **Huntington** 59.95 79 ⇓P P 23 26 35.7 +1.3
baz=60
635A **Leesville** 59.97 83 ⇓P P 23 26 35.7 +1.2
baz=60
438A **Sam Houston St** 59.98 80 ⇑P P 23 26 35.8 +1.2
baz=60
734A **La Parita Cree** 60.03 84 ⇓P P 23 26 36.1 +1.1
baz=60,SNR=6.3
833A **Chaparral WMA,** 60.05 85 ⇑P P 23 26 36.8 +1.7
baz=60
KONO **Kongsberg** 60.09 356 *e*P P 23 26 34.5 -0.4
KONO pmax pmax
comp=Z,216nm,1.5s
KONO **Kongsberg** 60.09 356 *e*P P 23 26 34.5 -0.4
comp=Z,216nm,1.5s
537A **Green Hill Far** 60.12 81 ⇓P P 23 26 37.0 +1.5
baz=60
340A **Bronson** 60.20 78 ⇑P P 23 26 37.4 +1.3
baz=60
AAA **Alma-Ata** 60.20 306 *e*P P 23 26 39.8 +3.8
AAA *e*S **S** 23 34 50.1 +1.2
AAA pmax pmax
comp=Z,2µm,2.8s
AAA smax smax
comp=E,8µm,10.0s
AAA MLR MLR
comp=Z,57µm,14.0s
636A **Smothers Creek** 60.25 82 ⇓P P 23 26 37.4 +0.9
baz=60
439A **Center Grove,** 60.29 79 ⇓P P 23 26 38.0 +1.3
baz=60
GYA **Guiyang** 60.37 272 ⇑*i*P P 23 26 39.0 +1.5
GYA PcP **PcP** 23 27 24.3 +1.9
GYA PP **PP** 23 28 54.3 +4.0
GYA ScP **ScP** 23 31 23.0 +0.4
GYA S **S** 23 34 50.8 -0.7
GYA SS **SS** 23 38 49.5 +0.8
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,250nm,5.8s
GYA LN
comp=Z,10µm,20.6s
GYA LE
comp=Z,10µm,21.2s
GYA LZ
comp=Z,9µm,20.9s
735A **Kenedy** 60.40 83 ⇑P P 23 26 38.6 +1.2
baz=60
538A **Harpers Horsep** 60.41 80 ⇑P P 23 26 38.9 +1.4
baz=60
834A **Tilden** 60.63 84 ⇓P P 23 26 40.4 +1.4
baz=61
736A **Circle Diamond** 60.68 83 ⇓P P 23 26 40.8 +1.4
baz=61
933A **Laredo** 60.70 85 ⇑P P 23 26 40.6 +1.0
baz=61
MOS **Moscow** 60.82 338 *e*P P 23 26 42.7 +2.7
MOS pmax pmax
comp=Z,397nm,2.1s
835A **Beeville** 60.85 84 ⇑P P 23 26 41.9 +1.4
baz=61,SNR=9.4
539A **Cross D Ranch,** 60.87 80 ⇑P P 23 26 42.2 +1.5
baz=61
TKM2 **Tokmak 2** 61.04 307 P P 23 26 44.1 +2.2
SNR=7.0
TKM2 **Tokmak 2** 61.04 307 *i* P P 23 26 44.1 +2.2
934A **Benavides** 61.08 85 ⇑P P 23 26 43.8 +1.6
baz=61,SNR=7.4
HRV **Adam Dziewonsk** 61.09 54 *e*P P 23 26 40.7 -1.3
HRV pmax pmax
comp=Z,254nm,1.7s
HRV **Adam Dziewonsk** 61.09 54 *e*P P 23 26 40.7 -1.3
comp=Z,254nm,1.7s
LUPA **Lehigh Univers** 61.11 58 *e*P P 23 26 40.8 -1.4
comp=Z,93nm,1.9s
SZP **Santa** 61.14 254 *e*P P 23 26 41.3 -1.3
comp=Z,403nm,1.1s
USP **Ospenovka** 61.18 307 P P 23 26 44.8 +2.0
SNR=6.3
USP **Ospenovka** 61.18 307 *i* P P 23 26 44.7 +2.0
CHMS **Chumysh** 61.31 307 P P 23 26 45.4 +1.9
SNR=10
CHMS **Chumysh** 61.31 307 *i* P P 23 26 45.4 +1.9
ULHL **Ulahol** 61.35 306 P P 23 26 46.2 +2.1
SNR=14
ULHL **Ulahol** 61.35 306 *i* P P 23 26 46.1 +2.1
PAL **Palisades** 61.38 57 *e*P P 23 26 42.6 -1.4
PAL pmax pmax
comp=Z,269nm,1.7s
PAL **Palisades** 61.38 57 *e*P P 23 26 42.5 -1.4
comp=Z,269nm,1.7s
034A **Hebbronville** 61.45 85 ⇑P P 23 26 46.1 +1.5
baz=61
738A **Farr-Stevens R** 61.47 81 ⇓P P 23 26 46.0 +1.3
baz=61
MLA1 **Latheron** 61.48 3 *e*P P 23 26 44.2 -0.2
KBK **Karagaybulak** 61.52 307 P P 23 26 47.1 +1.9
SNR=6.5
KBK **Karagaybulak** 61.52 307 *i* P P 23 26 47.1 +1.9
CPNY **Central Park** 61.54 57 *e*P P 23 26 43.2 -1.8
comp=Z,164nm,1.4s
OBN **Obninsk** 61.61 338*c i*P P 23 26 44.7 -0.6
OBN pmax pmax
comp=Z,167nm,1.7s
AAK **Ala-Archa** 61.72 307 P P 23 26 48.9 +2.4
comp=Z,703nm,1.2s,SNR=6.3
AAK **Ala-Archa** 61.72 307 P P 23 26 48.8 +2.3
SNR=7.3
AAK **Ala-Archa** 61.72 307*c i*P P 23 26 47.6 +1.1
AAK pmax pmax
comp=Z,959nm,2.5s
AAK **Ala-Archa** 61.72 307 ⇓pP P 23 26 48.4 +1.9
MVH1 **Achvaich** 61.83 4 *e*P P 23 26 46.8 0.0
035A **Encino** 61.84 85 ⇑P P 23 26 48.8 +1.5
baz=62
VWCC **Virginia Weste** 61.90 64 *e*P P 23 26 47.0 -0.6
EKS2 **Erkin-Say** 61.98 308 P P 23 26 50.0 +1.8
SNR=9.6
EKS2 **Erkin-Say** 61.98 308 *i* P P 23 26 50.0 +1.8
MCD **Coleburn Disti** 62.21 3 *e*P P 23 26 49.3 0.0
KAC **Achnashellach** 62.22 5 *e*P P 23 26 49.0 -0.3
035Z **Hargill** 62.25 85 ⇑P P 23 26 51.4 +1.4
baz=62
JSRW **J. Sargeant Re** 62.45 62 *e*P P 23 26 49.7 -1.5
AML **Almayashu** 62.46 307 P P 23 26 53.6 +1.9
SNR=9.0

AML **Almayashu** 62.46 307 *i* P P 23 26 53.6 +1.9
KSB **Sheil Bridge** 62.50 5 *e*P P 23 26 51.3 +0.1
URVA **University of** 62.70 62 *e*P P 23 26 52.3 -0.6
ISAL **Salakas** 62.78 345 *e*P P 23 26 52.5 -0.7
ISAL AMB AMB 23 27 02.1
comp=Z,47nm,1.5s
DRUM **Mains of Drumt** 62.90 3 *e*P P 23 26 53.7 -0.2
DRUM AMB AMB 23 27 03.9
comp=Z,167nm,1.5s
DRUM AMS AMS 23 45 07.1
comp=Z,35µm,23.7s
IIGN **Ignalina** 62.99 345 *e*P P 23 26 53.4 -1.2
IIGN AMB AMB 23 27 03.4
comp=Z,50nm,1.4s
KMSC **Kings Mountain** 63.04 66 ⇑P P 23 26 55.8 +0.6
baz=63
KMSC **Kings Mountain** 63.04 66 *e*P P 23 26 54.0 -1.2
comp=Z,359nm,1.8s
KMI **Kunming** 63.42 274 P P 23 26 58.0 -0.1
KMI pP **pP** 23 27 03.3 0.0
KMI sP **sP** 23 27 05.0 -0.2
KMI PMZ
comp=Z,54nm,1.1s
KMI PMZ
comp=Z,1µm,5.8s
KMI LN
comp=Z,52µm,19.6s
KMI LZ
comp=Z,59µm,17.6s
LPSR **Galich'ya Gora** 63.54 336 *e*P P 23 26 58.1 -0.1
LPSR pmax pmax
comp=N,180nm,2.0s
LPSR pmax pmax
comp=E,110nm,2.0s
LPSR pmax pmax
comp=Z,220nm,2.0s
EAB **Aberfoyle** 63.57 4 *e*P P 23 26 58.2 -0.2
KSH **Kashi** 63.76 304 ⇓*i*P P 23 27 05.0 +4.9
KSH sP sP 23 27 12.0 +4.8
KSH PP PP 23 29 27.8 +8.0
KSH PcS 23 31 42.5
KSH S **S** 23 35 39.0 +5.0
KSH PMZ
comp=Z,320nm,1.4s
KSH PMZ
comp=Z,2µm,3.1s
KSH LN
comp=Z,19µm,12.5s
KSH LE
comp=Z,18µm,11.6s
KSH LZ
comp=Z,47µm,13.1s
ESY **Stoneypath** 63.89 3 *e*P P 23 26 59.8 -0.7
PGBU **Glenifferbraes** 63.94 4 *e*P P 23 27 00.9 +0.1
PGBU AMB AMB 23 27 09.0
comp=Z,274nm,1.7s
EBL **Broad Law** 64.02 3 *e*P P 23 27 01.2 -0.2
ESK **Eskdalemuir** 64.48 4 P P 23 27 04.5 +0.1
comp=Z,642nm,0.9s,SNR=7.2
ESK **Eskdalemuir** 64.48 4 *e*P P 23 27 04.5 +0.1
ESK AMB AMB 23 27 11.7
comp=Z,145nm,2.0s
ECK **Cauldkaine Hil** 64.61 4 *e*P P 23 27 05.1 -0.2
SUW **Suwalki** 64.67 347 *e*P P 23 27 04.9 -0.7
SUW **Suwalki** 64.67 347 *e*P P 23 27 04.9 -0.7
SUW pmax pmax
comp=Z,1µm,2.1s
SUW **Suwalki** 64.67 347 *e*P P 23 27 04.9 -0.7
comp=Z,1µm,2.1s
VSR **Storozhevoye** 64.80 335 *e*P P 23 27 06.0 -0.5
VSR pmax pmax
comp=N,110nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s
GAL1 **Galloway** 64.87 5 *e*P P 23 27 06.4 -0.5
GAL1 AMB AMB 23 27 14.1
comp=Z,153nm,1.7s
GCD **Castle Douglas** 64.91 4 *e*P P 23 27 06.7 -0.5
VORD **Divnogorie** 65.01 335 *e*P P 23 27 06.9 -1.0
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=Z,20nm,0.7s
VORD pmax pmax
comp=E,50nm,1.0s
QIZ **Qiongzhong** 65.03 265 P P 23 27 09.0 +0.5
QIZ pP **pP** 23 27 11.0 -2.7
QIZ sP **sP** 23 27 16.5 +0.9
QIZ PP **PP** 23 29 31.8 +0.4
QIZ S **S** 23 35 47.5 -2.4
QIZ PMZ
comp=E,44nm,1.5s
QIZ PMZ
comp=E,2µm,10.1s
QIZ LN
comp=E,40µm,19.4s
QIZ LE
comp=E,29µm,17.7s
QIZ LZ
comp=E,38µm,20.6s
QIZ **Qiongzhong** 65.03 265 *e*P P 23 27 08.3 -0.2
comp=E,623nm,2.7s
TIGA **Tifton** 65.09 70 ⇑P P 23 27 09.9 +1.2
baz=65
TIGA **Tifton** 65.09 70 *e*P P 23 27 08.9 +0.2
comp=E,327nm,1.5s
LCP **Cassop** 65.10 2 *e*P P 23 27 08.5 +0.1
KESW **Keswick, Cumbr** 65.21 4 *e*P P 23 27 08.7 -0.5
KESW AMB AMB 23 27 20.3
comp=Z,195nm,1.5s
LSA **Lhasa** 65.24 287 *e*P P 23 27 10.5 +0.2
LSA pmax pmax
comp=Z,259nm,0.9s
LSA **Lhasa** 65.24 287 *e*P P 23 27 10.5 +0.2
comp=Z,258nm,0.9s
RCP **Roxas** 65.27 249 ⇓*e*P P 23 27 10.3 +0.2
GMM **Mts of Mourne** 65.45 5 *e*P P 23 27 10.3 -0.4
BSEG **Bad Segeberg** 65.77 355 *e*P P 23 27 13.7 +1.0
comp=Z,293nm,1.7s
HPK **Haverah Park** 65.88 3 *e*P P 23 27 13.8 +0.3
HPK AMB AMB 23 27 18.2
comp=Z,157nm,3.2s
HPK AMS AMS 23 53 35.1
comp=Z,27µm,18.6s
GKP **Gorka Klasztor** 65.99 350 *e*P P 23 27 14.4 +0.2
GKP **Gorka Klasztor** 65.99 350 *e*P P 23 27 14.4 +0.2
LHO **Holmfirth** 66.29 3 *e*P P 23 27 15.9 -0.2
WME **Myndd Eilian** 66.36 4 *e*P P 23 27 16.1 -0.4
DSB **Dublin** 66.42 6 *e*P P 23 27 16.4 -0.5
comp=Z,100nm,1.0s
WPM1 **Penmaenmawr** 66.51 4 *e*P P 23 27 17.1 -0.5
STNC **Stoke** 66.73 3 *e*P P 23 27 18.8 -0.1
STNC AMB AMB 23 27 27.4
comp=Z,176nm,1.6s
YRE **Yr Eifl** 66.77 4 *e*P P 23 27 19.3 +0.2
FOEL **Foel Wylfa** 66.91 4 *e*P P 23 27 20.4 +0.3
FOEL AMB AMB 23 27 27.5
comp=Z,212nm,1.7s
RUE **Ruedersdorf** 67.03 352 *e*P P 23 27 20.4 -0.5
comp=Z,217nm,1.4s
BEL **Belsk** 67.07 348 *e*P P 23 27 21.2 +0.1
BEL **Belsk** 67.07 348 *e*P P 23 27 21.3 +0.1
AKASG **Malin Array Be** 67.09 342 P P 23 27 20.8 -0.5
comp=Z,28nm,0.6s,baz=18,slow=6.0,SNR=22
AKASG **Malin Array Be** 67.09 342 *ce*P P 23 27 20.7 -0.5
AKASG pmax pmax
comp=Z,28nm,0.6s
AKBB **Malin Array Si** 67.09 342 *e*P P 23 27 20.8 -0.5
AKBB **Malin Array Si** 67.09 342 *e*P P 23 27 20.8 -0.5
KIEV **Kiev** 67.10 342 *e*P P 23 27 21.7 +0.4
KIEV **Kiev** 67.10 342 *e*P P 23 27 20.2 -1.1
comp=Z,298nm,1.6s
NRDL **Niedersach Rie** 67.22 355 *e*P P 23 27 22.5 +0.5
comp=Z,201nm,1.7s
HLM1 **Long Mynd** 67.29 3 *e*P P 23 27 22.1 -0.4
HLM1 AMB AMB 23 27 31.5
comp=Z,160nm,2.7s
VAL **Valentia** 67.49 8 *e*P P 23 27 23.5 -0.2
IBBN **Ibbenburen** 67.50 356 *e*P P 23 27 24.6 +0.8
comp=Z,277nm,1.4s
LPW **Lampeter** 67.65 4 *e*P P 23 27 23.8 -1.0
LPW AMB AMB 23 27 27.0
comp=Z,94nm,4.2s

MCH1 **Michaelchurch** 67.80 4 *e*P P 23 27 25.6 -0.2
MCH1 AMB AMB 23 27 34.6
comp=Z,188nm,2.7s
CLZ **Clausthal** 67.86 355 *e*P P 23 27 27.1 +0.9
comp=Z,316nm,1.4s
WTSB **Winterswijk** 67.86 357 *e*P P 23 27 25.1 -1.0
comp=Z,275nm,1.6s
MONM **Monmouth** 67.97 3 *e*P P 23 27 26.7 -0.1
MONM AMB AMB 23 27 31.6
comp=Z,187nm,3.4s
STRD **Stroud** 68.05 3 *e*P P 23 27 27.4 +0.1
STRD AMB AMB 23 27 37.6
comp=Z,374nm,1.5s
CLL **Collm** 68.25 353 *e*P P 23 27 28.6 0.0
comp=Z,280nm,1.6s
CLL **Collm** 68.25 353 *i* P P 23 27 28.6 0.0
comp=Z,68nm,1.4s
CLL *i* pP **pP** 23 27 34.2 +0.4
CLL comp=Z,279nm,1.6s *e*PP **PP** 23 29 59.0 +0.5
CLL *i* PKPPKPdP'P'df 23 55 46.7 -6.6
comp=Z,170nm,3.0s
CLL **Collm** 68.25 353 *e*P P 23 27 28.3 -0.3
CLL pmax pmax
comp=Z,252nm,1.5s
CLL **Collm** 68.25 353 *e*P P 23 27 28.3 -0.3
comp=Z,252nm,1.5s
SWN1 **Swindon** 68.32 3 *e*P P 23 27 29.4 +0.4
SWN1 AMB AMB 23 27 39.5
comp=Z,485nm,1.5s
SHL **Shillong** 68.36 284 *ex* P 23 27 30.5 +0.7
BUG **Bochum--Univer** 68.38 357 *e*P P 23 27 29.6 +0.3
comp=Z,195nm,1.6s
BATH **Bath** 68.38 3 *e*P P 23 27 29.4 +0.1
KSP **Ksiaz** 68.48 351 *e*P P 23 27 29.9 -0.1
KSP **Ksiaz** 68.48 351 *e*P P 23 27 29.5 -0.5
KSP *e*S S 23 36 22.4 -8.4
WOL **Wolverton** 68.53 2 *e*P P 23 27 30.4 +0.1
BRG **Berggiesshubel** 68.62 352 ⇑*i*P P 23 27 31.1 +0.2
comp=Z,124nm,1.6s
BRG *e* 23 27 37.8
comp=Z,187nm,1.7s
BRG PKPPKP P'P'df 23 55 43.3 -9.3
comp=Z,101nm,2.6s
BRG **Berggiesshubel** 68.62 352 *e*P P 23 27 31.1 +0.2
comp=Z,187nm,1.7s
BRG **Berggiesshubel** 68.62 352 ⇑*i*P P 23 27 31.1 +0.2
BRG *e* 23 27 37.8
BRG pmax pmax
comp=Z,124nm,1.6s
LVV **L'vov** 68.69 345 *e*P P 23 27 30.7 -0.6
LVV *e* 23 28 01.7
LVV *e*S S 23 36 35.5 +2.2
CRAI **Chiangrai** 68.70 274 P P 23 27 28.4 -3.5
comp=Z,38nm,1.1s,comp=Z,5µm
HEX **Exmoor** 68.71 4 *e*P P 23 27 31.4 -0.1
OJC **Ojcow** 68.78 348 *e*P P 23 27 32.0 +0.1
OJC **Ojcow** 68.78 348 *e*P P 23 27 31.7 -0.2
OJC pmax pmax
comp=Z,512nm,1.8s
OJC **Ojcow** 68.78 348 *e*P P 23 27 31.7 -0.2
comp=Z,512nm,1.8s
UPC **Upice** 68.83 351 *e*P P 23 27 32.1 -0.2
UPC **Upice** 68.83 351 *e*P P 23 27 32.1 -0.2
TAPN **Taplejung** 68.84 288 *e*P P 23 27 32.9 -0.1
comp=Z,562nm,1.0s
UBBA **Unterbreizbach** 68.90 355 *e*P P 23 27 32.9 +0.4
comp=Z,291nm,1.7s
PVCC **Panska Ves** 68.92 352 *e*P P 23 27 33.1 +0.3
PVCC **Panska Ves** 68.92 352 *e*P P 23 27 33.1 +0.3
DPC **Dobruska-Polom** 68.97 350 *e*P P 23 27 33.2 +0.1
DPC **Dobruska-Polom** 68.97 350 *e*P P 23 27 33.2 +0.1
MOX **Moxa** 68.99 354 *e*P P 23 27 33.7 +0.5
comp=Z,394nm,2.0s
KWP **Kalwaria Pacla** 69.03 346 *e*P P 23 27 34.0 +0.5
KWP **Kalwaria Pacla** 69.03 346 ⇓*i*P P 23 27 34.5 +1.0
KWP **Kalwaria Pacla** 69.03 346 *e*P P 23 27 34.0 +0.5
BEBN **Eben Emael** 69.06 358 P P 23 27 34.1 +0.5
comp=Z,35nm,1.7s
UCC **Uccle** 69.08 359 P P 23 27 34.2 +0.5
comp=Z,163nm,2.0s
HGN **Heimansgroeve** 69.09 358 *e*P P 23 27 33.2 -0.6
comp=Z,290nm,1.7s
TANN **Tannenbergstha** 69.17 353 *e*P P 23 27 35.0 +0.6
comp=Z,238nm,1.6s
GUN **Gumba** 69.22 290 *e*P P 23 27 36.0 +0.6
comp=Z,1µm,0.8s
MEM **Membach** 69.24 358 P P 23 27 34.9 +0.2
comp=Z,66nm,1.1s
MEM **Membach** 69.24 358 *e*P P 23 27 34.8 +0.1
MEM pmax pmax
comp=Z,108nm,1.0s
MEM **Membach** 69.24 358 *e*P P 23 27 34.8 +0.1
comp=Z,108nm,1.0s
JIRN **Jiri** 69.29 289 *e*P P 23 27 36.5 +0.6
comp=Z,1µm,0.8s
OKC **Ostrava-Krasne** 69.31 349 *e*P P 23 27 35.6 +0.4
OKC **Ostrava-Krasne** 69.31 349 *e*P P 23 27 35.6 +0.4
DYA **Yadsworthy** 69.33 4 *e*P P 23 27 35.0 -0.3
comp=Z,2µm,2.9s
SNF **Seneffe** 69.37 359 P P 23 27 35.7 +0.2
PRA **Prague** 69.39 352 *e*P P 23 27 36.1 +0.4
PRA **Prague** 69.39 352 *e*P P 23 27 36.1 +0.4
ODAN **Odare** 69.40 288 *e*P P 23 27 36.5 +0.1
comp=Z,427nm,1.0s
STHS **Stebnicka Huta** 69.41 347 *e*P P 23 27 36.7 +0.8
STHS pmax pmax
comp=Z,104nm,1.6s
STHS **Stebnicka Huta** 69.41 347 *e*P P 23 27 36.7 +0.8
MORC **Moravsky Berou** 69.43 350 ⇓*i*P P 23 27 36.7 +0.7
MORC **Moravsky Berou** 69.43 350 ⇓P P 23 27 36.7 +0.7
BCLA **Clavier** 69.44 358 P P 23 27 36.0 0.0
comp=Z,80nm,1.7s
PRU **Pruhonice** 69.46 352 *e*P P 23 27 36.4 +0.3
PRU **Pruhonice** 69.46 352 *e*P P 23 27 36.4 +0.3
GOPC **GO Pecny, Ondr** 69.52 351 *e*P P 23 27 36.8 +0.3
CCA1 **Carnmenellis** 69.53 5 *e*P P 23 27 36.6 0.0
CCA1 AMB AMB 23 27 46.7
comp=Z,259nm,1.4s
TNS **Taunus Mts** 69.56 356 *e*P P 23 27 37.2 +0.4
comp=Z,183nm,1.7s
KKN **Kakani** 69.60 290 *e*P P 23 27 38.0 +0.4
comp=Z,627nm,1.1s
CMAI **Chiengmai2** 69.61 274 P P 23 27 38.2 +0.5
comp=Z,81nm,1.2s,comp=Z,3µm
SKNT **Sakolnakorn** 69.68 269 P P 23 27 38.2 +0.3
comp=Z,190nm,1.1s
RAMN **Ramite** 69.70 289 *e*P P 23 27 38.4 +0.1
comp=Z,930nm,0.9s
GKN **Gorkha** 69.72 291 *e*P P 23 27 38.9 +0.6
comp=Z,1µm,1.1s
PKI **Pulchoki** 69.73 290 *e*P P 23 27 38.7 +0.2
comp=Z,499nm,0.8s
PKIN **Phulchoki** 69.73 290 *e*P P 23 27 38.7 +0.2
comp=Z,311nm,0.8s
GOF **Gofitskoye** 69.73 331 *e*P P 23 27 38.9 +1.0
GIVF **Givet** 69.77 358 *e*P P 23 27 38.1 +0.1
comp=Z,610nm,1.7s
KOLS **Kolonicke sedl** 69.77 346 *e*P P 23 27 38.4 +0.3
KOLS pmax pmax
comp=Z,295nm,2.1s
KOLS **Kolonicke sedl** 69.77 346 *e*P P 23 27 38.4 +0.3
DOU **Dourbes** 69.78 358 P P 23 27 38.0 0.0
comp=Z,52nm,1.9s
BAIF **Baives** 69.82 359 *e*P P 23 27 38.7 +0.4
comp=Z,675nm,1.9s
ROTZ **Rotzenmuhle** 69.83 353 *e*P P 23 27 39.3 +0.8
comp=Z,199nm,1.7s
DMN **Daman** 69.84 290 *e*P P 23 27 39.6 +0.5
comp=Z,696nm,1.0s
CRVS **Cervenica-Dubn** 69.90 347 *e*P P 23 27 39.2 +0.3
CRVS pmax pmax
comp=Z,194nm,2.0s
CRVS **Cervenica-Dubn** 69.90 347 *e*P P 23 27 39.2 +0.3
GRF **Grafenberg Arr** 69.96 354 *e*P P 23 27 39.9 +0.6
comp=Z,468nm,1.7s
GRFO **Grafenberg** 69.97 354 *e*P P 23 27 38.8 -0.5
GRFO pmax pmax
comp=Z,225nm,1.3s
GRFO **Grafenberg** 69.97 354 *e*P P 23 27 38.8 -0.5
comp=Z,225nm,1.3s
VRAC **Vranov** 69.98 350 ⇓*i*P P 23 27 40.5 +1.1
VRAC **Vranov** 69.98 350 ⇓P P 23 27 40.5 +1.1
TREC **Trest** 70.08 351 *e*P P 23 27 37.1 -2.9
TREC **Trest** 70.08 351 *e*P P 23 27 37.1 -2.9

WLF **Walferdange** 70.18 357 P P 23 27 41.1 +0.5
comp=Z,89nm,1.8s
WLF **Walferdange** 70.18 357 *e*P P 23 27 41.2 +0.6
comp=Z,393nm,2.0s
WLF **Walferdange** 70.18 357 *e*P P 23 27 41.0 +0.5
WLF pmax pmax
comp=Z,116nm,1.2s
WLF **Walferdange** 70.18 357 *e*P P 23 27 41.0 +0.5
comp=Z,116nm,1.2s
KHC **Kasperske Hory** 70.38 352 *e*P P 23 27 42.0 +0.1
KHC *e*pP **pP** 23 27 48.0 +0.9
KHC *ex* x 23 28 19.0
KHC **Kasperske Hory** 70.38 352 *e*P P 23 27 42.0 +0.1
KHC *e* 23 27 48.0
PYUN **Piuthan** 70.40 292 *e*P P 23 27 42.9 +0.4
comp=Z,2µm,1.0s
KOLN **Koldanda** 70.40 292 *e*P P 23 27 43.1 +0.6
comp=Z,643nm,0.9s
WET **Wettzell** 70.42 353 *e*P P 23 27 42.9 +0.8
comp=Z,225nm,1.5s
KECS **Kecovo** 70.42 347 *e*P P 23 27 42.2 +0.2
KECS pmax pmax
comp=Z,44nm,1.3s
KECS **Kecovo** 70.42 347 *e*P P 23 27 42.2 +0.2
LGTI **Lohaghat** 70.49 295 *ex* x 23 27 47.3
LAMP **Lampang** 70.52 273 P P 23 27 43.6 +0.5
comp=Z,47nm,0.9s,comp=Z,325nm
TRPA **Tarpa** 70.53 346 ⇓*i*P P 23 27 43.5 +0.8
VYHS **Vyhne** 70.58 348 *e*P P 23 27 43.5 +0.5
VYHS pmax pmax
comp=Z,211nm,1.9s
VYHS **Vyhne** 70.58 348 *e*P P 23 27 43.5 +0.5
CMMT **Chiang Mai** 70.61 274 P P 23 27 43.7 +0.1
comp=Z,131nm,1.2s,comp=Z,2µm
CHTO **Chiang Mai** 70.61 274 *e*P P 23 27 42.3 -1.4
CHTO pmax pmax
comp=Z,50nm,0.9s
CHTO **Chiang Mai** 70.61 274 ⇓P P 23 27 43.3 -0.3
SNR=8.9
CHTO **Chiang Mai** 70.61 274 *e*P P 23 27 42.2 -1.4
comp=Z,50nm,0.9s
CHTO **Chiang Mai** 70.61 274 P P 23 27 43.7 +0.1
comp=Z,322nm,1.4s,comp=Z,9µm
JAY **Jayapura** 70.62 225 P P 23 27 43.1 -0.6
comp=Z,27nm,1.1s,baz=346,slow=3.7,SNR=6.9
JQE **Queens East** 70.63 3 *e*P P 23 27 43.0 -0.2
JRS **Jersey** 70.64 3 *e*P P 23 27 43.0 -0.3
JSA **Saint Aubin** 70.64 3 *e*P P 23 27 42.9 -0.4
JSA AMS AMS 00 01 48.7
comp=Z,29µm,20.0s
GEC2 **GERESS Array S** 70.66 352 *e*P P 23 27 44.1 +0.5
comp=Z,213nm,1.5s
GEC2 **GERESS Array S** 70.66 352 *e*P P 23 27 44.2 +0.5
GEC2 **GERESS Array S** 70.66 352 *e*P P 23 27 44.2 +0.5
GERES **GERESS Array B** 70.66 352 P P 23 27 44.2 +0.5
comp=Z,23nm,0.8s,baz=17,slow=4.9,SNR=27
GERES **GERESS Array B** 70.66 352 P P 23 27 44.2 +0.5
GERES pmax pmax
comp=Z,23nm,0.8s
BURAR **Bucovina Array** 70.69 344 ⇑*i*P P 23 27 44.3 +0.5
BURAR **Bucovina Array** 70.69 344 ⇑P P 23 27 44.3 +0.5
SMOL **Smolenice** 70.69 349 *e*P P 23 27 44.7 +1.0
SMOL **Smolenice** 70.69 349 *e*P P 23 27 44.7 +1.0
UTTA **Uttaradit** 70.72 272 P P 23 27 44.6 +0.3
comp=Z,26nm,0.9s,comp=Z,213nm
KIS **Kishinev** 70.76 341 *i* SS S 23 37 08.0 +10
KIS *i* SSS SSS 23 40 28.0
KIS LRM MLR 23 59 18.0
comp=Z,130µm,16.0s
KIS **Kishinev** 70.76 341 *e*P P 23 27 45.0 +0.9
KIS **Kishinev** 70.76 341 *e*P P 23 27 45.0 +0.9
IAS **Iasi** 70.76 342 ⇓*i*P P 23 27 44.1 0.0
IAS **Iasi** 70.76 342 ⇓P P 23 27 44.1 0.0
KHON **Khomkaen** 70.80 269 P P 23 27 45.3 +0.6
comp=Z,54nm,0.9s,comp=Z,452nm
KBL **Kabul** 70.84 307 *e*P P 23 27 44.3 -0.8
KBL pmax pmax
comp=Z,112nm,1.1s
KBL **Kabul** 70.84 307 *e*P P 23 27 44.3 -0.8
comp=Z,112nm,1.1s
KIV **Kislovodsk** 70.86 330 *e*P P 23 27 46.3 +1.4
KIV pmax pmax
comp=Z,68nm,1.3s
KIV **Kislovodsk** 70.86 330 ⇑P P 23 27 46.2 +1.3
KIV **Kislovodsk** 70.86 330 ⇓pP P 23 27 46.3 +1.4
SNR=5.9
BMR **Baia Mare** 70.86 345 ⇓*i*P P 23 27 45.7 +1.0
BMR **Baia Mare** 70.86 345 ⇓P P 23 27 45.7 +1.0
CM31 **Chiang Mai Arr** 70.91 274 *e*P P 23 27 45.5 0.0
CMAR **Chiang Mai Arr** 70.91 274 P P 23 27 45.5 0.0
comp=Z,38nm,0.9s,baz=22,slow=7.7,SNR=28
CMAR **Chiang Mai Arr** 70.91 274 P P 23 27 45.5 0.0
CMAR pmax pmax
comp=Z,38nm,0.9s
STU **Stuttgart** 70.98 355 *e*P P 23 27 45.8 +0.4
comp=Z,179nm,1.6s
STU **Stuttgart** 70.98 355 *e*P P 23 27 45.3 -0.2
STU pmax pmax
comp=Z,60nm,1.0s
STU **Stuttgart** 70.98 355 *e*P P 23 27 45.2 -0.2
comp=Z,60nm,1.0s
PSZ **Piszkesteto** 71.04 348 ⇓*i*P P 23 27 47.2 +1.3
PSZ **Piszkesteto** 71.04 348 *e*P P 23 27 47.0 +1.1
PSZ pmax pmax
comp=Z,351nm,1.7s
PSZ **Piszkesteto** 71.04 348 *e*P P 23 27 47.0 +1.1
comp=Z,351nm,1.7s
NCK **Nalchik** 71.06 330 ⇓*e*P P 23 27 48.2 +2.1
FLN **La Foliniere** 71.10 2 *e*P P 23 27 45.9 -0.3
comp=Z,217nm,1.1s
ANN **Anapa** 71.26 334 *e*P P 23 27 47.8 +0.6
ANN pmax pmax
comp=Z,238nm,2.1s
LDF **La Druitiere** 71.28 2 *e*P P 23 27 46.9 -0.4
comp=Z,202nm,1.2s
PAGF **Fort de Pagny** 71.30 358 *e*P P 23 27 48.0 +0.6
comp=Z,248nm,1.8s
LEOM **Leova** 71.36 341 ⇓*i*P P 23 27 47.8 +0.1
LEOM **Leova** 71.36 341 ⇓P P 23 27 47.8 +0.1
MEZF **Maizieres J'vi** 71.37 358 *e*P P 23 27 48.2 +0.4
comp=Z,602nm,1.7s
CDF **Champ du Feu** 71.41 357 *e*P P 23 27 48.2 0.0
comp=Z,223nm,1.4s
CONA **Conrad Observa** 71.41 350 *i* pP P 23 27 49.1 +0.9
comp=Z,192nm,1.4s,SNR=8.3
BFO **Black Forest** 71.45 356 P P 23 27 48.2 -0.2
comp=Z,319nm,1.6s,SNR=7.5
BFO **Black Forest** 71.45 356 *e*P P 23 27 48.6 +0.2
comp=Z,218nm,1.7s
BFO **Black Forest** 71.45 356 *e*P P 23 27 47.7 -0.7
BFO pmax pmax
comp=Z,158nm,1.5s
BFO **Black Forest** 71.45 356 *e*P P 23 27 47.6 -0.7
comp=Z,158nm,1.5s
ROSF **Rostrenen** 71.46 4 *e*P P 23 27 48.5 +0.2
comp=Z,326nm,1.3s
GRR **Gorron** 71.47 2 *e*P P 23 27 48.3 -0.1
comp=Z,619nm,1.7s
FUR **Furstenfeldbru** 71.48 354 *e*P P 23 27 49.0 +0.4
comp=Z,348nm,1.6s
NEY **Neytrino** 71.51 330 ⇑*e*P P 23 27 49.5 +0.5
PBKT **Sadao Pong** 71.52 271 P P 23 27 49.7 +0.6
comp=Z,83nm,1.4s
SGMF **Saint Gilles** 71.56 3 *e*P P 23 27 49.1 +0.1
comp=Z,273nm,1.1s
TESR **Tescani** 71.56 343 ⇓*i*P P 23 27 48.6 -0.4
MOA **Molln** 71.61 352 ⇑*i*P P 23 27 49.6 +0.3
comp=Z,111nm,1.4s,SNR=6.3
ZEI **Tsey** 71.65 329 *e*P P 23 27 49.9 0.0
ZEI pmax pmax
comp=Z,402nm,2.1s
MHMT **Maesarieng** 71.65 274 P P 23 27 55.4 +5.5
comp=Z,29nm,1.2s
SFTF **Sexfontaines** 71.66 358 *e*P P 23 27 49.8 +0.2
comp=Z,822nm,1.7s
DLV **T Lat** 71.76 262 *e*P P 23 27 50.5 -0.3
CJR **Cluj-Napoca** 71.79 345 ⇓*i*P P 23 27 51.1 +0.6
CJR **Cluj-Napoca** 71.79 345 ⇓P P 23 27 51.1 +0.6
SIM **Simferopol'** 71.80 337 P P 23 27 54.6 +4.1
SIM S **S** 23 37 05.2 -4.6
SIM pmax pmax
comp=Z,33nm,1.2s
SIM MLR MLR
comp=Z,42µm,14.0s
RJOB **Jochberg** 71.82 353 *e*P P 23 27 51.1 +0.5

comp=Z,396nm,2.5s

DRGR 71.83 345 ⇓*i*P P 23 27 50.8 +0.1
DRGR 71.83 345 ⇓P P 23 27 50.8 +0.1
HAU **Haudompre** 71.84 357 *e*P P 23 27 50.7 0.0
comp=Z,390nm,1.6s
GEYT **Alibeck** 71.88 317 P P 23 27 52.8 +1.7
comp=Z,66nm,0.8s,baz=344,slow=4.8,SNR=18
QUIF **Quistinic** 71.88 4 *e*P P 23 27 50.9 0.0
comp=Z,474nm,1.8s
SOC **Sochi** 71.91 332 *e*P P 23 27 52.8 +1.6
SOC *e*S S 23 37 06.0 -5.2
SOC pmax pmax
comp=Z,145nm,1.6s
HINF **Hinteralfeld** 72.01 357 *e*P P 23 27 51.6 -0.2
comp=Z,548nm,1.9s
ARSA **Arzberg** 72.11 351 ⇑*i*pP P 23 27 53.2 +0.8
comp=Z,130nm,1.4s
PETR **Petresti** 72.25 342 ⇑*i*P P 23 27 54.5 +1.4
DOPR **Dopca** 72.28 343 ⇓*i*P P 23 27 54.3 +0.9
WATA **Walderalm** 72.30 353 ⇑*i*pP P 23 27 54.1 +0.5
comp=Z,65nm,0.9s,SNR=13
TEIG **Tepich** 72.30 80 *e*P P 23 27 53.2 -0.6
comp=Z,164nm,1.4s
MOTA **Moosalm** 72.31 354 ⇑*i*pP P 23 27 54.0 +0.3
comp=Z,132nm,1.6s,SNR=11
GIUM **Giurgiulesti** 72.33 341 ⇑*i*P P 23 27 53.7 +0.1
WTTA **Wattenberg** 72.36 353 *i* pP P 23 27 54.8 +0.8
comp=Z,172nm,1.3s,SNR=10
DAVA **Damuels** 72.43 355 ⇑*i*P P 23 27 54.4 -0.1
comp=Z,72nm,1.5s
KBA **Koelnbreinsper** 72.44 352 ⇑*i*pP P 23 27 55.7 +1.2
comp=Z,224nm,1.4s,SNR=8.6
SIRR **Siria** 72.47 346 ⇑*i*P P 23 27 55.3 +0.8
TLCR 72.52 341 ⇓*i*P P 23 27 55.0 +0.3
TLCR 72.52 341 ⇓P P 23 27 55.1 +0.3
LOR **Lormes** 72.61 359 *e*P P 23 27 55.3 0.0
comp=Z,241nm,1.1s
GRER 72.62 342 ⇓*i*P P 23 27 56.9 +1.5
HYF **Humbligny** 72.62 360 *e*P P 23 27 55.8 +0.4
CFR **Carcaliu** 72.64 341 ⇓*i*P P 23 27 55.4 0.0
CFR **Carcaliu** 72.64 341 ⇓P P 23 27 55.4 0.0
FETA **Feichten** 72.65 354 *i* pP P 23 27 56.6 +0.8
comp=Z,105nm,1.3s,SNR=8.5
MLR **Muntele Rosu** 72.67 343 ⇓*i*P P 23 27 57.7 +1.9
MLR **Muntele Rosu** 72.67 343 ⇓P P 23 27 57.7 +1.9
SWI **Sorong** 72.67 235 P P 23 27 55.7 -0.3
comp=Z,206nm,1.0s
SOKA **Soboth** 72.72 351 ⇓*i*pP P 23 27 56.7 +0.6
comp=Z,160nm,1.6s,SNR=10
PERS **Pernice** 72.75 351 *i* P P 23 27 56.6 +0.4
TNTI **Ternate** 72.81 239 P P 23 27 56.5 -0.3
comp=Z,118nm,1.1s
SSF **Saint Saulge** 72.83 359 *e*P P 23 27 56.7 +0.1
comp=Z,667nm,1.7s
ABTA **Abfaltersbach** 72.83 353 ⇑*i*pP P 23 27 57.1 +0.4
comp=Z,121nm,1.9s,SNR=11
VOIR 72.85 344 ⇓*i*P P 23 27 57.7 +0.9
VOIR 72.85 344 ⇓P P 23 27 57.7 +0.9
PKSM **Moragy** 72.86 348 ⇓*i*P P 23 27 56.6 -0.1
PKSM **Moragy** 72.86 348 ⇓P P 23 27 56.6 -0.1
OBKA **Obir** 72.92 351 ⇑*i*pP P 23 27 58.0 +0.8
comp=Z,259nm,1.1s,SNR=11
ARR **Arges** 72.97 344 ⇓*i*P P 23 27 58.4 +0.8
LOT **Lotru** 73.01 344 ⇓*i*P P 23 27 57.6 -0.2
SDKM **Sandakan** 73.04 251 ⇓P P 23 27 57.2 -1.1
FUORN **Ofenpass-Fuorn** 73.08 354 *e*P P 23 27 58.8 +0.4
comp=Z,161nm,1.4s
PGOR **Pogoanele** 73.08 342 ⇑*i*P P 23 27 58.2 +0.1
SECR 73.09 343 ⇓*i*P P 23 27 58.5 +0.3
AVF **Avril sur Loir** 73.10 359 *e*P P 23 27 58.2 0.0
comp=Z,437nm,1.4s
BZS **Buzias** 73.12 346 ⇓*i*P P 23 27 58.6 +0.3
BZS **Buzias** 73.12 346 ⇓P P 23 27 58.6 +0.3
HARR **Harsova** 73.14 341 ⇓*i*P P 23 27 58.6 +0.1
HARR **Harsova** 73.14 341 ⇓P P 23 27 58.6 +0.1
KKM **Kota Kinabalu** 73.15 252 ⇑P P 23 27 57.2 -1.8
KKM **Kota Kinabalu** 73.15 252 *e*P P 23 27 58.0 -1.0
comp=Z,113nm,1.2s
GZR **Gura Zlata** 73.19 345 ⇓*i*P P 23 27 59.3 +0.4
GZR **Gura Zlata** 73.19 345 ⇓P P 23 27 59.3 +0.4
TLB **Topalu** 73.23 341 ⇓*i*P P 23 27 59.3 +0.4
TLB **Topalu** 73.23 341 ⇓P P 23 27 59.3 +0.4
CABF **La Chapelle** 73.24 357 *e*P P 23 27 59.4 +0.3
comp=Z,849nm,1.7s
SMF **Signal de Mont** 73.24 359 *e*P P 23 27 58.9 -0.1
comp=Z,397nm,1.3s
MFF **Saint Martin d** 73.27 2 *e*P P 23 27 59.4 +0.2
comp=Z,725nm,1.7s
TIRR **Tirgusor** 73.29 341 ⇓*i*P P 23 27 59.6 +0.3
TIRR **Tirgusor** 73.29 341 ⇓P P 23 27 59.6 +0.3
TIRR **Tirgusor** 73.29 341 *e*P P 23 27 58.2 -1.2
comp=Z,196nm,1.6s
LJU **Ljubljana** 73.39 351 *i* P P 23 27 59.1 -0.8
BANR **Banloc** 73.40 346 ⇓*i*P P 23 28 00.9 +0.9
SULR 73.41 342 ⇓*i*P P 23 28 01.0 +1.0
SENIN **Lac Senin/Sane** 73.45 356 *e*P P 23 28 00.1 -0.5
JAVS **Javornik** 73.57 352 *i* P P 23 28 00.5 -0.6
TCF **Toulx Ste Croi** 73.60 0 *e*P P 23 28 01.1 -0.1
comp=Z,260nm,1.3s
EFOR **EFORIE** 73.63 341 ⇓*i*P P 23 28 02.1 +0.8
MSAB **Monastry St. A** 73.75 341 ⇑*i*P P 23 28 02.4 +0.4
HUMR **Humele** 73.75 343 ⇓*i*P P 23 28 01.2 -0.8
BOJS **Bojanci** 73.87 351 *i* P P 23 28 02.9 +0.2
GNI **Garni** 73.91 327 ⇑*i*P P 23 28 05.3 +2.0
GNI pmax pmax
comp=Z,113nm,1.4s
TSM **Tawau** 73.91 250 ⇓P P 23 28 02.9 -0.4
LBMI **Labuha** 74.02 238 P P 23 28 03.7 -0.3
comp=Z,154nm,0.9s
PSN **Preselentsi** 74.09 341 ⇓*i*P P 23 28 04.8 +0.8
PSN **Preselentsi** 74.09 341 ⇓P P 23 28 04.8 +0.8
CHBT **CHBT** 74.10 268 P P 23 28 05.2 +0.7
comp=Z,248nm,1.1s,comp=Z,3µm
FAKI **Fak Fak** 74.15 233 P P 23 28 04.5 -0.2
comp=Z,129nm,1.2s,comp=Z,3µm
FAKI **Fak Fak** 74.15 233 *e*P P 23 28 03.1 -1.6
KHLT **Khaolaem Dam** 74.21 272 P P 23 28 06.1 +1.0
comp=Z,41nm,1.2s,comp=Z,963nm
SRDT **SRDT** 74.33 271 P P 23 28 06.5 +0.7
comp=Z,222nm,1.4s,comp=Z,10µm
KMSI **Cibinong** 74.45 242 P P 23 28 06.2 -0.2
comp=Z,456nm,1.1s,comp=Z,10µm
RJF **Les Rejaudoux** 74.58 1 *e*P P 23 28 06.8 -0.1
comp=Z,415nm,1.8s
BNI **Bardonecchia** 74.78 357 *e*P P 23 28 08.1 -0.2
BNI pmax pmax
comp=Z,263nm,1.7s
BNI **Bardonecchia** 74.78 357 *e*P P 23 28 08.1 -0.2
comp=Z,263nm,1.7s
DIVS **Divibare** 74.80 347 ⇓*i*P P 23 28 08.3 0.0
LFF **La Frestale** 74.94 1 *e*P P 23 28 09.2 +0.2
comp=Z,324nm,1.0s
CAF **Calviac** 74.97 0 *e*P P 23 28 09.4 +0.2
comp=Z,270nm,1.3s
PMG **Port Moresby** 75.03 216 *e*P P 23 28 08.8 -1.0
PMG pmax pmax
comp=Z,104nm,1.3s
PMG **Port Moresby** 75.03 216 *e*P P 23 28 08.8 -1.0
comp=Z,104nm,1.3s
MRSI **Marisa** 75.43 244 P P 23 28 11.4 -0.7
comp=Z,120nm,1.3s
VLC **Villacollemand** 75.53 354 *e*P P 23 28 11.3 -1.1
comp=Z,406nm,1.9s
AJM **Ajmer** 75.53 298 *ex* P P 23 28 13.0 +0.3
LASF **Ste Croix** 75.81 359 *e*P P 23 28 14.8 +0.8
comp=Z,373nm,1.8s
MSAI **Masohi** 75.87 236 P P 23 28 14.7 +0.1
comp=Z,31nm,0.9s
VTS **Vitosha** 75.89 344 ⇓*i*P P 23 28 14.2 -0.5
VTS **Vitosha** 75.89 344 ⇓P P 23 28 14.2 -0.5
SANI **Sanana** 75.93 239 P P 23 28 13.2 -1.8
comp=Z,142nm,1.2s
LUWI **Luwuk** 76.42 243 P P 23 28 15.7 -2.1
comp=Z,164nm,1.2s
MPSI **Mapaga** 76.47 246 P P 23 28 17.0 -1.1
comp=Z,73nm,1.1s,comp=Z,6µm
H07N1 **FLORES T-PHASE** 76.48 26 *e*P P 23 28 18.0 +0.1
KDZ **Kurdzhali** 76.50 342 ⇓*i*P P 23 28 18.6 +0.6
KDZ **Kurdzhali** 76.50 342 ⇓P P 23 28 18.6 +0.6
NLAI **Namlea** 76.53 238 P P 23 28 19.0 +0.6
comp=Z,63nm,1.3s
MTLF **Montolieu** 76.55 0 *e*P P 23 28 18.6 +0.4
comp=Z,325nm,1.4s
SJPF **Ste Jean** 76.73 3 *e*P P 23 28 19.9 +0.6
comp=Z,181nm,1.6s

H07S1 **FLORES T-PHASE** 76.76 26 *e*P P 23 28 20.9 +1.4
H07S1 **FLORES T-PHASE** 76.76 26 *e*LQ LQ 23 49 30.9
H07S1 *e*LR LR 23 53 11.1
MMB **Musomiste** 76.81 344 ⇓*i*P P 23 28 20.3 +0.6
MMB **Musomiste** 76.81 344 ⇓P P 23 28 20.3 +0.6
EPF **Esparros** 76.85 2 *e*P P 23 28 19.4 -0.6
comp=Z,142nm,1.2s
BR101 **Keskin Array S** 76.92 336 *e*P P 23 28 21.4 +0.9
BRTR **Keskin Array B** 76.92 336 P P 23 28 21.4 +0.9
comp=Z,26nm,1.0s,baz=47,slow=1.8,SNR=15
BRTR PKP2bc 23 55 25.4
comp=Z,1.0nm,1.0s,baz=192,slow=3.5,SNR=4.6
ANTO **Ankara** 76.95 336 ⇓*i*P P 23 28 21.5 +0.9
ANTO **Ankara** 76.95 336 ⇓P P 23 28 21.5 +0.9
ANTO **Ankara** 76.95 336 ⇓pP P 23 28 21.3 +0.7
SNR=11
ANTO **Ankara** 76.95 336 *e*P P 23 28 20.3 -0.3
comp=Z,344nm,1.6s
ETSF **Etsaut** 76.96 2 *e*P P 23 28 21.1 +0.5
comp=Z,356nm,1.5s
BTM **Bintulu** 77.12 253 ⇑P P 23 28 22.5 +0.8
AQU **L'Aquila** 77.14 352 *e*P P 23 28 21.3 -0.3
AQU pmax pmax
comp=Z,325nm,1.5s
AQU **L'Aquila** 77.14 352 *e*P P 23 28 21.3 -0.3
comp=Z,324nm,1.5s
MALT **Malatya** 77.22 332 ⇑*i*P P 23 28 24.4 +2.2
MALT **Malatya** 77.22 332 ⇑P P 23 28 24.4 +2.2
PGAV **Gavieira, Arco** 77.55 8 *e*P P 23 28 24.5 +0.5
comp=Z,353nm,1.6s
PGRA **Graciosa** 77.77 24 *e*P P 23 28 27.8 +2.7
comp=Z,523nm,1.5s
PGRA **Graciosa** 77.77 24 *e*LQ LQ 23 49 46.2
PBRG **Braganca** 77.81 7 *e*P P 23 28 25.7 +0.3
comp=Z,144nm,1.7s
PCAB **Cabril** 77.82 8 *e*P P 23 28 25.9 +0.5
comp=Z,198nm,1.9s
MSVF **Nonsavu** 78.00 184 *e*P P 23 28 26.5 0.0
MSVF pmax pmax
comp=Z,490nm,2.4s
MSVF **Nonsavu** 78.00 184 *e*P P 23 28 26.5 0.0
comp=Z,490nm,2.4s
PCED **Cedros** 78.01 24 *e*P P 23 28 26.3 -0.2
comp=Z,183nm,1.6s
ROSA **Rosais** 78.02 24 *e*P P 23 28 29.6 +3.1
comp=Z,321nm,1.6s
ROSA **Rosais** 78.02 24 *e*LQ LQ 23 49 44.2
PMAN **Manadas** 78.13 24 *e*P P 23 28 27.5 +0.4
comp=Z,215nm,1.2s
POLO **Lamas de Olo** 78.17 8 *e*P P 23 28 27.6 +0.2
comp=Z,99nm,2.0s
SBUM **Sibu** 78.18 254 ⇓P P 23 28 28.2 +0.6
SBUM **Sibu** 78.18 254 *e*P P 23 28 27.4 -0.3
comp=Z,89nm,1.1s
PCAN **Candelaria** 78.21 24 *e*P P 23 28 30.9 +3.3
comp=Z,61nm,0.6s
PVRL **Vila Real** 78.27 8 *e*P P 23 28 28.5 +0.5
comp=Z,248nm,1.9s
ADH **Angra Heroismo** 78.28 23 *e*P P 23 28 28.2 +0.3
comp=Z,49nm,0.6s
PTO **Porto** 78.35 8 *e*P P 23 28 29.0 +0.7
comp=Z,246nm,1.7s
MVO **Moncorvo** 78.43 7 *e*P P 23 28 29.2 +0.4
comp=Z,194nm,2.1s
PVIS **Viseu** 78.82 8 *e*P P 23 28 31.4 +0.4
comp=Z,221nm,1.8s
PMOR **Pomariorio Ree** 78.91 151 *e*P P 23 28 34.2 +2.7
comp=Z,191nm,1.2s
SURT **Suratani** 79.11 269 P P 23 28 33.5 +0.7
comp=Z,36nm,1.1s
VIS **Vishakhapatnam** 79.14 287 *i* x P 23 28 33.3 +0.3
MTE **Manteigas** 79.16 8 *e*P P 23 28 33.3 +0.4
comp=Z,264nm,1.7s
MTE **Manteigas** 79.16 8 *e*P P 23 28 32.2 -0.7
comp=Z,116nm,1.0s
MTDJ **Mount Denham** 79.18 72 *e*P P 23 28 33.5 +0.2
comp=Z,150nm,1.1s
BKB **Balikpapan** 79.25 248 P P 23 28 32.3 -1.2
comp=Z,286nm,1.1s,comp=Z,4µm
CUC **Castrocucco** 79.29 350 *e*P P 23 28 32.3 -1.3
comp=Z,166nm,1.8s
ISP **Isparta** 79.37 338 ⇓*i*P P 23 28 33.6 -0.5
ISP **Isparta** 79.37 338 *e*P P 23 28 33.1 -1.0
ISP pmax pmax
comp=Z,306nm,1.7s
ISP **Isparta** 79.37 338 *e*P P 23 28 33.1 -1.0
comp=Z,306nm,1.7s
PSET **Sete Cidades** 79.37 22 *e*P P 23 28 31.9 -2.1
comp=Z,312nm,1.8s
PSET **Sete Cidades** 79.37 22 *e*LQ LQ 23 49 46.2
PCAS **Casmilo, Conde** 79.44 8 *e*P P 23 28 34.9 +0.6
comp=Z,347nm,1.8s
PDA **Ponta Delgada** 79.46 22 *e*P P 23 28 35.5 +1.1
comp=Z,329nm,2.3s
TTSI **Tana Toraja** 79.51 244 P P 23 28 34.5 -0.4
comp=Z,65nm,1.4s,comp=Z,2µm
BART **Pico Bartolome** 79.52 22 *e*P P 23 28 35.0 +0.1
comp=Z,161nm,1.5s
TRTT **Trang** 79.63 268 P P 23 28 36.1 +0.5
comp=Z,57nm,1.2s
PCBR **Castelo Branco** 79.72 8 *e*P P 23 28 36.1 +0.3
comp=Z,211nm,1.9s
SKLT **Songkhla** 79.74 266 P P 23 28 37.2 +0.9
comp=Z,79nm,1.0s
PTOM **Tomar** 79.88 8 *e*P P 23 28 36.4 -0.3
comp=Z,257nm,1.5s
KSM **Kuching** 79.95 255 ⇓P P 23 28 38.1 +0.7
KSM **Kuching** 79.95 255 *e*P P 23 28 36.3 -1.1
comp=Z,99nm,1.0s
TIP **Timpagrande** 80.01 349 *e*P P 23 28 37.0 -0.5
comp=Z,148nm,1.9s
ESDC **Sonseca Array** 80.08 5 P P 23 28 38.0 +0.2
comp=Z,57nm,0.9s,baz=356,slow=5.6,SNR=50
KTGM **Kuala Trenggan** 80.09 263 ⇓P P 23 28 39.1 +0.9
PMRV **Marv??o** 80.13 8 *e*P P 23 28 37.8 -0.3
comp=Z,177nm,1.8s
PAB **San Pablo** 80.19 5 *e*P P 23 28 38.3 -0.2
PAB pmax pmax
comp=Z,146nm,1.3s
PAB **San Pablo** 80.19 5 *e*P P 23 28 38.3 -0.2
comp=Z,146nm,1.3s
VSL **Villasalto** 80.23 355 *e*P P 23 28 38.4 -0.2
comp=Z,221nm,1.5s
PKDT **Phuket** 80.25 269 P P 23 28 40.0 +1.0
comp=Z,62nm,2.4s,comp=Z,3µm
PSMA **Santa Maria** 80.29 22 *e*P P 23 28 37.9 -1.0
comp=Z,206nm,1.6s
PSMN **Pico do Norte,** 80.29 22 *e*P P 23 28 38.4 -0.6
comp=Z,281nm,2.0s
PSMN **Pico do Norte,** 80.29 22 *e*LQ LQ 23 49 56.9
SPSI **Sidrap Palu** 80.35 244 P P 23 28 39.1 -0.4
comp=Z,41nm,1.0s
PMTG **Montargil** 80.43 8 *e*P P 23 28 39.5 -0.2
comp=Z,143nm,1.7s
BBSI **Bau Bau** 80.48 241 P P 23 28 40.8 +0.6
comp=Z,172nm,1.2s
COEN **Coen** 80.53 218 *e*P P 23 28 39.4 -1.0
comp=Z,11nm,1.1s
STKI **Sintang** 80.62 253 P P 23 28 41.1 +0.1
comp=Z,81nm,2.0s
PESTR **Estremoz** 80.68 8 *e*P P 23 28 41.1 +0.1
comp=Z,211nm,1.6s
PACT **Alcochete** 80.69 9 *e*P P 23 28 42.5 +1.5
comp=Z,445nm,1.6s
PMST **Lisbon--Monsan** 80.69 9 *e*P P 23 28 42.0 +0.9
comp=Z,258nm,1.7s
LIS **Lisbon** 80.72 9 *e*P P 23 28 42.1 +0.9
LIS AMb AMB 23 28 50.8
comp=Z,240nm,1.7s
LIS **Lisbon** 80.72 9 *e*P P 23 28 42.0 +0.9
EVO **Evora** 80.98 8 *e*P P 23 28 42.6 0.0
comp=Z,278nm,1.4s
EVO **Evora** 80.98 8 *e*P P 23 28 42.9 +0.3
comp=Z,177nm,1.7s
CEL **Celeste** 81.00 349 *e*P P 23 28 41.1 -1.7
comp=Z,108nm,1.5s
PPT2 **Papeete2** 81.01 153 *e*P P 23 28 45.6 +2.7
comp=Z,65nm,1.2s
TIAR **Tiarei** 81.03 153 *e*P P 23 28 45.6 +2.6
comp=Z,61nm,1.1s
PAE **Paea** 81.08 153 *e*P P 23 28 45.8 +2.6
comp=Z,9.2nm,0.9s
TVO **Taravao** 81.27 153 *e*P P 23 28 47.0 +2.7
comp=Z,28nm,1.2s
KAPI **Kappang** 81.29 244 ⇓P P 23 28 44.1 -0.4
KAPI **Kappang** 81.29 244 *e*P P 23 28 43.1 -1.4
comp=Z,11nm,1.0s

KULM **Kulim** 81.35 265 ⇑P P 23 28 45.4 +0.6
KULM **Kulim** 81.35 265 *e*P P 23 28 44.1 -0.8
comp=Z,94nm,1.3s
PNCL **Nicolau / Gran** 81.36 9 *e*P P 23 28 45.0 +0.3
comp=Z,126nm,1.5s
KBKI **Kotabaru** 81.39 248 P P 23 28 44.9 -0.1
comp=Z,35nm,1.0s
BKSI **Bulukumba** 81.40 243 P P 23 28 45.1 0.0
comp=Z,80nm,1.8s,comp=Z,1µm
PBAR **Barrancos** 81.40 8 *e*P P 23 28 45.3 +0.4
comp=Z,699nm,1.5s
SDDR **Presa de Saban** 81.42 67 *e*P P 23 28 44.9 -0.4
comp=Z,76nm,1.1s
CSS **Prodhromos** 81.58 335 *e*P P 23 28 45.1 -0.8
comp=Z,80nm,1.6s
MEH **Mehetia** 81.64 152 *e*P P 23 28 48.7 +2.5
comp=Z,54nm,1.3s
MESJ **Messejana** 81.66 8 *e*P P 23 28 47.1 +0.9
MESJ AMb AMB 23 28 58.0
comp=Z,84nm,2.1s
MESJ **Messejana** 81.66 8 *e*P P 23 28 47.2 +0.9
comp=Z,85nm,1.7s
MESJ **Messejana** 81.66 8 *e*P P 23 28 47.1 +0.9
IPM **Ipoh** 81.86 265 ⇑P P 23 28 47.8 +0.2
IPM **Ipoh** 81.86 265 *e*P P 23 28 46.8 -0.8
comp=Z,92nm,1.2s
PCVE **Castro Verde** 81.88 8 *e*P P 23 28 48.5 +1.1
PTEO **Sao Teotonio** 81.91 9 *e*P P 23 28 48.1 +0.5
comp=Z,160nm,1.4s
PVAQ **Vaqueiros** 82.13 8 *e*P P 23 28 49.3 +0.6
comp=Z,252nm,1.6s
BBKI **Banjar Baru** 82.14 249 P P 23 28 48.8 -0.2
comp=Z,172nm,1.6s,comp=Z,5µm
MORF **Marmelete** 82.15 9 *e*P P 23 28 49.4 +0.5
MORF AMb AMB 23 29 01.8
comp=Z,249nm,2.3s
MORF **Marmelete** 82.15 9 *e*P P 23 28 49.4 +0.5
comp=Z,250nm,1.7s
MORF **Marmelete** 82.15 9 *e*P P 23 28 49.4 +0.5
PBDV **Barranco-do-Ve** 82.27 8 *e*P P 23 28 50.3 +0.8
comp=Z,228nm,1.8s
PFVI **Vila Bisbo** 82.31 9 *e*P P 23 28 50.4 +0.7
comp=Z,240nm,1.9s
FRIM **Kepong** 82.64 264 ⇑P P 23 28 52.2 +0.5
MYKOM **Kota Tinggi** 82.80 261 ⇑P P 23 28 53.2 +0.7
MYKOM **Kota Tinggi** 82.80 261 *e*P P 23 28 51.6 -0.8
comp=Z,78nm,1.1s
KGM **Kluang** 82.87 261 ⇓P P 23 28 53.0 +0.2
PBKI **Pangkalan Bun** 82.95 252 P P 23 28 53.5 +0.3
comp=Z,181nm,1.2s,comp=Z,6µm
TPRI **Tanjung Pinang** 83.23 260 P P 23 28 54.7 0.0
comp=Z,77nm,1.2s
LHMI **Lhok Sumawe** 83.23 269 P P 23 28 56.0 +1.3
comp=Z,265nm,1.4s
DZM **Mont Dzumac** 83.26 195 *e*P P 23 28 56.9 +2.2
comp=Z,75nm,1.4s
BANOM **Banah** 83.41 313 ⇑P P 23 28 53.8 -1.8
BANOM **Banah** 83.41 313 ⇓P P 23 28 54.9 -0.7
MMRI **Maumere** 83.44 240 P P 23 28 54.3 -1.4
comp=Z,111nm,1.5s
WDD **Wield Dalam** 83.50 350 *e*P P 23 28 55.3 -0.5
comp=Z,510nm,2.0s
EBNR **Beni Rached** 83.59 1 P P 23 28 57.6 +1.2
EMHD **Djebel Mahouad** 83.68 360 P P 23 28 58.0 +1.0
ECHA **Ech Chlef** 83.73 1 P P 23 28 59.0 +2.0
EDFI **Ende, Flores** 83.78 240 P P 23 28 55.8 -1.8
comp=Z,99nm,1.3s
AGP **Aguadilla** 83.79 63 *e*P P 23 28 56.2 -1.4
comp=Z,332nm,1.2s
EANR **'Ain N'Sour** 83.92 1 P P 23 28 59.2 +1.1
KEST **Kesra** 83.98 354 P P 23 28 58.8 +0.4
comp=Z,7.9nm,1.0s,baz=299,slow=7.4,SNR=3.9
KEST **Kesra** 83.98 354 *e*P P 23 28 58.4 -0.1
LRS **Lares** 84.02 63 *e*P P 23 28 57.5 -1.3
USTO **Oran** 84.12 2 P P 23 29 06.0 +7.0
UOSS **Wadi Hilu** 84.33 313 P P 23 28 59.6 -0.7
comp=Z,424nm,0.9s,SNR=12
CELP **Cerrillos** 84.33 63 *e*P P 23 28 59.4 -0.9
OBIP **Obispado Ponce** 84.35 63 *e*P P 23 28 59.6 -0.8
comp=Z,159nm,1.4s
HATD **Hatta, Dubai** 84.47 313 ⇓P P 23 28 59.6 -1.3
ETRT **Tiaret** 84.49 1 P P 23 29 01.0 -0.1
SJG **San Juan** 84.49 63 *e*P P 23 28 59.7 -1.4
SJG pmax pmax
comp=Z,168nm,1.5s
SJG **San Juan** 84.49 63 *e*P P 23 28 59.7 -1.4
comp=Z,168nm,1.5s
ODJA **Bouhanifia** 84.53 2 P P 23 29 02.0 +0.8
ASHO **Ashiyiah** 84.62 313 ⇑P P 23 29 01.0 -0.8
ASHO **Ashiyiah** 84.62 313 ⇑P P 23 29 01.3 -0.5
MTP **Monte Pirata** 84.76 62 *e*P P 23 29 01.9 -0.6
comp=Z,123nm,1.1s
TPI **Tanjungpandan** 84.91 255 P P 23 29 03.3 +0.1
comp=Z,72nm,1.5s,comp=Z,2µm
ASUD **Al Ashush, Dub** 84.94 313 ⇓P P 23 29 01.4 -1.9
PPBI **Pangkal Pinang** 85.12 257 P P 23 29 05.4 +1.1
HOQ **Hoqain** 85.16 311 ⇑P P 23 29 03.7 -0.8
SNR=7.3
SMDO **Samad** 85.36 310 ⇑P P 23 29 04.8 -0.8
WBK **Wadi Bani Khal** 85.42 309 ⇓P P 23 29 05.7 -0.1
SNR=6.7
CTAO **Charters Tower** 85.44 214 *e*P P 23 29 04.8 -0.9
CTAO pmax pmax
comp=Z,402nm,2.4s
CTAO **Charters Tower** 85.44 214 *e*P P 23 29 04.8 -0.9
comp=Z,402nm,2.4s
BKNI **Bangkinang** 85.45 263 P P 23 29 06.1 +0.2
comp=Z,209nm,1.2s
BASI **Baing, Sumba** 85.57 240 P P 23 29 04.8 -1.7
comp=Z,388nm,1.2s
ARQ **Araqi** 85.68 312 ⇑P P 23 29 06.4 -0.7
SNR=8.5
MNSI **Mandailing Nat** 85.76 264 P P 23 29 05.3 -2.2
comp=Z,33nm,1.4s
BSY **Bisya** 85.97 311 ⇓P P 23 29 06.6 -1.9
SNR=6.5
JMDO **Jabal Madar** 85.97 310 ⇓P P 23 29 07.0 -1.5
SNR=7.2
SMRI **Semarang** 87.34 251 P P 23 29 14.4 -0.8
LEM **Lembang** 88.47 253 P P 23 29 20.1 -0.7
comp=Z,105nm,1.1s,baz=47,slow=6.9,SNR=6.0
WRAB **Tennant Creek** 89.01 224 *c i*P P 23 29 22.5 -0.5
WRAB pmax pmax
comp=Z,80nm,1.0s
WRAB **Tennant Creek** 89.01 224 *e*P P 23 29 21.5 -1.4
comp=Z,99nm,1.4s
WRA **Warramunga Arr** 89.03 224 P P 23 29 21.7 -1.3
comp=Z,22nm,1.0s,baz=30,slow=5.4,SNR=15
PALK **Pallekele** 89.45 284 P P 23 29 25.9 +0.6
comp=Z,567nm,0.9s,SNR=12
PALK **Pallekele** 89.45 284 *e*P P 23 29 24.3 -1.0
PALK pmax pmax
comp=Z,65nm,1.0s
PALK **Pallekele** 89.45 284 ⇑PcP P 23 29 25.9 +0.6
SNR=5.8
PALK **Pallekele** 89.45 284 *e*P P 23 29 24.3 -1.0
comp=Z,65nm,1.0s
ABTO **Aybut** 92.34 312 ⇓PcP P 23 29 37.9 -0.9
AS12 **Alice Springs** 92.62 223 *e*P P 23 29 39.1 -0.6
ASAR **Alice Springs** 92.62 223 P P 23 29 39.1 -0.6
comp=Z,11nm,0.9s,baz=25,slow=4.0,SNR=10.0
ASAR **Alice Springs** 92.62 223 P P 23 29 39.1 -0.6
ASAR pmax pmax
comp=Z,11nm,0.9s
STKA **Stephens Creek** 97.90 214 P Pdif 23 30 03.9 +0.3
comp=Z,4.1nm,1.0s,baz=14,slow=7.2,SNR=2.9
STKA **Stephens Creek** 97.90 214 P Pdif 23 30 03.9 +0.3
STKA pmax pmax
comp=Z,4.0nm,1.0s
TOA0 **Torodi Ar. Sit** 106.63 1 *e*PP PP 23 35 04.4 -2.8
TORD **Torodi Ar. Bea** 106.63 1 PP PP 23 35 04.4 -2.9
comp=Z,5.0nm,1.1s,baz=6.2,slow=5.5,SNR=5.4
TORD PKKPab **PKKPab** 23 46 27.6 -2.6
comp=Z,7.5nm,1.1s,baz=189,slow=3.1,SNR=7.8
CPUP **Villa Florida** 127.40 77 PKP **PKPdf** 23 35 31.8 -0.8
comp=Z,1.2nm,1.0s,baz=53,slow=2.6,SNR=3.6
CPUP **Villa Florida** 127.40 77 *e*PKPdf **PKPdf** 23 35 32.0 -0.6
PLCA **Paso Flores** 132.46 100 PKP **PKPdf** 23 35 42.1 +0.2
comp=Z,5.6nm,1.0s,baz=196,slow=3.5,SNR=4.2
PLCA **Paso Flores** 132.46 100 *e*PKPdf **PKPdf** 23 35 42.5 +0.6
USHA **Ushuaia** 143.38 114 PKhKP PKPpre 23 35 57.2
comp=Z,14nm,0.8s,baz=288,slow=2.7,SNR=5.3
USHA PKP **PKPdf** 23 36 01.3 0.0
comp=Z,14nm,0.8s,baz=322,slow=4.1,SNR=6.9
SUR **Sutherland** 149.39 328 PKPbc **PKPbc** 23 36 17.7 +0.8
comp=Z,11nm,0.9s,baz=65,slow=2.2,SNR=3.6

QSPA	**South Pole Qui**	**150.24**	**180**	PKPbc	**PKPbc**	**23 36 16.5**	**-1.2**
	comp=Z,73nm,0.9s,baz=40,slow=0.3,SNR=29						
MAW	**Mawson**	**153.62**	**229**	PKPbc	**PKPbc**	**23 36 24.9**	**-0.3**
	comp=Z,16nm,1.1s,baz=104,slow=10,SNR=6.6						
MAW				PKPab	**PKPab**	**23 36 38.0**	**-0.2**
	comp=Z,9.6nm,0.8s,baz=88,slow=10,SNR=4.5						
MAW	**Mawson**	**153.62**	**229**	*e*PKPdf	**PKPdf**	**23 36 18.1**	**+0.6**
SNAA	**Sanae**	**168.56**	**172**	PKPab	**PKPab**	**23 37 42.5**	**-0.8**
	comp=Z,7.9nm,1.1s,baz=177,slow=3.7,SNR=4.8						
SNAA	**Sanae**	**168.56**	**172**	PKP2	**PKPab**	**23 37 42.5**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**168.56**	**172**	*e*PKPab	**PKPab**	**23 37 43.0**	**-0.2**

DJA 30 23:41:23.4±0.5,**2°S**±4°×**13°4E**±°,**h11**km±5km,**M3.6**/6,
MLv3.6/6,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.28**	**58**	P		Pg	23 41 28.9	-0.2
RKPI				S		Sb	23 41 35.3	+0.1
FAKI	**Fak Fak**	**2.10**	**233**	P		Pn	23 41 58.7	+0.1
FAKI				S		Sn	23 42 25.2	+0.4
SRPI	**Serui, Papua**	**2.31**	**95**	P		Pn	23 42 01.4	0.0
SWI	**Sorong**	**2.79**	**286**	P		Pn	23 42 08.1	0.0
SMPI	**Sarmi**	**4.78**	**94**	P		Pn	23 42 34.9	-0.5

*IDC **30** 23:50:30.6±0.8, 12°.22S×165°.96E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.0/31, mbtmp4.1/10, Error ellipse: s-maj=29.0km s-min=20.7km az=104.0*
*ISCJB **30** 23:50:33.5±0.9, 12°.3S±0°.1×165°.9E±0°.2, h30km, mb4.1/10, Error ellipse: s-maj=25.7km s-min=18.2km az=9.5*

ISC 30 23:50:35.2±0.9,**12°.3S**±0°.2×**166°.0E**±0°.2,**h30**km,**n16,**
σ0s81/18,**mb4.1**/10,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**27.75**	**161**	P		**P**	**23 56 21.2**	**0.0**
	5.6nm,0.8s,baz=116,slow=14,SNR=15							
STKA	**Stephens Creek**	**29.73**	**225**	P		**P**	**23 56 39.5**	**+0.5**
	4.0nm,0.7s,baz=51,slow=7.9,SNR=13							
WRA	**Warramunga Arr**	**31.29**	**252**	P		**P**	**23 56 52.5**	**-0.5**
	1.6nm,0.7s,baz=83,slow=9.2,SNR=7.5							
WRA				PcP		**PcP**	**23 59 48.1**	**+1.3**
	0.7nm,0.8s,baz=97,slow=3.6,SNR=3.8							
ASAR	**Alice Springs**	**32.46**	**245**	P		**P**	**23 57 01.8**	**-1.4**
	2.4nm,0.7s,baz=70,slow=9.1,SNR=27							
ASAR				PcP		**PcP**	**23 59 49.5**	**-0.6**
	0.5nm,0.8s,baz=72,slow=3.0,SNR=3.1							
USRK	**Ussuriysk Ar.**	**64.11**	**333**	P		**P**	**00 01 05.7**	**-0.9**
	1.0nm,0.6s,baz=140,slow=6.3,SNR=2.9							
CMAR	**Chiang Mai Arr**	**72.79**	**294**	P		**P**	**00 02 02.4**	**+1.0**
	0.6nm,0.3s,baz=122,slow=4.6,SNR=6.2							
SONM	**Songino Array**	**79.76**	**324**	P		**P**	**00 02 40.4**	**-0.1**
	0.4nm,0.4s,baz=148,slow=4.1,SNR=5.3							
ILAR	**Eielson Array**	**84.58**	**18**	P		**P**	**00 03 04.7**	**-0.6**
	0.8nm,0.7s,baz=238,slow=4.5,SNR=5.2							
MKAR	**Makanchi Array**	**94.54**	**317**	P		**P**	**00 03 53.4**	**+0.4**
	1.0nm,0.7s,baz=110,slow=1.8,SNR=11							
ZALV	**Zalesovo Beam**	**94.65**	**324**	P		**P**	**00 03 54.5**	**+1.3**
	0.3nm,0.4s,baz=107,slow=5.0,SNR=2.4							
ARCES	**ARCESS Array B**	**117.55**	**345**	PKP		**PKPdf**	**00 09 17.7**	**+0.1**
	3.5nm,0.9s,baz=59,slow=1.4,SNR=8.8							
FINES	**FINESS Array B**	**122.96**	**338**	PKP		**PKPdf**	**00 09 27.9**	**-0.3**
	1.9nm,0.9s,baz=35,slow=4.7,SNR=5.1							
BRTR	**Keskin Array B**	**129.93**	**312**	PKP		**PKPdf**	**00 09 41.8**	**-0.6**
	0.3nm,0.5s,baz=135,slow=0.2,SNR=2.5							
GERES	**GERESS Array B**	**136.87**	**333**	PKP		**PKPdf**	**00 09 55.4**	**+0.3**
	0.5nm,0.7s,baz=122,slow=1.7,SNR=5.6							
KEST	**Kesra**	**148.49**	**322**	PKPbc		**PKPbc**	**00 10 18.9**	**-0.7**
	1.6nm,0.8s,baz=85,slow=3.9,SNR=5.9							
ESDC	**Sonseca Array**	**151.26**	**344**	PKPbc		**PKPbc**	**00 10 26.9**	**+0.7**
	1.3nm,0.8s,baz=9.3,slow=2.4,SNR=9.5							

DJA 30 23:56:36.4±0.8,**7°S**±6°×**10°6E**±°,**h14**km±5km,**M4.0**/12,
MLv4.0/12,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.55**	**60**	P		Pb	23 56 47.8	0.0
SKJI				S		Sb	23 56 55.3	-0.2
CGJI	**Cibinong**	**0.77**	**330**	P		Pg	23 56 51.1	-0.2
CGJI				S		Sg	23 57 01.4	0.0
CNJI	**Cibinong**	**1.04**	**92**	P		Pb	23 56 54.0	-2.2
CBJI	**Citeko**	**1.15**	**42**	P		Pb	23 56 54.7	-3.3
CBJI				S		Sb	23 57 08.5	-4.3
SBJI	**Serang**	**1.15**	**2**	P		Pn	23 56 56.6	-1.5
LEM	**Lembang**	**1.59**	**74**	P		Pn	23 57 04.3	-0.1
CISI	**Cisompet, Garu**	**1.74**	**99**	P		Pn	23 57 03.9	-2.4
KASI	**Kota Agung**	**2.35**	**318**	P		Pn	23 57 13.4	-1.2
KPJI	**Karang Pucung**	**2.83**	**91**	P		Pn	23 57 22.5	+1.3
LWLI	**Liwa**	**3.02**	**318**	P		Pn	23 57 23.8	-0.1
MDSI	**Maura Dua**	**3.36**	**326**	P		Pn	23 57 28.3	-0.2
LHSI	**Lahat**	**4.27**	**323**	P		Pn	23 57 41.8	+0.7

ISC Computed Locations for April 2010

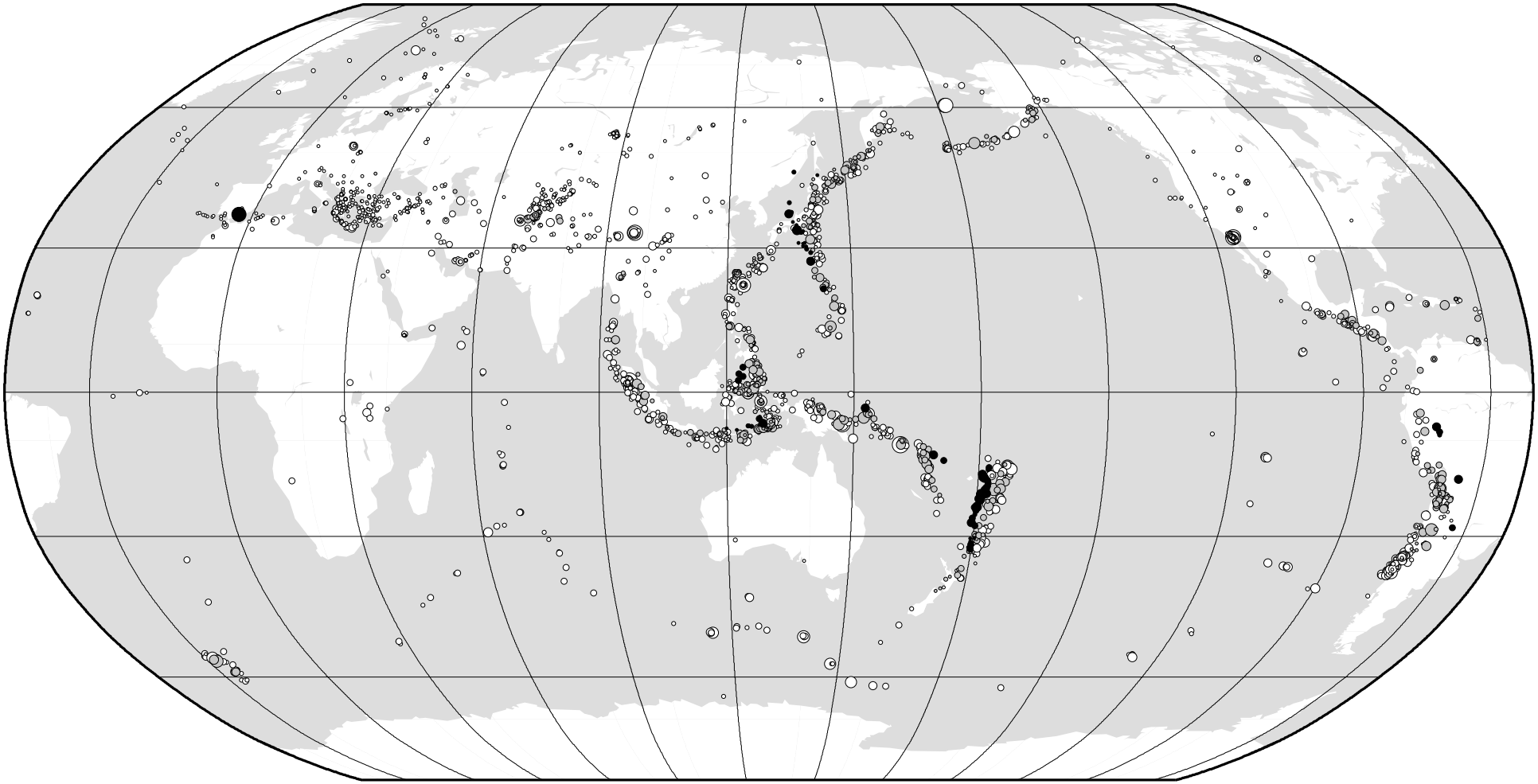

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3008 Events